Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

IDC ***01*** *00:04:34.5±5.4, 55.°79N×114.°64E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.3/38, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=97.7km s-min=27.8km az=111.0*
BYKL ***01*** *00:04:34.8±0.1, 55.°89N×114.°56E, h5km±3km*
ISC 01 00:04:34.2±0.6**, 55.°72N**±0.°03×**114.°42E**±0.°02**, h10km, n40, σ2.s49**/75**, mb3.6**/4**, 2C-3D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.50**	**243**	⇑iPg	**Pn**	**00 04 46.8**	**-0.7**
	156nm,0.3s						
UKT				⇑iPg	**Pn**	**00 04 46.8**	**-0.7**
	207nm,0.3s						
UKT				⇓iPg	**Pn**	**00 04 46.8**	**-0.7**
	236nm,0.3s						
UKT				eSg	**Sn**	**00 04 55.5**	**-0.8**
UKT				Pmax			
	284nm,0.5s						
UKT				Smax			
	842nm,0.7s						
SVKR	**Severomuysk**	**0.63**	**310**	ePg	**Pb**	**00 04 46.1**	**-1.2**
SVKR				eSg	**Sg**	**00 04 54.3**	**-0.3**
SVKR				Pmax			
	442nm,0.4s						
SVKR				Smax			
	2µm,0.4s						
NLYR	**Nelyaty**	**1.06**	**42**	⇓iPg	**Pg**	**00 04 50.8**	**-3.8**
NLYR				eSg	**Sg**	**00 05 02.5**	**-5.8**
NLYR				Pmax			
	76nm,0.5s						
NLYR				Smax			
	541nm,1.4s						
YOA	**Uoyan**	**1.57**	**287**	ePg	**Pg**	**00 05 04.4**	**+0.1**
YOA				e		00 05 06.0	
YOA				eSg	**Sg**	**00 05 26.2**	**+1.5**
YOA				e		00 05 29.8	
YOA				max			
	356nm,0.4s						
YOA				max			
	1µm,0.5s						
KMO	**Kumora**	**1.82**	**277**	ePg	**Pg**	**00 05 08.3**	**-0.8**
KMO				e		00 05 10.7	
KMO				eSg	**Sg**	**00 05 32.6**	**-0.1**
KMO				Pmax			
	298nm,0.4s						
KMO				Smax			
	475nm,0.7s						
YLYR	**Ulyunkhan**	**2.04**	**247**	⇓iPn	**Pg**	**00 05 12.6**	**-0.7**
YLYR				ePg	**Pb**	**00 05 14.0**	**+2.6**
YLYR				eSg	**Sg**	**00 05 43.1**	**+3.3**
YLYR				Pmax			
	109nm,0.5s						
YLYR				Smax			
	323nm,0.3s						
BOD	**Bodaibo**	**2.12**	**354**	ePg	**Pn**	**00 05 09.9**	**+0.2**
BOD				eSg	**Sn**	**00 05 35.2**	**-0.8**
BOD				Pmax			
	123nm,0.8s						
BOD				Smax			
	260nm,1.2s						
CRS	**Chara**	**2.45**	**59**	ePn	**Pn**	**00 05 14.1**	**-0.2**
CRS				ePg	**Pb**	**00 05 16.7**	**-1.7**
CRS				eSg	**Sb**	**00 05 46.8**	**-1.9**
CRS				Pmax			
	75nm,0.9s						
CRS				Smax			
	360nm,0.8s						
NIZ	**Nizh Angarsk**	**2.76**	**273**	ePn	**Pb**	**00 05 21.3**	**-2.2**
NIZ				ePg	**Pg**	**00 05 25.5**	**-1.5**
NIZ				eSg	**Sg**	**00 06 02.3**	**-0.3**
NIZ				Pmax			
	25nm,0.8s						
NIZ				Smax			
	191nm,1.4s						
SYVR	**Suvo**	**3.29**	**233**	ePn	**Pb**	**00 05 29.9**	**-2.7**
SYVR				ePg	**Pg**	**00 05 37.3**	**+0.1**
SYVR				eSg	**Sg**	**00 06 22.2**	**+2.4**
SYVR				Pmax			
	20nm,0.8s						
SYVR				Smax			
	121nm,0.5s						
KHNR	**Khani**	**3.33**	**66**	ePn	**Pn**	**00 05 25.7**	**-0.6**
KHNR				ePg	**Pb**	**00 05 31.2**	**-2.0**
KHNR				eSg	**Sb**	**00 06 11.9**	**-1.8**
TUP	**Tupik**	**3.44**	**110**	ePn	**Pn**	**00 05 29.2**	**+1.4**
TUP				ePg	**Pg**	**00 05 37.1**	**-2.9**
TUP				eSn	**Sn**	**00 06 09.5**	**+0.9**
TUP				eSg	**Sg**	**00 06 21.4**	**-3.1**
TUP				e		00 06 29.4	
TUP				Pmax			
	18nm,0.7s						
TUP				max			
	155nm,1.1s						
CIT	**Chita**	**3.74**	**188**	ePg	**Pg**	**00 05 46.0**	**+0.2**
CIT				eSn	**Sb**	**00 06 21.5**	**-4.1**
CIT				eSg	**Sg**	**00 06 36.9**	**+2.8**
CIT				Pmax			
	60nm,0.3s						
CIT				Smax			
	212nm,0.4s						
VTMR	**Vitim**	**3.87**	**346**	ePn	**Pn**	**00 05 33.8**	**+0.2**
VTMR				ePg	**Pb**	**00 05 42.6**	**+0.2**
VTMR				eSg	**Sb**	**00 06 30.7**	**+1.5**
MXMB	**Maximikha**	**4.12**	**236**	ePn	Pb	00 05 40.9	-5.9
MXMB				ePg	**Pg**	**00 05 51.8**	**-1.3**
MXMB				eSg	**Sg**	**00 06 47.3**	**+0.9**
MXMB				e		00 06 52.8	
YKLR	**Yuktali**	**4.14**	**75**	ePg	**Pb**	**00 05 46.1**	**-1.0**
YKLR				eSg	**Sb**	**00 06 38.0**	**+0.8**
OGRR	**Ongureny**	**4.47**	**245**	e	Pb	00 05 46.5	-6.2
OGRR				ePg	**Pg**	**00 05 57.3**	**-2.4**
OGRR				eSn	**Sn**	**00 06 38.0**	**+4.0**
OGRR				eSg	**Sg**	**00 06 56.7**	**-0.9**
OGRR				Pmax			
	15nm,0.4s						
OGRR				Smax			
	37nm,1.4s						
ZRHB	**Zarechye**	**5.32**	**236**	eSg	**Sg**	**00 07 24.3**	**-0.4**
ZRHB				Smax			
	141nm,1.2s						
TRG	**Tyrgan**	**5.58**	**241**	ePn	**Pn**	**00 06 00.9**	**+3.7**
TRG				ePg	**Pg**	**00 06 17.6**	**-3.4**
TRG				eSg	**Sg**	**00 07 31.0**	**-2.2**
TRG				Pmax			
	8.0nm,1.5s						
TRG				Smax			
	28nm,1.4s						
FFNB	**Fofonovo**	**5.83**	**234**	ePg	**Pg**	**00 06 23.5**	**-2.2**
FFNB				eSg	**Sg**	**00 07 41.5**	**+0.3**
KAB	**Kabansk**	**5.88**	**235**	eSg	**Sg**	**00 07 41.5**	**-1.2**
KAB				Smax			
	163nm,0.6s						
IENR	**Iengra**	**5.89**	**81**	eSg	Sg	00 07 34.2	-8.8
CLNS	**Chul'man**	**5.95**	**75**	e	**Pg**	**00 06 30.2**	**+2.3**
CLNS				eSg	**Sb**	**00 07 34.0**	**+5.0**
HRMR	**Khuramsha**	**6.03**	**230**	ePn	Pn	00 06 07.6	+4.1
HRMR				ePg	**Pg**	**00 06 27.0**	**-2.7**
HRMR				eSg	**Sg**	**00 07 48.0**	**+0.3**
HRMR				Pmax			
	16nm,0.5s						
HRMR				Smax			
	215nm,1.2s						
KPC	**Khapcheranga**	**6.15**	**192**	ePn	Pn	00 06 09.1	+4.0
KPC				ePg	**Pg**	**00 06 28.1**	**-3.8**
KPC				eSn	**Sn**	**00 07 18.7**	**+3.3**
KPC				eSg	**Sg**	**00 07 49.4**	**-2.0**
KPC				Pmax			
	4.0nm,0.7s						
KPC				Smax			
	58nm,1.1s						
BGT	**Bolshoye Golou**	**6.47**	**239**	eSg	**Sg**	**00 07 59.8**	**-1.9**
BGT				Smax			
	32nm,1.8s						
LSTR	**Listvyanka**	**6.86**	**240**	ePg	**Pg**	**00 06 41.5**	**-4.0**
LSTR				e		00 08 05.1	
LSTR				eSg	**Sg**	**00 08 12.9**	**-1.3**
LSTR				Pmax			
	2.0nm,1.0s						
LSTR				Smax			
	22nm,2.0s						
IRK	**Irkutsk**	**6.92**	**244**	eSg	**Sg**	**00 08 13.6**	**-2.5**
IRK				Smax			
	132nm,0.1s						
IVK	**Ivanovka**	**7.11**	**241**	eSg	**Sg**	**00 08 18.4**	**-3.7**
IVK				Smax			
	19nm,1.5s						
TLY	**Talaya**	**7.56**	**242**	Lg	Lg	00 08 34.7	
	0.0nm,0.3s,baz=259,slow=22,SNR=2.7						
TLY	**Talaya**	**7.56**	**242**	eSg	**Sg**	**00 08 33.7**	**-3.0**
TLY				Smax			
	10.0nm,0.3s						
ARS	**Arshan**	**8.05**	**247**	e	**Pg**	**00 07 03.7**	**-4.5**
ARS				eSg	**Sg**	**00 08 48.3**	**-4.0**
ARS				Smax			
	34nm,1.1s						
ZAK	**Zakamensk**	**8.57**	**236**	eSg	**Sg**	**00 09 05.8**	**-3.2**
ZAK				Smax			
	18nm,2.0s						
MOY	**Mondy**	**8.93**	**249**	e		00 08 30.6	
MOY				eSg	**Sg**	**00 09 16.2**	**-4.5**
MOY				Smax			
	28nm,2.0s						
SONM	**Songino Array**	**9.32**	**215**	Pn	**Pn**	**00 06 52.1**	**+3.5**
	0.1nm,0.3s,baz=26,slow=13,SNR=6.7						
SONM				Lg	Lg	00 09 33.1	
	0.6nm,0.3s,baz=28,slow=25,SNR=6.2						
KLR	**Kul'dur**	**12.38**	**114**	Lg	Lg	00 11 02.6	
	0.1nm,0.3s,baz=153,slow=7.2,SNR=5.2						
MKAR	**Makanchi Array**	**21.82**	**259**	P	**P**	**00 09 30.2**	**+3.8**
	0.9nm,0.8s,baz=65,slow=9.5,SNR=6.9						
KURBB	**Kurchatov Arra**	**21.93**	**272**	P	**P**	**00 09 30.7**	**+3.2**
	1.9nm,1.0s,baz=67,slow=12,SNR=10						
FINES	**FINESS Array B**	**43.03**	**315**	P	**P**	**00 12 35.0**	**+1.5**
	0.9nm,0.6s,baz=54,slow=9.7,SNR=5.2						
NOA	**NORSAR Array B**	**48.90**	**321**	P	**P**	**00 13 21.8**	**+2.1**
	1.0nm,0.9s,baz=45,slow=5.0,SNR=3.3						

IDC 01 00:27:53.3±3.3**, 22.°57S**×**148.°42E, h0km, mb1 3.0**/1**, mb1mx2.9**/13**, mbtmp2.8**/1**, Error ellipse: s-maj=205.9km s-min=47.1km az=173.0, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.39**	**279**	Lg	Lg	00 35 00.2	
	0.0nm,0.3s,baz=116,slow=24,SNR=4.8						
I07AU	**WARRAMUNGA INF**	**13.40**	**279**	i		01 47 20.0	
	baz=106,slow=311,SNR=2.4						
ASAR	**Alice Springs**	**13.40**	**262**	Pn	Pn	00 31 03.8	-1.1
	baz=94,slow=13,SNR=1.1						
ASAR				Lg	Lg	00 35 01.1	
	0.0nm,0.3s,baz=85,slow=26,SNR=4.4						
TORD	**Torodi Ar. Bea**	**147.04**	**259**	PKPbc	PKPbc	00 47 38.3	-0.7
	0.4nm,0.8s,baz=93,slow=2.9,SNR=1.8						

IDC ***01*** *00:38:07.9±3.1, 30.°20S×177.°86W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/20, mbtmp4.0/3, Error ellipse: s-maj=66.8km s-min=21.0km az=112.0*
NEIC ***01*** *00:38:12.4±0.6, 30.°18S±0.°03×177.°8W±0.°2, h35km±12km, mb4.1/4, Error ellipse: s-maj=29.0km s-min=4.0km az=91.0*
ISC 01 00:38:13.5±1.4**, 30.°19S**±0.°07×**177.°8W**±0.°2**, h50km, n18, σ1.s13**/17**, mb4.0**/4**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.94**	**354**	Pn	**Pn**	**00 38 29.7**	**-0.7**
	69nm,0.3s,baz=113,slow=21,SNR=2.5						
RAO				Sn	**Sn**	**00 38 41.9**	**-0.9**
	1µm,0.3s,baz=41,slow=21,SNR=23						
RAO	**Raoul Island**	**0.94**	**354**		**Pn**	**00 38 30.1**	**-0.3**
RAO					**Sn**	**00 38 41.3**	**-1.5**
URZ	**Urewera**	**9.08**	**206**	Sn	**Sn**	**00 42 00.8**	**-1.9**
	1.3nm,0.3s,baz=205,slow=23,SNR=6.1						
BKZ	**Black Stump Fm**	**10.11**	**206**	Pn	**Pn**	**00 40 36.0**	**0.0**
KHZ	**Kahutara**	**14.04**	**207**	Pn	**Pn**	**00 41 27.5**	**-2.1**
CTAO	**Charters Tower**	**33.92**	**279**	P	**P**	**00 44 53.0**	**+0.9**
STKA	**Stephens Creek**	**34.68**	**257**	P	**P**	**00 44 58.8**	**+0.2**
	0.9nm,0.4s,baz=104,slow=14,SNR=3.6						
STKA	**Stephens Creek**	**34.68**	**257**	P	**P**	**00 45 00.1**	**+1.5**
STKA				IAmb	IAmb	00 45 07.9	
	comp=Z,1.8nm,1.3s						
AS31	**Alice Springs**	**43.28**	**267**	P	**P**	**00 46 11.2**	**+0.6**
ASAR	**Alice Springs**	**43.28**	**267**	P	**P**	**00 46 10.7**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=104,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**43.28**	**267**	P	**P**	**00 46 11.2**	**+0.6**
WR0	**Warramunga Arr**	**44.07**	**272**	P	**P**	**00 46 17.4**	**+0.5**
WR0				IAmb	IAmb	00 46 22.4	
	comp=Z,8.8nm,1.5s						
WRA	**Warramunga Arr**	**44.25**	**272**	P	**P**	**00 46 19.0**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=110,slow=8.1,SNR=62						
QSPA	**South Pole Qui**	**59.92**	**180**	P	**P**	**00 48 15.4**	**+1.1**
H10N3	**ASCENSION HYDR**	**38.93**	**154**	T	T	03 33 24.8	
	baz=203,slow=75,SNR=5.8						
H10N1	**ASCENSION HYDR**	**38.93**	**154**	T	T	03 33 33.3	
	baz=203,slow=75,SNR=8.0						
H10N2	**ASCENSION HYDR**	**38.95**	**154**	T	T	03 33 35.2	
	baz=203,slow=75,SNR=7.4						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	**PKPdf**	**00 57 44.6**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=55,slow=3.4,SNR=26						

HEL ***01*** *01:03:39.3, 67.°87N×20.°04E, h0km, ML1.7, Explosion*
UPP 01 01:03:40.1±0.0**, 67.°83N**×**20.°19E, h0km, ML1.7, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	P	Pg	01 03 43.0	+0.2
KUA				S	Sg	01 03 45.1	+0.5
KUA	**Kurravaara**	**0.14**	**23**	i P	Pg	01 03 43.0	+0.2
KUA				i S	Sg	01 03 45.1	+0.5
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	01 03 44.6	+0.2
RATU				S	Sg	01 03 47.9	+0.5
RATU	**Laukkuluspa**	**0.23**	**270**	S	Sg	01 03 52.8	+5.4
RATU	**Laukkuluspa**	**0.23**	**270**	i P	Pg	01 03 44.6	+0.2
RATU				i S	Sg	01 03 47.9	+0.5
KOVU	**Salmi**	**0.40**	**358**	P	Pg	01 03 47.8	+0.1
KOVU	**Salmi**	**0.40**	**358**	i P	Pg	01 03 47.8	+0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	01 03 48.5	0.0
NIKU	**Nikkaluokta**	**0.44**	**276**	i P	Pg	01 03 48.5	0.0
LANU	**Lannavaara**	**0.71**	**71**	eP	Pg	01 03 53.3	-0.4
	baz=258						
LANU				eS	Sg	01 04 02.8	-0.2
DUNU	**Dundret**	**0.72**	**168**	P	Pg	01 03 53.6	-0.3
DUNU				S	Sg	01 04 03.6	+0.4
DUNU	**Dundret**	**0.72**	**168**	i P	Pg	01 03 53.6	-0.3
DUNU				i S	Sg	01 04 03.6	+0.4
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	01 03 54.9	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	i P	Pg	01 03 54.9	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	01 03 55.1	0.0
SALU	**Saltoluokta**	**0.79**	**236**	i P	Pg	01 03 55.1	0.0
KIF	**Kilpisjarvi**	**1.21**	**10**	eP	Pb	01 04 03.8	0.0
KIF	**Kilpisjarvi**	**1.21**	**10**	ePB	Pg	01 04 03.2	0.0
KIF				MSG		01 04 16.1	
	comp=Z,5.1nm,0.2s						
KIF				eSB	Sg	01 04 19.1	+0.4
PAJU	**Pajala**	**1.39**	**124**	P	Pg	01 04 05.3	-1.3
PAJU	**Pajala**	**1.39**	**124**	P	Pb	01 04 10.2	+3.3
PAJU	**Pajala**	**1.39**	**124**	eP	Pg	01 04 05.2	-1.4
	baz=316						
PAJU				eSB	Sg	01 04 23.6	-0.9
HARU	**Harads**	**1.70**	**169**	P	Pn	01 04 10.7	-0.2
HARU	**Harads**	**1.70**	**169**	eP	Pn	01 04 10.7	-0.2
KALU	**Kalix**	**2.34**	**146**	eP	Pn	01 04 20.7	+1.0
KALU				eSG	Sb	01 04 52.3	0.0
TOF	**Tornio**	**2.39**	**135**	eP	Pn	01 04 21.7	+1.2
TOF				MSG		01 04 52.1	
	comp=Z,2.9nm,0.2s						
TOF				eSB	Sb	01 04 52.5	-1.4
SGF	**Sodankyl**	**2.45**	**96**	ePB	Pb	01 04 23.2	-1.8
	baz=276						
SGF				eSB	Sb	01 04 54.8	-1.0
RNF	**Rovaniemi**	**2.57**	**116**	ePB	Pn	01 04 24.7	+1.7
	baz=311						
RNF				eSB	Sb	01 04 58.4	-0.8
ARA0	**ARCESS Array S**	**2.59**	**46**	eP	Pn	01 04 24.1	+0.9
ARA0	**ARCESS Array S**	**2.59**	**46**	eP	Pn	01 04 24.3	+1.1
	baz=226						
OLKF	**Oulanka, Finla**	**3.91**	**108**	eSG	Sg	01 05 43.2	-2.2

UPP 01 01:03:44.8±0.2**, 67.°82N**×**20.°21E, h0km, ML2.7, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**20**	P	Pg	01 03 47.9	+0.2
KUA				S	Sg	01 03 49.9	+0.3

RSNC ***01*** *01:03:58.7±1.3, 8.°30N×72.°12W, h4km±7km, ML3.0*
FUNV ***01*** *01:03:59.1, 8.°25N×72.°13W, h5km, MW3.7*
ISC 01 01:03:58.3±1.2**, 8.°27N**±0.°03×**72.°11W**±0.°03**, h14km**±9km**, n26, σ1.s35**/51**, 1D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.45**	**207**	eP	**Pg**	**01 04 06.7**	**-0.6**
CAPV				eS	**Sg**	**01 04 13.3**	**-0.1**
PAMC	**Pamplona, Colo**	**1.09**	**212**	⇓iP	**Pb**	**01 04 18.5**	**-0.7**
PAMC				eS	**Sb**	**01 04 33.3**	**-0.2**
PAMC				i		01 04 40.0	
	comp=Z,260nm,0.2s						
OCAC	**Ocana**	**1.20**	**269**	eP	**Pn**	**01 04 19.5**	**-1.2**
OCAC				eS	**Sb**	**01 04 35.4**	**-0.8**
OCAC				i		01 04 37.6	
	comp=Z,221nm,0.3s						
SOCV	**Socops**	**1.24**	**89**	eP	**Pn**	**01 04 20.8**	**-0.5**
SOCV				eS	**Sg**	**01 04 39.2**	**+0.8**
SDV	**Santo Domingo**	**1.59**	**67**	eP	**Pn**	**01 04 26.7**	**+0.5**
SDV				eS	**Sn**	**01 04 46.7**	**+0.1**
SDV				i		01 04 51.7	
	comp=Z,170nm,0.3s						
MCQV	**Machiques**	**1.82**	**347**	eP	**Pn**	**01 04 30.2**	**+1.0**
MCQV				eS	**Sb**	**01 04 54.6**	**+0.6**
TAMC	**Tame, Arauca**	**1.85**	**170**	eP	**Pn**	**01 04 31.1**	**+1.5**
TAMC				eS	**Sb**	**01 04 55.3**	**+0.4**
TAMC				i		01 05 01.7	
	comp=Z,84nm,0.7s						
BRRC	**Barranca, Sant**	**1.96**	**234**	eP	**Pb**	**01 04 34.0**	**+0.3**
BRRC				eS	**Sb**	**01 05 00.4**	**+2.3**
BARC	**Barichara**	**1.97**	**213**	eP	**Pb**	**01 04 34.6**	**+0.4**
BARC				eS	**Sb**	**01 05 00.8**	**+2.0**
SMLC	**San Martn de**	**2.01**	**285**	eP	**Pn**	**01 04 31.7**	**-0.1**
SMLC				eS	**Sb**	**01 04 58.2**	**-1.3**
SMLC				i		01 05 01.5	
	comp=Z,238nm,0.3s						
RUSC	**La Rusia**	**2.55**	**202**	eP	**Pn**	**01 04 41.6**	**+1.9**
RUSC				eS	**Sb**	**01 05 14.0**	**-1.5**
RUSC	**La Rusia**	**2.55**	**202**	eP	**Pn**	**01 04 40.1**	**+0.5**
RUSC				eS	**Sn**	**01 05 10.4**	**-0.3**
CURV	**Curarigua**	**2.74**	**51**	eP	**Pn**	**01 04 43.2**	**+1.2**
CURV				eS	**Sn**	**01 05 16.4**	**+1.5**
SANV	**Sanarito**	**2.83**	**64**	eP	**Pn**	**01 04 44.4**	**+1.3**
SANV				eS	**Sn**	**01 05 18.4**	**+1.4**
PTBC	**PUERTO BERRIO,**	**2.89**	**234**	eP	**Pn**	**01 04 44.4**	**+0.5**
PTBC				eS	**Sn**	**01 05 19.4**	**+0.9**
PTBC				i		01 05 29.2	
	comp=Z,35nm,0.3s						
ELOV	**Elorza**	**2.89**	**116**	eP	**Pn**	**01 04 44.9**	**+0.9**
ELOV				eS	**Sn**	**01 05 19.5**	**+0.9**
DABV	**Dabajuro**	**3.01**	**29**	eP	**Pn**	**01 04 46.0**	**+0.4**
DABV				eS	**Sn**	**01 05 22.7**	**+1.2**
SIQV	**Siquisique**	**3.28**	**44**	eP	**Pn**	**01 04 50.1**	**+0.8**
SIQV				eS	**Sn**	**01 05 29.0**	**+0.8**
MAPV	**Macapo**	**3.93**	**66**	eP	**Pn**	**01 04 59.3**	**+1.0**
MAPV				eS	**Sn**	**01 05 44.0**	**-0.3**
BAUV	**El Baul**	**4.08**	**80**	eP	**Pn**	**01 05 00.2**	**-0.1**
BAUV				eS	**Sn**	**01 05 47.5**	**-0.4**
MONV	**Montecano**	**4.23**	**30**	eS	**Sn**	**01 05 50.4**	**-1.1**
TURV	**Turiamo**	**4.74**	**62**	eP	**Pn**	**01 05 11.2**	**+1.8**
TURV				eS	**Sn**	**01 06 02.6**	**-1.6**
PAYV	**Puerto Ayacuch**	**5.25**	**122**	eP	**Pn**	**01 05 16.2**	**-0.1**
PAYV				eS	**Sn**	**01 06 14.4**	**-2.4**
TACV	**Tcata**	**5.35**	**69**	eP	**Pn**	**01 05 19.0**	**+1.2**
TACV				eS	**Sn**	**01 06 16.8**	**-2.6**
MERV	**Las Mercedes**	**5.83**	**80**	eP	**Pn**	**01 05 24.5**	**+0.1**
MERV				eS	**Sn**	**01 06 27.7**	**-3.3**
BIRV	**Birongo**	**6.17**	**69**	eP	**Pn**	**01 05 29.6**	**+0.6**
BIRV				eS	**Sn**	**01 06 35.8**	**-3.6**

IDC ***01*** *01:18:28.9±1.8, 1.°84N×126.°62E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.5/34, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=118.1km s-min=22.1km az=68.0*
NEIC ***01*** *01:18:35.8±1.0, 1.°8N±0.°1×126.°54E±0.°06, h51km±14km, mb4.2/8, Error ellipse: s-maj=19.6km s-min=6.4km az=196.0*
DJA ***01*** *01:18:36.2±1.0, 2°N±2°×12°7E±°, h27km±9km, M4.0/12, mb4.0/3, MLv3.9/12*
ISC 01 01:18:36.0±1.0**, 1.°76N**±0.°07×**126.°57E**±0.°06**, h47km, n25, σ0.s93**/26**, mb4.1**/6**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.27**	**141**		**Pn**	**01 18 57.5**	**+0.2**
TNTI	**Ternate**	**1.27**	**141**	P	**Pn**	**01 18 57.9**	**+0.6**
TNTI				S	**Sn**	**01 19 14.5**	**+1.3**
SGSI	**Sangihe**	**2.17**	**331**	P	**Pn**	**01 19 10.5**	**+0.7**
KMSI	**Cibinong**	**2.84**	**246**	P	**Pn**	**01 19 19.2**	**+0.2**
KMSI				S	**Sn**	**01 19 51.9**	**-0.1**
GTOI	**Gorontalo**	**3.73**	**253**	P	**Pn**	**01 19 32.9**	**+1.8**
SANI	**Sanana**	**3.83**	**189**	P	**Pn**	**01 19 33.3**	**+0.8**
LUWI	**Luwuk**	**4.71**	**234**	Pn	**Pn**	**01 19 46.5**	**+1.9**
LUWI	**Luwuk**	**4.71**	**234**	P	**Pn**	**01 19 43.9**	**-0.7**
MRSI	**Marisa**	**4.80**	**255**	P	**Pn**	**01 19 45.8**	**0.0**
NLAI	**Namlea**	**5.00**	**174**	P	**Pn**	**01 19 47.8**	**-0.7**
SWI	**Sorong**	**5.37**	**119**	P	**Pn**	**01 19 53.9**	**+0.3**
	0.1nm10nm,0.8s						
TOLI2	**Tolitoli**	**5.82**	**264**	Pn	**Pn**	**01 19 58.8**	**-1.0**
SOEI	**Soe**	**11.67**	**191**		**Pn**	**01 21 19.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.76**	**183**	P	**P**	**01 23 01.7**	**-0.5**
	0.1nm,0.3s,baz=3.8,slow=15,SNR=1.6						
FITZ	**Fitzroy Crossi**	**19.76**	**183**	IAmb	IAmb	01 23 53.0	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	**22.73**	**161**	P	**P**	**01 23 33.6**	**-0.7**
WB0				IAmb	IAmb	01 23 35.3	
	comp=Z,5.6nm,0.8s						
WRA	**Warramunga Arr**	**22.88**	**161**	P	**P**	**01 23 34.6**	**-1.2**
	comp=Z,3.3nm,0.5s,baz=340,slow=11,SNR=48						
WB2	**Warramunga Arr**	**22.88**	**161**	P	**P**	**01 23 35.0**	**-0.8**
WR0	**Warramunga Arr**	**22.96**	**160**	P	**P**	**01 23 35.7**	**-0.9**
WR0				IAmb	IAmb	01 23 39.8	
	comp=Z,14nm,1.6s						
AS31	**Alice Springs**	**26.26**	**165**	P	**P**	**01 24 08.4**	**+1.3**
ASAR	**Alice Springs**	**26.27**	**165**	P	**P**	**01 24 06.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=342,slow=8.2,SNR=15						
MK31	**Makanchi Array**	**59.08**	**326**	P	**P**	**01 28 32.3**	**+0.8**
MKAR	**Makanchi Array**	**59.08**	**326**	P	**P**	**01 28 30.7**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=119,slow=8.2,SNR=16						
MAKZ	**Makanchi**	**59.26**	**326**	P	**P**	**01 28 31.8**	**-1.0**
KURK	**Kurchatov**	**63.31**	**328**	P	**P**	**01 28 59.7**	**-0.4**
KURK				IAmb	IAmb	01 29 02.8	
	comp=Z,4.6nm,1.2s						

IDC ***01*** *01:42:52.3±0.6, 0.°84N×28.°15W, h0km, mb4.1/18, mb1 4.3/19, mb1mx4.2/41, mbtmp4.2/19, ML4.8/1, MS3.8/18, Ms1 3.8/18, ms1mx3.7/31, Error ellipse: s-maj=25.2km s-min=12.2km az=140.0*
NEIC ***01*** *01:42:53.2±1.9, 0.°90N±0.°08×28.°26W±0.°06, h10km±1km, mb4.6/31, Error ellipse: s-maj=14.4km s-min=10.5km az=14.0*
GCMT ***01*** *01:42:55.2±0.4, 1.°12N±0.°03×28.°05W±0.°02, h13km±2km, MW4.7/77, Moment Tensor Solution. s9,c9; s77,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.09±.06; $M_{\theta\theta}$0.55±.08; $M_{\phi\phi}$-0.46±.07; $M_{r\theta}$-0.25±.16; $M_{\theta\phi}$-1.10±.07; $M_{\phi r}$-0.16±.21; Best double couple: $M_0$1.24800×10^{16} NP1:ϕ_s347.00000°,δ77.00000°,λ-6.00000°. NP2: ϕ_s78.00000°,δ84.00000°,λ-167.00000°. Principal axes: T 1.2690, Plg5.0000°, Azm212.0000°; N -0.0420, Plg76.0000°, Azm101.0000°; P -1.2270, Plg13.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 01:42:55.0±0.4**, 0.°83N**±0.°09×**28.°22W**±0.°08**, h17km, n109, σ1.s53**/104**, mb4.4**/34**, MS3.9**/18**, 3C-7D, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NBPV	**Pedro Velho**	**10.08**	**224**	eP	**Pn**	**01 45 18.3**	**-0.8**
RCBR	**Riachuelo**	**10.13**	**229**	Pn	**Pn**	**01 45 19.0**	**-0.8**
	8.1nm,0.3s,baz=323,slow=6.7,SNR=49						
RCBR				LR	LR	01 48 18.8	
	comp=Z,847nm,21.4s,baz=16,slow=32						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RCBR	Riachuelo	10.13	229	eP	Pn	01 45 19.1	-0.7
NBRF	Rio Formoso -	11.69	216	eP	Pn	01 45 40.8	-0.3
NBLI	Livramento-PB	11.92	227	eP	Pn	01 45 43.2	-1.1
SACV	Santiago Islan	14.77	18	Pn	Pn	01 46 20.0	-3.3
H10N3	ASCENSION HYDR	16.17	122	T	T	02 03 36.3	
	baz=302,slow=75,SNR=120						
H10N2	ASCENSION HYDR	16.17	122	T	T	02 03 29.0	
	baz=302,slow=75,SNR=181						
H10N1	ASCENSION HYDR	16.19	122	T	T	02 03 37.8	
	baz=302,slow=75,SNR=288						
ROSB	Rosrio	16.32	257	eP	Pn	01 46 44.3	+0.7
H10S3	ASCENSION HYDR	16.64	126	T	T	02 03 49.9	
	baz=304,slow=74,SNR=90						
H10S2	ASCENSION HYDR	16.66	126	T	T	02 03 56.1	
	baz=276,slow=74,SNR=34						
SDBA	SAO DESIDERIO	21.15	231	eP	P	01 47 39.8	+0.3
SMTB	Santa Maria do	21.57	243	eP	P	01 47 44.6	+0.7
NAN01	Guarapari, ES	21.95	212	eP	P	01 47 48.8	+0.8
JANB	Januaria	22.41	225	eP	P	01 47 53.0	-0.1
PRPB	Parauapebas	22.65	252	eP	P	01 47 56.7	+1.1
BSFB	Barra de Sao F	23.14	212	eP	P	01 48 01.0	+0.4
SJMB	Sao Joao De Ma	23.22	213	eP	P	01 48 02.9	+1.5
PEXB	Peixe	23.72	237	eP	P	01 48 07.4	+0.9
LIC	Lamto	23.75	76	eP	P	01 48 06.8	0.0
	29nm,0.9s						
TIC	Toumodi	23.85	75	eP	P	01 48 07.2	-0.5
DBIC	Dimbokro	24.02	75	P	P	01 48 07.8	-1.4
	6.7nm,0.8s,baz=241,slow=12,SNR=15						
DBIC				LR	LR	01 55 59.3	
	comp=Z,94nm,18.6s,baz=199,slow=33						
DBIC	Dimbokro	24.02	75	P	P	01 48 07.8	-1.4
DBIC				IAmb	IAmb	01 48 17.6	
	comp=Z,11nm,0.8s						
KIC	Kosan Boka	24.06	76	eP	P	01 48 08.8	-0.9
	comp=Z,22nm,0.9s						
MDP	Montagnes des	24.75	280	LR	LR	01 56 03.3	
	comp=Z,53nm,18.6s,baz=94,slow=32						
BDFB	Brasilia	25.50	229	P	P	01 48 22.9	+0.1
	comp=Z,7.8nm,0.8s,baz=40,slow=8.8,SNR=12						
BDFB				LR	LR	01 57 30.1	
	comp=Z,426nm,19.3s,baz=84,slow=34						
BDFB	Brasilia	25.50	229	P	P	01 48 23.2	+0.4
BDFB				IAmb	IAmb	01 48 24.5	
	comp=Z,11nm,0.9s						
IPMB	Ipameri, GO	27.14	226	eP	P	01 48 37.6	0.0
KOWA	Kowa	27.51	59	P	P	01 48 39.6	-1.3
	comp=Z,8.3nm,0.8s,baz=238,slow=6.4,SNR=13						
KOWA				LR	LR	01 58 18.4	
	comp=Z,384nm,19.1s,baz=228,slow=34						
KOWA	Kowa	27.51	59	P	P	01 48 39.7	-1.3
KOWA				IAmb	IAmb	01 48 48.1	
	comp=Z,10nm,0.8s						
ITTB	Itaituba	27.97	259	eP	P	01 48 44.8	-0.2
PP1B	Ponte de Pedra	32.01	234	eP	P	01 49 21.9	+1.1
TOA0	Torodi Ar. Sit	32.06	66	P	P	01 49 20.0	-1.2
TOA0				IAmb	IAmb	01 49 23.5	
	comp=Z,6.8nm,0.8s						
TORD	Torodi Ar. Bea	32.06	66	P	P	01 49 20.6	-0.7
	comp=Z,5.8nm,0.8s,baz=255,slow=9.8,SNR=23						
TORD				LR	LR	02 00 18.6	
	comp=Z,118nm,20.8s,baz=245,slow=33						
TORD	Torodi Ar. Bea	32.06	66	P	P	01 49 19.5	-1.7
BOAV	Boa Vista	32.33	273	eP	P	01 49 24.6	+0.9
MACA	Manacapuru-AM	32.69	263	eP	P	01 49 28.2	+1.4
PTLB	Pontes e Lacer	34.57	241	eP	P	01 49 44.7	+1.5
MDT	Midelt	38.81	33	P	P	01 50 19.9	+0.7
	comp=Z,2.0nm,0.8s,baz=278,slow=11,SNR=3.6						
CPUP	Villa Florida	38.95	224	P	P	01 50 21.4	+1.0
	comp=Z,4.7nm,0.9s,baz=44,slow=11,SNR=8.5						
CPUP				LR	LR	02 06 07.9	
	comp=Z,474nm,19.0s,baz=55,slow=36						
CPUP	Villa Florida	38.95	224	P	P	01 50 20.2	-0.2
CPUP				IAmb	IAmb	01 50 23.1	
	comp=Z,23nm,1.4s						
TAM	Tamanrasset	39.39	54	P	P	01 50 22.8	-1.4
HATO	Hato, Curacao	41.94	287	P	P	01 50 42.8	-2.5
PESTR	Estremoz	42.31	24	P	P	01 50 45.8	-2.1
PESTR				IAmb	IAmb	01 50 47.3	
	comp=Z,17nm,1.5s						
LPAZ	La Paz	42.90	245	P	P	01 50 54.0	+0.2
	comp=Z,3.2nm,0.8s,baz=52,slow=8.1,SNR=11						
LPAZ				LR	LR	02 08 24.5	
	comp=Z,176nm,19.9s,baz=66,slow=36						
LPAZ	La Paz	42.90	245	P	P	01 50 53.8	+0.1
LPAZ	La Paz	42.90	245	eP	P	01 50 53.9	+0.2
SDV	Santo Domingo	42.97	282	P	P	01 50 52.3	-1.6
ESDC	Sonseca Array	44.54	27	P	P	01 51 05.9	-0.2
	comp=Z,2.9nm,0.9s,baz=228,slow=7.6,SNR=15						
ESDC	Sonseca Array	44.54	27	P	P	01 51 06.1	+0.1
PB06	IPOC Station P	46.56	237	P	P	01 51 21.2	-1.2
PB15	IPOC Station P	46.69	236	P	P	01 51 22.8	-0.7
GO02	Mina Guanaco	47.63	234	P	P	01 51 30.3	-0.6
KEST	Kesra	49.22	41	LR	LR	02 13 05.6	
	comp=Z,98nm,19.5s,baz=298,slow=37						
AC05	El Transito	49.87	230	P	P	01 51 47.3	-0.6
BI02	San Fabin de	54.62	222	P	P	01 52 22.7	-0.3
BI02				IAmb	IAmb	01 52 24.9	
	comp=Z,4.6nm,0.9s						
OSSC	Osservatorio P	55.16	34	P	P	01 52 25.3	-1.3
TIP	Timpagrande	56.03	41	P	P	01 52 31.6	-1.5
PLCA	Paso Flores	56.47	218	P	P	01 52 37.6	+1.4
	comp=Z,1.2nm,0.8s,baz=34,slow=3.6,SNR=2.4						
PLCA				LR	LR	02 16 55.8	
	comp=Z,109nm,18.8s,baz=72,slow=36						
PLCA	Paso Flores	56.47	218	IAmb	IAmb	01 52 49.1	
	comp=Z,6.6nm,1.5s						
FETA	Feichten	57.15	31	iP	P	01 52 42.4	+1.4
	comp=Z,2.3nm,0.7s						
SQTA	Sankt Quirin	57.52	31	eP	P	01 52 44.9	+1.3
	comp=Z,5.4nm,1.0s						
MOTA	Moosalm	57.55	31	eP	P	01 52 45.9	+2.1
	comp=Z,2.5nm,0.8s						
WTTA	Wattenberg	57.77	31	eP	P	01 52 46.0	+0.5
	comp=Z,2.9nm,1.3s						
ABTA	Abfaltersbach	57.90	32	iP	P	01 52 48.4	+2.2
	comp=Z,3.4nm,0.9s						
BOSA	Boshof	58.91	124	P	P	01 52 53.7	0.0
	comp=Z,4.6nm,1.2s,baz=274,slow=3.9,SNR=4.6						
BOSA				LR	LR	02 12 51.8	
	comp=Z,97nm,21.9s,baz=327,slow=31						
BOSA	Boshof	58.91	124	IAmb	IAmb	01 53 05.1	
	comp=Z,10nm,1.4s						
MOA	Molln	59.52	32	eP	P	01 52 58.9	+1.5
	comp=Z,2.2nm,0.9s						
LONY	Lake Ozonia	59.81	323	P	P	01 52 59.7	+0.2
GERES	GERESS Array B	59.85	31	P	P	01 53 00.9	+1.2
	comp=Z,1.3nm,0.8s,baz=212,slow=4.7,SNR=8.4						
GERES	GERESS Array B	59.85	31	P	P	01 53 00.2	+0.4
FNA	Florina	59.90	42	P	P	01 53 00.6	+0.3
FNA				IAmb	IAmb	01 53 03.9	
	comp=Z,9.1nm,1.1s						
KHC	Kasperske Hory	59.97	30	eP	P	01 53 01.8	+1.3
CKRC	Cesky Krumlov	60.15	31	eP	P	01 53 03.7	+2.0
TREC	Trest	61.05	31	eP	P	01 53 09.7	+1.8
FRGS	Fruska Gora	61.10	37	⇓P	P	01 53 10.3	+2.0
WVNY	West Valley, N	61.19	319	P	P	01 53 08.0	-1.0
VRAC	Vranov	61.63	32	⇓P	P	01 53 13.1	+1.3
MDVR	Moldovita	62.07	38	⇓P	P	01 53 17.5	+2.6
DPC	Dobruska-Polom	62.12	31	eP	P	01 53 16.4	+1.3
BZS	Buzias	62.43	37	⇑P	P	01 53 18.5	+1.3
PSZ	Piszkesteto	62.63	34	P	P	01 53 18.5	-0.1
CJR	Cluj-Napoca	64.17	37	⇑P	P	01 53 30.1	+1.3
VOIR		64.45	39	⇓P	P	01 53 31.5	+0.8
DOPR	Dopca	64.91	38	⇓P	P	01 53 34.5	+0.9
MLR	Muntele Rosu	65.04	39	⇓P	P	01 53 36.2	+1.6
OZUR		65.21	38	⇓P	P	01 53 35.8	+0.2
BISRR	Bisoca	65.55	39	⇑P	P	01 53 44.5	+6.7
NOA	NORSAR Array B	67.14	20	P	P	01 53 47.5	-0.2
	comp=Z,1.1nm,0.8s,baz=224,slow=6.3,SNR=2.4						
NOA				LR	LR	02 18 16.5	
	comp=Z,46nm,19.8s,baz=270,slow=32						
BR131	Keskin Array S	68.11	47	P	P	01 53 53.2	-1.1
BR131				IAmb	IAmb	01 53 57.1	
	comp=Z,6.2nm,1.1s						
BRTR	Keskin Array B	68.11	47	P	P	01 53 53.6	-0.7
	comp=Z,1.1nm,0.9s,baz=230,slow=6.9,SNR=6.6						
BRTR				LR	LR	02 24 45.8	
	comp=Z,78nm,18.6s,baz=294,slow=37						
AKASG	Malin Array Be	69.31	35	P	P	01 54 00.9	-0.5
	comp=Z,3.1nm,0.6s,baz=243,slow=6.4,SNR=11						
AKASG	Malin Array Be	69.31	35	P	P	01 54 01.8	+0.4
AKBB	Malin Array Si	69.31	35	P	P	01 54 02.9	+1.5
AKBB				IAmb	IAmb	01 54 10.6	
	comp=Z,5.8nm,0.8s						
MNK	Minsk	70.31	31	iP	P	01 54 09.0	+1.5
	comp=E,2.0nm,1.0s						
MNK				iP	P	01 54 09.0	+1.5
	comp=N,5.0nm,0.9s						
MNK				iP	P	01 54 09.0	+1.5
	comp=Z,7.0nm,0.8s						
MNK				iPcP	PcP	01 54 32.6	+3.5
MNK				iPP	PP	01 56 45.4	+2.2
MNK				iPPP	PPP	01 58 28.0	
MNK				iS	S	02 03 22.6	+3.7
MNK				iScS	ScS	02 04 12.5	+2.9
MNK				iSS	SS	02 07 57.0	+7.5
MNK				iSSS	SSS	02 11 15.7	
MNK				iLQ	LQ	02 20 05.3	
MNK				iLR	LR	02 25 20.4	
MNK				iLRM	MLR	02 28 06.5	
	comp=E,6.0nm,9.2s						
MNK				iLRM	MLR	02 28 12.5	
	comp=N,38nm,9.8s						
MNK				iLRM	MLR	02 28 13.0	
	comp=Z,50nm,10.3s						
MARD	Mardin	72.88	51	P	P	01 54 22.1	-1.4
FINES	FINESS Array B	72.96	24	P	P	01 54 23.9	+0.6
	comp=Z,2.6nm,1.0s,baz=217,slow=1.9,SNR=4.4						
FINES				LR	LR	02 23 14.0	
	comp=Z,68nm,21.0s,baz=256,slow=33						
FINES	FINESS Array B	72.96	24	P	P	01 54 23.0	-0.3
RAYN	Ar Rayn	74.76	66	P	P	01 54 34.2	-0.5
GEVA	Gevas	74.85	51	P	P	01 54 34.9	-0.2
GEVA				IAmb	IAmb	01 54 43.5	
	comp=Z,5.4nm,1.1s						
ULM	Lac du Bonnet	75.22	322	LR	LR	02 23 27.8	
	comp=Z,51nm,19.4s,baz=86,slow=32						
TXAR	Lajitas Array	76.91	300	P	P	01 54 47.9	+0.9
	comp=Z,0.3nm,0.7s,baz=126,slow=9.1,SNR=2.9						
TXAR				LR	LR	02 30 25.5	
	comp=Z,18nm,19.3s,baz=0.0,slow=37						
FCC	Fort Churchill	76.98	331	P	P	01 54 45.6	-0.9
FCC				IAmb	IAmb	01 54 46.3	
	comp=Z,4.1nm,0.9s						
ARCES	ARCESS Array B	77.20	17	LR	LR	02 23 58.0	
	comp=Z,66nm,20.7s,baz=350,slow=32						
PDAR	Pinedale Array	83.07	313	P	P	01 55 20.4	+0.2
	comp=Z,0.7nm,0.9s,baz=108,slow=4.8,SNR=4.7						
PDAR				LR	LR	02 27 41.8	
	comp=Z,63nm,20.4s,baz=112,slow=32						
YKA	Yellowknife Ar	87.59	332	P	P	01 55 40.5	-1.5
	comp=Z,0.4nm,0.8s,baz=95,slow=6.2,SNR=4.3						
LZH	Lanzhou	122.29	45	ePKP	PKPdf	02 01 47.4	-2.5
LZH				pPKP	PKiKP	02 01 51.0	+0.9
ASAR	Alice Springs	151.44	144	PKPbc	PKPbc	02 02 48.5	-0.4
	comp=Z,0.6nm,0.7s,baz=199,slow=2.2,SNR=7.1						

IDC ***01*** *01:49:36.8±2.5, 30.73N×141.22E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.5/37, mbtmp3.6/6, ML3.2/3, MS2.6/2, Ms1 2.7/2, ms1mx2.4/40, Error ellipse: s-maj=111.8km s-min=19.9km az=74.0*

ISC 01 01:49:37.8±1.7**, 30.8N**±0.2×**141.3E**±0.6**, h10**km**, n9,** σ**1.46**/8**, mb3.7**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.68	332	Sn	Sn	01 50 51.6	-2.0
	15nm,0.3s,baz=61,slow=22,SNR=1.6						
JCJ	Chichijima	3.73	167	Pn	Pn	01 50 36.1	+0.7
	7.7nm,0.3s,baz=318,slow=22,SNR=1.7						
JCJ				Sn	Sn	01 51 17.1	-2.3
	7.3nm,0.3s,baz=273,slow=20,SNR=1.8						
MJAR	Matsushiro Arr	6.32	337	Pn	Pn	01 51 11.1	+0.1
	0.2nm,0.3s,baz=159,slow=11,SNR=11						
KSRS	Korea Array	12.92	305	LR	LR	01 57 33.8	
	comp=Z,18nm,20.2s,baz=320,slow=37						
KLR	Kul'dur	19.82	341	P	P	01 54 08.3	-0.1
	0.1nm,0.3s,baz=138,slow=3.9,SNR=3.9						
CMAR	Chiang Mai Arr	40.16	262	LR	LR	02 14 02.6	
	comp=Z,11nm,19.1s,baz=320,slow=36						
MKAR	Makanchi Array	47.59	307	P	P	01 58 14.6	+0.9
	0.5nm,0.8s,baz=90,slow=9.7,SNR=6.0						
WRA	Warramunga Arr	50.84	188	P	P	01 58 39.2	+0.5
	0.4nm,0.3s,baz=5.4,slow=7.6,SNR=22						
ASAR	Alice Springs	54.56	188	P	P	01 59 06.1	-0.2
	0.3nm,0.5s,baz=4.4,slow=6.0,SNR=13						

ISK ***01*** *02:16:38.7, 37.13N×36.81E, h6km, ML3.3/9*

DDA ***01*** *02:16:38.5, 37.14N×36.81E, h9km±3km, ML3.4*

ISC 01 02:16:38.2±0.9**, 37.12N**±0.02×**36.82E**±0.02**, h14**km±6km**, n47,** σ**2.00**/72**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAMA	Osmaniye	0.14	298	iP	Pg	02 16 42.1	+0.1
KAMA				iS	Sg	02 16 43.9	-0.6
HCB	Kahramanmara	0.23	17	iP	Pg	02 16 43.9	+0.5
HCB				iS	Sg	02 16 46.0	-0.9
GAZ	Gaziantep	0.32	81	PG	Pg	02 16 45.2	+0.4
KHMN	Narli-Kahraman	0.38	45	PG	Pb	02 16 47.1	+0.4
KMRS	Kahramanmaras	0.39	9	PG	Pb	02 16 46.9	0.0
KMRS				SG	Sb	02 16 52.4	-0.4
KUZU	Kuzuini	0.40	150	iP	Pg	02 16 46.7	+0.4
KUZU				iS	Sg	02 16 50.2	-1.6
KUZU				IAML		02 16 54.0	
	comp=N,3μm,0.5s						
KUZU				IAML		02 16 56.0	
	comp=E,4μm,0.3s						
KAHM	Kahramanmaras,	0.42	18	iP	Pb	02 16 47.6	+0.2
KAHM				iS	Sg	02 16 51.5	-0.7
ANDN	Andirin	0.60	320	iP	Pb	02 16 50.8	+0.3
ANDN				iS	Sg	02 16 57.1	-0.8
GZT	Gaziantep	0.64	68	iP	Pg	02 16 51.1	+0.4
GZT				iS	Sg	02 16 57.6	-1.6
CEYT	Ceyhan	0.87	263	PG	Pb	02 16 55.7	+0.7
CEYT				SG	Sb	02 17 08.4	+2.0
KOZT	Kozan	0.87	295	PG	Pg	02 16 55.2	+0.1
SAIM	ADANA	1.04	326	iP	Pb	02 16 58.6	+0.6
SAIM				iS	Sg	02 17 09.4	-2.4
SAIM				IAML		02 17 16.0	
	comp=N,1μm,0.3s						
AKO	Adana	1.15	288	iP	Pb	02 17 00.6	+0.8
AKO				iS	Sg	02 17 11.4	-3.9
ATAB	Bozova	1.22	73	iP	Pb	02 17 01.8	+0.7
ATAB				iS	Sg	02 17 14.5	-3.3
ATAB				IAML		02 17 20.0	
	comp=E,889nm,0.4s						
ELBS	KAHRAMANMARAS	1.23	11	iP	Pn	02 17 02.8	+1.7
ELBS				iS	Sg	02 17 16.6	-1.2
ELBS				IAML		02 17 25.0	
	comp=E,1μm,0.4s						
KRTS	Karatas	1.28	245	PN	Pg	02 17 03.8	+0.9
SARI	SarD1z-Kayseri	1.32	346	PN	Pg	02 17 04.0	+0.3
SARI				SN	Sn	02 17 22.8	+2.9
KARA	Karaisali	1.42	276	PN	Pb	02 17 05.0	+0.6
AKCD	Akcadag	1.46	36	iP	Pg	02 17 06.3	0.0
AKCD				iS	Sn	02 17 20.9	-2.4
AKCD				IAML		02 17 29.0	
	comp=E,809nm,0.4s						
AKCD				IAML		02 17 31.0	
	comp=N,998nm,0.4s						
YAHY	KAYSERI_Yahyal	1.51	310	iP	Pb	02 17 06.7	+0.6
YAHY				iS	Sn	02 17 20.0	-4.5
DARE	Darende-Malaty	1.54	20	PN	Pb	02 17 07.4	+0.8
CMRD	Camardi-Nigde	1.56	291	PN	Pb	02 17 07.2	+0.4
DED	Mersin	1.63	265	iP	Pn	02 17 06.6	+0.2
DED				iS	Sn	02 17 20.8	-6.4
CUGUR	Gurin_SVAS	1.64	12	iP	Pg	02 17 11.2	+1.5
CUGUR				iS	Sn	02 17 26.8	-0.8
CUGUR				IAML		02 17 45.0	
	comp=E,443nm,0.8s						
SANL	SANLIURFA_Merk	1.73	88	iP	Pn	02 17 08.7	+0.8
SANL				iS	Sn	02 17 27.5	-2.3
SANL				IAML		02 17 36.0	
	comp=E,441nm,0.3s						
MALT	Malatya	1.74	46	PN	Pb	02 17 10.6	+0.6
NIDE	Nigde/Merkez-G	1.85	299	iP	Pb	02 17 11.7	-0.2
NIDE				iS	Sn	02 17 26.6	-6.2
BNN	Bunyan	1.89	336	PN	Pb	02 17 12.3	-0.3
HEKM	Malatya_Hekimh	1.97	27	iP	Pb	02 17 13.8	-0.2
HEKM				iS	Sn	02 17 34.8	-1.2
HEKM				IAML		02 17 50.0	
	comp=E,455nm,0.5s						
HEKM				IAML		02 17 52.0	
	comp=N,378nm,0.8s						
GUNE	Kayseri	2.02	332	iP	Pg	02 17 18.4	+1.5
GUNE				iS	Sg	02 17 41.8	-1.2
CUALT	Altinyayla-SIV	2.15	359	iP	Pb	02 17 16.6	-0.4
CUALT				iS	Sn	02 17 38.8	-1.5
KERG	Konya-Eregli	2.17	279	iP	Pn	02 17 15.8	+1.8
KERG				iS	Sn	02 17 32.1	-8.7
ELZG	Elazig	2.20	51	iP	Pn	02 17 15.9	+1.6
KIZK	Mersin	2.24	254	iP	Pn	02 17 16.2	+1.3
KIZK				iS	Sn	02 17 40.0	-2.4
CUKAN	kangal_SIVAS	2.25	13	iP	Pb	02 17 18.2	-0.4
AVNS	Nevsehir-Avano	2.30	318	iP	Pn	02 17 17.8	+2.1
AVNS				iS	Sn	02 17 46.3	+2.5
CUSAR	Sarkisla-SIVAS	2.34	349	iP	Pg	02 17 22.1	-1.0
CUSAR				iS	Sn	02 17 46.2	+1.3
KEMA	Kemaliye	2.52	31	iP	Pn	02 17 20.4	+1.7
SIRC	Yozgat	2.58	330	iP	Pn	02 17 21.2	+1.7
DIYA	Diyarbakir	2.74	72	iP	Pn	02 17 23.0	+1.2
DIYA				IAML		02 18 13.0	
	comp=N,157nm,0.3s						
DIYA				IAML		02 18 14.0	
	comp=E,170nm,0.7s						
HWQ	Hawqa	2.92	194	eP	Pn	02 17 27.0	+2.7
KKBE	Karaman, Kazim	3.10	273	iP	Pn	02 17 29.6	+2.8
CKRK	Yozgat, Cekere	3.12	341	iP	Pn	02 17 29.8	+2.7
MARD	Mardin	3.16	85	iP	Pn	02 17 27.8	+0.2
BHL	Bhannes	3.35	197	eP	Pn	02 17 33.6	+3.5
DQRL	Deir Qamar	3.56	197	eP	Pn	02 17 34.0	+1.0
QRWL	Qaraoun	3.69	195	eP	Pn	02 17 39.1	+4.3

JMA ***01*** *02:23:08.2±0.3, 33.21N×138.05E, h364km±3km, M4.0*

NEIC ***01*** *02:23:09.8±1.0, 33.21N±0.09×137.83E±0.09, h344km±7km, mb4.1/34, Error ellipse: s-maj=12.9km s-min=11.0km az=175.0*

IDC ***01*** *02:23:10.2±0.5, 33.19N×137.89E, h345km±4km, mb3.5/22, mb1 3.6/28, mb1mx3.5/51, mbtmp4.2/28, Error ellipse: s-maj=10.4km s-min=8.0km az=70.0*

ISC 01 02:23:10.5±0.5**, 33.28N**±0.05×**137.93E**±0.05**, h351**km±4km**, n127,** σ**0.90**/142**, mb4.0**/44**, 18C, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.56	330	P	Pn	02 23 54.7	+0.2
TK01				eS	S	02 24 30.4	+0.5
TK02	Tokai 2	0.68	348	⇑P	Pn	02 23 55.4	+0.4
TK02				S	S	02 24 31.5	+0.8
TTO3	TONANKAI O.B.S	0.73	323	⇑P	Pn	02 23 55.8	+0.6
TTO3				S	S	02 24 32.1	+1.0
TTO4	TONANKAI O.B.S	0.80	336	⇑P	Pn	02 23 55.6	+0.4
TTO4				S	S	02 24 31.5	+0.3
TTO2	TONANKAI O.B.S	0.88	302	⇑P	Pn	02 23 56.0	+0.5
TTO1	TONANKAI O.B.S	1.01	290	⇑P	Pn	02 23 56.3	+0.3
JSG	Sagara	1.41	9	Pn	Pn	02 23 57.7	-0.5
JIE	Ise	1.51	318	⇑P	Pn	02 23 58.7	0.0
JHJ	Hachijo jima 2	1.56	95	P	Pn	02 23 57.7	-1.4
	64nm,0.3s,baz=332,slow=17,SNR=37						
JHJ				S	S	02 24 37.4	-0.7
	79nm,0.3s,baz=64,slow=20,SNR=5.0						
JHJ2	Mitsune	1.59	95	P	Pn	02 23 58.2	-1.1
JHJ2	Mitsune	1.59	95	Pn	Pn	02 23 58.2	-1.1
JTNC	Tanabenakahech	2.01	286	⇑P	Pn	02 24 01.5	-0.4
JFNN	Fujinakano	2.01	18	⇑P	Pn	02 24 02.0	+0.1
JWY	Kouya	2.16	296	⇑P	Pn	02 24 03.1	0.0
INU	Inuyama	2.20	340		Pn	02 24 03.5	+0.3
JOD2	Odawara 2	2.20	26	P	Pn	02 24 02.9	-0.4
JYN	Shimob	2.27	13	P	Pn	02 24 03.9	0.0
JGF	Kuroka	2.37	349		Pn	02 24 04.2	-0.4
JYTA	Yamagatataniai	2.51	337	⇑P	Pn	02 24 05.8	+0.1
JRY	Ryogami san	2.85	16	⇑P	Pn	02 24 08.2	-0.4
JRY				S	S	02 24 53.4	-1.9
BSO1	Boso 1	2.88	61	P	Pn	02 24 06.4	-1.8
BSO1				S	S	02 24 52.2	-2.6
JWT	Wachi	2.89	314	⇑P	Pn	02 24 09.0	+0.1
JWT				S	S	02 24 55.1	-0.8
JWT	Wachi	2.89	314		Pn	02 24 08.6	-0.3
JAI	Aioi	2.95	281	⇑P	Pn	02 24 08.8	-0.6
MJAR	Matsushiro Arr	3.27	4	P	Pn	02 24 12.0	-0.3
	2.5nm,0.3s,baz=181,slow=10,SNR=212						
MJAR				S	S	02 25 01.8	-0.4
	0.7nm,0.3s,baz=220,slow=4.5,SNR=3.6						
MJAR	Matsushiro Arr	3.27	4	Pn	Pn	02 24 11.3	-1.0
MAJO	Matsushiro	3.27	4		Pn	02 24 11.9	-0.4
MAT	Matsushiro	3.27	4	P	Pn	02 24 12.1	-0.2
MAT				S	S	02 25 00.0	-2.1
MAT	Matsushiro	3.27	4	P	Pn	02 24 12.1	-0.2
MAT				S	S	02 25 00.2	-1.9
JKG	Kaga	3.27	337	⇑P	Pn	02 24 12.4	+0.1
JKG				eS	S	02 25 01.7	-0.4
MJB9	Matsu-Tunnel	3.27	4		Pn	02 24 11.9	-0.4
JAG	Ashikaga	3.38	21	⇑P	Pn	02 24 12.0	-1.4
JAG				S	S	02 24 59.4	-4.7
JMN	Monobe	3.41	279	⇑P	Pn	02 24 13.5	-0.3
JMN				S	S	02 25 04.0	-0.7
JMN	Monobe	3.41	279		Pn	02 24 12.7	-1.0
JYT	Yasato	3.49	32		Pn	02 24 13.2	-1.1
JTO	Tosashimizu	4.32	266	⇑P	Pn	02 24 22.3	-0.6
JHS	Saijyo	4.34	295	P	Pn	02 24 23.1	0.0
JHS				S	S	02 25 21.2	-0.5
JHS	Saijyo	4.34	295	Pn	Pn	02 24 22.1	-1.0
JSD	Sado	4.76	3	Pn	Pn	02 24 26.5	-0.9
JMM	Marumori	5.14	26	Pn	Pn	02 24 31.1	-0.5
JNU	Nakatsue	5.91	270	P	Pn	02 24 39.1	-1.3
	1.0nm,0.3s,baz=24,slow=6.2,SNR=7.9						
JCJ	Chichijima	7.18	148	P	Pn	02 24 48.6	-6.5
	23nm,0.3s,baz=287,slow=20,SNR=11						
JCJ				S	S	02 26 08.1	-12
	146nm,0.3s,baz=103,slow=23,SNR=31						
KSRS	Korea Array	9.17	300	P	Pn	02 25 19.4	+0.9
	1.4nm,0.3s,baz=113,slow=12,SNR=39						
KSAR	Wonju Array Be	9.19	300		Pn	02 25 18.4	-0.3
KS19	Wonju Array Si	9.23	300	Pn	Pn	02 25 16.9	-2.3
INCN	Inchon	10.13	298		Pn	02 25 29.5	-0.5
ASAJ	Asahikawa	11.42	17	P	P	02 25 45.6	+0.1
	2.2nm,0.3s,baz=244,slow=8.8,SNR=13						
JKA	Kamikawa-asahi	11.42	17	P	P	02 25 45.6	+0.1
USRK	Ussuriysk Ar.	11.85	339	P	P	02 25 50.1	-0.1
	baz=146,slow=10,SNR=30						
USRK	Ussuriysk Ar.	11.85	339		P	02 25 49.2	-1.0
KLR	Kul'dur	16.59	346	P	P	02 26 42.2	+0.1
	0.4nm,0.3s,baz=161,slow=8.8,SNR=13						
TIA	Tai'an	17.34	286	P	P	02 26 49.8	-0.6
TIA				pmax	pmax		
	comp=Z,13nm,1.2s						
BJT	Baijiatuau	18.69	297	P	P	02 27 03.7	-0.9
WHN	Wuhan	20.19	269	⇑P	P	02 27 19.3	-0.9
XAN	Xi'an	24.12	280	P	P	02 27 55.3	-0.6
XAN				pmax	pmax		
	comp=Z,12nm,0.6s						
XAN	Xi'an	24.12	280	P	P	02 27 55.4	-0.5
ENH	Enshi	24.33	271	P	P	02 27 56.6	-1.2
ULN	Ulaanbaatar	27.39	311	P	P	02 28 25.2	+0.3
ULN				IAmb	IAmb	02 28 27.2	
	comp=Z,5.5nm,0.8s						
SONM	Songino Array	27.79	311	P	P	02 28 29.6	+1.1
	comp=Z,4.6nm,0.6s,baz=122,slow=9.3,SNR=21						
SONM				pP	pP	02 29 34.7	+1.2
	comp=Z,1.2nm,0.8s,baz=112,slow=10,SNR=2.4						
SONM	Songino Array	27.79	311	P	P	02 28 28.8	+0.3
GTA	Gaotai	31.14	292	eP	P	02 28 57.6	-0.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CHTO	Chiang Mai	37.64	257	P	P	02 29 52.3	-0.9
CMAR	Chiang Mai Arr	37.82	257	P	P	02 29 54.6	-0.1
	comp=Z,1.7nm,0.4s,baz=48,slow=7.3,SNR=12						
ZAA0	Zalesovo Array	42.46	316	P	P	02 30 31.9	-0.1
ZALV	Zalesovo Beam	42.46	316	P	P	02 30 32.3	+0.3
	comp=Z,1.4nm,0.3s,baz=85,slow=6.4,SNR=10						
ZALV	Zalesovo Beam	42.46	316	P	P	02 30 31.9	-0.1
TAPN	Taplejung	43.42	276	eP	P	02 30 40.0	-0.3
	comp=Z,8.3nm,0.3s						
MK31	Makanchi Array	43.81	305	P	P	02 30 42.5	-0.4
MKAR	Makanchi Array	43.81	305	P	P	02 30 43.1	+0.3
	comp=Z,1.9nm,0.3s,baz=87,slow=9.2,SNR=85						
MKAR				pP	pP	02 31 53.8	+1.0
	comp=Z,0.6nm,0.6s,baz=87,slow=9.5,SNR=2.3						
MKAR				ScP	ScP	02 35 39.6	-0.1
	comp=Z,0.3nm,0.6s,baz=81,slow=5.4,SNR=4.2						
MKAR	Makanchi Array	43.81	305	P	P	02 30 42.9	+0.1
MAKZ	Makanchi	44.02	305	P	P	02 30 44.5	0.0
RAMN	Ramite	44.48	276	eP	P	02 30 48.1	-0.6
	comp=Z,33nm,0.7s						
IPM	Ipoh	44.74	238	P	P	02 30 49.0	-1.6
IPM				IAmb	IAmb	02 30 50.6	

	comp=Z,9.0nm,0.7s						
GUN	Gumba	44.74	278	*e*P	P	02 30 50.5	-0.3
	comp=Z,21nm,0.7s						
PKI	Pulchoki	45.25	277	*e*P	P	02 30 54.4	-0.4
	comp=Z,10nm,0.7s						
KKN	Kakani	45.28	278	*e*P	P	02 30 54.9	0.0
DMN	Daman	45.49	278	*e*P	P	02 30 56.2	-0.3
NRIK	Noril'sk	45.56	337	P	P	02 30 56.0	-0.1
	comp=Z,2.2nm,0.4s,baz=120,slow=8.2,SNR=4.4						
NRIK	Noril'sk	45.56	337	P	P	02 30 56.3	+0.2
GKN	Gorkha	45.74	278	*e*P	P	02 30 58.3	-0.1
	comp=Z,17nm,0.8s						
KURK	Kurchatov	46.10	311	P	P	02 31 00.1	-0.5
KURK				IAmb	IAmb	02 31 01.4	
	comp=Z,11nm,0.7s						
COEN	Coen	47.23	173	P	P	02 31 09.5	-0.2
COEN				IAmb	IAmb	02 31 10.2	
	comp=Z,5.4nm,0.6s						
AAK	Ala-Archa	49.83	300	P	P	02 31 28.4	-0.8
KK31	Karatay Array	52.59	302	P	P	02 31 49.6	+0.2
KK31				IAmb	IAmb	02 31 50.3	
	comp=Z,7.6nm,0.8s						
KKAR	Karatay Array	52.59	302	P	P	02 31 49.4	+0.1
WB0	Warramunga Arr	52.85	184	P	P	02 31 50.5	-0.9
WRAB	Tennant Creek	53.02	184	P	P	02 31 51.1	-1.4
WRAB				IAmb	IAmb	02 31 52.0	
	comp=Z,6.7nm,0.6s						
WB2	Warramunga Arr	53.03	184	IAmb	IAmb	02 31 52.1	
	comp=Z,7.8nm,0.6s						
WRA	Warramunga Arr	53.03	184	P	P	02 31 51.8	-0.9
	comp=Z,5.5nm,0.4s,baz=360,slow=7.5,SNR=213						
WR0	Warramunga Arr	53.03	184	IAmb	IAmb	02 31 52.5	
	comp=Z,13nm,0.8s						
NIL	Nilore	53.12	290	P	P	02 31 53.4	0.0
RND	Reindeer	53.38	32	P	P	02 31 55.5	+0.8
CTA	Charters Tower	53.66	170	P	P	02 31 56.8	-0.4
	comp=Z,1.7nm,0.7s,baz=356,slow=14,SNR=4.4						
ILAR	Eielson Array	54.18	31	P	P	02 32 01.6	+1.2
	comp=Z,0.9nm,0.7s,baz=282,slow=6.1,SNR=10						
KBL	Kabul	56.13	292	P	P	02 32 14.4	-0.5
KBL				IAmb	IAmb	02 32 15.3	
	comp=Z,3.7nm,0.8s						
BCAR	Beaver Creek A	56.60	33	P	P	02 32 19.3	+1.8
AS31	Alice Springs	56.75	184	IAmb	IAmb	02 32 20.5	
	comp=Z,2.8nm,0.5s						
ASAR	Alice Springs	56.76	184	P	P	02 32 18.4	-0.6
	comp=Z,3.2nm,0.5s,baz=19,slow=12,SNR=80						
ASAR				PcP	PcP	02 33 11.6	+1.2
	comp=Z,0.6nm,0.5s,baz=6.3,slow=4.0,SNR=4.2						
ASAR	Alice Springs	56.76	184	P	P	02 32 18.3	-0.8
ARU	Arti	57.32	320	P	P	02 32 22.3	-0.3
ABKAR	Akbulak array	58.21	311	P	P	02 32 28.5	-0.3
ABKAR				IAmb	IAmb	02 32 29.8	
	comp=Z,3.1nm,0.5s						
INK	Inuvik	59.01	26	P	P	02 32 35.5	+1.6
	comp=Z,0.5nm,0.4s,baz=313,slow=5.5,SNR=6.5						
INK	Inuvik	59.01	26	P	P	02 32 34.2	+0.2
INK				IAmb	IAmb	02 32 58.9	
	comp=Z,8.2nm,1.6s						
HRA	Herat	61.42	294	P	P	02 32 51.0	0.0
HRA				IAmb	IAmb	02 32 52.3	
	comp=Z,3.0nm,0.8s						
STKA	Stephens Creek	64.90	177	P	P	02 33 12.7	-0.5
	comp=Z,3.1nm,0.7s,baz=320,slow=5.7,SNR=7.3						
ARCES	ARCESS Array B	66.49	339	P	P	02 33 23.6	+0.7
	comp=Z,2.0nm,0.7s,baz=66,slow=8.7,SNR=18						
YKA	Yellowknife Ar	68.47	28	P	P	02 33 35.8	+0.6
	comp=Z,0.4nm,0.4s,baz=297,slow=5.6,SNR=8.9						
FINES	FINESS Array B	70.78	332	P	P	02 33 49.7	+0.5
	comp=Z,1.7nm,0.6s,baz=53,slow=6.1,SNR=17						
KBZ	Khabaz	71.16	310	P	P	02 33 51.5	-0.3
	comp=Z,3.3nm,0.8s,baz=70,slow=3.0,SNR=7.6						
PINE	Pine Mountain	74.96	47	P	P	02 34 15.1	+0.9
AKASG	Malin Array Be	75.48	322	P	P	02 34 16.8	+0.1
	comp=Z,1.3nm,0.4s,baz=51,slow=5.5,SNR=12						
NB2	NORSAR Subarra	76.51	336	P	P	02 34 22.5	+0.2
	comp=Z,0.7nm,0.7s,baz=42,slow=5.9						
NOA	NORSAR Array B	76.51	336	P	P	02 34 22.8	+0.5
	comp=Z,0.6nm,0.5s,baz=32,slow=17,SNR=4.3						
BEKR	Beckworth	77.42	51	P	P	02 34 28.5	+0.5
BEKR				IAmb	IAmb	02 34 30.6	
	comp=Z,4.0nm,0.8s						
BRTR	Keskin Array B	79.15	310	P	P	02 34 38.1	+0.8
	comp=Z,1.6nm,0.8s,baz=106,slow=3.7,SNR=8.7						
BRTR				pP	pP	02 35 57.1	-0.1
	comp=Z,1.0nm,0.9s,baz=41,slow=12,SNR=4.1						
BRTR	Keskin Array B	79.15	310	P	P	02 34 37.6	+0.3
KVN	Kaiserville	79.33	50	P	P	02 34 39.5	+1.1
KVN				IAmb	IAmb	02 34 41.2	
	comp=Z,2.1nm,0.7s						
RAYN	Ar Rayn	79.38	291	P	P	02 34 38.6	-0.1
BURAR	Bucovina Array	79.44	321	P	P	02 34 39.2	+0.6
NVAR	Mina Array Bea	79.55	51	P	P	02 34 40.8	+1.3
	comp=Z,0.6nm,0.6s,baz=295,slow=5.3,SNR=7.3						
H17A	Grant Village	80.75	43	IAmb	IAmb	02 34 50.6	
	comp=Z,2.2nm,0.8s						
DPC	Dobruska-Polom	82.06	327	*e*P	P	02 34 53.1	+0.8
PDAR	Pinedale Array	82.34	43	P	P	02 34 55.1	+1.0
	comp=Z,0.4nm,0.7s,baz=48,slow=2.2,SNR=5.5						
KHC	Kasperske Hory	84.19	327	*e*P	P	02 35 02.6	-0.4
GERES	GERESS Array B	84.33	327	P	P	02 35 03.8	-0.1
	comp=Z,0.4nm,0.5s,baz=51,slow=5.3,SNR=4.8						
TXAR	Lajitas Array	94.69	50	P	P	02 35 54.7	+1.8
	comp=Z,0.3nm,0.5s,baz=297,slow=2.8,SNR=5.3						
LPAZ	La Paz	151.04	61	PKPbc	PKiKP	02 42 24.0	-0.1
	comp=Z,1.4nm,0.8s,baz=57,slow=3.9,SNR=4.7						

*ISN **01** 02:43:54.8±0.8, 32.°76N×47.°71E, h25km±5km, ML3.1*
*THR **01** 02:43:54.5±0.4, 32.°82N×47.°56E, h14km±5km, ML3.0*
*TEH **01** 02:43:54.8, 32.°76N×47.°66E, h12km, ML3.2*
*KISR **01** 02:43:56.1±0.6, 32.°48N×48.°68E, h32km±999km, ML3.2, Hypocentre not reviewed by the ISC*
ISC 01 02:43:55.0±1.4**, 32.°73N**±0.°03×**47.°62E**±0.°03**, h3**km±12km**, n40, σ0.s80**/46**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DHL1	Dehloran	0.29	261	*e*Pg	Pg	02 44 01.2	+0.6
IKFM	Kafar-mosalman	0.82	13	*e*Pg	Pg	02 44 10.1	-0.5
IKFM				*e*Sg	Sg	02 44 21.1	-0.1
IKFM				*e*		02 44 24.9	
	comp=Z,99nm,0.3s						
IKMR	Kamar-syah	1.01	39	*e*Pg	Pg	02 44 13.3	-1.1
IKMR				*e*		02 44 31.6	
	comp=Z,99nm,0.3s						
IDOB	Doab	1.15	24	*e*Pg	Pb	02 44 16.5	-1.2
SHGR	Shooshtar-Gavs	1.17	121	*e*Pg	Pg	02 44 17.9	+0.5
SHGR				*e*Sg	Sn	02 44 35.2	+0.4
SHGR				IAML		02 44 46.4	
	comp=N,370nm,0.7s						
SHGR	Shooshtar-Gavs	1.17	121	*e*Pg	Pg	02 44 17.9	+0.5
IBDR	Badra	1.47	285	*e*Pg	Pn	02 44 22.0	-0.4
IBDR				*e*Sg	Sb	02 44 43.0	+0.8
IBDR				AML	AML	02 44 48.4	
	comp=N,144nm,0.4s						
IBDR				AML	AML	02 44 50.5	
	comp=E,162nm,0.6s						
KCHF	Cheshme Sefid,	1.62	343	*e*Pg	Pb	02 44 25.6	0.0
AHWZ	Ahwaz	1.64	148	*e*Pg	Pg	02 44 26.4	0.0
HSAM	Samen	1.69	29	*e*Pg	Pb	02 44 26.7	-0.2
HSAM				*e*		02 44 29.0	
	comp=Z,99nm,0.3s						
KER	Kermanshah	1.70	346	*e*Pn	Pn	02 44 26.6	+0.9
IBZA	Bozab	1.75	6	*e*Pg	Pn	02 44 27.4	+0.9
IBZA				*e*		02 45 01.0	
	comp=Z,99nm,0.6s						
IGHG	Ghaleghazi	1.82	331	*e*Pn	Pn	02 44 28.4	+0.9
IGHG				*e*		02 44 57.9	
	comp=Z,99nm,0.5s						
NSR	Nassriya	2.13	217	*e*Pn	Pn	02 44 31.0	-0.4
NSR				*e*Sn	Sn	02 44 57.0	-1.3
NSR				AML	AML	02 45 11.8	
	comp=E,633nm,0.2s						
IALM	Almabolaq	2.17	12	*e*Pn	Pn	02 44 33.6	+1.2
KHMZ	Khomeyn	2.20	62	*e*Pn	Pn	02 44 33.0	+0.3
KHMZ	Khomeyn	2.20	62	*e*Pn	Pn	02 44 33.0	+0.3
IDHR	Dehrash	2.22	333	*e*Pn	Pn	02 44 33.3	+0.4
IDHR				*e*		02 44 39.4	
	comp=Z,99nm,0.4s						
ILIN	Lien	2.25	346	*e*Pn	Pn	02 44 34.4	+1.0
ILIN				*e*		02 45 16.4	
	comp=Z,99nm,0.7s						
SNGE	Sanandaj	2.37	355	*e*Pn	Pn	02 44 33.7	-1.3
SNGE				IAML		02 45 14.4	
	comp=E,64nm,0.5s						
SNGE	Sanandaj	2.37	355	*e*Pn	Pn	02 44 33.7	-1.3
HAGD	Aghdareh	2.44	31	*e*Pn	Pn	02 44 37.1	+1.1
HAGD				*e*		02 44 44.3	
	comp=Z,99nm,0.2s						
ASAO	Ashtian	2.70	47	*e*Pn	Pn	02 44 39.7	+0.1
ASAO				*e*Sg	Sb	02 45 18.5	+0.7
ASAO	Ashtian	2.70	47	*e*Pn	Pn	02 44 39.7	+0.1
IPIR	Pirpir	2.76	90	*e*Pn	Pn	02 44 41.6	+1.2
BHD	Baghdad	2.78	282	*e*Pn	Pn	02 44 41.0	+0.6
BHD				*e*Sn	Sn	02 45 14.0	-0.4
SHK1	Shahrekord	2.78	97	*e*Pn	Pn	02 44 40.9	+0.2
SHK1				*e*		02 45 23.7	
	comp=Z,99nm,0.5s						
MIB	Mutribah	2.93	185	*e*P		02 44 43.0	
MIB				*e*S		02 45 18.7	
MIB				IAML		02 45 20.3	
	comp=Z,84nm,0.3s						
IRAZ	Razeghan	3.29	35	*e*Pn	Pn	02 44 49.4	+1.8
IKLH	Kolahrood	3.38	79	*e*Pn	Pn	02 44 49.9	+1.1
IKLH				*e*		02 45 48.5	
	comp=Z,99nm,0.6s						
QABG	Abgarm-Qazvin	3.39	28	*e*Pn	Pn	02 44 49.0	0.0
IQOM	Qom	3.56	53	*e*Pn	Pn	02 44 51.7	+0.3
KLNJ	Kolanjah	3.79	116	*e*Pn	Pn	02 44 54.1	-0.5
RDF	Al-Radifah	3.79	181	*e*P		02 44 54.1	
IZEF	Zefreh	3.97	86	*e*Pn	Pn	02 44 57.8	+0.8
KRSH	Karshahi	3.97	71	*e*Pn	Pn	02 44 57.3	+0.3
IVRN	Varamin	4.10	55	*e*Pn	Pn	02 44 59.4	+0.8
IRAM	Ramesheh	4.13	102	*e*Pn	Pn	02 44 59.1	-0.1
IGZV	Ghazvin	4.23	30	*e*Pn	Pn	02 45 01.5	+0.9
MAHB	Mahabad	4.33	339	*e*Pn	Pn	02 45 02.6	+0.8
QALM	Alamut, Qazvin	4.46	33	*e*Pn	Pn	02 45 03.9	+0.2
ANAR	Anarak	5.15	83	*e*Pn	Pn	02 45 12.9	-0.3

IDC 01 02:47:15.4±2.4**, 6.°86S**×**129.°88E, h137**km±34km**, mb2.9**/1**, mb1 3.2**/5**, mb1mx2.9**/39**, mbtmp3.6**/5**, Error ellipse: s-maj=54.4km s-min=15.0km az=88.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.11	13	P	Pn	02 48 44.0	+0.3
	1.9nm,0.3s,baz=186,slow=22,SNR=15						
SIJI				S	Sn	02 49 51.5	-1.0
	0.7nm,0.3s,baz=231,slow=22,SNR=1.7						
FITZ	Fitzroy Crossi	11.91	200	P	Pn	02 50 00.6	-0.4
	0.2nm,0.3s,baz=29,slow=9.5,SNR=14						
WRA	Warramunga Arr	13.71	162	P	Pn	02 50 24.6	+0.4
	0.3nm,0.3s,baz=339,slow=12,SNR=9.6						
WRA				S	Sn	02 52 47.7	-8.1
	0.5nm,0.3s,baz=334,slow=22,SNR=11						
ASAR	Alice Springs	17.15	167	P	Pn	02 51 07.5	+0.6
	0.2nm,0.3s,baz=345,slow=10,SNR=17						
ASAR				S	S	02 54 16.1	-2.3
	0.1nm,0.3s,baz=349,slow=24,SNR=4.2						
MKAR	Makanchi Array	68.05	327	P	P	02 58 00.5	+0.3
	0.1nm,0.4s,baz=111,slow=7.8,SNR=4.6						

*IDC **01** 02:47:19.9±1.0, 37.°14N×97.°88W, h0km, mb3.7/1, mb1 3.9/7, mb1mx3.6/44, mbtmp3.5/7, ML2.8/4, Error ellipse: s-maj=13.6km s-min=11.0km az=113.0*
*ANF **01** 02:47:20.6±0.4, 37.°10N×97.°87W, h6km±3km, ML4.3/27, Error ellipse: s-maj=2.0km s-min=1.9km az=56.0*
*NEIC **01** 02:47:20.8±1.0, 37.°09N±0.°04×97.°85W±0.°06, h7km±5km, mb_Lg3.5/121, Error ellipse: s-maj=7.7km s-min=5.7km az=57.0*
ISC 01 02:47:20.4±0.7**, 37.°10N**±0.°02×**97.°87W**±0.°03**, h10**km±4km**, n152, σ1.s00**/140**, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAN05	Bluff City Nor	0.01	330		Pg	02 47 21.8	-0.4
KAN05				Sg	Sg	02 47 22.6	-0.9
KAN01	Argonia South	0.10	61		Pb	02 47 22.9	-1.6
KAN01				Sg	Sb	02 47 24.4	-0.5
KAN08	Anthony NE Sta	0.15	326		Pg	02 47 24.3	+0.6
KAN08				Sg	Sg	02 47 26.9	+0.8
KAN14	Manchester OK	0.17	207		Pb	02 47 24.2	-1.3
KAN14				Sg	Sb	02 47 26.7	+0.2
KAN10	Anthony SW Sta	0.18	276		Pg	02 47 24.9	+0.7
KAN10				Sg	Sg	02 47 28.1	+1.1
KAN12	Harper NE Stat	0.22	332		Pg	02 47 25.5	+0.6
KS21	Milan North St	0.24	42		Pg	02 47 25.6	+0.1
KAN13	South Haven SW	0.33	106		Pg	02 47 26.7	-0.2
CROK	Carrier	0.60	189	Pg	Pb	02 47 32.1	-0.9
T35A	Sooner Cattle	1.10	99	Pg	Pn	02 47 40.9	-1.0
T35B	Sooner Cattle	1.10	99	P	Pn	02 47 40.8	-1.1
	baz=280,SNR=108						
T35B				S	Sb	02 47 56.9	+0.9
	baz=280						
T35B	Sooner Cattle	1.10	99	P		02 47 40.8	
	baz=280,SNR=108						
T35B				S		02 47 56.9	
	baz=280						
U32A	Winter Ranch,	1.16	232		Pg	02 47 42.5	-0.2
U32A	Winter Ranch,	1.16	232	P	Pg	02 47 42.5	-0.2
	baz=52						
U32A				S	Sg	02 47 58.5	+0.7
	baz=52						
U32A	Winter Ranch,	1.16	232	P		02 47 42.5	
	baz=52						
U32A				S		02 47 58.5	
	baz=52						
QUOK	Quay	1.32	135		Pn	02 47 44.7	-0.2
OK031	S. Brethren Rd	1.42	144		Pn	02 47 46.1	-0.1
BCOK	Bluff Creek, N	1.46	172		Pb	02 47 47.4	-0.3
R32A	Long Quarter,	1.48	333		Pb	02 47 47.6	-0.3
R32A	Long Quarter,	1.48	333	P	Pg	02 47 48.0	-0.7
	baz=153,SNR=791						
R32A				S	Sg	02 48 07.8	-0.1
	baz=153						
R32A	Long Quarter,	1.48	333	P		02 47 48.0	
	baz=153,SNR=791						
R32A				S		02 48 07.8	
	baz=153						
OK025	Westminster Rd	1.58	164		Pn	02 47 49.0	+0.6
OKCFA	Oklahoma City	1.72	169		Pn	02 47 50.9	+0.6
OKCFA				IAmb_Lg		02 48 15.2	
	comp=Z,198nm,0.7s						
OKCSW	OKLAHOMA CITY	1.73	168		Pn	02 47 51.1	+0.6
FNO	Franklin	1.88	168	Pn	Pn	02 47 53.6	+1.0
TUL1	Leonard	2.05	125	Pn	Pn	02 47 55.5	+0.6
TUL1	Leonard	2.05	125	P	Pn	02 47 55.7	+0.7
	baz=306,SNR=72						
TUL1				S	Sb	02 48 23.3	-0.1
	baz=306						
TUL1	Leonard	2.05	125	P		02 47 55.6	
	baz=306,SNR=63						
TUL1				Sb		02 48 24.1	
	baz=306						
TUL1	Leonard	2.05	125	P		02 47 55.7	
	baz=306,SNR=72						
TUL1				S		02 48 23.3	
	baz=306						
KSU1	Kansas State U	2.23	26		Pn	02 47 58.7	+1.4
KSU1	Kansas State U	2.23	26	P	Pn	02 47 58.8	+1.4
	baz=206,SNR=145						
KSU1				S	Sb	02 48 27.4	-1.0
	baz=206						
KSU1	Kansas State U	2.23	26	P		02 47 58.8	
	baz=206,SNR=111						
KSU1				Sn		02 48 27.4	
	baz=206						
KSU1				Sb		02 48 31.5	
	baz=206						
KSU1	Kansas State U	2.23	26	P		02 47 58.8	
	baz=206,SNR=145						
KSU1				S		02 48 27.4	
	baz=206						
CBKS	Cedar Bluff	2.26	320		Pb	02 47 59.4	-1.9
CBKS	Cedar Bluff	2.26	320	P	Pb	02 47 59.4	-1.9
	baz=139,SNR=103						
CBKS				S	Sb	02 48 28.3	-1.0
	baz=139						
CBKS	Cedar Bluff	2.26	320	P		02 47 59.5	
	baz=139,SNR=41						
CBKS				S		02 48 28.6	
	baz=139						
CBKS	Cedar Bluff	2.26	320	P		02 47 59.4	
	baz=139,SNR=103						
CBKS				S		02 48 28.3	
	baz=139						
WMOK	Wichita Mounta	2.47	198	Pn	Pn	02 48 01.5	+0.7
WMOK	Wichita Mounta	2.47	198	P	Pn	02 48 01.7	+0.9
	baz=18,SNR=132						
WMOK				S	Sb	02 48 33.1	-2.4
	baz=18						
WMOK	Wichita Mounta	2.47	198	P		02 48 01.6	
	baz=17,SNR=66						
WMOK				S		02 48 33.1	
	baz=17						
WMOK	Wichita Mounta	2.47	198	P		02 48 01.7	
	baz=18,SNR=132						
WMOK				S		02 48 33.1	
	baz=18						
U38A	Gravette	2.87	102	Pn	Pn	02 48 06.8	+0.6
U38A	Gravette	2.87	102	P	Pn	02 48 07.5	+1.2
	baz=284,SNR=67						
U38A	Gravette	2.87	102	P		02 48 07.5	
	baz=284,SNR=67						
X37A	Clayton	3.23	140		Pn	02 48 11.9	+0.8
X37A				IAmb_Lg		02 49 09.6	
	comp=Z,187nm,0.8s						
X37A	Clayton	3.23	140	P	Pn	02 48 12.2	+1.1
	baz=322						
X37A	Clayton	3.23	140	P		02 48 12.2	
	baz=322						
HHAR	Hobbs	3.26	103		Pn	02 48 12.5	+0.9
HHAR				IAmb_Lg		02 49 10.4	
	comp=Z,103nm,0.8s						
HHAR	Hobbs	3.26	103	P	Pn	02 48 12.6	+1.0
	baz=286						
HHAR	Hobbs	3.26	103	P		02 48 12.6	
	baz=286						
N33B	J Bar K, Exete	3.64	5	P	Pn	02 48 17.8	+1.0
	baz=185,SNR=15						
N33B				S	Sn	02 49 00.9	+1.0
	baz=185						
N33B	J Bar K, Exete	3.64	5	P		02 48 17.8	
	baz=185,SNR=15						
N33B				S		02 49 00.9	
	baz=185						
N33A	J Bar K, Exete	3.64	5		Pn	02 48 17.4	+0.5
S39A	Bolivar	3.67	79		Pn	02 48 17.7	+0.6
S39A	Bolivar	3.67	79	P	Pn	02 48 18.0	+0.8
	baz=262,SNR=33						
S39A				S	Sn	02 49 01.6	+1.2
	baz=262						
S39A	Bolivar	3.67	79	P		02 48 18.0	
	baz=262,SNR=33						
S39A				S		02 49 01.6	
	baz=262						
Z35A	Perchaven, San	3.80	172		Pn	02 48 19.5	+0.5
Z35A				IAmb_Lg		02 49 29.2	
	comp=Z,117nm,0.9s						
Z35A	Perchaven, San	3.80	172	P	Pn	02 48 19.9	+1.0
	baz=353,SNR=23						
Z35A				S	Sn	02 49 05.0	+1.3
	baz=353						
Z35A	Perchaven, San	3.80	172	P		02 48 19.9	
	baz=353,SNR=23						
Z35A				S		02 49 05.0	
	baz=353						
AMTX	Amarillo	3.80	235	Pn	Pn	02 48 20.6	+1.5
AMTX	Amarillo	3.80	235	P	Pn	02 48 20.8	+1.7
	baz=53,SNR=32						
AMTX	Amarillo	3.80	235	P		02 48 20.9	
	baz=53						
AMTX				Sb		02 49 19.5	
	baz=53						
AMTX	Amarillo	3.80	235	P		02 48 20.8	
	baz=53,SNR=32						
W39A	Magazine	3.81	119		Pn	02 48 20.7	+1.6
W39A				IAmb_Lg		02 49 21.4	
	comp=Z,118nm,0.7s						
W39A	Magazine	3.81	119	P	Pn	02 48 21.2	+2.0
	baz=301						
W39A	Magazine	3.81	119	Pn		02 48 21.1	
	baz=301						
W39A				Pb		02 48 28.7	
	baz=301,SNR=12						
W39A				Sb		02 49 18.9	
	baz=301						
W39A	Magazine	3.81	119	P		02 48 21.2	
	baz=301						
U40A	Yellville	4.10	99	Pn	Pn	02 48 23.8	+0.7
U40A	Yellville	4.10	99	P	Pn	02 48 23.6	+0.6
	baz=282,SNR=20						
U40A	Yellville	4.10	99	P		02 48 23.7	
	baz=282,SNR=23						
U40A				S		02 49 10.6	
	baz=282						
U40A	Yellville	4.10	99	P		02 48 23.6	
	baz=282,SNR=20						
U40A				P		02 48 23.6	
	baz=282,SNR=20						
N35A	Tabor	4.13	24	Pn	Pn	02 48 25.1	+1.6
N35A	Tabor	4.13	24	P	Pn	02 48 24.4	+0.9
	baz=205,SNR=5.2						
N35A	Tabor	4.13	24	P		02 48 24.4	
	baz=205,SNR=5.2						
KSCO	Kaye Shedlock’	4.21	298	Pn	Pn	02 48 26.4	+1.6
KSCO	Kaye Shedlock’	4.21	298	P	Pn	02 48 26.4	+1.6
	baz=116,SNR=22						
KSCO				S	Sn	02 49 14.6	+0.5
	baz=116						
KSCO	Kaye Shedlock’	4.21	298	P		02 48 26.6	
	baz=116,SNR=9.1						
KSCO				Sn		02 49 14.4	
	baz=116						
KSCO				Sb		02 49 31.9	
	baz=116						
KSCO	Kaye Shedlock’	4.21	298	P		02 48 26.4	
	baz=116,SNR=22						
KSCO				S		02 49 14.6	
	baz=116						
P38A	Dawn	4.24	52	Pn	Pn	02 48 26.1	+1.2
P38A				IAmb_Lg		02 49 41.8	
	comp=Z,120nm,0.8s						
P38A	Dawn	4.24	52	P	Pn	02 48 25.9	+1.0
	baz=235,SNR=17						
P38A	Dawn	4.24	52	P		02 48 25.9	
	baz=235,SNR=17						
BGNE	Belgrade	4.30	357	Pn	Pn	02 48 26.5	+0.6
BGNE	Belgrade	4.30	357	P	Pn	02 48 26.8	+0.9
	baz=177,SNR=13						
BGNE	Belgrade	4.30	357	P		02 48 26.7	
	baz=177						
BGNE				S		02 49 16.7	
	baz=177						
BGNE	Belgrade	4.30	357	P		02 48 26.8	
	baz=177,SNR=13						
MIAR	Mount Ida	4.32	125		Pn	02 48 26.7	+0.5
MIAR				IAmb_Lg		02 49 39.6	
	comp=Z,98nm,1.0s						
MIAR	Mount Ida	4.32	125	P	Pn	02 48 26.6	+0.4
	baz=308,SNR=30						
MIAR				S	Sn	02 49 17.4	+0.8
	baz=308						
MIAR	Mount Ida	4.32	125	P		02 48 27.3	
	baz=308						
MIAR	Mount Ida	4.32	125	P		02 48 26.6	
	baz=308,SNR=30						
MIAR				S		02 49 17.4	
	baz=308						
MGMO	Mountain Grove	4.47	88		Pn	02 48 29.2	+0.9
MGMO				IAmb_Lg		02 49 43.4	
	comp=Z,57nm,0.8s						
Z38A	Mt. Pleasant	4.50	148	Pn	Pn	02 48 29.2	+0.5
Z38A				IAmb_Lg		02 49 52.5	
	comp=Z,108nm,0.8s						
R40A	Maddies Statio	4.60	73	Pn	Pn	02 48 30.6	+0.7
R40A				IAmb_Lg		02 49 46.1	
	comp=Z,67nm,0.8s						
R40A	Maddies Statio	4.60	73	P	Pn	02 48 31.0	+1.1
	baz=256,SNR=19						
R40A	Maddies Statio	4.60	73	P		02 48 31.0	
	baz=256,SNR=19						
ABTX	Abilene, Hawle	4.70	199	Pn	Pn	02 48 30.9	-0.5
ABTX				IAmb_Lg		02 49 53.3	
	comp=Z,58nm,0.9s						
ABTX	Abilene, Hawle	4.70	199	P	Pn	02 48 31.6	+0.1
	baz=18,SNR=8.4						
ABTX	Abilene, Hawle	4.70	199	P		02 48 31.3	
	baz=18						
ABTX				S		02 49 25.6	
	baz=18						
ABTX	Abilene, Hawle	4.70	199	P		02 48 31.6	
	baz=18,SNR=8.4						

FCAR	**Ozark Folk Cen**	**4.78**	**103**		**Pn**	**02 48 32.6**	**+0.1**
X40A	**Basin Creek Fa**	**4.85**	**121**		**Pn**	**02 48 33.7**	**+0.2**
X40A				IAmb_Lg		02 49 57.7	
	comp=Z,49nm,0.8s						
X40A	**Basin Creek Fa**	**4.85**	**121**	P	**Pn**	**02 48 34.6**	**+1.2**
	baz=304,SNR=10						
X40A	**Basin Creek Fa**	**4.85**	**121**	P		02 48 34.6	
	baz=304						
X40A	**Basin Creek Fa**	**4.85**	**121**	P		02 48 34.6	
	baz=304,SNR=10						
X40A				P		02 48 34.6	
	baz=304,SNR=10						
WHAR	**Wooly Hollow**	**4.86**	**110**	Pn	**Pn**	**02 48 34.6**	**+1.0**
WHAR				IAmb_Lg		02 49 56.1	
	comp=Z,93nm,1.0s						
W41B	**Gary Mavity, V**	**4.94**	**111**	Sb		02 49 52.1	
	baz=295						
L34A	**Svendsen Farm,**	**4.99**	**13**	Pn	**Pn**	**02 48 36.0**	**+0.7**
OGNE	**Ogallala**	**5.02**	**321**		**Pn**	**02 48 37.1**	**+1.2**
OGNE				IAmb_Lg		02 50 11.5	
	comp=Z,111nm,0.7s						
OGNE	**Ogallala**	**5.02**	**321**	P		02 48 38.3	
	baz=139						
OGNE				Sb		02 49 56.1	
	baz=139						
MSTX	**Muleshoe**	**5.08**	**233**	Pn	**Pn**	**02 48 37.9**	**+1.2**
MSTX				IAmb_Lg		02 50 09.3	
	comp=Z,52nm,0.9s						
MSTX	**Muleshoe**	**5.08**	**233**	P		02 48 38.2	
	baz=51						
MSTX				Sb		02 49 57.6	
	baz=51						
WHTX	**Lake Whitney,**	**5.11**	**176**		**Pn**	**02 48 37.5**	**+0.5**
WHTX				IAmb_Lg		02 50 12.6	
	comp=Z,48nm,0.8s						
WHTX	**Lake Whitney,**	**5.11**	**176**	P	**Pn**	**02 48 37.2**	**+0.2**
	baz=356,SNR=65						
WHTX	**Lake Whitney,**	**5.11**	**176**	P		02 48 37.4	
	baz=356,SNR=9.5						
WHTX				Sn		02 49 35.3	
	baz=356						
WHTX				Sb		02 49 57.1	
	baz=356						
WHTX	**Lake Whitney,**	**5.11**	**176**	P		02 48 37.2	
	baz=356,SNR=65						
N38A	**Joes South For**	**5.16**	**43**	Pn	**Pn**	**02 48 38.6**	**+1.0**
N38A	**Joes South For**	**5.16**	**43**	P	**Pn**	**02 48 38.6**	**+1.0**
	baz=226						
N38A	**Joes South For**	**5.16**	**43**	P		02 48 38.6	
	baz=226						
WLAR	**White Oak Lake**	**5.17**	**130**	Pn	**Pn**	**02 48 38.8**	**+1.0**
WLAR				IAmb_Lg		02 50 14.2	
	comp=Z,89nm,1.0s						
P40A	**Paris**	**5.18**	**60**	Pn	**Pn**	**02 48 39.8**	**+1.9**
P40A				IAmb_Lg		02 50 07.6	
	comp=Z,75nm,0.7s						
T25A	**Trinidad**	**5.23**	**272**	P		02 48 39.8	
	baz=88						
CCM	**Cathedral Cave**	**5.35**	**78**	Pn	**Pn**	**02 48 41.5**	**+1.3**
CCM				IAmb_Lg		02 50 13.4	
	comp=Z,106nm,1.0s						
CCM	**Cathedral Cave**	**5.35**	**78**	P	**Pn**	**02 48 40.7**	**+0.5**
	baz=262						
CCM	**Cathedral Cave**	**5.35**	**78**	P		02 48 41.5	
	baz=262						
CCM				S		02 49 40.6	
	baz=262						
CCM	**Cathedral Cave**	**5.35**	**78**	P		02 48 40.7	
	baz=262						
237A	**Washetta, Mont**	**5.37**	**161**	Pn	**Pn**	**02 48 39.9**	**-0.6**
237A				IAmb_Lg		02 50 21.4	
	comp=Z,102nm,1.0s						
237A	**Washetta, Mont**	**5.37**	**161**	P	**Pn**	**02 48 40.5**	**0.0**
	baz=342,SNR=8.1						
237A	**Washetta, Mont**	**5.37**	**161**	P		02 48 40.5	
	baz=342,SNR=8.1						
T42A	**Van Buren**	**5.42**	**89**	Pn	**Pn**	**02 48 41.4**	**+0.2**
LCAR	**Lake Charles**	**5.50**	**99**	Pn	**Pn**	**02 48 43.4**	**+1.1**
K31A	**O'Neill**	**5.55**	**353**	Pn	**Pn**	**02 48 44.0**	**+0.9**
K31A	**O'Neill**	**5.55**	**353**	P	**Pn**	**02 48 44.2**	**+1.1**
	baz=173,SNR=21						
K31A	**O'Neill**	**5.55**	**353**	P		02 48 44.2	
	baz=173,SNR=21						
Z41A	**Richland Creek**	**5.65**	**131**	S		02 49 47.5	
	baz=314						
CCAR	**Cane Creek**	**5.90**	**121**	IAmb_Lg		02 50 39.8	
	comp=Z,60nm,0.8s						
NATX	**Nacogdoches**	**5.95**	**153**	IAmb_Lg		02 50 42.3	
	comp=Z,43nm,0.8s						
NATX	**Nacogdoches**	**5.95**	**153**	S		02 49 55.3	
	baz=335						
PBMO	**Poplar Bluff**	**5.97**	**91**	IAmb_Lg		02 50 39.4	
	comp=Z,41nm,0.7s						
FVM	**French Village**	**5.98**	**79**	Pn	**Pn**	**02 48 49.7**	**+0.8**
FVM				IAmb_Lg		02 50 32.2	
	comp=Z,55nm,0.8s						
SCIA	**State Center**	**6.00**	**35**	Pn	**Pn**	**02 48 50.5**	**+1.4**
SCIA	**State Center**	**6.00**	**35**	S		02 49 59.0	
	baz=218						
HBAR	**Harrisburg**	**6.02**	**103**	IAmb_Lg		02 50 33.5	
	comp=Z,77nm,0.7s						
Q24A	**Divide**	**6.04**	**290**	P		02 48 51.4	
	baz=106						
Q24A				S		02 49 59.2	
	baz=106						
SDCO	**Great Sand Dun**	**6.11**	**278**	Pn	**Pn**	**02 48 52.1**	**+1.1**
SDCO	**Great Sand Dun**	**6.11**	**278**	P		02 48 53.3	
	baz=94						
SDCO				Sb		02 50 30.3	
	baz=94						
X43A	**Marvell**	**6.24**	**112**	Sb		02 50 33.6	
	baz=296						
LPAR	**Lepanto**	**6.29**	**102**	IAmb_Lg		02 50 58.0	
	comp=Z,71nm,0.9s						
435B	**Jarrell**	**6.31**	**178**	Pn	**Pn**	**02 48 53.4**	**0.0**
435B				IAmb_Lg		02 50 54.4	
	comp=Z,77nm,0.8s						
435B	**Jarrell**	**6.31**	**178**	P	**Pn**	**02 48 53.4**	**0.0**
	baz=358,SNR=7.4						
435B	**Jarrell**	**6.31**	**178**	P		02 48 53.4	
	baz=358,SNR=7.7						
435B	**Jarrell**	**6.31**	**178**	P		02 48 53.4	
	baz=358,SNR=7.4						
N41A	**Harden Midland**	**6.55**	**55**	Pn	**Pn**	**02 48 57.5**	**+0.8**
ISCO	**Idaho Springs**	**6.65**	**296**	Pn	**Pn**	**02 49 00.0**	**+1.6**
ISCO	**Idaho Springs**	**6.65**	**296**	P		02 48 59.9	
	baz=112						
ISCO				S		02 50 14.4	
	baz=112						
PENMO	**Penman**	**6.65**	**93**	IAmb_Lg		02 50 60.0	
	comp=Z,70nm,0.7s						
ECSD	**EROS Data Cent**	**6.69**	**8**	Pn	**Pn**	**02 48 58.9**	**+0.2**
ECSD				IAmb_Lg		02 50 55.6	
	comp=Z,41nm,0.9s						
ECSD	**EROS Data Cent**	**6.69**	**8**	P	**Pn**	**02 48 58.7**	**0.0**
	baz=188,SNR=39						
ECSD	**EROS Data Cent**	**6.69**	**8**	P		02 48 58.6	
	baz=188,SNR=16						
ECSD				S		02 50 12.9	
	baz=188						
ECSD	**EROS Data Cent**	**6.69**	**8**	P		02 48 58.7	
	baz=188,SNR=39						
HENM	**Henderson Moun**	**6.74**	**91**	IAmb_Lg		02 50 54.1	
	comp=Z,82nm,0.9s						
JCT	**Junction City**	**6.80**	**194**	Pn	**Pn**	**02 48 59.9**	**-0.3**
JCT	**Junction City**	**6.80**	**194**	P		02 48 59.9	
	baz=13						
JCT				S		02 50 14.8	
	baz=13						
S44A	**Carbondale**	**6.88**	**82**	IAmb_Lg		02 51 05.5	
	comp=Z,61nm,0.7s						
143A	**Socs Landing,**	**6.89**	**128**	IAmb_Lg		02 51 11.7	
	comp=Z,33nm,0.8s						
SIUC	**Southern Illin**	**6.91**	**82**	IAmb_Lg		02 51 01.5	
	comp=Z,73nm,0.8s						
GLAT	**Glass**	**6.95**	**94**	IAmb_Lg		02 51 08.5	
	comp=Z,62nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.03**	**66**	Pn	**Pn**	**02 49 04.4**	**+1.1**
L40A	**Anamosa**	**7.13**	**44**	Pn	**Pn**	**02 49 05.4**	**+0.7**
Q44A	**Meyer Farm, Va**	**7.22**	**73**	Pn	**Pn**	**02 49 06.4**	**+0.6**
PHWY	**Pilot Hill**	**7.23**	**308**	Pn	**Pn**	**02 49 06.9**	**+0.6**
PHWY				IAmb_Lg		02 51 13.7	
	comp=Z,55nm,1.0s						
ANMO	**Albuquerque**	**7.28**	**255**	Pn	**Pn**	**02 49 08.9**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=95,slow=12,SNR=2.0						
ANMO				Lg	Lg	02 51 09.6	
	comp=Z,1.9nm,0.3s,baz=6.2,slow=18,SNR=4.6						
W45A	**Hickory Valley**	**7.29**	**103**	IAmb_Lg		02 51 12.7	
	comp=Z,34nm,0.7s						
N23A	**Red Feather La**	**7.34**	**304**	P		02 49 09.7	
	baz=119						
OXF	**Oxford**	**7.34**	**108**	IAmb_Lg		02 51 20.5	
	comp=Z,54nm,0.9s						
OXF	**Oxford**	**7.34**	**108**	P		02 49 08.7	
	baz=293						
OXF				S		02 50 31.2	
	baz=293						
SUSD	**Miller**	**7.38**	**354**	IAmb_Lg		02 51 25.0	
	comp=Z,58nm,0.9s						
HDIL	**Hopedale**	**7.53**	**60**	Pn	**Pn**	**02 49 11.6**	**+1.4**
HDIL	**Hopedale**	**7.53**	**60**	P		02 49 12.2	
	baz=245,SNR=8.8						
I37A	**Lemond, Waseca**	**7.69**	**25**	IAmb_Lg		02 51 35.3	
	comp=Z,60nm,0.9s						
OLIL	**Olney**	**7.89**	**75**	IAmb_Lg		02 51 30.3	
	comp=Z,50nm,1.0s						
O44A	**Mansfield**	**7.96**	**65**	IAmb_Lg		02 51 36.2	
	comp=Z,63nm,0.8s						
USIN	**University of**	**8.15**	**81**	IAmb_Lg		02 51 41.2	
	comp=Z,37nm,0.8s						
MNTX	**Cornudas Mount**	**8.22**	**231**	Pn	**Pn**	**02 49 20.6**	**+0.8**
MNTX	**Cornudas Mount**	**8.22**	**231**	P		02 49 20.3	
	baz=47						
735A	**Kenedy**	**8.23**	**180**	IAmb_Lg		02 52 01.1	
	comp=Z,60nm,0.8s						
JFWS	**Jewell Farm**	**8.24**	**43**	Pn	**Pn**	**02 49 20.4**	**+0.5**
JFWS				IAmb_Lg		02 51 51.1	
	comp=Z,56nm,0.8s						
JFWS	**Jewell Farm**	**8.24**	**43**	P		02 49 20.1	
	baz=228						
RSSD	**Black Hills**	**8.43**	**328**	Pn	**Pn**	**02 49 23.9**	**+1.1**
RSSD				IAmb_Lg		02 51 57.9	
	comp=Z,26nm,1.0s						
RSSD	**Black Hills**	**8.43**	**328**	P		02 49 25.5	
	baz=144						
RWWY	**Rawlins**	**8.56**	**305**	Pn	**Pn**	**02 49 25.6**	**+1.1**
RWWY				IAmb_Lg		02 52 09.8	
	comp=Z,35nm,1.0s						
T47A	**Sharon Grove**	**8.61**	**88**	Pn	**Pn**	**02 49 25.8**	**+0.8**
T47A				IAmb_Lg		02 52 04.3	
	comp=Z,36nm,1.1s						
K22A	**Casper**	**8.65**	**312**	Pn	**Pn**	**02 49 26.6**	**+0.8**
K22A				IAmb_Lg		02 52 07.5	
	comp=Z,38nm,0.8s						
I40A	**Norwalk**	**8.74**	**37**	Pn	**Pn**	**02 49 27.4**	**+0.6**
I40A				IAmb_Lg		02 51 59.1	
	comp=Z,24nm,0.7s						
F33A	**5 Mile Ranch,**	**8.81**	**7**	Pn	**Pn**	**02 49 27.3**	**-0.4**
F33A				IAmb_Lg		02 51 59.5	
	comp=Z,52nm,1.1s						
PV23	**Carpenter Ridg**	**8.93**	**282**	IAmb_Lg		02 52 11.4	
	comp=Z,23nm,1.3s						
SPMN	**Marine on St.**	**8.96**	**24**	IAmb_Lg		02 52 06.4	
	comp=Z,22nm,0.8s						
HQIL	**Hanson Quary C**	**9.05**	**56**	IAmb_Lg		02 52 08.2	
	comp=Z,44nm,1.0s						
TX31	**Lajitas Ar. Si**	**9.14**	**214**	Pn	**Pn**	**02 49 32.0**	**-0.5**
TX32	**Lajitas Array**	**9.14**	**214**	Pn	**Pn**	**02 49 32.1**	**-0.3**
TXAR	**Lajitas Array**	**9.14**	**214**	Pn	**Pn**	**02 49 31.1**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=35,slow=10,SNR=15						
TXAR				Lg	Lg	02 52 06.5	
	comp=Z,1.5nm,0.3s,baz=47,slow=28,SNR=5.7						
TXAR	**Lajitas Array**	**9.14**	**214**		**Pn**	**02 49 31.8**	**-0.6**
BLO	**Bloomington**	**9.18**	**74**	IAmb_Lg		02 52 11.0	
	comp=Z,51nm,0.8s						
L44A	**Lake County Fo**	**9.20**	**54**	IAmb_Lg		02 52 15.6	
	comp=Z,44nm,0.9s						
WCI	**Wyandotte Cave**	**9.25**	**80**	Pn	**Pn**	**02 49 34.6**	**+0.8**
WCI				IAmb_Lg		02 52 20.7	
	comp=Z,31nm,0.8s						
F36A	**Milaca**	**9.34**	**19**	Pn	**Pn**	**02 49 35.5**	**+0.5**
121A	**Cookes Peak, D**	**9.34**	**244**	IAmb_Lg		02 52 36.5	
	comp=Z,22nm,1.1s						
I42A	**Draeger Farm,**	**9.61**	**42**	IAmb_Lg		02 52 36.0	
	comp=Z,37nm,1.1s						
E28A	**Huff**	**9.69**	**348**	IAmb_Lg		02 52 42.6	
	comp=Z,28nm,0.8s						
G40A	**Rib Lake**	**9.99**	**33**	IAmb_Lg		02 52 40.6	
	comp=Z,19nm,0.9s						
PD31	**Pinedale Array**	**10.60**	**306**	Pn	**Pn**	**02 49 53.0**	**+0.5**
PDAR	**Pinedale Array**	**10.60**	**306**	Pn	**Pn**	**02 49 52.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=119,slow=15,SNR=12						
PDAR				Lg	Lg	02 52 52.4	
	comp=Z,0.9nm,0.3s,baz=124,slow=27,SNR=6.2						
MDND	**Maddock**	**10.81**	**354**	S		02 51 48.1	
	baz=173						
AGMN	**Agassiz Nation**	**11.28**	**7**	Pn	**Pn**	**02 50 01.9**	**+0.3**
AGMN	**Agassiz Nation**	**11.28**	**7**	S		02 52 00.4	
	baz=188						
L48A	**N Adams**	**11.44**	**61**	Pn	**Pn**	**02 50 03.6**	**-0.2**
TKL	**Tuckaleechee C**	**11.46**	**93**	Pn	**Pn**	**02 50 04.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=206,slow=6.8,SNR=4.7						
ULM	**Lac du Bonnet**	**13.22**	**6**	Pn	**Pn**	**02 50 24.3**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=199,slow=8.6,SNR=7.4						
ULM				Sn	Sn	02 52 43.3	-12
	comp=Z,0.6nm,0.3s,baz=192,slow=7.8,SNR=4.8						
ULM				Lg	Lg	02 54 14.3	
	comp=Z,0.6nm,0.3s,baz=276,slow=18,SNR=3.2						
SADO	**Sadowa**	**16.07**	**56**	Lg	Lg	02 55 40.7	
	comp=Z,0.3nm,0.3s,baz=345,slow=21,SNR=3.9						
NVAR	**Mina Array Bea**	**16.21**	**281**	Pn	**P**	**02 51 10.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=75,slow=19,SNR=2.1						
ILAR	**Eielson Array**	**39.88**	**330**	P	**P**	**02 54 55.0**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=108,slow=7.1,SNR=13						

IDC ***01*** *02:47:53.9±1.2, 37°.55N×137°.01E, h285km±20km, mb2.7/3, mb1 3.0/5, mb1mx2.7/53, mbtmp3.6/5, Error ellipse: s-maj=40.3km s-min=21.2km az=76.0*

JMA ***01*** *02:47:53.8±0.3, 37°.43N×136°.99E, h290km±3km, M3.1*

ISC 01 02:47:53.5±0.9**, 37°.42N**±0°.08×**136°.99E**±0°.09**, h300**km**, n18,** σ**1ˢ.52**/21**, mb2.9**/3**, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**0.30**	**84**	P	**Pn**	**02 48 30.9**	**-0.7**
JHG	**Hegura jima**	**0.43**	**353**	P	**Pn**	**02 48 31.1**	**-0.7**
JSD	**Sado**	**1.18**	**58**	P	**Pn**	**02 48 34.0**	**-0.7**
JSD				S	**S**	**02 49 04.8**	**-2.7**
MAT	**Matsushiro**	**1.31**	**131**	P	**Pn**	**02 48 35.0**	**-0.5**
MAT				S	**S**	**02 49 07.8**	**-1.2**
MAT	**Matsushiro**	**1.31**	**131**	P	**Pn**	**02 48 35.1**	**-0.5**
MJAR	**Matsushiro Arr**	**1.31**	**131**	P	**Pn**	**02 48 35.3**	**-0.2**
	1.1nm,0.3s,baz=309,slow=7.8,SNR=85						
JYTA	**Yamagatataniai**	**1.83**	**187**	S	**S**	**02 49 13.2**	**-2.1**
JRY	**Ryogami san**	**2.08**	**132**	P	**Pn**	**02 48 40.1**	**-0.8**
JAG	**Ashikaga**	**2.21**	**116**	P	**Pn**	**02 48 41.2**	**-0.8**
JYN	**Shimob**	**2.29**	**146**	P	**Pn**	**02 48 42.5**	**-0.3**
JWT	**Wachi**	**2.48**	**212**	P	**Pn**	**02 48 43.7**	**-0.7**
JWT				S	**S**	**02 49 21.4**	**-3.7**
JFT	**Otama**	**2.66**	**87**	P	**Pn**	**02 48 46.0**	**0.0**
JOD2	**Odawara 2**	**2.73**	**141**	P	**Pn**	**02 48 46.6**	**-0.1**
ASAJ	**Asahikawa**	**7.93**	**31**	P	**Pn**	**02 49 44.5**	**-1.5**
	3.9nm,0.3s,baz=214,slow=14,SNR=26						
KLR	**Kul'dur**	**12.40**	**344**	P	**Pn**	**02 50 40.2**	**-0.4**
	0.2nm,0.3s,baz=158,slow=8.3,SNR=6.8						
SONM	**Songino Array**	**24.65**	**305**	P	**P**	**02 52 48.0**	**+0.5**
	0.3nm,0.3s,baz=112,slow=9.2,SNR=4.0						
MKAR	**Makanchi Array**	**40.91**	**301**	P	**P**	**02 55 08.6**	**+1.5**
	0.2nm,0.4s,baz=86,slow=9.6,SNR=8.8						
WRA	**Warramunga Arr**	**57.10**	**183**	P	**P**	**02 57 11.8**	**+2.6**
	0.2nm,0.5s,baz=359,slow=7.6,SNR=2.1						

INMG ***01*** *02:59:32.8±1.4, 36°.50N×13°.50W, h10km, ML2.1, Error ellipse: s-maj=10.4km s-min=7.4km az=90.0*

MDD ***01*** *02:59:32.1±2.4, 36°.75N×13°.12W, h0km, mb3.7/2, Error ellipse: s-maj=20.1km s-min=18.5km az=15.0, PRXIMO*

ISC 01 02:59:34.7±3.8**, 36°.9N**±0°.1×**12°.9W**±0°.2**, h10**km**, n43,** σ**0ˢ.76**/62**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.28**	**84**	P	**Pn**	**03 00 25.7**	**-0.4**
	4.1nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**03 01 04.9**	**-0.2**
	4.5nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.28**	**84**	*e*Pn	**Pn**	**03 00 25.7**	**-0.4**
PFVI				*e*Sn	**Sn**	**03 01 04.3**	**-0.9**
PTEO	**Sao Teotonio**	**3.41**	**78**	P	**Pn**	**03 00 27.8**	**-0.1**
PTEO				S	**Sn**	**03 01 08.5**	**+0.2**
	5.0nm,0.7s						
PTEO	**Sao Teotonio**	**3.41**	**78**	*e*Pn	**Pn**	**03 00 27.8**	**-0.1**
PTEO				*e*Sn	**Sn**	**03 01 08.5**	**+0.2**
PTEO				A	A	03 01 33.4	
	10.0nm,0.7s						
PMAFR	**Mafra**	**3.54**	**53**	S	**Sn**	**03 01 12.8**	**+1.2**
	3.0nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.70**	**69**	P	**Pn**	**03 00 32.4**	**+0.6**
PNCL				S	**Sn**	**03 01 16.0**	**+0.6**
	1.4nm,0.1s						
PNCL	**Nicolau / Gran**	**3.70**	**69**	*e*Pn	**Pn**	**03 00 32.4**	**+0.6**
PNCL				*e*Sn	**Sn**	**03 01 16.0**	**+0.6**
PNCL				A	A	03 01 17.9	
	1.4nm,0.1s						
MESJ	**Messejana**	**3.86**	**74**	S	**Sn**	**03 01 19.0**	**-0.4**
	2.4nm,0.5s						
MESJ	**Messejana**	**3.86**	**74**	*e*Sn	**Sn**	**03 01 19.0**	**-0.4**
MESJ				A	A	03 01 23.9	
	2.4nm,0.5s						
PCVE	**Castro Verde**	**3.96**	**78**	S	**Sn**	**03 01 21.4**	**-0.5**
	1.3nm,0.2s						
PCVE	**Castro Verde**	**3.96**	**78**	*e*Sn	**Sn**	**03 01 21.4**	**-0.5**
PCVE				A	A	03 01 24.0	
	1.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.00**	**83**	P	**Pn**	**03 00 37.3**	**+1.3**
PBDV				S	**Sn**	**03 01 24.5**	**+1.5**
	2.5nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.00**	**83**	*e*Pn	**Pn**	**03 00 37.3**	**+1.3**
PBDV				*e*Sn	**Sn**	**03 01 24.5**	**+1.5**
PBDV				A	A	03 01 35.1	
	2.5nm,0.6s						
PBEJ	**Beja**	**4.17**	**73**	S	**Sn**	**03 01 28.1**	**+0.9**
PBEJ	**Beja**	**4.17**	**73**	*e*Sn	**Sn**	**03 01 28.1**	**+0.9**
PSBE	**So Bento**	**4.17**	**50**	*e*Pn	**Pn**	**03 00 39.1**	**+0.7**
PSBE				*e*Sn	**Sn**	**03 01 28.9**	**+1.6**
PSBE				A	A	03 01 31.2	
	5.6nm,0.5s						
PVAQ	**Vaqueiros**	**4.18**	**81**	P	Pb	03 00 41.3	-7.0
PVAQ				S	**Sn**	**03 01 27.2**	**-0.2**
	2.4nm,0.8s						
PVAQ	**Vaqueiros**	**4.18**	**81**	*e*Pn	Pb	03 00 41.3	-7.0
PVAQ				*e*Sn	**Sn**	**03 01 27.2**	**-0.2**
PVAQ				A	A	03 01 30.7	
	2.4nm,0.8s						
EVO	**Evora**	**4.22**	**66**	S	**Sn**	**03 01 28.1**	**-0.3**
	1.8nm,0.3s						
EVO	**Evora**	**4.22**	**66**	*e*Sn	**Sn**	**03 01 28.1**	**-0.3**
EVO				A	A	03 01 32.9	
	1.8nm,0.3s						
PMTG	**Montargil**	**4.30**	**58**	P	**Pn**	**03 00 40.4**	**+0.3**
PMTG				S	**Sn**	**03 01 31.2**	**+0.9**
	1.3nm,0.8s						
PMTG	**Montargil**	**4.30**	**58**	*e*Pn	**Pn**	**03 00 40.4**	**+0.3**
PMTG				*e*Sn	**Sn**	**03 01 31.2**	**+0.9**
PMTG				A	A	03 01 48.1	
	1.3nm,0.8s						
EGRO	**El Granado**	**4.38**	**80**	P	**Pn**	**03 00 41.6**	**+0.4**
	0.2nm,0.1s,SNR=4.0						
EGRO				S	**Sn**	**03 01 31.1**	**-1.3**
	0.7nm,0.0s,SNR=7.9						
PESTR	**Estremoz**	**4.65**	**63**	*e*Pn	**Pn**	**03 00 44.9**	**-0.1**
PESTR				*e*Sn	**Sn**	**03 01 39.5**	**+0.4**
PESTR				A	A	03 01 45.6	
	1.2nm,0.8s						
PCAS	**Casmilo, Conde**	**4.69**	**46**	P	**Pn**	**03 00 45.9**	**+0.4**
PCAS				S	**Sn**	**03 01 40.9**	**+0.9**
	1.7nm,0.5s						
PCAS	**Casmilo, Conde**	**4.69**	**46**	*e*Pn	**Pn**	**03 00 45.9**	**+0.4**
PCAS				*e*Sn	**Sn**	**03 01 40.9**	**+0.9**
PCAS				A	A	03 02 00.6	
	1.7nm,0.5s						
PBAR	**Barrancos**	**4.84**	**73**	S	**Sn**	**03 01 44.1**	**+0.4**
	1.4nm,0.7s						
PBAR	**Barrancos**	**4.84**	**73**	*e*Sn	**Sn**	**03 01 44.1**	**+0.4**
PBAR				A	A	03 01 49.9	
	1.4nm,0.7s						
PMRV	**Marv??o**	**5.04**	**58**	P	**Pn**	**03 00 49.8**	**-0.5**
PMRV				S	**Sn**	**03 01 47.6**	**-1.0**
	1.3nm,1.0s						
PMRV	**Marv??o**	**5.04**	**58**	*e*Pn	**Pn**	**03 00 49.8**	**-0.5**
PMRV				*e*Sn	**Sn**	**03 01 47.6**	**-1.0**
PMRV				A	A	03 01 55.7	
	1.3nm,1.0s						
EMIN	**Mina Concepcio**	**5.05**	**78**	S	**Sn**	**03 01 47.5**	**-1.4**
	0.4nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**5.48**	**48**	P	**Pn**	**03 00 57.2**	**+0.8**
MTE				S	**Sn**	**03 01 59.9**	**+0.5**
	1.2nm,0.6s						
MTE	**Manteigas**	**5.48**	**48**	*e*Pn	**Pn**	**03 00 57.2**	**+0.8**
MTE				*e*Sn	**Sn**	**03 01 59.9**	**+0.5**
MTE				A	A	03 02 05.9	
	2.5nm,0.6s						
PVIS	**Viseu**	**5.48**	**44**	S	**Sn**	**03 01 59.4**	**-0.1**
	1.1nm,0.7s						
PVIS	**Viseu**	**5.48**	**44**	*e*Sn	**Sn**	**03 01 59.4**	**-0.1**
PVIS				A	A	03 02 00.7	
	2.1nm,0.7s						
ESPR	**Espera**	**5.66**	**88**	S	**Sn**	**03 02 04.4**	**+0.7**
	6.2nm,0.3s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.22**	**34**	S	**Sn**	**03 02 17.1**	**-0.7**
PGAV	**Gavieira, Arco**	**6.22**	**34**	*e*Sn	**Sn**	**03 02 17.1**	**-0.7**
ELOB	**Lobios**	**6.24**	**36**	S	**Sn**	**03 02 17.6**	**-0.6**
	0.4nm,0.0s,SNR=7.9						
MVO	**Moncorvo**	**6.27**	**45**	S	**Sn**	**03 02 18.0**	**-0.8**
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.75**	**77**	S	**Sn**	**03 02 29.6**	**-1.1**
	SNR=7.9						
PBRG	**Braganca**	**6.86**	**42**	P	**Pn**	**03 01 14.6**	**-0.7**
PBRG	**Braganca**	**6.86**	**42**	*e*Pn	**Pn**	**03 01 14.6**	**-0.7**

NEIC ***01*** *03:32:33.8±2.1, 0°.02N±0°.05×124°.47E±0°.05, h62km±1km, mb5.4/157, Mwb5.6/42, Error ellipse: s-maj=9.5km s-min=8.4km az=61.0*

MOS ***01*** *03:32:34.2±1.1, 0°.09N×124°.31E, h84km, mb5.3/60, Error ellipse: s-maj=7.4km s-min=4.4km az=116.4*

NEIC ***01*** *03:32:34.1, 0°.11N×124°.48E, h65km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.54; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-2.58; $M_{r\theta}$-1.18; $M_{\theta\phi}$1.73; $M_{\phi r}$1.14; Fault plane solution: $M_0$3.50000×10^{17} NP1:ϕ_s169.45000°, δ33.23000°, λ114.45000°. NP2:ϕ_s320.92000°, δ60.07000°, λ74.83000°. Principal axes: T 3.0543, Plg71.0000°, Azm197.0000°; N 0.7684, Plg13.0000°, Azm329.0000°; P -3.8226, Plg14.0000°, Azm62.0000°;*

IDC ***01*** *03:32:35.4±1.1, 0°.11N×124°.29E, h75km±9km, mb4.8/27, mb1 5.0/32, mb1mx4.9/37, mbtmp5.2/32, MS4.5/33, Ms1 4.5/33, ms1mx4.5/40 Error ellipse: s-maj=13.1km s-min=8.0km az=69.0*

GCMT ***01*** *03:32:36.8±0.1, 0°.13N±0°.01×124°.63E±0°.01, h86km, MW5.6/152, Moment Tensor Solution. s152,c256; s149,c298; Duration: 1ˢ.5 Moment tensor: Scale 10^{17} Nm; M_{rr}1.99±.03; $M_{\theta\theta}$-0.31±.03; $M_{\phi\phi}$-1.69±.03; $M_{r\theta}$-1.11±.02; $M_{\theta\phi}$1.16±.03; $M_{\phi r}$1.37±.02; Best double couple: $M_0$2.79800×10^{17} NP1:ϕ_s159.00000°, δ26.00000°, λ103.00000°. NP2:ϕ_s324.00000°, δ65.00000°, λ83.00000°. Principal axes: T 2.6340, Plg70.0000°, Azm220.0000°; N 0.3230, Plg6.0000°, Azm327.0000°; P -2.9630, Plg19.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***01*** *03:32:37.0±0.1, 0°N±1°×12°5E±°, h93km±2km, M5.4/96, mB5.8/79, mb5.5/96, MLv6.0/25, Mw(mB)5.4/79, MwMwp5.4/42, Mwp5.6/42*

KLM ***01*** *03:32:38, 0°.08N×124°.59E, h98km, mb5.6*

ISC 01 03:32:36.5±0.3**, 0°.03N**±0°.03×**124°.41E**±0°.03**, h90**km±2km**, h90**km**:pP-P, n658,** σ**1ˢ.53**/683**, mb5.3**/197**, 51C-25D, Fault plane solution: NP1:**ϕ_s165.94678°**,** δ48.37131°**,** λ97.65282°. **NP2:**ϕ_s334.51193°**,** δ42.19971°**,** λ81.47809°. **Principal axes:** T Plg83.4949°**,** Azm132.1669°**;** N Plg5.7127°**,** Azm340.8461°**;** P Plg3.1012°**,** Azm250.5355°**;**
Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.69**	**321**	P	**Pn**	**03 32 52.9**	**0.0**
KMSI				S	**Sn**	**03 33 06.2**	**+1.0**
MNI	**Manado**	**1.47**	**17**	P	**Pn**	**03 33 02.4**	**+0.5**
LUWI	**Luwuk**	**1.96**	**237**	Pn	**Pn**	**03 33 08.6**	**+0.4**
LUWI	**Luwuk**	**1.96**	**237**	P	**Pn**	**03 33 11.8**	**+3.6**
LUWI				S	**Sn**	**03 33 36.9**	**+4.6**

MRSI Marisa 2.51 280 P **Pn** **03 33 15.2 -0.3**
SANI Sanana 2.60 143 P **Pn** **03 33 13.8 -2.9**
APSI Ampana 2.92 251 P **Pn** **03 33 24.6 +3.6**
TNTI Ternate 3.04 76 Pn **Pn** **03 33 20.8 -1.9**
TNTI Ternate 3.04 76 P **Pn** **03 33 20.7 -1.9**
TNTI S **Sn** **03 33 55.7 -2.5**
TOLI2 Tolitoli 3.79 286 Pn **Pn** **03 33 34.4 +1.7**
SGSI Sangihe 3.80 17 P **Pn** **03 33 32.5 -0.4**
NLAI Namlea 4.21 140 P **Pn** **03 33 37.2 -1.3**
TTSI Tana Toraja 5.51 236 P **Pn** **03 33 58.0 +1.8**
24nm29µm39µm2µm,0.6s
SPSI Sidrap Palu 6.11 229 P **Pn** **03 34 06.7 +2.4**
9.7nm35µm33µm2µm,0.4s
BNSI Bone 6.16 224 P **Pn** **03 34 06.8 +1.9**
8.2nm28µm15µm2µm,0.8s
DDMP Don Marcelino, 6.17 12 *e*P **Pn** **03 34 06.7 +1.6**
SKMP Bagumbayan, Su 6.45 1 *e*P **Pn** **03 34 09.5 +0.6**
SKMP *e*S **Sn** **03 35 21.5 +0.4**
BKSI Bulukumba 6.83 219 P **Pn** **03 34 16.4 +2.3**
4.7nm27µm9µm875nm,0.7s
SGKI Sangatta, Kali 6.83 265 P **Pn** **03 34 16.2 +2.0**
6.9nm14µm10µm523nm,0.6s
KAPI Kappang 6.84 223 P **Pn** **03 34 14.3 0.0**
49nm,0.3s,baz=40,slow=7.5,SNR=71
KAPI S **Sn** **03 35 32.7 +2.0**
69nm,0.3s,baz=198,slow=22,SNR=5.7
KAPI LR LR 03 37 27.7
comp=Z,14µm,18.6s,baz=28,slow=43
KAPI Kappang 6.84 223 Pn **Pn** **03 34 15.1 +0.8**
SWI Sorong 6.91 97 P **Pn** **03 34 14.0 -1.1**
SWI pmax pmax
comp=Z,679nm,0.6s
SWI Sorong 6.91 97 P **Pn** **03 34 14.4 -0.8**
comp=Z,2.3nmcomp=Z,13µmcomp=Z,9µmcomp=Z,674nm,0.6s
SIJI Sorong 6.91 97 P **Pn** **03 34 14.6 -0.7**
comp=Z,71nm,0.3s,baz=286,slow=8.3,SNR=189
SIJI S **Sn** **03 35 35.8 +3.3**
comp=Z,27nm,0.3s,baz=120,slow=20,SNR=5.8
KCP Kidapawan 6.96 6⇑ *e*P **Pn** **03 34 19.8 +3.8**
DAV Davao City (W) 7.09 9 P **Pn** **03 34 18.6 +1.0**
comp=Z,30nm,0.3s,baz=91,slow=2.5,SNR=2.4
DAV LR LR 03 37 31.5
comp=Z,13µm,20.5s,baz=207,slow=42
DAV Davao City (W) 7.09 9⇑ *e*P **Pn** **03 34 20.0 +2.4**
BNDI Bandanaira 7.11 130 P **Pn** **03 34 16.9 -1.1**
comp=Z,13nmcomp=Z,10µmcomp=Z,35µmcomp=Z,2µm,1.1s
MATI Mati 7.11 15 *e*P **Pn** **03 34 19.4 +1.4**
MATI *e*S **Sn** **03 35 40.6 +3.3**
SMKI Samarinda 7.22 266 P **Pn** **03 34 23.3 +3.8**
comp=Z,3.4nmcomp=Z,18µmcomp=Z,9µmcomp=Z,996nm,0.8s
ZCP Zamboanga City 7.24 341⇑ *e*P **Pn** **03 34 22.7 +3.0**
BSSI Bau Bau, Buton 7.28 212 P **Pn** **03 34 22.2 +2.0**
comp=Z,3.2nmcomp=Z,11µmcomp=Z,875nm,0.6s
BKB Balikpapan 7.62 260 Pn **Pn** **03 34 26.5 +1.5**
BKB Balikpapan 7.62 260 P **Pn** **03 34 28.0 +3.0**
comp=Z,5.1nmcomp=Z,21µmcomp=Z,14µmcomp=Z,1µm,0.6s
MYLDM Lahad Datu 7.81 311 **Pn** **03 34 30.2 +2.7**
PAGZ Pagadian 7.83 352 *e*P **Pn** **03 34 28.0 +0.2**
PAGZ *e*S **Sn** **03 35 56.3 +1.4**
FAKI Fak Fak 8.36 111 Pn **Pn** **03 34 31.9 -3.2**
FAKI Fak Fak 8.36 111 P **Pn** **03 34 33.0 -2.1**
comp=Z,2.2nmcomp=Z,8µmcomp=Z,4µmcomp=Z,213nm,0.7s
MMRI Maumere 8.88 194 **Pn** **03 34 42.4 +0.3**
MMRI Maumere 8.88 194 P **Pn** **03 34 44.0 +1.9**
comp=Z,12µmcomp=Z,8µmcomp=Z,558nm,1.7s
KBKI Kotabaru 8.88 248 P **Pn** **03 34 45.4 +3.3**
comp=Z,7µmcomp=Z,518nm,1.0s
BUTP Butuan 8.96 8 *e*P **Pn** **03 34 45.0 +1.8**
MTKI Muara Teweh, K 9.56 264 P **Pn** **03 34 54.7 +3.2**
comp=Z,7µmcomp=Z,6µmcomp=Z,204nm,0.8s
SOEI Soe 9.72 181 Pn **Pn** **03 34 55.2 +1.5**
SOEI Soe 9.72 181 P **Pn** **03 34 56.5 +2.8**
comp=Z,15µmcomp=Z,9µmcomp=Z,534nm,1.0s
GLSP General Luna, 9.84 10 *e*P **Pn** **03 34 56.6 +1.4**
RKPI Ransiki, Papua 9.88 99 P **Pn** **03 34 54.6 -1.2**
comp=Z,5µmcomp=Z,426nm,0.7s
CNOP Candoni, Negro 9.89 350 *e*P **Pn** **03 34 57.7 +1.8**
KKM Kota Kinabalu 10.13 306 **Pn** **03 35 01.4 +2.1**
BBKI Banjar Baru 10.18 250 P **Pn** **03 35 02.7 +2.9**
comp=Z,4µmcomp=Z,309nm,0.7s
BATI Baumata 10.20 184 P **Pn** **03 35 01.9 +1.8**
comp=Z,14nm,0.3s,baz=326,slow=1.3,SNR=17
BATI LR LR 03 39 15.3
comp=Z,11µm,20.7s,baz=340,slow=39
BATI Baumata 10.20 184 P **Pn** **03 35 01.9 +1.8**
comp=Z,6µmcomp=Z,4µmcomp=Z,203nm,0.8s
SAUI Saumlaki 10.51 139 Pn **Pn** **03 35 02.6 -1.8**
GUIM Jordan 10.68 350 *e*P **Pn** **03 35 10.7 +4.0**
BASI Baing, Sumba 10.87 200 P **Pn** **03 35 11.7 +2.4**
comp=Z,9µmcomp=Z,5µmcomp=Z,156nm,0.8s
OCLP Ormoc 10.95 1 *e*P **Pn** **03 35 13.2 +2.9**
PLAI Plampang 11.01 217 P **Pn** **03 35 12.8 +1.7**
comp=Z,14µmcomp=Z,3µmcomp=Z,203nm,0.8s
CUYO Cuyo Island 11.27 343 *e*P **Pn** **03 35 18.3 +3.7**
TWSI Taliwang, Sumb 11.50 221 P **Pn** **03 35 20.2 +2.5**
comp=Z,9µmcomp=Z,1µmcomp=Z,93nm,0.7s
BAKI Biak 11.76 96 P **Pn** **03 35 20.4 -0.8**
comp=Z,4µmcomp=Z,347nm,1.0s
ENPP El Nido 12.16 336 *e*P **P** **03 35 32.0 -3.5**
SRBI Singaraja 12.21 228 P **Pn** **03 35 30.3 +3.0**
comp=Z,14µmcomp=Z,3µmcomp=Z,146nm,0.9s
SBUM Sibu 12.42 281 Pn **Pn** **03 35 31.8 +1.6**
SBUM Sibu 12.42 281 P **Pn** **03 35 34.0 +3.8**
KMMI Kalianget 12.57 236 P **P** **03 35 36.2 -3.9**
comp=Z,6µmcomp=Z,354nm,1.0s
DNP Denpasar 12.61 226 P **Pn** **03 35 34.0 +1.4**
DNP pmax pmax
comp=Z,265nm,0.4s
DNP Denpasar 12.61 226 P **P** **03 35 36.2 -4.3**
BUSP Coron 12.61 341 *e*P **Pn** **03 35 35.6 +3.0**
SJMP San Jose 12.77 345 *e*P **Pn** **03 35 39.0 +4.1**
ABJI Asem Bagus 12.78 232 P **Pn** **03 35 37.6 +2.6**
comp=Z,18µmcomp=Z,5µmcomp=Z,137nm,1.0s
PBKI Pangkalan Bun 13.03 258 P **Pn** **03 35 41.5 +3.3**
comp=Z,138nm,0.4s
JAGI Jajag, Banyuwa 13.26 230 Pn **Pn** **03 35 43.0 +1.7**
SCSP San Jose Seism 13.56 356 *e*P **P** **03 35 52.8 +1.6**
PGP Puerto Galera 13.81 346⇓ *e*P **P** **03 35 54.9 +1.0**
LUBP Lubang 14.23 343 *e*P **P** **03 35 57.9 -0.6**
JCNP Jose Panganiba 14.27 353 *e*P **P** **03 35 57.8 -1.2**
TGY Tagaytay City 14.40 346 LR LR 03 42 33.2
comp=Z,2µm,19.9s,baz=150,slow=42
SMPI Sarmi 14.44 98 P **Pn** **03 35 56.6 0.0**
comp=Z,4µmcomp=Z,2µmcomp=Z,58nm,0.7s
QVP Quezon City--P 14.88 347 *e*P **P** **03 36 07.2 +1.4**
SMRI Semarang 15.61 243 Pn **Pn** **03 36 11.5 -0.1**
SMRI IAmb IAmb 03 36 58.8
comp=Z,434nm,1.2s
SMRI Semarang 15.61 243 P **P** **03 36 14.9 +1.0**
comp=Z,12µmcomp=Z,7µmcomp=Z,200nm,1.1s
UGM Wanagama 15.94 240 **P** **03 36 18.0 +0.5**
UGM Wanagama 15.94 240 P **P** **03 36 19.1 +1.5**
comp=Z,13µmcomp=Z,3µmcomp=Z,228nm,0.9s
GENI Genyem 15.96 100 P **Pn** **03 36 14.7 -1.3**
comp=Z,6µmcomp=Z,4µmcomp=Z,310nm,0.8s
KNRA Kununurra 16.19 165 **Pn** **03 36 18.0 -0.8**
KNRA IAmb IAmb 03 36 33.3
comp=Z,158nm,0.6s
JAY Jayapura 16.48 99 LR LR 03 44 01.3
comp=Z,2µm,20.9s,slow=41
TPI Tanjungpandan 16.98 260 P **P** **03 36 31.3 +2.2**
comp=Z,8µmcomp=Z,3µmcomp=Z,75nm,1.0s
JCJI Jatiwangi 17.36 248 P **P** **03 36 36.5 +3.2**
comp=Z,11µmcomp=Z,358nm,1.0s
SZP Santa 17.84 348 **Pn** **03 36 40.6 +1.6**
SZP IAmb IAmb 03 37 18.6
comp=Z,535nm,1.5s
FITZ Fitzroy Crossi 18.06 176 P **Pn** **03 36 41.3 -0.3**
comp=Z,12nm,0.3s,baz=9.3,slow=8.6,SNR=198
FITZ LR LR 03 44 56.4
comp=Z,989nm,20.7s,baz=0.5,slow=41
FITZ Fitzroy Crossi 18.06 176 P **Pn** **03 36 40.8 -0.8**
baz=18,SNR=254
FITZ Fitzroy Crossi 18.06 176 P **Pn** **03 36 40.9 -0.7**
FITZ IAmb IAmb 03 36 43.5
comp=Z,142nm,0.8s
LEM Lembang 18.09 248 P **Pn** **03 36 42.2 -0.1**
comp=Z,5.0nm,0.3s,baz=62,slow=7.9,SNR=33
LEM LR LR 03 44 23.2
comp=Z,4µm,20.1s,baz=49,slow=39
CISI Cisompet, Garu 18.18 245 P **P** **03 36 42.0 -0.4**
CISI IAmb IAmb 03 37 11.3
comp=Z,222nm,0.8s
CISI Cisompet, Garu 18.18 245 P **Pn** **03 36 42.7 -0.6**
comp=Z,11µmcomp=Z,7µmcomp=Z,346nm,0.8s

PPBI Pangkal Pinang 18.40 263 P **P** **03 36 44.9 +0.2**
comp=Z,6µmcomp=Z,16µmcomp=Z,79nm,0.8s
CBJI Citeko 18.66 250 P **Pn** **03 36 49.3 +0.4**
comp=Z,13µmcomp=Z,16µmcomp=Z,364nm,0.9s
DBJI Dramaga 18.80 249 P **Pn** **03 36 50.0 -0.6**
comp=Z,16µmcomp=Z,187nm,0.9s
DLV T Lat 19.75 307 P **Pn** **03 37 01.8 -0.2**
PMBI Palembang 19.85 261 P **Pn** **03 37 02.2 -0.7**
PMBI Palembang 19.85 261 P **Pn** **03 37 03.5 +0.6**
comp=Z,40µmcomp=Z,778nm,1.0s
KLSI 20.21 256 P **P** **03 37 05.0 +0.5**
comp=Z,932nmcomp=Z,57nm,1.2s
MYKOM Kota Tinggi 20.63 275 P Pn 03 37 11.0 -1.1
MYKOM IAmb IAmb 03 37 40.6
comp=Z,410nm,1.7s
MYKOM Kota Tinggi 20.63 275 P Pn 03 37 14.0 +1.9
KASI Kota Agung 20.64 254 P **P** **03 37 09.7 +0.7**
comp=Z,8µmcomp=Z,3µmcomp=Z,217nm,1.0s
MDSI Maura Dua 20.71 257 P **P** **03 37 09.5 -0.3**
LWLI Liwa 20.94 256 P Pn 03 37 14.6 -1.2
comp=Z,13µmcomp=Z,106nm,0.8s
LHSI Lahat 21.22 259 P **P** **03 37 17.4 +2.1**
comp=Z,7µmcomp=Z,10µmcomp=Z,57nm,0.5s
XMI Christmas Isla 21.33 240 P **P** **03 37 16.9 +0.4**
comp=Z,392nm,0.8s
XMIS Christmas Isla 21.38 240 P **P** **03 37 16.6 -0.4**
XMIS Christmas Isla 21.38 240 P **P** **03 37 18.9 +1.9**
comp=Z,323nm,0.9s
MNAI Manna 21.88 258 P **P** **03 37 23.1 +0.7**
PSA00 Pilbara Seismi 21.93 191 P **P** **03 37 22.4 -0.4**
PSA00 IAmb IAmb 03 37 24.1
comp=Z,174nm,0.8s
WB0 Warramunga Arr 21.97 154 P **P** **03 37 22.1 -1.2**
WRAB Tennant Creek 22.10 154*c i*P **P** **03 37 23.5 -1.1**
WRAB pmax pmax
comp=Z,208nm,0.7s
WRAB Tennant Creek 22.10 154 P **P** **03 37 22.9 -1.7**
WRA Warramunga Arr 22.11 154 P **P** **03 37 24.4 -0.3**
comp=Z,232nm,0.6s,baz=339,slow=11,SNR=577
WRA S **S** **03 41 20.8 -2.3**
comp=Z,24nm,1.0s,baz=340,slow=20,SNR=6.6
WRA Warramunga Arr 22.11 154 *i* P **P** **03 37 23.3 -1.4**
WRA pmax pmax
comp=Z,212nm,0.6s
WB2 Warramunga Arr 22.11 154 P **P** **03 37 23.3 -1.4**
MANU Manus Island 23.04 95 P **P** **03 37 34.7 +0.3**
MANU IAmb IAmb 03 38 24.6
comp=Z,201nm,1.6s
KRJI Kerinci 23.04 265 P **P** **03 37 35.7 +1.2**
comp=Z,7µmcomp=Z,17µmcomp=Z,989nm,0.9s
COEN Coen 23.20 128 P **P** **03 37 34.8 -1.1**
BKNI Bangkinang 23.38 271 P **P** **03 37 37.4 -0.2**
BKNI Bangkinang 23.38 271 P **P** **03 37 38.0 +0.4**
comp=Z,5µmcomp=Z,3µmcomp=Z,82nm,0.6s
YULB Yu-li 23.42 353 P **P** **03 37 38.0 +0.1**
TPUB Ta-pu 23.42 351 P **P** **03 37 38.2 +0.4**
TPUB IAmb IAmb 03 37 59.8
comp=Z,146nm,0.9s
QIZ Qiongzhong 23.68 324 P **P** **03 37 41.1 +0.9**
QIZ pP **pP** **03 37 58.8 -1.0**
QIZ S **S** **03 41 48.5 -0.1**
QIZ pmax pmax
comp=Z,570nm,4.7s
QIZ LR LR
comp=Z,1µm,14.3s
QIZ LR LR
comp=Z,1µm,17.3s
QIZ LR LR
comp=Z,1µm,21.1s
IPM Ipoh 23.78 281 P **P** **03 37 42.0 +0.8**
IPM IAmb IAmb 03 38 31.3
comp=Z,106nm,1.1s
IPM Ipoh 23.78 281 P **P** **03 37 43.0 +1.8**
SSLB Suanglung 23.85 352 P **P** **03 37 40.9 -0.8**
UBPT Khong Chiam 24.08 310 P **P** **03 37 45.2 +1.3**
comp=Z,51nm,0.9s
UBPT Khong Chiam 24.08 310 P **P** **03 37 45.0 +1.2**
UBPT IAmb IAmb 03 37 48.2
comp=Z,242nm,1.7s
KULM Kulim 24.30 283 P **P** **03 37 45.7 -0.2**
KULM Kulim 24.30 283 P **P** **03 37 47.0 +1.2**
GUMO Guam 24.33 56 P **P** **03 37 49.3 +3.2**
PMG Port Moresby 24.51 113 P **P** **03 37 48.1 +0.4**
comp=Z,30nm,0.7s,baz=277,slow=7.2,SNR=6.0
PMG Port Moresby 24.51 113 P **P** **03 37 48.0 +0.2**
PMG pmax pmax
comp=Z,139nm,1.2s
PMG Port Moresby 24.51 113 P **P** **03 37 48.0 +0.2**
PMG IAmb IAmb 03 38 46.4
comp=Z,139nm,1.1s
GIRL Giralia 24.62 203 P **P** **03 37 50.2 +1.6**
baz=25,SNR=29
GIRL Giralia 24.62 203 P **P** **03 37 50.1 +1.5**
MNSI Mandailing Nat 24.84 272 P **P** **03 37 52.2 +1.4**
comp=Z,2µmcomp=Z,50nm,1.0s
WRKA Warakurna 25.20 172 P **P** **03 37 54.4 +0.4**
baz=25,SNR=541
QIS Mount Isa 25.29 145 P **P** **03 37 55.5 +0.7**
baz=25,SNR=906
ASAR Alice Springs 25.30 159 P **P** **03 37 55.2 +0.3**
comp=Z,101nm,0.6s,baz=341,slow=7.8,SNR=1081
ASAR PcP **PcP** **03 41 26.9 +0.9**
comp=Z,18nm,0.7s,baz=354,slow=2.1,SNR=8.1
ASAR ScP **ScP** **03 44 58.9 +1.6**
comp=Z,2.5nm,0.5s,baz=340,slow=2.4,SNR=5.4
ASAR LR LR 03 48 23.9
comp=Z,2µm,21.6s,baz=328,slow=37
ASAR Alice Springs 25.30 159 P **P** **03 37 54.8 -0.1**
ASAR Alice Springs 25.30 159 P **P** **03 37 54.8 -0.1**
PSI Prapat 25.63 276 P **P** **03 37 56.7 -1.4**
comp=Z,81nm,1.1s,baz=180,slow=5.0,SNR=34
PSI ScP **ScP** **03 44 59.6 +1.1**
comp=Z,12nm,1.1s,baz=180,slow=6.0,SNR=5.6
TRTT Trang 25.83 288 P **P** **03 38 00.0 +0.2**
comp=Z,1µmcomp=Z,43nm,1.1s
TSI Tuntungan 26.06 278 P **P** **03 38 02.4 +0.5**
comp=Z,18µmcomp=Z,80nm,1.0s
SRAK Srakaew 26.14 303 P **P** **03 38 00.0 -2.5**
comp=Z,4µmcomp=Z,304nm,0.6s
MTSU Mount Surprise 26.62 134 P **P** **03 38 07.5 +0.6**
baz=27,SNR=28
GSI Gunungsitoli 26.86 273 IAmb IAmb 03 39 04.6
comp=Z,127nm,1.1s
GSI Gunungsitoli 26.86 273 P **P** **03 38 09.9 +0.8**
comp=Z,3µmcomp=Z,2µmcomp=Z,68nm,1.1s
SURT Suratani 27.01 290 P P 03 38 20.1 +10
CHAI Chaiyaphum 27.18 307 P **P** **03 38 13.0 +1.1**
comp=Z,770nmcomp=Z,99nm,0.8s
RNTT Ranong 27.44 291 P **P** **03 38 10.0 -4.2**
comp=Z,248nmcomp=Z,9.4nm,0.9s
NONG Nongkai 27.54 312 P **P** **03 38 16.2 +1.1**
comp=Z,61nm,0.8s
PHET Kaeng Krachan 27.70 298 P **P** **03 38 18.2 +1.6**
comp=Z,478nmcomp=Z,55nm,0.9s
RABL Rabaul 28.04 99 P **P** **03 38 20.2 +0.5**
UTHA Uthaitani 29.09 303 P **P** **03 38 30.1 +1.2**
comp=Z,978nmcomp=Z,106nm,0.6s
CTA Charters Tower 29.28 134 P **P** **03 38 31.6 +1.1**
comp=Z,10nm,0.9s,baz=315,slow=11,SNR=13
CTAO Charters Tower 29.28 134 P **P** **03 38 29.9 -0.7**
CTAO pmax pmax
comp=Z,99nm,1.6s
CTAO Charters Tower 29.28 134 P **P** **03 38 29.9 -0.7**
CTAO IAmb IAmb 03 38 54.8
comp=Z,98nm,1.6s
UTTA Uttaradit 29.34 308 P **P** **03 38 32.3 +1.2**
comp=Z,499nmcomp=Z,63nm,0.9s
NANT Nan 29.83 310 P **P** **03 38 38.0 +2.6**
comp=Z,54µmcomp=Z,784nm,0.6s
UMPA Umpang Tak 29.89 304 P **P** **03 38 37.1 +1.0**
comp=Z,2µmcomp=Z,49nm,0.8s
SUKH Sukhothai 29.93 307 P **P** **03 38 37.6 +1.3**
comp=Z,97nm,0.9s
COCO West Island 29.94 245 P **P** **03 38 36.1 -0.3**
COCO pmax pmax
comp=Z,88nm,0.9s
COCO West Island 29.94 245 P **P** **03 38 36.1 -0.3**
COCO IAmb IAmb 03 38 39.3
comp=Z,88nm,0.8s
MORW Morawa 30.02 195 P **P** **03 38 37.0 0.0**
baz=30,SNR=16
MORW Morawa 30.02 195 IAmb IAmb 03 38 38.2
comp=Z,42nm,0.8s
LAMP Lampang 30.50 308 P **P** **03 38 43.0 +1.7**
comp=Z,71nm,0.8s
FORT Forrest 30.84 174 P **P** **03 38 44.5 +0.4**

baz=31,SNR=81
CM36 Chiang Mai Arr 30.92 308 P **P** **03 38 46.0 +0.9**
CM04 Chiang Mai Arr 30.95 308 P **P** **03 38 46.8 +1.5**
comp=Z,222nmcomp=Z,25nm,0.9s
CM09 Chiang Mai Arr 30.96 308 P **P** **03 38 47.4 +2.0**
comp=Z,265nmcomp=Z,27nm,1.2s
CM35 Chiang Mai Arr 30.96 308 P **P** **03 38 46.0 +0.6**
CM01 Chiang Mai Arr 30.97 308 P **P** **03 38 47.2 +1.7**
comp=Z,261nmcomp=Z,32nm,1.1s
CM05 Chiang Mai Arr 30.97 308 P **P** **03 38 47.0 +1.4**
comp=Z,164nmcomp=Z,20nm,1.3s
CM02 Chiang Mai Arr 30.99 308 P **P** **03 38 47.0 +1.3**
comp=Z,246nmcomp=Z,31nm,1.1s
CM31 Chiang Mai Arr 31.01 308 P **P** **03 38 48.3 +2.5**
CM31 Chiang Mai Arr 31.01 308 P **P** **03 38 46.3 +0.5**
CMAR Chiang Mai Arr 31.01 308 P **P** **03 38 46.2 +0.4**
comp=Z,14nm,0.9s,baz=136,slow=7.1,SNR=61
CMAR PcP **PcP** **03 41 42.0 +2.0**
comp=Z,14nm,0.8s,baz=176,slow=1.6,SNR=12
CMAR ScP **ScP** **03 45 16.8 +1.8**
comp=Z,6.9nm,0.9s,baz=157,slow=2.3,SNR=11
CMAR LR LR 03 51 26.3
comp=Z,1µm,22.0s,baz=166,slow=37
CMAR Chiang Mai Arr 31.01 308 *i* P **P** **03 38 47.2 +1.4**
CMAR pmax pmax
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 31.01 308 P **P** **03 38 46.0 +0.2**
CM13 Chiang Mai Arr 31.01 307 P **P** **03 38 47.0 +1.1**
comp=Z,210nmcomp=Z,24nm,0.9s
CM15 Chiang Mai Arr 31.02 308 P **P** **03 38 47.8 +1.9**
comp=Z,31nm,0.4s
SSE Sheshan 31.05 355 P P 03 38 50.8 +4.8
SSE S **S** **03 43 51.9 +7.3**
SSE pmax pmax
comp=Z,14nm,1.4s
SSE pmax pmax
comp=Z,240nm,4.0s
SSE LR LR
comp=Z,520nm,16.3s
SSE LR LR
comp=Z,400nm,19.9s
CM34 Chiang Mai Arr 31.06 308 P **P** **03 38 47.0 +0.7**
CM32 Chiang Mai Arr 31.19 308 P **P** **03 38 49.0 +1.6**
CMMT Chiang Mai 31.20 308 P **P** **03 38 47.5 0.0**
comp=Z,428nmcomp=Z,38nm,1.0s
CHTO Chiang Mai 31.20 308 P **P** **03 38 47.9 +0.4**
CHTO pmax pmax
comp=Z,60nm,0.9s
CHTO Chiang Mai 31.20 308 P **P** **03 38 47.9 +0.4**
CHTO IAmb IAmb 03 38 50.2
comp=Z,60nm,0.9s
CM33 Chiang Mai Arr 31.20 308 P **P** **03 38 48.0 +0.5**
KMBL Kambalda 31.32 184 P **P** **03 38 48.5 +0.1**
baz=32,SNR=43
BLDU Ballidu 31.34 193 P **P** **03 38 48.6 -0.1**
baz=32,SNR=58
GYA Guiyang 31.35 328⇑ P **P** **03 38 50.5 +1.6**
GYA pP pP 03 39 14.0 +4.4
GYA sP sP 03 39 23.7 +3.5
GYA S **S** **03 43 50.5 +0.7**
GYA pmax pmax
comp=Z,25nm,1.1s
GYA pmax pmax
comp=Z,180nm,4.5s
GYA LR LR
comp=Z,860nm,19.1s
GYA LR LR
comp=Z,850nm,20.5s
GYA LR LR
comp=Z,1µm,18.1s
MHMT Maesarieng 31.66 306 P **P** **03 38 51.9 +0.3**
WHN Wuhan 31.82 343 P **P** **03 38 55.8 +3.1**
WHN S **S** **03 43 58.2 +1.5**
WHN LR LR
comp=Z,7µm,21.8s
WHN LR LR
comp=Z,3µm,20.4s
WHN LR LR
comp=Z,4µm,20.6s
JCJ Chichijima 31.88 31 P **P** **03 38 52.6 -0.8**
KLBR Kellerberrin 32.08 191 P **P** **03 38 55.1 0.0**
baz=32,SNR=24
NJ2 Nanjing 32.28 351 *e*P **P** **03 38 57.8 +1.0**
NJ2 pP **pP** **03 39 16.2 -1.3**
NJ2 sP **sP** **03 39 27.3 -0.7**
NJ2 S **S** **03 44 03.4 -0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NJ2 LR LR
comp=Z,1µm,12.8s
NJ2 LR LR
comp=Z,760nm,10.9s
NJ2 LR LR
comp=Z,2µm,15.2s
KMI Kunming 32.58 322⇑ P **P** **03 39 01.9 +2.1**
KMI pP pP 03 39 22.7 +2.2
KMI PP **PP** **03 40 13.8 -1.3**
KMI S **S** **03 44 09.2 0.0**
KMI pmax pmax
comp=Z,17nm,0.9s
KMI pmax pmax
comp=Z,270nm,6.3s
KMI LR LR
comp=Z,770nm,16.5s
KMI LR LR
comp=Z,910nm,16.6s
KMI LR LR
comp=Z,950nm,20.3s
QLP Quilpie 32.63 146 P **P** **03 39 00.7 +0.7**
baz=33,SNR=15
MUN Mundaring 32.77 193 P **P** **03 39 01.4 +0.3**
baz=33,SNR=9.0
ENH Enshi 33.26 336 P **P** **03 39 05.9 +0.5**
ENH IAmb IAmb 03 39 08.1
comp=Z,44nm,0.7s
JNU Nakatsue 33.47 10 IAmb IAmb 03 39 10.8
comp=Z,55nm,0.8s
NWAO Narrogin (SRO) 33.47 191 P **P** **03 39 07.0 -0.2**
comp=Z,49nm,0.8s,baz=19,slow=8.5,SNR=24
NWAO LR LR 03 54 10.6
comp=Z,1µm,19.9s,baz=6.0,slow=39
NWAO Narrogin (SRO) 33.47 191 P **P** **03 39 07.5 +0.3**
baz=34,SNR=19
NWAO Narrogin (SRO) 33.47 191 P **P** **03 39 07.5 +0.3**
NWAO pmax pmax
comp=Z,84nm,1.2s
NWAO Narrogin (SRO) 33.47 191 P **P** **03 39 07.5 +0.3**
NWAO IAmb IAmb 03 39 09.4
comp=Z,84nm,1.1s
BBOO Buckleboo 34.46 163 P **P** **03 39 15.9 +0.1**
baz=35,SNR=44
BBOO Buckleboo 34.46 163 P **P** **03 39 16.3 +0.5**
RMQ Roma 35.28 140 P **P** **03 39 23.3 +0.3**
baz=35,SNR=20
STKA Stephens Creek 35.66 154 P **P** **03 39 27.0 +0.9**
comp=Z,128nm,0.7s,baz=326,slow=9.1,SNR=231
STKA ScP **ScP** **03 45 32.1 +1.1**
comp=Z,10nm,1.0s,baz=85,slow=5.4,SNR=3.8
STKA LR LR 03 57 03.0
comp=Z,384nm,18.3s,baz=329,slow=41
STKA Stephens Creek 35.66 154 P **P** **03 39 26.9 +0.9**
baz=36,SNR=142
STKA Stephens Creek 35.66 154*c i*P **P** **03 39 26.7 +0.6**
STKA Stephens Creek 35.66 154 P **P** **03 39 26.7 +0.6**
STKA IAmb IAmb 03 39 28.1
comp=Z,32nm,0.8s
JHS Saijyo 35.73 12 IAmb IAmb 03 40 08.2
comp=Z,50nm,0.9s
HTT Hallett 35.98 159 P **P** **03 39 29.6 +0.8**
baz=36,SNR=37
EIDS Eidsvold 36.08 136 P **P** **03 39 29.3 -0.5**
baz=36,SNR=4.5
EIDS Eidsvold 36.08 136 P **P** **03 39 28.9 -0.9**
EIDS IAmb IAmb 03 39 52.9
comp=Z,96nm,1.8s
CD2 Chengdu 36.44 329⇓ P **P** **03 39 33.6 +0.8**
CD2 pP pP 03 39 53.6 -0.3
CD2 sP sP 03 40 05.0 +0.7
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,240nm,6.9s
CD2 LR LR
comp=Z,2µm,15.9s
CD2 LR LR
comp=Z,970nm,14.1s

CD2 LR LR
comp=Z,2μm,17.1s
XAN Xi'an 36.82 338 P **P** **03 39 35.4 -0.6**
XAN pmax pmax
comp=Z,12nm,0.7s
XAN pmax pmax
comp=Z,210nm,5.0s
XAN LR LR
comp=Z,2μm,17.1s
XAN LR LR
comp=Z,630nm,13.4s
XAN LR LR
comp=Z,2μm,17.7s
XAN Xi'an 36.82 338 P **P** **03 39 35.0 -1.0**
XAN pmax pmax
comp=Z,35nm,0.8s
XAN Xi'an 36.82 338 P **P** **03 39 35.0 -1.0**
XAN IAmb IAmb 03 39 37.8
comp=Z,35nm,0.8s
INU Inuyama 37.05 17 IAmb IAmb 03 39 41.6
comp=Z,89nm,1.3s
CMSA Cobar Meteorol 37.31 149 P **P** **03 39 41.7 +1.5**
baz=37,SNR=113
KSAR Wonju Array Be 37.36 5 P **P** **03 39 40.6 +0.1**
KSAR Wonju Array Be 37.36 5 P **P** **03 39 40.6 +0.1**
KSRS Korea Array 37.38 5 P **P** **03 39 41.0 +0.4**
comp=Z,8.1nm,1.8nm,0.9s,baz=186,slow=9.5,SNR=19
KSRS ScP **ScP** **03 45 38.2 +1.0**
comp=Z,4.8nm,1.0s,baz=187,slow=3.1,SNR=7.7
KSRS LR LR 03 55 10.5
comp=Z,973nm,21.6s,baz=188,slow=36
KSRS Korea Array 37.38 5 P **P** **03 39 41.0 +0.4**
JGF Kuroka 37.39 17 IAmb IAmb 03 39 43.2
comp=Z,33nm,0.6s
SAIH SAIHA 37.87 308 *e*P **P** **03 39 45.6 +0.4**
SAIH IAmb IAmb 03 39 48.4
comp=Z,59nm,0.9s
IMP Imphal 38.43 312 *e*P **P** **03 39 49.3 -0.4**
IMP IAmb IAmb 03 39 52.0
comp=Z,30nm,1.2s
MJAR Matsushiro Arr 38.52 18 P **P** **03 39 49.6 -0.6**
comp=Z,25nm,0.8s,baz=194,slow=8.5,SNR=42
MJAR ScP **S** **03 45 42.6 +3.2**
comp=Z,8.1nm,1.1s,baz=214,slow=4.6,SNR=7.8
MJAR LR LR 03 54 39.5
comp=Z,773nm,21.8s,baz=210,slow=34
MJAR Matsushiro Arr 38.52 18 P **P** **03 39 49.1 -1.1**
MAJO Matsushiro 38.52 18 *de*P **P** **03 39 49.4 -0.8**
MAJO pmax pmax
comp=Z,31nm,0.7s
MAJO Matsushiro 38.52 18 P **P** **03 39 49.5 -0.8**
MAJO IAmb IAmb 03 40 15.8
comp=Z,39nm,0.8s
MAT Matsushiro 38.52 18 P **P** **03 39 49.4 -0.9**
MAT S **S** **03 45 35.7 -3.7**
DL2 Dalian 38.77 357 P **P** **03 39 52.8 +0.5**
DL2 pP **pP** **03 40 11.3 -2.2**
DL2 S **S** **03 45 41.9 -1.2**
DL2 pmax pmax
comp=Z,26nm,0.6s
DL2 LR LR
comp=Z,820nm,19.0s
DL2 LR LR
comp=Z,1μm,20.7s
DL2 LR LR
comp=Z,1μm,23.0s
KOHI KOHIMA 38.83 313 *e*P **P** **03 39 52.7 -0.5**
KOHI IAmb IAmb 03 39 55.8
comp=Z,45nm,0.5s
TIY Taiyuan 39.09 345 *e*P **P** **03 39 56.3 +1.2**
TIY S **S** **03 45 49.9 +1.7**
TIY pmax pmax
comp=Z,14nm,0.7s
TIY LR LR
comp=Z,270nm,10.3s
TIY LR LR
comp=Z,560nm,16.1s
TIY LR LR
comp=Z,960nm,18.5s
ARMA Armidale 39.83 142 P **P** **03 40 02.9 +1.5**
baz=40,SNR=42
ARMA Armidale 39.83 142 P **P** **03 40 02.0 +0.5**
ARMA IAmb IAmb 03 40 04.1
comp=Z,42nm,0.8s
JSD Sado 39.91 17 IAmb IAmb 03 40 04.4
comp=Z,39nm,0.7s
ARPS Mount Arapiles 40.02 158 P **P** **03 40 04.2 +1.5**
baz=40,SNR=22
SHL Shillong 40.38 311 *e*P **P** **03 40 06.5 +0.4**
SHL IAmb IAmb 03 40 09.8
comp=Z,18nm,0.5s
BJT Baijiatuau 40.50 350 P **P** **03 40 06.4 -0.3**
BJT pmax pmax
comp=Z,23nm,1.1s
BJT Baijiatuau 40.50 350 P **P** **03 40 06.4 -0.3**
BJI Beijing 40.52 350 P **P** **03 40 07.0 +0.2**
BJI sP **sP** **03 40 37.0 -1.5**
BJI PcS **PcS** **03 45 57.4 -0.9**
BJI S **S** **03 46 08.0 -1.3**
BJI pmax pmax
comp=Z,11nm,0.7s
BJI pmax pmax
comp=Z,100nm,4.2s
BJI LR LR
comp=Z,700nm,35.7s
BJI LR LR
comp=Z,400nm,32.7s
BJI LR LR
comp=Z,2μm,34.1s
JMM Marumori 40.57 20 ⇑P **P** **03 40 06.8 -0.4**
LZH Lanzhou 40.65 334 ⇑P **P** **03 40 09.0 +0.8**
LZH pP pP 03 40 31.0 +1.5
LZH sP sP 03 40 42.1 +2.2
LZH S **S** **03 46 09.6 -2.1**
LZH pmax pmax
comp=Z,60nm,1.2s
LZH pmax pmax
comp=Z,160nm,4.3s
LZH LR LR
comp=Z,1μm,14.1s
LZH LR LR
comp=Z,1μm,13.6s
LZH LR LR
comp=Z,1μm,16.3s
GUWA GUWAHATI 40.88 312 *e*P **P** **03 40 09.3 -0.7**
YNG Young 40.88 149 P **P** **03 40 10.6 +0.7**
baz=41,SNR=17
SNY Shenyang 41.61 359 ⇓P **P** **03 40 15.2 -0.5**
SNY S **S** **03 46 21.4 -4.0**
SNY pmax pmax
comp=Z,6.0nm,0.5s
SNY pmax pmax
comp=Z,160nm,6.4s
SNY LR LR
comp=Z,970nm,21.3s
SNY LR LR
comp=Z,460nm,11.8s
SNY LR LR
comp=Z,2μm,23.9s
CAN Canberra 41.99 149 P **P** **03 40 20.5 +1.5**
CAN pmax pmax
comp=Z,75nm,0.8s
CAN Canberra 41.99 149 P **P** **03 40 20.5 +1.5**
CAN IAmb IAmb 03 40 22.2
comp=Z,75nm,0.8s
CNB Canberra Magne 42.17 149 P **P** **03 40 22.0 +1.6**
baz=42,SNR=24
TOO Toolangi 42.18 155 P **P** **03 40 21.4 +0.9**
baz=42,SNR=17
TOO Toolangi 42.18 155 P **P** **03 40 21.5 +1.0**
TOO pmax pmax
comp=Z,239nm,1.5s
TOO Toolangi 42.18 155 P **P** **03 40 21.5 +1.0**
HHC Hu-ho-hao-te 42.27 345 *e*P **P** **03 40 22.9 +1.6**
HHC S **S** **03 46 35.5 +0.1**
HHC ScS **ScS** **03 50 12.9 -1.6**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,110nm,5.5s
HHC LR LR
comp=Z,890nm,15.1s
HHC LR LR
comp=Z,350nm,16.5s
HHC LR LR
comp=Z,1μm,17.1s

BTO Baotou 42.45 344 P **P** **03 40 24.2 +1.4**
BTO LR LR
comp=Z,3μm,19.6s
BTO LR LR
comp=Z,3μm,20.6s
JTM Tenmabayashi 43.30 19 IAmb IAmb 03 40 56.2
comp=Z,94nm,1.0s
LSA Lhasa 43.30 316 P **P** **03 40 31.0 +0.8**
LSA pmax pmax
comp=Z,76nm,0.7s
LSA Lhasa 43.30 316 P **P** **03 40 30.5 +0.3**
LSA pmax pmax
comp=Z,32nm,0.6s
LSA Lhasa 43.30 316 P **P** **03 40 30.5 +0.3**
LSA IAmb IAmb 03 40 33.4
comp=Z,32nm,0.6s
PALK Pallekele 44.18 280 *ce*P **P** **03 40 35.3 -1.7**
PALK pmax pmax
comp=Z,29nm,1.8s
PALK Pallekele 44.18 280 P **P** **03 40 36.3 -0.7**
ODAN Odare 44.48 310 *e*P **P** **03 40 39.6 +0.2**
comp=Z,38nm,0.5s
TAPN Taplejung 44.49 311 *e*P **P** **03 40 39.7 +0.1**
comp=Z,35nm,0.4s
USA0B Ussuriysk Arra 44.49 8 *d i*P **P** **03 40 39.0 +0.1**
USA0B Ussuriysk Arra 44.49 8 P **P** **03 40 39.1 +0.1**
USA0B IAmb IAmb 03 40 42.7
comp=Z,40nm,0.8s
USRK Ussuriysk Ar. 44.49 8 P **P** **03 40 39.5 +0.6**
comp=Z,30nm,0.6s,baz=194,slow=6.5,SNR=67
USRK ScP **ScP** **03 46 05.1 0.0**
comp=Z,7.8nm,1.1s,baz=214,slow=6.5,SNR=5.3
USRK LR LR 03 58 30.1
comp=Z,469nm,21.6s,baz=181,slow=35
USRK Ussuriysk Ar. 44.49 8 P **P** **03 40 38.7 -0.2**
MDJ Mudanjiang 44.63 5 P **P** **03 40 40.7 +0.7**
MDJ pP pP 03 41 01.4 -0.2
MDJ sP sP 03 41 11.1 -0.8
MDJ S **S** **03 47 11.8 +2.3**
MDJ sS sS 03 47 48.2 +3.6
MDJ pmax pmax
comp=Z,79nm,0.7s
MDJ pmax pmax
comp=Z,320nm,4.4s
MDJ LR LR
comp=Z,1μm,24.9s
MDJ LR LR
comp=Z,650nm,14.7s
MDJ LR LR
comp=Z,2μm,27.6s
MDJ Mudanjiang 44.63 5 P **P** **03 40 39.9 -0.2**
SANVU Saraoutou 44.97 112 P **P** **03 40 44.0 +0.8**
SANVU Saraoutou 44.97 112 P **P** **03 40 45.9 +2.8**
ERM Erimo 45.09 20 ⇓*e*P **P** **03 40 45.3 +1.6**
ERM pmax pmax
comp=Z,38nm,1.0s
RAMN Ramite 45.13 309 *e*P **P** **03 40 45.0 +0.3**
comp=Z,93nm,0.6s
GTA Gaotai 45.19 333 ⇑P **P** **03 40 44.8 0.0**
GTA pP pP 03 41 07.2 +0.9
GTA sP sP 03 41 17.8 +1.3
GTA S **S** **03 47 15.3 -2.8**
GTA ScS **ScS** **03 50 31.8 -1.2**
GTA pmax pmax
comp=Z,56nm,1.1s
GTA pmax pmax
comp=Z,170nm,5.6s
GTA LR LR
comp=Z,970nm,17.1s
GTA LR LR
comp=Z,1μm,15.6s
GTA LR LR
comp=Z,2μm,17.1s
TEY Ternei 46.10 12 ⇓*e*P **P** **03 40 52.0 +0.4**
TEY pmax pmax
comp=Z,60nm,0.6s
TEY pmax pmax
comp=N,40nm,0.8s
TEY pmax pmax
comp=E,20nm,0.6s
GUN Gumba 46.17 310 *e*P **P** **03 40 52.9 0.0**
comp=E,91nm,0.7s
NOUC Port Laguerre 46.36 121 P **P** **03 40 53.5 -0.5**
PKI Pulchoki 46.36 309 *e*P **P** **03 40 54.0 -0.4**
comp=E,29nm,0.6s
PKIN Phulchoki 46.38 309 *e*P **P** **03 40 53.9 -0.5**
comp=E,21nm,0.3s
DZM Mont Dzumac 46.47 121 *e*P **P** **03 40 55.4 +0.4**
comp=E,70nm,1.2s
DZM Mont Dzumac 46.47 121 *e*LR LR 03 54 02.5
comp=E,1μm,30.4s
DZM Mont Dzumac 46.47 121 P **P** **03 40 55.7 +0.7**
DZM IAmb IAmb 03 40 57.5
comp=Z,93nm,1.7s
DZM Mont Dzumac 46.47 121 P **P** **03 40 56.6 +1.6**
KKN Kakani 46.57 310 *e*P **P** **03 40 55.6 -0.3**
comp=Z,78nm,0.9s
DMN Daman 46.62 309 *e*P **P** **03 40 56.2 -0.1**
comp=Z,50nm,1.0s
JKA Kamikawa-asahi 46.79 18 IAmb IAmb 03 41 28.9
comp=Z,34nm,0.9s
YATNC Mamie plateau, 46.84 121 P **P** **03 41 00.0 +2.1**
OUENC Ouen Island, N 46.94 121 P **P** **03 40 59.7 +1.1**
GKN Gorkha 47.17 310 *e*P **P** **03 40 59.9 -0.6**
comp=Z,74nm,0.6s
YUK Yuzh-Kuril'sk 47.80 21 *e*P **P** **03 41 03.5 -1.4**
YUK *e*S **S** **03 47 54.1 -0.8**
HYB Hyderabad 48.31 293 *i*P **P** **03 41 08.0 -1.4**
HYB Hyderabad 48.31 293 *e*P **P** **03 41 07.3 -2.0**
HYB IAmb IAmb 03 41 10.3
comp=Z,436nm,2.5s
YSS Yuzh-Sakhalins 49.41 16 ⇑*e*P **P** **03 41 16.9 -0.2**
YSS *e* 03 41 37.4
YSS *e**SP **sP** **03 41 51.0 +2.1**
YSS *e*S **S** **03 48 14.2 -3.2**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS pmax pmax
comp=Z,300nm,3.7s
YSS Yuzh-Sakhalins 49.41 16 P **P** **03 41 17.0 -0.2**
YSS IAmb IAmb 03 42 27.7
comp=Z,29nm,0.8s
KLR Kul'dur 49.41 6 *c i*P **P** **03 41 17.0 -0.2**
KLR pmax pmax
comp=Z,30nm,0.6s
ULN Ulaanbaatar 49.98 345 *c i*P **P** **03 41 21.0 -0.7**
ULN pmax pmax
comp=Z,53nm,1.7s
ULN Ulaanbaatar 49.98 345 P **P** **03 41 21.3 -0.4**
ULN IAmb IAmb 03 41 24.3
comp=Z,23nm,0.8s
SONM Songino Array 50.12 344 P **P** **03 41 22.2 -0.6**
comp=Z,21nm,0.7s,baz=157,slow=9.0,SNR=84
SONM ScP **ScP** **03 46 30.4 +1.5**
comp=Z,7.1nm,1.0s,baz=149,slow=4.3,SNR=7.6
SONM LR LR 04 03 58.8
comp=Z,797nm,20.8s,baz=157,slow=38
SONM Songino Array 50.12 344 P **P** **03 41 22.4 -0.4**
SONM pmax pmax
comp=Z,20nm,0.8s
SONM Songino Array 50.12 344 P **P** **03 41 22.4 -0.4**
SONM IAmb IAmb 03 41 25.3
comp=Z,20nm,0.8s
BHPL Bhopal 51.12 300 *e*P **P** **03 41 28.5 -2.1**
BHPL IAmb IAmb 03 41 31.3
comp=Z,28nm,0.5s
GRNR Gornyy 51.57 10 ⇓*i*P **P** **03 41 34.6 +1.2**
GRNR pmax pmax
comp=N,9.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,1.1s
DGAR Diego Garcia 52.33 261 *de*P **P** **03 41 38.5 -1.2**
DGAR pmax pmax
comp=Z,98nm,1.5s
DGAR Diego Garcia 52.33 261 P **P** **03 41 38.5 -1.2**
POO Poona 52.92 293 *e*P **P** **03 41 40.0 -4.0**
TYV Tymovskoe 52.97 14 *e*P **P** **03 41 44.7 +1.0**
TYV *e*S **S** **03 49 09.9 +3.6**
TYV pmax pmax
comp=Z,15nm,1.5s
TYV pmax pmax
comp=Z,200nm,3.8s
TYV smax smax
comp=E,900nm,7.9s
ZAK Zakamensk 53.30 343 *e*P **P** **03 41 45.2 -1.2**

ZAK pmax pmax
comp=Z,13nm,1.1s
NDI New Delhi 53.32 307 *ex* **P** **03 41 46.0 -0.8**
DDI Dehra Dun 53.34 309 *e*P **P** **03 41 46.2 -0.8**
ZEA Zeya 53.58 2 *e*P **P** **03 41 48.1 0.0**
ZEA *e**PP **pP** **03 42 08.6 -1.5**
ZEA *e*S **S** **03 49 17.4 +2.9**
ZEA *e* 03 51 30.6
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,40nm,0.9s
ZEA pmax pmax
comp=Z,100nm,2.0s
ZEA smax smax
comp=N,200nm,5.6s
TLY Talaya 54.37 344 P **P** **03 41 54.3 +0.3**
comp=N,22nm,0.7s,baz=208,slow=6.9,SNR=28
TLY Talaya 54.37 344 *e*P **P** **03 41 53.5 -0.5**
TLY *e*S **S** **03 49 29.4 +4.1**
TLY pmax pmax
comp=Z,59nm,0.8s
TLY MLR MLR
comp=E,2μm,19.0s
TLY Talaya 54.37 344 P **P** **03 41 54.2 +0.2**
TLY IAmb IAmb 03 41 57.0
comp=Z,23nm,0.7s
SMLA Simla 54.38 309 *e*P **P** **03 41 53.8 -0.6**
SMLA IAmb IAmb 03 41 59.0
comp=Z,69nm,0.3s
SMLA *i* sP sP 03 42 34.9 +9.2
WMQ Urumqi 54.51 328 *e*P **P** **03 41 55.2 0.0**
WMQ pP pP 03 42 19.2 +1.6
WMQ sP sP 03 42 27.8 +0.1
WMQ pmax pmax
comp=Z,52nm,1.1s
WMQ pmax pmax
comp=Z,240nm,3.9s
WMQ LR LR
comp=Z,960nm,19.3s
WMQ LR LR
comp=Z,670nm,26.9s
WMQ LR LR
comp=Z,720nm,23.1s
WMQ Urumqi 54.51 328 IAmb IAmb 03 41 59.3
comp=Z,46nm,1.1s
MOY Mondy 55.12 342 *e*P **P** **03 41 59.5 0.0**
MOY pmax pmax
comp=Z,38nm,1.3s
DHRM DHARAMSHALA 55.53 310 *e*P **P** **03 42 00.9 -2.0**
DHRM IAmb IAmb 03 42 06.3
comp=Z,86nm,0.4s
BOD Bodaibo 58.21 353 *e*P **P** **03 42 21.2 +0.1**
BOD pmax pmax
comp=Z,39nm,1.1s
ZSN Zaisan 58.42 330 *e*P **P** **03 42 21.5 -1.4**
comp=Z,14nm,1.2s,baz=329
ZSN Zaisan 58.42 330 *e*P **P** **03 42 21.4 -1.4**
ZSN pmax pmax
comp=Z,13nm,1.2s
NIL Nilore 58.44 310 P **P** **03 42 22.3 -1.0**
NIL pmax pmax
comp=Z,25nm,0.6s
NIL Nilore 58.44 310 P **P** **03 42 22.3 -1.0**
NIL IAmb IAmb 03 42 26.8
comp=Z,25nm,0.6s
DGZ Jazzator, Alta 58.73 333 *c i*P **P** **03 42 24.7 -0.4**
DGZ pmax pmax
comp=Z,25nm,1.2s
SHLS Shalkode 58.78 323 *e*P **P** **03 42 23.1 -2.5**
comp=Z,28nm,1.1s,baz=323
SHLS *e*S **S** **03 50 20.6 -3.6**
baz=323
SHLS Shalkode 58.78 323 *e*P **P** **03 42 23.1 -2.5**
SHLS *e*S **S** **03 50 20.5 -3.6**
SHLS pmax pmax
comp=Z,28nm,1.1s
JCZ Jackson Bay 59.01 144 P **P** **03 42 27.4 +0.3**
UZB Uzynbulak 59.05 323 *e*P **P** **03 42 26.3 -1.2**
comp=Z,14nm,0.8s,baz=322
UZB Uzynbulak 59.05 323 *e*P **P** **03 42 26.3 -1.2**
UZB pmax pmax
comp=Z,14nm,0.8s
KSH Kashi 59.10 318 P **P** **03 42 28.5 +0.6**
KSH S **S** **03 50 29.9 +1.5**
KSH ScS **ScS** **03 52 02.5 -7.3**
KSH pmax pmax
comp=Z,92nm,1.3s
KSH pmax pmax
comp=Z,290nm,3.5s
KSH LR LR
comp=Z,1μm,14.8s
KSH LR LR
comp=Z,590nm,11.6s
KSH LR LR
comp=Z,2μm,28.7s
MK31 Makanchi Array 59.34 328 *ce*P **P** **03 42 28.3 -0.9**
MK31 Makanchi Array 59.34 328 P **P** **03 42 28.6 -0.7**
MK31 IAmb IAmb 03 42 31.5
comp=Z,19nm,0.8s
MKAR Makanchi Array 59.34 328 P **P** **03 42 28.4 -0.8**
comp=Z,18nm,0.5s,baz=124,slow=8.5,SNR=164
MKAR ScP **ScP** **03 47 09.8 +0.7**
comp=Z,4.4nm,0.7s,baz=127,slow=4.7,SNR=5.0
MKAR LR LR 04 11 19.1
comp=Z,668nm,18.1s,baz=118,slow=39
MKAR PKPPKP **P'P'df** **04 11 59.6 -0.1**
comp=Z,0.7nm,0.9s,baz=350,slow=2.7,SNR=4.5
MKAR Makanchi Array 59.34 328 *i* P **P** **03 42 28.3 -1.0**
MKAR pmax pmax
comp=Z,18nm,0.5s
MKAR Makanchi Array 59.34 328 P **P** **03 42 28.2 -1.0**
SATY Saty 59.37 322 *e*P **P** **03 42 28.7 -1.0**
comp=Z,28nm,1.0s,baz=322
SATY Saty 59.37 322 *e*P **P** **03 42 28.7 -1.0**
SATY pmax pmax
comp=Z,28nm,1.0s
MLZ Mavora Lakes 59.39 146 P **P** **03 42 31.1 +1.4**
KPKS Kokpek 59.43 323 *e*P **P** **03 42 29.1 -1.0**
comp=Z,42nm,1.1s,baz=323
KPKS Kokpek 59.43 323 *e*P **P** **03 42 29.0 -1.0**
KPKS pmax pmax
comp=Z,42nm,1.1s
WHZ Wether Hill Ro 59.61 146 P **P** **03 42 31.6 +0.5**
MKAZ Moumakai 59.63 134 P **P** **03 42 32.9 +1.5**
PEA0B Petropavlovsk- 59.71 23 ⇑*e*P **P** **03 42 33.6 +2.0**
PETK Petropavlovsk- 59.71 23 P **P** **03 42 33.1 +1.5**
comp=Z,14nm,0.6s,baz=189,slow=3.8,SNR=46
PETK LR LR 04 07 56.6
comp=Z,182nm,21.3s,baz=210,slow=36
RPZ Rata Peaks 60.17 143 P **P** **03 42 36.5 +1.6**
comp=Z,38nm,0.8s,baz=265,slow=2.3,SNR=19
RPZ LR LR 04 07 52.8
comp=Z,466nm,22.0s,baz=312,slow=35
RPZ Rata Peaks 60.17 143 P **P** **03 42 35.5 +0.5**
APZ The Paps 60.20 147 P **P** **03 42 35.7 +0.5**
TNSS Tian-Shan 60.26 322 *e*P **P** **03 42 35.8 -0.4**
baz=321
TNSS Tian-Shan 60.26 322 *e*P **P** **03 42 35.7 -0.4**
MDOK Medeo 60.27 322 *e*P **P** **03 42 34.9 -0.9**
baz=322
MDOK Medeo 60.27 322 *e*P **P** **03 42 34.9 -0.9**
AAA Alma-Ata 60.37 322 *e*P **P** **03 42 35.9 -0.6**
comp=Z,26nm,1.0s,baz=322
AAA Alma-Ata 60.37 322 *e*P **P** **03 42 35.8 -0.6**
AAA pmax pmax
comp=Z,26nm,1.0s
TDK Taldyqorghan 60.45 324 *e*P **P** **03 42 35.9 -1.0**
comp=Z,36nm,1.1s,baz=324
TDK Taldyqorghan 60.45 324 *e*P **P** **03 42 35.9 -1.0**
TDK pmax pmax
comp=Z,36nm,1.1s
CHKK Chushkaly 60.67 322 *e*P **P** **03 42 37.3 -1.2**
baz=322
CHKK Chushkaly 60.67 322 *e*P **P** **03 42 37.2 -1.2**
KHZ Kahutara 61.04 140 P **P** **03 42 41.4 +0.5**
TKM2 Tokmak 2 61.05 321 P **P** **03 42 41.1 -0.1**
SNR=25
KUU Kurty 61.09 322 *e*P **P** **03 42 39.9 -1.4**
comp=Z,40nm,0.6s,baz=322
KUU Kurty 61.09 322 *e*P **P** **03 42 39.8 -1.4**
KUU pmax pmax
comp=Z,40nm,0.6s
MQZ McQueen's Vall 61.14 142 P **P** **03 42 43.5 +2.0**
KBK Karagaybulak 61.33 320 P **P** **03 42 43.2 +0.1**
SNR=24

UCH	Uchtor	61.39	320	P	P	03 42 44.4	+0.5
	SNR=33						
BHW	Baring Head	61.41	139	P	P	03 42 41.1	-2.3
URZ	Urewera	61.53	135	LR	LR	04 11 12.5	
	comp=Z,215nm,19.3s,baz=218,slow=38						
HOWZ	Holdsworth Sta	61.60	138	P	P	03 42 46.5	+1.8
AAK	Ala-Archa	61.61	320	P	P	03 42 45.1	+0.1
	SNR=14						
AAK	Ala-Archa	61.61	320⇓	iP	P	03 42 45.3	+0.3
AAK				pmax	pmax		
	comp=Z,139nm,1.7s						
AAK	Ala-Archa	61.61	320	P	P	03 42 45.0	+0.1
AAK				IAmb	IAmb	03 42 47.2	
	comp=Z,22nm,0.9s						
MTW	Mount Morrison	61.71	138	P	P	03 42 46.9	+1.4
PLWZ	Palliser	61.74	139	P	P	03 42 46.6	+0.9
AML	Almayashu	61.88	319	P	P	03 42 46.9	-0.2
	SNR=42						
USP	Ospenovka	61.92	321	P	P	03 42 46.4	-0.5
	SNR=38						
SGDS	Sogindy	61.93	321	eP	P	03 42 45.6	-1.4
	comp=Z,7.4nm,0.8s,baz=321						
SGDS	Sogindy	61.93	321	eP	P	03 42 45.6	-1.4
SGDS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TMWZ	Te Maipa	61.95	138	P	P	03 42 46.5	-0.6
TRWZ	Traveller	61.95	138	P	P	03 42 47.6	+0.6
YAK	Yakutsk	61.97	3c	iP	P	03 42 46.8	+0.1
YAK				pmax	pmax		
	comp=Z,94nm,0.6s						
YAK	Yakutsk	61.97	3	P	P	03 42 46.4	-0.4
KBL	Kabul	62.00	310	P	P	03 42 46.8	-1.0
KBL				pmax	pmax		
	comp=Z,45nm,0.8s						
KBL	Kabul	62.00	310	P	P	03 42 46.8	-1.0
EKS2	Erkin-Say	62.08	320	P	P	03 42 47.9	-0.2
	SNR=34						
SEM	Semipalatinsk	62.65	330	eP	P	03 42 49.4	-2.4
	baz=330						
SEM	Semipalatinsk	62.65	330	eP	P	03 42 49.4	-2.4
MA2	Magadan	62.84	15	LR	LR	04 08 24.7	
	comp=Z,275nm,22.0s,baz=223,slow=34						
MA2	Magadan	62.84	15c	iP	P	03 42 53.6	+1.0
MA2				pmax	pmax		
	comp=Z,23nm,0.6s						
MA2	Magadan	62.84	15	P	P	03 42 53.1	+0.5
ZALV	Zalesovo Beam	62.88	335	P	P	03 42 51.2	-1.7
	comp=Z,6.4nm,0.3s,baz=134,slow=6.4,SNR=27						
ZALV				LR	LR	04 11 33.1	
	comp=Z,489nm,20.6s,baz=136,slow=37						
BTLS	Baital	63.09	322	eP	P	03 42 53.0	-1.5
	comp=Z,6.0nm,0.8s,baz=322						
BTLS	Baital	63.09	322	eP	P	03 42 53.0	-1.5
BTLS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	Kurchatov	63.66	329c	iP	P	03 42 57.2	-1.0
KURK				pmax	pmax		
	comp=Z,93nm,1.3s						
KURK	Kurchatov	63.66	329	P	P	03 42 57.1	-1.0
DZA	Taraz	63.78	319	eP	P	03 42 57.5	-1.7
	baz=319						
DZA	Taraz	63.78	319	eP	P	03 42 57.5	-1.7
IUG	Iuzhnay	64.31	318	eP	P	03 43 01.3	-1.5
	comp=Z,11nm,1.0s,baz=318						
IUG	Iuzhnay	64.31	318	eP	P	03 43 01.3	-1.5
IUG				pmax	pmax		
	comp=Z,11nm,1.0s						
KKAR	Karatay Array	64.41	319	P	P	03 43 02.5	-0.8
KKAR	Karatay Array	64.41	319	P	P	03 43 02.5	-0.8
TAS	Tashkent	64.46	317	P	P	03 43 03.2	-0.5
TAS				pmax	pmax		
	comp=Z,140nm,0.3s						
TAS	Tashkent	64.46	317	P	P	03 43 03.2	-0.5
AFI	Afiamalu	64.63	105	LR	LR	04 11 54.3	
	comp=Z,105nm,20.7s,baz=285,slow=36						
SEY	Seymchan	66.14	14⇑	eP	P	03 43 14.3	+0.3
BRZS	Berezniki	66.41	326	eP	P	03 43 14.4	-1.7
	comp=Z,12nm,1.0s,baz=326						
BRZS	Berezniki	66.41	326	eP	P	03 43 14.3	-1.7
BRZS				pmax	pmax		
	comp=Z,12nm,1.0s						
CASY	Casey	66.91	186	P	P	03 43 19.4	+0.6
CASY				IAmb	IAmb	03 43 21.9	
	comp=Z,90nm,1.4s						
BRVK	Borovoye	69.26	328c	iP	P	03 43 32.8	-1.1
BRVK				pmax	pmax		
	comp=Z,49nm,1.3s						
BRVK	Borovoye	69.26	328	P	P	03 43 33.0	-0.9
BRVK				IAmb	IAmb	03 43 35.4	
	comp=Z,33nm,1.0s						
SOCY	Socotra	70.87	283	P	P	03 43 43.2	-1.4
SOCY				IAmb	IAmb	03 43 44.9	
	comp=Z,70nm,1.1s						
GEYT	Alibeck	71.44	310	P	P	03 43 47.2	-0.4
	comp=Z,5.4nm,0.6s,baz=126,slow=7.7,SNR=9.5						
GEYT	Alibeck	71.44	310	P	P	03 43 46.8	-0.8
TIXI	Tiksi	71.56	1c	eP	P	03 43 47.0	-0.5
TIXI				pmax	pmax		
	comp=Z,176nm,1.3s						
TIXI	Tiksi	71.56	1	P	P	03 43 47.2	-0.3
NRIK	Noril'sk	73.47	347	P	P	03 43 58.8	-0.1
	comp=Z,28nm,0.6s,baz=128,slow=5.5,SNR=52						
NRIK				LR	LR	04 18 58.3	
	comp=Z,634nm,21.7s,baz=147,slow=38						
NRIK	Noril'sk	73.47	347c	iP	P	03 43 58.7	-0.2
NRIK				pmax	pmax		
	comp=Z,27nm,0.6s						
NRIK	Noril'sk	73.47	347	IAmb	IAmb	03 43 59.8	
	comp=Z,31nm,0.6s						
AB31	Akbulak array	73.57	322⇑	eP	P	03 43 58.6	-1.3
AB31				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ABKAR	Akbulak array	73.57	322	P	P	03 43 58.7	-1.2
SVE	Sverdlovsk	75.91	329	eP	P	03 44 12.3	-1.0
SVE				pmax	pmax		
	comp=Z,58nm,1.0s						
ARU	Arti	76.84	329c	iP	P	03 44 17.2	-1.3
ARU						03 47 08.8	
ARU				S	S	03 53 58.0	-0.8
ARU				pmax	pmax		
	comp=Z,34nm,0.9s						
ARU	Arti	76.84	329	P	P	03 44 17.1	-1.3
ARU				IAmb	IAmb	03 44 20.2	
	comp=Z,27nm,0.8s						
ABPO	Ambohimpanom	77.90	251	P	P	03 44 25.9	+0.5
ABPO				pmax	pmax		
	comp=Z,39nm,1.0s						
ABPO	Ambohimpanom	77.90	251	P	P	03 44 25.9	+0.5
ABPO				IAmb	IAmb	03 44 26.7	
	comp=Z,39nm,1.0s						
RDF	Al-Radifah	78.49	299	eP		03 44 25.3	
MIB	Mutribah	78.77	300	eP		03 44 27.3	
MAW	Mawson	79.51	200	LR	LR	04 13 53.6	
	comp=Z,734nm,21.6s,baz=50,slow=31						
RAYN	Ar Rayn	79.82	294	P	P	03 44 34.6	-1.1
RAYN				pmax	pmax		
	comp=Z,16nm,1.0s						
RAYN	Ar Rayn	79.82	294	P	P	03 44 34.6	-1.1
VNDA	Vanda	80.08	172	P	P	03 44 35.8	-0.2
	comp=Z,12nm,0.8s,baz=320,slow=7.6,SNR=23						
VNDA				LR	LR	04 18 50.7	
	comp=Z,366nm,20.6s,baz=342,slow=35						
VNDA	Vanda	80.08	172	P	P	03 44 37.0	+1.0
VNDA				IAmb	IAmb	03 45 52.5	
	comp=Z,45nm,1.2s						
SDPT	Sand Point	81.53	34	P	P	03 44 44.8	+0.7
SDPT	Sand Point	81.53	34	P		03 44 44.9	
	baz=258						
ANM	Nome	81.56	24	P		03 44 45.8	
	baz=252						
BELG	Belogornoye	81.92	323c	iP	P	03 44 44.6	-1.6
BELG				pmax	pmax		
	comp=Z,13nm,0.9s						
KIRV	Kirov	82.18	329⇓	iP	P	03 44 46.6	-0.8
ZEI	Tsey	83.01	313	eP	P	03 44 51.3	-1.1
ZEI				pmax	pmax		
	comp=Z,31nm,1.4s						
BGD	Bogdanovka	83.07	311	P	P	03 44 53.5	+0.8
AKH	Akhalkalaki	83.16	312	⇑P	P	03 44 53.6	+0.4
AKH	Akhalkalaki	83.16	312	P	P	03 44 53.5	+0.4
GEVA	Gevas	83.19	308	P	P	03 44 52.8	-0.6
NCK	Nalchik	83.31	314⇓	iP	P	03 44 53.4	-0.3
NCK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ONI	Oni	83.32	313	P	P	03 44 55.7	+1.9
KARS	Kars	83.39	311	P	P	03 44 54.9	+0.6
RDOG	Red Dog Mine	83.55	21	IAmb	IAmb	03 45 37.9	
	comp=Z,48nm,1.1s						
RDOG	Red Dog Mine	83.55	21	P		03 44 55.9	
	baz=254						
KBZ	Khabaz	83.84	314	P	P	03 44 55.7	-0.6
	comp=Z,6.0nm,0.8s,baz=108,slow=4.8,SNR=12						
KBZ				LR	LR	04 27 08.5	
	comp=Z,168nm,20.0s,baz=78,slow=39						
KBZ	Khabaz	83.84	314⇑	iP	P	03 44 55.4	-0.9
KBZ				pmax	pmax		
	comp=Z,12nm,0.9s						
GOF	Gofitskoye	83.87	315⇑	eP	P	03 44 51.9	-4.6
NEY	Neytrino	83.92	313⇑	eP	P	03 44 57.9	+0.9
NEY				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KIV	Kislovodsk	84.01	314	iP	P	03 44 53.8	-3.6
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TTA	Tatalina	85.22	27	P		03 45 04.2	
	baz=261						
VRH	Novokhopyorsk	85.39	321	eP	P	03 45 02.4	-1.5
VRH				pmax	pmax		
	comp=Z,50nm,1.4s						
FURI	Furi	85.78	279	P	P	03 45 08.4	+1.3
OHAK	Old Harbor	85.79	33	P		03 45 05.9	
	baz=264						
SOC	Sochi	86.13	314	eP	P	03 44 56.8	-11
SOC				MLR	MLR		
	comp=Z,120nm,19.0s						
PPT	Papeete	86.20	108	LR	LR	04 19 28.0	
	comp=Z,60nm,21.4s,baz=268,slow=33						
PPT2	Papeete2	86.20	108	eS	S	03 55 32.9	-4.1
	comp=Z,857nm,29.2s						
PPT2	Papeete2	86.20	108	eLR	LR	04 12 26.5	
	comp=Z,611nm,28.5s						
KDAK	Kodiak Island	86.23	32	P		03 45 09.7	
	baz=264						
TBI	Tubuai	86.45	113	eS	S	03 55 34.1	-5.0
	comp=Z,232nm,29.5s						
TBI	Tubuai	86.45	113	eLR	LR	04 12 41.8	
	comp=Z,643nm,37.8s						
IMAR	Indian Mountai	86.64	24	P	P	03 45 10.2	+0.3
MALT	Malatya	86.82	308	P	P	03 45 11.6	+0.1
VORD	Divnogorie	86.89	321	eP	P	03 45 09.7	-1.6
VORD				pmax	pmax		
	comp=Z,30nm,0.7s						
PPLA	Purkeypile	86.95	27	P		03 45 12.2	
	baz=264						
PPLA	Purkeypile	86.95	27	IAmb	IAmb	03 46 32.3	
	comp=Z,44nm,1.7s						
VSR	Storozhevoye	86.99	321	eP	P	03 45 09.6	-2.2
VSR				pmax	pmax		
	comp=Z,30nm,0.8s						
KMBO	Kilima Mbogo	87.16	269	P	P	03 45 13.4	-0.4
	comp=Z,11nm,0.8s,baz=65,slow=8.7,SNR=27						
KMBO				LR	LR	04 21 22.2	
	comp=Z,234nm,20.8s,baz=92,slow=34						
SKT	Skwentna	87.17	28	P		03 45 11.9	
	baz=265						
LPSR	Galich'ya Gora	87.22	322	eP	P	03 45 11.6	-1.3
LPSR				pmax	pmax		
	comp=Z,30nm,0.9s						
BRLK	Bradley Lake	87.29	30	IAmb	IAmb	03 45 56.7	
	comp=Z,22nm,1.0s						
BRSE	Bradley Lake S	87.36	30	P		03 45 13.7	
	baz=266						
KLMR	Klimovskoe	87.47	331	eP	P	03 45 11.7	-2.2
KLMR				pmax	pmax		
	comp=Z,26nm,1.2s						
KLMR	Klimovskoe	87.47	331	eP	P	03 45 11.7	-2.2
KLMR				AMP		03 45 13.2	
	comp=Z,26nm,1.2s						
SUA	Susitna One	87.50	29	P		03 45 14.0	
	baz=266,SNR=9.7						
MLY	Manley	87.79	25	P		03 45 15.9	
	baz=265						
TRF	Thorofare Moun	87.86	27	P		03 45 16.0	
	baz=266						
O22K	Cooper Landing	87.93	30	P		03 45 16.2	
	baz=266						
RC01	Rabbit Creek A	87.96	29	P		03 45 16.0	
	baz=266						
SEW	Seward	88.04	30	IAmb	IAmb	03 45 19.7	
	comp=Z,29nm,1.2s						
SEW	Seward	88.04	30	P		03 45 17.0	
	baz=267,SNR=8.6						
MOS	Moscow	88.16	326	eP	P	03 45 14.9	-2.4
MOS				e		03 45 38.2	
MOS				eS	SKSac	03 55 37.5	-0.3
MOS				e		03 55 47.7	
SYO	Syowa Base	88.17	201⇓	ePcP	PcP	03 45 19.2	+0.5
SYO	Syowa Base	88.17	201⇑	ipP	pP	03 45 34.0	-5.8
COLD	Coldfoot	88.18	23	IAmb	IAmb	03 45 59.8	
	comp=Z,24nm,1.2s						
COLD	Coldfoot	88.18	23	P		03 45 18.4	
	baz=266,SNR=7.3						
I23K	Minto, Yukon-K	88.38	25	IAmb	IAmb	03 46 08.0	
	comp=Z,22nm,1.2s						
I23K	Minto, Yukon-K	88.38	25	P		03 45 18.9	
	baz=267,SNR=12						
TMCR	Tamitsa	88.39	334	eP	P	03 45 16.6	-1.6
TMCR				pmax	pmax		
	comp=Z,29nm,0.9s						
TOKA	Tokat	88.40	310	P	P	03 45 19.2	+0.3
MCK	McKinley	88.48	26	P		03 45 18.8	
	baz=267,SNR=8.0						
TOLK	Toolik Lake Re	88.51	21	P		03 45 20.1	
	baz=266,SNR=6.8						
SML	Sawmill	88.67	28	P		03 45 20.0	
	baz=268,SNR=8.5						
SML	Sawmill	88.67	28	IAmb	IAmb	03 45 57.9	
	comp=Z,22nm,1.0s						
OBN	Obninsk	88.74	325	⇑P	P	03 45 18.5	-1.5
OBN	Obninsk	88.74	325	iP	P	03 45 18.2	-1.8
OBN				i		03 45 39.2	
OBN				i		03 48 47.9	
OBN				pmax	pmax		
	comp=Z,38nm,1.2s						
OBN				MLR	MLR		
	comp=Z,425nm,22.0s						
OBN	Obninsk	88.74	325	P	P	03 45 19.1	-0.9
OBN				IAmb	IAmb	03 45 20.0	
	comp=Z,34nm,1.1s						
SCM	Sheep Creek Mo	89.15	28	IAmb	IAmb	03 46 10.9	
	comp=Z,20nm,1.0s						
GLI	Glacier Island	89.23	29	P		03 45 22.8	
	baz=269						
HDA	Harding Lake	89.38	26	P		03 45 22.2	
	baz=269						
HDA				P		03 45 22.2	
	baz=269						
ILAR	Eielson Array	89.42	25	P	P	03 45 22.1	-1.0
	comp=Z,0.9nm,0.6s,baz=241,slow=5.0,SNR=19						
ILAR				PKKPbc	PKKPbc	04 02 59.4	-1.7
	comp=Z,1.0nm,0.8s,baz=62,slow=2.0,SNR=11						
ILAR				LR	LR	04 23 27.6	
	comp=Z,110nm,21.2s,baz=286,slow=34						
ILAR	Eielson Array	89.42	25	P	P	03 45 21.4	-1.7
HIN	Hinchinbrook I	89.52	30	IAmb	IAmb	03 46 38.1	
	comp=Z,25nm,1.1s						
M24K	Tolsona, Glenn	89.70	28	IAmb	IAmb	03 46 06.3	
	comp=Z,22nm,0.9s						
M24K	Tolsona, Glenn	89.70	28	P		03 45 25.5	
	baz=270						
KLU	Klutina	89.81	29	P		03 45 25.2	
	baz=270						
LVZ	Lovozero	89.88	338⇓	eP	P	03 45 24.8	-0.4
LVZ				pmax	pmax		
	comp=Z,170nm,3.4s						
QSPA	South Pole Qui	89.96	180	P	P	03 45 26.3	+0.5
PAX	Paxson	90.03	27	P		03 45 26.5	
	baz=270						
APA	Apatity	90.36	337⇓	iP	P	03 45 26.2	-1.2
APA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
N25K	Chitina, Valde	90.44	29	IAmb	IAmb	03 46 02.1	
	comp=Z,15nm,1.1s						
N25K	Chitina, Valde	90.44	29	P		03 45 28.8	
	baz=271						
BMRM	Bremner River	90.45	29	P		03 45 28.6	
	baz=271						
KAIM	Kayak Island	90.56	30	P		03 45 29.8	
	baz=271						
BR131	Keskin Array S	90.58	310⇑	eP	P	03 45 27.6	-1.6
BR131	Keskin Array S	90.58	310	IAmb	IAmb	03 45 37.0	
	comp=Z,25nm,1.6s						
BRTR	Keskin Array B	90.58	310	P	P	03 45 27.6	-1.6
	comp=Z,2.3nm,0.7s,baz=132,slow=4.0,SNR=17						
BRTR				LR	LR	04 35 03.3	
	comp=Z,138nm,18.1s,baz=94,slow=41						
BRTR	Keskin Array B	90.58	310	P	P	03 45 27.4	-1.8
SCRK	Sand Creek	90.68	26	P		03 45 29.5	
	baz=272						
GLB	Gilahina Butte	90.83	29	IAmb	IAmb	03 46 03.6	
	comp=Z,12nm,1.0s						
CRQM	Cirque	91.17	29	IAmb	IAmb	03 46 10.9	
	comp=Z,12nm,0.9s						
CRQE	Cirque	91.20	29	P		03 45 32.1	
	baz=272						
MCARA	McCarthy VSAT	91.21	29	IAmb	IAmb	03 46 15.2	
	comp=Z,12nm,0.8s						
MCARA	McCarthy VSAT	91.21	29	P		03 45 32.5	
	baz=272						
BCAR	Beaver Creek A	91.70	27	P	P	03 45 34.4	+0.6
YAH	Yahtse	91.88	30	IAmb	IAmb	03 46 09.4	
	comp=Z,13nm,0.9s						
BARN	Barnard Glacie	91.88	29	IAmb	IAmb	03 45 38.6	
	comp=Z,13nm,0.6s						
CTG	Chitna Glacier	92.04	29	P		03 45 36.8	
	baz=274						
CTGM	Chitina Glacie	92.05	29	IAmb	IAmb	03 45 40.0	
	comp=Z,30nm,1.2s						
HOPEN	Hopen	92.17	347	eP	P	03 45 35.1	-0.5
TABL	Table Mountain	92.17	30	IAmb	IAmb	03 46 27.5	
	comp=Z,20nm,0.9s						
PCA	Pinnacle	92.64	30	IAmb	IAmb	03 46 22.3	
	comp=Z,33nm,1.4s						
PINM	Pinnacle	92.64	30	P		03 45 39.0	
	baz=275						
ARA0	ARCESS Array S	93.09	340	eP	P	03 45 39.7	-0.3
ARCES	ARCESS Array B	93.09	340	P	P	03 45 38.5	-1.5
	comp=Z,5.1nm,0.7s,baz=79,slow=5.8,SNR=17						
ARCES				LR	LR	04 33 29.0	
	comp=Z,254nm,18.1s,baz=95,slow=39						
ARCES	ARCESS Array B	93.09	340	IAmb	IAmb	03 45 50.8	
	comp=Z,19nm,1.1s						
AKASG	Malin Array Be	93.27	321	P	P	03 45 39.6	-1.5
	comp=Z,1.6nm,0.5s,baz=67,slow=4.7,SNR=11						
AKASG				PP	PP	03 49 28.0	+2.1
	comp=Z,0.4nm,0.3s,baz=66,slow=8.4,SNR=6.7						
AKASG				LR	LR	04 33 11.7	
	comp=Z,139nm,19.4s,baz=80,slow=39						
AKASG	Malin Array Be	93.27	321	P	P	03 45 39.7	-1.5
AKBB	Malin Array Si	93.27	321⇓	eP	P	03 45 39.1	-2.1
AKBB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HAMF	Hammerfest	93.53	341	eP	P	03 45 41.6	-0.3
SPA0	Spitsbergen Ar	93.63	349	eP	P	03 45 42.4	0.0
MNK	Minsk	93.78	324	iP	P	03 45 42.9	-0.6
	comp=E,5.0nm,1.0s						
MNK				iP	P	03 45 42.9	-0.6
	comp=N,9.0nm,0.8s						
MNK				iP	P	03 45 42.9	-0.6
	comp=Z,28nm,0.9s						
MNK				ipP	pP	03 46 04.6	-1.8
MNK				iPP	PP	03 49 28.5	-1.3
MNK				iPPP	PPP	03 51 29.6	
MNK				iS	SKSac	03 56 09.7	-0.2
MNK				isS	ScS	03 56 48.9	+2.2
MNK				iSS	SS	04 03 06.6	+1.0
MNK				iSSS	SSS	04 06 58.5	
MNK				iLR	LR	04 24 15.1	
MNK				iLRM	MLR	04 28 34.2	
	comp=E,21nm,16.6s						
MNK				iLRM	MLR	04 28 34.9	
	comp=N,239nm,16.6s						
MNK				iLRM	MLR	04 28 40.0	
	comp=Z,129nm,18.1s						
HYT	Haines Junctio	93.92	29	IAmb	IAmb	03 46 26.2	
	comp=Z,10.0nm,0.9s						
FINES	FINESS Array B	93.97	332	P	P	03 45 42.5	-1.7
	comp=Z,2.3nm,0.6s,baz=83,slow=4.3,SNR=13						
FINES				PKiKP	PKiKP	03 50 30.5	+2.2
	comp=Z,1.6nm,0.7s,baz=106,slow=4.9,SNR=4.5						
FINES	FINESS Array B	93.97	332	iP	P	03 45 44.0	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	93.97	332	P	P	03 45 43.0	-1.2
KTK1	Kautokeino	93.97	339	eP	P	03 45 42.9	-1.2
VSU	Vasula	94.00	329	eP	P	03 45 42.0	-2.4
SORM	Soroca	94.03	318	⇑P	P	03 45 42.6	-2.2
SORM	Soroca	94.03	318	⇑P	P	03 45 42.6	-2.2
IDID	Didziasalis	94.35	325	eP	P	03 45 46.0	-0.1
CFR	Carcaliu	94.41	315	⇓P	P	03 45 44.8	-1.8
CFR	Carcaliu	94.41	315	⇓P	P	03 45 44.8	-1.8
INK	Inuvik	94.43	21	IAmb	IAmb	03 45 49.4	
	comp=Z,21nm,1.4s						
IIGN	Ignalina	94.64	325	eP	P	03 45 47.2	-0.2
ISAL	Salakas	94.67	326	eP	P	03 45 47.3	-0.2
JETT	Jettan, Norway	94.85	340	eP	P	03 45 47.0	-1.2
SKAG	Skagway	95.19	30	IAmb	IAmb	03 46 31.5	
	comp=Z,8.8nm,0.9s						
SKAG	Skagway	95.19	30	P		03 45 50.5	
	baz=279						
TESR	Tescani	95.33	317	⇓P	P	03 45 50.1	-0.7
TRO	Tromso	95.33	340	eP	P	03 45 50.6	+0.4
VRI	Vrincioaia	95.34	316	⇑P	P	03 45 50.7	-0.2
VRI	Vrincioaia	95.34	316	⇑P	P	03 45 50.7	-0.2
BESE	Bessie Mountai	95.57	31	IAmb	IAmb	03 46 44.4	
	comp=Z,32nm,1.6s						
BIZ	Bicaz	95.66	317	⇑P	P	03 45 50.7	-1.6
JIS	Juneau Island	95.87	31	IAmb	IAmb	03 46 28.0	
	comp=Z,16nm,1.4s						
PABE	Paberze	95.89	326	eP	P	03 45 51.6	-1.5
MLR	Muntele Rosu	95.92	316	⇑P	P	03 45 52.4	-1.3
MLR	Muntele Rosu	95.92	316	P	P	03 45 52.9	-0.8
MLR				pmax	pmax		
	comp=Z,57nm,2.0s						
MLR	Muntele Rosu	95.92	316	P	P	03 45 52.9	-0.8
LSZ	Lusaka	96.01	255	P	P	03 45 53.8	-0.9
LSZ				pmax	pmax		
	comp=Z,23nm,0.8s						
LSZ	Lusaka	96.01	255	P	P	03 45 53.8	-0.9
BURAR	Bucovina Array	96.18	318	⇑P	P	03 45 53.7	-1.1
BURAR	Bucovina Array	96.18	318	⇑P	P	03 45 53.7	-1.1
BURAR	Bucovina Array	96.18	318	P	P	03 45 54.0	-0.7
BUR08	Bucovina Ar. S	96.19	318	P	P	03 45 54.3	-0.6
BUR08				IAmb	IAmb	03 46 39.8	
	comp=Z,13nm,1.1s						
SUW	Suwalki	96.58	324	eP	P	03 45 55.1	-1.1
ARR	Arges	96.85	316	⇑P	P	03 45 56.5	-1.3
STEI	Steigen	97.10	339	eP	P	03 45 56.6	-1.7
FAUS	Fauske	97.25	338	eP	P	03 45 58.6	-0.4
LOF	Lofoten	97.64	339	eP	P	03 46 00.2	-0.6
H02S1	DAWSON INLET T	97.82	36	T	T	05 34 02.6	
	SNR=25						
KOLS	Kolonicke sedl	97.95	319	eP	P	03 46 01.9	-0.7
KOLS	Kolonicke sedl	97.95	319	ePDIFF	P	03 46 01.9	-0.7
UZH	Uzhgorod	97.98	319	eP	P	03 45 58.6	-4.1
UZH				e		03 46 19.3	
UZH				e		03 46 34.2	
DRGR		97.99	317	⇓P	P	03 46 01.7	-1.2
DRGR		97.99	317	⇓P	P	03 46 01.7	-1.2
BOSA	Boshof	98.06	241	LR	LR	04 24 23.8	
	comp=Z,527nm,21.8s,baz=111,slow=32						
GZR	Gura Zlata	98.15	316	⇓P	P	03 46 01.7	-2.0
GZR	Gura Zlata	98.15	316	⇓P	P	03 46 01.7	-2.0
VTS	Vitosha	98.20	313	⇓P	P	03 46 01.1	-3.0
VTS	Vitosha	98.20	313	⇓P	P	03 46 01.1	-3.0
KONS	Konsvik	98.34	338	ePdif	P	03 46 03.5	-0.4
CRVS	Cervenica-Dubn	98.48	319	eP	P	03 46 04.6	-0.4
CRVS	Cervenica-Dubn	98.48	319	ePDIFF	P	03 46 04.6	-0.4
BZS	Buzias	98.92	316	⇑P	Pdif	03 46 05.6	-1.4
BZS	Buzias	98.92	316	⇑P	Pdif	03 46 05.6	-1.4
MDVR	Moldovita	98.98	315	⇑P	Pdif	03 46 06.2	-1.2
NSS	Namsos	99.47	336	ePdif	Pdif	03 46 06.2	-2.8
NC602	NORSAR Array S	100.98	333	ePdif	Pdif	03 46 15.7	-0.2
NOA	NORSAR Array B	101.03	333	P	Pdif	03 46 14.5	-1.6
	comp=Z,1.2nm,0.8s,baz=73,slow=4.6,SNR=3.9						
KONO	Kongsberg	102.28	332	ePdif	Pdif	03 46 19.7	-1.9
VNA2	Neumayer--Watz	102.69	195	Pdiff	Pdif	03 46 23.2	-0.1
VNA1	Neumayer--Stat	103.09	195	Pdiff	Pdif	03 46 21.4	-3.6
GERES	GERESS Array B	103.49	321	Pdiff	Pdif	03 46 26.6	-0.8
	comp=Z,0.3nm,0.5s,baz=336,slow=2.9,SNR=3.8						
GERES				PKiKP	PKiKP	03 50 45.8	0.0
	comp=Z,0.8nm,0.6s,baz=72,slow=4.3,SNR=5.4						
GERES	GERESS Array B	103.49	321	P	Pdif	03 46 29.4	+2.0
GERES	GERESS Array B	103.49	321	Pdif	Pdif	03 46 29.4	+2.0
YKA	Yellowknife Ar	103.80	24	Pdiff	Pdif	03 46 28.1	-0.2
	comp=Z,0.4nm,0.7s,baz=306,slow=3.6,SNR=4.8						

YKA				PKiKP	PP	03 50 46.3	+0.6
	comp=Z,0.7nm,0.5s,baz=324,slow=1.1,SNR=8.9						
YKA				PKKPbc	PKKPbc	04 02 19.1	-2.5
	comp=Z,1.4nm,0.8s,baz=107,slow=3.0,SNR=24						
ABTA	Abfaltersbach	104.84	319	eP	PKiKP	03 50 48.5	+0.2
	comp=Z,0.4nm,0.4s						
WTTA	Wattenberg	105.26	319	i P	PKiKP	03 50 49.6	+0.4
	comp=Z,1.8nm,0.5s						
WATA	Walderalm	105.28	319	eP	PKiKP	03 50 49.2	0.0
	comp=Z,4.5nm,0.9s						
MOTA	Moosalm	105.59	320	eP	PKiKP	03 50 50.3	+0.6
	comp=Z,1.1nm,0.5s						
DAVA	Damuels	106.39	320	i P	PKiKP	03 50 51.1	-0.2
	comp=Z,2.1nm,0.5s						
J05D	Fort Rock, OR	107.50	44	PKiKP		03 50 55.1	
	baz=287						
NVAR	Mina Array Bea	111.08	48	PKiKP	PKiKP	03 51 02.1	+1.7
	comp=Z,0.7nm,0.7s,baz=232,slow=1.4,SNR=6.6						
MSO	Missoula	111.09	39	PKiKP		03 51 00.3	
	baz=294						
HLID	Hailey	112.08	42	PKiKP		03 51 03.9	
	baz=293						
BOZ	Bozeman (W)	113.07	39	PKiKP		03 51 05.1	
	baz=296						
EGMT	Eagleton	113.12	36	PKiKP		03 51 04.8	
	baz=298						
R11A	Troy Canyon, C	113.13	48	PKiKP		03 51 06.1	
	baz=290						
DUG	Dugway, Tooele	114.47	45	P		03 51 08.2	
	baz=293						
BW06	Boulder Array	115.64	41	P		03 51 09.9	
	baz=296						
PDAR	Pinedale Array	115.64	41	PKP	PKPdf	03 51 09.6	+0.6
	comp=Z,0.6nm,0.6s,baz=174,slow=3.4,SNR=7.1						
PDAR				PKKPbc	PKKPab	04 01 46.3	-1.4
	comp=Z,1.7nm,0.9s,baz=108,slow=4.8,SNR=3.6						
PDAR	Pinedale Array	115.64	41		PKPdf	03 51 09.3	+0.3
LAO	LASA Array	115.86	36	P		03 51 10.5	
	baz=301						
K22A	Casper	117.68	40	P		03 51 13.2	
	baz=299						
RWWY	Rawlins	117.69	42		PKiKP	03 51 13.2	+0.2
O20A	White River Ci	117.69	43	P		03 51 14.4	
	baz=296						
RSSD	Black Hills	118.51	38	PKIKP	PKiKP	03 51 14.8	+0.3
RSSD	Black Hills	118.51	38	PKPdf	PKiKP	03 51 14.8	+0.3
RSSD	Black Hills	118.51	38	P		03 51 14.6	
	baz=302						
ESDC	Sonseca Array	118.61	316	PKP	PKPdf	03 51 14.4	-0.1
	comp=Z,1.0nm,0.7s,baz=39,slow=1.9,SNR=11						
MVCO	Mesa Verde	118.76	47	PKPdf	PKiKP	03 51 16.4	+1.1
MVCO	Mesa Verde	118.76	47	P		03 51 16.9	
	baz=295						
TUC	Tucson	118.88	53	P		03 51 17.1	
	baz=290						
N23A	Red Feather La	118.90	42	P		03 51 16.6	
	baz=298						
MDND	Maddock	118.95	32	P		03 51 15.3	
	baz=308						
ULM	Lac du Bonnet	119.29	28	PKP	PKPdf	03 51 14.7	-0.8
	comp=Z,3.9nm,0.6s,baz=284,slow=3.4,SNR=11						
ISCO	Idaho Springs	119.64	43	P		03 51 18.1	
	baz=298						
S22A	4UR Ranch, Cre	119.73	45	P		03 51 19.0	
	baz=296						
SDCO	Great Sand Dun	120.67	45	P		03 51 20.1	
	baz=297						
121A	Cookes Peak, D	121.16	51	P		03 51 21.9	
	baz=293						
ANMO	Albuquerque	121.21	48c	iPKIKP	PKiKP	03 51 21.3	+1.2
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ANMO	Albuquerque	121.21	48	PKPdf	PKiKP	03 51 21.2	+1.2
ANMO	Albuquerque	121.21	48	P		03 51 21.7	
	baz=295						
T25A	Trinidad	121.72	45	P		03 51 22.4	
	baz=298						
TORD	Torodi Ar. Bea	121.76	285	PKP	PKiKP	03 51 21.4	0.0
	comp=Z,11nm,0.7s,baz=60,slow=1.8,SNR=58						
TORD				PKKPab	PKKPab	04 01 23.2	+2.4
	comp=Z,2.8nm,0.7s,baz=284,slow=4.7,SNR=13						
KSCO	Kaye Shedlock'	122.05	42	P		03 51 22.3	
	baz=300						
ECSD	EROS Data Cent	123.13	35	P		03 51 23.4	
	baz=308						
MNTX	Cornudas Mount	123.36	51	PKPdf	PKiKP	03 51 25.2	+1.1
MNTX	Cornudas Mount	123.36	51	P		03 51 25.3	
	baz=294,SNR=11						
CBKS	Cedar Bluff	124.07	41	P		03 51 25.8	
	baz=303						
SPMN	Marine on St.	124.22	31	P		03 51 26.1	
	baz=313						
MSTX	Muleshoe	124.37	48	P		03 51 26.9	
	baz=297						
AMTX	Amarillo	124.74	46	P		03 51 27.7	
	baz=299						
TXAR	Lajitas Array	125.67	53	PKP	PKiKP	03 51 29.1	+0.2
	comp=Z,1.2nm,0.7s,baz=220,slow=1.8,SNR=14						
TXAR	Lajitas Array	125.67	53	PKPdf	PKiKP	03 51 29.4	+0.6
KSU1	Kansas State U	125.92	39	PKPdf	PKiKP	03 51 29.0	0.0
KSU1	Kansas State U	125.92	39	P		03 51 29.5	
	baz=306						
WMOK	Wichita Mounta	126.88	45	P		03 51 31.4	
	baz=301						
MATQ	Matagami	126.92	18	P		03 51 29.7	
	baz=332						
KOWA	Kowa	127.00	288	PKPdf	PKiKP	03 51 31.6	-0.2
JFWS	Jewell Farm	127.15	32	P		03 51 30.9	
	baz=315						
LSQQ	Lebel-sur-Quev	127.74	18	P		03 51 32.0	
	baz=333						
JCT	Junction City	128.21	50	P		03 51 34.0	
	baz=298						
TUL1	Leonard	128.29	42	P		03 51 34.5	
	baz=305						
KIC	Kosan Boka	128.87	278	ePKIKP	PKiKP	03 51 35.6	+0.1
	comp=Z,14nm,0.7s						
DBIC	Dimbokro	128.95	279	PKP	PKiKP	03 51 35.6	0.0
	comp=Z,5.6nm,0.6s,baz=88,slow=2.9,SNR=11						
DBIC	Dimbokro	128.95	279	PKPdf	PKiKP	03 51 35.8	+0.1
TIC	Toumodi	129.12	279	ePKIKP	PKiKP	03 51 35.9	-0.1
LIC	Lamto	129.16	278	ePKIKP	PKiKP	03 51 36.1	0.0
	comp=Z,13nm,0.6s						
833A	Chaparral WMA,	129.49	52	P		03 51 38.3	
	baz=296						
CCM	Cathedral Cave	129.87	37	PKIKP	PKiKP	03 51 36.7	-0.2
CCM	Cathedral Cave	129.87	37	PKPdf	PKiKP	03 51 36.7	-0.2
CCM	Cathedral Cave	129.87	37	P		03 51 36.8	
	baz=311						
U40A	Yellville	129.95	40	P		03 51 36.8	
	baz=308,SNR=12						
D55A	Sainte-Anne-du	130.02	18	P		03 51 36.6	
	baz=334						
W39A	Magazine	130.04	41	P		03 51 37.8	
	baz=306						
ALGO	Algonquin Park	130.12	20	P		03 51 36.7	
	baz=330						
D56A	ZEC Mazanza, M	130.21	17	P		03 51 37.0	
	baz=335						
E55A	Montcerf-Lytto	130.34	18	P		03 51 37.1	
	baz=333						
LATQ	La Tuque	130.45	15	P		03 51 38.4	
	baz=337						
MIAR	Mount Ida	130.56	42	P		03 51 39.6	
	baz=306,SNR=8.5						
E56A	St. Veronique	130.58	18	P		03 51 37.6	
	baz=334						
G54A	Lake Saint Pet	130.58	21	P		03 51 37.7	
	baz=330						
D58A	Chemin du LacG	130.69	16	P		03 51 37.8	
	baz=337						
I51A	Listowel	130.81	24	P		03 51 38.5	
	baz=326						
E58A	La Victoria	131.24	16	P		03 51 39.7	
	baz=336						
G57A	Newington	131.88	18	P		03 51 39.9	
	baz=334						
E61A	Lac Etchemin	131.91	14	P		03 51 41.4	
	baz=340,SNR=5.8						
F60A	Warwick	131.98	15	P		03 51 40.3	
	baz=338						
F61A	St Evariste	132.22	14	P		03 51 40.9	
	baz=339						
H57A	Richville	132.32	19	P		03 51 42.2	
	baz=333						
MOQ	Mont Orford	132.50	16	PKPdf	PKiKP	03 51 42.5	+0.4
WCI	Wyandotte Cave	132.59	33	P		03 51 43.0	
	baz=316						
H58A	Gabriels	132.75	18	P		03 51 41.8	
	baz=334						
ACSO	Alum Creek Sta	132.79	29	P		03 51 42.1	
	baz=321						
J56A	Wolcott	132.86	21	P		03 51 41.7	
	baz=330						
M53A	WI Miller and	132.89	26	P		03 51 41.7	
	baz=325						
F64A	Sherman	132.93	12	P		03 51 41.3	
	baz=342						
I58A	Old Forge	133.15	19	P		03 51 42.4	
	baz=333						
WVT	Waverly	133.19	36	PKIKP	PKiKP	03 51 43.1	-0.5
WVT	Waverly	133.19	36		PKiKP	03 51 43.1	-0.5
K56A	Middlesex	133.19	22	P		03 51 42.7	
	baz=330						
WVT	Waverly	133.19	36	P		03 51 42.9	
	baz=313						
M54A	Oil Creek Stat	133.26	25	P		03 51 43.0	
	baz=326						
OXF	Oxford	133.29	39	P		03 51 44.2	
	baz=310						
H61A	Lyndonville	133.31	16	P		03 51 43.8	
	baz=337						
K57A	Scipio Center	133.46	21	P		03 51 43.4	
	baz=331						
J59A	Piesco	133.50	19	P		03 51 43.7	
	baz=334						
I60A	Shoreham	133.54	18	P		03 51 43.9	
	baz=335						
L56A	Greenwood	133.58	23	P		03 51 43.6	
	baz=329						
P52A	Corning	133.67	28	P		03 51 43.4	
	baz=322						
K58A	Earlville	133.74	20	P		03 51 44.2	
	baz=332						
L57A	Andrews Acres	133.97	22	P		03 51 44.6	
	baz=330						
H65A	Eastbrook	134.07	13	P		03 51 44.7	
	baz=342						
BINY	Binghamton	134.12	21	P		03 51 44.5	
	baz=331						
N58A	Sunbury	135.02	23	P		03 51 46.1	
	baz=330						
M61A	Granite Spring	135.68	20	P		03 51 47.4	
	baz=334						
LRAL	Lakeview Retre	135.78	39	P		03 51 48.2	
	baz=312						
Q58A	Fox Den Farm,	136.24	25	P		03 51 48.9	
	baz=327						
PLCA	Paso Flores	137.27	163	PKP	PKiKP	03 51 51.0	-0.9
	comp=Z,5.8nm,0.8s,baz=133,slow=0.5,SNR=17						
PLCA	Paso Flores	137.27	163	PKPdf	PKiKP	03 51 51.7	-0.2
VA03	San Esteban	144.52	158	⇑iP	PKPdf	03 52 03.4	+0.1
CO02	Combarbal	145.72	156	⇑iP	PKPab	03 52 07.2	+0.8
CO03	El Pedregal	146.17	156	⇑iP	PKPab	03 52 08.3	+0.3
CO03	El Pedregal	146.17	156	PKPbc	PKPab	03 52 08.4	+0.3
CO01	Juntas del Tor	147.17	156	eP	PKPbc	03 52 10.4	0.0
MATN	Matagalpa	147.28	66		PKPbc	03 52 10.7	-0.2
LCO	Las Campanas	147.76	155	PKP2	PKiKP	03 52 12.6	-1.4
LCO	Las Campanas	147.76	155	PKPbc	PKiKP	03 52 12.6	-1.4
AC05	El Transito	148.10	155	eP	PKPbc	03 52 11.0	-1.8
AC04	Llanos de Chal	148.30	153	eP	PKPbc	03 52 11.5	-1.6
AC04	Llanos de Chal	148.30	153		PKiKP	03 52 13.8	-0.9
JTS	Las Juntas de	149.05	70	PKP2	PKiKP	03 52 16.0	-0.7
JTS	Las Juntas de	149.05	70		PKiKP	03 52 16.0	-0.7
AC01	Pan de Azucar	150.27	152	⇑iP	PKiKP	03 52 19.7	+0.8
AC02	Maricunga	150.33	155	⇑iP	PKiKP	03 52 20.8	+1.2
AHML	Horco Molle	151.79	161	eP	PKPdf	03 52 17.2	+1.9
CPUP	Villa Florida	153.80	176	PKP	PKPdf	03 52 19.4	+1.2
	comp=Z,4.0nm,0.8s,baz=152,slow=0.8,SNR=7.8						
CPUP				PKPbc	PKiKP	03 52 27.2	+1.1
	comp=Z,7.4nm,0.7s,baz=132,slow=1.8,SNR=14						
CPUP	Villa Florida	153.80	176	PKPdf	PKPdf	03 52 18.6	+0.5
CPUP					PKiKP	03 52 27.3	+1.1
LVC	Limon Verde	154.08	151	PKPbc	PKiKP	03 52 29.5	+2.2
	comp=Z,14nm,0.9s,baz=194,slow=2.3,SNR=10						
LVC	Limon Verde	154.08	151		PKiKP	03 52 28.4	+1.0
ATAH	Atahualpa	156.18	108	PKP	PKPdf	03 52 23.3	+1.0
	comp=Z,4.2nm,0.7s,baz=318,slow=5.1,SNR=5.0						
ATAH				PKPab	sPKPdf	03 52 53.0	-2.0
	comp=Z,4.8nm,0.7s,baz=220,slow=5.1,SNR=3.6						
OTAV	Otavalo	157.13	89	PKIKP	PKPdf	03 52 23.6	0.0
OTAV						03 52 55.8	
OTAV	Otavalo	157.13	89	PKPdf	PKPdf	03 52 23.6	0.0
OTAV				PKPab	sPKPdf	03 52 55.8	-0.6
OTAV	Otavalo	157.13	89	eP	PKPdf	03 52 26.6	+3.0
BBAC	Balboa, Cauca	158.25	84	eP	PKPdf	03 52 25.1	+0.5
POPC	Popayan, Colom	158.76	83	eP	PKPdf	03 52 25.6	+0.3
ZARC	Zaragoza, Cauc	159.38	68	eP	PKPdf	03 52 26.6	+0.9
GUY2C	Guyana, Caldas	159.57	75	eP	PKPdf	03 52 27.4	+0.9
LPAZ	La Paz	159.65	143	PKP	PKPdf	03 52 28.5	+1.8
	comp=Z,2.7nm,0.8s,baz=297,slow=2.2,SNR=10.0						
LPAZ				PKPab	PKPab	03 53 08.2	+2.8
	comp=Z,12nm,0.8s,baz=203,slow=3.9,SNR=14						
LPAZ	La Paz	159.65	143	PKIKP	PKPdf	03 52 28.0	+1.3
LPAZ	La Paz	159.65	143	PKPdf	PKPdf	03 52 28.0	+1.3
TOLC	Tolima	159.76	77	eP	PKPdf	03 52 27.6	+1.0
ROSC	El Rosal	160.67	75	PKP	PKPdf	03 52 29.1	+1.5
	comp=Z,7.2nm,0.7s,baz=156,slow=9.6,SNR=5.7						
ROSC	El Rosal	160.67	75	PKIKP	PKPdf	03 52 28.6	+0.9
ROSC	El Rosal	160.67	75		PKPdf	03 52 28.6	+0.9
SPBC	San Pablo de B	160.70	73	eP	PKPdf	03 52 27.8	+0.5
CHIC	Chingaza	161.29	75	eP	PKPdf	03 52 28.7	+0.3
SDV	Santo Domingo	162.59	59	PKPab	PKPab	03 53 19.7	+1.8
	comp=Z,5.4nm,0.6s,baz=28,slow=6.2,SNR=3.1						
SDV	Santo Domingo	162.59	59		PKPdf	03 52 29.4	+0.1
BDFB	Brasilia	162.78	205	PKP	PKPdf	03 52 30.7	+1.3
	comp=Z,3.6nm,0.9s,baz=201,slow=4.1,SNR=3.5						
BDFB				PKPab	PKPab	03 53 20.0	+1.7
	comp=Z,7.6nm,0.8s,baz=172,slow=5.5,SNR=7.4						
SIV	San Ignacio	163.24	161	PKP	PKPdf	03 52 31.0	+1.3
	comp=Z,2.8nm,0.8s,baz=215,slow=1.9,SNR=15						
SIV				PKPab	PKPab	03 53 21.6	+1.4
	comp=Z,7.6nm,0.8s,baz=211,slow=2.7,SNR=11						
SAML	Samuel	168.35	140	PKP2	PKPab	03 53 43.9	+1.0
SAML						04 52 34.4	
SAML	Samuel	168.35	140		PKPdf	03 52 34.4	+0.6
SAML				PKPab	PKPab	03 53 43.9	+1.0

*SFS **01** 03:49:02.0, 34°.80N×5°.74W, ML2.3, OUAZZANE (MARRUECOS)*
*IGIL **01** 03:49:02.1, 34°.69N×5°.69W, h7km, ML2.1*
*MDD **01** 03:49:02.4±1.5, 34°.78N×5°.75W, h0km, mbLg2.2/4, Error ellipse: s-maj=14.7km s-min=7.4km az=5.0, PRXIMO*
*INMG **01** 03:49:03.4±1.4, 34°.69N×5°.71W, h23km±8km, ML2.0, Error ellipse: s-maj=5.0km s-min=2.7km az=68.0*
ISC 01 03:49:02.5±1.0**, 34°.71N**±0°.04×**5°.72W**±0°.04**, h22**km**, n48, σ1.22**/85**, 1C, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IFR	Ifrane	1.29	157	eP	Pn	03 49 24.4	-1.0
IFR				eS	Sn	03 49 40.2	-1.8
AVE	Averroes	1.99	225	eP	Pb	03 49 38.1	+0.2
AVE				eS	Sb	03 50 04.5	+2.2
ELGU	Los Guajares,	2.75	38	P	Pn	03 49 44.6	-0.6
	0.4nm,0.2s,SNR=7.9						
ELGU				S	Sn	03 50 17.4	-0.3
	1.5nm,0.1s,SNR=7.9						
PBDV	Barranco-do-Ve	3.10	325	P	Pn	03 49 50.1	+0.1
PBDV				S	Sn	03 50 26.2	-0.2
	4.4nm,0.7s						
PBDV	Barranco-do-Ve	3.10	325	ePn	Pn	03 49 50.1	+0.1
PBDV				eSn	Sn	03 50 26.2	-0.2
PBDV				A	A	03 50 28.6	
	4.4nm,0.7s						
PVAQ	Vaqueiros	3.13	330	P	Pn	03 49 50.7	+0.2
PVAQ				S	Sn	03 50 26.3	-1.0
	5.6nm,0.9s						
PVAQ	Vaqueiros	3.13	330	ePn	Pn	03 49 50.7	+0.2
PVAQ				eSn	Sn	03 50 26.3	-1.0
PVAQ				A	A	03 50 28.1	
	5.6nm,0.9s						
EMIN	Mina Concepcio	3.15	346	P	Pn	03 49 50.6	-0.1
	0.4nm,0.4s,SNR=9.6						
EMIN				S	Sn	03 50 26.1	-1.4
	0.3nm,0.1s,SNR=7.9						
EGRO	El Granado	3.16	334	⇑P	Pn	03 49 51.1	+0.3
	0.6nm,0.1s,SNR=18						
EGRO				S	Sn	03 50 26.3	-1.5
	2.8nm,0.1s,SNR=4.7						
EBER	Berja	3.17	46	P	Pn	03 49 51.4	+0.2
	0.1nm,0.3s,SNR=7.9						
EBER				S	Sn	03 50 27.7	-0.8
	0.6nm,0.3s,SNR=7.9						
PCVE	Castro Verde	3.46	328	P	Pn	03 49 55.4	+0.3
PCVE				S	Sn	03 50 34.6	-0.8
	2.7nm,0.8s						
PCVE	Castro Verde	3.46	328	ePn	Pn	03 49 55.4	+0.3
PCVE				eSn	Sn	03 50 34.6	-0.8
PCVE				A	A	03 50 35.8	
	2.7nm,0.8s						
EADA	Adamuz	3.57	15	P	Pn	03 49 57.0	+0.5
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	03 50 36.8	-1.3
	0.9nm,0.1s,SNR=7.9						
PBAR	Barrancos	3.62	343	P	Pn	03 49 57.2	+0.1
PBAR				S	Sn	03 50 37.8	-1.3
	2.0nm,0.7s						
PBAR	Barrancos	3.62	343	ePn	Pn	03 49 57.2	+0.1
PBAR				eSn	Sn	03 50 37.8	-1.3
PBAR				A	A	03 50 42.0	
	2.0nm,0.7s						
MESJ	Messejana	3.72	328	eP	Pn	03 49 58.6	+0.1
MESJ				eS	Sn	03 50 40.0	-1.6
MESJ				AML	AML	03 50 42.6	
	comp=N,4.6nm,0.4s						
MESJ	Messejana	3.72	328	P	Pn	03 49 58.6	+0.1
MESJ				S	Sn	03 50 41.0	-0.6
	comp=N,2.7nm,0.2s						
MESJ	Messejana	3.72	328	ePn	Pn	03 49 58.6	+0.1
MESJ				eSn	Sn	03 50 41.0	-0.6
MESJ				A	A	03 50 43.8	
	comp=N,2.7nm,0.2s						
PTEO	Sao Teotonio	3.73	320	P	Pn	03 49 58.8	+0.1
PTEO				S	Sn	03 50 41.7	-0.2
PTEO	Sao Teotonio	3.73	320	ePn	Pn	03 49 58.8	+0.1
PTEO				eSn	Sn	03 50 41.7	-0.2
PBEJ	Beja	3.73	333	S	Sn	03 50 41.5	-0.5
PBEJ	Beja	3.73	333	eSn	Sn	03 50 41.5	-0.5
EQES	Quesada	3.76	34	P	Pn	03 50 01.7	+2.5
	comp=N,0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	03 50 44.0	+1.2
	comp=N,0.5nm,0.2s,SNR=7.9						
PNCL	Nicolau / Gran	4.08	327	Pn	Pn	03 50 03.5	0.0
PNCL				Sn	Sn	03 50 49.4	-1.1
	comp=N,2.1nm,0.7s						
PNCL	Nicolau / Gran	4.08	327	ePn	Pn	03 50 03.5	0.0
PNCL				eSn	Sn	03 50 49.4	-1.1
PNCL				A	A	03 51 09.0	
	comp=N,2.1nm,0.7s						
EVO	Evora	4.23	335	Pn	Pn	03 50 05.8	+0.2
EVO				Sn	Sn	03 50 53.5	-0.9
	comp=N,2.4nm,0.3s						
EVO	Evora	4.23	335	ePn	Pn	03 50 05.8	+0.2
EVO				eSn	Sn	03 50 53.5	-0.9
EVO				A	A	03 50 54.0	
	comp=N,2.4nm,0.3s						
SESP	Santiago Espad	4.26	36	P	Pn	03 50 09.2	+3.0
	comp=N,0.3nm,0.2s,SNR=7.9						
SESP				S	Sn	03 50 55.1	-0.1
	comp=N,0.3nm,0.1s,SNR=7.9						
PESTR	Estremoz	4.41	341	ePn	Pn	03 50 09.3	+1.2
PESTR				eSn	Sn	03 50 57.7	-1.1
PESTR				A	A	03 51 21.8	
	comp=N,2.4nm,0.5s						
PMTG	Montargil	4.79	336	Pn	Pn	03 50 13.5	+0.2
PMTG				Sn	Sn	03 51 06.8	-1.3
	comp=N,2.4nm,0.6s						
PMTG	Montargil	4.79	336	ePn	Pn	03 50 13.5	+0.2
PMTG				eSn	Sn	03 51 06.8	-1.3
PMTG				A	A	03 51 22.0	
	comp=N,2.4nm,0.6s						
PMRV	Marv??o	4.89	345	Pn	Pn	03 50 16.0	+1.3
PMRV				Sn	Sn	03 51 09.1	-1.6
	comp=N,2.7nm,0.6s						
PMRV	Marv??o	4.89	345	ePn	Pn	03 50 16.0	+1.3
PMRV				eSn	Sn	03 51 09.1	-1.6
PMRV				A	A	03 51 20.9	
	comp=N,2.7nm,0.6s						
PAB	San Pablo	4.95	12	P	Pn	03 50 15.9	+0.4
	comp=N,0.0nm,0.1s,SNR=7.9						
PAB				S	Sn	03 51 08.1	-4.1
	comp=N,0.2nm,0.2s,SNR=7.9						
PMAFR	Mafra	5.11	327	P	Pn	03 50 18.0	+0.3
	comp=N,0.9nm,0.1s,SNR=7.9						
PMAFR	Mafra	5.11	327	ePn	Pn	03 50 18.4	+0.8
ETOB	Tobarra	5.16	39	P	Pn	03 50 19.6	+1.1
	comp=N,0.2nm,0.3s,SNR=7.9						
PCBR	Castelo Branco	5.31	345	Pn	Pn	03 50 21.3	+0.9
PCBR				Sn	Sn	03 51 19.7	-1.1
PCBR	Castelo Branco	5.31	345	ePn	Pn	03 50 21.3	+0.9
PCBR				eSn	Sn	03 51 19.7	-1.1
EPLA	Plasencia	5.35	357	P	Pn	03 50 21.8	+0.8
	comp=N,1.0nm,0.4s,SNR=7.9						
EPLA				S	Sn	03 51 19.3	-2.7
	comp=N,0.3nm,0.1s,SNR=7.9						
PSBE	So Bento	5.39	334	ePn	Pn	03 50 22.0	+0.5
PSBE				eSn	Sn	03 51 21.3	-1.5
MTE	Manteigas	5.86	346	Pn	Pn	03 50 28.9	+0.9
MTE	Manteigas	5.86	346	ePn	Pn	03 50 28.9	+0.9
MVO	Moncorvo	6.52	351	P	Pn	03 50 37.6	+0.5
	comp=N,0.1nm,0.3s,SNR=7.9						
MVO	Moncorvo	6.52	351	ePn	Pn	03 50 38.0	+0.8
PVRL	Vila Real	6.74	347	Sn	Sn	03 51 53.6	-2.6
PVRL	Vila Real	6.74	347	eSn	Sn	03 51 53.6	-2.6
ETOR	Torete	6.75	24	P	Pn	03 50 40.9	+0.6
	comp=N,0.7nm,0.1s,SNR=7.9						
ETOR				S	Sn	03 51 53.5	-3.1
	comp=N,0.6nm,0.1s,SNR=7.9						

*IDC **01** 03:59:06.3±2.1, 31°.19N×140°.21E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.2/52, mbtmp3.6/4, ML3.1/2, Error ellipse: s-maj=112.4km s-min=31.8km az=65.0*
*JMA **01** 03:59:35.9±0.5, 33°.06N×139°.68E, h143km±4km, M2.9*
ISC 01 03:59:34.9±1.6**, 33°.0N**±0°.1×**139°.7E**±0°.1**, h156**km±10km**, n15, σ0.80**/16**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.16	36	P	Pn	03 59 55.2	-0.5
JMKN	Mikurajimanish	0.91	354	P	Pn	03 59 58.6	-0.8
TK02	Tokai 2	1.89	301	P	Pn	04 00 08.7	-0.1
BSO3	Boso 3	1.93	20	P	Pn	04 00 09.1	-0.1
BSO1	Boso 1	1.97	32	P	Pn	04 00 10.2	+0.8
BSO1				eS	Sn	04 00 36.7	+0.5
BSO4	Boso 4	2.07	14	P	Pn	04 00 11.4	+0.4
JOD2	Odawara 2	2.33	347	P	Pn	04 00 15.1	+0.9
JNY	Yasuok	2.82	328	P	Pn	04 00 20.3	+0.1
JIE	Ise	2.87	300	P	Pn	04 00 20.8	0.0
JHU	Hanno	2.88	353	P	Pn	04 00 20.8	-0.1
JAG	Ashikaga	3.44	357	P	Pn	04 00 26.7	-1.3
JHO	Hitachi	3.69	11	P	Pn	04 00 29.5	-1.7
MJAR	Matsushiro Arr	3.76	341	Pn	Pn	04 00 31.6	-0.5
	0.1nm,0.3s,baz=173,slow=13,SNR=9.0						
MKAR	Makanchi Array	45.20	305	P	P	04 07 36.2	0.0
	0.1nm,0.4s,baz=89,slow=9.5,SNR=4.2						
FINES	FINESS Array B	71.74	332	P	P	04 10 40.0	+0.3
	1.3nm,0.7s,baz=62,slow=4.5,SNR=3.4						

IDC 01 04:00:27.5±7.4**, 30°.60S**×**178°.85W, h0**km**, mb3.7**/2**, mb1 3.9**/2**, mb1mx3.6**/36**, mbtmp3.7**/2**, Error ellipse: s-maj=299.0km s-min=61.6km az=156.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.36	268	P	P	04 08 23.4	-0.2
	0.5nm,0.5s,baz=106,slow=7.6,SNR=12						
WRA	Warramunga Arr	43.37	273	P	P	04 08 31.8	-0.1
	0.4nm,0.4s,baz=111,slow=8.1,SNR=12						
FINES	FINESS Array B	145.07	339	PKPbc	PKPbc	04 20 04.7	-0.8
	3.9nm,1.1s,baz=69,slow=5.1,SNR=3.3						

IDC 01 04:34:46.5±28.0**, 17°.77S**×**174°.82W, h0**km**, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.6**/42**, mbtmp3.9**/4**, Error ellipse: s-maj=514.0km s-min=162.0km az=74.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	36.84	260	P	P	04 41 57.9	+1.1
	0.5nm,0.4s,baz=69,slow=14,SNR=1.4						
STKA	Stephens Creek	41.70	242	P	P	04 42 38.1	+0.8
	0.5nm,0.3s,baz=85,slow=11,SNR=1.2						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.02	259	P	P	04 43 27.1	-0.7
	0.8nm,0.4s,baz=97,slow=7.7,SNR=28						
ASAR	Alice Springs	48.12	254	P	P	04 43 27.9	-0.8
	1.5nm,0.5s,baz=89,slow=7.9,SNR=29						

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*IDC **01** 04:38:10.1±0.5, 31°66N×104°12E, h0km, mb4.0/26, mb1 4.1/28, mb1mx4.0/62, mbtmp4.0/28, ML3.9/2, MS4.0/4, Ms1 3.9/4, ms1mx3.1/49, Error ellipse: s-maj=17.3km s-min=11.9km az=50.0*

*NEIC **01** 04:38:12.0±1.7, 31°72N±0°08×104°06E±0°08, h10km±1km, mb4.2/17, Error ellipse: s-maj=13.2km s-min=10.7km az=187.0*

*MOS **01** 04:38:13.2±1.0, 31°64N×104°20E, h34km, mb4.4/17, Error ellipse: s-maj=9.0km s-min=5.6km az=114.6*

*BJI **01** 04:38:13.7±0.0, 31°80N×104°20E, h10km, mb4.3/12, ML4.0/21, Ms3.7/12, Ms7 3.6/11*

ISC 01 04:38:12.8±0.3**, 31°75N**±0°03×**103°95E**±0°04**, h14km, n141,** σ**1s89**/148**, mb4.1**/38**, MS4.2**/3**, 6C-3D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	Chengdu	0.85	191	⇓iPg	Pn	04 38 30.2	-0.2
CD2				Sg	Sn	04 38 44.0	+1.3
CD2				smax	smax		
	comp=N,7μm,0.6s						
CD2				smax	smax		
	comp=E,4μm,0.5s						
LZH	Lanzhou	4.33	359	Pn	Pn	04 39 20.7	+2.4
LZH				Pg	Pg	04 39 33.5	-2.2
LZH				Sn	Sn	04 40 09.3	+0.6
LZH				Sg	Sb	04 40 28.2	+7.3
LZH				smax	smax		
	comp=N,240nm,1.1s						
LZH				smax	smax		
	comp=E,250nm,1.1s						
LZH				LR	LR		
	comp=E,520nm,6.0s						
LZH				LR	LR		
	comp=Z,510nm,7.0s						
XAN	Xi'an	4.77	60	Pn	Pn	04 39 22.3	-2.0
XAN				Pg	Pb	04 39 35.8	-0.4
XAN				Sn	Sn	04 40 23.8	+4.4
XAN				Sg	Sb	04 40 36.0	+2.6
XAN				smax	smax		
	comp=N,540nm,0.8s						
XAN				smax	smax		
	comp=E,480nm,1.1s						
XAN				LR	LR		
	comp=N,930nm,5.1s						
XAN				LR	LR		
	comp=E,950nm,5.3s						
XAN				LR	LR		
	comp=Z,680nm,10.2s						
XAN	Xi'an	4.77	60	P	Pn	04 39 22.1	-2.2
XAN	Xi'an	4.77	60		Pn	04 39 22.1	-2.2
ENH	Enshi	4.98	106		Pn	04 39 26.2	-1.0
GYA	Guiyang	5.78	155	Pn	Pn	04 39 40.5	+2.2
GYA				Pg	Pg	04 39 57.2	-6.4
GYA				Sg	Sg	04 41 20.2	+1.7
GYA				smax	smax		
	comp=N,140nm,0.8s						
GYA				smax	smax		
	comp=E,180nm,0.6s						
GYA				LR	LR		
	comp=N,380nm,4.4s						
GYA				LR	LR		
	comp=E,310nm,3.8s						
GYA				LR	LR		
	comp=Z,150nm,7.5s						
KMI	Kunming	6.69	189	Pg	Pb	04 40 05.7	-3.3
KMI				Sg	Sn	04 41 05.9	-1.1
KMI				smax	smax		
	comp=N,56nm,0.7s						
KMI				smax	smax		
	comp=E,51nm,0.6s						
KMI	Kunming	6.69	189	P	Pn	04 39 50.5	-0.3
KMI	Kunming	6.69	189	Pn	Pn	04 39 50.5	-0.3
GTA	Gaotai	8.35	337	eP	Pn	04 40 19.2	+5.6
GTA				pmax	pmax		
	comp=E,2.0nm,1.0s						
GTA				smax	smax		
	comp=E,4.0nm,1.0s						
GTA				smax	smax		
	comp=E,6.0nm,1.1s						
GTA				LR	LR		
	comp=E,300nm,10.2s						
GTA				LR	LR		
	comp=E,160nm,10.2s						
GTA				LR	LR		
	comp=E,250nm,12.0s						
WHN	Wuhan	9.00	95	⇓P	Pn	04 40 27.2	+4.9
WHN				S	Sn	04 42 09.1	+5.7
WHN				LR	LR		
	comp=E,1μm,10.9s						
LSA	Lhasa	11.20	263	P	Pn	04 40 53.7	+0.7
LSA	Lhasa	11.20	263		Pn	04 40 53.7	+0.7
BJT	Baijiatuau	12.88	47	P	Pn	04 41 14.1	-1.4
BJT	Baijiatuau	12.88	47	Pn	Pn	04 41 14.1	-1.4
CM09	Chiang Mai Arr	13.98	200	P	P	04 41 41.0	+2.3
	comp=E,278nmcomp=E,26nm,0.6s						
CM31	Chiang Mai Arr	13.98	200	P	P	04 41 41.0	+2.4
	comp=E,844nm,0.5s						
CMAR	Chiang Mai Arr	13.98	200	Pn	Pn	04 41 29.4	-1.2
	comp=E,0.8nm,0.3s,baz=13,slow=12,SNR=1.9						
CM15	Chiang Mai Arr	14.00	200	P	P	04 41 41.0	+2.3
	comp=E,13nm,0.8s						
CM02	Chiang Mai Arr	14.01	200	P	P	04 41 41.0	+2.2
	comp=E,168nmcomp=E,22nm,0.7s						
CM01	Chiang Mai Arr	14.02	200	P	P	04 41 41.3	+2.4
	comp=E,143nmcomp=E,17nm,0.7s						
CM04	Chiang Mai Arr	14.03	200	P	P	04 41 41.1	+2.0
	comp=E,199nmcomp=E,22nm,0.6s						
CM13	Chiang Mai Arr	14.03	200	P	P	04 41 41.0	+1.9
	comp=E,111nmcomp=E,13nm,0.7s						
CM05	Chiang Mai Arr	14.04	200	P	P	04 41 41.2	+2.0
	comp=E,141nmcomp=E,15nm,0.6s						
ODAN	Odare	15.24	256	eP	Pn	04 41 48.9	+1.1
	comp=E,7.0nm,0.5s						
RAMN	Ramite	15.86	257	eP	Pn	04 41 56.5	+0.6
	comp=E,4.6nm,0.5s						
CHAI	Chaiyaphum	15.88	187	P	P	04 42 01.3	+1.7
	comp=E,15nm,0.7s						
GUN	Gumba	16.14	261	eP	Pn	04 42 01.0	+1.4
	comp=E,17nm,0.5s						
SONM	Songino Array	16.17	6	Pn	Pn	04 41 58.9	-0.9
	comp=E,0.1nm,0.3s,baz=176,slow=8.7,SNR=3.1						
SONM				LR	LR	04 48 52.7	
	comp=E,130nm,18.1s,baz=140,slow=40						
ULN	Ulaanbaatar	16.27	7	i P	P	04 42 03.5	-0.5
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ULN	Ulaanbaatar	16.27	7	Pn	Pn	04 42 00.3	-0.7
PKI	Pulchoki	16.64	260	eP	Pn	04 42 06.2	+0.2
	comp=Z,19nm,0.8s						
PKIN	Phulchoki	16.65	260	eP	Pn	04 42 06.9	+0.9
	comp=Z,12nm,0.5s						
KKN	Kakani	16.68	261	eP	Pn	04 42 07.1	+0.7
	comp=Z,10nm,0.4s						
DMN	Daman	16.88	261	eP	Pn	04 42 09.1	+0.1
WMQ	Urumqi	17.57	318	eP	P	04 42 19.7	+1.3
ZAK	Zakamensk	18.62	359	eP	P	04 42 27.8	-2.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
TLY	Talaya	19.92	359	i P	Pn	04 42 46.8	+1.2
TLY				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KSRS	Korea Array	20.52	67	P	P	04 42 49.4	-1.2
	comp=Z,4.2nm,0.7s,baz=254,slow=10,SNR=12						
ZSN	Zaisan	21.41	323	eP	P	04 43 01.5	+1.3
	baz=322						
ZSN	Zaisan	21.41	323	eP	P	04 43 01.4	+1.3
DGZ	Jazzator, Alta	21.78	330	i P	P	04 43 06.6	+2.3
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MK31	Makanchi Array	22.41	318	ceP	P	04 43 13.1	+2.2
MK31	Makanchi Array	22.41	318	P	P	04 43 11.9	+1.0
MKAR	Makanchi Array	22.41	318	P	P	04 43 12.5	+1.6
	comp=Z,2.5nm,0.6s,baz=118,slow=13,SNR=32						
MKAR				PcP	PcP	04 47 05.2	-0.2
	comp=Z,0.5nm,0.5s,baz=175,slow=2.6,SNR=7.9						
MKAR	Makanchi Array	22.41	318	P	P	04 43 12.2	+1.3
MKAR	Makanchi Array	22.41	318	P	P	04 43 12.2	+1.3
SHLS	Shalkode	22.44	307	eP	P	04 43 09.4	-2.0
	baz=308						
SHLS	Shalkode	22.44	307	eP	P	04 43 09.4	-2.0
UZB	Uzynbulak	22.74	307	eP	P	04 43 16.2	+1.6
	baz=307						
UZB	Uzynbulak	22.74	307	eP	P	04 43 16.2	+1.6
KPKS	Kokpek	23.09	308	eP	P	04 43 20.2	+2.0
	baz=308						
KPKS	Kokpek	23.09	308	eP	P	04 43 20.1	+2.0
SATY	Saty	23.13	306	eP	P	04 43 20.6	+2.0
	baz=306						
SATY	Saty	23.13	306	eP	P	04 43 20.6	+2.0
TDK	Taldyqorghan	23.88	311	eP	P	04 43 27.2	+1.3
	comp=Z,8.1nm,0.8s,baz=311						
TDK	Taldyqorghan	23.88	311	eP	P	04 43 27.2	+1.3
TDK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSH	Kashi	23.95	297	P	P	04 43 32.3	+5.5
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MDOK	Medeo	24.10	306	eP	P	04 43 29.7	+1.6
	baz=306						
MDOK	Medeo	24.10	306	eP	P	04 43 29.7	+1.6
CHKK	Chushkaly	24.37	307	eP	P	04 43 31.5	+1.0
	baz=307						
CHKK	Chushkaly	24.37	307	eP	P	04 43 31.5	+1.0
KUU	Kurty	24.83	307	eP	P	04 43 35.9	+1.2
	baz=307						
KUU	Kurty	24.83	307	eP	P	04 43 35.8	+1.2
USRK	Ussuriysk Ar.	25.23	52	P	P	04 43 37.6	-0.6
	comp=Z,3.6nm,0.8s,baz=248,slow=10,SNR=5.8						
USRK	Ussuriysk Ar.	25.23	52	P	P	04 43 37.4	-0.7
USRK	Ussuriysk Ar.	25.23	52	P	P	04 43 37.4	-0.7
SEM	Semipalatinsk	25.63	324	eP	P	04 43 42.4	+0.4
	baz=324						
SEM	Semipalatinsk	25.63	324	eP	P	04 43 42.4	+0.4
AAK	Ala-Archa	25.73	303	i P	P	04 43 46.7	+3.7
AAK				pmax	pmax		
	comp=Z,16nm,1.6s						
AAK	Ala-Archa	25.73	303	P	P	04 43 44.7	+1.7
AAK				IAmb	IAmb	04 43 53.9	
	comp=Z,8.0nm,1.6s						
NIL	Nilore	25.86	282	P	P	04 43 46.2	+2.2
NIL				pmax	pmax		
	comp=Z,21nm,1.6s						
NIL	Nilore	25.86	282	P	P	04 43 46.2	+2.2
ZAA0	Zalesovo Array	26.08	334	P	P	04 43 45.8	0.0
ZAA0				IAmb	IAmb	04 43 52.5	
	comp=Z,4.5nm,0.8s						
ZALV	Zalesovo Beam	26.08	334	P	P	04 43 46.7	+0.9
	comp=Z,3.0nm,0.7s,baz=128,slow=9.7,SNR=15						
ZALV	Zalesovo Beam	26.08	334	P	P	04 43 46.2	+0.4
ZALV	Zalesovo Beam	26.08	334	P	P	04 43 46.2	+0.4
KURBB	Kurchatov Arra	26.64	322	P	P	04 43 51.9	+1.0
	comp=Z,0.6nm,0.4s,baz=133,slow=8.8,SNR=16						
KURBB				PcP	PcP	04 47 14.2	-0.3
	comp=Z,1.3nm,0.6s,baz=117,slow=2.2,SNR=14						
KURK	Kurchatov	26.65	323	ceP	P	04 43 52.7	+1.7
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	Kurchatov	26.65	323	P	P	04 43 52.7	+1.7
KURK				IAmb	IAmb	04 43 59.0	
	comp=Z,3.2nm,0.9s						
KLR	Kul'dur	27.20	42	P	P	04 43 55.8	-0.1
	comp=Z,1.8nm,0.9s,baz=269,slow=16,SNR=3.9						
KLR	Kul'dur	27.20	42	i P	P	04 43 56.9	+1.0
KLR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KK31	Karatay Array	28.69	303	P	P	04 44 11.1	+1.7
KK31				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KK31	Karatay Array	28.69	303	P	P	04 44 11.1	+1.7
KKAR	Karatay Array	28.69	303	P	P	04 44 10.6	+1.2
KKAR	Karatay Array	28.69	303	P	P	04 44 10.6	+1.2
IUG	Iuzhnay	28.85	301	eP	P	04 44 11.9	+0.9
	baz=301						
IUG	Iuzhnay	28.85	301	eP	P	04 44 11.8	+0.9
BRZS	Berezniki	29.54	317	eP	P	04 44 17.7	+0.9
	baz=317						
BRZS	Berezniki	29.54	317	eP	P	04 44 17.7	+0.9
BRVK	Borovoye	32.27	321	i P	P	04 44 42.4	+1.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ABKAR	Akbulak array	37.15	311	P	P	04 45 24.4	+1.4
GEYT	Alibeck	37.82	292	P	P	04 45 31.0	+2.1
	comp=Z,2.4nm,0.6s,baz=119,slow=9.3,SNR=4.6						
GEYT	Alibeck	37.82	292	P	P	04 45 30.2	+1.3
AKTO	Aktyubinsk	38.60	313	P	P	04 45 37.2	+1.9
	comp=Z,1.8nm,0.6s,baz=104,slow=14,SNR=4.3						
NRIK	Noril'sk	38.77	351	P	P	04 45 37.4	+0.9
	comp=Z,2.1nm,0.5s,baz=143,slow=9.0,SNR=3.6						
NRIK	Noril'sk	38.77	351	ceP	P	04 45 37.0	+0.5
NRIK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NRIK	Noril'sk	38.77	351	IAmb	IAmb	04 45 42.8	
	comp=Z,4.3nm,0.9s						
ARU	Arti	39.84	322	P	P	04 45 47.1	+1.6
	comp=Z,2.3nm,0.5s,baz=315,slow=18,SNR=11						
ARU	Arti	39.84	322	d iP	P	04 45 47.0	+1.4
ARU						04 47 18.5	
ARU				S	S	04 51 47.3	-2.2
ARU				SS	SS	04 54 36.7	-8.8
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARU	Arti	39.84	322	P	P	04 45 47.2	+1.6
ARU				IAmb	IAmb	04 45 47.7	
	comp=Z,7.5nm,0.6s						
TIXI	Tiksi	42.15	11	i P	P	04 46 03.1	-1.2
KBZ	Khabaz	48.73	302	P	P	04 46 58.0	+1.1
	comp=Z,1.1nm,0.6s,baz=174,slow=10,SNR=2.1						
KBZ	Khabaz	48.73	302	P	P	04 46 58.0	+1.1
KIV	Kislovodsk	48.85	303	i P	P	04 46 57.7	-0.2
KIV				i		04 48 22.1	
KIV				i		04 48 51.6	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KLMR	Klimovskoe	50.46	325	eP	P	04 47 07.7	-2.0
KLMR				pmax	pmax		
	comp=Z,11nm,1.4s						
KLMR	Klimovskoe	50.46	325	eP	P	04 47 07.8	-2.0
KLMR				AMP		04 47 09.4	
	comp=Z,11nm,1.4s						
MOS	Moscow	51.29	318	eP	P	04 47 19.6	+3.5
MOS				e		04 49 20.1	
FITZ	Fitzroy Crossi	53.76	154	P	P	04 47 32.8	-2.0
	comp=Z,2.1nm,0.8s,baz=12,slow=9.3,SNR=2.2						
BRTR	Keskin Array B	56.31	299	P	P	04 47 54.0	+0.6
	comp=Z,0.7nm,0.6s,baz=111,slow=5.4,SNR=6.1						
BRTR	Keskin Array B	56.31	299	ceP	P	04 47 55.2	+1.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	56.62	336	P	P	04 47 55.0	+0.1
	comp=Z,5.8nm,1.0s,baz=86,slow=6.7,SNR=14						
ARCES	ARCESS Array B	56.62	336	P	P	04 47 55.0	+0.1
AKASG	Malin Array Be	56.85	313	P	P	04 47 56.9	+0.1
	comp=Z,0.5nm,0.3s,baz=68,slow=7.5,SNR=6.3						
FINES	FINESS Array B	56.96	326	P	P	04 47 57.9	+0.5
	comp=Z,2.1nm,0.4s,baz=99,slow=7.7,SNR=37						
WRAB	Tennant Creek	59.08	146	P	P	04 48 12.0	-0.8
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRAB	Tennant Creek	59.08	146	P	P	04 48 12.0	-0.8
WRA	Warramunga Arr	59.08	146	P	P	04 48 11.4	-1.4
	comp=Z,2.1nm,0.5s,baz=341,slow=7.8,SNR=40						
WRA	Warramunga Arr	59.08	146	ceP	P	04 48 11.8	-1.0
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AS31	Alice Springs	62.11	149	P	P	04 48 32.8	-0.6
AS31				IAmb	IAmb	04 48 44.0	
	comp=Z,0.9nm,0.9s						
ASAR	Alice Springs	62.11	149	P	P	04 48 32.9	-0.6
	comp=Z,0.9nm,0.5s,baz=337,slow=6.7,SNR=23						
NB2	NORSAR Subarra	64.04	327	P	P	04 48 45.2	-0.7
	comp=Z,0.6nm,0.4s,baz=74,slow=6.5						
NOA	NORSAR Array B	64.04	327	P	P	04 48 45.6	-0.3
	comp=Z,0.5nm,0.7s,baz=37,slow=9.7,SNR=4.8						
GERES	GERESS Array B	67.00	314	P	P	04 49 06.0	+0.7
	comp=Z,0.7nm,0.6s,baz=79,slow=6.9,SNR=6.2						
GERES	GERESS Array B	67.00	314	P	P	04 49 06.0	+0.7
BMAR	Burnt Mountain	68.74	23	P	P	04 49 15.8	0.0
POKR	Poker Plat Res	68.94	25	P	P	04 49 16.4	-0.6
ILAR	Eielson Array	69.31	26	P	P	04 49 18.3	-1.1
	comp=Z,0.4nm,0.5s,baz=291,slow=4.1,SNR=4.8						
KMBO	Kilima Mbogo	70.93	256	P	P	04 49 29.6	-0.7
	comp=Z,1.6nm,0.5s,baz=2.0,slow=4.4,SNR=5.2						
INK	Inuvik	71.59	19	P	P	04 49 32.4	-0.8
	comp=Z,2.5nm,0.8s,baz=354,slow=5.5,SNR=9.2						
BCAR	Beaver Creek A	72.14	26	P	P	04 49 36.1	-0.5
STKA	Stephens Creek	72.62	147	P	P	04 49 37.7	-2.1
	comp=Z,1.3nm,0.6s,baz=7.3,slow=9.1,SNR=4.0						
STKA	Stephens Creek	72.62	147	IAmb	IAmb	04 51 41.5	
	comp=Z,7.4nm,2.0s						
YKA	Yellowknife Ar	81.11	17	P	P	04 50 26.8	-0.5
	comp=Z,1.2nm,0.7s,baz=336,slow=4.7,SNR=23						
ESDC	Sonseca Array	82.48	312	P	P	04 50 35.3	+0.2
	comp=Z,0.5nm,0.8s,baz=54,slow=5.7,SNR=2.5						
FFC	Flin Flon	91.03	15	ceP	P	04 51 14.6	-1.9
TORD	Torodi Ar. Bea	93.31	288	LR	LR	05 40 31.5	
	comp=Z,87nm,18.7s,baz=10.0,slow=40						
ULM	Lac du Bonnet	96.49	13	LR	LR	05 41 50.7	
	comp=Z,58nm,18.0s,baz=113,slow=40						
PDAR	Pinedale Array	99.72	24	LR	LR	05 40 56.2	
	comp=Z,124nm,20.2s,baz=123,slow=38						
PTGA	Pitinga	145.60	331	PKPbc	PKPdf	04 57 50.9	-0.5
	comp=Z,1.8nm,0.5s,baz=36,slow=6.2,SNR=7.1						

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*IDC **01** 04:48:20.2±1.1, 4°09N×127°44E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/53, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=125.3km s-min=15.8km az=66.0*

ISC 01 04:48:25.3±0.9**, 4°2N**±0°3×**127°7E**±0°5**, h35km, n9,** σ**0s67**/9**, mb3.8**/8**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.17	144	Pn	Pn	04 49 54.5	+0.5
	1.8nm,0.3s,baz=313,slow=19,SNR=2.4						
WRA	Warramunga Arr	24.85	165	P	P	04 53 43.6	-1.1
	1.2nm,0.6s,baz=345,slow=11,SNR=7.6						
ASAR	Alice Springs	28.33	168	P	P	04 54 16.4	+0.2
	0.3nm,0.5s,baz=352,slow=7.3,SNR=5.1						
STKA	Stephens Creek	38.23	161	P	P	04 55 41.7	-0.3
	2.4nm,0.7s,baz=348,slow=9.0,SNR=3.8						
SONM	Songino Array	47.18	341	P	P	04 56 54.7	+0.1
	0.2nm,0.5s,baz=133,slow=8.1,SNR=2.6						
MKAR	Makanchi Array	57.73	325	P	P	04 58 13.1	+0.4
	0.5nm,0.5s,baz=116,slow=7.7,SNR=15						
ZALV	Zalesovo Beam	60.62	333	P	P	04 58 31.6	-1.0
	0.5nm,0.6s,baz=123,slow=10,SNR=2.1						
KURBB	Kurchatov Arra	61.87	327	P	P	04 58 41.1	0.0
	1.0nm,0.5s,baz=128,slow=6.2,SNR=20						
BVAR	Borovoye Array	67.46	327	P	P	04 59 17.5	-0.1
	0.4nm,0.7s,baz=108,slow=3.4,SNR=3.8						

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*HEL **01** 04:51:10.7±0.4, 67°63N×33°85E, h0km, ML2.0, Explosion*

*NAO **01** 04:51:11.4±1.1, 67°65N×33°76E, ML2.5*

*IDC **01** 04:51:13.0±2.0, 67°66N×33°52E, h0km, mb1 3.5/4, mb1mx3.0/56, mbtmp3.5/4, ML2.3/3, Error ellipse: s-maj=22.2km s-min=9.5km az=81.0*

ISC 01 04:51:08.7±1.5**, 67°63N**±0°04×**34°05E**±0°08**, h0km, n31,** σ**1s69**/53**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APZ9	Apatity	0.25	257	Pg	Pg	04 51 14.5	+1.0
APZ9				Lg	Lg	04 51 17.0	
APZ9				Rg	Rg	04 51 17.8	
APZ9	Apatity	0.25	257	Pg	Pg	04 51 14.5	+1.0
APZ9				Sg	Sg	04 51 17.0	+0.2
APA0	Apatity Array	0.40	268	Pg	Pg	04 51 16.9	+0.5
	baz=82,slow=16						
APA0				Lg	Lg	04 51 21.0	
	baz=75,slow=28						
APA0				Rg	Rg	04 51 22.7	
	baz=73,slow=37						
APA0	Apatity Array	0.40	268	Pg	Pg	04 51 16.9	+0.5
	baz=82,slow=16						
APA0				Sg	Sg	04 51 21.0	-0.6
	baz=75,slow=28						
VRF	Varrio	1.70	276	PG	Pn	04 51 39.7	+0.2
VRF				MSG		04 51 59.2	
	comp=Z,16nm,0.2s						
VRF				SG	Sn	04 52 00.2	-1.7
OLKF	Oulanka, Finla	2.25	236	PG	Pn	04 51 49.5	+2.4
OLKF				SG	Sb	04 52 18.6	+0.2
KU6	Riekki	2.30	228	PB	Pn	04 51 50.3	+2.5
	baz=40						
KU6				MSG		04 52 17.3	
	comp=Z,7.5nm,0.2s						
KU6				SG	Sb	04 52 20.4	+0.5
SGF	Sodankyl	2.89	270	PN	Pn	04 51 56.8	+0.8
SGF				SG	Sb	04 52 36.9	-0.1
RNF	Rovaniemi	3.30	256	PN	Pn	04 52 02.9	+1.4
	baz=71						
ARA0	ARCESS Array S	3.67	305	Pn	Pn	04 52 07.7	+1.1
	baz=122,slow=16						
ARA0				Pg	Pb	04 52 16.5	+2.2
	baz=115,slow=16						
ARA0				Sn	Sn	04 52 48.9	-1.7
	baz=118,slow=28						
ARA0				Lg	Lg	04 52 59.9	
	baz=114,slow=37						
ARA0	ARCESS Array S	3.67	305	Pn	Pn	04 52 07.7	+1.1
	baz=122,slow=16						
ARA0				Pg	Pb	04 52 16.5	+2.2
	baz=115,slow=16						
ARA0				Sn	Sn	04 52 48.9	-1.7
	baz=118,slow=28						
ARA0				Sg	Sb	04 52 59.9	+0.6
	baz=114,slow=37						
ARA0	ARCESS Array S	3.67	305	PN	Pn	04 52 07.7	+1.1
	baz=121						
ARA0				SN	Sn	04 52 48.9	-1.7
ARCES	ARCESS Array B	3.67	305	Pn	Pn	04 52 07.7	+1.1
	baz=122,slow=15,SNR=155						
ARCES				Pg	Pb	04 52 15.7	+1.4
	baz=114,slow=15,SNR=16						
ARCES				Sn	Sn	04 52 49.7	-0.9
	baz=118,slow=25,SNR=9.5						
ARCES				Lg	Lg	04 53 00.9	
	baz=120,slow=31,SNR=6.2						
TOF	Tornio	4.14	253	PN	Pn	04 52 14.1	+1.0
OUL	Oulu	4.16	236	PB	Pb	04 52 20.4	-2.2
KTK1	Kautokeino	4.24	294	Pn	Pn	04 52 16.1	+1.6
KTK1				Sn	Sn	04 53 02.0	-2.6
KTK1				Lg	Lg	04 53 16.1	
KTK1	Kautokeino	4.24	294	Pn	Pn	04 52 16.1	+1.6
KTK1				Sn	Sn	04 53 02.0	-2.6
PAJU	Pajala	4.28	267	PN	Pn	04 52 15.4	+0.5
LANU	Lannavaara	4.59	281	PN	Pn	04 52 19.0	-0.3
LANU				SG	Sb	04 53 29.3	+3.6
KALU	Kalix	4.59	252	PG	Pb	04 52 32.6	+2.6
	baz=62						
KIF	Kilpisjarvi	5.10	292	Pn	Pn	04 52 26.7	+0.5
KIF				Sn	Sn	04 53 23.4	-2.3
KIF				Lg	Lg	04 53 42.3	
KIF	Kilpisjarvi	5.10	292	Pn	Pn	04 52 26.7	+0.5
KIF				Sn	Sn	04 53 23.4	-2.3
FIA0	FINESS Array S	7.09	213	Pn	Pn	04 52 55.4	+1.9
	baz=26,slow=16						
FIA0				Sn	Sn	04 54 11.7	-3.0
	baz=23,slow=18						
FIA0				Lg	Lg	04 54 46.5	
	baz=31,slow=28						
FIA0	FINESS Array S	7.09	213	Pn	Pn	04 52 55.4	+1.9
	baz=26,slow=16						
FIA0				Sn	Sn	04 54 11.7	-3.0
	baz=23,slow=18						
FINES	FINESS Array B	7.09	213	Pn	Pn	04 52 55.0	+1.6
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=4.3						
FINES				Sn	Sn	04 54 13.3	-1.3
	comp=Z,0.1nm,0.3s,baz=27,slow=21,SNR=3.9						
FINES				Lg	Lg	04 54 49.1	
	comp=Z,0.9nm,0.3s,baz=24,slow=25,SNR=12						
SPA0	Spitsbergen Ar	11.71	342	Pn	Pn	04 53 55.3	-1.5
	baz=155,slow=22						
SPA0	Spitsbergen Ar	11.71	342	Pn	Pn	04 53 55.3	-1.5
	baz=155,slow=22						
SPITS	Spitsbergen Ar	11.71	342	Pn	Pn	04 53 55.4	-1.4
	baz=145,slow=21,SNR=0.9						
NB2	NORSAR Subarra	11.83	247	Pn	Pn	04 53 58.0	-0.6
NB2	NORSAR Subarra	11.83	247	Pn	Pn	04 53 58.0	-0.6
NOA	NORSAR Array B	11.83	247	Pn	Pn	04 53 56.6	-1.9
	comp=Z,0.0nm,0.3s,baz=47,slow=12,SNR=1.2						

NOU 01 05:25:37.8, 16°34S×168°31E, h14km, MLv4.7, Vanuatu Islands, Vanuatu Islands

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.38**	**185**	P	Pn	05 26 01.9	-0.8
SANVU	**Saraoutou**	**1.39**	**310**	P	Pn	05 26 02.2	-0.5
KOUNC	**Koumac, New Ca**	**5.67**	**222**	P	Pn	05 27 01.5	-0.1
DZM	**Mont Dzumac**	**5.97**	**197**	P	Pn	05 27 05.8	-0.1
	17nm,2.6s						
NOUC	**Port Laguerre**	**6.04**	**198**	P	Pn	05 27 07.0	+0.3

*IDC **01** 05:31:37.6±8.1, 15.78N×99.23W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/36, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=144.8km s-min=125.8km az=63.0*
*MEX **01** 05:31:52.9±0.6, 16.95N×100.52W, h7km±3km, MD3.9*
ISC 01 05:31:52.2±1.3**, 17.05N**±0.09×**100.52W**±0.05**, h14**km±8km**, n13,** σ1**.65**/21**, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.24**	**90**	*e*P	**Pg**	**05 31 57.6**	**+0.2**
CAIG				*e*S	**Sg**	**05 32 01.4**	**+0.6**
ACP2	**Acapulco**	**0.63**	**106**	*e*P	**Pg**	**05 32 03.6**	**-0.9**
ACP2				*e*S	**Sg**	**05 32 12.4**	**-0.4**
ZIIG	**Zihuatanejo**	**1.06**	**302**	*e*P	**Pg**	**05 32 11.3**	**-1.4**
ZIIG				*e*S	**Sg**	**05 32 25.8**	**-0.8**
MEIG	**Mezcala**	**1.22**	**44**	*e*P	**Pn**	**05 32 13.8**	**-1.1**
MEIG				*i* S	**Sb**	**05 32 30.3**	**-0.5**
ARIG	**Puente Sto Nin**	**1.23**	**7**	*e*P	**Pn**	**05 32 14.1**	**-0.9**
ARIG				*i* S	**Sb**	**05 32 30.6**	**-0.5**
PLIG	**Platanillo**	**1.65**	**36**	*i* P	**Pn**	**05 32 20.7**	**-0.1**
PLIG				*i* S	**Sn**	**05 32 41.2**	**-0.6**
TLIG	**Tlapa**	**1.93**	**74**	*i* P	**Pn**	**05 32 23.8**	**-1.0**
TLIG				*i* S	**Sn**	**05 32 47.1**	**-1.7**
TXIG	**Tlaxiaco**	**2.63**	**85**	*i* P	**Pn**	**05 32 34.2**	**-0.4**
TXIG				*e*S	**Sn**	**05 33 04.4**	**-2.1**
HLIG	**Huajuapan de L**	**2.70**	**73**	*i* P	**Pn**	**05 32 35.0**	**-0.5**
HLIG				*i* S	**Sn**	**05 33 07.3**	**-0.8**
TXAR	**Lajitas Array**	**12.56**	**347**	Pn	Pn	05 34 59.9	+9.2
	0.1nm,0.3s,baz=169,slow=16,SNR=2.6						
ANMO	**Albuquerque**	**18.60**	**345**	P	**Pn**	**05 36 14.4**	**+4.9**
	1.6nm,0.9s,baz=143,slow=12,SNR=5.2						
NVAR	**Mina Array Bea**	**26.39**	**327**	P	**P**	**05 37 30.9**	**+2.4**
	0.2nm,0.6s,baz=133,slow=10.0,SNR=3.9						
YKA	**Yellowknife Ar**	**46.46**	**351**	P	**P**	**05 40 17.5**	**-0.9**
	0.4nm,0.8s,baz=156,slow=7.4,SNR=5.7						

*IDC **01** 05:38:59.9±1.7, 1.39N×97.70E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/35, mbtmp3.6/5, Error ellipse: s-maj=47.2km s-min=22.2km az=61.0*
*DJA **01** 05:39:09.3±0.5, 2°N±5°×9°8E±°, h27km±12km, M3.6/8, MLv3.6/8*
ISC 01 05:39:08.4±0.9**, 1.63N**±0.07×**98.00E**±0.07**, h50**km**, n13,** σ1**.35**/11**, mb3.7**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.53**	**233**	P	**Pn**	**05 39 20.3**	**+0.2**
GSI				S	**Sn**	**05 39 30.2**	**+1.8**
PSI	**Prapat**	**1.49**	**38**	Pn	**Pn**	**05 39 32.6**	**-0.3**
	8.0nm,0.3s,baz=180,slow=3.8,SNR=34						
PSI				LR	LR	05 40 25.7	
	comp=Z,149nm,19.1s,baz=240,slow=48						
MNSI	**Mandailing Nat**	**1.78**	**118**	P	**Pn**	**05 39 38.4**	**+1.6**
TPTI		**1.82**	**333**	P	**Pn**	**05 39 38.1**	**+0.8**
TSI	**Tuntungan**	**1.95**	**17**	P	**Pn**	**05 39 41.3**	**+2.3**
H08S2	**Diego Garcia H**	**27.06**	**250**	T	T	06 12 15.2	
	baz=71,slow=74,SNR=4.8						
H08S3	**Diego Garcia H**	**27.06**	**250**	T	T	06 12 01.8	
	baz=71,slow=74,SNR=19						
H08S1	**Diego Carcia H**	**27.08**	**250**	T	T	06 12 13.9	
	baz=71						
WRA	**Warramunga Arr**	**41.59**	**123**	P	**P**	**05 46 51.0**	**-0.8**
	0.4nm,0.4s,baz=303,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**43.02**	**128**	P	**P**	**05 47 02.1**	**-1.3**
	0.2nm,0.6s,baz=300,slow=8.2,SNR=5.5						
SONM	**Songino Array**	**46.60**	**8**	P	**P**	**05 47 31.2**	**-0.4**
	0.4nm,0.4s,baz=192,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array**	**47.03**	**345**	P	**P**	**05 47 34.6**	**-0.3**
	1.0nm,0.5s,baz=156,slow=8.9,SNR=19						
ZALV	**Zalesovo Beam**	**53.27**	**350**	P	**P**	**05 48 21.4**	**-0.6**
	0.5nm,0.4s,baz=180,slow=5.9,SNR=4.1						

EAF 01 05:54:20.1±3.7**, 0.51S**×**34.24E, h0**km±47km**, MD3.3, Lake Victoria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TEBE	**Entebbe**	**1.85**	**288**	*e*P	Pb	05 54 55.0	0.0
TEBE				*e*S	Sg	05 55 21.7	+2.0
TEBE	**Entebbe**	**1.85**	**288**	*e*P	Pb	05 54 55.0	0.0
TEBE				*e*S	Sg	05 55 21.7	+2.0
MBAR	**Mbarara**	**3.50**	**268**	*e*P	Pn	05 55 17.7	+1.7
MBAR				*e*S	Sb	05 56 03.1	-3.2
MBAR	**Mbarara**	**3.50**	**268**	*e*P	Pn	05 55 17.7	+1.7
MBAR				*e*S	Sb	05 56 03.1	-3.2
KIBA	**Kibaya**	**5.30**	**154**	*i* P	Pn	05 55 40.1	-0.7
KIBA				*i* S	Sn	05 56 38.8	-4.1

*JMA **01** 05:54:41.2±0.1, 41.56N×142.79E, h32km±3km, M3.1*
*IDC **01** 05:54:44.5±2.6, 41.49N×142.88E, h60km±20km, mb3.2/7, mb1 3.4/10, mb1mx3.2/45, mbtmp3.5/10, ML3.1/3, Error ellipse: s-maj=33.3km s-min=15.2km az=104.0*
ISC 01 05:54:41.8±1.3**, 41.57N**±0.05×**142.80E**±0.06**, h30**km±10km**, n31,** σ1**.15**/33**, mb3.5**/7**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.52**	**31**	P	**Pb**	**05 54 51.9**	**-0.6**
JEM				*e*S	**Sb**	**05 54 59.6**	**-0.1**
JNBK	**Urakawa-nobuka**	**0.71**	**357**	P	**Pn**	**05 54 54.8**	**-1.0**
JNBK				*e*S	**Sb**	**05 55 05.2**	**+0.1**
JTHR	**Tokachihiroo**	**0.81**	**27**	P	**Pn**	**05 54 56.4**	**-0.8**
JTHR				*e*S	**Sn**	**05 55 07.4**	**-0.8**
JSHD	**Hidakashinhida**	**0.87**	**343**	P	**Pn**	**05 54 58.0**	**-0.1**
JCH	**Churui**	**1.12**	**22**	P	**Pn**	**05 55 01.4**	**-0.1**
JCH				*e*S	**Sn**	**05 55 16.0**	**+0.1**
JARK	**Aomorirokkasho**	**1.22**	**243**	P	**Pn**	**05 55 02.2**	**-0.6**
JBT2	**Biratori 2**	**1.25**	**345**	P	**Pn**	**05 55 03.3**	**+0.1**
JOT	**Ohata**	**1.33**	**262**	P	**Pn**	**05 55 03.8**	**-0.6**
JKB	**Kayabe**	**1.36**	**284**	P	**Pn**	**05 55 04.1**	**-0.7**
JTM	**Tenmabayashi**	**1.53**	**240**	P	**Pn**	**05 55 07.2**	**+0.2**
JTM				*e*S	**Sn**	**05 55 26.3**	**+0.4**
JOB	**Onbets**	**1.54**	**30**	P	**Pn**	**05 55 08.4**	**+1.2**
JANG	**Nango**	**1.54**	**220**	P	**Pn**	**05 55 07.0**	**-0.3**
JANG				*e*S	**Sn**	**05 55 25.6**	**-0.7**
JNB	**Noboribetsu**	**1.59**	**305**	P	**Pn**	**05 55 07.2**	**-0.7**
JNB				*e*S	**Sn**	**05 55 26.9**	**-0.6**
JFR	**Furan**	**1.60**	**355**	P	**Pn**	**05 55 08.8**	**+0.7**
JEW	**Eniwo**	**1.62**	**322**	P	**Pn**	**05 55 09.3**	**+1.0**
ASAJ	**Asahikawa**	**2.55**	**357**	P	**Pn**	**05 55 23.4**	**+2.3**
	6.3nm,0.3s,baz=224,slow=7.9,SNR=27						
ASAJ				S	**Sb**	**05 55 56.4**	**-1.3**
	3.3nm,0.3s,baz=344,slow=32,SNR=6.3						
MJAR	**Matsushiro Arr**	**6.16**	**217**	P	**Pn**	**05 56 12.4**	**+1.6**
	0.1nm,0.3s,baz=32,slow=12,SNR=6.1						
KSRS	**Korea Array**	**12.20**	**255**	P	**Pn**	**05 57 37.0**	**+3.5**
	0.1nm,0.3s,baz=67,slow=13,SNR=2.2						
SONM	**Songino Array**	**26.45**	**296**	P	**P**	**06 00 16.4**	**+0.3**
	0.2nm,0.3s,baz=95,slow=7.2,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**29.88**	**129**	T	T	06 32 06.4	
	baz=323,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**29.89**	**129**	T	T	06 32 11.4	
	baz=323,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**29.90**	**129**	T	T	06 32 13.4	
	baz=323,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**30.73**	**131**	T	T	06 33 14.8	
	baz=324,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**30.74**	**131**	T	T	06 33 12.3	
	baz=324,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**30.75**	**131**	T	T	06 33 18.0	
	baz=324,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**39.79**	**308**	P	**P**	**06 02 13.8**	**+1.9**
	0.6nm,0.5s,baz=85,slow=7.3,SNR=2.5						
MKAR	**Makanchi Array**	**42.77**	**298**	P	**P**	**06 02 35.7**	**-0.8**
	0.3nm,0.6s,baz=82,slow=9.1,SNR=5.6						
YKA	**Yellowknife Ar**	**59.37**	**32**	P	**P**	**06 04 40.8**	**0.0**
	0.2nm,0.7s,baz=307,slow=6.1,SNR=2.5						
WRA	**Warramunga Arr**	**61.70**	**189**	P	**P**	**06 04 56.1**	**-1.1**
	0.2nm,0.5s,baz=6.9,slow=6.9,SNR=1.6						
FINES	**FINESS Array B**	**65.32**	**332**	P	**P**	**06 05 19.0**	**-1.6**
	1.8nm,1.0s,baz=338,slow=4.5,SNR=3.5						
BRTR	**Keskin Array B**	**76.65**	**312**	P	**P**	**06 06 30.1**	**+0.2**
	0.6nm,0.9s,baz=32,slow=8.8,SNR=3.6						

*IDC **01** 06:33:05.1±1.0, 21.49S×66.68W, h220km±14km, mb3.1/2, mb1 3.3/6, mb1mx3.1/22, mbtmp3.6/6, Error ellipse: s-maj=22.5km s-min=13.9km az=108.0*
ISC 01 06:33:05.4±0.9**, 21.49S**±0.08×**66.63W**±0.10**, h219**km**, n7,** σ1**.16**/9**, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.39**	**242**	P	**Pn**	**06 33 49.9**	**+0.2**
	5.1nm,0.3s,baz=60,slow=6.3,SNR=49						
LVC				S	**S**	**06 34 23.6**	**-0.5**
	2.6nm,0.3s,baz=240,slow=21,SNR=17						
LPAZ	**La Paz**	**5.36**	**344**	P	**Pn**	**06 34 26.1**	**+0.5**
	0.5nm,0.3s,baz=156,slow=5.3,SNR=16						
LPAZ				S	**S**	**06 35 29.2**	**+0.4**
	0.1nm,0.3s,baz=303,slow=16,SNR=8.7						
SIV	**San Ignacio**	**7.59**	**45**	P	**Pn**	**06 34 52.1**	**-1.4**
	3.7nm,0.3s,baz=253,slow=11,SNR=98						
CPUP	**Villa Florida**	**9.78**	**121**	P	**Pn**	**06 35 23.6**	**+2.0**
	0.2nm,0.3s,baz=309,slow=14,SNR=4.0						
TORD	**Torodi Ar. Bea**	**75.36**	**69**	P	**P**	**06 44 24.2**	**-1.1**
	0.3nm,0.4s,baz=232,slow=6.5,SNR=1.6						
YKA	**Yellowknife Ar**	**91.89**	**340**	P	**P**	**06 45 48.5**	**+0.2**
	0.1nm,0.4s,baz=128,slow=5.0,SNR=2.2						
MKAR	**Makanchi Array**	**144.35**	**37**	PKP	**PKPab**	**06 52 14.2**	**+0.1**
	0.3nm,0.5s,baz=300,slow=4.1,SNR=6.1						

*NNC **01** 06:58:28.0±0.9, 40.75N×77.71E, h3km±16km, mb4.0, mpv3.6, Error ellipse: s-maj=6.1km s-min=4.1km az=170.0*
*SOME **01** 06:58:30.3, 40.90N×77.67E, h5km*
*KRNET **01** 06:58:30.7±0.1, 40.86N×77.66E, h18km, mb3.2*
ISC 01 06:58:26.6±1.9**, 40.68N**±0.07×**77.53E**±0.03**, h1**km±12km**, n71,** σ1**.33**/105**, 24C-13D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.48**	**350**	⇑*i*P	**Pg**	**06 58 55.6**	**+0.7**
	baz=45						
KDJ				⇑*i*S	**Sn**	**06 59 13.6**	**-1.0**
	baz=45						
ULHL	**Ulahol**	**1.84**	**329**	⇑*i*P	**Pg**	**06 59 03.0**	**+1.0**
	baz=23						
ULHL				⇑*i*S	**Sg**	**06 59 26.7**	**+0.8**
	baz=23						
ULHL	**Ulahol**	**1.84**	**329**	P	**Pg**	**06 59 03.3**	**+1.3**
	SNR=80						
PRZ	**Przheval'sk**	**1.92**	**20**	⇑*i*P	**Pg**	**06 59 02.4**	**-1.0**
	baz=18						
PRZ				⇑*i*S	**Sb**	**06 59 26.2**	**-0.8**
	baz=18						
ANVS	**Anan'yevo**	**2.11**	**3**	⇑*i*P	**Pg**	**06 59 06.5**	**-0.5**
	baz=0.0						
ANVS				⇑*i*S	**Sb**	**06 59 32.5**	**0.0**
	baz=0.0						
BOOM	**Boomskoye usch**	**2.17**	**327**	⇓*i*P	**Pg**	**06 59 08.8**	**+0.6**
	baz=22						
BOOM				⇓*i*S	**Sg**	**06 59 36.3**	**-0.1**
	baz=22						
TNSS	**Tian-Shan**	**2.40**	**350**	*e*P	**Pg**	**06 59 12.3**	**-0.3**
	45nm,0.4s						
TNSS				*e*S	**Sb**	**06 59 42.3**	**+1.2**
	32nm,0.5s						
TNSS	**Tian-Shan**	**2.40**	**350**	Pg	**Pb**	**06 59 11.1**	**+0.3**
	45nm,0.4s						
TNSS				Lg	Lg	06 59 43.8	
	32nm,0.5s						
IZV	**Izvestkoviy**	**2.46**	**344**	*e*P	**Pg**	**06 59 13.6**	**-0.1**
	18nm,0.4s						
IZV				*e*S	**Sg**	**06 59 44.8**	**-0.7**
	77nm,0.4s						
IZV	**Izvestkoviy**	**2.46**	**344**	Pg	**Pg**	**06 59 12.4**	**-1.2**
	18nm,0.4s						
IZV				Lg	Lg	06 59 45.9	
	77nm,0.4s						
SATY	**Saty**	**2.47**	**15**	*e*P	**Pg**	**06 59 12.7**	**-1.3**
	14nm,0.4s						
SATY				*e*S	**Sb**	**06 59 42.7**	**-0.1**
	71nm,0.5s						
SATY	**Saty**	**2.47**	**15**	Pg	**Pb**	**06 59 11.3**	**-0.5**
	14nm,0.4s						
SATY				Lg	Lg	06 59 44.2	
	71nm,0.5s						
MDOK	**Medeo**	**2.51**	**352**	*e*P	**Pg**	**06 59 14.1**	**-0.7**
	29nm,0.4s						
MDOK				*e*S	**Sb**	**06 59 45.5**	**+1.4**
	57nm,0.5s						
MDOK	**Medeo**	**2.51**	**352**	Pg	**Pb**	**06 59 12.4**	**-0.2**
	20nm,0.5s						
MDOK				Lg	Lg	06 59 46.5	
	97nm,0.6s						
MDOK	**Medeo**	**2.51**	**352**	Pg	**Pg**	**06 59 13.5**	**-1.2**
	29nm,0.4s						
MDOK				Lg	Lg	06 59 47.0	
	57nm,0.5s						
AAA	**Alma-Ata**	**2.57**	**350**	*e*P	**Pg**	**06 59 16.1**	**+0.2**
	30nm,0.3s						
AAA				*e*S	**Sg**	**06 59 49.5**	**+0.2**
	78nm,0.4s						
AAA	**Alma-Ata**	**2.57**	**350**	Pg	**Pg**	**06 59 15.4**	**-0.5**
	30nm,0.3s						
AAA				Lg	Lg	06 59 50.0	
	78nm,0.4s						
KNDC	**Almaty**	**2.57**	**351**	⇑Pg	**Pb**	**06 59 13.5**	**-0.1**
	46nm,0.5s						
KNDC				⇓Lg	Lg	06 59 49.0	
	113nm,0.5s						
KOTS	**Kotyrbulak**	**2.57**	**353**	*e*P	**Pg**	**06 59 15.4**	**-0.5**
	47nm,0.3s						
KOTS				*e*S	**Sb**	**06 59 47.8**	**+1.9**
	70nm,0.4s						
KOTS	**Kotyrbulak**	**2.57**	**353**	Pg	**Pg**	**06 59 14.4**	**-1.5**
	47nm,0.3s						
KOTS				Lg	Lg	06 59 48.7	
	70nm,0.4s						
KST	**Kastek**	**2.64**	**334**	*e*P	**Pg**	**06 59 17.3**	**+0.1**
	27nm,0.4s						
KST				*e*S	**Sg**	**06 59 51.7**	**+0.3**
	25nm,0.6s						
KST	**Kastek**	**2.64**	**334**	Pg	**Pg**	**06 59 16.6**	**-0.6**
	48nm,0.4s						
KST				Lg	Lg	06 59 52.3	
	25nm,0.6s						
TKM2	**Tokmak 2**	**2.67**	**328**	⇑*i*P	**Pb**	**06 59 15.7**	**+0.4**
	baz=24						
TKM2				⇑*i*S	**Sb**	**06 59 48.3**	**-0.3**
	baz=24						
TKM2	**Tokmak 2**	**2.67**	**328**	P	**Pg**	**06 59 18.6**	**+0.9**
	SNR=13						
TKM2	**Tokmak 2**	**2.67**	**328**	⇓Pg	**Pg**	**06 59 17.0**	**-0.8**
	4.3nm,0.4s						
TKM2				⇓Lg	Lg	06 59 53.0	
	26nm,1.1s						
ARLS	**Aral**	**2.69**	**297**	⇓*i*P	**Pg**	**06 59 17.2**	**-1.1**
	baz=93						
ARLS				⇓*i*S	**Sb**	**06 59 51.0**	**+1.7**
	baz=93						
UZB	**Uzynbulak**	**2.71**	**24**	*e*P	**Pg**	**06 59 16.9**	**-1.6**
	12nm,0.5s						
UZB				*e*S	**Sb**	**06 59 50.7**	**+1.0**
	31nm,0.8s						
UZB	**Uzynbulak**	**2.71**	**24**	Pg	**Pb**	**06 59 16.0**	**+0.1**
	12nm,0.5s						
UZB				Lg	Lg	06 59 51.1	
	31nm,0.8s						
UCH	**Uchtor**	**2.75**	**305**	⇑*i*P	**Pg**	**06 59 17.4**	**-1.9**
	baz=1.0						
UCH				⇑*i*S	**Sb**	**06 59 52.1**	**+0.9**
	baz=1.0						
UCH	**Uchtor**	**2.75**	**305**	P	**Pb**	**06 59 17.3**	**+0.5**
	SNR=13						
KBK	**Karagaybulak**	**2.77**	**316**	⇑*i*P	**Pb**	**06 59 17.3**	**+0.3**
	baz=12						
KBK				⇑*i*S	**Sb**	**06 59 51.4**	**-0.1**
	baz=12						
KBK	**Karagaybulak**	**2.77**	**316**	P	**Pg**	**06 59 21.0**	**+1.3**
	SNR=22						
KURS	**Kuram**	**2.85**	**9**	*e*P	**Pg**	**06 59 19.4**	**-1.9**
	8.9nm,0.5s						
KURS				*e*S	**Sb**	**06 59 54.5**	**+0.8**
	20nm,0.6s						
KURS	**Kuram**	**2.85**	**9**	Pg	**Pb**	**06 59 18.2**	**-0.1**
	8.9nm,0.5s						
KURS				Lg	Lg	06 59 55.0	
	20nm,0.6s						
SHLS	**Shalkode**	**2.87**	**30**	*e*P	**Pg**	**06 59 22.9**	**+1.3**
	10nm,0.3s						
SHLS				*e*S	**Sg**	**07 00 00.9**	**+2.2**
	82nm,0.5s						
SHLS	**Shalkode**	**2.87**	**30**	Pg	**Pg**	**06 59 22.1**	**+0.5**
	17nm,0.3s						
SHLS				Lg	Lg	07 00 01.5	
	82nm,0.5s						
DGS	**Degeres**	**2.88**	**333**	*e*P	**Pg**	**06 59 21.6**	**-0.2**
	38nm,0.5s						
DGS				*e*S	**Sg**	**06 59 58.8**	**-0.3**
	40nm,0.4s						
DGS	**Degeres**	**2.88**	**333**	Pg	**Pg**	**06 59 21.6**	**-0.2**
	38nm,0.5s						
DGS				Lg	Lg	06 59 59.8	
	40nm,0.4s						
KPKS	**Kokpek**	**2.92**	**17**	*e*P	**Pg**	**06 59 20.5**	**-2.0**
	18nm,0.3s						
KPKS				*e*S	**Sb**	**06 59 56.7**	**+1.1**
	49nm,0.4s						
AAK	**Ala-Archa**	**3.00**	**312**	⇑*i*P	**Pb**	**06 59 20.8**	**-0.2**
	baz=8.0						
AAK				⇑*i*S	**Sb**	**06 59 57.7**	**-0.5**
	baz=8.0						
AAK	**Ala-Archa**	**3.00**	**312**	P	**Pg**	**06 59 25.2**	**+1.1**
	SNR=12						
AAK	**Ala-Archa**	**3.00**	**312**	Pg	**Pg**	**06 59 24.7**	**+0.5**
	11nm,0.7s						
AAK				⇑Lg	Lg	07 00 04.0	
	29nm,1.1s						
PDGK	**Podgornoye**	**3.02**	**28**	Pg	**Pb**	**06 59 21.4**	**0.0**
	4.5nm,0.4s						
PDGK				Lg	Lg	07 00 00.3	
	29nm,0.5s						
PDGK	**Podgornoye**	**3.02**	**28**	⇓Pg	**Pb**	**06 59 17.6**	**-3.8**
	5.6nm,0.6s						
PDGK				⇓Lg	Lg	07 00 00.6	
	62nm,0.9s						
KTBS	**Karatobe**	**3.10**	**349**	*e*P	**Pg**	**06 59 24.3**	**-1.7**
	12nm,0.6s						
KTBS				*e*S	**Sb**	**07 00 03.4**	**+2.6**
	103nm,0.4s						
KTBS	**Karatobe**	**3.10**	**349**	Pg	**Pb**	**06 59 23.7**	**+1.2**
	12nm,0.6s						
KTBS				Lg	Lg	07 00 04.6	
	103nm,0.4s						
CHMS	**Chumysh**	**3.11**	**319**	⇑*i*P	**Pb**	**06 59 22.1**	**-0.7**
	baz=15						
CHMS				⇑*i*S	**Sb**	**06 59 59.4**	**-1.9**
	baz=15						
CHMS	**Chumysh**	**3.11**	**319**	P	**Pg**	**06 59 26.9**	**+0.6**
	SNR=10						
CHKK	**Chushkaly**	**3.20**	**353**	*e*P	**Pg**	**06 59 26.2**	**-1.8**
	9.8nm,0.3s						
CHKK				*e*S	**Sb**	**07 00 06.3**	**+2.5**
	38nm,0.3s						
CHKK	**Chushkaly**	**3.20**	**353**	Pg	**Pb**	**06 59 25.0**	**+0.7**
	9.8nm,0.3s						
CHKK				Lg	Lg	07 00 07.5	
	38nm,0.3s						
AML	**Almayashu**	**3.23**	**298**	⇓*e*P	**Pb**	**06 59 25.0**	**0.0**
	baz=94						
AML				⇓*i*S	**Sb**	**07 00 04.4**	**-0.6**
	baz=94						
AML	**Almayashu**	**3.23**	**298**	P	**Pg**	**06 59 31.2**	**+2.6**
	SNR=11						
KRBS	**Karabastau**	**3.32**	**336**	*e*P	**Pg**	**06 59 29.1**	**-1.1**
	14nm,0.4s						
KRBS				*e*S	**Sg**	**07 00 10.9**	**-2.3**
	45nm,0.5s						
KRBS	**Karabastau**	**3.32**	**336**	Pg	**Pg**	**06 59 28.2**	**-2.0**
	14nm,0.4s						
KRBS				Lg	Lg	07 00 12.3	
	45nm,0.5s						
KUU	**Kurty**	**3.33**	**345**	*e*P	**Pg**	**06 59 28.3**	**-2.2**
	6.9nm,0.3s						
KUU				*e*S	**Sb**	**07 00 10.1**	**+2.5**
	14nm,0.6s						
KUU	**Kurty**	**3.33**	**345**	Pg	**Pb**	**06 59 27.4**	**+0.9**
	6.9nm,0.3s						
KUU				Lg	Lg	07 00 10.7	
	14nm,0.6s						
USP	**Ospenovka**	**3.44**	**320**	P	**Pg**	**06 59 32.2**	**-0.3**
	SNR=19						
EKS2	**Erkin-Say**	**3.44**	**306**	⇑*e*P	**Pb**	**06 59 27.4**	**-1.1**
	baz=3.0						
EKS2				⇑*i*S	**Sb**	**07 00 08.4**	**-2.4**
	baz=3.0						
EKS2	**Erkin-Say**	**3.44**	**306**	P	**Pg**	**06 59 34.5**	**+1.9**
	SNR=7.9						
MNBS	**Baschi**	**3.46**	**10**	*e*P	**Pg**	**06 59 30.6**	**-2.3**
	5.2nm,0.3s						
MNBS				*e*S	**Sb**	**07 00 13.6**	**+2.3**
	32nm,0.3s						
MNBS	**Baschi**	**3.46**	**10**	Pg	**Pb**	**06 59 29.6**	**+0.8**
	5.2nm,0.3s						
MNBS				Lg	Lg	07 00 14.4	
	32nm,0.3s						
KTMS	**Ketmen**	**3.47**	**36**	*e*P	**Pb**	**06 59 29.8**	**+0.8**
	6.4nm,0.2s						
KTMS				*e*S	**Sb**	**07 00 12.8**	**+1.1**
	29nm,0.5s						
KTMS	**Ketmen**	**3.47**	**36**	Pg	**Pb**	**06 59 29.3**	**+0.3**
	6.4nm,0.2s						
KTMS				Lg	Lg	07 00 14.1	
	29nm,0.5s						
ARXS	**Arharly**	**3.54**	**3**	*e*P	**Pg**	**06 59 32.4**	**-2.1**
	4.9nm,0.3s						
ARXS				*e*S	**Sb**	**07 00 16.3**	**+2.7**
	24nm,0.4s						
ARXS	**Arharly**	**3.54**	**3**	Pg	**Pb**	**06 59 30.4**	**+0.3**
	14nm,0.5s						
ARXS				Lg	Lg	07 00 16.3	
	24nm,0.4s						
MRKS	**Merke**	**3.83**	**304**	*e*P	**Pg**	**06 59 40.7**	**+0.6**
	6.2nm,0.4s						
MRKS				*e*S	**Sg**	**07 00 31.2**	**+1.6**
	6.4nm,0.4s						
MRKS	**Merke**	**3.83**	**304**	Pg	**Pg**	**06 59 39.6**	**-0.4**
	6.2nm,0.4s						
MRKS				Lg	Lg	07 00 31.6	
	6.4nm,0.4s						
DJR	**Jarkent**	**4.01**	**24**	*e*P	**Pb**	**06 59 39.8**	**+1.6**
	4.3nm,0.4s						
DJR				*e*S	**Sb**	**07 00 29.4**	**+2.2**
	11nm,0.4s						
DJR	**Jarkent**	**4.01**	**24**	Pg	**Pb**	**06 59 39.8**	**+1.6**
	4.3nm,0.4s						
DJR				Lg	Lg	07 00 32.2	
	11nm,0.4s						
KK31	**Karatay Array**	**5.77**	**297**	⇑Pg	**Pg**	**07 00 15.8**	**-1.5**
	0.9nm,0.7s,baz=118,slow=16,SNR=7.3						
KK31				⇑Lg	Lg	07 01 32.7	
	0.7nm,0.5s,baz=111,slow=29,SNR=5.6						
MK31	**Makanchi Array**	**7.02**	**28**	⇓Pn	**Pn**	**07 00 10.0**	**-0.5**
	0.2nm,0.5s,baz=194,slow=13,SNR=5.8						
MK31				⇓Lg	Lg	07 02 05.5	
	0.8nm,0.6s						

*BJI **01** 07:01:51.4±0.0, 4.33N×126.02E, h112km, mB5.2/50, mb5.2/74*
*MAN **01** 07:01:54.8, 4.61N×125.89E, h45km, MS4.7*
*IDC **01** 07:01:55.6±1.1, 4.76N×125.53E, h99km±9km, mb4.9/40, mb1 4.9/40, mb1mx4.9/48, mbtmp5.2/40, MS3.9/25, Ms1 3.9/25, ms1mx3.8/43, Error ellipse: s-maj=15.0km s-min=7.3km az=71.0*
*MOS **01** 07:01:55.1±1.4, 4.80N×125.60E, h105km, mb5.3/74, Error ellipse: s-maj=8.4km s-min=4.1km az=108.6*
*NEIC **01** 07:01:56.8±1.7, 4.73N±0.06×125.78E±0.08, h105km±4km, mb5.3/176, Error ellipse: s-maj=11.2km s-min=7.8km az=74.0*
*GCMT **01** 07:01:56.8±0.2, 4.84N±0.01×125.82E±0.01, h106km±1km, MW5.2/129, Moment Tensor Solution. s97,c129; s129,c218; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.35±.01; $M_{\theta\theta}$0.31±.02; $M_{\phi\phi}$-0.65±.02; $M_{r\theta}$0.41±.01; $M_{\theta\phi}$0.60±.02; $M_{\phi r}$0.21±.01; Best double couple: $M_0$0.94600×10^{17} NP1:ϕ_s116.00000°, δ64.00000°, λ28.00000°. NP2:ϕ_s13.00000°, δ65.00000°, λ151.00000°. Principal axes: T 0.9500, Plg37.0000°, Azm334.0000°; N -0.0070, Plg53.0000°, Azm155.0000°; P -0.9430, Plg0.0000°, Azm65.0000°; nsta1 refers to body waves,*

cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*DJA **01** 07:01:56.8±0.2, 5°N±2°×12°6E±°, h107km±2km, M5.2/96, mb5.5/96, mB5.7/67, MLv6.1/14, Mw(mB)5.2/67, MwMwp4.8/7, Mwp5.2/7*

*KLM **01** 07:01:57, 4.85N×126.08E, h114km, mb5.5*

ISC 01 07:01:57.2±0.4, **4.73N**±0.03×**125.84E**±0.04, **h112**km±3km, **h113**km**:pP-P, n724,** σ1.79/818, **mb5.3**/224, **46C-13D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	Sangihe	1.08	197	P	Pn	07 02 19.0	-0.4
DDMP	Don Marcelino,	1.38	355	eP	Pn	07 02 20.1	-2.6
DDMP				eS	Sn	07 02 38.2	-3.8
SKMP	Bagumbayan, Su	2.20	324	eP	Pn	07 02 31.5	-1.4
SKMP				eS	Sn	07 02 59.6	-0.6
MATI	Mati	2.25	11	eP	Pn	07 02 31.2	-2.3
MATI				eS	Sn	07 03 09.3	+8.0
DAV	Davao City (W)	2.34	354	P	Pn	07 02 35.0	+0.3
	95nm,0.3s,baz=264,slow=10,SNR=17						
DAV				S	Sn	07 02 57.9	-5.6
	671nm,0.3s,baz=103,slow=22,SNR=9.0						
DAV	Davao City (W)	2.34	354		Pn	07 02 34.0	-0.8
DAV	Davao City (W)	2.34	354⇓	eP	Pn	07 02 36.1	+1.4
KCP	Kidapawan	2.39	342⇑	iP	Pn	07 02 36.0	+0.6
KCP				i S	Sn	07 03 10.2	+5.6
MNI	Manado	3.41	197	P	Pn	07 02 48.7	0.0
CGP	Cagayan de Oro	3.88	343⇓	eP	Pn	07 02 55.8	+0.8
PAGZ	Pagadian	3.95	322	eP	Pn	07 02 55.7	-0.2
PAGZ				eS	Sn	07 03 40.4	-1.0
TNTI	Ternate	4.21	159	Pn	Pn	07 02 58.2	-1.3
TNTI				Sn	Sn	07 03 45.5	-2.3
TNTI	Ternate	4.21	159	P	Pn	07 02 59.0	-0.5
BUTP	Butuan	4.22	357	eP	Pn	07 03 00.3	+0.7
BUTP				eS	Sn	07 03 50.9	+2.8
ZCP	Zamboanga City	4.34	301⇑	iP	Pn	07 03 01.7	+0.5
ZCP				i S	Sn	07 03 47.7	-3.1
KMSI	Cibinong	4.52	204	P	Pn	07 03 04.6	+1.0
GTOI	Gorontalo	4.95	215	P	Pn	07 03 09.4	0.0
	18nm51µm5µm,0.8s						
GLSP	General Luna,	5.04	3	eP	Pn	07 03 10.8	+0.2
GLSP				eS	Sn	07 04 13.1	+5.5
MSLP	Maasin	5.46	350	eP	Pn	07 03 16.6	+0.3
MRSI	Marisa	5.74	223	P	Pn	07 03 21.5	+1.4
	31nm8µm76µm10µm,0.7s						
LLP	Lapu-Lapu	5.86	342	eP	Pn	07 03 22.3	+0.6
LLP				eS	Sn	07 04 30.2	+2.7
CNOP	Candoni, Negro	5.98	328	eP	Pn	07 03 23.2	-0.1
TOLI2	Tolitoli	6.20	235	Pn	Pn	07 03 25.8	-0.5
LUWI	Luwuk	6.50	208	Pn	Pn	07 03 32.6	+2.2
LUWI	Luwuk	6.50	208	P	Pn	07 03 33.5	+3.2
	17nm46µm6µm,0.9s						
SANI	Sanana	6.73	179	P	Pn	07 03 30.8	-2.7
APSI	Ampana	6.99	217	P	Pn	07 03 40.1	+3.1
	6.5nm3µm15µm1µm,1.1s						
MYLDM	Lahad Datu	7.33	274	Pn	Pn	07 03 43.4	+1.8
SWI	Sorong	7.75	136	P	Pn	07 03 47.0	-0.4
SWI				pmax	pmax		
	comp=Z,371nm,0.9s						
SWI	Sorong	7.75	136	P	Pn	07 03 46.8	-0.6
	comp=Z,1.4nmcomp=Z,3µmcomp=Z,4µmcomp=Z,377nm,1.0s						
SIJI	Sorong	7.76	136	P	Pn	07 03 46.8	-0.8
	comp=Z,56nm,0.3s,baz=330,slow=15,SNR=77						
SIJI				S	Sn	07 05 08.8	-5.2
	comp=Z,25nm,0.3s,baz=61,slow=24,SNR=6.9						
SIJI				LR	LR	07 06 50.8	
	comp=Z,1µm,20.9s,baz=318,slow=37						
NLAI	Namlea	8.01	171	P	Pn	07 03 49.1	-1.8
	comp=Z,5.7nmcomp=Z,12µmcomp=Z,448nm,0.8s						
KKM	Kota Kinabalu	9.67	278		Pn	07 04 11.8	-1.7
TTSI	Tana Toraja	9.78	218	P	Pn	07 04 17.7	+2.8
	comp=Z,12µmcomp=Z,2µm,0.9s						
FAKI	Fak Fak	9.93	140	Pn	Pn	07 04 13.3	-3.6
FAKI	Fak Fak	9.93	140	P	Pn	07 04 17.0	+0.1
	comp=Z,1µmcomp=Z,138nm,0.7s						
JCNP	Jose Panganiba	9.99	342	eP	Pn	07 04 21.5	+3.8
SMKI	Samarinda	10.04	239	P	Pn	07 04 21.0	+2.7
	comp=Z,7µmcomp=Z,615nm,1.5s						
LQP	Lukban	10.24	336	eP	Pn	07 04 23.9	+2.6
TGY	Tagaytay City	10.50	333	P	Pn	07 04 24.4	-0.2
	comp=Z,36nm,0.3s,baz=115,slow=17,SNR=1.3						
TGY				LR	LR	07 08 44.7	
	comp=Z,1µm,20.5s,baz=196,slow=40						
SPSI	Sidrap Palu	10.55	215	P	Pn	07 04 28.0	+2.7
	comp=Z,4µmcomp=Z,400nm,0.8s						
BNSI	Bone	10.72	212	P	Pn	07 04 30.6	+3.0
	comp=Z,4µmcomp=Z,348nm,1.3s						
BKB	Balikpapan	10.73	237	Pn	Pn	07 04 28.2	+0.5
BKB	Balikpapan	10.73	237	P	Pn	07 04 29.6	+1.9
	comp=Z,8µmcomp=Z,1µm,0.8s						
KAPI	Kappang	11.43	212	P	Pn	07 04 38.2	+1.2
	comp=Z,17nm,0.3s,baz=21,slow=12,SNR=312						
KAPI				S	Sn	07 06 42.0	-0.8
	comp=Z,1.5nm,0.3s,baz=50,slow=22,SNR=0.7						
KAPI	Kappang	11.43	212	P	Pn	07 04 38.0	+0.9
KAPI	Kappang	11.43	212	Pn	Pn	07 04 38.0	+0.9
BKSI	Bulukumba	11.50	210	P	Pn	07 04 39.6	+1.6
	comp=Z,2µmcomp=Z,242nm,1.0s						
BAKI	Biak	11.82	120	P	Pn	07 04 38.8	-3.5
	comp=Z,4µmcomp=Z,412nm,0.9s						
BSSI	Bau Bau, Buton	12.04	206	P	Pn	07 04 46.5	+1.3
	comp=Z,2µmcomp=Z,246nm,0.8s						
SRPI	Serui, Papua	12.29	122	P	P	07 04 54.3	-1.7
MTKI	Muara Teweh, K	12.30	243	P	Pn	07 04 51.2	+2.6
	comp=Z,2µmcomp=Z,7µmcomp=Z,140nm,0.5s						
KBKI	Kotabaru	12.53	231	P	Pn	07 04 54.0	+2.4
	comp=Z,3µmcomp=Z,341nm,0.9s						
CVP	Callao Caves	13.48	343⇓	eP	Pn	07 05 06.4	+2.4
BBKI	Banjar Baru	13.67	234	P	P	07 05 09.9	-1.5
	comp=Z,4µmcomp=Z,473nm,0.9s						
MMRI	Maumere	13.75	195	P	Pn	07 05 06.9	-0.6
MMRI	Maumere	13.75	195	P	Pn	07 05 09.0	+1.5
	comp=Z,4µmcomp=Z,476nm,0.9s						
SAUI	Saumlaki	13.75	157	Pn	Pn	07 05 04.9	-2.6
SBUM	Sibu	13.78	261		P	07 05 11.0	-1.6
SBUM	Sibu	13.78	261	P	P	07 05 12.0	-0.6
SZP	Santa	13.79	338	P	P	07 05 15.7	+3.0
SOEI	Soe	14.47	186	Pn	Pn	07 05 11.9	-5.0
SOEI	Soe	14.47	186	P	Pn	07 05 17.3	+0.4
	comp=Z,4µmcomp=Z,526nm,0.8s						
SMPI	Sarmi	14.49	117	P	Pn	07 05 15.7	-1.3
	comp=Z,871nmcomp=Z,56nm,1.4s						
BATI	Baumata	14.99	188	P	Pn	07 05 24.2	+0.9
	comp=Z,26nm,0.3s,baz=86,slow=5.3,SNR=43						
BATI				S	Sn	07 08 13.5	+4.3
	comp=Z,4.8nm,0.3s,baz=23,slow=15,SNR=2.5						
BATI	Baumata	14.99	188	P	Pn	07 05 24.4	+1.0
	comp=Z,3µmcomp=Z,450nm,0.8s						
PLAI	Plampang	15.68	211	P	P	07 05 33.3	-0.4
	comp=Z,1µmcomp=Z,7µmcomp=Z,938nm,0.8s						
BASI	Baing, Sumba	15.74	199	P	Pn	07 05 32.5	-0.2
	comp=Z,4µmcomp=Z,345nm,0.7s						
PBKI	Pangkalan Bun	15.96	243	P	P	07 05 38.1	+1.2
	comp=Z,7µmcomp=Z,622nm,1.2s						
GENI	Genyem	16.06	117	P	Pn	07 05 35.0	-1.7
	comp=Z,3µmcomp=Z,183nm,1.0s						
TWSI	Taliwang, Sumb	16.08	214	P	P	07 05 39.3	+1.2
	comp=Z,7µmcomp=Z,949nm,0.9s						
JAY	Jayapura	16.50	116	LR	LR	07 11 18.8	
	comp=Z,644nm,19.4s,slow=34						
SRBI	Singaraja	16.56	220	P	P	07 05 44.7	+1.3
	comp=Z,2µmcomp=Z,270nm,1.1s						
KMMI	Kalianget	16.65	225	P	P	07 05 47.6	+3.2
	comp=Z,3µmcomp=Z,289nm,0.7s						
ABJI	Asem Bagus	16.99	223	P	P	07 05 50.2	+2.0
	comp=Z,98nm,0.8s						
DNP	Denpasar	17.02	219	P	P	07 05 51.7	+3.2
DNP				pmax	pmax		
	comp=Z,1µm,1.0s						
DNP	Denpasar	17.02	219	P	P	07 05 51.0	+2.5
	comp=Z,40µmcomp=Z,1µm,1.5s						
JAGI	Jajag, Banyuwa	17.54	222	P	Pn	07 05 55.1	+0.3
JAGI				IAmb	IAmb	07 06 04.5	
	comp=Z,195nm,0.8s						
MTN	Manton Dam	18.23	163	P	P	07 06 01.5	-0.3
KDU	Kakadu	18.51	159	P	P	07 06 05.5	+0.7
	baz=19,SNR=17						
TWG	Pinlang	18.57	346	P	P	07 06 03.2	-2.2
TWG				IAmb	IAmb	07 06 05.8	
	comp=Z,122nm,0.7s						
DLV	T Lat	18.60	294		P	07 06 04.9	-1.1
YULB	Yu-li	19.07	347	P	P	07 06 08.9	-2.1
YULB				IAmb	IAmb	07 06 16.2	
	comp=Z,85nm,0.6s						
TPUB	Ta-pu	19.14	345	P	P	07 06 10.2	-1.5
TPUB				IAmb	IAmb	07 06 18.9	
	comp=Z,172nm,0.7s						
SMRI	Semarang	19.31	233	P	P	07 06 13.5	-0.1
SMRI	Semarang	19.31	233	P	Pn	07 06 16.0	+0.1
	comp=Z,4µmcomp=Z,436nm,1.1s						
WOJI	Wonogiri, Jawa	19.42	230	P	P	07 06 15.4	+0.6
	comp=Z,148nm,0.7s						
SSLB	Suanglung	19.53	347	P	P	07 06 15.5	-0.4
TPI	Tanjungpandan	19.63	248	P	Pn	07 06 19.8	+0.2
	comp=Z,1µmcomp=Z,115nm,0.7s						
NACB	Ninganchiao	19.76	348	P	P	07 06 16.7	-1.7
UGM	Wanagama	19.77	231	P	P	07 06 19.1	+0.4
UGM				IAmb	IAmb	07 06 22.8	
	comp=Z,201nm,0.8s						
UGM	Wanagama	19.77	231	P	Pn	07 06 19.8	-1.5
	comp=Z,4µmcomp=Z,235nm,0.7s						
YHNB	Yeheng	20.29	348	P	P	07 06 22.7	-1.5
YHNB				IAmb	IAmb	07 06 33.1	
	comp=Z,70nm,0.7s						
KNRA	Kununurra	20.48	172	P	P	07 06 26.7	+0.5
KNRA				IAmb	IAmb	07 06 28.7	
	comp=Z,131nm,0.5s						
JCJI	Jatiwangi	20.78	238	P	Pn	07 06 34.5	+1.6
	comp=Z,274nm,1.2s						
PPBI	Pangkal Pinang	20.84	251	P	Pn	07 06 32.7	-1.0
	comp=Z,13µmcomp=Z,104nm,1.3s						
KNMB	Chin-men Tao	20.89	341	P	P	07 06 31.7	+1.1
KNMB				IAmb	IAmb	07 06 40.2	
	comp=Z,185nm,0.7s						
QIZ	Qiongzhong	21.11	314	P	P	07 06 33.7	+0.7
QIZ				S	S	07 10 23.5	+1.7
QIZ				sS	sS	07 10 56.5	+0.1
QIZ				pmax	pmax		
	comp=Z,71nm,1.6s						
QIZ				LR	LR		
	comp=Z,860nm,14.7s						
QIZ				LR	LR		
	comp=Z,770nm,19.1s						
QIZ				LR	LR		
	comp=Z,500nm,17.2s						
QIZ	Qiongzhong	21.11	314	P	P	07 06 35.1	+2.0
QIZ				IAmb	IAmb	07 06 38.1	
	comp=Z,92nm,0.9s						
QZH	Quanzhou	21.27	342	P	P	07 06 35.4	+0.7
QZH				pmax	pmax		
	comp=Z,62nm,1.1s						
LEM	Lembang	21.50	238	P	P	07 06 40.8	+3.4
	comp=Z,295nm,0.7s,baz=75,slow=8.8,SNR=33						
LEM	Lembang	21.50	238	P	P	07 06 41.3	+3.9
LEM				pmax	pmax		
	comp=Z,319nm,1.0s						
JMZ	Minamidaito 2	21.60	13	P	P	07 06 38.7	+0.6
CISI	Cisompet, Garu	21.73	236	P	P	07 06 40.2	+0.4
CISI				IAmb	IAmb	07 06 43.3	
	comp=Z,162nm,1.0s						
CISI	Cisompet, Garu	21.73	236	P	P	07 06 41.1	+1.4
	comp=Z,2µmcomp=Z,157nm,0.6s						
DSRI	Dabo	21.86	257	P	P	07 06 44.5	+3.5
	comp=Z,508nmcomp=Z,38nm,1.1s						
CBJI	Citeko	21.95	240	P	P	07 06 45.0	+3.0
	comp=Z,529nm,0.9s						
DBJI	Dramaga	22.11	240	P	P	07 06 47.4	+3.8
	comp=Z,115nm,1.2s						
JOW	Kunigami	22.11	6	P	P	07 06 43.9	+0.4
	comp=Z,387nm,0.8s,baz=198,slow=10,SNR=28						
JOW	Kunigami	22.11	6	P	P	07 06 43.9	+0.4
MYKOM	Kota Tinggi	22.14	263	P	P	07 06 46.4	+2.4
MYKOM	Kota Tinggi	22.14	263	P	P	07 06 48.0	+4.0
PMBI	Palembang	22.38	251	P	P	07 06 49.9	+3.4
UBPT	Khong Chiam	22.61	299	P	P	07 06 49.7	+1.0
UBPT				IAmb	IAmb	07 06 51.7	
	comp=Z,218nm,0.8s						
FITZ	Fitzroy Crossi	22.68	180	P	P	07 06 48.5	-0.9
	comp=Z,150nm,0.5s,baz=5.6,slow=8.0,SNR=172						
FITZ				S	S	07 10 47.0	-2.3
	comp=Z,7.2nm,0.7s,baz=350,slow=18,SNR=1.8						
FITZ	Fitzroy Crossi	22.68	180	P	P	07 06 49.3	-0.1
	baz=23,SNR=165						
FITZ	Fitzroy Crossi	22.68	180	P	P	07 06 49.7	+0.3
FITZ				IAmb	IAmb	07 06 52.7	
	comp=Z,160nm,0.7s						
BLSI	Bandar Lampung	22.88	244	P	P	07 06 54.3	+2.9
	comp=Z,334nm,0.9s						
JMBI	JAMBI	23.06	255	P	P	07 06 55.2	+2.1
	comp=Z,147nm,0.6s						
KLSI		23.07	246	P	P	07 06 55.3	+2.1
	comp=Z,788nmcomp=Z,46nm,1.2s						
MDSI	Maura Dua	23.49	247	P	P	07 06 59.3	+2.2
	comp=Z,1µmcomp=Z,68nm,0.7s						
KASI	Kota Agung	23.62	245	P	P	07 07 00.1	+1.8
	comp=Z,2µmcomp=Z,118nm,0.8s						
LWLI	Liwa	23.81	246	P	P	07 07 03.0	+2.9
	comp=Z,337nm,1.0s						
LHSI	Lahat	23.86	250	P	P	07 07 02.6	+2.2
	comp=Z,3µmcomp=Z,186nm,1.0s						
MNAI	Manna	24.57	249	P	P	07 07 09.1	+2.1
MNAI	Manna	24.57	249	P	P	07 07 09.2	+2.3
	comp=Z,4µmcomp=Z,183nm,0.6s						
IPM	Ipoh	24.73	270	P	P	07 07 09.2	+0.8
IPM				IAmb	IAmb	07 07 13.1	
	comp=Z,77nm,1.0s						
IPM	Ipoh	24.73	270	P	P	07 07 12.0	+3.6
XMI	Christmas Isla	25.10	233	P	P	07 07 14.2	+2.5
	comp=Z,283nm,0.8s						
KULM	Kulim	25.10	272	P	P	07 07 12.1	+0.4
KULM				IAmb	IAmb	07 07 17.3	
	comp=Z,70nm,1.0s						
KULM	Kulim	25.10	272	P	P	07 07 15.0	+3.3
XMIS	Christmas Isla	25.14	233	P	P	07 07 11.3	-0.8
XMIS				IAmb	IAmb	07 07 15.7	
	comp=Z,175nm,0.8s						
XMIS	Christmas Isla	25.14	233	P	P	07 07 14.5	+2.4
	comp=Z,225nm,0.8s						
BKNI	Bangkinang	25.15	261	P	P	07 07 12.2	0.0
BKNI	Bangkinang	25.15	261	P	P	07 07 14.3	+2.1
	comp=Z,3µmcomp=Z,373nm,1.1s						
COEN	Coen	25.31	137	P	P	07 07 14.1	+0.6
PMG	Port Moresby	25.47	123	P	P	07 07 15.9	+0.9
	comp=Z,16nm,0.7s,baz=267,slow=8.2,SNR=3.6						
PMG				ScP	ScP	07 14 14.4	+0.9
	comp=Z,6.8nm,0.5s,baz=292,slow=5.4,SNR=3.1						
PMG				LR	LR	07 17 49.3	
	comp=Z,275nm,19.2s,baz=284,slow=37						
PMG	Port Moresby	25.47	123	ceP	P	07 07 11.6	-3.4
PMG				pmax	pmax		
	comp=Z,17nm,0.7s						
PMG	Port Moresby	25.47	123	P	P	07 07 14.2	-0.8
WB0	Warramunga Arr	25.75	161	P	P	07 07 17.7	+0.2
WB0				IAmb	IAmb	07 07 44.3	
	comp=Z,133nm,1.1s						
WRAB	Tennant Creek	25.89	161	ceP	P	07 07 17.9	-0.9
WRAB				pmax	pmax		
	comp=Z,70nm,1.0s						
WRAB	Tennant Creek	25.89	161	P	P	07 07 18.6	-0.2
WRAB				IAmb	IAmb	07 07 44.8	
	comp=Z,75nm,0.7s						
WRA	Warramunga Arr	25.90	161	P	P	07 07 18.4	-0.5
	comp=Z,45nm,0.9s,baz=340,slow=10,SNR=83						
WRA				S	S	07 11 33.7	-7.1
	comp=Z,11nm,1.1s,baz=342,slow=17,SNR=1.8						
WRA				ScP	ScP	07 14 15.3	+0.7
	comp=Z,3.8nm,0.7s,baz=337,slow=3.3,SNR=4.6						
WRA				LR	LR	07 19 27.1	
	comp=Z,181nm,18.7s,baz=15,slow=40						
WRA	Warramunga Arr	25.90	161	ceP	P	07 07 18.1	-0.8
WRA				pmax	pmax		
	comp=Z,43nm,0.7s						
WB2	Warramunga Arr	25.90	161	P	P	07 07 18.7	-0.2
WB2				IAmb	IAmb	07 07 44.8	
	comp=Z,88nm,0.8s						
WR0	Warramunga Arr	25.98	161	P	P	07 07 19.9	+0.3
WR0				IAmb	IAmb	07 07 25.7	
	comp=Z,45nm,0.8s						
MNSI	Mandailing Nat	26.51	262	P	P	07 07 27.1	+2.6
	comp=Z,60nm,0.7s						
PSA00	Pilbara Seismi	26.79	192	P	P	07 07 26.5	-0.3
PSA00	Pilbara Seismi	26.79	192	P	P	07 07 26.4	-0.3
PSA00				IAmb	IAmb	07 07 28.9	
	comp=Z,61nm,0.7s						
PSI	Prapat	26.92	267	P	P	07 07 28.0	-0.3
	comp=Z,12nm,0.6s,baz=0.0,slow=5.1,SNR=17						
PSI				PcP	PcP	07 10 47.6	-0.3
	comp=Z,12nm,0.8s,baz=360,slow=3.6,SNR=4.7						
PSI	Prapat	26.92	267	P	P	07 07 28.0	-0.3
PSI				pmax	pmax		
	comp=Z,16nm,0.8s						
RPSI	Rantau Prapat	26.93	267	P	P	07 07 28.0	-0.3
RPSI	Rantau Prapat	26.93	267	P	P	07 07 28.7	+0.5
RPSI				IAmb	IAmb	07 07 56.4	
	comp=Z,16nm,0.8s						
SLVN	Son La	26.94	310	P	P	07 07 28.6	+0.3
JSU	Suzuyama	26.99	9	P	P	07 07 28.2	-0.3
JSU				IAmb	IAmb	07 07 34.0	
	comp=Z,112nm,0.8s						
PHET	Kaeng Krachan	27.12	289	P	P	07 07 32.0	+2.1
	comp=Z,790nmcomp=Z,100nm,0.9s						
JCJ	Chichijima	27.17	33	P	P	07 07 29.5	-0.7
	comp=Z,117nm,0.4s,baz=292,slow=11,SNR=18						
JCJ				S	S	07 11 59.1	-1.6
	comp=Z,29nm,0.6s,baz=174,slow=22,SNR=1.5						
JCJ				LR	LR	07 18 50.9	
	comp=Z,127nm,19.4s,baz=228,slow=37						
JCJ	Chichijima	27.17	33	P	P	07 07 29.6	-0.6
RNTT	Ranong	27.54	281	P	P	07 07 29.9	-3.7
	comp=Z,278nmcomp=Z,27nm,0.8s						
PHIT	Phitsanulok	27.81	298	P	P	07 07 38.1	+2.0
	comp=Z,11µmcomp=Z,2µm,0.9s						
NJ2	Nanjing	27.96	347	eP	P	07 07 40.4	+3.2
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
SRDT	SRDT	28.00	292	P	P	07 07 40.2	+2.5
	comp=Z,18nm,0.7s						
UTHA	Uthaitani	28.08	294	P	P	07 07 39.4	+1.0
	comp=Z,645nmcomp=Z,93nm,0.8s						
GYA	Guiyang	28.34	322 ⇑	P	P	07 07 43.5	+2.7
GYA				PP	PnPn	07 08 38.6	+2.7
GYA				PcP	PcP	07 10 51.8	+0.7
GYA				S	S	07 12 26.7	+7.3
GYA				ScP	ScP	07 14 22.7	+0.7
GYA				ScS	ScS	07 18 14.1	-1.3
GYA				pmax	pmax		
	comp=Z,17nm,0.9s						
GYA				LR	LR		
	comp=Z,320nm,17.0s						
GYA				LR	LR		
	comp=Z,330nm,15.2s						
GYA				LR	LR		
	comp=Z,350nm,15.4s						
GSI	Gunungsitoli	28.42	264	P	P	07 07 42.8	+1.2
GSI				IAmb	IAmb	07 07 44.2	
	comp=Z,57nm,0.9s						
GSI	Gunungsitoli	28.42	264	P	P	07 07 43.3	+1.7
	comp=Z,74nm,0.9s						
QIS	Mount Isa	28.53	152	P	P	07 07 42.9	+0.5
	baz=29,SNR=12						
SUKH	Sukhothai	28.62	298	P	P	07 07 45.4	+2.2
	comp=Z,152nm,0.8s						
TPTI		28.62	268	P	P	07 07 44.2	+0.9
	comp=Z,19nm,0.6s						
JNU	Nakatsue	28.64	9	P	P	07 07 43.2	0.0
	comp=Z,90nm,0.8s,baz=170,slow=4.9,SNR=22						
JNU	Nakatsue	28.64	9	P	P	07 07 43.5	+0.2
JNU				IAmb	IAmb	07 07 48.2	
	comp=Z,87nm,0.8s						
LAMP	Lampang	29.04	300	P	P	07 07 49.0	+2.0
	comp=Z,2µmcomp=Z,261nm,0.9s						
MTSU	Mount Surprise	29.12	142	P	P	07 07 49.6	+1.9
	baz=29,SNR=5.3						
AS31	Alice Springs	29.29	165	P	P	07 07 49.3	+0.1
ASAR	Alice Springs	29.30	165	P	P	07 07 49.2	+0.1
	comp=Z,14nm,0.5s,baz=341,slow=6.8,SNR=103						
ASAR				PcP	PcP	07 10 54.2	+0.8
	comp=Z,3.8nm,0.6s,baz=355,slow=2.9,SNR=2.9						
ASAR				S	S	07 12 31.4	-2.8
	comp=Z,5.5nm,0.9s,baz=353,slow=18,SNR=4.3						
ASAR				ScP	ScP	07 14 25.6	+0.6
	comp=Z,3.3nm,0.6s,baz=346,slow=3.1,SNR=5.8						
ASAR				LR	LR	07 21 21.0	
	comp=Z,132nm,21.9s,baz=320,slow=40						
ASAR				P3KPbc		07 39 52.1	
	comp=Z,0.2nm,0.7s,baz=164,slow=3.8,SNR=4.1						
ASAR	Alice Springs	29.30	165	P	P	07 07 48.1	-1.0
MLSI	Meulaboh, Aceh	29.35	270	P	P	07 07 51.1	+1.4
	comp=Z,92nm,0.8s						
GIRL	Giralia	29.47	202	P	P	07 07 51.7	+1.0
	baz=30,SNR=10.0						
GIRL	Giralia	29.47	202	P	P	07 07 51.2	+0.5
CM36	Chiang Mai Arr	29.50	300	P	P	07 07 52.0	+1.0
CM35	Chiang Mai Arr	29.52	300	P	P	07 07 52.0	+0.8
CM04	Chiang Mai Arr	29.55	300	P	P	07 07 53.0	+1.5
	comp=Z,973nmcomp=Z,148nm,0.9s						
CM09	Chiang Mai Arr	29.56	300	P	P	07 07 54.0	+2.4
	comp=Z,1µmcomp=Z,156nm,0.8s						
CM01	Chiang Mai Arr	29.58	300	P	P	07 07 54.2	+2.5
	comp=Z,890nmcomp=Z,131nm,0.9s						
CM05	Chiang Mai Arr	29.58	300	P	P	07 07 54.0	+2.2
	comp=Z,636nmcomp=Z,93nm,0.9s						
CM34	Chiang Mai Arr	29.59	301	P	P	07 07 53.0	+1.1
CM02	Chiang Mai Arr	29.59	300	P	P	07 07 54.0	+2.1
	comp=Z,885nmcomp=Z,138nm,0.8s						
CM31	Chiang Mai Arr	29.61	300	P	P	07 07 54.9	+2.9
	comp=Z,24µmcomp=Z,3µm,0.8s						
CMAR	Chiang Mai Arr	29.61	300	P	P	07 07 53.2	+1.2
	comp=Z,85nm,0.8s,baz=120,slow=7.8,SNR=205						
CMAR				PcP	PcP	07 10 55.0	+0.8
	comp=Z,6.6nm,0.7s,baz=153,slow=1.4,SNR=7.6						
CMAR				ScP	ScP	07 14 26.8	+0.7
	comp=Z,11nm,0.9s,baz=141,slow=1.7,SNR=25						
CMAR				LR	LR	07 20 01.6	
	comp=Z,200nm,20.6s,baz=150,slow=37						
CMAR	Chiang Mai Arr	29.61	300	i P	P	07 07 52.7	+0.7
CMAR				pmax	pmax		
	comp=Z,85nm,0.8s						
CMAR	Chiang Mai Arr	29.61	300	P	P	07 07 53.3	+1.3
CM15	Chiang Mai Arr	29.62	300	P	P	07 07 54.0	+1.9
	comp=Z,143nm,0.8s						
CM13	Chiang Mai Arr	29.62	300	P	P	07 07 54.3	+2.2
	comp=Z,846nmcomp=Z,131nm,0.9s						
WRKA	Warakurna	29.68	175	P	P	07 07 52.7	+0.1
	baz=30,SNR=139						
ENH	Enshi	29.73	331	P	P	07 07 52.1	-0.8
ENH				IAmb	IAmb	07 07 56.7	
	comp=Z,57nm,0.7s						
CMMT	Chiang Mai	29.75	300	P	P	07 07 53.5	+0.2
	comp=Z,795nmcomp=Z,89nm,0.9s						
CM33	Chiang Mai Arr	29.75	300	P	P	07 07 54.0	+0.7
CHTO	Chiang Mai	29.75	300	P	P	07 07 53.6	+0.3
CHTO				pmax	pmax		
	comp=Z,118nm,0.9s						
CHTO	Chiang Mai	29.75	300	P	P	07 07 53.6	+0.3
CM32	Chiang Mai Arr	29.77	300	P	P	07 07 55.0	+1.6
JMN	Monobe	29.81	14	P	P	07 07 54.8	+1.2
KMI	Kunming	30.05	315 ⇑	P	P	07 07 57.2	+1.1
KMI				pP	pP	07 08 20.1	+0.1
KMI				sP	sP	07 08 32.7	+0.1
KMI				PP	PnPn	07 08 58.1	-0.1
KMI				PcP	PcP	07 10 56.7	+1.1
KMI				S	S	07 12 47.0	+0.5
KMI				sS	sS	07 13 27.6	-1.4
KMI				pmax	pmax		
	comp=Z,25nm,0.8s						
KMI				pmax	pmax		
	comp=Z,92nm,7.5s						
KMI				LR	LR		
	comp=Z,310nm,14.9s						
KMI				LR	LR		
	comp=Z,260nm,20.0s						
KMI				LR	LR		
	comp=Z,290nm,16.7s						
KMI	Kunming	30.05	315	P	P	07 07 56.5	+0.4
KMI				pmax	pmax		
	comp=Z,19nm,0.8s						
KMI	Kunming	30.05	315	P	P	07 07 56.5	+0.4
MHMT	Maesarieng	30.38	298	P	P	07 07 59.5	+0.7
	comp=Z,3µmcomp=Z,311nm,0.8s						
JHS	Saijyo	30.87	12	P	P	07 08 03.8	+0.9
JHS				IAmb	IAmb	07 08 14.3	
	comp=Z,68nm,0.7s						
TJN	Taejon	31.53	2	ceP	P	07 08 08.0	-0.7
JWT	Wachi	31.67	15	P	P	07 08 10.9	+1.0
CTA	Charters Tower	31.79	142	P	P	07 08 12.5	+1.3
	comp=Z,4.6nm,0.7s,baz=319,slow=11,SNR=1.4						
CTAO	Charters Tower	31.79	142	P	P	07 08 12.8	+1.6
CTAO				pmax	pmax		
	comp=Z,11nm,0.8s						
CTAO	Charters Tower	31.79	142	P	P	07 08 12.8	+1.6
JSG	Sagara	31.92	19	P	P	07 08 13.3	+1.1
INU	Inuyama	32.18	17	P	P	07 08 15.1	+0.7
TIA	Tai'an	32.34	347	P	P	07 08 14.0	-1.8
TIA				pmax	pmax		
	comp=Z,19nm,0.8s						

JGF Kuroka 32.51 18 P **P** **07 08 18.0 +0.6**
INCN Inchon 32.61 1 P **P** **07 08 17.7 -0.5**
INCN pmax pmax
comp=Z,52nm,0.8s
INCN Inchon 32.61 1 P **P** **07 08 17.7 -0.5**
INCN IAmb IAmb 07 08 21.5
comp=Z,52nm,0.8s
KSAR Wonju Array Be 32.62 3 P **P** **07 08 18.2 0.0**
KSAR Wonju Array Be 32.62 3 P **P** **07 08 18.2 0.0**
KSRS Korea Array 32.63 3 P **P** **07 08 19.1 +0.8**
comp=Z,56nm,0.7s,baz=183,slow=10.0,SNR=125
KSRS PcP **PcP** **07 11 02.9 +0.9**
comp=Z,7.5nm,0.6s,baz=178,slow=2.4,SNR=15
KSRS ScP **ScP** **07 14 36.5 +0.8**
comp=Z,3.1nm,0.7s,baz=179,slow=3.1,SNR=6.7
KSRS LR LR 07 23 04.2
comp=Z,119nm,19.0s,baz=180,slow=39
KS19 Wonju Array Si 32.68 3 P **P** **07 08 19.3 +0.6**
KS19 IAmb IAmb 07 08 20.8
comp=Z,59nm,0.7s
XAN Xi'an 33.13 334 P **P** **07 08 21.3 -1.5**
XAN pmax pmax
comp=Z,53nm,0.9s
XAN pmax pmax
comp=Z,77nm,3.5s
XAN LR LR
comp=Z,400nm,19.4s
XAN LR LR
comp=Z,360nm,9.7s
XAN LR LR
comp=Z,670nm,18.2s
XAN Xi'an 33.13 334 P **P** **07 08 21.8 -1.0**
XAN pmax pmax
comp=Z,105nm,0.6s
XAN Xi'an 33.13 334 P **P** **07 08 21.8 -1.0**
CD2 Chengdu 33.32 324 ⇓P **P** **07 08 25.3 +0.8**
CD2 S **S** **07 13 40.2 +3.2**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,280nm,5.7s
CD2 LR LR
comp=Z,400nm,12.7s
CD2 LR LR
comp=Z,790nm,13.2s
CD2 LR LR
comp=Z,550nm,12.8s
MAJO Matsushiro 33.64 18*c i*P **P** **07 08 26.6 -0.6**
MAJO pmax pmax
comp=Z,102nm,0.8s
MAJO Matsushiro 33.64 18 P **P** **07 08 26.6 -0.6**
MAT Matsushiro 33.64 18 P **P** **07 08 26.5 -0.7**
MAT S **S** **07 13 38.0 -3.8**
MJAR Matsushiro Arr 33.64 18 P **P** **07 08 26.4 -0.7**
comp=Z,85nm,0.8s,baz=195,slow=9.2,SNR=156
MJAR PcP **PcP** **07 11 05.6 +0.7**
comp=Z,2.5nm,0.9s,baz=184,slow=3.2,SNR=3.2
MJAR ScP **ScP** **07 14 40.1 +0.7**
comp=Z,0.8nm,0.4s,baz=184,slow=5.3,SNR=2.6
MJAR LR LR 07 20 35.7
comp=Z,146nm,21.7s,baz=195,slow=33
MJAR Matsushiro Arr 33.64 18 P **P** **07 08 26.3 -0.9**
MJAR pmax pmax
comp=Z,42nm,0.9s
MJAR Matsushiro Arr 33.64 18 P **P** **07 08 26.3 -0.9**
MJAR IAmb IAmb 07 08 28.0
comp=Z,42nm,0.9s
MJB9 Matsu-Tunnel 33.65 18 P **P** **07 08 26.5 -0.7**
JYT Yasato 34.02 21 P **P** **07 08 28.5 -1.9**
JYT IAmb IAmb 07 08 30.4
comp=Z,63nm,0.7s
DL2 Dalian 34.24 354 P **P** **07 08 31.8 -0.4**
DL2 pmax pmax
comp=Z,140nm,0.7s
MORW Morawa 34.89 195 P **P** **07 08 37.8 -0.1**
baz=35,SNR=17
MORW Morawa 34.89 195 P **P** **07 08 37.9 -0.1**
JSD Sado 35.04 17 P **P** **07 08 38.8 -0.4**
TIY Taiyuan 35.04 341 *e*P **P** **07 08 38.2 -1.1**
FORT Forrest 35.37 177 P **P** **07 08 42.4 +0.3**
baz=36,SNR=31
FORT Forrest 35.37 177 P **P** **07 08 42.1 +0.1**
JMM Marumori 35.70 20 P **P** **07 08 45.6 +0.8**
KMBL Kambalda 36.09 186 P **P** **07 08 48.4 +0.2**
baz=36,SNR=25
BJT Baijiatuan 36.20 347 P **P** **07 08 48.0 -1.1**
BJT pmax pmax
comp=Z,47nm,0.6s
BJT Baijiatuan 36.20 347 P **P** **07 08 48.0 -1.1**
BJT IAmb IAmb 07 08 51.7
comp=Z,47nm,0.6s
BLDU Ballidu 36.21 193 P **P** **07 08 49.6 +0.4**
baz=36,SNR=12
BJI Beijing 36.22 347 P **P** **07 08 48.2 -1.0**
BJI pP **pP** **07 09 13.2 -0.5**
BJI PcP **PcP** **07 11 13.4 +1.2**
BJI S S 07 14 31.5 +10
BJI ScP **ScP** **07 14 50.0 +1.5**
BJI pmax pmax
comp=Z,28nm,0.7s
BJI LR LR
comp=Z,180nm,11.1s
BJI LR LR
comp=Z,220nm,14.6s
BJI LR LR
comp=Z,300nm,30.9s
KLBR Kellerberrin 36.93 192 P **P** **07 08 55.6 +0.2**
baz=37,SNR=17
LZH Lanzhou 37.20 330 ⇑P **P** **07 08 57.9 +0.1**
LZH pP pP 07 09 20.7 -2.4
LZH sP sP 07 09 36.2 +0.3
LZH pmax pmax
comp=Z,190nm,1.0s
LZH pmax pmax
comp=Z,410nm,5.2s
LZH LR LR
comp=Z,610nm,17.9s
LZH LR LR
comp=Z,570nm,13.6s
LZH LR LR
comp=Z,380nm,15.7s
MUN Mundaring 37.63 193 P **P** **07 09 01.4 +0.1**
baz=38,SNR=38
MSHR Mys Shultsa 37.99 6*ce*P **P** **07 09 06.2 +2.1**
MSHR pmax pmax
comp=Z,133nm,0.6s
RMQ Roma 38.15 146 P **P** **07 09 04.2 -1.5**
baz=38,SNR=4.5
HHC Hu-ho-hao-te 38.18 342 *e*P **P** **07 09 08.4 +2.4**
HHC sP sP 07 09 42.8 -0.9
HHC S **S** **07 14 54.0 +2.8**
HHC pmax pmax
comp=Z,32nm,0.9s
HHC pmax pmax
comp=Z,150nm,5.6s
HHC LR LR
comp=Z,260nm,15.9s
HHC LR LR
comp=Z,210nm,15.7s
HHC LR LR
comp=Z,330nm,16.1s
NWAO Narrogin (SRO) 38.33 192 P **P** **07 09 07.5 +0.4**
baz=39,SNR=23
NWAO Narrogin (SRO) 38.33 192 P **P** **07 09 07.1 0.0**
NWAO pmax pmax
comp=Z,148nm,1.4s
NWAO Narrogin (SRO) 38.33 192 P **P** **07 09 07.1 0.0**
NWAO Narrogin (SRO) 38.33 192 P **P** **07 09 07.2 +0.1**
NWAO IAmb IAmb 07 09 09.9
comp=Z,118nm,1.4s
JTM Tenmabayashi 38.42 19 P **P** **07 09 08.4 +0.6**
BBOO Buckleboo 38.57 166 P **P** **07 09 09.9 +0.8**
baz=39,SNR=143
BBOO Buckleboo 38.57 166 P **P** **07 09 09.9 +0.8**
EIDS Eidsvold 38.68 142 P **P** **07 09 10.6 +0.4**
baz=39,SNR=11
EIDS Eidsvold 38.68 142 P **P** **07 09 10.2 0.0**
CN2 Changchun 38.92 360 *e*P **P** **07 09 11.2 -0.7**
CN2 pmax pmax
comp=Z,220nm,4.2s
STKA Stephens Creek 39.37 159 P **P** **07 09 16.7 +0.9**
comp=Z,26nm,0.8s,baz=334,slow=8.5,SNR=23
STKA ScP **ScP** **07 15 01.6 +1.1**
comp=Z,1.5nm,0.5s,baz=354,slow=2.7,SNR=1.9
STKA Stephens Creek 39.37 159 P **P** **07 09 16.8 +0.9**
baz=40,SNR=20
STKA Stephens Creek 39.37 159 *i*P **P** **07 09 15.4 -0.4**
STKA Stephens Creek 39.37 159 P **P** **07 09 16.7 +0.9**
USA0B Ussuriysk Arra 39.69 7*c i*P **P** **07 09 18.9 +0.6**
USA0B Ussuriysk Arra 39.69 7 P **P** **07 09 19.3 +1.0**
USRK Ussuriysk Ar. 39.69 7 P **P** **07 09 19.3 +1.1**
comp=Z,117nm,0.7s,baz=191,slow=7.2,SNR=229
USRK PcP **PcP** **07 11 22.6 -0.2**
comp=Z,3.5nm,0.6s,baz=206,slow=3.2,SNR=1.5
USRK LR LR 07 27 52.0
comp=Z,64nm,19.1s,baz=183,slow=39
USRK Ussuriysk Ar. 39.69 7 P **P** **07 09 19.0 +0.7**
MDJ Mudanjiang 39.87 4 P **P** **07 09 20.8 +1.0**
MDJ pP pP 07 09 41.4 -3.0
MDJ S **S** **07 15 18.0 +1.9**
MDJ pmax pmax
comp=Z,110nm,0.9s
MDJ pmax pmax
comp=Z,310nm,5.0s
MDJ Mudanjiang 39.87 4 P **P** **07 09 20.7 +0.9**
HTT Hallett 39.92 163 P **P** **07 09 21.6 +1.2**
baz=40,SNR=28
LSA Lhasa 41.12 311 P **P** **07 09 31.2 +0.3**
LSA pmax pmax
comp=Z,66nm,0.8s
LSA Lhasa 41.12 311 P **P** **07 09 31.1 +0.2**
LSA pmax pmax
comp=Z,93nm,0.6s
LSA Lhasa 41.12 311 P **P** **07 09 31.1 +0.2**
TEY Ternei 41.24 12⇑*e*P **P** **07 09 32.5 +1.4**
TEY pmax pmax
comp=Z,300nm,0.7s
TEY pmax pmax
comp=N,180nm,0.8s
TEY pmax pmax
comp=Z,200nm,0.8s
TEY pmax pmax
comp=E,30nm,0.5s
GTA Gaotai 41.79 329 ⇑P **P** **07 09 35.0 -0.9**
GTA pP pP 07 10 04.2 +3.2
GTA PcP **PcP** **07 11 32.4 +2.4**
GTA ScP **ScP** **07 15 10.0 -0.2**
GTA PcS **PcS** **07 15 20.4 -1.4**
GTA S **S** **07 15 40.2 -4.9**
GTA ScS **ScS** **07 19 26.3 -1.2**
GTA pmax pmax
comp=E,17nm,1.0s
GTA pmax pmax
comp=E,120nm,6.1s
GTA LR LR
comp=E,210nm,16.7s
GTA LR LR
comp=E,290nm,14.5s
GTA LR LR
comp=E,100nm,16.0s
ASAJ Asahikawa 41.92 18 LR LR 07 26 08.4
comp=E,202nm,21.9s,baz=206,slow=35
ASAJ Asahikawa 41.92 18 P **P** **07 09 38.3 +1.7**
ASAJ pmax pmax
comp=Z,99nm,0.9s
JKA Kamikawa-asahi 41.92 18 P **P** **07 09 38.3 +1.7**
H11N1 WAKE ISLAND Hy 42.65 66 T T 07 55 48.3
baz=255,slow=75,SNR=56
H11N2 WAKE ISLAND Hy 42.66 66 T T 07 55 52.2
baz=255,slow=75,SNR=66
H11N3 WAKE ISLAND Hy 42.67 66 T T 07 55 48.0
baz=255,slow=75,SNR=52
TAPN Taplejung 42.72 306 *e*P **P** **07 09 43.2 -0.5**
comp=Z,154nm,0.7s
ODAN Odare 42.77 305 *e*P **P** **07 09 43.7 -0.4**
comp=Z,284nm,0.8s
ARMA Armidale 42.78 146 P **P** **07 09 45.6 +1.7**
baz=43,SNR=6.7
ARMA Armidale 42.78 146 P **P** **07 09 45.1 +1.2**
ARMA IAmb IAmb 07 10 14.5
comp=Z,42nm,1.0s
RAMN Ramite 43.45 305 *e*P **P** **07 09 49.3 -0.3**
comp=Z,97nm,0.7s
ARPS Mount Arapiles 43.90 161 P **P** **07 09 53.9 +1.2**
baz=44,SNR=60
GUN Gumba 44.42 306 *e*P **P** **07 09 57.1 -0.4**
comp=Z,203nm,0.7s
YSS Yuzh-Sakhalins 44.54 17⇑*e*P **P** **07 09 58.3 +0.7**
YSS *e*S **S** **07 16 28.0 +3.3**
YSS pmax pmax
comp=Z,110nm,0.7s
YSS pmax pmax
comp=Z,200nm,3.2s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS Yuzh-Sakhalins 44.54 17 P **P** **07 09 58.2 +0.6**
KLR Kul'dur 44.63 6 ScP **ScP** **07 15 21.8 +0.5**
comp=Z,2.0nm,0.7s,baz=197,slow=2.6,SNR=3.5
KLR S **S** **07 16 25.1 -0.9**
comp=Z,0.5nm,0.4s,baz=264,slow=18,SNR=1.6
KLR LR LR 07 32 21.4
comp=Z,76nm,18.0s,baz=184,slow=41
KLR Kul'dur 44.63 6*ce*P **P** **07 09 58.1 -0.2**
KLR pmax pmax
comp=Z,66nm,1.0s
PKI Pulchoki 44.67 305 *e*P **P** **07 09 58.5 -1.0**
comp=Z,46nm,0.8s
PKIN Phulchoki 44.69 305 *e*P **P** **07 09 58.4 -1.1**
comp=Z,25nm,0.4s
KKN Kakani 44.86 305 *e*P **P** **07 09 59.9 -0.9**
comp=Z,78nm,0.8s
DMN Daman 44.94 305 *e*P **P** **07 10 00.7 -0.8**
comp=Z,95nm,0.9s
GKN Gorkha 45.47 305 *e*P **P** **07 10 04.3 -1.3**
comp=Z,46nm,0.7s
SANVU Saraoutou 45.60 117 P **P** **07 10 08.3 +1.8**
SANVU IAmb IAmb 07 10 17.0
comp=Z,38nm,0.9s
TOO Toolangi 45.89 158 P **P** **07 10 10.7 +2.3**
baz=46,SNR=7.0
TOO Toolangi 45.89 158 P **P** **07 10 09.0 +0.5**
TOO pmax pmax
comp=Z,29nm,1.1s
TOO Toolangi 45.89 158 P **P** **07 10 09.0 +0.5**
ULN Ulaanbaatar 45.91 342*ce*P **P** **07 10 07.8 -0.8**
ULN pmax pmax
comp=Z,17nm,0.7s
ULN Ulaanbaatar 45.91 342 P **P** **07 10 07.7 -1.0**
ULN IAmb IAmb 07 10 13.7
comp=Z,27nm,0.9s
SONM Songino Array 46.08 342 P **P** **07 10 08.7 -1.3**
comp=Z,11nm,0.8s,baz=155,slow=9.3,SNR=35
SONM PcP **PcP** **07 11 44.7 +0.2**
comp=Z,17nm,0.8s,baz=165,slow=3.0,SNR=10
SONM ScP **ScP** **07 15 27.6 +0.2**
comp=Z,1.7nm,0.7s,baz=148,slow=4.5,SNR=5.2
SONM Songino Array 46.08 342 P **P** **07 10 09.2 -0.8**
SONM pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 46.08 342 P **P** **07 10 09.2 -0.8**
GRNR Gornyy 46.74 9⇑*i*P **P** **07 10 16.5 +1.6**
GRNR *e*S **S** **07 17 02.6 +6.3**
GRNR pmax pmax
comp=N,40nm,0.8s
GRNR pmax pmax
comp=E,10.0nm,0.8s
GRNR pmax pmax
comp=Z,90nm,0.8s
GRNR smax smax
comp=N,4.0nm,0.8s
GRNR MLR MLR
comp=E,200nm,16.0s
GRNR MLR MLR
comp=Z,130nm,15.0s
DZM Mont Dzumac 47.83 125 *e*P **P** **07 10 25.0 +1.1**
comp=Z,72nm,1.3s
DZM Mont Dzumac 47.83 125 *e*LR LR 07 23 58.4
comp=Z,1μm,23.9s
DZM Mont Dzumac 47.83 125 P **P** **07 10 25.6 +1.6**
comp=Z,18nm,0.8s,baz=276,slow=7.9,SNR=21
DZM Mont Dzumac 47.83 125 P **P** **07 10 25.5 +1.5**
DZM IAmb IAmb 07 10 52.5
comp=Z,33nm,1.1s
DZM Mont Dzumac 47.83 125 P **P** **07 10 25.6 +1.6**
HYB Hyderabad 47.95 289 *i*P **P** **07 10 25.0 +0.1**
HYB *ep*P **pP** **07 10 51.0 +1.3**
TYV Tymovskoe 48.10 14 *e*P **P** **07 10 27.1 +1.7**
TYV *e*S **S** **07 17 21.0 +5.6**
TYV pmax pmax
comp=Z,30nm,0.6s
TYV pmax pmax
comp=Z,600nm,7.6s
TYV smax smax
comp=E,800nm,9.7s
YATNC Mamie plateau, 48.19 125 P **P** **07 10 27.1 +0.5**
ZEA Zeya 48.88 1 *e*P **P** **07 10 31.4 +0.1**
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,90nm,0.7s
ZAK Zakamensk 49.30 341 *e*P P 07 10 27.5 -7.3
ZAK pmax pmax
comp=Z,6.0nm,1.2s
TLY Talaya 50.31 342 P **P** **07 10 41.5 -0.9**
comp=Z,18nm,0.7s,baz=198,slow=6.4,SNR=52
TLY LR LR 07 33 29.8
comp=Z,166nm,20.3s,baz=144,slow=38
TLY Talaya 50.31 342*ce*P **P** **07 10 41.9 -0.4**
TLY pmax pmax
comp=Z,21nm,0.8s
TLY Talaya 50.31 342 P **P** **07 10 42.1 -0.3**
TLY IAmb IAmb 07 10 43.8
comp=Z,19nm,0.7s
MOY Mondy 51.15 340 *e*P **P** **07 10 47.7 -1.0**
MOY pmax pmax
comp=Z,25nm,1.7s
WMQ Urumqi 51.41 325 P **P** **07 10 51.0 +0.3**
WMQ pP pwP 07 11 21.1 +1.6
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,280nm,5.7s
WMQ LR LR
comp=Z,610nm,14.5s
WMQ LR LR
comp=Z,140nm,25.7s
WMQ Urumqi 51.41 325 P **P** **07 10 50.7 0.0**
WMQ pmax pmax
comp=Z,15nm,0.8s
WMQ Urumqi 51.41 325 P **P** **07 10 50.7 0.0**
WMQ IAmb IAmb 07 10 59.0
comp=Z,16nm,0.8s
NDI New Delhi 51.84 303 *e*P **P** **07 10 52.0 -2.1**
POO Poona 52.54 290 *e*P **P** **07 10 56.0 -3.5**
BOD Bodaibo 53.76 352 *e*P **P** **07 11 06.9 -0.8**
BOD pmax pmax
comp=Z,14nm,0.7s
PEA0B Petropavlovsk- 54.86 23 *i*P **P** **07 11 14.7 -1.1**
PEA0B Petropavlovsk- 54.86 23 P **P** **07 11 16.2 +0.4**
PETK Petropavlovsk- 54.86 23 P **P** **07 11 17.3 +1.6**
comp=Z,43nm,0.6s,baz=188,slow=4.2,SNR=100
PETK LR LR 07 33 30.8
comp=Z,53nm,21.4s,baz=212,slow=34
PETK Petropavlovsk- 54.86 23 P **P** **07 11 17.1 +1.4**
ZSN Zaisan 55.19 327 *e*P **P** **07 11 15.8 -2.6**
comp=Z,5.4nm,0.7s,baz=327
ZSN Zaisan 55.19 327 *e*P **P** **07 11 15.7 -2.6**
ZSN pmax pmax
comp=Z,5.0nm,0.7s
DGZ Jazzator, Alta 55.30 331*c i*P **P** **07 11 17.9 -1.3**
DGZ pmax pmax
comp=Z,10.0nm,0.6s
SHLS Shalkode 56.02 320 *e*P **P** **07 11 20.5 -4.0**
comp=Z,13nm,0.7s,baz=320
SHLS Shalkode 56.02 320 *e*P **P** **07 11 20.4 -4.0**
SHLS pmax pmax
comp=Z,13nm,0.7s
MK31 Makanchi Array 56.24 325*ce*P **P** **07 11 24.6 -1.2**
MK31 Makanchi Array 56.24 325 P **P** **07 11 24.6 -1.2**
MK31 IAmb IAmb 07 11 29.0
comp=Z,22nm,0.7s
MKAR Makanchi Array 56.24 325 P **P** **07 11 24.7 -1.1**
comp=Z,35nm,0.5s,baz=120,slow=8.1,SNR=123
MKAR PcP **PcP** **07 12 24.9 +2.8**
comp=Z,15nm,0.7s,baz=117,slow=5.7,SNR=5.2
MKAR ScP **ScP** **07 16 10.0 -1.2**
comp=Z,10nm,0.7s,baz=122,slow=5.2,SNR=14
MKAR S **S** **07 19 06.3 -0.6**
comp=Z,0.3nm,0.9s,baz=111,slow=14,SNR=1.9
MKAR LR LR 07 37 03.7
comp=Z,138nm,18.1s,baz=110,slow=38
MKAR P4KPbc 07 48 40.1
comp=Z,0.1nm,0.5s,baz=111,slow=3.4,SNR=1.7
UZB Uzynbulak 56.29 320 *e*P **P** **07 11 24.7 -1.8**
comp=Z,9.9nm,0.6s,baz=320
UZB *e*S **S** **07 19 08.2 +0.2**
baz=320
UZB Uzynbulak 56.29 320 *e*P **P** **07 11 24.6 -1.8**
UZB *e*S **S** **07 19 08.2 +0.2**
UZB pmax pmax
comp=Z,10.0nm,0.6s
NIL Nilore 56.62 307 P **P** **07 11 28.7 -0.1**
NIL pmax pmax
comp=Z,33nm,1.0s
NIL Nilore 56.62 307 P **P** **07 11 28.7 -0.1**
NIL IAmb IAmb 07 11 48.4
comp=Z,33nm,0.9s
SATY Saty 56.65 320 *e*P **P** **07 11 26.4 -2.5**
comp=Z,16nm,0.6s,baz=320
SATY *e*S **S** **07 19 11.9 -0.7**
baz=320
SATY Saty 56.65 320 *e*P **P** **07 11 26.4 -2.5**
SATY *e*S **S** **07 19 11.9 -0.7**
SATY pmax pmax
comp=Z,16nm,0.6s
KPKS Kokpek 56.66 320 *e*P **P** **07 11 26.8 -2.2**
comp=Z,19nm,0.6s,baz=320
KPKS Kokpek 56.66 320 *e*P **P** **07 11 26.7 -2.2**
KPKS pmax pmax
comp=Z,19nm,0.6s
KSH Kashi 56.72 315 P **P** **07 11 30.2 +0.7**
KSH PcP **PcP** **07 12 21.9 -2.4**
KSH pmax pmax
comp=Z,36nm,0.7s
KSH pmax pmax
comp=Z,340nm,5.3s
KSH LR LR
comp=Z,550nm,6.4s
KSH LR LR
comp=Z,520nm,9.2s
KSH LR LR
comp=Z,470nm,7.1s
YAK Yakutsk 57.25 2*c i*P **P** **07 11 32.9 +0.3**
YAK *e**PP **pP** **07 11 57.5 -1.4**
YAK *e* 07 12 24.0
YAK *e* 07 13 45.2
YAK *e*S **S** **07 19 21.8 +2.2**
YAK *e* 07 21 08.8
YAK pmax pmax
comp=Z,396nm,0.8s
YAK pmax pmax
comp=E,21nm,0.9s
YAK pmax pmax
comp=N,79nm,1.0s
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK smax smax
comp=N,53nm,1.5s
YAK Yakutsk 57.25 2 P **P** **07 11 32.8 +0.2**
MDOK Medeo 57.57 319 *e*P **P** **07 11 33.2 -2.2**
baz=319
MDOK Medeo 57.57 319 *e*P **P** **07 11 33.2 -2.2**
TDK Taldyqorghan 57.59 322 *e*P **P** **07 11 33.7 -1.7**
comp=N,23nm,0.5s,baz=322
TDK Taldyqorghan 57.59 322 *e*P **P** **07 11 33.6 -1.8**
TDK pmax pmax
comp=Z,23nm,0.5s
AAA Alma-Ata 57.68 319 *e*P **P** **07 11 34.7 -1.5**
comp=Z,17nm,0.6s,baz=319
AAA Alma-Ata 57.68 319 *e*P **P** **07 11 34.6 -1.5**
AAA pmax pmax
comp=Z,17nm,0.6s
ULHL Ulahol 57.69 318 P **P** **07 11 36.3 -0.1**
SNR=9.9
CHKK Chushkaly 57.93 320 *e*P **P** **07 11 36.2 -1.6**
baz=320
CHKK Chushkaly 57.93 320 *e*P **P** **07 11 36.2 -1.6**
MA2 Magadan 57.97 15*ce*P **P** **07 11 37.8 +0.1**
MA2 pmax pmax
comp=Z,44nm,0.7s
MA2 Magadan 57.97 15 P **P** **07 11 39.1 +1.4**
KUU Kurty 58.37 320 *e*P **P** **07 11 38.3 -2.5**
comp=Z,46nm,0.6s,baz=320
KUU *e*S **S** **07 19 33.9 -1.0**
baz=320
KUU Kurty 58.37 320 *e*P **P** **07 11 38.3 -2.5**

KUU eS S 07 19 33.9 -1.0
KUU pmax pmax
comp=Z,46nm,0.6s
TKM2 Tokmak 2 58.42 318 P P 07 11 40.8 -0.6
SNR=38
KBK Karagaybulak 58.73 318 P P 07 11 43.6 +0.1
SNR=14
UCH Uchtor 58.84 317 P P 07 11 44.5 -0.2
SNR=63
CHMS Chumysh 59.01 318 P P 07 11 44.4 -0.9
SNR=9.5
AAK Ala-Archa 59.03 318 P P 07 11 45.2 -0.4
SNR=14
AAK Ala-Archa 59.03 318 ceP P 07 11 45.2 -0.4
AAK pmax pmax
comp=Z,37nm,0.8s
AAK Ala-Archa 59.03 318 P P 07 11 45.2 -0.4
AAK IAmb IAmb 07 11 47.9
comp=Z,12nm,0.8s
SGDS Sogindy 59.28 319 eP P 07 11 43.9 -3.3
baz=319
SGDS Sogindy 59.28 319 eP P 07 11 43.9 -3.3
USP Ospenovka 59.29 318 P P 07 11 46.5 -0.7
SNR=28
ZAA0 Zalesovo Array 59.30 333 P P 07 11 45.1 -1.9
ZAA0 IAmb IAmb 07 11 48.8
comp=Z,15nm,0.7s
ZALV Zalesovo Beam 59.30 333 P P 07 11 45.0 -2.1
comp=Z,14nm,0.6s,baz=117,slow=6.2,SNR=26
ZALV S S 07 19 43.2 -3.4
comp=Z,0.4nm,0.4s,baz=138,slow=16,SNR=1.3
ZALV LR LR 07 37 44.2
comp=Z,100nm,20.0s,baz=111,slow=36
ZALV Zalesovo Beam 59.30 333 P P 07 11 45.0 -2.1
ZALV Zalesovo Beam 59.30 333 P P 07 11 44.6 -2.4
AML Almayashu 59.36 317 P P 07 11 48.0 -0.1
SNR=66
SEM Semipalatinsk 59.39 328 eP P 07 11 45.3 -2.8
comp=Z,4.3nm,0.7s,baz=328
SEM Semipalatinsk 59.39 328 eP P 07 11 45.2 -2.8
SEM pmax pmax
comp=Z,4.0nm,0.7s
EKS2 Erkin-Say 59.52 318 P P 07 11 48.8 -0.2
SNR=35
KBL Kabul 60.22 307 P P 07 11 53.2 -0.8
KBL pmax pmax
comp=Z,21nm,0.7s
KBL Kabul 60.22 307 P P 07 11 53.2 -0.8
KBL IAmb IAmb 07 11 53.9
comp=Z,21nm,0.7s
BTLS Baital 60.35 320 eP P 07 11 51.8 -2.7
comp=Z,6.8nm,0.6s,baz=320
BTLS Baital 60.35 320 eP P 07 11 51.7 -2.7
BTLS pmax pmax
comp=Z,7.0nm,0.6s
KURBB Kurchatov Arra 60.43 327 P P 07 11 53.3 -1.5
comp=Z,54nm,0.8s,baz=125,slow=6.0,SNR=34
KURK Kurchatov 60.43 328 ceP P 07 11 53.2 -1.6
KURK pmax pmax
comp=Z,73nm,0.9s
KURK Kurchatov 60.43 328 P P 07 11 53.5 -1.3
SEY Seymchan 61.27 13⇑ iP P 07 12 02.3 +2.0
IUG Iuzhnay 61.89 316 eP P 07 12 02.8 -2.2
comp=Z,16nm,0.9s,baz=316
IUG Iuzhnay 61.89 316 eP P 07 12 02.8 -2.2
IUG pmax pmax
comp=Z,16nm,0.9s
KK31 Karatay Array 61.90 317 P P 07 12 04.1 -0.9
KK31 pmax pmax
comp=Z,22nm,0.9s
KK31 Karatay Array 61.90 317 P P 07 12 04.1 -0.9
KK31 IAmb IAmb 07 12 06.2
comp=Z,22nm,0.8s
KKAR Karatay Array 61.90 317 P P 07 12 04.1 -0.9
KKAR pmax pmax
comp=Z,22nm,0.9s
KKAR Karatay Array 61.90 317 P P 07 12 03.9 -1.0
KKAR Karatay Array 61.90 317 P P 07 12 04.1 -0.9
KKAR IAmb IAmb 07 12 06.2
comp=Z,22nm,0.8s
TAS Tashkent 62.12 315 P P 07 12 05.9 -0.5
TAS pmax pmax
comp=Z,66nm,1.1s
TAS Tashkent 62.12 315 P P 07 12 05.9 -0.5
TAS IAmb IAmb 07 12 07.2
comp=Z,66nm,1.1s
LBZ Lake Benmore 63.00 146 P P 07 12 13.6 +1.4
LBZ IAmb IAmb 07 12 16.7
comp=Z,58nm,1.4s
THZ Tophouse 63.03 142 P P 07 12 12.7 +0.2
THZ IAmb IAmb 07 12 40.3
comp=Z,18nm,0.7s
RPZ Rata Peaks 63.08 145 P P 07 12 13.9 +1.2
comp=Z,11nm,1.0s,baz=331,slow=6.2,SNR=3.8
LTZ Lake Taylor 63.23 143 P P 07 12 14.7 +0.9
BRZS Berezniki 63.37 325 eP P 07 12 12.7 -1.9
comp=Z,6.5nm,0.5s,baz=325
BRZS Berezniki 63.37 325 eP P 07 12 12.6 -1.9
BRZS pmax pmax
comp=Z,7.0nm,0.5s
URZ Urewera 63.87 137 P P 07 12 19.5 +1.5
comp=Z,1.4nm,0.3s,baz=352,slow=7.1,SNR=1.7
BHW Baring Head 64.05 141 P P 07 12 19.1 0.0
AFI Afiamalu 64.59 108 LR LR 07 34 25.8
comp=Z,86nm,20.9s,baz=156,slow=30
HRA Herat 65.64 306 P P 07 12 28.6 -1.3
BVAR Borovoye Array 66.01 327 P P 07 12 29.7 -1.9
comp=Z,15nm,0.8s,baz=145,slow=8.5,SNR=82
BRVK Borovoye 66.08 327 ceP P 07 12 30.5 -1.6
BRVK pmax pmax
comp=Z,31nm,0.8s
BRVK Borovoye 66.08 327 P P 07 12 30.6 -1.4
BRVK IAmb IAmb 07 12 35.3
comp=Z,27nm,0.8s
TIXI Tiksi 66.87 1 c iP P 07 12 36.1 -0.6
TIXI Tiksi 66.87 1 P P 07 12 36.0 -0.7
ATKA Atka Island 68.19 35 P P 07 12 45.9 +0.5
NRIK Noril'sk 69.26 346 P P 07 12 51.0 -0.8
comp=Z,27nm,0.6s,baz=123,slow=6.1,SNR=62
NRIK S S 07 21 46.1 -2.7
comp=Z,0.6nm,0.3s,baz=184,slow=14,SNR=1.5
NRIK LR LR 07 44 57.6
comp=Z,178nm,18.5s,baz=164,slow=37
NRIK Noril'sk 69.26 346 ceP P 07 12 50.6 -1.1
NRIK pmax pmax
comp=Z,23nm,0.6s
NRIK Noril'sk 69.26 346 P P 07 12 50.8 -0.9
NRIK IAmb IAmb 07 12 52.3
comp=Z,27nm,0.6s
GEYT Alibeck 69.58 309 P P 07 12 53.7 -0.7
comp=Z,10.0nm,0.8s,baz=168,slow=7.4,SNR=13
GEYT LR LR 07 45 51.0
comp=Z,38nm,18.4s,baz=130,slow=38
GEYT Allbeck 69.58 309 P P 07 12 53.8 -0.7
GYA0B ALIBECK ARRAY 69.58 309 P P 07 12 53.9 -0.5
AB31 Akbulak array 70.82 321⇑ eP P 07 13 00.0 -1.7
AB31 pmax pmax
comp=Z,14nm,0.6s
ABKAR Akbulak array 70.82 321 P P 07 13 00.1 -1.6
ABKAR Akbulak array 70.82 321 P P 07 12 60.0 -1.7
SOCY Socotra 71.29 281 P P 07 13 03.2 -2.1
SOCY IAmb IAmb 07 13 04.6
comp=Z,26nm,0.7s
NIKH Nikolski High 71.52 35 P 07 13 06.4
baz=253
NIKH Nikolski High 71.52 35 P P 07 13 05.7 -0.1
CASY Casey 71.69 186 P P 07 13 07.5 +1.0
CASY IAmb IAmb 07 13 10.1
comp=Z,17nm,0.5s
AKTO Aktyubinsk 72.33 322 P P 07 13 09.6 -1.2
comp=Z,27nm,0.7s,baz=101,slow=8.0,SNR=98
AKTO S S 07 22 21.7 -3.3
comp=Z,0.7nm,0.7s,baz=124,slow=7.3,SNR=1.8
AKTO Aktyubinsk 72.33 322 i P P 07 13 09.3 -1.4
AKTO pmax pmax
comp=Z,26nm,0.6s
SVE Sverdlovsk 72.65 328 di P P 07 13 10.9 -1.6
SVE pmax pmax
comp=Z,41nm,0.7s
AKUT Akutan 73.61 35 P P 07 13 18.5 +0.3
AKUT IAmb IAmb 07 13 20.4
comp=Z,62nm,0.8s
ARU Arti 73.63 328 P P 07 13 16.1 -2.1
comp=Z,13nm,0.7s,baz=95,slow=3.2,SNR=68
ARU Arti 73.63 328 ceP P 07 13 16.3 -1.9
ARU pmax pmax
comp=Z,30nm,0.6s
ARU Arti 73.63 328 P P 07 13 15.9 -2.3
ARU IAmb IAmb 07 13 17.7
comp=Z,37nm,0.8s
FALS False Pass 75.12 34 P P 07 13 26.5 -0.3
FALS False Pass 75.12 34 P 07 13 27.5
baz=257
ANM Nome 76.73 24 P 07 13 37.7
baz=253
SDPT Sand Point 76.88 34 P 07 13 37.6
baz=259,SNR=5.7
SDPT Sand Point 76.88 34 P P 07 13 36.9 +0.1
CHNA Chernabura Isl 77.28 35 P 07 13 40.0
baz=260
UMR Umm Al-Rimmam 77.36 299 eP 07 13 37.0
RDF Al-Radifah 77.48 298 eP 07 13 38.4
MIB Mutribah 77.69 299 eP 07 13 39.0
CHGN Chignik 78.19 34 P P 07 13 44.2 +0.1
CHGN IAmb IAmb 07 13 57.4
comp=Z,26nm,0.6s
CHGN Chignik 78.19 34 P 07 13 43.9
baz=261
RDOG Red Dog Mine 78.68 21 P P 07 13 47.8 +1.1
RDOG IAmb IAmb 07 13 51.0
comp=Z,36nm,1.3s
RDOG Red Dog Mine 78.68 21 P 07 13 48.0
baz=254
KIRV Kirov 78.92 329 P P 07 13 46.6 -1.4
comp=Z,45nm,0.6s,baz=135,slow=5.7,SNR=13
KIRV S S 07 23 33.0 -4.1
comp=Z,4.6nm,0.4s,baz=153,slow=4.5,SNR=1.2
KIRV Kirov 78.92 329 ceP P 07 13 46.7 -1.3
BELG Belogornoye 79.08 322 P P 07 13 47.3 -1.8
comp=Z,84nm,0.8s,baz=130,slow=3.5,SNR=27
BELG S S 07 23 34.7 -4.5
comp=Z,7.9nm,1.1s,baz=89,slow=18,SNR=2.5
BELG Belogornoye 79.08 322 ⇓ iP P 07 13 47.4 -1.7
BELG pmax pmax
comp=Z,14nm,0.9s
RAYN Ar Rayn 79.28 293 P P 07 13 49.6 -1.3
RAYN pmax pmax
comp=Z,23nm,1.0s
RAYN Ar Rayn 79.28 293 P P 07 13 49.6 -1.3
SVW2 Sparrevohn 80.36 29 P P 07 13 57.4 +1.5
TTA Tatalina 80.42 27 P P 07 13 57.4 +1.1
TTA Tatalina 80.42 27 P P 07 13 57.4 +1.1
TTA Tatalina 80.42 27 P 07 13 57.6
baz=262
ZEI Tsey 80.89 312 eP P 07 13 56.9 -2.5
ZEI pmax pmax
comp=Z,9.0nm,0.8s
OHAK Old Harbor 81.10 33 P P 07 14 00.9 +1.0
OHAK IAmb IAmb 07 14 03.7
comp=Z,22nm,0.7s
OHAK Old Harbor 81.10 33 P 07 14 01.3
baz=265
KDAK Kodiak Island 81.53 32 P P 07 14 03.1 +1.0
comp=Z,12nm,0.6s,baz=254,slow=4.2,SNR=2.7
KDAK Kodiak Island 81.53 32 P P 07 14 02.9 +0.8
KDAK Kodiak Island 81.53 32 P 07 14 03.4
baz=265
A21K Barrow 81.56 19 P P 07 14 03.4 +1.4
A21K IAmb IAmb 07 14 08.9
comp=Z,34nm,0.7s
A21K Barrow 81.56 19 P 07 14 03.6
baz=260
KBZ Khabaz 81.65 313 P P 07 14 02.2 -0.8
comp=Z,2.8nm,0.6s,baz=134,slow=6.6,SNR=8.5
RSO Redoubt South 81.67 30 P P 07 14 03.7 +0.6
NEY Neytrino 81.77 313 i P P 07 14 01.8 -2.1
IMAR Indian Mountai 81.80 24 P P 07 14 04.8 +1.4
KIV Kislovodsk 81.81 314 i P P 07 14 07.7 +3.7
KIV i 07 14 47.5
KIV pmax pmax
comp=Z,4.0nm,0.7s
KIV MLR MLR
comp=Z,119nm,16.0s
SPCR Spurr Chakacha 82.00 29 P 07 14 05.6
baz=265
PPLA Purkeypile 82.16 27 P P 07 14 06.5 +1.0
PPLA Purkeypile 82.16 27 P 07 14 06.7
baz=265,SNR=7.5
CHUM Lake Minchumin 82.19 26 P 07 14 07.1
baz=265,SNR=13
ATD Arta Tunnel 82.22 281 P P 07 14 07.8 +1.1
CNPM China Poot 82.36 31 P P 07 14 06.9 +0.4
CNPM IAmb IAmb 07 14 09.6
comp=Z,44nm,0.7s
SKT Skwentna 82.39 28 P P 07 14 07.0 +0.5
SKT Skwentna 82.39 28 P 07 14 07.2
baz=266
BRLK Bradley Lake 82.55 30 P P 07 14 07.8 +0.4
BRLK IAmb IAmb 07 14 13.2
comp=Z,39nm,0.8s
BRSE Bradley Lake S 82.62 30 P 07 14 08.7
baz=267
VRH Novokhopyorsk 82.65 321 eP P 07 14 05.8 -2.3
VRH eS S 07 24 11.7 -4.6
VRH pmax pmax
comp=Z,60nm,0.7s
VRH smax smax
comp=N,140nm,1.3s
SUA Susitna One 82.72 29 P P 07 14 09.1 +0.6
SUA IAmb IAmb 07 14 11.6
comp=Z,55nm,0.8s
SUA Susitna One 82.72 29 P 07 14 09.2
baz=266,SNR=12
KTH Kantishna Hill 82.78 27 P P 07 14 09.3 +0.7
KTH IAmb IAmb 07 14 14.6
comp=Z,35nm,1.3s
BPAW Bear Paw Mtn. 82.79 26 P P 07 14 09.5 +0.9
BPAW IAmb IAmb 07 14 13.6
comp=Z,27nm,1.0s
BPAW Bear Paw Mtn. 82.79 26 P 07 14 10.2
baz=266
MLY Manley 82.96 25 P 07 14 11.1
baz=266,SNR=20
CUT Chulitna 83.00 28 P 07 14 10.0
baz=267,SNR=5.5
TRF Thorofare Moun 83.06 27 P P 07 14 10.3 +0.2
TRF IAmb IAmb 07 14 36.9
comp=Z,23nm,0.9s
TRF Thorofare Moun 83.06 27 P 07 14 10.8
baz=267,SNR=13
O22K Cooper Landing 83.17 30 P P 07 14 11.2 +0.7
O22K Cooper Landing 83.17 30 P 07 14 11.4
baz=267,SNR=14
RC01 Rabbit Creek A 83.19 29 P 07 14 11.1
baz=267,SNR=18
SEW Seward 83.29 30 P P 07 14 11.3 +0.1
SEW IAmb IAmb 07 14 14.8
comp=Z,34nm,0.8s
SEW Seward 83.29 30 P 07 14 12.3
baz=268,SNR=12
COLD Coldfoot 83.33 23 P P 07 14 12.9 +1.7
COLD IAmb IAmb 07 14 14.4
comp=Z,31nm,0.8s
COLD Coldfoot 83.33 23 P 07 14 13.5
baz=266,SNR=27
BWN Browne 83.46 26 P P 07 14 13.3 +1.3
BWN IAmb IAmb 07 14 17.5
comp=Z,51nm,1.2s
I23K Minto, Yukon-K 83.55 25 P P 07 14 13.7 +1.3
I23K IAmb IAmb 07 14 17.7
comp=Z,58nm,1.2s
I23K Minto, Yukon-K 83.55 25 P 07 14 14.1
baz=267,SNR=31
NEA2 Nenana 83.65 26 P 07 14 14.2
baz=268
TOLK Toolik Lake Re 83.65 22 P P 07 14 14.8 +1.8
TOLK IAmb IAmb 07 14 15.9
comp=Z,33nm,0.8s
TOLK Toolik Lake Re 83.65 22 P 07 14 14.9
baz=267,SNR=32
MCK McKinley 83.67 26 P 07 14 13.7
baz=268,SNR=36
RND Reindeer 83.70 27 P P 07 14 13.6 +0.2
RND pmax pmax
comp=Z,20nm,0.7s
RND Reindeer 83.70 27 P P 07 14 13.6 +0.2
RND IAmb IAmb 07 14 15.8
comp=Z,20nm,0.7s
SML Sawmill 83.89 28 P P 07 14 15.2 +0.9
SML pmax pmax
comp=Z,28nm,0.8s
SML Sawmill 83.89 28 P P 07 14 15.2 +0.9
SML IAmb IAmb 07 14 17.5
comp=Z,28nm,0.8s
SML Sawmill 83.89 28 P 07 14 15.1
baz=268,SNR=19
WRH Wood River Hil 84.07 26 P P 07 14 15.7 +0.5
WRH IAmb IAmb 07 14 16.6
comp=Z,34nm,1.4s
KLMR Klimovskoe 84.11 331 eP P 07 14 12.5 -2.9
KLMR pmax pmax
comp=Z,35nm,0.6s
KLMR Klimovskoe 84.11 331 eP P 07 14 12.5 -2.9
KLMR AMP 07 14 17.7
comp=Z,35nm,0.6s
COLA College 84.18 25 i P P 07 14 15.6 0.0
COLA pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 84.18 321 eP P 07 14 12.5 -3.4
VORD pmax pmax
comp=Z,10.0nm,0.4s
CCB Clear Creek Bu 84.20 26 P P 07 14 15.8 0.0
VSR Storozhevoye 84.26 321 eP P 07 14 13.8 -2.5
VSR eS S 07 24 29.1 -3.4
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR smax smax
comp=N,40nm,1.2s
POKR Poker Plat Res 84.36 25 P P 07 14 18.1 +1.5
POKR Poker Plat Res 84.36 25 P 07 14 18.4
baz=269
SCM Sheep Creek Mo 84.37 28 P P 07 14 17.5 +0.7
SCM pmax pmax
comp=Z,25nm,1.0s
SCM Sheep Creek Mo 84.37 28 P P 07 14 17.5 +0.7
SCM IAmb IAmb 07 14 20.6
comp=Z,24nm,1.0s
LPSR Galich'ya Gora 84.40 322 eP P 07 14 14.7 -2.3
LPSR eS S 07 24 31.7 -2.1
LPSR pmax pmax
comp=Z,30nm,0.7s
LPSR smax smax
comp=N,120nm,1.7s
GLI Glacier Island 84.47 29 P P 07 14 17.9 +0.6
GLI IAmb IAmb 07 14 20.4
comp=Z,46nm,0.7s
GLI Glacier Island 84.47 29 P 07 14 18.4
baz=270
VNDA Vanda 84.52 173 P P 07 14 17.7 +0.6
comp=Z,28nm,1.3s,baz=316,slow=6.8,SNR=5.3
HDA Harding Lake 84.56 26 P P 07 14 18.4 +0.8
HDA IAmb IAmb 07 14 25.1
comp=Z,17nm,0.7s
HDA Harding Lake 84.56 26 P 07 14 18.0
baz=270
HDA P 07 14 18.0
baz=270
IL31 84.59 25 P P 07 14 17.3 -0.4
ILAR Eielson Array 84.59 25 P P 07 14 16.9 -0.8
comp=Z,5.0nm,0.6s,baz=239,slow=4.7,SNR=37
ILAR PP PP 07 17 31.8 -2.9
comp=Z,0.8nm,0.8s,baz=273,slow=7.1,SNR=2.8
ILAR LR LR 07 49 53.3
comp=Z,35nm,21.3s,baz=288,slow=34
ILAR Eielson Array 84.59 25 P P 07 14 17.0 -0.8
HIN Hinchinbrook I 84.77 30 P P 07 14 19.7 +1.0
HIN IAmb IAmb 07 14 22.7
comp=Z,27nm,0.9s
FID Port Fidalgo 84.78 30 P P 07 14 19.5 +0.7
FID IAmb IAmb 07 14 22.1
comp=Z,21nm,0.6s
TMCR Tamitsa 84.82 334 eP P 07 14 17.3 -1.6
TMCR pmax pmax
comp=Z,41nm,0.8s
M24K Tolsona, Glenn 84.91 28 P P 07 14 20.6 +1.1
M24K IAmb IAmb 07 14 26.3
comp=Z,26nm,0.7s
M24K Tolsona, Glenn 84.91 28 P 07 14 21.4
baz=270,SNR=13
KLU Klutina 85.04 29 P P 07 14 21.2 +1.1
KLU IAmb IAmb 07 14 26.5
comp=Z,14nm,0.6s
KLU Klutina 85.04 29 P 07 14 21.7
baz=271
MOS Moscow 85.12 325 eP P 07 14 21.2 +0.7
MOS e*PP pP 07 14 48.2 -1.0
MOS eS S 07 24 35.5 -5.3
MOS pmax pmax
comp=Z,42nm,0.9s
EYAK Cordova Ski Ar 85.14 30 P P 07 14 21.1 +0.5
EYAK Cordova Ski Ar 85.14 30 P 07 14 22.1
baz=271
PAX Paxson 85.23 27 P P 07 14 22.5 +1.4
PAX pmax pmax
comp=Z,12nm,1.1s
PAX Paxson 85.23 27 P P 07 14 22.4 +1.4
PAX Paxson 85.23 27 P 07 14 22.2
baz=271,SNR=5.8
BMAR Burnt Mountain 85.51 23 P P 07 14 23.7 +1.3
ANN Anapa 85.57 314 eP P 07 14 18.9 -4.1
ANN pmax pmax
comp=Z,97nm,1.3s
N25K Chitina, Valde 85.67 29 P P 07 14 24.0 +0.7
N25K Chitina, Valde 85.67 29 P 07 14 24.6
baz=272
RAGM Ragged Mountai 85.67 30 P P 07 14 24.9 +1.6
RAGM IAmb IAmb 07 14 51.8
comp=Z,23nm,1.1s
BMRM Bremner River 85.69 29 P 07 14 24.7
baz=272
OBN Obninsk 85.74 325 P P 07 14 22.3 -1.3
comp=Z,8.1nm,0.6s,baz=51,slow=6.4,SNR=8.3
OBN Obninsk 85.74 325 ceP P 07 14 22.2 -1.4
OBN pmax pmax
comp=Z,38nm,0.9s
OBN Obninsk 85.74 325 P P 07 14 23.9 +0.3
OBN IAmb IAmb 07 14 24.9
comp=Z,39nm,0.7s
KAIM Kayak Island 85.82 30 P P 07 14 25.7 +1.7
KAIM IAmb IAmb 07 14 50.8
comp=Z,44nm,0.8s
KAIM Kayak Island 85.82 30 P 07 14 25.5
baz=272
SCRK Sand Creek 85.87 26 P 07 14 25.3
baz=272
MENT Mentasta 86.03 27 P P 07 14 25.5 +0.5
GLB Gilahina Butte 86.05 29 P P 07 14 26.6 +1.4
GLB IAmb IAmb 07 14 51.1
comp=Z,17nm,0.9s
LVZ Lovozero 86.11 338 i P P 07 14 24.4 -0.9
LVZ pmax pmax
comp=Z,30nm,1.0s
SUCK Suckling Hills 86.13 30 P P 07 14 26.1 +0.6
VRDI Verde Repeater 86.24 29 P P 07 14 27.1 +0.8
VRDI IAmb IAmb 07 14 52.0
comp=Z,14nm,0.8s
PPT Papeete 86.26 108 LR LR 07 47 04.7
comp=Z,36nm,20.5s,baz=280,slow=31
PPT2 Papeete2 86.27 108 eLR LR 07 41 44.0
comp=Z,248nm,31.5s
CRQM Cirque 86.41 29 P P 07 14 28.0 +0.9
MCARA McCarthy VSAT 86.44 29 P P 07 14 29.5 +2.6
MCARA McCarthy VSAT 86.44 29 P 07 14 28.8
baz=273
CRQE Cirque 86.44 29 P 07 14 28.1
baz=273
TGL Tana Glacier 86.57 29 P P 07 14 28.2 +0.5
TGL IAmb IAmb 07 14 30.7
comp=Z,16nm,0.8s
APA Apatity 86.60 337⇑ iP P 07 14 23.5 -4.1
APA pmax pmax
comp=Z,10.0nm,0.8s
BALM Baldy 86.78 29 P P 07 14 29.9 +1.1
BALM Baldy 86.78 29 P P 07 14 29.4 +0.6
BCAR Beaver Creek A 86.90 27 P P 07 14 29.7 +0.4
TBI Tubuai 87.00 114 eLR LR 07 42 15.5
comp=Z,248nm,34.0s
EGAK Eagle 87.05 25 P P 07 14 30.3 +0.4
EGAK Eagle 87.05 25 P 07 14 30.5
baz=275
BARN Barnard Glacie 87.11 29 P P 07 14 31.9 +1.3
BARN IAmb IAmb 07 14 34.0
comp=Z,15nm,0.8s
YAH Yahtse 87.13 30 P P 07 14 32.2 +1.6
CTG Chitna Glacier 87.28 29 P 07 14 32.6
baz=275
CTGM Chitina Glacie 87.28 29 P P 07 14 31.6 +0.3

CTGM IAmb IAmb 07 14 35.4
comp=Z,20nm,0.8s
TABL Table Mountain 87.42 30 P P 07 14 32.6 +0.5
TABL IAmb IAmb 07 14 35.8
comp=Z,12nm,0.7s
PCA Pinnacle 87.89 30 P P 07 14 34.8 +0.7
PINM Pinnacle 87.89 30 P 07 14 35.3
baz=276
KMBO Kilima Mbogo 88.68 269 P P 07 14 40.4 +1.3
comp=Z,2.9nm,0.7s,baz=57,slow=7.0,SNR=7.2
BR131 Keskin Array S 88.71 310 P P 07 14 36.3 -2.2
BR131 pmax pmax
comp=Z,6.0nm,0.7s
BR131 Keskin Array S 88.71 310 P P 07 14 36.3 -2.2
BRTR Keskin Array B 88.71 310 P P 07 14 36.2 -2.3
comp=Z,3.1nm,0.5s,baz=137,slow=4.2,SNR=15
BRTR PP PP 07 18 11.9 +3.3
comp=Z,1.5nm,0.8s,baz=110,slow=6.8,SNR=3.7
BRTR Keskin Array B 88.71 310 *ce*P P 07 14 38.0 -0.5
BRTR pmax pmax
comp=Z,3.0nm,0.4s
HYT Haines Junctio 89.16 29 P P 07 14 40.8 +0.6
ARA0 ARCESS Array S 89.21 340 *e*P P 07 14 38.6 -1.4
ARCES ARCESS Array B 89.21 340 P P 07 14 38.6 -1.5
comp=Z,19nm,0.8s,baz=84,slow=5.6,SNR=59
ARCES PKiKP **PKiKP 07 19 38.0 +0.2**
comp=Z,2.8nm,0.8s,baz=66,slow=2.5,SNR=1.7
ARCES LR LR 07 58 52.5
comp=Z,175nm,18.4s,baz=345,slow=38
ARCES ARCESS Array B 89.21 340 P P 07 14 38.6 -1.5
ARCES IAmb IAmb 07 14 40.4
comp=Z,17nm,0.8s
SPA0 Spitsbergen Ar 89.34 349 *e*P P 07 14 40.8 +0.3
SPITS Spitsbergen Ar 89.34 349 P P 07 14 40.4 -0.1
SPITS pmax pmax
comp=Z,4.0nm,0.3s
INK Inuvik 89.57 21 PKKPbc PKKPbc 07 32 14.4 -4.0
comp=Z,0.9nm,0.6s,baz=113,slow=4.8,SNR=4.9
INK Inuvik 89.57 21 P P 07 14 41.8 +0.1
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 89.57 21 P P 07 14 41.8 +0.1
HAMF Hammerfest 89.59 341 *e*P P 07 14 40.2 -1.5
KBS Kingsbay 89.87 350 *ce*P P 07 14 41.6 -1.4
KBS pmax pmax
comp=Z,128nm,2.5s
HSPB Hornsund (broa 89.92 348 *e*P P 07 14 42.8 -0.4
KTK1 Kautokeino 90.11 339 *e*P P 07 14 43.6 -0.7
SKAG Skagway 90.45 30 P 07 14 46.9
baz=280
FINES FINESS Array B 90.54 332 P P 07 14 44.5 -1.8
comp=Z,12nm,0.6s,baz=54,slow=4.3,SNR=30
FINES PKiKP **PKiKP 07 19 40.1 -0.1**
comp=Z,1.9nm,0.7s,baz=27,slow=3.4,SNR=1.7
FINES LR LR 07 57 11.7
comp=Z,177nm,19.3s,baz=66,slow=37
AKASG Malin Array Be 90.56 321 P P 07 14 43.8 -2.9
comp=Z,1.8nm,0.6s,baz=66,slow=4.9,SNR=5.8
AKASG PKiKP **PKiKP 07 19 40.3 -0.3**
comp=Z,0.6nm,0.5s,baz=71,slow=1.8,SNR=4.0
AKASG Malin Array Be 90.56 321 P P 07 14 44.7 -2.0
AKASG Malin Array Be 90.56 321 P P 07 14 44.6 -2.0
VSIJ Vasula 90.76 329 *e*P P 07 14 46.6 -0.8
MNK Minsk 90.80 325 *i* P P 07 14 45.3 -2.4
comp=E,4.0nm,1.4s
MNK *i* P P 07 14 45.3 -2.4
comp=N,11nm,0.8s
MNK *i* P P 07 14 45.3 -2.4
comp=Z,20nm,0.8s
MNK *i* pP **pP 07 15 11.7 -4.9**
MNK *i* PP **PP 07 18 22.1 -2.5**
MNK *i* PPP PPP 07 20 20.4
MNK *i* S **SKSac 07 25 07.2 -1.9**
MNK *i* sS pS 07 25 55.0 -17
MNK *i* SP **SP 07 26 42.1 -0.3**
MNK *i* PS **PS 07 26 55.0 -2.0**
MNK *i* SS **SS 07 31 36.7 -2.6**
MNK *i* SSS SSS 07 35 17.4
MNK *i* LQ LQ 07 49 59.0
MNK *i* LR LR 07 55 13.8
MNK *i* LRM MLR 07 58 14.6
comp=E,20nm,13.4s
MNK *i* LRM MLR 07 58 19.2
comp=Z,141nm,11.5s
MNK *i* LRM MLR 07 58 21.5
comp=N,101nm,10.2s
JETT Jettan, Norway 90.95 340 *e*P P 07 14 47.6 -0.6
KIF Kilpisjarvi 90.97 340 *e*P P 07 14 47.2 -1.0
IDID Didziasalis 91.32 326 *e*P P 07 14 50.3 +0.2
NACGM Naroch 91.36 325 *i* P P 07 14 50.0 -0.3
NACGM *i* P P 07 14 50.0 -0.3
NACGM *i* P P 07 14 50.0 -0.3
NACGM *i* PP PP 07 18 28.5 -0.5
NACGM *i* PPP PPP 07 20 24.0
NACGM *i* SKS S 07 24 44.7 -55
NACGM *i* S **SKKSac 07 25 21.6 -6.6**
NACGM *i* PS **PnS 07 27 18.1 +14**
NACGM *i* SS **SS 07 31 56.9 +10**
NACGM *i* SSS SSS 07 36 05.7
NACGM *i* LQ LQ 07 50 19.8
NACGM *i* LR LR 07 54 21.6
TRO Tromso 91.42 340 *e*P P 07 14 48.0 -2.3
IIGN Ignalina 91.60 326 *e*P P 07 14 51.5 +0.1
WRAK Wrangell Islan 92.60 33 P 07 14 57.5
baz=282
PABE Paberze 92.83 326 *e*P P 07 14 55.5 -1.5
TESR Tescani 92.91 317 ||P P 07 14 56.0 -1.7
VRI Vrincioaia 92.97 316 ||P P 07 14 55.0 -3.0
VRI Vrincioaia 92.97 316 ||P P 07 14 55.0 -3.0
STEI Steigen 93.25 339 *e*P P 07 14 54.8 -4.0
NEHR Nehoiu 93.34 316 ||P P 07 14 58.9 -0.9
FAUS Fauske 93.43 339 *e*P P 07 14 57.6 -2.0
MLR Muntele Rosu 93.57 316 ||P P 07 14 59.5 -1.4
MLR Muntele Rosu 93.57 316 ||P P 07 14 59.5 -1.4
SUW Suwalki 93.60 325 *e*P P 07 14 59.7 -0.9
SUW Suwalki 93.60 325 P P 07 14 59.3 -1.4
SUW pmax pmax
comp=Z,50nm,1.0s
SUW Suwalki 93.60 325 P P 07 14 59.3 -1.4
BURAR Bucovina Array 93.67 318 ||P P 07 15 00.0 -1.3
BURAR Bucovina Array 93.67 318 ||P P 07 15 00.0 -1.3
BURAR Bucovina Array 93.67 318 P P 07 14 59.6 -1.7
BUR08 Bucovina Ar. S 93.68 318 P P 07 15 00.0 -1.3
ARR Arges 94.50 316 ||P P 07 15 04.6 -0.5
QSPA South Pole Qui 94.62 180 P P 07 15 05.8 +0.6
comp=Z,5.0nm,1.0s,baz=308,slow=3.4,SNR=14
KOLS Kolonicke sedl 95.32 320 *e*P P 07 15 10.0 +1.3
KOLS Kolonicke sedl 95.32 320 *e*PDIFF P 07 15 10.0 +1.3
UZH Uzhgorod 95.37 320 *ce*P P 07 15 10.0 +1.1
DRGR 95.51 318 ||P P 07 15 07.7 -2.0
DRGR 95.51 318 ||P P 07 15 07.7 -2.0
NSS Namsos 95.78 337 *e*P P 07 15 09.3 -1.1
CRVS Cervenica-Dubn 95.84 320 *e*P P 07 15 12.8 +1.7
CRVS Cervenica-Dubn 95.84 320 *e*PDIFF P 07 15 12.8 +1.7
VTS Vitosha 96.05 314 ||P P 07 15 10.7 -1.7
VTS Vitosha 96.05 314 P P 07 15 10.9 -1.5
VTS pmax pmax
comp=Z,3.0nm,0.6s
VTS Vitosha 96.05 314 P P 07 15 10.9 -1.5
DAG Danmarks Havn 96.16 352 *i* P P 07 15 11.0 -0.9
comp=Z,46nm,0.8s
DAG Danmarks Havn 96.16 352 *i* P P 07 15 11.0 -0.9
DAG pmax pmax
comp=Z,46nm,0.8s
DAG Danmarks Havn 96.16 352 *i* P P 07 15 11.0 -0.9
DAG IAmb IAmb 07 15 12.0
comp=Z,46nm,0.8s
SIRR Siria 96.34 317 ||P P 07 15 07.1 -6.3
BZS Buzias 96.52 317 ||P P 07 15 12.2 -2.0
BZS Buzias 96.52 317 ||P P 07 15 12.2 -2.0
NC602 NORSAR Array S 97.48 333 *e*P P 07 15 17.5 -0.7
NORES NORESS Array B 97.48 333 P Pdif 07 15 20.1 +1.8
NORES pmax pmax
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra 97.51 333 P P 07 15 15.9 -2.5
comp=Z,4.6nm,0.7s,baz=65,slow=4.6
NB2 NORSAR Subarra 97.51 333 P P 07 15 16.5 -1.9
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 97.51 333 P P 07 15 15.9 -2.5
baz=65,slow=4.6
NOA NORSAR Array B 97.51 333 P P 07 15 16.1 -2.2
comp=Z,3.0nm,0.6s,baz=66,slow=4.5,SNR=11
NOA LR LR 08 02 34.1
comp=Z,98nm,19.0s,baz=75,slow=37
OSL Oslo 98.18 333 *e*Pdif Pdif 07 15 23.4 +2.1
DBG Daneborg 98.41 351 *i* P P 07 15 21.9 -0.2
DBG IAmb IAmb 07 15 22.6
comp=Z,16nm,0.8s
KONO Kongsberg 98.82 333 *e*Pdif P 07 15 24.4 +0.2
AKN Aaknes 98.82 335 *e*Pdif Pdif 07 15 26.2 +2.0
YKA Yellowknife Ar 98.96 24 P P 07 15 24.8 0.0
comp=Z,2.2nm,0.7s,baz=303,slow=4.1,SNR=45
YKA PP PP 07 19 21.1 -6.5
comp=Z,0.1nm,0.6s,baz=294,slow=6.1,SNR=2.7
YKA PKiKP **PKiKP 07 19 55.1 +0.2**
comp=Z,0.5nm,0.7s,baz=335,slow=1.2,SNR=4.0
YKA PKKPbc **PKKPbc 07 31 50.1 -3.4**
comp=Z,0.4nm,0.5s,baz=111,slow=3.3,SNR=13
YKA Yellowknife Ar 98.96 24 *ce*P P 07 15 25.2 +0.4
YKA pmax pmax
comp=Z,2.0nm,0.7s
BRG Berggiesshubel 99.91 323 *e*P Pdif 07 15 29.8 +0.5
BRG Amp 07 15 31.1
comp=Z,6.8nm,0.8s
D03D Eldon 100.52 40 P 07 15 33.9
baz=289
GERES GERESS Array B 100.76 321 P Pdif 07 15 32.2 -1.1
comp=Z,1.1nm,0.7s,baz=70,slow=4.4,SNR=10
B05A Bryant 100.91 39 P 07 15 35.3
baz=290
BOSA Boshof 101.53 242 PKKPbc PKKPbc 07 31 45.7 +0.5
comp=Z,1.3nm,0.9s,baz=297,slow=4.5,SNR=3.9
SUMG Summit 102.18 355 *i* P Pdif 07 15 39.1 -0.3
comp=Z,7.3nm,0.7s
SUMG Summit 102.18 355 *i* P Pdif 07 15 39.1 -0.3
SUMG pmax pmax
comp=Z,7.0nm,0.7s
SUMG Summit 102.18 355 *i* P Pdif 07 15 39.1 -0.3
SUMG IAmb IAmb 07 15 40.0
comp=Z,7.3nm,0.7s
NEW Newport 104.00 38 P 07 15 48.7
baz=294
NVAR Mina Array Bea 106.90 48 Pdiff Pdif 07 16 01.6 +0.6
comp=Z,0.8nm,0.6s,baz=281,slow=4.1,SNR=7.3
NVAR PKiKP **PKiKP 07 20 11.7 +1.2**
comp=Z,1.7nm,0.7s,baz=253,slow=1.7,SNR=14
NVAR PKKPbc **PKKPbc 07 31 29.6 0.0**
comp=Z,0.5nm,0.6s,baz=134,slow=4.9,SNR=4.8
NVAR PKKPab **PKKPdf 07 31 43.5 +2.0**
comp=Z,0.5nm,0.5s,baz=141,slow=4.3,SNR=5.4
HLID Hailey 107.66 41 P 07 20 13.8
baz=295
CWC Cottonwood Cre 107.76 50 P 07 20 13.7
baz=290
MPMC Manual Prospec 108.33 50 P 07 20 14.4
baz=290
GMRC Granite Mounta 110.18 50 P 07 20 18.6
baz=291
BELC Belle Mtn. Jos 110.20 51 P 07 20 18.1
baz=291
PDAR Pinedale Array 111.19 41 Pdiff Pdif 07 16 24.2 +4.2
comp=Z,0.2nm,0.5s,baz=212,slow=5.9,SNR=2.0
PDAR PKiKP **PKiKP 07 20 18.6 +0.2**
comp=Z,0.8nm,0.7s,baz=193,slow=3.0,SNR=8.6
PDAR PKKPab **PKKPab 07 31 23.9 -1.9**
comp=Z,1.5nm,0.9s,baz=115,slow=7.4,SNR=7.2
O20A White River Ci 113.31 43 P 07 20 24.0
baz=298
MVCO Mesa Verde 114.50 45 P 07 20 26.4
baz=297
ULM Lac du Bonnet 114.51 28 PKiKP PKiKP 07 20 24.2 +0.1
comp=Z,1.0nm,0.5s,baz=223,slow=2.9,SNR=1.9
TUC Tucson 114.88 51 P 07 20 27.2
baz=294
ISCO Idaho Springs 115.23 42 *i* PKIKP PKiKP 07 20 26.7 +0.4
ISCO Idaho Springs 115.23 42 PKiKP PKiKP 07 20 26.7 +0.4
ISCO Idaho Springs 115.23 42 P 07 20 27.3
baz=300
S22A 4UR Ranch, Cre 115.42 44 P 07 20 28.3
baz=299
Q24A Divide 115.97 42 P 07 20 28.9
baz=301
ESDC Sonseca Array 116.13 319 PKP PKPdf 07 20 27.8 +0.2
comp=Z,0.4nm,0.6s,baz=18,slow=1.1,SNR=2.6
ESDC PP PP 07 21 32.6 -1.0
comp=Z,0.3nm,0.5s,baz=340,slow=5.4,SNR=1.8
ESDC Sonseca Array 116.13 319 PKPdf 07 20 27.4 -0.3
SDCO Great Sand Dun 116.34 44 PKPdf PKiKP 07 20 29.1 +0.7
SDCO Great Sand Dun 116.34 44 P 07 20 30.0
baz=300
ANMO Albuquerque 117.01 47 PKiKP PKiKP 07 20 30.4 +0.7
ANMO Albuquerque 117.01 47 PKPdf PKiKP 07 20 30.4 +0.7
ANMO Albuquerque 117.01 47 P 07 20 31.3
baz=298
121A Cookes Peak, D 117.10 50 P 07 20 31.4
baz=296
BNM Barren Site 117.25 48 PKPdf PKiKP 07 20 31.8 +1.6
T25A Trinidad 117.39 44 P 07 20 31.8
baz=300
MNTX Cornudas Mount 119.30 50 PKPdf PKPdf 07 20 34.4 +0.5
MNTX Cornudas Mount 119.30 50 P 07 20 35.2
baz=297,SNR=7.4
CBKS Cedar Bluff 119.60 40 P 07 20 34.8
baz=305
MSTX Muleshoe 120.14 46 PKPdf PKiKP 07 20 36.5 +0.8
MSTX Muleshoe 120.14 46 P 07 20 36.4
baz=300,SNR=8.5
AMTX Amarillo 120.45 45 PKPdf PKiKP 07 20 37.0 +0.8
AMTX Amarillo 120.45 45 P 07 20 37.4
baz=302
R32A Long Quarter, 120.48 40 PKiKP PKiKP 07 20 36.8 +0.7
HPIG 121.13 55 PKPdf PKiKP 07 20 38.8 +0.8
KSU1 Kansas State U 121.39 38 PKPdf PKPdf 07 20 38.0 +0.3
KSU1 Kansas State U 121.39 38 P 07 20 38.1
baz=308
U32A Winter Ranch, 121.47 42 PKiKP 07 20 39.1 +0.9
TX31 Lajitas Ar. Si 121.68 51 PKiKP 07 20 39.9 +1.1
TX32 Lajitas Array 121.68 51 PKiKP 07 20 39.9 +1.1
TXAR Lajitas Array 121.69 51 PKP PKiKP 07 20 39.9 +1.1
comp=Z,4.5nm,0.7s,baz=224,slow=0.9,SNR=49
TXAR SKP 07 24 05.8
comp=Z,1.2nm,0.8s,baz=346,slow=1.8,SNR=5.7
TXAR PKKPbc **PKKPbc 07 30 38.1 -0.6**
comp=Z,0.5nm,0.5s,baz=123,slow=4.7,SNR=7.6
TXAR Lajitas Array 121.69 51 PKIKP PKiKP 07 20 39.4 +0.6
TXAR Lajitas Array 121.69 51 PKPdf PKiKP 07 20 39.4 +0.6
TOA0 Torodi Ar. Sit 121.76 289 PKPdf PKPdf 07 20 38.8 -0.3
TORD Torodi Ar. Bea 121.76 289 PKP PKPdf 07 20 38.7 -0.3
comp=Z,14nm,0.7s,baz=44,slow=1.9,SNR=56
TORD SKP 07 24 04.4
comp=Z,1.3nm,0.8s,baz=102,slow=2.1,SNR=3.0
TORD PKKPab **PKKPab 07 30 39.5 +0.6**
comp=Z,2.6nm,0.7s,baz=278,slow=3.7,SNR=10
TORD Torodi Ar. Bea 121.76 289 PKPdf 07 20 38.6 -0.4
MATQ Matagami 122.05 18 P 07 20 38.2
baz=332
E46A Sault Ste Mari 122.53 24 PKPdf PKiKP 07 20 40.4 +0.5
WMOK Wichita Mounta 122.54 43 PKIKP PKPdf 07 20 40.7 +0.6
WMOK Wichita Mounta 122.54 43 PKPdf PKPdf 07 20 40.6 +0.6
WMOK Wichita Mounta 122.54 43 P 07 20 40.8
baz=304,SNR=8.3
LSQQ Lebel-sur-Quev 122.87 18 P 07 20 40.3
baz=333
ABTX Abilene, Hawle 123.08 46 PKPdf PKPdf 07 20 41.8 +0.6
ABTX Abilene, Hawle 123.08 46 P 07 20 42.3
baz=302
OK031 S. Brethren Rd 123.14 41 PKiKP 07 20 41.9 +0.5
JCT Junction City 124.07 48 PKIKP PKiKP 07 20 44.3 +0.9
JCT Junction City 124.07 48 PKPdf PKiKP 07 20 44.3 +0.9
JCT Junction City 124.08 48 P 07 20 44.2
baz=301
S39A Bolivar 124.28 37 PKPdf PKPdf 07 20 43.3 0.0
Z35A Perchaven, San 124.37 44 PKPdf PKiKP 07 20 44.4 +0.5
U38A Gravette 124.42 39 PKPdf PKPdf 07 20 44.0 +0.3
HHAR Hobbs 124.80 39 PKPdf 07 20 44.0 -0.4
X37A Clayton 124.91 42 PKiKP 07 20 46.0 +1.1
D55A Sainte-Anne-du 125.14 18 P 07 20 44.9
baz=334
ALGO Algonquin Park 125.25 20 P 07 20 45.0
baz=330
CCM Cathedral Cave 125.27 36 P 07 20 45.9
baz=313
D56A ZEC Mazanza, M 125.33 17 P 07 20 45.3
baz=334
U40A Yellville 125.43 38 PKPdf PKPdf 07 20 45.8 +0.3
U40A Yellville 125.43 38 P 07 20 45.9
baz=310,SNR=7.6
833A Chaparral WMA, 125.46 50 P 07 20 48.1
baz=300
E55A Montcerf-Lytto 125.47 18 P 07 20 45.7
baz=333
435B Jarrell 125.54 47 PKPdf PKiKP 07 20 47.4 +1.1
435B Jarrell 125.54 47 P 07 20 47.3
baz=303
LATQ La Tuque 125.58 15 PKiKP 07 20 46.3 +0.5
W39A Magazine 125.58 40 P 07 20 47.2
baz=309
LATQ La Tuque 125.58 15 P 07 20 46.2
baz=337
E56A St. Veronique 125.70 18 P 07 20 45.4
baz=334
G54A Lake Saint Pet 125.72 21 P 07 20 45.3
baz=330
I51A Listowel 125.97 24 P 07 20 46.4
baz=326
L48A N Adams 125.99 28 PKiKP 07 20 47.4 +0.5
T42A Van Buren 126.05 36 PKPdf 07 20 47.3 +0.6
MIAR Mount Ida 126.11 40 PKIKP PKiKP 07 20 48.0 +0.6
MIAR Mount Ida 126.11 40 PKPdf PKiKP 07 20 48.0 +0.6
MIAR Mount Ida 126.11 40 P 07 20 48.3
baz=308
PLVO Plevna 126.38 20 PKPdf 07 20 47.1 0.0
KOWA Kowa 126.75 292 PKPdf PKPdf 07 20 49.0 +0.4
WLAR White Oak Lake 126.95 41 PKPdf PKiKP 07 20 50.8 +1.8
G57A Newington 127.01 18 P 07 20 49.1
baz=334
E61A Lac Etchemin 127.05 14 P 07 20 49.2
baz=339
F60A Warwick 127.10 15 P 07 20 49.1
baz=338
H57A Richville 127.45 19 P 07 20 49.4
baz=333
ERPA Erie 127.79 24 P 07 20 50.5
baz=327
H58A Gabriels 127.88 18 P 07 20 50.7
baz=334
J56A Wolcott 128.00 21 P 07 20 50.2
baz=331
M53A WI Miller and 128.07 25 P 07 20 50.5
baz=326
I58A Old Forge 128.28 19 P 07 20 51.5
baz=333
K56A Middlesex 128.33 22 P 07 20 51.7
baz=330
M54A Oil Creek Stat 128.43 24 PKPdf 07 20 51.8 +0.6
M54A Oil Creek Stat 128.43 24 P 07 20 52.0
baz=327
H61A Lyndonville 128.44 16 P 07 20 52.3
baz=337
K57A Scipio Center 128.60 21 P 07 20 50.6
baz=331
J59A Piesco 128.63 19 PKPdf 07 20 52.1 +0.6
J59A Piesco 128.63 19 P 07 20 52.1
baz=334
I60A Shoreham 128.67 18 P 07 20 53.0
baz=335
L56A Greenwood 128.73 22 P 07 20 52.2
baz=330
N54A Moraine State 128.75 25 P 07 20 52.4
baz=326
P52A Corning 128.89 28 P 07 20 52.2
baz=323
M56A Emporium 129.05 23 P 07 20 53.0
baz=328
L57A Andrews Acres 129.11 22 P 07 20 53.4
baz=330
BINY Binghamton 129.25 21 P 07 20 53.6
baz=331
L58A Harry Jones Me 129.44 21 P 07 20 54.1
baz=332
KIC Kosan Boka 129.45 282 *e*PKIKP PKPdf 07 20 54.4 +0.6
comp=Z,29nm,0.8s
N56A West Decatur 129.49 24 P 07 20 54.2
baz=328
DBIC Dimbokro 129.50 283 PKP PKPdf 07 20 53.6 -0.3
comp=Z,11nm,0.8s,baz=48,slow=1.9,SNR=20
DBIC SKPbc SKPab 07 24 04.3 -0.7
comp=Z,4.2nm,0.6s,baz=48,slow=5.0,SNR=10
DBIC Dimbokro 129.50 283 PKIKP PKPdf 07 20 54.5 +0.7
DBIC Dimbokro 129.50 283 PKPdf PKPdf 07 20 54.5 +0.7
TIC Toumodi 129.66 283 *e*PKIKP PKPdf 07 20 54.7 +0.5
LIC Lamto 129.75 282 *e*PKIKP PKPdf 07 20 54.9 +0.5
comp=Z,47nm,0.8s
N57A Milroy 129.92 23 P 07 20 54.7
baz=329
M59A Waymart 130.03 21 P 07 20 55.4
baz=332
L61B Northampton 130.12 18 P 07 20 55.8
baz=336
N58A Sunbury 130.17 22 P 07 20 55.0
baz=330
P56A Dayton Farm, R 130.45 25 P 07 20 55.9
baz=327
N59A State Game Lan 130.45 22 P 07 20 56.0
baz=331
O58A Lewisberry 130.71 23 P 07 20 56.8
baz=329
N60A Cedar Hill Far 130.74 21 P 07 20 56.5
baz=332
M61A Granite Spring 130.81 20 P 07 20 56.6
baz=334
TLIG Tlapa 130.90 62 PKiKP 07 20 59.0 +1.5
Q58A Fox Den Farm, 131.41 25 P 07 20 58.2
baz=328
PLCA Paso Flores 141.24 160 PKhKP PKPpre 07 21 10.5
comp=Z,1.8nm,0.9s,baz=225,slow=2.9,SNR=4.1
PLCA PKP **PKPdf 07 21 16.1 +1.0**
comp=Z,1.7nm,0.8s,baz=277,slow=2.7,SNR=7.5
PLCA SKPbc **SKPbc 07 24 42.4 +0.5**
comp=Z,3.4nm,0.8s,baz=212,slow=2.5,SNR=6.0
TGUH Tegucigalpa,Un 142.22 60 PKPdf PKPdf 07 21 17.2 -0.4
MATN Matagalpa 143.90 61 PKPbc 07 21 19.7 +1.2
BOAB BOACO BROADBAND 144.34 61 PKPdf 07 21 21.6 +0.4
BI02 San Fabin de 144.54 156 PKPdf PKPdf 07 21 21.4 +0.3
ACON Acoyapa 144.99 61 PKPdf 07 21 23.7 +1.4
ESPN Las Esperanzas 145.64 60 PKPbc 07 21 24.4 +0.6
JTS Las Juntas de 145.90 64 PKP2 PKPab 07 21 26.2 +0.9
JTS Las Juntas de 145.90 64 PKPab 07 21 26.2 +0.9
BO02 Sierra Bellavi 146.35 155 PKPab 07 21 26.8 +0.2
MT02 Curacav 147.50 153 PKPbc 07 21 29.8 +1.0
MT05 Renca 147.56 154 PKPbc 07 21 30.4 +1.4
PEL Peldehue 147.80 153 PKP2 PKPbc 07 21 30.5 +0.9
PEL Peldehue 147.80 153 PKPbc 07 21 30.5 +0.9
VA03 San Esteban 148.18 153 PKPbc 07 21 31.7 +1.0
CO02 Combarbal 149.27 151 PKPbc 07 21 34.5 +0.9
CO03 El Pedregal 149.72 151 PKPbc 07 21 35.3 +0.6
GO04 Tololo Observa 150.21 150 PKPbc 07 21 36.8 +0.8
CO01 Juntas del Tor 150.72 151 PKiKP 07 21 38.7 +0.8
LCO Las Campanas 151.20 149 PKIKP PKiKP 07 21 39.9 +1.0
LCO Las Campanas 151.20 149 PKiKP 07 21 39.9 +1.0
AC05 El Transito 151.56 149 PKiKP 07 21 40.8 +1.2
AC04 Llanos de Chal 151.65 147 PKiKP 07 21 40.7 +1.1
MTP Monte Pirata 154.69 26 PKPab PKPab 07 22 01.2 +0.2
OTAV Otavalo 155.24 79 PKIKP PKPdf 07 21 48.5 +10
OTAV Otavalo 155.24 79 PKPdf PKPdf 07 21 37.1 -1.8
OTAV PKPbc 07 21 48.5
OTAV Otavalo 155.24 79 *e*P PKPdf 07 21 40.6 +1.6
POPC Popayan, Colom 156.38 73 *e*P PKPdf 07 21 39.5 -0.7
GUY2C Guyana, Caldas 156.63 65 *e*P PKPdf 07 21 41.0 +0.2
RREF El Recreo 156.78 66 *e*P PKPdf 07 21 43.3 +2.1
PTBC PUERTO BERRIO 156.86 61 *e*P PKPdf 07 21 40.1 -0.4
TOLC Tolima 156.93 67 *e*P PKPdf 07 21 41.5 +0.6
BRRC Barranca, Sant 157.22 59 *e*P PKPdf 07 21 41.4 +0.5
SPBC San Pablo de B 157.60 63 *e*P PKPdf 07 21 42.2 +0.6
ROSC El Rosal 157.74 65 PKP PKPdf 07 21 42.6 +0.5
comp=Z,6.2nm,0.6s,baz=285,slow=4.9,SNR=5.5
ROSC PKPab **PKPab 07 22 18.5 +3.5**
comp=Z,9.7nm,0.8s,baz=91,slow=6.3,SNR=4.6
ROSC El Rosal 157.74 65 PKPdf PKPdf 07 21 41.6 -0.5
BARC Barichara 157.93 60 *e*P PKPdf 07 21 42.2 +0.1
PAMC Pamplona, Colo 157.96 57 *e*P PKPdf 07 21 43.3 +0.8
CPUP Villa Florida 158.30 172 PKP PKPdf 07 21 42.3 +0.4
comp=Z,2.3nm,0.9s,baz=140,slow=2.8,SNR=4.1
CPUP PKPab **PKPab 07 22 18.5 +2.2**
comp=Z,2.0nm,0.7s,baz=163,slow=8.4,SNR=3.5
CHIC Chingaza 158.36 65 *e*P PKPdf 07 21 42.8 -0.1
RUSC La Rusia 158.36 61 *e*P PKPdf 07 21 42.9 -0.1
SDV Santo Domingo 158.73 51 PKPdf PKPdf 07 21 43.8 +0.8
SDV PKPab **PKPab 07 22 19.9 +0.9**
SDV Santo Domingo 158.73 51 *e*P PKPdf 07 21 43.6 +0.6
MACC Macarena, Meta 159.18 71 *e*P PKPdf 07 21 44.1 +0.7
MNMC Minye Minye 159.22 135 PKPdf 07 21 45.2 +1.7
LPAZ La Paz 162.11 131 PKP PKPdf 07 21 47.9 +0.8
comp=Z,3.0nm,0.9s,baz=271,slow=1.3,SNR=12

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**162.11**	**131**	PKPdf	**PKPdf**	**07 21 46.5**	**-0.7**
BDFB	**Brasilia**	**167.58**	**209**	PKP	**PKPdf**	**07 21 51.4**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=198,slow=3.2,SNR=5.0						
BDFB				PKPab	**PKPab**	**07 22 58.4**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=78,slow=7.6,SNR=3.5						
SAML	**Samuel**	**170.11**	**116**	PKIKP	**PKPdf**	**07 21 53.1**	**+0.3**
SAML	**Samuel**	**170.11**	**116**		**PKPdf**	**07 21 53.1**	**+0.3**

IDC 01 07:07:38.3±9.4**, 17°.09S×178°.57W, h538**km±99km**, mb3.1**/4**, mb1 3.4**/4**, mb1mx3.0**/44**, mbtmp4.0**/4**, Error ellipse: s-maj=114.9km s-min=39.4km az=149.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.63**	**259**	P	P	07 15 03.2	-0.1
	1.5nm,0.5s,baz=90,slow=7.7,SNR=9.4						
ASAR	**Alice Springs**	**44.87**	**253**	P	P	07 15 05.1	0.0
	7.0nm,0.5s,baz=86,slow=8.6,SNR=23						
ASAR				PcP	PcP	07 16 33.5	-1.8
	0.8nm,0.8s,baz=87,slow=4.3,SNR=1.9						
ILAR	**Eielson Array**	**85.13**	**13**	P	P	07 19 15.8	-1.3
	0.2nm,0.4s,baz=217,slow=5.9,SNR=1.5						
TXAR	**Lajitas Array**	**85.69**	**58**	P	P	07 19 21.0	+0.2
	0.3nm,0.8s,baz=224,slow=7.6,SNR=2.2						
OBN	**Obninsk**	**133.51**	**333**	PKP	PKiKP	07 25 54.6	0.0
	6.1nm,0.4s,baz=54,slow=1.4,SNR=4.8						
BRTR	**Keskin Array B**	**144.10**	**315**	PKP	PKPbc	07 26 12.6	-0.1
	0.9nm,0.9s,baz=52,slow=5.7,SNR=2.7						
GERES	**GERESS Array B**	**146.79**	**345**	PKPbc	PKPbc	07 26 20.2	0.0
	0.5nm,0.4s,baz=20,slow=3.1,SNR=5.9						

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*NNC **01** 07:09:58.0±4.0, 50°.12N×79°.14E, h0km, mb2.3, mpv2.4, Error ellipse: s-maj=76.0km s-min=21.0km az=56.0, Suspected Mining explosion.*
*IDC **01** 07:09:58.8±0.9, 50°.07N×78°.81E, h0km, mb1 2.5/2, mb1mx2.5/50, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=8.9km s-min=6.4km az=58.0*
ISC 01 07:09:57.5±1.1**, 50°.41N**±0°.07×**79°.53E**±0°.06**, h0**km**, n7, σ0s.96**/9**, 4C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**0.66**	**298**	⇑P	**Pb**	**07 10 11.4**	**-0.4**
	5.8nm,0.6s						
KURK				⇓S	**Sb**	**07 10 21.9**	**+0.4**
	7.8nm,0.7s						
KURBB	**Kurchatov Arra**	**0.67**	**289**	Pg	**Pg**	**07 10 09.9**	**-0.5**
	0.7nm,0.3s,baz=167,slow=18,SNR=118						
KURBB				Lg	Lg	07 10 18.7	
	1.5nm,0.3s,baz=161,slow=36,SNR=26						
KURBB	**Kurchatov Arra**	**0.67**	**289**	⇑P	**Pg**	**07 10 10.0**	**-0.4**
	11nm,0.5s						
KURBB				⇓S	**Sg**	**07 10 19.1**	**0.0**
	30nm,0.7s						
MK31	**Makanchi Array**	**4.06**	**152**	⇑Pn	**Pn**	**07 11 01.9**	**+1.0**
	0.1nm,0.3s,baz=342,slow=12,SNR=23						
MK31				⇑Lg	Lg	07 12 03.1	
	3.9nm,0.5s,baz=339,slow=28						
MKAR	**Makanchi Array**	**4.06**	**152**	Pn	**Pn**	**07 11 02.3**	**+1.4**
	0.1nm,0.3s,baz=321,slow=10,SNR=41						
MKAR				Pg	**Pb**	**07 11 08.6**	**-1.2**
	0.3nm,0.3s,baz=327,slow=14,SNR=14						
MKAR				Lg	Lg	07 12 04.5	
	1.7nm,0.3s,baz=327,slow=26,SNR=1.5						
ZALV	**Zalesovo Beam**	**4.81**	**41**	Pn	**Pb**	**07 11 22.0**	**-0.6**
	0.4nm,0.3s,baz=225,slow=14,SNR=5.3						
I46RU	**ZALESOVO INFRA**	**4.81**	**41**	*i*		07 45 10.0	
	baz=222,slow=331,SNR=2.7						

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*IDC **01** 07:16:17.2±0.8, 27°.31S×176°.50W, h0km, mb3.9/10, mb1 4.1/12, mb1mx4.0/37, mbtmp3.9/12, ML4.2/2, MS3.8/8, Ms1 3.8/8, ms1mx3.5/27, Error ellipse: s-maj=28.4km s-min=20.6km az=133.0*
ISC 01 07:16:21.1±0.6**, 27°.65S**±0°.09×**176°.2W**±0°.1**, h33**km**, n29, σ1s.97**/22**, mb4.0**/10**, MS3.8**/9**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.17**	**222**	Pn	**Pb**	**07 16 58.6**	**-1.2**
	176nm,0.3s,baz=212,slow=20,SNR=2.8						
RAO				Sn	**Sb**	**07 17 26.7**	**+0.3**
	496nm,0.3s,baz=84,slow=22,SNR=3.8						
URZ	**Urewera**	**11.96**	**206**	Pn	**Pn**	**07 19 10.1**	**+0.9**
	0.5nm,0.3s,baz=45,slow=10.0,SNR=1.6						
URZ				Sn	**Sn**	**07 21 19.2**	**-2.2**
	1.9nm,0.3s,baz=209,slow=23,SNR=9.2						
URZ	**Urewera**	**11.96**	**206**	P	**Sn**	**07 21 19.2**	**-2.2**
AFI	**Afiamalu**	**14.29**	**18**	Pn	Pn	07 19 31.3	-10
	3.2nm,0.3s,baz=241,slow=13,SNR=4.4						
AFI				Sn	Sn	07 21 55.5	-23
	0.7nm,0.3s,baz=133,slow=21,SNR=1.8						
RAR	**Rarotonga**	**16.30**	**70**	Pn	**Pn**	**07 20 03.3**	**-4.3**
	1.6nm,0.3s,baz=236,slow=12,SNR=5.1						
RAR				Sn	Sn	07 22 46.2	-21
	1.2nm,0.3s,baz=332,slow=23,SNR=1.8						
DZM	**Mont Dzumac**	**16.66**	**286**	*e*Pn	**P**	**07 20 16.6**	**+2.3**
	36nm,1.1s						
DZM				*e*LR	LR	07 24 08.8	
	comp=Z,1µm,23.9s						
DZM	**Mont Dzumac**	**16.66**	**286**	LR	LR	07 25 23.8	
	comp=Z,627nm,19.8s,baz=144,slow=33						
TBI	**Tubuai**	**24.53**	**86**	*e*LQ	LQ	07 26 19.7	
	263nm,29.5s						
TBI				*e*LR	LR	07 27 36.5	
	comp=Z,391nm,29.0s						
TBI	**Tubuai**	**24.53**	**86**	*e*T	T	07 46 47.0	
	8.6nm,0.3s						
PPT2	**Papeete2**	**26.52**	**73**	*e*LQ	LQ	07 27 17.3	
	281nm,25.5s						
PPT2				*e*LR	LR	07 28 30.7	
	comp=Z,354nm,26.2s						
PPT	**Papeete**	**26.53**	**73**	LR	LR	07 30 15.8	
	comp=Z,91nm,19.1s,baz=230,slow=32						
HNR	**Honiara**	**28.85**	**304**	LR	LR	07 31 27.3	
	comp=Z,255nm,21.6s,baz=160,slow=32						
CTA	**Charters Tower**	**35.01**	**274**	P	**P**	**07 23 10.5**	**-0.3**
	1.0nm,0.3s,baz=106,slow=14,SNR=3.2						
STKA	**Stephens Creek**	**36.68**	**253**	P	**P**	**07 23 25.7**	**+0.8**
	0.6nm,0.2s,baz=90,slow=13,SNR=1.7						
STKA				LR	LR	07 36 58.8	
	comp=Z,266nm,19.2s,baz=37,slow=34						
ASAR	**Alice Springs**	**44.87**	**263**	P	**P**	**07 24 31.5**	**-1.2**
	0.3nm,0.4s,baz=100,slow=7.9,SNR=8.2						
ASAR				LR	LR	07 43 11.7	
	comp=Z,211nm,18.0s,baz=114,slow=36						
WRA	**Warramunga Arr**	**45.62**	**269**	P	**P**	**07 24 37.1**	**-1.5**
	0.4nm,0.4s,baz=106,slow=7.9,SNR=5.9						
WRA				LR	LR	07 41 34.4	
	comp=Z,139nm,21.5s,baz=95,slow=33						
QSPA	**South Pole Qui**	**62.45**	**180**	P	**P**	**07 26 43.8**	**+2.9**
	2.6nm,0.8s,baz=42,slow=1.3,SNR=3.9						
MJAR	**Matsushiro Arr**	**76.90**	**324**	P	**P**	**07 28 08.9**	**-1.1**
	3.0nm,0.9s,baz=146,slow=4.6,SNR=1.7						
MJAR				LR	LR	07 56 15.5	
	comp=Z,28nm,21.7s,baz=240,slow=31						
KSRS	**Korea Array**	**83.28**	**318**	LR	LR	07 59 51.2	
	comp=Z,23nm,21.3s,baz=5.0,slow=32						
NVAR	**Mina Array Bea**	**85.17**	**42**	P	**P**	**07 28 56.2**	**+1.9**
	0.6nm,0.8s,baz=219,slow=7.0,SNR=4.4						
KLR	**Kul'dur**	**89.46**	**329**	P	**P**	**07 29 15.3**	**+0.8**
	0.8nm,0.7s,baz=181,slow=6.2,SNR=1.9						
TXAR	**Lajitas Array**	**89.60**	**56**	P	**P**	**07 29 17.9**	**+2.2**
	0.2nm,0.7s,baz=225,slow=5.0,SNR=2.6						
ILAR	**Eielson Array**	**94.92**	**12**	P	**P**	**07 29 38.0**	**-1.3**
	0.3nm,0.6s,baz=224,slow=5.0,SNR=1.6						
MKAR	**Makanchi Array**	**117.17**	**311**	PKP	**PKiKP**	**07 35 01.6**	**-1.1**
	0.3nm,0.8s,baz=42,slow=2.3,SNR=2.0						
FINES	**FINESS Array B**	**143.05**	**342**	PKhKP	PKPpre	07 35 47.3	
	2.4nm,0.9s,baz=352,slow=2.8,SNR=3.8						
NOA	**NORSAR Array B**	**146.24**	**353**	PKPbc	**PKPab**	**07 35 57.3**	**-1.0**
	1.0nm,0.9s,baz=15,slow=4.5,SNR=1.7						
AKASG	**Malin Array Be**	**149.94**	**327**	PKPbc	**PKiKP**	**07 36 07.1**	**-1.5**
	0.7nm,0.4s,baz=52,slow=3.2,SNR=5.8						
BRTR	**Keskin Array B**	**152.50**	**304**	PKPbc	**PKiKP**	**07 36 13.8**	**-0.6**
	0.4nm,0.7s,baz=56,slow=5.4,SNR=1.8						
TORD	**Torodi Ar. Bea**	**165.44**	**172**	PKPab	**PKPab**	**07 37 23.8**	**+3.0**
	0.6nm,0.7s,baz=194,slow=3.9,SNR=2.5						

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*JMA **01** 07:16:47.3±0.2, 34°.20N×137°.51E, h335km±2km, M3.6*
*NEIC **01** 07:16:48.4±1.9, 34°.10N±0°.07×137°.53E±0°.09, h322km±6km, mb4.1/78, Error ellipse: s-maj=11.4km s-min=9.7km az=134.0*
*IDC **01** 07:16:48.4±0.5, 34°.07N×137°.47E, h325km±5km, mb3.6/26, mb1 3.7/33, mb1mx3.6/55, mbtmp4.2/33, Error ellipse: s-maj=9.4km s-min=8.5km az=46.0*
ISC 01 07:16:48.5±0.5**, 34°.16N**±0°.05×**137°.49E**±0°.05**, h326**km±4km**, n188, σ1s.20**/218**, mb4.1**/73**, 1C-3D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**0.16**	**165**	P	**Pn**	**07 17 29.5**	**+0.3**
TTO4				S	**S**	**07 18 02.6**	**+0.8**
TTO5	**TONANKAI O.B.S**	**0.21**	**64**	P	**Pn**	**07 17 29.7**	**+0.4**
TTO5				S	**S**	**07 18 03.2**	**+1.3**
TTO3	**TONANKAI O.B.S**	**0.30**	**194**	P	**Pn**	**07 17 30.0**	**+0.5**
TTO3				S	**S**	**07 18 03.6**	**+1.3**
TK02	**Tokai 2**	**0.31**	**133**	P	**Pn**	**07 17 29.7**	**+0.3**
TK02				S	**S**	**07 18 03.6**	**+1.5**
TK04	**Tokai 4**	**0.39**	**55**	P	**Pn**	**07 17 30.1**	**+0.5**
TK04				S	**S**	**07 18 03.3**	**+0.9**
TK03	**Tokai 3**	**0.40**	**89**	P	**Pn**	**07 17 30.1**	**+0.5**
TK03				S	**S**	**07 18 03.6**	**+1.2**
JIE	**Ise**	**0.69**	**290**	P	**Pn**	**07 17 30.4**	**0.0**
JIE				S	**S**	**07 18 03.2**	**-0.7**
JSG	**Sagara**	**0.77**	**48**		**Pn**	**07 17 31.3**	**+0.7**
TTO1	**TONANKAI O.B.S**	**0.79**	**228**	P	**Pn**	**07 17 30.6**	**+0.1**
INU	**Inuyama**	**1.25**	**342**	Pn	**Pn**	**07 17 33.0**	**+0.3**
JFNN	**Fujinakano**	**1.43**	**43**	P	**Pn**	**07 17 33.4**	**-0.3**
JGF	**Kuroka**	**1.44**	**356**		**Pn**	**07 17 33.8**	**0.0**
JYTA	**Yamagatataniai**	**1.56**	**337**	P	**Pn**	**07 17 34.6**	**+0.2**
JYTA				S	**S**	**07 18 10.3**	**-0.9**
JWY	**Kouya**	**1.57**	**273**	P	**Pn**	**07 17 34.7**	**0.0**
JWY				S	**S**	**07 18 10.7**	**-0.9**
JYN	**Shimob**	**1.59**	**33**	P	**Pn**	**07 17 34.4**	**-0.4**
JTNC	**Tanabenakahech**	**1.60**	**258**	P	**Pn**	**07 17 34.6**	**-0.2**
JTNC				S	**S**	**07 18 11.1**	**-0.7**
JOD2	**Odawara 2**	**1.72**	**50**	P	**Pn**	**07 17 35.0**	**-0.5**
JOD2				S	**S**	**07 18 12.4**	**-0.7**
JWT	**Wachi**	**2.05**	**304**	P	**Pn**	**07 17 38.1**	**+0.2**
JWT	**Wachi**	**2.05**	**304**		**Pn**	**07 17 38.3**	**+0.5**
JHJ	**Hachijo jima 2**	**2.18**	**118**	P	**Pn**	**07 17 38.3**	**-0.6**
	244nm,0.3s,baz=16,slow=17,SNR=30						
JHJ				S	**S**	**07 18 19.1**	**-0.2**
	baz=307,slow=14,SNR=1.2						
JRY	**Ryogami san**	**2.19**	**32**	P	**Pn**	**07 17 38.9**	**0.0**
JRY				S	**S**	**07 18 18.7**	**-0.6**
JHJ2	**Mitsune**	**2.21**	**118**		**Pn**	**07 17 38.3**	**-0.9**
JKG	**Kaga**	**2.32**	**336**	P	**Pn**	**07 17 40.0**	**+0.1**
JKG				S	**S**	**07 18 20.8**	**-0.3**
MAJO	**Matsushiro**	**2.45**	**14**	Pn	**Pn**	**07 17 41.2**	**+0.1**
MAT	**Matsushiro**	**2.45**	**14**	P	**Pn**	**07 17 40.8**	**-0.2**
MAT				S	**S**	**07 18 21.7**	**-1.5**
MAT	**Matsushiro**	**2.45**	**14**	P	**Pn**	**07 17 40.8**	**-0.2**
MAT				S	**S**	**07 18 22.1**	**-1.1**
MJAR	**Matsushiro Arr**	**2.45**	**14**	P	**Pn**	**07 17 40.8**	**-0.3**
	6.7nm,0.3s,baz=181,slow=9.1,SNR=527						
MJAR				S	**S**	**07 18 18.6**	**-4.5**
	0.7nm,0.3s,baz=188,slow=15,SNR=13						
MJAR	**Matsushiro Arr**	**2.45**	**14**	Pn	**Pn**	**07 17 40.5**	**-0.6**
MJB9	**Matsu-Tunnel**	**2.45**	**14**		**Pn**	**07 17 40.9**	**-0.2**
MJB9					**S**	**07 18 20.9**	**-2.3**
JAOM	**Aogashimamukai**	**2.55**	**131**	P	**Pn**	**07 17 42.1**	**+0.1**
JAI	**Aioi**	**2.55**	**263**	P	**Pn**	**07 17 41.6**	**-0.4**
JAG	**Ashikaga**	**2.77**	**35**	P	**Pn**	**07 17 42.3**	**-1.6**
JYT	**Yasato**	**3.03**	**46**	Pn	**Pn**	**07 17 44.1**	**-2.1**
JMN	**Monobe**	**3.03**	**263**	Pn	**Pn**	**07 17 46.4**	**0.0**
JHS	**Saijyo**	**3.70**	**284**	Pn	**Pn**	**07 17 53.4**	**+0.5**
JSD	**Sado**	**3.92**	**9**	Pn	**Pn**	**07 17 54.5**	**-0.7**
JMM	**Marumori**	**4.57**	**35**	Pn	**Pn**	**07 18 00.7**	**-1.4**
JNU	**Nakatsue**	**5.61**	**261**	P	**Pn**	**07 18 14.2**	**+0.1**
	2.6nm,0.3s,baz=76,slow=10,SNR=19						
JNU	**Nakatsue**	**5.61**	**261**		**Pn**	**07 18 13.8**	**-0.2**
JSU	**Suzuyama**	**6.48**	**248**	Pn	**Pn**	**07 18 24.6**	**+0.3**
JTU	**Tsushima**	**6.70**	**275**	Pn	**Pn**	**07 18 26.7**	**0.0**
JTM	**Tenmabayashi**	**7.20**	**22**	Pn	**Pn**	**07 18 31.7**	**-0.8**
JCJ	**Chichijima**	**8.12**	**149**	P	Pn	07 18 36.9	-6.9
	7.4nm,0.3s,baz=298,slow=16,SNR=11						
JCJ				S	S	07 20 04.0	-14
	65nm,0.3s,baz=288,slow=22,SNR=17						
JCJ	**Chichijima**	**8.12**	**149**	Pn	**Pn**	**07 18 39.4**	**-4.4**
KSRS	**Korea Array**	**8.44**	**296**	P	**Pn**	**07 18 47.8**	**+0.3**
	0.8nm,0.3s,baz=113,slow=11,SNR=11						
KSRS				S	**S**	**07 20 26.9**	**+2.5**
	0.1nm,0.3s,baz=112,slow=22,SNR=2.1						
KSAR	**Wonju Array Be**	**8.46**	**296**	Pn	**Pn**	**07 18 48.0**	**+0.3**
KS19	**Wonju Array Si**	**8.49**	**296**	Pn	**Pn**	**07 18 48.6**	**+0.4**
ERM	**Erimo**	**9.02**	**28**	Pn	**Pn**	**07 18 54.3**	**-0.1**
ASAJ	**Asahikawa**	**10.70**	**20**	P	**Pn**	**07 19 14.5**	**-0.2**
	0.6nm,0.3s,baz=266,slow=13,SNR=3.1						
ASAJ				S	**S**	**07 21 06.9**	**-8.0**
	0.9nm,0.3s,baz=120,slow=20,SNR=2.7						
USA0B	**Ussuriysk Arra**	**10.89**	**339**		**Pn**	**07 19 17.9**	**+0.8**
USRK	**Ussuriysk Ar.**	**10.89**	**339**	P	**P**	**07 19 18.1**	**-0.5**
	baz=146,slow=9.7,SNR=14						
YSS	**Yuzh-Sakhalins**	**13.39**	**16**	P	**Pn**	**07 19 47.0**	**+0.1**
DL2	**Dalian**	**13.60**	**295**	P	**P**	**07 19 48.6**	**-0.2**
DL2				pmax	pmax		
	comp=Z,27nm,0.7s						
KLR	**Kul'dur**	**15.65**	**346**	P	**P**	**07 20 11.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=158,slow=9.9,SNR=8.8						
KLR				S	**S**	**07 22 58.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=108,slow=20,SNR=1.3						
YOJ	**Yonaguni jima**	**15.88**	**236**	P	**P**	**07 20 12.4**	**-1.5**
YHNB	**Yeheng**	**16.91**	**240**	P	**P**	**07 20 24.1**	**-1.1**
BJT	**Baijiatuau**	**17.97**	**295**	P	**P**	**07 20 36.0**	**-0.3**
BJT				IAmb	IAmb	07 20 37.2	
	comp=Z,7.7nm,0.7s						
TWG	**Pinlang**	**18.30**	**236**	P	**P**	**07 20 38.6**	**-1.3**
WHN	**Wuhan**	**19.87**	**266**	⇓P	**P**	**07 20 55.3**	**-1.2**
HHC	**Hu-ho-hao-te**	**21.58**	**296**	*e*P	**P**	**07 21 15.4**	**+2.7**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,5.6s						
XAN	**Xi'an**	**23.63**	**278**	P	**P**	**07 21 30.6**	**-0.7**
PETK	**Petropavlovsk-**	**23.79**	**31**	P	**P**	**07 21 33.6**	**+1.2**
	comp=Z,3.9nm,0.9s,baz=192,slow=7.4,SNR=5.6						
PETK	**Petropavlovsk-**	**23.79**	**31**	P	**P**	**07 21 34.1**	**+1.7**
ENH	**Enshi**	**23.97**	**268**	P	**P**	**07 21 33.7**	**-0.8**
ULN	**Ulaanbaatar**	**26.54**	**310**	P	**P**	**07 21 58.6**	**+1.2**
ULN				IAmb	IAmb	07 21 59.4	
	comp=Z,5.3nm,0.7s						
MA2	**Magadan**	**26.89**	**15**	P	**P**	**07 21 59.9**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=180,slow=17,SNR=4.7						
MA2	**Magadan**	**26.89**	**15**	P	**P**	**07 21 60.0**	**-0.1**
SONM	**Songino Array**	**26.95**	**310**	P	**P**	**07 22 02.0**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=116,slow=9.2,SNR=29						
SONM				pP	**pP**	**07 23 02.5**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=123,slow=10,SNR=4.9						
SONM				ScP	**ScP**	**07 28 21.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=112,slow=1.6,SNR=3.9						
SONM	**Songino Array**	**26.95**	**310**	P	**P**	**07 22 02.0**	**+1.1**
LZH	**Lanzhou**	**27.51**	**284**	⇑P	**P**	**07 22 05.8**	**-0.3**
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				pmax	pmax		
	comp=Z,65nm,4.7s						
TLY	**Talaya**	**29.98**	**316**	P	**P**	**07 22 28.9**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=105,slow=9.4,SNR=7.8						
TLY	**Talaya**	**29.98**	**316**	P	**P**	**07 22 28.3**	**+0.8**
GTA	**Gaotai**	**30.47**	**291**	⇓P	**P**	**07 22 31.5**	**-0.6**
GTA				pP	pP	07 23 33.5	-0.6
GTA				sP	sP	07 24 11.3	-0.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMI	**Kunming**	**31.39**	**263**	⇓*e*P	**P**	**07 22 38.4**	**-2.0**
KMI				pmax	pmax		
	comp=Z,14nm,1.0s						
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TOLI2	**Tolitoli**	**36.40**	**209**	P	**P**	**07 23 21.2**	**-1.7**
TOLI2				IAmb	IAmb	07 23 23.4	
	comp=Z,16nm,1.2s						
ADK	**Adak**	**37.18**	**47**	P	**P**	**07 23 29.6**	**+0.6**
CHTO	**Chiang Mai**	**37.49**	**256**	P	**P**	**07 23 31.5**	**-0.6**
CHTO				IAmb	IAmb	07 23 32.8	
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**37.68**	**255**	P	**P**	**07 23 33.2**	**-0.4**
	comp=Z,3.2nm,0.6s,baz=51,slow=7.3,SNR=12						
CMAR	**Chiang Mai Arr**	**37.68**	**255**	P	**P**	**07 23 33.5**	**-0.1**
WMQ	**Urumqi**	**39.37**	**299**	*e*P	**P**	**07 23 48.6**	**+1.3**
ZAA0	**Zalesovo Array**	**41.58**	**315**	P	**P**	**07 24 05.1**	**+0.1**
ZALV	**Zalesovo Beam**	**41.58**	**315**	P	**P**	**07 24 04.2**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=98,slow=7.3,SNR=6.3						
ZALV				PcP	**PcP**	**07 25 54.9**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=129,slow=3.5,SNR=7.0						
ZALV				ScP	**ScP**	**07 29 12.9**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=83,slow=3.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**41.58**	**315**	P	**P**	**07 24 04.5**	**-0.5**
TAPN	**Taplejung**	**42.97**	**275**	*e*P	**P**	**07 24 14.9**	**-2.0**
	comp=Z,7.8nm,0.3s						
MK31	**Makanchi Array**	**43.01**	**304**	P	**P**	**07 24 17.1**	**+0.4**
MKAR	**Makanchi Array**	**43.01**	**304**	P	**P**	**07 24 17.0**	**+0.4**
	comp=Z,7.3nm,0.6s,baz=90,slow=9.8,SNR=94						
MKAR				pP	**pP**	**07 25 22.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=95,slow=10,SNR=1.4						
MKAR				PcP	**PcP**	**07 25 59.9**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=74,slow=5.1,SNR=3.3						
MKAR				ScP	**ScP**	**07 29 17.8**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=74,slow=3.4,SNR=8.6						
MKAR	**Makanchi Array**	**43.01**	**304**	P	**P**	**07 24 16.8**	**+0.2**
ODAN	**Odare**	**43.42**	**274**	*e*P	**P**	**07 24 19.4**	**-1.0**
	comp=Z,10nm,0.4s						
RAMN	**Ramite**	**44.04**	**275**	*e*P	**P**	**07 24 24.0**	**-1.3**
GUN	**Gumba**	**44.28**	**276**	*e*P	**P**	**07 24 26.5**	**-0.8**
	comp=Z,11nm,0.3s						
NRIK	**Noril'sk**	**44.61**	**337**	P	**P**	**07 24 29.3**	**+0.5**
	comp=Z,2.7nm,0.4s,baz=122,slow=7.3,SNR=7.5						
NRIK	**Noril'sk**	**44.61**	**337**	P	**P**	**07 24 29.6**	**+0.7**
PKI	**Pulchoki**	**44.79**	**276**	*e*P	**P**	**07 24 30.3**	**-1.0**
	comp=Z,8.5nm,0.6s						
PKIN	**Phulchoki**	**44.80**	**276**	*e*P	**P**	**07 24 30.3**	**-1.0**
	comp=Z,10.0nm,0.4s						
IPM	**Ipoh**	**44.91**	**237**	P	**P**	**07 24 30.8**	**-1.2**
IPM				IAmb	IAmb	07 24 32.2	
	comp=Z,6.3nm,0.6s						
DMN	**Daman**	**45.02**	**276**	*e*P	**P**	**07 24 32.2**	**-0.8**
	comp=Z,4.6nm,0.3s						
KURK	**Kurchatov**	**45.25**	**310**	P	**P**	**07 24 34.1**	**-0.1**
KURK				IAmb	IAmb	07 24 34.8	
	comp=Z,9.8nm,0.8s						
GKN	**Gorkha**	**45.27**	**277**	*e*P	**P**	**07 24 34.2**	**-0.6**
RPSI	**Rantau Prapat**	**47.64**	**237**	P	**P**	**07 24 51.6**	**-1.4**
AAK	**Ala-Archa**	**49.08**	**300**	P	**P**	**07 25 03.7**	**0.0**
GSI	**Gunungsitoli**	**49.57**	**237**	P	**P**	**07 25 07.1**	**-0.5**
BRVK	**Borovoye**	**50.24**	**314**	P	**P**	**07 25 12.7**	**+0.6**
IMAR	**Indian Mountai**	**50.74**	**30**	P	**P**	**07 25 16.8**	**+1.2**
OHAK	**Old Harbor**	**51.02**	**41**	P	**P**	**07 25 18.2**	**+0.5**
PPLA	**Purkeypile**	**51.34**	**34**	P	**P**	**07 25 22.4**	**+2.2**
PPLA				IAmb	IAmb	07 25 22.6	
	comp=Z,4.8nm,0.5s						
KDAK	**Kodiak Island**	**51.36**	**40**	P	**P**	**07 25 21.1**	**+0.9**
KK31	**Karatay Array**	**51.83**	**301**	P	**P**	**07 25 24.2**	**+0.2**
KK31				IAmb	IAmb	07 25 24.9	
	comp=Z,9.0nm,0.7s						
KKAR	**Karatay Array**	**51.83**	**301**	P	**P**	**07 25 24.1**	**+0.1**
KKAR				IAmb	IAmb	07 25 24.9	
	comp=Z,9.0nm,0.7s						
KKAR	**Karatay Array**	**51.83**	**301**	P	**P**	**07 25 24.4**	**+0.4**
KTH	**Kantishna Hill**	**51.90**	**33**	P	**P**	**07 25 25.9**	**+1.6**
TOLK	**Toolik Lake Re**	**52.47**	**26**	P	**P**	**07 25 30.1**	**+1.8**
NIL	**Nilore**	**52.49**	**289**	P	**P**	**07 25 29.4**	**+0.4**
NIL				IAmb	IAmb	07 25 30.3	
	comp=Z,6.7nm,0.6s						
RND	**Reindeer**	**52.84**	**33**	P	**P**	**07 25 32.2**	**+1.1**
RND				IAmb	IAmb	07 25 32.6	
	comp=Z,8.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.18**	**194**	P	**P**	**07 25 32.6**	**-1.3**
FITZ				IAmb	IAmb	07 25 54.1	
	comp=Z,9.9nm,1.3s						
SML	**Sawmill**	**53.19**	**35**	P	**P**	**07 25 34.8**	**+1.1**
SML				IAmb	IAmb	07 25 35.9	
	comp=Z,7.8nm,0.8s						
POKR	**Poker Plat Res**	**53.36**	**31**	P	**P**	**07 25 36.2**	**+1.4**
POKR				IAmb	IAmb	07 25 37.5	
	comp=Z,9.3nm,0.6s						
ILAR	**Eielson Array**	**53.62**	**31**	P	**P**	**07 25 36.8**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=282,slow=4.5,SNR=23						
ILAR				pP	**pP**	**07 26 46.2**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=278,slow=6.1,SNR=1.4						
SCM	**Sheep Creek Mo**	**53.66**	**35**	P	**P**	**07 25 38.7**	**+1.6**
SCM				IAmb	IAmb	07 25 39.6	
	comp=Z,9.4nm,0.7s						
WB0	**Warramunga Arr**	**53.71**	**184**	P	**P**	**07 25 36.9**	**-0.9**
GLI	**Glacier Island**	**53.87**	**36**	P	**P**	**07 25 40.0**	**+1.5**
GLI				IAmb	IAmb	07 25 40.2	
	comp=Z,7.4nm,0.7s						
WB2	**Warramunga Arr**	**53.88**	**184**	P	**P**	**07 25 38.3**	**-0.8**
WRA	**Warramunga Arr**	**53.88**	**184**	P	**P**	**07 25 37.8**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=0.1,slow=7.6,SNR=19						
WRA				ScP	**ScP**	**07 30 05.2**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=360,slow=4.9,SNR=1.6						
WR0	**Warramunga Arr**	**53.89**	**183**	P	**P**	**07 25 38.5**	**-0.6**
WR0				IAmb	IAmb	07 25 41.1	
	comp=Z,7.8nm,1.2s						
M24K	**Tolsona, Glenn**	**54.17**	**34**	P	**P**	**07 25 42.4**	**+1.7**
M24K				IAmb	IAmb	07 25 43.3	
	comp=Z,7.8nm,0.7s						
FID	**Port Fidalgo**	**54.19**	**36**	P	**P**	**07 25 42.0**	**+1.2**
FID				IAmb	IAmb	07 25 42.5	
	comp=Z,8.5nm,0.7s						
KLU	**Klutina**	**54.36**	**35**	P	**P**	**07 25 43.5**	**+1.4**
BMAR	**Burnt Mountain**	**54.37**	**28**	P	**P**	**07 25 44.3**	**+2.2**
N25K	**Chitina, Valde**	**54.98**	**35**	P	**P**	**07 25 48.4**	**+1.9**
RAGM	**Ragged Mountai**	**55.12**	**36**	P	**P**	**07 25 49.1**	**+1.7**
RAGM				IAmb	IAmb	07 26 09.0	
	comp=Z,11nm,1.3s						
GLB	**Gilahina Butte**	**55.37**	**35**	P	**P**	**07 25 51.0**	**+1.8**
VRDI	**Verde Repeater**	**55.58**	**35**	P	**P**	**07 25 51.8**	**+1.0**
VRDI				IAmb	IAmb	07 25 53.2	
	comp=Z,7.2nm,1.0s						
MCARA	**McCarthy VSAT**	**55.76**	**35**	P	**P**	**07 25 53.4**	**+1.5**
CRQM	**Cirque**	**55.81**	**36**	P	**P**	**07 25 52.4**	**-0.1**
CRQM				IAmb	IAmb	07 25 54.9	
	comp=Z,15nm,1.2s						
TGL	**Tana Glacier**	**55.96**	**36**	P	**P**	**07 25 54.2**	**+0.8**
TGL				IAmb	IAmb	07 25 56.1	
	comp=Z,7.0nm,0.8s						
BCAR	**Beaver Creek A**	**56.05**	**33**	P	**P**	**07 25 55.3**	**+1.3**
BALM	**Baldy**	**56.14**	**35**	P	**P**	**07 25 56.0**	**+1.3**
BALM				IAmb	IAmb	07 25 56.8	
	comp=Z,5.5nm,0.8s						
ARU	**Arti**	**56.41**	**319**	P	**P**	**07 25 56.8**	**+0.2**
ARU				IAmb	IAmb	07 25 57.4	
	comp=Z,6.9nm,0.8s						
BARN	**Barnard Glacie**	**56.46**	**35**	P	**P**	**07 25 58.7**	**+1.6**
BARN				IAmb	IAmb	07 25 59.3	
	comp=Z,5.4nm,0.6s						
CTGM	**Chitina Glacie**	**56.64**	**35**	P	**P**	**07 26 00.1**	**+1.8**
CTGM				IAmb	IAmb	07 26 00.5	
	comp=Z,4.8nm,0.6s						
ABKAR	**Akbulak array**	**57.36**	**311**	P	**P**	**07 26 03.5**	**+0.2**
ABKAR				IAmb	IAmb	07 26 04.0	
	comp=Z,5.4nm,0.6s						
ASAR	**Alice Springs**	**57.61**	**184**	P	**P**	**07 26 04.3**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=358,slow=5.5,SNR=13						
ASAR	**Alice Springs**	**57.61**	**184**	P	**P**	**07 26 04.5**	**-0.7**
INK	**Inuvik**	**58.38**	**26**	P	**P**	**07 26 11.1**	**+1.1**
	comp=Z,3.0nm,0.5s,baz=292,slow=6.4						
INK	**Inuvik**	**58.38**	**26**	P	**P**	**07 26 11.2**	**+1.2**
INK				IAmb	IAmb	07 26 11.5	
	comp=Z,2.8nm,0.5s						
HYT	**Haines Junctio**	**58.49**	**35**	P	**P**	**07 26 13.3**	**+2.3**
DZM	**Mont Dzumac**	**62.34**	**150**	P	**P**	**07 26 38.1**	**+0.8**
	comp=Z,3.1nm,0.6s,baz=254,slow=5.7,SNR=1.8						
FORT	**Forrest**	**65.20**	**189**	P	**P**	**07 26 55.3**	**-0.2**
ARCES	**ARCESS Array B**	**65.54**	**339**	P	**P**	**07 26 57.7**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=74,slow=8.7,SNR=12						
ARCES	**ARCESS Array B**	**65.54**	**339**	P	**P**	**07 26 58.1**	**+0.9**
RES	**Resolute Bay**	**66.15**	**13**	P	**P**	**07 27 01.4**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=307,slow=7.4,SNR=4.5						
YKA	**Yellowknife Ar**	**67.88**	**28**	P	**P**	**07 27 12.6**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=307,slow=5.6,SNR=21						
UOSS	**Minazif**	**69.61**	**287**	P	**P**	**07 27 24.1**	**+0.8**
FINES	**FINESS Array B**	**69.84**	**332**	P	**P**	**07 27 23.9**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=63,slow=5.5,SNR=25						
FINES	**FINESS Array B**	**69.84**	**332**	P	**P**	**07 27 24.1**	**+0.1**
KBZ	**Khabaz**	**70.31**	**310**	P	**P**	**07 27 27.9**	**+0.7**
	comp=Z,6.2nm,0.8s,baz=66,slow=7.1,SNR=10						
NLWA	**Neilton Lookou**	**71.01**	**45**	P	**P**	**07 27 33.3**	**+1.9**
AKASG	**Malin Array Be**	**74.57**	**321**	P	**P**	**07 27 51.5**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=51,slow=5.8,SNR=10						
AKASG	**Malin Array Be**	**74.57**	**321**	P	**P**	**07 27 52.1**	**+0.1**
AKBB	**Malin Array Si**	**74.57**	**321**	P	**P**	**07 27 52.0**	**0.0**
AKBB				IAmb	IAmb	07 27 52.3	
	comp=Z,2.6nm,0.8s						
PINE	**Pine Mountain**	**74.63**	**47**	P	**P**	**07 27 54.6**	**+1.9**
YBH	**Yreka Blue Hor**	**74.63**	**50**	P	**P**	**07 27 54.0**	**+1.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,1.5nm,0.8s,baz=256,slow=4.2,SNR=2.3						
YBH	Yreka Blue Hor	74.63	50	IAmb	IAmb	07 28 20.9	
	comp=Z,5.1nm,1.4s						
K05A	Summer Lake	75.24	48	P	P	07 27 57.8	+1.6
K05A				IAmb	IAmb	07 28 20.1	
	comp=Z,8.8nm,1.4s						
NC204	NORSAR Array S	75.53	336	P	P	07 27 57.7	+0.3
NOA	NORSAR Array B	75.55	336	P	P	07 27 57.3	-0.1
	comp=Z,0.4nm,0.5s,baz=44,slow=5.7,SNR=1.5						
WALA	Waterton Lakes	75.70	40	P	P	07 27 60.0	+1.3
WALA				IAmb	IAmb	07 28 00.5	
	comp=Z,3.1nm,0.7s						
BMO	Blue Mountains	76.22	45	P	P	07 28 03.0	+1.4
BMO				IAmb	IAmb	07 28 03.5	
	comp=Z,5.7nm,1.4s						
ORV	Oroville	76.58	51	P	P	07 28 04.1	+0.5
ORV				IAmb	IAmb	07 28 04.6	
	comp=Z,1.8nm,0.6s						
WVOR	Wild Horse Val	76.79	48	P	P	07 28 06.3	+1.4
WVOR				IAmb	IAmb	07 28 06.8	
	comp=Z,2.5nm,0.9s						
BEKR	Beckworth	77.14	51	P	P	07 28 07.7	+0.7
BEKR				IAmb	IAmb	07 28 08.6	
	comp=Z,2.8nm,0.7s						
CMB	Columbia Colle	78.15	52	P	P	07 28 13.6	+1.3
BR131	Keskin Array S	78.31	310	P	P	07 28 14.1	+0.9
BRTR	Keskin Array B	78.31	310	P	P	07 28 13.7	+0.4
	comp=Z,2.6nm,0.8s,baz=104,slow=4.4,SNR=13						
BRTR	Keskin Array B	78.31	310	P	P	07 28 13.2	0.0
BUR08	Bucovina Ar. S	78.52	320	P	P	07 28 14.7	+0.5
BUR08				IAmb	IAmb	07 28 15.3	
	comp=Z,5.7nm,1.2s						
BURAR	Bucovina Array	78.53	320	P	P	07 28 14.9	+0.7
RAYN	Ar Rayn	78.73	291	P	P	07 28 15.9	+0.2
NVAR	Mina Array Bea	79.27	51	P	P	07 28 19.8	+1.2
	comp=Z,1.6nm,0.6s,baz=299,slow=5.4,SNR=16						
NVAR	Mina Array Bea	79.27	51	P	P	07 28 19.7	+1.0
TPH	Tonopah	80.17	51	P	P	07 28 24.5	+1.1
TPNV	Topopah Spring	81.46	51	P	P	07 28 31.1	+1.0
TPNV				IAmb	IAmb	07 28 31.8	
	comp=Z,3.0nm,0.8s						
PDAR	Pinedale Array	81.95	43	P	P	07 28 33.0	+0.3
	comp=Z,0.7nm,0.7s,baz=299,slow=3.7,SNR=8.9						
PDAR				pP	pP	07 29 48.3	+0.2
	comp=Z,0.6nm,0.9s,baz=224,slow=5.0,SNR=2.5						
KHC	Kasperske Hory	83.25	327	P	P	07 28 39.7	+0.8
KHC				IAmb	IAmb	07 28 40.1	
	comp=Z,2.9nm,0.8s						
GERES	GERESS Array B	83.40	326	P	P	07 28 39.5	-0.2
	comp=Z,1.7nm,0.7s,baz=43,slow=4.9,SNR=13						
GERES	GERESS Array B	83.40	326	P	P	07 28 39.7	0.0
TXAR	Lajitas Array	94.41	50	P	P	07 29 33.1	+0.9
	comp=Z,0.7nm,0.6s,baz=283,slow=2.2,SNR=10						
TXAR	Lajitas Array	94.41	50	P	P	07 29 32.7	+0.5
LPAZ	La Paz	150.91	59	PKPbc	PKiKP	07 36 04.6	+0.1
	comp=Z,0.6nm,0.7s,baz=315,slow=2.9,SNR=2.6						
LPAZ				PKPab	PKPab	07 36 11.6	-1.1
	comp=Z,1.8nm,0.9s,baz=352,slow=3.3,SNR=6.1						

*IDC **01** 07:51:13.3±2.8, 15.°91S×173.°54W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/30, mbtmp3.6/6, ML3.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/25, Error ellipse: s-maj=158.0km s-min=21.8km az=146.0*

*NOU **01** 07:51:42.6, 14.°39S×172.°13W, h29km, MLv2.8, Samoa Islands*

ISC 01 07:51:20.1±2.5**, 15.°5S**±0.°8×**173.°6W**±0.°6**, h35**km**, n14, σ1.s22**/9**, mb3.6**/5**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.34	48	Pn	Pn	07 51 54.9	-1.3
	8.4nm,0.3s,baz=186,slow=3.8,SNR=24						
AFI				Sn	Sn	07 52 23.6	-0.2
	34nm,0.3s,baz=43,slow=17,SNR=8.7						
AFI	Afiamalu	2.34	48	P	Pn	07 51 55.3	-0.9
DZM	Mont Dzumac	20.01	248	LR	LR	08 01 51.7	
	comp=Z,52nm,21.1s,baz=12,slow=32						
HNR	Honiara	26.53	280	LR	LR	08 05 45.5	
	comp=Z,83nm,18.0s,baz=166,slow=33						
H11N3	WAKE ISLAND Hy	39.91	331	T	T	08 42 08.2	
	baz=150,slow=74						
H11N1	WAKE ISLAND Hy	39.91	331	T	T	08 42 07.8	
	baz=150						
H11N2	WAKE ISLAND Hy	39.92	331	T	T	08 42 05.9	
	baz=150,slow=74						
WRA	Warramunga Arr	49.66	257	P	P	08 00 07.2	-1.6
	0.5nm,0.7s,baz=93,slow=7.1,SNR=5.3						
ASAR	Alice Springs	49.92	252	P	P	08 00 07.3	-3.5
	1.0nm,0.6s,baz=90,slow=7.6,SNR=17						
NVAR	Mina Array Bea	74.51	42	P	P	08 02 56.3	+0.8
	0.6nm,0.9s,baz=229,slow=11,SNR=3.7						
PDAR	Pinedale Array	82.44	42	P	P	08 03 39.5	+0.3
	0.3nm,0.6s,baz=248,slow=4.8,SNR=3.7						
ILAR	Eielson Array	82.57	11	P	P	08 03 40.2	+1.2
	0.3nm,0.6s,baz=228,slow=5.7,SNR=5.0						
BRTR	Keskin Array B	146.12	321	PKPbc	PKPdf	08 10 56.6	+0.5
	0.8nm,0.7s,baz=95,slow=1.7,SNR=4.0						
GERES	GERESS Array B	146.21	351	PKPbc	PKPdf	08 10 57.1	+1.2
	0.1nm,0.3s,baz=303,slow=2.0,SNR=4.8						

*IDC **01** 08:02:57.7±1.0, 30.°92N×141.°99E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.5/56, mbtmp3.5/7, ML3.2/2, Error ellipse: s-maj=40.5km s-min=20.4km az=92.0*

ISC 01 08:03:01.4±0.9**, 31.°0N**±0.°1×**141.°9E**±0.°2**, h24**km**, n7, σ0.s55**/7**, mb3.4**/5**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	3.85	177	Pn	Pn	08 03 59.5	+0.4
	8.7nm,0.3s,baz=294,slow=19,SNR=1.7						
MJAR	Matsushiro Arr	6.38	332	Pn	Pn	08 04 33.7	-0.2
	0.1nm,0.3s,baz=158,slow=11,SNR=9.5						
MKAR	Makanchi Array	47.92	307	P	P	08 11 38.1	+0.4
	0.2nm,0.5s,baz=90,slow=8.4,SNR=2.9						
WRA	Warramunga Arr	51.12	189	P	P	08 12 01.4	-0.9
	0.4nm,0.4s,baz=4.5,slow=7.5,SNR=10						
ILAR	Eielson Array	54.47	30	P	P	08 12 26.8	+0.2
	0.2nm,0.6s,baz=271,slow=6.8,SNR=4.9						
ASAR	Alice Springs	54.85	189	P	P	08 12 29.6	-0.1
	0.5nm,0.5s,baz=0.7,slow=5.1,SNR=16						
NVAR	Mina Array Bea	78.33	52	P	P	08 14 59.9	-0.1
	0.1nm,0.5s,baz=301,slow=6.1,SNR=2.4						

SSNC 01 08:03:23.2±2.0**, 21.°30N×77.°56W, h5**km±5km**, MD3.9, ML3.8, MW3.8, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCCC	Cccc	0.21	243	eP	Pg	08 03 26.4	-1.1
CCCC				eS	Sg	08 03 29.6	-0.7
LMGC	Las Mercedes	1.33	157	eP	Pn	08 03 45.7	-2.8
LMGC				eS	Sb	08 04 04.4	-1.7
LMGC				IAML		08 04 08.2	
	comp=N,910nm,0.7s						
LMGC				IAML		08 04 13.2	
	comp=E,637nm,0.6s						
RCC	Rio Carpintero	2.17	126	eP	Pn	08 03 58.0	-2.1
RCC				eS	Sn	08 04 25.4	-2.0
RCC				IAML		08 04 28.7	
	comp=N,549nm,0.6s						
RCC				IAML		08 04 29.9	
	comp=E,409nm,0.7s						
MGV	Manicaragua	2.39	290	eP	Pn	08 04 02.2	-0.9
MGV				eS	Sn	08 04 32.8	+0.1
MGV				IAML		08 04 42.6	
	comp=N,153nm,0.4s						
MGV				IAML		08 04 43.9	
	comp=E,209nm,0.3s						
GTMO	Guantanamo	2.57	118	eP	Pn	08 04 05.5	+0.1
GTMO				eS	Sn	08 04 37.0	-0.1
CBCY	The Bluff, Cay	2.58	233	eP	Pn	08 04 03.6	-2.0
CBCY				eS	Sn	08 04 34.8	-2.6
CBCY				IAML		08 04 42.1	
	comp=N,262nm,0.6s						
CBCY				IAML		08 04 44.3	
	comp=E,220nm,0.5s						
GTBY	Guantanamo Bay	2.67	120	eP	Pn	08 04 05.0	-1.9
GTBY				eS	Sn	08 04 38.5	-1.1
MTDJ	Mount Denham	3.06	180	eP	Pn	08 04 10.4	-1.9
MTDJ				eS	Sn	08 04 44.7	-4.6
MASC	Masc	3.31	109	eP	Pn	08 04 13.6	-2.1
MASC				eS	Sn	08 04 51.6	-3.8
MASC				IAML		08 05 01.2	
	comp=E,66nm,0.5s						
MASC				IAML		08 05 08.2	
	comp=N,57nm,0.3s						
FSCY	Frank Sound, G	3.93	240	eP	Pn	08 04 22.7	-1.5
FSCY				eS	Sn	08 05 07.2	-3.6
FSCY				IAML		08 05 15.9	
	comp=N,83nm,0.6s						
FSCY				IAML		08 05 16.7	
	comp=E,108nm,0.4s						
SOR	Soroa	5.27	287	eP	Pn	08 04 40.3	-2.4

*IDC **01** 08:07:16.6±2.6, 15.°99S×173.°45W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/27, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=141.5km s-min=22.3km az=145.0*

*NOU **01** 08:07:48.8, 13.°72S×171.°77W, h42km, MLv2.2, Samoa Islands*

ISC 01 08:07:24.1±1.9**, 15.°7S**±0.°7×**173.°1W**±0.°8**, h35**km**, n9, σ0.s64**/8**, mb3.7**/5**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.25	36	Pn	Pn	08 07 58.2	-0.7
	7.7nm,0.3s,baz=199,slow=3.3,SNR=13						
AFI				Sn	Sn	08 08 26.3	+0.8
	24nm,0.3s,baz=50,slow=23,SNR=9.6						
AFI	Afiamalu	2.25	36	P	Pn	08 07 58.2	-0.7
WRA	Warramunga Arr	50.01	257	P	P	08 16 10.6	-4.9
	0.8nm,1.1s,baz=96,slow=6.5,SNR=2.2						
ASAR	Alice Springs	50.25	252	P	P	08 16 11.1	-6.2
	0.7nm,0.7s,baz=87,slow=8.3,SNR=12						
NVAR	Mina Array Bea	74.41	42	P	P	08 18 59.3	+0.4
	0.2nm,0.6s,baz=225,slow=9.8,SNR=5.0						
PDAR	Pinedale Array	82.35	42	P	P	08 19 42.8	0.0
	0.7nm,0.9s,baz=190,slow=4.2,SNR=5.1						
ILAR	Eielson Array	82.73	11	P	P	08 19 43.8	-0.1
	0.3nm,0.7s,baz=235,slow=6.5,SNR=6.9						
GERES	GERESS Array B	146.51	352	PKPbc	PKPdf	08 27 00.5	+0.1
	0.3nm,0.4s,baz=348,slow=1.9,SNR=3.6						
BRTR	Keskin Array B	146.58	321	PKPbc	PKPdf	08 27 01.3	+0.4
	0.7nm,0.7s,baz=78,slow=1.3,SNR=6.3						

WEL 01 08:11:45.7±0.7**, 32°S**±7°×**18°0E**±1°5**, h33**km**, M4.0**/19**, mB4.6**/11**, ML4.4**/13**, MLv4.3**/19**, Mw(mB)3.8**/11**, Error ellipse: s-maj=0.0km s-min=0.0km az=111.8, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.34	42	S	Sn	08 13 15.2	+1.1
MXZ	Matakaoa Point	5.84	190	P	Pn	08 13 12.5	+2.5
MXZ				S	Sn	08 14 17.0	+1.2
WMGZ	Waiomatatini S	6.08	188	P	Pn	08 13 16.8	+3.5
WMGZ				S	Sn	08 14 24.3	+2.6
HAZ	Te Kaha	6.12	193	P	Pn	08 13 14.7	+0.9
HAZ				S	Sn	08 14 25.6	+3.0
PKGZ	Pakihiroa	6.20	191	P	Pn	08 13 16.5	+1.6
PKGZ				S	Sn	08 14 25.1	+0.4
PUZ	Puketiti	6.35	189	P	Pn	08 13 15.6	-1.4
PUZ				S	Sn	08 14 28.4	+0.1
TWGZ	Tauwhareparae	6.50	191	P	Pn	08 13 23.3	+4.3
TWGZ				S	Sn	08 14 34.2	+2.3
MWZ	Matawai	6.73	194	P	Pn	08 13 21.0	-1.2
MWZ				S	Sn	08 14 38.8	+1.1
URZ	Urewera	6.75	196	P	Pn	08 13 24.3	+1.9
URZ				S	Sn	08 14 39.9	+1.8
TKGZ	Te Karaka	6.77	191	P	Pn	08 13 20.6	-2.2
TKGZ				S	Sn	08 14 39.8	+1.1
MUGZ	Murupara	7.04	198	P	Pn	08 13 27.9	+1.5
RIGZ	Rimuhau	7.05	191	P	Pn	08 13 24.6	-2.0
RIGZ				S	Sn	08 14 44.5	-1.0
RTZ	Ruatahuna	7.12	196	P	Pn	08 13 28.4	+0.7
SNGZ	Shannon Statio	7.20	194	P	Pn	08 13 29.0	+0.4
SNGZ				S	Sn	08 14 49.0	-0.3
PRGZ	Paritu Road	7.24	190	P	Pn	08 13 31.0	+1.8
PRGZ				S	Sn	08 14 51.4	+1.1
MTHZ	Maungataniwha	7.38	197	P	Pn	08 13 32.3	+1.1
MTHZ				S	Sn	08 14 57.1	+3.4
MHGZ	Mahia Peninsul	7.46	190	P	Pn	08 13 32.3	+0.1
MHGZ				S	Sn	08 14 52.3	-3.4
NMHZ	Naumai	7.62	196	P	Pn	08 13 33.1	-1.3
NMHZ				S	Sn	08 15 02.0	+2.4
ARHZ	Aropaoanui	7.74	195	P	Pn	08 13 36.0	0.0
ARHZ				S	Sn	08 15 02.1	-0.3
BKZ	Black Stump Fm	7.76	198	P	Pn	08 13 36.9	+0.5
BKZ				S	Sn	08 15 04.6	+1.4
TMVZ	Te Maari	7.95	202	P	Pn	08 13 40.1	+1.2
OTVZ	Oturere	8.00	202	P	Pn	08 13 41.4	+1.6
KWHZ	Kaweka Forest	8.03	198	P	Pn	08 13 37.5	-2.5
KWHZ				S	Sn	08 15 08.3	-1.3
BHHZ	Black Hill Sta	8.18	199	P	Pn	08 13 41.0	-1.1
KRHZ	Kereru	8.24	197	P	Pn	08 13 40.9	-2.1
KAHZ	Kahuranaki	8.27	194	P	Pn	08 13 41.5	-1.9
PNHZ	Pukenui	8.54	198	P	Pn	08 13 45.1	-1.9
PRHZ	Porangahau	8.78	195	P	Pn	08 13 49.1	-1.2

*IDC **01** 08:14:32.0±2.0, 17.°51S×174.°90W, h0km, mb3.8/7, mb1 4.2/8, mb1mx4.0/26, mbtmp3.8/8, ML3.7/1, MS2.9/4, Ms1 2.9/4, ms1mx2.8/32, Error ellipse: s-maj=115.6km s-min=21.3km az=149.0*

ISC 01 08:14:38.1±1.6**, 17.°2S**±0.°5×**175.°0W**±0.°4**, h35**km**, n17, σ1.s21**/9**, mb3.9**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.50	44	Pn	Pn	08 15 42.5	-1.4
	3.2nm,0.3s,baz=134,slow=7.7,SNR=4.2						
AFI				Sn	Sn	08 16 34.8	-0.2
	2.4nm,0.3s,baz=220,slow=20,SNR=2.0						
AFI				LR	LR	08 16 38.1	
	comp=Z,25nm,19.0s,baz=28,slow=27						
RAR	Rarotonga	14.96	108	LR	LR	08 22 18.9	
	comp=Z,60nm,18.1s,baz=294,slow=32						
DZM	Mont Dzumac	18.13	251	LR	LR	08 23 57.9	
	comp=Z,60nm,18.8s,baz=176,slow=31						
PPT	Papeete	24.28	95	LR	LR	08 26 11.3	
	comp=Z,62nm,21.3s,baz=277,slow=29						
WRA	Warramunga Arr	47.95	258	P	P	08 23 12.1	-1.6
	1.1nm,0.7s,baz=96,slow=7.7,SNR=7.9						
ASAR	Alice Springs	48.10	253	P	P	08 23 14.4	-0.4
	2.5nm,0.7s,baz=89,slow=8.4,SNR=37						
NVAR	Mina Array Bea	76.67	42	P	P	08 26 26.6	+0.7
	0.4nm,0.8s,baz=225,slow=9.5,SNR=3.8						
TXAR	Lajitas Array	82.88	56	P	P	08 26 59.4	-0.2
	0.6nm,1.0s,baz=224,slow=7.6,SNR=4.0						
ILAR	Eielson Array	84.47	12	P	P	08 27 08.3	+1.5
	0.5nm,0.5s,baz=220,slow=5.9,SNR=10						
PDAR	Pinedale Array	84.61	42	P	P	08 27 08.2	-0.1
	0.9nm,1.0s,baz=200,slow=3.9,SNR=4.7						
H03S2	Juan Fernandez	85.52	124	T	T	10 00 09.0	
	baz=250,slow=75,SNR=34						
H03S1	Juan Fernandez	85.54	124	T	T	10 00 07.2	
	baz=250,slow=75,SNR=24						
H03S3	Juan Fernandez	85.54	124	T	T	10 00 06.9	
	baz=250,slow=75,SNR=24						
H03N2	Juan Fernandez	85.64	124	T	T	10 00 12.1	
	baz=257,slow=72,SNR=47						
H03N3	Juan Fernandez	85.64	124	T	T	10 00 13.4	
	baz=257,slow=72,SNR=43						
H03N1	Juan Fernandez	85.65	124	T	T	10 00 11.9	
	baz=257,slow=72,SNR=34						
YKA	Yellowknife Ar	92.33	24	P	P	08 27 45.5	+1.1
	0.3nm,0.9s,baz=233,slow=3.1,SNR=4.0						

*UCR **01** 08:28:45.1±0.8, 16.°18N×96.°29W, h20km±999km, mb5.5(NEIC)*

*GCG **01** 08:29:57.2±1.3, 13.°05N×91.°30W, h15km±999km, MD5.0*

*NEIC **01** 08:30:03.0±2.0, 13.°44N±0.°06×91.°00W±0.°05, h20km±1km, mb5.1/457, Ms_20 4.9/153, Mwb5.2/42, Mww5.5, Md5.3/25(MEX), Md5.3(SNET), Mwc5.5(GCMT), Error ellipse: s-maj=11.1km s-min=7.1km az=215.0*

*IDC **01** 08:30:05.3±3.7, 13.°61N×90.°63W, h33km±27km, mb4.5/22, mb1 4.7/25, mb1mx4.6/34, mbtmp4.7/25, ML4.8/3, MS4.7/24, Ms1 4.8/24, ms1mx4.6/37, Error ellipse: s-maj=20.3km s-min=9.4km az=51.0*

*NEIC **01** 08:30:06.2, 13.°54N×90.°88W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr5.82; Mθθ-5.05; Mφφ-0.77; Mrθ4.69; Mθφ1.58; Mφr-0.68; Fault plane solution: Mo7.41000×10^16 NP1:φs102.04000°, δ64.93000°, λ84.99000°. NP2:φs293.74000°, δ25.53000°, λ100.58000°. Principal axes: T 7.5639, Plg70.0000°, Azm2.0000°; N -0.3170, Plg5.0000°, Azm104.0000°; P -7.2470, Plg20.0000°, Azm196.0000°;*

*SNET **01** 08:30:06.1±1.6, 13.°49N×90.°90W, h30km, ML5.3*

*MEX **01** 08:30:06.7±0.8, 13.°40N×91.°25W, h2km±76km, MD5.2*

*INET **01** 08:30:06.8, 13.°56N×90.°88W, h15km, MW4.7*

*GCMT **01** 08:30:08.0±0.1, 13.°44N±0.°01×91.°24W±0.°01, h32km, MW5.5/144, Moment Tensor Solution. s144,c236; s126,c224; Duration: 1.s3 Moment tensor: Scale 10^17 Nm; Mrr1.74±.03; Mθθ-1.34±.02; Mφφ-0.39±.02; Mrθ0.85±.03; Mθφ0.85±.02; Mφr-0.62±.03; Best double couple: Mo2.07900×10^17 NP1:φs297.00000°, δ30.00000°, λ85.00000°. NP2:φs123.00000°, δ60.00000°, λ93.00000°. Principal axes: T 2.0310, Plg75.0000°, Azm42.0000°; N 0.0970, Plg3.0000°, Azm302.0000°; P -2.1270, Plg15.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **01** 08:30:09, 13.°36N×91.°21W, h36km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.75; Mθθ-1.42; Mφφ-0.33; Mrθ0.82; Mθφ0.98; Mφr-0.45; Fault plane solution: Mo2.10000×10^17 NP1:φs301.00000°, δ32.00000°, λ92.00000°. NP2:φs120.00000°, δ58.00000°, λ89.00000°. Principal axes: T 1.9694, Plg77.0000°, Azm27.0000°; N 0.2425, Plg1.0000°, Azm120.0000°; P -2.2118, Plg13.0000°, Azm210.0000°;*

*NEIC **01** 08:30:10, 13.°55N×90.°99W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.86; Mθθ-1.39; Mφφ-0.47; Mrθ0.37; Mθφ0.75; Mφr-0.35; Fault plane solution: Mo1.91000×10^17 NP1:φs296.00000°, δ38.00000°, λ84.00000°. NP2:φs123.00000°, δ53.00000°, λ94.00000°. Principal axes: T 1.9346, Plg82.0000°, Azm55.0000°; N -0.0534, Plg4.0000°, Azm300.0000°; P -1.8813, Plg8.0000°, Azm210.0000°;*

ISC 01 08:30:06.1±0.8**, 13.°52N**±0.°04×**90.°94W**±0.°03**, h45**km±6km**, n739, σ1.s19**/614**, mb5.0**/239**, MS4.9**/111**, 2C-4D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	Ixpaco	0.81	37	eP	Pn	08 30 21.4	+0.1
PCG	Pacaya	0.92	20⇓	eP	Pn	08 30 23.3	+0.4
FUG	Fuego 3	0.93	6⇓	iP	Pn	08 30 23.3	+0.4
NBG	Las Nubes	1.21	28⇓	eP	Pn	08 30 28.3	+1.5
RTAL	Retalhuleu	1.24	324		Pn	08 30 26.1	-1.0
RTAL				Sn	Sn	08 30 42.2	-0.4
RTR	El Retiro	1.31	73	eP	Pn	08 30 28.1	-0.1
CEVE	Cerro Verde	1.31	76	eP	Pn	08 30 27.8	-0.4
CEVE				eS	Sn	08 30 46.0	+1.3
CEVE				IAML		08 30 49.9	
	comp=Z,64μm,0.3s						
SBLS	San Blas	1.32	76	eP	Pn	08 30 27.8	-0.5
SNJE	San Jose	1.34	75	eP	Pn	08 30 28.1	-0.5
JAYA	Jayaque - finc	1.45	85	eP	Pn	08 30 29.4	-0.7
JAYA				eS	Sn	08 30 48.5	+0.4
CEDA	San Andres	1.53	79	eP	Pn	08 30 30.8	-0.2
CEDA				eS	Sn	08 30 49.9	+0.3
CEDA				IAML		08 31 01.3	
	comp=Z,41μm,0.4s						
LALI	Alcalda de L	1.57	91	eP	Pn	08 30 31.3	-0.3
LALI				eS	Sn	08 30 52.1	+1.4
LALI				IAML		08 30 59.8	
	comp=Z,9μm,0.5s						
PMON	Piamonte	1.59	83	eP	Pn	08 30 31.9	-0.1
PMON				eS	Sn	08 30 54.9	+3.5
TACO	Tacachico	1.60	74	eP	Pn	08 30 32.2	+0.2
MAGS	Ministerio de	1.61	84	eP	Pn	08 30 32.2	-0.1
ITCA	Escuela Especi	1.62	84	eP	Pn	08 30 32.1	-0.2
BOQS	Boqueron	1.62	82	eP	Pn	08 30 32.2	-0.3
QUEZ	Alcaldia de Qu	1.65	79	eP	Pn	08 30 33.2	+0.5
QUEZ				IAML		08 31 02.2	
	comp=Z,23000μm,0.2s						
SNET	Serv Nac Est T	1.67	84	eP	Pn	08 30 32.8	-0.1
SNET				IAML		08 31 01.8	
	comp=Z,18μm,0.4s						
SNET	Serv Nac Est T	1.67	84		Pn	08 30 33.0	+0.1
SEMO	Seminario San	1.68	84	eP	Pn	08 30 33.2	+0.1
OPAM	Oficina de Pla	1.70	83	eP	Pn	08 30 33.6	+0.2
IGN	Direccin Gen	1.73	83	eP	Pn	08 30 34.0	+0.2
IGN				eP		08 30 34.2	
MTO3	Montecristo	1.76	60	eP	Pn	08 30 35.2	+0.9
MTO3	Montecristo	1.76	60		Pn	08 30 35.3	+0.9
AEIL	Aeropuerto Ilo	1.78	84	eP	Pn	08 30 35.2	+0.7
AEIL				IAML		08 31 08.6	
	comp=Z,29μm,0.5s						
LFU	La Fuente	1.79	82	eP	Pn	08 30 35.1	+0.5
LFRS	El Faro	1.83	87	eP	Pn	08 30 34.9	-0.3
LBRS	Las Brisas	1.85	83	eP	Pn	08 30 36.0	+0.5
ESQI	Esquipulas	1.86	56		Pn	08 30 36.9	+1.2
HUEH	Huehuetenango	1.87	343		Pn	08 30 37.4	+1.5
THIG		1.89	317	eP	Pn	08 30 34.9	-1.0
THIG				eS	Sn	08 30 57.8	-0.7
THIG		1.89	317		Pn	08 30 34.9	-1.0
THIG					Sn	08 30 57.8	-0.7
MRL	Marmol	1.97	38⇑	eP	Pn	08 30 39.5	+2.2
COEG	Centro de Oper	2.00	87	eP	Pn	08 30 38.0	+0.4
COEG				IAML		08 31 11.1	
	comp=Z,19μm,0.4s						
LLGN	La Laguna	2.04	72	eP	Pn	08 30 38.8	+0.7
PQSS	Presa 15 de Se	2.31	87	eP	Pn	08 30 42.3	+0.6
PQSS				IAML		08 31 17.4	
	comp=Z,2μm,0.2s						
COEB	Comit de Eme	2.34	90	eP	Pn	08 30 42.2	-0.1
COEB				IAML		08 31 17.5	
	comp=Z,9μm,0.3s						
TECA	Tecapa	2.37	90	eP	Pn	08 30 43.0	+0.3
RANC	El Ranchito	2.58	92	eP	Pn	08 30 46.4	+0.8
LCND	La Caada	2.97	94	eP	Pn	08 30 51.2	+0.4
LCND				IAML		08 31 43.4	
	comp=Z,7μm,0.4s						
CCIG	Comitan	2.98	337	eP	Pn	08 30 53.3	+2.2
CCIG				eS	Sn	08 31 27.4	+1.7
CCIG	Comitan	2.98	337		Sn	08 31 27.1	+1.4
CCIG	Comitan	2.98	337		Pn	08 30 53.2	+2.1
CNCH	Conchagua	3.03	94	eP	Pn	08 30 52.1	+0.4
PCIG		3.10	315	eP	Pn	08 30 51.2	-1.3
PCIG				eS	Sn	08 31 28.3	0.0
PCIG		3.10	315		Pn	08 30 51.2	-1.3
PCIG					Sn	08 31 28.3	0.0
CSGN	Cosiguina Volc	3.33	99		Pn	08 30 56.9	+1.0
PETF	Flores	3.53	17		Pn	08 31 00.6	+2.1
TGUH	Tegucigalpa,Un	3.60	81	Pn	Pn	08 30 59.9	+0.3
TGIG		3.87	327	eP	Pn	08 31 03.5	+0.4
TGIG				i S	Sn	08 31 48.1	+0.8
TGIG		3.87	327		Pn	08 31 03.5	+0.4
TGIG					Sn	08 31 48.1	+0.8
CRIN	San Cristobal	3.87	102		Pn	08 31 04.5	+1.3
MATN	Matagalpa	4.92	96		Pn	08 31 17.6	0.0
CMIG	Matias Romero	5.21	313	Pn	Pn	08 31 21.3	-0.2
	comp=Z,15nm,0.3s,baz=132,slow=12,SNR=151						
CMIG				Sn	Sn	08 32 25.0	+4.7
	comp=Z,102nm,0.3s,baz=71,slow=21,SNR=6.5						
CMIG	Matias Romero	5.21	313	eP	Pn	08 31 20.8	-0.7
CMIG				eS	Sn	08 32 20.3	0.0
CMIG	Matias Romero	5.21	313		Pn	08 31 20.8	-0.7
CMIG					Sn	08 32 20.3	0.0
BOAB	BOACO BROADBAN	5.25	101		Pn	08 31 21.6	-0.5
HUIG	Huatulco	5.48	295	eP	Pn	08 31 24.7	-0.6
HUIG				i S	Sn	08 32 24.2	-2.8
HUIG	Huatulco	5.48	295		Pn	08 31 24.7	-0.6
HUIG					Sn	08 32 26.6	-0.5
TUIG	Tuzandepetl	5.60	324	eS	Sn	08 32 30.8	+0.7
TUIG	Tuzandepetl	5.60	324		Sn	08 32 30.8	+0.7
ACON	Acoyapa	5.83	105		Pn	08 31 30.0	-0.1
GBS3	Finca Las Img	6.01	116	eP	Pn	08 31 35.1	+2.5
GB1A	Borinquen Arri	6.04	116	eP	Pn	08 31 33.9	+0.8
BUAI	Buenos Aires	6.08	115	eP	Pn	08 31 34.4	+0.8
SAJU	San Juanillo,	6.16	123	eP	Pn	08 31 35.7	+1.0
GUAI	GUAI	6.22	121	eP	Pn	08 31 37.0	+1.6
LIM1	Limonal	6.23	116	eP	Pn	08 31 37.8	+2.2
GUAB	Guayabo de Bag	6.24	116	eP	Pn	08 31 38.1	+2.3
COLC	Colonia	6.28	116	eP	Pn	08 31 38.8	+2.4
HORNC	Hornillas	6.29	116	eP	Pn	08 31 36.9	+0.5
GRZA	Playa Garza	6.31	124	eP	Pn	08 31 37.9	+1.2

PLVR Palo Verde 6.31 119 eP Pn 08 31 37.5 +0.7
CUI Cuipilapa 6.32 116 eP Pn 08 31 38.9 +2.0
INDI Punta indio, G 6.44 124 eP Pn 08 31 39.9 +1.4
PTEN Parque Tenorio 6.45 115 eP Pn 08 31 39.9 +1.2
ESPN Las Esperanzas 6.61 101 Pn 08 31 41.7 +1.0
JTS Las Juntas de 6.68 118 Pn Pn 08 31 40.3 -1.5
comp=Z,9.3nm,0.3s,baz=170,slow=20,SNR=41
JTS Sn Sn 08 32 53.8 -2.8
comp=Z,12nm,0.3s,baz=22,slow=22,SNR=0.8
JTS Lg Lg 08 33 22.8
comp=Z,12nm,0.3s,baz=173,slow=21,SNR=4.3
JTS LR LR 08 34 15.3
comp=Z,6µm,20.9s,baz=354,slow=39
JTS Las Juntas de 6.68 118 eP Pn 08 31 44.0 +2.3
JTS Las Juntas de 6.68 118 Pn Pn 08 31 43.6 +1.9
CASO Castillo 6.80 116 eP Pn 08 31 45.3 +1.8
ARE1 Arenal 1 6.80 116 eP Pn 08 31 45.9 +2.4
CEDE Laguna Cedeo 6.80 116 eP Pn 08 31 46.0 +2.5
FORC Fortuna 6.84 116 eP Pn 08 31 46.2 +2.2
LAFE Finca La Fe, P 6.96 121 eP Pn 08 31 46.7 +1.1
TEIG Tepich 7.14 21 Pn Pn 08 31 48.6 +0.6
comp=Z,117nm,0.3s,baz=194,slow=1.8,SNR=635
TEIG Tepich 7.14 21 Pn Pn 08 31 49.4 +1.4
JACO JACO, Garabito 7.25 121 eP Pn 08 31 52.4 +2.9
HDC Heredia 7.54 117 eP Pn 08 31 55.7 +2.0
HDC Heredia 7.54 117 Pn 08 31 55.3 +1.6
LCR2 La Lucha 2 7.76 118 eP Pn 08 31 59.5 +2.7
RIMA Rio Macho 7.87 118 eP Pn 08 32 00.5 +2.2
CDM Cerro de Muert 8.06 119 eP Pn 08 32 04.2 +3.1
PEZE Perez Zeledon, 8.22 119 eP Pn 08 32 05.8 +2.8
TLIG Tlapa 8.38 300 Pn Pn 08 32 07.6 +2.4
DRK0 Durika 8.65 118 eP Pn 08 32 11.5 +2.6
EDBA Buenos Aires 8.67 119 eP Pn 08 32 11.8 +2.6
RIOS Rincon, Osa 8.72 123 eP Pn 08 32 11.9 +2.2
PIRO Carate, Puerto 9.03 123 eP Pn 08 32 17.4 +3.5
BRU2 Volcan 9.35 119 eP Pn 08 32 20.8 +2.2
FSCY Frank Sound, G 10.99 57 Pn Pn 08 32 39.8 -1.0
MOIG Morelia 11.57 303 Pn Pn 08 32 49.3 +0.2
BCIP Isla Barro Col 11.71 111 Pn Pn 08 32 49.9 -0.8
LCIY Blossom Villag 12.06 58 Pn Pn 08 32 53.3 -2.2
CBCY The Bluff, Cay 12.37 59 Pn Pn 08 32 57.7 -1.9
MTDJ Mount Denham 13.71 68 Pn 08 33 16.7 -1.5
PAYG Puerto Ayora 14.12 177 Pn Pn 08 33 21.1 -2.4
ZAIG Zacatecas 14.37 311 Pn Pn 08 33 26.8 -0.4
KVTX Kingsville 15.39 336 Pn 08 33 38.5 -1.9
KVTX IAmb IAmb 08 33 56.5
comp=Z,63nm,0.8s
061Z Ochoppi 15.48 36 P 08 33 43.5 -1.7
GTBY Guantanamo Bay 16.44 65 Pn Pn 08 33 54.0 +0.3
735A Kenedy 16.54 338 Pn Pn 08 33 52.4 -2.5
CBOC Ciudad Bolivar 16.55 116 eP Pn 08 33 55.8 +0.4
833A Chaparral WMA, 16.70 333 P 08 34 01.2
baz=150,SNR=6.3
HKT Hockley 16.97 345 Pn 08 33 59.8 -0.4
DWPF Disney Wildern 17.01 30 Pn 08 33 59.4 -1.4
DWPF IAmb IAmb 08 34 08.5
comp=Z,161nm,0.8s
DWPF Disney Wildern 17.01 30 P 08 34 03.0
baz=213
YOTC Yotoco, Valle 17.24 122 eP Pn 08 33 59.2 -4.8
441A DeRidder 17.27 353 P P 08 34 05.4 +0.4
GUY2C Guyana, Caldas 17.43 117 eP P 08 34 07.9 +0.5
656A Willston 17.59 25 P P 08 34 09.0 +0.5
RREF El Recreo 17.60 118 eP P 08 34 10.4 +0.9
553A Crawfordville 17.64 19 P P 08 34 09.6 +0.4
NORC Norcasia 17.70 115 eP P 08 34 10.0 0.0
BBAC Balboa, Cauca 17.72 129 eP P 08 34 09.9 -0.4
ANIL Santa Ana 17.76 119 eP Pn 08 34 10.3 -0.2
TOLC Tolima 17.78 119 eP P 08 34 12.9 +1.7
342A Flagon Creek P 17.82 356 P P 08 34 12.5 +1.4
342A IAmb IAmb 08 34 16.8
comp=Z,118nm,0.8s
346A Big Creek Wild 17.84 4 P Pn 08 34 10.8 -0.2
344A Westbrook Farm 17.85 1 P P 08 34 12.8 +1.3
344A IAmb IAmb 08 34 41.1
comp=Z,184nm,1.0s
BRAL Brewton 17.93 11 P P 08 34 12.2 -0.1
BRAL IAmb IAmb 08 34 20.6
comp=Z,200nm,1.1s
OTAV Otavalo 18.09 136 P P 08 34 15.1 +0.4
OTAV Otavalo 18.09 136 eP P 08 34 17.2 +2.5
BRRC Barranca, Sant 18.10 109 eP P 08 34 15.1 +0.7
GCUF Volcan Galeras 18.17 131 eP P 08 34 17.5 +1.9
MARP Paez Belalcaza 18.22 124 eP Pn 08 34 18.0 +1.9
435B Jarrell 18.24 341 P 08 34 17.3
baz=159,SNR=26
435B Jarrell 18.24 341 P Pn 08 34 16.2 +0.2
SPBC San Pablo de B 18.36 114 eP Pn 08 34 17.3 -0.4
NATX Nacogdoches 18.47 350 P 08 34 19.4
baz=168,SNR=9.9
NATX Nacogdoches 18.47 350 P Pn 08 34 18.8 0.0
NATX IAmb IAmb 08 34 35.0
comp=Z,70nm,0.8s
ROSC El Rosal 18.52 116 P Pn 08 34 19.8 -0.1
comp=Z,2.0nm,0.3s,baz=38,slow=22,SNR=15
ROSC El Rosal 18.52 116 P Pn 08 34 19.8 -0.1
ROSC El Rosal 18.52 116 eP Pn 08 34 21.9 +2.0
ETX02 Prairie Street 18.58 351 P P 08 34 18.3 -1.2
VBMS Vicksburg 18.62 1 P Pn 08 34 20.2 -0.3
VBMS Vicksburg 18.62 1 P 08 34 22.2
baz=181,SNR=10
352A Blakely 18.71 16 Pn 08 34 22.2 +0.6
BETC Betania 18.73 124 eP Pn 08 34 22.2 +0.2
JCT Junction City 18.76 336 P 08 34 23.5
baz=152,SNR=19
JCT Junction City 18.76 336 Pn 08 34 23.3 +1.0
250A Grady 18.86 12 P Pn 08 34 24.1 +0.6
250A IAmb IAmb 08 34 46.5
comp=Z,80nm,0.9s
237A Washetta, Mont 18.93 347 P P 08 34 23.6 +0.3
237A IAmb IAmb 08 34 50.6
comp=Z,64nm,0.8s
GARC Garzon, Huila 18.98 125 eP Pn 08 34 25.6 +0.3
456A Hilliard 18.99 24 P P 08 34 24.1 0.0
456A IAmb IAmb 08 34 42.6
comp=Z,142nm,0.8s
TIGA Tifton 19.07 20 P Pn 08 34 26.6 +0.6
143A Socs Landing, 19.10 359 P P 08 34 25.5 +0.4
146A Union 19.11 5 P Pn 08 34 26.6 +0.2
CHIC Chingaza 19.14 116 eP P 08 34 26.2 +0.1
RUSC La Rusia 19.15 112 eP P 08 34 25.6 -0.8
HPIG 19.19 316 P Pn 08 34 28.5 +0.8
FLOC Florencia 19.22 127 eP Pn 08 34 28.2 +0.2
WHTX Lake Whitney, 19.33 343 P 08 34 28.5
baz=160,SNR=15
WHTX Lake Whitney, 19.33 343 P P 08 34 27.0 -0.7
WHTX IAmb IAmb 08 34 46.4
comp=Z,80nm,0.9s
SDDR Presa de Saban 19.62 71 P P 08 34 31.3 +0.2
TX32 Lajitas Array 19.67 325 IAmb IAmb 08 34 40.4
comp=Z,60nm,0.8s
TXAR Lajitas Array 19.67 325 P Pn 08 34 34.6 +1.3
comp=Z,2.0nm,0.3s,baz=154,slow=13,SNR=259
TXAR PcP PcP 08 38 51.5 +2.0
comp=Z,0.1nm,0.3s,baz=143,slow=4.4,SNR=8.4
TXAR LR LR 08 44 31.7
comp=Z,779nm,18.4s,baz=0.0,slow=44
TXAR Lajitas Array 19.67 325 Pn 08 34 34.0 +0.7
Z41A Richland Creek 19.72 355 P 08 34 33.3
baz=174,SNR=15
LRAL Lakeview Retre 19.76 10 P Pn 08 34 34.3 +0.2
LRAL IAmb IAmb 08 34 53.0
comp=Z,116nm,1.1s
LRAL Lakeview Retre 19.76 10 P 08 34 34.5
baz=191,SNR=14
Z47A Carrollton 19.76 7 P Pn 08 34 34.4 +0.2
152A Waverly Hall 19.89 16 P P 08 34 34.2 +0.4
152A IAmb IAmb 08 34 43.5
comp=Z,186nm,1.3s
255A Hazlehurst 19.90 22 P P 08 34 34.3 +0.4
255A IAmb IAmb 08 34 58.8
comp=Z,67nm,0.7s
Z38A Mt. Pleasant 19.99 350 P P 08 34 35.1 +0.2
Z38A IAmb IAmb 08 34 53.3
comp=Z,89nm,0.9s
TAMC Tame, Arauca 20.12 109 eP P 08 34 36.1 -0.4
WLAR White Oak Lake 20.17 355 P P 08 34 37.8 +0.9
SC01 Santiago de lo 20.24 70 P P 08 34 38.5 +0.8
Y45A Yeager Farm, C 20.29 3 P P 08 34 39.0 +0.8
CCAR Cane Creek 20.32 358 P Pn 08 34 39.8 -1.0
MACC Macarena, Meta 20.33 122 eP P 08 34 39.1 +0.3
Z51A Franklin 20.39 14 P Pn 08 34 40.5 -1.2
Z51A IAmb IAmb 08 34 55.5
comp=Z,69nm,0.8s
SDV Santo Domingo 20.44 101 P P 08 34 39.1 -0.9
comp=Z,34nm,0.7s,baz=287,slow=7.3,SNR=24
SDV PcP PcP 08 38 52.7 +1.4
comp=Z,8.6nm,0.7s,baz=105,slow=1.1,SNR=4.4
SDV LR LR 08 44 19.3
comp=Z,3µm,18.7s,baz=278,slow=42
SDV Santo Domingo 20.44 101 P P 08 34 39.2 -0.9
SDV Santo Domingo 20.44 101 eP P 08 34 37.8 -2.3
SDV Santo Domingo 20.44 101 eP P 08 34 39.3 -0.9
Z35A Perchaven, San 20.54 345 P P 08 34 41.1 +0.2
ABTX Abilene, Hawle 20.61 339 P 08 34 42.2
baz=155,SNR=49
ABTX Abilene, Hawle 20.61 339 P P 08 34 42.2 +0.5
ABTX IAmb IAmb 08 35 03.8
comp=Z,85nm,0.9s
SLBS Sierra La Lagu 20.63 302 P P 08 34 43.5 +1.5
Y49A Blount Mountai 20.66 11 P P 08 34 43.0 +0.8
X43A Marvell 20.91 0 P 08 34 46.3
baz=180
GOGA Godfrey 20.94 18 P P 08 34 46.0 +0.8
GOGA IAmb IAmb 08 34 51.4
comp=Z,54nm,0.8s
GOGA Godfrey 20.94 18 P 08 34 47.2
baz=200,SNR=15
OXF Oxford 20.95 4 P P 08 34 45.4 +0.2
OXF Oxford 20.95 4 P 08 34 45.6
baz=184,SNR=15
X40A Basin Creek Fa 20.95 356 P 08 34 45.4
baz=175,SNR=10
MIAR Mount Ida 21.07 354 IAmb IAmb 08 35 05.8
comp=Z,79nm,0.9s
MIAR Mount Ida 21.07 354 P 08 34 46.8
baz=173,SNR=31
X48A Hartselle 21.14 9 P P 08 34 46.6 -0.7
X48A IAmb IAmb 08 35 04.0
comp=Z,94nm,0.9s
X37A Clayton 21.36 350 P P 08 34 47.1 -2.5
X37A IAmb IAmb 08 35 09.1
comp=Z,101nm,0.9s
FPAL Fort Paine 21.48 12 P P 08 34 51.1 +0.1
PLAL Pickwick Lake 21.52 6 IAmb IAmb 08 35 11.5
comp=Z,59nm,0.9s
Z56A Williston 21.56 22 P P 08 34 52.0 +0.2
Z56A IAmb IAmb 08 34 55.4
comp=Z,82nm,0.9s
W41B Gary Mavity, V 21.59 357 P 08 34 52.2
baz=176,SNR=11
W45A Hickory Valley 21.60 4 P P 08 34 52.0 -0.3
X51A Calhoun 21.66 14 P P 08 34 53.0 0.0
X51A IAmb IAmb 08 34 57.6
comp=Z,54nm,0.8s
WHAR Wooly Hollow 21.71 357 IAmb IAmb 08 35 04.5
comp=Z,56nm,1.0s
W39A Magazine 21.73 354 P 08 34 54.3
baz=172,SNR=8.9
W39A Magazine 21.73 354 P P 08 34 53.6 0.0
W39A IAmb IAmb 08 35 20.4
comp=Z,48nm,0.8s
NHSC New Hope 21.83 25 IAMs_20 IAMs_20 08 44 18.1
comp=Z,4µm,18.0s
NHSC New Hope 21.83 25 P 08 34 57.3
baz=209
HBAR Harrisburg 21.94 1 P P 08 34 55.6 -0.2
LPAR Lepanto 21.99 1 P P 08 34 55.8 -0.7
SWET Sewanee 22.07 11 P P 08 34 57.9 +0.6
CLNB Carlsbad 22.10 330 P P 08 34 59.5 +1.7
W50A Signal Mountai 22.18 12 IAmb IAmb 08 35 01.1
comp=Z,56nm,0.8s
FCAR Ozark Folk Cen 22.30 357 IAmb IAmb 08 35 21.9
comp=Z,51nm,1.1s
GNAR Gosnell 22.36 2 P P 08 35 00.9 +0.5
GNAR IAmb IAmb 08 35 25.8
comp=Z,60nm,0.8s
MNTX Cornudas Mount 22.43 326 P 08 35 01.9
baz=140,SNR=450
V48A Smith Brothers 22.43 9 IAmb IAmb 08 35 22.5
comp=Z,59nm,0.8s
LCAR Lake Charles 22.45 360 P P 08 35 00.9 -0.4
LCAR IAmb IAmb 08 35 23.0
comp=Z,80nm,0.9s
PEBM Pemiscott Bayo 22.52 2 P P 08 35 01.4 -0.7
LNXT Lenox 22.52 3 P P 08 35 02.5 +0.4
Y57A Sumter 22.54 23 P P 08 35 02.6 +0.3
Y57A IAmb IAmb 08 35 10.3
comp=Z,45nm,0.8s
OKCFA Oklahoma City 22.58 346 P P 08 35 03.2 +0.4
CPCT Cooper Cave 22.59 14 IAmb IAmb 08 35 18.7
comp=Z,70nm,1.1s
WVT Waverly 22.69 7 P P 08 35 03.8 0.0
WVT IAmb IAmb 08 35 22.0
comp=Z,55nm,0.9s
WVT Waverly 22.69 7 P 08 35 03.6
baz=188
OK025 Westminster Rd 22.71 346 IAmb IAmb 08 35 24.0
comp=Z,69nm,0.9s
TUL1 Leonard 22.72 350 P 08 35 03.2
baz=168,SNR=9.1
TUL1 Leonard 22.72 350 IAmb IAmb 08 35 21.3
comp=Z,55nm,0.8s
UTMT University of 22.80 4 P P 08 35 04.9 -0.2
U40A Yellville 22.80 356 P 08 35 04.5
baz=175,SNR=35
U40A Yellville 22.80 356 IAmb IAmb 08 35 06.2
comp=Z,56nm,0.8s
HHAR Hobbs 22.82 354 P P 08 35 04.0 -1.3
HHAR IAmb IAmb 08 35 06.3
comp=Z,70nm,0.9s
BCOK Bluff Creek, N 22.85 346 P P 08 35 04.2 -1.3
CLTN Cedars of Leba 22.85 10 P P 08 35 04.9 -0.7
CLTN IAmb IAmb 08 35 23.1
comp=Z,70nm,1.0s
PENMO Penman 22.86 3 P P 08 35 03.9 -1.8
OK031 S. Brethren Rd 22.96 348 P P 08 35 05.3 -1.4
OK031 IAmb IAmb 08 35 07.8
comp=Z,40nm,0.7s
V51A Loudon 22.97 14 P P 08 35 06.8 +0.1
V51A IAmb IAmb 08 35 28.6
comp=Z,42nm,0.9s
TKL Tuckaleechee C 22.97 15 P P 08 35 07.0 +0.2
comp=Z,63nm,0.8s,baz=190,slow=12,SNR=41
TKL Tuckaleechee C 22.97 15 P P 08 35 07.0 +0.2
TKL IAmb IAmb 08 35 09.4
comp=Z,66nm,0.8s
HICK Hickman 22.98 4 P P 08 35 06.6 -0.2
HICK IAmb IAmb 08 35 25.1
comp=Z,81nm,0.9s
MSTX Muleshoe 23.02 334 P 08 35 07.4
baz=149,SNR=55
MSTX Muleshoe 23.02 334 IAmb IAmb 08 35 11.8
comp=Z,56nm,0.8s
U38A Gravette 23.03 353 P P 08 35 06.3 -1.1
U38A IAmb IAmb 08 35 09.1
comp=Z,55nm,0.8s
PARMO Parma 23.07 2 P P 08 35 07.6 -0.2
BIRD Birdtown, Kers 23.07 22 P P 08 35 07.7 -0.2
BIRD IAmb IAmb 08 35 30.5
comp=Z,46nm,0.9s
HENM Henderson Moun 23.14 3 P P 08 35 08.6 +0.1
QUOK Quay 23.14 348 P P 08 35 07.0 -1.6
PBMO Poplar Bluff 23.17 1 IAmb IAmb 08 35 34.1
comp=Z,78nm,0.9s
V52A Sevierville 23.19 15 IAmb IAmb 08 35 11.0
comp=Z,47nm,0.9s
KMSC Kings Mountain 23.21 20 IAmb IAmb 08 35 32.1
comp=Z,43nm,0.9s
KMSC Kings Mountain 23.21 20 P 08 35 09.4
baz=204
V53A Saluda 23.24 17 IAmb IAmb 08 35 33.6
comp=Z,61nm,0.8s
AMTX Amarillo 23.38 337 P 08 35 11.0
baz=153
T42A Van Buren 23.41 360 IAmb IAmb 08 35 38.6
comp=Z,53nm,1.1s
X58A Rowland 23.43 25 P P 08 35 11.3 0.0
X58A IAmb IAmb 08 35 23.9
comp=Z,52nm,1.1s
W56A Indian Trail 23.46 22 P 08 35 11.3
baz=206
T45A Paducah 23.49 5 P P 08 35 12.3 +0.4
MGMO Mountain Grove 23.57 357 P P 08 35 11.6 -1.1
W57A Gilead 23.70 23 P P 08 35 13.3 -0.6
W57A IAmb IAmb 08 35 39.7
comp=Z,30nm,0.8s
T35A Sooner Cattle 23.83 349 IAmb IAmb 08 35 15.9
comp=Z,42nm,0.8s
V55A Taylorsville 23.90 20 IAmb IAmb 08 35 41.0
comp=Z,44nm,0.8s
ATAH Atahualpa 24.00 148 P P 08 35 19.7 +2.3
comp=Z,19nm,0.8s,baz=341,slow=6.9,SNR=17
ATAH LR LR 08 43 30.4
comp=Z,3µm,18.4s,baz=326,slow=34
X60A Albert Glenn T 24.03 27 P 08 35 17.4
baz=212
V56A Mocksville 24.10 21 P 08 35 17.5
baz=205
KAN13 South Haven SW 24.12 347 IAmb IAmb 08 35 33.7
comp=Z,59nm,0.9s
KAN14 Manchester OK 24.17 346 P P 08 35 17.8 -0.5
KAN14 IAmb IAmb 08 35 34.3
comp=Z,40nm,1.1s
SRIG Santa Rosalia 24.18 308 P P 08 35 17.4 -0.9
SRIG IAmb IAmb 08 35 28.3
comp=Z,60nm,0.8s
SJG San Juan 24.27 76 P P 08 35 18.6 -0.7
comp=Z,13nm,0.8s,baz=178,slow=18,SNR=4.0
KAN05 Bluff City Nor 24.30 346 IAmb IAmb 08 35 21.2
comp=Z,67nm,1.0s
KAN01 Argonia South 24.31 347 IAmb IAmb 08 35 22.2
comp=Z,59nm,0.8s
U54A Nelsons Funny 24.32 18 IAmb IAmb 08 35 25.1
comp=Z,61nm,0.8s
U54A Nelsons Funny 24.32 18 P 08 35 19.8
baz=202,SNR=14
KAN10 Anthony SW Sta 24.36 346 P P 08 35 19.9 -0.1
FVM French Village 24.37 1 IAmb IAmb 08 35 49.1
comp=Z,26nm,0.8s
121A Cookes Peak, D 24.40 324 P 08 35 23.4
baz=137,SNR=97
KAN08 Anthony NE Sta 24.43 346 P P 08 35 20.3 -0.3
KAN08 IAmb IAmb 08 35 22.0
comp=Z,48nm,0.8s
V57A Coltrane Farms 24.43 22 P 08 35 20.5
baz=207,SNR=5.5
CCM Cathedral Cave 24.44 359 P 08 35 20.0
baz=179
CCM Cathedral Cave 24.44 359 P P 08 35 20.3 -0.3
CCM IAmb IAmb 08 35 36.8
comp=Z,77nm,1.2s
KAN12 Harper NE Stat 24.50 346 P P 08 35 21.4 +0.1
KAN12 IAmb IAmb 08 35 38.4
comp=Z,57nm,0.9s
USIN University of 24.52 6 P P 08 35 21.1 -0.2
V58A Windy Hill, Pi 24.60 24 IAmb IAmb 08 35 26.9
comp=Z,40nm,0.8s
CNNC Cliffs of the 24.62 26 P P 08 35 22.4 +0.1
CNNC IAmb IAmb 08 35 40.3
comp=Z,48nm,0.9s
CNNC IAMs_20 IAMs_20 08 45 54.1
comp=Z,3µm,19.0s
CNNC Cliffs of the 24.62 26 P 08 35 23.3
baz=212
U56A King 24.63 21 P P 08 35 22.7 +0.3
U56A IAmb IAmb 08 35 52.0
comp=Z,28nm,0.8s
U56A King 24.63 21 P 08 35 22.8
baz=205
S51A Beattyville 24.90 14 IAmb IAmb 08 35 32.2
comp=Z,51nm,0.8s
V59A Middlesex 24.93 25 P 08 35 27.0
baz=210
WCI Wyandotte Cave 24.95 9 P 08 35 25.5
baz=191
WCI Wyandotte Cave 24.95 9 P P 08 35 25.2 -0.2
SLM Saint Louis 25.02 1 IAmb IAmb 08 35 51.7
comp=Z,27nm,0.8s
U57A Blanch 25.08 22 P 08 35 27.0
baz=207
Y22D IRIS PASSCAL I 25.08 327 P 08 35 29.9
baz=141,SNR=11
LENM Lemitar 25.18 327 P P 08 35 28.2 +0.5
R49A Shelbyville 25.20 11 IAmb IAmb 08 35 54.5
comp=Z,54nm,1.0s
OLIL Olney 25.24 5 IAmb IAmb 08 35 48.7
comp=Z,72nm,1.1s
Q44A Meyer Farm, Va 25.34 4 IAmb IAmb 08 35 44.8
comp=Z,34nm,0.8s
V60A Jim Taylor Roa 25.34 27 P 08 35 30.8
baz=212
V60A Jim Taylor Roa 25.34 27 P P 08 35 29.4 +0.5
V60A IAmb IAmb 08 35 57.4
comp=Z,55nm,0.9s
U58A Oxford 25.34 24 P 08 35 31.4
baz=209
R50A Paris 25.35 12 IAmb IAmb 08 35 45.7
comp=Z,55nm,0.9s
T56A Rocky Mt 25.36 21 P 08 35 31.6
baz=205
BLA Blacksburg 25.40 20 P P 08 35 29.6 +0.1
BLA Blacksburg 25.40 20 P 08 35 32.0
baz=204
ANMO Albuquerque 25.53 329 P P 08 35 32.9 +2.0
comp=Z,17nm,0.8s,baz=156,slow=12,SNR=100
ANMO PcP PcP 08 39 02.5 +1.0
comp=Z,5.8nm,0.8s,baz=148,slow=6.0,SNR=5.0
ANMO LR LR 08 47 14.4
comp=Z,1µm,20.5s,baz=135,slow=40
ANMO Albuquerque 25.53 329 P P 08 35 32.3 +1.4
ANMO Albuquerque 25.53 329 P 08 35 32.7
baz=143
T57A Hurt 25.61 22 P P 08 35 31.4 +0.1
T57A Hurt 25.61 22 P 08 35 31.5
baz=207
S54A Dingess, Beckl 25.66 18 P 08 35 31.6
baz=202
T58A Grand View Acr 25.83 23 P 08 35 33.8
baz=208
BLO Bloomington 25.85 8 IAmb IAmb 08 35 49.2
comp=Z,32nm,0.9s
P40A Paris 25.93 358 IAmb IAmb 08 35 50.5
comp=Z,36nm,0.9s
PCRV Puerto La Cruz 25.95 94 P P 08 35 34.4 -0.3
comp=Z,3.7nm,0.5s,baz=251,slow=8.8,SNR=1.3
KSU1 Kansas State U 25.97 350 P 08 35 35.3
baz=167,SNR=15
KSU1 Kansas State U 25.97 350 IAmb IAmb 08 35 37.2
comp=Z,53nm,0.8s
P43A Skaggs, Pawnee 26.05 2 IAmb IAmb 08 35 56.2
comp=Z,28nm,0.9s
TUC Tucson 26.07 319 P P 08 35 37.7 +2.1
TUC IAmb IAmb 08 35 41.8
comp=Z,27nm,0.9s
TUC Tucson 26.07 319 P 08 35 38.1
baz=131
P38A Dawn 26.10 355 IAmb IAmb 08 35 38.2
comp=Z,23nm,0.8s
S56A Natural Bridge 26.11 21 P 08 35 40.0
baz=206
P46A Rosedale 26.20 7 IAmb IAmb 08 36 00.5
comp=Z,48nm,0.8s
T59A Double "B" Far 26.24 25 IAmb IAmb 08 35 53.5
comp=Z,23nm,0.8s
P48A Milroy 26.29 10 IAmb IAmb 08 35 52.9
comp=Z,46nm,0.9s
CBKS Cedar Bluff 26.37 344 P 08 35 38.1
baz=160
CBKS Cedar Bluff 26.37 344 P P 08 35 37.2 -1.0
T25A Trinidad 26.42 335 P 08 35 41.1
baz=149,SNR=7.8
Q52A Bidwell 26.48 15 IAmb IAmb 08 35 56.1
comp=Z,36nm,0.9s
P49A Miami Univ. Ec 26.49 11 IAmb IAmb 08 36 01.3
comp=Z,31nm,1.0s
P49A Miami Univ. Ec 26.49 11 P 08 35 39.0
baz=194
Q53A Leroy 26.58 17 P 08 35 40.1
baz=201
O44A Mansfield 26.62 4 P P 08 35 40.0 -0.3
T60A Surry 26.73 26 IAMs_20 IAMs_20 08 47 17.8
comp=Z,3µm,19.0s
P51A Williamsport 26.78 14 IAmb IAmb 08 35 58.1
comp=Z,53nm,0.8s
Q54A Coxs Mills 26.89 18 IAmb IAmb 08 36 07.6
comp=Z,25nm,0.8s
SFIN Lafayette 26.97 6 P 08 35 43.2
baz=188
SFIN Lafayette 26.97 6 P P 08 35 42.8 -0.7
SFIN IAmb IAmb 08 35 58.8
comp=Z,29nm,0.8s
HDIL Hopedale 26.97 3 IAmb IAmb 08 36 06.7
comp=Z,55nm,1.4s
HDIL Hopedale 26.97 3 P 08 35 42.9
baz=183

R58B	Mineral	26.98	23	P		08 35 42.8	
	baz=209						
R57A	Stanardsville	27.03	22	P		08 35 43.8	
	baz=207						
S59A	Mechanicsville	27.03	24	P		08 35 43.5	
	baz=210						
X18A	Snowflake	27.09	324	IAmb	IAmb	08 35 49.4	
	comp=Z,42nm,0.8s						
P52A	Corning	27.14	15	P	P	08 35 45.4	+0.2
P52A	Corning	27.14	15	P		08 35 45.0	
	baz=199						
214A	Organ Pipe Nat	27.17	316	P	P	08 35 47.5	+1.9
214A				IAmb	IAmb	08 35 53.6	
	comp=Z,29nm,0.8s						
214A	Organ Pipe Nat	27.17	316	P		08 35 48.2	
	baz=128,SNR=15						
P53A	Whipple	27.20	16	IAmb	IAmb	08 36 03.1	
	comp=Z,46nm,1.2s						
SEUS	St. Eustatius	27.21	78	IAMs_20	IAMs_20	08 47 44.1	
	comp=Z,3µm,19.0s						
CBN	Corbin Frederi	27.38	24	P	P	08 35 46.7	-0.6
CBN				IAmb	IAmb	08 36 12.2	
	comp=Z,31nm,1.0s						
CBN				IAMs_20	IAMs_20	08 47 29.1	
	comp=Z,3µm,19.0s						
SDCO	Great Sand Dun	27.39	334	P		08 35 49.7	
	baz=148,SNR=8.7						
W18A	Petrified Fore	27.39	325	P		08 35 50.5	
	baz=137,SNR=7.0						
W18A	Petrified Fore	27.39	325	IAmb	IAmb	08 35 54.0	
	comp=Z,56nm,0.9s						
KSCO	Kaye Shedlock’	27.41	340	P		08 35 48.0	
	baz=155,SNR=8.7						
Q56A	Snyder Ridge,	27.46	20	P		08 35 48.4	
	baz=205						
R59A	King George, V	27.48	24	P		08 35 49.9	
	baz=210						
ACSO	Alum Creek Sta	27.51	13	P		08 35 48.4	
	baz=197,SNR=15						
N35A	Tabor	27.55	352	P	P	08 35 49.2	+0.4
N35A				IAmb	IAmb	08 36 12.6	
	comp=Z,40nm,0.7s						
N47A	Urbana	27.64	9	P	P	08 35 49.0	-0.6
N47A				IAmb	IAmb	08 36 04.6	
	comp=Z,46nm,0.9s						
O52A	Adamsville	27.68	15	IAmb	IAmb	08 35 51.0	
	comp=Z,38nm,0.9s						
N33A	J Bar K, Exete	27.71	349	P	P	08 35 50.2	0.0
N33A				IAmb	IAmb	08 35 55.2	
	comp=Z,28nm,0.8s						
Q57A	Strasburg	27.72	21	P		08 35 51.2	
	baz=207						
R60A	Leonardtown, M	27.75	25	P		08 35 52.2	
	baz=211						
MCWV	Mont Chateau	27.81	19	P		08 35 51.9	
	baz=204						
CZSB	Cruzeiro do Su	27.81	138	*e*P	P	08 35 53.2	+1.9
M44A	Midewin, Midew	27.88	5	P	P	08 35 51.9	+0.2
N49A	Columbus Grove	27.93	11	P	P	08 35 52.4	+0.2
O53A	New Philadelph	27.96	16	IAmb	IAmb	08 36 08.7	
	comp=Z,23nm,0.9s						
O53A	New Philadelph	27.96	16	P		08 35 51.9	
	baz=200						
S22A	4UR Ranch, Cre	27.97	332	P		08 35 54.5	
	baz=145,SNR=34						
P56A	Dayton Farm, R	28.00	20	P		08 35 52.6	
	baz=206						
O54A	Avella	28.13	17	IAmb	IAmb	08 36 10.5	
	comp=Z,22nm,0.8s						
Q59A	Harwood	28.23	24	P		08 35 56.8	
	baz=210						
P57A	Homestead Farm	28.26	21	P		08 35 55.6	
	baz=207						
P57A	Homestead Farm	28.26	21	IAmb	IAmb	08 35 58.1	
	comp=Z,20nm,0.8s						
N51A	Ashland	28.30	14	IAmb	IAmb	08 36 11.4	
	comp=Z,32nm,0.8s						
MVCO	Mesa Verde	28.33	329	IAmb	IAmb	08 35 59.8	
	comp=Z,27nm,0.8s						
MVCO	Mesa Verde	28.33	329	P		08 35 58.2	
	baz=142,SNR=32						
ANWB	Willy Bob	28.36	78	IAMs_20	IAMs_20	08 48 45.6	
	comp=Z,2µm,20.0s						
L40A	Anamosa	28.44	360	IAmb	IAmb	08 36 19.1	
	comp=Z,31nm,1.1s						
N53A	Lisbon	28.59	16	IAmb	IAmb	08 35 59.0	
	comp=Z,27nm,1.0s						
WUAZ	Wupatki	28.61	324	IAMs_20	IAMs_20	08 48 40.0	
	comp=Z,3µm,20.0s						
WUAZ	Wupatki	28.61	323	P		08 36 01.3	
	baz=135,SNR=61						
M50A	Fremont	28.62	12	P	P	08 35 57.3	-1.0
M50A				IAmb	IAmb	08 36 00.1	
	comp=Z,33nm,0.7s						
L44A	Lake County Fo	28.67	5	P	P	08 35 57.8	-1.0
L44A				IAmb	IAmb	08 36 00.8	
	comp=Z,27nm,0.8s						
L46A	Eue Claire	28.67	7	IAmb	IAmb	08 36 14.3	
	comp=Z,22nm,0.8s						
O56A	Blue Knob Stat	28.77	20	P		08 35 59.4	
	baz=206						
L48A	N Adams	28.88	10	IAmb	IAmb	08 36 15.7	
	comp=Z,35nm,0.8s						
NNA	Nana	28.94	150	P	P	08 36 02.8	+1.3
	comp=Z,3.6nm,0.5s,baz=253,slow=5.1,SNR=2.1						
NNA				PcP	PcP	08 39 10.6	+0.9
	comp=Z,1.9nm,0.3s,baz=336,slow=5.0,SNR=3.9						
NNA				LR	LR	08 45 30.3	
	comp=Z,2µm,21.6s,baz=311,slow=32						
P59A	Jarrettsville	28.96	24	P		08 36 02.1	
	baz=210						
N54A	Moraine State	28.97	17	IAmb	IAmb	08 36 12.4	
	comp=Z,43nm,1.4s						
N54A	Moraine State	28.97	17	P		08 36 00.9	
	baz=202						
OGNE	Ogallala	28.99	342	P		08 36 02.6	
	baz=157						
O57A	Amberson	29.04	21	P		08 36 02.2	
	baz=207						
PV01	Paradox Valley	29.09	331	P	P	08 36 03.9	+1.0
M52A	Chesterland	29.14	15	IAmb	IAmb	08 36 19.3	
	comp=Z,28nm,0.8s						
K43A	Burlington	29.17	4	P	P	08 36 03.1	0.0
K43A				IAmb	IAmb	08 36 18.9	
	comp=Z,31nm,1.1s						
GLA	Glamis	29.19	316	P	P	08 36 03.5	-0.1
GLA				IAmb	IAmb	08 36 08.0	
	comp=Z,38nm,1.2s						
GLA	Glamis	29.19	316	P		08 36 06.2	
	baz=126,SNR=5.4						
ISCO	Idaho Springs	29.19	336	P		08 36 05.9	
	baz=150,SNR=10.0						
ISCO	Idaho Springs	29.19	336	P	P	08 36 04.1	+0.3
M53A	WI Miller and	29.22	16	P		08 36 03.1	
	baz=201,SNR=9.9						
M53A	WI Miller and	29.22	16	IAmb	IAmb	08 36 04.5	
	comp=Z,28nm,0.8s						
SMCO	Snowmass	29.22	334	P	P	08 36 04.4	+0.3
PV02	Paradox Valley	29.23	330	P	P	08 36 04.7	+0.6
JFWS	Jewell Farm	29.30	1	P		08 36 04.4	
	baz=181,SNR=5.7						
PV05	Paradox Valley	29.31	330	IAmb	IAmb	08 36 08.9	
	comp=Z,33nm,0.9s						
PV03	Paradox Valley	29.32	330	IAmb	IAmb	08 36 09.2	
	comp=Z,18nm,0.9s						
PV18	Skein Mesa, Pa	29.35	330	IAmb	IAmb	08 36 09.4	
	comp=Z,28nm,0.9s						
PV12	Saucer Basin,	29.35	331	IAmb	IAmb	08 36 13.3	
	comp=Z,35nm,0.8s						
AAM	Ann Arbor	29.36	11	P		08 36 07.0	
	baz=194						
AAM	Ann Arbor	29.36	11	P	P	08 36 05.7	+0.8
AAM				IAmb	IAmb	08 36 20.5	
	comp=Z,56nm,1.4s						
PV11	David Mesa, Pa	29.37	330	P	P	08 36 07.1	+1.9
PV11				IAmb	IAmb	08 36 19.0	
	comp=Z,43nm,1.1s						
PV07	Paradox Valley	29.37	331	IAmb	IAmb	08 36 09.8	
	comp=Z,27nm,0.9s						
PV17	East Wray Mesa	29.40	330	IAmb	IAmb	08 36 09.8	
	comp=Z,33nm,1.0s						
PV16	Nyswonger Mesa	29.40	330	P	P	08 36 06.3	+0.8
PV16				IAmb	IAmb	08 36 09.9	
	comp=Z,21nm,0.9s						
PV19	Morning Glory	29.43	330	IAmb	IAmb	08 36 12.5	
	comp=Z,21nm,0.9s						
N56A	West Decatur	29.45	20	P		08 36 05.1	
	baz=206,SNR=8.6						
PV20	West Nyswonger	29.45	330	P	P	08 36 06.7	+0.8
PV20				IAmb	IAmb	08 36 10.2	
	comp=Z,20nm,1.0s						
PV04	Paradox Valley	29.46	330	P	P	08 36 08.0	+2.0
PV04				IAmb	IAmb	08 36 10.4	
	comp=Z,34nm,0.9s						
PDMCI	Parker Dam,Lak	29.50	319	P		08 36 08.8	
	baz=129,SNR=28						
PV14	Lion Creek, Pa	29.50	330	P	P	08 36 07.5	+1.0
PV14				IAmb	IAmb	08 36 10.6	
	comp=Z,22nm,0.9s						
PV10	Paradox Valley	29.51	330	P	P	08 36 07.8	+1.2
PV10				IAmb	IAmb	08 36 10.2	
	comp=Z,27nm,0.9s						
PV22	Blue Mesa, Par	29.52	331	IAmb	IAmb	08 36 11.3	
	comp=Z,25nm,0.9s						
N57A	Milroy	29.55	21	P		08 36 06.9	
	baz=207						
ALLY	Alegheny Colle	29.56	17	P	P	08 36 06.7	+0.1
M54A	Oil Creek Stat	29.56	17	P		08 36 06.1	
	baz=202						
O59A	Robesonia	29.66	23	P		08 36 07.8	
	baz=210						
K31A	O'Neill	29.78	348	P	P	08 36 08.3	-0.3
K31A				IAmb	IAmb	08 36 18.1	
	comp=Z,20nm,0.9s						
L53A	Girard	29.81	16	P		08 36 08.0	
	baz=201						
W13A	Hualapai Mount	29.84	320	IAmb	IAmb	08 36 14.8	
	comp=Z,26nm,0.8s						
IKP	In-Ko-Pah, Jac	29.85	314	P		08 36 12.4	
	baz=124						
BC3	Big Chuckawall	29.97	316	P		08 36 13.4	
	baz=126,SNR=7.9						
M56A	Emporium	30.00	19	P	P	08 36 09.1	-1.4
M56A				IAmb	IAmb	08 36 14.2	
	comp=Z,20nm,0.8s						
M56A	Emporium	30.00	19	P		08 36 09.7	
	baz=205						
ERPA	Erie	30.04	16	IAmb	IAmb	08 36 12.0	
	comp=Z,21nm,0.8s						
ERPA	Erie	30.04	16	P		08 36 10.3	
	baz=202,SNR=6.9						
IRM	Iron Mountain	30.06	317	P		08 36 14.1	
	baz=127						
MONP2	Monument Peak	30.20	314	P		08 36 15.4	
	baz=124						
M57A	Sunshine Farm,	30.22	21	IAmb	IAmb	08 36 14.7	
	comp=Z,26nm,0.8s						
M57A	Sunshine Farm,	30.22	21	P		08 36 12.4	
	baz=207,SNR=10						
LUPA	Lehigh Univers	30.23	24	IAmb	IAmb	08 36 19.4	
	comp=Z,19nm,0.9s						
N23A	Red Feather La	30.27	337	P		08 36 14.3	
	baz=150						
I42A	Draeger Farm,	30.32	3	IAmb	IAmb	08 36 28.7	
	comp=Z,19nm,0.8s						
N59A	State Game Lan	30.34	23	P		08 36 14.0	
	baz=210						
N59A	State Game Lan	30.35	23	P	P	08 36 13.7	+0.1
N59A				IAMs_20	IAMs_20	08 49 28.5	
	comp=Z,2µm,18.0s						
PHWY	Pilot Hill	30.44	338	P	P	08 36 15.0	+0.2
M58A	Price’s Panora	30.48	22	P		08 36 15.3	
	baz=208,SNR=5.5						
ECSD	EROS Data Cent	30.50	352	P		08 36 15.0	
	baz=169,SNR=12						
BELC	Belle Mtn. Jos	30.54	316	P		08 36 18.1	
	baz=126,SNR=10						
O20A	White River Ci	30.56	333	IAmb	IAmb	08 36 20.5	
	comp=Z,17nm,0.9s						
O20A	White River Ci	30.56	333	P		08 36 18.0	
	baz=145,SNR=13						
TPFO	Pinon Flats	30.62	315	P		08 36 18.6	
	baz=125						
XPFO	Pion Flat	30.63	315	IAMs_20	IAMs_20	08 48 32.1	
	comp=Z,2µm,22.0s						
PFO	Pinyon Flats O	30.63	315	IAMs_20	IAMs_20	08 48 32.1	
	comp=Z,2µm,22.0s						
WVNY	West Valley, N	30.70	18	IAmb	IAmb	08 36 32.9	
	comp=Z,25nm,1.2s						
GMRC	Granite Mounta	30.78	318	P		08 36 20.5	
	baz=127,SNR=17						
L56A	Greenwood	30.79	20	IAmb	IAmb	08 36 21.0	
	comp=Z,20nm,0.9s						
L56A				IAMs_20	IAMs_20	08 49 22.2	
	comp=Z,3µm,19.0s						
L56A	Greenwood	30.79	20	P		08 36 17.4	
	baz=206,SNR=8.5						
L57A	Andrews Acres	30.90	21	P		08 36 18.3	
	baz=207,SNR=6.0						
ODNJ	Ogdensburg	30.94	24	P	P	08 36 19.3	+0.4
M59A	Waymart	31.01	23	P		08 36 18.9	
	baz=210,SNR=5.2						
MURC	Murrieta	31.13	314	P		08 36 23.8	
	baz=124						
M60A	Port Jervis	31.14	24	P		08 36 20.7	
	baz=212						
MMNY	Mt. Morris Dam	31.21	19	P	P	08 36 20.3	-0.9
MMNY				IAmb	IAmb	08 36 47.1	
	comp=Z,18nm,1.0s						
HEC	Hector,Ludlow	31.25	317	P		08 36 25.2	
	baz=126,SNR=6.5						
N62A	Caumsett State	31.29	26	P		08 36 22.9	
	baz=214						
L58A	Harry Jones Me	31.29	22	P		08 36 22.5	
	baz=209,SNR=5.7						
I51A	Listowel	31.36	14	P		08 36 21.4	
	baz=199,SNR=13						
K56A	Middlesex	31.37	19	P		08 36 22.0	
	baz=206,SNR=7.8						
BINY	Binghamton	31.38	22	P		08 36 22.3	
	baz=209,SNR=13						
BINY	Binghamton	31.38	22	IAmb	IAmb	08 36 24.9	
	comp=Z,24nm,0.8s						
RWWY	Rawlins	31.43	336	P	P	08 36 24.0	+0.5
RWWY				IAmb	IAmb	08 36 27.5	
	comp=Z,16nm,0.9s						
M61A	Granite Spring	31.48	25	P		08 36 24.3	
	baz=213						
J54A	Appleton	31.48	17	P	P	08 36 22.1	-1.5
J54A				IAmb	IAmb	08 36 25.9	
	comp=Z,16nm,0.8s						
SHPR	Sheep Range	31.54	321	P	P	08 36 26.2	+1.8
SHPR				IAmb	IAmb	08 36 29.6	
	comp=Z,19nm,0.8s						
WSPT	Westport, CT	31.54	26	P	P	08 36 24.9	+0.7
WSPT				IAMs_20	IAMs_20	08 50 14.3	
	comp=Z,2µm,18.0s						
SUSD	Miller	31.57	349	P	P	08 36 24.4	0.0
SUSD				IAmb	IAmb	08 36 47.9	
	comp=Z,24nm,0.8s						
SPMN	Marine on St.	31.64	357	P		08 36 24.3	
	baz=176,SNR=29						
GLMI	Grayling	31.66	9	P	P	08 36 25.3	+0.1
K57A	Scipio Center	31.66	20	P		08 36 24.5	
	baz=207,SNR=6.9						
L59A	Walton	31.72	23	P		08 36 26.1	
	baz=210,SNR=6.0						
L59A	Walton	31.72	23	IAmb	IAmb	08 36 27.5	
	comp=Z,14nm,0.8s						
L59A				IAMs_20	IAMs_20	08 50 03.9	
	comp=Z,2µm,19.0s						
J55A	Hilton	31.72	18	IAmb	IAmb	08 36 28.9	
	comp=Z,15nm,0.8s						
BFSC	Mount Baldy Ra	31.81	315	P		08 36 29.4	
	baz=124,SNR=13						
YLE	Yale	31.83	26	IAMs_20	IAMs_20	08 50 50.9	
	comp=Z,2µm,20.0s						
GSC	Goldstone, Bar	31.84	317	P		08 36 29.9	
	baz=126,SNR=10						
SHOC	Shoshone, Teco	31.86	319	P		08 36 31.8	
	baz=128,SNR=9.6						
L60A	Shokan	31.86	24	P		08 36 26.3	
	baz=212						
CIS	Catalina Islan	31.88	313	P		08 36 29.9	
	baz=122						
KSCT	Kent School, K	31.94	25	P	P	08 36 26.8	-0.8
K58A	Earlville	32.00	22	P		08 36 27.6	
	baz=209,SNR=14						
K22A	Casper	32.00	338	P	P	08 36 27.9	-0.5
K22A	Casper	32.00	338	P		08 36 29.5	
	baz=150,SNR=10						
BOAV	Boa Vista	32.04	108	*e*P	P	08 36 26.7	-2.1
J56A	Wolcott	32.04	20	IAMs_20	IAMs_20	08 50 00.3	
	comp=Z,3µm,20.0s						
J56A	Wolcott	32.04	20	P		08 36 27.8	
	baz=206,SNR=25						
F42A	Maple Grove Fa	32.22	4	P	P	08 36 29.2	-0.8
F42A				IAmb	IAmb	08 36 44.7	
	comp=Z,27nm,1.5s						
DECC	Green Verdugo	32.28	314	P		08 36 34.0	
	baz=123						
M63A	Gales Ferry	32.29	27	P	P	08 36 31.0	+0.3
M63A				IAmb	IAmb	08 36 52.8	
	comp=Z,30nm,1.4s						
M63A	Gales Ferry	32.29	27	P		08 36 32.1	
	baz=216						
K59A	Cooperstown	32.30	22	P		08 36 31.4	
	baz=210						
F36A	Milaca	32.31	357	P	P	08 36 29.4	-1.4
EDW2	Edwards Air Fo	32.39	316	P		08 36 34.3	
	baz=124,SNR=12						
RSSD	Black Hills	32.49	342	P		08 36 33.7	
	baz=156						
RSSD	Black Hills	32.49	342	P	P	08 36 33.3	+0.6
TPNV	Topopah Spring	32.50	320	P		08 36 36.9	
	baz=129,SNR=27						
TPNV	Topopah Spring	32.50	320	IAmb	IAmb	08 36 38.0	
	comp=Z,18nm,0.9s						
COWI	Conover	32.51	2	IAmb	IAmb	08 36 33.3	
	comp=Z,21nm,0.8s						
LRMC	Laurel Mtn Rad	32.53	317	P		08 36 35.9	
	baz=126						
UCCT	U. Connecticut	32.53	26	IAmb	IAmb	08 36 36.0	
	comp=Z,24nm,0.8s						
L62A	Suffield	32.54	26	P		08 36 34.6	
	baz=214						
L62A	Suffield	32.54	26	P	P	08 36 32.9	0.0
L62A				IAmb	IAmb	08 36 50.0	
	comp=Z,27nm,1.1s						
L62A				IAMs_20	IAMs_20	08 50 52.6	
	comp=Z,2µm,18.0s						
FURC	Furnace Creek,	32.58	319	P		08 36 36.3	
	baz=128,SNR=10						
H53A	Bobcaygeon	32.70	16	P		08 36 33.5	
	baz=202,SNR=18						
SADO	Sadowa	32.73	16	P	P	08 36 33.6	-0.9
SADO				IAmb	IAmb	08 36 35.0	
	comp=Z,28nm,0.9s						
MPMC	Manual Prospec	32.74	318	P		08 36 37.5	
	baz=126,SNR=16						
OSI	Osito Audit: C	32.75	315	P	P	08 36 35.3	+0.4
OSI				IAmb	IAmb	08 36 39.3	
	comp=Z,29nm,1.1s						
OSI	Osito Audit: C	32.75	315	P		08 36 37.8	
	baz=123						
DUG	Dugway, Tooele	32.78	328	P		08 36 37.7	
	baz=138,SNR=22						
DUG	Dugway, Tooele	32.78	328	P	P	08 36 36.6	+1.4
DUG				IAmb	IAmb	08 36 51.3	
	comp=Z,15nm,0.8s						
DUG				IAMs_20	IAMs_20	08 51 56.5	
	comp=Z,2µm,19.0s						
K61A	Williamstown	32.82	24	P		08 36 37.7	
	baz=213						
QUA2	Belchertown	32.87	26	P	P	08 36 36.6	+0.9
QUA2				IAmb	IAmb	08 36 39.7	
	comp=Z,21nm,1.2s						
QUA2				IAMs_20	IAMs_20	08 51 11.4	
	comp=Z,2µm,18.0s						
L61B	Northampton	32.88	25	P		08 36 38.2	
	baz=214						
E43A	Lone Tree Farm	32.92	5	IAmb	IAmb	08 36 36.6	
	comp=Z,18nm,0.7s						
DELO	Deloro Mine	32.92	18	IAmb	IAmb	08 36 54.8	
	comp=Z,26nm,1.0s						
R11A	Troy Canyon, C	33.01	323	P		08 36 39.9	
	baz=132,SNR=44						
R11A	Troy Canyon, C	33.01	323	IAmb	IAmb	08 36 42.1	
	comp=Z,19nm,0.9s						
J59A	Piesco	33.02	22	P		08 36 36.6	
	baz=210,SNR=6.9						
J59A	Piesco	33.02	22	P	P	08 36 36.3	-0.8
J59A				IAmb	IAmb	08 36 38.3	
	comp=Z,13nm,0.8s						
J59A				IAMs_20	IAMs_20	08 51 02.3	
	comp=Z,2µm,19.0s						
I58A	Old Forge	33.04	21	P		08 36 36.3	
	baz=209,SNR=21						
SCZ2	Santa Cruz Isl	33.06	313	P		08 36 40.0	
	baz=121						
ARVC	Arvin	33.10	315	P		08 36 41.0	
	baz=124,SNR=7.4						
ISA	Isabella, Lake	33.16	317	IAmb	IAmb	08 36 43.3	
	comp=Z,16nm,1.0s						
ISA	Isabella, Lake	33.16	317	P		08 36 41.0	
	baz=125,SNR=13						
GRAC	Grapevine Rang	33.23	319	P		08 36 43.7	
	baz=128,SNR=6.2						
K62A	Royalston	33.24	26	IAMs_20	IAMs_20	08 51 14.1	
	comp=Z,2µm,18.0s						
J60A	Lant Hill Farm	33.24	24	P		08 36 39.6	
	baz=212						
ACCN	Adirondack Com	33.26	23	P	P	08 36 38.3	-0.9
BW06	Boulder Array	33.29	335	P		08 36 40.7	
	baz=146						
PDAR	Pinedale Array	33.29	335	P	P	08 36 39.3	-0.4
	comp=Z,3.1nm,0.8s,baz=133,slow=9.4,SNR=24						
PDAR				PcP	PcP	08 39 21.9	+0.7
	comp=Z,5.0nm,0.9s,baz=130,slow=4.6,SNR=8.5						
PDAR				PKiKP	PKiKP	08 46 47.9	+1.1
	comp=Z,0.8nm,0.9s,baz=113,slow=3.9,SNR=4.7						
PDAR				LR	LR	08 52 50.7	
	comp=Z,1µm,20.8s,baz=150,slow=41						
PDAR	Pinedale Array	33.29	335	P	P	08 36 39.2	-0.5
CWC	Cottonwood Cre	33.35	318	P		08 36 42.9	
	baz=126						
HRV	Adam Dziewonsk	33.40	26	P		08 36 41.2	
	baz=216						
HRV	Adam Dziewonsk	33.40	26	IAMs_20	IAMs_20	08 51 12.3	
	comp=Z,2µm,19.0s						
WES	Weston	33.40	27	IAMs_20	IAMs_20	08 51 12.5	
	comp=Z,3µm,20.0s						
BCX	Boston College	33.43	27	IAMs_20	IAMs_20	08 51 32.2	
	comp=Z,3µm,19.0s						
D41A	Chassel	33.49	3	IAmb	IAmb	08 36 44.2	
	comp=Z,13nm,0.8s						
I59A	Olmsteadville	33.54	23	P		08 36 41.1	
	baz=211						
PLVO	Plevna	33.56	18	IAmb	IAmb	08 36 42.8	
	comp=Z,15nm,1.0s						
K63A	Dunstable	33.56	26	P		08 36 40.5	
	baz=216						
NCB	Newcomb	33.56	22	IAmb	IAmb	08 36 43.4	
	comp=Z,15nm,0.8s						
K63A	Dunstable	33.56	26	P	P	08 36 40.7	-1.0
K63A				IAmb	IAmb	08 36 43.8	
	comp=Z,12nm,0.8s						
K63A				IAMs_20	IAMs_20	08 51 16.6	
	comp=Z,2µm,19.0s						
H57A	Richville	33.58	20	P		08 36 41.2	
	baz=208						
G54A	Lake Saint Pet	33.59	16	P		08 36 41.2	
	baz=203,SNR=20						
PKM	Mcpherson Peak	33.65	314	P		08 36 45.7	
	baz=122,SNR=7.0						
VES	Vestal, Richgr	33.67	316	P		08 36 46.2	
	baz=124,SNR=28						
ETMB	Extrema	33.76	132	*e*P	P	08 36 43.8	0.0
I60A	Shoreham	33.80	23	P		08 36 44.3	
	baz=212,SNR=8.8						
PTGA	Pitinga	33.80	112	P	P	08 36 44.0	-0.2
PTGA				IAmb	IAmb	08 36 48.1	
	comp=Z,24nm,0.8s						
PTGA	Pitinga	33.80	112	*e*P	P	08 36 44.6	+0.4
TPH	Tonopah	33.81	321	P	P	08 36 43.6	-0.6
TIN	Tinemaha, Big	33.81	319	P		08 36 47.5	
	baz=127						
AHID	Auburn Hatcher	33.95	333	P	P	08 36 46.3	+0.8
AHID				IAmb	IAmb	08 36 48.8	
	comp=Z,16nm,0.7s						
E28A	Huff	33.96	348	IAmb	IAmb	08 36 47.1	
	comp=Z,13nm,0.7s						
H58A	Gabriels	33.96	22	P		08 36 44.0	
	baz=210,SNR=14						
LONY	Lake Ozonia	33.99	21	IAmb	IAmb	08 36 47.2	
	comp=Z,16nm,0.9s						
LONY	Lake Ozonia	33.99	21	P		08 36 44.5	
	baz=209,SNR=8.0						
SMMC	Simmler	34.00	315	P		08 36 48.8	
	baz=122,SNR=8.3						
ALGO	Algonquin Park	34.12	16	P		08 36 45.5	

baz=203,SNR=34
J63A Strafford 34.23 26 P 08 36 49.0
baz=216
G57A Newington 34.28 20 P 08 36 47.0
baz=208,SNR=6.1
MACA Manacapuru-AM 34.29 117 *eP* **P 08 36 48.7 +0.2**
EYMN Ely 34.32 359 P 08 36 46.6
baz=179,SNR=9.5
EYMN Ely 34.33 359 IAms_20 IAms_20 08 53 21.7
comp=Z,2µm,19.0s
H59A Cadyville 34.33 22 P 08 36 47.3
baz=211
MLAC Mammoth, Mammo 34.54 319 P 08 36 54.8
baz=127,SNR=6.0
H60A Morristown 34.63 23 P 08 36 51.5
baz=212
G58A Ormstown 34.64 21 P 08 36 49.8
baz=210
NVAR Mina Array Bea 34.69 321 P **P 08 36 54.9 +2.9**
comp=Z,71nm,0.8s,baz=129,slow=7.5,SNR=235
NVAR PcP **PcP 08 39 27.4 +2.1**
comp=Z,21nm,0.8s,baz=136,slow=3.9,SNR=20
NVAR LR LR 08 53 13.2
comp=Z,3µm,18.8s,baz=137,slow=40
NVAR Mina Array Bea 34.69 321 P **P 08 36 54.5 +2.5**
MDPB Devils Postpil 34.70 319 P **P 08 36 54.5 +2.4**
MDPB IAmb IAmb 08 36 58.1
comp=Z,16nm,0.9s
B35A Bob, Littlefor 34.81 357 IAmb IAmb 08 37 08.0
comp=Z,32nm,1.4s
FLWY Flagg Ranch 34.84 335 P **P 08 36 54.0 +0.9**
AGMN Agassiz Nation 34.91 354 P **P 08 36 52.1 -1.3**
AGMN IAmb IAmb 08 36 54.8
comp=Z,21nm,0.8s
RYN Ryan 34.95 321 P **P 08 36 54.5 +0.4**
RYN IAmb IAmb 08 36 59.0
comp=Z,20nm,0.8s
KVN Kaiserville 34.96 322 P **P 08 36 55.6 +1.4**
KVN IAmb IAmb 08 36 58.8
comp=Z,29nm,0.8s
F57A Harrington 35.00 20 P 08 36 53.9
baz=208
H17A Grant Village 35.05 335 P **P 08 36 55.9 +0.9**
H17A Grant Village 35.05 335 P 08 36 58.0
baz=145
I63A Otisfield 35.07 26 P **P 08 36 56.1 +1.3**
I63A IAMs_20 IAMs_20 08 52 12.5
comp=Z,2µm,18.0s
E55A Montcerf-Lytto 35.14 18 P 08 36 54.6
baz=206,SNR=6.2
RLMT Red Lodge 35.14 337 P 08 36 56.8
baz=148,SNR=11
G60A Masonville 35.22 23 P 08 36 56.1
baz=212
H62A Milan 35.25 25 IAMs_20 IAMs_20 08 52 27.4
comp=Z,2µm,18.0s
TRQ Mont Tremblant 35.41 20 P **P 08 36 56.8 -1.0**
SAML Samuel 35.46 128 P **P 08 36 58.0 -0.6**
SAML IAmb IAmb 08 36 59.4
comp=Z,18nm,0.8s
E56A St. Veronique 35.54 19 P 08 36 59.8
baz=207,SNR=5.8
YERR Yerington 35.61 321 P **P 08 37 02.1 +2.3**
YERR IAmb IAmb 08 37 04.7
comp=Z,26nm,0.8s
QLMT Earthquake Lak 35.76 335 P **P 08 37 02.3 +1.3**
SAO San Andreas Ge 35.77 316 IAMs_20 IAMs_20 08 53 03.3
comp=Z,2µm,19.0s
D55A Sainte-Anne-du 35.82 18 P 08 37 00.5
baz=206,SNR=24
GCMT Greycliff 35.86 337 P **P 08 37 01.8 0.0**
WVL Waterville 35.87 26 IAMs_20 IAMs_20 08 52 45.8
comp=Z,2µm,19.0s
PNTR Pine Nut 35.90 320 P **P 08 37 04.1 +1.8**
E58A La Victoria 35.97 21 P 08 37 02.2
baz=210
G62A West of Eustis 36.03 25 P 08 37 02.4
baz=215
G62A West of Eustis 36.04 25 P **P 08 37 02.4 -0.8**
G62A IAMs_20 IAMs_20 08 53 09.1
comp=Z,2µm,18.0s
VCNR Virginia City 36.05 321 P **P 08 37 04.7 +1.0**
VCNR IAmb IAmb 08 37 19.2
comp=Z,19nm,1.1s
D56A ZEC Mazanza, M 36.07 19 P 08 37 03.9
baz=207
HLID Hailey 36.09 331 P 08 37 05.5
baz=139,SNR=34
F60A Warwick 36.10 23 P 08 37 03.6
baz=212,SNR=8.9
PAHR Pah Rah Range 36.14 321 P **P 08 37 05.9 +1.6**
PAHR IAmb IAmb 08 37 09.0
comp=Z,26nm,0.8s
BCYI Bear Canyon 36.20 332 P **P 08 37 06.1 +1.3**
G63A Kingsbury 36.33 26 P 08 37 07.1
baz=216
BOZ Bozeman (W) 36.46 335 P 08 37 08.1
baz=145,SNR=8.9
DGMT Dagmar 36.54 345 P 08 37 07.8
baz=158,SNR=7.8
DGMT Dagmar 36.54 345 IAmb IAmb 08 37 09.8
comp=Z,19nm,0.8s
PKME Peaks-Kenny Pk 36.59 26 IAMs_20 IAMs_20 08 53 07.8
comp=Z,2µm,19.0s
E60A Ste Agathe de 36.63 23 P 08 37 07.7
baz=213
DLMT Dillon 36.67 334 P **P 08 37 08.3 -0.4**
AFDM Forest Hills D 36.67 319 P **P 08 37 09.8 +1.1**
MFID Camas Ranch 36.68 329 P **P 08 37 09.3 +0.6**
D58A Chemin du LacG 36.73 21 P 08 37 08.1
baz=210,SNR=9.3
BEKR Beckworth 36.84 321 P **P 08 37 10.5 +0.3**
BEKR IAmb IAmb 08 37 15.5
comp=Z,37nm,0.9s
ULM Lac du Bonnet 36.85 355 P **P 08 37 08.3 -1.6**
comp=Z,24nm,0.7s,baz=173,slow=9.5,SNR=72
ULM PcP **PcP 08 39 31.2 +0.2**
comp=Z,7.9nm,0.8s,baz=271,slow=2.9,SNR=3.9
ULM Lac du Bonnet 36.85 355 IAmb IAmb 08 37 09.8
comp=Z,27nm,0.8s
LRM Limekiln Ridge 36.98 335 P **P 08 37 11.0 -0.5**
LATQ La Tuque 37.02 21 P 08 37 10.6
baz=210,SNR=11
F63A Nahmakanta, Br 37.02 26 IAMs_20 IAMs_20 08 53 22.2
comp=Z,2µm,18.0s
F63A Nahmakanta, Br 37.02 26 P 08 37 11.1
baz=217
D59A Saint-Raymond 37.02 22 P 08 37 11.5
baz=212
LPAZ La Paz 37.22 142 P **P 08 37 12.9 -1.3**
comp=Z,4.0nm,0.7s,baz=330,slow=8.0,SNR=22
LPAZ LR LR 08 52 28.5
comp=Z,2µm,21.7s,baz=324,slow=36
LPAZ La Paz 37.22 142 P **P 08 37 14.2 0.0**
LPAZ La Paz 37.22 142 *eP* **P 08 37 15.1 +0.9**
LSQQ Lebel-sur-Quev 37.26 15 P 08 37 12.5
baz=203
D60A Saint Jean D'O 37.28 23 P 08 37 13.4
baz=213,SNR=7.4
ORV Oroville 37.36 320 P **P 08 37 16.3 +1.8**
HRY Holter Researc 37.45 336 P **P 08 37 15.9 +0.6**
WVOR Wild Horse Val 37.47 326 IAMs_20 IAMs_20 08 54 47.4
comp=Z,1µm,19.0s
MCCM Marconi Confer 37.47 317 IAMs_20 IAMs_20 08 52 59.4
comp=Z,1µm,19.0s
MATQ Matagami 37.75 14 P 08 37 16.4
baz=201,SNR=42
EGMT Eagleton 37.79 339 P 08 37 18.7
baz=149
D61A St Aubert, Com 37.80 23 P 08 37 18.1
baz=214,SNR=6.0
O03E Paynes Creek 37.98 320 P 08 37 22.6
baz=126,SNR=11
HOPS Hopland Field 38.05 318 IAMs_20 IAMs_20 08 53 12.8
comp=Z,2µm,18.0s
MOD Modoc Plateau 38.06 324 IAmb IAmb 08 37 25.0
comp=Z,21nm,0.9s
D62A Allapoint, All 38.15 24 P **P 08 37 20.2 -0.8**
D62A Allapoint, All 38.15 24 P 08 37 19.6
baz=216
MSO Missoula 38.41 334 P 08 37 25.3
baz=142,SNR=5.9
BMO Blue Mountains 38.45 329 P **P 08 37 23.7 -0.1**
BMO IAMs_20 IAMs_20 08 55 00.5
comp=Z,2µm,20.0s
D63A Stockholm 38.50 25 P 08 37 23.9
baz=217
O02D Mt. Diablo Mer 38.53 320 P 08 37 26.4
baz=124,SNR=12
WDC Whiskeytown Da 38.60 320 P **P 08 37 24.2 -0.7**
MNMC Minye Minye 38.66 147 P **P 08 37 25.7 -0.3**
MNMC IAmb IAmb 08 37 45.1
comp=Z,31nm,1.0s
MNMC IAMs_20 IAMs_20 08 51 55.7
comp=Z,2µm,22.0s
PSGCX Pisagua 38.77 148 IAMs_20 IAMs_20 08 51 04.4
comp=Z,2µm,21.0s
M04C Macdoel 38.89 322 P 08 37 30.1
baz=127,SNR=7.9
K05A Summer Lake 38.92 324 P **P 08 37 28.7 +0.9**
I07A Izee 39.04 327 IAmb IAmb 08 37 32.2
comp=Z,42nm,0.9s
ITTB Itaituba 39.20 115 *eP* **P 08 37 29.4 -0.9**
M02C Callahan 39.27 321 P 08 37 31.4
baz=126,SNR=5.7
JTMT Jette 39.28 335 P **P 08 37 31.4 +0.8**
K04D Chiloquin, OR 39.35 323 P 08 37 33.5
baz=128,SNR=5.6
YBH Yreka Blue Hor 39.38 322 P **P 08 37 32.2 +0.7**
YBH IAMs_20 IAMs_20 08 56 00.9
comp=Z,2µm,19.0s
L04D Klamath Falls 39.43 322 P 08 37 33.5
baz=127,SNR=9.2
MALB Monte Alegre 39.44 110 *eP* **P 08 37 31.9 -0.4**
J05D Fort Rock, OR 39.47 325 P 08 37 34.0
baz=130,SNR=18
PB08 IPOC Station P 39.73 147 IAMs_20 IAMs_20 08 51 47.8
comp=Z,2µm,22.0s
J04D Umpqua Nationa 39.94 324 P 08 37 39.0
baz=128
L02E Cave Junction 40.17 322 P 08 37 39.7
baz=126
WALA Waterton Lakes 40.18 337 P **P 08 37 38.7 +0.5**
I05D Terrebonne, OR 40.20 326 P 08 37 40.1
baz=130,SNR=16
VILB Vilhena 40.25 130 *eP* **P 08 37 39.1 +0.2**
I04A Tendick Farm, 40.45 324 P 08 37 41.4
baz=128,SNR=25
E08A Dider Farm, El 40.48 330 P **P 08 37 41.0 +0.5**
F07A Phinny Hill Vi 40.50 329 P **P 08 37 42.1 +1.5**
K02D Willamette Mer 40.52 322 P 08 37 42.6
baz=126
KBO Bosley Butte 40.58 321 P **P 08 37 43.8 +2.3**
HAWA Hanford 40.65 329 P **P 08 37 42.1 +0.2**
G05D Wamic, OR 40.78 327 P 08 37 45.6
baz=131,SNR=37
NPGB Novo Progresso 40.81 118 *eP* **P 08 37 42.5 -1.2**
D08A Wollman Farm, 40.82 331 P **P 08 37 44.1 +0.8**
NEW Newport 40.88 333 P 08 37 44.5
baz=139,SNR=5.6
NEW Newport 40.88 333 P **P 08 37 43.9 +0.1**
H04A Detroit Lake 40.89 326 P **P 08 37 45.0 +1.1**
MCPB Macapa, AP 40.91 107 *eP* **P 08 37 43.9 -0.6**
E07A Sunnyside 40.92 329 P **P 08 37 44.8 +0.6**
E07A IAmb IAmb 08 37 47.3
comp=Z,24nm,0.8s
I03D Drain, OR 40.93 324 P 08 37 46.3
baz=127,SNR=16
J01E Myrtle Point 40.95 323 P 08 37 47.3
baz=126,SNR=11
KEBM Edson Butte 41.02 322 P **P 08 37 46.4 +1.3**
PB09 IPOC Station P 41.05 148 P **P 08 37 46.5 +0.8**
H04D Lebanon 41.09 325 P 08 37 46.9
baz=129,SNR=21
F05D White Salmon 41.28 327 P 08 37 49.5
baz=132,SNR=28
COR Corvallis 41.45 325 P **P 08 37 50.5 +2.0**
COR Corvallis 41.45 325 IAMs_20 IAMs_20 08 57 08.7
comp=Z,2µm,20.0s
I02D Swisshome 41.47 324 P 08 37 52.2
baz=127,SNR=10
G03D McMinnville, O 41.81 325 P 08 37 53.5
baz=129,SNR=16
LVC Limon Verde 41.90 149 P **P 08 37 53.1 +0.3**
LVC Limon Verde 41.90 149 *eP* **P 08 37 53.9 +1.1**
B08A Colville Reser 41.95 332 P **P 08 37 52.8 +0.2**
FFC Flin Flon 42.01 350 P **P 08 37 52.4 -0.5**
F04D Rainier, OR 42.23 327 P 08 37 57.3
baz=130,SNR=16
E04D Cinebar 42.30 327 P 08 37 56.7
baz=131,SNR=10
C06D Leavenworth 42.38 330 P 08 37 57.5
baz=134
D05A Enumclaw 42.42 329 P **P 08 37 57.2 +0.8**
D05A IAmb IAmb 08 37 59.5
comp=Z,32nm,0.9s
CLDB Colider 42.46 123 *eP* **P 08 37 56.3 -0.9**
PTLB Pontes e Lacer 42.64 131 *eP* **P 08 37 58.5 0.0**
D04E Lakebay 42.81 328 P 08 38 00.8
baz=131
E03A Lebam 42.82 327 P **P 08 38 01.1 +1.5**
B05A Bryant 43.20 330 P 08 38 02.9
baz=133,SNR=14
D03D Eldon 43.21 328 P 08 38 03.6
baz=131,SNR=12
NLWA Neilton Lookou 43.52 328 P **P 08 38 07.1 +1.7**
NLWA IAmb IAmb 08 38 09.4
comp=Z,34nm,0.9s
NLWA IAMs_20 IAMs_20 08 58 29.6
comp=Z,2µm,20.0s
A05A Maple Falls 43.69 330 P **P 08 38 05.3 -1.3**
A05A IAmb IAmb 08 38 22.7
comp=Z,22nm,0.9s
GO02 Mina Guanaco 43.72 151 P **P 08 38 08.2 +0.7**
GO02 IAmb IAmb 08 38 10.5
comp=Z,16nm,0.8s
A04D Lummi Island 43.81 330 P 08 38 08.7
baz=132,SNR=16
PGC Sidney 44.13 329 IAmb IAmb 08 38 13.6
comp=Z,34nm,0.9s
FCC Fort Churchill 45.22 358 IAmb IAmb 08 38 19.1
comp=Z,19nm,0.8s
PRPB Paraiapebas 45.28 113 *eP* **P 08 38 19.0 -0.8**
TMAB Tom-Au,PA,Br 45.33 107 *eP* **P 08 38 19.9 -0.3**
AC02 Maricunga 45.37 152 P **P 08 38 22.3 +1.5**
AC02 IAmb IAmb 08 38 34.4
comp=Z,26nm,1.1s
LCO Las Campanas 46.59 155 P **P 08 38 31.3 +1.2**
LCO IAmb IAmb 08 38 32.7
comp=Z,27nm,0.9s
AC05 El Transito 46.61 155 P **P 08 38 30.1 0.0**
AC05 IAmb IAmb 08 38 32.9
comp=Z,19nm,0.8s
SNDB Serra Nova Dou 46.77 121 *eP* **P 08 38 31.1 -0.3**
PP1B Ponta de Pedra 47.15 130 *eP* **P 08 38 35.1 +0.7**
GO04 Tololo Observa 47.58 156 P **P 08 38 38.2 +0.4**
GO04 IAmb IAmb 08 39 06.3
comp=Z,31nm,1.2s
H03N2 Juan Fernandez 48.08 166 T T 09 30 15.5
baz=347,slow=76,SNR=23
H03N1 Juan Fernandez 48.09 166 T T 09 30 19.5
baz=347,slow=76,SNR=19
H03N3 Juan Fernandez 48.10 166 T T 09 30 14.9
baz=347,slow=76,SNR=23
CO03 El Pedregal 48.21 156 P **P 08 38 42.9 +0.4**
CO03 IAmb IAmb 08 38 45.0
comp=Z,20nm,0.9s
ARAG Araguaiana, MT 48.38 126 *eP* **P 08 38 43.4 -0.6**
AQDB Aquidauana 48.39 134 *eP* **P 08 38 44.0 0.0**
SMTB Santa Maria do 48.44 115 *eP* **P 08 38 44.8 +0.2**
ROSB Rosrio 49.22 106 *eP* **P 08 38 50.0 -0.5**
PEXB Peixe 49.35 119 *eP* **P 08 38 50.9 -0.6**
PEL Peldehue 50.27 158 IAmb IAmb 08 39 00.4
comp=Z,13nm,0.9s
MT05 Renca 50.47 158 P **P 08 38 59.8 0.0**
MT05 IAmb IAmb 08 39 21.9
comp=Z,28nm,1.1s
CPUP Villa Florida 51.36 141 P **P 08 39 05.5 -0.9**
comp=Z,8.5nm,0.8s,baz=324,slow=8.4,SNR=20
CPUP PcP **PcP 08 40 20.1 -0.7**
comp=Z,3.3nm,0.7s,baz=281,slow=3.7,SNR=5.0
CPUP LR LR 09 02 30.8
comp=Z,1µm,18.2s,baz=324,slow=38
CPUP Villa Florida 51.36 141 P **P 08 39 06.0 -0.4**
BDFB Brasilia 51.40 123 P **P 08 39 05.3 -1.8**
comp=Z,8.1nm,0.8s,baz=286,slow=9.1,SNR=15
BDFB LR LR 09 02 23.3
comp=Z,611nm,19.0s,baz=298,slow=38
DIB Dawson Inlet, 51.43 329 IAmb IAmb 08 39 10.5
comp=Z,26nm,0.9s
YKA Yellowknife Ar 51.73 346 P **P 08 39 08.1 -0.6**
comp=Z,9.5nm,0.8s,baz=145,slow=8.0,SNR=148
YKA PcP **PcP 08 40 21.9 +0.4**
comp=Z,3.9nm,0.7s,baz=143,slow=4.0,SNR=16
YKA PKiKP **PKiKP 08 47 02.9 +0.1**
comp=Z,0.3nm,0.8s,baz=132,slow=1.2,SNR=5.6
ITRB Iturama 51.82 129 *eP* **P 08 39 10.0 -0.1**
SDBA SAO DESIDERIO 52.41 117 *eP* **P 08 39 13.4 -1.1**
IPMB Ipameri, GO 52.50 126 *eP* **P 08 39 14.5 -0.7**
BI03 Tigo 52.86 162 P **P 08 39 19.0 +1.6**
BI03 IAmb IAmb 08 39 29.3
comp=Z,31nm,1.2s
CRAG Craig 53.03 331 P 08 39 21.1
baz=125
NBMO Morrinhos-CE 53.19 105 *eP* **P 08 39 19.5 -0.8**
WRAK Wrangell Islan 53.24 333 IAMs_20 IAMs_20 09 03 12.6
comp=Z,1µm,22.0s
WRAK Wrangell Islan 53.24 333 P 08 39 22.2
baz=127
BI02 San Fabin de 53.25 160 P **P 08 39 21.3 +0.9**
BI02 IAmb IAmb 08 39 43.2
comp=Z,26nm,1.3s
TAOE Nuku Hiva Isla 53.67 248 *eS* **S 08 46 55.3 +0.2**
comp=Z,812nm,25.5s
TAOE *eLR* LR 08 54 54.7
comp=Z,1µm,24.1s
TAOE Nuku Hiva Isla 53.67 248 *eT* T 09 36 43.7
comp=Z,85nm,0.2s
BB19B Bebedouro 54.01 129 *eP* **P 08 39 26.4 +0.2**
JANB Januaria 54.17 120 *eP* **P 08 39 27.1 -0.4**
ITQB Itaqui 54.21 143 *eP* **P 08 39 27.6 +0.2**
FRTB Fartura 54.60 132 *eP* **P 08 39 29.8 -0.6**
JIS Juneau Island 55.23 334 IAMs_20 IAMs_20 09 04 28.2
comp=Z,1µm,21.0s
ITAB Concordia 55.31 137 *eP* **P 08 39 35.1 -0.3**
RKT Rikitea 56.42 230 *eS* **S 08 47 31.9 +0.4**
comp=Z,1µm,27.2s
RKT *eLR* LR 08 56 23.3
comp=Z,1µm,25.2s
CPSB Cacapava Do Su 56.65 141 *eP* **P 08 39 44.4 -0.7**
NBPA Parau_RN 56.76 106 *eP* **P 08 39 45.5 -0.7**
PLCA Paso Flores 57.19 162 P **P 08 39 47.6 -1.1**
comp=Z,4.2nm,0.8s,baz=339,slow=9.2,SNR=9.2
PLCA LR LR 08 58 54.8
comp=Z,1µm,20.9s,baz=1.5,slow=30
PLCA Paso Flores 57.19 162 P **P 08 39 47.9 -0.8**
PLCA IAmb IAmb 08 40 11.5
comp=Z,18nm,1.3s
PLCA Paso Flores 57.19 162 *eP* **P 08 39 49.0 +0.2**
NBLI Livramento-PB 57.48 108 *eP* **P 08 39 50.8 -0.4**
PLTB Pedras Altas 57.52 142 *eP* **P 08 39 50.7 -0.4**
GDU01 Guandu, BA 57.62 116 *eP* **P 08 39 51.8 -0.3**
RCBR Riachuelo 57.92 106 P **P 08 39 54.1 -0.2**
RCBR Riachuelo 57.92 106 IAMs_20 IAMs_20 09 06 37.3
comp=Z,958nm,20.0s
RCBR Riachuelo 57.92 106 *eP* **P 08 39 53.1 -1.3**
HYT Haines Junctio 57.98 335 P **P 08 39 54.2 0.0**
BCPM Bancas Point 58.41 334 IAMs_20 IAMs_20 09 07 43.5
comp=Z,831nm,21.0s
SJMB Sao Joao De Ma 58.56 122 *eP* **P 08 39 58.1 -0.6**
NBPV Pedro Velho 58.69 106 *eP* **P 08 39 59.8 +0.1**
PINM Pinnacle 58.75 334 P 08 40 01.9
baz=120,SNR=5.9
PCA Pinnacle 58.75 334 P **P 08 39 59.8 +0.3**
PCA IAmb IAmb 08 40 02.6
comp=Z,12nm,0.9s
BSFB Barra de Sao F 58.90 122 *eP* **P 08 40 01.5 +0.5**
TABL Table Mountain 59.31 334 P **P 08 40 03.7 +0.2**
TABL IAmb IAmb 08 40 07.1
comp=Z,9.9nm,0.8s
TABL IAMs_20 IAMs_20 09 07 37.2
comp=Z,1µm,21.0s
RIB01 Linhares ES 59.51 122 *eP* **P 08 40 05.5 +0.3**
YAH Yahtse 59.53 333 P **P 08 40 05.8 +0.8**
YAH IAmb IAmb 08 40 08.6
comp=Z,15nm,0.9s
NBRF Rio Formoso - 59.63 109 *eP* **P 08 40 06.2 0.0**
CTGM Chitina Glacie 59.65 334 P **P 08 40 05.7 -0.1**
CTGM IAMs_20 IAMs_20 09 07 15.3
comp=Z,990nm,20.0s
CTG Chitna Glacier 59.65 334 P 08 40 08.1
baz=120
BARN Barnard Glacie 59.84 334 P **P 08 40 07.3 +0.3**
BARN IAMs_20 IAMs_20 09 07 08.1
comp=Z,954nm,21.0s
BALM Baldy 60.12 334 P **P 08 40 09.5 +0.6**
BALM IAmb IAmb 08 40 12.4
comp=Z,8.4nm,0.8s
BALM IAMs_20 IAMs_20 09 08 01.5
comp=Z,1µm,22.0s
TGL Tana Glacier 60.19 334 P **P 08 40 09.5 +0.1**
TGL IAmb IAmb 08 40 12.9
comp=Z,20nm,0.9s
TGL IAMs_20 IAMs_20 09 07 37.4
comp=Z,992nm,21.0s
CRQE Cirque 60.30 333 P 08 40 12.4
baz=118
CRQM Cirque 60.33 333 P **P 08 40 11.1 +0.7**
CRQM IAmb IAmb 08 40 13.7
comp=Z,16nm,0.9s
CRQM IAMs_20 IAMs_20 09 07 40.4
comp=Z,949nm,22.0s
KAIM Kayak Island 60.52 332 P **P 08 40 10.8 -0.7**
KAIM Kayak Island 60.52 332 P 08 40 13.9
baz=116
MCARA McCarthy VSAT 60.57 334 P **P 08 40 12.5 +0.7**
MCARA IAMs_20 IAMs_20 09 08 27.5
comp=Z,1µm,21.0s
MCARA McCarthy VSAT 60.57 334 P 08 40 14.4
baz=118,SNR=14
VRDI Verde Repeater 60.68 334 P **P 08 40 13.0 +0.1**
VRDI IAmb IAmb 08 40 15.7
comp=Z,11nm,0.9s
VRDI IAMs_20 IAMs_20 09 09 18.4
comp=Z,726nm,20.0s
RAGM Ragged Mountai 60.83 333 P **P 08 40 14.3 +0.6**
BCAR Beaver Creek A 60.89 336 P **P 08 40 14.1 +0.1**
GLB Gilahina Butte 60.93 334 P **P 08 40 14.8 +0.5**
GLB IAmb IAmb 08 40 17.8
comp=Z,13nm,0.8s
GLB IAMs_20 IAMs_20 09 09 15.1
comp=Z,992nm,22.0s
BMRM Bremner River 61.06 333 P 08 40 17.4
baz=116,SNR=8.6
INK Inuvik 61.19 343 IAmb IAmb 08 40 17.0
comp=Z,13nm,0.8s
N25K Chitina, Valde 61.34 334 IAMs_20 IAMs_20 09 09 27.9
comp=Z,909nm,22.0s
N25K Chitina, Valde 61.34 334 P 08 40 18.4
baz=117,SNR=24
EYAK Cordova Ski Ar 61.38 333 P **P 08 40 18.7 +1.4**
EYAK Cordova Ski Ar 61.38 333 P 08 40 19.5
baz=115,SNR=18
EGAK Eagle 61.54 338 IAMs_20 IAMs_20 09 11 25.1
comp=Z,759nm,19.0s
EGAK Eagle 61.54 338 P 08 40 17.9
baz=122
HIN Hinchinbrook I 61.66 332 IAMs_20 IAMs_20 09 06 42.3
comp=Z,885nm,21.0s
FID Port Fidalgo 61.79 333 P **P 08 40 21.2 +1.1**
FID IAmb IAmb 08 40 24.2
comp=Z,18nm,0.9s
KLU Klutina 61.86 334 P **P 08 40 21.6 +0.8**
KLU Klutina 61.86 334 P 08 40 21.9
baz=115
GLI Glacier Island 62.12 333 P **P 08 40 23.4 +1.1**
GLI IAmb IAmb 08 40 25.9
comp=Z,12nm,0.9s
GLI IAMs_20 IAMs_20 09 07 13.6
comp=Z,762nm,22.0s
GLI Glacier Island 62.12 333 P 08 40 23.6
baz=114
M24K Tolsona, Glenn 62.24 334 P 08 40 25.0
baz=115
PAX Paxson 62.32 335 P **P 08 40 23.7 -0.1**
PAX Paxson 62.32 335 P 08 40 24.1
baz=116
SCM Sheep Creek Mo 62.62 334 IAmb IAmb 08 40 28.6
comp=Z,21nm,1.0s
SCM IAMs_20 IAMs_20 09 07 59.6
comp=Z,739nm,21.0s
SEW Seward 62.90 331 P 08 40 28.5
baz=111,SNR=5.0
VAH Vaihoa 62.94 245 *eT* T 09 48 19.0
comp=Z,7.0nm,0.4s
SML Sawmill 63.04 333 P **P 08 40 29.1 +0.6**
SML IAmb IAmb 08 40 48.5
comp=Z,16nm,0.9s
SML IAMs_20 IAMs_20 09 07 57.8

	comp=Z,924nm,22.0s						
SML	**Sawmill**	**63.04**	**333**	P		08 40 29.8	
	baz=113						
O22K	**Cooper Landing**	**63.16**	**332**	P	**P**	**08 40 30.2**	**+1.0**
O22K				IAMs_20	IAMs_20	09 08 42.1	
	comp=Z,714nm,21.0s						
BRSE	**Bradley Lake S**	**63.38**	**331**	P		08 40 32.0	
	baz=110						
RC01	**Rabbit Creek A**	**63.39**	**332**	P		08 40 32.1	
	baz=112,SNR=17						
BRLK	**Bradley Lake**	**63.46**	**331**	P	**P**	**08 40 31.5**	**+0.2**
BRLK				IAMs_20	IAMs_20	09 08 31.0	
	comp=Z,880nm,19.0s						
PRP	**Porcupine Dome**	**63.51**	**338**	IAMs_20	IAMs_20	09 11 55.2	
	comp=Z,738nm,18.0s						
CNPM	**China Poot**	**63.55**	**330**	P	**P**	**08 40 32.6**	**+0.8**
CNPM				IAMs_20	IAMs_20	09 08 22.2	
	comp=Z,831nm,21.0s						
HDA	**Harding Lake**	**63.55**	**336**	P	**P**	**08 40 32.8**	**+1.0**
KDAK	**Kodiak Island**	**63.66**	**328**	P	**P**	**08 40 33.0**	**+0.4**
KDAK	**Kodiak Island**	**63.66**	**328**	P		08 40 33.8	
	baz=107						
IL31		**63.69**	**337**	IAmb	IAmb	08 40 37.8	
	comp=Z,8.6nm,0.9s						
ILAR	**Eielson Array**	**63.69**	**337**	P	**P**	**08 40 32.2**	**-0.5**
	comp=Z,5.1nm,0.8s,baz=126,slow=4.9,SNR=32						
ILAR				LR	LR	09 10 50.7	
	comp=Z,1μm,20.7s,baz=134,slow=38						
ILAR	**Eielson Array**	**63.69**	**337**	P	**P**	**08 40 32.0**	**-0.6**
OHAK	**Old Harbor**	**63.87**	**328**	P		08 40 35.3	
	baz=106						
RND	**Reindeer**	**63.90**	**335**	P	**P**	**08 40 34.4**	**+0.2**
RND				IAMs_20	IAMs_20	09 09 14.5	
	comp=Z,810nm,22.0s						
SUA	**Susitna One**	**63.98**	**332**	P		08 40 35.5	
	baz=111,SNR=9.1						
MCK	**McKinley**	**64.06**	**335**	P		08 40 36.3	
	baz=113						
TULEG	**Thule**	**64.09**	**6**	P	**P**	**08 40 33.9**	**-1.2**
TULEG				IAmb	IAmb	08 40 38.4	
	comp=Z,13nm,1.0s						
TULEG	**Thule**	**64.09**	**6**	*i* P	**P**	**08 40 34.2**	**-0.9**
TULEG				IAmb	IAmb	08 40 35.4	
	comp=Z,6.1nm,0.6s						
BMAR	**Burnt Mountain**	**64.09**	**340**	P	**P**	**08 40 35.0**	**-0.3**
CUT	**Chulitna**	**64.11**	**334**	P		08 40 36.1	
	baz=112,SNR=6.4						
SII	**Sitkinak Islan**	**64.16**	**327**	P		08 40 37.6	
	baz=105						
MEH	**Mehetia**	**64.41**	**242**	*e*T	T	09 50 09.9	
	comp=Z,16nm,0.2s						
BWN	**Browne**	**64.45**	**336**	IAMs_20	IAMs_20	09 12 25.3	
	comp=Z,868nm,20.0s						
TRF	**Thorofare Moun**	**64.51**	**335**	IAMs_20	IAMs_20	09 09 04.7	
	comp=Z,963nm,21.0s						
TRF	**Thorofare Moun**	**64.51**	**335**	P		08 40 38.9	
	baz=112,SNR=19						
SKT	**Skwentna**	**64.51**	**333**	IAmb	IAmb	08 40 40.7	
	comp=Z,20nm,1.0s						
SKT	**Skwentna**	**64.51**	**333**	P		08 40 39.0	
	baz=110,SNR=8.8						
I23K	**Minto, Yukon-K**	**64.80**	**337**	IAMs_20	IAMs_20	09 10 38.3	
	comp=Z,833nm,19.0s						
I23K	**Minto, Yukon-K**	**64.80**	**337**	P		08 40 40.3	
	baz=114,SNR=5.7						
KTH	**Kantishna Hill**	**64.81**	**335**	IAmb	IAmb	08 40 43.6	
	comp=Z,16nm,0.8s						
BPAW	**Bear Paw Mtn.**	**65.04**	**335**	IAmb	IAmb	08 40 45.5	
	comp=Z,13nm,1.0s						
BPAW				IAMs_20	IAMs_20	09 10 21.7	
	comp=Z,985nm,22.0s						
BPAW	**Bear Paw Mtn.**	**65.04**	**335**	P		08 40 41.5	
	baz=112						
PPLA	**Purkeypile**	**65.12**	**334**	IAmb	IAmb	08 40 44.4	
	comp=Z,11nm,1.0s						
PPLA	**Purkeypile**	**65.12**	**334**	P		08 40 42.6	
	baz=110						
MLY	**Manley**	**65.29**	**336**	P		08 40 43.4	
	baz=112,SNR=10.0						
CHUM	**Lake Minchumin**	**65.51**	**335**	P		08 40 44.2	
	baz=110						
PPT	**Papeete**	**65.59**	**243**	LR	LR	09 02 21.1	
	comp=Z,1μm,20.0s,baz=51,slow=29						
PPT2	**Papeete2**	**65.60**	**243**	*e*S	**S**	**08 49 28.9**	**+0.1**
	comp=Z,1μm,31.2s						
PPT2				*e*LQ	LQ	08 57 43.4	
	comp=Z,586nm,29.5s						
PPT2				*e*LR	LR	09 00 32.4	
	comp=Z,2μm,24.0s,baz=53						
COLD	**Coldfoot**	**65.95**	**339**	P	**P**	**08 40 47.8**	**+0.4**
COLD	**Coldfoot**	**65.95**	**339**	P		08 40 48.3	
	baz=114,SNR=6.1						
SVW2	**Sparrevohn**	**66.08**	**331**	IAmb	IAmb	08 40 50.3	
	comp=Z,15nm,1.0s						
TOLK	**Toolik Lake Re**	**66.32**	**340**	P		08 40 50.1	
	baz=115,SNR=6.0						
CHGN	**Chignik**	**66.39**	**326**	P		08 40 50.8	
	baz=101,SNR=12						
SUMG	**Summit**	**66.42**	**15**	*i* P	**P**	**08 40 49.7**	**-1.1**
	comp=Z,21nm,1.0s						
SUMG	**Summit**	**66.42**	**15**	P	**P**	**08 40 49.6**	**-1.2**
SUMG				IAmb	IAmb	08 40 52.9	
	comp=Z,19nm,1.1s						
SUMG	**Summit**	**66.42**	**15**	*i* P	**P**	**08 40 49.7**	**-1.1**
SUMG				IAmb	IAmb	08 40 52.8	
	comp=Z,21nm,1.0s						
EUNU	**Eureka**	**66.59**	**1**	P	**P**	**08 40 50.5**	**-0.8**
TTA	**Tatalina**	**66.79**	**333**	P		08 40 52.4	
	baz=106,SNR=11						
IMAR	**Indian Mountai**	**66.81**	**337**	P	**P**	**08 40 53.0**	**+0.2**
SDPT	**Sand Point**	**67.36**	**325**	P	**P**	**08 40 57.6**	**+1.0**
SDPT	**Sand Point**	**67.36**	**325**	P		08 40 57.0	
	baz=99,SNR=7.0						
TBI	**Tubuai**	**67.96**	**238**	*e*S	**S**	**08 49 55.4**	**-1.5**
	comp=Z,573nm,42.5s						
TBI	**Tubuai**	**67.96**	**238**	*e*LR	LR	09 01 40.2	
	comp=Z,1μm,26.0s,baz=62						
TBI	**Tubuai**	**67.96**	**238**	*e*T	T	09 54 36.9	
	comp=Z,13nm,0.3s						
FALS	**False Pass**	**68.97**	**324**	P		08 41 07.4	
	baz=96						
RDOG	**Red Dog Mine**	**70.83**	**338**	P	**P**	**08 41 18.3**	**+0.4**
RDOG				IAMs_20	IAMs_20	09 15 00.6	
	comp=Z,777nm,22.0s						
ANM	**Nome**	**71.20**	**334**	IAMs_20	IAMs_20	09 14 43.5	
	comp=Z,677nm,22.0s						
ANM	**Nome**	**71.20**	**334**	P		08 41 20.9	
	baz=98						
RAR	**Rarotonga**	**75.87**	**244**	LR	LR	09 07 23.5	
	comp=Z,498nm,19.9s,baz=75,slow=29						
ESDC	**Sonseca Array**	**79.20**	**52**	P	**P**	**08 42 04.2**	**-2.6**
	comp=Z,2.5nm,0.8s,baz=287,slow=6.0,SNR=17						
KOWA	**Kowa**	**83.78**	**77**	P	**P**	**08 42 30.1**	**-1.2**
NB2	**NORSAR Subarra**	**84.07**	**29**	P	**P**	**08 42 34.4**	**+2.4**
	comp=Z,11nm,1.1s,baz=288,slow=4.8						
NOA	**NORSAR Array B**	**84.07**	**29**	P	**P**	**08 42 32.6**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=290,slow=4.7,SNR=6.6						
NOA				LR	LR	09 18 28.4	
	comp=Z,259nm,20.6s,baz=290,slow=35						
TIC	**Toumodi**	**84.52**	**85**	*e*PKP1	**P**	**08 42 34.2**	**-1.0**
LIC	**Lamto**	**84.61**	**85**	*e*PKP1	**P**	**08 42 34.8**	**-0.8**
	comp=Z,103nm,0.7s						
DBIC	**Dimbokro**	**84.67**	**84**	P	**P**	**08 42 34.0**	**-1.9**
	comp=Z,26nm,0.7s,baz=265,slow=5.3,SNR=47						
DBIC				LR	LR	09 16 19.5	
	comp=Z,484nm,21.7s,baz=259,slow=33						
DBIC	**Dimbokro**	**84.67**	**84**	P	**P**	**08 42 34.3**	**-1.6**
KIC	**Kosan Boka**	**84.85**	**85**	*e*PKP1	**P**	**08 42 35.3**	**-1.5**
	comp=Z,84nm,0.7s						
SENIN	**Lac Senin/Sane**	**85.92**	**43**	P	**P**	**08 42 41.2**	**-0.6**
ARCES	**ARCESS Array B**	**86.27**	**18**	P	**P**	**08 42 41.7**	**-1.1**
	comp=Z,4.4nm,0.7s,baz=290,slow=3.6,SNR=5.3						
ARCES				LR	LR	09 21 43.8	
	comp=Z,426nm,18.3s,baz=310,slow=36						
ARCES	**ARCESS Array B**	**86.27**	**18**	P	**P**	**08 42 42.7**	**-0.1**
ARCES				IAmb	IAmb	08 42 56.9	
	comp=Z,18nm,1.4s						
TUE	**Stuetta**	**87.26**	**43**	P	**P**	**08 42 47.0**	**-1.4**
TUE				IAmb	IAmb	08 42 49.8	
	comp=Z,5.9nm,0.7s						
DAVA	**Damuels**	**87.37**	**42**	*e*P	**P**	**08 42 48.0**	**-0.8**
	comp=Z,1.2nm,0.2s						
RETA	**Reutte**	**87.88**	**42**	*e*P	**P**	**08 42 49.4**	**-1.8**
	comp=Z,3.2nm,0.5s						
FETA	**Feichten**	**88.00**	**42**	*e*P	**P**	**08 42 50.8**	**-1.1**
	comp=Z,4.8nm,0.9s						
CLL	**Collm**	**88.06**	**38**	*e*P	**P**	**08 42 52.0**	**+0.2**
CLL				Lm	MLR	09 23 00.0	
	comp=Z,600nm,19.8s						
MOTA	**Moosalm**	**88.15**	**42**	*e*P	**P**	**08 42 51.4**	**-1.1**
	comp=Z,4.3nm,0.8s						
KHC	**Kasperske Hory**	**89.14**	**39**	*e*P	**P**	**08 42 56.4**	**-0.6**
ABTA	**Abfaltersbach**	**89.25**	**42**	*e*P	**P**	**08 42 56.8**	**-0.9**
	comp=Z,2.9nm,0.8s						
GERES	**GERESS Array B**	**89.31**	**40**	P	**P**	**08 42 56.5**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=300,slow=2.9,SNR=5.5						
GERES				LR	LR	09 18 33.9	
	comp=Z,547nm,20.6s,baz=287,slow=33						
TOA0	**Torodi Ar. Sit**	**89.48**	**77**	P	**P**	**08 42 57.0**	**-2.3**
TORD	**Torodi Ar. Bea**	**89.48**	**77**	P	**P**	**08 42 56.6**	**-2.6**
	comp=Z,2.4nm,0.7s,baz=291,slow=5.2,SNR=8.4						
TORD				LR	LR	09 21 11.4	
	comp=Z,381nm,19.6s,baz=295,slow=34						
KBA	**Koelnbreinsper**	**89.68**	**41**	*e*P	**P**	**08 42 59.3**	**-0.4**
	comp=Z,2.3nm,0.9s						
DPC	**Dobruska-Polom**	**90.37**	**38**	*e*P	**P**	**08 43 00.9**	**-1.9**
FINES	**FINESS Array B**	**90.49**	**25**	LR	LR	09 23 41.5	
	comp=Z,496nm,19.0s,baz=317,slow=36						
OBKA	**Obir**	**90.65**	**42**	*e*P	**P**	**08 43 04.5**	**+0.3**
	comp=Z,1.2nm,0.6s						
TIXI	**Tiksi**	**90.94**	**348**	P	**P**	**08 43 03.6**	**-1.3**
TIXI				IAmb	IAmb	08 43 07.2	
	comp=Z,5.0nm,0.8s						
TIXI				IAMs_20	IAMs_20	09 30 42.1	
	comp=Z,493nm,20.0s						
PETK	**Petropavlovsk-**	**91.62**	**326**	P	**P**	**08 43 10.3**	**+1.9**
	comp=Z,16nm,0.8s,baz=77,slow=9.3,SNR=12						
PETK				LR	LR	09 21 49.3	
	comp=Z,102nm,21.1s,baz=63,slow=34						
PETK	**Petropavlovsk-**	**91.62**	**326**	P	**P**	**08 43 09.8**	**+1.3**
MA2	**Magadan**	**91.99**	**333**	P	**P**	**08 43 10.1**	**+0.1**
MNK	**Minsk**	**94.86**	**31**	*i* P	**P**	**08 43 19.4**	**-3.9**
	comp=E,2.0nm,1.1s						
MNK				*i* P	**P**	**08 43 19.4**	**-3.9**
	comp=N,8.0nm,1.3s						
MNK				*i* P	**P**	**08 43 19.4**	**-3.9**
	comp=Z,3.0nm,0.7s						
MNK				*i* PP	**PP**	**08 47 08.2**	**-3.8**
MNK				*i* PPP	PPP	08 49 10.1	
MNK				*i* S	**SKSac**	**08 53 52.0**	**-3.2**
MNK				*i* SS	**SS**	**09 00 56.9**	**-1.2**
MNK				*i* SSS	SSS	09 04 39.7	
MNK				*i* LQ	LQ	09 20 13.8	
MNK				*i* LR	LR	09 25 58.5	
MNK				*i* LRM	MLR	09 26 59.4	
	comp=E,25nm,14.9s						
MNK				*i* LRM	MLR	09 27 00.7	
	comp=Z,162nm,13.2s						
MNK				*i* LRM	MLR	09 27 04.0	
	comp=N,141nm,12.6s						
TARA	**Tarawa**	**95.66**	**273**	P	**P**	**08 43 26.9**	**-0.9**
NRIK	**Noril'sk**	**97.35**	**1**	P	**P**	**08 43 33.8**	**-0.5**
	comp=N,1.3nm,0.5s,baz=43,slow=4.7,SNR=4.0						
NRIK				LR	LR	09 30 47.8	
	comp=N,865nm,20.1s,baz=12,slow=38						
NRIK	**Noril'sk**	**97.35**	**1**	P	**P**	**08 43 34.3**	**0.0**
AKASG	**Malin Array Be**	**97.56**	**34**	LR	LR	09 28 12.7	
	comp=N,207nm,19.0s,baz=335,slow=36						
YAK	**Yakutsk**	**98.23**	**342**	IAMs_20	IAMs_20	09 34 17.8	
	comp=Z,407nm,20.0s						
VNA1	**Neumayer--Stat**	**100.23**	**160**	Pdiff	**Pdif**	**08 43 50.3**	**+3.3**
VNA2	**Neumayer--Watz**	**100.57**	**161**	Pdiff	**Pdif**	**08 43 51.6**	**+3.1**
DZM	**Mont Dzumac**	**106.49**	**251**	*e*LR	LR	09 19 31.3	
	comp=Z,563nm,24.9s						
TSUM	**Tsumeb**	**111.59**	**105**	IAMs_20	IAMs_20	09 32 48.5	
	comp=Z,360nm,20.0s						
ZALV	**Zalesovo Beam**	**112.70**	**3**	PKiKP	**PKiKP**	**08 48 38.1**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=275,slow=2.3,SNR=9.1						
KURK	**Kurchatov**	**115.39**	**7**	PKiKP	**PKPdf**	**08 48 43.4**	**+0.4**
SYO	**Syowa Base**	**116.39**	**162**	⇑*e*pPKPdf	pPKPdf	08 48 51.1	-7.0
SONM	**Songino Array**	**116.99**	**347**	PKP	**PKiKP**	**08 48 46.8**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=329,slow=0.6,SNR=16						
KSRS	**Korea Array**	**117.52**	**326**	PKP	**PKiKP**	**08 48 48.7**	**+1.2**
	comp=Z,7.7nm,0.7s,baz=12,slow=1.6,SNR=23						
KSAR	**Wonju Array Be**	**117.55**	**326**		**PKiKP**	**08 48 48.7**	**+1.1**
ZSN	**Zaisan**	**119.19**	**3**	*e*PKP	**PKPdf**	**08 48 49.9**	**-0.6**
	baz=3.6						
BOSA	**Boshof**	**119.22**	**115**	PKP	**PKiKP**	**08 48 51.7**	**+0.5**
	comp=Z,10nm,0.8s,baz=319,slow=1.3,SNR=19						
BOSA	**Boshof**	**119.22**	**115**	PKPdf	**PKiKP**	**08 48 52.2**	**+1.0**
MKAR	**Makanchi Array**	**119.66**	**5**	PKP	**PKPdf**	**08 48 51.0**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=358,slow=2.0,SNR=36						
MKAR	**Makanchi Array**	**119.66**	**5**	PKPdf	**PKPdf**	**08 48 51.4**	**-0.1**
KKAR	**Karatay Array**	**121.14**	**16**	PKPdf	**PKiKP**	**08 48 54.7**	**+0.2**
GEYT	**Alibeck**	**121.16**	**28**	PKP	**PKiKP**	**08 48 55.1**	**+0.4**
	comp=Z,7.3nm,0.8s,baz=241,slow=1.5,SNR=8.4						
GEYT	**Alibeck**	**121.16**	**28**		**PKPdf**	**08 48 54.6**	**0.0**
GYA0B	**ALIBECK ARRAY**	**121.16**	**28**		**PKiKP**	**08 48 55.2**	**+0.5**
LSZ	**Lusaka**	**121.18**	**100**		**PKiKP**	**08 48 55.9**	**+0.5**
KUU	**Kurty**	**121.70**	**11**	*e*PKP	**PKPdf**	**08 48 54.6**	**-0.9**
	baz=11						
CHKK	**Chushkaly**	**121.85**	**10**	*e*PKP	**PKPdf**	**08 48 54.7**	**-1.0**
	baz=11						
HHC	**Hu-ho-hao-te**	**122.03**	**340**	*e*PKP	**PKiKP**	**08 48 57.7**	**+1.3**
HHC				LR	LR		
	comp=Z,280nm,16.7s						
HHC				LR	LR		
	comp=Z,250nm,17.1s						
HHC				LR	LR		
	comp=Z,320nm,17.1s						
KPKS	**Kokpek**	**122.50**	**9**	*e*PKP	**PKPdf**	**08 48 56.3**	**-0.8**
	baz=9.3						
MDOK	**Medeo**	**122.53**	**10**	*e*PKP	**PKPdf**	**08 48 56.6**	**-0.6**
	baz=11						
AAK	**Ala-Archa**	**122.54**	**13**	PKPdf	**PKiKP**	**08 48 58.0**	**+0.5**
SATY	**Saty**	**122.86**	**9**	*e*PKP	**PKPdf**	**08 48 57.5**	**-0.3**
	baz=9.7						
UZB	**Uzynbulak**	**122.86**	**9**	*e*PKP	**PKiKP**	**08 48 58.3**	**+0.3**
	baz=9.1						
SHLS	**Shalkode**	**122.92**	**8**	*e*PKP	**PKPdf**	**08 48 58.0**	**+0.1**
	baz=8.4						
WMQ	**Urumqi**	**122.92**	**1**	*e*PKP	**PKiKP**	**08 48 58.7**	**+0.6**
WMQ				LR	LR		
	comp=Z,710nm,21.1s						
WMQ				LR	LR		
	comp=Z,490nm,21.3s						
RAYN	**Ar Rayn**	**123.69**	**49**	PKPdf	**PKPdf**	**08 48 59.9**	**+0.1**
CTA	**Charters Tower**	**125.08**	**255**	PKP	**PKiKP**	**08 49 03.1**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=348,slow=23,SNR=2.4						
KSH	**Kashi**	**125.84**	**12**	PKP	**PKiKP**	**08 49 05.6**	**+1.5**
HRA	**Herat**	**125.96**	**27**	PKPdf	**PKPdf**	**08 49 04.5**	**+0.4**
GTA	**Gaotai**	**126.40**	**350**	PKP	**PKPdf**	**08 49 05.0**	**+0.3**
GTA				sPKP		08 49 19.4	
GTA				LR	LR		
	comp=Z,220nm,20.0s						
GTA				LR	LR		
	comp=Z,230nm,19.6s						
GTA				LR	LR		
	comp=Z,330nm,19.6s						
KBL	**Kabul**	**128.56**	**21**	PKPdf	**PKPdf**	**08 49 09.2**	**+0.1**
STKA	**Stephens Creek**	**128.72**	**240**	PKP	**PKPdf**	**08 49 09.5**	**+0.4**
	comp=Z,5.6nm,0.7s,baz=50,slow=2.3,SNR=11						
STKA	**Stephens Creek**	**128.72**	**240**	PKPdf	**PKPdf**	**08 49 09.3**	**+0.2**
LZH	**Lanzhou**	**128.72**	**345**	*e*PKP	**PKiKP**	**08 49 11.2**	**+1.2**
LZH				PP	**PP**	**08 51 19.0**	**+4.7**
LZH				AMB	AMB		
	comp=Z,140nm,9.2s						
LZH				LR	LR		
	comp=Z,460nm,17.4s						
LZH				LR	LR		
	comp=Z,420nm,18.4s						
LZH				LR	LR		
	comp=Z,410nm,19.0s						
XAN	**Xi'an**	**129.06**	**339**	PKP	**PKiKP**	**08 49 11.9**	**+1.4**
XAN	**Xi'an**	**129.06**	**339**		**PKPdf**	**08 49 10.2**	**+0.4**
NIL	**Nilore**	**130.73**	**17**	PKPdf	**PKPdf**	**08 49 13.2**	**+0.2**
ENH	**Enshi**	**132.22**	**336**		**PKPdf**	**08 49 15.9**	**0.0**
CD2	**Chengdu**	**133.62**	**342**	PKP	**PKPdf**	**08 49 18.0**	**-0.6**
WB2	**Warramunga Arr**	**136.26**	**255**	PKPdf	**PKPdf**	**08 49 24.4**	**+0.7**
WRA	**Warramunga Arr**	**136.28**	**255**	PKhKP	PKPpre	08 49 16.1	
	comp=Z,0.8nm,0.8s,baz=96,slow=3.5,SNR=5.9						
WRA				PKP	**PKPdf**	**08 49 24.8**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=89,slow=2.1,SNR=25						
ASAR	**Alice Springs**	**136.47**	**250**	PKhKP	PKPpre	08 49 16.1	
	comp=Z,0.3nm,0.7s,baz=123,slow=3.6,SNR=6.7						
ASAR				PKP	**PKPdf**	**08 49 25.1**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=97,slow=2.5,SNR=12						
GYA	**Guiyang**	**136.73**	**337**	*e*PKP	**PKiKP**	**08 49 27.9**	**+1.6**
GKN	**Gorkha**	**138.50**	**6**	*e*P	**PKPdf**	**08 49 28.3**	**+0.4**
	comp=Z,41nm,0.7s						
GUN	**Gumba**	**138.70**	**4**	*e*P	**PKPdf**	**08 49 27.0**	**-1.5**
	comp=Z,29nm,0.7s						
KKN	**Kakani**	**138.77**	**5**	*e*P	**PKPdf**	**08 49 26.7**	**-1.7**
DMN	**Daman**	**138.94**	**5**	*e*P	**PKPdf**	**08 49 27.0**	**-1.8**
	comp=Z,24nm,0.8s						
PKIN	**Phulchoki**	**138.99**	**5**	*e*P	**PKPdf**	**08 49 27.0**	**-1.9**
	comp=Z,38nm,0.7s						
PKI	**Pulchoki**	**139.00**	**5**	*e*P	**PKPdf**	**08 49 27.7**	**-1.3**
	comp=Z,22nm,0.6s						
KMI	**Kunming**	**139.34**	**341**	⇓PKP	**PKPdf**	**08 49 29.6**	**+0.1**
RAMN	**Ramite**	**139.70**	**3**	*e*P	**PKPdf**	**08 49 26.2**	**-4.0**
	comp=Z,40nm,0.8s						
QIZ	**Qiongzhong**	**141.72**	**327**	PKP	**PKPdf**	**08 49 32.2**	**-1.5**
QIZ				PP	**PP**	**08 52 39.7**	**+3.0**
QIZ				SS	SS	09 11 07.6	+2.9
QIZ				LR	LR		
	comp=Z,290nm,19.1s						
QIZ				LR	LR		
	comp=Z,310nm,22.6s						
QIZ				LR	LR		
	comp=Z,260nm,17.7s						
FITZ	**Fitzroy Crossi**	**144.55**	**258**	PKPdf	PKPbc	08 49 38.1	+0.7
POO	**Poona**	**144.80**	**26**	*e*P	**PKPab**	**08 49 36.0**	**-2.1**
CM34	**Chiang Mai Arr**	**146.33**	**343**	P	**PKPbc**	**08 49 43.0**	**+0.1**
CM33	**Chiang Mai Arr**	**146.42**	**343**	P	**PKPdf**	**08 49 42.0**	**+0.1**
CHTO	**Chiang Mai**	**146.43**	**343**		**PKPbc**	**08 49 43.6**	**+0.4**
CMMT	**Chiang Mai**	**146.43**	**343**	P	**PKPdf**	**08 49 42.0**	**+0.1**
CM35	**Chiang Mai Arr**	**146.50**	**342**	P	**PKPbc**	**08 49 43.0**	**-0.4**
LAMP	**Lampang**	**146.50**	**342**	P	**PKPab**	**08 49 44.3**	**0.0**
CM32	**Chiang Mai Arr**	**146.61**	**343**	P	**PKPbc**	**08 49 44.0**	**+0.3**
CM36	**Chiang Mai Arr**	**146.66**	**342**	P	**PKPbc**	**08 49 44.0**	**+0.1**
KKM	**Kota Kinabalu**	**146.76**	**304**		**PKPab**	**08 49 46.1**	**+0.4**
KKM				IAMs_20	IAMs_20	09 47 09.7	
	comp=Z,234nm,22.0s						
CM09	**Chiang Mai Arr**	**146.76**	**343**	P	**PKPab**	**08 49 45.2**	**-0.1**
CM31	**Chiang Mai Arr**	**146.76**	**343**	P	**PKPab**	**08 49 45.2**	**-0.2**
CM31	**Chiang Mai Arr**	**146.76**	**343**		**PKPab**	**08 49 45.4**	**0.0**
CMAR	**Chiang Mai Arr**	**146.76**	**343**	PKPbc	**PKPbc**	**08 49 44.3**	**+0.1**
	comp=Z,46nm,0.7s,baz=336,slow=3.6,SNR=131						
CMAR				PP	**PP**	**08 53 08.2**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=71,slow=4.8,SNR=4.3						
CMAR	**Chiang Mai Arr**	**146.76**	**343**		**PKPab**	**08 49 45.8**	**+0.4**
CM15	**Chiang Mai Arr**	**146.78**	**343**	P	**PKPbc**	**08 49 45.0**	**+0.8**
CM02	**Chiang Mai Arr**	**146.79**	**343**	P	**PKPab**	**08 49 45.1**	**-0.3**
CM01	**Chiang Mai Arr**	**146.79**	**343**	P	**PKPab**	**08 49 45.2**	**-0.3**
CM04	**Chiang Mai Arr**	**146.81**	**343**	P	**PKPbc**	**08 49 45.0**	**+0.7**
CM13	**Chiang Mai Arr**	**146.81**	**343**	P	**PKPbc**	**08 49 45.0**	**+0.6**
CM05	**Chiang Mai Arr**	**146.82**	**343**	P	**PKPbc**	**08 49 44.7**	**+0.4**
UTTA	**Uttaradit**	**146.93**	**340**	P	**PKPbc**	**08 49 45.5**	**+0.9**
UBPT	**Khong Chiam**	**147.10**	**330**		**PKPab**	**08 49 46.5**	**-0.2**
MHMT	**Maesarieng**	**147.31**	**344**	P	**PKPbc**	**08 49 45.3**	**-0.4**
SUKH	**Sukhothai**	**147.48**	**341**	P	**PKPbc**	**08 49 47.0**	**+0.9**
PHIT	**Phitsanulok**	**147.49**	**340**	P	**PKPab**	**08 49 48.0**	**-0.2**
HYB	**Hyderabad**	**147.56**	**19**	*i* PKP	**PKPdf**	**08 49 44.0**	**+0.1**
DLV	**T Lat**	**148.20**	**322**		**PKPbc**	**08 49 49.0**	**+0.5**
SBUM	**Sibu**	**152.08**	**303**		**PKiKP**	**08 49 58.8**	**+0.8**
SBUM				IAMs_20	IAMs_20	10 13 22.8	
	comp=Z,157nm,20.0s						
IPM	**Ipoh**	**158.53**	**326**	PKPdf	**PKPdf**	**08 50 00.1**	**+0.3**
IPM				PKPab	**PKPab**	**08 50 35.1**	**+0.5**
RPSI	**Rantau Prapat**	**161.15**	**328**	PKPdf	**PKPdf**	**08 50 03.2**	**+0.5**
RPSI					**PKPab**	**08 50 46.0**	**0.0**

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*IDC **01** 08:35:27.0±1.2, 12°08S×168°48E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.8/31, mbtmp3.7/8, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/37, Error ellipse: s-maj=54.8km s-min=21.7km az=140.0*

ISC 01 08:35:32.3±0.9**, 12°2S**±0°2×**168°5E**±0°2**, h35km, n9, σ0s99**/8**, mb3.8**/7**, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.83**	**287**	LR	LR	08 40 49.1	
	comp=Z,116nm,20.5s,baz=122,slow=37						
DZM	**Mont Dzumac**	**10.03**	**191**	Pn	**Pn**	**08 37 53.9**	**-0.1**
	0.9nm,0.3s,baz=166,slow=18,SNR=14						
CTA	**Charters Tower**	**22.74**	**247**	P	**P**	**08 40 33.3**	**+1.7**
	1.9nm,0.8s,baz=87,slow=13,SNR=2.5						
STKA	**Stephens Creek**	**31.56**	**227**	P	**P**	**08 41 50.9**	**-0.7**
	1.3nm,0.7s,baz=343,slow=5.8,SNR=2.9						
STKA				LR	LR	08 53 59.0	
	comp=Z,129nm,18.5s,baz=26,slow=35						
WRA	**Warramunga Arr**	**33.66**	**252**	P	**P**	**08 42 09.4**	**-0.7**
	0.3nm,0.7s,baz=88,slow=7.6,SNR=2.1						
ASAR	**Alice Springs**	**34.74**	**246**	P	**P**	**08 42 19.2**	**-0.2**
	0.8nm,0.8s,baz=77,slow=9.6,SNR=5.7						
ILAR	**Eielson Array**	**83.75**	**18**	P	**P**	**08 47 56.6**	**-0.8**
	0.8nm,0.8s,baz=225,slow=6.5,SNR=5.7						
NVAR	**Mina Array Bea**	**84.72**	**49**	P	**P**	**08 48 03.7**	**+0.6**
	0.6nm,0.8s,baz=224,slow=6.3,SNR=2.4						
TXAR	**Lajitas Array**	**94.02**	**61**	P	**P**	**08 48 47.7**	**+0.4**
	0.6nm,1.1s,baz=235,slow=4.3,SNR=1.8						

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*MAN **01** 08:55:08.0, 9°15N×126°97E, h34km, MS2.7*

*IDC **01** 08:55:12.2±1.1, 8°92N×126°39E, h37km±9km, mb3.4/5, mb1 3.6/5, mb1mx3.3/48, mbtmp3.6/5, Error ellipse: s-maj=71.4km s-min=19.5km az=77.0*

ISC 01 08:55:11.6±0.9**, 9°19N**±0°06×**126°80E**±0°08**, h35km, n12, σ2s62**/20**, mb3.7**/5**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.89**	**312**	*e*P	**Pn**	**08 55 26.4**	**-1.3**
GLSP				*e*S	**Sn**	**08 55 39.1**	**-0.2**
BUTP	**Butuan**	**1.18**	**260**	*e*P	**Pn**	**08 55 29.5**	**-2.2**
BUTP				*e*S	**Sn**	**08 55 50.9**	**+4.3**
CGP	**Cagayan de Oro**	**2.20**	**251**	⇓*e*P	**Pn**	**08 55 45.4**	**-0.3**
CGP				*e*S	**Sn**	**08 56 12.9**	**+1.1**
MATI	**Mati**	**2.29**	**194**	*e*P	**Pn**	**08 55 43.4**	**-3.6**
MATI				*e*S	**Sn**	**08 56 16.0**	**+2.0**
DAV	**Davao City (W)**	**2.42**	**210**	Pn	**Pn**	**08 55 49.3**	**+0.5**
	42nm,0.3s,baz=84,slow=5.8,SNR=2.2						
DAV				Lg	Lg	08 56 22.3	
	42nm,0.3s,baz=126,slow=24,SNR=4.4						
KCP	**Kidapawan**	**2.75**	**218**	⇑*e*P	**Pn**	**08 55 56.6**	**+3.3**
PAGZ	**Pagadian**	**3.63**	**249**	*e*P	**Pn**	**08 56 06.7**	**+1.3**
PAGZ				*e*S	**Sn**	**08 56 40.6**	**-6.5**
FITZ	**Fitzroy Crossi**	**27.14**	**182**	P	**P**	**09 00 48.8**	**-2.8**
	1.8nm,0.9s,baz=22,slow=12,SNR=1.6						
WRA	**Warramunga Arr**	**29.88**	**166**	P	**P**	**09 01 15.0**	**-1.1**
	0.8nm,1.1s,baz=349,slow=9.4,SNR=2.5						
WRA				pP	**pP**	**09 01 24.9**	**+0.8**
	0.4nm,0.7s,baz=349,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**33.38**	**168**	P	**P**	**09 01 46.5**	**-0.4**
	0.2nm,0.5s,baz=352,slow=7.0,SNR=8.5						
ASAR				pP	**sP**	**09 01 57.1**	**-1.0**
	0.3nm,0.4s,baz=350,slow=7.3,SNR=2.5						
MKAR	**Makanchi Array**	**53.20**	**323**	P	**P**	**09 04 26.5**	**0.0**
	0.9nm,0.6s,baz=124,slow=8.4,SNR=9.9						
YKA	**Yellowknife Ar**	**94.53**	**24**	P	**P**	**09 08 30.6**	**+2.4**
	0.1nm,0.6s,baz=298,slow=3.6,SNR=2.3						
YKA				pP	**sP**	**09 08 42.0**	**+1.5**
	0.3nm,0.7s,baz=301,slow=3.9,SNR=4.9						

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*IDC **01** 08:57:25.8±1.0, 21°41S×170°19E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.2/46, mbtmp4.3/14, ML3.9/2, MS4.2/6, Ms1 4.1/6, ms1mx3.7/23, Error ellipse: s-maj=25.3km s-min=19.8km az=158.0*

*NOU **01** 08:57:26.8, 21°37S×170°19E, h0km, MLv4.4, Southeast of Loyalty Islands*

*GCMT **01** 08:57:27.7±0.3, 21°37S±0°02×170°50E±0°02, h27km±1km, MW5.0/88, Moment Tensor Solution. s19,c20; s88,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.65±.21; $M_{\theta\theta}$-3.26±.17; $M_{\phi\phi}$3.91±.17; $M_{r\theta}$0.13±.29; $M_{\theta\phi}$-1.58±.12; $M_{\phi r}$-0.61±.27; Best double couple: $M_0$3.95700×10^{16} NP1:ϕ_s213.00000°, δ85.00000°, λ5.00000°. NP2: ϕ_s123.00000°, δ85.00000°, λ175.00000°. Principal axes: T 4.3210, Plg7.0000°, Azm78.0000°; N -0.7250, Plg83.0000°, Azm258.0000°; P -3.5930, Plg0.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **01** 08:57:29.7±1.1, 21°41S±0°08×170°28E±0°05, h41km±7km, mb4.6/23 Error ellipse: s-maj=12.3km s-min=6.8km az=196.0*

ISC 01 08:57:29.9±0.5**, 21°43S**±0°06×**170°24E**±0°06**, h35km, n68, σ1s19**/67**, mb4.4**/17**, MS4.1**/9**, 1C, Southeast of Loyalty Islands**

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

MARNC	Mare, Loyalty	2.06	268	P	Pn	08 58 00.9	-1.2
PINNC	Pines Island,	2.85	245	P	Pn	08 58 12.3	-0.6
PINNC	Pines Island,	2.85	245	P	Pn	08 58 12.4	-0.5
YATNC	Mamie plateau,	3.18	258	P	Pn	08 58 16.6	-0.9
YATNC	Mamie plateau,	3.18	258	P	Pn	08 58 17.3	-0.2
OUENC	Ouen Island, N	3.31	252	P	Pn	08 58 19.8	+0.6
DZM	Mont Dzumac	3.59	259	*e*Pn	Pn	08 58 23.6	+0.4
	59nm,0.3s						
DZM				*e*Sn	Sn	08 59 02.0	-2.4
	41nm,0.3s						
DZM				*e*LR	LR	08 59 06.9	
	comp=Z,6µm,25.2s						
DZM	Mont Dzumac	3.59	259	Pn	Pn	08 58 23.1	-0.1
	16nm,0.3s,baz=127,slow=10,SNR=289						
DZM				Sn	Sn	08 59 05.9	+1.5
	12nm,0.3s,baz=357,slow=22,SNR=3.6						
DZM	Mont Dzumac	3.59	259	P	Pn	08 58 23.4	+0.2
ONTNC	Ouen Toro	3.62	255	P	Pn	08 58 23.4	-0.2
ONTNC	Ouen Toro	3.62	255	P	Pn	08 58 23.7	+0.1
NOUC	Port Laguerre	3.72	259	P	Pn	08 58 25.0	0.0
NOUC	Port Laguerre	3.72	259	P	Pn	08 58 24.9	0.0
DVP	Devils Point	4.17	332	P	Pn	08 58 29.8	-1.3
SANVU	Saraoutou	6.62	334	Pn	Pn	08 59 04.8	+0.1
SANVU	Saraoutou	6.62	334	P	Pn	08 59 04.8	+0.1
MSVF	Nonsavu	8.23	65	Pn	Pn	08 59 25.9	-1.1
MSVF	Nonsavu	8.23	65	P	Pn	08 59 27.3	+0.3
HIZ	Hauiti	17.48	168	P	Pn	09 01 31.0	+0.1
HIZ				IAmb	IAmb	09 01 33.2	
	comp=Z,93nm,1.5s						
URZ	Urewera	17.79	162	P	P	09 01 36.1	+0.9
	comp=Z,0.2nm,0.3s,baz=27,slow=5.6,SNR=10						
URZ	Urewera	17.79	162	P	Pn	09 01 34.4	-0.3
URZ				IAmb	IAmb	09 01 37.0	
	comp=Z,69nm,1.3s						
EIDS	Eidsvold	18.02	254	P	Pn	09 01 36.3	-1.3
BKZ	Black Stump Fm	18.47	165	P	P	09 01 42.1	-0.7
BKZ				IAmb	IAmb	09 01 45.0	
	comp=Z,34nm,1.1s						
NIUE	Niue	18.75	86	P	P	09 01 43.4	-2.6
TUWZ	Tuamarina	20.18	172	P	P	09 02 02.2	+0.8
THZ	Tophouse	20.39	174	P	P	09 02 04.7	+0.8
THZ				IAmb	IAmb	09 02 05.6	
	comp=Z,18nm,0.9s						
RPZ	Rata Peaks	22.23	178	P	P	09 02 24.7	+1.1
	comp=Z,12nm,0.8s,baz=312,slow=1.9,SNR=4.7						
RPZ	Rata Peaks	22.23	178	P	P	09 02 22.9	-0.6
RPZ				IAmb	IAmb	09 02 25.0	
	comp=Z,30nm,1.1s						
CTA	Charters Tower	22.47	269	P	P	09 02 26.9	+0.6
	comp=Z,4.8nm,1.0s,baz=77,slow=11,SNR=8.4						
CTAO	Charters Tower	22.47	269	P	P	09 02 25.9	-0.4
CTAO				IAmb	IAmb	09 02 36.9	
	comp=Z,39nm,1.5s						
TARA	Tarawa	22.80	7	P	P	09 02 27.6	-2.1
PMG	Port Moresby	25.22	295	P	P	09 02 53.1	+0.5
	comp=Z,8.8nm,0.8s,baz=113,slow=15,SNR=2.4						
PMG				LR	LR	09 11 25.5	
	comp=Z,341nm,18.1s,baz=150,slow=33						
PMG	Port Moresby	25.22	295	P	P	09 02 52.3	-0.3
PMG				IAmb	IAmb	09 02 59.2	
	comp=Z,14nm,0.8s						
COEN	Coen	26.81	282	P	P	09 03 07.2	+0.1
COEN				IAmb	IAmb	09 03 24.7	
	comp=Z,15nm,1.4s						
STKA	Stephens Creek	27.56	242	P	P	09 03 14.2	+0.5
	comp=Z,1.9nm,0.7s,baz=45,slow=9.4,SNR=6.8						
STKA				LR	LR	09 13 32.0	
	comp=Z,393nm,20.2s,baz=55,slow=35						
STKA	Stephens Creek	27.56	242	P	P	09 03 14.8	+1.1
WR0	Warramunga Arr	33.39	266	P	P	09 04 04.7	-0.6
WR0				IAmb	IAmb	09 04 11.0	
	comp=Z,7.1nm,0.8s						
WB0	Warramunga Arr	33.55	266	P	P	09 04 06.6	-0.2
WB0				IAmb	IAmb	09 04 12.3	
	comp=Z,11nm,1.1s						
WB2	Warramunga Arr	33.57	266	P	P	09 04 06.5	-0.3
WB2				IAmb	IAmb	09 04 22.8	
	comp=Z,19nm,1.5s						
AS31	Alice Springs	33.58	259	P	P	09 04 06.8	-0.2
WRA	Warramunga Arr	33.58	266	P	P	09 04 06.4	-0.6
	comp=Z,3.8nm,0.8s,baz=100,slow=8.1,SNR=26						
WRA				LR	LR	09 17 51.3	
	comp=Z,729nm,19.6s,baz=95,slow=36						
ASAR	Alice Springs	33.58	259	P	P	09 04 07.1	+0.1
	comp=Z,7.5nm,0.9s,baz=83,slow=8.9,SNR=49						
ASAR				LR	LR	09 17 35.2	
	comp=Z,293nm,18.3s,baz=90,slow=36						
ASAR	Alice Springs	33.58	259	P	P	09 04 06.3	-0.7
TBI	Tubuai	37.23	101	*e*LQ	LQ	09 12 56.2	
	comp=Z,540nm,31.8s						
TBI				*e*LR	LR	09 14 44.0	
	comp=Z,226nm,31.0s						
PPT2	Papeete2	37.99	91	*e*LQ	LQ	09 13 31.9	
	comp=Z,687nm,27.0s						
PPT2				*e*LR	LR	09 15 20.0	
	comp=Z,504nm,26.0s						
FITZ	Fitzroy Crossi	42.00	266	P	P	09 05 18.8	+0.7
	comp=Z,6.1nm,0.7s,baz=122,slow=7.3,SNR=11						
FITZ	Fitzroy Crossi	42.00	266	P	P	09 05 19.1	+0.9
FITZ				IAmb	IAmb	09 05 25.6	
	comp=Z,11nm,0.7s						
SOEI	Soe	45.62	277	P	P	09 05 44.9	-2.6
PSA00	Pilbara Seismi	46.72	260	P	P	09 05 53.1	-2.7
NWAO	Narrogin (SRO)	48.09	245	P	P	09 06 06.7	+0.3
TAOE	Nuku Hiva Isla	49.29	83	*e*LR	LR	09 20 16.8	
	comp=Z,346nm,25.0s						
QSPA	South Pole Qui	68.63	180	P	P	09 08 29.5	+0.1
BELA	Belgrano 2	79.84	175	P	P	09 09 33.2	-1.2
BELA				IAmb	IAmb	09 09 33.6	
	comp=Z,5.6nm,0.7s						
CMAR	Chiang Mai Arr	80.26	294	P	P	09 09 38.7	+1.1
	comp=Z,1.4nm,0.4s,baz=244,slow=43,SNR=1.8						
SEY	Seymchan	85.26	352	P	P	09 10 04.6	+2.1
	comp=Z,0.6nm,0.7s,baz=149,slow=12,SNR=1.5						
SONM	Songino Array	89.53	323	P	P	09 10 26.3	+2.6
	comp=Z,0.4nm,0.5s,baz=106,slow=5.4,SNR=4.1						
SONM	Songino Array	89.53	323	P	P	09 10 23.0	-0.7
NVAR	Mina Array Bea	89.55	48	P	P	09 10 24.5	+0.4
	comp=Z,0.1nm,0.3s,baz=193,slow=6.1,SNR=4.4						
NVAR				LR	LR	09 42 48.7	
	comp=Z,78nm,20.2s,baz=244,slow=30						
ILAR	Eielson Array	92.04	17	P	P	09 10 36.9	+2.1
	comp=Z,0.3nm,0.8s,baz=249,slow=4.3,SNR=1.9						
ILAR	Eielson Array	92.04	17	P	P	09 10 33.6	-1.2
TXAR	Lajitas Array	96.98	61	LR	LR	09 46 48.2	
	comp=Z,108nm,19.6s,baz=0.0,slow=30						
CONA	Conrad Observa	146.50	328	*e*P	PKiKP	09 17 12.9	+2.5
	comp=Z,5.7nm,1.0s						
KHC	Kasperske Hory	146.70	332	⇑*e*PKP	PKPdf	09 17 06.5	+0.1
GERES	GERESS Array B	146.86	331	PKPbc	PKPdf	09 17 07.3	+0.6
	comp=Z,1.6nm,0.9s,baz=69,slow=4.4,SNR=4.3						
GERES	GERESS Array B	146.86	331		PKPdf	09 17 07.3	+0.6
GERES				PKPab	PKiKP	09 17 11.1	-0.1
MOA	Molln	147.32	329	*e*P	PKiKP	09 17 15.6	+3.5
	comp=Z,5.9nm,1.2s						
SQTA	Sankt Quirin	149.19	332	*e*P	PKPab	09 17 20.2	+0.9
	comp=Z,5.6nm,0.9s						
FETA	Feichten	149.55	332	*e*P	PKPab	09 17 20.6	-0.3
	comp=Z,4.7nm,1.0s						

*IDC **01** 09:08:24.3±1.1, 9°.61N×126°.02E, h0^{km}, mb3.6/8, mb1 3.8/8, mb1mx3.5/41, mbtmp3.6/8, Error ellipse: s-maj=56.0km s-min=22.3km az=83.0*
*MAN **01** 09:08:35.0, 9°.54N×126°.16E, h26^{km}, MS2.6*
ISC 01 09:08:28.5±1.9, 9°.50N±0°.04×126°.57E±0°.08, h24^{km}±14^{km}, n16, σ1^{s}77/23, mb3.5/8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLSP	General Luna,	0.52	303	*e*P	Pn	09 08 42.3	+1.8
GLSP				*e*S	Sn	09 08 49.8	+1.2
BUTP	Butuan	1.07	241	*e*P	Pb	09 08 49.7	+1.3
BUTP				*e*S	Sn	09 09 05.4	+3.1
MSLP	Maasin	1.80	291	*e*P	Pn	09 08 57.5	-0.6
MSLP				*e*S	Sb	09 09 22.3	-0.6
CGP	Cagayan de Oro	2.12	241	⇑*e*P	Pn	09 09 04.2	+1.6
CGP				*e*S	Sn	09 09 27.0	-1.2
BESP	Borongan	2.36	332	*e*P	Pb	09 09 10.9	+0.5
BESP				*e*S	Sn	09 09 33.8	-0.3
OCLP	Ormoc	2.47	309	*e*P	Pn	09 09 09.5	+2.2
OCLP				*e*S	Sn	09 09 34.8	-1.9
LLP	Lapu-Lapu	2.69	288	*e*P	Pn	09 09 12.1	+1.8
LLP				*e*S	Sn	09 09 40.7	-1.5
KCP	Kidapawan	2.88	211	⇓*i*P	Pb	09 09 18.0	-1.2
KCP				*i* S	Sb	09 09 51.4	-2.6
WRA	Warramunga Arr	30.24	165	P	P	09 14 40.4	+2.7
	0.7nm,1.0s,baz=342,slow=8.1,SNR=2.7						
ASAR	Alice Springs	33.74	168	P	P	09 15 08.8	+0.5
	0.2nm,0.8s,baz=349,slow=7.3,SNR=1.6						
KLR	Kul'dur	39.84	5	P	P	09 15 59.2	-0.8
	0.3nm,0.3s,baz=173,slow=8.1,SNR=1.8						
PETK	Petropavlovsk-	50.21	24	P	P	09 17 23.3	+0.8
	2.5nm,0.9s,baz=224,slow=12,SNR=4.1						
MKAR	Makanchi Array	52.81	323	P	P	09 17 39.4	-2.7
	0.2nm,0.7s,baz=111,slow=7.2,SNR=2.3						
SEY	Seymchan	56.49	14	P	P	09 18 08.6	+0.2
	0.4nm,0.5s,baz=192,slow=19,SNR=1.4						
ILAR	Eielson Array	80.00	26	P	P	09 20 35.0	-0.7
	0.2nm,0.7s,baz=247,slow=4.7,SNR=4.3						
FINES	FINESS Array B	86.70	332	P	P	09 21 07.0	-3.3
	3.7nm,1.1s,baz=72,slow=4.5,SNR=4.9						

IDC 01 09:34:22.1±1.9, 5°.95S×130°.76E, h0^{km}, mb3.7/2, mb1 3.9/4, mb1mx3.4/30, mbtmp3.7/4, ML3.9/2, MS4.4/1, Ms1 4.4/1, ms1mx3.0/36, Error ellipse: s-maj=91.9km s-min=28.6km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.33	166	Pn	Pn	09 37 48.2	+1.7
	0.6nm,0.3s,baz=346,slow=12,SNR=16						
WRA				Sn	Sn	09 40 15.3	-11
	0.6nm,0.3s,baz=336,slow=22,SNR=8.7						
ASAR	Alice Springs	17.87	171	P	P	09 38 33.2	+0.1
	0.4nm,0.3s,baz=342,slow=9.1,SNR=28						
STKA	Stephens Creek	27.71	160	P	P	09 40 11.2	-1.0
	0.9nm,0.3s,baz=348,slow=9.3,SNR=4.2						
RAO	Raoul Island	53.61	122	LR	LR	10 04 27.4	
	comp=Z,377nm,20.9s,baz=140,slow=34						
MKAR	Makanchi Array	67.77	326	P	P	09 45 22.0	+0.2
	0.2nm,0.6s,baz=127,slow=7.5,SNR=2.0						

WEL 01 09:37:37.3, 43°.6S±0°.7×172°.6E±0°.9, h5^{km}, M3.0/18, ML3.2/18, MLv3.0/18, Error ellipse: s-maj=0.0km s-min=0.0km az=110.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.15	149	P	Pg	09 37 42.1	+1.6
RACZ	Rakaia	0.33	242	P	Pb	09 37 46.3	+0.5
OKCZ	Okains Bay	0.40	112	P	Pb	09 37 47.1	+0.1
AMCZ	Amberley	0.41	11	P	Pb	09 37 48.3	+1.4
OXZ	Oxford	0.45	304	P	Pb	09 37 48.3	+0.6
WACZ	Wakanui South	0.63	234	P	Pn	09 37 51.9	-1.0
GVZ	Greta Valley S	0.70	31	P	Pn	09 37 53.5	-0.5
MHCZ	Mount Hutt	0.71	273	P	Pn	09 37 53.6	-0.5
LTZ	Lake Taylor	0.82	346	P	Pn	09 37 55.7	+0.1
ARCZ	Arundel	1.06	249	P	Pn	09 37 59.0	+0.1
RPZ	Rata Peaks	1.09	262	P	Pn	09 37 59.7	+0.3
INZ	Inchbonnie	1.17	316	P	Pn	09 38 01.1	+0.8
KHZ	Kahutara	1.37	33	P	Pn	09 38 03.1	0.0
TMZ	Timaru	1.37	233	P	Pb	09 38 03.6	+0.1
WVZ	Waitaha Valley	1.41	290	P	Pg	09 38 04.6	+0.2
GCSZ	Gaunt Creek Bo	1.64	278	P	Pb	09 38 08.2	+0.2
THZ	Tophouse	1.83	8	P	Pn	09 38 09.9	+0.4
LBZ	Lake Benmore	1.89	244	P	Pb	09 38 11.6	-0.7
DSZ	Denniston Nort	1.91	343	P	Pn	09 38 11.5	+1.0
FOZ	Fox Glacier	1.98	270	P	Pb	09 38 13.6	-0.3
ODZ	Otahua Downs	2.00	222	P	Pn	09 38 12.3	+0.4
BSWZ	Blackbirch Sta	2.10	28	P	Pn	09 38 13.7	+0.5
NNZ	Nelson	2.44	15	P	Pn	09 38 18.6	+0.8
TCW	Tory Channel	2.69	29	P	Pn	09 38 21.7	+0.4
HHSZ	Highcliff Hill	2.69	210	P	Pn	09 38 23.4	+2.1
QRZ	Quartz Range	2.75	360	P	Pn	09 38 22.7	+0.7
WEL	Wellington	2.82	36	P	Pn	09 38 23.0	-0.1
PLWZ	Palliser	2.83	46	P	Pn	09 38 22.7	-0.6
EAZ	Earnscleugh	2.85	233	P	Pn	09 38 23.9	+0.5
CAW	Cannon Point	3.09	38	P	Pn	09 38 26.0	-0.8
TUZ	Tuapeka	3.16	220	P	Pn	09 38 28.5	+0.8
MTW	Mount Morrison	3.26	43	P	Pn	09 38 28.1	-1.0
OGWZ	Otaki Gorge	3.38	36	P	Pn	09 38 30.2	-0.5
MLZ	Mavora Lakes	3.64	239	P	Pn	09 38 35.3	+0.9
MRZ	Mangatainoka R	3.68	39	P	Pn	09 38 34.0	-0.9
SYZ	Scrubby Hill	3.82	218	P	Pn	09 38 37.9	+1.1
BFZ	Birch Farm	3.99	45	P	Pn	09 38 37.7	-1.5
VRZ	Vera Road	4.75	21	P	Pn	09 38 52.8	+3.2
OTVZ	Oturere	4.99	29	P	Pn	09 38 54.3	+1.2
BKZ	Black Stump Fm	5.31	35	P	Pn	09 38 56.9	-0.5
PKGZ	Pakihiroa	7.06	38	P	Pn	09 39 24.5	+3.1

*IDC **01** 09:40:05.6±0.9, 29°.42N×105°.89E, h0^{km}, mb3.7/7, mb1 3.8/10, mb1mx3.6/45, mbtmp3.7/10, ML3.7/3, Error ellipse: s-maj=33.9km s-min=18.0km az=67.0*
ISC 01 09:40:10.6±0.9, 29°.4N±0°.1×105°.9E±0°.2, h35^{km}, n10, σ0^{s}32/10, mb3.5/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.61	212	Pn	Pn	09 43 07.3	-0.2
	0.6nm,0.3s,baz=22,slow=13,SNR=5.4						
SONM	Songino Array	18.40	1	P	Pn	09 44 22.7	-0.2
	0.1nm,0.3s,baz=176,slow=11,SNR=6.4						
KSRS	Korea Array	20.04	61	P	P	09 44 40.1	-0.4
	0.1nm,0.3s,baz=242,slow=11,SNR=2.6						
MKAR	Makanchi Array	25.26	320	P	P	09 45 33.5	+0.1
	0.6nm,0.6s,baz=129,slow=12,SNR=9.1						
ZALV	Zalesovo Beam	28.91	334	P	P	09 46 05.8	-0.3
	0.5nm,0.4s,baz=126,slow=9.3,SNR=2.7						
KURBB	Kurchatov Arra	29.51	324	P	P	09 46 11.1	-0.3
	0.5nm,0.5s,baz=132,slow=8.2,SNR=2.5						
NRIK	Noril'sk	41.34	350	P	P	09 47 53.1	+0.5
	2.3nm,0.5s,baz=126,slow=6.6,SNR=3.7						
WRA	Warramunga Arr	56.22	147	P	P	09 49 47.5	+0.1
	0.7nm,0.9s,baz=339,slow=8.3,SNR=6.4						
ASAR	Alice Springs	59.26	150	P	P	09 50 08.9	+0.3
	0.3nm,0.5s,baz=342,slow=6.8,SNR=7.4						
YKA	Yellowknife Ar	82.84	18	P	P	09 52 31.1	+0.1
	0.2nm,0.5s,baz=334,slow=4.7,SNR=6.3						

*JMA **01** 09:57:20.6, 33°.86N×132°.37E, h48^{km}, M3.4 Broadband fault plane solution: P waves. NP1:ϕ_s305.00000°, δ46.00000°, λ-124.00000°. NP2:ϕ_s169.00000°, δ53.00000°, λ-60.00000°. Principal axes: T Plg4.0000°, Azm238.0000°; N Plg24.0000°, Azm330.0000°; P Plg66.0000°, Azm139.0000°;*
JMA Felt I J1.
*IDC **01** 09:57:21.9±2.0, 33°.86N×132°.27E, h59^{km}±24^{km}, mb3.0/2, mb1 3.3/4, mb1mx3.0/40, mbtmp3.3/4, ML2.8/2 Error ellipse: s-maj=22.4km s-min=14.0km az=107.0*
ISC 01 09:57:20.9±1.0, 33°.85N±0°.03×132°.39E±0°.03, h45^{km}±8^{km}, n19, σ0^{s}71/31, 5C-5D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNA	Nagahama	0.30	165	⇓P	Pn	09 57 29.5	-0.1
JNA				*e*S	Sn	09 57 35.8	+0.1
JHM	Kurahashi	0.31	22	⇓P	Pn	09 57 29.5	-0.2
JHM				S	Sn	09 57 35.8	-0.1
JKD	Kudamatsu	0.47	296	⇓P	Pn	09 57 31.4	-0.1
JKD				S	Sn	09 57 39.1	0.0
JET	Tanbara	0.56	97	⇑P	Pn	09 57 32.6	0.0
JET				*e*S	Sn	09 57 41.5	+0.6
UWA2	Uwa jima 2	0.66	163	⇑P	Pn	09 57 34.1	+0.1
UWA2				S	Sn	09 57 44.1	+0.7
JKU	Kubokawa	0.78	133	⇓P	Pn	09 57 35.5	0.0
JHT	Toyohira	0.81	2	⇑P	Pn	09 57 35.7	-0.3
JHT				S	Sn	09 57 46.9	-0.1
JTO	Tosashimizu	1.05	161	⇓P	Pn	09 57 39.2	+0.1
JTO				*e*S	Sn	09 57 53.2	+0.6
JGT2	ShimaneMisato	1.22	5	⇑P	Pn	09 57 41.2	-0.3
JMN	Monobe	1.25	95	P	Pn	09 57 41.4	-0.5
JMN				*e*S	Sn	09 57 57.0	-0.6
JHS	Saijyo	1.29	28	⇑P	Pn	09 57 42.5	-0.1
JHS				*e*S	Sn	09 57 59.1	+0.3
JJS	Sakaide	1.38	67	P	Pn	09 57 43.1	-0.6
JJS				*e*S	Sn	09 57 59.8	-1.1
JHGM	Hagimishima	1.39	312	P	Pn	09 57 44.5	+0.7
JNU	Nakatsue	1.46	241	P	Pn	09 57 44.7	0.0
	21nm,0.3s,baz=25,slow=8.1,SNR=321						
JNU				S	Sn	09 58 02.2	-0.4
	25nm,0.3s,baz=59,slow=7.6,SNR=5.1						
KSRS	Korea Array	5.11	316	P	Pn	09 58 35.6	+0.7
	0.2nm,0.3s,baz=135,slow=15,SNR=2.0						
KSRS				S	Sn	09 59 32.5	-0.2
	1.0nm,0.3s,baz=135,slow=23,SNR=6.8						
MAT	Matsushiro	5.47	59	P	Pn	09 58 41.5	+1.6
MJAR	Matsushiro Arr	5.47	59	P	Pn	09 58 42.0	+2.1
	0.5nm,0.3s,baz=243,slow=14,SNR=29						
WRA	Warramunga Arr	53.52	178	P	P	10 06 35.9	-1.2
	0.3nm,0.6s,baz=355,slow=7.9,SNR=2.4						
ASAR	Alice Springs	57.22	178	P	P	10 07 03.7	+0.1
	0.2nm,0.6s,baz=11,slow=13,SNR=5.7						

*BGR **01** 10:24:34.3±0.0, 21°.60N×99°.73E, h33^{km}, mb5.1, Ms4.9*
*BJI **01** 10:24:39.6±0.0, 23°.50N×98°.94E, h11^{km}, mB5.2/55, mb5.1/75, ML5.6/10, Ms5.5/87, Ms7 5.1/83*
*NEIC **01** 10:24:41.4±1.6, 23°.57N±0°.06×98°.85E±0°.07, h10^{km}±1^{km}, mb5.2/142, ML5.5(BJI), Error ellipse: s-maj=11.1km s-min=10.3km az=251.0*
*MOS **01** 10:24:41.3±1.1, 23°.54N×98°.85E, h22^{km}, mb5.3/75, MS4.7/15, Error ellipse: s-maj=6.2km s-min=3.4km az=119.6*
*GCMT **01** 10:24:42.4±0.1, 23°.49N±0°.01×99°.04E±0°.01, h18^{km}, MW5.3/137, Moment Tensor Solution. s92,c133; s137,c236; Duration: 1^{s}0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.03±.01; $M_{\theta\theta}$-0.63±.01; $M_{\phi\phi}$0.60±.01; $M_{r\theta}$0.00±.03; $M_{\theta\phi}$0.60±.01; $M_{\phi r}$0.44±.04; Best double couple: $M_0$0.96200×10^{17} NP1:ϕ_s69.00000°, δ66.00000°, λ9.00000°. NP2:ϕ_s336.00000°, δ82.00000°, λ156.00000°. Principal axes: T 1.0170, Plg23.0000°, Azm290.0000°; N -0.1110, Plg64.0000°, Azm138.0000°; P -0.9060, Plg11.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **01** 10:24:42.6±2.9, 23°.56N×98°.92E, h18^{km}±17^{km}, mb4.5/37, mb1 4.6/38, mb1mx4.6/48, mbtmp4.6/38, ML4.7/1, MS4.6/37, Ms1 4.6/37, ms1mx4.5/47 Error ellipse: s-maj=10.6km s-min=7.8km az=68.0*
ISC 01 10:24:43.0±0.5, 23°.58N±0°.03×98°.89E±0°.03, h18^{km}±2^{km}, h18^{km}:pP-P, n668, σ1^{s}63/726, mb5.0/193, MS4.6/59, 60C-15D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRAI	Chiangrai	3.61	157	P	Pn	10 25 35.6	-2.5
CRAI				S	Sb	10 26 31.5	+1.7
KMI	Kunming	3.83	66	⇓Pn	Pn	10 25 40.5	-0.7
KMI				Sn	Sn	10 26 24.7	-1.3
KMI				Sg	Sg	10 26 42.7	-3.3
KMI				smax	smax		
	comp=N,29µm,1.2s						
KMI				smax	smax		
	comp=E,15µm,1.0s						
KMI				LR	LR		
	comp=N,67µm,4.6s						
KMI				LR	LR		
	comp=E,42µm,5.5s						
KMI				LR	LR		
	comp=Z,34µm,11.2s						
KMI	Kunming	3.83	66	P	Pn	10 25 40.6	-0.7
KMI	Kunming	3.83	66	Pn	Pn	10 25 40.6	-0.7
PAYA	Payao	4.30	168	P	Pn	10 25 48.2	+0.6
CHTO	Chiang Mai	4.75	179	P	Pn	10 25 52.6	-1.1
CHTO	Chiang Mai	4.75	179		Pn	10 25 52.6	-1.1
CMMT	Chiang Mai	4.75	179	P	Pn	10 25 52.1	-1.6
MOKO	MOKOCHONG	4.82	305	*e*P	Pn	10 25 56.9	+2.0
KOHI	KOHIMA	4.85	297	*e*x	Pn	10 25 56.4	+1.2
LAMP	Lampang	5.08	172	P	Pn	10 25 56.8	-1.5
CM31	Chiang Mai Arr	5.10	179	P	Pn	10 25 57.0	-1.5
CM31	Chiang Mai Arr	5.10	179		Pn	10 25 57.5	-1.1
CMAR	Chiang Mai Arr	5.10	179	Pn	Pn	10 25 56.8	-1.8
	7.8nm,0.3s,baz=356,slow=13,SNR=56						
CMAR				Pg	Pb	10 26 15.4	+3.7
	124nm,0.3s,baz=353,slow=15,SNR=155						
CMAR				Lg	Lg	10 27 18.9	
	101nm,0.3s,baz=210,slow=37,SNR=6.6						
CMAR				LR	LR	10 28 19.8	
	comp=Z,4µm,18.7s,baz=204,slow=43						
CMAR	Chiang Mai Arr	5.10	179	*i* P	Pn	10 25 56.7	-1.8
CMAR				pmax	pmax		
	comp=Z,34nm,0.5s						
CMAR	Chiang Mai Arr	5.10	179		Pn	10 25 58.0	-0.6
CM09	Chiang Mai Arr	5.12	179	P	Pn	10 25 57.2	-1.6
SLVN	Son La	5.15	115	Pn	Pn	10 25 59.5	+0.2
CM05	Chiang Mai Arr	5.16	179	P	Pn	10 25 57.8	-1.6
JORH	JORHAT	5.25	308	*e*P	Pn	10 26 02.7	+2.1
MHMT	Maesarieng	5.46	190	P	Pn	10 26 01.7	-1.7
SAIH	SAIHA	5.55	260	*e*P	Pn	10 26 05.8	+1.0
SILR	SILCHAR	5.69	283	*e*P	Pn	10 26 07.1	+0.5
ZIRO	ZIRO	6.01	312	*e*P	Pn	10 26 11.1	-0.2
UTTA	Uttaradit	6.01	165	P	Pn	10 26 09.5	-1.6
SUKH	Sukhothai	6.11	173	P	Pn	10 26 11.2	-1.2
LOEI	Loei	6.44	159	P	Pn	10 26 17.5	+0.5
SHL	Shillong	6.68	289	*e*P	Pn	10 26 19.0	-1.4
NONG	Nongkai	6.78	143	P	Pn	10 26 16.7	-4.9
BELO	BELONIA	6.85	269	*e*P	Pn	10 26 20.9	-1.6
BELO				*e*S	Sb	10 28 03.1	+0.1
AGT	Agartala	7.01	274	*e*P	Pn	10 26 23.2	-1.6
AGT				*e*S	Sb	10 28 10.8	+3.2
GUWA	GUWAHATI	7.04	293	*e*P	Pn	10 26 24.0	-1.1
GYA	Guiyang	7.61	66	⇑Pn	Pn	10 26 31.0	-2.1
GYA				Sg	Sb	10 28 37.2	+12
GYA				smax	smax		
	comp=Z,770nm,1.5s						
GYA				smax	smax		
	comp=Z,440nm,2.0s						
GYA				LR	LR		
	comp=Z,15µm,7.9s						
GYA				LR	LR		
	comp=Z,26µm,6.3s						
GYA				LR	LR		
	comp=Z,28µm,9.0s						
CHAI	Chaiyaphum	8.18	159	P	Pn	10 26 40.2	-0.6
CD2	Chengdu	8.48	30	P	Pn	10 26 44.3	-0.8
CD2				S	Sn	10 28 21.6	+1.2
CD2	Chengdu	8.48	30	P	Pn	10 26 44.6	-0.5
CD2				S	Sn	10 28 23.6	+3.2
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				LR	LR		
	comp=Z,27µm,7.1s						
CD2				LR	LR		
	comp=Z,20µm,6.8s						
CD2				LR	LR		
	comp=Z,21µm,7.3s						
SRDT	SRDT	9.19	179	P	Pn	10 26 54.8	+0.1
LSA	Lhasa	9.22	313	P	Pn	10 26 56.5	+0.9
LSA				S	Sn	10 28 49.3	+10
LSA				LR	LR		
	comp=Z,14µm,7.1s						
LSA				LR	LR		
	comp=Z,9µm,7.1s						
LSA				LR	LR		
	comp=Z,15µm,7.8s						
LSA	Lhasa	9.22	313	P	Pn	10 26 56.7	+1.1
LSA	Lhasa	9.22	313	Pn	Pn	10 26 56.7	+1.1
NAYO	Nakonayok	9.50	166	P	Pn	10 26 58.7	-0.3
GTK	Tadong	10.02	294	*e*P	Pn	10 27 06.5	+0.3
UBPT	Khong Chiam	10.33	142	P	Pn	10 27 08.5	-1.8
UBPT	Khong Chiam	10.33	142		Pn	10 27 09.0	-1.3
TAPN	Taplejung	10.78	293	*e*P	Pn	10 27 16.5	-0.2
	comp=Z,191nm,0.7s						
ODAN	Odare	10.91	290	*e*P	Pn	10 27 17.5	-1.1
	comp=Z,286nm,0.8s						
QIZ	Qiongzhong	11.16	112	P	Pn	10 27 21.1	-0.7
QIZ				sP		10 27 27.6	
QIZ				S	Sn	10 29 26.2	-0.1
QIZ				sS		10 29 38.6	
QIZ				pmax	pmax		
	comp=Z,49nm,1.3s						
QIZ				LR	LR		
	comp=Z,8µm,13.2s						
QIZ				LR	LR		
	comp=Z,9µm,11.8s						
QIZ				LR	LR		
	comp=Z,10µm,12.8s						
QIZ	Qiongzhong	11.16	112	Pn	Pn	10 27 21.3	-0.5
ENH	Enshi	11.56	53	Pn	Pn	10 27 25.1	-2.1
RAMN	Ramite	11.62	289	*e*P	Pn	10 27 26.8	-1.4
	comp=Z,122nm,0.6s						
DGPR	DIGLIPUR	11.79	210	*e*P	Pn	10 27 36.1	+5.7

Sta	Name	Dist	Az	Phase	ISC phase	Time	Res
BOK	Bokaro	11.92	274	eP	Pn	10 27 30.5	-1.7
BOK				eS	Sn	10 30 00.5	+16
GUN	Gumba	12.49	293	eP	Pn	10 27 38.7	-1.6
	comp=Z,162nm,0.8s						
PKI	Pulchoki	12.80	291	eP	Pn	10 27 42.2	-2.3
	comp=Z,95nm,0.6s						
PKIN	Phulchoki	12.81	291	eP	Pn	10 27 42.3	-2.3
	comp=Z,114nm,0.5s						
KKN	Kakani	12.97	292	eP	Pn	10 27 44.5	-2.2
	comp=Z,167nm,0.7s						
DMN	Daman	13.07	291	eP	Pn	10 27 45.5	-2.6
	comp=Z,85nm,0.7s						
LZH	Lanzhou	13.18	18	⇓P	Pn	10 27 52.5	+3.1
LZH				pP	P	10 27 56.0	-3.4
LZH				sP		10 27 59.2	
LZH				S	Sn	10 30 21.8	+6.2
LZH				SS	S	10 30 38.3	-2.0
LZH				pmax	pmax		
	comp=Z,120nm,1.1s						
LZH				pmax	pmax		
	comp=Z,350nm,4.3s						
LZH				LR	LR		
	comp=Z,21µm,10.8s						
LZH				LR	LR		
	comp=Z,9µm,11.9s						
LZH				LR	LR		
	comp=Z,16µm,12.5s						
GZH	Guangzhou	13.29	89	P	Pn	10 27 54.4	+3.6
GZH				S	Sn	10 30 25.8	+7.7
GKN	Gorkha	13.57	292	eP	Pn	10 27 52.3	-2.6
	comp=Z,132nm,0.6s						
XAN	Xi'an	13.62	38	P	Pn	10 27 51.3	-4.1
XAN				pP	P	10 28 01.6	-2.6
XAN				PP		10 28 05.9	
XAN				S	Sn	10 30 23.1	-3.2
XAN				pmax	pmax		
	comp=Z,21nm,1.2s						
XAN				pmax	pmax		
	comp=Z,250nm,4.8s						
XAN				LR	LR		
	comp=Z,15µm,13.2s						
XAN				LR	LR		
	comp=Z,13µm,12.7s						
XAN				LR	LR		
	comp=Z,10µm,12.0s						
XAN	Xi'an	13.62	38	P	Pn	10 27 51.6	-3.8
XAN	Xi'an	13.62	38	Pn	Pn	10 27 51.5	-3.8
DLV	T Lat	14.74	140		Pn	10 28 11.8	+0.9
WHN	Wuhan	15.41	60	⇑P	Pn	10 28 16.8	-2.7
WHN				pP	P	10 28 21.7	-2.3
WHN				sP	pP	10 28 25.6	-3.6
WHN				PP	sP	10 28 30.2	-1.6
WHN				S	Sn	10 31 06.4	-3.4
WHN				pmax	pmax		
	comp=Z,48nm,0.7s						
WHN				LR	LR		
	comp=Z,26µm,7.0s						
WHN				LR	LR		
	comp=Z,27µm,13.0s						
WHN				LR	LR		
	comp=Z,25µm,9.4s						
GTA	Gaotai	15.80	3	P	Pn	10 28 24.5	-0.2
GTA				pP	P	10 28 29.9	+1.4
GTA				sP	pP	10 28 33.0	-0.8
GTA				S	Sn	10 31 21.6	+2.2
GTA				sS	S	10 31 31.1	-2.8
GTA				SS	SnSn	10 31 38.0	+5.3
GTA				pmax	pmax		
	comp=Z,170nm,5.1s						
GTA				LR	LR		
	comp=Z,2µm,11.6s						
GTA				LR	LR		
	comp=Z,22µm,13.8s						
GTA				LR	LR		
	comp=Z,3µm,12.0s						
QZH	Quanzhou	18.01	82	⇑iP	P	10 28 53.7	+0.8
QZH				eS	Sn	10 32 12.2	-0.9
QZH				pmax	pmax		
	comp=Z,720nm,8.7s						
QZH				LR	LR		
	comp=Z,32µm,9.1s						
QZH				LR	LR		
	comp=Z,5µm,8.7s						
QZH				LR	LR		
	comp=Z,8µm,8.0s						
TIY	Taiyuan	18.25	36	eP	Pn	10 28 54.3	-1.1
TIY				pP	pP	10 29 00.2	-0.6
TIY				PP	sP	10 29 12.9	+10
TIY				S	Sn	10 32 18.8	+0.1
TIY				sS	S	10 32 24.7	+1.0
TIY				pmax	pmax		
	comp=Z,140nm,0.8s						
TIY				LR	LR		
	comp=Z,5µm,13.8s						
TIY				LR	LR		
	comp=Z,6µm,10.8s						
TIY				LR	LR		
	comp=Z,6µm,14.3s						
KULM	Kulim	18.27	174	P	Pn	10 28 54.0	-1.7
KULM	Kulim	18.27	174	P	Pn	10 28 55.0	-0.7
IPM	Ipoh	19.10	173		P	10 29 04.3	-0.7
IPM	Ipoh	19.10	173	P	Pn	10 29 06.0	+0.1
MLSI	Meulaboh, Aceh	19.35	188	P	Pn	10 29 08.2	-0.6
	comp=Z,5µmcomp=Z,163nm,1.5s						
BTO	Baotou	19.39	26	P	P	10 29 07.8	-0.2
BTO				S	S	10 32 47.4	+0.7
BTO				pmax	pmax		
	comp=Z,720nm,1.2s						
BTO				LR	LR		
	comp=Z,12µm,10.0s						
BTO				LR	LR		
	comp=Z,16µm,9.2s						
NJ2	Nanjing	19.55	60	eP	P	10 29 09.4	-0.3
NJ2				pP	Pn	10 29 12.9	+1.9
NJ2				sP	pP	10 29 15.4	+0.5
NJ2				S	S	10 32 49.4	-0.4
NJ2				pmax	pmax		
	comp=Z,69nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,590nm,4.1s						
NJ2				LR	LR		
	comp=Z,20µm,9.0s						
NJ2				LR	LR		
	comp=Z,8µm,8.4s						
NJ2				LR	LR		
	comp=Z,7µm,9.0s						
BHPL	Bhopal	19.71	273	eP	P	10 29 10.2	-1.4
BHPL				eS	S	10 32 48.4	-5.0
DDI	Dehra Dun	19.74	294	eP	P	10 29 11.2	-0.7
DDI				eS	Sn	10 32 58.1	+3.3
TSI	Tuntungan	19.97	181	P	Pn	10 29 15.1	-1.0
	comp=Z,3µmcomp=Z,362nm,0.7s						
HYB	Hyderabad	20.01	256	i P	P	10 29 15.0	+0.1
HYB				eS	Sn	10 33 06.0	+4.6
HYB	Hyderabad	20.01	256	eP	P	10 29 13.2	-1.6
TIA	Tai'an	20.16	47	P	P	10 29 16.1	-0.3
TIA				pmax	pmax		
	comp=Z,96nm,1.6s						
TIA				pmax	pmax		
	comp=Z,730nm,4.0s						
TIA				LR	LR		
	comp=Z,3µm,9.6s						
TIA				LR	LR		
	comp=Z,5µm,11.1s						
TIA				LR	LR		
	comp=Z,5µm,14.9s						
SSLB	Suanglung	20.20	85		P	10 29 16.6	-0.4
HHC	Hu-ho-hao-te	20.24	29	⇓iP	P	10 29 17.5	+0.1
HHC				sP	sP	10 29 24.6	-0.6
HHC				PP	PnPn	10 29 37.8	+3.6
HHC				S	S	10 32 59.7	-4.1
HHC				sS	Sn	10 33 06.4	-0.5
HHC				SS	SnSn	10 33 28.0	+6.4
HHC				pmax	pmax		
	comp=Z,150nm,1.2s						
HHC				pmax	pmax		
	comp=Z,810nm,5.7s						
HHC				LR	LR		
	comp=Z,6µm,10.2s						
HHC				LR	LR		
	comp=Z,3µm,10.0s						
HHC				LR	LR		
	comp=Z,5µm,12.8s						
TPTI		20.27	185	P	P	10 29 17.4	-0.3
	comp=Z,758nmcomp=Z,42nm,1.1s						

Sta	Name	Dist	Az	Phase	ISC phase	Time	Res
TWG	Pinlang	20.40	88	P	P	10 29 18.5	-0.6
MDRS	Chennai	20.54	243	eP	P	10 29 20.0	-0.6
YHNB	Yeheng	20.55	82	P	P	10 29 20.4	-0.4
YULB	Yu-li	20.55	86	P	P	10 29 21.1	+0.3
PSI	Prapat	20.66	180	P	Pn	10 29 22.8	-1.6
	comp=Z,59nm,1.0s,baz=360,slow=4.6,SNR=15						
PSI				S	Sn	10 33 16.6	-0.6
	comp=Z,7.2nm,1.0s,baz=0.0,slow=20,SNR=2.0						
PSI				Lg	Lg	10 35 39.1	
	comp=Z,3.8nm,0.7s,baz=0.1,slow=4.9,SNR=3.7						
PSI				LR	LR	10 37 24.7	
	comp=Z,1µm,21.6s,baz=271,slow=37						
PSI	Prapat	20.66	180	P	Pn	10 29 23.4	-1.0
PSI				pmax	pmax		
	comp=Z,185nm,1.3s						
SMLA	Simla	20.69	296	eP	P	10 29 21.0	-1.2
SMLA				IAmb	IAmb	10 29 25.4	
	comp=Z,82nm,0.5s						
RPSI	Rantau Prapat	20.77	180		P	10 29 23.4	+0.4
RPSI				IAmb	IAmb	10 29 28.0	
	comp=Z,185nm,1.3s						
NACB	Ninganchiao	20.77	84	P	P	10 29 23.5	+0.4
SSE	Sheshan	21.15	64	P	P	10 29 27.6	+0.5
SSE				S	S	10 33 22.1	+0.4
SSE				pmax	pmax		
	comp=Z,26nm,1.3s						
SSE				pmax	pmax		
	comp=Z,350nm,3.9s						
SSE				LR	LR		
	comp=Z,8µm,16.0s						
SSE				LR	LR		
	comp=Z,4µm,14.7s						
SSE	Sheshan	21.15	64	P	P	10 29 26.5	-0.6
SSE				IAmb	IAmb	10 29 30.6	
	comp=Z,82nm,1.2s						
BHK	Bhakra	21.39	296	ex	x	10 29 28.8	
DHRM	DHARAMSHALA	21.72	298	eP	P	10 29 31.8	-1.7
DHRM				IAmb	IAmb	10 29 40.3	
	comp=Z,160nm,2.1s						
DHRM				i x	x	10 33 34.3	
BJT	Baijiatuau	21.94	38	P	P	10 29 35.3	-0.2
BJT				pmax	pmax		
	comp=Z,83nm,1.0s						
BJT	Baijiatuau	21.94	38	P	P	10 29 35.3	-0.2
BJT				IAmb	IAmb	10 29 42.6	
	comp=Z,83nm,1.0s						
BJI	Beijing	21.95	38	P	P	10 29 35.8	+0.1
BJI				S	S	10 33 42.2	+4.8
BJI				pmax	pmax		
	comp=Z,51nm,1.2s						
BJI				LR	LR		
	comp=Z,5µm,15.1s						
BJI				LR	LR		
	comp=Z,5µm,14.2s						
BJI				LR	LR		
	comp=Z,2µm,18.0s						
AJM	Ajmer	22.15	283	⇑iP	P	10 29 37.0	-1.0
GSI	Gunungsitoli	22.18	183	P	P	10 29 37.6	-0.7
GSI				IAmb	IAmb	10 29 55.4	
	comp=Z,63nm,1.0s						
GSI	Gunungsitoli	22.18	183	P	P	10 29 46.0	+7.7
MYKOM	Kota Tinggi	22.19	167	P	P	10 29 38.0	-0.4
WMQ	Urumqi	22.19	338	eP	P	10 29 39.4	+1.1
WMQ				pP	pP	10 29 44.3	+0.6
WMQ				sP	sP	10 29 47.3	+1.1
WMQ				S	S	10 33 36.8	-5.2
WMQ				pmax	pmax		
	comp=Z,97nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,620nm,3.9s						
WMQ				LR	LR		
	comp=Z,4µm,14.7s						
WMQ				LR	LR		
	comp=Z,5µm,16.1s						
WMQ				LR	LR		
	comp=Z,3µm,10.3s						
THN	Thein Dam	22.25	298	eP	P	10 29 40.0	+1.1
MNSI	Mandailing Nat	22.66	178	P	P	10 29 44.6	+1.2
	comp=Z,30nm,0.7s						
TGY	Tagaytay City	22.87	110	P	P	10 29 46.5	+0.8
	comp=Z,104nm,0.3s,baz=2.6,slow=19,SNR=3.2						
TGY				LR	LR	10 38 31.1	
	comp=Z,1µm,19.6s,baz=309,slow=36						
PALK	Pallekele	23.84	230	P	P	10 29 54.6	-0.7
	comp=Z,46nm,1.3s,baz=143,slow=12,SNR=11						
PALK				S	S	10 34 10.6	0.0
	comp=Z,1.3nm,0.4s,baz=141,slow=13,SNR=1.8						
PALK				LR	LR	10 40 01.7	
	comp=Z,1µm,18.7s,baz=152,slow=39						
PALK	Pallekele	23.84	230	d iP	P	10 29 55.6	+0.3
PALK				pmax	pmax		
	comp=Z,188nm,1.4s						
PALK	Pallekele	23.84	230	P	P	10 29 55.1	-0.2
POO	Poona	23.89	263	eP	P	10 29 54.0	-1.9
NIL	Nilore	24.59	300	P	P	10 30 01.8	-0.3
NIL				pmax	pmax		
	comp=Z,79nm,0.9s						
NIL	Nilore	24.59	300	P	P	10 30 01.8	-0.3
NIL				IAmb	IAmb	10 30 11.9	
	comp=Z,78nm,0.8s						
DL2	Dalian	24.62	46	⇓iP	P	10 30 02.4	0.0
DL2				S	S	10 34 25.4	+2.5
DL2				pmax	pmax		
	comp=Z,140nm,0.9s						
DL2				pmax	pmax		
	comp=Z,100nm,3.5s						
DL2				LR	LR		
	comp=Z,4µm,20.2s						
DL2				LR	LR		
	comp=Z,4µm,18.4s						
DL2				LR	LR		
	comp=Z,4µm,14.9s						
SBUM	Sibu	24.65	146	P	P	10 30 02.9	+0.1
SBUM				IAmb	IAmb	10 30 07.1	
	comp=Z,76nm,1.5s						
SBUM	Sibu	24.65	146	P	P	10 30 06.0	+3.2
GOA	Goa	24.93	256	eP	P	10 30 04.8	-0.6
SONM	Songino Array	24.93	12	P	P	10 30 05.7	+0.4
	comp=Z,14nm,0.9s,baz=198,slow=9.7,SNR=43						
SONM				LR	LR	10 41 09.0	
	comp=Z,2µm,19.5s,baz=188,slow=40						
SONM	Songino Array	24.93	12	P	P	10 30 04.9	-0.3
SONM				pmax	pmax		
	comp=Z,39nm,1.2s						
SONM	Songino Array	24.93	12	P	P	10 30 04.9	-0.3
KSH	Kashi	25.07	315	P	P	10 30 07.4	+0.8
KSH				pP	pP	10 30 12.1	-0.3
KSH				PP	PnPn	10 30 46.1	+5.8
KSH				S	S	10 34 30.2	-0.2
KSH				SS	SnSn	10 35 30.1	+10
KSH				pmax	pmax		
	comp=Z,170nm,1.2s						
KSH				pmax	pmax		
	comp=Z,1µm,2.9s						
KSH				LR	LR		
	comp=Z,10µm,13.3s						
KSH				LR	LR		
	comp=Z,3µm,14.4s						
KSH				LR	LR		
	comp=Z,8µm,16.4s						
ULN	Ulaanbaatar	25.09	13	ceP	P	10 30 07.5	+0.8
ULN				pmax	pmax		
	comp=Z,36nm,1.3s						
ULN	Ulaanbaatar	25.09	13	P	P	10 30 07.0	+0.3
ULN				IAmb	IAmb	10 30 27.3	
	comp=Z,39nm,1.0s						
SHLS	Shalkode	25.27	325	eP	P	10 30 05.7	-2.7
	comp=Z,147nm,1.4s,baz=326						
SHLS	Shalkode	25.27	325	eP	P	10 30 05.7	-2.7
SHLS				pmax	pmax		
	comp=Z,147nm,1.4s						
UZB	Uzynbulak	25.50	325	eP	P	10 30 09.9	-0.6
	comp=Z,90nm,1.5s,baz=325						
UZB				eS	S	10 34 38.6	+1.5
	baz=325						
UZB	Uzynbulak	25.50	325	eP	P	10 30 09.9	-0.6
UZB				eS	S	10 34 38.6	+1.5
UZB				pmax	pmax		
	comp=Z,90nm,1.5s						
SATY	Saty	25.77	324	eP	P	10 30 12.4	-0.6
	comp=Z,95nm,1.9s,baz=324						
SATY	Saty	25.77	324	eP	P	10 30 12.3	-0.6
SATY				pmax	pmax		
	comp=Z,95nm,1.9s						
TRD	Trivandrum	25.81	238	eP	P	10 30 14.5	+1.2

Sta	Name	Dist	Az	Phase	ISC phase	Time	Res
TRD				IAmb	IAmb	10 30 22.4	
	comp=Z,101nm,1.5s						
KPKS	Kokpek	25.90	325	eP	P	10 30 13.7	-0.4
	baz=325						
KPKS	Kokpek	25.90	325	eP	P	10 30 13.6	-0.4
MYLDM	Lahad Datu	26.30	131	P	P	10 30 18.2	+0.5
MYLDM				IAmb	IAmb	10 30 27.2	
	comp=Z,60nm,1.0s						
ZSN	Zaisan	26.33	338	eP	P	10 30 17.9	+0.1
	baz=338						
ZSN				eS	S	10 34 52.2	+2.4
	baz=338						
ZSN	Zaisan	26.33	338	eP	P	10 30 17.9	+0.1
ZSN				eS	S	10 34 52.2	+2.4
ULHL	Ulahol	26.47	320	P	P	10 30 20.8	+1.5
	SNR=25						
TNSS	Tian-Shan	26.56	322	eP	P	10 30 19.7	-0.7
	baz=322						
TNSS	Tian-Shan	26.56	322	eP	P	10 30 19.7	-0.7
MDOK	Medeo	26.59	323	eP	P	10 30 19.9	-0.5
	baz=323						
MDOK				LR	LR	10 40 51.9	
	comp=Z,1µm,12.9s,baz=323						
MDOK	Medeo	26.59	323	eP	P	10 30 19.8	-0.5
MDOK				MLR	MLR		
	comp=Z,1µm,13.0s						
AAA	Alma-Ata	26.69	322	eP	P	10 30 20.3	-0.9
	comp=Z,82nm,1.6s,baz=323						
AAA				LR	LR	10 41 02.3	
	comp=Z,1µm,13.0s,baz=323						
AAA	Alma-Ata	26.69	322	eP	P	10 30 20.2	-0.9
AAA				pmax	pmax		
	comp=Z,82nm,1.6s						
AAA				MLR	MLR		
	comp=Z,1µm,13.0s						
MK31	Makanchi Array	26.73	334	P	P	10 30 21.5	+0.1
MK31				pmax	pmax		
	comp=Z,31nm,1.1s						
MK31	Makanchi Array	26.73	334	P	P	10 30 21.5	+0.1
MKAR	Makanchi Array	26.73	334	P	P	10 30 22.1	+0.6
	comp=Z,7.8nm,0.9s,baz=143,slow=7.6,SNR=35						
MKAR				LR	LR	10 42 21.0	
	comp=Z,972nm,18.5s,baz=145,slow=40						
MKAR	Makanchi Array	26.73	334	P	P	10 30 21.5	+0.1
MKAR	Makanchi Array	26.73	334	P	P	10 30 21.5	+0.1
JOW	Kunigami	26.75	77	LR	LR	10 42 16.0	
	comp=Z,2µm,18.6s,baz=221,slow=39						
ZAK	Zakamensk	26.97	6	eP	P	10 30 24.1	+0.5
ZAK				pmax	pmax		
	comp=Z,42nm,1.2s						
CHKK	Chushkaly	27.07	324	eP	P	10 30 23.6	-0.9
	baz=324						
CHKK	Chushkaly	27.07	324	eP	P	10 30 23.6	-0.9
TDK	Taldyqorghan	27.11	327	eP	P	10 30 24.0	-1.0
	baz=327						
TDK				i LR	LR	10 40 36.0	
	comp=Z,866nm,11.5s,baz=327						
TDK	Taldyqorghan	27.11	327	eP	P	10 30 23.9	-1.0
TDK				MLR	MLR		
	comp=Z,866nm,12.0s						
TKM2	Tokmak 2	27.26	321	P	P	10 30 27.0	+0.6
	SNR=11						
KUU	Kurty	27.45	323	eP	P	10 30 26.6	-1.4
	comp=Z,133nm,2.6s,baz=323						
KUU	Kurty	27.45	323	eP	P	10 30 26.5	-1.4
KUU				pmax	pmax		
	comp=Z,133nm,2.6s						
SNY	Shenyang	27.46	43	⇓P	P	10 30 26.0	-2.0
SNY				S	S	10 35 08.3	+0.6
SNY				pmax	pmax		
	comp=Z,16nm,1.5s						
SNY				pmax	pmax		
	comp=Z,210nm,6.7s						
SNY				LR	LR		
	comp=Z,2µm,18.9s						
SNY				LR	LR		
	comp=Z,2µm,20.8s						
SNY				LR	LR		
	comp=Z,4µm,13.7s						
KBK	Karagaybulak	27.48	320	P	P	10 30 30.3	+1.9
	SNR=16						
UCH	Uchtor	27.50	318	P	P	10 30 30.0	+1.1
	SNR=18						
DGZ	Jazzator, Alta	27.58	344	i P	P	10 30 30.2	+1.1
DGZ				pmax	pmax		
	comp=Z,14nm,1.1s						
AAK	Ala-Archa	27.74	319	P	P	10 30 32.6	+1.9
	SNR=22						
AAK	Ala-Archa	27.74	319	ceP	P	10 30 32.4	+1.7
AAK				pmax	pmax		
	comp=Z,223nm,1.6s						
AAK	Ala-Archa	27.74	319	P	P	10 30 30.7	0.0
AAK				IAmb	IAmb	10 30 34.2	
	comp=Z,90nm,1.5s						
CHMS	Chumysh	27.80	320	P	P	10 30 33.4	+2.3
	SNR=7.8						
AML	Almayashu	27.95	317	P	P	10 30 34.3	+1.5
	SNR=40						
MOY	Mondy	28.08	3	eP	P	10 30 35.2	+1.6
MOY				pmax	pmax		
	comp=Z,36nm,1.8s						
KBL	Kabul	28.19	300	P	P	10 30 34.9	+0.1
KBL				pmax	pmax		
	comp=Z,38nm,1.1s						
KBL	Kabul	28.19	300	P	P	10 30 34.9	+0.1
KBL				IAmb	IAmb	10 31 12.6	
	comp=Z,38nm,1.1s						
EKS2	Erkin-Say	28.19	318	P	P	10 30 36.4	+1.6
	SNR=18						
TLY	Talaya	28.29	6	P	P	10 30 36.9	+1.6
	comp=Z,6.2nm,0.8s,baz=190,slow=9.5,SNR=9.4						
TLY				LR	LR	10 41 21.6	
	comp=Z,774nm,18.5s,baz=186,slow=35						
TLY	Talaya	28.29	6	i P	P	10 30 36.8	+1.5
TLY				pmax	pmax		
	comp=Z,19nm,1.6s						
TLY	Talaya	28.29	6	P	P	10 30 36.2	+0.9
MDSI	Maura Dua	28.37	169	P	P	10 30 37.0	+0.7
	comp=Z,423nmcomp=Z,13nm,1.1s						
KSAR	Wonju Array Be	28.41	54	P	P	10 30 37.9	+1.4
KSAR	Wonju Array Be	28.41	54	P	P	10 30 37.9	+1.4
KSRS	Korea Array	28.44	54	P	P	10 30 36.9	+0.1
	comp=Z,3.1nm,1.0s,baz=224,slow=8.8,SNR=5.6						
KSRS				LR	LR	10 41 57.6	
	comp=Z,946nm,18.7s,baz=255,slow=36						
KLSI		28.67	168	P	P	10 30 38.9	-0.1
	comp=Z,18nm,1.1s						
IRK	Irkutsk	28.91	7	eP	P	10 30 42.6	+1.8
IRK				pmax	pmax		
	comp=Z,59nm,2.3s						
BTLS	Baital	29.45	323	eP	P	10 30 44.4	-1.3
	baz=323						
BTLS	Baital	29.45	323	eP	P	10 30 44.3	-1.3
JNU	Nakatsue	29.61	64	LR	LR	10 42 12.1	
	comp=Z,2µm,21.2s,baz=260,slow=36						
CN2	Changchun	29.70	41	eP	P	10 30 35.5	-12
CN2				eS	S	10 35 39.2	-3.8
CN2				pmax	pmax		
	comp=Z,240nm,4.3s						
DZA	Taraz	29.83	317	eP	P	10 30 48.7	-0.4
	comp=Z,11nm,0.8s,baz=317						
DZA	Taraz	29.83	317	eP	P	10 30 48.7	-0.4
DZA				pmax	pmax		
	comp=Z,11nm,0.8s						
IUG	Iuzhnay	30.29	315	eP	P	10 30 53.0	-0.4
	comp=Z,25nm,1.5s,baz=315						
IUG	Iuzhnay	30.29	315	eP	P	10 30 52.9	-0.4
IUG				pmax	pmax		
	comp=Z,25nm,1.5s						
KK31	Karatay Array	30.45	317	P	P	10 30 54.2	-0.4
KK31				pmax	pmax		
	comp=Z,32nm,1.6s						
KK31	Karatay Array	30.45	317	P	P	10 30 54.2	-0.4
KKAR	Karatay Array	30.45	317	P	P	10 30 54.9	+0.3
KKAR				pmax	pmax		
	comp=Z,32nm,1.6s						
KKAR	Karatay Array	30.45	317	P	P	10 30 54.9	+0.3
KKAR	Karatay Array	30.45	317	P	P	10 30 54.0	-0.6
SEM	Semipalatinsk	30.46	336	eP	P	10 30 54.5	-0.3
	baz=336						
SEM				LR	LR	10 41 44.4	
	comp=Z,461nm,12.8s,baz=336						
SEM	Semipalatinsk	30.46	336	eP	P	10 30 54.5	-0.3
SEM				MLR	MLR		
	comp=Z,461nm,13.0s						
CIT	Chita	30.54	18	eP	P	10 30 56.3	+1.0

CIT *e* 10 31 08.0
CIT pmax pmax
comp=Z,47nm,1.1s
BRLS Borolday 30.84 316 *e*P **P** **10 30 57.9 -0.3**
comp=Z,22nm,1.2s,baz=316
BRLS Borolday 30.84 316 *e*P **P** **10 30 57.8 -0.3**
BRLS pmax pmax
comp=Z,22nm,1.2s
BBKI Banjar Baru 31.05 148 P **P** **10 31 00.9 +0.8**
comp=Z,35nm,0.9s
KURBB **Kurchatov Arra 31.29 335** P **P** **10 31 02.1 +0.3**
comp=Z,54nm,0.3s,baz=146,slow=9.2,SNR=18
KURBB PcP **PcP** **10 33 56.4 +0.6**
comp=Z,5.1nm,1.0s,baz=155,slow=2.0,SNR=4.3
KURK Kurchatov 31.33 335*ce*P **P** **10 31 03.2 +1.0**
KURK pmax pmax
comp=Z,16nm,1.3s
KURK Kurchatov 31.33 335 **P** **10 31 02.2 0.0**
KURK Kurchatov 31.33 335 P **P** **10 31 02.1 -0.1**
KURK IAmb IAmb 10 31 34.8
comp=Z,16nm,1.0s
ZAA0 Zalesovo Array 32.12 344 P **P** **10 31 09.0 -0.2**
ZALV Zalesovo Beam 32.12 344 P **P** **10 31 09.1 0.0**
comp=Z,2.4nm,0.7s,baz=157,slow=7.7,SNR=11
ZALV LR LR 10 45 06.2
comp=Z,621nm,19.0s,baz=165,slow=38
ZALV Zalesovo Beam 32.12 344 P **P** **10 31 09.6 +0.5**
MDJ Mudanjiang 32.66 43 P **P** **10 31 13.6 -0.4**
MDJ pP pP 10 31 17.7 -2.1
MDJ sP sP 10 31 21.7 -0.5
MDJ S **S** **10 36 28.6 -0.7**
MDJ sS pS 10 36 37.4 +1.6
MDJ ScS **ScS** **10 41 41.6 -0.8**
MDJ pmax pmax
comp=Z,8.0nm,1.6s
MDJ pmax pmax
comp=Z,95nm,3.1s
MDJ LR LR
comp=Z,3μm,18.5s
MDJ LR LR
comp=Z,2μm,18.5s
MDJ LR LR
comp=Z,3μm,18.1s
GTOI Gorontalo 32.68 131 P **P** **10 31 14.3 -0.1**
comp=Z,340nmcomp=Z,19nm,0.9s
APSI Ampana 32.90 135 P **P** **10 31 18.7 +2.4**
comp=Z,566nmcomp=Z,51nm,1.0s
BRZS Berezniki 33.37 329 *e*P **P** **10 31 19.6 -0.6**
comp=Z,20nm,1.6s,baz=329
BRZS Berezniki 33.37 329 *e*P **P** **10 31 19.5 -0.6**
BRZS pmax pmax
comp=Z,20nm,1.6s
TTSI Tana Toraja 33.41 140 P **P** **10 31 21.7 +0.9**
comp=Z,1μmcomp=Z,21nm,1.0s
HRA Herat 33.65 297 P **P** **10 31 22.0 -1.1**
LUWI Luwuk 33.73 133 P **P** **10 31 23.8 +0.1**
LUWI Luwuk 33.73 133 P **P** **10 31 24.9 +1.2**
comp=Z,2μmcomp=Z,76nm,1.2s
USA0B Ussuriysk Arra 33.98 45 *i* P **P** **10 31 23.8 -1.7**
USA0B Ussuriysk Arra 33.98 45 P **P** **10 31 24.0 -1.5**
USA0B IAmb IAmb 10 31 56.8
comp=Z,29nm,1.0s
USRK Ussuriysk Ar. 33.98 45 P **P** **10 31 24.1 -1.4**
comp=Z,5.7nm,0.5s,baz=255,slow=9.7,SNR=29
USRK LR LR 10 44 50.0
comp=Z,2μm,18.1s,baz=227,slow=36
USRK Ussuriysk Ar. 33.98 45 P **P** **10 31 23.8 -1.8**
SPSI Sidrap Palu 34.12 141 P **P** **10 31 29.5 +2.5**
comp=Z,787nmcomp=Z,27nm,1.8s
KAPI Kappang 34.96 142 P **P** **10 31 34.0 -0.2**
comp=Z,4.7nm,0.5s,baz=270,slow=7.3,SNR=6.3
BOD Bodaibo 35.90 14 *e*P **P** **10 31 42.3 +0.4**
BOD pmax pmax
comp=Z,26nm,1.0s
MAT Matsushiro 36.15 60 P **P** **10 31 43.9 -0.5**
MAT *e*S **S** **10 37 21.6 -1.8**
MJAR Matsushiro Arr 36.15 60 P **P** **10 31 43.4 -1.0**
comp=Z,21nm,1.2s,baz=267,slow=8.2,SNR=12
MJAR Matsushiro Arr 36.15 60 P **P** **10 31 44.0 -0.4**
KLR Kul'dur 36.33 37 P **P** **10 31 44.5 -1.1**
comp=Z,6.1nm,1.0s,baz=262,slow=9.5,SNR=15
KLR Kul'dur 36.33 37*ce*P **P** **10 31 43.9 -1.8**
KLR pmax pmax
comp=Z,14nm,1.1s
BVAR Borovoye Array 36.48 331 P **P** **10 31 47.3 +0.3**
comp=Z,3.3nm,0.6s,baz=90,slow=10,SNR=12
BRVK Borovoye 36.55 331*ce*P **P** **10 31 48.5 +1.0**
BRVK pmax pmax
comp=Z,21nm,1.3s
BRVK Borovoye 36.55 331 P **P** **10 31 48.2 +0.7**
TWSI Taliwang, Sumb 36.62 149 P **P** **10 31 50.3 +1.8**
comp=Z,13nm,1.1s
ZEA Zeya 36.90 28 *e*P **P** **10 31 50.6 +0.1**
ZEA *e*S **S** **10 37 30.8 -3.6**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA smax smax
comp=N,200nm,9.6s
ZEA MLR MLR
comp=N,2μm,12.0s
ZEA MLR MLR
comp=Z,2μm,13.0s
PLAI Plampang 37.13 148 P **P** **10 31 54.3 +1.5**
comp=Z,30nm,0.9s
GEYT Alibeck 37.54 302 P **P** **10 31 56.5 +0.3**
comp=Z,13nm,1.1s,baz=133,slow=8.3,SNR=14
GEYT LR LR 10 50 56.6
comp=Z,840nm,18.2s,baz=155,slow=42
GEYT Alibeck 37.54 302 P **P** **10 31 55.7 -0.5**
GYA0B ALIBECK ARRAY 37.54 302 P **P** **10 31 55.4 -0.8**
GRNR Gornyy 39.70 37⇑ *i*P **P** **10 32 13.3 -0.9**
GRNR pmax pmax
comp=Z,5.0nm,1.0s
GRNR MLR MLR
comp=E,670nm,16.0s
GRNR MLR MLR
comp=N,890nm,11.0s
GRNR MLR MLR
comp=Z,1μm,10.0s
SWI Sorong 39.75 123 P **P** **10 32 14.5 -0.4**
comp=Z,24nm,1.1s
SIJI Sorong 39.76 123 P **P** **10 32 15.2 +0.2**
comp=Z,15nm,0.9s,baz=345,slow=13,SNR=6.1
ABKAR Akbulak array 39.82 320 P **P** **10 32 15.3 +0.2**
ABKAR Akbulak array 39.82 320 P **P** **10 32 15.5 +0.3**
ABKAR IAmb IAmb 10 32 17.5
comp=Z,104nm,1.8s
ASAJ Asahikawa 41.09 49 P **P** **10 32 26.1 +0.3**
comp=Z,49nm,0.9s,baz=258,slow=14,SNR=18
ASAJ Asahikawa 41.09 49 P **P** **10 32 25.7 0.0**
ASAJ pmax pmax
comp=Z,92nm,1.0s
JKA Kamikawa-asahi 41.09 49 P **P** **10 32 25.6 -0.1**
SOEI Soe 41.40 140 P **P** **10 32 28.1 -0.5**
SOEI Soe 41.40 140 P **P** **10 32 29.5 +0.9**
comp=Z,1μmcomp=Z,103nm,1.0s
AKTO Aktyubinsk 41.45 321 P **P** **10 32 28.8 +0.2**
comp=Z,2.9nm,0.5s,baz=119,slow=12,SNR=9.7
FAKI Fak Fak 41.82 125 P **P** **10 32 33.2 +1.2**
comp=Z,26nm,1.0s
YSS Yuzh-Sakhalins 42.02 45 *i* P **P** **10 32 32.9 -0.3**
YSS pmax pmax
comp=Z,52nm,1.6s
SVE Sverdlovsk 43.25 330 *e*P **P** **10 32 44.3 +1.2**
SVE pmax pmax
comp=Z,43nm,1.4s
YAK Yakutsk 43.74 20 P **P** **10 32 49.6 +2.6**
comp=Z,5.5nm,0.4s,baz=256,slow=0.9,SNR=4.1
YAK Yakutsk 43.74 20 *e*P **P** **10 32 50.0 +3.0**
YAK *e**PP **sP** **10 33 00.5 +5.2**
YAK *e* 10 34 36.7
YAK *e*SS SS 10 42 42.9 +11
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK MLR MLR
comp=Z,2μm,13.0s
YAK MLR MLR
comp=N,605nm,11.0s
YAK MLR MLR
comp=E,598nm,10.0s
ARU Arti 44.00 329 P **P** **10 32 50.1 +0.9**
comp=E,2.2nm,0.6s,baz=149,slow=6.6,SNR=7.7

ARU Arti 44.00 329*c i*P **P** **10 32 49.8 +0.6**
ARU 10 34 31.1
ARU 10 34 40.2
ARU S **S** **10 39 24.3 +4.0**
ARU SS **ScS** **10 42 43.2 -3.9**
ARU pmax pmax
comp=Z,26nm,1.4s
ARU MLR MLR
comp=Z,1μm,16.0s
ARU Arti 44.00 329 P **P** **10 32 49.5 +0.3**
ARU IAmb IAmb 10 33 23.1
comp=Z,35nm,1.2s
LKRN Lenkeran, Azer 44.92 302 P **P** **10 32 56.2 -0.6**
UMR Umm Al-Rimmam 45.86 289 *e*P 10 33 03.1
RDF Al-Radifah 46.07 288 *e*P 10 33 04.8
MIB Mutribah 46.17 289 *e*P 10 33 05.3
MAK Makhachkala 46.34 308 *e*P **P** **10 33 03.3 -4.6**
MAK *e*S **S** **10 39 48.6 -5.8**
MAK *e*SS **SS** **10 43 16.6 -3.3**
MAK *e*SSS SSS 10 44 12.7
MAK pmax pmax
comp=Z,276nm,1.5s
MAK MLR MLR
comp=Z,879nm,17.0s
SEKA Sheki 46.36 305 P **P** **10 33 07.7 -0.5**
MNGR Mingechevir, A 46.40 304 P **P** **10 33 08.4 -0.1**
GANJ Ganja 46.97 304 P **P** **10 33 11.9 -1.1**
LGD Lagodekhi 47.13 306 P **P** **10 33 16.0 +1.7**
NAX Nakhchivan 47.51 302 P **P** **10 33 17.3 0.0**
GROC Groznyy 47.61 308 *e*P **P** **10 33 17.3 -0.6**
GROC *e* 10 34 48.2
GROC *e* 10 35 10.9
GROC *e*S **S** **10 40 15.4 +2.8**
GROC pmax pmax
comp=Z,31nm,0.5s
GNI Garni 48.14 303 P **P** **10 33 23.0 +0.7**
comp=Z,23nm,1.1s,baz=214,slow=3.6,SNR=4.0
GNI Garni 48.14 303*ce*P **P** **10 33 22.6 +0.3**
GNI pmax pmax
comp=Z,101nm,2.5s
GNI Garni 48.14 303 P **P** **10 33 23.0 +0.7**
BELG Belogornoye 48.23 320 *i* P **P** **10 33 22.0 -0.5**
BELG pmax pmax
comp=Z,9.0nm,1.5s
KZRT Kazreti 48.47 305 P **P** **10 33 22.8 -1.9**
RAYN Ar Rayn 48.69 281 P **P** **10 33 25.2 -1.5**
RAYN pmax pmax
comp=Z,11nm,0.9s
RAYN Ar Rayn 48.69 281 P **P** **10 33 25.1 -1.5**
ZEI Tsey 48.95 307 *e*P **P** **10 33 27.1 -1.4**
ZEI pmax pmax
comp=Z,37nm,1.5s
FITZ Fitzroy Crossi 48.97 145 P **P** **10 33 27.2 -1.4**
FITZ IAmb IAmb 10 33 50.0
comp=Z,26nm,1.6s
BGD Bogdanovka 49.07 305 P **P** **10 33 32.2 +2.7**
AKH Akhalkalaki 49.16 305 P **P** **10 33 31.7 +1.6**
KIRV Kirov 49.37 328*ce*P **P** **10 33 33.1 +1.9**
KBZ Khabaz 49.76 308 P **P** **10 33 34.8 +0.3**
comp=Z,6.6nm,1.2s,baz=87,slow=4.8,SNR=5.3
KBZ LR LR 10 57 52.9
comp=Z,662nm,18.1s,baz=84,slow=40
KBZ Khabaz 49.76 308*ce*P **P** **10 33 33.9 -0.5**
KBZ pmax pmax
comp=Z,9.0nm,1.4s
GOF Gofitskoye 49.78 310⇑ *e*P **P** **10 33 33.6 -1.0**
GOF pmax pmax
comp=Z,97nm,1.6s
NEY Neytrino 49.85 307 *i* P **P** **10 33 35.9 +0.5**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KIV Kislovodsk 49.93 308*c i*P **P** **10 33 35.1 -0.8**
KIV *i* 10 33 45.8
KIV *i* 10 34 55.9
KIV *i* SS **SS** **10 44 16.8 -1.5**
KIV pmax pmax
comp=Z,19nm,0.9s
KIV MLR MLR
comp=Z,489nm,23.0s
KIV Kislovodsk 49.93 308 P **P** **10 33 35.9 0.0**
KIV IAmb IAmb 10 33 47.5
comp=Z,42nm,1.0s
SHA1 Shidzhatmaz 49.94 308*c i*P **P** **10 33 34.9 -1.2**
CHVG Ch'k'valeri 50.28 307⇑ P P 10 33 43.7 +5.3
MA2 Magadan 50.90 31 P **P** **10 33 42.2 -0.6**
comp=Z,27nm,0.9s,baz=241,slow=7.0,SNR=29
MA2 Magadan 50.90 31*ce*P **P** **10 33 42.3 -0.5**
MA2 pmax pmax
comp=Z,27nm,0.8s
MA2 Magadan 50.90 31 P **P** **10 33 41.6 -1.2**
MA2 IAmb IAmb 10 33 49.4
comp=Z,38nm,1.0s
TIXI Tiksi 51.02 12 *e*P **P** **10 33 42.9 -0.6**
TIXI Tiksi 51.02 12 P **P** **10 33 43.6 +0.1**
TIXI IAmb IAmb 10 33 47.4
comp=Z,19nm,0.9s
MARD Mardin 51.21 300 P **P** **10 33 44.7 -0.9**
SKR Severo-Kuril's 51.47 43 *e*P P 10 33 32.0 -15
SKR MLR MLR
comp=Z,800nm,16.0s
SKR MLR MLR
comp=Z,1μm,16.0s
VRH Novokhopyorsk 51.53 318 *e*P **P** **10 33 47.1 -0.5**
VRH pmax pmax
comp=Z,30nm,1.3s
SOC Sochi 52.05 308 *e*P **P** **10 33 48.9 -2.8**
SOC *e* 10 35 48.2
SOC *e*PPP PPP 10 36 50.8
SOC *e*S **S** **10 41 14.5 -0.2**
SOC *e*SS **SS** **10 44 50.9 -0.8**
SOC MLR MLR
comp=Z,447nm,16.0s
PETK Petropavlovsk- 52.85 40 LR LR 10 56 23.6
comp=Z,810nm,20.5s,baz=248,slow=36
SEY Seymchan 52.88 27 P **P** **10 33 57.0 -0.5**
comp=Z,4.6nm,0.9s,baz=288,slow=5.7,SNR=7.5
SEY Seymchan 52.88 27 *i* P **P** **10 33 59.4 +1.9**
VORD Divnogorie 53.00 317 *e*P **P** **10 33 57.2 -1.4**
VORD pmax pmax
comp=Z,10.0nm,1.3s
MALT Malatya 53.03 301 P **P** **10 34 00.7 +1.5**
VSR Storozhevoye 53.12 317 *e*P **P** **10 33 57.2 -2.2**
VSR pmax pmax
comp=Z,10.0nm,1.3s
LPSR Galich'ya Gora 53.46 319 *e*P **P** **10 34 01.7 -0.3**
LPSR pmax pmax
comp=Z,30nm,0.8s
MOS Moscow 54.72 323 *e*P **P** **10 34 08.4 -2.7**
MOS *e* 10 35 11.0
MOS *e* 10 36 10.5
MOS pmax pmax
comp=Z,36nm,0.7s
KLMR Klimovskoe 54.85 329 *e*P **P** **10 34 10.9 -1.0**
KLMR pmax pmax
comp=Z,46nm,1.5s
KLMR Klimovskoe 54.85 329 *e*P **P** **10 34 11.0 -1.0**
KLMR AMP 10 34 22.2
comp=Z,46nm,1.5s
KLMR LQ LQ 10 53 31.5
KLMR LQ LQ 10 53 31.5
KLMR LR LR 10 56 18.4
OBN Obninsk 55.22 322 LR LR 11 00 09.7
comp=Z,252nm,19.8s,baz=104,slow=38
OBN Obninsk 55.22 322 *i* P **P** **10 34 13.4 -1.3**
OBN *i* 10 35 17.6
OBN *i* 10 36 19.6
OBN pmax pmax
comp=Z,21nm,1.4s
OBN MLR MLR
comp=Z,936nm,20.0s
WB0 Warramunga Arr 55.27 138 P **P** **10 34 15.5 0.0**
WB0 IAmb IAmb 10 34 17.9
comp=Z,49nm,1.5s
WRAB Tennant Creek 55.37 138*ce*P **P** **10 34 13.7 -2.5**
WRAB pmax pmax
comp=Z,30nm,1.3s
WRAB Tennant Creek 55.37 138 P **P** **10 34 14.7 -1.5**
WRAB IAmb IAmb 10 34 18.9
comp=Z,58nm,1.6s
WRA Warramunga Arr 55.37 138 P **P** **10 34 14.5 -1.8**
comp=Z,15nm,0.8s,baz=327,slow=7.5,SNR=60
WRA LR LR 11 00 15.2
comp=Z,251nm,18.4s,baz=310,slow=38
WB2 Warramunga Arr 55.38 138 P **P** **10 34 15.5 -0.8**

WB2 IAmb IAmb 10 34 18.9
comp=Z,62nm,1.6s
WR0 Warramunga Arr 55.51 138 P **P** **10 34 16.4 -0.8**
WR0 IAmb IAmb 10 34 21.8
comp=Z,33nm,1.1s
TMCR Tamitsa 56.40 333 *e*P **P** **10 34 21.8 -1.2**
TMCR pmax pmax
comp=Z,22nm,0.5s
ILGA Ilgaz 56.52 305 P **P** **10 34 23.1 -1.5**
BR131 Keskin Array S 56.67 303 P **P** **10 34 23.8 -1.8**
BR131 pmax pmax
comp=Z,20nm,1.3s
BR131 Keskin Array S 56.67 303 P **P** **10 34 23.8 -1.8**
BR131 IAmb IAmb 10 34 45.6
comp=Z,20nm,1.3s
BRTR Keskin Array B 56.67 303 P **P** **10 34 25.1 -0.5**
comp=Z,1.6nm,0.8s,baz=123,slow=5.2,SNR=5.7
BRTR LR LR 11 03 44.0
comp=Z,465nm,18.7s,baz=98,slow=41
BRTR Keskin Array B 56.67 303 P **P** **10 34 24.4 -1.2**
BRTR Keskin Array B 56.67 303 P **P** **10 34 24.4 -1.2**
COEN Coen 57.16 126 P **P** **10 34 28.4 -0.6**
PMG Port Moresby 57.45 119 P **P** **10 34 30.2 -0.9**
comp=Z,28nm,1.0s,baz=342,slow=16,SNR=2.9
PMG Port Moresby 57.45 119 *i* P **P** **10 34 32.1 +0.9**
PMG pmax pmax
comp=Z,36nm,1.1s
PMG Port Moresby 57.45 119 P **P** **10 34 30.8 -0.4**
PMG IAmb IAmb 10 34 35.8
comp=Z,44nm,1.1s
PMG Port Moresby 57.45 119 P **P** **10 34 34.3 +3.1**
AS31 Alice Springs 57.98 142 P **P** **10 34 34.4 -0.4**
ASAR Alice Springs 57.98 142 P **P** **10 34 33.4 -1.4**
comp=Z,7.4nm,0.8s,baz=322,slow=7.1,SNR=47
ASAR LR LR 11 01 42.2
comp=Z,340nm,19.6s,baz=310,slow=38
ASAR PKP2bc 11 04 30.1
comp=Z,1.3nm,1.0s,baz=109,slow=2.6,SNR=6.2
ASAR Alice Springs 57.98 142 P **P** **10 34 34.1 -0.7**
ASAR Alice Springs 57.98 142 P **P** **10 34 34.1 -0.7**
NWAO Narrogin (SRO) 58.86 162 P **P** **10 34 41.4 +0.7**
NWAO pmax pmax
comp=Z,102nm,1.9s
NWAO Narrogin (SRO) 58.86 162 P **P** **10 34 41.4 +0.7**
APA Apatity 59.11 336⇓ *i*P P 10 34 46.9 +4.9
APA pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 59.35 316 P **P** **10 34 42.3 -1.7**
comp=Z,3.5nm,0.4s,baz=76,slow=6.7,SNR=18
AKASG LR LR 11 03 42.1
comp=Z,468nm,20.3s,baz=65,slow=39
AKASG Malin Array Be 59.35 316 P **P** **10 34 42.2 -1.8**
AKBB Malin Array Si 59.35 316*ce*P **P** **10 34 44.1 +0.1**
AKBB Malin Array Si 59.35 316 P **P** **10 34 43.2 -0.8**
AKBB IAmb IAmb 10 35 35.2
comp=Z,14nm,0.9s
ELL Elmali 59.92 300 P **P** **10 34 47.1 -1.2**
ELL pmax pmax
comp=Z,162nm,1.0s
ELL Elmali 59.92 300 P **P** **10 34 47.1 -1.2**
SORM Soroca 59.99 313⇑ P **P** **10 34 45.5 -2.9**
SORM Soroca 59.99 313⇑ P **P** **10 34 45.5 -2.9**
MNK Minsk 60.18 321 *i* P **P** **10 34 47.1 -2.5**
comp=E,2.0nm,1.5s
MNK *i* P **P** **10 34 47.1 -2.5**
comp=N,22nm,1.7s
MNK *i* P **P** **10 34 47.1 -2.5**
comp=Z,13nm,1.4s
MNK *i* PcP **PcP** **10 35 32.3 -2.8**
MNK *i* PP **PP** **10 36 59.9 -2.3**
MNK *i* PPP PPP 10 38 22.2
MNK *i* ScP **ScP** **10 39 33.1 -2.4**
MNK *i* PcS **PcS** **10 39 34.7 -2.5**
MNK *i* S **S** **10 43 00.0 -2.3**
MNK *i* ScS SKKSac 10 44 37.7 -1.4
MNK *i* SS **SS** **10 47 00.3 +1.1**
MNK *i* SSS SSS 10 49 43.6
MNK *i* LQ LQ 10 56 32.2
MNK *i* LR LR 11 00 21.7
MNK *i* LRM MLR 11 02 25.1
comp=N,606nm,17.4s
MNK *i* LRM MLR 11 02 34.4
comp=Z,403nm,13.2s
MNK *i* LRM MLR 11 02 39.6
comp=E,53nm,13.5s
CFR Carcaliu 60.32 310⇑ P **P** **10 34 49.4 -1.4**
CFR Carcaliu 60.32 310⇑ P **P** **10 34 49.4 -1.4**
HARR Harsova 60.51 309⇑ P **P** **10 34 48.6 -3.4**
HARR Harsova 60.51 309⇑ P **P** **10 34 48.6 -3.4**
NACGM Naroch 60.82 321 *i* P **P** **10 34 54.7 +0.7**
NACGM *i* P **P** **10 34 54.7 +0.7**
NACGM *i* P **P** **10 34 54.7 +0.7**
NACGM *i* PcP **PcP** **10 35 30.9 -5.7**
NACGM *i* PP **PP** **10 37 12.3 +4.5**
NACGM *i* PPP PPP 10 38 34.5
NACGM *i* S **S** **10 43 12.6 +2.1**
NACGM *i* PS 10 43 52.1
NACGM *i* SS SS 10 46 56.5 -13
NACGM *i* SSS SSS 10 49 51.7
NACGM *i* LQ LQ 10 57 00.9
NACGM *i* LR LR 11 00 03.5
IDID Didziasalis 60.85 321 *e*P **P** **10 34 53.1 -1.1**
FORT Forrest 60.86 151 P **P** **10 34 55.5 +1.0**
FORT IAmb IAmb 10 35 27.2
comp=Z,24nm,0.9s
IIGN Ignalina 61.14 321 *e*P **P** **10 34 56.4 +0.2**
ISAL Salakas 61.20 322 *e*P **P** **10 34 56.5 0.0**
HORU Horodok 61.21 314 P P 10 34 48.6 -8.2
KMPD K-Podol'skiy 61.23 314 P **P** **10 34 54.0 -2.9**
TESR Tescani 61.25 311⇑ P **P** **10 34 55.1 -2.0**
VRI Vrincioaia 61.25 311⇑ P **P** **10 34 56.9 -0.2**
VRI Vrincioaia 61.25 311⇑ P **P** **10 34 56.9 -0.2**
PLOR Plostina 61.31 311⇑ P **P** **10 34 57.3 -0.2**
PLOR Plostina 61.31 311⇑ P **P** **10 34 57.3 -0.2**
FIA1 FINESS Array S 61.37 328 P **P** **10 34 58.2 +0.6**
FINES FINESS Array B 61.37 328 P **P** **10 34 57.5 -0.1**
comp=Z,3.5nm,0.7s,baz=89,slow=6.5,SNR=9.5
FINES LR LR 11 03 16.2
comp=Z,754nm,19.1s,baz=89,slow=38
FINES FINESS Array B 61.37 328 *i* P **P** **10 34 56.5 -1.1**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 61.37 328 P **P** **10 34 56.8 -0.8**
BIZ Bicaz 61.59 312⇑ P **P** **10 34 58.5 -0.9**
MLR Muntele Rosu 61.84 310 LR LR 11 05 19.4
comp=Z,596nm,19.4s,baz=64,slow=39
MLR Muntele Rosu 61.84 310⇑ P **P** **10 35 00.9 -0.3**
MLR Muntele Rosu 61.84 310 P **P** **10 35 00.5 -0.7**
MLR pmax pmax
comp=Z,40nm,1.3s
MLR Muntele Rosu 61.84 310 P **P** **10 35 00.5 -0.7**
BURAR Bucovina Array 62.13 313⇑ P **P** **10 35 02.1 -1.0**
BURAR Bucovina Array 62.13 313⇑ P **P** **10 35 02.1 -1.0**
BURAR Bucovina Array 62.13 313 P **P** **10 35 01.6 -1.5**
BUR08 Bucovina Ar. S 62.14 313 P **P** **10 35 03.3 +0.1**
ARA0 ARCESS Array S 62.31 338 *e*P **P** **10 35 04.0 +0.2**
ARA0 *e*PP **PP** **10 37 20.4 -0.3**
ARCES ARCESS Array B 62.31 338 P **P** **10 35 03.8 0.0**
comp=Z,8.1nm,0.6s,baz=82,slow=5.9,SNR=39
ARCES LR LR 11 04 55.8
comp=Z,881nm,18.2s,baz=105,slow=39
ARCES ARCESS Array B 62.31 338 P **P** **10 35 04.0 +0.1**
PABE Paberze 62.42 322 *e*P **P** **10 35 04.5 -0.3**
LVV L'vov 62.72 315 *e*P **P** **10 35 06.3 -0.6**
LVV MLR MLR
comp=N,200nm,18.0s
LVV MLR MLR
comp=E,400nm,18.0s
LVV MLR MLR
comp=Z,500nm,19.0s
ARR Arges 62.77 310⇑ P **P** **10 35 07.9 +0.6**
ARCR ARCALIA 62.77 312⇑ P **P** **10 35 07.7 +0.5**
SUW Suwalki 62.95 320 *e*P **P** **10 35 08.3 0.0**
SUW Suwalki 62.95 320 *e*P **P** **10 35 08.2 -0.1**
SUW Suwalki 62.95 320 P **P** **10 35 07.4 -0.9**
SUW pmax pmax
comp=Z,60nm,1.2s
SUW Suwalki 62.95 320 P **P** **10 35 07.4 -0.9**
HAMF Hammerfest 63.05 339 *e*P **P** **10 35 09.4 +0.7**
PLD Plovdiv 63.14 307 P **P** **10 35 14.1 +4.3**
PLD pmax pmax
comp=Z,55nm,1.4s
BMR Baia Mare 63.28 313⇑ P **P** **10 35 12.1 +1.4**

BMR Baia Mare 63.28 313 ⇑P **P** **10 35 12.1 +1.4**
CTAO Charters Tower 63.37 129 P **P** **10 35 10.7 -0.8**
CTAO pmax pmax
comp=Z,37nm,1.3s
CTAO Charters Tower 63.37 129 P **P** **10 35 10.7 -0.8**
CTAO IAmb IAmb 10 35 16.3
comp=Z,37nm,1.2s
HOPEN Hopen 63.48 345 *e*P **P** **10 35 12.0 +0.5**
DEV Deva 63.91 311 ⇑P **P** **10 35 15.1 +0.3**
DEV Deva 63.91 311 ⇑P **P** **10 35 15.1 +0.3**
DRGR 63.92 312 ⇑P **P** **10 35 14.4 -0.6**
DRGR 63.92 312 ⇑P **P** **10 35 14.4 -0.6**
KOLS Kolonicke sedl 63.95 314 *e*P **P** **10 35 16.3 +1.2**
KOLS Kolonicke sedl 63.95 314 *e*P **P** **10 35 16.3 +1.2**
UZH Uzhgorod 63.98 314 *e*P **P** **10 35 14.8 -0.4**
UZH *e* 10 35 19.9
UZH *e* 10 35 28.4
UZH *e* 10 35 52.5
JETT Jettan, Norway 64.10 337 *e*P **P** **10 35 15.1 -0.6**
JETT *e* 10 35 19.7
VTS Vitosha 64.14 307 ⇓P **P** **10 35 14.6 -2.0**
VTS Vitosha 64.14 307 ⇓P **P** **10 35 14.6 -2.0**
VTS Vitosha 64.14 307 P **P** **10 35 15.8 -0.8**
VTS IAmb IAmb 10 35 27.1
comp=Z,10nm,0.9s
IDI Anoyia 64.17 299 LR LR 11 07 54.9
comp=Z,231nm,22.0s,baz=73,slow=40
HERR Herculane 64.39 310 ⇑P **P** **10 35 17.6 -0.4**
CRVS Cervenica-Dubn 64.49 314 *e*P **P** **10 35 19.5 +0.9**
CRVS Cervenica-Dubn 64.49 314 *e*P **P** **10 35 19.5 +0.9**
TRO Tromso 64.62 338 *e*P **P** **10 35 18.6 -0.4**
TRO *e*PP **PP** **10 37 41.3 +0.4**
KMBO Kilima Mbogo 64.66 257 P **P** **10 35 20.0 -0.5**
comp=Z,0.7nm,0.3s,baz=110,slow=4.7,SNR=4.7
KMBO LR LR 11 02 05.4
comp=Z,268nm,22.0s,baz=88,slow=35
SIRR Siria 64.71 312 ⇑P **P** **10 35 19.1 -1.1**
BZS Buzias 64.84 311 ⇑P **P** **10 35 20.3 -0.6**
BZS Buzias 64.84 311 ⇑P **P** **10 35 20.3 -0.6**
MDVR Moldovita 64.90 310 ⇑P **P** **10 35 20.5 -0.9**
STIP Stip 65.06 307 *e*P **P** **10 35 20.8 -1.7**
LIT Litokhoron 65.12 305 P **P** **10 35 21.1 -1.8**
LIT pmax pmax
comp=Z,10.0nm,0.8s
LIT Litokhoron 65.12 305 P **P** **10 35 21.1 -1.8**
LIT IAmb IAmb 10 35 30.4
comp=Z,10nm,0.8s
NIE Niedzica 65.18 315 *e*P **P** **10 35 24.4 +1.3**
NIE Niedzica 65.18 315 P **P** **10 35 24.5 +1.3**
OJC Ojcow 65.39 316 *e*P **P** **10 35 25.0 +0.5**
AGG Agios Georgios 65.45 304 P **P** **10 35 23.0 -2.1**
AGG pmax pmax
comp=Z,54nm,1.7s
AGG Agios Georgios 65.45 304 P **P** **10 35 23.0 -2.1**
SPA0 Spitsbergen Ar 65.55 347 *e*P **P** **10 35 24.8 -0.3**
SPITS Spitsbergen Ar 65.55 347 LR LR 11 08 54.8
comp=Z,351nm,18.5s,baz=150,slow=40
UPP Uppsala 65.56 327 *e*P **P** **10 35 23.0 -2.2**
PSZ Piszkesteto 65.66 314 ⇑P **P** **10 35 25.7 -0.6**
PSZ Piszkesteto 65.66 314 ⇑P **P** **10 35 25.7 -0.6**
N2IH Innhavet 65.74 336 *e*P **P** **10 35 26.3 0.0**
FNA Florina 65.83 306 P **P** **10 35 25.1 -2.4**
FNA pmax pmax
comp=Z,8.0nm,0.8s
FNA Florina 65.83 306 P **P** **10 35 25.1 -2.4**
STEI Steigen 66.00 336 *e*P **P** **10 35 28.4 +0.4**
FAUS Fauske 66.02 335 *e*P **P** **10 35 28.1 0.0**
ITM Ithomi 66.13 302 P **P** **10 35 27.9 -1.6**
FRGS Fruska Gora 66.17 311 ⇑P **P** **10 35 29.7 +0.1**
DIVS Divibare 66.23 309 P **P** **10 35 29.2 -0.8**
DIVS IAmb IAmb 10 36 33.7
comp=Z,36nm,1.9s
BBOO Buckleboo 66.35 146 P **P** **10 35 31.5 +0.7**
NBB28 Valnes 66.36 335 *e*P **P** **10 35 29.1 -1.2**
KBS Kingsbay 66.44 348 *e*P **P** **10 35 30.6 0.0**
NBB30 Finnes 66.66 335 *e*P **P** **10 35 33.2 +1.0**
SRO2 Moca 66.68 314 *e*P **P** **10 35 32.3 -0.5**
SRO2 Moca 66.68 314 *e*P **P** **10 35 32.3 -0.5**
MORH Mrgy, Hungar 66.79 312 ⇑P **P** **10 35 32.1 -1.4**
TIR Tirane 66.84 306 ⇓P P 10 35 38.7 +4.8
TIR Tirane 66.84 306 ⇓P P 10 35 38.7 +4.8
MORC Moravsky Berou 66.90 316 ⇑P **P** **10 35 32.2 -2.0**
MORC Moravsky Berou 66.90 316 *e*P **P** **10 35 34.9 +0.7**
MORC Moravsky Berou 66.90 316 ⇑P **P** **10 35 32.2 -2.0**
MORC Moravsky Berou 66.90 316 P **P** **10 35 32.5 -1.7**
MORC IAmb IAmb 10 36 18.9
comp=Z,25nm,1.6s
JAVC Velka Javorina 66.97 315 *e*P **P** **10 35 35.3 +0.6**
PDG Podgorica 67.07 308 ⇓P **P** **10 35 35.9 +0.6**
N2RO R_st 67.23 335 *e*P **P** **10 35 36.4 +0.5**
KSP Ksiaz 67.51 317 *e*P **P** **10 35 38.2 +0.2**
KSP Ksiaz 67.51 317 P **P** **10 35 39.5 +1.5**
DPC Dobruska-Polom 67.58 317 *e*P **P** **10 35 37.9 -0.6**
DPC Dobruska-Polom 67.58 317 *e*P **P** **10 35 37.9 -0.6**
VRAC Vranov 67.59 315 ⇑P **P** **10 35 38.4 -0.2**
VRAC Vranov 67.59 315 *e*P **P** **10 35 38.5 0.0**
VRAC Vranov 67.59 315 ⇑P **P** **10 35 38.4 -0.2**
OSTC Ostas 67.61 317 *e*P **P** **10 35 39.2 +0.6**
CHVC Chvalec 67.70 317 *e*P **P** **10 35 39.8 +0.6**
UPC Upice 67.74 317 *e*P **P** **10 35 40.5 +1.0**
UPC Upice 67.74 317 *e*P **P** **10 35 40.5 +1.0**
KRUC Moravsky 67.76 315 *e*P **P** **10 35 39.8 +0.2**
NC405 NORSAR Array S 68.30 329 P **P** **10 35 42.2 -0.6**
CONA Conrad Observa 68.33 314 *e*P **P** **10 35 42.6 -0.7**
comp=Z,14nm,1.3s
NC303 NORSAR Array S 68.45 329 P **P** **10 35 43.4 -0.3**
NC602 NORSAR Array S 68.45 328 *e*P **P** **10 35 44.3 +0.6**
NORES NORESS Array B 68.45 328 P **P** **10 35 45.5 +1.8**
NB2 NORSAR Subarra 68.55 329 P **P** **10 35 43.0 -1.4**
comp=Z,5.9nm,0.7s,baz=80,slow=6.2
NOA NORSAR Array B 68.55 329 P **P** **10 35 43.3 -1.1**
comp=Z,5.8nm,0.7s,baz=81,slow=6.3,SNR=15
NOA LR LR 11 07 38.3
comp=Z,573nm,18.4s,baz=85,slow=38
STKA Stephens Creek 68.62 142 P **P** **10 35 45.0 -0.2**
comp=Z,13nm,0.9s,baz=315,slow=7.2,SNR=16
STKA LR LR 11 09 43.4
comp=Z,352nm,19.5s,baz=310,slow=39
STKA Stephens Creek 68.62 142 P **P** **10 35 44.8 -0.3**
STKA Stephens Creek 68.62 142 P **P** **10 35 44.8 -0.3**
ARSA Arzberg 68.69 313 *e*P **P** **10 35 45.6 +0.1**
comp=Z,6.0nm,0.9s
NC204 NORSAR Array S 68.73 329 P **P** **10 35 44.6 -0.9**
PRU Pruhonice 68.77 316 *e*P **P** **10 35 46.1 +0.2**
PRU Pruhonice 68.77 316 *e*P **P** **10 35 46.1 +0.2**
BRG Berggiesshubel 68.96 317 P **P** **10 35 48.6 +1.5**
BRG Berggiesshubel 68.96 317 *e*P **P** **10 35 46.6 -0.5**
BRG Amp 10 35 52.1
comp=Z,15nm,1.2s
OSL Oslo 68.99 327 *e*P **P** **10 35 47.5 +0.4**
SOKA Soboth 69.14 313 *e*P **P** **10 35 48.0 -0.4**
comp=Z,1.3nm,0.7s
CKRC Cesky Krumlov 69.16 315 *e*P **P** **10 35 48.1 -0.3**
PBCC Pribram 69.18 316 *e*P **P** **10 35 47.5 -1.0**
DOMB Dombas 69.38 330 *e*P **P** **10 35 49.6 +0.1**
MOA Molln 69.40 314 *i* P **P** **10 35 48.8 -1.0**
comp=Z,7.6nm,1.1s
CLL Collm 69.45 318 *e*P **P** **10 35 49.0 -1.1**
comp=Z,16nm,1.5s
CLL *i* sP **pP** **10 35 55.0 -1.3**
comp=Z,11nm,1.2s
CLL *e* 10 51 06.0
CLL *e*(SSS) 10 52 12.0
CLL Collm 69.45 318 *e*P **P** **10 35 49.0 -1.1**
CLL *i* 10 35 55.0
CLL pmax pmax
comp=Z,16nm,1.5s
OBKA Obir 69.50 313 *e*P **P** **10 35 50.4 -0.2**
comp=Z,2.8nm,0.7s
GEC2 GERESS Array S 69.55 315 P **P** **10 35 50.2 -0.7**
GEC2 IAmb IAmb 10 35 52.6
comp=Z,15nm,1.3s
GERES GERESS Array B 69.55 315 P **P** **10 35 50.4 -0.5**
comp=Z,3.4nm,0.9s,baz=67,slow=4.5,SNR=17
GERES LR LR 11 11 04.4
comp=Z,514nm,18.2s,baz=82,slow=40
GERES GERESS Array B 69.55 315 P **P** **10 35 49.2 -1.7**
GERES GERESS Array B 69.55 315 P **P** **10 35 49.2 -1.7**
KHC Kasperske Hory 69.56 316*ce*P **P** **10 35 51.3 +0.4**
KHC pmax pmax
comp=Z,11nm,1.3s
KHC Kasperske Hory 69.56 316 *e*P **P** **10 35 50.7 -0.2**
KHC *ex* x 10 36 40.5

KONO Kongsberg 69.61 327 *e*P **P** **10 35 51.3 +0.4**
TIP Timpagrande 69.64 305 ⇑P **P** **10 35 49.2 -2.4**
MOL Molde 69.96 330 *e*P **P** **10 35 53.1 +0.1**
WET Wettzell 70.01 316 P **P** **10 35 54.6 +1.0**
EIDS Eidsvold 70.16 131 P **P** **10 35 54.9 +0.1**
EIDS IAmb IAmb 10 36 04.2
comp=Z,16nm,1.1s
KBA Koelnbreinsper 70.18 314 *e*P **P** **10 35 54.8 -0.1**
comp=Z,6.9nm,0.9s
TRI Trieste 70.22 312 P P 10 35 59.8 +4.9
MBAR Mbarara 70.29 260*ce*P **P** **10 35 57.5 +1.4**
MBAR pmax pmax
comp=Z,10.0nm,1.3s
MOX Moxa 70.46 318 *e*L L 11 11 35.3
comp=Z,662nm,18.5s
ABTA Abfaltersbach 70.81 313 *e*P **P** **10 35 57.8 -0.8**
comp=Z,2.9nm,0.7s
GRF Grafenberg Arr 70.93 317 *e*P **P** **10 35 59.8 +0.5**
comp=Z,22nm,1.4s,baz=84,slow=5.2
GRF *e*L L 11 09 08.2
comp=Z,567nm,19.2s
WTTA Wattenberg 71.27 314 *e*P **P** **10 36 00.7 -0.8**
comp=Z,2.3nm,0.5s
FOO Floro 71.34 330 *e*P **P** **10 36 01.7 +0.3**
RDOG Red Dog Mine 71.37 23 P **P** **10 36 00.8 -0.8**
RDOG Red Dog Mine 71.37 23 P 10 36 01.7
baz=287
ANM Nome 71.38 27 P **P** **10 36 01.6 -0.1**
ANM pmax pmax
comp=Z,15nm,1.0s
ANM Nome 71.38 27 P **P** **10 36 01.6 -0.1**
ANM IAmb IAmb 10 36 07.7
comp=Z,15nm,1.0s
ANM Nome 71.38 27 P 10 36 01.2
baz=286
SQTA Sankt Quirin 71.56 314 *e*P **P** **10 36 02.2 -1.1**
comp=Z,7.0nm,0.7s
CTI Castel Tesino 71.57 313 P **P** **10 36 02.4 -0.9**
CTI pmax pmax
comp=Z,17nm,1.2s
CTI Castel Tesino 71.57 313 P **P** **10 36 02.4 -0.9**
CTI IAmb IAmb 10 36 12.3
comp=Z,17nm,1.2s
MOTA Moosalm 71.59 314 *e*P **P** **10 36 02.4 -1.1**
comp=Z,6.9nm,0.9s
MURB Monte Urbino 71.69 310 P **P** **10 36 03.7 -0.3**
MURB IAmb IAmb 10 36 10.6
comp=Z,38nm,1.2s
RETA Reutte 71.78 314 *e*P **P** **10 36 03.1 -1.4**
comp=Z,2.3nm,0.4s
FETA Feichten 71.93 314 *e*P **P** **10 36 04.1 -1.4**
comp=Z,4.1nm,0.7s
SALO Salr 72.44 313 P **P** **10 36 07.8 -0.6**
TUE Stuetta 72.99 314 P **P** **10 36 11.2 -0.7**
TUE IAmb IAmb 10 36 28.2
comp=Z,51nm,1.6s
DAG Danmarks Havn 73.18 348 *i* P **P** **10 36 14.6 +2.4**
comp=Z,5.4nm,1.2s
DAG Danmarks Havn 73.18 348 *i* P **P** **10 36 14.6 +2.4**
DAG pmax pmax
comp=Z,5.0nm,1.2s
DAG Danmarks Havn 73.18 348 *i* P **P** **10 36 14.7 +2.4**
DAG IAmb IAmb 10 36 16.3
comp=Z,5.4nm,1.2s
WLF Walferdange 74.10 318 *d*P **P** **10 36 17.2 -0.9**
WLF *d*PcP **PcP** **10 36 31.4 -1.8**
WLF Walferdange 74.10 318 P **P** **10 36 17.9 -0.2**
WLF pmax pmax
comp=Z,61nm,1.2s
WLF Walferdange 74.10 318 P **P** **10 36 17.9 -0.2**
SENIN Lac Senin/Sane 74.38 314 P **P** **10 36 18.9 -1.1**
SENIN IAmb IAmb 10 36 35.6
comp=Z,40nm,1.7s
DBG Daneborg 74.85 346 *e*P **P** **10 36 25.1 +3.1**
DBG IAmb IAmb 10 36 26.3
comp=Z,4.0nm,0.6s
BNI Bardonecchia 75.20 313 P **P** **10 36 24.1 -0.6**
BNI pmax pmax
comp=Z,22nm,1.2s
BNI Bardonecchia 75.20 313 P **P** **10 36 24.1 -0.6**
BNI IAmb IAmb 10 36 40.7
comp=Z,22nm,1.2s
TOLK Toolik Lake Re 75.71 21 P **P** **10 36 26.8 -0.3**
TOLK IAmb IAmb 10 36 31.7
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 75.71 21 P 10 36 27.5
baz=298,SNR=19
TTA Tatalina 75.85 27 P **P** **10 36 27.9 -0.2**
TTA pmax pmax
comp=Z,18nm,1.0s
TTA Tatalina 75.85 27 P **P** **10 36 27.9 -0.2**
TTA IAmb IAmb 10 36 34.5
comp=Z,18nm,1.0s
TTA Tatalina 75.85 27 P 10 36 28.3
baz=294
COLD Coldfoot 76.17 22 P **P** **10 36 30.1 +0.4**
COLD Coldfoot 76.17 22 P 10 36 30.2
baz=298,SNR=15
KEST Kesra 76.28 303 LR LR 11 17 03.2
comp=Z,182nm,18.5s,baz=22,slow=41
EUNU Eureka 76.53 1 P **P** **10 36 32.0 +0.4**
EUNU IAmb IAmb 10 36 41.2
comp=Z,25nm,1.2s
SVW2 Sparrevohn 76.80 29 P **P** **10 36 33.3 -0.1**
SVW2 IAmb IAmb 10 36 38.5
comp=Z,22nm,0.8s
CHUM Lake Minchumin 76.94 25 P 10 36 34.8
baz=297,SNR=14
MLY Manley 77.02 24 P 10 36 34.0
baz=298,SNR=21
SANVU Saraoutou 77.19 113 P **P** **10 36 36.3 0.0**
SANVU IAmb IAmb 10 36 50.4
comp=Z,22nm,0.9s
SANVU Saraoutou 77.19 113 P **P** **10 36 39.1 +2.8**
KOUNC Koumac, New Ca 77.34 119 P **P** **10 36 40.8 +3.8**
BPAW Bear Paw Mtn. 77.36 25 P **P** **10 36 36.3 -0.2**
BPAW Bear Paw Mtn. 77.36 25 P 10 36 36.7
baz=298
CHGN Chignik 77.41 34 P **P** **10 36 35.7 -1.2**
CHGN IAmb IAmb 10 36 44.8
comp=Z,24nm,0.9s
PPLA Purkeypile 77.44 26 P **P** **10 36 36.9 -0.3**
PPLA IAmb IAmb 10 36 41.8
comp=Z,24nm,0.9s
PPLA Purkeypile 77.44 26 P 10 36 37.7
baz=297,SNR=9.9
I23K Minto, Yukon-K 77.47 24 P **P** **10 36 37.2 +0.2**
I23K IAmb IAmb 10 36 41.6
comp=Z,12nm,0.7s
I23K Minto, Yukon-K 77.47 24 P 10 36 37.4
baz=299,SNR=12
NEA2 Nenana 77.86 24 P 10 36 39.9
baz=300,SNR=11
BWN Browne 77.91 25 P **P** **10 36 40.6 +1.0**
TRF Thorofare Moun 77.94 25 P **P** **10 36 40.3 +0.4**
TRF Thorofare Moun 77.94 25 P 10 36 40.0
baz=299,SNR=8.0
BMAR Burnt Mountain 77.95 21 P **P** **10 36 41.0 +1.3**
MDM Murphy Dome 77.98 24 P **P** **10 36 40.6 +0.6**
SKT Skwentna 78.14 27 P **P** **10 36 40.8 -0.1**
SKT Skwentna 78.14 27 P 10 36 41.0
baz=298,SNR=21
TCOL CIGO, UAF Yank 78.16 24 P **P** **10 36 41.1 +0.2**
TCOL IAmb IAmb 10 36 45.6
comp=Z,19nm,0.8s
COLA College 78.17 24 P **P** **10 36 41.1 +0.2**
COLA pmax pmax
comp=Z,25nm,1.1s
COLA College 78.17 24 P **P** **10 36 41.0 +0.2**
COLA IAmb IAmb 10 36 45.6
comp=Z,25nm,1.1s
POKR Poker Plat Res 78.19 23 P **P** **10 36 40.7 -0.4**
WRH Wood River Hil 78.28 24 P **P** **10 36 41.5 -0.1**
CCB Clear Creek Bu 78.30 24 P **P** **10 36 42.4 +0.7**
MCK McKinley 78.33 25 P 10 36 41.8
baz=300,SNR=18
CUT Chulitna 78.46 26 P 10 36 42.8
baz=299,SNR=6.6
RND Reindeer 78.53 25 P **P** **10 36 43.4 +0.3**
RND pmax pmax
comp=Z,33nm,1.0s
RND Reindeer 78.53 25 P **P** **10 36 43.4 +0.3**
RND IAmb IAmb 10 36 46.6
comp=Z,33nm,1.0s
IL31 78.57 24 P **P** **10 36 42.5 -0.6**

ILAR Eielson Array 78.57 24 P **P** **10 36 42.2 -1.0**
comp=Z,9.7nm,0.9s,baz=286,slow=6.2,SNR=36
ILAR PP **PP** **10 39 47.6 +7.2**
comp=Z,0.8nm,0.8s,baz=298,slow=6.8,SNR=3.3
ILAR LR LR 11 15 10.2
comp=Z,289nm,18.3s,baz=292,slow=38
ILAR Eielson Array 78.57 24 P **P** **10 36 43.8 +0.6**
PRP Porcupine Dome 78.67 23 P **P** **10 36 44.8 +1.0**
PRP IAmb IAmb 10 36 48.4
comp=Z,34nm,0.8s
SUA Susitna One 78.72 27 P **P** **10 36 43.4 -0.8**
SUA Susitna One 78.72 27 P 10 36 44.3
baz=299,SNR=16
RC01 Rabbit Creek A 79.33 27 P 10 36 47.4
baz=300,SNR=14
BRLK Bradley Lake 79.48 29 P **P** **10 36 47.4 -0.9**
BRLK IAmb IAmb 10 36 53.9
comp=Z,38nm,0.9s
SML Sawmill 79.55 26 P **P** **10 36 49.8 +1.1**
SML pmax pmax
comp=Z,77nm,1.0s
SML Sawmill 79.55 26 P **P** **10 36 48.8 +0.2**
SML Sawmill 79.55 26 P 10 36 49.1
baz=301,SNR=21
BRSE Bradley Lake S 79.55 29 P 10 36 49.3
baz=299
OHAK Old Harbor 79.57 32 P **P** **10 36 47.6 -1.1**
OHAK IAmb IAmb 10 36 56.7
comp=Z,46nm,1.0s
OHAK Old Harbor 79.57 32 P 10 36 49.4
baz=297
O22K Cooper Landing 79.63 28 P **P** **10 36 49.6 +0.6**
O22K Cooper Landing 79.63 28 P 10 36 50.4
baz=300,SNR=8.5
KDAK Kodiak Island 79.64 31 P **P** **10 36 48.0 -1.2**
KDAK pmax pmax
comp=Z,28nm,1.1s
KDAK Kodiak Island 79.64 31 P **P** **10 36 48.0 -1.2**
KDAK IAmb IAmb 10 36 52.1
comp=Z,28nm,1.1s
KDAK Kodiak Island 79.64 31 P 10 36 50.3
baz=296
TULEG Thule 79.82 357 *i* P **P** **10 36 51.6 +1.8**
TULEG IAmb IAmb 10 36 53.9
comp=Z,12nm,0.7s
SUMG Summit 79.86 348 *i* P **P** **10 36 52.0 +1.4**
comp=Z,27nm,0.7s
SUMG Summit 79.86 348 P **P** **10 36 50.8 +0.2**
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 79.86 348 P **P** **10 36 50.8 +0.2**
SUMG IAmb IAmb 10 36 55.8
comp=Z,14nm,0.8s
SUMG Summit 79.86 348 *i* P **P** **10 36 52.0 +1.4**
SUMG IAmb IAmb 10 36 55.9
comp=Z,27nm,0.7s
SEW Seward 79.94 28 P **P** **10 36 51.1 +0.4**
SEW IAmb IAmb 10 36 56.7
comp=Z,32nm,1.0s
SEW Seward 79.94 28 P 10 36 52.5
baz=300,SNR=8.7
SCM Sheep Creek Mo 79.94 26 P **P** **10 36 51.5 +0.6**
SCM pmax pmax
comp=Z,20nm,0.9s
SCM Sheep Creek Mo 79.94 26 P **P** **10 36 51.5 +0.6**
SCM IAmb IAmb 10 36 57.4
comp=Z,20nm,0.9s
SCRK Sand Creek 80.06 23 P 10 36 51.8
baz=304,SNR=22
PAX Paxson 80.07 25 P **P** **10 36 51.8 +0.3**
PAX pmax pmax
comp=Z,22nm,1.2s
PAX Paxson 80.07 25 P **P** **10 36 51.8 +0.3**
PAX IAmb IAmb 10 36 57.2
comp=Z,22nm,1.2s
PAX Paxson 80.07 25 P 10 36 54.2
baz=303,SNR=13
YATNC Mamie plateau, 80.19 119 P **P** **10 36 56.9 +4.2**
M24K Tolsona, Glenn 80.26 26 P **P** **10 36 52.8 +0.3**
M24K Tolsona, Glenn 80.26 26 P 10 36 53.1
baz=302,SNR=18
GLI Glacier Island 80.54 27 P **P** **10 36 54.8 +0.9**
GLI IAmb IAmb 10 37 04.2
comp=Z,12nm,0.7s
GLI Glacier Island 80.54 27 P 10 36 56.1
baz=302
EGAK Eagle 80.61 22 P **P** **10 36 54.3 +0.1**
EGAK Eagle 80.61 22 P 10 36 54.9
baz=306
KLU Klutina 80.69 26 P **P** **10 36 55.1 +0.2**
KLU Klutina 80.69 26 P 10 36 55.2
baz=303
INK Inuvik 80.72 17 P **P** **10 36 54.2 -0.5**
INK pmax pmax
comp=Z,40nm,0.9s
INK Inuvik 80.72 17 P **P** **10 36 54.2 -0.5**
MENT Mentasta 80.75 24 P **P** **10 36 55.7 +0.6**
FID Port Fidalgo 80.86 27 P **P** **10 36 56.4 +0.7**
FID IAmb IAmb 10 37 01.9
comp=Z,29nm,0.8s
HIN Hinchinbrook I 81.04 27 P **P** **10 36 57.4 +0.7**
N25K Chitina, Valde 81.16 26 P **P** **10 36 56.4 -1.0**
N25K IAmb IAmb 10 37 02.1
comp=Z,22nm,0.8s
N25K Chitina, Valde 81.16 26 P 10 36 57.0
baz=304,SNR=14
EYAK Cordova Ski Ar 81.28 27 P **P** **10 36 58.2 +0.3**
EYAK IAmb IAmb 10 37 02.6
comp=Z,30nm,0.9s
EYAK Cordova Ski Ar 81.28 27 P 10 36 59.2
baz=303,SNR=12
BCAR Beaver Creek A 81.40 24 P **P** **10 36 58.8 +0.2**
BMRM Bremner River 81.51 26 P 10 36 59.7
baz=304,SNR=24
GLB Gilahina Butte 81.56 26 P **P** **10 37 00.2 +0.7**
GLB IAmb IAmb 10 37 05.8
comp=Z,23nm,1.0s
VRDI Verde Repeater 81.83 26 P **P** **10 37 02.1 +1.0**
VRDI IAmb IAmb 10 37 07.3
comp=Z,15nm,1.0s
MCARA McCarthy VSAT 81.91 25 P **P** **10 37 02.2 +1.0**
MCARA McCarthy VSAT 81.91 25 P 10 37 02.3
baz=305,SNR=17
CRQE Cirque 82.25 26 P 10 37 04.4
baz=305
C36M Paulatuk 82.31 14 P **P** **10 37 02.1 -1.0**
C36M Paulatuk 82.31 14 P 10 37 02.2
baz=321
TGL Tana Glacier 82.35 26 P **P** **10 37 03.9 +0.2**
TGL IAmb IAmb 10 37 08.8
comp=Z,33nm,1.2s
BALM Baldy 82.38 25 P **P** **10 37 05.2 +1.3**
BALM pmax pmax
comp=Z,15nm,1.0s
BALM Baldy 82.38 25 P **P** **10 37 05.0 +1.1**
BALM IAmb IAmb 10 37 08.6
comp=Z,15nm,1.0s
BARN Barnard Glacie 82.63 25 P **P** **10 37 05.6 +0.3**
BARN IAmb IAmb 10 37 15.7
comp=Z,14nm,1.0s
CTG Chitna Glacier 82.82 25 P 10 37 06.7
baz=307
CTGM Chitina Glacie 82.82 25 P **P** **10 37 06.7 +0.5**
CTGM IAmb IAmb 10 37 11.2
comp=Z,17nm,1.0s
YAH Yahtse 83.01 26 P **P** **10 37 06.1 -1.2**
YAH IAmb IAmb 10 37 14.8
comp=Z,23nm,1.0s
PCA Pinnacle 83.77 26 P **P** **10 37 10.9 -0.1**
PINM Pinnacle 83.77 26 P 10 37 12.2
baz=308
TAM Tamanrasset 84.06 292 P **P** **10 37 16.4 +3.1**
HYT Haines Junctio 84.38 24 P **P** **10 37 15.2 +1.1**
HYT IAmb IAmb 10 37 18.5
comp=Z,9.4nm,1.0s
ESDC Sonseca Array 84.53 311 P **P** **10 37 14.6 -0.7**
comp=Z,8.7nm,1.2s,baz=41,slow=4.1,SNR=14
ESDC LR LR 11 18 59.0
comp=Z,166nm,19.0s,baz=65,slow=38
ESDC Sonseca Array 84.53 311 P **P** **10 37 13.6 -1.7**
LBTB Lobatse 85.87 241 P **P** **10 37 21.9 -0.3**
LBTB pmax pmax
comp=Z,15nm,0.9s
LBTB Lobatse 85.87 241 P **P** **10 37 21.9 -0.3**
LBTB IAmb IAmb 10 37 31.5
comp=Z,15nm,0.8s

BOSA	Boshof	87.84	238	P	P	10 37 31.1	-0.6
	comp=Z,9.0nm,0.8s,baz=58,slow=1.9,SNR=12						
BOSA				LR	LR	11 13 50.0	
	comp=Z,304nm,21.0s,baz=62,slow=34						
BOSA	Boshof	87.84	238	P	P	10 37 30.8	-0.9
BOSA				pmax	pmax		
	comp=Z,24nm,1.1s						
BOSA	Boshof	87.84	238	P	P	10 37 30.8	-0.9
BOSA				IAmb	IAmb	10 37 42.3	
	comp=Z,24nm,1.1s						
WRAK	Wrangell Islan	89.34	26	P	P	10 37 36.0	-2.2
WRAK				IAmb	IAmb	10 37 42.8	
	comp=Z,15nm,1.0s						
YKA	Yellowknife Ar	90.16	15	P	P	10 37 41.5	-0.4
	comp=Z,8.5nm,0.8s,baz=332,slow=4.0,SNR=45						
YKA				PP	PP	10 41 12.6	-2.2
	comp=Z,1.1nm,1.0s,baz=333,slow=8.0,SNR=2.8						
YKA				PKKP	PKKPdf	10 55 09.6	+1.8
	comp=Z,0.2nm,0.8s,baz=148,slow=2.8,SNR=2.9						
YKA				LR	LR	11 23 43.3	
	comp=Z,202nm,19.2s,baz=0.0,slow=39						
TORD	Torodi Ar. Bea	91.27	285	P	P	10 37 47.5	-0.5
	comp=Z,1.3nm,0.9s,baz=50,slow=4.6,SNR=5.7						
TORD				PP	PP	10 41 24.0	-1.2
	comp=Z,1.2nm,1.0s,baz=56,slow=3.6,SNR=2.9						
TORD				LR	LR	11 22 02.5	
	comp=Z,255nm,21.3s,baz=30,slow=38						
TORD	Torodi Ar. Bea	91.27	285	P	P	10 37 46.7	-1.3
MAW	Mawson	94.77	193	LR	LR	11 17 10.3	
	comp=Z,224nm,18.8s,baz=40,slow=33						
DBIC	Dimbokro	99.83	282	LR	LR	11 28 02.9	
	comp=Z,150nm,18.3s,baz=44,slow=38						
SYO	Syowa Base	101.67	198	⇓ePdiff	Pdif	10 38 36.6	+2.8
NVAR	Mina Array Bea	109.13	30	PKiKP	PKiKP	10 43 10.6	-1.8
	comp=Z,0.1nm,0.4s,baz=292,slow=4.8,SNR=2.6						
MNTX	Cornudas Mount	120.32	24	PKPdf	PKiKP	10 43 34.2	+0.4
TXAR	Lajitas Array	123.09	24	PKP	PKPdf	10 43 37.1	-2.1
	comp=Z,0.8nm,0.8s,baz=241,slow=3.7,SNR=2.9						
TXAR	Lajitas Array	123.09	24	PKPdf	PKPdf	10 43 39.0	-0.2
JCT	Junction City	123.33	19	PKIKP	PKPdf	10 43 38.7	-0.8
JCT	Junction City	123.33	19	PKPdf	PKPdf	10 43 38.7	-0.8
JCT	Junction City	123.33	19	P		10 43 38.8	
	baz=340						
PRPB	Parauapebas	145.29	295	eP	PKPbc	10 44 19.9	-0.5
SDV	Santo Domingo	146.14	341	PKPdf	PKPdf	10 44 21.0	-1.4
SMLC	San Martn de	147.09	347	eP	PKPbc	10 44 26.0	+0.3
USHA	Ushuaia	147.39	194	PKPbc	PKPdf	10 44 23.1	+0.3
	comp=Z,58nm,0.5s,baz=301,slow=0.1,SNR=6.8						
OCAC	Ocana	147.47	346	eP	PKPbc	10 44 25.9	-1.1
BDFB	Brasilia	147.90	278	PKPbc	PKPbc	10 44 27.8	-0.3
	comp=Z,4.6nm,0.6s,baz=38,slow=7.0,SNR=6.3						
BDFB	Brasilia	147.90	278	PKIKP	PKPdf	10 44 23.2	-1.9
BDFB	Brasilia	147.90	278		PKPdf	10 44 23.1	-1.9
BRRC	Barranca, Sant	148.65	346	eP	PKPbc	10 44 30.1	+0.1
ITTB	Itaituba	148.95	304	eP	PKPdf	10 44 28.3	+1.5
BARC	Barichara	149.03	345	eP	PKPbc	10 44 30.1	-1.2
PTBC	PUERTO BERRIO,	149.37	347	eP	PKPbc	10 44 30.9	-0.9
PTGA	Pitinga	149.39	315		PKPbc	10 44 30.9	-0.9
PTGA	Pitinga	149.39	315	eP	PKPbc	10 44 29.8	-2.1
RUSC	La Rusia	149.68	344	eP	PKPbc	10 44 30.9	-2.2
BB19B	Bebedouro	149.79	268	eP	PKPdf	10 44 29.9	+2.0
SPBC	San Pablo de B	150.14	346	eP	PKiKP	10 44 34.9	+0.2
NPGB	Novo Progresso	150.31	299	eP	PKPdf	10 44 30.4	+1.5
TIJ01	Guaruva-PR	150.76	260	eP	PKPdf	10 44 31.6	+2.2
TER01	Tubaro-SC	150.90	253	eP	PKPdf	10 44 30.8	+1.4
ROSC	El Rosal	150.98	346	PKPbc	PKPbc	10 44 34.8	-1.3
	comp=Z,6.5nm,0.4s,baz=311,slow=5.9,SNR=4.6						
ROSC	El Rosal	150.98	346		PKPbc	10 44 35.3	-0.8
ROSC	El Rosal	150.98	346	eP	PKPbc	10 44 34.9	-1.3
CHIC	Chingaza	151.05	345	eP	PKPbc	10 44 33.9	-2.5
FRTB	Fartura	151.09	264	eP	PKPdf	10 44 29.5	-0.3
ITRB	Iturama	151.19	272	eP	PKPdf	10 44 30.7	+0.6
PLMC	San Jos del P	151.30	350	eP	PKPbc	10 44 33.9	-2.6
ARAG	Araguaiana, MT	151.36	280	eP	PKPdf	10 44 31.9	+1.5
TOLC	Tolima	151.44	348	eP	PKiKP	10 44 37.9	+0.2
MACA	Manacapuru-AM	151.68	313	eP	PKPdf	10 44 32.4	+1.4
ORTC	Ortega, Tolima	152.08	347	eP	PKPbc	10 44 37.4	-0.9
PRAC	Prado	152.20	347	eP	PKPdf	10 44 34.9	+3.0
YOTC	Yotoco, Valle	152.21	350	eP	PKPdf	10 44 34.9	+2.9
PCMB	Pacaembu	152.40	268	eP	PKPdf	10 44 33.4	+1.5
PTGB	Pitanga	153.50	262	eP	PKPdf	10 44 34.7	+1.2
TRCB	Terra Rica	153.83	266	eP	PKPdf	10 44 35.2	+1.3
PLTB	Pedras Altas	154.37	245	eP	PKPdf	10 44 35.4	+1.0
CPSB	Cacapava Do Su	154.47	249	eP	PKPdf	10 44 36.2	+1.6
PP1B	Ponte de Pedra	154.76	279	eP	PKPdf	10 44 37.0	+1.7
OTAV	Otavalo	156.18	353	eP	PKPdf	10 44 39.8	+1.8
AQDB	Aquidauana	156.25	273	eP	PKPdf	10 44 39.7	+2.4
SAML	Samuel	157.51	307	eP	PKPdf	10 44 39.8	+0.7
VILB	Vilhena	157.54	294	eP	PKPdf	10 44 40.8	+1.7
PTLB	Pontes e Lacer	157.79	287	eP	PKPdf	10 44 41.5	+2.2
CPUP	Villa Florida	158.28	258	PKP	PKPdf	10 44 41.2	+1.6
	comp=Z,4.5nm,1.1s,baz=46,slow=3.5,SNR=5.2						
CPUP	Villa Florida	158.28	258	PKIKP	PKPdf	10 44 39.3	-0.3
CPUP	Villa Florida	158.28	258		PKPdf	10 44 39.3	-0.3
SIV	San Ignacio	159.71	288	PKP	PKPdf	10 44 43.6	+1.9
	comp=Z,1.2nm,0.7s,baz=170,slow=3.0,SNR=3.6						
PLCA	Paso Flores	160.73	205	PKP	PKPdf	10 44 42.8	+0.6
	comp=Z,3.9nm,1.1s,baz=180,slow=3.5,SNR=4.8						
PLCA				PKPab	PKPab	10 45 24.8	+0.7
	comp=Z,2.8nm,1.0s,baz=144,slow=8.4,SNR=3.4						
PLCA	Paso Flores	160.73	205	PKIKP	PKPdf	10 44 41.9	-0.3
PLCA	Paso Flores	160.73	205		PKPdf	10 44 41.9	-0.3
ATAH	Atahualpa	163.44	351	PKPab	PKPab	10 45 37.8	+1.0
	comp=Z,5.8nm,0.9s,baz=36,slow=2.7,SNR=3.6						
LPAZ	La Paz	165.81	298	PKP	PKPdf	10 44 46.3	-2.0
	comp=Z,2.2nm,1.0s,baz=349,slow=6.0,SNR=5.6						

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*BJI **01** 10:34:16.4±0.0, 23°.52N×98°.98E, h8km, ML3.8/6*

ISC 01 10:34:23.7±6.3**, 24°.5N**±0°.4×**98°.0E**±0°.4**, h35km, n13, σ1s.45**/14**, 1C, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	4.33	81	⇑Pg	Pn	10 35 27.1	-0.2
KMI				Sg	Sn	10 36 17.0	+0.3
KMI				smax	smax		
	comp=N,330nm,1.0s						
KMI				smax	smax		
	comp=E,160nm,0.9s						
CM33	Chiang Mai Arr	5.73	171	P	Pn	10 35 44.0	-2.4
CMMT	Chiang Mai	5.73	171	P	Pn	10 35 44.0	-2.5
	0.3nm94nm,0.7s						
CM32	Chiang Mai Arr	5.88	172	P	Pn	10 35 48.0	-0.4
CM36	Chiang Mai Arr	6.04	170	P	Pn	10 35 50.0	-0.7
CM31	Chiang Mai Arr	6.08	172	P	Pn	10 35 52.0	+0.8
	21nm44μm5μm,0.7s						
CM15	Chiang Mai Arr	6.08	172	P	Pn	10 35 52.0	+0.7
	0.5nm1μm129nm,0.6s						
CM09	Chiang Mai Arr	6.10	171	P	Pn	10 35 52.7	+1.2
	0.8nm1μm149nm,0.7s						
CM02	Chiang Mai Arr	6.11	172	P	Pn	10 35 52.6	+1.0
	0.5nm1μm181nm,0.8s						
CM13	Chiang Mai Arr	6.11	172	P	Pn	10 35 53.5	+1.8
	0.4nm865nm103nm,0.7s						
CM01	Chiang Mai Arr	6.12	172	P	Pn	10 35 53.0	+1.2
	0.8nm2μm241nm,0.7s						
CM05	Chiang Mai Arr	6.14	172	P	Pn	10 35 53.1	+1.1
	0.5nm1μm141nm,0.7s						
CM04	Chiang Mai Arr	6.14	172	P	Pn	10 35 53.0	+0.9

PRU 01 10:37:38.7±0.0**, 51°.54N**×**16°.10E, h0km, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	170	ePg	Pg	10 37 52.1	-0.2
KSP				eSg	Sg	10 38 01.7	+0.3
CHVC	Chvalec	0.95	182	ePG	Pg	10 37 56.9	0.0
CHVC				eSG	Sg	10 38 10.0	+0.7
	comp=Z,8.7nm,0.4s						
OSTC	Ostas	0.99	176	ePG	Pg	10 37 57.3	-0.3
OSTC				eSG	Sg	10 38 10.6	+0.2
	comp=Z,7.2nm,0.6s						
UPC	Upice	1.04	183	ePG	Pg	10 37 58.2	-0.3
UPC				eSG	Sg	10 38 12.2	+0.3
	comp=Z,9.0nm,0.3s						
DPC	Dobruska-Polom	1.20	173	ePG	Pg	10 38 00.9	-0.8
DPC				eSG	Sg	10 38 16.6	-0.6
	comp=Z,3.3nm,0.3s						
BRG	Berggiesshubel	1.51	245	Pg	Pn	10 38 07.0	0.0
BRG				Sg	Sn	10 38 27.4	0.0
BRG				Amp		10 38 29.0	
	comp=Z,11nm,0.5s						
KRLC	Kraliky	1.53	163	ePG	Pn	10 38 07.2	-0.1
KRLC				eSG	Sg	10 38 26.7	-1.1
	comp=Z,3.6nm,0.4s						
PRU	Pruhonice	1.84	213	ePG	Pb	10 38 13.3	+0.1
PRU				eSG	Sb	10 38 37.1	+0.3
CLL	Collm	1.95	264	i Pg	Pb	10 38 14.4	-0.7
CLL				eSg	Sb	10 38 40.0	0.0
MORC	Moravsky Berou	1.99	152	ePN	Pn	10 38 12.3	-1.3
MORC				eSG	Sn	10 38 40.0	+0.7
VRAC	Vranov	2.26	172	ePN	Pn	10 38 17.0	-0.3
VRAC				eSG	Sb	10 38 49.4	+0.6
PBCC	Pribram	2.29	217	eSG	Sg	10 38 52.2	0.0
NKC	Novy Kostel	2.66	242	eSG	Sg	10 39 04.9	+0.9
	comp=Z,5.2nm,0.5s						
KHC	Kasperske Hory	2.90	215	ePG	Pg	10 38 32.9	-1.4
KHC				eSN	Sn	10 39 00.0	-1.8
KHC				eSG	Sg	10 39 11.2	-0.7
CKRC	Cesky Krumlov	2.96	204	eSG	Sg	10 39 12.2	-1.4

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*ECGS **01** 10:55:56.4, 1°.00S±0°.01×29°.32E±0°.01, h4km±3km, ML2.6, Error ellipse: s-maj=2.4km s-min=1.5km az=44.7, smi:local/77257e3b-bd1e-43d7-b6f6-c9cab884ecb6 Note: Depth/Latitude/Longitude errors are calculated from covariance matrix as 1D marginal (Lon/Lat errors as great circle degrees) while OriginUncertainty min/max horizontal errors are calculated from 2D error ellipsoid and are therefore seemingly higher compared to 1D errors. Error estimates can be reconstructed from the following original NonLinLoc error statistics line:STATISTICS ExpectX 35.1357 Y 55.1525 Z 6.02443 CovXX 1.75329 XY 0.836297 XZ 0.163834 YY 1.77356 YZ -0.923642 ZZ 9.24195 EllAz1 136.311 Dip1 -5.32091 Len1 1.73802 Az2 226.721 Dip2 -4.39683 Len2 3.005 Len3 5.746573e+00*

ISC 01 10:55:55.0±1.1**, 0°.98S**±0°.05×**29°.31E**±0°.06**, h10km, n11, σ0s.68**/13**, Zaire**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGO	Tongo	0.23	190	i P	Pg	10 56 00.6	+0.7
TGO	Tongo	0.23	190	i S	Sg	10 56 03.8	+0.6
RGB	Rumangabo	0.37	172	i S	Sg	10 56 07.8	+0.4
RGB	Rumangabo	0.37	172	i P	Pb	10 56 02.8	-1.0
KTSH	Kitshanga	0.37	225	eP	Pb	10 56 03.1	-0.7
KTSH	Kitshanga	0.37	225	eS	Sg	10 56 08.0	+0.6
GOM	Goma	0.71	187	eP	Pb	10 56 09.1	-0.5
GOM	Goma	0.71	187	i S	Sb	10 56 18.6	-0.7
BOBN	Bobandana	0.79	203	i P	Pb	10 56 10.3	-0.6
KIL	Kilembe	1.36	31	eP	Pn	10 56 20.4	+0.2
KIL				eS	Sb	10 56 37.5	-0.6
MBAR	Mbarara	1.47	75	eP	Pb	10 56 22.2	-0.4
MBAR				eS	Sb	10 56 41.4	-0.1

IDC 01 11:15:58.5±3.6**, 30°.31S**×**177°.81W, h0km, mb3.3**/2**, mb1 3.5**/2**, mb1mx3.4**/20**, mbtmp3.3**/2**, Error ellipse: s-maj=77.0km s-min=24.7km az=109.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.06	355	Pn	Pn	11 16 21.8	+1.1
	70nm,0.3s,baz=73,slow=19,SNR=1.4						
RAO				Sn	Sn	11 16 35.4	-0.7
	325nm,0.3s,baz=198,slow=20,SNR=4.8						
ASAR	Alice Springs	43.28	267	P	P	11 24 01.6	-0.6
	0.1nm,0.5s,baz=106,slow=7.4,SNR=4.3						
WRA	Warramunga Arr	44.26	272	P	P	11 24 10.4	+0.3
	0.3nm,0.5s,baz=110,slow=8.1,SNR=7.0						
FINES	FINESS Array B	145.12	340	PKPbc	PKPbc	11 35 35.4	-1.3
	2.2nm,0.8s,baz=46,slow=4.0,SNR=3.7						

WEL 01 11:16:17.7, 37°S±46°×**17°7E**±5°4**, h149km**±56km**, M2.2**/9**, MLv2.2**/9**, Error ellipse: s-maj=0.1km s-min=0.0km az=129.2, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.85	152	P	Pn	11 16 41.1	0.0
RUGZ	Raukumara Rang	1.01	162	P	Pn	11 16 42.3	-0.3
URZ	Urewera	1.26	186	P	Pn	11 16 45.5	+0.8
TWGZ	Tauwhareparae	1.29	155	P	Pn	11 16 45.9	+0.8
PUZ	Puketiti	1.31	144	P	Pn	11 16 45.0	-0.3
MWZ	Matawai	1.34	172	P	Pn	11 16 46.3	+0.7
RTZ	Ruatahuna	1.62	188	P	Pn	11 16 48.8	+0.2
CNGZ	Carnagh Statio	1.65	154	P	Pn	11 16 49.0	+0.2
RIGZ	Rimuhau	1.74	168	P	Pn	11 16 50.0	+0.2
SNGZ	Shannon Statio	1.77	179	P	Pn	11 16 50.4	+0.2
MCHZ	McNeill Hill	2.48	191	P	Pn	11 16 58.3	-0.1

IDC 01 11:18:12.3±6.9**, 18°.35S**×**174°.34W, h0km, mb3.7**/3**, mb1 4.0**/4**, mb1mx3.7**/30**, mbtmp3.8**/4**, ML3.3**/1**, Error ellipse: s-maj=277.0km s-min=27.8km az=138.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	5.05	30	Pn	Pn	11 19 27.7	-1.7
	1.2nm,0.3s,baz=327,slow=18,SNR=3.1						
AFI				Sn	Sn	11 20 15.4	-13
	1.5nm,0.3s,baz=253,slow=19,SNR=3.3						
WRA	Warramunga Arr	48.36	259	P	P	11 26 56.1	-0.1
	0.6nm,0.5s,baz=97,slow=6.2,SNR=13						
ASAR	Alice Springs	48.40	254	P	P	11 26 56.0	-0.5
	2.2nm,0.8s,baz=91,slow=7.9,SNR=16						
ILAR	Eielson Array	85.50	11	P	P	11 30 52.6	+1.0
	0.2nm,0.9s,baz=227,slow=6.1,SNR=4.8						

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*IDC **01** 11:28:42.0±4.7, 8°.18S×148°.90E, h44km±41km, mb3.5/6, mb1 3.7/8, mb1mx3.5/27, mbtmp3.7/8, ML3.9/1, Error ellipse: s-maj=62.4km s-min=28.4km az=127.0*

ISC 01 11:28:40.9±1.8**, 8°.2S**±0°.3×**149°.0E**±0°.3**, h35km, n8, σ0s.89**/9**, mb3.6**/6**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.19	236	P	Pn	11 29 14.9	+0.1
	29nm,0.3s,baz=50,slow=5.3,SNR=44						
PMG				S	Sn	11 29 40.5	-0.2
	62nm,0.3s,baz=32,slow=5.5,SNR=11						
WRA	Warramunga Arr	18.39	229	P	Pn	11 32 53.4	+0.1
	0.4nm,0.3s,baz=54,slow=11,SNR=19						
ASAR	Alice Springs	21.13	221	P	P	11 33 24.0	+1.1
	0.3nm,0.4s,baz=50,slow=8.8,SNR=18						
FITZ	Fitzroy Crossi	24.76	244	P	P	11 33 58.1	-1.3
	3.2nm,0.7s,baz=63,slow=5.5,SNR=21						
PETK	Petropavlovsk-	61.48	6	P	P	11 38 54.6	+0.7
	3.0nm,0.8s,baz=146,slow=7.9,SNR=6.2						
SONM	Songino Array	67.24	330	P	P	11 39 32.4	+0.5
	0.6nm,0.7s,baz=149,slow=7.6,SNR=4.8						
MKAR	Makanchi Array	80.41	320	P	P	11 40 48.8	-0.2
	0.2nm,0.6s,baz=91,slow=6.7,SNR=2.8						
ILAR	Eielson Array	86.69	23	P	P	11 41 19.8	-1.0
	0.2nm,0.7s,baz=251,slow=5.3,SNR=5.0						

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*IDC **01** 11:45:24.0±3.9, 4°.35S×69°.74E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/39, mbtmp3.5/4, MS3.4/5, Ms1 3.4/5, ms1mx3.0/52, Error ellipse: s-maj=128.9km s-min=31.4km az=64.0*

ISC 01 11:45:24.2±4.4**, 4°.5S**±0°.4×**69°.6E**±0°.9**, h10km, n13, σ0s.68**/8**, mb3.8**/4**, MS3.5**/4**, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	4.23	137	Pn	Pn	11 46 28.0	-0.6
	baz=323,slow=19,SNR=23						
H08S3				T	T	11 51 17.0	
	baz=311,slow=75,SNR=29						
H08S1	Diego Carcia H	4.24	137	Pn	Pn	11 46 28.2	-0.5
	baz=323,slow=19,SNR=11						
H08S1				T	T	11 51 16.1	
	baz=311,slow=75,SNR=18						
H08S2	Diego Garcia H	4.25	137	Pn	Pn	11 46 28.4	-0.4
	baz=323,slow=19,SNR=19						
H08S2				T	T	11 51 16.6	
	baz=311,slow=75,SNR=26						
PALK	Pallekele	16.13	44	LR	LR	11 53 06.4	
	comp=Z,62nm,20.2s,baz=357,slow=29						
CMAR	Chiang Mai Arr	36.86	51	LR	LR	12 05 34.6	
	comp=Z,35nm,19.6s,baz=309,slow=33						
BOSA	Boshof	48.37	235	LR	LR	12 10 46.3	
	comp=Z,39nm,20.6s,baz=4.5,slow=31						
MKAR	Makanchi Array	52.31	11	P	P	11 54 35.5	-0.6
	0.2nm,0.5s,baz=195,slow=8.3,SNR=3.6						
IDI	Anoyia	57.67	317	LR	LR	12 17 12.1	
	comp=Z,60nm,19.4s,baz=276,slow=33						
SONM	Songino Array	61.32	27	P	P	11 55 40.3	+0.1
	0.8nm,1.0s,baz=242,slow=6.2,SNR=3.9						
ASAR	Alice Springs	64.70	114	P	P	11 56 04.1	+1.0
	0.5nm,0.8s,baz=258,slow=6.3,SNR=5.6						
WRA	Warramunga Arr	64.75	110	P	P	11 56 04.1	+0.6
	0.8nm,0.8s,baz=285,slow=6.3,SNR=5.5						
KLR	Kul'dur	75.76	37	LR	LR	12 33 54.5	
	comp=Z,29nm,18.0s,baz=314,slow=38						
NVAR	Mina Array Bea	145.49	11	PKPbc	PKPbc	12 05 03.6	+0.1
	0.5nm,0.9s,baz=7.1,slow=3.6,SNR=2.9						

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*IDC **01** 11:50:32.2±2.4, 15°.66S×71°.75W, h48km±25km, mb3.3/2, mb1 3.6/5, mb1mx3.3/26, mbtmp3.6/5, ML3.2/3, MS3.5/2, Ms1 3.5/2, ms1mx3.0/14, Error ellipse: s-maj=41.0km s-min=20.6km az=65.0*

ISC 01 11:50:27.3±0.9**, 15°.5S**±0°.1×**71°.4W**±0°.1**, h10km, n12, σ1s.17**/8**, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	3.21	105	P	Pg	11 51 29.6	+0.6
	0.1nm,0.3s,baz=244,slow=14,SNR=7.4						
NNA	Nana	6.35	302	P	Pn	11 52 00.8	-0.2
	0.4nm,0.3s,baz=282,slow=19,SNR=1.5						
NNA				S	Sn	11 53 15.4	+1.7
	0.7nm,0.3s,baz=253,slow=19,SNR=2.6						
LVC	Limon Verde	7.48	162	P	Pn	11 52 17.5	+0.6
	1.6nm,0.3s,baz=349,slow=9.9,SNR=13						
LVC				S	Sn	11 53 42.3	+0.4
	0.6nm,0.3s,baz=142,slow=19,SNR=4.1						
SIV	San Ignacio	9.92	94	P	Pn	11 52 57.3	+7.2
	0.1nm,0.3s,baz=282,slow=14,SNR=3.8						
PTGA	Pitinga	18.46	39	LR	LR	12 02 15.6	
	comp=Z,166nm,19.6s,baz=44,slow=37						
H03N1	Juan Fernandez	19.16	200	T	T	12 13 12.3	
	baz=20,slow=73,SNR=180						
H03N2	Juan Fernandez	19.17	200	T	T	12 13 06.3	
	baz=20,slow=73,SNR=133						
H03N3	Juan Fernandez	19.18	200	T	T	12 13 10.1	
	baz=20,slow=73,SNR=171						
PLCA	Paso Flores	25.19	179	P	P	11 55 51.6	-1.5
	2.2nm,1.0s,baz=336,slow=11,SNR=3.6						
MDP	Montagnes des	27.59	44	LR	LR	12 08 02.0	
	comp=Z,86nm,19.1s,baz=351,slow=38						
YKA	Yellowknife Ar	84.75	341	P	P	12 03 00.7	-0.7
	0.1nm,0.8s,baz=134,slow=5.3,SNR=3.8						
SONM	Songino Array	147.67	3	PKPbc	PKPbc	12 10 11.9	-0.5
	0.6nm,0.9s,baz=355,slow=3.6,SNR=2.8						

IDC 01 12:05:30.6±7.6**, 6°.75S**×**147°.06E, h0km, mb3.2**/2**, mb1 3.7**/3**, mb1mx3.4**/28**, mbtmp3.4**/3**, ML2.9**/1**, Error ellipse: s-maj=240.9km s-min=35.2km az=105.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.01	222	P	Pn	12 09 42.3	-0.3
	0.0nm,0.3s,baz=36,slow=12,SNR=7.2						
ASAR	Alice Springs	21.04	216	P	P	12 10 16.1	-0.3
	0.8nm,0.8s,baz=42,slow=8.8,SNR=9.5						
MKAR	Makanchi Array	78.11	321	P	P	12 17 31.9	+0.3
	0.1nm,0.3s,baz=109,slow=7.2,SNR=5.5						

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*NEIC **01** 12:10:46.9±2.5, 31°.97N±0°.03×30°.00E±0°.09, h14km±6km, mb3.8/10, ML4.0(HLW), ML4.2(NIC), Error ellipse: s-maj=11.5km s-min=3.1km az=74.0*

*IDC **01** 12:10:48.3±1.1, 32°.24N×30°.09E, h0km, mb3.9/10, mb1 4.1/18, mb1mx3.8/64, mbtmp4.0/18, ML4.1/8, MS3.3/3, Ms1 3.3/3, ms1mx2.6/52, Error ellipse: s-maj=23.4km s-min=15.1km az=172.0*

*HLW **01** 12:10:50.1, 32°.29N×30°.08E, h11km±9km, Ml4.0*

*NIC **01** 12:10:54.8±0.0, 32°.24N×30°.43E, h32km±30km, Ml4.2/4*

*THE **01** 12:10:59.1, 32°.79N×29°.87E, h26km±31km, ML4.0/2, Error ellipse: s-maj=32.7km s-min=2.2km az=147.0*

ISC 01 12:10:52.2±0.6**, 32°.32N**±0°.04×**30°.04E**±0°.04**, h35km, n102, σ1s.97**/115**, mb3.9**/11**, 2C-4D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OSC1	CSNet OBS 1	1.57	41	P	Pn	12 11 18.3	+0.6
OSC1				S	Sn	12 11 36.8	0.0
OSC2	CSNet OBS 4	2.02	67	P	Pn	12 11 22.5	-1.4
OSC2				S	Sn	12 11 44.9	-3.0
MATC	Matruh	2.58	249	P	Pn	12 11 32.5	+1.0
	baz=250						
MATC	Matruh	2.58	249		Pn	12 11 32.5	+1.0
HMYD	Mayadein	2.60	165	P	Pn	12 11 32.0	+0.2
	baz=165						
HMYD	Mayadein	2.60	165		Pn	12 11 32.0	+0.2
HNAT	Natroun	2.72	169	P	Pn	12 11 32.9	-0.6
	baz=169						
HNAT				S	Sn	12 12 03.7	-1.5
	baz=169						
HNAT	Natroun	2.72	169		Pn	12 11 32.9	-0.6
HNAT					Sn	12 12 03.7	-1.5
KOT	Kottamia	2.83	147	P	Pn	12 11 34.6	-0.5
	baz=146						
KOT	Kottamia	2.83	147		Pn	12 11 34.6	-0.5
HHAG	Hagoal	2.94	143	P	Pn	12 11 35.8	-0.7
	baz=142						
HHAG				S	Sn	12 12 07.6	-3.1
	baz=142						
HHAG	Hagoal	2.94	143		Pn	12 11 35.8	-0.7
HHAG					Sn	12 12 07.6	-3.1
HSAF	As Saff	2.99	154	P	Pn	12 11 36.3	-0.9
	baz=154						
GLL	Jalalah	3.08	152	P	Pn	12 11 37.9	-0.6
	baz=152						
RYAN	Fayoum	3.23	176	AMP		12 12 00.0	
	baz=176						
NATA	Nata	3.24	40	⇓P	Pn	12 11 41.8	+1.2
NATA				AML	AML	12 12 20.4	
	2.9nm,0.3s						
NATA				AML	AML	12 12 22.2	
	1.9nm,0.2s						
AKMS	Akamas	3.30	35	⇓P	Pn	12 11 41.8	+0.3
AKMS				AML	AML	12 12 16.8	
	1.7nm,0.4s						
AKMS				AML	AML	12 12 18.0	
	3.2nm,0.3s						
SZAC	Souni	3.40	44	⇓P	Pn	12 11 43.9	+1.1
SZAC				AML	AML	12 12 23.1	
	1.6nm,0.2s						
SZAC				AML	AML	12 12 24.5	
	3.3nm,0.4s						
SUZ	Suez	3.44	135	P	Pn	12 11 42.4	-0.9
	baz=135						
ALFC	Alefka	3.54	36	⇑P	Pn	12 11 45.2	+0.4
ALFC				AML	AML	12 12 23.0	
	1.1nm,0.2s						
ALFC				AML	AML	12 12 23.5	
	1.4nm,0.4s						
ASGA	Asgata	3.64	47	⇓P	Pn	12 11 47.1	+1.1
CSS	Mathiatis	3.81	45	Pn	Pn	12 11 48.9	+0.5
CSS	Mathiatis	3.81	45	P	Pn	12 11 49.4	+1.0
NBNS	Bani Suef	3.84	163	AMP		12 12 00.0	
	baz=163						
AKAS	Kas	3.92	355		Pn	12 11 49.8	-0.3
KZIT	Kziot	3.97	110	P	Pn	12 11 49.1	-1.6
KZIT				S	Sn	12 12 31.7	-4.4
KARP	Karpathos	4.01	324	P	Pn	12 11 51.6	+0.3
KARP	Karpathos	4.01	324	Pn	Pn	12 11 52.4	+1.2
MVOU	Mavrovouni	4.03	47	P	Pn	12 11 53.1	+1.7
SLUM	Salum	4.19	260	P	Pn	12 11 53.9	+0.2
	baz=261						
ZKR	Zakros	4.24	312	P	Pn	12 11 55.5	+1.2
ZKR				S	Sn	12 12 38.5	-4.0
	468nm,0.3s						
STIA	Sitia Lasithi	4.37	312	P	Pn	12 11 56.8	+0.7
STIA				S	Sn	12 12 41.6	-4.2
FETY	Fethiye	4.38	350	P	Pn	12 11 55.4	-0.9
FETY				S	Sn	12 12 40.2	-5.9
ELL	Elmali	4.42	359	Pn	Pn	12 11 59.1	+2.1
MMLI	Mount Malkishu	4.55	87	P	Pn	12 11 57.9	-0.8
MMLI				S	Sn	12 12 47.0	-3.5

MMAI	Mount Meron Ar	4.58	80	Pn	Pn	12 11 58.3	-0.7
	73nm,0.3s,baz=259,slow=12,SNR=132						
MMAI				Sn	Sn	12 12 47.4	-3.6
	118nm,0.3s,baz=270,slow=25,SNR=16						
NPS	Neapolis	4.71	310	P	Pn	12 12 02.3	+1.4
LAST	Lasithi	4.74	308	P	Pn	12 12 02.0	+0.7
LAST				S	Sn	12 12 51.0	-4.1
	385nm,0.7s						
DQRL	Deir Qamar	4.85	72	*e*P	Pn	12 12 03.2	+0.4
QRWL	Qaraoun	4.90	74	*e*P	Pn	12 12 03.9	+0.4
BHL	Bhannes	4.97	70	*e*P	Pn	12 12 04.4	0.0
EIL	Elat	4.97	121	Pn	Pn	12 12 02.8	-1.6
	4.0nm,0.3s,baz=331,slow=5.0,SNR=145						
EIL				Sn	Sn	12 12 55.0	-5.7
	46nm,0.3s,baz=74,slow=17,SNR=16						
RCY	Rachaya	5.01	75	*e*P	Pn	12 12 05.6	+0.5
SIVA	Sivas	5.13	303	P	Pn	12 12 07.3	+0.8
IDI	Anoyia	5.21	306	Pn	Pn	12 12 09.0	+1.2
	4.4nm,0.3s,baz=182,slow=6.2,SNR=42						
IDI				Sn	Sn	12 13 03.9	-2.8
	41nm,0.3s,baz=9.6,slow=20,SNR=26						
BODT	Bodrum	5.24	335	P	Pn	12 12 07.2	-0.9
HWQ	Hawqa	5.32	67	*e*P	Pn	12 12 09.0	-0.2
ISP	Isparta	5.51	4		Pn	12 12 14.9	+3.1
PRNS	Prines Rethymn	5.52	305	P	Pn	12 12 14.2	+2.3
SANT	Santorini	5.54	318	Pn	Pn	12 12 12.4	+0.2
THR6	Thira Island,	5.57	318	P	Pn	12 12 13.0	+0.5
THR3	Thira Island,	5.60	318	P	Pn	12 12 12.9	-0.1
THR5	Thira Island,	5.64	318	P	Pn	12 12 13.8	+0.3
IMMV	Iera Moni Meta	5.94	304	P	Pn	12 12 18.1	+0.5
MANT	Manisa	6.28	349	Pn	Pn	12 12 23.7	+1.2
BR131	Keskin Array S	7.95	20		Pn	12 12 47.1	+1.7
BRTR	Keskin Array B	7.95	20	Pn	Pn	12 12 47.6	+2.2
	3.1nm,0.3s,baz=201,slow=14,SNR=61						
BRTR				Sn	Sn	12 14 12.6	-1.5
	0.1nm,0.3s,baz=195,slow=19,SNR=1.3						
BRTR				LR	LR	12 17 19.8	
	comp=Z,88nm,18.2s,baz=317,slow=49						
BRTR	Keskin Array B	7.95	20		Pn	12 12 46.8	+1.5
MDUB	Mudurnu	8.19	6		Pn	12 12 50.0	+1.3
ITM	Ithomi	8.25	308	Pn	Pn	12 12 48.8	-0.6
ALN	Alexandroupoli	9.14	341	Pn	Pn	12 13 02.8	+1.2
AGG	Agios Georgios	9.17	319	Pn	Pn	12 13 02.6	+0.6
LIT	Litokhoron	9.87	324	Pn	Pn	12 13 13.1	+1.4
FNA	Florina	10.95	323	Pn	Pn	12 13 27.5	+1.1
SCTE	Santa Cesarea	12.13	313	Pn	Pn	12 13 40.0	-2.5
TIRR	Tirgusor	12.19	354	Pn	Pn	12 13 45.9	+2.6
TIP	Timpagrande	12.77	306	Pn	Pn	12 13 49.2	-2.1
MLR	Muntele Rosu	13.53	348	Pn	Pn	12 14 05.0	+3.3
	0.2nm,0.3s,baz=238,slow=10,SNR=6.6						
MLR	Muntele Rosu	13.53	348	Pn	Pn	12 14 03.8	+2.0
RAFF	Raffo Rosso	13.78	295	Pn	Pn	12 14 02.6	-2.5
SGRT	San Giovanni R	14.78	314	Pn	Pn	12 14 16.2	-2.6
KBZ	Khabaz	15.22	38	Pn	P	12 14 28.7	-0.4
	0.2nm,0.3s,baz=214,slow=9.6,SNR=16						
BURAR	Bucovina Array	15.71	348	⇑P	P	12 14 39.5	+4.9
BURAR	Bucovina Array	15.71	348		Pn	12 14 31.6	+0.7
BUR08	Bucovina Ar. S	15.75	348		Pn	12 14 32.5	+1.1
BUR08				IAmb	IAmb	12 14 39.9	
	comp=Z,5.1nm,0.8s						
INTR	Introdacqua	16.07	312	Pn	Pn	12 14 35.1	-0.5
NRCA	Norcia	17.00	313	Pn	Pn	12 14 46.6	-0.7
NRCA				IAmb	IAmb	12 14 47.6	
	comp=Z,5.1nm,1.1s						
KEST	Kesra	17.49	287	P	P	12 14 55.4	+1.0
	comp=Z,0.8nm,0.3s,baz=56,slow=7.9,SNR=8.7						
KEST	Kesra	17.49	287		Pn	12 14 51.2	-2.2
KEST				IAmb	IAmb	12 15 08.3	
	comp=Z,11nm,1.0s						
KOLS	Kolonicke sedl	17.60	343	*e*PN	P	12 14 59.0	+3.6
MURB	Monte Urbino	17.60	313	Pn	Pn	12 14 52.5	-2.2
MURB				IAmb	IAmb	12 15 15.8	
	comp=Z,11nm,1.2s						
AKASG	Malin Array Be	18.38	358	P	P	12 15 03.6	-0.3
	comp=Z,0.9nm,0.3s,baz=178,slow=11,SNR=4.8						
GERES	GERESS Array B	20.58	328	P	P	12 15 28.6	+0.5
	comp=Z,0.5nm,0.6s,baz=129,slow=10,SNR=1.7						
SENIN	Lac Senin/Sane	22.39	315	P	P	12 15 46.3	-1.5
SENIN				IAmb	IAmb	12 15 55.3	
	comp=Z,4.7nm,0.9s						
CLL	Collm	22.73	332	*e*P	P	12 15 52.0	+1.0
CLL				*e*pP	pP	12 15 56.0	-3.8
CLL				*e*		12 16 04.0	
ABKAR	Akbulak array	28.01	44	P	P	12 16 37.3	-2.5
ESDC	Sonseca Array	28.35	295	P	P	12 16 45.7	+2.7
	comp=Z,2.9nm,0.8s,baz=81,slow=8.8,SNR=20						
ESDC	Sonseca Array	28.35	295	P	P	12 16 42.1	-0.8
MDT	Midelt	29.13	280	P	P	12 16 50.9	+0.8
	comp=Z,1.8nm,0.8s,baz=170,slow=4.6,SNR=3.5						
FINES	FINESS Array B	29.25	356	P	P	12 16 53.2	+2.6
	comp=Z,2.9nm,1.0s,baz=143,slow=10,SNR=5.2						
FINES	FINESS Array B	29.25	356	P	P	12 16 52.4	+1.8
KOWA	Kowa	35.73	248	P	P	12 17 48.7	+1.0
	comp=Z,1.9nm,0.5s,baz=50,slow=8.7,SNR=7.0						
ARCES	ARCESS Array B	37.35	357	P	P	12 18 02.1	+1.1
	comp=Z,2.3nm,0.9s,baz=173,slow=8.2,SNR=4.2						
ARCES	ARCESS Array B	37.35	357	P	P	12 18 02.5	+1.5
MK31	Makanchi Array	42.03	54	P	P	12 18 42.0	+1.7
MK31				IAmb	IAmb	12 19 06.6	
	comp=Z,1.3nm,1.2s						
MKAR	Makanchi Array	42.03	54	P	P	12 18 42.2	+1.9
	comp=Z,0.4nm,0.6s,baz=264,slow=5.0,SNR=5.5						
MKAR	Makanchi Array	42.03	54		P	12 18 41.9	+1.6
ZALV	Zalesovo Beam	44.13	44	P	P	12 18 58.0	+0.9
	comp=Z,0.6nm,0.3s,baz=262,slow=8.7,SNR=4.5						
SONM	Songino Array	58.15	50	P	P	12 20 44.3	+1.7
	comp=Z,0.2nm,0.4s,baz=288,slow=5.4,SNR=3.4						
YKA	Yellowknife Ar	81.34	344	P	P	12 23 06.4	+1.6
	comp=Z,0.3nm,0.6s,baz=33,slow=5.5,SNR=5.5						
KAPI	Kappang	92.40	94	LR	LR	13 10 35.4	
	comp=Z,26nm,19.1s,baz=172,slow=39						
SIJI	Sorong	99.95	85	LR	LR	13 13 33.9	
	comp=Z,16nm,21.9s,baz=151,slow=38						

*IDC **01** 12:28:52.8±3.2, 3.°79N×128.°22E, h148km±36km, mb3.3/4, mb1 3.6/6, mb1mx3.2/53, mbtmp4.0/6, Error ellipse: s-maj=56.5km s-min=19.8km az=72.0*

ISC 01 12:28:51.6±1.1**, 3.°8N**±0.°2×**127.°9E**±0.°2**, h150**km**, n10, σ2.s26**/13**, mb3.5**/4**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	3.12	317	*e*P	Pn	12 29 38.9	-1.7
DDMP				*e*S	Sn	12 30 17.7	-0.7
KCP	Kidapawan	4.21	319	⇑*i*P	Pn	12 29 55.8	+1.2
SKMP	Bagumbayan, Su	4.26	309	*e*P	Pn	12 29 54.0	-1.3
SKMP				*e*S	Sn	12 30 42.8	-2.0
SIJI	Sorong	5.76	144	P	Pn	12 30 15.1	-0.1
	4.8nm,0.3s,baz=151,slow=21,SNR=18						
SIJI				S	Sn	12 31 15.6	-5.0
	7.4nm,0.3s,baz=217,slow=23,SNR=21						
PAGZ	Pagadian	5.99	312	*e*P	Pn	12 30 16.6	-1.6
BATI	Baumata	14.54	197	P	P	12 32 14.5	+1.7
	3.6nm,0.3s,baz=34,slow=2.8,SNR=4.1						
FITZ	Fitzroy Crossi	21.88	186	P	P	12 33 32.5	-0.2
	1.0nm,0.5s,baz=17,slow=11,SNR=7.6						
WRA	Warramunga Arr	24.45	165	P	P	12 33 57.4	+0.7
	0.6nm,0.5s,baz=347,slow=10,SNR=12						
ASAR	Alice Springs	27.94	168	P	P	12 34 29.4	+1.3
	0.5nm,0.4s,baz=353,slow=7.8,SNR=31						
MKAR	Makanchi Array	58.13	325	P	P	12 38 32.4	+2.8
	1.0nm,0.4s,baz=113,slow=8.0,SNR=32						

*IDC **01** 12:31:21.9±1.4, 15.°32S×174.°87W, h257km±25km, mb3.5/5, mb1 3.7/6, mb1mx3.2/48, mbtmp4.1/6, Error ellipse: s-maj=82.8km s-min=17.4km az=144.0*

ISC 01 12:31:21.7±1.6**, 15.°5S**±0.°4×**174.°8W**±0.°2**, h262**km**, n7, σ0.s77**/8**, mb3.4**/5**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.28	63	P	Pn	12 32 17.1	-1.0
	11nm,0.3s,baz=140,slow=1.9,SNR=14						
AFI				S	S	12 33 03.9	+1.1
	13nm,0.3s,baz=84,slow=21,SNR=6.0						
WRA	Warramunga Arr	48.54	257	P	P	12 39 38.8	-0.4
	0.7nm,0.5s,baz=87,slow=7.6,SNR=24						
ASAR	Alice Springs	48.84	252	P	P	12 39 41.9	+0.5
	8.9nm,0.6s,baz=86,slow=8.0,SNR=174						
PETK	Petropavlovsk-	72.28	343	P	P	12 42 18.6	+0.1
	2.5nm,0.9s,baz=144,slow=8.4,SNR=4.6						
ILAR	Eielson Array	82.75	12	P	P	12 43 15.6	-0.4
	0.3nm,0.5s,baz=224,slow=5.6,SNR=9.8						
PDAR	Pinedale Array	83.19	42	P	P	12 43 19.4	+0.3
	0.4nm,0.5s,baz=192,slow=1.4,SNR=5.4						
BRTR	Keskin Array B	145.35	320	PKPbc	PKPab	12 50 30.2	+0.5
	0.5nm,0.6s,baz=45,slow=3.3,SNR=2.6						

*IDC **01** 12:36:52.5±0.9, 23.°64N×99.°03E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.7/46, mbtmp3.8/9, ML3.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/38, Error ellipse: s-maj=43.0km s-min=16.2km az=73.0*
*BJI **01** 12:36:53.9±0.0, 23.°53N×98.°95E, h19km, mb4.0/11, ML4.3/4, Ms3.8/4, Ms7 3.5/3*

ISC 01 12:36:54.6±0.6**, 23.°70N**±0.°06×**98.°94E**±0.°05**, h10**km**, n35, σ1.s46**/38**, mb3.9**/8**, 1D, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.74	67	⇓Pn	Pn	12 37 53.2	+0.6
KMI				Pg	Pg	12 38 05.0	-1.2
KMI				Sn	Sn	12 38 37.1	+0.3
KMI				Sg	Sg	12 38 54.4	-0.3
KMI				smax	smax		
	comp=N,490nm,0.8s						
KMI				smax	smax		
	comp=E,300nm,0.9s						
KMI				LR	LR		
	comp=N,760nm,4.8s						
KMI				LR	LR		
	comp=E,550nm,6.6s						
KMI				LR	LR		
	comp=Z,360nm,8.4s						
CMMT	Chiang Mai	4.87	180	P	Pn	12 38 08.4	+0.6
CM32	Chiang Mai Arr	5.03	181	P	Pn	12 38 12.0	+1.9
LAMP	Lampang	5.19	173	P	Pb	12 38 27.2	+1.7
CM31	Chiang Mai Arr	5.22	180	P	Pn	12 38 15.1	+2.4
CMAR	Chiang Mai Arr	5.22	180	Pn	Pn	12 38 10.4	-2.3
	0.8nm,0.3s,baz=360,slow=12,SNR=25						
CMAR				Pg	Pb	12 38 25.8	-0.2
	5.0nm,0.3s,baz=357,slow=16,SNR=7.8						
CMAR				Lg	Lg	12 39 31.6	
	12nm,0.3s,baz=16,slow=33,SNR=10						
CM15	Chiang Mai Arr	5.22	180	P	Pn	12 38 15.0	+2.2
CM09	Chiang Mai Arr	5.23	180	P	Pn	12 38 13.0	+0.1
CM02	Chiang Mai Arr	5.24	180	P	Pn	12 38 12.0	-1.0
CM01	Chiang Mai Arr	5.25	180	P	Pn	12 38 13.4	+0.2
CM13	Chiang Mai Arr	5.25	180	P	Pn	12 38 13.0	-0.2
CM05	Chiang Mai Arr	5.28	180	P	Pn	12 38 13.0	-0.5
CM04	Chiang Mai Arr	5.28	180	P	Pn	12 38 13.0	-0.5
MHMT	Maesarieng	5.58	190	P	Pb	12 38 32.9	+0.9
UTTA	Uttaradit	6.12	165	P	Pn	12 38 25.7	+0.6
GYA	Guiyang	7.52	67	Pg	Pg	12 39 23.3	+4.8
GYA				Sn	Sb	12 40 34.3	-0.7
GYA				Sg	Sg	12 40 57.7	+1.8
GYA				smax	smax		
	comp=N,13nm,1.3s						
GYA				smax	smax		
	comp=E,19nm,1.7s						
GYA				LR	LR		
	comp=N,540nm,9.9s						
GYA				LR	LR		
	comp=E,280nm,10.0s						
GYA				LR	LR		
	comp=Z,220nm,7.3s						
TAPN	Taplejung	10.77	292	*e*P	Pn	12 39 30.2	+1.0
	comp=Z,22nm,0.8s						
ODAN	Odare	10.92	289	*e*P	Pn	12 39 32.5	+1.4
	comp=Z,14nm,0.5s						
RAMN	Ramite	11.62	289	*e*P	Pn	12 39 40.9	+0.1
	comp=Z,11nm,0.5s						
GUN	Gumba	12.49	292	*e*P	Pn	12 39 52.1	-0.7
	comp=Z,16nm,0.9s						
PKI	Pulchoki	12.80	290	*e*P	Pn	12 39 55.2	-1.8
	comp=Z,8.5nm,0.6s						
PKIN	Phulchoki	12.81	290	*e*P	Pn	12 39 55.1	-2.0
	comp=Z,8.7nm,0.6s						
GKN	Gorkha	13.57	291	*e*P	Pn	12 40 04.4	-3.0
	comp=Z,31nm,0.8s						
GTA	Gaotai	15.68	2	*e*P	P	12 40 42.4	+2.6
GTA				pP	sP	12 40 46.9	+2.5
GTA				sP	pP	12 40 49.4	+6.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WMQ	Urumqi	22.10	338	*e*P	P	12 41 51.9	+1.9
SONM	Songino Array	24.80	12	P	P	12 42 18.0	+1.1
	comp=Z,1.6nm,0.7s,baz=192,slow=9.7,SNR=14						
MKAR	Makanchi Array	26.64	334	P	P	12 42 35.0	+1.6
	comp=Z,1.3nm,0.8s,baz=142,slow=9.4,SNR=14						
TLY	Talaya	28.17	6	LR	LR	12 56 12.5	
	comp=Z,30nm,19.6s,baz=171,slow=41						
ASAJ	Asahikawa	40.98	49	LR	LR	13 00 48.9	
	comp=Z,45nm,21.4s,baz=4.5,slow=35						
WRA	Warramunga Arr	55.43	139	P	P	12 46 27.8	-1.7
	comp=Z,1.6nm,0.7s,baz=326,slow=7.7,SNR=13						
ASAR	Alice Springs	58.05	142	P	P	12 46 48.6	+0.5
	comp=Z,0.8nm,0.8s,baz=309,slow=5.8,SNR=8.2						
FINES	FINESS Array B	61.29	328	P	P	12 47 10.1	+0.2
	comp=Z,2.6nm,0.9s,baz=155,slow=7.6,SNR=4.3						
NOA	NORSAR Array B	68.48	328	P	P	12 47 56.0	-0.8
	comp=Z,0.8nm,0.7s,baz=79,slow=6.4,SNR=1.8						
ILAR	Eielson Array	78.44	24	P	P	12 48 53.3	-2.1
	comp=Z,0.3nm,0.8s,baz=297,slow=4.0,SNR=5.0						
YKA	Yellowknife Ar	90.04	15	P	P	12 49 53.0	-1.2
	comp=Z,0.7nm,0.8s,baz=337,slow=4.1,SNR=10						

*ISK **01** 13:06:24.9, 36.°03N×27.°89E, h89km±1km, ML2.8/16*
*ATH **01** 13:06:26.4, 36.°16N×27.°63E, h68km±7km, ML2.9/2, Error ellipse: s-maj=8.8km s-min=1.8km az=123.0*
*NIC **01** 13:06:27.9±0.0, 35.°83N×28.°05E, h59km±2km, Ml3.4/3*
*DDA **01** 13:06:28.1, 36.°07N×27.°94E, h36km±5km, ML2.6*
*THE **01** 13:06:29.6, 36.°18N×27.°66E, h53km±4km, ML2.9/2, Error ellipse: s-maj=4.9km s-min=0.9km az=105.0*

ISC 01 13:06:25.7±1.3**, 36.°06N**±0.°03×**27.°93E**±0.°03**, h87**km±6km**, n66, σ1.s14**/93**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.22	46	P	Pn	13 06 39.0	+0.5
ARG				S	Sn	13 06 48.1	+0.2
ARG				AML	AML	13 06 49.7	
	comp=E,1857μm,0.2s						
ARG				AML	AML	13 06 49.8	
	comp=N,1066μm,0.2s						
ARG	Arkhangelos	0.22	46	P	Pn	13 06 39.0	+0.5
ARG				S	Sn	13 06 48.1	+0.2
ARG				AML	AML	13 06 49.7	
	comp=E,1857μm,0.2s						
ARG				AML	AML	13 06 49.8	
	comp=N,1066μm,0.2s						
ARG	Arkhangelos	0.22	46	P	Pn	13 06 39.0	+0.5
ARG				S	Sn	13 06 47.0	-0.8
	comp=N,845nm,0.4s						
ARG	Arkhangelos	0.22	46	PG	Pn	13 06 38.9	+0.5
ARG				SG	Sn	13 06 48.4	+0.6
ARG	Arkhangelos	0.22	46	P	Pn	13 06 38.9	+0.5
ARG				S	Sn	13 06 47.2	-0.6
MRSB	Marmaris-Mugla	0.69	18	PG	Pn	13 06 42.4	+0.5
DATC	Datca-Mugla	0.73	343	PG	Pn	13 06 42.3	+0.1
TURN	Turunc	0.76	20	PG	Pn	13 06 43.4	+0.9
TURN				SG	Sn	13 06 55.8	+0.8
KARP	Karpathos	0.81	231	P	Pn	13 06 43.3	+0.2
KARP				S	Sn	13 06 55.2	-0.9
KARP				AML	AML	13 06 56.3	
	comp=E,3206μm,0.2s						
KARP				AML	AML	13 06 56.3	
	comp=N,1860μm,0.3s						
KARP	Karpathos	0.81	231	P	Pn	13 06 43.3	+0.2
KARP				S	Sn	13 06 55.2	-0.9
KARP				AML	AML	13 06 56.3	
	comp=E,3206μm,0.2s						
KARP				AML	AML	13 06 56.3	
	comp=N,1860μm,0.3s						
KARP	Karpathos	0.81	231	P	Pn	13 06 43.3	+0.2
KARP				S	Sn	13 06 54.9	-1.2
	comp=N,1μm,0.2s						
KARP	Karpathos	0.81	231	PG	Pn	13 06 42.9	-0.2
KARP				SG	Sn	13 06 55.4	-0.7
KARP	Karpathos	0.81	231	P	Pn	13 06 43.3	+0.2
KARP				S	Sn	13 06 55.3	-0.9
KARP				AML	AML	13 06 55.9	
	comp=N,3.2nm,0.2s						
KARP				AML	AML	13 06 55.9	
	comp=N,3.2nm,0.2s						
KARP				AML	AML	13 06 55.9	
	comp=N,1.8nm,0.3s						
KARP				AML	AML	13 06 55.9	
	comp=N,1.8nm,0.3s						
DALY	Dalyan (Mula)	0.95	38	PG	Pn	13 06 45.8	+1.2
DALY	Dalyan (Mula)	0.95	38	*i* P	Pn	13 06 45.8	+1.2
DALY				*i* S	Sn	13 06 57.4	-1.4
DALY				IAML		13 06 59.0	
	comp=E,157nm,0.4s						
DALY				IAML		13 06 59.0	
	comp=N,188nm,0.2s						
BDRM	Kayabasi	1.07	339	*i* P	Pn	13 06 45.6	-0.5
BDRM				*i* S	Sn	13 07 00.2	-1.1
FETY	Fethiye	1.09	58	PN	Pn	13 06 46.5	+0.2
YER	Yerkesik	1.11	15	P	Pn	13 06 48.4	+1.9
YER	Yerkesik	1.11	15	PN	Pn	13 06 47.3	+0.8
YER				SN	Sn	13 07 03.6	+1.4
BODT	Bodrum	1.12	334	P	Pn	13 06 45.8	-0.8
BODT				S	Sn	13 06 58.4	-3.8
BODT	Bodrum	1.12	334	PN	Pn	13 06 45.9	-0.7
MULA	Mugla, Merkez-	1.23	15	*i* P	Pn	13 06 49.4	+1.4
MULA				*i* S	Sn	13 07 04.4	-0.5
MLSB	Milas	1.24	354	PN	Pn	13 06 48.7	+0.6
KSL	Kastellorizon	1.34	86	S	Sn	13 07 07.4	+0.3
AKAS	Kas	1.37	82	PN	Pn	13 06 50.1	+0.3
AKAS	Kas	1.37	82	*i* P	Pn	13 06 48.6	-1.1
AKAS				*i* S	Sn	13 07 06.5	-1.4
AKAS				IAML		13 07 09.0	
	comp=E,89nm,0.3s						
AKAS				IAML		13 07 09.0	
	comp=N,80nm,0.9s						
DDIM	Aydin, Didim	1.50	339	*i* P	Pn	13 06 52.5	+1.2
CAEL	Denizli, Camel	1.54	46	*i* P	Pn	13 06 53.2	+1.2
CAEL				*i* S	Sn	13 07 11.5	-0.3
CAEL				IAML		13 07 15.0	
	comp=E,57nm,0.4s						
CAEL				IAML		13 07 15.0	
	comp=N,67nm,0.7s						
TAVA	DENIZLI_Tavas	1.61	29	*i* P	Pn	13 06 53.6	+0.8
TAVA				*i* S	Sn	13 07 12.1	-1.2
TAVA				IAML		13 07 17.0	
	comp=N,68nm,0.3s						
ZKR	Zakros	1.69	236	P	Pn	13 06 55.0	+1.3
ZKR				S	Sn	13 07 15.9	+1.0
ZKR	Zakros	1.69	236	P	Pn	13 06 55.0	+1.3
ZKR				S	Sn	13 07 15.9	+1.0
ZKR	Zakros	1.69	236	P	Pn	13 06 55.0	+1.3
ZKR	Zakros	1.69	236	P	Pn	13 06 54.9	+1.3
ZKR				S	Sn	13 07 16.2	+1.2
STIA	Sitia Lasithi	1.73	241	P	Pn	13 06 54.9	+0.7
GCAM	G?zelcaml?	1.73	341	PN	Pn	13 06 55.0	+0.8
GCAM	G?zelcaml?	1.73	341	*i* P	Pn	13 06 55.1	+0.8
ELL	Elmali	1.74	66	PN	Pn	13 06 55.6	+1.1
ELL				SN	Sn	13 07 17.9	+1.6
ELL	Elmali	1.74	66	P	Pn	13 06 56.5	+2.0
GOLH	Golhisar	1.76	48	*i* P	Pn	13 06 56.9	+2.1
GOLH				*i* S	Sn	13 07 15.7	-1.1
SMG	Samos	1.86	332	P	Pn	13 06 57.5	+1.5
SMG	Samos	1.86	332	P	Pn	13 06 57.5	+1.5
AYDB	Zeytinkoy-Aydi	1.88	359	PN	Pn	13 06 57.0	+0.6
AKUM	Antalya-Kumluc	1.97	82	*i* P	Pn	13 06 59.1	+1.7
AKUM				IAML		13 07 25.0	
	comp=N,65nm,0.4s						
SANT	Santorini	2.02	280	P	Pn	13 06 58.4	+0.3
SANT	Santorini	2.02	280	P	Pn	13 06 58.4	+0.3
NPS	Neapolis	2.05	248	P	Pn	13 06 58.6	+0.2
THR3	Thira Island,	2.07	280	P	Pn	13 06 59.2	+0.5
KORT	Korkueli	2.16	64	PN	Pn	13 07 00.4	+0.3
KORT	Korkueli	2.16	64	*i* P	Pn	13 06 56.2	-3.9
APE	Apeiranthos	2.18	298	P	Pn	13 07 00.8	+0.6
APE	Apeiranthos	2.18	298	P	Pn	13 07 00.8	+0.6
APE	Apeiranthos	2.18	298	P	Pn	13 06 59.7	-0.5
APE	Apeiranthos	2.18	298	PN	Pn	13 07 00.4	+0.2
LAST	Lasithi	2.19	246	P	Pn	13 07 00.7	+0.3
BUCA	Burdur, Bucak-	2.46	58	*i* P	Pn	13 07 06.2	+2.2
MANT	Manisa	2.48	12	*i* P	Pn	13 07 04.3	-0.1
KHAL	Karahalli	2.62	28	*i* P	Pn	13 07 06.6	+0.5
KHAL				*i* S	Sn	13 07 35.4	-1.8
KHAL				IAML		13 07 37.0	
	comp=E,27nm,0.2s						
KZIL	AFYON_Kizioren	2.82	38	*i* P	Pn	13 07 08.9	+0.1
AKMS	Akamas	3.74	105	P	Pn	13 07 21.7	+0.5
AKMS				S	Sn	13 08 03.1	-1.1
AKMS				AML	AML	13 08 04.0	
	comp=E,0.6nm,0.4s						
AKMS				AML	AML	13 08 04.0	
	comp=E,0.6nm,0.4s						
AKMS				AML	AML	13 08 04.3	
	comp=E,0.5nm,0.4s						
AKMS				AML	AML	13 08 04.3	
	comp=E,0.5nm,0.4s						
OSC1	CSNet OBS 1	3.76	132	P	Pn	13 07 21.5	+0.1
OSC1				S	Sn	13 08 02.4	-2.1
ALFC	Alefka	3.91	102	P	Pn	13 07 24.8	+1.3
ALFC				AML	AML	13 08 08.0	
	comp=E,0.2nm,0.3s						
ALFC				AML	AML	13 08 09.8	
	comp=E,0.2nm,0.4s						
NATA	Nata	4.00	107	P	Pn	13 07 25.0	+0.3
SZAC	Souni	4.25	106	P	Pn	13 07 27.9	-0.2
ASGA	Asgata	4.53	105	P	Pn	13 07 32.1	+0.3
OSC2	CSNet OBS 4	4.66	129	P	Pn	13 07 33.3	-0.3
MVOU	Mavrovouni	4.77	101	P	Pn	13 07 36.5	+1.4

*IDC **01** 13:27:14.6±4.5, 29.°67S×178.°09W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/19, mbtmp4.0/3, Error ellipse: s-maj=194.5km s-min=69.4km az=160.0*
*NEIC **01** 13:27:34.9±0.5, 29.°6S±0.°3×178.°3W±0.°2, h172km±8km, mb4.1/10, Error ellipse: s-maj=37.3km s-min=20.6km az=195.0*

ISC 01 13:27:33.1±0.8**, 30.°2S**±0.°1×**178.°5W**±0.°1**, h150**km**, n17, σ1.s95**/17**, mb4.1**/8**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.02	27	Pn	Pn	13 27 58.5	+0.5
RAO				Sn	Sn	13 28 17.0	-0.1
URZ	Urewera	8.88	203		Pn	13 29 36.0	-2.2
BKZ	Black Stump Fm	9.90	203		Pn	13 29 48.7	-3.1
SANVU	Saraoutou	19.70	315	P	P	13 31 46.6	-4.4
SANVU				IAmb	IAmb	13 31 59.2	
	comp=Z,15nm,1.1s						
CTAO	Charters Tower	33.38	279	P	P	13 33 59.2	+1.9
CTAO				IAmb	IAmb	13 34 18.2	
	comp=Z,12nm,1.4s						
STKA	Stephens Creek	34.15	257	P	P	13 34 05.1	+1.1
	comp=Z,0.6nm,0.3s,baz=34,slow=11,SNR=3.1						
STKA	Stephens Creek	34.15	257	IAmb	IAmb	13 34 11.8	
	comp=Z,2.2nm,1.4s						
AS31	Alice Springs	42.73	267	P	P	13 35 16.2	+0.4
ASAR	Alice Springs	42.73	267	P	P	13 35 16.2	+0.5
	comp=Z,0.7nm,0.5s,baz=102,slow=7.3,SNR=9.8						
PTCN	Pitcairn Islan	42.90	95	P	P	13 35 15.7	-1.3
WR0	Warramunga Arr	43.52	272	P	P	13 35 22.6	+0.5
WR0				IAmb	IAmb	13 35 46.6	
	comp=Z,5.1nm,1.1s						
WB2	Warramunga Arr	43.69	272	P	P	13 35 23.9	+0.5
WB2				IAmb	IAmb	13 35 36.6	
	comp=Z,4.9nm,1.2s						
WRAB	Tennant Creek	43.69	272	P	P	13 35 24.0	+0.6
WRAB				IAmb	IAmb	13 35 51.7	
	comp=Z,5.6nm,1.2s						
WRA	Warramunga Arr	43.70	272	P	P	13 35 24.1	+0.6
	comp=Z,1.6nm,0.3s,baz=110,slow=8.1,SNR=49						
WB0	Warramunga Arr	43.72	272	P	P	13 35 24.2	+0.5
WB0				IAmb	IAmb	13 35 25.3	
	comp=Z,7.8nm,1.3s						
QSPA	South Pole Qui	59.95	180	P	P	13 37 26.7	+3.4
FINES	FINESS Array B	144.79	340	PKP	PKPdf	13 46 51.6	+0.2
	comp=Z,1.2nm,0.5s,baz=48,slow=4.1,SNR=13						

*IGQ **01** 13:29:23±1.6, 1°N±7°×7°7W±°, h1km*
*RSNC **01** 13:29:25.1±1.3, 0.°72N×77.°19W, h1km±5km, ML3.4, Mw3.9, Fault plane solution: NP1:φs28.00000°, δ18.00000°, λ-180.00000°.*

ISC 01 13:29:23.0±1.2**, 0.°61N**±0.°03×**77.°18W**±0.°03**, h2**km±11km**, n65, σ1.s43**/90**, 4C-2D, Colombia-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPAS1	Pasto	0.59	346	⇑*e*P	Pg	13 29 34.4	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPAS1	**Pasto**	**0.59**	**346**	*e*S	**Sg**	**13 29 42.7**	**+0.5**
CPAS2	**Pasto**	**0.61**	**354**	⇑*e*P	**Pg**	**13 29 34.2**	**-0.7**
CPAS2	**Pasto**	**0.61**	**354**	*e*S	**Sg**	**13 29 42.2**	**-0.6**
GCUF	**Volcan Galeras**	**0.64**	**345**	⇑*i*P	**Pg**	**13 29 35.3**	**+0.1**
GCUF				*e*S	**Sg**	**13 29 43.7**	**+0.2**
GCUF				*i*		13 29 46.8	
	comp=Z,3µm,0.2s						
CCUFI	**Cufio, Nario**	**0.64**	**345**	*e*P	**Pg**	**13 29 35.3**	**0.0**
CCUFI				*e*S	**Sg**	**13 29 43.8**	**+0.2**
CMBC	**Cumbal**	**0.72**	**297**	⇓*i*P	**Pb**	**13 29 38.3**	**-0.3**
CMBC				*i*		13 29 50.1	
LNGL	**El Angel-Carch**	**0.83**	**279**	P	**Pg**	**13 29 39.0**	**0.0**
LNGL				S	**Sg**	**13 29 50.0**	**+0.2**
CAYA	**Cayambe**	**0.97**	**237**	P	**Pg**	**13 29 42.0**	**+0.4**
CAYA				S	**Sb**	**13 29 56.0**	**-0.3**
ANGU	**Angureal**	**1.00**	**236**	P	**Pb**	**13 29 43.0**	**-0.4**
IMBA	**Imbabura, San**	**1.07**	**252**	P	**Pb**	**13 29 45.0**	**+0.5**
COTA	**Cotacachi**	**1.19**	**257**	P	**Pn**	**13 29 47.0**	**-0.1**
CUSW	**Cuicocha Oeste**	**1.21**	**255**	P	**Pb**	**13 29 47.0**	**+0.1**
CUIC	**Cuicocha-Domo**	**1.22**	**256**	P	**Pb**	**13 29 47.0**	**0.0**
CUSE	**Cuicocha Este**	**1.25**	**256**	P	**Pg**	**13 29 47.0**	**-0.1**
OTAV	**Otavalo**	**1.32**	**254**	⇓*i*P	**Pb**	**13 29 48.8**	**0.0**
OTAV				*e*S	**Sn**	**13 30 07.9**	**+0.7**
OTAV				*i*		13 30 11.3	
	comp=Z,305nm,0.5s						
APS4	**Papallacta**	**1.34**	**224**	P	**Pg**	**13 29 48.0**	**-0.8**
APS4				S	**Sb**	**13 30 07.0**	**+0.1**
BBAC	**Balboa, Cauca**	**1.41**	**357**	⇑*e*P	**Pg**	**13 29 47.9**	**-2.1**
BBAC				*e*S	**Sg**	**13 30 06.4**	**-1.9**
BBAC				*i*		13 30 08.3	
	comp=Z,550nm,0.3s						
ANTI	**Antisana**	**1.44**	**223**	P	**Pg**	**13 29 50.0**	**-0.6**
PULU	**Pululahua**	**1.44**	**246**	P	**Pn**	**13 29 50.0**	**-0.5**
ANTS	**Antisana-Sarah**	**1.48**	**222**	P	**Pn**	**13 29 51.0**	**-0.2**
ANTG	**Antisana-Guama**	**1.54**	**224**	P	**Pn**	**13 29 52.0**	**0.0**
ANTM	**Antisana-La Mi**	**1.54**	**222**	P	**Pn**	**13 29 52.0**	**0.0**
YANA	**Yana**	**1.56**	**243**	P	**Pb**	**13 29 53.0**	**0.0**
GGP	**Refugio Guagua**	**1.61**	**241**	P	**Pb**	**13 29 54.0**	**+0.1**
GGPC	**Guagua Pichinc**	**1.62**	**241**	P	**Pb**	**13 29 54.0**	**+0.1**
PINO	**Pino**	**1.62**	**242**	P	**Pb**	**13 29 54.0**	**+0.1**
TERV	**Terraza Guagua**	**1.62**	**241**	P	**Pb**	**13 29 54.0**	**0.0**
SOTA	**Rioblanco**	**1.62**	**21**	*e*S	**Sn**	**13 30 12.0**	**-2.8**
PAC1	**Pacto, Paraso**	**1.65**	**258**	P	**Pn**	**13 29 53.0**	**-0.1**
GGPT	**Toaza - Volcan**	**1.66**	**240**	P	**Pn**	**13 29 54.0**	**+0.5**
PITA	**Cotopaxi Volc**	**1.71**	**227**	P	**Pn**	**13 29 55.0**	**+0.8**
ARDO	**Archidona, Ten**	**1.71**	**201**	P	**Pn**	**13 29 53.0**	**-0.9**
VC1	**Cotopaxi 1**	**1.74**	**225**	P	**Pb**	**13 29 56.0**	**0.0**
BREF	**Cotopaxi Volca**	**1.79**	**225**	P	**Pb**	**13 29 57.0**	**+0.1**
FLOC	**Florencia**	**1.81**	**58**	*e*P	**Pn**	**13 29 53.5**	**-1.7**
FLOC				*e*S	**Sn**	**13 30 16.1**	**-2.7**
BNAS	**Cotopaxi Volca**	**1.82**	**226**	P	**Pg**	**13 29 58.0**	**+0.1**
CAMI	**Rancho Maria**	**1.84**	**226**	P	**Pb**	**13 29 58.0**	**+0.4**
BMOR	**Cotopaxi Volca**	**1.84**	**224**	P	**Pb**	**13 29 58.0**	**+0.2**
PCON	**Cinco Dias**	**1.88**	**25**	*e*P	**Pn**	**13 29 55.6**	**-1.0**
PCON				*e*S	**Sn**	**13 30 20.8**	**-0.5**
PCON				*i*		13 30 30.4	
	comp=Z,366nm,0.4s						
PIAT	**Ana Tenorio**	**1.93**	**214**	P	**Pn**	**13 29 57.0**	**-0.2**
TUMC	**Tumaco**	**1.96**	**308**	*e*P	**Pn**	**13 29 58.0**	**+0.7**
TUMC				*e*S	**Sn**	**13 30 21.7**	**-0.8**
TUMC				*i*		13 30 27.2	
	comp=Z,124nm,0.8s						
POPC	**Popayan, Colom**	**1.98**	**15**	*e*P	**Pn**	**13 29 57.1**	**-0.8**
POPC				*e*S	**Sn**	**13 30 22.7**	**-0.7**
POPC				*i*		13 30 24.6	
	comp=Z,248nm,0.4s						
PIS1	**Pisayambo**	**2.05**	**216**	P	**Pn**	**13 30 00.0**	**+1.1**
PUYO	**Puyo, Santa Ro**	**2.25**	**202**	P	**Pn**	**13 30 02.0**	**+0.6**
GARC	**Garzon, Huila**	**2.31**	**47**	*e*P	**Pn**	**13 29 59.6**	**-2.7**
GARC				*e*S	**Sn**	**13 30 31.1**	**-0.2**
RUN5	**Runtun**	**2.36**	**212**	P	**Pn**	**13 30 04.0**	**+0.9**
BULB	**Ulba Tungurahu**	**2.37**	**211**	P	**Pn**	**13 30 04.0**	**+0.7**
JUI6	**Juive**	**2.39**	**213**	P	**Pn**	**13 30 04.0**	**+0.5**
RETU	**Refugio**	**2.40**	**212**	P	**Pn**	**13 30 05.0**	**+1.1**
PTLC	**Puerto Leguiza**	**2.42**	**100**	*e*P	**Pn**	**13 30 02.7**	**-1.0**
PTLC				*e*S	**Sb**	**13 30 36.7**	**-1.1**
PTLC				*i*		13 30 39.7	
	comp=Z,681nm,0.2s						
ARRY	**Arrayan**	**2.46**	**211**	P	**Pn**	**13 30 05.0**	**+0.6**
BMAS	**Trigal station**	**2.46**	**212**	P	**Pn**	**13 30 05.0**	**+0.4**
MARP	**Paez Belalcaza**	**2.54**	**29**	*e*P	**Pn**	**13 30 06.3**	**+0.8**
MARP				*e*S	**Sb**	**13 30 39.1**	**-2.1**
MARP				*i*		13 30 44.6	
	comp=Z,67nm,0.4s						
BETC	**Betania**	**2.70**	**40**	*e*P	**Pn**	**13 30 09.1**	**+1.7**
BETC				*e*S	**Sb**	**13 30 45.4**	**-0.2**
YOTC	**Yotoco, Valle**	**3.46**	**14**	*e*P	**Pn**	**13 30 19.5**	**+1.5**
YOTC				*e*S	**Sn**	**13 31 01.9**	**+2.3**
MACC	**Macarena, Meta**	**3.67**	**65**	*e*P	**Pn**	**13 30 24.5**	**+3.7**
MACC				*e*S	**Sb**	**13 31 10.8**	**-2.7**
ORTC	**Ortega, Tolima**	**3.81**	**31**	*e*P	**Pn**	**13 30 23.9**	**+1.1**
ORTC				*e*S	**Sb**	**13 31 17.8**	**+0.2**
ORTC				*i*		13 31 31.5	
	comp=Z,91nm,0.8s						
PRAC	**Prado**	**3.84**	**37**	*e*P	**Pn**	**13 30 21.4**	**-1.8**
PRAC				*e*S	**Sb**	**13 31 19.6**	**+1.0**
PRAC				*i*		13 31 28.7	
	comp=Z,94nm,0.4s						
ANIL	**Santa Ana**	**4.25**	**25**	*e*P	**Pb**	**13 30 38.9**	**+0.2**
ANIL				*e*S	**Sb**	**13 31 31.6**	**+1.1**
TOLC	**Tolima**	**4.37**	**25**	*e*P	**Pn**	**13 30 30.7**	**0.0**
TOLC				*e*S	**Sb**	**13 31 28.2**	**-5.8**
RREF	**El Recreo**	**4.64**	**23**	*e*P	**Pn**	**13 30 39.5**	**+4.8**
RREF				*e*S	**Sb**	**13 31 43.4**	**+1.2**
RREF				*i*		13 32 10.2	
	comp=Z,17nm,0.3s						
GUVC	**San Jose del G**	**4.94**	**67**	*e*P	**Pb**	**13 30 52.4**	**+2.0**
GUVC				*e*S	**Sb**	**13 31 48.8**	**-1.5**
ROSC	**El Rosal**	**5.08**	**34**	*e*P	**Pb**	**13 30 54.8**	**+1.9**
ROSC				*e*S	**Sb**	**13 31 56.6**	**+1.9**
ROSC				*i*		13 32 13.6	
	comp=Z,38nm,0.3s						
PTGC	**Puerto Gaitan,**	**6.18**	**55**	*e*P	**Pb**	**13 31 14.3**	**+2.9**
PTGC				*e*S	**Sb**	**13 32 27.9**	**+2.1**
PTGC				*i*		13 32 59.8	
	comp=Z,71nm,0.5s						

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*IDC **01** 14:21:52.8±1.1, 24°.32N×126°.49E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/33, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=46.7km s-min=20.3km az=73.0*
*JMA **01** 14:21:55.5±0.1, 24°.40N×126°.58E, h86km±2km, M3.1*
ISC 01 14:21:53.6±2.1**, 24°.40N**±0°.09×**126°.61E**±0°.06**, h9**km±12km**, n19,** σ**1ˢ32**/26**, mb3.4**/5**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.15**	**289**	P	**Pg**	**14 22 16.6**	**+0.9**
JOGS				*e*S	**Sn**	**14 22 32.6**	**+0.9**
JMJ2	**Miyako jima3**	**1.21**	**287**	P	**Pg**	**14 22 17.4**	**+0.5**
JIRB	**Irabujima**	**1.37**	**289**	P	**Pg**	**14 22 19.5**	**-0.4**
JIRB				*e*S	**Sg**	**14 22 37.3**	**-0.5**
JTJ	**Tarama**	**1.75**	**278**	P	**Pb**	**14 22 24.5**	**-1.4**
JKE	**Kume jima 2**	**1.93**	**5**	P	**Pn**	**14 22 27.3**	**+0.7**
JKE				*e*S	**Sn**	**14 22 50.5**	**-0.4**
JJT3	**Tamagusuku3**	**2.04**	**31**	P	**Pn**	**14 22 28.7**	**+0.6**
JJT3				*e*S	**Sn**	**14 22 54.0**	**+0.3**
JISG	**Ishigakijimahi**	**2.10**	**276**	P	**Pn**	**14 22 29.1**	**+0.2**
JIJ	**Ishigaki jima**	**2.25**	**270**	P	**Pn**	**14 22 30.9**	**0.0**
JIJ				*e*S	**Sn**	**14 22 57.2**	**-1.6**
JKRS	**Kuro-shima**	**2.37**	**267**	P	**Pn**	**14 22 33.1**	**+0.4**
JNTH	**Nagotoyohara**	**2.47**	**31**	*e*S	**Sn**	**14 23 03.6**	**-0.7**
IRIF	**Iriomote-Funau**	**2.62**	**269**	P	**Pn**	**14 22 36.3**	**+0.2**
JOW	**Kunigami**	**2.85**	**32**	Pn	**Pn**	**14 22 41.0**	**+1.6**
	3.1nm,0.3s,baz=152,slow=26,SNR=5.1						
JOW				Sn	**Sn**	**14 23 09.5**	**-4.3**
	4.4nm,0.3s,baz=282,slow=19,SNR=3.4						
JIH	**Iheya**	**2.90**	**25**	*e*S	**Sn**	**14 23 14.3**	**-0.6**
JAM	**Amami Oshima**	**4.82**	**33**	P	**Pn**	**14 23 06.4**	**+0.1**
JAM				*e*S	**Sn**	**14 24 00.1**	**-2.1**
SONM	**Songino Array**	**28.36**	**331**	P	**P**	**14 27 49.4**	**+1.4**
	0.2nm,0.3s,baz=142,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**41.70**	**314**	P	**P**	**14 29 42.6**	**0.0**
	0.2nm,0.6s,baz=95,slow=9.4,SNR=5.6						
WRA	**Warramunga Arr**	**44.71**	**170**	P	**P**	**14 30 06.6**	**-0.7**
	1.0nm,1.0s,baz=348,slow=8.4,SNR=3.1						
ASAR	**Alice Springs**	**48.30**	**171**	P	**P**	**14 30 36.1**	**+0.8**
	0.2nm,0.7s,baz=356,slow=14,SNR=3.8						
AKASG	**Malin Array Be**	**75.97**	**319**	P	**P**	**14 33 41.3**	**+0.5**
	0.3nm,0.3s,baz=53,slow=5.7,SNR=3.5						

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*JMA **01** 14:36:42.8±0.1, 31°.26N×141°.87E, h64km, M3.8*
*IDC **01** 14:36:44.6±3.2, 31°.24N×142°.06E, h46km±28km, mb3.5/4, mb1 3.7/7, mb1mx3.3/42, mbtmp3.7/7, ML3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/35, Error ellipse: s-maj=97.2km s-min=17.0km az=72.0*
ISC 01 14:36:43.8±1.2**, 31°.26N**±0°.07×**141°.9E**±0°.2**, h35**km**, n18,** σ**1ˢ16**/22**, mb3.8**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.58**	**316**	P	**Pn**	**14 37 22.8**	**-0.2**
JHJ2				*e*S	**Sn**	**14 37 51.7**	**-1.5**
BSO1	**Boso 1**	**3.48**	**347**	P	**Pn**	**14 37 35.9**	**+0.9**
BSO1				*e*S	**Sn**	**14 38 15.9**	**+1.2**
BSO3	**Boso 3**	**3.73**	**342**	P	**Pn**	**14 37 39.1**	**+0.4**
BSO3				*e*S	**Sn**	**14 38 21.5**	**+0.2**
BSO4	**Boso 4**	**3.96**	**341**	*e*S	**Sn**	**14 38 27.4**	**+0.4**
CBIJ	**Chichi jima**	**4.15**	**177**	P	**Pn**	**14 37 44.7**	**0.0**
JCJ	**Chichijima**	**4.15**	**177**	P	**Pn**	**14 37 45.0**	**+0.3**
	15nm,0.3s,baz=360,slow=20,SNR=14						
JOD2	**Odawara 2**	**4.65**	**330**	P	**Pn**	**14 37 52.0**	**+0.4**
JHU	**Hanno**	**5.09**	**335**	*e*S	**Sn**	**14 38 54.1**	**-1.0**
JYT	**Yasato**	**5.17**	**344**	P	**Pn**	**14 37 58.4**	**-0.2**
JYT				*e*S	**Sn**	**14 38 56.5**	**-0.5**
JHO	**Hitachi**	**5.46**	**348**	P	**Pn**	**14 38 02.7**	**0.0**
JHO				*e*S	**Sn**	**14 39 00.6**	**-3.6**
JAG	**Ashikaga**	**5.55**	**339**	P	**Pn**	**14 38 04.7**	**+0.8**
MJAR	**Matsushiro Arr**	**6.12**	**331**	P	**Pn**	**14 38 13.5**	**+1.9**
	0.3nm,0.3s,baz=157,slow=11,SNR=26						
KSRS	**Korea Array**	**13.12**	**302**	LR	LR	14 44 43.5	
	comp=Z,28nm,19.8s,baz=315,slow=36						
KLR	**Kul'dur**	**19.53**	**340**	P	**P**	**14 41 07.4**	**-0.7**
	0.1nm,0.3s,baz=195,slow=6.8,SNR=4.1						
SONM	**Songino Array**	**31.68**	**312**	P	**P**	**14 43 04.5**	**+0.6**
	0.4nm,0.7s,baz=117,slow=8.3,SNR=3.2						
MKAR	**Makanchi Array**	**47.74**	**307**	P	**P**	**14 45 18.0**	**+0.7**
	0.3nm,0.6s,baz=89,slow=9.5,SNR=4.8						
WRA	**Warramunga Arr**	**51.42**	**189**	P	**P**	**14 45 44.9**	**-0.6**
	1.4nm,0.3s,baz=6.2,slow=7.6,SNR=51						
ASAR	**Alice Springs**	**55.15**	**189**	P	**P**	**14 46 12.4**	**-0.4**
	0.8nm,0.5s,baz=360,slow=5.0,SNR=68						

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*IDC **01** 14:44:42.7±19.0, 21°.30S×68°.06W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.6/14, mbtmp3.9/2, Error ellipse: s-maj=819.7km s-min=63.4km az=19.0*
*GUC **01** 14:44:57.5±0.6, 21°.64S×68°.37W, h132km±4km, ML3.4*
ISC 01 14:44:56.4±1.5**, 21°.63S**±0°.04×**68°.4W**±0°.1**, h143**km±11km**, n20,** σ**0ˢ48**/34**, 14C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.76**	**257**	⇑*i*P	**Pn**	**14 45 18.9**	**+0.2**
PB09				*i* S	**Sn**	**14 45 35.4**	**-0.3**
PB09				IAML		14 45 37.8	
	comp=N,477nm,0.2s						
LVC	**Limon Verde**	**1.06**	**204**	*e*P	**Pn**	**14 45 21.1**	**-0.3**
LVC				*i* S	**Sn**	**14 45 39.7**	**-0.9**
PB01	**IPOC Station P**	**1.14**	**301**	⇑*i*P	**Pn**	**14 45 21.9**	**+0.1**
PB01				*i* S	**Sn**	**14 45 40.6**	**-0.5**
PB01				IAML		14 45 45.3	
	comp=E,467nm,0.2s						
PB03	**IPOC Station P**	**1.29**	**251**	⇑*i*P	**Pn**	**14 45 23.6**	**+0.2**
PB03				*i* S	**Sn**	**14 45 43.7**	**-0.2**
PB03				IAML		14 45 45.7	
	comp=E,524nm,0.1s						
PB07	**IPOC Station P**	**1.35**	**266**	⇑*i*P	**Pn**	**14 45 24.1**	**+0.2**
PB07				*i* S	**Sn**	**14 45 45.0**	**+0.1**
PB07				IAML		14 45 46.8	
	comp=N,568nm,0.2s						
PB02	**IPOC Station P**	**1.39**	**283**	⇑*i*P	**Pn**	**14 45 24.6**	**+0.3**
PB02				IAML		14 45 51.4	
	comp=E,1µm,0.3s						
PB06	**IPOC Station P**	**1.50**	**224**	⇑*i*P	**Pn**	**14 45 25.9**	**+0.4**
PB06				*e*S	**Sn**	**14 45 48.0**	**+0.2**
PB06				IAML		14 45 48.8	
	comp=N,465nm,0.2s						
PB08	**IPOC Station P**	**1.63**	**336**	⇑*i*P	**Pn**	**14 45 28.2**	**+1.0**
PB08				*i* S	**Sn**	**14 45 51.0**	**+0.3**
PB08				IAML		14 45 53.8	
	comp=N,185nm,0.1s						
PB04	**IPOC Station P**	**1.73**	**246**	⇑*i*P	**Pn**	**14 45 28.4**	**+0.3**
PB04				*i* S	**Sn**	**14 45 52.4**	**0.0**
PB04				IAML		14 45 56.3	
	comp=N,359nm,0.2s						
PATCX	**Punta Patache**	**1.79**	**297**	⇑*i*P	**Pn**	**14 45 29.4**	**+0.7**
PATCX				*i* S	**Sn**	**14 45 53.8**	**+0.4**
PATCX				IAML		14 45 55.9	
	comp=N,701nm,0.2s						
PB15	**IPOC Station P**	**1.83**	**211**	⇑*i*P	**Pn**	**14 45 29.9**	**+0.5**
PB15				*i* S	**Sn**	**14 45 55.5**	**+0.9**
HMBC	**Humberstone**	**1.91**	**315**	⇑*i*P	**Pn**	**14 45 30.3**	**+0.2**
HMBC				*i* S	**Sn**	**14 45 55.9**	**-0.1**
HMBC				IAML		14 46 00.1	
	comp=E,385nm,0.3s						
TA01	**Diego Aracena**	**1.94**	**303**	⇑*i*P	**Pn**	**14 45 30.7**	**+0.4**
TA01				*i* S	**Sn**	**14 45 56.0**	**-0.4**
TA01				IAML		14 45 57.7	
	comp=E,519nm,0.1s						
PB05	**IPOC Station P**	**2.03**	**233**	⇑*i*P	**Pn**	**14 45 31.8**	**+0.2**
PB05				*i* S	**Sn**	**14 45 58.6**	**0.0**
PB05				IAML		14 46 03.5	
	comp=E,149nm,0.1s						
TA02	**Huaiquique**	**2.08**	**310**	*e*P	**Pn**	**14 45 32.2**	**+0.1**
TA02				*e*S	**Sn**	**14 45 58.8**	**-0.5**
PSGC	**Pisagua**	**2.56**	**322**	⇑*i*P	**Pn**	**14 45 37.6**	**-0.4**
PSGC				*i* S	**Sn**	**14 46 09.4**	**-0.8**
PSGC				IAML		14 46 10.8	
	comp=E,100nm,0.1s						
MNMC	**Minye Minye**	**2.71**	**336**	⇓*i*P	**Pn**	**14 45 40.7**	**+0.6**
MNMC				*i* S	**Sn**	**14 46 14.1**	**+0.3**
MNMC				IAML		14 46 17.0	
	comp=N,224nm,0.2s						
TORD	**Torodi Ar. Bea**	**76.99**	**70**	P	P	14 56 35.1	+1.3
	comp=N,0.7nm,0.5s,baz=259,slow=4.9,SNR=5.3						
YKA	**Yellowknife Ar**	**91.46**	**340**	P	P	14 57 49.2	+3.3
	comp=N,0.5nm,0.6s,baz=128,slow=5.1,SNR=8.6						
MKAR	**Makanchi Array**	**145.48**	**36**	PKPbc	**PKiKP**	**15 04 21.0**	**-0.5**
	comp=N,0.3nm,0.6s,baz=304,slow=4.6,SNR=5.2						

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*VAO **01** 15:08:25.9±0.4, 17°.07S×71°.57W, h10km, mb4.8*
*NEIC **01** 15:08:28.4±1.5, 17°.18S±0°.07×71°.84W±0°.06, h56km±4km, mb5.0/292, ML4.8(ARE), Error ellipse: s-maj=12.6km s-min=5.1km az=216.0*
*ARE **01** 15:08:29±1.6, 17°.24S±0°.07×71°.84W±0°.09, h42km±4km, Error ellipse: s-maj=13.3km s-min=8.6km az=57.0*
*IDC **01** 15:08:30.0±0.5, 17°.05S×71°.51W, h57km±3km, mb4.3/18, mb1 4.4/22, mb1mx4.3/39, mbtmp4.5/22, MS3.6/10, Ms1 3.6/10, ms1mx3.3/33, Error ellipse: s-maj=16.9km s-min=10.1km az=53.0*
*BJI **01** 15:08:30.0±0.0, 17°.10S×71°.80W, h58km, mB4.9/1, Ms7 4.9/1*
*GUC **01** 15:08:31.0±0.8, 17°.11S×71°.79W, h56km±17km, ML5.3*
ISC 01 15:08:29.0±0.4**, 17°.15S**±0°.05×**71°.79W**±0°.06**, h57**km±3km**, h57**km**:pP-P, n460,** σ**1ˢ17**/464**, mb5.0**/159**, MS3.7**/5**, 6C, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.84**	**132**	⇑*i*P	**Pn**	**15 09 00.5**	**+2.2**
AP01				*e*S	**Sn**	**15 09 23.2**	**+2.8**
AP01				IAML		15 09 30.0	
	comp=N,84µm,0.3s						
AP01	**Chacalluta**	**1.84**	**132**		**Pn**	**15 09 00.3**	**+2.1**
PB16	**IPOC Station P**	**2.48**	**119**	⇑*i*P	**Pn**	**15 09 09.6**	**+2.2**
PB16				*e*S	**Sn**	**15 09 39.4**	**+2.6**
PB16				IAML		15 09 47.9	
	comp=N,6µm,0.4s						
PB16	**IPOC Station P**	**2.48**	**119**		**Pn**	**15 09 09.6**	**+2.2**
MNMC	**Minye Minye**	**2.87**	**134**	⇑*i*P	**Pn**	**15 09 13.9**	**+1.3**
MNMC				IAML		15 10 02.5	
	comp=E,19µm,0.2s						
MNMC	**Minye Minye**	**2.87**	**134**	Pn	**Pn**	**15 09 13.9**	**+1.3**
PSGC	**Pisagua**	**2.91**	**147**	*e*P	**Pn**	**15 09 13.9**	**+1.0**
PSGC				IAML		15 09 58.7	
	comp=E,8µm,0.6s						
PSGCX	**Pisagua**	**2.91**	**147**	Pn	**Pn**	**15 09 13.8**	**+0.9**
TA02	**Huaiquique**	**3.48**	**153**	IAML		15 10 19.4	
	comp=N,3µm,0.5s						
HMBC	**Humberstone**	**3.60**	**150**	*e*P	**Pn**	**15 09 23.3**	**+0.8**
LPAZ	**La Paz**	**3.61**	**77**	P	**Pn**	**15 09 27.4**	**+4.4**
	comp=N,161nm,0.3s,baz=257,slow=9.3,SNR=862						
LPAZ				LR	LR	15 11 06.9	
	comp=N,951nm,20.2s,baz=287,slow=47						
TA01	**Diego Aracena**	**3.73**	**156**	*e*P	**Pn**	**15 09 24.8**	**+0.8**
TA01	**Diego Aracena**	**3.73**	**156**		**Pn**	**15 09 24.6**	**+0.5**
PB08	**IPOC Station P**	**3.89**	**140**	⇑*i*P	**Pn**	**15 09 27.8**	**+1.2**
PB08	**IPOC Station P**	**3.89**	**140**		**Pn**	**15 09 27.9**	**+1.2**
PATCX	**Punta Patache**	**3.97**	**157**	*e*P	**Pn**	**15 09 28.0**	**+0.5**
PATCX	**Punta Patache**	**3.97**	**157**		**Pn**	**15 09 27.9**	**+0.4**
PB01	**IPOC Station P**	**4.45**	**151**	*e*P	**Pn**	**15 09 34.6**	**+0.6**
PB01	**IPOC Station P**	**4.45**	**151**	Pn	**Pn**	**15 09 34.4**	**+0.4**
PB02	**IPOC Station P**	**4.52**	**157**	*e*P	**Pn**	**15 09 35.9**	**+0.8**
PB07	**IPOC Station P**	**4.90**	**159**	*e*P	**Pn**	**15 09 40.9**	**+0.6**
PB07	**IPOC Station P**	**4.90**	**159**		**Pn**	**15 09 40.5**	**+0.2**
PB09	**IPOC Station P**	**5.21**	**153**	⇑*e*P	**Pn**	**15 09 46.1**	**+1.4**
PB09	**IPOC Station P**	**5.21**	**153**		**Pn**	**15 09 45.5**	**+0.8**
PB03	**IPOC Station P**	**5.24**	**159**	*i* P	**Pn**	**15 09 45.4**	**+0.4**
PB04	**IPOC Station P**	**5.39**	**164**	*e*P	**Pn**	**15 09 47.0**	**0.0**
PB04	**IPOC Station P**	**5.39**	**164**		**Pn**	**15 09 46.7**	**-0.3**
PB06	**IPOC Station P**	**5.91**	**160**		**Pn**	**15 09 53.8**	**-0.3**
LVC	**Limon Verde**	**6.07**	**154**	P	**Pn**	**15 09 58.0**	**+1.4**
	comp=N,20nm,0.3s,baz=3.2,slow=7.7,SNR=209						
LVC				S	**Sn**	**15 11 05.8**	**+0.8**
	comp=N,78nm,0.3s,baz=244,slow=21,SNR=6.7						
LVC	**Limon Verde**	**6.07**	**154**	Pn	**Pn**	**15 09 57.5**	**+0.9**
PB15	**IPOC Station P**	**6.41**	**161**		**Pn**	**15 10 00.5**	**-0.6**
PB10	**IPOC Station P**	**6.44**	**170**	Pn	**Pn**	**15 10 00.6**	**-0.7**
NNA	**Nana**	**7.09**	**316**	P	**Pn**	**15 10 14.5**	**+4.3**
	comp=N,1.3nm,0.3s,baz=158,slow=12,SNR=4.6						
NNA				S	Sn	15 11 40.9	+11
	comp=N,10nm,0.3s,baz=235,slow=24,SNR=26						
NNA				LR	LR	15 13 29.4	
	comp=N,173nm,20.2s,baz=144,slow=42						
NNA	**Nana**	**7.09**	**316**	Pn	**Pn**	**15 10 10.7**	**+0.5**
PB14	**IPOC Station P**	**7.55**	**170**	Pn	**Pn**	**15 10 15.8**	**-1.0**
GO02	**Mina Guanaco**	**8.24**	**166**	Pn	**Pn**	**15 10 25.6**	**-0.6**
AC01	**Pan de Azucar**	**9.03**	**173**	Pn	**Pn**	**15 10 34.8**	**-1.9**
CZSB	**Cruzeiro do Su**	**9.40**	**354**	*e*P	**Pn**	**15 10 41.8**	**0.0**
AC02	**Maricunga**	**9.95**	**166**	Pn	Pn	15 10 46.2	-3.6
SIV	**San Ignacio**	**10.34**	**85**	P	**Pn**	**15 10 54.8**	**+0.1**
	comp=N,46nm,0.3s,baz=272,slow=12,SNR=120						
SIV				LR	LR	15 15 29.2	
	comp=N,409nm,21.4s,baz=272,slow=42						
GO03	**Copiap**	**10.50**	**172**		**Pn**	**15 10 54.5**	**-2.3**
AC04	**Llanos de Chal**	**11.03**	**177**	Pn	Pn	15 10 59.4	-4.7
SAML	**Samuel**	**11.69**	**47**		**Pn**	**15 11 11.2**	**-1.9**
AC05	**El Transito**	**11.72**	**173**		Pn	15 11 10.2	-3.4
LCO	**Las Campanas**	**11.85**	**175**	Pn	Pn	15 11 10.5	-5.0
ATAH	**Atahualpa**	**11.86**	**326**	P	Pn	15 11 25.7	+10
	comp=N,0.3nm,0.3s,baz=128,slow=7.3,SNR=7.2						
ATAH				LR	LR	15 16 13.7	
	comp=N,140nm,20.8s,baz=151,slow=39						
VILB	**Vilhena**	**11.94**	**71**	*e*P	**Pn**	**15 11 14.1**	**-2.6**
PTLB	**Pontes e Lacer**	**12.26**	**84**	*e*P	**Pn**	**15 11 19.4**	**-1.5**
GO04	**Tololo Observa**	**13.00**	**176**	Pn	Pn	15 11 27.4	-3.8
CO03	**El Pedregal**	**13.67**	**176**		Pn	15 11 37.3	-2.9
CO02	**Combarbal**	**14.02**	**177**	Pn	Pn	15 11 41.1	-3.7
AQDB	**Aquidauana**	**15.59**	**105**	*e*P	**Pn**	**15 12 04.3**	**-1.0**
PP1B	**Ponte de Pedra**	**16.15**	**94**	*e*P	**Pn**	**15 12 11.0**	**-1.4**
CPUP	**Villa Florida**	**16.24**	**127**	P	**Pn**	**15 12 11.6**	**-1.8**
	comp=N,0.1nm,0.3s,baz=304,slow=17,SNR=3.6						
CPUP				LR	LR	15 19 24.6	
	comp=N,102nm,18.1s,baz=320,slow=41						
CPUP	**Villa Florida**	**16.24**	**127**	Pn	**Pn**	**15 12 11.6**	**-1.8**
CPUP	**Villa Florida**	**16.24**	**127**	*e*P	**Pn**	**15 12 12.3**	**-1.2**
CLDB	**Colider**	**16.72**	**70**	*e*P	**Pn**	**15 12 18.5**	**-1.1**
H03N1	**Juan Fernandez**	**17.45**	**200**	T	T	15 30 16.0	
	baz=26,slow=73,SNR=673						
H03N2	**Juan Fernandez**	**17.45**	**200**	T	T	15 30 16.4	
	baz=26,slow=73,SNR=95						
H03N3	**Juan Fernandez**	**17.46**	**200**	T	T	15 30 15.5	
	baz=26,slow=73,SNR=160						
MACA	**Manacapuru-AM**	**17.66**	**39**	*e*P	**Pn**	**15 12 29.8**	**-1.4**
OTAV	**Otavalo**	**18.48**	**339**	P	**P**	**15 12 39.6**	**-1.3**
OTAV	**Otavalo**	**18.48**	**339**	*e*P	**P**	**15 12 41.6**	**+0.6**
ITQB	**Itaqui**	**18.66**	**135**	*e*P	**P**	**15 12 43.9**	**+1.5**
TRCB	**Terra Rica**	**18.86**	**110**	*e*P	**P**	**15 12 44.8**	**+0.1**
NPGB	**Novo Progresso**	**18.93**	**60**	*e*P	**P**	**15 12 44.2**	**-1.2**
GCUF	**Volcan Galeras**	**19.06**	**343**	*e*P	**P**	**15 12 47.0**	**-0.4**
ARAG	**Araguaiana, MT**	**19.22**	**89**	*e*P	**P**	**15 12 47.0**	**-1.7**
BI02	**San Fabin de**	**19.45**	**179**		**P**	**15 12 47.8**	**-3.3**
BI03	**Tigo**	**19.65**	**183**	P	**P**	**15 12 50.5**	**-2.7**
BBAC	**Balboa, Cauca**	**19.79**	**344**	*e*P	**P**	**15 12 56.0**	**+0.9**
PCMB	**Pacaembu**	**19.86**	**106**	*e*P	**P**	**15 12 55.7**	**0.0**
PCON	**Cinco Dias**	**19.88**	**346**	*e*P	**Pn**	**15 12 59.1**	**+0.8**
PTGB	**Pitanga**	**19.89**	**116**	*e*P	**P**	**15 12 56.3**	**+0.3**
PTGA	**Pitinga**	**20.04**	**37**	P	**P**	**15 12 56.5**	**-1.0**
	comp=N,2.8nm,0.3s,baz=214,slow=12,SNR=14						
PTGA				LR	LR	15 21 11.5	
	comp=N,178nm,20.0s,baz=157,slow=38						
PTGA	**Pitinga**	**20.04**	**37**	P	**P**	**15 12 56.2**	**-1.3**
PTGA	**Pitinga**	**20.04**	**37**	*e*P	**P**	**15 12 56.5**	**-1.0**
ITTB	**Itaituba**	**20.22**	**53**	*e*P	**P**	**15 12 58.1**	**-1.4**
SNDB	**Serra Nova Dou**	**20.49**	**78**	*e*P	**P**	**15 13 01.4**	**-1.1**
ITRB	**Iturama**	**20.49**	**100**	*e*P	**P**	**15 13 01.9**	**-0.5**
ITAB	**Concordia**	**20.76**	**122**	*e*P	**P**	**15 13 06.1**	**+0.8**
PRAC	**Prado**	**20.95**	**351**	*e*P	**P**	**15 13 07.6**	**+0.2**
CPSB	**Cacapava Do Su**	**21.32**	**132**	*e*P	**P**	**15 13 10.9**	**-0.3**
YOTC	**Yotoco, Valle**	**21.47**	**347**	*e*P	**P**	**15 13 16.7**	**+3.6**
FRTB	**Fartura**	**21.73**	**110**	*e*P	**P**	**15 13 15.4**	**-0.4**
ANIL	**Santa Ana**	**21.79**	**350**	*e*P	**P**	**15 13 13.9**	**-2.8**
ROSC	**El Rosal**	**21.99**	**353**	P	**P**	**15 13 21.1**	**+2.2**
	comp=N,6.8nm,0.5s,baz=311,slow=20,SNR=3.3						
PLTB	**Pedras Altas**	**21.99**	**135**	*e*P	**P**	**15 13 20.0**	**+1.5**
RREF	**El Recreo**	**22.19**	**351**	*e*P	**P**	**15 13 22.4**	**+1.1**
BB19B	**Bebedouro**	**22.32**	**104**	*e*P	**P**	**15 13 20.3**	**-1.8**
PLMC	**San Jos del P**	**22.36**	**348**	*e*P	**P**	**15 13 23.0**	**+0.5**
BOAV	**Boa Vista**	**22.37**	**31**	*e*P	**P**	**15 13 23.2**	**+0.6**
IPMB	**Ipameri, GO**	**22.49**	**96**	*e*P	**P**	**15 13 22.2**	**-1.8**
GUY2C	**Guyana, Caldas**	**22.50**	**351**	*e*P	**P**	**15 13 26.2**	**+1.7**
CNLB	**Canela**	**22.69**	**126**	*e*P	**P**	**15 13 25.3**	**-0.8**
TIJ01	**Guaruva-PR**	**22.72**	**115**	*e*P	**P**	**15 13 27.1**	**+0.6**
BDFB	**Brasilia**	**22.86**	**90**	P	**P**	**15 13 26.0**	**-1.9**
	comp=N,5.0nm,0.5s,baz=265,slow=10,SNR=9.1						
BDFB				LR	LR	15 22 48.6	
	comp=N,109nm,20.3s,baz=305,slow=38						
BDFB	**Brasilia**	**22.86**	**90**	P	**P**	**15 13 24.1**	**-3.9**
MALB	**Monte Alegre**	**22.97**	**50**	*e*P	**P**	**15 13 29.7**	**+0.7**
PEXB	**Peixe**	**23.26**	**81**	*e*P	**P**	**15 13 30.1**	**-1.8**
PLCA	**Paso Flores**	**23.53**	**178**	P	**P**	**15 13 36.2**	**+2.0**
	comp=N,4.2nm,0.7s,baz=354,slow=11,SNR=12						
PLCA				PcP	**PcP**	**15 17 18.8**	**+0.4**
	comp=N,1.5nm,0.7s,baz=350,slow=3.1,SNR=3.6						
PLCA	**Paso Flores**	**23.53**	**178**	P	**P**	**15 13 31.6**	**-2.6**
PLCA	**Paso Flores**	**23.53**	**178**	*e*P	**P**	**15 13 36.4**	**+2.2**
BARC	**Barichara**	**23.63**	**357**	*e*P	**P**	**15 13 32.7**	**-2.7**
PTBC	**PUERTO BERRIO,**	**23.68**	**353**	*e*P	P	15 13 29.7	-6.0
PRPB	**Parauapebas**	**24.09**	**66**	*e*P	**P**	**15 13 40.2**	**+0.6**
PAMC	**Pamplona, Colo**	**24.34**	**358**	*e*P	**P**	**15 13 41.9**	**-0.4**
SMTB	**Santa Maria do**	**24.95**	**74**	*e*P	**P**	**15 13 47.6**	**+0.2**
MCPB	**Macapa, AP**	**25.61**	**51**	*e*P	**P**	**15 13 53.7**	**+0.5**
BSCB	**Bom Sucesso**	**25.80**	**103**	*e*P	**P**	**15 13 56.7**	**+1.6**
SMLC	**San Martn de**	**25.88**	**355**	*e*P	**P**	**15 13 51.9**	**-3.8**
SDV	**Santo Domingo**	**25.89**	**3**	P	**P**	**15 13 55.7**	**-0.3**
	comp=N,18nm,0.7s,baz=214,slow=3.4,SNR=8.4						
SDV	**Santo Domingo**	**25.89**	**3**	P	**P**	**15 13 54.5**	**-1.5**
SDV	**Santo Domingo**	**25.89**	**3**	*e*P	**P**	**15 13 51.0**	**-5.1**
SDV	**Santo Domingo**	**25.89**	**3**	*e*P	**P**	**15 13 55.7**	**-0.3**
JANB	**Januaria**	**26.47**	**89**	*e*P	**P**	**15 14 00.8**	**-0.4**
DIAM	**Diamantina, MG**	**26.80**	**97**	*e*P	**P**	**15 14 03.4**	**-0.8**
MDP	**Montagnes des**	**29.09**	**42**	LR	LR	15 26 39.0	
	comp=N,171nm,20.2s,baz=229,slow=38						
NBPS	**Pedro II - PI**	**32.32**	**70**	*e*P	**P**	**15 14 52.8**	**-0.4**
GO09	**Cerro Castillo**	**34.05**	**181**	P	**P**	**15 15 06.2**	**-1.4**
GO09				IAmb	IAmb	15 15 17.1	
	comp=Z,28nm,1.1s						
PDPR	**Patillas Dam,**	**35.40**	**10**	P	**P**	**15 15 17.8**	**-1.8**
PDPR				IAmb	IAmb	15 15 19.9	
	comp=Z,38nm,1.3s						
SJG	**San Juan**	**35.47**	**9**	P	**P**	**15 15 18.1**	**-2.1**
SJG				IAmb	IAmb	15 15 25.3	
	comp=Z,30nm,1.4s						
HUMP	**Col San Antoni**	**35.55**	**10**	P	**P**	**15 15 20.0**	**-0.9**
HUMP				IAmb	IAmb	15 15 20.9	
	comp=Z,27nm,1.0s						
MTP	**Monte Pirata**	**35.55**	**10**	P	**P**	**15 15 18.2**	**-2.8**
CBYP	**Canovanas**	**35.67**	**10**	P	**P**	**15 15 19.2**	**-2.8**
CBYP				IAmb	IAmb	15 15 20.4	
	comp=Z,21nm,0.8s						
GCPR	**Guaynabo City**	**35.68**	**9**	P	**P**	**15 15 19.3**	**-2.7**
GCPR				IAmb	IAmb	15 15 43.7	
	comp=Z,35nm,1.1s						

CUPR Culebra, Puert 35.81 11 P **P** **15 15 20.4 -2.7**
RCBR Riachuelo 36.85 77 P **P** **15 15 31.9 -0.3**
RCBR IAmb IAmb 15 15 45.9
comp=Z,26nm,1.5s
RCBR Riachuelo 36.85 77 *e*P **P** **15 15 32.8 +0.6**
TEIG Tepich 40.51 336 P **P** **15 16 03.8 +1.1**
comp=Z,6.7nm,0.7s,baz=162,slow=10,SNR=5.1
TEIG Tepich 40.51 336 P **P** **15 16 01.8 -0.9**
TEIG IAmb IAmb 15 16 06.5
comp=Z,33nm,1.2s
CMIG Matias Romero 40.93 325 P **P** **15 16 08.2 +2.1**
comp=Z,4.9nm,0.9s,baz=98,slow=6.9,SNR=7.3
PMSA Palmer Station 47.88 176 P **P** **15 16 59.3 -1.7**
comp=Z,21nm,0.8s,baz=324,slow=19,SNR=8.7
PMSA Palmer Station 47.88 176 P **P** **15 16 59.2 -1.9**
553A Crawfordville 48.61 345 P **P** **15 17 07.9 +0.8**
255A Hazlehurst 49.86 348 P **P** **15 17 17.5 +0.9**
255A IAmb IAmb 15 17 38.9
comp=Z,17nm,1.1s
352A Blakely 49.97 345 P **P** **15 17 17.8 +0.4**
BRAL Brewton 50.22 343 P 15 17 20.3
baz=161
BRAL Brewton 50.23 343 P **P** **15 17 20.1 +0.7**
NHSC New Hope 50.61 351 P 15 17 23.8
baz=170
NHSC New Hope 50.61 351 P **P** **15 17 23.1 +0.9**
154A Montrose 50.65 348 P **P** **15 17 22.9 +0.3**
250A Grady 50.78 344 P **P** **15 17 23.8 +0.2**
152A Waverly Hall 51.05 346 P **P** **15 17 24.4 -1.2**
Y60A Bolivia 51.23 353 P **P** **15 17 27.4 +0.5**
Y59A Loris 51.30 352 P **P** **15 17 27.6 +0.2**
Y58A Scranton 51.32 352 P **P** **15 17 28.0 +0.4**
GOGA Godfrey 51.49 348 P **P** **15 17 28.3 -0.6**
GOGA IAmb IAmb 15 17 52.4
comp=Z,12nm,1.1s
Y57A Sumter 51.53 351 P **P** **15 17 28.9 -0.3**
344A Westbrook Farm 51.63 339 P **P** **15 17 30.0 0.0**
X58A Rowland 51.91 352 P **P** **15 17 31.6 -0.4**
JSC Jenkinsville 51.93 350 P **P** **15 17 32.3 +0.2**
LRAL Lakeview Retre 51.97 344 P 15 17 32.7
baz=162,SNR=5.0
LRAL Lakeview Retre 51.97 344 P **P** **15 17 32.2 -0.3**
LRAL IAmb IAmb 15 17 33.3
comp=Z,14nm,0.8s
HODGE Hodges 52.05 349 P **P** **15 17 33.0 -0.1**
Y52A Lilburn 52.06 347 P **P** **15 17 32.9 -0.2**
Y52A IAmb IAmb 15 17 52.0
comp=Z,17nm,1.5s
BIRD Birdtown, Kers 52.16 351 P **P** **15 17 34.2 +0.4**
BIRD IAmb IAmb 15 17 35.7
comp=Z,25nm,0.9s
146A Union 52.19 342 P **P** **15 17 34.0 -0.1**
HKT Hockley 52.24 333 P **P** **15 17 34.7 +0.2**
Z47A Carrollton 52.42 343 P **P** **15 17 35.4 -0.4**
833A Chaparral WMA, 52.51 329 P 15 17 37.7
baz=146
W57A Gilead 52.59 352 P **P** **15 17 37.1 +0.1**
W57A IAmb IAmb 15 17 39.0
comp=Z,17nm,0.9s
Y49A Blount Mountai 52.60 345 P **P** **15 17 36.6 -0.5**
Y49A IAmb IAmb 15 17 37.5
comp=Z,9.3nm,0.7s
W56A Indian Trail 52.66 351 P 15 17 38.1
baz=170
KMSC Kings Mountain 52.78 350 P 15 17 38.9
baz=169
KMSC Kings Mountain 52.78 350 P **P** **15 17 38.6 +0.1**
V59A Middlesex 52.97 353 P 15 17 40.4
baz=172
FPAL Fort Paine 53.05 346 P **P** **15 17 39.7 -0.8**
FPAL IAmb IAmb 15 17 41.0
comp=Z,19nm,1.2s
V58A Windy Hill, Pi 53.10 353 P **P** **15 17 40.5 -0.3**
V58A IAmb IAmb 15 17 57.6
comp=Z,13nm,0.8s
V57A Coltrane Farms 53.28 352 P 15 17 42.6
baz=171
V56A Mocksville 53.31 351 P 15 17 43.0
baz=170,SNR=5.9
X48A Hartselle 53.33 344 P **P** **15 17 41.2 -1.2**
X48A IAmb IAmb 15 17 43.0
comp=Z,16nm,0.8s
V55A Taylorsville 53.46 350 P **P** **15 17 43.7 +0.3**
V55A IAmb IAmb 15 18 10.6
comp=Z,37nm,1.4s
V53A Saluda 53.55 349 P **P** **15 17 43.4 -0.8**
V53A IAmb IAmb 15 18 01.7
comp=Z,23nm,1.4s
W50A Signal Mountai 53.62 346 P **P** **15 17 44.2 -0.5**
W50A IAmb IAmb 15 18 04.1
comp=Z,21nm,1.2s
U58A Oxford 53.63 353 P 15 17 45.5
baz=172
CPCT Cooper Cave 53.68 347 P **P** **15 17 44.8 -0.3**
435B Jarrell 53.73 332 P 15 17 46.7
baz=149
435B Jarrell 53.73 332 P **P** **15 17 45.0 -0.5**
TKL Tuckaleechee C 53.73 348 P **P** **15 17 45.0 -0.4**
TKL IAmb IAmb 15 17 46.1
comp=Z,23nm,1.1s
U57A Blanch 53.76 352 P 15 17 45.9
baz=171
SWET Sewanee 53.78 346 P **P** **15 17 44.9 -0.9**
SWET IAmb IAmb 15 17 46.2
comp=Z,12nm,1.0s
U56A King 53.82 351 P 15 17 47.4
baz=170
V52A Sevierville 53.87 348 P **P** **15 17 46.0 -0.5**
V52A IAmb IAmb 15 17 47.2
comp=Z,23nm,0.8s
V51A Loudon 53.99 347 P **P** **15 17 46.3 -1.0**
Z41A Richland Creek 53.99 338 P 15 17 47.9
baz=155
T59A Double "B" Far 54.10 354 P **P** **15 17 47.9 -0.2**
PLAL Pickwick Lake 54.10 343 P **P** **15 17 47.2 -0.9**
T58A Grand View Acr 54.17 353 P 15 17 49.4
baz=172,SNR=9.5
T57A Hurt 54.31 353 P 15 17 50.2
baz=171
T57A Hurt 54.31 353 P **P** **15 17 49.7 0.0**
T57A IAmb IAmb 15 17 51.1
comp=Z,19nm,0.9s
T56A Rocky Mt 54.44 352 P 15 17 51.7
baz=170
WLAR White Oak Lake 54.49 338 P **P** **15 17 51.5 +0.5**
WLAR **pP** **15 18 06.7 +0.3**
V48A Smith Brothers 54.49 345 P **P** **15 17 50.0 -1.0**
V48A IAmb IAmb 15 17 51.4
comp=Z,11nm,0.7s
W45A Hickory Valley 54.57 343 P **P** **15 17 49.7 -1.9**
BLA Blacksburg 54.67 352 P **P** **15 17 51.4 -0.9**
BLA IAmb IAmb 15 18 16.3
comp=Z,19nm,1.1s
WHTX Lake Whitney, 54.70 333 P 15 17 53.9
baz=150
WHTX Lake Whitney, 54.70 333 P **P** **15 17 51.1 -1.5**
WHTX IAmb IAmb 15 17 54.6
comp=Z,24nm,0.9s
CLTN Cedars of Leba 54.71 346 P **P** **15 17 51.4 -1.1**
CLTN IAmb IAmb 15 18 08.5
comp=Z,22nm,1.4s
S58A Poland Farm, P 54.78 354 P 15 17 53.8
baz=173
S58A Poland Farm, P 54.78 354 P **P** **15 17 53.2 +0.2**
S58A IAmb IAmb 15 17 54.9
comp=Z,22nm,1.0s
U49A Red Boiling Sp 54.98 346 P **P** **15 17 53.3 -1.2**
U49A IAmb IAmb 15 17 54.7
comp=Z,14nm,0.6s
S57A Dark Hollow, R 55.02 353 P 15 17 55.4
baz=172
S57A Dark Hollow, R 55.03 353 P **P** **15 17 55.2 +0.4**
S57A IAmb IAmb 15 17 56.0
comp=Z,14nm,0.7s
R58B Mineral 55.11 354 P 15 17 55.7
baz=173
R58B Mineral 55.11 354 P **P** **15 17 55.2 -0.2**
R58B IAmb IAmb 15 17 56.7
comp=Z,12nm,0.8s
X40A Basin Creek Fa 55.11 339 P **P** **15 17 55.1 -0.4**
WVT Waverly 55.12 344 P 15 17 54.7
baz=162
WVT Waverly 55.12 344 P **P** **15 17 54.2 -1.3**
WVT IAmb IAmb 15 17 55.4
comp=Z,13nm,0.8s

T50A Nancy 55.26 347 P **P** **15 17 55.6 -1.0**
T50A IAmb IAmb 15 18 19.6
comp=Z,8.9nm,0.8s
S54A Dingess, Beckl 55.38 351 P 15 17 57.8
baz=169
S54A Dingess, Beckl 55.38 351 P **P** **15 17 57.1 -0.3**
S54A IAmb IAmb 15 17 58.5
comp=Z,18nm,0.8s
MIAR Mount Ida 55.42 338 P 15 17 58.3
baz=155,SNR=11
MIAR Mount Ida 55.43 338 P **P** **15 17 57.7 0.0**
MIAR IAmb IAmb 15 17 59.2
comp=Z,18nm,0.8s
R58A Rapidan 55.46 354 P 15 17 58.5
baz=173
R57A Stanardsville 55.51 354 P 15 17 59.4
baz=172,SNR=5.8
TXAR Lajitas Array 55.52 326 P **P** **15 17 58.7 +0.1**
comp=Z,1.1nm,0.5s,baz=156,slow=8.9,SNR=7.0
TX31 Lajitas Ar. Si 55.52 326 P **P** **15 17 58.7 +0.1**
TX31 IAmb IAmb 15 18 00.5
comp=Z,20nm,1.3s
W41B Gary Mavity, V 55.54 340 P 15 17 58.6
baz=156
S51A Beattyville 55.61 349 P **P** **15 17 57.4 -1.7**
S51A IAmb IAmb 15 18 18.9
comp=Z,15nm,1.2s
WHAR Wooly Hollow 55.66 340 P **P** **15 17 58.3 -1.1**
WHAR IAmb IAmb 15 18 00.5
comp=Z,15nm,0.9s
R54A Victor 55.70 351 P 15 18 00.0
baz=170
T47A Sharon Grove 55.75 345 P **P** **15 17 59.3 -0.7**
T47A IAmb IAmb 15 17 59.9
comp=Z,13nm,0.9s
Z35A Perchaven, San 55.77 334 P **P** **15 17 60.0 -0.3**
HICK Hickman 55.88 343 P **P** **15 18 00.3 -0.7**
Q59A Harwood 55.90 355 P 15 18 02.0
baz=175
R53A Hurricane 56.00 350 P **P** **15 18 01.4 -0.4**
LCAR Lake Charles 56.01 341 P **P** **15 18 01.1 -0.7**
LCAR IAmb IAmb 15 18 02.4
comp=Z,14nm,0.9s
Q58A Fox Den Farm, 56.06 354 P 15 18 03.1
baz=173,SNR=5.5
W39A Magazine 56.08 338 P 15 18 03.7
baz=155,SNR=7.1
X37A Clayton 56.13 337 P **P** **15 18 02.1 -0.7**
X37A IAmb IAmb 15 18 05.0
comp=Z,26nm,1.1s
PARMO Parma 56.14 343 P **P** **15 18 01.3 -1.5**
FCAR Ozark Folk Cen 56.15 340 P **P** **15 18 01.6 -1.3**
T45A Paducah 56.17 344 P **P** **15 18 02.3 -0.7**
ABTX Abilene, Hawle 56.21 332 P 15 18 04.5
baz=148,SNR=17
ABTX Abilene, Hawle 56.21 332 P **P** **15 18 03.6 +0.2**
ABTX **pP** **15 18 19.8 +0.9**
Q57A Strasburg 56.23 354 P 15 18 04.8
baz=173,SNR=9.5
Q56A Snyder Ridge, 56.32 353 P 15 18 05.4
baz=172,SNR=5.8
Q56A Snyder Ridge, 56.32 353 P **P** **15 18 05.0 +0.9**
R50A Paris 56.38 348 P **P** **15 18 04.0 -0.4**
R50A IAmb IAmb 15 18 05.0
comp=Z,11nm,0.9s
PBMO Poplar Bluff 56.45 342 P **P** **15 18 04.4 -0.6**
Q53A Leroy 56.45 351 P 15 18 05.4
baz=169
SDMD Soldier's Deli 56.46 355 P **P** **15 18 04.8 -0.2**
Q54A Coxs Mills 56.47 352 P **P** **15 18 05.0 -0.1**
Q54A IAmb IAmb 15 18 05.9
comp=Z,14nm,0.8s
P59A Jarrettsville 56.62 356 P 15 18 06.7
baz=175
P57A Homestead Farm 56.63 354 P 15 18 07.7
baz=173
P57A Homestead Farm 56.63 354 P **P** **15 18 07.4 +1.1**
P57A IAmb IAmb 15 18 08.4
comp=Z,26nm,1.1s
Q52A Bidwell 56.67 350 P **P** **15 18 06.2 -0.3**
Q52A IAmb IAmb 15 18 07.1
comp=Z,11nm,0.8s
P56A Dayton Farm, R 56.73 353 P 15 18 08.2
baz=172
WCI Wyandotte Cave 56.74 346 P 15 18 06.6
baz=164
WCI Wyandotte Cave 56.74 346 P **P** **15 18 06.0 -1.0**
WCI IAmb IAmb 15 18 06.9
comp=Z,16nm,0.7s
P60A Greenville 56.77 356 P 15 18 07.5
baz=176
P60A Greenville 56.77 356 P **P** **15 18 07.0 -0.2**
P60A IAmb IAmb 15 18 07.7
comp=Z,7.7nm,0.7s
USIN University of 56.81 345 P **P** **15 18 06.3 -1.2**
U40A Yellville 56.82 340 P 15 18 07.7
baz=156,SNR=14
U40A Yellville 56.82 340 P **P** **15 18 07.2 -0.5**
U40A IAmb IAmb 15 18 08.5
comp=Z,18nm,0.8s
T42A Van Buren 56.88 342 P **P** **15 18 07.0 -1.1**
T42A IAmb IAmb 15 18 08.1
comp=Z,9.1nm,0.8s
PSUB Penn St. - Bra 56.88 357 P **P** **15 18 07.4 -0.6**
PSUB IAmb IAmb 15 18 08.8
comp=Z,10nm,0.9s
WUPA West Chester U 56.89 356 P **P** **15 18 07.6 -0.4**
Q51A Peebles 56.91 349 P **P** **15 18 07.6 -0.7**
Q51A IAmb IAmb 15 18 09.1
comp=Z,8.9nm,0.8s
S44A Carbondale 56.97 344 P **P** **15 18 08.2 -0.5**
S44A pP **pP** **15 18 23.8 -0.4**
SIUC Southern Illin 56.98 344 P **P** **15 18 08.3 -0.4**
SIUC **pP** **15 18 23.7 -0.6**
SIUC sP **sP** **15 18 30.6 -0.3**
MCWV Mont Chateau 57.00 353 P 15 18 09.6
baz=171
MVL Millersville 57.01 356 P **P** **15 18 08.8 -0.1**
MVL IAmb IAmb 15 18 10.3
comp=Z,13nm,0.8s
P53A Whipple 57.05 351 P **P** **15 18 08.8 -0.3**
P53A IAmb IAmb 15 18 10.2
comp=Z,21nm,0.8s
HHAR Hobbs 57.12 339 P **P** **15 18 09.4 -0.4**
HHAR IAmb IAmb 15 18 10.8
comp=Z,16nm,1.1s
O60A Telford 57.26 357 P 15 18 11.1
baz=176
P52A Corning 57.30 351 P 15 18 10.6
baz=168
P52A Corning 57.30 351 P **P** **15 18 10.4 -0.6**
P52A IAmb IAmb 15 18 11.4
comp=Z,14nm,0.7s
P51A Williamsport 57.31 350 P **P** **15 18 10.1 -0.9**
O57A Amberson 57.32 355 P 15 18 12.3
baz=174,SNR=5.4
MGMO Mountain Grove 57.36 341 P **P** **15 18 11.0 -0.5**
MGMO IAmb IAmb 15 18 12.2
comp=Z,17nm,0.8s
U38A Gravette 57.42 338 P **P** **15 18 11.2 -0.7**
U38A IAmb IAmb 15 18 13.0
comp=Z,12nm,1.2s
TUL1 Leonard 57.45 337 P 15 18 13.2
baz=153,SNR=6.2
TUL1 Leonard 57.45 337 P **P** **15 18 11.6 -0.6**
O56A Blue Knob Stat 57.46 354 P 15 18 13.0
baz=172
O56A Blue Knob Stat 57.46 354 P **P** **15 18 11.4 -0.8**
O56A IAmb IAmb 15 18 14.1
comp=Z,19nm,0.9s
FVM French Village 57.57 343 P **P** **15 18 11.8 -1.1**
BRNJ Basking Ridge 57.59 357 P **P** **15 18 13.0 0.0**
BRNJ IAmb IAmb 15 18 14.1
comp=Z,9.9nm,0.8s
WMOK Wichita Mounta 57.62 334 P 15 18 13.4
baz=149
WMOK Wichita Mounta 57.63 334 P **P** **15 18 12.1 -1.3**
P49A Miami Univ. Ec 57.66 348 P 15 18 12.6
baz=166
P49A Miami Univ. Ec 57.66 348 P **P** **15 18 12.3 -1.2**
P49A IAmb IAmb 15 18 13.4
comp=Z,17nm,0.9s
BLO Bloomington 57.69 346 P **P** **15 18 12.9 -0.9**
O52A Adamsville 57.73 351 P **P** **15 18 13.3 -0.7**
O52A IAmb IAmb 15 18 14.1
comp=Z,12nm,0.6s
P48A Milroy 57.73 348 P **P** **15 18 12.4 -1.6**
P48A IAmb IAmb 15 18 13.3
comp=Z,10nm,0.6s
OK025 Westminster Rd 57.76 335 P **P** **15 18 14.2 -0.1**
O53A New Philadelph 57.77 351 P 15 18 14.2
baz=170
O53A New Philadelph 57.77 351 P **P** **15 18 13.4 -0.8**
O53A IAmb IAmb 15 18 15.0
comp=Z,8.8nm,0.8s
N60A Cedar Hill Far 57.80 357 P 15 18 15.2
baz=176
N57A Milroy 57.85 355 P 15 18 15.4
baz=174,SNR=6.9
N58A Sunbury 57.87 356 P 15 18 15.8
baz=175,SNR=6.0
N58A Sunbury 57.87 356 P **P** **15 18 14.4 -0.5**
CCM Cathedral Cave 57.87 342 P 15 18 14.7
baz=158
CCM Cathedral Cave 57.87 342 P **P** **15 18 14.2 -0.9**
CCM IAmb IAmb 15 18 15.6
comp=Z,8.5nm,0.8s
CCM **PcP** **15 19 07.4 +0.5**
N59A State Game Lan 57.88 356 P 15 18 15.4
baz=176
N59A State Game Lan 57.88 356 P **P** **15 18 15.0 -0.1**
PAL Palisades 57.88 358 P 15 18 15.0
baz=178
PAL Palisades 57.88 358 P **P** **15 18 14.3 -0.8**
PAL IAmb IAmb 15 18 16.0
comp=Z,15nm,1.2s
OK031 S. Brethren Rd 57.89 336 P **P** **15 18 15.2 0.0**
ODNJ Ogdensburg 57.99 357 P **P** **15 18 14.6 -1.2**
ACSO Alum Creek Sta 58.02 350 P 15 18 15.8
baz=168,SNR=6.8
ACSO Alum Creek Sta 58.02 350 P **P** **15 18 14.7 -1.4**
ACSO IAmb IAmb 15 18 16.5
comp=Z,16nm,0.8s
QUOK Quay 58.03 336 P **P** **15 18 16.0 -0.2**
WSPT Westport, CT 58.03 359 P **P** **15 18 15.4 -0.7**
WSPT IAmb IAmb 15 18 16.9
comp=Z,14nm,0.8s
Q44A Meyer Farm, Va 58.04 344 P **P** **15 18 15.1 -1.1**
N56A West Decatur 58.08 354 P 15 18 17.3
baz=173,SNR=7.3
SLM Saint Louis 58.12 343 P **P** **15 18 15.5 -1.2**
S39A Bolivar 58.19 340 P **P** **15 18 16.5 -0.8**
S39A IAmb IAmb 15 18 18.1
comp=Z,16nm,0.8s
S39A pP **pP** **15 18 32.3 -0.6**
O49A Covington 58.22 349 P **P** **15 18 16.2 -1.2**
O49A IAmb IAmb 15 18 17.5
comp=Z,12nm,1.0s
M60A Port Jervis 58.23 357 P 15 18 17.7
baz=177
M63A Gales Ferry 58.25 360 P **P** **15 18 16.9 -0.7**
N53A Lisbon 58.26 352 P **P** **15 18 17.4 -0.4**
N53A IAmb IAmb 15 18 18.3
comp=Z,9.4nm,0.7s
P46A Rosedale 58.27 346 P **P** **15 18 17.2 -0.6**
P46A IAmb IAmb 15 18 40.1
comp=Z,12nm,0.9s
MNTX Cornudas Mount 58.28 326 P 15 18 18.5
baz=142,SNR=16
MNTX Cornudas Mount 58.29 326 P **P** **15 18 16.2 -1.9**
M62A Hamden 58.30 359 P 15 18 18.1
baz=179,SNR=5.2
N54A Moraine State 58.31 353 P 15 18 18.7
baz=171
N54A Moraine State 58.31 353 P **P** **15 18 17.6 -0.4**
M58A Price's Panora 58.38 356 P 15 18 19.6
baz=175,SNR=9.1
M57A Sunshine Farm, 58.39 355 P 15 18 19.6
baz=174,SNR=6.9
M57A Sunshine Farm, 58.39 355 P **P** **15 18 18.5 -0.1**
M57A IAmb IAmb 15 18 20.5
comp=Z,17nm,0.8s
M59A Waymart 58.48 357 P 15 18 20.0
baz=176,SNR=5.3
KSPA Keystone Colle 58.52 356 P **P** **15 18 19.5 0.0**
KSPA IAmb IAmb 15 18 20.7
comp=Z,12nm,1.1s
N51A Ashland 58.60 351 P **P** **15 18 19.3 -0.7**
N51A IAmb IAmb 15 18 20.2
comp=Z,14nm,0.8s
T35A Sooner Cattle 58.61 337 P **P** **15 18 20.4 +0.1**
T35A IAmb IAmb 15 18 22.7
comp=Z,24nm,1.1s
M56A Emporium 58.63 354 P 15 18 20.9
baz=173,SNR=7.5
M56A Emporium 58.63 354 P **P** **15 18 20.5 +0.2**
UCCT U. Connecticut 58.64 360 P **P** **15 18 19.8 -0.5**
M55A Ridgway 58.67 354 P **P** **15 18 20.5 -0.1**
L63A North Scituate 58.71 0 P 15 18 21.0
baz=180
L63A North Scituate 58.71 0 P **P** **15 18 20.5 -0.3**
L63A IAmb IAmb 15 18 21.7
comp=Z,12nm,0.8s
BRYW Bryant College 58.76 0 P **P** **15 18 21.0 -0.2**
BRYW IAmb IAmb 15 18 22.2
comp=Z,19nm,0.9s
MSTX Muleshoe 58.78 330 P 15 18 22.3
baz=145,SNR=14
MSTX Muleshoe 58.78 330 P **P** **15 18 21.4 -0.2**
M54A Oil Creek Stat 58.81 353 P 15 18 21.9
baz=171,SNR=8.3
M54A Oil Creek Stat 58.81 353 P **P** **15 18 21.3 -0.3**
CROK Carrier 58.82 335 P **P** **15 18 21.0 -0.7**
M53A WI Miller and 58.86 352 P 15 18 22.0
baz=170
M53A WI Miller and 58.87 352 P **P** **15 18 21.1 -0.8**
M53A IAmb IAmb 15 18 23.9
comp=Z,12nm,0.7s
P43A Skaggs, Pawnee 58.87 344 P **P** **15 18 21.0 -0.9**
P43A **pP** **15 18 36.4 -1.2**
L60A Shokan 58.88 358 P 15 18 22.3
baz=177
N49A Columbus Grove 58.91 349 P **P** **15 18 21.1 -1.0**
N49A pP **pP** **15 18 36.8 -1.0**
SFIN Lafayette 58.97 346 P 15 18 21.6
baz=163
SFIN Lafayette 58.98 346 P **P** **15 18 21.0 -1.7**
SFIN IAmb IAmb 15 18 22.1
comp=Z,10nm,0.6s
ALLY Alegheny Colle 59.01 353 P **P** **15 18 22.7 -0.1**
L58A Harry Jones Me 59.01 356 P 15 18 23.7
baz=176,SNR=11
L57A Andrews Acres 59.03 356 P 15 18 23.9
baz=174
M52A Chesterland 59.06 352 P **P** **15 18 22.8 -0.4**
L61A Hillsdale 1, H 59.06 358 P 15 18 23.3
baz=178
KAN13 South Haven SW 59.07 336 P **P** **15 18 23.5 +0.1**
L59A Walton 59.11 357 P 15 18 24.3
baz=176,SNR=10
L59A Walton 59.11 357 P **P** **15 18 23.2 -0.5**
U32A Winter Ranch, 59.12 335 P **P** **15 18 23.0 -0.9**
U32A IAmb IAmb 15 18 25.4
comp=Z,16nm,0.9s
QUA2 Belchertown 59.13 360 P **P** **15 18 22.9 -0.7**
QUA2 IAmb IAmb 15 18 31.4
comp=Z,23nm,1.4s
N47A Urbana 59.16 348 P **P** **15 18 22.8 -1.2**
N47A IAmb IAmb 15 18 23.7
comp=Z,9.3nm,0.7s
BINY Binghamton 59.17 356 P 15 18 24.7
baz=176,SNR=11
BINY Binghamton 59.17 356 P **P** **15 18 23.8 -0.2**
KAN14 Manchester OK 59.21 336 P **P** **15 18 24.4 0.0**
KAN14 IAmb IAmb 15 18 25.7
comp=Z,9.2nm,0.8s
L56A Greenwood 59.22 355 P 15 18 25.1
baz=174,SNR=6.9
L56A Greenwood 59.22 355 P **P** **15 18 24.3 -0.1**
L56A IAmb IAmb 15 18 25.9
comp=Z,14nm,0.8s
KAN01 Argonia South 59.30 336 P **P** **15 18 25.0 0.0**
L61B Northampton 59.30 359 P 15 18 24.7
baz=179
KAN05 Bluff City Nor 59.30 336 P **P** **15 18 25.1 +0.1**
KAN05 IAmb IAmb 15 18 26.8
comp=Z,19nm,1.0s
L53A Girard 59.32 353 P 15 18 25.2
baz=171,SNR=10.0
HRV Adam Dziewonsk 59.35 0 P 15 18 25.5

baz=180
HRV Adam Dziewonsk 59.35 0 P **P** **15 18 25.1 -0.2**
HRV IAmb IAmb 15 18 26.9
comp=Z,16nm,1.0s
KAN08 Anthony NE Sta 59.44 336 P **P** **15 18 25.0 -1.0**
ERPA Erie 59.45 353 P 15 18 26.3
baz=171,SNR=7.1
ERPA Erie 59.45 353 P **P** **15 18 25.6 -0.4**
ERPA pP **pP** **15 18 42.0 +0.4**
P40A Paris 59.47 342 P **P** **15 18 25.2 -1.0**
P40A IAmb IAmb 15 18 27.2
comp=Z,6.8nm,0.8s
KAN12 Harper NE Stat 59.52 336 P **P** **15 18 27.1 +0.6**
WVNY West Valley, N 59.59 354 P **P** **15 18 27.2 +0.3**
TRY Troy 59.60 358 P **P** **15 18 27.3 +0.4**
K59A Cooperstown 59.69 357 P 15 18 28.3
baz=177,SNR=10
K58A Earlville 59.71 357 P 15 18 28.5
baz=176,SNR=6.8
K58A Earlville 59.71 357 P **P** **15 18 28.1 +0.4**
K57A Scipio Center 59.73 356 P 15 18 28.5
baz=175
K56A Middlesex 59.76 355 P 15 18 29.0
baz=174
MMNY Mt. Morris Dam 59.84 355 P **P** **15 18 28.2 -0.4**
L48A N Adams 59.94 349 P **P** **15 18 28.0 -1.3**
P38A Dawn 60.01 341 P **P** **15 18 28.7 -1.2**
P38A IAmb IAmb 15 18 31.2
comp=Z,8.3nm,0.8s
J60A Lant Hill Farm 60.11 359 P 15 18 31.0
baz=178
M44A Midewin, Midew 60.15 346 P **P** **15 18 29.3 -1.5**
M44A IAmb IAmb 15 18 29.8
comp=Z,8.9nm,0.8s
J61A Chester 60.19 359 P 15 18 31.8
baz=179
121A Cookes Peak, D 60.22 325 P 15 18 33.4
baz=140
N41A Harden Midland 60.22 343 P **P** **15 18 30.4 -0.8**
N41A IAmb IAmb 15 18 31.3
comp=Z,19nm,0.9s
ACCN Adirondack Com 60.25 358 P **P** **15 18 31.6 +0.2**
ACCN IAmb IAmb 15 18 32.9
comp=Z,16nm,1.1s
J56A Wolcott 60.30 356 P 15 18 31.8
baz=175,SNR=5.7
J56A Wolcott 60.30 356 P **P** **15 18 31.4 -0.3**
J56A IAmb IAmb 15 18 33.2
comp=Z,14nm,0.9s
FFD Franklin Falls 60.31 0 P **P** **15 18 31.8 0.0**
FFD IAmb IAmb 15 18 33.1
comp=Z,9.7nm,0.8s
J59A Piesco 60.36 358 P 15 18 32.9
baz=177,SNR=8.5
J59A Piesco 60.36 358 P **P** **15 18 32.7 +0.5**
J59A IAmb IAmb 15 18 33.7
comp=Z,19nm,0.9s
J55A Hilton 60.37 355 P **P** **15 18 32.3 +0.1**
J55A IAmb IAmb 15 18 33.4
comp=Z,27nm,1.3s
L46A Eue Claire 60.37 348 P **P** **15 18 30.5 -1.7**
J54A Appleton 60.45 354 P **P** **15 18 32.5 -0.2**
J54A IAmb IAmb 15 18 33.8
comp=Z,12nm,0.7s
K50A Casco 60.45 351 P **P** **15 18 32.1 -0.6**
KSU1 Kansas State U 60.58 338 P **P** **15 18 33.3 -0.4**
KSU1 IAmb IAmb 15 18 34.7
comp=Z,16nm,1.2s
I58A Old Forge 60.60 357 P 15 18 34.2
baz=177,SNR=6.2
I59A Olmsteadville 60.67 358 P 15 18 34.9
baz=178
I60A Shoreham 60.70 359 P 15 18 35.0
baz=178,SNR=5.6
NCB Newcomb 60.86 358 P **P** **15 18 35.6 0.0**
I63A Otisfield 60.90 1 P 15 18 37.4
baz=182
Y22D IRIS PASSCAL I 60.94 327 P **P** **15 18 34.9 -1.6**
PECO Prince Edward 60.97 356 P **P** **15 18 35.8 -0.4**
N38A Joes South For 60.99 341 P **P** **15 18 35.6 -0.9**
N38A IAmb IAmb 15 18 37.0
comp=Z,22nm,1.3s
LBNH Lisbon 61.08 360 P 15 18 37.8
baz=180
LBNH Lisbon 61.09 360 P **P** **15 18 36.4 -0.7**
LBNH IAmb IAmb 15 18 38.7
comp=Z,19nm,1.1s
L42A Oliver, Polo 61.13 345 P **P** **15 18 36.5 -0.9**
L42A IAmb IAmb 15 18 37.3
comp=Z,8.7nm,0.8s
I51A Listowel 61.23 352 P 15 18 37.9
baz=170,SNR=7.1
J47A Sunmer 61.27 349 P **P** **15 18 37.0 -1.3**
H58A Gabriels 61.30 358 P 15 18 38.8
baz=178,SNR=8.0
H61A Lyndonville 61.38 360 P 15 18 40.0
baz=180,SNR=7.1
ANMO Albuquerque 61.38 328 P 15 18 40.7
baz=142
ANMO Albuquerque 61.38 328 P **P** **15 18 39.2 -0.3**
H57A Richville 61.39 357 P 15 18 39.4
baz=176,SNR=7.8
H60A Morristown 61.41 359 P 15 18 39.8
baz=179
H62A Milan 61.42 1 P 15 18 39.9
baz=181
H62A Milan 61.42 1 P **P** **15 18 39.5 +0.1**
H62A IAmb IAmb 15 18 40.8
comp=Z,7.9nm,0.8s
K43A Burlington 61.47 346 P **P** **15 18 38.7 -1.0**
CBKS Cedar Bluff 61.51 335 P 15 18 41.0
baz=150
H59A Cadyville 61.51 358 P 15 18 40.5
baz=178,SNR=7.4
CBKS Cedar Bluff 61.51 335 P **P** **15 18 40.0 -0.2**
CBKS IAmb IAmb 15 18 41.9
comp=Z,14nm,0.8s
H63A New Sharon 61.53 1 P 15 18 41.1
baz=182,SNR=6.8
H64A Troy 61.53 2 P 15 18 40.6
baz=183
L40A Anamosa 61.59 344 P **P** **15 18 39.8 -0.6**
L40A IAmb IAmb 15 18 40.8
comp=Z,9.6nm,0.9s
DELO Deloro Mine 61.59 355 P **P** **15 18 40.0 -0.5**
DELO IAmb IAmb 15 19 03.4
comp=Z,24nm,1.5s
H65A Eastbrook 61.62 3 P 15 18 41.3
baz=184
FRNY Flat Rock 61.70 359 P **P** **15 18 40.9 -0.3**
FRNY IAmb IAmb 15 18 42.7
comp=Z,12nm,0.9s
H53A Bobcaygeon 61.73 354 P 15 18 41.6
baz=173,SNR=6.0
TUC Tucson 61.74 323 P 15 18 43.1
baz=137
H66A Whiting 61.76 4 P 15 18 41.9
baz=185
N35A Tabor 61.82 340 P **P** **15 18 41.5 -0.6**
N35A IAmb IAmb 15 18 42.8
comp=Z,13nm,0.8s
G60A Masonville 61.94 360 P 15 18 43.9
baz=180
SADO Sadowa 61.98 354 P **P** **15 18 42.6 -0.5**
SADO IAmb IAmb 15 18 43.7
comp=Z,16nm,0.8s
G63A Kingsbury 61.99 2 P 15 18 43.8
baz=182
G57A Newington 62.02 357 P 15 18 44.1
baz=177
G58A Ormstown 62.03 358 P 15 18 43.9
baz=178
PLVO Plevna 62.07 356 P **P** **15 18 43.3 -0.4**
G62A West of Eustis 62.07 1 P 15 18 44.7
baz=182,SNR=12
G62A West of Eustis 62.07 1 P **P** **15 18 44.1 +0.4**
G61A St-Isidore-de- 62.13 0 P 15 18 45.2
baz=180,SNR=8.8
JFWS Jewell Farm 62.13 345 P 15 18 43.8
baz=160
JFWS Jewell Farm 62.13 345 P **P** **15 18 43.6 -0.5**
JFWS IAmb IAmb 15 18 44.1
comp=Z,7.1nm,0.7s
T25A Trinidad 62.13 331 P 15 18 45.5
baz=145,SNR=7.4
PKME Peaks-Kenny Pk 62.15 2 P 15 18 44.7
baz=183,SNR=5.1
PKME Peaks-Kenny Pk 62.15 2 P **P** **15 18 44.4 +0.2**
PKME IAmb IAmb 15 18 45.5
comp=Z,13nm,0.8s
G64A Maxfield 62.16 2 P 15 18 44.6
baz=183
MOQ Mont Orford 62.16 360 P **P** **15 18 45.0 +0.6**
G65A Princeton 62.16 3 P 15 18 44.7
baz=185
G65A Princeton 62.16 3 P **P** **15 18 44.4 +0.2**
G65A IAmb IAmb 15 18 45.5
comp=Z,14nm,0.8s
G54A Lake Saint Pet 62.50 355 P 15 18 46.7
baz=173,SNR=5.1
F63A Nahmakanta, Br 62.59 2 P **P** **15 18 47.5 +0.3**
I42A Draeger Farm, 62.73 346 P **P** **15 18 47.3 -0.8**
I42A IAmb IAmb 15 18 48.7
comp=Z,10nm,0.8s
F64A Sherman 62.78 3 P 15 18 49.0
baz=184,SNR=5.1
F64A Sherman 62.78 3 P **P** **15 18 48.7 +0.3**
F64A IAmb IAmb 15 18 49.4
comp=Z,9.7nm,0.8s
F60A Warwick 62.81 360 P 15 18 49.0
baz=180,SNR=8.6
F61A St Evariste 62.82 1 P 15 18 48.8
baz=181
LMN Caledonia Moun 63.02 5 P **P** **15 18 49.6 -0.4**
LMN IAmb IAmb 15 18 50.5
comp=Z,14nm,0.8s
H43A Windswept, Lux 63.03 347 P **P** **15 18 49.4 -0.6**
L34A Svendsen Farm, 63.05 340 P **P** **15 18 49.9 -0.4**
ALGO Algonquin Park 63.05 355 P 15 18 50.4
baz=174,SNR=6.4
TRQ Mont Tremblant 63.12 358 P **P** **15 18 50.2 -0.5**
SDCO Great Sand Dun 63.13 330 P 15 18 52.8
baz=144,SNR=26
SDCO Great Sand Dun 63.14 330 P **P** **15 18 51.9 +0.6**
SDCO IAmb IAmb 15 18 53.7
comp=Z,16nm,0.8s
I40A Norwalk 63.14 345 P **P** **15 18 50.2 -0.7**
I40A IAmb IAmb 15 18 51.3
comp=Z,8.8nm,0.6s
G45A Suttons Bay 63.16 349 P **P** **15 18 49.2 -1.8**
G45A IAmb IAmb 15 18 51.0
comp=Z,11nm,0.7s
BGNE Belgrade 63.17 338 P 15 18 51.7
baz=152
BGNE Belgrade 63.17 338 P **P** **15 18 51.3 +0.2**
BGNE pP **pP** **15 19 06.8 -0.1**
E60A Ste Agathe de 63.21 0 P 15 18 51.1
baz=180
E58A La Victoria 63.23 359 P 15 18 51.8
baz=179,SNR=6.9
W18A Petrified Fore 63.24 326 P 15 18 53.5
baz=139,SNR=5.4
E61A Lac Etchemin 63.29 1 P 15 18 52.5
baz=182,SNR=5.3
E63A Oxbow 63.34 3 P 15 18 52.4
baz=184
E63A Oxbow 63.34 3 P **P** **15 18 52.1 0.0**
E63A IAmb IAmb 15 18 53.4
comp=Z,11nm,0.9s
E64A Bridgewater 63.36 3 P 15 18 52.7
baz=184
E56A St. Veronique 63.45 357 P 15 18 53.2
baz=177,SNR=6.7
PQI Presque Isle 63.61 3 P **P** **15 18 54.2 +0.3**
PQI IAmb IAmb 15 18 55.1
comp=Z,11nm,0.9s
S22A 4UR Ranch, Cre 63.77 330 P 15 18 56.9
baz=143,SNR=7.4
D58A Chemin du LacG 63.95 359 P 15 18 56.6
baz=179,SNR=14
D56A ZEC Mazanza, M 63.95 358 P 15 18 56.2
baz=177
D55A Sainte-Anne-du 63.95 357 P 15 18 56.1
baz=176
Q24A Divide 63.95 331 P 15 18 57.9
baz=144,SNR=6.8
D63A Stockholm 63.97 3 P 15 18 56.7
baz=184,SNR=5.6
D62A Allapoint, All 63.97 2 P 15 18 56.9
baz=183
I37A Lemond, Waseca 63.99 343 P **P** **15 18 56.2 -0.3**
I37A IAmb IAmb 15 18 57.2
comp=Z,15nm,0.8s
MVCO Mesa Verde 64.18 328 P 15 18 59.4
baz=141,SNR=6.8
MVCO Mesa Verde 64.18 328 P **P** **15 18 59.2 +1.1**
E46A Sault Ste Mari 64.22 350 P **P** **15 18 56.8 -1.0**
E46A IAmb IAmb 15 18 58.0
comp=Z,12nm,0.8s
BATG Bathurst New B 64.33 4 P **P** **15 18 58.5 -0.1**
BATG IAmb IAmb 15 18 59.6
comp=Z,11nm,0.7s
WUAZ Wupatki 64.43 325 P 15 19 01.6
baz=138,SNR=7.1
K31A O'Neill 64.45 338 P **P** **15 18 59.6 0.0**
E43A Lone Tree Farm 64.70 348 P **P** **15 19 00.4 -0.7**
E43A IAmb IAmb 15 19 01.3
comp=Z,11nm,0.8s
ECSD EROS Data Cent 64.71 340 P 15 19 01.5
baz=154,SNR=13
ECSD EROS Data Cent 64.71 340 P **P** **15 19 01.0 -0.2**
ECSD IAmb IAmb 15 19 02.4
comp=Z,23nm,1.2s
ISCO Idaho Springs 64.84 332 P 15 19 03.7
baz=144,SNR=9.0
ISCO Idaho Springs 64.84 332 P **P** **15 19 02.9 +0.4**
COWI Conover 64.88 347 P **P** **15 19 01.8 -0.4**
SPMN Marine on St. 64.94 344 P 15 19 02.7
baz=156,SNR=8.7
SPMN Marine on St. 64.95 344 P **P** **15 19 02.1 -0.6**
SPMN IAmb IAmb 15 19 03.4
comp=Z,29nm,1.1s
SMCO Snowmass 64.97 330 P **P** **15 19 04.7 +1.2**
SMCO IAmb IAmb 15 19 05.9
comp=Z,12nm,0.7s
VLDQ Val d'Or 65.16 356 P **P** **15 19 04.1 +0.2**
PV12 Saucer Basin, 65.19 329 P **P** **15 19 05.3 +0.6**
PV17 East Wray Mesa 65.24 328 P **P** **15 19 05.5 +0.5**
PV14 Lion Creek, Pa 65.34 328 P **P** **15 19 05.7 0.0**
PV22 Blue Mesa, Par 65.35 329 P **P** **15 19 06.2 +0.5**
BC3 Big Chuckawall 65.46 321 P 15 19 08.0
baz=134
IRM Iron Mountain 65.62 321 P 15 19 09.1
baz=134
D41A Chassel 65.67 347 P **P** **15 19 06.9 -0.4**
D41A IAmb IAmb 15 19 08.2
comp=Z,17nm,0.8s
F36A Milaca 65.73 344 P **P** **15 19 07.3 -0.4**
F36A IAmb IAmb 15 19 08.6
comp=Z,16nm,0.8s
N23A Red Feather La 65.87 332 P 15 19 10.3
baz=144
E38A The Farm, Brul 65.91 345 P **P** **15 19 08.2 -0.7**
E38A IAmb IAmb 15 19 09.5
comp=Z,9.3nm,0.8s
PFO Pinyon Flats O 66.05 320 P **P** **15 19 12.5 +2.3**
comp=Z,2.0nm,0.7s,baz=146,slow=5.2,SNR=3.9
LSQQ Lebel-sur-Quev 66.06 356 P 15 19 09.8
baz=175
O20A White River Ci 66.33 330 P 15 19 13.7
baz=142,SNR=6.2
GMRC Granite Mounta 66.36 321 P 15 19 13.7
baz=134
F33A 5 Mile Ranch, 66.50 342 P **P** **15 19 12.0 -0.6**
F33A IAmb IAmb 15 19 13.6
comp=Z,12nm,0.8s
HEC Hector,Ludlow 66.80 321 P 15 19 17.5
baz=133,SNR=5.5
MATQ Matagami 66.81 356 P 15 19 14.4
baz=174,SNR=5.8
EYMN Ely 67.15 346 P 15 19 16.6
baz=160,SNR=5.6
EYMN Ely 67.15 346 P **P** **15 19 16.1 -0.7**
EYMN IAmb IAmb 15 19 17.3
comp=Z,8.9nm,0.7s
DRLN Deer Lake 67.31 10 P **P** **15 19 17.2 -0.5**
DRLN IAmb IAmb 15 19 18.0
comp=Z,16nm,0.8s
SHOC Shoshone, Teco 67.49 322 P 15 19 22.2
baz=134
K22A Casper 67.55 333 P 15 19 20.7
baz=144,SNR=6.2
K22A Casper 67.55 333 P **P** **15 19 19.8 +0.2**
RSSD Black Hills 67.72 335 P 15 19 22.0
baz=147
EDW2 Edwards Air Fo 67.84 320 P 15 19 23.1
baz=132
LRMC Laurel Mtn Rad 68.05 321 P 15 19 25.0
baz=132
B35A Bob, Littlefor 68.09 344 P **P** **15 19 22.0 -0.7**
B35A IAmb IAmb 15 19 23.2
comp=Z,9.3nm,0.7s
TPNV Topopah Spring 68.20 323 P 15 19 26.3
baz=134,SNR=11
TPNV Topopah Spring 68.20 323 P **P** **15 19 25.7 +1.8**
FURC Furnace Creek, 68.23 322 P 15 19 26.5
baz=134,SNR=5.5
MPMC Manual Prospec 68.32 321 P 15 19 26.4
baz=133
AGMN Agassiz Nation 68.60 343 P 15 19 26.1
baz=156,SNR=10.0
AGMN Agassiz Nation 68.60 343 P **P** **15 19 25.5 -0.4**
AGMN IAmb IAmb 15 19 26.8
comp=Z,12nm,0.8s
AGMN **pP** **15 19 41.4 -0.4**
DUG Dugway, Tooele 68.64 327 P 15 19 28.5
baz=138,SNR=9.7
DUG Dugway, Tooele 68.64 327 P **P** **15 19 26.9 +0.4**
ISA Isabella, Lake 68.65 320 P 15 19 28.9
baz=132
R11A Troy Canyon, C 68.80 324 P 15 19 30.0
baz=135,SNR=13
CWC Cottonwood Cre 68.93 321 P 15 19 30.6
baz=132
BW06 Boulder Array 69.00 331 P 15 19 29.6
baz=141
BW06 Boulder Array 69.00 331 P **P** **15 19 28.0 -0.8**
PD31 Pinedale Array 69.00 331 P **P** **15 19 27.9 -0.9**
PDAR Pinedale Array 69.00 331 P **P** **15 19 29.6 +0.8**
comp=Z,2.1nm,0.7s,baz=139,slow=6.5,SNR=17
PDAR Pinedale Array 69.00 331 P **P** **15 19 28.9 +0.1**
VES Vestal, Richgr 69.14 320 P 15 19 31.9
baz=132
MDND Maddock 69.32 340 P 15 19 31.4
baz=152
MDND Maddock 69.33 340 P **P** **15 19 30.6 +0.2**
LIC Lamto 69.91 77 *e*P **P** **15 19 33.4 -1.3**
comp=Z,21nm,0.9s
MACI Morro de la Ar 69.97 51 P **P** **15 19 35.3 +0.3**
REDW Red Top Meadow 70.06 331 P **P** **15 19 35.4 +0.1**
TIC Toumodi 70.06 76 *e*P **P** **15 19 34.4 -1.3**
LOHW Long Hollow 70.14 331 P **P** **15 19 36.5 +0.7**
KIC Kosan Boka 70.22 77 *e*P **P** **15 19 35.5 -1.2**
comp=Z,22nm,0.6s
DBIC Dimbokro 70.23 76 P **P** **15 19 35.8 -0.9**
comp=Z,12nm,0.7s,baz=231,slow=6.7,SNR=28
DBIC pP **pP** **15 19 51.1 -1.4**
comp=Z,10nm,0.8s,baz=222,slow=6.1,SNR=7.9
DBIC LR LR 15 48 40.0
comp=Z,113nm,18.9s,baz=240,slow=34
DBIC Dimbokro 70.23 76 P **P** **15 19 35.2 -1.5**
DBIC IAmb IAmb 15 19 36.3
comp=Z,12nm,0.7s
NV11 Mina Array Sit 70.32 323 P **P** **15 19 38.6 +1.7**
ULM Lac du Bonnet 70.38 344 P **P** **15 19 36.8 0.0**
comp=Z,8.6nm,0.6s,baz=154,slow=5.6,SNR=26
ULM Lac du Bonnet 70.38 344 P **P** **15 19 36.1 -0.7**
ULM IAmb IAmb 15 19 36.9
comp=Z,9.2nm,0.6s
NVAR Mina Array Bea 70.40 323 P **P** **15 19 39.0 +1.5**
comp=Z,2.4nm,0.8s,baz=156,slow=7.2,SNR=22
NVAR Mina Array Bea 70.40 323 P **P** **15 19 37.4 -0.1**
FLWY Flagg Ranch 70.55 331 P **P** **15 19 38.8 +0.5**
FLWY IAmb IAmb 15 19 41.0
comp=Z,14nm,0.9s
KVN Kaiserville 70.71 323 P **P** **15 19 39.3 0.0**
RLMT Red Lodge 70.71 333 P 15 19 40.5
baz=142,SNR=10
RLMT Red Lodge 70.72 333 P **P** **15 19 39.5 +0.3**
GCMT Greycliff 71.42 333 P **P** **15 19 42.0 -1.4**
DGMT Dagmar 71.43 338 P 15 19 44.8
baz=148
HLID Hailey 71.93 329 P 15 19 48.6
baz=137,SNR=14
HLID Hailey 71.93 329 P **P** **15 19 48.1 +1.6**
BCYI Bear Canyon 71.99 330 P **P** **15 19 47.7 +0.8**
BOZ Bozeman (W) 72.13 332 P 15 19 48.9
baz=140,SNR=8.7
BOZ Bozeman (W) 72.13 332 P **P** **15 19 48.2 +0.4**
MFID Camas Ranch 72.53 328 P **P** **15 19 51.4 +1.3**
MFID IAmb IAmb 15 19 53.2
comp=Z,18nm,0.9s
QSPA South Pole Qui 73.02 180 P **P** **15 19 53.1 +0.4**
HRY Holter Researc 73.08 332 P **P** **15 19 53.1 -0.1**
EGMT Eagleton 73.21 334 P 15 19 55.1
baz=142,SNR=8.8
EGMT Eagleton 73.21 334 P **P** **15 19 54.3 +0.3**
KOWA Kowa 73.89 69 P **P** **15 19 57.2 -1.3**
MSO Missoula 74.11 331 P 15 20 01.5
baz=138
WDC Whiskeytown Da 74.28 322 P **P** **15 20 00.7 +0.3**
BMO Blue Mountains 74.30 328 P **P** **15 20 01.3 +0.9**
M04C Macdoel 74.65 324 P 15 20 04.6
baz=131
I07A Izee 74.90 326 P **P** **15 20 05.7 +1.8**
F10A Beach Ranch, E 75.06 329 P **P** **15 20 06.1 +1.3**
YBH Yreka Blue Hor 75.12 323 P **P** **15 20 06.0 +0.8**
comp=Z,2.9nm,0.9s,baz=74,slow=6.3,SNR=5.3
YBH Yreka Blue Hor 75.12 323 P **P** **15 20 05.6 +0.3**
J05D Fort Rock, OR 75.30 325 P 15 20 08.4
baz=132
G08A Pilot Rock 75.45 328 P **P** **15 20 08.3 +1.2**
PINE Pine Mountain 75.47 326 P **P** **15 20 08.7 +1.3**
WALA Waterton Lakes 75.77 333 P **P** **15 20 10.0 +1.1**
E09A Wood Farm, Sta 75.89 329 P **P** **15 20 10.7 +1.3**
I05D Terrebonne, OR 76.05 326 P 15 20 13.0
baz=132,SNR=5.7
K02D Willamette Mer 76.28 323 P 15 20 14.2
baz=130
E08A Dider Farm, El 76.33 329 P **P** **15 20 11.4 -0.4**
HAWA Hanford 76.50 328 P **P** **15 20 11.8 -1.1**
HAWA IAmb IAmb 15 20 15.9
comp=Z,11nm,0.8s
G05D Wamic, OR 76.64 326 P 15 20 16.5
baz=132
COR Corvallis 77.28 325 P **P** **15 20 16.6 -0.7**
LTY Liberty 77.66 328 P **P** **15 20 18.6 -0.9**
B08A Colville Reser 77.75 330 P **P** **15 20 19.5 -0.5**
FCC Fort Churchill 77.82 348 P **P** **15 20 19.9 -0.1**
LON Longmire 77.90 327 P **P** **15 20 21.0 +0.2**
TOA0 Torodi Ar. Sit 78.55 72 P **P** **15 20 23.8 -1.2**
TOA0 IAmb IAmb 15 20 40.5
comp=Z,17nm,0.6s
TORD Torodi Ar. Bea 78.55 72 P **P** **15 20 23.9 -1.1**
comp=Z,15nm,0.8s,baz=257,slow=5.3,SNR=40
TORD pP **pP** **15 20 39.7 -1.3**
comp=Z,14nm,0.6s,baz=260,slow=5.5,SNR=13
TORD LR LR 15 53 14.8
comp=Z,120nm,18.9s,baz=320,slow=34
TORD Torodi Ar. Bea 78.55 72 P **P** **15 20 23.8 -1.1**
TORD pP **PcP** **15 20 39.3 +5.4**
TORD IAmb IAmb 15 20 40.5
comp=Z,12nm,0.7s
B06A Marblemount 78.91 329 P **P** **15 20 25.8 -0.4**
B05A Bryant 79.04 328 P 15 20 28.1
baz=132,SNR=5.1
D03D Eldon 79.07 327 P 15 20 29.0
baz=131
NLWA Neilton Lookou 79.38 327 P **P** **15 20 28.0 -0.9**
NLWA IAmb IAmb 15 20 53.3
comp=Z,26nm,1.4s
SYO Syowa Base 81.51 160⇑ *e*PcP **P** **15 20 44.4 +4.4**
TSUM Tsumeb 83.93 108 P **P** **15 20 55.0 +1.2**
comp=Z,6.9nm,0.8s,baz=225,slow=3.9,SNR=9.7
TSUM pP **pP** **15 21 10.1 +0.2**
comp=Z,6.9nm,0.9s,baz=254,slow=3.9,SNR=5.5
TSUM Tsumeb 83.93 108 P **P** **15 20 54.3 +0.5**
ESDC Sonseca Array 84.71 46 P **P** **15 20 57.8 +0.7**
comp=Z,2.3nm,0.8s,baz=249,slow=4.9,SNR=14
ESDC pP **pP** **15 21 13.4 0.0**
comp=Z,1.7nm,1.1s,baz=304,slow=27,SNR=2.9
ESDC Sonseca Array 84.71 46 P **P** **15 20 56.9 -0.2**
YKA Yellowknife Ar 86.21 342 P **P** **15 21 04.7 +0.8**
comp=Z,13nm,0.9s,baz=134,slow=5.5,SNR=126
YKA pP **pP** **15 21 20.8 +0.5**
comp=Z,1.7nm,0.6s,baz=131,slow=5.6,SNR=3.8
ILAR Eielson Array 99.17 335 P **Pdif** **15 22 03.1 -0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.3nm,0.8s,baz=127,slow=2.4,SNR=3.8						
ZST	Bratislava	101.85	43	ePDIFF	Pdif	15 22 16.1	-0.1
STKA	Stephens Creek	121.68	213	PKP	PKPdf	15 27 18.0	+0.9
	comp=Z,1.4nm,0.7s,baz=93,slow=3.9,SNR=4.7						
H11N3	WAKE ISLAND Hy	124.49	282	T	T	17 44 14.8	
	baz=99,slow=74,SNR=69						
H11N2	WAKE ISLAND Hy	124.50	282	T	T	17 44 15.7	
	baz=99,slow=74,SNR=76						
H11N1	WAKE ISLAND Hy	124.50	282	T	T	17 44 16.0	
	baz=99,slow=74,SNR=64						
H11S2	WAKE ISLAND Hy	124.51	281	T	T	17 44 13.8	
	baz=98,slow=74,SNR=160						
H11S1	WAKE ISLAND Hy	124.52	281	T	T	17 44 14.4	
	baz=98,slow=74,SNR=247						
H11S3	WAKE ISLAND Hy	124.53	281	T	T	17 44 15.1	
	baz=98,slow=74,SNR=220						
ABKAR	Akbulak array	129.67	39	PKPdf	PKPdf	15 27 31.2	-0.5
ASAR	Alice Springs	132.30	213	PKP	PKPdf	15 27 38.0	+0.4
	comp=Z,1.1nm,0.7s,baz=129,slow=2.0,SNR=12						
ASAR				pPKP	pPKPdf	15 27 55.4	+0.9
	comp=Z,0.6nm,0.6s,baz=127,slow=1.8,SNR=3.1						
WRA	Warramunga Arr	135.09	216	PKP	PKPdf	15 27 44.0	+1.1
	comp=Z,2.3nm,0.5s,baz=146,slow=1.8,SNR=31						
WRA				pPKP	pPKPdf	15 28 00.9	+1.3
	comp=Z,1.1nm,0.5s,baz=144,slow=1.8,SNR=4.4						
ZALV	Zalesovo Beam	139.03	21	PKP	PKPdf	15 27 48.0	-1.1
	comp=Z,1.8nm,0.6s,baz=271,slow=1.4,SNR=9.7						
ZALV	Zalesovo Beam	139.03	21	PKPdf	PKPdf	15 27 47.5	-1.6
KLR	Kul'dur	142.74	334	PKhKP	PKPpre	15 27 50.8	
	comp=Z,0.5nm,0.4s,baz=107,slow=11,SNR=3.9						
MKAR	Makanchi Array	143.49	30	PKP	PKPab	15 27 54.9	+1.2
	comp=Z,1.9nm,0.7s,baz=318,slow=3.2,SNR=25						
MKAR	Makanchi Array	143.49	30	PKPpre	PKPpre	15 27 54.6	
KSH	Kashi	144.22	45	PKP	PKPab	15 27 58.2	+1.3
NIL	Nilore	144.61	56	PKPdf	PKPab	15 27 58.5	+0.1
USRK	Ussuriysk Ar.	146.39	328	PKPbc	PKPbc	15 28 05.3	+1.5
	comp=Z,13nm,0.9s,baz=19,slow=3.5,SNR=20						
USRK				pPKPbc	pPKPdf	15 28 20.3	+1.1
	comp=Z,7.0nm,0.8s,baz=52,slow=3.7,SNR=7.1						
USRK	Ussuriysk Ar.	146.39	328	PKPbc	PKPdf	15 28 04.5	+2.0
MJAR	Matsushiro Arr	147.20	312	PKPbc	PKPbc	15 28 07.7	+1.3
	comp=Z,17nm,0.8s,baz=98,slow=2.0,SNR=33						
MJAR				pPKPbc	pPKPbc	15 28 24.4	+1.4
	comp=Z,11nm,0.8s,baz=102,slow=1.5,SNR=8.5						
MJAR	Matsushiro Arr	147.20	312	PKPbc	PKPdf	15 28 06.3	+2.3
WMQ	Urumqi	148.25	29	ePKPbc	PKPdf	15 28 04.3	-1.3
SONM	Songino Array	149.36	2	PKPbc	PKPbc	15 28 12.8	+1.0
	comp=Z,5.3nm,0.7s,baz=328,slow=1.8,SNR=32						
SONM				pPKPbc	pPKPbc	15 28 29.4	+0.7
	comp=Z,2.7nm,0.7s,baz=328,slow=1.8,SNR=5.5						
SONM	Songino Array	149.36	2	PKPbc	PKPbc	15 28 11.8	0.0
KSRS	Korea Array	153.34	323	PKPbc	PKPbc	15 28 20.8	-0.3
	comp=Z,1.8nm,0.8s,baz=70,slow=1.4,SNR=5.5						
KSAR	Wonju Array Be	153.37	323		PKPbc	15 28 19.8	-1.4
HHC	Hu-ho-hao-te	156.20	354	ePKP	PKPdf	15 28 19.4	+1.8
LZH	Lanzhou	160.74	11	ePKP	PKPdf	15 28 21.1	-2.2
LZH				pPKP	pPKPdf	15 28 38.5	-1.7
NJ2	Nanjing	162.30	329	ePKP	PKPdf	15 28 23.6	-1.2
CD2	Chengdu	165.71	16	PKP	PKPdf	15 28 25.5	-2.5

IDC 01 15:17:33.3±4.2, 22°.67N×95°.17E, h108km±37km, mb3.0/3, mb1 3.0/4, mb1mx2.8/38, mbtmp3.2/4, Error ellipse: s-maj=114.1km s-min=22.8km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	5.48	139	P	Pn	15 18 52.6	-0.1
	0.1nm,0.3s,baz=312,slow=12,SNR=5.0						
MKAR	Makanchi Array	26.23	340	P	P	15 22 58.1	0.0
	0.2nm,0.5s,baz=153,slow=11,SNR=5.6						
WRA	Warramunga Arr	57.05	135	P	P	15 27 09.2	+0.7
	0.4nm,0.7s,baz=322,slow=7.4,SNR=5.9						
ASAR	Alice Springs	59.49	138	P	P	15 27 24.6	-0.7
	0.2nm,0.5s,baz=333,slow=7.3,SNR=3.6						

*NIED **01** 15:26:44.6, 22°.76N×123°.24E, h56km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^14Nm; Mrr-4.47; Mθθ5.88; Mφφ-1.41; Mrθ4.14; Mθφ-1.23; Mφr2.10; Fault plane solution: M0 7.16000×10^14 NP1: φs255.00000°, δ68.00000°, λ-115.00000°. NP2: φs126.00000°, δ33.00000°, λ-44.00000°.*
*JMA **01** 15:26:44.6±0.3, 22°.76N×123°.24E, h56km, M3.8*
*IDC **01** 15:26:52.5±6.9, 22°.89N×123°.25E, h74km±69km, mb3.0/6, mb1 3.4/8, mb1mx3.1/43, mbtmp3.5/8, ML3.1/2, Error ellipse: s-maj=29.2km s-min=18.8km az=75.0*
ISC 01 15:26:46.7±1.3, 22°.93N±0°.10×123°.29E±0°.07, h22km±8km, n20, σ0s.90/31, mb3.4/6, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.22	23	P	Pn	15 27 08.4	0.0
HATJ				eS	Sb	15 27 25.3	+1.0
IRIF	Iriomote-Funau	1.46	16	P	Pn	15 27 11.8	+0.1
IRIF				S	Sb	15 27 30.9	-0.3
JKRS	Kuro-shima	1.46	27	P	Pn	15 27 12.2	+0.5
JKRS				eS	Sn	15 27 30.5	+0.3
YOJ	Yonaguni jima	1.55	350	P	Pn	15 27 13.1	+0.1
YOJ				eS	Sb	15 27 33.0	-0.9
JYNG	Yonagunijimaku	1.55	348	P	Pn	15 27 13.2	+0.2
JYNG				S	Sn	15 27 32.4	0.0
JIJ	Ishigaki jima	1.63	28	P	Pn	15 27 13.7	-0.4
JIJ				eS	Sn	15 27 34.5	+0.1
JISG	Ishigakijimahi	1.90	29	P	Pn	15 27 17.3	-0.4
JISG				eS	Sn	15 27 41.4	+0.4
JTJ	Tarama	2.14	37	P	Pn	15 27 20.8	-0.3
JTJ				S	Sn	15 27 47.4	+0.4
JIRB	Irabujima	2.56	42	P	Pn	15 27 26.1	-0.7
JIRB				S	Sn	15 27 57.9	+0.6
JMJ2	Miyako jima3	2.59	45	P	Pn	15 27 26.7	-0.6
JMJ2				eS	Sn	15 27 58.5	+0.3
JOGS	Gusukube	2.66	46	S	Sn	15 28 01.0	+1.2
JIKM	Ikemajima	2.67	42	P	Pn	15 27 27.8	-0.6
JIKM				eS	Sn	15 28 00.8	+0.6
KSRS	Korea Array	15.02	14	P	P	15 30 20.8	-2.0
	0.2nm,0.3s,baz=192,slow=12,SNR=7.9						
MJAR	Matsushiro Arr	18.73	40	P	Pn	15 31 06.1	+1.8
	0.0nm,0.3s,baz=233,slow=9.5,SNR=6.9						
CMAR	Chiang Mai Arr	23.20	263	P	P	15 31 54.3	+2.1
	0.3nm,0.6s,baz=61,slow=8.3,SNR=4.2						
SONM	Songino Array	28.29	336	P	P	15 32 39.1	+0.5
	0.6nm,0.7s,baz=141,slow=7.4,SNR=3.1						
WRA	Warramunga Arr	43.95	165	P	P	15 34 51.8	-0.4
	0.7nm,0.9s,baz=346,slow=9.4,SNR=3.6						
KURBB	Kurchatov Arra	44.31	320	P	P	15 34 53.5	-1.4
	0.3nm,0.6s,baz=112,slow=10.0,SNR=2.9						
ASAR	Alice Springs	47.45	167	P	P	15 35 19.2	-0.7
	0.3nm,0.9s,baz=352,slow=10,SNR=3.1						
YKA	Yellowknife Ar	83.36	23	P	P	15 39 12.7	+0.8
	0.3nm,0.9s,baz=315,slow=4.5,SNR=3.7						

*IDC **01** 15:33:41.4±1.4, 43°.12N×81°.68E, h0km, mb3.6/2, mb1 3.5/7, mb1mx3.3/52, mbtmp3.4/7, ML2.9/5, Error ellipse: s-maj=29.1km s-min=12.6km az=71.0*
*SOME **01** 15:33:41.1, 43°.37N×81°.75E, h5km*
*NNC **01** 15:33:42.9±1.2, 43°.19N×81°.75E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=10.4km s-min=6.1km az=160.0*
ISC 01 15:33:41.5±1.6, 43°.19N±0°.05×81°.74E±0°.04, h7km±10km, n61, σ1s.93/90, 6C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.04	285	eP	Pg	15 34 02.0	+0.5
	0.1nm,0.2s						
KTMS				eS	Sb	15 34 16.7	+0.8
	38nm,0.4s						
KTMS	Ketmen	1.04	285	P	Pb	15 34 02.9	+0.9
	0.4nm,0.1s						
KTMS				S	Sn	15 34 19.4	+1.8
	183nm,0.4s						
PDGK	Podgornoye	1.65	276	P	Pg	15 34 13.4	+0.3
	22nm,0.3s						
PDGK				S	Sg	15 34 36.8	+2.3
	163nm,0.4s						
PDGK	Podgornoye	1.65	276	⇓Pg	Pg	15 34 13.4	+0.3
	12nm,0.2s						
PDGK				⇓Lg	Lg	15 34 37.1	
	113nm,0.5s						
SHLS	Shalkode	1.67	270	eP	Pn	15 34 08.6	-2.6
	71nm,0.3s						
SHLS				eS	Sn	15 34 29.0	-3.9
	328nm,0.3s						
SHLS	Shalkode	1.67	270	P	Pn	15 34 08.6	-2.6
	71nm,0.3s						
SHLS				S	Sn	15 34 29.0	-3.9
	328nm,0.3s						
DJR	Jarkent	1.82	310	eP	Pg	15 34 15.9	-0.4
	41nm,0.4s						
DJR				eS	Sg	15 34 41.5	+1.6
	108nm,0.6s						
DJR	Jarkent	1.82	310	Pg	Pg	15 34 15.9	-0.4
	41nm,0.4s						
DJR				Lg	Lg	15 34 41.5	
	108nm,0.6s						
UZB	Uzynbulak	1.99	270	eP	Pb	15 34 18.9	+0.9
	29nm,0.5s						
UZB				eS	Sg	15 34 45.4	+0.1
	218nm,0.6s						
UZB	Uzynbulak	1.99	270	Pg	Pb	15 34 18.9	+0.9
	42nm,0.3s						
UZB				Lg	Lg	15 34 46.9	
	218nm,0.6s						
KPKS	Kokpek	2.25	278	eP	Pb	15 34 23.3	+0.9
	98nm,0.4s						
KPKS				eS	Sg	15 34 53.7	+0.1
	521nm,0.5s						
SATY	Saty	2.44	268	eP	Pb	15 34 26.9	+1.1
	23nm,0.5s						
SATY				eS	Sg	15 35 00.2	+0.2
	165nm,0.6s						
SATY	Saty	2.44	268	Pg	Pb	15 34 26.9	+1.1
	23nm,0.5s						
SATY				Lg	Lg	15 35 00.2	
	165nm,0.6s						
MNBS	Baschi	2.58	291	eP	Pb	15 34 27.4	-0.7
	24nm,0.5s						
MNBS				eS	Sb	15 35 01.1	+1.0
	329nm,0.6s						
MNBS	Baschi	2.58	291	Pg	Pb	15 34 27.4	-0.7
	24nm,0.5s						
MNBS				Lg	Lg	15 35 01.1	
	329nm,0.6s						
KURS	Kuram	2.62	278	eP	Pb	15 34 29.4	+0.6
	17nm,0.5s						
KURS				eS	Sg	15 35 04.3	-1.4
	175nm,0.7s						
KURS	Kuram	2.62	278	Pg	Pb	15 34 29.4	+0.6
	17nm,0.5s						
KURS				Lg	Lg	15 35 04.3	
	175nm,0.7s						
TDK	Taldyqorghan	3.01	308	eP	Pb	15 34 36.2	+0.8
	63nm,0.4s						
TDK				eS	Sg	15 35 16.4	-1.7
	200nm,0.6s						
TDK	Taldyqorghan	3.01	308	Pg	Pb	15 34 36.2	+0.8
	63nm,0.4s						
TDK				Lg	Lg	15 35 16.4	
	200nm,0.6s						
ARXS	Arharly	3.02	291	eP	Pb	15 34 34.1	-1.4
	26nm,0.4s						
ARXS				eS	Sb	15 35 11.8	-0.8
	125nm,0.6s						
ARXS	Arharly	3.02	291	Pg	Pb	15 34 34.8	-0.8
	26nm,0.4s						
ARXS				Lg	Lg	15 35 11.8	
	125nm,0.6s						
KOTS	Kotyrbulak	3.38	272	eP	Pb	15 34 43.0	+1.2
	26nm,0.5s						
KOTS				eS	Sb	15 35 27.1	+3.9
	88nm,0.6s						
KOTS	Kotyrbulak	3.38	272	Pg	Pb	15 34 43.0	+1.2
	26nm,0.5s						
KOTS				Lg	Lg	15 35 27.1	
	88nm,0.6s						
MDOK	Medeo	3.43	271	eP	Pg	15 34 45.9	-1.3
	9.3nm,0.4s						
MDOK				eS	Sg	15 35 32.2	+0.5
	46nm,0.6s						
MDOK	Medeo	3.43	271	Pn	Pb	15 34 40.2	-2.4
	8.0nm,0.5s						
MDOK				Lg	Lg	15 35 29.8	
	38nm,0.6s						
MDOK	Medeo	3.43	271	Pg	Pg	15 34 45.9	-1.3
	9.3nm,0.4s						
MDOK				Lg	Lg	15 35 32.2	
	46nm,0.6s						
TNSS	Tian-Shan	3.51	269	eP	Pb	15 34 46.6	+2.5
	8.3nm,0.3s						
TNSS				eS	Sg	15 35 33.5	-0.8
	20nm,0.5s						
TNSS	Tian-Shan	3.51	269	Pg	Pb	15 34 46.6	+2.5
	8.3nm,0.3s						
TNSS				Lg	Lg	15 35 33.5	
	20nm,0.5s						
CHKK	Chushkaly	3.52	283	eP	Pg	15 34 47.6	-1.2
	7.8nm,0.4s						
CHKK				eS	Sg	15 35 35.6	+1.1
	67nm,0.5s						
CHKK	Chushkaly	3.52	283	Pg	Pg	15 34 47.6	-1.2
	7.8nm,0.4s						
CHKK				Lg	Lg	15 35 35.6	
	67nm,0.5s						
AAA	Alma-Ata	3.53	272	eP	Pb	15 34 43.9	-0.3
	12nm,0.1s						
AAA				eS	Sb	15 35 29.6	+2.4
	17nm,0.1s						
AAA	Alma-Ata	3.53	272	Pg	Pb	15 34 43.9	-0.3
	12nm,0.1s						
AAA				Lg	Lg	15 35 29.6	
	17nm,0.1s						
MK31	Makanchi Array	3.63	6	⇑Pn	Pn	15 34 42.0	+4.0
	1.2nm,0.4s,baz=191,slow=12,SNR=108						
MK31				⇓Pg	Pg	15 34 52.4	+1.5
	2.8nm,0.3s,baz=187,slow=15,SNR=9.0						
MK31				Lg	Lg	15 35 37.1	
	19nm,0.5s,baz=189,slow=31,SNR=5.1						
MKAR	Makanchi Array	3.63	6	Pn	Pn	15 34 42.1	+4.0
	1.3nm,0.3s,baz=185,slow=12,SNR=51						
MKAR				Pg	Pg	15 34 49.1	-1.9
	2.6nm,0.3s,baz=180,slow=16,SNR=28						
MKAR				Lg	Lg	15 35 38.1	
	6.0nm,0.3s,baz=189,slow=32,SNR=12						
KTBS	Karatobe	3.72	280	eP	Pg	15 34 51.8	-0.9
	6.9nm,0.6s						
KTBS				eS	Sg	15 35 42.9	+2.0
	48nm,0.6s						
KTBS	Karatobe	3.72	280	Pg	Pg	15 34 51.8	-0.9
	6.9nm,0.6s						
KTBS				Lg	Lg	15 35 42.9	
	48nm,0.6s						
IZV	Izvestkoviy	3.75	269	eP	Pb	15 34 48.3	+0.1
	5.0nm,0.4s						
IZV				eS	Sb	15 35 37.1	+3.1
	73nm,0.6s						
IZV	Izvestkoviy	3.75	269	Pg	Pb	15 34 48.3	+0.1
	5.0nm,0.4s						
IZV				Lg	Lg	15 35 37.1	
	73nm,0.6s						
MTBS	Maitube	3.88	271	eP	Pb	15 34 51.3	+0.9
	2.9nm,0.3s						
MTBS				eS	Sb	15 35 41.4	+3.8
	15nm,0.5s						
MTBS	Maitube	3.88	271	Pg	Pb	15 34 51.3	+0.9
	2.9nm,0.3s						
MTBS				Lg	Lg	15 35 41.4	
	15nm,0.5s						
KST	Kastek	4.23	270	eP	Pg	15 35 02.3	-0.2
	16nm,0.6s						
KST				eS	Sg	15 36 00.8	+3.5
	19nm,0.7s						
KST	Kastek	4.23	270	Pg	Pg	15 35 02.3	-0.2
	16nm,0.6s						
KST				Lg	Lg	15 36 00.8	
	19nm,0.7s						
DGS	Degeres	4.36	273	eP	Pg	15 35 02.2	-2.8
	5.2nm,0.4s						
DGS				eS	Sg	15 36 00.0	-1.5
	38nm,0.5s						
DGS	Degeres	4.36	273	Pg	Pg	15 35 02.2	-2.8
	5.2nm,0.4s						
DGS				Lg	Lg	15 36 00.0	
	38nm,0.5s						
KRBS	Karabastau	4.44	279	eP	Pb	15 35 03.5	+3.6
	8.0nm,0.5s						
KRBS				eS	Sg	15 36 02.6	-1.5
	25nm,0.6s						
KRBS	Karabastau	4.44	279	Pg	Pb	15 35 03.5	+3.6
	8.0nm,0.5s						
KRBS				Lg	Lg	15 36 02.6	
	25nm,0.6s						
TKM2	Tokmak 2	4.51	269	⇑Pg	Pb	15 35 04.3	+3.2
	5.5nm,0.7s						
TKM2				⇓Lg	Lg	15 36 04.1	
	25nm,0.8s						
ZSN	Zaisan	4.80	26	eP	Pb	15 35 04.7	-1.2
	3.3nm,0.3s						
ZSN				eS	Sb	15 36 04.7	+0.9
	58nm,0.9s						
ZSN	Zaisan	4.80	26	Pg	Pb	15 35 04.7	-1.2
	3.3nm,0.3s						
ZSN				Lg	Lg	15 36 04.7	
	58nm,0.9s						
AAK	Ala-Archa	5.35	267	⇑Pg	Pg	15 35 20.7	-3.2
	3.3nm,0.7s						
AAK				⇑Lg	Lg	15 36 30.7	
	9.5nm,0.6s						
BTLS	Baital	5.84	291	Pg	Pg	15 35 30.3	-3.0
	3.4nm,0.8s						
BTLS				Lg	Lg	15 36 48.3	
	3.7nm,0.6s						
MRKS	Merke	6.26	269	Pg	Pg	15 35 37.7	-3.7
	2.1nm,0.4s						
MRKS				Lg	Lg	15 37 01.3	
	5.9nm,0.4s						
KURBB	Kurchatov Arra	7.75	345	Pn	Pn	15 35 36.9	+2.2
	0.1nm,0.3s,baz=171,slow=12,SNR=9.1						
KURBB				Sn	Sn	15 37 03.0	+0.3
	0.1nm,0.3s,baz=160,slow=23,SNR=5.2						
KURBB				Lg	Lg	15 37 49.3	
	0.2nm,0.3s,baz=173,slow=32,SNR=6.8						
KURBB	Kurchatov Arra	7.75	345	⇓Pn	Pn	15 35 35.7	+1.0
	2.1nm,0.8s						
KURBB				⇓Lg	Lg	15 37 45.7	
	19nm,0.7s						
KURK	Kurchatov	7.83	345	⇑Pn	Pn	15 35 36.9	+1.2
	1.1nm,0.6s						
KURK				⇓Lg	Lg	15 37 46.0	
	9.7nm,0.7s						
KK31	Karatay Array	8.21	273	⇑Pg	Pg	15 36 16.2	-2.5
	0.6nm,0.5s,baz=80,slow=14,SNR=3.7						
KK31				⇓Lg	Lg	15 38 02.3	
	2.4nm,0.6s,baz=78,slow=28,SNR=5.0						
ZALV	Zalesovo Beam	10.96	10	Pn	Pn	15 36 19.8	+1.2
	0.1nm,0.3s,baz=200,slow=17,SNR=3.5						
ZALV				Sn	Sn	15 38 20.0	-1.3
	0.2nm,0.3s,baz=183,slow=21,SNR=2.6						
BVAR	Borovoye Array	12.41	326	Pn	Pn	15 36 38.4	-0.1
	0.1nm,0.3s,baz=120,slow=8.5,SNR=2.5						
BVAR				Lg	Lg	15 40 16.3	
	0.1nm,0.3s,baz=94,slow=10,SNR=4.1						
SONM	Songino Array	17.87	66	P	P	15 37 52.4	+1.2
	0.3nm,0.3s,baz=262,slow=11,SNR=7.0						
WRA	Warramunga Arr	79.24	130	P	P	15 45 49.2	+1.8
	0.3nm,0.7s,baz=315,slow=7.0,SNR=5.4						
ASAR	Alice Springs	82.00	133	P	P	15 46 01.8	-0.4
	0.3nm,0.9s,baz=324,slow=4.8,SNR=4.1						

IDC 01 15:37:38.9±5.1, 30°.87N×141°.34E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/43, mbtmp3.6/6, ML2.7/1, Error ellipse: s-maj=205.3km s-min=20.1km az=71.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.23	336	Pn	Pn	15 39 11.7	-0.4
	0.2nm,0.3s,baz=157,slow=11,SNR=12						
SONM	Songino Array	31.55	312	P	P	15 44 03.4	+0.4
	1.0nm,0.8s,baz=104,slow=9.1,SNR=6.2						
ZALV	Zalesovo Beam	46.20	317	P	P	15 46 05.2	-0.1
	0.6nm,0.5s,baz=90,slow=10,SNR=2.5						
MKAR	Makanchi Array	47.56	307	P	P	15 46 15.8	-0.5
	0.4nm,0.7s,baz=90,slow=9.2,SNR=5.6						
WRA	Warramunga Arr	50.97	188	P	P	15 46 42.1	-0.3
	0.4nm,0.4s,baz=6.5,slow=7.8,SNR=19						
ASAR	Alice Springs	54.69	188	P	P	15 47 10.0	+0.1
	0.2nm,0.4s,baz=2.2,slow=4.7,SNR=19						

IDC 01 15:38:37.9±3.7, 48°.89S×123°.60E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.7/26, mbtmp3.6/3, MS3.3/3, Ms1 3.3/3, ms1mx3.0/12, Error ellipse: s-maj=118.1km s-min=65.9km az=111.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.64	330	T	T	15 59 18.5	
	baz=153,slow=74,SNR=7.1						
H01W2	Cape Leeuwin H	15.64	330	T	T	15 59 20.8	
	baz=153,slow=74,SNR=8.4						
H01W3	Cape Leeuwin H	15.65	330	T	T	15 59 21.5	
	baz=153,slow=74,SNR=8.9						
STKA	Stephens Creek	21.74	45	P	P	15 43 30.7	-0.1
	1.8nm,0.8s,baz=184,slow=15,SNR=3.5						
STKA				LR	LR	15 50 23.4	
	comp=Z,64nm,19.9s,baz=207,slow=32						
ASAR	Alice Springs	26.46	22	P	P	15 44 16.8	+0.2
	1.0nm,0.9s,baz=193,slow=9.0,SNR=8.7						
ASAR				LR	LR	15 53 59.7	
	comp=Z,62nm,18.9s,baz=195,slow=35						
WRA	Warramunga Arr	30.14	20	P	P	15 44 49.3	-0.2
	0.7nm,1.0s,baz=192,slow=8.7,SNR=3.0						
WRA				LR	LR	15 56 14.8	
	comp=Z,70nm,19.4s,baz=200,slow=35						
YKA	Yellowknife Ar	145.77	45	PKPbc	PKPdf	15 58 16.7	-0.3
	0.8nm,0.8s,baz=264,slow=2.6,SNR=8.9						

*IDC **01** 15:46:13.7±0.6, 31°.01N×141°.85E, h0km, mb4.0/24, mb1 4.1/29, mb1mx4.0/47, mbtmp4.0/29, ML4.0/4, MS3.5/4, Ms1 3.5/4, ms1mx3.0/48, Error ellipse: s-maj=17.8km s-min=12.6km az=76.0*
*JMA **01** 15:46:15.9±0.1, 31°.11N×141°.98E, h43km, M4.4*
*NIED **01** 15:46:15.9, 31°.11N×141°.98E, h43km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.60; Mθθ-0.03; Mφφ-1.57; Mrθ-1.91; Mθφ0.51; Mφr3.77; Fault plane solution: M0 4.54000×10^15 NP1: φs334.00000°, δ79.00000°, λ86.00000°. NP2: φs174.00000°, δ11.00000°, λ110.00000°.*
*NEIC **01** 15:46:17.4±1.7, 31°.02N±0°.06×141°.8E±0°.1, h23km±5km, mb4.5/54 Error ellipse: s-maj=14.1km s-min=8.6km az=71.0*
ISC 01 15:46:17.3±0.4, 31°.05N±0°.05×141°.85E±0°.07, h24km, n123, σ1s.39/131, mb4.4/52, MS3.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.68	320	P	Pn	15 46 58.3	-0.6
JHJ2				eS	Sn	15 47 29.8	-0.8
JHJ2	Mitsune	2.68	320	Pn	Pn	15 46 58.6	-0.3
JHJ	Hachijo jima 2	2.70	320	Pn	Pn	15 46 58.8	-0.5
	44nm,0.3s,baz=279,slow=23,SNR=6.6						
JHJ				Sn	Sn	15 47 23.4	-7.8
	67nm,0.3s,baz=95,slow=14,SNR=5.2						
BSO1	Boso 1	3.66	349	P	Pn	15 47 11.3	-0.6
BSO1				eS	Sn	15 47 53.3	-0.8
BSO3	Boso 3	3.90	344	P	Pn	15 47 15.3	-0.2
CBIJ	Chichi jima	3.96	176	P	Pn	15 47 16.7	+0.2
CBIJ				eS	Sn	15 48 00.5	-1.6
JCJ	Chichijima	3.96	176	Pn	Pn	15 47 15.7	-0.8
	33nm,0.3s,baz=277,slow=22,SNR=15						
JCJ				Sn	Sn	15 47 56.7	-5.4
	40nm,0.3s,baz=286,slow=21,SNR=6.2						
BSO4	Boso 4	4.12	342	P	Pn	15 47 18.3	-0.4
JOD2	Odawara 2	4.79	332	P	Pn	15 47 28.5	+0.5
JHU	Hanno	5.24	337	eS	Sn	15 48 32.8	-1.1
JYT	Yasato	5.34	345	eS	Sn	15 48 35.5	-0.7
JYT	Yasato	5.34	345	Pn	Pn	15 47 35.7	+0.2
JRY	Ryogami san	5.53	334	eS	Sn	15 48 40.7	-0.2
JHO	Hitachi	5.64	349	P	Pn	15 47 38.3	-1.3
JHO				eS	Sn	15 48 39.3	-4.4
JAG	Ashikaga	5.72	340	P	Pn	15 47 40.3	-0.3
JAG				eS	Sn	15 48 44.8	-0.7
JGF	Kuroka	5.89	322	Pn	Pn	15 47 44.4	+1.3
INU	Inuyama	5.89	318	Pn	Pn	15 47 44.4	+1.3
JTNC	Tanabenakahech	5.95	299	P	Pn	15 47 45.4	+1.5
MJAR	Matsushiro Arr	6.25	332	Pn	Pn	15 47 49.5	+1.5
	1.6nm,0.3s,baz=159,slow=12,SNR=122						
MJAR				Sn	Sn	15 48 59.0	+0.1
	0.5nm,0.3s,baz=80,slow=16,SNR=5.5						
MJAR				LR	LR	15 50 13.0	
	comp=Z,152nm,18.2s,baz=140,slow=38						
MJAR	Matsushiro Arr	6.25	332	Pn	Pn	15 47 48.6	+0.5

MAJO	**Matsushiro**	**6.26**	**332**	Pn	**Pn**	**15 47 49.1**	**+1.0**
MAT	**Matsushiro**	**6.26**	**332**	P	**Pn**	**15 47 49.8**	**+1.7**
MAT				S	**Sn**	**15 48 56.9**	**-1.9**
MJB9	**Matsu-Tunnel**	**6.26**	**332**	Pn	**Pn**	**15 47 48.1**	**-0.1**
JMM	**Marumori**	**6.85**	**353**		**Pn**	**15 47 54.3**	**-1.9**
JWT	**Wachi**	**6.86**	**310**	Pn	**Pn**	**15 47 58.1**	**+1.8**
JSD	**Sado**	**7.57**	**338**	Pn	**Pn**	**15 48 05.5**	**-0.6**
JHS	**Saijyo**	**8.32**	**301**	Pn	**Pn**	**15 48 16.4**	**-0.1**
JTM	**Tenmabayashi**	**9.73**	**356**	Pn	**Pn**	**15 48 34.0**	**-1.8**
ERM	**Erimo**	**10.99**	**5**	Pn	**Pn**	**15 48 49.6**	**-3.3**
JKA	**Kamikawa-asahi**	**13.05**	**2**	Pn	**Pn**	**15 49 19.2**	**-2.0**
ASAJ	**Asahikawa**	**13.05**	**2**	Pn	**Pn**	**15 49 18.6**	**-2.5**
	0.9nm,0.3s,baz=217,slow=12,SNR=20						
KSRS	**Korea Array**	**13.16**	**303**	Pn	**P**	**15 49 28.4**	**-4.1**
	0.2nm,0.3s,baz=114,slow=13,SNR=5.4						
KSRS				LR	LR	15 54 12.5	
	comp=Z,76nm,18.8s,baz=120,slow=36						
USRK	**Ussuriysk Ar.**	**15.26**	**332**	Pn	**Pn**	**15 49 49.8**	**-1.2**
	baz=180,slow=17,SNR=2.6						
USRK	**Ussuriysk Ar.**	**15.26**	**332**	P	**P**	**15 49 56.8**	**+1.1**
MDJ	**Mudanjiang**	**16.62**	**328**	P	**P**	**15 50 11.4**	**+0.6**
SSE	**Sheshan**	**17.70**	**275**	P	**P**	**15 50 23.6**	**+0.6**
TATO	**Taipei**	**18.96**	**256**	P	**P**	**15 50 36.4**	**-0.4**
YHNB	**Yeheng**	**19.17**	**256**	P	**P**	**15 50 39.3**	**0.0**
YHNB				IAmb	IAmb	15 50 55.6	
	comp=Z,37nm,1.1s						
NACB	**Ninganchiao**	**19.20**	**254**	P	**P**	**15 50 38.5**	**-0.9**
NACB				IAmb	IAmb	15 50 57.6	
	comp=Z,43nm,1.4s						
NJ2	**Nanjing**	**19.62**	**279**	*e*P	**P**	**15 50 43.4**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KLR	**Kul'dur**	**19.70**	**340**	P	**P**	**15 50 44.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=159,slow=13,SNR=13						
YULB	**Yu-li**	**19.79**	**252**	P	**P**	**15 50 46.2**	**+0.3**
YULB				IAmb	IAmb	15 51 06.8	
	comp=Z,32nm,1.1s						
SSLB	**Suanglung**	**19.89**	**254**	P	**P**	**15 50 47.8**	**+0.7**
TPUB	**Ta-pu**	**20.37**	**253**	P	**P**	**15 50 53.1**	**+0.8**
BJT	**Baijiatuau**	**22.67**	**300**	P	**P**	**15 51 16.1**	**-0.7**
HHC	**Hu-ho-hao-te**	**26.28**	**300**	*e*P	**P**	**15 51 52.9**	**+2.0**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,92nm,5.2s						
XAN	**Xi'an**	**27.85**	**285**	P	**P**	**15 52 03.0**	**-2.0**
ULN	**Ulaanbaatar**	**31.35**	**312**	P	**P**	**15 52 36.0**	**0.0**
SONM	**Songino Array**	**31.75**	**312**	P	**P**	**15 52 38.6**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=119,slow=8.8,SNR=10						
SONM	**Songino Array**	**31.75**	**312**	P	**P**	**15 52 39.7**	**+0.1**
LZH	**Lanzhou**	**31.92**	**289**	*e*P	**P**	**15 52 42.2**	**+1.0**
LZH				pP	sP	15 52 48.5	-0.6
LZH				sP	pwP	15 52 51.0	-2.6
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,67nm,4.9s						
SEY	**Seymchan**	**32.60**	**9**	P	**P**	**15 52 48.0**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=52,slow=19,SNR=1.4						
TLY	**Talaya**	**34.76**	**318**	P	**P**	**15 53 07.1**	**+1.5**
	comp=Z,1.6nm,0.6s,baz=218,slow=19,SNR=3.5						
TLY	**Talaya**	**34.76**	**318**	IAmb	IAmb	15 53 08.3	
	comp=Z,1.8nm,0.6s						
GTA	**Gaotai**	**35.08**	**295**	*e*P	**P**	**15 53 07.9**	**-0.7**
GTA				pP	pP	15 53 15.3	+1.1
GTA				sP	sP	15 53 18.8	+2.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,77nm,4.5s						
GTA				LR	LR		
	comp=N,100nm,12.7s						
GTA				LR	LR		
	comp=E,160nm,16.0s						
GTA				LR	LR		
	comp=Z,100nm,14.2s						
PMG	**Port Moresby**	**40.55**	**172**	P	**P**	**15 53 54.9**	**+0.1**
PMG				IAmb	IAmb	15 54 16.5	
	comp=Z,7.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**40.69**	**262**	P	**P**	**15 53 57.0**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=56,slow=6.8,SNR=1.7						
CMAR				LR	LR	16 11 17.5	
	comp=Z,65nm,19.1s,baz=172,slow=37						
WMQ	**Urumqi**	**44.11**	**303**	*e*P	**P**	**15 54 25.2**	**+1.5**
COEN	**Coen**	**44.77**	**178**	P	**P**	**15 54 30.7**	**+1.6**
COEN				IAmb	IAmb	15 54 57.6	
	comp=Z,5.5nm,1.2s						
ZAA0	**Zalesovo Array**	**46.36**	**317**	P	**P**	**15 54 41.3**	**0.0**
ZALV	**Zalesovo Beam**	**46.36**	**317**	P	**P**	**15 54 42.2**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=101,slow=7.7,SNR=6.6						
ZALV				PcP	**PcP**	**15 56 16.5**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=65,slow=3.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**46.36**	**317**	P	**P**	**15 54 40.9**	**-0.5**
ANM	**Nome**	**46.59**	**28**	P	**P**	**15 54 42.5**	**-0.5**
MKAR	**Makanchi Array**	**47.80**	**307**	P	**P**	**15 54 53.1**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=81,slow=9.5,SNR=1.6						
KURK	**Kurchatov**	**50.06**	**312**	P	**P**	**15 55 09.4**	**-0.5**
KURK				IAmb	IAmb	15 55 10.8	
	comp=Z,3.1nm,0.7s						
KURBB	**Kurchatov Arra**	**50.12**	**312**	P	**P**	**15 55 10.7**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=87,slow=7.2,SNR=23						
TTA	**Tatalina**	**50.22**	**32**	P	**P**	**15 55 12.2**	**+1.2**
OHAK	**Old Harbor**	**51.02**	**39**	P	**P**	**15 55 16.5**	**-0.5**
OHAK				IAmb	IAmb	15 55 23.6	
	comp=Z,17nm,1.4s						
CTAO	**Charters Tower**	**51.02**	**175**	P	**P**	**15 55 17.4**	**0.0**
CTAO				IAmb	IAmb	15 55 20.4	
	comp=Z,9.8nm,1.4s						
WB0	**Warramunga Arr**	**51.03**	**189**	P	**P**	**15 55 16.8**	**-0.8**
WB0				IAmb	IAmb	15 55 17.7	
	comp=Z,5.2nm,0.9s						
WRAB	**Tennant Creek**	**51.20**	**189**	P	**P**	**15 55 18.0**	**-0.8**
WRAB				IAmb	IAmb	15 55 19.1	
	comp=Z,5.6nm,0.9s						
WR0	**Warramunga Arr**	**51.20**	**189**	P	**P**	**15 55 17.9**	**-0.9**
WR0				IAmb	IAmb	15 55 40.5	
	comp=Z,8.5nm,1.2s						
WB2	**Warramunga Arr**	**51.21**	**189**	P	**P**	**15 55 17.8**	**-1.0**
WB2				IAmb	IAmb	15 55 19.1	
	comp=Z,8.3nm,1.2s						
WRA	**Warramunga Arr**	**51.21**	**189**	P	**P**	**15 55 18.2**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=4.7,slow=7.6,SNR=82						
GSI	**Gunungsitoli**	**51.25**	**243**	P	**P**	**15 55 18.0**	**-1.3**
KDAK	**Kodiak Island**	**51.42**	**39**	P	**P**	**15 55 20.1**	**0.0**
	comp=Z,1.8nm,0.4s,baz=280,slow=2.9,SNR=17						
KDAK	**Kodiak Island**	**51.42**	**39**	P	**P**	**15 55 20.1**	**0.0**
PPLA	**Purkeypile**	**51.95**	**32**	P	**P**	**15 55 25.4**	**+1.3**
PPLA				IAmb	IAmb	15 55 30.5	
	comp=Z,15nm,1.5s						
SUA	**Susitna One**	**52.51**	**34**	P	**P**	**15 55 27.5**	**-0.8**
SUA				IAmb	IAmb	15 55 53.4	
	comp=Z,8.7nm,1.5s						
BPAW	**Bear Paw Mtn.**	**52.60**	**31**	P	**P**	**15 55 30.2**	**+1.4**
TRF	**Thorofare Moun**	**52.85**	**31**	P	**P**	**15 55 32.4**	**+1.5**
TRF				IAmb	IAmb	15 55 37.4	
	comp=Z,9.2nm,1.5s						
TOLK	**Toolik Lake Re**	**53.67**	**25**	P	**P**	**15 55 38.8**	**+2.1**
TOLK				IAmb	IAmb	15 55 50.9	
	comp=Z,5.0nm,1.4s						
SML	**Sawmill**	**53.68**	**34**	P	**P**	**15 55 36.5**	**-0.4**
SML				IAmb	IAmb	15 55 43.0	
	comp=Z,6.1nm,1.2s						
SCM	**Sheep Creek Mo**	**54.16**	**34**	P	**P**	**15 55 41.8**	**+1.5**
HDA	**Harding Lake**	**54.38**	**30**	P	**P**	**15 55 42.0**	**+0.2**
HDA				IAmb	IAmb	15 56 08.9	
	comp=Z,5.4nm,1.4s						
ILAR	**Eielson Array**	**54.42**	**30**	P	**P**	**15 55 42.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=267,slow=6.3,SNR=11						
ILAR	**Eielson Array**	**54.42**	**30**	P	**P**	**15 55 43.2**	**+1.2**
M24K	**Tolsona, Glenn**	**54.70**	**33**	P	**P**	**15 55 45.5**	**+1.3**
M24K				IAmb	IAmb	15 56 07.6	
	comp=Z,10nm,1.1s						
KLU	**Klutina**	**54.83**	**34**	P	**P**	**15 55 46.1**	**+0.9**
KLU				IAmb	IAmb	15 56 10.8	
	comp=Z,5.5nm,1.4s						
AS31	**Alice Springs**	**54.94**	**189**	P	**P**	**15 55 45.9**	**-0.4**
AS31				IAmb	IAmb	15 55 48.7	
	comp=Z,1.3nm,0.5s						
EYAK	**Cordova Ski Ar**	**54.94**	**35**	P	**P**	**15 55 46.1**	**+0.2**
ASAR	**Alice Springs**	**54.94**	**189**	P	**P**	**15 55 45.9**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=360,slow=4.0,SNR=73						
BVAR	**Borovoye Array**	**54.98**	**316**	P	**P**	**15 55 46.8**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=53,slow=16,SNR=13						
BRVK	**Borovoye**	**55.04**	**316**	P	**P**	**15 55 45.9**	**-0.9**
BRVK				IAmb	IAmb	15 55 55.5	
	comp=Z,4.4nm,1.4s						
KK31	**Karatay Array**	**56.59**	**304**	P	**P**	**15 55 58.2**	**+0.2**
KK31				IAmb	IAmb	15 56 00.1	
	comp=Z,6.5nm,1.2s						
KKAR	**Karatay Array**	**56.59**	**304**	P	**P**	**15 55 58.1**	**0.0**
KKAR	**Karatay Array**	**56.59**	**304**	P	**P**	**15 55 58.1**	**0.0**
KKAR				IAmb	IAmb	15 56 00.1	
	comp=Z,6.5nm,1.2s						
NIL	**Nilore**	**57.02**	**292**	P	**P**	**15 56 01.7**	**+0.4**
ARU	**Arti**	**61.15**	**321**	P	**P**	**15 56 29.7**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=80,slow=6.3,SNR=7.4						
ABKAR	**Akbulak array**	**62.16**	**313**	P	**P**	**15 56 36.3**	**-0.1**
ABKAR				IAmb	IAmb	15 56 42.0	
	comp=Z,3.2nm,0.7s						
STKA	**Stephens Creek**	**62.59**	**180**	P	**P**	**15 56 39.2**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=354,slow=13,SNR=5.9						
FORT	**Forrest**	**62.87**	**193**	P	**P**	**15 56 41.4**	**+0.2**
AKTO	**Aktyubinsk**	**63.03**	**314**	P	**P**	**15 56 42.9**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=90,slow=11,SNR=3.6						
BBOO	**Buckleboo**	**63.76**	**185**	P	**P**	**15 56 47.3**	**+0.2**
EUNU	**Eureka**	**66.04**	**8**	P	**P**	**15 57 01.8**	**+0.3**
YKA	**Yellowknife Ar**	**68.82**	**29**	P	**P**	**15 57 19.4**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=295,slow=5.6,SNR=8.1						
ARCES	**ARCESS Array B**	**69.72**	**340**	P	**P**	**15 57 25.8**	**+1.0**
	comp=Z,3.2nm,1.0s,baz=45,slow=3.9,SNR=3.9						
TULEG	**Thule**	**70.97**	**7**	P	**P**	**15 57 32.7**	**+0.5**
TULEG				IAmb	IAmb	15 57 56.5	
	comp=Z,11nm,1.5s						
PINE	**Pine Mountain**	**73.98**	**48**	P	**P**	**15 57 51.6**	**+0.6**
UOSS	**Minazif**	**74.07**	**290**	P	**P**	**15 57 52.2**	**+0.6**
UOSS				IAmb	IAmb	15 58 04.5	
	comp=Z,8.4nm,1.1s						
FINES	**FINESS Array B**	**74.28**	**333**	P	**P**	**15 57 52.2**	**+0.1**
	comp=Z,3.4nm,1.0s,baz=46,slow=5.2,SNR=12						
KBZ	**Khabaz**	**75.12**	**312**	P	**P**	**15 57 58.3**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=13,slow=4.6,SNR=4.5						
NVAR	**Mina Array Bea**	**78.32**	**52**	P	**P**	**15 58 16.8**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=303,slow=5.6,SNR=5.4						
NVAR	**Mina Array Bea**	**78.32**	**52**	P	**P**	**15 58 16.6**	**+0.8**
AKASG	**Malin Array Be**	**79.27**	**323**	P	**P**	**15 58 19.1**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=49,slow=5.4,SNR=7.5						
NC204	**NORSAR Array S**	**79.81**	**338**	P	**P**	**15 58 23.7**	**+0.3**
NB2	**NORSAR Subarra**	**79.84**	**338**	P	**P**	**15 58 23.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=43,slow=5.9						
NOA	**NORSAR Array B**	**79.84**	**338**	P	**P**	**15 58 23.7**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=33,slow=3.1,SNR=4.0						
PDAR	**Pinedale Array**	**81.62**	**45**	P	**P**	**15 58 34.5**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=306,slow=3.2,SNR=4.2						
BRTR	**Keskin Array B**	**83.11**	**312**	P	**P**	**15 58 42.4**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=64,slow=8.4,SNR=6.0						
RAYN	**Ar Rayn**	**83.30**	**293**	P	**P**	**15 58 43.3**	**+0.8**
RAYN				IAmb	IAmb	15 58 44.8	
	comp=Z,4.0nm,0.7s						
VRAC	**Vranov**	**86.34**	**328**	LR	LR	16 41 26.9	
	comp=Z,123nm,18.8s,baz=333,slow=38						
MNTX	**Cornudas Mount**	**90.84**	**52**	P	**P**	**15 59 19.7**	**+0.7**

BJI ***01*** *15:48:17.5±0.0, 27°.20S×71°.50W, h8km, mB5.2/1, Ms4.9/1, Ms7 4.8/1*

NEIC ***01*** *15:48:18.5±2.8, 27°.27S±0°.04×71°.55W±0°.07, h11km±3km, mb5.0/47, Mww4.9, ML4.6(GUC), Error ellipse: s-maj=9.3km s-min=5.9km az=81.0*

IDC ***01*** *15:48:18.8±0.6, 27°.30S×70°.89W, h0km, mb4.3/10, mb1 4.4/14, mb1mx4.3/26, mbtmp4.2/14, ML4.0/4, MS4.3/17, Ms1 4.3/17, ms1mx4.1/30, Error ellipse: s-maj=22.0km s-min=16.8km az=102.0*

NEIC ***01*** *15:48:19, 27°.20S×71°.44W, h26km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr2.13; Mθθ0.01; Mφφ-2.14; Mrθ0.17; Mθφ-0.47; Mφr-2.29; Fault plane solution: Mo3.17000×10^16 NP1:φs24.00000°, δ23.00000°, λ112.00000°. NP2:φs180.00000°, δ68.00000°, λ81.00000°. Principal axes: T 3.1615, Plg65.0000°, Azm75.0000°; N 0.0171, Plg8.0000°, Azm184.0000°; P -3.1786, Plg23.0000°, Azm277.0000°;*

GUC ***01*** *15:48:19.1±0.8, 27°.23S×71°.39W, h40km±2km, ML4.6*

VAO ***01*** *15:48:20.9±0.5, 27°.15S×71°.14W, h10km, mb4.6*

GCMT ***01*** *15:48:24.5±0.4, 27°.42S±0°.02×71°.75W±0°.03, h36km±1km, MW5.0/69, Moment Tensor Solution. s29,c30; s69,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.89±.20; Mθθ0.64±.13; Mφφ-3.53±.14; Mrθ0.40±.12; Mθφ0.06±.10; Mφr-2.51±.13; Best double couple: Mo4.09800×10^16 NP1:φs7.00000°, δ26.00000°, λ102.00000°. NP2: φs173.00000°, δ64.00000°, λ84.00000°. Principal axes: T 3.7950, Plg70.0000°, Azm71.0000°; N 0.6110, Plg5.0000°, Azm176.0000°; P -4.4020, Plg19.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 15:48:17.5±1.1**, 27°.21S**±0°.03×**71°.42W**±0°.05**, h2**km±6km**, n211, σ1§21**/204**, mb5.0**/31**, MS4.5**/14**, 8C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**1.04**	**163**	⇑*i*P	**Pg**	**15 48 37.6**	**+0.2**
AC04				*i* S	**Sg**	**15 48 50.7**	**-0.2**
AC04				IAML		15 48 52.7	
	comp=Z,22µm,0.4s						
AC04	**Llanos de Chal**	**1.04**	**163**	Pg	**Pg**	**15 48 37.4**	**0.0**
GO03	**Copiap**	**1.12**	**110**	⇓*i*P	**Pb**	**15 48 38.7**	**-0.9**
GO03				*i* S	**Sb**	**15 48 52.0**	**-2.7**
GO03				IAML		15 48 53.5	
	comp=E,18µm,0.2s						
GO03	**Copiap**	**1.12**	**110**		**Pb**	**15 48 38.5**	**-1.2**
AC01	**Pan de Azucar**	**1.29**	**35**	⇑*i*P	**Pn**	**15 48 42.4**	**0.0**
AC01				*i* S	**Sb**	**15 48 59.0**	**-0.5**
AC01				IAML		15 49 05.1	
	comp=N,15µm,0.4s						
AC01	**Pan de Azucar**	**1.29**	**35**		**Pn**	**15 48 42.5**	**0.0**
LCO	**Las Campanas**	**1.90**	**161**	Pn	**Pn**	**15 48 51.3**	**+0.1**
AC05	**El Transito**	**1.91**	**148**	⇑*i*P	**Pn**	**15 48 51.8**	**+0.6**
AC05				*i* S	**Sn**	**15 49 15.1**	**-0.9**
AC05				IAML		15 49 21.2	
	comp=N,9µm,0.6s						
AC05	**El Transito**	**1.91**	**148**		**Pn**	**15 48 51.7**	**+0.5**
AC02	**Maricunga**	**2.08**	**80**	⇑*i*P	**Pn**	**15 48 54.6**	**+0.8**
AC02				*i* S	**Sn**	**15 49 20.1**	**-0.4**
AC02				IAML		15 49 24.7	
	comp=N,11µm,0.6s						
AC02	**Maricunga**	**2.08**	**80**		**Pn**	**15 48 55.2**	**+1.4**
GO02	**Mina Guanaco**	**2.62**	**39**	⇑*i*P	**Pn**	**15 49 02.3**	**+1.2**
GO02				*i* S	**Sn**	**15 49 33.3**	**-0.3**
GO02	**Mina Guanaco**	**2.62**	**39**		**Pn**	**15 49 02.2**	**+1.1**
PB14	**IPOC Station P**	**2.73**	**20**	IAML		15 49 55.6	
	comp=N,2µm,0.7s						
PB14	**IPOC Station P**	**2.73**	**20**	Pn	**Pn**	**15 49 02.6**	**0.0**
CO01	**Juntas del Tor**	**3.00**	**157**	⇑*i*P	**Pn**	**15 49 07.8**	**+1.6**
CO01				*i* S	**Sn**	**15 49 43.0**	**+0.2**
CO01				IAML		15 49 56.9	
	comp=N,2µm,0.5s						
CO01	**Juntas del Tor**	**3.00**	**157**		**Pn**	**15 49 07.3**	**+1.1**
GO04	**Tololo Observa**	**3.00**	**170**	*e*P	**Pn**	**15 49 07.1**	**+0.8**
GO04				*i* S	**Sn**	**15 49 42.9**	**-0.1**
GO04	**Tololo Observa**	**3.00**	**170**	Pn	**Pn**	**15 49 06.9**	**+0.6**
VCA	**Vinchina**	**3.23**	**119**	IAML		15 50 06.7	
	comp=N,2µm,0.5s						
CO03	**El Pedregal**	**3.67**	**170**	⇑*i*P	**Pn**	**15 49 16.5**	**+1.1**
CO03				*i* S	**Sn**	**15 49 59.3**	**-0.1**
CO03	**El Pedregal**	**3.67**	**170**		**Pn**	**15 49 15.9**	**+0.5**
PB10	**IPOC Station P**	**3.76**	**12**	Pn	**Pn**	**15 49 15.7**	**-0.9**
CO02	**Combarbal**	**4.00**	**175**		**Pn**	**15 49 19.6**	**-0.2**
PB15	**IPOC Station P**	**4.36**	**24**		**Pn**	**15 49 25.7**	**+0.8**
PB06	**IPOC Station P**	**4.79**	**21**		**Pn**	**15 49 30.4**	**-0.3**
PB04	**IPOC Station P**	**4.99**	**14**		**Pn**	**15 49 32.5**	**-1.1**
LVC	**Limon Verde**	**5.12**	**27**	Pn	**Pn**	**15 49 36.4**	**+0.9**
	comp=N,8.4nm,0.3s,baz=203,slow=8.0,SNR=48						
LVC				Sn	**Sn**	**15 50 34.9**	**-0.4**
	comp=N,42nm,0.3s,baz=227,slow=11,SNR=4.3						
LVC				Lg	Lg	15 50 54.4	
	comp=N,100nm,0.3s,baz=344,slow=15,SNR=10						
LVC	**Limon Verde**	**5.12**	**27**	Pn	**Pn**	**15 49 36.0**	**+0.6**
LVC	**Limon Verde**	**5.12**	**27**	*e*P	**Pn**	**15 49 36.2**	**+0.7**
VA03	**San Esteban**	**5.59**	**172**		**Pn**	**15 49 42.0**	**+0.3**
PB07	**IPOC Station P**	**5.63**	**15**		**Pn**	**15 49 41.4**	**-1.1**
PB09	**IPOC Station P**	**5.74**	**21**		**Pn**	**15 49 44.1**	**+0.1**
PEL	**Peldehue**	**5.95**	**174**		**Pn**	**15 49 47.0**	**+0.4**
MT02	**Curacav**	**6.03**	**178**		**Pn**	**15 49 47.7**	**-0.1**
MT05	**Renca**	**6.19**	**175**	Pn	**Pn**	**15 49 49.8**	**-0.1**
PB01	**IPOC Station P**	**6.39**	**16**	Pn	**Pn**	**15 49 51.6**	**-1.1**
PATCX	**Punta Patache**	**6.46**	**11**		**Pn**	**15 49 52.1**	**-1.7**
TA01	**Diego Aracena**	**6.71**	**10**	Pn	**Pn**	**15 49 55.2**	**-1.8**
PB08	**IPOC Station P**	**7.34**	**17**		**Pn**	**15 50 04.6**	**-1.4**
BO02	**Sierra Bellavi**	**7.58**	**176**	Pn	**Pn**	**15 50 07.8**	**-1.3**
PSGCX	**Pisagua**	**7.67**	**9**	Pn	**Pn**	**15 50 08.4**	**-2.0**
MNMC	**Minye Minye**	**8.21**	**12**	Pn	**Pn**	**15 50 16.2**	**-1.7**
H03N1	**Juan Fernandez**	**8.97**	**224**	T	T	16 00 00.7	
	baz=52,slow=71,SNR=5851						
H03N2	**Juan Fernandez**	**8.98**	**224**	T	T	16 00 00.3	
	baz=52,slow=71,SNR=5650						
H03N3	**Juan Fernandez**	**8.98**	**224**	T	T	15 59 59.6	
	baz=52,slow=71,SNR=4983						
PB16	**IPOC Station P**	**9.01**	**12**		**Pn**	**15 50 27.8**	**-1.3**
VA04	**Juan Fernndez**	**9.05**	**223**	Pn	**Pn**	**15 50 26.4**	**-2.7**
H03S3	**Juan Fernandez**	**9.23**	**223**	T	T	16 00 10.2	
	baz=86,slow=73,SNR=16						
H03S1	**Juan Fernandez**	**9.24**	**222**	T	T	16 00 11.9	
	baz=86,slow=73,SNR=22						
H03S2	**Juan Fernandez**	**9.24**	**223**	T	T	16 00 09.6	
	baz=86,slow=73,SNR=18						
BI02	**San Fabin de**	**9.43**	**179**	Pn	**Pn**	**15 50 32.7**	**-1.7**
BI03	**Tigo**	**9.70**	**188**	Pn	**Pn**	**15 50 36.8**	**-1.2**
LPAZ	**La Paz**	**11.29**	**16**	Pn	**Pn**	**15 51 00.8**	**+0.3**
	comp=N,1.2nm,0.3s,baz=198,slow=7.4,SNR=26						
LPAZ				LR	LR	15 56 04.4	
	comp=N,1µm,18.1s,baz=194,slow=41						
LPAZ	**La Paz**	**11.29**	**16**	Pn	**Pn**	**15 50 59.4**	**-1.0**
LPAZ	**La Paz**	**11.29**	**16**	*e*P	**Pn**	**15 51 00.8**	**+0.3**
CPUP	**Villa Florida**	**12.62**	**89**	Pn	**Pn**	**15 51 17.8**	**-0.3**
	comp=N,0.1nm,0.3s,baz=273,slow=12,SNR=6.4						
CPUP				Lg	Lg	15 54 45.3	
	comp=N,0.4nm,0.3s,baz=180,slow=20,SNR=2.1						
CPUP	**Villa Florida**	**12.62**	**89**	Pn	**Pn**	**15 51 18.7**	**+0.6**
CPUP	**Villa Florida**	**12.62**	**89**	*e*P	**Pn**	**15 51 17.3**	**-0.8**
ITQB	**Itaqui**	**13.25**	**104**	*e*P	**Pn**	**15 51 26.0**	**-0.7**
PLCA	**Paso Flores**	**13.51**	**177**	Pn	**Pn**	**15 51 30.0**	**-0.2**
	comp=N,0.1nm,0.3s,baz=17,slow=17,SNR=2.1						
PLCA				Lg	Lg	15 55 15.1	
	baz=162,slow=20,SNR=2.3						
PLCA				LR	LR	15 56 44.2	
	comp=N,2µm,18.7s,baz=352,slow=38						
PLCA	**Paso Flores**	**13.51**	**177**	Pn	**Pn**	**15 51 29.4**	**-0.8**
PLCA	**Paso Flores**	**13.51**	**177**	*e*P	**Pn**	**15 51 33.8**	**+3.6**
LPA	**La Plata**	**13.87**	**127**	*e*P	Pn	15 51 26.5	-8.5
LPA	**La Plata**	**13.87**	**127**	PN	**Pn**	**15 51 36.4**	**+1.4**
LPA				pPP		15 51 47.6	
LPA				PPP	PPP	15 52 24.2	
LPA				S	**Sn**	**15 54 12.8**	**+3.2**
LPA				SSS	SSS	15 55 24.5	
LPA				SCS	**ScS**	**16 04 11.6**	**+1.9**
LPA				PKIKS		16 08 29.4	
SIV	**San Ignacio**	**14.73**	**43**	Pn	**Pn**	**15 51 43.3**	**-3.7**
	comp=N,0.9nm,0.3s,baz=255,slow=5.8,SNR=18						
AQDB	**Aquidauana**	**15.86**	**68**	*e*P	**Pn**	**15 52 01.7**	**-0.2**
NNA	**Nana**	**15.98**	**340**	LR	LR	15 56 56.2	
	comp=N,554nm,18.6s,baz=174,slow=32						
CPSB	**Cacapava Do Su**	**16.08**	**106**	*e*P	**Pn**	**15 52 05.7**	**+1.0**
PLTB	**Pedras Altas**	**16.16**	**111**	*e*P	**Pn**	**15 52 04.9**	**-0.9**
PTLB	**Pontes e Lacer**	**16.35**	**47**	*e*P	**Pn**	**15 52 08.4**	**+0.2**
ITAB	**Concordia**	**17.16**	**95**	*e*P	**Pn**	**15 52 18.7**	**+0.2**
PTGB	**Pitanga**	**17.58**	**86**	*e*P	**P**	**15 52 24.7**	**-0.3**
TRCB	**Terra Rica**	**17.59**	**80**	*e*P	**Pn**	**15 52 24.0**	**+0.1**
VILB	**Vilhena**	**17.65**	**39**	*e*P	**Pn**	**15 52 25.0**	**+0.3**
ETMB	**Extrema**	**17.99**	**17**	*e*P	**P**	**15 52 30.1**	**+0.8**
CNLB	**Canela**	**18.24**	**101**	*e*P	**Pn**	**15 52 30.6**	**-1.3**
PCMB	**Pacaembu**	**19.18**	**77**	*e*P	**Pn**	**15 52 43.4**	**+0.1**
CZSB	**Cruzeiro do Su**	**19.41**	**356**	*e*P	**Pn**	**15 52 48.2**	**+2.1**
TER01	**Tubaro-SC**	**19.75**	**99**	*e*P	**P**	**15 52 49.1**	**+0.4**
SAML	**Samuel**	**19.77**	**25**		**P**	**15 52 48.8**	**-0.1**
SAML	**Samuel**	**19.77**	**25**	*e*P	**P**	**15 52 50.0**	**+1.1**
FRTB	**Fartura**	**20.13**	**84**	*e*P	**P**	**15 52 52.8**	**-0.2**
TIJ01	**Guaruva-PR**	**20.19**	**90**	*e*P	**P**	**15 52 51.9**	**-1.8**
ITRB	**Iturama**	**20.70**	**73**	*e*P	**P**	**15 52 59.0**	**-0.1**
ARAG	**Araguaiana, MT**	**21.51**	**62**	*e*P	**P**	**15 53 06.9**	**-0.9**
BB19B	**Bebedouro**	**21.75**	**79**	*e*P	**P**	**15 53 09.4**	**-1.0**
CLDB	**Colider**	**21.92**	**45**	*e*P	**P**	**15 53 11.6**	**-0.7**
PET01	**Itanhaem-SP**	**21.94**	**88**	*e*P	**P**	**15 53 11.4**	**-1.0**
SPB	**Sao Paulo**	**21.96**	**86**	P	**P**	**15 53 12.0**	**-0.6**
SPB	**Sao Paulo**	**21.96**	**86**	*e*P	**P**	**15 53 12.0**	**-0.6**
IPMB	**Ipameri, GO**	**23.28**	**72**	*e*P	**P**	**15 53 24.3**	**-2.4**
PARB	**Paraibuna**	**23.63**	**86**	*e*P	**P**	**15 53 28.7**	**-1.5**
SNDB	**Serra Nova Dou**	**24.22**	**55**	*e*P	**P**	**15 53 34.0**	**-1.7**
BDFB	**Brasilia**	**24.60**	**67**	P	**P**	**15 53 37.6**	**-1.7**
	comp=N,18nm,0.7s,baz=240,slow=12,SNR=24						
BDFB				LR	LR	16 04 27.6	
	comp=N,3µm,18.2s,baz=255,slow=40						
BDFB	**Brasilia**	**24.60**	**67**	P	**P**	**15 53 37.4**	**-2.0**
BSCB	**Bom Sucesso**	**25.07**	**82**	*e*P	**P**	**15 53 43.4**	**-0.1**
NPGB	**Novo Progresso**	**25.20**	**40**	*e*P	**P**	**15 53 44.6**	**-0.1**
MACA	**Manacapuru-AM**	**26.03**	**25**	*e*P	**P**	**15 53 52.8**	**+0.6**
PEXB	**Peixe**	**26.38**	**60**	*e*P	**P**	**15 53 55.7**	**+0.2**
ITTB	**Itaituba**	**27.21**	**36**	*e*P	**P**	**15 54 02.6**	**-0.2**
JANB	**Januaria**	**27.96**	**70**	*e*P	**P**	**15 54 08.5**	**-1.1**
OTAV	**Otavalo**	**28.11**	**345**	P	**P**	**15 54 08.9**	**-2.5**
PTGA	**Pitinga**	**28.53**	**25**	P	**P**	**15 54 14.8**	**+0.2**
	comp=N,8.9nm,0.7s,baz=210,slow=8.8,SNR=10						
PTGA	**Pitinga**	**28.53**	**25**	P	**P**	**15 54 12.6**	**-2.0**
PTGA	**Pitinga**	**28.53**	**25**	*e*P	**P**	**15 54 15.3**	**+0.7**
SDBA	**SAO DESIDERIO**	**28.88**	**65**	*e*P	**P**	**15 54 17.2**	**-0.7**
SMTB	**Santa Maria do**	**29.00**	**55**	*e*P	**P**	**15 54 19.1**	**+0.3**
PRPB	**Parauapebas**	**29.33**	**48**	*e*P	**P**	**15 54 20.7**	**-1.0**
BOAV	**Boa Vista**	**31.25**	**21**	*e*P	**P**	**15 54 39.8**	**+1.0**
ROSC	**El Rosal**	**31.98**	**355**	LR	LR	16 10 00.7	
	comp=N,305nm,18.1s,baz=258,slow=40						
NBPS	**Pedro II - PI**	**36.50**	**57**	*e*P	**P**	**15 55 24.1**	**-0.4**
NBLI	**Livramento-PB**	**38.17**	**65**	*e*P	**P**	**15 55 38.6**	**-0.1**
NBPA	**Parau_RN**	**38.99**	**63**	*e*P	**P**	**15 55 46.1**	**+0.6**
RCBR	**Riachuelo**	**39.91**	**64**	P	**P**	**15 55 53.6**	**+0.4**
SNAA	**Sanae**	**57.70**	**160**	P	**P**	**15 58 08.7**	**-0.5**
W50A	**Signal Mountai**	**63.45**	**347**	P	**P**	**15 58 49.8**	**+1.0**
W50A				IAmb	IAmb	15 58 50.6	
	comp=Z,12nm,1.0s						
SWET	**Sewanee**	**63.59**	**347**	P	**P**	**15 58 51.0**	**+1.4**
TKL	**Tuckaleechee C**	**63.61**	**349**	P	**P**	**15 58 50.6**	**+0.9**
TKL				IAmb	IAmb	15 59 04.9	
	comp=Z,19nm,1.3s						
V52A	**Sevierville**	**63.76**	**349**	P	**P**	**15 58 51.4**	**+0.7**
TXAR	**Lajitas Array**	**64.15**	**329**	P	P	15 58 59.2	+5.6
	comp=Z,0.4nm,0.3s,baz=178,slow=4.5,SNR=5.3						
ABTX	**Abilene, Hawle**	**65.28**	**334**	P	**P**	**15 58 59.3**	**-1.5**
R58A	**Rapidan**	**65.45**	**354**	P		15 59 04.3	
	baz=174						
T47A	**Sharon Grove**	**65.54**	**346**	P	**P**	**15 59 00.5**	**-1.8**
W39A	**Magazine**	**65.57**	**340**	P		15 59 04.8	
	baz=158						
LCAR	**Lake Charles**	**65.64**	**343**	P	**P**	**15 59 04.3**	**+1.3**
LCAR				IAmb	IAmb	15 59 17.8	
	comp=Z,8.8nm,0.8s						
PBMO	**Poplar Bluff**	**66.11**	**343**	P	**P**	**15 59 06.6**	**+0.5**
PBMO				IAmb	IAmb	15 59 18.3	
	comp=Z,12nm,0.8s						
Q57A	**Strasburg**	**66.22**	**354**	P		15 59 09.3	
	baz=173						
R50A	**Paris**	**66.26**	**349**	P	**P**	**15 59 07.6**	**+0.6**
R50A				IAmb	IAmb	15 59 23.6	
	comp=Z,12nm,1.3s						
U40A	**Yellville**	**66.37**	**341**	P		15 59 09.8	
	baz=159						
U40A	**Yellville**	**66.37**	**341**	P	**P**	**15 59 08.9**	**+1.1**
Q54A	**Coxs Mills**	**66.43**	**352**	P	**P**	**15 59 07.2**	**-0.9**
HHAR	**Hobbs**	**66.62**	**340**	P	**P**	**15 59 10.6**	**+1.2**
P59A	**Jarrettsville**	**66.64**	**356**	P		15 59 12.2	
	baz=175						
TUL1	**Leonard**	**66.86**	**339**	P	**P**	**15 59 09.0**	**-1.8**
FVM	**French Village**	**67.26**	**344**	P	**P**	**15 59 14.1**	**+0.7**
FVM				IAmb	IAmb	15 59 28.3	
	comp=Z,13nm,0.9s						
CCM	**Cathedral Cave**	**67.53**	**343**	P		15 59 17.3	
	baz=161						
CCM	**Cathedral Cave**	**67.53**	**343**	P	**P**	**15 59 15.7**	**+0.6**
CCM				IAmb	IAmb	15 59 30.1	
	comp=Z,11nm,0.8s						
MSTX	**Muleshoe**	**67.72**	**332**	P	**P**	**15 59 14.6**	**-1.9**
MSTX				IAmb	IAmb	15 59 30.1	
	comp=Z,15nm,1.1s						
S39A	**Bolivar**	**67.75**	**341**	P	**P**	**15 59 16.7**	**+0.2**
S39A				IAmb	IAmb	15 59 29.5	
	comp=Z,8.0nm,0.8s						
N57A	**Milroy**	**67.86**	**355**	P		15 59 19.3	
	baz=174						
ACSO	**Alum Creek Sta**	**67.95**	**350**	P		15 59 19.1	
	baz=169						
N56A	**West Decatur**	**68.08**	**354**	P		15 59 20.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=174						
M59A	Waymart	68.50	357	P		15 59 23.3	
	baz=176						
M56A	Emporium	68.63	355	P		15 59 24.0	
	baz=174						
M56A	Emporium	68.63	355	P	P	15 59 23.2	+1.2
M56A				IAmb	IAmb	15 59 41.9	
	comp=Z,15nm,1.2s						
UCCT	U. Connecticut	68.66	359	P	P	15 59 22.4	+0.3
UCCT				IAmb	IAmb	15 59 35.1	
	comp=Z,10nm,1.2s						
M55A	Ridgway	68.67	354	P	P	15 59 22.6	+0.4
L63A	North Scituate	68.72	360	P		15 59 24.8	
	baz=180						
L63A	North Scituate	68.73	360	P	P	15 59 22.7	+0.3
M54A	Oil Creek Stat	68.80	353	P	P	15 59 23.1	+0.2
N49A	Columbus Grove	68.81	350	P	P	15 59 22.7	-0.3
N49A				IAmb	IAmb	15 59 35.9	
	comp=Z,12nm,0.9s						
L61A	Hillsdale 1, H	69.08	358	P		15 59 27.0	
	baz=178						
P40A	Paris	69.13	343	P	P	15 59 26.3	+1.2
L59A	Walton	69.13	357	P		15 59 27.4	
	baz=177						
L59A	Walton	69.13	357	P	P	15 59 27.1	+2.0
L59A				IAmb	IAmb	15 59 38.6	
	comp=Z,14nm,1.0s						
L56A	Greenwood	69.23	355	P		15 59 27.7	
	baz=174						
L56A	Greenwood	69.23	355	P	P	15 59 26.0	+0.3
L56A				IAmb	IAmb	15 59 44.1	
	comp=Z,11nm,1.1s						
L61B	Northampton	69.32	359	P		15 59 28.3	
	baz=179						
WVNY	West Valley, N	69.58	354	P	P	15 59 29.2	+1.4
WVNY				IAmb	IAmb	15 59 47.5	
	comp=Z,13nm,1.1s						
K59A	Cooperstown	69.71	357	P		15 59 30.7	
	baz=177						
K58A	Earlville	69.73	357	P		15 59 30.7	
	baz=176						
MMNY	Mt. Morris Dam	69.85	355	P	P	15 59 29.3	-0.2
MMNY				IAmb	IAmb	15 59 49.0	
	comp=Z,21nm,1.5s						
J56A	Wolcott	70.31	356	P		15 59 33.7	
	baz=175						
J56A	Wolcott	70.32	356	P	P	15 59 32.9	+0.7
J56A				IAmb	IAmb	15 59 46.2	
	comp=Z,21nm,1.4s						
VNDA	Vanda	70.85	191	LR	LR	16 26 26.4	
	comp=Z,112nm,20.0s,baz=142,slow=32						
H61A	Lyndonville	71.39	360	P		15 59 41.3	
	baz=180						
EMMW	East Machias	71.66	3	P	P	15 59 41.6	+1.2
EMMW				IAmb	IAmb	15 59 50.6	
	comp=Z,18nm,1.3s						
FRNY	Flat Rock	71.72	358	P	P	15 59 42.3	+1.5
PPT	Papeete	71.89	259	LR	LR	16 23 42.3	
	comp=Z,206nm,18.4s,baz=108,slow=29						
JFWS	Jewell Farm	71.90	346	P		15 59 43.6	
	baz=163						
SYO	Syowa Base	71.99	159	⇑*e*X	P	15 59 30.4	-12
G62A	West of Eustis	72.08	1	P		15 59 45.5	
	baz=181						
LIC	Lamto	72.21	73	*e*P	P	15 59 44.2	-0.2
	comp=Z,14nm,0.9s						
TIC	Toumodi	72.43	73	*e*P	P	15 59 45.4	-0.4
KIC	Kosan Boka	72.52	73	*e*P	P	15 59 46.1	-0.2
	comp=Z,7.9nm,0.6s						
DBIC	Dimbokro	72.58	73	P	P	15 59 46.5	-0.2
	comp=Z,6.1nm,0.7s,baz=204,slow=5.7,SNR=13						
DBIC				LR	LR	16 29 07.8	
	comp=Z,338nm,21.6s,baz=215,slow=34						
DBIC	Dimbokro	72.58	73	P	P	15 59 45.9	-0.7
DBIC				IAmb	IAmb	15 59 47.2	
	comp=Z,10nm,0.9s						
TRQ	Mont Tremblant	73.14	358	P	P	15 59 50.2	+0.9
E56A	St. Veronique	73.48	357	P		15 59 53.1	
	baz=177						
I37A	Lemond, Waseca	73.69	344	P	P	15 59 52.6	+0.1
D60A	Saint Jean D'O	73.78	0	P		15 59 55.6	
	baz=181						
D58A	Chemin du LacG	73.97	359	P		15 59 56.3	
	baz=179						
D55A	Sainte-Anne-du	73.97	357	P		15 59 55.4	
	baz=176						
D62A	Allapoint, All	73.97	2	P		15 59 56.4	
	baz=182						
ECSD	EROS Data Cent	74.28	341	P		15 59 58.3	
	baz=157						
MATQ	Matagami	76.82	356	P		16 00 11.5	
	baz=174						
KOWA	Kowa	77.39	66	P	P	16 00 13.6	-0.8
PDAR	Pinedale Array	77.99	332	P	P	16 00 20.1	+2.7
	comp=Z,0.3nm,0.5s,baz=186,slow=2.7,SNR=4.9						
PDAR				LR	LR	16 31 36.7	
	comp=Z,71nm,20.4s,baz=114,slow=33						
NVAR	Mina Array Bea	78.66	324	P	P	16 00 24.8	+3.5
	comp=Z,0.4nm,0.8s,baz=158,slow=7.5,SNR=2.8						
NVAR				LR	LR	16 31 44.4	
	comp=Z,80nm,18.6s,baz=248,slow=33						
MAW	Mawson	79.53	164	LR	LR	16 36 36.5	
	comp=Z,250nm,18.8s,baz=242,slow=36						
ULM	Lac du Bonnet	80.11	344	P	P	16 00 30.1	+1.5
	comp=Z,3.1nm,0.8s,baz=306,slow=0.5,SNR=5.5						
ULM	Lac du Bonnet	80.11	344	P	P	16 00 29.6	+1.0
ULM				IAmb	IAmb	16 00 42.0	
	comp=Z,28nm,1.5s						
HLID	Hailey	80.72	330	P	P	16 00 32.4	+0.1
TOA0	Torodi Ar. Sit	81.42	71	P	P	16 00 35.8	-0.6
TORD	Torodi Ar. Bea	81.42	71	P	P	16 00 36.4	0.0
	comp=Z,12nm,0.7s,baz=258,slow=5.0,SNR=66						
TORD				LR	LR	16 36 07.9	
	comp=Z,339nm,18.9s,baz=250,slow=35						
TORD	Torodi Ar. Bea	81.42	71	P	P	16 00 36.1	-0.4
TORD				IAmb	IAmb	16 00 37.5	
	comp=Z,12nm,0.8s						
HRY	Holter Researc	82.15	333	P	P	16 00 38.2	-1.5
BOSA	Boshof	82.78	118	P	P	16 00 43.0	-0.6
	comp=Z,4.4nm,0.9s,baz=302,slow=4.8,SNR=4.5						
BOSA				LR	LR	16 33 46.4	
	comp=Z,194nm,18.8s,baz=223,slow=33						
BOSA	Boshof	82.78	118	IAmb	IAmb	16 00 50.7	
	comp=Z,13nm,1.2s						
LBTB	Lobatse	84.69	115	P	P	16 00 52.6	-0.9
LBTB				IAmb	IAmb	16 00 54.3	
	comp=Z,9.2nm,0.8s						
MDT	Midelt	87.14	51	LR	LR	16 40 39.1	
	comp=Z,148nm,18.1s,baz=235,slow=36						
FRB	Frobisher Bay	90.68	1	LR	LR	16 43 55.8	
	comp=Z,64nm,20.0s,baz=206,slow=37						
ESDC	Sonseca Array	91.47	45	LR	LR	16 41 37.8	
	comp=Z,240nm,18.7s,baz=245,slow=35						
YKA	Yellowknife Ar	95.81	341	P	P	16 01 48.6	+3.9
	comp=Z,0.4nm,0.7s,baz=131,slow=4.7,SNR=6.8						
KEST	Kesra	98.52	54	LR	LR	16 49 26.8	
	comp=Z,170nm,18.2s,baz=221,slow=37						
MEM	Membach	103.12	40	*d*PP	PKiKP	16 06 33.1	-4.3
AKASG	Malin Array Be	117.11	45	PKP	PKiKP	16 07 03.9	+0.1
	comp=Z,0.9nm,0.6s,baz=263,slow=3.0,SNR=6.9						
ASAR	Alice Springs	123.82	208	PKP	PKiKP	16 07 18.1	+0.2
	comp=Z,0.5nm,0.7s,baz=127,slow=1.5,SNR=9.0						
WRA	Warramunga Arr	126.89	211	PKP	PKiKP	16 07 24.2	+0.1
	comp=Z,0.7nm,0.6s,baz=162,slow=1.7,SNR=12						
ARU	Arti	134.12	36	PKP	PKiKP	16 07 38.5	+1.0
	comp=Z,0.5nm,0.4s,baz=66,slow=4.4,SNR=3.9						
ABKAR	Akbulak array	136.82	46		PKPdf	16 07 40.7	-0.6
KK31	Karatay Array	145.41	53		PKPbc	16 07 57.0	0.0
KKAR	Karatay Array	145.41	53		PKPbc	16 07 57.0	0.0
KKAR	Karatay Array	145.41	53		PKPbc	16 07 56.9	0.0
KURK	Kurchatov	147.31	36	PKPdf	PKPdf	16 07 59.9	0.0
EKS2	Erkin-Say	147.84	52	P	PKPbc	16 08 03.9	-0.3
	SNR=14						
AML	Almayashu	147.93	53	P	PKiKP	16 08 06.7	-0.1
	SNR=9.4						
ZAA0	Zalesovo Array	148.07	27		PKPdf	16 08 01.3	+0.2
ZALV	Zalesovo Beam	148.07	27	PKP	PKPdf	16 08 02.5	+1.4
	comp=Z,25nm,0.6s,baz=298,slow=3.1,SNR=82						
ZALV				PKPbc	PKiKP	16 08 05.8	-0.3
	comp=Z,25nm,0.6s,baz=308,slow=3.6,SNR=94						
ZALV	Zalesovo Beam	148.07	27		PKPdf	16 08 01.8	+0.6
AAK	Ala-Archa	148.35	52	P	PKiKP	16 08 07.8	+0.5
	SNR=11						
AAK	Ala-Archa	148.35	52		PKPdf	16 08 03.9	+1.7
CHMS	Chumysh	148.41	51	P	PKiKP	16 08 07.4	+0.2
	SNR=9.0						
UCH	Uchtor	148.49	53	P	PKiKP	16 08 08.4	+0.4
	SNR=16						
KBK	Karagaybulak	148.66	52	P	PKiKP	16 08 08.4	+0.5
	SNR=7.4						
NIL	Nilore	148.98	69		PKPbc	16 08 06.6	-0.8
ULHL	Ulahol	149.70	52	P	PKiKP	16 08 11.1	+0.9
	SNR=5.7						
HYB	Hyderabad	150.63	103	*i* PKP	PKPbc	16 08 12.0	+0.2
MK31	Makanchi Array	151.53	40		PKiKP	16 08 13.6	0.0
MKAR	Makanchi Array	151.53	40	PKPbc	PKiKP	16 08 14.1	+0.6
	comp=Z,13nm,0.7s,baz=328,slow=2.2,SNR=156						
MKAR	Makanchi Array	151.53	40		PKiKP	16 08 13.4	-0.1
WMQ	Urumqi	156.36	40	*e*PKP	PKPdf	16 08 13.4	-0.5
SONM	Songino Array	159.34	4	PKP	PKPdf	16 08 19.7	+2.2
	comp=Z,0.6nm,0.7s,baz=29,slow=3.4,SNR=3.8						
GTA	Gaotai	165.81	29	*e*PKP	PKPdf	16 08 26.3	+2.1
GTA				PKPab	pPKPab	16 09 25.7	+2.9
GTA				LR	LR		
	comp=Z,130nm,20.0s						
GTA				LR	LR		
	comp=Z,110nm,18.5s						
HHC	Hu-ho-hao-te	166.17	350	*e*PKP	PKPdf	16 08 25.2	+0.8
CMAR	Chiang Mai Arr	167.56	132	PKPab	PKPab	16 09 30.2	-1.4
	comp=Z,0.5nm,0.6s,baz=230,slow=4.8,SNR=6.8						
NJ2	Nanjing	169.84	301	*e*PKP	PKPdf	16 08 25.8	-1.2
LZH	Lanzhou	170.28	23	*e*PKP	PKPdf	16 08 26.3	-1.1
CD2	Chengdu	174.40	48	PKP	PKPdf	16 08 27.5	-1.7

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*SOME **01** 15:50:52.2, 40°.73N×83°.58E, h5km*
*NNC **01** 15:50:58.0±3.0, 41°.20N×83°.65E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=28.5km s-min=19.4km az=25.0*
ISC 01 15:51:00.3±2.6**, 41°.1N**±0°.1×**83°.44E**±0°.10**, h10km, n27, σ2.36**/39**, 3C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	3.27	317	*e*P	Pg	15 52 00.8	-2.1
	2.5nm,0.1s						
KTMS				*e*S	Sg	15 52 50.4	+5.1
	20nm,0.5s						
KTMS	Ketmen	3.27	317	Pg	Pb	15 51 58.4	0.0
	0.1nm,0.0s						
KTMS				Lg	Lg	15 52 40.9	
	4.6nm,0.1s						
SHLS	Shalkode	3.59	306	*e*P	Pn	15 51 59.6	+3.5
	6.6nm,0.4s						
SHLS				*e*S	Sb	15 52 48.4	+0.7
	21nm,0.5s						
SHLS	Shalkode	3.59	306	Pg	Pn	15 51 59.2	+3.1
	6.6nm,0.4s						
SHLS				Lg	Lg	15 52 42.8	
	38nm,0.5s						
PDGK	Podgornoye	3.68	308	Pg	Pg	15 52 07.7	-3.0
	2.6nm,0.5s						
PDGK				Lg	Lg	15 52 56.7	
	6.6nm,0.5s						
PDGK	Podgornoye	3.68	308	⇑Pn	Pn	15 51 55.7	-1.6
	1.1nm,0.4s						
PDGK				⇑Pg	Pb	15 52 07.1	+1.8
	2.7nm,0.4s						
PDGK				⇓Sn	Sb	15 52 46.6	-3.4
	19nm,0.8s						
PDGK				⇑Lg	Lg	15 53 00.1	
	9.5nm,0.6s						
UZB	Uzynbulak	3.86	303	*e*P	Pb	15 52 09.3	+0.8
	3.1nm,0.4s						
UZB				*e*S	Sg	15 53 04.6	+0.3
	11nm,0.4s						
UZB	Uzynbulak	3.86	303	Pg	Pb	15 52 07.7	-0.9
	5.6nm,0.4s						
UZB				Lg	Lg	15 52 58.0	
	11nm,0.4s						
DJR	Jarkent	4.20	321	*e*P	Pb	15 52 15.3	+1.1
	3.8nm,0.5s						
DJR				*e*S	Sg	15 53 15.0	+0.1
	7.4nm,0.6s						
DJR	Jarkent	4.20	321	Pg	Pb	15 52 15.1	+0.9
	3.8nm,0.5s						
DJR				Lg	Lg	15 53 11.0	
	11nm,0.7s						
SATY	Saty	4.22	299	*e*P	Pb	15 52 16.6	+1.9
	1.7nm,0.3s						
SATY				*e*S	Sg	15 53 17.8	+2.0
	10nm,0.7s						
SATY	Saty	4.22	299	Pg	Pb	15 52 14.0	-0.7
	1.4nm,0.4s						
SATY				Lg	Lg	15 53 08.3	
	8.3nm,0.4s						
KPKS	Kokpek	4.24	305	*e*P	Pb	15 52 16.5	+1.5
	4.8nm,0.4s						
KPKS				*e*S	Sg	15 53 17.2	+0.8
	23nm,0.5s						
KURS	Kuram	4.57	303	*e*P	Pb	15 52 22.5	+1.9
	4.3nm,0.8s						
KURS				*e*S	Sg	15 53 27.8	+0.7
	8.8nm,0.9s						
KURS	Kuram	4.57	303	Pg	Pb	15 52 22.0	+1.4
	4.3nm,0.8s						
KURS				Lg	Lg	15 53 22.0	
	8.8nm,0.9s						
MNBS	Baschi	4.76	310	*e*P	Pb	15 52 25.3	+1.5
	2.6nm,0.6s						
MNBS				*e*S	Sg	15 53 32.3	-0.6
	10nm,0.4s						
MNBS	Baschi	4.76	310	Pg	Pb	15 52 25.3	+1.5
	2.6nm,0.6s						
MNBS				Lg	Lg	15 53 27.2	
	11nm,0.4s						
ARXS	Arharly	5.17	309	*e*P	Pb	15 52 34.0	+3.2
	0.8nm,0.4s						
ARXS				*e*S	Sg	15 53 46.9	+0.6
	6.5nm,0.7s						
ARXS	Arharly	5.17	309	Pg	Pb	15 52 32.1	+1.3
	2.0nm,0.4s						
ARXS				Lg	Lg	15 53 38.6	
	3.4nm,0.6s						
MDOK	Medeo	5.17	296	Pg	Pb	15 52 33.6	+2.7
	2.9nm,0.8s						
MDOK				Lg	Lg	15 53 49.6	
	5.7nm,0.6s						
MDOK	Medeo	5.17	296	Pg	Pg	15 52 36.9	-2.4
	2.1nm,0.6s						
MDOK				Lg	Lg	15 53 46.0	
	5.9nm,0.7s						
TNSS	Tian-Shan	5.20	294	*e*P	Pg	15 52 35.1	-4.8
	0.8nm,0.5s						
TNSS				*e*S	Sg	15 53 49.2	+2.0
	3.5nm,0.9s						
TNSS	Tian-Shan	5.20	294	Pg	Pb	15 52 34.4	+2.9
	1.5nm,0.4s						
TNSS				Lg	Lg	15 53 43.7	
	4.8nm,0.9s						
IZV	Izvestkoviy	5.43	293	Pg	Pg	15 52 41.2	-3.1
	1.5nm,0.3s						
IZV				Lg	Lg	15 53 54.0	
	10nm,0.2s						
KTBS	Karatobe	5.64	300	Pg	Pb	15 52 41.3	+2.6
	1.3nm,0.4s						
KTBS				Lg	Lg	15 53 54.3	
	3.7nm,0.6s						
MK31	Makanchi Array	5.75	352	⇓Pg	Pb	15 52 41.4	+0.9
	0.4nm,0.5s,baz=169,slow=16,SNR=4.3						
MK31				⇓Lg	Lg	15 54 00.2	
	12nm,0.8s,baz=164,slow=30,SNR=4.8						
KST	Kastek	5.89	292	Pg	Pg	15 52 48.6	-4.3
	3.1nm,0.8s						
KST				Lg	Lg	15 54 07.0	
	6.5nm,0.9s						

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*IDC **01** 16:14:09.3±1.3, 45°.81N×106°.62W, h0km, mb1 3.3/3, mb1mx3.2/36, mbtmp3.1/3, ML3.4/2, Error ellipse: s-maj=44.9km s-min=9.5km az=131.0*
*NEIC **01** 16:14:10.1±1.0, 45°.89N±0°.04×106°.61W±0°.04, h0km±1km, ML3.0/28, Error ellipse: s-maj=7.2km s-min=5.0km az=182.0*
ISC 01 16:14:08.7±1.0**, 45°.86N**±0°.05×**106°.70W**±0°.06**, h0km, n22, σ1.80**/22**, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	LASA Array	0.90	21	Pg	Pb	16 14 26.3	-0.9
RLMT	Red Lodge	1.95	249	Pn	Pg	16 14 45.4	-0.8
RLMT				IAML		16 15 15.7	
	134nm,0.5s						
RLMT				IAML		16 15 16.2	
	162nm,0.5s						
GCMT	Greycliff	2.08	269		Pb	16 14 47.0	-0.4
RSSD	Black Hills	2.56	132	Pn	Pn	16 14 52.5	+0.8
RSSD				IAML		16 15 29.9	
	80nm,0.5s						
RSSD				IAML		16 15 34.3	
	82nm,0.5s						
LKWY	Lake	2.92	245		Pb	16 15 00.3	-1.5
EGMT	Eagleton	3.02	317	Pn	Pn	16 14 59.8	+2.0
DGMT	Dagmar	3.12	32	Pn	Pn	16 15 01.5	+2.3
K22A	Casper	3.21	178		Pn	16 15 02.5	+1.9
K22A				IAML		16 15 59.1	
	comp=E,57nm,1.6s						
FLWY	Flagg Ranch	3.35	239	Pn	Pn	16 15 03.7	+1.2
FLWY				IAML		16 16 30.8	
	comp=E,29nm,2.3s						
BOZ	Bozeman (W)	3.46	267		Pn	16 15 05.7	+1.6
BOZ				IAML		16 16 04.7	
	comp=E,37nm,2.0s						
QLMT	Earthquake Lak	3.49	255	Pn	Pn	16 15 06.3	+1.9
LOHW	Long Hollow	3.58	233	Pn	Pn	16 15 05.8	+0.2
BW06	Boulder Array	3.71	215		Pn	16 15 09.9	+2.4
BW06				IAML		16 16 11.1	
	comp=E,24nm,0.6s						
BW06				IAML		16 16 12.8	
	comp=E,22nm,0.8s						
PD31	Pinedale Array	3.71	215		Pn	16 15 09.8	+2.3
PDAR	Pinedale Array	3.71	215	Pn	Pn	16 15 10.3	+2.8
	comp=E,0.7nm,0.3s,baz=48,slow=11,SNR=25						
PDAR				Pg	Pg	16 15 19.4	-0.4
	comp=E,1.6nm,0.3s,baz=35,slow=19,SNR=16						
PDAR				Lg	Lg	16 16 03.0	
	comp=E,4.9nm,0.3s,baz=40,slow=32,SNR=12						
PDAR	Pinedale Array	3.71	215		Pn	16 15 09.8	+2.3
REDW	Red Top Meadow	3.88	231	Pn	Pn	16 15 11.6	+1.8
REDW				IAML		16 16 23.0	
	comp=E,19nm,1.4s						
REDW				IAML		16 16 28.7	
	comp=E,16nm,2.7s						
DLMT	Dillon	4.17	265	Pn	Pn	16 15 15.3	+1.6
DLMT				IAML		16 16 34.5	
	comp=E,20nm,2.1s						
DLMT				IAML		16 16 37.4	
	comp=E,17nm,1.7s						
RWWY	Rawlins	4.18	185	Pn	Pn	16 15 16.1	+2.1
RWWY				IAML		16 16 24.7	
	comp=E,28nm,0.5s						
I10CA	LAC DU BONNET	8.37	55	*i*		17 03 00.0	
	baz=237,slow=326,SNR=5.3						
ULM	Lac du Bonnet	8.48	55	Pn	Pn	16 16 11.6	-1.1
	comp=E,0.2nm,0.3s,baz=242,slow=14,SNR=2.4						
ULM				Lg	Lg	16 18 29.6	
	comp=E,0.4nm,0.3s,baz=221,slow=16,SNR=3.2						
YKA	Yellowknife Ar	17.28	348	P	Pn	16 18 10.5	-0.6
	comp=E,0.1nm,0.3s,baz=162,slow=12,SNR=4.1						

IDC 01 16:22:12.8±11.0**, 21°.91S×177°.23W, h0km, mb3.5**/3**, mb1 3.9**/4**, mb1mx3.6**/37**, mbtmp3.7**/4**, ML4.0**/1**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.8**/21**, Error ellipse: s-maj=423.6km s-min=36.1km az=141.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.50	34	Pn	Pn	16 24 29.9	-1.0
	1.3nm,0.3s,baz=109,slow=17,SNR=1.9						
AFI				Sn	Sn	16 26 12.1	-6.5
	1.0nm,0.3s,baz=311,slow=19,SNR=1.8						
URZ	Urewera	17.01	195	LR	LR	16 31 55.0	
	comp=Z,260nm,19.6s,baz=211,slow=34						
ASAR	Alice Springs	44.91	258	P	P	16 30 29.3	-0.4
	0.2nm,0.4s,baz=91,slow=6.3,SNR=11						
WRA	Warramunga Arr	45.13	263	P	P	16 30 30.8	-0.7
	0.3nm,0.3s,baz=102,slow=8.6,SNR=31						
CMAR	Chiang Mai Arr	91.26	289	P	P	16 35 21.9	+1.3
	0.3nm,0.8s,baz=135,slow=5.2,SNR=4.8						

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*NEIC **01** 16:26:19.2±2.9, 27°.24S±0°.04×71°.43W±0°.07, h10km±1km, mb4.1/2, ML4.1(GUC), Error ellipse: s-maj=11.2km s-min=6.1km az=263.0*
*GUC **01** 16:26:20.7±0.7, 27°.29S×71°.25W, h29km±3km, ML4.1*
*IDC **01** 16:26:20.0±2.0, 27°.50S×70°.72W, h0km, mb4.0/2, mb1 3.8/5, mb1mx3.6/43, mbtmp3.7/5, ML3.4/3, MS3.2/5, Ms1 3.2/5, ms1mx3.0/26, Error ellipse: s-maj=63.8km s-min=41.3km az=109.0*
ISC 01 16:26:19.1±1.4**, 27°.21S**±0°.03×**71°.26W**±0°.06**, h11km**±9km**, n61, σ1.42**/64**, 3C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	Copiap	0.99	113	*e*P	Pn	16 26 39.1	+0.1
GO03				*i* S	Sn	16 26 52.8	-0.3
GO03				IAML		16 26 58.4	
	comp=N,5µm,0.3s						
GO03	Copiap	0.99	113		Pn	16 26 39.5	+0.5
AC04	Llanos de Chal	1.00	170	⇑*i*P	Pb	16 26 37.9	-0.6
AC04				*i* S	Sg	16 26 51.5	+0.1
AC04	Llanos de Chal	1.00	170	Pg	Pb	16 26 38.2	-0.3
AC04				Sg	Sb	16 26 50.2	-1.5
AC01	Pan de Azucar	1.22	29	*e*P	Pg	16 26 43.4	+0.9
AC01				*i* S	Sg	16 27 01.6	+3.3
AC01	Pan de Azucar	1.22	29		Pg	16 26 43.2	+0.8
AC05	El Transito	1.84	152	⇑*i*P	Pb	16 26 52.2	-0.7
AC05				*i* S	Sg	16 27 16.3	-2.0
AC05	El Transito	1.84	152		Pb	16 26 52.6	-0.2
LCO	Las Campanas	1.86	165	Pn	Pb	16 26 52.6	-0.6
AC02	Maricunga	1.94	79	*e*P	Pg	16 26 56.0	-0.3
AC02				*i* S	Sg	16 27 22.3	+0.7
AC02				IAML		16 27 31.8	
	comp=N,2µm,0.5s						
AC02	Maricunga	1.94	79		Pg	16 26 56.1	-0.3
GO02	Mina Guanaco	2.54	37	⇑*i*P	Pb	16 27 03.8	-1.0
GO02				*i* S	Sg	16 27 38.6	-2.0
GO02				IAML		16 27 50.0	
	comp=N,825nm,0.6s						
GO02	Mina Guanaco	2.54	37		Pn	16 27 02.3	+1.8
PB14	IPOC Station P	2.69	17	Pn	Pn	16 27 03.2	+0.5
CO01	Juntas del Tor	2.94	160	*e*P	Pn	16 27 08.3	+2.3
CO01				*i* S	Sb	16 27 44.0	-3.7
CO01				IAML		16 27 59.8	
	comp=E,285nm,0.6s						
CO01	Juntas del Tor	2.94	160		Pn	16 27 08.2	+2.3
GO04	Tololo Observa	2.98	172	Pn	Pn	16 27 07.8	+1.3
VCA	Vinchina	3.10	120	IAML		16 27 57.2	
	comp=E,686nm,0.3s						
CO03	El Pedregal	3.65	172	*e*P	Pn	16 27 17.1	+1.5
CO03				*i* S	Sn	16 28 00.5	+1.8
CO03				IAML		16 28 22.0	
	comp=N,454nm,0.7s						
CO03	El Pedregal	3.65	172		Pn	16 27 16.9	+1.3
PB10	IPOC Station P	3.74	10	Pn	Pn	16 27 16.7	-0.1
CO02	Combarbal	3.98	177	*e*P	Pn	16 27 21.9	+1.7
CO02				*e*S	Sn	16 28 07.3	+0.3
CO02	Combarbal	3.98	177		Pn	16 27 20.9	+0.7
PB15	IPOC Station P	4.30	23		Pn	16 27 25.2	+0.4
PB06	IPOC Station P	4.74	19		Pn	16 27 31.1	+0.3
PB04	IPOC Station P	4.96	12	Pn	Pn	16 27 33.4	-0.4
LVC	Limon Verde	5.06	25	Pn	Pn	16 27 38.0	+2.8
	comp=N,0.8nm,0.3s,baz=200,slow=5.0,SNR=11						
LVC				Sn	Sn	16 28 29.3	-4.5
	comp=N,5.3nm,0.3s,baz=212,slow=15,SNR=1.5						
LVC				Lg	Lg	16 28 55.8	
	comp=N,15nm,0.3s,baz=291,slow=22,SNR=4.3						
LVC				LR	LR	16 29 05.4	
	comp=N,53nm,18.4s,baz=228,slow=32						
LVC	Limon Verde	5.06	25	Pn	Pn	16 27 36.5	+1.3
VA03	San Esteban	5.57	174	Pn	Pn	16 27 43.1	+1.1
PB07	IPOC Station P	5.60	13		Pn	16 27 42.4	-0.2
PB09	IPOC Station P	5.70	19		Pn	16 27 45.1	+1.2
PEL	Peldehue	5.93	175	Pn	Pn	16 27 48.5	+1.6
MT02	Curacav	6.03	179		Pn	16 27 50.0	+1.8
MT05	Renca	6.17	176	Pn	Pn	16 27 50.3	0.0
PB01	IPOC Station P	6.35	15	Pn	Pn	16 27 52.3	-0.5
PATCX	Punta Patache	6.44	9	Pn	Pn	16 27 52.9	-1.2
TA01	Diego Aracena	6.69	9	Pn	Pn	16 27 56.2	-1.2
PB08	IPOC Station P	7.30	16	Pn	Pn	16 28 07.2	+1.2
BO02	Sierra Bellavi	7.57	177	Pn	Pn	16 28 10.5	+1.0
PSGCX	Pisagua	7.65	8	Pn	Pn	16 28 09.2	-1.5
MNMC	Minye Minye	8.19	11		Pn	16 28 18.1	-0.1
PB16	IPOC Station P	8.98	11	Pn	Pn	16 28 29.0	-0.4
H03N1	Juan Fernandez	9.07	225	T	T	16 38 03.0	

	baz=52,slow=72,SNR=362						
H03N2	**Juan Fernandez**	**9.08**	**225**	T	T	16 38 04.3	
	baz=52,slow=72,SNR=375						
H03N3	**Juan Fernandez**	**9.08**	**225**	T	T	16 38 02.5	
	baz=52,slow=72,SNR=1305						
VA04	**Juan Fernndez**	**9.15**	**224**	Pn	**Pn**	**16 28 30.4**	**-0.6**
BI02	**San Fabin de**	**9.42**	**180**	Pn	**Pn**	**16 28 35.6**	**+0.7**
LPAZ	**La Paz**	**11.25**	**16**	Pn	Pn	16 29 06.2	+5.7
	comp=N,0.2nm,0.3s,baz=196,slow=9.1,SNR=5.4						
LPAZ				LR	LR	16 34 08.7	
	comp=N,112nm,18.4s,baz=178,slow=41						
LPAZ	**La Paz**	**11.25**	**16**	Pn	**Pn**	**16 28 59.9**	**-0.7**
CPUP	**Villa Florida**	**12.48**	**89**	LR	LR	16 34 41.3	
	comp=N,104nm,18.9s,baz=224,slow=42						
PLCA	**Paso Flores**	**13.50**	**178**	LR	LR	16 34 47.3	
	comp=N,120nm,19.0s,baz=358,slow=38						
SIV	**San Ignacio**	**14.63**	**42**	Pn	**Pn**	**16 29 46.1**	**-0.2**
	comp=N,0.2nm,0.3s,baz=225,slow=7.1,SNR=1.6						
BDFB	**Brasilia**	**24.47**	**67**	P	**P**	**16 31 37.6**	**-0.8**
	comp=N,1.3nm,0.5s,baz=241,slow=19,SNR=2.1						
BDFB				LR	LR	16 42 31.4	
	comp=N,119nm,19.9s,baz=242,slow=40						
BDFB	**Brasilia**	**24.47**	**67**	P	**P**	**16 31 39.0**	**+0.5**
BDFB				IAmb	IAmb	16 31 40.1	
	comp=Z,4.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**81.29**	**70**	P	**P**	**16 38 37.5**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=254,slow=5.0,SNR=6.3						
TORD	**Torodi Ar. Bea**	**81.29**	**70**	IAmb	IAmb	16 38 43.4	
	comp=Z,1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**148.01**	**27**	PKPbc	**PKiKP**	**16 46 06.5**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=316,slow=4.1,SNR=12						
ZALV	**Zalesovo Beam**	**148.01**	**27**		**PKPbc**	**16 46 04.9**	**+0.6**
MK31	**Makanchi Array**	**151.44**	**40**		**PKiKP**	**16 46 14.4**	**+1.0**
MKAR	**Makanchi Array**	**151.44**	**40**	PKPbc	**PKiKP**	**16 46 14.9**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=327,slow=2.1,SNR=16						
MKAR	**Makanchi Array**	**151.44**	**40**		**PKiKP**	**16 46 14.1**	**+0.6**

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*IDC **01** 16:33:43.4±1.3, 45.°89N×106.°50W, h0km, mb1 3.2/3, mb1mx3.1/52, mbtmp2.9/3, ML3.2/2, Error ellipse: s-maj=47.1km s-min=9.5km az=132.0*

*NEIC **01** 16:33:47.0±2.2, 45.°93N±0.°02×106.°54W±0.°09, h0km±2km, ML3.0/22, Error ellipse: s-maj=10.3km s-min=3.0km az=99.0*

ISC 01 16:33:43.6±1.0**, 46.°04N**±0.°05×**106.°51W**±0.°05**, h0km, n19, σ1.s68**/19**, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**0.68**	**17**	Pg	**Pn**	**16 34 03.0**	**+2.4**
RLMT	**Red Lodge**	**2.15**	**246**	Pn	**Pb**	**16 34 22.3**	**-1.2**
RLMT				IAML		16 34 52.2	
	80nm,0.7s						
RLMT				IAML		16 34 54.7	
	109nm,0.8s						
GCMT	**Greycliff**	**2.22**	**265**		**Pb**	**16 34 23.8**	**-0.9**
RSSD	**Black Hills**	**2.59**	**137**		**Pb**	**16 34 29.7**	**-1.4**
RSSD				IAML		16 35 10.1	
	68nm,0.9s						
RSSD				IAML		16 35 14.9	
	74nm,0.6s						
DGMT	**Dagmar**	**2.90**	**32**	Pn	**Pb**	**16 34 35.0**	**-1.1**
EGMT	**Eagleton**	**2.98**	**313**	Pn	**Pb**	**16 34 36.9**	**-0.7**
LKWY	**Lake**	**3.12**	**243**		**Pb**	**16 34 39.2**	**-0.8**
LKWY				IAML		16 35 30.3	
	29nm,1.7s						
LKWY				IAML		16 35 32.3	
	42nm,0.6s						
H17A	**Grant Village**	**3.31**	**242**		**Pb**	**16 34 42.0**	**-1.4**
K22A	**Casper**	**3.39**	**180**	Pn	**Pn**	**16 34 39.7**	**+1.8**
K22A				IAML		16 35 27.1	
	comp=E,54nm,0.5s						
FLWY	**Flagg Ranch**	**3.56**	**238**	Pn	**Pn**	**16 34 42.3**	**+2.0**
FLWY				IAML		16 35 40.8	
	comp=E,41nm,2.5s						
FLWY				IAML		16 35 50.5	
	comp=E,45nm,1.3s						
BOZ	**Bozeman (W)**	**3.61**	**265**		**Pn**	**16 34 43.1**	**+2.1**
BOZ				IAML		16 35 40.0	
	comp=E,31nm,2.2s						
BOZ				IAML		16 35 49.1	
	comp=E,18nm,0.9s						
QLMT	**Earthquake Lak**	**3.67**	**253**	Pn	**Pb**	**16 34 46.8**	**-2.7**
HRY	**Holter Researc**	**3.75**	**282**		**Pb**	**16 34 49.4**	**-1.3**
LOHW	**Long Hollow**	**3.79**	**232**		**Pb**	**16 34 48.7**	**-2.9**
LOHW				IAML		16 35 52.4	
	comp=E,17nm,1.1s						
PDAR	**Pinedale Array**	**3.94**	**215**	Pn	**Pn**	**16 34 46.4**	**+0.9**
	comp=E,0.5nm,0.3s,baz=46,slow=11,SNR=17						
PDAR				Pg	**Pb**	**16 34 54.6**	**+0.6**
	comp=E,1.3nm,0.3s,baz=36,slow=19,SNR=17						
PDAR				Sn	**Sn**	**16 35 32.1**	**-0.3**
	comp=E,0.4nm,0.3s,baz=54,slow=28,SNR=1.4						
PDAR				Lg	Lg	16 35 41.1	
	comp=E,2.9nm,0.3s,baz=36,slow=26,SNR=2.6						
NEW	**Newport**	**7.57**	**291**	Lg	Lg	16 37 35.1	
	comp=E,0.1nm,0.3s,baz=19,slow=6.3,SNR=3.3						
I10CA	**LAC DU BONNET**	**8.15**	**55**	*i*		17 22 50.0	
	baz=237,slow=326,SNR=2.7						
ULM	**Lac du Bonnet**	**8.26**	**56**	Pn	**Pn**	**16 35 43.8**	**-0.9**
	comp=E,0.1nm,0.3s,baz=238,slow=9.5,SNR=1.7						
ULM				Lg	Lg	16 38 00.7	
	comp=E,0.1nm,0.3s,baz=311,slow=19,SNR=2.9						
YKA	**Yellowknife Ar**	**17.13**	**347**	P	**P**	**16 37 45.5**	**-0.4**
	comp=E,0.0nm,0.3s,baz=162,slow=11,SNR=3.5						

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*NEIC **01** 16:36:51.9±1.3, 30.°19S±0.°09×177.°1W±0.°1, h10km±2km, mb4.2/8, Error ellipse: s-maj=22.9km s-min=11.7km az=58.0*

*IDC **01** 16:36:52.3±2.7, 30.°20S×177.°42W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/26, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=55.4km s-min=28.2km az=101.0*

ISC 01 16:36:52.1±1.0**, 30.°27S**±0.°06×**177.°3W**±0.°1**, h10km, n17, σ1.s64**/21**, mb4.0**/6**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.16**	**331**	Pn	**Pb**	**16 37 13.7**	**-0.5**
	163nm,0.3s,baz=228,slow=23,SNR=7.8						
RAO				Sn	**Sb**	**16 37 27.4**	**-1.8**
	237nm,0.3s,baz=110,slow=19,SNR=6.8						
RAO	**Raoul Island**	**1.16**	**331**	Pn	**Pn**	**16 37 14.3**	**0.0**
RAO				Sn	**Sg**	**16 37 28.9**	**-0.4**
URZ	**Urewera**	**9.23**	**209**	Pn	**Pn**	**16 39 02.8**	**-2.4**
	0.2nm,0.3s,baz=161,slow=5.9,SNR=2.1						
URZ				Sn	**Sn**	**16 40 44.8**	**-4.3**
	0.5nm,0.3s,baz=100,slow=12,SNR=1.5						
NNZ	**Nelson**	**13.30**	**212**	Pn	**Pn**	**16 40 03.5**	**+2.7**
MQZ	**McQueen's Vall**	**15.63**	**208**		**P**	**16 40 37.7**	**+1.2**
MQZ				IAmb	IAmb	16 41 02.0	
	comp=Z,32nm,1.2s						
RPZ	**Rata Peaks**	**16.32**	**211**	Pn	**Pn**	**16 40 40.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=325,slow=7.4,SNR=2.1						
RPZ				Sn	Sn	16 43 30.3	-12
	comp=Z,0.2nm,0.3s,baz=34,slow=19,SNR=1.6						
RAR	**Rarotonga**	**18.14**	**64**		**Pn**	**16 41 02.7**	**-1.6**
RAR				IAmb	IAmb	16 41 17.7	
	comp=Z,12nm,0.8s						
CTA	**Charters Tower**	**34.40**	**279**	P	**P**	**16 43 41.0**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=90,slow=6.1,SNR=1.0						
STKA	**Stephens Creek**	**35.12**	**257**	P	**P**	**16 43 46.7**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=75,slow=12,SNR=4.3						
AS31	**Alice Springs**	**43.74**	**266**	P	**P**	**16 44 59.4**	**+1.5**
ASAR	**Alice Springs**	**43.74**	**266**	P	**P**	**16 44 58.7**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=105,slow=7.4,SNR=9.6						
ASAR				PcP	**PcP**	**16 46 45.8**	**+1.0**
	comp=Z,0.3nm,0.9s,baz=126,slow=4.1,SNR=1.8						
WR0	**Warramunga Arr**	**44.54**	**272**	P	**P**	**16 45 04.9**	**+0.6**
WR0				IAmb	IAmb	16 45 27.9	
	comp=Z,3.8nm,1.1s						
WB2	**Warramunga Arr**	**44.71**	**272**	P	**P**	**16 45 05.4**	**-0.3**
WRAB	**Tennant Creek**	**44.72**	**272**	P	**P**	**16 45 07.0**	**+1.2**
WRA	**Warramunga Arr**	**44.72**	**272**	P	**P**	**16 45 06.3**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=110,slow=8.1,SNR=16						
WB0	**Warramunga Arr**	**44.74**	**272**	P	**P**	**16 45 05.9**	**0.0**
WB0				IAmb	IAmb	16 45 22.6	
	comp=Z,3.5nm,1.0s						
FINES	**FINESS Array B**	**145.23**	**340**	PKPbc	**PKPdf**	**16 56 30.1**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=42,slow=3.1,SNR=5.6						

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*NOU **01** 16:50:10.5, 24.°03S×179.°54E, h548km, mb4.9, South of Fiji Islands*

*BJI **01** 16:50:11.4±0.0, 23.°93S×179.°39E, h546km, mB4.9/13, mb4.4/29*

*NEIC **01** 16:50:11.9±1.8, 23.°98S±0.°10×179.°3E±0.°1, h548km±6km, mb4.7/84, Error ellipse: s-maj=15.3km s-min=12.8km az=139.0*

*IDC **01** 16:50:12.0±0.6, 24.°11S×179.°21E, h539km±6km, mb4.0/24, mb1 4.1/27, mb1mx4.0/38, mbtmp4.9/27, Error ellipse: s-maj=12.6km s-min=9.5km az=162.0*

ISC 01 16:50:12.1±0.4**, 24.°13S**±0.°05×**179.°28E**±0.°05**, h552km**±4km**, h553km:pP-P, n318, σ1.s56**/361**, mb4.7**/78**, 27C-6D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.69**	**154**	P	**P**	**16 51 47.7**	**-0.2**
	33nm,0.3s,baz=86,slow=23,SNR=1.1						
RAO				S	**S**	**16 53 05.5**	**-0.8**
	9.3nm,0.3s,baz=83,slow=22,SNR=1.3						
GLKZ	**Green Lake**	**5.70**	**154**	P	**P**	**16 51 48.9**	**+1.0**
GLKZ				S	**S**	**16 53 11.7**	**+5.3**
MSVF	**Nonsavu**	**6.46**	**350**	P	**P**	**16 51 53.2**	**-2.1**
MSVF	**Nonsavu**	**6.46**	**350**	P	**P**	**16 51 53.5**	**-1.8**
MARNC	**Mare, Loyalty**	**10.70**	**282**	P	**P**	**16 52 36.7**	**-0.5**
PINNC	**Pines Island,**	**10.97**	**276**	P	**P**	**16 52 41.6**	**+1.6**
NIUE	**Niue**	**11.23**	**65**	P	**P**	**16 52 42.2**	**-0.5**
	baz=11,SNR=6.8						
NIUE	**Niue**	**11.23**	**65**	P	**P**	**16 52 41.9**	**-0.8**
NIUE	**Niue**	**11.23**	**65**	P	P	16 52 39.3	-3.4
YATNC	**Mamie plateau,**	**11.58**	**278**	P	**P**	**16 52 47.8**	**+1.4**
ONTNC	**Ouen Toro**	**11.93**	**276**	P	**P**	**16 52 51.3**	**+1.4**
DZM	**Mont Dzumac**	**11.99**	**277**	P	**P**	**16 52 51.1**	**+0.5**
	2.6nm,0.3s,baz=84,slow=17,SNR=37						
DZM	**Mont Dzumac**	**11.99**	**277**		**P**	**16 52 51.5**	**+0.9**
DZM	**Mont Dzumac**	**11.99**	**277**	P	**P**	**16 52 51.8**	**+1.2**
OUZ	**Omahuta**	**12.10**	**203**	P	**P**	**16 52 54.0**	**+2.6**
OUZ	**Omahuta**	**12.10**	**203**	P	**P**	**16 52 54.2**	**+2.8**
NOUC	**Port Laguerre**	**12.11**	**277**	P	**P**	**16 52 52.3**	**+0.6**
WCZ	**Waipu Caves**	**12.52**	**199**	P	**P**	**16 52 58.6**	**+2.8**
GRZ	**Great Barrier**	**12.52**	**194**	P	**P**	**16 52 57.7**	**+1.9**
AFI	**Afiamalu**	**13.22**	**41**	P	P	16 52 59.0	-4.3
	56nm,0.3s,baz=169,slow=1.9,SNR=37						
AFI				S	S	16 55 13.2	-11
	1.9nm,0.3s,baz=7.3,slow=23,SNR=2.2						
AFI	**Afiamalu**	**13.22**	**41**	P	P	16 52 58.7	-4.7
AFI	**Afiamalu**	**13.22**	**41**	P	P	16 52 59.1	-4.3
MXZ	**Matakaoa Point**	**13.42**	**183**	P	**P**	**16 53 04.7**	**-0.3**
TGRZ	**Tauranga**	**13.80**	**190**	P	**P**	**16 53 11.8**	**+2.8**
OPRZ	**Ohinepanea**	**13.87**	**189**	P	**P**	**16 53 11.9**	**+2.2**
TOZ	**Tahuroa Road**	**13.94**	**193**	P	**P**	**16 53 12.3**	**+1.9**
KMRZ	**Kaimai**	**13.97**	**191**	P	**P**	**16 53 14.4**	**+3.6**
MARZ	**Manawahe**	**13.99**	**189**	P	**P**	**16 53 12.5**	**+1.5**
OMRZ	**Omania**	**14.15**	**189**	P	**P**	**16 53 16.5**	**+3.9**
NGRZ	**Ngongotaha**	**14.18**	**190**	P	**P**	**16 53 16.1**	**+3.2**
URZ	**Urewera**	**14.21**	**187**	P	**P**	**16 53 11.5**	**-1.7**
	7.5nm,0.3s,baz=13,slow=4.6,SNR=62						
URZ				S	**S**	**16 55 36.2**	**-6.1**
	1.3nm,0.3s,baz=227,slow=23,SNR=12						
URZ	**Urewera**	**14.21**	**187**	P	**P**	**16 53 11.7**	**-1.5**
URZ				S	**S**	**16 55 40.6**	**-1.7**
MWZ	**Matawai**	**14.24**	**186**	P	**P**	**16 53 12.4**	**-1.1**
MWZ				S	**S**	**16 55 40.5**	**-2.5**
SANVU	**Saraoutou**	**14.26**	**305**	P	**P**	**16 53 10.6**	**-3.5**
SANVU	**Saraoutou**	**14.26**	**305**	P	**P**	**16 53 12.2**	**-1.8**
MUGZ	**Murupara**	**14.46**	**188**	P	**P**	**16 53 16.1**	**+0.3**
TLZ	**Tolley Road**	**14.51**	**192**	P	**P**	**16 53 18.5**	**+2.2**
RTZ	**Ruatahuna**	**14.57**	**187**	P	**P**	**16 53 16.3**	**-0.8**
RTZ				S	**S**	**16 55 42.6**	**-6.8**
RIGZ	**Rimuhau**	**14.59**	**185**	P	**P**	**16 53 17.1**	**0.0**
RIGZ				S	**S**	**16 55 45.2**	**-4.4**
SNGZ	**Shannon Statio**	**14.70**	**186**	P	**P**	**16 53 17.2**	**-1.0**
SNGZ				S	**S**	**16 55 47.0**	**-4.6**
HIZ	**Hauiti**	**14.83**	**194**	P	**P**	**16 53 20.7**	**+1.2**
HIZ	**Hauiti**	**14.83**	**194**	P	**P**	**16 53 23.8**	**+4.3**
WATZ	**Wairara**	**14.85**	**191**	P	**P**	**16 53 21.7**	**+2.0**
RAHZ	**Arahi**	**14.86**	**187**	P	**P**	**16 53 18.4**	**-1.5**
KNZ	**Kokohu**	**14.91**	**185**	P	**P**	**16 53 19.0**	**-1.4**
KNZ				S	**S**	**16 55 52.3**	**-3.1**
HATZ	**Hinemaiaia**	**14.96**	**190**	P	**P**	**16 53 21.1**	**+0.2**
WHHZ	**Waihua**	**15.01**	**186**	P	**P**	**16 53 21.5**	**+0.1**
WHHZ				S	**S**	**16 55 52.2**	**-5.0**
RITZ	**Rihia Road**	**15.09**	**190**	P	**P**	**16 53 22.9**	**+0.7**
KATZ	**Kakaramea**	**15.11**	**191**	P	**P**	**16 53 24.1**	**+1.5**
BKZ	**Black Stump Fm**	**15.18**	**188**		**P**	**16 53 19.7**	**-3.4**
BKZ				IAmb	IAmb	16 53 26.9	
	comp=Z,21nm,0.6s						
BKZ	**Black Stump Fm**	**15.18**	**188**	P	**P**	**16 53 21.4**	**-1.8**
BKZ				S	**S**	**16 55 54.7**	**-5.6**
ARHZ	**Aropaoanui**	**15.21**	**187**	P	**P**	**16 53 23.5**	**0.0**
WTVZ	**West Tongariro**	**15.27**	**191**	P	**P**	**16 53 24.8**	**+0.7**
OTVZ	**Oturere**	**15.30**	**191**	P	**P**	**16 53 23.5**	**-1.1**
OTVZ				S	**S**	**16 56 01.1**	**-1.5**
NGZ	**Ngauruhoe**	**15.32**	**191**	P	**P**	**16 53 25.5**	**+0.7**
TUVZ	**Tukino**	**15.40**	**191**	P	**P**	**16 53 25.9**	**+0.3**
FWVZ	**Far West T-bar**	**15.41**	**191**	P	**P**	**16 53 25.6**	**-0.1**
MCHZ	**McNeill Hill**	**15.43**	**188**	P	**P**	**16 53 24.9**	**-0.7**
MCHZ				S	**S**	**16 55 59.9**	**-4.5**
VRZ	**Vera Road**	**15.44**	**193**	P	**P**	**16 53 26.8**	**+1.1**
KWHZ	**Kaweka Forest**	**15.44**	**188**	P	**P**	**16 53 24.8**	**-1.0**
KWHZ				S	**S**	**16 56 01.6**	**-3.2**
WNVZ	**Wahianoa**	**15.47**	**191**	P	**P**	**16 53 26.6**	**+0.3**
MOVZ	**Moawhango**	**15.52**	**190**	P	**P**	**16 53 26.4**	**-0.3**
MOVZ				S	**S**	**16 56 05.0**	**-1.3**
MTVZ	**Mangateitei**	**15.55**	**191**	P	**P**	**16 53 27.1**	**+0.1**
BHHZ	**Black Hill Sta**	**15.56**	**189**	P	**P**	**16 53 25.1**	**-1.9**
BHHZ				S	**S**	**16 56 04.5**	**-2.3**
CKHZ	**Cape Kidnapper**	**15.60**	**186**	P	**P**	**16 53 26.4**	**-1.0**
KRHZ	**Kereru**	**15.66**	**188**	P	**P**	**16 53 26.7**	**-1.4**
KRHZ				S	**S**	**16 56 05.2**	**-3.3**
PKE	**Pukeiti**	**15.68**	**195**	P	**P**	**16 53 31.5**	**+3.4**
NEZ	**North Egmont**	**15.72**	**195**	P	**P**	**16 53 33.5**	**+4.8**
KAHZ	**Kahuranaki**	**15.75**	**187**	P	**P**	**16 53 28.0**	**-1.0**
KAHZ				S	**S**	**16 56 06.5**	**-3.5**
KHEZ	**Kahui Hut**	**15.77**	**195**	P	**P**	**16 53 33.7**	**+4.6**
PNHZ	**Pukenui**	**15.95**	**189**	P	**P**	**16 53 29.4**	**-1.5**
PXZ	**Pawanui**	**15.99**	**187**	P	**P**	**16 53 29.6**	**-1.6**
WPHZ	**Waipukurau**	**16.07**	**188**	P	**P**	**16 53 31.3**	**-0.7**
TSZ	**Takapari Road**	**16.13**	**189**	P	**P**	**16 53 31.2**	**-1.4**
PRHZ	**Porangahau**	**16.25**	**187**	P	**P**	**16 53 33.4**	**-0.3**
DVHZ	**Dannevirke**	**16.34**	**188**	P	**P**	**16 53 33.9**	**-0.6**
BFZ	**Birch Farm**	**16.70**	**188**	P	**P**	**16 53 36.2**	**-1.6**
BFZ	**Birch Farm**	**16.70**	**188**	P	**P**	**16 53 36.7**	**-1.1**
MSWZ	**Moikau Station**	**17.57**	**190**	P	**P**	**16 53 45.1**	**-0.5**
QRZ	**Quartz Range**	**17.59**	**197**	P	**P**	**16 53 46.7**	**+0.9**
BHW	**Baring Head**	**17.62**	**191**	P	**P**	**16 53 46.0**	**-0.1**
NNZ	**Nelson**	**17.74**	**195**	P	**P**	**16 53 47.1**	**-0.2**
NNZ				IAmb	IAmb	16 53 49.0	
	comp=Z,41nm,1.0s						
TUWZ	**Tuamarina**	**17.82**	**193**	P	**P**	**16 53 47.9**	**-0.1**
THZ	**Tophouse**	**18.37**	**195**		**P**	**16 53 53.0**	**0.0**
THZ				IAmb	IAmb	16 53 56.2	
	comp=Z,20nm,0.8s						
KHZ	**Kahutara**	**18.85**	**193**		**P**	**16 53 56.7**	**-0.6**
KHZ				IAmb	IAmb	16 54 01.3	
	comp=Z,24nm,0.8s						
LTZ	**Lake Taylor**	**19.49**	**196**		**P**	**16 54 02.7**	**-0.5**
OXZ	**Oxford**	**20.06**	**196**	P	**P**	**16 54 07.3**	**-1.0**
RPZ	**Rata Peaks**	**20.67**	**197**	P	**P**	**16 54 13.9**	**0.0**
	comp=Z,17nm,0.7s,baz=316,slow=13,SNR=2.4						
HNR	**Honiara**	**23.53**	**305**	P	**P**	**16 54 39.0**	**-0.9**
	comp=Z,89nm,0.6s,baz=151,slow=3.9,SNR=5.6						
HNR	**Honiara**	**23.53**	**305**	P	**P**	**16 54 38.2**	**-1.7**
WHZ	**Wether Hill Ro**	**23.57**	**200**	P	**P**	**16 54 41.0**	**+1.2**
WHZ				IAmb	IAmb	16 55 02.4	
	comp=Z,61nm,1.5s						
ARMA	**Armidale**	**25.32**	**250**	P	**P**	**16 54 57.7**	**+2.1**
	baz=26,SNR=15						
ARMA	**Armidale**	**25.32**	**250**	P	**P**	**16 54 57.3**	**+1.6**
ARMA				IAmb	IAmb	16 54 58.9	
	comp=Z,27nm,1.1s						
EIDS	**Eidsvold**	**25.62**	**261**	P	**P**	**16 54 59.1**	**+0.9**
	baz=26,SNR=16						
EIDS	**Eidsvold**	**25.62**	**261**	P	**P**	**16 54 58.6**	**+0.4**
EIDS				IAmb	IAmb	16 55 00.1	
	comp=Z,23nm,1.1s						
MGCD	**Mangrove Creek**	**26.25**	**243**	P	**P**	**16 55 06.2**	**+2.5**
	baz=26,SNR=9.8						
RMQ	**Roma**	**27.66**	**259**	P	**P**	**16 55 18.0**	**+1.8**
	baz=28,SNR=36						
CNB	**Canberra Magne**	**28.16**	**240**	P	**P**	**16 55 22.7**	**+2.2**
	baz=28,SNR=7.0						
CAN	**Canberra**	**28.45**	**240**	P	**P**	**16 55 24.5**	**+1.5**
CAN				IAmb	IAmb	16 55 25.7	
	comp=Z,16nm,0.8s						
PPTF	**Pamatai, Papee**	**29.79**	**83**	P	**P**	**16 55 35.5**	**+0.6**
CMSA	**Cobar Meteorol**	**30.52**	**248**	P	**P**	**16 55 42.0**	**+1.1**
	baz=31,SNR=84						
CTA	**Charters Tower**	**30.82**	**271**	P	**P**	**16 55 44.5**	**+0.9**
	comp=Z,149nm,0.4s,baz=94,slow=11,SNR=569						
CTA				PcP	**PcP**	**16 58 24.5**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=45,slow=2.9,SNR=3.4						
CTA				S	**S**	**17 00 09.4**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=300,slow=17,SNR=3.5						
CTAO	**Charters Tower**	**30.82**	**271**	P	**P**	**16 55 44.3**	**+0.7**
QLP	**Quilpie**	**31.70**	**258**	P	**P**	**16 55 51.8**	**+0.8**
	baz=32,SNR=38						
TOO	**Toolangi**	**31.77**	**237**	P	**P**	**16 55 53.1**	**+1.6**
	baz=32,SNR=18						
TOO	**Toolangi**	**31.77**	**237**	P	**P**	**16 55 52.9**	**+1.4**
TOO				IAmb	IAmb	16 55 53.8	
	comp=Z,16nm,0.8s						
TAU	**Tasmania Unive**	**32.30**	**227**	P	**P**	**16 55 57.2**	**+1.4**
TAU				IAmb	IAmb	16 56 12.4	
	comp=Z,32nm,1.1s						
MTSU	**Mount Surprise**	**33.09**	**274**	P	**P**	**16 56 03.7**	**+0.8**
	baz=33,SNR=331						
PMG	**Port Moresby**	**33.95**	**290**	P	**P**	**16 56 10.2**	**+0.1**
	comp=Z,123nm,0.7s,baz=98,slow=5.2,SNR=70						
PMG	**Port Moresby**	**33.95**	**290**	P	**P**	**16 56 09.8**	**-0.4**
PMG	**Port Moresby**	**33.95**	**290**	P	**P**	**16 56 10.1**	**0.0**
STKA	**Stephens Creek**	**34.02**	**248**	P	**P**	**16 56 11.7**	**+1.2**
	comp=Z,17nm,0.6s,baz=94,slow=10.0,SNR=64						
STKA				PcP	**PcP**	**16 58 34.4**	**+2.0**
	comp=Z,2.9nm,0.5s,baz=14,slow=4.2,SNR=5.6						
STKA	**Stephens Creek**	**34.02**	**248**	P	**P**	**16 56 11.8**	**+1.2**
	baz=34,SNR=39						
STKA	**Stephens Creek**	**34.02**	**248**	P	**P**	**16 56 11.4**	**+0.8**
XMAS	**Kiritimati**	**34.48**	**44**	P	**P**	**16 56 15.2**	**+0.7**
COEN	**Coen**	**35.50**	**280**	P	**P**	**16 56 23.5**	**+0.4**
HTT	**Hallett**	**36.38**	**246**	P	**P**	**16 56 31.0**	**+0.8**
	baz=36,SNR=12						
QIS	**Mount Isa**	**36.78**	**268**	P	**P**	**16 56 33.6**	**0.0**
	baz=37,SNR=17						
MANU	**Manus Island**	**37.86**	**301**	P	**P**	**16 56 41.0**	**-1.5**
MANU				IAmb	IAmb	16 56 42.5	
	comp=Z,29nm,1.4s						
BBOO	**Buckleboo**	**38.74**	**247**	P	**P**	**16 56 49.6**	**+0.2**
	baz=39,SNR=19						
BBOO	**Buckleboo**	**38.74**	**247**	P	**P**	**16 56 49.5**	**0.0**
BBOO				IAmb	IAmb	16 56 50.0	
	comp=Z,14nm,0.7s						
AS31	**Alice Springs**	**41.34**	**261**	P	**P**	**16 57 10.2**	**-0.2**
ASAR	**Alice Springs**	**41.34**	**261**	P	**P**	**16 57 10.7**	**+0.3**
	comp=Z,32nm,0.9s,baz=89,slow=7.1,SNR=466						
ASAR				PcP	**PcP**	**16 58 56.8**	**+1.2**
	comp=Z,3.6nm,0.6s,baz=108,slow=4.0,SNR=7.2						
ASAR				ScP	**ScP**	**17 01 57.2**	**+4.0**
	comp=Z,1.2nm,0.8s,baz=112,slow=4.1,SNR=4.3						
ASAR				S	**S**	**17 02 42.7**	**-2.9**
	comp=Z,1.9nm,0.6s,baz=96,slow=15,SNR=9.1						
ASAR	**Alice Springs**	**41.34**	**261**	P	**P**	**16 57 09.8**	**-0.6**
ASAR					**PcP**	**16 58 55.8**	**+0.2**
WR0	**Warramunga Arr**	**41.54**	**267**	P	**P**	**16 57 11.0**	**-1.0**
WR0				IAmb	IAmb	16 57 12.6	
	comp=Z,26nm,0.8s						
WB2	**Warramunga Arr**	**41.72**	**267**	P	**P**	**16 57 12.6**	**-0.8**
WRAB	**Tennant Creek**	**41.72**	**267**	P	**P**	**16 57 12.7**	**-0.7**
WRAB				IAmb	IAmb	16 57 14.0	
	comp=Z,42nm,0.8s						
WB0	**Warramunga Arr**	**41.72**	**267**	P	**P**	**16 57 12.8**	**-0.6**
WRA	**Warramunga Arr**	**41.73**	**267**	P	**P**	**16 57 13.3**	**-0.2**
	comp=Z,22nm,0.5s,baz=95,slow=8.4,SNR=238						
WRA				PcP	**PcP**	**16 58 57.5**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=83,slow=2.9,SNR=3.1						
WRA				ScP	**ScP**	**17 01 56.5**	**+1.6**
	comp=Z,3.2nm,1.0s,baz=93,slow=4.0,SNR=7.4						
WRA				S	**S**	**17 02 44.4**	**-6.8**
	comp=Z,0.5nm,0.9s,baz=100,slow=13,SNR=4.5						
GENI	**Genyem**	**43.40**	**294**	P	**P**	**16 57 26.3**	**-0.3**
	comp=Z,51nm,0.7s						
SMPI	**Sarmi**	**44.95**	**293**	P	**P**	**16 57 38.1**	**-0.4**
	comp=Z,9.8nm,1.8s						
FORT	**Forrest**	**45.61**	**250**	P	**P**	**16 57 43.2**	**-0.2**
	baz=46,SNR=31						
FORT	**Forrest**	**45.61**	**250**	P	**P**	**16 57 43.0**	**-0.4**
KDU	**Kakadu**	**45.65**	**276**	P	**P**	**16 57 43.4**	**-0.5**
	baz=46,SNR=13						
WRKA	**Warakurna**	**46.14**	**258**	P	**P**	**16 57 47.4**	**-0.1**
	baz=46,SNR=39						
SRPI	**Serui, Papua**	**47.10**	**291**	P	**P**	**16 57 54.4**	**-0.5**
	comp=Z,59nm,0.6s						
BAKI	**Biak**	**47.57**	**292**	P	**P**	**16 57 58.0**	**-0.4**
	comp=Z,106nm,0.9s						
KHLU	**Kahalu`u**	**49.74**	**31**	P	**P**	**16 58 13.8**	**-0.6**
HUH	**Hualalai**	**49.84**	**31**	P	**P**	**16 58 15.0**	**-0.4**
SBLHI	**Steaming Bluff**	**49.90**	**32**	P	**P**	**16 58 13.1**	**-2.5**
HMH	**Humu'ula Sheep**	**49.94**	**32**	P	**P**	**16 58 17.0**	**+0.9**
FAKI	**Fak Fak**	**50.02**	**288**	P	**P**	**16 58 15.5**	**-1.0**
FAKI				IAmb	IAmb	16 58 24.2	
	comp=Z,45nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.15**	**266**	P	**P**	**16 58 17.9**	**+0.4**
	comp=Z,18nm,0.6s,baz=114,slow=4.2,SNR=36						
FITZ	**Fitzroy Crossi**	**50.15**	**266**	P	**P**	**16 58 17.7**	**+0.2**
FITZ				IAmb	IAmb	16 58 19.3	
	comp=Z,17nm,0.7s						
SIJI	**Sorong**	**51.88**	**289**	P	**P**	**16 58 29.9**	**-0.1**
	comp=Z,67nm,0.6s,baz=100,slow=5.1,SNR=58						
SWI	**Sorong**	**51.89**	**289**	P	**P**	**16 58 30.2**	**+0.1**
	comp=Z,1μmcomp=Z,132nm,0.7s						
SOEI	**Soe**	**54.20**	**275**	P	**P**	**16 58 46.5**	**-0.2**
SOEI				IAmb	IAmb	16 59 04.0	
	comp=Z,59nm,0.8s						
SOEI	**Soe**	**54.20**	**275**	P	**P**	**16 58 48.5**	**+1.8**
	comp=Z,962nmcomp=Z,78nm,0.8s						
KLBR	**Kellerberrin**	**54.29**	**247**	P	**P**	**16 58 46.9**	**0.0**
	baz=54,SNR=10						
PSA00	**Pilbara Seismi**	**54.47**	**260**	P	**P**	**16 58 47.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**54.54**	**246**	P	**P**	**16 58 48.4**	**-0.2**
	comp=Z,10nm,0.9s,baz=142,slow=19,SNR=2.1						
NWAO	**Narrogin (SRO)**	**54.54**	**246**	P	**P**	**16 58 48.6**	**-0.1**
BATI	**Baumata**	**54.58**	**275**	P	**P**	**16 58 50.6**	**+1.4**
	comp=Z,43nm,0.6s,baz=143,slow=3.1,SNR=21						
BATI	**Baumata**	**54.58**	**275**	P	**P**	**16 58 50.3**	**+1.1**
	comp=Z,31nm,0.8s						
BLDU	**Ballidu**	**55.33**	**248**	P	**P**	**16 58 54.2**	**0.0**
	baz=56,SNR=11						
MUN	**Mundaring**	**55.53**	**247**	P	**P**	**16 58 56.0**	**+0.4**
	baz=56,SNR=3.7						
TNTI	**Ternate**	**56.07**	**288**	P	**P**	**16 58 59.6**	**+0.1**
	comp=Z,32nm,0.7s						
MORW	**Morawa**	**56.17**	**250**	P	**P**	**16 58 59.9**	**-0.2**
	baz=56,SNR=8.0						
MORW	**Morawa**	**56.17**	**250**	P	**P**	**16 58 59.8**	**-0.3**
MORW				IAmb	IAmb	16 59 01.0	
	comp=Z,45nm,1.5s						
MMRI	**Maumere**	**56.48**	**276**	P	**P**	**16 59 01.9**	**-0.4**
MMRI				IAmb	IAmb	16 59 04.9	
	comp=Z,37nm,0.9s						
MMRI	**Maumere**	**56.48**	**276**	P	**P**	**16 59 02.3**	**-0.1**
	comp=Z,5μmcomp=Z,53nm,1.1s						
GIRL	**Giralia**	**59.22**	**257**	P	**P**	**16 59 21.7**	**+0.9**
LUWI	**Luwuk**	**59.24**	**284**	P	**P**	**16 59 20.7**	**-0.4**
LUWI				IAmb	IAmb	16 59 22.1	
	comp=Z,32nm,0.9s						
CASY	**Casey**	**59.62**	**206**	P	**P**	**16 59 23.4**	**+0.7**
BNSI	**Bone**	**60.14**	**279**	P	**P**	**16 59 27.3**	**+0.2**
	comp=Z,22nm,0.7s						
KAPI	**Kappang**	**60.20**	**278**	P	**P**	**16 59 27.5**	**0.0**
	comp=Z,7.5nm,0.5s,baz=154,slow=4.8,SNR=4.2						
KAPI	**Kappang**	**60.20**	**278**	IAmb	IAmb	16 59 28.0	
	comp=Z,8.5nm,0.6s						
APSI	**Ampana**	**60.29**	**284**	P	**P**	**16 59 28.6**	**+0.5**
	comp=Z,19nm,0.8s						
PLAI	**Plampang**	**60.47**	**273**	P	**P**	**16 59 29.9**	**+0.6**
	comp=Z,1μmcomp=Z,96nm,0.7s						
SPSI	**Sidrap Palu**	**60.63**	**279**	P	**P**	**16 59 29.7**	**-0.6**
	comp=Z,20nm,0.7s						
MRSI	**Marisa**	**60.67**	**285**	P	**P**	**16 59 30.7**	**+0.1**
	comp=Z,713nmcomp=Z,21nm,0.6s						
TTSI	**Tana Toraja**	**60.98**	**280**	P	**P**	**16 59 31.4**	**-1.2**
	comp=Z,9.9nm,0.8s						
TWSI	**Taliwang, Sumb**	**61.32**	**273**	P	**P**	**16 59 34.9**	**+0.1**
	comp=Z,274nmcomp=Z,21nm,0.9s						
TOLI2	**Tolitoli**	**61.99**	**285**	P	**P**	**16 59 38.2**	**-1.0**
TOLI2				IAmb	IAmb	16 59 40.4	
	comp=Z,26nm,0.7s						
JAGI	**Jajag, Banyuwa**	**63.91**	**272**	P	**P**	**16 59 49.7**	**-1.9**
JAGI				IAmb	IAmb	16 59 51.0	

comp=Z,21nm,0.6s
UGM Wanagama 67.44 271 P P 17 00 13.2 -0.5
JHJ2 Mitsune 68.22 325 P P 17 00 16.4 -1.4
KKM Kota Kinabalu 68.34 287 P P 17 00 19.2 +0.1
KKM IAmb IAmb 17 00 20.1
comp=Z,26nm,0.6s
CISI Cisompet, Garu 70.05 271 P P 17 00 28.1 -1.3
CISI IAmb IAmb 17 00 29.4
comp=Z,14nm,0.7s
LEM Lembang 70.52 271 P P 17 00 32.5 +0.2
comp=Z,29nm,0.8s,baz=50,slow=6.0,SNR=12
XMIS Christmas Isla 70.92 267 P P 17 00 34.3 -0.2
XMIS IAmb IAmb 17 00 35.4
comp=Z,13nm,0.6s
JGF Kuroka 71.43 325 P P 17 00 37.0 0.0
JGF IAmb IAmb 17 00 39.2
comp=Z,16nm,1.1s
MJAR Matsushiro Arr 71.71 326 P P 17 00 38.4 -0.1
comp=Z,4.6nm,0.7s,baz=162,slow=5.2,SNR=18
MJAR Matsushiro Arr 71.71 326 P P 17 00 36.9 -1.7
MAJO Matsushiro 71.71 326 P P 17 00 37.3 -1.3
MAJO IAmb IAmb 17 00 51.4
comp=Z,26nm,1.5s
MAT Matsushiro 71.71 326 P P 17 00 38.6 0.0
JMN Monobe 71.94 321 P P 17 00 40.2 +0.2
JMN IAmb IAmb 17 00 41.9
comp=Z,52nm,1.3s
JWT Wachi 72.23 323 P P 17 00 41.6 0.0
JSU Suzuyama 72.39 318 P P 17 00 42.4 -0.2
JSD Sado 72.85 327 P P 17 00 44.9 -0.1
JNU Nakatsue 73.26 319 P P 17 00 47.5 0.0
comp=Z,10nm,0.7s,baz=38,slow=1.4,SNR=5.6
JNU Nakatsue 73.26 319 P P 17 00 47.1 -0.5
JNU IAmb IAmb 17 00 50.9
comp=Z,12nm,0.8s
JHS Saijyo 73.29 322 P P 17 00 48.7 +1.0
JHS IAmb IAmb 17 00 53.6
comp=Z,48nm,1.4s
NACB Ninganchiao 73.70 306 P P 17 00 49.8 -0.4
NACB IAmb IAmb 17 01 12.7
comp=Z,70nm,1.5s
TPUB Ta-pu 73.91 305 P P 17 00 50.1 -1.4
TPUB IAmb IAmb 17 01 07.0
comp=Z,19nm,1.0s
ASAJ Asahikawa 75.77 334 P P 17 01 03.0 +1.6
comp=Z,9.1nm,0.8s,baz=264,slow=20,SNR=3.2
BELA Belgrano 2 76.29 173 P P 17 01 04.9 +1.0
MYKOM Kota Tinggi 77.45 278 P P 17 01 10.3 -1.0
MYKOM IAmb IAmb 17 01 38.3
comp=Z,32nm,1.5s
DLV T Lat 77.84 289 P P 17 01 13.3 -0.3
DLV IAmb IAmb 17 01 34.0
comp=Z,61nm,1.5s
KSRS Korea Array 78.00 321 P P 17 01 14.4 +0.8
comp=Z,29nm,0.7s,baz=129,slow=5.9,SNR=12
KSAR Wonju Array Be 78.01 321 P P 17 01 14.1 +0.4
PEA0B Petropavlovsk- 79.17 347 P P 17 01 19.9 +0.3
PEA0B IAmb IAmb 17 01 39.2
comp=Z,42nm,1.3s
PETK Petropavlovsk- 79.17 347 P P 17 01 20.6 +1.0
comp=Z,2.5nm,0.5s,baz=123,slow=7.1,SNR=13
PETK Petropavlovsk- 79.17 347 P P 17 01 19.9 +0.4
NJ2 Nanjing 80.31 311 eP P 17 01 27.3 +1.3
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
USRK Ussuriysk Ar. 80.60 328 P P 17 01 28.8 +1.6
comp=Z,3.0nm,0.6s,baz=134,slow=3.9,SNR=14
USRK Ussuriysk Ar. 80.60 328 P P 17 01 26.4 -0.9
IPM Ipoh 81.14 279 P P 17 01 29.9 -0.9
IPM IAmb IAmb 17 01 31.9
comp=Z,12nm,0.6s
IPM Ipoh 81.14 279 P P 17 01 31.0 +0.2
KULM Kulim 81.82 280 P P 17 01 35.0 +0.7
MDJ Mudanjiang 82.09 327 P P 17 01 36.6 +1.7
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,220nm,3.0s
RPSI Rantau Prapat 82.30 276 P P 17 01 36.4 -0.3
RPSI Rantau Prapat 82.30 276 P P 17 01 35.4 -1.3
RPSI IAmb IAmb 17 01 37.0
comp=Z,6.3nm,0.7s
PSI Prapat 82.34 277 P P 17 01 36.4 -0.7
comp=Z,5.6nm,0.7s,baz=0.7,slow=2.2,SNR=6.4
SYO Syowa Base 82.64 194 eX P 17 01 48.8 +11
CMB Columbia Cole 83.82 44 P P 17 01 44.9 +1.1
ORV Oroville 84.05 42 P P 17 01 46.1 +1.2
KLR Kul'dur 84.41 331 P P 17 01 47.8 +1.5
comp=Z,2.2nm,0.7s,baz=133,slow=5.7
PNTR Pine Nut 84.95 43 P P 17 01 50.7 +1.2
NVAR Mina Array Bea 85.38 44 P P 17 01 53.5 +1.9
comp=Z,1.7nm,0.8s,baz=223,slow=9.0,SNR=15
NVAR pP **pP 17 03 50.1 -0.9**
comp=Z,0.6nm,0.9s,baz=232,slow=9.2,SNR=3.1
NVAR Mina Array Bea 85.38 44 P P 17 01 52.3 +0.7
NV11 Mina Array Sit 85.47 44 P P 17 01 52.3 +0.3
TPNV Topopah Spring 85.86 46 P P 17 01 54.3 +0.4
KVN Kaiserville 85.87 44 P P 17 01 53.5 -0.4
ENH Enshi 86.03 306 P P 17 01 55.1 +0.5
PINE Pine Mountain 86.98 39 P 17 01 59.6 +0.6
PINE IAmb IAmb 17 02 02.4
comp=Z,9.2nm,0.9s
J08A Circle Bar Ran 88.16 40 P P 17 02 03.8 -0.6
J08A IAmb IAmb 17 02 08.4
comp=Z,7.5nm,1.1s
XAN Xi'an 88.36 309 P P 17 02 06.9 +1.3
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN Xi'an 88.36 309 P P 17 02 05.5 -0.1
XAN IAmb IAmb 17 02 08.0
comp=Z,5.7nm,0.8s
KMI Kunming 88.78 298 ⇓P P 17 02 08.8 +0.9
KMI pmax pmax
comp=Z,8.0nm,0.7s
CMAR Chiang Mai Arr 88.98 291 P P 17 02 10.2 +1.5
comp=Z,1.5nm,0.8s,baz=141,slow=3.5,SNR=18
CMAR PP **PP 17 05 50.0 +1.1**
comp=Z,1.1nm,1.0s,baz=125,slow=5.6,SNR=5.4
CMAR Chiang Mai Arr 88.98 291 P P 17 02 09.3 +0.6
E07A Sunnyside 89.27 37 P P 17 02 08.9 -0.5
E07A IAmb IAmb 17 02 12.8
comp=Z,4.0nm,0.8s
MFID Camas Ranch 89.77 41 P P 17 02 12.1 +0.2
HHC Hu-ho-hao-te 90.11 315 eP P 17 02 14.3 +0.7
HHC pmax pmax
comp=Z,8.0nm,1.1s
HHC pmax pmax
comp=Z,97nm,5.4s
MNTX Cornudas Mount 90.89 56 P 17 02 18.1 +0.8
TX31 Lajitas Ar. Si 91.11 58 P P 17 02 19.5 +1.0
TX31 IAmb IAmb 17 02 21.7
comp=Z,7.5nm,0.9s
TX32 Lajitas Array 91.11 58 P P 17 02 19.3 +0.8
TXAR Lajitas Array 91.11 58 P P 17 02 20.9 +2.4
comp=Z,1.6nm,0.7s,baz=215,slow=7.0,SNR=20
TXAR pP **pP 17 04 19.4 0.0**
comp=Z,0.6nm,1.0s,baz=206,slow=6.0,SNR=3.3
TXAR Lajitas Array 91.11 58 P P 17 02 19.4 +0.9
ILAR Eielson Array 92.41 14 P P 17 02 24.8 +1.4
comp=Z,0.3nm,0.8s,baz=247,slow=5.8,SNR=2.6
ILAR pP **pP 17 04 23.4 -0.2**
comp=Z,0.9nm,1.0s,baz=246,slow=4.5,SNR=2.5
LZH Lanzhou 92.99 308 ⇑P P 17 02 28.7 +1.6
LZH pP pwP 17 04 31.2 -1.3
LZH sP sP 17 05 26.5 +4.7
LZH pmax pmax
comp=Z,21nm,1.4s
LZH pmax pmax
comp=Z,72nm,9.3s
PDAR Pinedale Array 93.31 44 P P 17 02 29.4 +0.9
comp=Z,0.6nm,0.6s,baz=151,slow=3.4,SNR=1.6
MKAR Makanchi Array 111.82 313 Pdiff Pdif 17 03 53.5 +2.8
comp=Z,0.1nm,0.4s,baz=196,slow=13,SNR=2.2
MKAR PKiKP **PKiKP 17 07 44.4 0.0**
comp=Z,0.4nm,0.5s,baz=160,slow=0.5,SNR=6.7
KURK Kurchatov 114.91 316 PKPdf 17 07 50.3 +0.2
KURBB Kurchatov Arra 114.95 316 PKP PKPdf 17 07 50.3 +0.1
comp=Z,1.0nm,0.7s,baz=107,slow=1.7,SNR=7.2
AAK Ala-Archa 116.51 307 PKP PKPdf 17 07 53.7 0.0
comp=Z,0.6nm,0.7s,baz=165,slow=5.1,SNR=4.4
KK31 Karatay Array 119.47 307 PKPdf 17 07 59.0 -0.2
KKAR Karatay Array 119.47 307 PKPdf **PKPdf 17 07 59.1 -0.2**
KKAR Karatay Array 119.47 307 PKPdf 17 07 59.0 -0.2
BVAR Borovoye Array 120.17 319 PKP **PKiKP 17 08 00.5 +0.2**
comp=Z,0.7nm,0.5s,baz=342,slow=42,SNR=6.2

ARU Arti 126.67 323 PKP PKPdf 17 08 12.6 +0.1
comp=Z,1.0nm,0.5s,baz=103,slow=7.6,SNR=7.4
AKTO Aktyubinsk 128.00 316 PKP PKiKP 17 08 16.0 +0.1
comp=Z,1.1nm,0.5s,baz=64,slow=6.9,SNR=4.3
ARCES ARCESS Array B 131.97 348 PKP PKPdf 17 08 22.7 +0.5
comp=Z,1.9nm,0.7s,baz=34,slow=0.4,SNR=9.4
ARCES SKPbc **SKPbc 17 10 57.5 +0.4**
comp=Z,4.0nm,0.8s,baz=54,slow=6.2,SNR=4.5
FINES FINESS Array B 138.45 341 PKhKP PKPpre 17 08 25.3
comp=Z,5.4nm,1.1s,baz=132,slow=2.8,SNR=6.8
FINES PKP **PKPdf 17 08 35.5 +1.1**
comp=Z,1.5nm,0.4s,baz=22,slow=2.1,SNR=14
FINES SKPbc **SKiKP 17 11 19.3 -1.3**
comp=Z,2.9nm,0.7s,baz=61,slow=5.6,SNR=7.0
NB2 NORSAR Subarra 142.20 351 PKP PKPdf 17 08 37.8 -3.5
comp=Z,0.7nm,0.5s,baz=15,slow=2.9
NOA NORSAR Array B 142.20 351 PKhKP PKPpre 17 08 37.9
comp=Z,0.7nm,0.6s,baz=260,slow=3.2,SNR=6.3
MNK Minsk 142.94 332 *i* PKP **PKPdf 17 08 40.9 -1.8**
comp=E,3.0nm,2.0s
MNK *i* PKP **PKPdf 17 08 40.9 -1.8**
comp=N,3.0nm,0.7s
MNK *i* PKP **PKPdf 17 08 40.9 -1.8**
comp=Z,9.0nm,0.8s
MNK *i* pPKP **pPKPdf 17 10 49.7 -1.1**
MNK *i* SKP 17 11 23.1
MNK *i* PP **PP 17 11 57.5 -1.8**
MNK *i* PKS **PKSdf 17 12 16.6 -1.6**
MNK *i* SKS **SKSdf 17 14 58.3 -1.7**
MNK *i* PPP PPP 17 15 14.2
MNK *i* SKKS **SKKSdf 17 24 14.6 -4.1**
MNK *i* SS **SS 17 29 54.8 +1.3**
MNK *i* SSS SSS 17 35 27.0
MNK *i* LRM MLR 18 13 52.7
comp=E,8.0nm,11.6s
MNK *i* LRM MLR 18 14 05.5
comp=N,173nm,20.0s
MNK *i* LRM MLR 18 14 05.5
comp=Z,127nm,13.8s
AKASG Malin Array Be 144.80 327 PKP PKPdf 17 08 46.5 +0.4
comp=Z,5.3nm,0.5s,baz=45,slow=4.3,SNR=46
AKASG pPKP **pPKPdf 17 10 54.0 -0.1**
comp=Z,0.3nm,0.4s,baz=35,slow=3.4,SNR=2.0
AKASG SKPbc **SKiKP 17 11 35.9 +1.9**
comp=Z,3.1nm,0.8s,baz=45,slow=3.1,SNR=5.5
AKASG Malin Array Be 144.80 327 PKPdf 17 08 45.9 -0.1
AKBB Malin Array Si 144.80 327 PKPdf **PKPdf 17 08 46.0 -0.1**
GAZ Gaziantep 145.10 301 PKPab **PKPab 17 08 49.1 0.0**
ILGA Ilgaz 146.70 309 PKPbc 17 08 51.7 -0.9
SORM Soroca 146.79 324 ⇑P PKPbc 17 08 53.0 +0.7
BR131 Keskin Array S 147.18 307 PKPbc 17 08 53.7 -0.1
BRTR Keskin Array B 147.18 307 PKPbc **PKPbc 17 08 54.2 +0.4**
comp=Z,8.8nm,0.7s,baz=138,slow=4.7,SNR=26
BRTR Keskin Array B 147.18 307 PKPbc 17 08 53.7 -0.1
MMAI Mount Meron Ar 147.19 294 PKPbc **PKPbc 17 08 53.1 -0.8**
comp=Z,9.4nm,0.5s,baz=57,slow=3.1,SNR=30
EIL Elat 147.79 288 PKPbc **PKiKP 17 08 56.9 -0.1**
comp=Z,6.0nm,0.7s,baz=1.2,slow=6.3,SNR=7.0
GHRR 148.51 321 ⇑P PKiKP 17 08 58.4 +0.5
TPGR Topolog 148.57 318 ⇑P PKiKP 17 08 58.4 +0.3
CFR Carcaliu 148.57 319 ⇑P PKiKP 17 08 58.0 0.0
KWP Kalwaria Pacla 148.64 330 *e*PKP **PKiKP 17 08 58.1 0.0**
KWP Kalwaria Pacla 148.64 330 PKPbc 17 08 56.2 -0.8
TESR Tescani 148.68 322 ⇑P PKPbc 17 08 57.9 +0.6
BIZ Bicaz 148.73 323 ⇓P PKiKP 17 08 58.9 +0.5
BUR08 Bucovina Ar. S 148.77 325 PKPbc 17 08 57.3 -0.3
BURAR Bucovina Array 148.78 325 ⇑P PKiKP 17 08 59.9 +1.3
BURAR Bucovina Array 148.78 325 PKPbc 17 08 57.9 +0.4
HARR Harsova 148.96 318 ⇑P PKPbc 17 08 58.4 +0.5
VRI Vrincioaia 149.01 321 ⇓P PKPab 17 09 02.3 -2.3
PLOR Plostina 149.07 321 ⇑P PKPab 17 09 06.1 +1.3
KOLS Kolonicke sedl 149.34 330 *e*PKP **PKiKP 17 09 00.2 +0.7**
OJC Ojcow 149.45 334 PKPbc 17 08 58.8 -0.2
NEHR Nehoiu 149.52 321 ⇑P PKPbc 17 08 59.7 +0.4
MLR Muntele Rosu 149.68 321 PKPbc **PKiKP 17 09 00.9 +0.3**
comp=Z,3.5nm,0.6s,baz=309,slow=5.5,SNR=3.7
MLR Muntele Rosu 149.68 321 ⇑P PKiKP 17 09 00.5 0.0
MLR Muntele Rosu 149.68 321 PKPbc 17 08 59.6 -0.2
DOPR Dopca 149.71 323 ⇑P PKiKP 17 09 01.2 +0.8
CRVS Cervenica-Dubn 149.73 330 *e*PKP **PKiKP 17 09 01.2 +0.8**
NIE Niedzica 149.86 332 *e*PKP **PKiKP 17 09 01.7 +1.1**
SECR 149.87 320 ⇑P PKiKP 17 09 01.4 +0.6
CJR Cluj-Napoca 150.21 325 ⇑P PKiKP 17 09 02.3 +0.9
VOIR 150.22 322 ⇑P PKiKP 17 09 01.8 +0.2
KSP Ksiaz 150.25 338 *e*PKP **PKiKP 17 09 02.3 +0.9**
LANS Liptovska Anna 150.41 333 *e*PKP **PKiKP 17 09 03.5 +1.7**
ARR Arges 150.50 322 ⇑P PKiKP 17 09 03.7 +1.6
OSTC Ostas 150.52 338 *e*PKP **PKPbc 17 09 01.5 0.0**
CHVC Chvalec 150.55 338 *e*PKP **PKPbc 17 09 01.5 -0.1**
UPC Upice 150.63 338 *e*PKP **PKiKP 17 09 02.6 +0.4**
DPC Dobruska-Polom 150.66 337 *e*PKP **PKPbc 17 09 02.1 +0.3**
DPC *e*PKPAB **PKPab 17 09 10.8 -0.5**
CLL Collm 150.87 342 *i* PKPbc **PKiKP 17 09 03.1 +0.5**
comp=Z,11nm,0.6s
CLL *e*PKPab **PKPab 17 09 12.0 0.0**
CLL *e*pPKPbc **pPKPbc 17 11 09.0 -0.3**
CLL *i* pPKPab **pPKPab 17 11 13.9 -0.2**
CLL Collm 150.87 342 PKPbc 17 09 02.7 +0.5
BRG Berggiesshubel 150.99 341 *i* PKP **PKiKP 17 09 03.6 +0.8**
BRG Amp 17 09 04.7
comp=Z,9.3nm,0.5s
BRG *ex* x 17 09 07.8
BRG Amp 17 09 08.9
comp=Z,3.3nm,0.8s
PRU Pruhonice 151.57 339 ⇑ePKP PKPbc 17 09 04.0 +0.2
MODS Modra-Piesok 151.92 334 *e*PKP **PKPbc 17 09 05.1 +0.4**
BZS Buzias 151.97 325 ⇑P PKiKP 17 09 05.3 +0.3
HERR Herculane 152.03 323 ⇑P PKiKP 17 09 05.6 +0.4
MDVR Moldovita 152.47 324 ⇓P PKiKP 17 09 08.2 +2.0
KHC Kasperske Hory 152.63 339 ⇑ePKP PKPbc 17 09 05.2 -1.1
KHC *e*PKPAB **PKPab 17 09 19.7 +0.1**
CKRC Cesky Krumlov 152.65 338 ⇑ePKP PKPbc 17 09 06.4 +0.1
CKRC *e*PKPAB **PKPab 17 09 21.2 +1.5**
GERES GERESS Array B 152.83 339 PKPbc **PKiKP 17 09 07.5 +0.6**
comp=Z,0.7nm,0.6s,baz=50,slow=2.1,SNR=6.0
GERES PKPab **PKPab 17 09 21.5 +0.9**
comp=Z,0.7nm,0.6s,baz=38,slow=6.8,SNR=6.1
VTS Vitosha 152.94 319 ⇑P PKPbc 17 09 07.6 +0.3
MORH Mrgy, Hungar 153.00 330 ⇑P PKiKP 17 09 07.9 +0.7
LIT Litokhoron 154.81 315 PKPab 17 09 29.2 -0.1
ESDC Sonseca Array 164.26 9 PKPab **PKPab 17 10 10.3 -0.1**
comp=Z,1.0nm,0.9s,baz=349,slow=9,SNR=4.1
TORD Torodi Ar. Bea 168.84 192 PKPab **PKPab 17 10 31.3 +0.2**
comp=Z,2.0nm,0.7s,baz=166,slow=3.8,SNR=8.0
TORD Torodi Ar. Bea 168.84 192 PKPab 17 10 30.6 -0.5

*BJI **01** 16:56:31.4±0.0,20.°90S×178.°50W,h596km,mB5.1/13, mb4.5/22*
*NEIC **01** 16:56:32.8±1.5,20.°84S±0.°05×178.°6W±0.°1,h594km±7km, mb4.6/76,Error ellipse: s-maj=17.0km s-min=6.5km az=100.0*
*IDC **01** 16:56:32.7±1.4,20.°85S×178.°65W,h584km±13km, mb3.8/27,mb1 3.9/30,mb1mx3.8/46,mbtmp4.8/30,Error ellipse: s-maj=16.6km s-min=10.5km az=134.0*
*NOU **01** 16:56:33.9,20.°80S×178.°69W,h604km,mb4.6,Fiji Islands Region*
ISC 01 16:56:33.2±0.4,20.°90S±0.°07×178.°63W±0.°07,h600km, n232,σ1°9.04/243,mb4.6/70,23C-9D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.44**	**315**	P	**P**	**16 58 03.0**	**+1.0**
MSVF	**Nonsavu**	**4.44**	**315**	P	**P**	**16 58 03.1**	**+1.1**
NIUE	**Niue**	**8.38**	**79**	P	**P**	**16 58 34.0**	**-2.2**
NIUE	**Niue**	**8.38**	**79**	P	**P**	**16 58 38.3**	**+2.0**
AFI	**Afiamalu**	**9.54**	**44**	P	**P**	**16 58 46.6**	**-1.0**
	5.4nm,0.3s,baz=14,slow=2.0,SNR=7.5						
AFI				S	**S**	**17 00 34.3**	**-3.6**
	7.1nm,0.3s,baz=48,slow=21,SNR=10						
AFI	**Afiamalu**	**9.54**	**44**	P	**P**	**16 58 46.0**	**-1.7**
AFI	**Afiamalu**	**9.54**	**44**	P	**P**	**16 58 46.7**	**-1.0**
MARNC	**Mare, Loyalty**	**12.46**	**265**	P	**P**	**16 59 16.2**	**-0.4**
DVP	**Devils Point**	**12.84**	**282**	P	**P**	**16 59 20.9**	**+0.5**
	76μm,0.6s						
PINNC	**Pines Island,**	**13.05**	**260**	P	**P**	**16 59 23.0**	**+0.5**
LIFNC	**LIFOU**	**13.21**	**268**	P	**P**	**16 59 22.8**	**-1.4**
YATNC	**Mamie plateau,**	**13.53**	**262**	P	**P**	**16 59 27.5**	**+0.1**
DZM	**Mont Dzumac**	**13.94**	**262**	P	**P**	**16 59 30.8**	**-0.9**
	3.4nm,0.3s,baz=85,slow=17,SNR=38						
DZM	**Mont Dzumac**	**13.94**	**262**	P	**P**	**16 59 31.1**	**-0.5**
DZM	**Mont Dzumac**	**13.94**	**262**	P	**P**	**16 59 31.3**	**-0.4**

NOUC Port Laguerre 14.07 262 P P 16 59 32.5 -0.3
SANVU Saraoutou 14.51 290 P P 16 59 36.2 -0.8
KOUNC Koumac, New Ca 15.98 268 P P 16 59 50.7 +0.2
URZ Urewera 17.69 191 P P 17 00 05.4 -0.4
1.7nm,0.3s,baz=264,slow=1.4,SNR=12
URZ S **S 17 02 52.9 -5.6**
0.4nm,0.3s,baz=190,slow=20,SNR=1.3
URZ Urewera 17.69 191 IAmb IAmb 17 00 29.8
comp=Z,28nm,1.3s
BKZ Black Stump Fm 18.68 192 P P 17 00 14.3 -0.6
BFZ Birch Farm 20.20 191 P P 17 00 28.3 -0.3
QRZ Quartz Range 21.24 199 P P 17 00 39.6 +1.7
QRZ IAmb IAmb 17 01 08.1
comp=Z,32nm,1.3s
NNZ Nelson 21.36 197 P P 17 00 39.4 +0.4
THZ Tophouse 22.00 197 P P 17 00 45.1 +0.3
THZ IAmb IAmb 17 01 12.9
comp=Z,19nm,1.4s
KHZ Kahutara 22.45 195 P P 17 00 48.9 +0.4
LTZ Lake Taylor 23.12 197 P P 17 00 54.2 -0.5
OXZ Oxford 23.69 197 P P 17 00 59.8 +0.2
OXZ IAmb IAmb 17 01 21.5
comp=Z,28nm,1.5s
MQZ McQueen's Vall 23.88 196 P P 17 01 01.6 +0.3
MQZ IAmb IAmb 17 01 25.9
comp=Z,25nm,1.1s
RPZ Rata Peaks 24.32 198 P P 17 01 06.8 +1.5
comp=Z,2.8nm,0.5s,baz=267,slow=18,SNR=1.1
RPZ Rata Peaks 24.32 198 IAmb IAmb 17 01 21.1
comp=Z,16nm,1.2s
FOZ Fox Glacier 24.55 201 P P 17 01 07.2 0.0
FOZ IAmb IAmb 17 01 09.3
comp=Z,31nm,1.2s
EIDS Eidsvold 28.17 255 P P 17 01 38.9 -0.3
ARMA Armidale 28.36 244 P P 17 01 42.2 +1.2
ARMA IAmb IAmb 17 01 43.1
comp=Z,12nm,0.6s
CAN Canberra 31.80 236 P P 17 02 10.9 +0.6
CAN IAmb IAmb 17 02 16.8
comp=Z,22nm,1.2s
CTA Charters Tower 32.86 265 P P 17 02 19.9 +0.5
comp=Z,17nm,0.4s,baz=91,slow=11,SNR=50
CTAO Charters Tower 32.86 265 P P 17 02 19.8 +0.3
RABL Rabaul 32.88 296 P P 17 02 20.2 +0.4
PMG Port Moresby 34.86 284 P P 17 02 36.2 +0.1
comp=Z,41nm,0.8s,baz=72,slow=6.4,SNR=29
PMG Port Moresby 34.86 284 P P 17 02 36.0 -0.2
PMG Port Moresby 34.86 284 P P 17 02 36.2 +0.1
TOO Toolangi 35.19 234 P P 17 02 39.2 +0.6
TOO IAmb IAmb 17 02 40.9
comp=Z,11nm,0.8s
TAU Tasmania Unive 35.93 225 P P 17 02 45.4 +0.9
COEN Coen 37.02 274 P P 17 02 54.3 +0.3
COEN IAmb IAmb 17 02 55.3
comp=Z,15nm,0.8s
STKA Stephens Creek 37.08 245 P P 17 02 55.5 +1.3
comp=Z,8.7nm,0.5s,baz=89,slow=12,SNR=40
STKA Stephens Creek 37.08 245 P P 17 02 55.2 +1.0
MANU Manus Island 38.07 295 P P 17 03 03.1 +0.6
MANU IAmb IAmb 17 03 04.0
comp=Z,32nm,1.3s
BBOO Buckleboo 41.84 244 P P 17 03 32.7 +0.4
WR0 Warramunga Arr 43.77 263 P P 17 03 46.8 -0.7
WR0 IAmb IAmb 17 03 48.7
comp=Z,25nm,1.3s
AS31 Alice Springs 43.85 257 P P 17 03 47.9 -0.2
ASAR Alice Springs 43.85 257 P P 17 03 48.4 +0.3
comp=Z,28nm,0.5s,baz=92,slow=8.0,SNR=289
ASAR PcP **PcP 17 05 21.6 +0.9**
comp=Z,3.2nm,0.5s,baz=101,slow=3.7,SNR=7.4
ASAR ScP **ScP 17 08 19.0 +2.9**
comp=Z,1.4nm,0.7s,baz=114,slow=4.0,SNR=6.8
ASAR S **S 17 09 32.3 -4.6**
comp=Z,0.9nm,0.8s,baz=91,slow=15,SNR=6.5
ASAR Alice Springs 43.85 257 P P 17 03 47.7 -0.4
WB0 Warramunga Arr 43.94 263 P P 17 03 48.2 -0.5
WB2 Warramunga Arr 43.95 263 P P 17 03 48.1 -0.7
WB2 IAmb IAmb 17 03 49.3
comp=Z,32nm,1.0s
WRAB Tennant Creek 43.95 263 P P 17 03 48.1 -0.8
WRAB IAmb IAmb 17 03 49.3
comp=Z,23nm,1.0s
WRA Warramunga Arr 43.96 263 P P 17 03 48.5 -0.5
comp=Z,8.8nm,0.3s,baz=97,slow=7.3,SNR=252
WRA ScP **ScP 17 08 19.5 +2.9**
comp=Z,0.6nm,0.7s,baz=91,slow=3.9,SNR=3.4
WRA S **S 17 09 34.7 -3.7**
comp=Z,0.8nm,0.9s,baz=98,slow=13,SNR=4.4
SMPI Sarmi 45.62 289 P P 17 03 55.8 -5.8
comp=Z,17nm,1.1s
MWH Moku'aweowe 46.04 31 P P 17 04 02.8 -2.4
FORT Forrest 48.59 247 P P 17 04 23.1 -0.6
FITZ Fitzroy Crossi 52.39 263 P P 17 04 52.0 +0.6
comp=Z,7.5nm,0.5s,baz=74,slow=4.1,SNR=37
FITZ Fitzroy Crossi 52.39 263 P P 17 04 51.6 +0.3
SIJI Sorong 52.77 286 P P 17 04 54.2 +0.1
comp=Z,47nm,0.7s,baz=115,slow=6.1,SNR=26
SWI Sorong 52.78 286 P P 17 04 47.9 -6.3
comp=Z,672nmcomp=Z,80nm,0.9s
SOEI Soe 55.92 272 P P 17 05 16.6 +0.3
BATI Baumata 56.34 272 P P 17 05 20.7 +1.6
comp=Z,23nm,0.6s,baz=171,slow=5.1,SNR=6.4
TNTI Ternate 56.99 285 P P 17 05 23.2 -0.2
TNTI IAmb IAmb 17 05 24.5
comp=Z,27nm,0.9s
PSA00 Pilbara Seismi 57.00 257 P P 17 05 22.0 -1.5
PSA00 Pilbara Seismi 57.00 257 P P 17 05 23.0 -0.5
PSA00 IAmb IAmb 17 05 24.2
comp=Z,27nm,0.8s
NWAO Narrogin (SRO) 57.66 244 P P 17 05 28.6 +0.8
comp=Z,6.5nm,0.6s,baz=120,slow=7.4,SNR=11
NWAO Narrogin (SRO) 57.66 244 P P 17 05 28.3 +0.5
NWAO IAmb IAmb 17 05 43.2
comp=Z,39nm,1.3s
MMRI Maumere 58.18 273 P P 17 05 31.1 -0.4
MORW Morawa 59.13 248 P P 17 05 37.6 -0.1
MORW IAmb IAmb 17 05 41.0
comp=Z,54nm,1.4s
LUWI Luwuk 60.43 281 P P 17 05 47.5 +1.0
LUWI IAmb IAmb 17 05 47.9
comp=Z,29nm,0.8s
KAPI Kappang 61.73 276 P P 17 05 54.8 -0.2
comp=Z,6.5nm,0.7s,baz=243,slow=4.5,SNR=3.6
KAPI Kappang 61.73 276 P P 17 05 54.5 -0.5
GIRL Giralia 61.87 255 P P 17 05 57.0 +1.2
TOLI2 Tolitoli 63.11 282 P P 17 06 03.7 -0.2
TOLI2 IAmb IAmb 17 06 07.8
comp=Z,14nm,0.7s
CASY Casey 63.35 205 P P 17 06 05.5 +1.0
KKM Kota Kinabalu 69.29 285 P P 17 06 42.4 +0.2
KKM IAmb IAmb 17 06 43.5
comp=Z,30nm,1.1s
UGM Wanagama 69.36 269 P P 17 06 42.4 -0.1
JGF Kuroka 69.97 323 P P 17 06 46.0 +0.3
JGF IAmb IAmb 17 07 01.7
comp=Z,30nm,1.3s
INU Inuyama 69.98 323 P P 17 06 45.7 0.0
MJAR Matsushiro Arr 70.18 324 P P 17 06 46.8 0.0
comp=Z,4.4nm,0.7s,baz=157,slow=5.9,SNR=16
MJAR Matsushiro Arr 70.18 324 P P 17 06 46.1 -0.8
MAJO Matsushiro 70.18 324 P P 17 06 46.7 -0.2
MAJO IAmb IAmb 17 07 04.3
comp=Z,24nm,1.4s
MAT Matsushiro 70.18 324 P P 17 06 47.0 +0.1
JMN Monobe 70.69 319 P P 17 06 48.4 -1.6
CISI Cisompet, Garu 72.01 269 P P 17 06 56.9 -1.2
CISI IAmb IAmb 17 06 57.8
comp=Z,15nm,0.6s
JHS Saijyo 72.02 320 P P 17 06 58.3 +0.7
JHS IAmb IAmb 17 07 06.0
comp=Z,50nm,1.4s
JNU Nakatsue 72.16 317 P P 17 06 58.5 0.0
comp=Z,11nm,0.8s,baz=122,slow=4.2,SNR=4.1
JNU Nakatsue 72.16 317 P P 17 06 57.6 -0.9
JNU IAmb IAmb 17 07 00.6
comp=Z,23nm,1.0s
LEM Lembang 72.44 269 P P 17 07 01.1 +0.4
comp=Z,25nm,0.7s,baz=47,slow=8.7,SNR=8.1
ADK Adak 72.48 1 P P 17 06 59.8 -0.1
TWG Pinlang 73.10 303 P P 17 07 02.9 -1.2
YULB Yu-li 73.22 304 P P 17 07 03.9 -0.9
NACB Ninganchiao 73.41 305 P P 17 07 05.2 -0.6
NACB IAmb IAmb 17 07 29.1
comp=Z,27nm,1.0s
TPUB Ta-pu 73.69 303 P P 17 07 06.5 -0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SSLB	**Suanglung**	**73.70**	**304**	P	**P**	**17 07 06.5**	**-1.0**
ASAJ	**Asahikawa**	**73.79**	**332**	P	**P**	**17 07 09.5**	**+2.0**
	comp=Z,7.5nm,0.8s,baz=204,slow=2.7,SNR=12						
YHNB	**Yeheng**	**73.84**	**305**	P	**P**	**17 07 08.0**	**-0.3**
PEA0B	**Petropavlovsk-**	**76.50**	**346**	P	**P**	**17 07 22.7**	**+0.3**
PEA0B				IAmb	IAmb	17 07 40.9	
	comp=Z,36nm,1.2s						
PETK	**Petropavlovsk-**	**76.50**	**346**	P	**P**	**17 07 22.8**	**+0.4**
	comp=Z,6.4nm,0.7s,baz=99,slow=9.2,SNR=13						
PETK	**Petropavlovsk-**	**76.50**	**346**	P	**P**	**17 07 22.9**	**+0.5**
KSRS	**Korea Array**	**76.79**	**319**	P	**P**	**17 07 25.1**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=118,slow=6.4,SNR=4.5						
USA0B	**Ussuriysk Arra**	**78.96**	**326**	P	**P**	**17 07 37.1**	**+1.3**
USRK	**Ussuriysk Ar.**	**78.96**	**326**	P	**P**	**17 07 37.4**	**+1.7**
	comp=Z,3.6nm,0.7s,baz=107,slow=3.6,SNR=6.4						
USRK	**Ussuriysk Ar.**	**78.96**	**326**	P	**P**	**17 07 37.0**	**+1.3**
MYKOM	**Kota Tinggi**	**78.99**	**276**	P	**P**	**17 07 37.9**	**+1.3**
MYKOM				IAmb	IAmb	17 07 38.5	
	comp=Z,16nm,0.8s						
NJ2	**Nanjing**	**79.68**	**310**	*e*P	**P**	**17 07 40.8**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KDAK	**Kodiak Island**	**81.34**	**14**	P	**P**	**17 07 50.1**	**+2.3**
	comp=Z,2.5nm,0.6s,baz=204,slow=10.0,SNR=4.2						
KDAK	**Kodiak Island**	**81.34**	**14**	IAmb	IAmb	17 07 56.9	
	comp=Z,10nm,1.2s						
NVAR	**Mina Array Bea**	**81.72**	**44**	P	**P**	**17 07 52.2**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=226,slow=6.7,SNR=4.2						
KLR	**Kul'dur**	**82.57**	**330**	P	**P**	**17 07 55.3**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=94,slow=2.6,SNR=6.0						
IPM	**Ipoh**	**82.59**	**278**	P	**P**	**17 07 55.7**	**+0.5**
IPM				IAmb	IAmb	17 07 57.1	
	comp=Z,15nm,0.8s						
PSI	**Prapat**	**83.94**	**275**	P	**P**	**17 08 01.6**	**-0.4**
	comp=Z,6.9nm,0.8s,baz=179,slow=3.2,SNR=5.9						
MA2	**Magadan**	**84.01**	**345**	P	**P**	**17 08 00.7**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=134,slow=6.4,SNR=6.0						
SUA	**Susitna One**	**85.08**	**13**		**P**	**17 08 06.9**	**+0.4**
ENH	**Enshi**	**85.77**	**304**	P	**P**	**17 08 10.8**	**+0.4**
ENH				IAmb	IAmb	17 08 12.5	
	comp=Z,9.9nm,0.8s						
KLU	**Klutina**	**86.20**	**15**	P	**P**	**17 08 12.4**	**+0.7**
KLU				IAmb	IAmb	17 08 14.7	
	comp=Z,7.2nm,0.6s						
SEY	**Seymchan**	**86.63**	**347**	P	**P**	**17 08 14.2**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=166,slow=5.1,SNR=35						
TRF	**Thorofare Moun**	**86.96**	**12**	P	**P**	**17 08 15.4**	**0.0**
TRF				IAmb	IAmb	17 08 16.7	
	comp=Z,7.9nm,0.8s						
RND	**Reindeer**	**87.21**	**13**	P	**P**	**17 08 16.7**	**+0.3**
RND				IAmb	IAmb	17 08 17.9	
	comp=Z,8.9nm,0.7s						
TXAR	**Lajitas Array**	**87.77**	**58**	P	**P**	**17 08 23.3**	**+3.4**
	comp=Z,0.7nm,0.8s,baz=206,slow=5.4,SNR=6.4						
XAN	**Xi'an**	**87.90**	**308**	P	**P**	**17 08 22.0**	**+1.7**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WRH	**Wood River Hil**	**88.32**	**13**	P	**P**	**17 08 21.3**	**-0.2**
WRH				IAmb	IAmb	17 08 22.6	
	comp=Z,6.9nm,0.9s						
HDA	**Harding Lake**	**88.50**	**13**	P	**P**	**17 08 22.6**	**+0.3**
CCB	**Clear Creek Bu**	**88.53**	**13**	P	**P**	**17 08 22.4**	**0.0**
CCB				IAmb	IAmb	17 08 23.4	
	comp=Z,4.8nm,0.7s						
MDM	**Murphy Dome**	**88.72**	**12**	P	**P**	**17 08 22.9**	**-0.5**
IL31		**88.83**	**13**	P	**P**	**17 08 23.6**	**-0.2**
ILAR	**Eielson Array**	**88.83**	**13**	P	**P**	**17 08 24.0**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=216,slow=5.1,SNR=23						
ILAR	**Eielson Array**	**88.83**	**13**	P	**P**	**17 08 23.4**	**-0.4**
KMI	**Kunming**	**89.00**	**297**	⇓*e*P	**P**	**17 08 26.0**	**+0.1**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**89.21**	**315**	*e*P	**P**	**17 08 26.4**	**+0.1**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,160nm,5.0s						
CMAR	**Chiang Mai Arr**	**89.69**	**290**	P	**P**	**17 08 30.9**	**+1.9**
	comp=Z,4.3nm,0.9s,baz=123,slow=2.9,SNR=32						
CMAR	**Chiang Mai Arr**	**89.69**	**290**	P	**P**	**17 08 29.4**	**+0.5**
CHTO	**Chiang Mai**	**89.82**	**290**	P	**P**	**17 08 30.5**	**+1.0**
CHTO				IAmb	IAmb	17 08 32.1	
	comp=Z,5.9nm,0.7s						
YAK	**Yakutsk**	**92.26**	**338**	P	**P**	**17 08 39.6**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=80,slow=3.4,SNR=1.4						
LZH	**Lanzhou**	**92.54**	**308**	⇑P	**P**	**17 08 41.2**	**-0.7**
LZH				pP	pP	17 10 48.5	-2.4
LZH				sP	sP	17 11 46.3	-3.8
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
LZH				pmax	pmax		
	comp=Z,67nm,9.2s						
YKA	**Yellowknife Ar**	**97.12**	**25**	P	**P**	**17 09 02.4**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=232,slow=3.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**110.43**	**321**	PKiKP	**PKiKP**	**17 13 57.1**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=202,slow=0.9,SNR=6.2						
MKAR	**Makanchi Array**	**111.04**	**313**	PKiKP	**PKiKP**	**17 13 59.1**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=173,slow=0.6,SNR=21						
KURK	**Kurchatov**	**113.88**	**317**		**PKiKP**	**17 14 04.3**	**-0.3**
KURBB	**Kurchatov Arra**	**113.93**	**317**	PKiKP	**PKiKP**	**17 14 04.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=86,slow=1.9,SNR=5.2						
AAK	**Ala-Archa**	**116.08**	**308**	PKP	**PKiKP**	**17 14 09.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=127,slow=5.1,SNR=1.8						
BVAR	**Borovoye Array**	**119.00**	**320**	PKP	**PKPdf**	**17 14 13.9**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=79,slow=5.6,SNR=39						
KK31	**Karatay Array**	**119.03**	**308**		**PKPdf**	**17 14 14.5**	**-0.3**
KKAR	**Karatay Array**	**119.03**	**308**		**PKPdf**	**17 14 14.4**	**-0.4**
ARU	**Arti**	**125.19**	**325**	PKP	**PKPdf**	**17 14 26.3**	**+0.2**
	comp=Z,2.2nm,0.4s,baz=230,slow=1.7,SNR=10						
BOSA	**Boshof**	**125.64**	**206**	PKP	**PKiKP**	**17 14 29.7**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=100,slow=4.7,SNR=1.6						
AKTO	**Aktyubinsk**	**126.97**	**318**	PKP	**PKiKP**	**17 14 30.9**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=80,slow=1.4,SNR=5.5						
KIRV	**Kirov**	**129.01**	**330**	PKP	**PKiKP**	**17 14 34.1**	**0.0**
	comp=Z,3.0nm,0.5s,baz=134,slow=4.4,SNR=3.0						
ARCES	**ARCESS Array B**	**129.20**	**349**	PKP	**PKiKP**	**17 14 34.0**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=76,slow=1.1,SNR=12						
BELG	**Belogornoye**	**132.56**	**323**	PKP	**PKiKP**	**17 14 42.0**	**+0.5**
	comp=Z,9.8nm,0.6s,baz=166,slow=4.2,SNR=6.8						
FINES	**FINESS Array B**	**135.98**	**343**	PKhKP	PKPpre	17 14 42.0	
	comp=Z,2.4nm,0.9s,baz=191,slow=5.0,SNR=3.6						
FINES				PKP	**PKiKP**	**17 14 47.5**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=112,slow=2.1,SNR=6.5						
FINES				SKPbc	**SKPbc**	**17 17 23.6**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=33,slow=4.5,SNR=5.7						
NOA	**NORSAR Array B**	**139.30**	**353**	PKhKP	PKPpre	17 14 44.6	
	comp=Z,0.6nm,0.7s,baz=19,slow=2.5,SNR=1.2						
MNK	**Minsk**	**140.90**	**336**	*i* PKP	**PKPdf**	**17 14 54.1**	**-1.5**
	comp=E,3.0nm,1.7s						
MNK				*i* PKP	**PKPdf**	**17 14 54.1**	**-1.5**
	comp=N,34nm,1.4s						
MNK				*i* PKP	**PKPdf**	**17 14 54.1**	**-1.5**
	comp=Z,3.0nm,0.6s						
MNK				*i* pPKP	**pPKPdf**	**17 17 12.9**	**-0.9**
MNK				*i* SKP		17 17 32.2	
MNK				*i* PP	**PP**	**17 18 01.9**	**-2.4**
MNK				*i* PKS	**PKSdf**	**17 18 30.0**	**-1.2**
MNK				*i* SKS	**SKSdf**	**17 21 07.7**	**-1.6**
MNK				*i* SKKS	**SKKSdf**	**17 30 32.2**	**-3.1**
MNK				*i* SS	**SS**	**17 35 42.7**	**-1.5**
MNK				*i* SSS	SSS	17 41 09.9	
MNK				*i* LRM	MLR	18 17 59.4	
	comp=N,102nm,11.0s						
MNK				*i* LRM	MLR	18 18 00.7	
	comp=E,4.0nm,12.9s						
AKASG	**Malin Array Be**	**143.07**	**330**	PKhKP	PKPpre	17 14 57.3	
	comp=E,7.3nm,0.4s,baz=42,slow=4.3,SNR=64						
AKBB	**Malin Array Si**	**143.07**	**330**	PKPpre	PKPpre	17 14 56.8	
GAZ	**Gaziantep**	**144.96**	**305**	PKPbc	**PKPbc**	**17 15 04.5**	**+0.3**
SORM	**Soroca**	**145.23**	**328**	⇑P	**PKPbc**	**17 15 05.0**	**+0.4**
VASR	**Vaslui**	**146.50**	**326**	⇓P	**PKiKP**	**17 15 09.6**	**-0.7**
BR131	**Keskin Array S**	**146.66**	**311**		**PKPbc**	**17 15 08.6**	**-0.5**
BRTR	**Keskin Array B**	**146.66**	**311**	PKPbc	**PKPbc**	**17 15 09.2**	**+0.2**
	comp=E,3.9nm,0.6s,baz=133,slow=4.4,SNR=25						
BRTR	**Keskin Array B**	**146.66**	**311**		**PKPbc**	**17 15 08.8**	**-0.3**
BUR08	**Bucovina Ar. S**	**147.10**	**330**		**PKPbc**	**17 15 10.6**	**+0.7**
BURAR	**Bucovina Array**	**147.11**	**330**	⇑P	**PKiKP**	**17 15 11.4**	**-0.3**
BURAR	**Bucovina Array**	**147.11**	**330**		**PKPbc**	**17 15 10.5**	**+0.6**
BIZ	**Bicaz**	**147.16**	**328**	⇑P	**PKiKP**	**17 15 11.6**	**-0.1**
TESR	**Tescani**	**147.18**	**327**	⇑P	**PKiKP**	**17 15 10.9**	**-0.8**
CFR	**Carcaliu**	**147.26**	**324**	⇑P	**PKiKP**	**17 15 11.1**	**-0.8**
TPGR	**Topolog**	**147.30**	**323**	⇑P	**PKiKP**	**17 15 11.5**	**-0.5**
OJC	**Ojcow**	**147.31**	**338**	*e*PKP	**PKiKP**	**17 15 11.0**	**-0.8**
OJC	**Ojcow**	**147.31**	**338**		**PKPbc**	**17 15 10.8**	**+0.6**
KOLS	**Kolonicke sedl**	**147.41**	**334**	*e*PKP	**PKiKP**	**17 15 11.8**	**-0.3**
KOLS				*e*		17 15 15.2	
MMAI	**Mount Meron Ar**	**147.49**	**299**	PKPbc	**PKiKP**	**17 15 12.3**	**-0.6**
	comp=E,6.7nm,0.4s,baz=66,slow=5.3,SNR=27						
VRI	**Vrincioaia**	**147.57**	**326**	⇑P	**PKiKP**	**17 15 11.9**	**-0.7**
PLOR	**Plostina**	**147.62**	**326**	⇓P	**PKiKP**	**17 15 12.2**	**-0.5**
HARR	**Harsova**	**147.68**	**323**	⇑P	**PKiKP**	**17 15 12.5**	**-0.2**
CRVS	**Cervenica-Dubn**	**147.76**	**335**	*e*PKP	**PKiKP**	**17 15 12.5**	**-0.3**
KSP	**Ksiaz**	**147.89**	**342**	*e*PKP	**PKiKP**	**17 15 13.0**	**0.0**
OZUR		**147.90**	**327**	⇑P	**PKiKP**	**17 15 12.6**	**-0.6**
MDUB	**Mudurnu**	**148.00**	**314**		**PKPbc**	**17 15 11.6**	**-0.8**
NEHR	**Nehoiu**	**148.09**	**326**	⇑P	**PKiKP**	**17 15 13.7**	**+0.1**
OSTC	**Ostas**	**148.17**	**342**	⇑*e*PKP	**PKiKP**	**17 15 13.1**	**-0.5**
DOPR	**Dopca**	**148.19**	**327**	⇑P	**PKiKP**	**17 15 14.3**	**+0.5**
MLR	**Muntele Rosu**	**148.23**	**326**	PKPbc	**PKPbc**	**17 15 13.4**	**+0.5**
	comp=E,5.4nm,0.6s,baz=322,slow=0.7,SNR=11						
MLR	**Muntele Rosu**	**148.23**	**326**	⇓P	**PKPbc**	**17 15 13.3**	**+0.5**
MLR	**Muntele Rosu**	**148.23**	**326**		**PKPbc**	**17 15 12.2**	**-0.6**
CLL	**Collm**	**148.31**	**346**	*e*PKPbc	**PKPbc**	**17 15 12.0**	**-0.7**
	comp=Z,9.0nm,0.9s						
CLL	**Collm**	**148.31**	**346**		**PKiKP**	**17 15 13.2**	**-0.6**
DPC	**Dobruska-Polom**	**148.32**	**342**	⇑*e*PKP	**PKiKP**	**17 15 13.5**	**-0.5**
DPC				*e*PKPAB	**PKPab**	**17 15 19.1**	**+0.8**
LANS	**Liptovska Anna**	**148.32**	**337**	*e*PKP	**PKiKP**	**17 15 14.8**	**+0.8**
LANS				*e*		17 15 20.1	
KRLC	**Kraliky**	**148.43**	**341**	⇑*e*PKP	**PKiKP**	**17 15 13.8**	**-0.4**
KRLC				*e*PKPAB	**PKPab**	**17 15 19.2**	**+0.4**
MORC	**Moravsky Berou**	**148.45**	**340**	*e*PKP	**PKiKP**	**17 15 14.4**	**+0.2**
BRG	**Berggiesshubel**	**148.49**	**345**	*i* PKP	**PKiKP**	**17 15 14.2**	**0.0**
BRG				Amp		17 15 14.8	
	comp=Z,4.6nm,1.0s						
BRG				*e*x	x	17 15 19.7	
BRG				Amp		17 15 20.3	
	comp=Z,2.6nm,0.7s						
EIL	**Elat**	**148.49**	**293**	PKPbc	**PKiKP**	**17 15 14.8**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=28,slow=2.7,SNR=5.3						
VOIR		**148.73**	**327**	⇑P	**PKiKP**	**17 15 14.9**	**-0.1**
ARR	**Arges**	**148.99**	**327**	⇑P	**PKiKP**	**17 15 16.6**	**+1.1**
PRU	**Pruhonice**	**149.15**	**343**	⇑*e*PKP	**PKiKP**	**17 15 15.5**	**-0.1**
VRAC	**Vranov**	**149.16**	**340**	*e*PKP	**PKiKP**	**17 15 16.0**	**+0.3**
JAVC	**Velka Javorina**	**149.20**	**339**	*e*PKP	**PKiKP**	**17 15 17.3**	**+1.5**
LOT	**Lotru**	**149.36**	**328**	⇑P	**PKiKP**	**17 15 16.0**	**-0.4**
KRUC	**Moravsky**	**149.44**	**340**	*e*PKP	**PKiKP**	**17 15 16.5**	**+0.3**
SMOL	**Smolenice**	**149.58**	**339**	*e*PKP	**PKiKP**	**17 15 17.6**	**+1.0**
MODS	**Modra-Piesok**	**149.75**	**339**	*e*PKP	**PKiKP**	**17 15 16.9**	**0.0**
GZR	**Gura Zlata**	**149.88**	**329**	⇑P	**PKiKP**	**17 15 17.5**	**+0.1**
ZST	**Bratislava**	**149.96**	**339**	*e*PKP	**PKPbc**	**17 15 16.5**	**-0.2**
KHC	**Kasperske Hory**	**150.19**	**344**	⇑*e*PKP	**PKiKP**	**17 15 17.6**	**-0.2**
KHC				*e*PKPAB	**PKPab**	**17 15 27.1**	**+1.0**
KHC	**Kasperske Hory**	**150.19**	**344**		**PKiKP**	**17 15 17.6**	**-0.2**
BZS	**Buzias**	**150.26**	**331**	⇓P	**PKiKP**	**17 15 18.2**	**+0.2**
CKRC	**Cesky Krumlov**	**150.27**	**343**	⇑*e*PKP	**PKPbc**	**17 15 17.5**	**0.0**
GERES	**GERESS Array B**	**150.41**	**343**	PKPbc	**PKiKP**	**17 15 18.6**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=38,slow=2.1,SNR=17						
GERES	**GERESS Array B**	**150.41**	**343**		**PKiKP**	**17 15 18.3**	**-0.1**
HERR	**Herculane**	**150.43**	**329**	⇑P	**PKiKP**	**17 15 18.2**	**-0.2**
CONA	**Conrad Observa**	**150.60**	**340**	*e*P	**PKiKP**	**17 15 19.3**	**+0.5**
	comp=Z,4.6nm,0.7s						
MANT	**Manisa**	**150.74**	**313**		**PKPbc**	**17 15 17.8**	**-1.4**
MDVR	**Moldovita**	**150.84**	**329**	⇓P	**PKiKP**	**17 15 19.7**	**+0.3**
MORH	**Mrgy, Hungar**	**151.06**	**335**	⇓P	**PKiKP**	**17 15 19.7**	**+0.1**
MOA	**Molln**	**151.16**	**342**	*e*P	**PKiKP**	**17 15 20.2**	**+0.3**
	comp=Z,1.3nm,0.5s						
FRGS	**Fruska Gora**	**151.42**	**332**	⇓P	**PKiKP**	**17 15 20.9**	**+0.4**
VTS	**Vitosha**	**151.61**	**325**	⇓P	**PKiKP**	**17 15 21.7**	**+0.6**
VTS	**Vitosha**	**151.61**	**325**		**PKPbc**	**17 15 20.8**	**-0.1**
SOKA	**Soboth**	**151.97**	**340**	*e*P	**PKiKP**	**17 15 21.7**	**+0.1**
	comp=Z,1.2nm,0.4s						
KBA	**Koelnbreinsper**	**152.13**	**342**	*e*P	**PKPbc**	**17 15 21.8**	**-0.1**
	comp=Z,5.0nm,1.2s						
DIVS	**Divibare**	**152.16**	**330**		**PKiKP**	**17 15 22.1**	**-0.1**
WTTA	**Wattenberg**	**152.41**	**345**	*i* P	**PKiKP**	**17 15 23.2**	**+0.6**
	comp=Z,4.6nm,0.3s,SNR=5.6						
MYKA	**Terra Mystica**	**152.45**	**342**	*i* P	**PKPbc**	**17 15 22.5**	**-0.1**
	comp=Z,2.0nm,0.4s						
ABTA	**Abfaltersbach**	**152.66**	**343**	*i* P	**PKiKP**	**17 15 23.1**	**0.0**
	comp=Z,2.8nm,0.5s,SNR=4.4						
LIT	**Litokhoron**	**153.70**	**321**		**PKPab**	**17 15 41.2**	**-0.2**
FNA	**Florina**	**153.88**	**324**		**PKPbc**	**17 15 25.5**	**-0.3**
ESDC	**Sonseca Array**	**160.73**	**13**	PKPab	**PKPab**	**17 16 12.1**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=338,slow=5.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**172.29**	**182**	PKP	**PKPdf**	**17 15 35.1**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=238,slow=1.1,SNR=2.8						

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*TIR **01** 17:03:41.6, 40.°28N×19.°84E, h2km±1km, Md3.2, Ml2.9*
*THE **01** 17:03:42.8, 40.°31N×19.°85E, h14km±3km, ML2.7/4, Error ellipse: s-maj=3.2km s-min=1.0km az=255.0*
*PDG **01** 17:03:42.6±0.5, 40.°27N×19.°71E, h10km±1km, ML3.0/10, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*
*BEO **01** 17:03:43.2±0.5, 40.°26N×19.°73E, h3km±3km, ML2.7/8*
ISC 01 17:03:42.3±1.1**, 40.°24N**±0.°02×**19.°77E**±0.°03**, h8**km±9km**,**
n60, σ1.s20/92**, 6C-5D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.19**	**74**	P	**Pg**	**17 03 44.9**	**-1.3**
	baz=84						
VLO	**Vlora**	**0.31**	**317**	P	**Pg**	**17 03 48.7**	**+0.4**
VLO				S	**Sb**	**17 03 54.8**	**-0.5**
	8µm,0.4s						
VLO	**Vlora**	**0.31**	**317**	P	**Pg**	**17 03 48.7**	**+0.4**
	baz=306						
VLO				S	**Sg**	**17 03 54.5**	**+2.1**
	baz=306						
VLO				AMP			
	comp=N,36nm,0.3s,baz=306						
SRN	**Sarande**	**0.40**	**154**	P	**Pg**	**17 03 50.7**	**+0.5**
SRN				S	**Sb**	**17 03 58.5**	**+0.5**
	comp=N,630nm,0.6s						
SRN	**Sarande**	**0.40**	**154**	P	**Pg**	**17 03 50.6**	**+0.5**
	baz=163						
SRN				S	**Sb**	**17 03 57.5**	**-0.5**
	baz=163						
SRN				AMP			
	comp=N,1.7nm,0.3s,baz=163						
KEK	**Kerkira**	**0.53**	**177**	P	**Pg**	**17 03 53.4**	**+0.9**
KEK				S	**Sn**	**17 04 03.9**	**-1.5**
	comp=N,358nm,0.4s						
LSK	**Leskovik**	**0.64**	**98**	P	**Pg**	**17 03 53.6**	**-1.1**
LSK				S	**Sg**	**17 04 03.2**	**+0.1**
	comp=N,1µm,0.6s						
LSK	**Leskovik**	**0.64**	**98**	P	**Pg**	**17 03 53.8**	**-1.0**
	baz=102						
LSK				S	**Sg**	**17 04 03.0**	**-0.1**
	baz=102						
LSK				AMP			
	comp=E,4.4nm,0.6s,baz=102						
IGT	**Igoumenitsa**	**0.83**	**148**	P	**Pg**	**17 03 58.8**	**+0.5**
IGT	**Igoumenitsa**	**0.83**	**148**	*e*Pg	**Pg**	**17 03 59.2**	**+0.9**
IGT				*e*Sg	**Sb**	**17 04 11.1**	**+0.7**
KBN	**Korca**	**0.87**	**64**	P	**Pg**	**17 03 57.9**	**-1.0**
KBN	**Korca**	**0.87**	**64**	P	**Pg**	**17 03 58.1**	**-0.8**
	baz=64						
KBN				S	**Sg**	**17 04 09.9**	**-0.3**
	baz=64						
KBN				AMP			
	comp=E,1.7nm,0.4s,baz=64						
NEST	**Nestorio**	**0.99**	**80**	P	**Pb**	**17 04 01.0**	**-0.8**
JAN	**Janina**	**1.02**	**125**	P	**Pb**	**17 04 01.6**	**-0.6**
PENT	**Pentalofos**	**1.05**	**92**	P	**Pb**	**17 04 00.6**	**-2.2**
TIR	**Tirane**	**1.11**	**4**	*e*Pg	**Pb**	**17 04 02.8**	**-0.9**
TIR				*e*Sg	**Sb**	**17 04 18.9**	**+0.5**
TIR	**Tirane**	**1.11**	**4**	P	**Pb**	**17 04 02.8**	**-0.9**
	baz=0.0						
TIR				S	**Sb**	**17 04 18.9**	**+0.5**
	baz=0.0						
TIR				AMP			
	comp=E,0.8nm,0.7s,baz=0.0						
OHR	**Ohrid**	**1.17**	**42**	*i* Pn	**Pn**	**17 04 03.9**	**-1.2**
FNA	**Florina**	**1.34**	**66**	P	**Pn**	**17 04 06.0**	**-1.4**
FNA	**Florina**	**1.34**	**66**	*e*Pg	**Pn**	**17 04 07.3**	**-0.1**
FNA				*e*Sg	**Sn**	**17 04 26.2**	**+0.7**
PHP	**Peshkopia**	**1.53**	**19**	P	**Pn**	**17 04 09.4**	**-0.6**
PHP	**Peshkopia**	**1.53**	**19**	P	**Pn**	**17 04 11.3**	**+1.3**
	baz=17						
PHP				S	**Sg**	**17 04 32.6**	**+1.2**
	baz=17						
PHP				AMP			
	comp=N,1.6nm,0.7s,baz=17						
TSLK	**Tsoukalades, L**	**1.57**	**154**	P	**Pn**	**17 04 10.6**	**+0.1**
LKD2	**Lefkada island**	**1.61**	**154**	P	**Pn**	**17 04 11.1**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.69**	**154**	P	**Pn**	**17 04 12.5**	**+0.4**
ULC	**Ulcinj**	**1.77**	**347**	⇓*i*Pn	**Pn**	**17 04 12.9**	**-0.3**
ULC				*i* Sn	**Sb**	**17 04 39.0**	**+1.7**
PUK	**Puka**	**1.80**	**3**	P	**Pn**	**17 04 14.8**	**+1.0**
	baz=1.0						
DRME	**Dracevica, Mon**	**1.99**	**347**	⇓*i*Pn	**Pn**	**17 04 16.3**	**0.0**
DRME				*i* Sn	**Sb**	**17 04 44.1**	**+0.3**
EVR	**Evrytania**	**2.06**	**129**	P	**Pn**	**17 04 17.4**	**+0.1**
SKO	**Skopje**	**2.14**	**36**	*e*Pn	**Pn**	**17 04 20.4**	**+2.0**
SKO				*e*Sn	**Sb**	**17 04 48.0**	**-0.1**
BUM	**Brajici-Budva**	**2.16**	**343**	⇓*i*Pn	**Pn**	**17 04 18.7**	**0.0**
BUM				*i* Sn	**Sb**	**17 04 47.9**	**-0.8**
PDG	**Podgorica**	**2.22**	**350**	*e*Pn	**Pn**	**17 04 21.1**	**+1.7**
PDG				*e*Sn	**Sb**	**17 04 49.9**	**-0.4**
TTG	**Podgorica**	**2.22**	**350**	⇓*i*Pn	**Pn**	**17 04 20.1**	**+0.7**
TTG				*i* Sn	**Sb**	**17 04 49.5**	**-0.8**
STIP	**Stip**	**2.34**	**51**	*i* Pn	**Pb**	**17 04 25.5**	**+0.8**
PVY	**Plav**	**2.35**	**3**	⇑*i*Pn	**Pn**	**17 04 22.5**	**+1.1**
PVY				*i* Sn	**Sb**	**17 04 53.3**	**-1.1**
VAY	**Valandovo**	**2.38**	**62**	*e*Pn	**Pn**	**17 04 23.9**	**+2.2**
CEME	**Cevo**	**2.39**	**345**	⇓*i*Pn	**Pn**	**17 04 21.4**	**-0.5**
CEME				*i* Sn	**Sb**	**17 04 53.8**	**-1.5**
HCY	**Herceg Novi**	**2.40**	**337**	⇑*i*Pn	**Pn**	**17 04 21.9**	**-0.1**
HCY				*i* Sn	**Sb**	**17 04 53.9**	**-1.7**
NKME	**Niksic**	**2.60**	**347**	⇑*i*Pn	**Pn**	**17 04 25.4**	**+0.7**
NKME				*i* Sn	**Sn**	**17 04 58.7**	**+2.2**
KOME	**Kolasin**	**2.61**	**356**	⇑*i*Pn	**Pn**	**17 04 25.8**	**+0.8**
KOME				*i* Sn	**Sn**	**17 04 59.2**	**+2.3**
IVA	**Berane**	**2.63**	**2**	⇑*i*Pn	**Pn**	**17 04 25.8**	**+0.6**
IVA				*i* Sn	**Sn**	**17 04 59.7**	**+2.4**
TREB	**Trebinje**	**2.69**	**337**	*e*Pn	**Pn**	**17 04 26.5**	**+0.5**
DBRK	**Dubrovnik**	**2.71**	**334**	*e*Pn	**Pn**	**17 04 23.1**	**-3.1**
BRY	**Bratogost**	**2.81**	**341**	⇑*i*Pn	**Pn**	**17 04 28.3**	**+0.6**
BRY				*i* Sn	**Sn**	**17 05 03.5**	**+1.6**
PRVS	**Prvonek**	**2.85**	**37**	*e*Pn	**Pn**	**17 04 29.4**	**+1.2**
PRVS				*e*Sn	**Sn**	**17 05 03.8**	**+1.0**
BOSS	**Bosilegrad**	**3.04**	**41**	*e*Pn	**Pn**	**17 04 31.9**	**+1.2**
STON	**Ston**	**3.05**	**330**	*i* Pn	**Pn**	**17 04 28.4**	**-2.4**
STON				Sn	**Sn**	**17 05 03.7**	**-3.8**
LSTV	**Lastovo**	**3.32**	**320**	*e*Pn	**Pn**	**17 04 33.4**	**-1.2**
LSTV				Sn	**Sn**	**17 05 13.0**	**-1.3**
IVAS	**Ivanjica**	**3.34**	**5**	*e*Pn	**Pn**	**17 04 35.2**	**+0.2**
BBLS	**Lazići**	**3.63**	**356**	*e*Pn	**Pn**	**17 04 38.6**	**-0.3**
BBLS				*e*Sn	**Sn**	**17 05 22.8**	**+0.8**
ZAPS	**Zavoj**	**3.71**	**34**	*e*Pn	**Pn**	**17 04 42.1**	**+2.1**
GRUS	**Gruza**	**3.71**	**11**	*e*Pn	**Pn**	**17 04 41.3**	**+1.3**
HVAR	**Hvar**	**3.84**	**321**	*e*Pn	**Pn**	**17 04 41.1**	**-0.7**
DIVS	**Divibare**	**3.86**	**2**	*e*Pn	**Pn**	**17 04 42.7**	**+0.7**
DIVS				*e*Sn	**Sn**	**17 05 27.9**	**+0.3**
TRUS	**Trudelj**	**4.01**	**7**	*e*Pn	**Pn**	**17 04 44.3**	**+0.3**
KIJV	**Kijevo**	**4.52**	**327**	*i* Pn	**Pn**	**17 04 49.9**	**-1.1**
ZIRJ	**Zirje**	**4.59**	**319**	*e*Pn	**Pn**	**17 04 51.5**	**-0.5**
MORI	**Morici**	**4.72**	**321**	*e*Pn	**Pn**	**17 04 53.6**	**-0.2**
MORI				Sn	**Sn**	**17 05 49.1**	**+0.5**
DUGI	**Dugi Otok**	**5.13**	**318**	*e*Pn	**Pn**	**17 04 58.8**	**-0.6**
UDBI	**Udbina**	**5.21**	**327**	*i* Pn	**Pn**	**17 05 00.2**	**-0.4**

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*IDC **01** 17:11:52.4±2.4, 61.°22N×153.°17W, h118km±22km, mb3.6/4, mb1 3.8/9, mb1mx3.2/60, mbtmp4.0/9, Error ellipse: s-maj=31.7km s-min=21.2km az=87.0*
*NEIC **01** 17:11:54.1±1.3, 61.°14N±0.°04×152.°65W±0.°10, h146km±5km, Error ellipse: s-maj=6.9km s-min=6.2km az=121.0*
*AEIC **01** 17:11:55±1.4, 61.°14N±0.°04×152.°59W±0.°10, h146km±4km, ML3.6, mb3.7/1(NEIC), ML3.9/87(NEIC), Error ellipse: s-maj=7.1km s-min=6.3km az=126.0*
ISC 01 17:11:54.9±0.8**, 61.°16N**±0.°04×**152.°65W**±0.°04**,**
h145km±6km**, n145,** σ1.s26/158**, mb3.7**/4**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBG	**Spurr Blockage**	**0.17**	**54**		**Pn**	**17 12 13.6**	**-1.0**
SPBG					**Sn**	**17 12 27.5**	**-2.2**
SPCR	**Spurr Chakacha**	**0.21**	**80**		**Pn**	**17 12 14.4**	**-0.3**
SPCR					**Sn**	**17 12 29.0**	**-0.8**
SPCN	**Chakachatna No**	**0.23**	**74**		**Pn**	**17 12 14.6**	**-0.1**
SPCP	**Crater Peak Br**	**0.26**	**66**		**Pn**	**17 12 14.9**	**0.0**
STLK	**Strandline Lak**	**0.52**	**49**		**Pn**	**17 12 15.5**	**-0.3**
NCT	**North Crescent**	**0.62**	**193**		**Pn**	**17 12 16.1**	**-0.4**
NCT					**Sn**	**17 12 31.7**	**-1.2**
RSO	**Redoubt South**	**0.70**	**184**		**Pn**	**17 12 16.8**	**-0.4**
RED	**Redoubt Volcan**	**0.75**	**185**		**Pn**	**17 12 16.7**	**-0.6**
RED					**Sn**	**17 12 33.8**	**-0.6**
CAPN	**Captain Cook N**	**0.83**	**118**		**Pn**	**17 12 18.8**	**+1.1**
SUA	**Susitna One**	**0.96**	**71**		**Pn**	**17 12 19.0**	**0.0**
SUA				Sn	**Sn**	**17 12 37.0**	**-0.4**
SUA				IAML		17 12 38.4	
	comp=N,2µm,0.5s						
SUA				IAML		17 12 38.6	
	comp=E,2µm,0.6s						
SKT	**Skwentna**	**0.98**	**33**		**Pn**	**17 12 18.9**	**-0.1**
SKT				IAML		17 12 39.2	
	comp=N,985nm,0.4s						
SKT	**Skwentna**	**0.98**	**33**		**Sn**	**17 12 37.0**	**-0.5**
ILIM	**Iliamna**	**1.10**	**188**		**Pn**	**17 12 19.7**	**-0.5**
IVE	**Iliamna Volcan**	**1.17**	**189**		**Pn**	**17 12 20.2**	**-0.6**
IVE					**Sn**	**17 12 39.2**	**-1.4**
FIS	**Fire Island**	**1.18**	**90**		**Pn**	**17 12 21.3**	**+0.6**
ILS	**Iliamna Low So**	**1.23**	**190**		**Pn**	**17 12 21.0**	**-0.4**
SLKM	**Skilak Lake**	**1.36**	**118**		**Pn**	**17 12 21.9**	**-0.7**
SLKM					**Sn**	**17 12 41.6**	**-2.2**
RC01	**Rabbit Creek A**	**1.41**	**92**		**Pn**	**17 12 22.5**	**-0.7**
SVW2	**Sparrevohn**	**1.43**	**269**		**Pn**	**17 12 22.7**	**-0.5**
SVW2				Sn	**Sn**	**17 12 43.3**	**-1.7**
OPT	**Oil Point**	**1.54**	**191**		**Pn**	**17 12 24.5**	**-0.1**
O22K	**Cooper Landing**	**1.59**	**114**		**Pn**	**17 12 24.5**	**-0.4**
HOM	**Homer**	**1.59**	**161**		**Pn**	**17 12 24.6**	**-0.4**
HOM					**Sn**	**17 12 46.8**	**-1.3**
BRLK	**Bradley Lake**	**1.65**	**147**		**Pn**	**17 12 24.6**	**-1.1**
BRLK				Sn	**Sn**	**17 12 48.2**	**-1.2**
BRLK				IAML		17 12 48.8	
	comp=E,715nm,0.7s						
BRLK				IAML		17 12 49.8	
	comp=N,720nm,0.5s						
CUT	**Chulitna**	**1.68**	**41**		**Pn**	**17 12 25.8**	**-0.1**
BRSE	**Bradley Lake S**	**1.71**	**146**		**Pn**	**17 12 25.3**	**-1.0**
BRSE					**Sn**	**17 12 47.9**	**-2.6**
PPLA	**Purkeypile**	**1.75**	**7**		**Pn**	**17 12 27.2**	**+0.2**
CNPM	**China Poot**	**1.79**	**156**		**Pn**	**17 12 26.3**	**-0.9**
CNPM				IAML		17 12 51.5	
	comp=E,898nm,0.6s						
CNPM	**China Poot**	**1.79**	**156**		**Sn**	**17 12 49.5**	**-2.6**
AUL	**Augustine Lava**	**1.83**	**193**		**Pn**	**17 12 27.4**	**-0.3**
AUCH	**Augustine Cone**	**1.85**	**193**		**Pn**	**17 12 27.7**	**-0.3**
SEW	**Seward**	**1.90**	**123**		**Pn**	**17 12 27.6**	**-0.8**
PWL	**Port Wells**	**2.12**	**96**		**Pn**	**17 12 29.6**	**-1.6**
SML	**Sawmill**	**2.17**	**71**	Pn	**Pn**	**17 12 30.3**	**-1.4**
SML				IAML		17 13 00.9	
	comp=E,417nm,1.0s						
SML				IAML		17 13 01.0	
	comp=N,435nm,0.7s						
HUR	**Hurricane**	**2.31**	**37**		**Pn**	**17 12 33.1**	**-0.2**
TT01	**Tatalina**	**2.37**	**319**		**Pn**	**17 12 34.0**	**-0.1**
TTA	**Tatalina**	**2.38**	**320**	Pn	**Pn**	**17 12 34.1**	**-0.1**
KTH	**Kantishna Hill**	**2.53**	**18**		**Pn**	**17 12 35.6**	**-0.5**
KTH				IAML		17 13 07.9	
	comp=E,363nm,0.5s						
KTH	**Kantishna Hill**	**2.53**	**18**		**Sn**	**17 13 05.8**	**-2.1**
TRF	**Thorofare Moun**	**2.55**	**25**	Pn	**Pn**	**17 12 36.1**	**-0.3**
SCM	**Sheep Creek Mo**	**2.64**	**73**		**Pn**	**17 12 36.4**	**-1.1**
SCM				IAML		17 13 11.0	
	comp=E,556nm,0.6s						
SCM				IAML		17 13 13.1	
	comp=N,498nm,0.7s						
GLI	**Glacier Island**	**2.72**	**94**		**Pn**	**17 12 36.4**	**-2.0**
GLI				IAML		17 13 16.0	
	comp=N,273nm,0.7s						
GLI	**Glacier Island**	**2.72**	**94**		**Sn**	**17 13 09.8**	**-2.1**
CHUM	**Lake Minchumin**	**2.73**	**3**		**Pn**	**17 12 38.4**	**-0.2**
KAHC	**Katmai Hardscr**	**2.79**	**206**		**Pn**	**17 12 39.0**	**-0.5**
RND	**Reindeer**	**2.87**	**37**		**Pn**	**17 12 40.0**	**-0.3**
RND				IAML		17 13 15.2	
	comp=E,399nm,0.4s						
RND				IAML		17 13 19.3	
	comp=N,332nm,0.4s						
JPK	**Jack Peak**	**2.94**	**89**		**Pn**	**17 12 39.8**	**-1.4**
FID	**Port Fidalgo**	**3.04**	**95**		**Pn**	**17 12 40.1**	**-2.3**
FID				IAML		17 13 20.9	
	comp=N,303nm,0.6s						
FID				IAML		17 13 21.1	
	comp=E,360nm,0.4s						
BPAW	**Bear Paw Mtn.**	**3.05**	**14**		**Pn**	**17 12 41.6**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BPAW				IAML		17 13 19.3	
	comp=N,197nm,0.7s						
BPAW				IAML		17 13 19.6	
	comp=E,203nm,0.6s						
MCK	McKinley	3.10	32		Pn	17 12 42.8	-0.5
HIN	Hinchinbrook I	3.11	102		Pn	17 12 41.6	-1.8
HIN	Hinchinbrook I	3.11	102		Sn	17 13 20.6	-0.4
HIN	Hinchinbrook I	3.11	102	IAML		17 13 46.5	
	comp=N,197nm,0.9s						
HIN				IAML		17 13 49.0	
	comp=E,198nm,0.8s						
M24K	Tolsona, Glenn	3.23	70		Pn	17 12 45.0	0.0
KLU	Klutina	3.26	81		Pn	17 12 44.1	-1.3
KLU				IAML		17 13 26.4	
	comp=N,189nm,0.4s						
DIV	Divide	3.33	88		Pn	17 12 45.1	-1.2
BWN	Browne	3.36	25		Pn	17 12 46.5	0.0
BWN				IAML		17 13 50.0	
	comp=N,264nm,0.8s						
BWN				IAML		17 13 54.3	
	comp=E,265nm,0.8s						
KDAK	Kodiak Island	3.39	179	P	Pn	17 12 44.6	-2.4
	comp=E,12nm,0.3s,baz=17,slow=11,SNR=307						
KDAK				S	Sn	17 13 23.1	-4.2
	comp=E,16nm,0.3s,baz=328,slow=23,SNR=12						
KDAK	Kodiak Island	3.39	179	Pn	Pn	17 12 44.7	-2.3
CAHL	Cahill	3.40	205		Pn	17 12 47.1	0.0
EYAK	Cordova Ski Ar	3.43	97	Pn	Pn	17 12 45.7	-1.7
KJL	Kejulik	3.46	207		Pn	17 12 48.5	+0.6
PS11	TAPS Pump St11	3.55	72		Pn	17 12 49.3	+0.4
Q23K	Middleton Isla	3.58	116	Pn	Pn	17 12 49.1	-0.3
Q23K				IAML		17 13 33.2	
	comp=N,210nm,0.8s						
Q23K				IAML		17 13 35.2	
	comp=E,211nm,1.6s						
MID	Middleton Isla	3.59	116	Pn	Pn	17 12 49.1	-0.4
MID				IAML		17 13 30.8	
	comp=E,204nm,0.8s						
MID				IAML		17 13 33.2	
	comp=N,207nm,0.9s						
MID	Middleton Isla	3.59	116		Sn	17 13 30.9	-0.9
NEA2	Nenana	3.81	24		Pn	17 12 51.5	-0.9
PAX	Paxson	3.83	59		Pn	17 12 52.7	-0.1
N25K	Chitina, Valde	3.90	80		Pn	17 12 52.5	-1.1
N25K				IAML		17 13 40.8	
	comp=N,167nm,0.6s						
BMRM	Bremner River	3.91	89		Pn	17 12 52.5	-1.3
GOAT	Goat Mountain	3.92	95		Pn	17 12 52.5	-1.4
WRH	Wood River Hil	3.92	30		Pn	17 12 52.9	-0.9
WRH				IAML		17 13 38.9	
	comp=N,104nm,0.8s						
PLK1	Peulik 1	3.93	213		Pn	17 12 54.2	+0.2
PLK3	Peulik 3	3.95	210		Pn	17 12 54.7	+0.4
OHAK	Old Harbor	3.97	185	Pn	Pn	17 12 51.8	-2.7
MLY	Manley	3.98	12		Pn	17 12 53.9	-0.8
RAGM	Ragged Mountai	3.98	98		Pn	17 12 53.3	-1.5
RAGM				IAML		17 14 11.5	
	comp=E,177nm,0.6s						
CCB	Clear Creek Bu	4.14	30		Pn	17 12 55.6	-1.0
CCB				IAML		17 13 44.5	
	comp=E,91nm,0.3s						
HDA	Harding Lake	4.18	36		Pn	17 12 56.0	-1.2
HMT	Hamilton	4.20	98		Pn	17 12 55.9	-1.6
HMT				IAML		17 14 01.9	
	comp=N,180nm,0.5s						
KAIM	Kayak Island	4.25	103	Pn	Pn	17 12 57.6	-0.5
KAIM				IAML		17 14 45.5	
	comp=N,88nm,1.5s						
I23K	Minto, Yukon-K	4.27	19		Pn	17 12 57.8	-0.5
I23K				IAML		17 14 07.4	
	comp=N,81nm,0.7s						
GLB	Gilahina Butte	4.27	82		Pn	17 12 57.6	-0.9
GLB				IAML		17 13 49.5	
	comp=E,96nm,0.4s						
GLB				IAML		17 13 49.5	
	comp=N,125nm,0.5s						
MDM	Murphy Dome	4.31	26		Pn	17 12 58.0	-0.9
MDM				IAML		17 13 49.8	
	comp=N,80nm,0.7s						
TCOL	CIGO, UAF Yank	4.31	28		Pn	17 12 58.5	-0.5
PS08	TAPS Pump Stn8	4.32	36		Pn	17 12 58.3	-0.7
COLA	College	4.32	28		Pn	17 12 58.4	-0.6
NICHA	Nichawak Mount	4.37	98		Pn	17 12 57.9	-1.8
VRDI	Verde Repeater	4.45	85		Pn	17 12 60.0	-1.0
BERG	Berg Lake	4.45	96		Pn	17 12 59.0	-1.8
IL31		4.47	33		Pn	17 13 00.4	-0.6
ILAR	Eielson Array	4.47	33	P	Pn	17 13 00.1	-0.9
	comp=N,16nm,0.3s,baz=222,slow=12,SNR=597						
ILAR				S	Sn	17 13 48.5	-4.2
	comp=N,16nm,0.3s,baz=105,slow=20,SNR=8.0						
ILAR	Eielson Array	4.47	33		Pn	17 13 00.3	-0.8
SUCK	Suckling Hills	4.50	100	Pn	Pn	17 13 01.0	-0.6
MENT	Mentasta	4.56	63	Pn	Pn	17 13 02.2	-0.1
POKR	Poker Plat Res	4.62	29		Pn	17 13 02.9	-0.2
POKR				IAML		17 13 59.2	
	comp=N,76nm,0.6s						
MCARA	McCarthy VSAT	4.65	83		Pn	17 13 03.0	-0.5
CRQM	Cirque	4.65	91	Pn	Pn	17 13 02.6	-1.0
CRQM				IAML		17 13 59.6	
	comp=N,114nm,0.6s						
CRQM				IAML		17 14 04.7	
	comp=E,90nm,0.6s						
KHIT	Khitrov Hills	4.66	95		Pn	17 13 02.2	-1.4
GRIN	Grindle Hills	4.66	97		Pn	17 13 02.2	-1.5
SII	Sitkinak Islan	4.69	190	Pn	Pn	17 13 02.9	-1.1
SII				IAML		17 13 54.5	
	comp=E,105nm,1.5s						
SII				IAML		17 13 56.9	
	comp=N,92nm,0.7s						
DOT	Dot Lake	4.71	54	Pn	Pn	17 13 03.8	-0.4
TGL	Tana Glacier	4.80	91		Pn	17 13 04.6	-0.9
TGL				IAML		17 14 02.1	
	comp=N,71nm,0.6s						
TGL				IAML		17 14 05.2	
	comp=E,80nm,0.6s						
IM03		4.87	355		Pn	17 13 06.1	-0.1
IMAR	Indian Mountai	4.87	355	Pn	Pn	17 13 05.8	-0.4
SCRK	Sand Creek	4.90	51		Pn	17 13 06.2	-0.6
PTPK	Patty Peak	4.93	85		Pn	17 13 07.0	-0.3
KULT	Kultieth River	4.96	96		Pn	17 13 05.9	-1.7
BALM	Baldy	5.00	87		Pn	17 13 07.7	-0.5
BALM				IAML		17 14 07.9	
	comp=E,80nm,0.6s						
KIAG	Kiagna River	5.01	88		Pn	17 13 07.7	-0.7
BARN	Barnard Glacie	5.33	86		Pn	17 13 12.4	-0.2
YAH	Yahtse	5.40	94		Pn	17 13 13.2	-0.5
PRP	Porcupine Dome	5.42	33		Pn	17 13 11.6	-2.1
BC03		5.44	65		Pn	17 13 14.2	+0.3
BCAR	Beaver Creek A	5.44	65	Pn	Pn	17 13 13.3	-0.7
CTGM	Chitina Glacie	5.50	87		Pn	17 13 14.6	-0.3
LOGN	Logan Glacier	5.68	88		Pn	17 13 17.4	+0.2
TABL	Table Mountain	5.68	92		Pn	17 13 16.9	-0.5
YUK2	White River	5.69	79		Pn	17 13 17.2	-0.1
CHGN	Chignik	5.73	214		Pn	17 13 16.5	-1.2
BVCY	Beaver Creek	5.73	72		Pn	17 13 18.6	+0.8
YUK3	Moose Creek	5.87	79		Pn	17 13 20.1	+0.2
SAMH	Samovar Hills	5.93	95		Pn	17 13 20.7	+0.2
COLD	Coldfoot	6.18	9		Pn	17 13 23.2	-0.5
PCA	Pinnacle	6.19	95		Pn	17 13 23.5	-0.5
FYU	Fort Yukon	6.33	28		Pn	17 13 24.6	-1.2
EGAK	Eagle	6.37	50		Pn	17 13 25.4	-0.8
BCPM	Bancas Point	6.53	95	Pn	Pn	17 13 28.4	-0.1
ANM	Nome	6.75	306		Pn	17 13 30.6	-0.7
DAWY	Dawson	6.77	59		Pn	17 13 31.9	+0.2
BM03	Burnt Mountain	7.18	26		Pn	17 13 35.8	-1.4
BMAR	Burnt Mountain	7.20	26	Pn	Pn	17 13 35.6	-1.7
TOLK	Toolik Lake Re	7.62	9		Pn	17 13 43.7	+0.7
RDOG	Red Dog Mine	8.19	332		Pn	17 13 51.4	+0.8
WHY	Whitehorse	8.67	86		Pn	17 13 56.6	-0.5
JIS	Juneau Island	9.66	99		Pn	17 14 10.7	+0.5
INK	Inuvik	10.82	40	P	Pn	17 14 24.2	-1.2
	comp=E,0.8nm,0.3s,baz=236,slow=15,SNR=24						
INK				S	Sn	17 16 21.2	-3.5
	comp=E,0.2nm,0.3s,baz=210,slow=5.6,SNR=4.1						
INK	Inuvik	10.82	40		Pn	17 14 25.0	-0.4
DLBC	Dease Lake	11.69	93	P	Pn	17 14 38.3	+1.2
	comp=E,0.2nm,0.3s,baz=277,slow=8.1,SNR=2.6						
DLBC				S	Sn	17 16 51.4	+5.3
	comp=E,0.1nm,0.3s,baz=299,slow=26,SNR=1.7						
C36M	Paulatuk	14.36	43		Pn	17 15 09.3	-1.7
YKA	Yellowknife Ar	17.84	69	P	Pn	17 15 54.1	+0.5
	comp=E,0.2nm,0.3s,baz=282,slow=11,SNR=8.5						
RES	Resolute Bay	24.23	33	P	P	17 16 58.2	+0.6
	comp=E,1.1nm,0.5s,baz=281,slow=6.3,SNR=9.3						
PDAR	Pinedale Array	31.52	106	P	P	17 18 05.8	+2.7
	comp=E,0.4nm,0.4s,baz=332,slow=4.5,SNR=9.0						
ARCES	ARCESS Array B	49.59	1	P	P	17 20 30.9	+0.5
	comp=E,4.3nm,0.9s,baz=354,slow=7.3,SNR=2.3						
AKASG	Malin Array Be	68.48	359	P	P	17 22 40.2	-0.5
	comp=E,0.4nm,0.3s,baz=7.9,slow=6.8,SNR=4.5						
AKASG	Malin Array Be	68.48	359	IAmb	IAmb	17 24 11.8	
	comp=Z,1.5nm,1.3s						

*IDC **01** 17:19:02.9±2.4,27°.34S×70°.66W,h0km,mb4.0/1, mb1 3.8/2,mb1mx3.5/38,mbtmp3.8/2,ML3.2/1,MS3.4/1, Ms1 3.4/1,ms1mx2.6/28,Error ellipse: s-maj=114.6km s-min=42.7km az=103.0*
*GUC **01** 17:19:03.8±0.7,27°.25S×71°.28W,h34km±4km,ML3.4*
ISC 01 17:19:02.7±1.1**,27°.22S**±0°.04×**71°.30W**±0°.09**,h15**km**,n18,** σ**0s.93**/20**,4C-1D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AC04	Llanos de Chal	1.01	168⇑	eP	Pb	17 19 21.0	-0.9
AC04				eS	Sb	17 19 33.5	-1.4
AC04				IAML		17 19 34.4	
	comp=E,4μm,0.2s						
GO03	Copiap	1.02	112⇓	iP	Pb	17 19 21.9	-0.3
GO03				i S	Sb	17 19 34.5	-0.9
GO03				IAML		17 19 36.1	
	comp=E,1μm,0.2s						
AC01	Pan de Azucar	1.23	31⇑	iP	Pg	17 19 25.6	-0.9
AC01				eS	Sg	17 19 42.0	-0.6
AC05	El Transito	1.85	151⇑	iP	Pn	17 19 34.7	+0.6
AC05				eS	Sn	17 19 57.8	+0.4
AC05				IAML		17 20 06.6	
	comp=N,579nm,0.5s						
AC02	Maricunga	1.97	79⇑	iP	Pb	17 19 38.4	-0.3
AC02				IAML		17 20 08.8	
	comp=N,922nm,0.3s						
GO02	Mina Guanaco	2.56	37	eP	Pn	17 19 45.5	+1.6
GO02				IAML		17 20 36.2	
	comp=E,346nm,0.6s						
PB14	IPOC Station P	2.70	18	eP	Pn	17 19 46.0	+0.1
PB14				IAML		17 20 36.6	
	comp=E,71nm,0.4s						
CO01	Juntas del Tor	2.95	159	eP	Pn	17 19 50.5	+1.2
CO01				eS	Sn	17 20 25.9	+1.4
CO01				IAML		17 20 36.4	
	comp=N,139nm,0.4s						
GO04	Tololo Observa	2.98	172	eP	Pn	17 19 50.4	+0.7
CO03	El Pedregal	3.65	172	eP	Pn	17 19 59.6	+0.8
LVC	Limon Verde	5.07	26	Pn	Pn	17 20 19.4	+0.8
	comp=N,1.0nm,0.3s,baz=213,slow=12,SNR=9.3						
LVC				Sn	Sn	17 21 17.6	+0.5
	comp=N,2.6nm,0.3s,baz=198,slow=9.7,SNR=3.1						
LVC				Lg	Lg	17 21 34.8	
	comp=N,4.3nm,0.3s,baz=292,slow=20,SNR=5.9						
H03N1	Juan Fernandez	9.04	225	T	T	17 30 42.3	
	baz=52,slow=71,SNR=282						
H03N2	Juan Fernandez	9.05	225	T	T	17 30 43.2	
	baz=52,slow=71,SNR=308						
H03N3	Juan Fernandez	9.06	225	T	T	17 30 40.9	
	baz=52,slow=71,SNR=322						
JTS	Las Juntas de	39.56	339	LR	LR	17 41 14.8	
	comp=N,49nm,18.5s,baz=156,slow=33						
TORD	Torodi Ar. Bea	81.32	70	P	P	17 31 19.1	+0.1
	comp=N,1.1nm,0.8s,baz=247,slow=4.4,SNR=3.9						
ZALV	Zalesovo Beam	148.02	27	PKPbc	PKiKP	17 38 49.1	+0.1
	comp=N,1.0nm,0.6s,baz=320,slow=4.3,SNR=5.5						
MKAR	Makanchi Array	151.47	40	PKPbc	PKiKP	17 38 57.5	+1.0
	comp=N,0.7nm,0.7s,baz=322,slow=3.0,SNR=9.2						

*IDC **01** 17:25:29.6±2.4,27°.32S×70°.98W,h0km,mb3.8/1, mb1 3.6/2,mb1mx3.4/36,mbtmp3.6/2,ML3.0/1,Error ellipse: s-maj=126.4km s-min=44.3km az=108.0*
*GUC **01** 17:25:30.7±0.8,27°.26S×71°.23W,h36km±6km,ML3.2*
ISC 01 17:25:29.8±1.9**,27°.21S**±0°.04×**71°.29W**±0°.08**,h4**km±11km**,** **n15,**σ**0s.85**/19**,5C,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO03	Copiap	1.01	113	eP	Pg	17 25 49.2	0.0
GO03				i S	Sg	17 26 02.4	+0.1
GO03				IAML		17 26 04.1	
	comp=N,647nm,0.1s						
AC04	Llanos de Chal	1.01	169⇑	iP	Pg	17 25 49.1	-0.1
AC04				i S	Sg	17 26 01.8	-0.5
AC04				IAML		17 26 02.6	
	comp=E,1μm,0.2s						
AC01	Pan de Azucar	1.22	30⇑	iP	Pb	17 25 53.2	-0.2
AC01				i S	Sn	17 26 10.9	+0.3
AC01				IAML		17 26 17.8	
	comp=E,323nm,0.6s						
AC05	El Transito	1.85	151⇑	iP	Pn	17 26 03.0	+0.6
AC05				i S	Sn	17 26 26.0	-0.4
AC05				IAML		17 26 34.9	
	comp=N,411nm,0.6s						
AC02	Maricunga	1.96	80	eP	Pn	17 26 05.0	+0.8
AC02				i S	Sb	17 26 31.4	+0.2
AC02				IAML		17 26 35.8	
	comp=N,418nm,0.5s						
GO02	Mina Guanaco	2.54	37⇑	iP	Pn	17 26 13.3	+1.3
GO02				i S	Sb	17 26 46.3	-1.5
GO02				IAML		17 27 04.6	
	comp=E,274nm,0.7s						
CO01	Juntas del Tor	2.95	159⇑	iP	Pn	17 26 19.3	+1.6
CO01				i S	Sn	17 26 53.1	-0.5
CO01				IAML		17 27 06.2	
	comp=E,87nm,0.4s						
VCA	Vinchina	3.12	120	IAML		17 27 19.1	
	comp=N,112nm,0.5s						
LVC	Limon Verde	5.06	26	Pn	Pn	17 26 47.6	+0.9
	comp=N,0.6nm,0.3s,baz=217,slow=7.8,SNR=1.6						
LVC				Sn	Sn	17 27 45.4	-0.3
	comp=N,1.3nm,0.3s,baz=178,slow=13,SNR=2.1						
H03N1	Juan Fernandez	9.05	225	T	T	17 37 06.9	
	baz=53,slow=71,SNR=92						
H03N2	Juan Fernandez	9.07	225	T	T	17 37 10.9	
	baz=53,slow=71,SNR=90						
H03N3	Juan Fernandez	9.07	225	T	T	17 37 08.2	
	baz=53,slow=71,SNR=80						
TORD	Torodi Ar. Bea	81.31	70	P	P	17 37 47.3	-0.4
	comp=N,0.7nm,0.9s,baz=248,slow=4.5,SNR=2.6						
ZALV	Zalesovo Beam	148.01	27	PKPbc	PKPbc	17 45 16.8	+0.8
	comp=N,0.7nm,0.5s,baz=306,slow=4.8,SNR=4.3						
MKAR	Makanchi Array	151.45	40	PKPbc	PKPbc	17 45 24.0	-0.8
	comp=N,0.6nm,0.7s,baz=306,slow=2.6,SNR=7.1						

*INET **01** 17:45:11.4,8°.43N×82°.92W,h15km,ML3.3*
UPA 01 17:45:11.8±1.9**,8°.43N**×**82°.84W,h30**km±6km**,MW4.5,** **4C-8D,Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LESP3	La Esperanza,	0.06	115	eP	Pb	17 45 16.9	0.0
LESP3				eS	Sb	17 45 20.2	-0.1
CDITO	Canoas	0.15	348⇑	iP	Pb	17 45 17.1	-0.4
BAGA3	Bagala, Chiriq	0.31	83⇓	iP	Pb	17 45 19.5	+0.1
BAGA3				eS	Sb	17 45 25.2	+0.6
MLIR3	Monte Lirio, C	0.36	3⇑	iP	Pb	17 45 19.9	-0.3
MLIR3				eS	Sn	17 45 28.6	+1.2
DVD	David	0.39	89⇑	iP	Pb	17 45 20.1	-0.4
DVD				eS	Sn	17 45 27.4	-0.3
BRU2	Volcan	0.39	22⇑	iP	Pb	17 45 20.2	-0.4
BRU2				eS	Sb	17 45 27.4	+0.6
PEDE3	Pedregal, Chir	0.42	96⇓	iP	Pb	17 45 20.5	-0.4
PEDE3				eS	Sb	17 45 27.4	+0.3
LOCO3	Loma Colorada,	0.42	93⇓	iP	Pb	17 45 20.6	-0.4
LOCO3				eS	Sb	17 45 27.6	+0.4
BCO2	Palmira	0.42	47⇓	iP	Pb	17 45 20.8	-0.4
BCO2				eS	Sn	17 45 29.3	+0.4
PTAR3	Potrerillos Ar	0.43	53⇓	iP	Pb	17 45 20.9	-0.3
PTAR3				eS	Sb	17 45 28.2	+0.6
LOMA3	Las Lomas, Chi	0.45	90	eP	Pb	17 45 20.7	-0.6
LOMA3				eS	Sb	17 45 27.5	-0.4
PIRO	Carate, Puerto	0.49	267	eP	Pb	17 45 20.2	-1.8
PIRO				eS	Sb	17 45 29.1	0.0
CHIR3	Chiriqui UPA,	0.51	94	eP	Pb	17 45 21.5	-0.8
CHIR3				eS	Sb	17 45 29.1	-0.5
LNBQ3	Los Naranjos,	0.54	48	eP	Pb	17 45 21.9	-1.0
LNBQ3				eS	Sb	17 45 30.8	+0.4
GUAL3	Gualaca, Chiri	0.55	79⇓	iP	Pb	17 45 22.2	-0.8
GUAL3				eS	Sb	17 45 30.5	-0.2
PSOM3	Paja de Sombre	0.57	64⇓	iP	Pb	17 45 22.5	-1.0
PSOM3				eS	Sb	17 45 31.4	0.0
CHGR2	Aguacate	0.85	54⇓	iP	Pn	17 45 26.4	-1.4
CHGR2				eS	Sb	17 45 38.6	-0.7
DRK0	Durika	0.92	334	eP	Pn	17 45 26.6	-2.3
DRK0				eS	Sn	17 45 41.2	0.0
RGM0	Gandoca	1.18	11	eP	Pb	17 45 33.4	-0.2
RGM0				eS	Sb	17 45 51.4	+3.0
PVID3	Puerto Vidal,	1.28	107	eP	Pn	17 45 32.1	-1.5
GMAL	Guarumal, Vera	1.73	112	eP	Pn	17 45 40.0	+0.2
GMAL				eS	Sn	17 46 01.8	+0.9
HDC	Heredia	2.00	321	eP	Pn	17 45 45.1	+1.3
HDC				eS	Sb	17 46 11.2	-1.1
CACAO	El Cacao, Vera	2.24	119	eP	Pn	17 45 48.2	+1.4
CACAO				eS	Sn	17 46 14.7	+1.2
PNME	Penonome	2.49	89	eP	Pn	17 45 51.9	+1.5
PNME				eS	Sb	17 46 24.1	-2.0
AZU	Azuero	2.62	104	eP	Pn	17 45 53.7	+1.6
AZU				i S	Sb	17 46 26.6	-3.3
VTON	El Valle, Cocl	2.71	86	eP	Pn	17 45 54.6	+1.2
VTON				eS	Sb	17 46 30.1	-2.3
JTS	Las Juntas de	2.79	312	eP	Pn	17 45 53.4	-1.1
JTS				eS	Sn	17 46 27.1	0.0
BCIP	Isla Barro Col	3.06	76	eP	Pb	17 46 03.1	-2.5
BCIP				eS	Sb	17 46 40.5	-2.0
UPA	Univ. de Panam	3.32	80	eP	Pb	17 46 06.7	-3.3
UPA				eS	Sb	17 46 51.3	+1.4

IDC 01 18:12:43.6±1.8**,2°.92N**×**126°.00E,h0**km**,mb3.8**/4**,** **mb1 4.0**/4**,mb1mx3.4**/42**,mbtmp3.8**/4**,Error ellipse: s-maj=175.9km s-min=22.8km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.15	161	P	P	18 18 01.6	0.0
	4.0nm,0.7s,baz=340,slow=10,SNR=15						
ASAR	Alice Springs	27.52	164	P	P	18 18 32.0	-0.1
	0.5nm,0.4s,baz=351,slow=15,SNR=11						
STKA	Stephens Creek	37.64	158	P	P	18 20 00.8	+0.3
	0.7nm,0.5s,baz=328,slow=9.8,SNR=3.3						
MKAR	Makanchi Array	57.81	326	P	P	18 22 36.6	-0.3
	0.3nm,0.3s,baz=124,slow=7.7,SNR=11						

*IDC **01** 18:13:24.9±3.1,8°.01S×118°.02E,h158km±26km,mb2.9/2, mb1 3.4/5,mb1mx3.0/39,mbtmp3.8/5,Error ellipse: s-maj=60.6km s-min=17.3km az=44.0*
*DJA **01** 18:13:25.9±0.3,9°S±7°×11°8E±°,h157km±4km,M4.0/13, mb4.2/4,MLv3.8/13*
ISC 01 18:13:25.5±0.9**,8°.48S**±0°.09×**117°.84E**±0°.07**,h150**km**,n19,** σ**1s.87**/24**,Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.35	189	P	Pn	18 13 47.9	+1.7
PLAI				S	Sn	18 14 05.2	+3.1
TWSI	Taliwang, Sumb	0.98	255	P	Pn	18 13 51.4	+1.4
DNP	Denpasar	2.60	265	P	Pn	18 14 08.3	+0.4
SRBI	Singaraja	2.62	278	P	Pn	18 14 08.7	+0.6
WSI	Waingapu	2.70	116	P	Pn	18 14 10.4	+1.3
BASI	Baing, Sumba	3.21	123	P	Pn	18 14 17.3	+1.8
BSSI	Bau Bau, Buton	3.51	49	P	Pn	18 14 21.4	+2.0
ABJI	Asem Bagus	3.63	281	P	Pn	18 14 22.7	+1.8
JAGI	Jajag, Banyuwa	3.64	270	P	Pn	18 14 20.6	-0.5
KMMI	Kalianget	4.09	290	P	Pn	18 14 29.1	+2.2
MMRI	Maumere	4.36	92	P	Pn	18 14 30.6	+0.2
BATI	Baumata	6.00	107	P	Pn	18 14 53.4	+1.1
	11nm,0.3s,baz=298,slow=15,SNR=27						
BATI				S	Sn	18 15 59.2	-0.9
	7.2nm,0.3s,baz=310,slow=20,SNR=7.7						
BATI	Baumata	6.00	107	P	Pn	18 14 52.8	+0.5
	18nm,0.7s						
SOEI	Soe	6.48	102	P	Pn	18 14 59.7	+1.0
	32nm,0.8s						
UGM	Wanagama	7.26	274	P	Pn	18 15 09.4	+0.3
FITZ	Fitzroy Crossi	12.21	142	P	Pn	18 16 16.1	+1.6
	0.1nm,0.3s,baz=333,slow=14,SNR=2.8						
FITZ				S	Sn	18 18 26.0	-3.5
	0.5nm,0.3s,baz=203,slow=20,SNR=11						
WRA	Warramunga Arr	19.62	127	P	P	18 17 42.8	+0.3
	0.9nm,0.3s,baz=302,slow=12,SNR=87						
WRA				S	S	18 21 18.8	+2.9
	0.1nm,0.3s,baz=318,slow=24,SNR=2.0						
ASAR	Alice Springs	21.56	136	P	P	18 18 03.5	+0.2
	0.6nm,0.5s,baz=310,slow=9.5,SNR=37						
ASAR				PcP	PcP	18 21 57.7	-1.9
	0.2nm,0.4s,baz=311,slow=2.0,SNR=4.5						
MKAR	Makanchi Array	63.48	333	P	P	18 23 36.2	-3.3
	0.2nm,0.5s,baz=145,slow=7.4,SNR=2.4						

*HEL **01** 18:28:02.8±0.1,67°.81N×20°.28E,h0km,ML1.5, ML2.5(UPP),Explosion*
ISC 01 18:28:02.4±1.0**,67°.80N**±0°.03×**20°.29E**±0°.04**,h0**km**,n13,** σ**0s.64**/18**,Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	7	i P	Pg	18 28 05.3	0.0
KUA				i S	Sg	18 28 07.2	-0.1
RATU	Laukkuluspa	0.27	275	i P	Pg	18 28 07.6	+0.2
KOVU	Salmi	0.43	354	i P	Pg	18 28 10.6	+0.1
NIKU	Nikkaluokta	0.48	279	i P	Pg	18 28 11.2	-0.4
LANU	Lannavaara	0.69	68	ePB	Pb	18 28 16.7	-0.6
SALU	Saltoluokta	0.80	239	eP	Pg	18 28 18.1	+0.3
KIF	Kilpisjarvi	1.22	9	eP	Pn	18 28 26.7	0.0
KIF	Kilpisjarvi	1.22	9	ePB	Pg	18 28 25.8	0.0
	baz=197						
KIF				MSG		18 28 41.1	
	comp=Z,7.5nm,0.2s						
KIF				eSN	Sn	18 28 44.8	+0.9
PAJU	Pajala	1.34	124	ePN	Pn	18 28 28.5	+0.1
	baz=297						
PAJU				eSN	Sn	18 28 47.5	+0.7
TOF	Tornio	2.35	136	ePG	Pb	18 28 45.2	-0.3
TOF				MSG		18 29 12.7	
	comp=Z,1.0nm,0.2s						
TOF				eSG	Sg	18 29 17.7	0.0
SGF	Sodankyl	2.41	96	e	Sg	18 29 21.2	+1.4
RNF	Rovaniemi	2.53	116	ePG	Pb	18 28 47.9	-0.7
RNF				eSG	Sg	18 29 22.3	-1.2
VRF	Varrio	3.54	87	ePG	Pb	18 29 05.4	-0.5

*IDC **01** 18:30:15.3±2.5,6°.52S×131°.06E,h94km±27km,mb3.6/2, mb1 3.9/7,mb1mx3.5/38,mbtmp4.2/7,MS2.7/1,Ms1 2.7/1, ms1mx2.3/26,Error ellipse: s-maj=39.2km s-min=21.1km az=95.0*
*NEIC **01** 18:30:16.8±2.0,6°.39S±0°.07×131°.0E±0°.1,h149km±13km, mb4.0/2,Error ellipse: s-maj=16.1km s-min=9.9km az=73.0*
ISC 01 18:30:17.1±0.7**,6°.66S**±0°.06×**131°.00E**±0°.08**,h150**km**,n23,** σ**3s.04**/26**,mb3.9**/3**,Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.35	167	Pn	Pn	18 30 47.5	+2.3
FAKI	Fak Fak	3.92	19		Pn	18 31 12.8	-3.5
SIJI	Sorong	5.76	3	P	Pn	18 31 36.0	-4.7
	12nm,0.3s,baz=212,slow=13,SNR=128						
SIJI				S	Sn	18 32 33.7	-12
	14nm,0.3s,baz=126,slow=23,SNR=17						
SOEI	Soe	7.34	245	Pn	Pn	18 32 03.7	+1.8
BATI	Baumata	8.07	244	P	Pn	18 32 13.0	+1.5
	8.9nm,0.3s,baz=93,slow=4.8,SNR=20						
BATI				S	Sn	18 33 40.3	-1.2
	3.9nm,0.3s,baz=242,slow=23,SNR=5.9						
MMRI	Maumere	8.90	257	Pn	Pn	18 32 24.4	+1.8
KAPI	Kappang	11.31	278	LR	LR	18 38 18.6	
	comp=Z,38nm,19.6s,baz=247,slow=43						
FITZ	Fitzroy Crossi	12.52	204	P	Pn	18 33 10.4	+0.3
	0.6nm,0.3s,baz=32,slow=12,SNR=28						
FITZ				S	Sn	18 35 21.8	-6.8
	1.3nm,0.3s,baz=134,slow=21,SNR=8.8						
TOLI2	Tolitoli	12.79	307	Pn	Pn	18 33 11.5	-2.2
WB0	Warramunga Arr	13.44	166	Pn	Pn	18 33 22.7	+0.7
WRAB	Tennant Creek	13.59	166	Pn	Pn	18 33 25.0	+1.0
WRA	Warramunga Arr	13.60	167	P	Pn	18 33 24.8	+0.8
	0.7nm,0.3s,baz=342,slow=14,SNR=31						
WRA				S	Sn	18 35 51.7	-3.0
	0.9nm,0.3s,baz=344,slow=24,SNR=5.5						

WB2	**Warramunga Arr**	**13.60**	**166**	Pn	**Pn**	**18 33 25.2**	**+1.1**
WR0	**Warramunga Arr**	**13.66**	**166**	Pn	**P**	**18 33 28.1**	**-0.5**
COEN	**Coen**	**14.00**	**122**		**P**	**18 33 33.6**	**+1.3**
AS31	**Alice Springs**	**17.14**	**171**	P	**Pn**	**18 34 11.8**	**+4.1**
AS31				IAmb	IAmb	18 34 16.8	
	comp=Z,3.6nm,0.3s						
ASAR	**Alice Springs**	**17.14**	**171**	P	**Pn**	**18 34 11.8**	**+4.1**
	comp=Z,0.9nm,0.3s,baz=352,slow=12,SNR=66						
ASAR				S	**S**	**18 37 16.3**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=354,slow=27,SNR=3.4						
ASAR	**Alice Springs**	**17.14**	**171**		**Pn**	**18 34 11.5**	**+3.7**
MJAR	**Matsushiro Arr**	**43.50**	**8**	P	**P**	**18 38 03.2**	**-2.5**
MJAR				IAmb	IAmb	18 38 22.0	
	comp=Z,3.8nm,1.1s						
KSAR	**Wonju Array Be**	**43.97**	**356**	P	**P**	**18 38 07.0**	**-2.4**
PETK	**Petropavlovsk-**	**63.70**	**18**	P	**P**	**18 40 34.8**	**+2.4**
	comp=Z,2.7nm,0.9s,baz=223,slow=5.5,SNR=2.3						
MKAR	**Makanchi Array**	**68.49**	**326**	P	**P**	**18 41 07.5**	**+4.3**
	comp=Z,0.2nm,0.4s,baz=118,slow=7.8,SNR=8.3						
MKAR	**Makanchi Array**	**68.49**	**326**	P	**P**	**18 41 06.5**	**+3.3**

*IDC **01** 18:35:10.0±3.1, 37°.69N×142°.00E, h75km±24km, mb3.4/4, mb1 3.5/8, mb1mx3.2/47, mbtmp3.7/8, Error ellipse: s-maj=38.0km s-min=19.4km az=106.0*
*JMA **01** 18:35:12.3±0.1, 37°.64N×141°.63E, h80km±1km, M3.8*
JMA Felt I J1.
ISC 01 18:35:10.7±1.4**, 37°.59N**±0°.06×**141°.84E**±0°.10**, h78**km±9km**, n32, σ1s.00**/40**, mb3.7**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.77**	**280**	P	**Pn**	**18 35 27.1**	**+0.2**
JMST				S	**Sn**	**18 35 37.9**	**-1.1**
JIKH	**Ishinomakikobu**	**0.78**	**337**	P	**Pn**	**18 35 28.0**	**+1.0**
JIKH				S	**Sn**	**18 35 39.1**	**0.0**
JFK	**Kawauchi**	**0.80**	**254**	P	**Pn**	**18 35 27.6**	**+0.3**
JFK				S	**Sn**	**18 35 38.5**	**-1.2**
JMM	**Marumori**	**0.88**	**288**	P	**Pn**	**18 35 28.2**	**+0.1**
JMM				S	**Sn**	**18 35 39.8**	**-1.3**
JIO	**Ouri**	**0.94**	**336**	P	**Pn**	**18 35 29.7**	**+0.8**
JIO				S	**Sn**	**18 35 42.1**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.97**	**240**	P	**Pn**	**18 35 29.6**	**+0.4**
ONAJ				S	**Sn**	**18 35 42.0**	**-1.1**
JFT	**Otama**	**1.20**	**267**	P	**Pn**	**18 35 32.2**	**+0.1**
JFT				S	**Sn**	**18 35 46.6**	**-1.5**
JOU	**Okura**	**1.21**	**310**	P	**Pn**	**18 35 32.0**	**-0.2**
JOU				S	**Sn**	**18 35 46.6**	**-1.8**
JMK	**Ichinoseki**	**1.44**	**340**	P	**Pn**	**18 35 35.9**	**+0.8**
JMK				*e*S	**Sn**	**18 35 53.5**	**-0.1**
JYS	**Shirataka**	**1.54**	**295**	P	**Pn**	**18 35 36.5**	**+0.1**
JYS				S	**Sn**	**18 35 55.1**	**-0.8**
JFY	**Yanaizu**	**1.71**	**264**	P	**Pn**	**18 35 38.5**	**-0.2**
JYK	**Kaneyama**	**1.77**	**319**	P	**Pn**	**18 35 39.4**	**0.0**
JYK				*e*S	**Sn**	**18 36 00.5**	**-0.7**
JOM	**Ohasama**	**1.93**	**347**	P	**Pn**	**18 35 42.4**	**+0.9**
JOM				S	**Sn**	**18 36 04.6**	**-0.4**
JYA	**Atsumi**	**1.96**	**301**	P	**Pn**	**18 35 42.0**	**+0.1**
JNS	**Sasagawa**	**2.02**	**277**	P	**Pn**	**18 35 42.7**	**0.0**
JRG	**Rokugo**	**2.04**	**333**	P	**Pn**	**18 35 43.8**	**+0.8**
JAW	**Awa shima**	**2.22**	**294**	P	**Pn**	**18 35 45.5**	**+0.1**
MJAR	**Matsushiro Arr**	**3.09**	**251**	P	**Pn**	**18 35 57.7**	**+0.5**
	1.0nm,0.3s,baz=58,slow=12,SNR=58						
MAT	**Matsushiro**	**3.09**	**251**	P	**Pn**	**18 35 58.0**	**+0.8**
MAT				S	**Sn**	**18 36 32.2**	**-0.9**
ASAJ	**Asahikawa**	**6.54**	**5**	P	**Pn**	**18 36 42.0**	**-2.2**
	0.6nm,0.3s,baz=193,slow=14,SNR=6.0						
ASAJ				S	**Sn**	**18 37 54.6**	**-2.7**
	0.6nm,0.3s,baz=8.2,slow=34,SNR=1.9						
USRK	**Ussuriysk Ar.**	**9.96**	**315**	P	**Pn**	**18 37 31.7**	**+0.9**
	baz=124,slow=15,SNR=4.3						
KSRS	**Korea Array**	**11.06**	**274**	P	**Pn**	**18 37 47.7**	**+1.9**
	0.1nm,0.3s,baz=85,slow=14,SNR=4.4						
SONM	**Songino Array**	**27.76**	**303**	P	**P**	**18 40 51.9**	**-0.2**
	1.3nm,0.8s,baz=92,slow=7.9,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**28.15**	**122**	T	T	19 10 47.3	
	baz=315,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	19 10 47.3	
	baz=315,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	19 10 47.9	
	baz=315,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	19 11 36.5	
	baz=318,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	19 11 35.0	
	baz=318,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	19 11 45.9	
	baz=318						
ZALV	**Zalesovo Beam**	**41.79**	**312**	P	**P**	**18 42 52.6**	**+0.4**
	0.6nm,0.5s,baz=98,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**18 43 10.6**	**-0.5**
	0.3nm,0.5s,baz=86,slow=9.7,SNR=5.2						
WRA	**Warramunga Arr**	**57.66**	**188**	P	**P**	**18 44 53.5**	**+0.6**
	0.8nm,0.4s,baz=7.0,slow=7.4,SNR=3.3						

*IDC **01** 18:36:29.2±1.5, 6°.82S×128°.18E, h283km±17km, mb3.1/6, mb1 3.4/11, mb1mx3.2/39, mbtmp4.0/11, Error ellipse: s-maj=23.3km s-min=14.9km az=97.0*
*NEIC **01** 18:36:30.1±2.1, 6°.86S±0°.07×128°.25E±0°.10, h300km±12km, mb4.1/6, Error ellipse: s-maj=15.2km s-min=7.5km az=118.0*
ISC 01 18:36:29.6±0.6**, 6°.87S**±0°.05×**128°.31E**±0°.07**, h300**km**, n33, σ1s.56**/39**, mb3.4**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.17**	**111**	Pn	**Pn**	**18 37 27.6**	**+0.6**
SOEI	**Soe**	**4.92**	**234**		**Pn**	**18 37 45.8**	**-0.5**
FAKI	**Fak Fak**	**5.55**	**45**	Pn	**Pn**	**18 37 52.5**	**-1.1**
BATI	**Baumata**	**5.66**	**234**	P	**Pn**	**18 37 54.8**	**-0.2**
	27nm,0.3s,baz=104,slow=2.1,SNR=56						
BATI				S	**S**	**18 39 00.3**	**-3.3**
	9.4nm,0.3s,baz=103,slow=4.2,SNR=14						
SIJI	**Sorong**	**6.65**	**26**	P	**Pn**	**18 38 05.9**	**-0.9**
	2.1nm,0.3s,baz=198,slow=16,SNR=8.9						
SIJI				S	**S**	**18 39 20.1**	**-5.2**
	4.4nm,0.3s,baz=264,slow=23,SNR=13						
KDU	**Kakadu**	**7.09**	**145**	P	**Pn**	**18 38 11.4**	**-0.7**
	baz=7.0,SNR=49						
KDU				S	**S**	**18 39 31.7**	**-3.3**
	baz=7.0						
TOLI2	**Tolitoli**	**10.92**	**316**	P	**P**	**18 39 02.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.46**	**193**	P	**Pn**	**18 39 04.6**	**-1.0**
	0.2nm,0.3s,baz=24,slow=11,SNR=2.5						
FITZ				S	**S**	**18 41 11.1**	**-2.4**
	0.2nm,0.3s,baz=95,slow=21,SNR=1.6						
FITZ	**Fitzroy Crossi**	**11.46**	**193**	S	**S**	**18 41 12.5**	**-1.1**
	baz=12						
FITZ	**Fitzroy Crossi**	**11.46**	**193**		**Pn**	**18 39 04.4**	**-1.2**
WB0	**Warramunga Arr**	**14.12**	**156**	P	**Pn**	**18 39 37.7**	**0.0**
WRAB	**Tennant Creek**	**14.25**	**156**		**Pn**	**18 39 39.3**	**+0.1**
WRA	**Warramunga Arr**	**14.26**	**156**	P	**Pn**	**18 39 39.0**	**-0.2**
	1.6nm,0.3s,baz=330,slow=12,SNR=26						
WRA				S	**S**	**18 42 14.1**	**-1.4**
	0.5nm,0.3s,baz=336,slow=20,SNR=9.3						
WB2	**Warramunga Arr**	**14.26**	**156**	P	**Pn**	**18 39 39.4**	**+0.1**
WR0	**Warramunga Arr**	**14.35**	**156**	P	**Pn**	**18 39 40.5**	**+0.1**
COEN	**Coen**	**16.23**	**117**		**Pn**	**18 40 02.4**	**-0.1**
QIS	**Mount Isa**	**17.47**	**142**	P	**P**	**18 40 15.3**	**+1.7**
	baz=17,SNR=6.3						
AS31	**Alice Springs**	**17.55**	**163**	P	**Pn**	**18 40 17.5**	**-0.3**
AS31				IAmb	IAmb	18 40 20.4	
	comp=Z,2.9nm,0.6s						
ASAR	**Alice Springs**	**17.55**	**163**	P	**Pn**	**18 40 16.6**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=342,slow=10,SNR=29						
ASAR				S	**S**	**18 43 21.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=340,slow=19,SNR=10.0						
ASAR	**Alice Springs**	**17.55**	**163**	P	**Pn**	**18 40 16.9**	**-1.0**
WRKA	**Warakurna**	**18.07**	**180**	P	**P**	**18 40 20.6**	**+0.5**
	baz=18,SNR=9.3						
CISI	**Cisompet, Garu**	**20.34**	**267**	P	**P**	**18 40 43.6**	**-0.6**
CISI				IAmb	IAmb	18 40 45.7	
	comp=Z,8.2nm,0.6s						
FORT	**Forrest**	**23.79**	**181**	P	**P**	**18 41 17.1**	**+1.3**
MORW	**Morawa**	**24.93**	**206**	P	**P**	**18 41 26.9**	**+0.7**
MORW				IAmb	IAmb	18 41 46.8	
	comp=Z,8.0nm,1.1s						
BBOO	**Buckleboo**	**26.80**	**165**	P	**P**	**18 41 44.4**	**+1.6**
	baz=27,SNR=6.6						
BBOO	**Buckleboo**	**26.80**	**165**	P	**P**	**18 41 44.3**	**+1.5**
BBOO				IAmb	IAmb	18 41 51.6	
	comp=Z,8.2nm,1.0s						
KSRS	**Korea Array**	**44.09**	**360**	P	**P**	**18 44 09.4**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=178,slow=8.6,SNR=4.7						
USRK	**Ussuriysk Ar.**	**50.94**	**3**	P	**P**	**18 45 01.9**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=189,slow=7.8,SNR=1.4						
MKAR	**Makanchi Array**	**67.20**	**328**	P	**P**	**18 46 53.5**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=119,slow=7.1,SNR=5.0						
ZALV	**Zalesovo Beam**	**70.73**	**334**	P	**P**	**18 47 12.3**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=134,slow=4.2,SNR=1.7						
SEY	**Seymchan**	**72.00**	**11**	P	**P**	**18 47 21.9**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=239,slow=12,SNR=6.1						
ILAR	**Eielson Array**	**93.95**	**25**	P	**P**	**18 49 14.8**	**+1.6**
	comp=Z,0.3nm,1.0s,baz=260,slow=5.4,SNR=1.8						
CPUP	**Villa Florida**	**146.55**	**171**	PKPbc	**PKPab**	**18 55 37.5**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=288,slow=3.2,SNR=3.9						

*IDC **01** 18:39:54.6±2.1, 6°.82S×154°.72E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/34, mbtmp3.8/8, ML2.2/1, MS3.5/3, Ms1 3.5/3, ms1mx2.9/25, Error ellipse: s-maj=68.9km s-min=25.9km az=128.0*
*NEIC **01** 18:39:57.5±2.8, 6°.7S±0°.1×154°.8E±0°.1, h42km±27km, mb4.2/5, Error ellipse: s-maj=22.6km s-min=10.2km az=210.0*
ISC 01 18:39:59.6±0.9**, 7°.0S**±0°.1×**154°.70E**±0°.09**, h35**km**, n19, σ1s.17**/17**, mb3.9**/9**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.75**	**318**	Pn	Pn	18 40 49.6	-5.5
PMG	**Port Moresby**	**7.84**	**252**	Pn	**Pn**	**18 41 51.3**	**+0.1**
	1.7nm,0.3s,baz=50,slow=12,SNR=7.9						
PMG				Sn	**Sn**	**18 43 18.3**	**-0.5**
	1.1nm,0.3s,baz=30,slow=20,SNR=2.8						
PMG				LR	LR	18 44 28.6	
	comp=Z,104nm,21.6s,baz=76,slow=35						
PMG	**Port Moresby**	**7.84**	**252**		**Pn**	**18 41 51.0**	**-0.3**
SANVU	**Saraoutou**	**14.86**	**126**	Pn	**Pn**	**18 43 27.0**	**-0.3**
SANVU				IAmb	IAmb	18 43 42.5	
	comp=Z,20nm,1.3s						
CTAO	**Charters Tower**	**15.38**	**211**	Pn	**Pn**	**18 43 34.4**	**+0.2**
WR0	**Warramunga Arr**	**23.42**	**235**	P	**P**	**18 45 02.9**	**-3.0**
WRAB	**Tennant Creek**	**23.57**	**235**	P	**P**	**18 45 08.7**	**+1.5**
WRAB				IAmb	IAmb	18 45 22.7	
	comp=Z,7.3nm,0.9s						
WB2	**Warramunga Arr**	**23.57**	**235**	P	**P**	**18 45 08.9**	**+1.6**
WB2				IAmb	IAmb	18 45 16.5	
	comp=Z,9.7nm,1.2s						
WRA	**Warramunga Arr**	**23.58**	**235**	P	**P**	**18 45 08.4**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=56,slow=9.6,SNR=4.9						
ASAR	**Alice Springs**	**25.96**	**228**	P	**P**	**18 45 30.9**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=53,slow=8.8,SNR=2.3						
ASAR	**Alice Springs**	**25.96**	**228**	P	**P**	**18 45 28.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**30.39**	**246**	P	**P**	**18 46 08.9**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=53,slow=10,SNR=3.3						
BATI	**Baumata**	**30.84**	**262**	LR	LR	18 59 14.0	
	comp=Z,98nm,20.3s,baz=18,slow=38						
CMAR	**Chiang Mai Arr**	**60.52**	**296**	P	**P**	**18 50 06.7**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=101,slow=4.7,SNR=4.2						
MKAR	**Makanchi Array**	**83.21**	**319**	P	**P**	**18 52 22.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=97,slow=6.8,SNR=6.1						
ILAR	**Eielson Array**	**83.48**	**22**	P	**P**	**18 52 23.6**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=247,slow=4.8,SNR=1.4						
ZALV	**Zalesovo Beam**	**84.01**	**326**	P	**P**	**18 52 25.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=110,slow=4.5,SNR=2.8						
GEYT	**Alibeck**	**99.44**	**307**	LR	LR	19 41 12.9	
	comp=Z,52nm,18.4s,baz=30,slow=37						
TORD	**Torodi Ar. Bea**	**152.74**	**285**	PKPbc	**PKPbc**	**18 59 53.4**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=124,slow=4.2,SNR=1.8						

IDC 01 18:47:13.0±2.9**, 6°.21S**×**130°.38E, h104**km±40km**, mb3.1**/1**, mb1 3.0**/5**, mb1mx2.9**/27**, mbtmp3.3**/5**, Error ellipse: s-maj=83.3km s-min=22.4km az=88.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.38**	**10**	P	Pn	18 48 31.1	+0.2
	0.2nm,0.3s,baz=190,slow=18,SNR=10						
SIJI				S	Sn	18 49 28.0	-3.6
	1.3nm,0.3s,baz=227,slow=22,SNR=14						
FITZ	**Fitzroy Crossi**	**12.69**	**201**	P	Pn	18 50 11.1	+1.3
	0.0nm,0.3s,baz=14,slow=13,SNR=1.8						
FITZ				S	Sn	18 52 22.3	-7.1
	0.1nm,0.3s,baz=247,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**14.19**	**165**	P	Pn	18 50 28.0	-1.3
	0.0nm,0.3s,baz=344,slow=14,SNR=4.5						
WRA				S	Sn	18 52 53.2	-13
	0.1nm,0.3s,baz=334,slow=21,SNR=2.2						
ASAR	**Alice Springs**	**17.69**	**169**	P	P	18 51 12.4	+0.1
	0.1nm,0.3s,baz=352,slow=11,SNR=5.6						
ASAR				S	Sn	18 54 20.8	-9.3
	0.0nm,0.3s,baz=353,slow=27,SNR=1.2						
MKAR	**Makanchi Array**	**67.77**	**326**	P	P	18 57 59.5	-0.1
	0.2nm,0.4s,baz=116,slow=8.2,SNR=5.0						

IDC 01 18:56:39.0±6.3**, 2°.20N**×**100°.35W, h0**km**, mb3.3**/3**, mb1 3.7**/3**, mb1mx3.6**/25**, mbtmp3.3**/3**, MS2.9**/2**, Ms1 2.9**/2**, ms1mx2.6**/17**, Error ellipse: s-maj=435.7km s-min=82.1km az=93.0, Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**15.75**	**20**	LR	LR	19 05 04.8	
	comp=Z,45nm,19.8s,baz=218,slow=32						
JTS	**Las Juntas de**	**17.28**	**62**	LR	LR	19 05 37.6	
	comp=Z,47nm,20.6s,baz=30,slow=31						
PDAR	**Pinedale Array**	**41.22**	**350**	P	P	19 04 26.5	+0.6
	0.4nm,0.8s,baz=161,slow=8.6,SNR=2.4						
YKA	**Yellowknife Ar**	**61.09**	**352**	P	P	19 06 54.3	-0.3
	0.1nm,0.4s,baz=163,slow=6.4,SNR=2.9						
ILAR	**Eielson Array**	**70.79**	**341**	P	P	19 07 56.5	-0.5
	0.1nm,0.5s,baz=155,slow=4.6,SNR=2.2						
CMAR	**Chiang Mai Arr**	**152.03**	**318**	PKPbc	PKPbc	19 16 37.5	+0.1
	0.4nm,0.9s,baz=45,slow=1.4,SNR=2.2						

*NEIC **01** 19:11:47.9±1.1, 28°.00S±0°.06×26°.82E±0°.09, h8km±4km, mb4.8/11, Error ellipse: s-maj=11.1km s-min=8.8km az=90.0*
*PRE **01** 19:11:47.0±1.3, 28°.03S×26°.76E, h2km, ML3.7*
*IDC **01** 19:11:47.8±1.1, 27°.94S×26°.72E, h0km, mb4.0/8, mb1 4.2/12, mb1mx3.9/39, mbtmp4.1/12, ML3.4/4, Error ellipse: s-maj=20.3km s-min=12.7km az=125.0*
ISC 01 19:11:47.0±1.4**, 28°.06S**±0°.03×**26°.79E**±0°.03**, h6**km±9km**, n48, σ2s.42**/67**, mb4.5**/12**, 1C-1D, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**1.24**	**24**	*e*P	**Pg**	**19 12 10.4**	**-0.4**
PRYS				*e*S	**Sg**	**19 12 26.8**	**-0.1**
PRYS				AML	AML	19 12 29.6	
	comp=Z,6μm,0.3s						
BOSA	**Boshof**	**1.46**	**248**	Pg	**Pb**	**19 12 15.3**	**+0.7**
	comp=Z,38nm,0.3s,baz=67,slow=14,SNR=869						
BOSA				Lg	Lg	19 12 33.8	
	comp=Z,142nm,0.3s,baz=159,slow=21,SNR=40						
BOSA				Rg	Rg	19 12 44.9	
	comp=Z,168nm,0.4s,baz=183,slow=22,SNR=4.3						
BOSA	**Boshof**	**1.46**	**248**	⇓*i*P	**Pb**	**19 12 15.3**	**+0.7**
BOSA				*e*S	**Sn**	**19 12 34.2**	**+0.7**
BOSA				AML	AML	19 12 46.4	
	comp=Z,185nm,0.6s						
SWZ	**Schweizer**	**1.56**	**304**	⇑*i*P	**Pg**	**19 12 16.8**	**-0.2**
SWZ				*e*S	**Sg**	**19 12 36.5**	**-0.8**
SWZ				AML	AML	19 12 40.3	
	comp=Z,718nm,0.5s						
WDLM	**Western Deep L**	**1.73**	**19**	*e*P	**Pb**	**19 12 18.8**	**-0.5**
WDLM				*e*S	**Sb**	**19 12 41.2**	**-0.2**
WDLM				AML	AML	19 12 51.4	
	comp=Z,760nm,0.3s						
KLOF	**Kloof**	**1.86**	**23**	*e*P	**Pn**	**19 12 20.6**	**+1.0**
KLOF				*e*S	**Sn**	**19 12 43.7**	**+0.2**
KLOF				AML	AML	19 12 47.1	
	comp=Z,4μm,0.2s						
ERPM	**east rand prop**	**2.15**	**37**	*e*P	**Pn**	**19 12 24.9**	**+1.3**
ERPM				*e*S	**Sb**	**19 12 53.1**	**-0.3**
ERPM				AML	AML	19 13 05.0	
	comp=Z,963nm,0.5s						
KSR	**Koster**	**2.21**	**3**	*e*P	**Pn**	**19 12 25.3**	**+0.9**
KSR				*e*S	**Sn**	**19 12 52.8**	**+0.7**
KSR				AML	AML	19 12 58.8	
	comp=Z,2μm,0.5s						
LBTB	**Lobatse**	**3.22**	**340**	Pn	**Pn**	**19 12 39.5**	**+1.3**
	comp=Z,12nm,0.3s,baz=170,slow=10,SNR=424						
LBTB				Pg	**Pg**	**19 12 47.2**	**-1.5**
	comp=Z,35nm,0.3s,baz=162,slow=18,SNR=32						
LBTB				Sn	**Sn**	**19 13 15.6**	**-1.3**
	comp=Z,28nm,0.3s,baz=270,slow=21,SNR=8.9						
LBTB				Lg	Lg	19 13 25.4	
	comp=Z,81nm,0.3s,baz=74,slow=20,SNR=9.5						
LBTB				Rg	Rg	19 13 39.3	
	comp=Z,134nm,0.4s,baz=160,slow=4.6,SNR=8.3						
LBTB	**Lobatse**	**3.22**	**340**	*e*P	**Pn**	**19 12 39.8**	**+1.5**
LBTB				*e*S	**Sb**	**19 13 24.5**	**+0.4**
LBTB				AML	AML	19 13 33.0	
	comp=Z,1μm,0.3s						
KSD	**Kokstad**	**3.37**	**138**	*e*P	**Pn**	**19 12 42.3**	**+2.0**
KSD				*e*S	**Sn**	**19 13 15.9**	**-4.8**
KSD				AML	AML	19 13 38.9	
	comp=Z,254nm,0.6s						
POGA	**Pongola**	**4.42**	**82**	*e*P	**Pn**	**19 12 54.3**	**-0.4**
POGA				*e*S	**Sn**	**19 13 39.5**	**-7.0**
POGA				AML	AML	19 14 15.3	
	comp=Z,107nm,0.5s						
SOE	**Somerset East**	**4.75**	**193**	*e*P	**Pn**	**19 12 59.4**	**+0.1**
SOE				*e*S	**Sn**	**19 13 52.6**	**-2.1**
SOE				AML	AML	19 14 15.8	
	comp=Z,68nm,0.5s						
UPI	**Upington**	**4.89**	**265**	*e*P	**Pn**	**19 13 01.9**	**+0.7**
UPI				*e*S	**Sn**	**19 13 56.7**	**-1.6**
UPI				AML	AML	19 14 28.8	
	comp=Z,54nm,0.6s						
KEIM	**Keimoes**	**5.17**	**262**	*e*P	**Pn**	**19 13 06.6**	**+1.6**
KEIM				*e*S	**Sn**	**19 14 02.6**	**-2.3**
KEIM				AML	AML	19 14 55.7	
	comp=Z,58nm,0.4s						
AUGR	**Augrabies**	**5.71**	**263**	*e*P	**Pn**	**19 13 13.6**	**+1.2**
AUGR				*e*S	Sn	19 14 03.1	-15
AUGR				AML	AML	19 14 48.0	
	comp=Z,149nm,0.5s						
GRAN	**Grantham**	**5.81**	**222**	*e*P	**Pn**	**19 13 15.2**	**+1.4**
ROSN	**Rosenhof**	**6.32**	**197**	*e*P	**Pn**	**19 13 22.0**	**+1.2**
ROSN				*e*S	**Sn**	**19 14 26.7**	**-6.6**
ROSN				AML	AML	19 14 36.1	
	comp=Z,112nm,0.9s						
KROM	**Kromhout**	**6.34**	**196**	*e*P	**Pn**	**19 13 21.9**	**+0.9**
KROM				*e*S	**Sn**	**19 14 29.4**	**-4.3**
KROM				AML	AML	19 14 34.8	
	comp=Z,138nm,0.3s						
SUR	**Sutherland**	**6.72**	**229**	Pn	**Pn**	**19 13 28.0**	**+1.5**
	comp=Z,2.1nm,0.3s,baz=88,slow=6.9,SNR=43						
SUR				Sn	**Sn**	**19 14 42.5**	**-1.1**
	comp=Z,6.1nm,0.3s,baz=337,slow=22,SNR=5.8						
SUR				Lg	Lg	19 15 15.9	
	comp=Z,17nm,0.3s,baz=334,slow=23,SNR=10						
SUR	**Sutherland**	**6.72**	**229**	Pn	**Pn**	**19 13 28.4**	**+1.9**
CVNA	**Calvinia**	**6.99**	**239**	*e*P	**Pn**	**19 13 27.4**	**-2.6**
CVNA				*e*S	**Sn**	**19 14 42.6**	**-7.4**
CVNA				AML	AML	19 15 30.2	
	comp=Z,119nm,0.7s						
MATP	**Matopo**	**7.76**	**12**	Pn	**Pn**	**19 13 40.1**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=186,slow=13,SNR=31						
MATP				Sn	**Sn**	**19 15 02.8**	**-6.2**
	comp=Z,6.5nm,0.3s,baz=296,slow=20,SNR=10						
MATP				Lg	Lg	19 15 45.8	
	comp=Z,15nm,0.3s,baz=103,slow=22,SNR=17						
MATP				Rg	Rg	19 16 21.0	
	comp=Z,24nm,0.4s,baz=258,slow=7.1,SNR=1.1						
WIN	**Windhoek**	**10.33**	**300**	*i* P	Pn	19 14 07.5	-8.5
TSUM	**Tsumeb**	**12.20**	**314**	Pn	**Pn**	**19 14 41.0**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=144,slow=12,SNR=30						
TSUM				Sn	**Sn**	**19 16 50.6**	**-7.4**
	comp=Z,0.3nm,0.3s,baz=233,slow=20,SNR=1.4						
TSUM				Lg	Lg	19 18 01.5	
	comp=Z,0.7nm,0.3s,baz=216,slow=23,SNR=3.5						
TSUM	**Tsumeb**	**12.20**	**314**		**Pn**	**19 14 40.9**	**-0.7**
LSZ	**Lusaka**	**12.79**	**6**		**Pn**	**19 14 47.1**	**-2.5**
MAW	**Mawson**	**45.09**	**161**	P	**P**	**19 20 03.5**	**-0.1**
DBIC	**Dimbokro**	**46.11**	**314**	P	**P**	**19 20 12.6**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=128,slow=8.0,SNR=4.0						
DBIC	**Dimbokro**	**46.11**	**314**	P	**P**	**19 20 12.3**	**+0.1**
DBIC				IAmb	IAmb	19 20 14.1	
	comp=Z,9.5nm,1.3s						
SNAA	**Sanae**	**46.61**	**192**	P	**P**	**19 20 16.6**	**+1.0**
SNAA				IAmb	IAmb	19 20 27.6	
	comp=Z,26nm,1.5s						
TOA0	**Torodi Ar. Sit**	**47.64**	**326**	P	**P**	**19 20 24.7**	**+0.5**
TOA0				IAmb	IAmb	19 20 25.0	
	comp=Z,3.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**47.64**	**326**	P	**P**	**19 20 24.5**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=122,slow=5.4,SNR=17						
TORD	**Torodi Ar. Bea**	**47.64**	**326**	P	**P**	**19 20 24.4**	**+0.2**
SOCY	**Socotra**	**47.91**	**37**	P	**P**	**19 20 28.5**	**+2.1**
SOCY				IAmb	IAmb	19 20 39.9	
	comp=Z,22nm,1.1s						
KOWA	**Kowa**	**51.77**	**321**	P	**P**	**19 20 56.2**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=120,slow=15,SNR=8.3						
KOWA	**Kowa**	**51.77**	**321**	P	**P**	**19 20 56.6**	**+0.9**
KOWA				IAmb	IAmb	19 20 57.1	
	comp=Z,3.9nm,0.6s						
QSPA	**South Pole Qui**	**62.13**	**180**	P	**P**	**19 22 10.2**	**+1.4**
CASY	**Casey**	**62.17**	**153**	P	**P**	**19 22 10.5**	**+1.7**
CSS	**Mathiatis**	**62.99**	**6**	P	**P**	**19 22 14.3**	**-0.2**
CSS				IAmb	IAmb	19 22 18.6	
	comp=Z,22nm,1.4s						
BDFB	**Brasilia**	**69.60**	**263**	P	**P**	**19 22 58.9**	**+1.2**
	comp=Z,2.7nm,0.5s,baz=139,slow=10,SNR=4.7						
BDFB	**Brasilia**	**69.60**	**263**	IAmb	IAmb	19 22 59.6	
	comp=Z,3.1nm,0.7s						
ESDC	**Sonseca Array**	**73.23**	**336**	P	**P**	**19 23 20.4**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=159,slow=6.2,SNR=7.4						
GERES	**GERESS Array B**	**77.45**	**351**	P	**P**	**19 23 44.8**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=171,slow=6.8,SNR=2.5						
MKAR	**Makanchi Array**	**89.78**	**34**	P	**P**	**19 24 46.6**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=219,slow=5.1,SNR=4.6						
MKAR	**Makanchi Array**	**89.78**	**34**	P	**P**	**19 24 46.4**	**+0.2**
ASAR	**Alice Springs**	**92.96**	**119**	P	**P**	**19 25 03.9**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=227,slow=5.9,SNR=2.7						
NVAR	**Mina Array Bea**	**149.19**	**299**	PKPbc	**PKiKP**	**19 31 38.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=90,slow=4.4,SNR=5.4						

*BJI **01** 19:21:53.8±0.0, 36°.62N×137°.60E, h258km, mB4.6/37, mb4.6/67*
*MOS **01** 19:21:54.7±1.0, 36°.72N×137°.51E, h241km, mb4.6/34, Error ellipse: s-maj=6.8km s-min=4.4km az=110.5*
*NEIC **01** 19:21:56.2±1.1, 36°.67N±0°.02×137°.50E±0°.09, h243km±6km, mb4.7/43, Error ellipse: s-maj=11.1km s-min=3.4km az=93.0*
*JMA **01** 19:21:56.4±0.1, 36°.65N×137°.57E, h245km±2km, M4.4 Broadband fault plane solution: P waves. NP1: φs340.00000°, δ41.00000°, λ16.00000°. NP2: φs238.00000°, δ80.00000°, λ130.00000°. Principal axes: T Plg41.0000°, Azm185.0000°; N Plg39.0000°, Azm49.0000°; P Plg24.0000°, Azm298.0000°;*
JMA Felt I J1.
*NIED **01** 19:21:56.4, 36°.65N×137°.57E, h245km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.55; Mθθ5.08; Mφφ-5.63; Mrθ-4.59; Mθφ-1.88; Mφr-2.53; Fault plane solution: M0 7.73000×10^15 NP1: φs234.00000°, δ86.00000°, λ138.00000°. NP2: φs327.00000°, δ48.00000°, λ5.00000°.*
*IDC **01** 19:21:56.3±0.3, 36°.68N×137°.41E, h240km±2km, mb3.8/27, mb1 4.0/32, mb1mx3.9/48, mbtmp4.5/32 Error ellipse: s-maj=9.7km s-min=7.4km az=81.0*
ISC 01 19:21:55.9±0.4**, 36°.73N**±0°.04×**137°.55E**±0°.04**, h243**km±3km**, h242**km**:pP-P, n313, σ1s.43**/359**, mb4.5**/94**, 63C-42D, Fault plane solution: NP1:**φs330.82358°**,** δ74.51469°**,** λ16.96214°. **NP2:**φs236.16798°**,** δ73.67119°**,** λ163.84641°. **Principal axes:** T Plg22.8049°**,** Azm193.6262°**;** N Plg67.1871°**,** Azm12.0211°**;** P Plg0.5736°**,** Azm103.3850°**; Fault plane solution: NP1:**φs226.66493°**,** δ80.76787°**,** λ106.00906°. **NP2:**φs345.87750°**,** δ18.41979°**,** λ30.51356°. **Principal axes:** T Plg51.6582°**,** Azm154.9870°**;** N Plg15.7962°**,** Azm44.0294°**;** P Plg33.8786°**,** Azm303.0797°**; Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.21**	**235**	⇑P	**Pn**	**19 22 27.9**	**+0.5**
JTT				*e*S	**S**	**19 22 52.5**	**+0.5**
MJB9	**Matsu-Tunnel**	**0.56**	**109**	Pn	**Pn**	**19 22 27.6**	**-0.6**
MAJO	**Matsushiro**	**0.56**	**109**	P	**Pn**	**19 22 29.1**	**+0.9**
MAJO	**Matsushiro**	**0.56**	**109**		**Pn**	**19 22 29.1**	**+0.9**

MAT Matsushiro 0.56 109 P **Pn** **19 22 28.9 +0.8**
MAT S **S** **19 22 53.8 +0.3**
MAT Matsushiro 0.56 109 P **Pn** **19 22 29.0 +0.8**
MAT S **S** **19 22 53.8 +0.3**
MJAR Matsushiro Arr 0.56 109 P **Pn** **19 22 29.2 +1.0**
26nm,0.3s,baz=268,slow=3.7,SNR=2093
MJAR S **S** **19 22 54.8 +1.4**
7.3nm,0.3s,baz=273,slow=9.8,SNR=24
MJAR Matsushiro Arr 0.56 109 P **Pn** **19 22 29.1 +0.9**
MJAR Matsushiro Arr 0.56 109 **Pn** **19 22 29.1 +0.9**
JSZ Suzu 0.73 349 ⇑P **Pn** **19 22 29.7 +1.0**
JSZ eS **S** **19 22 55.2 +0.6**
JKG Kaga 1.08 246 ⇑P **Pn** **19 22 31.2 +0.6**
JKG S **S** **19 22 58.2 +0.4**
JGF Kuroka 1.13 188 Pn **Pn** **19 22 31.4 +0.3**
JHG Hegura jima 1.23 336 ⇑P **Pn** **19 22 32.8 +1.3**
JHG eS **S** **19 23 00.8 +1.3**
JRY Ryogami san 1.30 123 ⇓P **Pn** **19 22 32.2 +0.1**
JRY S **S** **19 22 59.4 -1.1**
JYTA Yamagatataniai 1.31 210 ⇓P **Pn** **19 22 32.3 +0.1**
JYTA S **S** **19 22 59.3 -1.3**
JSD Sado 1.43 23 ⇑P **Pn** **19 22 34.3 +1.4**
JSD S **S** **19 23 02.5 +0.5**
JSD Sado 1.43 23 Pn **Pn** **19 22 34.4 +1.4**
INU Inuyama 1.44 198 Pn **Pn** **19 22 32.5 -0.7**
JYN Shimob 1.47 146 ⇓P **Pn** **19 22 33.4 0.0**
JYN eS **S** **19 23 02.0 -0.8**
JAG Ashikaga 1.56 101 ⇓P **Pn** **19 22 34.1 +0.1**
JAG S **S** **19 23 02.9 -1.0**
JNS Sasagawa 1.78 52 ⇑P **Pn** **19 22 37.1 +1.3**
JNS S **S** **19 23 08.1 +0.9**
JFNN Fujinakano 1.79 149 ⇓P **Pn** **19 22 36.3 +0.4**
JOD2 Odawara 2 1.92 139 ⇓P **Pn** **19 22 37.4 +0.3**
JOD2 S **S** **19 23 09.3 -0.2**
JSG Sagara 2.11 166 Pn **Pn** **19 22 39.2 +0.3**
JYT Yasato 2.19 102 Pn **Pn** **19 22 39.3 -0.2**
JAW Awa shima 2.19 38 ⇑P **Pn** **19 22 40.8 +1.3**
JAW eS **S** **19 23 14.8 +0.9**
JWT Wachi 2.26 231 P **Pn** **19 22 40.4 +0.1**
JWT Wachi 2.26 231 **Pn** **19 22 40.7 +0.4**
JFT Otama 2.37 70 P **Pn** **19 22 42.9 +1.6**
JFT eS **S** **19 23 18.2 +1.2**
JIE Ise 2.43 197 ⇓P **Pn** **19 22 42.3 +0.3**
JIE *i* S **S** **19 23 17.6 -0.6**
TK02 Tokai 2 2.78 176 ⇓P **Pn** **19 22 45.8 +0.4**
JMM Marumori 2.83 65 **Pn** **19 22 47.4 +1.4**
JHS Saijyo 3.99 246 Pn **Pn** **19 22 59.0 -0.3**
JHJ Hachijo jima 2 4.04 152 P **Pn** **19 23 00.2 +0.3**
110nm,0.3s,baz=319,slow=19,SNR=11
JHJ S **S** **19 23 51.6 +1.0**
136nm,0.3s,baz=58,slow=22,SNR=6.6
JHJ2 Mitsune 4.06 152 Pn **Pn** **19 22 59.5 -0.6**
JMN Monobe 4.24 226 Pn **Pn** **19 23 02.2 -0.1**
JTM Tenmabayashi 4.90 33 Pn **Pn** **19 23 11.4 +1.3**
JNU Nakatsue 6.55 239 P **Pn** **19 23 31.0 +0.1**
1.6nm,0.3s,baz=85,slow=1.9,SNR=12
JNU Nakatsue 6.55 239 Pn **Pn** **19 23 30.5 -0.4**
JEW Eniwo 6.80 25 Pn **Pn** **19 23 34.4 +0.5**
ERM Erimo 6.84 38 P **Pn** **19 23 33.2 -1.1**
ERM Erimo 6.84 38 Pn **Pn** **19 23 33.1 -1.1**
KSRS Korea Array 7.73 278 P **Pn** **19 23 46.6 +0.9**
1.5nm,0.3s,baz=96,slow=13,SNR=80
KSAR Wonju Array Be 7.76 278 P **Pn** **19 23 43.3 -2.7**
KSAR Wonju Array Be 7.76 278 **Pn** **19 23 43.3 -2.7**
KS19 Wonju Array Si 7.77 279 Pn **Pn** **19 23 45.2 -1.0**
JSU Suzuyama 7.85 231 Pn **Pn** **19 23 48.1 +0.7**
ASAJ Asahikawa 8.32 26 P **Pn** **19 23 52.1 -1.1**
26nm,0.3s,baz=226,slow=14,SNR=45
ASAJ S **S** **19 25 21.6 -5.9**
8.3nm,0.3s,baz=278,slow=33,SNR=6.8
ASAJ Asahikawa 8.32 26 P **Pn** **19 23 51.9 -1.3**
JKA Kamikawa-asahi 8.32 26 Pn **Pn** **19 23 51.9 -1.2**
TEY Ternei 8.33 355 *eP* **Pn** **19 23 56.0 +2.8**
USA0B Ussuriysk Arra 8.58 332 P **Pn** **19 23 58.1 +1.7**
USA0B Ussuriysk Arra 8.58 332 Pn **Pn** **19 23 58.0 +1.7**
USRK Ussuriysk Ar. 8.58 332 P **Pn** **19 23 58.0 +1.6**
baz=148,slow=12,SNR=115
USRK Ussuriysk Ar. 8.58 332 Pn **Pn** **19 23 57.8 +1.4**
NMR Nemuro--Hokkai 9.13 41 ⇓*i*P **Pn** **19 24 01.0 -2.3**
NMR *i* S S 19 25 36.2 -10
RUSJ Misakicho 9.42 36 *eP* **Pn** **19 24 06.3 -0.7**
RUSJ *i* S **S** **19 25 48.3 -4.8**
GRPR Tuman 9.59 38 *eP* **Pn** **19 24 08.0 -1.2**
GRPR *i* S **S** **19 25 48.7 -8.4**
GRPR pmax pmax
comp=Z,288nm,0.5s
GRPR pmax pmax
comp=N,283nm,0.4s
GRPR pmax pmax
comp=E,120nm,0.3s
YUK Yuzh-Kuril'sk 9.67 38 *eP* **Pn** **19 24 09.2 -1.0**
YUK *i* S **S** **19 25 51.4 -7.5**
YUK pmax pmax
comp=N,288μm,0.4s
YUK pmax pmax
comp=Z,483μm,0.4s
YUK pmax pmax
comp=E,201μm,0.3s
YUK smax smax
comp=N,1μm,1.0s
YUK smax smax
comp=E,739nm,1.0s
MDJ Mudanjiang 9.93 325 P **Pn** **19 24 14.1 +0.6**
MDJ S **S** **19 26 06.5 +1.5**
MDJ PcS **PcS** **19 33 34.0 -0.3**
MDJ ScS **ScS** **19 36 41.8 -2.7**
MDJ pmax pmax
comp=E,96nm,1.4s
MDJ pmax pmax
comp=E,250nm,3.3s
MDJ Mudanjiang 9.93 325 Pn **Pn** **19 24 14.4 +1.0**
JCJ Chichijima 10.38 156 P Pn 19 24 14.3 -5.1
comp=E,62nm,0.3s,baz=101,slow=23,SNR=17
JCJ S S 19 26 01.1 -15
comp=E,105nm,0.3s,baz=280,slow=22,SNR=10
JCJ Chichijima 10.38 156 Pn Pn 19 24 13.8 -5.5
YSS Yuzh-Sakhalins 10.93 19 *oeP* **Pn** **19 24 24.7 -1.4**
YSS eS **S** **19 26 21.3 -7.0**
YSS pmax pmax
comp=Z,240nm,1.1s
YSS smax smax
comp=N,70nm,0.6s
YSS Yuzh-Sakhalins 10.93 19 Pn **Pn** **19 24 24.3 -1.8**
KUR Kuril'sk 11.53 39 *eP* **Pn** **19 24 34.0 +0.4**
KUR eS **S** **19 26 37.9 -3.9**
KUR pmax pmax
comp=E,12nm,0.4s
KUR pmax pmax
comp=Z,55nm,0.4s
KUR pmax pmax
comp=N,17nm,0.3s
KUR smax smax
comp=N,55nm,0.4s
KUR smax smax
comp=E,28nm,0.4s
CN2 Changchun 11.63 311 *eP* **Pn** **19 24 31.6 -3.3**
CN2 Changchun 11.63 311 *eP* **Pn** **19 24 35.6 +0.7**
CN2 pmax pmax
comp=E,70nm,0.9s
JOW Kunigami 12.62 221 P Pn 19 24 42.2 -5.2
comp=E,3.3nm,0.3s,baz=18,slow=12,SNR=1.6
DL2 Dalian 12.78 285 ⇓*i*P **P** **19 24 50.5 -0.9**
DL2 pmax pmax
comp=E,140nm,0.7s
KLR Kul'dur 13.19 343 P **Pn** **19 24 54.0 -0.2**
comp=E,8.4nm,0.3s,baz=153,slow=11,SNR=207
KLR S **S** **19 27 18.2 -2.2**
baz=296,slow=20,SNR=10
KLR Kul'dur 13.19 343 P **Pn** **19 24 54.0 -0.2**
GRNR Gornyy 14.06 357 ⇑*i*P **Pn** **19 25 04.0 -0.8**
GRNR eS **S** **19 27 36.1 -4.2**
GRNR pmax pmax
comp=Z,2.0nm,0.9s
GRNR smax smax
comp=N,2.0nm,0.9s
GRNR MLR MLR
comp=E,140nm,15.0s
TYV Tymovskoe 14.60 13 *eP* **Pn** **19 25 11.2 -0.1**
TYV pmax pmax
comp=Z,13nm,0.7s
TYV pmax pmax
comp=Z,200nm,8.1s
NJ2 Nanjing 16.12 259 *eP* **P** **19 25 28.2 -0.2**
NJ2 pmax pmax
comp=Z,14nm,0.8s
TIA Tai'an 16.44 274 P **P** **19 25 31.6 -0.3**
TIA pmax pmax
comp=Z,47nm,0.7s
BJI Beijing 17.07 288 P **P** **19 25 38.2 -0.6**
BJI pmax pmax
comp=Z,15nm,0.8s
BJI pmax pmax
comp=Z,140nm,3.4s
BJT Baijiatuan 17.08 288 P **P** **19 25 38.8 -0.1**
BJT pmax pmax
comp=Z,27nm,0.7s
BJT Baijiatuan 17.08 288 P **P** **19 25 38.8 -0.1**
BJT lAmb lAmb 19 25 50.4
comp=Z,27nm,0.7s
YHNB Yeheng 18.35 234 P **P** **19 25 50.1 -2.7**
YHNB lAmb lAmb 19 26 13.6
comp=Z,56nm,1.5s
ZEA Zeya 18.46 340 *eP* **P** **19 25 52.1 -1.5**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,30nm,0.9s
NACB Ninganchiao 18.56 232 P **P** **19 25 51.5 -3.6**
NACB lAmb lAmb 19 25 59.5
comp=Z,20nm,0.9s
SSLB Suanglung 19.24 233 P **P** **19 25 57.7 -4.7**
TPUB Ta-pu 19.80 232 P **P** **19 26 04.5 -3.8**
TPUB lAmb lAmb 19 26 14.2
comp=Z,32nm,1.0s
TWG Pinlang 19.87 230 P **P** **19 26 06.0 -3.1**
TWG lAmb lAmb 19 26 19.8
comp=Z,39nm,1.1s
HHC Hu-ho-hao-te 20.64 289 *eP* **P** **19 26 14.4 -2.9**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,160nm,5.3s
PETK Petropavlovsk- 21.60 34 P **P** **19 26 27.8 +1.2**
comp=Z,2.9nm,1.0s,baz=228,slow=7.7,SNR=1.7
XAN Xi'an 23.46 272 P **P** **19 26 42.4 -1.3**
XAN pmax pmax
comp=Z,11nm,0.6s
XAN Xi'an 23.46 272 P **P** **19 26 42.5 -1.3**
XAN pmax pmax
comp=Z,38nm,1.3s
XAN Xi'an 23.46 272 P **P** **19 26 42.5 -1.3**
XAN lAmb lAmb 19 26 44.3
comp=Z,38nm,1.3s
ENH Enshi 24.22 263 P **P** **19 26 49.6 -1.1**
ENH lAmb lAmb 19 26 50.2
comp=Z,21nm,0.8s
MA2 Magadan 24.41 16 P **P** **19 26 53.2 +1.2**
comp=Z,6.1nm,0.9s,baz=204,slow=8.8,SNR=16
MA2 pP **pP** **19 27 38.5 +1.9**
comp=Z,5.8nm,0.9s,baz=193,slow=10,SNR=2.6
MA2 Magadan 24.41 16 *ceP* **P** **19 26 54.0 +1.9**
MA2 pmax pmax
comp=Z,4.0nm,0.7s
MA2 Magadan 24.41 16 P **P** **19 26 53.3 +1.2**
ULN Ulaanbaatar 24.99 306 *ceP* **P** **19 26 57.0 -0.7**
ULN pmax pmax
comp=Z,14nm,0.8s
ULN Ulaanbaatar 24.99 306 P **P** **19 26 56.9 -0.8**
ULN lAmb lAmb 19 26 59.6
comp=Z,11nm,0.7s
SONM Songino Array 25.41 306 P **P** **19 27 00.7 -0.7**
comp=Z,8.3nm,0.6s,baz=106,slow=9.1,SNR=33
SONM ScP **ScP** **19 33 42.4 -0.1**
comp=Z,1.0nm,0.7s,baz=90,slow=4.3,SNR=4.1
SONM Songino Array 25.41 306 P **P** **19 27 00.3 -1.1**
YAK Yakutsk 25.80 351 P **P** **19 27 05.1 +0.6**
comp=Z,9.7nm,0.5s,baz=166,slow=2.1,SNR=22
YAK Yakutsk 25.80 351 *dP* **P** **19 27 04.6 +0.1**
YAK *e* 19 27 47.5
YAK *e* 19 37 28.9
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 25.80 351 P **P** **19 27 04.9 +0.4**
BOD Bodaibo 26.21 331 *eP* **P** **19 27 07.8 -0.5**
BOD pmax pmax
comp=Z,11nm,1.1s
LZH Lanzhou 27.06 279 ⇑P **P** **19 27 15.0 -1.3**
LZH pP pP 19 28 02.7 -0.9
LZH sP sP 19 28 30.7 -1.1
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,86nm,4.6s
SEY Seymchan 27.78 15 P **P** **19 27 23.2 +1.1**
comp=Z,1.3nm,0.3s,baz=35,slow=15,SNR=4.2
ZAK Zakamensk 28.06 310 *eP* **P** **19 27 23.4 -1.5**
ZAK pmax pmax
comp=Z,4.0nm,0.8s
GYA Guiyang 28.12 257 ⇑P **P** **19 27 24.3 -1.4**
GYA pmax pmax
comp=Z,8.0nm,1.0s
TLY Talaya 28.22 313 P **P** **19 27 26.5 +0.3**
comp=Z,2.2nm,0.5s,baz=209,slow=5.1,SNR=4.1
TLY Talaya 28.22 313 *ceP* **P** **19 27 27.0 +0.7**
TLY pmax pmax
comp=Z,13nm,0.8s
CD2 Chengdu 28.57 268 *eP* **P** **19 27 29.0 -0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GTA Gaotai 29.69 287 P **P** **19 27 38.2 -1.3**
GTA pP pP 19 28 28.9 +2.0
GTA sP sP 19 28 58.6 +3.9
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,77nm,5.7s
GTA LR LR
comp=Z,96nm,17.8s
GTA LR LR
comp=Z,160nm,16.0s
GTA LR LR
comp=Z,170nm,14.9s
KMI Kunming 31.86 259 ⇑P **P** **19 27 57.8 -0.9**
KMI pmax pmax
comp=Z,6.0nm,0.7s
TIXI Tiksi 35.28 355 *dP* **P** **19 28 27.5 +0.2**
TIXI Tiksi 35.28 355 P **P** **19 28 27.7 +0.4**
DLV T Lat 35.93 234 P **P** **19 28 34.1 +0.3**
DGZ Jazzator, Alta 38.06 306 *i*P **P** **19 28 51.1 -0.1**
DGZ pmax pmax
comp=Z,24nm,0.8s
WMQ Urumqi 38.21 297 P **P** **19 28 53.4 +1.0**
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ pmax pmax
comp=Z,160nm,4.7s
CHTO Chiang Mai 38.23 253 P **P** **19 28 52.2 -0.6**
CHTO pmax pmax
comp=Z,2.0nm,1.6s
CMAR Chiang Mai Arr 38.43 252 P **P** **19 28 54.7 +0.2**
comp=Z,0.7nm,0.7s,baz=48,slow=7.4,SNR=7.3
LSA Lhasa 39.14 274 P **P** **19 28 59.2 -1.6**
LSA pmax pmax
comp=Z,10.0nm,0.9s
LSA Lhasa 39.14 274 P **P** **19 28 59.2 -1.6**
FAKI Fak Fak 39.75 188 P **P** **19 29 05.4 +0.1**
ZAA0 Zalesovo Array 39.84 313 P **P** **19 29 05.7 +0.1**
ZALV Zalesovo Beam 39.84 313 P **P** **19 29 05.8 +0.2**
comp=Z,7.2nm,0.4s,baz=92,slow=6.3,SNR=45
ZALV ScP **ScP** **19 34 31.1 -0.7**
comp=Z,0.8nm,0.7s,baz=98,slow=3.1,SNR=3.6
ZSN Zaisan 39.84 303 ⇓*eP* **P** **19 29 06.7 +0.9**
comp=Z,11nm,0.8s,baz=302
ZSN Zaisan 39.84 303 *deP* **P** **19 29 06.6 +0.9**
ZSN pmax pmax
comp=Z,11nm,0.8s
LUWI Luwuk 40.01 203 P **P** **19 29 06.0 -1.5**
MK31 Makanchi Array 41.65 302 *ceP* **P** **19 29 20.4 -0.2**
MK31 Makanchi Array 41.65 302 P **P** **19 29 20.6 0.0**
MK31 lAmb lAmb 19 29 21.7
comp=Z,14nm,0.8s
MKAR Makanchi Array 41.65 302 P **P** **19 29 20.4 -0.2**
comp=Z,11nm,0.5s,baz=83,slow=9.9,SNR=194
MKAR ScP **ScP** **19 34 38.2 -0.9**
comp=Z,0.4nm,0.6s,baz=85,slow=4.9,SNR=3.5
MKAR Makanchi Array 41.65 302 *i*P **P** **19 29 20.3 -0.3**
MKAR pmax pmax
comp=Z,11nm,0.5s
SEM Semipalatinsk 42.67 307 *eP* **P** **19 29 27.8 -1.2**
baz=307
SEM Semipalatinsk 42.67 307 *eP* **P** **19 29 27.7 -1.2**
TAPN Taplejung 42.86 272 *eP* **P** **19 29 30.9 0.0**
comp=Z,17nm,0.6s
ODAN Odare 43.33 272 *eP* **P** **19 29 34.3 -0.3**
comp=Z,22nm,0.6s
KURK Kurchatov 43.68 308 *ceP* **P** **19 29 36.6 -0.1**
KURK pmax pmax
comp=Z,117nm,1.3s
KURK Kurchatov 43.68 308 P **P** **19 29 37.0 +0.3**
RAMN Ramite 43.92 272 *eP* **P** **19 29 39.3 0.0**
comp=Z,58nm,0.8s
GUN Gumba 44.09 274 *eP* **P** **19 29 40.7 0.0**
comp=Z,16nm,0.3s
SHLS Shalkode 44.22 297 ⇓*i*P **P** **19 29 38.9 -2.5**
comp=Z,24nm,1.0s,baz=297
SHLS Shalkode 44.22 297 *diP* **P** **19 29 38.8 -2.5**
SHLS pmax pmax
comp=Z,23nm,1.0s
UZB Uzynbulak 44.54 297 ⇓*i*P **P** **19 29 44.1 +0.3**
comp=Z,17nm,0.6s,baz=297
UZB Uzynbulak 44.54 297 *diP* **P** **19 29 44.1 +0.3**
UZB pmax pmax
comp=Z,17nm,0.6s
TDK Taldyqorghan 44.60 300 *eP* **P** **19 29 44.8 +0.7**
comp=Z,24nm,0.7s,baz=300
TDK Taldyqorghan 44.60 300 *eP* **P** **19 29 44.8 +0.7**
TDK pmax pmax
comp=Z,24nm,0.7s
PKI Pulchoki 44.61 274 *eP* **P** **19 29 44.7 -0.1**
comp=Z,29nm,1.0s
PKIN Phulchoki 44.62 274 *eP* **P** **19 29 44.5 -0.3**
comp=Z,23nm,0.9s
KKN Kakani 44.62 274 *eP* **P** **19 29 44.7 -0.1**
comp=Z,40nm,0.9s
KPKS Kokpek 44.71 298 *eP* **P** **19 29 45.4 +0.2**
comp=Z,17nm,0.8s,baz=298
KPKS Kokpek 44.71 298 *eP* **P** **19 29 45.4 +0.2**
KPKS pmax pmax
comp=Z,17nm,0.8s
DMN Daman 44.84 274 *eP* **P** **19 29 46.9 +0.4**
SATY Saty 45.00 297 ⇓*i*P **P** **19 29 47.9 +0.4**
comp=Z,7.1nm,0.7s,baz=297
SATY Saty 45.00 297 *diP* **P** **19 29 47.8 +0.4**
SATY pmax pmax
comp=Z,7.0nm,0.7s
GKN Gorkha 45.05 275 *eP* **P** **19 29 48.0 -0.1**
comp=Z,82nm,1.0s
DANN Dangsing 45.60 276 *eP* **P** **19 29 52.7 +0.1**
CHKK Chushkaly 45.83 299 *eP* **P** **19 29 54.1 +0.3**
baz=298
CHKK Chushkaly 45.83 299 *eP* **P** **19 29 54.1 +0.3**
MDOK Medeo 45.95 298 *iP* **P** **19 29 55.5 +0.6**
baz=298
MDOK Medeo 45.95 298 *iP* **P** **19 29 55.5 +0.6**
AAA Alma-Ata 46.03 298 *eP* **P** **19 29 56.3 +0.8**
comp=Z,24nm,0.7s,baz=298
AAA Alma-Ata 46.03 298 *eP* **P** **19 29 56.2 +0.8**
AAA pmax pmax
comp=Z,24nm,0.7s
TNSS Tian-Shan 46.05 297 *iP* **P** **19 29 56.7 +0.8**
baz=297
TNSS Tian-Shan 46.05 297 *iP* **P** **19 29 56.7 +0.8**
KUU Kurty 46.28 299 ⇓*i*P **P** **19 29 57.5 +0.1**
comp=Z,32nm,1.0s,baz=299
KUU Kurty 46.28 299 *diP* **P** **19 29 57.4 +0.1**
KUU pmax pmax
comp=Z,32nm,1.0s
ULHL Ulahol 46.74 297 P **P** **19 30 01.8 +0.6**
SNR=13
TKM2 Tokmak 2 47.04 298 P **P** **19 30 04.6 +1.2**
SNR=15
MMRI Maumere 47.36 201 P **P** **19 30 05.0 -0.8**
BRZS Berezniki 47.55 308 ⇓*i*P **P** **19 30 07.0 +0.1**
comp=Z,15nm,0.7s,baz=308
BRZS Berezniki 47.55 308 *diP* **P** **19 30 07.0 +0.1**
BRZS pmax pmax
comp=Z,15nm,0.7s
KBK Karagaybulak 47.57 297 P **P** **19 30 08.5 +1.1**
SNR=50
CHMS Chumysh 47.62 298 P **P** **19 30 08.3 +0.7**
SNR=12
BTLS Baital 47.62 301 ⇓*i*P **P** **19 30 07.7 +0.1**
comp=Z,15nm,0.7s,baz=301
BTLS Baital 47.62 301 *diP* **P** **19 30 07.6 +0.1**
BTLS pmax pmax
comp=Z,15nm,0.7s
KSH Kashi 47.69 293 P **P** **19 30 12.5 +4.2**
KSH pP pwP 19 31 06.6 +4.8
KSH PcP **PcP** **19 31 34.1 +0.5**
KSH SS SS 19 40 17.0 +0.2
KSH pmax pmax
comp=Z,36nm,0.8s
KSH pmax pmax
comp=Z,480nm,9.0s
USP Ospenovka 47.73 298 P **P** **19 30 09.2 +0.7**
SNR=9.3
SOEI Soe 47.89 198 P **P** **19 30 09.4 -0.6**
AAK Ala-Archa 47.89 298 P **P** **19 30 10.7 +0.7**
SNR=16
AAK Ala-Archa 47.89 298 *ceP* **P** **19 30 10.6 +0.7**
AAK pmax pmax
comp=Z,53nm,0.7s
AAK Ala-Archa 47.89 298 P **P** **19 30 10.3 +0.4**
AAK lAmb lAmb 19 30 11.5
comp=Z,18nm,0.8s
UCH Uchtor 47.99 297 P **P** **19 30 12.1 +1.1**
SNR=11
EKS2 Erkin-Say 48.40 298 P **P** **19 30 14.2 +0.4**
SNR=18
BRVK Borovoye 48.54 312 *ceP* **P** **19 30 15.0 +0.6**
BRVK pmax pmax
comp=Z,29nm,1.3s
BRVK Borovoye 48.54 312 P **P** **19 30 15.1 +0.6**
BRVK lAmb lAmb 19 30 16.5
comp=Z,21nm,0.9s
AML Almayashu 48.60 297 P **P** **19 30 17.1 +1.5**
SNR=28
KDAK Kodiak Island 49.39 41 P **P** **19 30 22.7 +1.9**
comp=Z,3.0nm,0.8s,baz=294,slow=5.4,SNR=4.8
DZA Taraz 50.07 299 ⇓*i*P **P** **19 30 26.5 +0.3**
baz=299
DZA Taraz 50.07 299 ⇓*i*P **P** **19 30 26.4 +0.3**
KKAR Karatay Array 50.58 299 P **P** **19 30 30.3 +0.3**
KKAR Karatay Array 50.58 299 P **P** **19 30 30.3 +0.3**
COEN Coen 50.69 173 P **P** **19 30 31.8 +0.8**
GSI Gunungsitoli 51.02 236 P **P** **19 30 33.4 -0.2**
GSI lAmb lAmb 19 30 34.3
comp=Z,26nm,1.0s
IUG Iuzhnay 51.20 298 ⇓*i*P **P** **19 30 35.3 +0.6**
comp=Z,13nm,1.0s,baz=298
IUG Iuzhnay 51.20 298 ⇓*i*P **P** **19 30 35.3 +0.6**
IUG pmax pmax
comp=Z,13nm,1.0s
ILAR Eielson Array 51.41 32 P **P** **19 30 37.4 +1.6**
comp=Z,1.0nm,0.7s,baz=278,slow=6.2,SNR=13
ILAR pP **pP** **19 31 29.3 +0.9**
comp=Z,1.3nm,0.8s,baz=285,slow=7.7,SNR=4.8
NIL Nilore 51.75 287 P **P** **19 30 39.4 +0.6**
NIL pmax pmax
comp=Z,41nm,1.4s
NIL Nilore 51.75 287 P **P** **19 30 39.4 +0.6**
NIL lAmb lAmb 19 30 40.7
comp=Z,41nm,1.4s
SVE Sverdlovsk 53.32 318 ⇓*eP* **P** **19 30 51.1 +1.3**
SVE pmax pmax
comp=Z,25nm,0.9s
ARU Arti 54.52 318 *diP* **P** **19 30 58.8 +0.2**
ARU *PP **pP** **19 31 50.6 -1.1**
ARU 19 33 01.7
ARU S **S** **19 38 23.2 +5.0**
ARU SS **SS** **19 42 01.2 -2.7**
ARU pmax pmax
comp=Z,17nm,0.8s
ARU Arti 54.52 318 P **P** **19 30 58.9 +0.3**
ARU lAmb lAmb 19 31 01.7
comp=Z,16nm,0.9s
FITZ Fitzroy Crossi 55.68 194 P **P** **19 31 07.5 +0.3**
FITZ lAmb lAmb 19 31 08.5
comp=Z,32nm,1.2s
ABKAR Akbulak array 55.75 309 P **P** **19 31 07.8 +0.3**
ABKAR Akbulak array 55.75 309 P **P** **19 31 07.7 +0.3**

ABKAR IAmb IAmb 19 31 09.8
comp=Z,11nm,0.7s
INK Inuvik 56.06 27 P **P 19 31 10.7 +1.4**
comp=Z,1.8nm,0.7s,baz=269,slow=6.0,SNR=5.6
INK pP **PcP 19 32 03.7 -0.6**
comp=Z,1.2nm,0.8s,baz=318,slow=6.2,SNR=1.9
WB0 Warramunga Arr 56.27 184 P **P 19 31 11.2 -0.1**
WRAB Tennant Creek 56.43 184_ce_P **P 19 31 12.5 0.0**
WRAB pmax pmax
comp=Z,38nm,1.7s
WRAB Tennant Creek 56.43 184 P **P 19 31 12.4 -0.1**
WRAB IAmb IAmb 19 31 13.1
comp=Z,24nm,0.9s
WB2 Warramunga Arr 56.44 184 P **P 19 31 12.4 -0.2**
WB2 IAmb IAmb 19 31 13.2
comp=Z,24nm,0.8s
WRA Warramunga Arr 56.44 184 P **P 19 31 12.3 -0.2**
comp=Z,21nm,0.4s,baz=360,slow=7.8,SNR=194
WR0 Warramunga Arr 56.45 183 P **P 19 31 12.6 0.0**
HRA Herat 59.78 292 P **P 19 31 35.5 -0.4**
HRA IAmb IAmb 19 31 38.5
comp=Z,8.2nm,0.8s
AS31 Alice Springs 60.16 184 P **P 19 31 38.3 +0.1**
ASAR Alice Springs 60.17 184 P **P 19 31 38.2 0.0**
comp=Z,6.1nm,0.7s,baz=13,slow=14,SNR=73
GEYT Alibeck 61.25 298 P **P 19 31 46.1 +0.6**
comp=Z,7.2nm,0.8s,baz=31,slow=3.5,SNR=12
TMCR Tamitsa 61.51 331 _e_P **P 19 31 48.7 +2.0**
TMCR pmax pmax
comp=Z,20nm,1.1s
BELG Belogornoye 61.89 316 _i_ P **P 19 31 50.3 +0.9**
BELG pmax pmax
comp=Z,4.0nm,0.9s
KLMR Klimovskoe 62.34 327 _e_P **P 19 31 51.5 -0.8**
KLMR pmax pmax
comp=Z,9.0nm,0.6s
KLMR Klimovskoe 62.34 327 _e_P **P 19 31 51.5 -0.8**
KLMR AMP 19 31 53.1
comp=Z,9.0nm,0.6s
ARCES ARCESS Array B 63.17 339 P **P 19 31 58.0 +0.3**
comp=Z,4.1nm,0.7s,baz=58,slow=7.2,SNR=29
YKA Yellowknife Ar 65.61 29 P **P 19 32 14.4 +0.9**
comp=Z,0.2nm,0.5s,baz=311,slow=6.1,SNR=4.1
YKA pP **pP 19 33 10.1 +1.2**
comp=Z,0.4nm,0.8s,baz=296,slow=5.9,SNR=3.7
VRH Novokhopyorsk 65.70 317 _e_P **P 19 32 13.5 -0.8**
VRH pmax pmax
comp=Z,8.0nm,0.5s
OBN Obninsk 66.46 322 _i_ P **P 19 32 18.2 -0.8**
OBN _i_ *PP **pP 19 33 13.4 -1.0**
OBN pmax pmax
comp=Z,7.0nm,0.9s
LPSR Galich'ya Gora 66.52 319 _e_P **P 19 32 18.6 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 67.09 318 _e_P **P 19 32 22.1 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
FIA1 FINESS Array S 67.61 331 P **P 19 32 26.5 +0.4**
FINES FINESS Array B 67.61 331 P **P 19 32 26.6 +0.5**
comp=Z,7.8nm,0.3s,baz=62,slow=6.4,SNR=110
GOF Gofitskoye 67.96 310⇑_e_P **P 19 32 29.0 +0.4**
GOF pmax pmax
comp=Z,38nm,0.9s
STKA Stephens Creek 68.35 176 P **P 19 32 31.6 +0.6**
comp=Z,7.6nm,0.6s,baz=342,slow=6.6,SNR=27
STKA Stephens Creek 68.35 176 P **P 19 32 31.3 +0.2**
KBZ Khabaz 68.72 309 P **P 19 32 34.0 +0.6**
comp=Z,9.5nm,0.9s,baz=32,slow=3.8,SNR=24
KBZ Khabaz 68.72 309_ce_P **P 19 32 33.5 +0.2**
KBZ pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 68.73 309 ⇑P **P 19 32 35.5 +1.9**
KIV Kislovodsk 68.73 309_c i_P **P 19 32 34.7 +1.1**
KIV _i_ 19 32 54.1
KIV pmax pmax
comp=Z,22nm,1.0s
SHA1 Shidzhatmaz 68.86 309 _i_ P **P 19 32 34.9 +0.3**
VSU Vasula 69.11 328 _e_P **P 19 32 35.9 +0.4**
AKH Akhalkalaki 69.54 307 ⇑P **P 19 32 39.9 +1.3**
AKH Akhalkalaki 69.54 307 P **P 19 32 39.9 +1.3**
IDID Didziasalis 71.01 326 _e_P **P 19 32 48.0 +1.0**
ISAL Salakas 71.13 326 _e_P **P 19 32 48.6 +0.8**
IIGN Ignalina 71.22 326 _e_P **P 19 32 49.4 +1.1**
NACGM Naroch 71.24 325 _i_ P **P 19 32 49.2 +0.8**
NACGM _i_ P **P 19 32 49.2 +0.8**
NACGM _i_ P **P 19 32 49.2 +0.8**
NACGM _i_ PcP **PcP 19 33 05.8 -1.0**
NACGM _i_ pP **pP 19 33 45.0 +0.4**
NACGM _i_ sP **sP 19 34 13.0 +2.3**
NACGM _i_ sP PP 19 34 39.8 -50
NACGM _i_ PP PP 19 35 32.6 +3.3
NACGM _i_ PPP PPP 19 37 17.9
NACGM _i_ S **S 19 41 45.5 +0.1**
NACGM _i_ sS **sS 19 43 21.8 -1.3**
NACGM _i_ SS SS 19 46 03.2 -20
NACGM _i_ SSS SSS 19 49 35.5
PABE Paberze 72.13 327 _e_P **P 19 32 54.8 +1.1**
AKASG Malin Array Be 72.61 321 P **P 19 32 56.6 0.0**
comp=Z,7.9nm,0.6s,baz=50,slow=6.4,SNR=43
AKASG Malin Array Be 72.61 321 P **P 19 32 56.9 +0.3**
AKASG pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 72.61 321 P **P 19 32 56.9 +0.3**
AKBB Malin Array Si 72.61 321_ce_P **P 19 32 57.0 +0.4**
AKBB Malin Array Si 72.61 321 P **P 19 32 56.1 -0.5**
AKBB IAmb IAmb 19 32 57.5
comp=Z,10.0nm,0.8s
NB2 NORSAR Subarra 73.23 336 P **P 19 33 00.3 +0.1**
comp=Z,2.8nm,0.7s,baz=41,slow=6.2
NOA NORSAR Array B 73.23 336 P **P 19 33 00.6 +0.4**
comp=Z,3.8nm,0.7s,baz=41,slow=5.9,SNR=13
NORES NORESS Array B 73.35 335 P **P 19 33 04.3 +3.5**
NORES pmax pmax
comp=Z,1.0nm,0.3s
SORM Soroca 74.62 319 ⇑P **P 19 33 08.3 -0.1**
SORM Soroca 74.62 319 P **P 19 33 08.2 -0.1**
TESR Tescani 76.55 318 ⇑P **P 19 33 19.5 +0.2**
BIZ Bicaz 76.56 319 ⇑P **P 19 33 20.7 +1.3**
BUR08 Bucovina Ar. S 76.58 320 P **P 19 33 20.1 +0.5**
CFR Carcaliu 76.58 317 ⇑P **P 19 33 19.8 +0.2**
CFR Carcaliu 76.58 317 P **P 19 33 19.7 +0.2**
BURAR Bucovina Array 76.59 320 ⇑P **P 19 33 20.8 +1.1**
BURAR Bucovina Array 76.59 320 P **P 19 33 20.7 +1.1**
BURAR Bucovina Array 76.59 320 P **P 19 33 20.0 +0.3**
TPGR Topolog 76.63 316 ⇑P **P 19 33 20.2 +0.4**
BR131 Keskin Array S 76.70 310 P **P 19 33 20.5 0.0**
BR131 pmax pmax
comp=Z,7.0nm,0.9s
BR131 Keskin Array S 76.70 310 P **P 19 33 20.5 0.0**
BR131 IAmb IAmb 19 33 22.3
comp=Z,7.1nm,0.8s
BRTR Keskin Array B 76.70 310 P **P 19 33 21.1 +0.7**
comp=Z,4.0nm,0.7s,baz=106,slow=3.9,SNR=21
VRI Vrincioaia 76.91 318 ⇑P **P 19 33 23.3 +1.9**
VRI Vrincioaia 76.91 318 P **P 19 33 23.3 +1.9**
TLBR Topalu 77.03 316 ⇑P **P 19 33 21.7 -0.3**
KOLS Kolonicke sedl 77.21 322 _e_P **P 19 33 23.8 +0.8**
KOLS Kolonicke sedl 77.21 322 _e_P **P 19 33 23.8 +0.8**
OZUR 77.27 319 ⇑P **P 19 33 25.0 +1.6**
ARCR ARCALIA 77.38 320 ⇑P **P 19 33 25.3 +1.4**
DOPR Dopca 77.56 319 ⇑P **P 19 33 26.7 +1.7**
NVAR Mina Array Bea 77.62 51 P **P 19 33 28.2 +2.5**
comp=Z,0.6nm,0.4s,baz=287,slow=5.7,SNR=6.7
VOIR 78.09 318 ⇑P **P 19 33 29.6 +1.5**
VOIR 78.09 318 P **P 19 33 29.5 +1.5**
LANS Liptovska Anna 78.42 324 _e_P **P 19 33 31.6 +1.9**
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 78.42 324 _e_P **P 19 33 31.6 +1.9**
DRGR 78.42 320 ⇑P **P 19 33 30.5 +0.8**
DRGR 78.42 320 P **P 19 33 30.5 +0.8**
MORC Moravsky Berou 78.88 325 ⇑P **P 19 33 33.6 +1.4**
MORC Moravsky Berou 78.88 325 _e_P **P 19 33 33.2 +1.0**
MORC Moravsky Berou 78.88 325 P **P 19 33 33.6 +1.4**
CHVC Chvalec 78.97 326 _e_P **P 19 33 33.5 +0.9**
DPC Dobruska-Polom 79.03 326 _e_P **P 19 33 33.0 0.0**
DPC Dobruska-Polom 79.03 326 _e_P **P 19 33 33.0 0.0**
GZR Gura Zlata 79.32 319 ⇑P **P 19 33 35.6 +1.0**
JAVC Velka Javorina 79.47 324 _e_P **P 19 33 37.0 +1.6**
VRAC Vranov 79.65 325 P **P 19 33 36.7 +0.5**
comp=Z,4.6nm,1.0s,baz=84,slow=4.4,SNR=5.2
VRAC Vranov 79.65 325 _e_P **P 19 33 36.8 +0.5**
PLVB Pleven 79.67 317 ⇑P **P 19 33 37.5 +1.0**
BZS Buzias 79.77 320 ⇑P **P 19 33 37.1 +0.1**
BZS Buzias 79.77 320 P **P 19 33 37.1 +0.1**
CLL Collm 79.77 328 _i_ P **P 19 33 37.1 +0.2**
comp=Z,11nm,0.9s
CLL Collm 79.77 328 _i_ P **P 19 33 37.1 +0.2**
CLL pmax pmax
comp=Z,11nm,0.9s
KRUC Moravsky 79.91 325 _e_P **P 19 33 38.4 +0.7**
MODS Modra-Piesok 80.00 324 _e_P **P 19 33 38.9 +0.7**
MODS pmax pmax
comp=Z,13nm,1.3s
MODS Modra-Piesok 80.00 324 _e_P **P 19 33 38.9 +0.7**
PDAR Pinedale Array 80.06 44 P **P 19 33 40.4 +1.4**
comp=Z,0.3nm,0.6s,baz=256,slow=1.9,SNR=2.7
PDAR pP **pP 19 34 37.0 +0.7**
comp=Z,0.1nm,0.4s,baz=202,slow=24,SNR=1.6
PRU Pruhonice 80.08 327 _e_P **P 19 33 39.7 +1.2**
PRU Pruhonice 80.08 327 _e_P **P 19 33 39.7 +1.2**
MORH Mrgy, Hungar 80.86 322 ⇑P **P 19 33 43.4 +0.6**
VTS Vitosha 80.94 317 ⇑P **P 19 33 44.8 +1.4**
VTS Vitosha 80.94 317 P **P 19 33 44.8 +1.4**
CONA Conrad Observa 80.98 325 _e_P **P 19 33 44.5 +1.0**
comp=Z,3.9nm,1.0s
FRGS Fruska Gora 81.01 321 ⇑P **P 19 33 44.8 +1.1**
CKRC Cesky Krumlov 81.04 326 _e_P **P 19 33 43.5 -0.2**
KHC Kasperske Hory 81.14 327 _i_ P **P 19 33 44.8 +0.6**
KHC pmax pmax
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 81.14 327 _e_P **P 19 33 44.8 +0.6**
GERES GERESS Array B 81.29 326 P **P 19 33 45.6 +0.5**
comp=Z,0.7nm,0.4s,baz=42,slow=5.9,SNR=12
ARSA Arzberg 81.62 324 _e_P **P 19 33 47.8 +1.0**
comp=Z,4.2nm,1.2s
SOKA Soboth 82.27 324 _e_P **P 19 33 51.1 +0.9**
comp=Z,2.3nm,0.6s
DAVOX Davos/Dischmat 84.54 327 P **P 19 34 02.4 +0.5**
comp=Z,2.0nm,0.8s,baz=81,slow=11,SNR=4.2
TXAR Lajitas Array 92.73 50 P **P 19 34 42.8 +1.9**
comp=Z,0.5nm,0.8s,baz=270,slow=1.9,SNR=4.2
LPAZ La Paz 149.47 55 PKPbc **PKiKP 19 41 18.5 0.0**
comp=Z,0.7nm,0.6s,baz=304,slow=3.6,SNR=2.4

IDC **01** 20:22:59.3±0.9, 58°.96S×150°.91W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.1/31, mbtmp4.0/6, MS4.2/13, Ms1 4.1/13, ms1mx4.0/23 Error ellipse: s-maj=135.3km s-min=20.8km az=6.0
NEIC **01** 20:23:00.0±1.3, 59°.2S±0°.3×150°.9W±0°.1, h10km±1km, mb4.6/11, Error ellipse: s-maj=43.7km s-min=7.2km az=10.0
_GCMT **01** 20:23:05.0±0.3, 59°.74S±0°.02×150°.66W±0°.03, h18km±1km, MW4.9/90, Moment Tensor Solution. s23,c28; s90,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.27±.14; $M_{\theta\theta}$2.91±.14; $M_{\phi\phi}$-2.64±.12; $M_{r\theta}$-0.62±.28; $M_{\theta\phi}$1.42±.09; $M_{\phi r}$0.12±.23; Best double couple: $M_0$3.17600×10^{16} NP1:ϕ_s211.00000°, δ80.00000°, λ177.00000°. NP2: ϕ_s302.00000°, δ87.00000°, λ10.00000°. Principal axes: T 3.3450, Plg9.0000°, Azm167.0000°; N -0.3400, Plg79.0000°, Azm315.0000°; P -3.0070, Plg6.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function_
ISC 01 20:23:00.2±0.6**, 59°.1S**±0°.2×**150°.9W**±0°.1**, h10**km**, n46, σ1§40**/24**, mb4.5**/12**, MS4.2**/14**, Pacific-Antarctic Ridge**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
VNDA Vanda 24.20 203 LR LR 20 35 01.8
comp=Z,294nm,21.8s,baz=72,slow=30
RPZ Rata Peaks 27.83 287 LR LR 20 37 40.6
comp=Z,284nm,19.6s,baz=133,slow=32
URZ Urewera 29.24 301 LR LR 20 38 23.7
comp=Z,293nm,19.6s,baz=215,slow=32
QSPA South Pole Qui 31.05 180 P **P 20 29 15.7 -2.2**
QSPA IAmb IAmb 20 29 16.7
comp=Z,8.5nm,1.1s
PPT2 Papeete2 41.45 2 _e_S **S 20 37 00.4 -1.7**
comp=Z,117nm,25.5s
PPT2 _e_LR LR 20 42 07.7
comp=Z,840nm,25.2s
PPT2 _e_LR LR 20 52 14.3
comp=Z,183nm,25.2s
PPT Papeete 41.48 2 LR LR 20 43 45.5
comp=Z,302nm,19.4s,baz=173,slow=30
MAW Mawson 51.20 196 LR LR 20 51 35.9
comp=Z,118nm,18.2s,baz=156,slow=33
PLCA Paso Flores 51.48 107 P **P 20 32 07.6 +2.1**
comp=Z,5.4nm,1.2s,baz=227,slow=7.3,SNR=3.0
PLCA LR LR 20 48 38.7
comp=Z,132nm,19.5s,baz=205,slow=30
PLCA Paso Flores 51.48 107 IAmb IAmb 20 32 11.5
comp=Z,12nm,1.4s
STKA Stephens Creek 51.85 271 P **P 20 32 08.7 +0.4**
comp=Z,2.8nm,0.9s,baz=187,slow=8.1,SNR=4.5
STKA LR LR 20 49 28.8
comp=Z,224nm,20.9s,baz=158,slow=31
H03S2 Juan Fernandez 52.55 95 T T 21 28 51.6
baz=215,slow=74,SNR=86
H03S1 Juan Fernandez 52.56 95 T T 21 29 04.8
baz=215,slow=74,SNR=90
H03S3 Juan Fernandez 52.57 95 T T 21 28 55.3
baz=215,slow=74,SNR=101
H03N3 Juan Fernandez 52.85 94 T T 21 29 18.3
baz=218,slow=72,SNR=135
H03N2 Juan Fernandez 52.86 94 T T 21 29 11.7
baz=218,slow=72,SNR=217
H03N1 Juan Fernandez 52.87 94 T T 21 29 13.6
baz=218,slow=72,SNR=111
BI02 San Fabin de 54.25 103 P **P 20 32 25.9 -0.1**
BI02 IAmb IAmb 20 32 32.9
comp=Z,13nm,1.4s
BO02 Sierra Bellavi 55.96 102 P **P 20 32 38.5 +0.1**
BO02 IAmb IAmb 20 32 39.6
comp=Z,4.8nm,1.1s
MT05 Renca 57.09 101 P **P 20 32 43.5 -2.9**
CTAO Charters Tower 59.10 283 P **P 20 32 59.2 -1.4**
AS31 Alice Springs 62.46 270 P **P 20 33 23.1 -0.4**
ASAR Alice Springs 62.46 270 P **P 20 33 24.0 +0.5**
comp=Z,1.5nm,0.8s,baz=139,slow=7.4,SNR=14
ASAR LR LR 20 57 16.9
comp=Z,267nm,18.8s,baz=154,slow=33
ASAR Alice Springs 62.46 270 P **P 20 33 23.1 -0.4**
H01W1 Cape Leeuwin H 63.21 247 T T 21 42 27.2
baz=145,slow=76,SNR=6.2
H01W2 Cape Leeuwin H 63.21 247 T T 21 42 31.2
baz=145,slow=76,SNR=6.7
H01W3 Cape Leeuwin H 63.22 247 T T 21 42 37.2
baz=145,slow=76,SNR=5.6
WB2 Warramunga Arr 65.31 272 P **P 20 33 42.5 +0.2**
WB2 IAmb IAmb 20 33 52.7
comp=Z,4.6nm,1.1s
WRA Warramunga Arr 65.32 272 P **P 20 33 42.1 -0.2**
comp=Z,0.7nm,0.8s,baz=151,slow=5.3,SNR=4.2
WRA LR LR 20 57 49.7
comp=Z,126nm,20.9s,baz=250,slow=32
WRAB Tennant Creek 65.32 272 P **P 20 33 43.0 +0.7**
WRAB IAmb IAmb 20 33 55.3
comp=Z,8.4nm,1.4s
COEN Coen 65.84 284 P **P 20 33 45.6 -0.1**
COEN IAmb IAmb 20 33 49.2
comp=Z,3.3nm,1.1s
CPUP Villa Florida 69.55 107 P **P 20 34 10.3 +1.3**
comp=Z,0.8nm,0.7s,baz=236,slow=7.3,SNR=2.9
LPAZ La Paz 72.45 92 P **P 20 34 27.0 -0.5**
comp=Z,0.3nm,0.4s,baz=229,slow=9.3,SNR=2.4
LPAZ La Paz 72.45 92 P **P 20 34 25.9 -1.5**
KAPI Kappang 85.43 268 LR LR 21 11 46.4
comp=Z,125nm,20.0s,baz=149,slow=34
SUR Sutherland 88.61 173 LR LR 21 10 54.8
comp=Z,122nm,19.3s,baz=174,slow=32
BOSA Boshof 92.56 177 LR LR 21 12 39.3
comp=Z,336nm,21.9s,baz=181,slow=32
LBTB Lobatse 96.16 177 LR LR 21 15 39.2
comp=Z,288nm,20.3s,baz=178,slow=33
H10N3 ASCENSION HYDR104.71 135 T T 22 34 18.2
baz=194,slow=75,SNR=18
H10N1 ASCENSION HYDR104.72 135 T T 22 34 13.7
baz=194,slow=75,SNR=26
H10N2 ASCENSION HYDR104.73 135 T T 22 34 21.6
baz=194,slow=75,SNR=20
ILAR Eielson Array 123.58 2 PKP **PKPdf 20 41 57.4 +1.2**
comp=Z,0.6nm,1.0s,baz=196,slow=1.6,SNR=3.3
MK31 Makanchi Array 146.62 272 **PKPdf 20 42 40.6 +1.3**
MKAR Makanchi Array 146.62 272 PKPbc **PKPdf 20 42 41.2 +1.9**
comp=Z,2.4nm,0.8s,baz=105,slow=4.1,SNR=22
MKAR Makanchi Array 146.62 272 **PKPdf 20 42 41.1 +1.8**
HRA Herat 147.05 236 **PKPdf 20 42 42.1 +1.4**
ESDC Sonseca Array 151.44 118 PKPbc **PKPbc 20 42 54.1 +0.6**
comp=Z,1.8nm,1.1s,baz=242,slow=2.0,SNR=5.4

IDC **01** 20:26:52.5±6.0, 14°.52N×104°.21W, h0km, mb3.7/5, mb1 4.2/6, mb1mx3.8/43, mbtmp3.8/6, ML3.6/1, MS3.6/18, Ms1 3.7/18, ms1mx3.5/39, Error ellipse: s-maj=110.8km s-min=89.4km az=117.0
NEIC **01** 20:26:59.6±3.0, 15°.26N±0°.09×104°.55W±0°.10, h10km±2km, mb4.3/24, Md4.0/10(MEX), Error ellipse: s-maj=16.7km s-min=14.2km az=241.0
MEX **01** 20:27:02.0±0.5, 15°.34N×104°.57W, h5km, MD4.0
ISC 01 20:26:59.8±1.0**, 15°.30N**±0°.09×**104°.55W**±0°.08**, h10**km**, n59, σ1§77**/47**, mb4.2**/9**, MS3.7**/14**, Off coast of Michoacan**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
MMIG Aquila 3.19 21 _e_P **Pn 20 27 49.1 -0.9**
MMIG _e_S **Sn 20 28 27.0 -1.1**
MMIG Aquila 3.19 21 **Pn 20 27 49.1 -0.9**
MMIG **Sn 20 28 27.0 -1.1**
ZIIG Zihuatanejo 3.74 52 _e_P **Pn 20 27 57.7 +0.1**
ZIIG _i_ S **Sn 20 28 41.9 +0.1**
ZIIG Zihuatanejo 3.74 52 **Pn 20 27 57.7 +0.1**
ZIIG **Sn 20 28 41.9 +0.1**
COIG Colima 3.94 12 _e_P **Pn 20 28 01.1 +0.6**
COIG _e_S **Sn 20 28 45.1 -1.8**
CJM Chamela 4.20 354 _e_P **Pn 20 28 03.8 -0.1**
CJM _e_S **Sn 20 28 51.6 -1.6**
MOIG Morelia 5.41 36 Pn **Pn 20 28 21.0 +0.3**
ZAIG Zacatecas 7.66 14 Pn **Pn 20 28 52.6 +0.8**
CMIG Matias Romero 9.46 78 LR LR 20 32 36.2
comp=Z,252nm,18.5s,baz=261,slow=37
SLBS Sierra La Lagu 9.77 329 Pn **Pn 20 29 19.9 -0.6**
TX31 Lajitas Ar. Si 13.99 3 Pn **P 20 30 22.2 -4.2**
TX32 Lajitas Array 13.99 3 Pn P 20 30 21.4 -4.9
TXAR Lajitas Array 13.99 3 Pn **P 20 30 22.8 -3.5**
0.1nm,0.3s,baz=181,slow=14,SNR=22
TXAR LR LR 20 34 55.4
comp=Z,141nm,20.9s,baz=0.0,slow=33
TXAR Lajitas Array 13.99 3 Pn **P 20 30 21.6 -4.7**
JCT Junction City 15.72 15 P **P 20 30 44.4 -1.1**
JCT IAmb IAmb 20 30 48.1
comp=Z,24nm,1.4s
TEIG Tepich 16.25 70 LR LR 20 37 32.7
comp=Z,189nm,19.9s,baz=266,slow=40
MNTX Cornudas Mount 16.34 357 P **P 20 30 52.1 -0.2**
HKT Hockley 16.64 27 P **P 20 30 56.7 +1.2**
HKT IAmb IAmb 20 31 08.7
comp=Z,23nm,1.5s
121A Cookes Peak, D 17.41 351 Pn **Pn 20 31 01.8 -1.2**
WHTX Lake Whitney, 17.83 20 Pn **Pn 20 31 06.0 -2.0**
WHTX IAmb IAmb 20 31 13.6
comp=Z,24nm,1.1s
TUC Tucson 17.86 343 P **P 20 31 10.4 +1.2**
MSTX Muleshoe 18.66 5 **Pn 20 31 18.9 +0.5**
MSTX IAmb IAmb 20 31 28.3
comp=Z,14nm,1.0s
ANMO Albuquerque 19.64 355 P **Pn 20 31 33.1 +2.9**
comp=Z,0.6nm,0.5s,baz=170,slow=11,SNR=4.9
ANMO LR LR 20 39 39.2
comp=Z,55nm,21.9s,baz=172,slow=38
AMTX Amarillo 19.67 7 P **Pn 20 31 29.3 -1.2**
AMTX IAmb IAmb 20 31 40.5
comp=Z,14nm,1.1s
Z38A Mt. Pleasant 19.87 24 P **Pn 20 31 34.8 +2.0**
Z38A IAmb IAmb 20 31 38.5
comp=Z,23nm,1.1s
GLA Glamis 19.98 334 P **P 20 31 29.9 -2.6**
GLA IAmb IAmb 20 31 38.0
comp=Z,17nm,1.3s
WMOK Wichita Mounta 20.04 14 P **P 20 31 32.9 -0.1**
WLAR White Oak Lake 21.03 27 P **P 20 31 46.5 +2.8**
WUAZ Wupatki 21.04 344 P **P 20 31 43.1 -0.9**
WUAZ IAmb IAmb 20 31 52.1
comp=Z,14nm,1.1s
PFO Pinyon Flats O 21.18 332 P **P 20 31 48.1 +2.6**
comp=Z,10nm,1.2s,baz=168,slow=9.1,SNR=4.1
PFO LR LR 20 38 37.7
comp=Z,467nm,20.0s,baz=151,slow=32
MIAR Mount Ida 21.56 25 P **P 20 31 52.5 +3.0**
MIAR IAmb IAmb 20 31 55.3
comp=Z,14nm,1.4s
TUL1 Leonard 21.97 19 P **P 20 31 55.5 +1.7**
TUL1 IAmb IAmb 20 32 12.1
comp=Z,10nm,1.1s
SDCO Great Sand Dun 22.37 358 P **P 20 31 59.6 +1.1**
NVAR Mina Array Bea 26.04 335 P **P 20 32 35.8 +2.3**
comp=Z,0.2nm,0.3s,baz=154,slow=11,SNR=4.4
NVAR LR LR 20 42 06.1
comp=Z,56nm,18.7s,baz=150,slow=34
ELK Elko 27.00 342 LR LR 20 41 43.9
comp=Z,113nm,18.6s,baz=223,slow=32
TKL Tuckaleechee C 27.51 39 LR LR 20 46 15.9
comp=Z,175nm,18.4s,baz=211,slow=42
PDAR Pinedale Array 27.71 352 LR LR 20 44 54.4
comp=Z,97nm,19.9s,baz=329,slow=38
MOD Modoc Plateau 29.80 336 P **P 20 33 05.1 -1.9**
OTAV Otavalo 29.81 118 P **P 20 33 07.4 -0.3**
YBH Yreka Blue Hor 30.66 333 LR LR 20 44 52.1
comp=Z,127nm,20.2s,baz=145,slow=34
ROSC El Rosal 31.48 106 LR LR 20 44 52.7
comp=Z,59nm,18.2s,baz=259,slow=35
ULM Lac du Bonnet 35.56 10 LR LR 20 48 16.6
comp=Z,144nm,21.7s,baz=218,slow=35
SADO Sadowa 36.40 31 LR LR 20 51 45.4
comp=Z,77nm,18.9s,baz=284,slow=40
BBB Bella Bella 41.30 338 LR LR 20 51 34.1
comp=Z,94nm,19.2s,baz=164,slow=35
DLBC Dease Lake 47.06 342 LR LR 20 55 53.5
comp=Z,134nm,18.4s,baz=113,slow=36
YKA Yellowknife Ar 47.67 354 P **P 20 35 36.3 +0.2**
comp=Z,0.4nm,0.6s,baz=161,slow=8.2,SNR=6.8
LPAZ La Paz 47.73 130 LR LR 20 53 29.1
comp=Z,185nm,20.4s,baz=284,slow=34
LPAZ La Paz 47.73 130 P **P 20 35 36.0 -1.9**
H03N2 Juan Fernandez 54.29 154 T T 21 35 30.4
baz=330,slow=77,SNR=25
H03N1 Juan Fernandez 54.30 154 T T 21 35 26.5
baz=330,slow=77,SNR=28
H03N3 Juan Fernandez 54.30 154 T T 21 35 29.4
baz=330,slow=77,SNR=27
INK Inuvik 56.13 347 P **P 20 36 40.8 +1.7**
INK IAmb IAmb 20 36 43.2
comp=Z,4.1nm,1.0s
SUA Susitna One 56.58 335 P **P 20 36 42.7 +0.1**
RND Reindeer 56.98 338 P **P 20 36 46.1 +0.8**
IL31 57.14 340 P **P 20 36 46.9 +0.6**
ILAR Eielson Array 57.14 340 P **P 20 36 46.5 +0.1**
comp=Z,5.0nm,1.1s,baz=157,slow=5.3,SNR=24
SKT Skwentna 57.18 336 P **P 20 36 47.0 +0.3**
SKT IAmb IAmb 20 36 49.0
comp=Z,8.7nm,1.4s
NOA NORSAR Array B 88.57 26 LR LR 21 19 32.0
comp=Z,77nm,18.5s,baz=5.0,slow=36
GERES GERESS Array B 96.02 36 LR LR 21 24 00.9
comp=Z,37nm,18.4s,baz=337,slow=36

ISK **01** 20:29:00.2, 35°.79N×33°.34E, h5km, ML2.7/17
NIC **01** 20:29:01.7±0.0, 35°.70N×33°.29E, h12km±32km, Ml1.9/2
DDA **01** 20:29:01.0, 35°.82N×33°.35E, h15km±11km, ML1.7
ISC 01 20:29:00.4±1.1**, 35°.79N**±0°.02×**33°.36E**±0°.04**, h19**km±3km**, n30, σ0§47**/49**, Cyprus region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
YORU Yoruktepe-Mers 0.36 6 PG **Pg 20 29 08.0 -0.1**
YORU SG **Sg 20 29 13.2 -0.2**
AKK2 Akkuyu-Mersin 0.38 24 PG **Pg 20 29 07.9 -0.5**
AKK2 SG **Sg 20 29 13.7 -0.1**
AKK1 Akkuyu-Mersin 0.38 23 PG **Pg 20 29 08.4 0.0**
AKK1 SG **Sb 20 29 13.9 -0.2**
AKKU Akkuyu-Mersin 0.40 23 PG **Pg 20 29 08.7 0.0**
AKKU SG **Sb 20 29 14.5 -0.2**
TEKE Tekeli-Mersin 0.40 331 PG **Pg 20 29 08.6 -0.2**
TEKE SG **Sg 20 29 14.1 -0.4**
GULN MERSIN_Gulnar 0.42 21 _i_ P **Pg 20 29 08.9 -0.2**
GULN _i_ S **Sb 20 29 15.5 +0.3**
GULN IAML 20 29 16.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,62nm,0.1s						
GULN				IAML		20 29 17.0	
	comp=E,94nm,0.5s						
OREN	Orenkoy-Mersin	0.42	11	PG	Pg	20 29 08.9	-0.3
OREN				SG	Sg	20 29 14.9	-0.2
TISA	Tisan-Mersin	0.45	35	PG	Pg	20 29 09.6	-0.1
TISA				SG	Sb	20 29 16.4	+0.3
TEPK	Tepekoy-MERSIN	0.46	19	PG	Pg	20 29 09.1	-0.7
TEPK				SG	Sb	20 29 16.4	+0.1
YESI	Yesilovacik-Me	0.46	30	PG	Pg	20 29 09.9	0.0
YESI				SG	Sb	20 29 16.9	+0.4
KARG	Kargicak-Mersi	0.50	35	PG	Pg	20 29 10.6	0.0
KARG				SG	Sb	20 29 17.6	+0.1
BERE	Bereket-Mersin	0.56	349	PG	Pb	20 29 11.5	-0.2
BERE				SG	Sg	20 29 19.8	+0.3
AKDN	Akdeniz- Kıbrı	0.59	213	PG	Pb	20 29 12.4	+0.4
TEVE	Tevekalti-Mers	0.65	6	PG	Pb	20 29 13.1	+0.1
TEVE				SG	Sg	20 29 22.7	+0.7
ATHAL	Athalassa	0.65	177	S	Sb	20 29 21.7	0.0
KEBE	Keben-Mersin	0.71	24	PG	Pg	20 29 14.5	0.0
KEBE				SG	Sn	20 29 25.2	-0.8
SILI	Silifke-Mersin	0.73	39	PG	Pg	20 29 15.1	+0.2
SILI				SG	Sn	20 29 25.9	-0.5
SLFK	Silifke-Mersin	0.77	38	PG	Pg	20 29 15.4	-0.1
LEF	Lefka	0.77	210	PG	Pb	20 29 15.3	+0.1
MVOU	Mavrovouni	0.81	164	P	Pb	20 29 15.7	-0.1
MVOU				AML	AML	20 29 25.7	
	comp=E,0.2nm,0.4s						
MVOU				AML	AML	20 29 25.7	
	comp=E,0.2nm,0.4s						
MVOU				S	Sb	20 29 26.3	+0.1
MVOU				AML	AML	20 29 26.5	
	comp=E,0.3nm,0.3s						
MVOU				AML	AML	20 29 26.5	
	comp=E,0.3nm,0.3s						
CSS	Mathiatis	0.83	182	PG	Pb	20 29 15.9	-0.3
CSS	Mathiatis	0.83	182	P	Pb	20 29 16.1	-0.1
CSS				S	Sb	20 29 27.0	0.0
ALFC	Alefka	0.89	224	P	Pb	20 29 16.5	-0.7
ALFC				S	Sb	20 29 27.7	-1.0
ALFC				AML	AML	20 29 29.2	
	comp=E,0.2nm,0.4s						
ALFC				AML	AML	20 29 29.2	
	comp=E,0.2nm,0.4s						
ALFC				AML	AML	20 29 30.2	
	comp=E,0.2nm,0.3s						
ALFC				AML	AML	20 29 30.2	
	comp=E,0.2nm,0.3s						
ERMK	Ermenek	0.92	337	*i* P	Pn	20 29 19.1	+0.6
ERMK				*i* S	Sn	20 29 31.9	+0.7
ERMK				IAML		20 29 38.0	
	comp=E,27nm,0.5s						
KIZK	Mersin	0.94	43	PG	Pg	20 29 18.7	0.0
KIZK	Mersin	0.94	43	*i* P	Pg	20 29 20.0	+1.3
KIZK				IAML		20 29 34.0	
	comp=N,16nm,0.5s						
ASGA	Asgata	1.01	185	P	Pb	20 29 18.4	-0.8
SZAC	Souni	1.11	201	P	Pn	20 29 21.1	+0.2
AKMS	Akamas	1.14	227	S	Sb	20 29 36.5	+0.7
CMRD	Camardi-Nigde	2.28	35	PN	Pb	20 29 39.9	-1.1

IDC 01 20:35:31.9±1.5**, 57°.16S×150°.30W, h0km, mb3.5**/1**, mb1 3.6**/1**, mb1mx3.5**/28**, mbtmp3.5**/1**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx3.1**/13**, Error ellipse: s-maj=181.6km s-min=55.1km az=0.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	27.62	282	LR	LR	20 50 53.5	
	comp=Z,108nm,18.1s,baz=128,slow=33						
H03S2	Juan Fernandez	52.44	96	T	T	21 41 20.5	
	baz=219,slow=74						
H03S1	Juan Fernandez	52.45	96	T	T	21 41 19.7	
	baz=219,slow=74						
H03S3	Juan Fernandez	52.46	96	T	T	21 41 19.2	
	baz=219,slow=74						
H03N3	Juan Fernandez	52.73	95	T	T	21 41 42.6	
	baz=218,slow=72						
H03N2	Juan Fernandez	52.74	95	T	T	21 41 42.8	
	baz=218,slow=72						
H03N1	Juan Fernandez	52.75	95	T	T	21 41 39.6	
	baz=218,slow=72						
ASAR	Alice Springs	62.79	268	P	P	20 45 58.6	-0.4
	0.4nm,0.8s,baz=131,slow=6.3,SNR=3.1						
H01W1	Cape Leeuwin H	64.26	245	T	T	21 55 08.1	
	baz=141						
H01W2	Cape Leeuwin H	64.27	245	T	T	21 55 11.6	
	baz=141						
H01W3	Cape Leeuwin H	64.28	245	T	T	21 55 11.8	
	baz=141						
ILAR	Eielson Array	121.64	2	PKP	PKPdf	20 54 25.5	-0.4
	0.3nm,0.8s,baz=194,slow=3.4,SNR=2.5						
MKAR	Makanchi Array	146.79	275	PKPbc	PKPbc	20 55 14.8	-0.2
	1.1nm,0.9s,baz=140,slow=2.1,SNR=8.8						
ESDC	Sonseca Array	152.03	114	PKPbc	PKPbc	20 55 28.0	-0.4
	0.3nm,0.8s,baz=247,slow=2.6,SNR=4.1						

IDC 01 20:39:55.0±2.8**, 57°.57S×150°.24W, h0km, mb3.6**/1**, mb1 3.8**/1**, mb1mx3.5**/26**, mbtmp3.6**/1**, Error ellipse: s-maj=554.4km s-min=56.2km az=5.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	52.37	95	T	T	21 45 42.1	
	baz=215,slow=74						
H03S1	Juan Fernandez	52.37	95	T	T	21 45 49.3	
	baz=215,slow=74						
H03S3	Juan Fernandez	52.38	95	T	T	21 45 44.3	
	baz=215,slow=74						
H03N3	Juan Fernandez	52.66	95	T	T	21 46 06.8	
	baz=220,slow=72						
H03N2	Juan Fernandez	52.67	95	T	T	21 46 02.1	
	baz=220,slow=72						
H03N1	Juan Fernandez	52.68	95	T	T	21 46 05.6	
	baz=220,slow=72						
ASAR	Alice Springs	62.81	268	P	P	20 50 22.2	0.0
	0.7nm,0.9s,baz=146,slow=6.0,SNR=5.8						
MKAR	Makanchi Array	146.86	274	PKPbc	PKPbc	20 59 37.4	-0.8
	0.7nm,0.8s,baz=123,slow=3.3,SNR=7.0						
ESDC	Sonseca Array	151.83	115	PKPbc	PKPbc	20 59 50.8	-0.2
	0.4nm,0.8s,baz=242,slow=3.6,SNR=1.9						

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*GCMT **01** 20:54:14.0±0.3, 59°.81S±0°.02×150°.42W±0°.03, h20km±1km, MW5.0/94, Moment Tensor Solution. s29,c34; s94,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.15±.16; $M_{\theta\theta}$2.11±.15; $M_{\phi\phi}$-1.96±.12; $M_{r\theta}$-0.48±.26; $M_{\theta\phi}$2.29±.10; $M_{\phi r}$1.41±.29; Best double couple: $M_0$3.38400×10^{16} NP1:ϕ_s108.00000°, δ72.00000°, λ-15.00000°. NP2: ϕ_s203.00000°, δ76.00000°, λ-161.00000°. Principal axes: T 3.1450, Plg3.0000°, Azm335.0000°; N 0.4810, Plg67.0000°, Azm239.0000°; P -3.6220, Plg23.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 01 20:54:06.2±1.0**, 59°.42S×150°.46W, h0km, mb4.1**/3**, mb1 4.4**/3**, mb1mx4.0**/27**, mbtmp4.1**/3**, MS4.1**/15**, Ms1 4.1**/15**, ms1mx4.0**/20 **Error ellipse: s-maj=171.8km s-min=28.4km az=2.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	23.98	203	LR	LR	21 06 17.5	
	comp=Z,178nm,18.6s,baz=69,slow=30						
RPZ	Rata Peaks	28.11	287	LR	LR	21 09 00.1	
	comp=Z,266nm,20.0s,baz=133,slow=32						
RAR	Rarotonga	38.74	346	LR	LR	21 12 47.2	
	comp=Z,523nm,20.8s,baz=166,slow=29						
PPT2	Papeete2	41.77	1	*e* S	S	21 08 19.4	+4.0
	81nm,24.4s						
PPT2				*e* LR	LR	21 13 32.6	
	comp=Z,649nm,25.5s						
PPT	Papeete	41.79	1	LR	LR	21 15 04.9	
	comp=Z,226nm,18.3s,baz=179,slow=30						
RPN	Rapa Nui	42.86	60	LR	LR	21 15 41.1	
	comp=Z,494nm,21.3s,baz=192,slow=30						
MAW	Mawson	50.95	196	LR	LR	21 22 12.0	
	comp=Z,195nm,19.8s,baz=169,slow=33						
PLCA	Paso Flores	51.19	106	LR	LR	21 20 42.9	
	comp=Z,76nm,18.5s,baz=196,slow=31						
STKA	Stephens Creek	52.05	270	LR	LR	21 22 06.4	
	comp=Z,203nm,18.1s,baz=141,slow=32						
H03S2	Juan Fernandez	52.33	94	T	T	21 59 56.5	
	baz=215,slow=74,SNR=58						
H03S1	Juan Fernandez	52.33	94	T	T	21 59 57.8	
	baz=215,slow=74,SNR=62						
H03S3	Juan Fernandez	52.34	94	T	T	21 59 56.5	
	baz=215,slow=74,SNR=66						
H03N3	Juan Fernandez	52.63	94	T	T	22 00 18.1	
	baz=218,slow=72,SNR=151						
H03N2	Juan Fernandez	52.64	94	T	T	22 00 23.5	
	baz=218,slow=72,SNR=192						
H03N1	Juan Fernandez	52.65	94	T	T	22 00 21.9	
	baz=218,slow=72,SNR=9.1						
ASAR	Alice Springs	62.66	269	P	P	21 04 32.3	-0.2
	1.5nm,0.8s,baz=142,slow=7.0,SNR=13						
ASAR				LR	LR	21 28 36.4	
	comp=Z,312nm,18.6s,baz=150,slow=33						
H01W1	Cape Leeuwin H	63.26	246	T	T	22 13 38.4	
	baz=145,slow=76,SNR=6.0						
H01W2	Cape Leeuwin H	63.27	246	T	T	22 13 44.3	
	baz=145,slow=76,SNR=6.7						
H01W3	Cape Leeuwin H	63.28	246	T	T	22 13 37.6	
	baz=145,slow=76,SNR=6.6						
WRA	Warramunga Arr	65.53	272	P	P	21 04 51.2	-0.2
	0.6nm,0.8s,baz=149,slow=5.2,SNR=3.5						
WRA				LR	LR	21 29 11.4	
	comp=Z,133nm,21.9s,baz=140,slow=32						
LPAZ	La Paz	72.23	92	P	P	21 05 33.5	-0.4
	3.5nm,0.5s,baz=329,slow=7.4,SNR=5.1						
LPAZ				LR	LR	21 29 28.7	
	comp=Z,70nm,20.4s,baz=200,slow=29						
BDFB	Brasilia	82.87	109	LR	LR	21 40 59.0	
	comp=Z,126nm,18.3s,baz=243,slow=34						
ROSC	El Rosal	87.13	76	LR	LR	21 37 57.8	
	comp=Z,182nm,21.7s,baz=297,slow=30						
BOSA	Boshof	92.23	176	LR	LR	21 43 44.8	
	comp=Z,298nm,21.8s,baz=180,slow=32						
TXAR	Lajitas Array	96.50	40	LR	LR	21 42 21.8	
	comp=Z,61nm,20.5s,baz=0.0,slow=30						
H10N3	ASCENSION HYDR	104.34	135	T	T	23 05 19.3	
	baz=203,slow=75,SNR=8.3						
H10N1	ASCENSION HYDR	104.34	135	T	T	23 05 19.6	
	baz=203,slow=75,SNR=11						
H10N2	ASCENSION HYDR	104.36	135	T	T	23 05 25.1	
	baz=203,slow=75,SNR=8.8						
ILAR	Eielson Array	123.90	2	PKP	PKPdf	21 13 04.5	0.0
	0.5nm,1.0s,baz=215,slow=4.4,SNR=2.8						
MKAR	Makanchi Array	146.84	271	PKPbc	PKPbc	21 13 48.9	-0.4
	1.3nm,0.9s,baz=104,slow=5.1,SNR=10						
ESDC	Sonseca Array	151.11	118	PKPbc	PKPbc	21 14 00.5	+0.1
	1.0nm,0.9s,baz=218,slow=2.1,SNR=5.8						

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*WEL **01** 21:02:00, 37°.29S×177°.35E, h6km, ML4.1, Mw4.4, Moment Tensor Solution. s8 Moment tensor: Scale 10^{15} Nm; M_{rr}-2.18; $M_{\theta\theta}$3.24; $M_{\phi\phi}$-1.06; $M_{r\theta}$-1.99; $M_{\theta\phi}$1.61; $M_{\phi r}$-2.67; Fault plane solution: $M_0$4.65000×10^{15} NP1: ϕ_s285.00000°, δ34.00000°, λ-32.00000°. NP2:ϕ_s43.00000°, δ73.00000°, λ-119.00000°. Principal axes: T 491.4700, Plg22.0000°, Azm155.0000°; N -52.5600, Plg28.0000°, Azm52.0000°; P -438.9000, Plg53.0000°, Azm278.0000°;*

*IDC **01** 21:02:11.6±5.6, 37°.41S×177°.78E, h21km±34km, mb4.0/4, mb1 4.2/5, mb1mx3.9/22, mbtmp4.1/5, ML3.7/1, MS3.7/6, Ms1 3.8/6, ms1mx3.4/23 Error ellipse: s-maj=36.5km s-min=31.2km az=119.0*

*NOU **01** 21:02:11.8, 37°.30S×177°.69E, h73km, MLv4.4, Off E. Coast of N. Island, N.Z.*

*WEL **01** 21:02:12.8, 37°S±9°×17°7E±°, h12km, M4.1/30, ML4.3/30, MLv4.1/30, Error ellipse: s-maj=0.0km s-min=0.0km az=172.9*

*NEIC **01** 21:02:12.0±1.2, 37°.41S±0°.05×177°.50E±0°.06, h16km±4km, mb4.7/11, Mwr4.4/14, Error ellipse: s-maj=8.3km s-min=5.7km az=141.0*

*NEIC **01** 21:02:12.2, 37°.40S×177°.49E, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.60; $M_{\theta\theta}$-1.34; $M_{\phi\phi}$1.94; $M_{r\theta}$1.52; $M_{\theta\phi}$-3.54; $M_{\phi r}$1.42; Fault plane solution: $M_0$4.45000×10^{15} NP1:ϕ_s285.77000°, δ67.54000°, λ-163.80000°. NP2:ϕ_s189.44000°, δ75.05000°, λ-23.30000°. Principal axes: T 4.2341, Plg5.0000°, Azm239.0000°; N 0.4096, Plg63.0000°, Azm339.0000°; P -4.6437, Plg27.0000°, Azm146.0000°;*

ISC 01 21:02:12.4±1.3**, 37°.31S**±0°.04**×177°.38E**±0°.03**, h15**km±8km**, n160, σ1§29**/171**, mb4.3**/11**, MS3.8**/5**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.27	214	P	Pb	21 02 19.3	+0.4
WIZ				S	Sb	21 02 24.8	+1.6
HAZ	Te Kaha	0.55	144	P	Pg	21 02 22.8	-0.6
WHRZ	Whale Island	0.63	210	P	Pn	21 02 25.9	-0.9
RUGZ	Raukumara Rang	0.70	160	P	Pg	21 02 25.6	-0.5
MXZ	Matakaoa Point	0.78	109	Pn	Pg	21 02 26.4	-1.2
MXZ	Matakaoa Point	0.78	109	P	Pg	21 02 26.4	-1.2
PKGZ	Pakihiroa	0.81	136	P	Pg	21 02 27.0	-1.0
PKGZ				S	Sn	21 02 39.5	-1.4
OPRZ	Ohinepanea	0.84	230	P	Pb	21 02 28.6	-0.1
MARZ	Manawahe	0.88	219	P	Pg	21 02 29.3	-0.1
MYRZ	Mayor Island	0.91	271	P	Pb	21 02 29.6	-0.1
EDRZ	Edgecumbe	0.94	212	P	Pb	21 02 30.4	-0.1
WMGZ	Waiomatatini S	0.97	122	P	Pn	21 02 31.0	-0.5
WMGZ				S	Sn	21 02 45.3	+0.3
URZ	Urewera	0.97	192	Pg	Pb	21 02 30.4	-0.5
	578nm,0.3s,baz=7.0,slow=6.0,SNR=922						
URZ				Lg	Lg	21 02 43.3	
	482nm,0.3s,baz=221,slow=18,SNR=6.7						
URZ	Urewera	0.97	192		Pb	21 02 30.4	-0.5
URZ				Sn	Sb	21 02 42.4	-1.3
URZ	Urewera	0.97	192	P	Pb	21 02 30.4	-0.5
URZ				S	Sn	21 02 44.5	-0.5
TGRZ	Tauranga	0.98	244	P	Pb	21 02 30.9	-0.2
TWGZ	Tauwhareparae	0.99	151	P	Pn	21 02 31.7	-0.1
TWGZ				S	Sn	21 02 46.5	+0.9
MWZ	Matawai	1.03	173	P	Pb	21 02 31.1	-0.9
PUZ	Puketiti	1.04	138	P	Pg	21 02 32.3	-0.1
LIRZ	Lichensteins R	1.05	228	P	Pb	21 02 31.3	-0.9
MKRZ	Makatiti	1.10	221	P	Pg	21 02 33.5	-0.1
OMRZ	Omania	1.13	225	P	Pb	21 02 33.3	-0.3
KARZ	Kaharoa	1.15	231	P	Pn	21 02 33.6	-0.2
TARZ	Mount Tarawera	1.16	216	P	Pb	21 02 33.9	-0.2
RAGZ	Rawiri	1.19	178	P	Pn	21 02 33.9	-0.6
RAGZ				S	Sn	21 02 49.6	-0.8
TKGZ	Te Karaka	1.19	162	P	Pg	21 02 34.9	-0.4
TKGZ				S	Sg	21 02 53.6	+2.7
NGRZ	Ngongotaha	1.23	229	P	Pb	21 02 35.2	-0.2
RRRZ	Republican Roa	1.24	213	P	Pn	21 02 34.7	-0.5
HLRZ	Highlands Stat	1.25	220	P	Pn	21 02 35.2	0.0
KMRZ	Kaimai	1.26	244	P	Pn	21 02 34.8	-0.7
MUGZ	Murupara	1.26	202	P	Pn	21 02 34.6	-0.9
MUGZ				S	Sn	21 02 51.9	-0.3
UTU	Utuhina	1.28	227	P	Pg	21 02 36.6	-0.4
RTZ	Ruatahuna	1.34	193	P	Pn	21 02 35.8	-0.8
RTZ				S	Sn	21 02 53.4	-0.9
HSRZ	Hossack Road	1.34	221	P	Pb	21 02 37.5	+0.3
CNGZ	Carnagh Statio	1.35	151	P	Pg	21 02 38.1	-0.2
HRRZ	Handcock Road	1.39	218	P	Pn	21 02 37.3	+0.1
PRRZ	Plateau Road	1.42	213	P	Pn	21 02 37.4	-0.3
RIGZ	Rimuhau	1.43	168	P	Pg	21 02 39.1	-0.8
RIGZ				S	Sg	21 02 58.7	+0.2
KUZ	Kuaotunu	1.44	292	P	Pn	21 02 36.5	-1.3
KUZ				S	Sn	21 02 53.4	-3.0
GRRZ	Galatos Road	1.45	223	P	Pn	21 02 38.3	+0.3
SNGZ	Shannon Statio	1.47	181	P	Pn	21 02 38.4	0.0
TOZ	Tahuroa Road	1.55	254	P	Pn	21 02 38.9	-0.5
MTHZ	Maungataniwha	1.60	195	P	Pn	21 02 39.8	-0.3
MTHZ				S	Sn	21 02 59.7	-0.9
RAHZ	Arahi	1.62	188	P	Pn	21 02 40.4	-0.1
PRGZ	Paritu Road	1.66	166	P	Pb	21 02 41.8	-0.9
MRHZ	Matea Rd	1.70	206	P	Pn	21 02 41.2	-0.4
KUTZ	Kaahu Road	1.70	226	P	Pn	21 02 41.9	+0.3
KNZ	Kokohu	1.73	172	P	Pb	21 02 42.5	-1.3
WHHZ	Waihua	1.77	184	P	Pb	21 02 43.6	-1.0
TLZ	Tolley Road	1.78	234	P	Pn	21 02 42.5	-0.1
MKAZ	Moumakai	1.78	276	P	Pn	21 02 42.1	-0.5
NMHZ	Naumai	1.84	194	P	Pn	21 02 43.9	+0.4
GRZ	Great Barrier	1.86	304	P	Pn	21 02 43.1	-0.6
WIAZ	Waiheke Island	1.86	285	P	Pn	21 02 43.3	-0.4
MHGZ	Mahia Peninsul	1.89	167	P	Pn	21 02 44.8	+0.7
ARHZ	Aropaoanui	1.98	189	P	Pb	21 02 46.6	-1.4
BKZ	Black Stump Fm	1.98	200		Pn	21 02 45.0	-0.5
BKZ	Black Stump Fm	1.98	200	P	Pn	21 02 45.1	-0.3
ETAZ	East Tamaki Re	1.99	279	P	Pn	21 02 45.7	+0.3
MBAZ	Motutapu North	2.05	284	P	Pn	21 02 46.4	+0.1
EPAZ	Eden Park BICE	2.15	281	P	Pn	21 02 48.4	+0.8
ABAZ	Army Bay	2.15	288	P	Pn	21 02 48.0	+0.3
HBAZ	Herne Bay Bore	2.16	281	P	Pn	21 02 48.5	+0.7
AWAZ	Awhitu Peninsu	2.19	275	P	Pn	21 02 48.8	+0.5
MCHZ	McNeill Hill	2.20	194	P	Pb	21 02 49.9	-2.0
TMVZ	Te Maari	2.23	216	P	Pn	21 02 49.8	+0.9
KWHZ	Kaweka Forest	2.24	199	P	Pn	21 02 49.7	+0.7
KRVZ	Karewarewa	2.25	217	P	Pn	21 02 50.0	+0.8
ETVZ	East Tongariro	2.25	215	P	Pn	21 02 50.0	+0.9
WTAZ	Waiatarua	2.27	279	P	Pn	21 02 50.2	+0.9
WTVZ	West Tongariro	2.29	217	P	Pb	21 02 51.8	-1.7
OTVZ	Oturere	2.29	215	P	Pn	21 02 50.5	+0.7
RVAZ	Riverhead Bore	2.30	283	P	Pn	21 02 50.3	+0.6
HIZ	Hauiti	2.33	238		Pn	21 02 50.6	+0.5
HIZ	Hauiti	2.33	238	P	Pn	21 02 50.6	+0.5
NGZ	Ngauruhoe	2.33	216	P	Pn	21 02 51.8	+1.5
TWVZ	Taurewa	2.33	220	P	Pn	21 02 51.7	+1.4
CKHZ	Cape Kidnapper	2.36	186	P	Pn	21 02 50.9	+0.4
BHHZ	Black Hill Sta	2.41	205	P	Pn	21 02 51.3	0.0
MOVZ	Moawhango	2.46	211	P	Pn	21 02 52.7	+0.8
WNVZ	Wahianoa	2.46	214	P	Pn	21 02 53.8	+1.8
KRHZ	Kereru	2.46	198	P	Pn	21 02 52.8	+0.8
KAHZ	Kahuranaki	2.52	189	P	Pn	21 02 53.0	+0.3
VRZ	Vera Road	2.75	228	P	Pn	21 02 57.2	+1.3
PXZ	Pawanui	2.75	188	P	Pn	21 02 54.7	-1.2
PNHZ	Pukenui	2.76	199	P	Pn	21 02 56.4	+0.3
WCZ	Waipu Caves	2.79	298	P	Pn	21 02 56.4	-0.1
TSZ	Takapari Road	2.96	201	P	Pn	21 02 59.4	+0.6
PRHZ	Porangahau	3.01	191	P	Pn	21 02 59.1	-0.4
DVHZ	Dannevirke	3.13	197	P	Pn	21 03 00.4	-0.9
BFZ	Birch Farm	3.48	194		Pn	21 03 05.0	-1.0
BFZ	Birch Farm	3.48	194	P	Pn	21 03 04.9	-1.0
MRZ	Mangatainoka R	3.63	202	P	Pn	21 03 07.0	-1.0
TIWZ	Tintock	3.65	198	P	Pn	21 03 09.8	+1.4
OUZ	Omahuta	3.70	303		Pn	21 03 09.5	+0.6
OUZ	Omahuta	3.70	303	P	Pn	21 03 09.4	+0.5
HOWZ	Holdsworth Sta	3.87	201	P	Pn	21 03 10.4	-0.9
OGWZ	Otaki Gorge	3.90	205	P	Pn	21 03 13.3	+1.5
TMWZ	Te Maipa	3.97	196	P	Pn	21 03 11.1	-1.6
KIW	Kapiti Island	4.04	208	P	Pn	21 03 13.4	-0.1
MTW	Mount Morrison	4.11	200	P	Pn	21 03 13.7	-0.9
CAW	Cannon Point	4.20	205	P	Pn	21 03 15.8	0.0
TRWZ	Traveller	4.29	197	P	Pn	21 03 15.7	-1.4
PAWZ	Paruwai Farm	4.34	200	P	Pn	21 03 17.4	-0.4
DUWZ	D'Urville Isla	4.41	217	P	Pn	21 03 19.0	+0.3
MSWZ	Moikau Station	4.42	201		Pn	21 03 18.0	-0.9
MSWZ	Moikau Station	4.42	201	P	Pn	21 03 18.2	-0.7
SNZO	South Karori	4.50	207	Pn	Pn	21 03 19.4	-0.6
BHW	Baring Head	4.53	205	Pn	Pn	21 03 19.3	-1.1
BHW	Baring Head	4.53	205	P	Pn	21 03 19.7	-0.7
PLWZ	Palliser	4.56	200	Pn	Pn	21 03 19.4	-1.5
PLWZ	Palliser	4.56	200	P	Pn	21 03 19.5	-1.4
TCW	Tory Channel	4.58	211	P	Pn	21 03 20.4	-0.7
TUWZ	Tuamarina	4.90	212		Pn	21 03 24.7	-0.7
TUWZ	Tuamarina	4.90	212	P	Pn	21 03 24.9	-0.6
NNZ	Nelson	4.99	217		Pn	21 03 26.0	-0.6
NNZ	Nelson	4.99	217	P	Pn	21 03 27.1	+0.5
QRZ	Quartz Range	5.15	226		Pn	21 03 29.6	+0.6
QRZ	Quartz Range	5.15	226	P	Pn	21 03 30.0	+1.0
BSWZ	Blackbirch Sta	5.17	210	Pn	Pn	21 03 28.2	-0.9
BSWZ	Blackbirch Sta	5.17	210	P	Pn	21 03 29.0	-0.1
THZ	Tophouse	5.63	216		Pn	21 03 34.9	-0.7
THZ	Tophouse	5.63	216	P	Pn	21 03 35.0	-0.7
KHZ	Kahutara	5.89	209		Pn	21 03 37.2	-1.9
DSZ	Denniston Nort	6.18	222	P	Pn	21 03 45.5	+2.5
LTZ	Lake Taylor	6.72	214	P	Pn	21 03 51.0	+0.4
CTZ	Chatham Island	7.88	146	P	Pn	21 04 05.9	-0.4
RPZ	Rata Peaks	8.01	215	Pn	Pn	21 04 06.7	-1.5
	1.0nm,0.3s,baz=0.9,slow=3.1,SNR=5.3						
RPZ				Sn	Sn	21 05 31.3	-7.1
	0.3nm,0.3s,baz=335,slow=21,SNR=2.7						
RPZ	Rata Peaks	8.01	215		Pn	21 04 07.2	-1.0
RPZ					Sn	21 05 34.3	-4.1
GCSZ	Gaunt Creek Bo	8.06	220	P	Pn	21 04 11.5	+2.6
FOZ	Fox Glacier	8.48	220	P	Pn	21 04 17.6	+3.1
TMZ	Timaru	8.56	212	P	Pn	21 04 14.1	-1.6
LBZ	Lake Benmore	8.92	215	P	Pn	21 04 19.6	-1.1
ODZ	Otahua Downs	9.24	211	Pn	Pn	21 04 22.3	-2.8
ODZ					Sn	21 06 07.3	-1.5
DZM	Mont Dzumac	17.89	325	LR	LR	21 11 40.0	
	comp=Z,341nm,19.1s,baz=143,slow=31						
STKA	Stephens Creek	29.83	270	P	P	21 08 20.2	+1.3
	4.4nm,0.9s,baz=90,slow=13,SNR=6.6						
STKA	Stephens Creek	29.83	270	P	P	21 08 19.5	+0.6
HNR	Honiara	31.91	326	LR	LR	21 19 05.6	
	comp=Z,102nm,19.7s,baz=126,slow=32						
CTAO	Charters Tower	32.04	294	P	P	21 08 39.5	+0.9
CTAO				IAmb	IAmb	21 08 42.2	
	comp=Z,5.1nm,0.9s						
AS31	Alice Springs	39.52	278	P	P	21 09 43.8	+1.1
ASAR	Alice Springs	39.52	278	P	P	21 09 44.0	+1.3
	comp=Z,3.2nm,1.0s,baz=116,slow=7.2,SNR=17						
ASAR	Alice Springs	39.52	278	P	P	21 09 43.8	+1.2
RABL	Rabaul	40.24	319	P	P	21 09 46.7	-2.0
RABL				IAmb	IAmb	21 09 51.5	
	comp=Z,54nm,0.4s						
VNDA	Vanda	40.87	185	LR	LR	21 22 57.3	
	comp=Z,63nm,20.8s,baz=36,slow=30						
WR0	Warramunga Arr	40.99	283	P	P	21 09 55.1	+0.2
WR0				IAmb	IAmb	21 09 57.0	
	comp=Z,6.9nm,1.1s						
WB2	Warramunga Arr	41.15	283	P	P	21 09 56.0	-0.2
WB2				IAmb	IAmb	21 10 04.5	
	comp=Z,7.2nm,0.9s						
WRAB	Tennant Creek	41.15	283	P	P	21 09 55.8	-0.4
WRAB				IAmb	IAmb	21 10 04.5	
	comp=Z,5.4nm,0.8s						
WRA	Warramunga Arr	41.16	283	P	P	21 09 57.2	+1.0
	comp=Z,5.0nm,0.9s,baz=121,slow=7.7,SNR=25						
WB0	Warramunga Arr	41.21	283	P	P	21 09 56.6	-0.1
WB0				IAmb	IAmb	21 09 58.5	
	comp=Z,6.4nm,0.8s						
CMAR	Chiang Mai Arr	92.19	291	P	P	21 15 21.9	+0.3
	comp=Z,0.3nm,0.7s,baz=169,slow=5.1,SNR=2.4						
CMAR				LR	LR	21 56 49.4	
	comp=Z,54nm,21.5s,baz=198,slow=35						
CMAR	Chiang Mai Arr	92.19	291	P	P	21 15 21.5	-0.1
TKX	Tecate	92.85	51	P	P	21 15 26.0	+1.6
TKX				IAmb	IAmb	21 15 28.9	
	comp=Z,14nm,0.6s						
LVC	Limon Verde	93.76	122	LR	LR	21 47 49.4	
	comp=Z,45nm,19.1s,baz=218,slow=29						
NNA	Nana	95.03	109	LR	LR	21 48 53.9	
	comp=Z,28nm,18.6s,baz=322,slow=30						
ARCES	ARCESS Array B	144.32	343	PKP	PKPab	21 21 42.6	-2.1
	comp=Z,3.8nm,0.9s,baz=0.0,slow=1.0,SNR=5.4						
KBZ	Khabaz	145.15	295	PKPbc	PKPbc	21 21 46.5	-1.9
	comp=Z,0.7nm,0.8s,baz=248,slow=18,SNR=1.5						
DBIC	Dimbokro	149.44	176	PKPbc	PKPbc	21 22 00.9	-0.5
	comp=Z,2.4nm,1.0s,baz=288,slow=18,SNR=1.9						
FINES	FINESS Array B	149.92	333	PKPbc	PKPdf	21 21 58.4	+2.2
	comp=Z,0.7nm,0.7s,baz=38,slow=9.6,SNR=0.8						
BRTR	Keskin Array B	151.64	286	PKPbc	PKPbc	21 22 04.2	-1.9
	comp=Z,0.5nm,0.8s,baz=60,slow=3.5,SNR=2.7						
TORD	Torodi Ar. Bea	155.63	190	PKPbc	PKPdf	21 22 11.7	+5.7
	comp=Z,0.3nm,0.5s,baz=167,slow=35,SNR=2.5						

IDC 01 21:07:19.0±4.5**, 59°.92S×150°.97W, h0km, mb3.5**/1**, mb1 3.6**/1**, mb1mx3.4**/19**, mbtmp3.5**/1**, Error ellipse: s-maj=790.4km s-min=58.2km az=8.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	52.55	94	T	T	22 13 07.0	
	baz=215,slow=74,SNR=11						
H03S1	Juan Fernandez	52.56	94	T	T	22 13 08.4	
	baz=215,slow=74,SNR=14						
H03S3	Juan Fernandez	52.57	94	T	T	22 13 07.6	
	baz=215,slow=74,SNR=12						
ASAR	Alice Springs	62.39	270	P	P	21 17 43.4	-0.1
	0.4nm,0.8s,baz=142,slow=5.9,SNR=4.1						
MKAR	Makanchi Array	146.58	271	PKPbc	PKPbc	21 27 00.6	-0.7
	0.2nm,0.6s,baz=151,slow=3.3,SNR=3.7						
ESDC	Sonseca Array	151.09	120	PKPbc	PKPbc	21 27 12.9	-0.3
	0.4nm,0.7s,baz=228,slow=1.5,SNR=2.4						

TAP 01 21:14:16.8, 23°.13N×121°.20E, h18km, ML2.5, 2C-1D, B,

Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FULB	**Fuli** baz=52	**0.11**	**53**	⇑*i*P		Pg	21 14 21.0	+0.4
FULB	baz=52			S		Sg	21 14 24.1	+1.0
CHKT	**Chengkung** baz=102	**0.16**	**102**	*e*P		Pg	21 14 21.8	+0.7
CHKT	baz=102			*e*S		Sg	21 14 25.4	+1.4
ELDTW	**Lidau** baz=289	**0.18**	**289**	*e*P		Pb	21 14 21.4	0.0
EDH	**Donghe** baz=137	**0.19**	**149**	*e*P		Pb	21 14 22.0	+0.4
EDH	baz=137			*e*S		Sg	21 14 25.9	+1.2
LONT	**Longtian** baz=202	**0.23**	**196**	P		Pg	21 14 22.3	+0.1
LONT	baz=202			*e*S		Sb	21 14 26.6	+0.4
TWF1	**Yuli** baz=19	**0.24**	**23**	P		Pg	21 14 22.0	-0.3
TWF1	baz=19			*e*S		Sg	21 14 25.3	-0.7
EYUL	**Yuli** baz=22	**0.24**	**28**	*e*P		Pg	21 14 22.1	-0.2
EYUL	baz=22			*e*S		Sb	21 14 26.3	-0.1
YULB	**Yu-li** baz=19	**0.27**	**19**	P		Pg	21 14 22.5	-0.4
YULB	baz=19			*e*S		Sg	21 14 26.1	-1.0
YULB	**Yu-li**	**0.27**	**19**	P		Pg	21 14 22.5	-0.4
TWG	**Pinlang** baz=207	**0.33**	**201**	P		Pg	21 14 23.6	-0.3
TWG	baz=207			*e*S		Sb	21 14 29.4	+0.1
TWG	**Pinlang**	**0.33**	**201**	P		Pg	21 14 22.2	-1.6
TWGBT	**Beinan** baz=208	**0.33**	**199**	*e*P		Pg	21 14 23.6	-0.3
TWGBT	baz=208			*e*S		Sb	21 14 29.1	-0.1
TTN	**Taitung** baz=174	**0.38**	**187**	*e*P		Pb	21 14 25.4	+0.4
EHY	**Hungye** baz=18	**0.39**	**17**	*e*P		Pg	21 14 24.4	-0.5
EHY	baz=18			*e*S		Sg	21 14 29.5	-0.8
STYH	**Taoyuan** baz=276	**0.39**	**276**	P		Pb	21 14 25.2	0.0
STYH	baz=276			*e*S		Sg	21 14 30.6	+0.2
STYT	**Tauyuan** baz=275	**0.41**	**274**	⇑P		Pb	21 14 25.4	-0.1
STYT	baz=275			*e*S		Sg	21 14 31.2	+0.3
HGSD	**Ruisui** baz=21	**0.41**	**30**	*e*P		Pg	21 14 25.3	0.0
HGSD	baz=21			*e*S		Sb	21 14 31.8	+0.2
ALS	**Alishan** baz=317	**0.52**	**316**	⇓*i*P		Pb	21 14 27.8	+0.2
ALS	baz=317			*e*S		Sb	21 14 35.1	+0.1
LDUT	**Ludao** baz=137	**0.52**	**151**	*e*P		Pg	21 14 27.1	-0.2
LDUT	baz=137			*e*S		Sb	21 14 35.0	+0.3
SLGT	**Liugui** baz=259	**0.53**	**255**	*e*P		Pb	21 14 27.9	+0.4
SLGT	baz=259			*e*S		Sb	21 14 35.1	+0.3
TPUB	**Ta-pu** baz=293	**0.55**	**288**	*e*P		Pb	21 14 28.6	+0.7
TPUB	baz=293			*e*S		Sb	21 14 36.4	+0.9
WTP	**Ta-pu** baz=282	**0.55**	**282**	P		Pb	21 14 28.6	+0.7
WTP	baz=282			*e*S		Sb	21 14 36.3	+0.8
SGST	**Jiashian** baz=265	**0.57**	**265**	*e*P		Pg	21 14 28.0	-0.2
ECL	**Taimali** baz=195	**0.58**	**203**	*e*P		Pg	21 14 27.1	-1.3
ECL	baz=195			*e*S		Sg	21 14 34.8	-1.3
CHN4	**Tsaushan** baz=297	**0.60**	**291**	P		Pb	21 14 29.6	+0.8
CHN4	baz=297			*e*S		Sb	21 14 37.9	+1.0
CHN1	**Nanshi** baz=273	**0.62**	**275**	*e*P		Pn	21 14 30.1	-0.6
CHN1	baz=273			*e*S		Sn	21 14 39.6	-0.6
VWDT	**VWDT** baz=353	**0.62**	**355**	P		Pb	21 14 29.1	0.0
VWDT	baz=353			*e*S		Sg	21 14 36.9	-0.5
SSD	**Sandimen** baz=234	**0.65**	**234**	P		Pb	21 14 29.2	-0.4
SSD	baz=234			*e*S		Sg	21 14 37.2	-1.1
SNST	**Tainan City** baz=278	**0.65**	**278**	*e*P		Pn	21 14 30.5	-0.7
TSMG	**Majia** baz=231	**0.66**	**230**	*e*P		Pb	21 14 29.7	-0.2
CHN5	**Tsauling** baz=315	**0.67**	**314**	P		Pn	21 14 30.8	-0.7
CHN5	baz=315			*e*S		Sb	21 14 39.9	+1.0
TWK	**Hsinying** baz=282	**0.67**	**282**	*e*P		Pg	21 14 30.7	+0.7
TWK	baz=282			*e*S		Sb	21 14 39.8	+0.9
SSLB	**Suanglung** baz=341	**0.69**	**341**	*e*P		Pb	21 14 30.2	-0.1
SSLB	baz=341			*e*S		Sb	21 14 39.3	-0.2
SCST	**Cishan** baz=250	**0.69**	**249**	*e*P		Pn	21 14 31.6	-0.1
ESL	**Shilin** baz=27	**0.71**	**18**	*e*P		Pb	21 14 30.7	0.0
MASBT	**Mashibuluo** baz=226	**0.73**	**225**	*e*P		Pb	21 14 30.7	-0.4
MASBT	baz=226			*e*S		Sb	21 14 40.2	-0.6
SMLT	**Sun Moon Lake** baz=347	**0.80**	**340**	P		Pg	21 14 32.5	+0.1
SMLT	baz=347			*e*S		Sg	21 14 43.2	+0.2
CHY	**Chiayi** baz=298	**0.80**	**297**	*e*S		Sn	21 14 45.4	+0.8
WJS	**Zhushan** baz=326	**0.81**	**328**	*e*P		Pn	21 14 34.2	+0.9
EAST	**Anshuo** baz=196	**0.81**	**203**	*e*P		Pb	21 14 32.4	-0.1
EAST	baz=196			*e*S		Sb	21 14 42.9	-0.2
WDLH	**Douliu** baz=313	**0.82**	**313**	*e*P		Pn	21 14 35.0	+1.5
WDLH	baz=313			*e*S		Sn	21 14 47.1	+1.9
TYC	**Yuchr** baz=339	**0.83**	**338**	*e*P		Pn	21 14 33.4	-0.2
TYC	baz=339			*e*S		Sn	21 14 44.8	-0.6
SSPT	**Xinbi** baz=218	**0.87**	**222**	*e*P		Pn	21 14 34.1	-0.1
WNT	**Mingjian** baz=329	**0.88**	**328**	*e*P		Pn	21 14 35.3	+1.0
WNT	baz=329			*e*S		Sn	21 14 48.0	+1.4
WPL	**Puli Township** baz=344	**0.90**	**346**	*e*P		Pg	21 14 34.4	0.0
WNT1	**Nantou City** baz=329	**0.91**	**328**	*e*S		Sn	21 14 48.3	+1.0
CHGB	**Renai** baz=359	**0.92**	**359**	P		Pb	21 14 34.1	-0.3
CHGB	baz=359			*e*S		Sb	21 14 46.3	-0.2
SCZT	**Fangliau** baz=220	**0.93**	**215**	*e*P		Pb	21 14 34.1	-0.2
DPDB	**Guoxing** baz=355	**0.93**	**345**	*e*P		Pn	21 14 35.1	0.0
DPDB	baz=355			*e*S		Sn	21 14 48.4	+0.3
WCS	**Beigang Elemen** baz=354	**0.96**	**344**	*e*P		Pg	21 14 35.6	+0.2
WCS	baz=354			*e*S		Sn	21 14 48.5	-0.1
SLIU	**Shizi** baz=198	**0.98**	**202**	*e*P		Pg	21 14 35.9	0.0
WHF	**Hehuan Shan** baz=9.0	**1.01**	**3**	*e*P		Pb	21 14 35.3	-0.7
WSF	**Szhu** baz=300	**1.03**	**299**	*e*S		Sn	21 14 51.7	+1.4
NACB	**Ninganchiao** baz=30	**1.10**	**19**	*e*P		Pb	21 14 36.4	-0.9
NACB	baz=30			*e*S		Sb	21 14 51.4	+0.1
ETLH	**Xiulin Townshi** baz=24	**1.10**	**14**	*e*P		Pg	21 14 38.2	0.0
FUSS	**Fushou** baz=12	**1.11**	**2**	*e*P		Pg	21 14 38.1	-0.2
TWT	**Tachien** baz=9.0	**1.11**	**359**	*e*P		Pg	21 14 39.2	+0.7
WHP	**Taichung City** baz=350	**1.16**	**349**	*e*P		Pg	21 14 40.2	+0.9
WHP	baz=350			*e*S		Sg	21 14 56.6	+2.0
TWQ1	**Liyutan** baz=331	**1.27**	**342**	*e*P		Pg	21 14 41.6	+0.2
TWQ1	baz=331			*e*S		Sg	21 14 59.0	+1.0
NNSB	**Datong** baz=4.0	**1.30**	**7**	*e*P		Pb	21 14 41.4	+0.5
NNSH	**Datong** baz=4.0	**1.30**	**7**	*e*P		Pb	21 14 41.3	+0.5
NNS	**Nan Shan** baz=4.0	**1.31**	**7**	*e*P		Pb	21 14 41.5	+0.5
NSTT	**Nanjuang** baz=354	**1.50**	**353**	*e*S		Sg	21 15 05.6	+0.2
LIOB	**Emei** baz=348	**1.52**	**354**	*e*P		Pg	21 14 45.8	-0.2
ENTT	**Nioudou** baz=21	**1.54**	**13**	*e*P		Pb	21 14 44.4	-0.4
YHNB	**Yeheng** baz=7.0	**1.54**	**6**	*e*P		Pb	21 14 44.8	-0.1
YHNB	baz=7.0			*e*S		Sn	21 15 03.5	+0.5
NSK	**Sanguang** baz=2.0	**1.54**	**5**	*e*P		Pg	21 14 46.3	-0.3
NDS	**Dongshan** baz=28	**1.57**	**18**	*e*P		Pg	21 14 46.2	-0.8
NWLT	**Wulai** baz=19	**1.66**	**10**	*e*P		Pb	21 14 47.2	+0.3
TIPB	**Shuangxi** baz=19	**1.92**	**17**	*e*S		Sn	21 15 13.0	+0.7

IDC 01 21:18:48.4±3.4, 59.01°S×150.53°W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/13, mbtmp3.6/2, Error ellipse: s-maj=623.4km s-min=48.6km az=7.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez** baz=215,slow=74,SNR=7.8	**52.39**	**94**	T		T	22 24 38.1	
H03S1	**Juan Fernandez** baz=215,slow=74,SNR=12	**52.40**	**95**	T		T	22 24 39.4	
H03S3	**Juan Fernandez** baz=215,slow=74,SNR=8.8	**52.41**	**94**	T		T	22 24 38.7	
H03N3	**Juan Fernandez** baz=218,slow=72,SNR=7.7	**52.69**	**94**	T		T	22 24 55.7	
H03N2	**Juan Fernandez** baz=218,slow=72,SNR=7.8	**52.70**	**94**	T		T	22 24 57.1	
H03N1	**Juan Fernandez** baz=218,slow=72,SNR=4.0	**52.71**	**94**	T		T	22 24 57.6	
ASAR	**Alice Springs** 0.5nm,0.8s,baz=136,slow=6.0,SNR=6.9	**62.63**	**269**	P		P	21 29 14.1	-0.3
WRA	**Warramunga Arr** 0.7nm,1.1s,baz=149,slow=6.3,SNR=2.2	**65.48**	**272**	P		P	21 29 33.4	+0.2
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=127,slow=3.8,SNR=5.1	**146.79**	**272**	PKPbc		PKPbc	21 38 30.7	-0.6
ESDC	**Sonseca Array** 0.4nm,0.8s,baz=214,slow=1.4,SNR=4.0	**151.33**	**118**	PKPbc		PKPbc	21 38 42.8	-0.3

*JMA **01** 21:19:28.8±0.7, 43.97°N×148.04°E, h0km, M3.8*
*SKHL **01** 21:19:30.1±0.4, 44.40°N×148.20°E, h55km±2km, mb4.3/4*
ISC 01 21:19:28.0±3.3, 44.4°N±0.1°×148.4°E±0.2°, h35km, n13, σ1°36/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.95**	**339**	*e*P		**Pn**	**21 19 44.8**	**0.0**
KUR	150nm,0.3s				AMB	AMB	21 19 45.0	
KUR				*i* S		**Sn**	**21 19 56.3**	**-0.8**
KUR	220nm,0.2s				A	A	21 19 57.2	
KUR	490nm,0.2s				A	A	21 19 57.2	
YUK	**Yuzh-Kuril'sk**	**1.82**	**261**	*e*P		**Pn**	**21 19 57.2**	**+0.4**
YUK	70nm,0.2s				AMB	AMB	21 19 58.0	
YUK				*i* S		**Sn**	**21 20 17.5**	**-1.1**
YUK	390nm,0.3s				A	A	21 20 21.0	
YUK	280nm,0.3s				A	A	21 20 21.0	
GRPR	**Tuman**	**1.89**	**260**	*e*P		**Pn**	**21 19 58.0**	**+0.2**
GRPR	50nm,0.2s				AMB	AMB	21 20 00.0	
GRPR				*e*S		**Sn**	**21 20 19.0**	**-1.4**
GRPR	230nm,0.2s				A	A	21 20 22.0	
GRPR	160nm,0.2s				A	A	21 20 22.0	
NEM2	**Nemuro 2**	**2.13**	**243**	P		**Pn**	**21 20 00.8**	**-0.2**
NEM2				*e*S		**Sn**	**21 20 24.6**	**-1.6**
GLVR	**Golovnino**	**2.13**	**254**	*e*P		**Pn**	**21 20 01.7**	**+0.6**
GLVR	30nm,0.2s				AMB	AMB	21 20 03.0	
GLVR				*e*S		**Sn**	**21 20 25.3**	**-1.0**
GLVR	120nm,0.2s				A	A	21 20 32.0	
GLVR	250nm,0.2s				A	A	21 20 32.0	
NMR	**Nemuro--Hokkai**	**2.14**	**244**	*e*P		**Pn**	**21 20 01.0**	**-0.1**
NMR				*e*S		**Sn**	**21 20 24.0**	**-2.4**
JRA	**Rausu**	**2.36**	**261**	P		**Pn**	**21 20 05.9**	**+1.7**
JNSB	**Nemuroshibetsu**	**2.48**	**258**	P		**Pn**	**21 20 07.5**	**+1.6**
JNK	**Nakash**	**2.73**	**255**	P		**Pn**	**21 20 10.5**	**+1.1**
JAK	**Akkeshi**	**2.98**	**244**	P		**Pn**	**21 20 13.1**	**+0.4**
JAR	**Ashorobuto**	**3.48**	**254**	P		**Pn**	**21 20 21.6**	**+2.0**
JAR				*e*S		**Sn**	**21 21 00.6**	**+1.0**
JNBK	**Urakawa-nobuka**	**4.58**	**245**	P		**Pn**	**21 20 36.3**	**+1.6**
JKB	**Kayabe**	**5.89**	**248**	P		**Pn**	**21 20 54.3**	**+1.5**
JKB				*e*S		**Sn**	**21 21 57.4**	**-1.7**

IDC 01 21:39:34.9±1.3, 59.93°S×150.69°W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/35, mbtmp4.1/3, MS4.0/15, Ms1 3.9/15, ms1mx3.9/22, Error ellipse: s-maj=142.8km s-min=37.5km az=6.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** comp=Z,144nm,18.9s,baz=71,slow=31	**23.47**	**204**	LR		LR	21 51 51.9	
RPZ	**Rata Peaks** comp=Z,172nm,18.4s,baz=132,slow=32	**28.15**	**288**	LR		LR	21 54 36.6	
URZ	**Urewera** comp=Z,211nm,20.9s,baz=202,slow=31	**29.75**	**302**	LR		LR	21 54 53.9	
PMSA	**Palmer Station** comp=Z,234nm,19.5s,baz=262,slow=29	**37.51**	**135**	LR		LR	21 57 53.5	
PPT	**Papeete** comp=Z,147nm,18.3s,baz=180,slow=29	**42.31**	**2**	LR		LR	22 00 11.4	
MAW	**Mawson** comp=Z,154nm,18.3s,baz=72,slow=34	**50.42**	**196**	LR		LR	22 07 49.1	
PLCA	**Paso Flores** comp=Z,46nm,18.2s,baz=188,slow=32	**51.16**	**106**	LR		LR	22 06 34.8	
STKA	**Stephens Creek** comp=Z,162nm,18.1s,baz=171,slow=33	**51.94**	**271**	LR		LR	22 07 51.0	
H03S2	**Juan Fernandez** baz=215,slow=74,SNR=42	**52.41**	**94**	T		T	22 45 20.7	
H03S1	**Juan Fernandez** baz=215,slow=74,SNR=55	**52.41**	**94**	T		T	22 45 25.7	
H03S3	**Juan Fernandez** baz=215,slow=74,SNR=54	**52.43**	**94**	T		T	22 45 21.6	
H03N3	**Juan Fernandez** baz=218,slow=72,SNR=48	**52.71**	**94**	T		T	22 45 43.3	
H03N2	**Juan Fernandez** baz=218,slow=72,SNR=81	**52.72**	**94**	T		T	22 45 39.2	
H03N1	**Juan Fernandez** baz=218,slow=72,SNR=34	**52.73**	**94**	T		T	22 45 40.6	
CTA	**Charters Tower** 2.6nm,0.7s,baz=180,slow=3.2,SNR=4.4	**59.37**	**283**	P		P	21 49 39.6	+0.9
ASAR	**Alice Springs** 3.1nm,1.1s,baz=138,slow=6.2,SNR=12	**62.54**	**270**	P		P	21 50 00.2	0.0
ASAR	comp=Z,196nm,18.6s,baz=160,slow=33				LR	LR	22 14 02.9	
H01W1	**Cape Leeuwin H** baz=143	**62.95**	**247**	T		T	22 59 06.4	
H01W2	**Cape Leeuwin H** baz=143	**62.96**	**247**	T		T	22 59 06.9	
H01W3	**Cape Leeuwin H** baz=143	**62.97**	**247**	T		T	22 59 06.1	
WRA	**Warramunga Arr** 1.6nm,1.1s,baz=156,slow=6.2,SNR=5.3	**65.43**	**273**	P		P	21 50 18.9	-0.5
WRA	comp=Z,92nm,20.8s,baz=170,slow=33				LR	LR	22 15 09.9	
CPUP	**Villa Florida** comp=Z,58nm,18.2s,baz=210,slow=33	**69.23**	**107**	LR		LR	22 17 20.1	
BDFB	**Brasilia** comp=Z,60nm,19.4s,baz=152,slow=34	**82.82**	**109**	LR		LR	22 25 55.2	
ROSC	**El Rosal** comp=Z,132nm,20.5s,baz=229,slow=30	**87.37**	**76**	LR		LR	22 23 34.4	
LEM	**Lembang** comp=Z,95nm,18.4s,baz=186,slow=34	**89.96**	**257**	LR		LR	22 30 44.5	
BOSA	**Boshof** comp=Z,196nm,21.7s,baz=178,slow=32	**91.73**	**176**	LR		LR	22 29 11.7	
ILAR	**Eielson Array** 0.3nm,0.8s,baz=208,slow=3.1,SNR=2.1	**124.41**	**2**	PKP		PKPdf	21 58 33.2	-0.9
MKAR	**Makanchi Array** 2.2nm,0.9s,baz=115,slow=4.7,SNR=16	**146.73**	**271**	PKPbc		PKPdf	21 59 16.5	+0.7
ESDC	**Sonseca Array** 1.1nm,0.8s,baz=234,slow=1.3,SNR=8.8	**150.97**	**119**	PKPbc		PKPbc	21 59 28.8	+0.1

IDC 01 22:00:58.3±3.0, 58.52°S×150.45W, h0km, mb3.7/1, mb1 3.8/1, mb1mx3.6/15, mbtmp3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.9/17, Error ellipse: s-maj=558.0km s-min=52.1km az=7.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** comp=Z,37nm,20.4s,baz=22,slow=32	**47.31**	**331**	LR		LR	22 26 13.6	
H03S2	**Juan Fernandez** baz=215,slow=74,SNR=22	**52.39**	**95**	T		T	23 06 46.2	
H03S1	**Juan Fernandez** baz=215,slow=74,SNR=24	**52.40**	**95**	T		T	23 06 47.5	
H03S3	**Juan Fernandez** baz=215,slow=74,SNR=26	**52.41**	**95**	T		T	23 06 46.8	
H03N3	**Juan Fernandez** baz=215,slow=74	**52.69**	**94**	T		T	23 07 08.4	
H03N2	**Juan Fernandez** baz=215,slow=74	**52.70**	**94**	T		T	23 07 05.9	
H03N1	**Juan Fernandez** baz=215	**52.71**	**94**	T		T	23 07 04.7	
ASAR	**Alice Springs** 0.7nm,0.9s,baz=139,slow=6.3,SNR=5.8	**62.67**	**269**	P		P	22 11 24.4	-0.2
MKAR	**Makanchi Array** 0.8nm,0.8s,baz=104,slow=4.6,SNR=6.4	**146.80**	**273**	PKPbc		PKPbc	22 20 41.0	-0.3
ESDC	**Sonseca Array** 0.9nm,0.7s,baz=238,slow=1.0,SNR=5.7	**151.52**	**117**	PKPbc		PKPbc	22 20 53.1	-0.4

*IDC **01** 22:02:19.8±3.7, 47.87°N×150.81°E, h39km±31km, mb3.5/6, mb1 3.6/9, mb1mx3.3/36, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=45.9km s-min=24.3km az=152.0*
ISC 01 22:02:19.6±1.4, 47.9°N±0.2°×150.9°E±0.2°, h35km, n15, σ1°41/9, mb3.8/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-** 0.1nm,0.3s,baz=199,slow=18,SNR=1.9	**6.77**	**38**	Pn		**Pn**	**22 03 55.9**	**-0.4**
ASAJ	**Asahikawa** 1.3nm,0.3s,baz=300,slow=33,SNR=1.8	**6.90**	**239**	Pn		**Pn**	**22 03 59.1**	**+0.9**
KLR	**Kul'dur** 0.1nm,0.3s,baz=286,slow=7.9,SNR=1.6	**12.71**	**283**	Pn		**Pn**	**22 05 17.7**	**0.0**
H11N2	**WAKE ISLAND Hy** baz=340,slow=75,SNR=110	**31.01**	**150**	T		T	22 39 26.2	
H11N1	**WAKE ISLAND Hy** baz=340,slow=75,SNR=62	**31.02**	**150**	T		T	22 39 32.4	
H11N3	**WAKE ISLAND Hy** baz=340,slow=75,SNR=55	**31.03**	**150**	T		T	22 39 26.3	
H11S1	**WAKE ISLAND Hy** baz=341,slow=76,SNR=105	**32.08**	**151**	T		T	22 40 46.9	
H11S3	**WAKE ISLAND Hy** baz=341,slow=76,SNR=84	**32.09**	**151**	T		T	22 40 50.9	
H11S2	**WAKE ISLAND Hy** baz=341,slow=76,SNR=81	**32.10**	**151**	T		T	22 40 51.8	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=67,slow=6.6,SNR=6.0	**45.03**	**295**	P		**P**	**22 10 33.0**	**+1.5**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=28,slow=8.0,SNR=4.4	**51.19**	**253**	P		**P**	**22 11 16.8**	**-2.6**
FINES	**FINESS Array B** 0.6nm,0.4s,baz=38,slow=7.0,SNR=9.0	**62.29**	**334**	P		**P**	**22 12 37.9**	**+0.3**
NOA	**NORSAR Array B** 0.6nm,0.6s,baz=29,slow=6.4,SNR=2.1	**66.59**	**340**	P		**P**	**22 13 05.0**	**-0.8**
AKASG	**Malin Array Be** 0.7nm,0.4s,baz=35,slow=6.2,SNR=5.0	**69.69**	**325**	P		**P**	**22 13 25.0**	**-0.3**
TXAR	**Lajitas Array** 0.4nm,0.6s,baz=296,slow=3.9,SNR=3.9	**78.23**	**59**	P		**P**	**22 14 16.8**	**+1.1**

*GCMT **01** 22:23:10.0±0.2, 59.84°S±0.01°×150.50°W±0.02, h19km±1km, MW5.0/102, Moment Tensor Solution. s40,c49; s102,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.00±.17; $M_{\theta\theta}$3.58±.16; $M_{\phi\phi}$-3.58±.13; $M_{r\theta}$-1.60±.35; $M_{\theta\phi}$2.67±.11; $M_{r\phi}$0.57±.26; Best double couple: M_o4.77700×10^{16} NP1:ϕ_s206.00000°,δ69.00000°, λ178.00000°. NP2:ϕ_s297.00000°,δ88.00000°,λ21.00000°. Principal axes: T 4.8450, Plg16.0000°, Azm163.0000°; N -0.1370, Plg69.0000°, Azm302.0000°; P -4.7080, Plg13.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
IDC 01 22:23:02.7±1.4, 59.25°S×150.56W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/23, mbtmp3.8/2, MS4.3/18, Ms1 4.3/18, ms1mx4.3/21 Error ellipse: s-maj=168.3km s-min=42.3km az=2.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** comp=Z,367nm,18.0s,baz=72,slow=31	**24.12**	**203**	LR		LR	22 35 22.8	
PPT2	**Papeete2** 105nm,25.8s	**41.60**	**1**	*e*S		S	22 37 05.3	-4.1
PPT2	comp=Z,1μm,25.0s			*e*LR		LR	22 42 37.4	
PPT	**Papeete** comp=Z,234nm,18.1s,baz=182,slow=33	**41.63**	**1**	LR		LR	22 46 06.9	
MAW	**Mawson** comp=Z,232nm,18.7s,baz=194,slow=33	**51.09**	**196**	LR		LR	22 51 28.8	
PLCA	**Paso Flores** comp=Z,231nm,19.4s,baz=206,slow=30	**51.29**	**106**	LR		LR	22 48 41.8	
STKA	**Stephens Creek** comp=Z,396nm,21.4s,baz=152,slow=31	**52.00**	**270**	LR		LR	22 49 56.4	
H03S2	**Juan Fernandez** baz=215,slow=74,SNR=93	**52.39**	**94**	T		T	23 28 51.7	
H03S1	**Juan Fernandez** baz=215,slow=74,SNR=94	**52.40**	**94**	T		T	23 28 53.0	
H03S3	**Juan Fernandez** baz=215,slow=74,SNR=104	**52.41**	**94**	T		T	23 28 52.2	
H03N3	**Juan Fernandez** baz=218,slow=72,SNR=149	**52.69**	**94**	T		T	23 29 14.9	
H03N2	**Juan Fernandez** baz=218,slow=72,SNR=167	**52.70**	**94**	T		T	23 29 15.0	
H03N1	**Juan Fernandez** baz=218,slow=72,SNR=120	**52.71**	**94**	T		T	23 29 13.8	
ASAR	**Alice Springs** 1.4nm,0.8s,baz=139,slow=6.4,SNR=8.5	**62.61**	**269**	P		P	22 33 28.7	+0.1
ASAR	comp=Z,564nm,18.5s,baz=150,slow=33				LR	LR	22 57 32.1	
H01W1	**Cape Leeuwin H** baz=145,slow=76,SNR=5.9	**63.28**	**246**	T		T	23 42 38.7	
H01W2	**Cape Leeuwin H** baz=145,slow=76,SNR=7.5	**63.29**	**246**	T		T	23 42 39.2	
H01W3	**Cape Leeuwin H** baz=145,slow=76,SNR=6.0	**63.30**	**246**	T		T	23 42 41.9	
WRA	**Warramunga Arr** 0.8nm,1.0s,baz=148,slow=5.8,SNR=5.3	**65.47**	**272**	P		P	22 33 47.1	-0.3
WRA	comp=Z,226nm,21.1s,baz=110,slow=33				LR	LR	22 58 38.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida** comp=Z,138nm,19.3s,baz=211,slow=32	**69.36**	**107**	LR	LR	23 00 12.0	
NNA	**Nana** comp=Z,307nm,18.6s,baz=271,slow=30	**71.46**	**82**	LR	LR	22 58 28.6	
LPAZ	**La Paz** comp=Z,163nm,22.0s,baz=194,slow=30	**72.29**	**92**	LR	LR	22 58 35.5	
BDFB	**Brasilia** comp=Z,193nm,20.4s,baz=171,slow=33	**82.97**	**109**	LR	LR	23 08 24.4	
JTS	**Las Juntas de** comp=Z,319nm,18.2s,baz=145,slow=30	**86.75**	**64**	LR	LR	23 05 53.1	
ROSC	**El Rosal** comp=Z,305nm,21.8s,baz=236,slow=30	**87.14**	**76**	LR	LR	23 07 16.1	
CMIG	**Matias Romero** comp=Z,123nm,22.0s,baz=205,slow=30	**88.48**	**52**	LR	LR	23 07 09.2	
BOSA	**Boshof** comp=Z,445nm,22.0s,baz=168,slow=32	**92.40**	**176**	LR	LR	23 12 41.7	
TEIG	**Tepich** comp=Z,177nm,22.0s,baz=125,slow=30	**94.03**	**56**	LR	LR	23 10 19.1	
TXAR	**Lajitas Array** comp=Z,66nm,20.5s,baz=0.0,slow=30	**96.40**	**40**	LR	LR	23 11 29.3	
PFO	**Pinyon Flats O** comp=Z,84nm,18.4s,baz=201,slow=31	**96.75**	**28**	LR	LR	23 12 25.4	
H10N3	**ASCENSION HYDR** baz=204,slow=75,SNR=11	**104.50**	**135**	T	T	00 34 12.1	
H10N1	**ASCENSION HYDR** baz=204,slow=75,SNR=17	**104.50**	**135**	T	T	00 34 09.4	
H10N2	**ASCENSION HYDR** baz=204,slow=75,SNR=13	**104.51**	**135**	T	T	00 34 16.0	
ILAR	**Eielson Array** 0.7nm,1.0s,baz=198,slow=1.7,SNR=3.3	**123.73**	**2**	PKP	PKPdf	22 42 00.5	-0.1
MKAR	**Makanchi Array** 2.1nm,0.8s,baz=116,slow=2.8,SNR=15	**146.78**	**272**	PKPbc	PKPbc	22 42 44.9	-0.7
ESDC	**Sonseca Array** 1.1nm,1.0s,baz=265,slow=2.1,SNR=5.5	**151.23**	**118**	PKPbc	PKPbc	22 42 56.8	-0.4

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*JMA **01** 22:29:21.8±0.1, 22°.96N×121°.22E, h50km±2km, M3.5*
*TAP **01** 22:29:23.2, 22°.92N×121°.33E, h41km, ML3.6, A*
ISC 01 22:29:24.0±1.2,**22°.93N**±0°.02×**121°.33E**±0°.02,**h35**km,**n117,** σ1.**13**/217,**Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EDH	**Donghe** baz=339	**0.05**	**330**	P	**Pn**	**22 29 30.5**	**+0.6**
EDH	baz=339			S	**Sn**	**22 29 35.6**	**+1.8**
CHKT	**Chengkung** baz=13	**0.17**	**11**	P	**Pn**	**22 29 31.1**	**+0.4**
CHKT	baz=13			S	**Sn**	**22 29 36.4**	**+1.3**
LONT	**Longtian** baz=266	**0.19**	**263**	P	**Pn**	**22 29 30.7**	**0.0**
LONT	baz=266			*e*S	**Sn**	**22 29 36.0**	**+0.7**
TTN	**Taitung** baz=223	**0.24**	**224**	P	**Pn**	**22 29 31.6**	**+0.3**
TTN	baz=223			S	**Sn**	**22 29 38.5**	**+2.2**
TWGBT	**Beinan** baz=246	**0.26**	**244**	P	**Pn**	**22 29 31.0**	**-0.5**
TWGBT	baz=246			S	**Sn**	**22 29 36.4**	**-0.1**
TWG	**Pinlang** baz=246	**0.26**	**246**	P	**Pn**	**22 29 31.0**	**-0.5**
TWG	baz=246			S	**Sn**	**22 29 36.5**	**-0.2**
FULB	**Fuli** baz=353	**0.27**	**353**	P	**Pn**	**22 29 32.0**	**+0.3**
FULB	baz=353			S	**Sn**	**22 29 38.4**	**+1.6**
LDUT	**Ludao** baz=151	**0.28**	**153**	P	**Pn**	**22 29 31.8**	**+0.1**
LDUT	baz=151			S	**Sn**	**22 29 38.3**	**+1.2**
ELDTW	**Lidau** baz=313	**0.39**	**312**	P	**Pn**	**22 29 32.7**	**-0.5**
ELDTW	baz=313			S	**Sn**	**22 29 38.8**	**-0.7**
EYUL	**Yuli** baz=359	**0.42**	**358**	P	**Pn**	**22 29 33.4**	**-0.1**
EYUL	baz=359			*e*S	**Sn**	**22 29 40.0**	**-0.1**
TWF1	**Yuli** baz=357	**0.42**	**356**	P	**Pn**	**22 29 32.8**	**-0.8**
TWF1	baz=357			*e*S	**Sn**	**22 29 39.5**	**-0.8**
YULB	**Yu-li** baz=356	**0.46**	**356**	P	**Pn**	**22 29 33.2**	**-0.9**
ECL	**Taimali** baz=226	**0.48**	**227**	P	**Pn**	**22 29 33.0**	**-1.4**
ECL	baz=226			*e*S	**Sn**	**22 29 39.7**	**-1.9**
STYH	**Taoyuan** baz=296	**0.56**	**295**	*e*P	**Pn**	**22 29 35.6**	**0.0**
STYH	baz=296			*e*S	**Sn**	**22 29 44.2**	**+0.5**
HGSD	**Ruisui** baz=8.0	**0.57**	**9**	P	**Pn**	**22 29 35.4**	**-0.2**
HGSD	baz=8.0			S	**Sn**	**22 29 44.7**	**+0.9**
EHY	**Hungye**	**0.57**	**359**	P	**Pn**	**22 29 34.6**	**-1.1**
STYT	**Tauyuan** baz=295	**0.58**	**294**	P	**Pn**	**22 29 35.6**	**-0.2**
STYT	baz=295			S	**Sn**	**22 29 44.1**	**0.0**
SLGT	**Liugui** baz=276	**0.63**	**276**	P	**Pn**	**22 29 37.0**	**+0.4**
SLGT	baz=276			*e*S	**Sn**	**22 29 46.4**	**+0.9**
YUS	**Yu-Shan** baz=328	**0.66**	**328**	P	**Pn**	**22 29 37.3**	**0.0**
YUS	baz=328			S	**Sn**	**22 29 46.1**	**-0.6**
SSD	**Sandimen** baz=254	**0.67**	**254**	P	**Pn**	**22 29 36.6**	**-0.4**
SSD	baz=254			*e*S	**Sn**	**22 29 45.3**	**-1.0**
TSMG	**Majia** baz=251	**0.67**	**251**	*e*P	**Pn**	**22 29 36.5**	**-0.5**
TSMG	baz=251			*e*S	**Sn**	**22 29 45.1**	**-1.2**
EAST	**Anshuo** baz=219	**0.70**	**219**	*e*P	**Pn**	**22 29 36.3**	**-1.3**
SGST	**Jiashian** baz=283	**0.71**	**283**	P	**Pn**	**22 29 37.2**	**-0.3**
SGST	baz=283			*e*S	**Sn**	**22 29 47.8**	**+0.6**
MASBT	**Mashibuluo** baz=244	**0.72**	**244**	P	**Pn**	**22 29 37.3**	**-0.4**
MASBT	baz=244			S	**Sn**	**22 29 46.7**	**-0.7**
WTP	**Ta-pu** baz=296	**0.73**	**296**	*e*P	**Pn**	**22 29 38.5**	**+0.6**
WTP	baz=296			*e*S	**Sn**	**22 29 49.6**	**+1.7**
EGFH	**Guangfu** baz=7.0	**0.74**	**7**	*e*P	**Pn**	**22 29 38.2**	**+0.2**
TPUB	**Ta-pu** baz=300	**0.74**	**300**	P	**Pn**	**22 29 37.8**	**-0.3**
TPUB	baz=300			S	**Sn**	**22 29 49.7**	**+1.5**
ALS	**Alishan** baz=321	**0.75**	**320**	*e*P	**Pn**	**22 29 39.1**	**+0.6**
ALS	baz=321			*e*S	**Sn**	**22 29 49.7**	**+0.9**
SCST	**Cishan** baz=267	**0.77**	**267**	*e*P	**Pn**	**22 29 39.8**	**+1.4**
SCST	baz=267			*e*S	**Sn**	**22 29 51.7**	**+2.9**
CHN1	**Nanshi** baz=289	**0.78**	**289**	P	**Pn**	**22 29 39.5**	**+0.9**
CHN1	baz=289			*e*S	**Sn**	**22 29 50.8**	**+1.7**
CHN4	**Tsaushan** baz=302	**0.80**	**302**	*e*P	**Pn**	**22 29 39.7**	**+0.9**
CHN4	baz=302			*e*S	**Sn**	**22 29 51.8**	**+2.3**
SGLT	**Jiouru** baz=255	**0.80**	**255**	*e*P	**Pn**	**22 29 40.1**	**+1.3**
SNST	**Tainan City** baz=291	**0.82**	**291**	*e*P	**Pn**	**22 29 39.9**	**+0.8**
SNST	baz=291			*e*S	**Sn**	**22 29 51.4**	**+1.4**
SSPT	**Xinbi** baz=238	**0.83**	**238**	P	**Pn**	**22 29 39.9**	**+0.6**
SSPT	baz=238			*e*S	**Sn**	**22 29 51.5**	**+1.2**
VWDT	**VWDT** baz=348	**0.84**	**348**	P	**Pn**	**22 29 39.3**	**0.0**
VWDT	baz=348			S	**Sn**	**22 29 49.9**	**-0.5**
TWM1	**Shoushan** baz=263	**0.84**	**263**	*e*P	**Pn**	**22 29 41.4**	**+2.0**
TWK	**Hsinying** baz=294	**0.85**	**294**	*e*P	**Pn**	**22 29 39.9**	**+0.4**
TWK	baz=294			*e*S	**Sn**	**22 29 52.4**	**+1.7**
SCZT	**Fangliau** baz=229	**0.86**	**230**	P	**Pn**	**22 29 39.2**	**-0.4**
SCZT	baz=229			*e*S	**Sn**	**22 29 52.4**	**+1.4**
SLIU	**Shizi** baz=214	**0.86**	**215**	*e*P	**Pn**	**22 29 40.8**	**+1.1**
ESL	**Shilin** baz=6.0	**0.89**	**6**	*e*P	**Pn**	**22 29 38.6**	**-1.4**
CHN5	**Tsauling** baz=318	**0.90**	**318**	*e*P	**Pn**	**22 29 41.4**	**+1.1**
LAY	**Lan-yu** baz=166	**0.91**	**167**	*e*P	**Pn**	**22 29 39.8**	**-0.6**
LAY	baz=166			*e*S	**Sn**	**22 29 52.7**	**+0.5**
SSLB	**Suanglung** baz=338	**0.92**	**338**	P	**Pn**	**22 29 40.8**	**+0.2**
SSLB	baz=338			*e*S	**Sn**	**22 29 52.9**	**+0.3**
SNJT	**Kaohsiung City** baz=259	**0.94**	**259**	*e*P	**Pn**	**22 29 42.7**	**+2.0**
CHY	**Chiayi** baz=305	**1.01**	**304**	*e*P	**Pn**	**22 29 42.0**	**+0.3**
CHY	baz=305			*e*S	**Sn**	**22 29 55.5**	**+0.9**
SMLT	**Sun Moon Lake** baz=338	**1.03**	**337**	P	**Pn**	**22 29 43.0**	**+0.9**
SMLT	baz=338			*e*S	**Sn**	**22 29 57.7**	**+2.4**
WJS	**Zhushan** baz=328	**1.05**	**328**	*e*P	**Pn**	**22 29 43.4**	**+1.2**
WJS	baz=328			*e*S	**Sn**	**22 29 57.0**	**+1.4**
WDLH	**Douliu** baz=316	**1.05**	**316**	*e*P	**Pn**	**22 29 43.2**	**+1.0**
WDLH	baz=316			*e*S	**Sn**	**22 29 57.9**	**+2.2**
ICHU	**Yijhu** baz=294	**1.06**	**294**	*e*P	**Pn**	**22 29 42.2**	**-0.2**
ICHU	baz=294			*e*S	**Sn**	**22 29 56.3**	**+0.4**
TYC	**Yuchr** baz=336	**1.06**	**336**	*e*P	**Pn**	**22 29 43.4**	**+1.0**
TYC	baz=336			*e*S	**Sn**	**22 29 58.3**	**+2.3**
HEN	**Hengchun** baz=210	**1.07**	**211**	*e*P	**Pn**	**22 29 44.0**	**+1.4**
HWA	**Hwalien** baz=14	**1.07**	**14**	*e*P	**Pn**	**22 29 42.0**	**-0.6**
HWA	baz=14			*e*S	**Sn**	**22 29 57.2**	**+1.0**
TWKBT	**Hengchun** baz=206	**1.09**	**206**	*e*P	**Pn**	**22 29 44.2**	**+1.3**
TWKBT	baz=206			*e*S	**Sn**	**22 29 56.6**	**-0.1**
TWK1	**Hengchun** baz=205	**1.10**	**206**	*e*P	**Pn**	**22 29 44.2**	**+1.4**
TWK1	baz=205			*e*S	**Sn**	**22 29 56.3**	**-0.5**
TSEB	**Hengchuen, Pin** baz=203	**1.10**	**201**	*e*P	**Pn**	**22 29 44.8**	**+1.9**
TSEB	baz=203			*e*S	**Sn**	**22 29 57.2**	**+0.3**
WNT	**Mingjian** baz=328	**1.12**	**328**	*e*P	**Pn**	**22 29 44.1**	**+0.9**
WNT	baz=328			*e*S	**Sn**	**22 29 59.8**	**+2.5**
WPL	**Puli Township** baz=342	**1.13**	**342**	*e*P	**Pn**	**22 29 44.1**	**+0.8**
WPL	baz=342			*e*S	**Sn**	**22 30 00.1**	**+2.4**
CHGB	**Renai** baz=353	**1.14**	**353**	P	**Pn**	**22 29 43.5**	**-0.1**
CHGB	baz=353			S	**Sn**	**22 29 58.1**	**0.0**
WNT1	**Nantou City** baz=328	**1.14**	**329**	*e*P	**Pn**	**22 29 44.9**	**+1.4**
WNT1	baz=328			*e*S	**Sn**	**22 30 00.4**	**+2.5**
WTK	**Tuku** baz=311	**1.15**	**311**	*e*P	**Pn**	**22 29 43.7**	**+0.1**
WTK	baz=311			*e*S	**Sn**	**22 29 58.7**	**+0.6**
DPDB	**Guoxing** baz=341	**1.16**	**341**	*e*P	**Pn**	**22 29 44.9**	**+1.1**
DPDB	baz=341			*e*S	**Sn**	**22 29 59.3**	**+0.8**
TWD	**Chiawan** baz=12	**1.17**	**12**	*e*P	**Pn**	**22 29 42.7**	**-1.2**
WCS	**Beigang Elemen** baz=341	**1.19**	**341**	*e*P	**Pn**	**22 29 45.3**	**+1.1**
WCS	baz=341			*e*S	**Sn**	**22 29 59.6**	**+0.6**
WHF	**Hehuan Shan** baz=357	**1.21**	**357**	P	**Pn**	**22 29 44.6**	**-0.3**
WHF	baz=357			*e*S	**Sn**	**22 30 00.1**	**-0.2**
WWF	**Wufeng** baz=332	**1.25**	**332**	*e*P	**Pn**	**22 29 46.3**	**+1.3**
WWF	baz=332			*e*S	**Sn**	**22 30 02.1**	**+1.4**
NACB	**Ninganchiao** baz=11	**1.26**	**11**	*e*P	**Pn**	**22 29 43.7**	**-1.4**
ETLH	**Xiulin Townshi** baz=6.0	**1.28**	**6**	*e*P	**Pn**	**22 29 44.5**	**-1.0**
ETLH	baz=6.0			*e*S	**Sn**	**22 30 01.4**	**-0.1**
FUSS	**Fushou** baz=356	**1.31**	**357**	*e*P	**Pn**	**22 29 46.2**	**+0.1**
FUSS	baz=356			*e*S	**Sn**	**22 30 02.6**	**0.0**
TDCB	**Techi** baz=353	**1.33**	**353**	*e*P	**Pn**	**22 29 46.8**	**+0.5**
TDCB	baz=353			*e*S	**Sn**	**22 30 05.5**	**+2.7**
WCHH	**Zhanghua** baz=328	**1.35**	**328**	*e*P	**Pn**	**22 29 47.4**	**+1.0**
WCHH	baz=328			*e*S	**Sn**	**22 30 05.2**	**+2.2**
TCU	**Taichung** baz=334	**1.35**	**334**	*e*P	**Pn**	**22 29 46.8**	**+0.4**
TCU	baz=334			*e*S	**Sn**	**22 30 05.7**	**+2.6**
WHP	**Taichung City** baz=345	**1.39**	**345**	*e*P	**Pn**	**22 29 48.6**	**+1.6**
WHP	baz=345			*e*S	**Sn**	**22 30 06.9**	**+2.7**
NNSB	**Datong** baz=1.0	**1.49**	**2**	P	**Pn**	**22 29 48.4**	**0.0**
NNSB	baz=1.0			*e*S	**Sn**	**22 30 07.5**	**+0.7**
NNSH	**Datong** baz=1.0	**1.49**	**2**	*e*P	**Pn**	**22 29 48.5**	**0.0**
TWQ1	**Liyutan** baz=340	**1.50**	**340**	*e*P	**Pn**	**22 29 50.0**	**+1.5**
NNS	**Nan Shan** baz=1.0	**1.50**	**1**	*e*P	**Pn**	**22 29 48.7**	**+0.1**
NNS	baz=1.0			*e*S	**Sn**	**22 30 07.2**	**+0.1**
NDT	**Datong Townshi** baz=5.0	**1.67**	**6**	*e*P	**Pn**	**22 29 51.0**	**+0.2**
NDT	baz=5.0			*e*S	**Sn**	**22 30 11.7**	**+0.6**
NMLH	**Miaoli** baz=343	**1.68**	**343**	*e*P	**Pn**	**22 29 53.1**	**+2.2**
NMLH	baz=343			*e*S	**Sn**	**22 30 14.6**	**+3.4**
ENTT	**Nioudou** baz=7.0	**1.72**	**7**	*e*P	**Pn**	**22 29 51.2**	**-0.2**
PHUB	**P'eng-hu** baz=290	**1.72**	**290**	*e*P	**Pn**	**22 29 51.0**	**-0.5**
PHUB	baz=290			*e*S	**Sn**	**22 30 11.0**	**-1.2**
NSTT	**Nanjuang** baz=350	**1.72**	**350**	*e*P	**Pn**	**22 29 51.6**	**+0.1**
NSTT	baz=350			*e*S	**Sn**	**22 30 13.8**	**+1.6**
LIOB	**Emei** baz=350	**1.73**	**350**	*e*P	**Pn**	**22 29 52.9**	**+1.2**
YHNB	**Yeheng** baz=1.0	**1.73**	**1**	*e*P	**Pn**	**22 29 52.1**	**+0.4**
YHNB	baz=1.0			*e*S	**Sn**	**22 30 12.7**	**+0.1**
TWC	**Suao** baz=16	**1.74**	**16**	*e*P	**Pn**	**22 29 52.1**	**+0.4**
TWC	baz=16			*e*S	**Sn**	**22 30 12.9**	**+0.3**
NSK	**Sanguang** baz=1.0	**1.74**	**1**	*e*P	**Pn**	**22 29 52.1**	**+0.3**
NSK	baz=1.0			*e*S	**Sn**	**22 30 12.9**	**+0.1**
PNG	**Penghu** baz=291	**1.75**	**292**	*e*P	**Pn**	**22 29 51.4**	**-0.5**
PNG	baz=291			*e*S	**Sn**	**22 30 12.1**	**-0.9**
TWE	**Neicheng** baz=10.0	**1.81**	**10**	*e*P	**Pn**	**22 29 53.7**	**+1.0**
TWE	baz=10.0			*e*S	**Sn**	**22 30 15.1**	**+0.7**
NWLT	**Wulai** baz=4.0	**1.85**	**5**	*e*P	**Pn**	**22 29 53.4**	**+0.1**
NWLT	baz=4.0			*e*S	**Sn**	**22 30 15.5**	**+0.1**
TATO	**Taipei** baz=4.0	**2.04**	**4**	*e*P	**Pn**	**22 29 56.0**	**+0.1**
TATO	baz=4.0			*e*S	**Sn**	**22 30 21.0**	**+0.8**
TIPB	**Shuangxi** baz=12	**2.08**	**12**	*e*P	**Pn**	**22 29 57.3**	**+0.8**
TIPB	baz=12			*e*S	**Sn**	**22 30 22.3**	**+1.1**
JYNG	**Yonagunijimaku**	**2.12**	**44**	P	**Pn**	**22 29 57.4**	**+0.5**
JYNG				*e*S	**Sn**	**22 30 22.5**	**+0.5**
YOJ	**Yonaguni jima** baz=44	**2.17**	**45**	*e*P	**Pn**	**22 29 58.2**	**+0.6**
YOJ	baz=44			*e*S	**Sn**	**22 30 23.6**	**+0.3**
YOJ	**Yonaguni jima**	**2.17**	**45**	P	**Pn**	**22 29 58.4**	**+0.8**
YOJ				*e*S	**Sn**	**22 30 23.8**	**+0.5**
NWF	**Wu-fen Shan** baz=10.0	**2.17**	**11**	*e*P	**Pn**	**22 29 58.0**	**+0.3**
NWF	baz=10.0			*e*S	**Sn**	**22 30 23.3**	**-0.2**
WFSB	**Wu-fen Shan** baz=10.0	**2.17**	**11**	*e*P	**Pn**	**22 29 57.9**	**+0.2**
WFSB	baz=10.0			*e*S	**Sn**	**22 30 24.8**	**+1.4**
YM01	**YM01** baz=5.0	**2.22**	**6**	*e*P	**Pn**	**22 29 58.0**	**-0.4**
YM01	baz=5.0			*e*S	**Sn**	**22 30 24.9**	**+0.3**
YM05	**YM05** baz=5.0	**2.23**	**5**	*e*P	**Pn**	**22 29 58.9**	**+0.3**
YM05	baz=5.0			*e*S	**Sn**	**22 30 25.6**	**+0.5**
YM11	**YM11** baz=5.0	**2.24**	**6**	*e*P	**Pn**	**22 29 58.3**	**-0.4**
YM11	baz=5.0			*e*S	**Sn**	**22 30 25.2**	**+0.1**
YM03	**YM03** baz=4.0	**2.25**	**5**	*e*P	**Pn**	**22 29 59.2**	**+0.4**
YM03	baz=4.0			*e*S	**Sn**	**22 30 26.0**	**+0.6**
HATJ	**Hateruma jima**	**2.53**	**63**	P	**Pn**	**22 30 02.8**	**+0.2**
HATJ				S	**Sn**	**22 30 31.6**	**-0.7**
IRIF	**Iriomote-Funau**	**2.61**	**57**	P	**Pn**	**22 30 03.8**	**+0.1**
IRIF				*e*S	**Sn**	**22 30 34.7**	**+0.6**
VWUC	**VWUC** baz=320	**2.68**	**320**	*e*P	**Pn**	**22 30 04.2**	**-0.5**
VWUC	baz=320			*e*S	**Sn**	**22 30 34.1**	**-1.7**
JKRS	**Kuro-shima**	**2.78**	**62**	P	**Pn**	**22 30 06.6**	**+0.6**
JKRS				*e*S	**Sn**	**22 30 38.3**	**-0.1**
PTMZ	**Houxiangcun** baz=316	**2.92**	**317**	*e*P	**Pn**	**22 30 07.4**	**-0.6**
PTMZ	baz=316			*e*S	**Sn**	**22 30 39.6**	**-2.1**
PTTC	**Pingtan** baz=331	**2.93**	**331**	*e*P	**Pn**	**22 30 07.5**	**-0.5**
PTTC	baz=331			*e*S	**Sn**	**22 30 40.0**	**-2.0**
JIJ	**Ishigaki jima**	**2.95**	**60**	P	**Pn**	**22 30 08.6**	**+0.3**
JIJ				S	**Sn**	**22 30 41.5**	**-1.0**
KNMB	**Chin-men Tao** baz=299	**3.10**	**300**	*e*P	**Pn**	**22 30 10.4**	**0.0**
KNMB	baz=299			*e*S	**Sn**	**22 30 43.6**	**-2.6**
JISG	**Ishigakijimahi**	**3.19**	**58**	P	**Pn**	**22 30 11.7**	**0.0**
JISG				S	**Sn**	**22 30 47.7**	**-0.8**
MATB	**Ma-tsu** baz=338	**3.45**	**339**	*e*P	**Pn**	**22 30 14.7**	**-0.6**
MATB	baz=338			*e*S	**Sn**	**22 30 52.0**	**-2.8**
JTJ	**Tarama**	**3.53**	**60**	P	**Pn**	**22 30 16.8**	**+0.5**
JTJ				S	**Sn**	**22 30 56.0**	**-0.8**
AXDP	**Jialang** baz=302	**3.65**	**303**	*e*P	**Pn**	**22 30 17.6**	**-0.3**
AXDP	baz=302			*e*S	**Sn**	**22 30 56.6**	**-3.1**
MHZQ	**Yeshan** baz=326	**3.79**	**327**	*e*P	**Pn**	**22 30 19.9**	**0.0**
MHZQ	baz=326			*e*S	**Sn**	**22 31 00.9**	**-2.3**
LYJJ	**Jianjiangzhen** baz=338	**3.88**	**339**	*e*P	**Pn**	**22 30 21.2**	**0.0**
LYJJ	baz=338			*e*S	**Sn**	**22 31 03.5**	**-1.9**
JIRB	**Irabujima**	**3.99**	**61**	P	**Pn**	**22 30 23.1**	**+0.4**
JIRB				S	**Sn**	**22 31 07.9**	**-0.4**
JMJ2	**Miyako jima3**	**4.08**	**63**	P	**Pn**	**22 30 23.9**	**0.0**
JMJ2				*e*S	**Sn**	**22 31 10.3**	**-0.2**
JMJ	**Miyako jima 2** baz=62	**4.08**	**62**	*e*P	**Pn**	**22 30 24.6**	**+0.7**
JMJ	baz=62			*e*S	**Sn**	**22 31 10.0**	**-0.5**
XPSS	**Dashiqiu** baz=345	**4.12**	**346**	*e*P	**Pn**	**22 30 23.9**	**-0.5**
XPSS	baz=345			*e*S	**Sn**	**22 31 09.4**	**-1.9**

NNC 01 22:31:55.6±6.0,**36°.95N**×**70°.58E,h102**km±128km,**mb3.2, mpv3.8,9C-1D,Error ellipse: s-maj=45.5km s-min=40.0km az=17.0,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 3.0nm,0.5s,baz=184,slow=16,SNR=41	**6.14**	**360**	⇓P	Pn	22 33 24.5	+0.7
KK31	2.4nm,0.5s,baz=186,slow=23,SNR=8.7			⇑S	Sn	22 34 34.7	+2.0
AAK	**Ala-Archa** 2.2nm,0.5s	**6.43**	**27**	⇑P	Pn	22 33 24.5	-3.3
AAK	1.5nm,0.6s			⇑S	Sn	22 34 38.8	-0.9
TKM2	**Tokmak 2** 9.3nm,0.7s	**7.10**	**31**	⇑P	Pn	22 33 39.3	+2.5
TKM2	2.2nm,0.6s			⇑S	Sn	22 34 57.6	+1.6
AB31	**Akbulak array** 0.3nm,0.3s,baz=140,slow=14,SNR=25	**14.53**	**331**	⇑P	Pn	22 35 16.7	+0.7
AB31	0.9nm,0.6s,baz=159,slow=22,SNR=6.1			⇑S	Sn	22 37 53.4	-2.6
AKTO	**Aktyubinsk** 2.5nm,0.8s	**16.22**	**330**	⇑P	P	22 35 38.5	0.0
AKTO	0.7nm,0.6s			⇑S	Sn	22 38 35.2	-1.8

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*NOU **01** 22:59:28.4, 20°.73S×178°.53W, h603km, mb4.4, Fiji Islands Region*
*IDC **01** 22:59:28.5±1.6, 20°.89S×178°.72W, h582km±17km, mb3.4/12, mb1 3.7/15, mb1mx3.5/35, mbtmp4.4/15, Error ellipse: s-maj=19.9km s-min=12.9km az=136.0*
*NEIC **01** 22:59:32.9±1.1, 20°.7S±0°.3×179°.2W±0°.1, h610km±20km, mb4.5/13, Error ellipse: s-maj=42.5km s-min=15.2km az=181.0*
ISC 01 22:59:30.3±0.5,**20°.75S**±0°.10×**178°.76W**±0°.09,**h600**km,**n64,**σ1.**74**/68,**mb4.0**/17,**21C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.26**	**314**	P	**P**	**23 00 59.0**	**+1.2**
AFI	**Afiamalu** 6.4nm,0.3s,baz=22,slow=8.2,SNR=8.8	**9.52**	**45**	P	**P**	**23 01 42.1**	**-2.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AFI				S	**S**	**23 03 28.1**	**-6.5**
	2.4nm,0.3s,baz=1.0,slow=22,SNR=1.2						
YATNC	**Mamie plateau,**	**13.43**	**262**	P	**P**	**23 02 23.7**	**+0.1**
DZM	**Mont Dzumac**	**13.85**	**262**	P	**P**	**23 02 26.6**	**-1.2**
	2.6nm,0.3s,baz=83,slow=17,SNR=33						
DZM	**Mont Dzumac**	**13.85**	**262**	P	**P**	**23 02 26.3**	**-1.5**
DZM	**Mont Dzumac**	**13.85**	**262**	P	**P**	**23 02 27.3**	**-0.5**
NOUC	**Port Laguerre**	**13.98**	**262**	P	**P**	**23 02 28.4**	**-0.6**
SANVU	**Saraoutou**	**14.35**	**289**	P	**P**	**23 02 32.9**	**+0.3**
OUZ	**Omahuta**	**15.91**	**203**	P	**P**	**23 02 48.5**	**+1.9**
OUZ				IAmb	IAmb	23 02 49.9	
	comp=Z,18nm,0.8s						
RAR	**Rarotonga**	**17.73**	**95**	P	**P**	**23 03 09.2**	**+5.7**
RAR				IAmb	IAmb	23 03 16.5	
	comp=Z,8.8nm,0.8s						
URZ	**Urewera**	**17.81**	**191**	P	**P**	**23 03 01.7**	**-2.3**
	comp=Z,1.3nm,0.3s,baz=278,slow=2.6,SNR=6.6						
URZ				S	**S**	**23 05 51.8**	**-5.7**
	comp=Z,0.5nm,0.3s,baz=36,slow=22,SNR=1.7						
CTAO	**Charters Tower**	**32.76**	**265**	P	**P**	**23 05 15.4**	**-0.3**
TOO	**Toolangi**	**35.18**	**234**	P	**P**	**23 05 35.8**	**+0.1**
TOO				IAmb	IAmb	23 05 36.3	
	comp=Z,8.8nm,0.8s						
STKA	**Stephens Creek**	**37.04**	**244**	P	**P**	**23 05 51.1**	**+0.2**
	comp=Z,6.0nm,0.5s,baz=93,slow=11,SNR=25						
STKA	**Stephens Creek**	**37.04**	**244**	P	**P**	**23 05 51.2**	**+0.3**
BBOO	**Buckleboo**	**41.80**	**244**	P	**P**	**23 06 28.5**	**-0.5**
BBOO				IAmb	IAmb	23 06 29.2	
	comp=Z,19nm,0.8s						
WR0	**Warramunga Arr**	**43.68**	**262**	P	**P**	**23 06 42.6**	**-1.2**
WR0				IAmb	IAmb	23 06 43.9	
	comp=Z,8.0nm,0.5s						
AS31	**Alice Springs**	**43.77**	**257**	P	**P**	**23 06 44.1**	**-0.4**
ASAR	**Alice Springs**	**43.77**	**257**	P	**P**	**23 06 44.0**	**-0.5**
	comp=Z,18nm,0.5s,baz=97,slow=7.6,SNR=218						
ASAR				PcP	**PcP**	**23 08 17.2**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=94,slow=3.5,SNR=4.8						
ASAR				ScP	**ScP**	**23 11 14.4**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=103,slow=4.3,SNR=7.3						
WB0	**Warramunga Arr**	**43.84**	**263**	P	**P**	**23 06 43.9**	**-1.2**
WB2	**Warramunga Arr**	**43.85**	**262**	P	**P**	**23 06 44.0**	**-1.2**
WB2				IAmb	IAmb	23 06 44.9	
	comp=Z,20nm,1.1s						
WRAB	**Tennant Creek**	**43.86**	**262**	P	**P**	**23 06 44.1**	**-1.1**
WRAB				IAmb	IAmb	23 06 44.9	
	comp=Z,15nm,1.0s						
WRA	**Warramunga Arr**	**43.87**	**262**	P	**P**	**23 06 44.1**	**-1.2**
	comp=Z,7.9nm,0.5s,baz=97,slow=7.3,SNR=235						
WRA				ScP	**ScP**	**23 11 15.2**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=97,slow=4.1,SNR=2.6						
FORT	**Forrest**	**48.55**	**247**	P	**P**	**23 07 19.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**52.29**	**263**	P	**P**	**23 07 47.4**	**-0.3**
MJAR	**Matsushiro Arr**	**70.00**	**324**	P	**P**	**23 09 42.3**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=124,slow=0.8,SNR=4.4						
PETK	**Petropavlovsk-**	**76.34**	**346**	P	**P**	**23 10 18.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=164,slow=6.9,SNR=1.6						
USRK	**Ussuriysk Ar.**	**78.78**	**326**	P	**P**	**23 10 32.3**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=126,slow=4.4,SNR=4.0						
NVAR	**Mina Array Bea**	**81.69**	**44**	P	**P**	**23 10 48.7**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=224,slow=7.6,SNR=2.8						
TXAR	**Lajitas Array**	**87.79**	**58**	P	**P**	**23 11 18.2**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=224,slow=5.2,SNR=6.0						
NEW	**Newport**	**87.99**	**36**	P	**P**	**23 11 18.7**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=60,slow=21,SNR=1.6						
ILAR	**Eielson Array**	**88.72**	**13**	P	**P**	**23 11 19.7**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=216,slow=5.2,SNR=8.7						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**23 11 26.3**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=133,slow=3.2,SNR=10						
PLCA	**Paso Flores**	**89.61**	**134**	P	**P**	**23 11 26.5**	**+1.1**
	comp=Z,2.3nm,1.1s,baz=223,slow=5.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**110.25**	**321**	PKiKP	**PKiKP**	**23 16 52.5**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=90,slow=1.4,SNR=2.1						
MKAR	**Makanchi Array**	**110.86**	**313**	PKiKP	**PKiKP**	**23 16 54.5**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=190,slow=0.4,SNR=7.0						
ARCES	**ARCESS Array B**	**129.04**	**349**	PKP	**PKPdf**	**23 17 29.4**	**-0.9**
	comp=Z,5.2nm,0.9s,baz=90,slow=0.9,SNR=4.3						
FINES	**FINESS Array B**	**135.81**	**343**	PKP	**PKPdf**	**23 17 43.1**	**0.0**
	comp=Z,2.5nm,1.0s,baz=101,slow=1.9,SNR=4.7						
AKASG	**Malin Array Be**	**142.89**	**330**	PKhKP	PKPpre	23 17 53.0	
	comp=Z,2.9nm,0.3s,baz=41,slow=4.4,SNR=28						
SORM	**Soroca**	**145.05**	**328**	⇑P	**PKPbc**	**23 18 00.6**	**-0.4**
MILM	**Milestii Mici**	**145.61**	**326**	⇑P	**PKPdf**	**23 18 01.6**	**+0.5**
BRTR	**Keskin Array B**	**146.48**	**312**	PKPbc	**PKPbc**	**23 18 05.0**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=139,slow=3.4,SNR=13						
PRAR	**RASCA**	**146.62**	**329**	⇑P	**PKPab**	**23 18 13.6**	**+5.1**
TLCR		**146.69**	**323**	⇑P	**PKPbc**	**23 18 05.4**	**-0.4**
GHRR		**146.90**	**326**	⇑P	**PKPbc**	**23 18 06.8**	**+0.5**
BURAR	**Bucovina Array**	**146.93**	**330**	⇑P	**PKPbc**	**23 18 06.3**	**-0.2**
BIZ	**Bicaz**	**146.97**	**328**	⇑P	**PKPbc**	**23 18 06.7**	**+0.1**
TESR	**Tescani**	**146.99**	**327**	⇑P	**PKPdf**	**23 18 04.9**	**+1.4**
CFR	**Carcaliu**	**147.08**	**324**	⇑P	**PKPbc**	**23 18 06.3**	**-0.4**
TPGR	**Topolog**	**147.12**	**323**	⇑P	**PKPbc**	**23 18 07.0**	**0.0**
ODBI	**Odobesti**	**147.28**	**326**	⇑P	**PKPab**	**23 18 13.1**	**+1.9**
VRI	**Vrincioaia**	**147.39**	**326**	⇑P	**PKPbc**	**23 18 07.0**	**-0.7**
HARR	**Harsova**	**147.50**	**323**	⇑P	**PKPab**	**23 18 11.5**	**-0.6**
NEHR	**Nehoiu**	**147.91**	**326**	⇑P	**PKPbc**	**23 18 08.3**	**-0.7**
DOPR	**Dopca**	**148.00**	**327**	⇑P	**PKPbc**	**23 18 09.4**	**+0.1**
MLR	**Muntele Rosu**	**148.05**	**326**	⇑P	**PKPbc**	**23 18 08.5**	**-1.0**
SULR		**148.42**	**325**	⇑P	**PKiKP**	**23 18 12.8**	**+1.5**
VOIR		**148.54**	**327**	⇑P	**PKPbc**	**23 18 10.3**	**-0.4**
ARR	**Arges**	**148.80**	**327**	⇑P	**PKiKP**	**23 18 12.0**	**-0.2**
KHC	**Kasperske Hory**	**150.02**	**344**	*e*PKP	**PKPbc**	**23 18 13.7**	**-0.3**
CKRC	**Cesky Krumlov**	**150.10**	**343**	*e*PKP	**PKPbc**	**23 18 13.7**	**-0.5**
PLVB	**Pleven**	**150.16**	**324**	⇑P	**PKPbc**	**23 18 14.0**	**-0.5**
GERES	**GERESS Array B**	**150.25**	**343**	PKPbc	**PKPbc**	**23 18 14.5**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=122,slow=1.7,SNR=5.1						
VTS	**Vitosha**	**151.43**	**325**	⇑P	**PKPbc**	**23 18 16.7**	**-0.9**

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*IDC **01** 23:09:34.5±1.4, 44.°85N×106.°71W, h0km, mb1 3.6/2, mb1mx3.2/57, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=54.2km s-min=9.5km az=137.0*

*NEIC **01** 23:09:35.3±2.3, 45.°25N±0.°05×106.°81W±0.°06, h0km±2km, ML2.7/34, Error ellipse: s-maj=9.6km s-min=5.4km az=137.0*

ISC 01 23:09:31.9±0.9**, 45.°04N**±0.°04×**106.°86W**±0.°04**, h0**km**, n27,** σ**1.s26**/27**, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLMT	**Red Lodge**	**1.71**	**274**	Pn	**Pg**	**23 10 04.3**	**-0.4**
RLMT				IAML		23 10 30.6	
	72nm,0.6s						
RLMT				IAML		23 10 31.9	
	68nm,0.6s						
LAO	**LASA Array**	**1.71**	**15**	Pn	**Pg**	**23 10 03.7**	**-1.0**
LAO					**Sn**	**23 10 23.5**	**-2.1**
LAO				IAML		23 10 29.5	
	80nm,0.5s						
LAO				IAML		23 10 36.2	
	127nm,0.7s						
GCMT	**Greycliff**	**2.11**	**292**	Pn	**Pb**	**23 10 10.4**	**-0.8**
RSSD	**Black Hills**	**2.22**	**113**	Pn	**Pb**	**23 10 13.1**	**+0.1**
RSSD				IAML		23 10 47.0	
	40nm,0.5s						
K22A	**Casper**	**2.40**	**174**	Pn	**Pg**	**23 10 17.1**	**-0.8**
K22A				IAML		23 10 55.1	
	comp=N,39nm,0.4s						
K22A				IAML		23 10 58.1	
	comp=E,36nm,0.8s						
LKWY	**Lake**	**2.56**	**261**	Pn	**Pb**	**23 10 19.5**	**+0.6**
LKWY				IAML		23 11 04.0	
	comp=E,28nm,0.9s						
H17A	**Grant Village**	**2.72**	**258**	Pn	**Pb**	**23 10 22.5**	**+0.9**
FLWY	**Flagg Ranch**	**2.90**	**252**	Pn	**Pb**	**23 10 24.1**	**-0.6**
FLWY				IAML		23 11 27.6	
	comp=E,21nm,1.0s						
BW06	**Boulder Array**	**2.99**	**222**	Pn	**Pb**	**23 10 26.2**	**0.0**
BW06				IAML		23 11 09.5	
	comp=E,16nm,0.7s						
BW06				IAML		23 11 15.0	
	comp=E,16nm,0.6s						
PD31	**Pinedale Array**	**2.99**	**222**	Pn	**Pb**	**23 10 26.4**	**+0.1**
PDAR	**Pinedale Array**	**2.99**	**222**	Pn	**Pb**	**23 10 26.1**	**-0.1**
	comp=E,2.8nm,0.3s,baz=48,slow=17,SNR=14						
PDAR				Lg	Lg	23 11 05.0	
	comp=E,4.6nm,0.3s,baz=49,slow=32,SNR=19						
PDAR	**Pinedale Array**	**2.99**	**222**		**Pb**	**23 10 25.9**	**-0.3**
LOHW	**Long Hollow**	**3.04**	**243**	Pn	**Pb**	**23 10 27.2**	**+0.2**
SNOW	**Snow King Moun**	**3.21**	**242**	Pn	**Pb**	**23 10 29.2**	**-0.8**
SNOW				IAML		23 11 24.2	
	comp=E,17nm,1.1s						
SNOW				IAML		23 11 26.5	
	comp=E,14nm,1.2s						
QLMT	**Earthquake Lak**	**3.25**	**268**	Pn	**Pb**	**23 10 30.1**	**-0.5**
REDW	**Red Top Meadow**	**3.32**	**241**	Pn	**Pg**	**23 10 34.3**	**-1.3**
REDW				IAML		23 11 30.6	
	comp=E,17nm,1.8s						
RWWY	**Rawlins**	**3.36**	**184**	Pn	**Pb**	**23 10 32.0**	**-0.5**
RWWY				IAML		23 11 35.2	
	comp=E,16nm,2.2s						
RWWY				IAML		23 11 40.2	
	comp=E,18nm,1.6s						
BOZ	**Bozeman (W)**	**3.41**	**281**	Pn	**Pn**	**23 10 29.3**	**+2.8**
EGMT	**Eagleton**	**3.59**	**327**	Pn	**Pn**	**23 10 30.5**	**+1.5**
AHID	**Auburn Hatcher**	**3.81**	**235**	Pn	**Pb**	**23 10 40.1**	**-0.1**
HRY	**Holter Researc**	**3.85**	**298**	Pn	**Pn**	**23 10 35.5**	**+3.0**
DGMT	**Dagmar**	**3.89**	**27**	Pn	**Pn**	**23 10 35.0**	**+1.9**
DLMT	**Dillon**	**4.07**	**277**	Pn	**Pn**	**23 10 34.7**	**-0.8**
DLMT				IAML		23 11 42.4	
	comp=E,12nm,1.1s						
DLMT				IAML		23 12 09.2	
	comp=E,12nm,4.0s						
MCMT	**McKenzie Canyo**	**4.26**	**269**	Pn	**Pb**	**23 10 46.7**	**-1.1**
BCYI	**Bear Canyon**	**4.72**	**263**	Pn	**Pn**	**23 10 45.9**	**+1.3**
I10CA	**LAC DU BONNET**	**8.95**	**51**	*i*		00 04 10.0	
	baz=234,slow=329,SNR=2.7						
ULM	**Lac du Bonnet**	**9.06**	**51**	Pn	**Pn**	**23 11 44.4**	**+0.5**
	comp=E,0.4nm,0.3s,baz=242,slow=14,SNR=3.1						
ULM				Lg	Lg	23 14 15.5	
	comp=E,0.1nm,0.3s,baz=166,slow=16,SNR=4.3						

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*NEIC **01** 23:10:35.1±1.3, 58.°76S±0.°10×149.°4W±0.°3, h10km±2km, mb4.6/6, Error ellipse: s-maj=27.4km s-min=15.1km az=106.0*

*IDC **01** 23:10:37.2±1.4, 59.°03S×150.°34W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/32, mbtmp3.6/2, MS3.7/9, Ms1 3.7/9, ms1mx3.7/14, Error ellipse: s-maj=176.7km s-min=46.1km az=0.0*

ISC 01 23:10:36.4±0.9**, 58.°9S**±0.°3×**149.°8W**±0.°2**, h10**km**, n34,** σ**1.s48**/16**, mb4.3**/6**, MS3.7**/9**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**24.63**	**203**	LR	LR	23 22 12.8	
	comp=Z,123nm,20.2s,baz=71,slow=29						
MQZ	**McQueen's Vall**	**27.51**	**287**	P	**P**	**23 16 22.6**	**-0.1**
MQZ				IAmb	IAmb	23 16 29.2	
	comp=Z,18nm,1.1s						
MSWZ	**Moikau Station**	**27.96**	**293**	P	**P**	**23 16 27.2**	**+0.4**
BFZ	**Birch Farm**	**28.06**	**295**	P	**P**	**23 16 27.8**	**+0.1**
OXZ	**Oxford**	**28.09**	**287**	P	**P**	**23 16 28.3**	**+0.3**
OXZ				IAmb	IAmb	23 16 34.4	
	comp=Z,8.5nm,0.7s						
BHW	**Baring Head**	**28.14**	**293**	P	**P**	**23 16 26.2**	**-2.2**
RPZ	**Rata Peaks**	**28.30**	**285**	LR	LR	23 25 00.6	
	comp=Z,136nm,19.0s,baz=112,slow=31						
RAR	**Rarotonga**	**38.30**	**345**	LR	LR	23 29 38.9	
	comp=Z,227nm,19.4s,baz=173,slow=30						
PPT	**Papeete**	**41.24**	**0**	LR	LR	23 32 41.0	
	comp=Z,70nm,18.1s,baz=183,slow=32						
RPN	**Rapa Nui**	**42.27**	**59**	LR	LR	23 32 11.7	
	comp=Z,191nm,20.5s,baz=245,slow=30						
AFI	**Afiamalu**	**47.78**	**331**	LR	LR	23 34 15.8	
	comp=Z,80nm,21.1s,baz=16,slow=30						
DZM	**Mont Dzumac**	**48.15**	**301**	P	**P**	**23 19 15.1**	**-1.5**
DZM				IAmb	IAmb	23 19 30.2	
	comp=Z,7.1nm,1.1s						
PLCA	**Paso Flores**	**51.01**	**106**	LR	LR	23 36 36.3	
	comp=Z,52nm,18.4s,baz=170,slow=30						
MAW	**Mawson**	**51.57**	**195**	LR	LR	23 39 14.6	
	comp=Z,99nm,18.4s,baz=54,slow=34						
MAW	**Mawson**	**51.57**	**195**	P	**P**	**23 19 41.4**	**-0.6**
H03S2	**Juan Fernandez**	**52.02**	**94**	T	T	00 16 27.5	
	baz=215,slow=74,SNR=31						
H03S1	**Juan Fernandez**	**52.02**	**94**	T	T	00 16 28.8	
	baz=215,slow=74,SNR=29						
H03S3	**Juan Fernandez**	**52.03**	**94**	T	T	00 16 28.4	
	baz=215,slow=74,SNR=32						
H03N3	**Juan Fernandez**	**52.32**	**94**	T	T	00 16 47.6	
	baz=218,slow=72,SNR=73						
H03N2	**Juan Fernandez**	**52.32**	**94**	T	T	00 16 43.9	
	baz=218,slow=72,SNR=82						
H03N1	**Juan Fernandez**	**52.33**	**94**	T	T	00 16 42.5	
	baz=218,slow=72,SNR=52						
BI02	**San Fabin de**	**53.75**	**102**	P	**P**	**23 19 56.7**	**-2.0**
AS31	**Alice Springs**	**63.02**	**269**	P	**P**	**23 21 04.1**	**+0.7**
AS31				IAmb	IAmb	23 21 15.6	
	comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	**63.02**	**269**	P	**P**	**23 21 04.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=138,slow=6.6,SNR=6.7						
ASAR	**Alice Springs**	**63.02**	**269**	P	**P**	**23 21 03.1**	**-0.4**
WRA	**Warramunga Arr**	**65.86**	**271**	P	**P**	**23 21 22.0**	**-0.1**
	comp=Z,0.5nm,1.0s,baz=145,slow=5.6,SNR=2.3						
LPAZ	**La Paz**	**71.90**	**92**	LR	LR	23 46 20.0	
	comp=Z,53nm,19.7s,baz=214,slow=30						
H10N3	**ASCENSION HYDR**	**104.48**	**134**	T	T	01 21 51.1	
	baz=204,slow=75,SNR=4.8						
H10N1	**ASCENSION HYDR**	**104.48**	**134**	T	T	01 21 46.7	
	baz=204,slow=75,SNR=8.6						
H10N2	**ASCENSION HYDR**	**104.49**	**134**	T	T	01 21 50.7	
	baz=204,slow=75,SNR=6.5						
ILAR	**Eielson Array**	**123.34**	**1**	PKP	**PKiKP**	**23 29 34.7**	**+2.6**
	comp=Z,0.9nm,1.2s,baz=270,slow=0.8,SNR=3.1						
MKAR	**Makanchi Array**	**147.17**	**272**	PKPbc	**PKPbc**	**23 30 20.0**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=115,slow=4.8,SNR=8.9						
ESDC	**Sonseca Array**	**151.05**	**116**	PKPbc	**PKPbc**	**23 30 31.2**	**+2.4**
	comp=Z,0.7nm,0.8s,baz=219,slow=2.5,SNR=2.7						
KURBB	**Kurchatov Arra**	**151.50**	**275**	PKPbc	**PKPbc**	**23 30 30.6**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=116,slow=2.1,SNR=5.6						

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*BJI **01** 23:19:18.5±0.0, 33.°91S×179.°14W, h25km, mB5.7/7, mb5.2/9, Ms5.3/1*

*WEL **01** 23:19:20.0±0.8, 34°S±7°×17°8W±1°8, h33km, M4.7/39, mB5.2/34, ML5.3/39, MLv5.0/39, Mw(mB)4.6/34, Error ellipse: s-maj=0.0km s-min=0.0km az=108.8*

*NEIC **01** 23:19:23.3±2.8, 33.°61S±0.°07×179.°6W±0.°1, h35km±1km, mb4.7/21, Error ellipse: s-maj=17.2km s-min=11.7km az=110.0*

*IDC **01** 23:19:24.8±4.3, 33.°44S×179.°61W, h45km±36km, mb4.2/6, mb1 4.5/9, mb1mx4.1/38, mbtmp4.5/9, ML4.1/3, MS3.6/4, Ms1 3.6/4, ms1mx3.1/33, Error ellipse: s-maj=32.5km s-min=21.0km az=50.0*

ISC 01 23:19:22.9±0.5**, 33.°46S**±0.°05×**179.°32W**±0.°08**, h35**km**, n141,** σ**1.s77**/128**, mb4.7**/15**, MS3.7**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.35**	**16**	P	**Pn**	**23 20 23.9**	**-2.7**
GLKZ				S	**Sn**	**23 21 13.3**	**-2.7**
RAO	**Raoul Island**	**4.36**	**16**	Pn	**Pn**	**23 20 29.5**	**+2.8**
MXZ	**Matakaoa Point**	**4.53**	**205**	Pn	**Pn**	**23 20 27.7**	**-1.3**
MXZ	**Matakaoa Point**	**4.53**	**205**	P	**Pn**	**23 20 29.8**	**+0.8**
WMGZ	**Waiomatatini S**	**4.73**	**202**	P	**Pn**	**23 20 32.9**	**+1.1**
WMGZ				S	**Sn**	**23 21 28.3**	**+3.0**
HAZ	**Te Kaha**	**4.90**	**208**	P	**Pn**	**23 20 34.8**	**+0.7**
PKGZ	**Pakihiroa**	**4.90**	**205**	P	**Pn**	**23 20 34.5**	**+0.3**
PKGZ				S	**Sn**	**23 21 30.4**	**+0.7**
PUZ	**Puketiti**	**5.01**	**202**	P	**Pn**	**23 20 34.9**	**-0.7**
PUZ				S	**Sn**	**23 21 33.6**	**+1.3**
GRZ	**Great Barrier**	**5.12**	**236**	P	**Pn**	**23 20 41.4**	**+4.3**
RUGZ	**Raukumara Rang**	**5.12**	**208**	P	**Pn**	**23 20 37.8**	**+0.6**
TWGZ	**Tauwhareparae**	**5.20**	**204**	P	**Pn**	**23 20 38.8**	**+0.6**
TWGZ				S	**Sn**	**23 21 37.5**	**+0.6**
MYRZ	**Mayor Island**	**5.26**	**222**	P	**Pn**	**23 20 43.0**	**+3.9**
WHRZ	**Whale Island**	**5.33**	**213**	P	**Pn**	**23 20 43.2**	**+3.2**
CNGZ	**Carnagh Statio**	**5.40**	**201**	P	**Pn**	**23 20 41.4**	**+0.5**
TKGZ	**Te Karaka**	**5.48**	**204**	P	**Pn**	**23 20 42.4**	**+0.4**
MWZ	**Matawai**	**5.50**	**207**	P	**Pn**	**23 20 42.2**	**-0.2**
OPRZ	**Ohinepanea**	**5.52**	**216**	P	**Pn**	**23 20 45.3**	**+2.7**
TGRZ	**Tauranga**	**5.58**	**219**	P	**Pn**	**23 20 46.7**	**+3.3**
URZ	**Urewera**	**5.60**	**210**	P	**Pn**	**23 20 44.0**	**+0.3**
	16nm,0.3s,baz=62,slow=5.7,SNR=62						
URZ				S	**Sn**	**23 21 44.9**	**-1.9**
	12nm,0.3s,baz=259,slow=21,SNR=1.7						
URZ	**Urewera**	**5.60**	**210**		**Pn**	**23 20 43.0**	**-0.8**
URZ	**Urewera**	**5.60**	**210**	P	**Pn**	**23 20 44.1**	**+0.3**
EDRZ	**Edgecumbe**	**5.64**	**214**	P	**Pn**	**23 20 46.6**	**+2.3**
RAGZ	**Rawiri**	**5.68**	**207**	P	**Pn**	**23 20 46.2**	**+1.3**
RIGZ	**Rimuhau**	**5.75**	**203**	P	**Pn**	**23 20 46.2**	**+0.5**
KMRZ	**Kaimai**	**5.84**	**220**	P	**Pn**	**23 20 50.1**	**+3.1**
TARZ	**Mount Tarawera**	**5.85**	**214**	P	**Pn**	**23 20 49.8**	**+2.6**
PRGZ	**Paritu Road**	**5.91**	**202**	P	**Pn**	**23 20 48.2**	**+0.3**
MUGZ	**Murupara**	**5.93**	**211**	P	**Pn**	**23 20 48.2**	**-0.1**
RRRZ	**Republican Roa**	**5.93**	**214**	P	**Pn**	**23 20 50.5**	**+2.2**
HLRZ	**Highlands Stat**	**5.94**	**215**	P	Pn	23 20 53.3	+4.9
RTZ	**Ruatahuna**	**5.96**	**209**	P	**Pn**	**23 20 48.8**	**+0.1**
SNGZ	**Shannon Statio**	**5.96**	**206**	P	**Pn**	**23 20 49.3**	**+0.6**
KNZ	**Kokohu**	**6.06**	**203**	P	**Pn**	**23 20 48.9**	**-1.1**
MHGZ	**Mahia Peninsul**	**6.11**	**201**	P	**Pn**	**23 20 49.3**	**-1.4**
OUZ	**Omahuta**	**6.12**	**251**	Pn	**Pn**	**23 20 51.2**	**+0.3**
RAHZ	**Arahi**	**6.17**	**207**	P	**Pn**	**23 20 53.1**	**+1.4**
MRHZ	**Matea Rd**	**6.38**	**212**	P	**Pn**	**23 20 54.9**	**+0.5**
NMHZ	**Naumai**	**6.44**	**208**	P	**Pn**	**23 20 56.5**	**+1.2**
WATZ	**Wairara**	**6.59**	**216**	P	**Pn**	**23 20 58.6**	**+1.2**
BKZ	**Black Stump Fm**	**6.62**	**209**	Pn	**Pn**	**23 20 56.6**	**-1.2**
BKZ	**Black Stump Fm**	**6.62**	**209**	P	**Pn**	**23 20 57.8**	**0.0**
RATZ	**Rangitukua**	**6.70**	**215**	P	**Pn**	**23 21 00.1**	**+1.2**
MCHZ	**McNeill Hill**	**6.78**	**207**	P	**Pn**	**23 21 00.2**	**+0.2**
KATZ	**Kakaramea**	**6.82**	**215**	P	**Pn**	**23 21 02.7**	**+2.0**
CKHZ	**Cape Kidnapper**	**6.83**	**204**	P	**Pn**	**23 20 58.6**	**-2.0**
KWHZ	**Kaweka Forest**	**6.87**	**209**	P	**Pn**	**23 21 00.7**	**-0.5**
HIZ	**Hauiti**	**6.91**	**221**	Pn	**Pn**	**23 21 02.1**	**+0.4**
HIZ	**Hauiti**	**6.91**	**221**	P	**Pn**	**23 21 04.9**	**+3.2**
TMVZ	**Te Maari**	**6.93**	**214**	P	**Pn**	**23 21 02.0**	**-0.1**
ETVZ	**East Tongariro**	**6.94**	**214**	P	**Pn**	**23 21 02.6**	**+0.3**
KRVZ	**Karewarewa**	**6.94**	**214**	P	**Pn**	**23 21 03.1**	**+0.8**
WTVZ	**West Tongariro**	**6.98**	**215**	P	**Pn**	**23 21 03.5**	**+0.7**
OTVZ	**Oturere**	**6.99**	**214**	P	**Pn**	**23 21 03.4**	**+0.5**
TWVZ	**Taurewa**	**7.02**	**216**	P	**Pn**	**23 21 04.4**	**+1.1**
NGZ	**Ngauruhoe**	**7.03**	**214**	P	**Pn**	**23 21 04.3**	**+0.8**
FWVZ	**Far West T-bar**	**7.11**	**214**	P	**Pn**	**23 21 05.8**	**+1.2**
WNVZ	**Wahianoa**	**7.15**	**214**	P	**Pn**	**23 21 05.3**	**+0.1**
PNHZ	**Pukenui**	**7.38**	**208**	P	**Pn**	**23 21 06.6**	**-1.6**
BFZ	**Birch Farm**	**8.03**	**205**	Pn	**Pn**	**23 21 14.4**	**-2.7**
MSWZ	**Moikau Station**	**9.04**	**207**	Pn	**Pn**	**23 21 27.1**	**-3.8**
SNZO	**South Karori**	**9.17**	**209**	Pn	Pn	23 21 27.1	-5.6
PLWZ	**Palliser**	**9.17**	**206**	Pn	**Pn**	**23 21 28.9**	**-3.9**
BHW	**Baring Head**	**9.18**	**209**	Pn	**Pn**	**23 21 28.5**	**-4.3**
TUWZ	**Tuamarina**	**9.59**	**212**		Pn	23 21 33.7	-4.7
NNZ	**Nelson**	**9.68**	**215**	Pn	**Pn**	**23 21 36.3**	**-3.4**
QRZ	**Quartz Range**	**9.82**	**219**	Pn	**Pn**	**23 21 38.1**	**-3.5**
BSWZ	**Blackbirch Sta**	**9.85**	**211**	Pn	**Pn**	**23 21 38.8**	**-3.2**
THZ	**Tophouse**	**10.33**	**214**	Pn	**Pn**	**23 21 44.4**	**-4.2**
KHZ	**Kahutara**	**10.57**	**210**	Pn	Pn	23 21 47.0	-4.9
LTZ	**Lake Taylor**	**11.42**	**213**	Pn	Pn	23 21 57.1	-6.5
OXZ	**Oxford**	**11.95**	**212**	Pn	Pn	23 22 05.4	-5.3
MQZ	**McQueen's Vall**	**12.00**	**209**	Pn	Pn	23 22 06.5	-4.9
RPZ	**Rata Peaks**	**12.70**	**213**	P	**Pn**	**23 22 21.2**	**+0.2**
	1.8nm,0.3s,baz=19,slow=8.6,SNR=2.5						
RPZ				S	Sn	23 24 29.5	-12
	2.5nm,0.3s,baz=147,slow=24,SNR=5.6						
RPZ	**Rata Peaks**	**12.70**	**213**		Pn	23 22 15.4	-5.6
FOZ	**Fox Glacier**	**13.16**	**217**	Pn	**Pn**	**23 22 24.3**	**-2.9**
LBZ	**Lake Benmore**	**13.62**	**214**	Pn	Pn	23 22 28.0	-5.5
ODZ	**Otahua Downs**	**13.93**	**211**	Pn	Pn	23 22 30.8	-7.0
WKZ	**Wanaka**	**14.50**	**215**	Pn	**Pn**	**23 22 42.9**	**-2.7**
MLZ	**Mavora Lakes**	**15.33**	**215**	Pn	**Pn**	**23 22 54.4**	**-2.2**
MLZ				IAmb	IAmb	23 23 07.0	
	comp=Z,35nm,1.5s						
WHZ	**Wether Hill Ro**	**15.80**	**214**	Pn	**Pn**	**23 23 00.3**	**-2.4**
WHZ				IAmb	IAmb	23 23 14.5	
	comp=Z,70nm,1.5s						
MSVF	**Nonsavu**	**15.84**	**351**		**Pn**	**23 23 05.0**	**+1.7**
DZM	**Mont Dzumac**	**16.93**	**308**	P	**Pn**	**23 23 15.1**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=97,slow=17,SNR=6.2						
DZM				LR	LR	23 28 43.9	
	comp=Z,200nm,18.3s,baz=243,slow=33						
DZM	**Mont Dzumac**	**16.93**	**308**	Pn	**Pn**	**23 23 16.8**	**-0.5**
LHI	**Lord Howe Isla**	**18.34**	**270**		**P**	**23 23 31.0**	**-3.3**
LHI				IAmb	IAmb	23 23 32.4	
	comp=Z,87nm,1.5s						
SANVU	**Saraoutou**	**21.69**	**323**	P	**P**	**23 24 11.2**	**+0.4**
SANVU				IAmb	IAmb	23 24 24.9	
	comp=Z,18nm,0.7s						
EIDS	**Eidsvold**	**26.95**	**280**	P	**P**	**23 24 59.6**	**-1.5**
HNR	**Honiara**	**30.60**	**317**	LR	LR	23 35 20.9	
	comp=Z,57nm,18.8s,baz=129,slow=31						
CTA	**Charters Tower**	**33.33**	**285**	P	**P**	**23 25 57.9**	**+0.1**
	comp=Z,4.4nm,0.6s,baz=116,slow=10,SNR=11						
CTAO	**Charters Tower**	**33.33**	**285**	P	**P**	**23 25 58.8**	**+1.0**
CTAO				IAmb	IAmb	23 26 03.1	
	comp=Z,22nm,1.4s						
BBOO	**Buckleboo**	**37.16**	**258**	P	**P**	**23 26 29.7**	**-0.9**
BBOO				IAmb	IAmb	23 26 32.1	
	comp=Z,23nm,1.4s						
COEN	**Coen**	**39.16**	**291**	P	**P**	**23 26 47.2**	**-0.3**
AS31	**Alice Springs**	**41.93**	**271**	P	**P**	**23 27 09.5**	**-1.0**
ASAR	**Alice Springs**	**41.93**	**271**	P	**P**	**23 27 10.9**	**+0.4**
	comp=Z,7.3nm,0.6s,baz=111,slow=7.4,SNR=83						
ASAR	**Alice Springs**	**41.93**	**271**	P	**P**	**23 27 10.5**	**0.0**
WR0	**Warramunga Arr**	**43.02**	**276**	P	**P**	**23 27 18.8**	**-0.5**
WR0				IAmb	IAmb	23 27 21.9	
	comp=Z,15nm,1.2s						
WC3	**Warramunga Arr**	**43.16**	**276**	P	**P**	**23 27 20.7**	**+0.2**
WB2	**Warramunga Arr**	**43.19**	**276**	P	**P**	**23 27 19.5**	**-1.1**
WRAB	**Tennant Creek**	**43.19**	**276**	P	**P**	**23 27 19.8**	**-0.9**
WRAB				IAmb	IAmb	23 27 22.5	
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**43.20**	**276**	P	**P**	**23 27 19.0**	**-1.8**
	comp=Z,8.1nm,0.5s,baz=116,slow=7.8,SNR=123						
WB0	**Warramunga Arr**	**43.23**	**276**	P	**P**	**23 27 19.8**	**-1.3**
WB0				IAmb	IAmb	23 27 23.2	
	comp=Z,26nm,1.2s						
FORT	**Forrest**	**44.26**	**259**	P	**P**	**23 27 27.4**	**-1.8**
FORT				IAmb	IAmb	23 27 27.5	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.31**	**273**	P	**P**	**23 28 24.3**	**+0.4**
CASY	**Casey**	**51.92**	**209**	P	**P**	**23 28 27.1**	**-0.7**
QSPA	**South Pole Qui**	**56.66**	**180**	P	**P**	**23 29 06.0**	**+3.5**
H03S2	**Juan Fernandez**	**79.71**	**124**	T	T	00 59 24.2	
	baz=235,slow=74,SNR=63						
H03S1	**Juan Fernandez**	**79.72**	**124**	T	T	00 59 25.4	
	baz=235,slow=74,SNR=57						
H03S3	**Juan Fernandez**	**79.73**	**124**	T	T	00 59 24.3	
	baz=235,slow=74,SNR=64						
H03N3	**Juan Fernandez**	**79.92**	**123**	T	T	00 59 39.8	
	baz=240,slow=72,SNR=380						
H03N2	**Juan Fernandez**	**79.92**	**123**	T	T	00 59 38.5	
	baz=240,slow=72,SNR=178						
H03N1	**Juan Fernandez**	**79.94**	**123**	T	T	00 59 39.0	
	baz=240,slow=72,SNR=358						
JNU	**Nakatsue**	**81.12**	**320**	LR	LR	00 00 34.8	
	comp=Z,63nm,20.2s,baz=10,slow=30						
PLCA	**Paso Flores**	**81.24**	**133**	P	**P**	**23 31 38.8**	**+3.3**
	comp=Z,1.5nm,0.7s,baz=232,slow=5.3,SNR=4.0						
PLCA	**Paso Flores**	**81.24**	**133**	P	**P**	**23 31 36.8**	**+1.3**
PLCA				IAmb	IAmb	23 31 54.5	
	comp=Z,9.2nm,1.4s						
NJ2	**Nanjing**	**87.40**	**311**	*e*P	**P**	**23 32 07.9**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PETK	**Petropavlovsk-**	**88.50**	**346**	P	**P**	**23 32 11.5**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=141,slow=9.3,SNR=3.6						
NVAR	**Mina Array Bea**	**91.23**	**43**	P	**P**	**23 32 26.6**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=221,slow=6.8,SNR=3.6						
CMAR	**Chiang Mai Arr**	**93.36**	**290**	LR	LR	00 16 49.7	
	comp=Z,24nm,19.5s,baz=135,slow=37						
HHC	**Hu-ho-hao-te**	**97.55**	**314**	*e*P	Pdif	23 32 54.7	+1.2
HHC				pmax	pmax		
	comp=Z,3.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,100nm,5.6s						
LZH	**Lanzhou**	**99.65**	**307**	*e*P	**Pdif**	**23 33 04.5**	**+1.5**
LZH				pP	pwP	23 33 16.0	-0.5
LZH				sP	sP	23 33 20.1	+3.0
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,65nm,5.5s						
YKA	**Yellowknife Ar**	**108.67**	**26**	PKiKP	**PKiKP**	**23 37 47.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=250,slow=0.8,SNR=7.9						
YKA				PKKPbc	**PKKPbc**	**23 48 56.1**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=47,slow=3.5,SNR=8.6						
WMQ	**Urumqi**	**114.21**	**308**	*e*PKP	PKPdf	23 37 56.8	-1.7
WMQ				AMB	AMB		
	comp=Z,180nm,4.7s						
MKAR	**Makanchi Array**	**118.85**	**309**	PKP	**PKPdf**	**23 38 05.8**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=204,slow=2.4,SNR=4.4						
KURK	**Kurchatov**	**122.32**	**313**		**PKPdf**	**23 38 12.7**	**-1.0**
KURBB	**Kurchatov Arra**	**122.35**	**313**	PKP	**PKPdf**	**23 38 12.7**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=117,slow=1.7,SNR=12						
AAK	**Ala-Archa**	**122.84**	**302**	PKP	**PKiKP**	**23 38 16.6**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=214,slow=10,SNR=2.9						
BVAR	**Borovoye Array**	**127.77**	**314**	PKP	**PKPdf**	**23 38 23.7**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=233,slow=21,SNR=2.4						
ARU	**Arti**	**134.68**	**319**	PKP	**PKPdf**	**23 38 37.6**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.3nm,0.3s,baz=118,slow=21,SNR=2.3						
AKTO	Aktyubinsk	135.27	310	PKP	PKPdf	23 38 38.7	+0.3
	comp=Z,0.7nm,0.5s,baz=34,slow=12,SNR=2.4						
ARCES	ARCESS Array B	141.31	346	PKP	PKPdf	23 38 49.1	+0.2
	comp=Z,1.6nm,0.7s,baz=25,slow=2.4,SNR=1.1						
KBZ	Khabaz	145.77	300	PKPbc	PKPdf	23 38 56.8	-0.7
	comp=Z,2.7nm,0.9s,baz=132,slow=3.1,SNR=6.5						
FINES	FINESS Array B	147.58	337	PKPbc	PKPbc	23 39 02.3	-0.4
	comp=Z,3.4nm,0.6s,baz=34,slow=3.0,SNR=15						
MMAI	Mount Meron Ar	151.03	279	PKPbc	PKPbc	23 39 11.8	-0.5
	comp=Z,2.3nm,0.6s,baz=76,slow=7.0,SNR=11						
NB2	NORSAR Subarra	151.57	349	PKP	PKPbc	23 39 11.8	-0.9
	comp=Z,1.1nm,0.6s,baz=19,slow=2.5						
NOA	NORSAR Array B	151.57	349	PKPbc	PKPbc	23 39 12.7	0.0
	comp=Z,1.4nm,0.7s,baz=17,slow=4.1,SNR=5.5						
LIC	Lamto	152.39	168	ePKIKP	PKiKP	23 39 17.2	+1.0
	comp=Z,19nm,0.5s						
KIC	Kosan Boka	152.57	168	ePKIKP	PKiKP	23 39 17.7	+1.1
	comp=Z,15nm,0.7s						
TIC	Toumodi	152.80	168	ePKIKP	PKPbc	23 39 17.2	+0.3
DBIC	Dimbokro	152.85	168	PKPbc	PKiKP	23 39 18.1	+1.0
	comp=Z,4.6nm,0.7s,baz=152,slow=3.7,SNR=7.3						
BRTR	Keskin Array B	152.91	293	PKPbc	PKPbc	23 39 14.9	-1.6
	comp=Z,0.8nm,0.6s,baz=151,slow=3.8,SNR=8.5						
AKASG	Malin Array Be	152.94	318	PKPbc	PKPbc	23 39 15.1	-0.9
	comp=Z,0.3nm,0.4s,baz=147,slow=17,SNR=4.7						
TORD	Torodi Ar. Bea	159.76	183	PKP	PKPdf	23 39 18.7	0.0
	comp=Z,1.2nm,1.0s,baz=261,slow=1.8,SNR=4.0						
TORD				PKPab	PKPab	23 39 58.5	+1.1
	comp=Z,2.8nm,1.0s,baz=165,slow=4.4,SNR=6.8						

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*KISR **01** 23:26:18.7±0.3, 31.°53N×51.°13E, h158km±66km, ML4.6, Hypocentre not reviewed by the ISC*
*IDC **01** 23:26:31.5±1.3, 30.°91N×50.°05E, h0km, mb3.7/19, mb1 3.8/24, mb1mx3.7/60, mbtmp3.7/24, ML3.6/4, Error ellipse: s-maj=25.8km s-min=15.0km az=174.0*
*THR **01** 23:26:33.9±0.4, 30.°90N×50.°15E, h14km±4km, ML3.9*
*TEH **01** 23:26:34.7, 30.°96N×50.°13E, h19km, ML3.8*
*NEIC **01** 23:26:36.0±1.8, 30.°81N±0.°08×50.°13E±0.°08, h42km±12km, Error ellipse: s-maj=12.2km s-min=9.0km az=201.0*
*OMAN **01** 23:26:40.7, 30.°69N×50.°38E, h66km, mb5.0/13*
ISC 01 23:26:35.1±0.5**, 30.°84N**±0.°04×**50.°13E**±0.°04**, h30km, n143, σ1.s75**/161**, mb3.7**/22**, 8C, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABEH	Behbahan	0.26	156	ePg	Pn	23 26 43.2	+0.3
KLNJ	Kolanjah	1.27	82	ePg	Pn	23 26 57.8	+0.7
KLNJ				e		23 27 22.3	
	comp=Z,99nm,0.5s						
AHWZ	Ahwaz	1.37	291	ePg	Pb	23 27 00.2	+0.2
AHWZ				e		23 27 23.1	
	comp=Z,99nm,0.3s						
IBRJ	Brojen	1.44	42	ePg	Pn	23 27 00.4	+1.0
SHK1	Shahrekord	1.62	23	e		23 27 03.9	
	comp=Z,99nm,0.4s						
SHK1				ePg	Pn	23 27 02.6	+0.8
SHGR	Shooshtar-Gavs	1.70	318	ePn	Pb	23 27 04.4	-1.3
SHGR				eSg	Sb	23 27 26.6	-0.1
SHGR				IAML		23 27 30.8	
	comp=N,2μm,0.5s						
SHGR				IAML		23 27 33.3	
	comp=E,984nm,0.5s						
SHGR	Shooshtar-Gavs	1.70	318	ePn	Pb	23 27 04.4	-1.3
KAZ1	Kazerun	1.78	132	ePn	Pb	23 27 07.8	+0.7
IPIR	Pirpir	1.95	19	e		23 27 36.8	
	comp=Z,99nm,0.5s						
IPIR				ePn	Pn	23 27 07.7	+1.2
IRAM	Ramesheh	2.15	63	ePn	Pb	23 27 11.8	-1.8
IRAM				e		23 27 47.4	
	comp=Z,99nm,0.8s						
AHBU	AHRAM	2.21	153	ePn	Pb	23 27 12.8	-1.6
IGAR	Gharneh	2.26	46	ePn	Pn	23 27 12.5	+1.9
IGAR				e		23 27 14.8	
	comp=Z,99nm,0.1s						
UMR	Umm Al-Rimmam	2.45	239	eP		23 27 16.4	
MIB	Mutribah	2.63	248	eP		23 27 18.4	
MIB				eS		23 28 03.0	
MIB				IAML		23 28 05.2	
	comp=Z,755nm,0.5s						
IKLH	Kolahrood	2.76	26	ePn	Pn	23 27 19.0	+1.4
IKLH				e		23 27 25.4	
	comp=Z,99nm,0.2s						
IZEF	Zefreh	2.77	42	ePn	Pn	23 27 19.5	+1.7
KHMZ	Khomeyn	2.90	357	ePn	Pn	23 27 21.0	+1.6
KHMZ	Khomeyn	2.90	357	ePn	Pn	23 27 21.0	+1.6
RDF	Al-Radifah	2.94	230	eP		23 27 23.0	
DHL1	Dehloran	3.04	308	ePn	Pn	23 27 22.4	+1.2
IKMR	Kamar-syah	3.06	331	ePn	Pn	23 27 21.9	+0.5
QAM	Ghamsar	3.12	20	ePn	Pn	23 27 24.2	+1.8
ISAD	Sadrabad	3.22	70	ePn	Pn	23 27 26.6	+2.7
ISAD				e		23 27 27.7	
	comp=Z,99nm,0.3s						
IKFM	Kafar-mosalman	3.31	325	ePn	Pn	23 27 25.7	+0.9
IDOB	Doab	3.37	331	ePn	Pn	23 27 25.9	0.0
QIR1	Qir	3.46	132	ePn	Pn	23 27 30.7	+3.7
KRSH	Karshahi	3.55	28	ePn	Pn	23 27 30.8	+2.4
HSAM	Samen	3.60	339	ePn	Pn	23 27 29.6	+0.5
HSAM				e		23 28 22.5	
	comp=Z,99nm,0.7s						
ASAO	Ashtian	3.70	359	ePn	Pn	23 27 32.2	+1.8
ASAO	Ashtian	3.70	359	ePn	Pn	23 27 32.3	+1.8
ANAR	Anarak	3.85	52	ePn	Pn	23 27 34.4	+2.0
IMEH	Mehriz	3.88	81	ePn	Pn	23 27 35.7	+2.7
IMEH				e		23 27 41.7	
	comp=Z,99nm,0.3s						
ICHK	Chekchek	3.91	68	ePn	Pn	23 27 35.8	+2.5
ICHK				e		23 28 23.6	
	comp=Z,99nm,0.7s						
HAGD	Aghdareh	4.06	348	ePn	Pn	23 27 36.0	+0.6
HAGD				e		23 28 26.2	
	comp=Z,99nm,0.3s						
IQOM	Qom	4.07	11	ePn	Pn	23 27 36.6	+1.0
IBZA	Bozab	4.10	333	ePn	Pn	23 27 36.1	+0.2
YZKH	Yazd	4.11	67	ePn	Pn	23 27 37.9	+2.0
YZKH	Yazd	4.11	67	ePn	Pn	23 27 37.9	+2.0
KCHF	Cheshme Sefid,	4.31	324	ePn	Pn	23 27 40.7	+1.9
IALM	Almabolaq	4.34	338	ePn	Pn	23 27 39.5	+0.2
KER	Kermanshah	4.35	325	ePn	Pn	23 27 40.2	+0.9
IVRN	Varamin	4.36	18	ePn	Pn	23 27 40.3	+1.0
IRAZ	Razeghan	4.56	358	ePn	Pn	23 27 43.0	+0.8
IGHG	Ghaleghazi	4.60	320	ePn	Pn	23 27 43.3	+0.5
IHSB	Hasanabad	4.69	12	ePn	Pn	23 27 44.9	+1.0
SNGE	Sanandaj	4.84	332	IAML		23 28 39.5	
	comp=N,65nm,0.3s						
ILIN	Lien	4.86	328	ePn	Pn	23 27 46.8	+0.3
ILIN				e		23 28 43.6	
	comp=Z,99nm,0.4s						
QABG	Abgarm-Qazvin	4.88	355	ePn	Pn	23 27 45.7	-0.9
IDHR	Dehrash	4.98	322	ePn	Pn	23 27 48.2	+0.2
ILAS	Lasjerd	5.12	27	ePn	Pn	23 27 51.3	+1.4
IFIR	Firoozkooh	5.27	24	ePn	Pn	23 27 53.2	+1.1
KHGB	Koh Gabri	5.49	93	ePn	Pn	23 27 57.3	+2.3
IGZV	Ghazvin	5.53	1	ePn	Pn	23 27 56.5	+0.9
QALM	Alamut, Qazvin	5.60	4	ePn	Pn	23 27 56.4	-0.1
IANJ	Anjilo	5.60	33	ePn	Pn	23 27 58.4	+1.8
IPRN	Peran	5.70	18	ePn	Pn	23 27 59.6	+1.8
NGRK	Negar Kerman	5.83	100	ePn	Pn	23 28 03.3	+3.4
TPRV	Parvadeh(Tabas	5.98	67	ePn	Pn	23 28 03.8	+2.1
GENO	Geno	6.30	121	ePn	Pn	23 28 08.3	+2.2
TNSJ	Nastanj	6.30	59	ePn	Pn	23 28 07.7	+1.6
IGLO	Ghaloghah	6.43	28	ePn	Pn	23 28 09.4	+1.4
TKDS	Koohdasht(Taba	6.54	63	ePn	Pn	23 28 10.9	+1.6
SLWR	Sila	6.88	168	P	Pn	23 28 17.1	+3.2
SLWR				S	Sn	23 29 33.9	+2.6
SHME	Shamm	7.12	131	P	Pn	23 28 19.4	+2.1
SHME				S	Sn	23 29 37.8	+0.6
ISRB	Sarab	7.26	344	ePn	Pn	23 28 19.0	-0.3
BANOM	Banah	7.31	131	P	Pn	23 28 21.5	+1.6
	SNR=20						
BANOM				S	Sn	23 29 41.0	-0.9
AJN	Ajban	7.59	144	P	Pn	23 28 27.3	+3.6
NAZ	Nazwa, Dubai	7.61	139	P	Pn	23 28 28.3	+4.4
NAZ				S	Sn	23 29 50.6	+1.4
MASF	Masafi	7.61	134	P	Pn	23 28 25.8	+1.7
MASF				S	Sn	23 29 48.6	-0.8
ASUD	Al Ashush, Dub	7.71	142	P	Pn	23 28 28.4	+3.1
	SNR=19						
ASUD				S	Sn	23 29 54.0	+2.3
MDH	Madha	7.75	134	P	Pn	23 28 27.3	+1.4
MDH				S	Sn	23 29 50.6	-2.2
IHRS	Heris	7.88	342	ePn	Pn	23 28 28.3	+0.4
UOSS	Minazif	7.96	136	Pn	Pn	23 28 30.3	+1.6
UOSS				Sn	Sn	23 29 55.6	-2.2
UOSS	Minazif	7.96	136	P	Pn	23 28 30.5	+1.7
UOSS				S	Sn	23 29 55.9	-1.9
HATD	Hatta, Dubai	8.00	137	P	Pn	23 28 31.2	+1.8
HATD				S	Sn	23 29 58.3	-0.7
ASHO	Ashiyiah	8.07	138	P	Pn	23 28 31.9	+1.6
	SNR=10						
ASHO				S	Sn	23 30 01.1	+0.5
SBZV	Sabzevar	8.34	46	ePn	Pn	23 28 36.1	+2.0
RAYN	Ar Rayn	8.37	211		Pn	23 28 35.3	+0.8
ALNE	Al Ain	8.40	142	P	Pn	23 28 36.8	+2.0
ALNE				S	Sn	23 30 08.3	-0.3
SOHO	SOHO	8.77	138	P	Pn	23 28 40.9	+1.1
SOHO				S	Sn	23 30 16.8	-0.8
ARQ	Araqi	9.39	141	P	Pn	23 28 49.9	+1.4
ARQ				S	Sn	23 30 32.1	-1.0
HOQ	Hoqain	9.64	137	P	Pn	23 28 52.9	+1.1
HOQ				S	Sn	23 30 37.9	-1.4
GEYT	Alibeck	9.67	41	Pn	Pn	23 28 54.0	+1.7
	comp=Z,1.1nm,0.3s,baz=228,slow=15,SNR=11						
GEYT	Alibeck	9.67	41		Pn	23 28 51.7	-0.5
GYA0B	ALIBECK ARRAY	9.67	41		Pn	23 28 51.5	-0.7
BSY	Bisya	10.24	140	P	Pn	23 29 01.2	+1.2
BSY				S	Sn	23 30 50.7	-3.1
GNI	Garni	10.27	336	Pn	Pn	23 29 02.9	+2.3
WSAR	Wadi Sarin	10.71	133	Pn	Pn	23 29 07.1	+0.6
	comp=Z,0.7nm,0.3s,baz=358,slow=10,SNR=12						
WSAR				Sn	Sn	23 30 59.3	-6.0
	comp=Z,0.3nm,0.3s,baz=163,slow=18,SNR=2.0						
HRA	Herat	10.81	68	Pn	Pn	23 29 10.2	+2.2
JMDO	Jabal Madar	11.04	138	P	Pn	23 29 14.1	+3.1
	SNR=9.7						
MHTO	MHTO	12.08	142	P	Pn	23 29 26.1	+0.9
	SNR=5.8						
MHTO				S	Sn	23 31 34.6	-4.3
DOK	Doka	12.70	162	P	Pn	23 29 35.2	+1.5
	SNR=12						
MMAI	Mount Meron Ar	12.70	284	Pn	Pn	23 29 30.9	-2.8
	comp=Z,0.3nm,0.3s,baz=99,slow=17,SNR=1.9						
DQM	DQM	12.75	147	P	Pn	23 29 34.9	+0.4
DQM				S	Sn	23 31 49.8	-5.7
WHFO	Wadi Hawf	13.28	165	P	Pn	23 29 42.1	+0.5
	SNR=22						
SHAO	Shalim	13.70	157	P	Pn	23 29 47.1	-0.3
	SNR=18						
DMTO	DMTO	13.78	160	P	Pn	23 29 48.6	+0.2
	SNR=22						
KBZ	Khabaz	14.09	338	Pn	Pn	23 29 55.3	+2.8
	comp=Z,0.0nm,0.3s,baz=281,slow=0.4,SNR=2.4						
BR131	Keskin Array S	16.11	308	Pn	Pn	23 30 19.4	0.0
BR131				IAmb	IAmb	23 30 57.7	
	comp=Z,20nm,1.9s						
BRTR	Keskin Array B	16.11	308	Pn	P	23 30 21.6	-0.9
	comp=Z,0.1nm,0.3s,baz=132,slow=12,SNR=6.6						
BRTR	Keskin Array B	16.11	308		Pn	23 30 19.1	-0.3
KBL	Kabul	16.34	72	Pn	Pn	23 30 21.8	-0.8
MDUB	Mudurnu	18.11	307	Pn	Pn	23 30 42.7	-1.7
MDUB				IAmb	IAmb	23 31 10.6	
	comp=Z,23nm,0.8s						
NIL	Nilore	19.75	76	P	P	23 31 02.3	-0.2
NIL				IAmb	IAmb	23 31 53.7	
	comp=Z,6.6nm,1.3s						
ABKAR	Akbulak array	19.84	19	P	P	23 31 02.8	-0.6
ABKAR	Akbulak array	19.84	19	P	P	23 31 03.3	0.0
KK31	Karatay Array	20.31	47	P	P	23 31 08.3	-0.3
KK31				IAmb	IAmb	23 31 12.0	
	comp=Z,5.3nm,1.2s						
KKAR	Karatay Array	20.31	47	P	P	23 31 08.3	-0.3
KKAR	Karatay Array	20.31	47	P	P	23 31 08.4	-0.2
KKAR				IAmb	IAmb	23 31 12.0	
	comp=Z,5.3nm,1.2s						
AKTO	Aktyubinsk	20.45	15	P	P	23 31 10.3	+0.3
	comp=Z,1.7nm,0.5s,baz=187,slow=11,SNR=6.9						
IDI	Anoyia	21.59	289	P	P	23 31 23.1	+0.6
	comp=Z,2.2nm,0.3s,baz=160,slow=6.4,SNR=6.2						
BELG	Belogornoye	21.62	356	P	P	23 31 21.0	-1.5
	comp=Z,6.5nm,0.7s,baz=311,slow=2.0,SNR=4.2						
CFR	Carcaliu	22.38	316	⇑P	P	23 31 30.6	-0.2
AAK	Ala-Archa	22.72	52	P	P	23 31 36.0	+1.4
	comp=Z,0.7nm,0.5s,baz=142,slow=3.4,SNR=4.1						
MLR	Muntele Rosu	23.87	315	P	P	23 31 47.5	+1.5
	comp=Z,0.7nm,0.7s,baz=219,slow=17,SNR=2.0						
MLR	Muntele Rosu	23.87	315	⇑P	P	23 31 52.9	+6.9
VOIR		24.40	314	⇑P	P	23 31 52.4	+1.6
BIZ	Bicaz	24.52	318	⇑P	P	23 31 52.2	+0.4
ARR	Arges	24.62	313	⇑P	P	23 31 53.6	+0.8
AKASG	Malin Array Be	25.23	328	P	P	23 31 56.9	-1.2
	comp=Z,0.6nm,0.3s,baz=135,slow=9.2,SNR=6.7						
AKBB	Malin Array Si	25.23	328	P	P	23 31 58.8	+0.6
BURAR	Bucovina Array	25.39	318	⇑P	P	23 32 01.3	+1.5
BURAR	Bucovina Array	25.39	318	P	P	23 31 59.4	-0.4
BUR08	Bucovina Ar. S	25.42	318	P	P	23 31 59.9	-0.2
BUR08				IAmb	IAmb	23 32 41.3	
	comp=Z,21nm,2.0s						
GZR	Gura Zlata	25.81	312	⇑P	P	23 32 03.7	+0.1
OBN	Obninsk	26.12	342	P	P	23 32 05.7	-0.5
ARU	Arti	26.26	11	P	P	23 32 07.8	+0.4
	comp=Z,0.2nm,0.3s,baz=120,slow=22,SNR=1.5						
DRGR		26.47	315	⇑P	P	23 32 10.8	+1.2
BVAR	Borovoye Array	26.63	28	P	P	23 32 10.9	+0.1
	comp=Z,0.6nm,0.4s,baz=199,slow=17,SNR=7.3						
KURBB	Kurchatov Arra	28.94	39	P	P	23 32 32.4	+0.9
	comp=Z,0.5nm,0.6s,baz=241,slow=9.5,SNR=7.0						
KURK	Kurchatov	29.03	39	P	P	23 32 32.4	+0.1
KURK	Kurchatov	29.03	39	IAmb	IAmb	23 32 35.4	
	comp=Z,8.0nm,1.6s						
MK31	Makanchi Array	29.43	48	P	P	23 32 36.3	+0.3
MK31				IAmb	IAmb	23 33 05.0	
	comp=Z,2.7nm,1.4s						
MKAR	Makanchi Array	29.43	48	P	P	23 32 37.2	+1.2
	comp=Z,0.5nm,0.4s,baz=247,slow=8.3,SNR=20						
MKAR	Makanchi Array	29.43	48	P	P	23 32 36.0	0.0
SGRT	San Giovanni R	29.60	301	P	P	23 32 36.5	-1.1
ZAA0	Zalesovo Array	33.95	37	P	P	23 33 15.6	+0.1
ZAA0				IAmb	IAmb	23 33 17.2	
	comp=Z,1.6nm,0.6s						
ZALV	Zalesovo Beam	33.95	37	P	P	23 33 15.9	+0.3
	comp=Z,1.6nm,0.5s,baz=257,slow=8.8,SNR=9.6						
FINES	FINESS Array B	34.44	340	P	P	23 33 18.5	-1.2
	comp=Z,1.7nm,0.6s,baz=163,slow=5.8,SNR=12						
DAVOX	Davos/Dischmat	34.75	309	P	P	23 33 22.8	0.0
	comp=Z,1.7nm,0.8s,baz=165,slow=21,SNR=1.2						
NOA	NORSAR Array B	39.53	331	P	P	23 34 04.4	+1.4
	comp=Z,0.5nm,0.6s,baz=193,slow=16,SNR=1.8						
ARCES	ARCESS Array B	41.19	347	P	P	23 34 16.8	+0.2
	comp=Z,2.0nm,0.8s,baz=158,slow=9.7,SNR=1.7						
SONM	Songino Array	45.67	52	P	P	23 34 53.9	+0.7
	comp=Z,0.4nm,0.4s,baz=258,slow=7.5,SNR=2.4						
TORD	Torodi Ar. Bea	47.84	259	P	P	23 35 10.9	+0.5
	comp=Z,0.7nm,0.5s,baz=55,slow=8.2,SNR=5.8						
ILAR	Eielson Array	83.78	7	P	P	23 39 01.6	+0.5
	comp=Z,0.2nm,0.7s,baz=326,slow=5.8,SNR=1.7						
YKA	Yellowknife Ar	86.19	353	P	P	23 39 12.8	-0.4
	comp=Z,0.2nm,0.8s,baz=23,slow=3.4,SNR=2.6						

IDC 01 23:37:46.5±2.0**, 30.°27N**×**140.°49E, h0km, mb3.5**/4**, mb1 3.7**/6**, mb1mx3.4**/50**, mbtmp3.6**/6**, ML4.2**/1**, Error ellipse: s-maj=81.4km s-min=22.3km az=78.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.54	344	Pn	Pn	23 39 23.2	-0.8
	0.1nm,0.3s,baz=164,slow=15,SNR=1.9						
ASAJ	Asahikawa	13.92	6	Pn	Pn	23 41 05.3	+0.3
	1.7nm,0.3s,baz=222,slow=14,SNR=2.3						
MKAR	Makanchi Array	47.34	307	P	P	23 46 23.1	+1.0
	0.2nm,0.6s,baz=98,slow=7.7,SNR=2.6						
KURBB	Kurchatov Arra	49.78	313	P	P	23 46 39.8	-0.9
	0.7nm,0.9s,baz=87,slow=7.6,SNR=3.9						
WRA	Warramunga Arr	50.27	188	P	P	23 46 45.2	+0.4
	0.4nm,0.4s,baz=5.0,slow=7.5,SNR=13						
ASAR	Alice Springs	54.00	187	P	P	23 47 11.5	-1.0
	0.3nm,0.4s,baz=8.2,slow=7.5,SNR=4.4						

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*KRSC **01** 23:47:15.9±2.0, 48.°01N×156.°17E, h28km±41km, ML5.3*
*SKHL **01** 23:47:17.2±0.8, 48.°10N×154.°80E, h70km±3km, mb5.4/13*
*MOS **01** 23:47:18.0±0.9, 48.°34N×154.°40E, h66km, mb4.5/15, Error ellipse: s-maj=8.3km s-min=3.6km az=74.3*
*NEIC **01** 23:47:19.0±1.3, 48.°3N±0.°1×154.°2E±0.°1, h59km±7km, mb4.5/52, Error ellipse: s-maj=17.9km s-min=10.8km az=142.0*
*IDC **01** 23:47:22.0±2.2, 48.°36N×154.°21E, h85km±19km, mb3.7/28, mb1 3.9/34, mb1mx3.8/54, mbtmp4.2/34, MS3.3/7, Ms1 3.4/7, ms1mx3.0/44, Error ellipse: s-maj=16.0km s-min=11.0km az=145.0*
ISC 01 23:47:16.2±0.5**, 48.°15N**±0.°06×**154.°64E**±0.°06**, h42km, n340, σ1.s92**/365**, mb4.5**/89**, MS3.9**/4**, 47C-7D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.71	20	⇓iPN	Pn	23 47 59.3	+2.0
SKR				eS	Sn	23 48 30.4	+1.6
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				smax	smax		
	comp=N,1μm,0.6s						
SKR				smax	smax		
	comp=E,1μm,0.3s						
SKR	Severo-Kuril's	2.71	20	eP	Pn	23 47 59.1	+1.9
SKR				eS	Sn	23 48 30.3	+1.5
SKR	Severo-Kuril's	2.71	20	i P	Pn	23 47 59.2	+2.0
SKR				AMB	AMB	23 48 02.0	
	comp=E,1μm,0.5s						
SKR				eS	Sn	23 48 30.1	+1.3
SKR				A	A	23 48 33.0	
	comp=E,1μm,0.5s						
SKR				A	A	23 48 33.0	
	comp=E,2μm,0.5s						
ALID	Alaid	2.79	12	PN	Pn	23 48 00.6	+2.2
ALID	Alaid	2.79	12	eP	Pn	23 48 00.6	+2.2
PAU	Pauzhetka	3.61	22	PN	Pn	23 48 11.7	+2.2
PAU				S	Sn	23 48 52.5	+1.7
PAU	Pauzhetka	3.61	22	eP	Pn	23 48 11.7	+2.2
PAU				eS	Sn	23 48 52.5	+1.7
PAU	Pauzhetka	3.61	22	eP	Pn	23 48 11.4	+1.9
PAU				AMB	AMB	23 48 15.4	
	comp=E,700nm,0.5s						
PAU				eS	Sn	23 48 52.6	+1.7
PAU				A	A	23 48 58.5	
	comp=E,300nm,0.4s						
PAU				A	A	23 48 58.5	
	comp=E,2μm,0.4s						
KDTR	Khodutka, Kamc	4.28	30	PN	Pn	23 48 19.7	+0.9
KDTR				S	Sn	23 49 06.3	-1.1
KDTR	Khodutka, Kamc	4.28	30	eP	Pn	23 48 19.7	+0.9
KDTR				eS	Sn	23 49 06.3	-1.1
MIPR	Malaya Ipel'ka	4.35	17	PN	Pn	23 48 22.3	+2.6
MIPR	Malaya Ipel'ka	4.35	17	eP	Pn	23 48 22.3	+2.6
ASAK	Asacha	4.73	25	PN	Pn	23 48 27.1	+2.1
ASAK	Asacha	4.73	25	eP	Pn	23 48 27.1	+2.1
MTVR	Mutnovka	4.90	26	PN	Pn	23 48 29.1	+1.8
MTVR				S	Sn	23 49 23.5	+0.7
MTVR	Mutnovka	4.90	26	eP	Pn	23 48 29.1	+1.8
MTVR				eS	Sn	23 49 23.5	+0.7
GRL	Gorelyy	4.93	25	PN	Pn	23 48 30.2	+2.5
GRL				S	Sn	23 49 25.2	+1.8
GRL	Gorelyy	4.93	25	eP	Pn	23 48 30.2	+2.5
GRL				eS	Sn	23 49 25.2	+1.8
RUS	Russkaya	4.96	29	PN	Pn	23 48 28.7	+0.7
RUS				S	Sn	23 49 22.3	-1.7
RUS	Russkaya	4.96	29	eP	Pn	23 48 28.7	+0.7
RUS				eS	Sn	23 49 22.3	-1.7
RUS	Russkaya	4.96	29	eP	Pn	23 48 28.7	+0.7
APC	Apacha	5.04	18	PN	Pn	23 48 31.8	+2.6
APC	Apacha	5.04	18	eP	Pn	23 48 31.8	+2.6
KRMR	Karymshinskiy	5.19	24	PN	Pn	23 48 34.8	+3.6
KRMR	Karymshinskiy	5.19	24	eP	Pn	23 48 34.8	+3.6
PEA0B	Petropavlovsk-	5.33	20	c ePN	Pn	23 48 36.1	+2.9
PEA0B	Petropavlovsk-	5.33	20		Pn	23 48 35.8	+2.5
PETK	Petropavlovsk-	5.33	20	P	Pn	23 48 36.1	+2.9
	comp=E,31nm,0.3s,baz=185,slow=11,SNR=655						
PETK				S	Sn	23 49 43.1	+10
	baz=141,slow=20,SNR=0.8						
PETK				LR	LR	23 50 49.2	
	comp=E,221nm,18.2s,baz=240,slow=40						
PETK	Petropavlovsk-	5.33	20		Pn	23 48 35.8	+2.6
KUR	Kuril'sk	5.50	240	d iPN	Pn	23 48 39.6	+4.1
KUR				eS	Sn	23 49 42.3	+4.9
KUR				pmax	pmax		
	comp=Z,345nm,0.3s						
KUR				pmax	pmax		
	comp=N,100nm,0.2s						
KUR				pmax	pmax		
	comp=E,70nm,0.5s						
KUR				smax	smax		
	comp=N,239nm,0.6s						
KUR				smax	smax		
	comp=E,366nm,0.6s						
KUR	Kuril'sk	5.50	240	eP	Pn	23 48 38.5	+3.0
KUR				AMB	AMB	23 48 46.0	
	comp=E,210nm,0.5s						
KUR				i S	Sn	23 49 38.5	+1.1
KUR				A	A	23 49 51.0	
	comp=E,610nm,0.5s						
KUR				A	A	23 49 51.0	
	comp=E,290nm,0.5s						
PET	Petropavlovsk	5.51	26	ePN	Pn	23 48 37.1	+1.5
PET				eS	Sn	23 49 38.5	+0.9
PET				pmax	pmax		
	comp=Z,244nm,0.6s						
PET				smax	smax		
	comp=N,481nm,0.6s						
PET				smax	smax		
	comp=E,504nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,10.0s						
PET	Petropavlovsk	5.51	26	eP	Pn	23 48 37.2	+1.6
PET				eS	Sn	23 49 38.5	+0.9
PET	Petropavlovsk	5.51	26		Pn	23 48 37.0	+1.4
PET	Petropavlovsk	5.51	26	eP	Pn	23 48 37.1	+1.5
PET				AMB	AMB	23 48 43.6	
	comp=Z,660nm,0.5s						
PET				eS	Sn	23 49 38.0	+0.4
DALK	Dalny	5.55	27	PN	Pn	23 48 37.8	+1.7
DALK				S	Sn	23 49 37.7	-0.8
DALK	Dalny	5.55	27	eP	Pn	23 48 37.8	+1.7
DALK				eS	Sn	23 49 37.7	-0.8
UGLR	Uglovaya	5.72	26	PN	Pn	23 48 40.9	+2.3
UGLR	Uglovaya	5.72	26	eP	Pn	23 48 40.9	+2.3
KOK	Koryaka	5.74	25	PN	Pn	23 48 41.7	+2.8
KOK	Koryaka	5.74	25	eP	Pn	23 48 41.7	+2.8
KOK	Koryaka	5.74	25	eP	Pn	23 48 41.7	+2.8
AVH	Avacha	5.75	25	PN	Pn	23 48 41.6	+2.7
AVH	Avacha	5.75	25	eP	Pn	23 48 41.6	+2.7
SMAR	Somma	5.76	26	PN	Pn	23 48 41.5	+2.2
SMAR	Somma	5.76	26	eP	Pn	23 48 41.5	+2.2
KRER	Koryakskii	5.78	25	PN	Pn	23 48 41.9	+2.3
KRER				S	Sn	23 49 46.7	+2.1
KRER	Koryakskii	5.78	25	eP	Pn	23 48 41.9	+2.3
KRER				eS	Sn	23 49 46.7	+2.1
SDLR	Sedlovina	5.80	26	PN	Pn	23 48 41.2	+1.5
SDLR	Sedlovina	5.80	26	eP	Pn	23 48 41.2	+1.5
KRX	Arik	5.80	24	PN	Pn	23 48 42.3	+2.5
KRX	Arik	5.80	24	eP	Pn	23 48 42.3	+2.5
NLC	Nalytchevo	5.85	29	PN	Pn	23 48 40.1	-0.2
NLC	Nalytchevo	5.85	29	eP	Pn	23 48 40.1	-0.2
GNL	Ganaly	5.93	19	PN	Pn	23 48 44.6	+3.1
GNL	Ganaly	5.93	19	eP	Pn	23 48 44.6	+3.1
SPN	Mys Shipunski	6.02	33	PN	Pn	23 48 43.3	+0.7
SPN	Mys Shipunski	6.02	33	eP	Pn	23 48 43.3	+0.7
SPN				eS	Sn	23 49 46.8	-3.4
YUK	Yuzh-Kuril'sk	7.36	239	ePN	Pn	23 49 03.4	+2.4
YUK				i S	Sn	23 50 27.9	+4.7
YUK				pmax	pmax		
	comp=E,220μm,0.3s						
YUK				pmax	pmax		
	comp=Z,293μm,0.3s						
YUK				pmax	pmax		
	comp=N,148μm,0.2s						
YUK	Yuzh-Kuril'sk	7.36	239	eP	Pn	23 49 03.0	+2.0
YUK				AMB	AMB	23 49 05.0	
	comp=N,290nm,0.5s						
YUK				eS	Sn	23 50 24.7	+1.5
YUK				A	A	23 50 56.2	
	comp=N,570nm,0.6s						
YUK				A	A	23 50 56.2	
	comp=N,610nm,0.6s						
GRPR	Tuman	7.44	239	ePN	Pn	23 49 04.2	+2.1
GRPR				i S	Sn	23 50 29.6	+4.5
GRPR				pmax	pmax		
	comp=Z,294nm,0.4s						
GRPR				pmax	pmax		

comp=N,180nm,0.2s
GRPR pmax pmax
comp=E,196nm,0.2s
GRPR Tuman 7.44 239 *e*P **Pn 23 49 04.0 +1.9**
GRPR AMB AMB 23 49 07.0
comp=E,290nm,0.5s
RUSJ Misakicho 7.68 242 *e*PN **Pn 23 49 09.7 +4.4**
RUSJ *i* S **Sn 23 50 37.7 +6.8**
MKZ Mys Kozlova 7.80 32 PN **Pn 23 49 06.5 -0.4**
MKZ Mys Kozlova 7.80 32 *e*P **Pn 23 49 06.5 -0.4**
MKZ *e*S **Sn 23 50 28.4 -5.4**
KZV Kizimen 7.81 25 PN **Pn 23 49 08.7 +1.4**
KZV Kizimen 7.81 25 *e*P **Pn 23 49 08.7 +1.4**
NEM2 Nemuro 2 7.85 236 P **Pn 23 49 07.7 0.0**
NEM2 *e*S **Sn 23 50 31.5 -3.6**
NMR Nemuro--Hokkai 7.85 236 *e*PN **Pn 23 49 07.4 -0.4**
NMR Nemuro--Hokkai 7.85 236 *e*P **Pn 23 49 07.6 -0.2**
NMR *e*S **Sn 23 50 35.6 +0.3**
TUMD Tumrok D 7.92 25 *e*P **Pn 23 49 12.4 +3.8**
TUMR Tumrok 7.92 23 PN **Pn 23 49 11.3 +2.6**
TUMR Tumrok 7.92 23 *e*P **Pn 23 49 11.3 +2.6**
YSS Yuzh-Sakhalins 8.13 266 *e*PN **Pn 23 49 12.5 +0.9**
YSS pmax pmax
comp=Z,40nm,0.6s
YSS Yuzh-Sakhalins 8.13 266 Pn 23 49 10.8 -0.7
YSS Yuzh-Sakhalins 8.13 266 *e*P **Pn 23 49 13.9 +2.3**
YSS AMB AMB 23 49 15.9
comp=Z,40nm,0.6s
YSS *e*S **Sn 23 50 41.9 -0.2**
YSS A A 23 50 43.9
comp=Z,40nm,0.6s
TYV Tymovskoe 8.26 294 *e*P **Pn 23 49 17.2 +3.8**
TYV AMB AMB 23 49 30.5
comp=Z,20nm,0.8s
TYV *e*S **Sn 23 50 46.6 +1.3**
TYV A A 23 50 57.8
comp=Z,20nm,0.7s
TYV A A 23 50 57.8
comp=Z,10.0nm,0.7s
JNK Nakash 8.29 240 P **Pn 23 49 15.2 +1.4**
UGL Uglegorsk 8.39 281 *e*P **Pn 23 49 18.2 +3.1**
UGL AMB AMB 23 49 20.5
comp=Z,80nm,0.5s
JTKR Abashiri--Toko 8.55 245 P **Pn 23 49 19.9 +2.6**
JAK Akkeshi 8.67 237 P **Pn 23 49 18.8 -0.1**
JAK *e*S **Sn 23 50 50.9 -4.4**
SRDR Sredinnyy 8.75 19 PN **Pn 23 49 22.8 +2.7**
SRDR Sredinnyy 8.75 19 P **Pn 23 49 22.8 +2.7**
JAR Ashorobuto 9.02 241 P **Pn 23 49 26.0 +2.3**
OKH Okha 9.17 311 *e*P **Pn 23 49 29.6 +3.9**
OKH AMB AMB 23 49 32.2
comp=Z,110nm,0.4s
JWK2 Keihoku 9.20 257 P Pn 23 49 32.7 +6.5
JOB Onbets 9.22 239 P **Pn 23 49 27.3 +0.8**
JOB *e*S **Sn 23 51 05.5 -3.3**
JKA Kamikawa-asahi 9.28 249 Pn 23 49 29.8 +2.5
JKA Kamikawa-asahi 9.28 249 *e*P **Pn 23 49 31.5 +4.2**
ASAJ Asahikawa 9.28 249 P **Pn 23 49 31.5 +4.1**
comp=Z,3.7nm,0.3s,baz=79,slow=14,SNR=16
ASAJ LR LR 23 52 56.7
comp=Z,81nm,20.3s,baz=132,slow=37
ASAJ Asahikawa 9.28 249 Pn 23 49 31.3 +3.9
JKK2 Kamakawa 2 9.31 247 Pn 23 49 30.9 +3.1
SRKR Sorokina 9.40 23 PN **Pn 23 49 30.4 +1.4**
SRKR Sorokina 9.40 23 P **Pn 23 49 30.4 +1.4**
KBTR Krutoberegovo 9.50 29 PN **Pn 23 49 30.0 -0.3**
KBTR Krutoberegovo 9.50 29 P **Pn 23 49 30.0 -0.3**
JCH Churui 9.67 239 P **Pn 23 49 32.8 +0.1**
JCH *e*S **Sn 23 51 15.4 -4.5**
JFR Furan 9.80 244 P **Pn 23 49 38.6 +4.2**
BKI Bering 9.96 41 S Sn 23 51 16.7 -10
JBT2 Biratori 2 10.16 243 P **Pn 23 49 40.0 +0.7**
ERM Erimo 10.17 237 *i* PN **Pn 23 49 39.8 +0.3**
NKL Nikolayevsk 10.18 305 *e*P **Pn 23 49 42.8 +3.3**
NKL AMB AMB 23 49 44.0
comp=Z,90nm,0.8s
JNBK Urakawa-nobuka 10.23 239 P **Pn 23 49 38.9 -1.4**
MA2 Magadan 11.67 350 P **Pn 23 50 00.9 +0.9**
comp=Z,2.5nm,0.3s,baz=158,slow=11,SNR=5.9
MA2 LR LR 23 54 19.5
comp=Z,87nm,19.4s,baz=194,slow=37
MA2 Magadan 11.67 350*ce*PN **Pn 23 50 02.4 +2.4**
MA2 pmax pmax
comp=Z,5.0nm,0.6s
MA2 Magadan 11.67 350 Pn **Pn 23 49 58.5 -1.4**
MA2 Magadan 11.67 350 *e*P **Pn 23 50 02.4 +2.4**
JTM Tenmabayashi 12.16 238 P **Pn 23 50 03.8 -2.9**
JTM *e*S Sn 23 52 09.9 -11
JRG Rokugo 13.36 234 P **Pn 23 50 20.7 -2.4**
EKMR Ekimchan 14.61 298 *e*P **Pn 23 50 39.8 -0.1**
EKMR AMB AMB 23 50 49.8
comp=Z,20nm,0.7s
SEY Seymchan 14.87 356 P **P 23 50 46.1 -2.3**
comp=Z,0.5nm,0.3s,baz=174,slow=12,SNR=7.5
SEY Seymchan 14.87 356 *i* P **P 23 50 46.5 -1.9**
KLR Kul'dur 15.15 283 P **P 23 50 50.8 -0.8**
comp=Z,0.3nm,0.3s,baz=86,slow=12,SNR=13
KLR LR LR 23 56 48.5
comp=Z,65nm,18.5s,baz=96,slow=38
KLR Kul'dur 15.15 283*ce*P **P 23 50 49.5 -2.1**
KLR pmax pmax
comp=Z,20nm,1.5s
KLR Kul'dur 15.15 283 *e*P **Pn 23 50 48.4 +1.3**
USA0B Ussuriysk Arra 16.17 264 *i* P **Pn 23 51 01.2 +1.0**
USA0B Ussuriysk Arra 16.17 264 Pn 23 51 00.6 +0.4
USRK Ussuriysk Ar. 16.17 264 P **P 23 51 01.9 -0.9**
baz=67,slow=14,SNR=20
USRK Ussuriysk Ar. 16.17 264 P **P 23 51 02.0 -0.9**
USRK Ussuriysk Ar. 16.17 264 P **Pn 23 51 01.2 +1.0**
MJAR Matsushiro Arr 16.75 232 P **Pn 23 51 06.0 -1.7**
comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=6.7
MJAR Matsushiro Arr 16.75 232 P **Pn 23 51 06.0 -1.7**
BMKR Bomnak 17.32 302 *e*P **P 23 51 15.0 -0.5**
BMKR AMB AMB 23 51 20.5
comp=Z,20nm,0.8s
MDJ Mudanjiang 17.62 268 Pn 23 51 17.5 -0.8
ZEA Zeya 18.08 298 *e*P **P 23 51 27.2 +3.2**
KROS Kirovskiy 18.34 300 *e*P **Pn 23 51 28.0 +0.9**
KROS AMB AMB 23 51 29.9
comp=Z,20nm,1.0s
YAK Yakutsk 19.75 324 P **P 23 51 42.4 +0.2**
comp=Z,0.2nm,0.3s,baz=145,slow=5.2,SNR=5.7
YAK Yakutsk 19.75 324 *e*P **Pn 23 51 43.4 -0.5**
YAK *e*S **S 23 55 16.5 -5.8**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,12nm,1.0s
YAK smax smax
comp=N,47nm,2.3s
YAK smax smax
comp=E,80nm,2.8s
YAK Yakutsk 19.75 324 P **P 23 51 42.6 +0.4**
YAK Yakutsk 19.75 324 *e*P **Pn 23 51 43.2 -0.7**
KSRS Korea Array 22.22 251 P **P 23 52 09.7 +0.7**
comp=E,9.7nm,0.9s,baz=52,slow=9.8,SNR=16
KSAR Wonju Array Be 22.25 251 P **P 23 52 09.3 0.0**
KSAR Wonju Array Be 22.25 251 P **P 23 52 09.2 0.0**
TIXI Tiksi 26.44 342 *i* P **P 23 52 49.6 +1.0**
TIXI Tiksi 26.44 342 *e*P **P 23 52 49.6 +1.0**
H11N2 WAKE ISLAND Hy 30.04 156 T T 00 25 17.1
baz=344,slow=76,SNR=757
H11N1 WAKE ISLAND Hy 30.05 156 T T 00 25 03.0
baz=344,slow=76,SNR=729
H11N3 WAKE ISLAND Hy 30.05 156 T T 00 25 00.6
baz=344,slow=76,SNR=338
SVW2 Sparrevohn 30.77 46 P **P 23 53 29.1 +1.8**
SVW2 IAmb IAmb 23 53 30.4
comp=Z,9.3nm,1.2s
H11S1 WAKE ISLAND Hy 31.15 157 T T 00 26 29.0
baz=345,slow=76,SNR=5689
H11S3 WAKE ISLAND Hy 31.16 158 T T 00 26 41.0
baz=345,slow=76,SNR=4810
H11S2 WAKE ISLAND Hy 31.17 157 T T 00 26 36.5
baz=345,slow=76,SNR=2967
ULN Ulaanbaatar 31.44 288*ce*P **P 23 53 33.3 -0.2**
ULN pmax pmax
comp=Z,8.0nm,2.5s
ULN Ulaanbaatar 31.44 288 P **P 23 53 31.0 -2.5**
ULN Ulaanbaatar 31.44 288 *e*P **P 23 53 33.3 -0.2**
SONM Songino Array 31.87 288 P **P 23 53 36.7 -0.6**
comp=Z,0.5nm,0.4s,baz=74,slow=9.5,SNR=2.5
SONM Songino Array 31.87 288 P **P 23 53 35.6 -1.6**
IMAR Indian Mountai 32.03 37 P **P 23 53 39.5 +1.2**
TLY Talaya 32.48 296 *i* P **P 23 53 43.0 +0.6**
TLY pmax pmax
comp=Z,2.0nm,0.9s
TLY Talaya 32.48 296 *e*P **P 23 53 43.0 +0.6**
SKT Skwentna 32.72 45 P **P 23 53 46.5 +2.0**
BPAW Bear Paw Mtn. 33.02 41 P **P 23 53 48.3 +1.4**
KTH Kantishna Hill 33.02 42 P **P 23 53 48.9 +1.8**
RND Reindeer 33.95 42 P **P 23 53 56.4 +1.2**
RND pmax pmax
comp=Z,5.0nm,0.9s
RND Reindeer 33.95 42 P **P 23 53 56.4 +1.2**
RND IAmb IAmb 23 53 57.0
comp=Z,5.0nm,0.9s
TOLK Toolik Lake Re 34.01 33 P **P 23 53 57.2 +1.6**
TOLK IAmb IAmb 23 54 14.3
comp=Z,3.0nm,0.6s
MDM Murphy Dome 34.24 39 P **P 23 53 59.2 +1.7**
MDM IAmb IAmb 23 54 16.4
comp=Z,3.6nm,0.8s
SML Sawmill 34.24 45 P **P 23 53 59.6 +1.9**
SML pmax pmax
comp=Z,12nm,0.9s
SML Sawmill 34.24 45 P **P 23 53 59.6 +1.9**
WRH Wood River Hil 34.29 40 P **P 23 53 59.7 +1.7**
WRH IAmb IAmb 23 54 16.5
comp=Z,4.4nm,1.0s
TCOL CIGO, UAF Yank 34.39 40 P **P 23 53 59.9 +1.1**
COLA College 34.40 40 *i* P **P 23 53 59.9 +1.0**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 34.40 40 P **P 23 53 59.8 +0.9**
CCB Clear Creek Bu 34.41 40 P **P 23 54 01.2 +2.2**
CCB IAmb IAmb 23 54 16.9
comp=Z,5.3nm,1.1s
POKR Poker Plat Res 34.58 39 IAmb IAmb 23 54 03.4
comp=Z,7.3nm,0.9s
SCM Sheep Creek Mo 34.72 45 P **P 23 54 03.7 +1.9**
SCM pmax pmax
comp=Z,6.0nm,1.0s
SCM Sheep Creek Mo 34.72 45 P **P 23 54 03.6 +1.9**
SCM IAmb IAmb 23 54 04.5
comp=Z,6.4nm,1.0s
HDA Harding Lake 34.78 40 P **P 23 54 03.8 +1.5**
HDA IAmb IAmb 23 54 21.8
comp=Z,3.2nm,0.6s
IL31 34.81 40 P **P 23 54 03.6 +1.3**
IL31 IAmb IAmb 23 54 20.4
comp=Z,3.5nm,0.9s
ILAR Eielson Array 34.81 40 P **P 23 54 03.6 +1.1**
comp=Z,1.1nm,0.8s,baz=252,slow=8.4,SNR=11
ILAR Eielson Array 34.81 40 P 23 54 04.7 +2.3
WHN Wuhan 35.29 255 ⇑P **P 23 54 09.0 +2.0**
PRP Porcupine Dome 35.38 38 P **P 23 54 09.3 +1.7**
PRP IAmb IAmb 23 54 25.6
comp=Z,5.3nm,0.8s
BMAR Burnt Mountain 35.78 35 P **P 23 54 12.6 +1.8**
XAN Xi'an 36.68 264 P **P 23 54 20.3 +1.4**
XAN pP sP 23 54 34.4 -0.4
XAN pmax pmax
comp=Z,7.0nm,0.9s
K27K Chicken 36.93 41 IAmb IAmb 23 54 39.5
comp=Z,6.7nm,1.0s
BCAR Beaver Creek A 37.16 42 P **P 23 54 24.9 +2.2**
EGAK Eagle 37.26 40 P **P 23 54 24.6 +1.2**
EGAK IAmb IAmb 23 54 41.7
comp=Z,3.6nm,0.7s
BARN Barnard Glacie 37.51 46 P **P 23 54 27.0 +1.2**
BARN IAmb IAmb 23 54 28.7
comp=Z,5.5nm,1.0s
YAH Yahtse 37.59 47 P **P 23 54 28.2 +1.6**
YAH IAmb IAmb 23 54 32.8
comp=Z,7.3nm,1.0s
CTGM Chitina Glacie 37.69 46 P **P 23 54 29.2 +2.0**
CTGM IAmb IAmb 23 54 30.4
comp=Z,8.1nm,0.9s
PCA Pinnacle 38.38 47 P **P 23 54 34.9 +1.9**
PCA IAmb IAmb 23 54 38.6
comp=Z,6.6nm,0.8s
ENH Enshi 38.64 259 P **P 23 54 34.4 -1.1**
ENH IAmb IAmb 23 54 37.7
comp=Z,8.5nm,0.9s
GTA Gaotai 39.79 278 *e*P **P 23 54 45.1 0.0**
GTA pP sP 23 55 00.3 -0.7
GTA sP pP 23 55 07.6 +11
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,81nm,4.7s
GTA LR LR
comp=N,170nm,14.5s
GTA LR LR
comp=E,540nm,14.2s
GTA LR LR
comp=Z,360nm,14.9s
INK Inuvik 39.91 33 P **P 23 54 47.1 +1.5**
comp=Z,1.0nm,0.5s,baz=282,slow=8.2,SNR=9.0
INK Inuvik 39.91 33 P **P 23 54 46.5 +1.0**
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 39.91 33 P **P 23 54 46.5 +1.0**
BESE Bessie Mountai 41.44 48 P **P 23 55 00.6 +2.2**
JIS Juneau Island 41.77 49 P **P 23 55 03.2 +2.2**
JIS IAmb IAmb 23 55 21.2
comp=Z,7.3nm,1.0s
ZAA0 Zalesovo Array 42.65 305 P **P 23 55 05.5 -2.6**
ZALV Zalesovo Beam 42.65 305 P **P 23 55 06.3 -1.8**
comp=Z,1.6nm,0.4s,baz=59,slow=6.6,SNR=11
ZALV PcP **PcP 23 56 58.7 -0.8**
comp=Z,1.5nm,0.7s,baz=81,slow=1.9,SNR=6.2
ZALV LR LR 00 13 25.1
comp=Z,61nm,20.0s,baz=330,slow=37
DGZ Jazzator, Alta 42.84 298 *i* P **P 23 55 09.7 -0.4**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
GYA Guiyang 43.03 257 ⇑P **P 23 55 11.1 -0.7**
GYA pP sP 23 55 33.6 +5.4
GYA pmax pmax
comp=Z,6.0nm,1.0s
WMQ Urumqi 45.40 291 *e*P **P 23 55 31.2 +0.7**
KMI Kunming 46.52 259 ⇑P **P 23 55 41.9 +2.2**
KMI pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 47.23 297*ce*P **P 23 55 44.0 -0.8**
MK31 Makanchi Array 47.23 297 P **P 23 55 43.2 -1.6**
MKAR Makanchi Array 47.23 297 P **P 23 55 42.0 -2.8**
comp=Z,1.8nm,0.7s,baz=72,slow=7.7,SNR=28
MKAR PcP **PcP 23 57 14.4 -1.1**
comp=Z,0.4nm,0.6s,baz=46,slow=4.1,SNR=2.1
MKAR Makanchi Array 47.23 297*ce*P **P 23 55 44.7 -0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 47.23 297 P P 23 55 43.6 -1.2
MKAR Makanchi Array 47.23 297 *e*P **P 23 55 44.7 -0.1**
KURK Kurchatov 47.46 303*ce*P **P 23 55 45.1 -1.3**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 47.46 303 P P 23 55 45.1 -1.3
KURK IAmb IAmb 23 55 45.7
comp=Z,5.7nm,0.7s
KURK Kurchatov 47.46 303 *e*P **P 23 55 45.1 -1.3**
KURBB Kurchatov Arra 47.56 303 PcP **PcP 23 57 15.9 -0.6**
baz=59,slow=3.6
RES Resolute Bay 49.18 19 P **P 23 56 00.3 +1.0**
comp=Z,1.4nm,0.5s,baz=265,slow=7.3,SNR=14
YKA Yellowknife Ar 49.18 38 P **P 23 56 01.2 +1.6**
comp=Z,1.0nm,0.9s,baz=299,slow=6.7,SNR=8.9
BVAR Borovoye Array 50.78 309 P **P 23 56 10.0 -1.8**
comp=Z,2.4nm,0.4s,baz=196,slow=42,SNR=14
BVAR PcP **PcP 23 57 27.3 -0.9**
comp=Z,1.2nm,0.6s,baz=164,slow=17,SNR=4.1
BRVK Borovoye 50.82 309*ce*P **P 23 56 10.6 -1.5**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 50.82 309 P P 23 56 10.0 -2.1
BRVK Borovoye 50.82 309 *e*P **P 23 56 10.6 -1.5**
CM34 Chiang Mai Arr 53.29 257 P **P 23 56 32.0 +1.1**
CM35 Chiang Mai Arr 53.41 257 P **P 23 56 32.0 +0.2**
CM33 Chiang Mai Arr 53.45 257 P **P 23 56 32.0 0.0**
CMMT Chiang Mai 53.45 257 P **P 23 56 31.9 -0.1**
comp=Z,4.9nm,1.2s
CHTO Chiang Mai 53.45 257 P **P 23 56 31.8 -0.3**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 53.45 257 P **P 23 56 31.8 -0.3**
CM36 Chiang Mai Arr 53.56 257 P **P 23 56 36.0 +3.1**
CMAR Chiang Mai Arr 53.71 257 P **P 23 56 34.2 +0.3**
comp=Z,3.8nm,1.0s,baz=27,slow=7.2,SNR=13
CM02 Chiang Mai Arr 53.72 257 P **P 23 56 38.0 +4.0**
comp=Z,6.1nm,0.9s
CM04 Chiang Mai Arr 53.73 257 P **P 23 56 38.2 +4.1**
comp=Z,5.5nm,0.9s
CM05 Chiang Mai Arr 53.75 257 P **P 23 56 37.0 +2.8**
comp=Z,4.1nm,1.1s
CM13 Chiang Mai Arr 53.76 257 P **P 23 56 37.4 +3.1**
comp=Z,3.8nm,0.8s
AAK Ala-Archa 54.15 296*ce*P **P 23 56 37.0 -0.1**
AAK pmax pmax
comp=Z,8.0nm,1.7s
AAK Ala-Archa 54.15 296 P **P 23 56 35.3 -1.8**
AAK Ala-Archa 54.15 296 *e*P **P 23 56 37.0 -0.1**
MHMT Maesarieng 54.57 257 P **P 23 56 44.3 +4.0**
ARU Arti 54.69 317 P **P 23 56 38.2 -2.4**
comp=Z,1.5nm,0.4s,baz=78,slow=7.1,SNR=10.0
ARU Arti 54.69 317 *i* P **P 23 56 38.0 -2.6**
ARU pmax pmax
comp=Z,29nm,3.0s
ARU Arti 54.69 317 P **P 23 56 38.4 -2.2**
TAPN Taplejung 55.06 273 *e*P **P 23 56 44.6 +0.6**
KSH Kashi 55.08 292 *e*P **P 23 56 48.2 +4.3**
KSH pmax pmax
comp=Z,130nm,3.7s
GUN Gumba 55.91 275 *e*P **P 23 56 49.8 -0.4**
comp=Z,7.1nm,0.4s
RAMN Ramite 56.06 274 *e*P **P 23 56 49.6 -1.6**
comp=Z,5.8nm,0.3s
KKAR Karatay Array 56.24 299 P **P 23 56 50.1 -1.9**
KKAR Karatay Array 56.24 299 P **P 23 56 50.1 -1.9**
KKN Kakani 56.39 275 *e*P **P 23 56 52.4 -1.1**
comp=Z,7.0nm,0.5s
PKI Pulchoki 56.45 275 *e*P **P 23 56 52.6 -1.5**
comp=Z,5.2nm,0.5s
PKIN Phulchoki 56.45 275 *e*P **P 23 56 52.7 -1.3**
comp=Z,4.4nm,0.4s
DMN Daman 56.63 275 *e*P **P 23 56 53.7 -1.5**
comp=Z,8.5nm,0.5s
GKN Gorkha 56.68 276 *e*P **P 23 56 54.9 -0.6**
comp=Z,10nm,0.5s
ARCES ARCESS Array B 56.87 341 P **P 23 56 55.6 -0.5**
comp=Z,4.3nm,0.9s,baz=0.0,slow=8.4,SNR=2.1
ARCES LR LR 00 27 01.2
comp=Z,97nm,18.9s,baz=255,slow=42
ABKAR Akbulak array 58.33 310 P **P 23 57 04.9 -1.7**
ABKAR IAmb IAmb 23 57 05.4
comp=Z,3.2nm,0.6s
ABKAR Akbulak array 58.33 310 P P 23 57 04.6 -2.0
AKTO Aktyubinsk 58.57 312 P **P 23 57 06.7 -1.6**
comp=Z,1.0nm,0.5s,baz=107,slow=6.1,SNR=1.9
NIL Nilore 60.45 289 P **P 23 57 21.1 -0.4**
NIL pmax pmax
comp=Z,7.0nm,0.9s
NIL Nilore 60.45 289 P **P 23 57 21.1 -0.4**
NVAR Mina Array Bea 60.87 64 P **P 23 57 26.8 +2.2**
comp=Z,0.6nm,0.6s,baz=297,slow=8.2,SNR=4.2
NVAR Mina Array Bea 60.87 64 P P 23 57 25.8 +1.2
BELG Belogornoye 62.18 319 P **P 23 57 31.2 -1.6**
comp=Z,3.8nm,0.4s,baz=24,slow=2.6,SNR=9.2
PDAR Pinedale Array 63.09 55 P **P 23 57 41.2 +1.8**
comp=Z,0.3nm,0.7s,baz=245,slow=1.7,SNR=2.8
FIA1 FINESS Array S 63.21 335 P **P 23 57 38.2 -1.3**
FIA1 IAmb IAmb 23 57 42.9
comp=Z,4.0nm,0.9s
FINES FINESS Array B 63.21 335 P **P 23 57 37.7 -1.8**
comp=Z,1.6nm,0.5s,baz=39,slow=7.7,SNR=14
FINES FINESS Array B 63.21 335 P 23 57 37.1 -2.4
NOA NORSAR Array B 67.23 342 P **P 23 58 04.5 -1.2**
comp=Z,1.0nm,0.9s,baz=28,slow=6.4,SNR=4.0
NORES NORESS Array B 67.44 341 P **P 23 58 07.1 +0.2**
HFS Hagfors 67.50 340 P **P 23 58 06.3 -1.1**
comp=Z,0.9nm,0.4s,baz=337,slow=1.9,SNR=6.5
WRA Warramunga Arr 70.18 200 P **P 23 58 24.7 +0.3**
comp=Z,0.8nm,0.6s,baz=15,slow=6.3,SNR=7.9
WRA Warramunga Arr 70.18 200*ce*P **P 23 58 27.3 +2.9**
WRA pmax pmax
comp=Z,1.0nm,0.6s
KIV Kislovodsk 70.56 315 *i* P **P 23 58 27.2 +0.5**
KIV pmax pmax
comp=Z,2.0nm,1.0s
KIV Kislovodsk 70.56 315 *e*P **P 23 58 27.2 +0.5**
KBZ Khabaz 70.63 314 P **P 23 58 26.4 -0.6**
comp=Z,0.8nm,0.6s,baz=137,slow=2.5,SNR=6.2
AKASG Malin Array Be 70.95 327 P **P 23 58 27.2 -1.7**
comp=Z,1.3nm,0.5s,baz=34,slow=6.4,SNR=6.8
AKASG Malin Array Be 70.95 327*ce*P **P 23 58 26.6 -2.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 70.95 327 IAmb IAmb 23 58 28.5
comp=Z,0.8nm,0.6s
SORM Soroca 73.39 326 ⇓P **P 23 58 41.3 -2.1**
SORM Soroca 73.39 326 ⇓P **P 23 58 41.3 -2.1**
ASAR Alice Springs 73.87 200 P **P 23 58 48.2 +1.7**
comp=Z,0.4nm,0.4s,baz=15,slow=5.6,SNR=7.4
MILM Milestii Mici 74.22 325 ⇑P **P 23 58 46.8 -1.5**
MILM Milestii Mici 74.22 325 P **P 23 58 46.8 -1.5**
OK031 S. Brethren Rd 74.84 53 P **P 23 58 54.1 +2.0**
BUR08 Bucovina Ar. S 74.97 327 P **P 23 58 51.3 -1.5**
BURAR Bucovina Array 74.98 327 ⇑P **P 23 58 51.7 -1.2**
BURAR Bucovina Array 74.98 327 ⇑P **P 23 58 51.7 -1.2**
BURAR Bucovina Array 74.98 327 P 23 58 51.2 -1.7
EKA Eskdalemuir Ar 75.22 347 P **P 23 58 53.5 -0.4**
comp=Z,3.2nm,0.5s,baz=18,slow=4.9,SNR=25
BIZ Bicaz 75.23 326 ⇑P **P 23 58 53.6 -0.6**
TESR Tescani 75.38 326 ⇑P **P 23 58 53.7 -1.4**
CLL Collm 75.61 336 ⇑*i*P **P 23 58 55.6 -0.7**
comp=Z,5.0nm,0.6s
CLL Collm 75.61 336 ⇑*i*P **P 23 58 55.6 -0.7**
CLL pmax pmax
comp=Z,5.0nm,0.6s
MORC Moravsky Berou 75.68 333 ⇑P **P 23 58 56.7 -0.1**
MORC Moravsky Berou 75.68 333 ⇑P **P 23 58 56.7 -0.1**
TXAR Lajitas Array 75.91 62 P **P 23 59 01.3 +2.8**
comp=Z,0.3nm,0.5s,baz=316,slow=2.5,SNR=3.5
TXAR Lajitas Array 75.91 62 P **P 23 59 00.9 +2.4**
TXAR Lajitas Array 75.91 62 P **P 23 59 00.9 +2.4**
CFR Carcaliu 75.92 324 ⇑P **P 23 58 56.7 -1.5**
CFR Carcaliu 75.92 324 ⇑P **P 23 58 56.7 -1.5**
OZUR 76.06 326 ⇑P **P 23 58 58.9 -0.1**
TPGR Topolog 76.08 324 ⇑P **P 23 58 58.4 -0.8**
VRAC Vranov 76.38 333 ⇑P **P 23 59 00.6 -0.1**
VRAC Vranov 76.38 333 ⇑P **P 23 59 00.6 -0.1**
MLR Muntele Rosu 76.51 326 ⇑P **P 23 59 01.7 0.0**
MLR Muntele Rosu 76.51 326 ⇑P **P 23 59 01.7 0.0**
MLR Muntele Rosu 76.51 326 IAmb IAmb 23 59 02.9
comp=Z,3.9nm,0.9s
SMOL Smolenice 76.83 332 *e*P **P 23 59 03.5 +0.2**
SMOL Smolenice 76.83 332 *e*P **P 23 59 03.5 +0.2**
VOIR 76.89 326 ⇑P **P 23 59 03.6 -0.2**
VOIR 76.89 326 ⇑P **P 23 59 03.6 -0.2**
ARR Arges 77.10 326 ⇑P **P 23 59 05.3 +0.3**
KHC Kasperske Hory 77.42 335*ce*P **P 23 59 06.6 0.0**
KHC pmax pmax
comp=Z,29nm,2.5s
KHC Kasperske Hory 77.42 335 *e*P **P 23 59 06.4 -0.2**
KHC Kasperske Hory 77.42 335 P **P 23 59 05.8 -0.9**
KHC IAmb IAmb 23 59 12.1
comp=Z,4.2nm,1.1s
CKRC Cesky Krumlov 77.49 334 *e*P **P 23 59 06.5 -0.5**
GERES GERESS Array B 77.64 335 P **P 23 59 07.7 -0.3**
comp=Z,1.5nm,0.6s,baz=38,slow=5.0,SNR=9.6
GERES GERESS Array B 77.64 335 P P 23 59 07.3 -0.6
GZR Gura Zlata 77.76 328 ⇑P **P 23 59 07.8 -0.8**
GZR Gura Zlata 77.76 328 ⇑P **P 23 59 07.8 -0.8**
COPA Copaceanca 77.93 325 ⇑P **P 23 59 08.5 -1.0**
BZS Buzias 77.98 328 ⇑P **P 23 59 08.7 -1.0**
BZS Buzias 77.98 328 ⇑P **P 23 59 08.7 -1.0**
BR131 Keskin Array S 78.07 317 P **P 23 59 10.1 -0.5**
BR131 pmax pmax
comp=Z,4.0nm,0.7s
BR131 Keskin Array S 78.07 317 P **P 23 59 10.1 -0.5**
BR131 IAmb IAmb 23 59 10.6
comp=Z,3.7nm,0.7s
BRTR Keskin Array B 78.07 317 P **P 23 59 10.1 -0.5**
comp=Z,2.0nm,0.5s,baz=74,slow=2.2,SNR=25
BRTR Keskin Array B 78.07 317 P **P 23 59 08.9 -1.6**
BCLA Clavier 78.33 341 *d*P **P 23 59 11.3 -0.3**
BCLA *d*PcP **PcP 23 59 20.0 -0.8**
BCLA *d*sP sP 23 59 37.1 +8.3
HERR Herculane 78.33 327 ⇑P **P 23 59 10.5 -1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOA	Molln	78.38	334	eP	P	23 59 11.8	-0.2
	comp=Z,2.6nm,0.8s						
MDVR	Moldovita	78.67	328	⇑P	P	23 59 12.4	-1.2
PLVB	Pleven	78.79	325	⇑P	P	23 59 13.5	-0.8
FRGS	Fruska Gora	79.00	329	⇑P	P	23 59 14.8	-0.7
SOKA	Soboth	79.20	333	eP	P	23 59 16.2	-0.4
	comp=Z,3.9nm,0.7s						
KBA	Koelnbreinsper	79.34	334	eP	P	23 59 17.8	+0.3
	comp=Z,7.3nm,0.5s						
OBKA	Obir	79.50	333	eP	P	23 59 17.7	-0.5
	comp=Z,2.5nm,0.7s						
WATA	Walderalm	79.61	335	eP	P	23 59 18.8	-0.1
	comp=Z,4.7nm,0.5s						
WTTA	Wattenberg	79.66	335	eP	P	23 59 19.4	+0.2
	comp=Z,5.0nm,0.6s						
MOTA	Moosalm	79.74	336	i P	P	23 59 19.6	+0.1
	comp=Z,5.5nm,0.7s						
SQTA	Sankt Quirin	79.82	336	eP	P	23 59 20.0	0.0
	comp=Z,3.5nm,0.7s						
VTS	Vitosha	79.98	326	⇑P	P	23 59 20.6	-0.4
VTS	Vitosha	79.98	326	⇑P	P	23 59 20.6	-0.4
VTS	Vitosha	79.98	326	P	P	23 59 20.4	-0.5
VTS				IAmb	IAmb	23 59 21.0	
	comp=Z,5.1nm,0.7s						
TUE	Stuetta	81.01	337	P	P	23 59 26.7	+0.2
PDG	Podgorica	81.59	328	⇑P	P	23 59 28.1	-1.2
RAYN	Ar Rayn	84.65	299	P	P	23 59 44.9	-0.7
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
RAYN	Ar Rayn	84.65	299	P	P	23 59 44.9	-0.7
ESDC	Sonseca Array	90.52	344	P	P	00 00 12.9	-0.6
	comp=Z,0.4nm,0.8s,baz=342,slow=7.0,SNR=1.4						
KEST	Kesra	90.93	332	LR	LR	00 44 18.6	
	comp=Z,33nm,18.1s,baz=307,slow=38						
CMLA	Cha da Macela	94.47	0	i P	P	00 00 29.8	-1.9
H03N2	Juan Fernandez	137.72	90	T	T	02 39 51.3	
	baz=309,slow=77,SNR=34						
H03N1	Juan Fernandez	137.73	90	T	T	02 39 52.6	
	baz=309,slow=77,SNR=85						
H03N3	Juan Fernandez	137.73	90	T	T	02 39 54.3	
	baz=309,slow=77,SNR=57						

*NEIC **01** 23:58:17.7±1.4, 43°.78N±0°.02×105°.18W±0°.08, h0^{km}±2^{km}, ML3.0/44, Error ellipse: s-maj=10.2km s-min=3.1km az=101.0*

*IDC **01** 23:58:17.1±1.6, 43°.85N×105°.56W, h0^{km}, mb1 3.5/3, mb1mx3.2/62, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=46.8km s-min=9.1km az=149.0*

ISC 01 23:58:17.4±0.9**, 43°.80N**±0°.05×**105°.18W**±0°.06**, h0^{km}, n53, σ0^{s}80**/55**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.89	68		Pg	23 58 35.8	+1.4
K22A	Casper	1.51	221		Pn	23 58 43.5	-2.3
K22A				IAML		23 59 07.2	
	comp=N,203nm,0.3s						
K22A				IAML		23 59 10.4	
	comp=E,195nm,0.7s						
PHWY	Pilot Hill	2.50	185		Pn	23 58 59.5	-0.1
RWWY	Rawlins	2.58	216		Pn	23 59 01.2	+0.6
RWWY				IAML		23 59 36.5	
	comp=E,93nm,0.8s						
RWWY				IAML		23 59 37.6	
	comp=E,65nm,0.9s						
LAO	LASA Array	2.98	346		Pn	23 59 06.0	0.0
RLMT	Red Lodge	3.21	296		Pn	23 59 09.0	-0.3
RLMT				IAML		00 00 02.0	
	comp=E,28nm,0.7s						
RLMT				IAML		00 00 09.7	
	comp=E,33nm,0.8s						
PD31	Pinedale Array	3.36	254		Pn	23 59 11.1	-0.2
PDAR	Pinedale Array	3.36	254	Pn	Pn	23 59 10.4	-0.9
	comp=E,2.2nm,0.3s,baz=74,slow=16,SNR=42						
PDAR				Lg	Lg	23 59 54.9	
	comp=E,6.1nm,0.3s,baz=68,slow=33,SNR=13						
BW06	Boulder Array	3.36	254		Pn	23 59 10.6	-0.7
OGNE	Ogallala	3.68	140		Pn	23 59 15.1	-0.5
OGNE				IAML		00 00 32.7	
	comp=E,35nm,0.6s						
GCMT	Greycliff	3.76	304		Pn	23 59 16.8	+0.1
LKWY	Lake	3.83	283		Pn	23 59 17.8	0.0
LKWY				IAML		00 00 32.2	
	comp=E,21nm,0.7s						
H17A	Grant Village	3.93	281		Pn	23 59 19.2	0.0
LOHW	Long Hollow	3.94	269		Pn	23 59 19.8	+0.6
FLWY	Flagg Ranch	3.99	276		Pn	23 59 21.6	+1.6
FLWY				IAML		00 00 35.3	
	comp=E,16nm,1.1s						
FLWY				IAML		00 00 58.1	
	comp=E,14nm,2.8s						
ISCO	Idaho Springs	4.01	185		Pn	23 59 21.0	+0.7
SNOW	Snow King Moun	4.06	267		Pn	23 59 21.4	+0.4
SNOW				IAML		00 00 35.2	
	comp=E,18nm,0.9s						
SNOW				IAML		00 00 38.7	
	comp=E,18nm,1.4s						
REDW	Red Top Meadow	4.14	266		Pn	23 59 21.9	-0.1
REDW				IAML		00 00 33.3	
	comp=E,23nm,0.8s						
REDW				IAML		00 00 38.0	
	comp=E,23nm,0.9s						
O20A	White River Ci	4.31	213		Pn	23 59 24.7	+0.3
O20A				IAML		00 00 41.9	
	comp=N,23nm,0.9s						
O20A				IAML		00 00 44.3	
	comp=E,20nm,0.7s						
AHID	Auburn Hatcher	4.44	259		Pn	23 59 26.4	+0.3
AHID				IAML		00 00 20.3	
	comp=E,19nm,0.7s						
AHID				IAML		00 00 37.4	
	comp=N,19nm,0.7s						
ECR	Eagle Creek	4.57	263	Pn	Pn	23 59 28.6	+0.7
QLMT	Earthquake Lak	4.60	285	Pn	Pn	23 59 27.9	-0.5
DGMT	Dagmar	4.72	8	Pn	Pn	23 59 30.9	+1.0
SMCO	Snowmass	4.81	197		Pn	23 59 32.8	+1.4
SMCO				IAML		00 00 55.9	
	comp=N,10nm,0.7s						
SMCO				IAML		00 00 56.1	
	comp=N,9.3nm,0.8s						
K31A	O'Neill	4.84	102	Pn	Pn	23 59 30.9	-0.6
BOZ	Bozeman (W)	4.94	294		Pn	23 59 32.1	-0.8
BOZ				IAML		00 00 54.1	
	comp=N,6.8nm,1.9s						
BOZ				IAML		00 00 54.5	
	comp=N,9.7nm,1.0s						
KSCO	Kaye Shedlock'	5.15	157	Pn	Pn	23 59 35.3	-0.6
KSCO				Pg	Pg	23 59 55.9	-0.2
EGMT	Eagleton	5.29	325		Pn	23 59 37.1	-0.6
MCMT	McKenzie Canyo	5.60	283	Pn	Pn	23 59 43.1	+1.0
MCMT					Pb	23 59 57.3	+1.2
MDND	Maddock	5.62	42	Pn	Pn	23 59 43.6	+1.4
MDND				Pg	Pg	00 00 03.0	-2.0
PV22	Blue Mesa, Par	5.92	209	Pn	Pn	23 59 47.2	+0.8
BCYI	Bear Canyon	5.95	278	Pn	Pn	23 59 47.2	+0.3
PV07	Paradox Valley	5.96	207	Pn	Pn	23 59 46.3	-0.7
PV23	Carpenter Ridg	6.07	210	Pn	Pn	23 59 48.6	0.0
PV04	Paradox Valley	6.09	209	Pn	Pn	23 59 48.1	-0.6
PV12	Saucer Basin,	6.12	208	Pn	Pn	23 59 49.5	+0.3
PV14	Lion Creek, Pa	6.15	209	Pn	Pn	23 59 49.5	-0.1
PV20	West Nyswonger	6.15	209	Pn	Pn	23 59 49.3	-0.3
PV11	David Mesa, Pa	6.16	208		Pn	23 59 49.3	-0.5
PV16	Nyswonger Mesa	6.16	208		Pn	23 59 50.0	+0.2
PV19	Morning Glory	6.19	209	Pn	Pn	23 59 50.4	+0.2
PV03	Paradox Valley	6.19	208	Pn	Pn	23 59 50.6	+0.3
PV02	Paradox Valley	6.20	207	Pn	Pn	23 59 50.6	+0.3
ECSD	EROS Data Cent	6.21	88	Pn	Pn	23 59 50.9	+0.6
PV17	East Wray Mesa	6.21	209	Pn	Pn	23 59 50.8	+0.3
PV01	Paradox Valley	6.21	206	Pn	Pn	23 59 51.0	+0.5
PV18	Skein Mesa, Pa	6.22	208	Pn	Pn	23 59 50.8	+0.2
PV13	Radium Mtn., P	6.27	207	Pn	Pn	23 59 51.3	0.0
PV05	Paradox Valley	6.44	209	Pn	Pn	23 59 52.4	-1.1
CBKS	Cedar Bluff	6.45	139	Pn	Pn	23 59 53.5	-0.1
I10CA	LAC DU BONNET	8.95	41	i		00 54 40.0	
	baz=221,slow=332,SNR=1.6						
ULM	Lac du Bonnet	9.05	41	Pn	Pn	00 00 29.0	-0.2
	comp=N,0.6nm,0.3s,baz=236,slow=11,SNR=7.0						
ULM				Lg	Lg	00 03 01.0	
	comp=N,0.2nm,0.3s,baz=123,slow=17,SNR=4.1						
NVAR	Mina Array Bea	11.25	246	Pn	Pn	00 00 58.5	-1.1
	comp=N,0.1nm,0.3s,baz=45,slow=13,SNR=2.0						

*KRNET **02** 00:05:13.6±0.1, 41°.90N×78°.54E, h12^{km}, mb3.3*

*SOME **02** 00:05:13.7, 41°.90N×78°.57E, h10^{km}*

*NNC **02** 00:05:14.8±0.6, 41°.93N×78°.60E, h0^{km}, mb3.9, mpv3.7, Error ellipse: s-maj=4.4km s-min=2.1km az=167.0*

ISC 02 00:05:15.6±1.6**, 41°.94N**±0°.05×**78°.54E**±0°.03**, h1^{km}**±11^{km}**, n72, σ1^{s}42**/118**, 19C-20D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.55	349	⇓iP	Pg	00 05 25.3	-0.9
	baz=50						
PRZ				⇓iS	Sg	00 05 34.1	+0.7
	baz=50						
KDJ	Kajisay	1.03	281	⇓iP	Pb	00 05 33.1	-3.3
	baz=83						
KDJ				⇓iS	Sg	00 05 47.5	-1.3
	baz=83						
ANVS	Anan'yevo	1.06	323	⇓iP	Pb	00 05 35.0	-1.9
	baz=24						
ANVS				⇓iS	Sb	00 05 50.3	-1.1
	baz=24						
SATY	Saty	1.12	355	eP	Pb	00 05 36.2	-1.7
	2.2nm,0.1s						
SATY				eS	Sb	00 05 52.1	-0.9
	107nm,0.1s						
SATY	Saty	1.12	355	P	Pb	00 05 36.1	-1.7
	12nm,0.1s						
SATY				S	Sb	00 05 52.0	-1.1
	107nm,0.1s						
UZB	Uzynbulak	1.26	16	eP	Pn	00 05 38.1	-2.4
	7.7nm,0.2s						
UZB				eS	Sb	00 05 55.3	-1.6
	44nm,0.3s						
UZB	Uzynbulak	1.26	16	P	Pn	00 05 38.1	-2.4
	7.7nm,0.2s						
UZB				S	Sb	00 05 55.3	-1.6
	44nm,0.3s						
SHLS	Shalkode	1.39	29	eP	Pg	00 05 43.7	+1.4
	28nm,0.2s						
SHLS				eS	Sg	00 06 05.0	+4.6
	77nm,0.3s						
SHLS	Shalkode	1.39	29	P	Pg	00 05 43.7	+1.4
	28nm,0.2s						
SHLS				S	Sg	00 06 05.0	+4.6
	77nm,0.3s						
KPKS	Kokpek	1.53	4	eP	Pn	00 05 43.0	-1.1
	54nm,0.2s						
KPKS				eS	Sb	00 06 03.9	-0.8
	82nm,0.2s						
PDGK	Podgornoye	1.55	26	P	Pn	00 05 43.1	-1.4
	11nm,0.3s						
PDGK				S	Sn	00 06 03.6	-1.8
	31nm,0.4s						
PDGK	Podgornoye	1.55	26	⇑P	Pn	00 05 43.1	-1.4
	6.4nm,0.3s						
PDGK				⇓S	Sb	00 06 04.0	-1.5
	56nm,0.6s						
KURS	Kuram	1.57	350	eP	Pb	00 05 44.6	-0.9
	8.6nm,0.5s						
KURS				eS	Sg	00 06 06.5	+0.4
	19nm,0.3s						
KURS	Kuram	1.57	350	P	Pb	00 05 44.6	-0.9
	8.6nm,0.5s						
KURS				S	Sg	00 06 06.5	+0.4
	19nm,0.3s						
TNSS	Tian-Shan	1.61	313	eP	Pn	00 05 44.8	-0.8
	54nm,0.1s						
TNSS				eS	Sb	00 06 07.2	-0.1
	52nm,0.2s						
TNSS	Tian-Shan	1.61	313	P	Pn	00 05 44.8	-0.8
	54nm,0.1s						
TNSS				S	Sb	00 06 07.2	-0.1
	52nm,0.2s						
MDOK	Medeo	1.65	318	eP	Pn	00 05 45.4	-0.4
	22nm,0.2s						
MDOK				eS	Sb	00 06 08.0	-0.1
	27nm,0.2s						
MDOK	Medeo	1.65	318	⇑P	Pn	00 05 45.4	-0.4
	14nm,0.5s						
MDOK				S	Sb	00 06 07.6	-0.6
	14nm,0.5s						
MDOK	Medeo	1.65	318	Pg	Pn	00 05 45.4	-0.4
	22nm,0.2s						
MDOK				Lg	Lg	00 06 08.0	
	27nm,0.2s						
KOTS	Kotyrbulak	1.67	321	eP	Pb	00 05 46.3	-1.0
	90nm,0.1s						
KOTS				eS	Sg	00 06 10.1	+0.9
	108nm,0.3s						
KOTS	Kotyrbulak	1.67	321	P	Pb	00 05 46.3	-1.0
	90nm,0.1s						
KOTS				S	Sg	00 06 10.1	+0.9
	108nm,0.3s						
KNDC	Almaty	1.73	318	⇓P	Pb	00 05 47.1	-1.1
	23nm,0.3s						
KNDC				⇑S	Sg	00 06 11.3	+0.2
	51nm,0.6s						
ULHL	Ulahol	1.74	281	⇑iP	Pn	00 05 46.3	-0.8
	baz=82						
ULHL				⇑iS	Sb	00 06 10.1	-0.7
	baz=82						
AAA	Alma-Ata	1.75	317	eP	Pb	00 05 47.8	-0.7
	88nm,0.2s						
AAA				eS	Sg	00 06 12.2	+0.5
	83nm,0.2s						
AAA	Alma-Ata	1.75	317	P	Pb	00 05 47.8	-0.7
	88nm,0.2s						
AAA				S	Sg	00 06 12.2	+0.5
	83nm,0.2s						
IZV	Izvestkoviy	1.80	308	eP	Pb	00 05 48.2	-1.2
	48nm,0.2s						
IZV				eS	Sg	00 06 13.2	-0.1
	142nm,0.2s						
IZV	Izvestkoviy	1.80	308	P	Pb	00 05 48.2	-1.2
	48nm,0.2s						
IZV				S	Sg	00 06 13.2	-0.1
	142nm,0.2s						
MTBS	Maitube	1.96	308	eP	Pb	00 05 50.9	-1.3
	43nm,0.2s						
MTBS				eS	Sb	00 06 17.8	+0.6
	98nm,0.2s						
MTBS	Maitube	1.96	308	Pg	Pb	00 05 50.9	-1.3
	43nm,0.2s						
MTBS				Lg	Lg	00 06 17.8	
	98nm,0.2s						
BOOM	Boomskoye usch	2.01	287	⇑iP	Pb	00 05 51.0	-2.0
	baz=88						
BOOM				⇑iS	Sb	00 06 18.2	-0.4
	baz=88						
KTMS	Ketmen	2.01	41	eP	Pb	00 05 51.1	-1.9
	16nm,0.2s						
KTMS				eS	Sb	00 06 18.0	-0.6
	71nm,0.4s						
KTMS	Ketmen	2.01	41	Pg	Pb	00 05 51.1	-1.9
	16nm,0.2s						
KTMS				Lg	Lg	00 06 18.0	
	71nm,0.4s						
MNBS	Baschi	2.14	357	eP	Pb	00 05 54.7	-0.5
	31nm,0.1s						
MNBS				eS	Sg	00 06 24.0	-0.4
	112nm,0.2s						
KST	Kastek	2.20	301	eP	Pb	00 05 55.5	-0.8
	30nm,0.3s						
KST				eS	Sb	00 06 25.2	+1.1
	49nm,0.5s						
KST	Kastek	2.20	301	Pg	Pb	00 05 55.4	-0.8
	30nm,0.3s						
KST				Lg	Lg	00 06 25.2	
	49nm,0.5s						
CHKK	Chushkaly	2.23	330	eP	Pb	00 05 55.9	-0.7
	72nm,0.3s						
CHKK				eS	Sg	00 06 26.4	-0.8
	91nm,0.2s						
CHKK	Chushkaly	2.23	330	Pg	Pb	00 05 55.9	-0.7
	72nm,0.3s						
CHKK				Lg	Lg	00 06 26.4	
	91nm,0.2s						
KTBS	Karatobe	2.24	323	eP	Pb	00 05 56.3	-0.5
	43nm,0.2s						
KTBS				eS	Sg	00 06 26.4	-1.0
	88nm,0.3s						
KTBS	Karatobe	2.24	323	Pg	Pb	00 05 56.3	-0.5
	43nm,0.2s						
KTBS				Lg	Lg	00 06 26.4	
	88nm,0.3s						
ARXS	Arharly	2.33	347	eP	Pb	00 05 57.6	-0.9
	47nm,0.3s						
ARXS				eS	Sg	00 06 29.2	-1.2
	103nm,0.6s						
ARXS	Arharly	2.33	347	Pg	Pb	00 05 57.6	-0.9
	47nm,0.3s						
ARXS				Lg	Lg	00 06 29.3	
	103nm,0.6s						
TKM2	Tokmak 2	2.39	295	⇓iP	Pn	00 05 56.5	+0.4
	baz=96						
TKM2				⇓iS	Sb	00 06 27.6	-2.0
	baz=96						
TKM2	Tokmak 2	2.39	295	P	Pb	00 05 57.8	-1.7
	SNR=11						
TKM2	Tokmak 2	2.39	295	⇑Pg	Pb	00 05 57.6	-1.9
	9.4nm,0.5s						
TKM2				⇑Lg	Lg	00 06 30.5	
	26nm,0.4s						
DGS	Degeres	2.42	303	eP	Pb	00 05 59.7	-0.3
	19nm,0.5s						
DGS				eS	Sg	00 06 32.2	-1.3
	58nm,0.2s						
DGS	Degeres	2.42	303	Pg	Pb	00 05 59.7	-0.3
	19nm,0.5s						
DGS				Lg	Lg	00 06 32.2	
	58nm,0.2s						
KUU	Kurty	2.54	321	eP	Pb	00 06 00.8	-1.1
	24nm,0.3s						
KUU				eS	Sb	00 06 34.5	+0.9
	67nm,0.3s						
KUU	Kurty	2.54	321	Pg	Pb	00 06 00.8	-1.1
	24nm,0.3s						
KUU				Lg	Lg	00 06 34.5	
	67nm,0.3s						
DJR	Jarkent	2.56	21	eP	Pb	00 06 01.2	-1.1
	10nm,0.4s						
DJR				eS	Sb	00 06 35.3	+0.9
	178nm,0.3s						
DJR	Jarkent	2.56	21	Pg	Pb	00 06 01.2	-1.1
	10nm,0.4s						
DJR				Lg	Lg	00 06 35.3	
	178nm,0.3s						
KRBS	Karabastau	2.74	311	eP	Pb	00 06 05.2	-0.3
	13nm,0.3s						
KRBS				eS	Sg	00 06 41.9	-1.8
	48nm,0.4s						
KRBS	Karabastau	2.74	311	Pg	Pb	00 06 05.2	-0.3
	13nm,0.3s						
KRBS				Lg	Lg	00 06 41.9	
	48nm,0.4s						
KBK	Karagaybulak	2.76	286	⇓iP	Pn	00 06 01.5	+0.4
	baz=87						
KBK				⇓iS	Sn	00 06 36.4	+1.2
	baz=87						
KBK	Karagaybulak	2.76	286	P	Pb	00 06 03.5	-2.4
	SNR=17						
CHMS	Chumysh	3.00	292	⇑iP	Pn	00 06 04.8	+0.6
	baz=93						
CHMS				⇑iS	Sn	00 06 42.0	+1.2
	baz=93						
UCH	Uchtor	3.01	277	⇓iP	Pn	00 06 05.1	+0.3
	baz=78						
UCH				⇓iS	Sn	00 06 42.6	+0.8
	baz=78						
UCH	Uchtor	3.01	277	P	Pb	00 06 09.0	-1.3
	SNR=7.1						
TDK	Taldyqorghan	3.06	358	eP	Pb	00 06 09.7	-1.2
	17nm,0.4s						
TDK				eS	Sb	00 06 49.2	+0.4
	65nm,0.3s						
AAK	Ala-Archa	3.08	284	⇑eP	Pn	00 06 05.9	+0.4
	baz=85						
AAK				⇑iS	Sn	00 06 44.3	+1.2
	baz=85						
AAK	Ala-Archa	3.08	284	P	Pb	00 06 08.4	-2.9
	SNR=8.2						
AAK	Ala-Archa	3.08	284	⇑Pg	Pb	00 06 11.4	+0.1
	2.4nm,0.3s						
AAK				⇑Lg	Lg	00 06 54.9	
	20nm,0.5s						
ARLS	Aral	3.15	270	⇓iP	Pn	00 06 06.4	-0.1
	baz=71						
ARLS				⇓iS	Sn	00 06 45.0	+0.2
	baz=71						
EKS2	Erkin-Say	3.61	283	⇓iP	Pn	00 06 13.4	+0.7
	baz=84						
EKS2				⇓iS	Sn	00 06 56.6	+0.6
	baz=84						
AML	Almayashu	3.62	275	P	Pb	00 06 19.9	-0.6
	SNR=10						
MRKS	Merke	4.02	283	eP	Pb	00 06 27.5	+0.2
	4.2nm,0.7s						
MRKS				eS	Sb	00 07 20.2	+3.8
	9.2nm,0.3s						
MRKS	Merke	4.02	283	Pg	Pb	00 06 27.5	+0.2
	4.2nm,0.7s						
MRKS				Lg	Lg	00 07 20.2	
	9.2nm,0.3s						
BTLS	Baital	4.50	315	eP	Pb	00 06 36.1	+0.6
	2.4nm,0.6s						
BTLS				eS	Sb	00 07 35.0	+4.7
	5.1nm,0.6s						
BTLS	Baital	4.50	315	Pg	Pb	00 06 36.1	+0.6
	2.4nm,0.6s						
BTLS				Lg	Lg	00 07 35.0	
	5.1nm,0.6s						
MK31	Makanchi Array	5.55	28	Pn	Pn	00 06 40.1	+0.9
	0.3nm,0.3s,baz=208,slow=12,SNR=34						
MK31				⇓Sn	Sn	00 07 45.4	+1.7
	0.7nm,0.4s,baz=210,slow=25,SNR=4.2						
MK31				⇑Lg	Lg	00 08 08.4	
	2.3nm,0.6s,baz=204,slow=27,SNR=5.4						
KK31	Karatay Array	6.05	284	⇑Pg	Pg	00 07 06.6	-4.8
	0.6nm,0.5s,baz=90,slow=16,SNR=14						
KK31				⇑Lg	Lg	00 08 28.1	
	0.7nm,0.3s,baz=94,slow=30,SNR=6.5						
KURBB	Kurchatov Arra	8.69	360	⇓Lg	Lg	00 09 52.9	
	5.0nm,0.7s						
KURK	Kurchatov	8.78	0	⇑Lg	Lg	00 09 54.4	
	4.9nm,0.9s						

IDC 02 00:09:00.3±4.6**, 58°.04S**×**150°.96W, h0^{km}, mb3.7**/2**, mb1 4.0**/2**, mb1mx3.7**/24**, mbtmp3.7**/2**, MS3.7**/9**, Ms1 3.7**/9**, ms1mx3.6**/15**, Error ellipse: s-maj=712.8km s-min=107.3km az=177.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	25.15	202	LR	LR	00 21 03.3	
	comp=Z,110nm,20.7s,baz=78,slow=29						
RPZ	Rata Peaks	27.48	285	LR	LR	00 23 53.2	
	comp=Z,144nm,19.1s,baz=144,slow=32						
PPT	Papeete	40.43	2	LR	LR	00 29 25.3	
	comp=Z,130nm,19.7s,baz=186,slow=30						
STKA	Stephens Creek	51.78	270	LR	LR	00 35 41.3	
	comp=Z,92nm,20.5s,baz=202,slow=31						
PLCA	Paso Flores	51.85	108	LR	LR	00 34 48.3	
	comp=Z,54nm,19.6s,baz=180,slow=30						
MAW	Mawson	52.20	196	LR	LR	00 36 56.7	
	comp=Z,125nm,21.5s,baz=228,slow=32						
H03S2	Juan Fernandez	52.71	96	T	T	01 14 47.7	
	baz=215,slow=74,SNR=29						
H03S1	Juan Fernandez	52.71	96	T	T	01 14 49.9	
	baz=215,slow=74,SNR=30						
H03S3	Juan Fernandez	52.73	96	T	T	01 14 47.3	
	baz=215,slow=74,SNR=30						
H03N3	Juan Fernandez	53.00	95	T	T	01 15 12.5	
	baz=218,slow=72,SNR=63						
H03N2	Juan Fernandez	53.01	95	T	T	01 15 19.2	
	baz=218,slow=72,SNR=78						
H03N1	Juan Fernandez	53.02	95	T	T	01 15 12.7	
	baz=218,slow=72,SNR=52						
ASAR	Alice Springs	62.41	269	P	P	00 19 24.6	-0.4
	0.9nm,0.7s,baz=139,slow=6.7,SNR=10						
WRA	Warramunga Arr	65.22	272	P	P	00 19 43.9	+0.4
	0.4nm,0.7s,baz=156,slow=5.0,SNR=4.8						
WRA				LR	LR	00 44 26.0	
	comp=Z,41nm,21.1s,baz=225,slow=33						
BDFB	Brasilia	83.56	109	LR	LR	00 55 29.2	
	comp=Z,39nm,18.1s,baz=118,slow=33						
BOSA	Boshof	93.62	177	LR	LR	00 58 39.8	
	comp=Z,111nm,21.6s,baz=169,slow=32						
H10N3	ASCENSION HYDR	105.50	135	T	T	02 20 15.2	
	baz=203,slow=75,SNR=4.0						
H10N1	ASCENSION HYDR	105.50	135	T	T	02 20 34.0	
	baz=203,slow=75,SNR=7.0						
H10N2	ASCENSION HYDR	105.52	135	T	T	02 20 30.3	
	baz=203,slow=75,SNR=5.4						
MKAR	Makanchi Array	146.50	274	PKPbc	PKPdf	00 28 41.7	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.6nm,0.8s,baz=106,slow=4.3,SNR=15						

*IDC **02** 00:33:09.7±3.7, 24°23S×81°25E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/28, mbtmp3.6/4, Error ellipse: s-maj=144.3km s-min=31.1km az=35.0*
*NEIC **02** 00:33:15.3±2.4, 23°2S±0°2×82°45E±0°07, h10km±1km, mb4.6/15, Error ellipse: s-maj=25.7km s-min=10.3km az=175.0*
ISC 02 00:33:14.2±0.8**, 23°5S**±0°1×**82°3E**±0°1**, h10km, n24, σ1.91**/21**, mb4.5**/11**, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**14.86**	**195**	Pn	**P**	**00 36 49.8**	**-0.5**
H08S2	**Diego Garcia H**	**18.29**	**328**	T	T	00 56 30.8	
	baz=155,slow=76,SNR=21						
H08S1	**Diego Carcia H**	**18.30**	**328**	T	T	00 56 30.3	
	baz=155,slow=76						
H08S3	**Diego Garcia H**	**18.31**	**328**	T	T	00 56 30.5	
	baz=155,slow=76,SNR=17						
DGAR	**Diego Garcia**	**18.52**	**328**	P	**P**	**00 37 29.9**	**-0.9**
DGAR				IAmb	IAmb	00 37 34.7	
	comp=Z,34nm,1.1s						
PALK	**Pallekele**	**30.57**	**357**	P	**P**	**00 39 26.4**	**-1.9**
PALK				IAmb	IAmb	00 39 31.9	
	comp=Z,12nm,1.1s						
PSA00	**Pilbara Seismi**	**34.72**	**94**	P	**P**	**00 40 06.0**	**+1.4**
BKB	**Balikpapan**	**40.18**	**62**	P	**P**	**00 40 51.8**	**+0.8**
KAPI	**Kappang**	**40.51**	**69**	P	**P**	**00 40 52.8**	**-1.0**
KAPI				IAmb	IAmb	00 41 00.9	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.80**	**91**	P	**P**	**00 40 55.1**	**-1.0**
SOEI	**Soe**	**42.33**	**78**	P	**P**	**00 41 08.7**	**-0.1**
SOEI				IAmb	IAmb	00 41 13.3	
	comp=Z,17nm,1.1s						
SOCY	**Socotra**	**44.94**	**319**	P	**P**	**00 41 33.7**	**+4.0**
SOCY				IAmb	IAmb	00 41 48.9	
	comp=Z,8.2nm,1.0s						
CHTO	**Chiang Mai**	**45.05**	**23**	P	**P**	**00 41 30.8**	**+0.3**
LUWI	**Luwuk**	**45.15**	**66**	P	**P**	**00 41 29.4**	**-2.0**
ASAR	**Alice Springs**	**47.12**	**101**	P	**P**	**00 41 49.6**	**+2.7**
	comp=Z,0.7nm,0.7s,baz=259,slow=7.3,SNR=5.6						
ASAR	**Alice Springs**	**47.12**	**101**	P	**P**	**00 41 47.1**	**+0.2**
BBOO	**Buckleboo**	**47.92**	**114**	P	**P**	**00 41 52.1**	**-1.0**
BBOO				IAmb	IAmb	00 41 54.3	
	comp=Z,6.9nm,1.1s						
WRA	**Warramunga Arr**	**48.31**	**96**	P	**P**	**00 41 59.5**	**+3.3**
	comp=Z,0.6nm,0.6s,baz=257,slow=7.8,SNR=6.6						
WB2	**Warramunga Arr**	**48.32**	**96**	P	**P**	**00 41 55.6**	**-0.7**
WB2				IAmb	IAmb	00 41 56.2	
	comp=Z,2.9nm,1.1s						
WRAB	**Tennant Creek**	**48.32**	**96**	P	**P**	**00 41 53.9**	**-2.4**
WRAB				IAmb	IAmb	00 42 00.4	
	comp=Z,4.0nm,0.9s						
STKA	**Stephens Creek**	**52.67**	**113**	P	**P**	**00 42 28.6**	**-0.5**
MKAR	**Makanchi Array**	**69.91**	**0**	P	**P**	**00 44 27.3**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=184,slow=5.5,SNR=4.6						
MKAR	**Makanchi Array**	**69.91**	**0**	P	**P**	**00 44 24.7**	**-0.7**
BRTR	**Keskin Array B**	**77.50**	**324**	P	**P**	**00 45 07.7**	**-2.5**
	comp=Z,0.3nm,0.7s,baz=160,slow=5.4,SNR=2.0						

*ATH **02** 00:37:51.9, 38°42N×20°52E, h14km±1km, ML2.5/7, Error ellipse: s-maj=1.9km s-min=0.6km az=271.0*
*THE **02** 00:37:52.1, 38°42N×20°51E, h9km±1km, ML2.6/17, Error ellipse: s-maj=1.5km s-min=0.4km az=286.0*
ISC 02 00:37:51.4±0.8**, 38°43N**±0°02×**20°48E**±0°02**, h15km**±5km**, n66, σ0.96**/100**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.07**	**66**	P	**Pg**	**00 37 53.5**	**-1.0**
FSK				S	**Sg**	**00 37 54.8**	**-1.7**
	6µm,0.3s						
KEF5	**Kardakata, Kep**	**0.15**	**182**	P	**Pg**	**00 37 55.4**	**0.0**
KEF5				S	**Sg**	**00 37 58.3**	**+0.2**
KEF5	**Kardakata, Kep**	**0.15**	**182**	P	**Pg**	**00 37 55.4**	**0.0**
KEF5				S	**Sg**	**00 37 58.2**	**+0.2**
	12µm,0.4s						
KEF4	**Livadi, Kephal**	**0.18**	**193**	P	**Pg**	**00 37 56.0**	**+0.3**
KEF4				S	**Sg**	**00 37 59.3**	**+0.7**
KEF4	**Livadi, Kephal**	**0.18**	**193**	P	**Pg**	**00 37 56.0**	**+0.3**
KEF4				S	**Sg**	**00 37 59.5**	**+0.9**
	28µm,0.2s						
DMLN	**Damoulianata-K**	**0.21**	**203**	P	**Pg**	**00 37 56.6**	**+0.4**
DMLN				S	**Sg**	**00 38 00.2**	**+0.7**
	2µm,0.3s						
EVGI	**Lefkada island**	**0.24**	**36**	P	**Pg**	**00 37 56.7**	**0.0**
EVGI				S	**Sg**	**00 38 00.5**	**+0.2**
EVGI	**Lefkada island**	**0.24**	**36**	P	**Pg**	**00 37 56.7**	**0.0**
EVGI				S	**Sg**	**00 38 00.7**	**+0.4**
	2µm,0.1s						
KEF3	**Kipouria, Keph**	**0.25**	**204**	P	**Pg**	**00 37 56.8**	**-0.1**
KEF3				S	**Sg**	**00 38 00.8**	**+0.2**
KEF3	**Kipouria, Keph**	**0.25**	**204**	P	**Pg**	**00 37 56.7**	**-0.1**
KEF3				S	**Sg**	**00 38 00.7**	**+0.2**
	5µm,0.2s						
VLS	**Valsamata**	**0.27**	**161**	P	**Pg**	**00 37 55.2**	**-2.0**
PSDA	**Pessada-Kefalo**	**0.33**	**165**	P	**Pg**	**00 37 58.1**	**-0.1**
PSDA				S	**Sg**	**00 38 03.2**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.33**	**165**	P	**Pg**	**00 37 58.1**	**-0.1**
PSDA				S	**Sg**	**00 38 03.3**	**+0.4**
	642nm,0.3s						
NYDR	**Nydri-Lefkada**	**0.33**	**31**	P	**Pg**	**00 37 58.2**	**-0.1**
NYDR				S	**Sg**	**00 38 03.7**	**+0.7**
	2µm,0.4s						
LKD2	**Lefkada island**	**0.39**	**22**	P	**Pg**	**00 37 59.3**	**0.0**
LKD2				S	**Sg**	**00 38 05.4**	**+0.8**
LKD2				AML	AML	00 38 05.8	
	comp=E,1271µm,0.2s						
LKD2				AML	AML	00 38 07.6	
	comp=N,1834µm,0.4s						
LKD2	**Lefkada island**	**0.39**	**22**	P	**Pg**	**00 37 59.3**	**0.0**
LKD2				S	**Sg**	**00 38 05.5**	**+0.8**
	comp=N,778nm,0.3s						
TSLK	**Tsoukalades, L**	**0.42**	**19**	P	**Pg**	**00 38 00.1**	**+0.2**
TSLK				S	**Sg**	**00 38 06.4**	**+0.7**
TSLK				AML	AML	00 38 07.7	
	comp=E,1636µm,0.3s						
TSLK				AML	AML	00 38 10.6	
	comp=N,1776µm,0.3s						
TSLK	**Tsoukalades, L**	**0.42**	**19**	P	**Pg**	**00 38 00.1**	**+0.2**
TSLK				S	**Sg**	**00 38 06.3**	**+0.7**
	comp=N,840nm,0.2s						
VLMS	**Volimes, Zakyn**	**0.57**	**165**	P	**Pg**	**00 38 02.5**	**-0.3**
VLMS				S	**Sg**	**00 38 10.9**	**+0.5**
VLMS				AML	AML	00 38 15.6	
	comp=E,3522µm,0.3s						
VLMS				AML	AML	00 38 16.4	
	comp=N,3806µm,0.3s						
VLMS	**Volimes, Zakyn**	**0.57**	**165**	P	**Pg**	**00 38 02.4**	**-0.3**
VLMS				S	**Sb**	**00 38 11.3**	**+0.3**
	comp=N,2µm,0.3s						
PDO	**Prodromos**	**0.58**	**73**	P	**Pg**	**00 38 02.3**	**-0.6**
PDO				S	**Sg**	**00 38 10.3**	**-0.2**
PDO				AML	AML	00 38 15.9	
	comp=E,1180µm,0.6s						
PDO				AML	AML	00 38 16.2	
	comp=N,1232µm,0.4s						
PDO	**Prodromos**	**0.58**	**73**	P	**Pg**	**00 38 02.4**	**-0.4**
PDO				S	**Sb**	**00 38 11.1**	**-0.1**
	comp=N,868nm,0.5s						
LTHK	**Lithakia**	**0.77**	**158**	P	**Pg**	**00 38 05.5**	**-0.9**
LTHK				S	**Sb**	**00 38 17.2**	**+0.5**
LTHK				AML	AML	00 38 18.9	
	comp=N,1682µm,0.2s						
LTHK				AML	AML	00 38 24.4	
	comp=E,1163µm,0.3s						
LTHK	**Lithakia**	**0.77**	**158**	P	**Pg**	**00 38 05.6**	**-0.9**
LTHK				S	**Sb**	**00 38 18.3**	**+1.5**
	comp=E,675nm,0.2s						
RLS	**Riolos of Patr**	**0.86**	**115**	P	**Pg**	**00 38 07.4**	**-0.8**
RLS				S	**Sb**	**00 38 19.8**	**+0.4**
RLS				AML	AML	00 38 24.9	
	comp=E,253µm,0.3s						
RLS				AML	AML	00 38 25.4	
	comp=N,359µm,0.4s						
RLS	**Riolos of Patr**	**0.86**	**115**	P	**Pg**	**00 38 07.4**	**-0.8**
DRO	**Drossia**	**1.08**	**116**	P	**Pb**	**00 38 11.3**	**-0.5**
DRO	**Drossia**	**1.08**	**116**	P	**Pb**	**00 38 11.3**	**-0.5**
IGT	**Igoumenitsa**	**1.11**	**354**	P	**Pb**	**00 38 12.5**	**+0.2**
IGT	**Igoumenitsa**	**1.11**	**354**	P	**Pb**	**00 38 12.8**	**+0.6**
EFP	**Efpalio**	**1.12**	**90**	P	**Pb**	**00 38 11.9**	**-0.6**
EFP	**Efpalio**	**1.12**	**90**	P	**Pn**	**00 38 13.1**	**+0.6**
ANX	**Ano Chora**	**1.15**	**81**	P	**Pb**	**00 38 12.5**	**-0.5**
ANX	**Ano Chora**	**1.15**	**81**	P	**Pb**	**00 38 13.1**	**+0.2**
ANX				S	**Sn**	**00 38 29.8**	**+1.4**
	comp=N,222nm,0.6s						
EVR	**Evrytania**	**1.15**	**65**	P	**Pb**	**00 38 12.4**	**-0.6**
LAKA	**Lakka**	**1.20**	**99**	P	**Pb**	**00 38 12.9**	**-0.8**
LAKA	**Lakka**	**1.20**	**99**	P	**Pb**	**00 38 12.9**	**-0.8**
LAKA				S	**Sn**	**00 38 31.3**	**+1.8**
	comp=N,345nm,0.3s						
SERG	**Sergoula**	**1.24**	**90**	P	**Pn**	**00 38 13.8**	**-0.3**
SERG	**Sergoula**	**1.24**	**90**	P	**Pn**	**00 38 13.9**	**-0.3**
SERG				S	**Sn**	**00 38 32.5**	**+1.9**
	comp=N,168nm,0.3s						
TRIZ	**Trizonia**	**1.26**	**92**	P	**Pn**	**00 38 13.9**	**-0.5**
TRIZ	**Trizonia**	**1.26**	**92**	P	**Pn**	**00 38 13.9**	**-0.5**
TRIZ				S	**Sn**	**00 38 33.2**	**+2.3**
	comp=N,238nm,0.4s						
JAN	**Janina**	**1.26**	**13**	P	**Pn**	**00 38 15.2**	**+0.7**
ALIK	**Aliki, Aigiali**	**1.30**	**97**	P	**Pn**	**00 38 14.9**	**0.0**
KALE	**Kalithea**	**1.31**	**91**	P	**Pn**	**00 38 14.8**	**-0.4**
KALE	**Kalithea**	**1.31**	**91**	P	**Pn**	**00 38 14.7**	**-0.4**
KLV	**Kalavryta, Ach**	**1.37**	**106**	P	**Pn**	**00 38 15.8**	**-0.2**
KLV	**Kalavryta, Ach**	**1.37**	**106**	P	**Pn**	**00 38 15.8**	**-0.2**
KEK	**Kerkira**	**1.39**	**338**	P	**Pb**	**00 38 18.2**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.42**	**65**	P	**Pn**	**00 38 17.3**	**+0.7**
MAKR				AML	AML	00 38 47.4	
	comp=N,284µm,0.5s						
MAKR				AML	AML	00 38 48.8	
	comp=E,328µm,0.4s						
AGG	**Agios Georgios**	**1.57**	**67**	P	**Pn**	**00 38 19.4**	**+0.7**
AGG	**Agios Georgios**	**1.57**	**67**	P	**Pn**	**00 38 19.5**	**+0.8**
THL	**Klokotos Trika**	**1.65**	**46**	P	**Pb**	**00 38 22.0**	**+0.6**
ITM	**Ithomi**	**1.70**	**137**	P	**Pb**	**00 38 22.4**	**+0.1**
AXAR	**Agios Charalam**	**1.74**	**78**	P	**Pb**	**00 38 23.3**	**+0.3**
ATAL	**Atalanti**	**2.01**	**82**	P	**Pb**	**00 38 27.0**	**-0.7**
DBRK	**Dubrovnik**	**4.59**	**338**	*e*Pn	**Pn**	**00 38 59.4**	**-0.8**
DBRK				Sn	**Sn**	**00 39 50.8**	**-2.4**
STON	**Ston**	**4.91**	**335**	*e*Pn	**Pn**	**00 39 04.1**	**-0.5**
STON				Sn	**Sn**	**00 39 58.3**	**-2.9**
LSTV	**Lastovo**	**5.12**	**329**	*e*Pn	**Pn**	**00 39 07.8**	**+0.3**
LSTV				Sn	**Sn**	**00 40 03.2**	**-3.0**
MAKA	**Makarska**	**5.51**	**333**	*e*Pn	**Pn**	**00 39 12.6**	**-0.3**
HVAR	**Hvar**	**5.64**	**328**	*e*Pn	**Pn**	**00 39 15.5**	**+0.9**
HVAR				Sn	**Sn**	**00 40 17.5**	**-1.6**
RICI	**Ricice**	**5.66**	**334**	*i* Pn	**Pn**	**00 39 15.5**	**+0.6**
RICI				Sn	**Sn**	**00 40 18.3**	**-1.3**
KIJV	**Kijevo**	**6.36**	**332**	*e*Pn	**Pn**	**00 39 25.5**	**+1.0**
ZIRJ	**Zirje**	**6.37**	**327**	*e*Pn	**Pn**	**00 39 24.9**	**+0.3**
ZIRJ				Sn	**Sn**	**00 40 33.7**	**-3.3**
MORI	**Morici**	**6.51**	**328**	*i* Pn	**Pn**	**00 39 28.0**	**+1.4**
DUGI	**Dugi Otok**	**6.89**	**325**	*e*Pn	**Pn**	**00 39 32.9**	**+1.0**
NVLJ	**Novalja**	**7.43**	**327**	*e*Pn	**Pn**	**00 39 39.7**	**+0.5**

*KRSC **02** 00:44:17.3±0.9, 52°58N×158°10E, h150km±8km, ML3.9*
*IDC **02** 00:44:19.7±1.6, 52°97N×157°47E, h145km±3km, mb3.2/6, mb1 3.7/6, mb1mx3.2/31, mbtmp3.7/6, Error ellipse: s-maj=60.6km s-min=23.9km az=172.0*
ISC 02 00:44:19.1±0.8**, 52°59N**±0°06×**158°07E**±0°06**, h146km**±5km**, n38, σ1.30**/52**, mb3.6**/6**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**0.04**	**175**	*e*P	**Pn**	**00 44 38.8**	**-0.1**
MTVR	**Mutnovka**	**0.13**	**147**	*e*P	**Pn**	**00 44 38.6**	**-0.4**
ASAK	**Asacha**	**0.23**	**206**	*e*P	**Pn**	**00 44 39.0**	**-0.1**
ASAK				*e*S	**Sn**	**00 44 54.8**	**+0.5**
KRMR	**Karymshinskiy**	**0.24**	**9**	*e*P	**Pn**	**00 44 39.4**	**+0.4**
KRMR				*e*S	**Sn**	**00 44 55.1**	**+0.9**
RUS	**Russkaya**	**0.31**	**120**	*e*P	**Pn**	**00 44 38.8**	**-0.4**
RUS				*e*S	**Sn**	**00 44 54.3**	**-0.2**
PET	**Petropavlovsk**	**0.56**	**39**	*e*P	**Pn**	**00 44 40.1**	**-0.2**
PET				*e*S	**Sn**	**00 44 56.3**	**-0.2**
PETK	**Petropavlovsk-**	**0.56**	**337**	P	**Pn**	**00 44 39.6**	**-0.7**
	20nm,0.3s,baz=117,slow=8.3,SNR=2269						
PETK				S	**Sn**	**00 44 55.7**	**-1.0**
	7.2nm,0.3s,baz=44,slow=15,SNR=9.0						
DALK	**Dalny**	**0.61**	**43**	*e*P	**Pn**	**00 44 40.4**	**-0.2**
DALK				*e*S	**Sn**	**00 44 57.2**	**+0.2**
APC	**Apacha**	**0.65**	**302**	*e*P	**Pn**	**00 44 40.1**	**-0.7**
APC				*e*S	**Sn**	**00 44 56.1**	**-1.3**
UGLR	**Uglovaya**	**0.77**	**36**	*e*P	**Pn**	**00 44 42.0**	**+0.2**
UGLR				*e*S	**Sn**	**00 45 00.2**	**+1.0**
KDTR	**Khodutka, Kamc**	**0.78**	**180**	*e*P	**Pn**	**00 44 41.0**	**-0.8**
KDTR				*e*S	**Sn**	**00 44 58.2**	**-0.8**
KOK	**Koryaka**	**0.78**	**26**	*e*P	**Pn**	**00 44 42.1**	**+0.2**
AVH	**Avacha**	**0.79**	**31**	*e*P	**Pn**	**00 44 42.1**	**+0.2**
SMAR	**Somma**	**0.81**	**33**	*e*P	**Pn**	**00 44 42.3**	**+0.1**
KRER	**Koryakskii**	**0.82**	**30**	*e*P	**Pn**	**00 44 42.3**	**0.0**
KRX	**Arik**	**0.85**	**24**	*e*P	**Pn**	**00 44 42.3**	**-0.1**
SDLR	**Sedlovina**	**0.85**	**35**	*e*P	**Pn**	**00 44 42.3**	**-0.1**
MIPR	**Malaya Ipel'ka**	**0.86**	**249**	*e*P	**Pn**	**00 44 41.7**	**-0.7**
NLC	**Nalytchevo**	**0.97**	**53**	*e*P	**Pn**	**00 44 43.5**	**+0.3**
GNL	**Ganaly**	**1.11**	**356**	*e*P	**Pn**	**00 44 43.9**	**-0.7**
GNL				*e*S	**Sn**	**00 45 03.2**	**-0.9**
SPN	**Mys Shipunski**	**1.29**	**66**	*e*P	**Pn**	**00 44 45.9**	**-0.3**
SPN				*e*S	**Sn**	**00 45 06.0**	**-0.9**
PAU	**Pauzhetka**	**1.37**	**215**	*e*P	**Pn**	**00 44 46.9**	**-0.1**
ALID	**Alaid**	**2.33**	**223**	*e*P	**Pn**	**00 44 57.9**	**-0.2**
KZV	**Kizimen**	**2.85**	**27**	*e*P	**Pn**	**00 45 05.5**	**+1.0**
MKZ	**Mys Kozlova**	**2.94**	**46**	*e*P	**Pn**	**00 45 05.2**	**-0.3**
MKZ				*e*S	**Sn**	**00 45 39.2**	**-2.1**
TUMR	**Tumrok**	**2.96**	**24**	*e*P	**Pn**	**00 45 07.5**	**+1.6**
SRDR	**Sredinnyy**	**3.86**	**14**	*e*P	**Pn**	**00 45 18.7**	**+1.4**
BDR	**Baidarnaya**	**4.38**	**23**	*e*P	**Pn**	**00 45 25.5**	**+1.2**
SRKR	**Sorokina**	**4.45**	**23**	*e*P	**Pn**	**00 45 26.2**	**+1.0**
KBTR	**Krutoberegovo**	**4.56**	**36**	*e*P	**Pn**	**00 45 26.3**	**-0.3**
KBTR				*e*S	**Sn**	**00 46 15.3**	**-3.8**
BKI	**Bering**	**5.36**	**58**	*e*P	**Pn**	**00 45 36.7**	**-0.3**
BKI				*e*S	**Sn**	**00 46 33.1**	**-4.8**
KLR	**Kul'dur**	**16.90**	**269**	P	**Pn**	**00 48 06.9**	**+0.2**
	0.1nm,0.3s,baz=84,slow=10,SNR=4.6						
ILAR	**Eielson Array**	**30.04**	**45**	P	**P**	**00 50 14.4**	**+0.6**
	1.4nm,0.6s,baz=266,slow=7.0,SNR=30						
YKA	**Yellowknife Ar**	**44.36**	**42**	P	**P**	**00 52 13.9**	**-0.4**
	0.4nm,0.7s,baz=303,slow=7.0,SNR=5.7						
MKAR	**Makanchi Array**	**47.26**	**295**	P	**P**	**00 52 34.2**	**-3.0**
	0.1nm,0.5s,baz=52,slow=6.2,SNR=4.7						
NVAR	**Mina Array Bea**	**57.07**	**68**	P	**P**	**00 53 52.3**	**+2.3**
	0.5nm,0.6s,baz=318,slow=4.9,SNR=4.7						
PDAR	**Pinedale Array**	**58.84**	**59**	P	**P**	**00 54 04.0**	**+1.7**
	0.8nm,0.6s,baz=317,slow=2.6,SNR=10						
TXAR	**Lajitas Array**	**71.97**	**65**	P	**P**	**00 55 28.4**	**+1.7**
	0.8nm,0.6s,baz=298,slow=5.0,SNR=14						

*HEL **02** 00:47:17.7, 67°73N×20°28E, h0km, ML1.6, Explosion*
UPP 02 00:47:17.4±0.0**, 67°82N**×**20°20E, h0km, ML2.5, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**21**	P	Pg	00 47 20.4	+0.2
KUA				S	Sg	00 47 22.4	+0.3
KUA	**Kurravaara**	**0.15**	**21**	*i* P	Pg	00 47 20.4	+0.2
KUA				*i* S	Sg	00 47 22.4	+0.3
RATU	**Laukkuluspa**	**0.23**	**272**	P	Pg	00 47 22.0	+0.2
RATU	**Laukkuluspa**	**0.23**	**272**	*i* P	Pg	00 47 22.0	+0.2
KOVU	**Salmi**	**0.41**	**358**	P	Pg	00 47 25.2	0.0
KOVU	**Salmi**	**0.41**	**358**	*i* P	Pg	00 47 25.2	0.0
NIKU	**Nikkaluokta**	**0.44**	**277**	P	Pg	00 47 25.9	+0.1
NIKU	**Nikkaluokta**	**0.44**	**277**	*i* P	Pg	00 47 25.9	+0.1
DUNU	**Dundret**	**0.71**	**168**	P	Pg	00 47 30.7	-0.4
DUNU	**Dundret**	**0.71**	**168**	*i* P	Pg	00 47 30.7	-0.4
LANU	**Lannavaara**	**0.71**	**70**	*e*P	Pg	00 47 30.7	-0.3
LANU				*e*S	Sg	00 47 40.2	-0.1
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 47 32.2	-0.1
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	00 47 32.2	-0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PN	Pn	00 47 41.8	+0.2
KIF				*e*SB	Sg	00 47 56.8	+0.5
KIF				MSG		00 47 58.1	
	comp=Z,5.7nm,0.2s						
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 47 42.6	-1.2
PAJU				S	Sg	00 48 01.1	-0.5
PAJU	**Pajala**	**1.38**	**124**	*e*PG	Pg	00 47 42.5	-1.3
	baz=298						
TOF	**Tornio**	**2.38**	**135**	*e*PB	Pn	00 47 59.0	+1.4
	baz=309						
TOF				*e*		00 48 21.9	
TOF				MSG		00 48 25.9	
	comp=Z,2.6nm,0.2s						
SGF	**Sodankyl**	**2.45**	**96**	*e*PG	Pb	00 48 01.4	-0.9
SGF				*e*SG	Sb	00 48 32.9	-0.1
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	00 48 02.2	+2.0
RNF				*e*		00 48 25.0	
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*PB	Pn	00 48 01.9	+1.3
	baz=224						
VRF	**Varrio**	**3.58**	**87**	*e*P	Pn	00 48 14.6	+0.5

UPP 02 00:47:39.9±0.1**, 67°85N**×**20°18E, h0km, ML2.8, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.23**	**264**	P	Pg	00 47 44.5	+0.3
RATU				S	Sg	00 47 47.1	+0.1
KOVU	**Salmi**	**0.38**	**359**	P	Pg	00 47 47.2	+0.1
KOVU				S	Sg	00 47 52.3	+0.2
NIKU	**Nikkaluokta**	**0.43**	**273**	P	Pg	00 47 48.4	+0.1
MASU	**Masugnsbyn**	**0.80**	**119**	P	Pg	00 47 55.0	-0.2
MASU				S	Sg	00 48 05.5	0.0
PAJU	**Pajala**	**1.40**	**125**	P	Pn	00 48 05.4	-1.3
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*P	Pn	00 48 22.7	-0.1

IDC 02 01:02:33.9±6.5**, 4°07N**×**95°30E, h0km, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.1**/39**, mbtmp3.2**/3**, Error ellipse: s-maj=337.1km s-min=25.2km az=56.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**25.56**	**243**	T	T	01 35 18.5	
	baz=62,slow=76,SNR=6.9						
H08S3	**Diego Garcia H**	**25.57**	**243**	T	T	01 35 13.4	
	baz=62,slow=76,SNR=10						
H08S1	**Diego Carcia H**	**25.58**	**243**	T	T	01 35 22.3	
	baz=62,slow=76,SNR=5.7						
MKAR	**Makanchi Array**	**44.03**	**347**	P	P	01 10 41.6	-1.7
	0.2nm,0.6s,baz=158,slow=8.7,SNR=2.0						
WRA	**Warramunga Arr**	**45.17**	**123**	P	P	01 10 53.1	+0.2
	0.4nm,0.5s,baz=301,slow=9.3,SNR=7.4						
ASAR	**Alice Springs**	**46.64**	**128**	P	P	01 11 04.0	-0.5
	0.6nm,0.6s,baz=300,slow=7.8,SNR=7.3						
KURBB	**Kurchatov Arra**	**48.49**	**346**	P	P	01 11 19.8	+1.5
	0.1nm,0.5s,baz=165,slow=7.7,SNR=1.4						

*TIR **02** 01:09:57.1, 40°75N×19°93E, h0km, Md2.8, Ml2.4*
*ATH **02** 01:09:58.5, 40°82N×19°85E, h40km±12km, ML2.1/1, Error ellipse: s-maj=13.0km s-min=1.6km az=30.0*
ISC 02 01:09:57.9±1.2**, 40°76N**±0°02×**19°79E**±0°04**, h7km**±11km**, n30, σ1.16**/45**, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.37**	**218**	P	**Pb**	**01 10 06.5**	**-0.2**
	baz=230						
VLO				S	**Sb**	**01 10 13.7**	**+1.1**
	baz=230						
VLO				AMP			
	comp=E,4.5nm,0.3s,baz=230						
TPE	**Tepelena**	**0.49**	**160**	P	**Pg**	**01 10 07.0**	**-0.4**
	baz=171						
TIR	**Tirane**	**0.59**	**5**	P	**Pb**	**01 10 09.8**	**-0.8**
TIR	**Tirane**	**0.59**	**5**	P	**Pg**	**01 10 09.7**	**+0.3**
	baz=356						
TIR				S	**Sb**	**01 10 19.5**	**+0.3**
	baz=356						
TIR				AMP			
	comp=N,185nm,0.2s,baz=356						
LSK	**Leskovik**	**0.87**	**134**	P	**Pg**	**01 10 13.1**	**-1.4**
	baz=139						
LSK				S	**Sg**	**01 10 25.6**	**-0.3**
	baz=139						
LSK				AMP			
	comp=E,0.4nm,0.6s,baz=139						
SRN	**Sarande**	**0.89**	**170**	P	**Pg**	**01 10 15.0**	**-0.1**
	baz=176						
SRN				S	**Sb**	**01 10 28.4**	**+0.6**
	baz=176						
SRN				AMP			
	comp=E,0.2nm,0.4s,baz=176						
KASA	**Kassiopi**	**1.02**	**174**	P	**Pn**	**01 10 19.2**	**+0.7**
NEST	**Nestorio**	**1.02**	**109**	P	**Pg**	**01 10 16.6**	**-0.8**
NEST				S	**Sg**	**01 10 30.7**	**0.0**
KEK	**Kerkira**	**1.04**	**180**	P	**Pb**	**01 10 18.3**	**0.0**
PHP	**Peshkopia**	**1.05**	**28**	P	**Pg**	**01 10 17.0**	**-1.1**
	baz=22						
PHP				S	**Sn**	**01 10 33.3**	**-0.6**
	baz=22						
PHP				AMP			
	comp=N,0.3nm,0.4s,baz=22						
FNA	**Florina**	**1.20**	**88**	P	**Pg**	**01 10 19.6**	**-1.5**
SCTE	**Santa Cesarea**	**1.22**	**236**	P	**Pn**	**01 10 22.1**	**+0.7**
PUK	**Puka**	**1.29**	**3**	P	**Pb**	**01 10 22.8**	**+0.3**
	baz=359						
PUK				S	**Sn**	**01 10 42.8**	**+2.9**
	baz=359						
PUK				AMP			
	comp=N,0.3nm,0.4s,baz=359						
IGT	**Igoumenitsa**	**1.29**	**161**	P	**Pn**	**01 10 22.4**	**+0.1**
IGT				AML	AML	01 10 43.4	
	comp=E,101µm,0.5s						
IGT				AML	AML	01 10 44.0	
	comp=N,165µm,0.5s						
JAN	**Janina**	**1.37**	**143**	P	**Pn**	**01 10 23.7**	**+0.3**
KZN	**Kozani**	**1.57**	**106**	P	**Pn**	**01 10 27.0**	**+0.7**
BCI	**Bajram Curri**	**1.62**	**7**	P	**Pg**	**01 10 29.2**	**+0.1**
	baz=3.0						
BCI				S	**Sg**	**01 10 53.0**	**+2.9**
	baz=3.0						
BCI				AMP			
	comp=E,0.2nm,1.0s,baz=3.0						
STIP	**Stip**	**2.03**	**62**	*i* Pn	**Pg**	**01 10 36.8**	**-0.2**
DBRK	**Dubrovnik**	**2.27**	**328**	*e*Pn	**Pn**	**01 10 34.0**	**-1.9**
DBRK				Sn	**Sn**	**01 11 05.2**	**+1.1**
STON	**Ston**	**2.63**	**324**	*e*Pn	**Pn**	**01 10 39.4**	**-1.3**
LSTV	**Lastovo**	**2.96**	**314**	*e*Pn	**Pn**	**01 10 44.5**	**-0.7**
MAKA	**Makarska**	**3.26**	**322**	*i* Pn	**Pn**	**01 10 48.2**	**-1.3**
MAKA				Sn	**Sn**	**01 11 28.1**	**-0.4**
RICI	**Ricice**	**3.37**	**325**	*e*Pn	**Pn**	**01 10 50.0**	**-1.0**
RICI				Sn	**Sn**	**01 11 32.0**	**+0.8**
HVAR	**Hvar**	**3.47**	**315**	*e*Pn	**Pn**	**01 10 50.7**	**-1.6**
HVAR				Sn	**Sn**	**01 11 31.1**	**-2.6**
KIJV	**Kijevo**	**4.10**	**323**	*e*Pn	**Pn**	**01 11 01.0**	**0.0**
KIJV				Sn	**Sn**	**01 11 49.5**	**+0.3**
ZIRJ	**Zirje**	**4.23**	**315**	*e*Pn	**Pn**	**01 11 02.1**	**-0.6**
ZIRJ				Sn	**Sn**	**01 11 51.4**	**-0.9**
MORI	**Morici**	**4.34**	**317**	*e*Pn	**Pn**	**01 11 03.6**	**-0.6**
MORI				Sn	**Sn**	**01 11 53.3**	**-1.7**
DUGI	**Dugi Otok**	**4.77**	**314**	*e*Pn	**Pn**	**01 11 10.0**	**-0.1**
UDBI	**Udbina**	**4.80**	**323**	*e*Pn	**Pn**	**01 11 12.0**	**+1.4**
NVLJ	**Novalja**	**5.25**	**318**	*e*Pn	**Pn**	**01 11 16.0**	**-0.8**

ROM 02 01:11:04.2±0.1**, 42°556N**±0°004×**13°189E**±0°005**, h12km, ML1.3**/3**, 2C, Error ellipse: s-maj=0.5km s-min=0.2km az=162.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.05**	**158**	P	Pg	01 11 06.9	+0.3
RM33				S	Sg	01 11 08.3	0.0
RM33				AML	AML		
	comp=E,382µm,0.3s						
RM33				AML	AML		
	comp=N,526µm,0.2s						
LNSS	**Leonessa**	**0.12**	**293**	P	Pg	01 11 07.8	+0.4
LNSS				S	Sg	01 11 10.0	+0.3
LNSS				AML	AML		
	comp=E,226µm,0.4s						
LNSS				AML	AML		
	comp=N,176µm,0.7s						
SMA1	**SAN MARTINO**	**0.13**	**55**	⇑P	Pg	01 11 08.1	+0.5
SMA1	**SAN MARTINO**	**0.13**	**55**	⇑P	Pg	01 11 08.1	+0.5
SMA1				S	Sg	01 11 10.9	+1.0
SMA1				AML	AML		
	comp=N,57µm,1.5s						
SMA1				AML	AML		
	comp=E,83µm,0.6s						
CAMP	**Campotosto**	**0.16**	**97**	P	Pg	01 11 08.7	+0.6
CAMP				S	Sg	01 11 11.3	+0.6
NRCA	**Norcia**	**0.28**	**349**	P	Pg	01 11 10.6	+0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA				S	Sg	01 11 14.7	+0.7
FIAM	**Fiamignano**	**0.29**	**190**	P	Pg	01 11 10.7	+0.5
FIAM				S	Sb	01 11 15.4	-1.0
ARRO	**Arrone**	**0.31**	**274**	P	Pg	01 11 10.9	+0.4
ARRO				S	Sb	01 11 15.9	-1.0
TERO	**Teramo**	**0.31**	**78**	P	Pg	01 11 10.8	+0.2
TERO	**Teramo**	**0.31**	**78**	P	Pg	01 11 10.8	+0.2
TERO				S	Sg	01 11 15.4	+0.6

*MOS **02** 01:34:42.6±0.7, 45.°58N×149.°84E, h107km, mb4.0/4, Error ellipse: s-maj=17.2km s-min=10.0km az=56.5*
*SKHL **02** 01:34:42.6±0.3, 45.°50N×150.°00E, h104km±6km, mb4.5/4, msha5.8/3*
*JMA **02** 01:34:42.9±0.5, 45.°52N×149.°73E, h30km, M4.3*
*NEIC **02** 01:34:44.6±1.5, 45.°7N±0.°2×149.°6E±0.°2, h99km±10km, mb4.1/21, Error ellipse: s-maj=26.4km s-min=12.2km az=145.0*
*IDC **02** 01:34:46.0±3.0, 45.°73N×149.°54E, h119km±24km, mb3.4/9, mb1 3.6/12, mb1mx3.3/47, mbtmp3.8/12, Error ellipse: s-maj=58.1km s-min=19.4km az=159.0*
ISC 02 01:34:42.2±0.7**, 45.°35N**±0.°09×**150.°05E**±0.°08**, h100**km**, n82, σ1s74**/83**, mb3.9**/20**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.54**	**267**	d *i*PN	**Pn**	**01 35 08.8**	**-0.1**
KUR				*i* S	**Sn**	**01 35 28.5**	**-0.6**
KUR				pmax	pmax		
	comp=E,162nm,0.3s						
KUR				pmax	pmax		
	comp=Z,858nm,0.3s						
KUR				pmax	pmax		
	comp=N,276nm,0.2s						
KUR				smax	smax		
	comp=N,2µm,0.3s						
KUR				smax	smax		
	comp=E,1µm,0.4s						
KUR	**Kuril'sk**	**1.54**	**267**	*i* P	**Pn**	**01 35 08.8**	**-0.1**
KUR				AMB	AMB	01 35 09.6	
	comp=E,820nm,0.5s						
KUR				*i* S	**Sn**	**01 35 27.9**	**-1.2**
KUR				A	A	01 35 29.7	
	comp=E,3µm,0.5s						
KUR				A	A	01 35 29.7	
	comp=E,2µm,0.5s						
NEM2	**Nemuro 2**	**3.67**	**239**	P	**Pn**	**01 35 35.6**	**-1.2**
NEM2				*e*S	**Sn**	**01 36 14.1**	**-4.9**
JNK	**Nakash**	**4.20**	**247**	P	**Pn**	**01 35 44.1**	**+0.1**
JAK	**Akkeshi**	**4.51**	**240**	P	**Pn**	**01 35 46.8**	**-1.3**
JAK				*e*S	**Sn**	**01 36 34.7**	**-4.7**
JTKR	**Abashiri--Toko**	**4.59**	**255**	P	**Pn**	**01 35 50.0**	**+0.8**
JAR	**Ashorobuto**	**4.95**	**248**	P	**Pn**	**01 35 54.6**	**+0.5**
JAR				*e*S	**Sn**	**01 36 47.9**	**-2.1**
YSS	**Yuzh-Sakhalins**	**5.32**	**290**	*e*PN	**Pn**	**01 35 59.7**	**+0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.32**	**290**	*e*P	**Pn**	**01 35 59.8**	**+0.7**
YSS				AMB	AMB	01 36 01.6	
	comp=Z,20nm,0.6s						
JKK2	**Kamakawa 2**	**5.41**	**257**	P	**Pn**	**01 36 01.6**	**+1.2**
JKA	**Kamikawa-asahi**	**5.45**	**260**		**Pn**	**01 36 02.2**	**+1.4**
JKA	**Kamikawa-asahi**	**5.45**	**260**	*e*P	**Pn**	**01 36 02.2**	**+1.4**
ASAJ	**Asahikawa**	**5.45**	**260**	P	**Pn**	**01 36 01.8**	**+0.9**
	comp=Z,2.1nm,0.3s,baz=67,slow=13,SNR=5.9						
ASAJ	**Asahikawa**	**5.45**	**260**	P	**Pn**	**01 36 02.3**	**+1.4**
ASAJ	**Asahikawa**	**5.45**	**260**	PN	**Pn**	**01 36 02.2**	**+1.4**
JCH	**Churui**	**5.54**	**243**	P	**Pn**	**01 36 01.7**	**-0.4**
JCH				*e*S	**Sn**	**01 37 00.4**	**-4.1**
ERM	**Erimo**	**6.00**	**239**	PN	**Pn**	**01 36 09.4**	**+1.0**
ERM	**Erimo**	**6.00**	**239**	Pn	**Pn**	**01 36 09.4**	**+1.0**
JNBK	**Urakawa-nobuka**	**6.10**	**242**	P	**Pn**	**01 36 08.0**	**-1.7**
SKR	**Severo-Kuril's**	**6.71**	**35**	*e*PN	**Pn**	**01 36 17.2**	**-0.8**
SKR				MLR	MLR		
	comp=Z,500nm,13.0s						
SKR				MLR	MLR		
	comp=Z,500nm,15.0s						
SKR	**Severo-Kuril's**	**6.71**	**35**	*e*P	**Pn**	**01 36 17.2**	**-0.8**
SKR				AMB	AMB	01 36 18.1	
	comp=Z,7.0nm,0.5s						
SKR				*e*S	**Sn**	**01 37 28.4**	**-4.5**
SKR				A	A	01 37 33.0	
	comp=Z,70nm,0.6s						
SKR				A	A	01 37 33.0	
	comp=Z,90nm,0.6s						
JNB	**Noboribetsu**	**7.11**	**249**	P	**Pn**	**01 36 23.4**	**-0.1**
JKB	**Kayabe**	**7.40**	**245**	P	**Pn**	**01 36 26.2**	**-1.1**
TYV	**Tymovskoe**	**7.41**	**321**	*e*P	**Pn**	**01 36 26.6**	**-0.9**
PAU	**Pauzhetka**	**7.60**	**34**	*e*P	**Pn**	**01 36 29.5**	**-0.5**
PAU				AMB	AMB	01 36 31.3	
	comp=Z,6.0nm,0.3s						
PAU				*e*S	**Sn**	**01 37 50.2**	**-4.3**
PAU				A	A	01 37 53.6	
	comp=Z,40nm,0.2s						
PAU				A	A	01 37 53.6	
	comp=Z,70nm,0.2s						
JTM	**Tenmabayashi**	**7.99**	**238**	P	**Pn**	**01 36 34.2**	**-1.3**
JTM				*e*S	Sn	01 37 55.1	-9.1
JTM	**Tenmabayashi**	**7.99**	**238**	Pn	**Pn**	**01 36 34.6**	**-0.9**
OFUJ	**Ofunato**	**8.82**	**228**	*e*S	Sn	01 38 14.2	-10
PEA0B	**Petropavlovsk-**	**9.24**	**30**	PN	**Pn**	**01 36 52.1**	**-0.2**
PEA0B	**Petropavlovsk-**	**9.24**	**30**	Pn	**Pn**	**01 36 52.1**	**-0.2**
PETK	**Petropavlovsk-**	**9.24**	**30**	P	**Pn**	**01 36 52.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=212,slow=11,SNR=15						
PETK	**Petropavlovsk-**	**9.24**	**30**	PN	**Pn**	**01 36 52.8**	**+0.5**
PETK	**Petropavlovsk-**	**9.24**	**30**		**Pn**	**01 36 52.8**	**+0.5**
USRK	**Ussuriysk Ar.**	**12.88**	**271**	P	**Pn**	**01 37 41.1**	**-0.3**
	baz=76,slow=15,SNR=1.2						
H11N2	**WAKE ISLAND Hy**	**29.11**	**146**	T	T	02 11 36.7	
	baz=335,slow=76,SNR=84						
H11N1	**WAKE ISLAND Hy**	**29.12**	**146**	T	T	02 11 35.3	
	baz=335,slow=76,SNR=51						
H11N3	**WAKE ISLAND Hy**	**29.12**	**146**	T	T	02 11 35.6	
	baz=335,slow=76,SNR=72						
H11S1	**WAKE ISLAND Hy**	**30.14**	**147**	T	T	02 12 51.1	
	baz=336,slow=76,SNR=116						
H11S3	**WAKE ISLAND Hy**	**30.14**	**147**	T	T	02 12 51.7	
	baz=336,slow=76,SNR=82						
H11S2	**WAKE ISLAND Hy**	**30.16**	**147**	T	T	02 12 49.5	
	baz=336,slow=76,SNR=87						
TTA	**Tatalina**	**34.88**	**40**	P	**P**	**01 41 25.5**	**+1.9**
TTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TTA	**Tatalina**	**34.88**	**40**	P	**P**	**01 41 25.4**	**+1.9**
TTA				IAmb	IAmb	01 41 38.2	
	comp=Z,4.7nm,1.2s						
ENH	**Enshi**	**35.00**	**259**	P	**P**	**01 41 27.2**	**+2.3**
IMAR	**Indian Mountai**	**36.16**	**35**	P	**P**	**01 41 35.6**	**+1.2**
KTH	**Kantishna Hill**	**37.21**	**39**	P	**P**	**01 41 45.7**	**+2.3**
TOLK	**Toolik Lake Re**	**38.06**	**31**	P	**P**	**01 41 51.9**	**+1.4**
MDM	**Murphy Dome**	**38.40**	**37**	P	**P**	**01 41 55.8**	**+2.4**
MDM				IAmb	IAmb	01 42 10.4	
	comp=Z,2.3nm,1.3s						
WRH	**Wood River Hil**	**38.46**	**38**	P	**P**	**01 41 55.9**	**+2.1**
WRH				IAmb	IAmb	01 42 01.1	
	comp=Z,3.6nm,1.3s						
CCB	**Clear Creek Bu**	**38.58**	**38**	P	**P**	**01 41 57.0**	**+2.2**
POKR	**Poker Plat Res**	**38.73**	**37**	P	**P**	**01 41 56.7**	**+0.6**
HDA	**Harding Lake**	**38.95**	**38**	P	**P**	**01 41 59.5**	**+1.6**
HDA				IAmb	IAmb	01 42 10.0	
	comp=Z,2.9nm,1.2s						
IL31		**38.97**	**37**	P	**P**	**01 41 60.0**	**+1.9**
ILAR	**Eielson Array**	**38.97**	**37**	P	**P**	**01 41 59.1**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=267,slow=7.9,SNR=8.9						
DOT	**Dot Lake**	**40.27**	**39**	P	**P**	**01 42 09.9**	**+1.0**
DOT				IAmb	IAmb	01 42 20.6	
	comp=Z,3.3nm,1.5s						
VRDI	**Verde Repeater**	**40.84**	**43**	P	**P**	**01 42 16.4**	**+2.6**
VRDI				IAmb	IAmb	01 42 26.6	
	comp=Z,5.9nm,1.2s						
K27K	**Chicken**	**41.11**	**38**	P	**P**	**01 42 17.7**	**+2.0**
BCAR	**Beaver Creek A**	**41.36**	**40**	P	**P**	**01 42 20.0**	**+2.2**
EGAK	**Eagle**	**41.42**	**37**	P	**P**	**01 42 19.4**	**+1.1**
EGAK				IAmb	IAmb	01 42 19.9	
	comp=Z,1.4nm,0.7s						
INK	**Inuvik**	**43.97**	**31**	P	**P**	**01 42 40.1**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=301,slow=8.4,SNR=7.6						
KURK	**Kurchatov**	**46.36**	**304**	P	**P**	**01 42 56.4**	**-1.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KURK	**Kurchatov**	**46.36**	**304**	P	**P**	**01 42 56.4**	**-1.6**
KURK	**Kurchatov**	**46.36**	**304**	*e*P	**P**	**01 42 56.4**	**-1.6**
EUNU	**Eureka**	**50.92**	**11**	P	**P**	**01 43 32.6**	**+0.1**
RES	**Resolute Bay**	**52.84**	**18**	P	**P**	**01 43 47.4**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=317,slow=10,SNR=9.3						
YKA	**Yellowknife Ar**	**53.32**	**35**	P	**P**	**01 43 51.6**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=301,slow=6.3,SNR=8.0						
SBUM	**Sibu**	**54.08**	**229**	P	**P**	**01 43 59.4**	**+2.8**
ABKAR	**Akbulak array**	**57.67**	**309**	P	**P**	**01 44 22.5**	**+0.7**
ABKAR				IAmb	IAmb	01 44 22.8	
	comp=Z,2.0nm,1.4s						
FCC	**Fort Churchill**	**63.59**	**32**	P	**P**	**01 45 02.8**	**+1.0**
FCC				pmax	pmax		
	comp=Z,3.0nm,1.4s						
FCC	**Fort Churchill**	**63.59**	**32**	P	**P**	**01 45 02.8**	**+1.0**
FCC				IAmb	IAmb	01 45 05.4	
	comp=Z,3.2nm,1.4s						
FINES	**FINESS Array B**	**64.38**	**334**	P	**P**	**01 45 05.8**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=31,slow=8.3,SNR=3.6						
FINES	**FINESS Array B**	**64.38**	**334**	P	**P**	**01 45 06.0**	**-0.9**
FINES	**FINESS Array B**	**64.38**	**334**	P	**P**	**01 45 06.0**	**-0.9**
NOA	**NORSAR Array B**	**68.84**	**340**	P	**P**	**01 45 34.0**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=42,slow=5.1,SNR=3.5						
NOA	**NORSAR Array B**	**68.84**	**340**	P	**P**	**01 45 34.0**	**-1.4**
AKASG	**Malin Array Be**	**71.49**	**325**	P	**P**	**01 45 49.3**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=44,slow=5.2,SNR=5.6						
AKASG	**Malin Array Be**	**71.49**	**325**	P	**P**	**01 45 50.2**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,1.3s						
AKASG	**Malin Array Be**	**71.49**	**325**	P	**P**	**01 45 50.2**	**-1.4**
BUR08	**Bucovina Ar. S**	**75.53**	**325**	P	**P**	**01 46 16.2**	**+0.7**
BUR08				IAmb	IAmb	01 46 16.9	
	comp=Z,2.7nm,0.9s						
BURAR	**Bucovina Array**	**75.55**	**325**	P	**P**	**01 46 16.1**	**+0.5**
GERES	**GERESS Array B**	**78.74**	**332**	P	**P**	**01 46 32.1**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=18,slow=9.7,SNR=4.0						
GERES	**GERESS Array B**	**78.74**	**332**	P	**P**	**01 46 31.4**	**-2.0**
TXAR	**Lajitas Array**	**80.05**	**58**	P	**P**	**01 46 42.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=317,slow=3.7,SNR=2.1						

*IDC **02** 01:40:51.8±1.1, 0.°11N×124.°39E, h74km±8km, mb4.4/25, mb1 4.6/29, mb1mx4.6/33, mbtmp4.8/29, MS3.7/16, Ms1 3.7/16, ms1mx3.5/34, Error ellipse: s-maj=11.1km s-min=8.5km az=77.0*
*DJA **02** 01:40:52.0±1.0, 0°S±2°×12°5E±°, h15km±9km, M5.1/21, mb5.4/20, mB5.5/18, MLv5.5/21, Mw(mB)5.0/18, MwMwp4.7/4, Mwp5.0/4*
*GCMT **02** 01:40:52.3±0.3, 0.°05N±0.°02×124.°65E±0.°02, h68km±3km, MW4.9/81, Moment Tensor Solution. s30,c37; s81,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.67±.12; $M_{\theta\theta}$0.14±.10; $M_{\phi\phi}$-1.82±.10; $M_{r\theta}$-1.28±.06; $M_{\theta\phi}$1.24±.09; $M_{\phi r}$1.16±.08; Best double couple: $M_0$2.71400×10^{16} NP1:ϕ_s178.00000°, δ30.00000°, λ127.00000°. NP2: ϕ_s316.00000°, δ67.00000°, λ71.00000°. Principal axes: T 2.4440, Plg63.0000°, Azm195.0000°; N 0.5350, Plg18.0000°, Azm324.0000°; P -2.9840, Plg19.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **02** 01:40:52.4±1.5, 0.°05S±0.°07×124.°53E±0.°04, h71km±6km, mb5.0/69 Error ellipse: s-maj=10.1km s-min=5.7km az=177.0*
*KLM **02** 01:40:55, 0.°10S×124.°49E, h113km, mb4.9*
ISC 02 01:40:52.9±0.5**, 0.°04N**±0.°04×**124.°48E**±0.°04**, h86**km±4km**, n268, σ1s34**/296**, mb4.9**/92**, 58C-7D, Fault plane solution: NP1:**ϕ_s323.67633°**,** δ65.41157°**,** λ91.12465°. **NP2:** ϕ_s140.97513°**,** δ24.61255°**,** λ87.54390°. **Principal axes:** T Plg69.5681°**,** Azm235.9548°**;** N Plg1.0227°**,** Azm143.2083°**;** P Plg20.4040°**,** Azm52.8279°**; Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.73**	**317**	P	**Pn**	**01 41 08.4**	**-1.0**
KMSI				S	**Sn**	**01 41 20.7**	**-0.9**
LUWI	**Luwuk**	**2.02**	**238**	Pn	**Pn**	**01 41 24.0**	**-1.2**
LUWI	**Luwuk**	**2.02**	**238**	P	**Pn**	**01 41 25.5**	**+0.3**
SANI	**Sanana**	**2.57**	**144**	P	**Pn**	**01 41 29.8**	**-2.8**
SANI				S	**Sn**	**01 41 57.3**	**-5.7**
MRSI	**Marisa**	**2.57**	**280**	P	**Pn**	**01 41 32.0**	**-0.7**
TNTI	**Ternate**	**2.98**	**76**	Pn	**Pn**	**01 41 37.0**	**-1.1**
TNTI	**Ternate**	**2.98**	**76**	P	**Pn**	**01 41 37.2**	**-0.9**
APSI	**Ampana**	**2.98**	**252**	P	**Pn**	**01 41 39.2**	**+1.0**
SGSI	**Sangihe**	**3.77**	**16**	P	**Pn**	**01 41 51.5**	**+2.6**
TOLI2	**Tolitoli**	**3.85**	**286**	Pn	**Pn**	**01 41 50.3**	**+0.4**
NLAI	**Namlea**	**4.18**	**141**	P	**Pn**	**01 41 53.5**	**-0.9**
TTSI	**Tana Toraja**	**5.58**	**237**	P	**Pn**	**01 42 14.5**	**+1.1**
	8.6nm15µm1µm,0.6s						
SPSI	**Sidrap Palu**	**6.16**	**230**	P	**Pn**	**01 42 23.3**	**+1.9**
	3.1nm5µm11µm732nm,0.5s						
BNSI	**Bone**	**6.21**	**225**	P	**Pn**	**01 42 23.0**	**+1.0**
	2.6nm5µm673nm,0.7s						
SWI	**Sorong**	**6.84**	**98**	P	**Pn**	**01 42 30.4**	**-0.3**
	1.2nm3µm395nm,1.2s						
SIJI	**Sorong**	**6.85**	**98**	P	**Pn**	**01 42 30.7**	**-0.1**
	14nm,0.3s,baz=289,slow=8.2,SNR=83						
SIJI				S	**Sn**	**01 43 47.5**	**+0.2**
	baz=257,slow=23,SNR=1.0						
KAPI	**Kappang**	**6.89**	**223**	P	**Pn**	**01 42 31.9**	**+0.6**
	24nm,0.3s,baz=72,slow=6.8,SNR=63						
KAPI				S	**Sn**	**01 43 49.0**	**+0.6**
	9.7nm,0.3s,baz=209,slow=20,SNR=1.9						
KAPI	**Kappang**	**6.89**	**223**	Pn	**Pn**	**01 42 32.1**	**+0.8**
KCP	**Kidapawan**	**6.95**	**5**	⇓*i*P	**Pn**	**01 42 36.0**	**+3.7**
DAV	**Davao City (W)**	**7.07**	**9**	P	**Pn**	**01 42 37.4**	**+3.6**
	21nm,0.3s,baz=145,slow=2.3,SNR=15						
DAV				LR	LR	01 45 46.8	
	comp=Z,1µm,20.2s,baz=166,slow=42						
DAV	**Davao City (W)**	**7.07**	**9**	Pn	**Pn**	**01 42 36.4**	**+2.6**
BSSI	**Bau Bau, Buton**	**7.32**	**213**	P	**Pn**	**01 42 38.7**	**+1.5**
	1.0nm2µm273nm,0.7s						
BKB	**Balikpapan**	**7.69**	**260**	Pn	**Pn**	**01 42 44.3**	**+2.0**
BKB	**Balikpapan**	**7.69**	**260**	P	**Pn**	**01 42 45.3**	**+3.0**
MYLDM	**Lahad Datu**	**7.86**	**311**	Pn	**Pn**	**01 42 45.4**	**+0.9**
FAKI	**Fak Fak**	**8.30**	**111**	Pn	**Pn**	**01 42 48.6**	**-2.1**
FAKI	**Fak Fak**	**8.30**	**111**	P	**Pn**	**01 42 49.3**	**-1.4**
	1µm119nm,0.9s						
MMRI	**Maumere**	**8.90**	**194**	Pn	**Pn**	**01 43 00.0**	**+1.2**
KBKI	**Kotabaru**	**8.94**	**248**	P	**Pn**	**01 43 01.8**	**+2.4**
	151nm,0.7s						
SOEI	**Soe**	**9.73**	**181**	Pn	**Pn**	**01 43 10.5**	**+0.2**
SOEI	**Soe**	**9.73**	**181**	P	**Pn**	**01 43 12.0**	**+1.7**
	2µm180nm,0.9s						
KKM	**Kota Kinabalu**	**10.18**	**306**	Pn	**Pn**	**01 43 17.2**	**+0.9**
BATI	**Baumata**	**10.21**	**185**	P	**Pn**	**01 43 19.0**	**+2.2**
	3.0nm,0.3s,baz=10,slow=2.8,SNR=2.4						
BATI				LR	LR	01 47 31.8	
	comp=Z,676nm,20.4s,baz=344,slow=39						
BATI	**Baumata**	**10.21**	**185**	P	**Pn**	**01 43 17.9**	**+1.2**
	49nm,0.9s						
BBKI	**Banjar Baru**	**10.24**	**250**	P	**Pn**	**01 43 20.3**	**+3.2**
	2µm126nm,0.7s						
PLAI	**Plampang**	**11.05**	**217**	P	**Pn**	**01 43 30.2**	**+2.0**
	1µm90nm,0.8s						
TWSI	**Taliwang, Sumb**	**11.54**	**221**	P	**Pn**	**01 43 36.1**	**+1.3**
	1µm542nm46nm,1.0s						
SBUM	**Sibu**	**12.49**	**281**	Pn	**Pn**	**01 43 49.1**	**+1.5**
SBUM	**Sibu**	**12.49**	**281**	P	**Pn**	**01 43 50.0**	**+2.5**
KMMI	**Kalianget**	**12.63**	**236**	P	**P**	**01 44 01.3**	**+3.8**
TGY	**Tagaytay City**	**14.40**	**346**	P	**Pn**	**01 44 10.5**	**-2.3**
	59nm,0.3s,baz=23,slow=20,SNR=1.9						
KDU	**Kakadu**	**14.93**	**148**	P	**Pn**	**01 44 17.8**	**-1.7**
	baz=15,SNR=11						
SMRI	**Semarang**	**15.67**	**243**	P	**P**	**01 44 32.4**	**+1.1**
SMRI				IAmb	IAmb	01 44 34.0	
	comp=Z,93nm,0.7s						
SMRI	**Semarang**	**15.67**	**243**	P	**P**	**01 44 32.9**	**+1.6**
GENI	**Genyem**	**15.90**	**100**	P	**P**	**01 44 34.2**	**+0.4**
UGM	**Wanagama**	**16.00**	**240**		**P**	**01 44 37.1**	**+2.2**
KNRA	**Kununurra**	**16.18**	**165**		**Pn**	**01 44 34.4**	**-0.8**
KNRA				IAmb	IAmb	01 44 38.0	
	comp=Z,58nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.06**	**176**	P	**P**	**01 44 57.9**	**+0.2**
	comp=Z,5.0nm,0.3s,baz=7.2,slow=8.6,SNR=90						
FITZ				ScP	**ScP**	**01 52 57.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=142,slow=2.2,SNR=5.5						
FITZ	**Fitzroy Crossi**	**18.06**	**176**	P	**P**	**01 44 57.1**	**-0.5**
	baz=18,SNR=103						
FITZ	**Fitzroy Crossi**	**18.06**	**176**	P	**P**	**01 44 56.9**	**-0.7**
FITZ				IAmb	IAmb	01 44 59.8	
	comp=Z,112nm,0.9s						
LEM	**Lembang**	**18.15**	**248**	P	**P**	**01 44 58.6**	**-0.2**
	comp=Z,6.5nm,0.3s,baz=80,slow=11,SNR=15						
LEM				LR	LR	01 52 39.3	
	comp=Z,309nm,20.4s,baz=348,slow=39						
CISI	**Cisompet, Garu**	**18.25**	**245**	P	**P**	**01 44 59.2**	**-0.6**
CISI				IAmb	IAmb	01 45 08.7	
	comp=Z,119nm,0.7s						
PMBI	**Palembang**	**19.92**	**261**	P	**Pn**	**01 45 19.6**	**-0.8**
MYKOM	**Kota Tinggi**	**20.70**	**275**	P	Pn	01 45 28.2	-1.3
MYKOM				IAmb	IAmb	01 45 31.2	
	comp=Z,42nm,0.7s						
MYKOM	**Kota Tinggi**	**20.70**	**275**	P	Pn	01 45 28.0	-1.5
XMIS	**Christmas Isla**	**21.44**	**240**	P	**P**	**01 45 34.0**	**-0.4**
XMIS				IAmb	IAmb	01 45 36.3	
	comp=Z,111nm,0.8s						
XMIS	**Christmas Isla**	**21.44**	**240**	P	**P**	**01 45 35.4**	**+1.0**
	comp=Z,154nm,0.7s						
PSA00	**Pilbara Seismi**	**21.95**	**192**	P	**P**	**01 45 38.7**	**-1.0**
PSA00				IAmb	IAmb	01 45 40.7	
	comp=Z,76nm,0.8s						
PSA00	**Pilbara Seismi**	**21.95**	**192**	P	**P**	**01 45 39.2**	**-0.5**
PSA00				IAmb	IAmb	01 45 40.5	
	comp=Z,101nm,0.8s						
WB0	**Warramunga Arr**	**21.95**	**154**	P	**P**	**01 45 38.1**	**-1.6**
WB0				IAmb	IAmb	01 45 42.9	
	comp=Z,78nm,0.8s						
WRAB	**Tennant Creek**	**22.08**	**155**	P	**P**	**01 45 40.0**	**-1.1**
WRA	**Warramunga Arr**	**22.09**	**155**	P	**P**	**01 45 40.2**	**-1.0**
	comp=Z,98nm,0.8s,baz=335,slow=11,SNR=260						
WRA				PcP	**PcP**	**01 49 36.9**	**+0.9**
	comp=Z,9.6nm,0.9s,baz=326,slow=2.0,SNR=7.3						
WRA				ScP	**ScP**	**01 53 06.3**	**+0.5**
	comp=Z,1.5nm,1.0s,baz=326,slow=2.6,SNR=5.2						
WB2	**Warramunga Arr**	**22.09**	**155**	P	**P**	**01 45 39.9**	**-1.3**
	baz=22						
WB2				S	**S**	**01 49 37.2**	**-2.6**
	baz=22						
WB2	**Warramunga Arr**	**22.09**	**155**	P	**P**	**01 45 40.1**	**-1.2**
WR0	**Warramunga Arr**	**22.19**	**154**	P	**P**	**01 45 40.9**	**-1.3**
WR0				IAmb	IAmb	01 45 42.2	
	comp=Z,50nm,0.7s						
MANU	**Manus Island**	**22.98**	**95**	P	**P**	**01 45 50.9**	**+0.3**
COEN	**Coen**	**23.15**	**128**	P	**P**	**01 45 51.5**	**-0.8**
YULB	**Yu-li**	**23.42**	**353**	P	**P**	**01 45 54.8**	**+0.2**
BKNI	**Bangkinang**	**23.44**	**271**	P	**P**	**01 45 54.5**	**-0.4**
BKNI				IAmb	IAmb	01 46 10.8	
	comp=Z,36nm,0.5s						
QIZ	**Qiongzhong**	**23.71**	**324**	P	**P**	**01 45 57.7**	**+0.4**
QIZ				pP	**pP**	**01 46 15.3**	**-0.9**
QIZ				sS	**sS**	**01 50 39.0**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,290nm,8.6s						
QIZ				LR	LR		
	comp=Z,190nm,18.3s						
QIZ				LR	LR		
	comp=Z,210nm,15.7s						
QIZ				LR	LR		
	comp=Z,250nm,14.7s						
IPM	**Ipoh**	**23.84**	**281**	P	**P**	**01 45 59.1**	**+0.6**
SSLB	**Suanglung**	**23.85**	**352**	P	**P**	**01 46 00.6**	**+2.1**
KULM	**Kulim**	**24.36**	**283**	P	**P**	**01 46 03.5**	**+0.3**
KULM	**Kulim**	**24.36**	**283**	P	**P**	**01 46 04.0**	**+0.8**
PMG	**Port Moresby**	**24.45**	**113**	P	**P**	**01 46 04.9**	**+0.9**
	comp=Z,18nm,0.6s,baz=360,slow=2.3,SNR=5.1						
GIRL	**Giralia**	**24.65**	**203**	P	**P**	**01 46 06.7**	**+1.0**
	baz=25,SNR=15						
GIRL	**Giralia**	**24.65**	**203**	P	**P**	**01 46 06.5**	**+0.7**
WRKA	**Warakurna**	**25.20**	**172**	P	**P**	**01 46 11.1**	**+0.3**
	baz=25,SNR=70						
QIS	**Mount Isa**	**25.26**	**145**	P	**P**	**01 46 12.1**	**+0.8**
	baz=25,SNR=260						
AS31	**Alice Springs**	**25.28**	**159**	P	**P**	**01 46 11.3**	**-0.1**
ASPA	**Alice Springs**	**25.28**	**159**	P	**P**	**01 46 11.7**	**+0.3**
	baz=25						
ASAR	**Alice Springs**	**25.28**	**159**	P	**P**	**01 46 11.8**	**+0.3**
	comp=Z,32nm,0.5s,baz=341,slow=7.8,SNR=421						
ASAR				PcP	**PcP**	**01 49 43.5**	**+0.7**
	comp=Z,7.9nm,0.6s,baz=345,slow=1.8,SNR=13						
ASAR				ScP	**ScP**	**01 53 15.2**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=345,slow=2.8,SNR=11						
ASAR				LR	LR	01 56 39.9	
	comp=Z,92nm,20.0s,baz=323,slow=37						
ASAR	**Alice Springs**	**25.28**	**159**	P	**P**	**01 46 11.5**	**0.0**
RPSI	**Rantau Prapat**	**25.68**	**276**	P	**P**	**01 46 14.3**	**-0.9**
RPSI				IAmb	IAmb	01 46 15.8	
	comp=Z,30nm,0.9s						
PSI	**Prapat**	**25.69**	**276**	P	**P**	**01 46 14.4**	**-1.1**
	comp=Z,29nm,1.0s,baz=179,slow=0.7,SNR=21						
PSI				ScP	**ScP**	**01 53 16.3**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=179,slow=2.4,SNR=4.2						
PSI				LR	LR	01 58 18.1	
	comp=Z,132nm,19.9s,baz=91,slow=41						
TRTT	**Trang**	**25.89**	**288**	P	**P**	**01 46 17.9**	**+0.7**
	comp=Z,20nm,1.4s						
MTSU	**Mount Surprise**	**26.58**	**134**	P	**P**	**01 46 24.2**	**+0.9**
	baz=26,SNR=12						
KHON	**Khomkaen**	**26.80**	**308**	P	**P**	**01 46 26.6**	**+1.4**
	comp=Z,114nm,0.8s						
JOW	**Kunigami**	**26.89**	**8**	LR	LR	01 56 34.6	
	comp=Z,168nm,22.0s,baz=178,slow=35						
CHAI	**Chaiyaphum**	**27.23**	**306**	P	**P**	**01 46 30.4**	**+1.4**
	comp=Z,333nmcomp=Z,46nm,0.8s						
PHET	**Kaeng Krachan**	**27.76**	**298**	P	**P**	**01 46 35.4**	**+1.6**
	comp=Z,30nm,0.9s						
RABL	**Rabaul**	**27.98**	**99**	P	**P**	**01 46 37.6**	**+1.7**
UTHA	**Uthaitani**	**29.14**	**303**	P	**P**	**01 46 46.8**	**+0.7**
	comp=Z,541nmcomp=Z,48nm,0.7s						
PHIT	**Phitsanulok**	**29.19**	**307**	P	**P**	**01 46 48.0**	**+1.5**
	comp=Z,3µmcomp=Z,71nm,0.7s						
CTA	**Charters Tower**	**29.24**	**134**	P	**P**	**01 46 46.7**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=342,slow=11,SNR=4.1						
CTA				ScP	**ScP**	**01 53 28.6**	**+2.1**
	comp=Z,2.7nm,0.8s,baz=296,slow=6.7,SNR=3.1						
UTTA	**Uttaradit**	**29.38**	**308**	P	**P**	**01 46 49.0**	**+0.8**
	comp=Z,24nm,0.8s						
UMPA	**Umpang Tak**	**29.94**	**304**	P	**P**	**01 46 54.0**	**+0.7**
	comp=Z,7µmcomp=Z,12nm,0.7s						
MORW	**Morawa**	**30.05**	**195**	P	**P**	**01 46 53.5**	**-0.5**
	baz=30,SNR=6.2						
LAMP	**Lampang**	**30.54**	**308**	P	**P**	**01 47 00.0**	**+1.5**
	comp=Z,31nm,0.8s						
FORT	**Forrest**	**30.84**	**174**	P	**P**	**01 47 01.0**	**0.0**
	baz=31,SNR=150						
FORT	**Forrest**	**30.84**	**174**	P	**P**	**01 47 00.7**	**-0.2**
CM36	**Chiang Mai Arr**	**30.96**	**308**	P	**P**	**01 47 03.0**	**+0.8**
CM04	**Chiang Mai Arr**	**30.99**	**307**	P	**P**	**01 47 03.6**	**+1.2**
	comp=Z,10nm,0.8s						
CM35	**Chiang Mai Arr**	**31.01**	**308**	P	**P**	**01 47 03.0**	**+0.4**
CM01	**Chiang Mai Arr**	**31.02**	**307**	P	**P**	**01 47 04.0**	**+1.3**
	comp=Z,9.0nm,0.9s						
CM05	**Chiang Mai Arr**	**31.02**	**307**	P	**P**	**01 47 04.0**	**+1.2**
	comp=Z,62nmcomp=Z,8.4nm,0.8s						
CM02	**Chiang Mai Arr**	**31.04**	**307**	P	**P**	**01 47 05.8**	**+2.9**
	comp=Z,10nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.05**	**308**	P	**P**	**01 47 01.7**	**-1.4**
	comp=Z,6.7nm,0.8s,baz=135,slow=7.6,SNR=30						
CMAR				PcP	**PcP**	**01 49 57.1**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=176,slow=2.3,SNR=10						
CMAR				ScP	**ScP**	**01 53 34.2**	**+1.7**
	comp=Z,1.9nm,0.3s,baz=142,slow=2.1,SNR=4.9						
CMAR				LR	LR	01 59 19.1	
	comp=Z,118nm,21.9s,baz=167,slow=36						
CMAR	**Chiang Mai Arr**	**31.05**	**308**	P	**P**	**01 47 03.2**	**+0.1**
CM13	**Chiang Mai Arr**	**31.06**	**307**	P	**P**	**01 47 04.3**	**+1.3**
	comp=Z,86nmcomp=Z,11nm,0.8s						
CM15	**Chiang Mai Arr**	**31.06**	**307**	P	**P**	**01 47 05.2**	**+2.0**
	comp=Z,18nm,0.5s						
CM34	**Chiang Mai Arr**	**31.11**	**308**	P	**P**	**01 47 04.0**	**+0.5**
CM32	**Chiang Mai Arr**	**31.23**	**308**	P	**P**	**01 47 05.0**	**+0.4**
CMMT	**Chiang Mai**	**31.24**	**308**	P	**P**	**01 47 04.4**	**-0.3**
	comp=Z,15nm,0.8s						
CHTO	**Chiang Mai**	**31.25**	**308**	P	**P**	**01 47 05.0**	**+0.3**
CHTO				IAmb	IAmb	01 47 06.6	
	comp=Z,22nm,0.8s						
CM33	**Chiang Mai Arr**	**31.25**	**308**	P	**P**	**01 47 05.0**	**+0.3**
KMBL	**Kambalda**	**31.33**	**184**	P	**P**	**01 47 05.2**	**-0.1**
	baz=31,SNR=19						
BLDU	**Ballidu**	**31.37**	**193**	P	**P**	**01 47 05.3**	**-0.4**
	baz=31,SNR=15						
MHMT	**Maesarieng**	**31.71**	**306**	P	**P**	**01 47 09.0**	**+0.2**
JCJ	**Chichijima**	**31.84**	**31**	P	**P**	**01 47 09.4**	**-0.3**
	comp=Z,71nm,0.6s,baz=123,slow=20,SNR=5.4						
KLBR	**Kellerberrin**	**32.10**	**191**	P	**P**	**01 47 11.6**	**-0.4**
	baz=32,SNR=19						
NJ2	**Nanjing**	**32.28**	**351**	*e*P	**P**	**01 47 15.3**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
KMI	**Kunming**	**32.61**	**321**	⇑P	**P**	**01 47 18.6**	**+1.7**

KMI pP pP 01 47 39.9 +3.0
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI pmax pmax
comp=Z,100nm,4.1s
MUN Mundaring 32.79 193 P **P** **01 47 17.9 -0.2**
baz=33,SNR=5.0
ENH Enshi 33.28 336 P **P** **01 47 23.1 +0.7**
ENH IAmb IAmb 01 47 25.2
comp=Z,14nm,0.8s
JNU Nakatsue 33.45 10 P **P** **01 47 23.0 -0.9**
comp=Z,15nm,0.8s,baz=183,slow=3.7,SNR=5.8
NWAO Narrogin (SRO) 33.49 191 P **P** **01 47 24.3 +0.1**
baz=34,SNR=8.8
NWAO Narrogin (SRO) 33.49 191 P **P** **01 47 24.0 -0.2**
NWAO IAmb IAmb 01 47 24.8
comp=Z,26nm,0.8s
BBOO Buckleboo 34.45 163 P **P** **01 47 32.4 -0.1**
baz=34,SNR=21
BBOO Buckleboo 34.45 163 P **P** **01 47 32.5 0.0**
BBOO IAmb IAmb 01 47 34.9
comp=Z,23nm,0.8s
JMN Monobe 34.66 14 P **P** **01 47 34.7 +0.4**
STKA Stephens Creek 35.64 155 P **P** **01 47 43.5 +0.9**
comp=Z,54nm,0.7s,baz=327,slow=8.8,SNR=115
STKA ScP **ScP** **01 53 49.2 +1.1**
comp=Z,2.2nm,0.8s,baz=49,slow=3.9,SNR=5.4
STKA LR LR 02 03 11.5
comp=Z,81nm,21.8s,baz=9.2,slow=38
STKA Stephens Creek 35.64 155 P **P** **01 47 43.6 +0.9**
baz=36,SNR=88
STKA Stephens Creek 35.64 155 P **P** **01 47 43.0 +0.3**
STKA IAmb IAmb 01 47 44.5
comp=Z,11nm,0.7s
HTT Hallett 35.96 159 P **P** **01 47 46.5 +1.0**
baz=36,SNR=19
CD2 Chengdu 36.46 329 P **P** **01 47 50.7 +0.9**
CD2 pmax pmax
comp=Z,20nm,0.7s
JWT Wachi 36.51 15 P **P** **01 47 50.8 +0.7**
HNR Honiara 36.54 106 P **P** **01 47 50.8 +0.1**
XAN Xi'an 36.84 338 P **P** **01 47 51.7 -1.2**
XAN pmax pmax
comp=Z,6.0nm,0.8s
INU Inuyama 37.02 17 P **P** **01 47 54.5 0.0**
CMSA Cobar Meteorol 37.28 149 P **P** **01 47 58.2 +1.5**
baz=37,SNR=28
JGF Kuroka 37.36 17 P **P** **01 47 57.0 -0.3**
KSRS Korea Array 37.37 5 P **P** **01 47 58.5 +1.2**
comp=Z,1.8nm,0.5s,baz=181,slow=11,SNR=5.7
KSRS ScP **ScP** **01 53 55.8 +1.4**
comp=Z,3.3nm,0.9s,baz=170,slow=3.3,SNR=8.2
MAJO Matsushiro 38.49 18 P **P** **01 48 06.0 -0.8**
MAT Matsushiro 38.49 18 P **P** **01 48 06.0 -0.8**
MJAR Matsushiro Arr 38.49 18 P **P** **01 48 06.3 -0.6**
comp=Z,31nm,0.8s,baz=193,slow=8.4,SNR=34
MJAR ScP **ScP** **01 53 59.6 +0.9**
comp=Z,2.9nm,0.8s,baz=187,slow=5.5,SNR=3.0
MJAR LR LR 02 02 55.1
comp=Z,69nm,22.0s,baz=200,slow=34
MJAR Matsushiro Arr 38.49 18 P **P** **01 48 05.7 -1.1**
MJAR IAmb IAmb 01 48 06.7
comp=Z,10nm,0.7s
ARMA Armidale 39.80 142 P **P** **01 48 19.2 +1.3**
baz=40,SNR=8.6
ARPS Mount Arapiles 40.01 158 P **P** **01 48 20.7 +1.2**
baz=40,SNR=26
JMM Marumori 40.54 20 P **P** **01 48 25.3 +1.6**
LZH Lanzhou 40.67 334 *eP* **P** **01 48 26.8 +1.7**
LZH pP pP 01 48 48.4 +2.6
LZH sP sP 01 48 58.2 +2.5
LZH PP **PP** **01 50 00.3 -0.2**
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,110nm,4.6s
CAN Canberra 41.96 149 P **P** **01 48 37.2 +1.6**
CAN IAmb IAmb 01 48 38.7
comp=Z,24nm,0.8s
CNB Canberra Magne 42.14 149 P **P** **01 48 39.1 +2.0**
baz=42,SNR=6.8
TOO Toolangi 42.16 155 P **P** **01 48 37.5 +0.4**
baz=42,SNR=6.0
TOO Toolangi 42.16 155 P **P** **01 48 39.2 +2.1**
TOO IAmb IAmb 01 48 40.4
comp=Z,40nm,1.1s
HHC Hu-ho-hao-te 42.28 345 *eP* **P** **01 48 39.8 +1.7**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,110nm,7.1s
LSA Lhasa 43.34 316 P **P** **01 48 47.9 +0.6**
LSA pmax pmax
comp=Z,31nm,0.6s
LSA Lhasa 43.34 316 P **P** **01 48 47.6 +0.2**
LSA IAmb IAmb 01 48 49.8
comp=Z,11nm,0.7s
USA0B Ussuriysk Arra 44.48 8 P **P** **01 48 55.3 -0.3**
USA0B IAmb IAmb 01 48 56.8
comp=Z,38nm,1.4s
USRK Ussuriysk Ar. 44.48 8 P **P** **01 48 56.0 +0.4**
comp=Z,8.6nm,0.4s,baz=191,slow=7.0,SNR=28
USRK Ussuriysk Ar. 44.48 8 P **P** **01 48 55.9 +0.4**
ODAN Odare 44.53 310 *eP* **P** **01 48 56.2 -0.4**
comp=Z,11nm,0.5s
TAPN Taplejung 44.53 311 *eP* **P** **01 48 56.5 -0.2**
comp=Z,13nm,0.5s
MDJ Mudanjiang 44.62 5 P **P** **01 48 57.5 +0.8**
MDJ pmax pmax
comp=Z,24nm,0.6s
MDJ pmax pmax
comp=Z,120nm,4.6s
MDJ Mudanjiang 44.62 5 P **P** **01 48 57.0 +0.3**
MDJ IAmb IAmb 01 48 58.5
comp=Z,51nm,1.3s
SANVU Saraoutou 44.91 112 P **P** **01 49 01.5 +2.0**
RAMN Ramite 45.18 309 *eP* **P** **01 49 00.7 -1.1**
comp=Z,30nm,0.6s
GTA Gaotai 45.21 333 P **P** **01 49 01.6 -0.1**
GTA PcP **PcP** **01 50 42.3 +1.7**
GTA ScP **ScP** **01 54 25.8 +0.2**
GTA ScS **ScS** **01 58 49.0 -1.4**
GTA pmax pmax
comp=Z,13nm,0.8s
GTA pmax pmax
comp=Z,65nm,4.2s
GTA LR LR
comp=Z,150nm,17.4s
GTA LR LR
comp=Z,320nm,18.9s
GTA LR LR
comp=Z,220nm,17.1s
GUN Gumba 46.21 310 *eP* **P** **01 49 09.4 -0.7**
comp=Z,40nm,0.7s
PKI Pulchoki 46.41 309 *eP* **P** **01 49 10.4 -1.2**
comp=Z,9.9nm,0.6s
DZM Mont Dzumac 46.41 121 P **P** **01 49 12.0 +0.6**
PKIN Phulchoki 46.42 309 *eP* **P** **01 49 10.4 -1.2**
comp=Z,8.5nm,0.5s
KKN Kakani 46.61 310 *eP* **P** **01 49 12.0 -1.1**
comp=Z,21nm,0.9s
LIFNC LIFOU 46.63 119 P **P** **01 49 14.6 +1.6**
DMN Daman 46.66 309 *eP* **P** **01 49 11.6 -1.9**
comp=Z,5.9nm,0.3s
ASAJ Asahikawa 46.76 18 P **P** **01 49 14.4 +0.8**
comp=Z,7.5nm,0.3s,baz=223,slow=8.6,SNR=7.5
JKA Kamikawa-asahi 46.76 18 P **P** **01 49 14.2 +0.6**
JKA IAmb IAmb 01 49 19.0
comp=Z,21nm,1.1s
GKN Gorkha 47.21 309 *eP* **P** **01 49 16.8 -0.9**
comp=Z,22nm,0.7s
PINNC Pines Island, 47.48 121 P **P** **01 49 19.2 -0.4**
comp=Z,47nm,1.2s
HYB Hyderabad 48.37 293 *iP* **P** **01 49 25.0 -1.6**
KLR Kul'dur 49.40 6 ScP **ScP** **01 54 42.9 +0.1**
baz=225,slow=2.9
ULN Ulaanbaatar 49.99 345 P **P** **01 49 38.0 -0.6**
SONM Songino Array 50.13 344 P **P** **01 49 39.1 -0.5**
comp=Z,6.9nm,0.7s,baz=158,slow=8.7,SNR=25
SONM ScP **ScP** **01 54 46.2 0.0**
comp=Z,3.8nm,0.9s,baz=158,slow=4.0,SNR=8.4
SONM LR LR 02 12 33.5
comp=Z,58nm,19.7s,baz=45,slow=38
SONM Songino Array 50.13 344 P **P** **01 49 39.2 -0.5**
TLY Talaya 54.38 344 P **P** **01 50 12.4 +1.5**
TLY IAmb IAmb 01 50 14.1
comp=Z,8.0nm,0.7s
WMQ Urumqi 54.53 328 *eP* **P** **01 50 13.4 +1.2**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,190nm,5.1s
ZSN Zaisan 58.44 329 *eP* **P** **01 50 37.5 -2.3**
baz=329
NIL Nilore 58.48 310 P **P** **01 50 39.7 -0.7**
NIL IAmb IAmb 01 50 50.2
comp=Z,7.6nm,0.8s
SHLS Shalkode 58.82 323 *eP* **P** **01 50 39.8 -2.9**
baz=323
UZB Uzynbulak 59.08 323 *eP* **P** **01 50 43.7 -0.8**
baz=322
KSH Kashi 59.14 318 P **P** **01 50 45.1 +0.1**
KSH sP sP 01 51 21.4 +5.2
KSH PcP **PcP** **01 51 33.2 +0.4**
KSH pmax pmax
comp=Z,12nm,0.8s
KSH pmax pmax
comp=Z,390nm,6.6s
MK31 Makanchi Array 59.36 328 P **P** **01 50 44.8 -1.4**
MK31 IAmb IAmb 01 50 48.2
comp=Z,5.5nm,0.7s
MKAR Makanchi Array 59.36 328 P **P** **01 50 45.1 -1.1**
comp=Z,3.8nm,0.3s,baz=126,slow=8.0,SNR=68
MKAR ScP **ScP** **01 55 26.0 -0.5**
comp=Z,4.1nm,0.8s,baz=125,slow=4.4,SNR=12
MKAR LR LR 02 19 23.5
comp=Z,51nm,18.4s,baz=109,slow=39
MKAR Makanchi Array 59.36 328 P **P** **01 50 44.7 -1.6**
SATY Saty 59.41 322 *eP* **P** **01 50 45.1 -1.6**
comp=Z,6.7nm,0.7s,baz=322
KPKS Kokpek 59.46 323 *eP* **P** **01 50 45.2 -1.9**
comp=Z,8.1nm,0.4s,baz=323
PETK Petropavlovsk- 59.67 22 P **P** **01 50 48.5 +0.3**
comp=Z,5.9nm,0.6s,baz=188,slow=4.1,SNR=10.0
PETK LR LR 02 13 14.7
comp=Z,24nm,21.5s,baz=214,slow=33
PETK Petropavlovsk- 59.67 22 P **P** **01 50 49.1 +0.9**
TNSS Tian-Shan 60.30 321 *eP* **P** **01 50 52.4 -0.8**
baz=321
MDOK Medeo 60.30 322 *eP* **P** **01 50 51.6 -1.3**
baz=322
TDK Taldyqorghan 60.48 324 *eP* **P** **01 50 53.4 -0.6**
comp=Z,5.8nm,0.4s,baz=324
CHKK Chushkaly 60.70 322 *eP* **P** **01 50 54.2 -1.3**
baz=322
KUU Kurty 61.12 322 *eP* **P** **01 50 56.3 -2.0**
comp=Z,18nm,0.6s,baz=322
BKZ Black Stump Fm 61.44 136 P **P** **01 51 00.8 +0.2**
BKZ IAmb IAmb 01 51 18.6
comp=Z,12nm,1.1s
AAK Ala-Archa 61.64 320 P **P** **01 51 01.5 -0.5**
YAK Yakutsk 61.96 3 P **P** **01 51 03.7 +0.3**
KBL Kabul 62.05 310 P **P** **01 51 03.0 -1.9**
KBL IAmb IAmb 01 51 05.8
comp=Z,16nm,0.8s
MA2 Magadan 62.81 15 P **P** **01 51 10.1 +0.9**
MA2 Magadan 62.81 15 P **P** **01 51 09.6 +0.3**
MA2 IAmb IAmb 01 51 15.3
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 62.90 335 P **P** **01 51 08.0 -2.0**
comp=Z,2.2nm,0.6s,baz=116,slow=5.0,SNR=9.8
ZALV Zalesovo Beam 62.90 335 P **P** **01 51 07.7 -2.3**
BTLS Baital 63.12 322 *eP* **P** **01 51 09.5 -2.1**
baz=322
KURK Kurchatov 63.69 329 P **P** **01 51 13.8 -1.4**
KURK IAmb IAmb 01 51 16.4
comp=Z,13nm,0.8s
IUG Iuzhnay 64.35 318 *eP* **P** **01 51 18.0 -1.9**
baz=318
KK31 Karatay Array 64.45 319 P **P** **01 51 19.2 -1.2**
KKAR Karatay Array 64.45 319 P **P** **01 51 19.2 -1.2**
BRZS Berezniki 66.44 326 *eP* **P** **01 51 31.2 -1.9**
baz=326
BRVK Borovoye 69.29 328 P **P** **01 51 50.1 -0.8**
RER Riviere de l'E 70.22 248 P **P** **01 51 58.4 +1.0**
GEYT Alibeck 71.49 310 P **P** **01 52 03.5 -1.2**
comp=Z,2.4nm,0.7s,baz=116,slow=3.4,SNR=4.8
GEYT Alibeck 71.49 310 P **P** **01 52 03.2 -1.5**
TIXI Tiksi 71.55 1 P **P** **01 52 03.4 -0.9**
ABKAR Akbulak array 73.61 322 P **P** **01 52 15.2 -1.8**
ARU Arti 76.86 329 P **P** **01 52 33.7 -1.8**
ABPO Ambohimpanom 77.96 251 P **P** **01 52 41.9 -0.8**
ABPO IAmb IAmb 01 52 43.6
comp=Z,15nm,0.8s
MAW Mawson 79.54 200 LR LR 02 27 19.8
comp=Z,47nm,20.1s,baz=54,slow=35
RAYN Ar Rayn 79.87 294 P **P** **01 52 50.4 -2.5**
VNDA Vanda 80.08 172 P **P** **01 52 53.6 +0.8**
comp=Z,5.8nm,0.8s,baz=310,slow=8.8,SNR=12
AKH Akhalkalaki 83.20 312 ⇑P **P** **01 53 10.3 0.0**
GEVA Gevas 83.23 308 P **P** **01 53 09.2 -1.2**
GEVA IAmb IAmb 01 53 12.4
comp=Z,11nm,0.7s
RDOG Red Dog Mine 83.51 21 P **P** **01 53 12.4 +1.4**
KBZ Khabaz 83.88 314 P **P** **01 53 12.4 -0.9**
comp=Z,3.2nm,0.8s,baz=90,slow=2.8,SNR=11
KMBO Kilima Mbogo 87.23 269 P **P** **01 53 31.1 +0.1**
comp=Z,5.3nm,0.8s,baz=62,slow=9.2,SNR=15
KLMR Klimovskoe 87.50 331 *eP* **P** **01 53 29.0 -1.9**
KLMR AMP 01 53 37.9
comp=Z,13nm,1.0s
BWN Browne 88.24 26 P **P** **01 53 35.0 +0.7**
ILAR Eielson Array 89.38 25 P **P** **01 53 38.7 -1.1**
comp=Z,0.4nm,0.6s,baz=254,slow=4.3,SNR=12
ILAR PKKPbc **PKKPbc** **02 11 15.9 -2.1**
comp=Z,0.5nm,0.8s,baz=70,slow=1.4,SNR=5.9
QSPA South Pole Qui 89.97 180 P **P** **01 53 42.8 +0.2**
QSPA IAmb IAmb 01 53 44.8
comp=Z,23nm,1.5s
BMAR Burnt Mountain 90.33 23 P **P** **01 53 45.1 +0.9**
BRTR Keskin Array B 90.62 310 P **P** **01 53 44.3 -2.0**
comp=Z,1.2nm,0.8s,baz=121,slow=5.5,SNR=9.5
BRTR PP **PP** **01 57 22.4 0.0**
comp=Z,0.4nm,0.9s,baz=104,slow=9.0,SNR=3.7
BRTR LR LR 02 40 09.0
comp=Z,25nm,19.0s,baz=44,slow=39
BRTR Keskin Array B 90.62 310 P **P** **01 53 44.0 -2.3**
BCAR Beaver Creek A 91.67 27 P **P** **01 53 50.7 +0.2**
BARN Barnard Glacie 91.84 29 P **P** **01 53 52.0 +0.5**
BARN IAmb IAmb 01 53 53.5
comp=Z,12nm,1.4s
ARCES ARCESS Array B 93.11 340 P **P** **01 53 55.2 -1.8**
comp=Z,4.0nm,0.9s,baz=58,slow=3.0,SNR=5.8
ARCES LR LR 02 38 50.7
comp=Z,64nm,18.3s,baz=235,slow=37
AKASG Malin Array Be 93.31 321 P **P** **01 53 56.0 -2.3**
comp=Z,0.2nm,0.2s,baz=70,slow=4.6,SNR=1.6
FINES FINESS Array B 93.99 332 P **P** **01 54 00.6 -0.6**
comp=Z,3.0nm,0.9s,baz=106,slow=4.2,SNR=7.1
HARR Harsova 94.64 315 ⇑P P 01 54 18.4 +14
TESR Tescani 95.37 317 ⇑P **P** **01 54 06.5 -1.4**
VRI Vricioaia 95.38 316 ⇑P **P** **01 54 06.4 -1.5**
NEHR Nehoiu 95.72 316 ⇑P **P** **01 54 07.8 -1.8**
MLR Muntele Rosu 95.96 316 ⇑P **P** **01 54 09.1 -1.6**
BURAR Bucovina Array 96.22 318 ⇑P **P** **01 54 09.5 -2.3**
BOSA Boshof 98.12 241 LR LR 02 34 48.6
comp=Z,36nm,18.2s,baz=170,slow=33
YKA Yellowknife Ar 103.77 24 PKiKP **PKiKP** **01 59 02.4 -0.2**
comp=Z,0.3nm,0.6s,baz=323,slow=1.9,SNR=4.7
YKA PKKPbc **PKKPbc** **02 10 35.9 -2.7**
comp=Z,0.7nm,0.8s,baz=100,slow=2.5,SNR=5.2
PDAR Pinedale Array 115.59 41 PKP **PKiKP** **01 59 25.6 -0.2**
comp=Z,0.3nm,0.6s,baz=222,slow=2.0,SNR=4.0
PDAR PKKPbc **PKKPbc** **02 10 01.9 +1.6**
comp=Z,0.5nm,0.7s,baz=98,slow=5.6,SNR=4.9
ESDC Sonseca Array 118.64 316 PKP **PKiKP** **01 59 31.6 0.0**
comp=Z,0.3nm,0.6s,baz=44,slow=5.7,SNR=1.7
TORD Torodi Ar. Bea 121.82 285 PKP **PKPdf** **01 59 37.8 -0.4**
comp=Z,4.7nm,0.7s,baz=60,slow=1.8,SNR=26
TORD PKKPbc **PKKPab** **02 09 38.8 +1.3**
comp=Z,0.7nm,0.7s,baz=290,slow=5.7,SNR=3.6
TORD Torodi Ar. Bea 121.82 285 **PKPdf** **01 59 37.1 -1.1**
TXAR Lajitas Array 125.61 53 PKP **PKiKP** **01 59 46.5 +0.9**
comp=Z,0.4nm,0.8s,baz=265,slow=1.1,SNR=5.0
KIC Kosan Boka 128.93 278 *e*PKIKP **PKiKP** **01 59 52.3 -0.2**
comp=Z,6.0nm,0.8s
DBIC Dimbokro 129.01 279 PKP **PKPdf** **01 59 52.2 +0.2**
comp=Z,1.4nm,0.5s,baz=238,slow=1.5,SNR=3.8
TIC Toumodi 129.18 279 *e*PKIKP **PKPdf** **01 59 52.6 +0.3**
LIC Lamto 129.23 278 *e*PKIKP **PKiKP** **01 59 52.8 -0.3**
comp=Z,37nm,1.4s
PLCA Paso Flores 137.25 163 PKP **PKiKP** **02 00 08.2 -0.5**
comp=Z,2.0nm,0.8s,baz=84,slow=1.5,SNR=7.2
CPUP Villa Florida 153.80 176 PKPbc **PKiKP** **02 00 43.6 +0.5**
comp=Z,1.7nm,0.5s,baz=103,slow=2.6,SNR=7.1
CPUP PKPab **pPKPdf** **02 00 57.5 -0.5**
comp=Z,4.6nm,0.8s,baz=167,slow=7.2,SNR=6.8
LPAZ La Paz 159.62 143 PKP **PKPdf** **02 00 43.7 +0.1**
comp=Z,0.8nm,0.7s,baz=164,slow=3.5,SNR=5.3
LPAZ PKPab **PKPab** **02 01 24.5 +2.4**
comp=Z,3.5nm,0.7s,baz=189,slow=4.6,SNR=11
LPAZ La Paz 159.62 143 PKPdf **PKPdf** **02 00 45.2 +1.7**
LPAZ PKPab **PKPab** **02 01 24.8 +2.8**
BDFB Brasilia 162.82 205 PKPab **PKPab** **02 01 36.6 +1.2**
comp=Z,1.9nm,0.6s,baz=229,slow=0.9,SNR=4.2
BDFB Brasilia 162.82 205 **PKPab** **02 01 36.8 +1.5**

NOU 02 01:52:27.8, 15.26S×167.36E, h43km, MLv 4.5, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.24**	**219**	P		01 52 37.2	+1.5
DVP	**Devils Point**	**2.58**	**162**	P		01 53 07.5	+0.5
KOUNC	**Koumac, New Ca**	**6.02**	**209**	P		01 53 54.7	+0.3
YATNC	**Mamie plateau,**	**6.78**	**184**	P		01 54 04.1	-0.7
DZM	**Mont Dzumac**	**6.83**	**187**	P		01 54 05.2	-0.4
OUENC	**Ouen Island, N**	**7.14**	**184**	P		01 54 09.9	+0.2

*NEIC **02** 01:56:01.9±0.8, 30.6N±0.1×142.1E±0.1, h14km±6km, mb4.3/7, Error ellipse: s-maj=17.9km s-min=16.5km az=166.0*
*IDC **02** 01:56:05.8±3.6, 30.51N×141.88E, h39km±33km, mb3.5/8, mb1 3.8/10, mb1mx3.6/32, mbtmp3.8/10, ML3.3/2, MS3.5/2, Ms1 3.6/2, ms1mx2.8/32, Error ellipse: s-maj=36.1km s-min=17.5km az=90.0*

ISC 02 01:56:03.7±0.6, 30.55N±0.07×142.1E±0.1, h23km, n25, σ1s00/25, mb4.2/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.45**	**178**	Pn		**Pn**	**01 56 56.5**	**+0.5**
	6.5nm,0.3s,baz=275,slow=11,SNR=1.8						
JCJ				Sn		**Sn**	**01 57 35.2**	**-0.9**
	7.7nm,0.3s,baz=294,slow=22,SNR=1.3						
MJAR	**Matsushiro Arr**	**6.78**	**333**	Pn		**Pn**	**01 57 41.9**	**+0.1**
	0.3nm,0.3s,baz=158,slow=12,SNR=7.4						
MJAR	**Matsushiro Arr**	**6.78**	**333**	Pn		**Pn**	**01 57 41.0**	**-0.8**
JMM	**Marumori**	**7.37**	**352**	Pn		**Pn**	**01 57 48.7**	**-1.1**
ERM	**Erimo**	**11.47**	**4**	Pn		**Pn**	**01 58 44.9**	**-1.1**
YAK	**Yakutsk**	**32.51**	**349**	LR		LR	02 16 01.4	
	comp=Z,58nm,19.8s,baz=238,slow=37							
ZALV	**Zalesovo Beam**	**46.85**	**317**	PcP		**PcP**	**02 06 04.2**	**-0.1**
	0.4nm,0.5s,baz=116,slow=3.4,SNR=1.9							
MKAR	**Makanchi Array**	**48.24**	**307**	P		**P**	**02 04 42.0**	**-0.7**
	0.1nm,0.4s,baz=90,slow=11,SNR=2.4							
MKAR	**Makanchi Array**	**48.24**	**307**	P		**P**	**02 04 41.0**	**-1.7**
WB0	**Warramunga Arr**	**50.57**	**189**	P		**P**	**02 05 00.2**	**-0.4**
WR0	**Warramunga Arr**	**50.74**	**189**	P		**P**	**02 05 01.5**	**-0.4**
WR0				IAmb		IAmb	02 05 07.2	
	comp=Z,3.1nm,1.1s							
WRAB	**Tennant Creek**	**50.74**	**189**	P		**P**	**02 05 01.4**	**-0.5**
WRAB				IAmb		IAmb	02 05 15.8	
	comp=Z,6.2nm,1.1s							
WB2	**Warramunga Arr**	**50.75**	**189**	P		**P**	**02 05 01.6**	**-0.4**
WB2				IAmb		IAmb	02 05 13.0	
	comp=Z,8.7nm,1.5s							
WRA	**Warramunga Arr**	**50.75**	**189**	P		**P**	**02 05 01.5**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=6.3,slow=7.6,SNR=34							
IMAR	**Indian Mountai**	**52.03**	**28**	P		**P**	**02 05 11.1**	**-0.1**
ASAR	**Alice Springs**	**54.48**	**189**	P		**P**	**02 05 28.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=8.7,slow=6.4,SNR=5.8							
KK31	**Karatay Array**	**57.02**	**304**			**P**	**02 05 49.9**	**+2.2**
KKAR	**Karatay Array**	**57.02**	**304**	P		**P**	**02 05 47.7**	**+0.1**
INK	**Inuvik**	**59.95**	**25**	P		**P**	**02 06 08.0**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=254,slow=9.6,SNR=3.6							
INK	**Inuvik**	**59.95**	**25**	P		**P**	**02 06 05.8**	**-1.8**
INK				IAmb		IAmb	02 06 12.1	
	comp=Z,3.5nm,1.2s							
ABKAR	**Akbulak array**	**62.63**	**313**	P		**P**	**02 06 27.2**	**+1.1**
ABKAR				IAmb		IAmb	02 06 31.5	
	comp=Z,2.4nm,1.1s							
YKA	**Yellowknife Ar**	**69.17**	**29**	P		**P**	**02 07 09.7**	**+1.8**
	comp=Z,0.2nm,0.9s,baz=306,slow=4.3,SNR=2.0							
FINES	**FINESS Array B**	**74.81**	**333**	P		**P**	**02 07 41.2**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=41,slow=2.6,SNR=3.4							
NVAR	**Mina Array Bea**	**78.49**	**52**	P		**P**	**02 08 03.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=275,slow=6.5,SNR=3.7							
NVAR				LR		LR	02 35 00.2	
	comp=Z,44nm,21.0s,baz=256,slow=30							
TXAR	**Lajitas Array**	**93.62**	**53**	P		**P**	**02 09 19.1**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=270,slow=1.3,SNR=3.8							

*JMA **02** 02:06:39.3±0.5, 32.89N×138.04E, h342km±5km, M3.0*
*IDC **02** 02:06:41.4±0.8, 32.92N×137.82E, h334km±7km, mb3.0/13, mb1 3.2/17, mb1mx3.1/43, mbtmp3.8/17, Error ellipse: s-maj=14.7km s-min=13.0km az=77.0*

ISC 02 02:06:41.6±0.7, 32.98N±0.08×137.91E±0.07, h341km, n31, σ1s49/35, mb3.2/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO3	**TONANKAI O.B.S**	**0.98**	**334**	P		**Pn**	**02 07 26.0**	**0.0**
TTO2	**TONANKAI O.B.S**	**1.06**	**316**	P		**Pn**	**02 07 26.0**	**-0.1**
TTO4	**TONANKAI O.B.S**	**1.07**	**343**	P		**Pn**	**02 07 25.8**	**-0.4**
JHJ	**Hachijo jima 2**	**1.58**	**84**	P		**Pn**	**02 07 29.0**	**-0.3**
	20nm,0.3s,baz=234,slow=16,SNR=1.7							
JHJ				S		**S**	**02 08 07.7**	**+0.3**
	22nm,0.3s,baz=100,slow=22,SNR=1.6							
JIE	**Ise**	**1.73**	**325**	P		**Pn**	**02 07 29.2**	**-0.9**
JKN2	**Miekihoku**	**1.86**	**313**	P		**Pn**	**02 07 30.0**	**-0.9**
JTNC	**Tanabenakahech**	**2.10**	**294**	P		**Pn**	**02 07 31.5**	**-1.2**
JTNC				*eS*		**S**	**02 08 11.3**	**-2.5**
BSO3	**Boso 3**	**2.83**	**49**	P		**Pn**	**02 07 36.2**	**-2.1**
BSO3				*eS*		**S**	**02 08 20.9**	**-3.0**
BSO4	**Boso 4**	**2.85**	**44**	P		**Pn**	**02 07 36.9**	**-1.7**
BSO1	**Boso 1**	**3.05**	**56**	P		**Pn**	**02 07 37.3**	**-2.7**
JWT	**Wachi**	**3.10**	**319**	P		**Pn**	**02 07 40.6**	**-0.5**
JWT				S		**S**	**02 08 26.9**	**-2.1**
JRY	**Ryogami san**	**3.14**	**15**	P		**Pn**	**02 07 41.3**	**-0.2**
MJAR	**Matsushiro Arr**	**3.56**	**4**	P		**Pn**	**02 07 44.5**	**-1.0**
	0.2nm,0.3s,baz=90,slow=21,SNR=4.6							
JAG	**Ashikaga**	**3.67**	**20**	P		**Pn**	**02 07 45.2**	**-1.3**
JCJ	**Chichijima**	**6.93**	**147**	P		**Pn**	**02 08 18.6**	**-4.5**
	10.0nm,0.3s,baz=354,slow=23,SNR=9.7							
JCJ				S		S	02 09 33.8	-12
	12nm,0.3s,baz=210,slow=22,SNR=2.3							
KSRS	**Korea Array**	**9.31**	**301**	P		**Pn**	**02 08 51.0**	**-0.2**
	0.6nm,0.3s,baz=113,slow=12,SNR=16							
USRK	**Ussuriysk Ar.**	**12.12**	**339**	P		**P**	**02 09 24.2**	**-0.5**
	baz=151,slow=10,SNR=16							
KLR	**Kul'dur**	**16.88**	**346**	P		**P**	**02 10 16.1**	**-0.6**
	0.3nm,0.3s,baz=178,slow=12,SNR=5.7							
SONM	**Songino Array**	**27.98**	**311**	P		**P**	**02 12 02.7**	**+0.7**
	1.1nm,0.6s,baz=127,slow=9.6,SNR=3.3							
ZALV	**Zalesovo Beam**	**42.66**	**316**	P		**P**	**02 14 05.5**	**0.0**
	0.6nm,0.3s,baz=86,slow=7.2,SNR=4.4							
MKAR	**Makanchi Array**	**43.97**	**305**	P		**P**	**02 14 16.3**	**+0.3**
	0.6nm,0.4s,baz=87,slow=9.5,SNR=30							
KDAK	**Kodiak Island**	**52.04**	**40**	P		**P**	**02 15 18.3**	**+1.3**
	1.5nm,0.3s,baz=294,slow=2.0,SNR=19							
WRA	**Warramunga Arr**	**52.73**	**184**	P		**P**	**02 15 22.2**	**-0.2**
	0.2nm,0.5s,baz=360,slow=7.7,SNR=6.6							
ILAR	**Eielson Array**	**54.45**	**31**	P		**P**	**02 15 34.6**	**+0.4**
	0.6nm,0.7s,baz=276,slow=5.4,SNR=12							
ASAR	**Alice Springs**	**56.46**	**184**	P		**P**	**02 15 47.7**	**-1.2**
	0.2nm,0.4s,baz=11,slow=10,SNR=2.0							
INK	**Inuvik**	**59.29**	**26**	P		**P**	**02 16 08.9**	**+1.1**
	0.4nm,0.5s,baz=266,slow=9.4,SNR=1.5							
STKA	**Stephens Creek**	**64.60**	**177**	P		**P**	**02 16 44.2**	**+0.9**
	1.2nm,0.5s,baz=105,slow=13.3,SNR=3.3							
RES	**Resolute Bay**	**67.22**	**13**	P		**P**	**02 17 00.6**	**+1.3**
	0.4nm,0.5s,baz=310,slow=4.0,SNR=4.4							
YKA	**Yellowknife Ar**	**68.74**	**28**	P		**P**	**02 17 10.1**	**+1.1**
	0.3nm,0.4s,baz=307,slow=5.9,SNR=2.7							
BRTR	**Keskin Array B**	**79.34**	**310**	P		**P**	**02 18 10.1**	**-0.3**
	0.3nm,0.6s,baz=199,slow=36,SNR=2.4							
NVAR	**Mina Array Bea**	**79.75**	**51**	P		**P**	**02 18 13.3**	**+0.7**
	0.2nm,0.5s,baz=280,slow=5.4,SNR=3.2							

*IDC **02** 02:29:56.5±1.3, 32.98N×139.08E, h0km, mb3.2/3, mb1 3.6/6, mb1mx3.4/45, mbtmp3.4/6, ML3.7/3, MS2.9/3,*

Ms1 2.9/3, ms1mx2.7/18, Error ellipse: s-maj=29.6km s-min=14.4km az=177.0
*NIED **02** 02:29:59.0, 33°.20N×138°.93E, h18km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.01; $M_{\theta\theta}$-6.05; $M_{\phi\phi}$6.04; $M_{r\theta}$-1.17; $M_{\theta\phi}$-4.16; $M_{\phi r}$1.09; Fault plane solution: $M_0$7.51000×10^{14} NP1: ϕ_s297.00000°, δ87.00000°, λ168.00000°. NP2: ϕ_s28.00000°, δ78.00000°, λ3.00000°.*
*JMA **02** 02:29:59.4±0.2, 33°.20N×138°.93E, h18km±4km, M4.4*
JMA Felt I J1.
ISC 02 02:29:57.9±1.7**, 33°.13N**±0°.05×**138°.97E**±0°.04**, h11**km±11km**, n33, σ1s.35**/34**, mb3.3**/3**, 3C-4D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	0.69	91	Pn	Pn	02 30 13.2	-0.3
	888nm,0.3s,baz=154,slow=23,SNR=106						
JHJ				Sn	Sn	02 30 23.3	-0.9
	5μm,0.3s,baz=67,slow=23,SNR=38						
JHCJ	Hachijojimakas	0.70	95	⇑P	Pn	02 30 13.1	-0.6
JHCJ				S	Sn	02 30 23.1	-1.5
JHJ2	Mitsune	0.71	91	⇑P	Pn	02 30 13.4	-0.5
JMKN	Mikurajimanish	0.92	34	P	Pg	02 30 15.8	+0.2
JAOM	Aogashimamukai	0.95	135	P	Pn	02 30 18.5	+1.4
JKO	Kozu shima	1.06	8	P	Pg	02 30 17.7	-0.6
JKO				eS	Sg	02 30 31.5	-0.7
TK02	Tokai 2	1.30	309	⇓P	Pn	02 30 21.7	0.0
TK02				eS	Sb	02 30 39.0	+0.3
TK03	Tokai 3	1.33	321	P	Pn	02 30 22.4	+0.1
TK03				S	Sb	02 30 39.6	-0.1
JTHY	Toshimahigashi	1.41	11	P	Pn	02 30 23.6	0.0
TTO4	TONANKAI O.B.S	1.48	307	⇓P	Pn	02 30 23.9	-0.3
TTO3	TONANKAI O.B.S	1.50	300	⇑P	Pn	02 30 24.9	+0.3
TTO5	TONANKAI O.B.S	1.53	317	⇓P	Pn	02 30 24.8	-0.2
TK04	Tokai 4	1.55	324	⇓P	Pn	02 30 25.3	0.0
TK04				eS	Sn	02 30 44.5	-0.8
JIZS	Izushimoda	1.58	357	P	Pn	02 30 25.2	-0.7
JIZS				eS	Sn	02 30 45.2	-1.2
JIM2	Oshima 3	1.63	14	P	Pn	02 30 27.2	+0.6
TTO2	TONANKAI O.B.S	1.73	291	P	Pn	02 30 27.9	+0.3
TTO1	TONANKAI O.B.S	1.89	286	S	Sn	02 30 53.4	-0.1
SHZ3	Shizuoka 3	2.03	342	P	Pn	02 30 32.1	0.0
MJAR	Matsushiro Arr	3.46	350	Pn	Pn	02 30 53.0	+1.3
	1.5nm,0.3s,baz=197,slow=17,SNR=16						
MAT	Matsushiro	3.46	350	P	Pn	02 30 53.4	+1.7
MAT				S	Sn	02 31 32.5	-0.2
JNU	Nakatsue	6.79	272	Pn	Pn	02 31 38.5	+1.0
	4.2nm,0.3s,baz=134,slow=4.6,SNR=20						
JNU				Sn	Sn	02 32 50.1	-4.6
	baz=161,slow=16,SNR=1.1						
KSRS	Korea Array	10.00	299	Pn	Pn	02 32 25.1	+3.6
	0.3nm,0.3s,baz=121,slow=14,SNR=2.2						
KSRS				LR	LR	02 35 51.8	
	comp=Z,47nm,19.8s,baz=120,slow=35						
JOW	Kunigami	11.19	239	LR	LR	02 36 27.5	
	comp=Z,53nm,21.2s,baz=136,slow=35						
KLR	Kul'dur	16.96	344	LR	LR	02 40 07.6	
	comp=Z,55nm,18.4s,baz=208,slow=36						
H11N2	WAKE ISLAND Hy	28.25	111	T	T	03 04 57.5	
	baz=305,slow=75,SNR=92						
H11N1	WAKE ISLAND Hy	28.25	111	T	T	03 04 49.6	
	baz=305,slow=75,SNR=53						
H11N3	WAKE ISLAND Hy	28.26	111	T	T	03 04 50.5	
	baz=305,slow=75,SNR=56						
H11S3	WAKE ISLAND Hy	28.79	114	T	T	03 05 39.6	
	baz=306,slow=75,SNR=27						
H11S1	WAKE ISLAND Hy	28.79	114	T	T	03 05 56.8	
	baz=306,slow=75,SNR=26						
H11S2	WAKE ISLAND Hy	28.80	114	T	T	03 05 50.3	
	baz=306,slow=75,SNR=17						
MKAR	Makanchi Array	44.60	305	P	P	02 38 11.7	+1.5
	0.1nm,0.5s,baz=92,slow=9.3,SNR=1.3						
WRA	Warramunga Arr	52.96	185	P	P	02 39 13.3	-1.2
	0.2nm,0.5s,baz=0.5,slow=6.8,SNR=1.3						
ILAR	Eielson Array	53.86	31	P	P	02 39 21.4	+0.7
	0.4nm,1.0s,baz=279,slow=6.0,SNR=2.3						

IDC 02 02:30:54.7±1.2**, 59°.03S**×**150°.19W, h0**km**, mb3.5**/2**, mb1 3.8**/2**, mb1mx3.6**/28**, mbtmp3.5**/2**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx3.2**/18**, Error ellipse: s-maj=153.0km s-min=39.6km az=5.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	24.39	203	LR	LR	02 42 32.1	
	comp=Z,166nm,20.3s,baz=86,slow=29						
PPT2	Papeete2	41.39	1	eS	S	02 45 08.5	+10
	52nm,25.0s						
PPT2				eLR	LR	02 50 16.8	
	comp=Z,292nm,25.0s						
PPT2				eLR	LR	03 26 26.2	
	comp=Z,295nm,24.2s						
H03S2	Juan Fernandez	52.22	94	T	T	03 36 46.0	
	baz=215,slow=74,SNR=42						
H03S1	Juan Fernandez	52.23	94	T	T	03 36 47.4	
	baz=215,slow=74,SNR=44						
H03S3	Juan Fernandez	52.24	94	T	T	03 36 46.6	
	baz=215,slow=74,SNR=51						
H03N3	Juan Fernandez	52.52	94	T	T	03 37 08.1	
	baz=218,slow=72,SNR=92						
H03N2	Juan Fernandez	52.53	94	T	T	03 37 06.6	
	baz=218,slow=72,SNR=140						
H03N1	Juan Fernandez	52.54	94	T	T	03 37 00.3	
	baz=218,slow=72,SNR=61						
ASAR	Alice Springs	62.80	269	P	P	02 41 22.2	+0.3
	0.6nm,0.7s,baz=138,slow=6.3,SNR=7.6						
H01W1	Cape Leeuwin H	63.54	246	T	T	03 50 29.9	
H01W2	Cape Leeuwin H	63.55	246	T	T	03 50 31.9	
	baz=148,slow=74,SNR=4.2						
H01W3	Cape Leeuwin H	63.56	246	T	T	03 50 31.2	
	baz=226,slow=74,SNR=3.3						
WRA	Warramunga Arr	65.65	272	P	P	02 41 39.8	-0.9
	0.6nm,1.1s,baz=154,slow=5.5,SNR=2.1						
ILAR	Eielson Array	123.51	2	PKP	PKiKP	02 49 52.5	0.0
	1.2nm,1.2s,baz=204,slow=5.6,SNR=2.7						
TORD	Torodi Ar. Bea	129.62	143	PKP	PKiKP	02 50 07.4	+1.1
	0.2nm,0.7s,baz=298,slow=2.3,SNR=1.5						
MKAR	Makanchi Array	146.96	272	PKPbc	PKPbc	02 50 37.4	-0.7
	1.1nm,0.8s,baz=123,slow=3.8,SNR=9.5						
ESDC	Sonseca Array	151.16	117	PKPbc	PKPbc	02 50 47.3	-1.8
	0.9nm,0.8s,baz=237,slow=2.4,SNR=7.2						

IDC 02 02:32:15.4±9.2**, 2°.73S**×**101°.60E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/48**, mbtmp3.4**/3**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.6**/29**, Error ellipse: s-maj=484.9km s-min=28.0km az=52.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	29.38	259	T	T	03 07 42.9	
H08S3	Diego Garcia H	29.39	259	T	T	03 07 44.1	
	baz=82,slow=74,SNR=8.0						
H08S1	Diego Carcia H	29.40	259	T	T	03 07 40.3	
	baz=334,slow=74,SNR=4.0						
WRA	Warramunga Arr	36.25	121	P	P	02 39 20.5	-0.1
	0.5nm,0.4s,baz=305,slow=9.2,SNR=9.1						
ASAR	Alice Springs	37.53	126	P	P	02 39 31.6	0.0
	0.2nm,0.5s,baz=299,slow=8.0,SNR=4.7						
MKAR	Makanchi Array	52.17	343	P	P	02 41 27.8	-0.1
	0.2nm,0.4s,baz=155,slow=8.8,SNR=6.4						
MKAR				LR	LR	03 06 11.0	
	comp=Z,34nm,19.9s,baz=354,slow=39						

*IDC **02** 02:34:21.4±1.4, 61°.08S×53°.20W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/26, mbtmp3.9/4, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.9/22, Error ellipse: s-maj=39.5km s-min=37.3km az=82.0*
*NEIC **02** 02:34:25.1±1.5, 60°.95S±0°.09×53°.3W±0°.2, h15km±4km, mb4.3/7, Error ellipse: s-maj=15.1km s-min=13.1km az=99.0*
ISC 02 02:34:24.1±0.6**, 60°.99S**±0°.09×**53°.34W**±0°.10**, h10**km**, n22, σ1s.03**/17**, mb4.3**/5**, South Shetland Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMSA	Palmer Station	6.20	228	Pn	Pn	02 35 54.7	-0.7
	0.5nm,0.3s,baz=215,slow=7.6,SNR=1.6						
PMSA	Palmer Station	6.20	228		Pn	02 35 54.5	-1.0
HOPE	Hope Point	11.23	61	Pn	Pn	02 37 04.9	+0.4
GO09	Cerro Castillo	14.33	304	Pn	Pn	02 37 47.6	+0.8
BELA	Belgrano 2	18.01	167	Pn	P	02 38 36.4	+1.9
SNAA	Sanae	22.12	140	P	P	02 39 19.7	+0.4
SNAA				IAmb	IAmb	02 39 31.7	
	comp=Z,22nm,1.3s						
PLCA	Paso Flores	22.87	325	P	P	02 39 26.9	-0.7
	comp=Z,2.5nm,0.9s,baz=166,slow=9.2,SNR=4.6						
PLCA				LR	LR	02 47 26.1	
	comp=Z,71nm,19.1s,baz=173,slow=34						
PLCA	Paso Flores	22.87	325	P	P	02 39 28.3	+0.8
PLCA				IAmb	IAmb	02 39 30.3	
	comp=Z,12nm,1.4s						
QSPA	South Pole Qui	29.24	180	P	P	02 40 26.5	+0.6
QSPA				IAmb	IAmb	02 40 35.8	
	comp=Z,5.7nm,0.9s						
CPUP	Villa Florida	34.75	354	P	P	02 41 14.9	+0.7
SIV	San Ignacio	45.28	350	P	P	02 42 41.6	-0.2
	comp=Z,0.4nm,0.4s,baz=194,slow=15,SNR=3.6						
H10N3	ASCENSION HYDR	60.36	46	T	T	03 50 34.9	
	baz=199,slow=75,SNR=4.7						
H10N1	ASCENSION HYDR	60.36	46	T	T	03 50 35.6	
	baz=199,slow=75,SNR=4.9						
H10N2	ASCENSION HYDR	60.38	46	T	T	03 50 30.0	
	baz=199,slow=75,SNR=5.7						
LBTB	Lobatse	63.12	93	P	P	02 44 51.4	-0.5
TORD	Torodi Ar. Bea	85.71	53	P	P	02 47 02.1	-0.9
	comp=Z,1.5nm,0.7s,baz=205,slow=4.8,SNR=8.2						
TORD	Torodi Ar. Bea	85.71	53	P	P	02 47 02.5	-0.5
ILAR	Eielson Array	143.31	314	PKP	PKPbc	02 53 53.5	-0.5
	comp=Z,0.4nm,0.8s,baz=119,slow=1.4,SNR=4.9						
ILAR	Eielson Array	143.31	314		PKPbc	02 53 54.4	+0.3
SPITS	Spitsbergen Ar	145.04	20	PKPbc	PKPbc	02 53 58.6	-0.4
	comp=Z,15nm,0.8s,baz=176,slow=12,SNR=6.1						
TOLK	Toolik Lake Re	146.29	319		PKPbc	02 54 03.3	+0.1
MKAR	Makanchi Array	150.91	99	PKPbc	PKPbc	02 54 13.4	-2.4
	comp=Z,0.3nm,0.6s,baz=237,slow=1.8,SNR=4.1						

*IDC **02** 02:49:05.4±12.0, 14°.80S×74°.72W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=474.2km s-min=42.1km az=29.0*
*ARE **02** 02:49:17±2.3, 16°.0S±0°.1×73°.8W±0°.1, h42km±8km, Error ellipse: s-maj=17.3km s-min=11.9km az=224.0*
*NEIC **02** 02:49:17.9±1.0, 16°.12S±0°.09×73°.98W±0°.07, h66km±14km, mb3.8/2, ML4.3(ARE), Error ellipse: s-maj=12.5km s-min=8.6km az=162.0*
ISC 02 02:49:17.1±1.2**, 16°.1S**±0°.1×**74°.0W**±0°.1**, h54**km**, n18, σ1s.30**/18**, 1D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB16	IPOC Station P	4.84	117		Pn	02 50 28.4	+0.4
NNA	Nana	4.95	326		Pn	02 50 29.8	+0.8
PSGCX	Pisagua	5.07	133		Pn	02 50 30.4	-0.3
MNMC	Minye Minye	5.17	126		Pn	02 50 32.7	+0.4
LPAZ	La Paz	5.67	92	Pn	Pn	02 50 41.8	+2.4
	1.7nm,0.3s,baz=286,slow=9.3,SNR=37						
LPAZ				Sn	Sn	02 51 43.5	0.0
	baz=350,slow=24,SNR=0.9						
LPAZ	La Paz	5.67	92		Pn	02 50 41.0	+1.6
HMBC	Humberstone	5.70	137	i P	Pn	02 50 40.3	+0.9
TA01	Diego Aracena	5.72	141	eP	Pn	02 50 40.5	+0.9
TA01	Diego Aracena	5.72	141	Pn	Pn	02 50 39.9	+0.3
PB08	IPOC Station P	6.11	131	⇓eP	Pn	02 50 46.1	+0.9
PB08	IPOC Station P	6.11	131	Pn	Pn	02 50 46.0	+0.8
PB01	IPOC Station P	6.51	139	Pn	Pn	02 50 51.8	+1.3
PB07	IPOC Station P	6.80	145	Pn	Pn	02 50 55.5	+0.9
PB04	IPOC Station P	7.17	150	Pn	Pn	02 51 01.5	+1.9
PTGA	Pitinga	20.66	44	P	P	02 53 51.1	-1.5
PTGA				IAmb	IAmb	02 54 04.9	
	comp=Z,8.7nm,1.2s						
TORD	Torodi Ar. Bea	80.30	73	P	P	03 01 21.3	-1.7
	comp=Z,0.9nm,0.6s,baz=260,slow=4.7,SNR=4.7						
TORD	Torodi Ar. Bea	80.30	73	P	P	03 01 21.9	-1.1
TORD				IAmb	IAmb	03 01 22.7	
	comp=Z,0.8nm,0.7s						
YKA	Yellowknife Ar	84.59	342	P	P	03 01 32.1	-12
	comp=Z,0.2nm,0.8s,baz=120,slow=4.4,SNR=2.4						

*IDC **02** 02:50:45.5±0.6, 59°.50S×150°.72W, h0km, mb4.5/7, mb1 4.7/7, mb1mx4.4/26, mbtmp4.5/7, MS5.0/21, Ms1 5.0/21, ms1mx4.9/23, Error ellipse: s-maj=52.3km s-min=16.4km az=11.0*
*NEIC **02** 02:50:47.7, 59°.83S×150°.74W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.07; $M_{\theta\theta}$1.86; $M_{\phi\phi}$-1.79; $M_{r\theta}$-0.09; $M_{\theta\phi}$0.99; $M_{\phi r}$0.23; Fault plane solution: $M_0$2.09000×10^{17} NP1: ϕ_s120.00000°, δ86.00000°, λ-5.00000°. NP2: ϕ_s211.00000°, δ85.00000°, λ-176.00000°. Principal axes: T 2.1138, Plg1.0000°, Azm166.0000°; N -0.0407, Plg83.0000°, Azm261.0000°; P -2.0730, Plg7.0000°, Azm76.0000°;*
*NEIC **02** 02:50:47.7, 59°.58S×150°.69W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.05; $M_{\theta\theta}$1.78; $M_{\phi\phi}$-1.84; $M_{r\theta}$-0.14; $M_{\theta\phi}$0.99; $M_{\phi r}$0.27; Fault plane solution: $M_0$2.08000×10^{17} NP1: ϕ_s210.96000°, δ83.02000°, λ-176.08000°. NP2: ϕ_s120.49000°, δ86.11000°, λ-7.00000°. Principal axes: T 2.0372, Plg2.0000°, Azm166.0000°; N 0.0915, Plg82.0000°, Azm272.0000°; P -2.1286, Plg8.0000°, Azm76.0000°;*
*NEIC **02** 02:50:47.9±2.0, 59°.6S±0°.2×150°.7W±0°.2, h13km±1km, mb5.0/19, Ms_20 5.2/397, Mwb5.5/15, Mwc5.5/9(GCMT) Error ellipse: s-maj=28.0km s-min=18.6km az=201.0*
*GCMT **02** 02:50:50.9±0.1, 59°.81S±0°.01×150°.64W±0°.01, h16km, MW5.5/134, Moment Tensor Solution. s110,c191; s134,c242; Duration: 1s.3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.21±.02; $M_{\theta\theta}$1.88±.03; $M_{\phi\phi}$-1.67±.02; $M_{r\theta}$-0.39±.06; $M_{\theta\phi}$0.97±.02; $M_{\phi r}$-0.16±.06; Best double couple: $M_0$2.06100×10^{17} NP1: ϕ_s301.00000°, δ82.00000°, λ5.00000°. NP2: ϕ_s210.00000°, δ85.00000°, λ172.00000°. Principal axes: T 2.2010, Plg10.0000°, Azm165.0000°; N -0.2800, Plg80.0000°, Azm358.0000°; P -1.9210, Plg2.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 02:50:47.4±0.4**, 59°.6S**±0°.1×**150°.64W**±0°.08**, h10**km**, n285, σ1s.63**/67**, mb5.0**/15**, MS5.2**/217**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	23.82	203	LR	LR	03 03 06.8	
	comp=Z,2μm,18.0s,baz=75,slow=31						
RPZ	Rata Peaks	28.07	287	LR	LR	03 05 17.5	
	comp=Z,2μm,20.0s,baz=131,slow=31						
URZ	Urewera	29.57	302	LR	LR	03 04 58.1	
	comp=Z,2μm,21.9s,baz=32,slow=29						
QSPA	South Pole Qui	30.58	180	P	P	02 57 00.7	-0.3
QSPA	South Pole Qui	30.58	180	IAMs_20	IAMs_20	03 06 57.7	
	comp=Z,4μm,21.0s						
RAO	Raoul Island	35.52	316	LR	LR	03 08 41.9	
	comp=Z,934nm,21.7s,baz=142,slow=30						
BELA	Belgrano 2	37.44	162	P	P	02 57 59.5	-0.6
PMSA	Palmer Station	37.76	136	P	P	02 58 02.8	0.0
	comp=Z,28nm,1.0s,baz=204,slow=4.0,SNR=3.6						
PMSA				LR	LR	03 11 09.0	
	comp=Z,2μm,18.1s,baz=205,slow=32						
PMSA	Palmer Station	37.76	136	P	P	02 58 02.9	+0.1
RAR	Rarotonga	38.86	346	LR	LR	03 09 35.8	
	comp=Z,3μm,21.6s,baz=196,slow=29						
TAU	Tasmania Unive	40.60	266	IAMs_20	IAMs_20	03 10 45.7	
	comp=Z,3μm,20.0s						
CASY	Casey	40.94	218	IAMs_20	IAMs_20	03 13 38.3	
	comp=Z,2μm,18.0s						
MEH	Mehetia	41.67	4	eT	T	03 43 07.7	
	comp=Z,13nm,0.2s						
TVO	Taravao	41.73	2	eT	T	03 43 05.6	
	comp=Z,1.9nm,0.3s						
PPT2	Papeete2	41.91	2	eS	S	03 04 57.7	+1.6
	comp=Z,753nm,25.2s						
PPT2				eLQ	LQ	03 08 27.9	
	comp=Z,5μm,31.5s						
PPT2				eLR	LR	03 10 18.9	
	comp=Z,7μm,25.2s,baz=184						
PPT2	Papeete2	41.91	2	eT	T	03 43 17.2	
	comp=Z,3.7nm,0.3s						
PPT	Papeete	41.94	2	LR	LR	03 11 33.1	
	comp=Z,2μm,21.1s,baz=184,slow=30						
RPN	Rapa Nui	43.01	60	LR	LR	03 12 21.3	
	comp=Z,3μm,21.1s,baz=212,slow=30						
CAN	Canberra	45.47	274	IAMs_20	IAMs_20	03 13 03.0	
	comp=Z,3μm,22.0s						
TOO	Toolangi	45.51	269	IAMs_20	IAMs_20	03 13 05.8	
	comp=Z,3μm,22.0s						
ARMA	Armidale	48.05	281	IAMs_20	IAMs_20	03 15 34.5	
	comp=Z,2μm,19.0s						
DZM	Mont Dzumac	48.13	302	LR	LR	03 16 56.2	
	comp=Z,816nm,18.1s,baz=164,slow=33						
AFI	Afiamalu	48.18	332	LR	LR	03 16 18.8	
	comp=Z,2μm,19.1s,baz=170,slow=32						
AFI	Afiamalu	48.18	332	IAMs_20	IAMs_20	03 15 58.4	
	comp=Z,3μm,18.0s						
MAW	Mawson	50.79	196	LR	LR	03 18 53.4	
	comp=Z,1μm,21.0s,baz=156,slow=33						
PLCA	Paso Flores	51.24	106	P	P	02 59 51.4	+0.4
	comp=Z,7.5nm,1.1s,baz=209,slow=8.5,SNR=6.0						
PLCA				LR	LR	03 16 16.9	
	comp=Z,1μm,20.0s,baz=219,slow=30						
PLCA	Paso Flores	51.24	106	P	P	02 59 51.8	+0.9
PLCA				IAmb	IAmb	02 59 54.4	
	comp=Z,34nm,1.9s						
STKA	Stephens Creek	51.96	271	P	P	02 59 56.5	+0.2
	comp=Z,5.1nm,0.8s,baz=145,slow=6.7,SNR=9.6						
STKA				LR	LR	03 18 52.3	
	comp=Z,2μm,18.0s,baz=133,slow=32						
STKA	Stephens Creek	51.96	271	P	P	02 59 57.4	+1.2
H03S2	Juan Fernandez	52.41	94	T	T	03 56 39.3	
	baz=215,slow=74,SNR=192						
H03S1	Juan Fernandez	52.42	94	T	T	03 56 42.0	
	baz=215,slow=74,SNR=197						
H03S3	Juan Fernandez	52.43	94	T	T	03 56 39.5	
	baz=215,slow=74,SNR=231						
EIDS	Eidsvold	52.49	284	P	P	03 00 01.4	+1.2
EIDS				IAmb	IAmb	03 00 12.2	
	comp=Z,30nm,1.6s						
H03N3	Juan Fernandez	52.71	94	T	T	03 57 05.8	
	baz=219,slow=72,SNR=184						
H03N2	Juan Fernandez	52.72	94	T	T	03 57 00.4	
	baz=219,slow=72,SNR=219						
H03N1	Juan Fernandez	52.73	94	T	T	03 57 01.9	
	baz=219,slow=72,SNR=149						
BBOO	Buckleboo	54.03	265	IAMs_20	IAMs_20	03 19 11.2	
	comp=Z,2μm,19.0s						
BI02	San Fabin de	54.04	102		P	03 00 11.8	+0.1
BI02				IAmb	IAmb	03 00 18.0	
	comp=Z,11nm,0.9s						
BO02	Sierra Bellavi	55.76	101	P	P	03 00 25.1	+1.0
BO02				IAmb	IAmb	03 00 34.1	
	comp=Z,51nm,1.9s						
CTAO	Charters Tower	59.31	283	P	P	03 00 50.5	+1.3
CTAO				IAmb	IAmb	03 00 52.7	
	comp=Z,15nm,1.1s						
FORT	Forrest	59.70	260	IAMs_20	IAMs_20	03 20 27.2	
	comp=Z,1μm,20.0s						
LCO	Las Campanas	60.45	98	IAMs_20	IAMs_20	03 19 45.7	
	comp=Z,1μm,20.0s						
AC05	El Transito	60.81	98	IAMs_20	IAMs_20	03 19 55.9	
	comp=Z,1μm,20.0s						
LPA	La Plata	61.93	112	eP	P	03 01 07.1	+0.2
LPA				PCP	PcP	03 01 47.7	+0.1
LPA				pPP		03 03 25.6	
LPA				PPP	PPP	03 04 49.4	
LPA				PKIKP	PKiKP	03 08 01.9	+1.0
LPA				S	S	03 09 23.0	-7.7
LPA				sS	sS	03 09 38.1	+3.6
LPA				SCS	ScS	03 10 58.8	+0.3
LPA				SKIKP		03 11 30.6	
LPA				SS	SS	03 13 39.2	+7.0
LPA				SSS	SSS	03 16 22.6	
HNR	Honiara	62.16	302	LR	LR	03 22 48.6	
	comp=Z,530nm,19.2s,baz=96,slow=31						
AS31	Alice Springs	62.56	270	P	P	03 01 09.5	-1.9
ASAR	Alice Springs	62.56	270	P	P	03 01 10.1	-1.3
	comp=Z,7.6nm,1.1s,baz=146,slow=7.0,SNR=28						
ASAR				LR	LR	03 25 13.1	
	comp=Z,2μm,18.5s,baz=150,slow=33						
ASAR	Alice Springs	62.56	270	P	P	03 01 09.6	-1.7
H01W1	Cape Leeuwin H	63.12	247	T	T	04 10 20.5	
	baz=145,slow=76,SNR=16						
H01W2	Cape Leeuwin H	63.13	247	T	T	04 10 22.4	
	baz=145,slow=76,SNR=16						
H01W3	Cape Leeuwin H	63.14	247	T	T	04 10 17.5	
	baz=145,slow=76,SNR=19						
NWAO	Narrogin (SRO)	63.27	250	IAMs_20	IAMs_20	03 22 26.7	
	comp=Z,2μm,20.0s						
WR0	Warramunga Arr	65.32	272	P	P	03 01 29.0	-0.5
WR0				IAmb	IAmb	03 01 40.6	
	comp=Z,29nm,1.7s						
WR7	Warramunga Arr	65.36	272	IAMs_20	IAMs_20	03 25 01.6	
	comp=Z,1μm,22.0s						
WR6	Warramunga Arr	65.37	272	IAMs_20	IAMs_20	03 25 02.0	
	comp=Z,1μm,21.0s						
WR4	Warramunga Arr	65.40	272	IAMs_20	IAMs_20	03 25 12.7	
	comp=Z,1μm,21.0s						
WC3	Warramunga Arr	65.41	272	IAMs_20	IAMs_20	03 25 03.0	
	comp=Z,1μm,22.0s						
WR3	Warramunga Arr	65.41	272	IAMs_20	IAMs_20	03 25 03.0	
	comp=Z,1μm,22.0s						
WB1	Warramunga Ar.	65.42	272	IAMs_20	IAMs_20	03 25 03.3	
	comp=Z,1μm,22.0s						
WB2	Warramunga Arr	65.44	272	P	P	03 01 31.1	+0.9
WB2				IAmb	IAmb	03 03 28.6	
	comp=Z,27nm,1.9s						
WB2				IAMs_20	IAMs_20	03 25 03.6	
	comp=Z,1μm,22.0s						
WRA	Warramunga Arr	65.44	272	P	P	03 01 29.0	-1.3
	comp=Z,3.6nm,1.0s,baz=155,slow=6.1,SNR=15						
WRA				LR	LR	03 25 48.1	
	comp=Z,1μm,21.9s,baz=190,slow=32						
WC2	Warramunga Arr	65.44	272	IAMs_20	IAMs_20	03 25 03.8	
	comp=Z,1μm,21.0s						
WRAB	Tennant Creek	65.44	272	IAMs_20	IAMs_20	03 25 03.7	
	comp=Z,1μm,22.0s						
WB3	Warramunga Arr	65.45	272	IAMs_20	IAMs_20	03 25 15.0	
	comp=Z,1μm,21.0s						
WC1	Warramunga Arr	65.46	272	IAMs_20	IAMs_20	03 25 05.2	
	comp=Z,1μm,22.0s						
WB4	Warramunga Arr	65.46	272	IAMs_20	IAMs_20	03 25 03.3	
	comp=Z,2μm,20.0s						
WB6	Warramunga Arr	65.50	272	IAMs_20	IAMs_20	03 25 50.3	
	comp=Z,1μm,20.0s						
WB8	Warramunga Arr	65.53	272	IAMs_20	IAMs_20	03 25 51.0	
	comp=Z,1μm,20.0s						
WB9	Warramunga Arr	65.55	272	IAMs_20	IAMs_20	03 25 51.5	
	comp=Z,1μm,19.0s						
WB0	Warramunga Arr	65.56	272	P	P	03 01 30.9	-0.2
WB0				IAmb	IAmb	03 01 42.0	
	comp=Z,34nm,1.9s						
LVC	Limon Verde	66.63	95	P	P	03 01 39.0	+0.7
LVC				IAmb	IAmb	03 01 50.9	
	comp=Z,11nm,1.1s						
MORW	Morawa	67.03	252	IAMs_20	IAMs_20	03 24 03.3	
	comp=Z,2μm,22.0s						
CPUP	Villa Florida	69.31	107	P	P	03 01 53.6	-1.1
	comp=Z,3.6nm,0.9s,baz=248,slow=5.7,SNR=5.2						
CPUP				LR	LR	03 27 56.7	
	comp=Z,789nm,19.6s,baz=210,slow=32						
CPUP	Villa Florida	69.31	107	P	P	03 01 54.7	0.0
AP01	Chacalluta	69.45	91	IAMs_20	IAMs_20	03 24 25.0	
	comp=Z,1μm,18.0s						
NNA	Nana	71.54	82	IAMs_20	IAMs_20	03 25 32.5	
	comp=Z,1μm,20.0s						
MBWA	Marble Bar	71.83	259	IAMs_20	IAMs_20	03 28 25.3	
	comp=Z,1μm,20.0s						
KNRA	Kununurra	71.86	270	IAMs_20	IAMs_20	03 32 27.4	
	comp=Z,2μm,18.0s						
LPAZ	La Paz	72.32	92	P	P	03 02 13.5	-0.4
	comp=Z,2.6nm,1.1s,baz=208,slow=4.4,SNR=6.9						
LPAZ				LR	LR	03 26 20.3	
	comp=Z,827nm,21.8s,baz=187,slow=30						
LPAZ	La Paz	72.32	92	P	P	03 02 15.2	+1.3
LPAZ				IAmb	IAmb	03 02 28.4	
	comp=Z,24nm,1.8s						
GIRL	Giralia	73.30	254	IAMs_20	IAMs_20	03 28 17.2	
	comp=Z,1μm,18.0s						
SAML	Samuel	81.06	92	P	P	03 03 01.5	-1.1
MMRI	Maumere	81.16	268	IAMs_20	IAMs_20	03 35 37.1	
	comp=Z,1μm,20.0s						
OTAV	Otavalo	81.25	74	P	P	03 03 02.4	-1.6
OTAV	Otavalo	81.25	74	IAMs_20	IAMs_20	03 30 39.7	
	comp=Z,1μm,22.0s						
BDFB	Brasilia	82.92	109	LR	LR	03 36 09.2	
	comp=Z,1μm,20.3s,baz=199,slow=33						
BDFB	Brasilia	82.92	109	IAMs_20	IAMs_20	03 35 47.9	
	comp=Z,1μm,20.0s						
KAPI	Kappang	85.52	268	IAMs_20	IAMs_20	03 41 02.5	
	comp=Z,1μm,19.0s						
ROSC	El Rosal	87.26	76	LR	LR	03 36 32.6	
	comp=Z,1μm,18.1s,baz=224,slow=32						
ROSC	El Rosal	87.26	76	IAMs_20	IAMs_20	03 34 40.1	

comp=Z,1μm,22.0s
SNET Serv Nac Est T 88.02 59 IAMs_20 IAMs_20 03 33 29.1
comp=Z,831nm,22.0s
ACON Acoyapa 88.30 63 IAMs_20 IAMs_20 03 33 50.5
comp=Z,782nm,19.0s
MTO3 Montecristo 88.60 58 P P 03 00 38.0 -2.5
MTO3 IAMs_20 IAMs_20 03 34 47.4
comp=Z,931nm,20.0s
ESQI Esquipulas 88.75 58 IAMs_20 IAMs_20 03 34 34.4
comp=Z,932nm,20.0s
MATN Matagalpa 88.81 62 IAMs_20 IAMs_20 03 34 39.0
comp=Z,886nm,22.0s
UNM Universidad Na 89.06 48 IAMs_20 IAMs_20 03 35 26.7
comp=Z,781nm,20.0s
TGUH Tegucigalpa,Un 89.21 60 IAMs_20 IAMs_20 03 34 18.5
comp=Z,784nm,22.0s
PTGA Pitinga 89.72 91 IAMs_20 IAMs_20 03 37 00.3
comp=Z,735nm,22.0s
BKB Balikpapan 90.18 267 IAMs_20 IAMs_20 03 43 48.4
comp=Z,879nm,19.0s
BOSA Boshof 92.09 176 LR LR 03 40 26.2
comp=Z,3μm,22.0s,baz=178,slow=32
SRIG Santa Rosalia 92.17 34 IAMs_20 IAMs_20 03 36 43.1
comp=Z,780nm,19.0s
SDV Santo Domingo 92.56 77 IAMs_20 IAMs_20 03 38 36.7
comp=Z,870nm,20.0s
HSIG 94.14 34 IAMs_20 IAMs_20 03 36 25.3
comp=Z,649nm,20.0s
TEIG Tepich 94.24 57 IAMs_20 IAMs_20 03 38 03.0
comp=Z,764nm,22.0s
SPX San Pedro Mart 94.83 30 IAMs_20 IAMs_20 03 39 53.9
comp=Z,702nm,19.0s
PMBI Palembang 94.84 256 IAMs_20 IAMs_20 03 44 46.6
comp=Z,732nm,22.0s
CCX Cicese 95.33 29 IAMs_20 IAMs_20 03 38 47.0
comp=Z,716nm,18.0s
ESJX Sierra Juarez 95.64 29 IAMs_20 IAMs_20 03 38 21.9
comp=Z,691nm,18.0s
TJX Tijuana 95.85 28 IAMs_20 IAMs_20 03 39 19.8
comp=Z,938nm,20.0s
TKX Tecate 96.01 28 IAMs_20 IAMs_20 03 39 09.1
comp=Z,963nm,19.0s
BAR Barrett 96.10 28 IAMs_20 IAMs_20 03 38 59.5
comp=Z,802nm,19.0s
109C Camp Elliot, M 96.20 28 IAMs_20 IAMs_20 03 39 55.1
comp=Z,956nm,20.0s
214A Organ Pipe Nat 96.39 32 IAMs_20 IAMs_20 03 41 32.1
comp=Z,716nm,18.0s
319A Douglas 96.83 35 IAMs_20 IAMs_20 03 38 22.7
comp=Z,679nm,20.0s
GLA Glamis 96.91 30 IAMs_20 IAMs_20 03 39 03.8
comp=Z,847nm,19.0s
PFO Pinyon Flats O 97.04 28 IAMs_20 IAMs_20 03 40 11.4
comp=Z,884nm,19.0s
XPFO Pion Flat 97.04 28 IAMs_20 IAMs_20 03 40 11.4
comp=Z,870nm,19.0s
PASC Pasadena Art C 97.17 27 IAMs_20 IAMs_20 03 39 39.9
comp=Z,867nm,19.0s
MWC Mount Wilson 97.25 27 IAMs_20 IAMs_20 03 39 43.8
comp=Z,833nm,20.0s
TUC Tucson 97.28 33 IAMs_20 IAMs_20 03 39 26.6
comp=Z,560nm,19.0s
OSI Osito Audit: C 97.48 26 IAMs_20 IAMs_20 03 44 00.9
comp=Z,850nm,19.0s
EPT El Paso 98.03 37 IAMs_20 IAMs_20 03 39 31.3
comp=Z,570nm,19.0s
121A Cookes Peak, D 98.35 36 IAMs_20 IAMs_20 03 42 00.9
comp=Z,605nm,19.0s
ISA Isabella, Lake 98.54 26 IAMs_20 IAMs_20 03 40 40.1
comp=Z,860nm,18.0s
GSC Goldstone, Bar 98.58 27 IAMs_20 IAMs_20 03 39 04.0
comp=Z,691nm,20.0s
W13A Hualapai Mount 99.09 30 IAMs_20 IAMs_20 03 40 57.6
comp=Z,881nm,18.0s
MCCM Marconi Confer 100.02 22 IAMs_20 IAMs_20 03 41 35.3
comp=Z,742nm,19.0s
SHPR Sheep Range 100.12 28 IAMs_20 IAMs_20 03 42 19.8
comp=Z,618nm,19.0s
WUAZ Wupatki 100.14 32 IAMs_20 IAMs_20 03 42 58.3
comp=Z,774nm,18.0s
TPNV Topopah Spring 100.28 27 IAMs_20 IAMs_20 03 40 45.1
comp=Z,572nm,20.0s
MDPB Devils Postpil 100.30 25 IAMs_20 IAMs_20 03 41 16.6
comp=Z,650nm,18.0s
CMB Columbia Colle 100.41 24 IAMs_20 IAMs_20 03 41 10.6
comp=Z,534nm,19.0s
GDXM Geysers 100.68 22 IAMs_20 IAMs_20 03 40 14.8
comp=Z,830nm,20.0s
HOPS Hopland Field 100.81 22 IAMs_20 IAMs_20 03 39 07.1
comp=Z,877nm,18.0s
TSUM Tsumeb 100.94 169 IAMs_20 IAMs_20 03 43 01.7
comp=Z,959nm,22.0s
PRN Pahroc Range 101.00 28 IAMs_20 IAMs_20 03 40 42.2
comp=Z,616nm,19.0s
LHV Little Huntoon 101.02 25 IAMs_20 IAMs_20 03 39 39.6
comp=Z,658nm,20.0s
WAKR Walker 101.06 24 IAMs_20 IAMs_20 03 41 45.8
comp=Z,721nm,19.0s
AFDM Forest Hills D 101.17 23 IAMs_20 IAMs_20 03 39 12.7
comp=Z,596nm,22.0s
RYN Ryan 101.38 25 IAMs_20 IAMs_20 03 41 50.1
comp=Z,696nm,20.0s
RUBR Rubicon Trail 101.44 24 IAMs_20 IAMs_20 03 45 36.8
comp=Z,580nm,18.0s
YERR Yerington 101.56 24 IAMs_20 IAMs_20 03 39 52.1
comp=Z,566nm,20.0s
PNTR Pine Nut 101.59 24 IAMs_20 IAMs_20 03 40 01.8
comp=Z,648nm,22.0s
ORV Oroville 101.65 23 IAMs_20 IAMs_20 03 40 27.3
comp=Z,539nm,18.0s
VCNR Virginia City 101.78 24 IAMs_20 IAMs_20 03 39 46.8
comp=Z,590nm,22.0s
BEKR Beckworth 102.18 23 IAMs_20 IAMs_20 03 40 36.5
comp=Z,570nm,21.0s
PAHR Pah Rah Range 102.23 24 IAMs_20 IAMs_20 03 44 50.8
comp=Z,563nm,18.0s
WDC Whiskeytown Da 102.45 22 IAMs_20 IAMs_20 03 40 00.4
comp=Z,704nm,20.0s
KHMM Horse Mountain 102.51 21 IAMs_20 IAMs_20 03 40 29.2
comp=Z,854nm,20.0s
RPSI Rantau Prapat 102.58 254 IAMs_20 IAMs_20 03 54 09.2
comp=Z,542nm,20.0s
KRMB Red Mountain 103.11 20 IAMs_20 IAMs_20 03 40 24.9
comp=Z,997nm,21.0s
H10S2 ASCENSION HYDR 103.22 135 T T 05 00 48.9
baz=204,slow=74,SNR=5.9
H10S3 ASCENSION HYDR 103.22 135 T T 05 00 51.5
baz=16,slow=74,SNR=8.7
PV18 Skein Mesa, Pa 103.38 33 IAMs_20 IAMs_20 03 44 01.9
comp=Z,762nm,19.0s
PV17 East Wray Mesa 103.39 33 IAMs_20 IAMs_20 03 56 14.4
comp=Z,1μm,22.0s
PV14 Lion Creek, Pa 103.46 32 IAMs_20 IAMs_20 03 46 14.2
comp=Z,1μm,22.0s
YBH Yreka Blue Hor 103.53 21 IAMs_20 IAMs_20 03 41 39.1
comp=Z,742nm,20.0s
KBO Bosley Butte 103.73 20 IAMs_20 IAMs_20 03 41 33.3
comp=Z,896nm,19.0s
SDCO Great Sand Dun 103.88 35 IAMs_20 IAMs_20 03 43 52.2
comp=Z,587nm,20.0s
ELK Elko 104.13 27 IAMs_20 IAMs_20 03 41 14.1
comp=Z,668nm,22.0s
DUG Dugway, Tooele 104.19 29 IAMs_20 IAMs_20 03 41 52.5
comp=Z,592nm,21.0s
H10N3 ASCENSION HYDR 104.31 135 T T 05 02 02.2
baz=203,slow=75,SNR=23
H10N1 ASCENSION HYDR 104.31 135 T T 05 02 01.8
baz=203,slow=75,SNR=42
H10N2 ASCENSION HYDR 104.33 135 T T 05 02 02.7
baz=203,slow=75,SNR=29
HUMO Hull Mountain 104.33 21 IAMs_20 IAMs_20 03 41 38.4
comp=Z,566nm,22.0s
WVOR Wild Horse Val 105.00 24 IAMs_20 IAMs_20 03 54 11.1
comp=Z,551nm,18.0s
O20A White River Ci 105.32 32 IAMs_20 IAMs_20 03 47 29.4
comp=Z,712nm,19.0s
ISCO Idaho Springs 105.75 34 IAMs_20 IAMs_20 03 49 04.7
comp=Z,624nm,18.0s
PINE Pine Mountain 105.85 22 IAMs_20 IAMs_20 03 42 57.6
comp=Z,657nm,20.0s
J08A Circle Bar Ran 105.92 24 IAMs_20 IAMs_20 03 45 21.5
comp=Z,579nm,19.0s
COR Corvallis 106.19 20 IAMs_20 IAMs_20 03 42 39.5
comp=Z,693nm,21.0s
H04A Detroit Lake 106.48 21 IAMs_20 IAMs_20 03 51 55.3
comp=Z,590nm,18.0s
HLID Hailey 107.00 27 IAMs_20 IAMs_20 03 45 48.0
comp=Z,836nm,19.0s

AHID Auburn Hatcher 107.04 29 IAMs_20 IAMs_20 03 51 14.9
comp=Z,570nm,18.0s
BW06 Boulder Array 107.43 30 IAMs_20 IAMs_20 03 45 46.3
comp=Z,589nm,19.0s
REDW Red Top Meadow 107.66 29 IAMs_20 IAMs_20 03 47 49.4
comp=Z,446nm,18.0s
OGNE Ogallala 107.86 37 IAMs_20 IAMs_20 04 01 06.7
comp=Z,538nm,19.0s
LOHW Long Hollow 107.96 29 IAMs_20 IAMs_20 03 47 34.2
comp=Z,493nm,19.0s
F07A Phinny Hill Vi 108.07 22 IAMs_20 IAMs_20 03 43 33.3
comp=Z,739nm,20.0s
K22A Casper 108.14 33 IAMs_20 IAMs_20 03 47 34.0
comp=Z,650nm,19.0s
FLWY Flagg Ranch 108.38 29 IAMs_20 IAMs_20 03 48 02.3
comp=Z,482nm,19.0s
HAWA Hanford 108.63 22 IAMs_20 IAMs_20 03 44 44.0
comp=Z,749nm,20.0s
F10A Beach Ranch, E 108.68 24 IAMs_20 IAMs_20 03 45 00.5
comp=Z,575nm,22.0s
E07A Sunnyside 108.72 22 IAMs_20 IAMs_20 03 47 07.6
comp=Z,704nm,20.0s
E08A Dider Farm, El 108.81 22 IAMs_20 IAMs_20 03 44 50.9
comp=Z,670nm,20.0s
NLWA Neilton Lookou 108.82 19 IAMs_20 IAMs_20 03 44 36.0
comp=Z,703nm,20.0s
LKWY Lake 108.91 29 IAMs_20 IAMs_20 03 48 32.2
comp=Z,783nm,18.0s
E09A Wood Farm, Sta 109.01 23 IAMs_20 IAMs_20 03 45 00.3
comp=Z,482nm,20.0s
DLMT Dillon 109.12 27 IAMs_20 IAMs_20 03 47 27.2
comp=Z,609nm,20.0s
D08A Wollman Farm, 109.38 22 IAMs_20 IAMs_20 03 44 35.0
comp=Z,706nm,20.0s
BGNE Belgrade 109.50 39 IAMs_20 IAMs_20 03 46 35.1
comp=Z,711nm,21.0s
MSO Missoula 110.20 26 IAMs_20 IAMs_20 03 54 42.7
comp=Z,469nm,18.0s
C09A Chrisman Ranch 110.22 23 IAMs_20 IAMs_20 03 44 51.2
comp=Z,709nm,21.0s
B08A Colville Reser 110.55 22 IAMs_20 IAMs_20 03 45 16.8
comp=Z,549nm,21.0s
NEW Newport 110.89 23 IAMs_20 IAMs_20 03 45 36.0
comp=Z,638nm,21.0s
JTMT Jette 111.00 25 IAMs_20 IAMs_20 03 48 46.7
comp=Z,594nm,18.0s
LAO LASA Array 111.95 31 IAMs_20 IAMs_20 03 48 31.9
comp=Z,704nm,19.0s
ECSD EROS Data Cent 112.09 39 IAMs_20 IAMs_20 03 48 59.5
comp=Z,588nm,20.0s
EGMT Eagleton 112.30 28 IAMs_20 IAMs_20 03 48 56.2
comp=Z,560nm,19.0s
WALA Waterton Lakes 112.32 25 IAMs_20 IAMs_20 03 49 55.5
comp=Z,724nm,21.0s
R53A Hueta 112.71 53 IAMs_20 IAMs_20 03 49 10.9
comp=Z,707nm,20.0s
U59A Littleton 112.75 57 IAMs_20 IAMs_20 03 50 29.1
comp=Z,585nm,19.0s
BBB Bella Bella 112.86 15 IAMs_20 IAMs_20 03 46 19.1
comp=Z,836nm,21.0s
T59A Double "B" Far 113.37 57 IAMs_20 IAMs_20 03 50 57.6
comp=Z,696nm,20.0s
T60A Surry 113.86 57 IAMs_20 IAMs_20 03 51 21.6
comp=Z,796nm,19.0s
DGMT Dagmar 114.13 32 IAMs_20 IAMs_20 03 48 52.5
comp=Z,630nm,20.0s
I40A Norwalk 114.24 43 IAMs_20 IAMs_20 04 06 01.6
comp=Z,434nm,18.0s
MDND Maddock 114.86 35 IAMs_20 IAMs_20 03 50 57.9
comp=Z,466nm,19.0s
F36A Milaca 114.99 40 IAMs_20 IAMs_20 03 51 29.2
comp=Z,536nm,20.0s
D32A Dogwood Acres, 115.00 37 IAMs_20 IAMs_20 03 51 43.6
comp=Z,523nm,19.0s
PALK Pallekele 115.08 239 IAMs_20 IAMs_20 03 46 36.0
comp=Z,784nm,22.0s
SLVN Son La 115.96 268 IAMs_20 IAMs_20 03 58 56.2
comp=Z,390nm,18.0s
CHTO Chiang Mai 116.37 262 IAMs_20 IAMs_20 03 56 20.9
comp=Z,521nm,20.0s
AGMN Agassiz Nation 116.39 38 IAMs_20 IAMs_20 03 53 28.4
comp=Z,548nm,18.0s
MVL Millersville 116.43 56 IAMs_20 IAMs_20 03 53 19.5
comp=Z,756nm,19.0s
WRAK Wrangell Islan 116.54 11 IAMs_20 IAMs_20 03 50 18.3
comp=Z,792nm,20.0s
P60A Greenville 116.57 56 IAMs_20 IAMs_20 03 52 08.3
comp=Z,677nm,21.0s
PSUB Penn St. - Bra 116.75 56 IAMs_20 IAMs_20 03 51 29.0
comp=Z,590nm,22.0s
LUPA Lehigh Univers 117.34 56 IAMs_20 IAMs_20 03 52 53.6
comp=Z,595nm,20.0s
N59A State Game Lan 117.44 56 IAMs_20 IAMs_20 03 52 42.2
comp=Z,736nm,19.0s
EYMN Ely 117.48 41 IAMs_20 IAMs_20 03 54 31.3
comp=Z,558nm,18.0s
ULM Lac du Bonnet 118.11 36 IAMs_20 IAMs_20 03 54 10.0
comp=Z,620nm,18.0s
BINY Binghamton 118.41 55 IAMs_20 IAMs_20 03 54 36.0
comp=Z,615nm,20.0s
J56A Wolcott 118.95 53 IAMs_20 IAMs_20 03 54 02.1
comp=Z,596nm,20.0s
K58A Earlville 119.02 54 IAMs_20 IAMs_20 03 54 38.1
comp=Z,543nm,20.0s
KMI Kunming 119.70 269 IAMs_20 IAMs_20 03 59 11.4
comp=Z,406nm,20.0s
FFC Flin Flon 120.39 30 IAMs_20 IAMs_20 03 54 28.1
comp=Z,603nm,20.0s
KLU Klutina 120.77 3 PKPdf 03 09 38.0 -0.1
SCM Sheep Creek Mo 121.09 2 PKPdf 03 09 38.2 -0.5
BCAR Beaver Creek A 122.48 5 PKPdf 03 09 40.5 -0.8
CD2 Chengdu 123.89 274 PKP PKiKP 03 09 45.5 +0.2
IL31 124.04 2 PKiKP 03 09 44.5 +0.2
ILAR Eielson Array 124.04 2 PKP PKiKP 03 09 44.7 +0.2
comp=Z,1.9nm,1.1s,baz=214,slow=2.3,SNR=9.0
ILAR Eielson Array 124.04 2 PKPdf PKPdf 03 09 44.2 0.0
TCOL CIGO, UAF Yank 124.13 1 IAMs_20 IAMs_20 03 53 28.8
comp=Z,646nm,20.0s
COLA College 124.13 1 IAMs_20 IAMs_20 03 56 11.8
comp=Z,599nm,20.0s
MDM Murphy Dome 124.21 1 IAMs_20 IAMs_20 03 56 05.2
comp=Z,690nm,20.0s
PRP Porcupine Dome 124.82 3 IAMs_20 IAMs_20 03 55 49.0
comp=Z,702nm,20.0s
YKA Yellowknife Ar 124.82 19 PKP PKiKP 03 09 46.2 +0.2
comp=Z,0.6nm,1.0s,baz=199,slow=1.1,SNR=2.6
KLR Kul'dur 125.33 308 PKP PKPdf 03 09 46.7 -0.4
comp=Z,0.7nm,0.7s,baz=135,slow=2.9,SNR=2.1
FYU Fort Yukon 125.88 3 IAMs_20 IAMs_20 04 05 56.0
comp=Z,649nm,19.0s
SOCY Socotra 129.28 212 IAMs_20 IAMs_20 03 57 53.9
comp=Z,604nm,20.0s
TOC5 Torodi Ar. Sit 129.31 144 IAMs_20 IAMs_20 04 00 01.5
comp=Z,571nm,20.0s
TOC4 Torodi Ar. Sit 129.31 144 IAMs_20 IAMs_20 04 00 20.5
comp=Z,487nm,20.0s
TOB4 Torodi Ar. Sit 129.32 144 IAMs_20 IAMs_20 04 00 21.8
comp=Z,474nm,19.0s
TOB3 Torodi Ar. Sit 129.33 144 IAMs_20 IAMs_20 04 00 31.9
comp=Z,491nm,20.0s
TOA3 Torodi Ar. Sit 129.33 144 IAMs_20 IAMs_20 04 00 00.9
comp=Z,468nm,20.0s
TOC3 Torodi Ar. Sit 129.33 144 IAMs_20 IAMs_20 04 00 21.0
comp=Z,498nm,20.0s
TOA0 Torodi Ar. Sit 129.34 144 IAMs_20 IAMs_20 04 00 21.1
comp=Z,513nm,20.0s
TORD Torodi Ar. Bea 129.34 144 PKP PKPdf 03 09 55.7 -0.1
comp=Z,0.2nm,0.5s,baz=263,slow=2.5,SNR=1.8
TORD Torodi Ar. Bea 129.34 144 PKPdf 03 09 56.3 +0.5
TOB5 Torodi Ar. Sit 129.34 144 IAMs_20 IAMs_20 04 00 22.1
comp=Z,547nm,20.0s
TOC2 Torodi Ar. Sit 129.35 144 IAMs_20 IAMs_20 04 00 31.5
comp=Z,529nm,21.0s
ATD Arta Tunnel 131.01 198 IAMs_20 IAMs_20 04 05 14.8
comp=Z,464nm,21.0s
YAK Yakutsk 135.72 318 IAMs_20 IAMs_20 03 59 03.3
comp=Z,377nm,22.0s
TAM Tamanrasset 139.58 145 IAMs_20 IAMs_20 04 15 26.6
comp=Z,365nm,19.0s
UOSS Minazif 140.66 220 IAMs_20 IAMs_20 04 18 31.4
comp=Z,356nm,20.0s
WMQ Urumqi 141.94 272 eP PKiKP 03 10 20.2 -1.2
WMQ pmax pmax
comp=Z,140nm,3.7s
WMQ LR LR
comp=N,510nm,29.1s
WMQ LR LR
comp=E,1μm,29.1s

WMQ LR LR
comp=Z,310nm,29.9s
TIXI Tiksi 142.15 329 IAMs_20 IAMs_20 04 07 52.1
comp=Z,351nm,20.0s
RAYN Ar Rayn 142.24 205 IAMs_20 IAMs_20 04 10 28.3
comp=Z,469nm,21.0s
MDT Midelt 145.07 125 PKPbc PKPbc 03 10 23.2 -0.6
comp=Z,4.3nm,0.9s,baz=150,slow=1.7,SNR=6.0
MK31 Makanchi Array 146.74 271 PKPdf PKPdf 03 10 26.8 +0.1
MKAR Makanchi Array 146.74 271 PKPbc PKPdf 03 10 27.6 +0.9
comp=Z,11nm,0.9s,baz=123,slow=3.7,SNR=51
MKAR Makanchi Array 146.74 271 PKPdf PKPdf 03 10 27.1 +0.4
HRA Herat 146.88 235 PKPab 03 10 30.5 -0.3
AAK Ala-Archa 147.77 259 PKPbc PKPdf 03 10 30.2 +1.5
comp=Z,2.9nm,0.9s,baz=196,slow=1.9,SNR=3.7
AAK Ala-Archa 147.77 259 PKPbc 03 10 32.1 +0.5
ZALV Zalesovo Beam 149.87 284 PKPbc PKPbc 03 10 35.0 -1.4
comp=Z,1.2nm,0.7s,baz=132,slow=2.2,SNR=5.1
ZALV Zalesovo Beam 149.87 284 PKPbc 03 10 35.4 -0.9
KKAR Karatay Array 150.09 255 PKPdf PKPdf 03 10 32.0 -0.2
KKAR PKPbc PKiKP 03 10 37.9 -0.2
KKAR PKPab PKPab 03 10 44.0 +0.7
KURBB Kurchatov Arra 151.11 274 PKPbc PKPbc 03 10 38.4 -1.0
comp=Z,5.3nm,0.9s,baz=126,slow=1.9,SNR=31
KURK Kurchatov 151.12 274 PKPbc PKPbc 03 10 39.6 +0.3
ESDC Sonseca Array 151.12 119 PKPbc PKPbc 03 10 40.0 +0.1
comp=Z,4.8nm,1.1s,baz=239,slow=2.1,SNR=16
ESDC Sonseca Array 151.12 119 PKiKP 03 10 41.1 +0.7
GEYT Alibeck 151.62 233 PKPbc PKiKP 03 10 42.3 +0.8
comp=Z,1.0nm,0.4s,baz=210,slow=32,SNR=1.1
GEYT Alibeck 151.62 233 PKiKP 03 10 42.1 +0.6
CSS Mathiatis 155.26 188 IAMs_20 IAMs_20 04 17 00.8
comp=Z,513nm,21.0s
KARP Karpathos 155.94 176 IAMs_20 IAMs_20 04 18 45.8
comp=Z,423nm,21.0s
MARD Mardin 156.56 203 IAMs_20 IAMs_20 04 19 26.5
comp=Z,517nm,21.0s
BVAR Borovoye Array 156.62 272 PKPab PKPab 03 11 10.6 0.0
comp=Z,0.4nm,0.7s,baz=162,slow=1.4,SNR=3.9
AKAS Kas 156.66 181 IAMs_20 IAMs_20 04 22 18.0
comp=Z,296nm,20.0s
SANT Santorini 156.66 172 IAMs_20 IAMs_20 04 24 22.1
comp=Z,482nm,21.0s
ISP Isparta 158.24 182 IAMs_20 IAMs_20 04 17 41.2
comp=Z,361nm,21.0s
CASP Castiglione de 159.72 138 IAMs_20 IAMs_20 04 32 44.0
comp=Z,416nm,19.0s
BRTR Keskin Array B 159.97 190 PKPab PKPab 03 11 26.4 +0.8
comp=Z,0.3nm,0.6s,baz=179,slow=8.4,SNR=1.9

IDC **02** *02:51:09.5±1.2, 6.92N×127.18E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/41, mbtmp3.7/5, Error ellipse: s-maj=31.7km s-min=19.3km az=45.0*
NEIC **02** *02:51:12.6±1.7, 6.7N±0.1×127.3E±0.1, h10km±1km, mb4.3/8, Error ellipse: s-maj=20.5km s-min=16.7km az=69.0*
MAN **02** *02:51:16.8, 7.00N×126.80E, h29km, mb3.9, ML2.7, MS2.2*
ISC 02 02:51:12.3±0.8, **6.78N**±0.08×**127.06E**±0.06, **h10**km, **n24,** σ**1**§**08**/**28, mb3.9**/**9, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.82**	**282**	*e*P	**Pb**	**02 51 28.7**	**+0.1**
MATI				*e*S	**Sg**	**02 51 38.0**	**-0.8**
DDMP	**Don Marcelino,**	**1.50**	**244**	*e*P	**Pb**	**02 51 40.1**	**-0.2**
DDMP				*e*S	**Sb**	**02 51 58.4**	**-0.9**
DAV	**Davao City (W)**	**1.50**	**281**	Pn	**Pn**	**02 51 39.9**	**+0.6**
	106nm,0.3s,baz=79,slow=15,SNR=6.9						
DAV				Sn	**Sg**	**02 52 01.2**	**+0.6**
	81nm,0.3s,baz=276,slow=23,SNR=4.7						
DAV	**Davao City (W)**	**1.50**	**281**		**Pb**	**02 51 40.3**	**0.0**
KCP	**Kidapawan**	**1.97**	**277**	||*i*P	**Pn**	**02 51 46.7**	**+0.9**
SKMP	**Bagumbayan, Su**	**2.52**	**264**	*e*P	**Pn**	**02 51 53.2**	**0.0**
SKMP				*e*S	**Sn**	**02 52 23.7**	**-0.4**
TOLI2	**Tolitoli**	**8.42**	**228**	Pn	**Pn**	**02 53 14.1**	**-0.4**
JOW	**Kunigami**	**19.98**	**3**	P	**P**	**02 55 44.2**	**-0.8**
WB0	**Warramunga Arr**	**27.35**	**165**	P	**P**	**02 56 56.4**	**-1.4**
WB0				IAmb	IAmb	02 57 10.9	
	comp=Z,9.5nm,1.4s						
WRA	**Warramunga Arr**	**27.50**	**165**	P	**P**	**02 56 58.4**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=344,slow=10,SNR=7.5						
WB2	**Warramunga Arr**	**27.50**	**165**	P	**P**	**02 56 59.0**	**-0.1**
WB2				IAmb	IAmb	02 57 16.0	
	comp=Z,9.1nm,1.4s						
WR0	**Warramunga Arr**	**27.57**	**165**	P	**P**	**02 56 59.2**	**-0.5**
WR0				IAmb	IAmb	02 57 05.7	
	comp=Z,5.9nm,1.3s						
MBWA	**Marble Bar**	**28.68**	**194**	P	**P**	**02 57 12.1**	**+2.5**
ASAR	**Alice Springs**	**30.99**	**168**	P	**P**	**02 57 29.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=344,slow=7.8,SNR=5.9						
FORT	**Forrest**	**37.35**	**179**	P	**P**	**02 58 25.3**	**+0.1**
BBOO	**Buckleboo**	**40.29**	**168**	P	**P**	**02 58 49.6**	**-0.2**
BBOO				IAmb	IAmb	02 59 01.3	
	comp=Z,13nm,1.3s						
STKA	**Stephens Creek**	**40.86**	**161**	P	**P**	**02 58 54.5**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=351,slow=9.0,SNR=3.8						
STKA	**Stephens Creek**	**40.86**	**161**	P	**P**	**02 58 55.1**	**+0.5**
MK31	**Makanchi Array**	**55.28**	**324**	P	**P**	**03 00 47.9**	**+1.8**
MKAR	**Makanchi Array**	**55.28**	**324**	P	**P**	**03 00 43.6**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=109,slow=7.3,SNR=6.7						
MKAR	**Makanchi Array**	**55.28**	**324**	P	**P**	**03 00 47.7**	**+1.7**
IMAR	**Indian Mountai**	**79.44**	**24**	P	**P**	**03 03 18.5**	**-0.1**
ILAR	**Eielson Array**	**82.23**	**26**	P	**P**	**03 03 32.1**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=248,slow=4.8,SNR=2.4						
ILAR	**Eielson Array**	**82.23**	**26**	P	**P**	**03 03 32.5**	**-1.1**

NOU **02** *02:57:01.0, 41.02S×176.64E, h55km, MLv3.8, Off E. Coast of N. Island, N.Z.*
WEL **02** *02:57:05.5, 40.6S±0.7×176°6E±°, h37km±1km, M3.8/23, ML4.1/23, MLv3.8/23, Error ellipse: s-maj=0.0km s-min=0.0km az=94.9*
IDC **02** *02:57:09.2±2.9, 40.27S×175.79E, h64km±23km, mb3.6/2, mb1 3.7/4, mb1mx3.6/30, mbtmp3.7/4, Error ellipse: s-maj=56.1km s-min=17.5km az=131.0*
ISC 02 02:57:04.9±0.8, **40.68S**±0.03×**175.96E**±0.03, **h48**km±5km, **n117,** σ**1**§**50**/**122, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIWZ	**Tintock**	**0.11**	**209**	P	**Pn**	**02 57 12.5**	**-0.1**
PRWZ	**Pori Road**	**0.12**	**6**	P	**Pn**	**02 57 12.1**	**-0.5**
PRWZ				S	**Sn**	**02 57 16.7**	**-1.4**
BFZ	**Birch Farm**	**0.22**	**91**	P	**Pn**	**02 57 13.9**	**+0.7**
BFZ				S	**Sn**	**02 57 20.1**	**+1.0**
MRZ	**Mangatainoka R**	**0.29**	**274**	P	**Pn**	**02 57 12.9**	**-0.9**
CPWZ	**Castlepoint**	**0.30**	**141**	P	**Pn**	**02 57 15.8**	**+2.0**
CPWZ				S	**Sn**	**02 57 24.3**	**+4.1**
POWZ	**Post Office Ro**	**0.32**	**334**	P	**Pn**	**02 57 13.0**	**-1.1**
HOWZ	**Holdsworth Sta**	**0.40**	**237**	P	**Pn**	**02 57 15.1**	**+0.2**
HOWZ				S	**Sn**	**02 57 21.9**	**-0.1**
DVHZ	**Dannevirke**	**0.41**	**23**	P	**Pn**	**02 57 14.8**	**-0.3**
DVHZ				S	**Sn**	**02 57 21.4**	**-0.8**
TMWZ	**Te Maipa**	**0.43**	**187**	P	**Pn**	**02 57 16.6**	**+1.3**
TMWZ				S	**Sn**	**02 57 25.7**	**+3.1**
ANWZ	**Angora Road**	**0.45**	**61**	P	**Pn**	**02 57 16.5**	**+1.1**
ANWZ				S	**Sn**	**02 57 25.1**	**+2.1**
MTW	**Mount Morrison**	**0.59**	**216**	P	**Pn**	**02 57 17.9**	**+0.8**
MTW				S	**Sn**	**02 57 28.0**	**+2.1**
OGWZ	**Otaki Gorge**	**0.61**	**257**	P	**Pn**	**02 57 17.7**	**+0.3**
TSZ	**Takapari Road**	**0.62**	**0**	P	**Pn**	**02 57 17.5**	**-0.1**
PRHZ	**Porangahau**	**0.66**	**52**	P	**Pn**	**02 57 19.0**	**+1.0**
OHWZ	**Ohakea**	**0.68**	**314**	P	**Pn**	**02 57 18.7**	**+0.5**
WPHZ	**Waipukurau**	**0.72**	**31**	P	**Pn**	**02 57 19.9**	**+1.1**
TRWZ	**Traveller**	**0.75**	**196**	P	**Pn**	**02 57 20.6**	**+1.4**
PNHZ	**Pukenui**	**0.79**	**14**	P	**Pn**	**02 57 20.2**	**+0.5**
CAW	**Cannon Point**	**0.80**	**237**	P	**Pn**	**02 57 20.6**	**+0.8**
PAWZ	**Paruwai Farm**	**0.81**	**209**	P	**Pn**	**02 57 20.9**	**+0.9**
KIW	**Kapiti Island**	**0.81**	**257**	P	**Pn**	**02 57 20.7**	**+0.6**
MSWZ	**Moikau Station**	**0.91**	**216**	P	**Pn**	**02 57 21.9**	**+0.6**
PXZ	**Pawanui**	**0.95**	**47**	P	**Pn**	**02 57 22.7**	**+0.9**
PLWZ	**Palliser**	**1.03**	**211**	P	**Pn**	**02 57 23.6**	**+0.5**
KRHZ	**Kereru**	**1.08**	**17**	P	**Pn**	**02 57 24.3**	**+0.6**
WEL	**Wellington**	**1.08**	**236**	P	**Pn**	**02 57 24.3**	**+0.6**
BHW	**Baring Head**	**1.10**	**228**	P	**Pn**	**02 57 24.3**	**+0.5**
KAHZ	**Kahuranaki**	**1.13**	**39**	P	**Pn**	**02 57 25.2**	**+0.8**
WAZ	**Wanganui**	**1.19**	**321**	P	**Pn**	**02 57 26.9**	**+1.8**
BHHZ	**Black Hill Sta**	**1.19**	**4**	P	**Pn**	**02 57 25.9**	**+0.7**
MOVZ	**Moawhango**	**1.28**	**353**	P	**Pn**	**02 57 27.2**	**+0.7**
KWHZ	**Kaweka Forest**	**1.30**	**16**	P	**Pn**	**02 57 27.4**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.33**	**41**	P	**Pn**	**02 57 27.4**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTVZ	Mangateitei	1.35	344	P	Pn	02 57 29.1	+1.8
MCHZ	McNeill Hill	1.36	25	P	Pn	02 57 28.2	+0.8
TCW	Tory Channel	1.38	247	P	Pn	02 57 28.0	+0.3
WNVZ	Wahianoa	1.38	348	P	Pn	02 57 28.9	+1.0
TRVZ	Turoa	1.41	347	P	Pn	02 57 29.7	+1.3
WHVZ	Whangaehu Hut	1.42	348	P	Pn	02 57 30.1	+1.5
TUVZ	Tukino	1.43	351	P	Pn	02 57 30.1	+1.6
DRZ	Dome Shelter	1.43	348	P	Pn	02 57 31.1	+2.4
FWVZ	Far West T-bar	1.46	348	P	Pn	02 57 30.3	+1.3
PKVZ	Pokaka	1.47	341	P	Pn	02 57 30.4	+1.5
NGZ	Ngauruhoe	1.53	350	P	Pn	02 57 31.1	+1.3
OTVZ	Oturere	1.53	352	P	Pn	02 57 31.2	+1.3
DUWZ	D'Urville Isla	1.55	265	P	Pn	02 57 30.8	+0.7
ETVZ	East Tongariro	1.55	353	P	Pn	02 57 31.3	+1.1
BKZ	Black Stump Fm	1.57	15	P	Pn	02 57 30.7	+0.4
TMVZ	Te Maari	1.57	353	P	Pn	02 57 31.6	+1.1
WTVZ	West Tongariro	1.59	350	P	Pn	02 57 31.9	+1.3
KRVZ	Karewarewa	1.60	351	P	Pn	02 57 32.1	+1.3
ARHZ	Aropaoanui	1.62	30	P	Pn	02 57 31.7	+0.6
TWVZ	Taurewa	1.66	346	P	Pn	02 57 32.6	+1.1
TUWZ	Tuamarina	1.70	243	P	Pn	02 57 31.9	-0.1
RITZ	Rihia Road	1.70	357	P	Pn	02 57 33.4	+1.3
LREZ	Lake Rotokare	1.70	315	P	Pn	02 57 34.8	+2.7
NMHZ	Naumai	1.71	23	P	Pn	02 57 33.1	+0.8
KATZ	Kakaramea	1.71	353	P	Pn	02 57 33.7	+1.3
HATZ	Hinemaiaia	1.79	3	P	Pn	02 57 37.6	+4.3
VRZ	Vera Road	1.81	329	P	Pn	02 57 35.5	+2.0
RATZ	Rangitukua	1.82	355	P	Pn	02 57 34.7	+1.0
MRHZ	Matea Rd	1.88	11	P	Pn	02 57 34.9	+0.3
BSWZ	Blackbirch Sta	1.88	236	P	Pn	02 57 34.6	+0.1
WHHZ	Waihua	1.88	32	P	Pn	02 57 35.2	+0.7
PREZ	Palmer Road	1.92	313	P	Pn	02 57 39.0	+3.9
MTHZ	Maungataniwha	1.95	21	P	Pn	02 57 35.6	0.0
RAHZ	Arahi	1.96	27	P	Pn	02 57 36.0	+0.3
WATZ	Wairara	1.98	355	P	Pn	02 57 36.5	+0.6
NEZ	North Egmont	2.01	314	P	Pn	02 57 39.5	+3.2
NNZ	Nelson	2.02	254	P	Pn	02 57 38.1	+1.6
KHEZ	Kahui Hut	2.03	312	P	Pn	02 57 40.0	+3.3
MHEZ	Mangahewa	2.04	321	P	Pn	02 57 42.9	+6.2
NMEZ	Namu Road	2.04	308	P	Pn	02 57 40.7	+4.1
KNZ	Kokohu	2.12	39	P	Pn	02 57 37.6	-0.2
PKE	Pukeiti	2.12	314	P	Pn	02 57 41.2	+3.4
NBEZ	Newall Road No	2.13	311	P	Pn	02 57 42.3	+4.3
ALRZ	Allen Road	2.14	8	P	Pn	02 57 45.5	+7.4
MHGZ	Mahia Peninsul	2.14	45	P	Pn	02 57 38.0	-0.1
SNGZ	Shannon Statio	2.18	30	P	Pn	02 57 38.6	0.0
PRRZ	Plateau Road	2.20	9	P	Pn	02 57 45.4	+6.4
RTZ	Ruatahuna	2.21	21	P	Pn	02 57 39.9	+0.8
PRGZ	Paritu Road	2.30	41	P	Pn	02 57 40.0	-0.4
HRRZ	Handcock Road	2.30	6	P	Pn	02 57 45.8	+5.4
HIZ	Hauiti	2.32	338	P	Pn	02 57 44.0	+3.4
TLZ	Tolley Road	2.37	352	P	Pn	02 57 42.6	+1.3
HSRZ	Hossack Road	2.38	6	P	Pn	02 57 41.9	+0.5
RIGZ	Rimuhau	2.41	36	P	Pn	02 57 41.7	-0.2
RAGZ	Rawiri	2.46	28	P	Pn	02 57 42.0	-0.5
TARZ	Mount Tarawera	2.48	10	P	Pn	02 57 42.9	0.0
KHZ	Kahutara	2.51	225	P	Pn	02 57 42.4	-0.7
THZ	Tophouse	2.54	244	P	Pn	02 57 43.4	-0.3
MKRZ	Makatiti	2.57	9	P	Pn	02 57 44.4	+0.3
URZ	Urewera	2.58	21	P	Pn	02 57 43.0	-1.0
	2.5nm,0.3s,baz=242,slow=6.7,SNR=15						
URZ				S	Sn	02 58 11.8	-2.3
	13nm,0.3s,baz=222,slow=10,SNR=5.6						
URZ	Urewera	2.58	21	P	Pn	02 57 43.1	-1.0
QRZ	Quartz Range	2.61	266	P	Pn	02 57 44.8	+0.3
MWZ	Matawai	2.64	28	P	Pn	02 57 44.1	-0.9
TKGZ	Te Karaka	2.67	34	P	Pn	02 57 44.9	-0.5
CNGZ	Carnagh Statio	2.80	39	P	Pn	02 57 46.9	-0.3
TWGZ	Tauwhareparae	2.95	33	P	Pn	02 57 48.7	-0.6
TOZ	Tahuroa Road	2.96	353	P	Pn	02 57 56.9	+7.5
RUGZ	Raukumara Rang	3.02	27	P	Pn	02 57 49.5	-0.8
PKGZ	Pakihiroa	3.24	31	P	Pn	02 57 52.5	-0.7
HAZ	Te Kaha	3.25	27	P	Pn	02 57 52.6	-0.7
DSZ	Denniston Nort	3.31	250	P	Pn	02 57 56.2	+2.0
WMGZ	Waiomatatini S	3.44	35	P	Pn	02 57 54.5	-1.3
MXZ	Matakaoa Point	3.61	31	P	Pn	02 57 57.6	-0.6
OKCZ	Okains Bay	3.73	214	P	Pn	02 57 58.6	-1.2
MQZ	McQueen's Vall	3.89	218	P	Pn	02 58 00.1	-2.0
INZ	Inchbonnie	3.95	237	P	Pn	02 58 01.7	-1.2
RPZ	Rata Peaks	4.74	229	P	Pn	02 58 21.4	+7.6
	1.2nm,0.3s,baz=170,slow=17,SNR=1.7						
RPZ				S	Sn	02 59 03.1	-4.3
	2.1nm,0.3s,baz=145,slow=18,SNR=8.8						
ARCZ	Arundel	4.82	226	P	Pn	02 58 13.7	-1.1
TMZ	Timaru	5.20	223	P	Pn	02 58 19.3	-0.8
CTZ	Chatham Island	6.30	121	P	Pn	02 58 36.5	+1.4
ASAR	Alice Springs	39.02	283	P	P	03 04 27.4	+0.6
	0.6nm,0.4s,baz=132,slow=7.7,SNR=11						
ASAR				pP	pP	03 04 38.0	-1.8
	0.2nm,0.3s,baz=127,slow=6.3,SNR=1.7						
WRA	Warramunga Arr	40.97	288	P	P	03 04 43.8	+0.7
	1.0nm,0.4s,baz=126,slow=8.3,SNR=30						
WRA				pP	pP	03 04 55.0	-1.1
	1.1nm,0.6s,baz=126,slow=8.2,SNR=5.6						
ARCES	ARCESS Array B	147.19	341	PKPbc	PKPab	03 16 42.6	-0.8
	2.9nm,0.8s,baz=42,slow=1.5,SNR=3.9						
FINES	FINESS Array B	152.32	329	PKPbc	PKiKP	03 16 55.2	+0.6
	4.0nm,1.1s,baz=239,slow=4.4,SNR=1.6						

IDC 02 03:06:50.8±2.4, 57°.27S×150°.48W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/26, mbtmp3.8/2, Error ellipse: s-maj=447.7km s-min=47.3km az=5.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	52.53	96	T	T	04 12 49.4	
	baz=215,slow=74,SNR=31						
H03S1	Juan Fernandez	52.53	96	T	T	04 12 49.3	
	baz=215,slow=74,SNR=30						
H03S3	Juan Fernandez	52.55	96	T	T	04 12 47.9	
	baz=215,slow=74,SNR=39						
H03N3	Juan Fernandez	52.82	95	T	T	04 13 08.7	
	baz=219,slow=72,SNR=54						
H03N2	Juan Fernandez	52.83	95	T	T	04 13 08.1	
	baz=219,slow=72,SNR=31						
H03N1	Juan Fernandez	52.84	95	T	T	04 13 08.5	
	baz=219,slow=72,SNR=41						
ASAR	Alice Springs	62.69	268	P	P	03 17 17.4	+0.1
	1.4nm,1.0s,baz=136,slow=6.1,SNR=7.7						
WRA	Warramunga Arr	65.45	271	P	P	03 17 34.7	-0.7
	1.0nm,1.0s,baz=154,slow=4.8,SNR=4.6						
H10N3	ASCENSION HYDR	105.86	134	T	T	05 18 07.9	
	baz=204,slow=75,SNR=5.3						
H10N1	ASCENSION HYDR	105.86	134	T	T	05 18 16.5	
	baz=204,slow=75,SNR=7.5						
H10N2	ASCENSION HYDR	105.88	134	T	T	05 18 14.4	
	baz=204,slow=75,SNR=5.0						
MKAR	Makanchi Array	146.70	275	PKPbc	PKPbc	03 26 33.5	0.0
	2.3nm,0.8s,baz=101,slow=3.1,SNR=15						
ESDC	Sonseca Array	152.08	115	PKPbc	PKPbc	03 26 46.8	-0.5
	0.6nm,1.0s,baz=236,slow=1.4,SNR=4.3						

*IDC **02** 03:06:43.9±6.9, 19°.55S×176°.25W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/39, mbtmp3.8/2, Error ellipse: s-maj=307.9km s-min=68.6km az=146.0*

*NEIC **02** 03:07:43.5±1.1, 20°.1S±0°.1×177°.5W±0°.1, h529km±7km, mb4.1/11, Error ellipse: s-maj=18.4km s-min=17.4km az=56.0*

ISC 02 03:07:44.7±0.7, 20°.0S±0°.1×177°.5W±0°.1, h550km, n22, σ1.28/22, mb4.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.76	298		P	03 09 10.8	-2.0
NIUE	Niue	7.22	84	P	P	03 09 34.0	-0.8
AFI	Afiamalu	8.18	43		P	03 09 42.7	-1.7
URZ	Urewera	18.79	193	P	P	03 11 27.0	-2.5
URZ				IAmb	IAmb	03 11 27.6	
	comp=Z,6.4nm,1.0s						
BKZ	Black Stump Fm	19.79	194	P	P	03 11 37.5	-1.2
BKZ				IAmb	IAmb	03 11 40.5	
	comp=Z,9.7nm,1.4s						
CTAO	Charters Tower	33.99	263	P	P	03 13 43.4	+0.1
TOO	Toolangi	36.56	233	P	P	03 14 04.0	-0.3
TOO				IAmb	IAmb	03 14 17.4	
	comp=Z,8.5nm,1.3s						
BBOO	Buckleboo	43.17	243	P	P	03 14 57.5	+0.1
BBOO				IAmb	IAmb	03 14 57.5	
	comp=Z,9.8nm,1.1s						
PTCN	Pitcairn Islan	43.92	106	P	P	03 15 02.9	-0.4
WR0	Warramunga Arr	44.93	261	P	P	03 15 11.4	+0.2
WR0				IAmb	IAmb	03 15 14.3	
	comp=Z,5.5nm,1.4s						
ASAR	Alice Springs	45.07	256	P	P	03 15 12.1	-0.2
	comp=Z,1.5nm,0.6s,baz=100,slow=7.5,SNR=26						
ASAR	Alice Springs	45.07	256	P	P	03 15 11.5	-0.8
WB0	Warramunga Arr	45.09	262	P	P	03 15 12.1	-0.4
WB0				IAmb	IAmb	03 15 25.3	
	comp=Z,7.2nm,1.4s						
WB2	Warramunga Arr	45.11	261	P	P	03 15 12.3	-0.2
WRA	Warramunga Arr	45.12	261	P	P	03 15 12.2	-0.4
	comp=Z,0.3nm,0.3s,baz=96,slow=7.5,SNR=21						
FORT	Forrest	49.91	246	P	P	03 15 48.0	-0.3
QSPA	South Pole Qui	70.07	180	P	P	03 18 03.7	+2.2
MJAR	Matsushiro Arr	70.08	323	P	P	03 18 03.0	+1.1
BRTR	Keskin Array B	146.83	313	PKPbc	PKPab	03 26 29.4	+0.5
	comp=Z,0.4nm,0.8s,baz=109,slow=2.4,SNR=2.1						
BURAR	Bucovina Array	146.84	331		PKPab	03 26 30.5	+1.9
ALN	Alexandroupoli	151.06	321	PKPdf	PKPdf	03 26 30.2	+0.8
SALO	Salr	153.60	347		PKPdf	03 26 35.2	+2.1

*IDC **02** 03:16:22.0±1.9, 43°.40N×126°.74W, h0km, mb3.3/4, mb1 3.6/10, mb1mx3.5/37, mbtmp3.3/10, ML3.5/6, MS2.9/3, Ms1 2.9/3, ms1mx2.7/19, Error ellipse: s-maj=30.1km s-min=13.0km az=55.0*

*ANF **02** 03:16:23.4±0.9, 43°.27N×126°.90W, h18km±15km, ML3.6/19, Error ellipse: s-maj=16.7km s-min=4.4km az=73.0, Hypocentre not reviewed by the ISC*

*NEIC **02** 03:16:26.2±1.7, 43°.37N±0°.07×126°.6W±0°.1, h10km±2km, ML3.0/33, Error ellipse: s-maj=14.9km s-min=10.2km az=239.0*

ISC 02 03:16:23.6±1.5, 43°.34N±0°.09×126°.9W±0°.1, h10km, n60, σ1.40/57, mb3.5/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.91	103		Pn	03 16 54.2	-2.1
KEBM				Sn	Sn	03 17 18.6	-1.9
KEBM				IAML		03 17 22.2	
	comp=E,190nm,0.9s						
KEBM				IAML		03 17 24.7	
	comp=N,190nm,0.7s						
J01E	Myrtle Point	2.15	94	P		03 16 57.5	
	baz=277,SNR=64						
J01E				S		03 17 24.9	
	baz=277						
KBO	Bosley Butte	2.25	119	Pn	Pn	03 16 59.1	-1.8
KBO				Sn	Sn	03 17 27.0	-1.7
KBO				IAML		03 17 28.7	
	comp=N,84nm,2.2s						
KBO				IAML		03 18 19.8	
	comp=E,82nm,2.5s						
I02D	Swisshome	2.32	70	P		03 17 00.3	
	baz=251,SNR=1000						
I02D				S		03 17 30.0	
	baz=251						
K02D	Willamette Mer	2.43	104	P		03 17 01.7	
	baz=288,SNR=118						
K02D				S		03 17 31.6	
	baz=288						
I03D	Drain, OR	2.58	81	P		03 17 04.1	
	baz=263,SNR=640						
I03D				S		03 17 36.3	
	baz=263						
L02E	Cave Junction	2.68	115	P		03 17 05.2	
	baz=300,SNR=56						
L02E				S		03 17 38.8	
	baz=300						
KRMB	Red Mountain	2.84	129	Pn	Pn	03 17 07.5	-1.7
COR	Corvallis	2.86	63	Pn	Pn	03 17 08.8	-0.4
COR				IAML		03 17 45.8	
	comp=E,44nm,1.0s						
HUMO	Hull Mountain	2.96	103	Pn	Pn	03 17 09.5	-1.2
G03D	McMinnville, O	3.19	53	P		03 17 12.9	
	baz=234,SNR=173						
G03D				S		03 17 52.2	
	baz=234						
H04D	Lebanon	3.21	67	P		03 17 13.9	
	baz=249,SNR=193						
H04D				S		03 17 54.0	
	baz=249						
I04A	Tendick Farm,	3.27	80	P		03 17 14.5	
	baz=263,SNR=50						
I04A				S		03 17 54.8	
	baz=263						
KHMM	Horse Mountain	3.39	136	Pn	Pn	03 17 17.6	+0.9
KHMM				IAML		03 17 58.4	
	comp=E,28nm,3.7s						
KHMM				IAML		03 18 39.8	
	comp=N,37nm,3.6s						
YBH	Yreka Blue Hor	3.46	116	Pn	Pn	03 17 18.0	+0.3
	comp=N,1.9nm,0.3s,baz=301,slow=10,SNR=31						
YBH				Sn	Sn	03 18 00.0	+1.2
	comp=N,1.0nm,0.3s,baz=107,slow=18,SNR=6.3						
YBH	Yreka Blue Hor	3.46	116	Pn	Pn	03 17 18.2	+0.5
J04D	Umpqua Nationa	3.47	90	P		03 17 18.1	
	baz=274,SNR=20						
L04D	Klamath Falls	3.54	107	P		03 17 18.8	
	baz=291,SNR=44						
H04A	Detroit Lake	3.63	67	Pn	Pn	03 17 20.2	+0.2
H04A				IAML		03 17 45.1	
	comp=N,47nm,0.3s						
K04D	Chiloquin, OR	3.82	99	P		03 17 22.4	
	baz=283,SNR=7.2						
F04D	Rainier, OR	3.88	44	P		03 17 22.8	
	baz=224,SNR=10.0						
F04D				S		03 18 09.9	
	baz=224						
E03A	Lebam	3.97	35	Pn	Pn	03 17 23.4	-1.1
J05D	Fort Rock, OR	4.11	89	P		03 17 26.1	
	baz=273,SNR=32						
I05D	Terrebonne, OR	4.12	74	P		03 17 26.6	
	baz=258,SNR=17						
PINE	Pine Mountain	4.33	82	Pn	Pn	03 17 29.6	0.0
PINE				IAML		03 18 03.2	
	comp=N,15nm,3.5s						
G05D	Wamic, OR	4.41	63	P		03 17 31.1	
	baz=246,SNR=160						
K05A	Summer Lake	4.42	96	Pn	Pn	03 17 31.0	+0.1
K05A				IAML		03 18 56.4	
	comp=E,16nm,4.0s						
K05A				IAML		03 20 08.8	
	comp=N,13nm,4.4s						
E04D	Cinebar	4.43	42	P		03 17 30.7	
	baz=223,SNR=12						
E04D				S		03 18 23.4	
	baz=223						
NLWA	Neilton Lookou	4.57	26		Pn	03 17 32.0	-0.8
NLWA				IAML		03 18 26.9	
	comp=N,23nm,0.9s						
NLWA				IAML		03 18 27.9	
	comp=N,22nm,0.7s						
F05D	White Salmon	4.62	55	P		03 17 34.0	
	baz=237,SNR=54						
D04E	Lakebay	4.80	36	P		03 17 36.1	
	baz=217,SNR=12						
LON	Longmire	4.95	45	Pn	Pn	03 17 38.6	+0.6
LON				IAML		03 18 38.5	
	comp=N,18nm,0.6s						
LON				IAML		03 18 41.5	
	comp=E,14nm,1.7s						
D03D	Eldon	4.97	31	P		03 17 37.1	
	baz=212,SNR=9.3						
D05A	Enumclaw	5.16	40	Pn	Pn	03 17 41.5	+0.6
I07A	Izee	5.39	80	Pn	Pn	03 17 44.5	+0.4
I07A				IAML		03 18 24.4	
	comp=N,7.2nm,4.7s						
I07A				IAML		03 18 32.6	
	comp=E,6.9nm,4.0s						
ORV	Oroville	5.53	131	Pn	Pn	03 17 48.0	+2.1
F07A	Phinny Hill Vi	5.57	60		Pn	03 17 46.9	+0.4
PGC	Sidney	5.82	23	Pn	Pn	03 17 49.1	-0.8
LTY	Liberty	5.87	46		Pn	03 17 51.4	+0.7
E07A	Sunnyside	5.92	55	Pn	Pn	03 17 51.9	+0.5
B05A	Bryant	5.95	32	P		03 17 51.3	
	baz=214,SNR=9.8						
BEKR	Beckworth	5.98	123	Pn	Pn	03 17 52.5	+0.1
G08A	Pilot Rock	6.00	68		Pn	03 17 52.8	+0.3
HAWA	Hanford	6.04	57		Pn	03 17 53.3	+0.4
WVOR	Wild Horse Val	6.11	96		Pn	03 17 53.3	-0.8
C06D	Leavenworth	6.21	40	P		03 17 55.7	
	baz=223						
C06D				S		03 19 07.4	
	baz=223						
E08A	Dider Farm, El	6.37	58		Pn	03 17 58.1	+0.5
B06A	Marblemount	6.39	34		Pn	03 17 57.9	+0.1
D08A	Wollman Farm,	6.73	54	Pn	Pn	03 18 02.8	+0.4
E09A	Wood Farm, Sta	6.95	60	Pn	Pn	03 18 04.9	-0.6
BMO	Blue Mountains	7.05	74	Pn	Pn	03 18 06.9	0.0
YERR	Yerington	7.21	125	Pn	Pn	03 18 11.8	+2.6
B08A	Colville Reser	7.27	44	Pn	Pn	03 18 09.7	-0.2
F10A	Beach Ranch, E	7.36	66	Pn	Pn	03 18 11.2	+0.1
C09A	Chrisman Ranch	7.50	51	Pn	Pn	03 18 13.3	+0.3
KVN	Kaiserville	7.87	120	Pn	Pn	03 18 20.9	+2.6
LHV	Little Huntoon	8.12	126	Pn	Pn	03 18 24.8	+3.2
NVAR	Mina Array Bea	8.13	124	Pn	Pn	03 18 21.3	-0.5
	comp=E,0.2nm,0.3s,baz=298,slow=13,SNR=4.2						
NVAR	Mina Array Bea	8.13	124		Pn	03 18 22.3	+0.4
NV11	Mina Array Sit	8.22	124	Pn	Pn	03 18 25.7	+2.7
NEW	Newport	8.40	51	Pn	Pn	03 18 25.4	0.0
	comp=E,1.0nm,0.3s,baz=245,slow=12,SNR=14						
NEW				LR	LR	03 21 44.6	
	comp=E,99nm,21.7s,baz=234,slow=39						
NEW	Newport	8.40	51	P		03 18 25.1	
	baz=237						
BBB	Bella Bella	8.89	355	Pn	Pn	03 18 34.5	+2.5
ELK	Elko	9.03	103	Pn	Pn	03 18 34.5	+0.3
	comp=E,0.1nm,0.3s,baz=307,slow=10,SNR=2.4						
ELK				LR	LR	03 21 58.2	
	comp=E,60nm,20.4s,baz=246,slow=38						
HLID	Hailey	9.06	84	Pn	Pn	03 18 37.9	+3.3
BCYI	Bear Canyon	9.78	80	Pn	Pn	03 18 47.0	+2.6
MSO	Missoula	9.78	65	Pn	Pn	03 18 44.2	-0.2
MSO	Missoula	9.78	65	P		03 18 44.2	
	baz=253						
JTMT	Jette	9.86	59	Pn	Pn	03 18 46.9	+1.4
MCMT	McKenzie Canyo	10.20	77	Pn	Pn	03 18 52.8	+2.6
WALA	Waterton Lakes	10.64	53	Pn	Pn	03 18 57.9	+1.8
PDAR	Pinedale Array	12.68	87	Pn	Pn	03 19 25.9	+1.8
	comp=E,0.1nm,0.3s,baz=276,slow=15,SNR=6.0						
PDAR				LR	LR	03 24 42.6	
	comp=E,75nm,18.8s,baz=240,slow=40						
DLBC	Dease Lake	15.25	354	Pn	Pn	03 19 57.7	-1.1
	comp=E,0.1nm,0.3s,baz=167,slow=14,SNR=1.8						
YKA	Yellowknife Ar	20.49	16	P	P	03 21 01.5	+0.1
	comp=E,0.8nm,0.9s,baz=202,slow=11,SNR=4.5						
ULM	Lac du Bonnet	22.20	61	P	P	03 21 18.7	-1.2
	comp=E,1.5nm,0.5s,baz=273,slow=12,SNR=6.6						
TXAR	Lajitas Array	23.24	119	P	P	03 21 31.6	+0.5
	comp=E,0.2nm,0.6s,baz=303,slow=12,SNR=2.5						
ILAR	Eielson Array	24.26	339	P	P	03 21 40.1	-0.4
	comp=E,1.0nm,0.7s,baz=153,slow=9.5,SNR=15						
H11N3	WAKE ISLAND Hy	59.57	269	T	T	04 30 49.1	
	baz=50,slow=75,SNR=9.3						
H11N2	WAKE ISLAND Hy	59.57	269	T	T	04 30 50.0	
	baz=50,slow=75,SNR=21						
H11N1	WAKE ISLAND Hy	59.59	269	T	T	04 30 54.1	
	baz=50,slow=75,SNR=21						
H11S1	WAKE ISLAND Hy	60.49	268	T	T	04 31 50.3	
	baz=50,slow=75,SNR=162						
H11S2	WAKE ISLAND Hy	60.50	268	T	T	04 31 51.5	
	baz=50,slow=75,SNR=122						
H11S3	WAKE ISLAND Hy	60.51	268	T	T	04 31 51.8	
	baz=50,slow=75,SNR=82						

*IDC **02** 03:36:57.2±2.6, 2°.58N×95°.85E, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.5/43, mbtmp3.8/5, ML3.3/1, MS4.1/1, Ms1 4.1/1, ms1mx3.0/52, Error ellipse: s-maj=80.0km s-min=24.3km az=44.0*

*NEIC **02** 03:37:00.5±0.6, 2°.57N±0°.08×95°.8E±0°.2, h20km±9km, mb4.2/4, Error ellipse: s-maj=24.6km s-min=8.9km az=73.0*

*DJA **02** 03:37:04.0±1.3, 3°N±3°×9°6E±°, h34km±23km, M4.0/6, mb4.4/1, MLv3.8/6*

ISC 02 03:37:01.6±1.1, 2°.56N±0°.05×96°.0E±0°.1, h25km, n36, σ2.43/34, mb4.1/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TPTI		1.42	60	P	Pn	03 37 25.2	-0.6
TPTI				S	Sn	03 37 43.3	-0.3
MLSI	Meulaboh, Aceh	1.76	15	P	Pn	03 37 31.3	+0.8
MLSI				S	Sb	03 37 55.8	+0.9
GSI	Gunungsitoli	2.05	127		Pn	03 37 35.3	+0.8
GSI	Gunungsitoli	2.05	127	P	Pn	03 37 35.1	+0.6
GSI				S	Sn	03 37 59.0	-0.3
LHMI	Lhok Sumawe	2.83	21	Pn	Pn	03 37 44.9	-0.4
LHMI	Lhok Sumawe	2.83	21	P	Pn	03 37 46.7	+1.4
RPSI	Rantau Prapat	2.98	87		Pn	03 37 48.8	+1.5
RPSI	Rantau Prapat	2.98	87		Pn	03 37 47.7	+0.4
PSI	Prapat	2.98	85	Pn	Pn	03 37 47.7	+0.2
	3.6nm,0.3s,baz=359,slow=2.2,SNR=18						
PBSI	Pulau Batu	3.49	138	P	Pn	03 37 55.3	+0.9
PBSI				S	Sn	03 38 32.7	-2.2
KULM	Kulim	5.42	60		Pn	03 38 21.7	+0.8
SUKH	Sukhothai	15.27	13	P	P	03 40 45.1	+4.8
UTTA	Uttaradit	15.75	16	P	P	03 40 51.1	+5.4
CM05	Chiang Mai Arr	16.02	10	P	Pn	03 40 40.7	-4.7
CM13	Chiang Mai Arr	16.03	10	P	Pn	03 40 42.6	-2.9
CM01	Chiang Mai Arr	16.04	10	P	Pn	03 40 42.0	-3.7
CM02	Chiang Mai Arr	16.05	10	P	Pn	03 40 43.9	-1.9
CM31	Chiang Mai Arr	16.07	10	P	Pn	03 40 42.0	-4.1
CMMT	Chiang Mai	16.42	10	P	Pn	03 40 46.0	-4.5
CM33	Chiang Mai Arr	16.42	10	P	Pn	03 40 46.0	-4.6
H08S2	Diego Garcia H	25.50	246	T	T	04 08 47.1	
	baz=68,slow=76,SNR=15						
H08S3	Diego Garcia H	25.50	246	T	T	04 08 45.8	
	baz=68,slow=76,SNR=31						
H08S1	Diego Carcia H	25.52	246	T	T	04 08 43.3	
	baz=68,slow=76,SNR=15						
H01W3	Cape Leeuwin H	40.97	157	T	T	04 28 10.7	
	baz=333,slow=76,SNR=14						
H01W2	Cape Leeuwin H	40.98	157	T	T	04 28 07.3	
	baz=333,slow=76,SNR=16						
H01W1	Cape Leeuwin H	40.99	157	T	T	04 28 09.1	
	baz=333,slow=76,SNR=16						
WB0	Warramunga Arr	43.78	122		P	03 45 06.9	+1.2
WB0				IAmb	IAmb	03 45 22.8	
	comp=Z,4.7nm,1.3s						
WRA	Warramunga Arr	43.81	122	P	P	03 45 05.7	-0.2
	comp=Z,0.9nm,1.0s,baz=303,slow=9.0,SNR=4.9						
MK31	Makanchi Array	45.64	347		P	03 45 19.4	-0.7
MK31				IAmb	IAmb	03 45 25.2	
	comp=Z,3.8nm,1.4s						
MKAR	Makanchi Array	45.64	347	P	P	03 45 18.9	-1.2
	comp=Z,1.0nm,0.5s,baz=156,slow=8.7,SNR=16						
MKAR	Makanchi Array	45.64	347	P	P	03 45 19.1	-1.0
KURBB	Kurchatov Arra	50.11	346	P	P	03 45 53.9	-0.7
	comp=Z,1.4nm,0.8s,baz=167,slow=7.0,SNR=12						
KURK	Kurchatov	50.17	346	P	P	03 45 56.7	+1.6
ZAA0	Zalesovo Array	52.03	352	P	P	03 46 08.1	-0.9
ZALV	Zalesovo Beam	52.03	352	P	P	03 46 07.7	-1.4
	comp=Z,1.8nm,0.6s,baz=186,slow=6.3,SNR=9.7						
ZALV				LR	LR	04 11 16.0	
	comp=Z,175nm,20.3s,baz=94,slow=40						
ZALV	Zalesovo Beam	52.03	352	P	P	03 46 08.0	-1.0

*KRNET **02** 03:43:43.7±0.1, 39°.88N×69°.99E, h23km, mb3.0*

*SOME **02** 03:43:44.4, 39°.95N×70°.07E, h15km*

*ISU **02** 03:44:42, 39°.80N×70°.10E, h5km*

ISC 02 03:43:45.3±1.4, 39°.94N±0°.05×70°.10E±0°.03, h3km±11km, n26, σ1.34/51, 31C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTK	Batken	0.56	77	⇑iP	Pg	03 43 56.3	+0.2
	baz=74						
BTK				⇑iS	Sg	03 44 05.8	+2.3
	baz=74						
DRK	Karamyk	1.39	109	⇑iP	Pn	03 44 10.4	-1.5
	baz=5.0						
DRK				⇑iS	Sb	03 44 29.9	-0.4
	baz=5.0						
TAS	Tashkent	1.52	336	⇑iP	Pn	03 44 11.8	-1.6
	baz=40						
TAS				⇑iS	Sn	03 44 32.1	-1.6
	baz=40						
CHMG	Chimgan	1.61	358	eP	Pn	03 44 14.0	-0.8
CHMG				eS	Sb	03 44 37.0	+0.4
BXML	Bakhmal	1.61	262	eP	Pg	03 44 17.0	+0.7
BXML				eS	Sg	03 44 41.0	+3.8
CHRV	Charvak	1.71	356	eP	Pn	03 44 14.0	-2.0
CHRV				eS	Sn	03 44 38.0	-0.4
TRKS	Terek-Say	1.78	26	⇑iP	Pn	03 44 16.1	-1.0
	baz=29						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TRKS				⇑iS	Sn	03 44 39.6	-0.7
	baz=29						
OHH	Osh	2.14	73	⇑iP	Pn	03 44 21.9	-0.1
	baz=72						
OHH				⇑iS	Sn	03 44 49.5	+0.4
	baz=72						
OHH	Osh	2.14	73	eP	Pn	03 44 20.0	-2.0
IUG	Iuzhnay	2.21	359	eP	Pb	03 44 24.8	-1.2
	60nm,0.3s						
IUG				eS	Sb	03 44 53.6	-0.2
	78nm,0.2s						
ARSB	Arslanbob	2.59	57	⇑iP	Pn	03 44 28.4	+0.1
	baz=57						
ARSB				⇑iS	Sn	03 45 00.5	+0.1
	baz=57						
SFK	Sufi-Kurgan	2.62	87	⇑iP	Pn	03 44 28.4	-0.3
	baz=86						
SFK				⇑iS	Sn	03 45 00.8	-0.3
	baz=86						
BRLS	Borolday	3.10	356	eP	Pn	03 44 37.2	+2.0
	7.0nm,0.1s						
BRLS				eS	Sn	03 45 14.6	+1.9
	47nm,0.2s						
MNAS	Manas	3.13	35	⇑iP	Pn	03 44 35.4	-0.2
	baz=35						
MNAS				⇑iS	Sn	03 45 13.6	0.0
	baz=35						
KK31	Karatay Array	3.18	5	⇓Pn	Pn	03 44 36.5	+0.3
	0.3nm,0.2s,baz=198,slow=14,SNR=50						
KK31				⇓Pg	Pb	03 44 42.5	+0.1
	2.8nm,0.4s,baz=184,slow=17,SNR=35						
KK31				⇑Lg	Lg	03 45 24.6	
	3.6nm,0.3s,baz=181,slow=26,SNR=7.8						
AML	Almayashu	3.49	50	⇑eP	Pn	03 44 40.8	-0.1
	baz=50						
AML				⇑iS	Sn	03 45 22.7	-0.2
	baz=50						
MRKS	Merke	3.66	39	eP	Pb	03 44 52.0	+1.3
	7.4nm,0.4s						
MRKS				eS	Sb	03 45 40.4	+4.9
	13nm,0.3s						
ARLS	Aral	3.73	58	⇑iP	Pn	03 44 44.0	0.0
	baz=58						
ARLS				⇑iS	Sn	03 45 28.2	-0.3
	baz=58						
EKS2	Erkin-Say	3.88	44	⇑eP	Pn	03 44 46.2	+0.2
	baz=45						
EKS2				⇑iS	Sn	03 45 31.8	-0.4
	baz=45						
UCH	Uchtor	4.04	54	⇑eP	Pn	03 44 48.7	+0.2
	baz=54						
UCH				⇑iS	Sn	03 45 36.1	-0.5
	baz=54						
AAK	Ala-Archa	4.27	49	⇑iP	Pn	03 44 51.6	+0.2
	baz=50						
AAK				⇑iS	Sn	03 45 40.9	-0.9
	baz=50						
AAK	Ala-Archa	4.27	49	⇓Pn	Pn	03 44 52.1	+0.8
	1.3nm,0.3s						
AAK				⇓Pg	Pg	03 45 07.1	0.0
	3.4nm,0.8s						
AAK				⇑Sn	Sn	03 45 44.3	+2.5
	6.4nm,0.6s						
AAK				⇑Lg	Lg	03 46 02.8	
	6.0nm,0.6s						
KBK	Karagaybulak	4.55	52	⇑iP	Pn	03 44 55.4	+0.2
	baz=52						
KBK				⇑iS	Sn	03 45 47.9	-0.8
	baz=52						
CHMS	Chumysh	4.64	47	⇓iP	Pn	03 44 56.5	+0.1
	baz=47						
CHMS				⇓iS	Sn	03 45 49.7	-1.1
	baz=47						
DGS	Degeres	5.38	50	eP	Pg	03 45 26.2	-2.2
	1.5nm,0.3s						
DGS				eS	Sg	03 46 38.3	+0.1
	5.0nm,0.6s						
KST	Kastek	5.38	53	eP	Pg	03 45 25.5	-3.0
	1.1nm,0.3s						
KST				eS	Sg	03 46 37.2	-1.1
	5.6nm,0.7s						

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*NNC **02** 04:07:17.9±3.2, 35°.92N×68°.81E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=28.4km s-min=23.4km az=159.0*

ISC 02 04:07:15.0±1.8**, 35°.7N**±0°.1×**68°.8E**±0°.1**, h10km, n6,** σ1s**36**/9, **3C-5D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THN	Thein Dam	6.60	117	eP	Pb	04 09 09.0	-0.8
THN				eS	Sn	04 09 55.0	-12
KK31	Karatay Array	7.56	10	⇑P	Pn	04 09 05.1	-0.2
	1.1nm,0.3s,baz=196,slow=13,SNR=46						
KK31				⇓S	Sn	04 10 31.7	+0.7
	2.4nm,0.5s,baz=188,slow=23,SNR=4.4						
AAK	Ala-Archa	8.27	31	⇓P	Pn	04 09 15.9	+0.8
	9.8nm,0.5s						
AAK				⇓S	Sn	04 10 47.9	-0.7
	21nm,0.8s						
TKM2	Tokmak 2	8.98	34	⇓P	Pn	04 09 25.8	+0.9
	8.4nm,0.6s						
AB31	Akbulak array	15.06	337	⇓P	Pn	04 10 48.1	+0.4
	1.7nm,0.6s,baz=157,slow=12,SNR=8.7						
AB31				⇑S	Sn	04 13 32.1	-2.4
	1.1nm,0.7s						
AKTO	Aktyubinsk	16.71	335	⇑P	P	04 11 12.8	+1.4
	6.2nm,1.2s						

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*TEH **02** 04:12:46.4, 36°.32N×54°.13E, h8km, ML4.0*
*THR **02** 04:12:47.6±0.9, 36°.29N×54°.19E, h17km±7km, ML4.0*
*NEIC **02** 04:12:49.0±1.6, 36°.30N±0°.04×54°.12E±0°.05, h10km±2km, mb3.9/5, mb_Lg4.0(TEH), ML4.0(THR), Error ellipse: s-maj=8.7km s-min=5.0km az=142.0*
*IDC **02** 04:12:51.9±2.1, 36°.84N×54°.03E, h0km, mb3.6/7, mb1 3.8/13, mb1mx3.6/55, mbtmp3.7/13, ML3.1/5, MS4.1/2, Ms1 4.1/2, ms1mx3.2/51, Error ellipse: s-maj=36.4km s-min=14.6km az=179.0*

ISC 02 04:12:48.9±0.6**, 36°.32N**±0°.03×**54°.15E**±0°.03**, h10km, n143,** σ1s**57**/147**, mb3.7**/9**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGLO	Ghaloghah	0.32	305	Pg	Pg	04 12 53.4	-1.9
IGLO	Ghaloghah	0.32	305	ePg	Pg	04 12 53.4	-1.9
IGLO				e		04 13 01.4	
	comp=Z,99nm,0.2s						
IANJ	Anjilo	0.87	193	eSg	Sg	04 13 16.7	-0.5
IANJ				ePg	Pg	04 13 03.8	-2.0
IANJ				e		04 13 19.2	
	comp=Z,99nm,0.2s						
IFIR	Firoozkooh	1.32	239		Pn	04 13 10.8	-2.8
IFIR	Firoozkooh	1.32	239	ePg	Pn	04 13 10.8	-2.8
IFIR				e		04 13 38.4	
	comp=Z,99nm,0.3s						
ILAS	Lasjerd	1.35	226		Pn	04 13 12.0	-2.0
ILAS	Lasjerd	1.35	226	ePg	Pn	04 13 12.0	-2.0
ILAS				e		04 13 36.8	
	comp=Z,99nm,0.3s						
IMND	Minoodasht	1.38	47		Pn	04 13 12.4	-1.8
IMND	Minoodasht	1.38	47	ePg	Pn	04 13 12.4	-1.8
IPRN	Peran	1.47	267		Pn	04 13 13.8	-1.7
IPRN	Peran	1.47	267	ePg	Pn	04 13 13.9	-1.6
SHRO	Shahrood	1.54	102	ePg	Pn	04 13 15.0	-1.5
SHRO	Shahrood	1.54	102	Pn	Pn	04 13 15.0	-1.5
SHRO	Shahrood	1.54	102	ePn	Pn	04 13 15.0	-1.5
DAMV	Damavand	1.90	249	ePn	Pn	04 13 21.5	-0.1
DAMV				eSg	Sg	04 13 48.5	-1.4
DAMV				IAML		04 13 55.4	
	comp=E,769nm,0.5s						
DAMV	Damavand	1.90	249	Pn	Pn	04 13 21.4	-0.1
DAMV	Damavand	1.90	249	ePn	Pn	04 13 21.5	-0.1
TEH	Tehran	2.32	256	ePn	Pn	04 13 27.1	-0.2
IVRN	Varamin	2.38	237	Pn	Pn	04 13 28.0	0.0
IVRN	Varamin	2.38	237	ePn	Pn	04 13 28.0	0.0
IVRN				e		04 14 05.6	
	comp=Z,99nm,0.3s						
IHSB	Hasanabad	2.50	250	Pn	Pn	04 13 29.6	-0.1
IHSB	Hasanabad	2.50	250	ePn	Pn	04 13 29.6	-0.1
IHSB				e		04 13 39.2	
	comp=Z,99nm,0.3s						
THKV	Tehran--Karaj	2.68	262	ePn	Pn	04 13 33.0	+0.7
THKV				IAML		04 14 19.2	
	comp=N,990nm,0.9s						
THKV	Tehran--Karaj	2.68	262	Pn	Pn	04 13 32.9	+0.7
THKV	Tehran--Karaj	2.68	262	ePn	Pn	04 13 33.0	+0.7
SBZV	Sabzevar	2.79	88	Pn	Pn	04 13 34.1	+0.2
SBZV	Sabzevar	2.79	88	ePn	Pn	04 13 34.1	+0.2
QALM	Alamut, Qazvin	2.83	273	Pn	Pn	04 13 34.3	-0.1
QALM	Alamut, Qazvin	2.83	273	ePn	Pn	04 13 34.3	-0.1
KRSH	Karshahi	2.87	216	Pn	Pn	04 13 34.5	-0.3
KRSH	Karshahi	2.87	216	ePn	Pn	04 13 34.6	-0.3
IMHD	Mahdasht	2.89	258	Pn	Pn	04 13 36.6	+1.5
IMHD	Mahdasht	2.89	258	ePn	Pn	04 13 36.7	+1.6
IQOM	Qom	2.91	240	Pn	Pn	04 13 33.8	-1.7
IQOM	Qom	2.91	240	ePn	Pn	04 13 33.9	-1.6
GHVR	GHOM	2.97	233	ePn	Pn	04 13 36.4	+0.2
GHVR				IAML		04 14 26.4	
	comp=E,365nm,0.6s						
GHVR				IAML		04 14 27.4	
	comp=N,440nm,0.5s						
GHVR	GHOM	2.97	233	Pn	Pn	04 13 36.3	+0.2
GHVR	GHOM	2.97	233	ePn	Pn	04 13 36.4	+0.2
TNSJ	Nastanj	3.10	139	Pn	Pn	04 13 38.0	+0.1
TNSJ	Nastanj	3.10	139	ePn	Pn	04 13 38.0	+0.1
TNSJ				e		04 14 34.6	
	comp=Z,99nm,0.4s						
ANAR	Anarak	3.14	186	Pn	Pn	04 13 38.1	-0.5
ANAR	Anarak	3.14	186	ePn	Pn	04 13 38.1	-0.5
IGZV	Ghazvin	3.17	272	Pn	Pn	04 13 39.9	+0.8
IGZV	Ghazvin	3.17	272	ePn	Pn	04 13 39.9	+0.8
ISFR	Sfrayin	3.18	76	Pn	Pn	04 13 39.5	+0.3
ISFR	Sfrayin	3.18	76	ePn	Pn	04 13 39.5	+0.3
ISFR				e		04 14 56.2	
	comp=Z,99nm,0.7s						
QAM	Ghamsar	3.39	222	ePn	Pn	04 13 41.4	-0.6
IRAZ	Razeghan	3.55	256	Pn	Pn	04 13 45.7	+1.5
IRAZ	Razeghan	3.55	256	ePn	Pn	04 13 45.8	+1.5
GEYT	Alibeck	3.55	62	Pn	Pn	04 13 44.8	+0.7
	comp=Z,2.0nm,0.3s,baz=246,slow=11,SNR=25						
GEYT				Sn	Sn	04 14 29.1	+2.9
	comp=Z,1.7nm,0.3s,baz=236,slow=48,SNR=1.6						
GEYT	Alibeck	3.55	62		Pn	04 13 46.8	+2.7
GYA0B	ALIBECK ARRAY	3.55	62	Pn	Pn	04 13 47.0	+2.9
TKDS	Koohdasht(Taba	3.64	137	Pn	Pn	04 13 45.1	-0.3
TKDS	Koohdasht(Taba	3.64	137	ePn	Pn	04 13 45.1	-0.3
TKDS				e		04 14 55.5	
	comp=Z,99nm,0.7s						
IKLH	Kolahrood	3.67	216	Pn	Pn	04 13 45.9	0.0
IKLH	Kolahrood	3.67	216	ePn	Pn	04 13 46.0	0.0
IKLH				e		04 14 44.3	
	comp=Z,99nm,0.6s						
NASN	Na'in	3.68	198	ePn	Pn	04 13 45.3	-0.9
NASN	Na'in	3.68	198	Pn	Pn	04 13 45.3	-0.9
NASN	Na'in	3.68	198	ePn	Pn	04 13 45.3	-0.9
IAKL	Akhelmad	3.72	84	Pn	Pn	04 13 46.8	+0.1
IAKL	Akhelmad	3.72	84	ePn	Pn	04 13 46.9	+0.2
IZEF	Zefreh	3.73	204	Pn	Pn	04 13 46.3	-0.5
IZEF	Zefreh	3.73	204	ePn	Pn	04 13 46.4	-0.4
QABG	Abgarm-Qazvin	3.75	262	Pn	Pn	04 13 45.9	-1.1
QABG	Abgarm-Qazvin	3.75	262	ePn	Pn	04 13 46.0	-1.1
ASAO	Ashtian	3.80	243	ePn	Pn	04 13 47.7	-0.1
ASAO	Ashtian	3.80	243	Pn	Pn	04 13 47.7	-0.1
ASAO	Ashtian	3.80	243	ePn	Pn	04 13 47.7	-0.1
TPRV	Parvadeh(Tabas	3.89	147	Pn	Pn	04 13 48.5	-0.4
TPRV	Parvadeh(Tabas	3.89	147	ePn	Pn	04 13 48.5	-0.4
TPRV				e		04 14 53.5	
	comp=Z,99nm,0.8s						
IPAY	Payeh	3.91	87	Pn	Pn	04 13 49.1	-0.2
IPAY	Payeh	3.91	87	ePn	Pn	04 13 49.1	-0.2
YZKH	Yazd	3.94	175	ePn	Pn	04 13 49.8	+0.3
YZKH	Yazd	3.94	175	Pn	Pn	04 13 49.7	+0.3
YZKH	Yazd	3.94	175	ePn	Pn	04 13 49.8	+0.3
ICHK	Chekchek	4.07	177	Pn	Pn	04 13 51.5	+0.1
ICHK	Chekchek	4.07	177	ePn	Pn	04 13 51.6	+0.1
IGAR	Gharneh	4.28	205	Pn	Pn	04 13 53.9	-0.3
IGAR	Gharneh	4.28	205	ePn	Pn	04 13 54.0	-0.3
IKRD	Kardeh	4.34	82	Pn	Pn	04 13 56.5	+1.3
IKRD	Kardeh	4.34	82	ePn	Pn	04 13 56.5	+1.3
HAGD	Aghdareh	4.35	251	Pn	Pn	04 13 55.3	0.0
HAGD	Aghdareh	4.35	251	ePn	Pn	04 13 55.3	0.0
ISAD	Sadrabad	4.41	185	Pn	Pn	04 13 56.4	+0.2
ISAD	Sadrabad	4.41	185	ePn	Pn	04 13 56.5	+0.2
IPIR	Pirpir	4.52	217	Pn	Pn	04 13 57.7	+0.1
IPIR	Pirpir	4.52	217	ePn	Pn	04 13 57.7	+0.1
IPIR				e		04 15 20.3	
	comp=Z,99nm,0.6s						
IRAM	Ramesheh	4.73	199	Pn	Pn	04 14 00.3	-0.3
IRAM	Ramesheh	4.73	199	ePn	Pn	04 14 00.4	-0.2
IMYA	Miami	4.81	88	Pn	Pn	04 14 02.4	+0.9
IMYA	Miami	4.81	88	ePn	Pn	04 14 02.4	+0.9
IBAF	Bafgh	4.86	166	ePn	Pn	04 14 02.5	+0.2
HSAM	Samen	5.00	247	ePn	Pn	04 14 04.8	+0.5
ITEG	Tejag	5.10	131	Pn	Pn	04 14 06.2	+0.6
ITEG	Tejag	5.10	131	ePn	Pn	04 14 06.3	+0.6
ISRB	Sarab	5.40	288	Pn	Pn	04 14 10.1	+0.5
ISRB	Sarab	5.40	288	ePn	Pn	04 14 10.2	+0.6
IDOB	Doab	5.51	244	Pn	Pn	04 14 10.8	-0.4
IDOB	Doab	5.51	244	ePn	Pn	04 14 10.8	-0.4
IKOO	Kooshah	5.59	133	Pn	Pn	04 14 12.3	0.0
IKOO	Kooshah	5.59	133	ePn	Pn	04 14 12.3	0.0
IHSH	Hashtrud	5.61	282	Pn	Pn	04 14 13.2	+0.6
IHSH	Hashtrud	5.61	282	ePn	Pn	04 14 13.3	+0.6
SHRT	Shahrakht	5.70	116	ePn	Pn	04 14 13.6	-0.1
SHRT	Shahrakht	5.70	116	Pn	Pn	04 14 13.6	-0.1
SHRT	Shahrakht	5.70	116	ePn	Pn	04 14 13.6	-0.1
KLNJ	Kolanjah	5.71	203	Pn	Pn	04 14 15.1	+1.0
KLNJ	Kolanjah	5.71	203	ePn	Pn	04 14 15.1	+1.0
IHRS	Heris	6.00	292	Pn	Pn	04 14 18.3	+0.3
IHRS	Heris	6.00	292	ePn	Pn	04 14 18.3	+0.3
KHGB	Koh Gabri	6.24	161	Pn	Pn	04 14 20.7	-0.6
KHGB	Koh Gabri	6.24	161	ePn	Pn	04 14 20.7	-0.6
NGRK	Negar Kerman	7.00	161	Pn	Pn	04 14 31.0	-0.9
NGRK	Negar Kerman	7.00	161	ePn	Pn	04 14 31.0	-0.9
CHMN	Cheshme madani	7.04	155	Pn	Pn	04 14 32.2	-0.2
CHMN	Cheshme madani	7.04	155	ePn	Pn	04 14 32.2	-0.2
IMRD	Marand	7.12	292	Pn	Pn	04 14 34.8	+1.5
IMRD	Marand	7.12	292	ePn	Pn	04 14 34.8	+1.5
GNI	Garni	8.33	300	Pn	Pn	04 14 52.5	+2.6
	comp=Z,0.7nm,0.3s,baz=136,slow=6.7,SNR=5.3						
GNI				Sn	Sn	04 16 28.3	+4.2
	comp=Z,0.3nm,0.3s,baz=306,slow=16,SNR=1.6						
GNI	Garni	8.33	300	Pn	Pn	04 14 51.8	+1.9
KBZ	Khabaz	11.36	314	Pn	Pn	04 15 30.3	-0.8
	comp=Z,0.2nm,0.3s,baz=138,slow=9.3,SNR=6.3						
KBZ				Sn	Sn	04 17 30.6	-7.4
	comp=Z,0.1nm,0.3s,baz=169,slow=21,SNR=1.6						
KVAR	Kislovodsk Arr	11.61	315	Sn	Sn	04 17 37.5	-6.9
	baz=260,slow=18,SNR=2.0						
ABKAR	Akbulak array	13.60	16	Pn	Pn	04 15 58.8	-3.0
AKTO	Aktyubinsk	14.38	10	Pn	Pn	04 16 08.7	-3.8
	comp=Z,0.5nm,0.3s,baz=209,slow=12,SNR=12						
BRTR	Keskin Array B	16.51	288	Pn	P	04 16 46.0	+2.6
	comp=Z,0.0nm,0.3s,baz=101,slow=8.5,SNR=6.1						
BRTR	Keskin Array B	16.51	288	P	P	04 16 47.8	+4.5
AAK	Ala-Archa	16.91	62	P	P	04 16 49.6	+1.9
ARU	Arti	20.33	7	P	P	04 17 24.1	-1.0
	comp=Z,0.0nm,0.3s,baz=181,slow=7.7,SNR=4.7						
ARU	Arti	20.33	7	P	P	04 17 25.0	0.0
ARU				IAmb	IAmb	04 17 29.8	
	comp=Z,5.9nm,0.6s						
KURBB	Kurchatov Arra	22.61	43	P	P	04 17 49.8	+0.2
	comp=Z,1.2nm,0.2s,baz=243,slow=11,SNR=1.8						
KURK	Kurchatov	22.70	43	P	P	04 17 51.6	+1.0
KURK				IAmb	IAmb	04 17 58.2	
	comp=Z,2.8nm,1.1s						
AKASG	Malin Array Be	22.95	317	P	P	04 17 53.0	-0.2
	comp=Z,1.3nm,0.7s,baz=121,slow=10,SNR=5.6						
MLR	Muntele Rosu	23.10	302	P	P	04 17 55.9	+0.9
	comp=Z,1.3nm,0.7s,baz=184,slow=16,SNR=4.6						
MLR				LR	LR	04 32 07.8	
	comp=Z,376nm,18.5s,baz=75,slow=51						
MLR	Muntele Rosu	23.10	302	P	P	04 17 58.3	+3.4
MKAR	Makanchi Array	23.40	55	P	P	04 18 00.5	+2.7
	comp=Z,0.3nm,0.6s,baz=243,slow=8.0,SNR=4.2						
BURAR	Bucovina Array	24.15	307	P	P	04 18 07.9	+2.7
BUR08	Bucovina Ar. S	24.17	307	P	P	04 18 07.1	+1.7
BUR08				IAmb	IAmb	04 18 26.7	
	comp=Z,4.4nm,1.4s						
KOLS	Kolonicke sedl	26.42	308	eP	P	04 18 27.9	+2.3
GERES	GERESS Array B	31.93	306	LR	LR	04 36 20.8	
	comp=Z,483nm,20.1s,baz=31,slow=45						
HFS	Hagfors	35.10	326	P	P	04 19 43.3	+1.2
	comp=Z,3.2nm,0.8s,baz=114,slow=14,SNR=1.8						
EKA	Eskdalemuir Ar	42.84	315	P	P	04 20 47.0	+0.1
	comp=Z,0.7nm,0.5s,baz=99,slow=8.0,SNR=4.2						
ESDC	Sonseca Array	45.23	293	P	P	04 21 09.2	+2.8
	comp=Z,0.2nm,0.7s,baz=53,slow=7.8,SNR=1.4						
IMAR	Indian Mountai	75.76	11	P	P	04 24 34.2	-0.2

IDC 02 04:20:47.9±2.2**, 3°.73N**×**126°.87E, h0km, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.4**/53**, mbtmp3.4**/4**, Error ellipse: s-maj=119.7km s-min=28.3km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.73	183	P	P	04 25 40.4	-0.5
	1.7nm,0.9s,baz=6.3,slow=9.2,SNR=1.3						
WRA	Warramunga Arr	24.65	163	P	P	04 26 09.5	-0.9
	0.5nm,0.5s,baz=344,slow=10,SNR=6.7						
ASAR	Alice Springs	28.08	166	P	P	04 26 43.0	+1.6
	0.1nm,0.3s,baz=336,slow=11,SNR=2.0						
MKAR	Makanchi Array	57.63	325	P	P	04 30 39.8	-0.1
	0.2nm,0.5s,baz=110,slow=7.1,SNR=1.7						

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*RHSSO **02** 04:24:19.8±0.7, 42°.77N×20°.36E, h5km±3km, ML2.0/8*
*BEO **02** 04:24:20.8±0.3, 42°.73N×20°.32E, h0km±2km, ML2.0/11*
*TIR **02** 04:24:20.8, 42°.63N×20°.31E, h4km±3km, Md2.6, Ml2.4*

ISC 02 04:24:19.9±1.1**, 42°.73N**±0°.02×**20°.29E**±0°.02**, h9km**±9km**, n43,** σ1s**05**/77**, 8C-4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCI	Bajram Curri	0.40	205	P	Pb	04 24 27.8	-1.4
	baz=215						
BCI				S	Sg	04 24 32.9	-0.1
	baz=215						
BCI				AMP			
	comp=E,3.8nm,0.1s,baz=215						
PUK	Puka	0.75	203	P	Pb	04 24 34.3	-0.9
	baz=209						
PUK				S	Sb	04 24 44.5	-0.9
	baz=209						
PUK				AMP			
	comp=N,0.8nm,0.3s,baz=209						
PDG	Podgorica	0.82	249	ePg	Pg	04 24 35.4	-0.4
PDG				eSg	Sb	04 24 46.8	-0.7
PDG	Podgorica	0.82	249	⇑P	Pg	04 24 35.3	-0.5
PDG				⇑S	Sb	04 24 46.6	-0.9
PDG	Podgorica	0.82	249	⇑iPg	Pg	04 24 35.2	-0.5
PDG				eSg	Sb	04 24 47.0	-0.5
IVAS	Ivanjica	0.85	353	ePg	Pg	04 24 35.6	-0.8
IVAS				eSg	Sg	04 24 47.1	-0.4
DRME	Dracevica, Mon	0.98	237	⇑iPg	Pb	04 24 38.5	-0.6
DRME				eSg	Sn	04 24 53.0	-0.9
PHP	Peshkopia	1.05	174	P	Pb	04 24 39.9	-0.4
	baz=174						
PHP				S	Sn	04 24 54.0	-1.7
	baz=174						
PHP				AMP			
	comp=N,0.2nm,0.3s,baz=174						
RUDO	Rudo	1.12	323	ePg	Pg	04 24 39.9	-1.5
RUDO				eSg	Sg	04 24 54.3	-1.6
BARS	Barje	1.12	85	ePn	Pn	04 24 53.7	+12
BARS				eSn	Sn	04 25 15.8	+18
GRUS	Gruza	1.20	15	ePg	Pb	04 24 43.0	+0.1
GRUS				eSg	Sb	04 24 59.4	+0.9
BRY	Bratogost	1.30	278	ePg	Pn	04 24 44.3	-0.1
BRY				eSg	Sn	04 25 02.1	+0.1
BBLS	Lazići	1.31	331	ePg	Pn	04 24 44.7	+0.2
BBLS				eSg	Sn	04 25 03.5	+1.4
BBLS	Lazići	1.31	331	ePg	Pn	04 24 43.8	-0.7
BBLS				eSg	Sb	04 25 01.1	-0.6
PRVS	Prvonek	1.33	99	ePg	Pg	04 24 45.1	-0.5
PRVS				eSg	Sn	04 25 03.0	+0.3
HCY	Herceg Novi	1.36	259	ePg	Pg	04 24 45.5	-0.5
HCY				eSg	Sg	04 25 05.0	+1.4
DIVS	Divibare	1.39	351	ePg	Pn	04 24 45.9	+0.3
DIVS				eSg	Sb	04 25 04.3	+0.3
DIVS	Divibare	1.39	351	ePg	Pn	04 24 43.9	-1.7
DIVS				eSg	Sb	04 25 02.8	-1.2
TIR	Tirane	1.42	193	ePn	Pg	04 24 49.5	+2.4
TIR				eSn	Sg	04 25 08.0	+2.5
TIR	Tirane	1.42	193	⇑P	Pg	04 24 46.5	-0.6
TREB	Trebinje	1.43	270	ePn	Pg	04 24 47.0	-0.4
TREB				eSn	Sg	04 25 09.1	+3.1
TREB	Trebinje	1.43	270	ePg	Pb	04 24 46.6	-0.2
TREB				eSg	Sg	04 25 07.6	+1.6
TRUS	Trudelj	1.50	3	ePn	Pb	04 24 48.4	+0.5
TRUS				eSn	Sg	04 25 10.3	+2.2
DBRK	Dubrovnik	1.58	269	i Pn	Pb	04 24 49.1	-0.2
DBRK				Sn	Sg	04 25 12.3	+1.5
BOSS	Bosilegrad	1.63	97	ePn	Pn	04 24 48.7	-0.2
BOSS				eSn	Sn	04 25 09.8	-0.2
HAPS	Han Pijesak,Bl	1.67	325	ePn	Pn	04 24 50.2	+0.7
HAPS				eSn	Sg	04 25 14.5	+0.8
HAPS	Han Pijesak,Bl	1.67	325	ePn	Pn	04 24 49.6	+0.1
HAPS				eSn	Sn	04 25 11.6	+0.4
SVIS	Svilajnac	1.68	23	eSn	Sn	04 25 11.9	+0.8
ZAGS	Zajecar	1.78	52	ePn	Pg	04 24 53.8	-0.4
ZAGS				eSn	Sg	04 25 16.9	-0.4
ZAPS	Zavoj	1.80	72	ePn	Pn	04 24 52.1	+0.9
ZAPS				eSn	Sg	04 25 17.7	-0.2
TEKS	Tekeris	1.90	343	ePn	Pn	04 24 52.3	-0.3
TEKS				eSn	Sn	04 25 17.0	+0.3
STON	Ston	1.91	275	i Pn	Pb	04 24 54.5	-0.4
STON				Sn	Sg	04 25 21.1	-0.3
VTS	Vitosha	2.17	92	⇓P	Pn	04 24 56.9	+0.4
VTS				⇑S	Sn	04 25 23.3	-0.2
MDVR	Moldovita	2.30	26	⇓P	Pn	04 24 57.9	-0.2
MDVR				⇑S	Sn	04 25 28.2	+1.7
RICI	Ricice	2.44	289	ePn	Pb	04 25 03.8	-0.1
RICI				Sn	Sb	04 25 36.0	+1.9
FRGS	Fruska Gora	2.45	352	ePn	Pn	04 24 59.3	-0.9
FRGS				eSn	Sn	04 25 29.6	-0.7
MAKA	Makarska	2.46	284	ePn	Pb	04 25 04.8	+0.4
MAKA				Sn	Sb	04 25 36.5	+1.7
PUNG	Punghina	2.47	50	⇓P	Pn	04 24 59.8	-0.5
LSTV	Lastovo	2.50	272	ePn	Pb	04 25 05.4	+0.3
HVAR	Hvar	2.86	280	i Pn	Pb	04 25 08.9	-2.2
BZS	Buzias	3.04	18	⇑P	Pn	04 25 08.3	+0.1
GZR	Gura Zlata	3.21	33	⇓P	Pn	04 25 11.4	+0.8
MORH	Mrgy, Hungar	3.68	342	ePn	Pn	04 25 17.1	+0.1
MORH				eSn	Sn	04 25 59.6	-0.9

IDC 02 04:38:58.9±1.3**, 32°.35N**×**93°.57E, h0km, mb3.6**/4**, mb1 3.7**/5**, mb1mx3.3**/56**, mbtmp3.5**/5**, ML3.0**/1**, Error ellipse: s-maj=98.3km s-min=25.5km az=53.0, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	16.82	332	Pn	Pn	04 42 55.6	-0.1
	0.1nm,0.3s,baz=142,slow=14,SNR=5.2						
KURBB	Kurchatov Arra	21.38	333	P	P	04 43 47.0	-0.9
	1.8nm,0.6s,baz=140,slow=11,SNR=5.4						
WRA	Warramunga Arr	65.01	137	P	P	04 49 40.7	-0.3
	0.2nm,0.9s,baz=323,slow=8.4,SNR=1.6						
ASAR	Alice Springs	67.73	140	P	P	04 49 58.6	+0.3
	0.5nm,0.6s,baz=320,slow=6.7,SNR=5.3						
TORD	Torodi Ar. Bea	84.64	282	P	P	04 51 35.0	+0.1
	0.7nm,0.9s,baz=42,slow=3.9,SNR=2.8						

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*TIR **02** 04:39:10.8, 40°.31N×19°.85E, h0km±1km, Md3.3, Ml3.4*
*THE **02** 04:39:10.1, 40°.34N×19°.58E, h0km±2km, ML3.0/10, Error ellipse: s-maj=3.4km s-min=1.4km az=277.0*
*ATH **02** 04:39:12.5, 40°.29N×19°.77E, h6km±2km, ML2.7/8, Error ellipse: s-maj=2.8km s-min=0.8km az=215.0*
*BEO **02** 04:39:12.5±0.5, 40°.25N×19°.66E, h10km±3km, ML2.8/11*

ISC 02 04:39:12.1±1.1**, 40°.30N**±0°.02×**19°.74E**±0°.02**, h5km**±9km**, n90,** σ1s**11**/134**, 9C-3D, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLO	Vlora	0.25	312	P	Pg	04 39 18.0	+1.0
	baz=301						
VLO				S	Sb	04 39 23.6	-0.3
	baz=301						
VLO				AMP			
	comp=E,35nm,0.4s,baz=301						
SRN	Sarande	0.47	155	P	Pg	04 39 20.2	-0.9
	baz=164						
SRN				S	Sg	04 39 27.8	+0.7
	baz=164						
SRN				AMP			
	comp=N,4.5nm,0.3s,baz=164						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KASA	Kassiopi	0.57	165	P	Pg	04 39 22.7	-0.5
KASA				S	Sg	04 39 30.5	-0.1
KASA				AML	AML	04 39 33.6	
	comp=E,1644µm,0.6s						
KASA				AML	AML	04 39 35.1	
	comp=N,941µm,0.3s						
KEK	Kerkira	0.59	176	P	Pg	04 39 22.8	-0.6
KEK				S	Sg	04 39 31.2	+0.2
KEK				AML	AML	04 39 37.4	
	comp=E,1249µm,0.6s						
KEK				AML	AML	04 39 39.2	
	comp=N,830µm,0.5s						
KEK	Kerkira	0.59	176	P	Pg	04 39 22.8	-0.6
LSK	Leskovik	0.67	103	P	Pg	04 39 23.3	-1.8
	baz=105						
LSK				S	Sg	04 39 33.1	-0.8
	baz=105						
LSK				AMP			
	comp=E,5.4nm,0.5s,baz=105						
IGT	Igoumenitsa	0.89	149	P	Pg	04 39 28.6	-0.6
IGT				S	Sg	04 39 40.9	+0.1
IGT				AML	AML	04 39 48.3	
	comp=N,716µm,0.5s						
IGT				AML	AML	04 39 55.9	
	comp=E,637µm,1.0s						
IGT	Igoumenitsa	0.89	149	P	Pg	04 39 28.3	-0.9
IGT	Igoumenitsa	0.89	149	ePg	Pg	04 39 28.5	-0.7
IGT				eSg	Sg	04 39 41.6	+0.8
SCTE	Santa Cesarea	1.00	257	P	Pg	04 39 32.0	+0.7
SCTE				S	Sg	04 39 45.7	+1.4
SCTE				AML	AML	04 39 51.0	
	comp=E,1636µm,0.4s						
SCTE				AML	AML	04 39 53.6	
	comp=N,540µm,0.4s						
NEST	Nestorio	1.01	83	P	Pg	04 39 30.5	-0.9
NEST				S	Sg	04 39 44.4	-0.1
NEST				AML	AML	04 39 53.1	
	comp=E,753µm,0.6s						
NEST				AML	AML	04 39 58.5	
	comp=N,826µm,0.6s						
NEST	Nestorio	1.01	83	P	Pg	04 39 31.5	+0.1
TIR	Tirane	1.05	5	P	Pg	04 39 32.1	-0.2
TIR	Tirane	1.05	5	ePg	Pg	04 39 32.5	+0.2
TIR				eSg	Sn	04 39 48.8	+0.2
TIR	Tirane	1.05	5	⇑P	Pg	04 39 31.7	-0.6
TIR				⇑S	Sn	04 39 49.2	+0.6
JAN	Janina	1.07	127	P	Pg	04 39 32.3	-0.3
JAN				S	Sg	04 39 46.5	0.0
JAN				AML	AML	04 39 53.8	
	comp=E,1253µm,0.3s						
JAN				AML	AML	04 39 54.5	
	comp=N,1252µm,0.6s						
JAN	Janina	1.07	127	P	Pb	04 39 32.9	-0.2
JAN				S	Sn	04 39 50.0	+0.9
	comp=N,630nm,0.5s						
PENT	Pentalofos	1.07	95	P	Pg	04 39 32.2	-0.5
PENT				S	Sg	04 39 46.4	-0.3
PENT				AML	AML	04 39 57.6	
	comp=E,623µm,0.7s						
PENT				AML	AML	04 40 00.2	
	comp=N,641µm,0.5s						
PENT	Pentalofos	1.07	95	P	Pg	04 39 32.5	-0.2
OHR	Ohrid	1.14	44	i Pn	Pg	04 39 33.8	-0.3
KPRO	Kipourio	1.29	105	P	Pn	04 39 35.9	-1.1
KPRO	Kipourio	1.29	105	P	Pb	04 39 36.8	-0.2
KPRO				S	Sn	04 39 57.8	+3.2
	comp=N,618nm,0.8s						
FNA	Florina	1.34	68	P	Pn	04 39 36.7	-0.8
FNA				S	Sg	04 39 54.9	-0.2
FNA				AML	AML	04 40 01.1	
	comp=N,1986µm,0.9s						
FNA				AML	AML	04 40 01.4	
	comp=E,1071µm,0.6s						
FNA	Florina	1.34	68	P	Pn	04 39 36.8	-0.8
FNA				S	Sn	04 39 58.7	+2.9
	comp=E,772nm,0.7s						
FNA	Florina	1.34	68	ePg	Pn	04 39 36.8	-0.8
FNA				eSg	Sn	04 39 57.1	+1.3
PHP	Peshkopia	1.48	21	P	Pb	04 39 40.0	-0.3
	baz=17						
PHP				S	Sg	04 40 01.3	+1.6
	baz=17						
PHP				AMP			
	comp=N,2.0nm,0.7s,baz=17						
KZN	Kozani	1.55	89	P	Pb	04 39 41.1	-0.3
KZN	Kozani	1.55	89	P	Pg	04 39 41.9	0.0
KZN				S	Sg	04 40 05.6	+3.6
	comp=N,418nm,0.7s						
TSLK	Tsoukalades, L	1.63	154	P	Pn	04 39 42.0	+0.4
TSLK	Tsoukalades, L	1.63	154	P	Pn	04 39 42.2	+0.6
TSLK				S	Sg	04 40 06.6	+2.0
	comp=N,268nm,0.7s						
LKD2	Lefkada island	1.67	155	P	Pn	04 39 42.4	+0.3
LKD2	Lefkada island	1.67	155	P	Pn	04 39 42.3	+0.2
LKD2				S	Sg	04 40 08.3	+2.6
	comp=N,212nm,0.6s						
PUK	Puka	1.74	4	P	Pb	04 39 44.4	-0.4
	baz=1.0						
PUK				S	Sg	04 40 09.9	+1.7
	baz=1.0						
NYDR	Nydri-Lefkada	1.75	155	P	Pn	04 39 43.5	+0.3
NYDR	Nydri-Lefkada	1.75	155	P	Pn	04 39 43.4	+0.3
NYDR				S	Sg	04 40 09.4	+1.1
	comp=N,130nm,0.5s						
THL	Klokotos Trika	1.90	112	P	Pb	04 39 46.6	-0.6
THL	Klokotos Trika	1.90	112	P	Pb	04 39 47.0	-0.2
THL				S	Sg	04 40 14.7	+1.7
	comp=N,200nm,0.6s						
PDO	Prodromos	2.03	146	P	Pn	04 39 47.6	+0.5
PDO				S	Sg	04 40 21.1	+3.6
	comp=N,165nm,0.8s						
BCI	Bajram Curri	2.08	7	P	Pb	04 39 49.9	-0.5
	baz=4.0						
BCI				S	Sg	04 40 19.8	+0.8
	baz=4.0						
BCI				AMP			
	comp=N,0.7nm,0.7s,baz=4.0						
NOCI	Noci	2.10	284	P	Pn	04 39 48.1	+0.1
SKO	Skopje	2.11	37	ePn	Pb	04 39 49.6	-1.2
SKO				eSn	Sn	04 40 15.2	+0.5
SKO	Skopje	2.11	37	i Pn	Pb	04 39 49.7	-1.2
EVR	Evrytania	2.11	130	P	Pb	04 39 50.1	-0.8
EVR	Evrytania	2.11	130	P	Pb	04 39 50.6	-0.4
LIT	Litokhoron	2.12	95	P	Pb	04 39 49.9	-1.1
GRG	Griva	2.13	71	P	Pb	04 39 50.1	-1.1
GRG	Griva	2.13	71	P	Pb	04 39 50.1	-1.1
KEF3	Kipouria, Keph	2.15	167	P	Pn	04 39 48.0	-0.6
PDG	Podgorica	2.16	350	ePn	Pn	04 39 49.2	+0.4
PDG				eSn	Sn	04 40 16.0	0.0
PDG	Podgorica	2.16	350	⇓P	Pn	04 39 49.1	+0.3
PDG				⇑S	Sb	04 40 17.9	-0.9
MAKR	Makrakomi, Fth	2.25	124	P	Pb	04 39 52.4	-0.8
MAKR	Makrakomi, Fth	2.25	124	P	Pb	04 39 53.0	-0.3
MAKR				S	Sg	04 40 24.1	-0.3
	comp=N,258nm,0.6s						
PSDA	Pessada-Kefalo	2.28	163	P	Pn	04 39 50.1	-0.3
STIP	Stip	2.32	52	i Pn	Pb	04 39 54.9	+0.5
MATE	Matera	2.34	280	⇓P	Pn	04 39 51.4	+0.1
AGG	Agios Georgios	2.37	122	P	Pb	04 39 53.5	-1.9
VAY	Valandovo	2.38	64	ePn	Pn	04 39 52.4	+0.6
VAY				eSn	Sb	04 40 23.2	-1.9
VAY	Valandovo	2.38	64	i Pn	Pb	04 39 53.4	-2.0
ANX	Ano Chora	2.40	135	P	Pb	04 39 54.4	-1.5
TIP	Timpagrande	2.56	245	⇑P	Pn	04 39 53.9	-0.4
TREB	Trebinje	2.63	337	ePn	Pn	04 39 54.4	-0.9
TREB				eSn	Sn	04 40 26.9	-0.7
DBRK	Dubrovnik	2.65	334	ePn	Pn	04 39 53.1	-2.5
DBRK				Sn	Sn	04 40 28.1	-0.1
DRO	Drossia	2.80	146	P	Pn	04 39 58.5	+0.8
XOR	Xorichti	2.82	108	P	Pn	04 39 59.4	+1.5
PRVS	Prvonek	2.82	38	ePn	Pn	04 39 58.6	+0.7
STON	Ston	2.99	330	ePn	Pn	04 39 58.1	-2.1
BOSS	Bosilegrad	3.01	42	ePn	Pn	04 40 01.0	+0.5
BOSS				eSn	Sn	04 40 37.6	+0.6
LSTV	Lastovo	3.26	320	ePn	Pn	04 40 02.9	-1.1
IVAS	Ivanjica	3.29	5	ePn	Pn	04 40 04.1	-0.3
IVAS				eSn	Sn	04 40 44.7	+0.8
VTS	Vitosha	3.50	47	⇓P	Pn	04 40 07.8	+0.4
VTS				⇑S	Sn	04 40 50.5	+1.2
MAKA	Makarska	3.61	327	ePn	Pn	04 40 06.8	-2.0
MAKA				Sn	Sn	04 40 51.7	-0.1
GRUS	Gruza	3.66	11	ePn	Pn	04 40 10.7	+1.3
GRUS				eSn	Sn	04 40 53.0	0.0
ZAPS	Zavoj	3.67	35	ePn	Pn	04 40 10.9	+1.2
ZAPS				eSn	Sn	04 40 54.4	+1.0
RICI	Ricice	3.74	329	ePn	Pn	04 40 09.9	-0.7
RICI				Sn	Sn	04 40 54.0	-0.9
HVAR	Hvar	3.79	320	i Pn	Pn	04 40 10.0	-1.2
DIVS	Divibare	3.80	3	ePn	Pn	04 40 12.2	+0.7
DIVS				eSn	Sn	04 40 56.7	+0.1
KIJV	Kijevo	4.46	327	i Pn	Pn	04 40 19.7	-0.7
ZIRJ	Zirje	4.53	319	ePn	Pn	04 40 20.7	-0.7
MORI	Morici	4.66	321	ePn	Pn	04 40 22.8	-0.4
MDVR	Moldovita	4.71	17	⇑P	Pn	04 40 23.6	-0.3
DUGI	Dugi Otok	5.07	318	ePn	Pn	04 40 28.6	-0.2
UDBI	Udbina	5.15	326	ePn	Pn	04 40 31.0	+1.0
BZS	Buzias	5.49	14	⇑P	Pn	04 40 36.1	+1.5
GZR	Gura Zlata	5.56	23	⇑P	Pn	04 40 36.4	+0.8
NVLJ	Novalja	5.58	321	i Pn	Pn	04 40 35.3	-0.4
GBRS	Gornja Briga	6.36	327	i Pn	Pn	04 40 46.6	+0.1
GBRS				eSn	Sn	04 41 57.7	-1.8
SKDS	Skadanscina	6.72	323	i Pn	Pn	04 40 49.7	-1.8
JAVS	Javornik	6.96	325	ePn	Pn	04 40 53.9	-1.0
OBKA	Obir	7.26	330	i Pn	Pn	04 40 59.9	+0.8
	comp=N,0.9nm,0.3s						
OBKA				eSn	Sn	04 42 24.0	+2.1
	comp=N,1.2nm,0.3s						
VRI	Vrincioaia	7.55	40	⇑P	Pn	04 41 03.8	+0.8

*FUNV **02** 04:46:12.5, 9°.61N×71°.38W, h13km, MW3.3*
ISC 02 04:46:10.3±1.2**, 9°.60N**±0°.03×**71°.37W**±0°.03**, h11**km±10km**, n17, σ1.15**/29**, Lake Maracaibo**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDV	Santo Domingo	1.01	134	eP	Pn	04 46 31.6	+1.1
SDV	Santo Domingo	1.01	134	eP	Pn	04 46 31.5	+1.0
SDV				eS	Sn	04 46 45.6	+0.7
MCQV	Machiques	1.24	291	eP	Pn	04 46 34.1	+0.6
MCQV				eS	Sn	04 46 51.3	+1.1
SOCV	Socops	1.40	159	eP	Pg	04 46 38.5	+1.4
SOCV				eS	Sg	04 46 55.5	+0.1
CURV	Curarigua	1.44	73	eP	Pg	04 46 37.9	-0.2
CURV				eS	Sg	04 46 56.8	0.0
DABV	Dabajuro	1.50	29	eP	Pg	04 46 39.2	+0.1
DABV				eS	Sg	04 46 58.1	-0.4
SANV	Sanarito	1.81	93	eP	Pg	04 46 43.7	-1.2
SANV				eS	Sb	04 47 06.2	+0.1
SIQV	Siquisique	1.85	56	eP	Pb	04 46 44.2	-0.1
SIQV				eS	Sn	04 47 06.2	+0.6
CAPV	Capacho	1.96	209	eP	Pb	04 46 45.1	-1.0
CAPV				eS	Sb	04 47 09.8	-0.9
CRJC	Cerrejon, Guaj	2.06	314	eP	Pn	04 46 44.2	-0.7
OCAC	Ocana	2.36	235	eP	Pg	04 46 55.3	-0.2
PAMC	Pamplona, Colo	2.60	211	eP	Pg	04 47 00.6	+0.3
MONV	Montecano	2.71	30	eP	Pn	04 46 55.0	+1.1
MONV				eS	Sn	04 47 26.1	-0.6
SMLC	San Martn de	2.79	254	eP	Pn	04 46 56.7	+1.8
MAPV	Macapo	2.88	85	eP	Pn	04 46 57.9	+1.8
MAPV				eS	Sn	04 47 31.3	+0.5
BAUV	El Baul	3.34	101	eP	Pn	04 47 03.1	+0.6
BAUV				eS	Sn	04 47 42.3	+0.1
PAYV	Puerto Ayacuch	5.54	138	eP	Pn	04 47 33.2	+0.4
PAYV				eS	Sn	04 48 32.9	-3.7

IDC 02 05:01:05.7±2.1**, 3°.32N**×**127°.92E, h0**km**, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.4**/45**, mbtmp3.6**/4**, MS2.7**/1**, Ms1 2.7**/1**, ms1mx2.3**/36**, Error ellipse: s-maj=145.3km s-min=27.1km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	Kappang	11.63	225	LR	LR	05 08 47.2	
	comp=Z,40nm,19.8s,baz=286,slow=40						
WRA	Warramunga Arr	23.96	165	P	P	05 06 21.6	-0.5
	0.6nm,0.4s,baz=344,slow=10,SNR=4.9						
ASAR	Alice Springs	27.45	168	P	P	05 06 54.0	+0.4
	0.5nm,0.5s,baz=354,slow=7.9,SNR=10						
STKA	Stephens Creek	37.34	161	P	P	05 08 19.6	-0.5
	0.6nm,0.4s,baz=356,slow=13,SNR=3.2						
MKAR	Makanchi Array	58.57	325	P	P	05 11 04.6	+0.2
	0.2nm,0.4s,baz=125,slow=8.7,SNR=2.6						

MAN 02 05:10:15.0, 9°.99N×**125°.46E, h20**km**, mb3.9, ML2.6, MS2.1, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSLP	Maasin	0.61	284	eP	Pn	05 10 33.2	+4.8
BUTP	Butuan	1.03	171	eP	Pb	05 10 32.9	-1.2
BUTP				eS	Sn	05 10 48.7	+0.6
OCLP	Ormoc	1.34	322	eP	Pn	05 10 38.2	-0.5

*AEIC **02** 05:12:36±3.6, 51°.1N±0°.1×175°.62E±0°.07, h10km±2km, ML3.6/22, mb4.0/33(NEIC), Error ellipse: s-maj=19.1km s-min=5.9km az=165.0*
*NEIC **02** 05:12:36.5±2.6, 51°.0N±0°.1×175°.4E±0°.1, h12km±8km, Error ellipse: s-maj=22.6km s-min=6.5km az=207.0*
*IDC **02** 05:12:38.3±6.6, 50°.75N×176°.50E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/44, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=120.5km s-min=63.9km az=78.0*
ISC 02 05:12:36.4±2.0**, 50°.9N**±0°.2×**175°.49E**±0°.10**, h10**km**, n63, σ1.45**/65**, mb4.0**/19**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	Shemya	2.02	335		Pn	05 13 11.2	+0.7
LSNW	Little Sitkin	2.17	59		Pn	05 13 13.6	+1.0
LSSE	Little Sitkin	2.19	61		Pn	05 13 13.9	+1.1
LSPA	Little Sitkin	2.20	60		Pn	05 13 13.8	+0.8
AMKA	Amchitka	2.45	77		Pn	05 13 15.4	-0.9
CESW	Semis' Southwe	2.74	67		Pn	05 13 21.6	+1.2
CESW					Sn	05 13 53.6	+0.1
CEAP	Semis' Anvil P	2.78	65		Pn	05 13 22.4	+1.4
CERB	Semis' Cerberu	2.79	67		Pn	05 13 22.8	+1.8
CERB					Sn	05 13 55.5	+0.8
CERAA	Semis' Rag'd T	2.81	67		Pn	05 13 22.6	+1.2
TASE	Tanaga Southea	4.16	75		Pn	05 13 40.7	+0.7
TAFP	Tanaga Falls P	4.21	74		Pn	05 13 41.0	+0.4
KIKV	Kanaga Island	4.70	75		Pn	05 13 48.1	+0.8
ADK	Adak	5.00	76		Pn	05 13 51.8	+0.4
GSTD	Great Sitkin T	5.35	74		Pn	05 13 56.9	+0.6
GSMY	Great Sitkin M	5.41	75		Pn	05 13 57.4	+0.4
GSTR	Great Sitkin T	5.41	74	Pn	Pn	05 13 56.6	-0.5
ATKA	Atka Island	6.56	75		Pn	05 14 13.4	+0.6
KOKL	Mount Kliuchef	6.58	74		Pn	05 14 13.7	+0.6
KOFP	Korovin Flat P	6.63	74		Pn	05 14 14.5	+0.6
AKUT	Akutan	11.86	67	Pn	Pn	05 15 25.5	+0.1
SVW2	Sparrevohn	18.96	46	P	Pn	05 16 57.7	-0.4
SVW2				IAmb	IAmb	05 17 00.2	
	comp=Z,13nm,1.4s						
OHAK	Old Harbor	19.26	59	P	P	05 16 58.8	-2.0
TTA	Tatalina	19.47	41	P	P	05 17 00.1	-3.0
KDAK	Kodiak Island	19.70	57	P	P	05 17 04.8	-0.7
	comp=Z,0.7nm,0.3s,baz=301,slow=3.6,SNR=15						
KDAK	Kodiak Island	19.70	57	P	P	05 17 04.1	-1.4
KDAK				IAmb	IAmb	05 17 24.2	
	comp=Z,16nm,1.4s						
CNPM	China Poot	20.65	52	P	P	05 17 16.2	+0.3
BRLK	Bradley Lake	20.87	52	P	P	05 17 18.1	-0.1
BRLK				IAmb	IAmb	05 17 41.8	
	comp=Z,10nm,1.2s						
SUA	Susitna One	21.30	47	P	P	05 17 20.8	-2.2
SEW	Seward	21.64	51	P	P	05 17 25.6	-0.8
IMAR	Indian Mountai	21.74	34	P	P	05 17 26.8	-0.7
TRF	Thorofare Moun	22.07	42	P	P	05 17 29.1	-2.2
GHO	Glory Hole Cre	22.22	47	P	P	05 17 30.9	-1.9
SML	Sawmill	22.50	47	P	P	05 17 34.3	-1.5
SML				IAmb	IAmb	05 17 41.4	
	comp=Z,9.8nm,1.2s						
RND	Reindeer	22.67	43	P	P	05 17 35.5	-2.1
RND				IAmb	IAmb	05 17 46.7	
	comp=Z,6.4nm,1.3s						
SCM	Sheep Creek Mo	22.97	47	P	P	05 17 37.4	-3.4
SCM				IAmb	IAmb	05 17 44.8	
	comp=Z,6.6nm,0.9s						
FID	Port Fidalgo	23.19	50	P	P	05 17 40.4	-2.6
FID				IAmb	IAmb	05 17 42.7	
	comp=Z,8.1nm,1.1s						
WRH	Wood River Hil	23.31	41	P	P	05 17 41.1	-3.1
WRH				IAmb	IAmb	05 17 50.0	
	comp=Z,8.0nm,1.5s						
CCB	Clear Creek Bu	23.49	40	P	P	05 17 44.8	-1.1
M24K	Tolsona, Glenn	23.56	47	P	P	05 17 44.5	-2.2
KLU	Klutina	23.57	48	P	P	05 17 47.1	+0.3
HDA	Harding Lake	23.77	41	P	P	05 17 46.6	-2.1
ILAR	Eielson Array	23.90	40	P	P	05 17 48.5	-1.4
	comp=Z,0.6nm,0.5s,baz=245,slow=8.1,SNR=12						
ILAR	Eielson Array	23.90	40	P	P	05 17 49.4	-0.5
PAX	Paxson	24.05	45	P	P	05 17 50.9	-0.6
PAX				IAmb	IAmb	05 17 52.7	
	comp=Z,4.3nm,0.6s						
N25K	Chitina, Valde	24.21	48	P	P	05 17 54.2	+1.3
N25K				IAmb	IAmb	05 17 57.0	
	comp=Z,3.0nm,0.9s						
GLB	Gilahina Butte	24.57	49	P	P	05 17 57.3	+1.1
GLB				IAmb	IAmb	05 17 58.4	
	comp=Z,3.3nm,0.9s						
PRP	Porcupine Dome	24.67	39	P	P	05 17 56.1	-1.1
VRDI	Verde Repeater	24.72	49	P	P	05 17 56.9	-0.7
VRDI				IAmb	IAmb	05 18 05.3	
	comp=Z,7.1nm,1.4s						
DOT	Dot Lake	24.81	44	P	P	05 17 58.8	+0.5
DOT				IAmb	IAmb	05 18 00.1	
	comp=Z,2.4nm,0.6s						
CRQM	Cirque	24.82	51	P	P	05 17 59.1	+0.4
MCARA	McCarthy VSAT	24.94	49	P	P	05 17 57.2	-2.3
TGL	Tana Glacier	24.98	51	P	P	05 17 59.3	-0.6
BALM	Baldy	25.23	50	P	P	05 18 00.0	-2.2
BALM				IAmb	IAmb	05 18 04.1	
	comp=Z,6.5nm,1.3s						
BARN	Barnard Glacie	25.57	50	P	P	05 18 02.6	-2.8
BARN				IAmb	IAmb	05 18 15.2	
	comp=Z,4.7nm,1.4s						
BCAR	Beaver Creek A	25.72	45	P	P	05 18 07.3	+0.7
CTGM	Chitina Glacie	25.72	50	P	P	05 18 08.2	+1.4
CTGM				IAmb	IAmb	05 18 12.9	
	comp=Z,3.2nm,0.9s						
K27K	Chicken	25.75	43	P	P	05 18 06.1	-0.7
K27K				IAmb	IAmb	05 18 08.7	
	comp=Z,2.7nm,0.9s						
EGAK	Eagle	26.28	42	P	P	05 18 12.7	+1.2
INK	Inuvik	29.92	35	P	P	05 18 46.1	+2.2
	comp=Z,0.4nm,0.4s,baz=263,slow=6.9,SNR=2.0						
YKA	Yellowknife Ar	38.14	45	P	P	05 19 56.1	+0.9
	comp=Z,0.7nm,0.5s,baz=282,slow=7.5,SNR=10						
NVAR	Mina Array Bea	47.18	78	P	P	05 21 07.4	-1.8
	comp=Z,0.4nm,0.8s,baz=284,slow=7.9,SNR=2.7						
PDAR	Pinedale Array	49.85	68	P	P	05 21 29.6	-0.2
	comp=Z,0.6nm,0.7s,baz=329,slow=3.3,SNR=6.8						
PDAR	Pinedale Array	49.85	68	P	P	05 21 30.5	+0.7

*IDC **02** 05:34:46.3±2.3, 37°.92N×142°.68E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.5/38, mbtmp3.7/8, ML2.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/49, Error ellipse: s-maj=57.3km s-min=22.4km az=68.0*
*JMA **02** 05:34:51.8±0.1, 37°.76N×142°.27E, h26km±2km, M3.7*
ISC 02 05:34:49.3±2.0**, 37°.78N**±0°.04×**142°.35E**±0°.07**, h10**km±13km**, n31, σ1.14**/40**, mb3.5**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.88	307	P	Pn	05 35 07.5	-0.1
JIKH				S	Sb	05 35 18.5	+0.2
JIKH	Ishinomakikobu	0.88	307	P	Pn	05 35 07.9	+0.3
JIO	Ouri	1.04	311	P	Pn	05 35 10.1	+0.2
JIO				S	Sb	05 35 23.1	+0.1
JMST	Minamisoumatoc	1.16	268	P	Pb	05 35 11.3	-0.1
JMST				S	Sb	05 35 25.5	-1.1
JKMT	Kesennumamotoy	1.24	326	P	Pg	05 35 13.2	+0.1
JKMT				S	Sb	05 35 28.2	-0.5
JMM	Marumori	1.24	274	P	Pn	05 35 12.6	0.0
JMM				S	Sb	05 35 27.4	-1.3
JFK	Kawauchi	1.25	251	P	Pn	05 35 12.7	-0.1
JFK				eS	Sb	05 35 27.1	-1.9
JOU	Okura	1.45	294	P	Pb	05 35 16.6	+0.2
JOU				S	Sn	05 35 34.9	+0.2
JMK	Ichinoseki	1.47	323	P	Pb	05 35 17.1	+0.4
JMK				eS	Sb	05 35 35.4	0.0
JFT	Otama	1.62	261	P	Pb	05 35 18.8	-0.5
JFT				eS	Sn	05 35 38.5	-0.4
JYS	Shirataka	1.86	284	P	Pb	05 35 23.2	-0.1
JYS				eS	Sb	05 35 45.9	-0.7
JOM	Ohasama	1.88	334	P	Pb	05 35 24.1	+0.4
JOM				eS	Sb	05 35 47.3	0.0
JYK	Kaneyama	1.93	306	P	Pb	05 35 23.6	-1.0
JYK				eS	Sn	05 35 47.3	+0.8
JRG	Rokugo	2.10	321	P	Pb	05 35 27.0	-0.4
JRG				eS	Sb	05 35 52.6	-1.0
JFY	Yanaizu	2.14	261	P	Pb	05 35 27.9	-0.2
JFY				S	Sn	05 35 53.2	+1.6
JYA	Atsumi	2.23	292	eS	Sn	05 35 55.3	+1.4
MJAR	Matsushiro Arr	3.53	251	Pn	Pn	05 35 46.9	+2.7
	0.3nm,0.3s,baz=52,slow=9.9,SNR=6.4						
MJAR				LR	LR	05 37 32.4	
	comp=Z,84nm,20.5s,baz=75,slow=44						
MAT	Matsushiro	3.54	251	P	Pn	05 35 47.9	+3.7
MAT				eS	Sn	05 36 28.1	+2.0
JHJ	Hachijo jima 2	5.10	205	Pn	Pn	05 36 06.2	+0.4
	5.3nm,0.3s,baz=221,slow=19,SNR=1.3						
USRK	Ussuriysk Ar.	10.12	313	Pn	Pn	05 37 15.0	+0.4
	baz=120,slow=14,SNR=1.5						
H11N2	WAKE ISLAND Hy	27.91	123	T	T	06 09 55.5	
	baz=315,slow=75,SNR=28						
H11N1	WAKE ISLAND Hy	27.92	123	T	T	06 09 59.8	
	baz=315,slow=75,SNR=19						
H11N3	WAKE ISLAND Hy	27.93	123	T	T	06 09 55.9	
	baz=315,slow=75,SNR=22						
SONM	Songino Array	28.00	303	P	P	05 40 38.3	-2.0
	1.2nm,0.7s,baz=99,slow=9.3,SNR=2.4						
H11S1	WAKE ISLAND Hy	28.66	125	T	T	06 10 56.3	
	baz=317,slow=76,SNR=8.7						
H11S3	WAKE ISLAND Hy	28.66	125	T	T	06 10 56.8	
	baz=317,slow=76,SNR=12						
H11S2	WAKE ISLAND Hy	28.68	125	T	T	06 10 55.8	
	baz=317,slow=76,SNR=11						
ZALV	Zalesovo Beam	41.97	312	P	P	05 42 39.3	-0.8
	0.4nm,0.4s,baz=91,slow=7.2,SNR=1.8						
MKAR	Makanchi Array	44.36	302	P	P	05 43 00.4	+0.8
	0.5nm,0.7s,baz=89,slow=9.4,SNR=6.6						
WRA	Warramunga Arr	57.91	189	P	P	05 44 40.8	-0.8
	0.4nm,0.7s,baz=5.3,slow=6.8,SNR=5.1						
ASAR	Alice Springs	61.64	189	P	P	05 45 07.7	+0.5
	0.1nm,0.3s,baz=359,slow=7.8,SNR=4.2						

JMA 02 05:34:54.0±0.1**, 38°.70N**×**142°.27E, h37**km±2km**, M2.6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.60	309	P	Pn	05 35 06.0	-0.2
OFUJ				S	Sn	05 35 14.3	-0.4
JKMT	Kesennumamotoy	0.63	280	P	Pn	05 35 06.4	-0.2
JKMT				S	Sn	05 35 14.8	-0.6
JIO	Ouri	0.76	252	P	Pn	05 35 08.1	-0.1
JIO				eS	Sn	05 35 18.2	-0.2
JMK	Ichinoseki	0.86	287	P	Pn	05 35 09.8	+0.3
JMK				eS	Sn	05 35 21.1	+0.2
JOM	Ohasama	1.08	316	P	Pn	05 35 13.2	+0.6
JOM				eS	Sn	05 35 27.3	+0.9
JMM	Marumori	1.43	235	P	Pn	05 35 18.2	+0.8
JYK	Kaneyama	1.51	279	P	Pn	05 35 19.3	+0.8
JYK				eS	Sn	05 35 37.8	+0.9

*NEIC **02** 05:39:50.5±1.8, 27°.93S±0°.06×66°.48W±0°.08, h163km±4km, Error ellipse: s-maj=10.8km s-min=8.1km az=81.0*
*SJA **02** 05:39:51.1±0.6, 28°.06S×66°.45W, h178km±4km, ML4.3, MW4.2*
*VAO **02** 05:39:52.1±0.8, 27°.90S×66°.47W, h176km±6km, mb4.5*
*IDC **02** 05:39:52.6±0.6, 27°.78S×66°.42W, h177km±4km, mb3.8/12, mb1 3.9/17, mb1mx3.8/36, mbtmp4.3/17, MS3.3/2, Ms1 3.3/2, ms1mx2.7/26, Error ellipse: s-maj=14.8km s-min=11.8km az=70.0*
ISC 02 05:39:50.9±0.3**, 27°.94S**±0°.04×**66°.58W**±0°.04**, h167**km**, n190, σ1.27**/209**, mb4.5**/32**, 1C, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AHML	Horco Molle	1.59	44	eP	Pn	05 40 24.6	+1.8
AHML				eS	Sn	05 40 49.2	+1.9
AHML				IAML		05 40 49.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,583nm,0.6s						
VCA	Vinchina	1.64	241	eP	Pn	05 40 26.0	+2.6
VCA				eS	Sn	05 40 50.9	+2.4
VCA				IAML		05 40 56.5	
	comp=Z,5µm,0.5s						
AC02	Maricunga	2.52	295		Pn	05 40 36.0	+2.3
AC02				Sn	Sn	05 41 09.0	+2.3
ACDV	Cuesta del Vie	3.15	224	eP	Pn	05 40 42.9	+2.0
ACDV				eS	Sn	05 41 20.6	+0.7
ACDV				IAML		05 41 23.0	
	comp=Z,384nm,0.3s						
GO03	Copiap	3.26	275		Pn	05 40 43.4	+1.2
GO03				Sn	Sn	05 41 21.6	-0.6
SLA	San Lorenzo	3.34	17	eP	Pn	05 40 46.0	+2.5
SLA				eS	Sn	05 41 28.0	+3.6
SLA				IAML		05 41 31.7	
	comp=Z,153nm,1.3s						
AROD	Rodeo	3.37	228	eP	Pn	05 40 45.9	+2.0
AC05	El Transito	3.38	254		Pn	05 40 45.5	+1.7
AC05				Sn	Sn	05 41 26.4	+1.4
ACCO	Cerro Coronel	3.42	219	eP	Pn	05 40 46.0	+1.4
ACCO				eS	Sn	05 41 27.4	+1.2
ACCO				IAML		05 41 28.9	
	comp=Z,981nm,0.5s						
CO01	Juntas del Tor	3.69	236		Pn	05 40 50.3	+2.4
CO01				Sn	Sn	05 41 33.0	+0.7
RTLL	Cerro Villicun	3.76	206	eP	Pn	05 40 49.5	+0.9
RTLL				eS	Sn	05 41 32.2	-1.5
RTLL				IAML		05 41 37.4	
	comp=Z,811nm,0.4s						
LCO	Las Campanas	3.79	253		Pn	05 40 50.0	+0.9
LCO				Sn	Sn	05 41 34.8	+0.3
GO02	Mina Guanaco	3.86	315		Pn	05 40 52.3	+2.1
GO02				Sn	Sn	05 41 37.5	+1.2
AC04	Llanos de Chal	3.98	265		Pn	05 40 51.4	0.0
AC04				Sn	Sn	05 41 36.5	-2.1
AC01	Pan de Azucar	4.01	295		Pn	05 40 52.0	+0.3
RTCV	Cerro Valdivia	4.27	203	eP	Pn	05 40 55.8	+0.7
RTCV				eS	Sn	05 41 43.5	-1.8
RTCV				IAML		05 41 46.2	
	comp=Z,410nm,0.3s						
GO04	Tololo Observa	4.32	238		Pn	05 40 56.5	+0.6
CO03	El Pedregal	4.61	230		Pn	05 41 00.2	+0.7
PB14	IPOC Station P	4.76	313		Pn	05 41 02.6	+0.8
AUSP	Uspallata	4.92	209	eP	Pn	05 41 04.9	+1.1
CO02	Combarbal	5.04	229		Pn	05 41 04.9	-0.4
PB15	IPOC Station P	5.39	330		Pn	05 41 11.0	+1.0
PB10	IPOC Station P	5.68	320		Pn	05 41 14.1	+0.5
LVC	Limon Verde	5.71	338	P	Pn	05 41 15.2	+0.8
	comp=Z,9.1nm,0.3s,baz=174,slow=6.9,SNR=82						
LVC				S	Sn	05 42 18.1	-1.6
	comp=Z,17nm,0.3s,baz=67,slow=23,SNR=18						
LVC	Limon Verde	5.71	338		Pn	05 41 15.6	+1.2
LVC	Limon Verde	5.71	338	eP	Pn	05 41 15.6	+1.2
YJA	Yavi	5.82	10	eP	Pn	05 41 18.3	+2.5
YJA				IAML		05 43 13.7	
	comp=Z,9.8nm,1.1s						
PB06	IPOC Station P	5.87	332		Pn	05 41 17.3	+1.0
VA03	San Esteban	5.91	215		Pn	05 41 17.1	+0.5
PEL	Peldehue	6.28	213	Pn	Pn	05 41 21.2	-0.3
PB04	IPOC Station P	6.45	329		Pn	05 41 23.4	-0.6
MT05	Renca	6.51	212		Pn	05 41 24.1	-0.5
PB09	IPOC Station P	6.58	338		Pn	05 41 26.3	+0.6
MT02	Curacav	6.60	215		Pn	05 41 24.4	-1.3
PB07	IPOC Station P	6.88	333		Pn	05 41 29.3	-0.3
RFA	San Rafael	7.00	193	eP	Pn	05 41 30.8	-0.2
RFA				eS	Sn	05 42 45.6	-4.3
RFA				IAML		05 42 49.2	
	comp=Z,154nm,0.4s						
LAMA	Las Malvinas	7.33	197	eP	Pn	05 41 34.9	-0.5
PB01	IPOC Station P	7.36	338		Pn	05 41 34.8	-1.1
BO02	Sierra Bellavi	7.72	207	Pn	Pn	05 41 39.9	-0.6
TA01	Diego Aracena	8.04	335	Pn	Pn	05 41 43.7	-1.2
PB08	IPOC Station P	8.11	343		Pn	05 41 45.4	-0.7
CPUP	Villa Florida	8.39	81	P	Pn	05 41 48.2	-1.2
	comp=Z,1.0nm,0.3s,baz=260,slow=12,SNR=34						
CPUP	Villa Florida	8.39	81	Pn	Pn	05 41 48.8	-0.7
ITQB	Itaqui	8.90	104	eP	Pn	05 41 55.9	-0.3
PSGCX	Pisagua	8.91	338	Pn	Pn	05 41 54.4	-2.1
MNMC	Minye Minye	9.19	342		Pn	05 41 59.8	-0.6
BI02	San Fabin de	9.56	203	Pn	Pn	05 42 03.4	-1.5
PB16	IPOC Station P	9.93	344	Pn	Pn	05 42 10.9	+0.5
BI03	Tigo	10.42	210	Pn	Pn	05 42 14.6	-1.5
LPAZ	La Paz	11.68	353	P	Pn	05 42 32.6	-0.7
	comp=Z,1.3nm,0.3s,baz=125,slow=3.9,SNR=40						
LPAZ				S	Sn	05 44 36.8	-6.4
	comp=Z,0.3nm,0.3s,baz=357,slow=18,SNR=3.3						
LPAZ	La Paz	11.68	353	Pn	Pn	05 42 32.8	-0.5
LPAZ	La Paz	11.68	353	eP	Pn	05 42 32.6	-0.7
CPSB	Cacapava Do Su	11.74	105	eP	Pn	05 42 32.3	-1.1
PLTB	Pedras Altas	11.89	112	eP	Pn	05 42 34.3	-0.9
VA04	Juan Fernndez	11.97	239	Pn	Pn	05 42 36.0	-0.3
AQDB	Aquidauana	12.39	56	eP	Pn	05 42 41.5	-0.3
ITAB	Concordia	12.83	90	eP	Pn	05 42 47.1	-0.3
SIV	San Ignacio	12.94	24	P	Pn	05 42 47.6	-1.2
	comp=Z,1.1nm,0.3s,baz=195,slow=10,SNR=38						
PLCA	Paso Flores	13.18	193	P	Pn	05 42 53.5	+1.7
	comp=Z,0.4nm,0.3s,baz=16,slow=11,SNR=9.3						
PTGB	Pitanga	13.40	79	eP	Pn	05 42 54.8	0.0
TRCB	Terra Rica	13.60	71	eP	Pn	05 42 57.1	-0.1
CNLB	Canela	13.88	99	eP	Pn	05 43 00.8	+0.1
PTLB	Pontes e Lacer	14.21	31	eP	Pn	05 43 05.2	+0.3
PCMB	Pacaembu	15.27	69	eP	P	05 43 18.1	-0.9
TER01	Tubaro-SC	15.39	96	eP	P	05 43 19.9	-0.5
TIJ01	Guaruva-PR	15.93	85	eP	Pn	05 43 25.3	-0.8
FRTB	Fartura	16.01	77	eP	Pn	05 43 26.4	-0.6
VILB	Vilhena	16.05	23	eP	Pn	05 43 26.5	-1.1
GO07	Milladeo Hill,	16.19	199	Pn	Pn	05 43 30.1	+1.1
ITRB	Iturama	16.94	65	eP	Pn	05 43 37.8	-0.4
PET01	Itanhaem-SP	17.71	83	eP	Pn	05 43 46.2	-1.1
BB19B	Bebedouro	17.78	71	eP	P	05 43 46.5	-0.2
ETMB	Extrema	18.03	1	eP	P	05 43 49.9	+0.5
ARAG	Araguaiana, MT	18.31	51	eP	P	05 43 52.2	-0.2
SAML	Samuel	19.16	10	P	P	05 44 01.2	-0.5
SAML				IAmb	IAmb	05 44 03.2	
	comp=Z,20nm,1.2s						
PARB	Paraibuna	19.43	81	eP	P	05 44 04.5	-0.2
IPMB	Ipameri, GO	19.58	64	eP	P	05 44 05.9	-0.3
CLDB	Colider	19.77	33	eP	P	05 44 07.2	-1.0
CZSB	Cruzeiro do Su	20.92	343	eP	P	05 44 21.0	+0.5
MAN01	Angra dos Reis	21.03	81	eP	P	05 44 21.5	-0.3
BDFB	Brasilia	21.10	58	P	P	05 44 21.2	-1.4
	comp=Z,10nm,0.5s,baz=232,slow=8.9,SNR=28						
BDFB	Brasilia	21.10	58	P	P	05 44 21.4	-1.3
BDFB				IAmb	IAmb	05 44 22.2	
	comp=Z,18nm,0.8s						
SNDB	Serra Nova Dou	21.38	45	eP	P	05 44 22.9	-2.5
VAS01	Vassouras-RJ	21.68	80	eP	P	05 44 29.0	+0.4
PEXB	Peixe	23.25	51	eP	P	05 44 42.8	-0.7
JANB	Januaria	24.31	63	eP	P	05 44 52.0	-1.3
EFI	East Falkland	24.56	167	P	P	05 44 55.7	+0.6
SJMB	Sao Joao De Ma	25.02	74	eP	P	05 44 58.7	-0.9
BSFB	Barra de Sao F	25.25	75	eP	P	05 45 00.7	-1.1
MACA	Manacapuru-AM	25.27	14	eP	P	05 45 01.8	-0.1
SDBA	SAO DESIDERIO	25.48	57	eP	P	05 45 03.3	-0.6
ITTB	Itaituba	25.61	26	eP	P	05 45 04.9	-0.1
SMTB	Santa Maria do	26.09	47	eP	P	05 45 08.6	-0.7
PRPB	Parauapebas	26.86	39	eP	P	05 45 15.1	-1.1
PTGA	Pitinga	27.78	14	P	P	05 45 23.7	-0.7
	comp=Z,5.9nm,0.3s,baz=316,slow=22,SNR=16						
PTGA	Pitinga	27.78	14	P	P	05 45 24.0	-0.4
PTGA				IAmb	IAmb	05 45 24.6	
	comp=Z,6.5nm,0.8s						
PTGA	Pitinga	27.78	14	eP	P	05 45 23.7	-0.7
PTGA	Pitinga	27.78	14	eP	P	05 45 23.9	-0.5
GDU01	Guandu, BA	28.84	66	eP	P	05 45 32.1	-1.7
FLOC	Florencia	30.62	342	eP	P	05 45 50.2	+0.7
BOAV	Boa Vista	30.71	12	eP	P	05 45 50.2	-0.1
BBAC	Balboa, Cauca	31.50	339	eP	P	05 45 59.3	+1.9
POPC	Popayan, Colom	31.82	341	eP	P	05 46 02.2	+1.9
CHIC	Chingaza	33.10	347	eP	P	05 46 11.2	-0.4
TOLC	Tolima	33.41	344	eP	P	05 46 17.3	+3.1
ROSC	El Rosal	33.43	346	LR	LR	06 01 10.7	
	comp=Z,77nm,21.1s,baz=234,slow=38						
PLMC	San Jos del P	33.97	343	eP	P	05 46 16.4	-2.3
SPBC	San Pablo de B	34.17	347	eP	P	05 46 20.1	-0.3
RUSC	La Rusia	34.21	348	eP	P	05 46 20.6	-0.7
NBLI	Livramento-PB	34.70	59	eP	P	05 46 24.7	-0.4
CBOC	Ciudad Bolivar	34.82	343	eP	P	05 46 27.0	+0.8
PTBC	PUERTO BERRIO,	35.11	346	eP	P	05 46 25.8	-2.6
PAMC	Pamplona, Colo	35.57	350	eP	P	05 46 30.8	-2.1
SMLC	San Martn de	37.23	348	eP	P	05 46 43.7	-2.8
RPN	Rapa Nui	37.78	261	LR	LR	05 59 40.5	
	comp=Z,29nm,20.2s,baz=87,slow=31						
BANI	BANI	46.20	355	P	P	05 47 59.8	+0.5
BELA	Belgrano 2	52.10	172	P	P	05 48 44.8	+1.5
BELA				IAmb	IAmb	05 48 45.6	
	comp=Z,9.7nm,0.7s						
TEIG	Tepich	52.28	334	P	P	05 48 45.4	+0.2
VNA3	Neumayer Olymp	53.33	160	P	P	05 48 53.0	+0.7
VNA2	Neumayer--Watz	53.90	160	P	P	05 48 55.9	-0.6
	baz=312,slow=8.4						
061Z	Ochoppi	55.24	344	P	P	05 49 07.5	+0.8
SNAA	Sanae	55.53	160	P	P	05 49 08.8	+0.5
SNAA	Sanae	55.53	160	P	P	05 49 09.5	+1.2
SNAA				IAmb	IAmb	05 49 09.6	
	comp=Z,11nm,0.8s						
QSPA	South Pole Qui	62.28	180	P	P	05 49 56.4	+1.4
X48A	Hartselle	65.01	341	P	P	05 50 13.1	+0.1
CPCT	Cooper Cave	65.28	344	P	P	05 50 14.3	-0.4
CPCT				IAmb	IAmb	05 51 00.0	
	comp=Z,25nm,1.6s						
SWET	Sewanee	65.42	343	P	P	05 50 15.2	-0.5
WVT	Waverly	66.80	341	P	P	05 50 23.9	-0.5
WVT				IAmb	IAmb	05 50 24.3	
	comp=Z,7.1nm,0.7s						
S54A	Dingess, Beckl	66.84	347	P	P	05 50 24.7	+0.1
TXAR	Lajitas Array	67.10	325	P	P	05 50 27.2	+0.7
	comp=Z,0.4nm,0.5s,baz=146,slow=8.5,SNR=2.9						
FCAR	Ozark Folk Cen	67.90	338	P	P	05 50 31.3	-0.1
FCAR				IAmb	IAmb	05 51 15.1	
	comp=Z,18nm,1.7s						
PBMO	Poplar Bluff	68.17	340	P	P	05 50 33.0	0.0
PBMO				IAmb	IAmb	05 50 33.5	
	comp=Z,7.0nm,0.8s						
U40A	Yellville	68.57	337	P	P	05 50 35.9	+0.4
U40A				IAmb	IAmb	05 50 36.9	
	comp=Z,22nm,1.9s						
DBIC	Dimbokro	68.74	70	P	P	05 50 35.9	-1.1
	comp=Z,2.9nm,0.7s,baz=209,slow=5.9,SNR=6.8						
DBIC	Dimbokro	68.74	70	P	P	05 50 36.1	-0.9
DBIC				IAmb	IAmb	05 50 39.7	
	comp=Z,26nm,1.6s						
P48A	Milroy	69.32	344	P	P	05 50 39.2	-0.8
WMOK	Wichita Mounta	69.38	332	P	P	05 50 41.0	+0.4
WMOK				IAmb	IAmb	05 50 47.7	
	comp=Z,9.8nm,1.9s						
CCM	Cathedral Cave	69.60	339	P	P	05 50 41.8	0.0
CCM				IAmb	IAmb	05 50 42.2	
	comp=Z,4.6nm,0.7s						
GDL2	Guadalupe Moun	69.78	326	P	P	05 50 51.0	+7.8
S39A	Bolivar	69.94	338	P	P	05 50 44.5	+0.7
S39A				IAmb	IAmb	05 50 44.8	
	comp=Z,5.3nm,0.7s						
R40A	Maddies Statio	70.14	339	P	P	05 50 45.5	+0.4
R40A				IAmb	IAmb	05 52 58.0	
	comp=Z,27nm,1.9s						
M54A	Oil Creek Stat	70.15	350	P	P	05 50 44.9	-0.2
VNDA	Vanda	70.90	190	P	P	05 50 51.0	+1.8
	comp=Z,3.1nm,1.0s,baz=149,slow=4.1,SNR=7.5						
VNDA	Vanda	70.90	190	P	P	05 50 51.7	+2.4
VNDA				IAmb	IAmb	05 51 17.0	
	comp=Z,34nm,1.6s						
P40A	Paris	71.20	339	P	P	05 50 51.5	+0.1
P40A				IAmb	IAmb	05 51 35.8	
	comp=Z,27nm,1.9s						
HDIL	Hopedale	71.34	342	P	P	05 50 50.8	-1.5
HDIL				IAmb	IAmb	05 52 15.6	
	comp=Z,36nm,1.6s						
L40A	Anamosa	73.28	341	P	P	05 51 03.7	0.0
L40A				IAmb	IAmb	05 51 10.2	
	comp=Z,31nm,1.6s						
SUR	Sutherland	73.59	118	P	P	05 51 07.4	+1.2
JFWS	Jewell Farm	73.79	342	P	P	05 51 06.9	+0.2
JFWS				IAmb	IAmb	05 53 49.6	
	comp=Z,33nm,1.8s						
KOWA	Kowa	73.80	64	P	P	05 51 06.4	-1.0
	comp=Z,2.0nm,0.7s,baz=245,slow=8.8,SNR=6.7						
KOWA	Kowa	73.80	64	P	P	05 51 06.8	-0.6
KOWA				IAmb	IAmb	05 51 30.8	
	comp=Z,17nm,1.6s						
TOA0	Torodi Ar. Sit	77.66	68	P	P	05 51 28.4	-0.9
TOA0				IAmb	IAmb	05 51 31.9	
	comp=Z,4.4nm,0.7s						
TORD	Torodi Ar. Bea	77.66	68	P	P	05 51 28.2	-1.1
	comp=Z,3.5nm,0.7s,baz=261,slow=5.6,SNR=13						
TORD				pP	pP	05 52 12.0	+1.5
	comp=Z,1.8nm,0.7s,baz=258,slow=5.2,SNR=3.5						
TORD	Torodi Ar. Bea	77.66	68	P	P	05 51 28.4	-0.9
O20A	White River Ci	78.03	329	P	P	05 51 31.6	+0.6
CCUT	Cedar City	78.54	324	P	P	05 51 36.1	+2.2
BOSA	Boshof	78.63	116	P	P	05 51 34.9	+0.1
	comp=Z,2.0nm,0.6s,baz=269,slow=5.5,SNR=5.2						
BOSA	Boshof	78.63	116	P	P	05 51 33.5	-1.3
RWWY	Rawlins	78.81	330	P	P	05 51 36.6	+1.2
RWWY				IAmb	IAmb	05 51 37.4	
	comp=Z,4.7nm,0.7s						
PSUT	Pine Spring	79.54	324	P	P	05 51 40.3	+1.0
JLU	Jordanelle	79.91	327	P	P	05 51 41.1	-0.3
PD31	Pinedale Array	80.72	329	P	P	05 51 46.0	+0.4
PDAR	Pinedale Array	80.72	329	P	P	05 51 46.0	+0.4
	comp=Z,1.0nm,0.6s,baz=126,slow=7.8,SNR=14						
SPUT	South Promonto	80.93	327	P	P	05 51 47.5	+0.8
MDND	Maddock	81.07	338	P	P	05 51 47.9	+0.9
MDND				IAmb	IAmb	05 51 48.6	
	comp=Z,14nm,0.7s						
AHID	Auburn Hatcher	81.42	329	P	P	05 51 49.1	-0.1
HVU	Hansel Valley	81.45	327	P	P	05 51 49.6	+0.2
NVAR	Mina Array Bea	81.84	321	P	P	05 51 52.1	+0.5
	comp=Z,0.4nm,0.7s,baz=116,slow=3.0,SNR=4.2						
ULM	Lac du Bonnet	82.07	342	P	P	05 51 51.9	-0.3
	comp=Z,1.7nm,0.8s,baz=146,slow=6.4,SNR=3.8						
YNE	Yellowstone No	82.69	331	P	P	05 51 56.1	+0.2
YHH	Holmes Hill	82.88	330	P	P	05 51 58.2	+1.2
HLID	Hailey	83.59	327	P	P	05 52 01.2	+0.8
MCMT	McKenzie Canyo	83.81	329	P	P	05 52 01.1	-0.6
PINE	Pine Mountain	87.03	324	P	P	05 52 18.4	+0.8
PINE				IAmb	IAmb	05 52 19.6	
	comp=Z,4.7nm,0.8s						
WALA	Waterton Lakes	87.51	331	P	P	05 52 19.8	+0.2
WALA				IAmb	IAmb	05 52 21.0	
	comp=Z,3.6nm,0.8s						
YKA	Yellowknife Ar	97.94	340	P	P	05 53 06.5	-0.6
	comp=Z,0.3nm,0.7s,baz=127,slow=5.1,SNR=6.2						
ASAR	Alice Springs	125.02	203	PKP	PKPdf	05 58 31.6	-0.3
	comp=Z,2.3nm,0.6s,baz=133,slow=1.7,SNR=29						
WRA	Warramunga Arr	128.28	205	PKP	PKPdf	05 58 38.2	+0.1
	comp=Z,1.5nm,0.3s,baz=154,slow=2.0,SNR=54						
WRA				pPKP	pPKPdf	05 59 23.9	+1.5
	comp=Z,1.0nm,0.6s,baz=165,slow=1.7,SNR=4.4						
FITZ	Fitzroy Crossi	132.73	196	PKP	PKPdf	05 58 46.8	+0.2
	comp=Z,2.7nm,0.7s,baz=296,slow=1.9,SNR=8.9						
FITZ	Fitzroy Crossi	132.73	196		PKiKP	05 58 47.6	-0.1
KURBB	Kurchatov Arra	145.24	40	PKPbc	PKPab	05 59 09.4	+0.8
	comp=Z,5.7nm,0.8s,baz=300,slow=3.5,SNR=30						
KURBB				pPKPbc	pPKPdf	05 59 54.5	+2.0
	comp=Z,1.3nm,0.5s,baz=300,slow=3.5,SNR=4.4						
KURK	Kurchatov	145.25	40		PKPab	05 59 09.1	+0.4
AAK	Ala-Archa	145.33	55	PKPbc	PKPab	05 59 10.5	+1.1
	comp=Z,9.6nm,0.7s,baz=241,slow=3.5,SNR=30						
AAK	Ala-Archa	145.33	55	PKPbc	PKPab	05 59 09.9	+0.4
ZALV	Zalesovo Beam	146.62	31	PKPbc	PKPbc	05 59 11.5	-0.9
	comp=Z,3.7nm,0.3s,baz=311,slow=3.8,SNR=17						
ZALV				pPKPbc	pPKPab	05 59 57.0	-0.1
	comp=Z,3.7nm,0.7s,baz=301,slow=4.0,SNR=4.1						
ZALV				SKPbc	SKPbc	06 02 32.7	-2.5
	comp=Z,1.7nm,0.4s,baz=298,slow=4.4,SNR=4.3						
ZALV	Zalesovo Beam	146.62	31	PKPbc	PKPbc	05 59 11.6	-0.8
SIJI	Sorong	146.62	214	PKPbc	PKPab	05 59 15.1	+0.1
	comp=Z,12nm,0.6s,baz=352,slow=11,SNR=4.1						
MKAR	Makanchi Array	149.20	44	PKPbc	PKiKP	05 59 20.0	-0.6
	comp=Z,4.1nm,0.7s,baz=293,slow=2.7,SNR=26						
MKAR				pPKPbc	pPKPbc	06 00 04.0	+0.6
	comp=Z,2.0nm,0.8s,baz=300,slow=2.7,SNR=3.5						
MKAR				SKPbc		06 02 40.4	
	comp=Z,1.5nm,0.8s,baz=329,slow=2.0,SNR=6.8						
MKAR	Makanchi Array	149.20	44		PKiKP	05 59 19.9	-0.6
LZH	Lanzhou	168.51	43	⇑PKP	PKPdf	05 59 37.2	-0.8

*ANF **02** 06:05:12.1±0.3, 61°.22N×146°.74W, h20km±2km, ML3.9/39, ML3.9/40, Error ellipse: s-maj=1.7km s-min=1.5km az=160.0, Hypocentre not reviewed by the ISC*

*NEIC **02** 06:05:12.7, 61°.26N×146°.79W, h31km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.16; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$1.31; $M_{r\theta}$1.54; $M_{\theta\phi}$0.46; $M_{\phi r}$1.46; Fault plane solution: $M_0$2.50000×10^{14} NP1:ϕ_s221.49000°, δ75.75000°, λ-73.83000°. NP2:ϕ_s351.83000°, δ21.43000°, λ-137.62000°. Principal axes: T 2.4766, Plg29.0000°, Azm298.0000°; N 0.0405, Plg16.0000°, Azm37.0000°; P -2.5170, Plg56.0000°, Azm152.0000°;*

*NEIC **02** 06:05:13.2±1.8, 61°.23N±0°.02×146°.74W±0°.05, h28km±6km Error ellipse: s-maj=3.6km s-min=3.3km az=219.0*

AEIC 02 06:05:13±1.6, **61°.25N**±0°.02×**146°.75W**±0°.05, **h15**km±6km, **ML3.5, ML3.6**/100(NEIC), **Mwr3.5**/50(NEIC), **Error ellipse: s-maj=3.6km s-min=2.8km az=104.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMT	TAPS Tl Valdez	0.25	131		Pg	06 05 18.5	+0.1
VMT					Sb	06 05 23.5	+0.2
GLI	Glacier Island	0.40	205	Pg	Pg	06 05 20.7	-0.4
GLI				Sg	Sg	06 05 26.6	0.0
GLI				IAML		06 05 27.6	
	comp=E,4µm,0.6s						
GLI	Glacier Island	0.40	205	P		06 05 20.5	
	baz=24						
GLI				S		06 05 26.5	
	baz=24						
KLU	Klutina	0.47	58		Pg	06 05 22.2	-0.2
KLU				Sg	Sg	06 05 28.9	+0.1
KLU				IAML		06 05 29.8	
	comp=E,7µm,0.2s						
KLU	Klutina	0.47	58	P		06 05 22.1	
	baz=238						
KLU				S		06 05 29.1	
	baz=238						
DIV	Divide	0.49	103		Pg	06 05 21.8	-1.0
FID	Port Fidalgo	0.51	165		Pg	06 05 22.4	-0.8
FID				Sg	Sb	06 05 30.7	-0.3
FID				IAML		06 05 32.4	
	comp=E,4µm,0.5s						
SCM	Sheep Creek Mo	0.65	335		Pg	06 05 24.6	-1.2
SCM				IAML		06 05 34.1	
	comp=N,3µm,0.4s						
SCM				IAML		06 05 34.8	
	comp=E,3µm,0.8s						
PS12	TAPS Pump St12	0.81	73		Pg	06 05 26.9	-1.8
EYAK	Cordova Ski Ar	0.85	145	Pg	Pb	06 05 28.2	-1.3
EYAK	Cordova Ski Ar	0.85	145	P		06 05 28.2	
	baz=325,SNR=209						
EYAK				Sn		06 05 40.8	
	baz=325						
HIN	Hinchinbrook I	0.86	172	Pg	Pb	06 05 28.2	-1.4
HIN				IAML		06 05 41.7	
	comp=E,2µm,0.6s						
PWL	Port Wells	0.86	244		Pb	06 05 27.6	-2.1
M24K	Tolsona, Glenn	0.91	17		Pb	06 05 29.1	-1.3
M24K				IAML		06 05 48.0	
	comp=N,1µm,0.8s						
M24K	Tolsona, Glenn	0.91	17	P		06 05 29.2	
	baz=198,SNR=102						
M24K				S		06 05 41.6	
	baz=198						
SML	Sawmill	0.94	307		Pb	06 05 28.9	-2.2
SML				IAML		06 05 43.3	
	comp=N,2µm,0.5s						
SML	Sawmill	0.94	307	P		06 05 29.0	
	baz=126,SNR=219						
SML				S		06 05 41.6	
	baz=126						
PS11	TAPS Pump St11	1.04	36		Pb	06 05 31.4	-1.2
BMRM	Bremner River	1.08	104		Pb	06 05 30.9	-2.5
BMRM	Bremner River	1.08	104	P		06 05 30.9	
	baz=286,SNR=382						
BMRM				S		06 05 45.9	
	baz=286						
N25K	Chitina, Valde	1.10	70		Pb	06 05 31.4	-2.3
N25K				IAML		06 05 47.0	
	comp=N,1µm,0.4s						
N25K	Chitina, Valde	1.10	70	P		06 05 31.5	
	baz=252,SNR=214						
N25K				S		06 05 46.2	
	baz=252						
GHO	Glory Hole Cre	1.17	298		Pn	06 05 32.6	-2.3
GHO				IAML		06 05 50.0	
	comp=E,1µm,0.7s						
GHO				IAML		06 05 54.1	
	comp=N,1µm,0.5s						
GOAT	Goat Mountain	1.19	123		Pn	06 05 33.6	-1.6
RAGM	Ragged Mountai	1.33	129		Pn	06 05 35.8	-1.3
GLB	Gilahina Butte	1.43	81		Pn	06 05 36.7	-1.8
GLB				IAML		06 05 57.0	
	comp=E,1µm,0.7s						
RC01	Rabbit Creek A	1.46	265		Pn	06 05 37.2	-1.5
RC01	Rabbit Creek A	1.46	265	P		06 05 37.3	
	baz=82,SNR=305						
RC01				S		06 05 56.0	
	baz=82						
HMT	Hamilton	1.52	126		Pn	06 05 38.0	-1.7
VRDI	Verde Repeater	1.60	89		Pn	06 05 39.3	-1.6
VRDI				IAML		06 06 05.0	
	comp=E,712nm,0.7s						
O22K	Cooper Landing	1.64	244		Pn	06 05 39.9	-1.4
O22K	Cooper Landing	1.64	244	P		06 05 39.9	
	baz=61,SNR=44						
O22K				S		06 06 00.6	
	baz=61						
FIS	Fire Island	1.68	268		Pn	06 05 41.6	-0.2
NICHA	Nichawak Mount	1.70	125		Pn	06 05 40.2	-1.9
BERG	Berg Lake	1.72	118		Pn	06 05 40.4	-2.0
KAIM	Kayak Island	1.75	138	Pn	Pn	06 05 41.6	-1.3
KAIM				IAML		06 06 22.1	
	comp=E,411nm,0.8s						
KAIM	Kayak Island	1.75	138	P		06 05 40.7	
	baz=320						
KAIM				Sb		06 06 05.9	
	baz=320						
SEW	Seward	1.75	230	Pn	Pn	06 05 41.2	-1.6
SEW	Seward	1.75	230	P		06 05 40.9	
	baz=48,SNR=29						
SEW				S		06 06 03.0	
	baz=48						
MCARA	McCarthy VSAT	1.80	84		Pn	06 05 42.5	-1.0
MCARA	McCarthy VSAT	1.80	84	P		06 05 42.5	
	baz=267,SNR=118						
MCARA				Sb		06 06 07.3	
	baz=267						
CRQM	Cirque	1.83	104		Pn	06 05 42.6	-1.4
Q23K	Middleton Isla	1.83	174	Pn	Pn	06 05 42.7	-1.1
Q23K				IAML		06 06 11.8	
	comp=N,407nm,0.8s						
Q23K	Middleton Isla	1.83	174	P		06 05 42.3	
	baz=354						
Q23K				Sb		06 06 07.5	
	baz=354						
PAX	Paxson	1.83	19		Pn	06 05 43.2	-0.8
PAX	Paxson	1.83	19	P		06 05 42.8	
	baz=200,SNR=93						
PAX				S		06 06 06.1	
	baz=200						
MID	Middleton Isla	1.83	173	Pn	Pn	06 05 42.7	-1.2
SLKM	Skilak Lake	1.85	248		Pn	06 05 42.9	-1.3
SUCK	Suckling Hills	1.88	127	Pn	Pn	06 05 43.8	-0.7
SUCK				IAML		06 06 11.4	
	comp=N,842nm,0.6s						
SUCK				IAML		06 06 13.0	
	comp=E,518nm,0.5s						
KHIT	Khitrov Hills	1.89	114		Pn	06 05 43.3	-1.6
SUA	Susitna One	1.94	278		Pn	06 05 44.3	-1.1
SUA	Susitna One	1.94	278	P		06 05 44.2	
	baz=95,SNR=245						
GRIN	Grindle Hills	1.94	118		Pn	06 05 43.7	-1.8
TGL	Tana Glacier	1.97	103		Pn	06 05 44.7	-1.2
CUT	Chulitna	2.04	306		Pn	06 05 46.1	-0.6
CUT	Chulitna	2.04	306	P		06 05 46.0	
	baz=124,SNR=219						
PTPK	Patty Peak	2.08	90		Pn	06 05 46.6	-0.8
BALM	Baldy	2.15	94		Pn	06 05 47.3	-1.1
BALM				IAML		06 06 22.2	
	comp=E,387nm,0.3s						
KIAG	Kiagna River	2.16	97		Pn	06 05 47.4	-1.2
CAPN	Captain Cook N	2.20	259		Pn	06 05 49.1	+0.2
CAPN	Captain Cook N	2.20	259	P		06 05 49.1	
	baz=76,SNR=24						
HUR	Hurricane	2.21	323		Pn	06 05 48.7	-0.4
KULT	Kultieth River	2.22	115		Pn	06 05 47.8	-1.5
MENT	Mentasta	2.22	39	Pn	Pn	06 05 48.7	-0.5
MENT				IAML		06 06 19.8	
	comp=N,415nm,0.3s						
MENT				IAML		06 06 25.9	

comp=E,408nm,0.4s
RND Reindeer 2.38 337 Pn Pn 06 05 51.1 -0.4
RND IAML 06 06 23.4
comp=N,230nm,0.8s
RND IAML 06 06 25.1
comp=E,350nm,1.0s
SKT Skwentna 2.40 290 Pn 06 05 50.4 -1.3
SKT IAML 06 06 24.7
comp=N,437nm,0.3s
SKT Skwentna 2.40 290 P 06 05 50.4
baz=106,SNR=241
BARN Barnard Glacie 2.48 92 Pn 06 05 51.7 -1.2
BARN IAML 06 06 25.2
comp=E,415nm,0.4s
BARN IAML 06 06 29.4
comp=N,351nm,0.6s
BRSE Bradley Lake S 2.48 234 Pn 06 05 51.5 -1.4
BRSE Bradley Lake S 2.48 234 P 06 05 51.3
baz=51
BRSE S 06 06 19.9
baz=51
BRLK Bradley Lake 2.53 236 Pn 06 05 51.7 -1.8
BRLK IAML 06 06 29.6
comp=E,216nm,0.6s
YAH Yahtse 2.61 108 Pn 06 05 53.4 -1.4
YAH IAML 06 06 38.6
comp=E,353nm,0.6s
YAH IAML 06 06 40.8
comp=N,374nm,0.6s
SPCP Crater Peak Br 2.61 273 Pn 06 05 53.4 -1.3
SPCN Chakachatna No 2.63 272 Pn 06 05 53.8 -1.1
SPCR Spurr Chakacha 2.64 271 P 06 05 53.5
baz=87
CTG Chitna Glacier 2.64 94 P 06 05 54.4
baz=278
CTG S 06 06 25.6
baz=278
CTGM Chitina Glacie 2.65 94 Pn 06 05 54.6 -0.7
CTGM IAML 06 06 38.2
comp=N,236nm,0.5s
MCK McKinley 2.69 339 Pn 06 05 55.6 -0.2
MCK McKinley 2.69 339 P 06 05 55.8
baz=157,SNR=222
MCK S 06 06 27.9
baz=157
DOT Dot Lake 2.72 26 Pn 06 05 56.2 +0.1
TRF Thorofare Moun 2.76 325 Pn 06 05 56.5 -0.4
TRF IAML 06 06 42.3
comp=N,261nm,0.8s
TRF IAML 06 06 43.0
comp=E,288nm,0.7s
TRF Thorofare Moun 2.76 325 P 06 05 56.4
baz=142,SNR=103
TRF S 06 06 29.0
baz=142
CNPM China Poot 2.82 234 Pn 06 05 56.5 -0.9
CNPM IAML 06 06 36.8
comp=E,159nm,0.8s
CNPM IAML 06 06 39.4
comp=N,149nm,0.5s
LOGN Logan Glacier 2.83 96 Pn 06 05 56.9 -0.9
TABL Table Mountain 2.86 104 Pn 06 05 56.8 -1.5
TABL IAML 06 06 44.3
comp=E,234nm,0.7s
TABL IAML 06 06 49.4
comp=N,197nm,0.8s
YUK2 White River 2.88 77 Pn 06 05 58.1 -0.4
HOM Homer 2.90 239 S 06 06 31.0
baz=55
BC03 3.96 50 Pn 06 05 59.4 0.0
BCAR Beaver Creek A 2.96 50 Pn Pn 06 05 59.4 -0.1
CHX Chaix Hills 3.02 111 Pn 06 05 59.2 -1.0
KTH Kantishna Hill 3.02 322 Pn 06 05 59.8 -0.5
KTH IAML 06 06 51.2
comp=E,182nm,0.8s
KTH IAML 06 06 51.9
comp=N,320nm,0.9s
SCRK Sand Creek 3.03 24 Pn 06 05 59.8 -0.6
SCRK Sand Creek 3.03 24 P 06 05 59.6
baz=206,SNR=27
BVCY Beaver Creek 3.03 65 Pn 06 06 00.2 -0.2
RSO Redoubt South 3.04 258 Pn 06 05 59.0 -1.7
PPLA Purkeypile 3.05 305 Pn Pn 06 05 59.7 -1.0
PPLA Purkeypile 3.05 305 P 06 05 59.7
baz=120,SNR=69
RED Redoubt Volcan 3.06 257 Pn 06 05 59.1 -1.8
YUK3 Moose Creek 3.06 77 Pn 06 06 00.5 -0.5
NCT North Crescent 3.10 260 Pn 06 05 59.5 -1.8
SAMH Samovar Hills 3.14 108 Pn 06 05 59.9 -2.1
HDA Harding Lake 3.18 358 Pn Pn 06 06 02.3 -0.1
HDA Harding Lake 3.18 358 P 06 06 01.7
baz=178
HDA P 06 06 01.7
baz=178
WRH Wood River Hil 3.30 350 Pn 06 06 03.8 -0.2
WRH IAML 06 06 56.5
comp=N,118nm,1.2s
WRH IAML 06 07 01.8
comp=E,115nm,0.8s
IVE Iliamna Volcan 3.32 251 Pn 06 06 02.6 -1.9
PCA Pinnacle 3.40 107 Pn Pn 06 06 05.7 +0.2
PINM Pinnacle 3.40 107 P 06 06 03.8
baz=293,SNR=10
CCB Clear Creek Bu 3.45 352 Pn Pn 06 06 07.0 +0.9
BPAW Bear Paw Mtn. 3.47 328 Pn Pn 06 06 05.2 -1.2
BPAW IAML 06 07 05.1
comp=N,100nm,0.8s
BPAW Bear Paw Mtn. 3.47 328 P 06 06 05.4
baz=144
NEA2 Nenana 3.52 344 Pn 06 06 06.2 -1.0
NEA2 Nenana 3.52 344 P 06 06 06.0
baz=162,SNR=6.3
K27K Chicken 3.53 36 Pn Pn 06 06 07.0 -0.2
K27K Chicken 3.53 36 P 06 06 06.3
baz=220
IL31 3.54 359 Pn Pn 06 06 06.6 -0.7
ILAR Eielson Array 3.54 359 Pn 06 06 06.3 -1.1
COLA College 3.68 353 Pn 06 06 09.3 +0.1
COLA College 3.68 353 P 06 06 08.4
baz=172
TCOL CIGO, UAF Yank 3.68 353 Pn 06 06 09.3 +0.1
TCOL CIGO, UAF Yank 3.68 353 P 06 06 08.6
baz=172,SNR=24
CHUM Lake Minchumin 3.69 318 Pn 06 06 08.7 -0.8
CHUM Lake Minchumin 3.69 318 P 06 06 08.5
baz=133,SNR=37
MDM Murphy Dome 3.79 350 Pn Pn 06 06 09.7 -1.1
MDM IAML 06 07 12.4
comp=E,84nm,1.0s
MDM IAML 06 07 12.8
comp=N,78nm,0.9s
POKR Poker Plat Res 3.90 356 Pn Pn 06 06 12.5 +0.2
POKR IAML 06 07 18.9
comp=E,91nm,0.8s
POKR Poker Plat Res 3.90 356 P 06 06 10.1
baz=175
I23K Minto, Yukon-K 4.09 344 Pn Pn 06 06 13.5 -1.4
I23K IAML 06 07 19.7
comp=E,74nm,0.9s
I23K IAML 06 07 23.5
comp=N,90nm,0.8s
I23K Minto, Yukon-K 4.09 344 P 06 06 14.1
baz=162,SNR=29
PS07 TAPS Pump Stn7 4.14 351 Pn 06 06 15.4 -0.2
MLY Manley 4.21 336 Pn 06 06 15.7 -0.9
MLY Manley 4.21 336 P 06 06 15.6
baz=153,SNR=61
SVW2 Sparrevohn 4.28 272 Pn Pn 06 06 15.0 -2.5
PRP Porcupine Dome 4.33 7 Pn Pn 06 06 17.4 -0.8
PRP IAML 06 07 14.9
comp=N,66nm,0.6s
PRP IAML 06 07 32.8
comp=E,55nm,0.5s
PRP Porcupine Dome 4.33 7 P 06 06 17.2
baz=188
EGAK Eagle 4.37 33 Pn Pn 06 06 19.1 +0.4
EGAK IAML 06 07 29.8
comp=E,48nm,0.7s
EGAK IAML 06 07 46.1
comp=E,47nm,0.8s
EGAK Eagle 4.37 33 P 06 06 18.7
baz=218
DAWY Dawson 4.42 47 Pn 06 06 19.5 0.0
KDAK Kodiak Island 4.57 223 Pn 06 06 19.7 -1.8
KDAK Kodiak Island 4.57 223 P 06 06 19.5
baz=38

TT01 Tatalina 4.67 295 Pn 06 06 20.4 -2.5
TTA Tatalina 4.67 295 Pn 06 06 20.8 -2.2
TTA Tatalina 4.67 295 P 06 06 20.7
baz=107,SNR=14
OHAK Old Harbor 5.25 223 P 06 06 28.2
baz=37
FYU Fort Yukon 5.38 6 Pn Pn 06 06 32.3 -0.3
FYU IAML 06 08 04.6
comp=E,59nm,1.5s
PLBC Pleasant Camp 5.46 105 Pn 06 06 33.4 -0.3
IM03 5.69 330 Pn 06 06 35.8 -1.0
IMAR Indian Mountai 5.69 330 Pn Pn 06 06 36.1 -0.7
WHY Whitehorse 5.81 91 Pn 06 06 38.2 -0.5
SKAG Skagway 5.95 102 Pn Pn 06 06 40.4 +0.1
COLD Coldfoot 6.19 347 Pn Pn 06 06 43.7 0.0
COLD Coldfoot 6.19 347 P 06 06 42.4
baz=164
BM03 Burnt Mountain 6.27 8 Pn 06 06 44.0 -0.9
BMAR Burnt Mountain 6.28 8 Pn Pn 06 06 44.5 -0.5
BESE Bessie Mountai 6.55 109 Pn Pn 06 06 47.7 -1.0
JIS Juneau Island 6.92 110 Pn Pn 06 06 52.9 -0.7
TOLK Toolik Lake Re 7.52 352 Pn Pn 06 07 03.4 +1.3
TOLK Toolik Lake Re 7.52 352 P 06 07 00.4
baz=170
WRAK Wrangell Islan 8.89 117 Pn Pn 06 07 20.3 -0.4
INK Inuvik 9.04 33 Pn Pn 06 07 21.7 -1.0

TEH ***02*** *06:08:41.5,35˚.75N×48˚.94E,h8km,ML4.6*
THR ***02*** *06:08:41.3±1.0,35˚.73N×48˚.76E,h17km±6km, ML4.7*
NEIC ***02*** *06:08:43.0±2.9,35˚.75N±0˚.04×48˚.94E±0˚.05,h10km±1km, Error ellipse: s-maj=6.7km s-min=6.0km az=88.0*
MOS ***02*** *06:08:43.1±1.7,35˚.47N×48˚.80E,h22km,mb4.6/23, Error ellipse: s-maj=6.3km s-min=3.9km az=104.9*
IDC ***02*** *06:08:47.0±2.7,35˚.64N×48˚.87E,h35km±22km, mb4.1/29, mb1 4.1/39,mb1mx4.0/73,mbtmp4.2/39,ML4.0/7, MS3.4/25, Ms1 3.4/25,ms1mx3.3/55, Error ellipse: s-maj=13.9km s-min=10.2km az=167.0*
NNC ***02*** *06:08:50.3±2.4,35˚.55N×49˚.05E,h0km,mb4.6, Error ellipse: s-maj=23.8km s-min=18.0km az=36.0*
ISC 02 06:08:43.4±0.3,35.72N±0.02×48.94E±0.03,h10km,n346,
σ2s28/353,mb4.5/63,MS3.4/17,31C-6D,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
QABG	**Abgarm-Qazvin**	**0.52**	**92**	Pg	**Pg**	**06 08 51.6**	**-2.1**
QABG	**Abgarm-Qazvin**	**0.52**	**92**	*e*Pg	**Pg**	**06 08 51.3**	**-2.4**
IRAZ	**Razeghan**	**0.87**	**111**	Pg	**Pg**	**06 08 59.8**	**-0.4**
IRAZ	**Razeghan**	**0.87**	**111**	*e*Pg	**Pg**	**06 08 59.3**	**-0.9**
IRAZ				*e*		06 09 23.9	
	comp=Z,99nm,0.8s						
HAGD	**Aghdareh**	**0.92**	**170**	Pg	**Pg**	**06 09 00.5**	**-0.6**
HAGD	**Aghdareh**	**0.92**	**170**	*e*Pg	**Pg**	**06 09 00.2**	**-0.9**
HAGD				*e*		06 09 14.7	
	comp=Z,99nm,0.5s						
ZNJK	**Zanjan**	**0.97**	**348**	*e*Pg	**Pg**	**06 08 59.7**	**-2.4**
ZNJK				*e*Sg	**Sg**	**06 09 11.8**	**-2.9**
ZNJK	**Zanjan**	**0.97**	**348**	Pg	**Pg**	**06 08 59.0**	**-3.1**
ZNJK				Sg	**Sg**	**06 09 11.0**	**-3.7**
ZNJK	**Zanjan**	**0.97**	**348**	*e*Pg	**Pg**	**06 08 59.7**	**-2.4**
IALM	**Almabolaq**	**1.07**	**217**	*e*Pg	**Pg**	**06 09 02.6**	**-1.5**
IGZV	**Ghazvin**	**1.23**	**57**		**Pn**	**06 09 05.8**	**-1.1**
IGZV	**Ghazvin**	**1.23**	**57**	*e*Sg	**Sb**	**06 09 22.7**	**-0.2**
IGZV				*e*Pg	**Pn**	**06 09 05.6**	**-1.3**
IMHD	**Mahdasht**	**1.41**	**91**		**Pn**	**06 09 09.8**	**+0.6**
IMHD	**Mahdasht**	**1.41**	**91**	*e*		06 09 34.1	
	comp=Z,99nm,0.4s						
IMHD				*e*Pg	**Pn**	**06 09 09.2**	**0.0**
SNGE	**Sanandaj**	**1.45**	**245**	*e*Pg	**Pn**	**06 09 05.9**	**-4.0**
IBZA	**Bozab**	**1.53**	**216**	*e*Pg	**Pb**	**06 09 11.1**	**-1.0**
HSAM	**Samen**	**1.54**	**191**		**Pn**	**06 09 11.3**	**+0.1**
HSAM	**Samen**	**1.54**	**191**	*e*Pg	**Pn**	**06 09 11.1**	**-0.1**
HSAM				*e*		06 09 35.9	
	comp=Z,99nm,0.6s						
QALM	**Alamut, Qazvin**	**1.55**	**62**		**Pn**	**06 09 10.6**	**-0.8**
QALM	**Alamut, Qazvin**	**1.55**	**62**	*e*Pg	**Pn**	**06 09 10.6**	**-0.8**
THKV	**Tehran--Karaj**	**1.59**	**83**	*e*Pg	**Pn**	**06 09 13.4**	**+1.6**
THKV				*e*Sg	**Sb**	**06 09 36.3**	**+3.2**
THKV				IAML		06 09 43.6	
	comp=N,6μm,0.6s						
THKV	**Tehran--Karaj**	**1.59**	**83**	Pg	**Pn**	**06 09 13.0**	**+1.2**
THKV	**Tehran--Karaj**	**1.59**	**83**	*e*Pg	**Pn**	**06 09 13.4**	**+1.6**
CHTH	**Charan**	**1.79**	**83**	*e*Pn	**Pn**	**06 09 15.7**	**+1.1**
CHTH	**Charan**	**1.79**	**83**	Pn	**Pn**	**06 09 15.0**	**+0.4**
CHTH	**Charan**	**1.79**	**83**	*e*Pn	**Pn**	**06 09 15.7**	**+1.1**
ILIN	**Lien**	**1.81**	**244**	*e*Pn	**Pb**	**06 09 15.2**	**-1.6**
ILIN				*e*		06 09 44.7	
	comp=Z,99nm,0.4s						
IHSB	**Hasanabad**	**1.92**	**98**	*e*Pn	**Pn**	**06 09 17.4**	**+1.0**
IHSB				*e*		06 09 23.6	
	comp=Z,99nm,0.4s						
IQOM	**Qom**	**1.95**	**116**	Pn	**Pn**	**06 09 18.6**	**+1.7**
IQOM	**Qom**	**1.95**	**116**	*e*Pn	**Pn**	**06 09 17.6**	**+0.7**
IQOM				*e*		06 09 54.4	
	comp=Z,99nm,0.9s						
TEH	**Tehran**	**1.98**	**89**	*e*Pn	**Pn**	**06 09 18.5**	**+1.3**
KER	**Kermanshah**	**2.00**	**229**	*e*Pn	**Pb**	**06 09 18.0**	**-2.0**
IHSH	**Hashtrud**	**2.08**	**320**	*e*Pn	**Pn**	**06 09 18.8**	**+0.1**
KCHF	**Cheshme Sefid,**	**2.13**	**228**	*e*Pn	**Pb**	**06 09 20.9**	**-1.3**
GHVR	**GHOM**	**2.29**	**122**	*e*Pn	**Pn**	**06 09 21.0**	**-0.4**
GHVR				*e*Sg	**Sb**	**06 09 55.9**	**+2.4**
GHVR				IAML		06 10 07.7	
	comp=E,2μm,0.4s						
GHVR	**GHOM**	**2.29**	**122**	Pn	**Pn**	**06 09 21.0**	**-0.4**
GHVR	**GHOM**	**2.29**	**122**	*e*Pn	**Pn**	**06 09 21.0**	**-0.4**
ISRB	**Sarab**	**2.33**	**334**	Pn	**Pn**	**06 09 22.5**	**+0.4**
ISRB	**Sarab**	**2.33**	**334**	*e*Pn	**Pn**	**06 09 22.3**	**+0.2**
ISRB				*e*		06 10 07.9	
	comp=Z,99nm,1.0s						
IVRN	**Varamin**	**2.39**	**107**	*e*Pn	**Pn**	**06 09 24.7**	**+2.0**
IVRN				*e*		06 10 17.5	
	comp=Z,99nm,0.6s						
IGHG	**Ghaleghazi**	**2.39**	**235**	*e*Pn	**Pb**	**06 09 25.6**	**-1.2**
DAMV	**Damavand**	**2.47**	**91**	*e*Pn	**Pn**	**06 09 25.4**	**+1.4**
DAMV				IAML		06 10 04.5	
	comp=E,3μm,0.6s						
DAMV	**Damavand**	**2.47**	**91**	Pn	**Pn**	**06 09 25.0**	**+1.0**
DAMV	**Damavand**	**2.47**	**91**	*e*Pn	**Pn**	**06 09 25.4**	**+1.4**
IPRN	**Peran**	**2.80**	**78**	*e*Pn	**Pn**	**06 09 29.6**	**+1.1**
MAHB	**Mahabad**	**2.81**	**293**	Pn	**Pn**	**06 09 29.7**	**+1.1**
MAHB	**Mahabad**	**2.81**	**293**	*e*Pn	**Pn**	**06 09 29.4**	**+0.8**
MAHB				*e*		06 10 32.9	
	comp=Z,99nm,1.0s						
QAM	**Ghamsar**	**2.84**	**133**	*e*Pn	**Pn**	**06 09 30.1**	**+1.0**
IHRS	**Heris**	**3.00**	**330**	*e*Pn	**Pn**	**06 09 30.9**	**-0.4**
IHRS				*e*		06 09 39.5	
	comp=Z,99nm,0.4s						
IFIR	**Firoozkooh**	**3.10**	**90**	*e*Pn	**Pn**	**06 09 34.9**	**+2.2**
AHAR	**Ahar**	**3.15**	**332**	*e*Pn	**Pn**	**06 09 33.4**	**+0.2**
AHAR				*e*		06 10 32.2	
	comp=Z,99nm,0.8s						
KRSH	**Karshahi**	**3.16**	**123**	*e*Pn	**Pn**	**06 09 34.8**	**+1.4**
IKLH	**Kolahrood**	**3.24**	**137**	*e*Pn	**Pn**	**06 09 36.9**	**+2.3**
ILAS	**Lasjerd**	**3.29**	**95**	*e*Pn	**Pn**	**06 09 37.1**	**+1.8**
ITBZ	**Tabriz**	**3.36**	**319**	Pn	**Pn**	**06 09 36.0**	**-0.1**
ITBZ	**Tabriz**	**3.36**	**319**	*e*Pn	**Pn**	**06 09 36.3**	**+0.2**
IPIR	**Pirpir**	**3.44**	**151**	*e*Pn	**Pn**	**06 09 39.5**	**+2.2**
SHK1	**Shahrekord**	**3.75**	**154**	*e*Pn	**Pn**	**06 09 44.4**	**+2.8**
IMRD	**Marand**	**3.95**	**320**	*e*Pn	**Pn**	**06 09 45.5**	**+1.3**
IZEF	**Zefreh**	**3.98**	**134**	*e*Pn	**Pn**	**06 09 47.4**	**+2.7**
IGLO	**Ghaloghah**	**4.03**	**77**	*e*Pn	**Pn**	**06 09 47.6**	**+2.1**
IANJ	**Anjilo**	**4.06**	**92**	*e*Pn	**Pn**	**06 09 48.6**	**+2.7**
IGAR	**Gharneh**	**4.19**	**141**	*e*Pn	**Pn**	**06 09 50.2**	**+2.5**
ANAR	**Anarak**	**4.69**	**121**	*e*Pn	**Pn**	**06 09 55.9**	**+1.4**
IRAM	**Ramesheh**	**4.84**	**143**	*e*Pn	**Pn**	**06 09 57.9**	**+1.3**
KLNJ	**Kolanjah**	**5.20**	**154**	*e*Pn	**Pn**	**06 10 03.2**	**+1.6**
GEVA	**Gevas**	**5.37**	**300**	Pn	**Pn**	**06 10 03.9**	**+0.1**
GNI	**Garni**	**5.53**	**324**	Pn	Pn	06 10 11.8	+5.9
	comp=Z,1.8nm,0.3s,baz=4.7,slow=3.2,SNR=5.9						
GNI				Lg	Lg	06 11 40.4	
	baz=195,slow=20,SNR=1.3						
GNI				LR	LR	06 12 12.5	
	comp=Z,217nm,21.5s,baz=136,slow=37						
GNI	**Garni**	**5.53**	**324**	*ce*P	**Pn**	**06 10 08.7**	**+2.8**
GNI				pmax	pmax		
	comp=Z,12nm,0.6s						
GNI	**Garni**	**5.53**	**324**	Pn	**Pn**	**06 10 04.3**	**-1.6**
ICHK	**Chekchek**	**5.71**	**126**	*e*Pn	**Pn**	**06 10 11.2**	**+2.6**
YZKH	**Yazd**	**5.75**	**124**	*e*Pn	**Pn**	**06 10 10.6**	**+1.6**
YZKH	**Yazd**	**5.75**	**124**	Pn	**Pn**	**06 10 10.0**	**+1.1**
YZKH	**Yazd**	**5.75**	**124**	*e*Pn	**Pn**	**06 10 10.6**	**+1.6**

AKT Akhty 5.83 351 *i*P **Pn** **06 10 12.0 +2.0**
MIB Mutribah 6.06 193 *e*P 06 10 14.2
IMEH Mehriz 6.41 131 *e*Pn **Pn** **06 10 21.0 +2.8**
TNSJ Nastanj 6.54 103 *e*Pn **Pn** **06 10 21.6 +1.7**
MARD Mardin 6.76 286 Pn **Pn** **06 10 20.3 -2.6**
RDF Al-Radifah 6.88 190 *e*P 06 10 25.9
TPRV Parvadeh(Tabas 6.94 111 *e*Pn **Pn** **06 10 27.7 +2.3**
SBZV Sabzevar 7.05 82 *e*Pn **Pn** **06 10 27.6 +0.6**
TKDS Koohdasht(Taba 7.06 105 *e*Pn **Pn** **06 10 28.8 +1.8**
AKH Akhalkalaki 7.10 325 P Pn 06 10 34.8 +7.2
MAK Makhachkala 7.31 352 *e*P **Pn** **06 10 32.1 +1.9**
MAK *e*S **Sn** **06 11 58.2 +4.9**
MAK pmax pmax
comp=Z,117nm,0.9s
MAK MLR MLR
comp=Z,257nm,14.0s
ISFR Sfrayin 7.43 77 *e*Pn **Pn** **06 10 33.1 +1.0**
GUDG Gudauri 7.57 334 P Pn 06 10 41.7 +7.6
GYB4 ALIBECK ARRAY 7.67 71 Pn **Pn** **06 10 37.6 +2.4**
GYA3 ALIBECK ARRAY 7.68 71 Pn **Pn** **06 10 33.5 -1.8**
GYA1 ALIBECK ARRAY 7.68 71 Pn **Pn** **06 10 36.3 +0.9**
GEYT Alibeck 7.68 71 Pn **Pn** **06 10 38.2 +2.8**
comp=Z,1.6nm,0.3s,baz=246,slow=14,SNR=7.8
GEYT Sn **Sn** **06 11 58.8 -3.6**
baz=281,slow=15,SNR=1.5
GEYT LR LR 06 14 43.0
comp=Z,75nm,18.1s,baz=30,slow=46
GEYT Alibeck 7.68 71 Pn **Pn** **06 10 35.9 +0.5**
GYA0B ALIBECK ARRAY 7.68 71 ⇓P Pn 06 10 40.3 +4.9
GYA0B ⇓S **Sn** **06 12 04.4 +1.9**
GYA0B ALIBECK ARRAY 7.68 71 Pn **Pn** **06 10 35.1 -0.3**
GYB1 ALIBECK ARRAY 7.69 71 Pn **Pn** **06 10 37.9 +2.4**
GROC Groznyy 7.85 343 *e*P **Pn** **06 10 41.0 +3.3**
GROC *e*S **Sn** **06 12 11.3 +4.7**
GROC pmax pmax
comp=Z,30nm,0.7s
GROC MLR MLR
comp=Z,95nm,2.0s
ZEI Tsey 8.06 333 *e*P **Pn** **06 10 44.4 +3.6**
ZEI pmax pmax
comp=Z,13nm,1.0s
ONI Oni 8.07 330 P Pn 06 10 46.4 +5.6
IPAY Payeh 8.17 82 *e*Pn **Pn** **06 10 44.2 +1.9**
KHGB Koh Gabri 8.27 128 *e*Pn **Pn** **06 10 44.6 +0.9**
ITEG Tejag 8.59 106 *e*Pn **Pn** **06 10 49.1 +1.1**
IKRD Kardeh 8.61 80 *e*Pn **Pn** **06 10 51.4 +3.1**
AFRZ Afriz 8.62 103 *e*Pn **Pn** **06 10 49.9 +1.5**
NCK Nalchik 8.79 334 *i*P **Pn** **06 10 55.0 +4.5**
NCK pmax pmax
comp=Z,24nm,0.4s
NEY Neytrino 8.92 329 *i*P **Pn** **06 10 57.0 +4.5**
IMYA Miami 9.06 83 *e*Pn **Pn** **06 10 57.3 +2.8**
IMON Monand 9.21 103 *e*Pn **Pn** **06 10 58.7 +2.1**
KBZ Khabaz 9.25 332 Pn **Pn** **06 11 01.4 +4.6**
comp=Z,0.1nm,0.3s,baz=131,slow=8.6,SNR=7.2
KBZ LR LR 06 14 44.6
comp=Z,234nm,21.8s,baz=154,slow=38
KBZ Khabaz 9.25 332 *ce*P Pn 06 11 03.0 +6.2
KBZ pmax pmax
comp=Z,5.0nm,1.0s
SHA1 Shidzhatmaz 9.35 331 *e*P Pn 06 11 04.7 +6.3
KVAR Kislovodsk Arr 9.52 332 Pn Pn 06 11 05.4 +4.7
baz=72,slow=19,SNR=1.4
KIV Kislovodsk 9.52 332 ⇓*e*P Pn 06 11 05.5 +4.8
KIV pmax pmax
comp=Z,2.0nm,0.3s
KIV MLR MLR
comp=Z,136nm,17.0s
GOF Gofitskoye 10.35 336 ⇑*e*P Pn 06 11 18.1 +6.2
SOC Sochi 10.59 321 *e*P Pn 06 11 09.5 -5.6
SOC MLR MLR
comp=Z,228nm,11.0s
HRA Herat 10.99 93 Pn **Pn** **06 11 20.2 -0.7**
MMAI Mount Meron Ar 11.51 260 Pn **Pn** **06 11 28.8 +0.9**
comp=Z,1.6nm,0.3s,baz=343,slow=4.5,SNR=2.4
MMAI LR LR 06 16 24.9
comp=Z,47nm,19.5s,baz=60,slow=40
BANOM Banah 11.63 145 P **Pn** **06 11 30.3 +0.7**
BANOM S **Sn** **06 13 35.2 -4.3**
MASF Masafi 12.04 147 P **Pn** **06 11 35.7 +0.5**
MASF S **Sn** **06 13 46.2 -3.5**
MDH Madha 12.17 147 P **Pn** **06 11 39.1 +2.3**
FAQ Al Faqa, Dubai 12.36 151 P **Pn** **06 11 39.6 +0.1**
FAQ S **Sn** **06 13 54.0 -3.2**
ASUD Al Ashush, Dub 12.36 152 P **Pn** **06 11 39.5 0.0**
UOSS Minazif 12.43 148 P **Pn** **06 11 39.8 -0.7**
UOSS Minazif 12.43 148 P **Pn** **06 11 41.5 +1.0**
UOSS P **Pn** **06 11 41.5 +1.0**
UOSS S **Sn** **06 13 54.3 -4.9**
UOSS S **Sn** **06 13 54.3 -4.9**
HATD Hatta, Dubai 12.51 148 P **Pn** **06 11 41.9 +0.4**
HATD P **Pn** **06 11 41.9 +0.4**
RAYN Ar Rayn 12.52 195 P **Pn** **06 11 40.3 -1.5**
RAYN Ar Rayn 12.52 195 Pn **Pn** **06 11 40.3 -1.5**
ASHO Ashiyiah 12.60 149 P **Pn** **06 11 42.7 -0.2**
SNR=17
ASHO S **Sn** **06 13 58.4 -4.9**
BR131 Keskin Array S 12.76 293 P **Pn** **06 11 41.3 -3.7**
BR131 Keskin Array S 12.76 293 Pn **Pn** **06 11 41.3 -3.7**
BRTR Keskin Array B 12.76 293 Pn **Pn** **06 11 47.9 +2.9**
comp=Z,0.1nm,0.3s,baz=138,slow=15,SNR=3.6
BRTR Keskin Array B 12.76 293 P **Pn** **06 11 43.4 -1.6**
BRTR Keskin Array B 12.76 293 Pn **Pn** **06 11 43.4 -1.6**
ILGA Ilgaz 13.07 299 Pn **Pn** **06 11 50.5 +1.1**
EIL Elat 13.23 247 Pn **Pn** **06 11 52.6 +1.2**
comp=Z,0.4nm,0.3s,baz=44,slow=8.3,SNR=3.3
EIL Lg Lg 06 15 47.0
comp=Z,0.2nm,0.3s,baz=154,slow=5.0,SNR=3.5
EIL LR LR 06 17 54.7
comp=Z,149nm,19.5s,baz=100,slow=42
SOHO SOHO 13.29 148 P **Pn** **06 11 52.7 +0.5**
SOHO P **Pn** **06 11 52.7 +0.5**
ARQ Araqi 13.99 150 P **Pn** **06 12 00.7 -1.1**
UMZA Um Al Zommool 14.05 156 P **Pn** **06 12 01.7 -0.9**
BSY Bisya 14.80 149 P **Pn** **06 12 12.5 -0.3**
BSY P **Pn** **06 12 12.5 -0.3**
SMDO Samad 14.90 145 P **Pn** **06 12 14.9 +0.7**
SMDO P **Pn** **06 12 14.9 +0.7**
WSAR Wadi Sarin 15.02 143 Pn **Pn** **06 12 16.5 +0.6**
comp=Z,0.4nm,0.3s,baz=333,slow=14,SNR=1.6
WSAR LR LR 06 19 55.6
comp=Z,82nm,19.4s,baz=4.5,slow=45
AKAS Kas 15.67 278 Pn **Pn** **06 12 23.4 -1.0**
AKAS IAmb IAmb 06 12 42.1
comp=Z,24nm,1.4s
AB31 Akbulak array 15.74 27 P **Pn** **06 12 23.9 -1.3**
comp=Z,10nm,0.9s,baz=212,slow=13,SNR=53
AB31 ⇑S **Sn** **06 15 11.2 -8.5**
comp=Z,2.7nm,0.6s,baz=219,slow=25,SNR=3.5
ABKAR Akbulak array 15.74 27 Pn **Pn** **06 12 21.9 -3.3**
AKTO Aktyubinsk 16.11 21 Pn **Pn** **06 12 26.0 -3.9**
comp=Z,1.8nm,0.3s,baz=191,slow=5.7,SNR=22
AKTO Sn **Sn** **06 15 20.0 -8.5**
comp=Z,0.4nm,0.3s,baz=9.9,slow=17,SNR=2.5
AKTO LR LR 06 20 59.5
comp=Z,177nm,19.6s,baz=190,slow=45
AKTO Aktyubinsk 16.11 21 ⇓P **Pn** **06 12 26.6 -3.3**
comp=Z,30nm,0.7s
AKTO ⇑S **Sn** **06 15 19.8 -8.7**
comp=Z,11nm,0.8s
JLN Jalan Bani Buh 16.32 143 P **Pn** **06 12 33.3 +0.6**
JLN P **Pn** **06 12 33.3 +0.6**
VRH Novokhopyorsk 16.32 344 *e*P **Pn** **06 12 31.2 -1.4**
VRH pmax pmax
comp=Z,40nm,1.3s
MHTO MHTO 16.68 149 P **Pn** **06 12 35.4 -1.9**
BELG Belogornoye 16.69 357 Pn **Pn** **06 12 36.0 -1.2**
comp=Z,1.5nm,0.3s,baz=214,slow=1.7,SNR=10
BELG Sn **Sn** **06 15 35.2 -7.3**
comp=Z,0.3nm,0.3s,baz=338,slow=19,SNR=1.9
BELG LR LR 06 21 43.5
comp=Z,146nm,18.4s,baz=230,slow=46
BELG Belogornoye 16.69 357 *i*P **P** **06 12 41.8 +2.2**
BELG pmax pmax
comp=Z,13nm,1.0s
VSR Storozhevoye 17.01 339 *e*P **Pn** **06 12 40.3 -1.0**
VSR pmax pmax
comp=Z,10.0nm,1.1s
DQM DQM 17.46 152 P **Pn** **06 12 45.7 -1.4**
DOK Doka 17.65 164 P **Pn** **06 12 49.8 +0.4**
SNR=12
KK31 Karatay Array 18.19 60 ⇑P **Pn** **06 12 56.8 +0.7**
comp=Z,9.3nm,0.8s,baz=262,slow=11,SNR=4.6
KK31 Karatay Array 18.19 60 P **Pn** **06 12 56.2 +0.1**

KK31 pmax pmax
comp=Z,15nm,1.0s
KK31 Karatay Array 18.19 60 Pn 06 12 56.2 +0.1
KKAR Karatay Array 18.19 60 P **Pn 06 12 55.6 -0.5**
KKAR pmax pmax
comp=Z,15nm,1.0s
KKAR Karatay Array 18.19 60 P **Pn 06 12 55.5 -0.5**
LPSR Galich'ya Gora 18.31 340 *eP* **P 06 12 58.7 +1.2**
LPSR pmax pmax
comp=Z,20nm,0.7s
CFR Carcaliu 18.39 307 ⇑P **Pn 06 12 57.6 -0.9**
CFR Carcaliu 18.39 307 ⇑P **Pn 06 12 57.6 -0.9**
SHAO Shalim 18.60 160 P **P 06 13 01.0 0.0**
SNR=45
DMTO DMTO 18.71 162 P **Pn 06 13 02.8 +0.3**
SNR=16
DZA Taraz 18.71 61 *eP* **Pn 06 13 04.0 +1.5**
baz=61
DZA Taraz 18.71 61 *eP* **Pn 06 13 04.0 +1.5**
RBK Rabkut 18.74 164 P **Pn 06 13 03.5 +0.6**
SNR=11
APE Apeiranthos 18.89 281 ⇑P **Pn 06 13 05.4 +0.8**
APE Apeiranthos 18.89 281 *i* P **Pn 06 13 06.0 +1.4**
APE pmax pmax
comp=Z,48nm,1.6s
CEP Cherat 18.96 89 P **Pn 06 13 10.3 +4.7**
CEP S Sn 06 16 23.0 -15
THW Thamme Wali 19.07 92 P **Pn 06 13 08.1 +1.3**
ISR Istrita 19.41 306 P **Pn 06 13 13.1 +2.2**
ISR pmax pmax
comp=Z,20nm,1.2s
VRI Vrincioaia 19.57 308 ⇑P **P 06 13 10.4 -1.1**
VRI Vrincioaia 19.57 308 ⇑P **P 06 13 10.4 -1.1**
IDI Anoyia 19.58 276 P **Pn 06 13 13.1 +0.1**
comp=Z,0.7nm,0.3s,baz=82,slow=18,SNR=3.2
PLOR Plostina 19.62 308 ⇑P **P 06 13 12.6 +0.6**
PLOR Plostina 19.62 308 ⇑P **P 06 13 12.6 +0.6**
SORM Soroca 19.64 315 ⇑P **P 06 13 11.6 -0.5**
SORM Soroca 19.64 315 ⇑P **P 06 13 11.6 -0.5**
MLR Muntele Rosu 19.94 306 P **Pn 06 13 17.8 +0.6**
comp=Z,0.2nm,0.3s,baz=198,slow=7.5,SNR=9.3
MLR LR LR 06 22 33.8
comp=Z,113nm,18.3s,baz=82,slow=41
MLR Muntele Rosu 19.94 306 ⇓P **Pn 06 13 17.0 -0.3**
MLR Muntele Rosu 19.94 306 P **Pn 06 13 16.4 -0.8**
MLR pmax pmax
comp=Z,10.0nm,0.8s
MLR Muntele Rosu 19.94 306 P **Pn 06 13 16.4 -0.8**
MLR IAmb IAmb 06 13 30.1
comp=Z,10nm,0.8s
NIL Nilore 20.09 89 P **P 06 13 14.2 -3.0**
NIL pmax pmax
comp=Z,19nm,0.7s
NIL Nilore 20.09 89 P **P 06 13 14.2 -3.0**
NIL IAmb IAmb 06 13 27.1
comp=Z,19nm,0.7s
AML Almayashu 20.25 64 P Pn 06 13 22.8 +1.5
SNR=10
BIZ Bicaz 20.41 310 ⇑P **P 06 13 20.6 +0.1**
VOIR 20.51 306 P Pn 06 13 23.8 -0.1
VOIR pmax pmax
comp=Z,53nm,0.8s
AKASG Malin Array Be 20.66 323 P **P 06 13 22.3 -0.8**
comp=Z,4.2nm,0.6s,baz=132,slow=9.5,SNR=16
AKASG Malin Array Be 20.66 323 P **P 06 13 20.4 -2.7**
AKBB Malin Array Si 20.66 323 *ceP* **P 06 13 22.7 -0.4**
AKBB Malin Array Si 20.66 323 P **P 06 13 22.2 -0.9**
AKBB IAmb IAmb 06 13 30.1
comp=Z,12nm,0.7s
UCH Uchtor 20.87 64 P Pn 06 13 30.7 +2.2
SNR=5.4
AAK Ala-Archa 20.93 63 P **P 06 13 27.7 +1.3**
comp=Z,5.9nm,0.8s,baz=243,slow=7.8,SNR=13
AAK LR LR 06 23 28.4
comp=Z,74nm,18.3s,baz=280,slow=42
AAK Ala-Archa 20.93 63 ⇑P **P 06 13 29.9 +3.5**
comp=Z,8.9nm,0.8s
AAK Ala-Archa 20.93 63 *ceP* **P 06 13 30.9 +4.5**
AAK pmax pmax
comp=Z,19nm,0.7s
AAK Ala-Archa 20.93 63 P **P 06 13 25.8 -0.6**
VTS Vitosha 21.04 297 P **P 06 13 32.9 +5.4**
VTS pmax pmax
comp=Z,6.0nm,1.1s
USP Ospenovka 21.06 61 P **P 06 13 31.9 +4.3**
SNR=10
CHMS Chumysh 21.18 62 P **P 06 13 33.6 +4.6**
SNR=8.0
OBN Obninsk 21.18 340 P **P 06 13 30.0 +1.2**
comp=Z,5.6nm,0.3s,baz=163,slow=7.4,SNR=6.0
OBN LR LR 06 22 47.4
comp=Z,45nm,19.0s,baz=160,slow=40
OBN Obninsk 21.18 340 *i* P **P 06 13 28.8 0.0**
OBN *i* 06 13 36.0
OBN pmax pmax
comp=Z,24nm,0.9s
OBN MLR MLR
comp=Z,201nm,21.0s
BURAR Bucovina Array 21.24 311 ⇑P **P 06 13 30.3 +0.6**
BURAR Bucovina Array 21.24 311 ⇑P **P 06 13 30.3 +0.6**
BURAR Bucovina Array 21.24 311 P **P 06 13 27.8 -1.9**
BUR08 Bucovina Ar. S 21.27 311 P **P 06 13 28.7 -1.2**
LIT Litokhoron 21.29 290 P **P 06 13 34.6 +4.5**
LIT pmax pmax
comp=Z,8.0nm,0.9s
LOT Lotru 21.37 305 ⇑P **P 06 13 31.4 +0.4**
GRG Griva 21.42 292 P **P 06 13 36.7 +5.1**
GRG pmax pmax
comp=Z,7.0nm,1.4s
MOS Moscow 21.46 342 *eP* **P 06 13 31.3 -0.5**
MOS pmax pmax
comp=Z,84nm,1.1s
KSH Kashi 21.71 72 P **P 06 13 34.7 -0.1**
KSH pP pP 06 13 40.1 +1.9
KSH pmax pmax
comp=Z,30nm,0.9s
KSH pmax pmax
comp=Z,170nm,5.1s
ARU Arti 21.72 15 P **P 06 13 36.6 +2.1**
comp=Z,2.7nm,0.3s,baz=189,slow=7.6,SNR=20
ARU S **S 06 17 30.5 -4.1**
comp=Z,2.8nm,0.2s,baz=295,slow=17,SNR=1.4
ARU LR LR 06 25 00.3
comp=Z,108nm,20.1s,baz=203,slow=45
ARU Arti 21.72 15 P **P 06 13 35.3 +0.8**
ARU S **S 06 17 36.0 +1.4**
ARU Arti 21.72 15 P **P 06 13 34.8 +0.3**
ARU IAmb IAmb 06 13 50.2
comp=Z,24nm,0.8s
ITM Ithomi 21.76 282 P **P 06 13 35.4 +0.2**
ITM IAmb IAmb 06 13 45.3
comp=Z,18nm,1.0s
TKM2 Tokmak 2 21.78 63 P **P 06 13 40.5 +4.9**
SNR=11
GZR Gura Zlata 22.02 304 ⇑P **P 06 13 39.0 +1.1**
HERR Herculane 22.12 303 ⇓P **P 06 13 39.5 +0.5**
FNA Florina 22.18 291 P **P 06 13 37.8 -2.0**
FNA pmax pmax
comp=Z,5.0nm,1.0s
FNA Florina 22.18 291 P **P 06 13 37.8 -2.0**
BRZS Berezniki 22.36 43 *eP* **P 06 13 44.0 +2.5**
comp=Z,10nm,1.1s,baz=43
BRZS Berezniki 22.36 43 *eP* **P 06 13 44.0 +2.5**
BRZS pmax pmax
comp=Z,10.0nm,1.1s
DRGR 22.50 307 ⇑P **P 06 13 44.6 +1.5**
DRGR 22.50 307 ⇑P **P 06 13 44.6 +1.5**
SVE Sverdlovsk 22.54 17 *eP* **P 06 13 47.2 +3.9**
MDOK Medeo 22.87 62 *eP* **P 06 13 48.6 +1.5**
baz=63
MDOK Medeo 22.87 62 *eP* **P 06 13 48.6 +1.5**
KIRV Kirov 22.87 1 P **P 06 13 49.0 +2.2**
comp=Z,9.1nm,0.5s,baz=179,slow=9.6,SNR=8.3
KIRV LR LR 06 25 05.2
comp=Z,147nm,20.1s,baz=173,slow=43
KIRV Kirov 22.87 1 *ceP* **P 06 13 47.8 +1.0**
IGT Igoumenitsa 22.93 288 P P 06 13 55.4 +7.7
IGT pmax pmax
comp=Z,11nm,0.7s
BRVK Borovoye 22.94 34 *ceP* **P 06 13 50.7 +3.1**
BRVK pmax pmax
comp=Z,25nm,1.1s
BRVK Borovoye 22.94 34 P **P 06 13 45.6 -2.0**
BRVK IAmb IAmb 06 13 59.4
comp=Z,20nm,0.9s

CHKK Chushkaly 22.95 61 *eP* **P 06 13 50.9 +3.0**
baz=61
CHKK Chushkaly 22.95 61 *eP* **P 06 13 50.8 +3.0**
BVAR Borovoye Array 22.97 34 P **P 06 13 49.7 +1.8**
comp=Z,6.5nm,0.7s,baz=193,slow=16,SNR=30
UZH Uzhgorod 23.45 312 *eP* **P 06 13 59.5 +6.7**
UZH *i* 06 14 03.0
UZH *i* 06 14 26.7
UZH *i* 06 18 10.8
KOLS Kolonicke sedl 23.58 312 *eP* P 06 14 01.8 +7.6
KOLS Kolonicke sedl 23.58 312 *eP* P 06 14 01.8 +7.6
KWP Kalwaria Pacla 23.62 314 P **P 06 13 58.3 +3.8**
DIVS Divibare 23.64 300 P **P 06 13 55.3 +0.5**
DIVS IAmb IAmb 06 14 14.7
comp=Z,8.1nm,1.1s
MNK Minsk 23.78 329 *i* P **P 06 13 54.6 -1.5**
comp=E,2.0nm,0.9s
MNK *i* P **P 06 13 54.6 -1.5**
comp=N,17nm,0.9s
MNK *i* P **P 06 13 54.6 -1.5**
comp=Z,11nm,0.8s
MNK *i* PP **PnPn 06 14 25.2 +1.6**
MNK *i* PPP PPP 06 14 33.0
MNK *i* PcP **PcP 06 17 33.1 -6.2**
MNK *i* S **S 06 18 08.8 -2.6**
MNK *i* SSS SSS 06 19 13.0
MNK *i* ScP ScP 06 20 27.9 -50
MNK *i* PcS PcS 06 20 34.9 -44
MNK *i* LQ LQ 06 21 47.1
MNK *i* LR LR 06 22 56.1
MNK *i* LRM MLR 06 24 03.8
comp=E,25nm,17.2s
MNK *i* LRM MLR 06 24 16.8
comp=Z,47nm,17.2s
MNK *i* LRM MLR 06 24 49.1
comp=N,290nm,17.2s
SATY Saty 23.84 63 *eP* **P 06 13 58.9 +2.0**
baz=63
SATY Saty 23.84 63 *eP* **P 06 13 58.8 +2.0**
CRVS Cervenica-Dubn 24.06 312 *eP* P 06 14 07.2 +8.4
CRVS Cervenica-Dubn 24.06 312 *eP* P 06 14 07.2 +8.4
KPKS Kokpek 24.10 62 *eP* **P 06 14 00.6 +1.4**
baz=62
KPKS Kokpek 24.10 62 *eP* **P 06 14 00.6 +1.4**
TDK Taldyqorghan 24.18 58 *eP* **P 06 14 01.7 +1.8**
baz=58
TDK Taldyqorghan 24.18 58 *eP* **P 06 14 01.7 +1.8**
UZB Uzynbulak 24.30 63 *eP* **P 06 14 03.6 +2.4**
comp=N,8.5nm,0.8s,baz=63
UZB Uzynbulak 24.30 63 *eP* **P 06 14 03.5 +2.4**
UZB pmax pmax
comp=Z,9.0nm,0.8s
NACGM Naroch 24.52 328 *i* P **P 06 14 03.8 +0.9**
NACGM *i* P **P 06 14 03.8 +0.9**
NACGM *i* P **P 06 14 03.8 +0.9**
NACGM *i* PP **PnPn 06 14 36.1 +2.3**
NACGM *i* PPP PPP 06 14 47.7
NACGM *i* S **S 06 18 24.9 +1.7**
NACGM *i* SS SnSn 06 19 23.1 +15
NACGM *i* SSS SSS 06 19 43.0
NACGM *i* LQ LQ 06 21 25.5
NACGM *i* LR LR 06 22 08.3
SHLS Shalkode 24.62 63 *eP* **P 06 14 09.4 +5.3**
comp=Z,4.1nm,0.6s,baz=63
SHLS Shalkode 24.62 63 *eP* **P 06 14 09.3 +5.2**
SHLS pmax pmax
comp=Z,4.0nm,0.6s
PSZ Piszkesteto 24.68 309 P **P 06 14 01.2 -3.4**
PSZ pmax pmax
comp=Z,17nm,1.3s
PSZ Piszkesteto 24.68 309 P **P 06 14 01.2 -3.4**
PSZ IAmb IAmb 06 14 12.1
comp=Z,17nm,1.3s
ATD Arta Tunnel 24.71 194 LR LR 06 24 34.4
comp=Z,172nm,19.8s,baz=51,slow=38
IDID Didziasalis 24.82 329 *eP* **P 06 14 09.2 +3.6**
IDID IAmb IAmb 06 14 18.7
comp=Z,9.3nm,0.7s
NIE Niedzica 24.96 312 P **P 06 14 09.5 +2.5**
NIE pmax pmax
comp=Z,3.0nm,1.4s
IIGN Ignalina 25.06 329 *eP* **P 06 14 09.8 +2.0**
IIGN IAmb IAmb 06 14 12.1
comp=Z,7.1nm,0.9s
ISAL Salakas 25.25 329 *eP* **P 06 14 11.5 +2.1**
ISAL IAmb IAmb 06 14 13.5
comp=Z,10nm,0.5s
OJC Ojcow 25.57 314 P **P 06 14 12.7 +0.2**
OJC pmax pmax
comp=Z,9.0nm,0.8s
OJC Ojcow 25.57 314 P **P 06 14 12.7 +0.2**
OJC IAmb IAmb 06 14 16.1
comp=Z,8.5nm,0.8s
SUW Suwalki 25.61 324 *eP* **P 06 14 15.2 +2.5**
SUW Suwalki 25.61 324 P **P 06 14 15.2 +2.5**
SUW pmax pmax
comp=Z,83nm,1.0s
KLMR Klimovskoe 25.86 349 *eP* **P 06 14 16.3 +1.3**
KLMR pmax pmax
comp=Z,59nm,1.3s
KLMR Klimovskoe 25.86 349 *eP* **P 06 14 16.4 +1.4**
KLMR AMP 06 14 19.3
comp=Z,59nm,1.3s
KURBB Kurchatov Arra 26.00 46 P **P 06 14 18.1 +1.9**
comp=Z,7.1nm,0.7s,baz=250,slow=9.3,SNR=29
KURK Kurchatov 26.09 46 *ceP* **P 06 14 20.9 +3.8**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 26.09 46 P **P 06 14 16.1 -1.0**
KURK IAmb IAmb 06 14 23.0
comp=Z,9.5nm,0.9s
PABE Paberze 26.14 327 *eP* **P 06 14 18.4 +0.9**
PABE IAmb IAmb 06 14 23.7
comp=Z,35nm,1.1s
SEM Semipalatinsk 26.93 47 *eP* **P 06 14 26.4 +1.3**
baz=47
SEM Semipalatinsk 26.93 47 *eP* **P 06 14 26.3 +1.3**
VSU Vasula 27.07 334 *eP* **P 06 14 29.1 +3.3**
VSU Vasula 27.07 334 *i* P **P 06 14 29.5 +3.7**
VSU pmax pmax
comp=Z,61nm,1.0s
VRAC Vranov 27.20 310 LR LR 06 27 13.4
comp=Z,42nm,18.9s,baz=56,slow=41
MK31 Makanchi Array 27.20 56 *ceP* **P 06 14 29.7 +2.4**
MK31 Makanchi Array 27.20 56 P **P 06 14 25.4 -1.9**
MKAR Makanchi Array 27.20 56 P **P 06 14 28.9 +1.6**
comp=Z,3.2nm,0.7s,baz=249,slow=8.4,SNR=19
MKAR LR LR 06 26 54.6
comp=Z,85nm,18.9s,baz=226,slow=40
MKAR Makanchi Array 27.20 56 P **P 06 14 27.7 +0.4**
MKAR Makanchi Array 27.20 56 P **P 06 14 27.7 +0.4**
GERES GERESS Array B 28.91 308 P **P 06 14 42.8 +0.2**
comp=Z,0.8nm,0.7s,baz=73,slow=3.3,SNR=2.2
GERES LR LR 06 27 25.2
comp=Z,53nm,18.4s,baz=321,slow=39
GERES GERESS Array B 28.91 308 P **P 06 14 42.2 -0.3**
GERES GERESS Array B 28.91 308 P **P 06 14 42.2 -0.3**
TMCR Tamitsa 29.24 350 *eP* **P 06 14 47.6 +2.5**
FINES FINESS Array B 29.54 338 P **P 06 14 48.2 +0.4**
comp=Z,5.0nm,1.0s,baz=133,slow=11,SNR=6.9
FINES LR LR 06 27 55.1
comp=Z,140nm,18.1s,baz=90,slow=39
FINES FINESS Array B 29.54 338 *i* P **P 06 14 50.7 +2.9**
FINES pmax pmax
comp=Z,7.0nm,1.1s
WMQ Urumqi 30.64 63 *eP* **P 06 15 01.3 +3.4**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,190nm,4.7s
GRA1 Grafenberg Arr 30.68 309 P **P 06 14 54.7 -3.4**
GRF Grafenberg Arr 30.68 309 P **P 06 14 54.7 -3.4**
GRF pmax pmax
comp=Z,28nm,1.5s
ZAA0 Zalesovo Array 30.84 43 P **P 06 14 58.9 -0.5**
ZALV Zalesovo Beam 30.84 43 P **P 06 15 00.7 +1.3**
comp=Z,5.5nm,0.7s,baz=263,slow=8.8,SNR=20
ZALV Zalesovo Beam 30.84 43 *i* P **P 06 15 03.2 +3.7**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 30.84 43 P **P 06 15 00.5 +1.0**
DGZ Jazzator, Alta 31.17 51 *i* P **P 06 15 05.2 +2.6**
DGZ pmax pmax
comp=Z,8.0nm,1.5s

KEST Kesra 31.99 282 P **P 06 15 08.7 -1.2**
comp=Z,2.5nm,0.7s,baz=28,slow=2.5,SNR=2.1
KEST Kesra 31.99 282 IAmb IAmb 06 15 19.9
comp=Z,9.6nm,0.9s
NB2 NORSAR Subarra 34.81 329 P **P 06 15 32.9 -1.3**
comp=Z,9.3nm,1.2s,baz=121,slow=8.6
NOA NORSAR Array B 34.81 329 P **P 06 15 32.8 -1.4**
comp=Z,0.9nm,0.7s,baz=122,slow=8.4,SNR=3.3
NOA LR LR 06 30 33.5
comp=Z,85nm,20.4s,baz=110,slow=38
ARCES ARCESS Array B 36.22 346 P **P 06 15 46.0 -0.1**
comp=Z,6.5nm,1.1s,baz=156,slow=6.7,SNR=7.4
KMBO Kilima Mbogo 38.25 199 LR LR 06 32 52.9
comp=Z,91nm,18.1s,baz=88,slow=38
TAM Tamanrasset 39.71 263 P P 06 16 22.8 +6.5
NRIK Noril'sk 39.73 20 P **P 06 16 15.8 +0.2**
comp=Z,3.7nm,0.5s,baz=206,slow=2.6,SNR=7.4
NRIK Noril'sk 39.73 20 IAmb IAmb 06 16 22.1
comp=Z,10nm,1.0s
ESDC Sonseca Array 41.55 292 P **P 06 16 30.2 -1.0**
comp=Z,2.2nm,0.8s,baz=70,slow=8.3,SNR=9.3
TLY Talaya 41.62 50 LR LR 06 34 28.5
comp=Z,52nm,18.5s,baz=304,slow=37
ULN Ulaanbaatar 44.01 55 *ceP* **P 06 16 53.4 +2.2**
ULN pmax pmax
comp=Z,4.0nm,1.0s
CMAR Chiang Mai Arr 47.20 98 P **P 06 17 17.4 +0.8**
comp=Z,1.4nm,0.4s,baz=302,slow=8.8,SNR=8.2
CMAR Chiang Mai Arr 47.20 98 *i* P **P 06 17 19.6 +3.0**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
BOD Bodaibo 47.57 41 *eP* **P 06 17 19.6 +0.6**
BOD pmax pmax
comp=Z,7.0nm,1.5s
TOA0 Torodi Ar. Sit 47.98 254 P **P 06 17 22.9 +0.3**
TOA0 IAmb IAmb 06 17 23.9
comp=Z,6.8nm,1.2s
TORD Torodi Ar. Bea 47.98 254 P **P 06 17 22.4 -0.3**
comp=Z,4.9nm,1.1s,baz=59,slow=7.1,SNR=10
TORD Torodi Ar. Bea 47.98 254 P **P 06 17 21.2 -1.4**
TORD IAmb IAmb 06 17 23.9
comp=Z,3.6nm,1.0s
HHC Hu-ho-hao-te 48.50 64 *eP* **P 06 17 27.3 +0.7**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,210nm,6.6s
XAN Xi'an 48.55 74 P P 06 17 31.9 +4.9
XAN pP sP 06 17 40.8 +8.4
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN Xi'an 48.55 74 P **P 06 17 26.1 -0.9**
XAN pmax pmax
comp=Z,9.0nm,1.1s
XAN Xi'an 48.55 74 P **P 06 17 26.1 -0.9**
SLVN Son La 49.78 91 P **P 06 17 36.2 -0.3**
SLVN IAmb IAmb 06 17 41.6
comp=Z,4.8nm,1.1s
KOWA Kowa 51.73 260 P **P 06 17 51.0 -0.3**
KOWA IAmb IAmb 06 18 01.6
comp=Z,9.3nm,1.3s
YAK Yakutsk 54.94 35 LR LR 06 43 35.8
comp=Z,51nm,20.7s,baz=267,slow=38
SUMG Summit 55.57 339 *i* P **P 06 18 21.0 +1.9**
comp=Z,11nm,1.0s
SUMG Summit 55.57 339 P **P 06 18 19.7 +0.7**
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 55.57 339 P **P 06 18 19.7 +0.7**
SUMG IAmb IAmb 06 18 24.6
comp=Z,7.2nm,1.0s
SUMG Summit 55.57 339 *i* P **P 06 18 21.0 +1.9**
SUMG IAmb IAmb 06 18 25.2
comp=Z,11nm,1.0s
PSI Prapat 56.58 114 P **P 06 18 25.8 -0.9**
comp=Z,7.1nm,0.6s,baz=359,slow=5.6,SNR=8.3
GSI Gunungsitoli 56.58 116 P **P 06 18 26.2 -0.4**
RPSI Rantau Prapat 56.65 114 P **P 06 18 25.9 -1.1**
RPSI Rantau Prapat 56.65 114 P **P 06 18 25.8 -1.3**
DBIC Dimbokro 57.01 253 P **P 06 18 27.8 -1.9**
comp=Z,3.0nm,0.9s,baz=34,slow=7.3,SNR=2.4
DBIC LR LR 06 48 04.3
comp=Z,26nm,18.4s,baz=324,slow=41
KLR Kul'dur 59.62 49 P **P 06 18 47.2 -0.3**
comp=Z,0.9nm,0.7s,baz=256,slow=6.8,SNR=3.6
KLR Kul'dur 59.62 49 *i* P **P 06 18 49.9 +2.5**
KLR pmax pmax
comp=Z,4.0nm,1.4s
KS19 Wonju Array Si 61.53 63 P **P 06 18 58.8 -1.9**
TULEG Thule 61.55 346 P **P 06 19 01.8 +1.6**
KSAR Wonju Array Be 61.57 63 P **P 06 18 59.7 -1.2**
KSAR Wonju Array Be 61.57 63 P **P 06 18 59.7 -1.2**
KSRS Korea Array 61.59 63 P **P 06 19 01.3 +0.2**
comp=Z,3.2nm,0.7s,baz=283,slow=6.6,SNR=8.1
USRK Ussuriysk Ar. 61.66 54 P **P 06 19 01.4 0.0**
comp=Z,4.4nm,0.8s,baz=287,slow=6.1,SNR=7.0
TSUM Tsumeb 62.19 214 P **P 06 19 05.7 +0.3**
SEY Seymchan 64.51 30 P **P 06 19 20.6 +0.5**
comp=Z,2.9nm,0.6s,baz=268,slow=7.7,SNR=9.9
SEY Seymchan 64.51 30 *i* P **P 06 19 24.2 +4.2**
BOSA Boshof 67.78 202 P **P 06 19 41.9 +0.3**
comp=Z,7.8nm,1.1s,baz=58,slow=5.4,SNR=5.6
BOSA LR LR 06 53 09.9
comp=Z,64nm,18.6s,baz=6.5,slow=39
BOSA Boshof 67.78 202 P **P 06 19 41.7 +0.2**
BOSA pmax pmax
comp=Z,33nm,1.5s
BOSA Boshof 67.78 202 P **P 06 19 41.7 +0.2**
PETK Petropavlovsk- 72.18 37 LR LR 06 56 33.9
comp=Z,46nm,18.9s,baz=317,slow=40
ILAR Eielson Array 79.06 7 P **P 06 20 47.3 -0.2**
comp=Z,0.3nm,0.6s,baz=339,slow=3.9,SNR=2.6
YKA Yellowknife Ar 81.23 352 P **P 06 20 59.2 0.0**
comp=Z,0.3nm,0.5s,baz=12,slow=6.0,SNR=6.0
YKA Yellowknife Ar 81.23 352 *i* P **P 06 21 02.2 +3.0**
YKA pmax pmax
comp=Z,1.0nm,0.8s
FITZ Fitzroy Crossi 90.08 112 P **P 06 21 43.5 -0.3**
comp=Z,4.5nm,0.7s,baz=280,slow=4.9,SNR=10
WRA Warramunga Arr 97.80 109 P **P 06 22 18.5 -0.8**
comp=Z,0.3nm,0.6s,baz=315,slow=4.2,SNR=1.8

IDC ***02*** *06:11:44.2±1.0, 0.°40S×120.°25E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/46, mbtmp3.8/6, ML4.0/1, MS3.4/9, Ms1 3.4/9, ms1mx3.0/52, Error ellipse: s-maj=78.8km s-min=18.2km az=65.0*
DJA ***02*** *06:11:46.2±1.2, 0.°S±3.°×12.°0E±.°, h18km±11km, M4.3/7, MLv4.3/7*
NEIC ***02*** *06:11:49.0±1.3, 0.°55S±0.°06×120.°19E±0.°05, h35km±2km, mb4.2/4, Error ellipse: s-maj=11.7km s-min=6.3km az=139.0*
ISC 02 06:11:49.9±1.0, 0.°52S±0.°06×120.°02E±0.°07, h45km, n29, σ1°79/26, mb3.9/7, MS3.4/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.68**	**103**	P	**Pn**	**Pn**	**06 12 16.2**	**-0.5**
APSI				S	**Sn**	**Sn**	**06 12 41.0**	**+4.0**
TOLI2	**Tolitoli**	**1.79**	**25**		**Pn**	**Pn**	**06 12 16.9**	**-1.5**
MRSI	**Marisa**	**2.16**	**63**	P	**Pn**	**Pn**	**06 12 19.9**	**-3.5**
MRSI				S	**Sn**	**Sn**	**06 12 47.0**	**-2.1**
TTSI	**Tana Toraja**	**2.52**	**185**	P	**Pn**	**Pn**	**06 12 26.6**	**-1.7**
TTSI				S	**Sn**	**Sn**	**06 13 00.2**	**+2.5**
LUWI	**Luwuk**	**2.80**	**101**	Pn	**Pn**	**Pn**	**06 12 31.4**	**-0.8**
LUWI	**Luwuk**	**2.80**	**101**	P	**Pn**	**Pn**	**06 12 31.6**	**-0.6**
GTOI	**Gorontalo**	**3.21**	**69**	P	**Pn**	**Pn**	**06 12 36.2**	**-1.6**
SPSI	**Sidrap Palu**	**3.43**	**184**	P	**Pn**	**Pn**	**06 12 39.4**	**-1.5**
BNSI	**Bone**	**3.85**	**179**	P	**Pn**	**Pn**	**06 12 46.7**	**0.0**
KAPI	**Kappang**	**4.47**	**183**	Pn	**Pn**	**Pn**	**06 12 54.2**	**-1.0**
	6.6nm,0.3s,baz=299,slow=6.7,SNR=10							
KAPI					Sn	**Sn**	**06 13 45.9**	**-0.1**
	1.3nm,0.3s,baz=77,slow=19,SNR=1.8							
KAPI					LR	LR	06 14 56.5	
	comp=Z,336nm,18.8s,baz=354,slow=42							
KAPI	**Kappang**	**4.47**	**183**			**Pn**	**06 12 54.5**	**-0.7**
MYLDM	**Lahad Datu**	**5.86**	**345**	Pn		**Pn**	**06 13 17.1**	**+2.8**
MMRI	**Maumere**	**8.36**	**165**	Pn		**Pn**	**06 13 46.8**	**-1.8**
DAV	**Davao City (W)**	**9.36**	**36**	LR		LR	06 17 49.1	
	comp=Z,152nm,21.1s,baz=304,slow=40							
BATI	**Baumata**	**10.28**	**159**	LR		LR	06 19 11.4	
	comp=Z,240nm,18.5s,baz=306,slow=43							
FITZ	**Fitzroy Crossi**	**18.32**	**163**	LR		LR	06 24 42.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,47nm,18.4s,baz=354,slow=42						
WRA	Warramunga Arr	23.86	145	P	P	06 16 57.8	-1.5
	3.5nm,1.0s,baz=323,slow=11,SNR=13						
WRA				LR	LR	06 28 35.1	
	comp=Z,31nm,18.2s,baz=295,slow=42						
WB2	Warramunga Arr	23.86	145	P	P	06 16 58.4	-0.9
WB2				IAmb	IAmb	06 17 03.6	
	comp=Z,8.5nm,1.1s						
WR0	Warramunga Arr	23.99	145	P	P	06 16 58.5	-2.0
WR0				IAmb	IAmb	06 17 04.3	
	comp=Z,6.3nm,0.9s						
ASAR	Alice Springs	26.66	151	P	P	06 17 26.5	+1.7
	comp=Z,1.1nm,0.7s,baz=344,slow=15,SNR=11						
JOW	Kunigami	28.33	16	LR	LR	06 27 46.5	
	comp=Z,84nm,18.9s,baz=34,slow=34						
KSRS	Korea Array	38.49	10	LR	LR	06 37 27.6	
	comp=Z,20nm,18.1s,baz=230,slow=40						
ASAJ	Asahikawa	48.80	22	LR	LR	06 43 47.9	
	comp=Z,79nm,18.3s,baz=206,slow=40						
MK31	Makanchi Array	57.53	330	P	P	06 21 35.0	+0.2
MKAR	Makanchi Array	57.53	330	P	P	06 21 35.1	+0.3
	comp=Z,0.8nm,0.7s,baz=134,slow=8.7,SNR=6.9						
ZALV	Zalesovo Beam	61.59	337	P	P	06 22 03.6	+0.9
	comp=Z,0.5nm,0.4s,baz=145,slow=8.3,SNR=4.3						
KURBB	Kurchatov Arra	61.95	331	P	P	06 22 05.7	+0.6
	comp=Z,0.5nm,0.5s,baz=137,slow=6.3,SNR=6.9						
KURK	Kurchatov	61.97	332	P	P	06 22 05.7	+0.4
GEYT	Alibeck	68.48	311	LR	LR	06 56 34.8	
	comp=Z,134nm,18.5s,baz=240,slow=39						

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*IDC **02** 06:13:45.6±1.2, 6°.76N×72°.90W, h163km±10km, mb3.4/10, mb1 3.7/13, mb1mx3.5/38, mbtmp4.0/13, Error ellipse: s-maj=17.2km s-min=13.2km az=145.0*

*NEIC **02** 06:13:45.9±1.2, 6°.76N±0°.09×73°.0W±0°.1, h165km±9km, mb4.4/9, Error ellipse: s-maj=19.6km s-min=5.5km az=127.0*

*RSNC **02** 06:13:46.6±0.8, 6°.81N×73°.15W, h147km±3km, ML3.7, Mw3.9, Fault plane solution: NP1:φs133.00000°, δ60.00000°, λ58.00000°.*

ISC 02 06:13:45.0±0.6, **6°.82N**±0°.03×**73°.09W**±0°.03, **h157**km±5km, **n71**, σ1s**23**/110, **mb3.9**/12, **12C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	Barichara	0.24	203	⇑iP	Pn	06 14 06.5	0.0
BARC				eS	Sn	06 14 21.7	-1.2
BARC				i		06 14 22.7	
	comp=Z,2μm,0.2s						
PAMC	Pamplona, Colo	0.65	37	⇑eP	Pn	06 14 09.3	+0.9
PAMC				eS	Sn	06 14 26.1	-0.3
PAMC				i		06 14 28.1	
	comp=Z,862nm,0.4s						
BRRC	Barranca, Sant	0.68	295	⇑iP	Pn	06 14 08.4	+0.3
BRRC				eS	Sn	06 14 25.3	-0.5
BRRC				i		06 14 29.1	
	comp=Z,1μm,0.2s						
RUSC	La Rusia	0.92	180	⇑iP	Pn	06 14 10.3	-0.1
RUSC				eS	Sn	06 14 29.4	-0.4
RUSC				i		06 14 30.8	
	comp=Z,369nm,0.4s						
TAMC	Tame, Arauca	1.34	106	⇑eP	Pn	06 14 14.8	+1.3
TAMC				eS	Sn	06 14 36.4	+1.0
TAMC				i		06 14 36.9	
	comp=Z,467nm,0.3s						
PTBC	PUERTO BERRIO,	1.39	259	⇑eP	Pn	06 14 13.0	-1.0
PTBC				eS	Sn	06 14 34.2	-1.9
PTBC				i		06 14 41.4	
	comp=Z,953nm,0.4s						
OCAC	Ocana	1.43	351	⇓eP	Pn	06 14 14.7	+0.2
OCAC				eS	Sn	06 14 37.0	-0.2
OCAC				i		06 14 41.5	
	comp=Z,1μm,0.2s						
SPBC	San Pablo de B	1.52	220	⇑iP	Pn	06 14 15.4	0.0
SPBC				eS	Sn	06 14 37.6	-1.1
SPBC				i		06 14 40.9	
	comp=Z,857nm,0.1s						
NORC	Norcasia	2.17	235	eP	Pn	06 14 22.1	-0.4
NORC				eS	Sn	06 14 50.2	-1.3
NORC				i		06 14 54.4	
	comp=Z,782nm,0.5s						
SMLC	San Martn de	2.20	334	eP	Pn	06 14 22.6	-0.2
SMLC				eS	Sn	06 14 51.8	-0.3
SMLC				i		06 14 55.5	
	comp=Z,520nm,0.2s						
CHIC	Chingaza	2.27	196	⇑eP	Pn	06 14 24.4	+0.2
CHIC				eS	Sn	06 14 53.8	-0.5
CHIC				i		06 14 59.9	
	comp=Z,319nm,0.4s						
ROSC	El Rosal	2.32	212	P	Pn	06 14 25.6	+1.0
	comp=Z,123nm,0.3s,baz=254,slow=4.9,SNR=466						
ROSC				S	Sn	06 14 53.0	-2.3
	comp=Z,69nm,0.3s,baz=234,slow=21,SNR=9.2						
ROSC	El Rosal	2.32	212		Pn	06 14 26.2	+1.5
ROSC				Sn	Sn	06 14 57.4	+2.2
ROSC	El Rosal	2.32	212	⇑iP	Pn	06 14 26.1	+1.4
ROSC				eS	Sn	06 14 56.9	+1.7
ROSC				i		06 15 04.0	
	comp=Z,847nm,0.4s						
UREC	San Jos de Ur	2.60	291	eP	Pn	06 14 26.6	-1.1
GUY2C	Guyana, Caldas	2.76	235	eP	Pn	06 14 30.7	+0.5
GUY2C				eS	Sn	06 15 06.0	+1.0
GUY2C				i		06 15 13.1	
	comp=Z,636nm,0.5s						
PTGC	Puerto Gaitan,	2.77	160	⇑eP	Pn	06 14 29.6	-0.3
PTGC				eS	Sn	06 15 02.8	-1.7
PTGC				i		06 15 10.0	
	comp=Z,296nm,0.2s						
RREF	El Recreo	2.95	230	eP	Pn	06 14 32.9	+0.3
RREF				eS	Sn	06 15 10.1	+0.7
RREF				i		06 15 18.9	
	comp=Z,421nm,0.3s						
CBOC	Ciudad Bolivar	3.06	252	⇓eP	Pn	06 14 34.4	+0.9
CBOC				eS	Sn	06 15 09.7	-1.4
CBOC				i		06 15 23.3	
	comp=Z,176nm,0.4s						
DBBC	Dabeiba	3.10	274	⇓eP	Pn	06 14 34.3	+0.2
DBBC				eS	Sn	06 15 10.8	-1.2
TOLC	Tolima	3.14	225	eP	Pn	06 14 35.1	+0.4
TOLC				eS	Sn	06 15 14.8	+1.6
TOLC				i		06 15 18.7	
	comp=Z,304nm,0.8s						
SDV	Santo Domingo	3.18	50	P	Pn	06 14 36.1	+0.9
	comp=Z,58nm,0.3s,baz=164,slow=3.0,SNR=226						
SDV				S	Sn	06 15 12.9	-1.1
	comp=Z,45nm,0.3s,baz=255,slow=21,SNR=21						
SDV	Santo Domingo	3.18	50		Pn	06 14 36.0	+0.9
SDV				Sn	Sn	06 15 13.6	-0.5
SDV	Santo Domingo	3.18	50	eP	Pn	06 14 36.0	+0.9
SDV				eS	Sn	06 15 12.7	-1.3
SDV				i		06 15 16.2	
	comp=Z,111nm,0.5s						
MOTC	Monteria, Cord	3.21	307	eP	Pn	06 14 34.1	-1.2
MOTC				eS	Sn	06 15 12.7	-1.6
MOTC				i		06 15 15.1	
	comp=Z,79nm,0.2s						
ARGC	Ariguani, Magd	3.23	339	eP	Pn	06 14 37.0	+1.4
ARGC				eS	Sn	06 15 15.6	+0.8
ARGC				i		06 15 17.4	
	comp=Z,133nm,0.3s						
ANIL	Santa Ana	3.27	225	eP	Pn	06 14 36.9	+0.6
ANIL				eS	Sn	06 15 16.0	0.0
ANIL				i		06 15 23.3	
	comp=Z,89nm,0.5s						
PRAC	Prado	3.57	210	eP	Pn	06 14 39.7	-0.2
PRAC				eS	Sn	06 15 22.3	-0.3
PRAC				i		06 15 28.5	
	comp=Z,400nm,0.4s						
ORTC	Ortega, Tolima	3.60	217	eP	Pn	06 14 40.5	+0.1
ORTC				eS	Sn	06 15 23.8	+0.4
ORTC				i		06 15 29.0	
	comp=Z,287nm,0.3s						
PLMC	San Jos del P	3.70	239	eP	Pn	06 14 42.0	+0.3
PLMC				eS	Sn	06 15 22.9	-2.8
PLMC				i		06 15 29.6	
	comp=Z,164nm,0.3s						
GUVC	San Jose del G	4.27	174	eP	Pn	06 14 48.6	-0.4
GUVC				eS	Sn	06 15 37.6	-1.4
GUVC				i		06 15 42.6	
	comp=Z,149nm,0.1s						
YOTC	Yotoco, Valle	4.29	229	⇑eP	Pn	06 14 49.5	0.0
YOTC				eS	Sn	06 15 40.4	+0.8
YOTC				i		06 15 51.6	
	comp=Z,29nm,0.7s						
SOLC	Bahia Solano	4.33	262	eP	Pn	06 14 50.8	+1.0
SMRC	Santa Marta, M	4.46	346	eP	Pn	06 14 51.3	-0.2
SMRC				eS	Sn	06 15 40.3	-3.0
SMRC				i		06 15 49.8	
	comp=Z,51nm,0.7s						
MACC	Macarena, Meta	4.71	189	⇑eP	Pn	06 14 53.5	-1.2
MACC				eS	Sn	06 15 45.4	-3.7
MACC				i		06 15 51.2	
	comp=Z,68nm,0.8s						
MARP	Paez Belalcaza	4.88	216	eP	Pn	06 14 57.8	+0.6
MARP				eS	Sn	06 15 52.6	-0.9
GARC	Garzon, Huila	5.19	208	eP	Pn	06 15 00.6	-0.7
GARC				eS	Sn	06 15 57.3	-3.6
GARC				i		06 16 02.7	
	comp=Z,82nm,0.2s						
PCON	Cinco Dias	5.55	217	eP	Pn	06 15 07.4	+1.0
POPC	Popayan, Colom	5.55	220	eP	Pn	06 15 06.1	-0.1
POPC				eS	Sn	06 16 08.4	-1.2
POPC				i		06 16 16.3	
	comp=Z,13nm,0.3s						
FLOC	Florencia	5.80	206	eP	Pn	06 15 09.4	+0.3
FLOC				eS	Sn	06 16 12.6	-2.4
FLOC				i		06 16 20.4	
	comp=Z,28nm,0.7s						
BBAC	Balboa, Cauca	6.32	221	eP	Pn	06 15 16.5	+0.3
BBAC				eS	Sn	06 16 26.0	-1.7
BBAC				i		06 16 31.3	
	comp=Z,32nm,0.4s						
GCUF	Volcan Galeras	6.99	218	eP	Pn	06 15 26.6	+1.1
GCUF				eS	Sn	06 16 42.1	-2.2
GCUF				i		06 16 48.1	
	comp=Z,16nm,0.5s						
OTAV	Otavalo	8.45	220	Pn	Pn	06 15 46.0	+1.1
PCRV	Puerto La Cruz	9.00	68	P	Pn	06 15 52.2	+0.4
	comp=Z,1.5nm,0.3s,baz=314,slow=1.7,SNR=12						
PLCV	Puerto La Cruz	9.04	68		Pn	06 15 52.2	-0.1
MTDJ	Mount Denham	12.14	339	Pn	P	06 16 36.5	-2.6
GCMP	Grenada, Carri	12.80	63	e	P	06 16 47.4	+1.0
SAML	Samuel	18.52	148	P	P	06 17 50.1	+0.5
PAYG	Puerto Ayora	18.71	247	P	Pn	06 17 54.4	+0.5
PAYG				IAmb	IAmb	06 18 12.3	
	comp=Z,19nm,1.1s						
TEIG	Tepich	19.86	314	P	Pn	06 18 06.6	-0.8
	comp=Z,3.3nm,0.4s,baz=66,slow=2.2,SNR=1.9						
TEIG	Tepich	19.86	314	P	Pn	06 18 05.8	-1.6
U40A	Yellville	34.51	331	P	P	06 20 19.9	+1.6
U40A				IAmb	IAmb	06 20 20.6	
	comp=Z,6.2nm,0.6s						
CCM	Cathedral Cave	35.19	335	P	P	06 20 26.0	+1.9
TXAR	Lajitas Array	36.49	312	P	P	06 20 36.5	+1.1
	comp=Z,0.5nm,0.4s,baz=129,slow=8.8,SNR=6.0						
TXAR	Lajitas Array	36.49	312	P	P	06 20 36.4	+1.0
TX31	Lajitas Ar. Si	36.49	312	P	P	06 20 35.2	-0.2
ULM	Lac du Bonnet	47.30	340	P	P	06 22 02.9	+0.3
	comp=Z,3.4nm,0.4s,baz=142,slow=6.8,SNR=16						
ULM	Lac du Bonnet	47.30	340	P	P	06 22 02.7	+0.1
ULM				IAmb	IAmb	06 22 03.9	
	comp=Z,5.8nm,1.1s						
PDAR	Pinedale Array	48.10	324	P	P	06 22 09.9	+0.7
	comp=Z,0.4nm,0.5s,baz=127,slow=9.1,SNR=7.0						
NVAR	Mina Array Bea	51.51	315	P	P	06 22 36.5	+1.4
	comp=Z,0.2nm,0.6s,baz=107,slow=7.9,SNR=3.6						
PINE	Pine Mountain	55.67	319	P	P	06 23 06.9	+1.7
PINE				IAmb	IAmb	06 23 08.5	
	comp=Z,5.6nm,1.1s						
YBH	Yreka Blue Hor	55.96	317	P	P	06 23 07.6	+0.4
YBH				IAmb	IAmb	06 23 09.0	
	comp=Z,9.3nm,1.4s						
YKA	Yellowknife Ar	63.28	340	P	P	06 23 57.5	+0.7
	comp=Z,2.1nm,0.5s,baz=129,slow=7.3,SNR=50						
DLBC	Dease Lake	67.34	331	P	P	06 24 24.1	+1.1
	comp=Z,0.7nm,0.5s,baz=120,slow=5.5,SNR=2.1						
DBIC	Dimbokro	67.70	86	P	P	06 24 24.5	-1.6
	comp=Z,1.5nm,0.5s,baz=239,slow=7.7,SNR=4.3						
TORD	Torodi Ar. Bea	73.71	78	P	P	06 25 00.8	-1.6
	comp=Z,0.5nm,0.8s,baz=285,slow=6.7,SNR=1.5						
ILAR	Eielson Array	76.98	335	P	P	06 25 20.6	+0.4
	comp=Z,0.3nm,0.6s,baz=115,slow=4.7,SNR=4.7						
MKAR	Makanchi Array	122.31	20	PKP	PKPdf	06 32 21.1	-0.6
	comp=Z,0.3nm,0.4s,baz=289,slow=3.2,SNR=6.0						
MKAR	Makanchi Array	122.31	20		PKPdf	06 32 21.4	-0.3
ASAR	Alice Springs	149.14	234	PKPbc	PKPbc	06 33 15.6	-0.2
	comp=Z,0.8nm,0.5s,baz=120,slow=3.4,SNR=18						
WRA	Warramunga Arr	150.36	241	PKPbc	PKPbc	06 33 18.9	0.0
	comp=Z,0.8nm,0.5s,baz=110,slow=2.5,SNR=23						

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*NOU **02** 06:43:34.8, 21°.30S×174°.93W, h5km, mb4.7, Tonga Islands*

*IDC **02** 06:43:36.6±3.4, 20°.78S×175°.69W, h55km±32km, mb3.9/7, mb1 4.2/10, mb1mx3.9/37, mbtmp4.3/10, ML4.0/3, MS2.9/2, Ms1 2.9/2, ms1mx2.6/31, Error ellipse: s-maj=35.4km s-min=17.1km az=135.0*

*NEIC **02** 06:43:40.3±2.5, 20°.8S±0°.1×175°.34W±0°.09, h106km±6km, mb4.6/28, Error ellipse: s-maj=15.5km s-min=11.9km az=170.0*

ISC 02 06:43:40.0±0.4, **20°.78S**±0°.07×**175°.34W**±0°.06, **h100**km, **n84**, σ2s**18**/81, **mb4.5**/22, **1C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	5.37	72		Pn	06 44 59.7	+1.9
NIUE				Sn	Sn	06 45 55.5	-2.8
MSVF	Nonsavu	6.94	295		Pn	06 45 24.7	+5.4
MSVF	Nonsavu	6.94	295	P	Pn	06 45 26.2	+7.0
AFI	Afiamalu	7.63	27	P	Pn	06 45 26.9	-1.7
	2.1nm,0.3s,baz=143,slow=5.1,SNR=2.0						
AFI				S	Sn	06 46 43.6	-10
	2.7nm,0.3s,baz=49,slow=20,SNR=1.3						
AFI	Afiamalu	7.63	27	Pn	Pn	06 45 28.8	+0.1
AFI				Sn	Sn	06 46 50.6	-3.0
AFI	Afiamalu	7.63	27	P	Pn	06 45 31.6	+2.9
RAR	Rarotonga	14.54	94	P	Pn	06 47 02.1	+1.1
	1.5nm,0.3s,baz=284,slow=8.3,SNR=2.5						
RAR				S	Sn	06 49 33.5	-7.9
	1.9nm,0.3s,baz=141,slow=18,SNR=2.1						
RAR				LR	LR	06 53 15.5	
	comp=Z,30nm,18.5s,baz=288,slow=39						
RAR	Rarotonga	14.54	94	Pn	Pn	06 47 01.0	0.0
DVP	Devils Point	15.85	278	P	P	06 47 25.3	+6.0
YATNC	Mamie plateau,	16.60	262	P	P	06 47 32.1	+4.6
DZM	Mont Dzumac	17.01	262	P	P	06 47 35.2	+3.0
	0.9nm,0.3s,baz=80,slow=17,SNR=17						
DZM				LR	LR	06 52 26.9	
	comp=Z,68nm,18.9s,baz=284,slow=32						
DZM	Mont Dzumac	17.01	262	P	P	06 47 33.9	+1.7
DZM				IAmb	IAmb	06 47 37.2	
	comp=Z,31nm,1.0s						
DZM	Mont Dzumac	17.01	262	P	P	06 47 36.6	+4.4
NOUC	Port Laguerre	17.14	262	P	P	06 47 38.2	+4.6
NFK	Norfolk Island	17.24	238	P	P	06 47 37.2	+2.6
SANVU	Saraoutou	17.42	285	P	Pn	06 47 37.4	+0.6
SANVU				IAmb	IAmb	06 47 42.6	
	comp=Z,41nm,1.0s						
URZ	Urewera	18.60	199	P	P	06 47 48.3	-1.1
	comp=Z,2.5nm,0.3s,baz=292,slow=19,SNR=12						
URZ				S	S	06 50 59.7	-16
	comp=Z,0.3nm,0.3s,baz=233,slow=20,SNR=2.2						
HIZ	Hauiti	19.59	203	P	Pn	06 48 00.7	-1.9
BKZ	Black Stump Fm	19.62	199	P	P	06 47 59.3	-1.3
BKZ	Black Stump Fm	19.62	199	P	P	06 47 59.2	-1.4
TMVZ	Te Maari	19.83	201	P	P	06 48 02.2	-0.7
ETVZ	East Tongariro	19.85	201	P	P	06 48 01.3	-1.8
KWHZ	Kaweka Forest	19.88	199	P	P	06 48 03.0	-0.4
OTVZ	Oturere	19.89	201	P	P	06 48 01.4	-2.2
KAHZ	Kahuranaki	20.09	198	P	Pn	06 48 06.7	-1.6
PRWZ	Pori Road	21.06	199	P	P	06 48 09.6	-6.4
BFZ	Birch Farm	21.09	198	P	P	06 48 16.2	-0.2
MRZ	Mangatainoka R	21.27	199	P	P	06 48 16.4	-1.9
CAW	Cannon Point	21.84	200	P	P	06 48 25.8	+1.5
MSWZ	Moikau Station	22.06	199	P	P	06 48 26.5	-0.2
QRZ	Quartz Range	22.49	205	P	P	06 48 33.3	+2.2
NNZ	Nelson	22.51	203	P	P	06 48 32.2	+0.9
NNZ				IAmb	IAmb	06 48 47.7	
	comp=Z,35nm,0.9s						
NNZ	Nelson	22.51	203	P	P	06 48 29.2	-2.2
BSWZ	Blackbirch Sta	22.78	201	P	P	06 48 34.5	+0.4
THZ	Tophouse	23.16	203	P	P	06 48 36.8	-1.0
THZ				IAmb	IAmb	06 48 40.1	
	comp=Z,25nm,1.2s						
THZ	Tophouse	23.16	203	P	P	06 48 36.9	-0.9
KHZ	Kahutara	23.51	201	P	P	06 48 40.7	-0.3
KHZ				IAmb	IAmb	06 48 46.9	
	comp=Z,31nm,1.3s						
LTZ	Lake Taylor	24.28	203	P	P	06 48 48.8	+0.9
OXZ	Oxford	24.84	202	P	P	06 48 53.9	+0.9
OXZ				IAmb	IAmb	06 48 57.3	
	comp=Z,25nm,0.9s						
MQZ	McQueen's Vall	24.96	201	P	P	06 48 54.9	+0.8
RPZ	Rata Peaks	25.53	203	P	P	06 48 59.5	+0.2
	comp=Z,13nm,0.7s,baz=308,slow=3.5,SNR=2.9						
RPZ	Rata Peaks	25.53	203	P	P	06 49 00.1	+0.8
RPZ				IAmb	IAmb	06 49 06.2	
	comp=Z,16nm,0.8s						
LBZ	Lake Benmore	26.43	204	P	P	06 49 07.3	-0.1
ODZ	Otahua Downs	26.82	202	P	P	06 49 11.9	+1.0
EIDS	Eidsvold	31.18	255	P	P	06 49 49.6	-0.2
CAN	Canberra	34.44	237	P	P	06 50 17.6	-0.6
CTAO	Charters Tower	35.94	264	P	P	06 50 30.7	-0.5
CTAO				IAmb	IAmb	06 50 32.4	
	comp=Z,5.8nm,0.6s						
TOO	Toolangi	37.76	235	P	P	06 50 45.9	-0.6
TOO				IAmb	IAmb	06 50 48.5	
	comp=Z,13nm,1.3s						
STKA	Stephens Creek	39.92	245	P	P	06 51 03.0	-1.5
	comp=Z,4.3nm,0.6s,baz=91,slow=10,SNR=20						
STKA	Stephens Creek	39.92	245	P	P	06 51 04.2	-0.3
COEN	Coen	40.09	273	P	P	06 51 06.5	+0.4
COEN				IAmb	IAmb	06 51 07.9	
	comp=Z,4.8nm,0.7s						
BBOO	Buckleboo	44.66	244	P	P	06 51 41.0	-2.0
BBOO				IAmb	IAmb	06 51 41.9	
	comp=Z,11nm,1.1s						
WR0	Warramunga Arr	46.84	262	P	P	06 51 58.2	-2.0
AS31	Alice Springs	46.88	257	P	P	06 51 58.0	-2.5
ASAR	Alice Springs	46.88	257	P	P	06 51 59.5	-1.1
	comp=Z,2.9nm,0.6s,baz=99,slow=8.1,SNR=60						
ASAR				PcP	PcP	06 53 32.9	+0.9
	comp=Z,1.8nm,0.7s,baz=104,slow=3.4,SNR=10.0						
ASAR	Alice Springs	46.88	257	P	P	06 51 59.2	-1.4
WB0	Warramunga Arr	47.01	262	P	P	06 52 00.5	-1.1
WB0				IAmb	IAmb	06 52 01.7	
	comp=Z,5.4nm,0.8s						
WRAB	Tennant Creek	47.02	262	P	P	06 51 57.9	-3.8
WRA	Warramunga Arr	47.03	262	P	P	06 52 00.1	-1.7
	comp=Z,1.6nm,0.5s,baz=94,slow=5.1,SNR=37						
WRA				PcP	PcP	06 53 33.2	+0.7
	comp=Z,1.0nm,0.6s,baz=98,slow=3.0,SNR=5.9						
FORT	Forrest	51.47	247	P	P	06 52 34.5	-1.0
FITZ	Fitzroy Crossi	55.46	262	P	P	06 53 04.8	+0.1
FITZ				IAmb	IAmb	06 53 22.7	
	comp=Z,5.7nm,1.3s						
QSPA	South Pole Qui	69.29	180	P	P	06 54 38.9	+2.5
QSPA				IAmb	IAmb	06 54 39.8	
	comp=Z,15nm,1.2s						
PETK	Petropavlovsk-	77.21	344	P	P	06 55 24.4	+1.7
	comp=Z,2.1nm,0.7s,baz=101,slow=6.0,SNR=4.4						
PETK	Petropavlovsk-	77.21	344	P	P	06 55 25.1	+2.4
NVAR	Mina Array Bea	79.54	42	P	P	06 55 40.4	+4.1
	comp=Z,0.8nm,0.9s,baz=230,slow=7.9,SNR=5.0						
NVAR	Mina Array Bea	79.54	42	P	P	06 55 36.4	+0.1
NJ2	Nanjing	81.99	309	eP	P	06 55 46.8	-2.3
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
H03S2	Juan Fernandez	83.77	124	T	T	08 28 16.0	
	baz=247,slow=75						
H03S1	Juan Fernandez	83.78	124	T	T	08 28 16.1	
	baz=247,slow=75						
H03S3	Juan Fernandez	83.79	124	T	T	08 28 24.3	
	baz=247,slow=75						
H03N2	Juan Fernandez	83.91	123	T	T	08 28 30.0	
	baz=249,slow=72						
H03N3	Juan Fernandez	83.91	123	T	T	08 28 41.1	
	baz=249,slow=72						
H03N1	Juan Fernandez	83.92	123	T	T	08 28 24.5	
	baz=249,slow=72						
ILAR	Eielson Array	88.06	12	P	P	06 56 21.3	+2.6
	comp=Z,0.3nm,0.7s,baz=219,slow=5.2,SNR=4.4						
HHC	Hu-ho-hao-te	91.34	313	eP	P	06 56 31.5	-3.3
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,6.1s						
KMI	Kunming	91.70	296	⇑P	P	06 56 33.8	-3.1
KMI				pP	pP	06 57 03.0	+0.3
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,200nm,5.2s						
LZH	Lanzhou	94.93	307	⇓P	P	06 56 49.0	-2.5
LZH				pP	sP	06 57 31.0	+3.4
LZH				pmax	pmax		
	comp=Z,20nm,1.4s						
ESPN	Las Esperanzas	95.20	79	P	P	06 56 52.3	-0.6
KURBB	Kurchatov Arra	115.95	317	PKP	PKPdf	07 02 10.9	0.0
	comp=Z,0.3nm,0.5s,baz=93,slow=2.0,SNR=4.1						
BVAR	Borovoye Array	120.89	320	PKP	PKiKP	07 02 21.4	+0.9
	comp=Z,0.3nm,0.4s,baz=225,slow=17,SNR=2.2						
AKASG	Malin Array Be	144.43	333	PKP	PKPab	07 03 03.4	+0.6
	comp=Z,0.9nm,0.4s,baz=43,slow=4.4,SNR=5.3						
AKASG	Malin Array Be	144.43	333		PKPbc	07 03 03.7	+0.6
GERES	GERESS Array B	151.08	348	PKPbc	PKiKP	07 03 22.5	+0.5
	comp=Z,0.3nm,0.3s,baz=20,slow=3.1,SNR=4.0						
GERES	GERESS Array B	151.08	348	PKPdf	PKPdf	07 03 11.3	-4.3
GERES					PKiKP	07 03 23.2	+1.2
GERES				PKPab	PKPab	07 03 30.4	+1.0

IDC 02 06:46:23.2±1.3, **30°.90N**×**142°.02E**, **h0**km, **mb3.7**/5, **mb1 3.9**/6, **mb1mx3.5**/54, **mbtmp3.7**/6, **ML2.9**/1, **Error ellipse: s-maj=44.3km s-min=23.5km az=81.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.46	332	Pn	Pn	06 48 00.2	+0.7
	0.2nm,0.3s,baz=151,slow=11,SNR=8.5						
MKAR	Makanchi Array	48.01	307	P	P	06 55 03.8	-0.1
	0.3nm,0.6s,baz=93,slow=8.7,SNR=4.2						
KURBB	Kurchatov Arra	50.33	312	P	P	06 55 21.1	-0.5
	0.8nm,0.3s,baz=86,slow=7.2,SNR=4.5						
WRA	Warramunga Arr	51.09	189	P	P	06 55 27.6	0.0
	0.4nm,0.4s,baz=4.0,slow=7.6,SNR=6.2						
ILAR	Eielson Array	54.47	30	P	P	06 55 51.9	-0.3
	0.4nm,0.7s,baz=272,slow=6.2,SNR=4.8						
ASAR	Alice Springs	54.81	189	P	P	06 55 55.0	-0.1
	0.5nm,0.5s,baz=2.6,slow=6.0,SNR=1.5						

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*IDC **02** 06:47:11.3±1.3, 16°.02S×176°.45W, h370km±14km, mb3.5/11, mb1 3.7/13, mb1mx3.6/36, mbtmp4.2/13, Error ellipse: s-maj=23.1km s-min=10.4km az=138.0*

*NEIC **02** 06:47:12.0±1.3, 15°.99S±0°.07×176°.44W±0°.10, h380km±6km, mb4.2/24, Error ellipse: s-maj=15.2km s-min=7.1km az=120.0*

ISC 02 06:47:12.4±0.4, **15°.98S**±0°.09×**176°.42W**±0°.07, **h382**km, **n52**, σ0s**90**/56, **mb4.1**/21, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.94	66	P	Pn	06 48 32.2	-0.9
	14nm,0.3s,baz=242,slow=23,SNR=5.3						
AFI				S	S	06 49 37.5	-0.8
	4.0nm,0.3s,baz=41,slow=19,SNR=1.6						
AFI	Afiamalu	4.94	66		Pn	06 48 32.3	-0.7
AFI				S	S	06 49 38.7	+0.3
MSVF	Nonsavu	5.58	251	Pn	Pn	06 48 42.4	+2.6
MSVF				S	S	06 49 48.5	-2.3
NIUE	Niue	6.92	117	Pn	P	06 48 55.8	+0.2
FUNA	Funafuti	8.56	329		Pn	06 49 13.8	+0.2
DZM	Mont Dzumac	17.29	247	P	P	06 50 49.9	-0.5
	0.2nm,0.3s,baz=69,slow=18,SNR=1.6						
DZM	Mont Dzumac	17.29	247	P	P	06 50 49.8	-0.6
DZM				IAmb	IAmb	06 51 18.5	
	comp=Z,16nm,1.4s						
URZ	Urewera	22.91	193	P	P	06 51 42.6	-1.9
	comp=Z,6.3nm,0.3s,baz=294,slow=0.7,SNR=12						
URZ	Urewera	22.91	193	P	P	06 51 42.5	-2.0
URZ				IAmb	IAmb	06 51 43.5	
	comp=Z,10nm,0.9s						
QRZ	Quartz Range	26.55	199	P	P	06 52 16.4	-0.5
THZ	Tophouse	27.29	198	P	P	06 52 23.6	0.0
KHZ	Kahutara	27.72	196	P	P	06 52 26.1	-1.2
WHZ	Wether Hill Ro	32.57	200	P	P	06 53 08.9	-0.7
WHZ				IAmb	IAmb	06 53 14.8	
	comp=Z,19nm,1.0s						
COEN	Coen	39.05	267	P	P	06 54 05.6	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOO	Toolangi	39.86	230	P	P	06 54 11.2	+0.4
STKA	Stephens Creek	41.23	240	P	P	06 54 21.5	-0.4
	comp=Z,1.8nm,0.4s,baz=74,slow=9.5,SNR=7.5						
STKA	Stephens Creek	41.23	240	P	P	06 54 20.6	-1.3
BBOO	Buckleboo	46.01	240	P	P	06 54 59.3	-0.2
BBOO				IAmb	IAmb	06 55 11.6	
	comp=Z,22nm,1.4s						
WR0	Warramunga Arr	46.69	257	P	P	06 55 04.0	-1.0
WR0				IAmb	IAmb	06 55 05.4	
	comp=Z,13nm,1.3s						
WB0	Warramunga Arr	46.84	258	P	P	06 55 05.1	-1.0
WB0				IAmb	IAmb	06 55 06.2	
	comp=Z,10nm,0.8s						
WB2	Warramunga Arr	46.87	257	P	P	06 55 05.7	-0.6
WB2				IAmb	IAmb	06 55 06.6	
	comp=Z,8.7nm,0.8s						
WRAB	Tennant Creek	46.87	258	P	P	06 55 05.1	-1.2
WRAB				IAmb	IAmb	06 55 06.5	
	comp=Z,7.5nm,0.7s						
WRA	Warramunga Arr	46.88	257	P	P	06 55 05.5	-0.9
	comp=Z,5.1nm,0.6s,baz=90,slow=6.7,SNR=46						
WRA				PcP	PcP	06 56 32.3	+0.1
	comp=Z,1.4nm,0.8s,baz=90,slow=3.3,SNR=4.9						
AS31	Alice Springs	47.16	252	P	P	06 55 08.6	+0.1
AS31				IAmb	IAmb	06 55 09.6	
	comp=Z,8.2nm,0.7s						
ASAR	Alice Springs	47.16	252	P	P	06 55 08.4	-0.2
	comp=Z,20nm,0.4s,baz=89,slow=7.7,SNR=228						
ASAR				PcP	PcP	06 56 33.2	0.0
	comp=Z,1.0nm,0.6s,baz=91,slow=3.7,SNR=4.1						
ASAR	Alice Springs	47.16	252	P	P	06 55 08.2	-0.4
FORT	Forrest	52.56	243	P	P	06 55 48.0	-0.5
FITZ	Fitzroy Crossi	55.24	259	P	P	06 56 07.8	-0.1
PSA00	Pilbara Seismi	60.25	254	P	P	06 56 42.3	0.0
VNDA	Vanda	62.52	185	P	P	06 56 57.4	+1.0
	comp=Z,2.2nm,0.9s,baz=66,slow=8.9,SNR=3.2						
VNDA	Vanda	62.52	185	P	P	06 56 58.1	+1.7
VNDA				IAmb	IAmb	06 57 09.0	
	comp=Z,14nm,1.4s						
PETK	Petropavlovsk-	72.34	344	P	P	06 57 57.7	+0.3
	comp=Z,2.6nm,0.7s,baz=123,slow=7.6,SNR=4.2						
QSPA	South Pole Qui	74.06	180	P	P	06 58 08.9	+1.4
QSPA				IAmb	IAmb	06 58 09.2	
	comp=Z,4.3nm,0.8s						
NVAR	Mina Array Bea	76.72	43	P	P	06 58 23.9	+0.8
	comp=Z,1.8nm,0.7s,baz=227,slow=8.5,SNR=16						
NV11	Mina Array Sit	76.82	43	P	P	06 58 24.9	+1.4
SEY	Seymchan	82.35	346	P	P	06 58 51.8	-0.3
	comp=Z,2.0nm,0.4s,baz=170,slow=5.3,SNR=8.8						
CCB	Clear Creek Bu	83.30	12		P	06 58 57.1	+0.1
TXAR	Lajitas Array	83.36	57	P	P	06 58 58.6	+0.4
	comp=Z,1.5nm,0.9s,baz=224,slow=3.5,SNR=7.7						
IL31		83.60	12	P	P	06 58 58.1	-0.2
IL31				IAmb	IAmb	06 58 59.1	
	comp=Z,9.0nm,1.4s						
ILAR	Eielson Array	83.60	12	P	P	06 58 58.0	-0.4
	comp=Z,1.6nm,0.6s,baz=215,slow=5.3,SNR=37						
ILAR	Eielson Array	83.60	12		P	06 58 58.3	-0.1
PRP	Porcupine Dome	84.53	12		P	06 59 03.5	+0.2
PDAR	Pinedale Array	84.65	43	P	P	06 59 04.5	0.0
	comp=Z,0.3nm,0.4s,baz=199,slow=2.8,SNR=4.9						
YKA	Yellowknife Ar	91.80	24	P	P	06 59 36.6	-0.8
	comp=Z,0.4nm,0.9s,baz=230,slow=4.2,SNR=5.0						
ARU	Arti	122.28	327	PKP	PKPdf	07 05 21.9	-0.4
	comp=Z,0.8nm,0.4s,baz=99,slow=19,SNR=3.2						
ARCES	ARCESS Array B	124.75	351	PKP	PKPdf	07 05 26.3	-0.4
	comp=Z,1.8nm,0.5s,baz=32,slow=1.3,SNR=17						
FINES	FINESS Array B	131.83	346	PKP	PKiKP	07 05 41.1	-0.3
	comp=Z,1.3nm,0.7s,baz=28,slow=3.3,SNR=4.7						
BRTR	Keskin Array B	144.71	318	PKP	PKPbc	07 06 04.5	-0.1
	comp=Z,2.4nm,0.7s,baz=131,slow=3.6,SNR=11						
BRTR	Keskin Array B	144.71	318		PKPdf	07 06 04.7	0.0
MLR	Muntele Rosu	145.10	332	PKPbc	PKPab	07 06 06.0	-0.2
	comp=Z,3.5nm,0.8s,baz=156,slow=4.0,SNR=6.2						
GERES	GERESS Array B	146.19	348	PKPbc	PKPbc	07 06 08.3	-0.3
	comp=Z,0.8nm,0.5s,baz=56,slow=3.4,SNR=4.1						
FNA	Florina	150.86	332		PKPbc	07 06 20.6	0.0

MEX 02 06:51:10.5±0.8**, 15°.90N**×**98°.51W, h10**^{km}**, MD3.6, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.61	37	eP	Pg	06 51 20.7	-1.7
PNIG				i S	Sg	06 51 28.8	-1.6
YOIG	Yosondua	1.33	44	eP	Pn	06 51 32.4	-3.0
YOIG				i S	Sb	06 51 48.8	-4.1
YOIG	Yosondua	1.33	44	eP	Pn	06 51 32.6	-2.8
YOIG				i S	Sb	06 51 46.0	-6.8
TXIG	Tlaxiaco	1.52	28	eP	Pn	06 51 34.5	-3.5
TXIG				i S	Sn	06 51 53.6	-4.5
TXIG	Tlaxiaco	1.52	28	i P	Pn	06 51 37.0	-1.0
TXIG				i S	Sn	06 51 55.7	-2.3
FTIG	Fresnillo de T	2.03	10	i P	Pn	06 51 42.2	-2.7
FTIG				eS	Sn	06 52 05.0	-5.3
FTIG	Fresnillo de T	2.03	10	i P	Pb	06 51 46.6	-0.9
FTIG				eS	Sb	06 52 12.3	-0.5
HLIG	Huajuapan de L	2.03	19	i P	Pn	06 51 42.0	-3.0
HLIG				i S	Sn	06 52 06.6	-4.1
HLIG	Huajuapan de L	2.03	19	eP	Pn	06 51 44.8	-0.3
HLIG				i S	Sn	06 52 09.8	-0.9

IDC 02 06:51:17.6±1.2, 38°.66N×133°.54E, h471^{km}±21^{km}, mb2.7/4, mb1 2.9/8, mb1mx2.6/62, mbtmp3.7/8, Error ellipse: s-maj=41.7km s-min=16.5km az=67.0

ISC 02 06:51:17.3±1.0**, 38°.7N**±0°.1×**133°.5E**±0°.1**, h448**^{km}**, n9, σ1**^{s}**51**/9**, mb3.2**/4**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	Matsushiro	4.32	118	P	P	06 52 35.8	+0.5
MJAR	Matsushiro Arr	4.32	118	P	P	06 52 36.2	+0.9
	0.3nm,0.3s,baz=301,slow=8.2,SNR=14						
USRK	Ussuriysk Ar.	5.65	349	P	P	06 52 49.7	+1.9
	baz=170,slow=9.2,SNR=20						
JNU	Nakatsue	5.90	202	P	P	06 52 52.4	+1.7
	1.1nm,0.3s,baz=20,slow=7.9,SNR=5.9						
KLR	Kul'dur	10.65	354	P	P	06 53 41.6	+0.4
	0.5nm,0.3s,baz=190,slow=5.4,SNR=12						
ZALV	Zalesovo Beam	36.14	311	P	P	06 57 38.8	-1.0
	0.5nm,0.3s,baz=113,slow=7.8,SNR=2.6						
MKAR	Makanchi Array	37.88	299	P	P	06 57 53.4	-0.9
	0.4nm,0.5s,baz=84,slow=11,SNR=7.5						
KURBB	Kurchatov Arra	39.99	306	P	P	06 58 10.1	-1.4
	0.7nm,0.4s,baz=78,slow=7.5,SNR=5.5						
WRA	Warramunga Arr	58.29	179	P	P	07 00 26.4	-1.5
	0.2nm,0.5s,baz=356,slow=8.0,SNR=5.6						

TEH 02 06:53:54.6, 36°.29N×54°.14E, h8^{km}, ML3.9

ISC 02 06:53:55.5±1.0**, 36°.32N**±0°.04×**54°.16E**±0°.04**, h10**^{km}**, n44, σ1**^{s}**78**/45**, 3C-1D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	Ghaloghah	0.33	304	ePg	Pg	06 54 01.2	-1.0
IANJ	Anjilo	0.87	194	ePg	Pg	06 54 11.0	-1.4
IFIR	Firoozkooh	1.33	240	ePg	Pn	06 54 19.1	-1.3
IFIR				e		06 54 43.2	
	comp=Z,99nm,0.3s						
ILAS	Lasjerd	1.35	227	ePg	Pn	06 54 19.8	-0.9
ILAS				e		06 54 48.8	
	comp=Z,99nm,0.2s						
IMND	Minoodasht	1.37	46	ePg	Pn	06 54 20.6	-0.1
IPRN	Peran	1.48	268	ePg	Pn	06 54 21.9	-0.4
IPRN				e		06 54 51.3	
	comp=Z,99nm,1.0s						
SHRO	Shahrood	1.53	102	ePn	Pn	06 54 23.0	0.0
DAMV	Damavand	1.91	250	ePn	Pn	06 54 29.4	+1.1
IVRN	Varamin	2.38	237	ePn	Pn	06 54 36.4	+1.7
IVRN				e		06 55 12.8	
	comp=Z,99nm,0.4s						
IHSB	Hasanabad	2.50	250	ePn	Pn	06 54 38.5	+2.1
IHSB				e		06 54 42.4	
	comp=Z,99nm,0.4s						
THKV	Tehran--Karaj	2.69	262	ePn	Pn	06 54 40.6	+1.5
SBZV	Sabzevar	2.78	88	ePn	Pn	06 54 42.3	+1.9
QALM	Alamut, Qazvin	2.84	273	ePn	Pn	06 54 42.2	+1.0
KRSH	Karshahi	2.87	216	ePn	Pn	06 54 41.9	+0.3
KRSH				e		06 55 39.0	
	comp=Z,99nm,0.6s						
IMHD	Mahdasht	2.91	258	ePn	Pn	06 54 43.0	+1.1
IMHD				e		06 54 58.1	
	comp=Z,99nm,0.6s						
IQOM	Qom	2.92	241	ePn	Pn	06 54 43.8	+1.5
GHVR	GHOM	2.98	233	ePn	Pn	06 54 43.8	+0.9
TNSJ	Nastanj	3.09	139	ePn	Pn	06 54 45.9	+1.5
ANAR	Anarak	3.14	187	ePn	Pn	06 54 46.0	+0.8
ISFR	Sfrayin	3.17	75	ePn	Pn	06 54 47.5	+1.8
ISFR				e		06 55 55.7	
	comp=Z,99nm,0.7s						
IGZV	Ghazvin	3.19	272	ePn	Pn	06 54 48.3	+2.4
IGZV				e		06 55 48.2	
	comp=Z,99nm,0.9s						
IRAZ	Razeghan	3.56	256	ePn	Pn	06 54 52.4	+1.4
TKDS	Koohdasht(Taba	3.63	137	ePn	Pn	06 54 53.5	+1.6
IKLH	Kolahrood	3.67	216	ePn	Pn	06 54 53.7	+1.1
NASN	Na'in	3.68	198	ePn	Pn	06 54 52.5	-0.4
IAKL	Akhelmad	3.71	84	ePn	Pn	06 54 55.6	+2.4
IZEF	Zefreh	3.73	204	ePn	Pn	06 54 55.0	+1.5
IZEF				e		06 55 59.8	
	comp=Z,99nm,0.4s						
QABG	Abgarm-Qazvin	3.76	262	ePn	Pn	06 54 54.1	+0.2
TPRV	Parvadeh(Tabas	3.88	147	ePn	Pn	06 54 56.9	+1.5
IPAY	Payeh	3.90	87	ePn	Pn	06 54 57.8	+2.1
YZKH	Yazd	3.93	175	ePn	Pn	06 54 55.6	-0.5
IGAR	Gharneh	4.28	205	ePn	Pn	06 55 02.8	+1.8
IKRD	Kardeh	4.33	82	ePn	Pn	06 55 04.0	+2.3
HAGD	Aghdareh	4.36	251	ePn	Pn	06 55 04.2	+2.2
IPIR	Pirpir	4.52	218	ePn	Pn	06 55 06.5	+2.2
IMYA	Miami	4.79	88	ePn	Pn	06 55 10.1	+2.1
AFRZ	Afriz	4.92	124	ePn	Pn	06 55 11.5	+1.8
HSAM	Samen	5.01	247	ePn	Pn	06 55 12.8	+1.7
ITEG	Tejag	5.09	131	ePn	Pn	06 55 14.2	+2.1
KLNJ	Kolanjah	5.71	203	ePn	Pn	06 55 22.9	+2.1
IHRS	Heris	6.02	292	ePn	Pn	06 55 26.6	+1.8
IMRD	Marand	7.14	292	ePn	Pn	06 55 42.3	+2.2
AB31	Akbulak array	13.60	16	⇑P	Pn	06 57 10.8	+2.4
	comp=Z,0.9nm,0.6s,baz=206,slow=13,SNR=8.5						
AB31				⇓S	Sn	06 59 34.6	-4.9
	comp=Z,0.5nm,0.4s,baz=200,slow=24,SNR=6.5						
AKTO	Aktyubinsk	14.38	10	⇑P	Pn	06 57 19.3	+0.1
	comp=Z,3.5nm,0.7s						
AKTO				⇑S	Sn	06 59 50.3	-8.3
	comp=Z,3.9nm,1.1s						

IDC 02 06:56:47.7±1.3, 16°.47S×173°.22W, h0^{km}, mb3.8/4, mb1 4.0/6, mb1mx3.8/38, mbtmp3.9/6, ML3.3/2, MS3.2/8, Ms1 3.2/8, ms1mx3.0/32, Error ellipse: s-maj=53.2km s-min=23.2km az=147.0

NEIC 02 06:56:48.3±1.2, 16°.07S±0°.08×173°.02W±0°.09, h10^{km}±1^{km}, mb4.4/10, Error ellipse: s-maj=15.5km s-min=12.9km az=104.0

ISC 02 06:56:48.6±0.6**, 16°.06S**±0°.06×**173°.01W**±0°.08**, h10**^{km}**, n29, σ1**^{s}**61**/23**, mb4.1**/9**, MS3.4**/5**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.45	29	Pn	Pb	06 57 33.0	+0.3
	10nm,0.3s,baz=350,slow=4.5,SNR=11						
AFI				Sn	Sb	06 58 01.0	-1.9
	44nm,0.3s,baz=245,slow=22,SNR=9.7						
AFI				LR	LR	06 58 26.8	
	comp=Z,142nm,18.1s,baz=180,slow=34						
AFI	Afiamalu	2.45	29	Pn	Pn	06 57 28.7	0.0
NIUE	Niue	4.20	136	Pn	Pn	06 57 52.5	-0.3
RAR	Rarotonga	13.55	114	Pn	Pn	07 00 00.1	-0.9
	0.8nm,0.3s,baz=279,slow=13,SNR=2.2						
RAR				LR	LR	07 04 31.8	
	comp=Z,65nm,19.1s,baz=272,slow=34						
RAR	Rarotonga	13.55	114		Pn	07 00 00.5	-0.6
RAO	Raoul Island	13.89	198	LR	LR	07 03 32.2	
	comp=Z,148nm,19.2s,baz=71,slow=30						
RAO	Raoul Island	13.89	198	Pn	Pn	07 00 06.1	+0.5
DZM	Mont Dzumac	20.31	250	P	Pn	07 01 30.7	+3.7
	0.1nm,0.3s,baz=85,slow=18,SNR=3.8						
DZM	Mont Dzumac	20.31	250		P	07 01 26.6	+1.6
DZM				IAmb	IAmb	07 01 42.9	
	comp=Z,12nm,1.1s						
PPT	Papeete	22.48	97	LR	LR	07 08 11.8	
	comp=Z,40nm,20.2s,baz=272,slow=30						
URZ	Urewera	23.77	200	P	P	07 02 00.9	-0.3
URZ				IAmb	IAmb	07 02 08.1	
	comp=Z,12nm,1.2s						
QRZ	Quartz Range	27.68	204	P	P	07 02 38.7	+1.8
LTZ	Lake Taylor	29.46	202	P	P	07 02 53.7	+0.9
COEN	Coen	42.31	267	P	P	07 04 42.6	-0.4
STKA	Stephens Creek	44.04	241	P	P	07 04 54.4	-2.4
	comp=Z,0.6nm,0.2s,baz=97,slow=17,SNR=1.5						
WR0	Warramunga Arr	49.87	257	P	P	07 05 41.1	-1.4
WR0				IAmb	IAmb	07 05 41.7	
	comp=Z,8.9nm,1.5s						
WB0	Warramunga Arr	50.02	257	P	P	07 05 43.2	-0.5
WB0				IAmb	IAmb	07 05 46.1	
	comp=Z,2.0nm,1.0s						
WB2	Warramunga Arr	50.05	257	P	P	07 05 44.0	0.0
WB2				IAmb	IAmb	07 05 44.4	
	comp=Z,6.4nm,1.4s						
WRA	Warramunga Arr	50.06	257	P	P	07 05 41.7	-2.3
	comp=Z,0.5nm,0.8s,baz=93,slow=6.6,SNR=7.8						
AS31	Alice Springs	50.27	252	P	P	07 05 43.6	-2.0
ASAR	Alice Springs	50.27	252	P	P	07 05 43.4	-2.2
	comp=Z,1.3nm,0.5s,baz=90,slow=7.7,SNR=27						
ASAR	Alice Springs	50.27	252	P	P	07 05 45.8	+0.2
MJAR	Matsushiro Arr	69.68	320	LR	LR	07 32 15.7	
	comp=Z,26nm,21.8s,baz=290,slow=30						
HSIG		74.82	53	P	P	07 08 28.9	-0.6
HSIG				IAmb	IAmb	07 08 37.1	
	comp=Z,11nm,1.4s						
PDAR	Pinedale Array	82.50	42	P	P	07 09 15.9	+4.0
	comp=Z,0.2nm,0.6s,baz=146,slow=0.3,SNR=2.9						
INK	Inuvik	88.81	14	LR	LR	07 41 38.1	
	comp=Z,18nm,21.7s,baz=48,slow=30						
YAK	Yakutsk	89.86	337	LR	LR	07 45 05.1	
	comp=Z,31nm,19.9s,baz=235,slow=32						
CMAR	Chiang Mai Arr	93.17	288	LR	LR	07 51 32.0	
	comp=Z,7.4nm,18.0s,baz=60,slow=35						
BRTR	Keskin Array B	146.90	321	PKPbc	PKPab	07 16 33.9	+0.7
	comp=Z,1.7nm,0.8s,baz=8.5,slow=2.9,SNR=5.6						

IDC 02 07:14:17.5±3.7**, 55°.56N**×**86°.25E, h0**^{km}**, mb1 2.7**/2**, mb1mx2.6**/48**, mbtmp2.7**/2**, ML2.5**/2**, Error ellipse: s-maj=30.9km s-min=26.2km az=45.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.81	208	i		07 24 50.0	
	baz=23,slow=345,SNR=8.6						
ZALV	Zalesovo Beam	1.81	208	Pg	Pn	07 14 49.5	-0.4
	4.3nm,0.3s,baz=31,slow=15,SNR=41						
ZALV				Lg	Lg	07 15 15.6	
	2.0nm,0.3s,baz=31,slow=29,SNR=6.1						
KURBB	Kurchatov Arra	6.79	226	Pn	Pn	07 15 58.4	+0.1
	0.1nm,0.3s,baz=44,slow=14,SNR=6.5						
KURBB				Lg	Lg	07 17 57.4	
	baz=48,slow=35,SNR=0.4						
MKAR	Makanchi Array	9.12	197	Pn	Pn	07 16 30.4	+0.1
	0.1nm,0.3s,baz=12,slow=10,SNR=2.6						

NNC 02 07:16:60.0±0.5, 50°.00N×78°.68E, h0^{km}, mb3.2, mpv2.9, Error ellipse: s-maj=5.1km s-min=2.0km az=68.0, Suspected Mining explosion.

IDC 02 07:17:01.2±1.1, 50°.05N×78°.76E, h0^{km}, mb1 2.7/2, mb1mx2.7/42, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=19.2km s-min=6.1km az=67.0

ISC 02 07:17:01.2±1.0**, 50°.07N**±0°.05×**78°.73E**±0°.06**, h0**^{km}**, n20, σ1**^{s}**00**/32**, 17C-7D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.53	345	⇑P	Pg	07 17 11.6	+0.3
KUR07				⇑S	Sb	07 17 20.4	-1.2
KUR06	Kurchatov Arra	0.55	346	⇑P	Pg	07 17 12.0	+0.3
KUR06				⇑S	Sb	07 17 21.2	-0.9
KUR14	Kurchatov Arra	0.55	351	⇑P	Pg	07 17 12.0	+0.2
KUR14				⇑S	Sb	07 17 20.5	-1.7
KUR15	Kurchatov Arra	0.56	349	⇑P	Pg	07 17 12.0	+0.1
KUR15				⇓S	Sb	07 17 21.0	-1.4
KURBB	Kurchatov Arra	0.57	347	Pg	Pg	07 17 12.3	+0.3
	1.8nm,0.3s,baz=166,slow=18,SNR=98						
KURBB				Lg	Lg	07 17 21.7	
	3.1nm,0.3s,baz=207,slow=16,SNR=19						
KURBB	Kurchatov Arra	0.57	347	⇑P	Pg	07 17 12.2	+0.2
	8.1nm,0.2s						
KURBB				⇓S	Sb	07 17 21.2	-1.4
	48nm,0.4s						
KUR16	Kurchatov Arra	0.58	345	⇑P	Pg	07 17 12.3	+0.1
KUR16				⇓S	Sb	07 17 21.5	-1.4
KUR05	Kurchatov Arra	0.59	348	⇑P	Pg	07 17 12.5	+0.1
KUR05				⇑S	Sb	07 17 21.5	-1.7
KUR17	Kurchatov Arra	0.59	343	⇑P	Pg	07 17 12.7	+0.3
KUR17				⇓S	Sb	07 17 22.5	-0.7
KUR04	Kurchatov Arra	0.60	348	⇑P	Pg	07 17 12.9	+0.2
KUR04				⇓S	Sb	07 17 22.6	-1.1
KURK	Kurchatov	0.65	354	⇑P	Pg	07 17 13.6	0.0
	4.0nm,0.3s						
KURK				⇓S	Sb	07 17 24.0	-1.0
	61nm,0.9s						
SEM	Semipalatinsk	1.03	70	P	Pg	07 17 20.2	-0.7
	4.6nm,0.2s						
SEM				S	Sb	07 17 35.8	-0.4
	40nm,0.2s						
MAKZ	Makanchi	3.91	145	⇑Lg	Lg	07 19 00.8	
	5.5nm,0.6s						
MK31	Makanchi Array	4.04	143	⇑Pn	Pn	07 18 04.4	0.0
	0.1nm,0.2s,baz=322,slow=11,SNR=10						
MK31				⇑Pg	Pb	07 18 14.0	+0.7
	0.3nm,0.2s,baz=321,slow=16,SNR=12						
MK31				⇓Lg	Lg	07 19 07.9	
	3.0nm,0.5s,baz=326,slow=28,SNR=17						
MKAR	Makanchi Array	4.04	143	Pn	Pn	07 18 04.3	-0.1
	0.2nm,0.3s,baz=326,slow=10,SNR=10						
MKAR				Pg	Pb	07 18 11.2	-2.1
	0.4nm,0.3s,baz=323,slow=16,SNR=12						
MKAR				Sn	Sn	07 18 53.6	+1.2
	0.4nm,0.3s,baz=282,slow=23,SNR=5.6						
MKAR				Lg	Lg	07 19 05.5	
	2.0nm,0.3s,baz=328,slow=27,SNR=21						
KAPS	Kapalarasan	4.81	175	Pg	Pb	07 18 25.7	-0.6
	1.0nm,0.4s						
KAPS				Lg	Lg	07 19 28.9	
	12nm,0.5s						
ZSN	Zaisan	4.83	121	Pg	Pb	07 18 27.0	+0.3
	2.3nm,0.3s						
ZSN				Lg	Lg	07 19 30.7	
	5.5nm,0.6s						
ZALV	Zalesovo Beam	5.40	42	Pn	Pn	07 18 24.8	+1.9
	0.7nm,0.3s,baz=228,slow=17,SNR=5.5						
ZALV				Lg	Lg	07 19 51.5	
	0.2nm,0.3s,baz=227,slow=26,SNR=3.6						
I46RU	ZALESOVO INFRA	5.40	42	i		07 51 50.0	
	baz=221,slow=324,SNR=1.1						
DJR	Jarkent	5.79	172	Pg	Pb	07 18 44.0	+1.0
	1.7nm,0.3s						
DJR				Lg	Lg	07 20 00.4	

IDC 02 07:38:03.7±51.0**, 12°.48S**×**168°.48E, h0**^{km}**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/32**, mbtmp3.8**/3**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.4**/23**, Error ellipse: s-maj=866.4km s-min=120.9km az=64.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	19.28	96	LR	LR	07 48 46.4	
	comp=Z,56nm,19.5s,baz=76,slow=33						
STKA	Stephens Creek	31.36	228	P	P	07 44 26.1	-0.1
	0.4nm,0.4s,baz=67,slow=9.9,SNR=3.1						
WRA	Warramunga Arr	33.56	253	P	P	07 44 46.1	+0.4
	0.4nm,0.3s,baz=84,slow=8.6,SNR=6.9						
ASAR	Alice Springs	34.61	246	P	P	07 44 54.4	-0.4
	0.8nm,0.5s,baz=74,slow=9.8,SNR=16						

NNC 02 08:05:58.0±1.1, 41°.57N×77°.91E, h0^{km}, mb3.1, mpv3.0, Error ellipse: s-maj=7.5km s-min=5.1km az=6.0

SOME 02 08:05:57.8, 41°.58N×77°.87E, h15^{km}

KRNET 02 08:05:57.0±0.1, 41°.57N×77°.99E, h18^{km}, mb2.1

ISC 02 08:05:57.2±1.9**, 41°.58N**±0°.07×**77°.89E**±0°.03**, h17**^{km}±15^{km}**, n42, σ1**^{s}**40**/72**, 16C-9D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	Kajisay	0.77	316	⇓iP	Pb	08 06 12.5	+0.2
	baz=13						
KDJ				⇓iS	Sb	08 06 23.8	+1.3
	baz=13						
PRZ	Przheval'sk	0.98	23	⇑iP	Pg	08 06 15.5	-0.8
	baz=18						
PRZ				⇑iS	Sg	08 06 28.7	-0.5
	baz=18						
ANVS	Anan'yevo	1.22	352	⇓iP	Pb	08 06 20.3	+0.3
	baz=49						
ANVS				⇓iS	Sg	08 06 37.1	+0.4
	baz=49						
ULHL	Ulahol	1.40	299	⇑iP	Pb	08 06 24.3	+1.2
	baz=98						
ULHL				⇑iS	Sg	08 06 44.1	+1.6
	baz=98						
SATY	Saty	1.53	14	⇑eP	Pg	08 06 26.9	+0.2
	4.8nm,0.1s						
SATY				eS	Sg	08 06 47.8	+1.1
	13nm,0.1s						
SATY	Saty	1.53	14	P	Pg	08 06 26.9	+0.2
	4.8nm,0.1s						
SATY				S	Sg	08 06 47.9	+1.3
	12nm,0.1s						
TNSS	Tian-Shan	1.62	335	eP	Pg	08 06 28.4	0.0
	1.3nm,0.1s						
TNSS				eS	Sg	08 06 50.2	+0.8
	4.2nm,0.2s						
TNSS	Tian-Shan	1.62	335	P	Pg	08 06 28.4	0.0
	1.7nm,0.1s						
TNSS				S	Sg	08 06 50.4	+0.9
	4.2nm,0.2s						
MDOK	Medeo	1.70	339	eP	Pg	08 06 30.2	+0.2
	1.4nm,0.2s						
MDOK				eS	Sg	08 06 53.0	+0.9
	4.6nm,0.2s						
MDOK	Medeo	1.70	339	⇑P	Pb	08 06 28.2	-0.1
	1.7nm,0.7s						
MDOK				⇓S	Sg	08 06 52.3	+0.1
	5.0nm,0.6s						
MDOK	Medeo	1.70	339	Pg	Pg	08 06 30.2	+0.2
	1.4nm,0.2s						
MDOK				Lg	Lg	08 06 53.7	
	4.6nm,0.2s						
BOOM	Boomskoye usch	1.71	303	⇑iP	Pb	08 06 29.6	+1.2
	baz=2.0						
BOOM				⇑iS	Sg	08 06 53.5	+1.0
	baz=2.0						
KOTS	Kotyrbulak	1.75	341	eP	Pg	08 06 31.0	+0.1
	6.7nm,0.3s						
KOTS				eS	Sg	08 06 54.7	+0.9
	13nm,0.2s						
KOTS	Kotyrbulak	1.75	341	P	Pg	08 06 31.0	+0.1
KOTS				S	Sg	08 06 54.7	+0.9
	13nm,0.2s						
KNDC	Almaty	1.78	338	⇑P	Pb	08 06 29.4	0.0
	26nm,0.3s						
KNDC				⇑S	Sg	08 06 54.2	-0.3
	34nm,0.3s						
UZB	Uzynbulak	1.78	28	eP	Pg	08 06 30.0	-1.5
	2.3nm,0.1s						
UZB				eS	Sg	08 06 52.8	-1.8
	2.5nm,0.3s						
MTBS	Maitube	1.89	326	eP	Pg	08 06 33.2	-0.4
	1.4nm,0.1s						
MTBS				eS	Sg	08 06 58.4	+0.2
	9.9nm,0.2s						
MTBS	Maitube	1.89	326	P	Pg	08 06 33.2	-0.4
	1.4nm,0.1s						
MTBS				S	Sg	08 06 58.4	+0.2
	9.9nm,0.2s						
SHLS	Shalkode	1.96	36	eP	Pg	08 06 38.2	+3.3
	4.5nm,0.1s						
SHLS				eS	Sg	08 07 06.6	+6.2
	8.9nm,0.3s						
SHLS	Shalkode	1.96	36	Pg	Pg	08 06 38.2	+3.3
	4.5nm,0.1s						
SHLS				Lg	Lg	08 07 06.6	
	8.9nm,0.3s						
KPKS	Kokpek	1.98	17	eP	Pg	08 06 33.9	-1.3
	4.9nm,0.1s						
KPKS				eS	Sg	08 06 59.0	-1.9
	7.0nm,0.3s						
KST	Kastek	2.05	316	eP	Pg	08 06 36.1	-0.4
	1.3nm,0.2s						

KST eS Sg 08 07 03.6 +0.5
9.3nm,0.3s
KST Kastek 2.05 316 Pg Pg 08 06 36.1 -0.4
1.3nm,0.2s
KST Lg Lg 08 07 03.6
9.3nm,0.3s
PDGK Podgornoye 2.11 34 Pg Pg 08 06 36.7 -1.1
1.3nm,0.2s
PDGK Lg Lg 08 07 04.2
2.4nm,0.4s
PDGK Podgornoye 2.11 34 ⇑Pg Pb 08 06 34.4 -0.9
0.7nm,0.2s
PDGK ⇓Lg Lg 08 07 03.8
7.1nm,1.1s
TKM2 Tokmak 2 2.17 309 ⇑eP Pb 08 06 36.4 +0.2
baz=8.0
TKM2 ⇑iS Sb 08 07 05.0 +2.1
baz=8.0
TKM2 Tokmak 2 2.17 309 ⇑Pg Pb 08 06 37.2 +1.0
1.6nm,0.6s
TKM2 ⇓Lg Lg 08 07 06.8
2.9nm,0.3s
DGS Degeres 2.29 317 eP Pg 08 06 40.4 -0.8
0.7nm,0.1s
DGS eS Sg 08 07 10.9 +0.1
5.3nm,0.2s
DGS Degeres 2.29 317 Pg Pg 08 06 40.4 -0.8
0.7nm,0.1s
DGS Lg Lg 08 07 10.9
5.3nm,0.2s
KTBS Karatobe 2.31 338 eP Pg 08 06 40.6 -1.0
0.7nm,0.1s
KTBS eS Sg 08 07 11.2 -0.4
30nm,0.2s
KTBS Karatobe 2.31 338 Pg Pg 08 06 40.6 -1.0
0.7nm,0.1s
KTBS Lg Lg 08 07 11.2
30nm,0.2s
CHKK Chushkaly 2.37 344 eP Pg 08 06 41.8 -0.9
2.6nm,0.1s
CHKK eS Sg 08 07 13.0 -0.4
27nm,0.2s
CHKK Chushkaly 2.37 344 Pg Pg 08 06 41.8 -0.9
2.6nm,0.1s
CHKK Lg Lg 08 07 13.0
27nm,0.2s
MNBS Baschi 2.53 8 eP Pg 08 06 44.2 -1.5
1.8nm,0.1s
MNBS eS Sg 08 07 17.6 -0.9
9.1nm,0.2s
MNBS Baschi 2.53 8 Pg Pg 08 06 44.2 -1.5
1.8nm,0.1s
MNBS Lg Lg 08 07 17.6
9.1nm,0.2s
KUU Kurty 2.58 334 eP Pb 08 06 45.3 +2.2
0.8nm,0.3s
KUU eS Sg 08 07 19.2 -1.0
5.6nm,0.5s
KUU Kurty 2.58 334 Pg Pb 08 06 44.4 +1.3
0.5nm,0.1s
KUU Lg Lg 08 07 17.5
5.6nm,0.5s
UCH Uchtor 2.60 286 ⇓iP Pb 08 06 42.6 -1.1
baz=85
UCH ⇓iS Sb 08 07 16.0 +0.4
baz=85
ARXS Arharly 2.63 359 eP Pg 08 06 46.2 -1.5
3.1nm,0.2s
ARXS eS Sg 08 07 20.7 -1.2
6.9nm,0.4s
ARXS Arharly 2.63 359 Pg Pg 08 06 46.2 -1.5
3.1nm,0.2s
ARXS Lg Lg 08 07 20.7
6.9nm,0.4s
ARLS Aral 2.69 277 ⇑iP Pb 08 06 43.5 -1.5
baz=77
ARLS ⇑iS Sb 08 07 17.3 -0.4
baz=77
DJR Jarkent 3.09 26 eP Pg 08 06 54.1 -2.3
0.3nm,0.1s
DJR eS Sg 08 07 34.2 -2.1
3.8nm,0.1s

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*IDC **02** 08:37:21.4±0.8, 31.°37N×140.°21E, h0km, mb3.9/11, mb1 4.1/14, mb1mx3.8/52, mbtmp3.8/14, ML3.2/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/43, Error ellipse: s-maj=21.7km s-min=16.1km az=95.0*

*NEIC **02** 08:37:25.3±2.7, 31.°64N±0.°09×139.°69E±0.°10, h10km±1km, mb4.4/20, Error ellipse: s-maj=14.6km s-min=14.2km az=215.0*

*NIED **02** 08:37:27.2, 31.°92N×140.°50E, h5km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.65; $M_{\theta\theta}$0.32; $M_{\phi\phi}$0.33; $M_{r\theta}$0.52; $M_{\theta\phi}$0.31; $M_{\phi r}$0.71; Fault plane solution: $M_0$1.09000×10^{15} NP1: ϕ_s218.00000°, δ72.00000°, λ-94.00000°. NP2:ϕ_s50.00000°, δ18.00000°, λ-78.00000°.*

ISC 02 08:37:25.5±0.7**, 31.°56N**±0.°08×**140.°01E**±0.°09**, h10**km**, n76, σ1.°56**/65**, mb4.3**/39**, 2C, Southeast of Honshu**

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

JHJ2 Mitsune 1.56 354 Pn Pn 08 37 52.1 -1.1
JHJ Hachijo jima 2 1.57 353 Pn Pn 08 37 52.3 -1.1
25nm,0.3s,baz=117,slow=22,SNR=18
JHJ Sn **Sn 08 38 13.2 -0.6**
51nm,0.3s,baz=240,slow=23,SNR=6.0
INU Inuyama 4.53 327 Pn Pn 08 38 29.3 -4.8
JGF Kuroka 4.60 332 Pn 08 38 32.1 -3.0
JYT Yasato 4.66 2 Pn **Pn 08 38 34.5 -1.5**
MJAR Matsushiro Arr 5.19 344 Pn **Pn 08 38 44.2 +1.0**
0.3nm,0.3s,baz=159,slow=12,SNR=27
MJAR Matsushiro Arr 5.19 344 Pn 08 38 44.1 +0.9
MAJO Matsushiro 5.19 344 Pn **Pn 08 38 43.4 +0.1**
MAT Matsushiro 5.19 344 P **Pn 08 38 46.8 +3.5**
MAT eS **Sn 08 39 46.1 +2.9**
JMM Marumori 6.33 6 Pn 08 38 57.7 -1.1
KSRS Korea Array 11.57 304 Pn **Pn 08 40 13.0 +2.3**
0.2nm,0.3s,baz=131,slow=13,SNR=2.1
KLR Kul'dur 18.72 343 P **P 08 41 44.5 +0.5**
0.1nm,0.3s,baz=141,slow=15,SNR=2.3
BJT Baijiatuau 21.06 300 P **P 08 42 08.0 -1.6**
WHN Wuhan 21.99 274 ⇑P **P 08 42 22.2 +2.4**
WHN pmax pmax
comp=Z,70nm,1.0s
HHC Hu-ho-hao-te 24.67 300 eP **P 08 42 42.9 -3.6**
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,210nm,6.1s
HHC LR LR
comp=N,340nm,19.8s
HHC LR LR
comp=E,250nm,16.1s
HHC LR LR
comp=Z,140nm,11.1s
PETK Petropavlovsk- 25.07 26 P **P 08 42 48.2 -1.6**
comp=Z,5.6nm,1.1s,baz=142,slow=5.1,SNR=4.2
PETK Petropavlovsk- 25.07 26 P **P 08 42 50.0 +0.1**
ENH Enshi 26.18 275 P **P 08 42 59.7 -0.5**
XAN Xi'an 26.20 284 P **P 08 42 59.6 -0.8**
XAN pP sP 08 43 07.5 +3.0
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN Xi'an 26.20 284 P **P 08 42 58.8 -1.6**
XAN IAmb IAmb 08 43 04.1
comp=Z,17nm,1.3s
WAKE Wake Island 26.91 111 P **P 08 43 11.1 +4.2**
MA2 Magadan 28.94 11 P **P 08 43 25.2 +0.5**
MA2 IAmb IAmb 08 43 28.2
comp=Z,5.3nm,1.2s
SONM Songino Array 30.25 312 P **P 08 43 37.0 +0.5**
comp=Z,0.4nm,0.3s,baz=114,slow=7.3,SNR=3.6
YAK Yakutsk 31.21 351 LR LR 08 56 58.8
comp=Z,95nm,18.9s,baz=82,slow=38
KMI Kunming 33.31 268 ⇑P **P 08 44 03.0 -0.8**
KMI pP pP 08 44 05.5 -1.1
KMI sP sP 08 44 07.0 -0.8
KMI pmax pmax
comp=Z,15nm,0.5s
KMI pmax pmax
comp=Z,92nm,4.3s
CHAI Chaiyaphum 37.91 255 P **P 08 44 43.4 +0.3**
comp=Z,395nmcomp=Z,45nm,0.9s
UTTA Uttaradit 38.19 258 P **P 08 44 45.0 -0.5**
comp=Z,34nm,1.1s
PHIT Phitsanulok 38.57 258 P **P 08 44 49.8 +1.1**
comp=Z,3µmcomp=Z,72nm,1.0s
LAMP Lampang 38.60 260 P **P 08 44 49.5 +0.5**
comp=Z,562nmcomp=Z,21nm,0.9s
CM34 Chiang Mai Arr 38.85 261 P **P 08 44 51.0 -0.1**
SRAK Srakaew 38.87 252 P P 08 44 47.0 -4.2
comp=Z,3µmcomp=Z,354nm,1.0s
CM35 Chiang Mai Arr 38.93 261 P **P 08 44 51.0 -0.7**
CM33 Chiang Mai Arr 39.04 261 P **P 08 44 52.0 -0.7**
CMMT Chiang Mai 39.04 261 P **P 08 44 51.3 -1.3**
comp=Z,8.5nm,1.1s
CHTO Chiang Mai 39.05 261 P **P 08 44 51.0 -1.7**
CHTO IAmb IAmb 08 44 53.3
comp=Z,14nm,0.9s
CM36 Chiang Mai Arr 39.05 261 P **P 08 44 53.0 +0.3**
SUKH Sukhothai 39.09 259 P **P 08 44 53.6 +0.6**
comp=Z,13nm,1.1s
CM09 Chiang Mai Arr 39.17 260 P **P 08 44 56.0 +2.2**
comp=Z,10nm,0.9s
CM32 Chiang Mai Arr 39.20 261 P **P 08 44 55.0 +1.0**
CM04 Chiang Mai Arr 39.20 260 P **P 08 44 54.5 +0.4**
comp=Z,7.8nm,0.8s
CMAR Chiang Mai Arr 39.21 261 P **P 08 44 53.9 -0.1**
comp=Z,2.7nm,0.4s,baz=50,slow=7.2,SNR=18
CM01 Chiang Mai Arr 39.21 260 P **P 08 44 57.2 +3.2**
comp=Z,168nmcomp=Z,9.1nm,0.8s
CM02 Chiang Mai Arr 39.22 260 P **P 08 44 54.6 +0.5**
comp=Z,9.4nm,0.8s
CM05 Chiang Mai Arr 39.23 260 P **P 08 44 54.0 -0.3**
comp=Z,4.4nm,1.0s
CM13 Chiang Mai Arr 39.26 260 P **P 08 44 54.9 +0.4**
comp=Z,71nmcomp=Z,4.9nm,0.7s
MHMT Maesarieng 40.19 261 P **P 08 45 05.0 +2.8**
UTHA Uthaitani 40.19 256 P **P 08 45 02.7 +0.5**
comp=Z,18nm,0.9s
UMPA Umpang Tak 40.35 258 P **P 08 45 05.2 +1.6**
comp=Z,4µmcomp=Z,25nm,1.1s
TIXI Tiksi 40.60 355 P P 08 45 02.4 -2.6
WMQ Urumqi 42.52 302 eP **P 08 45 20.7 -0.4**
RNTT Ranong 44.35 249 P P 08 45 31.0 -5.2
MK31 Makanchi Array 46.24 306 P **P 08 45 49.0 -1.8**
MKAR Makanchi Array 46.24 306 P P 08 45 48.5 -2.4
comp=Z,0.7nm,0.7s,baz=89,slow=9.9,SNR=9.1
MKAR Makanchi Array 46.24 306 P **P 08 45 48.8 -2.1**
ANM Nome 46.91 29 P **P 08 45 56.1 +0.3**
ANM IAmb IAmb 08 45 58.3
comp=Z,3.3nm,0.8s
RDOG Red Dog Mine 48.93 25 P **P 08 46 13.3 +1.9**
RDOG IAmb IAmb 08 46 15.4
comp=Z,4.7nm,1.0s
GSI Gunungsitoli 50.08 242 P **P 08 46 19.5 -1.4**
WRA Warramunga Arr 51.49 187 P P 08 46 26.9 -4.4
comp=Z,1.6nm,0.6s,baz=3.0,slow=7.7,SNR=16
MDM Murphy Dome 54.20 30 P **P 08 46 51.7 +0.8**
HDA Harding Lake 54.74 31 P **P 08 46 54.3 -0.5**
HDA IAmb IAmb 08 46 57.8
comp=Z,4.6nm,1.0s
IL31 54.77 30 P **P 08 46 54.0 -0.9**
IL31 IAmb IAmb 08 47 07.0
comp=Z,3.1nm,1.3s
ILAR Eielson Array 54.77 30 P **P 08 46 54.0 -1.0**
comp=Z,1.0nm,0.9s,baz=266,slow=6.0,SNR=7.8
KK31 Karatay Array 55.00 303 P P 08 46 52.9 -4.2
KK31 IAmb IAmb 08 47 02.0
comp=Z,3.3nm,1.3s
KKAR Karatay Array 55.00 303 P P 08 46 53.0 -4.1
KKAR IAmb IAmb 08 47 02.0
comp=Z,3.3nm,1.3s
AS31 Alice Springs 55.22 187 P **P 08 46 58.7 0.0**
ASAR Alice Springs 55.22 187 P P 08 46 55.0 -3.7
comp=Z,0.7nm,0.9s,baz=14,slow=12,SNR=8.9
BCAR Beaver Creek A 57.11 32 P **P 08 47 12.6 +0.8**
ABKAR Akbulak array 60.66 312 P P 08 47 33.5 -3.2
ABKAR IAmb IAmb 08 47 36.9
comp=Z,1.4nm,0.8s
YKA Yellowknife Ar 69.14 29 P P 08 48 29.3 -2.4
comp=Z,0.7nm,0.9s,baz=296,slow=5.8,SNR=5.5
KBZ Khabaz 73.61 311 P **P 08 48 58.1 -0.9**
comp=Z,1.5nm,0.7s,baz=44,slow=5.1,SNR=4.5
BMO Blue Mountains 76.54 46 P **P 08 49 16.7 +0.6**
NOA NORSAR Array B 78.78 337 P **P 08 49 26.3 -1.8**
comp=Z,1.1nm,0.9s,baz=47,slow=5.2,SNR=2.1
NVAR Mina Array Bea 79.25 52 P **P 08 49 29.4 -2.0**
comp=Z,0.1nm,0.3s,baz=267,slow=4.5,SNR=1.3
NVAR Mina Array Bea 79.25 52 P **P 08 49 31.5 +0.1**
LPAZ La Paz 150.24 66 PKPbc **PKPdf 08 57 15.5 +2.4**
comp=Z,1.3nm,0.8s,baz=342,slow=2.5,SNR=4.4
LPAZ La Paz 150.24 66 PKPdf 08 57 11.0 -2.1

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*IDC **02** 08:38:58.5±0.6, 31.°32N×140.°10E, h0km, mb4.1/19, mb1 4.2/24, mb1mx4.0/55, mbtmp4.0/24, ML3.1/5, MS3.5/9, Ms1 3.5/9, ms1mx3.1/44, Error ellipse: s-maj=17.8km s-min=13.7km az=98.0*

*NEIC **02** 08:39:00.3±2.5, 31.°44N±0.°08×140.°17E±0.°09, h10km±1km, mb4.6/47, Error ellipse: s-maj=13.7km s-min=11.8km az=318.0*

ISC 02 08:39:00.2±0.5**, 31.°44N**±0.°05×**140.°17E**±0.°06**, h10**km**, n142, σ1.°83**/139**, mb4.6**/65**, MS3.6**/6**, 2C-1D, Southeast of Honshu**

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

JHJ2 Mitsune 1.69 350 Pn **Pn 08 39 29.6 -0.3**
JHJ Hachijo jima 2 1.71 349 Pn **Pn 08 39 29.4 -0.7**
61nm,0.3s,baz=48,slow=23,SNR=8.5
JHJ Sn **Sn 08 39 46.2 -5.8**
81nm,0.3s,baz=67,slow=21,SNR=2.0
JHJ LR LR 08 40 13.6
comp=Z,963nm,22.0s,baz=213,slow=42
JSG Sagara 3.63 333 Pn **Pn 08 39 57.4 +0.9**
JCJ Chichijima 4.67 157 LR LR 08 42 01.7
comp=Z,319nm,18.5s,baz=32,slow=40
INU Inuyama 4.71 327 Pn **Pn 08 40 10.3 -1.0**
JGF Kuroka 4.77 331 Pn 08 40 13.0 +0.7
JYT Yasato 4.78 0 Pn **Pn 08 40 12.4 +0.1**
MJAR Matsushiro Arr 5.34 343 Pn **Pn 08 40 21.5 +1.4**
0.6nm,0.3s,baz=159,slow=11,SNR=13
MJAR LR LR 08 42 26.8
comp=Z,834nm,18.7s,baz=165,slow=38
MJAR Matsushiro Arr 5.34 343 Pn 08 40 22.7 +2.6
MAJO Matsushiro 5.34 343 Pn **Pn 08 40 21.1 +1.0**
MAT Matsushiro 5.34 343 P **Pn 08 40 23.3 +3.2**
MAT eS **Sn 08 41 20.7 -1.1**
JMN Monobe 5.78 295 Pn **Pn 08 40 26.2 +0.1**
JMM Marumori 6.43 4 Pn **Pn 08 40 35.9 +0.9**
JNU Nakatsue 8.04 284 Pn **Pn 08 40 58.0 +0.8**
0.3nm,0.3s,baz=117,slow=4.5,SNR=1.6
JNU LR LR 08 43 46.5
comp=Z,246nm,21.3s,baz=126,slow=36
JNU Nakatsue 8.04 284 Pn **Pn 08 40 58.7 +1.5**
KSRS Korea Array 11.75 304 Pn **Pn 08 41 49.3 +1.4**
0.1nm,0.3s,baz=118,slow=12,SNR=1.2
KSRS LR LR 08 45 53.4
comp=Z,171nm,19.9s,baz=118,slow=35
USA0B Ussuriysk Arra 14.27 335 Pn **Pn 08 42 21.7 -0.7**
USRK Ussuriysk Ar. 14.27 335 Pn **Pn 08 42 22.8 +0.4**
baz=163,slow=15,SNR=2.8
USRK LR LR 08 47 36.3
comp=Z,206nm,18.8s,baz=164,slow=36
DL2 Dalian 16.87 301 P **P 08 43 03.5 +4.9**
DL2 S **S 08 46 18.8 +4.3**
DL2 pmax pmax
comp=Z,63nm,1.0s
DL2 pmax pmax
comp=Z,520nm,4.9s
DL2 LR LR
comp=N,470nm,12.0s
DL2 LR LR
comp=E,410nm,13.2s
DL2 LR LR
comp=Z,400nm,13.0s
NJ2 Nanjing 18.14 278 ⇑P **P 08 43 16.9 +4.3**
NJ2 pmax pmax
comp=Z,21nm,0.7s
SSLB Suanglung 18.64 251 P **P 08 43 16.6 -1.6**
SSLB IAmb IAmb 08 43 27.1
comp=Z,36nm,1.0s
KLR Kul'dur 18.87 343 P **P 08 43 20.9 +0.4**
comp=Z,0.1nm,0.3s,baz=160,slow=12,SNR=4.3
KLR LR LR 08 50 30.7
comp=Z,257nm,19.4s,baz=160,slow=36
TPUB Ta-pu 19.13 250 P **P 08 43 23.8 +0.2**
TPUB IAmb IAmb 08 43 31.2
comp=Z,44nm,0.9s
TIA Tai'an 19.71 290 P **Pn 08 43 33.0 +1.7**
TIA pmax pmax
comp=Z,11nm,1.2s
TIA pmax pmax
comp=Z,180nm,3.9s
TIA LR LR
comp=Z,380nm,15.2s
TIA LR LR
comp=Z,340nm,11.9s
TIA LR LR
comp=Z,300nm,13.2s
KNMB Chin-men Tao 20.44 256 P **P 08 43 37.8 0.0**
BJT Baijiatuau 21.23 300 P **P 08 43 45.8 -0.5**
BJI Beijing 21.23 300 P **P 08 43 47.9 +1.6**
BJI S **S 08 47 41.8 -0.5**
BJI pmax pmax
comp=Z,9.0nm,0.7s
BJI pmax pmax
comp=Z,240nm,4.0s
BJI LR LR
comp=Z,270nm,14.1s
BJI LR LR
comp=Z,190nm,14.6s
BJI LR LR
comp=Z,140nm,22.5s
WHN Wuhan 22.14 274 ⇑P **P 08 43 59.3 +3.2**
HHC Hu-ho-hao-te 24.84 300 eP **P 08 44 22.7 -0.2**
HHC PP **PnPn 08 45 00.3 +5.1**
HHC S **S 08 48 43.5 -2.3**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,210nm,5.7s
HHC LR LR
comp=Z,270nm,14.3s
HHC LR LR
comp=Z,340nm,17.1s
HHC LR LR
comp=Z,280nm,13.8s
PETK Petropavlovsk- 25.11 25 P **P 08 44 25.8 +0.7**
comp=Z,4.8nm,1.0s,baz=132,slow=2.1,SNR=4.8
PETK Petropavlovsk- 25.11 25 P **P 08 44 24.3 -0.8**
PET Petropavlovsk 25.40 27 P **P 08 44 27.7 +0.1**
PET IAmb IAmb 08 44 33.5
comp=Z,18nm,1.0s
ENH Enshi 26.33 276 P **P 08 44 33.2 -3.2**
ENH IAmb IAmb 08 44 41.1
comp=Z,20nm,1.1s
XAN Xi'an 26.36 284 P **P 08 44 34.3 -2.4**
H11N2 WAKE ISLAND Hy 26.70 109 T T 09 12 35.0
baz=302,slow=75,SNR=102
H11N1 WAKE ISLAND Hy 26.71 110 T T 09 12 36.0
baz=302,slow=75,SNR=1099
H11N3 WAKE ISLAND Hy 26.72 109 T T 09 12 36.4
baz=302,slow=75,SNR=122
MA2 Magadan 29.03 11 P **P 08 45 01.4 +1.2**
comp=Z,2.8nm,0.6s,baz=203,slow=13,SNR=4.4
MA2 Magadan 29.03 11 P **P 08 44 59.3 -0.9**
MA2 IAmb IAmb 08 45 04.6
comp=Z,14nm,1.4s
SONM Songino Array 30.43 312 P **P 08 45 13.8 +0.9**
comp=Z,1.1nm,0.8s,baz=100,slow=7.7,SNR=3.7
SONM LR LR 08 58 05.6
comp=Z,60nm,19.1s,baz=358,slow=38
SONM Songino Array 30.43 312 P **P 08 45 13.1 +0.2**
LZH Lanzhou 30.44 289 eP **P 08 45 13.0 -0.2**
LZH pP pP 08 45 16.2 +0.3
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,72nm,4.9s
CD2 Chengdu 31.07 279 eP **P 08 45 18.0 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SEY Seymchan 32.47 10 P **P 08 45 31.9 +1.4**
comp=Z,2.2nm,0.8s,baz=217,slow=8.3,SNR=6.1
KMI Kunming 33.44 269 ⇓P **P 08 45 40.0 +0.3**
KMI sP sP 08 45 48.4 +4.7
KMI pmax pmax
comp=Z,10.0nm,0.6s
KMI pmax pmax
comp=Z,110nm,4.5s
NONG Nongkai 35.98 257 P **P 08 46 03.8 +2.3**
CHAI Chaiyaphum 38.02 255 P **P 08 46 20.6 +1.8**
comp=Z,61nm,0.8s
UTTA Uttaradit 38.30 259 P **P 08 46 22.4 +1.2**
comp=Z,603nmcomp=Z,46nm,0.9s
PHIT Phitsanulok 38.68 258 P **P 08 46 27.0 +2.6**
comp=Z,113nm,0.9s
LAMP Lampang 38.71 260 P **P 08 46 26.5 +1.9**
comp=Z,30nm,0.8s
SRAK Srakaew 38.97 252 P **P 08 46 24.8 -2.0**
comp=Z,6µmcomp=Z,401nm,0.8s
CM35 Chiang Mai Arr 39.05 261 P **P 08 46 28.0 +0.5**
CM33 Chiang Mai Arr 39.16 261 P **P 08 46 29.0 +0.6**
CMMT Chiang Mai 39.16 261 P **P 08 46 28.0 -0.4**
comp=Z,13nm,1.0s
CHTO Chiang Mai 39.16 261 P **P 08 46 29.5 +1.0**
CM36 Chiang Mai Arr 39.17 261 P **P 08 46 30.0 +1.5**
SUKH Sukhothai 39.20 259 P **P 08 46 30.5 +1.8**
comp=Z,19nm,0.9s
CM09 Chiang Mai Arr 39.29 261 P **P 08 46 34.0 +4.5**
comp=Z,184nmcomp=Z,14nm,0.8s
CM32 Chiang Mai Arr 39.32 261 P **P 08 46 33.0 +3.3**
CM04 Chiang Mai Arr 39.32 261 P **P 08 46 31.0 +1.2**
comp=Z,136nmcomp=Z,16nm,0.8s
CM31 Chiang Mai Arr 39.33 261 P **P 08 46 34.6 +4.8**
comp=Z,483nm,0.7s
CM31 Chiang Mai Arr 39.33 261 P **P 08 46 29.9 0.0**
CM31 IAmb IAmb 08 46 34.9
comp=Z,17nm,0.9s
CMAR Chiang Mai Arr 39.33 261 P **P 08 46 30.9 +1.0**
comp=Z,7.8nm,0.8s,baz=50,slow=7.3,SNR=19
CMAR Chiang Mai Arr 39.33 261 P **P 08 46 29.9 +0.1**
CM01 Chiang Mai Arr 39.33 261 P **P 08 46 32.0 +2.2**
comp=Z,13nm,0.8s
CM02 Chiang Mai Arr 39.33 261 P **P 08 46 31.9 +2.0**
comp=Z,157nmcomp=Z,18nm,0.8s
CM15 Chiang Mai Arr 39.34 261 P **P 08 46 32.0 +2.0**
comp=Z,17nm,0.8s
CM05 Chiang Mai Arr 39.35 261 P **P 08 46 32.3 +2.3**
comp=Z,105nmcomp=Z,9.9nm,0.8s
CM13 Chiang Mai Arr 39.37 261 P **P 08 46 32.1 +1.9**
comp=Z,12nm,0.8s
BILL Bilibino 39.68 15 P **P 08 46 29.7 -2.5**
UTHA Uthaitani 40.30 256 P **P 08 46 39.7 +1.9**
comp=Z,312nmcomp=Z,26nm,0.9s
MHMT Maesarieng 40.31 261 P P 08 46 43.4 +5.4
comp=Z,1µmcomp=Z,26nm,1.4s
UMPA Umpang Tak 40.46 258 P **P 08 46 42.0 +2.7**
comp=Z,4µmcomp=Z,33nm,0.9s
TIXI Tiksi 40.73 355 P **P 08 46 41.6 +0.9**
WMQ Urumqi 42.69 302 eP **P 08 46 59.6 +2.2**
WMQ pP sP 08 47 04.1 +2.7
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,160nm,4.9s
RNTT Ranong 44.44 250 P P 08 47 07.4 -4.2
COEN Coen 45.23 176 P **P 08 47 17.3 -0.5**
MK31 Makanchi Array 46.42 307 P **P 08 47 26.7 -0.3**
MKAR Makanchi Array 46.42 307 P **P 08 47 25.7 -1.3**
comp=Z,1.3nm,0.8s,baz=93,slow=9.4,SNR=7.2
MKAR Makanchi Array 46.42 307 P **P 08 47 26.5 -0.6**
MAKZ Makanchi 46.63 307 P **P 08 47 29.6 +0.9**
MAKZ IAmb IAmb 08 47 30.6
comp=Z,3.5nm,0.7s
ANM Nome 46.95 29 P **P 08 47 31.5 +0.6**
ANM IAmb IAmb 08 47 35.3
comp=Z,5.1nm,0.8s
RDOG Red Dog Mine 48.98 25 P **P 08 47 47.9 +1.3**
RDOG IAmb IAmb 08 47 52.7
comp=Z,12nm,1.3s
GSI Gunungsitoli 50.15 242 P **P 08 47 55.3 -0.9**
SVW2 Sparrevohn 50.65 34 P **P 08 47 59.8 +0.4**
SVW2 IAmb IAmb 08 48 09.6
comp=Z,12nm,1.2s
WB0 Warramunga Arr 51.21 187 P **P 08 48 02.5 -1.5**
WB0 IAmb IAmb 08 48 07.7
comp=Z,5.5nm,0.8s
WRAB Tennant Creek 51.38 187 P **P 08 48 04.2 -1.1**
WR0 Warramunga Arr 51.39 187 P **P 08 48 04.0 -1.4**
WR0 IAmb IAmb 08 48 05.2
comp=Z,4.5nm,0.8s
WB2 Warramunga Arr 51.39 187 P **P 08 48 04.7 -0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WB2				IAmb	IAmb	08 48 05.6	
	comp=Z,4.7nm,0.9s						
WRA	**Warramunga Arr**	**51.39**	**187**	P	**P**	**08 48 03.5**	**-1.8**
	comp=Z,3.0nm,0.8s,baz=3.0,slow=7.7,SNR=13						
WRA				LR	LR	09 08 15.4	
	comp=Z,36nm,21.0s,baz=5.0,slow=34						
WC3	**Warramunga Arr**	**51.41**	**187**	P	**P**	**08 48 03.1**	**-2.3**
WC3				IAmb	IAmb	08 48 05.8	
	comp=Z,4.2nm,0.8s						
BRLK	**Bradley Lake**	**52.91**	**36**	P	**P**	**08 48 17.2**	**+1.0**
SUA	**Susitna One**	**53.00**	**34**	P	**P**	**08 48 18.1**	**+1.1**
SUA				IAmb	IAmb	08 48 28.0	
	comp=Z,5.2nm,1.0s						
SANVU	**Saraoutou**	**53.36**	**147**	P	**P**	**08 48 20.9**	**+0.9**
GHO	**Glory Hole Cre**	**53.88**	**34**	P	**P**	**08 48 24.9**	**+1.5**
GHO				IAmb	IAmb	08 48 26.9	
	comp=Z,10nm,1.2s						
TOLK	**Toolik Lake Re**	**53.94**	**25**	P	**P**	**08 48 25.3**	**+1.6**
TOLK				IAmb	IAmb	08 48 39.2	
	comp=Z,4.7nm,1.0s						
MDM	**Murphy Dome**	**54.23**	**30**	P	**P**	**08 48 27.6**	**+1.7**
HDA	**Harding Lake**	**54.78**	**31**	P	**P**	**08 48 29.9**	**+0.1**
HDA				IAmb	IAmb	08 48 35.1	
	comp=Z,6.1nm,0.9s						
IL31		**54.80**	**30**	P	**P**	**08 48 30.6**	**+0.6**
IL31				IAmb	IAmb	08 48 33.5	
	comp=Z,4.3nm,1.0s						
ILAR	**Eielson Array**	**54.80**	**30**	P	**P**	**08 48 31.2**	**+1.2**
	comp=Z,2.6nm,0.9s,baz=267,slow=6.3,SNR=10						
ILAR	**Eielson Array**	**54.80**	**30**	P	**P**	**08 48 30.6**	**+0.5**
AS31	**Alice Springs**	**55.12**	**187**	P	**P**	**08 48 31.7**	**-1.1**
ASAR	**Alice Springs**	**55.12**	**187**	P	**P**	**08 48 31.4**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=16,slow=13,SNR=8.1						
KK31	**Karatay Array**	**55.18**	**303**	P	**P**	**08 48 32.5**	**-0.6**
KKAR	**Karatay Array**	**55.18**	**303**	P	**P**	**08 48 31.7**	**-1.4**
BMAR	**Burnt Mountain**	**55.75**	**27**	P	**P**	**08 48 37.0**	**+0.1**
GLB	**Gilahina Butte**	**56.33**	**34**	P	**P**	**08 48 42.6**	**+1.5**
GLB				IAmb	IAmb	08 48 54.1	
	comp=Z,12nm,1.4s						
MCARA	**McCarthy VSAT**	**56.71**	**34**	P	**P**	**08 48 45.1**	**+1.3**
K27K	**Chicken**	**56.92**	**31**	P	**P**	**08 48 46.4**	**+1.2**
K27K				IAmb	IAmb	08 48 53.4	
	comp=Z,3.9nm,0.8s						
BCAR	**Beaver Creek A**	**57.13**	**32**	P	**P**	**08 48 48.6**	**+1.8**
INK	**Inuvik**	**59.85**	**25**	P	**P**	**08 49 06.0**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=260,slow=8.5,SNR=3.8						
INK	**Inuvik**	**59.85**	**25**	P	**P**	**08 49 05.8**	**+0.2**
INK				IAmb	IAmb	08 49 22.3	
	comp=Z,4.5nm,1.1s						
ABKAR	**Akbulak array**	**60.84**	**312**	P	**P**	**08 49 11.7**	**-1.0**
FORT	**Forrest**	**62.94**	**192**	P	**P**	**08 49 26.1**	**-0.7**
C36M	**Paulatuk**	**62.95**	**23**	P	**P**	**08 49 27.2**	**+0.8**
C36M				IAmb	IAmb	08 49 30.1	
	comp=Z,4.2nm,0.8s						
STKA	**Stephens Creek**	**62.99**	**179**	P	**P**	**08 49 25.4**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=325,slow=1.3,SNR=3.9						
STKA	**Stephens Creek**	**62.99**	**179**	P	**P**	**08 49 26.1**	**-1.0**
EUNU	**Eureka**	**65.86**	**8**	P	**P**	**08 49 46.4**	**+0.9**
EUNU				IAmb	IAmb	08 50 04.1	
	comp=Z,10.0nm,1.5s						
YKA	**Yellowknife Ar**	**69.18**	**29**	P	**P**	**08 50 07.5**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=296,slow=5.4,SNR=7.0						
FINES	**FINESS Array B**	**73.29**	**333**	P	**P**	**08 50 30.9**	**-0.6**
	comp=Z,3.5nm,0.9s,baz=50,slow=3.0,SNR=5.4						
FINES	**FINESS Array B**	**73.29**	**333**	P	**P**	**08 50 31.5**	**0.0**
KBZ	**Khabaz**	**73.79**	**312**	P	**P**	**08 50 34.3**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=290,slow=2.3,SNR=4.6						
PINE	**Pine Mountain**	**74.80**	**48**	P	**P**	**08 50 40.9**	**-0.1**
PINE				IAmb	IAmb	08 50 57.5	
	comp=Z,4.2nm,0.9s						
SUMG	**Summit**	**76.26**	**360**	*i* P	**P**	**08 50 51.0**	**+1.9**
	comp=Z,12nm,1.1s						
SUMG	**Summit**	**76.26**	**360**	P	**P**	**08 50 49.9**	**+0.8**
SUMG	**Summit**	**76.26**	**360**	*i* P	**P**	**08 50 51.0**	**+1.9**
SUMG				IAmb	IAmb	08 50 54.4	
	comp=Z,12nm,1.1s						
BMO	**Blue Mountains**	**76.53**	**46**	P	**P**	**08 50 49.1**	**-1.7**
MNK	**Minsk**	**76.55**	**326**	*i* P	P	08 50 46.5	-4.1
	comp=E,2.0nm,0.9s						
MNK				*i* P	P	08 50 46.5	-4.1
	comp=N,14nm,0.9s						
MNK				*i* P	P	08 50 46.5	-4.1
	comp=Z,7.0nm,0.9s						
MNK				*i* PcP	sP	08 50 58.1	+3.4
MNK				*i* PP	**PP**	**08 53 37.6**	**-4.4**
MNK				*i* PPP	PPP	08 55 24.2	
MNK				*i* S	**S**	**09 00 30.6**	**-5.8**
MNK				*i* SS	SS	09 04 50.0	-40
MNK				*i* SSS	SSS	09 08 38.7	
MNK				*i* LQ	LQ	09 15 55.1	
MNK				*i* LR	LR	09 21 15.8	
MNK				*i* LRM	MLR	09 26 17.3	
	comp=N,847nm,19.8s						
MNK				*i* LRM	MLR	09 26 22.3	
	comp=E,81nm,19.8s						
MNK				*i* LRM	MLR	09 26 50.7	
	comp=Z,93nm,19.5s						
AKASG	**Malin Array Be**	**78.10**	**323**	P	**P**	**08 50 58.3**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=46,slow=6.6,SNR=4.9						
NVAR	**Mina Array Bea**	**79.22**	**52**	P	**P**	**08 51 07.5**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=281,slow=6.2,SNR=3.6						
NVAR	**Mina Array Bea**	**79.22**	**52**	P	**P**	**08 51 06.3**	**+0.3**
BRTR	**Keskin Array B**	**81.79**	**312**	P	**P**	**08 51 19.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=60,slow=5.7,SNR=4.5						
BRTR	**Keskin Array B**	**81.79**	**312**	P	**P**	**08 51 21.0**	**+1.3**
BURAR	**Bucovina Array**	**82.05**	**322**	P	**P**	**08 51 20.8**	**-0.1**
PDAR	**Pinedale Array**	**82.36**	**44**	P	**P**	**08 51 23.9**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=270,slow=0.9,SNR=2.1						
GERES	**GERESS Array B**	**86.90**	**328**	LR	LR	09 32 08.2	
	comp=Z,30nm,18.1s,baz=333,slow=37						
TXAR	**Lajitas Array**	**94.37**	**52**	P	**P**	**08 52 21.5**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=300,slow=1.0,SNR=4.5						
TXAR	**Lajitas Array**	**94.37**	**52**	P	**P**	**08 52 21.8**	**+1.1**
H03N2	**Juan Fernandez**	**147.07**	**104**	T	T	11 43 04.3	
	baz=280,slow=75,SNR=149						
H03N3	**Juan Fernandez**	**147.08**	**104**	T	T	11 43 05.5	
	baz=280,slow=75,SNR=1384						
H03N1	**Juan Fernandez**	**147.09**	**104**	T	T	11 43 05.3	
	baz=280,slow=75,SNR=149						
LPAZ	**La Paz**	**150.16**	**66**	PKPbc	**PKPbc**	**08 58 53.7**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=328,slow=4.3,SNR=6.6						

*NNC **02** 08:45:13.9±1.6, 51°.95N×75°.60E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=30.4km s-min=9.8km az=28.0, Suspected Mining explosion.*

*IDC **02** 08:45:20.2±1.2, 51°.64N×75°.73E, h0km, mb1 2.9/4, mb1mx2.8/47, mbtmp2.9/4, ML2.5/3, Error ellipse: s-maj=33.8km s-min=10.4km az=33.0*

ISC 02 08:45:19.7±1.6**, 51°.6N**±0°.2×**75°.7E**±0°.2**, h0km, n10,** σ**0s.74**/9**, 5C-3D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.03**	**118**	Pn	**Pn**	**08 45 55.1**	**0.0**
	0.7nm,0.3s,baz=303,slow=18,SNR=19						
KURBB				Lg	Lg	08 46 26.9	
	1.0nm,0.3s,baz=258,slow=9.7,SNR=4.2						
KURBB	**Kurchatov Arra**	**2.03**	**118**	⇓Pg	**Pb**	**08 45 56.7**	**-0.7**
	2.9nm,0.2s,baz=306,slow=16						
KURBB				⇑Lg	Lg	08 46 25.5	
	31nm,0.5s,baz=309,slow=33						
KURK	**Kurchatov**	**2.03**	**115**	⇓Pg	**Pn**	**08 45 55.1**	**-0.1**
	2.6nm,0.5s						
KURK				⇑Lg	Lg	08 46 23.5	
	29nm,1.0s						
BVAR	**Borovoye Array**	**3.56**	**296**	Pn	**Pn**	**08 46 16.6**	**+0.4**
	1.2nm,0.3s,baz=114,slow=19,SNR=5.4						
BRVK	**Borovoye**	**3.64**	**296**	⇑Pg	**Pn**	**08 46 16.6**	**-0.6**
	2.0nm,0.5s						
BRVK				⇑Lg	Lg	08 47 00.3	
	9.7nm,0.7s						
I46RU	**ZALESOVO INFRA**	**6.00**	**63**	*i*		09 23 00.0	
	baz=249,slow=331,SNR=1.4						
ZALV	**Zalesovo Beam**	**6.00**	**63**	Pn	**Pn**	**08 46 50.0**	**+0.4**
	baz=245,slow=14,SNR=1.3						
MK31	**Makanchi Array**	**6.46**	**136**	⇑Sn	**Sn**	**08 48 11.9**	**+1.5**
	1.1nm,0.7s,baz=327,slow=17,SNR=2.8						
MK31				⇓Lg	Lg	08 48 46.9	
	1.8nm,0.5s,baz=319,slow=28,SNR=5.5						
MKAR	**Makanchi Array**	**6.46**	**136**	Pn	**Pn**	**08 46 55.8**	**-0.2**
	0.1nm,0.3s,baz=328,slow=16,SNR=4.2						
MKAR				Sn	**Sn**	**08 48 10.5**	**+0.1**
	0.3nm,0.3s,baz=322,slow=19,SNR=6.2						
MKAR				Lg	Lg	08 48 44.5	
	0.6nm,0.3s,baz=324,slow=27,SNR=7.5						
AAK	**Ala-Archa**	**9.01**	**186**	Lg	Lg	08 50 04.3	
	0.2nm,0.3s,baz=236,slow=20,SNR=5.5						

IDC 02 09:10:36.5±24.0**, 18°.17S**×**177°.67W, h469km**±214km**, mb3.3**/4**, mb1 3.6**/4**, mb1mx3.1**/37**, mbtmp4.2**/4**, Error ellipse: s-maj=260.5km s-min=48.3km az=131.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.09**	**261**	P	P	09 16 40.9	-0.1
	2.3nm,0.6s,baz=101,slow=13,SNR=5.1						
WRA	**Warramunga Arr**	**45.27**	**260**	P	P	09 18 10.8	-0.6
	2.0nm,0.7s,baz=96,slow=6.8,SNR=23						
ASAR	**Alice Springs**	**45.39**	**254**	P	P	09 18 12.7	+0.4
	11nm,0.7s,baz=88,slow=8.8,SNR=169						
ASAR				PcP	pP	09 19 41.5	+0.5
	0.8nm,0.6s,baz=103,slow=3.8,SNR=6.2						
ILAR	**Eielson Array**	**85.99**	**13**	P	P	09 22 25.6	-0.3
	0.2nm,0.4s,baz=222,slow=5.3,SNR=4.0						
GERES	**GERESS Array B**	**148.04**	**346**	PKPbc	PKPbc	09 29 28.5	-0.1
	0.4nm,0.5s,baz=25,slow=2.6,SNR=2.2						

*IDC **02** 09:15:27.7±0.9, 14°.56S×167°.69E, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.0/38, mbtmp4.1/10, ML4.1/1, MS3.8/11, Ms1 3.8/11, ms1mx3.4/38, Error ellipse: s-maj=31.9km s-min=20.2km az=135.0*

*GCMT **02** 09:15:31.6±0.3, 14°.77S±0°.02×167°.88E±0°.02, h23km±1km, MW4.9/65, Moment Tensor Solution. s24,c27; s65,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.17±.20; $M_{\theta\theta}$-0.68±.14; $M_{\phi\phi}$-1.49±.13; $M_{r\theta}$0.35±.20; $M_{\theta\phi}$1.54±.08; $M_{\phi r}$0.68±.17; Best double couple: $M_0$2.57000×10^{16} NP1:ϕ_s123.00000°,δ45.00000°,λ61.00000°. NP2: ϕ_s341.00000°,δ52.00000°,λ115.00000°. Principal axes: T 2.4400, Plg70.0000°, Azm312.0000°; N 0.2590, Plg20.0000°, Azm145.0000°; P -2.7000, Plg4.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **02** 09:15:33.6±1.7, 14°.8S±0°.1×167°.7E±0°.2, h37km±7km, mb4.3/13 Error ellipse: s-maj=22.3km s-min=14.5km az=116.0*

ISC 02 09:15:32.3±0.8**, 14°.76S**±0°.10×**167°.8E**±0°.1**, h36km, n32,** σ**1s.72**/26**, mb4.2**/11**, MS3.9**/10**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.90**	**221**	Pn	**Pn**	**09 15 45.6**	**-2.8**
DZM	**Mont Dzumac**	**7.38**	**190**	Pn	**Pn**	**09 17 18.1**	**+0.4**
	3.1nm,0.3s,baz=39,slow=19,SNR=26						
DZM				Sn	**Sn**	**09 18 38.3**	**-2.0**
	baz=351,slow=18,SNR=3.4						
DZM				LR	LR	09 19 16.2	
	comp=Z,155nm,20.2s,baz=32,slow=30						
DZM	**Mont Dzumac**	**7.38**	**190**		**Pn**	**09 17 18.6**	**+0.9**
HNR	**Honiara**	**9.34**	**304**	LR	LR	09 21 22.8	
	comp=Z,237nm,19.5s,baz=128,slow=39						
EIDS	**Eidsvold**	**18.91**	**233**	P	**Pn**	**09 19 50.4**	**-0.4**
EIDS				IAmb	IAmb	09 20 18.9	
	comp=Z,21nm,1.3s						
OUZ	**Omahuta**	**21.02**	**167**	P	**P**	**09 20 15.4**	**+2.5**
CTA	**Charters Tower**	**21.23**	**252**	P	**P**	**09 20 16.4**	**+1.1**
	comp=Z,6.2nm,0.9s,baz=74,slow=13,SNR=7.2						
CTAO	**Charters Tower**	**21.23**	**252**	P	**P**	**09 20 15.5**	**+0.2**
URZ	**Urewera**	**24.81**	**162**	P	**P**	**09 20 53.9**	**+2.9**
	comp=Z,3.6nm,0.7s,baz=304,slow=11,SNR=1.8						
URZ				LR	LR	09 28 46.7	
	comp=Z,234nm,21.2s,baz=31,slow=32						
URZ	**Urewera**	**24.81**	**162**	IAmb	IAmb	09 21 19.8	
	comp=Z,21nm,1.2s						
BKZ	**Black Stump Fm**	**25.48**	**164**	P	**P**	**09 20 58.7**	**+1.5**
BKZ				IAmb	IAmb	09 21 15.2	
	comp=Z,7.5nm,0.9s						
STKA	**Stephens Creek**	**29.37**	**230**	P	**P**	**09 21 33.4**	**+1.3**
	comp=Z,5.4nm,0.8s,baz=45,slow=8.5,SNR=12						
STKA				LR	LR	09 32 10.6	
	comp=Z,226nm,21.8s,baz=46,slow=34						
STKA	**Stephens Creek**	**29.37**	**230**	P	**P**	**09 21 33.5**	**+1.3**
WR0	**Warramunga Arr**	**32.14**	**256**	P	**P**	**09 21 56.1**	**-0.5**
WR0				IAmb	IAmb	09 22 10.7	
	comp=Z,3.6nm,0.9s						
WB0	**Warramunga Arr**	**32.26**	**256**	P	**P**	**09 21 57.8**	**0.0**
WB2	**Warramunga Arr**	**32.31**	**256**	P	**P**	**09 21 57.2**	**-1.1**
WB2				IAmb	IAmb	09 22 00.0	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**32.33**	**256**	P	**P**	**09 21 57.7**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=85,slow=8.6,SNR=6.7						
WRA				LR	LR	09 34 38.9	
	comp=Z,402nm,18.4s,baz=80,slow=36						
AS31	**Alice Springs**	**33.15**	**249**	P	**P**	**09 22 05.7**	**+0.2**
ASAR	**Alice Springs**	**33.15**	**249**	P	**P**	**09 22 05.5**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=78,slow=8.7,SNR=21						
ASAR				PcP	**PcP**	**09 24 48.5**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=65,slow=2.4,SNR=2.0						
ASAR				LR	LR	09 34 39.8	
	comp=Z,363nm,20.5s,baz=82,slow=35						
BBOO	**Buckleboo**	**33.97**	**232**	P	**P**	**09 22 13.6**	**+1.0**
FORT	**Forrest**	**39.73**	**239**	P	**P**	**09 23 00.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**40.52**	**259**	LR	LR	09 39 22.2	
	comp=Z,328nm,20.0s,baz=92,slow=36						
FITZ	**Fitzroy Crossi**	**40.52**	**259**	P	**P**	**09 23 08.4**	**+0.2**
FITZ				IAmb	IAmb	09 23 25.8	
	comp=Z,4.8nm,0.9s						
PPT2	**Papeete2**	**40.96**	**100**	*e*S	**S**	**09 29 17.0**	**-4.9**
	comp=Z,77nm,25.5s						
PPT2				*e*LR	LR	09 34 38.1	
	comp=Z,246nm,30.5s						
BATI	**Baumata**	**43.29**	**271**	LR	LR	09 39 56.1	
	comp=Z,139nm,21.9s,baz=112,slow=34						
LEM	**Lembang**	**59.51**	**271**	LR	LR	09 51 35.4	
	comp=Z,96nm,18.3s,baz=302,slow=36						
ILAR	**Eielson Array**	**86.40**	**18**	P	**P**	**09 28 09.8**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=226,slow=5.7,SNR=7.4						
ILAR				LR	LR	09 59 23.3	
	comp=Z,49nm,21.5s,baz=270,slow=31						
NVAR	**Mina Array Bea**	**86.90**	**49**	P	**P**	**09 28 15.6**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=234,slow=7.1,SNR=4.3						
TXAR	**Lajitas Array**	**95.83**	**61**	LR	LR	10 06 31.4	
	comp=Z,19nm,19.4s,baz=0.0,slow=32						
YKA	**Yellowknife Ar**	**97.34**	**27**	P	Pdif	09 29 03.1	+1.6
	comp=Z,0.2nm,0.7s,baz=242,slow=3.9,SNR=2.5						
MKAR	**Makanchi Array**	**97.59**	**316**	P	Pdif	09 29 03.5	+0.4
	comp=Z,0.5nm,0.6s,baz=94,slow=5.7,SNR=4.4						
ARCES	**ARCESS Array B**	**120.42**	**346**	PKP	**PKiKP**	**09 34 18.4**	**-1.0**
	comp=Z,9.6nm,1.1s,baz=337,slow=2.8,SNR=5.7						

*IDC **02** 09:17:12.4±0.9, 31°.37N×139°.89E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.7/53, mbtmp3.8/11, ML2.7/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/52, Error ellipse: s-maj=27.4km s-min=18.2km az=106.0*

ISC 02 09:17:17.6±1.0**, 31°.4N**±0°.1×**139°.9E**±0°.2**, h35km, n25,** σ**1s.63**/14**, mb3.7**/11**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.71**	**356**	Pn	**Pn**	**09 17 41.8**	**-3.2**
	17nm,0.3s,baz=218,slow=12,SNR=1.8						
JHJ				LR	LR	09 18 25.7	
	comp=Z,203nm,18.0s,baz=274,slow=42						
MJAR	**Matsushiro Arr**	**5.32**	**345**	Pn	**Pn**	**09 18 33.7**	**-0.9**
	0.3nm,0.3s,baz=148,slow=13,SNR=12						
MAT	**Matsushiro**	**5.32**	**345**	P	**Pn**	**09 18 37.2**	**+2.6**
JOW	**Kunigami**	**11.17**	**249**	LR	LR	09 24 05.7	
	comp=Z,55nm,18.2s,baz=40,slow=37						
PETK	**Petropavlovsk-**	**25.22**	**26**	P	**P**	**09 22 40.5**	**+0.6**
	1.9nm,0.9s,baz=217,slow=14,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**26.88**	**109**	T	T	09 50 48.7	
	baz=302,slow=75,SNR=59						
H11N1	**WAKE ISLAND Hy**	**26.88**	**109**	T	T	09 50 49.0	
	baz=302,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy**	**26.89**	**109**	T	T	09 50 50.3	
	baz=302,slow=75,SNR=64						
H11S3	**WAKE ISLAND Hy**	**27.36**	**112**	T	T	09 51 24.7	
	baz=304,slow=75,SNR=570						
H11S1	**WAKE ISLAND Hy**	**27.36**	**112**	T	T	09 51 25.1	
	baz=304,slow=75,SNR=555						
H11S2	**WAKE ISLAND Hy**	**27.38**	**112**	T	T	09 51 25.7	
	baz=304,slow=75,SNR=376						
SONM	**Songino Array**	**30.31**	**312**	P	**P**	**09 23 24.9**	**-0.8**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=2.1						
CMAR	**Chiang Mai Arr**	**39.13**	**261**	P	**P**	**09 24 42.8**	**+0.8**
	1.0nm,0.3s,baz=50,slow=7.8,SNR=5.2						
KURBB	**Kurchatov Arra**	**48.67**	**312**	P	**P**	**09 25 57.9**	**-0.2**
	0.7nm,0.2s,baz=84,slow=7.1,SNR=2.5						
WRA	**Warramunga Arr**	**51.34**	**187**	P	**P**	**09 26 16.8**	**-1.8**
	0.7nm,1.1s,baz=3.3,slow=7.5,SNR=5.5						
ILAR	**Eielson Array**	**54.93**	**30**	P	**P**	**09 26 44.5**	**-0.1**
	0.7nm,0.8s,baz=269,slow=5.7,SNR=7.0						
ASAR	**Alice Springs**	**55.07**	**187**	P	**P**	**09 26 46.2**	**+0.1**
	0.2nm,0.8s,baz=14,slow=7.8,SNR=1.9						
INK	**Inuvik**	**59.96**	**25**	P	**P**	**09 27 21.9**	**+2.0**
	1.2nm,0.8s,baz=269,slow=8.4,SNR=3.8						
YKA	**Yellowknife Ar**	**69.30**	**29**	P	**P**	**09 28 22.1**	**+1.2**
	0.5nm,0.8s,baz=296,slow=5.5,SNR=4.8						
FINES	**FINESS Array B**	**73.23**	**333**	P	**P**	**09 28 43.7**	**-1.0**
	4.1nm,0.9s,baz=8.5,slow=2.8,SNR=2.9						
KBZ	**Khabaz**	**73.67**	**311**	P	**P**	**09 28 48.2**	**+0.5**
	1.3nm,0.8s,baz=116,slow=5.0,SNR=4.9						
ASF	**Jabal al Asfar**	**83.62**	**304**	LR	LR	10 09 23.4	
	comp=Z,9.0nm,22.0s,baz=9.5,slow=38						
H03N2	**Juan Fernandez**	**147.25**	**104**	T	T	12 21 18.4	
	baz=280,slow=75,SNR=45						
H03N3	**Juan Fernandez**	**147.26**	**104**	T	T	12 21 21.4	
	baz=280,slow=75,SNR=60						
H03N1	**Juan Fernandez**	**147.26**	**104**	T	T	12 21 23.3	
	baz=280,slow=75,SNR=64						

*NNC **02** 09:21:52.9±1.9, 51°.98N×75°.66E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=34.3km s-min=11.4km az=28.0, Suspected Mining explosion.*

*IDC **02** 09:21:56.7±1.1, 51°.65N×75°.41E, h0km, mb1 2.7/4, mb1mx2.6/56, mbtmp2.7/4, ML2.3/4, Error ellipse: s-maj=34.4km s-min=9.5km az=32.0*

ISC 02 09:21:52.3±1.1**, 52°.33N**±0°.10×**76°.17E**±0°.06**, h0km, n9,** σ**1s.07**/9**, 6C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.23**	**136**	⇑Pg	**Pb**	**09 22 33.5**	**+0.1**
	3.4nm,0.8s						
KURK				⇑Lg	Lg	09 23 02.1	
KURBB	**Kurchatov Arra**	**2.26**	**138**	Pn	**Pg**	**09 22 35.1**	**-0.4**
	0.4nm,0.3s,baz=303,slow=18,SNR=23						
KURBB				Lg	Lg	09 23 06.3	
	0.7nm,0.3s,baz=307,slow=29,SNR=7.8						
KURBB	**Kurchatov Arra**	**2.26**	**138**	⇑Pg	**Pg**	**09 22 35.3**	**-0.2**
	6.0nm,0.7s,baz=304,slow=16						
KURBB				⇓Lg	Lg	09 23 05.2	
	35nm,0.6s,baz=313,slow=29						
BVAR	**Borovoye Array**	**3.59**	**283**	Pn	**Pn**	**09 22 50.8**	**+1.7**
	0.3nm,0.3s,baz=137,slow=18,SNR=3.9						
BVAR				Lg	Lg	09 23 41.8	
	1.9nm,0.3s,baz=122,slow=27,SNR=11						
BRVK	**Borovoye**	**3.66**	**284**	⇑Pg	**Pb**	**09 22 56.4**	**-1.3**
	3.2nm,0.6s						
BRVK				⇑Lg	Lg	09 23 40.2	
	17nm,0.7s						
I46RU	**ZALESOVO INFRA**	**5.45**	**69**	*i*		09 59 40.0	
	baz=250,slow=331,SNR=4.1						
ZALV	**Zalesovo Beam**	**5.45**	**69**	Pn	**Pb**	**09 23 27.8**	**-0.5**
	0.4nm,0.3s,baz=255,slow=14,SNR=5.9						
MK31	**Makanchi Array**	**6.82**	**142**	⇓Sn	**Sn**	**09 24 51.3**	**-0.6**
	0.9nm,0.6s						
MK31				⇑Lg	Lg	09 25 25.9	
	1.6nm,0.6s,baz=319,slow=27,SNR=5.9						
MKAR	**Makanchi Array**	**6.82**	**142**	Pn	**Pn**	**09 23 33.8**	**+0.3**
	0.1nm,0.3s,baz=320,slow=12,SNR=5.1						
MKAR				Sn	**Sn**	**09 24 50.7**	**-1.1**
	0.1nm,0.3s,baz=320,slow=21,SNR=7.3						
MKAR				Lg	Lg	09 25 25.6	
	0.2nm,0.3s,baz=319,slow=25,SNR=7.7						

IDC 02 09:35:59.4±6.4**, 19°.94N**×**120°.10E, h0km, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.3**/53**, mbtmp3.6**/3**, Error ellipse: s-maj=420.9km s-min=35.7km az=86.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.02**	**160**	P	P	09 43 52.2	-0.5
	0.6nm,0.8s,baz=342,slow=8.8,SNR=3.6						
ASAR	**Alice Springs**	**45.38**	**162**	P	P	09 44 20.0	+0.2
	0.5nm,0.6s,baz=332,slow=6.6,SNR=8.1						
YKA	**Yellowknife Ar**	**87.26**	**22**	P	P	09 48 47.6	0.0
	0.4nm,0.7s,baz=316,slow=4.6,SNR=5.3						

*NEIC **02** 09:53:24.6±1.1, 21°.17N±0°.07×146°.6E±0°.1, h43km±7km, mb4.5/37, Error ellipse: s-maj=17.9km s-min=9.2km az=73.0*

*IDC **02** 09:53:24.8±0.5, 21°.05N×146°.74E, h47km±4km, mb4.2/22, mb1 4.3/25, mb1mx4.1/57, mbtmp4.4/25, MS3.2/7, Ms1 3.2/7, ms1mx2.9/46, Error ellipse: s-maj=15.8km s-min=11.3km az=86.0*

ISC 02 09:53:25.3±0.4**, 21°.16N**±0°.06×**146°.60E**±0°.09**, h50km, n93,** σ**1s.03**/100**, mb4.5**/45**, MS3.2**/7**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**4.87**	**190**	Pn	**Pn**	**09 54 35.8**	**-0.3**
JCJ	**Chichijima**	**7.15**	**327**	P	**Pn**	**09 55 05.5**	**-1.9**
	7.9nm,0.3s,baz=229,slow=19,SNR=1.7						
JCJ				S	**Sn**	**09 56 23.5**	**-3.8**
	25nm,0.3s,baz=295,slow=23,SNR=7.9						
JCJ	**Chichijima**	**7.15**	**327**	Pn	**Pn**	**09 55 06.0**	**-1.3**
GUMO	**Guam**	**7.71**	**193**	Pn	**Pn**	**09 55 14.7**	**-0.3**
INU	**Inuyama**	**16.45**	**331**		**Pn**	**09 57 13.5**	**+0.8**
INU				IAmb	IAmb	09 57 23.2	
	comp=Z,42nm,1.4s						
JGF	**Kuroka**	**16.51**	**333**		**P**	**09 57 16.1**	**+0.6**
MJAR	**Matsushiro Arr**	**16.98**	**336**	P	**Pn**	**09 57 19.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=164,slow=9.7,SNR=4.4						
MAJO	**Matsushiro**	**16.98**	**336**		**P**	**09 57 21.1**	**+0.4**
JWT	**Wachi**	**17.16**	**327**	Pn	**Pn**	**09 57 21.1**	**-0.6**
JWT				IAmb	IAmb	09 57 22.2	
	comp=Z,47nm,1.5s						
JMM	**Marumori**	**17.39**	**344**		**Pn**	**09 57 23.9**	**-0.5**
JOW	**Kunigami**	**17.66**	**292**	P	**P**	**09 57 29.2**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=105,slow=16,SNR=2.8						
JOW	**Kunigami**	**17.66**	**292**	Pn	**Pn**	**09 57 26.1**	**-1.8**
JOW				IAmb	IAmb	09 57 33.9	
	comp=Z,32nm,0.9s						
PATS	**Pohnpei**	**18.20**	**140**		**P**	**09 57 33.7**	**-0.5**
JNU	**Nakatsue**	**18.35**	**314**	P	**Pn**	**09 57 37.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=329,slow=12,SNR=2.0						
JNU	**Nakatsue**	**18.35**	**314**		**Pn**	**09 57 36.5**	**+0.2**
JNU				IAmb	IAmb	09 57 51.1	
	comp=Z,40nm,1.5s						
H11S3	**WAKE ISLAND Hy**	**19.08**	**94**	T	T	10 15 59.3	
	baz=280,slow=74,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**19.09**	**94**	T	T	10 16 00.0	
	baz=280,slow=74,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**19.10**	**94**	T	T	10 16 00.6	
	baz=280,slow=74,SNR=6.2						
KSRS	**Korea Array**	**22.93**	**319**	P	**P**	**09 58 26.8**	**+1.7**
	comp=Z,6.5nm,0.5s,baz=147,slow=8.9,SNR=28						
KSRS				LR	LR	10 07 06.3	
	comp=Z,54nm,20.7s,baz=92,slow=36						
KS19	**Wonju Array Si**	**22.99**	**319**	P	**P**	**09 58 25.9**	**+0.1**
KS19				IAmb	IAmb	09 58 51.0	
	comp=Z,13nm,1.0s						
JKA	**Kamikawa-asahi**	**23.13**	**353**	P	**P**	**09 58 28.5**	**+1.4**
JKA	**Kamikawa-asahi**	**23.13**	**353**	IAmb	IAmb	09 58 42.3	
	comp=Z,21nm,1.0s						
ASAJ	**Asahikawa**	**23.13**	**353**	P	**P**	**09 58 28.5**	**+1.4**
	comp=Z,4.4nm,0.3s,baz=332,slow=29,SNR=4.4						
USA0B	**Ussuriysk Arra**	**25.98**	**336**	P	**P**	**09 58 55.3**	**+2.0**
USA0B				IAmb	IAmb	09 58 57.7	
	comp=Z,11nm,0.8s						
USRK	**Ussuriysk Ar.**	**25.98**	**336**	P	**P**	**09 58 55.6**	**+2.4**
	comp=Z,6.9nm,0.6s,baz=143,slow=7.7,SNR=20						
USRK				pP	**sP**	**09 59 08.4**	**-1.3**
	comp=Z,4.8nm,0.7s,baz=164,slow=8.1,SNR=5.5						
USRK				LR	LR	10 10 45.7	
	comp=Z,36nm,19.2s,baz=50,slow=40						
KLR	**Kul'dur**	**30.41**	**341**	P	**P**	**09 59 34.0**	**+1.2**
	comp=Z,6.2nm,0.6s,baz=146,slow=7.2,SNR=26						
COEN	**Coen**	**35.06**	**186**	P	**P**	**10 00 12.7**	**-1.0**
MA2	**Magadan**	**38.49**	**3**	P	**P**	**10 00 43.5**	**+1.1**
	comp=Z,2.1nm,0.2s,baz=174,slow=9.3,SNR=11						
SONM	**Songino Array**	**41.80**	**319**	P	**P**	**10 01 11.8**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=132,slow=9.0,SNR=9.0						
SONM				PcP	**PcP**	**10 03 06.6**	**+1.0**

	comp=Z,1.1nm,0.6s,baz=137,slow=3.5,SNR=5.6						
SONM				LR	LR	10 18 35.1	
	comp=Z,36nm,21.5s,baz=14,slow=36						
SONM	Songino Array	41.80	319	IAmb	IAmb	10 01 14.4	
	comp=Z,1.0nm,0.8s						
SEY	Seymchan	41.93	4	P	P	10 01 11.9	+1.1
	comp=Z,4.0nm,0.7s,baz=186,slow=6.5,SNR=27						
WB0	Warramunga Arr	42.40	197	P	P	10 01 15.4	+0.4
WB0				IAmb	IAmb	10 01 15.7	
	comp=Z,5.0nm,0.8s						
WR0	Warramunga Arr	42.54	197	P	P	10 01 14.6	-1.7
WRAB	Tennant Creek	42.56	197	P	P	10 01 16.6	+0.2
WRAB				IAmb	IAmb	10 01 31.3	
	comp=Z,7.1nm,0.6s						
WB2	Warramunga Arr	42.57	197	P	P	10 01 16.8	+0.2
WB2				IAmb	IAmb	10 01 31.5	
	comp=Z,7.6nm,0.6s						
WRA	Warramunga Arr	42.58	197	P	P	10 01 15.8	-0.8
	comp=Z,3.0nm,0.7s,baz=17,slow=9.1,SNR=37						
WRA				pP	pP	10 01 29.4	+0.7
	comp=Z,4.5nm,0.6s,baz=16,slow=8.8,SNR=17						
FITZ	Fitzroy Crossi	44.09	209	P	P	10 01 28.8	0.0
FITZ				IAmb	IAmb	10 01 42.9	
	comp=Z,3.9nm,0.8s						
CMAR	Chiang Mai Arr	44.79	275	LR	LR	10 21 07.7	
	comp=Z,9.7nm,18.4s,baz=80,slow=37						
AS31	Alice Springs	46.24	196	P	P	10 01 46.3	+0.5
ASAR	Alice Springs	46.24	196	P	P	10 01 43.9	-1.9
	comp=Z,0.8nm,0.5s,baz=19,slow=6.9,SNR=14						
ASAR				pP	pP	10 01 58.0	0.0
	comp=Z,1.0nm,0.6s,baz=15,slow=7.1,SNR=6.6						
ASAR				PcP	PcP	10 03 21.2	+0.4
	comp=Z,0.7nm,0.6s,baz=20,slow=3.5,SNR=6.3						
ASAR				pPcP		10 03 35.1	
	comp=Z,1.2nm,0.5s,baz=22,slow=3.3,SNR=11						
DZM	Mont Dzumac	47.13	155	P	P	10 01 52.9	0.0
DZM				IAmb	IAmb	10 02 07.3	
	comp=Z,6.6nm,1.2s						
STKA	Stephens Creek	52.95	185	LR	LR	10 26 16.9	
	comp=Z,30nm,18.8s,baz=309,slow=37						
TAPN	Taplejung	53.63	289	eP	P	10 02 44.1	+1.7
	comp=Z,14nm,0.7s						
ODAN	Odare	53.98	288	eP	P	10 02 46.3	+1.5
	comp=Z,23nm,0.9s						
RAMN	Ramite	54.66	289	eP	P	10 02 51.1	+1.3
	comp=Z,15nm,0.8s						
GUN	Gumba	55.17	290	eP	P	10 02 55.2	+1.6
	comp=Z,24nm,1.0s						
PKIN	Phulchoki	55.64	290	eP	P	10 02 57.6	+0.7
	comp=Z,11nm,0.7s						
KKN	Kakani	55.72	290	eP	P	10 02 58.7	+1.3
	comp=Z,19nm,0.8s						
GKN	Gorkha	56.25	290	eP	P	10 03 02.6	+1.5
	comp=Z,36nm,1.0s						
ZAA0	Zalesovo Array	56.61	321	P	P	10 03 02.7	-0.3
ZAA0				IAmb	IAmb	10 03 04.2	
	comp=Z,5.1nm,0.7s						
ZALV	Zalesovo Beam	56.61	321	P	P	10 03 03.5	+0.4
	comp=Z,5.6nm,0.5s,baz=102,slow=7.4,SNR=28						
ZALV				pP	pP	10 03 16.9	+1.5
	comp=Z,2.9nm,0.4s,baz=102,slow=8.2,SNR=7.5						
ZALV				PcP	PcP	10 03 58.5	-0.5
	comp=Z,3.4nm,0.7s,baz=122,slow=3.2,SNR=6.6						
ZALV				LR	LR	10 30 24.2	
	comp=Z,22nm,18.2s,baz=63,slow=39						
ZALV	Zalesovo Beam	56.61	321	P	P	10 03 03.1	+0.1
MK31	Makanchi Array	57.40	313	P	P	10 03 08.5	-0.3
MKAR	Makanchi Array	57.40	313	P	P	10 03 09.7	+0.8
	comp=Z,1.1nm,0.6s,baz=89,slow=8.4,SNR=14						
MKAR				pP	pP	10 03 23.4	+2.3
	comp=Z,1.0nm,0.5s,baz=87,slow=7.8,SNR=8.1						
MKAR				PcP	PcP	10 04 02.8	+0.5
	comp=Z,1.4nm,0.6s,baz=85,slow=5.8,SNR=7.1						
MKAR	Makanchi Array	57.40	313	P	P	10 03 08.9	+0.1
NRIK	Noril'sk	59.61	339	P	P	10 03 24.6	+0.9
	comp=Z,6.3nm,0.7s,baz=109,slow=8.3,SNR=15						
NRIK	Noril'sk	59.61	339	P	P	10 03 23.8	+0.1
KURK	Kurchatov	60.03	317	P	P	10 03 26.5	-0.5
SATY	Saty	60.11	308	eP	P	10 03 28.3	+0.5
	baz=308						
ILAR	Eielson Array	61.07	27	P	P	10 03 33.7	-0.1
	comp=Z,2.4nm,0.9s,baz=264,slow=5.0,SNR=4.9						
ILAR				LR	LR	10 32 02.2	
	comp=Z,26nm,18.2s,baz=306,slow=38						
ILAR	Eielson Array	61.07	27	P	P	10 03 32.0	-1.8
MDOK	Medeo	61.10	308	eP	P	10 03 34.9	+0.2
	baz=308						
KUU	Kurty	61.59	309	eP	P	10 03 38.3	+0.6
	comp=Z,5.6nm,0.8s,baz=309						
BMAR	Burnt Mountain	62.53	24	P	P	10 03 44.5	+0.9
BCAR	Beaver Creek A	63.03	29	P	P	10 03 45.7	-1.3
BTLS	Baital	63.16	311	eP	P	10 03 48.2	0.0
	baz=311						
BRVK	Borovoye	65.20	320	P	P	10 04 01.8	+0.4
KK31	Karatay Array	65.88	309	P	P	10 04 06.2	+0.2
KKAR	Karatay Array	65.88	309	P	P	10 04 06.1	+0.1
KKAR				IAmb	IAmb	10 04 07.8	
	comp=Z,4.6nm,0.7s						
KKAR	Karatay Array	65.88	309	P	P	10 04 05.9	-0.1
IUG	Iuzhnay	66.35	308	eP	P	10 04 09.5	+0.4
	baz=308						
INK	Inuvik	66.79	23	P	P	10 04 11.2	0.0
	comp=Z,5.1nm,0.9s,baz=265,slow=6.4,SNR=14						
INK	Inuvik	66.79	23	P	P	10 04 10.7	-0.6
INK				IAmb	IAmb	10 04 12.1	
	comp=Z,5.9nm,0.9s						
C36M	Paulatuk	70.16	22	P	P	10 04 31.9	-0.4
ABKAR	Akbulak array	72.13	317	P	P	10 04 44.7	+0.1
ABKAR				IAmb	IAmb	10 04 45.8	
	comp=Z,2.8nm,0.7s						
ABKAR	Akbulak array	72.13	317	P	P	10 04 44.2	-0.5
YKA	Yellowknife Ar	75.43	28	P	P	10 05 03.4	-0.3
	comp=Z,15nm,1.1s,baz=289,slow=4.9,SNR=48						
PINE	Pine Mountain	77.38	48	P	P	10 05 15.4	0.0
BELG	Belogornoye	78.79	322	P	P	10 05 22.8	+0.1
	comp=Z,11nm,0.6s,baz=334,slow=2.2,SNR=8.6						
WALA	Waterton Lakes	80.26	41	P	P	10 05 31.4	+0.3
ARCES	ARCESS Array B	80.42	342	P	P	10 05 31.2	-0.1
	comp=Z,3.3nm,0.9s,baz=31,slow=5.7,SNR=5.8						
ARCES				pP	pP	10 05 45.0	+0.9
	comp=Z,7.3nm,1.0s,baz=66,slow=6.0,SNR=2.4						
KVN	Kaiserville	80.91	52	P	P	10 05 34.5	-0.2
KVN				IAmb	IAmb	10 05 35.7	
	comp=Z,3.2nm,0.8s						
NVAR	Mina Array Bea	80.97	52	P	P	10 05 35.4	+0.3
	comp=Z,4.0nm,0.7s,baz=264,slow=6.1,SNR=39						
NVAR				pP	pP	10 05 48.6	+1.1
	comp=Z,2.6nm,0.7s,baz=265,slow=5.8,SNR=13						
NV11	Mina Array Sit	81.07	52	P	P	10 05 35.8	+0.2
NV11				IAmb	IAmb	10 05 36.7	
	comp=Z,3.2nm,0.9s						
DUG	Dugway, Tooele	84.30	49	P	P	10 05 52.4	+0.1
DUG				IAmb	IAmb	10 05 53.9	
	comp=Z,7.1nm,1.4s						
FINES	FINESS Array B	85.01	335	P	P	10 05 54.9	-0.4
	comp=Z,4.2nm,0.6s,baz=61,slow=5.4,SNR=18						
FINES				pP	pP	10 06 08.4	+0.3
	comp=Z,2.4nm,0.5s,baz=62,slow=5.1,SNR=3.6						
PDAR	Pinedale Array	85.50	46	P	P	10 05 58.0	-0.4
	comp=Z,0.7nm,0.6s,baz=281,slow=1.9,SNR=7.9						
PDAR				pP	pP	10 06 11.0	+0.1
	comp=Z,0.9nm,0.6s,baz=233,slow=1.4,SNR=6.8						
SUMG	Summit	86.44	2	iP	P	10 06 01.0	-1.6
	comp=Z,8.6nm,0.9s						
SUMG	Summit	86.44	2	iP	P	10 06 01.0	-1.6
SUMG				IAmb	IAmb	10 06 05.9	
	comp=Z,8.6nm,0.9s						
AKASG	Malin Array Be	89.77	326	P	P	10 06 17.4	-1.0
	comp=Z,1.5nm,0.7s,baz=53,slow=4.6,SNR=4.2						
ULM	Lac du Bonnet	90.10	35	P	P	10 06 19.4	-0.6
	comp=Z,0.8nm,0.5s,baz=243,slow=4.3,SNR=3.6						
DBIC	Dimbokro	140.63	312	PKP	PKiKP	10 12 52.0	-0.9
	comp=Z,2.3nm,0.7s,baz=314,slow=3.3,SNR=3.2						
LPAZ	La Paz	146.79	88	PKPbc	PKPbc	10 13 03.1	-0.4
	comp=Z,2.5nm,0.6s,baz=297,slow=2.8,SNR=7.3						

*ARE **02** 09:55:48±2.8, 15°.68S±0°.10×72°.01W±0°.09, h11^{km}±6^{km}, ML3.9, Error ellipse: s-maj=14.7km s-min=11.4km az=214.0*
*NEIC **02** 09:55:49.1±2.7, 15°.68S±0°.10×72°.02W±0°.10, h1^{km}±7^{km}, Error ellipse: s-maj=15.2km s-min=11.6km az=220.0*
*IDC **02** 09:55:59.2±2.2, 15°.66S×71°.71W, h70^{km}±23^{km}, mb3.5/2, mb1 3.7/6, mb1mx3.5/33, mbtmp3.8/6, MS3.2/4, Ms1 3.2/4, ms1mx2.9/21, Error ellipse: s-maj=31.6km s-min=19.3km az=66.0*
ISC 02 09:55:53.8±1.0**, 15°.72S**±0°.10×**72°.3W**±0°.1**, h35^{km}, n27, σ2^{s}15**/24**, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	4.02	99	P	Pn	09 56 53.2	-0.3
	0.4nm,0.3s,baz=262,slow=9.8,SNR=12						
LPAZ	La Paz	4.02	99		Pn	09 56 47.2	-6.3
MNMC	Minye Minye	4.24	143	Pn	Pn	09 56 56.9	+0.6
PSGCX	Pisagua	4.36	152	Pn	Pn	09 56 58.3	+0.5
TA01	Diego Aracena	5.21	158	Pn	Pn	09 57 07.0	-2.3
PB08	IPOC Station P	5.30	146	Pn	Pn	09 57 10.8	-0.1
NNA	Nana	5.79	309	P	Pn	09 57 28.6	+11
	1.5nm,0.3s,baz=127,slow=9.0,SNR=8.1						
NNA				S	Sn	09 58 49.9	+27
	2.7nm,0.3s,baz=279,slow=7.2,SNR=4.6						
NNA				LR	LR	09 59 44.3	
	comp=Z,97nm,20.9s,baz=114,slow=36						
NNA	Nana	5.79	309		Pn	09 57 17.6	+0.3
PB01	IPOC Station P	5.92	154	Pn	Pn	09 57 19.3	+0.3
PB07	IPOC Station P	6.39	160	Pn	Pn	09 57 24.3	-1.3
PB09	IPOC Station P	6.69	155	Pn	Pn	09 57 25.9	-3.8
PB04	IPOC Station P	6.88	163	Pn	Pn	09 57 31.7	-0.6
PB06	IPOC Station P	7.40	160	Pn	Pn	09 57 36.7	-2.8
LVC	Limon Verde	7.55	156	P	Pn	09 57 42.9	+1.1
	2.5nm,0.3s,baz=334,slow=9.6,SNR=17						
LVC				S	Sn	09 59 09.3	+3.0
	2.4nm,0.3s,baz=179,slow=15,SNR=7.1						
LVC	Limon Verde	7.55	156	Pn	Pn	09 57 39.9	-1.9
PB15	IPOC Station P	7.90	161	Pn	Pn	09 57 45.1	-1.3
PB10	IPOC Station P	7.92	168		Pn	09 57 45.5	-1.0
PB14	IPOC Station P	9.03	169	Pn	Pn	09 58 00.0	-2.0
GO02	Mina Guanaco	9.72	165	Pn	Pn	09 58 09.9	-1.6
AC01	Pan de Azucar	10.49	172	Pn	Pn	09 58 18.4	-3.4
SIV	San Ignacio	10.78	93	P	Pn	09 58 22.0	-3.7
	0.4nm,0.3s,baz=286,slow=8.9,SNR=8.6						
AC02	Maricunga	11.44	166	Pn	Pn	09 58 32.0	-3.2
PTGA	Pitinga	19.22	40	LR	LR	10 08 06.0	
	comp=Z,105nm,18.8s,baz=148,slow=39						
PLCA	Paso Flores	24.97	177	P	P	10 01 16.6	+2.5
	2.6nm,0.8s,baz=20,slow=12,SNR=5.2						
PLCA				LR	LR	10 11 49.0	
	comp=Z,56nm,18.5s,baz=342,slow=38						
MDP	Montagnes des	28.39	45	LR	LR	10 13 37.4	
	comp=Z,70nm,21.1s,baz=207,slow=38						
YKA	Yellowknife Ar	84.72	342	P	P	10 08 24.7	+0.9
	0.4nm,0.8s,baz=131,slow=5.2,SNR=5.0						
SONM	Songino Array	147.96	2	PKPbc	PKiKP	10 15 36.8	-0.8
	0.8nm,0.6s,baz=343,slow=1.5,SNR=4.4						

*IDC **02** 10:21:37.0±2.5, 48°.72N×77°.66E, h0^{km}, mb1 2.8/2, mb1mx2.8/38, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=32.0km s-min=10.6km az=67.0*
*NNC **02** 10:21:38.7±1.9, 48°.71N×78°.50E, h0^{km}, mb3.1, mpv2.7, Error ellipse: s-maj=29.7km s-min=6.8km az=64.0, Suspected Mining explosion.*
ISC 02 10:21:45.1±1.5**, 49°.45N**±0°.09×**79°.9E**±0°.2**, h0^{km}, n8, σ0^{s}53**/8**, 4C-4D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	1.46	324	Pn	Pn	10 22 12.0	-0.7
	0.9nm,0.3s,baz=201,slow=16,SNR=25						
KURBB				Lg	Lg	10 22 40.1	
	0.7nm,0.3s,baz=198,slow=27,SNR=9.0						
KURBB	Kurchatov Arra	1.46	324	⇓Pn	Pn	10 22 12.5	-0.2
	10nm,0.5s						
KURBB				⇓Lg	Lg	10 22 40.2	
	22nm,0.7s						
KURK	Kurchatov	1.50	328	⇑Pn	Pn	10 22 14.1	+0.8
	6.6nm,0.5s						
KURK				⇑Lg	Lg	10 22 42.3	
	7.7nm,0.6s						
MAKZ	Makanchi	2.99	151	⇑Pg	Pn	10 22 33.6	-0.2
	0.6nm,0.3s						
MAKZ				⇓Lg	Lg	10 23 16.6	
	3.4nm,0.6s						
MK31	Makanchi Array	3.11	148	⇑Pg	Pn	10 22 35.2	-0.2
	0.5nm,0.5s,baz=312,slow=14,SNR=9.5						
MK31				⇓Lg	Lg	10 23 22.4	
	6.9nm,0.8s,baz=307,slow=26,SNR=9.7						
MKAR	Makanchi Array	3.11	148	Pn	Pn	10 22 35.4	0.0
	0.2nm,0.3s,baz=300,slow=13,SNR=14						
MKAR				Sn	Sb	10 23 20.1	+0.4
	0.4nm,0.3s,baz=307,slow=22,SNR=5.1						
MKAR				Lg	Lg	10 23 32.5	
	1.0nm,0.3s,baz=308,slow=26,SNR=9.0						
I46RU	ZALESOVO INFRA	5.46	32	i		11 05 20.0	
	baz=218,slow=327,SNR=0.2						
ZALV	Zalesovo Beam	5.46	32	Pn	Pb	10 23 21.1	-0.1
	0.3nm,0.3s,baz=226,slow=16,SNR=4.0						

*SOME **02** 10:28:09.3, 42°.68N×79°.47E, h10^{km}*
*NNC **02** 10:28:10.5±0.8, 42°.79N×79°.47E, h0^{km}, mb3.6, mpv3.5, Error ellipse: s-maj=5.5km s-min=2.8km az=137.0*
*KRNET **02** 10:28:10.3±0.1, 42°.77N×79°.46E, h11^{km}, mb3.3*
ISC 02 10:28:12.0±1.2**, 42°.80N**±0°.04×**79°.40E**±0°.04**, h10^{km}, n56, σ1^{s}50**/95**, 28C-13D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHLS	Shalkode	0.36	7	⇑eP	Pb	10 28 20.1	-0.6
	baz=39						
SHLS				⇑eS	Sb	10 28 27.8	+1.3
	baz=39						
SHLS	Shalkode	0.36	7	⇑eP	Pb	10 28 20.1	-0.6
	46nm,0.1s						
SHLS				eS	Sb	10 28 27.9	+1.3
	621nm,0.3s						
SHLS	Shalkode	0.36	7	P	Pb	10 28 20.1	-0.6
	46nm,0.1s						
SHLS				S	Sb	10 28 27.8	+1.3
	621nm,0.3s						
UZB	Uzynbulak	0.45	322	⇑eP	Pg	10 28 19.9	-1.0
	baz=20						
UZB				⇑eS	Sg	10 28 27.4	+0.5
	baz=20						
UZB	Uzynbulak	0.45	322	⇑eP	Pg	10 28 19.9	-1.0
	20nm,0.2s						
UZB				eS	Sg	10 28 27.3	+0.5
	89nm,0.2s						
UZB	Uzynbulak	0.45	322	P	Pg	10 28 19.9	-1.0
	20nm,0.2s						
UZB				S	Sg	10 28 27.3	+0.5
	72nm,0.2s						
PDGK	Podgornoye	0.54	7	P	Pg	10 28 20.7	-1.8
	18nm,0.2s						
PDGK				S	Sg	10 28 28.5	-1.1
	20nm,0.2s						
PDGK	Podgornoye	0.54	7	⇑P	Pg	10 28 20.7	-1.8
	13nm,0.3s						
PDGK				⇓S	Sg	10 28 28.7	-1.0
	90nm,0.8s						
SATY	Saty	0.78	290	eP	Pg	10 28 26.4	-0.7
	baz=91						
SATY				eS	Sb	10 28 38.1	-0.4
	baz=91						
SATY	Saty	0.78	290	eP	Pg	10 28 26.4	-0.7
	14nm,0.3s						
SATY				eS	Sb	10 28 38.0	-0.4
	41nm,0.1s						
SATY	Saty	0.78	290	P	Pg	10 28 26.4	-0.7
	7.9nm,0.1s						
SATY				S	Sb	10 28 38.0	-0.4
	38nm,0.1s						
PRZ	Przheval'sk	0.80	247	⇑iP	Pg	10 28 25.9	-1.6
	baz=52						
PRZ				⇑iS	Sb	10 28 38.3	-0.9
	baz=52						
ANVS	Anan'yevo	1.28	270	⇑iP	Pn	10 28 35.3	-0.8
	baz=72						
ANVS				⇑iS	Sn	10 28 54.2	+0.8
	baz=72						
MNBS	Baschi	1.48	331	eP	Pn	10 28 38.5	-0.3
	16nm,0.1s						
MNBS				eS	Sg	10 28 59.1	-0.4
	87nm,0.1s						
MNBS	Baschi	1.48	331	P	Pn	10 28 38.5	-0.3
	16nm,0.1s						
MNBS				S	Sg	10 28 59.1	-0.4
	87nm,0.1s						
DJR	Jarkent	1.56	10	eP	Pn	10 28 39.5	-0.4
	7.6nm,0.3s						
DJR				eS	Sb	10 29 00.6	-0.3
	46nm,0.3s						
DJR	Jarkent	1.56	10	P	Pb	10 28 39.8	-1.3
	7.0nm,0.1s						
DJR				S	Sb	10 29 00.5	-0.5
	46nm,0.3s						
KOTS	Kotyrbulak	1.74	285	eP	Pg	10 28 44.1	-1.2
	baz=86						
KOTS				eS	Sg	10 29 09.4	+1.6
	baz=86						
KOTS	Kotyrbulak	1.74	285	eP	Pg	10 28 44.1	-1.2
	44nm,0.2s						
KOTS				eS	Sg	10 29 09.4	+1.6
	40nm,0.4s						
MDOK	Medeo	1.77	283	eP	Pb	10 28 43.3	-1.3
	baz=83						
MDOK				eS	Sg	10 29 07.8	-1.0
	baz=83						
MDOK	Medeo	1.77	283	eP	Pb	10 28 43.3	-1.3
	9.4nm,0.1s						
MDOK				eS	Sg	10 29 07.9	-1.0
	25nm,0.3s						
MDOK	Medeo	1.77	283	⇑Pg	Pb	10 28 43.4	-1.3
	7.2nm,0.5s						
MDOK				Lg	Lg	10 29 09.0	
	18nm,0.7s						
MDOK	Medeo	1.77	283	Pg	Pb	10 28 43.3	-1.3
	9.4nm,0.1s						
MDOK				Lg	Lg	10 29 07.9	
	25nm,0.3s						
KDJ	Kajisay	1.77	249	⇑iP	Pb	10 28 43.4	-1.3
	baz=50						
KDJ				⇑iS	Sg	10 29 08.1	-0.9
	baz=50						
TNSS	Tian-Shan	1.82	278	eP	Pg	10 28 45.9	-1.0
	baz=79						
TNSS				eS	Sg	10 29 12.7	+2.1
	baz=79						
TNSS	Tian-Shan	1.82	278	eP	Pg	10 28 45.9	-1.0
	9.7nm,0.2s						
TNSS				eS	Sg	10 29 12.7	+2.1
	7.1nm,0.3s						
TNSS	Tian-Shan	1.82	278	Pg	Pg	10 28 46.4	-0.6
	9.7nm,0.2s						
TNSS				Lg	Lg	10 29 12.8	
	7.1nm,0.3s						
ARXS	Arharly	1.82	322	eP	Pb	10 28 44.6	-0.9
	19nm,0.2s						
ARXS				eS	Sg	10 29 09.8	-0.9
	65nm,0.3s						
ARXS	Arharly	1.82	322	P	Pb	10 28 44.6	-0.9
	19nm,0.2s						
ARXS				S	Sg	10 29 09.8	-0.9
	65nm,0.3s						
KTBS	Karatobe	2.19	296	eP	Pb	10 28 50.7	-1.0
	baz=96						
KTBS				eS	Sg	10 29 20.9	-1.5
	baz=96						
KTBS	Karatobe	2.19	296	eP	Pb	10 28 50.7	-1.0
	8.2nm,0.2s						
KTBS				eS	Sg	10 29 20.8	-1.5
	34nm,0.3s						
KTBS	Karatobe	2.19	296	Pg	Pb	10 28 50.7	-1.0
	8.2nm,0.2s						
KTBS				Lg	Lg	10 29 20.8	
	34nm,0.3s						
MTBS	Maitube	2.21	280	eP	Pb	10 28 51.9	-0.2
	22nm,0.3s						
MTBS				eS	Sg	10 29 22.7	-0.2
	18nm,0.2s						
MTBS	Maitube	2.21	280	Pg	Pb	10 28 51.9	-0.2
	22nm,0.3s						
MTBS				Lg	Lg	10 29 22.7	
	18nm,0.2s						
TDK	Taldyqorghan	2.32	342	eP	Pb	10 28 53.4	-0.6
	19nm,0.1s						
TDK				eS	Sg	10 29 24.6	-2.0
	51nm,0.2s						
TDK	Taldyqorghan	2.32	342	Pg	Pb	10 28 53.4	-0.6
	19nm,0.1s						
TDK				Lg	Lg	10 29 24.6	
	51nm,0.2s						
ULHL	Ulahol	2.40	258	⇑iP	Pb	10 28 53.2	-2.2
	baz=59						
ULHL				⇑iS	Sb	10 29 25.5	+0.3
	baz=59						
KUU	Kurty	2.49	297	eP	Pb	10 28 56.6	-0.2
	4.3nm,0.1s						
KUU				eS	Sg	10 29 30.0	-2.0
	18nm,0.4s						
KUU	Kurty	2.49	297	Pg	Pb	10 28 56.3	-0.6
	4.3nm,0.1s						
KUU				Lg	Lg	10 29 29.8	
	18nm,0.4s						
KST	Kastek	2.54	277	eP	Pb	10 28 57.0	-0.8
	18nm,0.3s						
KST				eS	Sg	10 29 31.3	-2.3
	17nm,0.6s						
KST	Kastek	2.54	277	Pg	Pb	10 28 57.0	-0.8
	18nm,0.3s						
KST				Lg	Lg	10 29 31.3	
	17nm,0.6s						
BOOM	Boomskoye usch	2.57	264	⇓eP	Pb	10 28 55.9	-2.5
	baz=65						
BOOM				⇓iS	Sb	10 29 30.2	+0.1
	baz=65						
DGS	Degeres	2.70	281	eP	Pb	10 29 00.4	-0.1
	18nm,0.4s						
DGS				eS	Sg	10 29 37.2	-1.5
	22nm,0.6s						
DGS	Degeres	2.70	281	Pg	Pb	10 29 00.4	-0.1
	18nm,0.4s						
DGS				Lg	Lg	10 29 37.2	
	22nm,0.6s						
TKM2	Tokmak 2	2.80	274	⇑eP	Pb	10 28 59.7	-2.6
	baz=74						
TKM2				⇑iS	Sb	10 29 36.4	-0.3
	baz=74						
TKM2	Tokmak 2	2.80	274	⇑Pg	Pb	10 29 00.7	-1.6
	5.6nm,0.5s						
TKM2				⇑Lg	Lg	10 29 39.8	
	10nm,0.6s						
KBK	Karagaybulak	3.29	269	⇑iP	Pn	10 29 06.2	+2.5
	baz=70						
KBK				⇑iS	Sb	10 29 47.6	-3.0
	baz=70						
AAK	Ala-Archa	3.62	269	⇓eP	Pn	10 29 10.8	+2.5
	baz=70						
AAK				⇓iS	Sb	10 29 55.7	-4.5
	baz=70						
AAK	Ala-Archa	3.62	269	⇓Pg	Pb	10 29 16.5	+0.3
	3.3nm,0.7s						
AAK				⇓Lg	Lg	10 30 05.2	
	6.9nm,0.8s						
UCH	Uchtor	3.66	263	⇓iP	Pn	10 29 11.2	+2.1
	baz=63						
UCH				⇓eS	Sn	10 29 56.2	+3.7
	baz=63						
ARLS	Aral	3.88	258	⇑iP	Pn	10 29 13.5	+1.6
	baz=58						
ARLS				⇑iS	Sn	10 30 00.5	+2.9
	baz=58						
AML	Almayashu	4.27	263	⇓eP	Pn	10 29 20.0	+2.5
	baz=63						
AML				⇓eS	Sn	10 30 11.7	+4.1
	baz=63						
MAKZ	Makanchi	4.41	24	⇓Pn	Pn	10 29 21.0	+2.0
	0.5nm,0.3s						
MAKZ				⇑Lg	Lg	10 30 32.3	
	0.8nm,0.3s						
MK31	Makanchi Array	4.50	26	⇑Pn	Pn	10 29 21.6	+1.4
	0.2nm,0.2s,baz=208,slow=13,SNR=30						
MK31				⇑Lg	Lg	10 30 32.3	
	2.0nm,0.6s,baz=203,slow=28,SNR=4.5						
KURBB	Kurchatov Arra	7.85	356	⇓Lg	Lg	10 32 21.1	
	4.0nm,0.8s						
KURK	Kurchatov	7.94	356	⇑Lg	Lg	10 32 24.0	
	4.2nm,0.9s						

*BJI **02** 10:33:14.0±0.0, 4°.62N×96°.11E, h19^{km}, mB4.9/34, mb4.5/47, Ms4.5/27, Ms7 4.2/23*
*DJA **02** 10:33:15.9±0.6, 5°N±2°×9°6E±°, h12^{km}±4^{km}, M5.0/34, mb5.0/34, mB5.5/9, MLv5.2/13, Mw(mB)4.9/9, MwMwp4.8/7, Mwp5.1/7*
*NEIC **02** 10:33:15.1±2.5, 4°.81N±0°.07×96°.13E±0°.05, h12^{km}±4^{km}, mb4.7/34, Error ellipse: s-maj=10.2km s-min=6.6km*

az=150.0
*IDC **02** 10:33:16.3±3.3, 4.°91N×96.°22E, h18km±20km, mb4.2/25, mb1 4.3/28, mb1mx4.2/52, mbtmp4.3/28, ML4.3/3, MS3.9/34, Ms1 3.9/34, ms1mx3.8/56, Error ellipse: s-maj=18.8km s-min=11.2km az=48.0*
ISC 02 10:33:17.6±0.3**, 4.°79N**±0.°04×**96.°13E**±0.°05**, h29**km**, n176, σ1.s74**/161**, mb4.6**/54**, MS4.0**/38**, 2C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.58**	**152**	P	**Pb**	**10 33 26.9**	**-2.5**
LHMI	**Lhok Sumawe**	**0.93**	**62**	Pg	**Pn**	**10 33 33.2**	**-1.5**
LHMI	**Lhok Sumawe**	**0.93**	**62**	P	**Pn**	**10 33 32.7**	**-2.0**
LHMI				S	**Sn**	**10 33 46.0**	**-1.1**
TPTI		**1.84**	**145**	P	**Pn**	**10 33 47.2**	**-0.1**
TPTI				S	**Sb**	**10 34 12.9**	**-0.5**
TSI	**Tuntungan**	**2.75**	**118**	P	**Pn**	**10 34 00.1**	**+0.4**
PSI	**Prapat**	**3.42**	**125**	Pn	**Pn**	**10 34 10.7**	**+1.6**
	66nm,0.3s,baz=360,slow=9.6,SNR=152						
PSI				Lg	Lg	10 35 05.8	
	63nm,0.3s,baz=180,slow=23,SNR=7.5						
PSI				LR	LR	10 35 47.4	
	comp=Z,2μm,21.8s,baz=270,slow=43						
RPSI	**Rantau Prapat**	**3.48**	**127**	Pn	**Pn**	**10 34 10.9**	**+1.1**
GSI	**Gunungsitoli**	**3.75**	**157**		**Pn**	**10 34 13.3**	**-0.2**
GSI	**Gunungsitoli**	**3.75**	**157**	P	**Pn**	**10 34 12.6**	**-1.0**
PKDT	**Phuket**	**3.79**	**35**	P	**Pn**	**10 34 12.0**	**-2.1**
KULM	**Kulim**	**4.53**	**83**	Pn	**Pn**	**10 34 23.7**	**-0.7**
IPM	**Ipoh**	**4.89**	**93**	Pn	**Pn**	**10 34 28.3**	**-1.1**
MNSI	**Mandailing Nat**	**5.25**	**139**	P	**Pn**	**10 34 35.6**	**+1.4**
	2.6nm5μm364nm,0.5s						
PBSI	**Pulau Batu**	**5.27**	**156**	P	**Pn**	**10 34 34.4**	**0.0**
	1.3nm4μm132nm,0.6s						
BKNI	**Bangkinang**	**6.61**	**132**	Pn	**Pn**	**10 34 53.9**	**+0.9**
BKNI	**Bangkinang**	**6.61**	**132**	P	**Pn**	**10 34 53.6**	**+0.7**
	2.5nm14μm215nm,0.7s						
MYKOM	**Kota Tinggi**	**8.26**	**111**		**Pn**	**10 35 13.7**	**-2.0**
KRJI	**Kerinci**	**8.66**	**142**	P	**Pn**	**10 35 22.6**	**+1.4**
	11μm274nm,0.8s						
PHET	**Kaeng Krachan**	**8.78**	**23**	P	**Pn**	**10 35 24.9**	**+2.2**
	645nm49nm,0.8s						
SRAK	**Srakaew**	**10.87**	**32**	P	Pn	10 35 58.0	+6.7
	5μm358nm,0.5s						
UTHA	**Uthaitani**	**11.19**	**17**	P	**Pn**	**10 35 57.3**	**+1.5**
	291nm36nm,0.9s						
LHSI	**Lahat**	**11.30**	**139**	P	**Pn**	**10 35 57.3**	**0.0**
	1μm162nm,0.8s						
MNAI	**Manna**	**11.36**	**143**	Pn	**Pn**	**10 35 56.6**	**-1.5**
UMPA	**Umpang Tak**	**11.66**	**13**	P	**Pn**	**10 36 02.5**	**+0.2**
	68nm,0.9s						
MDSI	**Maura Dua**	**12.23**	**139**	P	**Pn**	**10 36 07.8**	**-2.1**
	598nm49nm,0.9s						
CHAI	**Chaiyaphum**	**12.46**	**27**	P	**Pn**	**10 36 16.0**	**+2.9**
	24nm,1.1s						
LWLI	**Liwa**	**12.55**	**141**	P	**Pn**	**10 36 15.2**	**+0.7**
	124nm,0.7s						
KLSI		**12.74**	**137**	P	**Pn**	**10 36 15.0**	**-2.0**
	13nm,0.8s						
PHIT	**Phitsanulok**	**13.03**	**18**	P	**P**	**10 36 26.7**	**-4.2**
	76nm,0.8s						
SUKH	**Sukhothai**	**13.08**	**15**	P	**P**	**10 36 34.4**	**+2.9**
KHON	**Khomkaen**	**13.23**	**29**	P	P	10 36 41.0	+7.8
MHMT	**Maesarieng**	**13.43**	**7**	P	**Pn**	**10 36 27.9**	**+1.6**
	2μm33nm,0.9s						
UTTA	**Uttaradit**	**13.59**	**18**	P	**P**	**10 36 33.5**	**-3.7**
	208nm17nm,0.6s						
CM05	**Chiang Mai Arr**	**13.81**	**11**	P	**Pn**	**10 36 34.0**	**+2.4**
	159nm19nm,0.9s						
CM04	**Chiang Mai Arr**	**13.82**	**11**	P	**Pn**	**10 36 34.1**	**+2.4**
	203nm30nm,1.0s						
CM13	**Chiang Mai Arr**	**13.82**	**11**	P	**Pn**	**10 36 34.0**	**+2.3**
	208nm24nm,1.0s						
CM01	**Chiang Mai Arr**	**13.83**	**11**	P	**Pn**	**10 36 34.1**	**+2.2**
	241nm31nm,0.9s						
CM02	**Chiang Mai Arr**	**13.84**	**11**	P	**Pn**	**10 36 36.0**	**+4.0**
	203nm28nm,1.0s						
CM15	**Chiang Mai Arr**	**13.86**	**11**	P	**P**	**10 36 43.0**	**+2.8**
CM09	**Chiang Mai Arr**	**13.86**	**11**	P	**Pn**	**10 36 36.0**	**+3.7**
	211nm32nm,1.0s						
CM31	**Chiang Mai Arr**	**13.87**	**11**	P	**P**	**10 36 43.5**	**+3.2**
CMAR	**Chiang Mai Arr**	**13.87**	**11**	Pn	**Pn**	**10 36 31.8**	**-0.6**
	0.6nm,0.3s,baz=197,slow=14,SNR=20						
CMAR				LR	LR	10 42 03.5	
	comp=Z,187nm,19.9s,baz=242,slow=38						
CM36	**Chiang Mai Arr**	**13.95**	**12**	P	**Pn**	**10 36 35.0**	**+1.4**
CM32	**Chiang Mai Arr**	**14.04**	**11**	P	**P**	**10 36 44.0**	**+1.8**
LAMP	**Lampang**	**14.08**	**14**	P	**P**	**10 36 47.0**	**+4.4**
CM35	**Chiang Mai Arr**	**14.12**	**12**	P	**Pn**	**10 36 37.0**	**+1.2**
CHTO	**Chiang Mai**	**14.21**	**11**	Pn	**Pn**	**10 36 37.9**	**+0.8**
CMMT	**Chiang Mai**	**14.21**	**11**	P	**Pn**	**10 36 39.8**	**+2.7**
	8.5nm,0.9s						
CM33	**Chiang Mai Arr**	**14.22**	**11**	P	**Pn**	**10 36 40.0**	**+2.9**
CM34	**Chiang Mai Arr**	**14.29**	**12**	P	**Pn**	**10 36 40.0**	**+1.9**
NONG	**Nongkai**	**14.88**	**27**	P	P	10 37 00.6	+9.1
PALK	**Pallekele**	**15.54**	**280**	Pn	**P**	**10 36 57.1**	**-1.8**
	0.5nm,0.3s,baz=196,slow=10,SNR=10						
PALK				LR	LR	10 42 10.1	
	comp=Z,253nm,19.9s,baz=199,slow=34						
PALK	**Pallekele**	**15.54**	**280**	Pn	**Pn**	**10 36 54.7**	**-0.1**
SBUM	**Sibu**	**16.23**	**98**		**Pn**	**10 37 04.5**	**+0.8**
LEM	**Lembang**	**16.27**	**135**	LR	LR	10 43 09.4	
	comp=Z,704nm,18.1s,baz=285,slow=36						
SLVN	**Son La**	**18.10**	**24**	P	**Pn**	**10 37 26.3**	**-0.8**
QIZ	**Qiongzhong**	**19.48**	**42**	P	**P**	**10 37 41.9**	**-0.6**
QIZ				S	**Sn**	**10 41 23.0**	**+1.2**
QIZ				LR	LR		
	comp=N,800nm,21.1s						
QIZ				LR	LR		
	comp=E,620nm,22.6s						
MTKI	**Muara Teweh, K**	**19.59**	**106**	P	**P**	**10 37 44.4**	**+0.7**
KKM	**Kota Kinabalu**	**20.04**	**86**		**P**	**10 37 48.7**	**0.0**
KKM				IAmb	IAmb	10 37 56.9	
	comp=Z,68nm,1.2s						
BBKI	**Banjar Baru**	**20.41**	**113**	P	Pn	10 37 54.2	-0.7
	comp=Z,99nm,0.8s						
KMI	**Kunming**	**21.20**	**17**	⇑P	**P**	**10 38 04.1**	**+2.9**
KMI				pP	pP	10 38 09.0	-0.5
KMI				sP	sP	10 38 13.0	-0.3
KMI				PP	**PnPn**	**10 38 26.7**	**+5.5**
KMI				S	**S**	**10 41 54.4**	**-1.3**
KMI				sS	Sn	10 42 01.3	-2.0
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,130nm,4.2s						
KMI				LR	LR		
	comp=Z,330nm,13.2s						
KMI				LR	LR		
	comp=Z,640nm,11.2s						
KMI				LR	LR		
	comp=Z,450nm,14.3s						
HYB	**Hyderabad**	**21.30**	**307**	*i* P	**P**	**10 38 02.0**	**-0.2**
HYB				*e*		10 38 09.0	
HYB				*e*		10 38 19.0	
HYB				*e*S	Sn	10 42 03.0	-2.6
KMMI	**Kalianget**	**21.34**	**123**	P	**P**	**10 38 03.2**	**+0.6**
	comp=Z,96nm,0.8s						
ABJI	**Asem Bagus**	**21.97**	**125**	P	**P**	**10 38 10.6**	**+1.2**
	comp=Z,106nm,0.8s						
JAGI	**Jajag, Banyuwa**	**22.28**	**126**	P	**P**	**10 38 11.5**	**-1.3**
	comp=Z,56nm,0.8s						
MYLDM	**Lahad Datu**	**22.29**	**88**	P	**P**	**10 38 13.5**	**+0.6**
SRBI	**Singaraja**	**22.93**	**124**	P	**P**	**10 38 18.4**	**-1.2**
	comp=Z,1μmcomp=Z,68nm,0.8s						
ODAN	**Odare**	**23.48**	**340**	*e*P	**P**	**10 38 24.9**	**-0.4**
GYA	**Guiyang**	**23.79**	**24**	⇑P	**P**	**10 38 29.0**	**+0.8**
GYA				pP	pP	10 38 34.3	-2.6
GYA				S	**S**	**10 42 45.1**	**+2.9**
GYA				sS	sS	10 42 57.4	+1.0
GYA				pmax	pmax		
	comp=Z,11nm,1.2s						
GYA				pmax	pmax		
	comp=Z,140nm,3.5s						
GYA				LR	LR		
	comp=Z,280nm,15.0s						
GYA				LR	LR		
	comp=Z,470nm,14.9s						
GYA				LR	LR		
	comp=Z,330nm,15.2s						
TAPN	**Taplejung**	**23.83**	**341**	*e*P	**P**	**10 38 25.7**	**-3.0**
RAMN	**Ramite**	**23.84**	**339**	*e*P	**P**	**10 38 29.0**	**+0.2**
TWSI	**Taliwang, Sumb**	**24.67**	**123**	P	**P**	**10 38 34.8**	**-1.5**
	comp=Z,414nmcomp=Z,39nm,0.8s						
PKI	**Pulchoki**	**24.86**	**337**	*e*P	**P**	**10 38 38.0**	**-0.2**
PKIN	**Phulchoki**	**24.86**	**337**	*e*P	**P**	**10 38 38.6**	**+0.4**
TOLI2	**Tolitoli**	**24.89**	**98**	P	**P**	**10 38 38.9**	**+0.7**
GUN	**Gumba**	**24.98**	**338**	*e*P	**P**	**10 38 37.6**	**-1.7**
KKN	**Kakani**	**25.10**	**337**	*e*P	**P**	**10 38 40.6**	**+0.3**
LSA	**Lhasa**	**25.23**	**350**	P	**P**	**10 38 43.8**	**+2.2**
LSA				S	**S**	**10 42 57.5**	**-8.3**
LSA				LR	LR		
	comp=Z,570nm,12.8s						
LSA				LR	LR		
	comp=Z,530nm,11.4s						
LSA				LR	LR		
	comp=Z,950nm,13.5s						
LSA	**Lhasa**	**25.23**	**350**	P	**P**	**10 38 41.0**	**-0.6**
LSA				IAmb	IAmb	10 39 02.5	
	comp=Z,13nm,0.9s						
KAPI	**Kappang**	**25.53**	**112**	P	**P**	**10 38 44.2**	**+0.2**
	comp=Z,16nm,0.9s,baz=349,slow=4.4,SNR=5.6						
KAPI	**Kappang**	**25.53**	**112**	P	**P**	**10 38 44.0**	**0.0**
GKN	**Gorkha**	**25.55**	**336**	*e*P	**P**	**10 38 44.6**	**+0.4**
	comp=Z,33nm,1.0s						
APSI	**Ampana**	**26.12**	**102**	P	**P**	**10 38 51.6**	**+2.2**
	comp=Z,428nmcomp=Z,41nm,0.9s						
MRSI	**Marisa**	**26.13**	**99**	P	**P**	**10 38 51.4**	**+1.9**
	comp=Z,22nm,0.9s						
H08S2	**Diego Garcia H**	**26.62**	**242**	T	T	11 05 49.5	
	baz=62,slow=75,SNR=351						
H08S3	**Diego Garcia H**	**26.62**	**243**	T	T	11 05 52.9	
	baz=62,slow=75,SNR=371						
H08S1	**Diego Carcia H**	**26.63**	**243**	T	T	11 05 53.4	
	baz=62,slow=75,SNR=210						
CD2	**Chengdu**	**26.96**	**15**	*e*P	**P**	**10 38 57.0**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTOI	**Gorontalo**	**27.16**	**98**	P	**P**	**10 38 59.8**	**+1.0**
	comp=Z,14nm,0.7s						
XAN	**Xi'an**	**31.44**	**21**	P	**P**	**10 39 36.8**	**+0.1**
XAN				pP	pP	10 39 43.0	-2.6
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN	**Xi'an**	**31.44**	**21**	P	**P**	**10 39 35.4**	**-1.2**
XAN				IAmb	IAmb	10 40 01.5	
	comp=Z,7.9nm,0.8s						
LZH	**Lanzhou**	**31.95**	**12**	*e*P	**P**	**10 39 42.8**	**+1.6**
LZH				pP	pP	10 39 48.1	-2.1
LZH				sP	sP	10 39 51.6	-2.0
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				pmax	pmax		
	comp=Z,95nm,5.4s						
LZH				LR	LR		
	comp=Z,280nm,13.6s						
LZH				LR	LR		
	comp=Z,510nm,14.6s						
LZH				LR	LR		
	comp=Z,210nm,16.3s						
NJ2	**Nanjing**	**34.48**	**35**	*e*P	**P**	**10 40 03.2**	**0.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,440nm,12.8s						
NJ2				LR	LR		
	comp=Z,490nm,11.8s						
NJ2				LR	LR		
	comp=Z,530nm,12.3s						
GTA	**Gaotai**	**34.63**	**5**	P	**P**	**10 40 06.4**	**+1.9**
GTA				pP	pP	10 40 11.5	-2.0
GTA				sP	sP	10 40 14.9	-2.0
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,110nm,5.6s						
GTA				LR	LR		
	comp=Z,180nm,14.9s						
GTA				LR	LR		
	comp=Z,120nm,16.0s						
GTA				LR	LR		
	comp=Z,160nm,15.3s						
NIL	**Nilore**	**35.75**	**326**	P	**P**	**10 40 11.5**	**-2.6**
FITZ	**Fitzroy Crossi**	**36.94**	**129**	P	**P**	**10 40 22.9**	**-1.5**
FITZ				IAmb	IAmb	10 40 23.9	
	comp=Z,6.5nm,0.7s						
HHC	**Hu-ho-hao-te**	**38.49**	**19**	*e*P	**P**	**10 40 37.8**	**+0.4**
HHC				PP	**PnPn**	**10 42 09.3**	**+1.5**
HHC				S	**S**	**10 46 31.2**	**0.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,7.0s						
HHC				LR	LR		
	comp=Z,410nm,19.1s						
HHC				LR	LR		
	comp=Z,520nm,18.1s						
HHC				LR	LR		
	comp=Z,170nm,10.4s						
BJI	**Beijing**	**39.48**	**24**	P	**P**	**10 40 47.9**	**+2.3**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BJI				LR	LR		
	comp=Z,250nm,14.2s						
BJI				LR	LR		
	comp=Z,250nm,17.3s						
WMQ	**Urumqi**	**39.58**	**350**	*e*P	**P**	**10 40 47.7**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,12nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,250nm,5.3s						
WSAR	**Wadi Sarin**	**40.55**	**301**	P	**P**	**10 40 55.0**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=155,slow=4.5,SNR=4.8						
SHLS	**Shalkode**	**40.97**	**341**	*e*P	**P**	**10 40 57.1**	**-0.9**
	baz=342						
SATY	**Saty**	**41.23**	**340**	*e*P	**P**	**10 40 59.3**	**-0.8**
	baz=340						
KPKS	**Kokpek**	**41.49**	**341**	*e*P	**P**	**10 41 01.9**	**-0.4**
	baz=341						
MDOK	**Medeo**	**41.79**	**339**	*e*P	**P**	**10 41 04.1**	**-0.7**
	baz=339						
AAK	**Ala-Archa**	**42.31**	**336**	P	**P**	**10 41 08.7**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=59,slow=8.7,SNR=4.2						
AAK	**Ala-Archa**	**42.31**	**336**	P	**P**	**10 41 08.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**42.52**	**153**	P	**P**	**10 41 11.1**	**+0.4**
NWAO				IAmb	IAmb	10 41 16.1	
	comp=Z,20nm,0.9s						
NWAO	**Narrogin (SRO)**	**42.52**	**153**	P	**P**	**10 41 10.8**	**+0.2**
NWAO				IAmb	IAmb	10 41 15.6	
	comp=Z,22nm,0.8s						
MKAR	**Makanchi Array**	**43.53**	**346**	P	**P**	**10 41 16.6**	**-2.1**
	comp=Z,2.1nm,0.6s,baz=161,slow=7.7,SNR=10						
MKAR				LR	LR	11 02 13.6	
	comp=Z,74nm,20.8s,baz=168,slow=40						
MKAR	**Makanchi Array**	**43.53**	**346**	P	**P**	**10 41 19.3**	**+0.6**
KSRS	**Korea Array**	**43.60**	**37**	P	**P**	**10 41 19.4**	**0.0**
	comp=Z,1.6nm,0.6s,baz=218,slow=9.7,SNR=7.0						
KSRS				LR	LR	11 02 14.6	
	comp=Z,61nm,18.6s,baz=225,slow=40						
SONM	**Songino Array**	**43.79**	**10**	P	**P**	**10 41 19.9**	**-1.0**
	comp=Z,3.1nm,0.7s,baz=187,slow=9.0,SNR=18						
SONM				PcP	**PcP**	**10 43 07.9**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=192,slow=4.4,SNR=1.8						
SONM				LR	LR	11 01 11.6	
	comp=Z,211nm,18.1s,baz=203,slow=38						
SONM	**Songino Array**	**43.79**	**10**	IAmb	IAmb	10 41 26.6	
	comp=Z,3.7nm,0.8s						
IUG	**Iuzhnay**	**43.87**	**332**	*e*P	**P**	**10 41 20.4**	**-1.2**
	baz=332						
KKAR	**Karatay Array**	**44.39**	**333**	P	**P**	**10 41 23.6**	**-2.0**
BTLS	**Baital**	**44.51**	**338**	*e*P	**P**	**10 41 25.9**	**-0.6**
	baz=338						
WRA	**Warramunga Arr**	**44.88**	**124**	P	**P**	**10 41 28.6**	**-1.3**
	comp=Z,5.0nm,0.5s,baz=302,slow=9.3,SNR=93						
WRA				ScP	**ScP**	**10 47 02.5**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=312,slow=3.7,SNR=4.8						
WRA				LR	LR	11 01 57.0	
	comp=Z,162nm,19.7s,baz=265,slow=38						
WRAB	**Tennant Creek**	**44.89**	**124**	P	**P**	**10 41 29.2**	**-0.8**
WRAB				IAmb	IAmb	10 41 52.4	
	comp=Z,15nm,0.9s						
WB2	**Warramunga Arr**	**44.89**	**124**	P	**P**	**10 41 29.0**	**-1.0**
AS31	**Alice Springs**	**46.44**	**129**	IAmb	IAmb	10 41 42.1	
	comp=Z,5.5nm,0.5s						
ASAR	**Alice Springs**	**46.44**	**129**	P	**P**	**10 41 41.5**	**-0.8**
	comp=Z,9.2nm,0.4s,baz=302,slow=7.8,SNR=152						
ASAR				ScP	**ScP**	**10 47 09.2**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=312,slow=4.9,SNR=5.2						
ASAR				S	**S**	**10 48 27.2**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=309,slow=13,SNR=5.1						
ASAR				LR	LR	11 00 53.8	
	comp=Z,184nm,21.9s,baz=296,slow=36						
ASAR	**Alice Springs**	**46.44**	**129**	P	**P**	**10 41 41.2**	**-1.0**
TLY	**Talaya**	**47.16**	**6**	LR	LR	11 03 10.5	
	comp=Z,147nm,21.0s,baz=174,slow=38						
GEYT	**Alibeck**	**47.81**	**319**	P	**P**	**10 41 51.7**	**-1.0**
	comp=Z,4.3nm,0.6s,baz=144,slow=10,SNR=5.6						
GEYT				LR	LR	11 03 25.3	
	comp=Z,150nm,19.7s,baz=25,slow=38						
GEYT	**Alibeck**	**47.81**	**319**	P	**P**	**10 41 52.0**	**-0.7**
GEYT				IAmb	IAmb	10 42 02.1	
	comp=Z,4.6nm,0.9s						
KURBB	**Kurchatov Arra**	**48.01**	**345**	P	**P**	**10 41 53.2**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=163,slow=7.0,SNR=7.0						
KURK	**Kurchatov**	**48.08**	**345**	IAmb	IAmb	10 42 15.6	
	comp=Z,4.1nm,0.9s						
KURK	**Kurchatov**	**48.08**	**345**	P	**P**	**10 41 53.2**	**-1.2**
MJAR	**Matsushiro Arr**	**49.85**	**45**	LR	LR	11 05 13.1	
	comp=Z,106nm,19.3s,baz=235,slow=39						
ZAA0	**Zalesovo Array**	**49.87**	**351**	IAmb	IAmb	10 42 29.9	
	comp=Z,4.7nm,0.8s						
ZALV	**Zalesovo Beam**	**49.87**	**351**	P	**P**	**10 42 06.2**	**-2.0**
	comp=Z,2.0nm,0.6s,baz=163,slow=7.1,SNR=9.5						
ZALV				LR	LR	11 08 28.3	
	comp=Z,75nm,18.1s,baz=198,slow=42						
COEN	**Coen**	**50.25**	**112**	P	**P**	**10 42 10.5**	**-1.2**
USRK	**Ussuriysk Ar.**	**50.32**	**33**	P	**P**	**10 42 10.1**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=123,slow=5.3,SNR=1.9						
PMG	**Port Moresby**	**52.77**	**106**	LR	LR	11 10 24.1	
	comp=Z,78nm,18.1s,baz=320,slow=42						
BBOO	**Buckleboo**	**53.21**	**138**	IAmb	IAmb	10 42 33.6	
	comp=Z,8.2nm,0.7s						
ABKAR	**Akbulak array**	**53.87**	**331**	P	**P**	**10 42 35.6**	**-2.5**
CTAO	**Charters Tower**	**55.10**	**118**	P	**P**	**10 42 46.1**	**-1.5**
AKTO	**Aktyubinsk**	**55.59**	**331**	P	**P**	**10 42 50.9**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=103,slow=12,SNR=5.1						
AKTO				LR	LR	11 08 31.2	
	comp=Z,120nm,18.2s,baz=143,slow=38						
ASAJ	**Asahikawa**	**56.51**	**39**	LR	LR	11 07 43.6	
	comp=Z,75nm,19.9s,baz=339,slow=37						
STKA	**Stephens Creek**	**56.56**	**133**	P	**P**	**10 42 57.4**	**-0.5**
	comp=Z,5.9nm,0.6s,baz=313,slow=7.0,SNR=19						
STKA				LR	LR	11 08 53.5	
	comp=Z,100nm,19.1s,baz=308,slow=38						
GNI	**Garni**	**58.00**	**315**	LR	LR	11 11 45.6	
	comp=Z,58nm,19.2s,baz=112,slow=40						
KMBO	**Kilima Mbogo**	**59.11**	**266**	P	**P**	**10 43 17.1**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=48,slow=8.2,SNR=6.6						
KMBO				LR	LR	11 07 04.5	
	comp=Z,74nm,18.2s,baz=88,slow=34						
ARU	**Arti**	**59.49**	**337**	P	**P**	**10 43 18.8**	**+0.9**
	comp=Z,1.9nm,0.2s,baz=179,slow=3.3,SNR=3.2						
ARU				LR	LR	11 11 16.5	
	comp=Z,224nm,18.2s,baz=138,slow=38						
ARU	**Arti**	**59.49**	**337**	IAmb	IAmb	10 43 20.3	
	comp=Z,5.0nm,0.6s						
KBZ	**Khabaz**	**60.69**	**318**	P	**P**	**10 43 25.1**	**-1.3**
	comp=Z,2.8nm,1.0s,baz=140,slow=4.0,SNR=4.4						
KBZ				LR	LR	11 13 31.1	
	comp=Z,54nm,18.3s,baz=124,slow=40						
BELG	**Belogornoye**	**61.96**	**329**	LR	LR	11 13 42.0	
	comp=Z,155nm,19.6s,baz=156,slow=39						
YAK	**Yakutsk**	**62.31**	**17**	LR	LR	11 11 55.2	
	comp=Z,92nm,19.9s,baz=254,slow=37						
EIL	**Elat**	**62.68**	**301**	LR	LR	11 12 43.2	
	comp=Z,50nm,18.1s,baz=112,slow=38						
KIRV	**Kirov**	**64.63**	**335**	LR	LR	11 14 01.2	
	comp=Z,167nm,18.8s,baz=130,slow=38						
NRIK	**Noril'sk**	**64.71**	**357**	LR	LR	11 14 41.1	
	comp=Z,80nm,18.1s,baz=180,slow=38						
MBAR	**Mbarara**	**65.53**	**267**	P	**P**	**10 44 01.1**	**+1.8**
MBAR				IAmb	IAmb	10 44 04.0	
	comp=Z,6.8nm,1.1s						
BRTR	**Keskin Array B**	**65.93**	**311**	LR	LR	11 14 50.2	
	comp=Z,39nm,19.1s,baz=116,slow=38						
BRTR	**Keskin Array B**	**65.93**	**311**	P	**P**	**10 44 00.8**	**-0.6**
PETK	**Petropavlovsk-**	**69.38**	**35**	LR	LR	11 17 42.7	
	comp=Z,59nm,18.8s,baz=248,slow=38						
TIXI	**Tiksi**	**69.87**	**11**	P	**P**	**10 44 25.3**	**0.0**
TIXI				IAmb	IAmb	10 44 45.7	
	comp=Z,3.4nm,0.8s						
AKASG	**Malin Array Be**	**71.79**	**322**	P	**P**	**10 44 36.5**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=83,slow=4.7,SNR=4.8						
AKASG				LR	LR	11 21 30.9	
	comp=Z,74nm,18.2s,baz=100,slow=40						
BURAR	**Bucovina Array**	**73.65**	**318**	P	**P**	**10 44 50.6**	**+1.9**
BOSA	**Boshof**	**75.66**	**239**	P	**P**	**10 45 01.7**	**+0.9**
	comp=Z,4.5nm,1.1s,baz=117,slow=9.0,SNR=1.8						
BOSA				LR	LR	11 16 07.8	
	comp=Z,38nm,19.2s,baz=176,slow=34						
FINES	**FINESS Array B**	**76.35**	**332**	P	**P**	**10 45 03.7**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=66,slow=4.6,SNR=5.1						
FINES				LR	LR	11 22 59.7	
	comp=Z,105nm,18.5s,baz=196,slow=39						
ARCES	**ARCESS Array B**	**78.82**	**340**	P	**P**	**10 45 17.5**	**-0.1**
	comp=Z,5.0nm,1.0s,baz=90,slow=4.9,SNR=6.6						
ARCES				LR	LR	11 22 56.1	
	comp=Z,220nm,20.5s,baz=315,slow=38						
ARCES	**ARCESS Array B**	**78.82**	**340**	IAmb	IAmb	10 45 39.2	
	comp=Z,12nm,1.3s						
GERES	**GERESS Array B**	**81.43**	**319**	P	**P**	**10 45 32.2**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=77,slow=7.0,SNR=6.6						
GERES	**GERESS Array B**	**81.43**	**319**	P	**P**	**10 45 33.0**	**+0.8**
NOA	**NORSAR Array B**	**83.37**	**331**	LR	LR	11 27 36.9	
	comp=Z,111nm,18.1s,baz=100,slow=39						
KEST	**Kesra**	**84.62**	**305**	P	**P**	**10 45 51.1**	**+2.2**
	comp=Z,3.5nm,0.8s,baz=327,slow=2.2,SNR=4.8						
VNDA	**Vanda**	**89.53**	**169**	P	**P**	**10 46 14.6**	**+2.9**
	comp=Z,4.2nm,1.0s,baz=310,slow=4.9,SNR=3.8						
VNDA				LR	LR	11 21 00.8	
	comp=Z,75nm,19.1s,baz=312,slow=32						
TORD	**Torodi Ar. Bea**	**93.23**	**283**	P	**P**	**10 46 29.6**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=86,slow=5.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	**93.23**	**283**	P	**P**	**10 46 29.9**	**-0.3**
TORD				IAmb	IAmb	10 46 38.6	
	comp=Z,4.4nm,1.4s						
IMAR	**Indian Mountai**	**93.71**	**23**	P	**P**	**10 46 31.4**	**+0.1**
RSO	**Redoubt South**	**96.08**	**28**	P	**P**	**10 46 43.1**	**+0.5**
ULM	**Lac du Bonnet**	**124.21**	**9**	PKP	**PKiKP**	**10 52 15.1**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=47,slow=4.4,SNR=7.4						
NVAR	**Mina Array Bea**	**126.46**	**34**	PKP	**PKiKP**	**10 52 20.6**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=314,slow=2.3,SNR=8.3						
PDAR	**Pinedale Array**	**127.25**	**24**	PKP	**PKiKP**	**10 52 20.8**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=109,slow=2.1,SNR=4.5						
TXAR	**Lajitas Array**	**141.11**	**28**	PKP	**PKPdf**	**10 52 47.1**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=140,slow=0.4,SNR=4.7						
CPUP	**Villa Florida**	**146.78**	**227**	PKPbc	**PKPab**	**10 52 59.0**	**0.0**
	comp=Z,5.0nm,1.0s,baz=108,slow=6.0,SNR=6.6						
CPUP	**Villa Florida**	**146.78**	**227**		**PKiKP**	**10 52 60.0**	**-0.5**

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*GCG **02** 10:39:59.4±0.6, 13.°52N×90.°43W, h33km±4km, MD3.8*
*SNET **02** 10:39:59.1±1.0, 13.°54N×90.°38W, h40km±13km, ML3.8*
*INET **02** 10:39:59.6, 13.°48N×90.°34W, h22km, MW3.1*
ISC 02 10:39:58.7±2.1**, 13.°48N**±0.°10×**90.°40W**±0.°07**, h31**km±13km**, n25, σ0.s36**/38**, 5D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.69**	**357**	⇓*i*P	**Pn**	**10 40 11.9**	**-0.6**
IXG	**Ixpaco**	**0.69**	**357**	⇓*e*P	**Pb**	**10 40 12.6**	**+0.3**
CEVE	**Cerro Verde**	**0.83**	**65**	⇓*i*P	**Pn**	**10 40 14.2**	**-0.3**
CEVE				*e*S	**Sb**	**10 40 26.2**	**+0.5**
SBLS	**San Blas**	**0.83**	**65**	*i* P	**Pn**	**10 40 14.2**	**-0.3**
SBLS				*e*S	**Sb**	**10 40 25.9**	**0.0**
RTR	**El Retiro**	**0.84**	**61**	*i* P	**Pn**	**10 40 14.5**	**0.0**
SNJE	**San Jose**	**0.86**	**63**	*e*P	**Pn**	**10 40 14.6**	**-0.3**
PCG	**Pacaya**	**0.93**	**347**	*e*P	**Pb**	**10 40 16.4**	**0.0**
JAYA	**Jayaque - finc**	**0.94**	**79**	*e*P	**Pn**	**10 40 15.4**	**-0.5**
JAYA				*e*S	**Sb**	**10 40 28.6**	**-0.2**
JAYA				IAML		10 40 30.8	
	comp=Z,4μm,0.3s						
CEDA	**San Andres**	**1.03**	**72**	*e*P	**Pn**	**10 40 16.7**	**-0.3**
CEDA				*e*S	**Sn**	**10 40 30.3**	**-0.1**
CEDA				IAML		10 40 34.0	
	comp=Z,2μm,0.3s						
LALI	**Alcalda de L**	**1.05**	**90**	*e*P	**Pn**	**10 40 17.1**	**-0.2**
LALI				*e*S	**Sn**	**10 40 30.8**	**0.0**
FUG	**Fuego 3**	**1.05**	**336**	*e*P	**Pn**	**10 40 17.6**	**+0.1**
FUG				*e*S	**Sb**	**10 40 31.9**	**-0.1**
NBG	**Las Nubes**	**1.10**	**3**	*e*P	**Pb**	**10 40 19.4**	**0.0**
BOQS	**Boqueron**	**1.12**	**77**	*e*P	**Pn**	**10 40 18.4**	**0.0**
BOQS				*e*S	**Sn**	**10 40 32.7**	**-0.2**
TACO	**Tacachico**	**1.12**	**64**	*e*S	**Sn**	**10 40 33.0**	**+0.2**
UEES	**Universidad Ev**	**1.15**	**78**	*e*P	**Pn**	**10 40 18.8**	**0.0**
UEES				IAML		10 40 37.3	
	comp=Z,1μm,0.2s						
SNET	**Serv Nac Est T**	**1.15**	**80**	*e*P	**Pn**	**10 40 18.8**	**0.0**
SNET				*e*S	**Sn**	**10 40 33.9**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SNET				IAML		10 40 37.0	
	comp=Z,1μm,0.2s						
OPAM	**Oficina de Pla**	**1.19**	**79**	*e*P	**Pn**	**10 40 19.6**	**+0.3**
OPAM				*e*S	**Sb**	**10 40 35.1**	**-0.7**
LFRS	**El Faro**	**1.31**	**84**	*e*P	**Pn**	**10 40 21.2**	**+0.3**
MTO3	**Montecristo**	**1.36**	**48**	⇓*i*P	**Pn**	**10 40 21.2**	**-0.6**
MTO3				*e*S	**Sn**	**10 40 39.1**	**+0.3**
COEG	**Centro de Oper**	**1.48**	**85**	*e*P	**Pn**	**10 40 23.5**	**+0.2**
COEG				*e*S	**Sn**	**10 40 42.5**	**+0.8**
ESQI	**Esquipulas**	**1.48**	**44**	⇓*i*P	**Pn**	**10 40 23.0**	**-0.4**
ESQI				*e*S	**Sn**	**10 40 42.1**	**+0.4**
MRL	**Marmol**	**1.73**	**23**	*e*P	**Pn**	**10 40 26.7**	**-0.2**
MRL	**Marmol**	**1.73**	**23**	*e*P	**Pn**	**10 40 27.5**	**+0.6**
COEB	**Comit de Eme**	**1.82**	**89**	*e*P	**Pn**	**10 40 27.9**	**0.0**
COEB				*e*S	**Sn**	**10 40 49.4**	**-0.6**
TECA	**Tecapa**	**1.84**	**89**	*e*P	**Pn**	**10 40 28.4**	**0.0**

*DNK **02** 10:42:52.9±1.6, 71°.60N×13°.36W, h15km±31km, ML2.7*
*BER **02** 10:42:52.6±0.6, 71°.66N×11°.49W, h1km±999km, ML2.7, Confirmed Earthquake*
ISC 02 10:42:47.0±1.0**, 71°.47N**±0°.06×**12°.37W**±0°.05**, h10km, n8, σ2s.27**/15**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.30**	**113**	*e*P	**Pg**	**10 43 13.2**	**+1.4**
JMI				*e*S	**Sb**	**10 43 27.4**	**-0.7**
JMI				IAML		10 43 29.3	
	comp=Z,157nm,0.5s						
JMIC	**Jan Mayen**	**1.34**	**109**	*e*P	Pg	10 43 33.0	+20
JMIC				*e*S	Sg	10 43 48.3	+18
JMIC				IAML		10 43 49.7	
	comp=Z,122nm,0.4s						
JNW	**Jan Mayen West**	**1.35**	**107**	*e*P	**Pn**	**10 43 13.0**	**+1.2**
JNW				*e*S	**Sb**	**10 43 28.5**	**-1.0**
JNW				IAML		10 43 30.0	
	comp=Z,164nm,0.5s						
JNE	**Jan Mayen East**	**1.40**	**108**	*e*P	**Pn**	**10 43 13.8**	**+1.3**
JNE				*e*S	**Sb**	**10 43 28.5**	**-2.5**
JNE				IAML		10 43 32.7	
	comp=Z,84nm,0.2s						
SCO	**Scoresbysund**	**3.29**	**257**	*i* P	**Pn**	**10 43 40.0**	**+1.5**
SCO				*i* S	**Sn**	**10 44 15.5**	**-2.1**
SCO	**Scoresbysund**	**3.29**	**257**	*i* P	**Pn**	**10 43 40.0**	**+1.5**
SCO				*i* S	**Sn**	**10 44 15.5**	**-2.1**
SCO				IAML		10 44 19.8	
	comp=Z,4.5nm,0.4s						
DBG	**Daneborg**	**3.67**	**325**	*i* P	**Pn**	**10 43 46.1**	**+2.4**
DBG				*i* S	**Sn**	**10 44 23.4**	**-3.5**
DBG				IAML		10 44 27.2	
	comp=Z,12nm,0.4s						
DAG	**Danmarks Havn**	**5.60**	**345**	*e*	**Pn**	**10 44 11.3**	**+1.2**
	baz=156,slow=16						
DAG				*i* P	**Pn**	**10 44 13.0**	**+2.9**
DAG				*e*S	**Sn**	**10 45 11.7**	**-2.6**
DAG				IAML		10 45 14.9	
	comp=Z,11nm,0.3s						

NOU 02 10:45:40.0, 15°.30S×167°.12E, h0km, MLv4.7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.62**	**157**	P	Pn	10 46 23.7	+0.1
KOUNC	**Koumac, New Ca**	**5.88**	**207**	P	Pn	10 47 08.4	0.0
MARNC	**Mare, Loyalty**	**6.21**	**172**	P	Pn	10 47 12.5	-0.5
DZM	**Mont Dzumac**	**6.76**	**185**	P	Pn	10 47 20.1	-0.6
NOUC	**Port Laguerre**	**6.81**	**186**	P	Pn	10 47 21.0	-0.2
ONTNC	**Ouen Toro**	**7.00**	**185**	P	Pn	10 47 24.0	+0.2
OUENC	**Ouen Island, N**	**7.09**	**182**	P	Pn	10 47 24.9	-0.1

*DJA **02** 10:59:59.3±2.4, 1°N±4°×12°7E±°, h12km±23km, M4.3/9, mb4.5/3, mB4.8/1, MLv4.2/9, Mw(mB)4.1/1*
*IDC **02** 11:00:03.1±2.2, 1°.03N×126°.96E, h81km±20km, mb3.4/6, mb1 3.6/8, mb1mx3.2/54, mbtmp3.7/8, Error ellipse: s-maj=30.5km s-min=11.0km az=71.0*
ISC 02 11:00:02.4±0.8**, 1°.06N**±0°.08×**126°.88E**±0°.09**, h72km, n19, σ1s.24**/21**, mb3.9**/7**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.56**	**120**	P	**Pn**	**11 00 14.3**	**-1.7**
KMSI	**Cibinong**	**2.94**	**261**	P	**Pn**	**11 00 45.8**	**-1.0**
SANI	**Sanana**	**3.21**	**196**	P	**Pn**	**11 00 49.0**	**-1.5**
GTOI	**Gorontalo**	**3.89**	**264**	P	**Pn**	**11 01 00.1**	**+0.3**
NLAI	**Namlea**	**4.27**	**177**	P	**Pn**	**11 01 05.6**	**+0.6**
LUWI	**Luwuk**	**4.61**	**243**	P	**Pn**	**11 01 11.8**	**+2.2**
SIJI	**Sorong**	**4.78**	**114**	P	**Pn**	**11 01 11.2**	**-0.8**
	1.1nm,0.3s,baz=288,slow=20,SNR=1.6						
APSI	**Ampana**	**5.59**	**250**	P	**Pn**	**11 01 22.4**	**-0.5**
	0.2nm918nm33nm,0.6s						
FAKI	**Fak Fak**	**6.66**	**126**	P	**Pn**	**11 01 40.3**	**+2.6**
BNSI	**Bone**	**8.67**	**231**	P	**Pn**	**11 02 04.3**	**-0.9**
KAPI	**Kappang**	**9.33**	**230**	P	**Pn**	**11 02 14.5**	**+0.4**
	9.4nm,0.3s,baz=300,slow=6.8,SNR=14						
FITZ	**Fitzroy Crossi**	**19.07**	**184**	P	**P**	**11 04 19.9**	**+0.7**
	0.1nm,0.3s,baz=24,slow=8.8,SNR=2.4						
WRA	**Warramunga Arr**	**22.11**	**161**	P	**P**	**11 04 51.2**	**-0.8**
	1.3nm,0.3s,baz=341,slow=11,SNR=30						
WRA				S	**S**	**11 08 50.0**	**-1.7**
	0.7nm,0.6s,baz=340,slow=17,SNR=5.6						
ASAR	**Alice Springs**	**25.51**	**165**	P	**P**	**11 05 24.9**	**+0.7**
	1.0nm,0.6s,baz=352,slow=16,SNR=22						
ASAR				S	**S**	**11 09 46.5**	**-0.2**
	0.2nm,0.6s,baz=348,slow=21,SNR=2.0						
STKA	**Stephens Creek**	**35.60**	**158**	P	**P**	**11 06 52.5**	**-0.6**
	0.5nm,0.3s,baz=354,slow=9.2,SNR=3.0						
SONM	**Songino Array**	**49.87**	**342**	P	**P**	**11 08 49.9**	**+1.4**
	0.2nm,0.5s,baz=156,slow=7.6,SNR=2.0						
PETK	**Petropavlovsk-**	**57.84**	**21**	P	**P**	**11 09 45.8**	**-0.6**
	0.5nm,0.4s,baz=163,slow=5.4,SNR=1.6						
MKAR	**Makanchi Array**	**59.83**	**326**	P	**P**	**11 10 00.4**	**0.0**
	0.5nm,0.5s,baz=116,slow=7.9,SNR=9.8						
KURBB	**Kurchatov Arra**	**64.06**	**328**	P	**P**	**11 10 28.2**	**-0.4**
	28nm,0.5s,baz=128,slow=6.3,SNR=8.4						

IDC 02 11:12:29.0±1.7**, 2°.97S**×**127°.91E, h0km, mb3.3**/2**, mb1 3.6**/4**, mb1mx3.4**/43**, mbtmp3.5**/4**, ML3.5**/2**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.6**/19**, Error ellipse: s-maj=36.5km s-min=26.9km az=91.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.95**	**58**	Pn	Pn	11 13 31.4	+0.5
	6.2nm,0.3s,baz=181,slow=23,SNR=58						
SIJI				Sn	Sn	11 14 17.8	-0.3
	2.7nm,0.3s,baz=21,slow=22,SNR=6.8						
WRA	**Warramunga Arr**	**18.00**	**160**	P	Pn	11 16 41.1	+0.3
	0.1nm,0.3s,baz=342,slow=12,SNR=9.1						
ASAR	**Alice Springs**	**21.38**	**165**	P	P	11 17 18.3	0.0
	0.5nm,0.3s,baz=346,slow=12,SNR=11						
CTA	**Charters Tower**	**24.70**	**135**	LR	LR	11 28 43.8	
	comp=Z,188nm,20.3s,baz=63,slow=40						
MKAR	**Makanchi Array**	**63.73**	**327**	P	P	11 23 02.5	-0.1
	0.3nm,0.7s,baz=132,slow=6.4,SNR=2.3						

*IDC **02** 11:19:15.7±0.6, 30°.91N×141°.89E, h0km, mb4.0/16, mb1 4.1/20, mb1mx4.0/45, mbtmp4.0/20, ML3.4/4, Error ellipse: s-maj=22.1km s-min=14.7km az=84.0*
*NEIC **02** 11:19:18.2±0.9, 30°.90N±0°.04×141°.9E±0°.2, h18km±6km, mb4.4/9, Error ellipse: s-maj=24.8km s-min=2.9km az=77.0*
ISC 02 11:19:19.3±0.5**, 30°.90N**±0°.06×**141°.9E**±0°.1**, h24km, n39, σ0s.75**/41**, mb4.1**/20**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.83**	**322**	Pn	**Pn**	**11 20 00.5**	**-2.5**
	6.0nm,0.3s,baz=220,slow=23,SNR=1.6						
JHJ				Sn	**Sn**	**11 20 35.8**	**-0.6**
	12nm,0.3s,baz=13,slow=16,SNR=2.0						
JCJ	**Chichijima**	**3.80**	**176**	Pn	**Pn**	**11 20 16.5**	**+0.2**
	7.7nm,0.3s,baz=212,slow=22,SNR=1.4						
JCJ				Sn	**Sn**	**11 21 00.4**	**+0.1**
	11nm,0.3s,baz=291,slow=22,SNR=1.7						
JCJ	**Chichijima**	**3.80**	**176**		**Pn**	**11 20 15.7**	**-0.6**
MJAR	**Matsushiro Arr**	**6.40**	**333**	Pn	**Pn**	**11 20 51.9**	**-0.2**
	0.4nm,0.3s,baz=149,slow=11,SNR=15						
MAJO	**Matsushiro**	**6.40**	**333**	Pn	**Pn**	**11 20 52.4**	**+0.4**
MAT	**Matsushiro**	**6.40**	**333**	P	**Pn**	**11 20 52.6**	**+0.6**
JMM	**Marumori**	**7.00**	**353**		**Pn**	**11 20 58.2**	**-2.1**
KSAR	**Wonju Array Be**	**13.28**	**303**	Pn	**Pn**	**11 22 25.1**	**-1.2**
KS19	**Wonju Array Si**	**13.32**	**303**	Pn	**Pn**	**11 22 25.3**	**-1.5**
KLR	**Kul'dur**	**19.84**	**340**	P	**P**	**11 23 47.9**	**-0.4**
	0.2nm,0.3s,baz=140,slow=7.2,SNR=4.1						
SONM	**Songino Array**	**31.87**	**312**	P	**P**	**11 25 42.9**	**+0.4**
	0.9nm,0.5s,baz=123,slow=8.7,SNR=8.9						
SONM	**Songino Array**	**31.87**	**312**	P	**P**	**11 25 43.2**	**+0.6**
COEN	**Coen**	**44.62**	**178**	P	**P**	**11 27 30.2**	**+0.4**
MK31	**Makanchi Array**	**47.91**	**307**	P	**P**	**11 27 55.1**	**-0.4**
MK31				IAmb	IAmb	11 27 56.8	
	comp=Z,2.3nm,1.1s						
MKAR	**Makanchi Array**	**47.91**	**307**	P	**P**	**11 27 56.2**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=91,slow=9.5,SNR=14						
MKAR	**Makanchi Array**	**47.91**	**307**	P	**P**	**11 27 56.0**	**+0.5**
WB0	**Warramunga Arr**	**50.89**	**189**	P	**P**	**11 28 17.9**	**-0.5**
WR0	**Warramunga Arr**	**51.06**	**189**	P	**P**	**11 28 19.4**	**-0.2**
WR0				IAmb	IAmb	11 28 20.7	
	comp=Z,3.1nm,0.6s						
WRAB	**Tennant Creek**	**51.06**	**189**	P	**P**	**11 28 19.7**	**0.0**
WRAB				IAmb	IAmb	11 28 29.0	
	comp=Z,6.9nm,1.2s						
WB2	**Warramunga Arr**	**51.06**	**189**	P	**P**	**11 28 19.3**	**-0.5**
WRA	**Warramunga Arr**	**51.07**	**189**	P	**P**	**11 28 19.9**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=5.3,slow=7.6,SNR=79						
FITZ	**Fitzroy Crossi**	**51.16**	**200**	P	**P**	**11 28 20.4**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=23,slow=13,SNR=1.9						
ILAR	**Eielson Array**	**54.54**	**30**	P	**P**	**11 28 44.7**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=264,slow=6.6,SNR=8.1						
ILAR	**Eielson Array**	**54.54**	**30**	P	**P**	**11 28 44.5**	**-0.5**
AS31	**Alice Springs**	**54.79**	**189**	P	**P**	**11 28 47.0**	**-0.2**
ASAR	**Alice Springs**	**54.79**	**189**	P	**P**	**11 28 47.2**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=2.1,slow=5.6,SNR=86						
ASAR	**Alice Springs**	**54.79**	**189**	P	**P**	**11 28 46.7**	**-0.5**
KKAR	**Karatay Array**	**56.69**	**304**	P	**P**	**11 29 01.3**	**+0.5**
INK	**Inuvik**	**59.71**	**25**	P	**P**	**11 29 21.6**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=180,slow=1.0,SNR=2.5						
ABKAR	**Akbulak array**	**62.28**	**313**	P	**P**	**11 29 39.1**	**-0.1**
ABKAR				IAmb	IAmb	11 29 40.1	
	comp=Z,2.6nm,0.6s						
YKA	**Yellowknife Ar**	**68.95**	**29**	P	**P**	**11 30 21.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=286,slow=5.3,SNR=4.1						
FINES	**FINESS Array B**	**74.43**	**333**	P	**P**	**11 30 55.2**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=42,slow=5.9,SNR=6.2						
KBZ	**Khabaz**	**75.24**	**312**	P	**P**	**11 31 00.8**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=57,slow=4.7,SNR=4.5						
NVAR	**Mina Array Bea**	**78.40**	**52**	P	**P**	**11 31 18.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=298,slow=5.5,SNR=5.4						
AKASG	**Malin Array Be**	**79.40**	**323**	P	**P**	**11 31 23.1**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=48,slow=5.9,SNR=7.0						
NOA	**NORSAR Array B**	**79.99**	**338**	P	**P**	**11 31 26.6**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=44,slow=5.7,SNR=2.1						
PDAR	**Pinedale Array**	**81.71**	**45**	P	**P**	**11 31 36.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=306,slow=3.0,SNR=2.2						
BRTR	**Keskin Array B**	**83.23**	**312**	P	**P**	**11 31 44.8**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=42,slow=14,SNR=3.8						
TXAR	**Lajitas Array**	**93.54**	**53**	P	**P**	**11 32 34.8**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=253,slow=1.3,SNR=6.0						

*JMA **02** 11:32:06.3±0.1, 23°.91N×122°.17E, h30km±3km, M2.1*
*TAP **02** 11:32:07.0, 23°.96N×122°.17E, h35km, ML2.8, D*
ISC 02 11:32:05.9±1.0**, 23°.90N**±0°.02×**122°.20E**±0°.02**, h29km**±10km**, n88, σ0s.62**/155**, 1C-3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.55**	**278**	P	**Pb**	**11 32 17.1**	**-0.1**
	baz=265						
HWA				S	**Sb**	**11 32 25.6**	**+0.8**
	baz=265						
TWD	**Chiawan**	**0.58**	**288**	⇓*i*P	**Pb**	**11 32 17.7**	**+0.1**
	baz=284						
TWD				*i* S	**Sb**	**11 32 25.5**	**-0.1**
	baz=284						
NACB	**Ninganchiao**	**0.62**	**296**	⇓P	**Pb**	**11 32 18.1**	**-0.1**
	baz=292						
NACB				S	**Sb**	**11 32 26.5**	**-0.1**
	baz=292						
EWUT	**Wuta**	**0.67**	**325**	P	**Pb**	**11 32 19.1**	**0.0**
	baz=332						
EWUT				S	**Sb**	**11 32 28.4**	**+0.4**
	baz=332						
ENA	**Nanau**	**0.67**	**321**	*i* P	**Pb**	**11 32 19.2**	**+0.1**
	baz=329						
ENA				*i* S	**Sb**	**11 32 28.6**	**+0.4**
	baz=329						
ESL	**Shilin**	**0.71**	**263**	*i* P	**Pb**	**11 32 19.5**	**-0.2**
	baz=252						
ESL				*i* S	**Sb**	**11 32 29.1**	**-0.1**
	baz=252						
ETLH	**Xiulin Townshi**	**0.72**	**295**	P	**Pb**	**11 32 19.8**	**-0.3**
	baz=292						
ETLH				S	**Sb**	**11 32 29.3**	**-0.4**
	baz=292						
EGFH	**Guangfu**	**0.74**	**252**	P	**Pn**	**11 32 21.0**	**+0.6**
	baz=238						
EGFH				*e*S	**Sn**	**11 32 31.2**	**+0.4**
	baz=238						
TWC	**Suao**	**0.77**	**336**	*i* P	**Pb**	**11 32 20.8**	**-0.1**
	baz=345						
TWC				*i* S	**Sb**	**11 32 29.9**	**-1.1**
	baz=345						
HGSD	**Ruisui**	**0.82**	**240**	P	**Pn**	**11 32 22.2**	**+0.8**
	baz=236						
HGSD				S	**Sb**	**11 32 32.4**	**+0.1**
	baz=236						
NDS	**Dongshan**	**0.85**	**329**	*e*P	**Pb**	**11 32 22.1**	**-0.1**
	baz=337						
NDS				*e*S	**Sb**	**11 32 32.4**	**-0.9**
	baz=337						
JYNG	**Yonagunijimaku**	**0.87**	**51**	P	**Pn**	**11 32 22.8**	**+0.6**
JYNG				S	**Sn**	**11 32 34.4**	**+0.5**
WHF	**Hehuan Shan**	**0.89**	**286**	⇓*i*P	**Pb**	**11 32 22.6**	**-0.5**
	baz=274						
WHF				*i* S	**Sb**	**11 32 33.9**	**-0.9**
	baz=274						
EHY	**Hungye**	**0.90**	**244**	*i* P	**Pn**	**11 32 23.0**	**+0.5**
	baz=253						
EHY				S	**Sn**	**11 32 35.5**	**+0.9**
	baz=253						
NNSB	**Datong**	**0.91**	**305**	P	**Pn**	**11 32 22.7**	**-0.1**
	baz=303						
NNSB				S	**Sb**	**11 32 34.2**	**-1.0**
	baz=303						
NNSH	**Datong**	**0.91**	**305**	*i* P	**Pn**	**11 32 22.9**	**0.0**
	baz=303						
NNSH				S	**Sb**	**11 32 34.0**	**-1.1**
	baz=303						
NNS	**Nan Shan**	**0.93**	**306**	*i* P	**Pn**	**11 32 23.0**	**0.0**
	baz=304						
NNS				*i* S	**Sb**	**11 32 34.8**	**-0.7**
	baz=304						
YOJ	**Yonaguni jima**	**0.93**	**53**	*e*P	**Pb**	**11 32 24.3**	**+0.9**
	baz=67						
YOJ	**Yonaguni jima**	**0.93**	**53**	P	**Pb**	**11 32 23.6**	**+0.2**
YOJ				*e*S	**Sn**	**11 32 36.3**	**+1.0**
ENTT	**Nioudou**	**0.94**	**322**	⇑*i*P	**Pn**	**11 32 23.2**	**+0.1**
	baz=321						
ENTT				*i* S	**Sb**	**11 32 35.1**	**-0.6**
	baz=321						
NDT	**Datong Townshi**	**0.94**	**318**	P	**Pn**	**11 32 23.1**	**0.0**
	baz=317						
NDT				*e*S	**Sb**	**11 32 35.6**	**-0.2**
	baz=317						
FUSS	**Fushou**	**0.94**	**292**	P	**Pn**	**11 32 23.5**	**+0.2**
	baz=289						
FUSS				S	**Sb**	**11 32 35.9**	**-0.2**
	baz=289						
TWE	**Neicheng**	**0.95**	**329**	*i* P	**Pn**	**11 32 23.4**	**+0.1**
	baz=329						
TWE				*i* S	**Sb**	**11 32 35.1**	**-1.0**
	baz=329						
CHGB	**Renai**	**0.95**	**280**	P	**Pn**	**11 32 23.6**	**+0.1**
	baz=268						
CHGB				S	**Sb**	**11 32 35.2**	**-1.2**
	baz=268						
YULB	**Yu-li**	**0.97**	**239**	*e*P	**Pb**	**11 32 24.1**	**-0.1**
	baz=250						
YULB				*e*S	**Sn**	**11 32 37.1**	**+0.7**
	baz=250						
EYUL	**Yuli**	**0.98**	**236**	*e*P	**Pb**	**11 32 24.8**	**+0.5**
	baz=223						
EYUL				S	**Sn**	**11 32 38.6**	**+2.1**
	baz=223						
VWDT	**VWDT**	**0.98**	**262**	P	**Pb**	**11 32 24.4**	**+0.1**
	baz=258						
VWDT				S	**Sb**	**11 32 36.7**	**-0.2**
	baz=258						
TWF1	**Yuli**	**0.99**	**237**	*i* P	**Pb**	**11 32 24.5**	**0.0**
	baz=248						
TWF1				S	**Sn**	**11 32 37.5**	**+0.6**
	baz=248						
TWT	**Tachien**	**1.00**	**291**	*e*P	**Pb**	**11 32 25.0**	**+0.2**
	baz=288						
TWT				*e*S	**Sb**	**11 32 37.2**	**-0.5**
	baz=288						
TDCB	**Techi**	**1.01**	**290**	P	**Pn**	**11 32 24.5**	**+0.2**
	baz=288						
TDCB				S	**Sb**	**11 32 37.2**	**-0.9**
	baz=288						
YHNB	**Yeheng**	**1.07**	**316**	P	**Pn**	**11 32 25.2**	**+0.2**
	baz=314						
YHNB				S	**Sn**	**11 32 38.0**	**-1.0**
	baz=314						
NWLT	**Wulai**	**1.08**	**324**	*e*P	**Pn**	**11 32 24.6**	**-0.5**
	baz=323						
NWLT				*e*S	**Sn**	**11 32 38.6**	**-0.5**
	baz=323						
FULB	**Fuli**	**1.09**	**230**	P	**Pb**	**11 32 25.7**	**-0.5**
	baz=216						
FULB				S	**Sb**	**11 32 39.6**	**-0.4**
	baz=216						
NSK	**Sanguang**	**1.09**	**315**	*i* P	**Pn**	**11 32 25.4**	**+0.1**
	baz=314						
NSK				S	**Sn**	**11 32 38.1**	**-1.3**
	baz=314						
CHKT	**Chengkung**	**1.11**	**224**	*e*P	**Pn**	**11 32 24.6**	**-0.8**
	baz=212						
CHKT				S	**Sn**	**11 32 38.8**	**-0.9**
	baz=212						
TIPB	**Shuangxi**	**1.12**	**342**	P	**Pb**	**11 32 26.5**	**-0.2**
	baz=350						
TIPB				S	**Sn**	**11 32 40.1**	**0.0**
	baz=350						
WPL	**Puli Township**	**1.14**	**276**	*e*P	**Pb**	**11 32 27.0**	**0.0**
	baz=273						
SSLB	**Suanglung**	**1.15**	**265**	P	**Pb**	**11 32 26.9**	**-0.3**
	baz=262						
DPDB	**Guoxing**	**1.17**	**277**	*e*P	**Pb**	**11 32 27.4**	**-0.2**
	baz=274						
WCS	**Beigang Elemen**	**1.19**	**278**	P	**Pb**	**11 32 27.6**	**-0.3**
	baz=275						
SMLT	**Sun Moon Lake**	**1.19**	**269**	P	**Pb**	**11 32 27.6**	**-0.4**
	baz=267						
SMLT				S	**Sn**	**11 32 42.5**	**+0.5**
	baz=267						
WHP	**Taichung City**	**1.21**	**288**	*e*P	**Pb**	**11 32 28.0**	**-0.2**
	baz=278						
WHP				*e*S	**Sn**	**11 32 42.5**	**+0.2**
	baz=278						
TWA	**Mucha**	**1.21**	**332**	P	**Pb**	**11 32 27.9**	**-0.4**
	baz=332						
TWA				S	**Sn**	**11 32 42.9**	**+0.6**
	baz=332						
YUS	**Yu-Shan**	**1.22**	**251**	*e*P	**Pb**	**11 32 28.7**	**+0.1**
	baz=238						
NWF	**Wu-fen Shan**	**1.23**	**342**	P	**Pb**	**11 32 28.7**	**+0.1**
	baz=356						
NWF				*e*S	**Sn**	**11 32 43.6**	**+0.9**
	baz=356						
WFSB	**Wu-fen Shan**	**1.23**	**342**	*e*P	**Pn**	**11 32 27.8**	**+0.8**
	baz=355						
TYC	**Yuchr**	**1.23**	**270**	P	**Pb**	**11 32 28.2**	**-0.4**
	baz=268						
TYC				S	**Sn**	**11 32 42.7**	**0.0**
	baz=268						
EDH	**Donghe**	**1.24**	**222**	*e*P	**Pn**	**11 32 27.6**	**+0.4**
	baz=213						
EDH				S	**Sn**	**11 32 42.7**	**-0.3**
	baz=213						
TATO	**Taipei**	**1.25**	**329**	P	**Pb**	**11 32 28.4**	**-0.5**
	baz=316						
TATO				S	**Sn**	**11 32 44.1**	**+0.8**
	baz=316						
WHYT	**Xinyi Township**	**1.25**	**261**	*e*P	**Pb**	**11 32 28.9**	**-0.1**
	baz=248						
WHYT				*e*S	**Sn**	**11 32 44.1**	**+0.8**
	baz=248						
ELDTW	**Lidau**	**1.30**	**237**	P	**Pn**	**11 32 28.4**	**+0.3**
	baz=224						
ELDTW				S	**Sn**	**11 32 44.1**	**-0.5**
	baz=224						
LIOB	**Emei**	**1.31**	**305**	*e*P	**Pb**	**11 32 29.8**	**-0.1**
	baz=294						
LIOB				*e*S	**Sb**	**11 32 46.1**	**-0.3**
	baz=294						
NSTT	**Nanjuang**	**1.31**	**304**	P	**Pb**	**11 32 29.3**	**-0.7**
	baz=293						
NSTT				S	**Sn**	**11 32 45.5**	**+0.7**
	baz=293						
ALS	**Alishan**	**1.34**	**253**	*e*P	**Pb**	**11 32 30.6**	**0.0**
	baz=251						
ALS				S	**Sn**	**11 32 45.9**	**+0.1**
	baz=251						
WJS	**Zhushan**	**1.35**	**267**	*e*P	**Pb**	**11 32 31.3**	**+0.7**
	baz=264						
YM01	**YM01**	**1.37**	**335**	*e*P	**Pn**	**11 32 29.9**	**+0.8**
	baz=334						
YM01				*e*S	**Sn**	**11 32 46.1**	**-0.1**
	baz=334						
YM10	**YM10**	**1.38**	**335**	P	**Pn**	**11 32 29.7**	**+0.5**
	baz=334						
YM10				*e*S	**Sn**	**11 32 47.0**	**+0.4**
	baz=334						
YM11	**YM11**	**1.38**	**336**	*e*S	**Sn**	**11 32 47.0**	**+0.3**
	baz=335						
YM05	**YM05**	**1.38**	**335**	P	**Pn**	**11 32 29.7**	**+0.4**
	baz=335						
YM05				S	**Sn**	**11 32 47.1**	**+0.5**
	baz=335						
YM04	**YM04**	**1.39**	**334**	*e*P	**Pn**	**11 32 29.1**	**-0.2**
	baz=333						
YM04				*e*S	**Sn**	**11 32 46.5**	**-0.1**
	baz=333						
WNT	**Mingjian**	**1.39**	**269**	*e*P	**Pb**	**11 32 31.3**	**+0.1**
	baz=267						
WNT				*e*S	**Sb**	**11 32 49.2**	**+0.6**
	baz=267						
WNT1	**Nantou City**	**1.39**	**271**	*e*P	**Pb**	**11 32 31.5**	**+0.2**
	baz=268						
LDUT	**Ludao**	**1.40**	**209**	*e*S	**Sn**	**11 32 46.5**	**-0.3**
	baz=208						
LONT	**Longtian**	**1.40**	**225**	*e*P	**Pb**	**11 32 31.3**	**-0.1**
	baz=217						
LONT				*e*S	**Sn**	**11 32 47.4**	**+0.5**
	baz=217						
YM08	**YM08**	**1.40**	**337**	*e*S	**Sn**	**11 32 46.3**	**-0.6**
	baz=336						
CHN5	**Tsauling**	**1.43**	**258**	*e*P	**Pb**	**11 32 31.7**	**-0.2**
	baz=248						
CHN5				*e*S	**Sb**	**11 32 49.0**	**-0.8**
	baz=248						
NMLH	**Miaoli**	**1.43**	**296**	*e*P	**Pb**	**11 32 32.3**	**+0.3**
	baz=294						
IRIF	**Iriomote-Funau**	**1.46**	**73**	P	**Pb**	**11 32 31.7**	**-0.8**
IRIF				S	**Sb**	**11 32 50.2**	**-0.5**
HATJ	**Hateruma jima**	**1.48**	**84**	P	**Pb**	**11 32 32.0**	**-0.7**
HATJ				*e*S	**Sb**	**11 32 49.5**	**-1.6**
TWGBT	**Beinan**	**1.49**	**224**	*e*S	**Sn**	**11 32 49.3**	**+0.1**
	baz=233						
TWG	**Pinlang**	**1.49**	**224**	*e*P	**Pn**	**11 32 30.9**	**+0.1**
	baz=233						
TWG				*e*S	**Sn**	**11 32 49.8**	**+0.5**
	baz=233						
STYH	**Taoyuan**	**1.50**	**241**	*e*P	**Pb**	**11 32 32.3**	**-0.7**
	baz=231						
STYH				*e*S	**Sb**	**11 32 51.2**	**-0.4**
	baz=231						
STYT	**Tauyuan**	**1.52**	**241**	P	**Pb**	**11 32 32.9**	**-0.5**
	baz=231						
STYT				S	**Sb**	**11 32 51.4**	**-0.8**
	baz=231						
WDLH	**Douliu**	**1.54**	**262**	*e*P	**Pb**	**11 32 33.3**	**-0.4**
	baz=261						
WDLH				*e*S	**Sb**	**11 32 54.7**	**+1.8**
	baz=261						
TPUB	**Ta-pu**	**1.56**	**248**	P	**Pb**	**11 32 34.1**	**-0.1**
	baz=246						
TPUB				*e*S	**Sb**	**11 32 54.1**	**+0.5**
	baz=246						
CHN4	**Tsaushan**	**1.57**	**250**	*e*P	**Pb**	**11 32 34.5**	**+0.1**
	baz=248						
CHN4				*e*S	**Sb**	**11 32 54.1**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=248						
WTP	Ta-pu	1.59	246	eP	Pb	11 32 34.3	-0.4
	baz=244						
WTP				eS	Sb	11 32 54.5	-0.1
	baz=244						
JKRS	Kuro-shima	1.69	78	P	Pb	11 32 35.3	-1.0
JKRS				eS	Sb	11 32 55.8	-1.3
CHN1	Nanshi	1.69	245	eP	Pb	11 32 36.0	-0.4
	baz=243						
TWK	Hsinying	1.69	248	eP	Pb	11 32 36.2	-0.3
	baz=247						
TWK				eS	Sb	11 32 57.1	-0.3
	baz=247						
SGST	Jiashian	1.69	242	eP	Pb	11 32 35.6	-0.9
	baz=232						
SNST	Tainan City	1.70	247	eP	Pb	11 32 36.4	-0.2
	baz=245						
JIJ	Ishigaki jima	1.83	75	P	Pn	11 32 36.4	+1.0
JIJ				S	Sn	11 32 58.1	+0.5
SSD	Sandimen	1.84	232	eP	Pb	11 32 38.4	-0.6
	baz=223						
TSMG	Majia	1.86	231	eP	Pb	11 32 38.6	-0.6
	baz=221						
MASBT	Mashibuluo	1.93	229	eP	Pb	11 32 38.8	-1.6
	baz=220						
JISG	Ishigakijimahi	2.04	70	P	Pn	11 32 39.3	+1.0
JISG				eS	Sn	11 33 03.3	+0.5
JTJ	Tarama	2.40	72	S	Sn	11 33 13.1	+1.5

IDC 02 11:33:13.3±325.0, 54°.92N×41°.86E, h0km, Error ellipse: s-maj=139.6km s-min=75.9km az=132.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.18	307	i		11 54 30.0	
	baz=125,slow=320,SNR=2.3						
I31KZ	AKTYUBINSK INF	10.80	108	i		12 40 00.0	
	baz=306,slow=338,SNR=1.6						
I46RU	ZALESOVO INFRA	24.72	74	i		14 03 20.0	
	baz=295,slow=342,SNR=1.5						

*IDC **02** 12:46:10.9±6.5, 11°.15S×116°.19E, h75km±57km, mb3.5/7, mb1 3.7/10, mb1mx3.4/50, mbtmp3.9/10, ML3.9/3, Error ellipse: s-maj=56.7km s-min=17.3km az=57.0*

ISC 02 12:46:03.6±1.2, 11°.7S±0°.1×115°.9E±0°.1, h35km, n11, σ1s.41/12, mb3.8/6, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	7.67	30	P	Pn	12 47 52.0	-0.9
	2.0nm,0.3s,baz=182,slow=11,SNR=1.7						
BATI	Baumata	7.76	80	P	Pn	12 47 56.0	+1.8
	4.2nm,0.3s,baz=272,slow=6.2,SNR=4.2						
BATI				S	Sn	12 49 19.7	-1.3
	9.2nm,0.3s,baz=11,slow=21,SNR=8.5						
FITZ	Fitzroy Crossi	11.34	125	P	Pn	12 48 43.7	+0.4
	0.7nm,0.3s,baz=312,slow=9.1,SNR=20						
FITZ				S	Sn	12 50 46.8	-2.1
	0.7nm,0.3s,baz=305,slow=24,SNR=6.7						
WRA	Warramunga Arr	19.51	117	P	Pn	12 50 32.2	+2.6
	0.2nm,0.3s,baz=282,slow=14,SNR=14						
WRA				S	S	12 53 56.7	-10
	0.1nm,0.3s,baz=283,slow=25,SNR=3.7						
ASAR	Alice Springs	20.83	127	P	Pn	12 50 47.8	+2.7
	1.9nm,0.5s,baz=300,slow=10,SNR=66						
ASAR				S	S	12 54 32.6	-0.5
	1.3nm,0.9s,baz=296,slow=22,SNR=7.2						
STKA	Stephens Creek	31.02	134	P	P	12 52 24.0	+5.8
	2.3nm,0.7s,baz=313,slow=9.1,SNR=5.6						
CMAR	Chiang Mai Arr	34.34	331	P	P	12 52 47.8	+0.5
	0.5nm,0.4s,baz=173,slow=8.4,SNR=1.8						
SONM	Songino Array	59.88	353	P	P	12 56 05.6	-0.4
	0.4nm,0.4s,baz=173,slow=8.0,SNR=6.2						
MKAR	Makanchi Array	65.55	335	P	P	12 56 43.9	+0.2
	0.4nm,0.6s,baz=148,slow=6.9,SNR=7.3						
KURBB	Kurchatov Arra	70.11	336	P	P	12 57 12.6	+0.3
	0.2nm,0.5s,baz=143,slow=6.0,SNR=3.2						
ZALV	Zalesovo Beam	70.54	341	P	P	12 57 14.6	-0.2
	0.9nm,0.5s,baz=154,slow=6.0,SNR=4.6						

IDC 02 12:51:56.5±2.1, 54°.50N×83°.59E, h0km, mb1 2.4/2, mb1mx2.4/46, mbtmp2.4/2, ML2.2/2, Error ellipse: s-maj=17.4km s-min=10.4km az=158.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.91	127	i		12 57 00.0	
	baz=306,slow=343,SNR=2.2						
ZALV	Zalesovo Beam	0.91	127	Pg	Pg	12 52 13.6	-0.4
	1.1nm,0.3s,baz=312,slow=18,SNR=12						
ZALV				Lg	Lg	12 52 27.4	
	1.7nm,0.3s,baz=308,slow=31,SNR=9.9						
ZALV				Rg	Rg	12 52 32.1	
	3.3nm,0.5s,baz=316,slow=23,SNR=9.5						
KURBB	Kurchatov Arra	4.96	221	Pn	Pn	12 53 12.3	+0.1
	0.0nm,0.3s,baz=25,slow=11,SNR=2.2						
KURBB				Lg	Lg	12 54 37.9	
	0.0nm,0.3s,baz=35,slow=25,SNR=4.0						
MKAR	Makanchi Array	7.76	187	Pn	Pn	12 53 50.5	-0.2
	0.1nm,0.3s,baz=11,slow=9.6,SNR=6.2						

MAN 02 13:22:56.7, 6°.74N×125°.82E, h8km, mb3.9, ML2.6, MS2.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.48	65	eP	Pg	13 23 06.6	+0.5
MATI				eS	Sb	13 23 18.9	+4.1
DDMP	Don Marcelino,	0.64	189	eP	Pg	13 23 09.3	+0.3
DDMP				eS	Sg	13 23 16.8	-0.5
KCP	Kidapawan	0.77	291	⇓eP	Pg	13 23 06.3	-5.3
KCP				i S	Sn	13 23 27.9	+2.1
SKMP	Bagumbayan, Su	1.28	260	eP	Pn	13 23 19.9	-1.0
SKMP				eS	Sn	13 23 41.5	+3.1
GLSP	General Luna,	3.04	6	eP	Pg	13 24 05.2	+10

*SOME **02** 13:25:28.8, 40°.20N×77°.30E, h15km*
*KRNET **02** 13:25:29.2±0.1, 40°.25N×77°.41E, mb3.7*
*NNC **02** 13:25:31.6±0.9, 40°.34N×77°.41E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=6.3km s-min=5.3km az=171.0*

ISC 02 13:25:34.1±1.2, 40°.42N±0°.05×77°.40E±0°.03, h10km, n73, σ1s.44/109, 28C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.42	231	Pg	Pg	13 26 01.2	-0.2
KSH				Sg	Sg	13 26 26.4	+6.5
KSH				smax	smax		
	comp=N,240nm,0.5s						
KSH				smax	smax		
	comp=E,190nm,0.4s						
KDJ	Kajisay	1.71	354	⇑iP	Pn	13 26 04.2	0.0
	baz=55						
KDJ				⇑iS	Sg	13 26 29.9	+0.6
	baz=55						
ULHL	Ulahol	2.02	335	⇑iP	Pn	13 26 08.7	+0.2
	baz=37						
ULHL				⇑iS	Sb	13 26 37.7	+1.3
	baz=37						
ULHL	Ulahol	2.02	335	P	Pb	13 26 09.6	-1.4
	SNR=92						
PRZ	Przheval'sk	2.19	20	⇑iP	Pn	13 26 11.5	+0.7
	baz=18						
PRZ				⇑iS	Sb	13 26 42.3	+1.0
	baz=18						
BOOM	Boomskoye usch	2.34	332	⇑iP	Pn	13 26 13.4	+0.6
	baz=34						
BOOM				⇑iS	Sb	13 26 45.4	-0.1
	baz=34						
ANVS	Anan'yevo	2.37	5	⇑eP	Pn	13 26 13.8	+0.6
	baz=4.0						
ANVS				⇑iS	Sb	13 26 46.5	+0.2
	baz=4.0						
TNSS	Tian-Shan	2.64	353	eP	Pb	13 26 21.1	-0.5
	comp=E,111nm,0.3s						
TNSS				eS	Sg	13 26 59.3	+0.5
	comp=E,56nm,0.5s						
TNSS	Tian-Shan	2.64	353	Pg	Pb	13 26 21.1	-0.5
	comp=E,111nm,0.3s						
TNSS				Lg	Lg	13 26 59.3	
	comp=E,56nm,0.5s						
ARLS	Aral	2.73	303	⇑eP	Pn	13 26 17.8	-0.4
	baz=5.0						
ARLS				⇑iS	Sn	13 26 53.1	+1.7
	baz=5.0						
SATY	Saty	2.74	16	eP	Pb	13 26 22.4	-0.9
	comp=E,16nm,0.5s						
SATY				eS	Sg	13 27 01.5	-0.6
	comp=E,146nm,0.4s						
SATY	Saty	2.74	16	Pg	Pb	13 26 22.4	-0.9
	comp=E,21nm,0.3s						
SATY				Lg	Lg	13 27 00.9	
	comp=E,146nm,0.4s						
MDOK	Medeo	2.75	355	eP	Pb	13 26 23.1	-0.3
	comp=E,38nm,0.4s						
MDOK				eS	Sg	13 27 02.4	-0.1
	comp=E,186nm,0.4s						
MDOK	Medeo	2.75	355	⇓Pn	Pn	13 26 19.6	+1.2
	comp=E,37nm,0.5s						
MDOK				⇑Lg	Lg	13 27 02.6	
	comp=E,186nm,0.6s						
MDOK	Medeo	2.75	355	Pg	Pb	13 26 23.1	-0.3
	comp=E,38nm,0.4s						
MDOK				Lg	Lg	13 27 03.1	
	comp=E,186nm,0.4s						
MTBS	Maitube	2.80	345	eP	Pb	13 26 23.9	-0.4
	comp=E,23nm,0.3s						
MTBS				eS	Sg	13 27 03.6	-0.5
	comp=E,118nm,0.3s						
MTBS	Maitube	2.80	345	Pg	Pb	13 26 23.9	-0.4
	comp=E,23nm,0.3s						
MTBS				Lg	Lg	13 27 04.2	
	comp=E,118nm,0.3s						
AAA	Alma-Ata	2.81	353	eP	Pb	13 26 24.9	+0.5
	comp=E,99nm,0.3s						
AAA				eS	Sg	13 27 05.5	+1.1
	comp=E,147nm,0.3s						
AAA	Alma-Ata	2.81	353	Pg	Pb	13 26 24.9	+0.5
	comp=E,99nm,0.3s						
AAA				Lg	Lg	13 27 05.5	
	comp=E,147nm,0.3s						
KNDC	Almaty	2.81	353	⇑Pg	Pb	13 26 23.2	-1.2
	comp=E,76nm,0.7s						
KNDC				⇓Lg	Lg	13 27 04.3	
	comp=E,488nm,0.5s						
KOTS	Kotyrbulak	2.82	356	eP	Pb	13 26 24.7	+0.1
	comp=E,115nm,0.3s						
KOTS				eS	Sg	13 27 05.3	+0.6
	comp=E,344nm,0.2s						
KOTS	Kotyrbulak	2.82	356	Pg	Pb	13 26 24.7	+0.1
	comp=E,115nm,0.3s						
KOTS				Lg	Lg	13 27 05.3	
	comp=E,344nm,0.2s						
UCH	Uchtor	2.83	311	⇑eP	Pn	13 26 19.6	-0.1
	baz=13						
UCH				⇑iS	Sn	13 26 56.3	+2.2
	baz=13						
UCH	Uchtor	2.83	311	P	Pn	13 26 20.6	+0.9
	SNR=25						
KST	Kastek	2.83	338	eP	Pb	13 26 24.3	-0.6
	comp=E,17nm,0.3s						
KST				eS	Sg	13 27 04.1	-1.0
	comp=E,98nm,0.6s						
KST	Kastek	2.83	338	Pg	Pb	13 26 24.3	-0.6
	comp=E,17nm,0.3s						
KST				Lg	Lg	13 27 04.1	
	comp=E,98nm,0.6s						
TKM2	Tokmak 2	2.84	332	⇓eP	Pn	13 26 20.3	+0.6
	baz=34						
TKM2				⇓iS	Sb	13 26 57.6	-2.3
	baz=34						
TKM2	Tokmak 2	2.84	332	P	Pn	13 26 21.0	+1.3
	SNR=22						
TKM2	Tokmak 2	2.84	332	⇑Pn	Pn	13 26 20.8	+1.1
	comp=E,16nm,0.6s						
TKM2				⇑Lg	Lg	13 27 04.2	
	comp=E,37nm,0.6s						
KBK	Karagaybulak	2.90	321	⇑eP	Pn	13 26 20.6	+0.2
	baz=23						
KBK				⇑iS	Sn	13 26 58.4	+3.0
	baz=23						
KBK	Karagaybulak	2.90	321	P	Pb	13 26 25.1	-0.8
	SNR=7.2						
UZB	Uzynbulak	2.98	23	eP	Pb	13 26 26.5	-0.9
	comp=E,13nm,0.4s						
UZB				eS	Sg	13 27 07.9	-1.9
	comp=E,50nm,0.4s						
UZB	Uzynbulak	2.98	23	Pg	Pb	13 26 26.5	-0.9
	comp=E,13nm,0.4s						
UZB				Lg	Lg	13 27 07.9	
	comp=E,50nm,0.4s						
DGS	Degeres	3.07	337	eP	Pb	13 26 28.8	-0.1
	comp=E,18nm,0.5s						
DGS				eS	Sg	13 27 11.9	-0.8
	comp=E,66nm,0.5s						
DGS	Degeres	3.07	337	Pg	Pb	13 26 28.8	-0.1
	comp=E,18nm,0.5s						
DGS				Lg	Lg	13 27 11.9	
	comp=E,66nm,0.5s						
AAK	Ala-Archa	3.11	316	⇑iP	Pn	13 26 23.6	+0.2
	baz=18						
AAK				⇑iS	Sn	13 27 02.9	+2.2
	baz=18						
AAK	Ala-Archa	3.11	316	P	Pn	13 26 24.7	+1.3
	SNR=10.0						
AAK	Ala-Archa	3.11	316	⇓Pg	Pb	13 26 27.9	-1.6
	comp=E,13nm,0.5s						
AAK				Lg	Lg	13 27 12.4	
	comp=E,53nm,0.6s						
KURS	Kuram	3.12	10	eP	Pb	13 26 29.8	+0.2
	comp=E,17nm,0.5s						
KURS				eS	Sg	13 27 13.5	-0.7
	comp=E,30nm,0.6s						
KURS	Kuram	3.12	10	Pg	Pb	13 26 29.8	+0.2
	comp=E,17nm,0.5s						
KURS				Lg	Lg	13 27 13.1	
	comp=E,30nm,0.6s						
SHLS	Shalkode	3.14	29	eP	Pg	13 26 32.6	-1.6
	comp=E,20nm,0.2s						
SHLS				eS	Sg	13 27 18.3	+3.4
	comp=E,58nm,0.4s						
SHLS	Shalkode	3.14	29	Pg	Pg	13 26 32.6	-1.6
	comp=E,20nm,0.2s						
SHLS				Lg	Lg	13 27 18.3	
	comp=E,58nm,0.4s						
KPKS	Kokpek	3.19	17	eP	Pb	13 26 31.0	+0.1
	comp=E,24nm,0.3s						
KPKS				eS	Sg	13 27 15.7	-0.8
	comp=E,105nm,0.5s						
CHMS	Chumysh	3.25	323	P	Sg	13 27 16.5	-2.0
	SNR=8.3						
AML	Almayashu	3.27	303	⇓iP	Pn	13 26 25.7	-0.2
	baz=5.0						
AML				⇓iS	Sn	13 27 06.9	+1.8
	baz=5.0						
AML	Almayashu	3.27	303	P	Pn	13 26 26.4	+0.6
	SNR=22						
PDGK	Podgornoye	3.30	28	Pg	Pb	13 26 31.9	-0.8
	comp=E,7.4nm,0.3s						
PDGK				Lg	Lg	13 27 17.4	
	comp=E,41nm,0.7s						
PDGK	Podgornoye	3.30	28	⇓Pn	Pn	13 26 26.0	+0.1
	comp=E,16nm,0.7s						
PDGK				⇑Lg	Lg	13 27 16.5	
	comp=E,98nm,0.8s						
KTBS	Karatobe	3.33	351	eP	Pb	13 26 34.1	+0.8
	comp=E,10nm,0.5s						
KTBS				eS	Sg	13 27 20.7	-0.4
	comp=E,235nm,0.5s						
CHKK	Chushkaly	3.44	355	eP	Pb	13 26 35.5	+0.3
	comp=E,13nm,0.3s						
CHKK				eS	Sg	13 27 23.9	-0.8
	comp=E,164nm,0.4s						
CHKK	Chushkaly	3.44	355	Pg	Pb	13 26 35.5	+0.3
	comp=E,13nm,0.3s						
CHKK				Lg	Lg	13 27 24.3	
	comp=E,164nm,0.4s						
KRBS	Karabastau	3.52	339	eP	Pb	13 26 37.3	+0.8
	comp=E,10.0nm,0.4s						
KRBS				eS	Sg	13 27 26.2	-0.8
	comp=E,51nm,0.6s						
KRBS	Karabastau	3.52	339	Pg	Pb	13 26 37.3	+0.8
	comp=E,10.0nm,0.4s						
KRBS				Lg	Lg	13 27 26.2	
	comp=E,51nm,0.6s						
EKS2	Erkin-Say	3.52	311	⇑eP	Pn	13 26 29.0	0.0
	baz=13						
EKS2				⇑iS	Sn	13 27 12.6	+1.8
	baz=13						
EKS2	Erkin-Say	3.52	311	P	Pn	13 26 30.3	+1.3
	SNR=8.2						
KUU	Kurty	3.56	348	eP	Pb	13 26 37.5	+0.3
	comp=E,5.6nm,0.4s						
KUU				eS	Sg	13 27 26.8	-1.6
	comp=E,98nm,0.6s						
KUU	Kurty	3.56	348	Pg	Pb	13 26 37.5	+0.3
	comp=E,5.6nm,0.4s						
KUU				Lg	Lg	13 27 26.8	
	comp=E,98nm,0.6s						
USP	Ospenovka	3.58	324	⇑eP	Pn	13 26 29.8	+0.1
	baz=25						
USP				⇑iS	Sn	13 27 14.6	+2.6
	baz=25						
USP	Ospenovka	3.58	324	P	Pn	13 26 31.4	+1.7
	SNR=6.5						
MNBS	Baschi	3.73	11	eP	Pb	13 26 41.4	+1.2
	comp=E,7.5nm,0.2s						
MNBS				eS	Sg	13 27 32.8	-1.0
	comp=E,69nm,0.4s						
ARXS	Arharly	3.80	5	eP	Pb	13 26 41.9	+0.6
	comp=E,16nm,0.6s						
ARXS				eS	Sg	13 27 34.2	-2.0
	comp=E,38nm,0.4s						
ARXS	Arharly	3.80	5	Pg	Pb	13 26 41.9	+0.6
	comp=E,16nm,0.6s						
ARXS				Lg	Lg	13 27 34.2	
	comp=E,38nm,0.4s						
MRKS	Merke	3.90	308	eP	Pb	13 26 42.2	-0.8
	comp=E,5.0nm,0.4s						
MRKS				eS	Sg	13 27 35.2	-4.1
	comp=E,24nm,0.5s						
MRKS	Merke	3.90	308	Pg	Pb	13 26 42.2	-0.8
	comp=E,5.0nm,0.4s						
MRKS				Lg	Lg	13 27 35.2	
	comp=E,24nm,0.5s						
DJR	Jarkent	4.29	24	eP	Pb	13 26 50.1	+0.5
	comp=E,2.9nm,0.3s						
DJR				eS	Sg	13 27 49.1	-2.7
	comp=E,19nm,0.3s						
DJR	Jarkent	4.29	24	Pg	Pb	13 26 50.1	+0.5
	comp=E,2.9nm,0.3s						
DJR				Lg	Lg	13 27 49.1	
	comp=E,19nm,0.3s						
TDK	Taldyqorghan	4.64	9	eP	Pb	13 26 56.3	+0.8
	comp=E,35nm,0.4s						
TDK				eS	Sg	13 27 59.3	-3.7
	comp=E,59nm,0.4s						
TDK	Taldyqorghan	4.64	9	Pg	Pb	13 26 56.3	+0.8
	comp=E,35nm,0.4s						
TDK				Lg	Lg	13 27 59.3	
	comp=E,59nm,0.4s						
BTLS	Baital	5.24	333	eP	Pb	13 27 08.5	+2.8
	comp=E,6.5nm,0.7s						
BTLS				eS	Sg	13 28 18.8	-3.4
	comp=E,14nm,0.8s						
KK31	Karatay Array	5.81	300	Pg	Pb	13 27 18.2	+2.7
	comp=E,4.7nm,0.8s,baz=130,slow=16,SNR=5.9						
KK31				⇓Lg	Lg	13 28 33.8	
	comp=E,4.2nm,0.5s,baz=118,slow=28,SNR=7.8						
IUG	Iuzhnay	5.81	290	eP	Pb	13 27 17.7	+2.1
	comp=E,6.6nm,0.4s						
IUG				eS	Sg	13 28 36.0	-4.8
	comp=E,16nm,0.9s						
MK31	Makanchi Array	7.29	27	⇓Pn	Pn	13 27 20.8	+0.2
	comp=E,0.1nm,0.3s,baz=199,slow=12,SNR=6.2						
MK31				⇑Lg	Lg	13 29 24.8	
	comp=E,2.4nm,0.8s,baz=202,slow=28,SNR=4.7						
WMQ	Urumqi	8.37	63	eP	Pn	13 27 32.3	-3.2
WMQ				smax	smax		
	comp=N,10.0nm,0.7s						
WMQ				smax	smax		
	comp=E,9.0nm,1.1s						

*IDC **02** 13:29:07.9±0.4, 1°.77S×133°.41E, h0km, mb4.9/23, mb1 5.0/28, mb1mx4.9/39, mbtmp4.9/28, ML4.8/4, MS4.0/22, Ms1 4.0/22, ms1mx3.7/45, Error ellipse: s-maj=16.4km s-min=10.7km az=68.0*
*GCMT **02** 13:29:09.9±0.2, 1°.76S±0°.01×133°.29E±0°.02, h18km±1km, MW4.9/98, Moment Tensor Solution. s26,c31; s98,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.56±.14; $M_{\theta\theta}$-1.52±.11; $M_{\phi\phi}$-0.04±.10; $M_{r\theta}$-0.12±.20; $M_{\theta\phi}$2.18±.07; $M_{\phi r}$-1.24±.23; Best double couple: $M_0$2.91200×10^{16} NP1:ϕ_s270.00000°, δ53.00000°, λ31.00000°. NP2: ϕ_s160.00000°, δ66.00000°, λ138.00000°. Principal axes: T 2.6550, Plg46.0000°, Azm119.0000°; N 0.5110, Plg43.0000°, Azm315.0000°; P -3.1700, Plg8.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **02** 13:29:10.7±0.1, 2°S±2°×13°3E±°, h10km, M4.8/47, mB5.3/35, mb5.1/47, MLv5.3/13, Mw(mB)4.8/35, MwMwp4.3/1, Mwp4.7/1*
*BJI **02** 13:29:10.0±0.0, 2°.27S×133°.65E, h52km, mB5.2/43, mb5.0/74, Ms4.6/23, Ms7 4.2/23*
*NEIC **02** 13:29:12.9±1.5, 1°.85S±0°.07×133°.34E±0°.06, h40km±5km, mb5.1/120, Error ellipse: s-maj=10.6km s-min=7.8km az=212.0*

ISC 02 13:29:11.6±0.2, 1°.85S±0°.04×133°.34E±0°.04, h26km, n389, σ1s.53/410, mb5.1/130, MS4.0/25, 3C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.53	226		Pn	13 29 38.1	+0.9
FAKI	Fak Fak	1.53	226	P	Pn	13 29 38.1	+0.9
FAKI				S	Sb	13 29 58.4	+0.2
SIJI	Sorong	2.29	295	Pn	Pn	13 29 45.9	-1.9
	142nm,0.3s,baz=151,slow=22,SNR=172						
SIJI				Sn	Sn	13 30 13.4	-1.8
	364nm,0.3s,baz=97,slow=13,SNR=5.3						
SWI	Sorong	2.30	295	P	Pn	13 29 46.2	-1.7
BAKI	Biak	2.84	77	P	Pn	13 29 56.5	+1.2
SRPI	Serui, Papua	2.89	91	P	Pn	13 29 56.9	+0.9
SRPI				S	Sn	13 30 33.3	+3.3
BNDI	Bandanaira	4.34	232	P	Pn	13 30 17.2	+1.2
SMPI	Sarmi	5.37	92	P	Pn	13 30 32.3	+2.3
	0.5nm119nm,1.0s						
NLAI	Namlea	6.39	257	P	Pn	13 30 45.3	+1.2
	2.4nm4µm170nm,0.5s						
SAUI	Saumlaki	6.43	198	Pn	Pn	13 30 43.1	-1.5
TNTI	Ternate	6.52	293	Pn	Pn	13 30 46.1	+0.2
TNTI	Ternate	6.52	293	P	Pn	13 30 47.2	+1.3
	0.3nm958nm1µm86nm,1.2s						
GENI	Genyem	6.86	96	P	Pn	13 30 52.8	+2.2
	1.0nm3µm199nm,0.6s						
SANI	Sanana	7.36	268	P	Pn	13 30 55.7	-1.7
	0.4nm1µm85nm,0.6s						
I39PW	PALAU INFRASON	9.40	7	i		14 27 30.0	
	baz=188,slow=320,SNR=0.9						
KMSI	Cibinong	9.67	284	P	Pn	13 31 30.3	+1.2
	192nm,0.8s						
LUWI	Luwuk	10.60	274	Pn	Pn	13 31 41.0	-0.9
LUWI	Luwuk	10.60	274	P	Pn	13 31 44.1	+2.2
	2µm175nm,1.1s						
KDU	Kakadu	10.80	185	P	Pn	13 31 44.4	-0.3
	baz=11,SNR=36						
KDU				S	Sn	13 33 40.6	-4.3
	baz=11						
MRSI	Marisa	11.63	281	P	Pn	13 31 54.3	-1.8
	900nm83nm,1.1s						
APSI	Ampana	11.73	274	P	Pn	13 31 56.5	-0.9
	2µm216nm,0.9s						
DAV	Davao City (W)	11.77	319	LR	LR	13 36 42.5	
	comp=Z,645nm,19.9s,baz=162,slow=39						
SOEI	Soe	11.96	229	Pn	Pn	13 32 00.4	-0.3
SOEI	Soe	11.96	229	P	Pn	13 32 02.9	+2.2
	2µm201nm,1.1s						
BATI	Baumata	12.71	229	Pn	Pn	13 32 11.7	+0.8
	12nm,0.3s,baz=112,slow=2.3,SNR=16						
BATI				Sn	Sn	13 34 33.6	+2.0
	1.8nm,0.3s,baz=76,slow=20,SNR=3.6						
BATI	Baumata	12.71	229	P	Pn	13 32 12.3	+1.5
	876nm99nm,0.9s						
TOLI2	Tolitoli	12.90	283		Pn	13 32 13.2	-0.2
MMRI	Maumere	12.95	238	Pn	Pn	13 32 16.3	+2.2
MMRI	Maumere	12.95	238	P	P	13 32 26.6	+2.2
BNSI	Bone	13.46	259	P	Pn	13 32 21.4	+0.4
	80nm,1.3s						
TTSI	Tana Toraja	13.56	265	P	Pn	13 32 25.4	+2.9
	843nm76nm,1.7s						
SPSI	Sidrap Palu	13.72	261	P	Pn	13 32 26.5	+1.9
	2µm104nm,1.3s						

KAPI **Kappang** 13.93 257 Pn **Pn** 13 32 28.5 +1.1
3.3nm,0.3s,baz=112,slow=4.9,SNR=11
KAPI LR LR 13 38 21.1
comp=Z,614nm,20.7s,baz=84,slow=40
KAPI **Kappang** 13.93 257 Pn **Pn** 13 32 28.0 +0.5
KAPI **Kappang** 13.93 257 P **Pn** 13 32 28.7 +1.2
KAPI P **Pn** 13 32 28.7 +1.2
COEN **Coen** 15.47 142 Pn **Pn** 13 32 45.7 -2.5
PMG **Port Moresby** 15.66 119 Pn **Pn** 13 32 50.8 +0.1
0.7nm,0.3s,baz=309,slow=7.5,SNR=13
PMG LR LR 13 39 25.6
comp=Z,947nm,21.5s,baz=324,slow=40
PMG **Port Moresby** 15.66 119 P **Pn** 13 32 52.9 +2.2
PMG **Port Moresby** 15.66 119 P **P** 13 32 53.4 -1.1
WBSI **Waikabubak, Su** 15.89 240 P **Pn** 13 32 54.8 +1.1
2µm140nm,0.9s
MYLDM **Lahad Datu** 16.39 295 P **P** 13 33 03.6 +0.9
BKB **Balikpapan** 16.45 272 P **P** 13 33 02.8 -0.5
PLAI **Plampang** 16.97 245 P **Pn** 13 33 07.0 -0.4
1µm131nm,0.9s
KBKI **Kotabaru** 17.22 265 P P 13 33 24.1 +12
TWSI **Taliwang, Sumb** 17.75 247 P **P** 13 33 19.3 +1.5
33nm,1.0s
FITZ **Fitzroy Crossi** 17.83 205 P **Pn** 13 33 15.4 -2.6
1.7nm,0.3s,baz=36,slow=11,SNR=39
FITZ S Sn 13 36 26.1 -10
2.2nm,0.3s,baz=158,slow=22,SNR=10
FITZ LR LR 13 41 32.3
comp=Z,378nm,19.9s,baz=24,slow=42
FITZ **Fitzroy Crossi** 17.83 205 P **Pn** 13 33 15.3 -2.8
baz=18,SNR=12
FITZ **Fitzroy Crossi** 17.83 205 P **Pn** 13 33 14.9 -3.2
WB0 **Warramunga Arr** 17.84 177 P **Pn** 13 33 17.1 -1.1
WRAB **Tennant Creek** 18.00 177 P **Pn** 13 33 19.3 -0.9
WRAB IAmb IAmb 13 33 24.7
comp=Z,111nm,0.8s
WRA **Warramunga Arr** 18.01 177 P **Pn** 13 33 20.0 -0.3
comp=Z,2.6nm,0.3s,baz=357,slow=12,SNR=86
WRA S **Sn** 13 36 31.0 -10
comp=Z,1.1nm,0.3s,baz=360,slow=22,SNR=5.7
WB2 **Warramunga Arr** 18.01 177 P **Pn** 13 33 19.3 -1.0
WB2 IAmb IAmb 13 33 24.9
comp=Z,114nm,0.9s
WR0 **Warramunga Arr** 18.04 176 P **Pn** 13 33 19.6 -1.1
WR0 IAmb IAmb 13 33 25.2
comp=Z,114nm,0.8s
MTKI **Muara Teweh, K** 18.46 273 P **Pn** 13 33 27.4 +1.5
comp=Z,5µmcomp=Z,43nm,1.8s
BBKI **Banjar Baru** 18.55 265 P **Pn** 13 33 29.6 +2.7
comp=Z,2µmcomp=Z,85nm,1.4s
KKM **Kota Kinabalu** 18.82 295 P **P** 13 33 29.3 -0.3
RABL **Rabaul** 18.94 97 P **P** 13 33 29.1 -1.8
RABL IAmb IAmb 13 33 54.2
comp=Z,131nm,1.2s
RABL **Rabaul** 18.94 97 P **Pn** 13 33 33.7 +2.1
SRBI **Singaraja** 19.09 250 P **Pn** 13 33 34.6 +1.2
comp=Z,69nm,0.9s
MTSU **Mount Surprise** 19.44 147 P **Pn** 13 33 37.6 0.0
baz=20,SNR=44
QIS **Mount Isa** 19.58 162 P **P** 13 33 38.9 +1.1
baz=20,SNR=49
ABJI **Asem Bagus** 19.93 252 P **Pn** 13 33 43.7 +0.2
comp=Z,64nm,1.0s
JAGI **Jajag, Banyuwa** 20.20 250 Pn Pn 13 33 46.9 +0.2
JAGI **Jajag, Banyuwa** 20.20 250 P Pn 13 33 47.2 +0.5
comp=Z,1µmcomp=Z,87nm,0.8s
SBUM **Sibu** 21.55 281 P **P** 13 34 03.0 +3.8
PBKI **Pangkalan Bun** 21.67 267 P **P** 13 34 02.8 +2.2
comp=Z,5µmcomp=Z,202nm,1.1s
AS31 **Alice Springs** 21.70 179 P **P** 13 34 01.9 +1.1
ASAR **Alice Springs** 21.70 179 P **P** 13 34 02.2 +1.4
comp=Z,156nm,0.8s,baz=0.0,slow=8.9,SNR=842
ASAR S **S** 13 38 02.6 +2.8
comp=Z,19nm,0.9s,baz=358,slow=28,SNR=6.0
ASAR **Alice Springs** 21.70 179 P **P** 13 34 01.9 +1.1
CTA **Charters Tower** 22.09 146 P **P** 13 34 04.8 -0.1
comp=Z,22nm,0.8s,baz=327,slow=11,SNR=16
CTAO **Charters Tower** 22.09 146 P **P** 13 34 05.1 +0.1
CTAO IAmb IAmb 13 34 12.8
comp=Z,83nm,1.1s
MBWA **Marble Bar** 23.34 214 P **P** 13 34 19.1 +1.1
UGM **Wanagama** 23.51 254 P **P** 13 34 19.1 -0.7
UGM IAmb IAmb 13 34 48.2
comp=Z,130nm,1.3s
WRKA **Warakurna** 23.57 192 P **P** 13 34 21.2 +1.0
baz=24,SNR=32
PSA00 **Pilbara Seismi** 23.61 213 P **P** 13 34 20.0 -0.6
PSA00 IAmb IAmb 13 34 28.3
comp=Z,72nm,0.9s
PSA00 **Pilbara Seismi** 23.61 213 P **P** 13 34 19.8 -0.9
PSA00 IAmb IAmb 13 34 28.1
comp=Z,25nm,0.8s
CISI **Cisompet, Garu** 26.06 257 P **P** 13 34 42.6 -0.7
CISI **Cisompet, Garu** 26.06 257 P **P** 13 34 44.9 +1.6
comp=Z,1µmcomp=Z,92nm,0.9s
LEM **Lembang** 26.12 258 P **P** 13 34 45.0 +1.1
comp=Z,12nm,0.6s,baz=113,slow=14,SNR=3.7
LEM LR LR 13 47 04.6
comp=Z,544nm,18.4s,baz=98,slow=41
LEM **Lembang** 26.12 258 S **P** 13 34 44.7 +0.8
QLP **Quilpie** 26.73 158 P **P** 13 34 49.2 +0.1
baz=27,SNR=12
PPBI **Pangkal Pinang** 27.19 269 P **P** 13 34 55.9 +2.4
comp=Z,2µmcomp=Z,27nm,0.5s
HNR **Honiara** 27.51 107 P **P** 13 34 55.1 -1.2
comp=Z,21nm,0.4s,baz=171,slow=5.2,SNR=4.1
HNR LR LR 13 45 49.0
comp=Z,195nm,19.9s,baz=256,slow=36
HNR **Honiara** 27.51 107 P **P** 13 34 55.5 -0.8
HNR IAmb IAmb 13 35 00.0
comp=Z,39nm,0.8s
GIRL **Giralia** 27.78 220 P **P** 13 34 58.5 -0.1
YOJ **Yonaguni jima** 28.01 340 P **P** 13 35 00.7 +0.1
SSLB **Suanglung** 28.19 335 P **P** 13 35 02.1 -0.2
DLV **T Lat** 28.25 300 P **P** 13 35 03.2 +0.2
DLV IAmb IAmb 13 35 06.2
comp=Z,39nm,1.0s
RMQ **Roma** 28.63 150 P **P** 13 35 08.6 +2.5
baz=29,SNR=5.0
EIDS **Eidsvold** 28.97 145 P **P** 13 35 10.7 +1.5
baz=29,SNR=7.9
EIDS **Eidsvold** 28.97 145 P **P** 13 35 09.8 +0.6
EIDS IAmb IAmb 13 35 13.3
comp=Z,32nm,0.8s
MDSI **Maura Dua** 29.24 264 P **P** 13 35 12.5 +0.8
comp=Z,15nm,1.0s
MYKOM **Kota Tinggi** 29.71 277 P **P** 13 35 16.0 +0.1
MYKOM IAmb IAmb 13 35 20.0
comp=Z,49nm,1.0s
MYKOM **Kota Tinggi** 29.71 277 P **P** 13 35 19.0 +3.1
LHSI **Lahat** 29.85 266 P **P** 13 35 17.6 +0.5
comp=Z,1µmcomp=Z,72nm,1.4s
STKA **Stephens Creek** 30.87 166 P **P** 13 35 25.7 -0.2
comp=Z,15nm,0.8s,baz=326,slow=7.7,SNR=22
STKA LR LR 13 48 57.7
comp=Z,646nm,21.6s,baz=341,slow=38
STKA **Stephens Creek** 30.87 166 P **P** 13 35 25.9 0.0
baz=31,SNR=14
STKA **Stephens Creek** 30.87 166 P **P** 13 35 25.3 -0.6
BBOO **Buckleboo** 30.91 176 P **P** 13 35 26.1 -0.2
QIZ **Qiongzhong** 31.05 313 P **P** 13 35 27.9 +0.2
QIZ S **S** 13 40 32.8 +1.3
QIZ LR LR
comp=Z,280nm,17.2s
QIZ LR LR
comp=Z,280nm,14.7s
QIZ LR LR
comp=Z,330nm,25.5s
KMBL **Kambalda** 31.30 199 P **P** 13 35 30.8 +1.1
baz=31,SNR=9.1
CMSA **Cobar Meteorol** 31.75 160 P **P** 13 35 33.9 +0.2
baz=32,SNR=17
HTT **Hallett** 31.85 171 P **P** 13 35 34.5 -0.1
baz=32,SNR=4.3
BKNI **Bangkinang** 32.37 274 P **P** 13 35 40.1 +0.7
UBPT **Khong Chiam** 32.40 303 P **P** 13 35 41.9 +2.3
comp=Z,15nm,1.5s
BLDU **Ballidu** 32.67 207 P **P** 13 35 42.5 +0.8
baz=33,SNR=9.5
IPM **Ipoh** 32.90 281 P **P** 13 35 44.3 +0.2
IPM **Ipoh** 32.90 281 P **P** 13 35 47.0 +3.0
ARMA **Armidale** 33.29 150 P **P** 13 35 48.6 +1.3
baz=33,SNR=8.0
ARMA **Armidale** 33.29 150 P **P** 13 35 47.4 +0.1
ARMA IAmb IAmb 13 36 03.3
comp=Z,17nm,0.8s

KULM **Kulim** 33.42 282 P **P** 13 35 48.4 -0.2
KULM IAmb IAmb 13 35 51.6
comp=Z,44nm,1.1s
KULM **Kulim** 33.42 282 P **P** 13 35 51.0 +2.5
RPSI **Rantau Prapat** 34.70 277 P **P** 13 35 59.2 -0.5
SRAK **Srakaew** 34.79 298 P **P** 13 35 57.9 -2.6
comp=Z,2µmcomp=Z,175nm,0.9s
TRTT **Trang** 34.92 286 P **P** 13 36 03.0 +1.5
comp=Z,39nm,1.1s
KHON **Khomkaen** 35.14 302 P **P** 13 36 05.9 +2.4
comp=Z,68nm,0.7s
KOUNC **Koumac, New Ca** 35.46 124 P **P** 13 36 07.2 +1.1
ARPS **Mount Arapiles** 35.63 168 P **P** 13 36 08.3 +1.0
baz=36,SNR=14
CHAI **Chaiyaphum** 35.66 301 P **P** 13 36 10.0 +2.1
comp=Z,312nmcomp=Z,30nm,0.9s
NONG **Nongkai** 35.72 305 P **P** 13 36 09.6 +1.3
comp=Z,52nm,1.0s
GSI **Gunungsitoli** 35.90 275 P **P** 13 36 08.4 -1.6
SANVU **Saraoutou** 36.02 114 P **P** 13 36 09.8 -1.2
SANVU IAmb IAmb 13 36 15.4
comp=Z,30nm,0.9s
SANVU **Saraoutou** 36.02 114 P **P** 13 36 13.0 +2.0
PKDT **Phuket** 36.23 286 P **P** 13 36 14.1 +1.2
comp=Z,49nm,0.9s
CAN **Canberra** 36.35 158 P **P** 13 36 13.9 +0.3
NJ2 **Nanjing** 36.41 339 eP **P** 13 36 16.0 +2.0
NJ2 pmax pmax
comp=Z,12nm,0.5s
SLVN **Son La** 36.88 310 P **P** 13 36 18.1 -0.3
WHN **Wuhan** 36.95 332 ⇑P **P** 13 36 20.1 +1.4
JWT **Wachi** 36.98 3 P **P** 13 36 18.4 -0.5
JWT IAmb IAmb 13 36 21.3
comp=Z,44nm,1.2s
TOO **Toolangi** 37.27 164 P **P** 13 36 21.4 0.0
baz=37,SNR=7.3
TOO **Toolangi** 37.27 164 P **P** 13 36 20.9 -0.5
TOO IAmb IAmb 13 36 23.9
comp=Z,28nm,1.1s
SRDT **SRDT** 37.52 297 P **P** 13 36 27.4 +3.6
comp=Z,2µmcomp=Z,7.8nm,1.4s
PHIT **Phitsanulok** 37.58 302 P **P** 13 36 29.0 +4.8
comp=Z,58nm,0.9s
UTTA **Uttaradit** 37.72 302 P **P** 13 36 28.7 +3.3
comp=Z,19nm,1.4s
UTHA **Uthaitani** 37.72 299 P **P** 13 36 27.7 +2.3
comp=Z,270nmcomp=Z,29nm,1.1s
NOUC **Port Laguerre** 37.84 125 P **P** 13 36 26.7 +0.3
DZM **Mont Dzumac** 37.94 125 P **P** 13 36 27.4 0.0
comp=Z,17nm,1.0s,baz=354,slow=8.9,SNR=6.4
DZM LR LR 13 52 25.5
comp=Z,125nm,18.2s,baz=306,slow=37
DZM **Mont Dzumac** 37.94 125 P **P** 13 36 27.1 -0.3
DZM IAmb IAmb 13 36 29.2
comp=Z,50nm,1.4s
DZM **Mont Dzumac** 37.94 125 P **P** 13 36 27.9 +0.5
GYA **Guiyang** 38.15 319 ⇑P **P** 13 36 31.0 +1.9
GYA pmax pmax
comp=Z,9.0nm,1.0s
YATNC **Mamie plateau,** 38.31 124 P **P** 13 36 31.5 +1.1
SUKH **Sukhothai** 38.38 301 P **P** 13 36 33.4 +2.4
comp=Z,14nm,1.2s
MJAR **Matsuro Arr** 38.46 6 P **P** 13 36 29.2 -2.2
comp=Z,2.4nm,0.7s,baz=192,slow=8.0,SNR=4.9
MJAR PcP **PcP** 13 38 44.9 +0.5
comp=Z,4.0nm,0.8s,baz=157,slow=2.8,SNR=5.4
MJAR LR LR 13 49 32.8
comp=Z,143nm,21.0s,baz=255,slow=32
UMPA **Umpang Tak** 38.49 299 P **P** 13 36 34.5 +2.5
comp=Z,30nm,1.1s
LAMP **Lampang** 38.85 303 P **P** 13 36 37.5 +2.5
comp=Z,24nm,1.1s
ENH **Enshi** 39.22 326 P **P** 13 36 36.9 -1.0
CM36 **Chiang Mai Arr** 39.30 303 P **P** 13 36 40.0 +1.2
CM35 **Chiang Mai Arr** 39.33 303 P **P** 13 36 40.0 +1.0
CM04 **Chiang Mai Arr** 39.35 302 P **P** 13 36 41.4 +2.2
comp=Z,127nmcomp=Z,14nm,1.1s
CM09 **Chiang Mai Arr** 39.36 302 P **P** 13 36 41.6 +2.4
comp=Z,110nmcomp=Z,13nm,1.2s
CM01 **Chiang Mai Arr** 39.37 302 P **P** 13 36 41.5 +2.2
comp=Z,136nmcomp=Z,15nm,1.2s
CM05 **Chiang Mai Arr** 39.38 302 P **P** 13 36 41.5 +2.2
comp=Z,85nmcomp=Z,8.9nm,1.3s
CM02 **Chiang Mai Arr** 39.39 302 P **P** 13 36 41.0 +1.5
comp=Z,116nmcomp=Z,12nm,1.3s
CM31 **Chiang Mai Arr** 39.40 302 P **P** 13 36 42.2 +2.6
comp=Z,147nm,0.8s
CM31 **Chiang Mai Arr** 39.40 302 P **P** 13 36 39.0 -0.6
CM31 IAmb IAmb 13 36 43.2
comp=Z,38nm,1.4s
CMAR **Chiang Mai Arr** 39.40 302 P **P** 13 36 39.6 0.0
comp=Z,7.3nm,1.0s,baz=124,slow=6.5,SNR=44
CMAR PcP **PcP** 13 38 50.0 +2.4
comp=Z,0.5nm,0.3s,baz=150,slow=1.8,SNR=5.3
CMAR **Chiang Mai Arr** 39.40 302 P **P** 13 36 38.1 -1.5
CM34 **Chiang Mai Arr** 39.41 303 P **P** 13 36 41.0 +1.3
CM15 **Chiang Mai Arr** 39.41 302 P **P** 13 36 41.0 +1.3
comp=Z,118nmcomp=Z,13nm,1.0s
CM13 **Chiang Mai Arr** 39.42 302 P **P** 13 36 41.0 +1.3
comp=Z,110nmcomp=Z,12nm,1.1s
KSRS **Korea Array** 39.42 353 P **P** 13 36 38.9 -0.6
comp=Z,0.7nm,0.6s,baz=178,slow=9.9,SNR=5.6
KSRS PcP **PcP** 13 38 48.9 +1.6
comp=Z,4.7nm,0.8s,baz=183,slow=2.7,SNR=11
KSRS LR LR 13 53 40.6
comp=Z,61nm,18.6s,baz=176,slow=37
CMMT **Chiang Mai** 39.56 303 P **P** 13 36 41.4 +0.5
comp=Z,7.9nm,1.4s
CHTO **Chiang Mai** 39.56 303 P **P** 13 36 40.5 -0.4
CHTO **Chiang Mai** 39.56 303 P **P** 13 36 41.1 +0.2
CM33 **Chiang Mai Arr** 39.56 303 P **P** 13 36 42.0 +1.0
CM32 **Chiang Mai Arr** 39.57 303 P **P** 13 36 43.0 +2.0
KMI **Kunming** 39.98 314 ⇑P **P** 13 36 46.9 +2.3
KMI pP sP 13 36 56.5 +0.9
KMI sP pP 13 37 02.6 +10
KMI pmax pmax
comp=Z,27nm,1.1s
KMI pmax pmax
comp=Z,92nm,3.9s
KMI LR LR
comp=Z,180nm,14.0s
KMI LR LR
comp=Z,230nm,14.8s
KMI LR LR
comp=Z,250nm,20.4s
MHMT **Maesarieng** 40.14 301 P **P** 13 36 47.3 +1.6
XAN **Xi'an** 42.45 329 P **P** 13 37 04.0 -0.5
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN **Xi'an** 42.45 329 P **P** 13 37 03.2 -1.3
XAN IAmb IAmb 13 37 07.2
comp=Z,55nm,1.3s
CD2 **Chengdu** 43.06 322 P **P** 13 37 08.8 -0.7
CD2 pmax pmax
comp=Z,50nm,0.8s
TIY **Taiyuan** 43.87 336 eP **P** 13 37 18.5 +2.5
TIY pmax pmax
comp=Z,32nm,0.7s
BJT **Baijiatuan** 44.53 341 P **P** 13 37 19.8 -1.4
BJT IAmb IAmb 13 37 24.9
comp=Z,64nm,1.4s
BJI **Beijing** 44.55 341 P **P** 13 37 21.8 +0.5
BJI S **S** 13 43 57.2 +1.8
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI LR LR
comp=Z,170nm,12.4s
BJI LR LR
comp=Z,290nm,21.6s
USRK **Ussuriysk Ar.** 45.86 359 P **P** 13 37 31.3 -0.3
comp=Z,4.3nm,0.8s,baz=158,slow=7.0,SNR=8.6
USRK **Ussuriysk Ar.** 45.86 359 P **P** 13 37 31.7 +0.1
USA0B **Ussuriysk Arra** 45.86 359 P **P** 13 37 31.3 -0.3
CN2 **Changchun** 45.99 352 eP **P** 13 37 35.2 +2.5
CN2 pmax pmax
comp=Z,10.0nm,1.0s
MDJ **Mudanjiang** 46.38 356 P **P** 13 37 35.8 +0.1
MDJ pmax pmax
comp=Z,8.0nm,1.4s
MDJ pmax pmax
comp=Z,130nm,3.4s
MDJ **Mudanjiang** 46.38 356 P **P** 13 37 35.5 -0.2
MDJ IAmb IAmb 13 37 39.3
comp=Z,23nm,1.3s
MSVF **Nonsavu** 46.63 113 P **P** 13 37 38.8 +0.5
MSVF IAmb IAmb 13 37 44.8
comp=Z,31nm,1.1s
LZH **Lanzhou** 46.70 327 eP **P** 13 37 39.5 +0.9
LZH pP sP 13 37 51.1 +1.4
LZH sP pP 13 37 55.7 +9.1
LZH pmax pmax
comp=Z,51nm,1.3s
LZH pmax pmax
comp=Z,190nm,5.9s
LZH LR LR
comp=Z,260nm,16.3s
LZH LR LR
comp=Z,270nm,17.4s
LZH LR LR
comp=Z,270nm,18.4s
HHC **Hu-ho-hao-te** 46.90 337 eP **P** 13 37 39.8 -0.2
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,200nm,7.2s
SHL **Shillong** 48.49 307 P **P** 13 37 53.4 +0.7
SHL IAmb IAmb 13 37 54.4
comp=Z,28nm,1.1s
LSA **Lhasa** 51.06 311 P **P** 13 38 13.1 +0.5
LSA pmax pmax
comp=Z,15nm,0.7s
LSA **Lhasa** 51.06 311 P **P** 13 38 11.4 -1.2
LSA IAmb IAmb 13 38 16.0
comp=Z,21nm,0.8s
GTA **Gaotai** 51.30 327 P **P** 13 38 16.5 +2.7
GTA pP sP 13 38 30.6 +5.6
GTA sP pP 13 38 37.0 +15
GTA pmax pmax
comp=Z,25nm,1.3s
GTA pmax pmax
comp=Z,130nm,5.7s
GTA LR LR
comp=Z,100nm,16.4s
GTA LR LR
comp=Z,120nm,13.4s
GTA LR LR
comp=Z,71nm,17.4s
TAPN **Taplejung** 52.63 307 eP **P** 13 38 23.8 -0.3
comp=Z,82nm,1.2s
ODAN **Odare** 52.67 306 eP **P** 13 38 24.2 -0.2
comp=Z,35nm,0.7s
PALK **Pallekele** 53.30 280 P **P** 13 38 29.1 +0.1
PALK IAmb IAmb 13 38 32.4
comp=Z,22nm,0.9s
WHZ **Wether Hill Ro** 53.31 150 P **P** 13 38 28.4 -0.1
WHZ IAmb IAmb 13 38 47.5
comp=Z,37nm,1.3s
RAMN **Ramite** 53.35 306 eP **P** 13 38 29.2 -0.2
comp=Z,66nm,0.9s
RPZ **Rata Peaks** 53.46 146 LR LR 14 01 50.0
comp=Z,484nm,18.7s,baz=308,slow=37
URZ **Urewera** 53.99 138 LR LR 14 02 10.1
comp=Z,365nm,19.4s,baz=30,slow=37
GUN **Gumba** 54.33 307 eP **P** 13 38 36.4 -0.3
comp=Z,37nm,0.8s
ULN **Ulaanbaatar** 54.57 339 P **P** 13 38 37.5 -0.3
ULN IAmb IAmb 13 38 41.6
comp=Z,18nm,0.9s
ULN **Ulaanbaatar** 54.57 339 P **P** 13 38 39.4 +1.6
PKIN **Phulchoki** 54.58 306 eP **P** 13 38 37.9 -0.5
comp=Z,22nm,0.9s
KKN **Kakani** 54.77 306 eP **P** 13 38 38.8 -0.9
comp=Z,47nm,1.0s
SONM **Songino Array** 54.79 338 P **P** 13 38 40.3 +0.9
comp=Z,5.1nm,0.9s,baz=149,slow=8.8,SNR=26
SONM **Songino Array** 54.79 338 P **P** 13 38 39.2 -0.2
DMN **Daman** 54.83 306 eP **P** 13 38 39.7 -0.5
comp=Z,50nm,1.2s
GKN **Gorkha** 55.37 306 eP **P** 13 38 43.4 -0.6
comp=Z,68nm,1.2s
HYB **Hyderabad** 57.27 292 i P **P** 13 38 57.0 -0.6
PETK **Petropavlovsk-** 58.44 17 P **P** 13 39 05.7 +0.7
comp=Z,8.4nm,0.9s,baz=159,slow=4.6,SNR=8.2
PETK LR LR 14 07 45.4
comp=Z,44nm,18.2s,baz=209,slow=40
PETK **Petropavlovsk-** 58.44 17 P **P** 13 39 04.4 -0.7
TLY **Talaya** 58.97 339 P **P** 13 39 07.5 -1.3
MNCI **Minicoy** 60.94 280 P **P** 13 39 23.2 +0.2
WMQ **Urumqi** 61.08 324 P **P** 13 39 24.4 +0.9
WMQ pP sP 13 39 36.0 +1.2
WMQ sP pP 13 39 39.9 +8.2
WMQ pmax pmax
comp=Z,69nm,1.1s
WMQ pmax pmax
comp=Z,230nm,4.5s
WMQ LR LR
comp=Z,330nm,22.1s
WMQ LR LR
comp=Z,110nm,23.7s
WMQ **Urumqi** 61.08 324 P **P** 13 39 23.6 +0.1
MA2 **Magadan** 62.76 10 P **P** 13 39 34.4 0.0
comp=Z,5.6nm,0.8s,baz=203,slow=4.1,SNR=11
MA2 LR LR 14 04 51.3
comp=Z,82nm,20.2s,baz=200,slow=34
MA2 **Magadan** 62.76 10 P **P** 13 39 33.5 -0.8
MA2 IAmb IAmb 13 39 38.7
comp=Z,14nm,1.1s
YAK **Yakutsk** 63.77 358 P **P** 13 39 40.5 -0.5
ZSN **Zaisan** 64.78 326 eP **P** 13 39 48.0 0.0
comp=Z,5.4nm,0.8s,baz=326
AMKA **Amchitka** 65.76 30 P **P** 13 39 53.5 -0.8
SHLS **Shalkode** 65.84 320 eP **P** 13 39 53.3 -1.8
comp=Z,9.2nm,0.6s,baz=320
MK31 **Makanchi Array** 65.89 324 P **P** 13 39 55.2 -0.1
MK31 IAmb IAmb 13 39 58.6
comp=Z,20nm,0.8s
MKAR **Makanchi Array** 65.89 324 P **P** 13 39 55.9 +0.6
comp=Z,33nm,0.8s,baz=116,slow=8.0,SNR=102
MKAR LR LR 14 12 12.0
comp=Z,47nm,18.9s,baz=104,slow=39
MKAR **Makanchi Array** 65.89 324 P **P** 13 39 55.4 +0.2
MAKZ **Makanchi** 66.09 324 P **P** 13 39 56.6 +0.2
UZB **Uzynbulak** 66.12 319 eP **P** 13 39 57.0 0.0
comp=Z,13nm,1.0s,baz=319
SEY **Seymchan** 66.19 9 P **P** 13 39 57.1 +0.4
comp=Z,13nm,0.9s,baz=196,slow=4.7,SNR=31
CASY **Casey** 66.30 190 P **P** 13 39 58.0 +0.6
SATY **Saty** 66.48 319 eP **P** 13 39 59.6 +0.4
comp=Z,23nm,1.2s,baz=319
KPKS **Kokpek** 66.48 320 eP **P** 13 39 59.2 0.0
comp=Z,18nm,0.8s,baz=319
NIL **Nilore** 66.54 308 P **P** 13 39 59.2 -0.5
NIL **Nilore** 66.54 308 P **P** 13 39 59.3 -0.5
KSH **Kashi** 66.64 315 P **P** 13 40 01.9 +1.6
KSH PcP **PcP** 13 40 33.5 +4.1
KSH SS SS 13 53 12.5 +4.2
KSH pmax pmax
comp=Z,110nm,1.6s
KSH pmax pmax
comp=Z,240nm,4.6s
TDK **Taldyqorghan** 67.37 321 eP **P** 13 40 04.7 0.0
comp=Z,17nm,0.8s,baz=321
MDOK **Medeo** 67.42 319 eP **P** 13 40 05.7 +0.5
baz=318
TNSS **Tian-Shan** 67.43 319 eP **P** 13 40 06.0 +0.4
baz=318
AAA **Alma-Ata** 67.53 319 eP **P** 13 40 05.7 -0.1
comp=Z,14nm,0.8s,baz=318
CHKK **Chushkaly** 67.76 319 eP **P** 13 40 07.0 -0.1
baz=319
KUU **Kurty** 68.20 319 eP **P** 13 40 10.1 +0.1
baz=319
TKM2 **Tokmak 2** 68.28 318 P **P** 13 40 11.7 +1.0
SNR=18
ZAA0 **Zalesovo Array** 68.56 332 P **P** 13 40 10.4 -1.6
ZAA0 IAmb IAmb 13 40 14.9
comp=Z,12nm,0.8s
ZALV **Zalesovo Beam** 68.56 332 P **P** 13 40 11.7 -0.3
comp=Z,7.6nm,0.6s,baz=114,slow=6.4,SNR=28
ZALV **Zalesovo Beam** 68.56 332 P **P** 13 40 10.3 -1.6
KBK **Karagaybulak** 68.61 318 P **P** 13 40 15.4 +2.7
SNR=9.7
UCH **Uchtor** 68.73 317 P **P** 13 40 15.0 +1.1
SNR=27
AAK **Ala-Archa** 68.91 317 P **P** 13 40 17.7 +3.1
SNR=5.9
AAK **Ala-Archa** 68.91 317 P **P** 13 40 14.1 -0.5
AAK **Ala-Archa** 68.91 317 P **P** 13 40 17.2 +2.6
SGDS **Sogindy** 69.14 318 eP **P** 13 40 15.8 -0.1
baz=318
USP **Ospenovka** 69.15 318 P **P** 13 40 16.6 +0.6
SNR=23

AML	**Almayashu**	**69.25**	**317**	P	**P**	**13 40 18.5**	**+1.5**
	SNR=38						
EKS2	**Erkin-Say**	**69.40**	**317**	P	**P**	**13 40 19.0**	**+1.4**
	SNR=21						
KURK	**Kurchatov**	**69.99**	**326**	P	**P**	**13 40 20.4**	**-0.5**
KURK	**Kurchatov**	**69.99**	**326**	P	**P**	**13 40 21.3**	**+0.5**
KBL	**Kabul**	**70.14**	**308**	P	**P**	**13 40 21.8**	**-0.7**
KBL				IAmb	IAmb	13 40 25.2	
	comp=Z,19nm,0.9s						
KBL	**Kabul**	**70.14**	**308**	P	**P**	**13 40 22.8**	**+0.4**
BTLS	**Baital**	**70.17**	**320**	*e*P	**P**	**13 40 21.9**	**-0.2**
	comp=Z,7.9nm,1.2s,baz=319						
DZA	**Taraz**	**71.16**	**317**	*e*P	**P**	**13 40 28.4**	**+0.2**
	comp=Z,11nm,0.7s,baz=316						
KK31	**Karatay Array**	**71.79**	**317**	P	**P**	**13 40 31.9**	**-0.2**
KK31				IAmb	IAmb	13 40 35.2	
	comp=Z,17nm,0.9s						
KKAR	**Karatay Array**	**71.79**	**317**	P	**P**	**13 40 31.5**	**-0.5**
KKAR	**Karatay Array**	**71.79**	**317**	P	**P**	**13 40 31.6**	**-0.4**
KKAR				IAmb	IAmb	13 40 35.2	
	comp=Z,17nm,0.9s						
IUG	**Iuzhnay**	**71.80**	**316**	*e*P	**P**	**13 40 32.6**	**+0.4**
	comp=Z,8.5nm,1.1s,baz=315						
BRZS	**Berezniki**	**73.04**	**324**	*e*P	**P**	**13 40 39.2**	**-0.2**
	comp=Z,7.4nm,0.9s,baz=324						
HRA	**Herat**	**75.54**	**306**	P	**P**	**13 40 53.4**	**-1.0**
HRA				IAmb	IAmb	13 40 57.5	
	comp=Z,21nm,0.9s						
BRVK	**Borovoye**	**75.65**	**326**	P	**P**	**13 40 53.7**	**-0.7**
BRVK				IAmb	IAmb	13 40 58.1	
	comp=Z,33nm,1.1s						
BRVK	**Borovoye**	**75.65**	**326**	P	**P**	**13 40 54.9**	**+0.5**
JLN	**Jalan Bani Buh**	**75.85**	**293**	P	**P**	**13 40 57.1**	**+0.9**
WBK	**Wadi Bani Khal**	**76.32**	**294**	P	**P**	**13 40 59.5**	**+0.6**
WBK				P	**P**	**13 40 59.5**	**+0.6**
MHTO	**MHTO**	**77.03**	**292**	P	**P**	**13 41 03.7**	**+0.7**
	SNR=6.7						
MHTO				P	**P**	**13 41 03.7**	**+0.7**
	SNR=6.7						
JMDO	**Jabal Madar**	**77.08**	**293**	P	**P**	**13 41 04.4**	**+1.2**
VNDA	**Vanda**	**77.16**	**174**	P	**P**	**13 41 03.8**	**+1.3**
	comp=Z,14nm,0.9s,baz=325,slow=5.6,SNR=14						
VNDA				LR	LR	14 15 20.2	
	comp=Z,135nm,18.8s,baz=353,slow=36						
VNDA	**Vanda**	**77.16**	**174**	P	**P**	**13 41 02.7**	**+0.1**
VNDA				IAmb	IAmb	13 41 06.9	
	comp=Z,15nm,0.9s						
BIDO	**Bidbid**	**77.21**	**294**	P	**P**	**13 41 05.1**	**+1.2**
	SNR=9.9						
SMDO	**Samad**	**77.22**	**294**	P	**P**	**13 41 05.1**	**+1.0**
	SNR=6.3						
SMDO				P	**P**	**13 41 05.1**	**+1.0**
	SNR=6.3						
NRIK	**Noril'sk**	**77.44**	**345**	P	**P**	**13 41 03.6**	**-0.6**
	comp=Z,4.0nm,0.7s,baz=128,slow=7.8,SNR=8.4						
NRIK				LR	LR	14 16 48.1	
	comp=Z,185nm,18.9s,baz=136,slow=37						
NRIK	**Noril'sk**	**77.44**	**345**	P	**P**	**13 41 03.5**	**-0.7**
NRIK				IAmb	IAmb	13 41 07.2	
	comp=Z,20nm,1.4s						
BSY	**Bisya**	**77.96**	**294**	P	**P**	**13 41 09.9**	**+1.8**
BSY				P	**P**	**13 41 09.9**	**+1.8**
HOQ	**Hoqain**	**77.96**	**294**	P	**P**	**13 41 09.5**	**+1.4**
ARQ	**Araqi**	**78.65**	**294**	P	**P**	**13 41 14.2**	**+2.2**
ARQ				P	**P**	**13 41 14.2**	**+2.2**
SOHO	**SOHO**	**78.73**	**295**	P	**P**	**13 41 13.6**	**+1.2**
SHAO	**Shalim**	**78.90**	**289**	P	**P**	**13 41 14.3**	**+0.9**
SHAO				P	**P**	**13 41 14.3**	**+0.9**
UOSS	**Minazif**	**79.13**	**296**	P	**P**	**13 41 12.9**	**-1.7**
UOSS				IAmb	IAmb	13 41 17.5	
	comp=Z,13nm,0.8s						
BANOM	**Banah**	**79.17**	**297**	P	**P**	**13 41 16.3**	**+1.5**
HATD	**Hatta, Dubai**	**79.18**	**296**	P	**P**	**13 41 15.0**	**+0.2**
MASF	**Masafi**	**79.23**	**296**	P	**P**	**13 41 16.7**	**+1.6**
MASF				P	**P**	**13 41 16.7**	**+1.6**
ASHO	**Ashiyiah**	**79.23**	**295**	P	**P**	**13 41 16.3**	**+1.1**
SHME	**Shamm**	**79.33**	**297**	P	**P**	**13 41 17.3**	**+1.7**
ALNE	**Al Ain**	**79.44**	**295**	P	**P**	**13 41 17.7**	**+1.5**
DMTO	**DMTO**	**79.52**	**288**	P	**P**	**13 41 17.4**	**+0.6**
GEYT	**Alibeck**	**79.52**	**309**	P	**P**	**13 41 17.8**	**+1.4**
	comp=Z,14nm,0.9s,baz=194,slow=5.6,SNR=18						
GEYT	**Alibeck**	**79.52**	**309**	P	**P**	**13 41 15.8**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**79.52**	**309**	P	**P**	**13 41 14.6**	**-1.8**
GYA0B				IAmb	IAmb	13 41 21.0	
	comp=Z,48nm,1.4s						
ASUD	**Al Ashush, Dub**	**79.89**	**295**	P	**P**	**13 41 19.7**	**+1.1**
SOCY	**Socotra**	**79.99**	**283**	P	**P**	**13 41 18.7**	**-0.8**
SOCY	**Socotra**	**79.99**	**283**	P	**P**	**13 41 19.2**	**-0.3**
DOK	**Doka**	**80.38**	**289**	P	**P**	**13 41 24.0**	**+2.6**
	SNR=6.3						
DOK				P	**P**	**13 41 24.0**	**+2.6**
	SNR=6.3						
ABKAR	**Akbulak array**	**80.62**	**320**	P	**P**	**13 41 21.1**	**-1.0**
ABKAR	**Akbulak array**	**80.62**	**320**	P	**P**	**13 41 20.7**	**-1.3**
ABKAR				IAmb	IAmb	13 41 27.4	
	comp=Z,24nm,0.9s						
WHFO	**Wadi Hawf**	**80.65**	**288**	P	**P**	**13 41 22.8**	**-0.1**
	SNR=5.4						
WHFO				P	**P**	**13 41 22.8**	**-0.1**
	SNR=5.4						
MAW	**Mawson**	**80.93**	**201**	LR	LR	14 15 51.0	
	comp=Z,76nm,18.3s,baz=56,slow=35						
ABTO	**Aybut**	**81.06**	**288**	P	**P**	**13 41 25.9**	**+0.8**
ABTO				P	**P**	**13 41 25.9**	**+0.8**
AKTO	**Aktyubinsk**	**82.11**	**321**	LR	LR	14 18 58.7	
	comp=Z,31nm,21.5s,baz=100,slow=36						
RDOG	**Red Dog Mine**	**82.15**	**20**	P	**P**	**13 41 29.1**	**-0.7**
RDOG				IAmb	IAmb	13 41 34.9	
	comp=Z,36nm,1.3s						
RDOG	**Red Dog Mine**	**82.15**	**20**	P		13 41 31.2	
	baz=245						
TTA	**Tatalina**	**82.93**	**26**	P	**P**	**13 41 32.5**	**-1.5**
TTA				IAmb	IAmb	13 41 38.7	
	comp=Z,17nm,1.1s						
TTA	**Tatalina**	**82.93**	**26**	P		13 41 35.3	
	baz=252						
ARU	**Arti**	**83.16**	**327**	LR	LR	14 22 15.4	
	comp=Z,26nm,18.5s,baz=106,slow=38						
ARU	**Arti**	**83.16**	**327**	P	**P**	**13 41 34.2**	**-1.0**
ARU				IAmb	IAmb	13 41 37.9	
	comp=Z,20nm,0.9s						
PPLA	**Purkeypile**	**84.60**	**26**	P		13 41 43.9	
	baz=255						
PPLA	**Purkeypile**	**84.60**	**26**	P	**P**	**13 41 42.1**	**-0.6**
PPLA				IAmb	IAmb	13 41 47.9	
	comp=Z,26nm,1.4s						
SKT	**Skwentna**	**84.67**	**27**	P	**P**	**13 41 42.6**	**-0.3**
SKT	**Skwentna**	**84.67**	**27**	P		13 41 43.9	
	baz=256						
CHUM	**Lake Minchumin**	**84.80**	**25**	P		13 41 45.0	
	baz=255						
SUA	**Susitna One**	**84.91**	**28**	P	**P**	**13 41 43.4**	**-0.8**
SUA				IAmb	IAmb	13 41 46.9	
	comp=Z,9.6nm,0.8s						
SUA	**Susitna One**	**84.91**	**28**	P		13 41 44.9	
	baz=257						
O22K	**Cooper Landing**	**85.17**	**29**	P		13 41 46.3	
	baz=258						
RC01	**Rabbit Creek A**	**85.30**	**28**	P		13 41 46.4	
	baz=258						
KTH	**Kantishna Hill**	**85.31**	**26**	P	**P**	**13 41 45.5**	**-0.7**
BPAW	**Bear Paw Mtn.**	**85.42**	**25**	P	**P**	**13 41 45.8**	**-0.9**
BPAW				IAmb	IAmb	13 41 51.9	
	comp=Z,17nm,1.2s						
BPAW	**Bear Paw Mtn.**	**85.42**	**25**	P		13 41 47.9	
	baz=256						
TRF	**Thorofare Moun**	**85.57**	**26**	P	**P**	**13 41 46.5**	**-1.1**
TRF	**Thorofare Moun**	**85.57**	**26**	P		13 41 48.2	
	baz=257						
MLY	**Manley**	**85.74**	**24**	P		13 41 49.5	
	baz=256						
SML	**Sawmill**	**86.11**	**28**	P	**P**	**13 41 49.6**	**-0.5**
SML	**Sawmill**	**86.11**	**28**	P		13 41 50.8	
	baz=259						
RND	**Reindeer**	**86.19**	**26**	P	**P**	**13 41 49.7**	**-0.9**
MCK	**McKinley**	**86.22**	**26**	P		13 41 51.0	
	baz=258						
I23K	**Minto, Yukon-K**	**86.34**	**24**	P	**P**	**13 41 51.5**	**+0.4**
I23K	**Minto, Yukon-K**	**86.34**	**24**	P		13 41 51.9	
	baz=258						
COLD	**Coldfoot**	**86.47**	**22**	P	**P**	**13 41 52.1**	**+0.4**
COLD	**Coldfoot**	**86.47**	**22**	P		13 41 52.9	
	baz=257						
GLI	**Glacier Island**	**86.52**	**29**	P	**P**	**13 41 52.0**	**-0.1**
GLI	**Glacier Island**	**86.52**	**29**	P		13 41 53.3	
	baz=260						
SCM	**Sheep Creek Mo**	**86.58**	**28**	P	**P**	**13 41 52.8**	**+0.3**
WRH	**Wood River Hil**	**86.73**	**25**	P	**P**	**13 41 52.8**	**-0.3**
MDM	**Murphy Dome**	**86.77**	**25**	P	**P**	**13 41 52.4**	**-0.9**
FID	**Port Fidalgo**	**86.80**	**29**	P	**P**	**13 41 53.2**	**-0.3**
QRN	**Al-Qurain**	**86.87**	**299**	*e*P		13 41 54.5	
CCB	**Clear Creek Bu**	**86.89**	**25**	P	**P**	**13 41 53.1**	**-0.7**
TCOL	**CIGO, UAF Yank**	**86.91**	**25**	P	**P**	**13 41 53.8**	**-0.1**
TCOL				IAmb	IAmb	13 41 57.2	
	comp=Z,10nm,1.1s						
COLA	**College**	**86.91**	**25**	P	**P**	**13 41 53.2**	**-0.6**
COLA				IAmb	IAmb	13 41 57.8	
	comp=Z,15nm,1.4s						
TOLK	**Toolik Lake Re**	**87.02**	**21**	P	**P**	**13 41 53.6**	**-0.8**
TOLK	**Toolik Lake Re**	**87.02**	**21**	P		13 41 55.6	
	baz=257						
UMR	**Umm Al-Rimmam**	**87.09**	**300**	*e*P		13 41 55.2	
M24K	**Tolsona, Glenn**	**87.16**	**28**	P	**P**	**13 41 54.2**	**-1.1**
M24K	**Tolsona, Glenn**	**87.16**	**28**	P		13 41 56.6	
	baz=261						
KLU	**Klutina**	**87.18**	**28**	P		13 41 56.6	
	baz=261						
KLU	**Klutina**	**87.18**	**28**	P	**P**	**13 41 55.0**	**-0.4**
KLU				IAmb	IAmb	13 41 59.2	
	comp=Z,9.7nm,0.9s						
RDF	**Al-Radifah**	**87.20**	**299**	*e*P		13 41 55.6	
IL31		**87.30**	**25**	P	**P**	**13 41 55.1**	**-0.6**
ILAR	**Eielson Array**	**87.30**	**25**	P	**P**	**13 41 55.0**	**-0.8**
	comp=Z,4.3nm,1.0s,baz=262,slow=4.6,SNR=19						
ILAR				LR	LR	14 15 31.6	
	comp=Z,48nm,20.6s,baz=278,slow=32						
ILAR	**Eielson Array**	**87.30**	**25**	P	**P**	**13 41 54.7**	**-1.1**
MIB	**Mutribah**	**87.44**	**300**	*e*P		13 41 56.7	
PAX	**Paxson**	**87.62**	**27**	P	**P**	**13 41 56.7**	**-0.8**
PAX				IAmb	IAmb	13 42 02.8	
	comp=Z,25nm,1.4s						
PAX	**Paxson**	**87.62**	**27**	P		13 41 57.9	
	baz=261						
BMRM	**Bremner River**	**87.74**	**29**	P		13 41 59.0	
	baz=262						
N25K	**Chitina, Valde**	**87.83**	**28**	P	**P**	**13 41 58.1**	**-0.4**
N25K				IAmb	IAmb	13 42 03.2	
	comp=Z,17nm,1.4s						
N25K	**Chitina, Valde**	**87.83**	**28**	P		13 41 58.9	
	baz=262						
QSPA	**South Pole Qui**	**88.09**	**180**	P	**P**	**13 41 59.7**	**-0.1**
GLB	**Gilahina Butte**	**88.18**	**28**	P	**P**	**13 42 00.3**	**+0.1**
FYU	**Fort Yukon**	**88.27**	**23**	P	**P**	**13 42 00.4**	**+0.1**
FYU				IAmb	IAmb	13 42 04.7	
	comp=Z,15nm,1.2s						
VRDI	**Verde Repeater**	**88.33**	**29**	P	**P**	**13 42 00.8**	**-0.3**
VRDI				IAmb	IAmb	13 42 04.6	
	comp=Z,8.5nm,1.0s						
CRQE	**Cirque**	**88.44**	**29**	P		13 42 02.5	
	baz=264						
MCARA	**McCarthy VSAT**	**88.55**	**29**	P	**P**	**13 42 01.6**	**-0.3**
MCARA				IAmb	IAmb	13 42 16.9	
	comp=Z,8.7nm,1.0s						
TGL	**Tana Glacier**	**88.57**	**29**	P	**P**	**13 42 02.2**	**+0.1**
RAYN	**Ar Rayn**	**88.75**	**293**	P	**P**	**13 42 02.9**	**-0.8**
BALM	**Baldy**	**88.84**	**29**	P	**P**	**13 42 03.4**	**+0.1**
BALM				IAmb	IAmb	13 42 07.4	
	comp=Z,12nm,1.0s						
BARN	**Barnard Glacie**	**89.17**	**29**	P	**P**	**13 42 03.9**	**-1.2**
BARN				IAmb	IAmb	13 42 09.5	
	comp=Z,16nm,1.1s						
K27K	**Chicken**	**89.27**	**26**	P		13 42 07.1	
	baz=264						
CTG	**Chitna Glacier**	**89.32**	**29**	P		13 42 06.9	
	baz=265						
TABL	**Table Mountain**	**89.37**	**30**	P	**P**	**13 42 05.7**	**-0.4**
TABL				IAmb	IAmb	13 42 10.7	
	comp=Z,13nm,1.0s						
SYO	**Syowa Base**	**89.64**	**201**⇓	*e*X	P	13 42 15.2	+8.4
EGAK	**Eagle**	**89.73**	**25**	P	**P**	**13 42 07.5**	**+0.2**
EGAK	**Eagle**	**89.73**	**25**	P		13 42 08.3	
	baz=265						
KBZ	**Khabaz**	**91.59**	**314**	P	**P**	**13 42 16.5**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=27,slow=4.5,SNR=2.6						
INK	**Inuvik**	**92.87**	**22**	P	**P**	**13 42 20.6**	**-1.2**
INK				IAmb	IAmb	13 42 24.5	
	comp=Z,6.8nm,1.1s						
KLMR	**Klimovskoe**	**93.47**	**331**	*e*P	**P**	**13 42 21.9**	**-2.8**
KLMR				AMP		13 42 26.6	
	comp=Z,21nm,1.2s						
KLMR				*e*PP	**PP**	**13 46 05.4**	**-3.7**
C36M	**Paulatuk**	**96.15**	**20**	P	**P**	**13 42 35.5**	**-1.3**
C36M				IAmb	IAmb	13 42 39.8	
	comp=Z,12nm,1.3s						
C36M	**Paulatuk**	**96.15**	**20**	P		13 42 36.3	
	baz=281						
ARCES	**ARCESS Array B**	**97.91**	**340**	P	**P**	**13 42 43.3**	**-1.5**
	comp=Z,4.7nm,0.8s,baz=47,slow=5.3,SNR=9.2						
ARCES				LR	LR	14 33 48.1	
	comp=Z,55nm,18.4s,baz=100,slow=40						
ARCES	**ARCESS Array B**	**97.91**	**340**	IAmb	IAmb	13 42 44.2	
	comp=Z,10nm,1.2s						
BRTR	**Keskin Array B**	**98.64**	**310**	P	**P**	**13 42 48.0**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=99,slow=5.4,SNR=4.4						
FINES	**FINESS Array B**	**99.82**	**332**	P	**Pdif**	**13 42 52.2**	**-1.3**
	comp=Z,12nm,1.2s,baz=180,slow=1.1,SNR=4.6						
AKASG	**Malin Array Be**	**100.36**	**321**	P	**Pdif**	**13 42 55.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=68,slow=4.5,SNR=7.1						
MNK	**Minsk**	**100.45**	**325**	*i* P	**Pdif**	**13 42 53.4**	**-3.0**
	comp=E,2.0nm,0.9s						
MNK				*i* P	**Pdif**	**13 42 53.4**	**-3.0**
	comp=N,10.0nm,0.9s						
MNK				*i* P	**Pdif**	**13 42 53.4**	**-3.0**
	comp=Z,10.0nm,0.9s						
MNK				*i* PP	**PP**	**13 47 00.4**	**-2.6**
MNK				*i* PPP	PPP	13 48 44.2	
MNK				*i* SP	SP	13 55 17.1	-43
MNK				*i* PS	**PS**	**13 56 01.8**	**-2.0**
MNK				*i* SS	SS	14 01 02.1	-25
MNK				*i* SSS	SSS	14 04 39.3	
MNK				*i* SKKS	**SKKSdf**	**14 06 21.5**	**-7.8**
MNK				*i* LQ	LQ	14 19 25.4	
MNK				*i* LR	LR	14 23 12.8	
MNK				*i* LRM	MLR	14 28 47.2	
	comp=E,27nm,19.1s						
MNK				*i* LRM	MLR	14 28 47.2	
	comp=N,197nm,19.2s						
MNK				*i* LRM	MLR	14 28 47.2	
	comp=Z,40nm,19.2s						
YKA	**Yellowknife Ar**	**101.69**	**26**	P	**Pdif**	**13 43 00.9**	**-0.8**
	comp=Z,1.3nm,1.0s,baz=284,slow=4.2,SNR=10.0						
YKA				PKiKP	**PKiKP**	**13 47 27.4**	**+2.3**
	comp=Z,0.3nm,0.8s,baz=293,slow=0.8,SNR=4.0						
RES	**Resolute Bay**	**101.99**	**12**	P	**Pdif**	**13 43 02.1**	**-0.7**
	comp=Z,2.7nm,1.0s,baz=325,slow=6.5,SNR=7.7						
MLR	**Muntele Rosu**	**103.47**	**316**	Pdiff	**Pdif**	**13 43 10.3**	**0.0**
	comp=Z,2.6nm,0.7s,baz=354,slow=2.3,SNR=3.9						
NVAR	**Mina Array Bea**	**105.48**	**51**	Pdiff	**Pdif**	**13 43 20.2**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=270,slow=5.7,SNR=6.3						
GERES	**GERESS Array B**	**110.52**	**322**	PKiKP	**PKiKP**	**13 47 42.1**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=11,slow=1.4,SNR=3.6						
PDAR	**Pinedale Array**	**110.91**	**45**	PKiKP	**PKiKP**	**13 47 44.3**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=236,slow=1.6,SNR=3.4						
TX31	**Lajitas Ar. Si**	**119.39**	**57**		**PKPdf**	**13 47 57.1**	**-2.5**
TX32	**Lajitas Array**	**119.39**	**57**		**PKPdf**	**13 47 57.0**	**-2.6**
JCT	**Junction City**	**122.25**	**55**		**PKPdf**	**13 48 03.1**	**-1.9**
P38A	**Dawn**	**123.23**	**42**		**PKPdf**	**13 48 06.2**	**-0.3**
U38A	**Gravette**	**124.13**	**46**		**PKPdf**	**13 48 07.9**	**-0.5**
S39A	**Bolivar**	**124.31**	**44**		**PKPdf**	**13 48 08.0**	**-0.7**
U40A	**Yellville**	**125.27**	**46**	P		13 48 10.6	
	baz=298						
CCM	**Cathedral Cave**	**125.56**	**43**	P		13 48 11.2	
	baz=300						
MIAR	**Mount Ida**	**125.56**	**48**	P		13 48 12.5	
	baz=296						
T42A	**Van Buren**	**126.18**	**44**		**PKPdf**	**13 48 12.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**130.87**	**286**	PKP	**PKPdf**	**13 48 22.3**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=55,slow=2.0,SNR=8.3						
TORD				SKPbc	**SKPab**	**13 51 46.4**	**+1.8**
	comp=Z,2.8nm,0.9s,baz=65,slow=4.3,SNR=4.5						
KIC	**Kosan Boka**	**137.97**	**277**	*e*P	**PKPdf**	**13 48 35.6**	**+0.5**
	comp=Z,13nm,0.9s						
DBIC	**Dimbokro**	**138.06**	**278**	PKP	**PKPdf**	**13 48 33.5**	**-1.7**
	comp=Z,3.0nm,0.7s,baz=69,slow=2.6,SNR=7.1						
TIC	**Toumodi**	**138.22**	**278**	*e*P	**PKPdf**	**13 48 36.0**	**+0.4**
LIC	**Lamto**	**138.26**	**277**	*e*P	**PKPdf**	**13 48 33.6**	**-2.1**
	comp=Z,12nm,0.8s						
PB14	**IPOC Station P**	**145.02**	**140**		**PKPbc**	**13 48 45.6**	**-1.6**
PB15	**IPOC Station P**	**146.62**	**140**		**PKPdf**	**13 48 50.5**	**0.0**
PB07	**IPOC Station P**	**147.37**	**137**		**PKPdf**	**13 48 53.0**	**+1.2**
LVC	**Limon Verde**	**147.41**	**139**		**PKPbc**	**13 48 54.6**	**+0.1**
PB09	**IPOC Station P**	**147.76**	**138**		**PKPbc**	**13 48 55.3**	**+0.1**
PB01	**IPOC Station P**	**148.11**	**137**		**PKPbc**	**13 48 54.8**	**-1.3**
OTAV	**Otavalo**	**148.17**	**93**	*e*P	**PKPdf**	**13 48 55.0**	**+1.3**
PB08	**IPOC Station P**	**148.95**	**136**	PKPdf	**PKPdf**	**13 48 53.0**	**-1.7**
CPUP	**Villa Florida**	**150.15**	**160**	PKPbc	**PKPbc**	**13 49 00.2**	**-0.8**
	comp=Z,9.4nm,0.9s,baz=198,slow=2.0,SNR=11						
CPUP	**Villa Florida**	**150.15**	**160**		**PKPbc**	**13 48 58.8**	**-2.2**
PCON	**Cinco Dias**	**150.28**	**89**	*e*P	**PKPbc**	**13 49 00.3**	**-2.1**
YOTC	**Yotoco, Valle**	**150.28**	**85**	*e*P	**PKPdf**	**13 48 56.5**	**-0.1**
MARP	**Paez Belalcaza**	**150.71**	**87**	*e*P	**PKPdf**	**13 48 58.5**	**+1.0**
GUY2C	**Guyana, Caldas**	**151.15**	**83**	*e*P	**PKPdf**	**13 48 59.4**	**+0.9**
RREF	**El Recreo**	**151.20**	**83**	*e*P	**PKPbc**	**13 49 01.9**	**-2.8**
TOLC	**Tolima**	**151.25**	**84**	*e*P	**PKPdf**	**13 48 59.2**	**+0.8**
ORTC	**Ortega, Tolima**	**151.37**	**85**	*e*P	**PKPdf**	**13 48 56.9**	**-1.3**
PRAC	**Prado**	**151.74**	**86**	*e*P	**PKPbc**	**13 49 05.3**	**+0.1**
PTLC	**Puerto Leguiza**	**151.81**	**93**	*e*P	**PKPbc**	**13 49 04.1**	**-1.1**
PTBC	**PUERTO BERRIO,**	**151.89**	**80**	*e*P	**PKPdf**	**13 48 58.6**	**-0.4**
LPAZ	**La Paz**	**152.17**	**131**	PKP	**PKPdf**	**13 49 01.1**	**+1.1**
	comp=Z,9.6nm,0.9s,baz=188,slow=1.6,SNR=6.3						
LPAZ				PKPbc	**PKiKP**	**13 49 08.1**	**+1.1**
	comp=Z,10nm,0.8s,baz=203,slow=2.1,SNR=14						
MACC	**Macarena, Meta**	**152.82**	**89**	*e*P	**PKPbc**	**13 49 07.8**	**+0.2**

NOU 02 13:39:40.9, 20°.82S×168°.79E, h0km, MLv3.6, Loyalty Islands, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.97**	**227**	P	Pg	13 39 59.7	+0.2
YATNC	**Mamie plateau,**	**2.16**	**235**	P	Pn	13 40 16.9	-1.2
YATNC	**Mamie plateau,**	**2.16**	**235**	P	Pn	13 40 16.4	-1.7
PINNC	**Pines Island,**	**2.18**	**215**	P	Pn	13 40 18.4	0.0
PINNC	**Pines Island,**	**2.18**	**215**	P	Pn	13 40 18.2	-0.2
OUENC	**Ouen Island, N**	**2.41**	**228**	P	Pn	13 40 22.2	+0.6
OUENC	**Ouen Island, N**	**2.41**	**228**	P	Pn	13 40 22.2	+0.6
DZM	**Mont Dzumac**	**2.52**	**240**	P	Pn	13 40 22.0	-1.2
DZM	**Mont Dzumac**	**2.52**	**240**	P	Pn	13 40 22.1	-1.1
ONTNC	**Ouen Toro**	**2.63**	**235**	P	Pn	13 40 25.3	+0.7
ONTNC	**Ouen Toro**	**2.63**	**235**	P	Pn	13 40 25.4	+0.8
NOUC	**Port Laguerre**	**2.64**	**241**	P	Pn	13 40 24.4	-0.4
NOUC	**Port Laguerre**	**2.64**	**241**	P	Pn	13 40 24.4	-0.4
KOUNC	**Koumac, New Ca**	**4.22**	**273**	P	Pn	13 40 46.9	+0.3

*ISK **02** 13:53:34.5, 35°.33N×28°.10E, h22km, ML3.1/8*
*ATH **02** 13:53:35.6, 35°.30N×28°.02E, h42km±4km, ML3.0/3, Error ellipse: s-maj=7.6km s-min=1.8km az=303.0*
*NIC **02** 13:53:35.0±0.0, 35°.27N×28°.10E, h24km±1km, Ml3.9/6*
*HLW **02** 13:53:35.2, 35°.12N×28°.15E, h10km±9km, Md3.8*
*THE **02** 13:53:36.8, 35°.26N×28°.04E, h45km±12km, ML3.0/3, Error ellipse: s-maj=12.6km s-min=0.6km az=315.0*
*DDA **02** 13:53:38.0, 35°.53N×28°.30E, h26km±1km, ML2.6*
ISC 02 13:53:35.5±1.2**, 35°.25N**±0°.04×**28°.07E**±0°.03**, h32**km±12km**, n52, σ1s06**/75**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.80**	**292**	P	**Pb**	**13 53 50.7**	**-0.2**
KARP				S	**Sb**	**13 54 01.7**	**+0.2**
KARP				AML	AML	13 54 03.1	
	comp=N,8213μm,0.6s						
KARP				AML	AML	13 54 03.9	
	comp=E,4424μm,0.4s						
KARP	**Karpathos**	**0.80**	**292**	P	**Pb**	**13 53 50.8**	**-0.2**
KARP				S	**Sb**	**13 54 01.7**	**+0.2**
	comp=E,3μm,0.5s						
KARP	**Karpathos**	**0.80**	**292**	PG	**Pb**	**13 53 50.7**	**-0.2**
KARP				SG	**Sb**	**13 54 02.0**	**+0.5**
KARP	**Karpathos**	**0.80**	**292**	P	**Pb**	**13 53 50.7**	**-0.2**
KARP				S	**Sb**	**13 54 01.8**	**+0.4**
KARP				AML	AML	13 54 02.4	
	comp=E,8.2nm,0.6s						
KARP				AML	AML	13 54 02.4	
	comp=E,8.2nm,0.6s						
KARP				AML	AML	13 54 03.3	
	comp=E,4.5nm,0.4s						
KARP				AML	AML	13 54 03.3	
	comp=E,4.5nm,0.4s						
ARG	**Arkhangelos**	**0.96**	**3**	P	**Pb**	**13 53 53.3**	**-0.4**
ARG				S	**Sn**	**13 54 06.3**	**+1.0**
ARG				AML	AML	13 54 09.4	
	comp=N,1243μm,0.3s						
ARG				AML	AML	13 54 12.2	
	comp=E,2301μm,0.4s						
ARG	**Arkhangelos**	**0.96**	**3**	P	**Pb**	**13 53 53.2**	**-0.5**
ARG				S	**Sn**	**13 54 05.9**	**+0.6**
	comp=E,882nm,0.3s						
ARG	**Arkhangelos**	**0.96**	**3**	P	**Pb**	**13 53 53.2**	**-0.5**
ARG				S	**Sn**	**13 54 05.9**	**+0.6**
ZKR	**Zakros**	**1.52**	**265**	P	**Pn**	**13 54 01.3**	**+0.9**
ZKR				AML	AML	13 54 36.0	
	comp=E,420μm,0.4s						
ZKR				AML	AML	13 54 37.7	
	comp=N,304μm,1.0s						
ZKR	**Zakros**	**1.52**	**265**	P	**Pn**	**13 54 01.1**	**+0.6**
ZKR	**Zakros**	**1.52**	**265**	PN	**Pn**	**13 54 01.8**	**+1.3**
ZKR	**Zakros**	**1.52**	**265**	P	**Pn**	**13 54 01.1**	**+0.6**
ZKR				AML	AML	13 54 34.8	
	comp=N,0.4nm,0.4s						
ZKR				AML	AML	13 54 36.5	
	comp=N,0.3nm,1.0s						
TURN	**Turunc**	**1.52**	**5**	*i* P	**Pb**	**13 54 01.7**	**-1.5**
TURN				*i* S	**Sn**	**13 54 18.6**	**-0.6**
TURN				IAML		13 54 21.0	
	comp=E,122nm,0.6s						
TURN				IAML		13 54 21.0	
	comp=N,114nm,0.6s						
DATC	**Datca-Mugla**	**1.54**	**348**	PN	**Pn**	**13 54 00.5**	**-0.2**
DATC				SN	**Sn**	**13 54 19.2**	**-0.4**
AKAS	**Kas**	**1.59**	**52**	*i* P	**Pn**	**13 54 01.3**	**-0.2**
AKAS				*i* S	**Sn**	**13 54 20.5**	**-0.5**
AKAS				IAML		13 54 23.0	
	comp=E,45nm,0.5s						
AKAS				IAML		13 54 23.0	
	comp=N,94nm,0.5s						
FETY	**Fethiye**	**1.61**	**31**	PN	**Pn**	**13 54 00.9**	**-0.8**
DALY	**Dalyan (Mula)**	**1.63**	**17**	PN	**Pn**	**13 54 01.7**	**-0.3**
DALY	**Dalyan (Mula)**	**1.63**	**17**	*i* P	**Pn**	**13 54 02.5**	**+0.5**
YER	**Yerkesik**	**1.89**	**5**	P	**Pn**	**13 54 06.6**	**+1.1**
MULA	**Mugla, Merkez-**	**2.01**	**6**	*i* P	**Pn**	**13 54 07.8**	**+0.5**
MULA				*i* S	**Sn**	**13 54 32.6**	**+1.3**
MULA				IAML		13 54 38.0	
	comp=E,79nm,0.8s						
MULA				IAML		13 54 41.0	
	comp=N,40nm,0.5s						
NPS	**Neapolis**	**2.01**	**271**	P	**Pn**	**13 54 08.2**	**+1.0**
MLSB	**Milas**	**2.05**	**354**	PN	**Pn**	**13 54 07.5**	**-0.3**
LAST	**Lasithi**	**2.12**	**268**	P	**Pn**	**13 54 10.1**	**+1.3**
LAST	**Lasithi**	**2.12**	**268**	P	**Pn**	**13 54 10.1**	**+1.3**
CAEL	**Denizli, Camel**	**2.12**	**28**	*i* P	**Pn**	**13 54 09.9**	**+1.0**
CAEL				*i* S	**Sn**	**13 54 33.9**	**-0.3**
CAEL				IAML		13 54 36.0	
	comp=N,93nm,0.7s						
CAEL				IAML		13 54 39.0	
	comp=E,70nm,0.7s						
TAVA	**DENIZLI_Tavas**	**2.31**	**17**	*i* P	**Pn**	**13 54 11.5**	**+0.1**
TAVA				*i* S	**Sn**	**13 54 38.5**	**-0.3**
TAVA				IAML		13 54 46.0	
	comp=E,44nm,0.3s						
TAVA				IAML		13 54 46.0	
	comp=N,38nm,0.6s						
GOLH	**Golhisar**	**2.32**	**31**	*i* P	**Pn**	**13 54 12.8**	**+1.3**
GOLH				*i* S	**Sn**	**13 54 38.7**	**-0.3**
GOLH				IAML		13 54 41.0	
	comp=E,66nm,0.6s						
GOLH				IAML		13 54 43.0	
	comp=N,72nm,0.6s						
THR3	**Thira Island,**	**2.45**	**299**	P	**Pn**	**13 54 13.7**	**+0.4**
KORT	**Korkueli**	**2.54**	**46**	*i* P	**Pn**	**13 54 16.3**	**+1.7**
KORT				*i* S	**Sn**	**13 54 45.3**	**+0.8**
KORT				IAML		13 54 49.0	
	comp=E,55nm,0.4s						
KORT				IAML		13 54 51.0	
	comp=N,42nm,0.6s						
IDI	**Anoyia**	**2.60**	**272**	P	**Pn**	**13 54 16.0**	**+0.6**
IDI	**Anoyia**	**2.60**	**272**	P	**Pn**	**13 54 16.2**	**+0.8**
IDI				S	**Sn**	**13 54 45.0**	**-0.9**
	comp=N,50nm,0.4s						
IDI	**Anoyia**	**2.60**	**272**	PN	**Pn**	**13 54 16.4**	**+1.0**
SIVA	**Sivas**	**2.68**	**266**	P	**Pn**	**13 54 17.5**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**2.69**	**357**	PN	**Pn**	**13 54 16.7**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OSC1	**CSNet OBS 1**	**3.18**	**122**	P	**Pn**	**13 54 23.9**	**+0.7**
OSC1				S	**Sn**	**13 55 01.7**	**+1.7**
KEPZ	**Antalya-Kepez**	**3.30**	**59**	*i* P	**Pn**	**13 54 26.3**	**+1.3**
KEPZ				*i* S	**Sn**	**13 55 03.0**	**-0.2**
KEPZ				IAML		13 55 09.0	
	comp=E,20nm,0.6s						
KHAL	**Karahalli**	**3.31**	**20**	*i* P	**Pn**	**13 54 25.0**	**-0.2**
IMMV	**Iera Moni Meta**	**3.35**	**275**	PN	**Pn**	**13 54 27.2**	**+1.6**
ALAN	**Alanya-ANTALYA**	**3.47**	**67**	PN	**Pn**	**13 54 28.2**	**+0.9**
AKMS	**Akamas**	**3.51**	**93**	P	**Pn**	**13 54 28.2**	**+0.4**
AKMS				S	**Sn**	**13 55 08.5**	**+0.4**
AKMS				AML	AML	13 55 09.0	
	comp=E,0.5nm,0.3s						
AKMS				AML	AML	13 55 09.0	
	comp=E,0.5nm,0.3s						
AKMS				AML	AML	13 55 12.6	
	comp=E,0.6nm,1.0s						
AKMS				AML	AML	13 55 12.6	
	comp=E,0.6nm,1.0s						
USAK	**Uak-Merkez**	**3.54**	**12**	*i* P	**Pn**	**13 54 28.2**	**-0.1**
SEDI	**Konya, Seydise**	**3.70**	**53**	*i* P	**Pn**	**13 54 33.1**	**+2.6**
SEDI				*i* S	**Sn**	**13 55 14.5**	**+1.5**
ALFC	**Alefka**	**3.71**	**90**	P	**Pn**	**13 54 30.8**	**+0.2**
ALFC				S	**Sn**	**13 55 13.5**	**+0.2**
ALFC				AML	AML	13 55 14.1	
	comp=E,0.5nm,0.2s						
ALFC				AML	AML	13 55 14.1	
	comp=E,0.5nm,0.2s						
NATA	**Nata**	**3.73**	**96**	P	**Pn**	**13 54 31.5**	**+0.7**
NATA				S	**Sn**	**13 55 15.2**	**+1.6**
SZAC	**Souni**	**3.98**	**96**	P	**Pn**	**13 54 34.7**	**+0.3**
SZAC				AML	AML	13 55 21.3	
	comp=E,0.5nm,0.4s						
SZAC				AML	AML	13 55 22.5	
	comp=E,0.6nm,0.3s						
OSC2	**CSNet OBS 4**	**4.11**	**121**	P	**Pn**	**13 54 36.5**	**+0.5**
ASGA	**Asgata**	**4.28**	**95**	P	**Pn**	**13 54 38.7**	**+0.4**
ASGA				AML	AML	13 55 32.0	
	comp=E,0.4nm,0.4s						
ASGA				AML	AML	13 55 32.4	
	comp=E,0.4nm,0.2s						
CSS	**Mathiatis**	**4.33**	**92**	P	**Pn**	**13 54 39.3**	**+0.3**
SLUM	**Salum**	**4.45**	**213**	P	**Pn**	**13 54 41.3**	**+0.6**
	baz=216						
HSAF	**As Saff**	**6.34**	**151**	P	**Pn**	**13 55 06.9**	**+0.1**
	baz=151						
GLL	**Jalalah**	**6.44**	**150**	P	**Pn**	**13 55 08.0**	**-0.2**
	baz=150						
HFRF	**Wahat Farafira**	**8.08**	**178**	P	**Pn**	**13 55 30.9**	**+0.2**
	baz=178						
HFRF				S	**Sn**	**13 56 55.5**	**-5.4**
	baz=178						
HKAT	**Jabal Katrina**	**8.39**	**141**	P	**Pn**	**13 55 35.1**	**0.0**
	baz=141						

*SJA **02** 14:01:59.5±0.5, 27°.00S×72°.22W, h10km, ML4.0, MW3.8*
*IDC **02** 14:02:06.7±1.0, 28°.17S×70°.62W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.7/17, mbtmp4.1/2, MS3.2/2, Ms1 3.2/2, ms1mx2.9/21, Error ellipse: s-maj=135.6km s-min=26.2km az=145.0*
*NEIC **02** 14:02:07.3±2.6, 27°.22S±0°.03×71°.41W±0°.10, h10km±1km, mb4.0/1, ML3.7(GUC), Error ellipse: s-maj=14.6km s-min=3.3km az=257.0*
*GUC **02** 14:02:09.4±0.7, 27°.29S×71°.28W, h34km±3km, ML3.7*
ISC 02 14:02:07.1±1.1**, 27°.19S**±0°.04×**71°.41W**±0°.05**, h11**km±7km**, n62,** σ1§**90**/72**, 3C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**1.05**	**164**	*e*P	**Pb**	**14 02 26.5**	**-0.8**
AC04				*e*S	**Sb**	**14 02 39.1**	**-2.0**
AC04				IAML		14 02 43.1	
	comp=E,3μm,0.4s						
AC04	**Llanos de Chal**	**1.05**	**164**		**Pb**	**14 02 26.5**	**-0.8**
AC04				Sg	**Sb**	**14 02 39.4**	**-1.7**
GO03	**Copiap**	**1.12**	**111**	⇓*i*P	**Pb**	**14 02 27.2**	**-1.2**
GO03				*e*S	**Sb**	**14 02 40.5**	**-2.6**
GO03				*e*S	**Sg**	**14 02 40.7**	**-2.3**
GO03				IAML		14 02 41.5	
	comp=E,3μm,0.2s						
GO03	**Copiap**	**1.12**	**111**	Pn	**Pb**	**14 02 27.7**	**-0.8**
AC01	**Pan de Azucar**	**1.27**	**35**	⇑*e*P	**Pn**	**14 02 31.6**	**+0.8**
AC01				*e*S	**Sg**	**14 02 49.6**	**+1.8**
AC01				IAML		14 02 53.8	
	comp=N,2μm,0.5s						
AC01	**Pan de Azucar**	**1.27**	**35**	Pn	**Pn**	**14 02 31.3**	**+0.5**
LCO	**Las Campanas**	**1.92**	**161**	Pn	**Pn**	**14 02 40.5**	**+0.5**
AC05	**El Transito**	**1.92**	**149**	*e*P	**Pn**	**14 02 40.9**	**+1.0**
AC05				IAML		14 03 12.6	
	comp=N,932nm,0.6s						
AC05	**El Transito**	**1.92**	**149**	Pn	**Pn**	**14 02 40.7**	**+0.8**
AC02	**Maricunga**	**2.06**	**81**	⇑*e*P	**Pb**	**14 02 44.3**	**-0.5**
AC02				*e*S	**Sb**	**14 03 10.2**	**-0.6**
AC02				IAML		14 03 14.8	
	comp=N,2μm,0.3s						
AC02	**Maricunga**	**2.06**	**81**	Pn	**Pb**	**14 02 44.2**	**-0.7**
GO02	**Mina Guanaco**	**2.60**	**39**	*e*P	**Pn**	**14 02 51.4**	**+2.0**
GO02				IAML		14 03 38.4	
	comp=E,1μm,0.6s						
GO02	**Mina Guanaco**	**2.60**	**39**	Pn	**Pn**	**14 02 51.1**	**+1.7**
PB14	**IPOC Station P**	**2.71**	**20**	*e*P	**Pn**	**14 02 51.8**	**+0.9**
PB14				IAML		14 03 44.9	
	comp=N,222nm,0.5s						
PB14	**IPOC Station P**	**2.71**	**20**	Pn	**Pn**	**14 02 51.4**	**+0.5**
CO01	**Juntas del Tor**	**3.00**	**158**	*e*P	**Pn**	**14 02 57.0**	**+2.1**
CO01				IAML		14 03 43.8	
	comp=E,219nm,0.3s						
CO01	**Juntas del Tor**	**3.00**	**158**	Pn	**Pn**	**14 02 56.6**	**+1.6**
GO04	**Tololo Observa**	**3.02**	**170**	⇑*i*P	**Pn**	**14 02 56.4**	**+1.3**
GO04				*i* S	**Sn**	**14 03 34.0**	**+2.7**
GO04	**Tololo Observa**	**3.02**	**170**	Pn	**Pn**	**14 02 56.2**	**+1.1**
VCA	**Vinchina**	**3.22**	**119**	*e*P	**Pb**	**14 03 03.6**	**-0.8**
VCA				*e*S	**Sg**	**14 03 50.9**	**+0.3**
VCA				IAML		14 03 58.2	
	comp=Z,303nm,0.6s						
AROD	**Rodeo**	**3.42**	**151**	*e*P	**Pn**	**14 03 04.7**	**+4.1**
AROD				*e*S	**Sb**	**14 03 52.2**	**+2.6**
ACDV	**Cuesta del Vie**	**3.58**	**146**	*e*P	**Pn**	**14 03 06.8**	**+4.0**
ACDV				IAML		14 04 18.4	
	comp=Z,82nm,1.4s						
CO03	**El Pedregal**	**3.69**	**170**	*e*P	**Pn**	**14 03 05.5**	**+1.3**
CO03	**El Pedregal**	**3.69**	**170**	Pn	**Pn**	**14 03 05.0**	**+0.8**
PB10	**IPOC Station P**	**3.74**	**12**	*e*P	**Pn**	**14 03 05.0**	**+0.2**
PB10				IAML		14 04 17.9	
	comp=E,89nm,0.5s						
PB10	**IPOC Station P**	**3.74**	**12**	Pn	**Pn**	**14 03 04.8**	**0.0**
ACCO	**Cerro Coronel**	**3.96**	**149**	*e*P	**Pn**	**14 03 12.0**	**+3.9**
ACCO				*e*S	**Sb**	**14 04 07.1**	**+1.9**
ACCO				IAML		14 04 21.6	
	comp=Z,149nm,1.4s						
CO02	**Combarbal**	**4.01**	**175**	Pn	**Pn**	**14 03 08.6**	**-0.1**
PB15	**IPOC Station P**	**4.34**	**24**	*e*P	**Pn**	**14 03 15.1**	**+1.9**
PB15	**IPOC Station P**	**4.34**	**24**	Pn	**Pn**	**14 03 15.3**	**+2.1**
PB06	**IPOC Station P**	**4.77**	**21**	*e*P	**Pn**	**14 03 19.9**	**+0.8**
PB06	**IPOC Station P**	**4.77**	**21**	Pn	**Pn**	**14 03 19.5**	**+0.4**
RTLL	**Cerro Villicun**	**4.85**	**149**	*e*P	**Pn**	**14 03 23.7**	**+3.5**
RTLL				*e*S	**Sb**	**14 04 27.4**	**-3.3**
RTLL				IAML		14 04 40.2	
	comp=Z,61nm,0.8s						
PB04	**IPOC Station P**	**4.97**	**14**	Pn	**Pn**	**14 03 21.7**	**-0.2**
LVC	**Limon Verde**	**5.09**	**27**	Pn	**Pn**	**14 03 25.5**	**+1.8**
RTCV	**Cerro Valdivia**	**5.28**	**152**	*e*P	**Pn**	**14 03 29.9**	**+3.8**
RTCV				IAML		14 05 01.2	
	comp=Z,50nm,0.9s						
AUSP	**Uspallata**	**5.31**	**161**	*e*P	**Pn**	**14 03 30.7**	**+4.0**
AHML	**Horco Molle**	**5.43**	**87**	*e*P	Pn	14 03 33.5	+5.4
AHML				*e*S	**Sg**	**14 04 57.0**	**-4.6**
AHML				IAML		14 04 59.2	
	comp=Z,46nm,0.6s						
PB07	**IPOC Station P**	**5.62**	**15**	Pn	**Pn**	**14 03 30.5**	**-0.3**
PB09	**IPOC Station P**	**5.72**	**21**	Pn	**Pn**	**14 03 33.3**	**+1.1**
MT02	**Curacav**	**6.05**	**178**	Pn	**Pn**	**14 03 37.5**	**+1.0**
PB01	**IPOC Station P**	**6.37**	**16**	Pn	**Pn**	**14 03 40.9**	**-0.1**
TA01	**Diego Aracena**	**6.69**	**10**	Pn	**Pn**	**14 03 44.8**	**-0.6**
PB08	**IPOC Station P**	**7.32**	**17**	Pn	**Pn**	**14 03 54.8**	**+0.4**
PSGCX	**Pisagua**	**7.65**	**9**	Pn	**Pn**	**14 03 57.8**	**-0.9**
MNMC	**Minye Minye**	**8.20**	**12**	Pn	**Pn**	**14 04 05.4**	**-0.9**
PB16	**IPOC Station P**	**8.99**	**12**	Pn	**Pn**	**14 04 17.3**	**-0.1**
H03N1	**Juan Fernandez**	**8.99**	**224**	Pn	**Pn**	**14 04 15.4**	**-1.3**
	baz=287,slow=74						
H03N1				T	T	14 13 46.8	
	baz=52,slow=71,SNR=681						
H03N2	**Juan Fernandez**	**9.00**	**224**	Pn	**Pn**	**14 04 15.9**	**-0.9**
	baz=287						
H03N2				T	T	14 13 48.6	
	baz=52,slow=71,SNR=457						
H03N3	**Juan Fernandez**	**9.01**	**224**	Pn	**Pn**	**14 04 16.0**	**-1.0**
	baz=287,slow=74						
H03N3				T	T	14 13 46.1	
	baz=52,slow=71,SNR=477						
H03S3	**Juan Fernandez**	**9.25**	**223**	Pn	**Pn**	**14 04 18.2**	**-2.0**
	baz=66						
H03S1	**Juan Fernandez**	**9.26**	**222**	Pn	**Pn**	**14 04 17.5**	**-2.8**
	baz=66						
H03S2	**Juan Fernandez**	**9.27**	**223**	Pn	**Pn**	**14 04 18.5**	**-1.9**
	baz=66						
CPUP	**Villa Florida**	**12.61**	**89**	LR	LR	14 10 25.8	
	comp=Z,85nm,20.2s,baz=218,slow=42						
PLCA	**Paso Flores**	**13.53**	**177**	LR	LR	14 10 33.0	
	comp=Z,125nm,18.1s,baz=348,slow=40						
BDFB	**Brasilia**	**24.58**	**67**	P	**P**	**14 07 24.8**	**-2.7**
	comp=Z,1.6nm,0.4s,baz=230,slow=7.9,SNR=2.0						
TORD	**Torodi Ar. Bea**	**81.40**	**71**	P	**P**	**14 14 25.3**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=255,slow=5.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**81.40**	**71**	P	**P**	**14 14 25.3**	**+0.7**
TORD				IAmb	IAmb	14 14 27.7	
	comp=Z,1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**148.04**	**27**	PKP	**PKPdf**	**14 21 50.0**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=318,slow=2.7,SNR=2.0						
ZALV				PKPbc	**sPKPdf**	**14 21 54.6**	**+2.3**
	comp=Z,3.0nm,0.7s,baz=313,slow=4.6,SNR=13						
AAK	**Ala-Archa**	**148.32**	**52**	PKPbc	**PKPbc**	**14 21 55.0**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=315,slow=4.3,SNR=2.7						
MKAR	**Makanchi Array**	**151.51**	**40**	PKPbc	**PKiKP**	**14 22 03.2**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=316,slow=2.3,SNR=18						
MKAR	**Makanchi Array**	**151.51**	**40**		**PKPbc**	**14 22 02.1**	**+0.9**

HEL 02 14:13:37.8±0.1**, 60°.20N**×**24°.57E, h0**km**, ML1.4, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.09**	**282**	PG	Pg	14 13 39.3	-0.2
NUR	**Nurmijrvi**	**0.31**	**7**	PG	Pg	14 13 43.0	-0.8
	baz=190						
NUR				SG	Sg	14 13 46.8	-1.0
PVF	**Pernaja**	**0.73**	**61**	SG	Sg	14 14 00.3	-0.9
FIA0	**FINESS Array S**	**1.45**	**30**	PG	Pn	14 14 04.0	-1.2
FIA0				SG	Sg	14 14 22.0	-2.3
VJF	**Virojoki**	**1.52**	**76**	PG	Pn	14 14 05.4	-0.8
	baz=262						
VJF				MSG		14 14 23.4	
	comp=Z,6.0nm,0.2s						
VJF				SN	Sg	14 14 25.4	-1.1
RAF	**Rauma**	**1.61**	**302**	PG	Pn	14 14 07.2	-0.3
RAF				MSG		14 14 26.0	
	comp=Z,1.9nm,0.2s						
KEF	**Keuruu**	**1.98**	**4**	PG	Pn	14 14 13.4	+0.8
KEF				MSG		14 14 36.6	
	comp=Z,1.4nm,0.2s						
KEF				SG	Sn	14 14 38.4	+0.4
VSU	**Vasula**	**2.06**	**147**	PB	Pn	14 14 13.6	-0.1
KAF	**Kangasniemi**	**2.10**	**23**	SG	Sb	14 14 42.1	-1.1
AAL	**Aland**	**2.29**	**271**	SG	Sb	14 14 48.1	-0.5
SUF	**Sumiainen**	**2.64**	**16**	MSG		14 14 55.5	
	comp=Z,0.7nm,0.2s						
SUF				SB	Sb	14 14 57.0	-1.8
JOF	**Joensuu**	**4.22**	**47**	PN	Pn	14 14 44.4	+1.1

HEL 02 14:15:22.8±0.1**, 65°.82N**×**24°.51E, h0**km**, ML1.1, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.27**	**344**	PG	Pg	14 15 27.4	-0.6
	baz=161						
TOF				SG	Sg	14 15 30.9	-0.5
OUL	**Oulu**	**0.94**	**141**	PB	Pg	14 15 40.3	-0.5
	baz=318						
RNF	**Rovaniemi**	**1.00**	**37**	PB	Pg	14 15 41.7	-0.2
RNF				SN	Sn	14 15 59.3	+0.5
PAJU	**Pajala**	**1.33**	**336**	PG	Pg	14 15 46.8	-1.5
PAJU				SB	Sg	14 16 04.3	-1.2
OUF	**Merijarvi**	**1.46**	**176**	SG	Pn	14 15 49.0	-1.5
OUF	**Merijarvi**	**1.46**	**176**	PG	Pn	14 15 49.0	-1.4
OUF				MSG		14 16 06.9	
	comp=Z,1.3nm,0.2s						
OUF				SN	Sg	14 16 09.1	-0.6
MSF	**Maaselka**	**1.86**	**85**	PB	Pn	14 15 53.7	-2.3
OLKF	**Oulanka, Finla**	**2.06**	**74**	PG	Pn	14 15 59.3	+0.7
OLKF				SG	Sb	14 16 26.3	-0.7
LANU	**Lannavaara**	**2.45**	**337**	PG	Pb	14 16 06.6	-1.0
ARA0	**ARCESS Array S**	**3.75**	**5**	PN	Pn	14 16 22.4	+0.6
ARA0				SN	Sn	14 17 02.5	-4.1

*NEIC **02** 14:19:53.8±1.8, 4°.76N±0°.05×96°.01E±0°.04, h8km±4km, mb4.9/60, Error ellipse: s-maj=8.4km s-min=3.8km az=139.0*
*DJA **02** 14:19:54.9±0.3, 5°N±2°×9°6E±°, h10km, M4.8/19, mb4.9/19, mB5.2/12, MLv5.2/8, Mw(mB)4.5/12, MwMwp4.5/3, Mwp4.9/3*
*BJI **02** 14:19:55.2±0.0, 4°.89N×95°.99E, h6km, mB5.0/41, mb4.5/59, Ms4.7/49, Ms7 4.3/48*
*IDC **02** 14:19:55.7±2.4, 4°.78N×95°.98E, h20km±14km, mb4.3/33, mb1 4.3/36, mb1mx4.3/51, mbtmp4.4/36, ML4.3/3, MS4.0/33, Ms1 4.0/33, ms1mx4.0/38, Error ellipse: s-maj=18.3km s-min=9.1km az=48.0*
*GCMT **02** 14:19:58.8±0.2, 4°.93N±0°.01×96°.13E±0°.01, h20km±1km, MW4.9/102, Moment Tensor Solution. s21,c22; s102,c148; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-0.30±.12; $M_{\theta\theta}$-2.61±.09; $M_{\phi\phi}$2.91±.10; $M_{r\theta}$-1.37±.22; $M_{\theta\phi}$-0.15±.07; $M_{\phi r}$-0.12±.18; Best double couple: $M_0$3.08500×10^16 NP1:ϕ_s136.00000°, δ71.00000°, λ-163.00000°. NP2:ϕ_s41.00000°, δ74.00000°, λ-19.00000°. Principal axes: T 2.9170, Plg2.0000°, Azm89.0000°; N 0.3350, Plg65.0000°, Azm183.0000°; P -3.2530, Plg25.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **02** 14:20:01, 4°.74N×96°.34E, h21km, mb5.1*
ISC 02 14:19:54.4±1.2**, 4°.71N**±0°.04×**95°.97E**±0°.04**, h9**km±6km**, n275,** σ1§**83**/283**, mb4.8**/77**, MS4.2**/44**, 5C-8D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.10**	**62**	Pg	**Pb**	**14 20 14.0**	**-1.7**
LHMI				Sg	**Sb**	**14 20 26.8**	**-3.4**
LHMI	**Lhok Sumawe**	**1.10**	**62**	P	**Pb**	**14 20 14.2**	**-1.5**
LHMI				S	**Sb**	**14 20 28.2**	**-2.0**
TPTI		**1.88**	**140**	P	**Pn**	**14 20 27.9**	**+1.1**
TPTI				S	**Sb**	**14 20 53.4**	**+0.8**
TSI	**Tuntungan**	**2.86**	**115**	P	**Pn**	**14 20 41.4**	**+1.2**
PSI	**Prapat**	**3.51**	**123**	Pn	**Pn**	**14 20 51.8**	**+2.5**
	29nm,0.3s,baz=354,slow=0.7,SNR=167						
PSI				Sn	**Sn**	**14 21 33.1**	**+2.1**
	40nm,0.3s,baz=360,slow=8.1,SNR=5.2						
PSI				Lg	Lg	14 21 44.5	
	38nm,0.3s,baz=360,slow=22,SNR=7.6						
RPSI	**Rantau Prapat**	**3.57**	**124**	Pn	**Pn**	**14 20 51.9**	**+1.9**
GSI	**Gunungsitoli**	**3.75**	**155**	Pn	**Pn**	**14 20 52.8**	**+0.3**
GSI	**Gunungsitoli**	**3.75**	**155**	P	**Pn**	**14 20 53.9**	**+1.5**
PKDT	**Phuket**	**3.94**	**37**	P	**Pn**	**14 20 53.0**	**-2.1**
	6.9nm33μm510nm,0.7s						
KULM	**Kulim**	**4.70**	**83**	Pn	**Pn**	**14 21 04.5**	**-1.1**
KULM	**Kulim**	**4.70**	**83**	P	**Pn**	**14 21 05.0**	**-0.6**
TRTT	**Trang**	**4.83**	**50**	P	**Pn**	**14 21 05.0**	**-2.4**
	2.4nm5μm132nm,0.7s						
IPM	**Ipoh**	**5.05**	**92**	Pn	**Pn**	**14 21 09.1**	**-1.3**
IPM	**Ipoh**	**5.05**	**92**	P	**Pn**	**14 21 10.0**	**-0.4**
SURT	**Suratani**	**5.07**	**34**	P	**Pn**	**14 21 14.6**	**+4.0**
	0.1nm150nm4.0nm,1.1s						
RNTT	**Ranong**	**5.28**	**28**	P	Pn	14 21 06.1	-7.3
MNSI	**Mandailing Nat**	**5.31**	**137**	P	**Pn**	**14 21 14.9**	**+1.0**
BKNI	**Bangkinang**	**6.68**	**131**		**Pn**	**14 21 33.8**	**+1.0**
BKNI	**Bangkinang**	**6.68**	**131**	P	**Pn**	**14 21 33.7**	**+0.9**
	3.2nm4μm225nm,0.7s						
PBA	**Port Blair**	**7.60**	**335**	Pn	Pn	14 21 45.9	+0.5
SDSI	**Sungai Dareh**	**7.82**	**136**	P	Pn	14 21 57.0	+8.5
MYKOM	**Kota Tinggi**	**8.39**	**110**	Pn	**Pn**	**14 21 55.2**	**-1.0**
MYKOM	**Kota Tinggi**	**8.39**	**110**	P	**Pn**	**14 21 56.0**	**-0.3**
PHET	**Kaeng Krachan**	**8.91**	**24**	P	**Pn**	**14 22 04.8**	**+1.4**
	666nm65nm,0.9s						
DGPR	**DIGLIPUR**	**8.93**	**341**	*e*P	**Pn**	**14 22 05.9**	**+2.3**
PATY	**Pattaya**	**9.49**	**30**	P	Pn	14 22 18.1	+6.8
	11μm26nm,0.6s						
SRDT	**SRDT**	**10.07**	**18**	P	Pn	14 22 24.5	+5.2
	7μm9.2nm,1.0s						
SRAK	**Srakaew**	**11.01**	**33**	P	Pn	14 22 38.2	+6.0
	7μm626nm,0.6s						
UTHA	**Uthaitani**	**11.31**	**17**	P	**Pn**	**14 22 38.0**	**+1.7**
	520nm64nm,1.0s						
LHSI	**Lahat**	**11.36**	**138**	P	**Pn**	**14 22 36.9**	**0.0**
	4μm143nm,0.9s						
MNAI	**Manna**	**11.40**	**142**	Pn	**Pn**	**14 22 37.6**	**0.0**
MNAI	**Manna**	**11.40**	**142**	P	**Pn**	**14 22 37.5**	**0.0**
	296nm,1.0s						
UMPA	**Umpang Tak**	**11.77**	**14**	P	**Pn**	**14 22 42.9**	**+0.3**
	93nm,0.9s						
MDSI	**Maura Dua**	**12.28**	**138**	P	**Pn**	**14 22 49.1**	**-0.5**
	969nm65nm,0.8s						
CHAI	**Chaiyaphum**	**12.60**	**28**	P	**Pn**	**14 22 57.0**	**+3.1**
	437nm45nm,1.2s						
LWLI	**Liwa**	**12.60**	**140**	P	**Pn**	**14 22 56.5**	**+2.4**
	2μm71nm,0.8s						
KLSI		**12.80**	**137**	P	**Pn**	**14 22 55.7**	**-1.0**
	18nm,1.0s						
PHIT	**Phitsanulok**	**13.14**	**19**	P	**Pn**	**14 23 04.4**	**+3.0**
	86nm,0.8s						
SUKH	**Sukhothai**	**13.19**	**16**	P	**Pn**	**14 23 05.7**	**+3.7**
	29nm,0.8s						
MHMT	**Maesarieng**	**13.52**	**8**	P	**Pn**	**14 23 07.9**	**+1.4**
	821nm55nm,0.9s						
UTTA	**Uttaradit**	**13.71**	**19**	P	**Pn**	**14 23 12.0**	**+2.9**
	520nm26nm,0.6s						
CM05	**Chiang Mai Arr**	**13.91**	**12**	P	**Pn**	**14 23 14.6**	**+2.6**
	299nm47nm,0.9s						
CM04	**Chiang Mai Arr**	**13.92**	**12**	P	**Pn**	**14 23 14.4**	**+2.4**
	385nm60nm,1.0s						
CM13	**Chiang Mai Arr**	**13.93**	**12**	P	**Pn**	**14 23 14.4**	**+2.3**
	389nm59nm,0.8s						
CM01	**Chiang Mai Arr**	**13.94**	**12**	P	**Pn**	**14 23 14.0**	**+1.8**
	470nm67nm,1.0s						
CM02	**Chiang Mai Arr**	**13.95**	**12**	P	**Pn**	**14 23 15.0**	**+2.6**
	375nm55nm,1.0s						
CM15	**Chiang Mai Arr**	**13.96**	**12**	P	**Pn**	**14 23 15.1**	**+2.5**
	354nm47nm,1.0s						
CM09	**Chiang Mai Arr**	**13.96**	**12**	P	**Pn**	**14 23 15.0**	**+2.4**
	354nm54nm,1.0s						
CM31	**Chiang Mai Arr**	**13.97**	**12**	P	**P**	**14 23 17.3**	**-3.5**
	10μm1μm,1.0s						
CM31	**Chiang Mai Arr**	**13.97**	**12**		**Pn**	**14 23 14.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**13.97**	**12**	Pn	**Pn**	**14 23 13.6**	**+0.9**
	1.3nm,0.3s,baz=197,slow=13,SNR=41						
CMAR				Lg	Lg	14 27 10.2	
	0.3nm,0.3s,baz=191,slow=32,SNR=4.4						
CMAR				LR	LR	14 28 44.3	
	comp=Z,393nm,20.5s,baz=240,slow=38						
CMAR	**Chiang Mai Arr**	**13.97**	**12**	Pn	**Pn**	**14 23 13.8**	**+1.1**
CM36	**Chiang Mai Arr**	**14.06**	**12**	P	**Pn**	**14 23 16.0**	**+2.1**
UBPT	**Khong Chiam**	**14.06**	**41**	P	**P**	**14 23 22.0**	**+0.2**
UBPT	**Khong Chiam**	**14.06**	**41**	Pn	**Pn**	**14 23 13.7**	**-0.3**
CM32	**Chiang Mai Arr**	**14.14**	**11**	P	**P**	**14 23 19.0**	**-3.7**
LAMP	**Lampang**	**14.19**	**14**	P	**P**	**14 23 21.8**	**-1.4**
	437nm50nm,1.0s						
CM35	**Chiang Mai Arr**	**14.23**	**12**	P	**Pn**	**14 23 18.0**	**+1.8**
CHTO	**Chiang Mai**	**14.31**	**11**	Pn	**Pn**	**14 23 16.6**	**-0.8**
CMMT	**Chiang Mai**	**14.31**	**11**	P	**Pn**	**14 23 19.2**	**+1.8**
	276nm21nm,0.9s						
CM33	**Chiang Mai Arr**	**14.32**	**11**	P	**Pn**	**14 23 20.0**	**+2.5**
CM34	**Chiang Mai Arr**	**14.39**	**12**	P	**Pn**	**14 23 20.0**	**+1.5**
NONG	**Nongkai**	**15.01**	**27**	P	**Pn**	**14 23 28.7**	**+1.8**
	45nm,1.0s						
PALK	**Pallekele**	**15.39**	**280**	Pn	**Pn**	**14 23 34.0**	**+2.0**
	0.3nm,0.3s,baz=242,slow=5.8,SNR=3.5						
PALK				Sn	**Sn**	**14 26 15.0**	**-7.8**
	1.1nm,0.3s,baz=269,slow=13,SNR=4.9						
PALK				LR	LR	14 28 52.0	
	comp=Z,307nm,20.6s,baz=200,slow=35						
PALK	**Pallekele**	**15.39**	**280**		**P**	**14 23 37.1**	**+0.5**
PALK				IAmb	IAmb	14 23 42.8	
	comp=Z,52nm,1.0s						
LEM	**Lembang**	**16.33**	**134**	LR	LR	14 29 41.9	
	comp=Z,1μm,20.9s,baz=296,slow=36						
SBUM	**Sibu**	**16.38**	**97**	Pn	**Pn**	**14 23 43.3**	**-1.4**
SBUM	**Sibu**	**16.38**	**97**	P	**P**	**14 23 48.0**	**+0.4**
CISI	**Cisompet, Garu**	**16.98**	**136**	P	**Pn**	**14 23 51.2**	**-1.2**
	comp=Z,38nm,1.4s						
SAIH	**SAIHA**	**17.91**	**351**	*e*P	**Pn**	**14 24 04.1**	**+0.2**
SAIH				IAmb	IAmb	14 24 10.9	
	comp=Z,55nm,0.6s						
SLVN	**Son La**	**18.23**	**24**	P	**Pn**	**14 24 07.6**	**-0.3**
QIZ	**Qiongzhong**	**19.64**	**42**	P	**P**	**14 24 22.9**	**-0.7**
QIZ				S	**Sn**	**14 28 06.5**	**+0.7**
QIZ				LR	LR		
	comp=Z,2μm,20.2s						
QIZ				LR	LR		
	comp=Z,1μm,21.8s						
QIZ				LR	LR		
	comp=Z,650nm,13.3s						
KKM	**Kota Kinabalu**	**20.20**	**85**		Pn	14 24 31.2	-0.5
KKM				IAmb	IAmb	14 24 37.5	
	comp=Z,60nm,1.0s						
BBKI	**Banjar Baru**	**20.53**	**113**	P	**P**	**14 24 34.4**	**+1.1**
	comp=Z,118nm,0.9s						
KOHI	**KOHIMA**	**20.97**	**355**	*e*P	**P**	**14 24 38.2**	**+0.1**
SHL	**Shillong**	**21.10**	**350**	*e*P	**P**	**14 24 40.7**	**+1.2**
SHL				IAmb	IAmb	14 24 54.6	
	comp=Z,58nm,0.9s						
SHL	**Shillong**	**21.10**	**350**	P	**P**	**14 24 39.3**	**-0.2**
HYB	**Hyderabad**	**21.22**	**308**	*i* P	**P**	**14 24 43.0**	**+2.3**
HYB				*e*S	Sn	14 28 44.0	+0.2
HYB	**Hyderabad**	**21.22**	**308**	*e*P	**P**	**14 24 42.1**	**+1.4**
HYB				IAmb	IAmb	14 24 45.8	
	comp=Z,47nm,0.9s						
KMI	**Kunming**	**21.31**	**17**	⇓P	**P**	**14 24 44.0**	**+2.1**
KMI				pP	pP	14 24 45.4	+0.7
KMI				sP	sP	14 24 48.3	+2.3
KMI				PP	**PnPn**	**14 25 06.8**	**+5.1**
KMI				S	**S**	**14 28 34.6**	**-4.4**
KMI				sS	sS	14 28 41.9	-1.5
KMI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,190nm,3.8s						
KMI				LR	LR		
	comp=Z,670nm,13.5s						
KMI				LR	LR		
	comp=Z,1μm,11.6s						
KMI				LR	LR		
	comp=Z,1μm,13.4s						
MOKO	**MOKOCHONG**	**21.53**	**356**	*e*P	**P**	**14 24 44.2**	**+0.1**
MOKO				IAmb	IAmb	14 24 49.2	
	comp=Z,64nm,0.9s						
ABJI	**Asem Bagus**	**22.06**	**124**	P	**P**	**14 24 52.2**	**+2.5**
	comp=Z,1μmcomp=Z,131nm,1.0s						
JAGI	**Jajag, Banyuwa**	**22.37**	**126**	P	**P**	**14 24 52.1**	**-1.1**
JAGI				IAmb	IAmb	14 25 00.9	
	comp=Z,42nm,0.9s						
JAGI	**Jajag, Banyuwa**	**22.37**	**126**	P	**P**	**14 24 55.2**	**+2.1**
	comp=Z,50nm,0.9s						
ITAN	**ITANAGAR**	**22.41**	**355**	*e*P	**P**	**14 24 54.4**	**+0.9**
ITAN				IAmb	IAmb	14 24 59.3	
	comp=Z,72nm,0.9s						
MYLDM	**Lahad Datu**	**22.45**	**88**	P	**P**	**14 24 53.7**	**-0.3**
ZIRO	**ZIRO**	**22.78**	**355**	*e*P	**P**	**14 24 57.5**	**0.0**
ZIRO				IAmb	IAmb	14 25 05.8	
	comp=Z,51nm,0.4s						
SRBI	**Singaraja**	**23.03**	**123**	P	**P**	**14 25 00.3**	**+0.3**
	comp=Z,106nm,1.3s						
ODAN	**Odare**	**23.50**	**340**	*e*P	**ScP**	**14 32 29.1**	**-0.4**
TAPN	**Taplejung**	**23.85**	**342**	*e*P	**ScP**	**14 32 29.2**	**-1.3**
RAMN	**Ramite**	**23.86**	**339**	*e*P	**ScP**	**14 32 30.0**	**-0.5**
GYA	**Guiyang**	**23.92**	**24**	⇑P	**P**	**14 25 09.8**	**+0.8**
GYA				sP	sP	14 25 13.4	+0.2
GYA				S	**S**	**14 29 27.1**	**+1.4**
GYA				pmax	pmax		
	comp=Z,19nm,1.4s						
GYA				pmax	pmax		
	comp=Z,250nm,3.5s						
GYA				LR	LR		
	comp=Z,540nm,16.0s						
GYA				LR	LR		
	comp=Z,790nm,14.1s						
GYA				LR	LR		
	comp=Z,580nm,17.5s						

TWSI Taliwang, Sumb 24.77 123 P **P** **14 25 17.0 +0.3**
PKI Pulchoki 24.86 337 *e*P **ScP** **14 32 31.3 -2.0**
PKIN Phulchoki 24.87 337 *e*P **ScP** **14 32 31.4 -1.9**
comp=Z,19nm,1.0s
GUN Gumba 24.99 338 *e*P **ScP** **14 32 32.2 -1.5**
DMN Daman 25.01 337 *e*P **ScP** **14 32 32.0 -1.7**
comp=Z,44nm,1.1s
TOLI2 Tolitoli 25.04 97 P **P** **14 25 19.2 +0.1**
KKN Kakani 25.11 337 *e*P **ScP** **14 32 31.8 -2.1**
comp=Z,26nm,1.1s
LSA Lhasa 25.27 350 P **P** **14 25 19.3 -2.3**
LSA IAmb IAmb 14 25 43.5
comp=Z,25nm,1.0s
GKN Gorkha 25.55 336 *e*P **ScP** **14 32 32.2 -2.9**
comp=Z,29nm,1.2s
KAPI Kappang 25.65 112 P **P** **14 25 25.3 +0.6**
comp=Z,18nm,0.7s,baz=73,slow=20,SNR=3.0
H08S2 Diego Garcia H 26.44 242 T T 14 52 33.5
baz=61,slow=76,SNR=812
H08S3 Diego Garcia H 26.44 243 T T 14 52 29.0
baz=61,slow=76,SNR=709
H08S1 Diego Carcia H 26.46 242 T T 14 52 34.8
baz=61,slow=76,SNR=529
CD2 Chengdu 27.07 15 P **P** **14 25 37.3 -0.2**
CD2 S **S** **14 30 21.8 +6.1**
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 LR LR
comp=Z,1μm,13.2s
CD2 LR LR
comp=Z,2μm,15.7s
CD2 LR LR
comp=Z,1μm,14.7s
DAV Davao (W) 29.55 84 LR LR 14 39 38.6
comp=Z,294nm,19.0s,baz=192,slow=40
WHN Wuhan 30.99 32 ⇓P **P** **14 26 16.2 +3.9**
WHN S **S** **14 31 18.3 +1.1**
WHN pmax pmax
comp=Z,44nm,1.1s
WHN LR LR
comp=Z,2μm,11.8s
WHN LR LR
comp=Z,3μm,18.6s
WHN LR LR
comp=Z,2μm,12.3s
XAN Xi'an 31.57 21 P **P** **14 26 17.6 +0.2**
XAN pP pP 14 26 20.4 0.0
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,180nm,5.1s
XAN LR LR
comp=Z,680nm,22.4s
XAN LR LR
comp=Z,1μm,20.3s
XAN LR LR
comp=Z,930nm,13.6s
XAN Xi'an 31.57 21 P **P** **14 26 16.9 -0.5**
XAN IAmb IAmb 14 26 29.9
comp=Z,13nm,0.7s
SMLA Simla 31.67 328 *e*P **P** **14 26 17.5 -0.8**
SMLA IAmb IAmb 14 26 27.6
comp=Z,4.7nm,0.7s
LZH Lanzhou 32.06 12 *e*P **P** **14 26 23.6 +1.8**
LZH sP sP 14 26 28.1 +2.1
LZH pmax pmax
comp=Z,34nm,1.3s
LZH pmax pmax
comp=Z,110nm,5.2s
LZH LR LR
comp=Z,410nm,15.2s
LZH LR LR
comp=Z,920nm,14.1s
LZH LR LR
comp=Z,390nm,16.8s
NJ2 Nanjing 34.63 36 *e*P **P** **14 26 46.3 +2.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NJ2 LR LR
comp=Z,810nm,14.2s
NJ2 LR LR
comp=Z,980nm,12.8s
NJ2 LR LR
comp=Z,910nm,19.9s
GTA Gaotai 34.72 5 P **P** **14 26 46.4 +1.5**
GTA pP sP 14 26 50.1 +0.9
GTA sP pP 14 26 52.4 +4.5
GTA ScP **ScP** **14 33 06.2 +1.7**
GTA pmax pmax
comp=Z,10.0nm,1.4s
GTA pmax pmax
comp=Z,130nm,4.7s
GTA LR LR
comp=Z,220nm,16.7s
GTA LR LR
comp=Z,250nm,13.4s
GTA LR LR
comp=Z,230nm,17.4s
PSA00 Pilbara Seismi 35.07 139 P **P** **14 26 47.5 -0.5**
SIJI Sorong 35.70 98 P **P** **14 26 51.6 -2.0**
comp=Z,15nm,0.8s,baz=305,slow=12,SNR=4.4
NIL Nilore 35.72 327 P **P** **14 26 52.2 -1.3**
FITZ Fitzroy Crossi 37.02 129 P **P** **14 27 03.6 -1.1**
comp=Z,9.9nm,0.8s,baz=278,slow=4.0,SNR=15
FITZ Fitzroy Crossi 37.02 129 P **P** **14 27 03.7 -1.1**
baz=37,SNR=10
FITZ Fitzroy Crossi 37.02 129 P **P** **14 27 03.3 -1.5**
FITZ IAmb IAmb 14 27 12.8
comp=Z,23nm,1.2s
FAKI Fak Fak 37.04 101 P **P** **14 27 04.2 -0.8**
JOW Kunigami 37.88 51 P **P** **14 27 14.2 +2.2**
comp=Z,9.8nm,0.7s,baz=268,slow=6.6,SNR=1.6
HHC Hu-ho-hao-te 38.61 19 *e*P **P** **14 27 16.4 -1.7**
HHC pmax pmax
comp=Z,4.0nm,1.0s
HHC pmax pmax
comp=Z,160nm,7.1s
HHC LR LR
comp=Z,280nm,14.0s
HHC LR LR
comp=Z,1μm,14.3s
HHC LR LR
comp=Z,320nm,17.6s
MORW Morawa 38.73 151 P **P** **14 27 20.9 +1.8**
MORW IAmb IAmb 14 27 22.0
comp=Z,24nm,1.1s
KSH Kashi 39.09 335 P **P** **14 27 20.8 -1.3**
KSH sP sP 14 27 29.0 +2.6
KSH PcP **PcP** **14 29 29.0 -3.0**
KSH pmax pmax
comp=Z,17nm,0.9s
KSH pmax pmax
comp=Z,190nm,4.7s
KSH LR LR
comp=Z,440nm,13.0s
KSH LR LR
comp=Z,1μm,14.5s
KSH LR LR
comp=Z,1μm,21.5s
BJI Beijing 39.62 25 P P 14 27 31.5 +5.2
BJI S **S** **14 33 30.6 +1.1**
BJI pmax pmax
comp=Z,20nm,0.9s
BJI pmax pmax
comp=Z,180nm,8.3s
BJI LR LR
comp=Z,410nm,15.0s
BJI LR LR
comp=Z,360nm,15.4s
BJI LR LR
comp=Z,390nm,40.7s
WMQ Urumqi 39.63 351 *e*P **P** **14 27 27.5 +1.0**
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,180nm,5.3s
WMQ LR LR
comp=Z,470nm,22.5s
WMQ LR LR
comp=Z,210nm,25.3s
KDU Kakadu 40.18 116 P **P** **14 27 30.0 -1.4**
baz=40,SNR=3.6
WSAR Wadi Sarin 40.45 301 P **P** **14 27 36.1 +2.5**
comp=Z,5.1nm,0.6s,baz=135,slow=6.1,SNR=11
SHLS Shalkode 40.98 342 *e*P **P** **14 27 38.7 +0.9**
baz=342
UZB Uzynbulak 41.12 341 *e*P **P** **14 27 40.8 +1.8**
baz=341
DL2 Dalian 41.24 31 P **P** **14 27 43.5 +3.7**
DL2 S **S** **14 34 01.4 +7.6**
DL2 pmax pmax
comp=Z,41nm,1.0s
DL2 LR LR
comp=Z,440nm,14.9s
DL2 LR LR
comp=Z,790nm,15.3s
DL2 LR LR
comp=Z,440nm,16.3s
SATY Saty 41.24 340 *e*P **P** **14 27 41.1 +1.1**
baz=341
MUN Mundaring 41.26 154 P **P** **14 27 42.0 +1.9**
baz=41,SNR=4.5
KPKS Kokpek 41.51 341 *e*P **P** **14 27 42.9 +0.8**
baz=341
KLBR Kellerberrin 41.65 152 P **P** **14 27 44.9 +1.6**
baz=42,SNR=5.5
TNSS Tian-Shan 41.73 339 *e*P **P** **14 27 45.5 +1.2**
baz=339
MDOK Medeo 41.80 339 *e*P **P** **14 27 45.9 +1.3**
baz=339
AAK Ala-Archa 42.31 336 P **P** **14 27 49.0 +0.3**
comp=Z,1.1nm,0.6s,baz=216,slow=4.7,SNR=4.0
AAK Ala-Archa 42.31 336 P **P** **14 27 49.1 +0.3**
NWAO Narrogin (SRO) 42.52 153 P **P** **14 27 51.7 +1.3**
comp=Z,18nm,0.7s,baz=321,slow=9.2,SNR=6.7
NWAO Narrogin (SRO) 42.52 153 P **P** **14 27 52.1 +1.7**
baz=43,SNR=4.6
NWAO Narrogin (SRO) 42.52 153 P **P** **14 27 51.2 +0.8**
NWAO Narrogin (SRO) 42.52 153 P **P** **14 27 51.4 +1.0**
NWAO IAmb IAmb 14 27 52.9
comp=Z,36nm,1.1s
KUU Kurty 42.69 339 *e*P **P** **14 27 52.7 +1.1**
baz=339
WRKA Warakurna 43.15 135 P **P** **14 27 55.6 -0.1**
baz=43,SNR=8.5
MK31 Makanchi Array 43.56 346 P **P** **14 27 57.2 -1.4**
MKAR Makanchi Array 43.56 346 P **P** **14 27 57.1 -1.6**
comp=Z,3.0nm,0.7s,baz=156,slow=8.0,SNR=22
MKAR LR LR 14 49 42.4
comp=Z,53nm,19.1s,baz=165,slow=41
MKAR Makanchi Array 43.56 346 P **P** **14 27 57.0 -1.7**
KMBL Kambalda 43.57 147 P **P** **14 28 00.3 +1.4**
baz=44,SNR=9.6
ZSN Zaisan 43.64 349 *e*P **P** **14 28 01.1 +1.9**
baz=349
KSRS Korea Array 43.75 38 P **P** **14 27 59.6 -0.7**
comp=Z,1.3nm,0.6s,baz=224,slow=8.6,SNR=4.3
KSRS LR LR 14 48 56.4
comp=Z,84nm,21.0s,baz=234,slow=40
SONM Songino Array 43.89 10 P **P** **14 28 01.2 -0.2**
comp=Z,6.6nm,0.7s,baz=194,slow=11,SNR=27
SONM ScP **ScP** **14 33 37.1 -2.6**
comp=Z,0.5nm,0.7s,baz=189,slow=3.6,SNR=2.2
SONM LR LR 14 47 52.2
comp=Z,372nm,18.3s,baz=191,slow=38
SONM Songino Array 43.89 10 P **P** **14 28 01.0 -0.4**
ULN Ulaanbaatar 44.04 11 P **P** **14 28 03.9 +1.3**
KK31 Karatay Array 44.38 333 P **P** **14 28 04.8 -0.6**
KKAR Karatay Array 44.38 333 P **P** **14 28 04.5 -0.8**
KKAR Karatay Array 44.38 333 P **P** **14 28 04.9 -0.4**
KKAR IAmb IAmb 14 28 30.7
comp=Z,6.4nm,0.8s
BTLS Baital 44.52 338 *e*P **P** **14 28 07.8 +1.5**
baz=338
WB0 Warramunga Arr 44.94 124 P **P** **14 28 09.2 -0.8**
WB0 IAmb IAmb 14 28 18.6
comp=Z,13nm,1.0s
WRA Warramunga Arr 44.98 124 P **P** **14 28 09.7 -0.7**
comp=Z,3.9nm,0.5s,baz=302,slow=9.2,SNR=102
WRA PcP **PcP** **14 29 51.6 0.0**
comp=Z,1.6nm,0.6s,baz=316,slow=2.9,SNR=1.4
WRA ScP **ScP** **14 33 42.7 -1.9**
comp=Z,0.8nm,1.0s,baz=307,slow=4.1,SNR=3.5
WRA LR LR 14 48 38.0
comp=Z,295nm,19.7s,baz=320,slow=38
WRAB Tennant Creek 44.98 124 P **P** **14 28 09.6 -0.8**
WB2 Warramunga Arr 44.98 124 P **P** **14 28 09.7 -0.7**
WB2 IAmb IAmb 14 28 19.5
comp=Z,16nm,0.6s
WR0 Warramunga Arr 45.15 124 P **P** **14 28 10.8 -1.0**
WR0 IAmb IAmb 14 28 23.1
comp=Z,20nm,0.9s
JAY Jayapura 45.27 98 LR LR 14 50 56.3
comp=Z,81nm,19.1s,slow=41
AS31 Alice Springs 46.52 129 P **P** **14 28 22.2 -0.3**
AS31 IAmb IAmb 14 28 32.2
comp=Z,5.9nm,0.5s
ASAR Alice Springs 46.52 129 P **P** **14 28 22.4 -0.1**
comp=Z,8.5nm,0.4s,baz=300,slow=7.9,SNR=226
ASAR PcP **PcP** **14 29 55.7 -1.3**
comp=Z,2.9nm,0.7s,baz=308,slow=4.1,SNR=2.7
ASAR ScP **ScP** **14 33 48.8 -2.1**
comp=Z,1.0nm,0.9s,baz=306,slow=4.5,SNR=5.8
ASAR S S 14 35 01.9 -9.5
comp=Z,0.4nm,1.0s,baz=298,slow=12,SNR=2.2
ASAR LR LR 14 47 35.2
comp=Z,333nm,21.7s,baz=294,slow=36
ASAR Alice Springs 46.52 129 P **P** **14 28 22.1 -0.4**
FORT Forrest 46.75 141 P **P** **14 28 25.4 +1.2**
baz=47,SNR=8.1
FORT Forrest 46.75 141 P **P** **14 28 24.5 +0.3**
GEYT Alibeck 47.76 319 P **P** **14 28 32.2 +0.1**
comp=Z,15nm,0.8s,baz=152,slow=9.6,SNR=21
GEYT LR LR 14 50 16.7
comp=Z,328nm,20.3s,baz=170,slow=38
GEYT Alibeck 47.76 319 P **P** **14 28 31.4 -0.7**
GEYT IAmb IAmb 14 28 34.1
comp=Z,9.3nm,0.8s
GYA0B ALIBECK ARRAY 47.76 319 P **P** **14 28 31.5 -0.6**
KURBB Kurchatov Arra 48.04 345 P **P** **14 28 32.6 -1.4**
comp=Z,1.0nm,0.7s,baz=164,slow=6.8,SNR=10
KURBB ScP **ScP** **14 33 54.4 -2.2**
comp=Z,0.9nm,0.9s,baz=159,slow=2.8,SNR=4.8
KURK Kurchatov 48.10 345 P **P** **14 28 33.7 -0.7**
KURK IAmb IAmb 14 29 00.8
comp=Z,8.4nm,0.9s
INU Inuyama 48.59 46 P **P** **14 28 37.6 -0.9**
JSG Sagara 49.12 47 P **P** **14 28 43.2 +0.7**
BRZS Berezniki 49.21 340 *e*P **P** **14 28 44.2 +1.3**
baz=340
JCJ Chichijima 49.33 58 LR LR 14 50 17.7
comp=Z,58nm,18.5s,baz=302,slow=37
JHJ Hachijo jima 2 49.62 50 LR LR 14 47 13.9
comp=Z,119nm,21.2s,baz=215,slow=33
QIS Mount Isa 49.65 122 P **P** **14 28 46.4 -0.4**
baz=50,SNR=5.0
ZAA0 Zalesovo Array 49.92 351 P **P** **14 28 47.0 -1.3**
ZAA0 IAmb IAmb 14 29 12.3
comp=Z,6.6nm,0.7s
ZALV Zalesovo Beam 49.92 351 P **P** **14 28 46.7 -1.6**
comp=Z,1.1nm,0.3s,baz=174,slow=16,SNR=9.1
ZALV LR LR 14 51 25.9
comp=Z,121nm,20.4s,baz=184,slow=38
ZALV Zalesovo Beam 49.92 351 P **P** **14 28 46.6 -1.7**
MJAR Matsushiro Arr 50.02 45 P **P** **14 28 48.5 -0.9**
comp=Z,0.9nm,0.6s,baz=255,slow=6.3,SNR=2.0
MJAR LR LR 14 51 54.4
comp=Z,195nm,19.7s,baz=235,slow=38
COEN Coen 50.38 112 P **P** **14 28 51.0 -1.4**
USRK Ussuriysk Ar. 50.47 33 P **P** **14 28 52.0 -0.7**
comp=Z,2.5nm,1.0s,baz=236,slow=6.8,SNR=1.0
USRK LR LR 14 52 14.9
comp=Z,183nm,18.4s,baz=212,slow=38
USRK Ussuriysk Ar. 50.47 33 P **P** **14 28 52.0 -0.7**
RAYN Ar Rayn 52.07 296 P **P** **14 29 04.7 -0.3**
RAYN IAmb IAmb 14 29 29.1
comp=Z,10nm,0.9s
BVAR Borovoye Array 52.55 341 P **P** **14 29 07.3 -0.8**
comp=Z,1.3nm,0.7s,baz=150,slow=15,SNR=9.3
BRVK Borovoye 52.61 341 P **P** **14 29 08.0 -0.5**
MTSU Mount Surprise 52.80 117 P **P** **14 29 10.3 -0.2**
baz=53,SNR=9.3
PMG Port Moresby 52.91 105 P **P** **14 29 09.6 -1.8**
comp=Z,3.1nm,0.6s,baz=226,slow=12,SNR=1.3
PMG LR LR 14 55 09.0
comp=Z,124nm,19.4s,baz=269,slow=40
PMG Port Moresby 52.91 105 P **P** **14 29 09.9 -1.5**
PMG IAmb IAmb 14 29 16.3
comp=Z,12nm,0.9s
BBOO Buckleboo 53.27 137 P **P** **14 29 13.8 0.0**
baz=53,SNR=14
BBOO Buckleboo 53.27 137 P **P** **14 29 13.2 -0.5**
BBOO IAmb IAmb 14 29 14.5
comp=Z,14nm,0.8s
KLR Kul'dur 53.73 28 P **P** **14 29 15.9 -0.9**
comp=Z,0.4nm,0.3s,baz=10,slow=5.3,SNR=2.5
ABKAR Akbulak array 53.86 332 P **P** **14 29 16.3 -1.5**
ABKAR IAmb IAmb 14 29 42.2
comp=Z,6.8nm,0.8s
ABKAR Akbulak array 53.86 332 P **P** **14 29 16.2 -1.5**
CTA Charters Tower 55.20 118 P **P** **14 29 27.5 -0.5**
comp=Z,18nm,1.0s,baz=276,slow=11,SNR=4.0
CTAO Charters Tower 55.20 118 P **P** **14 29 26.0 -2.1**
HTT Hallett 55.58 136 P **P** **14 29 31.1 +0.5**
baz=56,SNR=7.4
QLP Quilpie 56.10 126 P **P** **14 29 34.9 +0.5**
baz=56,SNR=13
STKA Stephens Creek 56.63 133 P **P** **14 29 38.1 +0.1**
comp=Z,7.5nm,0.7s,baz=309,slow=7.1,SNR=28
STKA LR LR 14 58 31.0
comp=Z,169nm,18.4s,baz=302,slow=41
STKA Stephens Creek 56.63 133 P **P** **14 29 38.2 +0.1**
baz=56,SNR=5.8
STKA Stephens Creek 56.63 133 P **P** **14 29 37.8 -0.3**
KMBO Kilima Mbogo 58.94 266 P **P** **14 29 53.9 -1.1**
comp=Z,5.9nm,0.7s,baz=222,slow=10,SNR=3.0
KMBO LR LR 14 51 54.3
comp=Z,115nm,20.8s,baz=92,slow=32
CMSA Cobar Meteorol 59.49 131 P **P** **14 29 58.7 +0.6**
baz=59,SNR=65
RMQ Roma 59.74 124 P **P** **14 30 00.5 +0.5**
baz=60,SNR=5.8
KBZ Khabaz 60.64 318 P **P** **14 30 04.5 -1.3**
comp=Z,4.5nm,0.9s,baz=148,slow=5.1,SNR=9.1
KBZ LR LR 14 59 29.5
comp=Z,92nm,20.0s,baz=122,slow=39
KIV Kislovodsk 60.87 318 P **P** **14 30 07.0 -0.5**
KIV IAmb IAmb 14 30 15.1
comp=Z,12nm,1.0s
EIDS Eidsvold 61.26 122 P **P** **14 30 10.6 +0.2**
baz=61,SNR=3.7
YAK Yakutsk 62.43 17 P **P** **14 30 17.2 -0.3**
comp=Z,3.0nm,0.4s,baz=99,slow=1.0,SNR=1.5
YAK Yakutsk 62.43 17 P **P** **14 30 17.0 -0.6**
GAZ Gaziantep 62.48 310 P **P** **14 30 18.8 +0.2**
GAZ IAmb IAmb 14 30 20.2
comp=Z,8.8nm,0.9s
ARMA Armidale 63.61 127 P **P** **14 30 26.4 +0.2**
CAN Canberra 63.70 133 P **P** **14 30 27.1 +0.5**
NRIK Noril'sk 64.77 357 P **P** **14 30 31.8 -1.2**
comp=Z,0.8nm,0.4s,baz=149,slow=4.3,SNR=1.4
NRIK LR LR 15 03 54.6
comp=Z,126nm,18.1s,baz=175,slow=41
BR131 Keskin Array S 65.86 312 P **P** **14 30 39.2 -1.6**
BR131 IAmb IAmb 14 30 40.4
comp=Z,11nm,1.1s
BRTR Keskin Array B 65.86 312 P **P** **14 30 39.1 -1.6**
comp=Z,2.4nm,0.7s,baz=126,slow=6.3,SNR=8.5
BRTR LR LR 15 03 32.1
comp=Z,70nm,18.3s,baz=113,slow=40
BRTR Keskin Array B 65.86 312 P **P** **14 30 39.3 -1.5**
ILGA Ilgaz 66.15 313 P **P** **14 30 40.9 -1.8**
ILGA IAmb IAmb 14 31 00.2
comp=Z,16nm,1.2s
MA2 Magadan 68.74 27 P **P** **14 30 60.0 +1.6**
MA2 IAmb IAmb 14 31 17.5
comp=Z,11nm,1.2s
PETK Petropavlovsk- 69.53 35 LR LR 15 04 32.7
comp=Z,156nm,18.1s,baz=234,slow=38
KARP Karpathos 70.06 306 P **P** **14 31 05.9 -1.2**
KLMR Klimovskoe 70.07 334 P **P** **14 31 05.4 -1.2**
KLMR AMP 14 31 09.2
comp=Z,12nm,1.5s
SORM Soroca 71.65 319 ⇓P **P** **14 31 14.5 -1.9**
AKASG Malin Array Be 71.75 322 P **P** **14 31 14.9 -2.1**
comp=Z,1.0nm,0.5s,baz=89,slow=5.5,SNR=3.6
AKASG LR LR 15 08 11.6
comp=Z,152nm,18.0s,baz=105,slow=40
IDI Anoyia 71.86 305 P **P** **14 31 16.9 -1.2**
VRI Vrincioaia 72.23 317 ⇓P **P** **14 31 18.1 -2.0**
PLOR Plostina 72.28 317 ⇓P **P** **14 31 18.5 -1.9**
TESR Tescani 72.41 317 ⇑P **P** **14 31 19.1 -2.1**
MLR Muntele Rosu 72.69 316 ⇓P **P** **14 31 19.9 -3.1**
MNK Minsk 73.55 326 *i* P **P** **14 31 26.6 -1.1**
comp=E,1.0nm,0.8s
MNK *i* P **P** **14 31 26.6 -1.1**
comp=N,15nm,0.9s
MNK *i* P **P** **14 31 26.6 -1.1**
comp=Z,13nm,0.9s
MNK *i* PcP **PcP** **14 31 42.3 -1.4**
MNK *i* PP **PP** **14 34 10.3 -1.2**
MNK *i* PPP PPP 14 35 55.1
MNK *i* S **S** **14 40 57.9 +0.3**
MNK *i* ScS **ScS** **14 41 35.6 -1.3**
MNK *i* SS SS 14 45 22.7 -18
MNK *i* SSS SSS 14 48 22.5
MNK *i* LQ LQ 14 56 53.0
MNK *i* LR LR 15 00 04.7
MNK *i* LRM MLR 15 06 30.9
comp=E,42nm,19.2s
MNK *i* LRM MLR 15 06 30.9
comp=N,463nm,19.1s
MNK *i* LRM MLR 15 07 09.8
comp=Z,133nm,18.6s
ARR Arges 73.58 316 ⇑P **P** **14 31 26.9 -1.2**
BURAR Bucovina Array 73.59 318 ⇑P **P** **14 31 27.6 -0.7**
BURAR Bucovina Array 73.59 318 P **P** **14 31 27.0 -1.2**
BUR08 Bucovina Ar. S 73.61 318 P **P** **14 31 26.7 -1.6**
BUR08 IAmb IAmb 14 31 48.5
comp=Z,12nm,1.4s
NACGM Naroch 74.27 326 *i* P **P** **14 31 33.9 +2.1**
NACGM *i* P **P** **14 31 33.9 +2.1**
NACGM *i* P **P** **14 31 33.9 +2.1**
NACGM *i* PP **PP** **14 34 23.0 +5.4**
NACGM *i* PPP PPP 14 36 05.2
NACGM *i* S **S** **14 41 08.5 +2.7**
NACGM *i* SS **SS** **14 45 56.6 +5.2**
NACGM *i* SSS SSS 14 48 51.2
NACGM *i* LQ LQ 14 59 07.0
NACGM *i* LR LR 15 02 32.0
LIT Litokhoron 74.35 310 P **P** **14 31 30.6 -2.1**
LIT IAmb IAmb 14 31 39.7
comp=Z,8.6nm,0.9s
DRGR 75.13 317 ⇑P **P** **14 31 35.5 -1.7**
BOSA Boshof 75.49 239 LR LR 15 03 07.3
comp=Z,80nm,18.8s,baz=172,slow=34
KOLS Kolonicke sedl 75.77 319 *e*P **P** **14 31 44.8 +4.1**
MAW Mawson 75.84 192 LR LR 15 02 11.1
comp=Z,78nm,18.6s,baz=54,slow=33
FINES FINESS Array B 76.34 332 P **P** **14 31 42.0 -1.6**
comp=Z,3.1nm,0.9s,baz=107,slow=4.7,SNR=1.2
FINES LR LR 15 08 01.3
comp=Z,105nm,18.2s,baz=134,slow=38
FINES FINESS Array B 76.34 332 P **P** **14 31 41.8 -1.8**
PSZ Piszkesteto 77.19 318 P **P** **14 31 49.9 +1.0**
PSZ IAmb IAmb 14 32 16.3
comp=Z,8.0nm,1.0s
OJC Ojcow 77.55 320 P **P** **14 31 51.2 +0.5**
OJC IAmb IAmb 14 32 06.4
comp=Z,14nm,1.2s
MORH Mrgy, Hungar 77.84 316 ⇓P **P** **14 31 51.7 -0.7**
JAVC Velka Javorina 78.77 319 *e*P P 14 32 02.6 +5.0
ARCES ARCESS Array B 78.84 340 P **P** **14 31 56.2 -1.2**
comp=Z,2.8nm,0.8s,baz=50,slow=3.8,SNR=9.5
ARCES LR LR 15 09 36.5
comp=Z,444nm,20.6s,baz=110,slow=38
ARCES ARCESS Array B 78.84 340 IAmb IAmb 14 32 18.9
comp=Z,20nm,1.4s
MORC Moravsky Berou 78.94 320 *e*P **P** **14 32 02.2 +3.7**
DPC Dobruska-Polom 79.78 320 *e*P **P** **14 32 07.6 +4.5**
CKRC Cesky Krumlov 80.98 319 *e*P P 14 32 14.5 +5.0
GERES GERESS Array B 81.38 319 P **P** **14 32 11.1 -0.7**
comp=Z,0.6nm,0.5s,baz=108,slow=4.3,SNR=5.6
GERES LR LR 15 13 27.4
comp=Z,39nm,18.5s,baz=48,slow=40
GERES GERESS Array B 81.38 319 P **P** **14 32 11.5 -0.3**
KHC Kasperske Hory 81.47 319 *e*P **P** **14 32 16.1 +3.9**
SYO Syowa Base 82.95 198⇓ *e*P **P** **14 32 22.2 +2.9**
NB2 NORSAR Subarra 83.36 331 P **P** **14 32 21.7 -0.1**
comp=Z,2.4nm,1.0s,baz=91,slow=5.6
NOA NORSAR Array B 83.36 331 P **P** **14 32 21.4 -0.4**
comp=Z,2.5nm,1.1s,baz=93,slow=5.4,SNR=3.3
NOA LR LR 15 14 26.9
comp=Z,203nm,18.2s,baz=110,slow=39
KEST Kesra 84.53 305 P **P** **14 32 28.2 -0.2**
comp=Z,1.8nm,0.8s,baz=104,slow=4.2,SNR=1.5
VNDA Vanda 89.49 169 LR LR 15 08 32.5
comp=Z,104nm,18.4s,baz=308,slow=33
TORD Torodi Ar. Bea 93.09 283 P **P** **14 33 10.2 +0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.6nm,0.6s,baz=82,slow=4.3,SNR=5.8						
TORD				LR	LR	15 15 05.5	
	comp=Z,55nm,18.2s,baz=110,slow=36						
TORD	**Torodi Ar. Bea**	**93.09**	**283**	P	**P**	**14 33 09.8**	**+0.3**
ESDC	**Sonseca Array**	**94.63**	**310**	P	**P**	**14 33 15.6**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=87,slow=4.2,SNR=3.4						
ILAR	**Eielson Array**	**96.96**	**23**	LR	LR	15 20 57.3	
	comp=Z,47nm,18.6s,baz=312,slow=38						
YKA	**Yellowknife Ar**	**109.04**	**14**	PP	**PP**	**14 38 49.1**	**-2.3**
	comp=Z,0.2nm,0.7s,baz=332,slow=5.9,SNR=4.6						
ULM	**Lac du Bonnet**	**124.31**	**9**	PKP	**PKPdf**	**14 38 54.0**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=318,slow=2.3,SNR=5.2						
NVAR	**Mina Array Bea**	**126.61**	**33**	PKP	**PKiKP**	**14 38 60.0**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=304,slow=2.0,SNR=7.9						
PDAR	**Pinedale Array**	**127.38**	**24**	PKP	**PKPdf**	**14 38 59.7**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=26,slow=2.3,SNR=2.3						
TXAR	**Lajitas Array**	**141.25**	**28**	PKP	**PKPdf**	**14 39 26.0**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=270,slow=0.9,SNR=2.0						
PLCA	**Paso Flores**	**142.14**	**197**	PKP	**PKPdf**	**14 39 27.1**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=96,slow=4.1,SNR=3.0						
BDFB	**Brasilia**	**142.99**	**250**	PKP	**PKPdf**	**14 39 29.1**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=76,slow=4.2,SNR=1.8						
CPUP	**Villa Florida**	**146.62**	**227**	PKPbc	**PKPdf**	**14 39 36.2**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=122,slow=4.9,SNR=2.2						

IDC 02 14:42:52.3±2.7**,3°.10S**×**142°.32E,h0**km**,mb3.1**/2**, mb1 3.5**/3**,mb1mx3.3**/33**,mbtmp3.3**/3**,ML3.4**/1**,Error ellipse: s-maj=49.7km s-min=27.2km az=64.0,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.71**	**290**	Pn	Pn	14 43 23.5	0.0
	1.3nm,0.3s,baz=137,slow=14,SNR=3.4						
JAY				Sn	Sb	14 43 46.7	-0.2
	baz=12,slow=0.0						
WRA	**Warramunga Arr**	**18.46**	**204**	P	P	14 47 10.7	+0.9
	0.1nm,0.3s,baz=27,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**22.00**	**201**	P	P	14 47 47.6	-0.7
	0.7nm,0.9s,baz=30,slow=10,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**32.20**	**47**	T	T	15 22 57.3	
	baz=229,slow=75						
H11S2	**WAKE ISLAND Hy**	**32.21**	**47**	T	T	15 22 58.0	
	baz=229						
H11S1	**WAKE ISLAND Hy**	**32.22**	**47**	T	T	15 22 59.2	
	baz=229,slow=75						
MKAR	**Makanchi Array**	**72.32**	**321**	P	P	14 54 20.1	+0.1
	0.2nm,0.6s,baz=102,slow=5.0,SNR=1.8						

DJA 02 14:43:17.3±0.7**,0°N**±4°×**12°4E**±°**,h29**km±7km**,M3.8**/7**, mb4.3**/2**,MLv3.4**/7**,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.52**	**318**	P	Pn	14 43 29.9	+1.1
KMSI				S	Sn	14 43 37.0	+0.4
LUWI	**Luwuk**	**1.98**	**232**	P	Pn	14 43 49.2	+0.3
MRSI	**Marisa**	**2.41**	**277**	P	Pn	14 43 53.5	-1.2
SWI	**Sorong**	**7.01**	**99**	P	Pn	14 44 57.8	-0.3
	0.2nm44nm,0.6s						
BSI	**Banda Aceh**	**29.46**	**281**	P	P	14 49 18.3	-0.7

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*SOME **02** 14:58:56.5, 42°.28N×71°.60E, h5km*
*KRNET **02** 14:58:56.5±0.1, 42°.18N×71°.60E, h12km, mb3.1*
*ISU **02** 14:58:57, 42°.00N×71°.50E, h5km*
ISC 02 14:58:54.8±1.2**,42°.26N**±0°.02×**71°.61E**±0°.02**,h1**km±11km**, n48,**σ1ˢ56/88**,24C-10D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZA	**Taraz**	**0.67**	**342**	*e*P	**Pb**	**14 59 08.7**	**-0.6**
	29nm,0.1s						
DZA				*e*S	**Sb**	**14 59 17.8**	**-1.3**
	475nm,0.2s						
MNAS	**Manas**	**0.70**	**71**	⇑*i*P	**Pb**	**14 59 10.6**	**+0.6**
	baz=65						
MNAS				⇑*i*S	**Sb**	**14 59 20.8**	**+0.6**
	baz=65						
TRKS	**Terek-Say**	**0.81**	**206**	⇑*e*P	**Pb**	**14 59 11.5**	**-0.2**
	baz=4.0						
TRKS				⇑*i*S	**Sb**	**14 59 22.2**	**-0.9**
	baz=4.0						
IUG	**Iuzhnay**	**1.18**	**265**	*e*P	**Pn**	**14 59 17.9**	**-0.6**
	44nm,0.1s						
IUG				*e*S	**Sb**	**14 59 32.9**	**-0.8**
	228nm,0.4s						
MRKS	**Merke**	**1.29**	**67**	*e*P	**Pg**	**14 59 21.3**	**+1.7**
	4.4nm,0.3s						
MRKS				*e*S	**Sn**	**14 59 39.1**	**+1.0**
	21nm,0.2s						
CHRV	**Charvak**	**1.38**	**244**	*e*P	**Pg**	**14 59 23.0**	**+1.8**
CHRV				*e*S	**Sn**	**14 59 45.0**	**+4.9**
CHMG	**Chimgan**	**1.39**	**240**	*e*P	**Pb**	**14 59 21.0**	**-0.5**
CHMG				*e*S	**Sn**	**14 59 40.0**	**-0.4**
ARSB	**Arslanbob**	**1.39**	**132**	⇑*i*P	**Pg**	**14 59 21.9**	**+0.5**
	baz=29						
ARSB				⇑*i*S	**Sb**	**14 59 39.7**	**-0.2**
	baz=29						
BRLS	**Borolday**	**1.52**	**301**	*e*P	**Pg**	**14 59 24.1**	**+0.3**
	12nm,0.2s						
BRLS				*e*S	**Sg**	**14 59 44.6**	**+1.1**
	47nm,0.2s						
AML	**Almayashu**	**1.56**	**94**	⇑*i*P	**Pg**	**14 59 25.9**	**+1.3**
	baz=91						
AML				⇑*i*S	**Sg**	**14 59 47.1**	**+2.3**
	baz=91						
AML	**Almayashu**	**1.56**	**94**	P	**Pg**	**14 59 26.6**	**+2.0**
	SNR=23						
EKS2	**Erkin-Say**	**1.66**	**75**	⇓*i*P	**Pg**	**14 59 27.8**	**+1.3**
	baz=73						
EKS2				⇓*i*S	**Sg**	**14 59 50.7**	**+2.7**
	baz=73						
EKS2	**Erkin-Say**	**1.66**	**75**	P	**Pg**	**14 59 27.9**	**+1.3**
	SNR=17						
OHH	**Osh**	**1.95**	**152**	*e*P	**Pg**	**14 59 32.0**	**-0.1**
OHH				*e*S	**Sg**	**14 59 59.0**	**+1.7**
TAS	**Tashkent**	**1.96**	**242**	⇑*i*P	**Pg**	**14 59 31.9**	**-0.5**
	baz=44						
TAS				⇑*i*S	**Sg**	**14 59 58.0**	**+0.2**
	baz=44						
ARLS	**Aral**	**2.06**	**100**	⇑*i*P	**Pg**	**14 59 34.0**	**-0.3**
	baz=98						
ARLS				⇑*i*S	**Sg**	**15 00 01.7**	**+0.7**
	baz=98						
UCH	**Uchtor**	**2.16**	**90**	⇓*i*P	**Pb**	**14 59 35.6**	**+0.7**
	baz=88						
UCH				⇓*i*S	**Sg**	**15 00 04.6**	**+0.4**
	baz=88						
UCH	**Uchtor**	**2.16**	**90**	P	**Pg**	**14 59 38.1**	**+1.9**
	SNR=27						
AAK	**Ala-Archa**	**2.17**	**79**	⇓*e*P	**Pb**	**14 59 35.7**	**+0.7**
	baz=77						
AAK				⇓*i*S	**Sg**	**15 00 04.8**	**+0.2**
	baz=77						
AAK	**Ala-Archa**	**2.17**	**79**	P	**Pg**	**14 59 38.0**	**+1.6**
	SNR=20						
BTK	**Batken**	**2.28**	**195**	⇑*i*P	**Pb**	**14 59 36.5**	**-0.2**
	baz=96						
BTK				⇑*i*S	**Sb**	**15 00 04.4**	**-1.0**
	baz=96						
BTK	**Batken**	**2.28**	**195**	*e*P	**Pb**	**14 59 37.0**	**+0.3**
BTK				*e*S	**Sg**	**15 00 07.0**	**-0.9**
FRU1	**Bishkek**	**2.30**	**75**	⇑*e*P	**Pb**	**14 59 37.7**	**+0.5**
	baz=73						
FRU1				⇑*i*S	**Sg**	**15 00 08.0**	**-0.8**
	baz=73						
SHAK	**Shakhimardan**	**2.30**	**177**	*e*P	**Pg**	**14 59 41.0**	**+2.1**
SHAK				*e*S	**Sg**	**15 00 10.0**	**+1.2**
USP	**Ospenovka**	**2.36**	**64**	⇑*i*P	**Pb**	**14 59 38.7**	**+0.6**
	baz=62						
USP				⇑*i*S	**Sb**	**15 00 09.3**	**+1.6**
	baz=62						
USP	**Ospenovka**	**2.36**	**64**	P	**Pg**	**14 59 39.4**	**-0.6**
	SNR=41						
CHMS	**Chumysh**	**2.44**	**71**	⇓*i*P	**Pb**	**14 59 39.4**	**0.0**
	baz=70						
CHMS				⇓*i*S	**Sb**	**15 00 10.9**	**+0.9**
	baz=70						
CHMS	**Chumysh**	**2.44**	**71**	P	**Pg**	**14 59 41.3**	**-0.2**
	SNR=15						
KBK	**Karagaybulak**	**2.50**	**80**	⇑*i*P	**Pb**	**14 59 40.4**	**-0.3**
	baz=78						
KBK				⇑*i*S	**Sb**	**15 00 12.4**	**+0.3**
	baz=78						
KBK	**Karagaybulak**	**2.50**	**80**	P	**Pg**	**14 59 43.4**	**+0.6**
	SNR=11						
DRK	**Karamyk**	**2.78**	**177**	⇑*i*P	**Pb**	**14 59 43.0**	**-2.4**
	baz=77						
DRK				⇑*i*S	**Sb**	**15 00 17.0**	**-3.0**
	baz=77						
TKM2	**Tokmak 2**	**3.02**	**76**	⇑*i*P	**Pb**	**14 59 47.8**	**-1.7**
	baz=75						
TKM2				⇑*i*S	**Sb**	**15 00 25.0**	**-1.9**
	baz=75						
TKM2	**Tokmak 2**	**3.02**	**76**	P	**Pb**	**14 59 49.6**	**+0.1**
	SNR=16						
BOOM	**Boomskoye usch**	**3.22**	**84**	⇓*i*P	**Pb**	**14 59 50.4**	**-2.5**
	baz=83						
BOOM				⇓*i*S	**Sb**	**15 00 30.0**	**-2.6**
	baz=83						
DGS	**Degeres**	**3.22**	**71**	*e*P	**Pg**	**14 59 55.6**	**-1.0**
	4.2nm,0.3s						
DGS				*e*S	**Sg**	**15 00 38.4**	**+0.1**
	12nm,0.5s						
BTLS	**Baital**	**3.30**	**32**	*e*P	**Pg**	**14 59 57.8**	**-0.2**
	3.1nm,0.3s						
BTLS				*e*S	**Sg**	**15 00 42.5**	**+1.8**
	3.5nm,0.3s						
KST	**Kastek**	**3.31**	**75**	*e*P	**Pg**	**14 59 57.0**	**-1.2**
	4.6nm,0.3s						
KST				*e*S	**Sg**	**15 00 40.7**	**-0.4**
	12nm,0.4s						
KRBS	**Karabastau**	**3.31**	**63**	*e*P	**Pb**	**14 59 56.3**	**+1.9**
	4.0nm,0.5s						
KRBS				*e*S	**Sg**	**15 00 39.4**	**-1.8**
	7.6nm,0.3s						
IZV	**Izvestkoviy**	**3.77**	**76**	*e*P	**Pg**	**15 00 05.7**	**-1.5**
	9.4nm,0.6s						
IZV				*e*S	**Sg**	**15 00 55.6**	**-0.4**
	6.8nm,0.7s						
KUU	**Kurty**	**3.83**	**63**	*e*P	**Pg**	**15 00 07.9**	**-0.4**
	4.5nm,0.3s						
KUU				*e*S	**Sg**	**15 00 58.2**	**+0.3**
	7.6nm,0.4s						
KTBS	**Karatobe**	**4.00**	**67**	*e*P	**Pg**	**15 00 09.2**	**-2.2**
	2.6nm,0.4s						
KTBS				*e*S	**Sg**	**15 01 01.7**	**-1.5**
	10nm,0.5s						
TNSS	**Tian-Shan**	**4.02**	**77**	*e*P	**Pg**	**15 00 12.0**	**+0.3**
	6.6nm,0.3s						
TNSS				*e*S	**Sg**	**15 01 05.5**	**+1.6**
	2.6nm,0.6s						
MDOK	**Medeo**	**4.11**	**75**	*e*P	**Pg**	**15 00 12.6**	**-1.0**
	4.4nm,0.4s						
MDOK				*e*S	**Sg**	**15 01 06.8**	**-0.1**
	3.2nm,0.5s						
ARXS	**Arharly**	**4.95**	**65**	*e*P	**Pb**	**15 00 25.8**	**+3.5**
	2.6nm,0.5s						
ARXS				*e*S	**Sg**	**15 01 30.2**	**-3.5**
	5.2nm,0.4s						
SATY	**Saty**	**5.08**	**79**	*e*P	**Pg**	**15 00 31.5**	**-0.6**
	3.0nm,0.7s						
SATY				*e*S	**Sg**	**15 01 39.1**	**+1.2**
	2.7nm,0.3s						
MNBS	**Baschi**	**5.29**	**68**	*e*P	**Pg**	**15 00 33.1**	**-3.1**
	1.6nm,0.5s						
MNBS				*e*S	**Sg**	**15 01 42.5**	**-2.2**
	5.4nm,0.5s						
KPKS	**Kokpek**	**5.34**	**75**	*e*P	**Pg**	**15 00 34.0**	**-3.1**
	1.9nm,0.3s						
KPKS				*e*S	**Sg**	**15 01 44.0**	**-2.3**
	6.1nm,0.7s						
UZB	**Uzynbulak**	**5.54**	**78**	*e*P	**Pg**	**15 00 38.8**	**-2.1**
	1.6nm,0.1s						
UZB				*e*S	**Sg**	**15 01 52.2**	**-0.4**
	2.0nm,0.4s						

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*ANF **02** 15:03:41.7±0.5, 60°.08N×152°.73W, h122km±5km, ML3.7/31, Error ellipse: s-maj=4.6km s-min=2.8km az=96.0, Hypocentre not reviewed by the ISC*
*NEIC **02** 15:03:42.0±1.6, 60°.12N±0°.04×152°.87W±0°.09, h117km±3km, Error ellipse: s-maj=6.6km s-min=5.6km az=48.0*
AEIC 02 15:03:43±1.8**,60°.10N**±0°.04×**152°.85W**±0°.08**,h112**km±4km**, ML3.2,ML3.5**/76(NEIC)**,Error ellipse: s-maj=6.3km s-min=5.4km az=215.0,Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.12**	**223**		Pn	15 03 57.3	-1.4
IVE					Sn	15 04 10.2	-0.2
ILS	**Iliamna Low So**	**0.18**	**216**		Pn	15 03 58.2	-0.5
RED	**Redoubt Volcan**	**0.32**	**7**		Pn	15 03 58.6	-0.7
RED					Sn	15 04 10.7	-0.7
RSO	**Redoubt South**	**0.36**	**8**		Pn	15 03 59.1	-0.5
NCT	**North Crescent**	**0.46**	**355**		Pn	15 03 59.5	-0.4
NCT					Sn	15 04 12.2	-0.5
HOM	**Homer**	**0.76**	**126**		Pn	15 04 02.0	0.0
HOM					Sn	15 04 17.0	+0.7
HOM	**Homer**	**0.76**	**126**	P		15 04 02.1	
	baz=307,SNR=14						
HOM				S		15 04 16.9	
	baz=307						
AU22	**Augustine Moun**	**0.78**	**199**		Pn	15 04 01.8	-0.4
AUL	**Augustine Lava**	**0.78**	**202**		Pn	15 04 02.1	-0.2
AUCH	**Augustine Cone**	**0.80**	**202**		Pn	15 04 02.3	-0.2
CNPM	**China Poot**	**1.00**	**125**		Pn	15 04 04.1	-0.3
CNPM	**China Poot**	**1.00**	**125**		Sn	15 04 20.4	-0.2
BRLK	**Bradley Lake**	**1.05**	**108**		Pn	15 04 04.4	-0.5
BRLK	**Bradley Lake**	**1.05**	**108**	IAML		15 04 21.4	
	comp=E,1μm,0.3s						
CAPN	**Captain Cook N**	**1.07**	**51**		Pn	15 04 06.5	+1.5
CAPN	**Captain Cook N**	**1.07**	**51**	P		15 04 06.4	
	baz=232						
CAPN				S		15 04 22.7	
	baz=232						
BRSE	**Bradley Lake S**	**1.12**	**108**		Pn	15 04 05.3	-0.4
BRSE					Sn	15 04 22.1	-0.7
BRSE	**Bradley Lake S**	**1.12**	**108**	P		15 04 05.4	
	baz=290						
BRSE				S		15 04 21.8	
	baz=290						
SPCR	**Spurr Chakacha**	**1.15**	**16**		Pn	15 04 05.6	-0.3
SPCR	**Spurr Chakacha**	**1.15**	**16**	P		15 04 05.6	
	baz=196,SNR=15						
SPCR				S		15 04 22.8	
	baz=196						
SPCN	**Chakachatna No**	**1.17**	**16**		Pn	15 04 06.1	-0.1
SPCP	**Crater Peak Br**	**1.22**	**16**		Pn	15 04 06.7	-0.1
SLKM	**Skilak Lake**	**1.37**	**72**		Pn	15 04 07.5	-0.9
STLK	**Strandline Lak**	**1.49**	**19**		Pn	15 04 09.6	-0.2
O22K	**Cooper Landing**	**1.60**	**75**		Pn	15 04 10.6	-0.5
O22K	**Cooper Landing**	**1.60**	**75**	IAML		15 04 38.4	
	comp=E,648nm,0.4s						
O22K	**Cooper Landing**	**1.60**	**75**	P		15 04 10.6	
	baz=258,SNR=32						
O22K				S		15 04 31.3	
	baz=258						
FIS	**Fire Island**	**1.67**	**50**		Pn	15 04 12.7	+0.8
SVW2	**Sparrevohn**	**1.68**	**308**		Pn	15 04 11.2	-0.8
SVW2					Sn	15 04 32.7	-1.4
SEW	**Seward**	**1.70**	**89**		Pn	15 04 11.2	-1.1
SEW	**Seward**	**1.70**	**89**	P		15 04 11.3	
	baz=272,SNR=25						
SEW				S		15 04 33.1	
	baz=272						
SUA	**Susitna One**	**1.71**	**36**		Pn	15 04 12.5	0.0
SUA	**Susitna One**	**1.71**	**36**	P		15 04 12.5	
	baz=218,SNR=61						
SUA				S		15 04 35.2	
	baz=218						
RC01	**Rabbit Creek A**	**1.83**	**56**		Pn	15 04 13.2	-0.7
RC01					Sn	15 04 36.2	-1.2
RC01	**Rabbit Creek A**	**1.83**	**56**	P		15 04 13.3	
	baz=239,SNR=84						
RC01				S		15 04 36.2	
	baz=239						
SKT	**Skwentna**	**1.99**	**18**		Pn	15 04 15.5	-0.4
SKT	**Skwentna**	**1.99**	**18**	P		15 04 15.5	
	baz=199,SNR=15						
SKT				S		15 04 40.5	
	baz=199						
KDAK	**Kodiak Island**	**2.33**	**176**		Pn	15 04 18.5	-1.8
KDAK	**Kodiak Island**	**2.33**	**176**	P		15 04 18.4	
	baz=357						
KDAK				S		15 04 46.4	
	baz=357						
PWL	**Port Wells**	**2.36**	**69**		Pn	15 04 18.9	-1.7
CAHL	**Cahill**	**2.42**	**213**		Pn	15 04 21.4	0.0
KJL	**Kejulik**	**2.49**	**216**		Pn	15 04 22.5	+0.1
GHO	**Glory Hole Cre**	**2.54**	**47**		Pn	15 04 21.6	-1.5
GHO				IAML		15 04 57.0	
	comp=N,190nm,0.5s						
GHO				IAML		15 04 59.5	
	comp=E,269nm,0.5s						
CUT	**Chulitna**	**2.62**	**27**		Pn	15 04 23.5	-0.5
CUT	**Chulitna**	**2.62**	**27**	P		15 04 23.8	
	baz=210,SNR=24						
CUT				S		15 04 54.9	
	baz=210						
SML	**Sawmill**	**2.79**	**50**		Pn	15 04 24.8	-1.5
SML	**Sawmill**	**2.79**	**50**	IAML		15 04 59.9	
	comp=E,184nm,0.7s						
SML				IAML		15 05 02.0	
	comp=N,146nm,0.5s						
SML	**Sawmill**	**2.79**	**50**	P		15 04 24.7	
	baz=234,SNR=5.9						
SML				S		15 04 56.8	
	baz=234						
PPLA	**Purkeypile**	**2.82**	**6**		Pn	15 04 27.0	+0.3
PPLA	**Purkeypile**	**2.82**	**6**	P		15 04 27.0	
	baz=187,SNR=21						
PPLA				S		15 05 00.9	
	baz=187						
OHAK	**Old Harbor**	**2.90**	**185**		Pn	15 04 25.6	-2.0
OHAK	**Old Harbor**	**2.90**	**185**	P		15 04 25.7	
	baz=4.3						
OHAK				S		15 04 58.6	
	baz=4.3						
GLI	**Glacier Island**	**2.95**	**72**		Pn	15 04 25.7	-2.6
GLI	**Glacier Island**	**2.95**	**72**	IAML		15 05 06.6	
	comp=E,111nm,0.3s						
GLI	**Glacier Island**	**2.95**	**72**	P		15 04 25.6	
	baz=257						
GLI				S		15 04 60.0	
	baz=257						
HIN	**Hinchinbrook I**	**3.18**	**82**		Pn	15 04 29.1	-2.2
TT01	**Tatalina**	**3.20**	**333**		Pn	15 04 30.6	-1.0
SCM	**Sheep Creek Mo**	**3.20**	**55**		Pn	15 04 30.3	-1.5
SCM	**Sheep Creek Mo**	**3.20**	**55**	IAML		15 05 10.6	
	comp=N,144nm,0.7s						
TTA	**Tatalina**	**3.21**	**333**		Pn	15 04 30.9	-1.0
TTA	**Tatalina**	**3.21**	**333**	P		15 04 30.8	
	baz=150,SNR=20						
FID	**Port Fidalgo**	**3.23**	**76**		Pn	15 04 29.1	-2.8
FID	**Port Fidalgo**	**3.23**	**76**	IAML		15 05 10.2	
	comp=N,78nm,0.5s						
Q23K	**Middleton Isla**	**3.36**	**99**	Pn	Pn	15 04 33.4	-0.3
Q23K				IAML		15 05 20.8	
	comp=E,132nm,1.8s						
Q23K				IAML		15 05 56.0	
	comp=N,109nm,2.0s						
Q23K	**Middleton Isla**	**3.36**	**99**	P		15 04 33.0	
	baz=284						
MID	**Middleton Isla**	**3.36**	**99**	Pn	Pn	15 04 33.4	-0.3
MID				IAML		15 05 20.8	
	comp=E,138nm,1.8s						
MID				IAML		15 06 07.1	
	comp=N,101nm,1.7s						
EYAK	**Cordova Ski Ar**	**3.56**	**80**		Pn	15 04 34.9	-1.4
EYAK	**Cordova Ski Ar**	**3.56**	**80**	P		15 04 35.6	
	baz=266						
EYAK				S		15 05 15.3	
	baz=266						
TRF	**Thorofare Moun**	**3.57**	**19**		Pn	15 04 35.8	-0.9
TRF	**Thorofare Moun**	**3.57**	**19**	IAML		15 05 17.4	
	comp=E,70nm,0.3s						
TRF				IAML		15 05 20.0	
	comp=N,115nm,0.6s						
TRF	**Thorofare Moun**	**3.57**	**19**	P		15 04 35.9	
	baz=201,SNR=14						
TRF				S		15 05 15.7	
	baz=201						
KTH	**Kantishna Hill**	**3.58**	**14**		Pn	15 04 35.9	-0.8
KTH	**Kantishna Hill**	**3.58**	**14**	IAML		15 05 19.2	
	comp=N,83nm,0.8s						
KTH				IAML		15 05 20.7	
	comp=E,53nm,0.5s						
SII	**Sitkinak Islan**	**3.62**	**192**	Pn	Pn	15 04 36.1	-1.2
DIV	**Divide**	**3.64**	**71**		Pn	15 04 35.6	-1.9
KLU	**Klutina**	**3.67**	**65**		Pn	15 04 36.3	-1.7
KLU	**Klutina**	**3.67**	**65**	IAML		15 05 21.8	
	comp=E,114nm,0.5s						
KLU	**Klutina**	**3.67**	**65**	P		15 04 36.2	
	baz=251						
KLU				S		15 05 17.3	
	baz=251						
CHUM	**Lake Minchumin**	**3.80**	**4**	P		15 04 38.7	
	baz=184,SNR=8.6						
CHUM				S		15 05 22.6	
	baz=184						
M24K	**Tolsona, Glenn**	**3.81**	**55**		Pn	15 04 38.9	-1.0
M24K	**Tolsona, Glenn**	**3.81**	**55**	IAML		15 05 26.1	
	comp=N,112nm,0.8s						
M24K	**Tolsona, Glenn**	**3.81**	**55**	P		15 04 38.6	
	baz=241,SNR=25						
M24K				S		15 05 22.0	
	baz=241						
RND	**Reindeer**	**3.82**	**28**		Pn	15 04 38.3	-1.6
RND	**Reindeer**	**3.82**	**28**	IAML		15 05 22.0	
	comp=N,43nm,0.5s						
RND				IAML		15 05 27.0	
	comp=E,48nm,0.4s						
GOAT	**Goat Mountain**	**4.07**	**80**		Pn	15 04 41.0	-2.2
MCK	**McKinley**	**4.08**	**25**		Pn	15 04 43.1	-0.3
MCK	**McKinley**	**4.08**	**25**	P		15 04 42.2	
	baz=209,SNR=8.0						
MCK				S		15 05 26.7	
	baz=209						
BPAW	**Bear Paw Mtn.**	**4.11**	**12**		Pn	15 04 42.2	-1.5
BPAW	**Bear Paw Mtn.**	**4.11**	**12**	IAML		15 05 29.1	
	comp=N,41nm,0.7s						
BPAW	**Bear Paw Mtn.**	**4.11**	**12**	P		15 04 42.6	
	baz=193						
BPAW				S		15 05 26.9	
	baz=193						
BMRM	**Bremner River**	**4.17**	**74**		Pn	15 04 41.8	-2.8
BMRM	**Bremner River**	**4.17**	**74**	P		15 04 42.2	
	baz=262,SNR=7.7						
BMRM				S		15 05 28.3	
	baz=262						
KAIM	**Kayak Island**	**4.24**	**89**	Pn	Pn	15 04 45.0	-0.5
HMT	**Hamilton**	**4.29**	**83**	Pn	Pn	15 04 45.7	-0.5
HMT				IAML		15 05 51.9	
	comp=N,45nm,0.5s						
HMT				IAML		15 06 00.5	
	comp=E,65nm,0.5s						
N25K	**Chitina, Valde**	**4.31**	**66**		Pn	15 04 44.8	-1.8
N25K				IAML		15 05 35.1	
	comp=E,69nm,0.5s						
N25K				IAML		15 05 36.1	
	comp=N,65nm,0.4s						
N25K	**Chitina, Valde**	**4.31**	**66**	P		15 04 44.7	
	baz=253,SNR=14						
N25K				S		15 05 33.5	
	baz=253						
NICHA	**Nichawak Mount**	**4.44**	**84**		Pn	15 04 47.3	-0.9
PAX	**Paxson**	**4.55**	**48**		Pn	15 04 48.7	-1.1
PAX	**Paxson**	**4.55**	**48**	P		15 04 48.7	
	baz=234,SNR=6.4						
PAX				S		15 05 38.6	
	baz=234						
BERG	**Berg Lake**	**4.57**	**82**		Pn	15 04 48.3	-1.7
GLB	**Gilahina Butte**	**4.63**	**69**		Pn	15 04 48.9	-1.9
GLB				IAML		15 05 43.7	
	comp=N,35nm,0.4s						
VRDI	**Verde Repeater**	**4.76**	**72**		Pn	15 04 50.5	-2.1
VRDI				IAML		15 05 47.0	
	comp=N,35nm,0.5s						
GRIN	**Grindle Hills**	**4.76**	**84**		Pn	15 04 51.9	-0.7
BGLC	**Bering Glacier**	**4.79**	**86**	P		15 04 52.3	
	baz=274						
KHIT	**Khitrov Hills**	**4.79**	**82**		Pn	15 04 51.0	-2.1
CHGN	**Chignik**	**4.81**	**220**	Pn	Pn	15 04 52.1	-1.1
NEA2	**Nenana**	**4.84**	**20**	P		15 04 51.7	
	baz=203,SNR=6.3						
CRQM	**Cirque**	**4.86**	**78**		Pn	15 04 53.2	-0.8
CRQM				IAML		15 06 34.3	
	comp=E,24nm,0.8s						
WRH	**Wood River Hil**	**4.91**	**25**		Pn	15 04 53.2	-1.4
WRH				IAML		15 05 45.6	
	comp=E,22nm,0.5s						
WRH				IAML		15 05 49.0	
	comp=N,22nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MCARA	McCarthy VSAT	4.99	71		Pn	15 04 54.0	-1.6
MCARA	McCarthy VSAT	4.99	71	P		15 04 54.2	
	baz=259,SNR=8.6						
MCARA				S		15 05 50.3	
	baz=259						
TGL	Tana Glacier	5.01	78		Pn	15 04 54.6	-1.3
TGL				IAML		15 06 19.4	
	comp=E,18nm,0.6s						
TGL				IAML		15 06 31.1	
	comp=N,19nm,1.2s						
MLY	Manley	5.04	10		Pn	15 04 55.8	-0.5
MLY	Manley	5.04	10	P		15 04 55.2	
	baz=192,SNR=18						
KULT	Kultieth River	5.06	84		Pn	15 04 55.9	-0.7
HDA	Harding Lake	5.12	30		Pn	15 04 56.1	-1.2
HDA	Harding Lake	5.12	30	P		15 04 56.1	
	baz=215						
HDA				P		15 04 56.1	
	baz=215						
CCB	Clear Creek Bu	5.13	25		Pn	15 04 55.8	-1.6
CCB				IAML		15 05 53.6	
	comp=E,19nm,0.5s						
CCB				IAML		15 05 57.8	
	comp=N,17nm,0.4s						
MENT	Mentasta	5.21	53	Pn	Pn	15 04 57.0	-1.6
MENT				IAML		15 06 19.5	
	comp=E,37nm,0.6s						
MENT				IAML		15 06 20.4	
	comp=N,35nm,0.8s						
PTPK	Patty Peak	5.23	74		Pn	15 04 57.5	-1.4
KIAG	Kiagna River	5.25	76		Pn	15 04 57.4	-1.9
BALM	Baldy	5.27	75		Pn	15 04 57.6	-1.8
BALM				IAML		15 05 59.2	
	comp=N,26nm,0.6s						
I23K	Minto, Yukon-K	5.31	16		Pn	15 04 59.0	-0.8
I23K	Minto, Yukon-K	5.31	16	P		15 04 58.9	
	baz=199,SNR=35						
TCOL	CIGO, UAF Yank	5.32	24		Pn	15 04 58.7	-1.2
TCOL	CIGO, UAF Yank	5.32	24	P		15 04 58.8	
	baz=208,SNR=6.8						
COLA	College	5.32	24		Pn	15 04 58.9	-1.0
COLA	College	5.32	24	P		15 04 59.1	
	baz=208						
MDM	Murphy Dome	5.32	22		Pn	15 04 59.1	-1.0
IL31		5.44	28		Pn	15 04 59.8	-1.8
ILAR	Eielson Array	5.44	28	Pn	Pn	15 04 59.7	-2.0
DOT	Dot Lake	5.47	46		Pn	15 04 59.4	-2.7
YAH	Yahtse	5.54	83		Pn	15 05 03.0	-0.3
BARN	Barnard Glacie	5.60	75		Pn	15 05 03.6	-0.4
POKR	Poker Plat Res	5.62	24		Pn	15 05 03.1	-1.0
POKR	Poker Plat Res	5.62	24	P		15 05 02.9	
	baz=209						
SCRK	Sand Creek	5.70	43		Pn	15 05 03.7	-1.6
SCRK	Sand Creek	5.70	43	P		15 05 03.5	
	baz=231						
CTG	Chitna Glacier	5.75	76	P		15 05 05.5	
	baz=266						
CTGM	Chitina Glacie	5.75	76		Pn	15 05 05.8	-0.2
TABL	Table Mountain	5.84	82		Pn	15 05 06.8	-0.5
CHX	Chaix Hills	5.88	85		Pn	15 05 07.5	-0.1
LOGN	Logan Glacier	5.91	78		Pn	15 05 07.8	-0.3
IM03		5.92	356		Pn	15 05 07.5	-0.5
IMAR	Indian Mountai	5.92	356		Pn	15 05 07.3	-0.8
SAMH	Samovar Hills	6.04	85		Pn	15 05 09.6	-0.2
BC03		6.06	56		Pn	15 05 08.6	-1.4
BCAR	Beaver Creek A	6.06	56		Pn	15 05 08.4	-1.7
YUK2	White River	6.09	69		Pn	15 05 09.4	-1.1
BVCY	Beaver Creek	6.23	63		Pn	15 05 12.1	-0.2
YUK3	Moose Creek	6.27	69		Pn	15 05 12.1	-0.9
PCA	Pinnacle	6.30	85		Pn	15 05 13.1	-0.3
PINM	Pinnacle	6.30	85	P		15 05 12.8	
	baz=276,SNR=14						
PRP	Porcupine Dome	6.38	29		Pn	15 05 13.8	-0.7
PRP	Porcupine Dome	6.38	29	P		15 05 13.1	
	baz=215						
K27K	Chicken	6.41	48	Pn	Pn	15 05 13.9	-0.8
EGAK	Eagle	7.16	44	Pn	Pn	15 05 24.4	-0.5
EGAK	Eagle	7.16	44	P		15 05 24.8	
	baz=234						
COLD	Coldfoot	7.25	8	Pn	Pn	15 05 25.1	-1.0
COLD	Coldfoot	7.25	8	P		15 05 25.1	
	baz=191,SNR=5.8						
FYU	Fort Yukon	7.33	25		Pn	15 05 25.6	-1.5
BM03	Burnt Mountain	8.19	23		Pn	15 05 36.5	-2.3
BMAR	Burnt Mountain	8.21	23	Pn	Pn	15 05 36.4	-2.7
TOLK	Toolik Lake Re	8.69	8	Pn	Pn	15 05 45.2	-0.3
TOLK	Toolik Lake Re	8.69	8	P		15 05 44.9	
	baz=191						
WHY	Whitehorse	8.92	79		Pn	15 05 47.8	-1.0
BESE	Bessie Mountai	9.32	92	Pn	Pn	15 05 54.9	+0.7
JIS	Juneau Island	9.65	93	Pn	Pn	15 05 58.7	+0.1
WRAK	Wrangell Islan	11.40	100	Pn	Pn	15 06 22.1	0.0
CRAG	Craig	11.49	105	Pn	Pn	15 06 22.6	-0.8
INK	Inuvik	11.71	37	Pn	Pn	15 06 26.7	+0.5

*NEIC **02** 15:52:31.9±1.2, 15°.2S±0°.1×174°.9W±0°.2, h257km±13km, mb4.1/9, Error ellipse: s-maj=29.3km s-min=15.7km az=109.0*

*IDC **02** 15:52:32.2±1.8, 15°.15S×174°.92W, h251km±42km, mb3.5/3, mb1 3.7/4, mb1mx3.2/42, mbtmp4.1/4, Error ellipse: s-maj=141.4km s-min=22.7km az=144.0*

ISC 02 15:52:31.3±0.7, **15°.2S**±0°.1×**174°.95W**±0°.10, **h250**km, **n18**, σ**0.92**/20, **mb4.0**/8, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.34	68	P	Pn	15 53 27.1	-0.4
	8.6nm,0.3s,baz=23,slow=1.5,SNR=17						
AFI				S	S	15 54 13.0	+0.9
	2.2nm,0.3s,baz=269,slow=22,SNR=1.0						
AFI	Afiamalu	3.34	68		Pn	15 53 26.6	-0.9
NIUE	Niue	6.15	129	Pn	Pn	15 54 02.1	+0.7
RAO	Raoul Island	14.24	191	Pn	Pn	15 55 40.7	-1.6
WHZ	Wether Hill Ro	33.79	202	P	P	15 58 49.5	-0.3
TOO	Toolangi	41.43	230	P	P	15 59 53.0	-0.8
TOO				IAmb	IAmb	16 00 06.7	
	comp=Z,7.7nm,1.1s						
BBOO	Buckleboo	47.62	239	P	P	16 00 43.7	+1.1
BBOO				IAmb	IAmb	16 01 12.1	
	comp=Z,17nm,1.4s						
WR0	Warramunga Arr	48.24	257	P	P	16 00 48.5	+1.0
WB0	Warramunga Arr	48.39	257	P	P	16 00 49.4	+0.8
WB0				IAmb	IAmb	16 01 13.5	
	comp=Z,8.7nm,1.5s						
WB2	Warramunga Arr	48.42	257	P	P	16 00 49.5	+0.6
WB2				IAmb	IAmb	16 00 54.1	
	comp=Z,7.0nm,1.3s						
WRA	Warramunga Arr	48.43	257	P	P	16 00 49.7	+0.7
	comp=Z,0.8nm,0.6s,baz=92,slow=7.0,SNR=18						
AS31	Alice Springs	48.74	252	P	P	16 00 52.3	+0.9
ASAR	Alice Springs	48.75	252	P	P	16 00 52.8	+1.4
	comp=Z,9.1nm,0.6s,baz=90,slow=7.7,SNR=284						
ASAR				PcP	PcP	16 02 13.2	+0.8
	comp=Z,0.7nm,1.2s,baz=101,slow=4.0,SNR=2.1						
ASAR	Alice Springs	48.75	252	P	P	16 00 52.1	+0.7
MORW	Morawa	64.61	245	P	P	16 02 42.6	0.0
MORW				IAmb	IAmb	16 02 51.5	
	comp=Z,15nm,1.1s						
JOW	Kunigami	69.17	307	P	P	16 03 10.4	-0.8
ILAR	Eielson Array	82.56	12	P	P	16 04 26.2	+0.4
	comp=Z,0.2nm,0.5s,baz=211,slow=5.2,SNR=7.5						
ILAR	Eielson Array	82.56	12	P	P	16 04 25.7	-0.2

*NNC **02** 16:01:18.9±2.0, 36°.75N×70°.78E, h0km, mb4.7, mpv4.9, Error ellipse: s-maj=20.5km s-min=11.4km az=158.0*

*IDC **02** 16:01:21.1±2.7, 36°.31N×71°.14E, h75km±25km, mb3.8/23, mb1 3.9/26, mb1mx3.7/60, mbtmp4.1/26, MS3.4/11, Ms1 3.4/11, ms1mx3.0/56, Error ellipse: s-maj=16.9km s-min=10.9km az=7.0*

*MOS **02** 16:01:22.6±1.0, 36°.56N×71°.33E, h99km, mb4.4/21, Error ellipse: s-maj=6.0km s-min=3.7km az=85.9*

*NEIC **02** 16:01:23.6±2.3, 36°.53N±0°.04×71°.20E±0°.09, h96km±6km, mb4.5/42, Error ellipse: s-maj=10.1km s-min=6.1km az=78.0*

*BJI **02** 16:01:23.4±0.0, 36°.52N×71°.42E, h94km, mB4.7/25, mb4.4/35*

ISC 02 16:01:23.3±0.3, **36°.48N**±0°.03×**71°.20E**±0°.03, **h100**km, **n266**, σ**2.10**/298, **mb4.3**/58, **26C-10D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.61	223	PN	Pn	16 02 05.2	+1.1
KBL	Kabul	2.61	223	Pn	Pn	16 02 05.2	+1.1
KBL	Kabul	2.61	223	⇓P	Pn	16 02 05.7	+1.6
KBL				S	Sn	16 02 38.5	+3.1
CEP	Cherat	2.71	167	P	Pn	16 02 06.6	+1.2
CEP				S	Sn	16 02 40.0	+2.4
NIL	Nilore	3.28	149	PN	Pn	16 02 14.3	+1.4
NIL	Nilore	3.28	149	Pn	Pn	16 02 14.2	+1.4
NIL	Nilore	3.28	149	P	Pn	16 02 14.5	+1.6
THW	Thamme Wali	3.70	173	P	Pn	16 02 19.3	+0.8
SARP	Sargodha	4.70	165	P	Pn	16 02 31.7	-0.3
KSH	Kashi	4.84	50	P	Pn	16 02 30.5	-3.5
KSH				S	Sn	16 03 19.9	-9.0
KSH				smax	smax		
	comp=N,2μm,0.5s						
KSH				smax	smax		
	comp=E,2μm,0.4s						
TAS	Tashkent	5.06	344	PN	Pn	16 02 36.8	-0.1
TAS	Tashkent	5.06	344	Pn	Pn	16 02 36.8	-0.1
THN	Thein Dam	5.50	136	eP	Pn	16 02 44.5	+1.8
THN				eS	Sn	16 03 42.5	-2.1
IUG	Iuzhnay	5.74	351	eP	Pn	16 02 45.3	-0.8
	baz=350						
IUG				eS	Sn	16 03 46.7	-3.8
	baz=350						
IUG	Iuzhnay	5.74	351	ePN	Pn	16 02 45.2	-0.8
DHRM	DHARAMSHALA	5.96	134	eP	Pn	16 02 47.4	-2.0
DHRM				eS	Sn	16 03 49.1	-7.3
DHRM				IAML		16 03 55.1	
	comp=N,3μm,0.2s						
DHRM				IAML		16 03 56.1	
	comp=E,2μm,0.2s						
AML	Almayashu	5.97	18	P	Pn	16 02 49.9	+0.4
	SNR=692						
UCH	Uchtor	6.29	23	P	Pn	16 02 54.6	+0.7
	SNR=131						
DZA	Taraz	6.41	1	eP	Pn	16 02 54.6	-0.5
	baz=0.5						
DZA				eS	Sn	16 04 03.1	-3.7
	baz=0.5						
DZA	Taraz	6.41	1	ePN	Pn	16 02 54.6	-0.5
EKS2	Erkin-Say	6.49	17	P	Pn	16 02 57.0	+0.6
	SNR=172						
KK31	Karatay Array	6.64	356	⇓P	Pn	16 02 56.2	-2.1
	comp=E,102nm,0.3s,baz=179,slow=12,SNR=5975						
KK31				⇑S	Sn	16 04 08.5	-3.9
	comp=E,109nm,0.5s,baz=184,slow=21,SNR=12						
KK31	Karatay Array	6.64	356	PN	Pn	16 02 58.0	-0.2
KK31	Karatay Array	6.64	356	Pn	Pn	16 02 58.0	-0.2
KKAR	Karatay Array	6.64	356	PN	Pn	16 02 57.9	-0.3
KKAR	Karatay Array	6.64	356		Pn	16 02 57.9	-0.3
KKAR	Karatay Array	6.64	356	Pn	Pn	16 02 57.7	-0.6
BHK	Bhakra	6.65	138	eP	Pn	16 02 57.4	-1.1
BHK				eS	Sn	16 04 08.2	-4.7
AAK	Ala-Archa	6.66	21	P	Pn	16 02 59.5	+0.9
	comp=E,58nm,0.3s,baz=182,slow=6.5,SNR=879						
AAK				S	Sn	16 04 12.0	-1.1
	comp=E,5.2nm,0.3s,baz=258,slow=5.8,SNR=13						
AAK	Ala-Archa	6.66	21	P	Pn	16 02 59.6	+0.9
	SNR=178						
AAK	Ala-Archa	6.66	21	P	Pn	16 02 57.9	-0.7
	comp=E,62nm,0.4s						
AAK				⇑S	Sn	16 04 13.1	0.0
	comp=E,234nm,1.2s						
AAK	Ala-Archa	6.66	21	d iPN	Pn	16 02 59.4	+0.7
AAK	Ala-Archa	6.66	21		Pn	16 02 59.4	+0.7
AAK	Ala-Archa	6.66	21	P	Pn	16 02 59.6	+0.9
AAK				S	Sn	16 04 11.9	-1.2
KBK	Karagaybulak	6.82	24	P	Pn	16 03 01.7	+0.9
	SNR=47						
ULHL	Ulahol	6.96	33	P	Pn	16 03 03.4	+0.6
	SNR=29						
CHMS	Chumysh	7.07	22	P	Pn	16 03 04.5	+0.5
	SNR=87						
USP	Ospenovka	7.24	20	P	Pn	16 03 06.3	-0.1
	SNR=157						
TKM2	Tokmak 2	7.27	26	P	Pn	16 03 07.7	+0.6
	SNR=86						
TKM2	Tokmak 2	7.27	26	⇑P	Pn	16 03 07.5	+0.4
	comp=E,24nm,0.5s						
TKM2				⇑S	Sn	16 04 29.9	+1.8
	comp=E,37nm,0.8s						
TKM2	Tokmak 2	7.27	26	PN	Pn	16 03 07.5	+0.4
TKM2				S	Sn	16 04 29.9	+1.8
SMLA	Simla	7.29	135	eP	Pn	16 03 05.2	-1.9
SMLA				eS	Sn	16 04 21.5	-6.7
SMLA				IAML		16 04 27.7	
	comp=N,903nm,0.2s						
SMLA				IAML		16 04 29.1	
	comp=E,813nm,0.3s						
SGDS	Sogindy	7.45	20	eP	Pn	16 03 08.4	-0.9
	comp=E,9.6nm,0.4s,baz=20						
SGDS				eS	Sn	16 04 28.2	-4.0
	baz=20						
SGDS	Sogindy	7.45	20	ePN	Pn	16 03 08.4	-0.9
SGDS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
HRA	Herat	7.60	257	Pn	Pn	16 03 11.3	-0.2
TNSS	Tian-Shan	7.91	32	eP	Pn	16 03 15.3	-0.6
	baz=33						
TNSS	Tian-Shan	7.91	32	ePN	Pn	16 03 15.2	-0.6
AAA	Alma-Ata	8.03	31	eP	Pn	16 03 17.0	-0.3
	baz=32						
AAA	Alma-Ata	8.03	31	ePN	Pn	16 03 16.9	-0.3
MDOK	Medeo	8.05	32	eP	Pn	16 03 17.0	-0.6
	baz=33						
MDOK	Medeo	8.05	32	⇓P	Pn	16 03 18.1	+0.5
	comp=Z,10nm,0.6s						
MDOK				⇓S	Sn	16 04 48.3	+1.3
	comp=Z,21nm,0.8s						
MDOK	Medeo	8.05	32	ePN	Pn	16 03 17.0	-0.6
KUU	Kurty	8.39	26	eP	Pn	16 03 20.5	-1.5
	comp=Z,4.2nm,0.3s,baz=27						
KUU	Kurty	8.39	26	ePN	Pn	16 03 20.5	-1.5
KUU				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CHKK	Chushkaly	8.60	29	eP	Pn	16 03 23.3	-1.6
	baz=30						
CHKK	Chushkaly	8.60	29	ePN	Pn	16 03 23.3	-1.6
SATY	Saty	8.60	38	eP	Pn	16 03 24.5	-0.6
	baz=39						
SATY	Saty	8.60	38	ePN	Pn	16 03 24.4	-0.6
BTLS	Baital	8.82	13	eP	Pn	16 03 26.4	-1.6
	comp=Z,2.0nm,0.2s,baz=14						
BTLS	Baital	8.82	13	ePN	Pn	16 03 26.3	-1.6
BTLS				pmax	pmax		
	comp=Z,2.0nm,0.2s						
UZB	Uzynbulak	8.98	40	eP	Pn	16 03 29.4	-0.8
	baz=41						
UZB	Uzynbulak	8.98	40	ePN	Pn	16 03 29.3	-0.8
KPKS	Kokpek	9.04	37	eP	Pn	16 03 30.2	-0.7
	baz=38						
KPKS	Kokpek	9.04	37	ePN	Pn	16 03 30.2	-0.7
SHLS	Shalkode	9.21	41	eP	Pn	16 03 35.4	+2.0
	comp=Z,2.3nm,0.3s,baz=44						
SHLS	Shalkode	9.21	41	eP	Pn	16 03 35.3	+2.0
SHLS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NDI	New Delhi	9.28	145	eP	Pn	16 03 33.5	-0.7
NDI				eS	Sn	16 05 10.5	-6.3
PDGK	Podgornoye	9.35	40	⇑P	Pn	16 03 34.5	-0.7
	comp=Z,31nm,1.1s						
PDGK				⇑S	Sn	16 05 20.1	+1.6
	comp=Z,47nm,1.0s						
PDGK	Podgornoye	9.35	40	P	Pn	16 03 34.5	-0.7
PDGK				S	Sn	16 05 20.1	+1.6
TDK	Taldyqorghan	10.12	30	eP	Pn	16 03 44.2	-1.4
	baz=31						
TDK	Taldyqorghan	10.12	30	eP	Pn	16 03 44.1	-1.4
AJM	Ajmer	10.39	163	eP	Pn	16 03 44.0	-5.4
AJM				i S	Sn	16 05 37.0	-6.9
GEYT	Alibeck	10.54	282	P	Pn	16 03 47.4	-3.9
	comp=Z,5.6nm,0.3s,baz=126,slow=9.3,SNR=62						
GEYT				S	Sn	16 05 39.6	-7.6
	comp=Z,19nm,0.3s,baz=291,slow=28,SNR=16						
GEYT				LR	LR	16 08 55.3	
	comp=Z,68nm,18.8s,baz=155,slow=43						
GEYT	Alibeck	10.54	282		Pn	16 03 47.1	-4.2
GEYT					Sn	16 05 40.8	-6.5
GYA0B	ALIBECK ARRAY	10.54	282	⇑P	Pn	16 03 47.8	-3.5
GYA0B				⇓S	Sn	16 05 38.5	-8.8
GYA0B	ALIBECK ARRAY	10.54	282		Pn	16 03 47.1	-4.2
MAKZ	Makanchi	13.08	35	⇓P	Pn	16 04 23.6	-1.6
	comp=Z,8.5nm,1.1s						
MAKZ	Makanchi	13.08	35	P	Pn	16 04 23.4	-1.8
MAKZ	Makanchi	13.08	35	Pn	Pn	16 04 23.4	-1.8
MK31	Makanchi Array	13.22	35	⇑P	Pn	16 04 26.3	-0.7
	comp=Z,1.8nm,0.4s						
MK31	Makanchi Array	13.22	35	i P	Pn	16 04 26.0	-1.0
MK31	Makanchi Array	13.22	35	Pn	Pn	16 04 25.8	-1.2
MKAR	Makanchi Array	13.22	35	P	Pn	16 04 26.2	-0.7
	comp=Z,0.4nm,0.3s,baz=218,slow=14,SNR=22						
MKAR	Makanchi Array	13.22	35	Pn	Pn	16 04 25.7	-1.3
BRZS	Berezniki	13.54	4	eP	Pn	16 04 28.1	-3.1
	comp=Z,3.1nm,0.4s,baz=4.0						
BRZS	Berezniki	13.54	4	eP	Pn	16 04 28.0	-3.1
BRZS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GKN	Gorkha	14.16	123	ePn	Pn	16 04 34.8	-4.6
GKN				eSn	Sn	16 07 03.3	-12
	comp=Z,125nm,0.4s						
BHPL	Bhopal	14.25	156	eP	Pn	16 04 36.2	-4.3
BHPL				i x	x	16 04 44.7	
BHPL				eS	Sn	16 07 05.5	-12
WMQ	Urumqi	14.58	55	eP	Pn	16 04 44.0	-0.7
WMQ				pP	P	16 05 00.4	+12
WMQ				sP		16 05 12.0	
WMQ				S	Sn	16 07 21.1	-4.2
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,4.9s						
WMQ				LR	LR		
	comp=Z,170nm,6.5s						
WMQ				LR	LR		
	comp=Z,200nm,7.5s						
WMQ	Urumqi	14.58	55	P	Pn	16 04 43.2	-1.4
WMQ	Urumqi	14.58	55		Pn	16 04 43.2	-1.4
DMN	Daman	14.73	123	ePn	Pn	16 04 42.0	-4.8
DMN				eSn	Sn	16 07 18.4	-11
	comp=Z,452nm,1.3s						
KKN	Kakani	14.73	122	ePn	Pn	16 04 41.7	-5.1
KKN				eSn	Sn	16 07 16.2	-13
	comp=Z,72nm,0.5s						
ZSN	Zaisan	14.93	39	eP	Pn	16 04 47.2	-1.9
	baz=39						
ZSN	Zaisan	14.93	39	eP	Pn	16 04 47.1	-1.9
PKIN	Phulchoki	14.95	122	ePn	Pn	16 04 45.1	-4.5
PKIN				eSn	Sn	16 07 22.6	-12
	comp=Z,89nm,0.4s						
PKI	Pulchoki	14.96	122	ePn	Pn	16 04 44.6	-5.2
PKI				eSn	Sn	16 07 23.0	-12
	comp=Z,67nm,0.4s						
GUN	Gumba	15.07	120	ePn	Pn	16 04 46.1	-5.1
GUN				eSn	Sn	16 07 23.1	-15
	comp=Z,70nm,0.6s						
KURBB	Kurchatov Arra	15.10	18	P	Pn	16 04 48.5	-2.5
	comp=Z,0.3nm,0.3s,baz=207,slow=11,SNR=13						
KURBB	Kurchatov Arra	15.10	18	⇑P	P	16 04 53.0	-0.9
	comp=Z,8.9nm,0.6s						
AB31	Akbulak array	15.18	331	⇓P	Pn	16 04 49.4	-2.8
	comp=Z,6.6nm,0.3s,baz=137,slow=13,SNR=587						
AB31				⇑S	Sn	16 07 31.6	-8.0
	comp=Z,22nm,0.7s,baz=149,slow=24,SNR=14						
AB31	Akbulak array	15.18	331	P	Pn	16 04 49.4	-2.8
AB31				S	Sn	16 07 31.6	-8.0
ABKAR	Akbulak array	15.18	331	Pn	Pn	16 04 49.1	-3.0
ABKAR				IAmb	IAmb	16 04 51.2	
	comp=Z,16nm,0.4s						
KURK	Kurchatov	15.20	18	⇑P	Pn	16 04 53.8	+1.4
	comp=Z,6.3nm,0.8s						
KURK	Kurchatov	15.20	18	ceP	Pn	16 04 51.8	-0.6
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURK	Kurchatov	15.20	18	P	P	16 04 54.8	-0.3
RAMN	Ramite	16.17	122	ePn	Pn	16 05 00.9	-4.0
RAMN				eSn	Sn	16 07 51.2	-13
	comp=Z,80nm,0.4s						
BANOM	Banah	16.50	235	⇑P	P	16 05 10.5	+0.8
BVAR	Borovoye Array	16.56	358	P	Pn	16 05 07.7	-1.6
	comp=Z,2.4nm,0.3s,baz=95,slow=9.1,SNR=61						
BRVK	Borovoye	16.59	358	⇑P	Pn	16 05 07.7	-2.0
	comp=Z,7.2nm,0.8s						
BRVK	Borovoye	16.59	358	i P	Pn	16 05 07.5	-2.2
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	Borovoye	16.59	358	Pn	Pn	16 05 07.2	-2.4
TAPN	Taplejung	16.70	118	ePn	Pn	16 05 07.0	-4.5
TAPN				eSn	Sn	16 08 01.5	-15
ODAN	Odare	16.77	120	ePn	Pn	16 05 08.4	-3.9
	comp=Z,47nm,0.6s						
ODAN				eSn	Sn	16 08 03.8	-15
	comp=Z,96nm,0.7s						
AKTO	Aktyubinsk	16.88	330	P	Pn	16 05 12.8	-0.4
	comp=Z,3.1nm,0.3s,baz=159,slow=7.6,SNR=32						
AKTO				S	Sn	16 08 07.7	-13
	comp=Z,0.4nm,0.3s,baz=114,slow=19,SNR=2.9						
AKTO				LR	LR	16 11 58.9	
	comp=Z,72nm,20.4s,baz=127,slow=38						
AKTO	Aktyubinsk	16.88	330	⇓P	Pn	16 05 12.2	-1.0
	comp=Z,28nm,0.8s						
AKTO				⇑S	Sn	16 08 15.6	-5.0
	comp=Z,23nm,0.8s						
MASF	Masafi	16.98	234	P	P	16 05 17.8	+2.8
WSAR	Wadi Sarin	17.09	223	P	P	16 05 17.4	+1.1
	comp=Z,0.2nm,0.3s,baz=64,slow=14,SNR=4.8						
UOSS	Minazif	17.25	232	P	Pn	16 05 18.4	+0.5
UOSS	Minazif	17.25	232	P	Pn	16 05 20.1	+2.2
WBK	Wadi Bani Khal	17.41	221	P	Pn	16 05 22.0	+2.0
ASHO	Ashiyiah	17.52	232	P	Pn	16 05 23.2	+1.9
	SNR=6.4						
SMDO	Samad	17.55	224	P	Pn	16 05 23.1	+1.3
JLN	Jalan Bani Buh	17.57	219	P	Pn	16 05 23.8	+2.0
HOQ	Hoqain	17.57	227	P	Pn	16 05 22.8	+0.9
SOHO	SOHO	17.62	230	P	Pn	16 05 22.9	+0.4
DGZ	Jazzator, Alta	17.70	37	i P	P	16 05 21.7	-1.2
LKRN	Lenkeran, Azer	17.90	284	P	Pn	16 05 28.9	+3.2
LSA	Lhasa	18.02	106	P	P	16 05 25.8	-1.1
LSA				pmax	pmax		
	comp=Z,37nm,0.9s						
LSA	Lhasa	18.02	106	P	P	16 05 25.8	-1.1
LSA				pmax	pmax		
	comp=Z,24nm,1.3s						
LSA	Lhasa	18.02	106	P	P	16 05 25.8	-1.1
LSA				IAmb	IAmb	16 05 28.6	
	comp=Z,24nm,1.3s						
JMDO	Jabal Madar	18.07	223	P	Pn	16 05 31.0	+3.0
BSY	Bisya	18.28	225	P	Pn	16 05 31.4	+0.9
SEKA	Sheki	19.26	292	P	Pn	16 05 42.3	+0.3
MHTO	MHTO	19.27	220	P	Pn	16 05 43.9	+1.7
MNGR	Mingechevir, A	19.30	290	P	Pn	16 05 44.2	+1.9
UMZA	Um Al Zommool	19.52	230	P	P	16 05 43.4	+0.6
ZKTA	Zakatala	19.74	293	P	Pn	16 05 49.1	+1.6
GANJ	Ganja	19.87	290	P	Pn	16 05 50.1	+1.1
ZAA0	Zalesovo Array	19.87	24	⇑P	Pn	16 05 48.2	-0.6
	comp=Z,1.0nm,0.3s						
ZAA0	Zalesovo Array	19.87	24	P	P	16 05 45.7	-0.6
ZAA0				IAmb	IAmb	16 05 48.5	
	comp=Z,14nm,0.7s						
ZALV	Zalesovo Beam	19.87	24	P	P	16 05 46.1	-0.2
	comp=Z,14nm,0.3s,baz=228,slow=10,SNR=55						
ZALV	Zalesovo Beam	19.87	24	P	P	16 05 45.5	-0.9
HYB	Hyderabad	20.07	159	i P	P	16 05 50.0	+1.2
HYB				eS	S	16 09 24.0	-5.0
DQM	DQM	20.37	220	P	P	16 05 52.6	+0.6
NAX	Nakhchivan	20.46	285	P	Pn	16 05 56.8	+0.8
GROC	Groznyy	20.58	297	eP	P	16 05 54.8	+0.7
GROC				e*PP	pP	16 06 16.3	+2.7
GROC				S	S	16 09 36.0	-2.7
GROC				e*SS	Sn	16 10 10.8	+21
GROC				pmax	pmax		
	comp=Z,40nm,1.1s						
SHL	Shillong	20.75	116	P	P	16 05 56.2	-0.1
SHL				pmax	pmax		
	comp=Z,23nm,1.0s						
SHL	Shillong	20.75	116	P	P	16 05 56.2	-0.1
SHL				IAmb	IAmb	16 05 57.2	
	comp=Z,23nm,1.0s						
SHL	Shillong	20.75	116	P	P	16 05 57.0	+0.7
	SNR=5.8						
UMR	Umm Al-Rimmam	20.84	257	eP		16 05 57.4	
SLWR	Sila	20.85	239	P	P	16 05 56.8	-0.3
MIB	Mutribah	21.03	258	eP		16 05 59.4	
QRN	Al-Qurain	21.04	255	eP		16 05 59.5	
GNI	Garni	21.05	288	P	P	16 06 00.1	+0.8
	comp=Z,15nm,0.8s,baz=358,slow=5.5,SNR=9.8						
GNI	Garni	21.05	288	ceP	P	16 06 01.1	+1.7

GNI pmax pmax
comp=Z,59nm,1.7s
GNI Garni 21.05 288 P **P** **16 05 58.5 -0.9**
GNI lAmb lAmb 16 06 09.5
comp=Z,43nm,1.1s
RDF Al-Radifah 21.24 256 *eP* 16 06 01.1
SVE Sverdlovsk 21.56 344 *eP* **P** **16 06 05.2 +0.8**
SVE *eS* **S** **16 09 55.9 -1.6**
SVE pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 21.71 341 P **P** **16 06 06.5 +0.5**
comp=Z,1.6nm,0.3s,baz=150,slow=11,SNR=9.4
ARU LR LR 16 15 15.5
comp=Z,89nm,21.4s,baz=134,slow=38
ARU Arti 21.71 341 *c iP* **P** **16 06 06.6 +0.6**
ARU 16 06 37.2
ARU S **S** **16 10 00.2 0.0**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU Arti 21.71 341 P **P** **16 06 05.2 -0.7**
ARU lAmb lAmb 16 06 10.4
comp=Z,23nm,1.3s
ZEI Tsey 21.89 295 *eP* **P** **16 06 12.0 +3.6**
ZEI pmax pmax
comp=Z,8.0nm,1.1s
NCK Nalchik 22.22 297 *i* P **P** **16 06 12.1 +0.5**
NCK pmax pmax
comp=Z,11nm,0.8s
MOKO MOKOCHONG 22.28 110 *eP* **P** **16 06 12.3 -0.2**
KOHI KOHIMA 22.30 112 *eP* **P** **16 06 13.2 +0.5**
KOHI lVmB_BB 16 06 16.9
comp=Z,248nm,0.3s
GTA Gaotai 22.72 74 *eP* **P** **16 06 18.4 +1.5**
GTA sP sP 16 06 54.1 +3.3
GTA pmax pmax
comp=Z,17nm,1.2s
KBZ Khabaz 22.75 297 P **P** **16 06 17.9 +0.8**
comp=Z,2.5nm,1.0s,baz=130,slow=8.1,SNR=6.1
KBZ Khabaz 22.75 297 *ceP* **P** **16 06 17.5 +0.5**
KBZ pmax pmax
comp=Z,7.0nm,1.3s
NEY Neytrino 22.81 296 *i* P **P** **16 06 18.1 +0.3**
NEY pmax pmax
comp=Z,3.0nm,1.4s
GOF Gofitskoye 22.89 301⇑ *eP* **P** **16 06 21.5 +3.1**
GOF pmax pmax
comp=Z,21nm,0.9s
SHA1 Shidzhatmaz 22.93 297 *i* P **P** **16 06 20.6 +1.6**
KIV Kislovodsk 22.94 298 *i* P **P** **16 06 20.2 +1.2**
KIV pmax pmax
comp=Z,26nm,1.6s
KIV Kislovodsk 22.94 298 P **P** **16 06 17.6 -1.4**
KIV lAmb lAmb 16 06 36.8
comp=Z,12nm,0.9s
BELG Belogornoye 23.01 321 P **P** **16 06 20.2 +0.8**
comp=Z,22nm,0.9s,baz=95,slow=2.7,SNR=4.7
BELG Belogornoye 23.01 321 *i* P **P** **16 06 19.0 -0.4**
BELG pmax pmax
comp=Z,4.0nm,0.9s
DOK Doka 23.29 225 P **P** **16 06 23.2 +0.8**
SAIH SAIHA 23.47 120 *eP* **P** **16 06 24.4 +0.3**
WHFO Wadi Hawf 24.05 224 P **P** **16 06 29.7 +0.4**
SNR=6.2
ABTO Aybut 24.77 224 P **P** **16 06 36.2 +0.3**
SNR=7.3
RAYN Ar Rayn 25.64 247 P **P** **16 06 43.1 -0.6**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
RAYN Ar Rayn 25.64 247 P **P** **16 06 43.0 -0.6**
LZH Lanzhou 26.25 81 ⇑P **P** **16 06 48.2 -1.1**
LZH pP pP 16 07 09.2 -3.5
LZH sP sP 16 07 21.6 -3.6
LZH PP **PnPn** **16 07 34.1 -0.3**
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,68nm,6.0s
KIRV Kirov 26.33 334 *ceP* **P** **16 06 49.4 -0.1**
ZAK Zakamensk 26.89 49 *eP* **P** **16 07 00.0 +5.2**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
VSR Storozhevoye 27.14 313 *eP* **P** **16 06 57.3 +0.5**
VSR pmax pmax
comp=Z,8.0nm,0.9s
LPSR Galich'ya Gora 27.78 316 *eP* **P** **16 07 03.7 +1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 28.22 55 P **P** **16 07 08.4 +1.7**
comp=Z,0.6nm,0.5s,baz=266,slow=8.8,SNR=8.0
SONM LR LR 16 19 34.1
comp=Z,47nm,19.6s,baz=252,slow=38
SONM Songino Array 28.22 55 lAmb lAmb 16 07 16.3
comp=Z,0.8nm,0.9s
KMI Kunming 29.24 104 ⇓P **P** **16 07 18.4 +2.3**
KMI pmax pmax
comp=Z,4.0nm,0.7s
KMI pmax pmax
comp=Z,87nm,4.0s
BRTR Keskin Array B 29.59 288 P **P** **16 07 20.6 +1.6**
comp=Z,0.6nm,0.4s,baz=99,slow=9.2,SNR=2.8
OBN Obninsk 30.06 319 *ceP* **P** **16 07 23.9 +1.2**
OBN *e* 16 08 26.6
OBN pmax pmax
comp=Z,5.0nm,0.4s
CMAR Chiang Mai Arr 30.30 119 P **P** **16 07 26.8 +1.5**
comp=Z,0.4nm,0.6s,baz=300,slow=9.6,SNR=3.9
KLMR Klimovskoe 31.58 331 *eP* **P** **16 07 35.9 -0.1**
KLMR pmax pmax
comp=Z,9.0nm,1.1s
KLMR Klimovskoe 31.58 331 *eP* **P** **16 07 36.0 -0.1**
KLMR AMP 16 07 50.7
comp=Z,9.0nm,1.1s
HHC Hu-ho-hao-te 31.62 70 *eP* **P** **16 07 38.3 +1.5**
HHC pmax pmax
comp=Z,6.0nm,1.0s
HHC pmax pmax
comp=Z,92nm,6.6s
AKASG Malin Array Be 33.08 309 P **P** **16 07 50.6 +1.3**
comp=Z,1.7nm,0.4s,baz=82,slow=6.9,SNR=15
AKBB Malin Array Si 33.08 309 *ceP* **P** **16 07 49.9 +0.6**
NRIK Noril'sk 34.12 10 P **P** **16 08 01.2 +3.1**
comp=Z,0.8nm,0.3s,baz=209,slow=6.4,SNR=3.3
NRIK Noril'sk 34.12 10 *ceP* **P** **16 07 58.2 +0.1**
NRIK pmax pmax
comp=Z,7.0nm,1.5s
TMCR Tamitsa 34.14 335 *eP* **P** **16 07 59.6 +1.4**
TMCR pmax pmax
comp=Z,22nm,0.9s
MNK Minsk 34.63 315 *i* P **P** **16 08 02.9 +0.3**
comp=E,1.0nm,0.8s
MNK *i* P **P** **16 08 02.9 +0.3**
comp=N,8.0nm,0.8s
MNK *i* P **P** **16 08 02.9 +0.3**
comp=Z,6.0nm,0.8s
MNK *i* pP **pP** **16 08 29.4 +3.3**
MNK *i* sP **sP** **16 08 43.5 +5.5**
MNK *i* PP PnPn 16 09 11.2 -10
MNK *i* PcP **PcP** **16 10 35.6 +1.0**
MNK *i* S **S** **16 13 23.5 -1.1**
MNK *i* ScP **ScP** **16 14 09.4 -1.4**
MNK *i* sS **ScP** **16 14 09.4 -1.4**
MNK *i* SS **SnSn** **16 15 47.5 +0.3**
MNK *i* LRM MLR 16 23 32.3
comp=E,38nm,19.2s
MNK *i* LRM MLR 16 23 34.8
comp=Z,120nm,19.1s
MNK *i* LRM MLR 16 23 40.0
comp=N,731nm,19.2s
NACGM Naroch 35.34 316 *i* P **P** **16 08 11.1 +2.3**
NACGM *i* P **P** **16 08 11.1 +2.3**
NACGM *i* P **P** **16 08 11.1 +2.3**
NACGM *i* PPP PPP 16 09 28.5
NACGM *i* S S 16 13 23.3 -12
NACGM *i* PS PcS 16 14 09.8 -14
NACGM *i* SS ScP 16 15 03.8 +50
NACGM *i* SSS SSS 16 15 31.9
NACGM *i* LQ LQ 16 19 51.8
NACGM *i* LR LR 16 22 01.2
BURAR Bucovina Array 35.43 303 P **P** **16 08 09.4 -0.4**
BURAR Bucovina Array 35.43 303 P **P** **16 08 09.4 -0.4**
IDI Anoyia 37.26 282 P **P** **16 08 26.9 +1.4**
KOLS Kolonicke sedl 37.42 305 *eP* **P** **16 08 29.5 +2.9**
KOLS *e* 16 09 59.2
KOLS Kolonicke sedl 37.42 305 *eP* **P** **16 08 29.5 +2.9**
KOLS *eP* **PnPn** **16 09 59.2 +3.6**

LVZ Lovozero 37.54 338 P **P** **16 08 28.7 +1.3**
LVZ pmax pmax
comp=Z,58nm,1.4s
LVZ Lovozero 37.54 338 P **P** **16 08 28.7 +1.3**
FIA1 FINESS Array S 37.59 326 P **P** **16 08 29.2 +1.4**
FIA1 lAmb lAmb 16 08 45.2
comp=Z,8.5nm,1.1s
FINES FINESS Array B 37.59 326 P **P** **16 08 29.4 +1.6**
comp=Z,1.7nm,0.3s,baz=121,slow=9.0,SNR=29
FINES LR LR 16 24 19.4
comp=Z,79nm,19.1s,baz=125,slow=37
FINES FINESS Array B 37.59 326 P **P** **16 08 29.2 +1.4**
NJ2 Nanjing 39.32 82 *eP* **P** **16 08 42.5 -0.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 40.88 338 P **P** **16 08 56.2 +1.2**
KEV pmax pmax
comp=Z,55nm,1.5s
KEV Kevo 40.88 338 P **P** **16 08 56.2 +1.2**
ARCES ARCESS Array B 41.23 338 P **P** **16 08 59.7 +1.8**
comp=Z,8.7nm,0.8s,baz=116,slow=9.1,SNR=33
ARCES LR LR 16 26 49.5
comp=Z,69nm,19.9s,baz=310,slow=37
ARCES ARCESS Array B 41.23 338 P **P** **16 08 59.4 +1.5**
ARCES lAmb lAmb 16 09 00.5
comp=Z,9.6nm,1.0s
GSI Gunungsitoli 42.67 139 P **P** **16 09 12.2 +1.9**
GSI lAmb lAmb 16 09 31.2
comp=Z,8.7nm,1.1s
GERES GERESS Array B 43.07 305 P **P** **16 09 15.7 +2.4**
comp=Z,0.7nm,0.8s,baz=128,slow=11,SNR=3.7
KHC Kasperske Hory 43.13 306 *ceP* **P** **16 09 13.9 +0.2**
KHC pmax pmax
comp=Z,18nm,2.5s
NC405 NORSAR Array S 44.26 323 P **P** **16 09 23.6 +1.1**
NC602 NORSAR Array S 44.31 323 P **P** **16 09 23.8 +0.9**
NORES NORESS Array B 44.31 323 P **P** **16 09 23.7 +0.8**
NORES pmax pmax
comp=Z,2.0nm,0.3s
NC303 NORSAR Array S 44.44 323 P **P** **16 09 24.5 +0.5**
NB201 NORSAR Array S 44.46 323 P **P** **16 09 24.9 +0.7**
NB2 NORSAR Subarra 44.49 323 P **P** **16 09 25.1 +0.7**
comp=Z,3nm,0.7s,baz=96,slow=7.9
NOA NORSAR Array B 44.49 323 P **P** **16 09 24.9 +0.4**
comp=Z,3.7nm,0.7s,baz=109,slow=7.5,SNR=18
NOA LR LR 16 31 00.6
comp=Z,38nm,18.6s,baz=285,slow=40
NAO01 NORSAR Array S 44.64 323 P **P** **16 09 25.0 -0.5**
NBO00 NORSAR Array S 44.71 323 P **P** **16 09 26.6 +0.5**
NC204 NORSAR Array S 44.73 323 P **P** **16 09 26.6 +0.3**
KSRS Korea Array 44.74 71 P **P** **16 09 28.1 +1.6**
comp=Z,1.6nm,0.9s,baz=297,slow=7.0,SNR=4.4
KLR Kul'dur 45.03 54 LR LR 16 29 50.2
comp=Z,41nm,19.3s,baz=348,slow=38
KONO Kongsberg 45.20 321 P **P** **16 09 30.7 +0.7**
KONO pmax pmax
comp=Z,48nm,1.5s
KONO Kongsberg 45.20 321 P **P** **16 09 30.7 +0.7**
TIXI Tiksi 45.74 22 *i* P **P** **16 09 33.9 -0.1**
TIXI Tiksi 45.74 22 P **P** **16 09 34.2 +0.2**
TIXI lAmb lAmb 16 10 00.4
comp=Z,4.1nm,0.7s
VLC Villacollemand 46.06 299 P **P** **16 09 36.7 -0.3**
JNU Nakatsue 48.44 75 P **P** **16 09 57.4 +1.7**
comp=Z,6.1nm,0.8s,baz=252,slow=6.4,SNR=3.3
JOW Kunigami 48.91 84 LR LR 16 31 28.0
comp=Z,70nm,18.5s,baz=112,slow=37
MA2 Magadan 54.28 38 LR LR 16 35 01.4
comp=Z,23nm,20.4s,baz=258,slow=37
SUMG Summit 61.14 341 P **P** **16 11 29.0 +2.0**
SUMG pmax pmax
comp=Z,14nm,1.4s
SUMG Summit 61.14 341 P **P** **16 11 29.0 +2.0**
SUMG lAmb lAmb 16 11 54.2
comp=Z,14nm,1.4s
KAPI Kappang 61.31 122 LR LR 16 40 48.1
comp=Z,45nm,19.4s,baz=276,slow=39
TOA0 Torodi Ar. Sit 65.88 269 P **P** **16 11 57.4 -1.2**
TOA0 lAmb lAmb 16 12 12.1
comp=Z,4.6nm,1.4s
TORD Torodi Ar. Bea 65.88 269 P **P** **16 11 57.9 -0.8**
comp=Z,1.2nm,0.3s,baz=48,slow=6.0,SNR=22
TORD Torodi Ar. Bea 65.88 269 P **P** **16 11 57.8 -0.8**
BPAW Bear Paw Mtn. 74.37 18 P **P** **16 12 50.5 +0.7**
CCB Clear Creek Bu 74.66 16 P **P** **16 12 51.5 +0.2**
FITZ Fitzroy Crossi 74.75 127 P **P** **16 12 53.3 +0.8**
FITZ lAmb lAmb 16 13 18.2
comp=Z,6.9nm,1.3s
ILAR Eielson Array 74.76 16 P **P** **16 12 52.4 +0.4**
comp=Z,0.5nm,0.9s,baz=344,slow=3.9,SNR=5.7
LBTB Lobatse 74.77 222 P **P** **16 12 53.6 +1.0**
LBTB pmax pmax
comp=Z,9.0nm,1.2s
LBTB Lobatse 74.77 222 P **P** **16 12 53.5 +1.0**
LBTB lAmb lAmb 16 13 04.8
comp=Z,9.2nm,1.2s
KTH Kantishna Hill 74.84 18 P **P** **16 12 53.2 +0.7**
KTH lAmb lAmb 16 13 20.2
comp=Z,5.3nm,1.0s
DBIC Dimbokro 74.86 267 P **P** **16 12 52.9 -0.4**
comp=Z,1.8nm,0.9s,baz=101,slow=5.2,SNR=2.2
DBIC Dimbokro 74.86 267 P **P** **16 12 52.7 -0.6**
DBIC lAmb lAmb 16 13 11.8
comp=Z,15nm,1.5s
PPLA Purkeypile 75.06 19 P **P** **16 12 53.1 -0.8**
PPLA lAmb lAmb 16 13 05.3
comp=Z,12nm,1.5s
RND Reindeer 75.47 17 P **P** **16 12 56.1 -0.1**
RND pmax pmax
comp=Z,4.0nm,1.3s
RND Reindeer 75.47 17 P **P** **16 12 56.1 -0.1**
SCM Sheep Creek Mo 77.19 18 P **P** **16 13 06.9 +1.0**
SCM pmax pmax
comp=Z,6.0nm,1.0s
SCM Sheep Creek Mo 77.19 18 P **P** **16 13 06.8 +1.0**
SCM lAmb lAmb 16 13 33.3
comp=Z,5.6nm,1.0s
BOSA Boshof 77.83 220 P **P** **16 13 10.2 +0.3**
comp=Z,5.4nm,0.9s,baz=96,slow=7.6,SNR=4.7
BOSA Boshof 77.83 220 P **P** **16 13 10.2 +0.3**
BRLK Bradley Lake 78.01 20 P **P** **16 13 13.1 +2.7**
BALM Baldy 79.04 16 P **P** **16 13 17.9 +1.7**
BALM pmax pmax
comp=Z,6.0nm,1.2s
BALM Baldy 79.04 16 P **P** **16 13 17.9 +1.7**
BALM lAmb lAmb 16 13 19.3
comp=Z,6.1nm,1.2s
CTGM Chitina Glacie 79.33 15 P **P** **16 13 18.9 +1.0**
YKA Yellowknife Ar 81.26 3 P **P** **16 13 28.7 +0.8**
comp=Z,0.6nm,0.4s,baz=360,slow=5.3,SNR=17
WRA Warramunga Arr 81.84 122 P **P** **16 13 30.7 -0.9**
comp=Z,0.3nm,0.4s,baz=325,slow=4.9,SNR=9.7
ASAR Alice Springs 84.11 125 P **P** **16 13 43.4 +0.1**
comp=Z,0.3nm,0.8s,baz=316,slow=4.4,SNR=7.9

*JMA **02** 16:20:02.8±0.1,34.87N×135.39E,h380km±1km, M3.0*
*IDC **02** 16:20:02.7±1.1,34.76N×135.50E,h382km±14km,mb2.8/5, mb1 3.0/9,mb1mx2.8/39,mbtmp3.6/9, Error ellipse: s-maj=20.9km s-min=14.2km az=91.0*
ISC 02 16:20:02.7±0.8,**34.78N**±0.09×**135.41E**±0.07,**h381**km±6km, **n25,**σ**0.95**/33,**mb2.9**/5,**Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMIK	**Miki**	**0.30**	**276**	*eS*	**S**	**16 21 27.9**	**-0.3**
JWT	**Wachi**	**0.51**	**359**	P	**Pn**	**16 20 50.5**	**+0.2**
JWT				S	**S**	**16 21 27.9**	**-0.8**
JWY	**Kouya**	**0.58**	**165**	P	**Pn**	**16 20 51.3**	**+0.6**
JWY				S	**S**	**16 21 28.7**	**-0.6**
JTNC	**Tanabenakahech**	**0.97**	**170**	P	**Pn**	**16 20 52.2**	**+0.5**
JTNC				S	**S**	**16 21 30.6**	**-0.6**
JIE	**Ise**	**1.14**	**109**	P	**Pn**	**16 20 52.8**	**+0.6**
JIE				S	**S**	**16 21 31.8**	**-0.4**
JAI	**Aioi**	**1.26**	**219**	P	**Pn**	**16 20 53.2**	**+0.4**
JAI				*eS*	**S**	**16 21 33.2**	**0.0**
JYTA	**Yamagatataniai**	**1.36**	**53**	P	**Pn**	**16 20 53.5**	**+0.4**
JYTA				S	**S**	**16 21 33.6**	**-0.2**
JMN	**Monobe**	**1.64**	**231**	P	**Pn**	**16 20 55.3**	**+0.5**
JKG	**Kaga**	**1.68**	**26**	P	**Pn**	**16 20 54.7**	**0.0**
JHS	**Saijyo**	**1.90**	**277**	P	**Pn**	**16 20 56.6**	**+0.4**
JHS				S	**S**	**16 21 39.0**	**-0.4**
TK02	**Tokai 2**	**2.11**	**112**	P	**Pn**	**16 20 58.4**	**+1.1**
JHT	**Toyohira**	**2.47**	**268**	P	**Pn**	**16 21 00.4**	**+0.3**
JYN	**Shimob**	**2.67**	**73**	P	**Pn**	**16 21 01.6**	**-0.1**
JNA	**Nagahama**	**2.72**	**244**	P	**Pn**	**16 21 02.8**	**+0.7**
MAT	**Matsushiro**	**2.88**	**51**	P	**Pn**	**16 21 02.7**	**-0.6**
MAT				S	**S**	**16 21 56.2**	**+3.9**
MJAR	**Matsushiro Arr**	**2.88**	**51**	P	**Pn**	**16 21 03.8**	**+0.4**
	0.5nm,0.3s,baz=223,slow=7.0,SNR=32						
JTO	**Tosashimizu**	**2.89**	**229**	P	**Pn**	**16 21 04.0**	**+0.5**
JNU	**Nakatsue**	**4.11**	**248**	P	**Pn**	**16 21 15.3**	**+0.6**
	1.7nm,0.3s,baz=20,slow=2.3,SNR=16						
USRK	**Ussuriysk Ar.**	**9.78**	**345**	P	**P**	**16 22 17.9**	**-0.2**
	baz=158,slow=11,SNR=10						
ASAJ	**Asahikawa**	**10.85**	**29**	P	**P**	**16 22 28.2**	**-1.9**
	0.6nm,0.3s,baz=246,slow=15,SNR=7.2						
SONM	**Songino Array**	**25.23**	**310**	P	**P**	**16 24 56.6**	**+0.9**
	0.3nm,0.8s,baz=104,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**41.24**	**304**	P	**P**	**16 27 12.3**	**+0.3**
	0.4nm,0.5s,baz=86,slow=10.0,SNR=7.3						
ILAR	**Eielson Array**	**53.98**	**31**	P	**P**	**16 28 48.3**	**-0.1**
	0.3nm,0.6s,baz=262,slow=5.9,SNR=7.3						
WRA	**Warramunga Arr**	**54.42**	**181**	P	**P**	**16 28 51.6**	**-0.4**
	0.8nm,0.3s,baz=359,slow=7.6,SNR=30						
ASAR	**Alice Springs**	**58.14**	**182**	P	**P**	**16 29 17.9**	**-0.1**
	0.6nm,0.7s,baz=355,slow=3.5,SNR=21						

*IDC **02** 16:31:40.3±0.9,24.57N×128.05E,h0km,mb3.7/8, mb1 3.9/10,mb1mx3.7/51,mbtmp3.7/10,ML3.6/2,MS2.9/3, Ms1 2.9/3,ms1mx2.5/47, Error ellipse: s-maj=38.7km s-min=17.3km az=79.0*
*NIED **02** 16:31:43.1,24.67N×127.79E,h75km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr=4.42; Mθθ4.77; Mϕϕ-0.34; Mrθ4.53; Mrϕ1.72; Mθϕ1.63; Fault plane solution: Mo6.84000×10¹⁴ NP1: ϕs251.00000°,δ67.00000°,λ-92.00000°. NP2:ϕs76.00000°, δ23.00000°,λ-85.00000°.*
*NEIC **02** 16:31:43.5±1.5,24.64N±0.08×128.00E±0.07,h27km±5km, mb4.3/9 Error ellipse: s-maj=11.5km s-min=8.3km az=158.0*
*JMA **02** 16:31:43.1±0.2,24.67N×127.79E,h75km,M3.5*
ISC 02 16:31:44.2±0.6,**24.56N**±0.05×**127.91E**±0.04,**h35**km,**n59,** σ**2s23**/73,**mb4.0**/13,**Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**1.58**	**356**	P	**Pn**	**16 32 08.4**	**-1.4**
JJT3				S	**Sn**	**16 32 26.8**	**-2.2**
JNTH	**Nagotoyohara**	**1.96**	**3**	P	**Pn**	**16 32 13.0**	**-1.9**
JNTH				*eS*	**Sn**	**16 32 35.2**	**-3.0**
JKE	**Kume jima 2**	**2.03**	**330**	P	**Pn**	**16 32 14.4**	**-1.5**
JKE				*eS*	**Sn**	**16 32 36.8**	**-3.3**
JAGN	**Aguni-jima**	**2.11**	**344**	P	**Pn**	**16 32 15.6**	**-1.4**
JAGN				S	**Sn**	**16 32 38.8**	**-3.2**
JOGS	**Gusukube**	**2.29**	**276**	P	**Pn**	**16 32 17.9**	**-1.5**
JOGS				S	**Sn**	**16 32 43.7**	**-2.6**
JOW	**Kunigami**	**2.29**	**8**	Pn	**Pn**	**16 32 18.1**	**-1.4**
	27nm,0.3s,baz=20,slow=30,SNR=118						
JOW				Sn	**Sn**	**16 32 43.0**	**-3.4**
	39nm,0.3s,baz=91,slow=29,SNR=12						
JOW	**Kunigami**	**2.29**	**8**	P	**Pn**	**16 32 18.0**	**-1.5**
JOW	**Kunigami**	**2.29**	**8**		**Pn**	**16 32 17.9**	**-1.6**
JMJ2	**Miyako jima3**	**2.35**	**275**	P	**Pn**	**16 32 18.9**	**-1.5**
JMJ2				S	**Sn**	**16 32 46.0**	**-2.0**
JIKM	**Ikemajima**	**2.45**	**279**	P	**Pn**	**16 32 19.9**	**-1.7**
JIKM				S	**Sn**	**16 32 47.6**	**-2.7**
JIH	**Iheya**	**2.47**	**1**	P	**Pn**	**16 32 20.8**	**-1.1**
JIH				*eS*	**Sn**	**16 32 48.5**	**-2.3**
JIRB	**Irabujima**	**2.50**	**277**	P	**Pn**	**16 32 20.5**	**-1.9**
JIRB				*eS*	**Sn**	**16 32 48.1**	**-3.6**
JYRO	**Yoronjima**	**2.50**	**11**	P	**Pn**	**16 32 20.8**	**-1.6**
JYRO				*eS*	**Sn**	**16 32 49.3**	**-2.5**
JOKE	**Okinoerabujima**	**2.85**	**12**	P	**Pn**	**16 32 26.7**	**-0.6**
JOKE				*eS*	**Sn**	**16 32 58.4**	**-2.0**
JTJ	**Tarama**	**2.92**	**272**	P	**Pn**	**16 32 26.2**	**-1.9**
JTJ				S	**Sn**	**16 32 58.4**	**-3.6**
JMZ	**Minamidaito 2**	**3.25**	**67**	P	**Pn**	**16 32 30.0**	**-2.7**
JMZ				S	**Sn**	**16 33 05.8**	**-4.4**
JMZ	**Minamidaito 2**	**3.25**	**67**	Pn	**Pn**	**16 32 29.8**	**-2.9**
JISG	**Ishigakijimahi**	**3.27**	**271**	P	**Pn**	**16 32 30.8**	**-2.2**
JTK	**Tokunoshima**	**3.35**	**16**	P	**Pn**	**16 32 32.7**	**-1.4**
JTK				*eS*	**Sn**	**16 33 10.3**	**-2.3**
JKDJ	**Kitadaitoujima**	**3.37**	**65**	P	**Pn**	**16 32 31.9**	**-2.4**
JKDJ				*eS*	**Sn**	**16 33 10.0**	**-3.0**
JIJ	**Ishigaki jima**	**3.44**	**268**	P	**Pn**	**16 32 33.1**	**-2.1**
JIJ				*eS*	**Sn**	**16 33 09.7**	**-5.1**
JKRS	**Kuro-shima**	**3.57**	**266**	P	**Pn**	**16 32 35.4**	**-1.7**
IRIF	**Iriomote-Funau**	**3.81**	**268**	P	**Pn**	**16 32 38.4**	**-2.0**
JAMN	**Amaminishikomi**	**3.84**	**17**	P	**Pn**	**16 32 40.4**	**-0.4**
JAM	**Amami Oshima**	**4.13**	**21**	P	**Pn**	**16 32 43.9**	**-0.9**
JAM				*eS*	**Sn**	**16 33 28.2**	**-3.6**
JZK	**Kikaishima**	**4.17**	**26**	P	**Pn**	**16 32 45.2**	**-0.2**
JZK				*eS*	**Sn**	**16 33 30.8**	**-2.2**
JTAJ	**Takarajima**	**4.72**	**14**	P	**Pn**	**16 32 51.9**	**-1.0**
NACB	**Ninganchiao**	**5.77**	**268**	Pn	**Pn**	**16 33 04.3**	**-3.1**
TATO	**Taipei**	**5.85**	**275**	Pn	**Pn**	**16 33 08.5**	**+0.1**
YHNB	**Yeheng**	**5.95**	**272**	Pn	**Pn**	**16 33 08.9**	**-0.9**
YULB	**Yu-li**	**6.16**	**260**	Pn	**Pn**	16 33 08.7	-4.0
SSLB	**Suanglung**	**6.40**	**265**	Pn	**Pn**	**16 33 12.6**	**-3.3**
TWG	**Pinlang**	**6.50**	**256**	Pn	**Pn**	**16 33 14.7**	**-2.7**
JNU	**Nakatsue**	**8.92**	**16**	Pn	**Pn**	**16 33 50.5**	**-0.2**
	0.7nm,0.3s,baz=203,slow=6.1,SNR=12						
JNU	**Nakatsue**	**8.92**	**16**	Pn	**Pn**	**16 33 49.1**	**-1.5**
JMN	**Monobe**	**10.52**	**28**	Pn	**Pn**	**16 34 11.3**	**-1.2**
JHS	**Saijyo**	**11.34**	**22**	Pn	**Pn**	**16 34 19.5**	**-4.2**
JWT	**Wachi**	**12.50**	**30**	Pn	Pn	16 34 33.2	-6.4
KSRS	**Korea Array**	**12.86**	**0**	LR	LR	16 38 46.3	
	comp=Z,26nm,21.3s,baz=204,slow=33						
SONM	**Songino Array**	**28.82**	**329**	P	**P**	**16 37 42.5**	**+3.4**
	0.3nm,0.6s,baz=132,slow=8.6,SNR=3.1						
SONM				LR	LR	16 50 20.1	
	comp=Z,34nm,20.4s,baz=52,slow=39						
SONM	**Songino Array**	**28.82**	**329**	lAmb	lAmb	16 37 44.9	
	comp=Z,0.5nm,0.9s						
TLY	**Talaya**	**32.83**	**332**	LR	LR	16 51 60.0	
	comp=Z,37nm,18.9s,baz=141,slow=37						
MKAR	**Makanchi Array**	**42.45**	**313**	P	**P**	**16 39 36.5**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=98,slow=10,SNR=6.0						
FITZ	**Fitzroy Crossi**	**42.45**	**183**	P	**P**	**16 39 36.1**	**+0.2**
FITZ				lAmb	lAmb	16 39 51.0	
	comp=Z,9.7nm,1.4s						
ZALV	**Zalesovo Beam**	**43.41**	**324**	P	**P**	**16 39 44.5**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=111,slow=7.9,SNR=5.6						
WB0	**Warramunga Arr**	**44.51**	**171**	P	**P**	**16 39 53.4**	**+1.0**
WB0				lAmb	lAmb	16 39 54.8	
	comp=Z,4.1nm,1.1s						
WRAB	**Tennant Creek**	**44.66**	**171**	P	**P**	**16 39 54.6**	**+0.9**
WRAB				lAmb	lAmb	16 40 01.1	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**44.67**	**171**	P	**P**	**16 39 54.8**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=352,slow=8.7,SNR=9.8						
WB2	**Warramunga Arr**	**44.67**	**171**	P	**P**	**16 39 54.5**	**+0.7**
WR0	**Warramunga Arr**	**44.72**	**171**	P	**P**	**16 39 55.1**	**+1.0**
WR0				lAmb	lAmb	16 40 19.9	
	comp=Z,4.4nm,1.2s						
PSA00	**Pilbara Seismi**	**46.52**	**190**	P	**P**	**16 40 09.5**	**+1.2**
PSA00				lAmb	lAmb	16 40 33.0	
	comp=Z,3.7nm,0.8s						
AS31	**Alice Springs**	**48.29**	**173**	P	**P**	**16 40 23.4**	**+1.3**
ASAR	**Alice Springs**	**48.29**	**173**	P	**P**	**16 40 23.6**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=2.6,slow=8.3,SNR=8.1						
KKAR	**Karatay Array**	**50.15**	**307**	P	**P**	**16 40 37.5**	**+1.2**
NRIK	**Noril'sk**	**50.75**	**343**	P	**P**	**16 40 41.5**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=131,slow=11,SNR=3.6						
UOSS	**Minazif**	**64.35**	**287**	P	**P**	**16 42 17.2**	**+0.4**
ILAR	**Eielson Array**	**66.04**	**28**	P	**P**	**16 42 24.6**	**-2.5**
YKA	**Yellowknife Ar**	**80.16**	**25**	P	**P**	**16 43 52.2**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=308,slow=4.1,SNR=6.2						
PDAR	**Pinedale Array**	**94.65**	**39**	P	**P**	**16 45 02.5**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=353,slow=3.6,SNR=4.3						

*IDC **02** 16:32:10.4±2.4,6.45N×127.10E,h93km±22km,mb3.3/5, mb1 3.5/6,mb1mx3.2/49,mbtmp3.7/6, Error ellipse: s-maj=41.6km s-min=13.5km az=58.0*
*MAN **02** 16:32:14.7,6.80N×126.51E,h77km,mb4.7,ML3.6,MS3.5*
ISC 02 16:32:07.6±0.8,**6.46N**±0.06×**127.20E**±0.07,**h74**km,**n12,** σ**2s67**/20,**mb3.6**/5,**1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.52**	**257**	*eP*	**Pn**	**16 32 30.7**	**-2.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDMP				eS	Sn	16 32 50.2	-1.9
DAV	Davao City (W)	1.72	291	P	Pn	16 32 37.7	+2.1
	132nm,0.3s,baz=239,slow=1.0,SNR=12						
DAV				S	Sn	16 32 59.0	+2.1
	130nm,0.3s,baz=102,slow=19,SNR=40						
DAV				LR	LR	16 33 12.7	
	comp=Z,132nm,19.4s,baz=159,slow=38						
SKMP	Bagumbayan, Su	2.64	272	eP	Pn	16 32 46.3	-1.8
SKMP				eS	Sn	16 33 17.3	-1.8
CGP	Cagayan de Oro	3.18	309	⇓eP	Pn	16 32 57.3	+2.0
CGP				i S	Sn	16 33 32.4	+0.2
GLSP	General Luna,	3.47	342	eP	Pn	16 32 59.9	+0.6
GLSP				eS	Sn	16 33 37.8	-1.6
MSLP	Maasin	4.33	328	eP	Pn	16 33 11.7	+0.7
MSLP				eS	Sn	16 33 52.4	-7.8
SIJI	Sorong	8.33	151	P	Pn	16 34 08.6	+2.9
	2.2nm,0.3s,baz=194,slow=22,SNR=18						
SIJI				S	Sn	16 35 34.3	-4.1
	0.9nm,0.3s,baz=180,slow=20,SNR=4.2						
WRA	Warramunga Arr	27.16	165	P	P	16 37 45.1	+0.9
	0.2nm,0.4s,baz=345,slow=10,SNR=4.6						
ASAR	Alice Springs	30.65	168	P	P	16 38 16.6	+1.4
	0.2nm,0.6s,baz=342,slow=7.1,SNR=11						
KLR	Kul'dur	42.80	4	P	P	16 39 59.1	+1.2
	0.5nm,0.5s,baz=216,slow=8.7,SNR=4.3						
MKAR	Makanchi Array	55.62	324	P	P	16 41 36.4	+0.5
	0.9nm,0.5s,baz=124,slow=8.1,SNR=13						
MKAR				PcP	PcP	16 42 35.2	+0.5
	0.4nm,0.8s,baz=128,slow=3.5,SNR=3.6						
ZALV	Zalesovo Beam	58.40	332	P	P	16 41 55.1	-0.3
	0.7nm,0.4s,baz=124,slow=7.2,SNR=3.2						

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*IDC **02** 16:37:18.2±1.9, 52°.65N×170°.18W, h0km, mb3.5/4, mb1 4.0/6, mb1mx3.4/58, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=55.3km s-min=21.4km az=7.0*
*NEIC **02** 16:37:24.8±1.5, 52°.39N±0°.06×170°.3W±0°.1, h62km±11km, mb3.7/19, ML3.9(AEIC), Error ellipse: s-maj=12.9km s-min=1.8km az=132.0*
*AEIC **02** 16:37:25±2.6, 52°.4N±0°.1×170°.2W±0°.1, h49km±8km, Error ellipse: s-maj=17.5km s-min=6.9km az=157.0*
ISC 02 16:37:24.0±1.0**, 52°.3N**±0°.1×**170°.25W**±0°.06**, h55km, n74, σ1s.26**/72**, mb3.6**/4**, Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.08	52	Pn	Pn	16 37 43.1	+0.3
NIKH				Sn	Sn	16 37 57.6	+0.7
OKSP	Okmok Steeple	1.52	51		Pn	16 37 49.4	+0.6
OKSO	Okmok South	1.65	50		Pn	16 37 50.3	-0.2
OKTU	Okmok Mt. Tuli	1.72	51		Pn	16 37 52.5	+1.0
OKFG	Magazine Ridge	1.80	51		Pn	16 37 52.6	+0.1
KOFP	Korovin Flat P	2.36	271		Pn	16 38 01.2	+0.9
ATKA	Atka Island	2.42	269	Pn	Pn	16 38 01.3	+0.2
MAPS	Pakushin South	2.50	52		Pn	16 38 03.1	+1.0
MGOD	Makushin Gods	2.52	53		Pn	16 38 03.5	+0.9
MREP	Makushin Rep't	2.59	53		Pn	16 38 04.8	+1.3
MSW	Makushin Switc	2.64	51		Pn	16 38 05.0	+1.0
MNAT	Makushin Natee	2.67	52		Pn	16 38 05.5	+1.1
AKRB	Akutan Reef Bi	3.10	52		Pn	16 38 11.9	+1.5
AKMO	Akutan Morgan	3.11	53		Pn	16 38 12.2	+1.7
AKBBA	Akutan Broad B	3.15	54		Pn	16 38 12.9	+1.8
AKLV	Akutan Long Va	3.18	53		Pn	16 38 12.8	+1.3
AKGG	Akutan Green G	3.18	52		Pn	16 38 12.1	+0.7
AKUT	Akutan	3.25	54	Pn	Pn	16 38 10.5	-1.9
AKSA	Akutan Strait	3.29	55		Pn	16 38 14.4	+1.4
GSTR	Great Sitkin T	3.58	269	Pn	Pn	16 38 18.1	+1.2
GSMY	Great Sitkin M	3.58	268		Pn	16 38 17.5	+0.6
GSTD	Great Sitkin T	3.63	268		Pn	16 38 18.5	+0.7
WESP	Westdahl Peak	3.97	54		Pn	16 38 23.7	+1.4
ADK	Adak	3.99	266	Pn	Pn	16 38 23.1	+0.6
KIMD	Kanaga Island	4.35	265		Pn	16 38 28.3	+0.9
FALS	False Pass	4.80	55	Pn	Pn	16 38 35.1	+1.4
SPIA	Saint Paul Isl	4.87	0	Pn	Pn	16 38 34.6	0.0
SDPT	Sand Point	6.54	58	Pn	Pn	16 38 58.1	+0.8
AMKA	Amchitka	6.54	266	Pn	Pn	16 38 57.4	0.0
CNBA	Chernabura Isl	6.83	64	Pn	Pn	16 39 01.3	-0.1
SII	Sitkinak Islan	10.28	59	Pn	Pn	16 39 47.1	-1.4
OHAK	Old Harbor	10.95	57	Pn	Pn	16 39 55.8	-1.9
KDAK	Kodiak Island	11.50	55	Pn	Pn	16 40 02.6	-2.6
	1.6nm,0.3s,baz=238,slow=7.1,SNR=20						
KDAK				Sn	Sn	16 41 57.8	-14
	0.2nm,0.3s,baz=14,slow=8.3,SNR=1.9						
KDAK	Kodiak Island	11.50	55	Pn	Pn	16 40 04.0	-1.2
SVW2	Sparrevohn	11.91	37	Pn	Pn	16 40 11.4	+0.7
CNPM	China Poot	12.85	48	Pn	Pn	16 40 21.5	-2.1
TTA	Tatalina	13.05	30		Pn	16 40 27.2	+0.7
BRLK	Bradley Lake	13.11	48		Pn	16 40 26.5	-0.8
SPU	Mount Spurr	13.32	41	Pn	Pn	16 40 30.7	+0.7
SEW	Seward	13.91	48	Pn	Pn	16 40 35.2	-2.8
O22K	Cooper Landing	13.95	46	Pn	Pn	16 40 37.6	-1.0
SKT	Skwentna	13.98	39	Pn	Pn	16 40 38.8	-0.2
SUA	Susitna One	14.00	42	Pn	Pn	16 40 39.1	-0.2
PPLA	Purkeypile	14.29	35	P	P	16 40 50.1	+1.1
KTH	Kantishna Hill	15.16	35	Pn	Pn	16 40 54.1	-0.3
KTH				IAmb	IAmb	16 41 20.7	
	comp=Z,5.2nm,0.8s						
TRF	Thorofare Moun	15.32	36	Pn	Pn	16 40 57.4	+0.9
TRF				IAmb	IAmb	16 41 18.6	
	comp=Z,4.3nm,0.7s						
HIN	Hinchinbrook I	15.38	49	Pn	Pn	16 40 56.4	-0.8
BPAW	Bear Paw Mtn.	15.49	33	Pn	Pn	16 40 58.9	+0.3
BPAW				IAmb	IAmb	16 41 05.3	
	comp=Z,9.1nm,1.4s						
RND	Reindeer	15.81	37	Pn	Pn	16 41 03.3	+0.4
I23K	Minto, Yukon-K	16.70	32	Pn	Pn	16 41 12.7	-1.2
I23K				IAmb	IAmb	16 41 36.5	
	comp=Z,5.7nm,0.8s						
WRH	Wood River Hil	16.71	35	Pn	Pn	16 41 13.9	-0.1
WRH				IAmb	IAmb	16 41 22.3	
	comp=Z,4.5nm,0.9s						
CCB	Clear Creek Bu	16.91	34	Pn	Pn	16 41 14.6	-1.9
CCB				IAmb	IAmb	16 41 26.4	
	comp=Z,7.5nm,1.4s						
MDM	Murphy Dome	16.96	33	Pn	Pn	16 41 16.4	-0.7
HDA	Harding Lake	17.08	36		P	16 41 19.2	-0.4
HDA				IAmb	IAmb	16 41 28.6	
	comp=Z,5.1nm,0.7s						
IL31		17.30	35	Pn	Pn	16 41 19.7	-1.7
ILAR	Eielson Array	17.30	35	Pn	Pn	16 41 18.7	-2.7
	comp=Z,0.2nm,0.3s,baz=218,slow=11,SNR=13						
DOT	Dot Lake	17.78	40	Pn	Pn	16 41 24.4	-2.9
DOT				IAmb	IAmb	16 41 29.1	
	comp=Z,4.3nm,0.8s						
BARN	Barnard Glacie	17.84	49	Pn	Pn	16 41 25.1	-3.1
BARN				IAmb	IAmb	16 41 30.1	
	comp=Z,5.6nm,0.8s						
TABL	Table Mountain	17.93	52		Pn	16 41 29.0	-0.3
CTGM	Chitina Glacie	17.97	50		P	16 41 29.0	-0.7
CTGM				IAmb	IAmb	16 41 48.3	
	comp=Z,6.8nm,1.0s						
PRP	Porcupine Dome	18.21	34		P	16 41 30.2	-2.0
PCA	Pinnacle	18.28	53	P	P	16 41 32.8	-0.2
PETK	Petropavlovsk-	19.35	285	P	P	16 41 43.9	-0.8
	comp=Z,0.1nm,0.3s,baz=89,slow=15,SNR=6.2						
EGAK	Eagle	19.42	39	P	Pn	16 41 46.1	-0.8
BMAR	Burnt Mountain	19.65	30	P	P	16 41 47.8	0.0
SKAG	Skagway	20.65	56	P	P	16 41 58.4	-0.3
SKAG				IAmb	IAmb	16 42 16.9	
	comp=Z,4.8nm,1.0s						
SEY	Seymchan	22.31	313	P	P	16 42 15.2	-1.2
	comp=Z,0.9nm,0.5s,baz=257,slow=23,SNR=8.0						
DLBC	Dease Lake	23.38	59	P	P	16 42 26.9	-0.6
	comp=Z,1.8nm,0.8s,baz=255,slow=12,SNR=3.2						
NVAR	Mina Array Bea	38.21	90	P	P	16 44 40.1	+1.7
	comp=Z,0.5nm,0.6s,baz=295,slow=8.8,SNR=4.4						
H11S1	WAKE ISLAND Hy	38.27	217	T	T	17 25 54.6	
	baz=22,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	38.28	217	T	T	17 25 54.6	
	baz=22,slow=76,SNR=14						
H11S3	WAKE ISLAND Hy	38.28	217	T	T	17 25 53.5	
	baz=22,slow=76,SNR=14						
TXAR	Lajitas Array	53.29	88	P	P	16 46 37.5	+0.2
	comp=Z,0.4nm,0.7s,baz=310,slow=3.4,SNR=5.3						
TXAR	Lajitas Array	53.29	88	P	P	16 46 37.6	+0.3

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*DJA **02** 16:40:25.2±0.3, 0°S±2°×12°3E±°, h51km±10km, M4.0/12, mb4.3/3, MLv3.8/12*
*IDC **02** 16:40:26.6±2.7, 0°.28S×122°.78E, h92km±27km, mb2.9/4, mb1 3.2/6, mb1mx3.0/48, mbtmp3.4/6, Error ellipse: s-maj=22.8km s-min=19.0km az=79.0*
ISC 02 16:40:23.8±0.8**, 0°.21S**±0°.04×**122°.90E**±0°.06**, h50km, n16, σ2s.34**/22**, mb3.1**/4**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.83	188	P	Pn	16 40 41.6	+2.2
LUWI				S	Sn	16 40 54.5	+3.8
GTOI	Gorontalo	0.85	8	P	Pn	16 40 42.2	+2.6
GTOI				S	Sn	16 40 55.5	+4.4
MRSI	Marisa	1.17	306	P	Pn	16 40 44.8	+0.9
MRSI				S	Sn	16 40 59.2	+0.3
KMSI	Cibinong	1.34	54	P	Pn	16 40 47.5	+1.3
APSI	Ampana	1.43	241	P	Pn	16 40 49.4	+2.0
APSI				S	Sn	16 41 07.2	+2.2
SANI	Sanana	3.59	121	P	Pn	16 41 16.1	-0.9
TTSI	Tana Toraja	4.17	227	P	Pn	16 41 26.8	+1.8
SPSI	Sidrap Palu	4.86	220	P	Pn	16 41 36.3	+1.8
BNSI	Bone	5.01	214	P	Pn	16 41 38.2	+1.7
	0.2nm41nm,0.7s						
NLAI	Namlea	5.17	126	P	Pn	16 41 39.9	+1.2
	0.1nm21nm,1.4s						
KAPI	Kappang	5.71	213	P	Pn	16 41 47.6	+1.5
	4.0nm,0.3s,baz=12,slow=6.7,SNR=17						
KAPI				S	Sn	16 42 50.4	0.0
	1.5nm,0.3s,baz=172,slow=15,SNR=2.7						
SIJI	Sorong	8.40	94	P	Pn	16 42 26.4	+3.4
	0.6nm,0.3s,baz=278,slow=15,SNR=3.7						
WRA	Warramunga Arr	22.59	151	P	P	16 45 19.1	-1.2
	0.4nm,0.7s,baz=328,slow=11,SNR=8.3						
ASAR	Alice Springs	25.65	156	P	P	16 45 48.6	-0.4
	0.2nm,0.5s,baz=341,slow=14,SNR=11						
ASAR				PcP	PcP	16 49 15.2	-3.7
	0.2nm,0.7s,baz=343,slow=2.4,SNR=5.4						
SONM	Songino Array	49.96	346	P	P	16 49 12.0	-1.0
	0.2nm,0.6s,baz=160,slow=9.0,SNR=3.1						
MKAR	Makanchi Array	58.74	328	P	P	16 50 14.7	-2.0
	0.1nm,0.3s,baz=122,slow=7.3,SNR=4.6						

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*IDC **02** 16:40:29.6±3.8, 48°.92S×127°.90E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/32, mbtmp3.9/4, ML3.4/1, MS3.5/5, Ms1 3.5/5, ms1mx3.3/18, Error ellipse: s-maj=101.9km s-min=43.3km az=138.0*
*NEIC **02** 16:40:32.4±1.4, 48°.8S±0°.2×127°.8E±0°.3, h14km±7km, mb4.3/5, Error ellipse: s-maj=30.0km s-min=13.8km az=50.0*
ISC 02 16:40:32.0±1.1**, 48°.8S**±0°.1×**127°.9E**±0°.2**, h10km, n19, σ0s.66**/13**, mb4.0**/4**, MS3.4**/3**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAU	Tasmania Unive	14.76	74	P	P	16 44 06.4	-0.3
TOO	Toolangi	17.01	55	P	P	16 44 33.1	+1.4
TOO				IAmb	IAmb	16 44 38.6	
	comp=Z,14nm,1.2s						
H01W1	Cape Leeuwin H	17.19	319	T	T	17 01 53.7	
	baz=147,slow=75,SNR=7.7						
H01W2	Cape Leeuwin H	17.19	319	T	T	17 01 51.1	
	baz=147,slow=75,SNR=9.9						
H01W3	Cape Leeuwin H	17.20	319	T	T	17 01 52.8	
	baz=147,slow=75,SNR=8.9						
NWAO	Narrogin (SRO)	17.73	329	LR	LR	16 49 45.2	
	comp=Z,95nm,18.2s,baz=104,slow=31						
NWAO	Narrogin (SRO)	17.73	329	P	P	16 44 40.0	+0.4
NWAO				IAmb	IAmb	16 44 50.3	
	comp=Z,46nm,1.4s						
STKA	Stephens Creek	19.81	37	P	Pn	16 45 03.7	-0.4
	comp=Z,0.1nm,0.3s,baz=225,slow=14,SNR=3.4						
STKA				LR	LR	16 51 49.6	
	comp=Z,150nm,19.0s,baz=203,slow=34						
ASAR	Alice Springs	25.51	13	P	P	16 46 00.6	0.0
	comp=Z,3.4nm,0.9s,baz=187,slow=9.6,SNR=23						
ASAR				LR	LR	16 54 56.4	
	comp=Z,77nm,21.6s,baz=184,slow=34						
ASAR	Alice Springs	25.51	13	P	P	16 45 59.7	-0.9
AS31	Alice Springs	25.52	13	P	P	16 46 00.6	0.0
WRA	Warramunga Arr	29.24	13	P	P	16 46 34.0	0.0
	comp=Z,0.8nm,0.9s,baz=191,slow=11,SNR=4.0						
VNDA	Vanda	31.65	167	LR	LR	16 58 49.0	
	comp=Z,141nm,18.5s,baz=326,slow=35						
SBA	Scott Base	32.65	166	P	P	16 47 03.9	+0.4
URZ	Urewera	36.64	92	LR	LR	17 00 36.3	
	comp=Z,64nm,18.9s,baz=211,slow=33						
CM31	Chiang Mai Arr	71.72	331	P	P	16 51 54.1	0.0
CM31				IAmb	IAmb	16 51 55.6	
	comp=Z,5.1nm,1.2s						
CMAR	Chiang Mai Arr	71.72	331	P	P	16 51 54.7	+0.6
	comp=Z,1.1nm,0.8s,baz=174,slow=5.1,SNR=8.4						
CMAR	Chiang Mai Arr	71.72	331	P	P	16 51 53.8	-0.3
ESDC	Sonseca Array	144.81	273	PKP	PKPab	17 00 06.8	-0.8
	comp=Z,1.2nm,1.1s,baz=104,slow=4.7,SNR=4.2						

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*SJA **02** 16:53:38.1±0.5, 27°.48S×71°.60W, h23km±6km, ML5.6, MW5.4*
*IDC **02** 16:53:41.6±0.4, 27°.90S×70°.93W, h0km, mb5.0/23, mb1 5.1/27, mb1mx5.0/37, mbtmp5.0/27, ML4.4/5, MS4.5/27, Ms1 4.5/27, ms1mx4.4/36, Error ellipse: s-maj=16.3km s-min=12.4km az=69.0*
*VAO **02** 16:53:43.9±0.3, 27°.76S×70°.95W, h10km, mb5.3*
*BJI **02** 16:53:44.7±0.0, 28°.03S×71°.61W, h30km, mB5.2/28, Ms5.3/15, Ms7 5.0/17*
*NEIC **02** 16:53:45.8, 27°.84S×71°.09W, h37km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; M_{rr}3.59; $M_{\theta\theta}$0.61; $M_{\phi\phi}$-4.20; $M_{r\theta}$1.10; $M_{\theta\phi}$-0.07; $M_{\phi r}$-3.22; Fault plane solution: $M_0$5.20000×10^16 NP1:ϕ_s167.16000°, δ66.08000°, λ77.10000°. NP2:ϕ_s16.63000°, δ27.00000°, λ116.72000°. Principal axes: T 5.0087, Plg66.0000°, Azm54.0000°; N 0.3661, Plg12.0000°, Azm172.0000°; P -5.3748, Plg20.0000°, Azm267.0000°;*
*NEIC **02** 16:53:46, 27°.87S×71°.08W, h32km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; M_{rr}7.53; $M_{\theta\theta}$-1.37; $M_{\phi\phi}$-6.16; $M_{r\theta}$-0.03; $M_{\theta\phi}$-0.35; $M_{\phi r}$-2.76; Fault plane solution: $M_0$7.49000×10^16 NP1:ϕ_s183.02000°, δ55.96000°, λ88.87000°. NP2:ϕ_s5.03000°, δ34.05000°, λ91.67000°. Principal axes: T 8.0703, Plg79.0000°, Azm89.0000°; N -1.3497, Plg1.0000°, Azm184.0000°; P -6.7206, Plg11.0000°, Azm274.0000°;*
*NEIC **02** 16:53:46.2±1.4, 27°.87S±0°.03×71°.07W±0°.07, h34km±2km, mb5.5/387, Mwb5.2/35, Mwr5.1/32, Mww5.2, ML5.9(GUC), Mwr5.3(GUC) Error ellipse: s-maj=8.9km s-min=4.6km az=103.0*
*GUC **02** 16:53:46.3±0.6, 27°.90S×71°.05W, h38km±1km, ML5.2, MW5.2*
*NEIC **02** 16:53:47, 27°.97S×71°.20W, h46km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; M_{rr}6.76; $M_{\theta\theta}$0.37; $M_{\phi\phi}$-7.13; $M_{r\theta}$0.82; $M_{\theta\phi}$-1.63; $M_{\phi r}$-4.27; Fault plane solution: $M_0$8.36000×10^16 NP1:ϕ_s25.00000°, δ32.00000°, λ112.00000°. NP2:ϕ_s180.00000°, δ61.00000°, λ77.00000°. Principal axes: T 8.1674, Plg71.0000°, Azm61.0000°; N 0.3739, Plg11.0000°, Azm186.0000°; P -8.5413, Plg15.0000°, Azm279.0000°;*
*GCMT **02** 16:53:49.2±0.2, 28°.05S±0°.01×71°.34W±0°.01, h35km, MW5.3/108, Moment Tensor Solution. s91,c120; s108,c148; Duration: 1s.1 Moment tensor: Scale 10^17 Nm; M_{rr}0.74±.02; $M_{\theta\theta}$0.29±.02; $M_{\phi\phi}$-1.04±.02; $M_{r\theta}$0.15±.02; $M_{\theta\phi}$-0.14±.01; $M_{\phi r}$-0.54±.02; Best double couple: $M_0$1.07100×10^17 NP1:ϕ_s26.00000°, δ33.00000°, λ121.00000°. NP2:ϕ_s170.00000°, δ62.00000°, λ72.00000°. Principal axes: T 0.9460, Plg68.0000°, Azm45.0000°; N 0.2450, Plg16.0000°, Azm179.0000°; P -1.1950, Plg15.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 16:53:45.6±0.7**, 27°.85S**±0°.03×**71°.10W**±0°.04**, h31km**±4km**, n800, σ1s.27**/824**, mb5.5**/223**, MS4.4**/25**, 13C-9D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AC04	Llanos de Chal	0.36	176	⇑iP	Pb	16 53 53.8	-0.2
AC04				i S	Sb	16 53 59.5	-0.2
AC04	Llanos de Chal	0.36	176	Pg	Pb	16 53 54.0	0.0
AC04					Sb	16 53 59.2	-0.5
GO03	Copiap	0.81	72	⇑iP	Pn	16 54 01.0	+0.1
GO03				⇑iP	Pn	16 54 01.0	+0.1
GO03				i S	Sn	16 54 12.0	+0.1
GO03				IAML		16 54 13.6	
	comp=N,174μm,0.5s						
GO03	Copiap	0.81	72		Pn	16 54 01.2	+0.3
GO03				Sn	Sn	16 54 11.6	-0.3
GO03	Copiap	0.81	72	eP	Pn	16 54 01.5	+0.5
GO03				eS	Sn	16 54 12.6	+0.7
LCO	Las Campanas	1.21	163	i S	Sn	16 54 23.3	+1.1
LCO	Las Campanas	1.21	163	Pn	Pn	16 54 07.5	+0.8
AC05	El Transito	1.23	144	⇓iP	Pn	16 54 07.8	+1.1
AC05				i S	Sn	16 54 23.3	+0.9
AC05				IAML		16 54 28.0	
	comp=E,99μm,0.7s						
AC05	El Transito	1.23	144		Pn	16 54 07.9	+1.1
AC01	Pan de Azucar	1.75	15	⇑iP	Pn	16 54 14.1	+0.3
AC01				IAML		16 54 46.3	
	comp=E,29μm,0.4s						
AC01	Pan de Azucar	1.75	15	Pn	Pn	16 54 14.0	+0.2
AC02	Maricunga	2.02	61	⇑iP	Pb	16 54 20.9	-1.1
AC02				i S	Sb	16 54 47.7	+0.7
AC02	Maricunga	2.02	61		Pb	16 54 20.8	-1.1
CO01	Juntas del Tor	2.30	158	⇑iP	Pn	16 54 24.0	+2.4
CO01				i S	Sb	16 54 53.2	-1.5
CO01	Juntas del Tor	2.30	158		Pn	16 54 24.0	+2.4
GO04	Tololo Observa	2.33	174	⇓iP	Pn	16 54 23.4	+1.4
GO04				i S	Sb	16 54 56.4	+0.7
GO04	Tololo Observa	2.33	174	Pn	Pn	16 54 23.7	+1.7
GO04	Tololo Observa	2.33	174	eP	Pn	16 54 24.2	+2.1
GO04				eS	Sb	16 54 58.2	+2.5
VCA	Vinchina	2.71	110	eP	Pb	16 54 32.4	-1.1
VCA				eS	Sb	16 55 09.8	+3.6
VCA				IAML		16 55 15.1	
	comp=Z,17μm,1.1s						
AROD	Rodeo	2.72	149	eP	Pb	16 54 31.6	-2.1
AGUA	GUANDACOL	2.82	126	eP	Pb	16 54 33.6	-1.8
AGUA				IAML		16 55 21.2	
	comp=Z,11μm,0.6s						
ACDV	Cuesta del Vie	2.90	144	eP	Pb	16 54 33.8	-2.9
ACDV				IAML		16 55 23.4	
	comp=Z,6μm,2.1s						
GO02	Mina Guanaco	3.00	27	⇑iP	Pn	16 54 32.2	+1.0
GO02	Mina Guanaco	3.00	27	Pn	Pn	16 54 32.2	+1.0
CO03	El Pedregal	3.00	173	⇓iP	Pn	16 54 32.7	+1.5
CO03				i S	Sb	16 55 11.8	-3.0
CO03	El Pedregal	3.00	173		Pn	16 54 32.8	+1.7
ACCO	Cerro Coronel	3.26	147	eP	Pn	16 54 39.3	+4.4
PB14	IPOC Station P	3.27	11	⇑iP	Pn	16 54 34.2	-0.8
PB14				eS	Sb	16 55 22.4	-0.1
PB14	IPOC Station P	3.27	11	Pn	Pn	16 54 34.0	-1.0
CO02	Combarbal	3.35	178	⇓iP	Pn	16 54 36.5	+0.5
CO02	Combarbal	3.35	178		Pn	16 54 36.4	+0.5
ACLC	CERRO LA CRUZ	3.97	114	eP	Pn	16 54 48.0	+3.4
ACLC				IAML		16 55 43.7	
	comp=Z,8μm,0.6s						
RTLL	Cerro Villicun	4.16	147	⇑eP	Pn	16 54 50.4	+3.4
RTLL	Cerro Villicun	4.16	147	eP	Pn	16 54 50.4	+3.4
RTLL				IAML		16 55 51.4	
	comp=Z,4μm,0.9s						
ZON	Zonda	4.25	151		Pn	16 54 51.5	+3.3
ZON	Zonda	4.25	151	eP	Pn	16 54 52.1	+3.9
ZON				IAML		16 56 03.5	
	comp=Z,3μm,1.4s						
PB10	IPOC Station P	4.34	7	⇑iP	Pn	16 54 47.5	-1.9
PB10	IPOC Station P	4.34	7	Pn	Pn	16 54 47.6	-1.9
RTCV	Cerro Valdivia	4.58	152	eP	Pn	16 54 56.3	+3.5
RTCV				IAML		16 56 24.2	
	comp=Z,2μm,3.0s						
AUSP	Uspallata	4.61	162	eP	Pn	16 54 57.5	+4.1
APLL	PUNTA DE LOS L	4.74	123	eP	Pn	16 54 57.9	+2.9
PB15	IPOC Station P	4.85	18	⇑iP	Pn	16 54 56.5	-0.1
PB15	IPOC Station P	4.85	18		Pn	16 54 56.7	0.0
FSA	Cafayete	4.89	70	eP	Pn	16 55 02.3	+5.1
VA03	San Esteban	4.92	175		Pn	16 54 59.3	+1.7
PB05	IPOC Station P	5.04	10	i P	Pn	16 54 57.2	-1.9
ROC1	El Roble	5.11	179		Pn	16 55 00.8	+0.5
ROC1	El Roble	5.11	179	eP	Pn	16 55 02.9	+2.6
AHML	Horco Molle	5.24	80	eP	Pn	16 55 04.9	+3.1
AHML				IAML		16 56 32.8	
	comp=Z,2μm,0.8s						
PEL	Peldehue	5.29	176		Pn	16 55 02.5	-0.1
PB06	IPOC Station P	5.30	15		Pn	16 55 01.4	-1.5
PB06	IPOC Station P	5.30	15	eP	Pn	16 55 00.7	-2.1
PB06				IAML		16 56 32.8	
	comp=Z,6μm,0.8s						
MT02	Curacav	5.40	180		Pn	16 55 03.9	0.0
MT05	Renca	5.54	177	Pn	Pn	16 55 06.5	+0.6
PB04	IPOC Station P	5.56	9		Pn	16 55 03.9	-2.4
PB04	IPOC Station P	5.56	9	eP	Pn	16 55 04.0	-2.4
PB04				IAML		16 56 56.5	
	comp=Z,5μm,0.6s						
LVC	Limon Verde	5.58	21	Pn	Pn	16 55 06.6	-0.2
	comp=Z,35nm,0.3s,baz=170,slow=8.7,SNR=245						
LVC				Sn	Sn	16 56 11.9	+1.9
	comp=Z,178nm,0.3s,baz=151,slow=16,SNR=5.7						
LVC				Lg	Lg	16 56 26.9	
	comp=Z,252nm,0.3s,baz=322,slow=15,SNR=6.0						
LVC				LR	LR	16 57 16.3	
	comp=Z,10μm,18.8s,baz=219,slow=39						
LVC	Limon Verde	5.58	21	Pn	Pn	16 55 06.5	-0.3
LVC	Limon Verde	5.58	21	eP	Pn	16 55 06.5	-0.2
SLA	San Lorenzo	5.91	59	⇑eP	Pn	16 55 14.7	+3.5
PB07	IPOC Station P	6.19	11		Pn	16 55 12.9	-2.2
PB09	IPOC Station P	6.25	16		Pn	16 55 14.9	-1.0
MRA	San Martin	6.52	136	eP	Pn	16 55 21.4	+1.9
MRA				IAML		16 56 47.2	
	comp=Z,2μm,0.8s						
PB01	IPOC Station P	6.93	13		Pn	16 55 22.8	-2.4
BO02	Sierra Bellavi	6.93	178	Pn	Pn	16 55 24.6	-0.5
TA01	Diego Aracena	7.30	7		Pn	16 55 26.6	-3.5
PB08	IPOC Station P	7.87	13		Pn	16 55 35.7	-2.6
PSGCX	Pisagua	8.26	6		Pn	16 55 39.8	-3.6
H03N1	Juan Fernandez	8.74	228	T	T	17 04 41.4	
	baz=55,slow=71,SNR=2780						
H03N2	Juan Fernandez	8.75	228	T	T	17 04 41.7	
	baz=55,slow=71,SNR=2972						
H03N3	Juan Fernandez	8.75	228	T	T	17 04 49.5	
	baz=55,slow=71,SNR=2312						
MNMC	Minye Minye	8.78	9		Pn	16 55 47.3	-3.4
I14CL	ROBINSON CRUSO	8.79	227	i		17 54 00.0	
	baz=52,slow=327,SNR=0.5						
BI02	San Fabin de	8.79	181	Pn	Pn	16 55 49.3	-1.3
VA04	Juan Fernndez	8.81	227	Pn	Pn	16 55 47.2	-3.5
PB16	IPOC Station P	9.58	9	Pn	Pn	16 55 59.1	-2.8
LPAZ	La Paz	11.83	14	Pn	Pn	16 56 31.6	-1.1
	comp=Z,6.3nm,0.3s,baz=200,slow=6.7,SNR=97						
LPAZ				Sn	Sn	16 58 50.0	+6.0
	comp=Z,0.6nm,0.3s,baz=200,slow=18,SNR=2.2						
LPAZ				LR	LR	17 01 27.1	
	comp=Z,3μm,21.3s,baz=179,slow=39						
LPAZ	La Paz	11.83	14		Pn	16 56 31.1	-1.6
LPAZ	La Paz	11.83	14	eP	Pn	16 56 31.4	-1.3
CPUP	Villa Florida	12.37	86	Pn	Pn	16 56 37.3	-2.2
	comp=Z,0.3nm,0.3s,baz=271,slow=13,SNR=23						
CPUP				Sn	Sn	16 59 08.7	+12
	comp=Z,0.7nm,0.3s,baz=149,slow=19,SNR=1.6						
CPUP				Lg	Lg	16 59 58.8	
	comp=Z,2.9nm,0.3s,baz=358,slow=16,SNR=2.8						
CPUP				LR	LR	17 01 53.3	
	comp=Z,6μm,18.3s,baz=269,slow=40						
CPUP	Villa Florida	12.37	86		Pn	16 56 37.9	-1.6
ITQB	Itaqui	12.83	102	eP	Pn	16 56 45.6	-0.3
PLCA	Paso Flores	12.86	178	Pn	Pn	16 56 45.4	-0.9
	comp=Z,0.1nm,0.3s,baz=54,slow=8.7,SNR=3.2						
PLCA				Lg	Lg	17 00 22.1	
	comp=Z,0.4nm,0.3s,baz=57,slow=17,SNR=1.4						
PLCA				LR	LR	17 02 04.2	
	comp=Z,5μm,19.9s,baz=350,slow=39						
PLCA	Paso Flores	12.86	178	eP	Pn	16 56 48.7	+2.4
SIV	San Ignacio	15.02	40	Pn	Pn	16 57 10.4	-5.3
	comp=Z,2.5nm,0.3s,baz=258,slow=8.8,SNR=47						
CPSB	Cacapava Do Su	15.65	104	eP	Pn	16 57 23.2	-0.7
PLTB	Pedras Altas	15.68	109	eP	Pn	16 57 22.5	-1.9
AQDB	Aquidauana	15.85	66	eP	Pn	16 57 25.3	-1.2
NNA	Nana	16.67	340	Pn	P	16 57 39.8	+0.7
	comp=Z,1.9nm,0.3s,baz=169,slow=12,SNR=3.0						
NNA				Lg	Lg	17 02 21.6	
	comp=Z,0.9nm,0.3s,baz=68,slow=19,SNR=1.2						
NNA				LR	LR	17 02 42.3	
	comp=Z,1μm,21.4s,baz=166,slow=32						
ITAB	Concordia	16.84	92	eP	Pn	16 57 38.2	-0.8
PTGB	Pitanga	17.36	84	eP	Pn	16 57 45.7	+0.1
TRCB	Terra Rica	17.43	77	eP	Pn	16 57 46.0	-0.5
CNLB	Canela	17.85	100	eP	Pn	16 57 50.1	-1.6

VILB Vilhena 17.98 37 eP P 16 57 50.2 -3.1
PP1B Ponte de Pedra 18.09 59 eP Pn 16 57 52.1 -2.5
ETMB Extrema 18.52 15 eP P 16 57 58.2 -1.3
PCMB Pacaembu 19.05 75 eP P 16 58 05.4 0.0
TER01 Tubaro-SC 19.38 97 eP Pn 16 58 10.2 -0.1
TIJ01 Guaruva-PR 19.92 88 eP P 16 58 13.5 -1.5
CZSB Cruzeiro do Su 20.07 355 eP Pn 16 58 17.8 -0.6
SAML Samuel 20.23 23 P P 16 58 17.6 -0.6
SAML IAmb IAmb 16 58 20.2
comp=Z,139nm,0.8s
SAML Samuel 20.23 23 eP P 16 58 18.8 +0.6
ITRB Iturama 20.62 71 eP P 16 58 22.8 +0.2
ARAG Araguaiana, MT 21.57 60 eP P 16 58 31.6 -1.1
BB19B Bebedouro 21.61 77 eP P 16 58 32.5 -0.7
PET01 Itanhaem-SP 21.69 86 eP P 16 58 33.4 -0.5
ATAH Atahualpa 21.73 340 P P 16 58 38.0 +3.2
comp=Z,9.3nm,0.8s,baz=171,slow=8.6,SNR=8.5
ATAH LR LR 17 06 35.6
comp=Z,658nm,19.1s,baz=165,slow=36
SPB Sao Paulo 21.73 84 P P 16 58 33.8 -0.6
SPB IAmb IAmb 16 58 37.7
comp=Z,117nm,0.9s
SPB Sao Paulo 21.73 84 eP P 16 58 34.3 -0.1
CLDB Colider 22.18 43 eP P 16 58 38.1 -1.1
IPMB Ipameri, GO 23.22 70 eP P 16 59 49.3 -0.9
PARB Paraibuna 23.40 85 eP P 16 58 51.1 -0.9
GO09 Cerro Castillo 23.41 182 P P 16 58 50.8 -0.9
GO09 IAmb IAmb 16 59 11.9
comp=Z,123nm,1.4s
SNDB Serra Nova Dou 24.36 54 eP P 16 58 59.4 -1.6
BDFB Brasilia 24.59 65 P P 16 59 02.1 -1.1
comp=Z,34nm,0.9s,baz=230,slow=9.1,SNR=27
BDFB LR LR 17 10 12.1
comp=Z,5µm,19.2s,baz=247,slow=40
BDFB Brasilia 24.59 65 P P 16 59 01.9 -1.3
BDFB IAmb IAmb 16 59 17.5
comp=Z,276nm,1.4s
BSCB Bom Sucesso 24.89 80 eP P 16 59 06.0 0.0
MAN01 Angra dos Reis 25.00 85 eP P 16 59 07.0 +0.3
NPGB Novo Progresso 25.51 39 eP P 16 59 10.9 -0.5
VAS01 Vassouras-RJ 25.63 84 eP P 16 59 13.0 +0.5
EFI East Falkland 25.75 161 P P 16 59 13.5 +0.4
PEXB Peixe 26.47 58 eP P 16 59 20.3 +0.2
MACA Manacapuru-AM 26.49 24 eP P 16 59 20.6 +0.4
ITTB Itaituba 27.56 35 eP P 16 59 29.2 -0.7
JANB Januaria 27.92 68 eP P 16 59 33.0 -0.3
OTAV Otavalo 28.80 345 P P 16 59 40.9 -0.6
OTAV Otavalo 28.80 345 eP P 16 59 42.7 +1.3
SJMB Sao Joao De Ma 28.89 78 eP P 16 59 42.1 +0.4
SDBA SAO DESIDERIO 28.91 63 eP P 16 59 41.6 -0.4
PTGA Pitinga 29.00 23 P P 16 59 43.1 +0.4
comp=Z,60nm,1.0s,baz=203,slow=10,SNR=61
PTGA Pitinga 29.00 23 P P 16 59 42.3 -0.4
PTGA IAmb IAmb 16 59 44.0
comp=Z,79nm,1.0s
PTGA Pitinga 29.00 23 eP P 16 59 42.6 -0.1
BSFB Barra de Sao F 29.13 79 eP P 16 59 43.8 -0.1
SMTB Santa Maria do 29.13 54 eP P 16 59 44.2 +0.3
PRPB Parauapebas 29.54 47 eP P 16 59 46.4 -1.2
BBAC Balboa, Cauca 30.28 348 eP P 16 59 56.4 +2.1
MALB Monte Alegre 30.46 35 eP P 16 59 55.1 -0.5
POPC Popayan, Colom 30.68 349 eP P 17 00 00.0 +2.1
MARP Paez Belalcaza 30.87 351 eP P 17 00 01.5 +1.9
PRAC Prado 31.59 353 eP P 17 00 07.9 +2.3
BOAV Boa Vista 31.74 20 eP P 17 00 07.1 +0.1
ORTC Ortega, Tolima 31.82 352 eP P 17 00 09.1 +2.4
YOTC Yotoco, Valle 32.05 350 eP P 17 00 10.5 +0.7
CHIC Chingaza 32.38 355 eP P 17 00 12.5 -0.6
TOLC Tolima 32.50 352 eP P 17 00 16.2 +2.3
GDU01 Guandu, BA 32.54 71 eP P 17 00 13.5 -0.5
ROSC El Rosal 32.64 354 P P 17 00 17.6 +2.3
comp=Z,26nm,0.8s,baz=123,slow=6.1,SNR=6.5
ROSC LR LR 17 13 36.3
comp=Z,771nm,20.4s,baz=216,slow=36
ROSC El Rosal 32.64 354 P P 17 00 16.2 +0.9
ROSC IAmb IAmb 17 00 21.6
comp=Z,75nm,1.4s
RREF El Recreo 32.81 352 eP P 17 00 20.3 +3.3
MCPB Macapa, AP 32.87 37 eP P 17 00 16.3 -0.5
PLMC San Jos del P 32.94 350 eP P 17 00 19.3 +1.8
GUY2C Guyana, Caldas 33.13 352 eP P 17 00 22.1 +2.4
NORC Norcasia 33.41 353 eP P 17 00 22.7 +1.0
SPBC San Pablo de B 33.42 355 eP P 17 00 23.0 +1.2
TMAB Tom-Au,PA,Br 33.54 45 eP P 17 00 23.1 +0.4
RUSC La Rusia 33.59 356 eP P 17 00 24.9 +1.2
CBOC Ciudad Bolivar 33.85 351 eP P 17 00 27.0 +1.5
PTBC PUERTO BERRIO, 34.34 354 eP P 17 00 28.6 -1.0
DBBC Dabeiba 35.01 351 eP P 17 00 38.0 +2.5
PAMC Pamplona, Colo 35.01 357 eP P 17 00 35.7 -0.3
UREC San Jos de Ur 35.65 352 eP P 17 00 41.7 +0.8
ROSB Rosrio 35.76 51 eP P 17 00 42.0 0.0
HOPE Hope Point 36.52 146 P P 17 00 48.2 +0.2
HOPE IAmb IAmb 17 01 04.9
comp=Z,128nm,1.5s
SDV Santo Domingo 36.52 1 P P 17 00 48.3 -0.2
comp=Z,4.9nm,0.4s,baz=194,slow=9.2,SNR=7.4
SDV Santo Domingo 36.52 1 P P 17 00 47.5 -1.1
SDV Santo Domingo 36.52 1 eP P 17 00 48.4 -0.2
SDV Santo Domingo 36.52 1 eP P 17 00 48.8 +0.2
SMLC San Martn de 36.54 355 eP P 17 00 47.3 -1.2
NBLI Livramento-PB 38.19 64 eP P 17 01 02.9 +0.2
NBMO Morrinhos-CE 38.38 56 eP P 17 01 03.9 -0.3
NBRF Rio Formoso - 38.91 68 eP P 17 01 07.9 -0.7
NBPA Parau_RN 39.03 62 eP P 17 01 10.2 +0.5
RCBR Riachuelo 39.94 63 P P 17 01 17.8 +0.5
comp=Z,91nm,1.1s,baz=53,slow=8.8,SNR=12
RCBR Riachuelo 39.94 63 P P 17 01 17.0 -0.3
RCBR IAmb IAmb 17 01 20.1
comp=Z,131nm,1.2s
RCBR Riachuelo 39.94 63 eP P 17 01 18.3 +1.0
NBPV Pedro Velho 40.07 65 eP P 17 01 18.6 +0.3
TOSP Speyside 40.24 16 P P 17 01 19.7 +0.2
GRGR Grenville 40.78 14 P P 17 01 23.6 -0.5
MLPR Magueyes Islan 45.71 5 P P 17 02 02.6 -1.3
OBIP Obispado Ponce 45.82 6 P P 17 02 02.9 -1.8
PDPR Patillas Dam, 45.86 7 P P 17 02 03.3 -1.7
PDPR IAmb IAmb 17 02 04.8
comp=Z,58nm,0.8s
SJG San Juan 45.94 7 P P 17 02 03.4 -2.2
SJG IAmb IAmb 17 02 05.4
comp=Z,58nm,0.9s
MPR Mayaguez 45.95 5 P P 17 02 03.9 -1.8
MPR IAmb IAmb 17 02 06.0
comp=Z,70nm,0.9s
BANI BANI 45.97 1 P P 17 02 05.0 -1.0
MTP Monte Pirata 45.99 7 P P 17 02 04.0 -2.0
MTP IAmb IAmb 17 02 05.6
comp=Z,41nm,1.2s
AOPR Arecibo Observ 46.11 6 P P 17 02 05.6 -1.5
AOPR IAmb IAmb 17 02 07.1
comp=Z,53nm,1.1s
CBYP Canovanas 46.12 7 P P 17 02 05.8 -1.4
CBYP IAmb IAmb 17 02 07.0
comp=Z,57nm,0.9s
GCPR Guaynabo City 46.14 7 P P 17 02 05.4 -1.8
GCPR IAmb IAmb 17 02 06.7
comp=Z,36nm,0.8s
TEIG Tepich 50.59 339 P P 17 02 42.3 +0.7
TLIG Tlapa 52.40 326 P P 17 02 56.0 +0.7
BELA Belgrano 2 52.80 171 P P 17 02 57.6 +0.2
VNA3 Neumayer Olymp 54.79 160 P P 17 03 12.6 +0.5
VNA1 Neumayer--Stat 55.05 159 P P 17 03 14.2 +0.2
VNA2 Neumayer--Watz 55.41 159 P P 17 03 16.7 +0.2
baz=288,slow=8.2
SNAA Sanae 57.01 159 P P 17 03 28.4 +0.4
SNAA Sanae 57.01 159 P P 17 03 28.4 +0.4
comp=Z,53nm,1.1s,baz=280,slow=5.2,SNR=22
SNAA Sanae 57.01 159 P P 17 03 27.4 -0.7
SNAA IAmb IAmb 17 03 29.7
comp=Z,74nm,1.1s
ZAIG Zacatecas 58.78 326 P P 17 03 40.8 -0.5
553A Crawfordville 59.10 347 P P 17 03 43.4 +0.4
456A Hilliard 59.17 349 P P 17 03 43.7 +0.3
451A Vernon 59.79 345 P P 17 03 48.3 +0.5
TIGA Tifton 60.14 348 P 17 03 50.6
baz=167
TIGA Tifton 60.15 348 P P 17 03 50.3 +0.2
BBSR BB Station 60.19 6 P P 17 03 50.5 +0.1
BBSR IAmb IAmb 17 03 51.8
comp=Z,24nm,0.8s
H06E1 SOCORRO T-PHAS 60.29 316 T T 18 09 11.2
SNR=38

255A Hazlehurst 60.42 349 P P 17 03 52.5 +0.5
352A Blakely 60.45 346 P P 17 03 52.4 +0.2
BRAL Brewton 60.62 344 P 17 03 54.1
baz=164
250A Grady 61.22 345 P P 17 03 57.0 -0.5
NHSC New Hope 61.23 351 P 17 03 58.7
baz=171
NHSC New Hope 61.23 351 P P 17 03 58.1 +0.6
Z59A Georgetown, SC 61.24 352 P 17 03 58.6
baz=172
346A Big Creek Wild 61.45 342 P P 17 03 58.6 -0.4
346A IAmb IAmb 17 04 00.8
comp=Z,38nm,0.8s
152A Waverly Hall 61.56 347 P P 17 03 59.4 -0.4
152A IAmb IAmb 17 04 00.9
comp=Z,32nm,1.0s
Z56A Williston 61.61 350 P P 17 03 59.8 -0.3
344A Westbrook Farm 61.87 341 P P 17 04 02.1 +0.3
Y60A Bolivia 61.88 353 P P 17 04 01.0 -0.8
Y58A Scranton 61.95 352 P P 17 04 02.9 +0.6
GOGA Godfrey 62.04 348 P 17 04 02.8
baz=168,SNR=5.0
GOGA Godfrey 62.04 348 P P 17 04 02.9 -0.1
GOGA IAmb IAmb 17 04 04.2
comp=Z,46nm,1.4s
833A Chaparral WMA, 62.09 332 P 17 04 05.1
baz=152,SNR=6.1
HKT Hockley 62.14 336 P P 17 04 04.5 +0.9
HKT IAmb IAmb 17 04 06.1
comp=Z,23nm,1.1s
Y57A Sumter 62.15 351 P P 17 04 04.2 +0.5
Y57A IAmb IAmb 17 04 05.4
comp=Z,45nm,0.8s
342A Flagon Creek P 62.27 340 P P 17 04 06.1 +1.6
Z51A Franklin 62.28 347 P P 17 04 04.4 -0.1
Z51A IAmb IAmb 17 04 06.0
comp=Z,27nm,1.2s
LRAL Lakeview Retre 62.40 345 P 17 04 05.4
baz=164,SNR=5.6
LRAL Lakeview Retre 62.40 345 P P 17 04 05.3 -0.1
LRAL IAmb IAmb 17 04 06.7
comp=Z,34nm,1.3s
X60A Albert Glenn T 62.42 354 P 17 04 06.4
baz=173
VBMS Vicksburg 62.52 341 P 17 04 07.3
baz=161
146A Union 62.52 343 P P 17 04 06.8 +0.6
146A IAmb IAmb 17 04 07.9
comp=Z,27nm,0.8s
JSC Jenkinsville 62.53 351 P P 17 04 06.1 -0.2
X58A Rowland 62.55 352 P P 17 04 06.3 0.0
Y52A Lilburn 62.59 348 P P 17 04 06.5 -0.2
Y52A IAmb IAmb 17 04 08.0
comp=Z,51nm,1.3s
HODGE Hodges 62.64 350 P P 17 04 06.8 -0.1
Z47A Carrollton 62.81 344 P P 17 04 08.0 -0.1
Z47A IAmb IAmb 17 04 09.7
comp=Z,50nm,1.2s
W61A Ground Anchor 62.93 355 P 17 04 10.1
baz=174
Y49A Blount Mountai 63.06 346 P P 17 04 09.6 -0.2
Y49A IAmb IAmb 17 04 11.1
comp=Z,29nm,1.2s
PAULI Pauline 63.15 350 P P 17 04 10.8 +0.5
PAULI IAmb IAmb 17 04 12.0
comp=Z,43nm,1.1s
W57A Gilead 63.22 352 P P 17 04 11.0 +0.2
W57A IAmb IAmb 17 04 12.4
comp=Z,32nm,0.8s
143A Socs Landing, 63.23 341 P P 17 04 12.7 +1.7
W56A Indian Trail 63.28 351 P 17 04 11.2
baz=171,SNR=8.2
NATX Nacogdoches 63.38 338 P 17 04 13.6
baz=157
NATX Nacogdoches 63.38 338 P P 17 04 13.6 +1.6
KMSC Kings Mountain 63.39 351 P 17 04 12.0
baz=176,SNR=7.9
KMSC Kings Mountain 63.39 351 P P 17 04 12.2 +0.3
KMSC IAmb IAmb 17 04 13.6
comp=Z,35nm,1.0s
X51A Calhoun 63.42 347 P P 17 04 12.4 +0.2
SLBS Sierra La Lagu 63.47 320 P P 17 04 13.7 +0.9
BG3 Lake Jocassee 63.49 349 P P 17 04 13.0 +0.3
V60A Jim Taylor Roa 63.53 354 P 17 04 13.9
baz=174
435B Jarrell 63.54 335 P 17 04 14.5
baz=154
435B Jarrell 63.55 335 P P 17 04 14.3 +1.2
FPAL Fort Paine 63.55 347 P P 17 04 13.0 -0.1
FPAL IAmb IAmb 17 04 14.8
comp=Z,35nm,1.0s
V59A Middlesex 63.62 354 P 17 04 14.4
baz=173,SNR=9.4
V58A Windy Hill, Pi 63.75 353 P P 17 04 14.6 +0.3
V58A IAmb IAmb 17 04 15.9
comp=Z,50nm,1.1s
W52A Murphy 63.76 348 P P 17 04 14.7 +0.2
W52A IAmb IAmb 17 04 16.1
comp=Z,38nm,1.1s
X48A Hartselle 63.77 345 P P 17 04 14.6 +0.1
X48A IAmb IAmb 17 04 16.0
comp=Z,59nm,1.0s
Y45A Yeager Farm, C 63.82 343 P P 17 04 15.8 +1.0
V57A Coltrane Farms 63.92 352 P 17 04 15.7
baz=172
V56A Mocksville 63.93 352 P 17 04 16.2
baz=171,SNR=14
237A Washetta, Mont 64.00 337 P P 17 04 17.5 +1.5
LPIG La Paz 64.00 320 LR LR 17 27 07.0
comp=Z,135nm,18.7s,baz=210,slow=31
U61A Possum Corner 64.03 355 P 17 04 17.1
baz=175
V55A Taylorsville 64.07 351 P P 17 04 16.9 +0.4
V55A IAmb IAmb 17 04 18.2
comp=Z,46nm,1.1s
W50A Signal Mountai 64.13 347 P P 17 04 16.9 +0.1
W50A IAmb IAmb 17 04 18.4
comp=Z,49nm,0.8s
V53A Saluda 64.13 349 P P 17 04 17.0 +0.1
V53A IAmb IAmb 17 04 18.4
comp=Z,30nm,1.1s
JCT Junction City 64.15 333 P 17 04 18.8
baz=152,SNR=10
JCT Junction City 64.15 333 P P 17 04 18.2 +1.1
JCT IAmb IAmb 17 04 20.0
comp=Z,34nm,0.8s
Z41A Richland Creek 64.17 340 P 17 04 18.7
baz=159
U59A Littleton 64.17 354 P P 17 04 17.8 +0.8
U59A IAmb IAmb 17 04 19.3
comp=Z,63nm,1.1s
CPCT Cooper Cave 64.22 348 P P 17 04 17.5 +0.1
CPCT IAmb IAmb 17 04 19.0
comp=Z,49nm,1.0s
U60A Pendleton 64.23 355 P 17 04 18.3
baz=174
SWET Sewanee 64.27 347 P P 17 04 17.8 0.0
U58A Oxford 64.28 353 P 17 04 18.5
baz=173
TKL Tuckaleechee C 64.28 349 P P 17 04 17.7 -0.1
TKL IAmb IAmb 17 04 19.1
comp=Z,64nm,1.1s
OXF Oxford 64.39 343 P 17 04 18.5
baz=162,SNR=12
OXF Oxford 64.39 343 P P 17 04 18.7 +0.2
U57A Blanch 64.40 353 P 17 04 19.1
baz=172,SNR=7.2
V52A Sevierville 64.43 349 P P 17 04 18.6 -0.2
U56A King 64.44 352 P 17 04 19.7
baz=171
U56A King 64.45 352 P P 17 04 19.4 +0.5
U56A IAmb IAmb 17 04 20.9
comp=Z,36nm,1.0s
PLAL Pickwick Lake 64.52 345 P P 17 04 18.9 -0.5
PLAL IAmb IAmb 17 04 20.5
comp=Z,40nm,1.1s
V51A Loudon 64.53 348 P P 17 04 19.0 -0.5
V51A IAmb IAmb 17 04 20.7
comp=Z,25nm,0.9s
WHTX Lake Whitney, 64.58 335 P 17 04 21.1
baz=154,SNR=5.5
WHTX Lake Whitney, 64.58 335 P P 17 04 20.2 +0.4
WHTX IAmb IAmb 17 04 22.4
comp=Z,40nm,0.9s
WLAR White Oak Lake 64.66 340 P P 17 04 21.4 +1.1

T59A Double "B" Far 64.76 354 P P 17 04 21.7 +0.8
T59A IAmb IAmb 17 04 23.1
comp=Z,56nm,1.1s
X43A Marvell 64.79 342 P 17 04 22.4
baz=161,SNR=6.0
U54A Nelsons Funny 64.81 350 P 17 04 21.7
baz=170,SNR=11
U54A Nelsons Funny 64.81 350 P P 17 04 21.3 -0.1
T58A Grand View Acr 64.82 353 P 17 04 22.1
baz=173,SNR=16
TX31 Lajitas Ar. Si 64.84 329 P P 17 04 22.9 +1.2
TX31 IAmb IAmb 17 04 24.3
comp=Z,26nm,0.8s
TX32 Lajitas Array 64.84 329 P P 17 04 22.9 +1.1
TXAR Lajitas Array 64.84 329 P P 17 04 23.9 +2.2
comp=Z,8.7nm,0.9s,baz=153,slow=8.6,SNR=56
TXAR LR LR 17 28 49.0
comp=Z,115nm,18.4s,baz=0.0,slow=32
TXAR Lajitas Array 64.84 329 P P 17 04 22.9 +1.1
Z38A Mt. Pleasant 64.86 338 P P 17 04 23.0 +1.3
Z38A IAmb IAmb 17 04 24.6
comp=Z,76nm,1.2s
W45A Hickory Valley 64.95 344 P P 17 04 22.4 +0.2
T57A Hurt 64.95 353 P 17 04 22.8
baz=172
T57A Hurt 64.95 353 P P 17 04 22.8 +0.6
T57A IAmb IAmb 17 04 24.0
comp=Z,40nm,1.3s
V48A Smith Brothers 64.96 346 P P 17 04 22.4 +0.1
T56A Rocky Mt 65.07 352 P 17 04 23.9
baz=171,SNR=10.0
CLTN Cedars of Leba 65.19 346 P P 17 04 23.9 +0.1
CLTN IAmb IAmb 17 04 25.4
comp=Z,49nm,1.1s
BLA Blacksburg 65.30 352 P 17 04 25.1
baz=171
X40A Basin Creek Fa 65.32 340 P 17 04 25.3
baz=159
S60A Water View 65.41 355 P 17 04 25.8
baz=175
S58A Poland Farm, P 65.44 354 P 17 04 26.1
baz=173,SNR=6.0
S58A Poland Farm, P 65.44 354 P P 17 04 25.8 +0.5
S58A IAmb IAmb 17 04 27.6
comp=Z,63nm,1.1s
U49A Red Boiling Sp 65.49 347 P P 17 04 25.5 -0.1
U49A IAmb IAmb 17 04 27.0
comp=Z,50nm,1.3s
JSRW J. Sargeant Re 65.50 354 P P 17 04 26.1 +0.4
S59A Mechanicsville 65.52 355 P 17 04 26.8
baz=174
WVT Waverly 65.56 345 P 17 04 26.2
baz=164
WVT Waverly 65.56 345 P P 17 04 25.6 -0.5
WVT IAmb IAmb 17 04 27.4
comp=Z,53nm,1.1s
MIAR Mount Ida 65.60 340 P 17 04 27.5
baz=158,SNR=18
MIAR Mount Ida 65.60 340 P P 17 04 26.6 +0.2
MIAR IAmb IAmb 17 04 28.8
comp=Z,34nm,1.0s
S56A Natural Bridge 65.66 353 P 17 04 27.4
baz=172,SNR=5.5
S57A Dark Hollow, R 65.67 353 P 17 04 27.7
baz=172,SNR=8.7
S57A Dark Hollow, R 65.67 353 P P 17 04 27.3 +0.5
S57A IAmb IAmb 17 04 28.9
comp=Z,57nm,1.2s
Z35A Perchaven, San 65.71 336 P P 17 04 28.0 +0.8
R58B Mineral 65.77 354 P 17 04 28.8
baz=173,SNR=16
R58B Mineral 65.77 354 P P 17 04 28.4 +0.9
W41B Gary Mavity, V 65.79 341 P 17 04 28.5
baz=160,SNR=12
T50A Nancy 65.80 348 P P 17 04 27.4 -0.3
WHAR Wooly Hollow 65.91 341 P P 17 04 28.9 +0.5
WHAR IAmb IAmb 17 04 30.5
comp=Z,31nm,1.0s
GNAR Gosnell 65.93 343 P P 17 04 29.2 +0.7
R59A King George, V 65.94 355 P 17 04 29.6
baz=174
CBN Corbin Frederi 65.97 355 P 17 04 29.5
baz=174
R60A Leonardtown, M 65.97 355 P 17 04 29.0
baz=175
ABTX Abilene, Hawle 65.97 334 P 17 04 30.5
baz=152,SNR=18
ABTX Abilene, Hawle 65.97 334 P P 17 04 29.9 +1.0
S54A Dingess, Beckl 66.00 351 P 17 04 28.9
baz=170,SNR=5.2
S54A Dingess, Beckl 66.00 351 P P 17 04 29.2 +0.2
S54A IAmb IAmb 17 04 30.3
comp=Z,65nm,1.3s
PEBM Pemiscott Bayo 66.03 343 P P 17 04 30.1 +1.0
R58A Rapidan 66.11 354 P 17 04 30.7
baz=173,SNR=9.3
R57A Stanardsville 66.16 354 P 17 04 31.3
baz=173,SNR=14
S51A Beattyville 66.19 349 P P 17 04 30.1 -0.1
S51A IAmb IAmb 17 04 31.4
comp=Z,35nm,1.1s
X37A Clayton 66.21 338 P P 17 04 30.9 +0.6
X37A IAmb IAmb 17 04 33.0
comp=Z,48nm,1.1s
T47A Sharon Grove 66.22 346 P P 17 04 30.2 -0.2
W39A Magazine 66.26 340 P 17 04 32.3
baz=158,SNR=18
W39A Magazine 66.26 340 P P 17 04 31.7 +1.0
W39A IAmb IAmb 17 04 33.5
comp=Z,48nm,1.1s
HICK Hickman 66.28 344 P P 17 04 31.7 +1.0
PENMO Penman 66.29 344 P P 17 04 31.9 +1.1
LCAR Lake Charles 66.32 342 P P 17 04 31.1 +0.1
R54A Victor 66.33 352 P 17 04 31.4
baz=170,SNR=8.3
FCAR Ozark Folk Cen 66.42 341 P P 17 04 31.9 +0.2
FCAR IAmb IAmb 17 04 33.5
comp=Z,40nm,1.2s
PARMO Parma 66.52 344 P P 17 04 32.6 +0.3
Q59A Harwood 66.56 355 P 17 04 33.8
baz=175
T45A Paducah 66.60 345 P P 17 04 32.9 +0.2
R53A Hurricane 66.61 351 P P 17 04 32.9 0.0
Q58A Fox Den Farm, 66.72 354 P 17 04 34.6
baz=174
PBMO Poplar Bluff 66.80 343 P P 17 04 34.1 +0.1
Q57A Strasburg 66.88 354 P 17 04 36.1
baz=173,SNR=17
R50A Paris 66.94 349 P P 17 04 34.8 -0.1
U40A Yellville 67.06 341 P 17 04 36.6
baz=159,SNR=21
U40A Yellville 67.06 341 P P 17 04 36.2 +0.4
U40A IAmb IAmb 17 04 37.8
comp=Z,44nm,1.0s
Q53A Leroy 67.07 351 P 17 04 36.2
170
R49A Shelbyville 67.10 348 P P 17 04 35.4 -0.6
Q54A Coxs Mills 67.10 352 P P 17 04 35.5 -0.5
SDMD Soldier's Deli 67.12 355 P P 17 04 36.6 +0.5
MBO M'Bour 67.18 58 P P 17 04 37.5 +0.6
T42A Van Buren 67.21 343 P P 17 04 36.6 -0.1
T42A IAmb IAmb 17 04 38.3
comp=Z,24nm,0.9s
WCI Wyandotte Cave 67.25 347 P 17 04 36.7
baz=166
WCI Wyandotte Cave 67.25 347 P P 17 04 36.4 -0.6
WCI IAmb IAmb 17 04 37.9
comp=Z,26nm,0.8s
Q52A Bidwell 67.28 351 P P 17 04 36.5 -0.6
Q52A IAmb IAmb 17 04 38.4
comp=Z,50nm,1.2s
USIN University of 67.28 346 P P 17 04 37.5 +0.4
P57A Homestead Farm 67.29 354 P 17 04 38.6
baz=173,SNR=15
P59A Jarrettsville 67.29 356 P 17 04 38.7
baz=175,SNR=8.4
P57A Homestead Farm 67.29 354 P P 17 04 38.2 +1.1
HHAR Hobbs 67.32 340 P P 17 04 37.7 +0.3
HHAR IAmb IAmb 17 04 39.5
comp=Z,31nm,0.9s
S44A Carbondale 67.38 344 P P 17 04 37.7 0.0
P56A Dayton Farm, R 67.39 354 P 17 04 39.1
baz=173,SNR=9.3
SIUC Southern Illin 67.39 345 P P 17 04 38.0 +0.2
P60A Greenville 67.44 356 P 17 04 39.0
baz=176

Q51A Peebles 67.50 350 P **P** **17 04 38.2 -0.2**
Q51A IAmb IAmb 17 04 39.8
comp=Z,41nm,1.1s
WMOK Wichita Mounta 67.53 336 P 17 04 39.4
baz=154,SNR=12
WMOK Wichita Mounta 67.53 336 P **P** **17 04 38.9 +0.2**
TUL1 Leonard 67.55 338 P 17 04 39.9
baz=156,SNR=18
TUL1 Leonard 67.55 338 P **P** **17 04 39.0 +0.1**
WUPA West Chester U 67.56 356 P **P** **17 04 39.7 +0.9**
GDL2 Guadalupe Moun 67.58 330 P **P** **17 04 39.3 0.0**
U38A Gravette 67.60 340 P **P** **17 04 39.4 +0.2**
U38A IAmb IAmb 17 04 41.2
comp=Z,53nm,1.4s
MNTX Cornudas Mount 67.62 329 P 17 04 40.1
baz=148,SNR=24
MNTX Cornudas Mount 67.62 329 P **P** **17 04 39.5 +0.1**
MGMO Mountain Grove 67.65 342 P **P** **17 04 39.7 +0.3**
MGMO IAmb IAmb 17 04 41.6
comp=Z,30nm,0.9s
MCWV Mont Chateau 67.65 353 P 17 04 40.4
baz=172
MCWV Mont Chateau 67.65 353 P **P** **17 04 39.7 +0.3**
P53A Whipple 67.67 351 P **P** **17 04 39.6 +0.1**
P53A IAmb IAmb 17 04 41.2
comp=Z,40nm,1.1s
MVL Millersville 67.67 356 P **P** **17 04 40.2 +0.7**
MVL IAmb IAmb 17 04 42.7
comp=Z,27nm,1.0s
OK025 Westminster Rd 67.77 337 P **P** **17 04 40.5 +0.3**
O58A Lewisberry 67.84 355 P 17 04 42.0
baz=174,SNR=6.5
P51A Williamsport 67.90 350 P **P** **17 04 40.8 -0.2**
P51A IAmb IAmb 17 04 42.0
comp=Z,58nm,1.1s
P52A Corning 67.91 351 P 17 04 41.1
baz=170,SNR=7.6
P52A Corning 67.92 351 P **P** **17 04 40.4 -0.7**
P52A IAmb IAmb 17 04 42.2
comp=Z,59nm,1.1s
PAGS Pennsylvania G 67.93 355 P **P** **17 04 42.0 +0.9**
PAGS IAmb IAmb 17 04 43.5
comp=Z,49nm,1.2s
O60A Telford 67.93 356 P 17 04 42.6
baz=176
BCOK Bluff Creek, N 67.93 337 P **P** **17 04 41.8 +0.5**
OK031 S. Brethren Rd 67.94 338 P **P** **17 04 41.6 +0.3**
FVM French Village 67.94 344 P **P** **17 04 41.5 +0.2**
O57A Amberson 67.98 355 P 17 04 43.0
baz=174,SNR=8.8
OK029 Liberty Lake 68.01 337 P **P** **17 04 42.3 +0.6**
QUOK Quay 68.09 338 P **P** **17 04 43.0 +0.7**
QUOK IAmb IAmb 17 04 44.4
comp=Z,46nm,0.8s
O56A Blue Knob Stat 68.12 354 P 17 04 43.8
baz=173,SNR=7.3
O56A Blue Knob Stat 68.12 354 P **P** **17 04 43.1 +0.7**
O56A IAmb IAmb 17 04 44.9
comp=Z,48nm,1.1s
CCM Cathedral Cave 68.22 343 P 17 04 43.8
baz=161
CCM Cathedral Cave 68.22 343 P **P** **17 04 43.0 -0.1**
P49A Miami Univ. Ec 68.22 349 P 17 04 42.8
baz=167
P49A Miami Univ. Ec 68.22 349 P **P** **17 04 42.5 -0.5**
P49A IAmb IAmb 17 04 43.9
comp=Z,41nm,1.3s
BRNJ Basking Ridge 68.25 357 P **P** **17 04 44.2 +1.0**
BRNJ IAmb IAmb 17 04 45.8
comp=Z,73nm,1.2s
P48A Milroy 68.28 348 P **P** **17 04 42.5 -0.8**
P48A IAmb IAmb 17 04 45.2
comp=Z,34nm,1.5s
N61A South Mountain 68.31 357 P 17 04 45.1
baz=177,SNR=5.0
O52A Adamsville 68.35 351 P **P** **17 04 43.6 -0.2**
O52A IAmb IAmb 17 04 44.5
comp=Z,58nm,1.4s
O53A New Philadelph 68.39 352 P 17 04 44.4
baz=170,SNR=5.2
O53A New Philadelph 68.40 352 P **P** **17 04 43.8 -0.3**
O53A IAmb IAmb 17 04 46.3
comp=Z,52nm,1.4s
MSTX Muleshoe 68.41 332 P 17 04 45.9
baz=150
MSTX Muleshoe 68.41 332 P **P** **17 04 45.1 +0.6**
MSTX IAmb IAmb 17 04 46.9
comp=Z,53nm,0.9s
S39A Bolivar 68.44 341 P **P** **17 04 45.1 +0.7**
N62A Caumsett State 68.46 358 P 17 04 46.0
baz=178
N60A Cedar Hill Far 68.47 357 P 17 04 45.9
baz=176,SNR=6.8
Q44A Meyer Farm, Va 68.48 345 P **P** **17 04 44.2 -0.4**
Q44A IAmb IAmb 17 04 45.7
comp=Z,70nm,1.2s
N57A Milroy 68.51 355 P 17 04 45.9
baz=174,SNR=10
SLM Saint Louis 68.51 344 P **P** **17 04 45.1 +0.3**
N58A Sunbury 68.53 355 P 17 04 46.5
baz=175,SNR=9.1
N58A Sunbury 68.53 355 P **P** **17 04 45.6 +0.7**
N58A IAmb IAmb 17 04 47.5
comp=Z,38nm,1.0s
N59A State Game Lan 68.55 356 P 17 04 46.7
baz=176,SNR=9.3
ACSO Alum Creek Sta 68.62 350 P 17 04 45.7
baz=169,SNR=12
ACSO Alum Creek Sta 68.62 350 P **P** **17 04 45.5 0.0**
ACSO IAmb IAmb 17 04 46.8
comp=Z,61nm,1.0s
ODNJ Ogdensburg 68.66 357 P **P** **17 04 46.6 +1.0**
ODNJ IAmb IAmb 17 04 48.3
comp=Z,53nm,1.1s
WSPT Westport, CT 68.70 358 P **P** **17 04 46.9 +1.0**
WSPT IAmb IAmb 17 04 48.5
comp=Z,69nm,1.1s
TRNY Table Rock, Ra 68.70 357 P **P** **17 04 46.8 +0.8**
TRNY IAmb IAmb 17 04 48.5
comp=Z,28nm,0.9s
T35A Sooner Cattle 68.71 338 P **P** **17 04 46.1 0.0**
T35A IAmb IAmb 17 04 48.5
comp=Z,43nm,1.1s
N56A West Decatur 68.74 354 P 17 04 47.3
baz=173
AMTX Amarillo 68.76 333 P 17 04 48.0
baz=151
AMTX Amarillo 68.76 333 P **P** **17 04 46.9 +0.3**
AMTX IAmb IAmb 17 04 49.3
comp=Z,65nm,1.4s
P46A Rosedale 68.78 347 P **P** **17 04 45.8 -0.7**
P46A IAmb IAmb 17 04 47.4
comp=Z,52nm,1.1s
O49A Covington 68.80 349 P **P** **17 04 46.3 -0.2**
O49A IAmb IAmb 17 04 47.8
comp=Z,45nm,1.1s
M61A Granite Spring 68.85 358 P 17 04 48.3
baz=178
M60A Port Jervis 68.90 357 P 17 04 48.6
baz=177,SNR=7.2
N53A Lisbon 68.90 352 P **P** **17 04 47.0 -0.2**
N53A IAmb IAmb 17 04 48.9
comp=Z,45nm,1.4s
M63A Gales Ferry 68.90 359 P 17 04 48.8
baz=179
N54A Moraine State 68.95 353 P 17 04 48.4
baz=172,SNR=6.6
N54A Moraine State 68.95 353 P **P** **17 04 47.9 +0.3**
N54A IAmb IAmb 17 04 49.6
comp=Z,61nm,1.2s
M62A Hamden 68.96 359 P 17 04 49.4
baz=178,SNR=8.0
M58A Price's Panora 69.05 356 P 17 04 49.8
baz=175,SNR=9.6
M64A Tiverton 69.05 360 P 17 04 49.5
baz=180
M64A Tiverton 69.05 360 P **P** **17 04 48.2 +0.1**
M64A IAmb IAmb 17 04 50.1
comp=Z,48nm,0.9s
M57A Sunshine Farm, 69.06 355 P 17 04 49.7
baz=174,SNR=7.1
M57A Sunshine Farm, 69.06 355 P **P** **17 04 48.9 +0.7**
M57A IAmb IAmb 17 04 50.8
comp=Z,85nm,1.4s
U32A Winter Ranch, 69.07 336 P **P** **17 04 49.3 +0.9**
U32A IAmb IAmb 17 04 50.9
comp=Z,72nm,1.4s
KAN13 South Haven SW 69.11 338 P **P** **17 04 49.4 +0.8**
KAN13 IAmb IAmb 17 04 59.9
comp=Z,80nm,1.4s
M59A Waymart 69.15 357 P 17 04 50.1
baz=176,SNR=17
KSPA Keystone Colle 69.19 356 P **P** **17 04 50.1 +1.1**
KSPA IAmb IAmb 17 04 51.6
comp=Z,52nm,1.1s
N51A Ashland 69.21 351 P **P** **17 04 49.1 0.0**
N51A IAmb IAmb 17 04 50.4
comp=Z,40nm,1.2s
KAN14 Manchester OK 69.23 337 P **P** **17 04 49.8 +0.5**
KSCT Kent School, K 69.26 358 P **P** **17 04 50.3 +0.9**
KSCT IAmb IAmb 17 04 52.1
comp=Z,61nm,1.2s
M56A Emporium 69.29 354 P 17 04 50.7
baz=173,SNR=9.4
M56A Emporium 69.29 354 P **P** **17 04 50.2 +0.6**
UCCT U. Connecticut 69.30 359 P **P** **17 04 50.5 +0.9**
UCCT IAmb IAmb 17 04 52.0
comp=Z,46nm,1.0s
P43A Skaggs, Pawnee 69.30 345 P **P** **17 04 50.0 +0.3**
M55A Ridgway 69.33 354 P **P** **17 04 50.4 +0.5**
KAN01 Argonia South 69.34 337 P **P** **17 04 50.7 +0.7**
KAN01 IAmb IAmb 17 04 52.6
comp=Z,67nm,1.2s
L63A North Scituate 69.36 360 P 17 04 51.7
baz=180,SNR=12
L63A North Scituate 69.36 360 P **P** **17 04 51.2 +1.2**
BRYW Bryant College 69.42 360 P **P** **17 04 51.9 +1.5**
KAN10 Anthony SW Sta 69.42 337 P **P** **17 04 51.4 +0.8**
L64A Middleborough 69.43 0 P 17 04 52.1
baz=180
L64A Middleborough 69.43 0 P **P** **17 04 51.1 +0.7**
L64A IAmb IAmb 17 04 52.6
comp=Z,55nm,0.9s
121A Cookes Peak, D 69.44 327 P 17 04 53.5
baz=146,SNR=8.1
121A Cookes Peak, D 69.44 327 P **P** **17 04 50.9 -0.1**
M54A Oil Creek Stat 69.46 353 P 17 04 51.3
baz=172,SNR=6.9
M54A Oil Creek Stat 69.46 353 P **P** **17 04 50.7 0.0**
M54A IAmb IAmb 17 04 52.4
comp=Z,36nm,1.1s
KAN08 Anthony NE Sta 69.47 337 P **P** **17 04 51.8 +0.9**
KAN08 IAmb IAmb 17 04 53.5
comp=Z,56nm,0.9s
SFIN Lafayette 69.48 347 P 17 04 50.5
baz=165,SNR=7.0
N49A Columbus Grove 69.49 349 P **P** **17 04 50.8 0.0**
SFIN Lafayette 69.49 347 P **P** **17 04 50.0 -0.8**
SFIN IAmb IAmb 17 04 51.6
comp=Z,60nm,1.4s
M53A WI Miller and 69.50 352 P 17 04 51.4
baz=171,SNR=7.5
L60A Shokan 69.54 358 P 17 04 52.9
baz=177,SNR=10
KAN12 Harper NE Stat 69.55 337 P **P** **17 04 51.8 +0.5**
O44A Mansfield 69.55 346 P **P** **17 04 51.0 -0.3**
O44A IAmb IAmb 17 04 51.7
comp=Z,26nm,0.8s
L58A Harry Jones Me 69.68 356 P 17 04 53.5
baz=176,SNR=15
M52A Chesterland 69.69 352 P **P** **17 04 52.1 0.0**
M52A IAmb IAmb 17 04 53.6
comp=Z,58nm,1.1s
L57A Andrews Acres 69.70 355 P 17 04 53.4
baz=175
N47A Urbana 69.70 348 P **P** **17 04 51.5 -0.6**
L61A Hillsdale 1, H 69.72 358 P 17 04 53.6
baz=178
L59A Walton 69.78 357 P 17 04 54.4
baz=176,SNR=18
L59A Walton 69.78 357 P **P** **17 04 53.8 +1.1**
M50A Fremont 69.78 350 P **P** **17 04 52.4 -0.2**
M50A IAmb IAmb 17 04 54.0
comp=Z,79nm,1.4s
QUA2 Belchertown 69.78 359 P **P** **17 04 53.4 +0.7**
P40A Paris 69.82 343 P **P** **17 04 53.6 +0.7**
BINY Binghamton 69.84 356 P 17 04 54.5
baz=175,SNR=6.4
BINY Binghamton 69.84 356 P **P** **17 04 54.2 +1.1**
BINY IAmb IAmb 17 04 55.6
comp=Z,70nm,1.1s
L56A Greenwood 69.89 355 P 17 04 54.4
baz=174,SNR=14
L56A Greenwood 69.89 355 P **P** **17 04 54.4 +1.1**
L61B Northampton 69.96 359 P 17 04 55.2
baz=178,SNR=12
L53A Girard 69.96 353 P 17 04 54.2
baz=171,SNR=5.1
HRV Adam Dziewonsk 70.00 360 P 17 04 55.8
baz=180
HRV Adam Dziewonsk 70.00 360 P **P** **17 04 55.2 +1.2**
ERPA Erie 70.09 353 P 17 04 54.9
baz=172,SNR=5.5
ERPA Erie 70.10 353 P **P** **17 04 54.9 +0.3**
ERPA IAmb IAmb 17 04 56.3
comp=Z,54nm,1.1s
HDIL Hopedale 70.12 345 P 17 04 55.0
baz=163,SNR=5.7
HDIL Hopedale 70.12 345 P **P** **17 04 55.2 +0.5**
K60A Five Rivers En 70.16 358 P 17 04 56.5
baz=177,SNR=6.1
K62A Royalston 70.17 359 P 17 04 56.6
baz=179
K62A Royalston 70.17 359 P **P** **17 04 56.5 +1.6**
K62A IAmb IAmb 17 04 58.6
comp=Z,86nm,1.4s
K63A Dunstable 70.18 360 P 17 04 56.8
baz=180
K61A Williamstown 70.19 358 P 17 04 57.0
baz=178,SNR=7.8
BNM Barren Site 70.24 329 P **P** **17 04 56.9 +0.9**
WVNY West Valley, N 70.24 354 P **P** **17 04 56.3 +0.8**
TRY Troy 70.27 358 P **P** **17 04 56.8 +1.3**
VNDA Vanda 70.28 191 P **P** **17 04 57.1 +1.7**
comp=Z,3.0nm,0.9s,baz=153,slow=4.2,SNR=4.9
VNDA LR LR 17 31 48.2
comp=Z,136nm,20.4s,baz=150,slow=32
P38A Dawn 70.30 342 P **P** **17 04 56.0 +0.1**
P38A IAmb IAmb 17 04 57.9
comp=Z,39nm,1.1s
K59A Cooperstown 70.35 357 P 17 04 57.6
baz=176,SNR=11
K58A Earlville 70.38 356 P 17 04 57.5
baz=176,SNR=11
K58A Earlville 70.38 356 P **P** **17 04 56.9 +0.6**
K57A Scipio Center 70.40 356 P 17 04 57.4
baz=175,SNR=6.4
K56A Middlesex 70.43 355 P 17 04 57.6
baz=174,SNR=7.3
MMNY Mt. Morris Dam 70.51 355 P **P** **17 04 56.6 -0.4**
L48A N Adams 70.53 349 P **P** **17 04 56.5 -0.7**
L48A IAmb IAmb 17 04 58.4
comp=Z,51nm,0.9s
MEH Mehetia 70.61 260 *e*T T 18 22 00.2
comp=Z,25nm,0.2s
N41A Harden Midland 70.63 344 P **P** **17 04 57.0 -0.8**
M44A Midewin, Midew 70.65 347 P **P** **17 04 57.2 -0.7**
M44A IAmb IAmb 17 04 59.1
comp=Z,75nm,1.2s
J62A Henniker 70.72 359 P 17 05 00.2
baz=179,SNR=6.9
KSU1 Kansas State U 70.73 339 P 17 04 59.3
baz=156
KSU1 Kansas State U 70.73 339 P **P** **17 04 58.1 -0.4**
KSU1 IAmb IAmb 17 04 59.8
comp=Z,26nm,1.1s
TUC Tucson 70.73 325 P 17 05 01.0
baz=143
AAM Ann Arbor 70.75 350 P 17 04 58.9
baz=168
J60A Lant Hill Farm 70.77 358 P 17 05 00.4
baz=178,SNR=6.4
J63A Strafford 70.77 0 P 17 05 00.2
baz=180
ANMO Albuquerque 70.83 330 P 17 05 00.7
baz=147
ANMO Albuquerque 70.83 330 P **P** **17 05 00.4 +0.9**
J61A Chester 70.85 359 P 17 05 01.0
baz=179,SNR=9.0
ACCN Adirondack Com 70.92 358 P **P** **17 05 00.8 +1.2**
FFD Franklin Falls 70.97 360 P **P** **17 05 00.8 +1.0**
J56A Wolcott 70.97 356 P 17 05 00.6
baz=175,SNR=10
J56A Wolcott 70.97 356 P **P** **17 05 00.4 +0.5**
MEDO Medina 70.98 354 P **P** **17 04 59.7 -0.3**
MEDO IAmb IAmb 17 05 01.9
comp=Z,76nm,1.4s
HQIL Hanson Quary C 71.01 347 P **P** **17 05 00.5 +0.4**
HQIL IAmb IAmb 17 05 01.4
comp=Z,59nm,0.9s
J59A Piesco 71.03 357 P 17 05 01.7
baz=177,SNR=13
J59A Piesco 71.03 357 P **P** **17 05 00.9 +0.6**
J59A IAmb IAmb 17 05 02.7
comp=Z,70nm,1.1s
J55A Hilton 71.03 355 P **P** **17 04 59.7 -0.5**
K50A Casco 71.07 351 P **P** **17 05 00.1 -0.4**
J54A Appleton 71.11 354 P **P** **17 05 00.8 +0.2**
J54A IAmb IAmb 17 05 02.6
comp=Z,60nm,1.1s
HNH Hanover 71.21 359 P **P** **17 05 02.3 +1.0**
I58A Old Forge 71.27 357 P 17 05 02.9
baz=176,SNR=11
SYO Syowa Base 71.30 159 *e*pP pP 17 05 08.6 -2.9
SYO Syowa Base 71.30 159 *e*sP sP 17 05 12.2 -3.1
N38A Joes South For 71.31 342 P **P** **17 05 02.3 +0.3**
N38A IAmb IAmb 17 05 03.4
comp=Z,37nm,0.8s
I60A Shoreham 71.36 358 P 17 05 03.8
baz=178,SNR=12
I62A Tamworth 71.37 360 P 17 05 04.1
baz=180
L44A Lake County Fo 71.38 347 P 17 05 02.9
baz=164
L44A Lake County Fo 71.38 347 P **P** **17 05 02.1 -0.3**
L44A IAmb IAmb 17 05 03.8
comp=Z,54nm,1.0s
I64A Boothbay 71.43 1 P 17 05 04.3
baz=181,SNR=5.5
214A Organ Pipe Nat 71.50 323 P 17 05 05.9
baz=142,SNR=6.5
CBKS Cedar Bluff 71.51 337 P 17 05 04.9
baz=154,SNR=5.7
CBKS Cedar Bluff 71.51 337 P **P** **17 05 03.9 +0.6**
CBKS IAmb IAmb 17 05 06.0
comp=Z,32nm,0.8s
NCB Newcomb 71.52 358 P **P** **17 05 04.0 +0.7**
NCB IAmb IAmb 17 05 06.1
comp=Z,45nm,1.2s
I63A Otisfield 71.55 0 P 17 05 05.6
baz=180,SNR=6.2
I63A Otisfield 71.55 0 P **P** **17 05 04.7 +1.4**
L42A Oliver, Polo 71.59 346 P **P** **17 05 03.7 +0.1**
L42A IAmb IAmb 17 05 05.2
comp=Z,80nm,1.4s
PECO Prince Edward 71.63 356 P **P** **17 05 04.3 +0.5**
PECO IAmb IAmb 17 05 06.0
comp=Z,70nm,1.1s
LBNH Lisbon 71.74 359 P 17 05 06.5
baz=179,SNR=6.1
LBNH Lisbon 71.74 359 P **P** **17 05 06.3 +1.8**
LBNH IAmb IAmb 17 05 07.9
comp=Z,73nm,1.1s
T25A Trinidad 71.82 332 P 17 05 07.6
baz=149,SNR=12
J47A Sunmer 71.85 349 P **P** **17 05 04.7 -0.5**
I51A Listowel 71.88 352 P 17 05 05.7
baz=171,SNR=13
H58A Gabriels 71.97 358 P 17 05 06.9
baz=177,SNR=15
K43A Burlington 71.97 347 P **P** **17 05 06.1 +0.2**
K43A IAmb IAmb 17 05 07.0
comp=Z,27nm,0.9s
L40A Anamosa 72.00 344 P **P** **17 05 06.4 +0.3**
H61A Lyndonville 72.03 359 P 17 05 08.1
baz=179,SNR=18
PPT2 Papeete2 72.04 259 *e*S **S** **17 14 30.7 +3.5**
comp=Z,400nm,27.8s
PPT2 Papeete2 72.04 259 *e*LR LR 17 27 08.2
comp=Z,603nm,22.8s,baz=104
PPT Papeete 72.05 259 LR LR 17 29 19.8
comp=Z,495nm,18.1s,baz=157,slow=30
N35A Tabor 72.05 341 P **P** **17 05 06.6 +0.2**
H57A Richville 72.06 357 P 17 05 07.4
baz=176,SNR=16
H62A Milan 72.07 360 P 17 05 08.3
baz=180
H60A Morristown 72.07 359 P 17 05 08.0
baz=178
WVL Waterville 72.07 1 P **P** **17 05 07.4 +0.9**
WVL IAmb IAmb 17 05 09.3
comp=Z,47nm,1.0s
LIC Lamto 72.12 73 *e*P **P** **17 05 07.5 0.0**
comp=Z,156nm,0.8s
H64A Troy 72.16 1 P 17 05 08.7
baz=182
H63A New Sharon 72.16 1 P 17 05 09.1
baz=181,SNR=6.4
H59A Cadyville 72.18 358 P 17 05 08.4
baz=178,SNR=11
LONY Lake Ozonia 72.18 357 P 17 05 08.5
baz=177,SNR=5.7
LONY Lake Ozonia 72.18 357 P **P** **17 05 07.9 +0.7**
LONY IAmb IAmb 17 05 09.5
comp=Z,39nm,0.9s
H65A Eastbrook 72.24 2 P 17 05 09.0
baz=183,SNR=8.3
DELO Deloro Mine 72.26 355 P **P** **17 05 08.1 +0.6**
DELO IAmb IAmb 17 05 09.7
comp=Z,59nm,1.4s
EMMW East Machias 72.28 3 P **P** **17 05 08.5 +0.8**
EMMW IAmb IAmb 17 05 10.3
comp=Z,61nm,0.9s
SCIA State Center 72.35 343 P 17 05 09.2
baz=160
TIC Toumodi 72.35 72 *e*P **P** **17 05 08.9 0.0**
H66A Whiting 72.36 3 P 17 05 09.9
baz=184
FRNY Flat Rock 72.36 358 P **P** **17 05 08.9 +0.7**
FRNY IAmb IAmb 17 05 10.7
comp=Z,63nm,0.9s
H53A Bobcaygeon 72.39 354 P 17 05 09.2
baz=173,SNR=12
KIC Kosan Boka 72.44 73 *e*P **P** **17 05 09.4 0.0**
comp=Z,145nm,0.8s
HAL Halifax 72.46 6 P **P** **17 05 10.2 +1.5**
W18A Petrified Fore 72.48 328 P 17 05 11.6
baz=145,SNR=8.5
W18A Petrified Fore 72.48 328 P **P** **17 05 10.5 +1.1**
W18A IAmb IAmb 17 05 13.0
comp=Z,31nm,1.1s
DBIC Dimbokro 72.50 72 P **P** **17 05 10.1 +0.3**
comp=Z,87nm,0.8s,baz=213,slow=6.6,SNR=98
DBIC LR LR 17 35 59.9
comp=Z,281nm,20.2s,baz=210,slow=35
DBIC Dimbokro 72.50 72 P **P** **17 05 09.6 -0.2**
JFWS Jewell Farm 72.58 345 P 17 05 10.4
baz=162,SNR=7.6
JFWS Jewell Farm 72.58 345 P **P** **17 05 09.8 +0.2**
JFWS IAmb IAmb 17 05 11.5
comp=Z,108nm,1.5s
G60A Masonville 72.60 359 P 17 05 12.5
baz=179,SNR=5.4
G63A Kingsbury 72.62 1 P 17 05 11.2
baz=181,SNR=6.2
SADO Sadowa 72.64 354 P **P** **17 05 10.8 +1.0**
comp=Z,48nm,0.9s,baz=183,slow=4.7,SNR=26
SADO Sadowa 72.64 354 P **P** **17 05 10.0 +0.1**
SADO IAmb IAmb 17 05 11.6
comp=Z,68nm,1.0s
G57A Newington 72.68 357 P 17 05 11.3
baz=176,SNR=15
G58A Ormstown 72.69 358 P 17 05 11.1
baz=177,SNR=7.3
G62A West of Eustis 72.71 0 P 17 05 12.1
baz=180,SNR=17
G62A West of Eustis 72.72 0 P **P** **17 05 11.6 +1.3**
GGN Saint George 72.72 3 P **P** **17 05 11.6 +1.3**
GGN IAmb IAmb 17 05 13.0
comp=Z,45nm,0.9s
KSCO Kaye Shedlock' 72.73 335 P 17 05 11.7
baz=151
PLVO Plevna 72.74 356 P **P** **17 05 11.1 +0.6**
PLVO IAmb IAmb 17 05 12.7
comp=Z,56nm,1.2s
G65A Princeton 72.77 3 P 17 05 11.9
baz=183
G65A Princeton 72.77 3 P **P** **17 05 12.1 +1.5**

G65A IAmb IAmb 17 05 13.3
comp=Z,45nm,0.8s
PKME Peaks-Kenny Pk 72.78 1 P 17 05 12.0
baz=182,SNR=7.2
G61A St-Isidore-de- 72.78 360 P 17 05 12.5
baz=180,SNR=6.9
G64A Maxfield 72.78 2 P 17 05 12.3
baz=182,SNR=5.2
PKME Peaks-Kenny Pk 72.78 1 P **P** **17 05 11.9 +1.2**
PKME IAmb IAmb 17 05 13.2
comp=Z,47nm,0.8s
SDCO Great Sand Dun 72.78 332 P 17 05 13.4
baz=148,SNR=6.8
SDCO Great Sand Dun 72.78 332 P **P** **17 05 12.8 +1.5**
MOQ Mont Orford 72.81 359 P **P** **17 05 12.1 +1.1**
K38A Parkersburg 72.93 343 P **P** **17 05 12.0 +0.3**
K38A IAmb IAmb 17 05 12.8
comp=Z,33nm,1.0s
G54A Lake Saint Pet 73.17 355 P 17 05 13.8
baz=174,SNR=6.2
F63A Nahmakanta, Br 73.22 1 P 17 05 14.7
baz=182
I42A Draeger Farm, 73.23 347 P **P** **17 05 13.7 +0.3**
I42A IAmb IAmb 17 05 14.7
comp=Z,23nm,0.8s
L34A Svendsen Farm, 73.28 341 P **P** **17 05 14.2 +0.4**
L34A IAmb IAmb 17 05 15.6
comp=Z,60nm,0.8s
BGNE Belgrade 73.32 339 P 17 05 15.4
baz=155
BGNE Belgrade 73.32 339 P **P** **17 05 14.7 +0.7**
S22A 4UR Ranch, Cre 73.34 331 P 17 05 16.7
baz=147,SNR=6.2
F57A Harrington 73.38 357 P 17 05 15.3
baz=177
F64A Sherman 73.40 2 P 17 05 16.0
baz=182,SNR=9.5
F64A Sherman 73.40 2 P **P** **17 05 15.7 +1.3**
F64A IAmb IAmb 17 05 17.0
comp=Z,50nm,0.8s
GBN Guysborough 73.42 7 P **P** **17 05 16.1 +1.7**
F60A Warwick 73.47 359 P 17 05 15.7
baz=179,SNR=6.0
F61A St Evariste 73.47 0 P 17 05 15.9
baz=180
H43A Windswept, Lux 73.56 348 P **P** **17 05 15.5 +0.2**
H43A IAmb IAmb 17 05 17.0
comp=Z,55nm,0.9s
LMN Caledonia Moun 73.57 5 P **P** **17 05 16.2 +0.9**
LMN IAmb IAmb 17 05 17.6
comp=Z,68nm,0.9s
WUAZ Wupatki 73.59 327 P 17 05 18.5
baz=144,SNR=6.1
WUAZ Wupatki 73.59 327 P **P** **17 05 17.0 +1.0**
WUAZ IAmb IAmb 17 05 19.8
comp=Z,31nm,1.1s
I40A Norwalk 73.60 345 P **P** **17 05 15.7 +0.1**
I40A IAmb IAmb 17 05 16.8
comp=Z,19nm,0.6s
MVCO Mesa Verde 73.63 330 P 17 05 18.4
baz=146,SNR=9.4
MVCO Mesa Verde 73.63 330 P **P** **17 05 17.2 +0.9**
Q24A Divide 73.68 333 P 17 05 18.6
baz=149,SNR=6.6
ALGO Algonquin Park 73.72 355 P 17 05 17.1
baz=174
TRQ Mont Tremblant 73.78 358 P **P** **17 05 16.9 +0.2**
IKP In-Ko-Pah, Jac 73.82 322 P 17 05 19.5
baz=139
E60A Ste Agathe de 73.86 360 P 17 05 18.2
baz=180,SNR=6.5
E58A La Victoria 73.89 358 P 17 05 18.2
baz=178,SNR=11
E61A Lac Etchemin 73.93 0 P 17 05 19.3
baz=181
E63A Oxbow 73.95 2 P 17 05 19.1
baz=182
E63A Oxbow 73.96 2 P **P** **17 05 18.8 +1.2**
E63A IAmb IAmb 17 05 20.2
comp=Z,50nm,1.1s
E64A Bridgewater 73.97 2 P 17 05 19.1
baz=183,SNR=5.4
E59A St. Maurice 73.98 359 P 17 05 20.4
baz=179
PDMCI Parker Dam,Lak 74.03 324 P 17 05 20.0
baz=141
E55A Montcerf-Lytto 74.08 356 P 17 05 19.0
baz=175
E56A St. Veronique 74.12 357 P 17 05 19.3
baz=176,SNR=22
MONP2 Monument Peak 74.17 322 P 17 05 21.4
baz=139
OGNE Ogallala 74.21 336 P 17 05 20.9
baz=152
PQI Presque Isle 74.22 2 P **P** **17 05 20.5 +1.4**
PQI IAmb IAmb 17 05 21.8
comp=Z,46nm,1.1s
BC3 Big Chuckawall 74.22 323 P 17 05 21.8
baz=140,SNR=8.2
I37A Lemond, Waseca 74.37 343 P **P** **17 05 20.8 +0.7**
I37A IAmb IAmb 17 05 21.6
comp=Z,30nm,0.7s
D60A Saint Jean D'O 74.41 0 P 17 05 21.7
baz=180,SNR=8.6
IRM Iron Mountain 74.44 323 P 17 05 23.3
baz=140,SNR=7.1
D59A Saint-Raymond 74.50 359 P 17 05 22.2
baz=179
W13A Hualapai Mount 74.52 325 P **P** **17 05 22.2 +0.7**
PV13 Radium Mtn., P 74.56 330 P **P** **17 05 22.5 +0.9**
PV15 Paradox Valley 74.56 330 P **P** **17 05 22.0 +0.4**
ISCO Idaho Springs 74.58 333 P 17 05 23.6
baz=149,SNR=10.0
D63A Stockholm 74.58 2 P 17 05 22.5
baz=183,SNR=9.4
ISCO Idaho Springs 74.58 333 P **P** **17 05 21.9 +0.1**
D62A Allapoint, All 74.60 1 P 17 05 22.8
baz=182
D62A Allapoint, All 74.60 1 P **P** **17 05 22.1 +0.8**
D62A IAmb IAmb 17 05 23.9
comp=Z,58nm,0.8s
D58A Chemin du LacG 74.61 359 P 17 05 22.4
baz=178,SNR=26
K31A O'Neill 74.61 339 P **P** **17 05 22.1 +0.5**
SMCO Snowmass 74.61 332 P **P** **17 05 22.5 +0.4**
SMCO IAmb IAmb 17 05 25.8
comp=Z,33nm,1.1s
D56A ZEC Mazanza, M 74.61 357 P 17 05 22.2
baz=177,SNR=9.6
D55A Sainte-Anne-du 74.62 357 P 17 05 22.1
baz=176,SNR=21
NEE2 Needles Airpor 74.64 324 P 17 05 24.4
baz=141
D61A St Aubert, Com 74.70 1 P 17 05 23.3
baz=181,SNR=6.0
PV07 Paradox Valley 74.71 330 P **P** **17 05 23.2 +0.8**
TPFO Pinon Flats 74.73 322 P 17 05 25.0
baz=139
PFO Pinyon Flats O 74.73 322 P 17 05 25.0
baz=139
PFO Pinyon Flats O 74.74 322 LR LR 17 31 34.1
comp=Z,125nm,19.1s,baz=164,slow=30
PFO Pinyon Flats O 74.74 322 P **P** **17 05 22.2 -0.4**
BELC Belle Mtn. Jos 74.78 323 P 17 05 24.8
baz=140
G40A Rib Lake 74.82 346 P **P** **17 05 23.0 +0.4**
E46A Sault Ste Mari 74.83 351 P **P** **17 05 22.6 -0.1**
E46A IAmb IAmb 17 05 24.3
comp=Z,78nm,1.1s
LATQ La Tuque 74.89 359 P 17 05 24.2
baz=178
LATQ La Tuque 74.89 359 P **P** **17 05 23.4 +0.4**
BATG Bathurst New B 74.91 4 P **P** **17 05 24.2 +1.0**
BATG IAmb IAmb 17 05 25.8
comp=Z,34nm,0.9s
ECSD EROS Data Cent 74.97 341 P 17 05 24.6
baz=157,SNR=32
ECSD EROS Data Cent 74.98 341 P **P** **17 05 24.3 +0.7**
ECSD IAmb IAmb 17 05 25.9
comp=Z,36nm,1.0s
MURC Murrieta 75.13 322 P 17 05 27.1
baz=139
GMRC Granite Mounta 75.20 323 P 17 05 27.7
baz=140,SNR=12
E43A Lone Tree Farm 75.26 349 P **P** **17 05 25.4 +0.3**
E43A IAmb IAmb 17 05 26.9
comp=Z,27nm,0.8s

SPMN Marine on St. 75.36 344 P 17 05 26.4
baz=160
COWI Conover 75.39 347 P **P** **17 05 26.5 +0.5**
COWI IAmb IAmb 17 05 28.1
comp=Z,38nm,1.2s
SCI2 San Clemente I 75.42 320 P 17 05 29.9
baz=138
BBRC Big Bear Solar 75.48 322 P 17 05 27.7
baz=139
HEC Hector,Ludlow 75.59 323 P 17 05 29.9
baz=140,SNR=11
N23A Red Feather La 75.64 333 P 17 05 29.9
baz=149,SNR=7.0
CIS Catalina Islan 75.66 321 P 17 05 28.3
baz=138
FMP Fort Macarthur 75.82 321 P 17 05 30.6
baz=138
VLDQ Val d'Or 75.82 356 P **P** **17 05 28.8 +0.5**
VLDQ IAmb IAmb 17 05 30.5
comp=Z,51nm,1.0s
BFSC Mount Baldy Ra 75.86 322 P 17 05 31.2
baz=139,SNR=5.2
O20A White River Ci 75.94 332 P 17 05 31.7
baz=147,SNR=11
O20A White River Ci 75.94 332 P **P** **17 05 30.9 +1.4**
O20A IAmb IAmb 17 05 33.0
comp=Z,36nm,1.0s
RRX Edison Barstow 75.98 323 P 17 05 32.2
baz=139
MTPU Mount Pierson 76.00 328 P **P** **17 05 31.9 +1.8**
SRU San Rafael Swe 76.10 329 P **P** **17 05 31.2 +0.8**
F36A Milaca 76.14 344 P **P** **17 05 30.3 +0.1**
F36A IAmb IAmb 17 05 31.8
comp=Z,42nm,1.3s
GSC Goldstone, Bar 76.20 323 P 17 05 33.3
baz=139
D41A Chassel 76.21 348 P **P** **17 05 31.3 +0.7**
Q16A Castle Valley 76.23 329 P **P** **17 05 32.4 +1.2**
DECC Green Verdugo 76.25 321 P 17 05 33.7
baz=138
SHPR Sheep Range 76.26 325 P **P** **17 05 32.2 +0.8**
SUSD Miller 76.31 340 P 17 05 32.2
baz=155
SHOC Shoshone, Teco 76.37 324 P 17 05 34.1
baz=140
MSU Marysvale 76.38 328 P **P** **17 05 33.8 +1.8**
E38A The Farm, Brul 76.38 346 P **P** **17 05 31.7 +0.2**
E38A IAmb IAmb 17 05 33.3
comp=Z,31nm,1.1s
P17A Butcher Ranch, 76.49 329 P **P** **17 05 33.6 +1.0**
EDW2 Edwards Air Fo 76.53 322 P 17 05 34.6
baz=138,SNR=5.1
OSI Osito Audit: C 76.73 321 P 17 05 36.1
baz=138
LSQQ Lebel-sur-Quev 76.73 356 P 17 05 34.4
baz=175
SCZ2 Santa Cruz Isl 76.78 320 P 17 05 36.5
baz=137
LRMC Laurel Mtn Rad 76.80 322 P 17 05 36.5
baz=139
RWWY Rawlins 76.82 333 P **P** **17 05 35.5 +1.0**
RWWY IAmb IAmb 17 05 37.9
comp=Z,37nm,1.1s
F33A 5 Mile Ranch, 76.83 342 P **P** **17 05 34.2 +0.2**
PRN Pahroc Range 76.90 325 P **P** **17 05 36.2 +1.3**
FURC Furnace Creek, 77.11 324 P 17 05 37.2
baz=140
MPMC Manual Prospec 77.13 323 P 17 05 38.4
baz=139,SNR=6.4
SUR Sutherland 77.14 120 P **P** **17 05 37.3 +0.6**
TPNV Topopah Spring 77.16 324 P 17 05 38.7
baz=140,SNR=16
TPNV Topopah Spring 77.16 324 P **P** **17 05 38.5 +2.0**
ARVC Arvin 77.17 322 P 17 05 38.4
baz=138
PSUT Pine Spring 77.19 327 P **P** **17 05 38.2 +1.6**
MPU Maple Canyon 77.33 329 P **P** **17 05 39.0 +1.6**
K22A Casper 77.36 334 P 17 05 39.3
baz=148,SNR=10
K22A Casper 77.37 334 P **P** **17 05 39.0 +1.6**
K22A IAmb IAmb 17 05 40.8
comp=Z,34nm,1.1s
ISA Isabella, Lake 77.37 322 P 17 05 39.8
baz=138,SNR=7.4
ISA Isabella, Lake 77.37 322 P **P** **17 05 39.3 +1.8**
KOWA Kowa 77.39 66 P **P** **17 05 38.0 +0.1**
MATQ Matagami 77.47 356 P 17 05 37.9
baz=174,SNR=15
NLU North Lily Min 77.48 329 P **P** **17 05 39.9 +1.7**
PKM Mcpherson Peak 77.54 321 P 17 05 41.1
baz=137,SNR=8.4
EYMN Ely 77.64 346 P 17 05 39.1
baz=162,SNR=8.2
EYMN Ely 77.64 346 P **P** **17 05 38.8 +0.2**
RSSD Black Hills 77.71 336 P 17 05 41.0
baz=151
RSSD Black Hills 77.71 336 P **P** **17 05 40.1 +0.7**
DRLN Deer Lake 77.71 9 P **P** **17 05 39.5 +0.6**
CWC Cottonwood Cre 77.74 323 P 17 05 41.8
baz=139
GRAC Grapevine Rang 77.78 324 P 17 05 42.3
baz=139,SNR=5.6
SPR3 Spring Creek 3 77.79 327 P **P** **17 05 41.3 +1.2**
VES Vestal, Richgr 77.83 322 P 17 05 42.1
baz=138,SNR=7.0
R11A Troy Canyon, C 77.90 326 P 17 05 43.1
baz=141,SNR=17
R11A Troy Canyon, C 77.90 326 P **P** **17 05 42.3 +1.8**
SMMC Simmler 77.95 321 P 17 05 43.4
baz=137,SNR=6.3
DUG Dugway, Tooele 78.01 329 P 17 05 43.3
baz=143,SNR=9.9
DUG Dugway, Tooele 78.02 329 P **P** **17 05 42.8 +1.7**
DUG IAmb IAmb 17 05 44.7
comp=Z,29nm,1.1s
TCUT Toone Canyon 78.12 330 P **P** **17 05 43.3 +1.5**
TIN Tinemaha, Big 78.28 323 P 17 05 44.4
baz=139
TPH Tonopah 78.52 325 P **P** **17 05 45.7 +1.7**
TPH IAmb IAmb 17 05 47.4
comp=Z,82nm,1.1s
B35A Bob, Littlefor 78.53 345 P **P** **17 05 43.7 +0.2**
BW06 Boulder Array 78.68 332 P 17 05 46.1
baz=146,SNR=16
BW06 Boulder Array 78.68 332 P **P** **17 05 45.5 +0.6**
PD31 Pinedale Array 78.68 332 P **P** **17 05 45.2 +0.4**
PDAR Pinedale Array 78.68 332 P **P** **17 05 45.9 +1.1**
comp=Z,7.7nm,0.9s,baz=126,slow=7.5,SNR=35
PDAR LR LR 17 37 38.3
comp=Z,95nm,19.9s,baz=148,slow=34
PDAR Pinedale Array 78.68 332 P **P** **17 05 45.6 +0.8**
BGU Big Grassy Mou 78.70 329 P **P** **17 05 44.4 -0.5**
SPUT South Promonto 78.74 330 P **P** **17 05 45.8 +0.7**
SPUT IAmb IAmb 17 05 48.2
comp=Z,39nm,1.0s
MAW Mawson 78.84 164 LR LR 17 41 23.0
comp=Z,392nm,19.8s,baz=232,slow=36
AGMN Agassiz Nation 78.98 343 P 17 05 46.9
baz=158,SNR=9.2
AGMN Agassiz Nation 78.98 343 P **P** **17 05 46.2 +0.2**
MLAC Mammoth, Mammo 79.03 323 P 17 05 49.0
baz=138
MDPB Devils Postpil 79.16 323 P **P** **17 05 48.7 +1.1**
HVU Hansel Valley 79.26 330 P **P** **17 05 49.1 +1.1**
NV11 Mina Array Sit 79.27 324 P **P** **17 05 48.4 +0.3**
LHV Little Huntoon 79.31 324 P **P** **17 05 49.0 +0.9**
AHID Auburn Hatcher 79.33 331 P **P** **17 05 49.2 +0.9**
AHID IAmb IAmb 17 05 51.2
comp=Z,35nm,1.1s
NVAR Mina Array Bea 79.34 324 P **P** **17 05 51.0 +2.4**
comp=Z,4.2nm,0.8s,baz=156,slow=6.6,SNR=28
NVAR PKKPbc **PKKPbc** **17 24 39.1 -0.9**
comp=Z,0.6nm,0.7s,baz=343,slow=2.2,SNR=4.2
NVAR LR LR 17 37 26.8
comp=Z,105nm,19.3s,baz=164,slow=33
NVAR Mina Array Bea 79.34 324 P **P** **17 05 49.4 +0.9**
MDND Maddock 79.58 341 P 17 05 50.7
baz=155
ELK Elko 79.59 327 P **P** **17 05 51.9 +2.0**
comp=Z,18nm,0.9s,baz=133,slow=5.2,SNR=7.3
ELK LR LR 17 38 17.1
comp=Z,171nm,18.1s,baz=148,slow=34
ELK Elko 79.59 327 P **P** **17 05 51.0 +1.2**
MDND Maddock 79.59 341 P **P** **17 05 50.5 +1.2**
RYN Ryan 79.61 324 P **P** **17 05 49.9 0.0**
ECR Eagle Creek 79.68 331 P **P** **17 05 51.5 +1.2**

KVN Kaiserville 79.70 325 P **P** **17 05 50.6 +0.1**
REDW Red Top Meadow 79.71 332 P **P** **17 05 51.3 +0.8**
SNOW Snow King Moun 79.75 332 P **P** **17 05 51.8 +1.1**
LOHW Long Hollow 79.81 332 P **P** **17 05 52.1 +1.2**
WAKR Walker 79.99 323 P **P** **17 05 52.9 +0.9**
TSUM Tsumeb 80.15 106 P **P** **17 05 53.6 +0.3**
TSUM IAmb IAmb 17 05 55.2
comp=Z,29nm,0.9s
YERR Yerington 80.25 324 P **P** **17 05 54.9 +1.5**
H17A Grant Village 80.44 332 P 17 05 56.8
baz=145,SNR=6.8
PNTR Pine Nut 80.51 324 P **P** **17 05 56.0 +1.2**
RLMT Red Lodge 80.52 334 P 17 05 56.6
baz=146,SNR=19
RLMT Red Lodge 80.52 334 P **P** **17 05 56.0 +1.3**
LAO LASA Array 80.70 336 P 17 05 57.1
baz=149,SNR=16
LAO LASA Array 80.70 336 P **P** **17 05 56.8 +1.3**
LAO IAmb IAmb 17 05 58.2
comp=Z,41nm,1.0s
YNE Yellowstone No 80.72 333 P **P** **17 05 56.1 +0.2**
ULM Lac du Bonnet 80.80 344 P **P** **17 05 56.4 +0.6**
comp=Z,28nm,1.0s,baz=164,slow=3.1,SNR=33
ULM Lac du Bonnet 80.80 344 P **P** **17 05 55.8 0.0**
ULM IAmb IAmb 17 05 57.7
comp=Z,43nm,1.1s
PAHR Pah Rah Range 80.86 324 P **P** **17 05 57.9 +1.3**
PAHR IAmb IAmb 17 06 00.2
comp=Z,36nm,1.2s
YHH Holmes Hill 80.88 333 P **P** **17 05 58.4 +1.7**
YHH IAmb IAmb 17 06 00.3
comp=Z,32nm,1.0s
AFDM Forest Hills D 81.13 323 P **P** **17 05 58.7 +0.7**
QLMT Earthquake Lak 81.15 332 P **P** **17 05 59.9 +1.8**
TOA0 Torodi Ar. Sit 81.37 70 P **P** **17 05 59.5 -0.2**
TORD Torodi Ar. Bea 81.37 70 P **P** **17 05 59.9 +0.2**
comp=Z,61nm,0.8s,baz=259,slow=5.1,SNR=191
TORD LR LR 17 41 37.2
comp=Z,426nm,19.8s,baz=230,slow=35
TORD Torodi Ar. Bea 81.37 70 P **P** **17 05 59.4 -0.3**
HLID Hailey 81.41 330 P 17 06 01.6
baz=142,SNR=30
HLID Hailey 81.41 330 P **P** **17 06 00.8 +1.3**
BEKR Beckworth 81.48 324 P **P** **17 06 00.8 +0.9**
DGMT Dagmar 81.55 338 P 17 06 01.8
baz=151,SNR=10
DGMT Dagmar 81.55 338 P **P** **17 06 01.1 +1.2**
DGMT IAmb IAmb 17 06 02.9
comp=Z,60nm,0.9s
BCYI Bear Canyon 81.56 331 P **P** **17 06 01.8 +1.4**
MCMT McKenzie Canyo 81.74 331 P **P** **17 06 02.7 +1.5**
BOZ Bozeman (W) 81.85 333 P 17 06 03.4
baz=145,SNR=8.1
BOZ Bozeman (W) 81.85 333 P **P** **17 06 02.9 +1.1**
ORV Oroville 81.85 323 P **P** **17 06 02.8 +1.1**
ORV IAmb IAmb 17 06 05.2
comp=Z,34nm,1.2s
MFID Camas Ranch 81.94 329 P **P** **17 06 03.3 +1.1**
DLMT Dillon 82.06 332 P **P** **17 06 04.1 +1.3**
BOSA Boshof 82.23 118 P **P** **17 06 04.2 -0.1**
comp=Z,25nm,0.9s,baz=240,slow=3.5,SNR=19
BOSA LR LR 17 38 28.1
comp=Z,370nm,20.8s,baz=192,slow=33
BOSA Boshof 82.23 118 P **P** **17 06 03.4 -0.9**
BOSA IAmb IAmb 17 06 05.3
comp=Z,40nm,1.1s
WVOR Wild Horse Val 82.52 327 P **P** **17 06 06.1 +0.8**
O03E Paynes Creek 82.55 323 P 17 06 06.3
baz=136,SNR=6.1
HRY Holter Researc 82.84 333 P **P** **17 06 07.8 +1.0**
MOD Modoc Plateau 82.95 325 P **P** **17 06 08.6 +1.1**
O02D Mt. Diablo Mer 82.99 323 P 17 06 09.0
baz=136
EGMT Eagleton 83.12 335 P 17 06 09.4
baz=146
J08A Circle Bar Ran 83.13 327 P **P** **17 06 09.8 +1.4**
J08A IAmb IAmb 17 06 11.6
comp=Z,34nm,1.0s
M04C Macdoel 83.64 324 P 17 06 12.7
baz=136,SNR=10
BMO Blue Mountains 83.72 329 P **P** **17 06 12.1 +0.7**
MSO Missoula 83.80 332 P 17 06 13.2
baz=143
K05A Summer Lake 83.85 326 P **P** **17 06 13.9 +1.7**
K05A IAmb IAmb 17 06 15.6
comp=Z,32nm,1.0s
M02C Callahan 83.89 324 P 17 06 13.8
baz=136
YBH Yreka Blue Hor 84.06 324 P **P** **17 06 14.0 +0.8**
comp=Z,6.2nm,0.8s,baz=116,slow=8.5
YBH LR LR 17 37 56.3
comp=Z,99nm,21.5s,baz=146,slow=32
YBH Yreka Blue Hor 84.06 324 P **P** **17 06 13.4 +0.2**
LBTB Lobatse 84.17 115 P **P** **17 06 14.1 -0.2**
LBTB IAmb IAmb 17 06 15.3
comp=Z,30nm,0.8s
I07A Izee 84.17 327 P **P** **17 06 15.0 +1.3**
L04D Klamath Falls 84.20 324 P 17 06 15.0
baz=136
K04D Chiloquin, OR 84.21 325 P 17 06 15.3
baz=137
J05D Fort Rock, OR 84.43 326 P 17 06 16.9
baz=137,SNR=11
F10A Beach Ranch, E 84.55 330 P **P** **17 06 17.0 +1.4**
PINE Pine Mountain 84.66 326 P **P** **17 06 17.7 +1.4**
PINE IAmb IAmb 17 06 19.6
comp=Z,31nm,0.9s
JTMT Jette 84.67 332 P **P** **17 06 17.2 +1.1**
G08A Pilot Rock 84.82 328 P **P** **17 06 17.7 +0.7**
L02E Cave Junction 84.83 324 P 17 06 18.7
baz=135
J04D Umpqua Nationa 84.83 325 P 17 06 18.7
baz=136
K02D Willamette Mer 85.24 324 P 17 06 21.2
baz=135,SNR=6.4
I05D Terrebonne, OR 85.25 326 P 17 06 21.1
baz=137,SNR=6.6
I04A Tendick Farm, 85.39 325 P 17 06 20.9
baz=136
WALA Waterton Lakes 85.56 333 P **P** **17 06 21.3 +0.7**
WALA IAmb IAmb 17 06 23.3
comp=Z,23nm,0.9s
J01E Myrtle Point 85.71 324 P 17 06 23.1
baz=135
I03D Drain, OR 85.79 325 P 17 06 23.3
baz=136
G05D Wamic, OR 85.90 327 P 17 06 24.5
baz=137
HAWA Hanford 85.91 329 P **P** **17 06 22.8 +0.6**
HAWA IAmb IAmb 17 06 25.0
comp=Z,17nm,0.9s
H04A Detroit Lake 85.92 326 P **P** **17 06 22.8 +0.5**
H04A IAmb IAmb 17 06 24.1
comp=Z,19nm,1.0s
D08A Wollman Farm, 86.13 329 P **P** **17 06 24.0 +0.7**
NEW Newport 86.26 331 P 17 06 24.5
baz=140
NEW Newport 86.26 331 P **P** **17 06 24.2 +0.2**
comp=Z,4.0nm,0.9s,baz=118,slow=4.2,SNR=4.9
NEW LR LR 17 42 19.2
comp=Z,144nm,18.7s,baz=142,slow=34
NEW Newport 86.26 331 P **P** **17 06 23.8 -0.2**
C09A Chrisman Ranch 86.41 330 P **P** **17 06 25.3 +0.7**
C09A IAmb IAmb 17 06 27.0
comp=Z,20nm,0.7s
FFC Flin Flon 86.42 343 P **P** **17 06 24.6 0.0**
F05D White Salmon 86.44 327 P 17 06 26.5
baz=137
G03D McMinnville, O 86.83 326 P 17 06 28.3
baz=136
LON Longmire 87.23 328 P **P** **17 06 29.0 +0.2**
MORF Marmelete 87.36 45 *e*P **P** **17 06 30.6 +1.0**
MORF AMb AMB 17 06 34.5
comp=Z,43nm,1.6s
MORF Marmelete 87.36 45 *e*P **P** **17 06 31.2 +1.6**
comp=Z,46nm,1.9s
E04D Cinebar 87.45 327 P 17 06 30.8
baz=136
PTEO Sao Teotonio 87.46 45 *e*P **P** **17 06 31.8 +1.8**
comp=Z,90nm,1.2s
D05A Enumclaw 87.64 328 P **P** **17 06 31.0 +0.4**
D05A IAmb IAmb 17 06 32.9
comp=Z,25nm,0.8s
PBDV Barranco-do-Ve 87.77 45 *e*P **P** **17 06 33.0 +1.4**
comp=Z,55nm,1.2s

E03A	**Lebam**	**87.93**	**327**	P	**P**	**17 06 32.7**	**+0.7**
E03A				IAmb	IAmb	17 06 35.7	
	comp=Z,35nm,1.0s						
PNCL	**Nicolau / Gran**	**87.93**	**44**	*e*P	**P**	**17 06 33.7**	**+1.5**
	comp=Z,53nm,1.5s						
PCVE	**Castro Verde**	**87.94**	**45**	*e*P	**P**	**17 06 34.0**	**+1.7**
	comp=Z,56nm,1.4s						
MESJ	**Messejana**	**87.95**	**45**	*e*P	**P**	**17 06 33.4**	**+1.0**
MESJ				AMb	AMB	17 06 36.4	
	comp=Z,60nm,1.8s						
MESJ	**Messejana**	**87.95**	**45**	*e*P	**P**	**17 06 34.0**	**+1.6**
	comp=Z,59nm,1.5s						
PVAQ	**Vaqueiros**	**88.00**	**45**	*e*P	**P**	**17 06 34.4**	**+1.8**
	comp=Z,56nm,1.5s						
PVAQ	**Vaqueiros**	**88.00**	**45**	P	**P**	**17 06 32.9**	**+0.2**
PVAQ				IAmb	IAmb	17 06 34.5	
	comp=Z,55nm,1.5s						
PBEJ	**Beja**	**88.29**	**45**	*e*P	**P**	**17 06 35.6**	**+1.6**
	comp=Z,34nm,1.6s						
FCC	**Fort Churchill**	**88.38**	**348**	P	**P**	**17 06 34.3**	**+0.5**
FCC				IAmb	IAmb	17 06 36.2	
	comp=Z,30nm,0.9s						
D03D	**Eldon**	**88.41**	**328**	P		17 06 35.8	
	baz=136						
B05A	**Bryant**	**88.47**	**329**	P		17 06 35.2	
	baz=137						
EVO	**Evora**	**88.51**	**44**	*e*P	**P**	**17 06 36.0**	**+1.0**
	comp=Z,23nm,1.3s						
PSBE	**So Bento**	**88.63**	**43**	*e*P	**P**	**17 06 37.1**	**+1.5**
	comp=Z,67nm,1.7s						
PMTG	**Montargil**	**88.70**	**44**	*e*P	**P**	**17 06 37.2**	**+1.3**
	comp=Z,39nm,1.3s						
RPZ	**Rata Peaks**	**88.85**	**220**	LR	LR	17 36 18.6	
	comp=Z,217nm,21.1s,baz=132,slow=29						
PBAR	**Barrancos**	**88.90**	**45**	*e*P	**P**	**17 06 37.8**	**+1.0**
	comp=Z,20nm,1.6s						
PCAS	**Casmilo, Conde**	**89.14**	**43**	*e*P	**P**	**17 06 40.0**	**+2.0**
	comp=Z,33nm,1.2s						
TAM	**Tamanrasset**	**89.42**	**64**	P	**P**	**17 06 39.5**	**-0.3**
PMRV	**Marv??o**	**89.44**	**44**	*e*P	**P**	**17 06 39.7**	**+0.3**
	comp=Z,31nm,2.0s						
PCBR	**Castelo Branco**	**89.63**	**44**	*e*P	**P**	**17 06 41.3**	**+1.1**
	comp=Z,20nm,1.7s						
PVIS	**Viseu**	**89.92**	**43**	*e*P	**P**	**17 06 42.5**	**+0.9**
	comp=Z,43nm,1.8s						
MTE	**Manteigas**	**89.93**	**43**	*e*P	**P**	**17 06 42.3**	**+0.6**
	comp=Z,40nm,1.6s						
PVRL	**Vila Real**	**90.36**	**42**	*e*P	**P**	**17 06 45.9**	**+2.2**
	comp=Z,28nm,1.4s						
MVO	**Moncorvo**	**90.71**	**43**	*e*P	**P**	**17 06 48.0**	**+2.7**
	comp=Z,30nm,1.8s						
FRB	**Frobisher Bay**	**91.30**	**1**	P	**P**	**17 06 48.3**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=178,slow=4.7,SNR=4.4						
ESDC	**Sonseca Array**	**91.72**	**45**	P	**P**	**17 06 50.5**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=260,slow=4.2,SNR=15						
ESDC				LR	LR	17 47 01.7	
	comp=Z,293nm,19.9s,baz=240,slow=35						
ESDC	**Sonseca Array**	**91.72**	**45**	IAmb	IAmb	17 06 51.7	
	comp=Z,17nm,1.1s						
YKA	**Yellowknife Ar**	**96.51**	**341**	P	**P**	**17 07 11.6**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=136,slow=5.0,SNR=38						
YKA				LR	LR	17 53 01.6	
	comp=Z,72nm,19.9s,baz=0.0,slow=37						
WRAK	**Wrangell Islan**	**98.60**	**330**	P		17 07 22.2	
	baz=128						
KEST	**Kesra**	**98.66**	**54**	LR	LR	17 53 07.1	
	comp=Z,1μm,21.4s,baz=182,slow=36						
DLBC	**Dease Lake**	**98.90**	**333**	P	Pdif	17 07 23.8	+1.4
	comp=Z,7.9nm,0.9s,baz=126,slow=7.1,SNR=13						
DLBC				PKKPbc	**PKKPbc**	**17 23 50.6**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=0.0,slow=6.1,SNR=7.1						
MSVF	**Nonsavu**	**99.19**	**244**	LR	LR	17 42 17.9	
	comp=Z,136nm,20.8s,slow=29						
BMRD	**Maredsous**	**102.59**	**40**	*d*PP	**PP**	**17 11 51.9**	**-0.8**
BGES	**Gesves**	**102.81**	**40**	*d*PP	**PP**	**17 11 52.3**	**-2.1**
MEM	**Membach**	**103.43**	**40**	*d*pPKiKP	PKiKP	17 12 13.1	+12
BTNL	**Ternell**	**103.49**	**40**	*d*PP	**PP**	**17 11 58.9**	**-0.6**
KAIM	**Kayak Island**	**105.86**	**330**	P		17 12 06.7	
	baz=118						
EYAK	**Cordova Ski Ar**	**106.74**	**330**	P		17 12 09.0	
	baz=117						
GERES	**GERESS Array B**	**107.21**	**44**	PKiKP	**PKiKP**	**17 12 08.3**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=189,slow=3.9,SNR=5.6						
M24K	**Tolsona, Glenn**	**107.62**	**332**	P		17 12 10.5	
	baz=116						
PAX	**Paxson**	**107.71**	**332**	P		17 12 10.7	
	baz=116						
RC01	**Rabbit Creek A**	**108.74**	**330**	P		17 12 11.7	
	baz=114						
PRP	**Porcupine Dome**	**108.86**	**335**	P		17 12 12.5	
	baz=116						
ILAR	**Eielson Array**	**109.06**	**334**	Pdiff	**Pdif**	**17 08 07.8**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=88,slow=2.2,SNR=5.1						
ILAR				PKKPbc	**PKKPbc**	**17 23 17.5**	**-3.0**
	comp=Z,0.6nm,0.9s,baz=299,slow=3.3,SNR=4.8						
SII	**Sitkinak Islan**	**109.14**	**324**	P		17 12 13.2	
	baz=112						
POKR	**Poker Plat Res**	**109.42**	**334**	P		17 12 13.7	
	baz=114						
SKT	**Skwentna**	**109.88**	**330**	P		17 12 13.9	
	baz=112						
COLD	**Coldfoot**	**111.27**	**336**	P		17 12 16.8	
	baz=111						
CHNA	**Chernabura Isl**	**111.43**	**322**	P		17 12 16.9	
	baz=108						
TOLK	**Toolik Lake Re**	**111.56**	**337**	P		17 12 17.3	
	baz=111						
MNK	**Minsk**	**117.26**	**40**	*i* PP	**PP**	**17 13 34.1**	**-4.7**
MNK				*i* PP	**PP**	**17 13 34.1**	**-4.7**
MNK				*i* PP	**PP**	**17 13 34.1**	**-4.7**
MNK				*i* SKP		17 15 48.9	
MNK				*i* PKS	**PKSdf**	**17 16 00.6**	**-3.1**
MNK				*i* PPP	PPP	17 16 02.9	
MNK				*i* SKS	**SKSdf**	**17 19 33.3**	**-3.6**
MNK				*i* SS	**SS**	**17 29 39.6**	**-6.9**
MNK				*i* SKKS	**SKKSdf**	**17 30 24.0**	**-6.8**
MNK				*i* SSS	SSS	17 33 28.3	
MNK				*i* LQ	LQ	17 49 40.4	
MNK				*i* LR	LR	17 53 21.7	
MNK				*i* LRM	MLR	17 59 40.8	
	comp=N,296nm,19.7s						
MNK				*i* LRM	MLR	18 00 33.0	
	comp=E,21nm,19.7s						
MNK				*i* LRM	MLR	18 00 58.4	
	comp=Z,129nm,19.7s						
AKASG	**Malin Array Be**	**117.36**	**45**	PKP	**PKPdf**	**17 12 27.0**	**-0.6**
	comp=Z,3.9nm,0.8s,baz=265,slow=2.8,SNR=12						
AKASG	**Malin Array Be**	**117.36**	**45**	PKPdf	**PKPdf**	**17 12 26.7**	**-0.9**
AKBB	**Malin Array Si**	**117.36**	**45**	PKPdf	**PKPdf**	**17 12 27.0**	**-0.6**
BRTR	**Keskin Array B**	**118.00**	**58**	PKP	**PKiKP**	**17 12 30.1**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=184,slow=2.5,SNR=9.1						
BRTR	**Keskin Array B**	**118.00**	**58**	PKPdf	**PKPdf**	**17 12 28.6**	**-0.9**
MARD	**Mardin**	**122.93**	**62**	PKPdf	**PKPdf**	**17 12 38.8**	**-0.2**
RAYN	**Ar Rayn**	**123.26**	**79**	PKPdf	**PKPdf**	**17 12 39.8**	**-0.1**
AS31	**Alice Springs**	**123.39**	**208**	PKPdf	**PKPdf**	**17 12 39.5**	**-0.8**
ASAR	**Alice Springs**	**123.39**	**208**	PKP	**PKPdf**	**17 12 39.9**	**-0.4**
	comp=Z,5.0nm,0.9s,baz=145,slow=2.2,SNR=43						
ASAR				PKKPbc	**PKKPbc**	**17 22 29.9**	**+0.6**
	comp=Z,2.4nm,0.9s,baz=324,slow=3.1,SNR=18						
ASAR	**Alice Springs**	**123.39**	**208**	PKPdf	**PKPdf**	**17 12 39.4**	**-0.9**
ASAR					**PKKPbc**	**17 22 28.6**	**-0.6**
KLMR	**Klimovskoe**	**123.91**	**34**	*e*PKPdf	**PKPdf**	**17 12 39.5**	**-0.4**
KLMR				AMP		17 12 41.4	
	comp=Z,26nm,1.1s						
GEVA	**Gevas**	**124.89**	**61**	PKPdf	**PKiKP**	**17 12 43.5**	**+0.5**
KIV	**Kislovodsk**	**125.41**	**54**		**PKiKP**	**17 12 43.8**	**0.0**
KBZ	**Khabaz**	**125.53**	**54**	PKP	**PKiKP**	**17 12 44.9**	**+1.0**
	comp=Z,7.1nm,0.9s,baz=114,slow=2.0,SNR=18						
WR0	**Warramunga Arr**	**126.39**	**210**		**PKPdf**	**17 12 45.6**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**126.45**	**273**	T	T	19 31 54.9	
	baz=112,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**126.46**	**273**	T	T	19 31 56.5	
	baz=112,slow=75,SNR=53						
H11S3	**WAKE ISLAND Hy**	**126.47**	**273**	T	T	19 31 57.2	
	baz=112,slow=75,SNR=55						
WB2	**Warramunga Arr**	**126.49**	**210**	PKPdf	**PKPdf**	**17 12 45.7**	**-0.5**
WRA	**Warramunga Arr**	**126.49**	**210**	PKP	**PKPdf**	**17 12 46.3**	**0.0**
	comp=Z,10nm,0.9s,baz=160,slow=1.5,SNR=51						
WRAB	**Tennant Creek**	**126.50**	**210**		**PKPdf**	**17 12 45.8**	**-0.5**
WB0	**Warramunga Arr**	**126.62**	**210**	PKPdf	**PKPdf**	**17 12 46.0**	**-0.5**
H11N3	**WAKE ISLAND Hy**	**126.71**	**275**	T	T	19 32 18.5	
	baz=113,slow=74,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**126.72**	**275**	T	T	19 32 17.7	
	baz=113,slow=74,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**126.72**	**275**	T	T	19 32 21.7	
	baz=113						
PSA00	**Pilbara Seismi**	**129.74**	**193**		**PKPdf**	**17 12 51.8**	**-0.6**
ARU	**Arti**	**134.45**	**37**	PKPdf	**PKPdf**	**17 13 00.8**	**+0.8**
TIXI	**Tiksi**	**134.78**	**351**	PKPdf	**PKiKP**	**17 13 01.1**	**-0.6**
NRIK	**Noril'sk**	**136.65**	**11**	PKP	**PKPdf**	**17 13 04.7**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=347,slow=3.8,SNR=7.4						
NRIK	**Noril'sk**	**136.65**	**11**	PKPdf	**PKPdf**	**17 13 04.6**	**+0.8**
GEYT	**Alibeck**	**136.65**	**63**	PKP	**PKiKP**	**17 13 06.1**	**-0.5**
	comp=Z,5.2nm,0.8s,baz=234,slow=8.9,SNR=7.7						
GEYT	**Alibeck**	**136.65**	**63**	PKPdf	**PKPdf**	**17 13 04.8**	**0.0**
ABKAR	**Akbulak array**	**137.05**	**46**	PKPdf	**PKPdf**	**17 13 05.7**	**+0.6**
ABKAR	**Akbulak array**	**137.05**	**46**	PKPdf	**PKPdf**	**17 13 05.6**	**+0.4**
MA2	**Magadan**	**137.35**	**330**	PKPdf	**PKPdf**	**17 13 06.1**	**+0.7**
HRA	**Herat**	**139.81**	**69**	PKPdf	**PKPdf**	**17 13 11.2**	**+0.2**
BRVK	**Borovoye**	**142.01**	**38**	PKPdf	**PKPdf**	**17 13 13.8**	**-0.3**
TWSI	**Taliwang, Sumb**	**142.82**	**193**	PKP	**PKPdf**	**17 13 11.9**	**-4.8**
YAK	**Yakutsk**	**143.14**	**344**	PKPdf	**PKPdf**	**17 13 16.7**	**+1.0**
SWI	**Sorong**	**144.28**	**221**	PKP	PKPbc	17 13 18.4	+0.9
SWI				PKP	**PKPdf**	**17 13 18.8**	**-0.5**
BHUJ	**Bhuj**	**144.40**	**88**	*e*P	PKPbc	17 13 18.6	+0.9
BRZS	**Berezniki**	**144.69**	**41**	*e*PKP	PKPbc	17 13 18.0	+0.1
	baz=41						
CISI	**Cisompet, Garu**	**144.79**	**178**	PKPdf	**PKPab**	**17 13 19.2**	**+0.1**
CISI	**Cisompet, Garu**	**144.79**	**178**	PKP	**PKiKP**	**17 13 23.7**	**-0.3**
GOA	**Goa**	**145.29**	**103**	*e*P	**PKPab**	**17 13 21.0**	**+0.2**
GOA				IAmb	IAmb	17 13 22.8	
	comp=Z,40nm,0.5s						
IUG	**Iuzhnay**	**145.42**	**55**	*e*PKP	**PKPbc**	**17 13 20.3**	**-0.3**
	baz=55						
KBL	**Kabul**	**145.43**	**69**		**PKPbc**	**17 13 20.2**	**-0.7**
KK31	**Karatay Array**	**145.56**	**54**		**PKPbc**	**17 13 21.0**	**+0.2**
KKAR	**Karatay Array**	**145.56**	**54**		**PKPbc**	**17 13 21.0**	**+0.1**
KKAR	**Karatay Array**	**145.56**	**54**		**PKPbc**	**17 13 20.9**	**+0.1**
KAPI	**Kappang**	**145.69**	**199**		**PKPdf**	**17 13 22.1**	**+0.4**
DBJI	**Dramaga**	**145.74**	**176**	PKP	**PKPab**	**17 13 23.4**	**+0.9**
BNSI	**Bone**	**146.17**	**200**	PKP	**PKPab**	**17 13 25.0**	**+0.9**
DZA	**Taraz**	**146.19**	**54**	*e*PKP	**PKPdf**	**17 13 21.3**	**-0.5**
	baz=54						
PALK	**Pallekele**	**146.37**	**122**		**PKPdf**	**17 13 23.5**	**+0.6**
KASI	**Kota Agung**	**146.56**	**172**	PKP	**PKPab**	**17 13 26.4**	**+0.8**
POO	**Poona**	**146.57**	**98**	*e*P	**PKPdf**	**17 13 21.5**	**-1.6**
POO				*e*P	**PKPbc**	**17 13 24.3**	**-0.3**
POO				*i* x	x	17 13 40.3	
SPSI	**Sidrap Palu**	**146.68**	**200**	PKP	**PKPab**	**17 13 27.2**	**+1.1**
LWLI	**Liwa**	**147.00**	**171**	PKP	PKiKP	17 13 39.2	+11
BTLS	**Baital**	**147.44**	**49**	*e*PKP	**PKPdf**	**17 13 23.9**	**+0.1**
	baz=49						
KURK	**Kurchatov**	**147.65**	**37**	PKPdf	**PKPdf**	**17 13 24.4**	**+0.6**
EKS2	**Erkin-Say**	**147.99**	**53**	P	**PKPbc**	**17 13 26.7**	**-1.3**
	SNR=54						
AML	**Almayashu**	**148.08**	**54**	P	**PKPdf**	**17 13 27.1**	**+1.7**
	SNR=47						
LHSI	**Lahat**	**148.09**	**170**	PKP	**PKPbc**	**17 13 29.2**	**+0.3**
USP	**Ospenovka**	**148.33**	**52**	P	**PKPdf**	**17 13 27.0**	**+1.7**
	SNR=39						
BBKI	**Banjar Baru**	**148.35**	**191**	PKP	**PKPbc**	**17 13 30.1**	**+0.5**
SGDS	**Sogindy**	**148.36**	**51**	*e*PKP	**PKPdf**	**17 13 24.6**	**-0.8**
	baz=52						
ZAA0	**Zalesovo Array**	**148.50**	**27**	PKPdf	**PKPdf**	**17 13 25.7**	**+0.5**
ZAA0				PKPbc	**PKPbc**	**17 13 29.6**	**+0.8**
ZALV	**Zalesovo Beam**	**148.50**	**27**	PKP	**PKPdf**	**17 13 26.6**	**+1.5**
	comp=Z,94nm,0.8s,baz=300,slow=3.2,SNR=104						
ZALV				PKPbc	**PKiKP**	**17 13 30.4**	**0.0**
	comp=Z,94nm,0.8s,baz=304,slow=3.2,SNR=70						
ZALV	**Zalesovo Beam**	**148.50**	**27**	PKPdf	**PKPdf**	**17 13 25.8**	**+0.7**
ZALV				PKPbc	**PKPbc**	**17 13 29.5**	**+0.8**
AAK	**Ala-Archa**	**148.51**	**53**	P	**PKPdf**	**17 13 27.6**	**+1.8**
	SNR=47						
AAK	**Ala-Archa**	**148.51**	**53**	PKPdf	**PKPdf**	**17 13 26.1**	**+0.4**
CHMS	**Chumysh**	**148.58**	**52**	P	**PKiKP**	**17 13 30.9**	**-0.1**
	SNR=22						
UCH	**Uchtor**	**148.64**	**54**	P	**PKPdf**	**17 13 28.1**	**+1.8**
	SNR=58						
KBK	**Karagaybulak**	**148.82**	**53**	P	**PKPdf**	**17 13 28.0**	**+1.6**
	SNR=36						
NIL	**Nilore**	**148.93**	**70**	PKPdf	**PKPdf**	**17 13 26.6**	**0.0**
NIL				PKPbc	**PKPbc**	**17 13 30.8**	**+0.2**
TKM2	**Tokmak 2**	**149.20**	**52**	P	**PKPdf**	**17 13 28.6**	**+1.6**
	SNR=18						
KUU	**Kurty**	**149.38**	**50**	*e*PKP	**PKPdf**	**17 13 26.4**	**-0.6**
	baz=50						
CHKK	**Chushkaly**	**149.84**	**50**	*e*PKP	**PKPdf**	**17 13 27.3**	**-0.4**
	baz=50						
ULHL	**Ulahol**	**149.86**	**53**	P	**PKPdf**	**17 13 29.7**	**+1.7**
	SNR=10						
AAA	**Alma-Ata**	**150.01**	**51**	*e*PKP	**PKPdf**	**17 13 27.8**	**-0.3**
	baz=51						
PPBI	**Pangkal Pinang**	**150.05**	**174**	PKP	**PKiKP**	**17 13 35.0**	**+0.2**
TNSS	**Tian-Shan**	**150.09**	**51**	*e*PKP	**PKPdf**	**17 13 28.0**	**-0.7**
	baz=51						
MDOK	**Medeo**	**150.12**	**51**	*e*PKP	**PKPdf**	**17 13 28.0**	**-0.4**
	baz=51						
HYB	**Hyderabad**	**150.21**	**104**	*i* PKP	**PKPbc**	**17 13 34.0**	**-0.2**
HYB	**Hyderabad**	**150.21**	**104**	*e*P	**PKPbc**	**17 13 33.6**	**-0.6**
HYB				*i* x	x	17 13 39.4	
HYB				IAmb	IAmb	17 13 40.3	
	comp=Z,31nm,0.8s						
TDK	**Taldyqorghan**	**150.32**	**47**	*e*PKP	**PKPdf**	**17 13 28.1**	**-0.3**
	baz=47						
KSH	**Kashi**	**150.39**	**58**	PKPbc	**PKPdf**	**17 13 30.0**	**+1.2**
KSH				pPKP	PKPab	17 13 40.2	-0.4
KSH				PP	**PP**	**17 17 09.7**	**-0.5**
KSH				SKS	**SKSdf**	**17 20 30.8**	**-3.8**
KSH				AMB	AMB		
	comp=Z,320nm,5.6s						
SDSI	**Sungai Dareh**	**150.50**	**165**	PKP	**PKPbc**	**17 13 35.2**	**+0.2**
MTKI	**Muara Teweh, K**	**150.80**	**192**	PKP	**PKPdf**	**17 13 30.9**	**+0.8**
TOLI2	**Tolitoli**	**151.08**	**205**		**PKPbc**	**17 13 35.1**	**-1.2**
KPKS	**Kokpek**	**151.12**	**49**	*e*PKP	**PKPdf**	**17 13 29.3**	**-0.5**
	baz=49						
BHPL	**Bhopal**	**151.28**	**92**	*e*P	**PKPbc**	**17 13 34.4**	**-2.2**
GSI	**Gunungsitoli**	**151.47**	**156**	PKP	**PKPdf**	**17 13 31.2**	**+0.1**
UZB	**Uzynbulak**	**151.47**	**50**	*e*PKP	**PKPdf**	**17 13 30.2**	**-0.3**
	baz=50						
DHRM	**DHARAMSHALA**	**151.51**	**73**	*e*P	**PKPdf**	**17 13 33.7**	**+2.8**
MAKZ	**Makanchi**	**151.64**	**41**	PKPdf	**PKPdf**	**17 13 30.4**	**0.0**
MAKZ				PKPbc	**PKiKP**	**17 13 37.1**	**0.0**
MNSI	**Mandailing Nat**	**151.66**	**160**	PKP	**PKPdf**	**17 13 31.2**	**-0.2**
SHLS	**Shalkode**	**151.76**	**49**	*e*PKP	**PKPdf**	**17 13 31.0**	**+0.2**
	baz=49						
MK31	**Makanchi Array**	**151.83**	**41**	PKPdf	**PKPdf**	**17 13 30.7**	**0.0**
MK31				PKPbc	**PKiKP**	**17 13 37.4**	**-0.1**
MKAR	**Makanchi Array**	**151.83**	**41**	PKP	**PKPdf**	**17 13 30.9**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=318,slow=1.8,SNR=17						
MKAR				PKPbc	**PKiKP**	**17 13 37.5**	**0.0**
	comp=Z,37nm,0.7s,baz=311,slow=0.9,SNR=193						
SBSI	**Sibolga**	**152.15**	**158**	PKP	**PKPdf**	**17 13 31.7**	**-0.5**
SMLA	**Simla**	**152.24**	**76**	*e*P	**PKPdf**	**17 13 33.8**	**+2.1**
SMLA				*i* x	x	17 13 49.1	
ZSN	**Zaisan**	**152.89**	**37**	*e*PKP	**PKPdf**	**17 13 32.6**	**+0.4**
	baz=38						
TPTI		**153.11**	**153**	PKP	**PKPdf**	**17 13 33.9**	**+0.4**
RPSI	**Rantau Prapat**	**153.24**	**157**	PKPdf	**PKPdf**	**17 13 33.0**	**-0.7**
RPSI				PKPbc	**PKPbc**	**17 13 40.8**	**-0.4**
RPSI				PKPab	**PKPab**	**17 13 52.9**	**+0.1**
MJAR	**Matsushiro Arr**	**153.80**	**297**	PKP	**PKPdf**	**17 13 34.9**	**+1.0**
	comp=Z,3.2nm,1.0s,baz=270,slow=2.5,SNR=4.7						
MJAR				PKPbc	**pPKPdf**	**17 13 43.1**	**-1.1**
	comp=Z,4.0nm,0.9s,baz=106,slow=2.7,SNR=5.9						
MJAR				PKPab	**PKPab**	**17 13 56.9**	**+2.1**
	comp=Z,8.7nm,0.9s,baz=102,slow=1.6,SNR=11						
MJAR	**Matsushiro Arr**	**153.80**	**297**	PKPbc	**PKiKP**	**17 13 42.1**	**+0.3**
MJAR				PKPab	**PKPab**	**17 13 55.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**155.32**	**317**	PKPbc	PKPdf	17 13 46.1	+10
	comp=Z,2.9nm,0.8s,baz=281,slow=1.3,SNR=6.0						
USRK				PKPab	**PKPab**	**17 14 03.3**	**+2.3**
	comp=Z,6.3nm,1.2s,baz=84,slow=5.9,SNR=6.5						
USRK	**Ussuriysk Ar.**	**155.32**	**317**	PKPdf	**PKPdf**	**17 13 35.7**	**0.0**
USRK				PKPbc	**pPKPdf**	**17 13 45.3**	**-0.6**
USRK					**PKPab**	**17 14 01.8**	**+0.8**
TLY	**Talaya**	**155.87**	**8**	PKPdf	**PKPdf**	**17 13 36.9**	**+0.7**
KULM	**Kulim**	**156.24**	**159**	PKPab	**PKPab**	**17 14 05.1**	**-0.5**
MDJ	**Mudanjiang**	**156.47**	**321**		**PKPdf**	**17 13 37.3**	**+0.1**
WMQ	**Urumqi**	**156.66**	**41**	*e*PKP	**PKPdf**	**17 13 37.5**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,200nm,5.1s						
WMQ				LR	LR		
	comp=Z,160nm,17.1s						
WMQ				LR	LR		
	comp=Z,170nm,26.3s						
GKN	**Gorkha**	**158.57**	**84**	*e*P	**PKPdf**	**17 13 40.2**	**-0.4**
	comp=Z,35nm,1.3s						
KKN	**Kakani**	**159.11**	**85**	*e*P	**PKPdf**	**17 13 41.5**	**+0.2**
DGPR	**DIGLIPUR**	**159.14**	**131**	*e*P	**PKPdf**	**17 13 42.5**	**+1.1**
DGPR				*i* x	x	17 14 18.4	
PKIN	**Phulchoki**	**159.19**	**85**	*e*P	**PKPdf**	**17 13 41.2**	**-0.3**
	comp=Z,18nm,1.2s						
GUN	**Gumba**	**159.65**	**84**	*e*P	**PKPdf**	**17 13 42.8**	**+0.7**
SONM	**Songino Array**	**159.95**	**5**	PKP	**PKPdf**	**17 13 42.7**	**+1.2**
	comp=Z,2.8nm,1.0s,baz=331,slow=0.6,SNR=16						
SONM				PKPab	**PKPab**	**17 14 22.6**	**+1.6**
	comp=Z,4.2nm,0.8s,baz=319,slow=4.2,SNR=14						
SONM				PP	**PP**	**17 18 00.1**	**-2.0**
	comp=Z,2.0nm,1.0s,baz=357,slow=4.4,SNR=9.7						
SONM	**Songino Array**	**159.95**	**5**	PKPdf	**PKPdf**	**17 13 42.1**	**+0.6**
ULN	**Ulaanbaatar**	**159.96**	**4**		**PKPdf**	**17 13 42.1**	**+0.5**
ULN				PKPab	**PKPab**	**17 14 21.8**	**+0.8**
RAMN	**Ramite**	**160.18**	**87**	*e*P	**PKPdf**	**17 13 43.0**	**+0.4**
ODAN	**Odare**	**160.87**	**88**	*e*P	**PKPdf**	**17 13 43.8**	**+0.5**
TAPN	**Taplejung**	**161.21**	**87**	*e*P	**PKPdf**	**17 13 44.4**	**+0.6**
	comp=Z,27nm,1.3s						
KSRS	**Korea Array**	**161.36**	**306**	PKP	**PKPdf**	**17 13 44.6**	**+1.4**
	comp=Z,4.1nm,0.9s,baz=121,slow=0.6,SNR=14						
KSAR	**Wonju Array Be**	**161.39**	**306**		**PKPdf**	**17 13 43.4**	**+0.2**
LSA	**Lhasa**	**164.33**	**79**		**PKPdf**	**17 13 47.5**	**+0.5**
LSA					**PKPab**	**17 14 41.8**	**+0.5**
SHL	**Shillong**	**164.62**	**95**	*e*P	**PKPdf**	**17 13 47.2**	**+0.2**
SHL				*i* x	x	17 14 42.4	
SHL	**Shillong**	**164.62**	**95**		**PKPdf**	**17 13 46.2**	**-0.8**
SHL				PKPab	**PKPab**	**17 14 41.9**	**-0.5**
SAIH	**SAIHA**	**164.65**	**107**	*e*P	**PKPdf**	**17 13 48.6**	**+1.6**
SAIH				*i* x	x	17 14 41.9	
SRAK	**Srakaew**	**164.83**	**154**	P	**PKPab**	**17 14 45.2**	**+2.3**
GTA	**Gaotai**	**166.22**	**31**	PKP	**PKPdf**	**17 13 49.0**	**+1.2**
GTA				pPKP	pPKPdf	17 13 58.9	+0.8
GTA				sPKP		17 14 03.7	
GTA				PKPab	**PKPab**	**17 14 49.1**	**+0.4**
GTA				PP	**PP**	**17 18 41.2**	**+5.4**
GTA				AMB	AMB		
	comp=Z,170nm,6.9s						
GTA				LR	LR		
	comp=Z,100nm,22.9s						
GTA				LR	LR		
	comp=Z,160nm,22.2s						
GTA				LR	LR		
	comp=Z,250nm,20.7s						
HHC	**Hu-ho-hao-te**	**166.84**	**351**	*e*PKP	**PKPdf**	**17 13 48.0**	**-0.2**
CM13	**Chiang Mai Arr**	**166.88**	**134**	P	**PKPab**	**17 14 52.8**	**+0.7**
CM05	**Chiang Mai Arr**	**166.89**	**134**	P	**PKPdf**	**17 13 50.7**	**+1.9**
CM05	**Chiang Mai Arr**	**166.89**	**134**	P	**PKPab**	**17 14 52.0**	**-0.1**
CM04	**Chiang Mai Arr**	**166.91**	**134**	P	**PKPdf**	**17 13 50.0**	**+1.2**
CM04	**Chiang Mai Arr**	**166.91**	**134**	P	**PKPab**	**17 14 52.9**	**+0.7**
CM01	**Chiang Mai Arr**	**166.91**	**134**	P	**PKPdf**	**17 13 51.0**	**+2.2**
CM01	**Chiang Mai Arr**	**166.91**	**134**	P	**PKPab**	**17 14 52.0**	**-0.2**
CM15	**Chiang Mai Arr**	**166.91**	**133**	P	**PKPdf**	**17 13 50.0**	**+1.2**
CM15	**Chiang Mai Arr**	**166.91**	**133**	P	**PKPab**	**17 14 52.8**	**+0.5**
CM02	**Chiang Mai Arr**	**166.91**	**134**	P	**PKPdf**	**17 13 51.0**	**+2.2**
CM02	**Chiang Mai Arr**	**166.91**	**134**	P	**PKPab**	**17 14 52.0**	**-0.2**
CM31	**Chiang Mai Arr**	**166.93**	**134**	P	**PKPab**	**17 14 52.5**	**+0.3**
CM31	**Chiang Mai Arr**	**166.93**	**134**		**PKPab**	**17 14 51.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**166.93**	**134**	PKP	**PKPdf**	**17 13 50.1**	**+1.4**
	comp=Z,3.2nm,1.0s,baz=265,slow=2.0,SNR=21						
CMAR				PKPab	**PKPab**	**17 14 52.2**	**0.0**
	comp=Z,4.6nm,0.9s,baz=239,slow=4.2,SNR=17						
CMAR	**Chiang Mai Arr**	**166.93**	**134**		**PKPdf**	**17 13 49.0**	**+0.2**
CMAR				PKPab	**PKPab**	**17 14 51.3**	**-1.0**
CM09	**Chiang Mai Arr**	**166.95**	**134**	P	**PKPdf**	**17 13 51.0**	**+2.2**
CM09	**Chiang Mai Arr**	**166.95**	**134**	P	**PKPab**	**17 14 53.1**	**+0.8**
CM32	**Chiang Mai Arr**	**167.01**	**133**	P	**PKPdf**	**17 13 50.0**	**+1.1**
CM32	**Chiang Mai Arr**	**167.01**	**133**	P	**PKPab**	**17 14 53.0**	**+0.4**
CM36	**Chiang Mai Arr**	**167.07**	**134**	P	**PKPdf**	**17 13 50.0**	**+1.1**
CM36	**Chiang Mai Arr**	**167.07**	**134**	P	**PKPab**	**17 14 53.0**	**+0.1**
CHTO	**Chiang Mai**	**167.19**	**132**		**PKPdf**	**17 13 48.7**	**-0.3**
CHTO				PKPab	**PKPab**	**17 14 53.1**	**-0.3**
CMMT	**Chiang Mai**	**167.19**	**132**	P	**PKPdf**	**17 13 49.0**	**0.0**
CMMT	**Chiang Mai**	**167.19**	**132**	P	**PKPab**	**17 14 52.5**	**-1.0**
CM33	**Chiang Mai Arr**	**167.19**	**132**	P	**PKPdf**	**17 13 50.0**	**+1.0**
CM33	**Chiang Mai Arr**	**167.19**	**132**	P	**PKPab**	**17 14 53.0**	**-0.4**
CM35	**Chiang Mai Arr**	**167.22**	**134**	P	**PKPdf**	**17 13 50.0**	**+1.0**
CM35	**Chiang Mai Arr**	**167.22**	**134**	P	**PKPab**	**17 14 54.0**	**+0.4**
CM34	**Chiang Mai Arr**	**167.35**	**133**	P	**PKPdf**	**17 13 50.0**	**+0.9**
CM34	**Chiang Mai Arr**	**167.35**	**133**	P	**PKPab**	**17 14 54.0**	**-0.1**
UTTA	**Uttaradit**	**167.35**	**141**	P	**PKPdf**	**17 13 51.2**	**+2.1**
LAMP	**Lampang**	**167.41**	**136**	P	**PKPab**	**17 14 55.4**	**+1.0**
NONG	**Nongkai**	**168.92**	**150**	P	**PKPdf**	**17 13 51.8**	**+1.6**
NJ2	**Nanjing**	**170.40**	**298**	*e*PKP	**PKPdf**	**17 13 49.6**	**-1.1**
LZH	**Lanzhou**	**170.73**	**26**	*e*PKP	**PKPdf**	**17 13 51.8**	**+0.8**
LZH				pPKP	pPKPdf	17 14 01.4	+0.2
LZH				sPKP		17 14 04.8	
LZH				LR	LR		
	comp=Z,230nm,18.0s						
LZH				LR	LR		
	comp=Z,260nm,18.4s						
LZH				LR	LR		
	comp=Z,240nm,20.1s						
QIZ	**Qiongzhong**	**171.18**	**186**	PKP	**PKPdf**	**17 13 50.9**	**-0.5**
QIZ				PP	**PP**	**17 19 03.5**	**+3.3**
QIZ				LR	LR		
	comp=Z,170nm,21.1s						
QIZ				LR	LR		
	comp=Z,160nm,21.1s						
QIZ				LR	LR		
	comp=Z,210nm,20.6s						
SLVN	**Son La**	**172.09**	**144**	PKPab	**PKPab**	**17 15 15.8**	**+0.7**
CD2	**Chengdu**	**174.57**	**55**	PKP	**PKPdf**	**17 13 52.0**	**-0.6**
ENH	**Enshi**	**177.53**	**348**		**PKPdf**	**17 13 53.4**	**+0.2**

*GCG **02** 17:13:23.9±0.6, 13°.41N×91°.67W, h50km±999km, MD3.5*
*SNET **02** 17:13:30.4±0.9, 13°.66N×91°.24W, h15km±6km, ML3.2*
ISC 02 17:13:28.7±3.7**, 13°.6N**±0°.1×**91°.3W**±0°.1**, h8km**±15km**, n12, σ0s.40**/19**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.92**	**29**	*e*P	**Pg**	**17 13 46.4**	**0.0**
IXG	**Ixpaco**	**0.99**	**57**	*e*P	**Pg**	**17 13 47.0**	**-0.7**
IXG				*e*S	**Sg**	**17 14 01.3**	**+0.8**
IXG	**Ixpaco**	**0.99**	**57**	*e*P	**Pg**	**17 13 47.9**	**+0.2**
PCG	**Pacaya**	**1.00**	**42**	*e*P	**Pg**	**17 13 48.3**	**+0.3**
NBG	**Las Nubes**	**1.32**	**44**	*e*P	**Pn**	**17 13 53.7**	**0.0**
NBG				*e*S	**Sg**	**17 14 10.6**	**-0.6**
CEVE	**Cerro Verde**	**1.64**	**83**	*e*P	**Pn**	**17 13 58.0**	**0.0**
CEVE				*e*S	**Sn**	**17 14 19.5**	**+0.1**
CEVE				IAML		17 14 26.9	
	comp=Z,622nm,0.2s						
SBLS	**San Blas**	**1.64**	**83**	*e*P	**Pn**	**17 13 58.0**	**0.0**
SBLS				*e*S	**Sn**	**17 14 19.9**	**+0.4**
SNJE	**San Jose**	**1.66**	**82**	*e*P	**Pn**	**17 13 58.5**	**+0.2**
JAYA	**Jayaque - finc**	**1.80**	**89**	*e*P	**Pn**	**17 14 00.0**	**-0.1**
JAYA				*e*S	**Sn**	**17 14 22.6**	**-0.7**
JAYA				IAML		17 14 27.0	
	comp=Z,458nm,0.2s						
TACO	**Tacachico**	**1.92**	**80**	*e*P	**Pn**	**17 14 01.6**	**-0.1**
TACO				*e*S	**Sn**	**17 14 26.1**	**+0.1**
LALI	**Alcalda de L**	**1.93**	**94**	*e*P	**Pn**	**17 14 02.2**	**+0.4**
PMON	**Piamonte**	**1.93**	**88**	*e*P	**Pn**	**17 14 02.0**	**0.0**
PMON				*e*S	**Sn**	**17 14 26.5**	**0.0**

NOU 02 17:32:12.4, 14°.61S×167°.03E, h72km, MLv4.7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.85**	**169**	P	Pn	17 32 29.9	+0.7
DVP	**Devils Point**	**3.29**	**160**	P	Pn	17 33 02.8	+1.2
LIFNC	**LIFOU**	**6.14**	**178**	P	Pn	17 33 39.6	-0.9
KOUNC	**Koumac, New Ca**	**6.46**	**203**	P	Pn	17 33 45.6	+0.7
MARNC	**Mare, Loyalty**	**6.90**	**172**	P	Pn	17 33 52.0	+1.1
YATNC	**Mamie plateau,**	**7.41**	**181**	P	Pn	17 33 56.2	-1.7
DZM	**Mont Dzumac**	**7.44**	**184**	P	Pn	17 33 58.0	-0.4
NOUC	**Port Laguerre**	**7.48**	**185**	P	Pn	17 33 58.9	0.0
ONTNC	**Ouen Toro**	**7.68**	**184**	P	Pn	17 34 01.8	+0.3
OUENC	**Ouen Island, N**	**7.77**	**181**	P	Pn	17 34 02.9	+0.1
PINNC	**Pines Island,**	**7.97**	**177**	P	Pn	17 34 05.7	+0.2

*IDC **02** 17:39:20.0±5.9, 3°.68S×149°.74E, h59km±55km, mb3.8/9, mb1 3.9/10, mb1mx3.7/34, mbtmp4.0/10, ML1.2/1, MS3.8/12, Ms1 3.8/12, ms1mx3.4/47, Error ellipse: s-maj=27.8km s-min=26.0km az=14.0*
ISC 02 17:39:14.0±0.9**, 3°.5S**±0°.1×**149°.8E**±0°.2**, h10km, n18, σ1s.42**/12**, mb3.9**/9**, MS3.8**/10**, Bismarck Sea**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PMG	Port Moresby	6.46	204	P	Pn	17 40 50.0	+0.8
	0.3nm,0.3s,baz=20,slow=15,SNR=2.5						
PMG				S	Sn	17 42 04.8	+1.8
	0.1nm,0.3s,baz=14,slow=19,SNR=1.4						
PMG				LR	LR	17 43 20.0	
	comp=Z,415nm,20.0s,baz=336,slow=38						
HNR	Honiara	11.68	121	LR	LR	17 46 38.2	
	comp=Z,197nm,20.8s,baz=255,slow=38						
WRA	Warramunga Arr	22.27	221	P	P	17 44 08.3	-3.1
	5.1nm,0.8s,baz=46,slow=9.9,SNR=28						
WRA				LR	LR	17 53 16.2	
	comp=Z,91nm,19.0s,baz=60,slow=38						
DZM	Mont Dzumac	24.55	140	P	P	17 44 33.9	-0.4
	4.4nm,0.7s,baz=324,slow=19,SNR=6.1						
DZM				LR	LR	17 53 42.2	
	comp=Z,235nm,18.4s,baz=282,slow=35						
ASAR	Alice Springs	25.29	216	P	P	17 44 39.1	-1.7
	3.4nm,0.8s,baz=48,slow=8.0,SNR=30						
ASAR				LR	LR	17 55 35.2	
	comp=Z,311nm,18.5s,baz=154,slow=39						
DAV	Davao City (W)	26.35	293	LR	LR	17 54 34.8	
	comp=Z,114nm,18.3s,baz=316,slow=35						
BATI	Baumata	26.79	254	LR	LR	17 57 43.6	
	comp=Z,259nm,19.7s,baz=94,slow=41						
FITZ	Fitzroy Crossi	27.78	237	P	P	17 45 03.2	-0.1
	10nm,0.8s,baz=52,slow=8.5,SNR=17						
FITZ				LR	LR	17 56 57.9	
	comp=Z,229nm,18.4s,baz=94,slow=38						
RPZ	Rata Peaks	44.27	158	LR	LR	18 04 15.9	
	comp=Z,141nm,19.8s,baz=273,slow=34						
CMAR	Chiang Mai Arr	54.61	295	P	P	17 48 43.4	+0.1
	0.9nm,0.8s,baz=103,slow=5.9,SNR=6.4						
SONM	Songino Array	63.63	329	P	P	17 49 46.4	+0.9
	0.6nm,0.7s,baz=141,slow=5.9,SNR=5.8						
MKAR	Makanchi Array	77.37	319	P	P	17 51 09.1	-0.2
	0.9nm,0.9s,baz=101,slow=6.3,SNR=5.9						
ZALV	Zalesovo Beam	78.41	327	LR	LR	18 24 50.9	
	comp=Z,173nm,21.3s,baz=284,slow=35						
ILAR	Eielson Array	82.08	23	P	P	17 51 34.0	-0.3
	0.7nm,0.9s,baz=256,slow=5.0,SNR=5.9						
YBH	Yreka Blue Hor	90.40	48	LR	LR	18 24 45.4	
	comp=Z,40nm,21.4s,baz=270,slow=30						
NVAR	Mina Array Bea	93.61	52	LR	LR	18 28 57.7	
	comp=Z,39nm,19.3s,baz=240,slow=32						
YKA	Yellowknife Ar	95.64	28	P	P	17 52 40.4	+0.7
	0.3nm,0.7s,baz=265,slow=3.5,SNR=3.8						
TORD	Torodi Ar. Bea	147.06	289	PKPbc	PKPdf	17 58 56.4	+0.1
	0.8nm,0.7s,baz=115,slow=1.7,SNR=2.8						

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*MAN **02** 17:50:33.4, 9°.85N×126°.59E, h10km, mb4.5, ML3.3, MS3.1*
*IDC **02** 17:50:54.0±2.6, 9°.71N×125°.87E, h194km±24km, mb3.3/7, mb1 3.5/9, mb1mx3.0/65, mbtmp4.0/9, MS4.0/1, Ms1 4.0/1, ms1mx2.8/28, Error ellipse: s-maj=49.9km s-min=16.7km az=71.0*
ISC 02 17:50:33.7±1.9, **9°.83N**±0°.05×**126°.59E**±0°.07, **h18**km±9km, **n18**, σ1s**79**/23, **mb3.6**/7, **1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLSP	General Luna,	0.46	265	eP	Pg	17 50 43.0	-0.1
GLSP				eS	Sb	17 50 50.2	+0.4
BUTP	Butuan	1.28	228	eP	Pn	17 50 57.0	+0.2
BUTP				eS	Sg	17 51 15.5	+0.2
MSLP	Maasin	1.73	280	eP	Pn	17 51 03.6	+0.6
MSLP				eS	Sg	17 51 29.5	-0.2
OCLP	Ormoc	2.30	302	eP	Pn	17 51 12.7	+1.9
OCLP				eS	Sb	17 51 41.6	-1.3
CGP	Cagayan de Oro	2.32	234⇑	iP	Pn	17 51 12.4	+1.3
CGP				iS	Sn	17 51 41.5	+2.3
LLP	Lapu-Lapu	2.63	281	eP	Pn	17 51 16.2	+0.9
LLP				eS	Sn	17 51 49.2	+2.3
DAV	Davao City (W)	2.92	200	P	Pg	17 51 39.7	+10
	50nm,0.3s,baz=45,slow=7.7,SNR=4.8						
KCP	Kidapawan	3.17	208⇓	eP	Pb	17 51 28.9	-0.7
KCP				iS	Sn	17 51 57.7	-2.6
PAGZ	Pagadian	3.73	238	eP	Pn	17 51 31.8	+1.3
PAGZ				eS	Sb	17 52 22.7	-1.5
BATI	Baumata	20.11	188	P	Pn	17 55 09.7	+1.0
	0.8nm,0.3s,baz=270,slow=8.1,SNR=2.3						
FITZ	Fitzroy Crossi	27.76	182	P	P	17 56 25.2	+3.5
	2.5nm,0.8s,baz=342,slow=9.6,SNR=2.6						
CMAR	Chiang Mai Arr	28.12	291	P	P	17 56 22.5	-2.5
	0.8nm,1.0s,baz=102,slow=8.4,SNR=5.9						
WRA	Warramunga Arr	30.55	166	P	P	17 56 49.4	+2.9
	0.3nm,0.9s,baz=340,slow=9.1,SNR=1.8						
SONM	Songino Array	41.54	339	P	P	17 58 20.6	+0.2
	0.4nm,0.6s,baz=156,slow=9.5,SNR=5.4						
PALK	Pallekele	45.43	271	LR	LR	18 20 20.0	
	comp=Z,176nm,18.5s,baz=62,slow=40						
MKAR	Makanchi Array	52.57	323	P	P	17 59 45.3	-1.1
	0.6nm,0.7s,baz=120,slow=7.8,SNR=7.3						
ARCES	ARCESS Array B	84.72	340	P	P	18 03 06.0	-0.4
	1.6nm,0.8s,baz=68,slow=7.1,SNR=3.8						
FINES	FINESS Array B	86.43	332	P	P	18 03 13.5	-1.6
	2.5nm,1.0s,baz=127,slow=5.7,SNR=3.5						

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*DJA **02** 17:53:40.5±2.4, 2°N±6°×9°4E±°, h21km±23km, M4.2/7, mB5.2/2, mb4.3/7, MLv4.1/7, Mw(mB)4.5/2*
*NEIC **02** 17:53:42.5±1.7, 2°.0N±0°.1×94°.0E±0°.1, h30km±7km, mb4.2/8, Error ellipse: s-maj=18.2km s-min=14.5km az=45.0*
*IDC **02** 17:53:42.0±1.6, 2°.54N×93°.88E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.4/67, mbtmp3.8/8, ML3.7/3, MS2.7/1, Ms1 3.0/1, ms1mx2.6/53, Error ellipse: s-maj=46.2km s-min=20.0km az=52.0*
ISC 02 17:53:43.8±0.9, **2°.1N**±0°.1×**93°.96E**±0°.08, **h35**km, **n37**, σ1s**42**/34, **mb4.1**/9, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TPTI		3.41	71	P	Pn	17 54 34.3	-0.2
GSI	Gunungsitoli	3.71	103		Pn	17 54 38.2	-0.4
GSI	Gunungsitoli	3.71	103	P	Pn	17 54 38.9	+0.3
LHMI	Lhok Sumawe	4.28	44	Pn	Pn	17 54 48.0	+1.5
LHMI	Lhok Sumawe	4.28	44	P	Pn	17 54 48.2	+1.7
RPSI	Rantau Prapat	5.00	84		Pn	17 54 55.7	-0.6
RPSI	Rantau Prapat	5.00	84		Pn	17 54 56.9	+0.6
RPSI					Sn	17 55 51.1	-1.7
PSI	Prapat	5.01	82	Pn	Pn	17 54 56.9	+0.3
	3.1nm,0.3s,baz=342,slow=0.4,SNR=14						
PSI				Sn	Sn	17 55 51.1	-2.2
	1.9nm,0.3s,baz=180,slow=6.1,SNR=3.6						
MNSI	Mandailing Nat	5.78	103	P	Pn	17 55 07.6	+0.5
KULM	Kulim	7.38	65		Pn	17 55 29.3	+0.3
IPM	Ipoh	7.43	72		Pn	17 55 30.1	+0.3
MNAI	Manna	11.07	126	Pn	Pn	17 56 18.6	-1.1
MNAI	Manna	11.07	126	P	Pn	17 56 18.7	-1.1
MDSI	Maura Dua	12.15	123	P	Pn	17 56 33.7	-0.8
	15nm,0.7s						
KLSI		12.72	122	P	Pn	17 56 41.1	-1.2
	6.1nm,1.8s						
PALK	Pallekele	14.16	292	Pn	Pn	17 56 59.5	-2.4
	0.3nm,0.3s,baz=202,slow=16,SNR=3.0						
PALK				Sn	Sn	17 59 21.5	-16
	1.2nm,0.3s,baz=145,slow=23,SNR=10						
CMAR	Chiang Mai Arr	16.94	16	Pn	Pn	17 57 37.6	-0.6
	0.1nm,0.3s,baz=210,slow=12,SNR=19						
CMAR				LR	LR	18 04 51.6	
	comp=Z,28nm,19.1s,baz=120,slow=40						
SHL	Shillong	23.38	355	P	P	17 58 49.8	+0.1
H08S2	Diego Garcia H	23.51	245	T	T	18 24 30.9	
	baz=64,slow=76,SNR=6.0						
H08S3	Diego Garcia H	23.52	245	T	T	18 24 45.4	
	baz=64,slow=76,SNR=6.4						
H08S1	Diego Carcia H	23.53	245	T	T	18 24 31.2	
	baz=64,slow=76,SNR=5.8						
LSA	Lhasa	27.54	355	P	P	17 59 29.8	+1.9
LSA				IAmb	IAmb	17 59 34.0	
	comp=Z,6.9nm,1.5s						
ENH	Enshi	31.62	26	P	P	18 00 03.8	+0.2
ENH				IAmb	IAmb	18 00 23.1	
	comp=Z,5.5nm,1.3s						
WRA	Warramunga Arr	45.29	121	P	P	18 02 04.4	+5.9
	comp=Z,0.2nm,0.5s,baz=301,slow=8.4,SNR=2.9						
MKAR	Makanchi Array	45.63	349	P	P	18 02 01.1	+0.4
	comp=Z,2.6nm,0.7s,baz=166,slow=8.7,SNR=29						
MKAR	Makanchi Array	45.63	349		P	18 02 00.9	+0.1
MK31	Makanchi Array	45.63	349	P	P	18 02 01.1	+0.3
KKAR	Karatay Array	45.84	336	P	P	18 02 02.0	-0.5
ASAR	Alice Springs	46.56	126	P	P	18 02 14.3	+5.9
	comp=Z,0.3nm,0.4s,baz=294,slow=7.6,SNR=6.4						
ASAR	Alice Springs	46.56	126	P	P	18 02 12.4	+4.0
AS31	Alice Springs	46.56	126	P	P	18 02 12.0	+3.5
AS31				IAmb	IAmb	18 02 20.3	
	comp=Z,0.7nm,0.3s						
SONM	Songino Array	46.78	11	P	P	18 02 10.5	+0.5
	comp=Z,0.6nm,0.7s,baz=188,slow=8.3,SNR=7.4						
SONM	Songino Array	46.78	11	P	P	18 02 10.6	+0.7
ZAA0	Zalesovo Array	52.19	353	P	P	18 02 51.3	+0.4
ZAA0				IAmb	IAmb	18 02 51.3	
	comp=Z,1.6nm,0.5s						
ZALV	Zalesovo Beam	52.19	353	P	P	18 02 50.9	0.0
	comp=Z,1.7nm,0.5s,baz=173,slow=5.9,SNR=10						
ZALV	Zalesovo Beam	52.19	353	P	P	18 02 51.1	+0.2
JCJ	Chichijima	52.39	57	P	P	18 02 50.9	-2.1

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*BJI **02** 18:10:04.9±0.0, 7°.23S×125°.60E, h562km, mB4.7/26, mb4.7/53*
*NEIC **02** 18:10:07.7±1.3, 6°.99S±0°.08×125°.30E±0°.05, h546km±7km, mb4.7/80, Error ellipse: s-maj=12.5km s-min=6.8km az=160.0*
*DJA **02** 18:10:07.8±0.1, 7°S±2°×12°5E±°, h540km±2km, M4.4/45, mB4.9/30, mb4.7/45, MLv5.2/19, Mw(mB)4.2/30*
*KLM **02** 18:10:08, 7°.02S×125°.26E, h569km, mb5.0*
*IDC **02** 18:10:08.2±0.6, 7°.01S×125°.32E, h548km±7km, mb3.9/25, mb1 4.0/32, mb1mx3.8/50, mbtmp4.9/32, Error ellipse: s-maj=10.6km s-min=7.4km az=69.0*
ISC 02 18:10:07.4±0.4, **7°.01S**±0°.05×**125°.27E**±0°.05, **h548**km±4km, **n248**, σ1s**74**/276, **mb4.7**/96, **3C-2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.91	200	P	P	18 11 22.5	+0.6
SOEI	Soe	2.91	200	P	P	18 11 22.5	+0.6
SOEI				S	S	18 12 20.9	-1.5
MMRI	Maumere	3.41	241	P	P	18 11 24.8	-0.2
MMRI	Maumere	3.41	241	P	P	18 11 24.9	-0.1
MMRI				S	S	18 12 26.8	-1.3
BATI	Baumata	3.55	206	P	P	18 11 27.2	+1.2
	261nm,0.3s,baz=33,slow=1.2,SNR=409						
BATI				S	S	18 12 31.6	+1.7
	91nm,0.3s,baz=175,slow=24,SNR=9.8						
BATI	Baumata	3.55	206	P	P	18 11 26.6	+0.6
BATI				S	S	18 12 28.2	-1.7
EDFI	Ende, Flores	3.95	244	S	S	18 12 33.7	-1.5
NLAI	Namlea	4.16	26	P	P	18 11 30.3	-0.2
BSSI	Bau Bau, Buton	4.83	280	P	P	18 11 37.5	+1.8
SANI	Sanana	4.98	8	P	P	18 11 37.0	0.0
	1.8nm4μm516nm,0.8s						
WSI	Waingapu	5.58	241	P	P	18 11 41.7	-0.5
	9.5nm7μm406nm,0.6s						
BASI	Baing, Sumba	5.63	235	P	P	18 11 42.6	0.0
	3.7nm116nm,0.7s						
BNSI	Bone	5.75	296	P	P	18 11 45.5	+1.7
	2.4nm7μm690nm,0.7s						
KAPI	Kappang	5.83	290	P	P	18 11 46.9	+2.4
	12nm,0.3s,baz=133,slow=5.7,SNR=95						
KAPI	Kappang	5.83	290	P	P	18 11 46.6	+2.2
SAUI	Saumlaki	6.06	100	P	P	18 11 46.6	0.0
SAUI	Saumlaki	6.06	100	P	P	18 11 47.4	+0.9
	2.8nm5μm173nm,0.8s						
SPSI	Sidrap Palu	6.25	299	P	P	18 11 49.7	+1.4
	2.0nm5μm590nm,0.7s						
WBSI	Waikabubak, Su	6.38	245	P	P	18 11 49.0	-0.5
	1.9nm2μm114nm,0.4s						
LUWI	Luwuk	6.43	337	P	P	18 11 51.4	+1.4
LUWI	Luwuk	6.43	337	P	P	18 11 51.5	+1.5
	2.0nm6μm663nm,1.0s						
TTSI	Tana Toraja	6.71	306	P	P	18 11 54.6	+2.0
	1.2nm3μm388nm,0.9s						
APSI	Ampana	7.05	329	P	P	18 11 57.6	+1.7
	1.1nm3μm348nm,1.0s						
PLAI	Plampang	7.64	256	P	P	18 12 01.0	-0.6
	0.9nm1μm65nm,0.6s						
KMSI	Cibinong	7.64	350	P	P	18 12 03.1	+1.5
	2.1nm4μm438nm,0.6s						
TNTI	Ternate	8.01	15	P	P	18 12 05.0	-0.2
TNTI	Ternate	8.01	15	P	P	18 12 05.2	0.0
	1μm144nm,0.9s						
FAKI	Fak Fak	8.05	60	P	P	18 12 05.0	-0.7
FAKI	Fak Fak	8.05	60	P	P	18 12 04.7	-1.0
	98nm,0.7s						
MRSI	Marisa	8.14	336	P	P	18 12 07.4	+0.8
	2μm241nm,0.9s						
TWSI	Taliwang, Sumb	8.48	258	P	P	18 12 08.1	-1.9
	31nm,0.6s						
SIJI	Sorong	8.54	45	P	P	18 12 10.9	+0.3
	7.0nm,0.3s,baz=234,slow=6.4,SNR=44						
SIJI				S	S	18 13 51.5	-0.1
	3.2nm,0.3s,baz=114,slow=20,SNR=19						
SWI	Sorong	8.54	45	P	P	18 12 10.9	+0.3
	854nm97nm,0.9s						
TOLI2	Tolitoli	9.22	331	P	P	18 12 17.7	+0.2
KNRA	Kununurra	9.27	159	P	P	18 12 18.3	+0.4
KBKI	Kotabaru	9.78	292	P	P	18 12 24.7	+1.5
	2μm165nm,0.8s						
SRBI	Singaraja	10.03	263	P	P	18 12 26.2	+0.5
	40nm,0.9s						
BBKI	Banjar Baru	10.96	288	P	P	18 12 37.4	+2.0
	958nm102nm,0.8s						
ABJI	Asem Bagus	10.97	265	P	P	18 12 35.8	+0.4
	56nm,1.0s						
FITZ	Fitzroy Crossi	11.03	178	P	P	18 12 36.4	+0.5
	6.1nm,0.3s,baz=9.9,slow=9.0,SNR=137						
FITZ				S	S	18 14 37.3	-0.8
	1.2nm,0.3s,baz=8.2,slow=20,SNR=10.0						
FITZ	Fitzroy Crossi	11.03	178	P	P	18 12 36.3	+0.4
JAGI	Jajag, Banyuwa	11.11	262	P	P	18 12 35.5	-1.3
JAGI	Jajag, Banyuwa	11.11	262	P	P	18 12 35.6	-1.3
	105nm,0.7s						
MTKI	Muara Teweh, K	11.97	300	P	P	18 12 46.4	+0.6
	33nm,0.9s						
DDMP	Don Marcelino,	13.03	2	eP	P	18 12 55.5	-1.3
SKMP	Bagumbayan, Su	13.46	357	eP	P	18 13 00.6	-0.6
MATI	Mati	13.90	4	eP	P	18 13 05.7	0.0
KCP	Kidapawan	13.92	359⇑	iP	P	18 13 06.5	+0.4
DAV	Davao City (W)	13.99	1	P	P	18 13 07.3	+0.7
	44nm,0.3s,baz=284,slow=4.2,SNR=5.2						
DAV	Davao City (W)	13.99	1	P	P	18 13 07.1	+0.5
MMPI	Merauke	15.05	97	P	P	18 13 17.7	+0.2
	284nm,0.8s						
CGP	Cagayan de Oro	15.37	358⇓	eP	P	18 13 22.3	+1.5
PSA00	Pilbara Seismi	15.40	199	P	P	18 13 21.6	+0.5
PSA00				IAmb	IAmb	18 13 22.2	
	comp=Z,10nm,0.7s						
WB0	Warramunga Arr	15.47	146	P	P	18 13 21.1	-0.7
GENI	Genyem	15.48	74	P	P	18 13 21.8	-0.2
	comp=Z,2μmcomp=Z,115nm,0.9s						
WRAB	Tennant Creek	15.58	146	P	P	18 13 22.3	-0.6
WRA	Warramunga Arr	15.58	146	P	P	18 13 22.3	-0.7
	comp=Z,20nm,0.3s,baz=338,slow=9.7,SNR=585						
WRA				S	S	18 16 02.6	-0.7
	baz=331,slow=16,SNR=7.7						
WB2	Warramunga Arr	15.59	146	P	P	18 13 22.4	-0.6
WR0	Warramunga Arr	15.71	146	P	P	18 13 23.7	-0.5
JAY	Jayapura	16.01	75	P	P	18 13 27.7	+0.3
SBUM	Sibu	16.06	305	P	P	18 13 28.3	+0.6
SBUM	Sibu	16.06	305	P	P	18 13 29.0	+1.3
GLSP	General Luna,	16.70	3	eP	P	18 13 33.4	-0.2
CISI	Cisompet, Garu	17.32	267	P	P	18 13 38.9	-0.5
	comp=Z,48nm,1.1s						
AS31	Alice Springs	18.52	154	P	P	18 13 51.1	+0.8
ASAR	Alice Springs	18.52	154	P	P	18 13 51.1	+0.9
	comp=Z,21nm,0.3s,baz=346,slow=15,SNR=1332						
ASAR				S	S	18 16 48.3	-3.2
	baz=339,slow=10,SNR=1.4						
ASAR				ScP	ScP	18 20 35.4	-0.3
	comp=Z,0.6nm,0.3s,baz=350,slow=2.2,SNR=11						
ASAR	Alice Springs	18.52	154	P	P	18 13 51.0	+0.7
COEN	Coen	18.90	113	P	P	18 13 53.7	-0.1
PMG	Port Moresby	21.80	98	P	P	18 14 20.0	0.0
	comp=Z,15nm,0.9s,baz=277,slow=7.0,SNR=5.8						
PMG	Port Moresby	21.80	98	P	P	18 14 20.5	+0.5
PMG				IAmb	IAmb	18 14 21.1	
	comp=Z,30nm,1.1s						
FORT	Forrest	23.79	174	P	P	18 14 36.6	-1.0
CTA	Charters Tower	24.15	125	P	P	18 14 40.9	0.0
	comp=Z,9.1nm,0.4s,baz=306,slow=8.6,SNR=25						
CTAO	Charters Tower	24.15	125	P	P	18 14 41.8	+0.9
CTAO				IAmb	IAmb	18 14 42.7	
	comp=Z,22nm,0.9s						
DLV	T Lat	25.16	318	P	P	18 14 51.4	+1.3
DLV				IAmb	IAmb	18 14 55.2	
	comp=Z,34nm,1.3s						
IPM	Ipoh	26.75	295	P	P	18 15 06.0	+2.0
NWAO	Narrogin (SRO)	26.85	195	P	P	18 15 05.5	+1.0
	comp=Z,3.9nm,0.3s,baz=31,slow=8.3,SNR=12						
KULM	Kulim	27.44	296	P	P	18 15 11.0	+1.0
BBOO	Buckleboo	27.56	160	P	P	18 15 11.0	+0.2
RPSI	Rantau Prapat	28.01	289	P	P	18 15 15.5	+0.5
RPSI				IAmb	IAmb	18 15 17.3	
	comp=Z,21nm,0.9s						
RPSI	Rantau Prapat	28.01	289	P	P	18 15 15.9	+1.0
PSI	Prapat	28.04	289	P	P	18 15 15.9	+0.5
	comp=Z,13nm,0.7s,baz=180,slow=2.5,SNR=19						
GSI	Gunungsitoli	28.84	286	P	P	18 15 21.9	-0.3
STKA	Stephens Creek	29.06	151	P	P	18 15 24.9	+1.1
	comp=Z,18nm,0.4s,baz=328,slow=8.7,SNR=80						
STKA	Stephens Creek	29.06	151	P	P	18 15 24.8	+0.9
TRTT	Trang	29.46	300	P	P	18 15 28.4	+0.8
	comp=Z,21nm,0.9s						
UBPT	Khong Chiam	29.59	319	P	P	18 15 29.9	+1.3
	comp=Z,14nm,1.0s						
UBPT	Khong Chiam	29.59	319	P	P	18 15 28.9	+0.3
UBPT				IAmb	IAmb	18 15 30.4	
	comp=Z,18nm,0.9s						
TWG	Pinlang	29.93	352	P	P	18 15 29.2	-2.3
TWG				IAmb	IAmb	18 15 41.7	
	comp=Z,37nm,1.3s						
TPUB	Ta-pu	30.46	352	P	P	18 15 34.9	-1.2
SSLB	Suanglung	30.89	352	P	P	18 15 39.3	-0.5
SSLB				IAmb	IAmb	18 15 41.1	
	comp=Z,14nm,0.6s						
SRAK	Srakaew	31.11	312	P	P	18 15 39.0	-2.7
	comp=Z,192nm,0.8s						
NACB	Ninganchiao	31.20	354	P	P	18 15 40.8	-1.5
NACB				IAmb	IAmb	18 15 42.0	
	comp=Z,17nm,0.8s						
YHNB	Yeheng	31.71	353	P	P	18 15 46.3	-0.5
YHNB				IAmb	IAmb	18 15 49.0	
	comp=Z,40nm,1.3s						
CHAI	Chaiyaphum	32.40	315	P	P	18 15 54.6	+1.9
	comp=Z,520nmcomp=Z,49nm,0.8s						
NONG	Nongkai	33.13	319	P	P	18 16 00.6	+1.7
	comp=Z,22nm,0.8s						
JOW	Kunigami	33.76	5	P	P	18 16 04.6	+0.5
	comp=Z,12nm,0.5s,baz=200,slow=6.3,SNR=4.4						
ARMA	Armidale	33.97	137	P	P	18 16 07.7	+1.8
ARMA				IAmb	IAmb	18 16 08.8	
	comp=Z,33nm,1.1s						
LOEI	Loei	34.00	316	P	P	18 16 05.1	-1.1
	comp=Z,22nm,0.9s						
UTHA	Uthaitani	34.02	311	P	P	18 16 07.7	+1.4
	comp=Z,333nmcomp=Z,30nm,0.9s						
PHIT	Phitsanulok	34.37	315	P	P	18 16 11.2	+1.9
	comp=Z,139nm,0.8s						
HNR	Honiara	34.40	96	P	P	18 16 08.9	-0.7
UMPA	Umpang Tak	34.86	312	P	P	18 16 14.4	+1.0
	comp=Z,29nm,0.9s						
SLVN	Son La	35.12	324	P	P	18 16 17.1	+1.6
SLVN				IAmb	IAmb	18 16 17.9	
	comp=Z,13nm,0.9s						
SUKH	Sukhothai	35.13	314	P	P	18 16 17.0	+1.4
	comp=Z,37nm,0.8s						
TOO	Toolangi	35.54	152	P	P	18 16 21.2	+2.3
TOO				IAmb	IAmb	18 16 22.3	
	comp=Z,20nm,0.9s						
CAN	Canberra	35.62	146	P	P	18 16 21.4	+1.8
LAMP	Lampang	35.82	315	P	P	18 16 23.0	+1.7
	comp=Z,374nmcomp=Z,41nm,0.7s						
CM36	Chiang Mai Arr	36.19	315	P	P	18 16 25.0	+0.5
CM04	Chiang Mai Arr	36.20	315	P	P	18 16 25.9	+1.5
	comp=Z,177nmcomp=Z,23nm,0.8s						
CM09	Chiang Mai Arr	36.22	315	P	P	18 16 26.0	+1.3
	comp=Z,156nmcomp=Z,22nm,0.7s						
CM05	Chiang Mai Arr	36.22	315	P	P	18 16 26.1	+1.4
	comp=Z,139nmcomp=Z,17nm,0.8s						
CM01	Chiang Mai Arr	36.23	315	P	P	18 16 26.0	+1.3
	comp=Z,173nmcomp=Z,23nm,0.8s						
CM02	Chiang Mai Arr	36.24	315	P	P	18 16 26.2	+1.4
	comp=Z,143nmcomp=Z,20nm,0.8s						
CM31	Chiang Mai Arr	36.26	315	P	P	18 16 26.4	+1.3
	comp=Z,4μmcomp=Z,514nm,0.7s						
CM31	Chiang Mai Arr	36.26	315	P	P	18 16 25.9	+0.9
CM31				IAmb	IAmb	18 16 27.2	
	comp=Z,13nm,0.7s						
CMAR	Chiang Mai Arr	36.26	315	P	P	18 16 26.2	+1.2
	comp=Z,13nm,0.7s,baz=144,slow=6.6,SNR=115						
CMAR				pP	pP	18 18 02.8	+3.6
	comp=Z,1.8nm,0.9s,baz=139,slow=7.1,SNR=4.8						
CMAR				PcP	PcP	18 18 36.9	+1.8
	comp=Z,2.0nm,0.7s,baz=166,slow=2.7,SNR=9.9						
CMAR				ScP	ScP	18 21 32.0	+2.2
	comp=Z,2.1nm,1.0s,baz=160,slow=3.0,SNR=10						
CMAR	Chiang Mai Arr	36.26	315	P	P	18 16 26.1	+1.2
CMAR					PcP	18 18 36.3	+1.2
CMAR				ScP	ScP	18 21 31.8	+2.0
CM13	Chiang Mai Arr	36.26	315	P	P	18 16 26.3	+1.3
	comp=Z,150nmcomp=Z,18nm,0.8s						
CM15	Chiang Mai Arr	36.27	315	P	P	18 16 26.4	+1.3
	comp=Z,154nmcomp=Z,21nm,0.7s						
CM32	Chiang Mai Arr	36.46	315	P	P	18 16 28.0	+1.4
CMMT	Chiang Mai	36.49	315	P	P	18 16 27.0	+0.1
	comp=Z,12nm,0.8s						
CHTO	Chiang Mai	36.50	315	P	P	18 16 27.8	+0.9
CHTO				IAmb	IAmb	18 16 29.0	
	comp=Z,15nm,0.7s						
CHTO				pP	pP	18 18 03.6	+2.3
CM33	Chiang Mai Arr	36.50	315	P	P	18 16 28.0	+1.0
GYA	Guiyang	37.85	332	⇑P	P	18 16 39.0	+1.0
GYA				pmax	pmax		
	comp=Z,18nm,0.9s						
GYA				pmax	pmax		
	comp=Z,75nm,5.1s						
JSU	Suzuyama	38.62	7	P	P	18 16 44.3	+0.3
KMI	Kunming	38.74	326	P	P	18 16 46.8	+1.3
KMI				IAmb	IAmb	18 16 48.3	
	comp=Z,21nm,1.0s						
WHN	Wuhan	38.78	345	⇑P	P	18 16 46.7	+1.4
WHN				pmax	pmax		
	comp=Z,58nm,0.8s						
ENH	Enshi	40.04	339	P	P	18 16 55.4	-0.2
JNU	Nakatsue	40.26	7	P	P	18 16 57.3	0.0
	comp=Z,15nm,0.8s,baz=301,slow=0.9,SNR=6.7						
JMN	Monobe	41.33	11	P	P	18 17 06.4	+0.6
JMN				IAmb	IAmb	18 17 07.7	
	comp=Z,33nm,0.9s						
SANVU	Saraoutou	41.91	105	P	P	18 17 11.1	+0.5
NOUC	Port Laguerre	42.29	115	P	P	18 17 14.1	+0.6
DZM	Mont Dzumac	42.41	115	P	P	18 17 15.4	+0.8
	comp=Z,7.7nm,0.8s,baz=236,slow=11,SNR=14						
DZM	Mont Dzumac	42.41	115	P	P	18 17 15.2	+0.6
DZM	Mont Dzumac	42.41	115	P	P	18 17 15.8	+1.2
JHS	Saijyo	42.43	10	P	P	18 17 15.5	+1.1
YATNC	Mamie plateau,	42.81	115	P	P	18 17 19.2	+1.6
OUENC	Ouen Island, N	42.85	115	P	P	18 17 19.2	+1.3
JWT	Wachi	43.13	12	P	P	18 17 20.3	+0.4
XAN	Xi'an	43.66	340	P	P	18 17 23.7	-0.4
XAN				pmax	pmax		
	comp=Z,36nm,0.7s						
XAN	Xi'an	43.66	340	P	P	18 17 23.2	-0.8
XAN				IAmb	IAmb	18 17 24.5	
	comp=Z,29nm,0.7s						
KSAR	Wonju Array Be	44.28	3	P	P	18 17 28.7	0.0
KSRS	Korea Array	44.30	3	P	P	18 17 29.6	+0.8
	comp=Z,8.8nm,0.8s,baz=179,slow=9.2,SNR=33						
KSRS				PcP	PcP	18 19 01.9	+0.8
	comp=Z,2.2nm,0.8s,baz=185,slow=3.9,SNR=4.8						
KS19	Wonju Array Si	44.34	3	P	P	18 17 29.0	-0.2
MJAR	Matsushiro Arr	44.99	15	P	P	18 17 34.0	-0.1
	comp=Z,15nm,0.8s,baz=191,slow=8.3,SNR=23						
MJAR	Matsushiro Arr	44.99	15	P	P	18 17 33.5	-0.7
MAJO	Matsushiro	44.99	15	P	P	18 17 33.8	-0.4
MAJO				IAmb	IAmb	18 17 34.7	
	comp=Z,13nm,0.8s						
JYT	Yasato	45.23	17	P	P	18 17 35.5	-0.5
SHL	Shillong	45.85	316	P	P	18 17 41.0	-0.1
SHL				IAmb	IAmb	18 17 42.1	
	comp=Z,20nm,0.9s						
JMM	Marumori	46.93	17	P	P	18 17 49.4	+0.5
JMM				IAmb	IAmb	18 17 52.7	
	comp=Z,19nm,0.7s						
BJT	Baijiatuau	47.54	351	P	P	18 17 53.4	-0.1
BJT				IAmb	IAmb	18 17 53.9	
	comp=Z,11nm,0.7s						
LSA	Lhasa	49.06	320	P	P	18 18 06.1	+0.6
LSA				pmax	pmax		
	comp=Z,110nm,0.8s						
LSA	Lhasa	49.06	320	P	P	18 18 06.7	+1.2
LSA				IAmb	IAmb	18 18 08.1	

comp=Z,25nm,0.7s
JTM Tenmabayashi 49.73 16 P P 18 18 10.2 +0.6
ODAN Odare 49.80 314 *eP* **P 18 18 11.6 +0.8**
comp=Z,43nm,0.7s
TAPN Taplejung 49.87 315 *eP* **P 18 18 12.2 +0.9**
comp=Z,37nm,0.6s
RAMN Ramite 50.42 314 *eP* **P 18 18 16.4 +1.1**
comp=Z,105nm,0.8s
CN2 Changchun 50.57 0 *eP* **P 18 18 15.3 -0.4**
USA0B Ussuriysk Arra 51.33 6 P **P 18 18 21.7 +0.5**
USA0B IAmb IAmb 18 18 22.6
comp=Z,15nm,0.7s
USRK Ussuriysk Ar. 51.33 6 P **P 18 18 22.0 +0.8**
comp=Z,16nm,0.6s,baz=191,slow=7.2,SNR=36
USRK Ussuriysk Ar. 51.33 6 P **P 18 18 21.3 +0.1**
GUN Gumba 51.50 314 *eP* **P 18 18 24.0 +0.7**
comp=Z,75nm,0.7s
MDJ Mudanjiang 51.53 4 P **P 18 18 23.4 +0.7**
MDJ pmax pmax
comp=Z,66nm,1.2s
MDJ pmax pmax
comp=Z,230nm,3.6s
MDJ Mudanjiang 51.53 4 P **P 18 18 22.9 +0.2**
MDJ IAmb IAmb 18 18 24.6
comp=Z,49nm,0.9s
PKI Pulchoki 51.64 313 *eP* **P 18 18 24.7 +0.5**
comp=Z,36nm,0.6s
PKIN Phulchoki 51.65 313 *eP* **P 18 18 24.8 +0.5**
comp=Z,18nm,0.4s
GTA Gaotai 51.85 335 ⇓P **P 18 18 26.2 +0.9**
GTA PcP **PcP 18 19 30.5 +1.7**
GTA pmax pmax
comp=Z,20nm,0.9s
GTA pmax pmax
comp=Z,75nm,5.5s
KKN Kakani 51.86 314 *eP* **P 18 18 26.4 +0.7**
comp=Z,54nm,1.0s
DMN Daman 51.88 313 *eP* **P 18 18 26.5 +0.6**
comp=Z,56nm,1.0s
GKN Gorkha 52.45 313 *eP* **P 18 18 30.7 +0.9**
comp=Z,48nm,0.4s
MSVF Nonsavu 52.49 107 P **P 18 18 31.6 +1.3**
MSVF IAmb IAmb 18 18 32.8
comp=Z,20nm,0.9s
ASAJ Asahikawa 53.24 16 P **P 18 18 36.0 +1.0**
comp=Z,7.6nm,0.6s,baz=234,slow=12,SNR=7.7
DANN Dangsing 53.28 313 *eP* **P 18 18 36.8 +0.9**
RPZ Rata Peaks 54.17 140 P **P 18 18 42.8 +1.1**
RPZ IAmb IAmb 18 18 44.0
comp=Z,31nm,0.8s
TUWZ Tuamarina 55.05 136 P **P 18 18 47.8 0.0**
KHZ Kahutara 55.20 138 P **P 18 18 49.0 +0.2**
KHZ IAmb IAmb 18 19 00.6
comp=Z,34nm,1.2s
BHW Baring Head 55.68 136 P **P 18 18 52.2 0.0**
BKZ Black Stump Fm 55.98 133 P **P 18 18 54.6 +0.3**
BKZ IAmb IAmb 18 18 56.2
comp=Z,9.3nm,0.4s
ULN Ulaanbaatar 56.95 345 P **P 18 19 01.7 +0.7**
SONM Songino Array 57.09 345 P **P 18 19 02.7 +0.8**
comp=Z,11nm,0.8s,baz=160,slow=9.1,SNR=68
SONM PcP **PcP 18 19 49.5 +0.5**
comp=Z,1.8nm,0.9s,baz=150,slow=4.6,SNR=2.1
SONM ScP **ScP 18 22 57.2 +0.9**
comp=Z,0.9nm,0.9s,baz=148,slow=6.5,SNR=3.6
SONM Songino Array 57.09 345 P **P 18 19 02.2 +0.3**
SONM PcP **PcP 18 19 49.0 0.0**
SONM **ScP 18 22 57.1 +0.8**
WMQ Urumqi 60.93 330 P **P 18 19 28.2 +0.6**
WMQ IAmb IAmb 18 19 29.7
comp=Z,15nm,0.7s
TLY Talaya 61.34 345 P **P 18 19 31.1 +1.1**
NIL Nilore 63.72 313 P **P 18 19 45.9 0.0**
NIL IAmb IAmb 18 19 47.2
comp=Z,18nm,0.7s
ZSN Zaisan 64.91 331 *eP* **P 18 19 53.4 +0.3**
baz=331
SHLS Shalkode 64.93 325 *eP* **P 18 19 52.5 -1.0**
comp=Z,8.0nm,0.7s,baz=325
UZB Uzynbulak 65.18 324 *eP* **P 18 19 55.5 +0.5**
comp=Z,12nm,1.2s,baz=324
KPKS Kokpek 65.57 324 *eP* **P 18 19 57.8 +0.4**
comp=Z,9.5nm,0.6s,baz=324
MK31 Makanchi Array 65.74 329 P **P 18 19 58.9 +0.6**
MK31 IAmb IAmb 18 20 00.1
comp=Z,15nm,1.0s
MKAR Makanchi Array 65.74 329 P **P 18 19 59.2 +0.9**
comp=Z,13nm,0.7s,baz=130,slow=7.8,SNR=146
MKAR pP **pwP 18 21 53.0 -1.9**
comp=Z,2.2nm,0.9s,baz=137,slow=8.0,SNR=3.8
MKAR Makanchi Array 65.74 329 P **P 18 19 58.6 +0.3**
PETK Petropavlovsk- 65.89 21 P **P 18 20 00.2 +1.2**
comp=Z,12nm,0.7s,baz=197,slow=1.4,SNR=26
PETK Petropavlovsk- 65.89 21 P **P 18 19 59.7 +0.6**
MAKZ Makanchi 65.91 329 P **P 18 19 59.6 +0.3**
TNSS Tian-Shan 66.33 323 *eP* **P 18 20 03.0 +0.5**
baz=323
MDOK Medeo 66.34 323 *eP* **P 18 20 03.0 +0.8**
baz=323
TDK Taldyqorghan 66.67 326 *eP* **P 18 20 04.5 +0.4**
comp=Z,14nm,1.4s,baz=326
CHKK Chushkaly 66.78 324 *eP* **P 18 20 05.2 +0.3**
baz=324
TKM2 Tokmak 2 67.07 323 P **P 18 20 08.0 +1.1**
SNR=5.7
KUU Kurty 67.19 324 *eP* **P 18 20 07.5 +0.2**
comp=Z,19nm,0.8s,baz=324
KBL Kabul 67.22 312 P **P 18 20 08.1 +0.1**
KBL IAmb IAmb 18 20 10.0
comp=Z,12nm,0.8s
UCH Uchtor 67.34 321 P **P 18 20 10.1 +1.3**
SNR=7.1
AAK Ala-Archa 67.58 322 P **P 18 20 11.4 +1.5**
SNR=7.5
AAK Ala-Archa 67.58 322 P **P 18 20 10.7 +0.8**
AML Almayashu 67.80 321 P **P 18 20 12.9 +1.4**
SNR=11
USP Ospenovka 67.93 322 P **P 18 20 13.0 +1.1**
SNR=12
SGDS Sogindy 67.95 323 *eP* **P 18 20 12.5 +0.4**
baz=322
EKS2 Erkin-Say 68.03 322 P **P 18 20 14.2 +1.5**
SNR=10
JOHN Johnston Islan 68.64 69 P **P 18 20 13.8 -2.8**
YAK Yakutsk 68.92 2 P **P 18 20 18.1 +0.8**
BTLS Baital 69.19 324 *eP* **P 18 20 19.6 +0.2**
baz=324
MA2 Magadan 69.41 14 P **P 18 20 20.8 +0.4**
MA2 IAmb IAmb 18 20 22.5
comp=Z,23nm,0.8s
ZAA0 Zalesovo Array 69.59 336 P **P 18 20 20.9 -0.7**
ZAA0 IAmb IAmb 18 20 22.5
comp=Z,31nm,0.9s
ZALV Zalesovo Beam 69.59 336 P **P 18 20 21.6 0.0**
comp=Z,15nm,0.3s,baz=129,slow=4.3,SNR=103
ZALV Zalesovo Beam 69.59 336 P **P 18 20 21.1 -0.4**
DZA Taraz 69.68 321 *eP* **P 18 20 22.5 +0.1**
baz=321
IUG Iuzhnay 70.13 319 *eP* **P 18 20 25.4 +0.2**
baz=319
KURK Kurchatov 70.15 331 P **P 18 20 25.3 +0.4**
KURK IAmb IAmb 18 20 26.7
comp=Z,33nm,0.8s
KK31 Karatay Array 70.31 321 P **P 18 20 26.3 +0.2**
KKAR Karatay Array 70.31 321 P **P 18 20 26.4 +0.3**
KKAR Karatay Array 70.31 321 P **P 18 20 26.3 +0.2**
HRA Herat 72.29 309 P **P 18 20 38.7 +0.6**
BRZS Berezniki 72.74 328 *eP* **P 18 20 40.2 0.0**
comp=Z,17nm,0.8s,baz=327
VNDA Vanda 73.04 172 P **P 18 20 40.8 -0.6**
comp=Z,0.9nm,0.4s,baz=320,slow=12,SNR=6.3
BRVK Borovoye 75.69 329 P **P 18 20 57.2 +0.5**
BRVK IAmb IAmb 18 20 58.5
comp=Z,23nm,1.0s
GEYT Alibeck 76.67 312 P **P 18 21 03.9 +1.4**
comp=Z,7.4nm,0.8s,baz=180,slow=5.6,SNR=15
GEYT Alibeck 76.67 312 P **P 18 21 03.1 +0.6**
GYA0B ALIBECK ARRAY 76.67 312 P **P 18 21 03.4 +0.8**
TIXI Tiksi 78.53 1 P **P 18 21 11.5 -0.2**
TIXI IAmb IAmb 18 21 12.7
comp=Z,13nm,0.6s
ABKAR Akbulak array 79.63 323 P **P 18 21 18.1 0.0**
NRIK Noril'sk 80.48 347 P **P 18 21 22.6 +0.6**
comp=Z,3.2nm,0.4s,baz=136,slow=6.3,SNR=9.6
NRIK Noril'sk 80.48 347 P **P 18 21 22.3 +0.2**
ARU Arti 83.26 329 P **P 18 21 36.7 +0.2**
ARU IAmb IAmb 18 21 37.8
comp=Z,26nm,1.4s
RAYN Ar Rayn 83.47 295 P **P 18 21 39.3 +1.0**
KBZ Khabaz 89.31 314 P **P 18 22 06.2 +0.6**
comp=Z,2.3nm,0.9s,baz=107,slow=3.8,SNR=6.0
I23K Minto, Yukon-K 94.36 25 P **P 18 22 28.0 -0.4**
I23K IAmb IAmb 18 22 29.2
comp=Z,6.9nm,1.1s
ILAR Eielson Array 95.36 25 P **P 18 22 31.8 -1.2**
comp=Z,0.6nm,0.7s,baz=273,slow=4.3,SNR=6.0
BRTR Keskin Array B 95.68 309 P **P 18 22 34.6 -0.5**
comp=Z,1.5nm,0.9s,baz=59,slow=12,SNR=5.9
BMAR Burnt Mountain 96.48 23 P **P 18 22 38.8 +0.8**
AKASG Malin Array Be 99.21 320 P **Pdif 18 22 49.6 -0.8**
comp=Z,0.2nm,0.3s,baz=76,slow=4.1,SNR=2.4
ARCES ARCESS Array B 99.94 339 P **Pdif 18 22 52.2 -1.1**
comp=Z,1.6nm,0.7s,baz=77,slow=3.9,SNR=1.1
MNK Minsk 99.95 324 *i* P **Pdif 18 22 46.5 -7.1**
comp=E,1.0nm,1.0s
MNK *i* P **Pdif 18 22 46.5 -7.1**
comp=N,11nm,1.0s
MNK *i* P **Pdif 18 22 46.5 -7.1**
comp=Z,5.0nm,1.0s
MNK *i* pP **pP 18 24 47.9 -6.7**
MNK *i* sP sP 18 26 09.3 +20
MNK *i* PP PP 18 26 56.8 -11
MNK *i* PPP PPP 18 29 10.8
MNK *i* S **SKSac 18 32 31.4 -7.8**
MNK *i* SP **SP 18 35 03.0 -11**
MNK *i* sS pS 18 36 02.3 -14
MNK *i* PS **PS 18 36 14.2 -10**
MNK *i* SS SKKPbc 18 41 33.8 -28
MNK *i* SSS SSS 18 43 45.3
MNK *i* SKKS **SKKSdf 18 45 28.7 -7.6**
MNK *i* LRM MLR 19 08 48.3
comp=N,319nm,18.9s
MNK *i* LRM MLR 19 08 52.8
comp=E,26nm,18.9s
MNK *i* LRM MLR 19 09 07.0
comp=Z,72nm,18.7s
PDAR Pinedale Array 120.20 44 PKP **PKiKP 18 27 58.0 +0.9**
comp=Z,0.4nm,0.7s,baz=219,slow=1.9,SNR=4.1
TORD Torodi Ar. Bea 124.20 281 PKP **PKiKP 18 28 05.5 +0.1**
comp=Z,1.4nm,0.7s,baz=64,slow=2.2,SNR=6.2
TORD Torodi Ar. Bea 124.20 281 **PKPdf 18 28 05.1 +0.1**
TXAR Lajitas Array 128.93 58 SKPbc SKiKP 18 30 45.6 -13
comp=Z,0.3nm,0.3s,baz=251,slow=3.8,SNR=4.8
DBIC Dimbokro 130.50 273 SKPbc **SKPab 18 30 50.6 +0.1**
comp=Z,2.4nm,0.7s,baz=51,slow=5.0,SNR=4.3
MTO3 Montecristo 145.22 75 **PKPdf 18 28 43.3 -0.9**

LDG ***02*** *18:18:16.9±0.2, 43.°01N×14.°09E, h7km, Md3.3/2, Ml3.3/26, Error ellipse: s-maj=3.5km s-min=2.3km az=86.0*
ROM ***02*** *18:18:17.4±0.2, 42.°999N±0.°008×14.°02E±0.°01, h8km±1km, ML3.4/73, Error ellipse: s-maj=1.0km s-min=0.8km az=53.0*
PRU ***02*** *18:18:18.4±0.0, 43.°19N×13.°19E, h0km*
IDC ***02*** *18:18:18.3±1.9, 43.°27N×14.°15E, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.2/54, mbtmp3.5/5, ML3.1/4, MS2.0/1, Ms1 2.0/1, ms1mx2.0/34, Error ellipse: s-maj=32.9km s-min=19.5km az=81.0*
ISC 02 18:18:18.5±0.9, **42.98N**±0.°02×**13.93E**±0.°02, **h25**km±6km, **n164,σ2s03/196, 8D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMA	**Gualdo di Mace**	**0.09**	**3**	⇓P	Pb	18 18 27.7	+4.5
GUMA				AML	AML		
	comp=E,8685μm,0.6s						
GUMA				AML	AML		
	comp=E,8910μm,0.4s						
GUMA				AML	AML		
	comp=N,8565μm,1.6s						
GUMA				AML	AML		
	comp=E,8680μm,0.6s						
GUMA				AML	AML		
	comp=E,8915μm,0.4s						
GUMA				AML	AML		
	comp=N,8570μm,1.6s						
GUMA				AML	AML		
	comp=N,7500μm,0.5s						
TRTR	**Tortoreto Alta**	**0.17**	**184**	P	**Pb**	**18 18 23.7**	**-0.1**
TRTR				AML	AML		
	comp=E,87250μm,0.4s						
TRTR				AML	AML		
	comp=N,49450μm,0.4s						
TRTR				AML	AML		
	comp=N,49450μm,0.4s						
OFFI	**Offida**	**0.18**	**257**	⇓P	**Pb**	**18 18 23.9**	**-0.1**
OFFI				AML	AML		
	comp=E,39700μm,0.6s						
OFFI				AML	AML		
	comp=N,56350μm,0.7s						
OFFI				AML	AML		
	comp=N,56350μm,0.7s						
OFFI				AML	AML		
	comp=E,39700μm,0.6s						
CADA	**Capodarco di F**	**0.25**	**331**	P	**Pb**	**18 18 23.4**	**-1.4**
CADA				S	**Sb**	**18 18 28.7**	**-0.4**
MNTP	**Montappone**	**0.37**	**296**	P	**Pb**	**18 18 26.3**	**-0.3**
MNTP				S	**Sb**	**18 18 33.5**	**+1.3**
CIMA	**Civitanova Mar**	**0.38**	**330**	P	**Pb**	**18 18 26.0**	**-0.7**
CIMA				S	**Sb**	**18 18 33.8**	**+1.4**
TERO	**Teramo**	**0.43**	**214**	P	**Pb**	**18 18 27.1**	**-0.5**
TERO				S	**Sb**	**18 18 35.1**	**+1.4**
TERO				AML	AML		
	comp=N,3945μm,0.8s						
TERO				AML	AML		
	comp=E,3645μm,0.3s						
TERO				AML	AML		
	comp=N,1620μm,0.8s						
TERO				AML	AML		
	comp=N,3950μm,0.8s						
TERO				AML	AML		
	comp=E,1535μm,0.3s						
PP3	**Marolino**	**0.46**	**330**	AML	AML		
PP3	comp=E,3270μm,0.4s			AML	AML		
PP3	comp=N,3050μm,1.3s			AML	AML		
PP3	comp=E,3155μm,0.3s			AML	AML		
PP3	comp=N,2950μm,1.3s			AML	AML		
PP3	comp=N,3050μm,1.3s			AML	AML		
PP3	comp=N,2945μm,1.3s			AML	AML		
SMA1	**SAN MARTINO**	**0.56**	**232**	⇓P	**Pb**	**18 18 29.1**	**-0.7**
SMA1				S	**Sn**	**18 18 39.6**	**+0.1**
SMA1				AML	AML		
	comp=E,4350μm,0.4s						
SMA1				AML	AML		
	comp=N,4715μm,0.6s						
TRE1	**Treia**	**0.56**	**307**	P	**Pb**	**18 18 30.3**	**+0.5**
TRE1				S	**Sb**	**18 18 38.8**	**+1.4**
TRE1				AML	AML		
	comp=N,5550μm,0.3s						
TRE1				AML	AML		
	comp=E,6195μm,0.5s						
TRE1				AML	AML		
	comp=N,5550μm,0.3s						
TRE1				AML	AML		
	comp=N,5545μm,0.3s						
CAMP	**Campotosto**	**0.58**	**221**	⇓P	**Pb**	**18 18 29.5**	**-0.7**
CAMP				S	**Sn**	**18 18 40.2**	**+0.1**
CAMP				AML	AML		
	comp=N,2105μm,1.0s						
CAMP				AML	AML		
	comp=E,1650μm,0.5s						
SSM1	**San Severino M**	**0.61**	**295**	P	**Pb**	**18 18 30.0**	**-0.5**
MDAR	**Monte D'Aria**	**0.61**	**291**	P	**Pb**	**18 18 30.4**	**-0.3**
FDMO	**Fiordimonte**	**0.62**	**276**	⇓P	**Pb**	**18 18 30.2**	**-0.6**
FDMO				S	**Sn**	**18 18 41.5**	**+0.6**
FDMO				AML	AML		
	comp=E,2110μm,0.2s						
FDMO				AML	AML		
	comp=N,1855μm,0.4s						
AOI	**Ancona**	**0.62**	**337**	P	**Pb**	**18 18 30.5**	**-0.3**
AOI				AML	AML		
	comp=N,2670μm,1.1s						
AOI				AML	AML		
	comp=E,1710μm,0.6s						
FEMA	**Monte Fema**	**0.65**	**269**	P	**Pb**	**18 18 30.9**	**-0.4**
CING	**Cingoli**	**0.67**	**307**	P	**Pb**	**18 18 30.8**	**-0.8**
CRM1	**Catelraimondo**	**0.68**	**290**	P	**Pb**	**18 18 31.3**	**-0.5**
GAG1	**Gagliole**	**0.68**	**293**	P	**Pb**	**18 18 31.2**	**-0.6**
EL6	**Elcito**	**0.70**	**300**	⇓P	**Pb**	**18 18 31.4**	**-0.7**
EL6				S	**Sn**	**18 18 43.7**	**+0.7**
EL6				AML	AML		
	comp=E,4155μm,0.2s						
EL6				AML	AML		
	comp=N,5110μm,0.4s						
RM33	**Pellescritta (**	**0.70**	**229**	P	**Pb**	**18 18 31.4**	**-0.8**
RM33				AML	AML		
	comp=E,3505μm,0.3s						
RM33				AML	AML		
	comp=N,2755μm,0.3s						
SEF1	**Sefro**	**0.74**	**284**	P	**Pb**	**18 18 32.3**	**-0.5**
CESI	**CESI - Serrava**	**0.75**	**272**	⇓P	**Pb**	**18 18 32.5**	**-0.5**
CESI				AML	AML		
	comp=N,1660μm,1.1s						
CESI				AML	AML		
	comp=E,1680μm,0.3s						
LNSS	**Leonessa**	**0.75**	**241**	⇓P	**Pb**	**18 18 32.4**	**-0.7**
LNSS				AML	AML		
	comp=E,12650μm,0.4s						
LNSS				AML	AML		
	comp=N,19600μm,0.4s						
LNSS				AML	AML		
	comp=N,19600μm,0.4s						
FAGN	**Fagnano**	**0.76**	**200**	P	**Pb**	**18 18 32.4**	**-0.7**
FAGN				AML	AML		
	comp=N,4190μm,0.4s						
FAGN				AML	AML		
	comp=E,5465μm,0.5s						
T0110	**Collepietro**	**0.76**	**188**	P	**Pb**	**18 18 32.3**	**-0.8**
T0110				AML	AML		
	comp=E,3135μm,1.4s						
T0110				AML	AML		
	comp=N,3690μm,0.4s						
T0110				AML	AML		
	comp=E,3140μm,1.4s						
SNTG	**Esanatoglia**	**0.78**	**291**	P	**Pb**	**18 18 32.7**	**-0.7**
SNTG				S	**Sn**	**18 18 45.9**	**+1.1**
SNTG				AML	AML		
	comp=E,1515μm,0.6s						
SNTG				AML	AML		
	comp=E,1520μm,0.6s						
SNTG				AML	AML		
	comp=N,1945μm,0.3s						
SENI	**Senigallia**	**0.89**	**325**	P	**Pn**	**18 18 36.2**	**+0.8**
SENI				AML	AML		
	comp=N,9410μm,0.3s						
SENI				AML	AML		
	comp=E,3580μm,0.9s						
SENI				AML	AML		
	comp=N,2350μm,0.9s						
SENI				AML	AML		
	comp=N,9445μm,0.3s						
SENI				AML	AML		
	comp=E,11900μm,0.3s						
ARVD	**Arcevia**	**0.89**	**306**	P	**Pb**	**18 18 34.6**	**-0.7**
ARVD				AML	AML		
	comp=E,1210μm,0.7s						
ARVD				AML	AML		
	comp=N,1184μm,0.6s						
FOSV	**Fossato di Vic**	**0.91**	**291**	P	**Pb**	**18 18 35.1**	**-0.6**
FOSV				S	**Sn**	**18 18 50.4**	**+2.2**
FOSV				AML	AML		
	comp=E,3040μm,1.3s						
FOSV				AML	AML		
	comp=N,2335μm,0.3s						
FIAM	**Fiamignano**	**0.93**	**221**	P	**Pb**	**18 18 35.7**	**-0.3**
FIAM				AML	AML		
	comp=N,1640μm,0.5s						
FIAM				AML	AML		
	comp=E,1670μm,0.7s						
ASSB	**Assisi San Ben**	**0.93**	**274**	P	**Pb**	**18 18 34.2**	**-1.8**
ASSB				AML	AML		
	comp=E,2720μm,0.4s						
ASSB				AML	AML		
	comp=N,1945μm,0.4s						
COR1	**Corinaldo**	**0.94**	**314**	P	**Pn**	**18 18 37.1**	**+0.9**
ARRO	**Arrone**	**0.94**	**246**	P	**Pb**	**18 18 35.6**	**-0.6**
SSFR	**Montelago di S**	**0.96**	**299**	P	**Pb**	**18 18 36.3**	**-0.2**
INTR	**Introdacqua**	**0.96**	**181**	P	**Pb**	**18 18 35.3**	**-1.3**
INTR				AML	AML		
	comp=E,3530μm,0.7s						
INTR				AML	AML		
	comp=N,4520μm,0.7s						
ATCC	**AVT- Casa Cast**	**0.97**	**283**	P	**Pb**	**18 18 36.2**	**-0.5**
ATCC				AML	AML		
	comp=E,2425μm,0.4s						
ATCC				AML	AML		
	comp=N,3490μm,0.5s						
ATCC				AML	AML		
	comp=E,2420μm,0.4s						
PTQR	**Pietraquaria**	**1.03**	**202**	AML	AML		
	comp=N,1010μm,0.4s						
PTQR				AML	AML		
	comp=E,777μm,0.4s						
CESX	**Cesi**	**1.06**	**250**	P	**Pn**	**18 18 37.7**	**-0.1**
CESX				AML	AML		
	comp=N,3125μm,0.4s						
CESX				AML	AML		
	comp=E,3050μm,0.5s						
ATFO	**Monte Foce - G**	**1.07**	**292**	P	**Pn**	**18 18 38.0**	**+0.1**
ATFO				AML	AML		
	comp=N,2315μm,0.4s						
ATFO				AML	AML		
	comp=E,2540μm,0.4s						
MURB	**Monte Urbino**	**1.07**	**286**	P	**Pn**	**18 18 38.2**	**+0.2**
MURB				AML	AML		
	comp=E,7535μm,0.7s						
MURB				AML	AML		
	comp=E,7240μm,0.7s						
MURB				AML	AML		
	comp=E,7530μm,0.7s						
MURB				AML	AML		
	comp=N,4890μm,0.9s						
MURB				AML	AML		
	comp=N,4865μm,0.9s						
MPAG	**Monte Paganucc**	**1.07**	**308**	P	**Pn**	**18 18 38.2**	**+0.1**
MPAG				AML	AML		
	comp=E,1630μm,0.5s						
MPAG				AML	AML		
	comp=E,1620μm,0.5s						
MPAG				AML	AML		
	comp=N,1415μm,1.5s						
MPAG				AML	AML		
	comp=E,1635μm,0.5s						
MPAG				AML	AML		
	comp=N,1405μm,1.5s						
FSSB	**Fossombrone**	**1.10**	**311**	P	**Pn**	**18 18 38.8**	**+0.4**
FSSB				AML	AML		
	comp=N,5100μm,0.4s						
FSSB				AML	AML		
	comp=E,3995μm,1.3s						
FRES	**Fresagrandinar**	**1.14**	**151**	P	**Pb**	**18 18 39.8**	**+0.2**
PIEI	**Pieia**	**1.16**	**299**	P	**Pn**	**18 18 39.4**	**+0.2**
PIEI				AML	AML		
	comp=N,1155μm,0.4s						
PIEI				AML	AML		
	comp=E,1700μm,0.3s						
ATTE	**AVT- Monte Tez**	**1.18**	**281**	P	**Pb**	**18 18 40.6**	**+0.5**
ATTE				AML	AML		
	comp=E,840μm,1.6s						
ATTE				AML	AML		
	comp=N,540μm,0.5s						
ATVO	**AVT- Monte Val**	**1.19**	**291**	P	**Pn**	**18 18 39.9**	**+0.4**
ATVO				AML	AML		
	comp=E,1460μm,0.8s						
ATVO				AML	AML		
	comp=N,1250μm,0.4s						
ATVO				AML	AML		
	comp=N,1255μm,0.4s						
ATVO				AML	AML		
	comp=E,1455μm,0.8s						
ATPI	**Pietralunga -**	**1.21**	**294**	P	**Pn**	**18 18 40.5**	**+0.6**
ATPI				AML	AML		
	comp=E,2215μm,0.5s						
ATPI				AML	AML		
	comp=N,2835μm,1.2s						
CERT	**Cerreto**	**1.24**	**215**	P	**Pb**	**18 18 42.8**	**+1.5**
CERT				AML	AML		
	comp=N,756μm,0.4s						
CERT				AML	AML		
	comp=E,1200μm,0.4s						
APEC	**Apecchio**	**1.25**	**298**	P	**Pb**	**18 18 41.4**	**+0.1**
APEC				AML	AML		

comp=N,2385µm,0.4s
APEC AML AML
comp=E,1905µm,0.6s
PESA Pesaro 1.25 321 P **Pb** 18 18 42.0 +0.6
PESA AML AML
comp=N,1355µm,1.1s
PESA AML AML
comp=E,1345µm,0.4s
GUAR Guarcino 1.27 201 AML AML
comp=N,1145µm,0.6s
GUAR AML AML
comp=E,1100µm,0.6s
POFI Posta Fibreno 1.27 187 P **Pb** 18 18 42.3 +0.6
POFI AML AML
comp=E,1190µm,0.6s
POFI AML AML
comp=N,826µm,0.4s
POFI AML AML
comp=N,833µm,0.7s
POFI AML AML
comp=E,1135µm,0.6s
SRES S.Oreste - Sor 1.28 235 P **Pb** 18 18 42.7 +0.7
RNI2 Rionero Sannit 1.28 173 P **Pb** 18 18 42.3 +0.3
RNI2 AML AML
comp=N,1310µm,0.4s
RNI2 AML AML
comp=E,1340µm,1.3s
RNI2 AML AML
comp=N,1360µm,0.4s
RNI2 AML AML
comp=E,1355µm,1.3s
TRIV Trivento 1.29 159 P **Pb** 18 18 42.4 +0.2
TRIV AML AML
comp=N,808µm,1.5s
TRIV AML AML
comp=E,1004µm,0.9s
MTCE Montecelio 1.30 223 P **Pb** 18 18 43.3 +1.1
MTCE AML AML
comp=E,761µm,0.6s
MTCE AML AML
comp=N,540µm,0.7s
DUGI Dugi Otok 1.31 39 *i* Pg **Pn** 18 18 40.5 -0.6
DUGI Sg **Sb** 18 18 58.3 -0.4
MGAB Montegabbione 1.34 268 P **Pb** 18 18 43.5 +0.6
MGAB AML AML
comp=N,1156µm,0.6s
MGAB AML AML
comp=E,1019µm,0.5s
MGAB AML AML
comp=N,1144µm,0.7s
MGAB AML AML
comp=E,866µm,0.5s
BADI Badiali 1.34 294 P **Pb** 18 18 43.0 0.0
BADI AML AML
comp=N,1383µm,0.5s
BADI AML AML
comp=E,835µm,0.8s
RCAV Rocca di Cave 1.34 213 P **Pb** 18 18 44.1 +1.0
MIDA Miranda 1.36 170 P **Pb** 18 18 42.9 -0.4
MIDA AML AML
comp=E,931µm,0.4s
MIDA AML AML
comp=E,955µm,0.5s
MIDA AML AML
comp=N,776µm,0.4s
MIDA AML AML
comp=N,801µm,0.4s
CERA Filignano 1.38 177 P **Pb** 18 18 44.0 +0.4
CERA AML AML
comp=N,1935µm,0.6s
CERA AML AML
comp=N,1995µm,0.6s
CERA AML AML
comp=E,1875µm,0.6s
CERA AML AML
comp=E,1885µm,0.6s
ZIRJ Zirje 1.42 61 *e*Pn **Pn** 18 18 41.9 -0.9
ZIRJ Sn **Sb** 18 19 01.2 -0.9
CPGN Carpegna, Ital 1.43 306 P **Pb** 18 18 45.7 +1.0
TREM Isole Tremiti 1.45 126 P **Pn** 18 18 43.6 +0.5
TREM AML AML
comp=E,2055µm,0.7s
TREM AML AML
comp=N,2265µm,1.0s
CAFI Castiglion Fio 1.48 284 P **Pb** 18 18 45.6 +0.3
CAFI AML AML
comp=E,450µm,0.7s
CAFI AML AML
comp=N,410µm,0.6s
SACS San Casciano d 1.49 266 P **Pb** 18 18 46.1 +0.6
SACS AML AML
comp=E,524µm,0.6s
SACS AML AML
comp=E,512µm,0.6s
SACS AML AML
comp=N,524µm,0.8s
SACS AML AML
comp=N,556µm,0.7s
VIVA Pratoni del Vi 1.50 215 AML AML
comp=E,1495µm,0.7s
VIVA AML AML
comp=N,1770µm,0.4s
GIUL Giuliano Di Ro 1.50 200 AML AML
comp=E,330µm,0.9s
GIUL AML AML
comp=N,337µm,1.3s
BSSO Busso 1.51 161 P **Pb** 18 18 45.3 -0.7
MELA Melanico ??? S 1.55 145 P **Pn** 18 18 45.3 +0.8
MELA AML AML
comp=E,1575µm,0.4s
MELA AML AML
comp=N,1695µm,0.5s
MELA AML AML
comp=N,1710µm,0.5s
MELA AML AML
comp=E,1605µm,0.5s
MORI Morici 1.57 55 *e*Pn **Pn** 18 18 44.8 0.0
MORI Sn **Sn** 18 19 04.2 -0.1
VAGA Valle Agricola 1.58 172 P **Pb** 18 18 46.7 -0.3
VAGA AML AML
comp=E,580µm,0.4s
VAGA AML AML
comp=E,606µm,0.4s
VAGA AML AML
comp=N,750µm,0.7s
VAGA AML AML
comp=N,754µm,0.7s
CRE Caprese Michel 1.58 295 P **Pb** 18 18 47.5 +0.4
CRE AML AML
comp=N,613µm,1.4s
CRE AML AML
comp=E,472µm,0.5s
LATE Laterza 1.61 258 AML AML
comp=E,216µm,1.2s
LATE AML AML
comp=N,286µm,0.5s
SGG Gregorio Mates 1.62 168 P **Pb** 18 18 47.2 -0.6
SGG AML AML
comp=E,532µm,0.6s
SGG AML AML
comp=N,426µm,0.5s
PTRJ Pietraroja 1.67 164 P **Pb** 18 18 47.9 -0.8
SACR S. Croce Del S 1.68 160 P **Pn** 18 18 47.3 +0.9
NVLJ Novalja 1.73 23 *i* Pn **Pn** 18 18 46.6 -0.3
NVLJ Sn **Sb** 18 19 09.6 -1.2
ASQU Asqua 1.76 298 P **Pb** 18 18 50.5 +0.4
ASQU AML AML
comp=N,432µm,0.7s
ASQU AML AML
comp=E,444µm,0.8s
SGRT San Giovanni R 1.82 132 P **Pn** 18 18 48.5 +0.2
SGRT AML AML
comp=N,1060µm,0.4s
SGRT AML AML
comp=E,1160µm,0.3s
HVAR Hvar 1.86 83 *e*Pn **Pn** 18 18 48.4 -0.3
HVAR Sn **Sn** 18 19 11.6 +0.2
PSB1 Pescosannita 1.87 159 P **Pn** 18 18 50.3 +1.3
PSB1 AML AML
comp=E,261µm,0.8s
PSB1 AML AML
comp=N,238µm,0.5s
PSB1 AML AML
comp=N,239µm,0.7s
PSB1 AML AML
comp=E,268µm,0.9s

MSAG Monte S. Angel 1.94 130 P **Pn** 18 18 50.1 +0.2
RUFI Rufina 1.96 297 P **Pb** 18 18 52.9 -0.7
CSNT Castellina Chi 1.99 285 AML AML
comp=E,227µm,0.8s
CSNT AML AML
comp=N,165µm,0.8s
UDBI Udbina 2.04 40 *e*Pn **Pn** 18 18 52.0 +0.6
UDBI Sn **Sb** 18 19 18.1 -1.8
KIJV Kijevo 2.07 59 *i* Pn **Pn** 18 18 52.1 +0.4
LSTV Lastovo 2.19 94 *e*Pn **Pn** 18 18 52.9 -0.4
LSTV Sn **Sn** 18 19 18.5 -1.0
MAKA Makarska 2.28 81 *e*Pn **Pn** 18 18 53.9 -0.7
RICI Ricice 2.40 76 *e*Pn **Pn** 18 18 56.7 +0.5
MRVN Minervino Murg 2.55 138 P **Pn** 18 18 58.2 -0.1
SKDS Skadanscina 2.57 1 *i* Pn **Pn** 18 18 58.4 -0.2
BOJS Bojanci 2.70 20 AML AML
comp=E,184µm,1.2s
BOJS AML AML
comp=N,148µm,0.7s
TRI Trieste 2.73 358 AML AML
comp=E,137µm,0.8s
TRI AML AML
comp=N,114µm,0.8s
STON Ston 2.77 91 *e*Pn **Pn** 18 18 59.7 -1.6
STON Sn **Sn** 18 19 32.2 -1.7
AMUR Altamura 2.87 135 P **Pn** 18 19 02.8 +0.1
AMUR AML AML
comp=N,220µm,0.4s
AMUR AML AML
comp=E,208µm,0.5s
SLCN Sala Consilina 2.88 153 AML AML
comp=E,172µm,0.4s
SLCN AML AML
comp=N,126µm,1.1s
GBAS Gorenja Brezov 2.98 7 *e*Pn **Pn** 18 19 04.3 +0.1
MIGL Miglionico 3.02 141 AML AML
comp=E,726µm,0.9s
MIGL AML AML
comp=N,631µm,1.5s
MATE Matera 3.12 137 AML AML
comp=E,212µm,1.1s
MATE AML AML
comp=N,260µm,0.5s
DBRK Dubrovnik 3.12 94 *e*Pn **Pn** 18 19 05.3 -0.7
SIRI Monte Sirino - 3.15 152 AML AML
comp=N,106µm,0.6s
SIRI AML AML
comp=E,104µm,1.5s
SIRI AML AML
comp=N,96µm,0.6s
SIRI AML AML
comp=E,92µm,1.5s
NOCI Noci 3.20 132 AML AML
comp=E,154µm,1.5s
NOCI AML AML
comp=N,226µm,1.0s
POLC Polcenigo 3.22 342 AML AML
comp=E,276µm,0.6s
POLC AML AML
comp=N,337µm,0.5s
ROVR Rover Verones 3.37 323 AML AML
comp=N,72µm,1.0s
ROVR AML AML
comp=E,46µm,0.9s
OBKA Obir 3.56 7 *i* Pn **Pn** 18 19 13.1 +0.9
comp=E,4.5nm,0.3s
OBKA *i* Sn **Sn** 18 19 56.0 +2.5
comp=E,19nm,0.4s
SALO Salr 3.60 318 AML AML
comp=E,367µm,1.2s
SALO AML AML
comp=N,470µm,1.3s
PGF Pioggiola 3.66 265 *e*Pn **Pn** 18 19 13.8 +0.3
PGF *e*Sn **Sn** 18 19 55.5 -0.4
comp=N,1.5nm,0.3s
MYKA Terra Mystica 3.66 357 *i* Pn **Pn** 18 19 14.5 +0.9
comp=N,1.8nm,0.2s
MYKA *i* Sn **Sn** 18 19 57.9 +2.0
comp=N,18nm,0.5s
MAGA Magasa 3.66 321 AML AML
comp=N,278µm,0.6s
MAGA AML AML
comp=E,290µm,0.6s
SOKA Soboth 3.78 12 *i* Pn **Pn** 18 19 16.6 +1.4
comp=E,0.5nm,0.2s
SOKA *e*Sn **Sn** 18 20 03.1 +4.0
comp=E,4.2nm,0.4s
ABTA Abfaltersbach 3.90 346 *i* Pn **Pn** 18 19 17.5 +0.6
comp=E,2.1nm,0.2s,SNR=7.2
ABTA *e*Sn **Sn** 18 20 04.2 +2.2
comp=E,28nm,0.6s
KBA Koelnbreinsper 4.12 354 *i* Sn **Sn** 18 20 08.3 +0.8
comp=E,6.6nm,0.3s
RISI Rein 4.18 342 AML AML
comp=E,206µm,0.5s
RISI AML AML
comp=N,219µm,0.4s
ABSI Aberstueckl 4.18 335 AML AML
comp=N,182µm,0.8s
ABSI AML AML
comp=E,184µm,0.7s
WTTA Wattenberg 4.58 340 *i* Sn **Sn** 18 20 21.6 +2.7
comp=E,16nm,0.4s
FETA Feichten 4.64 332 *i* Pn **Pn** 18 19 29.0 +2.0
comp=E,2.1nm,0.3s
FETA *i* Sn **Sn** 18 20 23.9 +3.7
comp=E,3.3nm,0.3s
SQTA Sankt Quirin 4.66 337 *i* Pn **Pn** 18 19 29.6 +2.2
comp=E,7.0nm,0.3s
SQTA *i* Sn **Sn** 18 20 23.0 +2.3
comp=E,14nm,0.4s
WATA Walderalm 4.67 340 *e*Pn **Pn** 18 19 30.6 +3.1
comp=E,3.4nm,0.3s
WATA *e*Sn **Sn** 18 20 23.4 +2.5
comp=E,33nm,0.7s
DAVOX Davos/Dischmat 4.77 324 Pn **Pn** 18 19 31.6 +2.7
comp=E,2.4nm,0.3s,baz=335,slow=5.2,SNR=21
DAVOX Sn **Sn** 18 20 25.6 +2.1
comp=E,1.0nm,0.3s,baz=198,slow=20,SNR=2.6
MOTA Moosalm 4.80 336 *i* Pn **Pn** 18 19 31.4 +2.1
comp=E,0.9nm,0.2s
MOTA *i* Sn **Sn** 18 20 27.8 +3.6
comp=E,11nm,0.5s
MOA Molln 4.88 3 *i* Pn **Pn** 18 19 31.1 +0.8
comp=E,3.2nm,0.3s
MOA *i* Sn **Sn** 18 20 26.7 +0.8
comp=E,4.8nm,0.3s
CONA Conrad Observa 5.13 15 *i* Pn **Pn** 18 19 34.9 +1.0
comp=E,0.8nm,0.2s
CONA *i* Sn **Sn** 18 20 35.0 +2.7
comp=E,3.0nm,0.4s
DAVA Damuels 5.17 328 *i* Pn **Pn** 18 19 37.6 +3.1
comp=E,1.2nm,0.2s
DAVA *i* Sn **Sn** 18 20 34.5 +1.1
comp=E,11nm,0.4s
FRF La Foret Royal 5.35 279 *e*Pn **Pn** 18 19 36.4 -0.3
FRF *e*Sn **Sn** 18 20 35.8 -1.7
comp=E,0.8nm,0.2s
LMR La Mourre 5.44 276 *e*P **Pn** 18 19 40.7 +2.7
LMR *e*Sn **Sn** 18 20 38.0 -1.7
comp=E,0.2nm,0.2s
MBDF Montbardon 5.46 291 *e*Pn **Pn** 18 19 38.5 +0.1
MBDF Montbardon 5.46 291 *e*P **Pn** 18 19 42.6 +4.2
MBDF *e*Sn **Sn** 18 20 38.4 -2.1
comp=E,4.1nm,0.4s
LPG La Plagne 5.74 299 *e*Pn **Pn** 18 19 42.4 +0.1
LPG La Plagne 5.74 299 *e*P **Pn** 18 19 46.1 +3.8
LPG *e*Sn **Sn** 18 20 45.0 -2.5
comp=E,14nm,0.6s
LPL La Plagne 5.76 299 *e*P **Pn** 18 19 45.9 +3.3
LPL *e*Sn **Sn** 18 20 45.1 -2.8
comp=E,13nm,0.4s
CKRC Cesky Krumlov 5.85 2 *e*PN **Pn** 18 19 44.4 +0.8
CKRC *e*SN **Sn** 18 20 46.9 -2.9
GERES GERESS Array B 5.87 359 Pn **Pn** 18 19 43.5 -0.4
comp=E,0.8nm,0.3s,baz=172,slow=14,SNR=14
GERES Sn **Sn** 18 20 47.3 -3.2
comp=E,1.9nm,0.3s,baz=180,slow=25,SNR=9.0
MODS Modra-Piesok 5.88 22 *e*PN **Pn** 18 19 47.5 +3.4
ORIF Oris-en-Rattie 6.13 291 *e*P **Pn** 18 19 51.3 +3.8
ORIF *e*Sn **Sn** 18 20 54.2 -2.6
comp=E,24nm,1.0s
KHC Kasperske Hory 6.16 358 *e*PN **Pn** 18 19 47.2 -0.7
KHC *ex* x 18 19 57.0
KHC *e*SN **Sn** 18 20 54.4 -3.1
SMRF Simiane la Rot 6.16 282 *e*P **Pn** 18 19 52.3 +4.4
SMRF *e*Sn **Sn** 18 20 55.1 -2.4

comp=E,0.4nm,0.2s
CABF La Chapelle 6.66 306 *e*Pn **Pn** 18 19 54.6 -0.2
CABF La Chapelle 6.66 306 *e*P **Pn** 18 19 58.6 +3.8
CABF *e*Sn **Sn** 18 21 06.4 -3.4
comp=E,10nm,0.7s
HINF Hinteralfeld 6.94 317 *e*Pn **Pn** 18 19 57.4 -1.2
HINF Hinteralfeld 6.94 317 *e*P **Pn** 18 20 02.5 +3.9
HINF *e*Sn **Sn** 18 21 12.8 -4.0
comp=E,9.9nm,0.5s
VIVF Saint-Julien-l 6.94 289 *e*P **Pn** 18 20 02.7 +4.1
VIVF *e*Sn **Sn** 18 21 13.6 -3.2
comp=E,1.2nm,0.4s
CDF Champ du Feu 7.16 322 *e*P **Pn** 18 20 03.6 +2.0
CDF *e*Sn **Sn** 18 21 17.6 -4.5
comp=E,12nm,0.7s
HAU Haudompre 7.32 316 *e*Pn **Pn** 18 20 02.6 -1.2
HAU Haudompre 7.32 316 *e*P **Pn** 18 20 07.7 +3.9
HAU *e*Sn **Sn** 18 21 22.1 -4.0
comp=E,29nm,0.7s
LASF Ste Croix 7.40 282 *e*P **Pn** 18 20 09.4 +4.5
LASF *e*Sn **Sn** 18 21 25.0 -3.1
comp=E,0.3nm,0.3s
PAGF Fort de Pagny 8.00 317 *e*P **Pn** 18 20 16.9 +3.8
PAGF *e*Sn **Sn** 18 21 37.8 -4.9
comp=E,14nm,0.7s
SMF Signal de Mont 8.05 301 *e*Pn **Pn** 18 20 13.0 -0.9
SMF Signal de Mont 8.05 301 *e*P **Pn** 18 20 18.0 +4.1
SMF *e*Sn **Sn** 18 21 39.6 -4.5
comp=E,14nm,0.7s
KEST Kesra 8.06 208 Pn Pn 18 20 21.2 +7.2
comp=E,0.2nm,0.3s,baz=15,slow=19,SNR=2.2
SFTF Sexfontaines 8.13 313 *e*P **Pn** 18 20 19.3 +4.4
baz=133
SFTF *e*Sn **Sn** 18 21 41.8 -4.2
comp=E,4.0nm,0.4s
LOR Lormes 8.31 305 *e*Pn **Pn** 18 20 16.4 -1.0
baz=124
LOR *e*Sn **Sn** 18 21 45.9 -4.5
comp=E,6.6nm,0.4s
SAVF Savonnieres en 8.34 316 *e*Sn **Sn** 18 21 46.1 -5.0
comp=E,7.9nm,0.5s
AVF Avril sur Loir 8.42 301 *e*Pn **Pn** 18 20 17.9 -0.9
AVF Avril sur Loir 8.42 301 *e*P **Pn** 18 20 22.0 +3.1
AVF *e*Sn **Sn** 18 21 48.6 -4.4
comp=E,0.8nm,0.4s
SSF Saint Saulge 8.44 303 *e*Pn **Pn** 18 20 18.2 -0.9
SSF *e*Sn **Sn** 18 21 49.0 -4.4
comp=E,28nm,1.0s
BGF Bois d'Agland 8.66 298 *e*Pn **Pn** 18 20 21.6 -0.5
BGF *e*Sn **Sn** 18 21 54.3 -4.6
comp=E,6.7nm,0.5s
TCF Toulx Ste Croi 8.99 296 *e*Pn **Pn** 18 20 25.8 -0.9
TCF *e*Sn **Sn** 18 22 02.4 -4.6
comp=E,1.5nm,0.3s
HYF Humbligny 9.06 302 *e*P Pn 18 20 32.7 +5.1
FINES FINESS Array B 19.87 17 P **Pn** 18 22 48.6 -0.6
comp=E,0.1nm,0.3s,baz=200,slow=12,SNR=2.6
ASF Jabal al Asfar 21.09 113 LR LR 18 34 15.3
comp=E,4.9nm,21.4s,baz=318,slow=45
MKAR Makanchi Array 47.20 61 P **P** 18 26 49.5 +0.6
comp=E,0.4nm,0.6s,baz=292,slow=6.4,SNR=4.9

NEIC ***02*** *18:24:21.2±1.6,3°.6S±0°.1×149°.84E±0°.05,h10km±1km, mb4.2/7,Error ellipse: s-maj=17.7km s-min=8.5km az=192.0*
IDC ***02*** *18:24:21.1±1.0,3°.62S×149°.80E,h0km,mb3.9/9, mb1 4.1/9,mb1mx3.9/31,mbtmp3.9/9,MS3.7/10, Ms1 3.7/10,ms1mx3.4/32,Error ellipse: s-maj=28.4km s-min=20.1km az=99.0*
ISC 02 18:24:22.9±0.7,3°.64S±0°.09×149°.91E±0°.07,h19km,n29, σ1§39/21,mb4.0/12,MS3.7/10,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.31**	**104**	Pn	**Pn**	**18 24 59.9**	**-0.1**
MANU	**Manus Island**	**3.00**	**302**	Pn	**Pn**	**18 25 07.0**	**-2.4**
PMG	**Port Moresby**	**6.35**	**205**	Pn	Pn	18 26 01.8	+6.3
	0.4nm,0.3s,baz=277,slow=8.1,SNR=2.8						
PMG	**Port Moresby**	**6.35**	**205**		**Pn**	**18 25 55.4**	**-0.1**
HNR	**Honiara**	**11.51**	**120**	Pn	**Pn**	**18 27 02.5**	**-3.8**
WB0	**Warramunga Arr**	**22.05**	**222**	P	**P**	**18 29 15.8**	**-1.0**
WB0				IAmb	IAmb	18 29 25.2	
	comp=Z,7.6nm,0.8s						
WR0	**Warramunga Arr**	**22.09**	**222**	P	**P**	**18 29 16.1**	**-1.1**
WR0				IAmb	IAmb	18 29 24.2	
	comp=Z,6.4nm,0.8s						
WRAB	**Tennant Creek**	**22.20**	**222**	P	**P**	**18 29 17.6**	**-0.8**
WB2	**Warramunga Arr**	**22.20**	**222**	P	**P**	**18 29 18.0**	**-0.4**
WB2				IAmb	IAmb	18 29 27.1	
	comp=Z,8.7nm,0.8s						
WRA	**Warramunga Arr**	**22.21**	**222**	P	**P**	**18 29 17.8**	**-0.7**
	comp=Z,6.0nm,0.9s,baz=45,slow=10,SNR=29						
WRA				LR	LR	18 38 33.7	
	comp=Z,185nm,18.2s,baz=65,slow=38						
DZM	**Mont Dzumac**	**24.35**	**140**	P	**P**	**18 29 42.1**	**+2.1**
	comp=Z,4.2nm,0.8s,baz=85,slow=12,SNR=3.3						
DZM	**Mont Dzumac**	**24.35**	**140**	P	**P**	**18 29 39.9**	**-0.1**
DZM				IAmb	IAmb	18 29 47.4	
	comp=Z,6.8nm,0.9s						
AS31	**Alice Springs**	**25.21**	**216**	P	**P**	**18 29 47.9**	**+0.2**
ASAR	**Alice Springs**	**25.21**	**216**	P	**P**	**18 29 47.9**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=48,slow=7.7,SNR=32						
ASAR				LR	LR	18 40 35.6	
	comp=Z,139nm,18.0s,baz=42,slow=39						
ASAR	**Alice Springs**	**25.21**	**216**	P	**P**	**18 29 47.6**	**-0.1**
BATI	**Baumata**	**26.85**	**255**	LR	LR	18 42 43.3	
	comp=Z,206nm,20.2s,baz=58,slow=41						
FITZ	**Fitzroy Crossi**	**27.77**	**237**	P	**P**	**18 30 12.3**	**+1.4**
	comp=Z,8.5nm,0.7s,baz=51,slow=10,SNR=14						
FITZ				LR	LR	18 41 48.0	
	comp=Z,165nm,18.3s,baz=12,slow=38						
FITZ	**Fitzroy Crossi**	**27.77**	**237**	P	**P**	**18 30 10.8**	**0.0**
STKA	**Stephens Creek**	**29.16**	**195**	LR	LR	18 43 09.4	
	comp=Z,110nm,18.4s,baz=21,slow=39						
MJAR	**Matsushiro Arr**	**41.44**	**346**	LR	LR	18 47 31.3	
	comp=Z,49nm,20.6s,baz=310,slow=34						
KSRS	**Korea Array**	**45.71**	**335**	LR	LR	18 50 10.1	
	comp=Z,87nm,19.1s,baz=276,slow=34						
CMAR	**Chiang Mai Arr**	**54.78**	**296**	P	**P**	**18 33 52.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=119,slow=5.4,SNR=3.0						
SONM	**Songino Array**	**63.83**	**329**	P	**P**	**18 34 55.2**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=146,slow=6.8,SNR=3.2						
SONM	**Songino Array**	**63.83**	**329**	IAmb	IAmb	18 35 01.6	
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**77.57**	**319**	P	**P**	**18 36 17.8**	**0.0**
	comp=Z,0.2nm,0.7s,baz=64,slow=8.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**78.61**	**327**	P	**P**	**18 36 24.6**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=101,slow=6.2,SNR=4.0						
ILAR	**Eielson Array**	**82.19**	**23**	P	**P**	**18 36 43.8**	**+1.4**
	comp=Z,0.4nm,1.0s,baz=221,slow=9.5,SNR=2.7						
ILAR				LR	LR	19 07 58.9	
	comp=Z,75nm,19.8s,baz=180,slow=32						
ARU	**Arti**	**93.76**	**326**	LR	LR	19 19 01.0	
	comp=Z,64nm,19.3s,baz=70,slow=35						
AKTO	**Aktyubinsk**	**93.99**	**320**	LR	LR	19 20 38.2	
	comp=Z,40nm,18.3s,baz=39,slow=36						

ANF ***02*** *19:04:43.0±0.3,63°.38N×145°.52W,h6km±2km,ML3.8/26, Error ellipse: s-maj=1.5km s-min=0.9km az=70.0, Hypocentre not reviewed by the ISC*
NEIC ***02*** *19:04:44.5±2.8,63°.388N±0°.007×145°.50W±0°.05, h9km±7km,Error ellipse: s-maj=3.1km s-min=1.0km az=91.0*
AEIC 02 19:04:44±2.6,63°.40N±0°.02×145°.47W±0°.07,h8km±6km, ML3.3,ML3.6/80(NEIC),Error ellipse: s-maj=4.8km s-min=2.6km az=81.0,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PS10	**TAPS Pump St10**	**0.14**	**279**		Pg	19 04 49.1	+2.2
PAX	**Paxson**	**0.43**	**180**		Pg	19 04 51.9	-0.6
PAX					Sg	19 04 57.2	-1.0
PAX	**Paxson**	**0.43**	**180**	P		19 04 52.0	
	baz=360,SNR=1000						
PAX				S		19 04 56.7	
	baz=360						
PS09	**TAPS Pump Stn9**	**0.55**	**346**		Pg	19 04 54.9	+0.3
PS09					Sg	19 05 02.6	+1.0
DOT	**Dot Lake**	**0.68**	**68**		Pg	19 04 57.3	+0.3
DOT					Sb	19 05 06.8	-0.9
SCRK	**Sand Creek**	**0.88**	**48**		Pg	19 05 00.9	0.0
SCRK					Sg	19 05 12.8	+0.5

SCRK	Sand Creek	0.88	48	P		19 05 01.0	
	baz=230,SNR=759						
SCRK				S		19 05 12.5	
	baz=230						
MENT	Mentasta	0.92	120		Pg	19 05 01.1	-0.6
MENT					Sb	19 05 14.3	-0.3
MENT	Mentasta	0.92	120	IAML		19 05 18.2	
	comp=N,2μm,0.4s						
MENT				IAML		19 05 20.9	
	comp=E,2μm,0.4s						
HDA	Harding Lake	1.20	328		Pb	19 05 06.3	-0.8
HDA	Harding Lake	1.20	328	P		19 05 06.3	
	baz=146						
HDA				P		19 05 06.3	
	baz=146						
HDA				S		19 05 22.1	
	baz=146						
HDA				S		19 05 22.1	
	baz=146						
PS08	TAPS Pump Stn8	1.29	333		Pn	19 05 07.4	-1.0
PS11	TAPS Pump St11	1.33	180		Pn	19 05 08.4	-0.4
PS11					Sn	19 05 27.1	+0.3
M24K	Tolsona, Glenn	1.34	194		Pn	19 05 08.5	-0.6
M24K	Tolsona, Glenn	1.34	194	IAML		19 05 30.5	
	comp=N,1μm,0.6s						
M24K	Tolsona, Glenn	1.34	194	P		19 05 08.5	
	baz=14,SNR=73						
M24K				S		19 05 26.5	
	baz=14						
IL31		1.51	336		Pn	19 05 10.2	-1.0
ILAR	Eielson Array	1.51	336	Pn	Pn	19 05 09.6	-1.7
RND	Reindeer	1.52	272		Pn	19 05 11.7	+0.1
RND					Sb	19 05 31.8	-0.2
WRH	Wood River Hil	1.58	314		Pn	19 05 11.5	-0.8
WRH					Sn	19 05 32.8	-0.1
WRH	Wood River Hil	1.58	314	IAML		19 05 34.8	
	comp=N,683nm,0.3s						
WRH				IAML		19 05 34.9	
	comp=E,763nm,0.3s						
MCK	McKinley	1.58	284		Pn	19 05 12.9	+0.5
MCK	McKinley	1.58	284	Pb		19 05 12.8	
	baz=100,SNR=204						
MCK				Sb		19 05 34.3	
	baz=100						
CCB	Clear Creek Bu	1.62	322		Pn	19 05 11.4	-1.4
CCB	Clear Creek Bu	1.62	322	IAML		19 05 36.2	
	comp=E,742nm,0.4s						
CCB				IAML		19 05 37.0	
	comp=N,582nm,0.3s						
K27K	Chicken	1.64	66		Pn	19 05 12.7	-0.4
K27K	Chicken	1.64	66	IAML		19 05 41.3	
	comp=N,479nm,0.5s						
K27K	Chicken	1.64	66	P		19 05 12.8	
	baz=249,SNR=97						
K27K				S		19 05 35.4	
	baz=249						
BC03		1.70	100		Pn	19 05 13.9	-0.1
BCAR	Beaver Creek A	1.70	100		Pn	19 05 12.3	-1.7
SCM	Sheep Creek Mo	1.79	209		Pn	19 05 15.2	-0.1
SCM	Sheep Creek Mo	1.79	209	IAML		19 05 39.5	
	comp=E,708nm,0.8s						
COLA	College	1.81	326		Pn	19 05 14.2	-1.2
COLA	College	1.81	326	P		19 05 14.4	
	baz=144						
COLA				Sb		19 05 40.6	
	baz=144						
TCOL	CIGO, UAF Yank	1.81	326		Pn	19 05 14.6	-0.9
TCOL	CIGO, UAF Yank	1.81	326	P		19 05 14.5	
	baz=144						
TCOL				Sb		19 05 40.8	
	baz=144						
N25K	Chitina, Valde	1.85	167		Pn	19 05 16.3	+0.2
N25K	Chitina, Valde	1.85	167	Pb		19 05 16.2	
	baz=348,SNR=35						
N25K				S		19 05 39.6	
	baz=348						
POKR	Poker Plat Res	1.92	334		Pn	19 05 16.0	-1.0
POKR	Poker Plat Res	1.92	334	IAML		19 05 46.2	
	comp=E,562nm,0.4s						
POKR				IAML		19 05 46.6	
	comp=N,535nm,0.3s						
POKR	Poker Plat Res	1.92	334	P		19 05 16.1	
	baz=153,SNR=74						
POKR				Sb		19 05 44.1	
	baz=153						
KLU	Klutina	1.93	186		Pn	19 05 17.9	+0.7
KLU	Klutina	1.93	186	IAML		19 05 44.3	
	comp=N,610nm,0.6s						
KLU	Klutina	1.93	186	Pb		19 05 17.9	
	baz=6.0						
KLU				Sb		19 05 43.3	
	baz=6.0						
MDM	Murphy Dome	1.97	324		Pn	19 05 16.4	-1.4
MDM	Murphy Dome	1.97	324	IAML		19 05 47.4	
	comp=N,364nm,0.4s						
MDM				IAML		19 05 47.7	
	comp=E,443nm,0.7s						
NEA2	Nenana	1.98	309		Pn	19 05 16.9	-1.0
NEA2	Nenana	1.98	309	P		19 05 16.9	
	baz=125,SNR=52						
NEA2				S		19 05 43.6	
	baz=125						
SML	Sawmill	2.08	221		Pn	19 05 19.6	+0.4
SML	Sawmill	2.08	221	IAML		19 05 49.2	
	comp=E,443nm,0.8s						
SML	Sawmill	2.08	221	Pb		19 05 19.6	
	baz=38,SNR=47						
SML				S		19 05 45.3	
	baz=38						
PRP	Porcupine Dome	2.12	359		Pn	19 05 19.9	0.0
PRP	Porcupine Dome	2.12	359	IAML		19 05 51.7	
	comp=N,436nm,0.6s						
PRP	Porcupine Dome	2.12	359	P		19 05 19.9	
	baz=179						
PRP				Sb		19 05 50.0	
	baz=179						
TRF	Thorofare Moun	2.17	273		Pn	19 05 21.7	+1.2
TRF	Thorofare Moun	2.17	273	IAML		19 05 53.3	
	comp=E,448nm,0.5s						
TRF				IAML		19 05 54.9	
	comp=N,413nm,0.5s						
TRF	Thorofare Moun	2.17	273	Pb		19 05 22.1	
	baz=89,SNR=84						
TRF				Sb		19 05 50.8	
	baz=89						
PS07	TAPS Pump Stn7	2.27	329		Pn	19 05 22.8	+1.0
DIV	Divide	2.29	184		Pn	19 05 22.7	+0.6
GHO	Glory Hole Cre	2.29	226		Pn	19 05 23.3	+1.2
GHO				IAML		19 05 57.3	
	comp=E,254nm,0.7s						
GHO				IAML		19 06 02.1	
	comp=N,276nm,0.8s						
MCARA	McCarthy VSAT	2.33	150		Pn	19 05 24.3	+1.7
MCARA	McCarthy VSAT	2.33	150	Pb		19 05 25.0	
	baz=332,SNR=42						
MCARA				Sb		19 05 55.5	
	baz=332						
BVCY	Beaver Creek	2.33	113		Pn	19 05 22.8	+0.1
EGAK	Eagle	2.34	52		Pn	19 05 24.0	+1.2
EGAK	Eagle	2.34	52	Sb		19 05 57.4	
	baz=236						
CUT	Chulitna	2.41	248	Sb		19 05 57.5	
	baz=63						
I23K	Minto, Yukon-K	2.44	318		Pn	19 05 23.0	-1.1
I23K	Minto, Yukon-K	2.44	318	IAML		19 06 01.9	
	comp=E,289nm,0.7s						
I23K				IAML		19 06 02.1	
	comp=N,334nm,0.7s						
I23K	Minto, Yukon-K	2.44	318	P		19 05 23.0	
	baz=134,SNR=41						
I23K				Sb		19 05 59.5	
	baz=134						
KTH	Kantishna Hill	2.45	276		Pn	19 05 25.2	+0.9
KTH	Kantishna Hill	2.45	276	IAML		19 06 12.5	
	comp=N,192nm,0.9s						
BMRM	Bremner River	2.48	170		Pn	19 05 25.4	+0.7
BPAW	Bear Paw Mtn.	2.55	288		Pn	19 05 25.2	-0.5
BPAW	Bear Paw Mtn.	2.55	288	IAML		19 06 10.9	
	comp=N,174nm,0.7s						
BPAW	Bear Paw Mtn.	2.55	288	P		19 05 25.1	
	baz=103						
PTPK	Patty Peak	2.63	146		Pn	19 05 28.8	+1.9
GLI	Glacier Island	2.65	197		Pn	19 05 28.1	+1.2
GLI	Glacier Island	2.65	197	IAML		19 06 06.1	
	comp=E,188nm,0.6s						
GLI				IAML		19 06 09.2	
	comp=N,185nm,0.6s						
YUK2	White River	2.69	125		Pn	19 05 28.0	+0.3
FID	Port Fidalgo	2.71	191		Pn	19 05 29.8	+2.0
FID	Port Fidalgo	2.71	191	IAML		19 06 09.7	
	comp=E,212nm,0.5s						
FID				IAML		19 06 10.1	
	comp=N,180nm,0.8s						
DAWY	Dawson	2.79	73		Pn	19 05 28.9	0.0
MLY	Manley	2.82	308		Pn	19 05 28.8	-0.7
MLY	Manley	2.82	308	P		19 05 28.6	
	baz=123,SNR=11						
YUK3	Moose Creek	2.84	123		Pn	19 05 30.1	+0.4
EYAK	Cordova Ski Ar	2.87	183		Pn	19 05 31.8	+1.8
CRQM	Cirque	2.87	157		Pn	19 05 32.5	+2.2
CRQM				IAML		19 06 20.4	
	comp=N,132nm,1.2s						
PWL	Port Wells	2.89	209		Pn	19 05 32.2	+1.9
TGL	Tana Glacier	2.93	154		Pn	19 05 33.1	+2.1
TGL	Tana Glacier	2.93	154	IAML		19 06 18.8	
	comp=N,124nm,0.9s						
RAGM	Ragged Mountai	3.05	173		Pn	19 05 34.0	+1.5
RAGM				IAML		19 06 24.7	
	comp=E,225nm,0.6s						
HIN	Hinchinbrook I	3.06	190		Pn	19 05 34.0	+1.3
HIN	Hinchinbrook I	3.06	190	IAML		19 06 22.0	
	comp=E,220nm,0.8s						
RC01	Rabbit Creek A	3.06	223		Pn	19 05 35.2	+2.5
PPLA	Purkeypile	3.09	264		Pn	19 05 35.1	+1.9
CTG	Chitna Glacier	3.12	140	Sb		19 06 19.5	
	baz=324						
CTGM	Chitina Glacie	3.12	140		Pn	19 05 35.4	+1.8
HMT	Hamilton	3.13	169		Pn	19 05 36.0	+2.3
HMT				IAML		19 06 33.2	
	comp=N,169nm,0.5s						
SUA	Susitna One	3.13	234		Pn	19 05 35.9	+2.2
SUA	Susitna One	3.13	234	IAML		19 06 20.8	
	comp=E,193nm,0.9s						
SUA				IAML		19 06 25.7	
	comp=N,189nm,0.8s						
SUA	Susitna One	3.13	234	Sb		19 06 18.0	
	baz=49						
SKT	Skwentna	3.14	246		Pn	19 05 35.9	+2.2
SKT	Skwentna	3.14	246	IAML		19 06 22.2	
	comp=N,123nm,0.6s						
KHIT	Khitrov Hills	3.15	160		Pn	19 05 36.0	+2.1
FYU	Fort Yukon	3.18	2		Pn	19 05 34.7	+0.5
YAH	Yahtse	3.52	148		Pn	19 05 41.6	+2.4
O22K	Cooper Landing	3.55	216		Pn	19 05 39.1	-0.3
TABL	Table Mountain	3.61	144		Pn	19 05 43.0	+2.6
SLKM	Skilak Lake	3.67	220		Pn	19 05 43.7	+2.7
SEW	Seward	3.81	212		Pn	19 05 43.9	+0.9
CHX	Chaix Hills	3.94	146		Pn	19 05 46.2	+1.4
BM03	Burnt Mountain	4.05	5		Pn	19 05 46.5	+0.3
BMAR	Burnt Mountain	4.06	5		Pn	19 05 46.3	-0.1
PCA	Pinnacle	4.14	141		Pn	19 05 47.8	+0.2
COLD	Coldfoot	4.32	335		Pn	19 05 49.8	-0.1
COLD	Coldfoot	4.32	335	P		19 05 49.8	
	baz=150,SNR=16						
IM03		4.40	310		Pn	19 05 50.5	-0.4
IMAR	Indian Mountai	4.40	310		Pn	19 05 50.3	-0.7
BRSE	Bradley Lake S	4.45	217	P		19 05 52.1	
	baz=32						
NCT	North Crescent	4.53	234		Pn	19 05 55.6	+2.7
RSO	Redoubt South	4.53	233		Pn	19 05 54.8	+1.7
CNPM	China Poot	4.77	218	Pn	Pn	19 05 56.5	+0.3
CNPM				IAML		19 07 07.6	
	comp=N,48nm,2.7s						
CNPM				IAML		19 07 11.5	
	comp=E,55nm,2.4s						
HOM	Homer	4.78	221	P		19 05 56.6	
	baz=36						
TTA	Tatalina	4.80	269		Pn	19 05 57.7	+1.1
TTA	Tatalina	4.80	269	P		19 05 57.6	
	baz=80						
TT01	Tatalina	4.81	269		Pn	19 05 57.5	+0.9
IVE	Iliamna Volcan	4.94	230		Pn	19 06 00.6	+2.0
SVW2	Sparrevohn	5.26	248	Pn	Pn	19 06 04.3	+1.4
SVW2				IAML		19 07 34.6	
	comp=E,25nm,1.1s						
SVW2				IAML		19 07 43.2	
	comp=N,30nm,1.7s						
PS04	TAPS Pump Stn4	5.28	344		Pn	19 06 04.1	+0.8
TOLK	Toolik Lake Re	5.52	344		Pn	19 06 07.7	+1.3
TOLK	Toolik Lake Re	5.52	344	P		19 06 07.7	
	baz=160						
WHY	Whitehorse	5.69	114		Pn	19 06 09.2	+0.3
INK	Inuvik	6.94	40		Pn	19 06 26.4	+0.6
C36M	Paulatuk	10.40	46	P		19 07 12.8	
	baz=245						

*ANF **02** 19:07:53.3±0.4, 36.°21N×97.°66W, h5km, ML3.7/10, Error ellipse: s-maj=5.2km s-min=3.9km az=19.0*
*NEIC **02** 19:07:53.1±0.6, 36.°23N±0.°01×97.°67W±0.°03, h5km±2km, Error ellipse: s-maj=4.0km s-min=3.0km az=71.0*
*TUL **02** 19:07:53.1±1.0, 36.°22N±0.°01×97.°65W±0.°03, h3km±7km, ML3.0, mb_Lg3.1/91(NEIC), Error ellipse: s-maj=3.2km s-min=1.9km az=76.0*
ISC 02 19:07:53.0±0.9**, 36.°23N**±0.°03×**97.°63W**±0.°03**, h10**km**, n78,** σ**1§06**/44**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CROK	Carrier	0.40	314	Pg	Pg	19 08 00.9	0.0
OK029	Liberty Lake	0.45	162	Pg	Pb	19 08 02.3	-0.7
BCOK	Bluff Creek, N	0.57	178	Pg	Pg	19 08 04.3	+0.3
OK025	Westminster Rd	0.69	160	Pg	Pb	19 08 06.5	-0.5
OK025				IAmb_Lg		19 08 15.6	
	comp=Z,188nm,0.9s						
OK031	S. Brethren Rd	0.69	113	Pg	Pb	19 08 07.0	-0.1
OK031				Sg	Sb	19 08 17.1	+0.3
QUOK	Quay	0.75	94	Pg	Pb	19 08 08.0	-0.1
QUOK				Sg	Sb	19 08 18.3	0.0
KAN14	Manchester OK	0.78	340		Pg	19 08 07.9	-0.1
KAN13	South Haven SW	0.80	9		Pb	19 08 08.5	-0.4
OKCFA	Oklahoma City	0.82	170	Pg	Pb	19 08 09.0	-0.3
OKCFA				IAmb_Lg		19 08 20.6	
	comp=Z,134nm,0.9s						
OKCSW	OKLAHOMA CITY	0.83	169	Pg	Pb	19 08 09.2	-0.3
KAN05	Bluff City Nor	0.90	348		Pg	19 08 10.2	-0.2
KAN01	Argonia South	0.93	354		Pg	19 08 10.8	-0.1
KAN10	Anthony SW Sta	0.97	337		Pg	19 08 11.3	-0.4
FNO	Franklin	0.98	169	Pg	Pb	19 08 12.3	+0.1
FNO				IAmb_Lg		19 08 24.0	
	comp=Z,148nm,1.0s						
KAN08	Anthony NE Sta	1.04	345		Pg	19 08 12.7	-0.2
KAN12	Harper NE Stat	1.11	345		Pb	19 08 14.0	-0.3
U32A	Winter Ranch,	1.12	278	Pg	Pb	19 08 13.5	-0.9
U32A	Winter Ranch,	1.12	278	P	Pb	19 08 13.5	-0.9
	baz=98						
U32A	Winter Ranch,	1.12	278	P		19 08 13.5	
	baz=98						
T35A	Sooner Cattle	1.13	52		Pn	19 08 14.9	0.0
T35B	Sooner Cattle	1.13	52	P	Pn	19 08 14.9	0.0
	baz=234						
T35B	Sooner Cattle	1.13	52	P		19 08 14.9	
	baz=234						
TUL1	Leonard	1.52	101	Pn	Pg	19 08 21.0	-1.2
TUL1	Leonard	1.52	101	P	Pg	19 08 21.0	-1.2
	baz=282						
TUL1				S	Sg	19 08 42.4	+0.5
	baz=282						
TUL1	Leonard	1.52	101	P		19 08 21.0	
	baz=282						
TUL1				S		19 08 42.4	
	baz=282						
WMOK	Wichita Mounta	1.76	213		Pn	19 08 24.1	+0.5
WMOK	Wichita Mounta	1.76	213	P	Pn	19 08 24.0	+0.5
	baz=31						
WMOK	Wichita Mounta	1.76	213	P		19 08 24.0	
	baz=31						
R32A	Long Quarter,	2.36	339	Pn	Pn	19 08 32.9	+1.1
R32A	Long Quarter,	2.36	339	P	Pb	19 08 34.4	-1.1
	baz=159						
R32A	Long Quarter,	2.36	339	P		19 08 34.4	
	baz=159						
X37A	Clayton	2.46	131		Pb	19 08 35.1	-2.2
X37A				IAmb_Lg		19 09 17.2	
	comp=Z,43nm,0.8s						
X37A	Clayton	2.46	131	P	Pb	19 08 35.0	-2.3
	baz=312						
X37A	Clayton	2.46	131	P		19 08 35.0	
	baz=312						
KSU1	Kansas State U	2.98	15	Pn	Pn	19 08 41.7	+1.3
KSU1	Kansas State U	2.98	15	P	Pn	19 08 42.0	+1.6
	baz=197						
KSU1	Kansas State U	2.98	15	P		19 08 42.0	
	baz=197						
CBKS	Cedar Bluff	3.08	328	P		19 08 42.0	
	baz=147						
CBKS	Cedar Bluff	3.08	328	P	Pn	19 08 42.0	+0.3
	baz=147						
W39A	Magazine	3.29	107		Pn	19 08 46.6	+2.0
W39A				IAmb_Lg		19 09 41.3	
	comp=Z,64nm,0.9s						
AMTX	Amarillo	3.56	249	IAmb_Lg		19 09 51.7	
	comp=Z,38nm,0.8s						
Z38A	Mt. Pleasant	3.67	143	IAmb_Lg		19 09 59.3	
	comp=Z,59nm,0.8s						
MIAR	Mount Ida	3.71	116		Pn	19 08 52.2	+1.9
MIAR				IAmb_Lg		19 09 57.7	
	comp=Z,38nm,0.9s						
MIAR	Mount Ida	3.71	116	P	Pn	19 08 52.3	+1.9
	baz=298						
MIAR	Mount Ida	3.71	116	P		19 08 52.3	
	baz=298						
S39A	Bolivar	3.75	66	IAmb_Lg		19 09 57.9	
	comp=Z,41nm,0.8s						
U40A	Yellville	3.86	87		Pn	19 08 55.3	+2.8
U40A				IAmb_Lg		19 09 58.2	
	comp=Z,55nm,0.7s						
WHTX	Lake Whitney,	4.23	178	Pn	Pn	19 08 58.3	+0.9
X40A	Basin Creek Fa	4.28	112	IAmb_Lg		19 10 18.3	
	comp=Z,29nm,0.8s						
MGMO	Mountain Grove	4.41	76	IAmb_Lg		19 10 17.1	
	comp=Z,43nm,0.8s						
WHAR	Wooly Hollow	4.44	101	IAmb_Lg		19 10 23.7	
	comp=Z,33nm,0.8s						
FCAR	Ozark Folk Cen	4.47	93	IAmb_Lg		19 10 16.3	
	comp=Z,28nm,0.9s						
237A	Washetta, Mont	4.47	160		Pn	19 09 00.8	-0.1
237A	Washetta, Mont	4.47	160	P	Pn	19 09 01.7	+0.8
	baz=340						
237A	Washetta, Mont	4.47	160	P		19 09 01.7	
	baz=340						
WLAR	White Oak Lake	4.49	123	IAmb_Lg		19 10 27.9	
	comp=Z,46nm,1.1s						
N33A	J Bar K, Exete	4.51	2	IAmb_Lg		19 10 22.6	
	comp=Z,43nm,0.8s						
P38A	Dawn	4.69	42	IAmb_Lg		19 10 30.2	
	comp=Z,29nm,0.9s						
R40A	Maddies Statio	4.75	63	IAmb_Lg		19 10 36.8	
	comp=Z,28nm,0.7s						
KSCO	Kaye Shedlock'	4.85	307	IAmb_Lg		19 10 37.6	
	comp=Z,34nm,0.8s						
LCAR	Lake Charles	5.24	90	Pn	Pn	19 09 11.9	+0.5
T42A	Van Buren	5.32	79	IAmb_Lg		19 10 48.9	
	comp=Z,42nm,1.0s						
CCM	Cathedral Cave	5.42	68	Pn	Pn	19 09 14.4	+0.6
CCM				IAmb_Lg		19 10 53.5	
	comp=Z,24nm,0.7s						
435B	Jarrell	5.43	180	IAmb_Lg		19 10 57.4	
	comp=Z,23nm,0.8s						
P40A	Paris	5.51	52	IAmb_Lg		19 10 54.0	
	comp=Z,39nm,0.9s						
PBMO	Poplar Bluff	5.83	82	IAmb_Lg		19 11 00.1	
	comp=Z,36nm,0.8s						
OGNE	Ogallala	5.84	325	IAmb_Lg		19 11 10.6	
	comp=Z,34nm,0.7s						
JCT	Junction City	6.01	198	IAmb_Lg		19 11 10.7	
	comp=Z,34nm,0.8s						
FVM	French Village	6.02	71	IAmb_Lg		19 11 05.3	
	comp=Z,34nm,0.8s						
SLM	Saint Louis	6.36	66	IAmb_Lg		19 11 14.7	
	comp=Z,35nm,0.8s						
SCIA	State Center	6.63	30	IAmb_Lg		19 11 39.2	
	comp=Z,29nm,0.8s						
S44A	Carbondale	6.86	75	IAmb_Lg		19 11 38.6	
	comp=Z,26nm,0.8s						
N41A	Harden Midland	6.95	48	IAmb_Lg		19 11 44.0	
	comp=Z,31nm,0.9s						
W45A	Hickory Valley	6.95	96	IAmb_Lg		19 11 49.4	
	comp=Z,24nm,0.8s						
Y45A	Yeager Farm, C	7.04	107	IAmb_Lg		19 11 55.6	
	comp=Z,21nm,1.0s						
VBMS	Vicksburg	7.12	122	IAmb_Lg		19 11 49.6	
	comp=Z,18nm,0.8s						
ECSD	EROS Data Cent	7.54	6	Pn	Pn	19 09 43.1	+0.1
ECSD				IAmb_Lg		19 12 04.4	
	comp=Z,13nm,1.1s						
L40A	Anamosa	7.66	39	IAmb_Lg		19 12 02.4	
	comp=Z,17nm,0.9s						
PHWY	Pilot Hill	7.94	312	IAmb_Lg		19 12 13.8	
	comp=Z,12nm,0.9s						
L42A	Oliver, Polo	8.46	45	IAmb_Lg		19 12 41.9	
	comp=Z,10nm,0.8s						
V48A	Smith Brothers	8.77	90	IAmb_Lg		19 12 31.6	
	comp=Z,15nm,1.2s						
PV01	Paradox Valley	8.94	286	IAmb_Lg		19 12 58.0	
	comp=Z,10nm,1.3s						
PV16	Nyswonger Mesa	9.24	286	IAmb_Lg		19 12 43.4	
	comp=Z,20nm,1.2s						
SFIN	Lafayette	9.26	60	IAmb_Lg		19 12 52.3	
	comp=Z,11nm,0.8s						
WCI	Wyandotte Cave	9.26	74	IAmb_Lg		19 12 55.3	
	comp=Z,16nm,0.9s						
PV05	Paradox Valley	9.34	285	IAmb_Lg		19 13 05.5	
	comp=Z,20nm,1.2s						
K22A	Casper	9.40	316	IAmb_Lg		19 13 13.2	
	comp=Z,20nm,1.1s						
K43A	Burlington	9.67	45	IAmb_Lg		19 13 06.8	
	comp=Z,18nm,1.0s						

*AZER **02** 19:09:34.4±0.5, 38.°41N×46.°52E, h10km±2km, ml3.9/31, Error ellipse: s-maj=9.0km s-min=4.7km az=13.0*
*THR **02** 19:09:34.8±0.4, 38.°60N×46.°65E, h14km±3km, ML3.1*
*NSSP **02** 19:09:35.1, 38.°50N×46.°53E, h10km, Ms3.5*
*TEH **02** 19:09:35.4, 38.°43N×46.°51E, h5km, ML3.5*
*IDC **02** 19:09:35.7±2.2, 38.°46N×46.°46E, h0km, mb3.2/5, mb1 3.5/8, mb1mx3.3/44, mbtmp3.4/8, ML3.7/2, Error ellipse: s-maj=34.9km s-min=12.7km az=26.0*
ISC 02 19:09:35.3±1.0**, 38.°47N**±0.°02×**46.°52E**±0.°02**, h10**km±7km**, n84,** σ**1§79**/133**, mb3.1**/5**, 2C, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITBZ	Tabriz	0.38	231	ePg	Pg	19 09 41.8	-1.0
ITBZ				eSg	Sg	19 09 46.9	-0.9
IHRS	Heris	0.44	110	ePg	Pb	19 09 44.0	-1.3
IHRS				eSg	Sg	19 09 49.7	0.0
TABZ	Tabriz	0.44	200	ePg	Pb	19 09 44.2	-1.1
ORD	Ordubad	0.62	318	P	Pb	19 09 47.8	-0.5
ORD				S	Sb	19 09 56.7	-0.3
ORD	Ordubad	0.62	318	ePg	Pb	19 09 47.7	-0.5
IMRD	Marand	0.69	291	ePg	Pg	19 09 48.5	-0.1
NAX	Nakhchivan	1.07	312	P	Pn	19 09 56.2	-0.2
NAX				S	Sn	19 10 12.4	+1.0
NAX	Nakhchivan	1.07	312	ePg	Pn	19 09 56.2	-0.2
ISRB	Sarab	1.11	125	ePg	Pg	19 09 55.8	-0.9
QRD	Qoradiz	1.17	32	P	Pn	19 09 58.1	+0.2
	SNR=103						
QRD				S	Sn	19 10 16.4	+2.5
QRD	Qoradiz	1.17	32	ePg	Pn	19 09 58.0	+0.2
SBZ	Shahbuz	1.20	321	P	Pb	19 09 58.1	-0.1
	SNR=102						
SBZ				S	Sn	19 10 18.5	+3.9
SBZ	Shahbuz	1.20	321	ePg	Pb	19 09 58.1	-0.1
IHSH	Hashtrud	1.30	153	ePg	Pn	19 09 59.8	-0.1
YRD	Yardimli	1.42	71	P	Pg	19 10 01.9	-0.7
YRD				S	Sn	19 10 22.2	+1.9
YRD	Yardimli	1.42	71	ePg	Pg	19 10 01.9	-0.7
LRK	Lerik	1.44	82	P	Pg	19 10 02.2	-0.7
LRK				S	Sn	19 10 24.4	+3.7
LRK	Lerik	1.44	82	ePg	Pg	19 10 02.2	-0.7
BLQ	Beylaqan	1.49	33	P	Pg	19 10 03.6	-0.4
BLQ				S	Sg	19 10 27.5	+4.2
BLQ	Beylaqan	1.49	33	ePn	Pg	19 10 03.5	-0.4
GLBA	Clilabad	1.65	62	P	Pg	19 10 06.5	-0.5
	SNR=75						
GLBA				S	Sg	19 10 31.5	+3.0
GLBA	Clilabad	1.65	62	ePn	Pg	19 10 06.5	-0.5
MAKU	Maku	1.68	302	ePg	Pb	19 10 06.2	-0.3
MAKU				eSg	Sg	19 10 28.8	-0.7
MAKU				IAML		19 10 37.2	
	comp=N,212nm,0.4s						
MAKU	Maku	1.68	302	ePg	Pb	19 10 06.2	-0.3
AGDM	Agdam	1.70	15	P	Pg	19 10 07.2	-0.8

	SNR=69						
AGDM				S	Sg	19 10 31.4	+1.4
ASTR	Astara	1.78	86	P	Pg	19 10 09.0	-0.6
ASTR				S	Sg	19 10 33.6	+1.0
ASTR	Astara	1.78	86	ePn	Pg	19 10 08.9	-0.6
LKRN	Lenkeran, Azer	1.79	82	P	Pg	19 10 08.4	-1.2
	SNR=77						
LKRN				S	Sg	19 10 33.7	+1.0
LKRN	Lenkeran, Azer	1.79	82	ePn	Pg	19 10 08.4	-1.2
HYR	Heyderabad	1.80	314	P	Pb	19 10 08.6	+0.1
	SNR=46						
HYR				S	Sg	19 10 34.5	+1.2
HYR	Heyderabad	1.80	314	ePn	Pb	19 10 08.5	+0.1
MAHB	Mahabad	1.82	201	e		19 10 36.8	
	comp=Z,99nm,0.4s						
MAHB				ePg	Pb	19 10 08.1	-0.7
BRDA	Brd	1.86	16	P	Pg	19 10 10.4	-0.6
	SNR=14						
BRDA				S	Sg	19 10 37.9	+2.6
ZRD	Zardab	2.02	26	P	Pg	19 10 13.3	-0.8
ZRD				S	Sg	19 10 42.8	+2.5
ZRD	Zardab	2.02	26	ePn	Pg	19 10 13.2	-0.8
SAAT	Saatly	2.03	46	S	Sg	19 10 40.0	-0.6
NRKZ	NAREK	2.10	317	iP	Pb	19 10 13.6	0.0
NRKZ				iS	Sg	19 10 42.7	-0.3
GNI	Garni	2.17	321	Pn	Pb	19 10 15.2	+0.4
	comp=Z,19nm,0.3s,baz=145,slow=2.7,SNR=163						
GNI				Sn	Sg	19 10 45.2	0.0
	comp=Z,11nm,0.3s,baz=97,slow=3.0,SNR=3.8						
GNI	Garni	2.17	321	iP	Pb	19 10 15.2	+0.4
GNI				iS	Sg	19 10 45.2	0.0
GANJ	Ganja	2.18	356	P	Pb	19 10 14.9	0.0
	SNR=49						
GANJ				S	Sb	19 10 43.8	+1.8
GANJ	Ganja	2.18	356	ePn	Pb	19 10 14.9	0.0
KDMR	Kurdemir	2.30	34	P	Pb	19 10 16.8	-0.1
	SNR=7.5						
KDMR				S	Sg	19 10 48.4	-0.8
GDB	GEDABAY	2.33	346	P	Pb	19 10 18.1	+0.6
GDB				S	Sg	19 10 49.2	-0.9
GDB	GEDABAY	2.33	346	ePn	Pb	19 10 18.1	+0.6
KAPZ	Kaputan	2.33	323	iP	Pb	19 10 18.1	+0.6
KAPZ				iS	Sg	19 10 50.5	+0.4
MNGR	Mingechevir, A	2.34	11	S	Sg	19 10 50.0	-0.6
ALIB	Äli-Bayra	2.44	52	P	Pb	19 10 19.4	+0.1
ALIB				S	Sb	19 10 49.7	+0.3
ALIB	Äli-Bayra	2.44	52	ePn	Pb	19 10 19.3	+0.1
ZNJK	Zanjan	2.49	136	ePn	Pn	19 10 17.4	+1.3
ZNJK				eSg	Sg	19 10 53.8	-1.5
ZNJK				IAML		19 11 02.9	
	comp=E,79nm,0.5s						
ZNJK	Zanjan	2.49	136	ePn	Pn	19 10 17.4	+1.3
IML	Ismayilli	2.65	28	P	Pb	19 10 21.2	-1.8
IML				S	Sb	19 10 57.2	+1.5
IML	Ismayilli	2.65	28	ePn	Pb	19 10 21.2	-1.8
VNNZ	Vanand	2.65	309	iP	Pg	19 10 24.8	-1.4
VNNZ				iS	Sg	19 11 03.1	+2.5
QBL	Gabala	2.67	22	P	Pb	19 10 21.9	-1.5
QBL				S	Sg	19 10 59.3	-1.9
QZX	Qazax, Azerbai	2.73	341	P	Pb	19 10 24.9	+0.6
QZX				S	Sg	19 11 01.6	-1.6
GBS	Qobustan	2.79	41	P	Pb	19 10 24.6	-0.7
GBS				S	Sg	19 11 03.5	-1.4
PQL	Pirkuli	2.82	34	P	Pb	19 10 24.7	-1.2
PQL				S	Sb	19 11 03.0	+2.5
XNQ	Khinaliq	2.98	24	P	Pn	19 10 25.5	+2.7
	SNR=22						
XNQ				S	Sb	19 11 04.8	-0.2
STE	Stepanavan	3.02	327	iP	Pg	19 10 31.1	-2.2
STE				S	Sg	19 11 12.2	-0.2
ATGJ	Altiaghaj	3.03	37	P	Pb	19 10 28.7	-0.7
	SNR=14						
ATGJ				S	Sb	19 11 07.7	+1.1
ZKTA	Zakatala	3.17	1	P	Pb	19 10 29.6	-2.1
ZKTA				S	Sb	19 11 12.8	+2.4
SIZA	Siyzn	3.19	34	P	Pb	19 10 29.5	-2.6
SIZA				S	Sb	19 11 12.8	+1.9
QUBA	Quba, Azerbaij	3.26	27	P	Pb	19 10 30.5	-2.7
QUBA				S	Sb	19 11 13.2	+0.1
QSAR	Qusar	3.33	23	P	Pb	19 10 31.8	-2.6
	SNR=12						
QSAR				S	Sb	19 11 13.6	-1.4
SNGE	Sanandaj	3.43	169	ePn	Pn	19 10 31.8	+2.7
SNGE				IAML		19 11 33.8	
	comp=E,33nm,0.6s						
SNGE	Sanandaj	3.43	169	ePn	Pn	19 10 31.8	+2.7
IGZV	Ghazvin	3.60	124	ePn	Pn	19 10 34.1	+2.6
IGZV				e		19 11 36.2	
	comp=Z,99nm,0.7s						
QABG	Abgarm-Qazvin	3.69	137	ePn	Pn	19 10 33.1	+0.5
QALM	Alamut, Qazvin	3.86	120	ePn	Pn	19 10 37.1	+2.1
QALM				e		19 11 45.0	
	comp=Z,99nm,1.1s						
IRAZ	Razeghan	4.10	137	ePn	Pn	19 10 40.3	+2.0
IRAZ				e		19 11 52.4	
	comp=Z,99nm,0.8s						
HSAM	Samen	4.57	158	ePn	Pn	19 10 47.9	+3.1
HSAM				e		19 11 00.5	
	comp=Z,99nm,0.7s						
ASAO	Ashtian	4.82	143	ePn	Pn	19 10 50.1	+1.8
ASAO	Ashtian	4.82	143	ePn	Pn	19 10 50.1	+1.8
KBZ	Khabaz	5.92	334	Pg	Pb	19 11 23.0	+4.3
	comp=Z,0.1nm,0.3s,baz=156,slow=10,SNR=7.3						
KBZ				Lg	Lg	19 12 41.6	
	comp=Z,0.1nm,0.3s,baz=354,slow=19,SNR=2.5						
GEYT	Alibeck	9.15	90	Pn	Pn	19 11 48.5	+1.1
	comp=Z,0.5nm,0.3s,baz=299,slow=15,SNR=6.4						
AB31	Akbulak array	14.47	38	P	Pn	19 12 58.8	-1.3
	comp=Z,1.1nm,0.6s,baz=217,slow=13,SNR=24						
AB31				S	Sn	19 15 34.2	-6.3
	comp=Z,1.0nm,0.7s,baz=222,slow=22,SNR=5.2						
AKTO	Aktyubinsk	14.49	31	Pn	Pn	19 12 58.8	-1.5
	comp=Z,0.4nm,0.3s,baz=215,slow=14,SNR=8.5						
AKTO	Aktyubinsk	14.49	31	⇑P	Pn	19 12 58.3	-2.0
	comp=Z,4.0nm,1.1s						
AKTO				⇑S	Sn	19 15 33.3	-7.7
	comp=Z,2.6nm,0.9s						
MNK	Minsk	20.43	328	iP	P	19 14 11.8	-0.8
	comp=E,1.0nm,0.9s						
MNK				iP	P	19 14 11.8	-0.8
	comp=N,14nm,0.9s						
MNK				iP	P	19 14 11.8	-0.8
	comp=Z,2.0nm,0.9s						
MNK				iPP	PnPn	19 14 29.1	-0.6
MNK				iS	S	19 18 00.6	-0.7
MNK				iS	S	19 18 00.6	-0.7
MNK				iSS	SnSn	19 18 21.1	+1.7
MNK				iPcP	PcP	19 18 23.3	-1.2
MNK				iLQ	LQ	19 20 24.6	
MNK				iLR	LR	19 21 58.0	
MNK				iPcS	PcS	19 22 01.1	-0.8
MNK				iLRM	MLR	19 23 19.7	
	comp=E,49nm,17.4s						
MNK				iLRM	MLR	19 23 19.7	
	comp=Z,63nm,17.4s						
MNK				iLRM	MLR	19 23 30.0	
	comp=N,326nm,17.4s						
AAK	Ala-Archa	21.61	70	P	P	19 14 28.4	+2.8
	comp=N,0.3nm,0.5s,baz=265,slow=11,SNR=3.1						
BVAR	Borovoye Array	21.98	41	P	P	19 14 30.1	+0.9
	comp=N,0.5nm,0.6s,baz=188,slow=39,SNR=1.8						
KURBB	Kurchatov Arra	25.64	51	P	P	19 15 08.0	+3.1
	comp=N,0.3nm,0.5s,baz=259,slow=9.8,SNR=3.2						
GERES	GERESS Array B	25.73	304	P	P	19 15 06.5	+0.6
	comp=N,0.6nm,0.6s,baz=108,slow=8.8,SNR=3.7						
MKAR	Makanchi Array	27.41	61	P	P	19 15 25.1	+4.1
	comp=N,0.2nm,0.5s,baz=268,slow=7.2,SNR=3.1						

TUL ***02*** *20:06:30.9±0.8, 36.22N±0.02×97.65W±0.06, h4km±2km, ML3.2, mb_Lg3.1/94(NEIC), Error ellipse: s-maj=7.0km s-min=2.4km az=70.0*
ANF ***02*** *20:06:30.8±0.4, 36.22N×97.67W, h3km±3km, ML3.8/15, Error ellipse: s-maj=2.6km s-min=2.0km az=35.0*
CERI ***02*** *20:06:30.0, 36.22N×97.65W, h4km*
NEIC ***02*** *20:06:30.8±0.6, 36.23N±0.02×97.67W±0.06, h5km±8km, Error ellipse: s-maj=7.4km s-min=2.5km az=71.0*
ISC 02 20:06:30.6±1.3**, 36.23N**±0.02×**97.66W**±0.03**, h1**km±11km**, n90, σ0.46**/70**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.38	317	Pg	Pg	20 06 38.6	+0.6
OK029	Liberty Lake	0.46	159	Pg	Pg	20 06 39.9	+0.4
OK029				Sg	Sg	20 06 46.2	+0.7
BCOK	Bluff Creek, N	0.57	176	Pg	Pg	20 06 41.9	+0.3
BCOK				Sg	Sg	20 06 49.5	+0.5
OK025	Westminster Rd	0.70	158	Pg	Pg	20 06 44.3	+0.3
OK025				IAmb_Lg		20 06 53.3	
	comp=Z,227nm,0.9s						
OK031	S. Brethren Rd	0.72	112		Pg	20 06 44.7	+0.3
OK031				Sg	Sg	20 06 52.7	-1.0
KAN14	Manchester OK	0.77	341		Pg	20 06 45.6	+0.2
QUOK	Quay	0.77	94		Pg	20 06 45.7	+0.3
KAN13	South Haven SW	0.80	10		Pg	20 06 46.2	+0.3
OKCFA	Oklahoma City	0.83	168	Pg	Pg	20 06 46.6	+0.1
OKCFA				IAmb_Lg		20 06 56.4	
	comp=Z,164nm,1.0s						
OKCSW	OKLAHOMA CITY	0.84	168	Pg	Pg	20 06 46.9	+0.2
KAN05	Bluff City Nor	0.90	349		Pg	20 06 47.8	0.0
KAN01	Argonia South	0.93	355		Pg	20 06 48.5	+0.1
KAN10	Anthony SW Sta	0.96	339		Pg	20 06 48.9	-0.2
FNO	Franklin	0.99	168	Pg	Pg	20 06 49.9	+0.3
FNO				IAmb_Lg		20 07 01.7	
	comp=Z,177nm,1.0s						
KAN08	Anthony NE Sta	1.03	346		Pg	20 06 50.4	0.0
U32A	Winter Ranch,	1.09	278	Pg	Pg	20 06 51.3	-0.4
U32A	Winter Ranch,	1.09	278	P	Pg	20 06 51.3	-0.4
	baz=98						
U32A				S	Sb	20 07 06.9	-0.3
	baz=98						
U32A	Winter Ranch,	1.09	278	P		20 06 51.3	
	baz=98						
U32A				S		20 07 06.9	
	baz=98						
KAN12	Harper NE Stat	1.10	346		Pg	20 06 51.6	-0.2
T35A	Sooner Cattle	1.15	53		Pg	20 06 52.5	-0.3
T35B	Sooner Cattle	1.15	53	P	Pg	20 06 52.8	+0.1
	baz=233						
T35B	Sooner Cattle	1.15	53	P		20 06 52.8	
	baz=233						
TUL1	Leonard	1.54	101		Pn	20 06 58.7	-0.6
TUL1	Leonard	1.54	101	P	Pn	20 06 58.6	-0.6
	baz=282,SNR=86						
TUL1				S	Sb	20 07 19.9	-0.2
	baz=282						
TUL1	Leonard	1.54	101	P		20 06 58.6	
	baz=282,SNR=86						
TUL1				S		20 07 19.9	
	baz=282						
WMOK	Wichita Mounta	1.75	212	Pn	Pn	20 07 01.7	-0.4
WMOK	Wichita Mounta	1.75	212	P	Pn	20 07 01.9	-0.2
	baz=31,SNR=164						
WMOK	Wichita Mounta	1.75	212	P		20 07 01.9	
	baz=31,SNR=164						
R32A	Long Quarter,	2.35	339	Pn	Pn	20 07 11.1	+0.8
R32A	Long Quarter,	2.35	339	P	Pn	20 07 11.4	+1.0
	baz=159						
R32A				S	Sn	20 07 40.6	+0.8
	baz=159						
R32A	Long Quarter,	2.35	339	P		20 07 11.4	
	baz=159						
R32A				S		20 07 40.6	
	baz=159						
X37A	Clayton	2.48	131		Pn	20 07 12.7	+0.5
X37A				IAmb_Lg		20 07 52.7	
	comp=Z,84nm,1.1s						
X37A	Clayton	2.48	131	P	Pn	20 07 12.7	+0.5
	baz=312						
X37A	Clayton	2.48	131	P		20 07 12.7	
	baz=312						
U38A	Gravette	2.65	84		Pn	20 07 14.6	0.0
U38A	Gravette	2.65	84	P	Pn	20 07 15.2	+0.7
	baz=266,SNR=52						
U38A	Gravette	2.65	84	P		20 07 15.2	
	baz=266,SNR=52						
KSU1	Kansas State U	2.99	16	S	Sn	20 07 56.4	+0.8
	baz=196						
KSU1	Kansas State U	2.99	16	S		20 07 56.4	
	baz=196						
HHAR	Hobbs	3.01	88		Pn	20 07 19.6	+0.2
CBKS	Cedar Bluff	3.06	328		Pn	20 07 20.6	+0.3
CBKS	Cedar Bluff	3.06	328	P	Pn	20 07 20.5	+0.2
	baz=147						
CBKS	Cedar Bluff	3.06	328	P		20 07 20.5	
	baz=147						
W39A	Magazine	3.32	107		Pn	20 07 23.9	+0.2
AMTX	Amarillo	3.54	249	Pn	Pn	20 07 26.8	-0.1
AMTX				IAmb_Lg		20 08 29.4	
	comp=Z,52nm,0.7s						
Z38A	Mt. Pleasant	3.69	143	Pn	Pn	20 07 28.5	-0.3
Z38A				IAmb_Lg		20 08 36.7	
	comp=Z,69nm,0.7s						
MIAR	Mount Ida	3.73	116		Pn	20 07 29.4	+0.1
MIAR				IAmb_Lg		20 08 34.9	
	comp=Z,46nm,0.8s						
MIAR	Mount Ida	3.73	116	P	Pn	20 07 30.1	+0.8
	baz=298,SNR=18						
MIAR				S	Sn	20 08 14.6	+0.6
	baz=298						
MIAR	Mount Ida	3.73	116	P		20 07 30.1	
	baz=298,SNR=18						
MIAR				S		20 08 14.6	
	baz=298						
S39A	Bolivar	3.77	66		Pn	20 07 30.3	+0.5
S39A				IAmb_Lg		20 08 35.8	
	comp=Z,46nm,0.8s						
S39A	Bolivar	3.77	66	P	Pn	20 07 30.4	+0.5
	baz=248,SNR=14						
S39A	Bolivar	3.77	66	P		20 07 30.4	
	baz=248,SNR=14						
U40A	Yellville	3.88	87	Pn	Pn	20 07 31.0	-0.5
U40A				IAmb_Lg		20 08 36.5	
	comp=Z,41nm,0.8s						
ABTX	Abilene, Hawle	3.95	205	Pn	Pn	20 07 31.9	-0.5
ABTX				IAmb_Lg		20 08 38.5	
	comp=Z,31nm,1.0s						
WHTX	Lake Whitney,	4.23	178	Pn	Pn	20 07 35.8	-0.4
WHTX	Lake Whitney,	4.23	178	P	Pn	20 07 36.4	+0.2
	baz=358,SNR=12						
WHTX	Lake Whitney,	4.23	178	P		20 07 36.4	
	baz=358,SNR=12						
X40A	Basin Creek Fa	4.31	112	Pn	Pn	20 07 37.2	-0.1
X40A				IAmb_Lg		20 08 50.9	
	comp=Z,37nm,0.8s						
MGMO	Mountain Grove	4.43	76	IAmb_Lg		20 08 54.5	
	comp=Z,44nm,0.7s						
WHAR	Wooly Hollow	4.47	101	Pn	Pn	20 07 39.2	-0.3
WHAR				IAmb_Lg		20 09 01.4	
	comp=Z,53nm,0.8s						
237A	Washetta, Mont	4.49	159		Pn	20 07 39.3	-0.5
237A				IAmb_Lg		20 09 04.8	
	comp=Z,28nm,0.8s						
237A	Washetta, Mont	4.49	159	P	Pn	20 07 39.4	-0.3
	baz=341,SNR=6.3						
237A	Washetta, Mont	4.49	159	P		20 07 39.4	
	baz=341,SNR=6.3						
FCAR	Ozark Folk Cen	4.50	93	Pn	Pn	20 07 39.3	-0.6
FCAR				IAmb_Lg		20 08 54.0	
	comp=Z,33nm,0.9s						
N33A	J Bar K, Exete	4.51	2	Pn	Pn	20 07 39.2	-0.8
N33A				IAmb_Lg		20 09 05.2	
	comp=Z,60nm,0.8s						
WLAR	White Oak Lake	4.51	123		Pn	20 07 39.5	-0.6
WLAR				IAmb_Lg		20 08 58.9	
	comp=Z,36nm,0.7s						
W41B	Gary Mavity, V	4.53	102	P	Pn	20 07 40.2	0.0
	baz=285,SNR=5.3						
W41B	Gary Mavity, V	4.53	102	P		20 07 40.2	
	baz=285,SNR=5.3						
P38A	Dawn	4.71	43	IAmb_Lg		20 09 07.5	
	comp=Z,32nm,0.9s						
MSTX	Muleshoe	4.76	243	Pn	Pn	20 07 43.2	-0.4
R40A	Maddies Statio	4.77	63		Pn	20 07 43.6	0.0
R40A				IAmb_Lg		20 09 14.8	
	comp=Z,32nm,0.9s						
R40A	Maddies Statio	4.77	63	P	Pn	20 07 43.7	+0.2
	baz=246,SNR=7.8						
R40A	Maddies Statio	4.77	63	P		20 07 43.7	
	baz=246,SNR=7.8						
N35A	Tabor	4.89	18	Pn	Pn	20 07 45.2	-0.1
BGNE	Belgrade	5.19	356	Pn	Pn	20 07 49.2	-0.2
LCAR	Lake Charles	5.27	90	IAmb_Lg		20 09 31.1	
	comp=Z,23nm,0.8s						
T42A	Van Buren	5.34	79	IAmb_Lg		20 09 34.2	
	comp=Z,32nm,0.8s						
435B	Jarrell	5.43	179	IAmb_Lg		20 09 36.3	
	comp=Z,27nm,0.7s						
CCM	Cathedral Cave	5.44	68	IAmb_Lg		20 09 31.3	
	comp=Z,29nm,0.7s						
P40A	Paris	5.53	52	Pn	Pn	20 07 53.9	-0.1
P40A				IAmb_Lg		20 09 32.3	
	comp=Z,45nm,0.9s						
N38A	Joes South For	5.73	36	Pn	Pn	20 07 56.6	-0.2
N38A				IAmb_Lg		20 09 45.5	
	comp=Z,45nm,0.7s						
PBMO	Poplar Bluff	5.85	82	IAmb_Lg		20 09 42.5	
	comp=Z,43nm,0.8s						
143A	Socs Landing,	6.25	122	IAmb_Lg		20 09 58.4	
	comp=Z,18nm,0.7s						
SCIA	State Center	6.64	30	IAmb_Lg		20 10 15.2	
	comp=Z,35nm,0.7s						
S44A	Carbondale	6.88	75	IAmb_Lg		20 10 13.2	
	comp=Z,36nm,0.8s						
OXF	Oxford	6.95	102	IAmb_Lg		20 10 17.9	
	comp=Z,39nm,1.0s						
N41A	Harden Midland	6.96	48	IAmb_Lg		20 10 21.8	
	comp=Z,37nm,0.9s						
W45A	Hickory Valley	6.98	96	IAmb_Lg		20 10 23.8	
	comp=Z,29nm,0.8s						
Y45A	Yeager Farm, C	7.06	107	IAmb_Lg		20 10 35.2	
	comp=Z,24nm,0.9s						
P43A	Skaggs, Pawnee	7.28	60	IAmb_Lg		20 10 32.9	
	comp=Z,28nm,0.8s						
ECSD	EROS Data Cent	7.54	6	Pn	Pn	20 08 21.0	-0.7
ECSD	EROS Data Cent	7.54	6	P	Pn	20 08 22.1	+0.4
	baz=186,SNR=11						
ECSD	EROS Data Cent	7.54	6	P		20 08 22.1	
	baz=186,SNR=11						
L40A	Anamosa	7.68	39	IAmb_Lg		20 10 45.2	
	comp=Z,22nm,0.8s						
I37A	Lemond, Waseca	8.43	21	IAmb_Lg		20 11 15.1	
	comp=Z,19nm,1.0s						
Z47A	Carrollton	8.45	108	IAmb_Lg		20 11 17.0	
	comp=Z,17nm,0.9s						
L42A	Oliver, Polo	8.47	45	IAmb_Lg		20 11 19.3	
	comp=Z,16nm,0.8s						
JFWS	Jewell Farm	8.79	38	IAmb_Lg		20 11 12.4	
	comp=Z,14nm,0.7s						
M44A	Midewin, Midew	9.10	53	IAmb_Lg		20 11 23.1	
	comp=Z,21nm,1.1s						
121A	Cookes Peak, D	9.14	249	IAmb_Lg		20 11 37.4	
	comp=Z,20nm,1.3s						
CLTN	Cedars of Leba	9.16	88	IAmb_Lg		20 11 21.3	
	comp=Z,12nm,1.1s						
RWWY	Rawlins	9.22	309	IAmb_Lg		20 11 40.6	
	comp=Z,17nm,1.2s						
PV17	East Wray Mesa	9.24	286	IAmb_Lg		20 11 42.7	
	comp=Z,19nm,0.7s						
SFIN	Lafayette	9.28	60	IAmb_Lg		20 11 40.8	
	comp=Z,13nm,0.7s						
WCI	Wyandotte Cave	9.28	74	IAmb_Lg		20 11 26.0	
	comp=Z,16nm,0.8s						
N53A	Lisbon	13.94	66	P	Pn	20 09 48.8	-0.4
	baz=256,SNR=5.6						
N53A	Lisbon	13.94	66	P		20 09 48.8	
	baz=256,SNR=5.6						
N53A				P		20 09 48.8	
	baz=256,SNR=5.6						

KRSZO ***02*** *20:12:05.5±0.7, 44.08N×19.87E, h7km±4km, ML3.7/31, Error ellipse: s-maj=2.1km s-min=1.8km az=145.0*
PDG ***02*** *20:12:05.7±0.4, 44.12N×19.88E, h9km, MD4.2/1, ML3.3/11, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
RHSSO ***02*** *20:12:05.8±0.2, 44.08N×19.89E, h2km±1km, ML3.1/13*
IASPEI ***02*** *20:12:05.4±0.9, 44.09N±0.02×19.88E±0.02, h6km±6km, Error ellipse: s-maj=3.0km s-min=2.7km az=171.4, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
BEO ***02*** *20:12:06.5±0.2, 44.06N×19.91E, h4km±1km, ML3.1/14*
PRU ***02*** *20:12:06.3±0.0, 44.22N×20.09E, h0km*
ISC 02 20:12:05.6±0.8**, 44.10N**±0.01×**19.88E**±0.01**, h5**km±6km**, n192, σ1.34**/326**, 25C-26D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	Divibare	0.08	94	ePg	Pg	20 12 07.9	+0.4
DIVS				eSg	Sg	20 12 09.4	+0.6
DIVS	Divibare	0.08	94	ePg	Pg	20 12 06.8	-0.7
DIVS				eSg	Sg	20 12 08.8	0.0
DIVS	Divibare	0.08	94	Pb	Pg	20 12 06.8	-0.7
DIVS				Pg	Pg	20 12 07.3	-0.2
	comp=Z,70nm,SNR=1000						
DIVS				Pg	Pg	20 12 07.9	+0.4
DIVS				Sg	Sg	20 12 08.8	0.0
DIVS				Lg	Lg	20 12 09.2	
DIVS				Sb	Sg	20 12 09.4	+0.6
TRUS	Trudelj	0.40	72	ePg	Pb	20 12 14.3	-0.8
TRUS				eSg	Sg	20 12 20.0	+1.5
TRUS	Trudelj	0.40	72	Pg	Pb	20 12 14.3	-0.8
TRUS				Lg	Lg	20 12 20.0	
BBLS	Lazići	0.42	235	ePg	Pg	20 12 14.1	+0.5
BBLS				eSg	Sg	20 12 20.1	+1.0
BBLS	Lazići	0.42	235	⇓iPg	Pg	20 12 12.2	-1.4
BBLS				eSg	Sg	20 12 18.9	-0.2
BBLS	Lazići	0.42	235	Pb	Pg	20 12 12.2	-1.4
BBLS				Pg	Pg	20 12 14.1	+0.5
	comp=Z,38nm,SNR=146						
BBLS				Sg	Sg	20 12 18.9	-0.2
BBLS				Lg	Lg	20 12 19.8	
BBLS				Sb	Sg	20 12 20.1	+1.0
TEKS	Tekeris	0.51	331	ePg	Pb	20 12 17.0	0.0
TEKS				eSg	Sb	20 12 24.3	-0.5
TEKS	Tekeris	0.51	331	ePg	Pg	20 12 15.2	-0.2
TEKS				eSg	Sg	20 12 23.2	+1.1
TEKS	Tekeris	0.51	331	Pg	Pg	20 12 15.2	-0.2
TEKS				Pb	Pb	20 12 17.0	0.0
TEKS				Lg	Lg	20 12 23.2	
TEKS				Sg	Sb	20 12 24.3	-0.5
IVAS	Ivanjica	0.56	159	ePg	Pg	20 12 16.3	-0.1
IVAS				eSg	Sg	20 12 23.1	-0.6
IVAS	Ivanjica	0.56	159	Pg	Pg	20 12 16.3	-0.1
IVAS				Lg	Lg	20 12 23.1	
RUDO	Rudo	0.61	217	⇑iPg	Pg	20 12 16.7	-0.6
RUDO				eSg	Sg	20 12 24.9	-0.3
RUDO	Rudo	0.61	217	Pg	Pg	20 12 16.7	-0.6
RUDO				Lg	Lg	20 12 24.9	
GRUS	Gruza	0.64	109	ePg	Pg	20 12 18.2	+0.3
GRUS				eSg	Sb	20 12 27.6	-0.9
GRUS	Gruza	0.64	109	Pg	Pg	20 12 18.2	+0.3
GRUS				Lg	Lg	20 12 27.6	
HAPS	Han Pijesak,BI	0.67	269	ePg	Pg	20 12 18.0	-0.4
HAPS				eSg	Sg	20 12 27.1	0.0
HAPS	Han Pijesak,BI	0.67	269	ePg	Pg	20 12 18.0	-0.4
HAPS				eSg	Sg	20 12 27.6	+0.5
HAPS	Han Pijesak,BI	0.67	269	Pg	Pg	20 12 18.0	-0.4
HAPS				Lg	Lg	20 12 27.1	
HAPS				Sg	Sg	20 12 27.6	+0.5
BEO	Beograd	0.82	31	ePg	Pg	20 12 21.7	+0.3
BEO				eSg	Sb	20 12 34.5	+0.8
BEO	Beograd	0.82	31	Pg	Pg	20 12 21.7	+0.3
BEO				Pb	Pb	20 12 21.9	-0.4
	comp=Z,5.0nm,SNR=41						
BEO				Sg	Sb	20 12 33.6	-0.1
BEO				Lg	Lg	20 12 34.5	
PLE	Pljevlja	0.85	205	⇑iPg	Pg	20 12 20.5	-1.4
PLE				iSg	Sb	20 12 35.4	+0.8
SVIS	Svilajnac	0.98	80	ePg	Pb	20 12 24.7	-0.2
SVIS				eSg	Sb	20 12 37.7	-0.4
SVIS	Svilajnac	0.98	80	Pg	Pb	20 12 24.7	-0.2
SVIS				Lg	Lg	20 12 37.7	
FRGS	Fruska Gora	1.05	357	ePg	Pn	20 12 27.1	+0.1
FRGS				eSg	Sn	20 12 41.7	-0.4
FRGS	Fruska Gora	1.05	357	⇓P	Pb	20 12 26.4	+0.1
FRGS				⇓S	Sn	20 12 41.8	-0.3
FRGS	Fruska Gora	1.05	357	ePg	Pg	20 12 25.3	-0.5
FRGS				eSg	Sb	20 12 40.5	+0.1
FRGS	Fruska Gora	1.05	357	Pg	Pg	20 12 25.3	-0.5
FRGS				Pb	Pb	20 12 26.4	+0.1
FRGS				Pg	Pn	20 12 27.1	+0.1
FRGS				Pn	Pn	20 12 27.5	+0.5
	comp=Z,4.3nm,SNR=128						
FRGS				Sg	Sb	20 12 40.5	+0.1
FRGS				Lg	Lg	20 12 40.7	
FRGS				Sb	Sn	20 12 41.7	-0.4
FRGS				Sn	Sn	20 12 41.8	-0.3

IVA	**Berane**	**1.23**	**179**	⇑iPg	**Pg**	**20 12 28.6**	**-0.6**
IVA				i Sg	**Sn**	**20 12 48.7**	**+2.2**
KOME	**Kolasin**	**1.28**	**192**	⇓iPg	**Pg**	**20 12 28.4**	**-1.7**
KOME				i Sg	**Sn**	**20 12 50.1**	**+2.4**
KUBS	**Kucevo**	**1.33**	**76**	ePg	**Pn**	**20 12 29.8**	**-1.0**
KUBS				eSg	**Sb**	**20 12 48.6**	**+0.3**
KUBS	**Kucevo**	**1.33**	**76**	Pn	**Pn**	**20 12 29.8**	**-1.0**
KUBS				Sn	**Sb**	**20 12 48.6**	**+0.3**
BOVS	**Bovan**	**1.40**	**109**	ePg	**Pn**	**20 12 31.9**	**+0.1**
BOVS				eSg	**Sb**	**20 12 50.2**	**-0.2**
BOVS	**Bovan**	**1.40**	**109**	⇑P	**Pn**	**20 12 31.4**	**-0.4**
BOVS				⇑S	**Sg**	**20 12 50.8**	**+0.1**
BOVS	**Bovan**	**1.40**	**109**	Pn	**Pn**	**20 12 31.4**	**-0.4**
BOVS				Pg	**Pn**	**20 12 31.9**	**+0.1**
BOVS				Lg	Lg	20 12 50.2	
BOVS				Sg	**Sg**	**20 12 50.8**	**+0.1**
NKY	**Niksic**	**1.44**	**207**	⇓iPg	**Pn**	**20 12 32.4**	**0.0**
NKY				i Sg	**Sn**	**20 12 55.3**	**+3.6**
MDVR	**Moldovita**	**1.48**	**62**	ePn	**Pn**	**20 12 32.7**	**-0.1**
MDVR	**Moldovita**	**1.48**	**62**	⇓P	**Pn**	**20 12 32.8**	**-0.1**
MDVR				⇓S	**Sg**	**20 12 54.6**	**+1.5**
MDVR	**Moldovita**	**1.48**	**62**	Pn	**Pn**	**20 12 32.7**	**-0.1**
MDVR				Pn	**Pn**	**20 12 32.8**	**-0.1**
MDVR				Lg	Lg	20 12 54.6	
NKME	**Niksic**	**1.50**	**207**	⇑iPg	**Pb**	**20 12 33.8**	**0.0**
NKME				i Sg	**Sg**	**20 12 56.6**	**+3.0**
PVY	**Plav**	**1.51**	**178**	⇑iPg	**Pn**	**20 12 33.8**	**+0.4**
PVY				i Sg	**Sg**	**20 12 56.9**	**+2.8**
BRY	**Bratogost**	**1.55**	**219**	ePn	**Pn**	**20 12 34.1**	**+0.2**
BRY				eSn	**Sg**	**20 12 55.1**	**-0.2**
BRY	**Bratogost**	**1.55**	**219**	⇓iPg	**Pb**	**20 12 34.5**	**-0.3**
BRY				i Sg	**Sg**	**20 12 57.8**	**+2.5**
BRY	**Bratogost**	**1.55**	**219**	Pn	**Pn**	**20 12 34.1**	**+0.2**
BRY				Sn	**Sg**	**20 12 55.1**	**-0.2**
BANR	**Banloc**	**1.56**	**35**	ePn	**Pn**	**20 12 34.2**	**+0.3**
BANR	**Banloc**	**1.56**	**35**	⇑P	**Pn**	**20 12 34.2**	**+0.3**
BANR				⇑S	**Sg**	**20 12 57.9**	**+2.2**
BANR	**Banloc**	**1.56**	**35**	Pg	**Pn**	**20 12 34.0**	**+0.1**
	comp=Z,1.1nm,SNR=14						
BANR				Pn	**Pn**	**20 12 34.2**	**+0.3**
BANR				Pn	**Pn**	**20 12 34.2**	**+0.3**
BANR				Sn	**Sb**	**20 12 55.3**	**+0.3**
BANR				Lg	Lg	20 12 57.9	
CEME	**Cevo**	**1.71**	**205**	⇑iPn	**Pn**	**20 12 36.0**	**0.0**
CEME				i Sn	**Sg**	**20 13 01.8**	**+1.4**
ZAGS	**Zajecar**	**1.73**	**99**	ePn	**Pn**	**20 12 35.7**	**-0.5**
ZAGS				eSn	**Sn**	**20 12 59.0**	**+0.4**
ZAGS	**Zajecar**	**1.73**	**99**	Pn	**Pn**	**20 12 35.7**	**-0.5**
ZAGS				Sn	**Sn**	**20 12 59.0**	**+0.4**
PDG	**Podgorica**	**1.73**	**195**	ePg	**Pb**	**20 12 37.2**	**-0.6**
PDG				eSg	**Sn**	**20 12 59.2**	**+0.5**
PDG	**Podgorica**	**1.73**	**195**	⇑P	**Pn**	**20 12 34.4**	**-1.9**
PDG	**Podgorica**	**1.73**	**195**	ePn	**Pn**	**20 12 36.7**	**+0.4**
PDG				eSn	**Sn**	**20 12 58.9**	**+0.2**
PDG	**Podgorica**	**1.73**	**195**	Pn	**Pn**	**20 12 34.4**	**-1.9**
PDG				Pg	**Pn**	**20 12 36.7**	**+0.4**
PDG				Pb	**Pb**	**20 12 37.2**	**-0.6**
PDG				Sn	**Sn**	**20 12 58.9**	**+0.2**
PDG				Lg	Lg	20 12 59.2	
TTG	**Podgorica**	**1.73**	**195**	⇑iPn	**Pb**	**20 12 37.2**	**-0.6**
TTG				i Sn	**Sg**	**20 13 02.1**	**+0.9**
TREB	**Trebinje**	**1.78**	**219**	ePn	**Pg**	**20 12 39.4**	**-0.2**
TREB				eSn	**Sg**	**20 13 02.5**	**-0.2**
TREB	**Trebinje**	**1.78**	**219**	ePn	**Pb**	**20 12 38.0**	**-0.6**
TREB				eSn	**Sn**	**20 13 00.4**	**+0.5**
TREB	**Trebinje**	**1.78**	**219**	Pn	**Pb**	**20 12 38.0**	**-0.6**
TREB				Pg	**Pg**	**20 12 39.4**	**-0.2**
TREB				Sn	**Sn**	**20 13 00.4**	**+0.5**
TREB				Lg	Lg	20 13 02.5	
BARS	**Barje**	**1.91**	**132**	ePn	**Pn**	**20 12 34.4**	**-4.4**
BARS				eSn	Sn	20 12 54.0	-9.2
BARS	**Barje**	**1.91**	**132**	Pn	**Pn**	**20 12 34.4**	**-4.4**
BARS				Sn	Sn	20 12 54.0	-9.2
DBRK	**Dubrovnik**	**1.91**	**222**	ePn	**Pn**	**20 12 39.5**	**+0.8**
DBRK				Sn	**Sg**	**20 13 06.2**	**-0.8**
DBRK	**Dubrovnik**	**1.91**	**222**	Pn	**Pn**	**20 12 39.5**	**+0.8**
DBRK				Sn	**Sg**	**20 13 06.2**	**-0.8**
HCY	**Herceg Novi**	**1.94**	**212**	ePn	**Pn**	**20 12 39.6**	**+0.4**
HCY				eSn	**Sn**	**20 13 04.2**	**+0.3**
HCY	**Herceg Novi**	**1.94**	**212**	⇓iPn	**Pb**	**20 12 40.9**	**-0.5**
HCY				i Sn	**Sg**	**20 13 07.3**	**-0.6**
HCY	**Herceg Novi**	**1.94**	**212**	Pn	**Pn**	**20 12 39.6**	**+0.4**
HCY				Sn	**Sn**	**20 13 04.2**	**+0.3**
BUM	**Brajici-Budva**	**1.94**	**202**	ePn	**Pb**	**20 12 40.6**	**-0.8**
BUM				i Sn	**Sg**	**20 13 07.5**	**-0.4**
BZS	**Buzias**	**1.95**	**39**	ePn	**Pn**	**20 12 39.0**	**-0.4**
BZS				eSn	**Sb**	**20 13 05.8**	**-0.5**
BZS	**Buzias**	**1.95**	**39**	⇓P	**Pn**	**20 12 39.0**	**-0.4**
BZS				⇑S	**Sg**	**20 13 08.3**	**-0.1**
BZS	**Buzias**	**1.95**	**39**	Pn	**Pn**	**20 12 39.0**	**-0.4**
	comp=Z,0.8nm,SNR=35						
BZS				Sn	**Sb**	**20 13 05.8**	**-0.5**
BZS				Sn	**Sg**	**20 13 06.9**	**-1.4**
BZS				Lg	Lg	20 13 08.3	
HERR	**Herculane**	**1.98**	**66**	⇑P	**Pn**	**20 12 39.9**	**+0.2**
HERR				⇑S	**Sg**	**20 13 09.1**	**+0.1**
HERR	**Herculane**	**1.98**	**66**	Pn	**Pn**	**20 12 39.9**	**+0.2**
HERR				Lg	Lg	20 13 09.1	
DRME	**Dracevica, Mon**	**1.98**	**195**	ePn	**Pn**	**20 12 40.0**	**+0.3**
DRME				eSn	**Sn**	**20 13 04.8**	**-0.1**
DRME	**Dracevica, Mon**	**1.98**	**195**	⇓iPn	**Pb**	**20 12 41.3**	**-0.8**
DRME	**Dracevica, Mon**	**1.98**	**195**	Pn	**Pn**	**20 12 40.0**	**+0.3**
DRME				Sn	**Sn**	**20 13 04.8**	**-0.1**
STON	**Ston**	**2.01**	**233**	ePn	**Pn**	**20 12 40.0**	**0.0**
STON				Sn	**Sb**	**20 13 08.2**	**+0.4**
STON	**Ston**	**2.01**	**233**	Pn	**Pn**	**20 12 40.0**	**0.0**
STON				Sn	**Sb**	**20 13 08.2**	**+0.4**
MGRS	**Mrkonjic Grad**	**2.03**	**280**	ePn	**Pn**	**20 12 41.6**	**+1.2**
MGRS				eSn	**Sb**	**20 13 07.4**	**-1.1**
MGRS	**Mrkonjic Grad**	**2.03**	**280**	Pn	**Pn**	**20 12 41.6**	**+1.2**
MGRS				Sn	**Sb**	**20 13 07.4**	**-1.1**
BLY	**Banja Luka**	**2.03**	**289**	ePn	**Pb**	**20 12 42.6**	**-0.4**
BLY	**Banja Luka**	**2.03**	**289**	ePn	**Pn**	**20 12 41.5**	**+1.0**
BLY				eSn	**Sb**	**20 13 07.7**	**-0.9**
BLY	**Banja Luka**	**2.03**	**289**	Pn	**Pn**	**20 12 41.5**	**+1.0**
BLY				Pg	**Pb**	**20 12 42.6**	**-0.4**
BLY				Pb	**Pg**	**20 12 42.8**	**-1.8**
	comp=Z,0.6nm,SNR=10						
BLY				Sn	**Sb**	**20 13 07.7**	**-0.9**
BLY				Sg	**Sg**	**20 13 11.8**	**+0.9**
RICI	**Ricice**	**2.08**	**254**	ePn	**Pn**	**20 12 42.3**	**+1.2**
RICI	**Ricice**	**2.08**	**254**	Pn	**Pn**	**20 12 42.3**	**+1.2**
ULC	**Ulcinj**	**2.19**	**192**	⇑iPn	**Pn**	**20 12 43.9**	**+1.3**
ULC				i Sn	**Sb**	**20 13 13.2**	**+0.2**
PUNG	**Punghina**	**2.21**	**84**	⇓P	**Pn**	**20 12 43.7**	**+0.9**
PUNG				⇓S	**Sb**	**20 13 12.5**	**-0.9**
PUNG	**Punghina**	**2.21**	**84**	Pn	**Pn**	**20 12 43.7**	**+0.9**
PUNG				Sn	**Sb**	**20 13 12.5**	**-0.9**
MAKA	**Makarska**	**2.23**	**250**	ePn	**Pb**	**20 12 45.5**	**-0.8**
MAKA				Sn	**Sb**	**20 13 14.4**	**+0.4**
MAKA	**Makarska**	**2.23**	**250**	Pn	**Pb**	**20 12 45.5**	**-0.8**
MAKA				Sn	**Sb**	**20 13 14.4**	**+0.4**
PRVS	**Prvonek**	**2.26**	**134**	ePn	**Pn**	**20 12 43.6**	**0.0**
PRVS	**Prvonek**	**2.26**	**134**	Pn	**Pn**	**20 12 43.6**	**0.0**
MORH	**Mrgy, Hungar**	**2.28**	**338**	⇑P	**Pn**	**20 12 43.9**	**+0.1**
MORH	**Mrgy, Hungar**	**2.28**	**338**	ePn	**Pn**	**20 12 44.0**	**+0.1**
MORH	**Mrgy, Hungar**	**2.28**	**338**	Pn	**Pn**	**20 12 43.9**	**+0.1**
MORH				Pg	**Pn**	**20 12 44.0**	**+0.1**
MORH				Pb	Pg	20 12 44.3	-5.1
	comp=Z,0.3nm,SNR=10.0						
MORH				Sg	**Sg**	**20 13 18.8**	**-0.1**
AMBH	**Ambrzfalva**	**2.33**	**15**	⇓P	**Pn**	**20 12 45.2**	**+0.8**
AMBH	**Ambrzfalva**	**2.33**	**15**	Pn	**Pn**	**20 12 45.2**	**+0.8**
AMBH				Pg	**Pb**	**20 12 46.7**	**-1.3**
	comp=Z,0.8nm,SNR=8.5						
AMBH				Sn	**Sn**	**20 13 14.4**	**+1.1**
KOVH	**Kovagotottos**	**2.35**	**328**	Pn	**Pn**	**20 12 45.0**	**+0.2**
	comp=Z,0.5nm,SNR=10						
KOVH				Sn	**Sb**	**20 13 19.3**	**+1.6**
GZR	**Gura Zlata**	**2.44**	**57**	ePn	**Pn**	**20 12 46.0**	**0.0**
GZR	**Gura Zlata**	**2.44**	**57**	⇑P	**Pn**	**20 12 46.1**	**+0.1**
GZR				⇓S	**Sb**	**20 13 20.9**	**+0.7**
GZR	**Gura Zlata**	**2.44**	**57**	Pn	**Pn**	**20 12 46.0**	**0.0**
GZR				Pg	**Pn**	**20 12 46.1**	**+0.1**
	comp=Z,0.6nm,SNR=22						
GZR				Sn	**Sn**	**20 13 16.7**	**+0.4**
GZR				Lg	Lg	20 13 20.9	
SRE	**Strehaia**	**2.45**	**76**	⇑P	**Pn**	**20 12 47.5**	**+1.3**
SRE	**Strehaia**	**2.45**	**76**	Pn	**Pn**	**20 12 47.5**	**+1.3**
BOSS	**Bosilegrad**	**2.49**	**129**	ePn	**Pn**	**20 12 46.6**	**-0.1**
BOSS	**Bosilegrad**	**2.49**	**129**	Pn	**Pn**	**20 12 46.6**	**-0.1**
SIRR	**Siria**	**2.50**	**30**	⇑P	**Pn**	**20 12 46.7**	**-0.2**
SIRR	**Siria**	**2.50**	**30**	Pn	**Pn**	**20 12 46.7**	**-0.2**
	comp=Z,0.3nm,SNR=20						
SIRR				Sn	**Sn**	**20 13 17.6**	**-0.3**
KIJV	**Kijevo**	**2.50**	**269**	ePn	**Pn**	**20 12 48.4**	**+1.5**
KIJV	**Kijevo**	**2.50**	**269**	Pn	**Pn**	**20 12 48.4**	**+1.5**
LSTV	**Lastovo**	**2.55**	**239**	ePn	**Pn**	**20 12 49.1**	**+1.6**
LSTV				Sn	**Sn**	**20 13 19.0**	**+0.1**
LSTV	**Lastovo**	**2.55**	**239**	Pn	**Pn**	**20 12 49.1**	**+1.6**
LSTV				Sn	**Sn**	**20 13 19.0**	**+0.1**
HVAR	**Hvar**	**2.66**	**251**	ePn	**Pn**	**20 12 50.6**	**+1.7**
HVAR	**Hvar**	**2.66**	**251**	Pn	**Pn**	**20 12 50.6**	**+1.7**
TIR	**Tirane**	**2.75**	**180**	Sn	**Sn**	**20 13 25.7**	**+1.7**
DEV	**Deva**	**2.79**	**49**	⇓P	**Pn**	**20 12 52.1**	**+1.3**
DEV				⇓S	**Sb**	**20 13 28.0**	**-2.3**
DEV	**Deva**	**2.79**	**49**	Pn	**Pn**	**20 12 52.0**	**+1.1**
	comp=Z,0.5nm,SNR=12						
DEV				Pg	**Pn**	**20 12 52.1**	**+1.3**
DEV				Sn	**Sb**	**20 13 28.0**	**-2.3**
VTS	**Vitosha**	**2.86**	**120**	⇑P	**Pn**	**20 12 52.0**	**0.0**
VTS	**Vitosha**	**2.86**	**120**	Pn	**Pn**	**20 12 52.0**	**0.0**
	comp=Z,0.2nm,SNR=11						
VTS				Sn	**Sn**	**20 13 23.3**	**-3.6**
STIP	**Stip**	**2.95**	**144**	ePn	**Pn**	**20 12 52.3**	**-0.7**
UDBI	**Udbina**	**2.98**	**280**	ePn	**Pn**	**20 12 54.9**	**+1.3**
UDBI	**Udbina**	**2.98**	**280**	Pn	**Pn**	**20 12 54.9**	**+1.3**
MORI	**Morici**	**3.02**	**267**	i Pn	**Pn**	**20 12 55.9**	**+1.9**
MORI	**Morici**	**3.02**	**267**	Pn	**Pn**	**20 12 55.9**	**+1.9**
LOT	**Lotru**	**3.08**	**63**	⇑P	**Pn**	**20 12 56.4**	**+1.5**
LOT				⇑S	**Sn**	**20 13 34.2**	**+2.0**
LOT	**Lotru**	**3.08**	**63**	Pn	**Pn**	**20 12 56.2**	**+1.2**
	comp=Z,0.4nm,SNR=14						
LOT				Pg	**Pn**	**20 12 56.4**	**+1.5**
LOT				Sn	**Sn**	**20 13 34.2**	**+2.0**
TIH	**Tihany**	**3.12**	**334**	Pn	**Pn**	**20 12 56.0**	**+0.5**
	comp=Z,1.0nm,SNR=8.0						
KALN	**Kalnik**	**3.16**	**311**	ePn	**Pn**	**20 12 55.6**	**-0.4**
KALN	**Kalnik**	**3.16**	**311**	Pn	**Pn**	**20 12 55.6**	**-0.4**
BSZH	**Besenyszg**	**3.21**	**5**	⇓S	**Sn**	**20 13 37.2**	**+2.0**
BSZH	**Besenyszg**	**3.21**	**5**	Sn	**Sn**	**20 13 37.2**	**+2.0**
BEHE	**Becsehely**	**3.22**	**318**	ePn	**Pn**	**20 12 58.0**	**+1.2**
BEHE				eSn	**Sn**	**20 13 36.5**	**+0.9**
BEHE	**Becsehely**	**3.22**	**318**	Pn	**Pn**	**20 12 58.0**	**+1.2**
BEHE				Pg	**Pn**	**20 12 58.9**	**+2.1**
	comp=Z,0.8nm,SNR=8.4						
BEHE				Sn	**Sn**	**20 13 36.5**	**+0.9**
PTJ	**Puntijarka**	**3.31**	**304**	i Pn	**Pn**	**20 12 58.1**	**+0.1**
PTJ	**Puntijarka**	**3.31**	**304**	Pn	**Pn**	**20 12 58.1**	**+0.1**
DRGR		**3.35**	**36**	⇓P	**Pn**	**20 12 58.2**	**-0.4**
DRGR				⇓S	**Sb**	**20 13 42.9**	**-3.5**
DRGR		**3.35**	**36**	Pn	**Pn**	**20 12 58.2**	**-0.4**
	comp=Z,0.2nm,SNR=5.5						
DRGR				Sn	**Sb**	**20 13 42.9**	**-3.5**
CSKK	**Cskako**	**3.45**	**341**	Pn	**Pn**	**20 13 01.1**	**+1.1**
	comp=Z,0.2nm,SNR=10						
MPLH	**Magyarpolny**	**3.48**	**333**	Pn	**Pn**	**20 13 01.3**	**+1.0**
	comp=Z,0.3nm,SNR=9.0						
PLVB	**Pleven**	**3.51**	**100**	P	**Pn**	**20 13 01.4**	**+0.7**
PLVB	**Pleven**	**3.51**	**100**	Pn	**Pn**	**20 13 01.4**	**+0.7**
CRES	**Cresnjev**	**3.58**	**300**	ePn	**Pn**	**20 13 02.5**	**+0.8**
CRES				eSn	**Sn**	**20 13 44.2**	**-0.1**
CRES	**Cresnjev**	**3.58**	**300**	Pg	**Pn**	**20 13 02.5**	**+0.8**
CRES				Sn	**Sn**	**20 13 44.2**	**-0.1**
ARR	**Arges**	**3.62**	**68**	P	**Pn**	**20 13 04.0**	**+1.7**
ARR	**Arges**	**3.62**	**68**	Pn	**Pn**	**20 13 04.0**	**+1.7**
NVLJ	**Novalja**	**3.62**	**279**	ePn	**Pn**	**20 13 04.4**	**+2.2**
NVLJ	**Novalja**	**3.62**	**279**	Pn	**Pn**	**20 13 04.4**	**+2.2**
HUMR	**Humele**	**3.69**	**82**	⇑P	**Pn**	**20 13 02.8**	**-0.4**
HUMR	**Humele**	**3.69**	**82**	Pn	**Pn**	**20 13 02.8**	**-0.4**
CJR	**Cluj-Napoca**	**3.70**	**44**	Pn	**Pn**	**20 13 04.3**	**+1.0**
	comp=Z,0.5nm,SNR=9.2						
EGYH	**Egyhazaskeszo**	**3.76**	**333**	Pn	**Pn**	**20 13 01.3**	**-2.9**
MDB	**Medias**	**3.78**	**56**	⇓P	**Pn**	**20 13 06.0**	**+1.5**
MDB				⇓S	**Sn**	**20 13 53.1**	**+3.7**
MDB	**Medias**	**3.78**	**56**	Pn	**Pn**	**20 13 06.0**	**+1.5**
MDB				Sn	**Sn**	**20 13 53.1**	**+3.7**
PSZ	**Piszkesteto**	**3.81**	**0**	P	**Pn**	**20 13 05.1**	**+0.1**
PSZ	**Piszkesteto**	**3.81**	**0**	Pn	**Pn**	**20 13 05.1**	**+0.1**
	comp=Z,0.2nm,SNR=3.6						
VOIR		**3.92**	**68**	⇓P	**Pn**	**20 13 08.1**	**+1.7**
VOIR		**3.92**	**68**	Pn	**Pn**	**20 13 08.1**	**+1.7**
CEY	**Cerknica**	**4.20**	**295**	ePn	**Pn**	**20 13 11.2**	**+0.9**
CEY				eSn	**Sn**	**20 13 59.8**	**+0.1**
CEY	**Cerknica**	**4.20**	**295**	Pn	**Pn**	**20 13 11.2**	**+0.9**
CEY				Sn	**Sn**	**20 13 59.8**	**+0.1**
SOKA	**Soboth**	**4.27**	**309**	i Pn	**Pn**	**20 13 11.7**	**+0.4**
	comp=Z,1.7nm,0.2s,SNR=5.9						
SOKA	**Soboth**	**4.27**	**309**	Pn	**Pn**	**20 13 11.7**	**+0.4**
	comp=Z,1.7nm,0.2s,SNR=5.9						
ARCR	**ARCALIA**	**4.33**	**45**	Pn	**Pn**	**20 13 12.4**	**+0.3**
	comp=Z,0.1nm,SNR=2.9						
ARSA	**Arzberg**	**4.38**	**317**	i Pn	**Pn**	**20 13 13.4**	**+0.6**
	comp=Z,8.6nm,0.3s,SNR=12						
ARSA	**Arzberg**	**4.38**	**317**	Pn	**Pn**	**20 13 13.4**	**+0.6**
	comp=Z,0.1nm,SNR=3.3						
KECS	**Kecovo**	**4.40**	**5**	ePN	**Pn**	**20 13 13.9**	**+0.9**
KECS	**Kecovo**	**4.40**	**5**	Pn	**Pn**	**20 13 13.9**	**+0.9**
OBKA	**Obir**	**4.46**	**304**	i Pn	**Pn**	**20 13 14.7**	**+0.8**
	comp=Z,1.9nm,0.3s						
OBKA	**Obir**	**4.46**	**304**	Pg	**Pn**	**20 13 14.1**	**+0.2**
	comp=Z,0.1nm,SNR=1.8						
OBKA				Pn	Pb	20 13 14.7	-10
	comp=Z,1.9nm,0.3s						
ZST	**Bratislava**	**4.52**	**336**	eSN	**Sn**	**20 14 05.3**	**-2.3**
ZST	**Bratislava**	**4.52**	**336**	Sn	**Sn**	**20 14 05.3**	**-2.3**
MLR	**Muntele Rosu**	**4.54**	**70**	⇓P	**Pn**	**20 13 16.5**	**+1.5**
MLR	**Muntele Rosu**	**4.54**	**70**	Pg	**Pn**	**20 13 15.1**	**+0.2**
	comp=Z,0.1nm,SNR=3.1						
MLR				Pn	**Pn**	**20 13 16.5**	**+1.5**
MODS	**Modra-Piesok**	**4.64**	**338**	ePN	**Pn**	**20 13 16.2**	**0.0**
MODS				eSN	**Sn**	**20 14 05.9**	**-4.5**
MODS	**Modra-Piesok**	**4.64**	**338**	Pn	**Pn**	**20 13 16.2**	**0.0**
MODS				Sn	**Sn**	**20 14 05.9**	**-4.5**
SMOL	**Smolenice**	**4.73**	**340**	eSN	**Sn**	**20 14 09.7**	**-2.9**
SMOL	**Smolenice**	**4.73**	**340**	Sn	**Sn**	**20 14 09.7**	**-2.9**
CONA	**Conrad Observa**	**4.74**	**325**	i Pn	**Pn**	**20 13 18.1**	**+0.4**
	comp=Z,1.3nm,0.2s,SNR=7.3						
CONA	**Conrad Observa**	**4.74**	**325**	Pn	**Pn**	**20 13 18.1**	**+0.4**
	comp=Z,1.3nm,0.2s,SNR=7.3						
CRVS	**Cervenica-Dubn**	**4.92**	**12**	Pn	**Pn**	**20 13 20.7**	**+0.6**
	SNR=2.0						
KOLS	**Kolonicke sedl**	**5.11**	**18**	ePG	**Pg**	**20 13 47.5**	**+4.2**
KOLS				eSN	**Sn**	**20 14 15.9**	**-6.1**
KOLS	**Kolonicke sedl**	**5.11**	**18**	Pg	**Pg**	**20 13 47.5**	**+4.2**
KOLS				Sn	**Sn**	**20 14 15.9**	**-6.1**
PLOR	**Plostina**	**5.11**	**68**	⇓P	**Pn**	**20 13 23.5**	**+0.7**
PLOR	**Plostina**	**5.11**	**68**	Pn	**Pn**	**20 13 23.5**	**+0.7**
BURAR	**Bucovina Array**	**5.12**	**45**	⇓P	**Pn**	**20 13 24.0**	**+1.0**
BURAR	**Bucovina Array**	**5.12**	**45**	Pn	**Pn**	**20 13 24.0**	**+1.0**
VRI	**Vrincioaia**	**5.17**	**68**	⇑P	**Pn**	**20 13 23.8**	**+0.3**
VRI	**Vrincioaia**	**5.17**	**68**	Pn	**Pn**	**20 13 23.8**	**+0.3**
NIE	**Niedzica**	**5.32**	**3**	Pn	**Pn**	**20 13 27.6**	**+1.9**
	comp=Z,2.7nm,2.2s,SNR=1.2						
NIE				Pn			
KBA	**Koelnbreinsper**	**5.46**	**305**	i Pn	**Pn**	**20 13 30.6**	**+2.9**
	comp=Z,0.2nm,0.2s						
KBA	**Koelnbreinsper**	**5.46**	**305**	Pn	**Pn**	**20 13 30.6**	**+2.9**
	comp=Z,0.2nm,0.2s						
KHC	**Kasperske Hory**	**6.64**	**321**	ePN	**Pn**	**20 13 44.5**	**+0.8**
KHC				ex	x	20 14 13.8	
KHC				eSG	**Sg**	**20 15 39.5**	**+0.9**
KHC	**Kasperske Hory**	**6.64**	**321**	Pn	**Pn**	**20 13 44.5**	**+0.8**
KHC				x	x	20 14 13.8	
KHC				Lg	Lg	20 15 39.5	
MNK	**Minsk**	**11.64**	**24**	Pn	**Pn**	**20 14 51.0**	**-1.1**
	comp=Z,1.0nm,0.8s						
MNK				Pn	**Pn**	**20 14 51.0**	**-1.1**
	comp=Z,9.0nm,0.8s						
MNK				Pn	**Pn**	**20 14 51.0**	**-1.1**
	comp=Z,3.0nm,0.8s						
MNK				Sn	**Sn**	**20 17 01.3**	**-1.0**
MNK				MLR	MLR	20 19 10.1	
	comp=Z,38nm,17.2s						
MNK				MLR	MLR	20 19 11.4	
	comp=Z,59nm,17.2s						
MNK				MLR	MLR	20 19 13.9	
	comp=Z,353nm,17.2s						
MNK	**Minsk**	**11.64**	**24**	i P	**Pn**	**20 14 51.0**	**-1.1**
	comp=E,1.0nm,0.8s						
MNK				i P	**Pn**	**20 14 51.0**	**-1.1**
	comp=N,9.0nm,0.8s						
MNK				i P	**Pn**	**20 14 51.0**	**-1.1**
	comp=Z,3.0nm,0.8s						
MNK				i S	**Sn**	**20 17 01.3**	**-1.0**
MNK				i LR	LR	20 18 22.6	
MNK				i LRM	MLR	20 19 10.1	
	comp=E,38nm,17.2s						
MNK				i LRM	MLR	20 19 11.4	
	comp=Z,59nm,17.2s						
MNK				i LRM	MLR	20 19 13.9	
	comp=N,353nm,17.2s						

IASPEI ***02*** *20:12:34.9±0.9, 44.07N±0.03×19.88E±0.02, h8^{km}±6^{km}, Error ellipse: s-maj=3.9km s-min=3.2km az=170.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

RHSSO ***02*** *20:12:35.2±0.3, 44.04N×19.90E, h3^{km}±1^{km}, ML3.3/11*

BEO ***02*** *20:12:36.2±0.2, 44.07N×19.89E, h0^{km}±1^{km}, ML3.4/14*

VIE ***02*** *20:12:37.5±0.7, 44.07N×19.50E, h6^{km}, mb2.9/3, ml2.7/3, Error ellipse: s-maj=10.1km s-min=4.2km az=84.0 90 km ENE of Sarajevo*

ISC 02 20:12:35.1±0.8**, 44.07N**±0.02×**19.89E**±0.02**, h8**^{km}±5^{km}**, n53,** σ1^{s}**35**/87**, 1C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	**Divibare**	**0.08**	**66**	ePg	**Pg**	**20 12 37.3**	**-0.1**
DIVS				eSg	**Sg**	**20 12 38.4**	**-0.4**
DIVS	**Divibare**	**0.08**	**66**	⇓iPg	**Pg**	**20 12 37.2**	**-0.1**
DIVS				eSg	**Sg**	**20 12 38.5**	**-0.4**
TRUS	**Trudelj**	**0.40**	**67**	ePg	**Pg**	**20 12 43.9**	**+0.9**
TRUS				eSg	**Sg**	**20 12 49.3**	**+1.0**
BBLS	**Lazići**	**0.41**	**241**	ePg	**Pg**	**20 12 43.5**	**+0.4**
BBLS				eSg	**Sg**	**20 12 49.2**	**+0.8**
BBLS	**Lazići**	**0.41**	**241**	ePg	**Pg**	**20 12 42.5**	**-0.6**
BBLS				eSg	**Sg**	**20 12 48.7**	**+0.3**
IVAS	**Ivanjica**	**0.52**	**159**	ePg	**Pg**	**20 12 45.5**	**+0.2**
IVAS				eSg	**Sg**	**20 12 52.8**	**+0.6**
TEKS	**Tekeris**	**0.55**	**332**	ePg	**Pg**	**20 12 46.3**	**+0.5**
TEKS				eSg	**Sg**	**20 12 53.7**	**+0.7**
TEKS	**Tekeris**	**0.55**	**332**	ePg	**Pg**	**20 12 45.9**	**+0.1**
TEKS				eSg	**Sg**	**20 12 53.3**	**+0.3**
RUDO	**Rudo**	**0.59**	**220**	⇑iPg	**Pg**	**20 12 45.9**	**-0.6**
RUDO				eSg	**Sg**	**20 12 53.8**	**-0.3**
GRUS	**Gruza**	**0.62**	**106**	ePg	**Pg**	**20 12 47.6**	**+0.5**
GRUS				eSg	**Sb**	**20 12 56.5**	**-0.5**
HAPS	**Han Pijesak,Bl**	**0.68**	**272**	ePg	**Pg**	**20 12 47.2**	**-1.0**
HAPS				eSg	**Sg**	**20 12 56.7**	**-0.4**
HAPS	**Han Pijesak,Bl**	**0.68**	**272**	ePg	**Pg**	**20 12 47.3**	**-1.0**
HAPS				eSg	**Sg**	**20 12 56.7**	**-0.4**
SVIS	**Svilajnac**	**0.97**	**78**	ePg	**Pn**	**20 12 55.2**	**+0.2**
SVIS				eSg	**Sb**	**20 13 08.3**	**+1.1**
FRGS	**Fruska Gora**	**1.09**	**357**	ePg	**Pb**	**20 12 56.9**	**+0.6**
FRGS				eSg	**Sg**	**20 13 11.4**	**+1.1**
FRGS	**Fruska Gora**	**1.09**	**357**	ePg	**Pg**	**20 12 55.3**	**-0.8**
FRGS				eSg	**Sg**	**20 13 11.0**	**+0.7**
KUBS	**Kucevo**	**1.33**	**74**	ePg	**Pb**	**20 13 00.9**	**+0.7**
KUBS				eSg	**Sb**	**20 13 18.2**	**+0.8**
BOVS	**Bovan**	**1.38**	**108**	ePg	**Pn**	**20 13 01.1**	**+0.5**
BOVS				eSg	**Sn**	**20 13 19.8**	**+0.7**
BRY	**Bratogost**	**1.52**	**221**	ePn	**Pn**	**20 13 03.3**	**+0.5**
BRY				eSn	**Sn**	**20 13 23.4**	**+0.6**
PDG	**Podgorica**	**1.70**	**196**	ePn	**Pb**	**20 13 06.5**	**-0.1**
PDG				eSn	**Sg**	**20 13 30.8**	**+1.1**
PDG	**Podgorica**	**1.70**	**196**	ePn	**Pn**	**20 13 05.4**	**+0.4**
PDG				eSn	**Sn**	**20 13 27.8**	**+0.9**
ZAGS	**Zajecar**	**1.71**	**98**	ePg	**Pg**	**20 13 07.8**	**-0.1**
ZAGS				eSg	**Sb**	**20 13 28.7**	**+0.3**
TREB	**Trebinje**	**1.76**	**220**	ePg	**Pb**	**20 13 07.4**	**-0.2**
TREB				eSg	**Sg**	**20 13 33.7**	**+2.2**
TREB	**Trebinje**	**1.76**	**220**	ePn	**Pn**	**20 13 06.3**	**+0.5**
TREB				eSn	**Sn**	**20 13 29.2**	**+0.9**
BARS	**Barje**	**1.88**	**131**	ePn	**Pn**	**20 13 03.6**	**-3.9**
BARS				eSn	**Sn**	**20 13 23.8**	**-7.5**
HCY	**Herceg Novi**	**1.91**	**213**	ePn	**Pn**	**20 13 08.2**	**+0.2**
HCY				eSn	**Sn**	**20 13 32.2**	**0.0**
DRME	**Dracevica, Mon**	**1.95**	**196**	ePn	**Pn**	**20 13 08.3**	**-0.2**
DRME				eSn	**Sn**	**20 13 32.9**	**-0.2**
DRME	**Dracevica, Mon**	**1.95**	**196**	i Sn	**Pn**	**20 13 08.2**	**-0.2**
BZS	**Buzias**	**1.98**	**38**	ePn	**Pn**	**20 13 10.6**	**+1.7**
BZS				eSn	**Sb**	**20 13 37.4**	**+1.3**
MGRS	**Mrkonjic Grad**	**2.05**	**281**	ePn	**Pn**	**20 13 11.1**	**+1.2**
MGRS				eSn	**Sn**	**20 13 37.0**	**+1.4**
BLY	**Banja Luka**	**2.06**	**290**	ePg	**Pb**	**20 13 12.7**	**0.0**
BLY				eSg	**Sg**	**20 13 41.5**	**+0.3**
BLY	**Banja Luka**	**2.06**	**290**	ePn	**Pn**	**20 13 10.2**	**+0.2**
BLY				eSn	**Sn**	**20 13 37.4**	**+1.6**
BLY	**Banja Luka**	**2.06**	**290**	eSn	**Pn**	**20 13 10.1**	**+0.1**
BLY	**Banja Luka**	**2.06**	**290**	Lg	Lg	20 13 10.1	
PRVS	**Prvonek**	**2.23**	**134**	ePn	**Pn**	**20 13 13.1**	**+0.7**
PRVS				eSn	**Sb**	**20 13 42.8**	**-0.6**
PRVS	**Prvonek**	**2.23**	**134**	eSn	**Pn**	**20 13 13.1**	**+0.7**
PRVS	**Prvonek**	**2.23**	**134**	Sn	**Pn**	**20 13 13.1**	**+0.7**
MORH	**Mrgy, Hungar**	**2.32**	**338**	ePn	**Pn**	**20 13 13.8**	**+0.2**
MORH	**Mrgy, Hungar**	**2.32**	**338**	⇓S	**Pn**	**20 13 14.1**	**+0.5**
MORH	**Mrgy, Hungar**	**2.32**	**338**	Lg	Lg	20 13 14.1	
MORH	**Mrgy, Hungar**	**2.32**	**338**	Sn	**Pn**	**20 13 13.3**	**-0.3**
MORH	**Mrgy, Hungar**	**2.32**	**338**	eSn	**Pn**	**20 13 13.3**	**-0.3**
BOSS	**Bosilegrad**	**2.46**	**129**	ePn	**Pn**	**20 13 15.9**	**+0.4**
BOSS				eSn	**Sb**	**20 13 49.7**	**-0.2**
BOSS	**Bosilegrad**	**2.46**	**129**	eSn	**Pn**	**20 13 15.5**	**0.0**
BOSS	**Bosilegrad**	**2.46**	**129**	Sn	**Pn**	**20 13 15.5**	**0.0**
VAY	**Valandovo**	**3.38**	**143**	ePn	**Pn**	**20 13 29.2**	**+1.1**
SOKA	**Soboth**	**4.31**	**309**	i Pn	**Pn**	**20 13 40.6**	**-0.4**
	2.2nm,0.2s						
ARSA	**Arzberg**	**4.42**	**318**	i Pn	**Pn**	**20 13 42.6**	**+0.1**
	15nm,0.4s						
ARSA				eSn	**Sn**	**20 14 32.1**	**-1.9**
	7.6nm,0.4s						
KECS	**Kecovo**	**4.44**	**5**	ePN	**Pn**	**20 13 43.0**	**+0.3**
ZST	**Bratislava**	**4.56**	**336**	ePN	**Pn**	**20 13 44.7**	**+0.3**
ZST				eSN	**Sn**	**20 14 36.6**	**-0.9**
MODS	**Modra-Piesok**	**4.67**	**338**	ePN	**Pn**	**20 13 45.5**	**-0.5**
MODS				eSN	**Sn**	**20 14 35.3**	**-5.1**
SMOL	**Smolenice**	**4.76**	**340**	ePN	**Pn**	**20 13 47.8**	**+0.6**
SMOL				eSN	**Sn**	**20 14 39.1**	**-3.5**
CONA	**Conrad Observa**	**4.78**	**325**	i Pn	**Pn**	**20 13 47.5**	**+0.1**
	4.4nm,0.3s						
CRVS	**Cervenica-Dubn**	**4.96**	**12**	ePN	**Pn**	**20 13 50.2**	**+0.4**

BUC 02 20:14:27.4±0.2**, 44.66N**×**26.99E, h23**^{km}±2^{km}**, ml1.9**/13**, 23C-25D, Error ellipse: s-maj=2.4km s-min=1.9km az=22.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEHL	**Lehliu**	**0.22**	**213**	⇑P	Pb	20 14 32.4	-0.8
LEHL				⇓S	Sb	20 14 38.0	+0.9
LEHL	**Lehliu**	**0.22**	**213**	⇑P	Pb	20 14 32.4	-0.8
LEHL				⇓S	Sb	20 14 38.0	+0.9
PGOR	**Pogoanele**	**0.25**	**359**	⇑S	Sb	20 14 38.1	+0.5
AMRR	**Amara**	**0.25**	**102**	⇑P	Pb	20 14 32.9	-0.6
AMRR				S	Sb	20 14 38.6	+0.9
AMRR	**Amara**	**0.25**	**102**	⇑P	Pb	20 14 32.9	-0.6
AMRR				S	Sb	20 14 38.6	+0.9
GRER		**0.72**	**359**	⇓S	Sb	20 14 50.7	0.0
GRER		**0.72**	**359**	⇓S	Sb	20 14 50.7	0.0
TLBR	**Topalu**	**0.76**	**99**	⇑P	Pb	20 14 41.6	-0.4
TLBR				⇑S	Sn	20 14 53.6	+0.1
TLBR	**Topalu**	**0.76**	**99**	⇑P	Pb	20 14 41.6	-0.4
TLBR				⇑S	Sn	20 14 53.6	+0.1
CVDA	**Cernavoda**	**0.82**	**113**	⇓P	Pb	20 14 42.4	-0.5
CVDA				⇑S	Sn	20 14 54.3	-0.5
CVDA	**Cernavoda**	**0.82**	**113**	⇓P	Pb	20 14 42.4	-0.5
CVDA				⇑S	Sn	20 14 54.3	-0.5
SGRR	**Singureni**	**0.85**	**239**	⇓P	Pb	20 14 42.7	-0.8
SGRR				⇑S	Sn	20 14 56.5	+0.9
SGRR	**Singureni**	**0.85**	**239**	⇓P	Pb	20 14 42.7	-0.8
SGRR				⇑S	Sn	20 14 56.5	+0.9
TIRR	**Tirgusor**	**1.04**	**101**	⇑P	Pn	20 14 45.9	-0.6
TIRR				⇓S	Sn	20 15 01.1	+0.9
TIRR	**Tirgusor**	**1.04**	**101**	⇑P	Pn	20 14 45.9	-0.6
TIRR				⇓S	Sn	20 15 01.1	+0.9
PETR	**Petresti**	**1.07**	**9**	⇓S	Sn	20 15 02.3	+1.1
ODBI	**Odobesti**	**1.10**	**2**	⇑P	Pn	20 14 47.1	-0.3
ODBI				⇓S	Sn	20 15 03.6	+1.7
ODBI	**Odobesti**	**1.10**	**2**	⇑P	Pn	20 14 47.1	-0.3

ODBI				⇓S	Sn	20 15 03.6	+1.7
MLR	Muntele Rosu	1.11	319	⇓S	Sn	20 15 03.0	+0.7
MLR	Muntele Rosu	1.11	319	⇓S	Sn	20 15 03.0	+0.7
PLOR	Plostina	1.21	349	⇑P	Pn	20 14 48.8	-0.1
PLOR	Plostina	1.21	349	⇑P	Pn	20 14 48.8	-0.1
VRI	Vrincioaia	1.22	351	⇓S	Sb	20 15 05.5	+0.5
VRI	Vrincioaia	1.22	351	⇓S	Sb	20 15 05.5	+0.5
VARL	Varlezi	1.38	26	⇑P	Pn	20 14 51.0	-0.2
VARL				⇑S	Sb	20 15 10.1	+0.5
VARL	Varlezi	1.38	26	⇑P	Pn	20 14 51.0	-0.2
VARL				⇑S	Sb	20 15 10.1	+0.5
TLCR		1.40	67	⇓S	Sn	20 15 09.0	-0.1
TLCR		1.40	67	⇓S	Sn	20 15 09.0	-0.1
TESR	Tescani	1.86	353	⇓S	Sn	20 15 21.2	+0.5
TESR	Tescani	1.86	353	⇓S	Sn	20 15 21.2	+0.5
VASR	Vaslui	2.06	16	⇓P	Pn	20 15 00.3	-0.2
VASR				⇓S	Sn	20 15 25.9	+0.5
VASR	Vaslui	2.06	16	⇓P	Pn	20 15 00.3	-0.2
VASR				⇓S	Sn	20 15 25.9	+0.5

PRU 02 20:21:39.8±0.0, 49.°85N×18.°54E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.26	267	ePG	Pg	20 21 45.1	+0.4
OKC				eSG	Sg	20 21 48.4	+0.4
	comp=Z,27nm,0.4s						
MORC	Moravsky Berou	0.65	264	ePG	Pg	20 21 52.8	+0.6
MORC				eSG	Sg	20 22 00.3	-0.4
KRLC	Kraliky	1.16	282	ePG	Pg	20 22 00.7	-1.3
KRLC				eSG	Sg	20 22 16.2	-0.8
DPC	Dobruska-Polom	1.51	290	ePG	Pn	20 22 07.6	-0.6
DPC				eSG	Sg	20 22 27.7	-0.7

BEO 02 20:22:21.9±0.2, 44.°06N×19.°35E, h2km±1km, ML2.5/13
KRSZO 02 20:22:21.4±0.9, 44.°07N×19.°41E, h10km±5km, ML2.8/9, 4C-10D, Error ellipse: s-maj=2.9km s-min=2.5km az=137.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	Lazići	0.21	181	ePg	Pg	20 22 26.1	+0.4
BBLS				eSg	Sg	20 22 29.2	+0.5
BBLS	Lazići	0.21	181	Pg	Pg	20 22 25.9	+0.1
	comp=Z,25nm,SNR=89						
BBLS				Pb		20 22 26.1	
BBLS				Lg	Lg	20 22 29.2	
HAPS	Han Pijesak,BI	0.33	273	ePg	Pg	20 22 26.3	-1.7
HAPS				eSg	Sg	20 22 30.6	-1.9
HAPS	Han Pijesak,BI	0.33	273	Pg	Pg	20 22 26.3	-1.7
HAPS				Lg	Lg	20 22 30.6	
DIVS	Divibare	0.42	86	ePg	Pb	20 22 30.4	-0.6
DIVS				eSg	Sg	20 22 35.8	+0.5
DIVS	Divibare	0.42	86	Pg	Pb	20 22 30.5	-0.5
	comp=Z,2.3nm,SNR=35						
DIVS				Lg	Lg	20 22 35.7	
TEKS	Tekeris	0.48	10	ePg	Pb	20 22 31.8	-0.3
TEKS				eSg	Sb	20 22 38.3	-1.0
TEKS	Tekeris	0.48	10	Pg	Pb	20 22 31.8	-0.3
TEKS				Lg	Lg	20 22 38.3	
IVAS	Ivanjica	0.73	132	ePg	Pg	20 22 35.0	-0.5
IVAS				eSg	Sb	20 22 46.2	-0.2
IVAS	Ivanjica	0.73	132	Pg	Pg	20 22 35.0	-0.5
IVAS				Lg	Lg	20 22 46.2	
TRUS	Trudelj	0.73	78	ePg	Pb	20 22 36.4	+0.1
TRUS				eSg	Sb	20 22 47.2	+0.8
TRUS	Trudelj	0.73	78	Pg	Pb	20 22 36.4	+0.1
TRUS				Lg	Lg	20 22 47.2	
GRUS	Gruza	0.96	101	ePg	Pb	20 22 40.5	+0.4
GRUS				eSg	Sn	20 22 54.4	-0.3
GRUS	Gruza	0.96	101	Pn	Pb	20 22 40.5	+0.4
GRUS				Sn	Sn	20 22 54.4	-0.3
BEO	Beograd	1.06	46	Pg	Pg	20 22 40.6	-1.2
	comp=Z,0.7nm,SNR=5.4						
BEO				Lg	Lg	20 22 54.9	
FRGS	Fruska Gora	1.12	15	ePg	Pg	20 22 43.1	+0.1
FRGS				eSg	Sn	20 22 58.9	+0.1
FRGS	Fruska Gora	1.12	15	⇓P	Pb	20 22 42.9	0.0
FRGS				⇓S	Sb	20 22 58.2	+0.5
FRGS	Fruska Gora	1.12	15	Pn	Pb	20 22 42.8	-0.2
	comp=Z,0.6nm,SNR=18						
FRGS				Pg	Pg	20 22 42.9	-0.1
FRGS				Pb	Pn	20 22 43.1	-0.1
FRGS				Sn	Sb	20 22 58.2	+0.5
FRGS				Lg	Lg	20 22 58.8	
SVIS	Svilajnac	1.31	81	ePg	Pg	20 22 46.6	0.0
SVIS				eSg	Sg	20 23 04.5	+0.8
SVIS	Svilajnac	1.31	81	Pg	Pg	20 22 46.6	0.0
SVIS				Lg	Lg	20 23 04.5	
TREB	Trebinje	1.56	210	ePn	Pb	20 22 50.6	+0.3
TREB				eSn	Sg	20 23 11.4	-0.1
TREB	Trebinje	1.56	210	Pn	Pb	20 22 50.6	+0.3
TREB				Sn	Sg	20 23 11.4	-0.1
PDG	Podgorica	1.65	184	ePn	Pb	20 22 51.9	+0.1
PDG				eSn	Sb	20 23 12.7	+0.1
PDG	Podgorica	1.65	184	⇓P	Pb	20 22 51.1	-0.7
PDG				⇓S	Sb	20 23 13.0	+0.5
PDG	Podgorica	1.65	184	Pg	Pb	20 22 51.1	-0.7
PDG				Pb	Pg	20 22 51.9	-1.0
PDG				Sn	Sb	20 23 12.7	+0.1
PDG				Lg	Lg	20 23 13.0	
KUBS	Kucevo	1.66	77	ePg	Pg	20 22 53.3	0.0
KUBS				eSg	Sg	20 23 16.4	+1.5
KUBS	Kucevo	1.66	77	Pg	Pg	20 22 53.3	0.0
KUBS				Lg	Lg	20 23 16.4	
DBRK	Dubrovnik	1.68	214	i Pn	Pn	20 22 51.3	+0.5
DBRK				Sn	Sg	20 23 16.7	+1.4
DBRK	Dubrovnik	1.68	214	Pn	Pn	20 22 51.3	+0.5
DBRK				Lg	Lg	20 23 16.7	
STON	Ston	1.73	227	i Pn	Pn	20 22 51.4	-0.1
STON				Sn	Sb	20 23 14.6	-0.3
STON	Ston	1.73	227	Pn	Pn	20 22 51.4	-0.1
STON				Sn	Sb	20 23 14.6	-0.3
BLY	Banja Luka	1.73	294	ePn	Pb	20 22 53.4	+0.1
BLY				eSn	Sb	20 23 16.0	+0.9
BLY	Banja Luka	1.73	294	Pn	Pb	20 22 53.4	+0.1
BLY				Pg	Pg	20 22 53.7	-0.9
	comp=Z,0.2nm,SNR=2.4						
BLY				Lg	Lg	20 23 15.6	
BLY				Sn	Sb	20 23 16.0	+0.9
RICI	Ricice	1.75	251	ePn	Pb	20 22 53.2	-0.4
RICI				Sn	Sg	20 23 17.1	-0.4
RICI	Ricice	1.75	251	Pn	Pb	20 22 53.2	-0.4
RICI				Sn	Sg	20 23 17.1	-0.4
MDVR	Moldovita	1.80	66	⇓P	Pn	20 22 53.2	+0.6
MDVR				⇓S	Sn	20 23 15.1	-0.4
MDVR	Moldovita	1.80	66	Pn	Pn	20 22 53.2	+0.6
MDVR				Sn	Sn	20 23 15.1	-0.4
BANR	Banloc	1.80	43	⇑S	Sn	20 23 16.0	+0.7
BANR	Banloc	1.80	43	Pg	Pb	20 22 54.3	-0.2
BANR				Sn	Sn	20 23 16.0	+0.7
BANR				Lg	Lg	20 23 18.0	
ZAGS	Zajecar	2.06	96	ePn	Pb	20 22 57.7	-1.1
ZAGS	Zajecar	2.06	96	Pg	Pb	20 22 57.7	-1.1
BARS	Barje	2.16	125	ePn	Pn	20 22 55.7	-1.7
BARS				eSn	Sn	20 23 19.8	-4.4
BARS	Barje	2.16	125	Pn	Pn	20 22 55.7	-1.7
BARS				Sn	Sn	20 23 19.8	-4.4
KIJV	Kijevo	2.17	269	ePn	Pb	20 22 59.6	-1.1
KIJV	Kijevo	2.17	269	Pn	Pb	20 22 59.6	-1.1
BZS	Buzias	2.20	45	ePn	Pn	20 22 58.1	+0.1
BZS				eSn	Sb	20 23 28.1	-0.6
BZS	Buzias	2.20	45	⇓P	Pn	20 22 58.0	0.0
BZS				⇓S	Sn	20 23 25.0	-0.4
BZS	Buzias	2.20	45	Pn	Pn	20 22 58.1	+0.1
	comp=Z,0.1nm,SNR=3.9						
BZS				Sn	Sn	20 23 25.0	-0.4
BZS				Lg	Lg	20 23 28.1	
MORH	Mrgy, Hungar	2.21	346	⇑P	Pn	20 22 58.0	-0.1
MORH				⇓S	Sn	20 23 26.0	+0.5
MORH	Mrgy, Hungar	2.21	346	Pn	Pn	20 22 58.1	0.0
	comp=Z,0.1nm,SNR=2.3						
MORH				Lg	Lg	20 23 25.9	
MORH				Sn	Sn	20 23 26.0	+0.5
KOVH	Kovagotottos	2.22	336	Pn	Pn	20 22 59.2	+0.9
	comp=Z,0.1nm,SNR=5.2						
LSTV	Lastovo	2.25	235	i Pn	Pb	20 23 01.2	-0.9
LSTV				Sn	Sb	20 23 29.2	-0.7
LSTV	Lastovo	2.25	235	Pn	Pb	20 23 01.2	-0.9
LSTV				Sn	Sb	20 23 29.2	-0.7
HERR	Herculane	2.30	68	⇓P	Pn	20 22 59.9	+0.5
HERR	Herculane	2.30	68	Pn	Pn	20 22 59.9	+0.5
HVAR	Hvar	2.33	248	ePn	Pb	20 23 02.3	-1.1
HVAR				Sn	Sb	20 23 31.5	-0.7
HVAR	Hvar	2.33	248	Pn	Pb	20 23 02.3	-1.1
HVAR				Sn	Sb	20 23 31.5	-0.7
BLKB	Belogradchik	2.41	100	⇑S	Sn	20 23 30.4	0.0
BLKB	Belogradchik	2.41	100	Sn	Sn	20 23 30.4	0.0
PRVS	Prvonek	2.50	128	ePn	Pn	20 23 03.3	+1.2
PRVS	Prvonek	2.50	128	Pn	Pn	20 23 03.3	+1.2
UDBI	Udbina	2.66	281	ePn	Pn	20 23 06.0	+1.7
UDBI	Udbina	2.66	281	Pn	Pn	20 23 06.0	+1.7
BOSS	Bosilegrad	2.74	124	ePn	Pn	20 23 05.9	+0.5
BOSS	Bosilegrad	2.74	124	Pn	Pn	20 23 05.9	+0.5
GZR	Gura Zlata	2.74	60	⇑P	Pn	20 23 05.0	-0.5
GZR	Gura Zlata	2.74	60	Pn	Pn	20 23 03.7	-1.8
	comp=Z,0.1nm,SNR=4.0						
GZR				Pg	Pb	20 23 05.0	-5.6
KALN	Kalnik	2.94	316	ePn	Pn	20 23 07.9	-0.2
KALN	Kalnik	2.94	316	Pn	Pn	20 23 07.9	-0.2
VTS	Vitosha	3.15	116	Pn	Pn	20 23 08.9	-2.2
	SNR=1.7						
DRGR		3.58	39	Pn	Pn	20 23 16.0	-1.0

IDC 02 20:51:53.0±0.6, 35.°58N×76.°77E, h0km, mb4.0/19, mb1 4.1/24, mb1mx4.0/46, mbtmp3.9/24, ML3.1/5, MS3.3/15, Ms1 3.3/15, ms1mx3.1/60, Error ellipse: s-maj=15.8km s-min=12.2km az=47.0
NEIC 02 20:51:54.6±2.1, 35.°65N±0.°06×76.°80E±0.°08, h10km±1km, mb4.5/34, Error ellipse: s-maj=12.6km s-min=8.2km az=133.0
MOS 02 20:51:56.4±1.0, 35.°61N×76.°85E, h34km, mb4.5/21, Error ellipse: s-maj=6.8km s-min=4.0km az=94.4
NNC 02 20:51:56.0±4.1, 35.°20N×75.°14E, h0km, mb4.7, mpv4.6, Error ellipse: s-maj=32.3km s-min=26.3km az=172.0
BJI 02 20:51:57.2±0.0, 35.°85N×76.°87E, h8km, mB4.4/12, mb4.2/23, ML4.5/5, Ms4.0/14, Ms7 3.7/12
ISC 02 20:51:54.9±0.3, 35.°64N±0.°03×76.°78E±0.°04, h10km, n230, σ2.s22/245, mb4.4/59, MS3.3/15, 20C-7D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	3.31	196	eP	Pb	20 52 55.0	+1.2
THN				eS	Sg	20 53 42.5	+1.1
DHRM	DHARAMSHALA	3.40	187	eP	Pb	20 52 54.4	-1.0
DHRM				eS	Sb	20 53 35.1	-1.8
DHRM				eS	Sg	20 53 37.3	-6.9
DHRM				IAML		20 53 38.6	
	comp=N,254nm,0.5s						
DHRM				IAML		20 53 42.4	
	comp=E,291nm,0.5s						
NIL	Nilore	3.52	237	P	Pn	20 52 50.5	+0.8
NIL	Nilore	3.52	237	Pn	Pn	20 52 50.5	+0.8
KSH	Kashi	3.92	351	Pn	Pn	20 52 56.0	+0.7
KSH				Sn	Sn	20 53 42.4	+0.9
KSH				smax	smax		
	comp=E,860nm,1.0s						
KSH				smax	smax		
	comp=E,1μm,1.2s						
BHK	Bhakra	4.22	184	eP	Pb	20 53 04.4	-4.9
BHK				eS	Sg	20 54 07.2	-3.3
CEP	Cherat	4.40	247	P	Pn	20 53 04.9	+3.0
SMLA	Simla	4.51	176	eP	Pn	20 53 08.0	+4.7
SMLA				i x	x	20 53 19.3	
SMLA				eS	Sn	20 53 58.1	+2.3
SMLA				IAML		20 54 27.9	
	comp=N,340nm,1.4s						
SMLA				IAML		20 54 28.1	
	comp=E,284nm,0.5s						
THW	Thamme Wali	5.04	237	P	Pn	20 53 12.8	+2.2
KBL	Kabul	6.43	262	P	Pn	20 53 28.5	-1.4
KBL	Kabul	6.43	262		Pn	20 53 28.5	-1.4
NDI	New Delhi	6.95	177	eP	Pb	20 53 48.0	-7.7
NDI				eS	Sn	20 55 06.0	+10
AAK	Ala-Archa	7.21	346	Pn	Pn	20 53 46.3	+5.8
	comp=E,0.5nm,0.3s,baz=155,slow=19,SNR=20						
AAK				Lg	Lg	20 55 44.9	
	comp=E,1.6nm,0.3s,baz=252,slow=20,SNR=2.8						
AAK				LR	LR	20 56 32.1	
	comp=E,52nm,20.4s,baz=166,slow=38						
AAK	Ala-Archa	7.21	346	⇑P	Pn	20 53 48.0	+7.5
	comp=E,14nm,0.6s						
AAK				⇑S	Sn	20 55 13.9	+11
	comp=E,77nm,1.2s						
AAK	Ala-Archa	7.21	346	i P	Pn	20 53 43.4	+2.9
AAK	Ala-Archa	7.21	346	Pn	Pn	20 53 42.6	+2.1
TKM2	Tokmak 2	7.33	353	⇓P	Pn	20 53 47.6	+5.4
	comp=E,38nm,0.8s						
TKM2				⇑S	Sb	20 55 20.8	-9.1
	comp=E,168nm,1.5s						
TKM2	Tokmak 2	7.33	353	P	Pn	20 53 47.6	+5.4
TNSS	Tian-Shan	7.39	1	eP	Pn	20 53 45.2	+2.0
	baz=0.2						
TNSS	Tian-Shan	7.39	1	eP	Pn	20 53 45.2	+2.0
MDOK	Medeo	7.52	2	eP	Pn	20 53 46.5	+1.8
	baz=0.7						
MDOK	Medeo	7.52	2	P	Pn	20 53 53.3	+8.6
	comp=E,33nm,0.9s						
MDOK				⇓S	Sb	20 55 30.2	-5.0
	comp=E,232nm,1.3s						
MDOK	Medeo	7.52	2	eP	Pn	20 53 46.5	+1.8
AAA	Alma-Ata	7.56	1	eP	Pn	20 53 48.0	+2.7
	baz=360						
AAA	Alma-Ata	7.56	1	eP	Pn	20 53 47.9	+2.7
KNDC	Almaty	7.57	1	⇓P	Pn	20 53 54.0	+8.7
	comp=E,101nm,0.8s						
KNDC				⇓S	Sb	20 55 30.6	-6.1
	comp=E,558nm,1.1s						
KNDC	Almaty	7.57	1	P	Pn	20 53 46.0	+0.6
UZB	Uzynbulak	7.70	12	eP	Pn	20 53 49.2	+2.0
	baz=12						
UZB	Uzynbulak	7.70	12	eP	Pn	20 53 49.1	+2.0
SHLS	Shalkode	7.79	15	eP	Pn	20 53 51.4	+3.0
	comp=E,6.1nm,0.8s,baz=16						
SHLS	Shalkode	7.79	15	eP	Pn	20 53 51.4	+3.0
SHLS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KPKS	Kokpek	7.96	10	eP	Pn	20 53 52.7	+2.0
	comp=Z,7.9nm,0.9s,baz=9.4						
KPKS	Kokpek	7.96	10	eP	Pn	20 53 52.6	+2.0
KPKS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PDGK	Podgornoye	7.96	14	⇑P	Pb	20 54 03.8	-9.2
	comp=Z,16nm,0.6s						
PDGK				⇓S	Sb	20 55 44.4	-3.5
	comp=Z,123nm,1.3s						
PDGK	Podgornoye	7.96	14	P	Pn	20 53 54.0	+3.2
DZA	Taraz	8.38	331	eP	Pn	20 53 59.7	+3.2
	comp=Z,3.7nm,0.7s,baz=331						
DZA	Taraz	8.38	331	eP	Pn	20 53 59.6	+3.2
DZA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KK31	Karatay Array	8.89	329	P	Pn	20 54 03.8	+0.3
	comp=Z,5.1nm,0.6s,baz=140,slow=12,SNR=47						
KK31				⇑S	Sn	20 55 43.6	-0.1
	comp=Z,23nm,0.7s,baz=151,slow=24,SNR=8.4						
KK31	Karatay Array	8.89	329	P	Pn	20 54 04.3	+0.9
KK31	Karatay Array	8.89	329		Pn	20 54 04.3	+0.9
KKAR	Karatay Array	8.89	329	P	Pn	20 54 04.2	+0.8
KKAR	Karatay Array	8.89	329		Pn	20 54 03.9	+0.5
KKAR	Karatay Array	8.89	329		Pn	20 54 04.2	+0.8
AJM	Ajmer	9.31	192	eP	Pn	20 54 12.0	+2.8
AJM				i S	Sn	20 55 56.0	+1.9
TDK	Taldyqorghan	9.44	7	eP	Pn	20 54 13.4	+2.5
	comp=Z,6.7nm,1.3s,baz=6.5						
TDK	Taldyqorghan	9.44	7	eP	Pn	20 54 13.4	+2.5
TDK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GKN	Gorkha	10.13	137	ePn	Pn	20 54 21.9	+1.4
GKN				eSn	Sn	20 56 15.4	+1.1
	comp=Z,66nm,0.7s						
KKN	Kakani	10.66	135	ePn	Pn	20 54 27.5	-0.3
KKN				eSn	Sn	20 56 26.7	-0.6
	comp=Z,174nm,1.1s						
DMN	Daman	10.70	136	ePn	Pn	20 54 29.1	+0.7
DMN				eSn	Sn	20 56 27.5	-0.9
	comp=Z,109nm,1.0s						
PKIN	Phulchoki	10.88	135	ePn	Pn	20 54 30.6	-0.4
PKIN				eSn	Sn	20 56 31.8	-1.2
	comp=Z,228nm,1.1s						
PKI	Pulchoki	10.90	135	ePn	Pn	20 54 31.4	+0.2
GUN	Gumba	10.92	132	ePn	Pn	20 54 30.6	-1.0
GUN				eSn	Sn	20 56 32.0	-2.0
	comp=Z,58nm,0.9s						
WMQ	Urumqi	11.71	42	eP	Pn	20 54 46.0	+3.9
WMQ				sP		20 54 51.4	
WMQ				S	Sn	20 56 55.5	+2.5
WMQ				pmax	pmax		
	comp=Z,31nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.3s						
WMQ				LR	LR		
	comp=Z,600nm,8.1s						
WMQ				LR	LR		
	comp=Z,470nm,10.9s						
WMQ				LR	LR		
	comp=Z,350nm,7.9s						
WMQ	Urumqi	11.71	42	P	Pn	20 54 44.3	+2.2
WMQ	Urumqi	11.71	42		Pn	20 54 44.3	+2.2
MAKZ	Makanchi	11.82	18	P	Pn	20 54 46.3	+2.7
MAKZ	Makanchi	11.82	18		Pn	20 54 46.2	+2.7
MK31	Makanchi Array	11.89	19	ceP	Pn	20 54 44.8	+0.3
MK31	Makanchi Array	11.89	19		Pn	20 54 44.9	+0.5
MKAR	Makanchi Array	11.89	19	Pn	Pn	20 54 45.2	+0.8
	comp=Z,0.4nm,0.3s,baz=200,slow=12,SNR=26						
MKAR				Sn	Sn	20 57 02.8	+5.7
	comp=Z,1.2nm,0.3s,baz=197,slow=19,SNR=6.8						
MKAR	Makanchi Array	11.89	19		Pn	20 54 45.6	+1.2
HRA	Herat	11.98	268		Pn	20 54 47.0	+1.0
RAMN	Ramite	12.06	133	ePn	Pn	20 54 46.3	-0.8
RAMN				eSn	Sn	20 56 58.4	-3.4
	comp=Z,62nm,0.8s						
BHPL	Bhopal	12.37	177	eP	Pn	20 54 51.3	+0.2
BHPL				eS	Sn	20 57 02.5	-6.5
TAPN	Taplejung	12.46	129	ePn	Pn	20 54 50.9	-1.6
TAPN				eSn	Sn	20 57 05.6	-5.9
	comp=Z,36nm,0.8s						
ODAN	Odare	12.60	131	ePn	Pn	20 54 53.2	-1.3
ODAN				eSn	Sn	20 57 10.6	-4.4
	comp=Z,28nm,0.7s						
LSA	Lhasa	13.47	112	P	Pn	20 55 07.5	+0.9
LSA				pmax	pmax		
	comp=Z,16nm,1.1s						
LSA	Lhasa	13.47	112	P	Pn	20 55 06.5	-0.1
LSA	Lhasa	13.47	112	Pn	Pn	20 55 06.5	-0.1
BOK	Bokaro	14.20	144	eP	Pn	20 55 13.7	-2.4
BOK				IAmb	IAmb	20 55 19.6	
	comp=Z,9.8nm,0.8s						
KURBB	Kurchatov Arra	15.03	4	Pn	Pn	20 55 26.6	-0.7
	comp=Z,0.0nm,0.3s,baz=196,slow=11,SNR=7.7						
GEYT	Alibeck	15.13	284	Pn	P	20 55 34.1	+0.3
	comp=Z,0.4nm,0.3s,baz=109,slow=13,SNR=5.8						
GEYT	Alibeck	15.13	284	P	P	20 55 34.0	+0.1
KURK	Kurchatov	15.13	4	ceP	Pn	20 55 29.7	+1.1
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	Kurchatov	15.13	4	Pn	Pn	20 55 29.5	+0.9
KURK				IAmb	IAmb	20 55 43.1	
	comp=Z,15nm,1.1s						
DGZ	Jazzator, Alta	16.07	26	i P	Pn	20 55 40.3	-0.6
ZIRO	ZIRO	16.63	114	eP	Pn	20 55 39.3	-9.0
ZIRO				IAmb	IAmb	20 56 01.5	
	comp=Z,15nm,0.4s						
KOHI	KOHIMA	17.86	119	eP	Pn	20 55 59.7	-4.0
KOHI				IAmb	IAmb	20 56 09.0	
	comp=Z,11nm,0.8s						
BVAR	Borovoye Array	17.96	347	Pn	Pn	20 56 04.7	+0.1
	comp=Z,0.2nm,0.3s,baz=159,slow=12,SNR=15						
BVAR				Lg	Lg	21 01 18.5	
	comp=Z,0.0nm,0.3s,baz=206,slow=33,SNR=4.1						
BRVK	Borovoye	18.01	347	⇑P	P	20 56 06.9	+1.2
	comp=Z,17nm,0.8s						
BRVK	Borovoye	18.01	347	ceP	P	20 56 06.7	+1.0
BRVK				pmax	pmax		
	comp=Z,27nm,2.5s						
BRVK	Borovoye	18.01	347		Pn	20 56 05.3	+0.2
HYB	Hyderabad	18.22	175	i P	P	20 56 10.0	+1.8
HYB				eS	Sn	20 59 32.0	+0.6
AB31	Akbulak array	18.37	323	⇑P	P	20 56 07.4	-2.2
	comp=Z,5.0nm,0.8s,baz=135,slow=12,SNR=41						
AB31				⇓S	Sn	20 59 27.0	-7.6
	comp=Z,5.1nm,0.9s,baz=146,slow=23,SNR=4.8						
AB31	Akbulak array	18.37	323	P	P	20 56 07.4	-2.2
AB31				S	Sn	20 59 27.4	-7.3
ABKAR	Akbulak array	18.37	323	P	P	20 56 07.2	-2.4
GTA	Gaotai	18.65	71	P	Pn	20 56 14.6	+1.4
GTA				pP	sP	20 56 19.8	+0.5
GTA				sP	pP	20 56 23.0	+5.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,94nm,7.4s						
GTA				LR	LR		
	comp=Z,84nm,11.6s						
GTA				LR	LR		
	comp=Z,120nm,11.6s						
ZAA0	Zalesovo Array	19.15	15		P	20 56 15.9	-2.3
ZALV	Zalesovo Beam	19.15	15	Pn	P	20 56 19.3	+1.1
	comp=Z,0.1nm,0.3s,baz=190,slow=7.3,SNR=4.7						
ZALV				LR	LR	21 05 10.9	
	comp=Z,35nm,19.6s,baz=214,slow=42						
ZALV	Zalesovo Beam	19.15	15	P	P	20 56 15.7	-2.5
AKTO	Aktyubinsk	20.08	323	P	P	20 56 28.4	0.0
	comp=Z,11nm,0.9s,baz=119,slow=10,SNR=14						
AKTO				LR	LR	21 05 04.8	
	comp=Z,126nm,19.3s,baz=135,slow=39						
AKTO	Aktyubinsk	20.08	323	⇓P	P	20 56 28.6	+0.1
	comp=Z,19nm,0.9s						
LKRN	Lenkeran, Azer	22.48	286	P	P	20 56 55.9	+1.5
MNGR	Mingechevir, A	23.83	291	P	P	20 57 09.6	+1.6
SVE	Sverdlovsk	23.84	338	eP	P	20 57 08.4	+0.4
ZAK	Zakamensk	24.18	44	eP	P	20 57 10.3	-1.1
ZAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU	Arti	24.19	335	P	P	20 57 11.9	+0.6
	comp=Z,2.6nm,0.6s,baz=123,slow=11,SNR=15						
ARU				LR	LR	21 07 17.6	
	comp=Z,54nm,18.9s,baz=196,slow=38						
ARU	Arti	24.19	335	c iP	P	20 57 11.2	-0.1
ARU				*PP	sP	20 57 23.9	+6.1
ARU						20 57 41.4	
ARU				S	S	21 01 27.5	-1.8
ARU				SS	SnSn	21 02 13.2	+2.2
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ARU	Arti	24.19	335	P	P	20 57 10.9	-0.4
ARU				IAmb	IAmb	20 57 24.8	
	comp=Z,15nm,0.8s						
ZKTA	Zakatala	24.23	293	P	P	20 57 13.3	+1.4
GANJ	Ganja	24.40	291	P	P	20 57 14.7	+1.2
GROC	Groznyy	24.99	297	eP	P	20 57 24.5	+5.8
TLY	Talaya	25.00	42	eP	P	20 57 19.3	+0.6
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TLY	Talaya	25.00	42	P	P	20 57 17.4	-1.3
NAX	Nakhchivan	25.03	287	P	P	20 57 20.3	+1.1
SONM	Songino Array	25.07	52	P	P	20 57 20.4	+0.8
	comp=Z,3.4nm,0.9s,baz=250,slow=9.5,SNR=32						
SONM				LR	LR	21 07 28.7	
	comp=Z,56nm,18.1s,baz=9.5,slow=37						
SONM	Songino Array	25.07	52	P	P	20 57 20.1	+0.5
SONM				pmax	pmax		
	comp=Z,11nm,1.1s						
SONM	Songino Array	25.07	52	P	P	20 57 20.1	+0.5
SONM				IAmb	IAmb	20 57 32.2	
	comp=Z,11nm,1.1s						
ULN	Ulaanbaatar	25.51	52	ceP	P	20 57 24.0	+0.5
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ULN	Ulaanbaatar	25.51	52	P	P	20 57 23.6	0.0
ULN				IAmb	IAmb	20 57 35.5	
	comp=Z,7.5nm,0.8s						
MHMT	Maesarieng	25.57	127	P	P	20 57 34.5	+10
GNI	Garni	25.60	290	P	P	20 57 29.6	+5.1
	comp=Z,1.6nm,0.5s,baz=135,slow=11,SNR=2.4						
GNI	Garni	25.60	290	P	P	20 57 23.8	-0.6
GNI				pmax	pmax		
	comp=Z,19nm,1.5s						
GNI	Garni	25.60	290	P	P	20 57 23.8	-0.6
GNI				IAmb	IAmb	20 57 49.8	
	comp=Z,19nm,1.4s						
CM33	Chiang Mai Arr	25.78	125	P	P	20 57 28.0	+2.0
CHTO	Chiang Mai	25.78	125	P	P	20 57 24.7	-1.4
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						

CHTO	Chiang Mai	25.78	125	P	P	20 57 24.6	-1.4
CHTO				IAmb	IAmb	20 57 37.4	
	comp=Z,6.3nm,0.8s						
CM32	Chiang Mai Arr	25.83	125	P	P	20 57 30.0	+3.5
CM34	Chiang Mai Arr	25.89	124	P	P	20 57 28.0	+0.9
CM35	Chiang Mai Arr	26.01	125	P	P	20 57 30.0	+1.8
CM15	Chiang Mai Arr	26.02	125	P	P	20 57 31.0	+2.8
	comp=Z,77nmcomp=Z,6.6nm,0.9s						
CM31	Chiang Mai Arr	26.03	125	P	P	20 57 35.1	+6.8
	comp=Z,184nm,0.9s						
CM31	Chiang Mai Arr	26.03	125	P	P	20 57 28.1	-0.3
CMAR	Chiang Mai Arr	26.03	125	P	P	20 57 28.1	-0.3
	comp=Z,4.0nm,0.8s,baz=312,slow=9.8,SNR=24						
CMAR				LR	LR	21 09 18.7	
	comp=Z,61nm,19.5s,baz=345,slow=40						
CMAR	Chiang Mai Arr	26.03	125	P	P	20 57 28.9	+0.6
CM13	Chiang Mai Arr	26.03	125	P	P	20 57 31.1	+2.8
	comp=Z,68nmcomp=Z,9.6nm,1.1s						
CM02	Chiang Mai Arr	26.05	125	P	P	20 57 31.0	+2.5
	comp=Z,97nmcomp=Z,11nm,0.8s						
CM01	Chiang Mai Arr	26.07	125	P	P	20 57 31.6	+2.9
	comp=Z,84nmcomp=Z,7.7nm,0.8s						
CM05	Chiang Mai Arr	26.07	125	P	P	20 57 31.4	+2.7
	comp=Z,65nmcomp=Z,8.0nm,1.0s						
CM09	Chiang Mai Arr	26.07	125	P	P	20 57 32.0	+3.3
	comp=Z,15nm,1.0s						
CM36	Chiang Mai Arr	26.09	125	P	P	20 57 31.0	+2.1
CM04	Chiang Mai Arr	26.09	125	P	P	20 57 31.0	+2.1
	comp=Z,77nmcomp=Z,8.2nm,0.9s						
ZEI	Tsey	26.33	296	eP	P	20 57 40.0	+8.8
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
XAN	Xi'an	26.37	84	P	P	20 57 31.5	+0.1
XAN				pP	sP	20 57 40.3	+2.3
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
XAN	Xi'an	26.37	84	P	P	20 57 29.7	-1.7
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XAN	Xi'an	26.37	84	P	P	20 57 29.7	-1.7
XAN				IAmb	IAmb	20 57 32.0	
	comp=Z,9.5nm,1.3s						
BELG	Belogornoye	26.58	318	LR	LR	21 08 36.8	
	comp=Z,94nm,20.5s,baz=225,slow=38						
BELG	Belogornoye	26.58	318	iP	P	20 57 34.9	+2.0
BELG				pmax	pmax		
	comp=Z,6.0nm,1.3s						
NCK	Nalchik	26.62	297	iP	P	20 57 35.8	+2.3
NCK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GYA	Guiyang	27.11	101	⇑P	P	20 57 41.9	+3.7
GYA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
KBZ	Khabaz	27.15	298	P	P	20 57 38.7	+0.5
	comp=Z,0.8nm,0.8s,baz=103,slow=14,SNR=2.8						
KBZ				LR	LR	21 10 13.6	
	comp=Z,71nm,18.3s,baz=76,slow=40						
KBZ	Khabaz	27.15	298	iP	P	20 57 39.7	+1.5
KBZ				pmax	pmax		
	comp=Z,9.0nm,2.5s						
SHA1	Shidzhatmaz	27.32	298	iP	P	20 57 41.9	+1.8
KIV	Kislovodsk	27.32	298	iP	P	20 57 40.2	+0.3
KIV				e		20 58 28.5	
KIV				pmax	pmax		
	comp=Z,8.0nm,2.1s						
KIV				MLR	MLR		
	comp=Z,59nm,15.0s						
PALK	Pallekele	28.46	172	LR	LR	21 09 23.0	
	comp=Z,78nm,20.1s,baz=98,slow=37						
UTHA	Uthaitani	28.47	129	P	P	20 58 00.7	+10
	comp=Z,12nm,0.8s						
KIRV	Kirov	29.18	330	LR	LR	21 09 14.9	
	comp=Z,107nm,18.7s,baz=108,slow=36						
NONG	Nongkai	29.18	120	P	P	20 58 07.9	+11
VRH	Novokhopyorsk	29.50	313	eP	P	20 57 59.8	+0.8
VRH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
RAYN	Ar Rayn	29.63	255	P	P	20 58 00.7	+0.1
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RAYN	Ar Rayn	29.63	255	P	P	20 58 00.7	+0.1
VORD	Divnogorie	30.89	311	eP	P	20 58 15.5	+4.1
VORD				pmax	pmax		
	comp=Z,7.0nm,0.7s						
VSR	Storozhevoye	31.04	312	eP	P	20 58 14.2	+1.5
VSR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPSR	Galich'ya Gora	31.57	314	eP	P	20 58 18.0	+0.7
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
UBPT	Khong Chiam	32.70	121	P	P	20 58 26.8	-0.8
UBPT				IAmb	IAmb	20 58 36.7	
	comp=Z,6.1nm,0.7s						
OBN	Obninsk	33.67	318	ceP	P	20 58 36.0	+0.3
OBN				i		20 59 46.1	
OBN				pmax	pmax		
	comp=Z,11nm,1.0s						
BRTR	Keskin Array B	34.14	290	LR	LR	21 14 32.4	
	comp=Z,40nm,19.2s,baz=2.0,slow=40						
NRIK	Noril'sk	34.28	7	ceP	P	20 58 40.0	-0.8
NRIK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NRIK	Noril'sk	34.28	7	P	P	20 58 38.7	-2.1
NRIK				IAmb	IAmb	20 58 58.3	
	comp=Z,9.6nm,1.1s						
KLMR	Klimovskoe	34.59	329	eP	P	20 58 43.6	0.0
KLMR				pmax	pmax		
	comp=Z,31nm,1.5s						
KLMR	Klimovskoe	34.59	329	eP	P	20 58 43.6	0.0
KLMR				AMP		20 58 53.8	
	comp=Z,31nm,1.5s						
TMCR	Tamitsa	36.89	333	eP	P	20 59 05.8	+2.5
TMCR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKASG	Malin Array Be	37.13	309	P	P	20 59 04.3	-1.2
	comp=Z,0.6nm,0.5s,baz=71,slow=7.9,SNR=3.9						
AKASG				LR	LR	21 16 42.0	
	comp=Z,34nm,19.0s,baz=290,slow=40						
MNK	Minsk	38.41	315	iP	P	20 59 13.2	-3.1
	comp=E,1.0nm,0.9s						
MNK				iP	P	20 59 13.2	-3.1
	comp=N,9.0nm,0.9s						
MNK				iP	P	20 59 13.2	-3.1
	comp=Z,6.0nm,0.9s						
MNK				i pP	sP	20 59 28.4	+5.1
MNK				i sP	pP	20 59 45.3	+24
MNK				i PP	PP	21 00 18.5	-25
MNK				i PcP	PcP	21 01 14.8	-15
MNK				i S	S	21 05 03.0	-8.1
MNK				i PcS	PcS	21 05 06.2	-12
MNK				i sS	sS	21 05 30.7	+12
MNK				i SS	SnSn	21 07 38.4	-18
MNK				i ScS	ScS	21 09 33.4	+6.2
MNK				i LQ	LQ	21 12 17.9	
MNK				i LR	LR	21 15 13.1	
MNK				i LRM	MLR	21 18 31.2	
	comp=Z,78nm,18.5s						
MNK				i LRM	MLR	21 18 42.7	
	comp=N,801nm,18.5s						
MNK				i LRM	MLR	21 18 45.2	
	comp=E,39nm,18.5s						
NACGM	Naroch	39.10	315	iP	P	20 59 21.9	-0.3
NACGM				iP	P	20 59 21.9	-0.3
NACGM				iP	P	20 59 21.9	-0.3
NACGM				i PP	PnPn	21 01 06.9	+13
NACGM				i PPP	PPP	21 01 31.8	
NACGM				i S	S	21 05 17.6	-3.9
NACGM				i SSS	SSS	21 08 27.4	
NACGM				i LR	LR	21 15 37.0	
GSI	Gunungsitoli	39.25	146	P	P	20 59 24.6	+0.9
GSI				IAmb	IAmb	20 59 34.5	
	comp=Z,8.2nm,0.7s						
GSI	Gunungsitoli	39.25	146	P	P	20 59 25.2	+1.5
	comp=Z,14nm,0.8s						
MLR	Muntele Rosu	39.27	301	P	P	20 59 24.7	+0.9
MLR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MLR	Muntele Rosu	39.27	301	P	P	20 59 24.7	+0.9
BURAR	Bucovina Array	39.66	304	P	P	20 59 27.3	+0.2
MNSI	Mandailing Nat	40.64	143	P	P	20 59 36.0	+0.7
FIA1	FINESS Array S	40.83	325	P	P	20 59 36.2	-0.2
FIA1				IAmb	IAmb	20 59 48.5	
	comp=Z,8.1nm,0.8s						
FINES	FINESS Array B	40.83	325	P	P	20 59 36.0	-0.3
	comp=Z,2.4nm,0.6s,baz=109,slow=8.8,SNR=13						
FINES				LR	LR	21 19 39.3	
	comp=Z,96nm,18.9s,baz=121,slow=41						
FINES	FINESS Array B	40.83	325	ceP	P	20 59 36.7	+0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	40.83	325	P	P	20 59 35.8	-0.5
KLR	Kul'dur	41.88	54	P	P	20 59 45.5	+0.4
	comp=Z,1.6nm,0.7s,baz=268,slow=9.7,SNR=7.2						
KLR	Kul'dur	41.88	54	iP	P	20 59 44.7	-0.5
KLR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK	Yakutsk	42.00	34	ceP	P	20 59 44.2	-1.7
YAK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ARCES	ARCESS Array B	43.76	337	P	P	21 00 00.3	+0.2
	comp=Z,3.7nm,0.8s,baz=101,slow=6.3,SNR=9.9						
ARCES	ARCESS Array B	43.76	337	P	P	20 59 58.7	-1.5
ARCES				pmax	pmax		
	comp=Z,15nm,1.3s						
ARCES	ARCESS Array B	43.76	337	P	P	20 59 58.6	-1.5
ARCES				IAmb	IAmb	21 00 17.1	
	comp=Z,15nm,1.2s						
TIXI	Tiksi	44.87	21	ceP	P	21 00 07.2	-1.7
TIXI	Tiksi	44.87	21	P	P	21 00 08.2	-0.7
DPC	Dobruska-Polom	45.35	308	eP	P	21 00 14.4	+1.2
DPC	Dobruska-Polom	45.35	308	eP	P	21 00 14.4	+1.2
CHVC	Chvalec	45.50	309	eP	P	21 00 14.4	+0.1
BRG	Berggiesshubel	46.81	309	eP	P	21 00 25.2	+0.7
BRG				Amp		21 00 36.9	
	comp=Z,4.7nm,0.9s						
KHC	Kasperske Hory	47.26	307	eP	P	21 00 31.4	+3.2
KHC	Kasperske Hory	47.26	307	eP	P	21 00 31.4	+3.2
NB2	NORSAR Subarra	47.87	323	P	P	21 00 31.6	-1.2
	comp=Z,2.5nm,0.7s,baz=92,slow=7.9						
NOA	NORSAR Array B	47.87	323	P	P	21 00 32.3	-0.5
	comp=Z,0.7nm,0.8s,baz=97,slow=7.2,SNR=3.9						
NOA				LR	LR	21 21 26.7	
	comp=Z,66nm,19.3s,baz=90,slow=37						
MJAR	Matsushiro Arr	48.88	70	P	P	21 00 40.9	-0.1
	comp=Z,1.7nm,0.8s,baz=285,slow=7.9,SNR=4.3						
KMBO	Kilima Mbogo	51.91	234	P	P	21 01 05.4	+1.1
	comp=Z,1.3nm,0.6s,baz=36,slow=14,SNR=3.5						
KMBO	Kilima Mbogo	51.91	234	ceP	P	21 01 04.9	+0.6
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MA2	Magadan	52.15	38	ceP	P	21 01 05.7	+0.5
MA2				pmax	pmax		
	comp=Z,9.0nm,1.7s						
SEY	Seymchan	52.52	34	iP	P	21 01 08.4	+0.5
MBAR	Mbarara	55.99	240	P	P	21 01 33.4	-0.6
MBAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MBAR	Mbarara	55.99	240	P	P	21 01 33.4	-0.6
MBAR				IAmb	IAmb	21 01 44.0	
	comp=Z,3.4nm,0.7s						
ESDC	Sonseca Array	61.96	300	P	P	21 02 15.8	+0.7
	comp=Z,0.4nm,0.8s,baz=52,slow=8.3,SNR=3.8						
ESDC	Sonseca Array	61.96	300	P	P	21 02 15.4	+0.3
ESDC				IAmb	IAmb	21 02 36.8	
	comp=Z,6.7nm,1.4s						
SUMG	Summit	63.35	342	iP	P	21 02 24.7	+0.5
	comp=Z,16nm,1.0s						
SUMG	Summit	63.35	342	P	P	21 02 24.5	+0.3
SUMG				pmax	pmax		
	comp=Z,19nm,1.2s						
SUMG	Summit	63.35	342	P	P	21 02 24.5	+0.3
SUMG	Summit	63.35	342	iP	P	21 02 24.7	+0.5
SUMG				IAmb	IAmb	21 02 34.7	
	comp=Z,16nm,1.0s						
ICESG	Greenland Ices	65.72	339	iP	P	21 02 40.0	+0.3
ICESG				IAmb	IAmb	21 02 49.7	
	comp=Z,9.8nm,0.7s						
TORD	Torodi Ar. Bea	70.40	272	P	P	21 03 08.1	-1.4
	comp=Z,2.1nm,0.8s,baz=45,slow=5.1,SNR=2.5						
TORD	Torodi Ar. Bea	70.40	272	IAmb	IAmb	21 03 21.1	
	comp=Z,2.3nm,0.9s						
TOLK	Toolik Lake Re	70.50	16	P	P	21 03 09.0	-0.4
IMAR	Indian Mountai	71.50	19	P	P	21 03 15.1	-0.4
BMAR	Burnt Mountain	72.60	16	P	P	21 03 21.3	-0.7
KTH	Kantishna Hill	74.15	20	P	P	21 03 29.6	-1.7
ILAR	Eielson Array	74.24	18	P	P	21 03 30.6	-1.1
	comp=Z,1.1nm,1.0s,baz=311,slow=4.2,SNR=7.5						
ILAR	Eielson Array	74.24	18	P	P	21 03 30.2	-1.5
ILAR	Eielson Array	74.24	18	P	P	21 03 30.2	-1.5
PPLA	Purkeypile	74.29	21	P	P	21 03 31.4	-0.8
KOWA	Kowa	74.30	277	P	P	21 03 33.1	+0.2
KOWA				IAmb	IAmb	21 03 47.1	
	comp=Z,3.0nm,0.8s						
BCAR	Beaver Creek A	76.92	17	P	P	21 03 46.3	-0.8
BRLK	Bradley Lake	77.13	23	P	P	21 03 46.7	-1.7
WB0	Warramunga Arr	77.53	125	P	P	21 03 49.6	-1.5
WRA	Warramunga Arr	77.62	126	P	P	21 03 51.1	-0.5
	comp=Z,2.3nm,0.9s,baz=321,slow=4.9,SNR=14						
WRAB	Tennant Creek	77.62	126	P	P	21 03 51.2	-0.4
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRAB	Tennant Creek	77.62	126	P	P	21 03 51.2	-0.4
WRAB				IAmb	IAmb	21 04 00.9	
	comp=Z,4.6nm,0.9s						
WB2	Warramunga Arr	77.63	126	P	P	21 03 51.3	-0.3
WB2				IAmb	IAmb	21 04 01.0	
	comp=Z,5.9nm,0.9s						
ASAR	Alice Springs	79.99	129	P	P	21 04 04.2	-0.3
	comp=Z,0.9nm,0.7s,baz=322,slow=5.8,SNR=10						
ASAR	Alice Springs	79.99	129	P	P	21 04 04.1	-0.5
ASAR	Alice Springs	79.99	129	P	P	21 04 04.1	-0.5
BOSA	Boshof	80.25	224	P	P	21 04 05.1	-0.9
	comp=Z,4.0nm,1.1s,baz=66,slow=6.2,SNR=3.9						
BOSA	Boshof	80.25	224	P	P	21 04 05.1	-0.9
YKA	Yellowknife Ar	81.78	5	P	P	21 04 12.8	-0.8
	comp=Z,1.0nm,0.8s,baz=353,slow=5.0,SNR=15						
DLBC	Dease Lake	83.63	14	LR	LR	21 46 42.0	
	comp=Z,26nm,18.3s,baz=230,slow=39						

PRU 02 21:06:31.2±0.0**, 49°.84N×18°.55E, h0km, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.26	270	ePG	Pg	21 06 37.0	+0.8
OKC				eSG	Sg	21 06 40.1	+0.5
MORC	Moravsky Berou	0.66	265	ePG	Pg	21 06 44.3	+0.5
MORC				eSG	Sg	21 06 52.4	+0.2
KRLC	Kraliky	1.17	282	ePG	Pg	21 06 52.5	-1.0
KRLC				eSG	Sg	21 07 07.9	-0.7
VRAC	Vranov	1.38	248	ePG	Pg	21 06 57.2	-0.4
VRAC				eSG	Sg	21 07 15.0	-0.5
DPC	Dobruska-Polom	1.52	290	ePG	Pn	21 06 59.2	-0.5
DPC				eSG	Sg	21 07 19.1	-1.0
KRUC	Moravsky	1.61	242	eSG	Sn	21 07 22.1	-0.2
OSTC	Ostas	1.66	296	eSG	Sb	21 07 24.0	-0.2
CHVC	Chvalec	1.77	296	eSG	Sb	21 07 27.6	+0.3

*IDC **02** 21:11:10.1±0.7, 40°.65N×143°.96E, h0km, mb3.8/19, mb1 3.9/26, mb1mx3.8/60, mbtmp3.8/26, ML3.1/6, MS3.3/7, Ms1 3.4/7, ms1mx2.9/45, Error ellipse: s-maj=17.5km s-min=13.6km az=119.0*

*JMA **02** 21:11:11.3±0.3, 40°.60N×144°.01E, h33km, M3.8*

*NIED **02** 21:11:11.4, 40°.60N×144°.01E, h33km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; M_{rr}1.36; $M_{\theta\theta}$0.62; $M_{\phi\phi}$-1.98; $M_{r\theta}$1.57; $M_{\theta\phi}$-0.58; $M_{\phi r}$1.42; Fault plane solution: $M_0$2.80000×10^15 NP1:ϕ_s41.00000°, δ73.00000°, λ116.00000°. NP2:ϕ_s161.00000°, δ30.00000°, λ35.00000°.*

*NEIC **02** 21:11:12.1±2.3, 40°.65N±0°.06×144°.3E±0°.1, h22km±6km, mb4.4/15 Error ellipse: s-maj=15.3km s-min=9.0km az=99.0*

ISC 02 21:11:12.7±0.5**, 40°.70N**±0°.05×**144°.07E**±0°.07**, h16km, n85, σ1s.26**/82**, mb4.1**/25**, MS3.5**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	Erimo	1.48	333		Pn	21 11 38.1	-0.5
JEM	Erimo	1.48	333	P	Pn	21 11 37.9	-0.7
JTH	Tanohata	1.85	246	P	Pn	21 11 40.6	-3.2
JNBK	Urakawa-nobuka	1.86	328	P	Pn	21 11 43.1	-0.8
JKEN	Kujiedanarisaw	1.87	255	P	Pn	21 11 40.7	-3.3
JANG	Nango	1.98	261	P	Pn	21 11 42.6	-2.9
JAK	Akkeshi	2.34	11	P	Pn	21 11 50.0	-0.4
JAK				eS	Sn	21 12 18.7	-0.1
JOT	Ohata	2.39	287	P	Pn	21 11 49.4	-1.7
JOM	Ohasama	2.46	241	P	Pn	21 11 50.4	-1.7
JKB	Kayabe	2.58	298	P	Pn	21 11 52.5	-1.2
JAR	Ashorobuto	2.60	355	P	Pn	21 11 52.9	-1.1
JFR	Furan	2.69	336	eS	Sn	21 12 27.2	-0.4
JMK	Ichinoseki	2.81	232	P	Pn	21 11 54.8	-2.1
JEW	Eniwo	2.90	318	P	Pn	21 11 58.4	+0.2
JEW	Eniwo	2.90	318	Pn	Pn	21 11 58.4	+0.2
NEM2	Nemuro 2	2.94	25	P	Pn	21 11 58.3	-0.3
NEM2				eS	Sn	21 12 31.9	-1.6
JTKR	Abashiri--Toko	3.27	358	P	Pn	21 12 02.8	-0.4
JTKR				eS	Sn	21 12 39.9	-1.8
JYK	Kaneyama	3.37	239	P	Pn	21 12 02.9	-1.7
JKA	Kamikawa-asahi	3.58	343	Pn	Pn	21 12 06.8	-0.7
ASAJ	Asahikawa	3.58	343	Pn	Pn	21 12 07.5	0.0
	1.8nm,0.3s,baz=165,slow=29,SNR=9.0						
ASAJ				Sn	Sn	21 12 50.7	+1.2
	2.4nm,0.3s,baz=252,slow=20,SNR=2.6						
JMM	Marumori	3.81	223	Pn	Pn	21 12 08.0	-2.6
JSD	Sado	5.23	241	Pn	Pn	21 12 28.9	-1.3
JYT	Yasato	5.41	215	Pn	Pn	21 12 30.6	-2.0
MAJO	Matsushiro	6.19	230	Pn	Pn	21 12 42.1	-1.3
MAT	Matsushiro	6.19	230	P	Pn	21 12 42.4	-1.0
MAT				eS	Sn	21 13 54.3	+0.4
MJAR	Matsushiro Arr	6.19	230	Pn	Pn	21 12 41.9	-1.5
	0.2nm,0.3s,baz=31,slow=12,SNR=16						
MJAR	Matsushiro Arr	6.19	230	Pn	Pn	21 12 43.8	+0.3
MJB9	Matsu-Tunnel	6.19	230		Pb	21 13 03.6	+3.5
JGF	Kuroka	7.34	228	Pn	Pn	21 12 59.4	+0.2
JHJ	Hachijo jima 2	8.31	206	Pn	Pn	21 13 09.8	-2.6
	4.0nm,0.3s,baz=15,slow=12,SNR=1.4						
JHJ				Sn	Sn	21 14 32.6	-13
	5.9nm,0.3s,baz=238,slow=22,SNR=1.4						
JHJ				LR	LR	21 16 44.5	
	comp=Z,151nm,20.4s,baz=80,slow=41						
USRK	Ussuriysk Ar.	9.59	295	Pn	Pn	21 13 27.6	-2.4
	baz=96,slow=15,SNR=2.7						
USRK	Ussuriysk Ar.	9.59	295	Pn	Pn	21 13 31.5	+1.5
JHS	Saijyo	10.36	240	Pn	Pn	21 13 40.7	0.0
KLR	Kul'dur	12.19	318	Pn	Pn	21 14 04.9	-0.6
	0.1nm,0.3s,baz=127,slow=15,SNR=6.6						
KLR				LR	LR	21 18 34.9	
	comp=Z,111nm,19.7s,baz=118,slow=36						
KSRS	Korea Array	12.96	261	Pn	Pn	21 14 15.6	-0.5
	0.2nm,0.3s,baz=75,slow=13,SNR=2.7						
JNU	Nakatsue	12.98	239	Sn	Sn	21 16 40.7	+0.2
	0.2nm,0.3s,baz=36,slow=12,SNR=2.1						
PETK	Petropavlovsk-	15.48	32	Pn	Pn	21 14 50.8	+0.7
	0.1nm,0.3s,baz=263,slow=31,SNR=1.1						
PETK				LR	LR	21 20 31.1	
	comp=Z,63nm,18.9s,baz=233,slow=36						
SEY	Seymchan	22.81	10	P	P	21 16 13.8	-0.7
	1.8nm,0.8s,baz=130,slow=7.6,SNR=8.9						
YAK	Yakutsk	23.06	343	P	P	21 16 17.2	+0.1
	1.9nm,0.4s,baz=144,slow=3.0,SNR=1.7						
YAK	Yakutsk	23.06	343	P	P	21 16 16.4	-0.7
YAK				IAmb	IAmb	21 16 26.4	
	comp=Z,7.0nm,0.7s						
ULN	Ulaanbaatar	27.25	298	P	P	21 16 57.8	+1.6
SONM	Songino Array	27.69	298	P	P	21 16 59.5	-0.5
	comp=Z,2.3nm,1.0s,baz=64,slow=9.8,SNR=13						
SONM				LR	LR	21 27 48.0	
	comp=Z,56nm,18.3s,baz=80,slow=36						
SONM	Songino Array	27.69	298	P	P	21 17 00.6	+0.5
H11N2	WAKE ISLAND Hy	28.59	130	T	T	21 47 04.9	
	baz=322,slow=76,SNR=10.0						
H11N1	WAKE ISLAND Hy	28.59	130	T	T	21 47 17.6	
	baz=322,slow=76,SNR=6.4						
H11N3	WAKE ISLAND Hy	28.60	130	T	T	21 47 08.6	
	baz=322,slow=76,SNR=7.3						
H11S1	WAKE ISLAND Hy	29.44	132	T	T	21 48 09.1	
	baz=324,slow=76,SNR=7.8						
H11S3	WAKE ISLAND Hy	29.44	132	T	T	21 48 11.6	
	baz=324,slow=76,SNR=6.3						
H11S2	WAKE ISLAND Hy	29.46	132	T	T	21 48 13.5	
	baz=324,slow=76,SNR=6.1						
ZAA0	Zalesovo Array	41.09	309	P	P	21 18 55.9	+0.5
ZALV	Zalesovo Beam	41.09	309	P	P	21 18 55.0	-0.4
	comp=Z,3.8nm,0.8s,baz=87,slow=7.6,SNR=14						
ZALV	Zalesovo Beam	41.09	309	P	P	21 18 55.8	+0.4
MK31	Makanchi Array	44.03	299	P	P	21 19 18.7	-0.7
MK31				IAmb	IAmb	21 19 28.9	
	comp=Z,4.5nm,0.9s						
MKAR	Makanchi Array	44.03	299	P	P	21 19 18.7	-0.7
	comp=Z,3.9nm,0.8s,baz=80,slow=9.1,SNR=37						
MKAR	Makanchi Array	44.03	299	P	P	21 19 19.1	-0.3
MAKZ	Makanchi	44.23	300	P	P	21 19 21.8	+0.7
MAKZ				IAmb	IAmb	21 19 30.7	
	comp=Z,5.2nm,0.8s						
CMAR	Chiang Mai Arr	44.48	254	P	P	21 19 23.1	-0.2
	comp=Z,0.7nm,0.6s,baz=44,slow=7.0,SNR=6.0						
CMAR				LR	LR	21 36 43.9	
	comp=Z,30nm,20.8s,baz=200,slow=35						
CMAR	Chiang Mai Arr	44.48	254	P	P	21 19 23.3	0.0
ILAR	Eielson Array	45.29	34	P	P	21 19 30.4	+1.2
	comp=Z,0.6nm,0.9s,baz=265,slow=6.3,SNR=5.3						
KURK	Kurchatov	45.39	306	P	P	21 19 29.9	-0.2
BRVK	Borovoye	49.76	311	P	P	21 20 03.4	-0.6
BRVK				IAmb	IAmb	21 20 14.3	
	comp=Z,4.2nm,1.1s						
INK	Inuvik	50.18	29	P	P	21 20 07.7	+0.7
	comp=Z,0.7nm,0.3s,baz=143,slow=22,SNR=7.6						
KK31	Karatay Array	53.14	299	P	P	21 20 28.7	-0.9
KKAR	Karatay Array	53.14	299	P	P	21 20 28.2	-1.3
ABKAR	Akbulak array	57.20	309	P	P	21 20 58.1	-0.7
KBL	Kabul	58.08	290	P	P	21 21 04.1	-1.3
KBL				IAmb	IAmb	21 21 14.2	
	comp=Z,4.8nm,0.8s						
RES	Resolute Bay	58.52	15	P	P	21 21 08.7	+1.1
	comp=Z,1.1nm,0.9s,baz=273,slow=12,SNR=6.7						
YKA	Yellowknife Ar	59.60	32	P	P	21 21 15.0	-0.2
	comp=Z,0.2nm,0.7s,baz=299,slow=6.5,SNR=2.2						
WB0	Warramunga Arr	60.83	190	P	P	21 21 23.2	-0.9
WB0				IAmb	IAmb	21 21 37.1	
	comp=Z,3.9nm,1.1s						
WB2	Warramunga Arr	61.01	190	P	P	21 21 24.8	-0.6
WB2				IAmb	IAmb	21 21 26.8	
	comp=Z,5.6nm,1.2s						
WRA	Warramunga Arr	61.01	190	P	P	21 21 24.5	-0.9
	comp=Z,0.5nm,0.7s,baz=9.6,slow=7.0,SNR=6.7						
TULEG	Thule	61.19	8	P	P	21 21 26.6	+0.7
ARCES	ARCESS Array B	61.30	339	LR	LR	21 53 31.6	
	comp=Z,69nm,20.4s,baz=290,slow=41						
ASAR	Alice Springs	64.73	190	P	P	21 21 48.6	-1.5
	comp=Z,0.3nm,0.7s,baz=2.5,slow=6.5,SNR=2.6						
FINES	FINESS Array B	66.53	332	P	P	21 22 00.6	-0.7
	comp=Z,1.0nm,0.8s,baz=44,slow=12,SNR=1.7						
KBZ	Khabaz	70.08	311	P	P	21 22 24.1	+0.3
	comp=Z,2.7nm,0.9s,baz=327,slow=0.7,SNR=9.0						
NVAR	Mina Array Bea	71.16	55	P	P	21 22 32.5	+1.7
	comp=Z,0.6nm,0.8s,baz=304,slow=6.4,SNR=3.0						
NOA	NORSAR Array B	71.59	338	P	P	21 22 33.0	+0.3
	comp=Z,1.1nm,0.9s,baz=8.0,slow=8.5,SNR=3.4						
NOA				LR	LR	21 57 50.3	
	comp=Z,41nm,18.2s,baz=255,slow=39						
AKASG	Malin Array Be	72.65	323	P	P	21 22 38.9	-0.3
	comp=Z,0.1nm,0.3s,baz=39,slow=6.9,SNR=5.3						
AKASG	Malin Array Be	72.65	323	P	P	21 22 39.0	-0.3
FRB	Frobisher Bay	72.72	15	P	P	21 22 39.4	0.0
	comp=Z,1.0nm,0.4s,baz=16,slow=6.2,SNR=4.2						
SDCO	Great Sand Dun	79.30	49	P	P	21 23 12.5	-5.3
TXAR	Lajitas Array	86.26	54	P	P	21 23 54.8	+0.9
	comp=Z,0.3nm,0.8s,baz=240,slow=29,SNR=1.4						
MAW	Mawson	123.74	207	PKP	PKPdf	21 30 07.6	-0.8
	comp=Z,19nm,0.7s,baz=0.0,slow=9.1,SNR=2.2						
BOSA	Boshof	129.18	264	PKP	PKiKP	21 30 20.8	-0.1
	comp=Z,3.4nm,0.9s,baz=146,slow=7.3,SNR=2.6						

*JMA **02** 21:16:33.5±0.1, 22°.09N×121°.53E, h4km, M3.6*

*TAP **02** 21:16:35.5, 22°.08N×121°.38E, h17km, ML3.0, C*

ISC 02 21:16:35.1±1.0**, 22°.06N**±0°.04×**121°.46E**±0°.03**, h27km**±7km**, n105, σ1s.42**/178**, 1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.09	106	⇓iP	Pb	21 16 40.2	+0.3
	baz=103						
LAY				i S	Sb	21 16 43.7	+0.5
	baz=103						
TSEB	Hengchuen, Pin	0.54	253	i P	Pb	21 16 46.3	+0.3
	baz=264						
TSEB				i S	Sn	21 16 54.2	-1.0
	baz=264						
TAW	Tawu	0.59	300	i P	Pb	21 16 45.9	-1.1
	baz=304						
TAW				S	Sb	21 16 53.4	-1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=304						
LDUT	Ludao	0.61	1	P	Pb	21 16 46.7	-0.5
	baz=22						
LDUT				S	Sb	21 16 55.4	0.0
	baz=22						
TWKBT	Hengchun	0.61	259	P	Pb	21 16 46.5	-0.7
	baz=269						
TWKBT				S	Sb	21 16 54.7	-0.7
	baz=269						
TWK1	Hengchun	0.61	259	*i* P	Pb	21 16 46.6	-0.7
	baz=269						
TWK1				S	Sb	21 16 54.5	-1.0
	baz=269						
SLIU	Shizi	0.63	284	P	Pb	21 16 46.5	-0.9
	baz=285						
SLIU				S	Sb	21 16 54.3	-1.7
	baz=285						
EAST	Anshuo	0.65	300	*i* P	Pb	21 16 46.7	-1.1
	baz=303						
EAST				S	Sb	21 16 55.0	-1.5
	baz=303						
SNW	Nanwan	0.66	261	*e*S	Sb	21 16 55.6	-1.2
	baz=269						
HEN	Hengchun	0.67	265	*i* P	Pb	21 16 47.4	-0.8
	baz=273						
HEN				*i* S	Sb	21 16 56.5	-0.6
	baz=273						
ECL	Taimali	0.70	319	*i* P	Pb	21 16 47.5	-1.3
	baz=324						
ECL				S	Sb	21 16 56.2	-1.9
	baz=324						
TTN	Taitung	0.74	338	*e*P	Pb	21 16 49.4	0.0
	baz=327						
TTN				*e*S	Sn	21 17 00.2	0.0
	baz=327						
TWGBT	Beinan	0.83	335	*i* P	Pb	21 16 49.8	-1.0
	baz=326						
TWGBT				S	Sb	21 17 00.0	-1.6
	baz=326						
SCZT	Fangliau	0.83	292	*i* P	Pb	21 16 50.0	-0.9
	baz=304						
SCZT				*e*S	Sb	21 17 00.3	-1.5
	baz=304						
TWG	Pinlang	0.83	335	*i* P	Pb	21 16 50.0	-1.0
	baz=326						
TWG				*e*S	Sb	21 17 00.4	-1.4
	baz=326						
LONT	Longtian	0.89	340	P	Pb	21 16 50.9	-1.0
	baz=331						
EDH	Donghe	0.92	351	P	Pb	21 16 51.7	-0.6
	baz=5.0						
EDH				S	Sb	21 17 03.9	-0.3
	baz=5.0						
SSPT	Xinbi	0.92	297	*i* P	Pb	21 16 52.1	-0.3
	baz=300						
SSPT				*e*S	Sb	21 17 03.0	-1.3
	baz=300						
MASBT	Mashibuluo	0.94	306	P	Pb	21 16 51.4	-1.3
	baz=317						
TSMG	Majia	0.98	311	P	Pn	21 16 53.8	+0.7
	baz=322						
TSMG				*e*S	Sb	21 17 03.8	-2.3
	baz=322						
SSD	Sandimen	1.02	312	P	Pn	21 16 54.4	+0.8
	baz=323						
SSD				*e*S	Sb	21 17 04.5	-2.6
	baz=323						
CHKT	Chengkung	1.03	355	*e*S	Sb	21 17 06.3	-1.2
	baz=8.0						
WLCH	Liuqiu	1.04	286	*e*P	Pn	21 16 54.4	+0.6
	baz=287						
WLCH				*e*S	Sn	21 17 09.2	+1.7
	baz=287						
TWP	Hsiaoliuchiu	1.05	286	*e*S	Sn	21 17 09.5	+1.8
	baz=287						
TSPT	Pingtung City	1.08	305	*e*P	Pn	21 16 54.9	+0.5
	baz=315						
TSPT				*e*S	Sn	21 17 09.1	+0.7
	baz=315						
SGLT	Jiouru	1.11	307	*e*P	Pb	21 16 54.8	-0.8
	baz=321						
FULB	Fuli	1.14	353	P	Pn	21 16 55.6	+0.3
	baz=340						
SLGT	Liugui	1.19	321	P	Pb	21 16 56.9	-0.1
	baz=330						
SLGT				*e*S	Sn	21 17 12.0	+0.7
	baz=330						
ELDTW	Lidau	1.19	340	*e*P	Pn	21 16 55.5	-0.6
	baz=344						
SCST	Cishan	1.21	313	P	Pb	21 16 58.4	+1.2
	baz=316						
SCST				*e*S	Sn	21 17 13.3	+1.6
	baz=316						
TWM1	Shoushan	1.22	309	P	Pb	21 16 59.0	+1.5
	baz=322						
TWM1				*e*S	Sn	21 17 14.5	+2.6
	baz=322						
STYH	Taoyuan	1.27	330	P	Pb	21 16 57.8	-0.5
	baz=343						
STYT	Tauyuan	1.27	330	P	Pb	21 16 57.8	-0.6
	baz=343						
STYT				*e*S	Sb	21 17 12.8	-1.5
	baz=343						
EYUL	Yuli	1.28	354	P	Pb	21 16 58.5	0.0
	baz=345						
TWF1	Yuli	1.29	354	*i* P	Pn	21 16 57.9	+0.5
	baz=344						
SGST	Jiashian	1.29	322	*e*P	Pb	21 16 59.2	+0.4
	baz=325						
SGST				*e*S	Sn	21 17 16.0	+2.1
	baz=325						
YULB	Yu-li	1.33	354	P	Pb	21 16 58.9	-0.5
	baz=345						
CHN1	Nanshi	1.41	323	*i* P	Pb	21 17 01.6	+0.9
	baz=326						
CHN1				S	Sb	21 17 20.2	+2.0
	baz=326						
WTP	Ta-pu	1.41	327	P	Pb	21 17 01.4	+0.6
	baz=341						
WTP				S	Sb	21 17 20.2	+1.9
	baz=341						
HGSD	Ruisui	1.42	359	P	Pn	21 16 59.4	+0.2
	baz=14						
CHN3	Shinhua	1.43	315	*e*S	Sb	21 17 20.9	+2.2
	baz=318						
EHY	Hungye	1.44	355	*i* P	Pn	21 16 59.2	-0.2
	baz=347						
TPUB	Ta-pu	1.45	328	P	Pb	21 17 01.2	-0.2
	baz=343						
TPUB				*e*S	Sb	21 17 20.0	+0.6
	baz=343						
SNST	Tainan City	1.45	323	P	Pb	21 17 01.8	+0.4
	baz=326						
SNST				S	Sb	21 17 21.6	+2.1
	baz=326						
YUS	Yu-Shan	1.49	342	*e*P	Pn	21 17 01.2	+0.6
	baz=345						
YUS				*e*S	Sn	21 17 19.8	+0.4
	baz=345						
TWK	Hsinying	1.49	323	*i* P	Pb	21 17 02.2	0.0
	baz=327						
TWK				S	Sb	21 17 21.7	+1.0
	baz=327						
CHN4	Tsaushan	1.51	328	*i* P	Pb	21 17 02.7	+0.3
	baz=342						
CHN4				*i* S	Sb	21 17 23.6	+2.5
	baz=342						
ALS	Alishan	1.56	338	*i* P	Pb	21 17 03.5	0.0
	baz=340						
ALS				*e*S	Sb	21 17 22.9	0.0
	baz=340						
CHN5	Tsauling	1.69	335	*i* P	Pb	21 17 05.3	-0.2
	baz=338						
CHN5				*i* S	Sb	21 17 27.5	+1.2
	baz=338						
ICHU	Yijhu	1.69	320	*e*P	Pn	21 17 03.5	+0.8
	baz=323						
ICHU				*e*S	Sb	21 17 25.1	-1.2
	baz=323						
VWDT	VWDT	1.71	350	P	Pb	21 17 05.0	-0.8
	baz=2.0						
CHY	Chiayi	1.71	327	*e*S	Sb	21 17 26.6	-0.4
	baz=329						
CHN8	Yiju	1.72	318	*e*S	Sb	21 17 28.2	+1.1
	baz=321						
ESL	Shilin	1.74	359	P	Pn	21 17 04.7	+1.2
	baz=351						
SSLB	Suanglung	1.78	345	P	Pb	21 17 06.5	-0.5
	baz=347						
SSLB				*e*S	Sb	21 17 28.9	0.0
	baz=347						
WGK	Gukeng	1.81	333	*e*P	Pb	21 17 06.2	-1.4
	baz=336						
WGK				S	Sb	21 17 30.8	+0.9
	baz=336						
WDLH	Douliu	1.82	333	*e*P	Pn	21 17 05.5	+0.8
	baz=335						
WDLH				S	Sb	21 17 28.3	-1.9
	baz=335						
WJS	Zhushan	1.87	339	*e*P	Pb	21 17 08.2	-0.5
	baz=341						
WJS				*e*S	Sb	21 17 33.4	+1.7
	baz=341						
SMLT	Sun Moon Lake	1.88	344	P	Pb	21 17 08.7	-0.1
	baz=347						
SMLT				S	Sb	21 17 33.6	+1.6
	baz=347						
TYC	Yuchr	1.91	343	*i* P	Pb	21 17 08.9	-0.4
	baz=346						
TYC				S	Sb	21 17 33.5	+0.8
	baz=346						
WSF	Szhu	1.94	324	*e*S	Sb	21 17 32.1	-1.3
	baz=327						
WNT	Mingjian	1.94	339	*e*P	Pb	21 17 09.5	-0.2
	baz=341						
WNT				*e*S	Sb	21 17 33.4	-0.1
	baz=341						
WPL	Puli Township	1.99	347	*e*P	Pb	21 17 10.1	-0.6
	baz=349						
CHGB	Renai	2.00	353	P	Pb	21 17 10.2	-0.8
	baz=5.0						
DPDB	Guoxing	2.02	346	*e*P	Pb	21 17 10.2	-0.9
	baz=348						
DPDB				*e*S	Sb	21 17 37.1	+1.2
	baz=348						
WDGT	Dungji	2.04	306	*i* P	Pn	21 17 07.5	-0.1
	baz=309						
WDGT				S	Sn	21 17 31.7	-0.6
	baz=309						
WCS	Beigang Elemen	2.05	346	P	Pb	21 17 10.4	-1.2
	baz=348						
WCS				*e*S	Sb	21 17 36.6	0.0
	baz=348						
WHF	Hehuan Shan	2.08	355	P	Pb	21 17 10.6	-1.8
	baz=357						
WHF				*e*S	Sb	21 17 35.9	-2.1
	baz=357						
NACB	Ninganchiao	2.10	3	P	Pn	21 17 10.4	+1.9
	baz=354						
NACB				*e*S	Sn	21 17 35.2	+1.4
	baz=354						
ETLH	Xiulin Townshi	2.13	1	P	Pb	21 17 11.3	-1.8
	baz=2.0						
ETLH				*e*S	Sb	21 17 36.9	-2.3
	baz=2.0						
FUSS	Fushou	2.18	355	P	Pb	21 17 12.6	-1.4
	baz=7.0						
TDCB	Techi	2.20	353	*e*S	Sb	21 17 38.8	-2.3
	baz=5.0						
WHP	Taichung City	2.25	348	P	Pb	21 17 13.8	-1.3
	baz=350						
WHP				S	Sb	21 17 42.9	+0.2
	baz=350						
PHUB	P'eng-hu	2.26	310	P	Pn	21 17 10.9	+0.3
	baz=302						
PHUB				S	Sn	21 17 36.9	-0.7
	baz=302						
PNG	Penghu	2.31	311	*i* P	Pn	21 17 10.9	-0.3
	baz=314						
NNSB	Datong	2.35	358	P	Pb	21 17 14.8	-2.1
	baz=360						
NNSB				*e*S	Sn	21 17 42.3	+2.1
	baz=360						
NNSH	Datong	2.35	358	*i* P	Pb	21 17 14.8	-2.1
	baz=360						
NNSH				*e*S	Sn	21 17 42.2	+2.0
	baz=360						
TWQ1	Liyutan	2.36	345	*e*P	Pb	21 17 15.6	-1.3
	baz=347						
TWQ1				S	Sb	21 17 44.2	-1.4
	baz=347						
NNS	Nan Shan	2.37	358	P	Pb	21 17 15.7	-1.4
	baz=360						
NNS				S	Sb	21 17 43.7	-2.3
	baz=360						
ENA	Nanau	2.37	6	*e*P	Pn	21 17 14.0	+1.9
	baz=357						
NDT	Datong Townshi	2.53	1	*e*P	Pn	21 17 16.0	+1.6
	baz=3.0						
NDT				*e*S	Sn	21 17 47.2	+2.9
	baz=3.0						
ENTT	Nioudou	2.57	2	*i* P	Pn	21 17 17.6	+2.7
	baz=4.0						
ENTT				S	Sb	21 17 49.2	-2.4
	baz=4.0						
NDS	Dongshan	2.57	5	P	Pb	21 17 18.3	-2.2
	baz=357						
NDS				S	Sb	21 17 48.9	-2.7
	baz=357						
NSTT	Nanjuang	2.59	351	*e*P	Pb	21 17 18.1	-2.8
	baz=338						
NSTT				*e*S	Sb	21 17 48.9	-3.3
	baz=338						
YHNB	Yeheng	2.59	358	P	Pb	21 17 18.8	-2.2
	baz=360						
YHNB				*e*S	Sn	21 17 48.9	+2.9
	baz=360						
LIOB	Emei	2.60	351	P	Pb	21 17 19.2	-1.9
	baz=338						
NSK	Sanguang	2.60	358	P	Pb	21 17 19.3	-1.7
	baz=360						
NSK				S	Sn	21 17 48.9	+2.7
	baz=360						
TWE	Neicheng	2.65	4	*e*P	Pn	21 17 19.0	+2.9
	baz=357						
NWLT	Wulai	2.70	1	P	Pn	21 17 19.7	+2.9
	baz=2.0						
NWLT				S	Sb	21 17 52.0	-3.5
	baz=2.0						
TIPB	Shuangxi	2.92	7	P	Pn	21 17 22.3	+2.6
	baz=357						
TIPB				*e*S	Sn	21 17 56.5	+2.6
	baz=357						
HATJ	Hateruma jima	2.94	47	P	Pn	21 17 21.1	+1.1
HATJ				*e*S	Sn	21 17 54.6	+0.3
IRIF	Iriomote-Funau	3.08	42	P	Pn	21 17 23.5	+1.6
IRIF				*e*S	Sn	21 17 58.1	+0.2
JKRS	Kuro-shima	3.19	47	P	Pn	21 17 25.0	+1.5
JKRS				*e*S	Sn	21 18 00.5	-0.2
JIJ	Ishigaki jima	3.37	47	P	Pn	21 17 26.8	+0.9
JIJ				S	Sn	21 18 04.0	-1.1
VWUC	VWUC	3.45	328	*e*P	Pn	21 17 28.4	+1.4
	baz=330						
VWUC				*e*S	Sn	21 18 06.3	-0.7
	baz=330						
JISG	Ishigakijimahi	3.63	46	P	Pn	21 17 30.4	+0.9
KNM	Kinmen	3.63	311	*e*P	Pn	21 17 32.0	+2.4
	baz=312						
KNM				*e*S	Sn	21 18 14.1	+2.5
	baz=312						
PTMZ	Houxiangcun	3.66	325	P	Pn	21 17 30.8	+0.9
	baz=326						
PTMZ				S	Sn	21 18 11.9	-0.2
	baz=326						
KNMB	Chin-men Tao	3.69	311	*e*P	Pn	21 17 30.7	+0.3
	baz=313						
KNMB				*e*S	Sn	21 18 12.4	-0.7
	baz=313						
PTTC	Pingtan	3.75	336	*e*S	Sn	21 18 14.0	-0.5
	baz=337						
ZPLA	Ao Xicun	3.89	299	*e*S	Sn	21 18 17.3	-0.5
	baz=302						
JTJ	Tarama	3.94	49	P	Pn	21 17 35.1	+1.4
JTJ				S	Sn	21 18 18.9	-0.1
AXDP	Jialang	4.27	312	*e*P	Pn	21 17 38.5	+0.2
	baz=314						
AXDP				*e*S	Sn	21 18 27.8	+0.6
	baz=314						
MATB	Ma-tsu	4.30	342	P	Pn	21 17 39.6	+0.9
	baz=342						
MATB				*e*S	Sn	21 18 27.3	-0.6
	baz=342						
MHZQ	Yeshan	4.59	332	*e*S	Sn	21 18 34.5	-0.6
	baz=332						

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*IDC **02** 21:20:13.0±2.8, 40°.56N×143°.93E, h0km, mb3.6/3, mb1 3.5/5, mb1mx3.3/47, mbtmp3.4/5, ML2.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/52, Error ellipse: s-maj=70.6km s-min=25.5km az=83.0*

*JMA **02** 21:20:14.8±0.3, 40°.60N×144°.00E, h36km, M3.1*

ISC 02 21:20:13.5±1.1**, 40°.58N**±0°.05×**144°.07E**±0°.08**, h16km, n22, σ1s.32**/29**, mb3.7**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.59	335	P	Pn	21 20 40.7	-0.3
JEM				*e*S	Sn	21 20 59.5	-1.7
JTH	Tanohata	1.80	250	P	Pn	21 20 43.9	0.0
JTHR	Tokachihiroo	1.81	342	P	Pn	21 20 44.0	+0.1
JTHR				*e*S	Sn	21 21 05.7	-0.8
JKEN	Kujiedanarisaw	1.84	259	P	Pn	21 20 44.1	-0.3
JANG	Nango	1.96	265	P	Pn	21 20 46.1	+0.1
JNBK	Urakawa-nobuka	1.96	330	P	Pn	21 20 46.6	+0.5
JCH	Churui	2.10	346	P	Pn	21 20 48.1	+0.1
JCH				*e*S	Sn	21 21 12.5	-1.3
JOM	Ohasama	2.40	243	P	Pb	21 20 53.5	-2.8
JOT	Ohata	2.42	290	P	Pn	21 20 52.8	+0.4
JAK	Akkeshi	2.46	11	*e*S	Sn	21 21 21.5	-1.1
JKB	Kayabe	2.63	301	P	Pn	21 20 55.8	+0.5
JAR	Ashorobuto	2.72	355	P	Pn	21 20 56.1	-0.5
JAR				*e*S	Sn	21 21 26.4	-2.8
JMK	Ichinoseki	2.73	234	*e*S	Sn	21 21 29.4	+0.1
JEW	Eniwo	2.99	320	P	Pn	21 21 01.6	+1.4
JEW				*e*S	Sn	21 21 36.0	+0.3
NEM2	Nemuro 2	3.05	24	P	Pn	21 21 01.7	+0.7
NEM2				*e*S	Sn	21 21 35.0	-2.2
JTKR	Abashiri--Toko	3.39	358	P	Pn	21 21 06.2	+0.5
JTKR				*e*S	Sn	21 21 43.8	-1.8
ASAJ	Asahikawa	3.70	343	Pn	Pn	21 21 11.4	+1.4
	0.5nm,0.3s,baz=6.3,slow=9.2,SNR=1.5						
ASAJ				Sn	Sn	21 21 54.8	+1.6
	0.8nm,0.3s,baz=312,slow=18,SNR=3.9						
MJAR	Matsushiro Arr	6.11	231	Pn	Pn	21 21 42.9	-0.2
	baz=30,slow=12,SNR=2.0						
YAK	Yakutsk	23.18	343	LR	LR	21 33 41.4	
	comp=Z,34nm,19.4s,baz=90,slow=35						
ZALV	Zalesovo Beam	41.16	309	P	P	21 27 58.3	+1.5
	1.7nm,0.8s,baz=91,slow=7.2,SNR=4.7						
MKAR	Makanchi Array	44.09	300	P	P	21 28 22.1	+1.4
	0.8nm,0.7s,baz=81,slow=8.2,SNR=9.0						
WRA	Warramunga Arr	60.89	190	P	P	21 30 27.0	+1.7
	0.2nm,0.8s,baz=6.2,slow=8.9,SNR=1.3						

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*IDC **02** 21:24:53.3±2.0, 9°.77S×107°.25E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/39, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=62.0km s-min=27.0km az=62.0*

ISC 02 21:24:58.1±1.4**, 9°.8S**±0°.1×**107°.3E**±0°.3**, h35km, n6, σ0s.28**/7**, mb3.4**/4**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	Lembang	2.98	7	Pn	Pn	21 25 42.8	-0.2
	9.7nm,0.3s,baz=150,slow=22,SNR=14						
LEM				Sn	Sn	21 26 17.7	+0.2
	11nm,0.3s,baz=330,slow=22,SNR=13						
WRA	Warramunga Arr	28.01	114	P	P	21 30 46.0	-0.1
	0.3nm,0.8s,baz=287,slow=11,SNR=2.1						
CMAR	Chiang Mai Arr	29.25	344	P	P	21 30 56.9	-0.1
	0.3nm,0.4s,baz=172,slow=7.3,SNR=4.7						
SONM	Songino Array	57.38	359	P	P	21 34 43.1	+0.1
	0.3nm,0.7s,baz=172,slow=12,SNR=3.1						
MKAR	Makanchi Array	60.59	341	P	P	21 35 05.1	-0.1
	0.6nm,0.5s,baz=156,slow=7.9,SNR=7.2						
TXAR	Lajitas Array	145.16	52	PKPbc	PKPdf	21 44 33.2	+0.5
	0.1nm,0.6s,baz=233,slow=4.1,SNR=1.4						

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*IDC **02** 21:30:37.2±1.4, 40°.65N×143°.93E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/41, mbtmp3.6/9, ML2.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/61, Error ellipse: s-maj=33.1km s-min=22.4km az=104.0*

*JMA **02** 21:30:39.9±0.1, 40°.65N×143°.91E, h51km, M3.3*

ISC 02 21:30:38.9±0.9**, 40°.68N**±0°.04×**143°.90E**±0°.07**, h16km, n26, σ1s.62**/35**, mb3.6**/7**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.45	338	P	Pb	21 31 05.1	-0.4
JEM				*e*S	Sn	21 31 21.9	-1.2
JTHR	Tokachihiroo	1.67	345	P	Pb	21 31 07.9	-1.4
JTHR				*e*S	Sb	21 31 29.0	-1.1
JTH	Tanohata	1.72	245	P	Pb	21 31 08.1	-2.1
JKEN	Kujiedanarisaw	1.74	255	P	Pn	21 31 08.1	-0.3
JKEN				*e*S	Sn	21 31 28.9	-1.3
JNBK	Urakawa-nobuka	1.82	332	P	Pb	21 31 10.5	-1.3
JANG	Nango	1.84	261	P	Pb	21 31 10.0	-2.2
JCH	Churui	1.98	348	P	Pn	21 31 12.2	+0.5
JCH				*e*S	Sn	21 31 36.2	+0.1
JOT	Ohata	2.27	289	P	Pb	21 31 16.9	-2.6
JOM	Ohasama	2.33	240	P	Pb	21 31 17.5	-3.1
JAK	Akkeshi	2.39	14	P	Pn	21 31 17.3	-0.1
JAK				*e*S	Sn	21 31 44.9	-1.4
JKB	Kayabe	2.48	300	P	Pn	21 31 19.8	+1.3
JAR	Ashorobuto	2.62	358	P	Pn	21 31 20.3	-0.2
JAR				*e*S	Sn	21 31 50.1	-1.9
JMK	Ichinoseki	2.69	231	P	Pn	21 31 22.1	+0.6
JMK				*e*S	Sn	21 31 53.4	-0.3
JEW	Eniwo	2.83	320	P	Pb	21 31 25.6	-3.5
NEM2	Nemuro 2	3.02	26	P	Pn	21 31 25.4	-0.6
NEM2				*e*S	Sn	21 31 58.6	-3.1
JTKR	Abashiri--Toko	3.29	0	P	Pn	21 31 30.1	+0.4
JTKR				*e*S	Sn	21 32 07.4	-1.1
ASAJ	Asahikawa	3.57	345	Pn	Pn	21 31 35.0	+1.4
	1.2nm,0.3s,baz=176,slow=16,SNR=1.7						
ASAJ				Sn	Sn	21 32 17.9	+2.5
	1.1nm,0.3s,baz=17,slow=32,SNR=1.9						
MJAR	Matsushiro Arr	6.08	229	Pn	Pn	21 32 09.8	+1.7
	0.1nm,0.3s,baz=36,slow=10,SNR=4.7						
JHJ	Hachijo jima 2	8.23	205	LR	LR	21 36 07.8	
	comp=Z,49nm,18.9s,baz=110,slow=40						
SEY	Seymchan	22.86	10	P	P	21 35 41.8	+0.6
	0.6nm,0.5s,baz=187,slow=12,SNR=4.3						
SONM	Songino Array	27.59	298	P	P	21 36 25.0	-0.3
	0.3nm,0.6s,baz=95,slow=12,SNR=1.9						
ZALV	Zalesovo Beam	41.00	309	P	P	21 38 22.3	+1.4
	1.0nm,0.5s,baz=96,slow=7.2,SNR=4.9						
MKAR	Makanchi Array	43.93	299	P	P	21 38 46.1	+1.3
	1.0nm,0.8s,baz=80,slow=9.1,SNR=11						
ILAR	Eielson Array	45.39	34	P	P	21 38 57.5	+1.3
	0.3nm,0.7s,baz=277,slow=7.8,SNR=2.4						
WRA	Warramunga Arr	60.96	190	P	P	21 40 51.3	+0.1
	0.4nm,0.9s,baz=23,slow=6.7,SNR=1.5						
FINES	FINESS Array B	66.49	332	P	P	21 41 28.3	+1.1
	4.3nm,1.1s,baz=35,slow=5.1,SNR=2.4						

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*SNET **02** 21:40:05.3±0.9, 13°.29N×90°.79W, h16km±5km, ML3.3*

*GCG **02** 21:40:05.6±0.3, 13°.29N×90°.91W, h20km±418km, MD3.8*

ISC 02 21:40:03.5±3.5**, 13°.2N**±0°.2×**90°.8W**±0°.1**, h10km, n13, σ0s.51**/17**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	1.02	21	*e*P	Pb	21 40 22.9	-0.4
IXG				*e*S	Sb	21 40 36.0	-0.8
IXG	Ixpaco	1.02	21	*e*P	Pn	21 40 23.9	-0.1
IXG				*e*S	Sn	21 40 38.1	-0.3
PCG	Pacaya	1.18	10	*e*P	Pn	21 40 26.5	+0.1
FUG	Fuego 3	1.22	359	*e*P	Pn	21 40 26.6	-0.3
CEVE	Cerro Verde	1.31	62	*e*P	Pn	21 40 27.8	-0.3
CEVE				*e*S	Sn	21 40 46.4	+0.5
CEVE				IAML		21 41 03.5	
	comp=Z,601nm,0.3s						
SBLS	San Blas	1.32	62	*e*P	Pn	21 40 27.8	-0.4
SNJE	San Jose	1.35	61	*e*P	Pn	21 40 28.3	-0.3
JAYA	Jayaque - finc	1.40	72	*e*P	Pn	21 40 29.1	-0.2
JAYA				IAML		21 41 03.2	
	comp=Z,398nm,0.3s						
NBG	Las Nubes	1.44	19	*e*P	Pg	21 40 32.1	+0.9
TACO	Tacachico	1.61	62	*e*P	Pn	21 40 31.8	-0.3
TACO				*e*S	Sn	21 40 52.6	-0.3
MTO3	Montecristo	1.84	50	*e*P	Pn	21 40 36.1	+0.7
ESQI	Esquipulas	1.96	47	*e*P	Pn	21 40 37.5	+0.6
MRL	Marmol	2.15	31	*e*P	Pn	21 40 39.9	+0.1

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*MAN **02** 21:51:54.1, 9°.86N×126°.50E, h10km, mb5.5, ML4.5, MS4.5*

MAN INTENSITY II - GENERAL LUNA.

*GCMT **02** 21:51:56.8±0.2, 10.03N±0.02×126.74E±0.02, h76km±3km, MW5.1/106, Moment Tensor Solution. s10,c10; s106,c143; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.91±.24; Mθθ5.38±.14; Mφφ-1.47±.18; Mrθ-0.47±.15; Mθφ1.31±.12; Mφr1.75±.10; Best double couple: M0 5.27600×10^16 NP1:φs233.00000°, δ51.00000°, λ-129.00000°. NP2:φs106.00000°, δ53.00000°, λ-52.00000°. Principal axes: T 5.6240, Plg1.0000°, Azm170.0000°; N -0.6970, Plg29.0000°, Azm260.0000°; P -4.9270, Plg61.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **02** 21:51:57.2±1.7, 9.86N×126.32E, h49km±16km, mb4.6/57, mb1 4.6/60, mb1mx4.5/68, mbtmp4.8/60, ML4.3/2, MS4.2/37, Ms1 4.2/37, ms1mx4.2/50 Error ellipse: s-maj=12.8km s-min=7.6km az=79.0*

*NEIC **02** 21:51:58.8±1.9, 9.87N±0.08×126.3E±0.1, h70km±5km, mb5.0/91, Error ellipse: s-maj=14.4km s-min=11.6km az=78.0*

*BJI **02** 21:51:58.0±0.0, 10.00N×126.50E, h65km, mB5.0/52, mb4.8/75, Ms4.7/68, Ms7 4.5/61*

*DJA **02** 21:52:01.6±0.4, 10°N±3°×12°6E±°, h67km±4km, M4.9/53, mB5.4/31, mb4.9/53, MLv5.8/1, Mw(mB)4.8/31, MwMwp4.9/3, Mwp5.2/3*

*KLM **02** 21:52:02, 10.09N×126.47E, h89km, mb5.1*

ISC 02 21:51:56.6±0.5, **9.87N**±0.03×**126.46E**±0.05, **h47**km±4km, **h48**km**:pP-P, n372,** σ1s**63**/366, **mb5.0**/159, **MS4.3**/52, **9C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	General Luna,	0.34	256	eP	Pn	21 52 02.3	-3.5
GLSP				eS	Sn	21 52 08.6	-3.8
BUTP	Butuan	1.22	223	eP	Pn	21 52 16.1	-1.1
BUTP				eS	Sn	21 52 35.4	+2.8
MSLP	Maasin	1.60	280	eP	Pn	21 52 22.8	+0.4
MSLP				eS	Sn	21 52 45.6	+3.8
OCLP	Ormoc	2.17	303	eP	Pn	21 52 32.0	+1.7
OCLP				eS	Sn	21 53 09.0	+13
CGP	Cagayan de Oro	2.24	231	⇓eP	Pn	21 52 31.8	+0.6
CGP				iS	Sn	21 53 00.6	+2.9
LLP	Lapu-Lapu	2.49	281	⇑eP	Pn	21 52 35.7	+0.9
LLP				eS	Sn	21 53 07.3	+3.3
MATI	Mati	2.91	184	eP	Pn	21 52 39.3	-1.2
MATI				eS	Sn	21 53 38.6	+24
DAV	Davao City (W)	2.91	197	P	Pn	21 52 42.0	+1.4
	baz=25,slow=3.0,SNR=5.1						
DAV				S	Sn	21 53 20.7	+6.4
	39nm,0.3s,baz=244,slow=20,SNR=6.8						
DAV	Davao City (W)	2.91	197		Pn	21 52 42.5	+2.0
DAV	Davao City (W)	2.91	197	⇑eP	Pn	21 52 44.0	+3.4
KCP	Kidapawan	3.15	206	⇑iP	Pn	21 52 44.8	+1.0
KCP				iS	Sn	21 53 16.6	-3.6
PAGZ	Pagadian	3.64	237	eP	Pn	21 52 52.3	+1.8
PAGZ				eS	Sn	21 53 35.9	+3.6
CNOP	Candoni, Negro	3.76	270	eP	Pn	21 52 53.6	+1.4
CNOP				eS	Sn	21 53 39.4	+4.1
DDMP	Don Marcelino,	3.81	191	eP	Pn	21 52 54.7	+1.9
DDMP				eS	Sn	21 54 14.3	+38
SKMP	Bagumbayan, Su	3.83	210	eP	Pn	21 52 58.2	+5.1
GUIM	Jordan	3.88	282	eP	Pn	21 52 56.0	+2.2
GUIM				eS	Sn	21 53 43.0	+4.9
SCSP	San Jose Seism	4.74	323	eP	Pn	21 53 13.9	+8.4
SCSP				eS	Sn	21 54 17.3	+18
JCNP	Jose Panganiba	5.73	320	eP	Pn	21 53 17.6	-1.6
JCNP				eS	Sn	21 54 49.8	+26
LQP	Lukban	6.40	312	⇑eP	Pn	21 53 30.3	+1.7
PGP	Puerto Galera	6.49	304	⇑eP	Pn	21 53 30.9	+1.2
TGY	Tagaytay City	6.85	308	P	Pn	21 53 37.1	+2.6
	12nm,0.3s,baz=297,slow=14,SNR=11						
TGY				LR	LR	21 56 31.7	
	comp=Z,6µm,18.1s,baz=128,slow=41						
ENPP	El Nido	7.04	282	eP	Pn	21 53 37.9	+0.7
ENPP				eS		21 53 46.4	
LUBP	Lubang	7.19	303	eP	Pn	21 53 38.6	-0.7
LUBP				eS	Sn	21 55 10.4	+11
SMPP	San Manuel, Pa	8.41	319	eP	Pn	21 53 54.0	-1.9
SMPP				eS		21 54 12.6	
TNTI	Ternate	9.08	174	Pn	Pn	21 54 08.6	+3.4
TNTI	Ternate	9.08	174	P	Pn	21 54 08.0	+2.8
	1µm89nm,1.7s						
MYLDM	Lahad Datu	9.16	240	Pn	Pn	21 54 09.7	+3.5
GTOI	Gorontalo	9.79	201	P	Pn	21 54 14.9	0.0
	463nm44nm,0.8s						
MRSI	Marisa	10.36	206	P	Pn	21 54 25.5	+2.9
	562nm50nm,1.0s						
KKM	Kota Kinabalu	10.83	250	Pn	Pn	21 54 31.4	+2.1
LUWI	Luwuk	11.44	199	P	Pn	21 54 41.6	+4.1
	2µm142nm,1.2s						
SWI	Sorong	11.68	156	P	Pn	21 54 46.3	+5.5
	48nm,1.0s						
SIJI	Sorong	11.69	156	P	Pn	21 54 40.5	-0.4
	2.2nm,0.3s,baz=161,slow=23,SNR=6.3						
SIJI				LR	LR	22 00 58.8	
	comp=Z,1µm,18.1s,baz=336,slow=46						
APSI	Ampana	11.73	204	P	Pn	21 54 45.7	+4.3
	646nm48nm,1.1s						
SANI	Sanana	11.85	182	P	Pn	21 54 43.6	+0.5
	38nm,0.8s						
NLAI	Namlea	13.04	177	P	Pn	21 55 02.7	+3.4
	42nm,1.0s						
TWG	Pinlang	13.87	339	P	P	21 55 15.9	-1.8
FAKI	Fak Fak	13.95	155	Pn	Pn	21 55 12.6	+0.8
FAKI	Fak Fak	13.95	155	P	Pn	21 55 08.9	-2.9
YULB	Yu-li	14.32	340		P	21 55 22.0	-0.8
TTSI	Tana Toraja	14.43	208	P	P	21 55 21.9	-2.1
	948nm73nm,1.4s						
TPUB	Ta-pu	14.47	338		P	21 55 23.2	-1.3
BKB	Balikpapan	14.59	221	P	P	21 55 38.2	+12
SSLB	Suanglung	14.80	340		P	21 55 26.4	-1.8
SPSI	Sidrap Palu	15.27	206	P	Pn	21 55 31.9	+2.6
	888nm34nm,0.9s						
YHNB	Yeheng	15.49	342	P	P	21 55 35.2	-0.6
BNSI	Bone	15.52	204	P	P	21 55 44.6	+8.4
MTKI	Muara Teweh, K	15.74	228	P	P	21 55 39.0	+0.4
SBUM	Sibu	15.95	243	P	Pn	21 55 39.8	+1.8
SBUM	Sibu	15.95	243	P	P	21 55 47.0	+6.1
KAPI	Kappang	16.22	205	LR	LR	22 02 34.5	
	comp=Z,820nm,20.1s,baz=30,slow=39						
KBKI	Kotabaru	16.62	219	P	P	21 55 49.7	+1.4
	666nm51nm,0.9s						
QZH	Quanzhou	16.75	334	P	P	21 55 49.9	+0.2
QZH				LR	LR		
	comp=N,950nm,13.3s						
QZH				LR	LR		
	comp=Z,1µm,16.7s						
JOW	Kunigami	16.96	6	P	P	21 55 53.4	+1.3
	1.7nm,0.3s,baz=149,slow=16,SNR=2.7						
JOW				LR	LR	22 01 47.7	
	comp=Z,1µm,19.4s,baz=144,slow=35						
BBKI	Banjar Baru	17.59	222	P	P	21 56 07.0	+8.0
DLV	T Lat	17.77	278	P	Pn	21 56 01.3	+0.4
STKI	Sintang	17.80	238	P	P	21 56 03.3	+1.8
GENI	Genyem	18.43	132	P	Pn	21 56 16.3	+7.5
	3µm173nm,1.8s						
QIZ	Qiongzhong	18.47	301	P	P	21 56 08.7	-0.1
QIZ				pP	sP	21 56 24.4	-1.0
QIZ				S	Sn	21 59 35.5	+0.5
QIZ				pmax	pmax		
	comp=Z,480nm,11.0s						
QIZ				LR	LR		
	comp=N,510nm,16.2s						
QIZ				LR	LR		
	comp=E,930nm,20.1s						
QIZ				LR	LR		
	comp=Z,1µm,19.6s						
MMRI	Maumere	18.86	193	P	Pn	21 56 17.4	+3.5
	5µm130nm,1.3s						
SOEI	Soe	19.62	186	P	Pn	21 56 22.8	-0.3
SOEI	Soe	19.62	186	P	Pn	21 56 24.5	+1.4
	2µm155nm,1.1s						
BATI	Baumata	20.14	188	P	P	21 56 28.3	+1.2
	224nm,0.9s,baz=235,slow=1.8,SNR=14						
BATI	Baumata	20.14	188	P	P	21 56 28.2	+1.2
	2µm244nm,0.9s						
PLAI	Plampang	20.49	205	P	Pn	21 56 36.0	+2.7
	798nm58nm,1.2s						
TWSI	Taliwang, Sumb	20.80	208	P	Pn	21 56 37.3	+0.3
	400nm32nm,1.2s						
SRBI	Singaraja	21.06	213	P	P	21 56 39.1	+2.1
UBPT	Khong Chiam	21.17	287	P	P	21 56 38.1	-0.1
	517nm22nm,1.4s						
UBPT	Khong Chiam	21.17	287	P	P	21 56 37.1	-1.1
SSE	Sheshan	21.68	348	P	P	21 56 44.4	+0.9
SSE				S	S	22 00 43.5	+2.4
SSE				pmax	pmax		
	comp=Z,33nm,1.3s						
SSE				pmax	pmax		
	comp=Z,170nm,3.5s						
SSE				LR	LR		
	comp=N,420nm,17.7s						
SSE	Sheshan	21.68	348	P	P	21 56 43.6	+0.1
SSE				IAmb	IAmb	21 56 45.7	
	comp=Z,112nm,1.3s						
JAGI	Jajag, Banyuwa	21.95	214	P	P	21 56 47.0	+0.4
JAGI				IAmb	IAmb	21 56 54.0	
	comp=Z,44nm,1.1s						
JAGI	Jajag, Banyuwa	21.95	214	P	P	21 56 48.6	+2.0
	comp=Z,48nm,1.3s						
JCJ	Chichijima	22.67	39	P	P	21 56 59.0	+4.8
	comp=Z,114nm,0.8s,baz=214,slow=11,SNR=3.3						
NJ2	Nanjing	23.17	343	⇑P	P	21 56 59.3	+0.1
NJ2				pP	sP	21 57 12.9	-1.1
NJ2				sP	pwP	21 57 21.4	+4.9
NJ2				PP	PnPn	21 57 33.1	+6.9
NJ2				S	S	22 01 08.1	+0.6
NJ2				sS	Sn	22 01 30.4	+2.9
NJ2				pmax	pmax		
	comp=Z,60nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,360nm,5.7s						
NJ2				LR	LR		
	comp=Z,790nm,17.1s						
NJ2				LR	LR		
	comp=Z,490nm,12.8s						
NJ2				LR	LR		
	comp=Z,1µm,18.6s						
KDU	Kakadu	23.19	165	P	P	21 56 58.6	-1.0
	baz=23,SNR=24						
KDU				S	S	22 01 08.9	+0.9
	baz=23						
WHN	Wuhan	23.46	333	⇓P	P	21 57 02.8	+0.8
WHN				S	S	22 01 12.6	+0.4
WHN				pmax	pmax		
	comp=Z,200nm,1.3s						
WHN				LR	LR		
	comp=Z,1µm,13.6s						
WHN				LR	LR		
	comp=Z,900nm,13.5s						
WHN				LR	LR		
	comp=Z,2µm,16.0s						
JNU	Nakatsue	23.50	9	P	P	21 57 02.2	-0.2
	comp=Z,12nm,0.9s,baz=156,slow=3.6,SNR=4.8						
JNU				S	S	22 01 11.4	-1.5
	comp=Z,5.9nm,0.8s,baz=226,slow=19,SNR=2.6						
JNU				LR	LR	22 08 04.3	
	comp=Z,491nm,18.1s,baz=186,slow=41						
PPBI	Pangkal Pinang	23.50	240	P	P	21 57 05.0	+2.4
	comp=Z,2µmcomp=Z,89nm,1.1s						
MYKOM	Kota Tinggi	23.86	252	P	P	21 57 06.9	+1.0
MYKOM				IAmb	IAmb	21 57 08.4	
	comp=Z,96nm,1.0s						
MYKOM	Kota Tinggi	23.86	252	P	P	21 57 08.0	+2.0
NONG	Nongkai	24.02	292	P	P	21 57 06.0	-1.4
	comp=Z,85nm,1.2s						
SRAK	Srakaew	24.23	282	P	P	21 57 04.3	-5.1
	comp=Z,145nm,1.2s						
JCJI	Jatiwangi	24.34	229	P	P	21 57 13.9	+3.6
	comp=Z,145nm,0.5s						
SLVN	Son La	24.49	300	P	P	21 57 10.4	-1.4
CHAI	Chaiyaphum	24.58	287	P	P	21 57 12.4	-0.2
	comp=Z,499nmcomp=Z,65nm,0.9s						
GYA	Guiyang	24.96	314	⇓P	P	21 57 15.7	-0.3
GYA				pP	pwP	21 57 28.8	-3.1
GYA				sP	sP	21 57 37.4	+5.2
GYA				S	S	22 01 32.8	-3.9
GYA				sS	sS	22 01 57.7	+2.8
GYA				pmax	pmax		
	comp=Z,14nm,1.1s						
GYA				pmax	pmax		
	comp=Z,220nm,5.5s						
GYA				LR	LR		
	comp=Z,570nm,15.8s						
GYA				LR	LR		
	comp=Z,810nm,15.9s						
GYA				LR	LR		
	comp=Z,1µm,18.2s						
LEM	Lembang	25.05	229	P	P	21 57 17.5	+0.6
	comp=Z,16nm,0.4s,baz=121,slow=16,SNR=6.7						
LEM	Lembang	25.05	229	P	P	21 57 18.0	+1.1
	comp=Z,40nm,1.2s						
PMBI	Palembang	25.06	241	P	P	21 57 18.9	+2.0
	comp=Z,213nm,0.5s						
CBJI	Citeko	25.36	231	P	P	21 57 22.4	+2.8
	comp=Z,5µmcomp=Z,94nm,1.0s						
JMBI	JAMBI	25.43	245	P	P	21 57 22.6	+2.4
ENH	Enshi	25.74	324	P	P	21 57 21.8	-1.1
IPM	Ipoh	25.79	260	P	P	21 57 23.5	0.0
IPM				IAmb	IAmb	21 57 26.1	
	comp=Z,58nm,0.9s						
IPM	Ipoh	25.79	260	P	P	21 57 24.0	+0.5
KULM	Kulim	25.98	262	P	P	21 57 26.7	+1.5
KULM				IAmb	IAmb	21 57 29.0	
	comp=Z,58nm,1.2s						
KULM	Kulim	25.98	262	P	P	21 57 28.0	+2.8
BLSI	Bandar Lampung	26.00	235	P	P	21 57 25.6	+0.2
KLSI		26.03	237	P	P	21 57 27.5	+1.8
	comp=Z,26nm,1.2s						
RGRI	Rengat	26.07	248	P	P	21 57 26.7	+0.7
	comp=Z,77µmcomp=Z,271nm,0.5s						
JHJ	Hachijo jima 2	26.20	26	LR	LR	22 06 07.4	
	comp=Z,325nm,21.6s,baz=242,slow=32						
UTTA	Uttaradit	26.32	290	P	P	21 57 28.3	0.0
	comp=Z,250nmcomp=Z,33nm,1.0s						
PHIT	Phitsanulok	26.32	289	P	P	21 57 29.9	+1.6
	comp=Z,120nm,1.2s						
MDSI	Maura Dua	26.38	238	P	P	21 57 30.0	+1.1
	comp=Z,724nmcomp=Z,28nm,1.1s						
NANT	Nan	26.46	292	P	P	21 57 29.0	-0.5
	comp=Z,52µmcomp=Z,886nm,0.7s						
PHET	Kaeng Krachan	26.47	279	P	P	21 57 32.1	+2.5
	comp=Z,582nmcomp=Z,55nm,1.1s						
TRTT	Trang	26.52	268	P	P	21 57 30.2	+0.1
	comp=Z,17nm,1.0s						
KASI	Kota Agung	26.69	236	P	P	21 57 37.0	+5.3
	comp=Z,40nm,1.4s						
LWLI	Liwa	26.77	237	P	P	21 57 33.6	+1.1
	comp=Z,2µmcomp=Z,94nm,1.4s						
UTHA	Uthaitani	26.93	285	P	P	21 57 35.5	+1.7
	comp=Z,312nmcomp=Z,28nm,0.8s						
BKNI	Bangkinang	27.01	251	P	P	21 57 34.9	+0.4
BKNI	Bangkinang	27.01	251	P	P	21 57 35.4	+0.9
	comp=Z,1µmcomp=Z,88nm,0.6s						
SRDT	SRDT	27.09	282	P	P	21 57 37.0	+1.8
	comp=Z,14nm,1.3s						
SUKH	Sukhothai	27.12	289	P	P	21 57 36.0	+0.5
	comp=Z,26nm,1.0s						
KMI	Kunming	27.16	307	⇑P	P	21 57 34.9	-1.2
KMI				pP	sP	21 57 49.3	-3.9
KMI				sP	pwP	21 58 00.1	+10
KMI				S	S	22 02 02.5	-9.3
KMI				sS	sS	22 02 35.0	+4.9
KMI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,110nm,5.6s						
KMI				LR	LR		
	comp=Z,660nm,16.4s						
KMI				LR	LR		
	comp=Z,500nm,16.9s						
KMI				LR	LR		
	comp=Z,810nm,18.9s						
SURT	Suratani	27.30	270	P	P	21 57 41.2	+4.0
	comp=Z,0.7nm,1.1s						
MNAI	Manna	27.35	240	P	P	21 57 37.6	0.0
LAMP	Lampang	27.36	291	P	P	21 57 37.9	+0.3
	comp=Z,354nmcomp=Z,36nm,1.0s						
KSAR	Wonju Array Be	27.48	2	P	P	21 57 38.6	+0.1
KSRS	Korea Array	27.50	3	P	P	21 57 39.2	+0.6
	comp=Z,4.2nm,0.9s,baz=179,slow=11,SNR=13						
KSRS				PcP	PcP	22 00 56.5	+0.4
	comp=Z,1.1nm,0.8s,baz=151,slow=3.9,SNR=5.0						
KSRS				LR	LR	22 10 31.6	
	comp=Z,519nm,18.7s,baz=185,slow=40						
TIA	Tai'an	27.56	344	P	P	21 57 39.0	-0.2
TIA				pmax	pmax		
	comp=Z,17nm,1.1s						
TIA				LR	LR		
	comp=Z,950nm,20.8s						
TIA				LR	LR		
	comp=Z,550nm,18.0s						
TIA				LR	LR		
	comp=Z,610nm,17.3s						
FITZ	Fitzroy Crossi	27.80	182	P	P	21 57 41.1	-0.3
	comp=Z,51nm,1.0s,baz=21,slow=9.8,SNR=24						
FITZ	Fitzroy Crossi	27.80	182	P	P	21 57 41.5	0.0
	baz=28,SNR=25						
FITZ	Fitzroy Crossi	27.80	182	P	P	21 57 41.2	-0.3
FITZ				IAmb	IAmb	21 57 50.1	
	comp=Z,55nm,0.9s						
CM35	Chiang Mai Arr	27.84	291	P	P	21 57 41.0	-0.9
PKDT	Phuket	27.85	268	P	P	21 57 42.2	+0.2
	comp=Z,26nm,1.1s						
CM36	Chiang Mai Arr	27.85	291	P	P	21 57 41.0	-1.1
CM34	Chiang Mai Arr	27.89	292	P	P	21 57 41.0	-1.4
CM04	Chiang Mai Arr	27.93	291	P	P	21 57 42.9	+0.1
	comp=Z,188nmcomp=Z,22nm,1.2s						
CM09	Chiang Mai Arr	27.93	291	P	P	21 57 42.9	+0.1
	comp=Z,203nmcomp=Z,25nm,1.1s						
CM01	Chiang Mai Arr	27.95	291	P	P	21 57 43.1	+0.2
	comp=Z,196nmcomp=Z,24nm,1.2s						
CM05	Chiang Mai Arr	27.96	291	P	P	21 57 43.1	0.0
	comp=Z,120nmcomp=Z,13nm,1.1s						
CM02	Chiang Mai Arr	27.97	291	P	P	21 57 43.1	0.0
	comp=Z,184nmcomp=Z,21nm,1.2s						
CM31	Chiang Mai Arr	27.98	291	P	P	21 57 43.3	+0.1
	comp=Z,629nm,1.2s						
CM31	Chiang Mai Arr	27.98	291	P	P	21 57 42.6	-0.6
CMAR	Chiang Mai Arr	27.98	291	P	P	21 57 43.3	+0.1
	comp=Z,23nm,1.1s,baz=103,slow=7.2,SNR=77						
CMAR				PcP	PcP	22 00 58.2	+0.5
	comp=Z,1.1nm,0.5s,baz=70,slow=0.7,SNR=4.8						
CMAR				LR	LR	22 09 23.4	
	comp=Z,569nm,19.3s,baz=161,slow=38						
CMAR	Chiang Mai Arr	27.98	291	P	P	21 57 42.1	-1.1
CM15	Chiang Mai Arr	27.99	291	P	P	21 57 43.0	-0.3
	comp=Z,25nm,1.1s						
CM13	Chiang Mai Arr	28.00	291	P	P	21 57 43.0	-0.4
	comp=Z,155nmcomp=Z,18nm,1.1s						
CMMT	Chiang Mai	28.06	292	P	P	21 57 42.0	-2.0
	comp=Z,11nm,1.2s						
CM33	Chiang Mai Arr	28.06	292	P	P	21 57 43.0	-1.0
CHTO	Chiang Mai	28.07	292	P	P	21 57 42.5	-1.5
CHTO				IAmb	IAmb	21 57 44.9	
	comp=Z,27nm,1.1s						
CM32	Chiang Mai Arr	28.11	291	P	P	21 57 44.0	-0.4
PMG	Port Moresby	28.13	132	P	P	21 57 46.9	+2.4
	comp=Z,25nm,1.0s,baz=327,slow=16,SNR=3.2						
PMG				LR	LR	22 10 46.8	
	comp=Z,386nm,18.1s,baz=354,slow=40						
PMG	Port Moresby	28.13	132	P	P	21 57 50.1	+5.6
MNSI	Mandailing Nat	28.21	253	P	P	21 57 44.9	-0.4
	comp=Z,950nmcomp=Z,76nm,1.0s						
PSI	Prapat	28.23	257	P	P	21 57 46.0	+0.4
	comp=Z,8.7nm,0.8s,baz=0.4,slow=3.1,SNR=9.3						
PSI				LR	LR	22 10 25.8	
	comp=Z,462nm,20.8s,baz=90,slow=39						
MJAR	Matsushiro Arr	28.61	20	P	P	21 57 50.2	+1.6
	comp=Z,2.4nm,0.8s,baz=198,slow=8.9,SNR=3.7						
MJAR				LR	LR	22 10 20.1	
	comp=Z,636nm,18.3s,baz=210,slow=38						
MJAR	Matsushiro Arr	28.61	20	P	P	21 57 49.5	+0.8
MHMT	Maesarieng	28.85	290	P	P	21 57 50.4	-0.6
XAN	Xi'an	28.94	329	P	P	21 57 50.4	-1.2
XAN				pmax	pmax		
	comp=Z,51nm,0.8s						
XAN				pmax	pmax		
	comp=Z,150nm,3.7s						
XAN				LR	LR		
	comp=Z,600nm,15.3s						
XAN				LR	LR		
	comp=Z,620nm,17.8s						
XAN				LR	LR		
	comp=Z,890nm,15.2s						
XAN	Xi'an	28.94	329	P	P	21 57 50.3	-1.4
XAN				IAmb	IAmb	21 57 51.3	
	comp=Z,49nm,0.9s						
LHMI	Lhok Sumawe	29.61	263	P	P	21 57 58.6	+0.9
CD2	Chengdu	29.73	318	P	P	21 57 57.1	-1.6
CD2				S	S	22 02 48.2	-3.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=Z,2µm,18.1s						
CD2				LR	LR		
	comp=Z,2µm,18.1s						
CD2				LR	LR		
	comp=Z,3µm,17.2s						
GSI	Gunungsitoli	29.95	255	P	P	21 58 00.2	-0.5
GSI				IAmb	IAmb	21 58 04.3	
	comp=Z,42nm,1.0s						
GSI	Gunungsitoli	29.95	255	P	P	21 58 01.1	+0.3
	comp=Z,45nm,1.1s						
TIY	Taiyuan	30.47	338	eP	P	21 58 05.7	+0.6
TIY				pmax	pmax		
	comp=Z,30nm,1.0s						
WRA	Warramunga Arr	30.62	165	P	P	21 58 06.3	-0.3
	comp=Z,1.9nm,0.6s,baz=340,slow=8.2,SNR=14						
WRA				PcP	PcP	22 01 06.3	+2.0
	comp=Z,1.7nm,0.8s,baz=336,slow=3.0,SNR=2.9						
WRA				LR	LR	22 13 34.7	
	comp=Z,274nm,18.3s,baz=10.0,slow=42						
BJT	Baijiatuau	31.39	345	P	P	21 58 13.7	+0.6
BJT				IAmb	IAmb	21 58 14.9	
	comp=Z,55nm,1.4s						
BJI	Beijing	31.41	345	P	P	21 58 13.9	+0.6
BJI				pP	pwP	21 58 30.0	-0.4
BJI				pmax	pmax		
	comp=Z,25nm,1.3s						
BJI				pmax	pmax		
	comp=Z,180nm,6.2s						
BJI				LR	LR		
	comp=Z,250nm,11.1s						
BJI				LR	LR		
	comp=Z,390nm,19.3s						
PSA00	Pilbara Seismi	31.91	192	P	P	21 58 16.9	-1.0
QIS	Mount Isa	32.89	157	P	P	21 58 25.7	-0.8
	baz=33,SNR=11						
MTSU	Mount Surprise	32.94	148	P	P	21 58 26.6	-0.4
	baz=33,SNR=5.3						
LZH	Lanzhou	33.21	325	⇑P	P	21 58 29.4	0.0
LZH				pP	pwP	21 58 47.2	+1.7
LZH				sP	sP	21 58 56.4	+11
LZH				PP	PnPn	21 59 42.6	+1.9
LZH				S	S	22 03 36.4	-10
LZH				SS	SnSn	22 05 47.8	-1.5
LZH				pmax	pmax		
	comp=Z,51nm,1.3s						
LZH				pmax	pmax		
	comp=Z,180nm,5.2s						
LZH				LR	LR		
	comp=Z,800nm,13.5s						
LZH				LR	LR		
	comp=Z,750nm,14.0s						
LZH				LR	LR		
	comp=Z,900nm,16.5s						
HHC	Hu-ho-hao-te	33.55	339	eP	P	21 58 33.3	+1.1
HHC				pmax	pmax		
	comp=Z,69nm,1.2s						
HHC				pmax	pmax		
	comp=Z,190nm,7.2s						
HHC				LR	LR		
	comp=Z,530nm,15.1s						
HHC				LR	LR		
	comp=Z,490nm,14.3s						
HHC				LR	LR		
	comp=Z,710nm,16.3s						
CN2	Changchun	33.82	359	eP	P	21 58 35.4	+1.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,130nm,4.0s						
CN2				LR	LR		
	comp=Z,420nm,15.0s						
CN2				LR	LR		
	comp=Z,360nm,15.0s						
CN2				LR	LR		
	comp=Z,570nm,16.0s						
BTO	Baotou	33.90	337	P	P	21 58 35.4	+0.1
ASAR	Alice Springs	34.12	168	P	P	21 58 35.9	-1.3
	comp=Z,3.1nm,0.8s,baz=9.7,slow=8.6,SNR=17						
ASAR				PP	PnPn	21 59 52.0	-0.1
	comp=Z,2.7nm,0.9s,baz=340,slow=11,SNR=4.3						

ASAR PcP **PcP** **22 01 13.6 -0.3**
comp=Z,2.4nm,0.8s,baz=4.6,slow=3.0,SNR=4.2
ASAR LR LR 22 15 16.2
comp=Z,256nm,18.1s,baz=344,slow=41
ASAR Alice Springs 34.12 168 P P 21 58 35.7 -1.4
USRK Ussuriysk Ar. 34.54 7 P P 21 58 40.8 +0.2
comp=Z,6.7nm,1.0s,baz=161,slow=5.8,SNR=7.1
USRK Ussuriysk Ar. 34.54 7 P P 21 58 39.6 -1.0
MDJ Mudanjiang 34.73 4 P P 21 58 42.4 +0.2
MDJ pmax pmax
comp=Z,21nm,1.5s
MDJ pmax pmax
comp=Z,160nm,3.0s
MDJ Mudanjiang 34.73 4 P P 21 58 42.7 +0.5
MDJ IAmb IAmb 21 58 44.7
comp=Z,30nm,1.2s
WRKA Warakurna 34.74 177 P P 21 58 42.7 +0.1
baz=35,SNR=31
CTA Charters Tower 35.58 147 P P 21 58 50.1 +0.3
comp=Z,10.0nm,0.7s,baz=328,slow=11,SNR=10
SHL Shillong 36.30 300 IAmb IAmb 21 59 00.8
comp=Z,27nm,1.1s
ASAJ Asahikawa 36.88 19 LR LR 22 14 53.5
comp=Z,403nm,18.1s,baz=173,slow=37
GTA Gaotai 37.81 325 ⇑P **P 21 59 08.2 -0.6**
GTA pP pwP 21 59 25.1 +0.9
GTA sP sP 21 59 33.5 +7.9
GTA PP **PnPn** **22 00 42.1 +4.7**
GTA PcP **PcP** **22 01 25.4 +0.7**
GTA PcS **PcS** **22 05 11.6 -2.0**
GTA SS SS 22 07 33.5 -10
GTA pmax pmax
comp=Z,13nm,1.1s
GTA pmax pmax
comp=Z,100nm,5.5s
GTA LR LR
comp=Z,460nm,17.1s
GTA LR LR
comp=Z,510nm,17.4s
GTA LR LR
comp=Z,700nm,17.1s
LSA Lhasa 38.41 306 P P 21 59 13.2 -1.2
LSA pmax pmax
comp=Z,16nm,1.3s
KLR Kul'dur 39.48 5 P P 21 59 23.0 +0.5
comp=Z,1.8nm,0.5s,baz=184,slow=4.9,SNR=7.6
KLR PcP **PcP** **22 01 30.6 +1.1**
comp=Z,4.3nm,0.9s,baz=281,slow=4.2,SNR=4.7
KLR LR LR 22 17 24.5
comp=Z,371nm,18.9s,baz=192,slow=39
MORW Morawa 39.99 194 P P 21 59 26.9 0.0
baz=40,SNR=11
H11N1 WAKE ISLAND Hy 40.21 71 T T 22 42 47.4
baz=264,slow=74,SNR=129
H11N2 WAKE ISLAND Hy 40.22 71 T T 22 42 47.8
baz=264,slow=74,SNR=68
H11N3 WAKE ISLAND Hy 40.23 71 T T 22 42 48.8
baz=264,slow=74,SNR=119
FORT Forrest 40.44 178 P P 21 59 30.7 +0.1
KMBL Kambalda 41.23 186 P P 21 59 37.2 +0.1
baz=42,SNR=11
ULN Ulaanbaatar 41.26 340 P P 21 59 37.9 +0.5
BLDU Ballidu 41.33 193 P P 21 59 38.1 +0.2
baz=42,SNR=18
SONM Songino Array 41.46 340 P P 21 59 39.4 +0.4
comp=Z,30nm,1.1s,baz=158,slow=9.8,SNR=107
SONM PcP **PcP** **22 01 36.4 +0.2**
comp=Z,3.3nm,1.0s,baz=156,slow=4.6,SNR=1.9
SONM LR LR 22 19 43.2
comp=Z,457nm,18.7s,baz=162,slow=40
SONM Songino Array 41.46 340 P P 21 59 39.0 0.0
SONM PcP **PcP** **22 01 36.5 +0.4**
KLBR Kellerberrin 42.06 191 P P 21 59 44.0 +0.1
baz=42,SNR=12
MUN Mundaring 42.75 193 P P 21 59 49.6 +0.1
baz=43,SNR=8.1
BBOO Buckleboo 43.42 168 P P 21 59 55.1 +0.2
baz=44,SNR=6.5
BBOO Buckleboo 43.42 168 P P 21 59 54.7 -0.2
NWAO Narrogin (SRO) 43.46 191 P P 21 59 55.6 +0.4
comp=Z,64nm,0.9s,baz=17,slow=9.5,SNR=16
NWAO Narrogin (SRO) 43.46 191 P P 21 59 55.9 +0.7
baz=44,SNR=12
NWAO Narrogin (SRO) 43.46 191 P P 21 59 54.8 -0.4
STKA Stephens Creek 43.97 161 P P 21 59 59.1 -0.2
comp=Z,13nm,0.9s,baz=338,slow=8.6,SNR=15
STKA LR LR 22 22 52.1
comp=Z,179nm,18.4s,baz=345,slow=42
STKA Stephens Creek 43.97 161 P P 21 59 58.3 -1.0
baz=44,SNR=7.4
HTT Hallett 44.66 165 P P 22 00 04.8 -0.2
baz=45,SNR=6.9
TLY Talaya 45.67 340 P P 22 00 14.0 +1.3
comp=Z,33nm,0.9s,baz=166,slow=6.7,SNR=32
TLY LR LR 22 22 38.4
comp=Z,330nm,18.1s,baz=142,slow=40
TLY Talaya 45.67 340 P P 22 00 12.9 +0.2
HYB Hyderabad 47.05 285 *i* **P P 22 00 23.0 -1.1**
WMQ Urumqi 47.65 322 P P 22 00 28.5 +0.1
WMQ pP pwP 22 00 43.8 -0.5
WMQ sP sP 22 00 53.2 +7.8
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ pmax pmax
comp=Z,160nm,5.1s
WMQ LR LR
comp=Z,920nm,17.5s
WMQ LR LR
comp=Z,900nm,18.3s
WMQ LR LR
comp=Z,400nm,19.7s
WMQ Urumqi 47.65 322 IAmb IAmb 22 00 31.0
comp=Z,15nm,1.2s
ARPS Mount Arapiles 48.59 164 P P 22 00 35.4 -0.2
baz=49,SNR=6.7
PETK Petropavlovsk- 49.92 24 P P 22 00 47.1 +1.5
comp=Z,6.2nm,0.9s,baz=210,slow=2.7,SNR=7.7
DZM Mont Dzumac 50.45 129 *eP* P 22 00 54.3 +4.1
comp=Z,45nm,1.4s
DZM Mont Dzumac 50.45 129 *eLR* LR 22 15 37.3
comp=Z,302nm,28.6s
DZM Mont Dzumac 50.45 129 P P 22 00 51.0 +0.8
comp=Z,6.3nm,1.1s,baz=342,slow=13,SNR=3.4
DZM Mont Dzumac 50.45 129 P P 22 00 51.1 +1.0
ZSN Zaisan 51.30 325 *eP* **P 22 00 54.2 -1.9**
comp=Z,4.9nm,1.3s,baz=325
YAK Yakutsk 52.12 2 P P 22 01 02.5 +0.6
comp=Z,3.9nm,0.3s,baz=169,slow=0.6,SNR=8.2
YAK Yakutsk 52.12 2 P P 22 01 02.3 +0.4
MK31 Makanchi Array 52.46 323 IAmb IAmb 22 01 05.2
comp=Z,13nm,0.8s
MKAR Makanchi Array 52.46 323 P P 22 01 04.2 -0.6
comp=Z,18nm,0.9s,baz=122,slow=8.1,SNR=132
MKAR PcP **PcP** **22 02 14.5 -0.4**
comp=Z,5.2nm,1.0s,baz=122,slow=4.0,SNR=1.2
MKAR ScP **ScP** **22 06 09.1 +0.6**
comp=Z,0.6nm,0.8s,baz=130,slow=4.8,SNR=1.8
MKAR LR LR 22 24 45.3
comp=Z,264nm,21.2s,baz=120,slow=38
MKAR Makanchi Array 52.46 323 P P 22 01 03.7 -1.1
SHLS Shalkode 52.56 318 *eP* **P 22 01 02.0 -3.7**
comp=Z,8.1nm,1.1s,baz=318
MAKZ Makanchi 52.65 323 P P 22 01 05.2 -1.0
MAKZ IAmb IAmb 22 01 06.7
comp=Z,24nm,1.1s
UZB Uzynbulak 52.85 317 *eP* **P 22 01 06.4 -1.5**
comp=Z,3.0nm,0.7s,baz=317
MA2 Magadan 52.87 15 P P 22 01 08.1 +0.6
comp=Z,2.3nm,0.3s,baz=196,slow=6.8,SNR=5.1
MA2 Magadan 52.87 15 P P 22 01 07.7 +0.2
MA2 IAmb IAmb 22 01 09.5
comp=Z,16nm,1.4s
KPKS Kokpek 53.21 318 *eP* **P 22 01 08.5 -1.9**
comp=Z,6.9nm,1.3s,baz=318
KSH Kashi 53.64 312 P P 22 01 14.5 +0.8
KSH sP pwP 22 01 44.7 +14
KSH pmax pmax
comp=Z,36nm,1.3s
KSH pmax pmax
comp=Z,280nm,6.6s
KSH LR LR
comp=Z,670nm,16.7s
KSH LR LR
comp=Z,420nm,11.3s
TDK Taldyqorghan 54.03 319 *eP* **P 22 01 14.6 -1.8**
comp=Z,15nm,1.3s,baz=319
NIL Nilore 54.11 304 P P 22 01 15.5 -1.6

MDOK Medeo 54.18 317 *eP* **P 22 01 15.7 -2.0**
baz=317
AAA Alma-Ata 54.29 317 *eP* **P 22 01 16.9 -1.4**
comp=Z,7.3nm,1.0s,baz=317
ULHL Ulahol 54.39 315 P P 22 01 18.5 -0.8
SNR=10
CHKK Chushkaly 54.49 318 *eP* **P 22 01 17.5 -2.2**
baz=318
KUU Kurty 54.94 317 *eP* **P 22 01 20.9 -2.1**
comp=Z,26nm,1.1s,baz=317
ZAA0 Zalesovo Array 55.06 331 P P 22 01 22.0 -1.6
ZALV Zalesovo Beam 55.06 331 P P 22 01 22.6 -1.0
comp=Z,6.3nm,0.9s,baz=106,slow=5.3,SNR=25
ZALV PcP **PcP** **22 02 23.8 -0.8**
comp=Z,6.0nm,0.9s,baz=104,slow=3.1,SNR=5.3
ZALV LR LR 22 26 41.3
comp=Z,270nm,18.4s,baz=145,slow=38
ZALV Zalesovo Beam 55.06 331 P P 22 01 22.0 -1.7
KBK Karagaybulak 55.43 315 P P 22 01 26.5 -0.2
SNR=8.9
UCH Uchtor 55.59 315 P P 22 01 28.1 -0.1
SNR=22
CHMS Chumysh 55.69 316 P P 22 01 27.6 -0.8
SNR=6.5
AAK Ala-Archa 55.74 315 P P 22 01 28.4 -0.6
comp=Z,1.6nm,0.7s,baz=137,slow=7.3,SNR=8.5
AAK Ala-Archa 55.74 315 P P 22 01 27.8 -1.1
USP Ospenovka 55.95 316 P P 22 01 29.4 -0.9
SNR=8.2
AML Almayashu 56.13 314 P P 22 01 31.7 -0.3
SNR=18
SEY Seymchan 56.16 14 P P 22 01 32.3 +0.9
comp=Z,1.5nm,0.5s,baz=209,slow=6.5,SNR=7.1
EKS2 Erkin-Say 56.24 315 P P 22 01 31.9 -0.6
SNR=17
KURK Kurchatov 56.50 326 P P 22 01 32.7 -1.2
KURBB Kurchatov Arra 56.51 325 P P 22 01 33.3 -0.7
comp=Z,13nm,0.9s,baz=123,slow=6.6,SNR=79
BTLS Baital 56.89 318 *eP* **P 22 01 34.9 -2.0**
baz=318
KBL Kabul 57.71 305 P P 22 01 42.0 -1.2
KBL IAmb IAmb 22 01 43.1
comp=Z,16nm,1.1s
DZA Taraz 58.03 315 *eP* **P 22 01 42.9 -2.1**
comp=Z,6.2nm,1.0s,baz=315
KK31 Karatay Array 58.66 315 IAmb IAmb 22 01 50.2
comp=Z,20nm,1.2s
KKAR Karatay Array 58.66 315 P P 22 01 47.5 -1.8
KKAR IAmb IAmb 22 01 50.2
comp=Z,20nm,1.2s
IUG Iuzhnay 58.73 314 *eP* **P 22 01 47.8 -2.2**
comp=Z,8.2nm,1.3s,baz=314
BRZS Berezniki 59.61 323 *eP* **P 22 01 53.7 -2.1**
comp=Z,4.6nm,1.0s,baz=323
TIXI Tiksi 61.75 1 P P 22 02 09.4 -0.5
BVAR Borovoye Array 62.10 325 P P 22 02 12.2 -0.5
comp=Z,5.4nm,1.0s,baz=221,slow=31,SNR=16
BRVK Borovoye 62.17 325 P P 22 02 12.0 -1.1
BRVK IAmb IAmb 22 02 13.6
comp=Z,22nm,1.1s
HRA Herat 63.24 303 IAmb IAmb 22 02 20.8
comp=Z,29nm,1.4s
NRIK Noril'sk 64.45 346 P P 22 02 28.2 +0.4
comp=Z,31nm,0.9s,baz=128,slow=6.2,SNR=39
NRIK LR LR 22 31 35.4
comp=Z,269nm,22.0s,baz=154,slow=37
GEYT Alibeck 66.93 307 P P 22 02 44.5 -0.1
comp=Z,17nm,0.9s,baz=151,slow=3.4,SNR=33
GEYT LR LR 22 36 43.8
comp=Z,398nm,19.3s,baz=105,slow=40
GEYT Alibeck 66.93 307 P P 22 02 44.3 -0.2
RPZ Rata Peaks 66.95 146 LR LR 22 31 13.7
comp=Z,137nm,20.9s,baz=285,slow=35
TUWZ Tuamarina 67.14 143 P P 22 02 46.0 +0.3
ABKAR Akbulak array 67.30 319 P P 22 02 45.2 -1.4
AKTO Aktyubinsk 68.75 320 P P 22 02 54.9 -0.8
comp=Z,8.2nm,1.1s,baz=100,slow=8.7,SNR=9.8
ARU Arti 69.66 327 P P 22 03 00.3 -0.9
comp=Z,2.7nm,0.5s,baz=111,slow=4.9,SNR=21
ARU Arti 69.66 327 P P 22 02 59.8 -1.4
ARU IAmb IAmb 22 03 00.6
comp=Z,9.6nm,0.6s
SOCY Socotra 70.98 280 P P 22 03 08.6 -1.6
SOCY IAmb IAmb 22 03 09.2
comp=Z,20nm,0.8s
RDOG Red Dog Mine 73.70 22 P 22 03 27.3
baz=256
KIRV Kirov 74.88 328 P P 22 03 31.6 -0.7
comp=Z,9.5nm,0.7s,baz=134,slow=6.9,SNR=6.4
BELG Belogornoye 75.43 322 P P 22 03 34.9 -0.7
comp=Z,50nm,1.0s,baz=200,slow=1.9,SNR=13
IMAR Indian Mountai 76.89 24 P P 22 03 44.0 +0.4
GNI Garni 77.40 309 P P 22 03 47.1 -0.2
comp=Z,14nm,1.2s,baz=179,slow=2.7,SNR=12
GNI Garni 77.40 309 P P 22 03 46.4 -0.9
GNI IAmb IAmb 22 04 04.0
comp=Z,30nm,1.1s
RAYN Ar Rayn 77.89 292 P P 22 03 48.7 -1.4
RAYN IAmb IAmb 22 03 50.5
comp=Z,25nm,1.2s
BPAW Bear Paw Mtn. 77.93 26 IAmb IAmb 22 04 19.7
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 77.93 26 P 22 03 50.9
baz=268
SUA Susitna One 77.95 29 IAmb IAmb 22 03 52.4
comp=Z,27nm,1.4s
MLY Manley 78.08 25 P 22 03 51.9
baz=268
TRF Thorofare Moun 78.22 27 P P 22 03 51.8 +0.5
TRF IAmb IAmb 22 04 05.2
comp=Z,22nm,1.4s
KBZ Khabaz 78.61 313 P P 22 03 53.4 -0.3
comp=Z,15nm,1.1s,baz=116,slow=3.0,SNR=23
KBZ LR LR 22 42 59.7
comp=Z,270nm,18.0s,baz=86,slow=39
I23K Minto, Yukon-K 78.67 25 P 22 03 55.0
baz=269
TOLK Toolik Lake Re 78.68 22 P 22 03 55.3
baz=268
KVAR Kislovodsk Arr 78.75 313 P P 22 03 55.5 +0.9
comp=Z,12nm,1.2s,baz=94,slow=19,SNR=7.0
KIV Kislovodsk 78.76 313 P P 22 03 54.2 -0.4
KIV IAmb IAmb 22 03 56.0
comp=Z,28nm,1.2s
GEVA Gevas 78.80 307 IAmb IAmb 22 03 56.4
comp=Z,35nm,1.2s
MCK McKinley 78.83 27 P 22 03 55.5
baz=270
RND Reindeer 78.87 27 P P 22 03 54.3 -0.5
SML Sawmill 79.11 29 P 22 03 56.9
baz=271
SCM Sheep Creek Mo 79.59 29 IAmb IAmb 22 04 05.7
comp=Z,15nm,0.7s
ILAR Eielson Array 79.72 26 P P 22 03 58.5 -0.9
comp=Z,1.1nm,0.7s,baz=240,slow=5.7,SNR=7.2
KLMR Klimovskoe 79.97 330 *eP* **P 22 03 58.9 -1.8**
KLMR AMP 22 04 02.0
comp=Z,40nm,1.3s
BMAR Burnt Mountain 80.56 23 P P 22 04 05.3 +1.4
KOPT Kop Dagi 80.66 309 IAmb IAmb 22 04 07.6
comp=Z,34nm,1.3s
MARD Mardin 80.68 306 IAmb IAmb 22 04 05.6
comp=Z,12nm,0.8s
K27K Chicken 81.85 26 IAmb IAmb 22 04 14.8
comp=Z,14nm,1.2s
K27K Chicken 81.85 26 P 22 04 12.9
baz=276
ATD Arta Tunnel 81.88 280 IAmb IAmb 22 04 14.2
comp=Z,22nm,1.1s
OBN Obninsk 81.92 325 P P 22 04 09.8 -1.4
comp=Z,2.1nm,0.6s,baz=80,slow=17,SNR=4.0
BCAR Beaver Creek A 82.08 27 P P 22 04 13.2 +1.2
CTG Chitna Glacier 82.52 29 P 22 04 16.7
baz=277
CTGM Chitina Glacie 82.52 29 IAmb IAmb 22 04 29.6
comp=Z,12nm,0.8s
ABPO Ambohimpanom 83.16 249 P P 22 04 16.8 -1.8
ABPO IAmb IAmb 22 04 18.9
comp=Z,13nm,0.9s
GAZ Gaziantep 83.52 307 IAmb IAmb 22 04 21.4
comp=Z,24nm,1.1s
SPITS Spitsbergen Ar 84.44 349 P P 22 04 24.4 +0.5
comp=Z,52nm,1.0s,baz=76,slow=12,SNR=5.1
INK Inuvik 84.59 22 P P 22 04 25.7 +1.0
comp=Z,6.8nm,1.1s,baz=264,slow=6.5,SNR=8.2
INK Inuvik 84.59 22 IAmb IAmb 22 04 26.8
comp=Z,16nm,1.3s

ARCES ARCESS Array B 84.63 340 P P 22 04 25.1 +0.1
comp=Z,11nm,0.6s,baz=77,slow=6.7,SNR=47
ARCES LR LR 22 48 01.3
comp=Z,168nm,18.1s,baz=60,slow=40
ARCES ARCESS Array B 84.63 340 P P 22 04 24.4 -0.6
comp=Z,15nm,1.1s,baz=57,slow=5.3,SNR=4.2
ILGA Ilgaz 85.66 311 IAmb IAmb 22 04 31.7
comp=Z,16nm,1.1s
BRTR Keskin Array B 85.93 309 P P 22 04 31.3 -0.9
comp=Z,4.7nm,1.0s,baz=117,slow=4.6,SNR=11
BRTR LR LR 22 48 03.0
comp=Z,151nm,20.5s,baz=83,slow=39
BRTR Keskin Array B 85.93 309 P P 22 04 30.3 -1.9
FIA1 FINESS Array S 86.33 332 P P 22 04 32.6 -0.9
FINES FINESS Array B 86.33 332 P P 22 04 33.0 -0.5
comp=Z,40nm,1.1s,baz=73,slow=4.9,SNR=45
FINES LR LR 22 47 00.1
comp=Z,136nm,18.2s,baz=80,slow=38
FINES FINESS Array B 86.33 332 P P 22 04 32.6 -0.9
EIL Elat 86.48 299 P P 22 04 34.1 -0.9
comp=Z,11nm,1.1s,baz=148,slow=2.8
VSU Vasula 86.71 329 *eP* **P 22 04 34.8 -0.7**
MNK Minsk 86.98 325 *i* P **P 22 04 34.0 -2.9**
comp=E,1.0nm,0.9s
MNK *i* P **P 22 04 34.0 -2.9**
comp=N,15nm,0.9s
MNK *i* P **P 22 04 34.0 -2.9**
comp=Z,9.0nm,0.9s
MNK *i* pP **pwP 22 04 53.2 -1.3**
MNK *i* sP sP 22 05 01.1 +6.9
MNK *i* PP **PP 22 07 57.4 -2.8**
MNK *i* PPP PPP 22 09 52.0
MNK *i* S S 22 14 53.8 -18
MNK *i* sS ScS 22 15 36.6 +17
MNK *i* SS **SS 22 20 51.5 -3.5**
MNK *i* SSS SSS 22 23 39.8
MNK *i* SKKS **SKKSdf 22 29 33.3 +2.6**
MNK *i* LQ LQ 22 36 05.0
MNK *i* LR LR 22 39 19.4
MNK *i* LRM MLR 22 43 07.7
comp=E,52nm,19.3s
MNK *i* LRM MLR 22 43 14.5
comp=N,666nm,19.3s
MNK *i* LRM MLR 22 45 51.2
comp=Z,201nm,19.3s
AKASG Malin Array Be 86.99 321 P P 22 04 35.9 -1.1
comp=Z,2.9nm,0.5s,baz=62,slow=4.6,SNR=27
AKASG LR LR 22 48 35.1
comp=Z,121nm,18.2s,baz=65,slow=39
AKASG Malin Array Be 86.99 321 P P 22 04 35.6 -1.4
AKBB Malin Array Si 86.99 321 P P 22 04 35.3 -1.6
PPT Papeete 87.27 108 LR LR 22 36 38.0
PPT2 Papeete2 87.27 108 *eLR* LR 22 32 46.5
comp=Z,189nm,21.5s
NACGM Naroch 87.51 325 *i* P **P 22 04 37.8 -1.6**
NACGM *i* P **P 22 04 37.8 -1.6**
NACGM *i* P **P 22 04 37.8 -1.6**
NACGM *i* PP PP 22 07 50.3 -14
NACGM *i* PPP PPP 22 09 55.7
NACGM *i* S S 22 14 59.2 -18
NACGM *i* SS SS 22 20 36.8 -26
NACGM *i* SSS SSS 22 24 13.8
NACGM *i* LQ LQ 22 37 35.0
NACGM *i* LR LR 22 43 39.7
C36M Paulatuk 87.56 20 P P 22 04 39.1 -0.2
C36M IAmb IAmb 22 04 53.9
comp=Z,9.6nm,1.1s
C36M Paulatuk 87.56 20 P 22 04 40.0
baz=292
MTSE Matsula 88.13 329 *eP* **P 22 04 39.5 -2.7**
TBI Tubuai 88.49 114 *eLR* LR 22 33 30.8
comp=Z,360nm,24.2s
EUNU Eureka 88.64 5 IAmb IAmb 22 05 02.6
comp=Z,9.4nm,0.8s
DLBC Dease Lake 88.64 31 LR LR 22 48 18.9
comp=Z,71nm,18.0s,baz=297,slow=38
PABE Paberze 88.92 326 *eP* **P 22 04 45.4 -0.7**
KMBO Kilima Mbogo 89.41 269 P P 22 04 49.9 +0.4
comp=Z,9.1nm,1.0s,baz=40,slow=6.4,SNR=13
KMBO LR LR 22 45 53.3
comp=Z,102nm,18.2s,baz=94,slow=36
VNDA Vanda 89.51 173 P P 22 04 48.1 -0.2
comp=Z,3.4nm,1.0s,baz=304,slow=5.4,SNR=4.4
VNDA LR LR 22 46 29.8
comp=Z,166nm,18.2s,baz=340,slow=37
SUW Suwalki 89.78 325 *eP* **P 22 04 48.9 -1.2**
PBUR Paburge 89.88 327 *eP* **P 22 04 48.7 -1.8**
BURAR Bucovina Array 90.26 318 P P 22 04 52.1 -0.6
BUR08 Bucovina Ar. S 90.27 318 P P 22 04 51.8 -1.0
BUR08 IAmb IAmb 22 04 54.5
comp=Z,8.6nm,1.2s
MLR Muntele Rosu 90.31 316 P P 22 04 51.4 -1.6
comp=Z,2.3nm,0.7s,baz=62,slow=6.2,SNR=5.5
MLR Muntele Rosu 90.31 316 IAmb IAmb 22 05 07.1
comp=Z,10nm,1.4s
UPP Uppsala 90.77 331 *eP* **P 22 04 53.8 -0.8**
DAG Danmarks Havn 91.17 352 *i* P **P 22 04 55.9 -0.3**
comp=Z,13nm,0.8s
DAG Danmarks Havn 91.17 352 *i* P **P 22 04 55.9 -0.3**
DAG IAmb IAmb 22 04 57.5
comp=Z,13nm,0.8s
KWP Kalwaria Pacla 91.31 321 *eP* **P 22 04 57.7 +0.3**
KWP Kalwaria Pacla 91.31 321 P P 22 04 56.7 -0.7
BBB Bella Bella 91.56 36 P P 22 04 60.0 +1.6
comp=Z,11nm,0.9s,baz=270,slow=7.1,SNR=1.7
BBB LR LR 22 42 40.1
comp=Z,31nm,19.4s,baz=272,slow=33
KOLS Kolonicke sedl 91.79 320 *eP* **P 22 05 00.0 +0.4**
RES Resolute Bay 91.86 10 P P 22 05 00.1 +0.7
comp=Z,5.0nm,0.9s,baz=321,slow=5.3,SNR=20
CRVS Cervenica-Dubn 92.31 320 *eP* **P 22 05 02.2 +0.2**
HFS Hagfors 92.49 332 P P 22 05 01.9 -0.7
comp=Z,18nm,1.0s,baz=104,slow=3.7,SNR=18
HFS PP **PP 22 08 44.1 +0.3**
comp=Z,3.0nm,0.8s,baz=96,slow=10,SNR=2.9
OJC Ojcow 92.92 322 *eP* **P 22 05 04.6 -0.2**
NB2 NORSAR Subarra 93.20 334 P P 22 05 04.5 -1.4
baz=64,slow=4.6
NB2 NORSAR Subarra 93.20 334 P P 22 05 04.5 -1.4
baz=64,slow=4.6
NOA NORSAR Array B 93.20 334 P P 22 05 04.7 -1.3
comp=Z,6.0nm,0.9s,baz=64,slow=4.7,SNR=14
NOA LR LR 22 51 17.8
comp=Z,125nm,18.2s,baz=45,slow=38
DBG Daneborg 93.45 351 *i* P **P 22 05 07.1 +0.3**
DBG IAmb IAmb 22 05 08.5
comp=Z,10nm,0.9s
YKA Yellowknife Ar 94.05 24 P P 22 05 10.6 +0.9
comp=Z,2.4nm,0.7s,baz=303,slow=4.1,SNR=27
DPC Dobruska-Polom 94.97 323 *eP* **P 22 05 14.6 +0.3**
VRAC Vranov 95.19 322 P P 22 05 15.4 +0.1
comp=Z,4.4nm,1.0s,baz=138,slow=3.8,SNR=4.9
BRG Berggiesshubel 96.16 324 *eP* **P 22 05 20.2 +0.6**
BRG Amp 22 05 21.5
comp=Z,10.0nm,1.5s
CLL Collm 96.53 325 *eP* **P 22 05 19.0 -2.3**
comp=Z,15nm,1.4s
CKRC Cesky Krumlov 96.76 322 *eP* **P 22 05 22.7 +0.3**
CKRC *ex* x 22 05 34.2
KHC Kasperske Hory 97.08 322 *eP* **P 22 05 23.3 -0.6**
KHC *ex* x 22 05 35.5
GERES GERESS Array B 97.12 322 P P 22 05 23.3 -0.9
comp=Z,2.1nm,0.8s,baz=64,slow=6.1,SNR=9.5
GERES LR LR 22 52 19.7
comp=Z,100nm,19.4s,baz=124,slow=37
GERES GERESS Array B 97.12 322 P P 22 05 22.6 -1.6
SUMG Summit 97.14 355 *i* P Pdif 22 05 25.2 +1.0
comp=Z,9.2nm,1.0s
SUMG Summit 97.14 355 *i* P Pdif 22 05 25.2 +1.0
SUMG IAmb IAmb 22 05 29.7
comp=Z,9.2nm,1.0s
SYO Syowa Base 98.02 201‖ *e*Pdiff **P 22 05 26.1 -1.4**
YBH Yreka Blue Hor 98.59 45 LR LR 22 45 11.5
comp=Z,77nm,19.6s,baz=291,slow=32
NEW Newport 99.57 37 LR LR 22 47 19.3
comp=Z,51nm,19.1s,baz=310,slow=33
PDAR Pinedale Array 106.88 40 PKKP 22 21 47.7
comp=Z,1.7nm,1.0s,baz=108,slow=4.8,SNR=8.4
TXAR Lajitas Array 117.95 49 PKP **PKiKP 22 10 40.4 +1.3**
comp=Z,0.3nm,0.6s,baz=260,slow=0.8,SNR=3.7
TXAR Lajitas Array 117.95 49 PKPdf 22 10 37.1 -1.9
S39A Bolivar 119.81 36 PKPdf **PKPdf 22 10 41.7 -0.5**
JCT Junction City 120.15 46 P 22 10 44.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=305						
TORD	**Torodi Ar. Bea**	**120.59**	**292**	PKP	**PKPdf**	**22 10 43.7**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=9.6,slow=1.3,SNR=3.1						
TORD				PP	**PP**	**22 12 06.3**	**-5.5**
	comp=Z,1.2nm,1.0s,baz=58,slow=3.6,SNR=2.3						
U40A	**Yellville**	**120.99**	**37**	PKPdf	**PKPdf**	**22 10 44.1**	**-0.4**
U40A	**Yellville**	**121.00**	**37**	P		22 10 44.3	
	baz=314						
MIAR	**Mount Ida**	**121.78**	**39**	P		22 10 47.7	
	baz=312						
WVT	**Waverly**	**124.00**	**33**	PKPdf	**PKPdf**	**22 10 50.5**	**+0.1**
WVT	**Waverly**	**124.00**	**33**	P		22 10 50.8	
	baz=318						
DBIC	**Dimbokro**	**128.80**	**287**	PKP	**PKiKP**	**22 11 01.9**	**+1.2**
	comp=Z,2.5nm,0.8s,baz=274,slow=3.4,SNR=3.3						
CSGN	**Cosiguina Volc**	**139.31**	**57**	PKPdf	**PKPdf**	**22 11 18.1**	**-1.7**
PLCA	**Paso Flores**	**145.77**	**157**	PKPbc	**PKPab**	**22 11 32.3**	**+0.9**
	comp=Z,8.2nm,0.9s,baz=203,slow=4.5,SNR=12						
PLCA	**Paso Flores**	**145.77**	**157**	PKPdf	**PKPdf**	**22 11 31.1**	**+0.5**
LPAZ	**La Paz**	**164.43**	**116**	PKP	**PKPdf**	**22 11 58.2**	**+1.3**
	comp=Z,3.9nm,1.0s,baz=342,slow=3.6,SNR=9.2						
LPAZ	**La Paz**	**164.43**	**116**	PKPdf	**PKPdf**	**22 11 57.6**	**+0.7**
BDFB	**Brasilia**	**172.13**	**223**	PKPab	**PKPab**	**22 13 23.2**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=150,slow=7.9,SNR=4.2						
BDFB	**Brasilia**	**172.13**	**223**		**PKPab**	**22 13 22.4**	**-2.5**

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*MAN **02** 21:55:27.6, 9°.76N×126°.83E, h20km, mb4.2, ML3.0, MS2.7*
*IDC **02** 21:55:29.9±1.1, 9°.93N×126°.40E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.6/68, mbtmp3.9/9, Error ellipse: s-maj=55.4km s-min=19.3km az=70.0*
ISC 02 21:55:30.3±2.3**, 9°.84N**±0°.08×**126°.63E**±0°.08**, h6**km±13km**, n14,** σ**1**s**.49**/19**, mb3.9**/9**, 2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.50**	**264**	*e*P	**Pb**	**21 55 41.0**	**-0.4**
GLSP				*e*S	**Sg**	**21 55 47.6**	**+1.2**
BUTP	**Butuan**	**1.32**	**229**	*e*P	**Pg**	**21 55 55.4**	**-0.1**
BUTP				*e*S	**Sn**	**21 56 13.9**	**+0.9**
MSLP	**Maasin**	**1.77**	**280**	*e*P	**Pn**	**21 56 01.6**	**+0.2**
MSLP				*e*S	**Sb**	**21 56 25.9**	**+0.4**
CGP	**Cagayan de Oro**	**2.35**	**234**⇓	*e*P	**Pn**	**21 56 07.5**	**-1.9**
CGP				*e*S	**Sn**	**21 56 37.9**	**-0.7**
LLP	**Lapu-Lapu**	**2.67**	**281**⇓	*e*P	**Pn**	**21 56 12.9**	**-0.9**
LLP				*e*S	**Sn**	**21 56 48.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**27.77**	**182**	P	**P**	**22 01 22.8**	**+2.8**
	3.8nm,0.7s,baz=4.8,slow=10,SNR=1.6						
CMAR	**Chiang Mai Arr**	**28.15**	**291**	P	**P**	**22 01 22.2**	**-1.3**
	0.9nm,0.4s,baz=100,slow=10,SNR=2.1						
WRA	**Warramunga Arr**	**30.55**	**166**	P	**P**	**22 01 46.6**	**+1.9**
	1.0nm,1.1s,baz=338,slow=8.1,SNR=1.3						
ASAR	**Alice Springs**	**34.05**	**168**	P	**P**	**22 02 15.6**	**+0.2**
	0.6nm,0.8s,baz=0.0,slow=6.9,SNR=1.0						
SONM	**Songino Array**	**41.55**	**339**	P	**P**	**22 03 18.4**	**-0.3**
	1.4nm,0.9s,baz=158,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**52.59**	**323**	P	**P**	**22 04 43.4**	**-1.4**
	2.0nm,0.9s,baz=121,slow=8.8,SNR=5.6						
KURBB	**Kurchatov Arra**	**56.63**	**325**	P	**P**	**22 05 11.7**	**-2.3**
	1.2nm,0.9s,baz=128,slow=6.2,SNR=3.0						
FINES	**FINESS Array B**	**86.44**	**332**	P	**P**	**22 08 14.6**	**+1.0**
	1.7nm,0.8s,baz=86,slow=5.9,SNR=3.8						
YKA	**Yellowknife Ar**	**94.01**	**24**	P	**P**	**22 08 50.0**	**+1.0**
	0.2nm,0.6s,baz=300,slow=4.0,SNR=2.4						

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*IDC **02** 22:37:02.0±1.6, 43°.68N×105°.49W, h0km, mb1 3.5/3, mb1mx3.2/54, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=37.4km s-min=8.4km az=149.0*
*NEIC **02** 22:37:03.4±1.6, 43°.67N±0°.03×105°.26W±0°.07, h0km±2km, ML3.3/46, Error ellipse: s-maj=8.5km s-min=4.0km az=281.0*
ISC 02 22:37:02.0±0.9**, 43°.67N**±0°.06×**105°.26W**±0°.06**, h0**km**, n55,** σ**1**s**.60**/54**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**63**		**Pb**	**22 37 23.0**	**+0.8**
K22A	**Casper**	**1.38**	**223**	Pn	**Pg**	**22 37 26.6**	**-1.8**
K22A				IAML		22 37 49.0	
	comp=N,431nm,0.3s						
K22A				IAML		22 37 49.0	
	comp=E,346nm,0.3s						
PHWY	**Pilot Hill**	**2.37**	**184**	Pn	**Pn**	**22 37 43.0**	**+0.5**
RWWY	**Rawlins**	**2.45**	**217**		**Pn**	**22 37 44.7**	**+1.3**
RWWY				IAML		22 38 17.6	
	comp=E,134nm,1.7s						
RWWY				IAML		22 38 18.5	
	comp=E,224nm,1.4s						
RLMT	**Red Lodge**	**3.22**	**298**	Pn	**Pn**	**22 37 55.3**	**+1.3**
RLMT				IAML		22 38 56.3	
	comp=E,59nm,1.0s						
BW06	**Boulder Array**	**3.27**	**255**	Pn	**Pn**	**22 37 55.8**	**+1.1**
BW06				IAML		22 38 46.4	
	comp=E,55nm,0.7s						
PD31	**Pinedale Array**	**3.27**	**255**		**Pn**	**22 37 55.5**	**+0.8**
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**22 37 55.6**	**+0.8**
	comp=E,2.5nm,0.3s,baz=75,slow=19,SNR=48						
PDAR				Lg	Lg	22 38 39.3	
	comp=E,8.1nm,0.3s,baz=80,slow=29,SNR=4.0						
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**22 37 55.3**	**+0.6**
OGNE	**Ogallala**	**3.63**	**138**	Pn	**Pn**	**22 38 00.8**	**+1.2**
YNE	**Yellowstone No**	**3.66**	**293**		**Pn**	**22 38 01.1**	**+1.0**
YMP	**Mirror Lake Pl**	**3.68**	**289**		**Pn**	**22 38 02.1**	**+1.7**
LKWY	**Lake**	**3.81**	**285**		**Pn**	**22 38 03.6**	**+1.5**
LKWY				IAML		22 39 09.4	
	comp=E,55nm,2.3s						
LKWY				IAML		22 39 18.6	
	comp=E,43nm,1.9s						
ISCO	**Idaho Springs**	**3.88**	**184**		**Pn**	**22 38 03.9**	**+0.8**
LOHW	**Long Hollow**	**3.88**	**271**		**Pn**	**22 38 05.7**	**+2.6**
H17A	**Grant Village**	**3.90**	**283**	Pn	**Pn**	**22 38 05.9**	**+2.5**
H17A				IAML		22 39 09.7	
	comp=E,37nm,2.0s						
H17A				IAML		22 39 10.3	
	comp=N,44nm,2.1s						
FLWY	**Flagg Ranch**	**3.95**	**278**	Pn	**Pn**	**22 38 04.9**	**+0.8**
FLWY				IAML		22 39 21.5	
	comp=N,61nm,1.9s						
YPP	**Pitchstone Pla**	**4.05**	**280**	Pn	**Pn**	**22 38 07.2**	**+1.8**
REDW	**Red Top Meadow**	**4.08**	**268**	Pn	**Pn**	**22 38 07.2**	**+1.3**
REDW				IAML		22 39 27.5	
	comp=N,69nm,1.6s						
REDW				IAML		22 39 43.3	
	comp=N,47nm,1.9s						
YHH	**Holmes Hill**	**4.17**	**287**	Pn	**Pn**	**22 38 07.6**	**+0.5**
O20A	**White River Ci**	**4.18**	**213**	Pn	**Pn**	**22 38 07.9**	**+0.7**
O20A				IAML		22 39 24.5	
	comp=E,46nm,3.3s						
YMR	**Madison River**	**4.22**	**286**	Pn	**Pn**	**22 38 10.3**	**+2.4**
E28A	**Huff**	**4.34**	**46**	Pn	**Pn**	**22 38 11.4**	**+2.1**
YHL	**Hebgen Lake**	**4.41**	**288**	Pn	**Pn**	**22 38 12.2**	**+1.7**
RDMU	**Red Mountain**	**4.46**	**227**	Pn	**Pn**	**22 38 12.5**	**+1.5**
BOZ	**Bozeman (W)**	**4.94**	**295**	Pn	**Pn**	**22 38 16.9**	**-0.7**
BOZ				IAML		22 39 50.9	
	comp=E,16nm,1.9s						
BOZ				IAML		22 41 27.7	
	comp=E,14nm,4.3s						
EGMT	**Eagleton**	**5.37**	**326**	Pn	**Pn**	**22 38 26.4**	**+3.1**
PV22	**Blue Mesa, Par**	**5.78**	**209**	Pn	**Pn**	**22 38 30.8**	**+1.5**
SPUT	**South Promonto**	**5.82**	**248**	Pn	**Pn**	**22 38 30.9**	**+1.2**
PV07	**Paradox Valley**	**5.82**	**207**	Pn	**Pn**	**22 38 31.5**	**+1.7**
P17A	**Butcher Ranch,**	**5.87**	**226**	Pn	**Pn**	**22 38 32.2**	**+1.8**
BCYI	**Bear Canyon**	**5.91**	**279**	Pn	**Pn**	**22 38 32.3**	**+1.3**
SDCO	**Great Sand Dun**	**5.92**	**182**	Pn	**Pn**	**22 38 34.2**	**+2.9**
PV20	**West Nyswonger**	**6.02**	**209**	Pn	**Pn**	**22 38 34.0**	**+1.5**
PV11	**David Mesa, Pa**	**6.02**	**208**	Pn	**Pn**	**22 38 34.9**	**+2.4**
PV16	**Nyswonger Mesa**	**6.03**	**209**	Pn	**Pn**	**22 38 33.7**	**+1.1**
SRU	**San Rafael Swe**	**6.04**	**223**	Pn	**Pn**	**22 38 32.8**	**+0.1**
PV03	**Paradox Valley**	**6.05**	**208**	Pn	**Pn**	**22 38 34.5**	**+1.5**
PV18	**Skein Mesa, Pa**	**6.08**	**208**	Pn	**Pn**	**22 38 35.5**	**+2.1**
PV05	**Paradox Valley**	**6.30**	**209**	Pn	**Pn**	**22 38 36.4**	**0.0**
NLU	**North Lily Min**	**6.30**	**236**	Pn	**Pn**	**22 38 36.6**	**+0.2**
BGU	**Big Grassy Mou**	**6.38**	**247**	Pn	**Pn**	**22 38 38.8**	**+1.4**
Q16A	**Castle Valley**	**6.51**	**225**	Pn	**Pn**	**22 38 39.7**	**+0.5**
DUG	**Dugway, Tooele**	**6.62**	**241**	Pn	**Pn**	**22 38 40.2**	**-0.4**
MSO	**Missoula**	**6.89**	**300**	Pn	**Pn**	**22 38 45.7**	**+1.4**
MSU	**Marysvale**	**7.34**	**228**	Pn	**Pn**	**22 38 51.4**	**+0.8**
AGMN	**Agassiz Nation**	**8.01**	**51**	Pn	**Pn**	**22 39 00.7**	**+1.1**
WALA	**Waterton Lakes**	**8.05**	**315**	Pn	**Pn**	**22 39 00.7**	**+0.4**
I10CA	**LAC DU BONNET**	**9.08**	**41**	*i*		23 27 40.0	
	baz=223,slow=326,SNR=2.4						
ULM	**Lac du Bonnet**	**9.19**	**41**	Pn	**Pn**	**22 39 15.3**	**-0.4**
	comp=E,1.0nm,0.3s,baz=224,slow=10,SNR=11						
ULM				Sn	**Sn**	**22 40 56.6**	**-3.1**
	comp=E,0.2nm,0.3s,baz=162,slow=17,SNR=1.4						
ULM				Lg	Lg	22 41 45.0	
	comp=E,0.2nm,0.3s,baz=321,slow=17,SNR=1.2						
ULM	**Lac du Bonnet**	**9.19**	**41**		**Pn**	**22 39 15.4**	**-0.2**
B35A	**Bob, Littlefor**	**9.29**	**56**	Pn	**Pn**	**22 39 18.6**	**+1.4**
WUAZ	**Wupatki**	**9.41**	**212**	Pn	**Pn**	**22 39 22.4**	**+3.4**
TXAR	**Lajitas Array**	**14.37**	**174**	Pg	P	22 41 25.7	+52
	comp=E,0.0nm,0.3s,baz=359,slow=16,SNR=1.4						
TXAR				Lg	Lg	22 44 36.4	
	baz=349,slow=23,SNR=2.2						
YKA	**Yellowknife Ar**	**19.63**	**347**	P	**P**	**22 41 30.4**	**-1.4**
	baz=153,slow=9.6,SNR=1.5						

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*TEH **02** 22:38:36.1, 36°.88N×52°.92E, h8km, ML3.3*
*THR **02** 22:38:37.3±0.3, 36°.87N×52°.85E, h14km±6km, ML3.6*
ISC 02 22:38:37.9±1.2**, 36°.81N**±0°.07×**52°.90E**±0°.04**, h10**km**, n31,** σ**0**s**.78**/34**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRN	**Peran**	**0.73**	**219**	*e*Pg	**Pg**	**22 38 52.1**	**+0.2**
IPRN				*e*Sg	**Sb**	**22 39 03.5**	**+0.7**
IGLO	**Ghaloghah**	**0.80**	**112**	*e*Pg	**Pg**	**22 38 52.1**	**-1.3**
IGLO				*e*		22 39 04.7	
	comp=Z,99nm,0.2s						
IFIR	**Firoozkooh**	**1.17**	**186**	*e*Pg	**Pg**	**22 38 59.1**	**-1.3**
IFIR				*e*		22 39 06.2	
	comp=Z,99nm,0.1s						
DAMV	**Damavand**	**1.40**	**213**	*e*Pg	**Pn**	**22 39 03.6**	**-0.1**
DAMV				*e*Sg	**Sg**	**22 39 23.0**	**+0.2**
DAMV				IAML		22 39 24.1	
	comp=E,793nm,0.5s						
DAMV	**Damavand**	**1.40**	**213**	*e*Pg	**Pn**	**22 39 03.6**	**-0.1**
ILAS	**Lasjerd**	**1.42**	**178**	*e*		22 39 24.1	
	comp=Z,99nm,0.2s						
ILAS				*e*Pg	**Pn**	**22 39 04.1**	**+0.1**
IANJ	**Anjilo**	**1.57**	**148**	*e*Pg	**Pn**	**22 39 06.6**	**+0.6**
CHTH	**Charan**	**1.69**	**239**	*e*Pn	**Pn**	**22 39 08.5**	**+0.8**
CHTH				*e*Sg	**Sb**	**22 39 31.2**	**+0.4**
CHTH	**Charan**	**1.69**	**239**	*e*Pn	**Pn**	**22 39 08.6**	**+0.8**
QALM	**Alamut, Qazvin**	**1.85**	**259**	*e*		22 39 39.4	
	comp=Z,99nm,0.6s						
QALM				*e*Pn	**Pn**	**22 39 08.9**	**-1.1**
IHSB	**Hasanabad**	**1.90**	**224**	*e*Pg	**Pb**	**22 39 12.4**	**-0.3**
IVRN	**Varamin**	**2.04**	**208**	*e*Pn	**Pn**	**22 39 13.4**	**+1.0**
IVRN				*e*		22 39 46.3	
	comp=Z,99nm,0.2s						
IMND	**Minoodasht**	**2.05**	**77**	*e*Pn	**Pn**	**22 39 12.5**	**0.0**
IMND				*e*		22 39 43.1	
	comp=Z,99nm,0.3s						
IMHD	**Mahdasht**	**2.13**	**239**	*e*Pg	**Pb**	**22 39 16.7**	**+0.1**
IGZV	**Ghazvin**	**2.20**	**260**	*e*Pn	**Pn**	**22 39 15.2**	**+0.5**
IGZV				*e*		22 39 53.8	
	comp=Z,99nm,0.3s						
IQOM	**Qom**	**2.46**	**218**	*e*Pn	**Pn**	**22 39 18.6**	**+0.3**
SHRO	**Shahrood**	**2.63**	**107**	*e*Pn	**Pn**	**22 39 22.3**	**+1.7**
SHRO	**Shahrood**	**2.63**	**107**	*e*Pn	**Pn**	**22 39 22.3**	**+1.7**
IRAZ	**Razeghan**	**2.79**	**241**	*e*Pn	**Pn**	**22 39 23.8**	**+1.0**
IRAZ				*e*		22 40 11.6	
	comp=Z,99nm,0.6s						
QABG	**Abgarm-Qazvin**	**2.90**	**249**	*e*Pn	**Pn**	**22 39 23.5**	**-0.8**
QABG				*e*		22 40 10.6	
	comp=Z,99nm,0.4s						
KRSH	**Karshahi**	**2.90**	**193**	*e*Pn	**Pn**	**22 39 24.5**	**+0.2**
KRSH				*e*		22 40 09.9	
	comp=Z,99nm,0.4s						
QAM	**Ghamsar**	**3.27**	**202**	*e*Pn	**Pn**	**22 39 29.5**	**+0.1**
ZNJK	**Zanjan**	**3.39**	**269**	*e*Pn	**Pn**	**22 39 31.5**	**+0.4**
ZNJK	**Zanjan**	**3.39**	**269**	*e*Pn	**Pn**	**22 39 31.5**	**+0.4**
ANAR	**Anarak**	**3.67**	**169**	*e*Pn	**Pn**	**22 39 34.5**	**-0.4**
SBZV	**Sabzevar**	**3.81**	**95**	*e*Pn	**Pn**	**22 39 37.7**	**+0.9**
IZEF	**Zefreh**	**3.93**	**187**	*e*Pn	**Pn**	**22 39 38.5**	**-0.1**
IGAR	**Gharneh**	**4.45**	**189**	*e*Pn	**Pn**	**22 39 46.8**	**+1.1**
TKDS	**Koohdasht(Taba**	**4.70**	**131**	*e*Pn	**Pn**	**22 39 49.1**	**+0.1**
TPRV	**Parvadeh(Tabas**	**4.88**	**139**	*e*Pn	**Pn**	**22 39 51.7**	**+0.2**
ITEG	**Tejag**	**6.19**	**127**	*e*Pn	**Pn**	**22 40 10.0**	**+0.5**

DJA 02 22:51:19.3±0.3**, 0°N**±4°×**10°0E**±°**, h10**km**, M3.7**/9**, MLv3.7**/9**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.41**	**317**	P	Pg	22 51 27.0	-0.4
MNSI				S	Sb	22 51 34.0	-1.1
BKNI	**Bangkinang**	**1.19**	**98**	P	Pb	22 51 39.7	-2.3
BKNI				S	Sn	22 51 58.3	0.0
SDSI	**Sungai Dareh**	**2.11**	**132**	P	Pn	22 51 54.7	0.0
GSI	**Gunungsitoli**	**2.42**	**290**	P	Pn	22 51 59.2	+0.2
TPTI		**3.84**	**316**	P	Pn	22 52 20.5	+2.0
TNG	**Tangerang**	**9.47**	**134**	P	Pn	22 53 23.8	-12

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*HLW **02** 22:53:15.1, 36°.23N×30°.40E, h11km±14km, Md3.9*
*ISK **02** 22:53:15.6, 36°.45N×30°.49E, h29km, ML3.2/23*
*NIC **02** 22:53:15.4±0.0, 36°.45N×30°.53E, h23km±2km, Ml3.2/4*
*THE **02** 22:53:15.7, 36°.57N×30°.67E, h27km±58km, ML3.5/2, Error ellipse: s-maj=58.5km s-min=3.0km az=90.0*
*DDA **02** 22:53:16.0, 36°.47N×30°.52E, h46km±7km, ML3.3*
ISC 02 22:53:16.4±1.0**, 36°.44N**±0°.03×**30°.50E**±0°.02**, h34**km±2km**, n92,** σ**1**s**.24**/130**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.17**	**227**	*i* P	**Pb**	**22 53 23.1**	**+0.4**
AKUM				*i* S	**Sb**	**22 53 30.7**	**+3.6**
KEMT	**Kemer-ANTALYA**	**0.17**	**16**	PG	**Pn**	**22 53 22.3**	**+1.1**
ANTB	**Antalya**	**0.48**	**15**	PG	**Pb**	**22 53 25.8**	**-0.8**
ANTB				SG	**Sb**	**22 53 34.2**	**+0.5**
DEMR	**Demre-Antalya**	**0.52**	**247**	PG	**Pb**	**22 53 27.2**	**-0.1**
ELL	**Elmali**	**0.57**	**303**	PG	**Pb**	**22 53 27.5**	**-0.6**
ELL				SG	**Sb**	**22 53 36.3**	**+0.1**
ELL	**Elmali**	**0.57**	**303**	P	**Pb**	**22 53 27.2**	**-0.9**
ELL				S	**Sb**	**22 53 36.1**	**-0.2**
KORT	**Korkueli**	**0.57**	**348**	PG	**Pb**	**22 53 27.4**	**-0.9**
KORT				SG	**Sb**	**22 53 36.5**	**0.0**
KORT	**Korkueli**	**0.57**	**348**	*i* P	**Pb**	**22 53 27.5**	**-0.7**
KORT				*i* S	**Sn**	**22 53 37.8**	**+1.2**
AKAS	**Kas**	**0.75**	**254**	PG	**Pn**	**22 53 30.2**	**-0.5**
AKAS				SG	**Sn**	**22 53 41.3**	**+0.3**
AKAS	**Kas**	**0.75**	**254**	*i* P	**Pn**	**22 53 30.1**	**-0.6**
AKAS				*i* S	**Sb**	**22 53 42.4**	**+1.2**
KSL	**Kastellorizon**	**0.79**	**249**	P	**Pn**	**22 53 31.9**	**+0.7**
KSL				S	**Sb**	**22 53 45.5**	**+3.3**
	5μm,0.5s						
KSL	**Kastellorizon**	**0.79**	**249**	P	**Pn**	**22 53 30.8**	**-0.4**
KSL				S	**Sb**	**22 53 44.0**	**+1.7**
BUCA	**Burdur, Bucak-**	**0.89**	**3**	*i* P	**Pn**	**22 53 31.9**	**-0.7**
BUCA				*i* S	**Sb**	**22 53 45.7**	**+0.6**
KEPZ	**Antalya-Kepez**	**1.00**	**62**	*i* P	**Pn**	**22 53 33.7**	**-0.4**
KEPZ				*i* S	**Sn**	**22 53 46.6**	**-0.5**
BCK	**Bucak**	**1.02**	**4**	PG	**Pn**	**22 53 34.3**	**-0.1**
BCK				SG	**Sn**	**22 53 47.8**	**+0.1**
GOLH	**Golhisar**	**1.10**	**317**	*i* P	**Pn**	**22 53 36.8**	**+1.3**
GOLH				*i* S	**Sn**	**22 53 50.7**	**+1.1**
FETY	**Fethiye**	**1.16**	**280**	P	**Pn**	**22 53 35.5**	**-0.7**
FETY				S	**Sn**	**22 53 51.6**	**+0.7**
FETY	**Fethiye**	**1.16**	**280**	PN	**Pn**	**22 53 35.7**	**-0.5**
CAEL	**Denizli, Camel**	**1.17**	**306**	*i* P	**Pn**	**22 53 37.3**	**+0.8**
ALAN	**Alanya-ANTALYA**	**1.24**	**84**	PN	**Pn**	**22 53 37.1**	**-0.3**
BRDR	**BURDUR-Merkez**	**1.30**	**345**	*i* P	**Pn**	**22 53 38.5**	**+0.2**
ISP	**Isparta**	**1.38**	**1**	PN	**Pn**	**22 53 39.4**	**0.0**
SEDI	**Konya, Seydise**	**1.43**	**44**	*i* P	**Pn**	**22 53 40.3**	**+0.3**
SEDI				*i* S	**Sb**	**22 54 00.2**	**-0.1**
GAZI	**Gazipasa**	**1.48**	**97**	PN	**Pn**	**22 53 40.4**	**-0.3**
GAZI	**Gazipasa**	**1.48**	**97**	*i* P	**Pn**	**22 53 40.0**	**-0.7**
GAZI				*i* S	**Sn**	**22 53 58.8**	**-0.1**
BASM	**Basmaki-Afyon**	**1.52**	**347**	PN	**Pn**	**22 53 41.4**	**+0.1**
DALY	**Dalyan (Mula)**	**1.53**	**285**	PN	**Pn**	**22 53 41.4**	**+0.1**
DALY	**Dalyan (Mula)**	**1.53**	**285**	*i* P	**Pn**	**22 53 42.3**	**+1.0**
DALY				*i* S	**Sn**	**22 54 01.0**	**+0.9**
DALY				IAML		22 54 03.0	
	comp=N,285nm,0.2s						
BAGO	**Egridir - ISPA**	**1.57**	**8**	*i* P	**Pn**	**22 53 41.0**	**-0.9**
BAGO				*i* S	**Sn**	**22 54 02.7**	**+1.6**
TAVA	**DENIZLI_Tavas**	**1.63**	**309**	*i* P	**Pn**	**22 53 44.1**	**+1.3**
TAVA				*i* S	**Sn**	**22 54 03.7**	**+1.0**
KZIL	**AFYON_Kizioren**	**1.84**	**351**	*i* P	**Pn**	**22 53 44.7**	**-1.0**
KZIL				*i* S	**Sn**	**22 54 08.9**	**+1.0**
TURN	**Turunc**	**1.84**	**281**	PN	**Pn**	**22 53 46.3**	**+0.7**
TURN	**Turunc**	**1.84**	**281**	*i* P	**Pn**	**22 53 46.6**	**+1.0**
TURN				*i* S	**Sn**	**22 54 08.8**	**+1.1**
TURN				IAML		22 54 13.0	
	comp=N,219nm,0.2s						
DOGA	**KONYA_Doganhis**	**1.91**	**29**	*i* P	**Pn**	**22 53 47.4**	**+0.7**
DOGA				*i* S	**Sn**	**22 54 11.6**	**+2.0**
YER	**Yerkesik**	**1.91**	**292**	P	**Pn**	**22 53 47.1**	**+0.5**
YER				S	**Sn**	**22 54 11.0**	**+1.5**
YER	**Yerkesik**	**1.91**	**292**	PN	**Pn**	**22 53 47.2**	**+0.6**
YVAC	**Isparta, Yalva**	**1.92**	**18**	*i* P	**Pn**	**22 53 46.9**	**+0.1**
YVAC				*i* S	**Sn**	**22 54 10.8**	**+0.9**
MULA	**Mugla, Merkez-**	**1.93**	**296**	*i* P	**Pn**	**22 53 48.1**	**+1.2**
ARG	**Arkhangelos**	**1.93**	**264**	P	**Pn**	**22 53 47.1**	**+0.3**
ARG	**Arkhangelos**	**1.93**	**264**	PN	**Pn**	**22 53 47.2**	**+0.4**
ARG	**Arkhangelos**	**1.93**	**264**	P	**Pn**	**22 53 47.0**	**+0.2**
ERMK	**Ermenek**	**1.96**	**83**	*i* P	**Pn**	**22 53 47.9**	**+0.5**
KMER	**Konya-Meram**	**2.00**	**48**	*i* P	**Pn**	**22 53 47.4**	**-0.5**
KMER				IAML		22 54 16.0	
	comp=N,198nm,0.8s						
AKMS	**Akamas**	**2.06**	**133**	P	**Pn**	**22 53 48.4**	**-0.2**
AKMS				AML	AML	22 54 27.4	
	comp=N,0.6nm,0.4s						
AKMS				AML	AML	22 54 29.8	
	comp=N,0.4nm,0.6s						
KHAL	**Karahalli**	**2.09**	**338**	*i* P	**Pn**	**22 53 48.2**	**-0.9**
KHAL				*i* S	**Sn**	**22 54 13.8**	**-0.2**
KKBE	**Karaman, Kazim**	**2.11**	**68**	*i* P	**Pn**	**22 53 51.1**	**+1.7**
KKBE				*i* S	**Sn**	**22 54 17.4**	**+2.9**
SHUT	**Suhut-Afyon**	**2.11**	**1**	PN	**Pn**	**22 53 49.4**	**0.0**
KONT	**Konya--Tatoy**	**2.12**	**44**	PN	**Pn**	**22 53 50.1**	**+0.7**
KONT	**Konya--Tatoy**	**2.12**	**44**	*i* P	**Pn**	**22 53 47.3**	**-2.1**
TEKE	**Tekeli-Mersin**	**2.13**	**97**	PN	**Pn**	**22 53 50.4**	**+0.8**
ALFC	**Alefka**	**2.13**	**126**	P	**Pn**	**22 53 50.0**	**+0.4**
ALFC				AML	AML	22 54 26.6	
	comp=N,0.3nm,0.3s						
ALFC				AML	AML	22 54 27.3	
	comp=N,0.4nm,0.3s						
BERE	**Bereket-Mersin**	**2.20**	**92**	PN	**Pn**	**22 53 51.3**	**+0.6**
LADK	**Ladik-KONYA**	**2.30**	**40**	PN	**Pn**	**22 53 52.2**	**+0.1**
AFYO	**Afyonkarahisar**	**2.35**	**356**	*i* P	**Pn**	**22 53 53.0**	**+0.3**
AFYO				*i* S	**Sn**	**22 54 20.3**	**-0.1**
AFYO				IAML		22 54 25.0	
	comp=N,132nm,0.5s						
NATA	**Nata**	**2.36**	**134**	P	**Pn**	**22 53 53.1**	**+0.3**
NATA				AML	AML	22 54 44.7	
	comp=N,1.3nm,0.8s						
NATA				AML	AML	22 54 47.2	
	comp=N,0.7nm,1.0s						
TEVE	**Tevekalti-Mers**	**2.37**	**89**	PN	**Pn**	**22 53 54.2**	**+1.2**
KULA	**Kula-Manisa**	**2.54**	**325**	P	**Pn**	**22 53 54.9**	**-0.3**
USAK	**Uak-Merkez**	**2.56**	**333**	*i* P	**Pn**	**22 53 55.5**	**0.0**
USAK				*i* S	**Sn**	**22 54 25.5**	**-0.1**
MANT	**Manisa**	**2.57**	**324**	*i* P	**Pn**	**22 53 56.1**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**2.57**	**307**	PN	**Pn**	**22 53 55.9**	**+0.2**
BODT	**Bodrum**	**2.63**	**285**	P	**Pn**	**22 53 55.7**	**-0.8**
BODT				S	**Sn**	**22 54 27.2**	**-0.2**
ALIN	**Konya, Altinte**	**2.65**	**45**	*i* P	**Pn**	**22 53 57.0**	**+0.1**
CSS	**Mathiatis**	**2.73**	**122**	P	**Pn**	**22 53 57.0**	**-1.0**
ASGA	**Asgata**	**2.78**	**126**	P	**Pn**	**22 53 58.7**	**+0.2**
ASGA				AML	AML	22 54 49.8	
	comp=N,0.2nm,0.5s						
ASGA				AML	AML	22 54 51.4	
	comp=N,0.2nm,1.0s						
DDIM	**Aydin, Didim**	**2.80**	**292**	*i* P	**Pn**	**22 53 59.2**	**+0.4**
DDIM				*i* S	**Sn**	**22 54 30.8**	**-0.5**
AUKIR	**Kırka- Seyitga**	**2.83**	**1**	*i* P	**Pn**	**22 53 58.9**	**-0.5**
KARP	**Karpathos**	**2.85**	**253**	P	**Pn**	**22 54 00.2**	**+0.7**
KARP	**Karpathos**	**2.85**	**253**	P	**Pn**	**22 54 00.3**	**+0.8**
KOSK	**Kos Island**	**2.85**	**277**	P	**Pn**	**22 53 59.8**	**+0.4**
KOSK				S	**Sn**	**22 54 34.3**	**+1.7**
	comp=N,190nm,0.4s						
GCAM	**G?zelcaml?**	**2.90**	**297**	*i* P	**Pn**	**22 53 60.0**	**-0.1**
MVOU	**Mavrovouni**	**2.92**	**118**	P	**Pn**	**22 54 00.1**	**-0.3**
CIFT	**Cifteler, Eski**	**2.95**	**9**	*i* P	**Pn**	**22 53 59.9**	**-1.1**
CIFT				*i* S	**Sn**	**22 54 35.2**	**-0.1**
CIFT				IAML		22 54 42.0	
	comp=E,117nm,0.5s						
OSC1	**CSNet OBS 1**	**3.00**	**167**	P	**Pn**	**22 54 01.5**	**-0.1**
KERG	**Konya-Eregli**	**3.06**	**70**	*i* P	**Pn**	**22 54 04.4**	**+1.8**
SGAZ	**Eskisehir, Şey**	**3.10**	**5**	*i* P	**Pn**	**22 54 03.2**	**+0.2**
SGAZ				*i* S	**Sn**	**22 54 38.1**	**-0.7**
ANDZ	**Kutahya, Merke**	**3.10**	**351**	*i* P	**Pn**	**22 54 01.9**	**-1.1**
ANDZ				*i* S	**Sn**	**22 54 38.3**	**-0.7**
SMG	**Samos**	**3.19**	**295**	P	**Pn**	**22 54 03.5**	**-0.7**
DGB	**zmir**	**3.31**	**300**	*i* P	**Pn**	**22 54 05.2**	**-0.5**
DGB				*i* S	**Sn**	**22 54 41.3**	**-2.5**
DGB				IAML		22 54 45.0	
	comp=N,78nm,0.3s						
DGB				IAML		22 54 45.0	
	comp=E,90nm,0.2s						
KKUL	**Konya-Kulu**	**3.33**	**34**	*i* P	**Pn**	**22 54 06.5**	**+0.2**
BLCB	**Balcova**	**3.37**	**306**	P	**Pn**	**22 54 05.8**	**-0.8**
ZEYE	**Izmir, Urla-Ze**	**3.66**	**301**	*i* P	**Pn**	**22 54 09.7**	**-0.8**
OSC2	**CSNet OBS 4**	**3.66**	**156**	P	**Pn**	**22 54 10.8**	**+0.3**
STEP	**BALIKESIR_Sava**	**3.67**	**324**	*i* P	**Pn**	**22 54 10.3**	**-0.4**
STEP				*i* S	**Sn**	**22 54 48.2**	**-4.6**
STEP				IAML		22 54 54.0	
	comp=N,136nm,0.6s						
CHOS	**Chios island**	**4.04**	**300**	P	**Pn**	**22 54 15.8**	**-0.1**
NPS	**Neapolis**	**4.14**	**255**	P	**Pn**	**22 54 17.2**	**0.0**
SLUM	**Salum**	**6.60**	**223**	P	**Pn**	**22 54 49.9**	**-1.2**
	baz=224						
HNAT	**Natroun**	**6.79**	**179**	P	**Pn**	**22 54 53.1**	**-0.5**
	baz=178						
HNAT				S	**Sn**	**22 56 02.6**	**-7.2**
	baz=178						
HSAF	**As Saff**	**6.86**	**172**	P	**Pn**	**22 54 53.6**	**-1.0**
	baz=171						
GLL	**Jalalah**	**6.92**	**171**	P	**Pn**	**22 54 53.7**	**-1.7**
	baz=170						
RYAN	**Fayoum**	**7.34**	**182**	P	**Pn**	**22 54 59.5**	**-1.7**
	baz=181						
NBNS	**Bani Suef**	**7.82**	**175**	P	**Pn**	**22 55 06.6**	**-1.2**
	baz=174						
HFRF	**Wahat Farafira**	**9.45**	**192**	P	**Pn**	**22 55 27.9**	**-2.2**
	baz=192						

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*IDC **02** 23:01:28.4±2.1, 1°.17N×126°.97E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/37, mbtmp3.6/3, MS3.5/1, Ms1 3.4/1, ms1mx2.5/33, Error ellipse: s-maj=170.6km s-min=26.2km az=66.0*
*NEIC **02** 23:01:35.6±1.5, 1°.0N±0°.1×126°.47E±0°.06, h66km±9km, mb4.0/17, Error ellipse: s-maj=16.7km s-min=9.2km az=182.0*
*DJA **02** 23:01:36.3±0.5, 1°N±7°×12°7E±°, h43km±26km, M3.4/6, MLv3.4/6*
ISC 02 23:01:33.0±0.7**, 0°.95N**±0°.09×**126°.41E**±0°.06**, h39**km**, n27,** σ**1**s**.57**/27**, mb3.9**/11**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.97**	**100**		**Pn**	**23 01 52.5**	**+2.3**
TNTI					**Sn**	**23 02 04.3**	**+1.5**
TNTI	**Ternate**	**0.97**	**100**	P	**Pn**	**23 01 52.6**	**+2.4**
TNTI				S	**Sn**	**23 02 03.5**	**+0.7**
GTOI	**Gorontalo**	**3.41**	**265**	P	Pn	23 02 31.8	+8.1
LUWI	**Luwuk**	**4.14**	**241**	Pn	**Pn**	**23 02 36.0**	**+2.3**
WB0	**Warramunga Arr**	**22.03**	**160**	P	**P**	**23 06 25.0**	**+0.7**
WB0				IAmb	IAmb	23 06 39.5	
	comp=Z,4.2nm,1.1s						
WRAB	**Tennant Creek**	**22.17**	**160**	P	**P**	**23 06 26.4**	**+0.6**
WRAB				IAmb	IAmb	23 06 28.8	
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**22.17**	**160**	P	**P**	**23 06 26.6**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=340,slow=11,SNR=25						
WB2	**Warramunga Arr**	**22.18**	**160**	P	**P**	**23 06 26.6**	**+0.7**
WB2				IAmb	IAmb	23 06 33.2	
	comp=Z,8.4nm,1.2s						
COEN	**Coen**	**22.25**	**132**	P	**P**	**23 06 25.4**	**-1.4**
COEN				IAmb	IAmb	23 06 39.3	
	comp=Z,6.1nm,1.4s						
WR0	**Warramunga Arr**	**22.26**	**159**	P	**P**	**23 06 27.7**	**+1.0**
AS31	**Alice Springs**	**25.53**	**164**	P	**P**	**23 06 59.6**	**+1.5**
ASAR	**Alice Springs**	**25.53**	**164**	P	**P**	**23 06 59.5**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=344,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**25.53**	**164**	P	**P**	**23 07 00.8**	**+2.7**
RPSI	**Rantau Prapat**	**27.52**	**274**	P	**P**	**23 07 16.6**	**+0.4**
RPSI				IAmb	IAmb	23 07 26.4	
	comp=Z,4.0nm,0.9s						
BBOO	**Buckleboo**	**34.79**	**166**	P	**P**	**23 08 20.4**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.68**	**158**	LR	LR	23 24 51.5	
	comp=Z,64nm,18.5s,baz=196,slow=39						
MJAR	**Matsushiro Arr**	**37.06**	**16**	P	**P**	**23 08 40.1**	**+0.7**
MAJO	**Matsushiro**	**37.07**	**16**	P	**P**	**23 08 38.8**	**-0.7**
MAJO				IAmb	IAmb	23 08 52.5	
	comp=Z,6.1nm,1.0s						
JMM	**Marumori**	**39.05**	**18**	P	**P**	**23 08 55.1**	**-1.0**
ARMA	**Armidale**	**39.37**	**145**	P	**P**	**23 08 56.8**	**-2.3**
USA0B	**Ussuriysk Arra**	**43.35**	**6**	P	**P**	**23 09 32.2**	**+0.9**
USRK	**Ussuriysk Ar.**	**43.35**	**6**	P	**P**	**23 09 30.1**	**-1.3**
QRZ	**Quartz Range**	**58.99**	**140**	P	**P**	**23 11 25.6**	**-3.1**
MKAR	**Makanchi Array**	**59.66**	**326**	P	**P**	**23 11 35.5**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=116,slow=9.1,SNR=4.7						
MKAR	**Makanchi Array**	**59.66**	**326**	P	**P**	**23 11 33.4**	**0.0**
ZAA0	**Zalesovo Array**	**62.92**	**334**	P	**P**	**23 11 55.0**	**-0.2**
ZAA0				IAmb	IAmb	23 12 02.6	
	comp=Z,3.4nm,1.4s						
KURK	**Kurchatov**	**63.91**	**328**	P	**P**	**23 12 01.6**	**-0.3**
KURK				IAmb	IAmb	23 12 03.3	
	comp=Z,2.5nm,1.1s						

*IDC **02** 23:15:34.5±2.1, 6°.44S×129°.37E, h170km±25km, mb3.2/2, mb1 3.7/7, mb1mx3.3/39, mbtmp4.1/7, Error ellipse: s-maj=32.7km s-min=18.2km az=86.0*

ISC 02 23:15:33.1±0.9**, 6°.57S**±0°.07×**129°.5E**±0°.1**, h165**km**, n7, σ3.s32**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.93**	**17**	P	**Pn**	**23 17 00.5**	**+1.4**
	4.2nm,0.3s,baz=218,slow=19,SNR=4.4						
SIJI				S	**Sn**	**23 18 02.5**	**-4.0**
	5.1nm,0.3s,baz=93,slow=22,SNR=10						
BATI	**Baumata**	**6.83**	**238**	P	**Pn**	**23 17 11.1**	**+0.1**
	3.4nm,0.3s,baz=162,slow=6.4,SNR=2.2						
BATI				S	**Sn**	**23 18 28.4**	**+0.4**
	7.9nm,0.3s,baz=117,slow=17,SNR=3.1						
FITZ	**Fitzroy Crossi**	**12.07**	**198**	P	**Pn**	**23 18 21.3**	**+1.4**
	1.0nm,0.3s,baz=25,slow=9.6,SNR=28						
FITZ				S	**Sn**	**23 20 29.0**	**-4.6**
	0.7nm,0.3s,baz=109,slow=22,SNR=7.4						
WRA	**Warramunga Arr**	**14.09**	**161**	P	**Pn**	**23 18 47.6**	**+2.0**
	1.1nm,0.3s,baz=346,slow=9.6,SNR=48						
WRA				S	Sn	23 21 14.2	-8.1
	0.1nm,0.3s,baz=335,slow=22,SNR=3.8						
ASAR	**Alice Springs**	**17.51**	**167**	P	**Pn**	**23 19 30.5**	**+3.1**
	1.9nm,0.3s,baz=341,slow=9.7,SNR=99						
ASAR				S	**S**	**23 22 35.0**	**-5.0**
	0.1nm,0.3s,baz=349,slow=18,SNR=2.1						
STKA	**Stephens Creek**	**27.59**	**157**	P	**P**	**23 21 07.8**	**+2.9**
	0.5nm,0.3s,baz=333,slow=14,SNR=1.5						
MKAR	**Makanchi Array**	**67.61**	**327**	P	**P**	**23 26 11.4**	**-0.7**
	0.1nm,0.3s,baz=111,slow=8.0,SNR=5.5						

*NNC **02** 23:34:16.1±2.3, 38°.06N×73°.98E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=16.3km s-min=12.0km az=164.0*
*SOME **02** 23:34:16.2, 38°.28N×73°.77E, h5km*

ISC 02 23:34:03.1±3.3**, 37°.9N**±0°.1×**73°.62E**±0°.07**, h10**km**, n24, σ2.s38**/35**, 4C-7D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.78**	**8**	⇓Pg	**Pg**	**23 35 39.0**	**+4.3**
	19nm,0.8s						
AAK				⇓Lg	Lg	23 36 41.0	
	16nm,0.9s						
MRKS	**Merke**	**4.85**	**357**	*e*P	**Pg**	**23 35 38.7**	**+2.8**
	6.7nm,0.5s						
MRKS				*e*S	**Sg**	**23 36 38.4**	**-0.4**
	4.5nm,0.6s						
MRKS	**Merke**	**4.85**	**357**	Pg	**Pg**	**23 35 38.7**	**+2.8**
	6.7nm,0.5s						
MRKS				Lg	Lg	23 36 38.4	
	4.5nm,0.6s						
TKM2	**Tokmak 2**	**5.24**	**16**	⇑Pn	**Pb**	**23 35 33.0**	**-1.9**
	5.7nm,0.6s						
TKM2				⇓Sn	**Sb**	**23 36 35.1**	**-2.9**
	13nm,1.1s						
TKM2				⇓Lg	Lg	23 36 55.3	
	25nm,1.1s						
KST	**Kastek**	**5.44**	**18**	*e*P	**Pg**	**23 35 49.8**	**+2.5**
	7.1nm,0.6s						
KST				*e*S	**Sg**	**23 36 57.5**	**-0.2**
	10nm,1.3s						
KST	**Kastek**	**5.44**	**18**	Pg	**Pg**	**23 35 49.8**	**+2.5**
	7.1nm,0.6s						
KST				Lg	Lg	23 36 57.5	
	10nm,1.3s						
DGS	**Degeres**	**5.58**	**16**	*e*P	**Pg**	**23 35 53.4**	**+3.4**
	6.1nm,0.9s						
DGS				*e*S	**Sg**	**23 37 03.5**	**+1.2**
	13nm,0.8s						
DGS	**Degeres**	**5.58**	**16**	Pg	**Pg**	**23 35 53.4**	**+3.4**
	6.1nm,0.9s						
DGS				Lg	Lg	23 37 03.5	
	13nm,0.8s						
KK31	**Karatay Array**	**5.71**	**337**	Pn	**Pb**	**23 35 40.8**	**-2.0**
	2.3nm,0.6s,baz=146,slow=12,SNR=36						
KK31				⇑Sn	**Sb**	**23 36 49.1**	**-2.2**
	5.1nm,0.6s,baz=151,slow=22,SNR=6.2						
KK31				⇓Lg	Lg	23 37 19.1	
	8.0nm,0.8s						
TNSS	**Tian-Shan**	**5.73**	**25**	*e*P	**Pg**	**23 35 54.7**	**+2.0**
	3.0nm,0.5s						
TNSS				*e*S	**Sg**	**23 37 05.4**	**-1.5**
	9.5nm,1.1s						
TNSS	**Tian-Shan**	**5.73**	**25**	Pg	**Pg**	**23 35 54.7**	**+2.0**
	3.0nm,0.5s						
TNSS				Lg	Lg	23 37 05.4	
	9.5nm,1.1s						
MDOK	**Medeo**	**5.87**	**25**	*e*P	**Pg**	**23 35 58.3**	**+2.7**
	4.9nm,0.5s						
MDOK				*e*S	**Sg**	**23 37 11.3**	**-0.2**
	16nm,1.5s						
MDOK	**Medeo**	**5.87**	**25**	⇑Pg	**Pg**	**23 35 57.2**	**+1.7**
	5.8nm,0.7s						
MDOK				⇑Lg	Lg	23 37 13.5	
	19nm,0.9s						
MDOK	**Medeo**	**5.87**	**25**	Pg	**Pg**	**23 35 58.3**	**+2.7**
	4.9nm,0.5s						
MDOK				Lg	Lg	23 37 11.3	
	16nm,1.5s						
KUU	**Kurty**	**6.33**	**18**	*e*P	**Pg**	**23 36 07.7**	**+3.4**
	1.9nm,0.6s						
KUU				*e*S	**Sg**	**23 37 28.3**	**+2.0**
	15nm,1.0s						
KUU	**Kurty**	**6.33**	**18**	Pg	**Pg**	**23 36 07.7**	**+3.4**
	1.9nm,0.6s						
KUU				Lg	Lg	23 37 28.3	
	15nm,1.0s						
CHKK	**Chushkaly**	**6.47**	**22**	*e*P	**Pg**	**23 36 08.8**	**+1.8**
	1.6nm,0.7s						
CHKK				*e*S	**Sg**	**23 37 30.4**	**-0.5**
	6.9nm,0.7s						
CHKK	**Chushkaly**	**6.47**	**22**	Pg	**Pg**	**23 36 08.8**	**+1.8**
	1.6nm,0.7s						
CHKK				Lg	Lg	23 37 30.4	
	6.9nm,0.7s						
PDGK	**Podgornoye**	**7.03**	**38**	Pg	**Pg**	**23 36 18.5**	**+1.0**
	1.2nm,0.8s						
PDGK				Lg	Lg	23 37 46.8	
	7.3nm,0.8s						
PDGK	**Podgornoye**	**7.03**	**38**	⇓Pg	**Pg**	**23 36 20.1**	**+2.5**
	5.5nm,1.1s						
PDGK				⇓Lg	Lg	23 37 49.0	
	21nm,0.9s						
MNBS	**Baschi**	**7.16**	**29**	*e*P	**Pg**	**23 36 22.2**	**+2.2**
	0.8nm,0.5s						
MNBS				*e*S	**Sg**	**23 37 52.6**	**-0.1**
	9.7nm,0.9s						
MNBS	**Baschi**	**7.16**	**29**	Pg	**Pg**	**23 36 22.2**	**+2.2**
	0.8nm,0.5s						
MNBS				Lg	Lg	23 37 52.6	
	9.7nm,0.9s						
DJR	**Jarkent**	**7.94**	**34**	*e*P	**Pg**	**23 36 37.2**	**+2.2**
DJR				*e*S	**Sg**	**23 38 18.4**	**+0.7**
DJR	**Jarkent**	**7.94**	**34**	Pg	**Pg**	**23 36 37.2**	**+2.2**
DJR				Lg	Lg	23 38 18.4	

*DJA **02** 23:48:35.2±2.1, 5°N±11°×9°6E±1°5, h10km, M4.5/8, mB5.2/3, mb4.6/5, MLv4.4/8, Mw(mB)4.5/3*
*NEIC **02** 23:48:40.7±1.6, 4°.91N±0°.06×96°.25E±0°.07, h52km±9km, mb4.5/17, Error ellipse: s-maj=12.3km s-min=7.1km az=124.0*
*IDC **02** 23:48:40.9±3.9, 4°.80N×96°.14E, h53km±34km, mb3.6/8, mb1 3.8/10, mb1mx3.5/45, mbtmp3.9/10, ML4.2/2, MS3.1/3, Ms1 3.2/3, ms1mx2.8/31, Error ellipse: s-maj=53.5km s-min=14.8km az=56.0*

ISC 02 23:48:38.4±0.6**, 4°.82N**±0°.06×**96°.08E**±0°.07**, h29**km**, n46, σ1.s26**/43**, mb4.4**/16**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.96**	**65**		**Pn**	**23 48 54.7**	**-1.1**
LHMI	**Lhok Sumawe**	**0.96**	**65**	P	**Pn**	**23 48 54.8**	**-1.1**
LHMI				S	**Sn**	**23 49 08.0**	**-0.6**
TPTI		**1.90**	**145**	P	**Pn**	**23 49 08.3**	**-0.6**
TSI	**Tuntungan**	**2.81**	**118**	P	**Pn**	**23 49 21.2**	**-0.2**
PSI	**Prapat**	**3.48**	**125**	P	**Pn**	**23 49 33.1**	**+2.4**
	10nm,0.3s,baz=360,slow=10,SNR=38						
PSI				S	**Sn**	**23 50 12.8**	**+1.8**
	12nm,0.3s,baz=180,slow=20,SNR=1.8						
PSI				LR	LR	23 51 09.1	
	comp=Z,334nm,20.7s,baz=269,slow=43						
RPSI	**Rantau Prapat**	**3.54**	**127**		**Pn**	**23 49 32.8**	**+1.4**
RPSI	**Rantau Prapat**	**3.54**	**127**		**Pn**	**23 49 33.1**	**+1.6**
RPSI					**Sn**	**23 50 12.8**	**+0.5**
GSI	**Gunungsitoli**	**3.80**	**157**	Pn	**Pn**	**23 49 35.6**	**+0.6**
GSI	**Gunungsitoli**	**3.80**	**157**	P	**Pn**	**23 49 34.1**	**-0.9**
KULM	**Kulim**	**4.58**	**84**		**Pn**	**23 49 45.1**	**-0.7**
IPM	**Ipoh**	**4.94**	**94**		**Pn**	**23 49 50.2**	**-0.6**
MNSI	**Mandailing Nat**	**5.31**	**139**	P	**Pn**	**23 49 56.5**	**+0.7**
	0.5nm2µm61nm,0.5s						
LHSI	**Lahat**	**11.36**	**139**	P	**Pn**	**23 51 19.6**	**+0.7**
	2µm25nm,0.5s						
MNAI	**Manna**	**11.42**	**143**	Pn	**Pn**	**23 51 18.4**	**-1.3**
MDSI	**Maura Dua**	**12.29**	**139**	P	**Pn**	**23 51 30.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**13.84**	**11**	P	**Pn**	**23 51 55.3**	**+2.5**
	0.7nm,0.3s,baz=206,slow=12,SNR=1.7						
CMAR				LR	LR	23 57 23.2	
	comp=Z,46nm,18.8s,baz=205,slow=38						
PALK	**Pallekele**	**15.48**	**280**	P	**P**	**23 52 22.6**	**+3.5**
	0.2nm,0.3s,baz=166,slow=10,SNR=3.7						
PALK	**Pallekele**	**15.48**	**280**	IAmb	IAmb	23 52 23.9	
	comp=Z,7.2nm,0.8s						
H08S2	**Diego Garcia H**	**26.59**	**242**	T	T	00 21 19.0	
	baz=62,slow=76,SNR=26						
H08S3	**Diego Garcia H**	**26.59**	**242**	T	T	00 21 21.8	
	baz=62,slow=76,SNR=38						
H08S1	**Diego Carcia H**	**26.61**	**242**	T	T	00 21 24.1	
	baz=62,slow=76,SNR=6.3						
NIL	**Nilore**	**35.69**	**326**	P	**P**	**23 55 33.4**	**-1.0**
NIL				IAmb	IAmb	23 55 34.2	
	comp=Z,6.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**37.00**	**129**	P	**P**	**23 55 44.6**	**-1.1**
MKAR	**Makanchi Array**	**43.48**	**346**	P	**P**	**23 56 38.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=160,slow=8.2,SNR=2.1						
SONM	**Songino Array**	**43.76**	**10**	P	**P**	**23 56 42.1**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=190,slow=5.3,SNR=3.1						
SONM	**Songino Array**	**43.76**	**10**	P	**P**	**23 56 40.5**	**-1.0**
KK31	**Karatay Array**	**44.34**	**333**	P	**P**	**23 56 45.8**	**-0.3**
KK31				IAmb	IAmb	23 57 50.1	
	comp=Z,11nm,1.9s						
KKAR	**Karatay Array**	**44.34**	**333**	P	**P**	**23 56 46.6**	**+0.6**
WB0	**Warramunga Arr**	**44.90**	**124**		**P**	**23 56 48.6**	**-2.3**
WB0				IAmb	IAmb	23 57 19.9	
	comp=Z,26nm,1.9s						
WRA	**Warramunga Arr**	**44.94**	**124**	P	**P**	**23 56 50.2**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=302,slow=9.2,SNR=25						
WRA				LR	LR	00 17 17.1	
	comp=Z,33nm,18.4s,baz=215,slow=38						
WRAB	**Tennant Creek**	**44.95**	**124**	P	**P**	**23 56 49.9**	**-1.4**
WRAB				IAmb	IAmb	23 57 00.2	
	comp=Z,4.4nm,0.6s						
WB2	**Warramunga Arr**	**44.95**	**124**	P	**P**	**23 56 50.3**	**-1.0**
WB2				IAmb	IAmb	23 57 06.6	
	comp=Z,5.4nm,1.0s						
WR0	**Warramunga Arr**	**45.12**	**124**	P	**P**	**23 56 51.7**	**-0.9**
WR0				IAmb	IAmb	23 58 26.6	
	comp=Z,17nm,1.6s						
AS31	**Alice Springs**	**46.50**	**129**	P	**P**	**23 57 02.0**	**-1.4**
ASAR	**Alice Springs**	**46.50**	**129**	P	**P**	**23 57 03.0**	**-0.5**
	comp=Z,2.4nm,0.4s,baz=302,slow=7.8,SNR=40						
ASAR	**Alice Springs**	**46.50**	**129**	P	**P**	**23 57 02.0**	**-1.4**
FORT	**Forrest**	**46.77**	**141**	P	**P**	**23 57 05.5**	**+0.1**
GEYT	**Alibeck**	**47.75**	**319**	P	**P**	**23 57 13.7**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=172,slow=12,SNR=4.8						
GEYT	**Alibeck**	**47.75**	**319**	IAmb	IAmb	23 57 14.8	
	comp=Z,1.9nm,0.6s						
KURK	**Kurchatov**	**48.03**	**345**	P	**P**	**23 57 14.2**	**-0.7**
KURK				IAmb	IAmb	23 57 19.1	
	comp=Z,12nm,1.7s						
ZALV	**Zalesovo Beam**	**49.83**	**351**	P	**P**	**23 57 27.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=152,slow=4.2,SNR=1.6						
STKA	**Stephens Creek**	**56.62**	**133**	P	**P**	**23 58 18.8**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=311,slow=12,SNR=4.9						
GNI	**Garni**	**57.94**	**315**	P	**P**	**23 58 27.9**	**-0.6**
KIV	**Kislovodsk**	**60.86**	**318**	P	**P**	**23 58 47.9**	**-0.6**
KIV				IAmb	IAmb	23 59 20.4	
	comp=Z,17nm,2.0s						
DZM	**Mont Dzumac**	**73.78**	**115**	LR	LR	00 34 11.8	
	comp=Z,340nm,21.3s,baz=262,slow=37						
TORD	**Torodi Ar. Bea**	**93.17**	**283**	P	**P**	**00 01 50.0**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=88,slow=7.0,SNR=1.9						

*IDC **03** 00:10:42.9±6.6, 17°.87S×174°.77W, h117km±51km, mb3.6/7, mb1 3.9/8, mb1mx3.6/33, mbtmp3.9/8, MS3.4/7, Ms1 3.4/7, ms1mx3.2/28, Error ellipse: s-maj=106.1km s-min=21.7km az=149.0*
*NEIC **03** 00:10:43.9±2.1, 17°.68S±0°.09×174°.8W±0°.1, h134km±10km, mb4.1/13, Error ellipse: s-maj=19.0km s-min=4.7km az=128.0*

ISC 03 00:10:43.8±0.6**, 17°.9S**±0°.2×**174°.75W**±0°.10**, h132**km**, n39, σ1.s32**/25**, mb4.0**/14**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.89**	**36**	Pn	Pn	00 11 52.7	-2.9
MSVF	**Nonsavu**	**6.87**	**270**	P	**Pn**	**00 12 20.8**	**-1.3**
	0.3nm,0.3s,baz=142,slow=19,SNR=4.5						
MSVF				LR	LR	00 14 45.0	
	comp=Z,509nm,20.0s,baz=36,slow=35						
RAR	**Rarotonga**	**14.49**	**106**	Pn	**P**	**00 14 03.6**	**-2.0**
DZM	**Mont Dzumac**	**18.16**	**254**	LR	LR	00 20 18.4	
	comp=Z,119nm,20.6s,baz=111,slow=32						
URZ	**Urewera**	**21.49**	**198**	P	**P**	**00 15 22.9**	**+1.0**
URZ				IAmb	IAmb	00 15 41.1	
	comp=Z,11nm,1.1s						
PAE	**Paea**	**23.96**	**93**	*e*T	T	00 39 28.2	
	comp=Z,2.8nm,0.2s						
PPT2	**Papeete2**	**23.97**	**93**	*e*LR	LR	00 21 15.4	
	comp=Z,236nm,26.0s						
PPT2	**Papeete2**	**23.97**	**93**	*e*T	T	00 39 30.2	
	comp=Z,3.3nm,0.2s						
PPT	**Papeete**	**23.97**	**93**	LR	LR	00 22 09.2	
	comp=Z,88nm,21.9s,baz=238,slow=29						
PPTF	**Pamatai, Papee**	**23.98**	**93**	P	**P**	**00 15 46.0**	**-0.4**
TBI	**Tubuai**	**24.26**	**107**	*e*LR	LR	00 21 25.5	
	comp=Z,194nm,28.0s						
TBI	**Tubuai**	**24.26**	**107**	*e*T	T	00 39 55.9	
	comp=Z,4.6nm,0.3s						
BHW	**Baring Head**	**25.06**	**199**	P	**P**	**00 15 58.8**	**+3.0**
QRZ	**Quartz Range**	**25.33**	**203**	P	**P**	**00 15 59.9**	**+1.6**
QRZ				IAmb	IAmb	00 16 09.1	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**41.70**	**242**	LR	LR	00 33 40.0	
	comp=Z,59nm,18.1s,baz=93,slow=33						
BBOO	**Buckleboo**	**46.47**	**242**	P	**P**	**00 18 56.5**	**-1.2**
BBOO				IAmb	IAmb	00 19 10.8	
	comp=Z,4.5nm,1.0s						
WR0	**Warramunga Arr**	**47.87**	**259**	P	**P**	**00 19 10.3**	**+1.5**
WB0	**Warramunga Arr**	**48.03**	**259**	P	**P**	**00 19 10.9**	**+0.9**
WB0				IAmb	IAmb	00 19 25.4	
	comp=Z,2.6nm,0.9s						
WB2	**Warramunga Arr**	**48.05**	**259**	P	**P**	**00 19 10.9**	**+0.8**
WB2				IAmb	IAmb	00 19 14.4	
	comp=Z,3.8nm,1.0s						
WRAB	**Tennant Creek**	**48.05**	**259**	P	**P**	**00 19 10.6**	**+0.4**
WRAB				IAmb	IAmb	00 19 22.6	
	comp=Z,3.1nm,1.0s						
WRA	**Warramunga Arr**	**48.06**	**259**	P	**P**	**00 19 10.7**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=97,slow=7.1,SNR=15						
WRA				LR	LR	00 37 54.9	
	comp=Z,46nm,20.6s,baz=195,slow=34						
AS31	**Alice Springs**	**48.15**	**254**	P	**P**	**00 19 11.6**	**+0.7**
ASAR	**Alice Springs**	**48.15**	**254**	P	**P**	**00 19 11.4**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=89,slow=8.3,SNR=38						
ASAR	**Alice Springs**	**48.15**	**254**	P	**P**	**00 19 11.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**56.47**	**260**	LR	LR	00 45 16.1	
	comp=Z,54nm,18.2s,baz=88,slow=37						
FITZ	**Fitzroy Crossi**	**56.47**	**260**	P	**P**	**00 20 13.5**	**+1.1**
PSA00	**Pilbara Seismi**	**61.28**	**255**	P	**P**	**00 20 44.1**	**-1.5**
NVAR	**Mina Array Bea**	**77.04**	**42**	P	**P**	**00 22 23.6**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=226,slow=8.5,SNR=5.7						
KSRS	**Korea Array**	**77.06**	**317**	LR	LR	00 52 23.5	
	comp=Z,13nm,19.2s,baz=155,slow=32						
G08A	**Pilot Rock**	**80.71**	**36**	P	**P**	**00 22 40.9**	**-1.5**
G08A				IAmb	IAmb	00 22 44.6	
	comp=Z,2.9nm,1.0s						
HLID	**Hailey**	**82.37**	**40**	P	**P**	**00 22 50.4**	**-0.9**
TXAR	**Lajitas Array**	**83.07**	**56**	P	**P**	**00 22 56.3**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=205,slow=5.5,SNR=3.8						
MCMT	**McKenzie Canyo**	**84.00**	**39**	P	**P**	**00 22 58.3**	**-1.4**
H03S2	**Juan Fernandez**	**84.89**	**124**	T	T	01 56 04.2	
	baz=250,slow=75,SNR=28						
H03S1	**Juan Fernandez**	**84.91**	**124**	T	T	01 56 03.3	
	baz=250,slow=75,SNR=26						
H03S3	**Juan Fernandez**	**84.91**	**124**	T	T	01 56 05.1	
	baz=250,slow=75,SNR=28						
PDAR	**Pinedale Array**	**84.98**	**42**	P	**P**	**00 23 05.0**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=249,slow=4.7,SNR=7.9						
ILAR	**Eielson Array**	**85.14**	**12**	P	**P**	**00 23 05.4**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=228,slow=6.1,SNR=18						
YKA	**Yellowknife Ar**	**92.90**	**24**	P	**P**	**00 23 42.4**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=249,slow=4.4,SNR=3.7						

*HEL **03** 00:43:20.8, 67°.89N×20°.10E, h0km, ML1.4, Explosion*

UPP 03 00:43:21.2±0.0**, 67°.83N**×**20°.20E, h0**km**, ML2.2, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**22**	P	Pg	00 43 24.1	+0.3
KUA				S	Sg	00 43 26.2	+0.5
KUA	**Kurravaara**	**0.14**	**22**	*i* P	Pg	00 43 24.1	+0.3
KUA				*i* S	Sg	00 43 26.2	+0.5
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	00 43 25.8	+0.2
RATU	**Laukkuluspa**	**0.23**	**270**	*i* P	Pg	00 43 25.8	+0.2
KOVU	**Salmi**	**0.40**	**358**	P	Pg	00 43 28.9	+0.1
KOVU	**Salmi**	**0.40**	**358**	*i* P	Pg	00 43 28.9	+0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	00 43 29.7	0.0
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	00 43 29.7	0.0
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 43 34.7	-0.1
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	00 43 34.5	-0.3
	baz=261						
LANU				*e*S	Sg	00 43 43.6	-0.5
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 43 34.7	-0.3
DUNU	**Dundret**	**0.72**	**168**	*i* P	Pg	00 43 34.7	-0.3
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 43 36.0	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	00 43 36.0	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 43 36.3	+0.1
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 43 36.3	+0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	00 43 44.3	0.0
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB	Pg	00 43 44.5	+0.2
KIF				MSG		00 43 56.8	
	comp=Z,2.8nm,0.2s						
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 43 46.4	-1.3
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	00 43 46.3	-1.4
HARU	**Harads**	**1.70**	**169**	P	Pn	00 43 52.0	+0.1
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	00 43 52.0	+0.1
KALU	**Kalix**	**2.34**	**146**	*e*P	Pn	00 44 01.8	+1.1
	baz=321						
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	00 44 02.9	+1.4
TOF				MSG		00 44 33.6	
	comp=Z,1.5nm,0.2s						
SGF	**Sodankyl**	**2.45**	**96**	*e*PG	Pb	00 44 05.5	-0.6
	baz=274						
SGF				*e*SG	Sb	00 44 37.4	+0.6
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	00 44 05.9	+1.9
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*P	Pn	00 44 05.6	+1.3
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*PG	Pb	00 44 08.1	-0.4
	baz=225						

UPP 03 00:43:30.0±0.1**, 67°.82N**×**20°.19E, h0**km**, ML2.6, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	P	Pg	00 43 33.0	+0.3
KUA				S	Sg	00 43 35.1	+0.5
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	00 43 34.6	+0.3
KOVU	**Salmi**	**0.40**	**358**	S	Sg	00 43 43.4	+0.5
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 43 43.6	-0.1
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 43 55.3	-1.2

*NOU **03** 01:04:37.8, 37°.33S×178°.09W, h128km, MLv4.1, East of North Island, N.Z.*

WEL 03 01:05:00.9±1.0**, 38°S**±8°×**18°0E**±°**, h33**km**, M3.4**/19**, ML3.5**/19**, MLv3.4**/19**, Error ellipse: s-maj=0.0km s-min=0.0km az=29.1, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.25**	**280**	P	Pn	01 05 21.4	-0.5
MXZ				S	Sn	01 05 37.5	-0.1
PUZ	**Puketiti**	**1.29**	**257**	P	Pn	01 05 22.3	-0.3
PUZ				S	Sn	01 05 39.7	+1.0
HAZ	**Te Kaha**	**1.64**	**271**	P	Pn	01 05 27.2	-0.1
RUGZ	**Raukumara Rang**	**1.73**	**264**	P	Pn	01 05 28.3	-0.4
MWZ	**Matawai**	**1.91**	**253**	P	Pn	01 05 30.7	-0.4
MWZ				S	Sn	01 05 53.6	-0.4
KNZ	**Kokohu**	**2.10**	**234**	P	Pn	01 05 33.8	+0.2
URZ	**Urewera**	**2.21**	**257**	P	Pn	01 05 35.6	+0.4
URZ				S	Sn	01 06 01.6	+0.2
RTZ	**Ruatahuna**	**2.40**	**249**	P	Pn	01 05 38.9	+0.9
RTZ				S	Sn	01 06 07.5	+1.3
WHHZ	**Waihua**	**2.42**	**237**	P	Pn	01 05 38.8	+0.7
WHHZ				S	Sn	01 06 08.1	+1.6
RAHZ	**Arahi**	**2.44**	**242**	P	Pn	01 05 39.1	+0.7
TARZ	**Mount Tarawera**	**2.68**	**260**	P	Pn	01 05 42.3	+0.6
MRHZ	**Matea Rd**	**2.89**	**248**	P	Pn	01 05 45.0	+0.4
MCHZ	**McNeill Hill**	**2.96**	**235**	P	Pn	01 05 46.3	+0.7
KWHZ	**Kaweka Forest**	**3.14**	**238**	P	Pn	01 05 48.0	0.0
PXZ	**Pawanui**	**3.22**	**225**	P	Pn	01 05 48.5	-0.6
KRHZ	**Kereru**	**3.29**	**235**	P	Pn	01 05 49.9	-0.1
BHHZ	**Black Hill Sta**	**3.41**	**239**	P	Pn	01 05 51.8	0.0
KUZ	**Kuaotunu**	**3.46**	**286**	P	Pn	01 05 51.7	-0.6
TMVZ	**Te Maari**	**3.51**	**247**	P	Pn	01 05 53.4	+0.2
ETVZ	**East Tongariro**	**3.51**	**246**	P	Pn	01 05 53.2	0.0
PRHZ	**Porangahau**	**3.51**	**224**	P	Pn	01 05 52.5	-0.6
PNHZ	**Pukenui**	**3.55**	**232**	P	Pn	01 05 53.1	-0.5
OTVZ	**Oturere**	**3.56**	**246**	P	Pn	01 05 53.8	0.0
MOVZ	**Moawhango**	**3.59**	**242**	P	Pn	01 05 54.8	+0.5
TUVZ	**Tukino**	**3.60**	**245**	P	Pn	01 05 55.2	+0.7
NGZ	**Ngauruhoe**	**3.60**	**246**	P	Pn	01 05 54.4	-0.1
MKAZ	**Moumakai**	**3.79**	**279**	P	Pn	01 05 57.0	0.0
DVHZ	**Dannevirke**	**3.80**	**228**	P	Pn	01 05 56.5	-0.6
HIZ	**Hauiti**	**4.00**	**258**	P	Pn	01 06 00.8	+0.9
BFZ	**Birch Farm**	**4.01**	**223**	P	Pn	01 05 58.5	-1.5
PRWZ	**Pori Road**	**4.08**	**226**	P	Pn	01 06 01.1	+0.2
POWZ	**Post Office Ro**	**4.10**	**230**	P	Pn	01 06 01.5	+0.4
CPWZ	**Castlepoint**	**4.20**	**221**	P	Pn	01 06 00.7	-1.9
TIWZ	**Tintock**	**4.28**	**225**	P	Pn	01 06 02.7	-0.9
MRZ	**Mangatainoka R**	**4.38**	**228**	P	Pn	01 06 04.1	-0.9
TMWZ	**Te Maipa**	**4.50**	**222**	P	Pn	01 06 05.0	-1.8
HOWZ	**Holdsworth Sta**	**4.57**	**226**	P	Pn	01 06 06.3	-1.3
MTW	**Mount Morrison**	**4.75**	**224**	P	Pn	01 06 07.8	-2.3
KIW	**Kapiti Island**	**4.90**	**230**	P	Pn	01 06 10.8	-1.4
PAWZ	**Paruwai Farm**	**4.95**	**222**	P	Pn	01 06 10.5	-2.4
PLWZ	**Palliser**	**5.17**	**222**	P	Pn	01 06 13.2	-2.7
CTZ	**Chatham Island**	**6.51**	**157**	P	Pn	01 06 37.3	+3.0
CTZ				S	Sn	01 07 45.5	-1.7

*VAO **03** 01:37:23.8±0.9, 17°.60S×69°.46W, h141km±5km, mb4.6*
*NEIC **03** 01:37:23.0±1.2, 17°.66S±0°.06×69°.72W±0°.06, h152km±5km, Error ellipse: s-maj=9.3km s-min=8.5km az=153.0*
*GUC **03** 01:37:24.8±0.5, 17°.71S×69°.81W, h157km±3km, ML4.6*
*IDC **03** 01:37:24.6±1.4, 17°.55S×69°.37W, h142km±11km, mb3.9/13, mb1 4.1/17, mb1mx3.9/47, mbtmp4.4/17, Error ellipse: s-maj=15.7km s-min=13.6km az=38.0*

ISC 03 01:37:22.2±0.6**, 17°.65S**±0°.05×**69°.64W**±0°.06**, h143**km±5km**, n132, σ1.s49**/151**, mb4.5**/21**, 8D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.70**	**170**		**Pn**	**01 37 46.4**	**+1.8**
PB16				Sn	**Sn**	**01 38 04.2**	**+2.6**
AP01	**Chacalluta**	**0.98**	**223**	*e*P	**Pn**	**01 37 47.8**	**+1.7**
AP01				*i* S	**Sn**	**01 38 06.2**	**+1.8**
AP01	**Chacalluta**	**0.98**	**223**		**Pn**	**01 37 47.6**	**+1.5**
AP01				Sn	**Sn**	**01 38 06.2**	**+1.8**
MNMC	**Minye Minye**	**1.48**	**178**	⇓*i*P	**Pn**	**01 37 53.6**	**+2.3**
MNMC				*i* S	**Sn**	**01 38 16.6**	**+3.0**
MNMC				IAML		01 38 19.4	
	comp=E,5µm,0.1s						
MNMC	**Minye Minye**	**1.48**	**178**		**Pn**	**01 37 53.5**	**+2.2**
MNMC				Sn	**Sn**	**01 38 15.8**	**+2.2**
LPAZ	**La Paz**	**1.98**	**47**	P	**Pn**	**01 37 58.6**	**+1.3**
	comp=E,248nm,0.3s,baz=241,slow=4.1,SNR=5048						
LPAZ				LR	LR	01 38 51.5	
	comp=E,116nm,20.1s,baz=273,slow=50						
LPAZ	**La Paz**	**1.98**	**47**	*e*P	**Pn**	**01 37 58.3**	**+1.1**
PSGC	**Pisagua**	**2.00**	**193**	⇓*i*P	**Pn**	**01 37 58.4**	**+1.4**
PSGC				*i* S	**Sn**	**01 38 24.1**	**+0.5**
PSGC				IAML		01 38 26.3	
	comp=E,2µm,0.5s						
PSGCX	**Pisagua**	**2.00**	**193**		**Pn**	**01 37 58.3**	**+1.3**
PSGCX				Sn	**Sn**	**01 38 23.8**	**+0.1**
PB08	**IPOC Station P**	**2.53**	**170**	⇓*i*P	**Pn**	**01 38 06.3**	**+2.6**
PB08				*i* S	**Sn**	**01 38 38.1**	**+2.5**
PB08				IAML		01 38 40.0	
	comp=E,2µm,0.3s						
PB08	**IPOC Station P**	**2.53**	**170**		**Pn**	**01 38 06.0**	**+2.3**
PB08				Sn	**Sn**	**01 38 37.4**	**+1.8**
HMBC	**Humberstone**	**2.63**	**185**	⇓*i*P	**Pn**	**01 38 06.2**	**+1.4**
HMBC				*i* S	**Sn**	**01 38 38.1**	**+0.6**
HMBC				IAML		01 38 40.2	
	comp=E,2µm,0.2s						
TA02	**Huaiquique**	**2.65**	**190**	*e*P	**Pn**	**01 38 06.1**	**+1.3**
TA02				*i* S	**Sn**	**01 38 37.6**	**-0.3**
TA01	**Diego Aracena**	**2.95**	**190**	⇓*i*P	**Pn**	**01 38 09.6**	**+1.0**
TA01				*i* S	**Sn**	**01 38 43.1**	**-1.5**
TA01				IAML		01 38 45.8	
	comp=E,1µm,0.3s						
TA01	**Diego Aracena**	**2.95**	**190**		**Pn**	**01 38 09.6**	**+1.0**
TA01				Sn	**Sn**	**01 38 44.0**	**-0.6**
PB01	**IPOC Station P**	**3.38**	**178**	⇓*i*P	**Pn**	**01 38 15.8**	**+1.5**
PB01				*i* S	**Sn**	**01 38 54.3**	**-0.4**
PB01	**IPOC Station P**	**3.38**	**178**		**Pn**	**01 38 15.7**	**+1.3**
PB07	**IPOC Station P**	**4.07**	**183**	*e*P	**Pn**	**01 38 24.7**	**+1.3**
PB07				*e*S	**Sn**	**01 39 09.8**	**-1.0**
PB07	**IPOC Station P**	**4.07**	**183**		**Pn**	**01 38 24.2**	**+0.9**
PB09	**IPOC Station P**	**4.15**	**175**	⇓*i*P	**Pn**	**01 38 26.3**	**+1.9**
PB09				*i* S	**Sn**	**01 39 13.2**	**+0.5**
PB09	**IPOC Station P**	**4.15**	**175**		**Pn**	**01 38 25.7**	**+1.3**
PB04	**IPOC Station P**	**4.69**	**186**	*e*P	**Pn**	**01 38 32.4**	**+0.9**
PB04				*e*S	**Sn**	**01 39 24.2**	**-1.3**
PB04	**IPOC Station P**	**4.69**	**186**		**Pn**	**01 38 32.3**	**+0.7**
LVC	**Limon Verde**	**4.99**	**172**	P	**Pn**	**01 38 38.3**	**+2.6**
	comp=E,34nm,0.3s,baz=40,slow=12,SNR=216						
LVC				S	**Sn**	**01 39 32.1**	**-0.8**
	comp=E,76nm,0.3s,baz=216,slow=16,SNR=17						
LVC	**Limon Verde**	**4.99**	**172**	Pn	**Pn**	**01 38 36.8**	**+1.1**
PB06	**IPOC Station P**	**5.04**	**179**	⇓*i*P	**Pn**	**01 38 36.8**	**+0.6**
PB06				*i* S	**Sn**	**01 39 30.1**	**-3.6**
PB06	**IPOC Station P**	**5.04**	**179**		**Pn**	**01 38 37.1**	**+1.0**
PB05	**IPOC Station P**	**5.21**	**186**	*e*P	**Pn**	**01 38 38.9**	**+0.5**
PB05				*e*S	**Sn**	**01 39 34.7**	**-3.1**
PB15	**IPOC Station P**	**5.54**	**178**		**Pn**	**01 38 44.0**	**+1.1**
PB10	**IPOC Station P**	**5.90**	**188**	Pn	**Pn**	**01 38 47.1**	**-0.4**
PB14	**IPOC Station P**	**6.98**	**186**	Pn	**Pn**	**01 39 01.5**	**-0.8**
GO02	**Mina Guanaco**	**7.48**	**180**	Pn	**Pn**	**01 39 09.1**	**+0.2**
SIV	**San Ignacio**	**8.37**	**80**	P	**Pn**	**01 39 18.5**	**-2.1**
	comp=E,12nm,0.3s,baz=278,slow=12,SNR=240						
SIV				S	**Sn**	**01 40 47.6**	**-6.1**
	comp=E,1.9nm,0.3s,baz=275,slow=11,SNR=4.0						
ETMB	**Extrema**	**8.46**	**24**	*e*P	**Pn**	**01 39 20.5**	**-1.4**
AC01	**Pan de Azucar**	**8.51**	**186**	Pn	**Pn**	**01 39 20.8**	**-1.6**
NNA	**Nana**	**8.95**	**308**	P	**Pn**	**01 39 29.0**	**+0.6**
	comp=E,9.4nm,0.3s,baz=138,slow=11,SNR=14						
NNA				S	**Sn**	**01 41 04.0**	**-3.8**
	comp=E,1.8nm,0.3s,baz=210,slow=20,SNR=1.8						
NNA	**Nana**	**8.95**	**308**		**Pn**	**01 39 28.5**	**+0.1**
AC02	**Maricunga**	**9.16**	**177**		**Pn**	**01 39 31.6**	**+0.1**
GO03	**Copiap**	**9.92**	**183**		**Pn**	**01 39 39.6**	**-1.7**
VILB	**Vilhena**	**10.23**	**64**	*e*P	**Pn**	**01 39 43.4**	**-2.2**
PTLB	**Pontes e Lacer**	**10.31**	**79**	*e*P	**Pn**	**01 39 45.5**	**-1.0**
SAML	**Samuel**	**10.68**	**37**		**Pn**	**01 39 48.6**	**-2.9**
AC05	**El Transito**	**11.15**	**183**		**Pn**	**01 39 56.1**	**-1.6**
LCO	**Las Campanas**	**11.36**	**185**		**Pn**	**01 39 58.1**	**-2.4**
CO01	**Juntas del Tor**	**12.28**	**182**	Pn	**Pn**	**01 40 12.2**	**-0.5**
CO01					**Sn**	**01 42 27.8**	**-0.6**
CPUP	**Villa Florida**	**14.31**	**129**	P	**Pn**	**01 40 38.8**	**+0.4**
	comp=E,0.3nm,0.3s,baz=292,slow=10,SNR=4.9						
CPUP	**Villa Florida**	**14.31**	**129**	*e*P	**Pn**	**01 40 36.6**	**-1.8**
CLDB	**Colider**	**15.01**	**65**	*e*P	**P**	**01 40 47.4**	**-1.7**
TRCB	**Terra Rica**	**16.76**	**111**	*e*P	**Pn**	**01 41 09.9**	**+1.2**
MACA	**Manacapuru-AM**	**16.86**	**32**	*e*P	**Pn**	**01 41 10.3**	**+0.4**
ITQB	**Itaqui**	**16.88**	**138**	*e*P	**Pn**	**01 41 10.9**	**+1.0**
ARAG	**Araguaiana, MT**	**17.19**	**86**	*e*P	**Pn**	**01 41 13.5**	**-0.4**
NPGB	**Novo Progresso**	**17.47**	**55**	*e*P	**Pn**	**01 41 16.1**	**-1.1**
PCMB	**Pacaembu**	**17.75**	**106**	*e*P	**Pn**	**01 41 19.9**	**-0.8**
H03N1	**Juan Fernandez**	**17.80**	**206**	T	T	01 59 10.1	
	baz=29,slow=73,SNR=10						
H03N2	**Juan Fernandez**	**17.81**	**206**	T	T	01 59 13.0	
	baz=29,slow=73,SNR=10.0						
H03N3	**Juan Fernandez**	**17.82**	**206**	T	T	01 59 11.6	
	baz=29,slow=73,SNR=12						
PTGB	**Pitanga**	**17.83**	**116**	*e*P	**Pn**	**01 41 20.9**	**-0.6**
ITRB	**Iturama**	**18.38**	**99**	*e*P	**Pn**	**01 41 26.7**	**-1.4**
SNDB	**Serra Nova Dou**	**18.61**	**75**	*e*P	**Pn**	**01 41 29.4**	**-1.3**
ITAB	**Concordia**	**18.77**	**124**	*e*P	**Pn**	**01 41 30.6**	**-1.9**
ITTB	**Itaituba**	**18.96**	**48**	*e*P	**P**	**01 41 32.4**	**-0.2**
BI02	**San Fabin de**	**19.00**	**184**	P	**P**	**01 41 31.4**	**-1.5**
PTGA	**Pitinga**	**19.31**	**31**	P	**P**	**01 41 36.0**	**-0.4**
	comp=E,2.1nm,0.3s,baz=185,slow=18,SNR=25						
PTGA	**Pitinga**	**19.31**	**31**		**P**	**01 41 36.0**	**-0.4**
PTGA				IAmb	IAmb	01 41 36.6	
	comp=Z,8.1nm,0.5s						
PTGA	**Pitinga**	**19.31**	**31**	*e*P	**P**	**01 41 36.0**	**-0.4**
CPSB	**Cacapava Do Su**	**19.47**	**134**	*e*P	**Pn**	**01 41 38.8**	**-1.9**
BB19B	**Bebedouro**	**20.21**	**103**	*e*P	**P**	**01 41 45.8**	**-0.3**
PLTB	**Pedras Altas**	**20.21**	**137**	*e*P	**P**	**01 41 46.3**	**+0.3**
IPMB	**Ipameri, GO**	**20.41**	**94**	*e*P	**P**	**01 41 47.8**	**-0.4**
BDFB	**Brasilia**	**20.82**	**88**	P	**P**	**01 41 52.0**	**-0.7**
	comp=Z,12nm,0.4s,baz=272,slow=10,SNR=28						
BDFB	**Brasilia**	**20.82**	**88**	P	**P**	**01 41 52.1**	**-0.7**
BDFB				IAmb	IAmb	01 41 55.6	
	comp=Z,14nm,0.5s						
PEXB	**Peixe**	**21.34**	**78**	*e*P	**P**	**01 41 57.4**	**-0.8**
TER01	**Tubaro-SC**	**21.73**	**124**	*e*P	**P**	**01 42 02.7**	**+0.5**
MALB	**Monte Alegre**	**21.78**	**46**	*e*P	**P**	**01 42 02.6**	**-0.2**
BOAV	**Boa Vista**	**21.85**	**25**	*e*P	**P**	**01 42 03.7**	**+0.1**
PLCA	**Paso Flores**	**23.02**	**182**	P	**P**	**01 42 18.2**	**+3.4**
	comp=Z,3.0nm,0.7s,baz=359,slow=12,SNR=8.4						
PLCA	**Paso Flores**	**23.02**	**182**	P	**P**	**01 42 14.8**	**0.0**
SMTB	**Santa Maria do**	**23.15**	**71**	*e*P	**P**	**01 42 16.1**	**-0.1**
MCPB	**Macapa, AP**	**24.38**	**47**	*e*P	**P**	**01 42 27.8**	**+0.5**
JANB	**Januaria**	**24.44**	**88**	*e*P	**P**	**01 42 28.8**	**+0.8**
SDBA	**SAO DESIDERIO**	**24.44**	**81**	*e*P	**P**	**01 42 28.1**	**+0.1**
DIAM	**Diamantina, MG**	**24.71**	**96**	*e*P	**P**	**01 42 30.5**	**+0.1**
BSFB	**Barra de Sao F**	**27.36**	**97**	*e*P	**P**	**01 42 54.1**	**-0.1**
NAN01	**Guarapari, ES**	**28.10**	**95**	*e*P	**P**	**01 43 01.0**	**+0.2**
TXAR	**Lajitas Array**	**57.10**	**324**	P	**P**	**01 46 56.3**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=150,slow=8.7,SNR=4.7						
TXAR	**Lajitas Array**	**57.10**	**324**	P	**P**	**01 46 53.4**	**-0.5**
S39A	**Bolivar**	**59.38**	**338**	P	**P**	**01 47 09.6**	**0.0**
S39A				IAmb	IAmb	01 47 11.3	
	comp=Z,4.3nm,0.6s						
ECSD	**EROS Data Cent**	**65.89**	**339**	P	**P**	**01 47 52.7**	**+0.1**
ECSD				IAmb	IAmb	01 47 55.8	
	comp=Z,5.2nm,1.1s						
SPMN	**Marine on St.**	**66.02**	**342**	P	**P**	**01 47 53.2**	**-0.1**
SPMN				IAmb	IAmb	01 47 56.1	
	comp=Z,8.0nm,0.7s						
SMCO	**Snowmass**	**66.44**	**329**	P	**P**	**01 47 55.7**	**-0.9**
CCX	**Cicese**	**66.75**	**317**	P	**P**	**01 47 57.3**	**-1.0**
F36A	**Milaca**	**66.81**	**342**	P	**P**	**01 47 58.5**	**+0.2**
F36A				IAmb	IAmb	01 48 00.3	
	comp=Z,5.4nm,0.7s						
LIC	**Lamto**	**68.04**	**76**	*e*P	**P**	**01 48 06.9**	**+0.1**
	comp=Z,55nm,0.9s						
TIC	**Toumodi**	**68.20**	**75**	*e*P	**P**	**01 48 08.1**	**+0.3**
KIC	**Kosan Boka**	**68.35**	**76**	*e*P	**P**	**01 48 09.2**	**+0.4**
	comp=Z,54nm,0.6s						
DBIC	**Dimbokro**	**68.36**	**75**	P	**P**	**01 48 09.4**	**+0.6**
	comp=Z,25nm,0.6s,baz=231,slow=6.3,SNR=57						
DBIC	**Dimbokro**	**68.36**	**75**	P	**P**	**01 48 09.3**	**+0.6**
B35A	**Bob, Littlefor**	**69.14**	**343**	P	**P**	**01 48 13.1**	**+0.3**
B35A				IAmb	IAmb	01 48 14.7	
	comp=Z,5.2nm,0.6s						
E28A	**Huff**	**69.79**	**338**	P	**P**	**01 48 16.9**	**-0.1**
TPNV	**Topopah Spring**	**69.85**	**322**	P	**P**	**01 48 17.0**	**-0.7**
PDAR	**Pinedale Array**	**70.44**	**330**	P	**P**	**01 48 23.7**	**+2.4**
	comp=Z,0.4nm,0.5s,baz=124,slow=9.1,SNR=7.8						
PDAR	**Pinedale Array**	**70.44**	**330**	P	**P**	**01 48 20.9**	**-0.4**
ULM	**Lac du Bonnet**	**71.45**	**343**	P	**P**	**01 48 28.3**	**+1.5**
	comp=Z,5.1nm,0.6s,baz=152,slow=5.9,SNR=17						
ULM	**Lac du Bonnet**	**71.45**	**343**	P	**P**	**01 48 27.3**	**+0.5**
ULM				IAmb	IAmb	01 48 28.8	
	comp=Z,5.6nm,0.7s						
NVAR	**Mina Array Bea**	**72.05**	**322**	P	**P**	**01 48 34.3**	**+3.3**
	comp=Z,0.5nm,0.6s,baz=162,slow=5.4,SNR=5.4						
NVAR	**Mina Array Bea**	**72.05**	**322**	P	**P**	**01 48 30.3**	**-0.7**
KOWA	**Kowa**	**72.17**	**68**	P	**P**	**01 48 32.6**	**+0.7**
	comp=Z,8.4nm,0.6s,baz=249,slow=6.5,SNR=25						
KOWA	**Kowa**	**72.17**	**68**	P	**P**	**01 48 32.3**	**+0.4**
KOWA				IAmb	IAmb	01 48 33.3	
	comp=Z,9.5nm,0.8s						
YNE	**Yellowstone No**	**72.36**	**331**	P	**P**	**01 48 32.3**	**-0.4**
YNE				IAmb	IAmb	01 48 36.5	
	comp=Z,5.3nm,0.8s						
TOA0	**Torodi Ar. Sit**	**76.75**	**71**	P	**P**	**01 48 59.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**76.75**	**71**	P	**P**	**01 48 59.0**	**+0.6**
	comp=Z,22nm,0.7s,baz=255,slow=5.7,SNR=74						
TORD	**Torodi Ar. Bea**	**76.75**	**71**	P	**P**	**01 48 58.4**	**-0.1**
MDT	**Midelt**	**79.84**	**51**	P	**P**	**01 49 17.1**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=217,slow=3.9,SNR=5.3						
ESDC	**Sonseca Array**	**83.60**	**45**	P	**P**	**01 49 36.4**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=250,slow=5.9,SNR=11						
ESDC	**Sonseca Array**	**83.60**	**45**	P	**P**	**01 49 35.1**	**+0.4**
ESDC				IAmb	IAmb	01 49 37.7	
	comp=Z,5.3nm,1.1s						
TAM	**Tamanrasset**	**83.73**	**64**	P	**P**	**01 49 34.7**	**-1.1**
BOSA	**Boshof**	**85.87**	**119**	P	**P**	**01 49 48.1**	**+1.5**
	comp=Z,3.3nm,0.9s,baz=279,slow=4.9,SNR=3.8						
YKA	**Yellowknife Ar**	**87.34**	**341**	P	**P**	**01 49 54.8**	**+2.3**
	comp=Z,4.6nm,0.6s,baz=130,slow=5.4,SNR=76						
YKA				pP	**pP**	**01 50 31.6**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=130,slow=5.3,SNR=4.0						
MATP	**Matopo**	**91.27**	**112**	P	**P**	**01 50 14.7**	**+2.5**
	comp=Z,2.1nm,0.7s,baz=236,slow=6.3,SNR=2.1						
H11S2	**WAKE ISLAND Hy**	**126.62**	**280**	T	T	04 15 50.9	
	baz=100,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**126.62**	**280**	T	T	04 15 51.5	
	baz=100,slow=75,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**126.63**	**280**	T	T	04 15 51.9	
	baz=100,slow=75,SNR=4.4						
ASAR	**Alice Springs**	**132.94**	**210**	PKP	**PKiKP**	**01 56 23.9**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=135,slow=2.1,SNR=9.6						
WRA	**Warramunga Arr**	**135.85**	**213**	PKP	**PKiKP**	**01 56 29.4**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=142,slow=1.7,SNR=14						
ZALV	**Zalesovo Beam**	**138.73**	**23**	PKP	**PKiKP**	**01 56 33.5**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=293,slow=3.1,SNR=12						
ZALV	**Zalesovo Beam**	**138.73**	**23**		**PKPdf**	**01 56 31.2**	**+0.2**
MKAR	**Makanchi Array**	**142.84**	**32**	PKhKP	PKPpre	01 56 36.7	
	comp=Z,0.4nm,0.5s,baz=332,slow=2.0,SNR=3.3						
MKAR				PKP	**PKiKP**	**01 56 40.3**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=324,slow=2.0,SNR=8.6						
MKAR				SKPbc	**SKiKP**	**02 00 05.8**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=321,slow=1.7,SNR=4.1						
USRK	**Ussuriysk Ar.**	**147.87**	**330**	PKPbc	**PKPab**	**01 56 53.0**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=166,slow=0.5,SNR=7.4						
SONM	**Songino Array**	**149.72**	**5**	PKPbc	**PKiKP**	**01 56 57.6**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=311,slow=1.4,SNR=15						
LZH	**Lanzhou**	**160.74**	**16**	*e*PKP	**PKPdf**	**01 57 05.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**169.11**	**84**	PKPab	**PKPab**	**01 58 27.6**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=272,slow=3.5,SNR=4.6						

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*IDC **03** 01:39:25.8±0.7, 48.°31N×154.°47E, h0km, mb4.0/12, mb1 4.3/14, mb1mx3.9/60, mbtmp4.0/14, ML4.9/1, MS3.3/9, Ms1 3.3/9, ms1mx3.0/44, Error ellipse: s-maj=22.3km s-min=14.0km az=135.0*

*MOS **03** 01:39:30.8±1.1, 48.°24N×154.°60E, h54km, mb4.5/2, Error ellipse: s-maj=13.6km s-min=4.4km az=67.4*

*KRSC **03** 01:39:30.7±1.6, 48.°22N×155.°95E, h18km±27km, ML4.9*

*SKHL **03** 01:39:31.5±0.6, 48.°20N×154.°80E, h58km±7km, mb5.1/7*

*NEIC **03** 01:39:33.7±0.9, 48.°3N±0.°1×154.°5E±0.°2, h60km±8km, mb4.4/18, Error ellipse: s-maj=27.7km s-min=10.9km az=132.0*

ISC 03 01:39:32.0±0.6**, 48.°17N**±0.°08×**154.°75E**±0.°07**, h50**km**, n126, σ1§32**/135**, mb4.3**/22**, MS3.4**/5**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.67**	**19**	*e*PN	**Pn**	**01 40 11.7**	**-0.9**
SKR				*e*S	**Sn**	**01 40 41.8**	**-1.9**
SKR				pmax	pmax		
	comp=Z,433nm,0.7s						
SKR				smax	smax		
	comp=N,913nm,0.6s						
SKR				smax	smax		
	comp=E,510nm,0.5s						
SKR	**Severo-Kuril's**	**2.67**	**19**	*e*P	**Pn**	**01 40 11.4**	**-1.2**
SKR				*e*S	**Sn**	**01 40 41.8**	**-1.9**
SKR	**Severo-Kuril's**	**2.67**	**19**	*e*P	**Pn**	**01 40 11.4**	**-1.2**
SKR				AMB	AMB	01 40 14.4	
	comp=E,280nm,0.6s						
SKR				*e*S	**Sn**	**01 40 41.8**	**-1.9**
SKR				A	A	01 40 46.9	
	comp=E,580nm,0.4s						
SKR				A	A	01 40 46.9	
	comp=E,400nm,0.4s						
ALID	**Alaid**	**2.76**	**11**	PN	**Pn**	**01 40 13.2**	**-0.7**
ALID	**Alaid**	**2.76**	**11**	*e*P	**Pn**	**01 40 13.2**	**-0.7**
PAU	**Pauzhetka**	**3.57**	**21**	PN	**Pn**	**01 40 25.0**	**+0.2**
PAU				S	**Sn**	**01 41 05.1**	**-0.5**
PAU	**Pauzhetka**	**3.57**	**21**	P	**Pn**	**01 40 25.0**	**+0.2**
PAU				*e*S	**Sn**	**01 41 05.1**	**-0.5**
PAU	**Pauzhetka**	**3.57**	**21**	*e*P	**Pn**	**01 40 24.9**	**+0.2**
PAU				AMB	AMB	01 40 28.5	
	comp=E,180nm,0.4s						
PAU				*e*S	**Sn**	**01 41 04.5**	**-1.1**
PAU				A	A	01 41 18.8	
	comp=E,790nm,0.6s						
PAU				A	A	01 41 18.8	
	comp=E,1µm,0.6s						
KDTR	**Khodutka, Kamc**	**4.23**	**29**	PN	**Pn**	**01 40 32.6**	**-1.3**
KDTR	**Khodutka, Kamc**	**4.23**	**29**	P	**Pn**	**01 40 32.6**	**-1.3**
KDTR				*e*S	**Sn**	**01 41 18.1**	**-3.9**
ASAK	**Asacha**	**4.68**	**24**	PN	**Pn**	**01 40 40.3**	**+0.1**
ASAK	**Asacha**	**4.68**	**24**	*e*P	**Pn**	**01 40 40.3**	**+0.1**
MTVR	**Mutnovka**	**4.85**	**26**	PN	**Pn**	**01 40 42.3**	**-0.2**
MTVR	**Mutnovka**	**4.85**	**26**	*e*P	**Pn**	**01 40 42.3**	**-0.2**
GRL	**Gorelyy**	**4.88**	**25**	PN	**Pn**	**01 40 43.4**	**+0.5**
GRL				S	**Sn**	**01 41 37.4**	**-0.7**
GRL	**Gorelyy**	**4.88**	**25**	*e*P	**Pn**	**01 40 43.4**	**+0.5**
GRL				*e*S	**Sn**	**01 41 37.4**	**-0.7**
RUS	**Russkaya**	**4.91**	**28**	PN	**Pn**	**01 40 41.9**	**-1.3**
RUS	**Russkaya**	**4.91**	**28**	*e*P	**Pn**	**01 40 41.9**	**-1.3**
RUS				*e*S	**Sn**	**01 41 34.6**	**-4.0**
APC	**Apacha**	**5.01**	**17**	PN	**Pn**	**01 40 46.2**	**+1.7**
APC	**Apacha**	**5.01**	**17**	*e*P	**Pn**	**01 40 46.2**	**+1.7**
KRMR	**Karymshinskiy**	**5.15**	**24**	PN	**Pn**	**01 40 47.3**	**+0.9**
KRMR	**Karymshinskiy**	**5.15**	**24**	P	**Pn**	**01 40 47.3**	**+0.9**
PEA0B	**Petropavlovsk-**	**5.29**	**20**	PN	**Pn**	**01 40 49.5**	**+1.0**
PEA0B						01 41 48.2	
PEA0B	**Petropavlovsk-**	**5.29**	**20**	Pn	**Pn**	**01 40 49.5**	**+1.0**
PEA0B				Sn	**Sn**	**01 41 48.2**	**+0.1**
PETK	**Petropavlovsk-**	**5.29**	**20**	Pn	**Pn**	**01 40 49.2**	**+0.8**
	comp=E,4.9nm,0.3s,baz=180,slow=12,SNR=69						
PETK	**Petropavlovsk-**	**5.29**	**20**	PN	**Pn**	**01 40 49.0**	**+0.5**
PETK	**Petropavlovsk-**	**5.29**	**20**	Pn	**Pn**	**01 40 49.0**	**+0.5**
PET	**Petropavlovsk**	**5.46**	**26**	*e*PN	**Pn**	**01 40 52.7**	**+1.9**
PET				*e*S	**Sn**	**01 41 54.0**	**+1.8**
PET				smax	smax		
	comp=E,257nm,0.6s						
PET				smax	smax		
	comp=N,329nm,0.7s						
PET				MLR	MLR		
	comp=Z,100nm,15.0s						
PET	**Petropavlovsk**	**5.46**	**26**	Pn	**Pn**	**01 40 51.2**	**+0.4**
PET				Sn	**Sn**	**01 41 51.8**	**-0.5**
PET	**Petropavlovsk**	**5.46**	**26**	*e*P	**Pn**	**01 40 51.0**	**+0.2**
PET				*e*S	**Sn**	**01 41 50.0**	**-2.2**
PET				A	A	01 42 12.0	
	comp=Z,320nm,0.7s						
PET				A	A	01 42 12.0	
	comp=Z,260nm,0.7s						
DALK	**Dalny**	**5.50**	**26**	PN	**Pn**	**01 40 51.3**	**0.0**
DALK	**Dalny**	**5.50**	**26**	*e*P	**Pn**	**01 40 51.3**	**0.0**
KUR	**Kuril'sk**	**5.57**	**241**	*e*PN	**Pn**	**01 40 54.8**	**+2.6**
KUR				*e*S	**Sn**	**01 41 58.3**	**+3.5**
KUR				pmax	pmax		
	comp=Z,199nm,0.4s						
KUR				pmax	pmax		
	comp=N,115nm,0.5s						
KUR				pmax	pmax		
	comp=E,91nm,0.5s						
KUR				smax	smax		
	comp=N,139nm,0.6s						
KUR				smax	smax		
	comp=E,76nm,0.6s						
KUR	**Kuril'sk**	**5.57**	**241**	*e*P	**Pn**	**01 40 53.2**	**+1.0**
KUR				AMB	AMB	01 40 55.6	
	comp=E,200nm,0.5s						
KUR				*e*S	**Sn**	**01 41 54.2**	**-0.6**
KUR				A	A	01 42 10.0	
	comp=E,260nm,0.5s						
KUR				A	A	01 42 10.0	
	comp=E,220nm,0.5s						
UGLR	**Uglovaya**	**5.68**	**26**	PN	**Pn**	**01 40 55.1**	**+1.3**
UGLR	**Uglovaya**	**5.68**	**26**	*e*P	**Pn**	**01 40 55.1**	**+1.3**
KOK	**Koryaka**	**5.70**	**24**	PN	**Pn**	**01 40 55.8**	**+1.7**
KOK	**Koryaka**	**5.70**	**24**	*e*P	**Pn**	**01 40 55.8**	**+1.7**
KOK	**Koryaka**	**5.70**	**24**	*e*P	**Pn**	**01 40 55.8**	**+1.7**
SDLR	**Sedlovina**	**5.75**	**26**	PN	**Pn**	**01 40 54.7**	**-0.2**
SDLR	**Sedlovina**	**5.75**	**26**	*e*P	**Pn**	**01 40 54.7**	**-0.2**
KRX	**Arik**	**5.76**	**24**	PN	**Pn**	**01 40 56.8**	**+1.8**
KRX	**Arik**	**5.76**	**24**	P	**Pn**	**01 40 56.8**	**+1.8**
GNL	**Ganaly**	**5.89**	**19**	PN	**Pn**	**01 40 57.7**	**+0.9**
GNL	**Ganaly**	**5.89**	**19**	P	**Pn**	**01 40 57.7**	**+0.9**
SPN	**Mys Shipunski**	**5.97**	**32**	PN	**Pn**	**01 40 56.4**	**-1.3**
SPN	**Mys Shipunski**	**5.97**	**32**	*e*P	**Pn**	**01 40 56.4**	**-1.3**
SPN				S	**Sn**	**01 42 00.6**	**-4.1**
YUK	**Yuzh-Kuril'sk**	**7.43**	**240**	*e*P	**Pn**	**01 41 18.9**	**+1.2**
YUK				AMB	AMB	01 41 19.2	
	comp=E,160nm,0.4s						
GRPR	**Tuman**	**7.50**	**240**	PN	**Pn**	**01 41 18.8**	**0.0**
GRPR				pmax	pmax		
	comp=E,98nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,102nm,0.3s						
GRPR				pmax	pmax		
	comp=N,64nm,0.2s						
GRPR	**Tuman**	**7.50**	**240**	*e*P	**Pn**	**01 41 19.8**	**+1.0**
GRPR				AMB	AMB	01 41 22.0	
	comp=N,100nm,0.5s						
GRPR				*e*S	**Sn**	**01 42 41.0**	**-1.5**
RUSJ	**Misakicho**	**7.75**	**242**	PN	**Pn**	**01 41 23.7**	**+1.6**
RUSJ				S	**Sn**	**01 42 49.9**	**+1.6**
GLVR	**Golovnino**	**7.80**	**239**	*e*S	**Sn**	**01 42 47.5**	**-2.3**
NMR	**Nemuro--Hokkai**	**7.92**	**236**	*e*PN	**Pn**	**01 41 22.6**	**-1.9**
NMR	**Nemuro--Hokkai**	**7.92**	**236**	*e*P	**Pn**	**01 41 23.0**	**-1.5**
NMR				*e*S	**Sn**	**01 42 49.2**	**-3.4**
YSS	**Yuzh-Sakhalins**	**8.20**	**266**	*e*PN	**Pn**	**01 41 28.9**	**+0.6**
YSS	**Yuzh-Sakhalins**	**8.20**	**266**	*e*P	**Pn**	**01 41 28.9**	**+0.6**
YSS				AMB	AMB	01 41 30.3	
	comp=N,20nm,0.5s						
TYV	**Tymovskoe**	**8.32**	**293**	*e*P	**Pn**	**01 41 31.3**	**+1.4**
TYV				AMB	AMB	01 41 32.1	
	comp=N,10.0nm,0.7s						
OKH	**Okha**	**9.21**	**310**	*e*P	**Pn**	**01 41 42.6**	**+0.6**
OKH				AMB	AMB	01 41 44.6	
	comp=N,40nm,0.6s						
JKA	**Kamikawa-asahi**	**9.35**	**249**	Pn	**Pn**	**01 41 45.0**	**+1.0**
JKA	**Kamikawa-asahi**	**9.35**	**249**	*e*P	**Pn**	**01 41 45.1**	**+1.0**
ASAJ	**Asahikawa**	**9.35**	**249**	Pn	**Pn**	**01 41 46.3**	**+2.2**
	comp=N,2.1nm,0.3s,baz=88,slow=17,SNR=14						
ASAJ				LR	LR	01 45 00.6	
	comp=N,144nm,18.8s,baz=44,slow=36						
ASAJ	**Asahikawa**	**9.35**	**249**	PN	**Pn**	**01 41 45.1**	**+1.0**
ERM	**Erimo**	**10.24**	**237**	PN	**Pn**	**01 41 56.4**	**+0.2**
ERM	**Erimo**	**10.24**	**237**	Pn	**Pn**	**01 41 56.4**	**+0.2**
MA2	**Magadan**	**11.67**	**350**	Pn	**Pn**	**01 42 15.0**	**-0.6**
	comp=N,0.8nm,0.3s,baz=150,slow=20,SNR=1.6						
MA2				LR	LR	01 46 53.0	
	comp=N,36nm,18.7s,baz=164,slow=39						
EKMR	**Ekimchan**	**14.66**	**298**	*e*P	**Pn**	**01 42 55.0**	**-1.2**
EKMR				AMB	AMB	01 43 04.0	
	comp=N,10.0nm,1.0s						
KLR	**Kul'dur**	**15.21**	**283**	Pn	**P**	**01 43 07.2**	**-0.4**
	comp=N,0.2nm,0.3s,baz=69,slow=9.5,SNR=7.9						
USA0B	**Ussuriysk Arra**	**16.23**	**264**	P	**Pn**	**01 43 15.7**	**-0.8**
USA0B				pmax	pmax		
	comp=Z,6.0nm,0.7s						
USA0B	**Ussuriysk Arra**	**16.23**	**264**	Pn	**Pn**	**01 43 15.7**	**-0.8**
USRK	**Ussuriysk Ar.**	**16.23**	**264**	Pn	**Pn**	**01 43 16.7**	**+0.1**
	baz=69,slow=11,SNR=21						
USRK				LR	LR	01 49 12.4	
	comp=Z,98nm,18.4s,baz=32,slow=36						
USRK	**Ussuriysk Ar.**	**16.23**	**264**	P	**Pn**	**01 43 16.0**	**-0.5**
USRK	**Ussuriysk Ar.**	**16.23**	**264**	Pn	**Pn**	**01 43 16.0**	**-0.5**
MJAR	**Matsushiro Arr**	**16.82**	**232**	Pn	**Pn**	**01 43 22.0**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=7.0						
MJAR				LR	LR	01 49 57.2	
	comp=Z,49nm,18.5s,baz=215,slow=38						
BMKR	**Bomnak**	**17.36**	**302**	*e*P	**Pn**	**01 43 28.5**	**-2.0**
BMKR				AMB	AMB	01 43 35.0	
	comp=Z,40nm,0.9s						
KROS	**Kirovskiy**	**18.39**	**300**	*e*P	**Pn**	**01 43 43.9**	**+0.8**
KSRS	**Korea Array**	**22.29**	**251**	P	**P**	**01 44 24.8**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=52,slow=9.7,SNR=10						
KSRS				LR	LR	01 52 30.4	
	comp=Z,104nm,18.7s,baz=48,slow=35						
H11N2	**WAKE ISLAND Hy**	**30.02**	**157**	T	T	02 17 39.2	
	baz=342,slow=76,SNR=76						
H11N1	**WAKE ISLAND Hy**	**30.04**	**157**	T	T	02 17 46.3	
	baz=342,slow=76,SNR=121						
H11N3	**WAKE ISLAND Hy**	**30.04**	**157**	T	T	02 17 50.1	
	baz=342,slow=76,SNR=66						
TTA	**Tatalina**	**30.63**	**43**	P	**P**	**01 45 41.6**	**+0.4**
TTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TTA	**Tatalina**	**30.63**	**43**	P	**P**	**01 45 41.6**	**+0.4**
H11S1	**WAKE ISLAND Hy**	**31.14**	**158**	T	T	02 18 44.7	
	baz=345,slow=76,SNR=611						
H11S3	**WAKE ISLAND Hy**	**31.15**	**158**	T	T	02 18 41.8	
	baz=345,slow=76,SNR=502						
H11S2	**WAKE ISLAND Hy**	**31.16**	**158**	T	T	02 18 48.1	
	baz=345,slow=76,SNR=420						
IMAR	**Indian Mountai**	**31.97**	**37**	P	**P**	**01 45 53.5**	**+0.6**
KNK	**Knik Glacier**	**34.15**	**46**	P	**P**	**01 46 12.4**	**+0.6**
MDM	**Murphy Dome**	**34.18**	**39**	P	**P**	**01 46 13.3**	**+1.1**
MDM				IAmb	IAmb	01 46 14.2	
	comp=Z,3.4nm,0.8s						
SML	**Sawmill**	**34.18**	**45**	P	**P**	**01 46 13.2**	**+0.9**
WRH	**Wood River Hil**	**34.23**	**40**	P	**P**	**01 46 13.1**	**+0.5**
POKR	**Poker Plat Res**	**34.52**	**39**	P	**P**	**01 46 15.9**	**+0.9**
POKR				IAmb	IAmb	01 46 17.1	
	comp=Z,7.4nm,0.8s						
ILAR	**Eielson Array**	**34.75**	**40**	P	**P**	**01 46 17.3**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=257,slow=7.2,SNR=10.0						
ILAR	**Eielson Array**	**34.75**	**40**	P	**P**	**01 46 17.6**	**+0.5**
PRP	**Porcupine Dome**	**35.33**	**38**	P	**P**	**01 46 23.0**	**+0.9**
PRP				IAmb	IAmb	01 46 23.8	
	comp=Z,4.2nm,0.8s						
FYU	**Fort Yukon**	**35.45**	**37**	P	**P**	**01 46 24.0**	**+1.0**
FYU				IAmb	IAmb	01 46 25.3	
	comp=Z,5.0nm,0.9s						
BMAR	**Burnt Mountain**	**35.73**	**35**	P	**P**	**01 46 26.3**	**+0.8**
K27K	**Chicken**	**36.87**	**41**	P	**P**	**01 46 36.0**	**+0.8**
K27K				IAmb	IAmb	01 46 37.1	
	comp=Z,5.4nm,0.9s						
BCAR	**Beaver Creek A**	**37.11**	**42**	P	**P**	**01 46 38.4**	**+1.1**
CTGM	**Chitina Glacie**	**37.63**	**46**	P	**P**	**01 46 42.7**	**+0.9**
MKAR	**Makanchi Array**	**47.28**	**297**	P	**P**	**01 47 58.2**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=58,slow=7.7,SNR=5.4						
MKAR				LR	LR	02 09 18.2	
	comp=Z,38nm,19.4s,baz=14,slow=38						
YKA	**Yellowknife Ar**	**49.13**	**38**	P	**P**	**01 48 15.0**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=298,slow=6.7,SNR=26						
YKA	**Yellowknife Ar**	**49.13**	**38**	P	**P**	**01 48 15.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**53.78**	**257**	P	**P**	**01 48 48.9**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=34,slow=6.8,SNR=7.1						
CMAR				LR	LR	02 12 58.2	
	comp=Z,34nm,18.3s,baz=185,slow=38						
CMAR	**Chiang Mai Arr**	**53.78**	**257**	P	**P**	**01 48 48.2**	**-1.3**
NVAR	**Mina Array Bea**	**60.81**	**64**	P	**P**	**01 49 40.6**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=300,slow=7.5,SNR=9.8						
NVAR	**Mina Array Bea**	**60.81**	**64**	P	**P**	**01 49 40.3**	**+1.2**
R11A	**Troy Canyon, C**	**62.48**	**62**	P	**P**	**01 49 51.6**	**+1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PDAR	Pinedale Array	63.02	55	P	P	01 49 55.4	+1.5
	comp=Z,1.1nm,0.8s,baz=308,slow=2.6,SNR=7.8						
PDAR	Pinedale Array	63.02	55	P	P	01 49 54.6	+0.7
FINES	FINESS Array B	63.23	335	P	P	01 49 55.0	+0.4
	comp=Z,2.6nm,1.0s,baz=30,slow=8.7,SNR=3.9						
ULM	Lac du Bonnet	64.73	42	P	P	01 50 05.0	+0.2
	comp=Z,1.7nm,0.7s,baz=304,slow=6.5,SNR=4.4						
ULM	Lac du Bonnet	64.73	42	P	P	01 50 04.9	+0.2
ULM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ULM	Lac du Bonnet	64.73	42	P	P	01 50 04.8	+0.2
ULM				IAmb	IAmb	01 50 05.9	
	comp=Z,2.7nm,0.8s						
PV04	Paradox Valley	66.34	58	P	P	01 50 16.6	+1.0
PV03	Paradox Valley	66.47	59	P	P	01 50 17.6	+1.2
PV03				IAmb	IAmb	01 50 18.8	
	comp=Z,6.0nm,1.2s						
WB0	Warramunga Arr	70.04	200	P	P	01 50 38.9	+0.4
WB0				IAmb	IAmb	01 50 40.2	
	comp=Z,3.8nm,0.9s						
WR0	Warramunga Arr	70.19	200	P	P	01 50 39.9	+0.5
WR0				IAmb	IAmb	01 50 43.6	
	comp=Z,4.9nm,1.1s						
WB2	Warramunga Arr	70.22	200	P	P	01 50 39.9	+0.3
WB2				IAmb	IAmb	01 50 41.1	
	comp=Z,5.4nm,0.9s						
WRA	Warramunga Arr	70.22	200	P	P	01 50 40.2	+0.6
	comp=Z,2.3nm,0.8s,baz=15,slow=6.2,SNR=16						
ASAR	Alice Springs	73.91	200	P	P	01 51 03.0	+1.3
	comp=Z,0.7nm,0.6s,baz=9.9,slow=5.3,SNR=8.9						
ASAR	Alice Springs	73.91	200	P	P	01 51 03.0	+1.3
TXAR	Lajitas Array	75.84	62	P	P	01 51 14.3	+1.3
	comp=Z,0.7nm,0.5s,baz=302,slow=4.5,SNR=9.8						
SADO	Sadowa	76.09	36	LR	LR	02 26 07.6	
	comp=Z,44nm,18.1s,baz=188,slow=37						
TKL	Tuckaleechee C	81.58	45	LR	LR	02 32 14.5	
	comp=Z,35nm,18.3s,baz=182,slow=39						
H03N2	Juan Fernandez	137.65	90	T	T	04 32 06.5	
	baz=309,slow=77,SNR=18						
H03N1	Juan Fernandez	137.66	90	T	T	04 32 10.3	
	baz=309,slow=77,SNR=29						
H03N3	Juan Fernandez	137.66	90	T	T	04 32 07.1	
	baz=309,slow=77,SNR=22						

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*IDC **03** 01:59:14.1±1.0, 34°.56N×81°.26E, h0^{km}, mb3.5/7, mb1 3.6/10, mb1mx3.4/47, mbtmp3.4/10, ML2.6/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/37, Error ellipse: s-maj=41.6km s-min=20.5km az=62.0*

ISC 03 01:59:19.5±1.1**, 34°.7N**±0°.1×**81°.3E**±0°.2**, h35**^{km}**, n13, σ0^{s}.98**/10**, mb3.6**/6**, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	9.56	328	Pn	Pn	02 01 42.8	+8.1
	0.2nm,0.3s,baz=168,slow=13,SNR=2.5						
AAK				Lg	Lg	02 04 18.4	
	0.1nm,0.3s,baz=342,slow=16,SNR=2.4						
MKAR	Makanchi Array	12.13	3	Pn	Pn	02 02 09.8	-0.1
	0.1nm,0.3s,baz=181,slow=13,SNR=8.1						
KURBB	Kurchatov Arra	16.07	354	Pn	Pn	02 03 00.4	-2.2
	0.0nm,0.3s,baz=175,slow=11,SNR=2.4						
ZALV	Zalesovo Beam	19.43	6	P	P	02 03 43.2	+0.5
	0.1nm,0.3s,baz=195,slow=10,SNR=3.5						
BVAR	Borovoye Array	19.91	340	P	P	02 03 48.5	+0.5
	0.7nm,0.7s,baz=156,slow=14,SNR=3.1						
TLY	Talaya	23.41	37	LR	LR	02 15 00.5	
	comp=Z,22nm,20.0s,baz=298,slow=40						
FINES	FINESS Array B	43.73	325	P	P	02 07 21.3	+0.3
	1.3nm,0.8s,baz=111,slow=11,SNR=5.1						
MJAR	Matsushiro Arr	45.74	70	LR	LR	02 28 52.5	
	comp=Z,32nm,19.1s,baz=270,slow=39						
NOA	NORSAR Array B	50.84	324	P	P	02 08 16.3	-0.2
	0.5nm,0.7s,baz=103,slow=6.8,SNR=1.5						
WRA	Warramunga Arr	74.10	129	P	P	02 10 52.5	+0.3
	0.2nm,0.5s,baz=325,slow=5.6,SNR=6.6						
TORD	Torodi Ar. Bea	74.15	275	P	P	02 10 52.9	+0.1
	0.5nm,0.7s,baz=55,slow=4.4,SNR=2.3						
ASAR	Alice Springs	76.55	131	P	P	02 11 05.4	-0.9
	0.3nm,0.6s,baz=315,slow=5.3,SNR=4.6						
YKA	Yellowknife Ar	82.33	7	P	P	02 11 37.9	+0.7
	0.1nm,0.5s,baz=349,slow=5.2,SNR=2.7						

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*SJA **03** 02:10:17.0±0.6, 24°.22S×69°.75W, h97^{km}±5^{km}, ML4.5, MW4.4*

*VAO **03** 02:10:17.5±0.8, 24°.11S×69°.24W, h44^{km}±7^{km}, mb4.8*

*IDC **03** 02:10:18.9±0.5, 24°.26S×69°.57W, h81^{km}±3^{km}, mb4.2/19, mb1 4.3/22, mb1mx4.2/44, mbtmp4.5/22, MS3.1/4, Ms1 3.1/4, ms1mx2.9/22, Error ellipse: s-maj=13.4km s-min=7.4km az=105.0*

*GUC **03** 02:10:18.1±0.8, 24°.24S×69°.68W, h91^{km}±6^{km}, ML4.6*

*NEIC **03** 02:10:18.5, 24°.21S×69°.67W, h66^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.88; $M_{\theta\theta}$0.45; $M_{\phi\phi}$3.43; $M_{r\theta}$1.66; $M_{\theta\phi}$-2.00; $M_{\phi r}$-6.22; Fault plane solution: $M_0$7.68000×10^{15} NP1:ϕ_s141.01000°, δ17.42000°, λ-111.51000°. NP2:ϕ_s343.45000°, δ73.82000°, λ-83.44000°. Principal axes: T 7.8732, Plg29.0000°, Azm68.0000°; N -0.4053, Plg6.0000°, Azm162.0000°; P -7.4679, Plg61.0000°, Azm263.0000°;*

*NEIC **03** 02:10:18.2±1.2, 24°.24S±0°.03×69°.64W±0°.02, h81^{km}±5^{km} Error ellipse: s-maj=4.8km s-min=3.4km az=175.0*

ISC 03 02:10:18.1±0.4**, 24°.22S**±0°.02×**69°.68W**±0°.04**, h80**^{km}±3^{km}**, n219, σ1^{s}.42**/248**, mb4.6**/49**, 11C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB14	IPOC Station P	0.78	238	⇑iP	Pn	02 10 35.9	+1.0
PB14				iS	Sn	02 10 48.7	+1.2
PB14	IPOC Station P	0.78	238	Pn	Pn	02 10 35.4	+0.4
PB14				Sn	Sn	02 10 48.6	+1.2
PB14	IPOC Station P	0.78	238	eP	Pn	02 10 35.9	+1.0
PB14				eS	Sn	02 10 49.1	+1.6
PB14				IAML		02 10 52.8	
	comp=Z,9µm,0.5s						
GO02	Mina Guanaco	0.95	175	⇑iP	Pn	02 10 37.7	+0.9
GO02				iS	Sn	02 10 52.0	+1.2
GO02				IAML		02 10 53.5	
	comp=E,21µm,0.2s						
GO02	Mina Guanaco	0.95	175	Pn	Pn	02 10 37.4	+0.6
GO02				Sn	Sn	02 10 51.9	+1.2
PB15	IPOC Station P	1.02	11	⇑iP	Pn	02 10 38.8	+1.1
PB15				iS	Sn	02 10 53.9	+1.7
PB15	IPOC Station P	1.02	11		Pn	02 10 37.8	+0.2
PB15				Sn	Sn	02 10 53.6	+1.4
PB15	IPOC Station P	1.02	11	eP	Pn	02 10 38.6	+1.0
PB15				eS	Sn	02 10 53.9	+1.7
PB10	IPOC Station P	1.06	311	⇑iP	Pn	02 10 39.0	+1.0
PB10				iS	Sn	02 10 54.3	+1.5
PB10	IPOC Station P	1.06	311	Pn	Pn	02 10 38.7	+0.8
PB10				Sn	Sn	02 10 54.1	+1.3
PB10	IPOC Station P	1.06	311	eP	Pn	02 10 38.9	+1.0
PB10				eS	Sn	02 10 53.9	+1.1
PB10				IAML		02 10 57.0	
	comp=Z,6µm,0.6s						
PB05	IPOC Station P	1.44	340	⇑iP	Pn	02 10 43.5	+0.7
PB05				iS	Sn	02 11 02.4	+1.0
PB05	IPOC Station P	1.44	340	eP	Pn	02 10 43.3	+0.6
PB05				eS	Sn	02 11 02.8	+1.4
PB06	IPOC Station P	1.51	4	⇑iP	Pn	02 10 44.4	+0.7
PB06				iS	Sn	02 11 04.2	+1.2
PB06				IAML		02 11 06.0	
	comp=E,16µm,0.1s						
PB06	IPOC Station P	1.51	4		Pn	02 10 43.9	+0.2
PB06				Sn	Sn	02 11 04.1	+1.2
PB06	IPOC Station P	1.51	4	eP	Pn	02 10 44.4	+0.7
PB06				eS	Sn	02 11 03.1	+0.1
PB06				IAML		02 11 05.5	
	comp=Z,8µm,0.2s						
LVC	Limon Verde	1.75	24	P	Pn	02 10 48.0	+1.1
	comp=Z,255nm,0.3s,baz=186,slow=13,SNR=2593						
LVC				S	Sn	02 11 10.1	+1.2
	comp=Z,1µm,0.3s,baz=40,slow=15,SNR=52						
LVC				LR	LR	02 11 12.0	
	comp=Z,262nm,18.4s,baz=188,slow=30						
LVC	Limon Verde	1.75	24	eP	Pn	02 10 48.1	+1.1
LVC				eS	Sn	02 11 10.5	+1.7
LVC	Limon Verde	1.75	24	eP	Pn	02 10 48.1	+1.1
LVC				eS	Sn	02 11 11.6	+2.7
LVC				IAML		02 11 12.8	
	comp=Z,3µm,0.5s						
PB04	IPOC Station P	1.92	347	⇑iP	Pn	02 10 49.4	+0.2
PB04				IAML		02 11 29.0	
	comp=E,4µm,0.4s						
PB04	IPOC Station P	1.92	347		Pn	02 10 49.0	-0.1
PB04	IPOC Station P	1.92	347	eP	Pn	02 10 49.6	+0.4
PB04				eS	Sn	02 10 59.9	-13
PB04				IAML		02 11 29.8	
	comp=Z,3µm,0.6s						
AC01	Pan de Azucar	2.10	203	⇑iP	Pn	02 10 51.3	0.0
AC01				IAML		02 11 25.4	
	comp=N,4µm,0.2s						
AC01	Pan de Azucar	2.10	203	Pn	Pn	02 10 51.1	-0.2
PB09	IPOC Station P	2.44	10	⇑iP	Pn	02 10 57.3	+1.2
PB09				eS	Sn	02 11 26.8	+1.7
PB09				IAML		02 11 41.6	
	comp=E,2µm,0.6s						
PB09	IPOC Station P	2.44	10		Pn	02 10 56.5	+0.5
PB07	IPOC Station P	2.48	356	⇑iP	Pn	02 10 56.6	0.0
PB07				iS	Sn	02 11 26.9	+0.7
PB07				IAML		02 11 44.8	
	comp=E,5µm,0.8s						
PB07	IPOC Station P	2.48	356		Pn	02 10 56.7	0.0
PB07	IPOC Station P	2.48	356	eP	Pn	02 10 56.4	-0.2
PB07				eS	Sn	02 11 19.8	-6.4
PB07				IAML		02 11 44.8	
	comp=Z,2µm,0.7s						
AC02	Maricunga	2.66	169	eP	Pn	02 11 01.5	+2.3
AC02				eS	Sn	02 11 33.6	+2.9
AC02				IAML		02 11 35.9	
	comp=E,4µm,0.3s						
AC02	Maricunga	2.66	169		Pn	02 10 59.9	+0.6
PB01	IPOC Station P	3.16	3	⇑iP	Pn	02 11 05.7	0.0
PB01				iS	Sn	02 11 42.6	+0.1
PB01				IAML		02 12 05.3	
	comp=E,3µm,0.2s						
PB01	IPOC Station P	3.16	3		Pn	02 11 05.9	+0.2
GO03	Copiap	3.40	188	Pn	Pn	02 11 08.5	-0.5
GO03	Copiap	3.40	188	eP	Pn	02 11 09.1	+0.1
GO03				eS	Sn	02 11 48.2	0.0
TA01	Diego Aracena	3.66	353		Pn	02 11 10.7	-1.7
SLA	San Lorenzo	3.83	98	eP	Pn	02 11 16.8	+1.8
PB08	IPOC Station P	4.08	7		Pn	02 11 18.0	-0.6
AC04	Llanos de Chal	4.17	197	eP	Pn	02 11 16.7	-2.5
AC04				eS	Sn	02 12 03.8	-2.9
AC04	Llanos de Chal	4.17	197	Pn	Pn	02 11 16.7	-2.5
YJA	Yavi	4.33	63	eP	Pn	02 11 24.1	+2.1
PSGCX	Pisagua	4.62	355		Pn	02 11 23.1	-2.4
AC05	El Transito	4.63	186	⇓iP	Pn	02 11 25.3	-0.5
AC05				eS	Sn	02 12 17.8	-0.6
AC05	El Transito	4.63	186		Pn	02 11 25.2	-0.5
LCO	Las Campanas	4.86	191		Pn	02 11 27.0	-2.0
MNMC	Minye Minye	5.06	1		Pn	02 11 30.1	-1.7
CO01	Juntas del Tor	5.75	184		Pn	02 11 41.3	+0.2
PB16	IPOC Station P	5.85	2	Pn	Pn	02 11 42.0	-0.9
AROD	Rodeo	5.93	178	eP	Pn	02 11 44.7	+1.1
AROD				eS	Sn	02 12 52.0	+1.7
GO04	Tololo Observa	6.02	189	Pn	Pn	02 11 42.7	-2.0
ACCO	Cerro Coronel	6.37	175	eP	Pn	02 11 50.2	+0.6
ACCO				IAML		02 13 35.6	
	comp=Z,105nm,0.6s						
CO03	El Pedregal	6.66	188		Pn	02 11 51.7	-1.7
CO02	Combarbal	7.06	189		Pn	02 11 56.7	-2.1
RTLL	Cerro Villicun	7.17	172	eP	Pn	02 11 59.9	-0.3
RTLL				IAML		02 13 34.3	
	comp=Z,113nm,0.6s						
ZON	Zonda	7.36	173		Pn	02 12 03.3	+0.5
LPAZ	La Paz	8.02	11	P	Pn	02 12 13.5	+1.1
	comp=Z,5.2nm,0.3s,baz=216,slow=5.3,SNR=108						
LPAZ				LR	LR	02 15 10.6	
	comp=Z,42nm,21.1s,baz=242,slow=36						
LPAZ	La Paz	8.02	11	Pn	Pn	02 12 12.4	-0.1
VA03	San Esteban	8.55	185		Pn	02 12 16.6	-2.5
MT02	Curacav	9.10	188		Pn	02 12 22.2	-4.3
BO02	Sierra Bellavi	10.58	185	Pn	Pn	02 12 47.4	+0.5
CPUP	Villa Florida	11.37	103	P	Pn	02 12 57.5	0.0
	comp=Z,0.7nm,0.3s,baz=283,slow=12,SNR=17						
CPUP				LR	LR	02 17 47.1	
	comp=Z,108nm,19.1s,baz=264,slow=40						
CPUP	Villa Florida	11.37	103	Pn	Pn	02 12 57.9	+0.3
SIV	San Ignacio	11.50	46	P	Pn	02 12 55.6	-3.8
	comp=Z,11nm,0.3s,baz=250,slow=9.6,SNR=137						
H03N1	Juan Fernandez	12.24	219	T	T	02 25 21.1	
	baz=43,slow=72,SNR=210						
H03N2	Juan Fernandez	12.25	219	T	T	02 25 07.0	
	baz=43,slow=72,SNR=218						
H03N3	Juan Fernandez	12.26	219	T	T	02 25 05.8	
	baz=43,slow=72,SNR=206						
BI02	San Fabin de	12.48	186	Pn	Pn	02 13 13.2	+0.5
PTLB	Pontes e Lacer	13.20	51	eP	Pn	02 13 16.6	-5.7
VILB	Vilhena	14.35	40	eP	Pn	02 13 34.7	-2.7
ETMB	Extrema	14.70	14	eP	Pn	02 13 39.6	-2.2
PP1B	Ponte de Pedra	15.31	67	eP	Pn	02 13 45.8	-3.9
CPSB	Cacapava Do Su	15.69	117	eP	Pn	02 13 50.9	-3.5
TRCB	Terra Rica	15.70	88	eP	Pn	02 13 51.7	-3.0
PTGB	Pitanga	16.05	95	eP	Pn	02 13 55.0	-4.0
PLCA	Paso Flores	16.49	182	P	P	02 14 05.8	+0.1
	comp=Z,0.3nm,0.3s,baz=4.7,slow=12,SNR=9.8						
PLCA				LR	LR	02 20 47.4	
	comp=Z,106nm,21.0s,baz=9.5,slow=38						
PLCA	Paso Flores	16.49	182	P	Pn	02 14 04.9	+0.5
PLCA	Paso Flores	16.49	182	eP	P	02 14 07.5	+1.8
CZSB	Cruzeiro do Su	16.65	349	eP	P	02 14 07.4	-0.2
PCMB	Pacaembu	17.16	85	eP	Pn	02 14 09.0	-3.8
ITRB	Iturama	18.47	80	eP	P	02 14 23.8	-3.8
CLDB	Colider	18.72	47	eP	P	02 14 29.0	-1.4
ARAG	Araguaiana, MT	18.79	67	eP	P	02 14 29.7	-1.5
BB19B	Bebedouro	19.77	85	eP	P	02 14 39.9	-2.0
IPMB	Ipameri, GO	20.95	77	eP	P	02 14 52.8	-1.9
NPGB	Novo Progresso	21.91	41	eP	P	02 15 02.2	-2.7
BDFB	Brasilia	22.06	71	P	P	02 15 05.7	-0.9
	comp=Z,13nm,0.4s,baz=249,slow=8.6,SNR=30						
BDFB				LR	LR	02 24 45.9	
	comp=Z,76nm,19.3s,baz=247,slow=40						
BDFB	Brasilia	22.06	71	P	P	02 15 05.3	-1.3
BDFB				IAmb	IAmb	02 15 07.4	
	comp=Z,14nm,0.6s						
MACA	Manacapuru-AM	22.66	24	eP	P	02 15 11.7	-1.1
ITTB	Itaituba	23.87	36	eP	P	02 15 23.6	-0.8
PTGA	Pitinga	25.17	23	P	P	02 15 37.1	+1.0
	comp=Z,6.4nm,0.5s,baz=200,slow=16,SNR=14						
PTGA	Pitinga	25.17	23	P	P	02 15 36.6	+0.5
PTGA	Pitinga	25.17	23	eP	P	02 15 36.8	+0.7
JANB	Januaria	25.53	74	eP	P	02 15 38.4	-1.1
SMTB	Santa Maria do	26.04	58	eP	P	02 15 43.5	-0.6
PRPB	Parauapebas	26.18	50	eP	P	02 15 44.3	-1.0
MALB	Monte Alegre	26.77	36	eP	P	02 15 51.6	+1.1
BOAV	Boa Vista	27.91	20	eP	P	02 16 01.7	+0.9
NAN01	Guarapari, ES	28.27	83	eP	P	02 16 02.8	-1.1
TMAB	Tom-Au,PA,Br	30.11	47	eP	P	02 16 20.7	+0.5
NBPA	Parau_RN	36.27	65	eP	P	02 17 13.0	-0.9
RCBR	Riachuelo	37.23	66	P	P	02 17 22.1	0.0
	comp=Z,16nm,1.0s,baz=221,slow=11,SNR=3.7						
RCBR	Riachuelo	37.23	66	P	P	02 17 22.1	0.0
BELA	Belgrano 2	56.17	172	P	P	02 19 49.6	+0.5
VNA3	Neumayer Olymp	57.75	161	P	P	02 20 00.9	+0.6
VNA2	Neumayer--Watz	58.34	160	P	P	02 20 05.0	+0.6
	baz=289,slow=8.7						
SNAA	Sanae	59.96	160	P	P	02 20 16.1	+0.4
SNAA	Sanae	59.96	160	P	P	02 20 15.8	+0.1
TKL	Tuckaleechee C	61.02	347	P	P	02 20 23.1	-0.1
	comp=Z,4.6nm,0.9s,baz=169,slow=6.4,SNR=4.8						
SWET	Sewanee	61.08	345	P	P	02 20 23.9	+0.2
JCT	Junction City	61.58	330	P	P	02 20 27.2	+0.1
WLAR	White Oak Lake	61.75	338	P	P	02 20 26.9	-1.2
WVT	Waverly	62.42	343	P	P	02 20 32.5	0.0
TX31	Lajitas Ar. Si	62.47	327	P	P	02 20 33.8	+0.6
TX31				IAmb	IAmb	02 20 35.1	
	comp=Z,4.6nm,0.8s						
TXAR	Lajitas Array	62.47	327	P	P	02 20 34.6	+1.4
	comp=Z,1.3nm,0.7s,baz=148,slow=9.3,SNR=12						
TXAR				pP	pP	02 20 54.6	+0.6
	comp=Z,0.3nm,0.6s,baz=139,slow=6.0,SNR=4.2						
MIAR	Mount Ida	62.69	338	P	P	02 20 35.0	+0.6
MIAR				IAmb	IAmb	02 20 35.9	
	comp=Z,5.6nm,0.8s						
T47A	Sharon Grove	63.05	344	P	P	02 20 36.7	-0.1
ABTX	Abilene, Hawle	63.34	332	P	P	02 20 39.2	+0.4
ABTX				IAmb	IAmb	02 20 40.7	
	comp=Z,6.3nm,0.9s						
PBMO	Poplar Bluff	63.75	342	P	P	02 20 41.1	-0.2
U40A	Yellville	64.10	339	P	P	02 20 44.4	+0.8
U40A				IAmb	IAmb	02 20 44.8	
	comp=Z,6.5nm,0.8s						
HHAR	Hobbs	64.39	338	P	P	02 20 46.3	+0.8
HHAR				IAmb	IAmb	02 20 46.7	
	comp=Z,3.3nm,0.6s						
TUL1	Leonard	64.70	337	P	P	02 20 48.3	+0.7
TUL1				IAmb	IAmb	02 20 49.0	
	comp=Z,7.3nm,0.8s						
FVM	French Village	64.87	342	P	P	02 20 49.3	+0.7
MNTX	Cornudas Mount	65.25	327	P	P	02 20 51.8	+0.5
MNTX				IAmb	IAmb	02 20 52.9	
	comp=Z,3.9nm,0.9s						
S39A	Bolivar	65.47	340	P	P	02 20 53.2	+0.7
R40A	Maddies Statio	65.69	341	P	P	02 20 54.7	+0.7
R40A				IAmb	IAmb	02 20 55.2	
	comp=Z,9.6nm,0.9s						
MSTX	Muleshoe	65.87	330	P	P	02 20 55.9	+0.6
MSTX				IAmb	IAmb	02 20 57.2	
	comp=Z,10.0nm,0.9s						
QSPA	South Pole Qui	65.99	180	P	P	02 20 56.7	+0.9
P40A	Paris	66.77	341	P	P	02 21 01.1	+0.3
P40A				IAmb	IAmb	02 21 02.0	
	comp=Z,9.4nm,0.8s						
P38A	Dawn	67.31	340	P	P	02 21 04.0	-0.2
P38A				IAmb	IAmb	02 21 05.2	
	comp=Z,5.8nm,0.5s						
ANMO	Albuquerque	68.40	328	P	P	02 21 13.4	+2.0
	comp=Z,2.7nm,0.7s,baz=123,slow=6.1,SNR=12						
ANMO	Albuquerque	68.40	328	P	P	02 21 11.5	+0.1
TUC	Tucson	68.56	323	P	P	02 21 12.0	-0.3
SADO	Sadowa	69.19	353	P	P	02 21 16.3	+0.4
	comp=Z,2.2nm,0.5s,baz=180,slow=9.1,SNR=1.8						
LIC	Lamto	69.84	73	eP	P	02 21 20.5	-0.1
	comp=Z,34nm,1.3s						
TIC	Toumodi	70.04	73	eP	P	02 21 23.6	+1.8
KIC	Kosan Boka	70.15	73	eP	P	02 21 22.7	+0.2
	comp=Z,8.3nm,0.6s						
W18A	Petrified Fore	70.17	326	P	P	02 21 22.8	+0.5
W18A				IAmb	IAmb	02 21 25.7	
	comp=Z,9.1nm,1.1s						
DBIC	Dimbokro	70.20	73	P	P	02 21 22.8	0.0
	comp=Z,4.8nm,0.6s,baz=221,slow=5.4,SNR=9.2						
DBIC				pP	pP	02 21 44.2	-0.1
	comp=Z,16nm,0.8s,baz=219,slow=5.7,SNR=8.9						
DBIC	Dimbokro	70.20	73	P	P	02 21 20.9	-1.8
DBIC				IAmb	IAmb	02 21 27.4	
	comp=Z,8.3nm,1.1s						
PV17	East Wray Mesa	72.27	328	P	P	02 21 32.7	-2.3
PV17				IAmb	IAmb	02 21 52.2	
	comp=Z,7.4nm,0.7s						
D41A	Chassel	72.97	347	P	P	02 21 39.3	+0.7
F36A	Milaca	73.03	343	P	P	02 21 39.4	+0.3
O20A	White River Ci	73.42	330	P	P	02 21 42.2	+0.5
O20A				IAmb	IAmb	02 21 44.7	
	comp=Z,6.4nm,0.8s						
SRU	San Rafael Swe	73.67	328	P	P	02 21 43.5	+0.2
CCUT	Cedar City	73.91	325	P	P	02 21 45.2	+0.4
MSU	Marysvale	74.03	327	P	P	02 21 45.7	+0.3
P17A	Butcher Ranch,	74.06	328	P	P	02 21 46.0	+0.5
VNDA	Vanda	74.06	190	P	P	02 21 46.6	+1.8
	comp=Z,2.0nm,0.8s,baz=121,slow=5.0,SNR=4.0						
RDMU	Red Mountain	74.37	330	P	P	02 21 47.7	+0.3
PRN	Pahroc Range	74.69	324	P	P	02 21 49.6	+0.5
PRN				IAmb	IAmb	02 21 53.0	
	comp=Z,5.4nm,1.1s						
KOWA	Kowa	74.75	66	P	P	02 21 49.9	+0.1
RSSD	Black Hills	74.94	335	P	P	02 21 51.1	+0.5
RSSD				IAmb	IAmb	02 21 52.9	
	comp=Z,4.3nm,0.8s						
TPNV	Topopah Spring	75.01	323	P	P	02 21 51.5	+0.4
TPNV				IAmb	IAmb	02 21 54.8	
	comp=Z,5.7nm,1.0s						
SPR3	Spring Creek 3	75.50	326	P	P	02 21 54.3	+0.3
DUG	Dugway, Tooele	75.63	327	P	P	02 21 55.1	+0.6
R11A	Troy Canyon, C	75.67	324	P	P	02 21 55.3	+0.5
PDAR	Pinedale Array	76.11	331	P	P	02 21 58.6	+1.3
	comp=Z,0.5nm,0.5s,baz=135,slow=7.2,SNR=8.4						
PDAR	Pinedale Array	76.11	331	P	P	02 21 57.9	+0.6
TPH	Tonopah	76.36	323	P	P	02 21 59.2	+0.4
AHID	Auburn Hatcher	76.81	330	P	P	02 22 01.7	+0.6
AHID				IAmb	IAmb	02 22 03.7	
	comp=Z,5.8nm,0.7s						
HVU	Hansel Valley	76.83	328	P	P	02 22 01.7	+0.4
REDW	Red Top Meadow	77.16	330	P	P	02 22 03.8	+0.6
REDW				IAmb	IAmb	02 22 06.0	
	comp=Z,4.8nm,1.0s						
NVAR	Mina Array Bea	77.20	323	P	P	02 22 05.2	+1.7
	comp=Z,1.3nm,0.8s,baz=145,slow=5.6,SNR=10						
NVAR	Mina Array Bea	77.20	323	P	P	02 22 03.9	+0.4
LOHW	Long Hollow	77.25	331	P	P	02 22 04.2	+0.5
ELK	Elko	77.26	326	P	P	02 22 05.7	+1.9
	comp=Z,2.0nm,0.7s,baz=169,slow=2.8,SNR=11						
ELK	Elko	77.26	326	P	P	02 22 04.3	+0.4
KVN	Kaiserville	77.53	323	P	P	02 22 05.9	+0.6
FLWY	Flagg Ranch	77.66	331	P	P	02 22 06.8	+0.8
FLWY				IAmb	IAmb	02 22 09.2	
	comp=Z,7.2nm,0.8s						
ULM	Lac du Bonnet	77.69	343	P	P	02 22 06.2	+0.6
	comp=Z,2.5nm,0.5s,baz=158,slow=7.4,SNR=5.7						
RLMT	Red Lodge	77.87	333	P	P	02 22 07.8	+0.7
RLMT				IAmb	IAmb	02 22 09.4	
	comp=Z,2.9nm,0.7s						
YNE	Yellowstone No	78.10	332	P	P	02 22 09.0	+0.6
YERR	Yerington	78.11	323	P	P	02 22 08.7	+0.2
YMR	Madison River	78.24	331	P	P	02 22 07.6	-1.6
YHH	Holmes Hill	78.29	331	P	P	02 22 07.7	-1.9
PNTR	Pine Nut	78.39	323	P	P	02 22 08.2	-1.9
PNTR				IAmb	IAmb	02 22 13.6	
	comp=Z,8.6nm,0.8s						
YHB	Horse Butte	78.41	331	P	P	02 22 08.4	-1.6
YHL	Hebgen Lake	78.48	331	P	P	02 22 08.7	-1.9
PAHR	Pah Rah Range	78.70	323	P	P	02 22 09.9	-1.8
PAHR				IAmb	IAmb	02 22 15.1	
	comp=Z,8.4nm,0.9s						
TOA0	Torodi Ar. Sit	78.94	70	P	P	02 22 11.3	-2.0
TORD	Torodi Ar. Bea	78.94	70	P	P	02 22 13.4	+0.1
	comp=Z,8.6nm,0.5s,baz=261,slow=5.0,SNR=47						
TORD				pP	pP	02 22 35.0	-0.3
	comp=Z,19nm,0.6s,baz=256,slow=5.2,SNR=20						
HLID	Hailey	78.97	329	P	P	02 22 11.6	-1.5
HLID				IAmb	IAmb	02 22 16.5	
	comp=Z,7.0nm,0.9s						
ORV	Oroville	79.77	322	P	P	02 22 15.7	-1.6
ORV				IAmb	IAmb	02 22 21.3	
	comp=Z,4.3nm,0.9s						
TSUM	Tsumeb	79.94	107	P	P	02 22 16.7	-2.3
TSUM				IAmb	IAmb	02 22 20.8	
	comp=Z,6.8nm,0.8s						
MOD	Modoc Plateau	80.74	324	P	P	02 22 20.9	-1.8
BMO	Blue Mountains	81.32	328	P	P	02 22 23.7	-1.9
MAW	Mawson	81.94	163	P	P	02 22 29.3	+0.7
	comp=Z,34nm,1.1s,baz=249,slow=8.6,SNR=1.8						
PINE	Pine Mountain	82.39	325	P	P	02 22 29.4	-2.1
PINE				IAmb	IAmb	02 22 34.6	
	comp=Z,7.4nm,0.9s						
BOSA	Boshof	82.80	118	P	P	02 22 34.2	+0.2
	comp=Z,6.1nm,0.6s,baz=258,slow=3.6,SNR=19						
BOSA	Boshof	82.80	118	P	P	02 22 31.7	-2.3
BOSA				IAmb	IAmb	02 22 34.7	
	comp=Z,6.6nm,0.6s						
C09A	Chrisman Ranch	83.92	329	P	P	02 22 37.7	-1.3
C09A				IAmb	IAmb	02 22 41.4	
	comp=Z,5.5nm,0.7s						
FRB	Frobisher Bay	87.67	1	P	P	02 22 57.6	+0.5
	comp=Z,1.6nm,0.9s,baz=175,slow=5.0,SNR=3.6						
FRB				pP	pP	02 23 18.7	-0.3
	comp=Z,2.3nm,0.7s,baz=186,slow=5.3,SNR=4.9						
ESDC	Sonseca Array	88.25	45	P	P	02 23 01.5	+0.9
	comp=Z,0.5nm,0.8s,baz=257,slow=2.7,SNR=5.0						
YKA	Yellowknife Ar	93.50	341	P	P	02 23 25.0	+0.7
	comp=Z,1.9nm,0.8s,baz=135,slow=5.0,SNR=24						
YKA				pP	pP	02 23 46.4	0.0
	comp=Z,2.5nm,0.7s,baz=134,slow=5.0,SNR=15						
KBZ	Khabaz	122.35	52	PKP	PKiKP	02 29 04.7	+0.7
	comp=Z,2.2nm,0.8s,baz=104,slow=4.3,SNR=7.8						
ASAR	Alice Springs	127.19	207	PKP	PKiKP	02 29 14.4	0.0
	comp=Z,2.0nm,0.8s,baz=151,slow=1.7,SNR=16						
ASAR				pPKP	pPKPdf	02 29 36.9	-0.2
	comp=Z,2.0nm,0.8s,baz=157,slow=1.9,SNR=9.1						
H11S2	WAKE ISLAND Hy	127.47	275	T	T	04 49 15.1	
	baz=108,slow=75,SNR=46						
H11S1	WAKE ISLAND Hy	127.48	275	T	T	04 49 12.4	
	baz=108,slow=75,SNR=39						
H11S3	WAKE ISLAND Hy	127.48	275	T	T	04 49 12.6	
	baz=108,slow=75,SNR=44						
H11N3	WAKE ISLAND Hy	127.62	277	T	T	04 49 24.3	
	baz=107,slow=74,SNR=22						
H11N1	WAKE ISLAND Hy	127.64	277	T	T	04 49 25.1	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=107,slow=74,SNR=15						
H11N2	WAKE ISLAND Hy	127.64	277	T	T	04 49 25.4	
	baz=107,slow=74,SNR=23						
WRA	Warramunga Arr	130.26	210	PKP	PKiKP	02 29 20.6	0.0
	comp=Z,1.3nm,0.5s,baz=154,slow=1.7,SNR=28						
WRA				pPKP	pPKPdf	02 29 43.2	+0.3
	comp=Z,2.0nm,0.8s,baz=161,slow=1.7,SNR=8.0						
ZALV	Zalesovo Beam	144.70	26	PKP	PKPdf	02 29 45.4	+0.2
	comp=Z,19nm,0.7s,baz=310,slow=5.0,SNR=87						
ZALV				pPKP	pPKPdf	02 30 08.2	-0.1
	comp=Z,6.7nm,0.7s,baz=308,slow=5.5,SNR=6.3						
ZALV	Zalesovo Beam	144.70	26	PKPdf	PKPbc	02 29 44.1	-0.1
EKS2	Erkin-Say	144.73	50	P	PKPdf	02 29 46.8	+1.0
	SNR=6.8						
AML	Almayashu	144.85	50	P	PKPdf	02 29 47.1	+0.8
	SNR=11						
USP	Ospenovka	145.02	48	P	PKPdf	02 29 47.2	+1.0
	SNR=5.9						
AAK	Ala-Archa	145.24	49	P	PKPab	02 29 48.6	+1.9
	SNR=9.6						
UCH	Uchtor	145.39	50	P	PKPab	02 29 49.4	+1.7
	SNR=22						
KBK	Karagaybulak	145.54	49	P	PKiKP	02 29 49.7	-1.5
	SNR=10.0						
TKM2	Tokmak 2	145.89	48	P	PKPab	02 29 49.6	+0.4
	SNR=6.5						
ULHL	Ulahol	146.59	49	P	PKPdf	02 29 49.2	+0.1
	SNR=5.3						
KSH	Kashi	147.31	54	PKPbc	PKPbc	02 29 51.7	-1.0
KSH				pPKP	pPKPbc	02 30 15.3	-0.4
KSH				PP	PP	02 33 24.0	+5.0
KSH				AMB	AMB		
	comp=Z,290nm,6.8s						
MKAR	Makanchi Array	148.22	38	PKPbc	PKPbc	02 29 55.0	+0.2
	comp=Z,6.4nm,0.6s,baz=311,slow=2.7,SNR=67						
MKAR				pPKPbc	pPKPbc	02 30 18.1	+0.4
	comp=Z,7.7nm,0.8s,baz=304,slow=2.4,SNR=11						
WMQ	Urumqi	153.06	38	eP	PKPdf	02 29 58.9	-0.1
USRK	Ussuriysk Ar.	153.34	324	PKPbc	PKiKP	02 30 07.9	+0.8
	comp=Z,0.8nm,0.7s,baz=189,slow=2.2,SNR=4.8						
SONM	Songino Array	156.22	7	PKP	PKPdf	02 30 04.7	+1.4
	comp=Z,0.3nm,0.8s,baz=22,slow=1.3,SNR=3.7						
SONM				PKPab	PKPab	02 30 32.3	+0.9
	comp=Z,1.0nm,0.7s,baz=322,slow=3.6,SNR=7.7						
SONM				pPKPab	pPKPab	02 30 55.0	+1.1
	comp=Z,1.1nm,0.7s,baz=314,slow=3.2,SNR=4.8						
NJ2	Nanjing	169.16	318	eP	PKPdf	02 30 17.2	+0.9

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*IDC **03** 02:12:10.9±1.3, 6.°84S×154.°61E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/37, mbtmp3.8/8, MS3.1/1, Ms1 3.1/1, ms1mx2.4/29, Error ellipse: s-maj=54.6km s-min=21.6km az=117.0*

ISC 03 02:12:16.7±1.2**, 6.°9S**±0.°2×**154.°6E**±0.°3**, h39km, n10, σ0.88**/10**, mb3.7**/8**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.56	235	P	P	02 17 23.4	-0.4
	2.3nm,0.8s,baz=61,slow=9.5,SNR=24						
WRA				PcP	PcP	02 21 09.5	+1.0
	0.3nm,0.5s,baz=68,slow=2.7,SNR=6.0						
SIJI	Sorong	24.04	283	LR	LR	02 26 44.1	
	comp=Z,45nm,20.3s,baz=162,slow=36						
ASAR	Alice Springs	25.95	228	P	P	02 17 45.5	-0.2
	0.7nm,0.7s,baz=60,slow=9.4,SNR=10						
STKA	Stephens Creek	27.66	204	P	P	02 18 01.1	+0.2
	1.0nm,0.6s,baz=24,slow=15,SNR=3.4						
SONM	Songino Array	69.05	327	P	P	02 23 19.6	+1.0
	0.6nm,0.7s,baz=132,slow=5.8,SNR=5.1						
MKAR	Makanchi Array	83.08	319	P	P	02 24 36.8	-1.6
	0.4nm,0.5s,baz=149,slow=6.2,SNR=7.3						
ILAR	Eielson Array	83.42	22	P	P	02 24 39.1	-0.6
	0.2nm,0.4s,baz=238,slow=5.3,SNR=6.6						
ZALV	Zalesovo Beam	83.89	326	P	P	02 24 42.8	+0.5
	0.4nm,0.3s,baz=124,slow=4.7,SNR=2.3						
YKA	Yellowknife Ar	96.43	28	P	P	02 25 41.4	-0.1
	0.4nm,0.7s,baz=270,slow=4.0,SNR=4.4						
TORD	Torodi Ar. Bea	152.64	285	PKPbc	PKiKP	02 32 10.5	0.0
	0.3nm,0.4s,baz=88,slow=1.4,SNR=3.8						

IDC 03 02:14:49.4±2.8**, 10.°62S**×**120.°88E, h0km, mb3.6**/1**, mb1 3.6**/3**, mb1mx3.4**/31**, mbtmp3.4**/3**, ML3.3**/2**, Error ellipse: s-maj=202.4km s-min=32.9km az=50.0, Sumba region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.94	127	Pn	Pn	02 18 36.5	+1.1
	0.1nm,0.3s,baz=303,slow=12,SNR=6.3						
ASAR	Alice Springs	17.96	138	P	Pn	02 19 00.1	-0.7
	0.2nm,0.3s,baz=316,slow=9.1,SNR=17						
MKAR	Makanchi Array	66.74	332	P	P	02 25 42.5	0.0
	0.5nm,0.8s,baz=120,slow=8.2,SNR=2.9						

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*SJA **03** 02:15:58.5±0.6, 20.°01S×69.°24W, h98km±3km, ML4.2, MW4.1*
*GUC **03** 02:15:59.4±0.8, 20.°01S×69.°16W, h96km±3km, ML4.3*
*IDC **03** 02:15:59.0±0.7, 19.°97S×68.°94W, h104km±6km, mb3.7/8, mb1 4.0/11, mb1mx3.6/47, mbtmp4.2/11, Error ellipse: s-maj=21.8km s-min=9.6km az=90.0*

ISC 03 02:15:58.3±0.6**, 20.°01S**±0.°03×**69.°21W**±0.°06**, h98km**±4km**, n56, σ1.85**/78**, mb3.9**/7**, 4C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.14	158	⇓iP	Pn	02 16 13.0	+0.4
PB08				iS	Sn	02 16 24.0	+0.8
PB08				IAML		02 16 26.1	
	comp=E,8μm,0.2s						
PB08	IPOC Station P	0.14	158	eP	Pn	02 16 13.3	+0.7
PB08				eS	Sn	02 16 24.5	+1.3
HMBC	Humberstone	0.69	247	⇓iP	Pn	02 16 16.1	+0.5
HMBC				iS	Sn	02 16 29.3	+0.8
HMBC				IAML		02 16 30.3	
	comp=E,12μm,0.5s						
TA02	Huaiquique	0.90	253	⇑iP	Pn	02 16 18.2	+0.7
TA02				iS	Sn	02 16 32.9	+0.9
TA02				IAML		02 16 34.7	
	comp=N,22μm,0.1s						
MNMC	Minye Minye	0.94	337	iP	Pn	02 16 19.3	+1.0
MNMC				iS	Sn	02 16 34.7	+1.5
MNMC				IAML		02 16 36.5	
	comp=N,14μm,0.3s						
MNMCX	Minye Minye	0.94	337	eP	Pn	02 16 19.4	+1.1
MNMCX				eP	Pn	02 16 19.5	+1.2
MNMCX				eS	Sn	02 16 34.9	+1.6
PSGC	Pisagua	0.95	295	⇑iP	Pn	02 16 18.7	+0.5
PSGC				iS	Sn	02 16 33.9	+0.8
PSGC				IAML		02 16 36.0	
	comp=E,8μm,0.3s						
PSGCX	Pisagua	0.95	295	eP	Pn	02 16 18.6	+0.5
PSGCX				eP	Pn	02 16 18.7	+0.5
PSGCX				eS	Sn	02 16 34.2	+1.1
PB01	IPOC Station P	1.06	194	⇓iP	Pn	02 16 20.1	+0.7
PB01				iS	Sn	02 16 36.1	+0.8
PB01				IAML		02 16 38.1	
	comp=E,8μm,0.5s						
PB01	IPOC Station P	1.06	194	eP	Pn	02 16 20.2	+0.8
PB01				eS	Sn	02 16 36.4	+1.2
PB01				IAML		02 16 37.6	
	comp=Z,3μm,0.2s						
TA01	Diego Aracena	1.07	238	⇑iP	Pn	02 16 19.7	+0.4
TA01				iS	Sn	02 16 35.7	+0.6
TA01				IAML		02 16 36.7	
	comp=E,4μm,0.3s						
PB09	IPOC Station P	1.78	181	eP	Pn	02 16 29.5	+1.4
PB09				iS	Sn	02 16 52.5	+1.7
PB09				IAML		02 16 56.9	
	comp=E,2μm,0.4s						
PB09	IPOC Station P	1.78	181	eP	Pn	02 16 29.6	+1.4
PB09				eS	Sn	02 16 53.1	+2.2
PB09				IAML		02 16 58.1	
	comp=Z,2μm,0.7s						
PB07	IPOC Station P	1.82	200	eP	Pn	02 16 29.5	+0.8
PB07				iS	Sn	02 16 50.3	-1.5
PB07	IPOC Station P	1.82	200	eP	Pn	02 16 29.8	+1.0
PB07				eS	Sn	02 16 54.1	+2.3
PB07				IAML		02 16 58.7	
	comp=Z,2μm,0.4s						
AP01	Chacalluta	1.95	327	eP	Pn	02 16 22.4	-7.7
AP01				iS	Sn	02 16 55.4	+1.0
AP01				IAML		02 17 02.5	
	comp=N,3μm,0.1s						
PB04	IPOC Station P	2.48	201	⇑iP	Pn	02 16 38.2	+1.0
PB04				iS	Sn	02 17 02.9	-4.1
PB04	IPOC Station P	2.48	201	eP	Pn	02 16 38.4	+1.2
PB04				eS	Sn	02 17 22.9	+16
PB04				IAML		02 17 25.2	
	comp=Z,566nm,0.2s						
LVC	Limon Verde	2.60	174	P	Pn	02 16 40.5	+1.4
	comp=Z,18nm,0.3s,baz=40,slow=12,SNR=63						
LVC				S	Sn	02 17 12.6	+2.2
	comp=Z,84nm,0.3s,baz=250,slow=23,SNR=14						
LVC	Limon Verde	2.60	174	eP	Pn	02 16 40.8	+1.7
LVC				iS	Sn	02 17 11.7	+1.4
LVC	Limon Verde	2.60	174	eP	Pn	02 16 40.8	+1.7
LVC				eS	Sn	02 17 13.2	+2.8
PB06	IPOC Station P	2.71	187	eP	Pn	02 16 41.0	+0.7
PB06				iS	Sn	02 17 10.4	-2.1
PB06				IAML		02 17 19.3	
	comp=E,1μm,0.5s						
PB06	IPOC Station P	2.71	187	eP	Pn	02 16 42.2	+1.9
PB06				eS	Sn	02 17 11.0	-1.5
PB06				IAML		02 17 22.5	
	comp=Z,944nm,0.9s						
PB05	IPOC Station P	2.98	198	eP	Pn	02 16 44.0	+0.2
PB05				iS	Sn	02 17 19.5	+0.6
PB05				IAML		02 17 31.4	
	comp=E,963nm,0.7s						
PB05	IPOC Station P	2.98	198	eP	Pn	02 16 44.6	+0.8
PB05				eS	Sn	02 16 54.6	-24
PB05				IAML		02 17 29.2	
	comp=Z,494nm,0.4s						
PB15	IPOC Station P	3.19	184	⇓iP	Pn	02 16 47.6	+0.8
PB15				iS	Sn	02 17 25.4	+1.2
PB15	IPOC Station P	3.19	184	eP	Pn	02 16 48.7	+1.9
PB15				eS	Sn	02 17 24.4	+0.2
PB15				IAML		02 17 39.0	
	comp=Z,2μm,0.4s						
PB10	IPOC Station P	3.71	199	eP	Pn	02 16 58.8	+5.3
PB10				iS	Sn	02 17 43.7	+7.5
PB10	IPOC Station P	3.71	199	eP	Pn	02 16 53.2	-0.3
PB10				eS	Sn	02 17 49.9	+14
PB10				IAML		02 17 52.1	
	comp=Z,363nm,0.6s						
LPAZ	La Paz	3.84	16	P	Pn	02 16 58.9	+3.0
	comp=Z,4.6nm,0.3s,baz=215,slow=6.2,SNR=45						
LPAZ				S	Sn	02 17 43.4	+3.0
	comp=Z,1.4nm,0.3s,baz=273,slow=17,SNR=4.8						
PB14	IPOC Station P	4.73	193	eP	Pn	02 17 09.2	+1.6
PB14				iS	Sn	02 18 09.0	+7.5
PB14	IPOC Station P	4.73	193	eP	Pn	02 17 07.4	-0.2
PB14				eS	Sn	02 18 16.2	+15
PB14				IAML		02 18 20.1	
	comp=Z,266nm,0.6s						
SIV	San Ignacio	8.71	64	P	Pn	02 17 59.6	-1.9
	comp=Z,6.1nm,0.3s,baz=268,slow=9.2,SNR=46						
CPUP	Villa Florida	12.61	122	P	Pn	02 18 52.1	-2.0
	comp=Z,0.2nm,0.3s,baz=290,slow=12,SNR=6.1						
H03N1	Juan Fernandez	15.93	211	T	T	02 36 22.4	
	baz=35,slow=74						
H03N2	Juan Fernandez	15.94	211	T	T	02 36 12.2	
	baz=35,slow=74						
H03N3	Juan Fernandez	15.95	211	T	T	02 36 20.2	
	baz=35						
PLCA	Paso Flores	20.69	183	P	P	02 20 31.0	+0.4
	comp=Z,3.8nm,0.7s,baz=358,slow=12,SNR=7.0						
DBIC	Dimbokro	68.59	74	P	P	02 26 49.5	-1.7
	comp=Z,2.9nm,0.8s,baz=228,slow=5.2,SNR=3.5						
PDAR	Pinedale Array	72.68	330	P	P	02 27 16.6	+0.9
	comp=Z,0.2nm,0.4s,baz=128,slow=7.3,SNR=3.2						
ULM	Lac du Bonnet	73.82	343	P	P	02 27 21.7	-0.2
	comp=Z,2.0nm,0.7s,baz=152,slow=7.4,SNR=5.5						
NVAR	Mina Array Bea	74.15	322	P	P	02 27 25.7	+1.3
	comp=Z,0.6nm,0.8s,baz=153,slow=7.1,SNR=5.6						
TORD	Torodi Ar. Bea	77.13	71	P	P	02 27 40.0	-1.7
	comp=Z,0.8nm,0.4s,baz=254,slow=5.0,SNR=8.6						
TORD				pP	pP	02 28 07.6	-0.6
	comp=Z,1.3nm,0.8s,baz=251,slow=4.9,SNR=2.9						
FRB	Frobisher Bay	83.48	0	P	P	02 28 13.8	-0.7
	comp=Z,0.6nm,0.4s,baz=104,slow=3.0,SNR=3.9						
YKA	Yellowknife Ar	89.69	341	P	P	02 28 45.2	+0.4
	comp=Z,3.3nm,0.7s,baz=130,slow=5.1,SNR=40						
YKA				pP	pP	02 29 11.8	0.0
	comp=Z,0.5nm,0.7s,baz=129,slow=4.5,SNR=2.5						
YKA				sP	sP	02 29 23.4	+0.9
	comp=Z,0.1nm,0.4s,baz=70,slow=38,SNR=1.0						
H11S2	WAKE ISLAND Hy	127.40	278	T	T	04 54 42.3	
	baz=101,slow=75,SNR=34						
H11S1	WAKE ISLAND Hy	127.41	278	T	T	04 54 41.7	
	baz=101,slow=75,SNR=46						
H11S3	WAKE ISLAND Hy	127.42	278	T	T	04 54 43.0	
	baz=101,slow=75,SNR=28						
H11N3	WAKE ISLAND Hy	127.44	280	T	T	04 54 43.4	
	baz=101,slow=74,SNR=9.3						
H11N2	WAKE ISLAND Hy	127.45	280	T	T	04 54 43.5	
	baz=101,slow=74,SNR=16						
H11N1	WAKE ISLAND Hy	127.46	280	T	T	04 54 41.2	
	baz=101,slow=74,SNR=9.1						
ASAR	Alice Springs	131.09	209	PKP	PKPdf	02 34 59.0	-0.5
	comp=Z,0.2nm,0.4s,baz=130,slow=1.4,SNR=4.3						
WRA	Warramunga Arr	134.08	212	PKP	PKPdf	02 35 04.9	-0.2
	comp=Z,0.5nm,0.6s,baz=160,slow=1.6,SNR=6.9						
MKAR	Makanchi Array	144.58	34	PKP	PKPab	02 35 22.1	0.0
	comp=Z,0.5nm,0.5s,baz=344,slow=2.8,SNR=8.5						
USRK	Ussuriysk Ar.	150.10	329	PKPbc	PKPbc	02 35 37.5	-0.1
	comp=Z,1.7nm,0.8s,baz=215,slow=2.3,SNR=7.2						
SONM	Songino Array	152.01	6	PKPbc	PKiKP	02 35 42.5	0.0
	comp=Z,1.3nm,0.5s,baz=324,slow=1.1,SNR=11						

IDC 03 02:16:03.2±8.1**, 22.°41S**×**176.°79W, h180km**±64km**, mb3.6**/5**, mb1 3.8**/6**, mb1mx3.4**/35**, mbtmp4.1**/6**, MS3.5**/2**, Ms1 3.4**/2**, ms1mx2.5**/33**, Error ellipse: s-maj=88.6km s-min=24.7km az=148.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.73	313	P	Pn	02 17 39.9	-0.1
	1.6nm,0.3s,baz=140,slow=17,SNR=6.6						
CTA	Charters Tower	34.47	267	P	P	02 22 34.6	+0.5
	4.4nm,0.6s,baz=94,slow=9.8,SNR=8.6						
STKA	Stephens Creek	38.02	247	P	P	02 23 04.4	+0.2
	1.0nm,0.5s,baz=90,slow=10,SNR=3.4						
ASAR	Alice Springs	45.21	258	P	P	02 24 02.7	0.0
	2.2nm,0.8s,baz=92,slow=8.0,SNR=21						
WRA	Warramunga Arr	45.49	264	P	P	02 24 03.9	-1.0
	1.9nm,0.7s,baz=102,slow=8.5,SNR=25						
FITZ	Fitzroy Crossi	53.91	263	LR	LR	02 47 21.9	
	comp=Z,42nm,19.8s,baz=144,slow=35						
TXAR	Lajitas Array	87.14	57	P	P	02 28 28.9	-0.3
	0.7nm,0.9s,baz=232,slow=6.2,SNR=5.0						
TXAR				LR	LR	03 01 03.7	
	comp=Z,20nm,19.4s,baz=0.0,slow=31						
AKASG	Malin Array Be	145.23	331	PKPbc	PKPdf	02 35 18.8	-0.3
	0.5nm,0.4s,baz=45,slow=4.5,SNR=5.4						

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*SNET **03** 02:43:47.2±1.2, 14.°09N×91.°54W, h21km±7km, ML2.9*
*GCG **03** 02:43:51.6±0.4, 14.°09N×91.°30W, h8km±999km, MD3.5*

ISC 03 02:43:45.4±2.5**, 14.°0N**±0.°1×**91.°6W**±0.°1**, h13km**±13km**, n14, σ1.01**/22**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.55	352	eP	Pg	02 43 55.6	-0.6
RTAL				eS	Sg	02 44 04.1	+0.6
FUG	Fuego 3	0.88	58	eP	Pb	02 44 03.4	+0.7
PCG	Pacaya	1.06	67	eP	Pb	02 44 06.4	+0.6
PCG				eS	Sn	02 44 21.3	+0.3
IXG	Ixpaco	1.16	80	eP	Pb	02 44 07.0	-0.4
IXG				eS	Sn	02 44 21.6	-1.7
IXG	Ixpaco	1.16	80	eP	Pg	02 44 07.9	+0.2
NBG	Las Nubes	1.37	64	eP	Pg	02 44 11.8	-0.1
NBG				eS	Sn	02 44 31.3	+2.5
SBLS	San Blas	1.94	94	eP	Pn	02 44 19.1	+0.7
SBLS				eS	Sb	02 44 43.0	-2.0
JAYA	Jayaque - finc	2.13	98	eP	Pn	02 44 21.0	+0.1
JAYA				eS	Sn	02 44 47.1	-0.3
JAYA				IAML		02 44 52.9	
	comp=Z,285nm,0.3s						
MRL	Marmol	2.17	59	eP	Pn	02 44 20.8	-0.7
TACO	Tacachico	2.19	90	eP	Pn	02 44 21.6	-0.1
TACO				IAML		02 44 24.6	
	comp=Z,32nm,0.3s						
MTO3	Montecristo	2.23	79	eP	Pn	02 44 21.9	-0.4
PMON	Piamonte	2.25	97	eP	Pn	02 44 22.9	+0.4
PMON				eS	Sn	02 44 50.8	+0.6
LFRS	El Faro	2.51	98	eP	Pn	02 44 26.6	+0.6
LFRS				eS	Sn	02 44 57.5	+0.9
COEG	Centro de Oper	2.68	97	eP	Pn	02 44 29.0	+0.6
COEG				IAML		02 45 09.0	
	comp=Z,71nm,0.3s						

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*NEIC **03** 02:51:46.3±1.9, 19.°08N±0.°09×108.°54W±0.°05, h10km±1km, mb4.1/81, Md4.4/16(MEX), Error ellipse: s-maj=14.8km s-min=6.7km az=167.0*
*MEX **03** 02:51:48.1±0.3, 19.°08N×108.°47W, h13km±6km, MD4.4*
*IDC **03** 02:51:48.5±1.4, 19.°31N×108.°48W, h0km, mb4.0/9, mb1 4.3/10, mb1mx4.0/34, mbtmp4.0/10, ML4.3/1, MS3.5/5, Ms1 3.6/5, ms1mx3.2/24, Error ellipse: s-maj=58.1km s-min=19.4km az=62.0*

ISC 03 02:51:46.2±0.9**, 19.°0N**±0.°1×**108.°48W**±0.°04**, h10km, n118, σ1.24**/93**, mb4.2**/34**, MS3.5**/5**, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H06E		2.32	264	eP	Pn	02 52 23.2	-1.2
H06E		2.32	264		Pn	02 52 23.0	-1.4
H06S		2.36	263	eP	Pn	02 52 23.7	-1.3
H06S		2.36	263		Pn	02 52 24.5	-0.5
H06N	Isla Socorro	2.38	266	eP	Pn	02 52 23.6	-1.6
H06N				iS	Sn	02 52 52.1	-2.4
H06N	Isla Socorro	2.38	266		Pn	02 52 22.9	-2.3
H06N					Sn	02 52 52.1	-2.4
CJM	Chamela	3.28	81	eP	Pn	02 52 37.0	-0.7
CJM				eS	Sn	02 53 13.8	-3.1
ANIG	Ahuacatlan	4.23	61	eP	Pn	02 52 50.1	-0.8
ANIG				eS	Sn	02 53 38.1	-2.4
ANIG	Ahuacatlan	4.23	61		Pn	02 52 51.8	+0.9
ANIG					Sn	02 53 38.1	-2.4
R15V		4.26	87	eP	Pn	02 52 50.5	-0.7
R15V		4.26	87		Pn	02 52 50.5	-0.7
COIG	Colima	4.54	87	iP	Pn	02 52 54.1	-0.9
MAIG	Mazatlaan	4.56	25	eP	Pn	02 52 53.4	-1.8
MAIG	Mazatlaan	4.56	25		Pn	02 52 53.0	-2.2
EZ5V		4.63	84	eP	Pn	02 52 55.5	-1.0
EZ5V		4.63	84		Pn	02 52 55.5	-1.0
SLBS	Sierra La Lagu	4.83	344	Pn	Pn	02 52 58.3	-0.7
ZAIG	Zacatecas	6.67	55	Pn	Pn	02 53 26.4	+1.9
HPIG		8.28	18		Pn	02 53 47.7	+1.0
TLIG	Tlapa	9.53	97		Pn	02 54 06.0	+2.2
HSIG		10.20	348	Pn	Pn	02 54 13.2	+0.6
TX31	Lajitas Ar. Si	11.16	22		Pn	02 54 27.0	+1.1
TX32	Lajitas Array	11.16	22		Pn	02 54 26.6	+0.7
TXAR	Lajitas Array	11.16	22	Pn	Pn	02 54 27.0	+1.1
	0.5nm,0.3s,baz=210,slow=14,SNR=26						
TXAR	Lajitas Array	11.16	22	Pn	Pn	02 54 26.6	+0.7
319A	Douglas	12.31	357	Pn	Pn	02 54 42.6	+0.9
MNTX	Cornudas Mount	12.92	12	Pn	Pn	02 54 50.9	+0.9
MNTX	Cornudas Mount	12.92	12	P		02 54 51.4	
	baz=194,SNR=6.2						
PIX	Pinacate	13.26	341	Pn	Pn	02 54 55.0	+0.5
TUC	Tucson	13.38	352		Pn	02 54 56.6	+0.2
TUC	Tucson	13.38	352	P		02 54 57.7	
	baz=171						
214A	Organ Pipe Nat	13.45	344	P		02 54 57.6	
	baz=162						
121A	Cookes Peak, D	13.46	3	Pn	Pn	02 54 58.1	+0.7
SPX	San Pedro Mart	13.52	333	Pn	Pn	02 54 58.6	+0.2
JCT	Junction City	13.85	33	Pn	Pn	02 55 03.4	+0.7
JCT	Junction City	13.85	33	P		02 55 04.4	
	baz=217						
GLA	Glamis	15.07	339	Pn	Pn	02 55 18.1	-1.3
GLA	Glamis	15.07	339	P		02 55 19.5	
	baz=156						
LENM	Lemitar	15.13	5	Pn	Pn	02 55 18.6	-1.7
BNM	Barren Site	15.15	6	Pn	Pn	02 55 21.1	+0.6
IKP	In-Ko-Pah, Jac	15.19	335	P		02 55 21.7	
	baz=151						
SWSC	Sam W. Stewart	15.33	336	P		02 55 22.7	
	baz=153						
X18A	Snowflake	15.49	355	Pn	Pn	02 55 23.8	-1.2
MONP2	Monument Peak	15.53	334	P		02 55 25.9	
	baz=151						
ABTX	Abilene, Hawle	15.69	29	P		02 55 28.0	
	baz=213						
MSTX	Muleshoe	15.73	18	P		02 55 28.4	
	baz=201						
HKT	Hockley	15.82	44	Pn	Pn	02 55 28.0	-1.0
ANMO	Albuquerque	15.95	6	Pn	Pn	02 55 29.4	-1.6
PDMCI	Parker Dam,Lak	16.02	343	P		02 55 32.6	
	baz=160						
W18A	Petrified Fore	16.06	356	Pn	Pn	02 55 31.2	-1.2
W18A				IAmb	IAmb	02 55 40.0	
	comp=Z,24nm,1.1s						
W18A	Petrified Fore	16.06	356	P		02 55 34.0	
	baz=176,SNR=5.9						
TPFO	Pinon Flats	16.17	335	P		02 55 34.5	
	baz=152						
PFO	Pinyon Flats O	16.18	335	P		02 55 35.0	
	baz=152						
IRM	Iron Mountain	16.19	340	P		02 55 35.5	
	baz=157						
WHTX	Lake Whitney,	16.28	35	P		02 55 36.6	
	baz=221						
BELC	Belle Mtn. Jos	16.34	337	P		02 55 38.3	
	baz=154,SNR=8.8						
MURC	Murrieta	16.46	334	P		02 55 39.5	
	baz=149						
WUAZ	Wupatki	16.62	352	Pn	Pn	02 55 39.3	-0.2
WUAZ				IAmb	IAmb	02 55 45.9	
	comp=Z,21nm,1.1s						
WUAZ	Wupatki	16.62	352	P		02 55 41.7	
	baz=170,SNR=12						
W13A	Hualapai Mount	16.71	344	Pn	Pn	02 55 39.0	-1.6
W13A				IAmb	IAmb	02 55 44.5	
	comp=Z,14nm,1.1s						
GMRC	Granite Mounta	16.94	339	P		02 55 45.2	
	baz=156,SNR=6.5						
BFSC	Mount Baldy Ra	17.21	333	P		02 55 48.6	
	baz=149						
HEC	Hector,Ludlow	17.21	338	P		02 55 49.2	
	baz=154,SNR=16						
GSC	Goldstone, Bar	17.80	337		Pn	02 55 53.4	-0.8
GSC	Goldstone, Bar	17.80	337	P		02 55 55.1	
	baz=153						
WMOK	Wichita Mounta	17.86	27	P	P	02 55 54.9	-0.7
WMOK	Wichita Mounta	17.86	27	P		02 55 56.5	
	baz=212						
EDW2	Edwards Air Fo	17.90	334	P		02 55 57.0	
	baz=149						
SCZ2	Santa Cruz Isl	17.91	329	P		02 55 57.5	
	baz=143						
MVCO	Mesa Verde	18.11	360	P		02 55 59.9	
	baz=180,SNR=6.5						
MVCO	Mesa Verde	18.11	360	Pn	Pn	02 55 56.4	-1.8
MVCO				IAmb	IAmb	02 56 13.6	
	comp=Z,13nm,1.1s						
SHPR	Sheep Range	18.37	343		P	02 56 00.6	-0.7
T25A	Trinidad	18.39	10	P		02 56 03.0	
	baz=193						
LCMT	Little Creek M	18.39	348		P	02 56 00.7	-0.8
ARVC	Arvin	18.47	332	P		02 56 04.2	
	baz=147						
PKM	Mcpherson Peak	18.72	330	P		02 56 07.6	
	baz=144,SNR=5.9						
MPMC	Manual Prospec	18.73	337	P		02 56 07.6	
	baz=152,SNR=8.1						
ISA	Isabella, Lake	18.77	334	P	Pn	02 56 05.1	-1.0
ISA	Isabella, Lake	18.77	334	P		02 56 08.3	
	baz=149						
FURC	Furnace Creek,	18.87	339	P		02 56 09.0	
	baz=155						
CCUT	Cedar City	18.94	348	P	P	02 56 07.2	-0.4
TPNV	Topopah Spring	19.11	341	P	P	02 56 08.9	-0.5
TPNV	Topopah Spring	19.11	341	P		02 56 11.7	
	baz=157,SNR=7.5						
VES	Vestal, Richgr	19.18	333	P		02 56 12.2	
	baz=148						
PV17	East Wray Mesa	19.18	359	P	P	02 56 09.6	-0.7
PRN	Pahroc Range	19.19	344	P	P	02 56 09.6	-0.6
MTPU	Mount Pierson	19.21	351	P	P	02 56 09.7	-1.1
MTPU				IAmb	IAmb	02 56 14.6	
	comp=Z,7.6nm,0.9s						
CWC	Cottonwood Cre	19.29	336	P		02 56 13.0	
	baz=151						
GRAC	Grapevine Rang	19.52	338	P		02 56 15.4	
	baz=154						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TIN	**Tinemaha, Big**	**19.89**	**337**	P		02 56 19.5	
	baz=152						
PSUT	**Pine Spring**	**19.99**	**348**	P	**P**	**02 56 18.2**	**-0.8**
PSUT				IAmb	IAmb	02 56 25.3	
	comp=Z,19nm,1.0s						
SRU	**San Rafael Swe**	**20.09**	**355**	IAmb	IAmb	02 56 26.9	
	comp=Z,9.3nm,1.2s						
R11A	**Troy Canyon, C**	**20.22**	**344**	P		02 56 23.7	
	baz=160,SNR=14						
R11A	**Troy Canyon, C**	**20.22**	**344**	P	**P**	**02 56 20.6**	**-0.9**
R11A				IAmb	IAmb	02 56 25.1	
	comp=Z,8.6nm,1.1s						
344A	**Westbrook Farm**	**20.23**	**49**	P	Pn	02 56 23.4	-0.1
MIAR	**Mount Ida**	**20.35**	**38**	P		02 56 24.2	
	baz=225						
TPH	**Tonopah**	**20.45**	**340**	P	**P**	**02 56 24.2**	**+0.2**
P17A	**Butcher Ranch,**	**20.46**	**355**	P	**P**	**02 56 23.5**	**-0.7**
P17A				IAmb	IAmb	02 56 29.9	
	comp=Z,8.3nm,0.9s						
SPR3	**Spring Creek 3**	**20.53**	**347**	P	**P**	**02 56 24.4**	**-0.7**
SPR3				IAmb	IAmb	02 56 27.3	
	comp=Z,12nm,1.1s						
T35A	**Sooner Cattle**	**20.68**	**28**	IAmb	IAmb	02 56 31.1	
	comp=Z,6.6nm,0.9s						
W39A	**Magazine**	**20.71**	**36**	IAmb	IAmb	02 56 29.9	
	comp=Z,7.0nm,0.9s						
W39A	**Magazine**	**20.71**	**36**	P		02 56 28.2	
	baz=223						
MDPB	**Devils Postpil**	**20.72**	**336**	IAmb	IAmb	02 56 33.6	
	comp=Z,11nm,0.9s						
X40A	**Basin Creek Fa**	**20.75**	**39**	P		02 56 28.5	
	baz=227						
VBMS	**Vicksburg**	**20.81**	**47**	P		02 56 29.4	
	baz=236						
ISCO	**Idaho Springs**	**20.84**	**6**	P		02 56 29.7	
	baz=188						
ISCO	**Idaho Springs**	**20.85**	**6**	P	**P**	**02 56 27.4**	**-1.1**
O20A	**White River Ci**	**21.03**	**1**	P		02 56 31.7	
	baz=181						
O20A	**White River Ci**	**21.03**	**1**	P	**P**	**02 56 30.3**	**-0.1**
O20A				IAmb	IAmb	02 56 36.3	
	comp=Z,8.9nm,0.8s						
LHV	**Little Huntoon**	**21.05**	**338**	P	**P**	**02 56 30.6**	**+0.3**
LHV				IAmb	IAmb	02 56 34.1	
	comp=Z,8.9nm,0.9s						
NV11	**Mina Array Sit**	**21.08**	**338**	IAmb	IAmb	02 56 34.3	
	comp=Z,12nm,1.1s						
MPU	**Maple Canyon**	**21.09**	**353**	IAmb	IAmb	02 56 34.7	
	comp=Z,13nm,1.2s						
NVAR	**Mina Array Bea**	**21.13**	**338**	P	**P**	**02 56 33.6**	**+2.1**
	comp=Z,3.1nm,0.7s,baz=166,slow=12,SNR=25						
NVAR				LR	LR	03 03 45.9	
	comp=Z,136nm,18.4s,baz=161,slow=34						
NVAR	**Mina Array Bea**	**21.13**	**338**	P	**P**	**02 56 31.4**	**-0.1**
DUG	**Dugway, Tooele**	**21.42**	**351**	P		02 56 36.3	
	baz=169,SNR=21						
DUG	**Dugway, Tooele**	**21.42**	**351**	P	**P**	**02 56 33.7**	**-0.8**
RDMU	**Red Mountain**	**21.49**	**358**	IAmb	IAmb	02 56 40.6	
	comp=Z,11nm,1.0s						
W41B	**Gary Mavity, V**	**21.57**	**39**	P		02 56 37.5	
	baz=226,SNR=6.0						
WAKR	**Walker**	**21.62**	**336**	P	**P**	**02 56 35.8**	**-0.9**
KVN	**Kaiserville**	**21.62**	**339**	P	**P**	**02 56 35.9**	**-0.8**
KVN				IAmb	IAmb	02 56 40.1	
	comp=Z,13nm,0.9s						
WHAR	**Wooly Hollow**	**21.63**	**38**	P	**P**	**02 56 35.5**	**-1.1**
JLU	**Jordanelle**	**21.65**	**354**	P	**P**	**02 56 36.5**	**-0.6**
JLU				IAmb	IAmb	02 56 42.4	
	comp=Z,9.3nm,0.9s						
N23A	**Red Feather La**	**21.90**	**5**	P		02 56 41.8	
	baz=187						
YERR	**Yerington**	**21.96**	**337**	P	**P**	**02 56 39.8**	**-0.6**
X43A	**Marvell**	**21.97**	**42**	P		02 56 42.2	
	baz=230						
TCUT	**Toone Canyon**	**22.16**	**354**	P	**P**	**02 56 41.6**	**-0.9**
BGU	**Big Grassy Mou**	**22.17**	**351**	P	**P**	**02 56 41.9**	**-0.7**
BGU				IAmb	IAmb	02 56 45.3	
	comp=Z,6.9nm,1.2s						
PHWY	**Pilot Hill**	**22.35**	**6**	IAmb	IAmb	02 56 47.7	
	comp=Z,5.4nm,0.9s						
VCNR	**Virginia City**	**22.39**	**337**	P	**P**	**02 56 44.3**	**-0.6**
VCNR				IAmb	IAmb	02 56 49.7	
	comp=Z,12nm,0.9s						
ELK	**Elko**	**22.40**	**346**	P	**P**	**02 56 44.5**	**-0.7**
PAHR	**Pah Rah Range**	**22.65**	**338**	P	**P**	**02 56 47.3**	**-0.4**
BRAL	**Brewton**	**22.82**	**54**	P		02 56 51.5	
	baz=244						
LCAR	**Lake Charles**	**22.83**	**38**	IAmb	IAmb	02 57 04.8	
	comp=Z,5.6nm,1.1s						
HVU	**Hansel Valley**	**22.97**	**352**	P	**P**	**02 56 50.8**	**-0.3**
HVU				IAmb	IAmb	02 56 54.6	
	comp=Z,5.0nm,0.9s						
Z47A	**Carrollton**	**23.07**	**48**	P	**P**	**02 56 51.8**	**-0.1**
BEKR	**Beckworth**	**23.15**	**336**	IAmb	IAmb	02 56 56.1	
	comp=Z,5.4nm,1.1s						
K22A	**Casper**	**23.61**	**4**	IAmb	IAmb	02 57 02.3	
	comp=Z,6.6nm,1.0s						
K22A	**Casper**	**23.61**	**4**	P		02 56 58.8	
	baz=185						
BW06	**Boulder Array**	**23.68**	**358**	P		02 56 59.4	
	baz=178						
PD31	**Pinedale Array**	**23.68**	**358**	P	**P**	**02 56 58.0**	**-0.3**
PDAR	**Pinedale Array**	**23.68**	**358**	P	**P**	**02 56 59.5**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=159,slow=9.8,SNR=15						
PDAR	**Pinedale Array**	**23.68**	**358**	P	**P**	**02 56 59.1**	**+0.8**
LRAL	**Lakeview Retre**	**23.75**	**50**	P		02 57 00.4	
	baz=240						
250A	**Grady**	**23.78**	**53**	P	**P**	**02 57 00.7**	**+1.6**
O03E	**Paynes Creek**	**24.09**	**334**	P		02 57 03.3	
	baz=148						
CCM	**Cathedral Cave**	**24.19**	**35**	P		02 57 05.2	
	baz=224						
REDW	**Red Top Meadow**	**24.34**	**356**	P	**P**	**02 57 04.3**	**-0.2**
REDW				IAmb	IAmb	02 57 07.4	
	comp=Z,9.4nm,1.1s						
LOHW	**Long Hollow**	**24.57**	**356**	IAmb	IAmb	02 57 11.3	
	comp=Z,6.3nm,0.9s						
WVOR	**Wild Horse Val**	**24.87**	**342**	P	**P**	**02 57 08.4**	**-0.8**
HLID	**Hailey**	**24.96**	**350**	IAmb	IAmb	02 57 13.2	
	comp=Z,4.8nm,0.8s						
HLID	**Hailey**	**24.96**	**350**	P		02 57 12.0	
	baz=167,SNR=14						
FLWY	**Flagg Ranch**	**25.05**	**356**	IAmb	IAmb	02 57 13.2	
	comp=Z,3.6nm,0.9s						
152A	**Waverly Hall**	**25.26**	**53**	IAmb	IAmb	02 57 17.1	
	comp=Z,8.0nm,1.0s						
RSSD	**Black Hills**	**25.29**	**8**	P		02 57 14.4	
	baz=190						
H17A	**Grant Village**	**25.35**	**356**	P		02 57 15.0	
	baz=176						
H17A	**Grant Village**	**25.35**	**356**	IAmb	IAmb	02 57 21.3	
	comp=Z,3.6nm,1.1s						
M04C	**Macdoel**	**25.37**	**336**	P		02 57 15.3	
	baz=149						
M02C	**Callahan**	**25.44**	**334**	P		02 57 14.8	
	baz=147						
J08A	**Circle Bar Ran**	**25.67**	**343**	IAmb	IAmb	02 57 20.0	
	comp=Z,4.4nm,0.7s						
YHH	**Holmes Hill**	**25.76**	**356**	IAmb	IAmb	02 57 22.4	
	comp=Z,5.6nm,1.1s						
YNE	**Yellowstone No**	**25.93**	**358**	IAmb	IAmb	02 57 26.5	
	comp=Z,4.1nm,1.1s						
RLMT	**Red Lodge**	**26.02**	**359**	IAmb	IAmb	02 57 24.5	
	comp=Z,4.7nm,1.1s						
RLMT	**Red Lodge**	**26.02**	**359**	P		02 57 20.4	
	baz=178						
J05D	**Fort Rock, OR**	**26.46**	**339**	P		02 57 24.2	
	baz=152						
GOGA	**Godfrey**	**26.53**	**52**	P	**P**	**02 57 23.5**	**-0.6**
GOGA				IAmb	IAmb	02 57 28.7	
	comp=Z,6.9nm,0.9s						
GOGA	**Godfrey**	**26.53**	**52**	P		02 57 25.2	
	baz=244						
BOZ	**Bozeman (W)**	**26.62**	**355**	P		02 57 25.7	
	baz=173						
J04D	**Umpqua Nationa**	**26.73**	**337**	P		02 57 26.9	
	baz=150						
K02D	**Willamette Mer**	**26.86**	**335**	P		02 57 28.3	
	baz=147						
WCI	**Wyandotte Cave**	**27.18**	**41**	P		02 57 31.2	
	baz=232						
I04A	**Tendick Farm,**	**27.32**	**338**	P		02 57 32.3	
	baz=150						
J01E	**Myrtle Point**	**27.36**	**335**	P		02 57 32.6	
	baz=147						
LAO	**LASA Array**	**27.65**	**3**	P		02 57 35.0	
	baz=185						
DLBC	**Dease Lake**	**42.40**	**343**	P	**P**	**02 59 43.4**	**+2.6**
	comp=Z,1.7nm,0.8s,baz=148,slow=7.0,SNR=4.3						
YKA	**Yellowknife Ar**	**43.63**	**356**	P	**P**	**02 59 51.3**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=165,slow=8.1,SNR=8.1						
RPN	**Rapa Nui**	**45.89**	**181**	LR	LR	03 14 34.8	
	comp=Z,61nm,18.7s,baz=285,slow=30						
N25K	**Chitina, Valde**	**49.46**	**338**	P		03 00 38.1	
	baz=133						
K27K	**Chicken**	**50.36**	**342**	P		03 00 45.6	
	baz=137						
EGAK	**Eagle**	**50.65**	**343**	P		03 00 47.3	
	baz=139						
INK	**Inuvik**	**51.72**	**348**	P	**P**	**03 00 54.9**	**+1.6**
	comp=Z,4.3nm,0.9s,baz=152,slow=8.3,SNR=9.8						
ILAR	**Eielson Array**	**52.37**	**340**	P	**P**	**03 00 59.7**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=147,slow=7.0,SNR=24						
ILAR	**Eielson Array**	**52.37**	**340**	P	**P**	**03 00 58.5**	**+0.3**
PRP	**Porcupine Dome**	**52.46**	**342**	P		03 01 01.0	
	baz=134						
TRF	**Thorofare Moun**	**52.67**	**338**	P		03 01 01.9	
	baz=128						
LPAZ	**La Paz**	**52.99**	**129**	P	P	03 01 09.7	+5.5
	comp=Z,1.3nm,0.7s,baz=331,slow=6.5,SNR=6.2						
PPLA	**Purkeypile**	**53.03**	**337**	P		03 01 04.9	
	baz=125						
I23K	**Minto, Yukon-K**	**53.41**	**340**	P		03 01 07.8	
	baz=130						
PPT	**Papeete**	**54.35**	**231**	LR	LR	03 18 57.9	
	comp=Z,44nm,21.0s,baz=206,slow=30						
COLD	**Coldfoot**	**55.01**	**342**	P		03 01 19.2	
	baz=130						
TOLK	**Toolik Lake Re**	**55.75**	**343**	P		03 01 24.6	
	baz=131						
H03N2	**Juan Fernandez**	**59.31**	**151**	T	T	04 06 30.3	
	baz=329,slow=77,SNR=17						
H03N1	**Juan Fernandez**	**59.32**	**151**	T	T	04 06 31.7	
	baz=329,slow=77,SNR=31						
H03N3	**Juan Fernandez**	**59.33**	**151**	T	T	04 06 37.9	
	baz=329,slow=77,SNR=29						
RDOG	**Red Dog Mine**	**59.52**	**339**	P		03 01 51.0	
	baz=117						
CPUP	**Villa Florida**	**67.08**	**131**	P	P	03 02 44.8	+4.8
	comp=Z,1.3nm,0.6s,baz=326,slow=3.6,SNR=3.3						
PLCA	**Paso Flores**	**69.12**	**150**	LR	LR	03 26 31.1	
	comp=Z,55nm,19.1s,baz=284,slow=30						
SEY	**Seymchan**	**77.32**	**332**	P	**P**	**03 03 43.0**	**+2.2**
	comp=Z,1.3nm,0.7s,baz=109,slow=6.3,SNR=5.2						
NOA	**NORSAR Array B**	**86.84**	**25**	LR	LR	03 42 35.0	
	comp=Z,16nm,19.0s,baz=265,slow=35						

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*JMA **03** 02:55:01.5±0.1, 39°.07N×142°.38E, h35km±1km, M3.4*
JMA Felt I J1.
*IDC **03** 02:55:07.4±2.7, 39°.00N×142°.23E, h84km±26km, mb3.2/3, mb1 3.3/5, mb1mx3.0/39, mbtmp3.5/5, MS3.1/1, Ms1 3.1/1, ms1mx2.1/19, Error ellipse: s-maj=41.6km s-min=18.2km az=96.0*
ISC 03 02:54:55.8±1.9**, 39°.06N**±0°.04×**142°.51E**±0°.08**, h9**km±10km**, n23,** σ**2s.02**/28**, mb3.4**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.65**	**272**	P	**Pn**	**02 55 12.7**	**+1.4**
OFUJ				*i* S	**Sn**	**02 55 20.5**	**-1.3**
MIYJ	**Miyakonagasawa**	**0.74**	**315**	P	**Pn**	**02 55 14.2**	**+1.6**
MIYJ				S	**Sn**	**02 55 23.2**	**-0.9**
JKMT	**Kesennumamotoy**	**0.84**	**253**	P	**Pn**	**02 55 15.4**	**+1.5**
JKMT				S	**Sn**	**02 55 25.4**	**-1.0**
JMK	**Ichinoseki**	**1.01**	**264**	P	**Pn**	**02 55 18.0**	**+1.8**
JMK				S	**Sn**	**02 55 29.5**	**-1.0**
JTH	**Tanohata**	**1.01**	**331**	P	**Pn**	**02 55 18.5**	**+2.2**
JTH				*e*S	**Sn**	**02 55 30.7**	**0.0**
JOM	**Ohasama**	**1.03**	**294**	P	**Pn**	**02 55 18.6**	**+2.1**
JOM				S	**Sn**	**02 55 30.7**	**-0.4**
JIO	**Ouri**	**1.09**	**237**	P	**Pn**	**02 55 18.9**	**+1.6**
JIO				S	**Sg**	**02 55 31.2**	**+0.4**
JKZ	**Kuzumaki**	**1.30**	**316**	P	**Pg**	**02 55 23.0**	**+2.2**
JKZ				S	**Sg**	**02 55 38.4**	**+0.7**
JRG	**Rokugo**	**1.49**	**284**	P	**Pg**	**02 55 26.1**	**+1.6**
JRG				S	**Sg**	**02 55 43.9**	**0.0**
JANG	**Nango**	**1.52**	**330**	P	**Pg**	**02 55 26.0**	**+1.0**
JANG				*e*S	**Sg**	**02 55 44.5**	**-0.3**
JOU	**Okura**	**1.60**	**245**	P	**Pg**	**02 55 27.2**	**+0.7**
JOU				S	**Sg**	**02 55 46.0**	**-1.2**
MJAR	**Matsushiro Arr**	**4.23**	**235**	P	**Pb**	**02 56 06.5**	**-3.9**
	0.2nm,0.3s,baz=41,slow=12,SNR=8.5						
ASAJ	**Asahikawa**	**5.06**	**1**	P	**Pb**	**02 56 21.4**	**-3.1**
	0.7nm,0.3s,baz=195,slow=16,SNR=4.9						
ASAJ				S	**Sb**	**02 57 20.2**	**-5.2**
	0.2nm,0.3s,baz=322,slow=19,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**28.53**	**125**	T	T	03 31 20.1	
	baz=318,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**28.54**	**125**	T	T	03 31 19.7	
	baz=318,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.55**	**125**	T	T	03 31 21.8	
	baz=318,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**29.32**	**127**	T	T	03 32 22.4	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**29.32**	**127**	T	T	03 32 30.7	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**29.33**	**127**	T	T	03 32 21.8	
	baz=322						
ZALV	**Zalesovo Beam**	**41.22**	**311**	P	**P**	**03 02 41.7**	**+0.9**
	0.4nm,0.6s,baz=96,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**43.81**	**301**	P	**P**	**03 03 04.2**	**+2.2**
	0.4nm,0.7s,baz=86,slow=9.1,SNR=5.8						
HNR	**Honiara**	**50.90**	**158**	LR	LR	03 24 03.8	
	comp=Z,17nm,18.7s,baz=108,slow=34						
WRA	**Warramunga Arr**	**59.18**	**189**	P	**P**	**03 04 58.9**	**+1.7**
	0.3nm,0.4s,baz=6.5,slow=7.3,SNR=13						

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*IDC **03** 03:07:53.6±0.8, 15°.13S×173°.60W, h0km, mb4.1/10, mb1 4.4/11, mb1mx4.1/37, mbtmp4.2/11, ML5.1/1, MS3.5/16, Ms1 3.5/16, ms1mx3.3/32, Error ellipse: s-maj=33.3km s-min=16.8km az=133.0*
*NEIC **03** 03:07:57.6±0.9, 15°.05S±0°.09×173°.5W±0°.1, h40km±7km, mb4.7/14, Error ellipse: s-maj=15.6km s-min=11.1km az=122.0*
ISC 03 03:07:56.9±0.6**, 15°.06S**±0°.08×**173°.5W**±0°.1**, h30**km**, n52,** σ**1s.24**/35**, mb4.6**/15**, MS3.6**/15**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.00**	**55**	Pn	**Pn**	**03 08 29.9**	**+1.1**
	559nm,0.3s,baz=259,slow=10,SNR=334						
AFI				Sn	**Sn**	**03 08 51.4**	**-1.5**
	989nm,0.3s,baz=53,slow=22,SNR=37						
AFI	**Afiamalu**	**2.00**	**55**	Pn	**Pn**	**03 08 29.7**	**+0.9**
AFI				Sn	**Sn**	**03 08 50.0**	**-2.8**
NIUE	**Niue**	**5.24**	**140**		**Pn**	**03 09 13.8**	**+0.6**
KNTN	**Kanton**	**12.33**	**8**	Pn	**Pn**	**03 10 50.5**	**0.0**
RAR	**Rarotonga**	**14.38**	**117**	LR	LR	03 15 28.5	
	comp=Z,32nm,18.5s,baz=282,slow=32						
DZM	**Mont Dzumac**	**20.27**	**247**	*e*P	Pn	03 12 36.0	+3.6
	30nm,1.2s						
DZM				*e*LR	LR	03 17 15.1	
	comp=Z,288nm,26.9s						
DZM	**Mont Dzumac**	**20.27**	**247**	P	Pn	03 12 30.3	-2.1
	3.8nm,0.8s,baz=73,slow=17,SNR=3.7						
DZM				LR	LR	03 19 26.6	
	comp=Z,56nm,18.7s,baz=76,slow=34						
DZM	**Mont Dzumac**	**20.27**	**247**	P	Pn	03 12 30.0	-2.3
DZM				IAmb	IAmb	03 12 39.6	
	comp=Z,28nm,1.6s						
URZ	**Urewera**	**24.56**	**198**	P	**P**	**03 13 14.1**	**0.0**
	comp=Z,7.3nm,0.6s,baz=210,slow=5.2,SNR=9.4						
URZ				LR	LR	03 21 26.1	
	comp=Z,168nm,21.8s,baz=31,slow=33						
URZ	**Urewera**	**24.56**	**198**	P	**P**	**03 13 13.7**	**-0.5**
URZ				IAmb	IAmb	03 13 20.8	
	comp=Z,8.2nm,0.7s						
BKZ	**Black Stump Fm**	**25.58**	**198**	P	**P**	**03 13 21.9**	**-1.6**
BKZ				IAmb	IAmb	03 13 30.6	
	comp=Z,30nm,1.7s						
BFZ	**Birch Farm**	**27.05**	**197**	P	**P**	**03 13 36.1**	**-0.6**
QRZ	**Quartz Range**	**28.42**	**203**	P	**P**	**03 13 48.4**	**-0.6**
QRZ				IAmb	IAmb	03 14 41.1	
	comp=Z,100nm,1.9s						
RPZ	**Rata Peaks**	**31.47**	**202**	P	**P**	**03 14 15.5**	**-0.4**
	comp=Z,9.9nm,0.9s,baz=34,slow=3.6,SNR=2.7						
FOZ	**Fox Glacier**	**31.77**	**203**	P	**P**	**03 14 17.5**	**-1.0**
H11S2	**WAKE ISLAND Hy**	**38.64**	**329**	T	T	03 56 08.8	
	baz=146,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**38.65**	**329**	T	T	03 56 08.7	
	baz=146,slow=75,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**38.66**	**329**	T	T	03 56 09.4	
	baz=146,slow=75,SNR=8.6						
RSD	**Rainshed**	**38.70**	**28**	P	**P**	**03 15 18.0**	**-0.5**
H11N3	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	03 57 14.8	
	baz=147,slow=76,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**39.59**	**330**	T	T	03 57 15.1	
	baz=147,slow=76,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**39.60**	**330**	T	T	03 57 16.6	
	baz=147,slow=76,SNR=4.2						
STKA	**Stephens Creek**	**44.15**	**240**	P	**P**	**03 16 03.5**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=90,slow=10,SNR=6.2						
STKA				LR	LR	03 32 35.6	
	comp=Z,55nm,18.1s,baz=34,slow=34						
STKA	**Stephens Creek**	**44.15**	**240**	P	**P**	**03 16 02.6**	**-0.5**
WR0	**Warramunga Arr**	**49.66**	**256**	P	**P**	**03 16 45.0**	**-1.4**
WR0				IAmb	IAmb	03 17 30.2	
	comp=Z,26nm,1.9s						
WB0	**Warramunga Arr**	**49.81**	**257**	P	**P**	**03 16 46.6**	**-0.9**
WB0				IAmb	IAmb	03 16 48.2	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**49.84**	**256**	P	**P**	**03 16 45.9**	**-1.9**
WB2				IAmb	IAmb	03 16 48.6	
	comp=Z,9.7nm,1.2s						
WRA	**Warramunga Arr**	**49.86**	**256**	P	**P**	**03 16 47.1**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=97,slow=7.8,SNR=48						
AS31	**Alice Springs**	**50.15**	**252**	P	**P**	**03 16 49.5**	**-0.6**
ASAR	**Alice Springs**	**50.15**	**252**	P	**P**	**03 16 49.5**	**-0.6**
	comp=Z,6.3nm,0.5s,baz=86,slow=8.1,SNR=87						
ASAR				LR	LR	03 36 07.1	
	comp=Z,78nm,20.8s,baz=88,slow=34						
ASAR	**Alice Springs**	**50.15**	**252**	P	**P**	**03 16 49.6**	**-0.5**
VNDA	**Vanda**	**63.70**	**186**	P	**P**	**03 18 26.3**	**+1.1**
	comp=Z,3.5nm,0.9s,baz=355,slow=6.3,SNR=5.9						
VNDA	**Vanda**	**63.70**	**186**	P	**P**	**03 18 25.9**	**+0.6**
MJAR	**Matsushiro Arr**	**68.64**	**320**	LR	LR	03 42 57.4	
	comp=Z,16nm,21.9s,baz=210,slow=31						
PFO	**Pinyon Flats O**	**72.74**	**47**	LR	LR	03 42 40.3	
	comp=Z,59nm,19.5s,baz=235,slow=29						
LPIG	**La Paz**	**72.92**	**59**	LR	LR	03 43 50.3	
	comp=Z,32nm,18.6s,baz=224,slow=30						
YBH	**Yreka Blue Hor**	**73.37**	**37**	LR	LR	03 44 11.1	
	comp=Z,39nm,21.3s,baz=232,slow=30						
NVAR	**Mina Array Bea**	**74.12**	**42**	LR	LR	03 45 49.7	
	comp=Z,41nm,18.8s,baz=236,slow=31						
QSPA	**South Pole Qui**	**74.98**	**180**	P	**P**	**03 19 35.8**	**+0.5**
QSPA				IAmb	IAmb	03 22 20.9	
	comp=Z,15nm,1.6s						
KSRS	**Korea Array**	**75.87**	**316**	LR	LR	03 50 16.6	
	comp=Z,29nm,18.0s,baz=129,slow=34						
BBB	**Bella Bella**	**77.61**	**27**	LR	LR	03 46 41.5	
	comp=Z,25nm,18.9s,baz=252,slow=30						
HLID	**Hailey**	**79.41**	**39**	P	**P**	**03 20 00.2**	**-0.3**
DLBC	**Dease Lake**	**81.41**	**21**	LR	LR	03 48 15.6	
	comp=Z,39nm,19.5s,baz=316,slow=30						
PDAR	**Pinedale Array**	**82.06**	**42**	P	**P**	**03 20 16.9**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=223,slow=6.1,SNR=1.8						
PDAR				LR	LR	03 53 04.9	
	comp=Z,38nm,18.5s,baz=292,slow=33						
PDAR	**Pinedale Array**	**82.06**	**42**	P	**P**	**03 20 13.0**	**-1.8**
ILAR	**Eielson Array**	**82.13**	**11**	P	**P**	**03 20 16.3**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=231,slow=6.0,SNR=5.5						
ILAR				LR	LR	03 49 04.1	
	comp=Z,23nm,20.1s,baz=190,slow=30						
INK	**Inuvik**	**87.95**	**14**	LR	LR	03 51 59.3	
	comp=Z,28nm,20.6s,baz=194,slow=30						
YKA	**Yellowknife Ar**	**89.81**	**23**	P	**P**	**03 20 54.4**	**+2.1**
	comp=Z,0.5nm,1.0s,baz=230,slow=3.8,SNR=6.1						
AKASG	**Malin Array Be**	**140.00**	**338**	PKP	**PKPdf**	**03 27 23.2**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=61,slow=2.7,SNR=5.3						
AKASG	**Malin Array Be**	**140.00**	**338**		**PKPdf**	**03 27 21.5**	**-0.8**
BRTR	**Keskin Array B**	**145.85**	**321**	PKPbc	**PKiKP**	**03 27 35.5**	**-1.9**
	comp=Z,2.5nm,0.7s,baz=107,slow=2.3,SNR=13						
BRTR	**Keskin Array B**	**145.85**	**321**	PKPdf	**PKPdf**	**03 27 32.6**	**-0.6**

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*IDC **03** 03:14:20.9±1.3, 30°.43N×143°.02E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.6/37, mbtmp3.7/8, ML3.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.2/40, Error ellipse: s-maj=44.5km s-min=18.6km az=77.0*
*JMA **03** 03:14:25.8±0.5, 30°.84N×142°.96E, h68km, M3.9*
ISC 03 03:14:27.2±1.2**, 30°.7N**±0°.1×**142°.9E**±0°.2**, h45**km**, n15,** σ**1s.59**/16**, mb3.6**/5**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.59**	**313**	Pn	**Pn**	**03 15 20.9**	**+0.6**
	3.6nm,0.3s,baz=127,slow=16,SNR=1.8						
JHJ				Sn	**Sn**	**03 15 59.3**	**-2.1**
	17nm,0.3s,baz=90,slow=20,SNR=1.9						
JCJ	**Chichijima**	**3.66**	**190**	Pn	Pn	03 15 16.0	-5.3
	9.3nm,0.3s,baz=18,slow=20,SNR=5.5						
JCJ				Sn	Sn	03 15 51.4	-12
	31nm,0.3s,baz=91,slow=22,SNR=5.6						
BSO1	**Boso 1**	**4.26**	**338**	P	**Pn**	**03 15 27.9**	**-1.1**
BSO1				S	**Sn**	**03 16 15.2**	**-2.0**
BSO3	**Boso 3**	**4.56**	**334**	P	**Pn**	**03 15 32.8**	**-0.5**
JHU	**Hanno**	**5.96**	**330**	P	**Pn**	**03 15 52.4**	**-0.5**
JHO	**Hitachi**	**6.20**	**342**	P	**Pn**	**03 15 55.3**	**-0.9**
JRY	**Ryogami san**	**6.27**	**329**	P	**Pn**	**03 15 56.7**	**-0.4**
JRY				S	**Sn**	**03 17 06.3**	**-1.1**
JAG	**Ashikaga**	**6.39**	**334**	P	**Pn**	**03 15 58.2**	**-0.6**
MJAR	**Matsushiro Arr**	**7.02**	**327**	Pn	**Pn**	**03 16 08.0**	**+0.7**
	0.2nm,0.3s,baz=154,slow=11,SNR=8.0						
SONM	**Songino Array**	**32.67**	**312**	P	**P**	**03 20 57.7**	**+2.6**
	0.3nm,0.5s,baz=122,slow=7.7,SNR=3.8						
MKAR	**Makanchi Array**	**48.74**	**307**	P	**P**	**03 23 08.4**	**+1.0**
	0.5nm,0.8s,baz=95,slow=9.6,SNR=5.6						
NRIK	**Noril'sk**	**49.55**	**337**	LR	LR	03 46 41.4	
	comp=Z,30nm,19.9s,baz=36,slow=39						
WRA	**Warramunga Arr**	**51.03**	**190**	P	**P**	**03 23 22.7**	**-2.2**
	3.7nm,0.8s,baz=10,slow=8.0,SNR=26						
ASAR	**Alice Springs**	**54.76**	**190**	P	**P**	**03 23 50.2**	**-2.1**
	1.6nm,0.6s,baz=6.4,slow=6.3,SNR=30						
YKA	**Yellowknife Ar**	**68.67**	**29**	P	**P**	**03 25 27.1**	**+1.6**
	0.2nm,0.8s,baz=298,slow=5.8,SNR=3.0						

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*NEIC **03** 03:18:09.3±0.9, 38°.83N±0°.02×122°.78W±0°.03, h5km±4km, Error ellipse: s-maj=3.7km s-min=2.7km az=49.0*
NCEDC 03 03:18:08.8±0.9**, 38°.82N**±0°.02×**122°.84W**±0°.03**, h3**km±5km**, Md3.0**/89**, ML2.7**/44(NEIC)**, Error ellipse: s-maj=4.0km s-min=2.2km az=55.0, Northern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.04**	**109**	Pg	Pg	03 18 09.9	+0.1
GDXM				Sg	Sg	03 18 10.8	+0.4
GPMM	**Pine Mountain**	**0.09**	**288**		Pg	03 18 10.8	+0.3
GCRM	**Castle Rock Sp**	**0.11**	**116**		Pg	03 18 11.1	+0.1
GSGM	**Seigler Mounta**	**0.11**	**65**		Pg	03 18 11.6	+0.6
HOPS	**Hopland Field**	**0.25**	**314**		Pg	03 18 14.2	+0.6
HOPS	**Hopland Field**	**0.25**	**314**	IAML		03 18 20.6	
	comp=E,2μm,0.7s						
HOPS				IAML		03 18 21.2	
	comp=N,5μm,0.8s						
MNRC	**McLaughlin Min**	**0.32**	**79**		Pg	03 18 15.9	+1.0
FTR	**Fort Ross**	**0.39**	**220**		Pg	03 18 17.0	+0.7
CVS	**Carmenet Viney**	**0.56**	**148**		Pg	03 18 19.8	+0.3
MCCM	**Marconi Confer**	**0.68**	**183**		Pb	03 18 22.6	-0.7
MCCM	**Marconi Confer**	**0.68**	**183**	IAML		03 18 39.9	
	comp=N,572nm,0.8s						
GNAM	**Navarro Ridge**	**0.72**	**302**		Pb	03 18 23.6	-0.4
GASB	**Alder Springs**	**0.84**	**7**		Pb	03 18 26.0	-0.1
SUTB	**Sutter Butte**	**0.92**	**63**		Pg	03 18 26.5	+0.1
KCPM	**Cahto Peak**	**1.04**	**327**		Pb	03 18 29.6	+0.1
KCPM				Pn	Pn	03 18 29.8	-0.6
KCPM				Sn	Sn	03 18 45.9	+0.3
KCPM				IAML		03 18 52.8	
	comp=N,275nm,0.6s						
BL67	**Building 67, L**	**1.05**	**154**		Pn	03 18 30.1	-0.4
VAK	**Adit at Lawren**	**1.05**	**154**		Pb	03 18 29.3	-0.3
BKS	**Berkeley--Byer**	**1.06**	**153**		Pg	03 18 29.1	+0.1
BDM	**Black Diamond**	**1.16**	**138**		Pg	03 18 30.6	-0.3
ORV	**Oroville**	**1.27**	**54**		Pg	03 18 32.1	-1.1
AFDM	**Forest Hills D**	**1.46**	**84**		Pn	03 18 34.3	-1.8
WENL	**Wente Vineyard**	**1.47**	**144**		Pb	03 18 36.6	-0.1
KMRM	**Mail Ridge**	**1.55**	**335**		Pn	03 18 37.0	-0.5
KMRM				IAML		03 18 44.3	
	comp=E,109nm,0.7s						
KMRM				IAML		03 19 17.6	
	comp=N,107nm,1.4s						
WDC	**Whiskeytown Da**	**1.77**	**7**	Pn	Pn	03 18 40.2	-0.2

CMB	**Columbia Colle**	**2.08**	**111**		Pn	03 18 44.3	-0.4
CMB				IAML		03 19 15.3	
	comp=E,48nm,0.6s						
RUBR	**Rubicon Trail**	**2.11**	**83**	Pn	Pn	03 18 45.0	-0.2
BEKR	**Beckworth**	**2.19**	**61**		Pn	03 18 46.1	-0.2
SAO	**San Andreas Ge**	**2.33**	**151**	Pn	Pn	03 18 47.7	-0.4
VCNR	**Virginia City**	**2.53**	**78**		Pn	03 18 50.7	-0.3
VCNR				IAML		03 19 39.5	
	comp=E,37nm,0.7s						
VCNR				IAML		03 19 51.0	
	comp=N,28nm,1.0s						
PNTR	**Pine Nut**	**2.54**	**83**	Pn	Pn	03 18 51.2	0.0
WAKR	**Walker**	**2.68**	**96**		Pn	03 18 52.8	-0.3
WAKR				IAML		03 19 33.4	
	comp=E,35nm,0.8s						
WAKR				IAML		03 19 38.5	
	comp=N,23nm,1.1s						
YERR	**Yerington**	**2.81**	**86**		Pn	03 18 54.6	-0.3
YERR				IAML		03 19 42.2	
	comp=N,31nm,0.8s						
YERR				IAML		03 19 43.8	
	comp=E,43nm,0.8s						
PAHR	**Pah Rah Range**	**2.83**	**71**		Pn	03 18 54.9	-0.1
MDPB	**Devils Postpil**	**3.19**	**111**		Pn	03 18 59.8	-0.4
MDPB				IAML		03 19 48.8	
	comp=N,29nm,0.9s						
MDPB				IAML		03 19 49.2	
	comp=E,21nm,1.1s						
RYN	**Ryan**	**3.38**	**92**		Pn	03 19 02.6	-0.1
RYN				IAML		03 20 00.5	
	comp=N,9.9nm,0.9s						
RYN				IAML		03 20 01.0	
	comp=E,14nm,1.1s						
LHV	**Little Huntoon**	**3.45**	**98**	Pn	Pn	03 19 03.5	+0.1
LHV				IAML		03 20 15.5	
	comp=N,25nm,1.1s						
NVAR	**Mina Array Bea**	**3.58**	**95**		Pn	03 19 05.0	-0.3
NV11	**Mina Array Sit**	**3.69**	**95**		Pn	03 19 06.5	-0.3
NV11				IAML		03 20 12.4	
	comp=N,13nm,1.7s						
NV11				IAML		03 20 16.6	
	comp=E,12nm,2.4s						
KVN	**Kaiserville**	**3.70**	**85**		Pn	03 19 06.7	-0.4
KVN				IAML		03 20 11.8	
	comp=N,7.9nm,1.3s						
KVN				IAML		03 20 16.4	
	comp=E,8.4nm,3.0s						

*FUNV **03** 03:39:44.6, 10°.63N×62°.28W, h62km, MW3.4*
*TRN **03** 03:39:45.4, 10°.78N×62°.37W, h80km, MD2.9*
ISC 03 03:39:41.9±1.5**, 10°.65N**±0°.05×**62°.40W**±0°.04**, h105**km±15km**, n11,** σ1.**90**/20**, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.82**	**272**	*e*P	**Pn**	**03 40 01.5**	**+0.6**
CRUV				*e*S	**Sn**	**03 40 13.3**	**-1.9**
TRN	**Trinidad (W)**	**0.98**	**90**	*e*P	**Pn**	**03 40 04.6**	**+2.1**
TRN				*e*S	**Sn**	**03 40 17.7**	**-0.3**
GRGR	**Grenville**	**1.65**	**26**	*e*P	**Pn**	**03 40 10.7**	**+0.4**
GRGR				*e*S	**Sn**	**03 40 30.5**	**-1.3**
GRGR	**Grenville**	**1.65**	**26**	*e*P	**Pn**	**03 40 10.4**	**+0.1**
GRGR				*e*S	**Sn**	**03 40 29.4**	**-2.5**
ORIV	**Oritupano**	**1.85**	**212**	*e*P	**Pn**	**03 40 14.8**	**+1.9**
ORIV				*e*S	**Sn**	**03 40 35.5**	**-0.9**
TOSP	**Speyside**	**1.95**	**70**	*e*P	**Pn**	**03 40 16.4**	**+2.4**
TOSP				*e*S	**Sn**	**03 40 38.1**	**-0.4**
GCMP	**Grenada, Carri**	**2.06**	**28**	*e*P	**Pn**	**03 40 16.5**	**+1.0**
GCMP				*e*S	**Sn**	**03 40 39.7**	**-1.5**
PCRV	**Puerto La Cruz**	**2.25**	**258**	*e*S	**Sn**	**03 40 46.2**	**+0.8**
RIOV	**Rio Grande**	**2.63**	**167**	*e*P	**Pn**	**03 40 23.8**	**+0.9**
RIOV				*e*S	**Sn**	**03 40 51.9**	**-2.4**
LUEV	**Luepa**	**4.86**	**169**	*e*S	**Sn**	**03 41 44.5**	**-3.8**
BAUV	**El Baul**	**5.81**	**254**	*e*P	**Pn**	**03 41 07.4**	**+1.7**
BAUV				*e*S	**Sn**	**03 42 09.4**	**-1.6**

*IDC **03** 04:20:01.4±2.1, 23°.82S×179°.93W, h508km±21km, mb3.4/5, mb1 3.6/7, mb1mx3.3/36, mbtmp4.3/7, Error ellipse: s-maj=32.6km s-min=23.4km az=152.0*
ISC 03 04:20:02.6±1.0**, 23°.75S**±0°.08×**179°.7E**±0°.1**, h500**km**, n21,** σ2.**61**/26**, mb3.7**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.86**	**160**	P	**P**	**04 21 37.2**	**-0.2**
GLKZ	**Green Lake**	**5.88**	**160**	S	**S**	**04 23 02.4**	**+7.1**
MSVF	**Nonsavu**	**6.19**	**345**	P	**P**	**04 21 42.0**	**+1.0**
	1.0nm,0.3s,baz=145,slow=3.4,SNR=10						
WIAZ	**Waiheke Island**	**13.59**	**196**	P	P	04 23 05.1	+7.3
MKAZ	**Moumakai**	**13.88**	**195**	P	**P**	**04 23 03.0**	**+2.2**
HAZ	**Te Kaha**	**14.06**	**186**	P	**P**	**04 23 01.6**	**-1.1**
HAZ				S	**S**	**04 25 29.2**	**-2.1**
PKGZ	**Pakihiroa**	**14.16**	**185**	P	**P**	**04 23 06.1**	**+2.2**
RUGZ	**Raukumara Rang**	**14.28**	**187**	P	**P**	**04 23 06.6**	**+1.4**
RUGZ				S	**S**	**04 25 34.6**	**-1.1**
URZ	**Urewera**	**14.63**	**188**	P	**P**	**04 23 07.3**	**-1.5**
	1.3nm,0.3s,baz=343,slow=3.4,SNR=8.8						
URZ				S	**S**	**04 25 38.6**	**-3.7**
	0.3nm,0.3s,baz=4.8,slow=11,SNR=4.4						
MTHZ	**Maungataniwha**	**15.25**	**189**	P	**P**	**04 23 16.0**	**+0.7**
MTHZ				S	**S**	**04 25 47.5**	**-6.8**
NMHZ	**Naumai**	**15.50**	**189**	P	**P**	**04 23 18.2**	**+0.3**
WTVZ	**West Tongariro**	**15.71**	**192**	P	**P**	**04 23 20.2**	**0.0**
OTVZ	**Oturere**	**15.75**	**192**	P	**P**	**04 23 20.3**	**-0.3**
NGZ	**Ngauruhoe**	**15.77**	**192**	P	**P**	**04 23 22.8**	**+1.9**
WNVZ	**Wahianoa**	**15.92**	**192**	P	**P**	**04 23 22.4**	**+0.1**
BHHZ	**Black Hill Sta**	**15.99**	**190**	P	**P**	**04 23 21.3**	**-1.8**
BHHZ				S	**S**	**04 26 06.3**	**-2.1**
CTA	**Charters Tower**	**31.23**	**270**	P	**P**	**04 25 42.2**	**+1.5**
	8.2nm,0.3s,baz=94,slow=11,SNR=16						
ASAR	**Alice Springs**	**41.82**	**261**	P	**P**	**04 27 08.5**	**+0.3**
	2.5nm,1.0s,baz=80,slow=8.0,SNR=6.3						
ASAR				ScP	**ScP**	**04 31 54.2**	**-1.1**
	0.1nm,0.3s,baz=101,slow=2.9,SNR=4.1						
WRA	**Warramunga Arr**	**42.17**	**266**	P	**P**	**04 27 11.0**	**0.0**
	1.4nm,0.3s,baz=94,slow=8.3,SNR=88						
FITZ	**Fitzroy Crossi**	**50.60**	**266**	P	**P**	**04 28 15.5**	**+0.4**
	2.5nm,0.9s,baz=117,slow=5.2,SNR=6.4						
TXAR	**Lajitas Array**	**90.56**	**58**	P	**P**	**04 32 08.1**	**-3.2**
	0.6nm,0.8s,baz=209,slow=5.5,SNR=6.0						

*IDC **03** 04:19:58.3±0.7, 13°.54S×168°.19E, h0km, mb4.3/17, mb1 4.4/20, mb1mx4.3/44, mbtmp4.3/20, ML4.9/3, MS3.7/10, Ms1 3.7/10, ms1mx3.4/29, Error ellipse: s-maj=19.9km s-min=15.9km az=153.0*
*BJI **03** 04:19:58.0±0.0, 13°.60S×168°.00E, h10km, mB5.1/8, mb4.7/19, Ms4.8/1, Ms7 4.5/2*
*NEIC **03** 04:20:03.0±0.9, 13°.67S±0°.07×167°.97E±0°.09, h29km±5km, mb4.6/27, Error ellipse: s-maj=12.3km s-min=9.8km az=96.0*
*NOU **03** 04:20:24.4, 15°.34S×167°.66E, h0km, MLv4.5, Vanuatu Islands*
ISC 03 04:20:03.9±0.5**, 13°.67S**±0°.06×**168°.04E**±0°.07**, h35**km**, n83,** σ1.**14**/80**, mb4.5**/34**, MS3.6**/9**, 1C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.95**	**205**	Pn	**Pn**	**04 20 33.1**	**-1.3**
SANVU				Sn	**Sn**	**04 20 57.3**	**-0.4**
SANVU	**Saraoutou**	**1.95**	**205**	P	**Pn**	**04 20 33.2**	**-1.3**
DVP	**Devils Point**	**4.04**	**178**	P	**Pn**	**04 21 05.3**	**+2.1**
LIFNC	**LIFOU**	**7.11**	**186**	P	**Pn**	**04 21 46.0**	**+0.6**
YATNC	**Mamie plateau,**	**8.42**	**187**	P	**Pn**	**04 22 03.1**	**-0.3**
DZM	**Mont Dzumac**	**8.49**	**190**	*e*Pn	**Pn**	**04 22 04.8**	**+0.3**
	9.8nm,0.2s						
DZM				*e*LR	LR	04 23 58.8	
	comp=Z,917nm,26.1s						
DZM	**Mont Dzumac**	**8.49**	**190**	Pn	**Pn**	**04 22 04.3**	**-0.3**
	3.8nm,0.3s,baz=36,slow=9.9,SNR=40						
DZM				Sn	**Sn**	**04 23 39.1**	**-0.2**
	0.3nm,0.3s,baz=80,slow=18,SNR=1.3						
DZM				LR	LR	04 24 58.5	
	comp=Z,633nm,20.0s,baz=61,slow=35						
DZM	**Mont Dzumac**	**8.49**	**190**	Pn	**Pn**	**04 22 04.2**	**-0.3**
DZM					**Sn**	**04 23 38.5**	**-0.8**
DZM	**Mont Dzumac**	**8.49**	**190**	P	**Pn**	**04 22 05.5**	**+1.0**
ONTNC	**Ouen Toro**	**8.72**	**190**	P	**Pn**	**04 22 09.0**	**+1.4**
OUENC	**Ouen Island, N**	**8.78**	**187**	P	**Pn**	**04 22 10.3**	**+2.0**
HNR	**Honiara**	**8.98**	**297**	Pn	**Pn**	**04 22 10.7**	**-0.4**
	22nm,0.3s,baz=201,slow=5.4,SNR=1.8						
HNR				LR	LR	04 25 40.9	
	comp=Z,312nm,20.2s,baz=143,slow=38						
HNR	**Honiara**	**8.98**	**297**	Pn	**Pn**	**04 22 09.9**	**-1.2**
MSVF	**Nonsavu**	**10.45**	**114**	Pn	**Pn**	**04 22 29.1**	**-2.2**
	0.6nm,0.3s,baz=264,slow=16,SNR=2.7						
MSVF				LR	LR	04 25 32.1	
	comp=Z,387nm,21.0s,baz=320,slow=32						
MSVF	**Nonsavu**	**10.45**	**114**	Pn	**Pn**	**04 22 32.3**	**+1.0**
EIDS	**Eidsvold**	**19.75**	**231**		**P**	**04 24 31.0**	**+0.2**
PMG	**Port Moresby**	**20.89**	**279**	LR	LR	04 31 45.4	
	comp=Z,206nm,19.8s,baz=336,slow=34						
CTA	**Charters Tower**	**21.79**	**250**	P	**P**	**04 24 53.2**	**+0.2**
	2.6nm,0.7s,baz=48,slow=12,SNR=2.0						
ARMA	**Armidale**	**22.52**	**220**	P	**P**	**04 25 00.6**	**-0.2**
ARMA				IAmb	IAmb	04 25 05.9	
	comp=Z,8.7nm,1.0s						
COEN	**Coen**	**24.15**	**266**	P	**P**	**04 25 16.2**	**-0.7**
COEN				IAmb	IAmb	04 25 25.6	
	comp=Z,7.3nm,1.0s						
URZ	**Urewera**	**25.78**	**163**	P	**P**	**04 25 31.9**	**+0.4**
	comp=Z,12nm,0.9s,baz=3.1,slow=9.0,SNR=6.1						
URZ				LR	LR	04 34 48.2	
	comp=Z,162nm,18.1s,baz=31,slow=34						
URZ	**Urewera**	**25.78**	**163**	P	**P**	**04 25 31.5**	**0.0**
URZ				IAmb	IAmb	04 25 36.2	
	comp=Z,19nm,1.0s						
RPZ	**Rata Peaks**	**30.05**	**176**	LR	LR	04 37 28.1	
	comp=Z,139nm,19.3s,baz=341,slow=35						
STKA	**Stephens Creek**	**30.25**	**229**	P	**P**	**04 26 14.0**	**+2.4**
	comp=Z,4.2nm,0.5s,baz=43,slow=8.1,SNR=15						
STKA				LR	LR	04 38 03.1	
	comp=Z,172nm,18.7s,baz=45,slow=36						
STKA	**Stephens Creek**	**30.25**	**229**	P	**P**	**04 26 11.1**	**-0.5**
RAR	**Rarotonga**	**31.56**	**108**	LR	LR	04 36 53.6	
	comp=Z,37nm,18.9s,baz=264,slow=32						
MLZ	**Mavora Lakes**	**31.59**	**180**	P	**P**	**04 26 23.2**	**-0.1**
WR0	**Warramunga Arr**	**32.63**	**254**	P	**P**	**04 26 32.0**	**-0.7**
WR0				IAmb	IAmb	04 26 40.1	
	comp=Z,7.8nm,0.9s						
WB0	**Warramunga Arr**	**32.75**	**255**	P	**P**	**04 26 32.9**	**-0.9**
WB0				IAmb	IAmb	04 26 41.1	
	comp=Z,8.7nm,0.7s						
WB2	**Warramunga Arr**	**32.81**	**254**	P	**P**	**04 26 33.4**	**-0.8**
WB2				IAmb	IAmb	04 26 41.3	
	comp=Z,9.5nm,0.9s						
WRA	**Warramunga Arr**	**32.82**	**254**	P	**P**	**04 26 34.7**	**+0.4**
	comp=Z,3.8nm,0.9s,baz=85,slow=8.6,SNR=18						
WRA				LR	LR	04 39 34.3	
	comp=Z,152nm,18.1s,baz=110,slow=36						
AS31	**Alice Springs**	**33.76**	**248**	P	**P**	**04 26 41.8**	**-0.7**
ASAR	**Alice Springs**	**33.76**	**248**	P	**P**	**04 26 42.8**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=76,slow=9.1,SNR=28						
ASAR				LR	LR	04 40 02.9	
	comp=Z,132nm,18.2s,baz=82,slow=36						
ASAR	**Alice Springs**	**33.76**	**248**	P	**P**	**04 26 41.7**	**-0.8**
SIJI	**Sorong**	**38.55**	**286**	P	**P**	**04 27 24.1**	**+0.6**
	comp=Z,4.7nm,0.3s,baz=17,slow=9.4,SNR=2.0						
PPT2	**Papeete2**	**40.94**	**101**	*e*LR	LR	04 38 58.6	
	comp=Z,80nm,24.0s						
FITZ	**Fitzroy Crossi**	**40.95**	**258**	P	**P**	**04 27 44.9**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=120,slow=9.2,SNR=3.4						
TBI	**Tubuai**	**41.30**	**110**	*e*LR	LR	04 39 17.5	
	comp=Z,94nm,28.0s						
NJ2	**Nanjing**	**65.45**	**315**	*e*P	**P**	**04 30 45.6**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**66.29**	**332**	P	**P**	**04 30 48.1**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=159,slow=7.5,SNR=4.5						
USRK	**Ussuriysk Ar.**	**66.29**	**332**	P	**P**	**04 30 48.7**	**+0.1**
WHN	**Wuhan**	**67.80**	**311**	⇑P	P	04 30 53.0	-5.5
RPSI	**Rantau Prapat**	**70.42**	**278**	P	**P**	**04 31 15.4**	**+0.3**
PSI	**Prapat**	**70.45**	**278**	P	**P**	**04 31 15.4**	**0.0**
	comp=Z,2.1nm,0.4s,baz=359,slow=4.1,SNR=4.4						
GSI	**Gunungsitoli**	**71.36**	**276**	P	**P**	**04 31 20.0**	**-0.8**
KMI	**Kunming**	**74.39**	**301**	⇓P	**P**	**04 31 40.9**	**+2.0**
KMI				pP	pP	04 31 44.2	-5.2
KMI				sP	sP	04 31 47.5	-5.8
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**75.21**	**293**	P	**P**	**04 31 44.3**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=134,slow=7.2,SNR=11						
CMAR	**Chiang Mai Arr**	**75.21**	**293**	P	**P**	**04 31 42.8**	**-0.7**
HHC	**Hu-ho-hao-te**	**75.27**	**319**	*e*P	**P**	**04 31 46.1**	**+2.6**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,7.6s						
LZH	**Lanzhou**	**78.17**	**312**	*e*P	**P**	**04 32 00.8**	**+0.8**
LZH				pP	PcP	04 32 04.2	-5.3
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
RSO	**Redoubt South**	**80.25**	**19**	P	**P**	**04 32 11.4**	**+0.5**
ANM	**Nome**	**80.58**	**11**	P	**P**	**04 32 13.1**	**+0.7**
ANM				IAmb	IAmb	04 32 13.8	
	comp=Z,7.1nm,1.1s						
ULN	**Ulaanbaatar**	**81.73**	**323**	P	**P**	**04 32 18.9**	**-0.1**
ULN				IAmb	IAmb	04 32 20.9	
	comp=Z,3.4nm,0.8s						
SONM	**Songino Array**	**82.09**	**323**	P	**P**	**04 32 21.4**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=143,slow=6.3,SNR=5.4						
SONM	**Songino Array**	**82.09**	**323**	P	**P**	**04 32 20.8**	**-0.1**
GTA	**Gaotai**	**82.48**	**313**	*e*P	**P**	**04 32 19.4**	**-3.7**
GTA				pP	PcP	04 32 26.5	-1.7
GTA				sP	pP	04 32 31.4	-2.4
GTA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
IMAR	**Indian Mountai**	**84.35**	**15**	P	**P**	**04 32 32.3**	**+0.3**
WRH	**Wood River Hil**	**84.72**	**18**	P	**P**	**04 32 33.0**	**-0.8**
WRH				IAmb	IAmb	04 32 41.5	
	comp=Z,6.2nm,0.9s						
HDA	**Harding Lake**	**85.01**	**18**	P	**P**	**04 32 35.2**	**-0.1**
MDM	**Murphy Dome**	**85.04**	**17**	P	**P**	**04 32 34.8**	**-0.7**
IL31		**85.29**	**18**	P	**P**	**04 32 36.0**	**-0.6**
IL31				IAmb	IAmb	04 32 44.2	
	comp=Z,4.7nm,1.0s						
ILAR	**Eielson Array**	**85.29**	**18**	P	**P**	**04 32 35.7**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=241,slow=5.0,SNR=31						
ILAR	**Eielson Array**	**85.29**	**18**	P	**P**	**04 32 35.9**	**-0.9**
NVAR	**Mina Array Bea**	**86.01**	**49**	P	**P**	**04 32 41.0**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=233,slow=8.7,SNR=8.1						
NVAR	**Mina Array Bea**	**86.01**	**49**	P	**P**	**04 32 41.2**	**0.0**
COLD	**Coldfoot**	**86.22**	**15**	P	**P**	**04 32 42.1**	**+0.8**
COLD				IAmb	IAmb	04 32 50.9	
	comp=Z,6.2nm,1.0s						
R11A	**Troy Canyon, C**	**88.00**	**50**	P	**P**	**04 32 50.8**	**0.0**
LCMT	**Little Creek M**	**89.34**	**52**	P	**P**	**04 32 57.1**	**0.0**
F10A	**Beach Ranch, E**	**89.41**	**42**	P	**P**	**04 32 57.4**	**+0.2**
F10A				IAmb	IAmb	04 33 07.1	
	comp=Z,3.7nm,1.1s						
HVU	**Hansel Valley**	**91.11**	**47**	P	**P**	**04 33 05.5**	**+0.2**
WMQ	**Urumqi**	**92.52**	**314**	*e*P	**P**	**04 33 13.5**	**+1.8**
PV04	**Paradox Valley**	**93.03**	**51**	P	**P**	**04 33 13.0**	**-1.3**
PDAR	**Pinedale Array**	**93.68**	**47**	P	**P**	**04 33 14.8**	**-2.4**
	comp=Z,0.1nm,0.6s,baz=178,slow=4.5,SNR=1.5						
PDAR	**Pinedale Array**	**93.68**	**47**	P	**P**	**04 33 16.5**	**-0.7**
SMCO	**Snowmass**	**94.69**	**51**	P	**P**	**04 33 21.8**	**-0.4**
TXAR	**Lajitas Array**	**95.11**	**61**	P	**P**	**04 33 23.2**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=265,slow=3.3,SNR=2.0						
YKA	**Yellowknife Ar**	**96.27**	**27**	P	**P**	**04 33 26.8**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=246,slow=3.9,SNR=8.5						
MK31	**Makanchi Array**	**96.96**	**316**	P	**P**	**04 33 31.9**	**0.0**
MK31				IAmb	IAmb	04 33 32.3	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**96.96**	**316**	P	**P**	**04 33 32.1**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=92,slow=6.8,SNR=7.7						
MKAR	**Makanchi Array**	**96.96**	**316**	P	**P**	**04 33 32.0**	**+0.1**
LPAZ	**La Paz**	**117.02**	**116**	PKP	**PKPdf**	**04 38 46.0**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=217,slow=5.1,SNR=1.8						
LPAZ	**La Paz**	**117.02**	**116**		**PKPdf**	**04 38 45.5**	**-1.2**
KLMR	**Klimovskoe**	**120.07**	**334**	*e*PKPdf	**PKiKP**	**04 38 53.9**	**+3.3**
KLMR				AMP		04 38 57.6	
	comp=Z,12nm,1.3s						

*IDC **03** 04:26:54.9±3.5, 19°.97S×179°.29W, h632km±27km, mb2.8/6, mb1 3.1/8, mb1mx3.0/34, mbtmp3.7/8, Error ellipse: s-maj=115.0km s-min=20.1km az=151.0*
ISC 03 04:26:56.6±1.5**, 19°.6S**±0°.5×**179°.6W**±0°.3**, h650**km**, n10,** σ1.**21**/11**, mb3.2**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.94**	**309**	P	**P**	**04 28 18.6**	**-1.2**
	1.9nm,0.3s,baz=150,slow=9.0,SNR=16						
DZM	**Mont Dzumac**	**13.31**	**257**	P	**P**	**04 29 47.3**	**-0.3**
	0.3nm,0.3s,baz=72,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**43.27**	**261**	P	**P**	**04 34 05.2**	**+1.3**
	0.6nm,0.4s,baz=96,slow=7.8,SNR=4.6						
ASAR	**Alice Springs**	**43.30**	**256**	P	**P**	**04 34 04.9**	**+0.8**
	1.5nm,0.5s,baz=100,slow=7.8,SNR=6.5						
ASAR				PcP	**PcP**	**04 35 37.7**	**+0.1**
	0.4nm,0.6s,baz=98,slow=3.8,SNR=2.3						
NVAR	**Mina Array Bea**	**81.41**	**44**	P	**P**	**04 38 08.6**	**+0.5**
	0.6nm,0.8s,baz=230,slow=6.9,SNR=4.6						
ILAR	**Eielson Array**	**87.79**	**13**	P	**P**	**04 38 39.6**	**+1.5**
	0.1nm,0.6s,baz=223,slow=4.9,SNR=5.2						
TXAR	**Lajitas Array**	**87.83**	**58**	P	**P**	**04 38 39.1**	**-0.2**
	0.2nm,0.7s,baz=211,slow=5.1,SNR=1.7						
PDAR	**Pinedale Array**	**89.34**	**44**	P	**P**	**04 38 45.9**	**-0.2**
	0.3nm,0.7s,baz=204,slow=2.0,SNR=2.5						
AKASG	**Malin Array Be**	**141.53**	**331**	PKP	**PKPdf**	**04 45 13.1**	**-2.3**
	1.1nm,0.3s,baz=45,slow=4.5,SNR=13						
GERES	**GERESS Array B**	**148.95**	**343**	PKPbc	**PKPbc**	**04 45 33.0**	**-0.2**
	0.5nm,0.6s,baz=338,slow=2.3,SNR=3.6						

*IDC **03** 04:27:48.0±2.9, 4°.48N×126°.90E, h35km±24km, mb3.9/16, mb1 4.1/18, mb1mx3.9/47, mbtmp4.2/18, ML4.4/2, MS3.0/2, Ms1 3.1/2, ms1mx2.7/37, Error ellipse: s-maj=29.2km s-min=10.5km az=69.0*
*MAN **03** 04:27:47.3, 4°.23N×126°.77E, h7km, MS3.9*
*NEIC **03** 04:27:48.9±1.4, 4°.49N±0°.06×126°.99E±0°.08, h51km±9km, mb4.3/15, Error ellipse: s-maj=12.8km s-min=7.3km az=111.0*
ISC 03 04:27:52.2±0.4**, 4°.36N**±0°.05×**126°.98E**±0°.09**, h81**km**, n53,** σ1.**55**/57**, mb4.2**/23**, 1C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.14**	**324**	*e*P	**Pn**	**04 28 22.3**	**-3.7**
DDMP				*e*S	**Sn**	**04 28 51.6**	**-0.2**
MATI	**Mati**	**2.66**	**344**	*e*P	**Pn**	**04 28 31.3**	**-1.7**
MATI				*e*S	Sn	04 29 13.4	+9.0
DAV	**Davao City (W)**	**3.03**	**333**	Pn	Pn	04 28 33.0	-5.0
	49nm,0.3s,baz=83,slow=8.1,SNR=1.7						
DAV				Lg	Lg	04 29 19.0	
	76nm,0.3s,baz=86,slow=17,SNR=2.1						
DAV	**Davao City (W)**	**3.03**	**333**		Pn	04 28 32.4	-5.5
KCP	**Kidapawan**	**3.23**	**325**⇑	*e*P	**Pn**	**04 28 39.5**	**-1.3**
SKMP	**Bagumbayan, Su**	**3.23**	**312**	*e*P	**Pn**	**04 28 39.3**	**-1.4**
SKMP				*e*S	**Sn**	**04 29 16.9**	**-1.3**
CGP	**Cagayan de Oro**	**4.66**	**331**⇓	*e*P	**Pn**	**04 29 03.8**	**+3.7**
CGP				*e*S	**Sn**	**04 29 58.7**	**+5.8**
PAGZ	**Pagadian**	**4.98**	**314**	*e*P	**Pn**	**04 29 03.3**	**-1.2**
GLSP	**General Luna,**	**5.45**	**351**	*e*P	**Pn**	**04 29 12.9**	**+1.9**
GLSP				*e*S	Sn	04 30 22.1	+10
SIJI	**Sorong**	**6.74**	**140**	Pn	**Pn**	**04 29 28.5**	**0.0**
	9.8nm,0.3s,baz=323,slow=20,SNR=11						
SIJI				Sn	**Sn**	**04 30 41.7**	**-2.2**
	1.5nm,0.3s,baz=233,slow=20,SNR=1.8						
LUWI	**Luwuk**	**6.82**	**218**	Pn	**Pn**	**04 29 27.7**	**-1.9**
FAKI	**Fak Fak**	**8.95**	**144**	Pn	**Pn**	**04 29 57.5**	**-1.3**
KAPI	**Kappang**	**11.78**	**218**	LR	LR	04 35 12.3	
	comp=Z,79nm,18.7s,baz=44,slow=38						
TPUB	**Ta-pu**	**19.80**	**343**	P	**P**	**04 32 14.0**	**-2.3**
TPUB				IAmb	IAmb	04 32 17.8	
	comp=Z,17nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.36**	**183**	P	**P**	**04 32 44.3**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=0.7,slow=5.9,SNR=12						
FITZ	**Fitzroy Crossi**	**22.36**	**183**	P	**P**	**04 32 44.4**	**+0.6**
COEN	**Coen**	**24.28**	**139**	P	**P**	**04 33 00.9**	**-1.2**
WB0	**Warramunga Arr**	**25.06**	**163**	P	**P**	**04 33 10.1**	**+0.9**
WB0				IAmb	IAmb	04 33 21.6	
	comp=Z,11nm,1.0s						
WRA	**Warramunga Arr**	**25.21**	**164**	P	**P**	**04 33 11.8**	**+1.2**
	comp=Z,3.8nm,0.6s,baz=344,slow=10,SNR=30						
WRA				PcP	**PcP**	**04 36 43.0**	**+0.5**
	comp=Z,1.1nm,1.1s,baz=327,slow=2.1,SNR=2.7						
WB2	**Warramunga Arr**	**25.22**	**164**	P	**P**	**04 33 11.5**	**+0.9**
WB2				IAmb	IAmb	04 33 15.0	
	comp=Z,9.4nm,0.8s						
WR0	**Warramunga Arr**	**25.29**	**163**	P	**P**	**04 33 12.4**	**+1.2**
WR0				IAmb	IAmb	04 33 15.0	
	comp=Z,5.0nm,0.9s						
PSA00	**Pilbara Seismi**	**26.71**	**195**	P	**P**	**04 33 24.1**	**+0.1**
ASAR	**Alice Springs**	**28.67**	**167**	P	**P**	**04 33 42.7**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=348,slow=7.1,SNR=7.0						
ASAR				PcP	**PcP**	**04 36 52.5**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=346,slow=2.5,SNR=4.3						
ASAR	**Alice Springs**	**28.67**	**167**	P	**P**	**04 33 42.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.77**	**299**	P	**P**	**04 34 01.2**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=108,slow=5.8,SNR=1.9						
CMAR				LR	LR	04 46 27.7	
	comp=Z,20nm,20.6s,baz=194,slow=36						
CMAR	**Chiang Mai Arr**	**30.77**	**299**	P	**P**	**04 33 59.8**	**-0.4**
BBOO	**Buckleboo**	**37.96**	**168**	P	**P**	**04 35 02.8**	**+0.6**
BBOO				IAmb	IAmb	04 35 17.7	
	comp=Z,5.5nm,1.0s						
NWAO	**Narrogin (SRO)**	**38.22**	**193**	P	**P**	**04 35 04.1**	**-0.2**
STKA	**Stephens Creek**	**38.63**	**160**	P	**P**	**04 35 10.0**	**+2.2**
	comp=Z,2.1nm,0.5s,baz=320,slow=6.3,SNR=6.2						
STKA	**Stephens Creek**	**38.63**	**160**	P	**P**	**04 35 09.3**	**+1.5**
ARMA	**Armidale**	**41.86**	**147**	P	**P**	**04 35 34.2**	**-0.4**
ARMA				IAmb	IAmb	04 35 39.5	
	comp=Z,8.3nm,1.1s						
ASAJ	**Asahikawa**	**41.92**	**17**	P	**P**	**04 35 35.1**	**+0.4**
	comp=Z,4.9nm,0.3s,baz=251,slow=21,SNR=3.6						
JKA	**Kamikawa-asahi**	**41.92**	**17**	P	**P**	**04 35 32.9**	**-1.9**
DZM	**Mont Dzumac**	**46.70**	**126**	P	**P**	**04 36 15.1**	**+1.7**
	comp=Z,4.2nm,0.9s,baz=312,slow=16,SNR=3.6						
SONM	**Songino Array**	**46.78**	**341**	P	**P**	**04 36 14.2**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=153,slow=8.9,SNR=6.1						
SONM				PcP	**PcP**	**04 37 45.7**	**0.0**
	comp=Z,0.2nm,0.5s,baz=117,slow=3.6,SNR=4.2						
SONM	**Songino Array**	**46.78**	**341**	P	**P**	**04 36 14.0**	**+0.3**
PETK	**Petropavlovsk-**	**54.75**	**22**	P	**P**	**04 37 13.7**	**+0.4**
	comp=Z,7.3nm,1.1s,baz=190,slow=4.4,SNR=4.2						
PETK	**Petropavlovsk-**	**54.75**	**22**	P	**P**	**04 37 11.8**	**-1.6**
MK31	**Makanchi Array**	**57.18**	**325**	P	**P**	**04 37 30.8**	**-0.1**
MK31				IAmb	IAmb	04 37 42.2	
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**57.18**	**325**	P	**P**	**04 37 30.8**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=121,slow=7.6,SNR=21						
MKAR	**Makanchi Array**	**57.18**	**325**	P	**P**	**04 37 30.3**	**-0.5**
ZAA0	**Zalesovo Array**	**60.14**	**333**	P	**P**	**04 37 49.7**	**-1.5**
ZALV	**Zalesovo Beam**	**60.14**	**333**	P	**P**	**04 37 50.4**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=142,slow=6.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**60.14**	**333**	P	**P**	**04 37 50.1**	**-1.1**
KURK	**Kurchatov**	**61.34**	**327**	P	**P**	**04 37 58.5**	**-1.0**
KURK				IAmb	IAmb	04 38 10.5	
	comp=Z,3.2nm,0.8s						
NRIK	**Noril'sk**	**69.88**	**346**	P	**P**	**04 38 54.4**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=120,slow=7.8,SNR=1.8						
ILAR	**Eielson Array**	**84.43**	**25**	P	**P**	**04 40 15.7**	**+0.1**
	comp=Z,1.9nm,1.1s,baz=237,slow=5.2,SNR=6.2						
ARCES	**ARCESS Array B**	**89.94**	**340**	P	**P**	**04 40 40.8**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=82,slow=5.3,SNR=9.2						
ARCES	**ARCESS Array B**	**89.94**	**340**	P	**P**	**04 40 41.8**	**-0.3**
FINES	**FINESS Array B**	**91.39**	**332**	P	**P**	**04 40 47.5**	**-1.5**
	comp=Z,2.0nm,0.9s,baz=101,slow=1.9,SNR=4.8						
YKA	**Yellowknife Ar**	**98.82**	**24**	P	**P**	**04 41 23.0**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=308,slow=4.3,SNR=2.8						
YKA	**Yellowknife Ar**	**98.82**	**24**	P	**P**	**04 41 23.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**122.95**	**289**	PKP	**PKiKP**	**04 46 41.0**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=78,slow=2.1,SNR=3.1						

*IDC **03** 04:27:56.9±0.9, 27°.16N×140°.13E, h397km±10km, mb3.1/8, mb1 3.3/8, mb1mx2.9/45, mbtmp3.8/8, Error ellipse: s-maj=29.1km s-min=16.7km az=88.0*
*JMA **03** 04:27:59.9±0.1, 27°.56N×141°.16E, h421km, M4.2*
ISC 03 04:27:57.5±0.8**, 27°.1N**±0°.1×**140°.2E**±0°.1**, h400**km**, n13,** σ1.**36**/16**, mb3.3**/8**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.81**	**88**	P	**Pn**	**04 28 53.5**	**+1.1**
CBIJ				*e*S	**S**	**04 29 35.3**	**-1.4**
JCJ	**Chichijima**	**1.82**	**88**	P	**Pn**	**04 28 53.4**	**+1.0**
	30nm,0.3s,baz=285,slow=19,SNR=14						
JCJ				S	**S**	**04 29 35.5**	**-1.2**
	31nm,0.3s,baz=304,slow=23,SNR=7.9						
JHH2	**Haha-jima-NKT2**	**1.86**	**103**	P	**Pn**	**04 28 54.5**	**+1.9**
JHH2				*e*S	**S**	**04 29 37.9**	**+0.8**
JKN2	**Miekihoku**	**7.90**	**336**	P	**P**	**04 29 54.4**	**+2.7**
WRA	**Warramunga Arr**	**47.05**	**187**	P	**P**	**04 35 51.2**	**+0.1**
	1.1nm,0.5s,baz=7.0,slow=8.5,SNR=8.5						
MKAR	**Makanchi Array**	**49.10**	**310**	P	**P**	**04 36 05.3**	**-1.0**

	0.1nm,0.4s,baz=86,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**50.78**	**187**	P	**P**	**04 36 19.5**	**+0.5**
	0.3nm,0.4s,baz=356,slow=5.1,SNR=1.4						
ARCES	**ARCESS Array B**	**72.98**	**340**	P	**P**	**04 38 43.8**	**-0.5**
	4.2nm,1.0s,baz=56,slow=6.5,SNR=4.1						
YKA	**Yellowknife Ar**	**73.03**	**28**	P	**P**	**04 38 43.7**	**-1.1**
	0.3nm,0.5s,baz=300,slow=5.3,SNR=8.6						
FINES	**FINESS Array B**	**77.18**	**333**	P	**P**	**04 39 07.1**	**-1.0**
	1.3nm,0.4s,baz=74,slow=5.0,SNR=24						
NVAR	**Mina Array Bea**	**81.96**	**51**	P	**P**	**04 39 34.5**	**+0.2**
	0.2nm,0.6s,baz=304,slow=6.4,SNR=2.4						
NOA	**NORSAR Array B**	**82.97**	**338**	P	**P**	**04 39 37.1**	**-1.7**
	0.6nm,0.6s,baz=60,slow=6.2,SNR=1.8						
PLCA	**Paso Flores**	**151.26**	**126**	PKPbc	**PKPbc**	**04 47 04.1**	**-0.4**
	0.4nm,0.4s,baz=248,slow=3.2,SNR=3.5						

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*BJI **03** 04:36:42.0±0.0, 13°80S×168°00E, h10km, mB5.1/22, mb4.7/41, Ms4.9/4, Ms7 4.5/4*

*GCMT **03** 04:36:43.8±0.2, 13°54S±0°01×168°12E±0°01, h17km±1km, MW5.0/116, Moment Tensor Solution. s49,c63; s116,c163; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.07±.09; $M_{\theta\theta}$0.53±.09; $M_{\phi\phi}$-0.45±.09; $M_{r\theta}$0.38±.21; $M_{\theta\phi}$3.29±.08; $M_{\phi r}$-0.74±.24; Best double couple: $M_0$3.42900×10^{16} NP1:ϕ_s274.00000°, δ78.00000°, λ-7.00000°. NP2:ϕ_s5.00000°, δ83.00000°, λ-168.00000°. Principal axes: T 3.3760, Plg3.0000°, Azm139.0000°; N 0.1070, Plg76.0000°, Azm35.0000°; P -3.4820, Plg13.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **03** 04:36:43.8±1.1, 13°71S±0°07×168°10E±0°08, h34km±5km, mb4.8/59 Error ellipse: s-maj=11.8km s-min=9.7km az=93.0*

*IDC **03** 04:36:44.8±2.2, 13°59S×168°19E, h40km±20km, mb4.2/20, mb1 4.4/23, mb1mx4.3/29, mbtmp4.4/23, ML5.3/3, MS4.0/24, Ms1 4.0/24, ms1mx3.9/35, Error ellipse: s-maj=16.2km s-min=13.1km az=141.0*

*NOU **03** 04:36:46.5, 13°76S×168°11E, h34km, mb5.0, Vanuatu Islands*

ISC 03 04:36:44.7±0.4**, 13°69S**±0°05×**168°12E**±0°06**, h35km, n163, σ1°28**/135**, mb4.8**/62**, MS4.0**/26**, 2C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.96**	**207**	Pn	**Pn**	**04 37 13.8**	**-1.7**
SANVU				Sn	**Sn**	**04 37 37.7**	**-1.2**
SANVU	**Saraoutou**	**1.96**	**207**	P	**Pn**	**04 37 14.1**	**-1.4**
DVP	**Devils Point**	**4.02**	**179**	P	**Pn**	**04 37 46.4**	**+2.7**
LIFNC	**LIFOU**	**7.10**	**187**	P	**Pn**	**04 38 26.6**	**+0.5**
KOUNC	**Koumac, New Ca**	**7.75**	**208**	P	**Pn**	**04 38 36.5**	**+1.5**
YATNC	**Mamie plateau,**	**8.41**	**188**	P	**Pn**	**04 38 43.9**	**-0.2**
DZM	**Mont Dzumac**	**8.49**	**191**	*e*Pn	**Pn**	**04 38 45.5**	**+0.2**
	24nm,0.3s						
DZM				*e*Sn	**Sn**	**04 40 19.1**	**-0.9**
	5.2nm,0.4s						
DZM				*e*LR	LR	04 40 36.8	
	comp=Z,2μm,25.6s						
DZM	**Mont Dzumac**	**8.49**	**191**	P	**Pn**	**04 38 44.9**	**-0.4**
	9.9nm,0.3s,baz=48,slow=17,SNR=57						
DZM				S	**Sn**	**04 40 19.7**	**-0.3**
	0.5nm,0.3s,baz=312,slow=19,SNR=1.4						
DZM				LR	LR	04 41 38.2	
	comp=Z,1μm,19.1s,baz=58,slow=34						
DZM	**Mont Dzumac**	**8.49**	**191**	Pn	**Pn**	**04 38 44.7**	**-0.6**
DZM				Sn	**Sn**	**04 40 17.9**	**-2.1**
DZM	**Mont Dzumac**	**8.49**	**191**	P	**Pn**	**04 38 45.9**	**+0.6**
NOUC	**Port Laguerre**	**8.55**	**191**	P	**Pn**	**04 38 47.1**	**+1.1**
ONTNC	**Ouen Toro**	**8.72**	**190**	P	**Pn**	**04 38 49.6**	**+1.3**
PINNC	**Pines Island,**	**8.90**	**184**	P	**Pn**	**04 38 52.0**	**+1.2**
HNR	**Honiara**	**9.05**	**297**	P	**Pn**	**04 38 52.3**	**-0.7**
	14nm,0.3s,baz=188,slow=18,SNR=21						
HNR				LR	LR	04 42 21.9	
	comp=Z,929nm,19.3s,baz=136,slow=37						
HNR	**Honiara**	**9.05**	**297**	Pn	**Pn**	**04 38 52.5**	**-0.5**
HNR	**Honiara**	**9.05**	**297**	P	**Pn**	**04 38 56.2**	**+3.2**
MSVF	**Nonsavu**	**10.37**	**114**	P	**Pn**	**04 39 11.9**	**+0.8**
	2.5nm,0.3s,baz=274,slow=12,SNR=26						
MSVF	**Nonsavu**	**10.37**	**114**	Pn	**Pn**	**04 39 11.5**	**+0.4**
EIDS	**Eidsvold**	**19.80**	**232**	P	**Pn**	**04 41 13.0**	**-0.9**
	baz=20,SNR=15						
EIDS	**Eidsvold**	**19.80**	**232**	P	**P**	**04 41 11.3**	**-0.9**
RAO	**Raoul Island**	**20.19**	**142**	LR	LR	04 47 17.7	
	comp=Z,900nm,20.0s,baz=352,slow=31						
PMG	**Port Moresby**	**20.97**	**279**	P	Pn	04 41 26.4	-1.3
	13nm,0.4s,baz=73,slow=8.5,SNR=6.0						
PMG				LR	LR	04 48 14.6	
	comp=Z,684nm,20.8s,baz=352,slow=33						
PMG	**Port Moresby**	**20.97**	**279**	P	**P**	**04 41 24.1**	**-0.8**
PMG				IAmb	IAmb	04 41 34.7	
	comp=Z,50nm,1.0s						
PMG	**Port Moresby**	**20.97**	**279**	P	Pn	04 41 27.7	0.0
	comp=Z,50nm,1.0s						
CTA	**Charters Tower**	**21.86**	**250**	P	**P**	**04 41 36.0**	**+1.5**
	comp=Z,7.7nm,0.6s,baz=88,slow=12,SNR=13						
CTAO	**Charters Tower**	**21.86**	**250**	P	**P**	**04 41 34.3**	**-0.2**
CTAO				IAmb	IAmb	04 41 45.7	
	comp=Z,26nm,0.8s						
OUZ	**Omahuta**	**22.00**	**168**	P	**P**	**04 41 35.5**	**-0.3**
RMQ	**Roma**	**22.16**	**232**	P	**P**	**04 41 38.5**	**+0.8**
	baz=22,SNR=17						
ARMA	**Armidale**	**22.55**	**220**	P	**P**	**04 41 43.1**	**+1.1**
	baz=22,SNR=9.2						
ARMA	**Armidale**	**22.55**	**220**	P	**P**	**04 41 41.0**	**-1.0**
MTSU	**Mount Surprise**	**23.31**	**256**	P	**P**	**04 41 51.2**	**+1.5**
	baz=23,SNR=30						
MANU	**Manus Island**	**23.56**	**298**	P	**P**	**04 41 51.2**	**-0.9**
MANU				IAmb	IAmb	04 41 59.5	
	comp=Z,40nm,0.9s						
COEN	**Coen**	**24.22**	**266**	P	**P**	**04 41 57.6**	**-0.8**
COEN				IAmb	IAmb	04 42 07.6	
	comp=Z,36nm,1.1s						
MGCD	**Mangrove Creek**	**24.86**	**216**	P	**P**	**04 42 06.6**	**+2.6**
	baz=25,SNR=5.8						
HIZ	**Hauiti**	**25.44**	**168**	P	**P**	**04 42 09.3**	**+0.1**
URZ	**Urewera**	**25.74**	**164**	P	**P**	**04 42 12.3**	**+0.4**
	comp=Z,33nm,0.9s,baz=358,slow=7.3,SNR=18						
URZ				LR	LR	04 51 02.9	
	comp=Z,228nm,21.4s,baz=27,slow=33						
URZ	**Urewera**	**25.74**	**164**	P	**P**	**04 42 10.9**	**-1.0**
URZ				IAmb	IAmb	04 42 17.5	
	comp=Z,44nm,1.0s						
QLP	**Quilpie**	**25.78**	**236**	P	**P**	**04 42 14.1**	**+1.7**
	baz=26,SNR=5.4						
BKZ	**Black Stump Fm**	**26.44**	**165**	P	**P**	**04 42 17.0**	**-1.3**
BKZ				IAmb	IAmb	04 42 21.2	
	comp=Z,12nm,0.6s						
CMSA	**Cobar Meteorol**	**27.19**	**225**	P	**P**	**04 42 26.8**	**+1.7**
	baz=27,SNR=9.5						
QIS	**Mount Isa**	**28.07**	**252**	P	**P**	**04 42 33.7**	**+0.6**
	baz=28,SNR=7.5						
STKA	**Stephens Creek**	**30.29**	**229**	P	**P**	**04 42 54.2**	**+1.4**
	comp=Z,13nm,0.5s,baz=43,slow=7.5,SNR=34						
STKA				LR	LR	04 54 27.1	
	comp=Z,565nm,18.6s,baz=53,slow=35						
STKA	**Stephens Creek**	**30.29**	**229**	P	**P**	**04 42 54.8**	**+2.0**
	baz=30,SNR=10						
STKA	**Stephens Creek**	**30.29**	**229**	P	**P**	**04 42 52.3**	**-0.5**
WR0	**Warramunga Arr**	**32.70**	**254**	P	**P**	**04 43 12.8**	**-1.3**
WR0				IAmb	IAmb	04 43 14.7	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**32.82**	**255**	P	**P**	**04 43 14.5**	**-0.7**
WB0				IAmb	IAmb	04 43 24.0	
	comp=Z,18nm,0.8s						
WB2	**Warramunga Arr**	**32.88**	**254**	P	**P**	**04 43 14.1**	**-1.6**
WB2				IAmb	IAmb	04 43 24.6	
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**32.88**	**254**	P	**P**	**04 43 13.6**	**-2.1**
WRAB				IAmb	IAmb	04 43 16.2	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**32.89**	**254**	P	**P**	**04 43 15.4**	**-0.4**
	comp=Z,9.7nm,0.8s,baz=84,slow=9.1,SNR=70						
WRA				PcP	**PcP**	**04 45 60.0**	**0.0**
	comp=Z,1.7nm,0.8s,baz=94,slow=2.9,SNR=4.0						
WRA				LR	LR	04 56 04.9	
	comp=Z,690nm,18.2s,baz=80,slow=35						
HTT	**Hallett**	**33.02**	**228**	P	**P**	**04 43 18.3**	**+1.5**
	baz=33,SNR=8.9						
AS31	**Alice Springs**	**33.82**	**248**	P	**P**	**04 43 23.4**	**-0.5**
ASAR	**Alice Springs**	**33.82**	**248**	P	**P**	**04 43 23.6**	**-0.3**
	comp=Z,9.8nm,0.7s,baz=74,slow=9.4,SNR=130						
ASAR				PcP	**PcP**	**04 46 03.8**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=91,slow=6.9,SNR=2.2						
ASAR				S	**S**	**04 48 46.7**	**+0.9**
	comp=Z,0.7nm,1.0s,baz=70,slow=15,SNR=4.1						
ASAR				LR	LR	04 56 53.1	
	comp=Z,571nm,18.1s,baz=67,slow=36						
ASAR	**Alice Springs**	**33.82**	**248**	P	**P**	**04 43 22.7**	**-1.2**
KDU	**Kakadu**	**34.70**	**267**	P	**P**	**04 43 32.0**	**+0.4**
	baz=34,SNR=15						
BBOO	**Buckleboo**	**34.87**	**231**	P	**P**	**04 43 34.0**	**+1.2**
	baz=35,SNR=17						
BBOO	**Buckleboo**	**34.87**	**231**	P	**P**	**04 43 32.7**	**-0.1**
SWI	**Sorong**	**38.64**	**286**	P	P	04 44 12.4	+7.3
	comp=Z,20nm,0.5s						
WRKA	**Warakurna**	**39.09**	**247**	P	**P**	**04 44 08.8**	**-0.1**
	baz=39,SNR=70						
FORT	**Forrest**	**40.54**	**238**	P	**P**	**04 44 21.4**	**+0.7**
	baz=40,SNR=9.9						
FORT	**Forrest**	**40.54**	**238**	P	**P**	**04 44 19.4**	**-1.3**
PPT	**Papeete**	**40.86**	**101**	LR	LR	04 57 36.5	
	comp=Z,155nm,19.9s,baz=202,slow=31						
PPT2	**Papeete2**	**40.86**	**101**	*e*LQ	LQ	04 53 54.3	
	comp=Z,2μm,29.5s						
PPT2				*e*LR	LR	04 55 37.5	
	comp=Z,171nm,25.2s						
FITZ	**Fitzroy Crossi**	**41.02**	**258**	P	**P**	**04 44 26.1**	**+1.2**
	baz=41,SNR=12						
FITZ	**Fitzroy Crossi**	**41.02**	**258**	P	**P**	**04 44 24.4**	**-0.5**
TBI	**Tubuai**	**41.23**	**110**	*e*S	**S**	**04 50 38.0**	**-0.1**
	comp=Z,88nm,26.2s						
TBI				*e*LQ	LQ	04 54 08.4	
	comp=Z,380nm,27.5s						
TBI				*e*LR	LR	04 55 51.2	
	comp=Z,410nm,30.8s						
NLAI	**Namlea**	**41.81**	**281**	P	P	04 44 36.1	+4.7
	comp=Z,41nm,0.7s						
PSA00	**Pilbara Seismi**	**46.52**	**253**	P	**P**	**04 45 08.5**	**-0.5**
PSA00				IAmb	IAmb	04 45 18.8	
	comp=Z,18nm,0.8s						
GTOI	**Gorontalo**	**46.89**	**284**	P	P	04 45 18.6	+6.5
	comp=Z,8.9nm,0.7s						
TWSI	**Taliwang, Sumb**	**50.43**	**270**	P	**P**	**04 45 40.5**	**+1.2**
	comp=Z,28nm,1.2s						
MORW	**Morawa**	**50.46**	**244**	P	**P**	**04 45 38.8**	**-0.6**
TAOE	**Nuku Hiva Isla**	**50.89**	**90**	*e*LR	LR	05 00 19.5	
	comp=Z,210nm,24.0s						
MJAR	**Matsushiro Arr**	**57.38**	**332**	P	**P**	**04 46 28.1**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=156,slow=6.4,SNR=4.1						
MJAR				LR	LR	05 13 01.9	
	comp=Z,43nm,18.1s,baz=110,slow=38						
KSRS	**Korea Array**	**63.35**	**325**	P	**P**	**04 47 10.2**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=138,slow=7.1,SNR=2.4						
KSRS				LR	LR	05 14 13.2	
	comp=Z,72nm,18.1s,baz=133,slow=36						
VNDA	**Vanda**	**63.92**	**182**	P	**P**	**04 47 14.1**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=11,slow=5.2,SNR=1.8						
VNDA				LR	LR	05 12 16.7	
	comp=Z,100nm,18.0s,baz=8.0,slow=33						
NJ2	**Nanjing**	**65.52**	**315**	*e*P	P	04 47 29.6	+4.9
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**66.34**	**332**	P	**P**	**04 47 29.7**	**0.0**
	comp=Z,8.7nm,1.1s,baz=125,slow=7.1,SNR=6.7						
USRK				LR	LR	05 16 44.5	
	comp=Z,43nm,18.6s,baz=119,slow=36						
USRK	**Ussuriysk Ar.**	**66.34**	**332**	P	**P**	**04 47 29.9**	**+0.1**
PETK	**Petropavlovsk-**	**67.12**	**353**	P	**P**	**04 47 33.3**	**-1.2**
	comp=Z,4.5nm,0.9s,baz=160,slow=9.1,SNR=2.2						
PETK				LR	LR	05 10 13.9	
	comp=Z,94nm,21.5s,baz=162,slow=30						
MDJ	**Mudanjiang**	**67.76**	**331**	P	P	04 47 45.7	+6.9
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,230nm,5.7s						
CN2	**Changchun**	**69.19**	**328**	*e*P	P	04 47 54.1	+6.4
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MNSI	**Mandailing Nat**	**69.37**	**276**	P	P	04 47 55.2	+5.7
RPSI	**Rantau Prapat**	**70.50**	**278**	P	**P**	**04 47 55.6**	**-0.8**
GSI	**Gunungsitoli**	**71.44**	**276**	P	**P**	**04 48 01.3**	**-0.9**
GYA	**Guiyang**	**71.81**	**304**	⇑P	P	04 48 11.4	+7.1
GYA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN	**Xi'an**	**73.60**	**312**	P	P	04 48 21.5	+6.8
XAN				pP	sP	04 48 27.6	-1.4
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMI	**Kunming**	**74.47**	**301**	⇑P	**P**	**04 48 23.3**	**+3.2**
KMI				pP	pP	04 48 25.2	-5.4
KMI				sP	pwP	04 48 28.0	-4.6
KMI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,79nm,4.6s						
LAMP	**Lampang**	**74.69**	**294**	P	P	04 48 29.1	+7.8
CM36	**Chiang Mai Arr**	**75.17**	**294**	P	P	04 48 31.9	+7.9
CM35	**Chiang Mai Arr**	**75.17**	**294**	P	P	04 48 31.0	+6.9
CM04	**Chiang Mai Arr**	**75.23**	**293**	P	P	04 48 32.0	+7.6
CM09	**Chiang Mai Arr**	**75.24**	**293**	P	P	04 48 32.0	+7.5
CM01	**Chiang Mai Arr**	**75.26**	**293**	P	P	04 48 32.0	+7.4
CM05	**Chiang Mai Arr**	**75.27**	**293**	P	P	04 48 32.9	+8.2
CM02	**Chiang Mai Arr**	**75.28**	**293**	P	P	04 48 32.7	+8.0
CMAR	**Chiang Mai Arr**	**75.29**	**293**	P	**P**	**04 48 24.9**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=124,slow=4.1,SNR=11						
CMAR				LR	LR	05 20 12.8	
	comp=Z,34nm,21.6s,baz=175,slow=35						
CMAR	**Chiang Mai Arr**	**75.29**	**293**	P	**P**	**04 48 24.0**	**-0.7**
CM15	**Chiang Mai Arr**	**75.30**	**293**	P	P	04 48 33.0	+8.2
CM13	**Chiang Mai Arr**	**75.31**	**293**	P	P	04 48 33.1	+8.3
HHC	**Hu-ho-hao-te**	**75.33**	**319**	*e*P	P	04 48 30.3	+5.6
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,7.6s						
CMMT	**Chiang Mai**	**75.40**	**294**	P	P	04 48 32.8	+7.4
CM33	**Chiang Mai Arr**	**75.41**	**294**	P	P	04 48 32.0	+6.6
QSPA	**South Pole Qui**	**76.33**	**180**	P	**P**	**04 48 29.7**	**-0.4**
QSPA				IAmb	IAmb	04 48 42.2	
	comp=Z,7.6nm,0.9s						
LZH	**Lanzhou**	**78.24**	**312**	*e*P	**P**	**04 48 45.1**	**+3.9**
LZH				pP	PcP	04 48 48.2	-2.4
LZH				sP	pP	04 48 49.6	-2.1
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,85nm,8.2s						
ANM	**Nome**	**80.59**	**11**	P	**P**	**04 48 52.8**	**-0.3**
ULN	**Ulaanbaatar**	**81.79**	**323**	P	**P**	**04 48 59.6**	**-0.6**
ULN				IAmb	IAmb	04 49 08.0	
	comp=Z,6.6nm,0.9s						
SONM	**Songino Array**	**82.16**	**323**	P	**P**	**04 49 01.5**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=141,slow=5.2,SNR=6.9						
SONM				LR	LR	05 24 36.5	
	comp=Z,58nm,20.1s,baz=115,slow=35						
SONM	**Songino Array**	**82.16**	**323**	P	**P**	**04 49 01.8**	**-0.3**
GTA	**Gaotai**	**82.55**	**313**	*e*P	**P**	**04 49 04.9**	**+0.6**
GTA				pP	PcP	04 49 08.9	-0.4
GTA				sP	pP	04 49 11.8	-3.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,16nm,4.7s						
GTA				LR	LR		
	comp=Z,79nm,16.4s						
GTA				LR	LR		
	comp=Z,180nm,17.5s						
GTA				LR	LR		
	comp=Z,180nm,17.8s						
RND	**Reindeer**	**83.69**	**18**	P	**P**	**04 49 09.3**	**-0.3**
IMAR	**Indian Mountai**	**84.35**	**15**	P	**P**	**04 49 12.3**	**-0.4**
WRH	**Wood River Hil**	**84.71**	**18**	P	**P**	**04 49 14.2**	**-0.5**
CCB	**Clear Creek Bu**	**84.93**	**17**	P	**P**	**04 49 14.5**	**-1.2**
CCB				IAmb	IAmb	04 49 22.7	
	comp=Z,9.5nm,0.8s						
HDA	**Harding Lake**	**85.00**	**18**	P	**P**	**04 49 15.4**	**-0.7**
MDM	**Murphy Dome**	**85.03**	**17**	P	**P**	**04 49 15.2**	**-1.0**
MDPB	**Devils Postpil**	**85.11**	**50**	P	**P**	**04 49 17.3**	**-0.3**
MDPB				IAmb	IAmb	04 49 27.5	
	comp=Z,4.3nm,0.8s						
IL31		**85.29**	**18**	P	**P**	**04 49 16.2**	**-1.2**
IL31				IAmb	IAmb	04 49 24.7	
	comp=Z,8.3nm,0.8s						
ILAR	**Eielson Array**	**85.29**	**18**	P	**P**	**04 49 16.5**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=240,slow=5.0,SNR=46						
ILAR				LR	LR	05 24 41.5	
	comp=Z,80nm,18.4s,baz=244,slow=34						
BCAR	**Beaver Creek A**	**85.72**	**21**	P	**P**	**04 49 18.9**	**-0.8**
LHV	**Little Huntoon**	**85.76**	**49**	P	**P**	**04 49 19.3**	**-1.1**
LHV				IAmb	IAmb	04 49 32.8	
	comp=Z,6.0nm,1.0s						
NVAR	**Mina Array Bea**	**85.97**	**49**	P	**P**	**04 49 20.3**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=232,slow=8.7,SNR=9.3						
NVAR				LR	LR	05 20 12.2	
	comp=Z,160nm,20.2s,baz=218,slow=30						
NVAR	**Mina Array Bea**	**85.97**	**49**	P	**P**	**04 49 20.8**	**-1.0**
KVN	**Kaiserville**	**86.34**	**49**	P	**P**	**04 49 22.6**	**-1.0**
I07A	**Izee**	**87.19**	**43**	P	**P**	**04 49 27.1**	**-0.4**
I07A				IAmb	IAmb	04 49 37.2	
	comp=Z,4.7nm,0.9s						
SHPR	**Sheep Range**	**87.67**	**52**	P	**P**	**04 49 29.6**	**-0.5**
SHPR				IAmb	IAmb	04 49 48.5	
	comp=Z,7.4nm,1.1s						
BMAR	**Burnt Mountain**	**87.85**	**16**	P	**P**	**04 49 29.8**	**-0.2**
ODAN	**Odare**	**88.04**	**298**	*e*P	P	04 49 36.3	+4.2
	comp=Z,12nm,0.7s						
PRN	**Pahroc Range**	**88.04**	**51**	P	**P**	**04 49 31.1**	**-0.7**
PRN				IAmb	IAmb	04 49 41.6	
	comp=Z,6.0nm,0.8s						
W13A	**Hualapai Mount**	**88.21**	**53**	P	**P**	**04 49 31.6**	**-1.1**
RAMN	**Ramite**	**88.74**	**298**	*e*P	P	04 49 41.8	+6.3
	comp=Z,7.4nm,0.8s						
BMO	**Blue Mountains**	**88.93**	**43**	P	**P**	**04 49 35.4**	**-0.3**
SPR3	**Spring Creek 3**	**89.09**	**50**	P	**P**	**04 49 35.9**	**-1.0**
SPR3				IAmb	IAmb	04 49 45.1	
	comp=Z,4.6nm,0.9s						
LCMT	**Little Creek M**	**89.29**	**52**	P	**P**	**04 49 37.1**	**-0.6**
PSUT	**Pine Spring**	**89.30**	**50**	P	**P**	**04 49 37.1**	**-0.6**
CCUT	**Cedar City**	**89.36**	**51**	P	**P**	**04 49 37.6**	**-0.6**
SZCU	**Shurtz Canyon**	**89.59**	**51**	P	**P**	**04 49 38.5**	**-0.7**
GUN	**Gumba**	**89.62**	**299**	*e*P	**P**	**04 49 42.5**	**+2.8**
	comp=Z,18nm,1.0s						
TUC	**Tucson**	**89.87**	**57**	P	**P**	**04 49 39.4**	**-1.0**
PKI	**Pulchoki**	**89.93**	**298**	*e*P	P	04 49 46.7	+5.6
	comp=Z,8.0nm,0.8s						
PKIN	**Phulchoki**	**89.94**	**298**	*e*P	P	04 49 47.3	+6.2
	comp=Z,13nm,0.9s						
DMN	**Daman**	**90.20**	**298**	*e*P	P	04 49 48.3	+6.0
	comp=Z,19nm,0.9s						
WUAZ	**Wupatki**	**90.30**	**54**	P	**P**	**04 49 41.0**	**-1.5**
WUAZ				IAmb	IAmb	04 49 51.7	
	comp=Z,9.2nm,0.9s						
TCRU	**Three Creeks R**	**90.37**	**50**	P	**P**	**04 49 42.2**	**-0.7**
HLID	**Hailey**	**90.47**	**45**	P	**P**	**04 49 43.2**	**+0.2**
HLID				IAmb	IAmb	04 49 52.5	
	comp=Z,3.0nm,0.8s						
DUG	**Dugway, Tooele**	**90.57**	**49**	P	**P**	**04 49 43.5**	**-0.2**
DUG				IAmb	IAmb	04 49 51.9	
	comp=Z,3.4nm,0.9s						
BGU	**Big Grassy Mou**	**90.63**	**48**	P	**P**	**04 49 43.6**	**-0.3**
GKN	**Gorkha**	**90.70**	**299**	*e*P	P	04 49 50.0	+5.5
	comp=Z,4.2nm,0.3s						
NLU	**North Lily Min**	**91.04**	**49**	P	**P**	**04 49 44.9**	**-1.0**
HVU	**Hansel Valley**	**91.07**	**47**	P	**P**	**04 49 44.5**	**-1.5**
X18A	**Snowflake**	**91.15**	**55**	P	**P**	**04 49 45.0**	**-1.5**
X18A				IAmb	IAmb	04 49 56.0	
	comp=Z,6.1nm,0.9s						
W18A	**Petrified Fore**	**91.48**	**54**	P	**P**	**04 49 47.4**	**-0.6**
WMQ	**Urumqi**	**92.59**	**314**	*e*P	P	04 49 57.8	+5.0
WMQ				sP	pP	04 50 03.2	-0.3
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
BOZ	**Bozeman (W)**	**92.97**	**44**	P	**P**	**04 49 54.2**	**-0.4**
PDAR	**Pinedale Array**	**93.64**	**47**	P	**P**	**04 49 56.3**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=318,slow=2.0,SNR=2.4						
PDAR				LR	LR	05 25 05.5	
	comp=Z,58nm,19.9s,baz=292,slow=31						
TXAR	**Lajitas Array**	**95.06**	**61**	P	**P**	**04 50 02.7**	**-1.8**
	comp=Z,0.1nm,0.7s,baz=263,slow=7.2,SNR=2.6						
TXAR				LR	LR	05 24 00.6	
	comp=Z,66nm,21.7s,baz=0.0,slow=30						
YKA	**Yellowknife Ar**	**96.25**	**27**	P	**P**	**04 50 07.4**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=250,slow=3.8,SNR=8.1						
YKA				LR	LR	05 28 30.4	
	comp=Z,38nm,19.6s,baz=0.0,slow=32						
MK31	**Makanchi Array**	**97.02**	**316**	P	**P**	**04 50 10.7**	**-2.3**
MKAR	**Makanchi Array**	**97.02**	**316**	P	**P**	**04 50 12.3**	**-0.7**
	comp=Z,1.9nm,1.0s,baz=87,slow=7.6,SNR=9.5						
MKAR				LR	LR	05 34 47.2	
	comp=Z,38nm,20.1s,baz=98,slow=36						
MKAR	**Makanchi Array**	**97.02**	**316**	P	**P**	**04 50 12.2**	**-0.8**
ZALV	**Zalesovo Beam**	**97.04**	**324**	P	**P**	**04 50 11.6**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=83,slow=4.5,SNR=2.1						
ZALV				LR	LR	05 32 24.1	
	comp=Z,39nm,21.7s,baz=92,slow=34						
NRIK	**Noril'sk**	**99.39**	**339**	LR	LR	05 32 26.8	
	comp=Z,70nm,18.8s,baz=94,slow=34						
KSH	**Kashi**	**100.20**	**308**	*e*P	**Pdif**	**04 50 31.4**	**+3.9**
MODS	**Modra-Piesok**	**137.83**	**331**	*e*PKP	**PKiKP**	**04 56 10.9**	**+3.4**
TORD	**Torodi Ar. Bea**	**166.78**	**269**	PKP	**PKPdf**	**04 56 50.1**	**+2.5**
	comp=Z,0.3nm,0.6s,baz=39,slow=1.4,SNR=2.4						
TORD				PKPab	**PKPab**	**04 57 48.5**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=90,slow=3.0,SNR=1.7						

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*SFS **03** 04:44:05.0, 36°06N×2°63W, ML2.1, MUNERA (ALBACETE)*

MDD 03 04:44:05.2±0.3**, 39°05N×2°64W, h11km, mbLg1.9**/17**, 1C, Error ellipse: s-maj=3.0km s-min=2.7km az=142.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SESP	**Santiago Espad**	**0.93**	**175**	⇑Pg	Pg	04 44 21.8	-1.3
	9.6nm,0.1s,SNR=18						
SESP				Lg	Lg	04 44 34.3	
	35nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**0.94**	**115**	Pg	Pg	04 44 21.8	-1.5
	6.4nm,0.1s,SNR=7.9						
ETOB				Lg	Lg	04 44 34.1	
	16nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**1.20**	**302**	Pg	Pb	04 44 27.0	-1.0
	1.3nm,0.2s,baz=117,slow=17,SNR=41						
ESDC				Lg	Lg	04 44 42.9	
	8.2nm,0.3s,baz=118,slow=30,SNR=47						
EQES	**Quesada**	**1.29**	**195**	Pg	Pn	04 44 28.6	-0.7
	3.6nm,0.1s,SNR=30						
EQES				Lg	Lg	04 44 46.0	
	4.0nm,0.1s,SNR=7.9						
UCM	**Universidad Co**	**1.34**	**340**	Pg	Pn	04 44 29.7	-0.2
UCM				Lg	Lg	04 44 47.3	
UCM	**Universidad Co**	**1.34**	**340**	*e*P	Pn	04 44 29.7	-0.2
UCM				*e*S	Sb	04 44 47.3	-0.3
ECHE	**Chera**	**1.40**	**67**	Pn	Pn	04 44 28.9	-1.9
	0.6nm,0.1s,SNR=7.9						
ECHE				Pg	Pb	04 44 31.0	-0.4
	1.1nm,0.1s,SNR=7.9						
ECHE				Lg	Lg	04 44 49.9	
	2.7nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**1.42**	**291**	Pn	Pn	04 44 29.1	-1.9
	0.2nm,0.1s,SNR=7.9						
PAB				Pg	Pb	04 44 30.8	-0.8
	1.3nm,0.1s,SNR=7.9						
PAB				Lg	Lg	04 44 49.1	
	2.9nm,0.1s,SNR=7.9						
GORA	**Gorafe**	**1.60**	**192**	Pn	Pn	04 44 31.2	-2.2
	1.3nm,0.1s,SNR=7.9						
GORA				Pg	Pb	04 44 33.9	-0.9
	1.9nm,0.1s,SNR=7.9						
GORA				Lg	Lg	04 44 55.6	
	8.2nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**1.63**	**137**	Pg	Pb	04 44 34.7	-0.5
	1.1nm,0.2s,SNR=35						
EMUR				Lg	Lg	04 44 56.7	
	10nm,0.3s,SNR=7.9						
AFON	**Font Roja**	**1.68**	**103**	Pn	Pn	04 44 32.2	-2.4
	0.8nm,0.1s,SNR=7.9						
AFON				Pg	Pg	04 44 37.1	-0.4
	2.5nm,0.2s,SNR=7.9						
AFON				Lg	Lg	04 44 59.2	
	5.2nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.76**	**240**	Pn	Pn	04 44 33.7	-1.9
	0.2nm,0.1s,SNR=7.9						
EADA				Pg	Pb	04 44 36.9	-0.5
	1.9nm,0.1s,SNR=119						
EADA				Sn	Sn	04 44 55.4	-2.5
	3.0nm,0.1s,SNR=7.9						
EADA				Lg	Lg	04 44 59.7	
	10nm,0.3s,SNR=5.7						
ETOR	**Torete**	**1.82**	**14**	Pg	Pb	04 44 38.8	+0.2
	4.7nm,0.1s,SNR=41						
ETOR				Lg	Lg	04 45 01.9	
	40nm,0.2s,SNR=9.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EQUE	Quentar	1.95	199	Pg	Pb	04 44 40.5	-0.2
	0.8nm,0.2s,SNR=7.9						
EQUE				Lg	Lg	04 45 06.2	
	3.6nm,0.4s,SNR=7.9						
GUD	Guadarrama	1.97	324	Pg	Pb	04 44 41.5	+0.3
	0.1nm,0.0s,SNR=7.3						
GUD				Lg	Lg	04 45 06.6	
	6.0nm,0.3s,SNR=7.9						
ENIJ	Nijar	2.10	171	Lg	Lg	04 45 10.0	
	6.7nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	2.12	51	Pn	Pn	04 44 39.5	-1.3
	0.3nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	04 45 04.1	-3.2
	1.1nm,0.2s,SNR=4.0						
EMOS				Lg	Lg	04 45 11.7	
	5.1nm,0.4s,SNR=7.9						
EBER	Berja	2.16	185	Pg	Pb	04 44 43.9	-0.5
	0.1nm,0.1s,SNR=4.0						
EBER				Lg	Lg	04 45 15.2	
	4.2nm,0.5s,SNR=7.9						
ELGU	Los Guajares,	2.31	200	Pg	Pg	04 44 48.9	-0.6
	0.9nm,0.2s,SNR=7.9						
ELGU				Lg	Lg	04 45 19.9	
	3.0nm,0.3s,SNR=7.9						
EPLA	Plasencia	2.85	292	Pn	Pn	04 44 48.7	-1.9
	0.4nm,0.1s,SNR=7.9						
EPLA				Pg	Pb	04 44 56.7	+0.7
	0.3nm,0.1s,SNR=4.0						
EPLA				Lg	Lg	04 45 32.6	
	3.1nm,0.4s,SNR=7.9						
ERTA	Horta de San J	2.97	49	Lg	Lg	04 45 35.0	
	2.1nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.42	249	Lg	Lg	04 45 50.9	
	SNR=7.9						
PBAR	Barrancos	3.56	257	Pn	Pn	04 44 58.6	-1.7
PBAR				Sn	Sn	04 45 38.4	-3.9
PBAR				Lg	Lg	04 45 56.7	
	1.6nm,0.5s						
PBAR	Barrancos	3.56	257	*e*Pn	Pn	04 44 58.6	-1.7
PBAR				*e*Sn	Sn	04 45 38.4	-3.9
PBAR				*e*Sg	Sg	04 45 56.7	-2.7
PBAR				A	A	04 46 01.1	
	1.6nm,0.5s						
PMRV	Marv??o	3.71	277	Pg	Pb	04 45 12.5	+1.8
PMRV				Lg	Lg	04 46 01.6	
	2.0nm,0.6s						
PMRV	Marv??o	3.71	277	*e*Pg	Pb	04 45 12.5	+1.8
PMRV				*e*Sg	Sg	04 46 01.6	-2.7
PMRV				A	A	04 46 09.1	
	2.0nm,0.6s						
PESTR	Estremoz	3.87	269	*e*Pg	Pb	04 45 12.0	-1.4
PESTR				*e*Sg	Sg	04 46 06.7	-2.6
PESTR				A	A	04 46 10.1	
	1.6nm,0.3s						
EVO	Evora	4.23	265	Pn	Pn	04 45 13.8	+4.2
EVO				Lg	Lg	04 46 17.4	
	1.6nm,0.6s						
EVO	Evora	4.23	265	*e*Pn	Pn	04 45 13.8	+4.2
EVO				*e*Sg	Sg	04 46 17.4	-3.6
EVO				A	A	04 46 24.0	
	1.6nm,0.6s						
PVAQ	Vaqueiros	4.32	249	Pn	Pn	04 45 11.1	+0.3
PVAQ				Sn	Sn	04 46 00.0	-1.2
PVAQ				Lg	Lg	04 46 19.1	
	2.1nm,0.9s						
PVAQ	Vaqueiros	4.32	249	*e*Pn	Pn	04 45 11.1	+0.3
PVAQ				*e*Sn	Sn	04 46 00.0	-1.2
PVAQ				*e*Sg	Sg	04 46 19.1	-4.9
PVAQ				A	A	04 46 24.6	
	2.1nm,0.9s						
PMTG	Montargil	4.35	272	Sn	Sn	04 46 04.6	+2.7
PMTG				Lg	Lg	04 46 20.9	
	1.3nm,0.7s						
PMTG	Montargil	4.35	272	*e*Sn	Sn	04 46 04.6	+2.7
PMTG				*e*Sg	Sg	04 46 20.9	-3.9
PMTG				A	A	04 46 28.8	
	1.3nm,0.7s						
PNCL	Nicolau / Gran	4.71	260	Lg	Lg	04 46 36.6	
PNCL	Nicolau / Gran	4.71	260	*e*Sg	Sg	04 46 36.6	+0.2

KRNET ***03*** *04:46:37.7±0.1, 38°.68N×76°.08E, mb3.3*
SOME ***03*** *04:46:45.5, 39°.00N×75°.42E, h5km*
NNC ***03*** *04:46:48.1±0.9, 39°.02N×75°.46E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=6.1km s-min=5.2km az=168.0*
ISC 03 04:46:50.1±1.4**, 39°.21N**±0°.07×**75°.35E**±0°.03**, h10km, n47, σ2s.69**/75**, 14C-7D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.64	300	⇑*i*P	Pn	04 47 19.0	-0.2
	baz=5.0						
SFK				⇑*i*S	Sg	04 47 49.2	+6.4
	baz=5.0						
OHH	Osh	2.37	304	⇑*i*P	Pn	04 47 29.1	0.0
	baz=7.0						
OHH				⇑*i*S	Sg	04 48 06.7	+0.4
	baz=7.0						
DRK	Karamyk	2.77	277	⇑*e*P	Pn	04 47 33.2	-1.5
	baz=85						
DRK				⇑*i*S	Sb	04 48 13.7	-0.2
	baz=85						
ARSB	Arslanbob	2.79	320	⇑*e*P	Pn	04 47 35.2	+0.4
	baz=19						
ARSB				⇑*i*S	Sg	04 48 17.0	-2.5
	baz=19						
AAK	Ala-Archa	3.49	350	⇑Pn	Pn	04 47 46.8	+2.3
	1.2nm,0.5s						
AAK				⇑Pg	Pg	04 47 55.1	-1.8
	3.1nm,0.5s						
AAK				Sn	Sb	04 48 32.3	-2.1
	12nm,0.9s						
AAK				Lg	Lg	04 48 46.1	
	13nm,1.0s						
BTK	Batken	3.60	285	⇓*i*P	Pn	04 47 45.2	-0.8
	baz=90						
BTK				⇓*i*S	Sb	04 48 34.7	-3.0
	baz=90						
TKM2	Tokmak 2	3.71	3	⇓Pn	Pn	04 47 50.4	+2.7
	2.7nm,0.5s						
TKM2				⇓Sn	Sb	04 48 38.3	-2.7
	10nm,0.8s						
TKM2				⇓Lg	Lg	04 48 52.6	
	11nm,0.6s						
KST	Kastek	3.86	7	*e*P	Pg	04 48 01.4	-2.6
	2.4nm,0.3s						
KST				*e*S	Sg	04 48 56.1	+2.2
	14nm,0.4s						
KST	Kastek	3.86	7	Pg	Pb	04 48 01.1	+2.7
	2.4nm,0.3s						
KST				Lg	Lg	04 48 55.6	
	14nm,0.4s						
MRKS	Merke	3.88	336	*e*P	Pg	04 48 01.9	-2.5
	5.9nm,0.2s						
MRKS				*e*S	Sg	04 48 56.9	+2.2
	3.7nm,0.4s						
MRKS	Merke	3.88	336	Pg	Pg	04 48 01.9	-2.5
	5.9nm,0.2s						
MRKS				Lg	Lg	04 48 56.9	
	3.7nm,0.4s						
MNAS	Manas	3.92	328	⇑*e*P	Pn	04 47 50.2	-0.3
	baz=26						
MNAS				⇑*i*S	Sb	04 48 44.3	-2.7
	baz=26						
IZV	Izvestkoviy	3.94	14	*e*P	Pb	04 48 02.2	+2.5
	3.5nm,0.3s						
IZV				*e*S	Sg	04 48 57.6	+1.0
	8.8nm,0.3s						
IZV	Izvestkoviy	3.94	14	Pg	Pb	04 48 02.2	+2.5
	3.5nm,0.3s						
IZV				Lg	Lg	04 48 57.6	
	8.8nm,0.3s						
TNSS	Tian-Shan	4.01	17	*e*P	Pb	04 48 03.4	+2.4
	2.5nm,0.3s						
TNSS				*e*S	Sg	04 48 59.7	+0.8
	3.6nm,0.7s						
TNSS	Tian-Shan	4.01	17	Pg	Pb	04 48 03.4	+2.4
	2.5nm,0.3s						
TNSS				Lg	Lg	04 48 59.7	
	3.6nm,0.7s						
DGS	Degeres	4.04	4	*e*P	Pg	04 48 04.4	-3.1
	3.7nm,0.3s						
DGS				*e*S	Sg	04 49 01.4	+1.5
	11nm,0.6s						
DGS	Degeres	4.04	4	Pg	Pg	04 48 04.4	-3.1
	3.7nm,0.3s						
DGS				Lg	Lg	04 49 01.4	
	11nm,0.6s						
MDOK	Medeo	4.15	17	*e*P	Pb	04 48 06.0	+2.7
	4.6nm,0.5s						
MDOK				*e*S	Sg	04 49 04.0	+0.5
	8.5nm,0.6s						
MDOK	Medeo	4.15	17	Pg	Pb	04 48 06.0	+2.7
	4.6nm,0.5s						
MDOK				Lg	Lg	04 49 04.0	
	8.5nm,0.6s						
KOTS	Kotyrbulak	4.24	18	*e*P	Pb	04 48 07.5	+2.8
	7.2nm,0.3s						
KOTS				*e*S	Sg	04 49 06.4	+0.4
	32nm,0.4s						
KOTS	Kotyrbulak	4.24	18	Pg	Pb	04 48 07.5	+2.8
	7.2nm,0.3s						
KOTS				Lg	Lg	04 49 06.4	
	32nm,0.4s						
SATY	Saty	4.49	30	*e*P	Pb	04 48 11.4	+2.5
	3.7nm,0.4s						
SATY				*e*S	Sg	04 49 13.3	-0.8
	4.7nm,0.4s						
SATY	Saty	4.49	30	Pg	Pb	04 48 11.4	+2.5
	3.7nm,0.4s						
SATY				Lg	Lg	04 49 13.3	
	4.7nm,0.4s						
KRBS	Karabastau	4.49	3	*e*P	Pg	04 48 12.8	-3.2
	2.7nm,0.3s						
KRBS				*e*S	Sg	04 49 15.6	+1.4
	4.3nm,0.3s						
KRBS	Karabastau	4.49	3	Pg	Pg	04 48 12.8	-3.2
	2.7nm,0.3s						
KRBS				Lg	Lg	04 49 15.6	
	4.3nm,0.3s						
KTBS	Karatobe	4.61	12	*e*P	Pb	04 48 14.3	+3.2
	2.3nm,0.3s						
KTBS				*e*S	Sg	04 49 18.0	0.0
	12nm,0.3s						
KTBS	Karatobe	4.61	12	Pg	Pb	04 48 14.3	+3.2
	2.3nm,0.3s						
KTBS				Lg	Lg	04 49 18.0	
	12nm,0.3s						
KUU	Kurty	4.74	9	⇓*i*P	Pg	04 48 17.4	-3.5
	2.5nm,0.5s						
KUU				*e*S	Sg	04 49 23.4	+1.2
	12nm,0.5s						
KUU	Kurty	4.74	9	Pg	Pg	04 48 17.4	-3.5
	2.5nm,0.5s						
KUU				Lg	Lg	04 49 23.4	
	12nm,0.5s						
UZB	Uzynbulak	4.81	34	*e*P	Pb	04 48 17.3	+2.7
	5.0nm,0.3s						
UZB				*e*S	Sg	04 49 23.3	-1.2
	5.0nm,0.5s						
UZB	Uzynbulak	4.81	34	Pg	Pb	04 48 17.3	+2.7
	5.0nm,0.3s						
UZB				Lg	Lg	04 49 23.3	
	5.0nm,0.5s						
KPKS	Kokpek	4.94	29	*e*P	Pb	04 48 19.5	+2.8
	4.4nm,0.2s						
KPKS				*e*S	Sg	04 49 27.0	-1.6
	7.4nm,0.3s						
IUG	Iuzhnay	5.00	308	*e*P	Pb	04 48 21.3	+3.6
	6.8nm,0.1s						
IUG				*e*S	Sg	04 49 30.3	-0.2
	11nm,0.3s						
IUG	Iuzhnay	5.00	308	Pg	Pb	04 48 21.3	+3.6
	6.8nm,0.1s						
IUG				Lg	Lg	04 49 30.3	
	11nm,0.3s						
SHLS	Shalkode	5.02	37	*e*P	Pg	04 48 25.2	-1.0
	5.0nm,0.2s						
SHLS				*e*S	Sg	04 49 37.1	+5.9
	6.5nm,0.5s						
SHLS	Shalkode	5.02	37	Pg	Pg	04 48 25.2	-1.0
	5.0nm,0.2s						
SHLS				Lg	Lg	04 49 37.1	
	6.5nm,0.5s						
PDGK	Podgornoye	5.16	36	Pg	Pb	04 48 24.6	+4.0
	0.9nm,0.5s						
PDGK				Lg	Lg	04 49 35.9	
	2.4nm,0.5s						
PDGK	Podgornoye	5.16	36	⇑Pn	Pn	04 48 08.1	+0.6
	1.6nm,1.1s						
PDGK				⇓Pg	Pb	04 48 23.8	+3.3
	1.7nm,0.7s						
PDGK				⇑Lg	Lg	04 49 33.5	
	5.6nm,0.8s						
ARXS	Arharly	5.33	20	*e*P	Pg	04 48 28.5	-3.7
	3.5nm,0.3s						
ARXS				*e*S	Sg	04 49 42.8	+1.6
	3.9nm,0.4s						
ARXS	Arharly	5.33	20	Pg	Pg	04 48 28.5	-3.7
	3.5nm,0.3s						
ARXS				Lg	Lg	04 49 42.8	
	3.9nm,0.4s						
KK31	Karatay Array	5.34	318	Pn	Pn	04 48 11.2	+1.4
	0.5nm,0.2s,baz=125,slow=13,SNR=5.8						
MNBS	Baschi	5.38	24	*e*P	Pg	04 48 29.4	-3.6
	2.3nm,0.3s						
MNBS				*e*S	Sg	04 49 44.5	+1.9
	4.6nm,0.5s						
MNBS	Baschi	5.38	24	Pg	Pg	04 48 29.4	-3.6
	2.3nm,0.3s						
MNBS				Lg	Lg	04 49 44.5	
	4.6nm,0.5s						
KTMS	Ketmen	5.67	40	*e*P	Pg	04 48 34.0	-4.6
	0.1nm,0.0s						
KTMS				*e*S	Sg	04 49 52.2	+0.3
	3.3nm,0.3s						
KTMS	Ketmen	5.67	40	Pg	Pg	04 48 34.0	-4.6
	0.1nm,0.0s						
KTMS				Lg	Lg	04 49 52.2	
	3.3nm,0.3s						
BTLS	Baital	5.91	351	Pg	Pg	04 48 39.9	-3.3
	1.1nm,0.2s						
BTLS				Lg	Lg	04 50 02.5	
	2.0nm,0.2s						

FUNV ***03*** *05:58:57.7, 10°.60N×72°.19W, h16km, MW3.7*
RSNC ***03*** *05:58:58.4±0.6, 10°.57N×72°.14W, h2km±3km, ML2.8*
ISC 03 05:58:57.8±0.9**, 10°.57N**±0°.03×**72°.11W**±0°.02**, h22km**±9km**, n33, σ1s.44**/63**, 1D, Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MCQV	Machiques	0.66	219	*e*P	Pn	05 59 10.5	-1.4
MCQV				*e*S	Sb	05 59 19.0	-0.6
CRJC	Cerrejon, Guaj	0.88	301	⇓*i*P	Pb	05 59 13.9	-0.7
CRJC				*e*S	Sb	05 59 25.9	0.0
CRJC				*i*		05 59 31.8	
	comp=Z,397nm,0.2s						
CVALL	Valledupar, Ce	1.13	267	*e*P	Pb	05 59 18.1	-0.6
CVALL				*e*S	Sb	05 59 33.0	0.0
CVALL				*i*		05 59 37.0	
	comp=Z,296nm,0.3s						
URIC	Uribia, Colomb	1.13	6	*e*P	Pb	05 59 18.5	-0.3
URIC				*e*S	Sb	05 59 33.9	+0.8
URIC	Uribia, Colomb	1.13	6	*e*P	Pb	05 59 18.2	-0.6
URIC				*e*S	Sb	05 59 33.8	+0.7
URIC				*i*		05 59 35.3	
	comp=Z,215nm,0.3s						
DABV	Dabajuro	1.49	76	*e*P	Pb	05 59 24.0	-0.9
DABV				*e*S	Sb	05 59 44.7	+1.3
SMRC	Santa Marta, M	2.16	286	*e*P	Pn	05 59 32.5	-0.1
SMRC				*e*S	Sn	05 59 57.4	-1.3
SMRC				*i*		06 00 09.2	
	comp=Z,46nm,0.3s						
CURV	Curarigua	2.19	104	*e*P	Pn	05 59 33.5	+0.6
CURV				*e*S	Sn	06 00 01.3	+1.9
SDV	Santo Domingo	2.22	139	*e*P	Pn	05 59 33.5	0.0
SDV				*e*S	Sb	06 00 05.2	+0.8
SDV				*i*		06 00 08.3	
	comp=Z,26nm,0.6s						
ARGC	Ariguani, Magd	2.22	252	*e*P	Pn	05 59 34.6	+1.3
ARGC				*e*S	Sb	06 00 02.8	-1.5
ARGC				*i*		06 00 07.0	
	comp=Z,52nm,0.4s						
SIQV	Siquisique	2.26	88	*e*P	Pn	05 59 34.6	+0.6
SIQV				*e*S	Sn	06 00 03.2	+1.9
MONV	Montecano	2.51	56	*e*P	Pn	05 59 38.1	+0.7
MONV				*e*S	Sn	06 00 08.1	+0.8
SOCV	Socops	2.58	151	*e*P	Pn	05 59 38.8	+0.4
SOCV				*e*S	Sn	06 00 09.6	+0.4
OCAC	Ocana	2.60	207	*e*P	Pn	05 59 39.0	+0.2
OCAC				*e*S	Sn	06 00 10.9	+1.0
OCAC				*i*		06 00 30.5	
	comp=Z,112nm,0.5s						
SMLC	San Martn de	2.61	228	*e*P	Pn	05 59 38.3	-0.4
SMLC				*e*S	Sb	06 00 16.5	+0.9
SMLC				*i*		06 00 18.2	
	comp=Z,103nm,0.1s						
CAPV	Capacho	2.69	184	*e*P	Pn	05 59 39.9	-0.2
CAPV				*e*S	Sn	06 00 11.0	-1.1
SANV	Sanarito	2.75	112	*e*P	Pn	05 59 42.4	+1.7
SANV				*e*S	Sn	06 00 14.5	+1.2
PAMC	Pamplona, Colo	3.26	190	*e*P	Pn	05 59 48.3	+0.2
PAMC				*e*S	Sn	06 00 26.1	-0.3
PAMC				*i*		06 00 44.1	
	comp=Z,35nm,0.2s						
JACV	Jacura	3.26	81	*e*P	Pn	05 59 48.5	+0.7
JACV				*e*S	Sn	06 00 25.8	-0.2
MAPV	Macapo	3.67	101	*e*P	Pn	05 59 53.9	+0.5
MAPV				*e*S	Sn	06 00 35.8	-0.2
BRRC	Barranca, Sant	3.79	205	*e*P	Pn	05 59 55.7	+0.8
BRRC				*e*S	Sn	06 00 41.0	+2.2
BRRC				*i*		06 00 59.5	
	comp=Z,11nm,0.3s						
ZARC	Zaragoza, Cauc	4.09	222	*e*P	Pn	05 59 58.7	-0.3
ZARC				*e*S	Sn	06 00 48.6	+2.4
ZARC				*i*		06 01 10.9	
	comp=Z,12nm,0.3s						
BARC	Barichara	4.09	195	*e*P	Pn	06 00 00.7	+1.4
BARC				*e*S	Sb	06 00 56.7	-1.8
BARC				*i*		06 01 07.1	
	comp=Z,25nm,0.6s						
TURV	Turiamo	4.20	91	*e*P	Pn	05 59 59.9	-0.7
BAUV	El Baul	4.32	112	*e*P	Pn	06 00 02.0	-0.2
BAUV				*e*S	Sn	06 00 50.7	-1.3
ELOV	Elorza	4.39	144	*e*P	Pn	06 00 02.3	-1.0
ELOV				*e*S	Sn	06 00 51.8	-2.0
PTBC	PUERTO BERRIO,	4.63	210	*e*P	Pn	06 00 06.3	-0.2
PTBC				*e*S	Sn	06 01 01.5	+2.0
PTBC				*i*		06 01 31.3	
	comp=Z,7.2nm,0.6s						
RUSC	La Rusia	4.74	192	*e*P	Pn	06 00 09.8	+1.3
RUSC				*e*S	Sb	06 01 22.5	+5.0
RUSC				*i*		06 01 26.9	
	comp=Z,6.0nm,0.3s						
RUSC	La Rusia	4.74	192	*e*P	Pn	06 00 08.2	-0.3
TACV	Tcata	5.02	94	*e*P	Pn	06 00 12.3	+0.4
TACV				*e*S	Sn	06 01 06.9	-2.4
MERV	Las Mercedes	5.88	102	*e*P	Pn	06 00 23.5	-0.1
MERV				*e*S	Sn	06 01 27.2	-3.1
CHIC	Chingaza	6.11	195	*e*P	Pn	06 00 29.3	+2.0
PAYV	Puerto Ayacuch	6.75	139	*e*P	Pn	06 00 35.0	-0.7
PAYV				*e*S	Sn	06 01 48.0	-4.0

IDC 03 06:01:21.6±3.2**, 3°.59S×135°.67E, h0km, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.5**/24**, mbtmp3.6**/3**, ML3.3**/1**, Error ellipse: s-maj=132.1km s-min=29.0km az=81.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.31	184	Pn	P	06 05 13.8	-1.5
	0.1nm,0.3s,baz=3.8,slow=12,SNR=12						
WRA				Sn	Sn	06 08 13.2	-0.7
	0.0nm,0.3s,baz=13,slow=23,SNR=1.6						
ASAR	Alice Springs	20.03	185	P	P	06 05 55.9	-0.4
	3.1nm,0.8s,baz=7.7,slow=11,SNR=26						
MKAR	Makanchi Array	68.67	324	P	P	06 12 26.9	0.0
	0.2nm,0.5s,baz=124,slow=8.0,SNR=3.8						

IDC 03 06:16:51.9±920.0**, 38°.67S×73°.46W, h0km, Error ellipse: s-maj=450.4km s-min=126.2km az=143.0, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I14CL	ROBINSON CRUSO	6.61	318	*i*		06 55 10.0	
	baz=139,slow=326,SNR=0.4						
I08BO	LAS PENAS INFR	22.80	13	*i*		08 38 10.0	
	baz=188,slow=331,SNR=0.9						
I13CL	EASTER ISLAND	32.08	280	*i*		09 32 50.0	
	baz=122,slow=317,SNR=0.9						

JMA 03 06:56:41.0, 37°.42N×139°.45E, h5km±1km**, M2.7, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFY	Yanaizu	0.20	94	P	Pg	06 56 45.1	+0.1
JFY				S	Sg	06 56 47.9	+0.2
JNS	Sasagawa	0.41	345	P	Pg	06 56 49.0	0.0
JNS				S	Sg	06 56 54.6	+0.2
JSB	Shiboa	0.59	140	P	Pg	06 56 52.9	+0.6
JSB				S	Sg	06 57 00.7	+0.8
JIZZ	Izumozaki	0.60	281	P	Pb	06 56 53.9	-0.1
JKT	Katashina	0.67	194	P	Pg	06 56 53.8	-0.1
JKT				S	Sg	06 57 03.0	+0.4
JFT	Otama	0.71	82	P	Pg	06 56 54.8	+0.1
JFT				*e*S	Sg	06 57 04.0	+0.1
JYS	Shirataka	0.94	31	P	Pg	06 56 58.8	-0.2
JYS				S	Sg	06 57 11.2	+0.1
MAT	Matsushiro	1.33	229	P	Pn	06 57 05.7	-0.5
MAT				S	Sg	06 57 22.5	-1.1

NNC ***03*** *07:22:43.1±0.3, 49°.99N×78°.65E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=5.2km s-min=1.5km az=79.0, Suspected Mining explosion.*
IDC ***03*** *07:22:43.9±1.3, 50°.02N×78°.68E, h0km, mb1 3.0/2, mb1mx2.9/32, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=22.8km s-min=6.5km az=70.0*
ISC 03 07:22:44.4±0.9**, 50°.03N**±0°.05×**78°.77E**±0°.07**, h0km, n20, σ0s.96**/31**, 20C-6D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.58	344	⇑P	Pg	07 22 54.8	-0.6
KUR07				⇑S	Sg	07 23 03.7	+0.8
KUR06	Kurchatov Arra	0.59	345	⇑P	Pg	07 22 55.2	-0.6
KUR06				⇓S	Sb	07 23 04.3	-2.3
KUR14	Kurchatov Arra	0.59	349	⇑P	Pg	07 22 55.2	-0.6
KUR14				⇑S	Sg	07 23 04.0	+0.5
KUR15	Kurchatov Arra	0.60	347	⇑P	Pg	07 22 55.3	-0.7
KUR15				⇑S	Sg	07 23 04.4	+0.6
KURBB	Kurchatov Arra	0.61	345	Pg	Pg	07 22 55.6	-0.6
	2.9nm,0.3s,baz=167,slow=16,SNR=209						
KURBB				Lg	Lg	07 23 04.8	
	3.8nm,0.3s,baz=144,slow=43,SNR=29						
KURBB	Kurchatov Arra	0.61	345	⇑P	Pg	07 22 55.5	-0.6
	13nm,0.3s						
KURBB				⇑S	Sg	07 23 04.6	+0.5
	82nm,0.4s						
KUR16	Kurchatov Arra	0.62	344	⇑P	Pg	07 22 55.6	-0.8
KUR16				⇑S	Sg	07 23 04.7	+0.3
KUR05	Kurchatov Arra	0.63	346	⇑P	Pg	07 22 55.8	-0.7
KUR05				⇑S	Sg	07 23 04.8	+0.1
KUR17	Kurchatov Arra	0.63	342	⇓P	Pg	07 22 55.7	-0.8
KUR17				⇓S	Sg	07 23 04.9	+0.2
KUR04	Kurchatov Arra	0.65	347	⇑P	Pg	07 22 56.1	-0.7
KUR04				⇑S	Sg	07 23 05.4	+0.2
MAKZ	Makanchi	3.87	145	⇑Pg	Pb	07 23 54.5	+1.0
	2.2nm,0.9s						
MAKZ				⇑Lg	Lg	07 24 46.3	
	2.4nm,0.5s						
BRZS	Berezniki	3.93	272	Pg	Pb	07 23 55.4	+0.8
	2.3nm,0.2s						
BRZS				Lg	Lg	07 24 50.2	
	7.6nm,0.4s						
MK31	Makanchi Array	4.00	143	⇑Pn	Pn	07 23 47.2	+0.3
	0.1nm,0.2s,baz=326,slow=10,SNR=19						
MK31				⇑Pg	Pb	07 23 55.7	-0.1
	0.2nm,0.2s,baz=325,slow=13,SNR=16						
MK31				⇓Lg	Lg	07 24 50.4	
	1.0nm,0.3s,baz=327,slow=26,SNR=7.6						
MKAR	Makanchi Array	4.00	143	Pn	Pn	07 23 47.0	+0.1
	0.4nm,0.3s,baz=333,slow=12,SNR=23						
MKAR				Pg	Pb	07 23 54.7	-1.1
	0.8nm,0.3s,baz=324,slow=16,SNR=16						
MKAR				Lg	Lg	07 24 49.7	
	1.3nm,0.3s,baz=332,slow=21,SNR=12						
KAPS	Kapalarasan	4.77	175	Pg	Pb	07 24 08.5	-0.3
	1.1nm,0.3s						
KAPS				Lg	Lg	07 25 13.3	
	4.4nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
I46RU	ZALESOVO INFRA	5.42	41	i		07 57 50.0	
	baz=222,slow=328,SNR=1.9						
ZALV	Zalesovo Beam	5.42	41	Pn	Pn	07 24 08.2	+1.8
	1.0nm,0.3s,baz=231,slow=14,SNR=8.3						
ZALV				Lg	Lg	07 25 38.1	
	0.3nm,0.3s,baz=231,slow=27,SNR=2.2						
ARXS	Arharly	5.86	187	Pg	Pb	07 24 28.4	+1.0
	1.2nm,0.2s						
ARXS				Lg	Lg	07 25 46.7	
	5.1nm,0.4s						
BVAR	Borovoye Array	6.03	303	Sn	Sn	07 25 24.0	-0.5
	0.6nm,0.3s,baz=137,slow=30,SNR=6.4						
BVAR				Lg	Lg	07 25 53.0	
	0.4nm,0.3s,baz=136,slow=36,SNR=1.9						
BRVK	Borovoye	6.10	303	⇑Pg	Pb	07 24 33.1	+1.6
	1.2nm,0.9s						
BRVK				⇓Sn	Sn	07 25 24.3	-1.9
	1.8nm,0.7s						
BRVK				⇓Lg	Lg	07 25 54.4	
	1.7nm,0.8s						

*NEIC **03** 07:47:11.1±1.8, 19°.63N±0°.04×64°.48W±0°.10, h39km±56km, Error ellipse: s-maj=13.9km s-min=3.2km az=110.0*
*RSPR **03** 07:47:12.0, 19°.44N×64°.47W, h94km±22km, MD3.1/5*
ISC 03 07:47:11.8±2.8**, 19°.5N**±0°.1×**64°.6W**±0°.1**, h27km, n25, σ0s.61/25, 2C-4D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	1.12	183	⇑eP	Pb	07 47 31.8	-0.7
TBVI	Tortola	1.12	183	eS	Sb	07 47 47.0	+0.4
TBVI	Tortola	1.12	183		Pb	07 47 31.8	-0.7
TBVI					Sb	07 47 47.0	+0.4
CUPR	Culebra, Puert	1.40	209	⇓eP	Pn	07 47 35.7	+0.1
CUPR	Culebra, Puert	1.40	209	eS	Sb	07 47 55.2	+0.4
CUPR	Culebra, Puert	1.40	209		Pn	07 47 35.7	+0.1
CUPR					Sb	07 47 55.2	+0.4
MTP	Monte Pirata	1.71	213	⇓eP	Pn	07 47 40.6	+0.8
MTP	Monte Pirata	1.71	213	eS	Sn	07 48 00.8	0.0
MTP	Monte Pirata	1.71	213		Pn	07 47 40.6	+0.8
MTP					Sn	07 48 00.8	0.0
MTP	Monte Pirata	1.71	213	IAML		07 48 09.0	
	comp=E,43nm,0.2s						
MTP				IAML		07 48 09.1	
	comp=N,38nm,0.3s						
CBYP	Canovanas	1.76	224	⇑eP	Pn	07 47 40.6	+0.1
CBYP	Canovanas	1.76	224		Pn	07 47 40.6	+0.1
HUMP	Col San Antoni	1.85	221	⇓eP	Pn	07 47 41.9	+0.2
HUMP	Col San Antoni	1.85	221		Pn	07 47 41.9	+0.2
HUMP	Col San Antoni	1.85	221	IAML		07 48 16.2	
	comp=E,34nm,0.2s						
GCPR	Guaynabo City	1.89	230	⇓eP	Pn	07 47 42.1	-0.2
GCPR	Guaynabo City	1.89	230		Pn	07 47 42.1	-0.2
GCPR	Guaynabo City	1.89	230	IAML		07 48 05.7	
	comp=N,26nm,1.6s						
PDPR	Patillas Dam,	2.05	223	Pn	Pn	07 47 45.5	+1.0
PDPR				IAML		07 48 05.5	
	comp=E,39nm,0.8s						
AOPR	Arecibo Observ	2.39	241	Pn	Pn	07 47 48.1	-1.0
AOPR				IAML		07 49 10.4	
	comp=N,47nm,2.9s						
OBIP	Obispado Ponce	2.44	233	Pn	Pn	07 47 49.5	-0.4
OBIP				IAML		07 48 17.3	
	comp=E,20nm,2.0s						
OBIP				IAML		07 49 14.0	
	comp=N,30nm,3.7s						
MPR	Mayaguez	2.77	242	Pn	Pn	07 47 53.3	-1.1
MLPR	Magueyes Islan	2.82	237	Pn	Pn	07 47 55.3	+0.2
MLPR				IAML		07 48 46.1	
	comp=E,31nm,3.0s						
MLPR				IAML		07 49 22.4	
	comp=N,27nm,3.1s						
DR12	Loma Pena Alta	4.61	261	Pn	Pn	07 48 20.4	+0.6
SDDR	Presa de Saban	6.38	266	Pn	Pn	07 48 45.1	+1.1

ROM 03 07:53:37.3±0.3**, 43°.01N**±0°.02×**12°.70E**±0°.02**, h9km, ML1.3**/1**, 2C-2D, Error ellipse: s-maj=2.2km s-min=0.6km az=214.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASSB	Assisi San Ben	0.04	319	⇓P	Pg	07 53 39.2	0.0
ASSB				S	Sg	07 53 40.6	0.0
ASSB				AML	AML		
	comp=N,396µm,0.2s						
ASSB				AML	AML		
	comp=E,304µm,0.8s						
CESI	CESI - Serrava	0.15	92	P	Pg	07 53 41.7	+1.0
CESI				S	Sg	07 53 44.1	+1.1
CESI	CESI - Serrava	0.15	92	⇓P	Pg	07 53 41.6	+0.9
ATCC	AVT- Casa Cast	0.18	347	P	Pg	07 53 41.9	+0.8
ATCC				S	Sg	07 53 44.8	+1.0
MURB	Monte Urbino	0.28	334	⇑P	Pb	07 53 43.9	-0.7
MURB				S	Sb	07 53 48.8	-0.7
FDMO	Fiordimonte	0.29	85	P	Pg	07 53 43.8	+0.7
FDMO				S	Sg	07 53 48.2	+1.2
FDMO	Fiordimonte	0.29	85	⇑P	Pg	07 53 43.8	+0.7

ROM 03 07:53:41.0±0.4**, 44°.16N**±0°.02×**10°.94E**±0°.02**, h26km**±2km**, Md1.5**/2**, 2C-1D, Error ellipse: s-maj=1.9km s-min=1.8km az=353.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNVD	Fontana Vidola	0.13	85	⇓P	Pb	07 53 46.0	-0.1
FNVD				AML	AML		
	comp=E,175µm,0.2s						
FNVD				AML	AML		
	comp=N,204µm,1.1s						
FNVD				AML	AML		
	comp=N,204µm,1.1s						
FNVD				AML	AML		
	comp=E,175µm,0.2s						
FNVD	Fontana Vidola	0.13	85	P	Pb	07 53 46.0	-0.1
FNVD				S	Sb	07 53 49.5	0.0
FNVD				AML	AML		
	comp=E,175µm,0.2s						
FNVD				AML	AML		
	comp=N,204µm,1.1s						
FNVD				END			
POPM	Popiglio	0.17	230	P	Pb	07 53 46.9	+0.4
POPM				AML	AML		
	comp=E,522µm,0.7s						
POPM				AML	AML		
	comp=N,488µm,0.1s						
POPM				AML	AML		
	comp=N,488µm,0.1s						
POPM				AML	AML		
	comp=E,522µm,0.7s						
POPM	Popiglio	0.17	230	P	Pb	07 53 46.8	+0.4
POPM				S	Sb	07 53 50.6	+0.5
POPM				AML	AML		
	comp=E,522µm,0.7s						
POPM				AML	AML		
	comp=N,488µm,0.1s						
POPM				END			
ZCCA	Zocca	0.20	7	⇑P	Pb	07 53 46.7	0.0
ZCCA	Zocca	0.20	7	P	Pb	07 53 46.6	-0.1
ZCCA				S	Sb	07 53 51.4	+0.8
SARO	Sassorosso	0.39	274	P	Pb	07 53 45.9	-3.6
SARO				AML	AML		
	comp=E,52µm,0.8s						
SARO				AML	AML		
	comp=N,106µm,0.5s						
SARO				AML	AML		
	comp=E,52µm,0.8s						
SARO				AML	AML		
	comp=N,106µm,0.5s						
SARO	Sassorosso	0.39	274	P	Pb	07 53 49.7	+0.2
SARO				S	Sb	07 53 55.4	+0.1
SARO				AML	AML		
	comp=E,52µm,0.8s						
SARO				AML	AML		
	comp=N,106µm,0.5s						
NDIM	Novi di Modena	0.73	358	⇑P	Pn	07 54 00.3	+4.7
ASSB	Assisi San Ben	1.67	131	AML	AML		
	comp=E,304µm,0.8s						
ASSB				AML	AML		
	comp=N,396µm,0.2s						

*ANF **03** 07:57:56.9±0.8, 41°.87N×119°.64W, h13km±7km, ML3.2/14, Error ellipse: s-maj=4.4km s-min=2.5km az=102.0, Hypocentre not reviewed by the ISC*
*REN **03** 07:57:56.2±1.3, 41°.845N±0°.010×119°.64W±0°.06, h3km±7km, ML3.4/5, ML3.2/37(SEA), ML3.1/92(NEIC), Error ellipse: s-maj=6.4km s-min=0.8km az=79.0*
*SEA **03** 07:57:57.4±1.9, 41°.84N±0°.03×119°.66W±0°.06, h1km±3km, Error ellipse: s-maj=6.7km s-min=4.4km az=87.0*
NEIC 03 07:57:57.3±1.6**, 41°.85N**±0°.04×**119°.63W**±0°.06**, h12km**±7km**, Error ellipse: s-maj=6.2km s-min=5.2km az=80.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	Modoc Plateau	0.51	277	Pg	Pg	07 58 06.4	-0.9
MOD	Modoc Plateau	0.51	277		Sg	07 58 13.4	-0.6
MOD	Modoc Plateau	0.51	277	IAML		07 58 13.8	
	comp=N,2µm,0.4s						
MOD				IAML		07 58 15.5	
	comp=E,2µm,0.6s						
LKVW	Lakeview	0.66	305		Pg	07 58 09.0	-1.3
WVOR	Wild Horse Val	0.94	51		Sg	07 58 28.0	+0.1
WVOR	Wild Horse Val	0.94	51		Pg	07 58 14.1	-1.4
WVOR	Wild Horse Val	0.94	51	IAML		07 58 31.1	
	comp=E,498nm,0.8s						
WVOR				IAML		07 58 31.6	
	comp=E,395nm,0.9s						
K05A	Summer Lake	1.29	314	Pn	Pn	07 58 20.3	-1.0
K05A				IAML		07 58 44.8	
	comp=E,442nm,1.5s						
LASM	Arnica Sink	1.48	261		Pn	07 58 23.4	-0.6
LTIM	Timbered Crate	1.55	245		Pn	07 58 24.6	-0.2
HOG	Hogback Mounta	1.60	285		Pn	07 58 25.2	-0.4
LBCM	Butte Creek Ri	1.64	233		Pn	07 58 25.8	-0.3
M04C	Macdoel	1.65	269		Pn	07 58 25.7	-0.6
M04C	Macdoel	1.65	269	P		07 58 25.6	
	baz=87,SNR=334						
M04C				Sb		07 58 49.2	
	baz=87						
J08A	Circle Bar Ran	1.74	29		Pn	07 58 27.1	-0.3
J08A				IAML		07 58 58.7	
	comp=E,163nm,0.8s						
J08A				IAML		07 59 00.3	
	comp=N,184nm,1.0s						
K04D	Chiloquin, OR	1.76	297		Pn	07 58 27.2	-0.6
K04D	Chiloquin, OR	1.76	297	P		07 58 27.1	
	baz=116,SNR=90						
K04D				Sb		07 58 52.2	
	baz=116						
J05D	Fort Rock, OR	1.86	321		Pb	07 58 30.5	-0.9
J05D	Fort Rock, OR	1.86	321	Pb		07 58 30.5	
	baz=140,SNR=220						
J05D				Sb		07 58 55.8	
	baz=140						
WVA	Winnemucca Val	1.90	185		Pn	07 58 30.1	+0.3
LHEM	Herd Peak	1.95	264		Pb	07 58 32.0	-0.9
M03C	McCloud	1.96	254		Pb	07 58 32.0	-0.9
LGBM	Gray Butte	1.99	256		Pn	07 58 30.9	-0.1
L04D	Klamath Falls	2.03	281		Pn	07 58 30.7	-0.8
L04D	Klamath Falls	2.03	281	P		07 58 30.6	
	baz=99,SNR=251						
L04D				Sb		07 59 00.1	
	baz=99						
BEKR	Beckworth	2.05	196		Pn	07 58 31.3	-0.5
BEKR				IAML		07 59 04.4	
	comp=E,185nm,0.6s						
BEKR				IAML		07 59 05.3	
	comp=N,93nm,0.6s						
TMBU	Tom Butte, New	2.08	328		Pb	07 58 34.6	-0.5
B040	Montague	2.09	271		Pn	07 58 31.3	-0.8
PAHR	Pah Rah Range	2.14	175		Pn	07 58 32.8	-0.3
PAHR				IAML		07 59 06.1	
	comp=E,77nm,0.6s						
SVIC	Surveyors Ice	2.16	327		Pb	07 58 35.7	-0.7
NCOR	Newberry Crate	2.17	330		Pb	07 58 36.3	-0.3
PINE	Pine Mountain	2.17	334		Pn	07 58 32.9	-0.6
PINE				IAML		07 59 13.3	
	comp=N,81nm,0.5s						
LOY	Loyalton	2.23	192		Pb	07 58 37.7	0.0
I07A	Izee	2.24	2	Pn	Pn	07 58 34.4	0.0
PEAR	Peavine Mounta	2.25	187		Pn	07 58 36.2	+1.6
O03E	Paynes Creek	2.26	227	P		07 58 34.2	
	baz=45,SNR=26						
O03E				Sb		07 59 07.3	
	baz=45						
KWBU	Kawak Butte, N	2.27	328		Pb	07 58 37.8	-0.6
J04D	Umpqua Nationa	2.30	308		Pb	07 58 38.9	-0.1
J04D	Umpqua Nationa	2.30	308	Pb		07 58 37.9	
	baz=126,SNR=37						
YBH	Yreka Blue Hor	2.31	268	Pn	Pn	07 58 32.7	-2.6
ASBU	Astronaut Butt	2.35	328		Pb	07 58 39.2	-0.5
KBF	Kyburz Flat	2.38	191		Pn	07 58 37.9	+1.6
IND	Independence	2.46	192		Pb	07 58 42.3	+0.7
M02C	Callahan	2.46	260	P		07 58 36.3	
	baz=78,SNR=11						
M02C				Sb		07 59 12.9	
	baz=78						
N02D	Trinity Center	2.47	250	P		07 58 36.6	
	baz=68,SNR=16						
N02D				Sb		07 59 14.2	
	baz=68						
WDC	Whiskeytown Da	2.53	241		Pn	07 58 38.3	0.0
WDC				IAML		07 59 18.0	
	comp=N,83nm,0.7s						
VCNR	Virginia City	2.55	180		Pn	07 58 38.9	+0.2
VCNR				IAML		07 59 19.2	
	comp=N,111nm,0.7s						
HUMO	Hull Mountain	2.59	288	Pn	Pn	07 58 38.4	-0.7
HUMO				IAML		07 59 26.6	
	comp=N,50nm,0.8s						
ORV	Oroville	2.69	212		Pn	07 58 40.9	+0.4
PNTR	Pine Nut	2.75	180		Pn	07 58 41.5	0.0
PNTR				IAML		07 59 30.6	
	comp=N,102nm,0.8s						
I05D	Terrebonne, OR	2.79	334	Pb		07 58 46.2	
	baz=153,SNR=19						
RUBR	Rubicon Trail	2.82	188	Pn	Pn	07 58 40.8	-1.6
RUBR				IAML		07 59 30.8	
	comp=N,47nm,1.1s						
RUBR				IAML		07 59 51.0	
	comp=E,39nm,0.8s						
I04A	Tendick Farm,	2.83	315	Pb		07 58 46.8	
	baz=133,SNR=12						
I04A				Sb		07 59 23.0	
	baz=133						
YERR	Yerington	2.87	174		Pn	07 58 42.1	-1.0
O02D	Mt. Diablo Mer	2.91	236	Sb		07 59 27.0	
	baz=54						
L02E	Cave Junction	2.98	277	P		07 58 44.5	
	baz=94,SNR=35						
KVN	Kaiserville	3.02	157		Pn	07 58 45.7	+0.5
KVN				IAML		07 59 38.4	
	comp=E,53nm,0.6s						
KVN				IAML		07 59 38.6	
	comp=N,40nm,0.8s						
AFDM	Forest Hills D	3.07	200	Pn	Pn	07 58 45.5	-0.2
K02D	Willamette Mer	3.11	287	P		07 58 46.4	
	baz=104,SNR=149						
K02D				S		07 59 23.1	
	baz=104						
MFID	Camas Ranch	3.21	60	Pn	Pn	07 58 48.5	+0.7
KRMB	Red Mountain	3.22	266	Pn	Pn	07 58 47.5	-0.3
KRMB				IAML		07 59 44.4	
	comp=N,36nm,2.9s						
KRMB				IAML		08 00 11.8	
	comp=E,30nm,3.9s						
KHMM	Horse Mountain	3.24	254		Pn	07 58 48.2	+0.1
KHMM				IAML		07 59 48.8	
	comp=E,44nm,1.4s						
KHMM				IAML		07 59 54.8	
	comp=N,49nm,2.8s						
I03D	Drain, OR	3.31	305	Pb		07 58 54.5	
	baz=123						
RYN	Ryan	3.32	165		Pn	07 58 49.2	-0.1
RYN				IAML		07 59 48.6	
	comp=N,52nm,0.7s						
RYN				IAML		07 59 49.4	
	comp=E,61nm,0.8s						
WAKR	Walker	3.34	177		Pn	07 58 49.1	-0.5
H04A	Detroit Lake	3.40	328		Pn	07 58 50.6	+0.4
J01E	Myrtle Point	3.44	294	Pb		07 58 56.7	
	baz=111						
KBO	Bosley Butte	3.44	278	Pn	Pn	07 58 50.4	-0.5
BMO	Blue Mountains	3.45	29		Pn	07 58 50.8	-0.2
JCC	Jacoby Creek,	3.47	254	Pn	Pn	07 58 51.7	+0.6
JCC				IAML		08 00 49.2	
	comp=N,44nm,1.8s						
G08A	Pilot Rock	3.48	8		Pn	07 58 51.5	+0.2
ELK	Elko	3.48	107	Pn	Pn	07 58 51.6	+0.1
ELK				IAML		07 59 51.1	
	comp=N,24nm,0.4s						
KMRM	Mail Ridge	3.48	244	Pn	Pn	07 58 51.3	-0.1
KMRM				IAML		07 59 55.5	
	comp=E,57nm,3.6s						
KMRM				IAML		08 00 45.3	
	comp=N,51nm,4.0s						
H04D	Lebanon	3.51	321	Pb		07 58 58.8	
	baz=139						
NVAR	Mina Array Bea	3.56	163		Pn	07 58 53.3	+0.7
NV11	Mina Array Sit	3.59	161	Pn	Pn	07 58 52.0	-0.9
NV11				IAML		07 59 53.0	
	comp=N,28nm,0.6s						
NV11				IAML		08 00 06.6	
	comp=E,22nm,1.0s						
KEBM	Edson Butte	3.63	288	Pn	Pn	07 58 53.5	0.0
LHV	Little Huntoon	3.69	166		Pn	07 58 54.1	0.0
CMB	Columbia Colle	3.85	189		Pn	07 58 56.3	-0.1
CMB				IAML		07 59 59.4	
	comp=E,18nm,0.9s						
TPH	Tonopah	4.20	153		Pn	07 59 03.1	+1.8
TPH	Tonopah	4.20	153	IAML		08 00 14.0	
	comp=E,27nm,0.4s						
HLID	Hailey	4.21	64		Pn	07 59 01.9	+0.4
HLID				IAML		08 00 22.1	
	comp=E,27nm,0.9s						
HLID				IAML		08 00 26.6	
	comp=E,23nm,1.1s						
MDPB	Devils Postpil	4.23	174		Pn	07 59 02.0	+0.1
F10A	Beach Ranch, E	4.48	22		Pn	07 59 05.2	+0.1
F10A				IAML		08 00 28.8	
	comp=N,14nm,4.8s						
F10A				IAML		08 00 53.5	
	comp=E,14nm,4.9s						
R11A	Troy Canyon, C	4.67	137		Pn	07 59 08.8	+1.0
R11A				IAML		08 00 28.1	
	comp=E,20nm,0.9s						
R11A				IAML		08 00 29.0	
	comp=N,15nm,0.7s						
GBL	Gable Mountain	4.75	1		Pb	07 59 19.1	-1.5
SPR3	Spring Creek 3	4.94	123		Pn	07 59 12.5	+0.8
SPR3				IAML		08 00 38.2	
	comp=E,18nm,1.0s						
BGU	Big Grassy Mou	5.05	98		Pn	07 59 14.1	+1.1
BGU				IAML		08 00 43.0	
	comp=N,8.7nm,0.7s						
BGU				IAML		08 00 50.6	
	comp=E,11nm,2.4s						
HVU	Hansel Valley	5.12	88	Pn	Pn	07 59 14.4	+0.4
BCYI	Bear Canyon	5.18	60		Pn	07 59 13.1	-1.8
DUG	Dugway, Tooele	5.41	105		Pn	07 59 17.1	-0.8
SPUT	South Promonto	5.41	93	Pn	Pn	07 59 18.6	+0.6
PSUT	Pine Spring	5.52	125		Pn	07 59 18.9	-0.7
TPNV	Topopah Spring	5.54	151	Pn	Pn	07 59 20.9	+1.0
PRN	Pahroc Range	5.67	140		Pn	07 59 20.3	-1.2
MCMT	McKenzie Canyo	5.77	57		Pn	07 59 22.2	-0.8
NLU	North Lily Min	6.03	106	Pn	Pn	07 59 26.6	+0.1
SHPR	Sheep Range	6.36	145	Pn	Pn	07 59 30.8	-0.3
CCUT	Cedar City	6.46	130	Pn	Pn	07 59 32.5	0.0
SZCU	Shurtz Canyon	6.59	128	Pn	Pn	07 59 35.4	+1.2
REDW	Red Top Meadow	6.65	74		Pn	07 59 35.2	+0.2
SNOW	Snow King Moun	6.74	73		Pn	07 59 35.9	-0.4
YHL	Hebgen Lake	6.85	61		Pn	07 59 38.3	+0.4
LOHW	Long Hollow	6.88	72		Pn	07 59 38.5	+0.3

*REN **03** 07:58:31.8±1.5, 41°.86N±0°.04×119°.67W±0°.03, h7km±7km, ML3.1, ML2.8(SEA), ML2.8/24(NEIC), Error ellipse: s-maj=6.1km s-min=2.2km az=163.0*
*SEA **03** 07:58:32.6±1.6, 41°.87N±0°.01×119°.63W±0°.02, h0km±7km, Error ellipse: s-maj=2.8km s-min=1.6km az=55.0*
NEIC 03 07:58:31.6±1.4**, 41°.85N**±0°.03×**119°.65W**±0°.03**, h5km**±2km**, Error ellipse: s-maj=5.9km s-min=3.3km az=333.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	Modoc Plateau	0.49	276	Pg	Pg	07 58 41.0	0.0
MOD				Sg	Sg	07 58 48.1	+0.6
MOD				IAML		07 58 48.9	
	comp=N,1µm,0.4s						
LKVW	Lakeview	0.65	305		Pg	07 58 44.1	0.0
WVOR	Wild Horse Val	0.95	52		Pg	07 58 49.5	-0.4
WVOR				Sg	Sb	07 59 03.0	-0.7
WVOR				IAML		07 59 06.5	
	comp=N,294nm,1.0s						
WVOR				IAML		07 59 10.2	
	comp=N,226nm,1.0s						
K05A	Summer Lake	1.27	314		Pg	07 58 55.4	-0.6
K05A				IAML		07 59 20.3	
	comp=E,260nm,1.2s						
LASM	Arnica Sink	1.46	261		Pb	07 58 59.4	0.0
PAHR	Pah Rah Range	2.15	175	Pn	Pn	07 59 07.8	-0.5
PAHR				IAML		07 59 19.8	
	comp=N,48nm,0.9s						
PAHR				IAML		07 59 22.9	
	comp=E,62nm,0.7s						
PINE	Pine Mountain	2.16	334	Pn	Pn	07 59 07.8	-0.6
PINE				IAML		07 59 42.4	
	comp=E,83nm,0.6s						
PINE				IAML		07 59 46.1	
	comp=N,56nm,1.2s						
I07A	Izee	2.23	3	Pn	Pn	07 59 08.9	-0.5
I07A				IAML		07 59 24.1	
	comp=N,43nm,1.0s						
YBH	Yreka Blue Hor	2.29	268	Pn	Pn	07 59 09.2	-0.9
YBH				IAML		07 59 25.0	
	comp=E,36nm,0.8s						
WDC	Whiskeytown Da	2.52	241	Pn	Pn	07 59 13.4	+0.1
WDC				IAML		07 59 53.0	
	comp=N,40nm,0.6s						
HUMO	Hull Mountain	2.57	288	Pn	Pn	07 59 13.0	-0.9
HUMO				IAML		07 59 31.0	
	comp=E,33nm,1.1s						
ORV	Oroville	2.69	212	Pn	Pn	07 59 15.8	+0.2
MFID	Camas Ranch	3.23	60	Pn	Pn	07 59 23.8	+0.8
NVAR	Mina Array Bea	3.57	163	Pn	Pn	07 59 28.4	+0.6
B06A	Marblemount	6.79	350	Pn	Pn	08 00 12.1	+0.3
GSC	Goldstone, Bar	6.91	160	Pn	Pn	08 00 13.7	+0.1
BOZ	Bozeman (W)	6.91	55	Pn	Pn	08 00 14.1	+0.4
TMUT	Trail Mountain	6.92	109	Pn	Pn	08 00 12.7	-1.2
LCMT	Little Creek M	6.92	132	Pn	Pn	08 00 13.5	-0.4

IDC 03 08:04:38.1±1.7**, 53°.20S×140°.19E, h0km, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.8**/26**, mbtmp3.8**/4**, MS3.4**/7**, Ms1 3.4**/7**, ms1mx3.2**/21**, Error ellipse: s-maj=190.4km s-min=24.2km az=87.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.34	3	P	P	08 09 27.2	+0.7
	3.2nm,0.8s,baz=168,slow=13,SNR=8.4						
RPZ	Rata Peaks	22.40	77	LR	LR	08 16 41.9	
	comp=Z,82nm,18.3s,baz=126,slow=32						
H01W1	Cape Leeuwin H	25.95	304	T	T	08 37 23.4	
	baz=142,slow=75,SNR=8.1						
H01W2	Cape Leeuwin H	25.95	304	T	T	08 37 28.3	
	baz=142,slow=75,SNR=8.0						
H01W3	Cape Leeuwin H	25.96	304	T	T	08 37 26.9	
	baz=142,slow=75,SNR=8.9						
URZ	Urewera	29.40	74	LR	LR	08 20 17.9	
	comp=Z,51nm,20.9s,baz=211,slow=32						
ASAR	Alice Springs	29.88	348	P	P	08 10 47.2	0.0
	0.5nm,0.9s,baz=165,slow=10,SNR=4.2						
WRA	Warramunga Arr	33.51	350	P	P	08 11 18.7	-0.4
	0.5nm,0.4s,baz=174,slow=7.1,SNR=15						
QSPA	South Pole Qui	36.91	180	P	P	08 11 48.3	0.0
	2.7nm,1.0s,baz=329,slow=4.7,SNR=4.8						
DZM	Mont Dzumac	36.98	43	LR	LR	08 24 46.5	
	comp=Z,68nm,18.7s,baz=196,slow=33						
MAW	Mawson	37.96	217	LR	LR	08 26 03.5	
	comp=Z,161nm,18.2s,baz=54,slow=34						
PMG	Port Moresby	44.04	10	LR	LR	08 29 42.4	
	comp=Z,45nm,18.1s,baz=276,slow=34						
AFI	Afiamalu	54.45	63	LR	LR	08 33 04.4	
	comp=Z,25nm,19.6s,baz=160,slow=31						
CMAR	Chiang Mai Arr	79.75	321	LR	LR	08 51 09.5	
	comp=Z,11nm,20.3s,baz=190,slow=35						

IDC 03 08:15:54.6±5.8, 39.73N×110.56E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/37, mbtmp3.6/3, ML3.7/1, MS3.0/2, Ms1 3.1/2, ms1mx2.7/24, Error ellipse: s-maj=123.6km s-min=25.8km az=84.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.64**	**341**	Pn	Pn	08 18 01.1	+0.1
	1.0nm,0.3s,baz=155,slow=12,SNR=19						
SONM				Lg	Lg	08 20 30.0	
	0.6nm,0.3s,baz=138,slow=26,SNR=9.3						
MKAR	**Makanchi Array**	**21.69**	**298**	P	P	08 20 46.6	-0.3
	0.5nm,0.8s,baz=94,slow=10,SNR=5.3						
CMAR	**Chiang Mai Arr**	**23.46**	**209**	P	P	08 21 05.9	+0.1
	1.5nm,0.4s,baz=16,slow=9.5,SNR=4.1						
CMAR				LR	LR	08 31 27.0	
	comp=Z,41nm,18.5s,baz=195,slow=40						
ASAJ	**Asahikawa**	**24.15**	**69**	LR	LR	08 29 53.7	
	comp=Z,28nm,18.7s,baz=170,slow=35						

IDC 03 08:16:45.1±4.4, 13.95S×168.37E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/29, mbtmp3.6/3, Error ellipse: s-maj=246.3km s-min=31.1km az=143.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.05**	**255**	P	P	08 23 22.9	+0.2
	0.2nm,0.5s,baz=84,slow=8.9,SNR=1.7						
ASAR	**Alice Springs**	**33.95**	**248**	P	P	08 23 30.4	-0.1
	0.7nm,0.7s,baz=76,slow=9.4,SNR=16						
ILAR	**Eielson Array**	**85.47**	**18**	P	P	08 29 24.8	+0.3
	0.8nm,0.6s,baz=236,slow=5.4,SNR=11						
ARCES	**ARCESS Array B**	**119.77**	**346**	PKP	PKPdf	08 35 36.0	-0.8
	2.2nm,0.7s,baz=76,slow=2.3,SNR=10						

*SKHL **03** 08:29:31.6±0.2, 43.40N×147.90E, h44km±2km, mb4.4/4*
*JMA **03** 08:29:31.5±0.2, 43.36N×147.63E, h19km, M3.4*
*IDC **03** 08:29:35.5±5.0, 43.50N×146.28E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/26, mbtmp3.4/4, Error ellipse: s-maj=162.4km s-min=30.8km az=175.0*
ISC 03 08:29:33.1±1.9, 43.5N±0.1×147.7E±0.1, h45km, n24, σ0.62/25, mb3.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.46**	**292**	*i* P	**Pn**	**08 29 56.2**	**-0.7**
YUK				AMB	AMB	08 29 56.7	
	170nm,0.4s						
YUK				*i* S	**Sn**	**08 30 14.6**	**-0.2**
YUK				A	A	08 30 15.8	
	490nm,0.3s						
YUK				A	A	08 30 15.8	
	440nm,0.3s						
NEM2	**Nemuro 2**	**1.46**	**265**	P	**Pn**	**08 29 56.1**	**-0.9**
NEM2				*e*S	**Sn**	**08 30 13.9**	**-1.0**
NMR	**Nemuro--Hokkai**	**1.47**	**265**	*i* P	**Pn**	**08 29 56.2**	**-0.9**
NMR				*i* S	**Sn**	**08 30 14.5**	**-0.6**
GRPR	**Tuman**	**1.50**	**289**	*e*P	**Pn**	**08 29 57.0**	**-0.6**
GRPR				AMB	AMB	08 29 57.9	
	110nm,0.2s						
GRPR				*e*S	**Sn**	**08 30 16.0**	**0.0**
GRPR				A	A	08 30 16.6	
	1μm,0.4s						
GRPR				A	A	08 30 16.6	
	730nm,0.4s						
GLVR	**Golovnino**	**1.62**	**279**	*e*P	**Pn**	**08 29 58.6**	**-0.7**
GLVR				AMB	AMB	08 29 59.0	
	60nm,0.2s						
GLVR				*e*S	**Sn**	**08 30 19.2**	**+0.2**
GLVR				A	A	08 30 20.0	
	310nm,0.3s						
GLVR				A	A	08 30 20.0	
	250nm,0.3s						
KUR	**Kuril'sk**	**1.73**	**3**	*i* P	**Pn**	**08 29 59.9**	**-0.7**
KUR				AMB	AMB	08 30 01.2	
	120nm,0.3s						
KUR				*i* S	**Sn**	**08 30 21.1**	**-0.3**
KUR				A	A	08 30 25.8	
	210nm,0.4s						
KUR				A	A	08 30 25.8	
	230nm,0.4s						
JRA	**Rausu**	**1.94**	**284**	*e*S	**Sn**	**08 30 27.2**	**+0.4**
JNK	**Nakash**	**2.19**	**273**	P	**Pn**	**08 30 06.6**	**-0.5**
JNK				*e*S	**Sn**	**08 30 32.2**	**-0.8**
JAK	**Akkeshi**	**2.28**	**258**	P	**Pn**	**08 30 07.7**	**-0.5**
JAK				*e*S	**Sn**	**08 30 34.4**	**-0.7**
JTKR	**Abashiri--Toko**	**2.81**	**281**	P	**Pn**	**08 30 16.3**	**+0.8**
JAR	**Ashorobuto**	**2.90**	**267**	*e*S	**Sn**	**08 30 50.0**	**-0.3**
JOB	**Onbets**	**2.92**	**259**	P	**Pn**	**08 30 17.1**	**+0.1**
JOB				*e*S	**Sn**	**08 30 50.6**	**-0.1**
JCH	**Churui**	**3.33**	**256**	P	**Pn**	**08 30 22.2**	**-0.4**
JNBK	**Urakawa-nobuka**	**3.86**	**253**	P	**Pn**	**08 30 30.2**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**28.64**	**140**	T	T	09 06 09.4	
	baz=330,slow=76,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**28.66**	**140**	T	T	09 06 08.6	
	baz=330,slow=76,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**28.66**	**140**	T	T	09 06 09.3	
	baz=330,slow=76,SNR=6.9						
SONM	**Songino Array**	**28.95**	**293**	P	**P**	**08 35 28.9**	**+0.7**
	0.2nm,0.4s,baz=87,slow=7.4,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**29.61**	**141**	T	T	09 07 10.3	
	baz=332,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**29.62**	**141**	T	T	09 07 04.3	
	baz=332,slow=76,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**29.63**	**141**	T	T	09 07 05.6	
	baz=332,slow=76,SNR=7.2						
MKAR	**Makanchi Array**	**45.07**	**298**	P	**P**	**08 37 44.9**	**+0.4**
	0.4nm,0.6s,baz=82,slow=9.1,SNR=9.0						
YKA	**Yellowknife Ar**	**55.76**	**34**	P	P	08 39 17.8	+13
	0.3nm,0.7s,baz=308,slow=5.9,SNR=6.4						
TXAR	**Lajitas Array**	**82.43**	**57**	P	P	08 42 04.6	+14
	0.2nm,0.7s,baz=328,slow=4.3,SNR=2.3						

*DDA **03** 08:34:10.8, 42.44N×43.86E, h3km±3km, ML1.8*
*NORS **03** 08:34:10.1±0.0, 42.47N×43.90E, h15km, MPVA3.4*
*TIF **03** 08:34:11.1, 42.50N×43.88E, h23km±1km*
ISC 03 08:34:11.5±0.9, 42.46N±0.02×43.88E±0.02, h14km±8km, n22, σ1.35/44, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.33**	**2**	*i* Pg	**Pg**	**08 34 18.2**	**-0.2**
ZEI				*e*Sg	**Sg**	**08 34 23.3**	**+0.2**
ONI	**Oni**	**0.35**	**293**	P	**Pg**	**08 34 18.7**	**+0.1**
ONI				S	**Sb**	**08 34 24.0**	**-0.8**
ONI	**Oni**	**0.35**	**293**	*i* Pg	**Pg**	**08 34 18.7**	**+0.1**
ONI				*e*Sg	**Sb**	**08 34 24.1**	**-0.8**
GUDG	**Gudauri**	**0.44**	**89**	P	**Pb**	**08 34 21.2**	**0.0**
GUDG				S	**Sb**	**08 34 27.8**	**+0.1**
LACR	**Lac**	**0.48**	**39**	*e*Pg	**Pg**	**08 34 20.0**	**-1.1**
LACR				*e*Sg	**Sg**	**08 34 27.1**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.50**	**333**	*i* Pg	**Pg**	**08 34 21.2**	**-0.2**
DIGR				*e*Sg	**Sg**	**08 34 28.1**	**0.0**
PNSH	**Pansheti**	**0.57**	**71**	P	**Pg**	**08 34 22.6**	**-0.2**
PNSH				S	**Sg**	**08 34 30.6**	**+0.3**
KORR	**Kora**	**0.64**	**12**	*e*Pg	**Pb**	**08 34 24.8**	**+0.3**
KORR				*e*Sg	**Sn**	**08 34 35.1**	**-1.2**
BKRG	**Bakuriani**	**0.75**	**201**	P	**Pb**	**08 34 26.6**	**+0.2**
BKRG				S	**Sn**	**08 34 37.8**	**-1.1**
LSNR	**Lesken**	**0.82**	**357**	*e*Pg	**Pn**	**08 34 27.9**	**-0.8**
LSNR				*e*Sg	**Sn**	**08 34 40.5**	**-0.2**
STDR	**Stavd-Durt**	**0.92**	**8**	*e*Pg	**Pn**	**08 34 31.3**	**+1.3**
STDR				*e*Sg	**Sn**	**08 34 46.0**	**+2.9**
BTNK	**Botanikuri**	**1.03**	**138**	P	**Pb**	**08 34 31.3**	**+0.2**
BTNK				S	**Sn**	**08 34 46.3**	**+0.5**
BTNK	**Botanikuri**	**1.03**	**138**	*i* P	**Pb**	**08 34 31.2**	**+0.1**
BTNK				*i* S	**Sn**	**08 34 46.2**	**+0.5**
BTNK				IAML		08 35 05.0	
	comp=E,1μm,21.5s						
ABS	**Abastumani**	**1.06**	**229**	P	**Pg**	**08 34 32.3**	**+0.3**
ABS				S	**Sn**	**08 34 47.8**	**+1.1**
AKH	**Akhalkalaki**	**1.08**	**196**	P	**Pn**	**08 34 32.5**	**0.0**
AKH				S	**Sn**	**08 34 48.2**	**+0.9**
KZRT	**Kazreti**	**1.14**	**160**	*i* P	**Pn**	**08 34 28.8**	**-4.2**
KZRT				*i* S	**Sb**	**08 34 44.6**	**-3.0**
DMNI	**Dmanisi**	**1.15**	**168**	P	**Pn**	**08 34 32.6**	**-0.6**
DMNI				S	**Sn**	**08 34 48.8**	**-0.1**
EPOS	**Posof**	**1.28**	**223**	*i* P	**Pb**	**08 34 35.6**	**+0.1**
EPOS				*i* S	**Sg**	**08 34 52.9**	**-0.1**
EPOS				IAML		08 34 55.0	
	comp=E,6.5nm,0.4s						
EPOS				IAML		08 34 57.0	
	comp=N,13nm,0.3s						
EAK	**Akyaka**	**1.78**	**187**	*i* P	**Pn**	**08 34 42.5**	**+0.5**
EAK				*i* S	**Sb**	**08 35 07.3**	**+1.1**
EAK				IAML		08 35 08.0	
	comp=E,27nm,0.5s						
EAK				IAML		08 35 26.0	
	comp=N,14nm,0.6s						
LGD	**Lagodekhi**	**1.86**	**109**	P	**Pb**	**08 34 46.4**	**+1.1**
LGD				S	**Sg**	**08 35 11.0**	**-0.4**
DDFL	**Dedoflistskaro**	**1.95**	**120**	P	**Pg**	**08 34 49.3**	**+0.4**
DDFL				S	**Sg**	**08 35 18.8**	**+4.6**
DDFL	**Dedoflistskaro**	**1.95**	**120**	*i* P	**Pg**	**08 34 48.1**	**-0.8**
DDFL				*i* S	**Sg**	**08 35 15.6**	**+1.4**

*ROM **03** 08:54:58.7±0.1, 45.623N±0.004×6.96E±0.01, h10km, ML2.1/9, Error ellipse: s-maj=0.9km s-min=0.3km az=104.0*
*GEN **03** 08:54:59.1, 45.63N×6.93E, h3km±3km, Ml2.2*
*LDG **03** 08:54:59.2±0.1, 45.61N×6.94E, h3km, Md2.8/2, Ml2.8/19, Error ellipse: s-maj=1.2km s-min=0.8km az=95.0*
*STR **03** 08:54:59.3±0.2, 46°N±1°×°±°, h2km, MLv2.4/10, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
ISC 03 08:54:58.4±0.8, 45.61N±0.01×6.92E±0.02, h16km±5km, n67, σ1.39/112, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.16**	**235**	*e*Pg	**Pg**	**08 55 02.6**	**-0.2**
LPL				*e*Sg	**Sg**	**08 55 04.9**	**-0.7**
	435nm,0.4s						
LPG	**La Plagne**	**0.16**	**227**	*e*Pg	**Pg**	**08 55 02.8**	**0.0**
LPG				*e*Sg	**Sg**	**08 55 04.4**	**-1.4**
	504nm,0.3s						
MRGE	**Morge**	**0.19**	**31**	P	**Pg**	**08 55 02.9**	**-0.2**
MRGE				S	**Sg**	**08 55 05.5**	**-0.8**
MRGE				AML	AML		
	comp=E,2280μm,0.2s						
MRGE				AML	AML		
	comp=N,2605μm,1.0s						
LSD	**Lago del Serru**	**0.21**	**134**	P	**Pg**	**08 55 03.9**	**+0.4**
LSD				S	**Sg**	**08 55 06.9**	**0.0**
LSD	**Lago del Serru**	**0.21**	**134**	⇑P	**Pg**	**08 55 03.9**	**+0.4**
LSD				S	**Sg**	**08 55 06.9**	**0.0**
LSD				AML	AML		
	comp=E,1820μm,0.7s						
LSD				AML	AML		
	comp=E,1815μm,0.7s						
LSD				AML	AML		
	comp=N,1640μm,0.2s						
RSL	**Roselend**	**0.22**	**291**	Pg	**Pg**	**08 55 03.5**	**-0.1**
RSL				Sg	**Sg**	**08 55 06.2**	**-0.9**
OGMO	**Fort Saint-Gob**	**0.43**	**203**	Pg	**Pb**	**08 55 07.9**	**+0.2**
OGMO				Sg	**Sg**	**08 55 13.6**	**+0.5**
CIRO	**Champorcher**	**0.46**	**91**	P	**Pb**	**08 55 07.9**	**-0.3**
CIRO				S	**Sb**	**08 55 13.8**	**-1.0**
CIRO	**Champorcher**	**0.46**	**91**	P	**Pb**	**08 55 07.9**	**-0.3**
CIRO				S	**Sb**	**08 55 13.7**	**-1.2**
CIRO				AML	AML		
	comp=N,262μm,0.4s						
CIRO				AML	AML		
	comp=E,208μm,0.1s						
RSP	**Reno Superiore**	**0.52**	**152**	P	**Pb**	**08 55 09.4**	**+0.2**
RSP				S	**Sg**	**08 55 16.4**	**+0.6**
RSP	**Reno Superiore**	**0.52**	**152**	P	**Pb**	**08 55 09.4**	**+0.2**
RSP				S	**Sb**	**08 55 16.8**	**+0.2**
RSP				AML	AML		
	comp=N,618μm,0.5s						
RSP				AML	AML		
	comp=E,770μm,0.4s						
BNI	**Bardonecchia**	**0.58**	**197**	P	**Pb**	**08 55 10.5**	**+0.2**
BNI				S	**Sb**	**08 55 18.8**	**+0.4**
BNI				AML	AML		
	comp=E,165μm,1.4s						
BNI				AML	AML		
	comp=N,204μm,1.1s						
BNI				AML	AML		
	comp=E,200μm,1.5s						
BNI				AML	AML		
	comp=N,212μm,0.3s						
DIX	**Grande Dixence**	**0.58**	**36**	P	**Pb**	**08 55 10.0**	**-0.4**
DIX				S	**Sb**	**08 55 17.4**	**-1.2**
DIX				AML	AML		
	comp=E,298μm,0.9s						
DIX				AML	AML		
	comp=N,310μm,0.4s						
DIX				AML	AML		
	comp=N,310μm,0.4s						
GDM	**Grand'Maison**	**0.70**	**235**	Pg	**Pb**	**08 55 12.7**	**+0.4**
GDM				Sg	**Sb**	**08 55 22.0**	**+0.4**
BHB	**Bricherasio**	**0.80**	**162**	P	**Pb**	**08 55 14.8**	**+0.8**
BHB				S	**Sb**	**08 55 25.6**	**+0.9**
MMK	**Mattmark**	**0.85**	**58**	P	**Pb**	**08 55 14.7**	**-0.3**
MMK				AML	AML		
	comp=E,57μm,0.5s						
MMK				AML	AML		
	comp=E,57μm,0.5s						
MMK				AML	AML		
	comp=N,63μm,1.3s						
OGSM	**Saint Maurice**	**0.86**	**271**	Pg	**Pn**	**08 55 16.2**	**+0.4**
OGSM				Sg	**Sb**	**08 55 27.5**	**+1.2**
EMBD	**Embd, Matterta**	**0.88**	**46**	Sg	**Sb**	**08 55 26.6**	**-0.4**
EMBD	**Embd, Matterta**	**0.88**	**46**	Pg	**Pn**	**08 55 15.4**	**-0.9**
MBDF	**Montbardon**	**0.89**	**187**	*e*Pg	**Pb**	**08 55 15.9**	**+0.4**
MBDF				*e*Sg	**Sg**	**08 55 26.5**	**-0.8**
MONC	**Moncucco Torin**	**0.89**	**127**	AML	AML		
	comp=E,166μm,0.4s						
MONC				AML	AML		
	comp=N,202μm,0.5s						
ORIF	**Oris-en-Rattie**	**1.01**	**227**	*e*Pg	**Pn**	**08 55 18.4**	**+0.4**
ORIF				*e*Sg	**Sg**	**08 55 30.3**	**-0.8**
	comp=N,33nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.01**	**227**	P	**Pb**	**08 55 17.7**	**+0.1**
ORIF				S	**Sb**	**08 55 31.9**	**+1.4**
ORIF				AML	AML		
	comp=N,91μm,0.4s						
ORIF				AML	AML		
	comp=E,63μm,1.0s						
OG35	**Corcelles**	**1.04**	**295**	Pg	**Pn**	**08 55 19.4**	**+1.0**
OG35				Pn	**Pb**	**08 55 20.9**	**+2.8**
OG35				Sg	**Sn**	**08 55 32.8**	**+0.2**
SURF	**Saint Ours**	**1.13**	**184**	Pg	**Pn**	**08 55 20.7**	**+1.0**
CABF	**La Chapelle**	**1.16**	**330**	*e*Pg	**Pn**	**08 55 21.1**	**+1.0**
CABF				*e*Sg	**Sn**	**08 55 36.5**	**+0.9**
	comp=E,35nm,0.2s						
TORNY	**Torny/Romont**	**1.17**	**1**	Pg	**Pn**	**08 55 21.7**	**+1.6**
TORNY	**Torny/Romont**	**1.17**	**1**	Sn	**Sn**	**08 55 40.0**	**+4.2**
OGAG	**Argentiere**	**1.18**	**193**	Pg	Pb	08 55 15.9	-4.6
OGAG				Sg	**Sb**	**08 55 28.2**	**-7.4**
BRANT	**Les Verrieres**	**1.37**	**347**	Pn	**Pg**	**08 55 25.5**	**+0.7**
BRANT	**Les Verrieres**	**1.37**	**347**	Sn	**Sg**	**08 55 44.4**	**+1.9**
ENR	**Entracque**	**1.43**	**165**	P	**Pb**	**08 55 24.8**	**+0.2**
ENR				AML	AML		
	comp=N,50μm,1.1s						
ENR				AML	AML		
	comp=E,55μm,0.9s						
ISO	**Isola**	**1.43**	**176**	Pn	**Pg**	**08 55 26.3**	**+0.4**
ISO				Sn	**Sg**	**08 55 44.8**	**+0.3**
FUSIO	**Fusio**	**1.48**	**54**	AML	AML		
	comp=N,53μm,0.7s						
FUSIO				AML	AML		
	comp=E,39μm,0.5s						
CHMF	**Charmoille**	**1.65**	**354**	Pn	**Pg**	**08 55 29.0**	**-1.2**
CHMF				Pg	**Pb**	**08 55 31.0**	**+2.5**
TURF	**col de Turini**	**1.67**	**168**	Pn	**Pb**	**08 55 29.1**	**+0.3**
VIVF	**Saint-Julien-l**	**1.76**	**245**	*e*Pn	**Pb**	**08 55 29.5**	**-0.8**
VIVF	**Saint-Julien-l**	**1.76**	**245**	*e*Pg	**Pg**	**08 55 32.7**	**+0.6**
VIVF				*e*Sg	**Sg**	**08 55 53.9**	**-1.1**
	comp=E,18nm,0.3s						
BOURR	**Bourrignon**	**1.80**	**7**	Pg	**Pg**	**08 55 33.4**	**+0.4**
BOURR	**Bourrignon**	**1.80**	**7**	Pn	**Pg**	**08 55 31.1**	**-1.9**
BOURR	**Bourrignon**	**1.80**	**7**	Sg	**Sg**	**08 55 58.0**	**+1.7**
BOURR	**Bourrignon**	**1.80**	**7**	Pg	**Pg**	**08 55 33.4**	**+0.4**
BALST	**Balsthal**	**1.81**	**17**	Pg	**Pg**	**08 55 33.9**	**+0.7**
BALST	**Balsthal**	**1.81**	**17**	Pn	**Pg**	**08 55 31.8**	**-1.3**
BALST	**Balsthal**	**1.81**	**17**	Pg	**Pg**	**08 55 33.9**	**+0.7**
SMRF	**Simiane la Rot**	**1.89**	**211**	*e*Pg	**Pg**	**08 55 34.8**	**+0.1**
SMRF				*e*Sg	**Sg**	**08 55 58.5**	**-0.8**
	comp=E,11nm,0.4s						
FRF	**La Foret Royal**	**2.06**	**186**	*e*Pg	**Pg**	**08 55 37.2**	**-0.7**
FRF				*e*Sn	**Sn**	**08 55 57.4**	**-0.2**
FRF				*e*Sg	**Sg**	**08 56 04.1**	**-0.4**
	comp=E,10nm,0.3s						
HINF	**Hinteralfeld**	**2.21**	**359**	*e*Pn	**Pn**	**08 55 35.3**	**+0.8**
HINF	**Hinteralfeld**	**2.21**	**359**	*e*Pg	**Pg**	**08 55 41.3**	**+0.5**
HINF				*e*Sg	**Sg**	**08 56 08.2**	**-1.3**
	comp=E,7.4nm,0.3s						
LMR	**La Mourre**	**2.29**	**188**	*e*Pn	**Pn**	**08 55 37.5**	**+2.0**
LMR	**La Mourre**	**2.29**	**188**	*e*Pg	**Pg**	**08 55 42.2**	**-0.2**
LMR				*e*Sn	**Sn**	**08 56 02.6**	**-0.8**
LMR				*e*Sg	**Sg**	**08 56 11.6**	**-0.5**
	comp=E,7.7nm,0.3s						
SMF	**Signal de Mont**	**2.38**	**297**	*e*Pn	**Pb**	**08 55 40.6**	**-0.3**
SMF				*e*Sn	**Sn**	**08 56 05.6**	**0.0**
SMF				*e*Sg	**Sg**	**08 56 13.7**	**-1.2**
	comp=E,16nm,0.2s						
HAU	**Haudompre**	**2.43**	**351**	*e*Pn	**Pn**	**08 55 38.6**	**+1.1**
HAU	**Haudompre**	**2.43**	**351**	*e*Pg	**Pg**	**08 55 44.1**	**-0.9**
HAU				*e*Sn	**Sn**	**08 56 04.5**	**-2.4**
HAU				*e*Sg	**Sg**	**08 56 14.3**	**-2.2**
	comp=E,12nm,0.3s						
LASF	**Ste Croix**	**2.66**	**236**	*e*Pg	**Pg**	**08 55 48.4**	**-1.0**
LOR	**Lormes**	**2.69**	**309**	*e*Pg	**Pg**	**08 55 48.8**	**-1.2**
LOR				*e*Sg	**Sg**	**08 56 23.1**	**-1.7**
	comp=E,15nm,0.3s						
AVF	**Avril sur Loir**	**2.75**	**297**	*e*Pg	**Pg**	**08 55 50.7**	**-0.3**
AVF				*e*Sn	**Sn**	**08 56 13.5**	**-1.1**
AVF				*e*Sg	**Sg**	**08 56 23.9**	**-2.7**
	comp=E,5.5nm,0.2s						
SSF	**Saint Saulge**	**2.78**	**303**	*e*Pn	**Pb**	**08 55 45.0**	**-2.6**
SSF	**Saint Saulge**	**2.78**	**303**	*e*Pg	**Pg**	**08 55 50.5**	**-1.1**
SSF				*e*Sn	**Sn**	**08 56 14.7**	**-0.7**
SSF				*e*Sg	**Sg**	**08 56 25.6**	**-2.0**
	comp=E,8.8nm,0.3s						
CDF	**Champ du Feu**	**2.82**	**5**	*e*Pn	**Pn**	**08 55 44.0**	**+1.2**
CDF	**Champ du Feu**	**2.82**	**5**	*e*Pg	**Pg**	**08 55 51.3**	**-1.1**
CDF				*e*Sg	**Sg**	**08 56 27.0**	**-1.9**
	comp=E,4.0nm,0.4s						
SFTF	**Sexfontaines**	**2.90**	**334**	*e*Sn	**Sn**	**08 56 18.8**	**+0.3**
SFTF				*e*Sg	**Sg**	**08 56 32.4**	**+0.8**
	comp=E,5.3nm,0.3s						
BGF	**Bois d'Agland**	**2.99**	**290**	*e*Pg	**Pg**	**08 55 55.1**	**-0.6**
BGF				*e*Sg	**Sg**	**08 56 33.7**	**-0.7**
	comp=E,12nm,0.2s						
MEZF	**Maizieres J'vi**	**3.16**	**337**	*e*Pg	**Pg**	**08 55 57.9**	**-1.1**
MEZF				*e*Sn	**Sn**	**08 56 24.5**	**-0.4**
TCF	**Toulx Ste Croi**	**3.35**	**283**	*e*Pn	**Pn**	**08 55 51.8**	**+1.6**
TCF	**Toulx Ste Croi**	**3.35**	**283**	*e*Pg	**Pg**	**08 56 01.7**	**-1.0**
TCF				*e*Sn	**Sn**	**08 56 30.3**	**+0.6**
TCF				*e*Sg	**Sb**	**08 56 41.6**	**+3.5**
	comp=E,3.8nm,0.2s						
CAF	**Calviac**	**3.50**	**260**	*e*Pn	**Pn**	**08 55 54.0**	**+1.9**
CAF				*e*Sg	**Sg**	**08 56 49.3**	**-1.3**
	comp=E,1.8nm,0.3s						

*NNC **03** 08:58:19.3±0.5, 54.26N×86.19E, h0km±4km, mb3.3, mpv2.5, Error ellipse: s-maj=11.7km s-min=2.7km az=160.0, Suspected Mining explosion.*
*IDC **03** 08:58:21.9±2.3, 54.25N×86.07E, h0km, mb1 3.1/2, mb1mx3.0/45, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=17.7km s-min=10.9km az=54.0*
ISC 03 08:58:16.6±3.5, 54.8N±0.2×84.04E±0.08, h0km, n7, σ1.57/10, 4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**152**	*i*		09 03 16.3	
	baz=67,slow=331,SNR=4.1						
ZAA0	**Zalesovo Array**	**0.98**	**152**	⇑P	**Pb**	**08 58 36.0**	**-0.4**
	0.2nm,0.3s						
ZAA0				⇓S	**Sg**	**08 58 48.1**	**+0.1**
	1.8nm,0.3s						
ZAA0				⇑Rg	Rg	08 58 51.3	
ZALV	**Zalesovo Beam**	**0.98**	**152**	Pg	**Pg**	**08 58 35.4**	**+0.1**
	1.8nm,0.3s,baz=65,slow=16,SNR=12						
ZALV				Lg	Lg	08 58 48.8	
	8.9nm,0.3s,baz=70,slow=28,SNR=17						
ZALV				Rg	Rg	08 58 52.7	
	22nm,0.5s,baz=52,slow=25,SNR=30						
KURBB	**Kurchatov Arra**	**5.37**	**221**	Pn	**Pb**	**08 59 51.4**	**+0.3**
	0.1nm,0.3s,baz=52,slow=14,SNR=12						
KURBB				Lg	Lg	09 01 28.1	
	0.0nm,0.3s,baz=54,slow=32,SNR=2.8						
KURBB	**Kurchatov Arra**	**5.37**	**221**	⇓Pn	**Pb**	**08 59 49.0**	**-2.1**
	1.5nm,0.5s						
KURBB				⇓Sn	**Sb**	**09 00 57.8**	**+1.7**
	1.9nm,0.7s						
KURBB				⇑Lg	Lg	09 01 28.0	
	2.7nm,0.6s						
MK31	**Makanchi Array**	**8.11**	**189**	⇑Pn	**Pn**	**09 00 14.6**	**-0.8**
	0.1nm,0.2s,baz=25,slow=15,SNR=14						
MK31				⇓Sn	**Sn**	**09 01 46.0**	**-1.8**
	0.4nm,0.6s,baz=22,slow=26,SNR=4.7						
MK31				⇓Lg	Lg	09 02 30.4	
	1.5nm,1.0s,baz=18,slow=27,SNR=3.7						
MKAR	**Makanchi Array**	**8.11**	**189**	Pn	**Pn**	**09 00 17.8**	**+2.3**
	0.2nm,0.3s,baz=24,slow=12,SNR=16						
MKAR				Sn	**Sn**	**09 01 47.3**	**-0.5**
	0.1nm,0.3s,baz=25,slow=26,SNR=6.3						
MKAR				Lg	Lg	09 02 30.8	
	0.1nm,0.3s,baz=17,slow=26,SNR=3.8						

IDC 03 08:59:45.8±3.2, 16.70S×69.61W, h194km±34km, mb3.0/2, mb1 3.3/4, mb1mx3.0/27, mbtmp3.7/4, Error ellipse: s-maj=87.2km s-min=13.7km az=103.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.47**	**74**	P	Pn	09 00 20.1	+0.6
	9.8nm,0.3s,baz=304,slow=6.8,SNR=242						
LPAZ				S	Sn	09 00 45.6	+0.1
	2.7nm,0.3s,baz=60,slow=21,SNR=21						
LVC	**Limon Verde**	**5.92**	**174**	P	Pn	09 01 13.2	+0.9
	0.8nm,0.3s,baz=5.4,slow=12,SNR=32						
LVC				S	Sn	09 02 18.1	-2.5
	3.2nm,0.3s,baz=233,slow=20,SNR=16						
PTGA	**Pitinga**	**18.49**	**32**	P	P	09 03 46.3	-1.2
	0.8nm,0.3s,baz=320,slow=22,SNR=6.4						
PLCA	**Paso Flores**	**23.97**	**182**	P	P	09 04 44.0	+1.5
	0.8nm,0.6s,baz=352,slow=12,SNR=4.5						
YKA	**Yellowknife Ar**	**86.46**	**341**	P	P	09 12 05.4	-0.7
	0.2nm,0.6s,baz=125,slow=5.9,SNR=3.6						

*IDC **03** 09:10:48.3±7.3, 38.96N×80.18E, h35km±47km, mb3.4/3, mb1 3.6/6, mb1mx3.3/47, mbtmp3.6/6, ML3.1/3, MS3.5/1, Ms1 3.7/1, ms1mx2.4/43, Error ellipse: s-maj=51.2km s-min=29.3km az=171.0*
*SOME **03** 09:10:49.8, 39.13N×80.37E, h10km*
*NNC **03** 09:10:51.4±1.9, 39.25N×80.56E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=12.9km s-min=12.5km az=171.0*
ISC 03 09:10:45.6±1.6, 38.93N±0.08×80.55E±0.07, h10km, n37, σ3.35/51, 9C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**4.30**	**349**	*e*P	**Pg**	**09 12 06.4**	**-1.6**
	15nm,0.3s						
SHLS				*e*S	**Sg**	**09 13 01.7**	**-2.0**
	104nm,0.6s						
SHLS	**Shalkode**	**4.30**	**349**	Pg	**Pb**	**09 12 02.1**	**+0.8**
SHLS				Lg	Lg	09 12 54.4	
UZB	**Uzynbulak**	**4.37**	**345**	*e*P	**Pg**	**09 12 07.4**	**-1.9**
	6.2nm,0.2s						
UZB				*e*S	**Sg**	**09 13 03.0**	**-2.8**
	24nm,0.6s						
UZB	**Uzynbulak**	**4.37**	**345**	Pg	**Pb**	**09 12 05.0**	**+2.5**
	7.1nm,0.3s						
UZB				Lg	Lg	09 12 58.9	
	24nm,0.6s						
PDGK	**Podgornoye**	**4.46**	**350**	Pg	**Pg**	**09 12 07.2**	**-3.9**
	2.6nm,0.3s						
PDGK				Lg	Lg	09 13 02.9	
	16nm,0.7s						
PDGK	**Podgornoye**	**4.46**	**350**	⇑Pn	**Pn**	**09 11 55.9**	**+2.5**
	2.7nm,0.3s						
PDGK				⇑Pg	**Pb**	**09 12 07.0**	**+2.8**
	5.6nm,0.4s						
PDGK				⇓Sn	**Sn**	**09 12 47.4**	**+1.9**
	8.1nm,0.5s						

PDGK				⇓Lg	Lg	09 13 04.1	
	33nm,0.7s						
KTMS	Ketmen	4.51	358	eP	Pg	09 12 10.3	-1.8
	9.5nm,0.3s						
KTMS				eS	Sg	09 13 08.3	-2.1
	31nm,0.5s						
KTMS	Ketmen	4.51	358	Pg	Pg	09 12 10.3	-1.8
	9.5nm,0.3s						
KTMS				Lg	Lg	09 13 08.3	
	31nm,0.5s						
KPKS	Kokpek	4.74	343	eP	Pg	09 12 13.2	-3.3
	6.8nm,0.2s						
KPKS				eS	Sg	09 13 13.1	-4.8
	36nm,0.4s						
TNSS	Tian-Shan	4.92	328	eP	Pg	09 12 15.5	-4.5
	4.6nm,0.3s						
TNSS				eS	Sb	09 13 17.0	+5.4
	10nm,0.6s						
TNSS	Tian-Shan	4.92	328	Pg	Pg	09 12 15.5	-4.5
	4.6nm,0.3s						
TNSS				Lg	Lg	09 13 17.0	
	10nm,0.6s						
MDOK	Medeo	4.99	329	eP	Pg	09 12 16.9	-4.2
	3.2nm,0.5s						
MDOK				eS	Sb	09 13 19.5	+6.4
	18nm,0.4s						
MDOK	Medeo	4.99	329	Pg	Pg	09 12 16.9	-4.2
	3.2nm,0.5s						
MDOK				Lg	Lg	09 13 19.5	
	18nm,0.4s						
KST	Kastek	5.38	321	eP	Pg	09 12 24.6	-4.0
	4.7nm,0.4s						
KST				eS	Sg	09 13 33.0	-5.2
	14nm,0.6s						
KST	Kastek	5.38	321	Pg	Pg	09 12 24.6	-4.0
	4.7nm,0.4s						
KST				Lg	Lg	09 13 33.0	
	14nm,0.6s						
MNBS	Baschi	5.39	343	eP	Pg	09 12 25.6	-3.2
	4.5nm,0.3s						
MNBS				eS	Sg	09 13 34.3	-4.2
	18nm,0.5s						
MNBS	Baschi	5.39	343	Pg	Pg	09 12 25.6	-3.2
	4.5nm,0.3s						
MNBS				Lg	Lg	09 13 34.3	
	18nm,0.5s						
DJR	Jarkent	5.42	354	eP	Pg	09 12 27.0	-2.4
	4.7nm,0.3s						
DJR				eS	Sg	09 13 37.0	-2.7
	11nm,0.4s						
DJR	Jarkent	5.42	354	Pg	Pg	09 12 27.0	-2.4
	4.7nm,0.3s						
TKM2	Tokmak 2	5.47	318	⇑Pg	Pg	09 12 27.9	-2.5
	2.9nm,0.6s						
TKM2				⇑Lg	Lg	09 13 38.1	
	9.7nm,0.6s						
CHKK	Chushkaly	5.60	333	eP	Pb	09 12 27.2	+3.8
	1.3nm,0.1s						
CHKK				eS	Sb	09 13 37.3	+6.7
	16nm,0.5s						
CHKK	Chushkaly	5.60	333	Pg	Pb	09 12 27.2	+3.8
	1.3nm,0.1s						
ARXS	Arharly	5.66	340	eP	Pg	09 12 30.8	-3.1
	2.2nm,0.3s						
ARXS				eS	Sg	09 13 43.4	-3.7
	13nm,0.8s						
ARXS	Arharly	5.66	340	Pg	Pg	09 12 31.0	-2.9
	6.0nm,0.5s						
AAK	Ala-Archa	5.90	311	Pg	Pb	09 12 31.6	+2.9
	0.3nm,0.3s,baz=168,slow=12,SNR=2.2						
AAK				Lg	Lg	09 13 47.2	
	0.7nm,0.3s,baz=272,slow=16,SNR=5.3						
AAK	Ala-Archa	5.90	311	⇑Pg	Pg	09 12 36.4	-2.2
	2.0nm,0.6s						
AAK				⇑Lg	Lg	09 13 53.9	
	7.8nm,0.8s						
KAPS	Kapalarasan	6.41	352	Pg	Pg	09 12 44.4	-3.9
	1.7nm,0.3s						
MAKZ	Makanchi	7.94	7	⇑Pn	Pn	09 12 43.1	+2.0
	6.2nm,0.2s						
MAKZ				⇑Sn	Sn	09 14 11.1	+0.1
	3.5nm,0.8s						
MK31	Makanchi Array	7.96	9	Pn	Pn	09 12 43.4	+2.0
	0.3nm,0.2s,baz=196,slow=13,SNR=112						
MK31				⇑Sn	Sn	09 14 11.3	-0.1
	1.3nm,0.3s,baz=182,slow=25,SNR=8.2						
MKAR	Makanchi Array	7.96	9	Pn	Pn	09 12 43.7	+2.3
	1.5nm,0.3s,baz=190,slow=12,SNR=90						
MKAR				Sn	Sn	09 14 07.2	-4.2
	1.7nm,0.3s,baz=184,slow=24,SNR=9.0						
MKAR				Lg	Lg	09 15 02.5	
	baz=176,slow=26,SNR=1.4						
KURBB	Kurchatov Arra	11.78	354	Pn	Pn	09 13 32.8	-0.7
	0.0nm,0.3s,baz=178,slow=12,SNR=6.9						
ZALV	Zalesovo Beam	15.30	10	Pn	Pn	09 14 21.9	+0.4
	0.2nm,0.3s,baz=192,slow=12,SNR=2.7						
BVAR	Borovoye Array	15.74	337	Pn	Pn	09 14 27.1	-0.2
	0.1nm,0.3s,baz=161,slow=19,SNR=7.5						
SONM	Songino Array	20.70	56	P	Pn	09 15 27.7	-0.7
	0.3nm,0.4s,baz=256,slow=12,SNR=2.0						
CMAR	Chiang Mai Arr	25.91	137	LR	LR	09 28 06.7	
	comp=Z,112nm,20.8s,baz=340,slow=40						
ARCES	ARCESS Array B	42.01	334	P	P	09 18 35.0	-1.6
	4.3nm,1.0s,baz=111,slow=9.9,SNR=2.5						
YKA	Yellowknife Ar	78.18	7	P	P	09 22 43.2	-1.6
	0.1nm,0.5s,baz=346,slow=5.1,SNR=1.9						

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*IDC **03** 09:23:51.6±0.6, 23°48N×99°02E, h0^{km}, mb4.1/22, mb1 4.3/23, mb1mx4.1/63, mbtmp4.1/23, ML4.4/1, MS3.9/17, Ms1 3.9/17, ms1mx3.6/50, Error ellipse: s-maj=20.4km s-min=11.8km az=73.0*

*NEIC **03** 09:23:53.5±2.0, 23°47N±0°07×99°02E±0°08, h10^{km}±1^{km}, mb4.5/30, Error ellipse: s-maj=12.0km s-min=11.2km az=71.0*

*BJI **03** 09:23:53.6±0.0, 23°54N×98°94E, h10^{km}, mB4.7/30, mb4.4/42, ML4.7/10, Ms4.5/51, Ms7 4.3/43*

*MOS **03** 09:23:54.7±0.9, 23°44N×98°98E, h33^{km}, mb4.6/24, Error ellipse: s-maj=10.8km s-min=5.3km az=116.9*

ISC 03 09:23:53.9±0.3, **23°42N**±0°03×**98°96E**±0°03, **h10**^{km}, **n190**, σ1^{s}**62**/205, **mb4.5**/56, **MS3.9**/24, **9C-2D, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRAI	Chiangrai	3.44	157	P	Pn	09 24 46.3	-1.2
CRAI				S	Sg	09 25 44.6	+0.2
KMI	Kunming	3.84	63	⇑Pn	Pn	09 24 56.9	+3.6
KMI				Sn	Sn	09 25 37.5	-1.1
KMI				Sg	Sg	09 25 55.8	-1.5
KMI				smax	smax		
	comp=N,4µm,1.1s						
KMI				smax	smax		
	comp=E,2µm,1.4s						
KMI	Kunming	3.84	63	P	Pn	09 24 51.9	-1.4
KMI	Kunming	3.84	63	Pn	Pn	09 24 52.0	-1.2
PAYA	Payao	4.13	168	P	Pg	09 25 15.2	+2.1
PAYA				S	Sg	09 26 07.6	+1.0
CM34	Chiang Mai Arr	4.55	178	P	Pg	09 25 21.8	+0.6
CM34				S	Sg	09 26 22.1	+1.9
CM33	Chiang Mai Arr	4.58	180	P	Pg	09 25 21.9	+0.2
CM33				S	Sg	09 26 21.2	+0.1
CHTO	Chiang Mai	4.59	180	P	Pn	09 25 04.2	+0.8
CHTO	Chiang Mai	4.59	180	Pn	Pn	09 25 03.9	+0.5
CMMT	Chiang Mai	4.59	180	P	Pg	09 25 20.5	-1.3
CMMT				S	Sg	09 26 20.2	-1.1
IMP	Imphal	4.79	288	eP	Pn	09 25 07.6	+1.5
IMP				ex	Pn	09 25 07.7	+1.6
IMP				eS	Sn	09 26 00.8	-1.1
LKP	Lekhapani	4.80	325	ex	Pg	09 25 21.3	-4.7
LKP				ex	Sg	09 26 27.2	-1.0
LAMP	Lampang	4.92	173	P	Pg	09 25 25.7	-2.4
LAMP				S	Sg	09 26 33.5	+1.6
CM31	Chiang Mai Arr	4.94	180	Pn	Pn	09 25 09.7	+1.5
CMAR	Chiang Mai Arr	4.94	180	Pn	Pn	09 25 09.6	+1.4
	4.0nm,0.3s,baz=0.1,slow=13,SNR=26						
CMAR				Pg	Pg	09 25 27.5	-1.1
	72nm,0.3s,baz=354,slow=16,SNR=102						
CMAR				Lg	Lg	09 26 29.8	
	14nm,0.3s,baz=4.8,slow=23,SNR=2.0						
CMAR	Chiang Mai Arr	4.94	180	i P	Pn	09 25 09.6	+1.4
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.4s						
CMAR	Chiang Mai Arr	4.94	180	Pn	Pn	09 25 11.3	+3.1
CM15	Chiang Mai Arr	4.95	180	P	Pg	09 25 28.9	+0.3
CM09	Chiang Mai Arr	4.96	180	P	Pg	09 25 28.8	0.0
MOKO	MOKOCHONG	4.96	306	ex	Pn	09 25 09.5	+0.9
CM02	Chiang Mai Arr	4.96	180	P	Pg	09 25 29.3	+0.3
KOHI	KOHIMA	4.97	298	ex	Pn	09 25 10.2	+1.4
KOHI				ex	Sb	09 26 25.8	+4.7
CM01	Chiang Mai Arr	4.98	180	P	Pg	09 25 29.6	+0.3
CM13	Chiang Mai Arr	4.98	181	P	Pg	09 25 29.4	+0.1
CM05	Chiang Mai Arr	5.00	180	P	Pg	09 25 29.9	+0.3
CM04	Chiang Mai Arr	5.00	180	P	Pg	09 25 29.9	+0.2
SLVN	Son La	5.03	113	Pn	Pn	09 25 09.2	-0.2
SAIH	SAIHA	5.58	262	ex	Pn	09 25 18.5	+1.3
SILR	SILCHAR	5.79	285	eP	Pn	09 25 23.5	+3.7
UTTA	Uttaradit	5.84	165	P	Pn	09 25 21.9	+1.3
UTTA				S	Sg	09 27 03.8	+2.2
ITAN	ITANAGAR	6.02	309	ex	Pn	09 25 28.6	+5.7
SHL	Shillong	6.79	290	P	Pn	09 25 32.8	-1.0
SHL	Shillong	6.79	290	eP	Pn	09 25 35.7	+1.9
SHL	Shillong	6.79	290	Pn	Pn	09 25 32.8	-1.0
GUWA	GUWAHATI	7.16	294	ex	Pn	09 25 36.5	-2.2
GUWA				IAmb	IAmb	09 25 38.4	
	comp=Z,34nm,0.5s						
GYA	Guiyang	7.62	65	Pg	Pb	09 26 10.0	+3.8
GYA				Sg	Sg	09 27 57.6	-0.8
GYA				smax	smax		
	comp=Z,95nm,1.8s						
GYA				smax	smax		
	comp=Z,86nm,2.3s						
GYA				LR	LR		
	comp=Z,590nm,4.9s						
GYA				LR	LR		
	comp=Z,1µm,6.7s						
GYA				LR	LR		
	comp=Z,1µm,8.9s						
CD2	Chengdu	8.59	29	P	Pn	09 26 01.2	+2.8
CD2				S	Sn	09 27 36.9	+1.5
CD2				smax	smax		
	comp=Z,290nm,1.2s						
CD2				smax	smax		
	comp=Z,410nm,1.6s						
CD2				LR	LR		
	comp=Z,3µm,11.8s						
CD2				LR	LR		
	comp=Z,4µm,11.3s						
CD2				LR	LR		
	comp=Z,3µm,8.8s						
LSA	Lhasa	9.38	313	P	Pn	09 26 10.0	+0.5
LSA	Lhasa	9.38	313	Pn	Pn	09 26 11.0	+1.5
TAPN	Taplejung	10.89	293	eP	Pn	09 26 28.9	-1.3
	comp=Z,119nm,0.8s						
ODAN	Odare	11.03	290	eP	Pn	09 26 30.2	-1.7
	comp=Z,172nm,0.8s						
QIZ	Qiongzhong	11.05	111	P	Pn	09 26 31.4	-0.7
QIZ				S	Sn	09 28 39.2	+3.4
QIZ				LR	LR		
	comp=Z,2µm,15.2s						
QIZ				LR	LR		
	comp=Z,1µm,11.3s						
QIZ				LR	LR		
	comp=Z,2µm,10.6s						
ENH	Enshi	11.61	52	Pn	Pn	09 26 40.3	+0.6
RAMN	Ramite	11.73	290	eP	Pn	09 26 39.4	-2.2
	comp=Z,56nm,0.7s						
GUN	Gumba	12.61	293	eP	Pn	09 26 51.5	-2.2
	comp=Z,83nm,0.9s						
PKI	Pulchoki	12.91	291	eP	Pn	09 26 54.6	-3.3
	comp=Z,36nm,0.6s						
PKIN	Phulchoki	12.93	291	eP	Pn	09 26 54.8	-3.2
	comp=Z,44nm,0.6s						
KKN	Kakani	13.09	292	eP	Pn	09 26 57.0	-3.1
DMN	Daman	13.18	291	eP	Pn	09 26 58.5	-3.0
	comp=Z,66nm,0.9s						
LZH	Lanzhou	13.31	17	eP	Pn	09 27 04.9	+1.9
LZH				pP	P	09 27 06.7	-6.2
LZH				PP	PnPn	09 27 16.0	+4.9
LZH				S	Sn	09 29 36.6	+5.4
LZH				SS	SnSn	09 29 44.5	+0.7
LZH				pmax	pmax		
	comp=Z,29nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,4.2s						
LZH				LR	LR		
	comp=Z,4µm,10.2s						
LZH				LR	LR		
	comp=Z,4µm,10.3s						
LZH				LR	LR		
	comp=Z,3µm,13.0s						
GKN	Gorkha	13.69	292	eP	Pn	09 27 05.4	-2.9
	comp=Z,192nm,1.1s						
XAN	Xi'an	13.71	37	P	P	09 27 13.3	-3.9
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,58nm,3.5s						
XAN				LR	LR		
	comp=Z,3µm,13.1s						
XAN				LR	LR		
	comp=Z,2µm,13.8s						
XAN				LR	LR		
	comp=Z,1µm,12.1s						
GTA	Gaotai	15.96	2	eP	Pn	09 27 38.6	0.0
GTA				pP	P	09 27 42.8	+0.6
GTA				sP	pP	09 27 45.6	+0.3
GTA				pmax	pmax		
	comp=Z,58nm,4.4s						
GTA				LR	LR		
	comp=Z,670nm,8.7s						
GTA				LR	LR		
	comp=Z,510nm,10.9s						
GTA				LR	LR		
	comp=Z,670nm,9.3s						
KULM	Kulim	18.10	175	P	P	09 28 08.9	+3.0
KULM				IAmb	IAmb	09 28 13.2	
	comp=Z,32nm,1.2s						
BTO	Baotou	19.50	26	P	P	09 28 19.8	-1.5
BTO				S	S	09 32 04.1	+2.4
BTO				LR	LR		
	comp=Z,2µm,15.3s						
BTO				LR	LR		
	comp=Z,5µm,14.3s						
NJ2	Nanjing	19.57	60	eP	P	09 28 20.8	-1.2
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,3µm,10.0s						
NJ2				LR	LR		
	comp=Z,1µm,8.5s						
NJ2				LR	LR		
	comp=Z,1µm,10.4s						
BHPL	Bhopal	19.78	274	eP	Pn	09 28 25.6	-0.3
BHPL				IAmb	IAmb	09 28 26.2	
	comp=Z,15nm,0.7s						
HYB	Hyderabad	20.03	256	i P	Pn	09 28 29.0	+0.1
TIA	Tai'an	20.22	47	P	Pn	09 28 39.1	+8.1
TIA				pmax	pmax		
	comp=Z,11nm,1.0s						
TIA				LR	LR		
	comp=N,1µm,15.2s						
TIA				LR	LR		
	comp=E,940nm,14.7s						
TIA				LR	LR		
	comp=Z,440nm,10.8s						
HHC	Hu-ho-hao-te	20.35	28	eP	P	09 28 31.0	+0.4
HHC				sP	sP	09 28 40.8	+5.6
HHC				S	S	09 32 20.4	+1.7
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,6.6s						
HHC				LR	LR		
	comp=Z,670nm,8.3s						
HHC				LR	LR		
	comp=Z,550nm,12.8s						
PSI	Prapat	20.50	180	P	Pn	09 28 34.6	+0.1
	comp=Z,6.3nm,0.8s,baz=360,slow=8.5,SNR=5.6						
RPSI	Rantau Prapat	20.61	180	P	P	09 28 34.1	+0.8
RPSI				IAmb	IAmb	09 28 41.1	
	comp=Z,48nm,1.1s						
RPSI	Rantau Prapat	20.61	180	P	Pn	09 28 34.6	-1.0
SMLA	Simla	20.81	296	eP	P	09 28 34.8	-0.7
SSE	Sheshan	21.16	64	P	P	09 28 38.7	-0.6
SSE				S	S	09 32 32.8	-1.9
SSE				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SSE				pmax	pmax		
	comp=Z,140nm,3.5s						
SSE				LR	LR		
	comp=Z,910nm,10.6s						
SSE				LR	LR		
	comp=Z,510nm,12.2s						
DHRM	DHARAMSHALA	21.85	299	ex	P	09 28 47.1	+0.2
WMQ	Urumqi	22.36	338	P	P	09 28 52.3	+0.2
WMQ				pP	sP	09 28 56.9	+0.1
WMQ				pmax	pmax		
	comp=Z,18nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,190nm,3.9s						
WMQ				LR	LR		
	comp=Z,560nm,13.1s						
WMQ				LR	LR		
	comp=Z,640nm,7.7s						
WMQ				LR	LR		
	comp=Z,330nm,9.7s						
WMQ	Urumqi	22.36	338	P	P	09 28 52.5	+0.3
WMQ				IAmb	IAmb	09 29 08.9	
	comp=Z,27nm,1.2s						
PALK	Pallekele	23.78	230	P	P	09 29 07.3	+0.4
	comp=Z,9.3nm,1.0s,baz=131,slow=6.8,SNR=4.1						
PALK	Pallekele	23.78	230	P	P	09 29 07.6	+0.7
PALK				pmax	pmax		
	comp=Z,12nm,1.0s						
PALK	Pallekele	23.78	230	P	P	09 29 07.6	+0.7
PALK				IAmb	IAmb	09 29 15.2	
	comp=Z,12nm,1.0s						
KSM	Kuching	24.44	152	P	P	09 29 13.4	+0.4
SBUM	Sibu	24.49	146	P	P	09 29 11.3	-2.1
SBUM				IAmb	IAmb	09 29 16.4	
	comp=Z,12nm,1.0s						
NIL	Nilore	24.72	300	P	P	09 29 14.3	-1.1
NIL				pmax	pmax		
	comp=Z,48nm,0.9s						
NIL	Nilore	24.72	300	P	P	09 29 14.3	-1.1
SONM	Songino Array	25.07	12	P	P	09 29 18.7	+0.1
	comp=Z,2.2nm,0.7s,baz=195,slow=10,SNR=13						
SONM				LR	LR	09 40 21.0	
	comp=Z,414nm,19.8s,baz=187,slow=40						
SONM	Songino Array	25.07	12	P	P	09 29 18.2	-0.4
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	Songino Array	25.07	12	P	P	09 29 18.2	-0.4
KSH	Kashi	25.23	315	P	P	09 29 21.1	+1.0
KSH				pP	sP	09 29 24.8	0.0
KSH				pmax	pmax		
	comp=Z,55nm,1.0s						
KSH				LR	LR		
	comp=Z,2µm,14.5s						
KSH				LR	LR		
	comp=Z,1µm,14.7s						
KSH				LR	LR		
	comp=Z,990nm,16.2s						
ULN	Ulaanbaatar	25.23	13	P	P	09 29 20.1	0.0
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULN	Ulaanbaatar	25.23	13	P	P	09 29 20.1	0.0
ULN				IAmb	IAmb	09 29 39.8	
	comp=Z,6.9nm,0.9s						
SHLS	Shalkode	25.44	325	eP	P	09 29 19.8	-2.2
	comp=Z,32nm,1.5s,baz=326						
SHLS	Shalkode	25.44	325	eP	P	09 29 19.7	-2.2
SHLS				pmax	pmax		
	comp=Z,32nm,1.5s						
UZB	Uzynbulak	25.66	325	eP	P	09 29 23.9	-0.1
	comp=Z,14nm,1.1s,baz=325						
UZB	Uzynbulak	25.66	325	eP	P	09 29 23.9	-0.1
UZB				pmax	pmax		
	comp=Z,14nm,1.1s						
SATY	Saty	25.93	324	eP	P	09 29 26.6	+0.1
	comp=Z,8.6nm,0.9s,baz=324						
SATY	Saty	25.93	324	eP	P	09 29 26.5	+0.1
SATY				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KPKS	Kokpek	26.06	325	eP	P	09 29 27.6	0.0
	comp=Z,18nm,1.1s,baz=325						
KPKS	Kokpek	26.06	325	eP	P	09 29 27.6	0.0
KPKS				pmax	pmax		
	comp=Z,18nm,1.1s						
ZSN	Zaisan	26.50	338	eP	P	09 29 31.1	-0.3
	baz=338						
ZSN	Zaisan	26.50	338	eP	P	09 29 31.1	-0.3
TNSS	Tian-Shan	26.72	322	eP	P	09 29 33.6	-0.3
	baz=322						
TNSS	Tian-Shan	26.72	322	eP	P	09 29 33.6	-0.3
MDOK	Medeo	26.75	323	eP	P	09 29 33.3	-0.6
	baz=322						
MDOK				LR	LR	09 41 00.8	
	comp=Z,194nm,11.6s,baz=322						
MDOK	Medeo	26.75	323	eP	P	09 29 33.2	-0.6
MDOK				MLR	MLR		
	comp=Z,194nm,12.0s						
AAA	Alma-Ata	26.85	323	eP	P	09 29 34.4	-0.3
	comp=Z,8.4nm,0.6s,baz=322						
AAA	Alma-Ata	26.85	323	eP	P	09 29 34.3	-0.4
AAA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MK31	Makanchi Array	26.90	334	ceP	P	09 29 34.9	-0.1
MK31	Makanchi Array	26.90	334	P	P	09 29 34.7	-0.4
MKAR	Makanchi Array	26.90	334	P	P	09 29 35.0	0.0
	comp=Z,2.4nm,0.7s,baz=148,slow=7.5,SNR=22						
MKAR				LR	LR	09 41 46.6	
	comp=Z,196nm,18.5s,baz=146,slow=40						
MKAR	Makanchi Array	26.90	334	ceP	P	09 29 35.0	0.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	26.90	334	P	P	09 29 34.8	-0.2
MAKZ	Makanchi	27.04	334	P	P	09 29 35.8	-0.5
MAKZ				pmax	pmax		
	comp=Z,13nm,1.2s						
MAKZ	Makanchi	27.04	334	P	P	09 29 35.8	-0.5
MAKZ				IAmb	IAmb	09 30 03.9	
	comp=Z,13nm,1.2s						
ZAK	Zakamensk	27.12	6	eP	P	09 29 37.1	0.0
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CHKK	Chushkaly	27.23	324	eP	P	09 29 38.1	0.0
	baz=324						
CHKK	Chushkaly	27.23	324	eP	P	09 29 38.0	0.0
TDK	Taldyqorghan	27.28	327	eP	P	09 29 38.5	0.0
	comp=Z,5.6nm,0.6s,baz=327						
TDK	Taldyqorghan	27.28	327	eP	P	09 29 38.4	0.0
TDK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KUU	Kurty	27.61	323	eP	P	09 29 40.9	-0.6
	baz=323						
KUU	Kurty	27.61	323	eP	P	09 29 40.9	-0.6
AAK	Ala-Archa	27.90	319	P	P	09 29 45.3	+1.1
	comp=Z,4.9nm,1.0s,baz=132,slow=8.4,SNR=7.6						
AAK				LR	LR	09 43 00.2	
	comp=Z,152nm,19.7s,baz=128,slow=41						
AAK	Ala-Archa	27.90	319	ceP	P	09 29 45.5	+1.2
AAK				pmax	pmax		
	comp=Z,33nm,1.3s						
AAK	Ala-Archa	27.90	319	P	P	09 29 45.1	+0.9
AAK				IAmb	IAmb	09 29 48.5	
	comp=Z,10nm,1.2s						
SGDS	Sogindy	28.31	321	eP	P	09 29 47.2	-0.6
	baz=321						
SGDS	Sogindy	28.31	321	eP	P	09 29 47.1	-0.6
KBL	Kabul	28.32	300	P	P	09 29 46.7	-1.4
KBL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBL	Kabul	28.32	300	P	P	09 29 46.7	-1.4
KBL				IAmb	IAmb	09 30 16.1	
	comp=Z,9.3nm,0.9s						
TLY	Talaya	28.44	6	i P	P	09 29 49.6	+0.8
TLY				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TLY	Talaya	28.44	6	P	P	09 29 48.9	+0.2
KSRS	Korea Array	28.49	54	LR	LR	09 42 06.6	
	comp=Z,149nm,18.2s,baz=244,slow=39						
BTLS	Baital	29.61	323	eP	P	09 29 58.4	-0.9
	baz=323						
BTLS	Baital	29.61	323	eP	P	09 29 58.3	-0.9
IUG	Iuzhnay	30.44	315	eP	P	09 30 06.8	+0.1
	baz=315						
IUG	Iuzhnay	30.44	315	eP	P	09 30 06.8	+0.1
KK31	Karatay Array	30.61	317	P	P	09 30 08.4	+0.3
KK31				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KK31	Karatay Array	30.61	317	P	P	09 30 08.4	+0.3
KKAR	Karatay Array	30.61	317	P	P	09 30 07.0	-1.1
KKAR	Karatay Array	30.61	317	P	P	09 30 07.0	-1.1
KURK	Kurchatov	31.50	335	ceP	P	09 30 15.1	-0.7

KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK	Kurchatov	31.50	335	P	P	09 30 14.3	-1.5
ZAA0	Zalesovo Array	32.29	344	P	P	09 30 21.5	-1.2
ZALV	Zalesovo Beam	32.29	344	P	P	09 30 22.5	-0.2
	comp=Z,1.4nm,0.8s,baz=145,slow=8.5,SNR=6.8						
ZALV				LR	LR	09 45 12.1	
	comp=Z,90nm,19.6s,baz=168,slow=40						
ZALV	Zalesovo Beam	32.29	344	P	P	09 30 21.7	-1.0
BRZS	Berezniki	33.53	329	eP	P	09 30 33.6	-0.1
	baz=329						
BRZS	Berezniki	33.53	329	eP	P	09 30 33.6	-0.1
USRK	Ussuriysk Ar.	34.05	44	P	P	09 30 37.1	-1.1
	comp=Z,1.3nm,0.7s,baz=248,slow=7.6,SNR=4.4						
USRK				LR	LR	09 44 22.0	
	comp=Z,246nm,19.0s,baz=225,slow=36						
MJAR	Matsushiro Arr	36.18	60	LR	LR	09 46 16.7	
	comp=Z,255nm,18.7s,baz=265,slow=37						
KLR	Kul'dur	36.42	37	iP	P	09 30 56.8	-1.7
KLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	Borovoye Array	36.65	331	P	P	09 30 59.8	-0.7
	comp=Z,0.6nm,0.6s,baz=95,slow=18,SNR=9.4						
BRVK	Borovoye	36.72	331	ceP	P	09 31 00.8	-0.3
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	Borovoye	36.72	331	P	P	09 31 00.6	-0.4
BRVK				IAmb	IAmb	09 31 12.7	
	comp=Z,5.0nm,0.7s						
WSAR	Wadi Sarin	36.95	278	LR	LR	09 48 16.1	
	comp=Z,139nm,19.7s,baz=112,slow=40						
GEYT	Alibeck	37.68	302	P	P	09 31 09.2	-0.3
	comp=Z,2.6nm,0.7s,baz=131,slow=4.4,SNR=1.9						
GEYT				LR	LR	09 49 59.1	
	comp=Z,108nm,18.6s,baz=65,slow=42						
ABKAR	Akbulak array	39.98	320	P	P	09 31 28.7	+0.1
ABKAR				IAmb	IAmb	09 31 33.9	
	comp=Z,12nm,0.9s						
AKTO	Aktyubinsk	41.62	321	P	P	09 31 41.9	-0.1
	comp=Z,3.5nm,0.7s,baz=127,slow=8.3,SNR=13						
ARU	Arti	44.17	329	d iP	P	09 32 03.2	+0.6
ARU						09 33 43.6	
ARU				S	S	09 38 37.9	+2.3
ARU				SS	SS	09 41 56.7	+3.5
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s						
NRIK	Noril'sk	46.44	354	ceP	P	09 32 19.3	-1.2
NRIK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GROC	Groznyy	47.75	308	P	P	09 32 30.2	-0.9
GROC				e		09 33 57.4	
GROC				pmax	pmax		
	comp=Z,23nm,1.0s						
GNI	Garni	48.28	304	P	P	09 32 37.1	+1.6
	comp=Z,7.8nm,0.6s,baz=158,slow=14,SNR=2.3						
BELG	Belogornoye	48.39	320	P	P	09 32 37.5	+1.6
	comp=Z,7.0nm,0.7s,baz=291,slow=2.2,SNR=4.7						
ZEI	Tsey	49.09	307	eP	P	09 32 41.0	-0.8
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KBZ	Khabaz	49.91	308	LR	LR	09 57 29.2	
	comp=Z,98nm,18.2s,baz=62,slow=40						
KIV	Kislovodsk	50.08	308⇓	eP	P	09 32 47.5	-1.6
KIV				*PP	sP	09 32 56.0	+2.0
KIV				*SP	pP	09 33 01.0	+8.4
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,101nm,19.0s						
MA2	Magadan	51.00	31	ceP	P	09 32 56.3	+0.6
MA2				pmax	pmax		
	comp=Z,15nm,1.7s						
KLMR	Klimovskoe	55.02	329	eP	P	09 33 23.8	-1.5
KLMR				pmax	pmax		
	comp=Z,14nm,1.2s						
KLMR	Klimovskoe	55.02	329	eP	P	09 33 23.8	-1.5
KLMR				AMP		09 33 36.1	
	comp=Z,14nm,1.2s						
WRAB	Tennant Creek	55.21	138	ceP	P	09 33 27.4	+0.2
WRAB				pmax	pmax		
	comp=Z,17nm,2.5s						
WRA	Warramunga Arr	55.21	138	P	P	09 33 26.6	-0.6
	comp=Z,6.8nm,1.0s,baz=325,slow=7.9,SNR=18						
WB2	Warramunga Arr	55.22	138	P	P	09 33 26.1	-1.2
WR0	Warramunga Arr	55.35	138	P	P	09 33 26.7	-1.5
ILGA	Ilgaz	56.67	305	P	P	09 33 37.3	-0.5
ILGA				IAmb	IAmb	09 33 42.6	
	comp=Z,8.1nm,1.0s						
BRTR	Keskin Array B	56.81	303	LR	LR	10 02 08.1	
	comp=Z,66nm,18.8s,baz=46,slow=40						
AS31	Alice Springs	57.82	142	P	P	09 33 45.0	-0.8
ASAR	Alice Springs	57.82	142	P	P	09 33 45.3	-0.5
	comp=Z,3.6nm,0.9s,baz=322,slow=7.2,SNR=24						
ASAR	Alice Springs	57.82	142	P	P	09 33 45.0	-0.8
AKASG	Malin Array Be	59.51	316	P	P	09 33 54.7	-2.5
	comp=Z,2.6nm,0.5s,baz=84,slow=6.7,SNR=5.1						
AKASG				LR	LR	10 01 58.7	
	comp=Z,99nm,19.1s,baz=60,slow=38						
AKBB	Malin Array Si	59.51	316	P	P	09 33 57.2	0.0
AKBB				IAmb	IAmb	09 34 01.5	
	comp=Z,5.2nm,1.0s						
ELL	Elmali	60.05	300	P	P	09 34 02.2	+0.8
FINES	FINESS Array B	61.54	329	P	P	09 34 09.9	-0.9
	comp=Z,1.1nm,0.7s,baz=81,slow=8.9,SNR=1.1						
FINES				LR	LR	10 02 49.8	
	comp=Z,131nm,20.5s,baz=86,slow=38						
ARCES	ARCESS Array B	62.48	338	LR	LR	10 02 40.1	
	comp=Z,76nm,18.3s,baz=265,slow=37						
KOLS	Kolonicke sedl	64.11	314	eP	P	09 34 32.7	+4.4
KOLS	Kolonicke sedl	64.11	314	e	P	09 34 32.7	+4.4
HFS	Hagfors	67.66	327	P	P	09 34 50.1	-0.8
	comp=Z,3.8nm,0.9s,baz=197,slow=7.5,SNR=2.6						
STKA	Stephens Creek	68.46	142	iP	P	09 34 53.5	-2.8
NB2	NORSAR Subarra	68.72	329	P	P	09 34 55.9	-1.7
	comp=Z,1.0nm,0.7s,baz=79,slow=6.5						
NOA	NORSAR Array B	68.72	329	P	P	09 34 56.2	-1.4
	comp=Z,1.7nm,0.7s,baz=80,slow=6.2,SNR=6.0						
NOA				LR	LR	10 06 33.1	
	comp=Z,96nm,18.2s,baz=80,slow=37						
GERES	GERESS Array B	69.70	315	P	P	09 35 02.8	-1.2
	comp=Z,0.8nm,0.6s,baz=124,slow=3.8,SNR=3.9						
DAVOX	Davos/Dischmat	72.71	314	P	P	09 35 20.6	-1.8
	comp=Z,3.4nm,0.7s,baz=132,slow=9.7,SNR=4.4						
MDM	Murphy Dome	78.10	24	P	P	09 35 52.1	-0.7
ILAR	Eielson Array	78.69	24	P	P	09 35 53.4	-2.7
	comp=Z,0.8nm,0.9s,baz=306,slow=6.2,SNR=7.8						
ILAR	Eielson Array	78.69	24	P	P	09 35 55.1	-0.9
PRP	Porcupine Dome	78.79	23	P	P	09 35 55.5	-1.2
PRP				IAmb	IAmb	09 35 59.0	
	comp=Z,8.5nm,1.3s						
INK	Inuvik	80.85	17	P	P	09 36 05.1	-2.5
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	Inuvik	80.85	17	P	P	09 36 05.1	-2.5
INK				IAmb	IAmb	09 36 15.2	
	comp=Z,4.5nm,0.8s						
BORG	Borgarnes	80.89	338	LR	LR	10 16 53.7	
	comp=Z,52nm,18.2s,baz=98,slow=39						
ESDC	Sonseca Array	84.67	311	P	P	09 36 26.8	-1.4
	comp=Z,0.7nm,0.8s,baz=44,slow=3.2,SNR=4.5						
ESDC				LR	LR	10 21 01.3	
	comp=Z,54nm,18.3s,baz=345,slow=40						
BOSA	Boshof	87.81	238	P	P	09 36 42.6	-1.1
	comp=Z,5.2nm,1.0s,baz=39,slow=6.1,SNR=4.8						
BOSA	Boshof	87.81	238	P	P	09 36 41.8	-2.0
YKA	Yellowknife Ar	90.30	15	P	P	09 36 53.4	-1.4
	comp=Z,1.0nm,0.7s,baz=332,slow=4.1,SNR=16						

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*NEIC **03** 09:27:22.8±2.7, 23.°12S±0.°08×174.°44W±0.°09, h10km±1km, mb4.8/90, Error ellipse: s-maj=14.7km s-min=12.2km az=128.0*

*BJI **03** 09:27:22.2±0.0, 22.°94S×174.°29W, h13km, mb5.2/19, Ms7 4.6/1*

*IDC **03** 09:27:23.0±0.6, 23.°16S×174.°76W, h0km, mb4.6/17, mb1 4.7/18, mb1mx4.6/25, mbtmp4.5/18, ML4.2/1, MS4.1/12, Ms1 4.1/12, ms1mx3.8/25, Error ellipse: s-maj=21.1km s-min=16.1km az=132.0*

*GCMT **03** 09:27:25.8±0.3, 23.°17S±0.°03×174.°32W±0.°02, h18km, MW5.0/101, Moment Tensor Solution. s37,c45; s101,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.78±.19; $M_{\theta\theta}$1.66±.13; $M_{\phi\phi}$2.12±.11; $M_{r\theta}$-0.15±.33; $M_{\theta\phi}$1.02±.07; $M_{\phi r}$1.14±.28; Best double couple: $M_0$3.52300×10^{16} NP1:ϕ_s46.00000°,δ39.00000°, λ-75.00000°. NP2:ϕ_s208.00000°,δ53.00000°, λ-102.00000°. Principal axes: T 3.0340, Plg7.0000°, Azm306.0000°; N 0.9790, Plg9.0000°, Azm215.0000°; P -4.0130, Plg78.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **03** 09:27:28.8, 22.°60S×174.°05W, h79km, mb4.8, Tonga Islands Region*

ISC 03 09:27:22.9±0.4**, 23.°21S**±0.°05×**174.°41W**±0.°06**, h10**km**, n206, σ2.°05**/182**, mb4.8**/62**, MS4.2**/14**, 2D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.86	46	Pn	Pn	09 28 45.2	-4.8
NIUE	Niue	5.86	46	P	Pn	09 28 44.9	-5.0
RIZ	Raoul Island	6.79	207	P	Pn	09 29 05.3	+2.6
RAO	Raoul Island	6.79	207	Pn	Pn	09 29 05.9	+3.2
	277nm,0.3s,baz=114,slow=20,SNR=5.1						
RAO	Raoul Island	6.79	207	Pn	Pn	09 29 00.9	-1.8
GLKZ	Green Lake	6.80	207	P	Pn	09 29 05.3	+2.4
GLKZ				S	Sn	09 30 21.7	+1.4
MSVF	Nonsavu	8.92	306	Pn	Pn	09 29 33.4	+1.4
	8.0nm,0.3s,baz=133,slow=13,SNR=46						
MSVF				LR	LR	09 32 33.1	
	comp=Z,1μm,20.9s,baz=148,slow=36						
MSVF	Nonsavu	8.92	306	Pn	Pn	09 29 32.9	+0.9
MSVF	Nonsavu	8.92	306	P	Pn	09 29 33.9	+1.9
AFI	Afiamalu	9.58	16	Pn	Pn	09 29 34.6	-6.4
	8.9nm,0.3s,baz=259,slow=0.6,SNR=15						
AFI				Sn	Sn	09 31 09.3	-19
	4.9nm,0.3s,baz=32,slow=22,SNR=2.5						
AFI	Afiamalu	9.58	16	P	Pn	09 29 34.1	-6.9
RAR	Rarotonga	13.70	84	Pn	Pn	09 30 34.9	-2.4
	20nm,0.3s,baz=265,slow=8.7,SNR=49						
RAR				Sn	Sn	09 32 54.1	-16
	4.6nm,0.3s,baz=67,slow=18,SNR=2.4						
RAR				LR	LR	09 35 07.8	
	comp=Z,978nm,19.2s,baz=273,slow=33						
RAR	Rarotonga	13.70	84		Pn	09 30 35.7	-1.7
RAR	Rarotonga	13.70	84	P	Pn	09 30 35.2	-2.1
FUNA	Funafuti	15.83	336	Pn	Pn	09 31 02.6	-3.4
FUNA				IAmb	IAmb	09 31 25.9	
	comp=Z,74nm,1.4s						
HAZ	Te Kaha	15.98	203	P	Pn	09 31 01.1	-6.7
HAZ				S	Sn	09 33 57.1	-7.8
PKGZ	Pakihiroa	15.99	202	S	Sn	09 33 56.4	-9.1
PUZ	Puketiti	16.09	201	P	Pn	09 31 03.0	-6.3
PUZ				S	Sn	09 33 57.8	-10
RUGZ	Raukumara Rang	16.20	203	P	Pn	09 31 07.1	-3.7
RUGZ				S	Sn	09 34 01.0	-10
MWZ	Matawai	16.58	203	P	Pn	09 31 12.3	-3.3
MWZ				S	Sn	09 34 07.0	-13
URZ	Urewera	16.67	204	Pn	Pn	09 31 15.0	-1.5
	comp=Z,0.8nm,0.3s,baz=289,slow=8.8,SNR=2.1						
URZ				Sn	Sn	09 34 10.8	-11
	comp=Z,1.3nm,0.3s,baz=169,slow=23,SNR=3.1						
URZ	Urewera	16.67	204		Pn	09 31 15.1	-1.5
URZ	Urewera	16.67	204	P	Pn	09 31 12.3	-4.3
URZ				S	Sn	09 34 12.2	-10
PINNC	Pines Island,	16.73	268	P	P	09 31 22.2	+2.4
RIGZ	Rimuhau	16.83	202	P	Pn	09 31 16.6	-2.2
RIGZ				S	Sn	09 34 15.2	-11
TOZ	Tahuroa Road	16.87	209	P	P	09 31 26.3	+5.1
SNGZ	Shannon Statio	17.05	202	P	P	09 31 23.1	-0.1
SNGZ				S	Sn	09 34 21.7	-9.3
KNZ	Kokohu	17.15	201	P	Pn	09 31 20.8	-1.9
KNZ				S	Sn	09 34 19.4	-14
LIFNC	LIFOU	17.19	275	P	P	09 31 26.3	+1.4
RAHZ	Arahi	17.26	203	P	Pn	09 31 22.7	-1.4
RAHZ				S	Sn	09 34 25.6	-11
MTHZ	Maungataniwha	17.29	204	P	Pn	09 31 21.7	-2.7
MTHZ				S	Sn	09 34 25.9	-11
YATNC	Mamie plateau,	17.30	270	P	P	09 31 30.6	+4.4
BKZ	Black Stump Fm	17.70	204	P	Pn	09 31 30.0	+0.5
BKZ	Black Stump Fm	17.70	204	P	P	09 31 30.7	+0.3
BKZ				S	Sn	09 34 34.9	-12
DZM	Mont Dzumac	17.71	270	ePn	P	09 31 32.7	+1.9
	comp=Z,56nm,1.1s						
DZM				eLR	LR	09 35 37.0	
	comp=Z,750nm,22.0s						
DZM	Mont Dzumac	17.71	270	P	P	09 31 32.5	+1.7
	comp=Z,1.0nm,0.3s,baz=88,slow=19,SNR=15						
DZM	Mont Dzumac	17.71	270		Pn	09 31 29.6	-0.3
DZM	Mont Dzumac	17.71	270	P	P	09 31 33.9	+3.1
HIZ	Hauiti	17.80	209		Pn	09 31 31.1	+0.3
HIZ	Hauiti	17.80	209	P	P	09 31 32.3	+0.7
NOUC	Port Laguerre	17.84	270	P	P	09 31 36.4	+4.3
MCHZ	McNeill Hill	17.86	203	P	Pn	09 31 31.0	-0.5
MCHZ				S	Sn	09 34 37.7	-13
TMVZ	Te Maari	17.95	206	P	P	09 31 35.8	+2.5
ETVZ	East Tongariro	17.97	206	P	Pn	09 31 31.6	-1.4
OTVZ	Oturere	18.01	206	P	Pn	09 31 32.1	-1.5
KAHZ	Kahuranaki	18.11	202	P	Pn	09 31 34.3	-0.4
KAHZ				S	Sn	09 34 42.7	-14
BHHZ	Black Hill Sta	18.14	204	P	Pn	09 31 34.0	-1.0
BHHZ				S	Sn	09 34 43.6	-14
ANWZ	Angora Road	18.84	202	P	Pn	09 32 13.5	+30
SANVU	Saraoutou	18.98	291	P	P	09 31 42.9	-1.7
SANVU				IAmb	IAmb	09 32 02.9	
	comp=Z,42nm,0.9s						
SANVU	Saraoutou	18.98	291	P	Pn	09 31 45.9	+0.6
BFZ	Birch Farm	19.12	202	P	P	09 31 45.8	-0.3
CAW	Cannon Point	19.92	204	P	P	09 31 54.5	-0.3
TRWZ	Traveller	19.95	202	P	Pn	09 31 58.9	+2.1
MSWZ	Moikau Station	20.12	203	P	P	09 31 58.4	+1.4
MSWZ	Moikau Station	20.12	203	P	Pn	09 32 00.5	+1.6
BHW	Baring Head	20.25	204	P	P	09 31 58.7	+0.3
PLWZ	Palliser	20.25	203	P	P	09 31 59.1	+0.6
PLWZ	Palliser	20.25	203	P	Pn	09 32 02.3	+1.9
KNTN	Kanton	20.48	8	P	P	09 31 58.8	-2.2
TUWZ	Tuamarina	20.63	206	P	P	09 32 02.4	-0.1
BSWZ	Blackbirch Sta	20.90	205	P	P	09 32 06.5	+1.1
BSWZ	Blackbirch Sta	20.90	205	P	Pn	09 32 10.8	+2.9
THZ	Tophouse	21.33	207	P	P	09 32 13.0	+2.9
KHZ	Kahutara	21.63	205	P	P	09 32 12.3	-0.9
DSZ	Denniston Nort	21.79	209	P	P	09 32 19.2	+4.2
GVZ	Greta Valley S	22.29	205	P	P	09 32 22.1	+1.8
LTZ	Lake Taylor	22.44	206	P	P	09 32 22.6	+0.6
TBI	Tubuai	22.91	95	eS	S	09 36 36.6	-0.6
	comp=Z,227nm,26.6s						
TBI				eLQ	LQ	09 36 55.5	
	comp=Z,1μm,27.0s						
TBI				eLR	LR	09 37 52.5	
	comp=Z,1μm,27.0s,baz=269						
OXZ	Oxford	22.99	206	P	P	09 32 26.9	-0.9
RPZ	Rata Peaks	23.71	207	P	P	09 32 34.5	-0.5
	comp=Z,13nm,0.7s,baz=319,slow=3.6,SNR=13						
RPZ	Rata Peaks	23.71	207	P	P	09 32 35.1	+0.1
RPZ				IAmb	IAmb	09 32 44.9	
	comp=Z,16nm,0.6s						
PAE	Paea	23.89	81	eT	T	09 57 13.2	
	comp=Z,5.1nm,0.3s						
PPT2	Papeete2	23.92	81	eS	S	09 36 54.3	+0.4
	comp=Z,208nm,24.8s						
PPT2				eLQ	LQ	09 37 23.1	
	comp=Z,3μm,31.0s						
PPT2				eLR	LR	09 38 15.5	
	comp=Z,1μm,24.5s						
PPT	Papeete	23.93	81	LR	LR	09 39 49.7	
	comp=Z,566nm,20.0s,baz=234,slow=31						
FOZ	Fox Glacier	24.10	209	P	P	09 32 39.6	+1.0
LBZ	Lake Benmore	24.62	207	P	P	09 32 43.9	+0.4
ODZ	Otahua Downs	24.97	206	P	P	09 32 48.7	+2.1
MLZ	Mavora Lakes	26.29	209	P	P	09 32 59.6	+1.0
MLZ				IAmb	IAmb	09 33 04.0	
	comp=Z,18nm,1.1s						
EIDS	Eidsvold	31.48	259	P	P	09 33 43.0	-2.0
TAOE	Nuku Hiva Isla	35.77	72	eLR	LR	09 43 38.7	
	comp=Z,449nm,21.7s						
RKT	Rikitea	36.18	98	eLR	LR	09 43 53.0	
	comp=Z,859nm,28.5s						
CTAO	Charters Tower	36.62	267	P	P	09 34 28.5	-1.2
PMG	Port Moresby	39.22	284	P	P	09 34 49.7	-1.9
	comp=Z,16nm,0.8s,baz=56,slow=6.9,SNR=4.1						
PMG	Port Moresby	39.22	284	P	P	09 34 49.9	-1.8
PMG				IAmb	IAmb	09 35 04.9	
	comp=Z,41nm,1.2s						
PMG	Port Moresby	39.22	284	P	P	09 34 51.7	+0.1
	comp=Z,26nm,1.1s						
STKA	Stephens Creek	39.73	248	P	P	09 34 54.9	-1.0
	comp=Z,4.4nm,0.6s,baz=87,slow=9.6,SNR=11						
STKA				LR	LR	09 50 01.7	
	comp=Z,460nm,19.7s,baz=72,slow=34						
STKA	Stephens Creek	39.73	248	P	P	09 34 54.9	-1.0
COEN	Coen	41.12	275	P	P	09 35 07.1	-0.3
BBOO	Buckleboo	44.43	246	P	P	09 35 33.1	-1.0
BBOO				IAmb	IAmb	09 35 35.6	
	comp=Z,15nm,1.1s						
AS31	Alice Springs	47.20	259	P	P	09 35 54.3	-2.0
ASAR	Alice Springs	47.21	259	P	P	09 35 54.8	-1.5
	comp=Z,4.3nm,0.5s,baz=96,slow=7.7,SNR=68						
ASAR				S	S	09 42 43.1	-6.3
	comp=Z,0.7nm,0.7s,baz=98,slow=16,SNR=5.8						
ASAR				LR	LR	09 55 02.6	
	comp=Z,502nm,19.6s,baz=108,slow=35						
ASAR	Alice Springs	47.21	259	P	P	09 35 54.3	-2.0
WR0	Warramunga Arr	47.39	264	P	P	09 35 56.4	-1.3
WR0				IAmb	IAmb	09 36 00.4	
	comp=Z,8.3nm,0.9s						
WC3	Warramunga Arr	47.54	264	P	P	09 35 57.4	-1.5
WC3				IAmb	IAmb	09 35 59.6	
	comp=Z,9.9nm,0.8s						
WB2	Warramunga Arr	47.57	264	P	P	09 35 57.8	-1.3
WB2				IAmb	IAmb	09 36 12.4	
	comp=Z,11nm,0.8s						
WB0	Warramunga Arr	47.57	264	P	P	09 35 57.5	-1.6
WB0				IAmb	IAmb	09 36 12.7	
	comp=Z,10nm,0.8s						
WRA	Warramunga Arr	47.58	264	P	P	09 35 57.1	-2.1
	comp=Z,7.0nm,0.6s,baz=102,slow=8.1,SNR=19						
WRA				LR	LR	09 55 01.3	
	comp=Z,344nm,20.6s,baz=105,slow=35						
FORT	Forrest	51.35	248	P	P	09 36 27.9	+0.1
VNDA	Vanda	55.55	186	LR	LR	09 55 38.2	
	comp=Z,105nm,21.9s,baz=31,slow=30						
SOEI	Soe	59.92	272	P	P	09 37 28.3	-1.5
SOEI	Soe	59.92	272	P	P	09 37 33.8	+4.0
LUWI	Luwuk	64.70	280	P	P	09 38 05.0	+3.3
QSPA	South Pole Qui	66.88	180	P	P	09 38 18.9	+3.8
	comp=Z,7.8nm,1.1s,baz=287,slow=1.4,SNR=19						
QSPA	South Pole Qui	66.88	180	P	P	09 38 17.8	+2.7
MJAR	Matsushiro Arr	74.37	322	P	P	09 39 01.9	+1.0
	comp=Z,3.7nm,0.6s,baz=152,slow=5.8,SNR=9.8						
MJAR				LR	LR	10 12 55.9	
	comp=Z,22nm,18.0s,baz=125,slow=37						
CMB	Columbia Colle	79.26	41	P	P	09 39 28.4	-0.1
ORV	Oroville	79.60	39	P	P	09 39 29.2	-1.1
PEA0B	Petropavlovsk-	79.77	343	P	P	09 39 30.5	-0.4
PETK	Petropavlovsk-	79.77	343	P	P	09 39 33.2	+2.3
	comp=Z,7.5nm,0.6s,baz=89,slow=7.6,SNR=15						
PETK				LR	LR	10 09 37.1	
	comp=Z,96nm,21.3s,baz=147,slow=32						
PETK	Petropavlovsk-	79.77	343	P	P	09 39 31.1	+0.2
MDSI	Maura Dua	80.36	269	P	P	09 39 33.9	-1.2
PNTR	Pine Nut	80.41	40	P	P	09 39 35.6	+0.6
PNTR				IAmb	IAmb	09 39 40.3	
	comp=Z,9.9nm,0.8s						
BEKR	Beckworth	80.47	39	P	P	09 39 36.4	+1.1
BEKR				IAmb	IAmb	09 39 37.9	
	comp=Z,12nm,1.4s						
VCNR	Virginia City	80.51	40	P	P	09 39 33.4	-2.1
VCNR				IAmb	IAmb	09 39 38.2	
	comp=Z,14nm,1.5s						
LHV	Little Huntoon	80.53	41	P	P	09 39 33.5	-1.8
LHV				IAmb	IAmb	09 39 39.2	
	comp=Z,14nm,1.3s						
YERR	Yerington	80.56	40	P	P	09 39 33.8	-2.0
YERR				IAmb	IAmb	09 39 39.1	
	comp=Z,9.9nm,1.2s						
NVAR	Mina Array Bea	80.77	41	P	P	09 39 39.2	+2.3
	comp=Z,3.6nm,0.7s,baz=223,slow=8.6,SNR=34						
NVAR	Mina Array Bea	80.77	41	P	P	09 39 37.6	+0.6
NV11	Mina Array Sit	80.86	41	P	P	09 39 36.3	-1.0
NV11				IAmb	IAmb	09 39 42.5	
	comp=Z,11nm,1.1s						
KSRS	Korea Array	81.12	317	P	P	09 39 39.6	+1.1
	comp=Z,2.0nm,0.8s,baz=125,slow=5.9,SNR=6.3						
KSRS				LR	LR	10 10 48.1	
	comp=Z,62nm,18.8s,baz=130,slow=32						
KSAR	Wonju Array Be	81.14	317	P	P	09 39 38.0	-0.6
KVN	Kaiserville	81.28	41	P	P	09 39 39.9	+0.3
KVN				IAmb	IAmb	09 39 42.1	
	comp=Z,12nm,1.5s						
SHPR	Sheep Range	81.55	44	P	P	09 39 39.5	-1.6
SHPR				IAmb	IAmb	09 39 44.0	
	comp=Z,9.2nm,1.4s						
H03S2	Juan Fernandez	81.72	123	T	T	11 11 43.9	
	baz=246,slow=75,SNR=9.8						
H03S1	Juan Fernandez	81.73	123	T	T	11 11 46.6	
	baz=246,slow=75,SNR=10						
H03S3	Juan Fernandez	81.74	123	T	T	11 11 32.9	
	baz=246,slow=75,SNR=9.0						
MOD	Modoc Plateau	81.84	38	P	P	09 39 41.9	-0.6
MOD				IAmb	IAmb	09 39 45.0	
	comp=Z,9.1nm,1.3s						
H03N2	Juan Fernandez	81.87	123	T	T	11 12 10.6	
	baz=250,slow=71,SNR=13						
H03N3	Juan Fernandez	81.87	123	T	T	11 11 52.5	
	baz=250,slow=71,SNR=14						
H03N1	Juan Fernandez	81.88	123	T	T	11 11 53.5	
	baz=250,slow=71,SNR=12						
K05A	Summer Lake	82.05	37	P	P	09 39 44.2	+0.5
TUC	Tucson	82.08	50	P	P	09 39 45.1	+1.2
PRN	Pahroc Range	82.16	44	P	P	09 39 44.1	-0.1
PRN				IAmb	IAmb	09 39 48.3	
	comp=Z,19nm,1.4s						
R11A	Troy Canyon, C	82.39	43	P	P	09 39 46.7	+1.2
PINE	Pine Mountain	82.74	36	P	P	09 39 47.1	-0.1
USRK	Ussuriysk Ar.	83.08	324	P	P	09 39 51.1	+2.4
	comp=Z,6.6nm,0.8s,baz=176,slow=3.7,SNR=10.0						
USRK	Ussuriysk Ar.	83.08	324	P	P	09 39 48.0	-0.6
LCMT	Little Creek M	83.09	45	P	P	09 39 48.6	-0.5
LCMT				IAmb	IAmb	09 39 52.9	
	comp=Z,13nm,1.3s						
CCUT	Cedar City	83.33	44	P	P	09 39 48.9	-1.5
CCUT				IAmb	IAmb	09 39 54.5	
	comp=Z,12nm,1.2s						
WUAZ	Wupatki	83.47	47	P	P	09 39 49.6	-1.6
WUAZ				IAmb	IAmb	09 39 55.1	
	comp=Z,14nm,1.4s						
PSUT	Pine Spring	83.59	43	P	P	09 39 51.1	-0.6
PSUT				IAmb	IAmb	09 39 57.2	
	comp=Z,6.6nm,1.3s						
X18A	Snowflake	83.89	49	P	P	09 39 52.2	-1.1
X18A				IAmb	IAmb	09 39 56.5	
	comp=Z,5.7nm,1.1s						
ELK	Elko	84.06	41	P	P	09 39 53.7	-0.4
ELK				IAmb	IAmb	09 39 57.2	
	comp=Z,7.9nm,1.2s						
NJ2	Nanjing	84.17	308	eP	P	09 39 54.1	-0.4
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LON	Longmire	84.27	33	P	P	09 39 54.8	0.0
LON				IAmb	IAmb	09 39 56.8	
	comp=Z,6.1nm,1.2s						
TCRU	Three Creeks R	84.53	44	P	P	09 39 56.4	-0.2
G08A	Pilot Rock	84.79	36	P	P	09 39 58.5	+0.9
PLCA	Paso Flores	85.00	132	P	P	09 40 02.9	+4.0
	comp=Z,2.9nm,1.1s,baz=223,slow=4.2,SNR=3.3						
PLCA				LR	LR	10 09 37.6	
	comp=Z,132nm,20.6s,baz=236,slow=30						
E07A	Sunnyside	85.15	34	P	P	09 39 59.1	-0.1
E07A				IAmb	IAmb	09 40 02.5	
	comp=Z,11nm,1.1s						
SNAA	Sanae	85.20	177	P	P	09 40 02.3	+3.0
VNA3	Neumayer Olymp	85.20	175	P	P	09 40 02.4	+3.1
MFID	Camas Ranch	85.34	39	IAmb	IAmb	09 40 03.3	
	comp=Z,9.4nm,1.2s						
BMO	Blue Mountains	85.41	37	IAmb	IAmb	09 40 02.6	
	comp=Z,7.1nm,1.3s						
Q16A	Castle Valley	85.52	44	P	P	09 40 02.0	+0.5
Q16A				IAmb	IAmb	09 40 05.5	
	comp=Z,15nm,1.5s						
MNTX	Cornudas Mount	85.65	53	P	P	09 40 03.1	+1.0
MNTX				IAmb	IAmb	09 40 07.6	
	comp=Z,6.4nm,1.1s						
VNA2	Neumayer--Watz	85.68	176	P	P	09 40 04.6	+2.9
	baz=186,slow=2.4						
TMUT	Trail Mountain	85.71	44	P	P	09 40 04.1	+1.6
TX32	Lajitas Array	85.75	56	IAmb	IAmb	09 40 06.5	
	comp=Z,14nm,1.2s						
TXAR	Lajitas Array	85.76	56	P	P	09 40 05.0	+2.3
	comp=Z,4.5nm,0.9s,baz=214,slow=5.6,SNR=30						
TXAR				LR	LR	10 09 54.7	
	comp=Z,90nm,21.6s,baz=0.0,slow=30						

TXAR	Lajitas Array	85.76	56	P	P	09 40 04.5	+1.8
D08A	Wollman Farm,	85.96	34	P	P	09 40 03.9	+0.7
SRU	San Rafael Swe	86.05	44	P	P	09 40 05.4	+1.3
SRU				IAmb	IAmb	09 40 07.3	
	comp=Z,12nm,1.2s						
P17A	Butcher Ranch,	86.11	44	IAmb	IAmb	09 40 07.9	
	comp=Z,13nm,1.3s						
F10A	Beach Ranch, E	86.16	36	P	P	09 40 04.8	+0.4
F10A				IAmb	IAmb	09 40 06.7	
	comp=Z,8.7nm,1.1s						
ANMO	Albuquerque	86.54	50	P	P	09 40 05.1	-1.5
ANMO				IAmb	IAmb	09 40 10.4	
	comp=Z,8.1nm,1.1s						
TCUT	Toone Canyon	86.62	42	P	P	09 40 08.1	+1.1
SNOW	Snow King Moun	88.35	41	P	P	09 40 16.1	+0.8
PD31	Pinedale Array	88.69	42	P	P	09 40 15.9	-0.9
PDAR	Pinedale Array	88.69	42	P	P	09 40 18.7	+1.9
	comp=Z,1.1nm,0.8s,baz=194,slow=3.4,SNR=10						
PDAR	Pinedale Array	88.69	42	P	P	09 40 16.9	+0.1
YNE	Yellowstone No	89.67	40	P	P	09 40 21.3	0.0
YNE				IAmb	IAmb	09 40 24.0	
	comp=Z,6.2nm,1.4s						
WRH	Wood River Hil	89.76	11	P	P	09 40 20.5	-0.4
BCAR	Beaver Creek A	89.77	14	P	P	09 40 21.6	+0.4
HDA	Harding Lake	89.91	12	P	P	09 40 21.5	-0.2
HDA				IAmb	IAmb	09 40 23.0	
	comp=Z,10nm,1.1s						
CCB	Clear Creek Bu	89.97	11	P	P	09 40 22.1	+0.1
CCB				IAmb	IAmb	09 40 25.5	
	comp=Z,15nm,1.4s						
MDM	Murphy Dome	90.18	11	P	P	09 40 23.5	+0.5
MDM				IAmb	IAmb	09 40 24.1	
	comp=Z,13nm,1.4s						
IL31		90.25	11	P	P	09 40 21.6	-1.6
IL31				IAmb	IAmb	09 40 27.5	
	comp=Z,9.9nm,1.1s						
ILAR	Eielson Array	90.25	11	P	P	09 40 23.6	+0.3
	comp=Z,3.3nm,0.9s,baz=216,slow=5.3,SNR=17						
ILAR	Eielson Array	90.25	11	P	P	09 40 23.7	+0.5
IMAR	Indian Mountai	90.29	8	P	P	09 40 24.4	+0.9
ENH	Enshi	90.31	303	P	P	09 40 23.1	-1.3
PRP	Porcupine Dome	91.17	12	P	P	09 40 28.1	+0.3
PRP				IAmb	IAmb	09 40 30.9	
	comp=Z,6.7nm,1.0s						
RDOG	Red Dog Mine	91.39	4	IAmb	IAmb	09 40 30.2	
	comp=Z,8.5nm,1.4s						
EGAK	Eagle	91.39	14	P	P	09 40 28.0	-0.6
EGAK				IAmb	IAmb	09 40 30.6	
	comp=Z,9.8nm,1.4s						
XAN	Xi'an	92.42	306	P	P	09 40 36.2	+2.0
XAN				pP	pwP	09 40 40.6	-4.7
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
FNO	Franklin	93.20	53	P	P	09 40 37.6	-0.1
KMI	Kunming	93.53	296	⇓P	P	09 40 39.6	-0.1
KMI				pP	sP	09 40 41.8	+1.1
KMI				sP	pP	09 40 44.5	+4.0
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC	Hu-ho-hao-te	93.62	313	eP	P	09 40 38.0	-1.6
HHC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR	Chiang Mai Arr	94.14	288	P	P	09 40 44.4	+2.0
	comp=Z,0.7nm,0.3s,baz=122,slow=3.4,SNR=6.1						
CMAR	Chiang Mai Arr	94.14	288	P	P	09 40 42.6	+0.2
K31A	O'Neill	95.51	46	P	P	09 40 49.6	+1.5
LZH	Lanzhou	97.05	306	eP	P	09 40 54.8	-0.7
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
YKA	Yellowknife Ar	97.59	24	P	Pdif	09 40 57.9	+0.8
	comp=Z,0.3nm,0.7s,baz=234,slow=3.9,SNR=6.1						
WMQ	Urumqi	111.21	310	ePKP	PKiKP	09 45 56.6	-0.5
MKAR	Makanchi Array	115.47	312	PKP	PKiKP	09 46 05.7	+0.7
	comp=Z,0.3nm,0.7s,baz=48,slow=1.8,SNR=4.6						
MKAR	Makanchi Array	115.47	312		PKiKP	09 46 05.6	+0.6
ARCES	ARCESS Array B	132.15	351	PKP	PKiKP	09 46 37.3	0.0
	comp=Z,1.6nm,0.7s,baz=4.4,slow=1.6,SNR=5.3						
NOA	NORSAR Array B	141.99	356	PKhKP	PKPpre	09 46 52.2	
	comp=Z,1.1nm,0.8s,baz=98,slow=1.0,SNR=3.3						
HFS	Hagfors	142.66	353	PKhKP	PKPpre	09 46 51.6	
	comp=Z,2.1nm,0.6s,baz=50,slow=2.3,SNR=6.6						
AKASG	Malin Array Be	146.97	332	PKPbc	PKPbc	09 47 04.5	-1.0
	comp=Z,1.9nm,0.4s,baz=40,slow=3.7,SNR=5.4						
AKASG	Malin Array Be	146.97	332		PKPbc	09 47 05.7	+0.1
BRTR	Keskin Array B	151.12	311	PKPbc	PKiKP	09 47 17.1	-0.2
	comp=Z,1.3nm,0.7s,baz=114,slow=3.1,SNR=5.3						
BRTR	Keskin Array B	151.12	311		PKPbc	09 47 16.7	0.0
KOLS	Kolonicke sedl	151.13	337	ePKP	PKiKP	09 47 17.4	+0.6
CLL	Collm	151.37	350	ePKPdf	PKPdf	09 47 12.0	+1.4
CLL				⇓iPKPbc	sPKPbc	09 47 17.5	-0.7
	comp=Z,21nm,1.3s						
BRG	Berggiesshubel	151.63	349	ePKP	PKiKP	09 47 18.7	+1.0
BRG				Amp		09 47 20.4	
	comp=Z,4.4nm,0.7s						
BRG				ex	x	09 47 33.8	
BRG				Amp		09 47 35.1	
	comp=Z,4.1nm,0.7s						

*ATH **03** 09:27:52.4, 36°29N×22°10E, h9km±3km, ML3.3/6, Error ellipse: s-maj=3.8km s-min=1.0km az=220.0*
*IDC **03** 09:27:52.4±1.8, 36°74N×22°48E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/42, mbtmp3.5/8, ML3.0/1, MS2.1/1, Ms1 2.1/1, ms1mx1.9/45, Error ellipse: s-maj=40.6km s-min=24.5km az=28.0*
*THE **03** 09:27:53.9, 36°33N×22°19E, h0km±1km, ML3.2/8, Error ellipse: s-maj=2.0km s-min=0.5km az=225.0*
ISC 03 09:27:52.0±1.4**, 36°29N**±0°05×**22°10E**±0°04**, h16**km±8km**, n38, σ0s77**/49**, mb3.7**/6**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.67	335	P	Pg	09 28 04.6	-0.5
PYL				S	Sg	09 28 14.5	+0.4
KTHR	Kythira	0.73	92	P	Pb	09 28 06.4	0.0
KTHR				S	Sb	09 28 16.5	+0.3
	1µm,0.4s						
KTHA	Kythira Island	0.78	92	P	Pb	09 28 07.3	+0.1
KTHA				S	Sb	09 28 17.4	-0.1
KTHA				AML	AML	09 28 20.2	
	comp=E,3410µm,0.3s						
KTHA				AML	AML	09 28 20.7	
	comp=N,2062µm,0.4s						
KTHA	Kythira Island	0.78	92	P	Pb	09 28 07.3	+0.1
KTHA				S	Sb	09 28 17.8	+0.2
	comp=N,1µm,0.3s						
VLI	Veliai	0.80	57	P	Pg	09 28 07.4	-0.3
VLI				S	Sg	09 28 17.9	-0.3
VLI				AML	AML	09 28 25.0	
	comp=E,3122µm,0.6s						
VLI				AML	AML	09 28 32.6	
	comp=N,3864µm,0.6s						
VLI	Veliai	0.80	57	P	Pg	09 28 07.5	-0.1
VLI				S	Sg	09 28 18.1	-0.1
	comp=N,2µm,0.6s						
MNVA	Monemvasia	0.86	62	P	Pb	09 28 09.0	+0.5
ITM	Ithomi	0.90	351	P	Pg	09 28 09.2	-0.4
ITM				S	Sb	09 28 21.7	+0.6
ITM				AML	AML	09 28 24.3	
	comp=N,6636µm,0.4s						
ITM				AML	AML	09 28 25.1	
	comp=E,5123µm,0.3s						
ITM	Ithomi	0.90	351	P	Pg	09 28 09.4	-0.1
ITM				S	Sn	09 28 23.2	+0.4
	comp=E,3µm,0.3s						
ANKY	Antikythira Is	1.06	113	P	Pg	09 28 12.3	-0.3
ANKY				AML	AML	09 28 34.4	
	comp=E,2795µm,0.9s						
ANKY				AML	AML	09 28 42.4	
	comp=N,2302µm,0.7s						
ANKY	Antikythira Is	1.06	113	P	Pn	09 28 12.6	+0.4
ANKY				S	Sn	09 28 27.7	+1.1
	comp=N,1µm,0.8s						
VLX	Vlachokerasia	1.10	12	P	Pb	09 28 12.7	-0.1
VLX				AML	AML	09 28 31.9	
	comp=E,6642µm,0.6s						
VLX				AML	AML	09 28 35.6	
	comp=N,7749µm,0.6s						
VLX	Vlachokerasia	1.10	12	P	Pb	09 28 13.1	+0.3
KRND	KRANIDI	1.38	37	P	Pb	09 28 18.0	+0.6
KRND	KRANIDI	1.38	37	P	Pg	09 28 18.4	-0.2
KRND				S	Sg	09 28 37.7	+1.0
	comp=N,2µm,0.8s						
EPID	Epidavros	1.56	31	P	Pg	09 28 21.6	-0.4
EPID				S	Sg	09 28 41.6	-0.7
	comp=N,2µm,0.6s						
DRO	Drossia	1.69	350	P	Pb	09 28 23.6	+0.9
DRO	Drossia	1.69	350	P	Pb	09 28 23.8	+1.1
IMMV	Iera Moni Meta	1.74	118	P	Pb	09 28 23.8	+0.3
KLV	Kalavryta, Ach	1.75	1	P	Pb	09 28 23.6	-0.2
KLV				AML	AML	09 28 57.1	
	comp=N,889µm,0.9s						
KLV				AML	AML	09 28 60.0	
	comp=E,1420µm,0.9s						
KLV	Kalavryta, Ach	1.75	1	P	Pb	09 28 24.2	+0.3
KLV				S	Sg	09 28 48.0	-0.5
	comp=E,582nm,0.9s						
RLS	Riolos of Patr	1.84	344	P	Pb	09 28 26.0	+0.8
LTK	Loutraki	1.87	22	P	Pb	09 28 26.5	+0.7
LTK	Loutraki	1.87	22	P	Pb	09 28 25.7	-0.1
VAM	Vamos	1.92	117	P	Pb	09 28 26.6	0.0
LAKA	Lakka	1.95	357	P	Pb	09 28 27.1	-0.1
VLY	Voula,Athens	2.07	40	P	Pb	09 28 28.4	-0.8
KALE	Kalithea	2.10	1	P	Pb	09 28 28.9	-0.9
VILL	Villia	2.11	27	P	Pn	09 28 28.5	+1.8
EFP	Efpalio	2.14	356	P	Pb	09 28 29.9	-0.5
IDI	Anoyia	2.48	113	Pn	Pn	09 28 34.0	+2.3
	comp=E,3.4nm,0.3s,baz=305,slow=16,SNR=13						
IDI				LR	LR	09 29 31.6	
	comp=E,43nm,20.0s,baz=261,slow=41						
ESDC	Sonseca Array	20.79	287	P	Pn	09 32 37.6	+2.6
	comp=E,0.4nm,0.6s,baz=91,slow=9.0,SNR=2.4						
HFS	Hagfors	24.47	350	P	P	09 33 09.8	-0.2
	comp=E,2.8nm,0.9s,baz=150,slow=12,SNR=1.6						
ARCES	ARCESS Array B	33.36	2	P	P	09 34 29.1	+0.1
	comp=E,1.8nm,0.8s,baz=183,slow=11,SNR=1.1						
KURBB	Kurchatov Arra	42.37	52	P	P	09 35 43.1	-2.2
	comp=E,0.6nm,0.9s,baz=281,slow=8.7,SNR=3.3						
MKAR	Makanchi Array	45.25	57	P	P	09 36 07.7	-0.8
	comp=E,0.2nm,0.3s,baz=272,slow=7.8,SNR=7.0						
ZALV	Zalesovo Beam	46.04	47	P	P	09 36 13.2	-1.4
	comp=E,0.6nm,0.5s,baz=272,slow=7.1,SNR=2.0						
ILAR	Eielson Array	78.90	355	P	P	09 39 53.6	-0.5
	comp=E,0.2nm,0.8s,baz=4.9,slow=3.2,SNR=4.2						

IDC 03 09:28:28.2±999.0**, 50°55N**×**47°06E, h0**km**, Error ellipse: s-maj=1320.0km s-min=151.7km az=84.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	7.01	87	i		10 08 40.0	
	baz=276,slow=308,SNR=3.9						
I46RU	ZALESOVO INFRA	23.18	67	i		11 52 40.0	
	baz=278,slow=330,SNR=0.9						
I34MN	SONGINO INFRAS	38.00	70	i		13 20 10.0	
	baz=297,slow=330,SNR=1.4						

*IDC **03** 10:01:36.0±3.2, 64°63N×31°77E, h0km, mb1 3.1/4, mb1mx2.9/40, mbtmp3.0/4, ML2.2/4, Error ellipse: s-maj=45.6km s-min=10.6km az=100.0*
*HEL **03** 10:01:37.1±0.1, 64°66N×30°71E, h0km, ML2.0, Explosion*
*NAO **03** 10:01:38.3±1.4, 64°67N×30°80E, ML2.4*
*BER **03** 10:01:38.8±4.0, 64°68N×30°57E, h0km, ML2.4(NAO), Suspected explosion*
ISC 03 10:01:38.3±0.9**, 64°76N**±0°02×**30°29E**±0°04**, h0**km**, n35, σ2s02**/63**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	Maaselka	1.27	336	PG	Pb	10 02 03.1	0.0
	baz=155						
MSF				SG	Sn	10 02 21.2	+0.2
KU6	Riekki	1.28	353	PG	Pg	10 02 02.6	-0.2
KU6				MSG		10 02 19.9	
	comp=Z,9.7nm,0.2s						
KU6				SG	Sb	10 02 20.6	+0.2
OLKF	Oulanka, Finla	1.61	347	PG	Pb	10 02 08.7	-0.2
OLKF				SG	Sg	10 02 31.6	+1.6
JOF	Joensuu	1.90	166	PG	Pn	10 02 08.8	-3.1
JOF				SN	Sn	10 02 32.5	-4.0
OUL	Oulu	1.90	282	PG	Pg	10 02 14.8	+0.1
OUL				SG	Sg	10 02 41.5	+2.2
OUF	Merijarvi	2.43	263	PG	Pb	10 02 22.5	-0.3
OUF				MSG		10 02 53.8	
	comp=Z,16nm,0.2s						
OUF				SG	Sg	10 02 56.7	+0.4
RNF	Rovaniemi	2.57	318	PB	Pb	10 02 25.1	0.0
RNF				SB	Sg	10 03 00.1	-0.5
OBF0	Syolatti, Pyha	2.62	267	PB	Pb	10 02 26.1	0.0
OBF0				SG	Sg	10 03 03.1	+0.8
SUF	Sumiainen	2.75	224	PG	Pb	10 02 26.2	-2.1
SUF				MSG		10 02 59.8	
	comp=Z,7.4nm,0.2s						
TOF	Tornio	2.83	301	PG	Pb	10 02 30.8	+1.3
	baz=113						
TOF				MSG		10 03 06.0	
	comp=Z,4.6nm,0.2s						
TOF				SB	Sg	10 03 08.0	-1.0
VRF	Varrio	3.02	355	PB	Pb	10 02 30.4	-2.4
VRF				MSG		10 03 09.3	
	comp=Z,2.3nm,0.2s						
VRF				SG	Sg	10 03 14.7	-0.5
APA0	Apatity Array	3.06	20	Pn	Pn	10 02 27.6	-0.2
	baz=195,slow=11						
APA0				Pg	Pb	10 02 33.7	+0.1
	baz=187,slow=16						
APA0				Sn	Sn	10 03 04.6	-0.6
	baz=199,slow=37						
APA0				Lg	Lg	10 03 13.4	
	baz=188,slow=37						
APA0	Apatity Array	3.06	20	Pn	Pn	10 02 27.6	-0.2
	baz=195,slow=11						
APA0				Pg	Pb	10 02 33.7	+0.1
	baz=187,slow=16						
APA0				Sn	Sn	10 03 04.6	-0.6
	baz=199,slow=37						
APA0				Sg	Sb	10 03 13.4	+1.9
	baz=188,slow=37						
SGF	Sodankyl	3.10	332	SB	Sb	10 03 14.7	+2.1
KALU	Kalix	3.11	294	PB	Pb	10 02 32.6	-1.8
KALU				SB	Sg	10 03 15.9	-2.3
KAF	Kangasniemi	3.20	216	PB	Pn	10 02 32.7	+2.9
KEF	Keuruu	3.56	226	PB	Pn	10 02 37.8	+3.1
PAJU	Pajala	3.72	311	SG	Sg	10 03 37.8	+0.1
BURU	Burvik	3.83	271	PG	Pg	10 02 50.7	-1.0
	baz=83						
FIA0	FINESS Array S	3.84	212	Pn	Pn	10 02 38.7	+0.2
	baz=31,slow=14						
FIA0				Pg	Pb	10 02 46.6	-0.1
	baz=35,slow=16						
FIA0				Sn	Sn	10 03 26.0	+1.8
	baz=38,slow=28						
FIA0				Lg	Lg	10 03 36.5	
	baz=35,slow=37						
FIA0	FINESS Array S	3.84	212	Pn	Pn	10 02 38.7	+0.2
	baz=31,slow=14						
FIA0				Pg	Pb	10 02 46.6	-0.1
	baz=35,slow=16						
FIA0				Sg	Sb	10 03 36.5	+2.8
	baz=35,slow=37						
FIA0	FINESS Array S	3.84	212	SG	Sb	10 03 37.4	+3.7
FINES	FINESS Array B	3.84	212	Pn	Pn	10 02 38.5	0.0
	comp=Z,0.2nm,0.3s,baz=37,slow=14,SNR=5.8						
FINES				Pg	Pb	10 02 47.8	+1.0
	comp=Z,0.3nm,0.3s,baz=36,slow=18,SNR=7.7						
FINES				Lg	Lg	10 03 35.4	
	comp=Z,1.0nm,0.3s,baz=36,slow=28,SNR=10.0						
PVF	Pernaja	4.69	208	SG	Sb	10 04 01.8	+3.5
ARA0	ARCESS Array S	5.15	341	Pn	Pn	10 02 57.4	+0.9
	baz=154,slow=14						
ARA0				Sn	Sn	10 03 56.7	+0.2
	baz=159,slow=28						
ARA0				Lg	Lg	10 04 19.1	
	baz=141,slow=37						
ARA0	ARCESS Array S	5.15	341	Pn	Pn	10 02 57.4	+0.9
	baz=154,slow=14						
ARA0				Sn	Sn	10 03 56.7	+0.2
	baz=159,slow=28						
ARA0				Sg	Sg	10 04 19.1	-4.4
	baz=141,slow=37						
ARCES	ARCESS Array B	5.15	341	Pn	Pn	10 02 57.1	+0.6
	baz=154,slow=14,SNR=23						
ARCES				Sn	Sn	10 03 56.8	+0.2
	baz=152,slow=23,SNR=6.2						
ARCES				Lg	Lg	10 04 17.1	
	baz=154,slow=28,SNR=2.3						
HFS	Hagfors	8.97	247	Pn	Pn	10 03 49.7	+0.9
	comp=Z,0.3nm,0.3s,baz=54,slow=13,SNR=7.6						
HFS	Hagfors	8.97	247	Pn	Pn	10 03 49.1	+0.3
	baz=52,slow=12						
HFS				Sn	Sn	10 05 26.2	-4.2
	baz=67,slow=28						
HFS				Lg	Lg	10 06 19.0	
	baz=68,slow=28						
HFS	Hagfors	8.97	247	Pn	Pn	10 03 49.1	+0.3
	baz=52,slow=12						
HFS				Sn	Sn	10 05 26.2	-4.2
	baz=67,slow=28						
HFS				Sg	Sg	10 06 19.0	-6.8
	baz=68,slow=28						
NB2	NORSAR Subarra	9.45	256	Pn	Pn	10 03 58.0	+2.4
	baz=61,slow=16						
NB2	NORSAR Subarra	9.45	256	Pn	Pn	10 03 58.0	+2.4
	baz=61,slow=16						
NOA	NORSAR Array B	9.45	256	Pn	Pn	10 03 56.6	+1.1
	comp=Z,0.0nm,0.3s,baz=67,slow=14,SNR=4.2						
NOA				Lg	Lg	10 06 42.1	
	comp=Z,0.0nm,0.3s,baz=44,slow=22,SNR=1.8						
NRA0	NORESS Array S	9.48	253	Pn	Pn	10 03 57.8	+1.9
	baz=56,slow=11						
NRA0	NORESS Array S	9.48	253	Pn	Pn	10 03 57.8	+1.9
	baz=56,slow=11						

*IDC **03** 10:11:06.4±1.7, 14°89S×177°59W, h362km±24km, mb3.1/5, mb1 3.5/7, mb1mx3.2/35, mbtmp3.9/7, Error ellipse: s-maj=82.8km s-min=16.8km az=152.0*
ISC 03 10:11:06.8±0.9**, 15°1S**±0°3×**177°4W**±0°2**, h372**km**, n9, σ1s24**/9**, mb3.2**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.08	238	P	Pn	10 12 29.1	+0.7
	3.5nm,0.3s,baz=203,slow=22,SNR=23						
AFI	Afiamalu	5.61	79	P	Pn	10 12 33.0	-1.1
	3.1nm,0.3s,baz=119,slow=0.9,SNR=7.5						
WRA	Warramunga Arr	46.12	257	P	P	10 18 54.0	-1.8
	0.3nm,0.6s,baz=91,slow=7.0,SNR=1.9						
ASAR	Alice Springs	46.51	252	P	P	10 18 58.3	-0.5
	7.7nm,0.5s,baz=84,slow=8.5,SNR=198						
ASAR				PcP	PcP	10 20 26.5	+0.2
	0.4nm,0.5s,baz=97,slow=4.0,SNR=5.1						
ILAR	Eielson Array	82.92	13	P	P	10 22 50.5	+0.1
	0.7nm,0.6s,baz=222,slow=5.8,SNR=8.9						
TXAR	Lajitas Array	83.70	58	P	P	10 22 57.2	+2.0
	0.3nm,0.7s,baz=212,slow=4.4,SNR=3.6						
YKA	Yellowknife Ar	91.38	24	P	P	10 23 30.5	-0.4
	0.1nm,0.5s,baz=255,slow=7.2,SNR=2.2						
ARCES	ARCESS Array B	123.69	351	PKP	PKPdf	10 29 20.3	+0.1
	2.1nm,0.8s,baz=9.9,slow=2.1,SNR=5.6						
GERES	GERESS Array B	145.09	347	PKP	PKPbc	10 30 01.0	+0.1
	0.8nm,0.5s,baz=60,slow=6.3,SNR=3.5						

IDC 03 10:15:48.8±1.6**, 2°66S**×**139°14E, h0**km**, mb3.2**/2**, mb1 3.5**/3**, mb1mx3.4**/23**, mbtmp3.3**/3**, ML3.7**/1**, Error ellipse: s-maj=31.2km s-min=15.2km az=170.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.57	85	Pg	Pn	10 16 15.6	-2.4
	1.7nm,0.3s,baz=237,slow=9.4,SNR=5.8						
JAY				Lg	Lg	10 16 40.0	
	7.1nm,0.3s,baz=63,slow=17,SNR=6.6						
WRA	Warramunga Arr	17.80	195	P	Pn	10 19 58.2	+0.1
	0.3nm,0.3s,baz=14,slow=12,SNR=5.1						
ASAR	Alice Springs	21.49	193	P	P	10 20 39.3	0.0
	0.6nm,0.7s,baz=20,slow=9.9,SNR=7.7						
MKAR	Makanchi Array	70.01	322	P	P	10 27 02.8	+0.4
	0.2nm,0.5s,baz=100,slow=7.9,SNR=4.5						

*MOS **03** 10:37:28.3±1.0, 0°76S×98°76E, h28km, mb6.2/130, MS5.9/55, Error ellipse: s-maj=6.2km s-min=3.9km az=110.3*
*NEIC **03** 10:37:30.1±1.9, 0°78S±0°06×98°72E±0°06, h28km±1km, mb6.0/222, Ms_20 6.3/829, Mwb6.1/70, Mwc6.2/59, Mww6.1, Mwc6.2(GCMT), Error ellipse: s-maj=11.5km s-min=9.6km az=239.0*
*BJI **03** 10:37:30.5±0.0, 0°70S×98°75E, h30km, mB6.3/82, mb6.0/95, Ms6.5/99, Ms7 6.4/93*
*NEIC **03** 10:37:31.3, 0°77S×98°71E, h26km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr1.12; Mθθ-0.95; Mφφ-0.16; Mrθ1.31; Mθφ0.17; Mφr-0.89; Fault plane solution: Mo1.90000×10^18 NP1:φs119.64000°, δ73.62000°, λ98.39000°. NP2:φs272.02000°, δ18.35000°, λ63.60000°. Principal axes: T 2.0009, Plg61.0000°, Azm42.0000°; N -0.2180, Plg8.0000°, Azm297.0000°; P -1.7829, Plg28.0000°, Azm203.0000°;*
*IDC **03** 10:37:31.8±0.9, 0°70S×98°84E, h36km±6km, mb5.4/53, mb1 5.4/57, mb1mx5.4/60, mbtmp5.6/57, ML5.0/4, MS6.1/34, Ms1 6.1/34, ms1mx5.9/41 Error ellipse: s-maj=7.1km s-min=5.2km az=39.0*
*DJA **03** 10:37:32.8±0.2, 1°S±2°×9°9E±°, h47km±2km, M5.9/108, mB6.2/98, mb5.8/108, MLv6.4/22, Mw6.1/67, Mw(mB)5.8/98, MwMwp5.9/84, Mwp6.0/84*
*GCMT **03** 10:37:35.0±0.1, 0°72S×98°58E, h24km, MW6.2/167, Moment Tensor Solution. s167,c391; s148,c526; Duration: 3s4 Moment tensor: Scale 10^18Nm; Mrr1.38±.01; Mθθ-0.74±.01; Mφφ-0.64±.01; Mrθ1.47±.02; Mθφ0.71±.01; Mφr-1.23±.02; Best double couple: Mo2.36700×10^18 NP1:φs316.00000°, δ18.00000°, λ95.00000°. NP2:φs131.00000°, δ72.00000°, λ88.00000°. Principal axes: T 2.3590, Plg63.0000°, Azm38.0000°; N 0.0160, Plg1.0000°, Azm131.0000°; P -2.3750, Plg27.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 10:37:35, 0°97S×98°71E, h40km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr1.09; Mθθ-0.73; Mφφ-0.36; Mrθ1.45; Mθφ0.50; Mφr-1.08; Fault plane solution: Mo2.11000×10^18 NP1:φs303.00000°, δ15.00000°, λ87.00000°. NP2:φs126.00000°, δ75.00000°, λ91.00000°. Principal axes: T 2.1169, Plg60.0000°, Azm38.0000°; N -0.0172, Plg1.0000°, Azm306.0000°; P -2.0997, Plg30.0000°, Azm216.0000°;*
*NEIC **03** 10:37:36, 0°76S×98°56E, h24km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr1.32; Mθθ-0.70; Mφφ-0.62; Mrθ1.76; Mθφ0.82; Mφr-1.21; Fault plane solution: Mo2.56000×10^18 NP1:φs323.00000°, δ17.00000°, λ107.00000°. NP2:φs126.00000°, δ74.00000°, λ85.00000°. Principal axes: T 2.4871, Plg61.0000°, Azm28.0000°; N 0.1381, Plg5.0000°, Azm127.0000°; P -2.6252, Plg28.0000°, Azm220.0000°;*
*KLM **03** 10:37:36, 0°64S×98°78E, h76km, mb6.1*
*BGR **03** 10:37:37.9±0.0, 0°15S×97°42E, h33km, mb5.9, Ms5.9*
*NEIC **03** 10:37:46.8, 1°14S×98°15E, h34km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr1.41; Mθθ-0.79; Mφφ-0.62; Mrθ1.76; Mθφ0.59; Mφr-1.52; Fault plane solution: Mo2.69000×10^18 NP1:φs310.97000°, δ15.10000°, λ90.08000°. NP2:φs130.89000°, δ74.90000°, λ89.98000°. Principal axes: T 2.7406, Plg60.0000°, Azm41.0000°; N -0.1085, Plg0.0000°, Azm131.0000°; P -2.6320, Plg30.0000°, Azm221.0000°;*
ISC 03 10:37:31.4±0.3**, 0°72S**±0°02×**98°76E**±0°03**, h34**km±1km**, h34**km**:pP-P, n1876, σ1s78**/1810**, mb5.9**/351**, MS6.3**/524**, 248C-32D, Fault plane solution: NP1:**φs146.16348°**,** δ58.31188°, λ93.21352°. **NP2:**φs320.06265°**,** δ31.83376°**,** λ84.81140°. **Principal axes:** T Plg76.4547°**,** Azm65.9071°**;** N Plg2.7341°**,** Azm324.4742°**;** P Plg13.2562°**,** Azm233.8295°**; Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	Saibi	0.69	151	P	Pb	10 37 45.5	+0.4
MNSI	Mandailing Nat	1.72	29	P	Pb	10 38 00.8	-1.6
SBSI	Sibolga	2.26	3	P	Pn	10 38 07.8	+1.4
GSI	Gunungsitoli	2.33	330	Pn	Pn	10 38 07.4	0.0
GSI	Gunungsitoli	2.33	330	P	Pn	10 38 07.1	-0.3
BKNI	Bangkinang	2.51	66	Pn	Pn	10 38 12.2	+2.3
BKNI	Bangkinang	2.51	66	⇓P	Pn	10 38 12.1	+2.3

BKNI	Bangkinang	2.51	66	P	Pn	10 38 12.6	+2.7
SDSI	Sungai Dareh	2.68	95	P	Pn	10 38 14.8	+2.6
KRJI	Kerinci	3.03	117	P	Pn	10 38 20.4	+3.3
RPSI	Rantau Prapat	3.40	3		Pn	10 38 22.9	+0.8
RPSI	Rantau Prapat	3.40	3		Pn	10 38 23.2	+1.2
PSI	Prapat	3.50	3	Pn	Pn	10 38 22.9	-0.7
	88nm,0.3s,baz=180,slow=12,SNR=245						
PSI				Sn	Sn	10 38 54.5	-10
	252nm,0.3s,baz=180,slow=17,SNR=6.9						
PSI				LR	LR	10 40 01.9	
	comp=Z,597μm,21.3s,baz=268,slow=44						
PSI				ScS	ScS	10 52 59.6	-0.9
	0.4nm,0.3s,baz=180,slow=18,SNR=5.6						
PSI	Prapat	3.50	3	P	Pn	10 38 23.2	-0.4
RGRI	Rengat	3.60	84	P	Pn	10 38 26.8	+2.0
TSI	Tuntungan	4.20	357	P	Pn	10 38 35.3	+2.2
TPTI		4.25	338	P	Pn	10 38 33.0	-0.9
JMBI	JAMBI	4.97	101	P	Pn	10 38 44.7	+1.0
MLSI	Meulaboh, Aceh	5.48	335	P	Pn	10 38 50.3	-0.5
	61nm190μm74μm3μm,1.1s						
MNAI	Manna	5.54	131	Pn	Pn	10 38 52.5	+0.9
MNAI	Manna	5.54	131	⇑P	Pn	10 38 52.7	+1.1
MNAI	Manna	5.54	131	P	Pn	10 38 50.4	-1.2
	77nm98μm61μm3μm,0.7s						
IPM	Ipoh	5.64	24	Pn	Pn	10 38 55.9	+2.9
IPM	Ipoh	5.64	24	P	Pn	10 38 56.0	+3.0
MYKOM	Kota Tinggi	5.67	64	Pn	Pn	10 38 55.4	+2.1
MYKOM	Kota Tinggi	5.67	64	P	Pn	10 38 56.0	+2.6
MYKOM	Kota Tinggi	5.67	64	⇑P	Pn	10 38 55.9	+2.5
LHSI	Lahat	5.68	123	P	Pn	10 38 54.9	+1.5
	27nm64μm28μm3μm,0.6s						
LHMI	Lhok Sumawe	6.18	343	Pn	Pn	10 38 59.3	-1.0
LHMI	Lhok Sumawe	6.18	343	⇑P	Pn	10 38 59.8	-0.5
LHMI	Lhok Sumawe	6.18	343	P	Pn	10 39 04.0	+3.7
	105nm158μm61μm3μm,1.2s						
KULM	Kulim	6.26	18	Pn	Pn	10 39 03.5	+2.0
KULM	Kulim	6.26	18	P	Pn	10 39 03.0	+1.5
KULM	Kulim	6.26	18	⇑P	Pn	10 39 03.2	+1.7
PMBI	Palembang	6.40	110	Pn	Pn	10 39 02.6	-0.8
MDSI	Maura Dua	6.58	125	P	Pn	10 39 06.9	+1.0
	7.9nm54μm19μm1μm,1.0s						
LWLI	Liwa	6.80	129	P	Pn	10 39 09.9	+0.9
	20nm32μm3μm,0.8s						
KLSI		7.15	124	P	Pn	10 39 15.0	+1.3
	3.3nm15μm5μm688nm,0.7s						
KASI	Kota Agung	7.46	130	P	Pn	10 39 18.4	+0.5
	13nm51μm15μm983nm,1.1s						
PPBI	Pangkal Pinang	7.52	101	P	Pn	10 39 20.7	+2.0
	78μm10μm322nm,0.9s						
BLSI	Bandar Lampung	7.96	126	P	Pn	10 39 28.0	+3.2
	4.8nm41μm608nm,0.7s						
TRTT	Trang	8.55	6	P	Pn	10 39 32.2	-0.7
PKDT	Phuket	8.56	357	P	Pn	10 39 33.8	+0.7
KRAB	Krabi	8.89	3	P	Pn	10 39 39.3	+1.7
TPI	Tanjungpandan	9.12	103	P	Pn	10 39 42.7	+1.9
	64μm7μm402nm,0.8s						
SRIT	Nakonsritamara	9.29	5	P	Pn	10 39 43.9	+0.8
TNG	Tangerang	9.56	125	P	Pn	10 39 55.4	+8.7
SURT	Suratani	9.61	0	P	Pn	10 39 47.4	-0.1
DBJI	Dramaga	9.86	126	P	Pn	10 39 50.2	-0.7
	420nm,1.3s						
RNTT	Ranong	10.05	358	P	Pn	10 39 46.3	-7.2
LEM	Lembang	10.72	125	Pn	Pn	10 40 02.5	-0.4
	11nm,0.3s,baz=350,slow=11,SNR=12						
LEM				Sn	Sn	10 42 05.6	+3.7
	4.6nm,0.3s,baz=207,slow=21,SNR=1.4						
LEM				LR	LR	10 44 45.9	
	comp=Z,72μm,20.9s,baz=292,slow=41						
LEM				ScS	ScS	10 53 09.7	0.0
	3.8nm,0.3s,baz=327,slow=22,SNR=1.7						
LEM	Lembang	10.72	125	P	Pn	10 40 03.4	+0.6
	19μm7μm388nm,1.0s						
CISI	Cisompet, Garu	11.30	127	Pn	Pn	10 40 08.4	-2.3
CISI	Cisompet, Garu	11.30	127	P	Pn	10 40 08.0	-2.7
	28μm9μm691nm,0.6s						
COCO	West Island	11.55	189	P	Pn	10 40 12.3	-1.8
COCO	West Island	11.55	189		Pn	10 40 12.3	-1.8
KSM	Kuching	11.76	79	Pn	Pn	10 40 20.7	+3.8
KSM	Kuching	11.76	79	⇑P	Pn	10 40 20.1	+3.2
XMI	Christmas Isla	11.87	145	P	Pn	10 40 16.2	-2.3
	377nm,1.1s						
XMIS	Christmas Isla	11.88	145	Pn	Pn	10 40 15.3	-3.2
XMIS	Christmas Isla	11.88	145	P	Pn	10 40 15.1	-3.4
	155nm,1.7s						
STKI	Sintang	12.75	87	P	P	10 40 45.8	+4.7
PBKI	Pangkalan Bun	13.06	99	P	Pn	10 40 38.3	+3.6
	9μm526nm,1.2s						
SMRI	Semarang	13.24	119		Pn	10 40 40.0	+2.8
SMRI	Semarang	13.24	119	⇓P	Pn	10 40 40.2	+3.0
SMRI	Semarang	13.24	119	P	Pn	10 40 39.6	+2.4
	28μm13μm1μm,1.2s						
PHET	Kaeng Krachan	13.57	4	P	Pn	10 40 41.4	-0.2
PBA	Port Blair	13.67	334	Pn	Pn	10 40 41.0	-2.0
PBA	Port Blair	13.67	334	P	Pn	10 40 45.8	+2.8
PATY	Pattaya	13.71	9	P	Pn	10 40 44.6	+1.0
UGM	Wanagama	13.73	122	Pn	Pn	10 40 42.9	-1.1
UGM	Wanagama	13.73	122	P	Pn	10 40 42.8	-1.1
	25μm10μm570nm,1.0s						
SBUM	Sibu	13.82	77	Pn	Pn	10 40 48.7	+3.6
SBUM	Sibu	13.82	77	P	Pn	10 40 49.0	+3.8
SBUM	Sibu	13.82	77	⇑P	Pn	10 40 48.8	+3.6
SRDT	SRDT	14.98	1	P	Pn	10 40 59.7	-1.1
SRAK	Srakaew	14.99	12	P	Pn	10 41 03.2	+2.2
NAYO	Nakonayok	15.15	10	P	Pn	10 41 03.5	+0.4
DLV	T Lat	15.87	37	Pn	Pn	10 41 13.0	+0.5
DLV				IAmb	IAmb	10 41 20.0	
	comp=Z,3μm,2.0s						
MTKI	Muara Teweh, K	16.14	91	P	Pn	10 41 16.4	+0.5
	comp=Z,32μmcomp=Z,13μmcomp=Z,319nm,1.1s						
BBKI	Banjar Baru	16.30	100	P	Pn	10 41 18.0	0.0
	comp=Z,24μmcomp=Z,10μmcomp=Z,380nm,0.8s						
KMMI	Kalianget	16.42	113	P	Pn	10 41 18.0	-1.5
	comp=Z,25μmcomp=Z,6μmcomp=Z,493nm,1.4s						
UMPA	Umpang Tak	16.82	0	P	Pn	10 41 20.9	-3.5
CHAI	Chaiyaphum	16.82	11	P	Pn	10 41 24.5	0.0
ABJI	Asem Bagus	16.95	115	P	P	10 41 27.0	-0.8
	comp=Z,19μmcomp=Z,8μmcomp=Z,320nm,0.9s						
JAGI	Jajag, Banyuwa	17.16	117	Pn	Pn	10 41 27.2	-1.6
JAGI	Jajag, Banyuwa	17.16	117	⇑P	P	10 41 32.5	+2.3
JAGI	Jajag, Banyuwa	17.16	117	P	P	10 41 37.7	+7.5
UBPT	Khong Chiam	17.23	22	P	Pn	10 41 28.0	-1.6
UBPT	Khong Chiam	17.23	22		Pn	10 41 27.5	-2.1
PBKT	Sadao Pong	17.32	7	P	Pn	10 41 30.3	-0.4
KBKI	Kotabaru	17.59	99	P	P	10 41 34.5	-0.4
	comp=Z,1μmcomp=Z,4μmcomp=Z,393nm,0.9s						
PHIT	Phitsanulok	17.87	5	P	Pn	10 41 36.6	-0.9
SRBI	Singaraja	17.96	115	P	Pn	10 41 38.1	-0.5
	comp=Z,21μmcomp=Z,8μmcomp=Z,324nm,1.1s						
SUKH	Sukhothai	18.11	3	P	Pn	10 41 39.5	-0.9
BKB	Balikpapan	18.15	92	P	P	10 41 41.1	+0.1
BKB				IAmb	IAmb	10 41 55.7	
	comp=Z,1μm,0.9s						
BKB	Balikpapan	18.15	92	⇑P	P	10 41 43.2	+2.1
BKB	Balikpapan	18.15	92	P	P	10 41 43.5	+2.5
	comp=Z,91μmcomp=Z,35μmcomp=Z,1μm,1.0s						
LOEI	Loei	18.28	8	P	P	10 41 37.1	-5.4
UTTA	Uttaradit	18.43	5	P	P	10 41 42.7	-1.5
KKM	Kota Kinabalu	18.68	69	P	Pn	10 41 47.4	-0.2
KKM				IAmb	IAmb	10 41 52.8	
	comp=Z,1μm,0.9s						
KKM	Kota Kinabalu	18.68	69	⇑P	Pn	10 41 48.3	+0.7
MHMT	Maesarieng	18.80	358	P	P	10 41 46.6	-1.5
SGKI	Sangatta, Kali	18.85	90	P	Pn	10 41 52.3	+2.8
	comp=Z,84μmcomp=Z,22μmcomp=Z,1μm,1.2s						
CM04	Chiang Mai Arr	19.00	1	P	P	10 41 49.5	-0.9
CM05	Chiang Mai Arr	19.00	1	P	P	10 41 50.2	-0.2
CM01	Chiang Mai Arr	19.02	1	P	P	10 41 50.2	-0.4
CM13	Chiang Mai Arr	19.02	0	P	P	10 41 49.9	-0.8
CM02	Chiang Mai Arr	19.04	1	P	P	10 41 50.2	-0.5
CM09	Chiang Mai Arr	19.05	1	P	P	10 41 50.9	0.0
CM15	Chiang Mai Arr	19.05	0	P	P	10 41 51.4	+0.4
CM31	Chiang Mai Arr	19.06	1	P	Pn	10 41 52.4	+0.4
CM31	Chiang Mai Arr	19.06	1	P	P	10 41 50.8	-0.2
CM31				IAmb	IAmb	10 41 55.1	
	comp=Z,1μm,1.1s						
CMAR	Chiang Mai Arr	19.06	1	P	P	10 41 50.0	-1.0
	comp=Z,5.9nm,0.3s,baz=188,slow=8.5,SNR=202						
CMAR				S	S	10 45 25.8	+0.2
	comp=Z,0.5nm,0.3s,baz=24,slow=40,SNR=1.2						
CMAR				LR	LR	10 49 53.1	
	comp=Z,109μm,18.9s,baz=228,slow=39						
CMAR				ScS	ScS	10 53 29.3	-1.3
	comp=Z,0.4nm,0.3s,baz=105,slow=28,SNR=1.6						
CMAR	Chiang Mai Arr	19.06	1	ceP	P	10 41 50.0	-1.0
CMAR				pmax	pmax		
	comp=Z,472nm,1.0s						
CMAR	Chiang Mai Arr	19.06	1	P	P	10 41 50.6	-0.4
LAMP	Lampang	19.14	3	P	P	10 41 51.6	-0.4
NONG	Nongkai	19.16	13	P	P	10 41 51.8	-0.3
CMMT	Chiang Mai	19.41	1	P	P	10 41 54.0	-0.9
CHTO	Chiang Mai	19.41	1	P	P	10 41 52.9	-2.0
CHTO				pmax	pmax		
	comp=Z,297nm,0.8s						
CHTO	Chiang Mai	19.41	1	P	P	10 41 52.9	-2.0
CHTO	Chiang Mai	19.41	1	P	Pn	10 41 55.6	-0.7
CHTO				P	Pn	10 41 55.6	-0.7
CHTO	Chiang Mai	19.41	1	⇑P	P	10 41 53.8	-1.1
PALK	Pallekele	19.68	294	P	Pn	10 41 59.1	-0.4
	comp=Z,1.7nm,0.3s,baz=215,slow=9.6,SNR=41						
PALK				S	S	10 45 23.2	-15
	comp=Z,2.3nm,0.3s,baz=123,slow=11,SNR=4.4						
PALK				LR	LR	10 48 43.8	
	comp=Z,63μm,20.1s,baz=220,slow=34						
PALK	Pallekele	19.68	294	*i* P	Pn	10 41 59.4	-0.1
PALK				MLR	MLR		
	comp=Z,75μm,19.0s						
PALK	Pallekele	19.68	294	P	Pn	10 42 00.0	+0.5
PALK				P	Pn	10 42 00.0	+0.5
PALK				P	Pn	10 42 00.0	+0.5
PALK	Pallekele	19.68	294	⇑P	Pn	10 41 59.6	0.0
TWSI	Taliwang, Sumb	19.73	114	P	P	10 41 58.2	-0.2
	comp=Z,11μmcomp=Z,2μmcomp=Z,131nm,1.3s						
PAYA	Payao	19.98	3	P	Pn	10 42 03.0	0.0
MYLDM	Lahad Datu	20.57	73	P	Pn	10 42 09.3	-0.7
MYLDM	Lahad Datu	20.57	73	⇑P	Pn	10 42 09.3	-0.7
PLAI	Plampang	20.58	114	P	P	10 42 04.0	-3.7
	comp=Z,18μmcomp=Z,3μmcomp=Z,164nm,1.0s						
CRAI	Chiangrai	20.88	4	P	P	10 42 11.6	+0.7
TTSI	Tana Toraja	21.18	97	P	P	10 42 14.6	+0.5
	comp=Z,38μmcomp=Z,8μmcomp=Z,894nm,1.1s						
BATP	Bataraza	21.20	63	*e*P	P	10 42 15.5	+1.1
SPSI	Sidrap Palu	21.24	99	P	P	10 42 14.6	-0.2
	comp=Z,43μmcomp=Z,6μmcomp=Z,350nm,0.8s						
KAPI	Kappang	21.40	102	P	P	10 42 14.6	-1.9
	comp=Z,22nm,0.7s,baz=282,slow=11,SNR=3.3						
KAPI				S	S	10 46 13.4	+1.0
	comp=Z,7.4nm,0.8s,baz=100,slow=22,SNR=0.9						
KAPI				LR	LR	10 51 17.9	
	comp=Z,52μm,19.9s,baz=280,slow=39						
KAPI	Kappang	21.40	102	P	P	10 42 16.2	-0.3
KAPI				pmax	pmax		
	comp=Z,653nm,1.0s						
KAPI				MLR	MLR		
	comp=Z,55μm,19.0s						
KAPI	Kappang	21.40	102	P	P	10 42 16.2	-0.3
KAPI				IAmb	IAmb	10 42 31.4	
	comp=Z,653nm,0.9s						
KAPI	Kappang	21.40	102	⇑P	P	10 42 16.2	-0.3
BNSI	Bone	21.64	100	P	P	10 42 19.5	+0.4
	comp=Z,40μmcomp=Z,16μmcomp=Z,1μm,1.2s						
TOLI2	Tolitoli	22.10	85	P	P	10 42 23.7	-0.4
TOLI2				IAmb	IAmb	10 42 28.8	
	comp=Z,456nm,0.8s						
BSSI	Bau Bau, Buton	22.35	104	P	P	10 42 27.5	+0.8
	comp=Z,17μmcomp=Z,7μmcomp=Z,430nm,1.5s						
WBSI	Waikabubak, Su	22.36	114	P	P	10 42 22.2	-4.7
	comp=Z,2μmcomp=Z,204nm,0.8s						
QIZ	Qiongzhong	22.45	28	P	P	10 42 28.2	+0.5
QIZ				S	S	10 46 31.5	-0.7
QIZ				LR	LR		
	comp=Z,44μm,23.5s						
QIZ				LR	LR		
	comp=Z,34μm,14.2s						
QIZ				LR	LR		
	comp=Z,62μm,20.6s						
QIZ	Qiongzhong	22.45	28	P	P	10 42 27.3	-0.3
SLVN	Son La	22.49	13	P	P	10 42 27.5	-0.7
SLVN				IAMs_20	IAMs_20	10 52 34.5	
	comp=Z,85μm,18.0s						
APSI	Ampana	22.89	91	P	P	10 42 32.6	+0.1
	comp=Z,27μmcomp=Z,10μmcomp=Z,494nm,1.4s						
MRSI	Marisa	23.22	87	P	P	10 42 35.2	-0.6
	comp=Z,43μmcomp=Z,14μmcomp=Z,1μm,1.3s						
BASI	Baing, Sumba	23.66	114	P	P	10 42 49.9	+10
ENPP	El Nido	23.72	59	*e*P	P	10 42 40.8	+0.2
LUWI	Luwuk	24.02	91	P	P	10 42 43.4	-0.1
LUWI	Luwuk	24.02	91	⇑P	P	10 42 43.4	-0.1
LUWI	Luwuk	24.02	91	P	P	10 42 43.3	-0.1
	comp=Z,37μmcomp=Z,20μmcomp=Z,2μm,1.1s						
EDFI	Ende, Flores	24.19	110	P	P	10 42 41.0	-4.2
GTOI	Gorontalo	24.29	87	P	P	10 42 43.9	-2.1
	comp=Z,7μmcomp=Z,396nm,0.8s						
MMRI	Maumere	24.67	109	P	P	10 42 46.2	-3.2
MMRI	Maumere	24.67	109	P	P	10 42 43.0	-6.5
	comp=Z,13μmcomp=Z,3μmcomp=Z,145nm,0.9s						
BUSP	Coron	24.76	59	*e*P	P	10 42 50.4	+0.2
CUYO	Cuyo Island	24.94	62	*e*P	P	10 42 52.2	+0.3
KMSI	Cibinong	25.26	87	P	P	10 42 55.9	+1.1
	comp=Z,9μmcomp=Z,1μm,0.9s						
LUBP	Lubang	25.68	55	*e*P	P	10 42 57.0	-1.6
KMI	Kunming	25.98	8	⇑P	P	10 43 03.2	+1.8
KMI				pP	pP	10 43 11.4	+0.5
KMI				sP	sP	10 43 14.1	-1.0
KMI				PP	PnPn	10 43 43.3	+3.3
KMI				S	S	10 47 30.4	+0.3
KMI				pmax	pmax		
	comp=Z,960nm,1.1s						
KMI				pmax	pmax		
	comp=Z,5μm,5.0s						
KMI				LR	LR		
	comp=Z,57μm,20.2s						
KMI				LR	LR		
	comp=Z,40μm,17.0s						
KMI				LR	LR		
	comp=Z,68μm,21.4s						
KMI	Kunming	25.98	8	P	P	10 43 02.8	+1.4
KMI				pmax	pmax		
	comp=Z,837nm,0.9s						
KMI				MLR	MLR		
	comp=Z,73μm,20.0s						
KMI	Kunming	25.98	8	P	P	10 43 02.8	+1.4
KMI	Kunming	25.98	8	IAMs_20	IAMs_20	10 54 03.9	
	comp=Z,73μm,20.0s						
CNOP	Candoni, Negro	25.98	66	*e*P	P	10 43 01.1	-0.2
PAGZ	Pagadian	25.99	70	*e*P	P	10 43 01.8	+0.4
PGP	Puerto Galera	26.15	57	⇑*e*P	P	10 43 02.7	-0.2
MNI	Manado	26.17	85	P	P	10 43 04.6	+1.5
MNI				pmax	pmax		
	comp=Z,495nm,1.1s						
GUIM	Jordan	26.25	64	*e*P	P	10 43 03.4	-0.3
MACP	Maragondon, Ca	26.35	55	*e*P	P	10 43 03.7	-1.0
TGY	Tagaytay City	26.45	55	P	P	10 43 05.8	+0.3
	comp=Z,154nm,0.3s,baz=279,slow=3.9,SNR=3.2						
TGY				LR	LR	10 53 39.7	
	comp=Z,85μm,20.7s,baz=225,slow=37						
GIRL	Giralia	26.49	146	P	P	10 43 08.3	+2.5
	baz=27,SNR=4.4						
BATI	Baumata	26.50	112	P	P	10 43 06.1	+0.1
	comp=Z,15nm,0.3s,baz=298,slow=18,SNR=4.4						
BATI				S	S	10 47 34.9	-3.3
	comp=Z,43nm,0.8s,baz=180,slow=24,SNR=2.3						
BATI	Baumata	26.50	112	P	P	10 43 06.2	+0.1
	comp=Z,7μmcomp=Z,1μmcomp=Z,70nm,0.7s						
SKMP	Bagumbayan, Su	26.72	74	*e*P	P	10 43 07.2	-0.9
QVP	Quezon City--P	26.78	54	*e*P	P	10 43 18.6	+10
HYB	Hyderabad	26.85	313	*i* P	P	10 43 09.0	-0.1
	comp=Z,375nm,1.4s						
HYB				*e*S	S	10 48 04.0	+20
HYB				*e*LR	LR		
	comp=Z,21nm,20.0s						
BOAC	Boac	26.87	58	*e*P	P	10 43 14.6	+5.2
BOLP	Bolinao	26.92	50	*e*P	P	10 43 10.2	+0.5
SOEI	Soe	26.92	110	P	P	10 43 08.1	-1.9
SOEI				IAmb	IAmb	10 44 02.1	
	comp=Z,467nm,1.3s						
SOEI	Soe	26.92	110	P	P	10 43 06.8	-3.1
	comp=Z,14μmcomp=Z,3μmcomp=Z,214nm,0.9s						
LQP	Lukban	26.95	56	⇑*e*P	P	10 43 10.3	0.0
SHL	Shillong	26.96	346	P	P	10 43 10.6	+0.4
SHL				pmax	pmax		
	comp=Z,607nm,0.7s						
SHL	Shillong	26.96	346	P	P	10 43 10.6	+0.4
SHL	Shillong	26.96	346	P	P	10 43 10.7	+0.4
	SNR=344						
DGAR	Diego Garcia	27.05	255	*ce*P	P	10 43 10.9	-0.1
DGAR				pmax	pmax		
	comp=Z,241nm,1.7s						
DGAR	Diego Garcia	27.05	255	P	P	10 43 10.2	-0.8
DGAR				IAmb	IAmb	10 43 25.9	
	comp=Z,488nm,1.4s						
DGAR	Diego Garcia	27.05	255	P	P	10 43 14.9	+3.9
DGAR				P	P	10 43 14.9	+3.9
DGAR				P	P	10 43 14.9	+3.9
H08S2	Diego Garcia H	27.06	255	T	T	11 11 08.8	
	baz=76,slow=75						
H08S3	Diego Garcia H	27.07	255	T	T	11 11 12.0	
	baz=76,slow=75						
H08S1	Diego Carcia H	27.08	255	T	T	11 11 15.0	
	baz=76,slow=75						
MNCI	Minicoy	27.13	290	P	P	10 43 09.4	-2.3
MNCI				IAmb	IAmb	10 44 03.9	
	comp=Z,419nm,1.3s						
SANI	Sanana	27.26	93	⇑P	P	10 43 11.7	-1.2
SANI	Sanana	27.26	93	P	P	10 43 10.9	-1.9
	comp=Z,20μmcomp=Z,4μmcomp=Z,94nm,1.2s						
KCP	Kidapawan	27.37	73	⇑*i*P	P	10 43 13.4	-0.6
LLP	Lapu-Lapu	27.38	66	*e*P	P	10 43 13.2	-0.6
SMPP	San Manuel, Pa	27.38	51	*e*P	P	10 43 12.2	-1.7
HKC	Hong Kong Obse	27.38	32	⇑P	P	10 43 14.0	+0.2
CGP	Cagayan de Oro	27.41	70	⇓*e*P	P	10 43 15.9	+1.7
GZH	Guangzhou	27.60	30	P	P	10 43 21.3	+5.6
GZH				S	S	10 48 05.0	+10
GZH				LR	LR		
	comp=Z,57μm,17.9s						
GZH				LR	LR		
	comp=Z,89μm,16.9s						
POLP	Polilio Island	27.60	55	*e*P	P	10 43 17.2	+1.4
DDMP	Don Marcelino,	27.75	75	*e*P	P	10 43 15.9	-1.3
BALP	Baler	27.85	53	*e*P	P	10 43 17.9	-0.2
JCNP	Jose Panganiba	28.00	57	*e*P	P	10 43 18.5	-1.0
SZP	Santa	28.04	49	P	P	10 43 18.7	-1.1
GYA	Guiyang	28.08	15	⇑P	P	10 43 20.5	+0.4
GYA				pP	pP	10 43 29.3	-0.4
GYA				S	S	10 48 02.6	-0.4
GYA				sS	sS	10 48 21.7	+2.7
GYA				SS	SnSn	10 49 29.2	+9.2
GYA				pmax	pmax		
	comp=Z,490nm,1.3s						
GYA				pmax	pmax		
	comp=Z,3μm,6.6s						
GYA				LR	LR		
	comp=Z,65μm,15.8s						
GYA				LR	LR		
	comp=Z,31μm,16.0s						
GYA				LR	LR		
	comp=Z,91μm,15.5s						
MSLP	Maasin	28.12	67	*e*P	P	10 43 20.9	+0.3
OCLP	Ormoc	28.24	65	*e*P	P	10 43 27.9	+6.2
NLAI	Namlea	28.44	95	P	P	10 43 23.7	+0.3
	comp=Z,5μmcomp=Z,224nm,0.8s						
TNTI	Ternate	28.65	87	P	P	10 43 24.4	-0.9
TNTI	Ternate	28.65	87	P	P	10 43 28.1	+2.8
	comp=Z,11μmcomp=Z,2μmcomp=Z,118nm,1.5s						
CAUP	Cauayan	28.73	51	*e*P	P	10 43 24.6	-1.3
APYP	Conner	28.82	49	*e*P	P	10 43 26.6	-0.2
MBWA	Marble Bar	28.84	136	P	P	10 43 28.0	+1.1
MBWA				P	P	10 43 28.0	+1.1
MBWA	Marble Bar	28.84	136	⇑P	P	10 43 27.8	+0.9
PSAD1	Pilbara Seismi	29.11	136	IAMs_20	IAMs_20	10 55 22.1	
	comp=Z,69μm,21.0s						
PSAC1	Pilbara Seismi	29.15	137	IAMs_20	IAMs_20	10 55 24.1	
	comp=Z,75μm,21.0s						
CVP	Callao Caves	29.17	50	⇓*e*P	P	10 43 29.4	-0.4
GLSP	General Luna,	29.18	68	*e*P	P	10 43 28.3	-1.6
PSAB1	Pilbara Seismi	29.18	137	IAMs_20	IAMs_20	10 55 25.0	
	comp=Z,71μm,21.0s						
PSAA2	Pilbara Seismi	29.19	137	IAMs_20	IAMs_20	10 55 36.3	
	comp=Z,68μm,21.0s						
PSAA1	Pilbara Seismi	29.20	137	IAMs_20	IAMs_20	10 55 36.4	
	comp=Z,70μm,21.0s						
PSAB2	Pilbara Seismi	29.20	137	IAMs_20	IAMs_20	10 55 25.5	
	comp=Z,71μm,21.0s						
PSA00	Pilbara Seismi	29.20	137	P	P	10 43 30.1	0.0
PSA00				IAMs_20	IAMs_20	10 55 24.5	
	comp=Z,70μm,21.0s						
PSAD3	Pilbara Seismi	29.20	137	IAMs_20	IAMs_20	10 55 25.6	
	comp=Z,77μm,21.0s						
PSAA3	Pilbara Seismi	29.21	137	IAMs_20	IAMs_20	10 55 25.8	
	comp=Z,71μm,21.0s						
PSAB3	Pilbara Seismi	29.22	137	IAMs_20	IAMs_20	10 55 25.0	
	comp=Z,73μm,21.0s						
PSAC3	Pilbara Seismi	29.22	137	IAMs_20	IAMs_20	10 55 26.0	
	comp=Z,71μm,21.0s						
PSAC2	Pilbara Seismi	29.23	137	IAMs_20	IAMs_20	10 55 47.3	
	comp=Z,64μm,20.0s						
ODAN	Odare	29.52	339	*e*P	P	10 43 33.6	+0.4
	comp=Z,481nm,1.1s						
TAPN	Taplejung	29.86	340	*e*P	P	10 43 37.4	+1.2
	comp=Z,771nm,1.0s						
RAMN	Ramite	29.90	338	*e*P	P	10 43 37.2	+0.7
	comp=Z,256nm,0.9s						
PKI	Pulchoki	30.92	336	*e*P	P	10 43 45.9	+0.3
	comp=Z,757nm,1.5s						
PKIN	Phulchoki	30.93	336	*e*P	P	10 43 45.9	+0.3
	comp=Z,194nm,0.9s						
BBP	Basco	30.96	46	*e*P	P	10 43 43.8	-1.8
GUN	Gumba	31.04	338	*e*P	P	10 43 47.4	+0.8
	comp=Z,453nm,0.7s						
POO	Poona	31.07	309	⇑*i*x	P	10 43 45.0	-1.7
DMN	Daman	31.07	336	*e*P	P	10 43 47.3	+0.4
	comp=Z,256nm,1.0s						
LSA	Lhasa	31.11	347	P	P	10 43 48.6	+1.2
LSA				pmax	pmax		
	comp=Z,1μm,1.1s						
LSA				LR	LR		
	comp=Z,26μm,17.8s						
LSA				LR	LR		
	comp=Z,30μm,15.7s						
LSA				LR	LR		
	comp=Z,39μm,18.5s						
LSA	Lhasa	31.11	347	P	P	10 43 48.6	+1.2
LSA	Lhasa	31.11	347	P	P	10 43 48.6	+1.2
LSA				pmax	pmax		
	comp=Z,521nm,1.3s						
LSA				MLR	MLR		
	comp=Z,30μm,21.0s						
LSA	Lhasa	31.11	347	P	P	10 43 48.6	+1.2
LSA				IAmb	IAmb	10 44 04.2	
	comp=Z,521nm,1.3s						
KKN	Kakani	31.16	336	*e*P	P	10 43 48.0	+0.4
	comp=Z,586nm,1.3s						
KNMB	Chin-men Tao	31.45	36	P	P	10 43 50.0	0.0
KNMB				IAmb	IAmb	10 43 51.0	
	comp=Z,165nm,1.2s						
KNMB				IAMs_20	IAMs_20	10 56 53.9	
	comp=Z,81μm,20.0s						
FITZ	Fitzroy Crossi	31.56	125	P	P	10 43 50.4	-0.5
	comp=Z,63nm,0.7s,baz=310,slow=6.2,SNR=129						
FITZ				S	S	10 48 53.9	-3.7
	comp=Z,24nm,1.1s,baz=150,slow=17,SNR=4.0						
FITZ				LR	LR	10 57 35.8	
	comp=Z,28μm,21.2s,baz=316,slow=38						
FITZ	Fitzroy Crossi	31.56	125	P	P	10 43 50.4	-0.5
	baz=32,SNR=66						
FITZ	Fitzroy Crossi	31.56	125	P	P	10 43 50.0	-1.0
GKN	Gorkha	31.61	336	*e*P	P	10 43 52.2	+0.7
	comp=Z,487nm,1.0s						
CD2	Chengdu	31.81	8	⇑*i*P	P	10 43 53.2	+0.1
CD2				pP	pP	10 44 00.3	-2.4
CD2				sP	sP	10 44 05.9	-1.0
CD2				S	S	10 49 01.0	-0.4
CD2				sS	sS	10 49 21.2	+3.8
CD2				pmax	pmax		
	comp=Z,980nm,0.9s						
CD2				pmax	pmax		
	comp=Z,5μm,4.9s						
CD2				LR	LR		
	comp=Z,98μm,18.1s						
CD2				LR	LR		
	comp=Z,61μm,16.2s						
CD2				LR	LR		
	comp=Z,108μm,20.6s						
TWG	Pinlang	31.93	41	P	P	10 43 53.7	-0.5
TWG				IAmb	IAmb	10 44 08.2	
	comp=Z,448nm,1.9s						
QZH	Quanzhou	31.94	36	⇑*i*P	P	10 43 53.9	-0.3
QZH				sP	sP	10 44 08.7	+0.8
QZH				S	S	10 49 03.8	+0.5
QZH				pmax	pmax		
	comp=Z,91nm,1.1s						
QZH				pmax	pmax		
	comp=Z,2μm,7.9s						
QZH				LR	LR		
	comp=Z,34μm,16.6s						
QZH				LR	LR		

comp=Z,36µm,15.2s
QZH LR LR
comp=Z,78µm,18.8s
TPUB Ta-pu 31.98 40 P P 10 43 53.4 -1.2
ENH Enshi 32.47 17 P P 10 43 58.6 -0.3
ENH IAMs_20 IAMs_20 10 58 41.4
comp=Z,57µm,18.0s
YULB Yu-li 32.48 41 P P 10 43 58.5 -0.5
YULB IAmb IAmb 10 44 05.0
comp=Z,114nm,0.8s
SWI Sorong 32.50 90 P P 10 43 58.6 -0.7
SWI pmax pmax
comp=Z,321nm,1.3s
SWI Sorong 32.50 90 P P 10 43 57.0 -2.3
comp=Z,15µmcomp=Z,4µmcomp=Z,321nm,1.3s
SIJI Sorong 32.51 90 P P 10 43 58.5 -0.9
comp=Z,165nm,1.0s,baz=305,slow=7.8,SNR=38
SIJI S S 10 49 07.6 -5.1
comp=Z,4.1nm,0.5s,baz=215,slow=23,SNR=1.2
SIJI LR LR 10 57 42.5
comp=Z,16µm,21.0s,baz=258,slow=37
SSLB Suanglung 32.53 40 P P 10 43 59.5 0.0
MORW Morawa 32.66 151 P P 10 44 02.9 +2.4
baz=33,SNR=7.3
MORW Morawa 32.66 151 P P 10 43 58.3 -2.3
MORW Morawa 32.66 151 ⇑P P 10 44 03.0 +2.4
KNRA Kununurra 33.13 118 P P 10 44 03.9 -0.9
NACB Ninganchiao 33.22 40 P P 10 44 05.9 +0.5
NACB IAmb IAmb 10 44 08.1
comp=Z,219nm,1.0s
NACB IAMs_20 IAMs_20 10 57 46.9
comp=Z,43µm,20.0s
YHNB Yeheng 33.43 39 P P 10 44 07.3 -0.1
YHNB IAmb IAmb 10 44 11.9
comp=Z,247nm,1.0s
FAKI Fak Fak 33.55 94 P P 10 44 08.0 -0.5
FAKI IAmb IAmb 10 44 27.2
comp=Z,207nm,0.8s
FAKI Fak Fak 33.55 94 ⇑P P 10 44 07.7 -0.8
FAKI Fak Fak 33.55 94 P P 10 44 07.3 -1.2
comp=Z,17µmcomp=Z,4µmcomp=Z,305nm,1.0s
TATO Taipei 33.72 39 P P 10 44 09.7 -0.1
TATO IAmb IAmb 10 44 13.4
comp=Z,206nm,0.8s
TATO Taipei 33.72 39 P P 10 44 10.1 +0.3
TATO P P 10 44 10.1 +0.3
TATO P P 10 44 10.1 +0.3
BLDU Ballidu 34.27 152 P P 10 44 17.8 +3.3
baz=34,SNR=5.2
WHN Wuhan 34.45 24 ⇑P P 10 44 16.2 +0.1
WHN sP **sP 10 44 27.9 -2.0**
WHN PP **PP 10 45 37.8 +3.2**
WHN PcP **PcP 10 46 51.9 +0.8**
WHN S **S 10 49 45.9 +3.6**
WHN pmax pmax
comp=Z,150nm,1.2s
WHN LR LR
comp=Z,83µm,15.3s
WHN LR LR
comp=Z,33µm,13.1s
WHN LR LR
comp=Z,88µm,20.3s
MUN Mundaring 35.19 154 P P 10 44 25.6 +3.1
baz=35,SNR=9.5
KDU Kakadu 35.47 111 P P 10 44 22.7 -2.5
baz=36,SNR=8.6
KDU Kakadu 35.47 111 ⇓P P 10 44 22.6 -2.5
KLBR Kellerberrin 35.58 151 P P 10 44 27.8 +2.0
baz=36,SNR=8.5
AJM Ajmer 35.66 321 ⇑*ix* P 10 44 26.0 -0.6
NDI New Delhi 35.78 327 *ex* P 10 44 26.5 -1.1
NDI *ex* **PcS 10 50 43.0 +0.5**
XAN Xi'an 35.87 14 P P 10 44 28.1 -0.2
XAN pP pP 10 44 37.0 -1.0
XAN PP **PP 10 45 54.5 +4.2**
XAN S **S 10 50 05.3 +1.2**
XAN pmax pmax
comp=Z,420nm,1.3s
XAN pmax pmax
comp=Z,5µm,7.0s
XAN LR LR
comp=Z,87µm,16.9s
XAN LR LR
comp=Z,36µm,17.2s
XAN LR LR
comp=Z,121µm,16.4s
XAN Xi'an 35.87 14 P P 10 44 27.4 -0.9
XAN pmax pmax
comp=Z,730nm,0.9s
XAN MLR MLR
comp=Z,79µm,18.0s
XAN Xi'an 35.87 14 P P 10 44 27.4 -0.9
NWAO Narrogin (SRO) 36.45 153 P P 10 44 32.6 -0.7
comp=Z,40nm,1.0s,baz=319,slow=11,SNR=11
NWAO LR LR 10 57 22.0
comp=Z,32µm,21.8s,baz=342,slow=33
NWAO Narrogin (SRO) 36.45 153 P P 10 44 35.4 +2.1
baz=37,SNR=8.2
NWAO Narrogin (SRO) 36.45 153 P P 10 44 32.4 -0.9
NWAO IAmb IAmb 10 44 44.1
comp=Z,140nm,1.1s
NWAO Narrogin (SRO) 36.45 153 P P 10 44 32.3 -0.9
NWAO IAmb IAmb 10 44 44.1
comp=Z,111nm,1.1s
NWAO Narrogin (SRO) 36.45 153 P P 10 44 35.7 +2.4
NWAO P P 10 44 35.7 +2.4
NWAO P P 10 44 35.7 +2.4
LZH Lanzhou 36.92 7 ⇑P P 10 44 38.5 +1.1
LZH pP pP 10 44 46.6 -0.5
LZH sP sP 10 44 49.6 -1.7
LZH PP **PnPn 10 46 07.5 +5.2**
LZH S **S 10 50 21.8 +1.4**
LZH sS sS 10 50 38.2 +1.6
LZH SS **SnSn 10 52 51.9 -2.8**
LZH pmax pmax
comp=Z,820nm,1.3s
LZH pmax pmax
comp=Z,6µm,6.0s
LZH LR LR
comp=Z,48µm,14.1s
LZH LR LR
comp=Z,40µm,14.2s
LZH LR LR
comp=Z,40µm,17.4s
WRKA Warakurna 37.40 133 P P 10 44 42.1 +0.6
baz=38,SNR=68
WRKA Warakurna 37.40 133 ⇑P P 10 44 42.2 +0.7
SRPI Serui, Papua 37.49 92 P P 10 44 40.7 -1.7
comp=Z,11µmcomp=Z,296nm,0.8s
KMBL Kambalda 37.53 147 P P 10 44 44.3 +1.8
baz=38,SNR=20
NJ2 Nanjing 37.74 28 ⇑*i*P P 10 44 43.8 -0.4
NJ2 pP **pP 10 44 54.4 +0.4**
NJ2 sP **sP 10 44 58.1 +0.2**
NJ2 S **S 10 50 33.5 +0.9**
NJ2 sS **ScP 10 50 46.8 +0.8**
NJ2 pmax pmax
comp=Z,73nm,1.1s
NJ2 pmax pmax
comp=Z,2µm,6.4s
NJ2 LR LR
comp=Z,47µm,17.5s
NJ2 LR LR
comp=Z,49µm,15.6s
NJ2 LR LR
comp=Z,56µm,17.1s
SSE Sheshan 38.15 32 P P 10 44 47.8 +0.2
SSE PP **PnPn 10 46 17.8 +0.9**
SSE S **S 10 50 43.2 +4.5**
SSE pmax pmax
comp=Z,130nm,1.1s
SSE pmax pmax
comp=Z,850nm,6.3s
SSE Sheshan 38.15 32 P P 10 44 47.4 -0.2
SSE IAmb IAmb 10 44 49.2
comp=Z,306nm,1.1s
BHK Bhakra 38.35 328 *ex* P 10 44 48.0 -1.4
JOW Kunigami 39.48 44 P P 10 44 58.4 -0.5
comp=Z,126nm,0.8s,baz=262,slow=6.7,SNR=10
JOW Kunigami 39.48 44 P P 10 44 58.1 -0.8
JOW Kunigami 39.48 44 ⇓P P 10 44 59.6 +0.8
WB0 Warramunga Arr 39.69 121 P P 10 44 59.4 -1.4
WB0 IAmb IAmb 10 45 15.8
comp=Z,184nm,0.9s
WRA Warramunga Arr 39.71 121 P P 10 45 00.1 -0.8
comp=Z,124nm,0.8s,baz=298,slow=9.1,SNR=360
WRA S **S 10 50 57.8 -5.0**
comp=Z,18nm,1.0s,baz=294,slow=16,SNR=6.9
WRA ScS **ScS 10 55 06.5 -0.3**
comp=Z,2.6nm,0.9s,baz=291,slow=28,SNR=2.8
WRA LR LR 11 01 44.1
comp=Z,13µm,21.0s,baz=290,slow=37
WRAB Tennant Creek 39.72 121 *c i*P P 10 45 00.2 -0.9
WRAB pmax pmax
comp=Z,192nm,0.8s
WRAB MLR MLR
comp=Z,26µm,23.0s
WRAB Tennant Creek 39.72 121 P P 10 44 59.8 -1.2
WRAB IAmb IAmb 10 45 05.0
comp=Z,180nm,0.8s
WRAB Tennant Creek 39.72 121 ⇑P P 10 45 00.1 -0.9
WB2 Warramunga Arr 39.72 121 P P 10 44 59.8 -1.2
WB2 IAmb IAmb 10 45 05.0
comp=Z,151nm,0.8s
WC3 Warramunga Arr 39.75 121 P P 10 45 00.5 -0.8
baz=40
WR0 Warramunga Arr 39.89 121 P P 10 45 01.9 -0.6
WR0 IAmb IAmb 10 45 06.5
comp=Z,204nm,0.8s
GTA Gaotai 39.95 1 ⇑P P 10 45 03.3 +0.5
GTA pP pP 10 45 13.6 +1.1
GTA sP sP 10 45 17.4 +0.8
GTA PP **PnPn 10 46 42.1 +3.6**
GTA S **S 10 51 04.9 -1.1**
GTA sS sS 10 51 26.2 +4.0
GTA pmax pmax
comp=Z,140nm,1.4s
GTA pmax pmax
comp=Z,4µm,7.4s
GTA LR LR
comp=Z,28µm,18.9s
GTA LR LR
comp=Z,25µm,18.9s
GTA LR LR
comp=Z,31µm,20.4s
SMPI Sarmi 39.96 92 P P 10 45 01.6 -1.5
comp=Z,8µmcomp=Z,3µmcomp=Z,152nm,1.3s
TIY Taiyuan 40.28 17 *e*P P 10 45 06.1 +0.6
TIY pP **pP 10 45 17.1 +1.9**
TIY sP **sP 10 45 22.8 +3.5**
TIY S **S 10 51 12.0 +1.2**
TIY pmax pmax
comp=Z,74nm,1.0s
TIY pmax pmax
comp=Z,3µm,7.1s
TIY LR LR
comp=Z,21µm,18.3s
TIY LR LR
comp=Z,23µm,14.6s
TIY LR LR
comp=Z,24µm,22.0s
TIA Tai'an 40.52 23 P P 10 45 06.8 -0.6
TIA S **S 10 51 11.9 -2.5**
TIA pmax pmax
comp=Z,82nm,1.0s
TIA pmax pmax
comp=Z,3µm,11.1s
TIA LR LR
comp=Z,29µm,15.3s
TIA LR LR
comp=Z,37µm,15.9s
TIA LR LR
comp=Z,64µm,15.3s
FORT Forrest 40.82 140 P P 10 45 12.0 +2.1
baz=41,SNR=21
FORT Forrest 40.82 140 P P 10 45 11.8 +1.8
FORT IAMs_20 IAMs_20 11 01 47.1
comp=Z,41µm,22.0s
FORT Forrest 40.82 140 ⇑P P 10 45 11.7 +1.7
ASPA Alice Springs 41.01 126 P P 10 45 11.5 -0.2
baz=41
ASAR Alice Springs 41.01 126 P P 10 45 11.7 0.0
comp=Z,71nm,0.8s,baz=305,slow=8.0,SNR=289
ASAR PcP **PcP 10 47 11.8 +0.4**
comp=Z,16nm,0.8s,baz=299,slow=2.7,SNR=2.8
ASAR S **S 10 51 20.4 -1.6**
comp=Z,15nm,0.9s,baz=302,slow=13,SNR=14
ASAR ScS **ScS 10 55 13.7 -0.8**
comp=Z,0.8nm,0.8s,baz=309,slow=13,SNR=2.5
ASAR LR LR 11 04 04.9
comp=Z,24µm,21.2s,baz=306,slow=39
ASAR Alice Springs 41.01 126 P P 10 45 11.9 +0.2
ASAR Alice Springs 41.01 126 P P 10 45 11.9 +0.2
AS31 Alice Springs 41.01 126 P P 10 45 11.7 0.0
GENI Genyem 41.44 93 P P 10 45 12.7 -2.6
comp=Z,11µmcomp=Z,5µmcomp=Z,166nm,1.1s
NIL Nilore 41.76 327 P P 10 45 16.9 -0.8
NIL pmax pmax
comp=Z,274nm,1.0s
NIL MLR MLR
comp=Z,19µm,20.0s
NIL Nilore 41.76 327 P P 10 45 16.9 -0.8
NIL IAmb IAmb 10 45 18.3
comp=Z,274nm,0.9s
NIL Nilore 41.76 327 P P 10 45 16.8 -0.8
NIL P P 10 45 16.8 -0.8
JAY Jayapura 41.97 93 P P 10 45 17.7 -2.0
comp=Z,100nm,1.1s,baz=251,slow=9.0,SNR=11
JAY S **S 10 51 34.0 -2.6**
comp=Z,31nm,1.2s,baz=129,slow=22,SNR=4.2
JAY Jayapura 41.97 93 P P 10 45 17.0 -2.7
comp=Z,1µmcomp=Z,41nm,1.3s
BTO Baotou 42.39 13 P P 10 45 24.5 +1.7
BTO pmax pmax
comp=Z,850nm,1.7s
BTO LR LR
comp=Z,62µm,24.7s
HHC Hu-ho-hao-te 42.98 14 *e*P P 10 45 29.0 +1.4
HHC sP sP 10 45 42.1 +0.5
HHC S **S 10 51 57.0 +6.1**
HHC SS **SS 10 54 57.0 -6.7**
HHC pmax pmax
comp=Z,250nm,1.1s
HHC pmax pmax
comp=Z,5µm,5.7s
HHC LR LR
comp=Z,82µm,16.3s
HHC LR LR
comp=Z,25µm,17.3s
HHC LR LR
comp=Z,78µm,16.4s
BJT Baijiatuan 43.55 19 P P 10 45 32.6 +0.5
BJT pmax pmax
comp=Z,340nm,1.1s
BJT MLR MLR
comp=Z,29µm,20.0s
BJT Baijiatuan 43.55 19 P P 10 45 32.6 +0.5
BJT IAmb IAmb 10 45 34.4
comp=Z,340nm,1.1s
BJT Baijiatuan 43.55 19 IAMs_20 IAMs_20 11 05 00.8
comp=Z,29µm,20.0s
BJI Beijing 43.58 19 P P 10 45 33.0 +0.8
BJI sP **sP 10 45 45.5 -0.7**
BJI PcP **PcP 10 47 20.0 +0.5**
BJI S **S 10 52 01.6 +2.3**
BJI pmax pmax
comp=Z,260nm,1.2s
BJI pmax pmax
comp=Z,3µm,5.5s
BJI LR LR
comp=Z,20µm,20.6s
BJI LR LR
comp=Z,27µm,19.0s
BJI LR LR
comp=Z,21µm,19.4s
JSU Suzuyama 43.93 40 P P 10 45 35.0 -0.3
JSU Suzuyama 43.93 40 ⇑P P 10 45 34.9 -0.4
QIS Mount Isa 44.51 119 P P 10 45 39.6 -0.5
baz=44,SNR=50
JLN Jalan Bani Buh 44.58 303 P P 10 45 41.3 +0.6
SNR=22
JLN P P 10 45 41.3 +0.6
SNR=22
DL2 Dalian 44.68 26 P P 10 45 41.3 +0.2
DL2 PP **PP 10 47 32.3 +6.4**
DL2 S **S 10 52 19.3 +3.8**
DL2 pmax pmax
comp=Z,490nm,0.8s
DL2 pmax pmax
comp=Z,3µm,7.3s
DL2 LR LR
comp=Z,33µm,19.9s
DL2 LR LR
comp=Z,20µm,16.1s
DL2 LR LR
comp=Z,35µm,17.4s
KBL Kabul 44.77 324 P P 10 45 41.0 -1.3
KBL pmax pmax
comp=Z,58nm,1.0s
KBL MLR MLR
comp=Z,10µm,20.0s
KBL Kabul 44.77 324 P P 10 45 41.0 -1.3
KBL Kabul 44.77 324 P P 10 45 42.0 -0.2
SNR=12
KBL P P 10 45 42.0 -0.2
SNR=12
WBK Wadi Bani Khal 45.15 303 P P 10 45 46.5 +1.3
SNR=24
WBK P P 10 45 46.5 +1.3
SNR=24
KSH Kashi 45.15 335 P P 10 45 43.5 -1.6
KSH pP pP 10 45 53.0 -2.0
KSH PP **PP 10 47 33.7 +2.6**
KSH S **S 10 52 18.1 -4.5**
KSH pmax pmax
comp=Z,720nm,1.5s
KSH pmax pmax
comp=Z,5µm,10.0s
KSH LR LR
comp=Z,44µm,20.8s
KSH LR LR
comp=Z,34µm,21.3s
KSH LR LR
comp=Z,59µm,20.5s
JNU Nakatsue 45.26 39 P P 10 45 45.5 -0.5
comp=Z,424nm,0.8s,baz=176,slow=2.8,SNR=65
JNU LR LR 11 04 31.2
comp=Z,22µm,21.6s,baz=234,slow=36
JNU Nakatsue 45.26 39 P P 10 45 45.4 -0.5
JNU Nakatsue 45.26 39 ⇑P P 10 45 45.3 -0.6
DQM DQM 45.30 299 P P 10 45 46.9 +0.5
SNR=7.3
DQM P P 10 45 46.9 +0.5
SNR=7.3
DQM P P 10 45 46.9 +0.5
SNR=7.3
JTU Tsushima 45.31 36 ⇑P P 10 45 45.9 -0.3
MHTO MHTO 45.33 301 P P 10 45 46.2 -0.4
SNR=16
MHTO P P 10 45 46.2 -0.4
SNR=16
MHTO P P 10 45 46.2 -0.4
SNR=16
WMQ Urumqi 45.44 349 P P 10 45 48.8 +1.6
WMQ sP sP 10 46 00.5 -0.6
WMQ PcP **PP 10 47 31.2 -2.7**
WMQ S **S 10 52 28.2 +1.8**
WMQ ScS **ScS 10 55 40.7 -0.6**
WMQ pmax pmax
comp=Z,590nm,1.5s
WMQ pmax pmax
comp=Z,5µm,5.1s
WMQ LR LR
comp=Z,15µm,20.5s
WMQ LR LR
comp=Z,14µm,19.3s
WMQ LR LR
comp=Z,17µm,23.9s
WMQ Urumqi 45.44 349 P P 10 45 48.3 +1.1
WMQ pmax pmax
comp=Z,1µm,1.3s
WMQ MLR MLR
comp=Z,22µm,21.0s
WMQ Urumqi 45.44 349 P P 10 45 48.3 +1.1
TJN Taejon 45.49 33 *ce*P P 10 45 45.8 -1.8
WSAR Wadi Sarin 45.70 304 P P 10 45 50.4 +0.9
comp=Z,63nm,1.2s,baz=143,slow=7.9,SNR=20
WSAR S **S 10 52 31.5 +0.7**
comp=Z,3.3nm,1.0s,baz=29,slow=3.3,SNR=1.4
JMDO Jabal Madar 45.77 303 P P 10 45 50.5 +0.4
SNR=14
JMDO P P 10 45 50.5 +0.4
SNR=14
COEN Coen 45.87 109 P P 10 45 49.3 -1.7
COEN Coen 45.87 109 ⇑P P 10 45 49.1 -1.9
INCN Inchon 45.93 31 P P 10 45 50.4 -0.7
INCN pmax pmax
comp=Z,148nm,0.8s
INCN MLR MLR
comp=Z,44µm,21.0s
INCN Inchon 45.93 31 P P 10 45 50.4 -0.7
INCN IAmb IAmb 10 45 52.9
comp=Z,148nm,0.8s
INCN Inchon 45.93 31 IAMs_20 IAMs_20 11 05 06.9
comp=Z,44µm,21.0s
SMDO Samad 46.11 304 P P 10 45 53.5 +0.6
SNR=27
SMDO P P 10 45 53.5 +0.6
SNR=27
SMDO P P 10 45 53.5 +0.6
SNR=27
BIDO Bidbid 46.24 304 P P 10 45 54.7 +0.9
SNR=52
BIDO P P 10 45 54.7 +0.9
SNR=52
SOCY Socotra 46.25 288 P P 10 45 54.8 +0.7
SOCY IAmb IAmb 10 46 07.1
comp=Z,166nm,1.3s
SOCY Socotra 46.25 288 P P 10 45 55.6 +1.5
SNR=15
SOCY Socotra 46.25 288 ⇑P P 10 45 54.6 +0.5
SHAO Shalim 46.33 296 P P 10 45 54.6 0.0
SHAO Shalim 46.33 296 P P 10 45 54.7 +0.2
SHAO P P 10 45 54.7 +0.2
KSAR Wonju Array Be 46.55 32 P P 10 45 55.0 -1.0
KSAR Wonju Array Be 46.55 32 P P 10 45 55.0 -1.0
KSRS Korea Array 46.58 32 P P 10 45 55.6 -0.6
comp=Z,207nm,0.8s,baz=224,slow=8.7,SNR=273
KSRS ScP **ScP 10 51 20.2 -1.0**
comp=Z,5.6nm,1.1s,baz=191,slow=3.7,SNR=4.1
KSRS S **S 10 52 41.4 -1.5**
comp=Z,0.8nm,0.8s,baz=223,slow=42,SNR=2.5
KSRS LR LR 11 06 42.9
comp=Z,38µm,19.7s,baz=229,slow=38
KS19 Wonju Array Si 46.59 32 P P 10 45 55.5 -0.8
RER Riviere de l'E 46.61 241 ⇓P P 10 45 59.0 +2.1
BSY Bisya 46.69 303 P P 10 45 57.9 +0.6
SNR=31
BSY P P 10 45 57.9 +0.6
SNR=31
DMTO DMTO 46.84 295 P P 10 45 58.3 -0.2
DMTO P P 10 45 58.3 -0.2
HOQ Hoqain 46.94 304 P P 10 46 00.1 +0.8
SNR=57
HOQ P P 10 46 00.1 +0.8
SNR=57
HOQ P P 10 46 00.1 +0.8
SNR=57
SHLS Shalkode 46.99 341 ⇑*i*P P 10 45 59.9 +0.4
comp=Z,529nm,1.9s,baz=341
SHLS *e*S **S 10 52 48.7 -0.2**
baz=341
SHLS Shalkode 46.99 341 *c i*P P 10 45 59.8 +0.4
SHLS *e*S **S 10 52 48.7 -0.2**
SHLS pmax pmax
comp=Z,529nm,1.9s
UZB Uzynbulak 47.13 340 *i* P P 10 46 01.9 +1.2
comp=Z,199nm,1.2s,baz=341
UZB *e*S **S 10 52 52.5 +1.5**
baz=341
UZB *e*SS **SS 10 56 21.5 +3.0**
baz=341
UZB Uzynbulak 47.13 340 *i* P P 10 46 01.8 +1.2
UZB *e*S **S 10 52 52.4 +1.5**
UZB pmax pmax
comp=Z,199nm,1.2s
PDGK Podgornoye 47.13 341 *i* P P 10 46 01.2 +0.6
PDGK pmax pmax
comp=Z,527nm,1.2s
SATY Saty 47.26 340 ⇑*i*P P 10 46 02.9 +1.2
comp=Z,248nm,1.1s,baz=340
SATY *e*PP **PP 10 47 54.1 +1.1**
baz=340
SATY *e*S **S 10 52 54.3 +1.5**
baz=340
SATY Saty 47.26 340 *c i*P P 10 46 02.8 +1.2
SATY *e* 10 47 54.1

SATY eS S 10 52 54.3 +1.5
SATY pmax pmax
comp=Z,249nm,1.1s
ULHL Ulahol 47.35 337 P P 10 46 03.1 +0.7
SNR=74
BBOO Buckleboo 47.43 136 P P 10 46 04.0 +1.1
baz=48,SNR=14
BBOO Buckleboo 47.43 136 P P 10 46 03.1 +0.2
BBOO IAmb IAmb 10 46 19.9
comp=Z,163nm,1.1s
BBOO IAMs_20 IAMs_20 11 06 43.3
comp=Z,50µm,21.0s
RBK Rabkut 47.45 295 P P 10 46 04.0 +0.7
RBK P P 10 46 04.0 +0.7
ARQ Araqi 47.50 303 P P 10 46 04.1 +0.4
SNR=24
ARQ P P 10 46 04.1 +0.4
SNR=24
KPKS Kokpek 47.52 340⇑*i* P P 10 46 04.5 +0.9
comp=Z,369nm,1.7s,baz=340
KPKS Kokpek 47.52 340*c i* P P 10 46 04.5 +0.9
KPKS pmax pmax
comp=Z,369nm,1.7s
JMN Monobe 47.57 41 P P 10 46 04.0 0.0
JMN IAMs_20 IAMs_20 11 09 08.9
comp=Z,31µm,18.0s
JMN Monobe 47.57 41⇑P P 10 46 04.2 +0.1
TNSS Tian-Shan 47.76 338⇑*i* P P 10 46 06.6 +0.8
baz=339
TNSS Tian-Shan 47.76 338⇑*i* P P 10 46 06.6 +0.8
SOHO SOHO 47.82 304 *i* P P 10 46 06.2 +0.1
SNR=21
SOHO SOHO 47.82 304 P P 10 46 06.5 +0.4
SOHO P P 10 46 06.5 +0.4
MDOK Medeo 47.84 339 *i* P P 10 46 07.3 +1.1
baz=339
MDOK eS S 10 53 02.5 +1.5
baz=339
MDOK LR LR 11 07 45.5
comp=Z,7µm,17.5s,baz=339
MDOK Medeo 47.84 339 *i* P P 10 46 07.2 +1.1
MDOK eS S 10 53 02.4 +1.5
MDOK MLR MLR
comp=Z,7µm,18.0s
DOK Doka 47.86 296 P P 10 46 06.7 +0.2
SNR=12
DOK P P 10 46 06.7 +0.2
SNR=12
DOK P P 10 46 06.7 +0.2
SNR=12
JHS Saijyo 47.89 39 P P 10 46 06.2 -0.3
JHS IAMs_20 IAMs_20 11 06 33.4
comp=Z,24µm,20.0s
JHS Saijyo 47.89 39⇑P P 10 46 06.3 -0.2
AAA Alma-Ata 47.92 339⇑*e* P P 10 46 07.9 +1.2
comp=Z,215nm,1.3s,baz=339
AAA eS S 10 53 03.6 +1.5
baz=339
AAA LR LR 11 07 52.6
comp=Z,8µm,19.5s,baz=339
AAA Alma-Ata 47.92 339*ce* P P 10 46 07.8 +1.2
AAA eS S 10 53 03.5 +1.5
AAA pmax pmax
comp=Z,215nm,1.3s
AAA MLR MLR
comp=Z,8µm,19.0s
SNY Shenyang 47.93 25⇑P P 10 46 05.9 -0.7
SNY S S 10 52 56.6 -5.4
SNY pmax pmax
comp=Z,170nm,1.3s
SNY pmax pmax
comp=Z,3µm,11.5s
SNY LR LR
comp=Z,32µm,18.8s
SNY LR LR
comp=Z,20µm,17.1s
SNY LR LR
comp=Z,28µm,17.1s
MTSU Mount Surprise 47.96 114 P P 10 46 07.0 -0.4
baz=48,SNR=36
WHFO Wadi Hawf 47.97 295 P P 10 46 07.2 -0.2
SNR=12
WHFO P P 10 46 07.2 -0.2
SNR=12
UCH Uchtor 48.02 306 P P 10 46 08.7 +0.7
SNR=110
TKM2 Tokmak 2 48.17 337 P P 10 46 09.6 +0.8
SNR=177
TKM2 Tokmak 2 48.17 337 *i* P P 10 46 09.1 +0.3
TKM2 pmax pmax
comp=Z,481nm,1.1s
KBK Karagaybulak 48.21 336 P P 10 46 10.3 +1.3
SNR=228
ABTO Aybut 48.23 294 P P 10 46 09.5 0.0
SNR=16
ABTO P P 10 46 09.5 0.0
SNR=16
AML Almayashu 48.28 335 P P 10 46 10.7 +0.8
SNR=190
AAK Ala-Archa 48.37 336 P P 10 46 11.3 +1.0
comp=Z,99nm,1.2s,baz=155,slow=6.1,SNR=68
AAK LR LR 11 09 33.4
comp=Z,26µm,19.9s,baz=150,slow=40
AAK Ala-Archa 48.37 336 P P 10 46 11.4 +1.0
SNR=58
AAK Ala-Archa 48.37 336 *i* P P 10 46 11.3 +1.0
SNR=112
AAK Ala-Archa 48.37 336*c i* P P 10 46 10.6 +0.3
AAK pmax pmax
comp=Z,724nm,1.6s
AAK MLR MLR
comp=Z,77µm,19.0s
AAK Ala-Archa 48.37 336 P P 10 46 10.7 +0.5
AAK Ala-Archa 48.37 336 IAMs_20 IAMs_20 11 09 11.0
comp=Z,28µm,20.0s
AAK Ala-Archa 48.37 336⇑P P 10 46 11.2 +1.0
AAK ⇑p sP 10 46 24.5 +0.2
UMZA Um Al Zommool 48.40 302 P P 10 46 10.1 -0.5
UOSS Minazif 48.44 305 *i* P P 10 46 10.4 -0.4
SNR=15
UOSS Minazif 48.44 305 P P 10 46 10.8 0.0
UOSS IAmb IAmb 10 46 48.1
comp=Z,252nm,1.9s
UOSS Minazif 48.44 305⇑P P 10 46 10.6 -0.2
ALNE Al Ain 48.44 304 *i* P P 10 46 11.2 +0.3
SNR=12
ALNE Al Ain 48.44 304 P P 10 46 11.2 +0.3
SNR=62
ALNE P P 10 46 11.2 +0.3
SNR=62
HATD Hatta, Dubai 48.44 305 *i* P P 10 46 11.4 +0.4
SNR=29
HATD Hatta, Dubai 48.44 305 P P 10 46 11.5 +0.6
SNR=30
HATD P P 10 46 11.5 +0.6
SNR=30
HATD P P 10 46 11.5 +0.6
SNR=30
ASHO Ashiyiah 48.44 304 *i* P P 10 46 11.2 +0.3
SNR=8.8
ASHO Ashiyiah 48.44 304 P P 10 46 11.3 +0.3
SNR=15
ASHO P P 10 46 11.3 +0.3
SNR=15
CHKK Chushkaly 48.46 339⇑*e* P P 10 46 10.9 +0.2
baz=339
CHKK Chushkaly 48.46 339⇑*e* P P 10 46 10.9 +0.2
MDH Madha 48.51 305 *i* P P 10 46 10.8 -0.6
SNR=8.3
MDH Madha 48.51 305 P P 10 46 10.6 -0.8
SNR=11
MDH P P 10 46 10.6 -0.8
SNR=11
MDH P P 10 46 10.6 -0.8
SNR=11
CHMS Chumysh 48.57 337 P P 10 46 12.3 +0.7
SNR=44
MANU Manus Island 48.61 92 P P 10 46 11.4 -1.1
MANU IAmb IAmb 10 46 13.8
comp=Z,134nm,1.4s
MSFE Esma-Masafi 48.65 305 *i* P P 10 46 12.7 +0.2
SNR=15
MASF Masafi 48.65 305 P P 10 46 12.3 -0.3
SNR=23
MASF P P 10 46 12.3 -0.3
SNR=23
MASF P P 10 46 12.3 -0.3
SNR=23
EKS2 Erkin-Say 48.69 336 P P 10 46 13.6 +1.0
SNR=122
KUU Kurty 48.73 338⇑*i* P P 10 46 13.1 +0.2
comp=Z,481nm,1.3s,baz=339
KUU *i* S S 10 53 14.0 +0.7
baz=339
KUU LR LR 11 07 20.4
comp=Z,5µm,16.4s,baz=339
KUU Kurty 48.73 338*c i* P P 10 46 13.0 +0.2
KUU *i* S S 10 53 14.0 +0.7
KUU pmax pmax
comp=Z,481nm,1.3s
KUU MLR MLR
comp=Z,5µm,16.0s
BANOM Banah 48.78 306 P P 10 46 12.6 -0.9
BANOM Banah 48.78 306 P P 10 46 13.4 -0.1
BANOM P P 10 46 13.4 -0.1
SONM Songino Array 48.81 7 P P 10 46 14.8 +1.2
comp=Z,204nm,0.7s,baz=192,slow=7.6,SNR=573
SONM S S 10 53 15.5 +0.9
comp=Z,2.4nm,1.0s,baz=34,slow=3.5,SNR=1.1
SONM ScS ScS 10 56 01.4 -2.1
comp=Z,1.2nm,1.1s,baz=125,slow=10.0,SNR=1.6
SONM LR LR 11 09 03.3
comp=Z,58µm,19.1s,baz=192,slow=39
SONM PKPPKP P'P'df 11 17 08.7 -6.8
comp=Z,0.9nm,0.9s,baz=346,slow=1.5,SNR=4.0
SONM Songino Array 48.81 7 P P 10 46 14.1 +0.5
FAQ Al Faqa, Dubai 48.85 304 *i* P P 10 46 14.2 +0.1
SNR=15
FAQ Al Faqa, Dubai 48.85 304 P P 10 46 14.2 +0.1
SNR=11
FAQ P P 10 46 14.2 +0.1
SNR=11
FAQ P P 10 46 14.2 +0.1
SNR=11
HRA Herat 48.88 319 P P 10 46 13.0 -1.4
USP Ospenovka 48.90 337 P P 10 46 14.4 +0.3
SNR=176
NAZ Nazwa, Dubai 48.90 305 *i* P P 10 46 14.4 0.0
SNR=23
NAZ Nazwa, Dubai 48.90 305 P P 10 46 14.8 +0.4
SNR=22
NAZ P P 10 46 14.8 +0.4
SNR=22
NAZ P P 10 46 14.8 +0.4
SNR=22
PMG Port Moresby 48.93 102 P P 10 46 14.2 -0.6
comp=Z,42nm,0.9s,baz=118,slow=0.1,SNR=14
PMG Port Moresby 48.93 102*c i* P P 10 46 14.1 -0.7
PMG pmax pmax
comp=Z,50nm,1.0s
PMG MLR MLR
comp=Z,11µm,19.0s
PMG Port Moresby 48.93 102 P P 10 46 14.3 -0.4
PMG IAmb IAmb 10 46 28.9
comp=Z,86nm,0.8s
PMG Port Moresby 48.93 102⇑P P 10 46 14.2 -0.6
PMG Port Moresby 48.93 102 P P 10 46 15.7 +0.9
ULN Ulaanbaatar 48.93 7 P P 10 46 15.3 +0.9
ULN pmax pmax
comp=Z,1µm,1.8s
ULN MLR MLR
comp=Z,52µm,18.0s
ULN Ulaanbaatar 48.93 7 P P 10 46 15.3 +0.9
ULN Ulaanbaatar 48.93 7⇑P P 10 46 15.6 +1.2
SHME Shamm 48.96 306 P P 10 46 15.2 +0.3
SHME Shamm 48.96 306 P P 10 46 15.5 +0.6
SHME P P 10 46 15.5 +0.6
TDK Taldyqorghan 48.98 341 *e* P P 10 46 15.1 +0.3
comp=Z,242nm,1.2s,baz=341
TDK *e* S S 10 53 17.6 +0.8
baz=341
TDK LR LR 11 09 10.4
comp=Z,6µm,18.6s,baz=341
TDK Taldyqorghan 48.98 341 *e* P P 10 46 15.0 +0.3
TDK *e* S S 10 53 17.5 +0.8
TDK pmax pmax
comp=Z,242nm,1.2s
TDK MLR MLR
comp=Z,6µm,19.0s
SGDS Sogindy 49.00 337⇑*i* P P 10 46 15.4 +0.4
comp=Z,155nm,1.8s,baz=337
SGDS *i* S S 10 53 18.1 +0.8
baz=337
SGDS LR LR 11 07 06.2
comp=Z,4µm,19.7s,baz=337
SGDS Sogindy 49.00 337*c i* P P 10 46 15.4 +0.4
SGDS *i* S S 10 53 18.0 +0.8
SGDS pmax pmax
comp=Z,155nm,1.8s
SGDS MLR MLR
comp=Z,4µm,20.0s
ASUD Al Ashush, Dub 49.02 304 *i* P P 10 46 15.8 +0.5
SNR=12
ASUD Al Ashush, Dub 49.02 304 P P 10 46 16.1 +0.8
SNR=20
ASUD P P 10 46 16.1 +0.8
SNR=20
ASUD P P 10 46 16.1 +0.8
SNR=20
AJN Ajban 49.28 304 *i* P P 10 46 17.5 +0.2
SNR=13
AJN Ajban 49.28 304 P P 10 46 17.5 +0.2
SNR=10
AJN P P 10 46 17.5 +0.2
SNR=10
MK31 Makanchi Array 49.48 345*c i* P P 10 46 18.9 +0.4
MK31 pmax pmax
comp=Z,361nm,1.0s
MK31 Makanchi Array 49.48 345 P P 10 46 18.9 +0.4
MKAR Makanchi Array 49.48 345 P P 10 46 19.0 +0.5
comp=Z,207nm,0.9s,baz=155,slow=7.9,SNR=1417
MKAR S S 10 53 24.2 +0.5
comp=Z,11nm,1.2s,baz=174,slow=13,SNR=4.2
MKAR LR LR 11 10 30.1
comp=Z,13µm,20.4s,baz=150,slow=40
MKAR PKPPKP P'P'df 11 17 19.2 +4.4
comp=Z,1.0nm,1.0s,baz=349,slow=3.7,SNR=5.1
MKAR Makanchi Array 49.48 345 *i* P P 10 46 19.0 +0.5
MKAR pmax pmax
comp=Z,207nm,0.9s
ZSN Zaisan 49.48 348⇑*i* P P 10 46 19.9 +1.4
comp=Z,338nm,1.5s,baz=348
ZSN *e* S S 10 53 25.8 +1.9
baz=348
ZSN Zaisan 49.48 348*c i* P P 10 46 19.9 +1.4
ZSN *e* S S 10 53 25.7 +1.9
ZSN pmax pmax
comp=Z,338nm,1.5s
JWT Wachi 49.52 40 P P 10 46 18.1 -0.8
JWT Wachi 49.52 40⇑P P 10 46 18.4 -0.6
MAKZ Makanchi 49.57 345 P P 10 46 19.2 0.0
MAKZ pmax pmax
comp=Z,221nm,1.0s
MAKZ MLR MLR
comp=Z,16µm,21.0s
MAKZ Makanchi 49.57 345 P P 10 46 19.2 0.0
MAKZ IAmb IAmb 10 46 20.9
comp=Z,221nm,1.0s
MAKZ Makanchi 49.57 345⇑P P 10 46 19.5 +0.3
MAKZ ⇑P pP 10 46 19.6 -10
TAS Tashkent 49.64 331 P P 10 46 20.8 +0.9
TAS pmax pmax
comp=Z,246nm,1.0s
TAS Tashkent 49.64 331 P P 10 46 20.8 +0.9
TAS IAmb IAmb 10 46 32.0
comp=Z,246nm,1.0s
HTT Hallett 49.77 135 P P 10 46 22.3 +1.2
baz=50,SNR=29
HTT Hallett 49.77 135⇑P P 10 46 22.2 +1.2
DZA Taraz 49.92 334⇑*e* P P 10 46 21.9 -0.1
comp=Z,63nm,1.3s,baz=334
DZA *e* S S 10 53 30.5 +0.3
baz=334
DZA Taraz 49.92 334*ce* P P 10 46 21.9 -0.1
DZA *e* S S 10 53 30.4 +0.3
DZA pmax pmax
comp=Z,63nm,1.3s
IUG luzhnay 49.93 332⇑*e* P P 10 46 22.7 +0.5
comp=Z,162nm,1.5s,baz=332
IUG *e* S S 10 53 31.2 +0.9
baz=332
IUG luzhnay 49.93 332*ce* P P 10 46 22.6 +0.5
IUG *e* S S 10 53 31.2 +0.9
IUG pmax pmax
comp=Z,163nm,1.5s
SBV Sambava 49.97 253⇓P P 10 46 24.3 +1.6
CHM Chimkent 50.26 332 *e* S S 10 53 35.8 +1.0
baz=332
CTA Charters Tower 50.27 116 P P 10 46 24.6 -0.3
comp=Z,43nm,0.8s,baz=282,slow=9.4,SNR=21
CTA S S 10 53 34.0 -1.5
comp=Z,3.0nm,0.5s,baz=289,slow=23,SNR=1.7
CTAO Charters Tower 50.27 116 P P 10 46 23.1 -1.9
CTAO pmax pmax
comp=Z,105nm,1.1s
CTAO MLR MLR
comp=Z,20µm,20.0s
CTAO Charters Tower 50.27 116 P P 10 46 23.1 -1.9
CTAO IAmb IAmb 10 46 51.9
comp=Z,105nm,1.1s
CTAO Charters Tower 50.27 116⇑P P 10 46 24.5 -0.4
CN2 Changchun 50.34 25 *e* P P 10 46 24.3 -0.7
CN2 pP pP 10 46 35.9 +0.8
CN2 pmax pmax
comp=Z,370nm,1.2s
CN2 pmax pmax
comp=Z,3µm,13.2s
CN2 LR LR
comp=Z,22µm,19.0s
CN2 LR LR
comp=Z,15µm,19.0s
CN2 LR LR
comp=Z,16µm,19.0s
KK31 Karatay Array 50.46 333 P P 10 46 25.8 -0.2
KK31 pmax pmax
comp=Z,334nm,1.5s
KK31 Karatay Array 50.46 333 P P 10 46 25.8 -0.2
KK31 IAmb IAmb 10 46 29.8
comp=Z,334nm,1.5s
KKAR Karatay Array 50.46 333 P P 10 46 25.9 -0.1
KKAR pmax pmax
comp=Z,334nm,1.5s
KKAR Karatay Array 50.46 333 P P 10 46 25.9 -0.1
KKAR IAmb IAmb 10 46 29.8
comp=Z,334nm,1.5s
KKAR Karatay Array 50.46 333⇑P P 10 46 25.7 -0.3
BTLS Baital 50.56 337⇑*i* P P 10 46 26.7 -0.1
comp=Z,75nm,1.3s,baz=338
BTLS LR LR 11 07 53.4
comp=Z,5µm,19.6s,baz=338
BTLS Baital 50.56 337*c i* P P 10 46 26.6 -0.1
BTLS pmax pmax
comp=Z,75nm,1.3s
BTLS MLR MLR
comp=Z,5µm,20.0s
INU Inuyama 50.61 41 P P 10 46 26.7 -0.6
INU IAmb IAmb 10 46 30.9
comp=Z,373nm,2.0s
INU IAMs_20 IAMs_20 11 11 11.6
comp=Z,29µm,18.0s
INU Inuyama 50.61 41⇑P P 10 46 25.9 -1.3
QLP Quilpie 50.70 124 P P 10 46 28.9 +0.8
baz=51,SNR=43
QLP Quilpie 50.70 124⇑P P 10 46 28.8 +0.7
BRLS Borolday 50.70 333⇑*e* P P 10 46 26.6 -1.3
comp=Z,134nm,1.5s,baz=333
BRLS Borolday 50.70 333*ce* P P 10 46 26.5 -1.3
BRLS pmax pmax
comp=Z,134nm,1.5s
STKA Stephens Creek 50.92 132 P P 10 46 30.6 +0.9
comp=Z,100nm,1.0s,baz=304,slow=8.3,SNR=108
STKA S S 10 53 44.5 +0.1
comp=Z,3.2nm,1.0s,baz=235,slow=22,SNR=1.6
STKA LR LR 11 09 13.6
comp=Z,26µm,21.2s,baz=289,slow=37
STKA Stephens Creek 50.92 132 P P 10 46 30.6 +0.9
baz=51,SNR=36
STKA Stephens Creek 50.92 132 P P 10 46 30.3 +0.6
JGF Kuroka 50.98 41 P P 10 46 29.0 -1.1
JGF IAmb IAmb 10 46 44.8
comp=Z,271nm,1.6s
JGF IAMs_20 IAMs_20 11 11 23.2
comp=Z,23µm,18.0s
JGF Kuroka 50.98 41⇑P P 10 46 28.9 -1.2
JSG Sagara 50.99 42⇑P P 10 46 30.0 -0.1
ZAK Zakamensk 51.05 4 *e* P P 10 46 30.5 0.0
ZAK pmax pmax
comp=Z,111nm,1.4s
JHJ Hachijo jima 2 51.23 45 P P 10 46 31.8 -0.1
comp=Z,144nm,0.8s,baz=250,slow=11,SNR=4.2
SLWR Sila 51.86 302 P P 10 46 37.0 +0.1
MSHR Mys Shultsa 52.04 30*ce* P P 10 46 38.2 +0.4
MSHR pmax pmax
comp=Z,131nm,1.3s
MSHR MLR MLR
comp=Z,24µm,17.0s
MAJO Matsushiro 52.09 40 P P 10 46 37.0 -1.4
MAJO pmax pmax
comp=Z,301nm,1.9s
MAJO MLR MLR
comp=Z,20µm,18.0s
MAJO Matsushiro 52.09 40 P P 10 46 37.0 -1.4
MAJO IAmb IAmb 10 46 50.3
comp=Z,301nm,1.9s
MAJO Matsushiro 52.09 40 IAMs_20 IAMs_20 11 11 50.7
comp=Z,20µm,18.0s
MAJO Matsushiro 52.09 40⇑P P 10 46 37.0 -1.4
MAT Matsushiro 52.09 40 P P 10 46 36.9 -1.5
MAT S S 10 53 59.6 -0.7
MJAR Matsushiro Arr 52.09 40 P P 10 46 37.2 -1.2
comp=Z,41nm,0.9s,baz=218,slow=6.9,SNR=67
MJAR ScP ScP 10 51 44.9 +0.1
comp=Z,3.1nm,0.8s,baz=219,slow=3.0,SNR=4.8
MJAR LR LR 11 11 44.6
comp=Z,9µm,18.5s,baz=225,slow=40
MJAR Matsushiro Arr 52.09 40 P P 10 46 37.2 -1.2
MOY Mondy 52.23 2 *e* P P 10 46 39.4 +0.2
MOY pmax pmax
comp=Z,236nm,2.8s
TLY Talaya 52.37 4*c i* P P 10 46 41.5 +1.4
TLY pmax pmax
comp=Z,175nm,1.1s
TLY MLR MLR
comp=Z,51µm,17.0s
TLY Talaya 52.37 4 P P 10 46 41.2 +1.0
TLY IAmb IAmb 10 46 56.6
comp=Z,190nm,1.0s
TLY Talaya 52.37 4 P P 10 46 41.6 +1.4
TLY P P 10 46 41.6 +1.4
TLY Talaya 52.37 4⇑P P 10 46 41.6 +1.4
TLY ⇑P pP 10 46 41.6 -8.5
MDJ Mudanjiang 52.81 27 P P 10 46 43.5 0.0
MDJ pP pP 10 46 51.7 -1.9
MDJ sP sP 10 46 56.4 -1.2
MDJ PcP PcP 10 47 51.2 -1.4
MDJ S S 10 54 15.8 +6.0
MDJ sS sS 10 54 30.3 +3.8
MDJ pmax pmax
comp=Z,100nm,1.3s
MDJ pmax pmax
comp=Z,4µm,14.1s
MDJ LR LR
comp=Z,79µm,15.5s
MDJ LR LR
comp=Z,57µm,14.9s
MDJ LR LR
comp=Z,126µm,15.2s
MDJ Mudanjiang 52.81 27 P P 10 46 44.2 +0.7
MDJ IAmb IAmb 10 46 45.1
comp=Z,135nm,1.1s
IRK Irkutsk 52.98 4 *e* P P 10 46 44.8 +0.2
IRK *e* S S 10 54 16.6 +4.8
IRK pmax pmax
comp=Z,652nm,1.8s
JSD Sado 53.02 39 P P 10 46 44.0 -1.2
JSD IAmb IAmb 10 46 47.3
comp=Z,112nm,0.8s
JSD IAMs_20 IAMs_20 11 11 03.2
comp=Z,18µm,18.0s
RABL Rabaul 53.46 95⇑P P 10 46 47.5 -1.3
ARPS Mount Arapiles 53.57 137 P P 10 46 51.2 +2.0
baz=54,SNR=11
OPO Ambohidratompo 53.59 247 P P 10 46 50.1 +0.2
comp=Z,26nm,1.1s,baz=71,slow=8.0,SNR=9.9
USA0B Ussuriysk Arra 53.64 29*c i* P P 10 46 49.8 +0.2
USA0B Ussuriysk Arra 53.64 29 P P 10 46 49.4 -0.2
USRK Ussuriysk Ar. 53.64 29 P P 10 46 49.6 0.0
comp=Z,329nm,0.9s,baz=228,slow=5.2,SNR=249
USRK LR LR 11 12 36.4

comp=Z,49µm,18.7s,baz=209,slow=39
USRK Ussuriysk Ar. 53.64 29 P **P** **10 46 49.2 -0.4**
ABPO Ambohimpanom 53.66 247 P **P** **10 46 50.2 -0.2**
ABPO pmax pmax
comp=Z,69nm,1.2s
ABPO Ambohimpanom 53.66 247 P **P** **10 46 50.2 -0.2**
GEYT Alibeck 53.67 320 P **P** **10 46 49.7 -0.4**
comp=Z,29nm,0.8s,baz=147,slow=8.3,SNR=43
GEYT S **S** **10 54 23.5 +1.6**
comp=Z,1.7nm,0.4s,baz=255,slow=29,SNR=1.3
GEYT LR LR 11 10 55.5
comp=Z,11µm,21.9s,baz=80,slow=37
GEYT Alibeck 53.67 320 P **P** **10 46 49.2 -0.8**
GYA0B ALIBECK ARRAY 53.67 320 P **P** **10 46 49.4 -0.7**
CMSA Cobar Meteorol 53.88 129 P **P** **10 46 52.7 +1.0**
baz=54,SNR=63
CIT Chita 54.01 11 *e*P **P** **10 46 54.0 +1.7**
CIT *e* 10 47 00.4
CIT *e* 10 47 05.4
CIT *e* 10 47 53.6
CIT *e*S **S** **10 54 31.7 +5.7**
CIT pmax pmax
comp=Z,934nm,2.4s
KURK Kurchatov 54.04 344 *i* P **P** **10 46 52.8 +0.4**
KURK pmax pmax
comp=Z,245nm,1.0s
KURK MLR MLR
comp=Z,28µm,23.0s
KURK Kurchatov 54.04 344 P **P** **10 46 52.6 +0.2**
KURK Kurchatov 54.04 344 IAMs_20 IAMs_20 11 12 15.5
comp=Z,23µm,22.0s
KURK Kurchatov 54.04 344 P **P** **10 46 52.9 +0.4**
KURK P **P** **10 46 52.9 +0.4**
KURK P **P** **10 46 52.9 +0.4**
RMQ Roma 54.44 122 P **P** **10 46 57.2 +1.3**
baz=54,SNR=36
JMM Marumori 54.54 41 P **P** **10 46 55.1 -1.2**
JMM IAmb IAmb 10 46 59.7
comp=Z,150nm,0.8s
JMM Marumori 54.54 41 ⇑P **P** **10 46 55.3 -1.0**
JMM ⇓P **P** **10 46 55.8 -0.5**
BRZS Berezniki 55.23 340 ⇑*i*P **P** **10 47 00.9 -0.3**
comp=Z,93nm,1.7s,baz=340
BRZS *e*S **S** **10 54 42.7 +0.3**
baz=340
BRZS Berezniki 55.23 340 *c i*P **P** **10 47 00.8 -0.3**
BRZS *e*S **S** **10 54 42.7 +0.3**
BRZS pmax pmax
comp=Z,93nm,1.7s
ZAA0 Zalesovo Array 55.70 350 P **P** **10 47 04.7 +0.4**
ZALV Zalesovo Beam 55.70 350 P **P** **10 47 04.6 +0.3**
comp=Z,110nm,0.6s,baz=176,slow=4.5,SNR=490
ZALV ScP **ScP** **10 51 59.9 -0.1**
comp=Z,4.4nm,0.9s,baz=183,slow=2.6,SNR=2.1
ZALV S **S** **10 54 48.7 +0.3**
comp=Z,0.8nm,0.6s,baz=53,slow=25,SNR=4.3
ZALV LR LR 11 13 22.8
comp=Z,14µm,20.0s,baz=172,slow=39
ZALV PKPPKP **P'P'df** **11 17 09.8 +4.1**
comp=Z,2.0nm,1.0s,baz=310,slow=5.0,SNR=5.5
EIDS Eidsvold 56.07 120 P **P** **10 47 08.0 +0.4**
baz=56,SNR=17
EIDS Eidsvold 56.07 120 P **P** **10 47 08.2 +0.7**
EIDS IAmb IAmb 10 47 11.2
comp=Z,189nm,1.4s
JTM Tenmabayashi 56.40 38 P **P** **10 47 09.7 0.0**
JTM IAmb IAmb 10 47 12.3
comp=Z,179nm,0.8s
JTM IAMs_20 IAMs_20 11 14 45.4
comp=Z,18µm,18.0s
TOO Toolangi 56.49 136 P **P** **10 47 12.8 +2.4**
baz=57,SNR=19
TOO Toolangi 56.49 136 P **P** **10 47 12.7 +2.3**
TOO pmax pmax
comp=Z,105nm,1.3s
TOO MLR MLR
comp=Z,17µm,20.0s
TOO Toolangi 56.49 136 P **P** **10 47 12.7 +2.3**
TEY Ternei 56.56 31⇑*e*P **P** **10 47 09.3 -1.4**
TEY pmax pmax
comp=E,10.0nm,1.0s
TEY pmax pmax
comp=N,10.0nm,1.6s
TEY pmax pmax
comp=Z,30nm,1.9s
QRN Al-Qurain 56.73 305 *e*P 10 47 12.0
ATD Arta Tunnel 56.85 284 P **P** **10 47 14.9 +1.5**
comp=Z,21nm,1.0s,baz=180,slow=4.7,SNR=6.7
ATD S **S** **10 55 07.3 +2.1**
comp=Z,2.0nm,0.3s,baz=269,slow=23,SNR=1.1
ATD Arta Tunnel 56.85 284 P **P** **10 47 14.2 +0.8**
ATD IAmb IAmb 10 47 34.5
comp=Z,165nm,1.3s
ATD Arta Tunnel 56.85 284 *e*P **P** **10 47 16.6 +3.2**
ATD *e*S **S** **10 55 06.3 +1.2**
ATD Arta Tunnel 56.85 284 *e*P **P** **10 47 16.6 +3.2**
ATD *e*S **S** **10 55 00.6 -4.5**
ATD Arta Tunnel 56.85 284 *e*S **S** **10 55 06.3 +1.2**
RAYN Ar Rayn 57.03 299 *i* P **P** **10 47 14.0 -0.5**
SNR=17
RAYN Ar Rayn 57.03 299 P **P** **10 47 13.6 -0.9**
RAYN pmax pmax
comp=Z,49nm,0.7s
RAYN Ar Rayn 57.03 299 P **P** **10 47 13.6 -0.9**
RAYN IAMs_20 IAMs_20 11 09 28.7
comp=Z,24µm,22.0s
RDF Al-Radifah 57.10 306 *e*P 10 47 14.0
YNG Young 57.11 131 P **P** **10 47 16.0 +1.2**
baz=57,SNR=21
UMR Umm Al-Rimmam 57.20 306 *e*P 10 47 15.1
KLR Kul'dur 57.29 25 P **P** **10 47 16.1 +0.3**
comp=Z,290nm,0.9s,baz=237,slow=6.6,SNR=396
KLR S **S** **10 55 10.3 +0.6**
comp=Z,1.0nm,0.7s,baz=14,slow=20,SNR=1.9
KLR Kul'dur 57.29 25*c i*P **P** **10 47 16.3 +0.5**
KLR pmax pmax
comp=Z,574nm,1.0s
KLR MLR MLR
comp=Z,51µm,19.0s
MIB Mutribah 57.60 306 *e*P 10 47 18.2
JEW Eniwo 57.85 36 P **P** **10 47 19.0 -0.9**
CAN Canberra 57.99 132 P **P** **10 47 21.9 +0.8**
CAN pmax pmax
comp=Z,97nm,1.0s
CAN MLR MLR
comp=Z,52µm,21.0s
CAN Canberra 57.99 132 P **P** **10 47 21.9 +0.8**
CAN IAmb IAmb 10 47 31.9
comp=Z,97nm,1.0s
CAN Canberra 57.99 132 ⇑P **P** **10 47 22.4 +1.4**
ARMA Armidale 58.16 126 P **P** **10 47 24.3 +1.9**
baz=58,SNR=17
ARMA Armidale 58.16 126 P **P** **10 47 24.3 +1.9**
ARMA IAMs_20 IAMs_20 11 14 30.0
comp=Z,20µm,20.0s
CNB Canberra Magne 58.26 132 P **P** **10 47 24.5 +1.6**
baz=58,SNR=8.4
ERM Erimo 58.40 38*ce*P **P** **10 47 23.4 -0.3**
ERM pmax pmax
comp=Z,33nm,0.7s
ERM MLR MLR
comp=Z,12µm,17.0s
ERM Erimo 58.40 38 P **P** **10 47 24.1 +0.5**
BRVK Borovoye 58.63 340*c i*P **P** **10 47 24.3 -0.8**
BRVK pmax pmax
comp=Z,157nm,1.1s
BRVK MLR MLR
comp=Z,11µm,18.0s
BRVK Borovoye 58.63 340 P **P** **10 47 24.4 -0.7**
BRVK IAmb IAmb 10 47 25.7
comp=Z,161nm,1.1s
BRVK Borovoye 58.63 340 P **P** **10 47 24.4 -0.7**
BRVK P **P** **10 47 24.4 -0.7**
BRVK P **P** **10 47 24.4 -0.7**
TEND Ethiopian Broa 58.67 284 *e*P **P** **10 47 27.3 +1.1**
TEND *e*S **S** **10 55 32.3 +3.3**
TEND Ethiopian Broa 58.67 284 *e*P **P** **10 47 27.3 +1.1**
TEND *e*S **S** **10 55 30.5 +1.5**
TEND Ethiopian Broa 58.67 284 *e*S **S** **10 55 32.3 +3.3**
MGCD Mangrove Creek 58.75 129 P **P** **10 47 28.7 +2.3**
baz=59,SNR=6.5
ZEA Zeya 59.20 19 *e*P **P** **10 47 29.6 +0.5**
ZEA *e*S **S** **10 55 37.9 +3.4**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA smax smax
comp=Z,900nm,14.5s
ZEA smax smax
comp=E,900nm,8.3s
ZEA smax smax
comp=N,1µm,12.2s
ASAJ Asahikawa 59.28 35 P **P** **10 47 28.9 -0.9**
comp=N,45nm,0.9s,baz=263,slow=7.8,SNR=21
ASAJ Asahikawa 59.28 35 P **P** **10 47 29.0 -0.9**
JKA Kamikawa-asahi 59.28 35 P **P** **10 47 28.6 -1.2**
JKA IAmb IAmb 10 47 43.0
comp=Z,109nm,0.9s
BOD Bodaibo 59.62 9⇓*i*P **P** **10 47 32.5 +0.6**
BOD *e*S **S** **10 55 42.9 +3.2**
BOD pmax pmax
comp=Z,745nm,1.4s
ANKE Ethiopia-Afar 59.63 281 *e*P **P** **10 47 34.0 +0.7**
ANKE ⇓*e*S **S** **10 55 40.6 -1.6**
ANKE Ethiopia-Afar 59.63 281 *e*P **P** **10 47 34.0 +0.7**
ANKE ⇓*e*S **S** **10 55 42.5 +0.3**
ANKE Ethiopia-Afar 59.63 281⇓*e*S **S** **10 55 40.6 -1.6**
PATS Pohnpei 59.89 82 P **P** **10 47 34.1 -0.5**
baz=60,SNR=5.6
PATS Pohnpei 59.89 82 P **P** **10 47 33.5 -1.1**
DESE Dese 59.91 283⇓*e*S **S** **10 55 52.4 +6.8**
AB31 Akbulak array 59.93 332⇓*e*P **P** **10 47 33.1 -1.1**
AB31 pmax pmax
comp=Z,208nm,1.1s
ABKAR Akbulak array 59.93 332 P **P** **10 47 33.1 -1.0**
LKRN Lenkeran, Azer 60.31 316 P **P** **10 47 36.0 -1.0**
TAU Tasmania Unive 60.35 141 P **P** **10 47 38.4 +1.2**
TAU pmax pmax
comp=Z,436nm,2.0s
TAU Tasmania Unive 60.35 141 P **P** **10 47 38.4 +1.2**
TAU Tasmania Unive 60.35 141 IAMs_20 IAMs_20 11 12 31.3
comp=Z,19µm,20.0s
GRNR Gornyy 60.46 26⇑*i*P **P** **10 47 38.1 +0.3**
GRNR *e*S **S** **10 55 54.4 +3.5**
GRNR pmax pmax
comp=N,60nm,1.1s
GRNR pmax pmax
comp=E,40nm,1.1s
GRNR pmax pmax
comp=Z,150nm,1.1s
GRNR smax smax
comp=N,3.0nm,1.0s
AAE Adis Abeba 60.52 281 *e*P **P** **10 47 43.7 +4.4**
AAE *e*S **S** **10 55 57.1 +3.6**
AAE Adis Abeba 60.52 281 *e*P **P** **10 47 43.7 +4.4**
AAE *e*S **S** **10 55 50.4 -3.0**
AAE Adis Abeba 60.52 281 *e*S **S** **10 55 57.1 +3.6**
FURI Furi 60.60 281 *e*P **P** **10 47 41.3 +1.5**
FURI ⇓*e*S **S** **10 55 59.5 +5.1**
FURI Furi 60.60 281 *e*P **P** **10 47 41.3 +1.5**
FURI *e*S **S** **10 55 56.4 +2.0**
FURI Furi 60.60 281⇓*e*S **S** **10 55 59.5 +5.1**
KIBK Kibwezi 60.70 268 P **P** **10 47 42.0 +1.7**
SNR=34
YSS Yuzh-Sakhalins 61.08 33*ce*P **P** **10 47 42.2 +0.2**
YSS *e**SP **sP** **10 47 56.4 +0.2**
YSS *e* 10 50 00.5
YSS *e*S **S** **10 55 57.7 -1.1**
YSS *e*PS **PnS** **10 56 10.6 -5.1**
YSS pmax pmax
comp=Z,310nm,1.1s
YSS pmax pmax
comp=Z,2µm,3.3s
YSS Yuzh-Sakhalins 61.08 33 P **P** **10 47 42.5 +0.5**
YSS IAMs_20 IAMs_20 11 13 32.2
comp=Z,16µm,21.0s
YUK Yuzh-Kuril'sk 61.17 37*c i*P **P** **10 47 41.6 -1.1**
YUK *e* 10 48 23.7
YUK *e* 10 49 57.8
YUK *e*PPP PPP 10 51 22.4
YUK *i* S **S** **10 55 59.7 -0.3**
YUK *e* 10 57 29.3
YUK *e*SS **SS** **11 00 01.4 +0.8**
YUK pmax pmax
comp=Z,362nm,1.4s
YUK pmax pmax
comp=N,117nm,1.1s
YUK pmax pmax
comp=E,108nm,1.2s
YUK pmax pmax
comp=Z,412nm,2.0s
HNR Honiara 61.48 100 P **P** **10 47 44.3 -1.1**
comp=Z,338nm,0.9s,baz=191,slow=5.0,SNR=14
HNR S **S** **10 56 02.7 -2.3**
comp=Z,43nm,0.7s,baz=324,slow=23,SNR=6.5
HNR Honiara 61.48 100 P **P** **10 47 45.1 -0.3**
HNR pmax pmax
comp=Z,768nm,1.1s
HNR MLR MLR
comp=Z,4µm,20.0s
HNR Honiara 61.48 100 P **P** **10 47 45.1 -0.3**
HNR Honiara 61.48 100 ⇑P **P** **10 47 44.9 -0.5**
HNR ⇑P pP 10 47 45.8 -10
KMBO Kilima Mbogo 61.49 269 P **P** **10 47 46.8 +0.9**
comp=Z,33nm,0.9s,baz=55,slow=8.5,SNR=23
KMBO S **S** **10 56 07.3 +1.5**
comp=Z,0.8nm,0.3s,baz=103,slow=22,SNR=1.3
KMBO LR LR 11 09 13.8
comp=Z,12µm,21.2s,baz=86,slow=31
KMBO Kilima Mbogo 61.49 269 *i* P **P** **10 47 47.7 +1.9**
KMBO pmax pmax
comp=Z,33nm,0.9s
MNGR Mingechevir, A 62.43 318 P **P** **10 47 50.6 -0.7**
NAX Nakhchivan 62.80 316 P **P** **10 47 54.0 +0.1**
GANJ Ganja 62.88 317 P **P** **10 47 54.0 -0.4**
KUR Kuril'sk 63.02 37*d i*P P 10 48 00.0 +4.9
KUR *e*S S 10 56 38.6 +15
KUR pmax pmax
comp=Z,425nm,2.0s
KUR MLR MLR
comp=Z,5µm,16.0s
KUR MLR MLR
comp=E,5µm,15.0s
KUR MLR MLR
comp=N,6µm,14.0s
ZKTA Zakatala 63.14 318 P **P** **10 47 56.1 0.0**
MAK Makhachkala 63.19 320 *e*P **P** **10 47 54.4 -1.9**
MAK *e* 10 50 11.6
MAK *e*S **S** **10 56 23.8 -1.8**
MAK *e*SS **SS** **11 00 31.2 -1.1**
MAK pmax pmax
comp=Z,318nm,1.1s
CUKT Cukurca 63.35 313 P **P** **10 47 55.1 -2.6**
TYV Tymovskoe 63.45 29 *e*P **P** **10 47 59.0 +1.1**
TYV *e*S **S** **10 56 32.4 +3.8**
TYV pmax pmax
comp=Z,122nm,1.7s
TYV smax smax
comp=E,2µm,6.5s
LGD Lagodekhi 63.48 318 P **P** **10 47 58.2 -0.1**
LODK Lodwar 63.49 274 P **P** **10 48 01.0 +2.0**
SNR=25
GNI Garni 63.75 316 P **P** **10 47 60.0 -0.3**
GNI Garni 63.75 316 P **P** **10 48 00.6 +0.3**
GNI Garni 63.75 316 P **P** **10 48 00.6 +0.3**
GNI pmax pmax
comp=Z,191nm,1.1s
GNI MLR MLR
comp=Z,5µm,20.0s
GNI Garni 63.75 316 P **P** **10 48 00.6 +0.3**
GNI IAmb IAmb 10 48 47.3
comp=Z,191nm,1.1s
GNI Garni 63.75 316 P **P** **10 48 00.5 +0.2**
GNI P **P** **10 48 00.5 +0.2**
GNI P **P** **10 48 00.5 +0.2**
CLDR Caldiran 63.90 315 P **P** **10 48 00.5 -0.9**
TASB TASBURUN-IGDIR 64.03 316 P **P** **10 48 01.4 -0.6**
VANB Van 64.05 314 P **P** **10 48 00.8 -1.5**
GEVA Gevas 64.17 314 P **P** **10 48 02.9 -0.3**
AKDM Akdamar-Van 64.24 314 P **P** **10 48 03.2 -0.4**
GROC Groznyy 64.41 320 *e*P **P** **10 48 04.1 -0.2**
GROC *e* 10 48 40.3
GROC *e*S **S** **10 56 39.3 -1.5**
GROC pmax pmax
comp=Z,297nm,1.2s
SEAG Tbilisi Sea 64.41 318 P **P** **10 48 06.1 +1.7**
KZRT Kazreti 64.52 317 P **P** **10 48 01.0 -4.2**
LHI Lord Howe Isla 64.57 125 IAMs_20 IAMs_20 11 17 42.7
comp=Z,14µm,20.0s
AGRB Hanur-Agry 64.73 315 P **P** **10 48 07.1 +0.3**
MLAZ Malazgirt-MUS 64.87 314 P **P** **10 48 07.4 -0.3**
GUDG Gudauri 64.94 318 P **P** **10 48 09.2 +1.1**
BGD Bogdanovka 65.01 317 P **P** **10 48 09.4 +0.8**
GURO Guroymak-BITLI 65.01 314 P **P** **10 48 08.6 0.0**
SVE Sverdlovsk 65.04 338*d i*P **P** **10 48 08.0 -0.1**
SVE *e* 10 50 26.3
SVE *e*PPP PPP 10 52 05.7
SVE *e*S **S** **10 56 45.6 -2.4**
SVE *e* 10 58 00.3
SVE *e*SS **SS** **11 01 01.6 +1.1**
SVE pmax pmax
comp=Z,354nm,1.0s
SVE MLR MLR
comp=Z,13µm,20.0s
SVE MLR MLR
comp=E,6µm,20.0s
SVE MLR MLR
comp=N,9µm,20.0s
KARS Kars 65.10 316 P **P** **10 48 08.9 -0.2**
KARS Kars 65.10 316 P **P** **10 48 08.9 -0.2**
AKH Akhalkalaki 65.14 317 ⇑P **P** **10 48 09.6 +0.3**
AKH Akhalkalaki 65.14 317 P **P** **10 48 09.7 +0.3**
AKH Akhalkalaki 65.14 317 P **P** **10 48 09.7 +0.3**
ZEI Tsey 65.46 319 *e*P **P** **10 48 09.2 -2.3**
ZEI pmax pmax
comp=Z,51nm,0.8s
MARD Mardin 65.47 312 P **P** **10 48 11.6 0.0**
ARU Arti 65.55 337*c i*P **P** **10 48 10.7 -0.8**
ARU 10 48 40.8
ARU PPP PPP 10 52 11.4
ARU S **S** **10 56 54.8 +0.6**
ARU 10 58 03.1
ARU pmax pmax
comp=Z,215nm,1.1s
ARU MLR MLR
comp=Z,12µm,20.0s
ARU Arti 65.55 337 P **P** **10 48 10.6 -0.9**
ARU IAmb IAmb 10 48 12.0
comp=Z,181nm,1.0s
ARU IAMs_20 IAMs_20 11 18 41.3
comp=Z,13µm,20.0s
SENK Senkaya-Erzuru 65.58 316 P **P** **10 48 12.3 0.0**
VRTB Varto-Mus 65.66 314 P **P** **10 48 12.6 -0.2**
ONI Oni 65.67 318 P **P** **10 48 12.8 +0.1**
KOPR Koprukoy-ERZUR 65.70 315 P **P** **10 48 13.4 +0.4**
CASY Casey 65.96 175 P **P** **10 48 13.2 -0.7**
CASY IAmb IAmb 10 48 24.8
comp=Z,217nm,1.3s
BNGB Bingl 66.16 314 P **P** **10 48 15.9 0.0**
DYBB Diyarbakir 66.17 312 P **P** **10 48 16.5 +0.5**
YEDI Yedisu-Bingol 66.42 314 P **P** **10 48 17.8 +0.1**
NEY Neytrino 66.44 319⇑*i*P **P** **10 48 17.5 -0.2**
NEY pmax pmax
comp=Z,10.0nm,0.8s
BATM Batumi 66.45 317 P **P** **10 48 17.8 +0.1**
BATM Batumi 66.45 317 P **P** **10 48 17.7 +0.1**
KBZ Khabaz 66.53 319 P **P** **10 48 17.9 -0.1**
comp=Z,81nm,0.8s,baz=112,slow=5.1,SNR=192
KBZ S **S** **10 57 05.4 -1.2**
comp=Z,0.9nm,0.7s,baz=105,slow=22,SNR=1.3
KBZ PKP2bc 11 16 53.5
comp=Z,1.3nm,0.7s,baz=7.6,slow=0.8,SNR=6.8
KBZ LR LR 11 20 39.2
comp=Z,6µm,20.9s,baz=100,slow=39
KBZ Khabaz 66.53 319*c i*P **P** **10 48 18.2 +0.2**
KBZ pmax pmax
comp=Z,145nm,0.9s
KBZ MLR MLR
comp=Z,7µm,21.0s
CHVG Ch'k'valeri 66.64 318 ⇑P **P** **10 48 19.4 +0.5**
KOPT Kop Dagi 66.67 315 P **P** **10 48 19.5 +0.1**
KVAR Kislovodsk Arr 66.76 319 P **P** **10 48 20.1 +0.4**
comp=Z,24nm,0.9s,baz=84,slow=22,SNR=7.9
KIV Kislovodsk 66.77 319 ⇑P **P** **10 48 19.6 -0.1**
KIV Kislovodsk 66.77 319 *i* P **P** **10 48 19.6 -0.1**
SNR=22
KIV Kislovodsk 66.77 319 P **P** **10 48 19.8 +0.1**
KIV Kislovodsk 66.77 319*c i*P **P** **10 48 19.5 -0.2**
KIV *e**PP **pP** **10 48 27.6 -2.4**
KIV *e**SP **sP** **10 48 30.9 -2.9**
KIV 10 48 46.0
KIV 10 50 42.0
KIV *i* S **S** **10 57 05.8 -4.0**
KIV *i* PS 10 57 29.0
KIV *e*PPS PPS 10 57 39.9
KIV *i* 10 58 13.8
KIV *e*SS **SS** **11 01 28.4 +0.2**
KIV pmax pmax
comp=Z,204nm,1.1s
KIV MLR MLR
comp=Z,5µm,21.0s
KIV Kislovodsk 66.77 319 P **P** **10 48 19.3 -0.4**
KIV IAmb IAmb 10 48 20.9
comp=Z,162nm,1.0s
KIV Kislovodsk 66.77 319 P **P** **10 48 19.5 -0.2**
KIV P **P** **10 48 19.5 -0.2**
YAK Yakutsk 66.83 15 P **P** **10 48 18.6 -1.0**
comp=Z,383nm,1.0s,baz=209,slow=3.7,SNR=108
YAK S **S** **10 57 09.3 -0.3**
comp=Z,4.7nm,0.4s,baz=359,slow=3.0,SNR=1.5
YAK Yakutsk 66.83 15*c i*P **P** **10 48 19.1 -0.5**
YAK *e**PP **pP** **10 48 29.9 0.0**
YAK *e* 10 48 46.3
YAK *e* 10 50 46.0
YAK *e*PPP PPP 10 52 25.1
YAK *e*S **S** **10 57 07.7 -1.9**
YAK *e**SS **sS** **10 57 30.6 +3.9**
YAK *e* 10 58 14.6
YAK *e*SS **SS** **11 01 28.1 -0.2**
YAK pmax pmax
comp=Z,760nm,1.0s
YAK pmax pmax
comp=N,261nm,1.1s
YAK pmax pmax
comp=E,303nm,1.1s
YAK pmax pmax
comp=Z,361nm,2.2s
YAK pmax pmax
comp=N,128nm,1.9s
YAK pmax pmax
comp=E,83nm,2.2s
YAK smax smax
comp=N,182nm,2.3s
YAK smax smax
comp=E,162nm,2.0s
YAK Yakutsk 66.83 15 P **P** **10 48 18.8 -0.7**
YAK IAMs_20 IAMs_20 11 20 05.3
comp=Z,27µm,20.0s
CHOM Cayeli-Rize 66.90 316 P **P** **10 48 19.8 -0.7**
GOF Gofitskoye 67.02 320⇑*e*P **P** **10 48 20.9 -0.2**
GOF *e*S **S** **10 57 12.4 -0.2**
GOF pmax pmax
comp=Z,188nm,1.1s
GOF smax smax
comp=N,354nm,2.5s
GOF smax smax
comp=E,63nm,1.5s
KTUT Trabzon 67.55 315 ⇑P **P** **10 48 24.6 0.0**
KTUT Trabzon 67.55 315 P **P** **10 48 24.3 -0.3**
MALT Malatya 67.56 312 P **P** **10 48 24.8 -0.1**
MALT Malatya 67.56 312 P **P** **10 48 24.8 -0.1**
ILIC ilic-Erzincan 67.85 314 P **P** **10 48 27.0 +0.3**
MBAR Mbarara 68.01 270*ce*P **P** **10 48 29.9 +1.6**
MBAR pmax pmax
comp=Z,91nm,1.7s
MBAR Mbarara 68.01 270 P **P** **10 48 29.2 +0.9**
MBAR IAmb IAmb 10 48 40.2
comp=Z,167nm,1.2s
MBAR Mbarara 68.01 270 P **P** **10 48 29.7 +1.4**
MBAR P **P** **10 48 29.7 +1.4**
MBAR Mbarara 68.01 270 *e*P **P** **10 48 29.8 +1.6**
MBAR *e*S **S** **10 57 26.9 +0.9**
MBAR Mbarara 68.01 270 *e*P **P** **10 48 29.8 +1.6**
MBAR *e*S **S** **10 57 22.1 -3.8**
MBAR Mbarara 68.01 270 *e*S **S** **10 57 26.9 +0.9**
GAZ Gaziantep 68.09 311 P **P** **10 48 28.4 +0.2**
GAZ Gaziantep 68.09 311 P **P** **10 48 28.4 +0.2**
GAZ IAmb IAmb 10 48 44.6
comp=Z,155nm,0.9s
MMLI Mount Malkishu 68.11 305 P **P** **10 48 26.6 -1.8**

MMAI Mount Meron Ar 68.28 306 P **P** **10 48 30.3 +0.8**
comp=Z,41nm,0.9s,baz=99,slow=8.7,SNR=25
DARE Darende-Malaty 68.35 312 P **P** **10 48 30.1 +0.3**
KMRS Kahramanmaras 68.44 311 P **P** **10 48 30.6 +0.3**
SOC Sochi 68.58 318 *e*P **P** **10 48 28.2 -2.8**
SOC *e**PP **pP** **10 48 38.5 -2.9**
SOC *e* 10 51 00.8
SOC *e*PPP PPP 10 52 43.4
SOC *i* S **S** **10 57 27.5 -3.8**
SOC *e* 10 58 25.8
SOC *e*SS **SS** **11 01 52.1 -3.9**
SOC pmax pmax
comp=Z,247nm,1.0s
SOC MLR MLR
comp=Z,3µm,17.0s
NOUC Port Laguerre 68.97 113 P **P** **10 48 36.8 +2.9**
SANVU Saraoutou 69.05 106 P **P** **10 48 34.6 +0.2**
SANVU IAmb IAmb 10 48 39.0
comp=Z,362nm,1.7s
SANVU Saraoutou 69.05 106 P **P** **10 48 36.0 +1.5**
RSDY Resadiye-TOKAT 69.07 314 P **P** **10 48 34.6 +0.4**
SARI SarD1z-Kayseri 69.08 312 P **P** **10 48 33.5 -1.0**
DZM Mont Dzumac 69.10 113 *e*P **P** **10 48 34.2 -0.6**
comp=Z,304nm,1.4s
DZM Mont Dzumac 69.10 113 *e*PP PP 10 51 04.2 -3.6
comp=Z,673nm,25.6s
DZM *e*S **S** **10 57 34.4 -4.0**
comp=Z,13µm,27.5s
DZM *e*SS **SS** **11 02 03.7 -1.4**
comp=Z,5µm,29.4s
DZM *e*LQ LQ 11 06 35.6
comp=Z,13µm,37.9s
DZM *e*LR LR 11 09 25.3
comp=Z,18µm,23.6s
DZM Mont Dzumac 69.10 113 P **P** **10 48 35.6 +0.8**
comp=Z,36nm,0.9s,baz=279,slow=4.5,SNR=24
DZM S **S** **10 57 39.4 +1.0**
comp=Z,3.1nm,0.9s,baz=123,slow=20,SNR=1.8
DZM Mont Dzumac 69.10 113 P **P** **10 48 34.1 -0.7**
DZM IAmb IAmb 10 48 53.7
comp=Z,162nm,1.3s
DZM IAMs_20 IAMs_20 11 20 34.5
comp=Z,14µm,20.0s
DZM Mont Dzumac 69.10 113 P **P** **10 48 36.7 +1.9**
CEYT Ceyhan 69.16 310 P **P** **10 48 35.4 +0.7**
KOZT Kozan 69.24 311 P **P** **10 48 34.9 -0.4**
YATNC Mamie plateau, 69.51 113 P **P** **10 48 38.8 +1.6**
OUENC Ouen Island, N 69.51 114 P **P** **10 48 39.4 +2.2**
TOKT Tokat 69.61 314 P **P** **10 48 37.5 -0.1**
BNN Bunyan 69.65 312 P **P** **10 48 36.7 -1.2**
TOKA Tokat 69.66 314 P **P** **10 48 37.6 -0.2**
LIFNC LIFOU 69.66 112 P **P** **10 48 41.4 +3.2**
KARA Karaisali 69.76 310 P **P** **10 48 36.1 -2.4**
CMRD Camardi-Nigde 69.93 311 P **P** **10 48 39.7 0.0**
PINNC Pines Island, 70.09 114 P **P** **10 48 42.5 +1.7**
KVT Kavak 70.22 314 P **P** **10 48 41.3 0.0**
KVT Kavak 70.22 314 P **P** **10 48 41.3 0.0**
NRIK Noril'sk 70.34 356 P **P** **10 48 40.9 -0.5**
comp=Z,181nm,1.0s,baz=163,slow=5.3,SNR=177
NRIK S **S** **10 57 50.1 -1.0**
comp=Z,3.8nm,0.8s,baz=7.4,slow=24,SNR=2.7
NRIK LR LR 11 21 53.0
comp=Z,19µm,20.8s,baz=170,slow=38
NRIK Noril'sk 70.34 356*c i*P **P** **10 48 41.0 -0.4**
NRIK pmax pmax
comp=Z,296nm,1.0s
NRIK MLR MLR
comp=Z,19µm,22.0s
NRIK Noril'sk 70.34 356 P **P** **10 48 41.2 -0.2**
NRIK IAMs_20 IAMs_20 11 21 41.5
comp=Z,19µm,21.0s
CSS Mathiatis 70.46 308 P **P** **10 48 43.1 +0.2**
CSS Mathiatis 70.46 308 P **P** **10 48 42.2 -0.6**
CSS IAmb IAmb 10 48 46.3
comp=Z,215nm,1.3s
SKR Severo-Kuril's 70.52 35 *e*P **P** **10 48 43.5 +0.7**
SKR *e*S **S** **10 57 59.0 +5.2**
SKR pmax pmax
comp=Z,1µm,5.0s
ANN Anapa 70.56 319 *e*P **P** **10 48 42.8 -0.4**
ANN *e* 10 51 22.8
ANN *e*S **S** **10 57 50.7 -3.8**
ANN pmax pmax
comp=Z,74nm,1.0s
ANN MLR MLR
comp=N,9µm,20.0s
ANN MLR MLR
comp=Z,4µm,19.0s
VRH Novokhopyorsk 70.57 326 *e*P **P** **10 48 41.8 -1.3**
VRH *e*S **S** **10 57 48.9 -5.5**
VRH *e*SS **SS** **11 02 25.2 -1.2**
VRH pmax pmax
comp=Z,350nm,1.8s
VRH smax smax
comp=E,650nm,5.6s
VRH MLR MLR
comp=Z,11µm,21.0s
KIRV Kirov 70.69 335*c i*P **P** **10 48 43.3 -0.4**
TEVE Tevekalti-Mers 70.77 309 P **P** **10 48 41.9 -2.9**
LEF Lefka 70.85 308 P **P** **10 48 45.3 +0.1**
YESY Yesilyurt 70.91 311 P **P** **10 48 45.1 -0.6**
BERE Bereket-Mersin 70.91 309 P **P** **10 48 45.7 0.0**
TEKE Tekeli-Mersin 70.94 309 P **P** **10 48 42.6 -3.1**
CORM Corum 70.95 313 P **P** **10 48 44.7 -1.2**
DIKM Dikmen 70.97 315 ⇑P **P** **10 48 45.1 -0.6**
DIKM Dikmen 70.97 315 P **P** **10 48 43.7 -2.0**
LSZ Lusaka 71.07 254 P **P** **10 48 47.4 +0.3**
comp=Z,20nm,0.8s,baz=103,slow=6.0,SNR=16
LSZ Lusaka 71.07 254 P **P** **10 48 47.6 +0.5**
LSZ IAmb IAmb 10 49 01.2
comp=Z,367nm,2.0s
LSZ Lusaka 71.07 254 IAMs_20 IAMs_20 11 14 33.9
comp=Z,16µm,22.0s
SNOP Sinop 71.12 315 P **P** **10 48 46.3 -0.4**
YAYX Yaylak 71.19 312 P **P** **10 48 45.5 -1.8**
MAW Mawson 71.22 194 LR LR 11 13 15.7
comp=Z,14µm,21.0s,baz=32,slow=30
MATP Matopo 71.27 249 P **P** **10 48 48.6 +0.5**
comp=Z,68nm,0.9s,baz=86,slow=6.0,SNR=35
SERE Sereflikochisa 71.38 312 P **P** **10 48 47.2 -1.3**
KAMT Kaman 71.39 312 P **P** **10 48 47.0 -1.5**
BR131 Keskin Array S 71.55 312 P **P** **10 48 48.3 -1.2**
BR131 pmax pmax
comp=Z,75nm,1.0s
BR131 Keskin Array S 71.55 312 P **P** **10 48 48.2 -1.2**
BRTR Keskin Array B 71.55 312 P **P** **10 48 48.2 -1.2**
comp=Z,26nm,0.8s,baz=131,slow=7.3,SNR=109
BRTR LR LR 11 21 14.6
comp=Z,4µm,21.7s,baz=120,slow=37
BRTR Keskin Array B 71.55 312 P **P** **10 48 48.4 -1.1**
GAZI Gazipasa 71.59 309 P **P** **10 48 48.1 -1.6**
CANT Cankiri 71.82 313 P **P** **10 48 50.3 -0.7**
VORD Divnogorie 71.84 325 *e*P **P** **10 48 49.5 -1.3**
VORD *e*S **S** **10 58 00.8 -8.4**
VORD pmax pmax
comp=Z,140nm,0.9s
VORD smax smax
comp=N,310nm,5.8s
ILGA Ilgaz 71.88 314 P **P** **10 48 51.2 -0.4**
ILGA IAmb IAmb 10 49 15.5
comp=Z,234nm,1.2s
AFSR Afar-Bala (An 71.89 312 P **P** **10 48 49.9 -1.6**
BZK Bozkurt 71.95 315 ⇑P **P** **10 48 51.5 -0.1**
BZK Bozkurt 71.95 315 P **P** **10 48 51.6 -0.1**
KONT Konya--Tatoy 72.00 310 P **P** **10 48 52.2 0.0**
VSR Storozhevoye 72.02 325 *e*P **P** **10 48 50.3 -1.6**
VSR *e*S **S** **10 58 05.5 -5.7**
VSR pmax pmax
comp=Z,200nm,1.3s
VSR smax smax
comp=N,900nm,6.3s
VSR MLR MLR
comp=Z,6µm,22.0s
LADK Ladik-KONYA 72.07 311 P **P** **10 48 50.9 -1.7**
VORR Voronezh 72.19 326 *e*P **P** **10 48 53.0 +0.1**
VORR pmax pmax
comp=Z,400nm,1.4s
BR231 Keskin MP Arra 72.22 312 P **P** **10 48 53.0 -0.5**
LOD Lodumlu 72.24 312 P **P** **10 48 51.9 -1.7**
MA2 Magadan 72.39 25 P **P** **10 48 54.2 +0.3**
comp=Z,113nm,0.9s,baz=231,slow=6.2,SNR=45
MA2 Magadan 72.39 25*ce*P **P** **10 48 54.1 +0.1**
MA2 pmax pmax
comp=Z,286nm,1.3s
MA2 Magadan 72.39 25 P **P** **10 48 54.0 0.0**
MA2 IAmb IAmb 10 48 57.8
comp=Z,247nm,1.1s
MA2 IAMs_20 IAMs_20 11 22 39.1
comp=Z,23µm,20.0s
PEA0B Petropavlovsk- 72.48 33*ce*P **P** **10 48 54.1 -0.5**
PEA0B Petropavlovsk- 72.48 33 P **P** **10 48 54.6 0.0**
PEA0B IAmb IAmb 10 48 57.4
comp=Z,232nm,1.2s
PETK Petropavlovsk- 72.48 33 P **P** **10 48 54.4 -0.3**
comp=Z,66nm,0.8s,baz=183,slow=2.1,SNR=53
PETK LR LR 11 20 29.4
comp=Z,11µm,21.8s,baz=238,slow=36
PETK Petropavlovsk- 72.48 33 P **P** **10 48 54.5 -0.1**
PETK Petropavlovsk- 72.48 33 P **P** **10 48 54.5 -0.1**
LPSR Galich'ya Gora 72.74 326 *e*P **P** **10 48 54.9 -1.3**
LPSR *e*S **S** **10 58 12.7 -6.7**
LPSR *e*SS **SS** **11 02 55.7 -3.9**
LPSR pmax pmax
comp=Z,180nm,1.1s
LPSR smax smax
comp=E,720nm,6.8s
LPSR MLR MLR
comp=Z,6µm,20.0s
KURC Kurucasile-Bar 72.82 314 P **P** **10 48 53.2 -3.6**
PET Petropavlovsk 72.96 33*ci*P **P** **10 48 57.5 +0.1**
PET *e* 10 51 41.9
PET *e*S **S** **10 58 21.7 -0.2**
PET *e*PPS PPS 10 59 07.3
PET pmax pmax
comp=Z,4µm,7.0s
PET pmax pmax
comp=Z,541nm,1.1s
PET pmax pmax
comp=Z,3µm,17.6s
PET pmax pmax
comp=Z,2µm,22.3s
PET Petropavlovsk 72.96 33 P **P** **10 48 57.8 +0.3**
PET IAMs_20 IAMs_20 11 25 08.5
comp=Z,11µm,18.0s
AUSIV SIVRIHISAR 73.02 312 P **P** **10 48 56.8 -1.5**
SVRH Sivrihisar-ESK 73.04 312 P **P** **10 48 57.7 -0.6**
YUVA Yuva-Kibriscik 73.17 313 P **P** **10 48 58.2 -0.9**
ITZ Itezhi-Tezhi 73.20 254 *e*P **P** **10 49 04.3 +4.6**
ITZ *e*S **S** **10 58 26.1 -0.1**
CIFT Cifteler, Eski 73.36 312 P **P** **10 48 59.5 -0.7**
ISP Isparta 73.38 310 P **P** **10 48 59.3 -1.1**
ISP Isparta 73.38 310 IAmb IAmb 10 49 20.1
comp=Z,313nm,1.9s
SHUT Suhut-Afyon 73.54 311 P **P** **10 49 00.7 -0.7**
MDUB Mudurnu 73.55 313 P **P** **10 48 58.9 -2.5**
ELL Elmali 73.60 309 P **P** **10 49 01.5 -0.2**
SRCK Saricakaya, Es 73.86 312 P **P** **10 49 02.1 -1.0**
BORA Eskisehir 73.95 312 P **P** **10 49 02.3 -1.4**
GULT Gulveren 74.04 312 P **P** **10 49 02.7 -1.5**
SPNC Sapanca-Adapaz 74.26 313 P **P** **10 49 03.9 -1.5**
SAUV Serdivan-Sakar 74.26 313 P **P** **10 49 04.4 -1.0**
AUBOZ BOZOYUK 74.27 312 P **P** **10 49 03.4 -2.1**
DCZ Deep Cove 74.46 137 IAmb IAmb 10 49 17.9
comp=Z,145nm,1.1s
MOS Moscow 74.77 329 *e*P **P** **10 49 05.9 -2.1**
MOS *e* 10 49 19.8
MOS *e* 10 51 52.9
MOS *e*S **S** **10 58 38.3 -3.8**
MOS *e* 10 59 15.5
MOS pmax pmax
comp=Z,537nm,1.5s
MOS pmax pmax
comp=Z,700nm,1.5s
MOS MLR MLR
comp=Z,10µm,20.0s
TIXI Tiksi 74.80 9 P **P** **10 49 07.0 -0.9**
TIXI IAmb IAmb 10 49 20.1
comp=Z,254nm,1.0s
TIXI IAMs_20 IAMs_20 11 26 14.3
comp=Z,20µm,18.0s
SEY Seymchan 74.92 22 P **P** **10 49 08.8 +0.1**
comp=Z,69nm,0.6s,baz=239,slow=5.7,SNR=77
SEY S **S** **10 58 43.2 -0.4**
comp=Z,4.3nm,1.2s,baz=159,slow=23,SNR=6.3
SEY Seymchan 74.92 22 *i*P **P** **10 49 09.0 +0.3**
OBN Obninsk 75.06 328 ⇑P **P** **10 49 08.8 -0.9**
OBN Obninsk 75.06 328*di*P **P** **10 49 08.7 -0.9**
OBN *i* 10 49 22.0
OBN 10 51 56.0
OBN PPP PPP 10 53 44.0
OBN *i* S **S** **10 58 41.0 -4.3**
OBN *i* 10 59 15.9
OBN *e*PPS PPS 10 59 31.9
OBN *e*SS **SS** **11 03 34.1 -0.6**
OBN pmax pmax
comp=Z,574nm,1.7s
OBN MLR MLR
comp=Z,11µm,20.0s
OBN Obninsk 75.06 328 P **P** **10 49 08.6 -1.0**
OBN IAMs_20 IAMs_20 11 26 45.9
comp=Z,12µm,21.0s
BOSA Boshof 75.19 241 P **P** **10 49 11.8 +0.6**
comp=Z,20nm,0.7s,baz=96,slow=6.4,SNR=17
BOSA LR LR 11 16 10.6
comp=Z,11µm,21.4s,baz=84,slow=31
BOSA Boshof 75.19 241 P **P** **10 49 11.3 +0.1**
BOSA pmax pmax
comp=Z,106nm,1.3s
BOSA Boshof 75.19 241 P **P** **10 49 11.3 +0.1**
ISK Istanbul-Kandi 75.27 313 P **P** **10 49 07.8 -3.4**
KARP Karpathos 75.51 307 P **P** **10 49 12.9 +0.2**
WKZ Wanaka 75.58 136 IAMs_20 IAMs_20 11 21 24.4
comp=Z,20µm,21.0s
FOZ Fox Glacier 75.84 135 IAMs_20 IAMs_20 11 22 19.5
comp=Z,19µm,22.0s
KLMR Klimovskoe 76.14 334 *e*P **P** **10 49 12.3 -3.5**
KLMR *e*S **S** **10 58 52.9 -4.3**
KLMR *e*SS **SS** **11 03 46.2 -4.7**
KLMR pmax pmax
comp=Z,434nm,1.5s
KLMR Klimovskoe 76.14 334 *e*P **P** **10 49 12.3 -3.5**
KLMR AMP 10 49 18.8
comp=Z,434nm,1.5s
KLMR *e*S **S** **10 58 52.9 -4.3**
KLMR *e*S **S** **10 58 52.9 -4.3**
KLMR *e*SS **SS** **11 03 46.3 -4.7**
KLMR *e*SS **SS** **11 03 46.3 -4.7**
KLMR LQ LQ 11 15 35.3
KLMR LQ LQ 11 15 35.3
KLMR LR LR 11 20 23.0
KLMR AMP 11 28 35.2
comp=Z,6µm,17.6s
LBZ Lake Benmore 76.29 136 P **P** **10 49 17.5 +0.5**
LBZ IAMs_20 IAMs_20 11 22 22.3
comp=Z,15µm,21.0s
TLCR 76.48 317 ⇑P **P** **10 49 18.1 +0.1**
TLCR 76.48 317 ⇑P **P** **10 49 18.1 +0.1**
TIRR Tirgusor 76.57 316 ⇑P **P** **10 49 18.2 -0.4**
TIRR Tirgusor 76.57 316 ⇑P **P** **10 49 18.2 -0.4**
TIRR Tirgusor 76.57 316 P **P** **10 49 18.1 -0.4**
TIRR IAmb IAmb 10 49 19.1
comp=Z,206nm,1.0s
TPGR Topolog 76.67 317 ⇑P **P** **10 49 18.4 -0.7**
ODZ Otahua Downs 76.75 136 IAMs_20 IAMs_20 11 22 12.5
comp=Z,13µm,21.0s
RPZ Rata Peaks 76.76 135 P **P** **10 49 20.7 +1.1**
comp=Z,46nm,0.7s,baz=255,slow=2.4,SNR=23
RPZ Rata Peaks 76.76 135 IAmb IAmb 10 49 30.5
comp=Z,158nm,0.9s
RPZ IAMs_20 IAMs_20 11 22 48.8
comp=Z,21µm,22.0s
ICOR Ion Corvin 76.92 316 ⇓P **P** **10 49 20.6 +0.1**
MILM Milestii Mici 76.94 319 ⇑P **P** **10 49 19.7 -0.9**
CFR Carcaliu 76.94 317 ⇑P **P** **10 49 20.1 -0.5**
CFR Carcaliu 76.94 317 ⇑P **P** **10 49 20.1 -0.5**
KIS Kishinev 76.96 319 *e*P **P** **10 49 19.3 -1.4**
KIS Kishinev 76.96 319 *e*PcP **P** **10 49 24.0 +3.3**
KIS *i* S **S** **10 59 02.0 -4.6**
comp=Z,1µm,9.5s
KIS Kishinev 76.96 319 *e*PS 10 59 27.0
KIS Kishinev 76.96 319 *e*P **P** **10 49 19.0 -1.7**
KIS *e* 10 49 24.0
KIS *i* S **S** **10 59 02.0 -4.6**
KIS *e*PS PnS 10 59 27.0 -21
KIS pmax pmax
comp=Z,140nm,1.0s
KIS smax smax
comp=N,6µm,9.5s
KIS smax smax
comp=E,600nm,9.6s
EZN Ezine 77.03 311 P **P** **10 49 20.8 -0.4**
OUZ Omahuta 77.22 126 IAMs_20 IAMs_20 11 24 32.7
comp=Z,17µm,20.0s
IDI Anoyia 77.28 306 ⇑P **P** **10 49 23.0 +0.1**
IDI Anoyia 77.28 306 IAmb IAmb 10 49 23.8
comp=Z,103nm,0.9s
QRZ Quartz Range 77.28 132 IAmb IAmb 10 49 34.0
comp=Z,177nm,0.9s
OXZ Oxford 77.38 134 IAMs_20 IAMs_20 11 23 19.4
comp=Z,21µm,22.0s
ALN Alexandroupoli 77.46 312 P **P** **10 49 22.9 -0.7**
ALN pmax pmax
comp=Z,78nm,1.2s
VASR Vaslui 77.55 318 ⇑P **P** **10 49 23.8 -0.2**
SORM Soroca 77.56 320 ⇑P **P** **10 49 23.3 -0.7**
SORM Soroca 77.56 320 ⇑P **P** **10 49 23.3 -0.7**
GHRR 77.66 318 ⇑P **P** **10 49 25.1 +0.5**
RAZG Razgrad 77.70 315 ⇑P **P** **10 49 24.2 -0.7**
AKASG Malin Array Be 77.72 322 P **P** **10 49 23.7 -1.1**
comp=Z,24nm,0.8s,baz=89,slow=5.4,SNR=112
AKASG S **S** **10 59 10.6 -4.1**
comp=Z,0.4nm,0.3s,baz=93,slow=12,SNR=4.9
AKASG LR LR 11 28 33.5
comp=Z,4µm,19.5s,baz=85,slow=39
AKASG Malin Array Be 77.72 322 P **P** **10 49 23.5 -1.3**
AKBB Malin Array Si 77.72 322*ce*P **P** **10 49 23.7 -1.2**
AKBB Malin Array Si 77.72 322 P **P** **10 49 23.6 -1.2**
KIEV Kiev 77.72 322 P **P** **10 49 22.0 -2.9**
THZ Tophouse 77.73 133 IAmb IAmb 10 49 40.5
comp=Z,256nm,1.3s
MQZ McQueen's Vall 77.90 135 IAMs_20 IAMs_20 11 23 46.9
comp=Z,14µm,21.0s
NNZ Nelson 77.98 132 P **P** **10 49 29.4 +2.9**
ISR Istrita 78.03 316 ⇑P **P** **10 49 27.5 +0.7**
ISR Istrita 78.03 316 ⇑P **P** **10 49 27.5 +0.7**
VRI Vrincioaia 78.07 317 ⇑P **P** **10 49 27.2 +0.2**
VRI Vrincioaia 78.07 317 ⇑P **P** **10 49 27.2 +0.2**
PLOR Plostina 78.12 317 ⇑P **P** **10 49 27.2 -0.1**
PLOR Plostina 78.12 317 ⇑P **P** **10 49 27.2 -0.1**
TESR Tescani 78.28 318 ⇓P **P** **10 49 28.0 -0.1**
TMCR Tamitsa 78.28 337 *e*P **P** **10 49 25.0 -2.7**
TMCR *e*S **S** **10 59 20.6 +0.3**
TMCR pmax pmax
comp=Z,221nm,1.1s
KHZ Kahutara 78.30 133 P **P** **10 49 28.4 +0.1**
KHZ IAmb IAmb 10 49 38.8
comp=Z,180nm,1.1s
SECR 78.33 316 ⇑P **P** **10 49 28.9 +0.4**
MLR Muntele Rosu 78.52 317 ⇑P **P** **10 49 29.6 0.0**
MLR Muntele Rosu 78.52 317 ⇑P **P** **10 49 29.6 0.0**
MLR Muntele Rosu 78.52 317 IAmb IAmb 10 49 54.7
comp=Z,360nm,1.4s
SYO Syowa Base 78.68 198⇑ *e*P **P** **10 49 32.0 +2.2**
SYO Syowa Base 78.68 198 ⇑ *i*PcP **PcP** **10 49 40.0 +1.4**
HIZ Hauiti 78.69 129 IAmb IAmb 10 49 45.5
comp=Z,214nm,1.0s
HIZ IAMs_20 IAMs_20 11 24 44.3
comp=Z,19µm,20.0s
HIZ Hauiti 78.69 129 P **P** **10 49 32.5 +2.0**
PLD Plovdiv 78.69 313 P **P** **10 49 29.7 -0.7**
PLD pmax pmax
comp=Z,6.0nm,1.4s
VRZ Vera Road 78.70 130 P **P** **10 49 28.8 -1.7**
MKAZ Moumakai 78.73 128 P **P** **10 49 33.2 +2.4**
BIZ Bicaz 78.74 318 ⇑P **P** **10 49 30.4 -0.3**
PRAR RASCA 78.76 319 ⇑P **P** **10 49 30.4 -0.3**
OUR Ouranopolis 78.89 311 P **P** **10 49 31.2 -0.3**
KMPD K-Podol'skiy 78.89 320 P **P** **10 49 30.0 -1.4**
WAZ Wanganui 78.97 130 P **P** **10 49 34.2 +2.1**
PLVB Pleven 79.00 314 ⇑P **P** **10 49 31.8 -0.3**
PAIG Paliouri 79.04 311 P **P** **10 49 31.7 -0.7**
PAIG pmax pmax
comp=Z,125nm,1.2s
HORU Horodok 79.07 320 P **P** **10 49 31.9 -0.5**
MTUR Matau 79.07 316 ⇑P **P** **10 49 32.0 -0.6**
MTUR Matau 79.07 316 ⇑P **P** **10 49 32.0 -0.6**
VOIR 79.12 317 ⇑P **P** **10 49 31.9 -0.9**
VOIR 79.12 317 ⇑P **P** **10 49 31.9 -0.9**
PKVZ Pokaka 79.17 130 P **P** **10 49 34.9 +1.7**
TWVZ Taurewa 79.22 130 P **P** **10 49 33.8 +0.2**
OGWZ Otaki Gorge 79.26 131 P **P** **10 49 32.8 -0.8**
MTVZ Mangateitei 79.28 130 P **P** **10 49 34.0 +0.2**
SRS Serrai 79.32 312 P **P** **10 49 32.8 -1.2**
SRS pmax pmax
comp=Z,51nm,1.3s
FWVZ Far West T-bar 79.33 130 P **P** **10 49 35.8 +1.5**
TRVZ Turoa 79.33 130 P **P** **10 49 35.7 +1.3**
WTVZ West Tongariro 79.34 130 P **P** **10 49 35.8 +1.6**
NGZ Ngauruhoe 79.36 130 P **P** **10 49 35.9 +1.6**
WHVZ Whangaehu Hut 79.36 130 P **P** **10 49 37.7 +3.2**
WNVZ Wahianoa 79.37 130 P **P** **10 49 36.1 +1.6**
KRVZ Karewarewa 79.38 130 P **P** **10 49 37.8 +3.4**
WATZ Wairara 79.39 129 P **P** **10 49 39.0 +4.5**
ARR Arges 79.40 316 ⇑P **P** **10 49 33.6 -0.8**
KATZ Kakaramea 79.40 129 P **P** **10 49 36.5 +1.9**
OTVZ Oturere 79.40 130 P **P** **10 49 36.3 +1.7**
SUR Sutherland 79.43 237 P **P** **10 49 32.8 -2.2**
SUR IAmb IAmb 10 49 51.1
comp=Z,261nm,1.4s
SUR Sutherland 79.43 237 IAMs_20 IAMs_20 11 17 45.6
comp=Z,12µm,21.0s
SUR Sutherland 79.43 237 ⇑P **P** **10 49 36.9 +1.9**
SUR ⇑P **P** **10 49 36.9 +1.9**
SOH Sokhos 79.45 312 P **P** **10 49 33.7 -1.0**
SOH pmax pmax
comp=Z,42nm,1.2s
BURAR Bucovina Array 79.48 319 ⇑P **P** **10 49 35.5 +0.7**
BURAR Bucovina Array 79.48 319 ⇑P **P** **10 49 35.5 +0.7**
BURAR Bucovina Array 79.48 319 P **P** **10 49 35.0 +0.2**
BUR08 Bucovina Ar. S 79.50 319 P **P** **10 49 35.1 +0.2**
BUR08 IAmb IAmb 10 49 36.8
comp=Z,117nm,1.0s
MOVZ Moawhango 79.50 130 P **P** **10 49 35.7 +0.7**
HOWZ Holdsworth Sta 79.53 131 P **P** **10 49 38.2 +3.1**
MRZ Mangatainoka R 79.54 131 P **P** **10 49 35.6 +0.5**
MNK Minsk 79.57 326⇑ *e*P **P** **10 49 34.0 -1.0**
MNK *e*PPP PPP 10 54 32.0
MNK *e*S **S** **10 59 32.0 -2.4**
MNK *e*SS **SS** **11 04 42.0 -0.9**
MNK pmax pmax
comp=Z,560nm,1.5s
MNK pmax pmax
comp=E,450nm,1.0s
MNK Minsk 79.57 326 *i*P **P** **10 49 34.5 -0.5**
comp=E,28nm,1.5s
MNK *i*P **P** **10 49 34.5 -0.5**
comp=N,36nm,0.9s
MNK *i*P **P** **10 49 34.5 -0.5**
comp=Z,196nm,1.0s
MNK *i* PP PP 10 52 23.3 -13
MNK *i* PPP PPP 10 54 50.2
MNK *i* S **S** **10 59 35.3 +0.9**
MNK *i* SS **SS** **11 04 45.7 +2.8**
MNK *i* SSS SSS 11 08 41.9
MNK *i* LQ LQ 11 19 44.3
MNK *i* LR LR 11 25 48.7
MNK *i* LRM MLR 11 28 31.3
comp=N,5µm,20.6s
MNK *i* LRM MLR 11 29 33.2
comp=E,372nm,22.8s
MNK *i* LRM MLR 11 29 48.1
comp=Z,3µm,22.7s
MSVF Nonsavu 79.58 108 P **P** **10 49 35.1 -0.8**
comp=Z,16nm,1.0s,baz=234,slow=5.3,SNR=6.0
MSVF Nonsavu 79.58 108 P **P** **10 49 35.7 -0.2**
MSVF pmax pmax
comp=Z,56nm,1.0s
MSVF MLR MLR
comp=Z,8µm,21.0s
MSVF Nonsavu 79.58 108 P **P** **10 49 35.7 -0.2**
MSVF Nonsavu 79.58 108 P **P** **10 49 37.8 +1.9**
HATZ Hinemaiaia 79.70 129 P **P** **10 49 37.1 +1.0**
KSV Kosov 79.74 319 P **P** **10 49 35.3 -0.7**
TSZ Takapari Road 79.75 130 P **P** **10 49 38.4 +2.0**
BHHZ Black Hill Sta 79.75 130 P **P** **10 49 37.3 +0.9**
TIWZ Tintock 79.79 131 P **P** **10 49 37.8 +1.3**
PRWZ Pori Road 79.83 131 P **P** **10 49 38.9 +2.2**
VTS Vitosha 79.86 313 ⇑P **P** **10 49 36.4 -0.6**
VTS Vitosha 79.86 313 ⇑P **P** **10 49 36.4 -0.6**
VTS Vitosha 79.86 313 P **P** **10 49 36.0 -1.0**
PUL Pulkovo 79.91 331*ce*P **P** **10 49 36.7 0.0**

PUL pmax pmax
comp=Z,662nm,1.7s
PUL MLR MLR
comp=Z,10µm,21.0s
PNHZ Pukenui 79.91 130 P **P** **10 49 38.5 +1.2**
DVHZ Dannevirke 79.94 131 P **P** **10 49 39.1 +1.8**
ARCR ARCALIA 79.94 318 ⇑P **P** **10 49 37.3 +0.1**
MRHZ Matea Rd 79.94 129 P **P** **10 49 40.1 +2.7**
LIT Litokhoron 79.97 311 P **P** **10 49 36.1 -1.4**
LIT pmax pmax
comp=Z,124nm,0.8s
LIT Litokhoron 79.97 311 IAmb IAmb 10 49 37.2
comp=Z,104nm,0.9s
KRHZ Kereru 80.01 130 P **P** **10 49 42.2 +4.5**
KWHZ Kaweka Forest 80.02 130 P **P** **10 49 39.2 +1.3**
BFZ Birch Farm 80.05 131 IAmb IAmb 10 49 48.8
comp=Z,153nm,0.9s
BFZ Birch Farm 80.05 131 P **P** **10 49 36.2 -1.7**
VAY Valandovo 80.12 312 *i* P **P** **10 49 37.1 -1.2**
VALR Valaam 80.18 333 *i* P **P** **10 49 38.1 0.0**
VALR pmax pmax
comp=Z,138nm,0.9s
GRG Griva 80.18 312 P **P** **10 49 37.4 -1.2**
GRG pmax pmax
comp=Z,82nm,1.2s
ANWZ Angora Road 80.19 131 P P 10 49 43.9 +5.2
MTHZ Maungataniwha 80.27 129 P **P** **10 49 40.3 +1.1**
NACGM Naroch 80.30 326 *i* P **P** **10 49 37.7 -1.2**
NACGM *i* P **P** **10 49 37.7 -1.2**
NACGM *i* P **P** **10 49 37.7 -1.2**
NACGM *i* PcP **pP** **10 49 48.7 -0.7**
NACGM *i* PP **PP** **10 52 37.2 -4.7**
NACGM *i* PPP PPP 10 54 34.8
NACGM *i* S **S** **10 59 35.8 -6.2**
NACGM *i* SKS **ScS** **11 00 05.6 +3.6**
NACGM *i* PS 11 02 04.6
NACGM *i* SS **SS** **11 04 43.5 -10**
NACGM *i* SSS SSS 11 08 31.6
NACGM *i* LQ LQ 11 20 04.7
NACGM *i* LR LR 11 26 22.6
CJR Cluj-Napoca 80.37 318 ⇑P **P** **10 49 40.4 +0.8**
CJR Cluj-Napoca 80.37 318 ⇑P **P** **10 49 40.4 +0.8**
URZ Urewera 80.41 129 P **P** **10 49 39.2 -0.7**
comp=Z,25nm,0.7s,baz=332,slow=2.8,SNR=19
URZ S **S** **10 59 38.6 -5.3**
comp=Z,6.0nm,1.0s,baz=13,slow=17,SNR=1.9
URZ Urewera 80.41 129 IAmb IAmb 10 49 50.5
comp=Z,197nm,1.3s
URZ IAMs_20 IAMs_20 11 26 12.4
comp=Z,18µm,21.0s
URZ Urewera 80.41 129 P **P** **10 49 41.4 +1.5**
KAHZ Kahuranaki 80.41 130 P **P** **10 49 41.6 +1.6**
IDID Didziasalis 80.43 327 *e*P **P** **10 49 39.6 0.0**
PXZ Pawanui 80.43 130 P **P** **10 49 41.4 +1.5**
STIP Stip 80.46 312 *i* P **P** **10 49 37.7 -2.4**
JOF Joensuu 80.53 335 P **P** **10 49 40.3 +0.3**
JOF pmax pmax
comp=Z,123nm,1.2s
BMR Baia Mare 80.63 319 ⇑P **P** **10 49 41.3 +0.4**
BMR Baia Mare 80.63 319 ⇑P **P** **10 49 41.3 +0.4**
SNGZ Shannon Statio 80.65 129 P **P** **10 49 43.6 +2.4**
MORS Morshin 80.67 320 P **P** **10 49 41.4 +0.4**
RAGZ Rawiri 80.68 129 P **P** **10 49 44.4 +2.9**
GZR Gura Zlata 80.69 316 ⇑P **P** **10 49 41.1 -0.2**
GZR Gura Zlata 80.69 316 ⇑P **P** **10 49 41.1 -0.2**
DEV Deva 80.69 317 ⇑P **P** **10 49 41.6 +0.4**
DEV Deva 80.69 317 ⇑P **P** **10 49 41.6 +0.4**
IIGN Ignalina 80.72 326 *e*P **P** **10 49 41.3 +0.1**
LVV L'vov 80.73 321 ⇓*i*P **P** **10 49 41.0 -0.3**
LVV *e* 10 52 43.2
LVV *e*S **S** **10 59 42.1 -4.7**
LVV *e* 11 00 40.1
LVV *e* 11 05 02.5
LVV *e* 11 08 28.4
LVV pmax pmax
comp=Z,200nm,1.5s
LVV smax smax
comp=N,760nm,2.9s
LVV smax smax
comp=E,520nm,2.7s
MWZ Matawai 80.75 129 P **P** **10 49 42.0 +0.3**
RUGZ Raukumara Rang 80.82 128 P **P** **10 49 42.3 0.0**
ISAL Salakas 80.83 327 *e*P **P** **10 49 41.3 -0.4**
HERR Herculane 80.84 316 ⇑P **P** **10 49 41.7 -0.3**
HAZ Te Kaha 80.88 128 P **P** **10 49 42.7 +0.3**
FNA Florina 80.92 311 P **P** **10 49 41.1 -1.6**
FNA pmax pmax
comp=Z,37nm,1.1s
KNZ Kokohu 80.94 129 P **P** **10 49 43.3 +0.6**
RIGZ Rimuhau 80.97 129 P **P** **10 49 44.2 +1.3**
DRGR 80.99 318 ⇑P **P** **10 49 43.0 +0.1**
DRGR 80.99 318 ⇑P **P** **10 49 43.0 +0.1**
TRSU Trosnyk 81.07 319 P **P** **10 49 43.8 +0.6**
TWGZ Tauwhareparae 81.08 128 P **P** **10 49 44.7 +1.2**
BOVS Bovan 81.13 314 ⇑P **P** **10 49 42.6 -1.0**
LVZ Lovozero 81.16 340 *ce*P **P** **10 49 42.4 -0.9**
LVZ pmax pmax
comp=Z,233nm,1.7s
LVZ Lovozero 81.16 340 P **P** **10 49 43.0 -0.3**
LVZ IAMs_20 IAMs_20 11 29 18.4
comp=Z,14µm,22.0s
MXZ Matakaoa Point 81.28 128 IAMs_20 IAMs_20 11 27 36.4
comp=Z,15µm,21.0s
VSU Vasula 81.28 330 *e*P **P** **10 49 43.5 -0.5**
VSU Vasula 81.28 330 *ce* *i*P **P** **10 49 43.8 -0.2**
VSU pmax pmax
comp=Z,268nm,1.0s
VSU MLR MLR
comp=Z,16µm,20.0s
PUZ Puketiti 81.29 128 P **P** **10 49 48.2 +3.6**
CNGZ Carnagh Statio 81.29 129 P P 10 49 49.5 +4.9
MDVR Moldovita 81.32 315 ⇑P **P** **10 49 44.3 -0.4**
OHR Ohrid 81.40 312 P **P** **10 49 44.1 -1.1**
OHR pmax pmax
comp=Z,92nm,1.1s
OHR Ohrid 81.40 312 *i* P **P** **10 49 43.5 -1.7**
TSUM Tsumeb 81.42 251 P **P** **10 49 45.0 -0.8**
TSUM Tsumeb 81.42 251 IAMs_20 IAMs_20 11 22 31.3
comp=Z,12µm,20.0s
APA Apatity 81.46 339 ⇓*i*P **P** **10 49 43.2 -1.6**
APA *i* 10 49 53.3
APA *i* 10 52 52.3
APA *i* S **S** **10 59 51.0 -2.7**
APA *i* SS **SS** **11 05 18.0 +7.5**
APA pmax pmax
comp=Z,65nm,1.0s
BZS Buzias 81.53 316 ⇑P **P** **10 49 45.6 -0.1**
BZS Buzias 81.53 316 ⇑P **P** **10 49 45.6 -0.1**
IGT Igoumenitsa 81.53 310 P **P** **10 49 44.8 -1.0**
IGT pmax pmax
comp=Z,123nm,1.3s
KWP Kalwaria Pacla 81.53 320 *e*P **P** **10 49 45.6 -0.1**
KWP *e*S **S** **10 59 53.7 -1.5**
KWP *e*L L 11 31 49.4
comp=Z,5µm,21.9s
KWP Kalwaria Pacla 81.53 320 P **P** **10 49 44.7 -0.9**
KWP Kalwaria Pacla 81.53 320 P **P** **10 49 44.7 -0.9**
KWP IAmb IAmb 10 49 49.4
comp=Z,294nm,1.5s
UZH Uzhgorod 81.61 319 *e*P **P** **10 49 45.5 -0.5**
UZH *e* 10 49 57.1
UZH *e* 10 52 55.1
UZH *e*S **S** **10 59 53.5 -2.5**
SIRR Siria 81.61 317 ⇑P **P** **10 49 46.1 -0.1**
KOLS Kolonicke sedl 81.68 320 *e*P **P** **10 49 46.9 +0.5**
KOLS pmax pmax
comp=Z,144nm,1.0s
KOLS Kolonicke sedl 81.68 320 *e*P **P** **10 49 46.9 +0.5**
KOLS Kolonicke sedl 81.68 320 *e*S **S** **10 59 55.5 -1.2**
KOLS *e*L L 11 31 13.2
SMY Shemya 81.72 36 P **P** **10 49 46.6 +0.1**
SMY Shemya 81.72 36 P **P** **10 49 46.5 +0.1**
PABE Paberze 82.01 326 *e*P **P** **10 49 48.1 +0.1**
SUW Suwalki 82.13 325 *e*P **P** **10 49 48.2 -0.4**
SUW *e*S **S** **11 00 01.3 +0.2**
SUW *e*L L 11 32 03.8
comp=Z,4µm,20.2s
SUW Suwalki 82.13 325 *e*P **P** **10 49 48.3 -0.3**
SUW Suwalki 82.13 325 P **P** **10 49 48.3 -0.3**
SUW pmax pmax
comp=Z,412nm,1.1s
CRVS Cervenica-Dubn 82.20 319 *e*P **P** **10 49 49.3 +0.1**
CRVS pmax pmax
comp=Z,166nm,1.3s
CRVS Cervenica-Dubn 82.20 319 *e*P **P** **10 49 49.2 +0.1**
CRVS Cervenica-Dubn 82.20 319 *e*S **S** **11 00 03.3 +1.2**
CRVS *e*L L 11 32 46.8
IVA Berane 82.33 313 ⇑*i*P **P** **10 49 49.1 -1.0**
FIA1 FINESS Array S 82.41 332 P **P** **10 49 49.6 -0.4**
FINES FINESS Array B 82.41 332 P **P** **10 49 49.8 -0.1**
comp=Z,26nm,0.5s,baz=108,slow=5.6,SNR=127
FINES S **S** **11 00 00.6 -3.1**
comp=Z,6.5nm,1.1s,baz=184,slow=24,SNR=1.8
FINES LR LR 11 32 45.2
comp=Z,6µm,18.3s,baz=112,slow=40
FINES FINESS Array B 82.41 332 P **P** **10 49 49.6 -0.4**
DIVS Divibare 82.43 315 ⇑*i*P **P** **10 49 50.2 -0.4**
DIVS Divibare 82.43 315 IAmb IAmb 10 50 18.5
comp=Z,225nm,1.4s
MSF Maaselka 82.48 337 P **P** **10 49 50.5 +0.3**
MSF pmax pmax
comp=Z,179nm,1.2s
KOME Kolasin 82.60 313 ⇑*i*P **P** **10 49 50.7 -0.8**
ULC Ulcinj 82.68 312 ⇑*i*P **P** **10 49 50.7 -1.1**
FRGS Fruska Gora 82.71 316 ⇑P **P** **10 49 51.1 -0.9**
FRGS Fruska Gora 82.71 316 ⇑*i*P **P** **10 49 51.2 -0.7**
SUF Sumiainen 82.72 334 P **P** **10 49 51.6 +0.1**
SUF pmax pmax
comp=Z,137nm,1.2s
PDG Podgorica 82.73 313 ⇑P **P** **10 49 51.5 -0.5**
PDG Podgorica 82.73 313 ⇑*i*P **P** **10 49 51.1 -0.9**
PDG Podgorica 82.73 313 P **P** **10 49 51.2 -0.8**
PDG IAmb IAmb 10 49 54.1
comp=Z,113nm,1.0s
TTG Podgorica 82.73 313 ⇑*i*P **P** **10 49 51.1 -0.9**
DRME Dracevica, Mon 82.75 313 ⇑*i*P **P** **10 49 51.4 -0.8**
DRME Dracevica, Mon 82.75 313 ⇑*i*P **P** **10 49 51.4 -0.8**
PLE Pljevlja 82.75 314 ⇑*i*P **P** **10 49 51.8 -0.5**
KECS Kecovo 82.76 319 *e*P **P** **10 49 52.3 +0.2**
KECS pmax pmax
comp=Z,33nm,1.0s
KECS Kecovo 82.76 319 *e*P **P** **10 49 52.3 +0.2**
BBLS Lazići 82.82 314 ⇑*i*P **P** **10 49 52.4 -0.2**
MTSE Matsula 82.82 329 *e*P **P** **10 49 52.5 +0.4**
TEKS Tekeris 82.82 315 ⇑*i*P **P** **10 49 52.3 -0.2**
CEME Cevo 82.99 313 ⇑*i*P **P** **10 49 52.5 -1.0**
NKME Niksic 83.00 313 ⇑*i*P **P** **10 49 52.6 -0.9**
NIE Niedzica 83.04 320 *e*P **P** **10 49 53.8 +0.3**
NIE *ep*P **pP** **10 50 03.4 -0.8**
NIE *e*S **S** **11 00 09.8 -0.9**
NIE *e*L L 11 31 08.3
comp=Z,3µm,21.2s
NIE Niedzica 83.04 320 P **P** **10 49 54.1 +0.6**
NIE pmax pmax
comp=Z,36nm,1.5s
PSZ Piszkesteto 83.07 318 ⇑P **P** **10 49 53.5 -0.3**
PSZ Piszkesteto 83.07 318 ⇑P **P** **10 49 53.5 -0.3**
BEL Belsk 83.13 322 *e*P **P** **10 49 54.2 +0.3**
BEL *e*L L 11 31 47.3
comp=Z,11µm,22.3s
HAPS Han Pijesak,BI 83.17 314 *e*P **P** **10 49 53.4 -1.1**
PBUR Paburge 83.25 327 *e*P **P** **10 49 54.6 +0.2**
HCY Herceg Novi 83.29 313 *e*P **P** **10 49 53.9 -1.1**
HCY Herceg Novi 83.29 313 ⇑*i*P **P** **10 49 53.9 -1.1**
BRY Bratogost 83.32 313 ⇑*i*P **P** **10 49 54.1 -1.2**
BRY Bratogost 83.32 313 ⇑*i*P **P** **10 49 54.2 -1.1**
SLIT Slitere, Latvi 83.37 328 *e*P **P** **10 49 54.0 -1.0**
TREB Trebinje 83.43 313 *e*P **P** **10 49 54.1 -1.6**
OUL Oulu 83.48 336 P **P** **10 49 55.8 +0.4**
OUL pmax pmax
comp=Z,161nm,1.3s
OJC Ojcow 83.48 321 *e*P **P** **10 49 55.7 -0.1**
OJC *e*S **S** **11 00 12.9 -2.3**
OJC *e*L L 11 37 03.1
comp=Z,4µm,19.5s
OJC Ojcow 83.48 321 IAmb IAmb 10 49 58.6
comp=Z,89nm,1.1s
LANS Liptovska Anna 83.53 320 *e*P **P** **10 49 56.4 +0.3**
LANS pmax pmax
comp=Z,16nm,1.0s
LANS Liptovska Anna 83.53 320 *e*P **P** **10 49 56.4 +0.3**
VNDA Vanda 83.65 169 P **P** **10 49 56.6 +0.5**
comp=Z,7.0nm,0.9s,baz=296,slow=3.2,SNR=9.3
VNDA LR LR 11 21 44.4
comp=Z,10µm,21.4s,baz=313,slow=32
MORH Mrgy, Hungar 83.67 317 ⇑P **P** **10 49 56.7 -0.1**
MORH Mrgy, Hungar 83.67 317 ⇑*i*P **P** **10 49 56.2 -0.6**
RAO Raoul Island 83.82 119 IAMs_20 IAMs_20 11 28 07.9
comp=Z,11µm,20.0s
SGF Sodankyl 83.90 338 P **P** **10 49 57.9 +0.4**
SGF pmax pmax
comp=Z,129nm,1.1s
STON Ston 83.92 313 *i* P **P** **10 49 56.0 -2.2**
SRO2 Moca 84.04 318 *e*P **P** **10 49 58.8 +0.1**
SRO2 pmax pmax
comp=Z,60nm,0.8s
SRO2 Moca 84.04 318 *e*P **P** **10 49 58.8 +0.1**
SRO Srobarova 84.11 318 *e*P **P** **10 49 59.8 +0.8**
SRO pmax pmax
comp=Z,71nm,0.9s
SRO Srobarova 84.11 318 *e*P **P** **10 49 59.8 +0.8**
TIP Timpagrande 84.24 309 ⇑P **P** **10 50 00.5 +0.5**
TIP Timpagrande 84.24 309 IAmb IAmb 10 50 11.6
comp=Z,71nm,1.1s
VAF Ylistaro 84.35 334 P **P** **10 50 00.5 +0.6**
VAF pmax pmax
comp=Z,201nm,1.4s
RICI Ricice 84.41 314 P **P** **10 49 59.5 -1.1**
KEV Kevo 84.42 341 P **P** **10 50 00.2 +0.1**
KEV pmax pmax
comp=Z,95nm,1.0s
KEV Kevo 84.42 341 P **P** **10 50 00.2 +0.1**
KEV IAmb IAmb 10 50 01.5
comp=Z,95nm,1.0s
KEV IAMs_20 IAMs_20 11 33 43.5
comp=Z,9µm,18.0s
MATE Matera 84.43 311 ⇑P **P** **10 50 00.9 +0.1**
OKC Ostrava-Krasne 84.48 320 *e*SKS S 11 00 13.9 -11
OKC AMS AMS 11 34 00.0
comp=Z,3µm,16.9s
LSTV Lastovo 84.50 313 *i* P **P** **10 49 59.6 -1.5**
BLY Banja Luka 84.51 315 ⇑*i*P **P** **10 50 01.1 0.0**
MGRS Mrkonjic Grad 84.54 315 *e*P **P** **10 50 01.0 -0.4**
AMKA Amchitka 84.65 38 P **P** **10 50 01.5 -0.2**
JAVC Velka Javorina 84.67 319 *e*P **P** **10 50 02.6 +0.7**
MRAK Mrakovica 84.74 315 *e*P **P** **10 50 04.7 +2.3**
SMOL Smolenice 84.78 319 *e*P **P** **10 50 02.5 +0.1**
SMOL pmax pmax
comp=Z,16nm,1.3s
SMOL Smolenice 84.78 319 *e*P **P** **10 50 02.5 +0.1**
CEL Celeste 84.83 308 IAmb IAmb 10 50 14.8
comp=Z,122nm,1.0s
ARA0 ARCESS Array S 84.86 340 *e*P **P** **10 50 02.6 +0.2**
ARCES ARCESS Array B 84.86 340 P **P** **10 50 02.1 -0.3**
comp=Z,56nm,0.8s,baz=103,slow=4.6,SNR=87
ARCES PP **PP** **10 53 17.9 -1.1**
comp=Z,8.4nm,0.8s,baz=104,slow=7.5,SNR=3.0
ARCES LR LR 11 31 55.0
comp=Z,16µm,20.9s,baz=95,slow=38
ARCES ARCESS Array B 84.86 340 P **P** **10 50 02.2 -0.2**
ARCES pmax pmax
comp=Z,134nm,1.2s
ARCES ARCESS Array B 84.86 340 P **P** **10 50 02.1 -0.2**
ARCES IAmb IAmb 10 50 05.6
comp=Z,134nm,1.1s
MORC Moravsky Berou 84.86 320 ⇑P **P** **10 50 03.0 +0.1**
MORC Moravsky Berou 84.86 320 *e*P **P** **10 50 02.8 -0.1**
MORC Moravsky Berou 84.86 320 ⇑P **P** **10 50 03.0 +0.1**
MODS Modra-Piesok 84.86 319 *e*P **P** **10 50 02.0 -0.9**
MODS pmax pmax
comp=Z,127nm,1.4s
MODS Modra-Piesok 84.86 319 *e*P **P** **10 50 02.0 -0.9**
MODS Modra-Piesok 84.86 319 *e*S **S** **11 00 26.5 -2.6**
MODS *e*L L 11 31 13.6
MIDW Midway 84.94 62 IAMs_20 IAMs_20 11 28 21.4
comp=Z,9µm,19.0s
ZST Bratislava 84.96 318 *e*P **P** **10 50 03.8 +0.5**
ZST pmax pmax
comp=Z,230nm,1.2s
ZST Bratislava 84.96 318 *e*P **P** **10 50 03.8 +0.5**
ZST Bratislava 84.96 318 *e*S **S** **11 00 30.8 +0.8**
BEHE Becsehely 84.98 317 ⇑*i*P **P** **10 50 04.7 +1.2**
KIJV Kijevo 84.98 314 *i* P **P** **10 50 02.6 -1.0**
AAL Aland 85.03 331 *e*P **P** **10 50 03.6 +0.2**
SGRT San Giovanni R 85.25 312 IAmb IAmb 10 50 30.0
comp=Z,117nm,1.3s
KOGS Kog 85.34 317 *i* P **P** **10 50 05.2 -0.1**
KOGS *e*S **S** **11 00 30.5 -3.3**
KRLC Kraliky 85.39 320 *e*P **P** **10 50 05.7 +0.2**
KRLC *e*S **S** **11 00 30.7 -3.5**
KRLC MLR MLR
comp=Z,4µm,16.8s
KRLC Kraliky 85.39 320 *e*P **P** **10 50 05.7 +0.2**
KRLC *e*S S **11 00 30.7 -3.5**
KRLC AMS AMS 11 38 00.0
comp=Z,4µm,16.8s
VRAC Vranov 85.42 319 ⇑P **P** **10 50 05.0 -0.7**
VRAC Vranov 85.42 319 *e*P **P** **10 50 05.1 -0.5**
VRAC Vranov 85.42 319 ⇑P **P** **10 50 05.0 -0.7**
MORI Morici 85.47 314 *i* P **P** **10 50 05.1 -0.9**
PTJ Puntijarka 85.48 316 P **P** **10 50 05.8 -0.3**
GKP Gorka Klasztor 85.49 323 *e*P **P** **10 50 05.7 -0.2**
GKP *e*L L 11 33 52.7
comp=Z,6µm,22.0s
GKP Gorka Klasztor 85.49 323 *e*P **P** **10 50 05.9 +0.1**
ZIRJ Zirje 85.50 314 *i* P **P** **10 50 05.1 -1.0**
KTK1 Kautokeino 85.50 340 ⇑*i*P **P** **10 50 05.7 +0.1**
KTK1 *e*SKSac **SKSac** **11 00 30.0 +1.9**
KRUC Moravsky 85.52 319 *e*P **P** **10 50 05.7 -0.4**
KRUC Moravsky 85.52 319 P **P** **10 50 06.1 0.0**
KRUC pmax pmax
comp=Z,22nm,1.6s
DPC Dobruska-Polom 85.71 320 *e*P **P** **10 50 07.5 +0.4**
DPC *e*S **S** **11 00 36.8 -0.6**
DPC MLR MLR
comp=Z,4µm,20.0s
DPC Dobruska-Polom 85.71 320 *e*P **P** **10 50 07.5 +0.4**
DPC *e*S **S** **11 00 36.8 -0.6**
DPC AMS AMS 11 33 30.0
comp=Z,4µm,20.0s
HAMF Hammerfest 85.75 341 ⇑*i*P **P** **10 50 06.9 +0.1**
HAMF IVmB_BB 10 50 10.6
comp=Z,2µm,1.9s
HAMF *e*SKSac **S** **11 00 34.3 -2.5**
HAMF *e*SS **SS** **11 06 17.1 +3.3**
HAMF IVMs_BB IVMs_BB 11 41 13.3
comp=Z,4µm,22.3s
CONA Conrad Observa 85.76 318 *i* P **P** **10 50 07.1 -0.3**
comp=Z,21nm,1.1s,SNR=8.3
KSP Ksiaz 85.78 321 *e*P **P** **10 50 07.8 +0.4**
KSP *e*S **S** **11 00 35.6 -2.4**
KSP *e*L L 11 33 39.4
comp=Z,5µm,23.5s
KSP Ksiaz 85.78 321 P **P** **10 50 08.0 +0.6**
KSP pmax pmax
comp=Z,63nm,1.2s
OSTC Ostas 85.80 321 *e*P **P** **10 50 07.3 -0.2**
OSTC *e*S **S** **11 00 34.0 -4.2**
OSTC AMS AMS 11 33 30.0
comp=Z,4µm,18.2s
CRES Cresnjev 85.83 316 ⇑*i*P **P** **10 50 07.6 -0.2**
CHVC Chvalec 85.91 321 *e*P **P** **10 50 08.2 +0.2**
CHVC AMS AMS 11 33 50.0
comp=Z,5µm,21.4s
ARSA Arzberg 85.92 317 *i* P **P** **10 50 08.3 +0.1**
comp=Z,48nm,1.1s,SNR=23
UPC Upice 85.92 321 *e*P **P** **10 50 08.3 +0.2**
UPC *e*S **S** **11 00 36.1 -3.3**
UPC MLR MLR
comp=Z,5µm,21.5s
UPC Upice 85.92 321 *e*P **P** **10 50 08.3 +0.2**
UPC *e*S **S** **11 00 36.1 -3.3**
UPC AMS AMS 11 33 40.0
comp=Z,5µm,21.5s
DUGI Dugi Otok 85.95 314 *i* P **P** **10 50 07.8 -0.6**
PAOL Paolisi 86.08 311 IAmb IAmb 10 50 11.6
comp=Z,80nm,1.1s
NVLJ Novalja 86.13 315 *i* P **P** **10 50 08.3 -0.9**
PERS Pernice 86.14 317 *i* P **P** **10 50 09.4 +0.1**
PERS *e*S **S** **11 00 40.1 -1.7**
TREC Trest 86.14 319 AMS AMS 11 33 50.0
comp=Z,4µm,24.1s
SOKA Soboth 86.20 317 *e*P **P** **10 50 09.8 +0.2**
comp=Z,59nm,1.0s,SNR=30
LJU Ljubljana 86.50 316 *i* P **P** **10 50 11.3 +0.3**
LJU *i* pP **pP** **10 50 21.0 -0.7**
LJU *e*S **S** **11 00 42.5 -2.7**
LJU *e* 11 06 42.1
LJU *e* 11 13 16.7
LJU Ljubljana 86.50 316 ⇑*i*P **P** **10 50 11.3 +0.3**
OBKA Obir 86.52 316 *i* P **P** **10 50 11.4 +0.2**
comp=Z,32nm,1.2s,SNR=10
CEY Cerknica 86.54 316 ⇑*i*P **P** **10 50 10.9 -0.4**
JETT Jettan, Norway 86.60 340 ⇑*i*P **P** **10 50 11.3 +0.2**
JETT *e*SKSac **S** **11 00 42.8 -2.5**
INTR Introdacqua 86.64 312 IAmb IAmb 10 50 24.0
comp=Z,166nm,1.3s
PRU Pruhonice 86.81 320 *e*P **P** **10 50 12.4 -0.1**
PRU *e*S **S** **11 00 46.0 -2.1**
PRU MLR MLR
comp=Z,6µm,19.0s
PRU Pruhonice 86.81 320 *e*P **P** **10 50 12.4 -0.1**
PRU *e*S **S** **11 00 46.0 -2.1**
PRU AMS AMS 11 35 10.0
comp=Z,6µm,19.0s
MOA Molln 86.82 318 *e*P **P** **10 50 12.3 -0.3**
comp=Z,17nm,0.9s,SNR=9.5
PVCC Panska Ves 86.84 321 *e*P **P** **10 50 12.8 +0.2**
PVCC MLR MLR
comp=Z,5µm,21.0s
PVCC Panska Ves 86.84 321 *e*P **P** **10 50 12.8 +0.2**
PVCC AMS AMS 11 34 20.0
comp=Z,5µm,21.0s
CKRC Cesky Krumlov 86.87 319 *e*P **P** **10 50 13.0 +0.2**
CKRC *e*S **S** **11 00 48.2 -0.5**
PRA Prague 86.89 320 *e*P **P** **10 50 12.4 -0.4**
PRA *e*S **S** **11 00 47.5 -1.3**
PRA MLR MLR
comp=Z,3µm,22.9s
PRA Prague 86.89 320 *e*P **P** **10 50 12.4 -0.4**
PRA *e*S **S** **11 00 47.5 -1.3**
PRA AMS AMS 11 35 20.0
comp=Z,3µm,22.9s
HOPEN Hopen 86.93 347 *e*P **P** **10 50 12.0 -0.5**
HOPEN IVmB_BB 10 50 24.7
comp=Z,4µm,3.9s
HOPEN *e*SKSac **SKSac** **11 00 41.0 +4.4**
HOPEN *e*SS **SS** **11 06 29.0 -1.9**
HOPEN IVMs_BB IVMs_BB 11 34 45.8
comp=Z,8µm,25.3s
TRI Trieste 87.00 316 P **P** **10 50 12.9 -0.6**
TRI pmax pmax
comp=Z,42nm,1.1s
AQU L'Aquila 87.04 312 P **P** **10 50 14.0 +0.2**
AQU pmax pmax
comp=Z,179nm,1.6s
AQU L'Aquila 87.04 312 ⇑*i*P **P** **10 50 13.8 0.0**
AQU L'Aquila 87.04 312 IAmb IAmb 10 50 25.2
comp=Z,159nm,1.0s
BSD Bornholm Skovb 87.05 325 *e*P **P** **10 50 12.8 -0.7**
TRO Tromso 87.12 340 ⇑*i*P **P** **10 50 13.3 -0.2**
TRO IVmB_BB 10 50 17.6
comp=Z,2µm,4.5s
TRO *e*SKSac **SKSac** **11 00 40.5 +2.5**
TRO *e*SS **SS** **11 06 36.8 +2.9**
TRO IVMs_BB IVMs_BB 11 32 29.2
comp=Z,5µm,18.8s
PBCC Pribram 87.14 320 *e*P **P** **10 50 14.1 0.0**
MYKA Terra Mystica 87.15 317 *i* P **P** **10 50 14.1 -0.2**
comp=Z,79nm,1.6s,SNR=17
ADK Adak 87.19 38 P **P** **10 50 14.3 +0.1**
ADK pmax pmax
comp=Z,309nm,1.3s
ADK MLR MLR
comp=Z,4µm,20.0s
ADK Adak 87.19 38 P **P** **10 50 14.3 +0.1**
BRG Berggiesshubel 87.27 321 P **P** **10 50 15.1 +0.4**
BRG pmax pmax
comp=Z,58nm,1.4s
BRG Berggiesshubel 87.27 321 ⇑*i*P **P** **10 50 14.9 +0.3**
BRG Amp 10 50 18.1
comp=Z,96nm,1.4s
BRG *ex* x 10 50 24.4
BRG Amp 10 50 26.2
comp=Z,104nm,1.5s
BRG *i* x x 10 50 31.4
BRG Amp 10 50 35.5
comp=Z,60nm,1.3s
BRG PP **PP** **10 53 36.5 -2.4**

BRG Amp 10 53 43.9
comp=Z,24nm,1.4s
BRG S **S** **11 00 53.0 +0.6**
BRG SS SS 11 06 14.0 -23
BRG Amp 11 35 31.0
comp=Z,7.5nm,21.7s
BRG Amp 11 35 36.0
comp=E,5.3nm,21.3s
BRG Amp 11 35 41.0
comp=N,4.2nm,20.4s
BRG Berggiesshubel 87.27 321 *e*P **P** **10 50 15.1 +0.4**
comp=N,67nm,1.2s,baz=93,slow=4.8
GEC2 GERESS Array S 87.27 319 IAmb IAmb 10 50 18.7
comp=Z,219nm,1.7s
GEC2 GERESS Array S 87.27 319 *e*P **P** **10 50 15.0 +0.2**
comp=Z,172nm,1.6s,baz=93,slow=4.8
GERES GERESS Array B 87.27 319 P **P** **10 50 14.9 0.0**
comp=Z,28nm,0.9s,baz=98,slow=5.5,SNR=80
GERES GERESS Array B 87.27 319 P **P** **10 50 14.6 -0.2**
GERES GERESS Array B 87.27 319 P **P** **10 50 14.6 -0.2**
NRCA Norcia 87.28 313 IAmb IAmb 10 52 55.0
comp=Z,88nm,0.6s
LNIZ Loecknitz 87.32 323 *e*P **P** **10 50 14.6 -0.2**
comp=Z,372nm,1.2s,baz=93,slow=4.8
KHC Kasperske Hory 87.37 319 *ce*P **P** **10 50 14.9 -0.4**
KHC pmax pmax
comp=Z,77nm,1.7s
KHC Kasperske Hory 87.37 319 *e*P **P** **10 50 14.8 -0.5**
KHC *e*pP **pP** **10 50 25.0 -0.9**
KHC *ex* x 10 51 00.0
KHC *e*S **S** **11 00 47.0 -6.6**
KHC AMS AMS 11 36 30.0
comp=Z,3µm,16.3s
KBA Koelnbreinsper 87.39 317 *i* P **P** **10 50 14.9 -0.7**
comp=Z,20nm,1.1s,SNR=6.4
KBA Koelnbreinsper 87.39 317 P **P** **10 50 14.9 -0.7**
KBA pmax pmax
comp=Z,22nm,1.2s
RUE Ruedersdorf 87.50 322 *e*P **P** **10 50 16.2 +0.5**
comp=Z,561nm,1.7s,baz=93,slow=4.8
ZOU Zoufplan 87.61 316 IAmb IAmb 10 50 47.9
comp=Z,264nm,1.9s
FBE Freiberg 87.64 321 *e*P **P** **10 50 17.1 +0.6**
comp=Z,106nm,1.2s,baz=93,slow=4.8
RJOB Jochberg 87.80 318 *e*P **P** **10 50 16.8 -0.6**
comp=Z,140nm,0.9s,baz=93,slow=4.8
WET Wettzell 87.83 319 P **P** **10 50 17.4 -0.1**
WET Wettzell 87.83 319 *e*P **P** **10 50 17.7 +0.3**
comp=Z,63nm,1.1s,baz=93,slow=4.8
CLL Collm 87.89 321 ⇑ *i*P **P** **10 50 17.4 -0.2**
comp=Z,59nm,1.2s
CLL *e*PP **PP** **10 53 43.0 -0.9**
CLL *e*S **S** **11 01 01.0 +2.6**
CLL *e*PS PS 11 02 00.0 -4.9
CLL *e*SS SS 11 06 24.0 -22
CLL *e*SSS SSS 11 10 06.0
CLL *e* 11 11 36.0
CLL *e*SSSS 11 13 24.0
CLL Lmax 11 34 00.0
CLL LmV 11 49 00.0
comp=Z,4µm,19.5s
CLL Collm 87.89 321 ⇑ *i*P **P** **10 50 17.4 -0.2**
CLL *e*S **S** **11 01 01.0 +2.6**
CLL pmax pmax
comp=Z,59nm,1.2s
CLL MLR MLR
comp=Z,4µm,19.5s
CLL Collm 87.89 321 *e*P **P** **10 50 17.6 0.0**
comp=Z,54nm,1.1s,baz=93,slow=4.8
ABTA Abfaltersbach 87.94 317 *i* P **P** **10 50 17.4 -0.7**
comp=Z,27nm,1.0s,SNR=8.2
BJO1 Bjornoya 87.95 345 *e*P **P** **10 50 17.9 +0.5**
BJO1 *e*SKSac **SKSac** **11 00 44.7 +1.8**
BJO1 *e*SS **SS** **11 06 44.9 -0.9**
BJO1 IVMs_BB IVMs_BB 11 28 54.8
comp=Z,7µm,4.2s
N2IH Innhavet 87.96 338 ⇑ *i*P **P** **10 50 17.8 +0.2**
N2IH IVmB_BB 10 50 19.5
comp=Z,2µm,1.7s
N2ST Straumen 88.02 337 *e*P **P** **10 50 16.7 -1.1**
FAUS Fauske 88.14 337 *e*P **P** **10 50 18.6 +0.1**
FAUS IVmBBB 10 50 21.9
comp=Z,2µm,1.3s
FAUS *e*SKSac **S** **11 00 55.2 -4.8**
FAUS *e*SS **SS** **11 06 50.1 +1.3**
FAUS IVMs_BB IVMs_BB 11 35 53.9
comp=Z,4µm,19.3s
NKC Novy Kostel 88.18 320 *e*P **P** **10 50 19.0 -0.1**
NKC *e*S **S** **11 01 04.0 +2.8**
NKC MLR MLR
comp=Z,6µm,22.1s
NKC Novy Kostel 88.18 320 *e*P **P** **10 50 19.0 -0.1**
NKC *e*S **S** **11 01 04.0 +2.8**
NKC AMS AMS 11 32 00.0
comp=Z,6µm,22.1s
TANN Tannenbergstha 88.18 320 *e*P **P** **10 50 19.4 +0.2**
comp=Z,54nm,1.3s,baz=93,slow=4.8
STEI Steigen 88.22 338 ⇑ *i*P **P** **10 50 19.0 +0.2**
STEI IVmB_BB 10 50 19.6
comp=Z,2µm,0.8s
STEI *e*SKSac **S** **11 00 52.9 -7.8**
STEI *e*SS **SS** **11 06 51.0 +1.1**
STEI IVMs_BB IVMs_BB 11 33 21.1
comp=Z,6µm,19.8s
N2TV Tvrnvik 88.22 338 *e*P **P** **10 50 19.0 +0.2**
N2TV IVmB_BB 10 50 19.4
comp=Z,2µm,1.6s
WERN Wernitzgruen 88.23 320 *e*P **P** **10 50 19.7 +0.4**
comp=Z,34nm,1.1s,baz=93,slow=4.8
LATE Laterza 88.23 312 IAmb IAmb 10 50 21.8
comp=Z,99nm,1.3s
GUNZ Gunzen 88.26 320 *e*P **P** **10 50 19.9 +0.4**
comp=Z,130nm,1.7s,baz=93,slow=4.8
WERD Werda 88.28 320 *e*P **P** **10 50 19.8 +0.2**
comp=Z,28nm,1.0s,baz=93,slow=4.8
NVL N'lazarevskaya 88.31 199 *e*P **P** **10 50 21.2 +2.0**
NVL *e* 10 53 48.6
NVL *e*PPP PPP 10 55 41.0
NVL *e*S **SKSac** **11 00 44.3 -0.9**
NVL *e*SSS SSS 11 10 22.2
NVL pmax pmax
comp=Z,80nm,1.1s
ROTZ Rotzenmuhle 88.31 320 *e*P **P** **10 50 20.3 +0.6**
comp=Z,52nm,1.1s,baz=93,slow=4.8
PLN Plauen 88.38 320 *e*P **P** **10 50 20.2 +0.3**
comp=Z,42nm,1.2s,baz=93,slow=4.8
MANZ Manzenberg 88.38 320 *e*P **P** **10 50 20.8 +0.8**
comp=Z,98nm,1.2s,baz=93,slow=4.8
NBB28 Valnes 88.44 337 *e*P **P** **10 50 18.9 -0.9**
NBB28 IVmB_BB 10 50 20.2
comp=Z,1µm,2.0s
TEOL Teolo 88.45 315 P **P** **10 50 19.7 -0.8**
TEOL IAmb IAmb 10 50 31.8
comp=Z,70nm,1.0s
CTI Castel Tesino 88.50 316 P **P** **10 50 20.8 0.0**
CTI pmax pmax
comp=Z,92nm,1.0s
CTI Castel Tesino 88.50 316 P **P** **10 50 20.8 0.0**
CTI IAmb IAmb 10 50 23.9
comp=Z,92nm,1.0s
COP Copenhagen 88.51 326 *i* P **P** **10 50 21.5 +1.1**
comp=Z,80nm,0.9s
comp=Z,3µm,19.0s
COP Copenhagen 88.51 326 *e*P **P** **10 50 21.5 +1.1**
COP pmax pmax
comp=Z,80nm,0.9s
COP MLR MLR
comp=Z,3µm,19.0s
COP Copenhagen 88.51 326 *e*P **P** **10 50 21.5 +1.1**
COP IAmb IAmb 10 50 24.3
comp=Z,80nm,0.9s
COP IAMs_20 IAMs_20 11 36 36.5
comp=Z,3µm,18.9s
WTTA Wattenberg 88.56 317 *i* P **P** **10 50 20.6 -0.6**
comp=Z,55nm,1.0s,SNR=16
WTTA Wattenberg 88.56 317 P **P** **10 50 20.6 -0.6**
WTTA pmax pmax
comp=Z,55nm,1.5s
NBB05 Inndyr 88.59 337 *e*P **P** **10 50 20.8 +0.2**
NBB05 IVmB_BB 10 50 24.0
comp=Z,2µm,2.1s
NBB17 Glomfjord Bvr 88.60 337 *e*P **P** **10 50 20.9 +0.3**
NBB17 Glomfjord Bvr 88.60 337 IVmB_BB 10 50 24.2
comp=Z,2µm,3.4s
WATA Walderalm 88.61 317 *i* P **P** **10 50 20.5 -0.8**
comp=Z,36nm,1.0s,SNR=12

NEUB Neuenburg 88.66 321 *e*P **P** **10 50 21.7 +0.5**
comp=Z,153nm,1.2s,baz=93,slow=4.8
NBB30 Finnes 88.70 337 *e*P **P** **10 50 21.0 -0.1**
NBB30 IVmB_BB 10 50 23.2
comp=Z,2µm,1.6s
MOX Moxa 88.73 321 P **P** **10 50 22.1 +0.4**
MOX pmax pmax
comp=Z,47nm,1.6s
MOX Moxa 88.73 321 *e*P **P** **10 50 22.0 +0.4**
comp=Z,118nm,1.5s,baz=93,slow=4.8
MOX *e*L L 11 35 46.6
comp=Z,4µm,21.5s
NBB15 Halsa Church 88.74 337 *e*P **P** **10 50 21.3 0.0**
NBB15 Halsa Church 88.74 337 IAmb IAmb 10 50 24.4
comp=Z,97nm,1.3s
ATKA Atka Island 88.75 38 P **P** **10 50 21.9 +0.2**
FUR Furstenfeldbru 88.84 318 *e*P **P** **10 50 22.0 -0.2**
comp=Z,116nm,1.5s,baz=93,slow=4.8
SQTA Sankt Quirin 88.85 317 *i* P **P** **10 50 21.9 -0.5**
comp=Z,49nm,1.0s,SNR=16
LOF Lofoten 88.87 338 ⇑ *i*P **P** **10 50 21.7 -0.1**
LOF IVmB_BB 10 50 23.4
comp=Z,1µm,2.2s
LOF *e*PP **PP** **10 53 49.3 -2.0**
LOF *e*SKSac **SKSac** **11 00 52.2 +3.5**
LOF *e*SS **SS** **11 06 50.1 -9.3**
KONS Konsvik 88.91 336 *e*P **P** **10 50 22.0 -0.1**
KONS *e*SKSac **SKSac** **11 00 49.1 +0.2**
MOTA Moosalm 88.93 317 *i* P **P** **10 50 22.3 -0.5**
comp=Z,48nm,1.0s,SNR=22
GRA1 Grafenberg Arr 88.94 320 IAmb IAmb 10 50 24.6
comp=Z,71nm,1.0s
GRF Grafenberg Arr 88.94 320 *e*P **P** **10 50 23.4 +0.7**
comp=Z,94nm,1.1s,baz=93,slow=4.8
GRF *e*L L 11 35 53.4
comp=Z,5µm,21.8s
GRFO Grafenberg 88.94 320 P **P** **10 50 22.9 +0.3**
GRFO pmax pmax
comp=Z,67nm,1.0s
GRFO Grafenberg 88.94 320 P **P** **10 50 22.9 +0.3**
GRFO IAmb IAmb 10 50 24.5
comp=Z,67nm,1.0s
NBB40 Tonnes 88.95 336 *e*P **P** **10 50 23.0 +0.7**
NBB40 IVmB_BB 10 50 25.7
comp=Z,3µm,4.2s
FLTG Flechtingen 89.04 322 *e*P **P** **10 50 22.9 -0.1**
comp=Z,76nm,1.1s,baz=93,slow=4.8
SPA0 Spitsbergen Ar 89.13 348 P **P** **10 50 23.1 +0.1**
SPA0 Spitsbergen Ar 89.13 348 ⇑ *i*P **P** **10 50 22.7 -0.3**
SPA0 IVmB_BB 10 50 26.2
comp=Z,4µm,1.6s
SPA0 *e*SKSac **SKSac** **11 00 56.4 +6.4**
SPA0 *e*SS **SS** **11 06 57.2 -5.8**
SPA0 IVMs_BB IVMs_BB 11 36 36.0
comp=Z,5µm,16.6s
SPITS Spitsbergen Ar 89.13 348 P **P** **10 50 23.1 +0.1**
SPITS pmax pmax
comp=Z,95nm,0.9s
N2VA Vr,y 89.16 338 *e*P **P** **10 50 23.1 -0.1**
N2VA IVmB_BB 10 50 29.3
comp=Z,1µm,2.8s
RETA Reutte 89.16 317 *i* P **P** **10 50 23.6 -0.2**
comp=Z,49nm,1.0s,SNR=16
HSPB Hornsund (broa 89.17 347 *e*P **P** **10 50 22.8 -0.4**
HSPB *e*L L 11 37 44.9
comp=Z,14µm,19.6s
HSPB Hornsund (broa 89.17 347 ⇑ *i*P **P** **10 50 22.7 -0.4**
HSPB IVmB_BB 10 50 26.3
comp=Z,2µm,2.3s
HSPB *e*SKSac **SKSac** **11 00 52.3 +2.2**
HSPB *e*SS **SS** **11 06 58.3 -5.1**
HSPB IVMs_BB IVMs_BB 11 37 51.6
comp=Z,5µm,20.3s
FETA Feichten 89.17 317 *i* P **P** **10 50 23.9 -0.1**
comp=Z,56nm,1.0s,SNR=18
NC405 NORSAR Array S 89.19 331 P **P** **10 50 22.6 -1.0**
QSPA South Pole Qui 89.23 180 P **P** **10 50 24.2 +0.4**
QSPA IAmb IAmb 10 50 34.7
comp=Z,126nm,1.4s
QSPA South Pole Qui 89.23 180 IAMs_20 IAMs_20 11 24 41.0
comp=Z,11µm,21.0s
NC602 NORSAR Array S 89.25 331 ⇑ *i*P **P** **10 50 23.6 -0.3**
NC602 IVmB_BB 10 50 30.6
comp=Z,1µm,3.3s
NC602 *e*SKSac **SKSac** **11 00 56.4 +5.1**
NC602 *e*SS **SS** **11 07 06.0 +0.7**
NC602 IVMs_BB IVMs_BB 11 34 20.9
comp=Z,3µm,20.4s
NORES NORESS Array B 89.25 331 P **P** **10 50 24.0 +0.1**
NORES pmax pmax
comp=Z,32nm,0.7s
NSS Namsos 89.26 334 ⇑ *i*P **P** **10 50 23.7 0.0**
NSS IVmB_BB 10 50 31.6
comp=Z,2µm,5.1s
NSS *e*SKSac **SKSac** **11 00 56.6 +5.6**
NSS IVMs_BB IVMs_BB 11 36 33.5
comp=Z,5µm,22.4s
SALO Salr 89.27 315 P **P** **10 50 24.8 +0.5**
AFI Afiamalu 89.31 104 P **P** **10 50 27.0 +1.8**
AFI pmax pmax
comp=Z,161nm,1.2s
AFI Afiamalu 89.31 104 P **P** **10 50 27.0 +1.8**
AFI IAmb IAmb 10 50 34.7
comp=Z,161nm,1.2s
NC303 NORSAR Array S 89.36 331 P **P** **10 50 22.7 -1.7**
N2RO R_st 89.37 337 *e*P **P** **10 50 24.4 +0.2**
N2RO IVmB_BB 10 50 26.2
comp=Z,1µm,1.5s
ASSE Asse, Remlinge 89.38 322 *e*P **P** **10 50 25.0 +0.5**
comp=Z,155nm,1.2s,baz=93,slow=4.8
NB201 NORSAR Array S 89.39 331 P **P** **10 50 24.6 +0.1**
NB2 NORSAR Subarra 89.43 331 P **P** **10 50 24.3 -0.4**
comp=Z,162nm,1.7s,baz=93,slow=4.8
NB2 NORSAR Subarra 89.43 331 P **P** **10 50 23.2 -1.5**
NB2 pmax pmax
comp=Z,355nm,1.6s
NB2 NORSAR Subarra 89.43 331 P **P** **10 50 24.3 -0.4**
baz=93,slow=4.8
NOA NORSAR Array B 89.43 331 P **P** **10 50 24.4 -0.4**
comp=Z,16nm,0.9s,baz=94,slow=4.7,SNR=29
NOA PP **PP** **10 53 57.0 +1.0**
comp=Z,2.9nm,0.9s,baz=87,slow=7.5,SNR=2.3
NOA LR LR 11 34 41.8
comp=Z,3µm,20.5s,baz=95,slow=38
CLZ Clausthal 89.56 322 *e*P **P** **10 50 26.2 +0.6**
comp=Z,114nm,1.0s,baz=93,slow=4.8
UBR Ueberruh 89.61 318 *e*P **P** **10 50 25.8 -0.1**
comp=Z,49nm,1.1s,baz=93,slow=4.8
OSL Oslo 89.63 330 *e*P **P** **10 50 25.7 +0.2**
OSL *e*SKSac **SKSac** **11 01 01.0 +7.6**
BSEG Bad Segeberg 89.65 324 P **P** **10 50 26.7 +0.9**
BSEG pmax pmax
comp=Z,111nm,1.5s
BSEG Bad Segeberg 89.65 324 *e*P **P** **10 50 26.7 +0.9**
comp=Z,134nm,1.2s,baz=93,slow=4.8
NRDL Niedersach Rie 89.74 322 *e*P **P** **10 50 27.3 +1.1**
comp=Z,152nm,1.1s,baz=93,slow=4.8
DAVA Damuels 89.76 317 *i* P **P** **10 50 26.9 +0.2**
comp=Z,106nm,1.0s,SNR=31
UBBA Unterbreizbach 89.76 321 *e*P **P** **10 50 26.8 +0.5**
comp=Z,82nm,1.3s,baz=93,slow=4.8
GTTG Gottingen 89.80 321 *e*P **P** **10 50 27.3 +0.7**
comp=Z,175nm,1.2s,baz=93,slow=4.8
KEST Kesra 89.93 306 P **P** **10 50 28.9 +1.2**
comp=Z,60nm,0.9s,baz=164,slow=0.2,SNR=54
KEST LR LR 11 35 24.2
comp=Z,4µm,18.8s,baz=40,slow=39
MSSA Maissana 89.95 314 IAmb IAmb 10 50 30.3
comp=Z,150nm,1.4s
VSL Villasalto 89.97 309 IAmb IAmb 10 50 38.8
comp=Z,108nm,1.1s
KBS Kingsbay 90.08 349 P **P** **10 50 27.2 -0.2**
KBS pmax pmax
comp=Z,198nm,1.7s
KBS Kingsbay 90.08 349 P **P** **10 50 27.2 -0.2**
KBS IAmb IAmb 10 51 05.3
comp=Z,198nm,1.6s
KBS Kingsbay 90.08 349 IAMs_20 IAMs_20 11 37 30.2
comp=Z,12µm,20.0s
KBS Kingsbay 90.08 349 IVmB_BB 10 50 24.8
comp=Z,2µm,5.2s
KBS ⇑ *i*P **P** **10 50 26.3 -1.1**
KBS *e*SKSac **SKSac** **11 00 56.5 +1.0**
KBS *e*SS **SS** **11 07 18.8 +2.1**
KBS IVMs_BB IVMs_BB 11 37 39.8
comp=Z,5µm,14.5s

KBS Kingsbay 90.08 349 *i* P **P** **10 50 27.4 0.0**
KBS IAmb IAmb 10 50 28.2
comp=Z,55nm,1.0s
KBS IAMs_20 IAMs_20 11 37 24.4
comp=Z,28µm,18.0s
TUE Stuetta 90.11 316 IAmb IAmb 10 50 31.1
comp=Z,106nm,1.3s
KONO Kongsberg 90.19 329 P **P** **10 50 28.1 -0.2**
KONO pmax pmax
comp=Z,281nm,1.7s
KONO Kongsberg 90.19 329 P **P** **10 50 28.1 -0.2**
KONO Kongsberg 90.19 329 IAMs_20 IAMs_20 11 36 30.9
comp=Z,8µm,20.0s
KONO Kongsberg 90.19 329 ⇑ *i*P **P** **10 50 28.1 -0.2**
KONO IVmB_BB 10 50 28.9
comp=Z,1µm,2.2s
KONO *e*SKSac **SKSac** **11 01 01.4 +4.7**
KONO *e*SS **SS** **11 07 18.9 0.0**
KONO IVMs_BB IVMs_BB 11 36 28.1
comp=Z,3µm,12.7s
STU Stuttgart 90.25 319 P **P** **10 50 29.2 +0.4**
STU pmax pmax
comp=Z,66nm,1.5s
STU Stuttgart 90.25 319 *e*P **P** **10 50 29.0 +0.2**
comp=Z,116nm,1.4s,baz=93,slow=4.8
DOMB Dombas 90.48 332 *e*P **P** **10 50 29.1 -0.6**
DOMB IVmB_BB 10 50 36.6
comp=Z,1µm,3.3s
DOMB *e*SKSac **SKSac** **11 01 02.6 +4.2**
DOMB *e*SS **SS** **11 07 24.0 +0.7**
SLE Schleitheim 90.70 318 P **P** **10 50 30.8 -0.2**
SLE pmax pmax
comp=Z,35nm,1.2s
HOMB Homborsund 90.74 328 *e*P **P** **10 50 30.6 -0.2**
HOMB IVmB_BB 10 50 38.3
comp=Z,2µm,3.1s
HOMB *e*SKSac **SKSac** **11 01 04.9 +5.0**
HOMB *e*SS **SS** **11 07 26.5 -0.4**
HOMB IVMs_BB IVMs_BB 11 36 10.2
comp=Z,2µm,11.8s
TNS Taunus Mts 90.75 320 *e*P **P** **10 50 31.8 +0.7**
comp=Z,130nm,1.0s,baz=93,slow=4.8
KASTN Kahler Asten 90.77 321 *e*P **P** **10 50 31.8 +0.6**
comp=Z,131nm,1.3s,baz=93,slow=4.8
BFO Black Forest 90.82 318 P **P** **10 50 31.1 -0.4**
BFO pmax pmax
comp=Z,52nm,1.0s
BFO Black Forest 90.82 318 P **P** **10 50 31.1 -0.4**
BFO IAmb IAmb 10 50 32.5
comp=Z,52nm,1.0s
BFO Black Forest 90.82 318 *e*P **P** **10 50 31.4 -0.1**
comp=Z,49nm,0.9s,baz=93,slow=4.8
SKAR Skarslia 90.84 331 ⇑ *i*P **P** **10 50 31.1 -0.3**
SKAR IAmb IAmb 10 50 33.5
comp=Z,33nm,1.0s
SKAR *e*SKSac **SKSac** **11 01 02.1 +1.4**
SKAR *e*SS **SS** **11 07 33.3 +4.8**
SKAR IVMs_BB IVMs_BB 11 38 04.2
comp=Z,3µm,21.1s
SPIA Saint Paul Isl 91.14 33 P 10 50 31.8
baz=270
IBBN Ibbenburen 91.18 322 *e*P **P** **10 50 33.5 +0.6**
comp=Z,301nm,1.8s,baz=93,slow=4.8
MOL Molde 91.19 332 *e*P **P** **10 50 32.7 -0.2**
MOL IVmB_BB 10 50 44.0
comp=Z,2µm,3.6s
MOL *e*SKSac **SKSac** **11 01 01.0 -1.3**
SAOF Saorge 91.36 314 P **P** **10 50 34.8 +0.7**
SAOF pmax pmax
comp=Z,65nm,1.4s
SNART Snartemo 91.42 328 *e*P **P** **10 50 33.5 -0.4**
AKN Aaknes 91.46 332 *e*P **P** **10 50 34.7 +0.6**
AKN IVmB_BB 10 50 41.9
comp=Z,2µm,3.9s
AKN *e*SKSac **SKSac** **11 01 13.8 +10**
AKN *e*SP SP 11 02 38.7 -0.7
AKN *e*SS **SS** **11 07 33.8 -3.3**
BUG Bochum--Univer 91.49 321 *e*P **P** **10 50 35.0 +0.6**
comp=Z,95nm,1.1s,baz=93,slow=4.8
SENIN Lac Senin/Sane 91.52 316 IAmb IAmb 10 50 37.5
comp=Z,56nm,0.9s
AHRW Bad Neuenahr-A 91.62 320 *e*P **P** **10 50 35.8 +0.7**
comp=Z,91nm,1.1s,baz=93,slow=4.8
ODD1 Odda 91.69 330 *e*P **P** **10 50 35.5 +0.3**
BLS5 Blasjo 91.79 329 ⇑ *i*P **P** **10 50 36.2 +0.5**
BLS5 IVmB_BB 10 50 45.7
comp=Z,3µm,4.0s
BLS5 *e*SKSac **SKSac** **11 01 11.7 +5.7**
BLS5 *e*SS **SS** **11 07 44.3 +2.2**
BLS5 IVMs_BB IVMs_BB 11 35 57.0
comp=Z,4µm,17.5s
HYA Hoyanger 91.87 331 *e*P **P** **10 50 36.2 +0.2**
BNI Bardonecchia 91.98 315 P **P** **10 50 36.9 -0.2**
BNI pmax pmax
comp=Z,51nm,1.0s
BNI Bardonecchia 91.98 315 IAmb IAmb 10 50 45.3
comp=Z,42nm,0.9s
NIKH Nikolski High 92.02 37 P 10 50 35.7
baz=272
BTNL Ternell 92.22 320 *d*PcP **P** **10 50 38.1 +0.2**
WLF Walferdange 92.23 319 *d*PcP **P** **10 50 38.1 +0.1**
WLF Walferdange 92.23 319 IAmb IAmb 10 50 41.6
comp=Z,69nm,1.1s
WLF Walferdange 92.23 319 *e*P **P** **10 50 38.7 +0.7**
comp=Z,92nm,1.2s,baz=93,slow=4.8
MEM Membach 92.30 320 *d*PcP **PcP** **10 50 38.8 -0.2**
MEM Membach 92.30 320 P **P** **10 50 38.9 +0.6**
MEM pmax pmax
comp=Z,46nm,1.4s
BHOU Houvegnez 92.31 320 *d*PcP **PcP** **10 50 39.0 0.0**
BER Bergen 92.32 330 *e*P **P** **10 50 37.2 -0.8**
BER IVmB_BB 10 50 39.8
comp=Z,2µm,2.6s
BER *e*SKSac **SKSac** **11 01 08.4 -0.4**
BER *e*SP SP 11 02 49.2 +0.3
BER IVMs_BB IVMs_BB 11 38 34.4
comp=Z,3µm,6.0s
ASK Askoy 92.38 330 *e*P **P** **10 50 39.1 +0.7**
ASK IVmB_BB 10 50 49.2
comp=Z,7µm,2.7s
ASK *i* 11 01 24.1
ASK *e*SS SS 11 07 43.9 -6.5
FOO Floro 92.40 331 *e*P **P** **10 50 37.7 -0.7**
FOO IVmB_BB 10 50 42.7
comp=Z,2µm,3.0s
KMY Karmoy 92.42 329 *e*P **P** **10 50 39.1 +0.5**
SUE Sulen 92.57 331 *e*P **P** **10 50 38.6 -0.6**
SUE IVmB_BB 10 50 41.2
comp=Z,3µm,5.0s
SUE *e*SKSac **SKSac** **11 01 10.0 -0.1**
SUE *e*SS **SS** **11 07 54.6 +1.5**
BCLA Clavier 92.76 320 *d*PcP **P** **10 50 40.6 +0.2**
RCHB Rochefort 92.81 320 *d*PcP **P** **10 50 40.8 +0.1**
BGES Gesves 92.90 320 *d*PcP **P** **10 50 40.9 -0.1**
SNAA Sanae 92.97 198 P P 10 50 51.1 +10
SNAA Sanae 92.97 198 IAMs_20 IAMs_20 11 26 40.3
comp=Z,8µm,21.0s
BMRD Maredsous 93.10 320 *d*PcP **PcP** **10 50 42.5 -0.1**
ANM Nome 93.18 25 P 10 50 42.1
baz=275
DOU Dourbes 93.22 320 *d*PcP **P** **10 50 41.1 -1.4**
DOU Dourbes 93.22 320 P **P** **10 50 42.5 0.0**
DOU pmax pmax
comp=Z,38nm,1.6s
TAM Tamanrasset 93.26 293 P **P** **10 50 45.0 +1.5**
RDOG Red Dog Mine 93.79 22 IAMs_20 IAMs_20 11 37 59.2
comp=Z,11µm,19.0s
RDOG Red Dog Mine 93.79 22 P 10 50 44.5
baz=278
VNA2 Neumayer--Watz 94.57 198 P **P** **10 50 47.4 -0.9**
FALS False Pass 95.10 35 P 10 50 51.1
baz=276
A21K Barrow 95.35 18 P **P** **10 50 51.7 0.0**
A21K IAMs_20 IAMs_20 11 36 19.0
comp=Z,16µm,22.0s
A21K Barrow 95.35 18 P 10 50 52.0
baz=284,SNR=16
SDPT Sand Point 96.72 34 P 10 50 58.1
baz=278
DAG Danmarks Havn 96.78 348 *i* P **P** **10 50 57.2 -1.1**
comp=Z,14nm,1.0s
comp=Z,9µm,19.0s
DAG Danmarks Havn 96.78 348 *i* P **P** **10 50 57.2 -1.1**
DAG pmax pmax
comp=Z,14nm,1.0s

DAG MLR MLR
comp=Z,9μm,19.0s
DAG Danmarks Havn 96.78 348 *i* P **P 10 50 57.2 -1.1**
DAG IAmb IAmb 10 50 58.6
comp=Z,14nm,1.0s
DAG IAMs_20 IAMs_20 11 41 58.8
comp=Z,9μm,19.4s
CHNA Chernabura Isl 97.30 35 P 10 51 00.4
baz=279
EKA Eskdalemuir Ar 97.36 326 P Pdif 10 51 01.4 0.0
TTA Tatalina 97.54 26 P Pdif 10 51 02.5 +0.4
TTA pmax pmax
comp=Z,63nm,1.6s
TTA MLR MLR
comp=Z,10μm,21.0s
TTA Tatalina 97.54 26 P Pdif 10 51 02.5 +0.3
TTA IAmb IAmb 10 51 17.4
comp=Z,63nm,1.6s
TTA IAMs_20 IAMs_20 11 37 10.9
comp=Z,10μm,21.0s
TTA Tatalina 97.55 26 P 10 51 02.4
baz=283,SNR=5.8
CHGN Chignik 97.71 33 P 10 51 02.5
baz=280
IMAR Indian Mountai 97.72 23 P Pdif 10 51 02.7 0.0
ALE Alert 97.85 358 IAMs_20 IAMs_20 11 40 51.4
comp=Z,8μm,20.0s
TOLK Toolik Lake Re 98.45 20 P **P 10 51 05.6 -0.4**
TOLK IAmb IAmb 10 51 21.2
comp=Z,66nm,1.6s
TOLK IAMs_20 IAMs_20 11 38 41.1
comp=Z,14μm,21.0s
TOLK Toolik Lake Re 98.45 20 P 10 51 06.1
baz=290,SNR=12
COLD Coldfoot 98.70 22 P 10 51 06.9 -0.2
COLD Coldfoot 98.70 22 P 10 51 07.3
baz=289,SNR=5.0
CHUM Lake Minchumin 98.90 25 P 10 51 07.4
baz=287
MLY Manley 99.21 24 P 10 51 09.5
baz=288,SNR=8.3
PPLA Purkeypile 99.24 26 IAMs_20 IAMs_20 11 37 53.7
comp=Z,7μm,21.0s
PPLA Purkeypile 99.24 26 P 10 51 09.6
baz=287
BPAW Bear Paw Mtn. 99.40 25 Pdif 10 51 09.5 -0.7
BPAW IAmb IAmb 10 51 25.9
comp=Z,61nm,1.4s
BPAW IAMs_20 IAMs_20 11 41 31.7
comp=Z,13μm,20.0s
BPAW Bear Paw Mtn. 99.40 25 P 10 51 09.9
baz=288
KTH Kantishna Hill 99.59 25 IAMs_20 IAMs_20 11 42 30.9
comp=Z,10μm,20.0s
I23K Minto, Yukon-K 99.72 23 IAMs_20 IAMs_20 11 40 25.1
comp=Z,8μm,20.0s
I23K Minto, Yukon-K 99.72 23 P 10 51 11.5
baz=290
SKT Skwentna 99.80 27 IAMs_20 IAMs_20 11 41 31.6
comp=Z,12μm,20.0s
SKT Skwentna 99.80 27 P 10 51 11.7
baz=287
TRF Thorofare Moun 99.90 25 IAMs_20 IAMs_20 11 42 59.9
comp=Z,10μm,19.0s
TRF Thorofare Moun 99.90 25 P 10 51 12.1
baz=289
SII Sitkinak Islan 99.95 33 IAMs_20 IAMs_20 11 44 52.1
comp=Z,9μm,18.0s
MDM Murphy Dome 100.23 23 IAMs_20 IAMs_20 11 43 22.7
comp=Z,8μm,20.0s
CUT Chulitna 100.24 26 P 10 51 13.1
baz=288
ESDC Sonseca Array 100.24 310 P **Pdif 10 51 13.5 -1.2**
comp=Z,1.6nm,0.8s,baz=37,slow=4.4,SNR=7.3
ESDC PP **PP 10 55 23.4 +2.6**
comp=Z,3.2nm,1.0s,baz=76,slow=6.3,SNR=5.5
ESDC Sonseca Array 100.24 310 Pdif 10 51 14.2 -0.5
SUA Susitna One 100.32 27 P 10 51 14.2
baz=288
MCK McKinley 100.37 25 P 10 51 14.2
baz=290
TCOL CIGO, UAF Yank 100.41 23 IAMs_20 IAMs_20 11 43 26.7
comp=Z,9μm,18.0s
TCOL CIGO, UAF Yank 100.41 23 P 10 51 14.0
baz=291
COLA College 100.42 23 IAMs_20 IAMs_20 11 43 27.4
comp=Z,9μm,19.0s
COLA College 100.42 23 P 10 51 13.8
baz=291
HOM Homer 100.43 29 P 10 51 14.1
baz=287
WRH Wood River Hil 100.46 24 IAMs_20 IAMs_20 11 43 20.8
comp=Z,10μm,19.0s
KDAK Kodiak Island 100.48 31 P **Pdif 10 51 14.5 -0.7**
comp=Z,22nm,1.2s,baz=124,slow=15,SNR=1.6
KDAK Kodiak Island 100.48 31 IAMs_20 IAMs_20 11 44 22.0
comp=Z,12μm,18.0s
POKR Poker Plat Res 100.49 23 IAMs_20 IAMs_20 11 45 11.5
comp=Z,10μm,19.0s
POKR Poker Plat Res 100.49 23 P 10 51 13.2
baz=292
CCB Clear Creek Bu 100.52 24 IAMs_20 IAMs_20 11 43 31.2
comp=Z,11μm,19.0s
RND Reindeer 100.52 25 IAMs_20 IAMs_20 11 45 11.3
comp=Z,11μm,18.0s
SCO Scoresbysund 100.56 343 IAMs_20 IAMs_20 11 39 55.2
comp=Z,10μm,22.0s
CNPM China Poot 100.67 29 IAMs_20 IAMs_20 11 42 52.7
comp=Z,13μm,20.0s
EUNU Eureka 100.69 1 IAMs_20 IAMs_20 11 41 46.0
comp=Z,14μm,19.0s
BRLK Bradley Lake 100.77 29 IAMs_20 IAMs_20 11 43 21.2
comp=Z,13μm,18.0s
FYU Fort Yukon 100.77 21 IAMs_20 IAMs_20 11 42 45.9
comp=Z,10μm,20.0s
ILAR Eielson Array 100.84 23 P **Pdif 10 51 15.1 -1.6**
comp=Z,1.0nm,0.9s,baz=286,slow=4.6,SNR=4.9
ILAR PP **PP 10 55 22.7 -1.6**
comp=Z,8.7nm,1.0s,baz=296,slow=6.8,SNR=8.1
ILAR PKKPbc **PKKPbc 11 07 29.0 -3.1**
comp=Z,0.9nm,0.8s,baz=129,slow=1.9,SNR=5.3
ILAR Eielson Array 100.84 23 Pdif **Pdif 10 51 14.4 -2.2**
BRSE Bradley Lake S 100.84 29 P 10 51 16.3
baz=288
HDA Harding Lake 100.95 24 IAMs_20 IAMs_20 11 43 44.6
comp=Z,13μm,18.0s
HDA Harding Lake 100.95 24 P 10 51 16.7
baz=292
HDA P 10 51 16.7
baz=292
GHO Glory Hole Cre 101.04 27 IAMs_20 IAMs_20 11 42 59.3
comp=Z,10μm,19.0s
PRP Porcupine Dome 101.08 22 P 10 51 16.7
baz=294
O22K Cooper Landing 101.10 28 IAMs_20 IAMs_20 11 42 06.0
comp=Z,12μm,20.0s
O22K Cooper Landing 101.10 28 P 10 51 17.2
baz=289
SML Sawmill 101.30 26 IAMs_20 IAMs_20 11 43 15.0
comp=Z,9μm,18.0s
SML Sawmill 101.30 26 P 10 51 18.1
baz=290
SEW Seward 101.35 28 IAMs_20 IAMs_20 11 41 52.6
comp=Z,13μm,20.0s
SEW Seward 101.35 28 P 10 51 18.1
baz=289
KNK Knik Glacier 101.37 27 IAMs_20 IAMs_20 11 43 01.1
comp=Z,12μm,20.0s
KNK Knik Glacier 101.37 27 P 10 51 18.4
baz=290
SCM Sheep Creek Mo 101.73 26 IAMs_20 IAMs_20 11 42 55.5
comp=Z,6μm,20.0s
PAX Paxson 102.11 25 IAMs_20 IAMs_20 11 44 12.3
comp=Z,10μm,19.0s
PAX Paxson 102.11 25 P 10 51 21.8
baz=293
M24K Tolsona, Glenn 102.14 26 IAMs_20 IAMs_20 11 37 02.2
comp=Z,7μm,22.0s
GLI Glacier Island 102.18 27 IAMs_20 IAMs_20 11 43 46.5
comp=Z,13μm,19.0s
GLI Glacier Island 102.18 27 P 10 51 21.6
baz=291
SCRK Sand Creek 102.31 24 P 10 51 22.7
baz=295
DOT Dot Lake 102.42 24 IAMs_20 IAMs_20 11 44 40.3
comp=Z,11μm,18.0s
EYAK Cordova Ski Ar 102.92 27 P 10 51 25.2
baz=292

N25K Chitina, Valde 103.02 26 P 10 51 25.9
baz=294
K27K Chicken 103.05 23 IAMs_20 IAMs_20 11 46 04.1
comp=Z,10μm,18.0s
K27K Chicken 103.05 23 P 10 51 25.9
baz=296
Q23K Middleton Isla 103.05 28 IAMs_20 IAMs_20 11 46 21.7
comp=Z,12μm,18.0s
Q23K Middleton Isla 103.05 28 P 10 51 26.2
baz=292
EGAK Eagle 103.06 22 IAMs_20 IAMs_20 11 42 23.4
comp=Z,10μm,20.0s
RTC Rabat Centre 103.33 305 IAMs_20 IAMs_20 11 41 44.1
comp=Z,11μm,20.0s
SUMG Summit 103.47 348 *i* P **Pdif 10 51 29.2 +0.5**
comp=Z,31μm,20.0s
SUMG Summit 103.47 348 *e*P **Pdif 10 51 29.2 +0.5**
SUMG MLR MLR
comp=Z,31μm,20.0s
SUMG Summit 103.47 348 IAMs_20 IAMs_20 11 43 49.0
comp=Z,12μm,19.0s
SUMG Summit 103.47 348 *e*P **Pdif 10 51 29.2 +0.5**
SUMG IAMs_20 IAMs_20 11 43 43.2
comp=Z,31μm,19.9s
KIC Kosan Boka 103.49 276 *e*P **Pdif 10 51 33.2 +3.6**
comp=Z,20nm,1.0s
DBIC Dimbokro 103.60 277 Pdiff **Pdif 10 51 27.7 -2.3**
comp=Z,2.5nm,0.8s,baz=162,slow=3.2,SNR=2.3
DBIC Dimbokro 103.60 277 P **Pdif 10 51 27.0 -3.0**
DBIC Dimbokro 103.60 277 Pdif 10 51 27.0 -3.0
SHEL Horse Pasture 103.73 253 IAMs_20 IAMs_20 11 32 22.6
comp=Z,11μm,22.0s
TIC Toumodi 103.77 277 *e*P **Pdif 10 51 34.4 +3.6**
KAIM Kayak Island 103.77 28 IAMs_20 IAMs_20 11 43 51.6
comp=Z,12μm,20.0s
LIC Lamto 103.78 276 *e*P **Pdif 10 51 34.7 +3.9**
comp=Z,26nm,1.3s
MCARA McCarthy VSAT 103.80 26 P 10 51 29.7
baz=295
INK Inuvik 103.83 18 Pdiff **Pdif 10 51 29.8 -0.1**
comp=Z,3.2nm,0.9s,baz=322,slow=5.9,SNR=6.0
INK PP **PKiKP 10 55 47.6 +0.1**
comp=Z,18nm,1.1s,baz=307,slow=9.3,SNR=5.5
INK Inuvik 103.83 18 IAMs_20 IAMs_20 11 46 02.2
comp=Z,13μm,19.0s
TULEG Thule 103.94 357 IAMs_20 IAMs_20 11 44 23.8
comp=Z,13μm,20.0s
TULEG Thule 103.94 357 *i* P **Pdif 10 51 30.6 +0.4**
TULEG IAmb IAmb 10 51 33.4
comp=Z,3.8nm,1.3s
TULEG IAMs_20 IAMs_20 11 44 17.7
comp=Z,13μm,18.8s
CRQM Cirque 104.02 27 IAMs_20 IAMs_20 11 43 21.2
comp=Z,9μm,20.0s
TGL Tana Glacier 104.15 26 IAMs_20 IAMs_20 11 43 24.6
comp=Z,8μm,20.0s
CTGM Chitina Glacie 104.72 26 IAMs_20 IAMs_20 11 41 02.5
comp=Z,7μm,21.0s
YAH Yahtse 104.81 27 IAMs_20 IAMs_20 11 40 17.8
comp=Z,10μm,22.0s
TABL Table Mountain 105.04 26 IAMs_20 IAMs_20 11 41 34.0
comp=Z,8μm,22.0s
PCA Pinnacle 105.59 26 IAMs_20 IAMs_20 11 41 04.6
comp=Z,8μm,22.0s
PINM Pinnacle 105.59 26 P 10 55 50.1
baz=297
RES Resolute Bay 105.68 4 PP **PKiKP 10 55 58.2 +7.4**
comp=Z,5.4nm,0.8s,baz=323,slow=10,SNR=4.1
C36M Paulatuk 105.77 15 IAMs_20 IAMs_20 11 45 30.3
comp=Z,7μm,20.0s
C36M Paulatuk 105.78 15 P 10 55 50.7
baz=315
BCPM Bancas Point 105.93 26 IAMs_20 IAMs_20 11 46 33.6
comp=Z,7μm,19.0s
SKAG Skagway 108.08 26 IAMs_20 IAMs_20 11 46 59.2
comp=Z,8μm,19.0s
SKAG Skagway 108.08 26 P 10 55 55.0
baz=302
ANGG Ammassalik, Gr 108.17 342 IAMs_20 IAMs_20 11 48 04.3
comp=Z,8μm,19.0s
TBI Tubuai 109.64 115 *e*Pdif **Pdif 10 51 54.2 -2.5**
comp=Z,241nm,29.0s
TBI Tubuai 109.64 115 *e*PP **PP 10 56 25.8 -5.1**
comp=Z,633nm,28.0s
TBI *e*Sdif Sdif 11 04 04.0 -3.1
comp=Z,3μm,29.0s
TBI Tubuai 109.64 115 *e*PS PS 11 05 53.1 -6.6
comp=Z,748nm,25.0s
TBI *e*SS SS 11 11 48.7 -3.6
comp=Z,5μm,27.8s
TBI Tubuai 109.64 115 *e*LR LR 11 28 20.4
comp=Z,11μm,22.8s
PPT2 Papeete2 110.39 109 *e*Pdif **Pdif 10 51 55.3 -4.9**
comp=Z,300nm,26.5s
PPT2 Papeete2 110.39 109 *e*PP **PP 10 56 28.9 -7.7**
comp=Z,803nm,26.0s
PPT2 *e*Sdif Sdif 11 04 06.1 -7.6
comp=Z,4μm,26.5s
PPT2 Papeete2 110.39 109 *e*PS PS 11 06 00.8 -6.5
comp=Z,899nm,22.5s
PPT2 *e*SS SS 11 11 58.6 -4.2
comp=Z,4μm,31.8s
PPT2 Papeete2 110.39 109 *e*LQ LQ 11 24 01.3
comp=Z,14μm,42.8s
PPT2 *e*LR LR 11 28 41.5
comp=Z,6μm,22.0s
SFJD Kangerlussuaq 110.47 348 IAMs_20 IAMs_20 11 47 29.8
comp=Z,11μm,21.0s
DLBC Dease Lake 110.93 25 PKiKP **PKiKP 10 56 01.1 -0.1**
comp=Z,3.5nm,0.8s,baz=297,slow=4.3,SNR=6.2
DLBC PP **PP 10 56 41.1 +2.3**
comp=Z,7.2nm,0.9s,baz=286,slow=4.8,SNR=5.7
WRAK Wrangell Islan 111.06 28 IAMs_20 IAMs_20 11 50 43.2
comp=Z,9μm,18.0s
CRAG Craig 111.21 29 IAMs_20 IAMs_20 11 48 58.4
comp=Z,7μm,19.0s
CRAG Craig 111.21 29 P 10 56 01.0
baz=303
DIB Dawson Inlet, 112.75 31 IAMs_20 IAMs_20 11 47 58.2
comp=Z,6μm,20.0s
PMSA Palmer Station 113.46 188 IAMs_20 IAMs_20 11 38 11.8
comp=Z,13μm,22.0s
YKA Yellowknife Ar 113.50 16 Pdiff **Pdif 10 52 13.9 +0.9**
comp=Z,0.4nm,0.9s,baz=333,slow=3.8,SNR=5.9
YKA PKiKP **PKiKP 10 56 05.0 -0.8**
comp=Z,2.3nm,0.8s,baz=330,slow=1.7,SNR=13
YKA PP **PP 10 56 57.7 +0.7**
comp=Z,9.1nm,0.9s,baz=336,slow=7.3,SNR=7.7
YKA PKKPbc **PKKPbc 11 06 50.0 -2.4**
comp=Z,0.4nm,0.8s,baz=136,slow=3.6,SNR=6.1
YKA SKKP 11 10 46.4
comp=Z,0.1nm,0.3s,baz=124,slow=5.4,SNR=1.8
YKA Yellowknife Ar 113.50 16 *i* PKiKP **PKiKP 10 56 05.0 -0.8**
NRS Narsarsuaq 113.83 342 IAMs_20 IAMs_20 11 53 05.8
comp=Z,10μm,19.0s
HOPE Hope Point 113.97 207 IAMs_20 IAMs_20 11 35 26.7
comp=Z,8μm,20.0s
MBO M'Bour 115.05 285 IAMs_20 IAMs_20 11 41 54.9
comp=Z,6μm,21.0s
BBB Bella Bella 115.51 30 IAMs_20 IAMs_20 11 49 33.4
comp=Z,7μm,21.0s
TAOE Nuku Hiva Isla 120.56 101 *e*PP PP 10 57 39.9 -8.4
comp=Z,926nm,25.7s
TAOE Nuku Hiva Isla 120.56 101 *e*PS PS 11 07 33.0 -7.1
comp=Z,2μm,27.8s
TAOE *e*SS SS 11 14 11.7 -4.9
comp=Z,4μm,28.3s
TAOE Nuku Hiva Isla 120.56 101 *e*LR LR 11 33 30.5
comp=Z,6μm,23.2s
NLWA Neilton Lookou 120.60 32 IAMs_20 IAMs_20 11 55 59.3
comp=Z,5μm,21.0s
D03D Eldon 120.93 32 P 10 56 19.7
baz=309
B05A Bryant 120.98 31 P 10 56 20.7
baz=310,SNR=14
B06A Marblemount 121.12 30 IAMs_20 IAMs_20 11 57 52.7
comp=Z,5μm,19.0s
FCC Fort Churchill 121.25 8 PKiKP **PKPdf 10 56 19.4 -1.4**
FCC Fort Churchill 121.25 8 PKPdf **PKPdf 10 56 19.4 -1.4**
E03A Lebam 121.29 33 IAMs_20 IAMs_20 11 53 54.5
comp=Z,6μm,21.0s
D05A Enumclaw 121.72 32 PKPdf **PKPdf 10 56 20.8 -1.3**
D05A IAMs_20 IAMs_20 11 54 41.0
comp=Z,6μm,21.0s
C06D Leavenworth 121.81 30 P 10 56 21.6
baz=312
E04D Cinebar 121.82 32 P 10 56 22.4
baz=309,SNR=5.9

LON Longmire 122.10 32 IAMs_20 IAMs_20 11 54 52.8
comp=Z,6μm,21.0s
G03D McMinnville, O 122.27 34 P 10 56 22.6
baz=308
B08A Colville Reser 122.29 29 IAMs_20 IAMs_20 11 55 36.5
comp=Z,7μm,21.0s
LTY Liberty 122.36 31 IAMs_20 IAMs_20 11 59 39.7
comp=Z,6μm,19.0s
I02D Swisshome 122.61 35 P 10 56 22.8
baz=307
COR Corvallis 122.63 35 IAMs_20 IAMs_20 11 53 45.2
comp=Z,6μm,21.0s
RKT Rikitea 122.67 118 *e*PP PP 10 57 57.5 -4.6
comp=Z,377nm,28.5s
RKT *e*Sdif Sdif 11 05 52.8 -3.0
comp=Z,2μm,27.2s
RKT Rikitea 122.67 118 *e*PS PS 11 07 51.0 -7.2
comp=Z,2μm,28.5s
RKT *e*SS SS 11 14 38.6 -3.9
comp=Z,3μm,31.5s
RKT Rikitea 122.67 118 *e*LQ LQ 11 29 10.2
comp=Z,2μm,35.5s
RKT *e*LR LR 11 34 20.1
comp=Z,8μm,22.5s
F05D White Salmon 122.84 32 P 10 56 23.2
baz=310
H04D Lebanon 122.99 34 P 10 56 25.1
baz=308,SNR=7.0
J01E Myrtle Point 123.12 36 P 10 56 24.3
baz=306
I03D Drain, OR 123.14 36 P 10 56 24.7
baz=307,SNR=5.6
C09A Chrisman Ranch 123.19 29 IAMs_20 IAMs_20 11 58 03.3
comp=Z,6μm,19.0s
H04A Detroit Lake 123.20 34 PKPdf **PKPdf 10 56 24.8 -0.3**
H04A IAMs_20 IAMs_20 11 54 53.2
comp=Z,7μm,20.0s
E07A Sunnyside 123.24 31 IAMs_20 IAMs_20 12 00 31.3
comp=Z,5μm,18.0s
G05D Wamic, OR 123.33 33 P 10 56 24.7
baz=310
D08A Wollman Farm, 123.38 30 IAMs_20 IAMs_20 11 57 58.5
comp=Z,6μm,21.0s
NEW Newport 123.41 28 IAMs_20 IAMs_20 11 55 14.1
comp=Z,7μm,21.0s
NEW Newport 123.41 28 P 10 56 24.7
baz=316
KBO Bosley Butte 123.49 37 IAMs_20 IAMs_20 11 56 49.4
comp=Z,4μm,19.0s
FFC Flin Flon 123.55 14 PKIKP **PKPdf 10 56 24.6 -0.8**
FFC Flin Flon 123.55 14 PKPdf **PKPdf 10 56 24.6 -0.8**
FFC Flin Flon 123.55 14 IAMs_20 IAMs_20 11 56 01.1
comp=Z,10μm,21.0s
K02D Willamette Mer 123.55 37 P 10 56 25.3
baz=306
I04A Tendick Farm, 123.62 35 P 10 56 25.8
baz=308,SNR=7.5
F07A Phinny Hill Vi 123.65 32 IAMs_20 IAMs_20 12 00 51.7
comp=Z,6μm,18.0s
E08A Dider Farm, El 123.70 31 IAMs_20 IAMs_20 11 58 23.9
comp=Z,5μm,22.0s
I05D Terrebonne, OR 123.89 34 P 10 56 26.2
baz=309
L02E Cave Junction 123.90 37 P 10 56 26.3
baz=306
HUMO Hull Mountain 124.02 36 IAMs_20 IAMs_20 11 56 21.3
comp=Z,7μm,20.0s
J04D Umpqua Nationa 124.14 35 P 10 56 27.2
baz=308,SNR=16
E09A Wood Farm, Sta 124.14 30 IAMs_20 IAMs_20 11 56 35.6
comp=Z,5μm,21.0s
WALA Waterton Lakes 124.27 25 IAMs_20 IAMs_20 11 56 23.5
comp=Z,7μm,21.0s
PINE Pine Mountain 124.46 34 IAMs_20 IAMs_20 12 01 28.5
comp=Z,5μm,20.0s
KHMM Horse Mountain 124.56 38 IAMs_20 IAMs_20 11 55 30.9
comp=Z,6μm,20.0s
J05D Fort Rock, OR 124.61 35 P 10 56 28.7
baz=309,SNR=10
L04D Klamath Falls 124.64 36 P 10 56 28.0
baz=307,SNR=8.1
YBH Yreka Blue Hor 124.69 37 PKP **PKPdf 10 56 27.9 -0.2**
comp=Z,3.5nm,0.8s,baz=98,slow=10.0,SNR=4.8
K04D Chiloquin, OR 124.72 36 P 10 56 27.4
baz=308
M02C Callahan 124.80 37 P 10 56 28.9
baz=306,SNR=7.4
F10A Beach Ranch, E 124.98 30 PKPdf 10 56 28.6 +0.1
F10A IAMs_20 IAMs_20 11 53 44.0
comp=Z,7μm,22.0s
I07A Izee 125.06 33 IAMs_20 IAMs_20 12 01 50.4
comp=Z,5μm,18.0s
JTMT Jette 125.09 27 IAMs_20 IAMs_20 11 55 53.4
comp=Z,7μm,20.0s
N02D Trinity Center 125.14 38 P 10 56 29.5
baz=306,SNR=7.5
K05A Summer Lake 125.15 35 IAMs_20 IAMs_20 11 57 13.1
comp=Z,6μm,20.0s
M04C Macdoel 125.18 37 P 10 56 29.0
baz=307,SNR=9.5
WDC Whiskeytown Da 125.47 38 IAMs_20 IAMs_20 11 57 49.9
comp=Z,5μm,21.0s
O02D Mt. Diablo Mer 125.55 39 P 10 56 29.5
baz=306
BMO Blue Mountains 125.71 31 IAMs_20 IAMs_20 11 59 27.3
comp=Z,6μm,20.0s
MSO Missoula 125.93 27 IAMs_20 IAMs_20 11 57 14.7
comp=Z,7μm,21.0s
MSO Missoula 125.93 27 P 10 56 29.7
baz=318
MOD Modoc Plateau 126.01 36 IAMs_20 IAMs_20 11 57 43.8
comp=Z,7μm,19.0s
HOPS Hopland Field 126.05 40 IAMs_20 IAMs_20 11 49 43.5
comp=Z,5μm,22.0s
O03E Paynes Creek 126.09 38 P 10 56 30.4
baz=307,SNR=8.9
J08A Circle Bar Ran 126.10 33 PKiKP 10 56 31.2 0.0
J08A IAMs_20 IAMs_20 12 02 45.9
comp=Z,4μm,18.0s
PTCN Pitcairn Islan 126.26 122 IAMs_20 IAMs_20 11 48 11.7
comp=Z,10μm,21.0s
GDXM Geysers 126.33 40 IAMs_20 IAMs_20 11 44 56.9
comp=Z,7μm,22.0s
WVOR Wild Horse Val 126.62 34 IAMs_20 IAMs_20 11 57 13.8
comp=Z,5μm,20.0s
MCCM Marconi Confer 126.65 41 IAMs_20 IAMs_20 11 44 35.5
comp=Z,6μm,22.0s
EGMT Eagleton 126.81 24 IAMs_20 IAMs_20 11 59 49.3
comp=Z,9μm,18.0s
EGMT Eagleton 126.81 24 P 10 56 31.6
baz=324
BEKR Beckworth 127.23 38 IAMs_20 IAMs_20 11 55 09.5
comp=Z,5μm,21.0s
DLMT Dillon 127.65 28 IAMs_20 IAMs_20 12 00 51.2
comp=Z,6μm,20.0s
RUBR Rubicon Trail 127.86 38 IAMs_20 IAMs_20 12 04 42.1
comp=Z,4μm,20.0s
BOZ Bozeman (W) 127.92 27 PKIKP **PKPdf 10 56 33.8 -0.4**
BOZ Bozeman (W) 127.92 27 PKPdf 10 56 33.8 -0.4
BOZ IAMs_20 IAMs_20 11 58 47.1
comp=Z,8μm,20.0s
BOZ Bozeman (W) 127.92 27 P 10 56 34.4
baz=320,SNR=27
PAHR Pah Rah Range 127.92 37 IAMs_20 IAMs_20 11 57 17.7
comp=Z,6μm,20.0s
VCNR Virginia City 128.02 38 IAMs_20 IAMs_20 12 04 46.3
comp=Z,5μm,20.0s
HLID Hailey 128.10 30 IAMs_20 IAMs_20 11 55 44.4
comp=Z,6μm,22.0s
HLID Hailey 128.10 30 P 10 56 35.0
baz=316,SNR=21
CMB Columbia Colle 128.32 39 IAMs_20 IAMs_20 11 45 56.5
comp=Z,6μm,22.0s
YERR Yerington 128.46 38 IAMs_20 IAMs_20 11 59 55.0
comp=Z,5μm,19.0s
DGMT Dagmar 128.47 19 P 10 56 34.8
baz=330
WAKR Walker 128.63 38 IAMs_20 IAMs_20 12 05 33.6
comp=Z,6μm,20.0s
ULM Lac du Bonnet 129.10 12 PKP **PKPdf 10 56 35.4 -0.7**
comp=Z,18nm,0.9s,baz=349,slow=2.8,SNR=27
ULM PP **PP 10 58 41.1 -2.0**
comp=Z,24nm,1.0s,baz=346,slow=7.4,SNR=6.5
ULM Lac du Bonnet 129.10 12 PKPdf **PKPdf 10 56 35.0 -1.1**
ULM IAMs_20 IAMs_20 11 58 58.0
comp=Z,9μm,20.0s
KVN Kaiserville 129.11 37 IAMs_20 IAMs_20 11 59 57.1
comp=Z,6μm,19.0s

RYN Ryan 129.12 38 IAMs_20 IAMs_20 11 56 50.8
comp=Z,5µm,21.0s
LAO LASA Array 129.27 22 IAMs_20 IAMs_20 12 02 43.4
comp=Z,6µm,19.0s
LAO LASA Array 129.27 22 P 10 56 37.2
baz=327,SNR=6.0
H17A Grant Village 129.32 27 P 10 56 38.4
baz=321,SNR=9.3
RLMT Red Lodge 129.33 25 IAMs_20 IAMs_20 11 59 31.2
comp=Z,6µm,20.0s
RLMT Red Lodge 129.33 25 P 10 56 37.3
baz=323,SNR=9.3
LHV Little Huntoon 129.37 38 PKPdf 10 56 37.0 0.0
LHV IAMs_20 IAMs_20 11 59 06.0
comp=Z,6µm,20.0s
NVAR Mina Array Bea 129.38 38 PKP **PKPdf 10 56 36.3 -1.0**
comp=Z,6.7nm,0.8s,baz=276,slow=1.9,SNR=31
NVAR PP **PP 10 58 48.0 +1.9**
comp=Z,7.0nm,1.1s,baz=306,slow=5.3,SNR=4.1
NVAR SKPbc SKPab 10 59 55.9 +0.1
comp=Z,12nm,1.1s,baz=280,slow=3.0,SNR=5.8
MDPB Devils Postpil 129.39 39 IAMs_20 IAMs_20 12 06 02.7
comp=Z,5µm,19.0s
NV11 Mina Array Sit 129.47 38 IAMs_20 IAMs_20 11 57 10.6
comp=Z,5µm,20.0s
FLWY Flagg Ranch 129.50 27 PKPdf 10 56 37.5 +0.2
FLWY IAMs_20 IAMs_20 11 59 48.1
comp=Z,5µm,19.0s
MLAC Mammoth, Mammt 129.54 39 P 10 56 37.4
baz=308
ELK Elko 129.64 33 PKP **PKiKP 10 56 38.4 -0.1**
comp=Z,4.1nm,0.6s,baz=317,slow=3.3,SNR=18
ELK PP **PP 10 58 49.0 +1.4**
comp=Z,2.9nm,1.0s,baz=288,slow=6.4,SNR=1.4
ELK SKPbc SKPab 10 59 56.6 -0.3
comp=Z,8.8nm,1.2s,baz=306,slow=7.7,SNR=3.9
ELK Elko 129.64 33 IAMs_20 IAMs_20 11 59 02.7
comp=Z,5µm,21.0s
LOHW Long Hollow 129.91 28 IAMs_20 IAMs_20 12 02 12.9
comp=Z,6µm,19.0s
SNOW Snow King Moun 129.95 28 IAMs_20 IAMs_20 12 02 16.1
comp=Z,7µm,18.0s
VOG Valley Oaks Go 129.98 41 P 10 56 38.1
baz=306
REDW Red Top Meadow 129.99 28 IAMs_20 IAMs_20 12 02 17.0
comp=Z,7µm,18.0s
HVU Hansel Valley 130.22 31 PKIKP **PKPdf 10 56 38.7 0.0**
HVU Hansel Valley 130.22 31 PKPdf 10 56 38.7 0.0
AHID Auburn Hatcher 130.32 29 IAMs_20 IAMs_20 12 01 14.0
comp=Z,5µm,18.0s
MDND Maddock 130.43 16 IAMs_20 IAMs_20 12 00 33.2
comp=Z,9µm,20.0s
MDND Maddock 130.43 16 P 10 56 38.6
baz=336
VES Vestal, Richgr 130.46 41 P 10 56 38.4
baz=306
PKM Mcpherson Peak 130.53 42 P 10 56 38.5
baz=305
BGU Big Grassy Mou 130.71 32 PKiKP 10 56 40.1 -0.4
CWC Cottonwood Cre 130.75 40 P 10 56 38.8
baz=308
SBC Santa Barbara 130.85 43 P 10 56 39.8
baz=305
GRAC Grapevine Rang 130.85 39 P 10 56 39.8
baz=309
AGMN Agassiz Nation 130.95 13 IAMs_20 IAMs_20 12 00 22.7
comp=Z,9µm,20.0s
AGMN Agassiz Nation 130.95 13 P 10 56 40.0
baz=341
ISA Isabella, Lake 130.96 41 P 10 56 40.3
baz=307
ARVC Arvin 131.05 42 P 10 56 40.8
baz=306
BW06 Boulder Array 131.05 28 PKPdf 10 56 40.2 -0.2
BW06 IAMs_20 IAMs_20 12 05 04.0
comp=Z,6µm,18.0s
BW06 Boulder Array 131.05 28 P 10 56 39.7
baz=321
PDAR Pinedale Array 131.05 28 PKhKP PKPpre 10 56 25.9
comp=Z,0.2nm,0.6s,baz=277,slow=2.4,SNR=2.3
PDAR PKP **PKPdf 10 56 39.5 -0.9**
comp=Z,2.9nm,0.8s,baz=246,slow=1.7,SNR=20
PDAR PP **PP 10 58 57.3 +0.8**
comp=Z,12nm,1.2s,baz=327,slow=2.5,SNR=4.5
PDAR SKPbc **SKPbc 11 00 01.9 -0.6**
comp=Z,16nm,1.1s,baz=329,slow=1.7,SNR=8.7
PDAR Pinedale Array 131.05 28 PKPdf **PKPdf 10 56 39.2 -1.1**
MATQ Matagami 131.05 357 P 10 56 39.5
baz=4.9
R11A Troy Canyon, C 131.06 36 PKPdf 10 56 40.2 -0.2
R11A IAMs_20 IAMs_20 12 01 06.6
comp=Z,5µm,21.0s
R11A Troy Canyon, C 131.06 36 P 10 56 41.1
baz=312,SNR=53
SCZ2 Santa Cruz Isl 131.16 43 P 10 56 40.9
baz=305
DUG Dugway, Tooele 131.35 32 PKIKP **PKPdf 10 56 40.2 -0.7**
DUG Dugway, Tooele 131.35 32 PKPdf 10 56 40.2 -0.7
DUG IAMs_20 IAMs_20 12 05 04.6
comp=Z,5µm,20.0s
DUG Dugway, Tooele 131.35 32 P 10 56 41.3
baz=316
SPR3 Spring Creek 3 131.35 35 IAMs_20 IAMs_20 11 55 32.0
comp=Z,4µm,20.0s
MPMC Manual Prospec 131.36 40 P 10 56 41.9
baz=308,SNR=13
FURC Furnace Creek, 131.50 39 P 10 56 41.8
baz=309,SNR=7.1
TPNV Topopah Spring 131.58 38 IAMs_20 IAMs_20 12 01 39.5
comp=Z,5µm,19.0s
TPNV Topopah Spring 131.58 38 P 10 56 42.0
baz=310,SNR=10
LRMC Laurel Mtn Rad 131.59 40 P 10 56 42.2
baz=308,SNR=5.2
SNCC San Nicolas Is 131.65 44 P 10 56 41.4
baz=304
LSQQ Lebel-sur-Quev 131.71 356 P 10 56 41.1
baz=5.8
EDW2 Edwards Air Fo 131.74 41 P 10 56 42.6
baz=307,SNR=5.2
JLU Jordanelle 131.76 31 PKPdf 10 56 41.5 -0.3
NLU North Lily Min 131.91 32 PKPdf 10 56 42.4 +0.3
PSUT Pine Spring 131.94 35 PKPdf 10 56 42.6 +0.4
PRN Pahroc Range 132.00 37 PKPdf **PKPdf 10 56 42.4 +0.2**
PRN IAMs_20 IAMs_20 11 48 45.6
comp=Z,7µm,22.0s
EYMN Ely 132.13 9 IAMs_20 IAMs_20 12 02 22.6
comp=Z,9µm,20.0s
EYMN Ely 132.13 9 P 10 56 42.1
baz=346
SHOC Shoshone, Teco 132.23 39 P 10 56 43.4
baz=309,SNR=6.4
GSC Goldstone, Bar 132.26 40 IAMs_20 IAMs_20 12 01 20.0
comp=Z,5µm,21.0s
GSC Goldstone, Bar 132.26 40 P 10 56 43.5
baz=308,SNR=7.6
RSSD Black Hills 132.27 22 PKIKP **PKiKP 10 56 43.2 -0.5**
RSSD Black Hills 132.27 22 PKPdf **PKiKP 10 56 43.2 -0.5**
RSSD Black Hills 132.27 22 IAMs_20 IAMs_20 12 01 21.6
comp=Z,7µm,20.0s
RSSD Black Hills 132.27 22 P 10 56 42.4
baz=329
CIS Catalina Islan 132.33 43 P 10 56 42.9
baz=305
BFSC Mount Baldy Ra 132.35 42 P 10 56 42.7
baz=307
K22A Casper 132.49 25 IAMs_20 IAMs_20 12 04 27.0
comp=Z,6µm,18.0s
K22A Casper 132.49 25 P 10 56 43.0
baz=325
SHPR Sheep Range 132.53 38 IAMs_20 IAMs_20 12 04 45.7
comp=Z,4µm,21.0s
D61A St Aubert, Com 132.71 350 P 10 56 43.2
baz=15
PQI Presque Isle 132.79 348 IAMs_20 IAMs_20 12 05 53.1
comp=Z,8µm,19.0s
HEC Hector,Ludlow 132.86 40 P 10 56 43.9
baz=308
LATQ La Tuque 132.94 352 P 10 56 44.2
baz=12,SNR=5.8
P17A Butcher Ranch, 132.97 31 PKPdf 10 56 44.4 +0.4
E64A Bridgewater 132.99 347 P 10 56 43.9
baz=19
MURC Murrieta 133.04 42 P 10 56 44.5
baz=307
NBRF Rio Formoso - 133.11 257 eP **PKiKP 10 56 47.7 +1.8**
E63A Oxbow 133.12 348 IAMs_20 IAMs_20 12 03 24.7
comp=Z,8µm,21.0s
E63A Oxbow 133.12 348 P 10 56 43.5
baz=18
F33A 5 Mile Ranch, 133.15 14 IAMs_20 IAMs_20 12 01 30.3
comp=Z,9µm,20.0s
D58A Chemin du LacG 133.24 352 P 10 56 44.2
baz=12
GMRC Granite Mounta 133.32 40 P 10 56 45.9
baz=309,SNR=10
D41A Chassel 133.41 7 IAMs_20 IAMs_20 12 05 31.3
comp=Z,6µm,20.0s
E61A Lac Etchemin 133.51 350 P 10 56 45.1
baz=15
D56A ZEC Mazanza, M 133.51 354 P 10 56 44.8
baz=9.1
109C Camp Elliot, M 133.52 43 P 10 56 45.1
baz=306
PFO Pinyon Flats O 133.52 42 PKhKP PKPpre 10 56 36.4
comp=Z,2.7nm,1.0s,baz=238,slow=5.2,SNR=2.5
PFO PP **PP 10 59 11.9 -0.9**
comp=Z,9.5nm,1.2s,baz=310,slow=4.1,SNR=3.7
PFO SKPbc **SKPbc 11 00 11.4 0.0**
comp=Z,7.1nm,1.0s,baz=331,slow=4.8,SNR=4.4
PFO Pinyon Flats O 133.52 42 PKIKP **PKiKP 10 56 45.9 -0.5**
PFO Pinyon Flats O 133.52 42 PKPdf **PKiKP 10 56 45.9 -0.5**
PFO Pinyon Flats O 133.52 42 P 10 56 45.0
baz=308
TPFO Pinon Flats 133.53 42 P 10 56 45.2
baz=308
D55A Sainte-Anne-du 133.61 355 P 10 56 45.7
baz=8.1,SNR=6.4
F64A Sherman 133.63 348 IAMs_20 IAMs_20 12 03 52.4
comp=Z,9µm,22.0s
F64A Sherman 133.63 348 P 10 56 44.7
baz=18
SUSD Miller 133.71 18 PKPdf **PKPdf 10 56 44.1 -0.9**
O20A White River Ci 133.72 29 PKPdf **PKPdf 10 56 45.4 -0.1**
O20A IAMs_20 IAMs_20 12 04 46.8
comp=Z,5µm,21.0s
O20A White River Ci 133.72 29 P 10 56 45.2
baz=321
E60A Ste Agathe de 133.73 351 P 10 56 45.0
baz=14
F63A Nahmakanta, Br 133.94 348 IAMs_20 IAMs_20 12 06 32.6
comp=Z,7µm,19.0s
MONP2 Monument Peak 133.98 42 P 10 56 47.0
baz=307,SNR=5.7
GGN Saint George 133.99 346 IAMs_20 IAMs_20 12 03 39.4
comp=Z,8µm,20.0s
E58A La Victoria 134.00 352 P 10 56 45.0
baz=11
F61A St Evariste 134.04 350 P 10 56 45.5
baz=14
E56A St. Veronique 134.04 354 P 10 56 46.5
baz=8.8,SNR=6.7
IRM Iron Mountain 134.04 40 P 10 56 46.9
baz=309,SNR=7.0
PHWY Pilot Hill 134.05 25 IAMs_20 IAMs_20 12 01 16.3
comp=Z,4µm,22.0s
G65A Princeton 134.08 347 IAMs_20 IAMs_20 12 04 27.4
comp=Z,7µm,20.0s
BC3 Big Chuckawall 134.16 41 P 10 56 46.4
baz=309
N23A Red Feather La 134.17 26 P 10 56 46.5
baz=325
F60A Warwick 134.20 351 P 10 56 45.5
baz=13
W13A Hualapai Mount 134.23 38 IAMs_20 IAMs_20 12 00 14.8
comp=Z,5µm,22.0s
RCBR Riachuelo 134.26 261 IAMs_20 IAMs_20 11 46 52.2
comp=Z,6µm,21.0s
IKP In-Ko-Pah, Jac 134.34 42 P 10 56 46.4
baz=307
RMX La Rumorosa 134.38 42 IAMs_20 IAMs_20 12 07 30.2
comp=Z,4µm,19.0s
PKME Peaks-Kenny Pk 134.40 348 IAMs_20 IAMs_20 12 05 51.7
comp=Z,6µm,21.0s
SPMN Marine on St. 134.52 11 IAMs_20 IAMs_20 12 04 02.1
comp=Z,8µm,19.0s
EMMW East Machias 134.52 346 IAMs_20 IAMs_20 12 04 41.0
comp=Z,8µm,20.0s
PV10 Paradox Valley 134.66 31 IAMs_20 IAMs_20 11 59 46.0
comp=Z,8µm,20.0s
PV22 Blue Mesa, Par 134.67 31 IAMs_20 IAMs_20 12 07 42.4
comp=Z,7µm,18.0s
PV14 Lion Creek, Pa 134.68 31 IAMs_20 IAMs_20 12 07 55.5
comp=Z,8µm,18.0s
G62A West of Eustis 134.69 349 IAMs_20 IAMs_20 12 07 05.2
comp=Z,7µm,21.0s
H65A Eastbrook 134.72 347 P 10 56 47.0
baz=18
PV04 Paradox Valley 134.72 31 IAMs_20 IAMs_20 12 07 46.8
comp=Z,7µm,18.0s
PV19 Morning Glory 134.74 31 IAMs_20 IAMs_20 12 07 57.3
comp=Z,7µm,18.0s
PV16 Nyswonger Mesa 134.78 31 IAMs_20 IAMs_20 12 07 58.2
comp=Z,7µm,18.0s
PV17 East Wray Mesa 134.78 31 IAMs_20 IAMs_20 12 07 59.3
comp=Z,8µm,18.0s
PV07 Paradox Valley 134.82 31 PKPdf 10 56 47.0 -0.6
PV07 IAMs_20 IAMs_20 12 07 55.2
comp=Z,8µm,18.0s
PV18 Skein Mesa, Pa 134.83 31 IAMs_20 IAMs_20 12 07 51.6
comp=Z,5µm,18.0s
PV03 Paradox Valley 134.85 31 IAMs_20 IAMs_20 12 00 00.3
comp=Z,7µm,22.0s
ALGO Algonquin Park 134.87 357 P 10 56 47.1
baz=4.6
G40A Rib Lake 134.94 9 IAMs_20 IAMs_20 12 03 44.0
comp=Z,9µm,20.0s
PV15 Paradox Valley 134.98 31 IAMs_20 IAMs_20 12 02 36.5
comp=Z,4µm,20.0s
SMCO Snowmass 135.07 29 IAMs_20 IAMs_20 12 09 11.7
comp=Z,6µm,19.0s
PV01 Paradox Valley 135.09 31 IAMs_20 IAMs_20 12 00 06.5
comp=Z,7µm,22.0s
NBLI Livramento-PB 135.09 259 eP **PKiKP 10 56 49.9 -0.1**
WVL Waterville 135.15 348 IAMs_20 IAMs_20 12 07 08.4
comp=Z,7µm,19.0s
ISCO Idaho Springs 135.21 27 IAMs_20 IAMs_20 12 06 19.0
comp=Z,7µm,18.0s
ISCO Idaho Springs 135.21 27 P 10 56 48.8
baz=324
G58A Ormstown 135.30 353 P 10 56 47.6
baz=10
G54A Lake Saint Pet 135.42 357 P 10 56 48.0
baz=4.6
H62A Milan 135.42 350 IAMs_20 IAMs_20 12 00 58.7
comp=Z,8µm,21.0s
G57A Newington 135.46 354 P 10 56 48.0
baz=9.1
WUAZ Wupatki 135.46 36 P 10 56 49.7
baz=314,SNR=12
NBPA Parau_RN 135.47 261 eP **PKiKP 10 56 51.6 +0.9**
FRNY Flat Rock 135.55 352 IAMs_20 IAMs_20 12 09 40.4
comp=Z,6µm,19.0s
H61A Lyndonville 135.60 350 P 10 56 49.5
baz=14
OGNE Ogallala 135.75 23 IAMs_20 IAMs_20 12 03 59.8
comp=Z,8µm,20.0s
OGNE Ogallala 135.75 23 P 10 56 49.3
baz=330
H59A Cadyville 135.75 352 P 10 56 49.1
baz=11
I63A Otisfield 135.82 349 IAMs_20 IAMs_20 12 09 57.3
comp=Z,7µm,20.0s
MVCO Mesa Verde 135.82 32 IAMs_20 IAMs_20 12 00 10.0
comp=Z,7µm,22.0s
MVCO Mesa Verde 135.82 32 P 10 56 49.7
baz=319
BSFB Barra de Sao F 135.83 242 eP **PKiKP 10 56 51.6 +0.4**
GO07 Milladeo Hill, 135.83 188 IAMs_20 IAMs_20 11 49 16.6
comp=Z,10µm,21.0s
DUB01 Friburgo-RJ 135.84 237 eP **PKiKP 10 56 52.1 +0.8**
LONY Lake Ozonia 135.89 353 IAMs_20 IAMs_20 12 06 37.0
comp=Z,9µm,20.0s
VT1 Waterbury 135.92 351 IAMs_20 IAMs_20 12 07 46.6
comp=Z,7µm,19.0s
GLMI Grayling 135.98 3 P 10 56 49.5
baz=355
H43A Windswept, Lux 136.05 7 IAMs_20 IAMs_20 12 02 39.3
comp=Z,8µm,20.0s
Q24A Divide 136.09 27 P 10 56 49.3
baz=324
SADO Sadowa 136.10 358 IAMs_20 IAMs_20 12 02 55.0
comp=Z,9µm,21.0s
I62A Tamworth 136.13 350 IAMs_20 IAMs_20 12 00 59.3
comp=Z,8µm,22.0s
SJMB Sao Joao De Ma 136.17 242 eP **PKiKP 10 56 53.2 +1.3**
I40A Norwalk 136.21 10 IAMs_20 IAMs_20 12 02 18.7
comp=Z,7µm,20.0s
H53A Bobcaygeon 136.27 357 P 10 56 49.6
baz=4.0
GDU01 Guandu, BA 136.30 249 eP **PKiKP 10 56 53.8 +1.5**
HNH Hanover 136.46 351 IAMs_20 IAMs_20 12 05 21.1
comp=Z,9µm,20.0s
I60A Shoreham 136.48 352 P 10 56 50.3
baz=12
NCB Newcomb 136.48 353 IAMs_20 IAMs_20 12 07 16.1
comp=Z,7µm,20.0s
FFD Franklin Falls 136.58 350 IAMs_20 IAMs_20 12 04 26.3
comp=Z,9µm,21.0s
VAS01 Vassouras-RJ 136.64 236 eP **PKiKP 10 56 54.7 +1.8**
W18A Petrified Fore 136.69 35 IAMs_20 IAMs_20 12 07 32.3
comp=Z,4µm,20.0s
W18A Petrified Fore 136.69 35 P 10 56 52.2
baz=316,SNR=24
BGNE Belgrade 136.71 19 P 10 56 51.0
baz=335
L34A Svendsen Farm, 136.73 16 IAMs_20 IAMs_20 12 06 13.2
comp=Z,7µm,20.0s
I58A Old Forge 136.85 353 P 10 56 50.9
baz=9.3
SDCO Great Sand Dun 136.91 28 IAMs_20 IAMs_20 12 06 48.3
comp=Z,7µm,19.0s
SDCO Great Sand Dun 136.91 28 P 10 56 51.5
baz=323
X18A Snowflake 136.98 36 PKPdf **PKPdf 10 56 52.1 +0.5**
ACCN Adirondack Com 136.99 352 IAMs_20 IAMs_20 12 07 18.4
comp=Z,8µm,20.0s
K38A Parkersburg 137.00 12 IAMs_20 IAMs_20 12 07 21.7
comp=Z,7µm,20.0s
J59A Piesco 137.02 353 IAMs_20 IAMs_20 12 08 30.3
comp=Z,9µm,20.0s
I51A Listowel 137.10 360 P 10 56 51.8
baz=0.5
KSCO Kaye Shedlock' 137.16 25 IAMs_20 IAMs_20 12 00 38.4
comp=Z,7µm,22.0s
JFWS Jewell Farm 137.22 10 PKIKP **PKPdf 10 56 50.2 -1.4**
JFWS Jewell Farm 137.22 10 PKPdf **PKPdf 10 56 50.2 -1.4**
JFWS Jewell Farm 137.22 10 P 10 56 52.0
baz=347
K63A Dunstable 137.32 349 IAMs_20 IAMs_20 12 04 49.8
comp=Z,7µm,19.0s
J56A Wolcott 137.45 355 P 10 56 52.6
baz=6.6
K62A Royalston 137.46 350 IAMs_20 IAMs_20 12 05 50.7
comp=Z,8µm,20.0s
K62A Royalston 137.47 350 P 10 56 52.7
baz=14
HRV Adam Dziewonsk 137.50 349 IAMs_20 IAMs_20 12 03 30.6
comp=Z,7µm,20.0s
J54A Appleton 137.57 357 IAMs_20 IAMs_20 12 07 47.0
comp=Z,7µm,20.0s
WES Weston 137.57 349 IAMs_20 IAMs_20 12 02 13.6
comp=Z,8µm,21.0s
BCX Boston College 137.59 349 IAMs_20 IAMs_20 12 02 27.1
comp=Z,7µm,21.0s
SCIA State Center 137.60 13 IAMs_20 IAMs_20 12 06 37.8
comp=Z,6µm,22.0s
PLCA Paso Flores 137.61 192 PKP **PKPdf 10 56 52.9 +0.3**
comp=Z,5.1nm,1.0s,baz=162,slow=7.5,SNR=7.1
PLCA SKPbc **SKPbc 11 00 22.7 -1.1**
comp=Z,2.8nm,1.0s,baz=180,slow=1.0,SNR=2.2
PLCA Paso Flores 137.61 192 PKIKP **PKPdf 10 56 51.9 -0.6**
PLCA Paso Flores 137.61 192 PKPdf **PKPdf 10 56 51.9 -0.6**
TRY Troy 137.62 352 IAMs_20 IAMs_20 12 07 44.3
comp=Z,8µm,19.0s
MEDO Medina 137.67 357 IAMs_20 IAMs_20 12 04 29.6
comp=Z,8µm,21.0s
K58A Earlville 137.84 354 IAMs_20 IAMs_20 12 02 49.1
comp=Z,6µm,21.0s
K58A Earlville 137.84 354 P 10 56 53.7
baz=8.5
QUA2 Belchertown 137.86 350 IAMs_20 IAMs_20 12 06 12.2
comp=Z,8µm,20.0s
L64A Middleborough 137.91 348 IAMs_20 IAMs_20 12 06 10.5
comp=Z,8µm,20.0s
K57A Scipio Center 137.96 355 P 10 56 53.7
baz=7.2
N35A Tabor 137.96 16 IAMs_20 IAMs_20 12 05 45.7
comp=Z,7µm,20.0s
TUC Tucson 138.01 39 IAMs_20 IAMs_20 12 11 35.0
comp=Z,5µm,18.0s
K56A Middlesex 138.06 356 P 10 56 53.5
baz=6.0
BRYW Bryant College 138.06 349 IAMs_20 IAMs_20 12 02 17.6
comp=Z,8µm,22.0s
K50A Casco 138.11 2 IAMs_20 IAMs_20 12 04 53.5
comp=Z,8µm,20.0s
L63A North Scituate 138.13 349 IAMs_20 IAMs_20 12 02 20.3
comp=Z,8µm,21.0s
L61A Hillsdale 1, H 138.14 351 P 10 56 53.7
baz=12
L62A Suffield 138.15 350 IAMs_20 IAMs_20 12 08 12.9
comp=Z,7µm,20.0s
L42A Oliver, Polo 138.21 9 PKPdf **PKPdf 10 56 53.0 -0.4**
L42A IAMs_20 IAMs_20 12 05 46.5
comp=Z,8µm,20.0s
M65A Busby, Falmout 138.23 348 IAMs_20 IAMs_20 12 06 23.0
comp=Z,8µm,21.0s
L44A Lake County Fo 138.29 7 IAMs_20 IAMs_20 12 05 35.6
comp=Z,9µm,20.0s
L44A Lake County Fo 138.29 7 P 10 56 53.7
baz=350
L59A Walton 138.34 353 IAMs_20 IAMs_20 12 04 04.2
comp=Z,7µm,22.0s
M64A Tiverton 138.35 349 IAMs_20 IAMs_20 12 02 59.3
comp=Z,8µm,21.0s
WVNY West Valley, N 138.43 357 IAMs_20 IAMs_20 12 08 32.8
comp=Z,6µm,20.0s
BINY Binghamton 138.44 354 PKPdf 10 56 52.9 -1.1
BINY IAMs_20 IAMs_20 12 01 59.4
comp=Z,8µm,22.0s
BINY Binghamton 138.44 354 P 10 56 54.2
baz=8.1
CBKS Cedar Bluff 138.47 22 IAMs_20 IAMs_20 12 05 09.8
comp=Z,5µm,20.0s
L58A Harry Jones Me 138.58 354 P 10 56 54.3
baz=8.3
KSCT Kent School, K 138.58 351 IAMs_20 IAMs_20 12 08 25.7
comp=Z,7µm,20.0s
ANMO Albuquerque 138.62 32 PKhKP PKPpre 10 56 45.2
comp=Z,4.2nm,0.9s,baz=190,slow=1.2,SNR=18
ANMO SKPbc **SKPbc 11 00 27.8 +0.8**
comp=Z,20nm,1.2s,baz=298,slow=4.0,SNR=5.7
ANMO Albuquerque 138.62 32 IAMs_20 IAMs_20 12 02 47.0
comp=Z,5µm,22.0s
L56A Greenwood 138.64 356 P 10 56 54.6
baz=5.7
N38A Joes South For 138.65 14 IAMs_20 IAMs_20 12 09 32.7
comp=Z,5µm,19.0s
M63A Gales Ferry 138.66 350 IAMs_20 IAMs_20 12 02 23.2
comp=Z,9µm,22.0s
HQIL Hanson Quary C 138.67 7 IAMs_20 IAMs_20 12 05 55.7
comp=Z,9µm,21.0s
L57A Andrews Acres 138.72 355 P 10 56 54.6
baz=6.8
M62A Hamden 138.77 350 P 10 56 54.9
baz=13
ERPA Erie 138.77 359 PKPdf 10 56 54.0 -0.5
YLE Yale 138.90 350 IAMs_20 IAMs_20 12 08 40.6
comp=Z,8µm,20.0s
L53A Girard 138.94 359 P 10 56 55.1
baz=1.6
Y22D IRIS PASSCAL I 139.03 33 IAMs_20 IAMs_20 12 02 33.0
comp=Z,5µm,22.0s
M59A Waymart 139.03 353 P 10 56 55.3
baz=9.0
M61A Granite Spring 139.03 351 P 10 56 55.4
baz=12
M44A Midewin, Midew 139.05 8 IAMs_20 IAMs_20 12 06 17.8
comp=Z,8µm,20.0s
WSPT Westport, CT 139.10 351 IAMs_20 IAMs_20 12 09 54.0
comp=Z,6µm,20.0s
M60A Port Jervis 139.14 352 P 10 56 55.7
baz=10
SPB Sao Paulo 139.22 231 IAMs_20 IAMs_20 11 48 56.1
comp=Z,6µm,19.0s
N41A Harden Midland 139.25 11 IAMs_20 IAMs_20 12 04 59.3
comp=Z,9µm,21.0s
TRNY Table Rock, Ra 139.26 352 IAMs_20 IAMs_20 12 03 13.6
comp=Z,8µm,22.0s
KSU1 Kansas State U 139.29 18 P 10 56 56.3
baz=336
M58A Price's Panora 139.30 354 P 10 56 55.9

baz=7.5
M56A Emporium 139.33 356 IAMs_20 IAMs_20 12 04 30.5
comp=Z,7µm,20.0s
M56A Emporium 139.33 356 P 10 56 55.1
baz=4.8,SNR=5.2
PAL Palisades 139.35 351 IAMs_20 IAMs_20 12 07 20.0
comp=Z,8µm,21.0s
PAL Palisades 139.35 351 P 10 56 56.4
baz=11
M52A Chesterland 139.37 0 IAMs_20 IAMs_20 12 03 06.6
comp=Z,8µm,21.0s
M54A Oil Creek Stat 139.37 358 P 10 56 56.8
baz=2.6
M55A Ridgway 139.38 357 **PKPdf 10 56 55.2 -0.5**
M57A Sunshine Farm, 139.40 355 P 10 56 56.7
baz=6.5
M53A WI Miller and 139.46 359 PKPdf **PKPdf 10 56 54.7 -1.0**
M53A WI Miller and 139.46 359 P 10 56 56.6
baz=1.0
CPNY Central Park 139.57 351 IAMs_20 IAMs_20 12 07 38.1
comp=Z,7µm,21.0s
319A Douglas 139.58 38 IAMs_20 IAMs_20 12 06 49.6
comp=Z,4µm,19.0s
N60A Cedar Hill Far 139.65 353 P 10 56 57.3
baz=9.6
N61A South Mountain 139.66 352 P 10 56 57.6
baz=11
121A Cookes Peak, D 139.67 36 PKPdf **PKPdf 10 56 51.7 -4.9**
121A IAMs_20 IAMs_20 12 10 13.4
comp=Z,4µm,20.0s
121A Cookes Peak, D 139.67 36 P 10 56 57.4
baz=317
N59A State Game Lan 139.68 354 IAMs_20 IAMs_20 12 11 11.8
comp=Z,8µm,19.0s
N59A State Game Lan 139.68 354 P 10 56 57.6
baz=8.6
N58A Sunbury 139.85 355 P 10 56 57.1
baz=7.2
N56A West Decatur 139.90 357 P 10 56 57.0
baz=4.7
N54A Moraine State 139.93 359 P 10 56 57.0
baz=2.1
LUPA Lehigh Univers 139.95 353 IAMs_20 IAMs_20 12 04 13.8
comp=Z,8µm,21.0s
N57A Milroy 140.01 356 P 10 56 57.6
baz=5.9
P40A Paris 140.13 13 IAMs_20 IAMs_20 12 09 13.8
comp=Z,6µm,19.0s
SFIN Lafayette 140.17 7 P 10 56 58.3
baz=351
SRIG Santa Rosalia 140.20 46 IAMs_20 IAMs_20 11 51 29.1
comp=Z,4µm,22.0s
O44A Mansfield 140.20 9 IAMs_20 IAMs_20 12 09 17.3
comp=Z,8µm,20.0s
O60A Telford 140.23 353 P 10 56 58.2
baz=9.3
O59A Robesonia 140.33 354 P 10 56 58.5
baz=8.1
P43A Skaggs, Pawnee 140.53 10 IAMs_20 IAMs_20 12 07 46.1
comp=Z,8µm,19.0s
O57A Amberson 140.56 356 P 10 56 58.5
baz=5.8
O56A Blue Knob Stat 140.56 357 P 10 56 58.8
baz=4.3
O58A Lewisberry 140.59 355 P 10 56 58.7
baz=6.9
PSUB Penn St. - Bra 140.62 353 IAMs_20 IAMs_20 12 11 51.6
comp=Z,8µm,20.0s
WUPA West Chester U 140.63 353 IAMs_20 IAMs_20 12 03 21.0
comp=Z,4µm,22.0s
ACSO Alum Creek Sta 140.64 2 P 10 56 58.8
baz=357
MVL Millersville 140.65 354 **PKPdf 10 56 57.8 -0.1**
O53A New Philadelph 140.66 360 **PKPdf 10 56 57.0 -0.9**
O53A New Philadelph 140.66 360 P 10 56 58.9
baz=0.2
O54A Avella 140.71 359 **PKPdf 10 56 57.5 -0.5**
P60A Greenville 140.76 353 IAMs_20 IAMs_20 12 11 54.2
comp=Z,8µm,20.0s
P60A Greenville 140.76 353 P 10 56 59.2
baz=9.0
EPT El Paso 140.97 35 IAMs_20 IAMs_20 12 07 23.7
comp=Z,5µm,20.0s
AMTX Amarillo 141.02 27 IAMs_20 IAMs_20 12 11 53.1
comp=Z,5µm,20.0s
AMTX Amarillo 141.03 27 P 10 56 59.5
baz=326
P59A Jarrettsville 141.04 354 P 10 56 59.9
baz=7.8
MCWV Mont Chateau 141.22 358 IAMs_20 IAMs_20 12 06 20.3
comp=Z,6µm,20.0s
MCWV Mont Chateau 141.22 358 P 10 57 00.4
baz=2.4
P49A Miami Univ. Ec 141.24 4 P 10 57 00.5
baz=355
MSTX Muleshoe 141.26 29 IAMs_20 IAMs_20 12 11 21.5
comp=Z,5µm,18.0s
MSTX Muleshoe 141.26 29 P 10 57 00.2
baz=324
P52A Corning 141.26 1 P 10 57 00.8
baz=359
SDMD Soldier's Deli 141.28 355 IAMs_20 IAMs_20 12 03 43.2
comp=Z,5µm,21.0s
T35A Sooner Cattle 141.31 20 IAMs_20 IAMs_20 12 09 32.7
comp=Z,5µm,20.0s
P56A Dayton Farm, R 141.34 357 P 10 57 00.3
baz=4.0
P53A Whipple 141.42 0 IAMs_20 IAMs_20 12 04 21.9
comp=Z,7µm,21.0s
MNTX Cornudas Mount 141.66 34 IAMs_20 IAMs_20 12 11 12.9
comp=Z,4µm,20.0s
MNTX Cornudas Mount 141.66 34 P 10 57 01.2
baz=319
BI02 San Fabin de 141.67 193 IAMs_20 IAMs_20 11 53 18.1
comp=Z,7µm,21.0s
CCM Cathedral Cave 141.72 13 IAMs_20 IAMs_20 12 08 41.9
comp=Z,8µm,20.0s
CCM Cathedral Cave 141.72 13 P 10 57 01.4
baz=344
Q57A Strasburg 141.78 356 P 10 57 01.1
baz=4.7
BI03 Tigo 141.85 191 IAMs_20 IAMs_20 11 59 05.0
comp=Z,5µm,20.0s
Q54A Coxs Mills 141.92 359 IAMs_20 IAMs_20 12 04 38.1
comp=Z,8µm,20.0s
OK031 S. Brethren Rd 142.07 21 IAMs_20 IAMs_20 12 09 26.8
comp=Z,8µm,22.0s
WCI Wyandotte Cave 142.38 7 PKIKP **PKPdf 10 56 56.5 -4.6**
WCI Wyandotte Cave 142.38 7 PKPdf **PKPdf 10 56 56.5 -4.6**
WMOK Wichita Mounta 142.40 24 IAMs_20 IAMs_20 12 09 51.1
comp=Z,7µm,18.0s
R49A Shelbyville 142.44 5 IAMs_20 IAMs_20 12 08 56.1
comp=Z,7µm,20.0s
TUL1 Leonard 142.47 20 IAMs_20 IAMs_20 12 11 53.3
comp=Z,6µm,19.0s
HHAR Hobbs 142.71 17 IAMs_20 IAMs_20 12 09 28.3
comp=Z,7µm,20.0s
ROSB Rosrio 142.72 264 *eP* **PKiKP 10 57 05.5 0.0**
T42A Van Buren 142.74 13 IAMs_20 IAMs_20 12 09 59.8
comp=Z,6µm,20.0s
PBMO Poplar Bluff 143.13 12 IAMs_20 IAMs_20 12 07 37.0
comp=Z,8µm,22.0s
BO02 Sierra Bellavi 143.34 194 IAMs_20 IAMs_20 11 56 43.3
comp=Z,7µm,21.0s
BDFB Brasilia 143.37 242 PKP PKPbc 10 57 01.0 +0.3
comp=Z,8.4nm,0.7s,baz=149,slow=4.2,SNR=8.3
BDFB Brasilia 143.37 242 IAMs_20 IAMs_20 11 52 31.3
comp=Z,7µm,21.0s
LPIG La Paz 143.49 48 PKhKP PKPpre 10 56 59.5
comp=Z,30nm,1.0s,baz=331,slow=1.0,SNR=7.5
T47A Sharon Grove 143.51 8 IAMs_20 IAMs_20 12 08 13.7
comp=Z,8µm,20.0s
ITRB Iturama 143.54 234 *eP* **PKiKP 10 57 07.9 +0.8**
HICK Hickman 143.60 11 IAMs_20 IAMs_20 12 06 50.3
comp=Z,8µm,21.0s
TRCB Terra Rica 143.64 228 *eP* **PKiKP 10 57 08.3 +1.1**
LCAR Lake Charles 143.64 14 IAMs_20 IAMs_20 12 09 20.8
comp=Z,7µm,19.0s
BLA Blacksburg 143.68 359 IAMs_20 IAMs_20 12 08 56.3
comp=Z,7µm,20.0s
T50A Nancy 143.73 5 IAMs_20 IAMs_20 12 07 59.3
comp=Z,7µm,20.0s
W39A Magazine 143.76 18 P 10 57 00.6
baz=339,SNR=21
X37A Clayton 143.81 20 IAMs_20 IAMs_20 12 08 37.9
comp=Z,8µm,21.0s
ABTX Abilene, Hawle 143.84 27 PKPdf PKPbc 10 57 01.3 -0.2
ABTX IAMs_20 IAMs_20 12 10 59.6
comp=Z,8µm,19.0s
ABTX Abilene, Hawle 143.84 27 P 10 57 01.4
baz=328,SNR=33
GLAT Glass 143.85 11 PKPbc 10 57 01.2 -0.2
T56A Rocky Mt 143.85 358 P 10 57 00.5
baz=2.2,SNR=13
T57A Hurt 143.85 357 P 10 57 01.2
baz=3.5
UTMT University of 143.86 10 PKPab 10 57 01.0 +0.2
T58A Grand View Acr 143.87 356 P 10 57 01.2
baz=4.7,SNR=6.8
LNXT Lenox 143.97 11 PKPbc 10 57 01.9 +0.1
GNAR Gosnell 144.00 12 PKPbc 10 57 02.0 +0.2
GNAR IAMs_20 IAMs_20 12 07 34.0
comp=Z,7µm,20.0s
SLBS Sierra La Lagu 144.00 49 PKPdf PKPbc 10 57 03.1 +0.7
U49A Red Boiling Sp 144.14 6 IAMs_20 IAMs_20 12 08 46.3
comp=Z,8µm,19.0s
W41B Gary Mavity, V 144.22 16 P 10 57 02.2
baz=341,SNR=61
U60A Pendleton 144.23 354 P 10 57 02.1
baz=7.1
WVT Waverly 144.24 9 P 10 57 02.3
baz=349
HBAR Harrisburg 144.25 13 IAMs_20 IAMs_20 12 11 55.8
comp=Z,6µm,19.0s
LPAR Lepanto 144.29 13 PKPbc 10 57 02.8 +0.1
LPAR IAMs_20 IAMs_20 12 09 33.7
comp=Z,5µm,20.0s
U61A Possum Corner 144.29 353 P 10 57 02.6
baz=8.4
U54A Nelsons Funny 144.37 1 P 10 57 02.2
baz=359,SNR=14
TXAR Lajitas Array 144.41 35 PKP PKPbc 10 57 04.0 +0.5
comp=Z,46nm,0.7s,baz=272,slow=1.4,SNR=414
TXAR PP **PP 11 00 21.3 +1.5**
comp=Z,4.8nm,1.0s,baz=298,slow=2.7,SNR=3.1
TXAR SKPbc **SKPbc 11 00 41.6 -0.3**
comp=Z,8.4nm,1.0s,baz=325,slow=2.0,SNR=3.7
TXAR Lajitas Array 144.41 35 PKIKP PKPbc 10 57 04.0 +0.5
TXAR Lajitas Array 144.41 35 PKPdf **PKPab 10 57 03.2 0.0**
TCA Tanti 144.42 205 *eP* PKPbc 10 57 03.9 +0.4
U58A Oxford 144.42 356 P 10 57 03.2
baz=4.8,SNR=17
U57A Blanch 144.42 357 P 10 57 03.0
baz=3.4,SNR=21
MIAR Mount Ida 144.43 18 IAMs_20 IAMs_20 12 07 22.0
comp=Z,8µm,21.0s
MIAR Mount Ida 144.43 18 P 10 57 03.5
baz=339,SNR=229
CLTN Cedars of Leba 144.49 7 PKPdf **PKPab 10 57 02.7 -0.4**
U56A King 144.54 359 IAMs_20 IAMs_20 12 05 59.6
comp=Z,8µm,20.0s
U56A King 144.54 359 P 10 57 03.0
baz=1.6,SNR=11
CPUP Villa Florida 144.57 219 PKP PKPbc 10 57 04.3 +0.3
comp=Z,59nm,0.8s,baz=121,slow=2.6,SNR=66
CPUP SKPbc **SKiKP 11 00 42.8 -0.1**
comp=Z,3.1nm,0.5s,baz=135,slow=2.9,SNR=2.1
CPUP Villa Florida 144.57 219 PKIKP **PKPab 10 57 03.6 -0.2**
CPUP Villa Florida 144.57 219 PKPdf **PKPab 10 57 03.6 -0.2**
MT05 Renca 144.66 195 IAMs_20 IAMs_20 11 57 26.2
comp=Z,6µm,22.0s
X40A Basin Creek Fa 144.70 17 P 10 57 03.7
baz=340,SNR=87
HDBT Hernando Brdge 144.77 13 IAMs_20 IAMs_20 12 10 07.5
comp=Z,5µm,20.0s
MET Memphis--Engin 144.83 12 PKPbc 10 57 04.7 +0.2
MET IAMs_20 IAMs_20 12 09 21.0
comp=Z,5µm,21.0s
BBSR BB Station 144.86 335 PKPbc 10 57 04.9 +0.2
BBSR BB Station 144.86 335 IAMs_20 IAMs_20 12 10 16.8
comp=Z,5µm,20.0s
PEL Peldehue 144.88 196 IAMs_20 IAMs_20 11 58 29.0
comp=Z,6µm,21.0s
PEL Peldehue 144.88 196 *eP* **PKPdf 10 57 05.3 -0.5**
MT02 Curacav 144.89 195 IAMs_20 IAMs_20 11 58 34.3
comp=Z,5µm,20.0s
PEXB Peixe 144.90 248 *eP* **PKPdf 10 57 07.2 +1.1**
HPIG 144.93 40 **PKPdf 10 57 06.0 -0.1**
HPIG IAMs_20 IAMs_20 12 14 37.4
comp=Z,4µm,19.0s
V60A Jim Taylor Roa 144.94 354 PKPbc 10 57 05.0 +0.2
V60A Jim Taylor Roa 144.94 354 P 10 57 04.6
baz=7.1
W45A Hickory Valley 144.95 11 **PKPab 10 57 04.3 -0.6**
W45A IAMs_20 IAMs_20 12 10 21.1
comp=Z,8µm,20.0s
V51A Loudon 144.97 4 **PKPab 10 57 04.1 -0.9**
V57A Coltrane Farms 144.98 358 P 10 57 04.5
baz=2.7,SNR=31
V52A Sevierville 144.99 3 **PKPab 10 57 03.8 -1.2**
V52A IAMs_20 IAMs_20 12 09 58.6
comp=Z,7µm,19.0s
V62A Hyde County Ai 144.99 352 P 10 57 04.6
baz=9.4
V59A Middlesex 145.02 356 P 10 57 04.9
baz=5.4,SNR=17
V55A Taylorsville 145.04 360 **PKPbc 10 57 04.7 -0.5**
V58A Windy Hill, Pi 145.05 357 **PKPbc 10 57 05.0 -0.2**
V56A Mocksville 145.08 359 P 10 57 04.9
baz=1.5,SNR=32
ROC1 El Roble 145.12 195 *eP* **PKPdf 10 57 07.3 +0.9**
TKL Tuckaleechee C 145.16 4 PP PP 11 00 23.4 +0.1
comp=Z,16nm,1.1s,baz=333,slow=3.4,SNR=3.9
X43A Marvell 145.19 14 P 10 57 05.7
baz=343,SNR=59
VA03 San Esteban 145.20 196 **PKPab 10 57 06.1 +0.1**
CPCT Cooper Cave 145.31 5 IAMs_20 IAMs_20 12 08 58.2
comp=Z,8µm,20.0s
WHTX Lake Whitney, 145.33 25 **PKPbc 10 57 05.3 -0.9**
WHTX IAMs_20 IAMs_20 12 10 29.8
comp=Z,8µm,21.0s
WHTX Lake Whitney, 145.33 25 P 10 57 05.8
baz=331,SNR=104
WLAR White Oak Lake 145.37 18 IAMs_20 IAMs_20 12 08 54.8
comp=Z,7µm,20.0s
AUSP Uspallata 145.37 198 *eP* **PKPdf 10 57 07.8 +0.9**
ACHE Chepes 145.40 202 *eP* **PKPab 10 57 07.3 +0.4**
SWET Sewanee 145.40 7 IAMs_20 IAMs_20 12 06 59.8
comp=Z,7µm,21.0s
RTCV Cerro Valdivia 145.43 199 *eP* **PKPab 10 57 07.0 +0.1**
W50A Signal Mountai 145.49 6 **PKPbc 10 57 05.7 -1.0**
W50A IAMs_20 IAMs_20 12 10 58.9
comp=Z,8µm,20.0s
W61A Ground Anchor 145.49 354 P 10 57 06.9
baz=7.7,SNR=16
CNNC Cliffs of the 145.51 355 P 10 57 06.8
baz=6.1,SNR=7.6
OXF Oxford 145.53 12 IAMs_20 IAMs_20 12 06 49.5
comp=Z,8µm,22.0s
OXF Oxford 145.53 12 P 10 57 06.6
baz=346
CCAR Cane Creek 145.53 16 IAMs_20 IAMs_20 12 08 21.0
comp=Z,9µm,22.0s
JCT Junction City 145.55 29 IAMs_20 IAMs_20 12 15 09.2
comp=Z,5µm,19.0s
JCT Junction City 145.55 29 P 10 57 07.3
baz=326,SNR=573
W52A Murphy 145.71 4 IAMs_20 IAMs_20 12 08 23.7
comp=Z,8µm,20.0s
RTLS Leoncito 145.73 198 *eP* **PKPab 10 57 08.8 +0.6**
KMSC Kings Mountain 145.75 0 **PKPdf 10 57 06.8 -0.4**
KMSC IAMs_20 IAMs_20 12 11 14.7
comp=Z,8µm,21.0s
KMSC Kings Mountain 145.75 0 P 10 57 06.9
baz=0.0,SNR=61
W56A Indian Trail 145.76 359 P 10 57 06.9
baz=1.3,SNR=33
ZON Zonda 145.77 199 IAMs_20 IAMs_20 11 56 34.9
comp=Z,5µm,20.0s
ZON Zonda 145.77 199 *eP* **PKiKP 10 57 10.1 -1.3**
Z41A Richland Creek 145.86 17 P 10 57 08.1
baz=339,SNR=34
BG3 Lake Jocassee 145.87 2 IAMs_20 IAMs_20 12 10 56.8
comp=Z,7µm,19.0s
RTLL Cerro Villicun 145.90 200 *eP* **PKPab 10 57 08.9 +0.3**
237A Washetta, Mont 145.98 22 PKPbc **PKPab 10 57 08.5 -0.3**
237A IAMs_20 IAMs_20 12 10 29.7
comp=Z,7µm,20.0s
AVFE Valle Fertil 146.15 202 *eP* **PKPbc 10 57 08.6 -0.4**
X51A Calhoun 146.16 5 IAMs_20 IAMs_20 12 11 20.7
comp=Z,7µm,20.0s
X60A Albert Glenn T 146.18 355 P 10 57 08.8
baz=6.0,SNR=16
X58A Rowland 146.29 357 IAMs_20 IAMs_20 12 05 59.8
comp=Z,8µm,21.0s
435B Jarrell 146.32 26 IAMs_20 IAMs_20 12 12 53.1
comp=Z,6µm,20.0s
435B Jarrell 146.32 26 P 10 57 09.5
baz=330,SNR=32
JSC Jenkinsville 146.61 0 IAMs_20 IAMs_20 12 07 50.4
comp=Z,6µm,20.0s
NATX Nacogdoches 146.62 21 P 10 57 10.5
baz=335,SNR=37
ARAG Araguaiana, MT 146.66 239 *eP* **PKPab 10 57 11.3 -0.5**
143A Socs Landing, 146.78 16 IAMs_20 IAMs_20 12 07 42.0
comp=Z,8µm,21.0s
ACCO Cerro Coronel 146.78 199 *eP* **PKPbc 10 57 11.4 +0.2**
CO03 El Pedregal 147.05 197 IAMs_20 IAMs_20 11 52 19.6
comp=Z,7µm,22.0s
ACLC CERRO LA CRUZ 147.06 203 *eP* **PKPdf 10 57 09.9 +0.1**
ACDV Cuesta del Vie 147.18 200 *eP* **PKPbc 10 57 12.1 +0.1**
AROD Rodeo 147.30 199 *eP* **PKPab 10 57 13.5 -0.9**
AQDB Aquidauana 147.30 228 *eP* **PKPbc 10 57 13.1 +0.6**
LRAL Lakeview Retre 147.40 9 P 10 57 11.8
baz=350,SNR=36
GOGA Godfrey 147.41 3 P 10 57 12.2
baz=356,SNR=44
VBMS Vicksburg 147.47 15 IAMs_20 IAMs_20 12 09 31.2
comp=Z,8µm,21.0s
VBMS Vicksburg 147.47 15 P 10 57 12.7
baz=343,SNR=40
833A Chaparral WMA, 147.52 31 P 10 57 12.9
baz=325
AGUA GUANDACOL 147.59 201 *eP* **PKPbc 10 57 13.7 +0.5**
SNDB Serra Nova Dou 147.69 246 *eP* **PKPbc 10 57 14.0 +0.3**
GO04 Tololo Observa 147.71 197 IAMs_20 IAMs_20 11 57 56.0
comp=Z,4µm,22.0s
GO04 Tololo Observa 147.71 197 *eP* **PKPbc 10 57 12.7 -0.9**
NHSC New Hope 147.77 358 **PKPbc 10 57 13.1 -0.2**
NHSC New Hope 147.77 358 P 10 57 13.7
baz=2.2
HKT Hockley 147.78 24 PKP2 **PKPbc 10 57 13.9 +0.5**
HKT Hockley 147.78 24 PKPbc **PKPbc 10 57 13.9 +0.5**
735A Kenedy 147.86 28 IAMs_20 IAMs_20 12 14 30.1
comp=Z,8µm,20.0s
PRPB Parauapebas 147.89 257 *eP* **PKPbc 10 57 14.8 +0.6**
152A Waverly Hall 148.05 6 IAMs_20 IAMs_20 12 12 29.9
comp=Z,6µm,20.0s
441A DeRidder 148.05 20 IAMs_20 IAMs_20 12 09 28.2
comp=Z,7µm,21.0s
VCA Vinchina 148.16 202 *eP* **PKPbc 10 57 15.5 +0.7**
PP1B Ponte de Pedra 148.29 234 *eP* **PKPbc 10 57 15.9 +0.7**
346A Big Creek Wild 148.52 14 IAMs_20 IAMs_20 12 10 59.9
comp=Z,8µm,22.0s
AHML Horco Molle 148.65 208 *eP* **PKPbc 10 57 16.4 +0.4**
LCO Las Campanas 148.76 198 PKP2 **PKPdf 10 57 14.4 +1.8**
LCO Las Campanas 148.76 198 **PKPdf 10 57 14.4 +1.8**
LCO Las Campanas 148.76 198 IAMs_20 IAMs_20 11 57 54.1
comp=Z,7µm,21.0s
AC05 El Transito 148.79 199 IAMs_20 IAMs_20 11 57 05.8
comp=Z,7µm,21.0s
KVTX Kingsville 148.91 30 IAMs_20 IAMs_20 12 08 22.2
comp=Z,5µm,21.0s
BRAL Brewton 149.22 10 P 10 57 16.5
baz=349
TIGA Tifton 149.37 4 IAMs_20 IAMs_20 12 13 02.5
comp=Z,7µm,19.0s
TIGA Tifton 149.37 4 P 10 57 17.8
baz=356
FSA Cafayete 149.53 208 *eP* **PKPdf 10 57 15.3 +1.4**
AC04 Llanos de Chal 149.63 198 IAMs_20 IAMs_20 11 57 25.5
comp=Z,6µm,21.0s
ZAIG Zacatecas 149.83 42 IAMs_20 IAMs_20 12 18 06.6
comp=Z,6µm,18.0s
GO03 Copiap 149.93 200 IAMs_20 IAMs_20 11 53 12.9
comp=Z,4µm,22.0s
GO03 Copiap 149.93 200 *eP* **PKiKP 10 57 19.6 -0.4**
AC02 Maricunga 150.22 202 IAMs_20 IAMs_20 11 57 08.9
comp=Z,7µm,22.0s
MCPB Macapa, AP 150.79 268 *eP* **PKPbc 10 57 18.9 -2.6**
AC01 Pan de Azucar 151.38 200 IAMs_20 IAMs_20 12 03 04.5
comp=Z,4µm,20.0s
GO02 Mina Guanaco 151.91 203 IAMs_20 IAMs_20 11 59 04.6
comp=Z,7µm,19.0s
CLDB Colider 152.20 245 *eP* **PKPbc 10 57 21.3 -3.4**
DWPF Disney Wildern 152.76 0 **PKPbc 10 57 25.4 -0.2**
DWPF Disney Wildern 152.76 0 P 10 57 24.8
baz=360
MOIG Morelia 152.86 45 **PKPbc 10 57 24.3 -2.0**
PTLB Pontes e Lacer 152.88 233 *eP* **PKPdf 10 57 22.3 +3.4**
MALB Monte Alegre 152.90 265 *eP* **PKPdf 10 57 22.1 +3.0**
NPGB Novo Progresso 153.04 253 *eP* **PKPdf 10 57 22.4 +3.1**
PB15 IPOC Station P 153.60 205 **PKPbc 10 57 27.8 -0.1**
PB15 IAMs_20 IAMs_20 12 00 51.6
comp=Z,5µm,20.0s
PB10 IPOC Station P 153.76 203 IAMs_20 IAMs_20 12 01 52.8
comp=Z,5µm,20.0s
LVC Limon Verde 153.88 207 PKPbc **PKiKP 10 57 29.7 +1.0**
comp=Z,18nm,0.8s,baz=307,slow=1.5,SNR=18
LVC Limon Verde 153.88 207 IAMs_20 IAMs_20 12 03 11.1
comp=Z,4µm,20.0s
LVC Limon Verde 153.88 207 *eP* **PKPbc 10 57 24.8 -3.9**
SIV San Ignacio 154.07 229 PKP **PKPdf 10 57 20.7 0.0**
comp=Z,5.4nm,1.0s,baz=180,slow=0.8,SNR=16
PB06 IPOC Station P 154.09 205 IAMs_20 IAMs_20 11 57 28.5
comp=Z,5µm,22.0s
UNM Universidad Na 154.49 42 IAMs_20 IAMs_20 11 58 48.9
comp=Z,4µm,21.0s
ANWB Willy Bob 154.51 312 IAMs_20 IAMs_20 12 18 45.5
comp=Z,5µm,21.0s
PB04 IPOC Station P 154.66 205 IAMs_20 IAMs_20 12 00 19.7
comp=Z,4µm,20.0s
PB09 IPOC Station P 154.74 207 **PKPbc 10 57 29.3 -1.0**
PB09 IAMs_20 IAMs_20 12 08 02.9
comp=Z,4µm,20.0s
PB07 IPOC Station P 155.09 206 **PKPdf 10 57 29.1 +6.9**
PB07 IAMs_20 IAMs_20 12 06 10.0
comp=Z,4µm,19.0s
VILB Vilhena 155.09 236 *eP* **PKPdf 10 57 24.2 +2.0**
BBGH Gun Hill 155.22 301 IAMs_20 IAMs_20 12 21 07.5
comp=Z,7µm,22.0s
SEUS St. Eustatius 155.49 314 IAMs_20 IAMs_20 12 23 55.4
comp=Z,4µm,21.0s
PB01 IPOC Station P 155.50 207 IAMs_20 IAMs_20 12 01 56.2
comp=Z,5µm,21.0s
FDF Fort de France 155.74 306 IAMs_20 IAMs_20 12 16 07.8
comp=Z,4µm,22.0s
TLIG Tlapa 156.12 45 IAMs_20 IAMs_20 12 18 57.5
comp=Z,5µm,20.0s
PB08 IPOC Station P 156.12 209 IAMs_20 IAMs_20 12 02 02.7
comp=Z,5µm,20.0s
TA01 Diego Aracena 156.23 207 IAMs_20 IAMs_20 12 03 40.5
comp=Z,4µm,20.0s
PSGCX Pisagua 157.05 208 IAMs_20 IAMs_20 12 02 39.2
comp=Z,5µm,20.0s
GRTK Grand Turk 157.10 335 IAMs_20 IAMs_20 12 19 56.0
comp=Z,6µm,20.0s
MNMC Minye Minye 157.20 210 IAMs_20 IAMs_20 12 02 59.2
comp=Z,5µm,21.0s
PDPR Patillas Dam, 157.21 320 PKPdf **PKPdf 10 57 20.3 -4.5**
PDPR **PKPab 10 57 56.0 +0.5**
SJG San Juan 157.22 320 IAMs_20 IAMs_20 12 10 48.7
comp=Z,4µm,22.0s
GRGR Grenville 157.50 301 IAMs_20 IAMs_20 12 21 19.8
comp=Z,4µm,22.0s
AP01 Chacalluta 158.21 209 IAMs_20 IAMs_20 12 06 59.0
comp=Z,4µm,20.0s
PTGA Pitinga 158.67 266 PKP **PKPdf 10 57 26.9 +0.1**
comp=Z,8.2nm,1.0s,baz=327,slow=2.3,SNR=7.9
PTGA PKPab **PKPab 10 58 03.5 +1.3**
comp=Z,42nm,1.0s,baz=99,slow=4.2,SNR=15
PTGA PP **PP 11 01 44.2 +1.2**
comp=Z,1.2nm,0.4s,baz=191,slow=5.2,SNR=1.6
PTGA Pitinga 158.67 266 PKPdf **PKPdf 10 57 24.7 -2.1**
PTGA PKPab **PKPab 10 58 03.0 +0.7**
PTGA Pitinga 158.67 266 *eP* **PKPdf 10 57 30.6 +3.8**
LPAZ La Paz 158.71 217 PKP **PKPdf 10 57 27.8 +0.3**
comp=Z,8.4nm,1.1s,baz=74,slow=2.7,SNR=15
LPAZ PKPab **PKPab 10 58 03.4 +0.6**
comp=Z,5.6nm,0.8s,baz=42,slow=13,SNR=3.6
LPAZ La Paz 158.71 217 PKIKP **PKPdf 10 57 24.3 -3.2**
LPAZ La Paz 158.71 217 PKPdf **PKPdf 10 57 24.3 -3.2**
LPAZ La Paz 158.71 217 *eP* **PKPdf 10 57 29.1 +1.6**
CMIG Matias Romero 158.91 39 PKPab **PKPab 10 58 01.4 -1.5**
comp=Z,17nm,0.9s,baz=320,slow=7.1,SNR=3.6
SDDR Presa de Saban 159.39 332 **PKPab 10 58 05.4 +0.4**
SDDR IAMs_20 IAMs_20 12 15 55.9
comp=Z,6µm,20.0s
TEIG Tepich 159.43 19 PP PP 11 01 45.8 +1.1
comp=Z,23nm,1.2s,baz=28,slow=4.5,SNR=2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TEIG	**Tepich**	**159.43**	**19**	IAMs_20	IAMs_20	12 20 00.5	
	comp=Z,5μm,20.0s						
SAML	**Samuel**	**159.60**	**242**	PKIKP	**PKPdf**	**10 57 26.1**	**-1.7**
SAML	**Samuel**	**159.60**	**242**		**PKPdf**	**10 57 26.1**	**-1.7**
CCIG	**Comitan**	**161.17**	**34**		**PKPab**	**10 58 13.2**	**+0.2**
PETF	**Flores**	**161.80**	**27**	PKPdf	**PKPdf**	**10 57 26.5**	**-3.6**
PETF					**PKPab**	**10 58 15.3**	**-0.1**
ESQI	**Esquipulas**	**164.09**	**30**		**PKPab**	**10 58 24.6**	**-1.0**
SDV	**Santo Domingo**	**166.68**	**308**	PKP	**PKPdf**	**10 57 33.3**	**-1.6**
	comp=Z,3.6nm,0.7s,baz=160,slow=4.0,SNR=4.1						
SDV				PKPab	**PKPab**	**10 58 36.2**	**-1.2**
	comp=Z,9.3nm,0.8s,baz=42,slow=5.9,SNR=4.7						
SDV				PP	**PP**	**11 02 26.2**	**+1.4**
	comp=Z,7.3nm,0.8s,baz=1.3,slow=7.3,SNR=6.0						
SDV	**Santo Domingo**	**166.68**	**308**		**PKPdf**	**10 57 32.8**	**-2.0**
SDV				PKPab	**PKPab**	**10 58 36.0**	**-1.4**
ACON	**Acoyapa**	**168.16**	**19**		**PKPdf**	**10 57 32.7**	**-2.9**
ESPN	**Las Esperanzas**	**168.20**	**15**		**PKPab**	**10 58 42.8**	**-0.8**
BRRC	**Barranca, Sant**	**170.17**	**310**	*e*P	**PKPdf**	**10 57 36.2**	**-0.7**
MOTC	**Monteria, Cord**	**170.25**	**325**	*e*P	**PKPdf**	**10 57 35.7**	**-1.2**
RUSC	**La Rusia**	**170.37**	**302**	*e*P	**PKPdf**	**10 57 35.5**	**-2.1**
PTBC	**PUERTO BERRIO**	**171.09**	**311**	*e*P	**PKPdf**	**10 57 35.4**	**-2.0**
SPBC	**San Pablo de B**	**171.32**	**305**	*e*P	**PKPdf**	**10 57 35.9**	**-1.8**
CHIC	**Chingaza**	**171.55**	**297**	*e*P	**PKPdf**	**10 57 35.9**	**-2.3**
ATAH	**Atahualpa**	**171.69**	**200**	PKP	**PKPdf**	**10 57 38.2**	**-0.1**
	comp=Z,5.3nm,0.9s,baz=159,slow=5.7,SNR=8.4						
ATAH				PP	**PP**	**11 02 53.7**	**+4.7**
	comp=Z,1.8nm,0.7s,baz=79,slow=0.9,SNR=1.2						
ROSC	**El Rosal**	**171.96**	**301**	PKP	**PKPdf**	**10 57 38.2**	**-0.2**
	comp=Z,9.2nm,0.4s,baz=127,slow=2.8,SNR=9.7						
ROSC				PP	**PP**	**11 02 54.9**	**+2.8**
	comp=Z,9.4nm,0.7s,baz=88,slow=13,SNR=3.7						
ROSC	**El Rosal**	**171.96**	**301**	PKIKP	**PKPdf**	**10 57 38.1**	**-0.3**
ROSC	**El Rosal**	**171.96**	**301**	*e*P	**PKPdf**	**10 57 37.6**	**-0.7**
MACC	**Macarena, Meta**	**172.47**	**281**	*e*P	**PKPdf**	**10 57 35.6**	**-2.5**
GUY2C	**Guyana, Caldas**	**172.62**	**307**	*e*P	**PKPdf**	**10 57 35.0**	**-3.7**
RREF	**El Recreo**	**172.79**	**305**	*e*P	**PKPdf**	**10 57 37.3**	**-1.7**
TOLC	**Tolima**	**172.95**	**303**	*e*P	**PKPdf**	**10 57 37.3**	**-1.4**
PRAC	**Prado**	**172.98**	**295**	*e*P	**PKPdf**	**10 57 36.1**	**-2.2**
ANIL	**Santa Ana**	**173.06**	**303**	*e*P	**PKPdf**	**10 57 34.7**	**-4.1**
ORTC	**Ortega, Tolima**	**173.22**	**298**	*e*P	**PKPdf**	**10 57 35.2**	**-3.3**
PLMC	**San Jos del P**	**173.53**	**310**	*e*P	**PKPdf**	**10 57 36.1**	**-2.5**
GARC	**Garzon, Huila**	**174.07**	**284**	*e*P	**PKPdf**	**10 57 37.8**	**-1.3**
YOTC	**Yotoco, Valle**	**174.13**	**304**	*e*P	**PKPdf**	**10 57 37.4**	**-1.5**
MARP	**Paez Belalcaza**	**174.31**	**292**	*e*P	**PKPdf**	**10 57 37.4**	**-1.8**
FLOC	**Florencia**	**174.34**	**279**	*e*P	**PKPdf**	**10 57 37.8**	**-1.1**
PCON	**Cinco Dias**	**174.90**	**288**	*e*P	**PKPdf**	**10 57 38.3**	**-1.5**
POPC	**Popayan, Colom**	**175.09**	**292**	*e*P	**PKPdf**	**10 57 37.3**	**-2.0**
BBAC	**Balboa, Cauca**	**175.80**	**288**	*e*P	**PKPdf**	**10 57 37.6**	**-1.9**
GCUF	**Volcan Galeras**	**176.07**	**277**	*e*P	**PKPdf**	**10 57 39.9**	**0.0**
OTAV	**Otavalo**	**177.16**	**260**	PKIKP	**PKPdf**	**10 57 38.8**	**-1.3**
OTAV	**Otavalo**	**177.16**	**260**		**PKPdf**	**10 57 38.8**	**-1.3**
OTAV	**Otavalo**	**177.16**	**260**	*e*P	**PKPdf**	**10 57 36.4**	**-3.7**
OTAV	**Otavalo**	**177.16**	**260**	*e*P	**PKPdf**	**10 57 43.7**	**+3.6**

MAN 03 10:46:03.2, 7°.59N×124°.67E, h16km, MS4.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.71**	**144**	⇑*i*P	Pg	10 46 16.6	-0.6
CGP	**Cagayan de Oro**	**0.86**	**2**	⇑*i*P	Pb	10 46 16.2	-3.6
CGP				*i* S	Sb	10 46 26.4	-4.7
SKMP	**Bagumbayan, Su**	**1.07**	**187**	*e*P	Pb	10 46 21.6	-1.8
SKMP				*e*S	Sn	10 46 38.3	+0.1
PAGZ	**Pagadian**	**1.30**	**281**	*e*P	Pn	10 46 25.2	-1.5
PAGZ				*e*S	Sg	10 46 45.1	-0.2
BUTP	**Butuan**	**1.66**	**34**	*e*P	Pn	10 46 31.4	-0.4
BUTP	**Butuan**	**1.66**	**34**	*e*P	Pn	10 46 31.4	-0.3
MATI	**Mati**	**1.70**	**112**	*e*P	Pn	10 46 32.3	0.0
DDMP	**Don Marcelino,**	**1.80**	**145**	*e*P	Pn	10 46 34.5	+0.8
DDMP				*e*S	Sg	10 47 01.9	+0.6
LLP	**Lapu-Lapu**	**2.80**	**346**	*e*P	Pn	10 46 47.5	+0.1
LLP				*e*S	Sn	10 47 22.1	+1.3
CNOP	**Candoni, Negro**	**2.99**	**318**	*e*P	Pn	10 46 51.8	+1.7
CNOP				*e*S	Sn	10 47 26.8	+1.2
LQP	**Lukban**	**7.17**	**335**	*e*P	Pn	10 47 49.9	+2.2

ISK 03 10:57:46.2, 40°.54N×29°.53E, h15km, ML1.6/8, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YLV	**Yalova**	**0.12**	**284**	PG	Pg	10 57 50.0	+0.2
YLV				SG	Sb	10 57 52.7	-0.2
ADVT	**Abdulvahap**	**0.19**	**123**	PG	Pg	10 57 50.7	-0.1
ADVT				SG	Sb	10 57 54.7	-0.2
GEMT	**Gemlik**	**0.28**	**248**	PG	Pg	10 57 52.4	+0.3
TRML	**Termal-Yalova**	**0.28**	**285**	PG	Pg	10 57 52.5	+0.4
TRML				SG	Sb	10 57 57.1	-0.3
HRT	**Hereke**	**0.30**	**21**	PG	Pg	10 57 52.8	+0.2
CAVI	**Cavuskoy**	**0.41**	**144**	PG	Pb	10 57 55.2	0.0
BORA	**Eskisehir**	**0.97**	**132**	PG	Pn	10 58 05.9	+0.6
SRCK	**Saricakaya, Es**	**0.98**	**120**	PG	Pn	10 58 05.3	-0.1
CTKS	**Kestanelik-??a**	**1.04**	**312**	PG	Pg	10 58 06.5	+0.2
TVSB	**Tavsanli**	**1.09**	**183**	PN	Pg	10 58 07.5	+0.3

*IDC **03** 11:01:25.6±2.7, 0°.94S×98°.45E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/38, mbtmp3.6/7, ML3.8/2, Error ellipse: s-maj=96.0km s-min=21.8km az=61.0*

ISC 03 11:01:32.6±2.6**, 0°.7S**±0°.3×**98°.9E**±0°.6**, h35km, n10, σ1s.14**/7**, mb3.7**/5**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.42**	**0**	Pn	**Pn**	**11 02 22.9**	**-0.7**
	0.9nm,0.3s,baz=360,slow=21,SNR=3.2						
CMAR	**Chiang Mai Arr**	**18.98**	**0**	P	**Pn**	**11 05 53.4**	**+1.2**
	0.5nm,0.3s,baz=190,slow=11,SNR=6.5						
H08S2	**Diego Garcia H**	**27.23**	**255**	T	T	11 35 10.0	
	baz=76,slow=76,SNR=33						
H08S3	**Diego Garcia H**	**27.23**	**255**	T	T	11 35 10.3	
	baz=76,slow=76,SNR=34						
H08S1	**Diego Carcia H**	**27.25**	**255**	T	T	11 35 11.3	
	baz=76,slow=76,SNR=20						
WRA	**Warramunga Arr**	**39.62**	**121**	P	**P**	**11 09 00.5**	**-0.8**
	0.6nm,0.6s,baz=304,slow=9.2,SNR=4.8						
ASAR	**Alice Springs**	**40.93**	**127**	P	**P**	**11 09 12.8**	**+0.7**
	0.1nm,0.3s,baz=303,slow=7.6,SNR=1.7						
SONM	**Songino Array**	**48.72**	**7**	P	**P**	**11 10 14.7**	**+0.8**
	0.3nm,0.4s,baz=185,slow=8.2,SNR=4.0						
MKAR	**Makanchi Array**	**49.44**	**345**	P	**P**	**11 10 19.2**	**-0.1**
	0.6nm,0.6s,baz=148,slow=8.6,SNR=7.1						
ZALV	**Zalesovo Beam**	**55.65**	**350**	P	**P**	**11 11 03.8**	**-1.2**
	0.8nm,0.4s,baz=183,slow=7.2,SNR=4.5						

*JMA **03** 11:51:44.4±0.1, 42°.12N×140°.90E, h125km±1km, M2.4*
*IDC **03** 11:51:47.8±6.1, 42°.57N×140°.60E, h128km±101km, mb3.0/3, mb1 2.9/4, mb1mx2.8/33, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=131.5km s-min=78.4km az=110.0*

ISC 03 11:51:43.9±1.0**, 42°.08N**±0°.05×**140°.92E**±0°.05**, h128km**±7km**, n21, σ0s.52**/30**, mb3.2**/3**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.21**	**155**	P	**Pn**	**11 52 01.6**	**+0.1**
JKB				*e*S	**Sn**	**11 52 14.6**	**-0.1**
JNB	**Noboribetsu**	**0.40**	**13**	P	**Pn**	**11 52 01.9**	**-0.3**
JNB				*e*S	**Sn**	**11 52 15.3**	**-0.8**
JYM2	**Yakumo 2**	**0.41**	**276**	P	**Pn**	**11 52 02.5**	**+0.3**
JSR	**Shiriuchi**	**0.66**	**214**	P	**Pn**	**11 52 04.1**	**+0.4**
JSR				*e*S	**Sn**	**11 52 18.7**	**0.0**
JOT	**Ohata**	**0.70**	**172**	P	**Pn**	**11 52 04.8**	**+0.7**
JHST	**Hiyamasetana**	**0.84**	**294**	P	**Pn**	**11 52 05.2**	**+0.1**
JSH	**Shimam**	**0.86**	**312**	P	**Pn**	**11 52 05.6**	**+0.3**
JEW	**Eniwo**	**0.86**	**27**	P	**Pn**	**11 52 05.7**	**+0.4**
JEW				*e*S	**Sn**	**11 52 21.2**	**-0.4**
JOMM	**Oshimamatsumae**	**0.88**	**231**	P	**Pn**	**11 52 06.1**	**+0.7**
JIAM	**Iburiatsuma**	**0.92**	**53**	P	**Pn**	**11 52 06.5**	**+0.7**
JIAM				*e*S	**Sn**	**11 52 23.0**	**+0.5**
JOSM	**Okushiri--Mats**	**1.07**	**271**	P	**Pn**	**11 52 07.2**	**0.0**
JOSM				*e*S	**Sn**	**11 52 24.7**	**-0.3**
JISS	**Ishikarishitsu**	**1.25**	**17**	P	**Pn**	**11 52 09.7**	**+0.6**
JBT2	**Biratori 2**	**1.28**	**56**	P	**Pn**	**11 52 09.6**	**+0.2**
JSK	**Shakotan**	**1.32**	**346**	P	**Pn**	**11 52 09.9**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.38**	**81**	P	**Pn**	**11 52 10.7**	**+0.2**
JANG	**Nango**	**1.76**	**165**	P	**Pn**	**11 52 14.7**	**-0.2**
JANG				*e*S	**Sn**	**11 52 37.7**	**-0.8**
JCH	**Churui**	**1.89**	**73**	P	**Pn**	**11 52 16.7**	**+0.3**
JCH				*e*S	**Sn**	**11 52 40.7**	**-0.5**
ASAJ	**Asahikawa**	**2.38**	**31**	P	**Pn**	**11 52 23.0**	**+0.6**
	2.6nm,0.3s,baz=226,slow=12,SNR=15						
ASAJ				S	**Sn**	**11 52 50.9**	**-1.2**
	1.6nm,0.3s,baz=304,slow=32,SNR=17						
SONM	**Songino Array**	**24.95**	**295**	P	**P**	**11 56 55.9**	**+0.5**
	0.2nm,0.6s,baz=77,slow=7.6,SNR=1.4						
ZALV	**Zalesovo Beam**	**38.37**	**308**	P	**P**	**11 58 51.9**	**-0.3**
	0.9nm,0.4s,baz=83,slow=7.8,SNR=5.0						
MKAR	**Makanchi Array**	**41.29**	**297**	P	**P**	**11 59 16.4**	**-0.1**
	0.3nm,0.5s,baz=83,slow=9.7,SNR=4.1						

*IDC **03** 12:06:08.9±2.0, 36°.19N×97°.20W, h0km, mb1 3.5/3, mb1mx3.3/33, mbtmp3.2/3, ML1.9/1, Error ellipse: s-maj=29.3km s-min=11.9km az=102.0*
*ANF **03** 12:06:12.9±0.2, 36°.08N×97°.51W, h3km, ML4.0/22, Error ellipse: s-maj=2.3km s-min=1.9km az=175.0*
*TUL **03** 12:06:13.1±1.5, 36°.06N±0°.01×97°.52W±0°.04, h5km±7km, ML3.4, mb_Lg3.3/64(NEIC), Error ellipse: s-maj=5.0km s-min=1.8km az=86.0*
*NEIC **03** 12:06:13.2±1.2, 36°.07N±0°.01×97°.53W±0°.04, h5km±1km, Error ellipse: s-maj=5.0km s-min=1.9km az=85.0*

ISC 03 12:06:13.4±1.0**, 36°.08N**±0°.02×**97°.49W**±0°.02**, h8km**±9km**, n106, σ0s.86**/105**, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.43**	**193**		**Pg**	**12 06 21.3**	**-0.5**
BCOK				Sg	**Sg**	**12 06 27.1**	**-0.4**
OK005	**Luther M Schoo**	**0.49**	**150**		**Pg**	**12 06 22.8**	**-0.1**
OK009	**Oakdale Elemen**	**0.50**	**174**		**Pg**	**12 06 22.8**	**-0.3**
OK009				Sg	**Sg**	**12 06 29.8**	**+0.1**
OK025	**Westminster Rd**	**0.51**	**166**		**Pg**	**12 06 23.0**	**-0.3**
OK025				Sg	**Sg**	**12 06 30.2**	**+0.1**
OK031	**S. Brethren Rd**	**0.54**	**103**		**Pg**	**12 06 24.2**	**+0.3**
OK031				Sg	**Sg**	**12 06 31.9**	**+0.9**
CROK	**Carrier**	**0.58**	**317**	Pg	**Pg**	**12 06 24.5**	**-0.2**
CROK				Sg	**Sg**	**12 06 32.4**	**+0.1**
QUOK	**Quay**	**0.64**	**82**		**Pg**	**12 06 26.1**	**+0.3**
QUOK				Sg	**Sg**	**12 06 35.1**	**+1.0**
OKCFA	**Oklahoma City**	**0.66**	**177**		**Pg**	**12 06 25.6**	**-0.7**
OKCFA				Sg	**Sg**	**12 06 34.7**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**0.68**	**176**		**Pg**	**12 06 25.8**	**-0.6**
OKCSW				Sg	**Sg**	**12 06 35.1**	**-0.1**
FNO	**Franklin**	**0.82**	**175**		**Pg**	**12 06 28.9**	**-0.4**
KAN13	**South Haven SW**	**0.93**	**1**		**Pg**	**12 06 31.2**	**-0.1**
KAN14	**Manchester OK**	**0.95**	**337**		**Pg**	**12 06 31.4**	**-0.4**
KAN05	**Bluff City Nor**	**1.07**	**343**		**Pb**	**12 06 33.6**	**-0.6**
KAN01	**Argonia South**	**1.09**	**349**		**Pb**	**12 06 34.0**	**-0.5**
T35A	**Sooner Cattle**	**1.15**	**43**		**Pb**	**12 06 35.2**	**-0.3**
T35B	**Sooner Cattle**	**1.15**	**43**	P	**Pb**	**12 06 35.1**	**-0.4**
	baz=224,SNR=433						
T35B				S	**Sb**	**12 06 50.5**	**-0.1**
	baz=224						
T35B	**Sooner Cattle**	**1.15**	**43**	P		12 06 35.1	
	baz=224,SNR=433						
T35B				S		12 06 50.5	
	baz=224						
KAN10	**Anthony SW Sta**	**1.15**	**335**		**Pb**	**12 06 34.7**	**-0.9**
KAN08	**Anthony NE Sta**	**1.21**	**341**		**Pn**	**12 06 36.0**	**-0.6**
U32A	**Winter Ranch,**	**1.26**	**284**		**Pn**	**12 06 36.2**	**-1.1**
U32A	**Winter Ranch,**	**1.26**	**284**	P	**Pn**	**12 06 36.1**	**-1.1**
	baz=104						
U32A				S	**Sb**	**12 06 53.7**	**0.0**
	baz=104						
U32A	**Winter Ranch,**	**1.26**	**284**	P		12 06 36.1	
	baz=104						
U32A				S		12 06 53.7	
	baz=104						
KAN12	**Harper NE Stat**	**1.28**	**342**		**Pn**	**12 06 37.3**	**-0.3**
TUL1	**Leonard**	**1.39**	**97**		**Pn**	**12 06 38.5**	**-0.6**
TUL1	**Leonard**	**1.39**	**97**	P	**Pn**	**12 06 38.4**	**-0.6**
	baz=277,SNR=197						
TUL1				S	**Sn**	**12 06 57.8**	**+0.3**
	baz=277						
TUL1	**Leonard**	**1.39**	**97**	P		12 06 38.5	
	baz=277						
TUL1				S		12 06 57.9	
	baz=277						
TUL1	**Leonard**	**1.39**	**97**	P		12 06 38.4	
	baz=277,SNR=197						
TUL1				S		12 06 57.8	
	baz=277						
WMOK	**Wichita Mounta**	**1.71**	**219**		**Pn**	**12 06 43.1**	**-0.3**
WMOK	**Wichita Mounta**	**1.71**	**219**	P	**Pn**	**12 06 43.2**	**-0.3**
	baz=37,SNR=687						
WMOK				S	**Sn**	**12 07 05.8**	**+0.4**
	baz=37						
WMOK	**Wichita Mounta**	**1.71**	**219**	P		12 06 43.2	
	baz=37						
WMOK				S		12 07 05.8	
	baz=37						
WMOK	**Wichita Mounta**	**1.71**	**219**	P		12 06 43.2	
	baz=37,SNR=687						
WMOK				S		12 07 05.8	
	baz=37						
X37A	**Clayton**	**2.28**	**130**		**Pn**	**12 06 52.0**	**+0.7**
X37A	**Clayton**	**2.28**	**130**	P	**Pn**	**12 06 52.1**	**+0.7**
	baz=311						
X37A				S	**Sb**	**12 07 22.2**	**-1.0**
	baz=311						
X37A	**Clayton**	**2.28**	**130**	P		12 06 52.1	
	baz=311						
X37A				S		12 07 22.2	
	baz=311						
R32A	**Long Quarter,**	**2.53**	**338**	Pn	**Pn**	**12 06 55.8**	**+1.0**
R32A				IAmb_Lg		12 07 31.3	
	comp=Z,29nm,0.8s						
R32A	**Long Quarter,**	**2.53**	**338**	P	**Pn**	**12 06 55.4**	**+0.6**
	baz=158,SNR=50						
R32A	**Long Quarter,**	**2.53**	**338**	P		12 06 55.4	
	baz=158,SNR=50						
U38A	**Gravette**	**2.53**	**81**		**Pn**	**12 06 55.6**	**+0.8**
U38A	**Gravette**	**2.53**	**81**	P	**Pn**	**12 06 55.6**	**+0.8**
	baz=262,SNR=157						
U38A	**Gravette**	**2.53**	**81**	P		12 06 55.6	
	baz=262,SNR=157						
Z35A	**Perchaven, San**	**2.75**	**176**		**Pn**	**12 06 58.4**	**+0.6**
Z35A	**Perchaven, San**	**2.75**	**176**	P	**Pn**	**12 06 58.4**	**+0.6**
	baz=355,SNR=32						
Z35A	**Perchaven, San**	**2.75**	**176**	P		12 06 58.4	
	baz=355,SNR=32						
HHAR	**Hobbs**	**2.88**	**85**	Pn	**Pn**	**12 07 00.2**	**+0.7**
HHAR	**Hobbs**	**2.88**	**85**	P	**Pn**	**12 07 00.2**	**+0.7**
	baz=267						
HHAR	**Hobbs**	**2.88**	**85**	P		12 07 00.2	
	baz=267						
KSU1	**Kansas State U**	**3.10**	**13**	Pn	**Pn**	**12 07 03.9**	**+1.4**
KSU1				IAmb_Lg		12 07 54.0	
	comp=Z,77nm,0.8s						
W39A	**Magazine**	**3.15**	**105**	Pn	**Pn**	**12 07 04.3**	**+1.1**
W39A				IAmb_Lg		12 07 58.8	
	comp=Z,121nm,0.8s						
W39A	**Magazine**	**3.15**	**105**	P	**Pn**	**12 07 04.1**	**+0.9**
	baz=287						
W39A	**Magazine**	**3.15**	**105**	P		12 07 04.2	
	baz=287						
W39A	**Magazine**	**3.15**	**105**	P		12 07 04.1	
	baz=287						
CBKS	**Cedar Bluff**	**3.26**	**327**	Pn	**Pn**	**12 07 05.9**	**+1.0**
CBKS				IAmb_Lg		12 08 03.0	
	comp=Z,75nm,0.7s						
CBKS	**Cedar Bluff**	**3.26**	**327**	P	**Pn**	**12 07 05.8**	**+1.0**
	baz=147,SNR=17						
CBKS	**Cedar Bluff**	**3.26**	**327**	P		12 07 05.9	
	baz=147						
CBKS	**Cedar Bluff**	**3.26**	**327**	P		12 07 05.8	
	baz=147,SNR=17						
Z38A	**Mt. Pleasant**	**3.49**	**143**	Pn	**Pn**	**12 07 08.4**	**+0.4**
Z38A	**Mt. Pleasant**	**3.49**	**143**	P	**Pn**	**12 07 08.5**	**+0.6**
	baz=324,SNR=5.2						
Z38A	**Mt. Pleasant**	**3.49**	**143**	P		12 07 08.5	
	baz=324,SNR=5.2						
MIAR	**Mount Ida**	**3.55**	**114**		**Pn**	**12 07 10.3**	**+1.6**
MIAR				IAmb_Lg		12 08 09.4	
	comp=Z,56nm,0.7s						
MIAR	**Mount Ida**	**3.55**	**114**	P	**Pn**	**12 07 09.5**	**+0.7**
	baz=296,SNR=70						
MIAR				S	**Sn**	**12 07 52.7**	**+1.9**
	baz=296						
MIAR	**Mount Ida**	**3.55**	**114**	P		12 07 10.3	
	baz=296						
MIAR	**Mount Ida**	**3.55**	**114**	P		12 07 09.5	
	baz=296,SNR=70						
MIAR				S		12 07 52.7	
	baz=296						
AMTX	**Amarillo**	**3.62**	**252**		**Pn**	**12 07 10.4**	**+0.5**
AMTX				IAmb_Lg		12 08 14.5	
	comp=Z,65nm,0.8s						
S39A	**Bolivar**	**3.71**	**63**		**Pn**	**12 07 12.0**	**+1.0**
S39A	**Bolivar**	**3.71**	**63**	P	**Pn**	**12 07 11.8**	**+0.9**
	baz=246,SNR=40						
S39A	**Bolivar**	**3.71**	**63**	P		12 07 11.8	
	baz=246,SNR=40						
U40A	**Yellville**	**3.76**	**84**	Pn	**Pn**	**12 07 11.7**	**0.0**
U40A	**Yellville**	**3.76**	**84**	P	**Pn**	**12 07 11.5**	**-0.1**
	baz=267,SNR=23						
U40A	**Yellville**	**3.76**	**84**	P		12 07 11.5	
	baz=267,SNR=23						
U40A				P		12 07 11.5	
	baz=267,SNR=23						
ABTX	**Abilene, Hawle**	**3.88**	**208**	Pn	**Pn**	**12 07 13.1**	**-0.3**
ABTX				IAmb_Lg		12 08 16.2	
	comp=Z,55nm,0.8s						
ABTX	**Abilene, Hawle**	**3.88**	**208**	P	**Pn**	**12 07 13.1**	**-0.3**
	baz=26						
ABTX	**Abilene, Hawle**	**3.88**	**208**	P		12 07 13.1	
	baz=26						
WHTX	**Lake Whitney,**	**4.08**	**180**	Pn	**Pn**	**12 07 16.7**	**+0.7**
WHTX	**Lake Whitney,**	**4.08**	**180**	P	**Pn**	**12 07 15.9**	**-0.1**
	baz=359						
WHTX	**Lake Whitney,**	**4.08**	**180**	P		12 07 16.0	
	baz=359						
WHTX	**Lake Whitney,**	**4.08**	**180**	P		12 07 15.9	
	baz=359						
X40A	**Basin Creek Fa**	**4.13**	**111**	Pn	**Pn**	**12 07 18.2**	**+1.5**
X40A				IAmb_Lg		12 08 29.5	
	comp=Z,100nm,0.7s						
X40A	**Basin Creek Fa**	**4.13**	**111**	P		12 07 18.2	
	baz=294						
237A	**Washetta, Mont**	**4.30**	**161**		**Pn**	**12 07 18.6**	**-0.5**
237A	**Washetta, Mont**	**4.30**	**161**	P	**Pn**	**12 07 18.6**	**-0.5**
	baz=341,SNR=9.7						
237A	**Washetta, Mont**	**4.30**	**161**	P		12 07 18.6	
	baz=341,SNR=9.7						
WLAR	**White Oak Lake**	**4.32**	**122**		**Pn**	**12 07 19.7**	**+0.4**
MGMO	**Mountain Grove**	**4.33**	**74**		**Pn**	**12 07 20.1**	**+0.5**
MGMO				IAmb_Lg		12 08 35.1	
	comp=Z,62nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.36**	**91**	Pn	**Pn**	**12 07 20.0**	**+0.2**
FCAR				IAmb_Lg		12 08 40.3	
	comp=Z,42nm,0.9s						
W41B	**Gary Mavity, V**	**4.37**	**100**	P	**Pn**	**12 07 20.5**	**+0.6**
	baz=283,SNR=27						
W41B	**Gary Mavity, V**	**4.37**	**100**	P		12 07 20.5	
	baz=283						
W41B				S		12 08 11.4	
	baz=283						
W41B	**Gary Mavity, V**	**4.37**	**100**	P		12 07 20.5	
	baz=283,SNR=27						
N33B	**J Bar K, Exete**	**4.65**	**0**	P	**Pn**	**12 07 24.2**	**+0.3**
	baz=181						
N33B	**J Bar K, Exete**	**4.65**	**0**	P		12 07 24.2	
	baz=181						
R40A	**Maddies Statio**	**4.72**	**61**	P	**Pn**	**12 07 25.3**	**+0.5**
	baz=244,SNR=25						
R40A	**Maddies Statio**	**4.72**	**61**	P		12 07 25.3	
	baz=244,SNR=25						
P38A	**Dawn**	**4.72**	**40**	Pn	**Pn**	**12 07 25.7**	**+0.8**
P38A				IAmb_Lg		12 08 46.1	
	comp=Z,46nm,0.8s						
MSTX	**Muleshoe**	**4.82**	**246**	Pn	**Pn**	**12 07 26.0**	**-0.3**
MSTX	**Muleshoe**	**4.82**	**246**	P	**Pn**	**12 07 26.0**	**-0.3**
	baz=62,SNR=12						
MSTX	**Muleshoe**	**4.82**	**246**	P		12 07 26.4	
	baz=62						
MSTX	**Muleshoe**	**4.82**	**246**	P		12 07 26.0	
	baz=62,SNR=12						
N35A	**Tabor**	**4.99**	**16**	Pn	**Pn**	**12 07 30.2**	**+1.7**
KSCO	**Kaye Shedlock'**	**5.02**	**307**	Pn	**Pn**	**12 07 29.7**	**+0.6**
LCAR	**Lake Charles**	**5.13**	**88**	Pn	**Pn**	**12 07 30.6**	**+0.1**
LCAR				IAmb_Lg		12 08 53.9	
	comp=Z,35nm,0.7s						
CCAR	**Cane Creek**	**5.17**	**113**	IAmb_Lg		12 09 07.7	
	comp=Z,91nm,0.8s						
T42A	**Van Buren**	**5.24**	**78**	Pn	**Pn**	**12 07 31.9**	**0.0**
T42A				IAmb_Lg		12 09 00.7	
	comp=Z,43nm,0.7s						
435B	**Jarrell**	**5.28**	**181**	IAmb_Lg		12 09 07.7	
	comp=Z,53nm,0.7s						
BGNE	**Belgrade**	**5.34**	**355**	Pn	**Pn**	**12 07 33.5**	**0.0**
BGNE				IAmb_Lg		12 09 12.6	
	comp=Z,60nm,0.7s						
BGNE	**Belgrade**	**5.34**	**355**	P	**Pn**	**12 07 33.2**	**-0.3**
	baz=175,SNR=12						
BGNE	**Belgrade**	**5.34**	**355**	P		12 07 33.2	
	baz=175						
BGNE	**Belgrade**	**5.34**	**355**	P		12 07 33.2	
	baz=175,SNR=12						
CCM	**Cathedral Cave**	**5.37**	**67**	Pn	**Pn**	**12 07 33.6**	**-0.2**
P40A	**Paris**	**5.51**	**50**	Pn	**Pn**	**12 07 36.1**	**+0.4**
P40A				IAmb_Lg		12 09 12.3	
	comp=Z,53nm,0.7s						
JCT	**Junction City**	**5.91**	**200**	IAmb_Lg		12 09 31.4	
	comp=Z,70nm,0.8s						
OGNE	**Ogallala**	**6.02**	**325**	Pn	**Pn**	**12 07 43.7**	**+0.9**
OGNE				IAmb_Lg		12 09 33.6	
	comp=Z,48nm,0.8s						
OGNE	**Ogallala**	**6.02**	**325**	P	**Pn**	**12 07 44.1**	**+1.3**
	baz=143,SNR=6.8						
OGNE	**Ogallala**	**6.02**	**325**	P		12 07 44.1	
	baz=143,SNR=6.8						
SLM	**Saint Louis**	**6.32**	**64**	IAmb_Lg		12 09 32.0	
	comp=Z,45nm,0.7s						
OXF	**Oxford**	**6.79**	**101**	Pn	**Pn**	**12 07 52.5**	**-0.8**
S44A	**Carbondale**	**6.79**	**74**	Pn	**Pn**	**12 07 53.4**	**+0.1**
S44A				IAmb_Lg		12 09 50.5	
	comp=Z,52nm,0.8s						
SIUC	**Southern Illin**	**6.83**	**74**	Pn	**Pn**	**12 07 53.0**	**-0.7**
SIUC				IAmb_Lg		12 10 03.0	
	comp=Z,50nm,0.8s						
T45A	**Paducah**	**7.18**	**80**	IAmb_Lg		12 10 12.8	
	comp=Z,55nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.24**	**58**	Pn	**Pn**	**12 07 59.6**	**+0.2**
Q44A	**Meyer Farm, Va**	**7.30**	**65**	Pn	**Pn**	**12 08 01.3**	**+1.1**
Q44A				IAmb_Lg		12 10 08.9	
	comp=Z,44nm,1.1s						
ANMO	**Albuquerque**	**7.40**	**264**	Pg	**Pb**	**12 08 26.8**	**+4.7**
	comp=Z,0.6nm,0.3s,baz=86,slow=18,SNR=9.9						
ANMO				Lg	Lg	12 10 04.1	
	comp=Z,2.0nm,0.3s,baz=14,slow=14,SNR=7.5						
ISCO	**Idaho Springs**	**7.42**	**302**	Pn	**Pn**	**12 08 02.1**	**0.0**
ECSD	**EROS Data Cent**	**7.67**	**5**	Pn	**Pn**	**12 08 04.7**	**-0.7**
L40A	**Anamosa**	**7.71**	**37**	IAmb_Lg		12 10 25.4	
	comp=Z,28nm,0.9s						
HDIL	**Hopedale**	**7.84**	**53**	Pn	**Pn**	**12 08 08.2**	**+0.6**
HDIL				IAmb_Lg		12 10 31.2	
	comp=Z,51nm,0.8s						
MNTX	**Cornudas Mount**	**7.88**	**239**	Pn	**Pn**	**12 08 08.1**	**-0.3**
MNTX	**Cornudas Mount**	**7.88**	**239**	P	**Pn**	**12 08 08.4**	**+0.1**
	baz=54,SNR=6.5						
MNTX	**Cornudas Mount**	**7.88**	**239**	P		12 08 08.4	
	baz=54,SNR=6.5						
Y22D	**IRIS PASSCAL I**	**7.99**	**258**	IAmb_Lg		12 10 47.5	
	comp=Z,33nm,0.9s						
PHWY	**Pilot Hill**	**8.12**	**312**		**Pn**	**12 08 11.9**	**+0.1**
346A	**Big Creek Wild**	**8.16**	**123**	IAmb_Lg		12 10 55.4	
	comp=Z,12nm,0.7s						
O44A	**Mansfield**	**8.19**	**58**	IAmb_Lg		12 10 34.8	
	comp=Z,28nm,0.8s						
TX32	**Lajitas Array**	**8.50**	**219**	Pn	**Pn**	**12 08 17.4**	**+0.5**
TXAR	**Lajitas Array**	**8.50**	**219**	Pn	**Pn**	**12 08 15.0**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=32,slow=11,SNR=15						
TXAR				Pg	Pg	12 08 41.7	-14
	comp=Z,0.9nm,0.3s,baz=41,slow=18,SNR=9.3						
TXAR				Lg	Lg	12 10 38.6	
	comp=Z,1.6nm,0.3s,baz=59,slow=24,SNR=4.1						
TXAR	**Lajitas Array**	**8.50**	**219**		**Pn**	**12 08 15.4**	**-1.6**
I37A	**Lemond, Waseca**	**8.52**	**20**	IAmb_Lg		12 10 58.5	
	comp=Z,35nm,0.7s						
JFWS	**Jewell Farm**	**8.82**	**37**	IAmb_Lg		12 11 06.5	
	comp=Z,26nm,0.7s						
SFIN	**Lafayette**	**9.23**	**59**	IAmb_Lg		12 11 20.7	
	comp=Z,19nm,0.7s						
K22A	**Casper**	**9.59**	**316**	IAmb_Lg		12 11 37.5	
	comp=Z,30nm,1.3s						
K43A	**Burlington**	**9.69**	**44**	IAmb_Lg		12 11 37.7	
	comp=Z,36nm,0.7s						
PDAR	**Pinedale Array**	**11.47**	**309**	Pn	**Pn**	**12 08 56.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=129,slow=14,SNR=8.1						
PDAR				Pg		12 09 40.9	
	comp=Z,0.2nm,0.3s,baz=109,slow=16,SNR=2.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PDAR				Lg	Lg	12 12 10.4	
	comp=Z,0.2nm,0.3s,baz=109,slow=35,SNR=2.1						
ULM	Lac du Bonnet	14.21	4	Pn	Pn	12 09 23.8	-11
	comp=Z,0.1nm,0.3s,baz=186,slow=12,SNR=1.6						
ULM				Sn	Sn	12 11 55.0	-18
	comp=Z,0.0nm,0.3s,baz=176,slow=22,SNR=1.0						
ULM				Lg	Lg	12 13 27.4	
	comp=Z,0.0nm,0.3s,baz=167,slow=16,SNR=1.4						

WEL 03 12:22:37.5±0.9**,46°S**±4°×**16°7E**±°**,h5km,M3.5**/12**, ML3.6**/12**,MLv3.5**/12**,Error ellipse: s-maj=0.0km s-min=0.0km az=108.5,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.34	82	P	Pb	12 22 45.0	-0.9
DCZ				S	Sg	12 22 49.5	+1.0
PYZ	Puysegur Point	0.65	180	P	Pg	12 22 50.1	+0.1
PYZ				S	Sg	12 22 58.6	0.0
WHZ	Wether Hill Ro	0.96	114	P	Pg	12 22 55.6	-0.4
MLZ	Mavora Lakes	1.02	82	P	Pg	12 22 56.4	-0.8
MSZ	Milford Sound	1.22	47	P	Pg	12 22 58.1	-2.8
MSZ				S	Sn	12 23 18.3	+0.3
APZ	The Paps	1.60	146	P	Pn	12 23 06.2	-0.3
APZ				S	Sg	12 23 29.4	+0.4
WKZ	Wanaka	1.79	68	P	Pn	12 23 08.4	-0.7
EAZ	Earnscleugh	1.87	82	P	Pn	12 23 09.8	-0.4
EAZ				S	Sn	12 23 33.5	-0.8
SYZ	Scrubby Hill	2.00	122	P	Pn	12 23 12.6	+0.8
SYZ				S	Sn	12 23 37.6	+0.4
JCZ	Jackson Bay	2.08	47	P	Pn	12 23 13.9	+0.8
JCZ				S	Sb	12 23 42.0	+0.1
TUZ	Tuapeka	2.11	103	P	Pn	12 23 14.3	+0.9
LBZ	Lake Benmore	2.73	67	P	Pn	12 23 22.7	+0.7
HHSZ	Highcliff Hill	2.77	99	P	Pn	12 23 23.7	+1.2
ODZ	Otahua Downs	2.84	82	P	Pn	12 23 21.9	-1.5
FOZ	Fox Glacier	2.99	50	P	Pn	12 23 25.7	+0.2
TMZ	Timaru	3.27	71	P	Pn	12 23 29.1	-0.4
ARCZ	Arundel	3.57	66	P	Pn	12 23 33.7	+0.2
RPZ	Rata Peaks	3.60	62	P	Pn	12 23 32.9	-1.1
WVZ	Waitaha Valley	3.80	51	P	Pn	12 23 35.0	-1.7
WACZ	Wakanui South	4.00	69	P	Pn	12 23 39.5	+0.1
OXZ	Oxford	4.42	62	P	Pn	12 23 44.6	-0.6
MQZ	McQueen's Vall	4.63	69	P	Pn	12 23 47.5	-0.6
LTZ	Lake Taylor	4.86	58	P	Pn	12 23 51.3	0.0
OKCZ	Okains Bay	4.89	71	P	Pn	12 23 52.0	+0.3
DSZ	Denniston Nort	5.29	46	P	Pn	12 23 57.2	0.0
THZ	Tophouse	5.87	52	P	Pn	12 24 06.9	+1.7
QRZ	Quartz Range	6.34	44	P	Pn	12 24 11.5	-0.1

IDC 03 12:23:33.9±999.0**,50°.13N**×**56°.39E,h0km,Error ellipse: s-maj=2003.0km s-min=24.5km az=75.0,Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	1.09	75	*i*		12 29 20.0	
	baz=256,slow=325,SNR=4.8						
I46RU	ZALESOVO INFRA	17.85	67	*i*		14 12 00.0	
	baz=269,slow=330,SNR=3.3						
I34MN	SONGINO INFRAS	32.43	74	*i*		15 45 20.0	
	baz=290,slow=334,SNR=0.5						

*IDC **03** 12:28:33.4±2.0, 16°.75S×173°.80W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/32, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=119.4km s-min=19.5km az=144.0*

*NEIC **03** 12:28:35.1±1.3, 16°.72S±0°.04×173°.9W±0°.1, h10km±1km, mb4.6/7, Error ellipse: s-maj=22.2km s-min=5.7km az=264.0*

*NOU **03** 12:29:16.6, 14°.20S×172°.17W, h22km, MLv2.8, Samoa Islands*

ISC 03 12:28:34.8±0.7**,16°.65S**±0°.08×**173°.7W**±0°.1**,h10km,n18,** σ**1s50**/19**,mb4.0**/11**,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.29	34	Pn	Pn	12 29 27.4	+0.9
	8.2nm,0.3s,baz=225,slow=4.5,SNR=20						
AFI				Sn	Sn	12 30 01.8	-4.0
	54nm,0.3s,baz=40,slow=22,SNR=16						
AFI	Afiamalu	3.29	34	P	Pn	12 29 27.4	+0.9
NIUE	Niue	4.32	125	Pn	Pn	12 29 40.3	-0.4
URZ	Urewera	23.00	199	P	P	12 33 39.9	+0.1
URZ				IAmb	IAmb	12 34 22.1	
	comp=Z,12nm,1.0s						
STKA	Stephens Creek	43.18	241	P	P	12 36 35.0	-1.1
	comp=Z,1.1nm,0.5s,baz=49,slow=9.3,SNR=5.2						
STKA	Stephens Creek	43.18	241	P	P	12 36 35.1	-1.0
WB0	Warramunga Arr	49.26	258	P	P	12 37 23.1	-1.0
WB0				IAmb	IAmb	12 39 06.3	
	comp=Z,18nm,1.8s						
WB2	Warramunga Arr	49.29	258	P	P	12 37 22.8	-1.5
WB2				IAmb	IAmb	12 38 48.4	
	comp=Z,18nm,1.6s						
WRA	Warramunga Arr	49.30	258	P	P	12 37 23.6	-0.8
	comp=Z,0.2nm,0.4s,baz=96,slow=7.0,SNR=11						
AS31	Alice Springs	49.47	253	P	P	12 37 25.0	-0.7
AS31				IAmb	IAmb	12 37 25.5	
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	49.47	253	P	P	12 37 24.6	-1.1
	comp=Z,3.4nm,0.5s,baz=88,slow=8.3,SNR=98						
ASAR	Alice Springs	49.47	253	P	P	12 37 24.3	-1.4
VNDA	Vanda	62.12	186	P	P	12 38 56.8	+1.3
QSPA	South Pole Qui	73.41	180	P	P	12 40 07.2	+0.1
QSPA				IAmb	IAmb	12 41 10.5	
	comp=Z,26nm,1.9s						
NVAR	Mina Array Bea	75.44	42	P	P	12 40 20.7	+1.3
	comp=Z,0.4nm,0.7s,baz=240,slow=7.2,SNR=5.1						
NVAR	Mina Array Bea	75.44	42	P	P	12 40 21.2	+1.8
PDAR	Pinedale Array	83.38	42	P	P	12 41 03.4	+0.8
	comp=Z,0.9nm,0.8s,baz=205,slow=3.1,SNR=7.8						
ILAR	Eielson Array	83.72	11	P	P	12 41 04.8	+1.2
	comp=Z,0.4nm,0.8s,baz=210,slow=5.9,SNR=4.8						

*MOS **03** 12:45:15.5±1.0, 20°.09S×69°.03W, h83km, mb5.2/31, Error ellipse: s-maj=12.1km s-min=6.6km az=108.9*

*NEIC **03** 12:45:17.7, 20°.36S×69°.02W, h103km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr-4.25; Mθθ-1.16; Mφφ5.41; Mrθ2.55; Mθφ0.38; Mφr-2.95; Fault plane solution: M0 6.30000×10^16 NP1:φs208.61000°, δ35.85000°, λ-44.93000°. NP2:φs337.57000°, δ65.57000°, λ-117.10000°. Principal axes: T 6.2540, Plg16.0000°, Azm87.0000°; N 0.0899, Plg24.0000°, Azm350.0000°; P -6.3439, Plg60.0000°, Azm208.0000°;*

*VAO **03** 12:45:18.2±0.3, 20°.26S×68°.90W, h98km±2km, mb5.5*

*SJA **03** 12:45:18.4±0.7, 20°.35S×69°.21W, h110km±3km, ML5.2, MW4.9*

*NEIC **03** 12:45:18.6±2.5, 20°.36S±0°.04×69°.18W±0°.05, h108km±3km, Error ellipse: s-maj=7.2km s-min=5.0km az=72.0*

*IDC **03** 12:45:19.1±0.3, 20°.28S×69°.00W, h105km±2km, mb4.7/16, mb1 4.8/21, mb1mx4.7/31, mbtmp5.1/21, MS4.1/4, Ms1 4.1/4, ms1mx3.7/23, Error ellipse: s-maj=12.9km s-min=7.4km az=83.0*

*GUC **03** 12:45:19.5±0.6, 20°.36S×69°.15W, h107km±2km, ML5.2, MW5.1*

*NEIC **03** 12:45:21, 20°.26S×69°.24W, h100km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr-5.80; Mθθ-0.45; Mφφ6.25; Mrθ1.65; Mθφ-0.09; Mφr-3.50; Fault plane solution: M0 7.17000×10^16 NP1:φs193.00000°, δ31.00000°, λ-66.00000°. NP2:φs346.00000°, δ61.00000°, λ-103.00000°. Principal axes: T 7.2261, Plg15.0000°, Azm86.0000°; N -0.1103, Plg12.0000°, Azm353.0000°; P -7.1157, Plg70.0000°, Azm227.0000°;*

*GCMT **03** 12:45:22.0±0.2, 20°.16S±0°.02×69°.33W±0°.02, h116km±3km, MW5.2/109, Moment Tensor Solution. s30,c35; s109,c154; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.34±.21; Mθθ1.13±.23; Mφφ4.20±.30; Mrθ0.39±.16; Mθφ-1.86±.23; Mφr-4.84±.20; Best double couple: M0 7.10900×10^16 NP1:φs144.00000°, δ25.00000°, λ-112.00000°. NP2:φs348.00000°, δ67.00000°, λ-80.00000°. Principal axes: T 6.8370, Plg21.0000°, Azm71.0000°; N 0.5340, Plg9.0000°, Azm164.0000°; P -7.3810, Plg67.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 12:45:18.1±0.3**,20°.36S**±0°.03×**69°.17W**±0°.04**,h105km**±2km**, h105km:pP-P,n725,**σ**2s01**/700**,mb5.3**/235**,29C-6D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.22	3	⇓*i*P	Pn	12 45 34.8	+1.4
PB08				*i* S	Sn	12 45 46.7	+1.9
PB08				IAML		12 45 47.8	
	comp=E,192μm,0.2s						
PB08	IPOC Station P	0.22	3		Pn	12 45 34.9	+1.4
PB08	IPOC Station P	0.22	3	*e*P	Pn	12 45 34.8	+1.4
PB08				*e*S	Sn	12 45 47.0	+2.2
PB08				IAML		12 45 50.4	
	comp=Z,71μm,0.5s						
HMBC	Humberstone	0.68	277	⇑*i*P	Pn	12 45 37.0	+1.1
HMBC				*i* S	Sn	12 45 50.8	+1.6
HMBC				IAML		12 45 52.8	
	comp=E,150μm,0.6s						
PB01	IPOC Station P	0.74	204	⇑*i*P	Pn	12 45 37.7	+1.3
PB01				*i* S	Sn	12 45 51.9	+1.7
PB01				IAML		12 45 53.3	
	comp=N,152μm,0.4s						
PB01	IPOC Station P	0.74	204		Pn	12 45 37.8	+1.4
PB01				Sn	Sn	12 45 51.9	+1.7
PB01	IPOC Station P	0.74	204	*e*P	Pn	12 45 37.7	+1.3
PB01				*e*S	Sn	12 45 52.7	+2.5
PB01				IAML		12 45 54.6	
	comp=Z,51μm,0.5s						
TA02	Huaiquique	0.91	275	⇑*i*P	Pn	12 45 39.1	+1.2
TA02				*i* S	Sn	12 45 54.6	+1.8
TA02				IAML		12 45 57.0	
	comp=E,107μm,0.1s						
TA01	Diego Aracena	0.97	258	⇑*i*P	Pn	12 45 39.5	+1.0
TA01				*i* S	Sn	12 45 55.3	+1.3
TA01	Diego Aracena	0.97	258		Pn	12 45 39.5	+1.0
TA01				Sn	Sn	12 45 55.0	+1.0
PSGC	Pisagua	1.18	310	⇑*i*P	Pn	12 45 41.7	+0.8
PSGC				*i* S	Sn	12 45 58.6	+0.5
PSGC				IAML		12 46 02.3	
	comp=E,53μm,0.6s						
PSGCX	Pisagua	1.18	310		Pn	12 45 41.8	+0.9
PSGCX				Sn	Sn	12 45 58.6	+0.5
PSGCX	Pisagua	1.18	310	*e*P	Pn	12 45 41.7	+0.8
PSGCX				*e*P	Pn	12 45 41.7	+0.8
PSGCX				*e*P	Pn	12 45 41.7	+0.8
MNMC	Minye Minye	1.29	342	⇑*i*P	Pn	12 45 43.9	+1.5
MNMC				*i* S	Sn	12 46 02.9	+2.3
MNMC	Minye Minye	1.29	342		Pn	12 45 44.0	+1.6
MNMCX	Minye Minye	1.29	342	*e*P	Pn	12 45 43.8	+1.5
MNMCX				*e*P	Pn	12 45 43.9	+1.5
PB09	IPOC Station P	1.43	183	⇑*i*P	Pn	12 45 45.5	+1.5
PB09				*i* S	Sn	12 46 05.6	+2.1
PB09				IAML		12 46 07.5	
	comp=N,32μm,0.5s						
PB09	IPOC Station P	1.43	183		Pn	12 45 45.4	+1.5
PB09				Sn	Sn	12 46 05.7	+2.1
PB09	IPOC Station P	1.43	183	*e*P	Pn	12 45 45.7	+1.7
PB09				*e*S	Sn	12 46 05.6	+2.1
PB09				IAML		12 46 07.0	
	comp=Z,26μm,0.6s						
PB07	IPOC Station P	1.52	206	⇑*i*P	Pn	12 45 46.1	+1.1
PB07				*i* S	Sn	12 46 06.1	+0.7
PB07				IAML		12 46 10.0	
	comp=N,30μm,0.5s						
PB07	IPOC Station P	1.52	206		Pn	12 45 46.1	+1.1
PB07				Sn	Sn	12 46 05.5	+0.1
PB07	IPOC Station P	1.52	206	*e*P	Pn	12 45 46.2	+1.2
PB07				*e*S	Sn	12 46 07.4	+2.0
PB07				IAML		12 46 14.4	
	comp=Z,27μm,0.5s						
PB16	IPOC Station P	2.04	351	⇑*i*P	Pn	12 45 53.9	+1.9
PB16				*i* S	Sn	12 46 19.9	+2.3
PB16				IAML		12 46 23.6	
	comp=E,10μm,0.4s						
PB16	IPOC Station P	2.04	351		Pn	12 45 53.8	+1.9
PB16				Sn	Sn	12 46 17.4	-0.3
PB16	IPOC Station P	2.04	351	*e*P	Pn	12 45 53.8	+1.9
PB16				*e*S	Sn	12 46 20.2	+2.6
PB16				IAML		12 46 22.0	
	comp=Z,8μm,0.8s						
PB04	IPOC Station P	2.17	205	⇑*i*P	Pn	12 45 53.7	+0.6
PB04				IAML		12 46 25.0	
	comp=N,10μm,0.3s						
PB04				IAML		12 46 27.3	
	comp=E,11μm,0.3s						
PB04	IPOC Station P	2.17	205		Pn	12 45 53.8	+0.6
PB04	IPOC Station P	2.17	205	*e*P	Pn	12 45 53.8	+0.6
PB04				*e*S	Sn	12 46 08.0	-12
PB04				IAML		12 46 53.8	
	comp=Z,12μm,0.4s						
LVC	Limon Verde	2.25	174	P	Pn	12 45 56.8	+2.4
	comp=Z,243nm,0.3s,baz=6.1,slow=14,SNR=758						
LVC				S	Sn	12 46 24.3	+2.1
	comp=Z,907nm,0.3s,baz=309,slow=12,SNR=5.6						
LVC				LR	LR	12 47 19.6	
	comp=Z,2μm,19.7s,baz=342,slow=52						
LVC	Limon Verde	2.25	174	*e*P	Pn	12 45 56.2	+1.8
LVC				*i* S	Sn	12 46 24.1	+1.9
LVC	Limon Verde	2.25	174	P	Pn	12 45 56.3	+1.8
LVC	Limon Verde	2.25	174		Pn	12 45 56.3	+1.8
LVC	Limon Verde	2.25	174	*e*P	Pn	12 45 56.2	+1.8
LVC				*e*S	Sn	12 46 24.4	+2.2
LVC	Limon Verde	2.25	174	*e*P	Pn	12 45 56.5	+2.0
LVC				*e*S	Sn	12 46 26.5	+4.3
AP01	Chacalluta	2.27	331	⇑*i*P	Pn	12 45 54.8	+0.5
AP01	Chacalluta	2.27	331		Pn	12 45 54.7	+0.5
PB06	IPOC Station P	2.37	189	⇑*i*P	Pn	12 45 56.3	+0.6
PB06				*i* S	Sn	12 46 24.3	-0.3
PB06				IAML		12 46 25.7	
	comp=E,11μm,0.5s						
PB06	IPOC Station P	2.37	189		Pn	12 45 56.4	+0.6
PB06	IPOC Station P	2.37	189	*e*P	Pn	12 45 56.5	+0.8
PB06				*e*S	Sn	12 46 24.6	+0.1
PB06				IAML		12 46 57.0	
	comp=Z,11μm,1.1s						
PB05	IPOC Station P	2.66	201	⇑*i*P	Pn	12 45 59.7	+0.1
PB05				*e*S	Sn	12 46 29.7	-1.7
PB05	IPOC Station P	2.66	201	*e*P	Pn	12 45 59.8	+0.3
PB05				*e*S	Sn	12 46 30.9	-0.6
PB05				IAML		12 46 32.2	
	comp=Z,6μm,0.5s						
PB15	IPOC Station P	2.85	186	⇑*i*P	Pn	12 46 02.9	+0.8
PB15	IPOC Station P	2.85	186		Pn	12 46 03.0	+0.9
PB15	IPOC Station P	2.85	186	*e*P	Pn	12 46 03.2	+1.1
PB15				*e*S	Sn	12 46 38.4	+2.4
PB15				IAML		12 46 47.8	
	comp=Z,17μm,0.2s						
PB10	IPOC Station P	3.39	202	⇑*e*P	Pn	12 46 08.3	-0.8
PB10				IAML		12 47 04.5	
	comp=N,2μm,0.6s						
PB10	IPOC Station P	3.39	202		Pn	12 46 07.8	-1.4
PB10	IPOC Station P	3.39	202	*e*P	Pn	12 46 08.8	-0.4
PB10				*e*S	Sn	12 46 45.7	-3.0
PB10				IAML		12 47 04.1	
	comp=Z,2μm,0.6s						
YJA	Yavi	3.86	119	*e*P	Pn	12 46 18.8	+3.0
YJA				*e*S	Sn	12 47 05.5	+5.1
LPAZ	La Paz	4.17	14	P	Pn	12 46 22.9	+2.7
	comp=Z,35nm,0.3s,baz=196,slow=4.5,SNR=539						
LPAZ	La Paz	4.17	14	⇑*e*P	Pn	12 46 22.8	+2.7
LPAZ	La Paz	4.17	14	*e*P	Pn	12 46 22.9	+2.7
PB14	IPOC Station P	4.40	195	⇑*e*P	Pn	12 46 21.6	-1.4
PB14	IPOC Station P	4.40	195	Pn	Pn	12 46 21.5	-1.4
PB14	IPOC Station P	4.40	195	*e*P	Pn	12 46 21.7	-1.3
PB14				IAML		12 48 07.6	
	comp=Z,2μm,0.7s						
GO02	Mina Guanaco	4.80	185	⇑*i*P	Pn	12 46 27.4	-1.0
GO02	Mina Guanaco	4.80	185	Pn	Pn	12 46 27.9	-0.4
SLA	San Lorenzo	5.50	143	⇑*i*P	Pn	12 46 39.5	+1.7
SLA	San Lorenzo	5.50	143	*e*P	Pn	12 46 39.8	+2.0
AC01	Pan de Azucar	5.91	193	Pn	Pn	12 46 41.0	-2.2
AC02	Maricunga	6.45	180		Pn	12 46 50.4	-0.5
GO03	Copiap	7.27	188	Pn	Pn	12 46 58.8	-2.8
AC04	Llanos de Chal	8.00	192		Pn	12 47 07.0	-4.6
VCA	Vinchina	8.39	174	*e*P	Pn	12 47 17.2	+0.3
VCA				*e*S	Sn	12 48 49.0	-1.0
AC05	El Transito	8.50	187		Pn	12 47 15.8	-2.7
LCO	Las Campanas	8.73	189	P	Pn	12 47 17.6	-4.0
LCO	Las Campanas	8.73	189	Pn	Pn	12 47 17.6	-4.0
SIV	San Ignacio	8.84	62	P	Pn	12 47 20.7	-2.3
	comp=Z,64nm,0.3s,baz=259,slow=11,SNR=654						
CO01	Juntas del Tor	9.61	185		Pn	12 47 31.4	-2.3
GO04	Tololo Observa	9.88	188	Pn	Pn	12 47 33.1	-4.3
CO03	El Pedregal	10.53	187		Pn	12 47 41.4	-4.5
PTLB	Pontes e Lacer	10.72	65	*e*P	Pn	12 47 45.4	-3.2
ETMB	Extrema	10.86	16	*e*P	Pn	12 47 49.0	-1.5
CO02	Combarbal	10.93	188		Pn	12 47 46.5	-4.8
NNA	Nana	11.12	317	P	Pn	12 47 53.9	0.0
	comp=Z,2.1nm,0.3s,baz=176,slow=17,SNR=8.3						
NNA				S	Sn	12 49 53.7	-2.7
	comp=Z,4.7nm,0.3s,baz=213,slow=5.6,SNR=2.5						
NNA				LR	LR	12 52 21.3	
	comp=Z,622nm,19.4s,baz=270,slow=38						
NNA	Nana	11.12	317	*i* P	Pn	12 47 51.7	-2.3
NNA	Nana	11.12	317	Pn	Pn	12 47 52.7	-1.3
ZON	Zonda	11.15	178	P	Pn	12 47 53.0	-1.3
ZON	Zonda	11.15	178		Pn	12 47 53.0	-1.3
VILB	Vilhena	11.31	51	*e*P	Pn	12 47 53.4	-3.2
CPUP	Villa Florida	12.39	121	P	Pn	12 48 09.0	-1.8
	comp=Z,3.9nm,0.3s,baz=299,slow=12,SNR=136						
CPUP	Villa Florida	12.39	121		Pn	12 48 07.4	-3.3
CPUP	Villa Florida	12.39	121	*e*P	Pn	12 48 07.7	-3.1
VA03	San Esteban	12.42	185		Pn	12 48 11.5	+0.3
AQDB	Aquidauana	12.63	93	*e*P	Pn	12 48 10.7	-3.3
SAML	Samuel	12.73	28	P	Pn	12 48 12.0	-3.4
SAML	Samuel	12.73	28		Pn	12 48 12.0	-3.4
PEL	Peldehue	12.81	186	P	Pn	12 48 14.1	-2.2
PEL	Peldehue	12.81	186		Pn	12 48 14.1	-2.2
MT02	Curacav	12.97	187		Pn	12 48 17.7	-0.7
MT05	Renca	13.06	186		Pn	12 48 20.2	+0.6
PP1B	Ponte de Pedra	13.79	81	*e*P	Pn	12 48 25.2	-4.0
BO02	Sierra Bellavi	14.45	185		Pn	12 48 38.1	+0.5
ITQB	Itaqui	14.66	132	*e*P	Pn	12 48 38.2	-2.1
TRCB	Terra Rica	15.57	102	*e*P	Pn	12 48 50.8	-1.1
VA04	Juan Fernndez	15.77	211	Pn	Pn	12 48 53.4	-0.9
ATAH	Atahualpa	15.90	324	P	P	12 48 58.7	+0.7
	comp=Z,0.3nm,0.3s,baz=141,slow=14,SNR=7.4						
CLDB	Colider	15.95	56	*e*P	Pn	12 48 54.1	-2.5
BI02	San Fabin de	16.35	186		Pn	12 49 00.8	-0.7
PTGB	Pitanga	16.38	109	*e*P	Pn	12 49 00.5	-1.5
BI03	Tigo	16.77	191	P	Pn	12 49 05.8	-0.7
BI03				IAmb	IAmb	12 49 11.0	
	comp=Z,111nm,0.7s						
PCMB	Pacaembu	16.77	97	*e*P	Pn	12 49 04.6	-2.1
ITAB	Concordia	17.02	117	*e*P	Pn	12 49 08.5	-1.2
ARAG	Araguaiana, MT	17.14	77	*e*P	Pn	12 49 09.0	-2.2
CPSB	Cacapava Do Su	17.36	128	*e*P	P	12 49 11.8	-1.8
ITRB	Iturama	17.69	91	*e*P	P	12 49 16.3	-1.0
PLTB	Pedras Altas	17.99	132	*e*P	P	12 49 17.8	-2.7
FRTB	Fartura	18.44	103	*e*P	P	12 49 24.4	-1.2
NPGB	Novo Progresso	18.82	47	*e*P	P	12 49 26.4	-3.4
CNLB	Canela	18.84	122	*e*P	P	12 49 27.9	-2.0
MACA	Manacapuru-AM	18.99	27	*e*P	P	12 49 30.1	-1.5
SNDB	Serra Nova Dou	19.07	67	*e*P	P	12 49 30.7	-1.8
TIJ01	Guaruva-PR	19.22	109	*e*P	P	12 49 33.2	-0.9
BB19B	Bebedouro	19.32	96	*e*P	P	12 49 33.2	-2.0
IPMB	Ipameri, GO	19.93	87	*e*P	P	12 49 39.7	-2.2
TER01	Tubaro-SC	19.96	118	*e*P	P	12 49 39.7	-2.3
PLCA	Paso Flores	20.34	183	P	P	12 49 47.4	+1.2
	comp=Z,193nm,0.9s,baz=6.9,slow=12,SNR=245						
PLCA				PcP	PcP	12 53 56.0	+0.9
	comp=Z,6.3nm,0.8s,baz=60,slow=1.9,SNR=4.1						
PLCA	Paso Flores	20.34	183	*e*P	P	12 49 46.4	+0.3
PLCA	Paso Flores	20.34	183	P	P	12 49 46.4	+0.3
PLCA					PcP	12 53 56.6	+1.5
PLCA	Paso Flores	20.34	183	*e*P	P	12 49 46.7	+0.6
SPB	Sao Paulo	20.41	103	P	P	12 49 45.3	-1.6
SPB				IAmb	IAmb	12 49 47.1	
	comp=Z,130nm,0.8s						
SPB	Sao Paulo	20.41	103	*e*P	P	12 49 45.5	-1.3
ITTB	Itaituba	20.58	41	*e*P	P	12 49 46.7	-2.1
PET01	Itanhaem-SP	20.62	105	*e*P	P	12 49 45.8	-3.4
BDFB	Brasilia	20.65	80	P	P	12 49 47.9	-1.8
	comp=Z,99nm,0.7s,baz=255,slow=12,SNR=54						
BDFB				LR	LR	12 58 55.9	
	comp=Z,997nm,20.4s,baz=287,slow=40						
BDFB	Brasilia	20.65	80	P	P	12 49 47.6	-2.1
BDFB				IAmb	IAmb	12 49 52.8	
	comp=Z,165nm,1.0s						
PTGA	Pitinga	21.48	26	P	P	12 49 56.4	-2.0
	comp=Z,30nm,0.3s,baz=214,slow=14,SNR=75						
PTGA				S	S	12 53 43.3	-7.6
	comp=Z,18nm,0.8s,baz=332,slow=23,SNR=2.8						
PTGA	Pitinga	21.48	26	P	P	12 49 55.9	-2.5
PTGA	Pitinga	21.48	26	*e*P	P	12 49 56.0	-2.5
PEXB	Peixe	21.63	71	*e*P	P	12 49 57.6	-2.5
PARB	Paraibuna	22.05	102	*e*P	P	12 50 02.9	-1.6
LL01	San Ignacio de	22.12	186	P	P	12 50 04.4	-0.6
OTAV	Otavalo	22.40	335	*e*P	P	12 50 09.7	+1.1
FLOC	Florencia	22.71	343	*e*P	P	12 50 12.7	+1.4
BSCB	Bom Sucesso	22.83	96	*e*P	P	12 50 10.1	-2.4
GO07	Milladeo Hill,	23.00	188	P	P	12 50 13.9	+0.1
ESAR	Angra dos Reis	23.12	101	*e*P	P	12 50 13.7	-1.5
MALB	Monte Alegre	23.45	40	*e*P	P	12 50 16.1	-2.2
PRPB	Parauapebas	23.49	56	*e*P	P	12 50 16.3	-2.3
MAN01	Angra dos Reis	23.56	101	*e*P	P	12 50 17.4	-1.9
SMTB	Santa Maria do	23.77	64	*e*P	P	12 50 19.1	-2.1
MARP	Paez Belalcaza	24.00	343	*e*P	P	12 50 24.3	+0.8
VAS01	Vassouras-RJ	24.03	99	*e*P	P	12 50 22.7	-0.9
BOAV	Boa Vista	24.15	22	*e*P	P	12 50 24.4	-0.2
JANB	Januaria	24.25	81	*e*P	P	12 50 23.1	-2.4
SDBA	SAO DESIDERIO	24.56	75	*e*P	P	12 50 26.1	-2.3
ORTC	Ortega, Tolima	24.84	345	*e*P	P	12 50 32.0	+1.1
DUB01	Friburgo-RJ	25.03	99	*e*P	P	12 50 30.5	-2.1
YOTC	Yotoco, Valle	25.20	343	*e*P	P	12 50 34.1	-0.1
CHIC	Chingaza	25.23	349	*e*P	P	12 50 35.5	+0.6
ANIL	Santa Ana	25.44	345	*e*P	P	12 50 36.8	+0.1
TOLC	Tolima	25.52	346	*e*P	P	12 50 37.8	+0.5
ROSC	El Rosal	25.55	348	P	P	12 50 38.5	+0.8
	comp=Z,16nm,0.6s,baz=111,slow=22,SNR=4.7						
ROSC	El Rosal	25.55	348	P	P	12 50 38.1	+0.4
CAM01	Campos-RJ	25.70	98	*e*P	P	12 50 37.5	-1.1
RREF	El Recreo	25.83	346	*e*P	P	12 50 42.2	+1.7
MCPB	Macapa, AP	25.99	42	*e*P	P	12 50 39.5	-1.7
PLMC	San Jos del P	26.06	344	*e*P	P	12 50 42.3	+0.3
GUY2C	Guyana, Caldas	26.14	346	*e*P	P	12 50 44.0	+0.8
NORC	Norcasia	26.36	347	*e*P	P	12 50 44.6	-0.1
RUSC	La Rusia	26.37	351	*e*P	P	12 50 45.9	+0.7
SJMB	Sao Joao De Ma	26.41	91	*e*P	P	12 50 44.5	-0.6
ALF01	Guarapari-ES	26.63	96	*e*P	P	12 50 46.5	-0.6
BSFB	Barra de Sao F	26.71	92	*e*P	P	12 50 47.1	-0.7
CBOC	Ciudad Bolivar	26.91	345	*e*P	P	12 50 50.2	+0.4
RIB01	Linhares ES	27.07	93	*e*P	P	12 50 50.1	-1.0
PTBC	PUERTO BERRIO,	27.23	348	*e*P	P	12 50 50.3	-2.1
TMAB	Tom-Au,PA,Br	27.25	52	*e*P	P	12 50 51.9	-0.7
PAMC	Pamplona, Colo	27.74	352	*e*P	P	12 50 56.9	-0.6
GDU01	Guandu, BA	29.02	82	*e*P	P	12 51 06.3	-2.1
SDV	Santo Domingo	29.10	357	P	P	12 51 08.4	-0.8
	comp=Z,5.3nm,0.5s,baz=216,slow=6.1,SNR=3.1						
SDV	Santo Domingo	29.10	357	P	P	12 51 07.9	-1.3
SDV	Santo Domingo	29.10	357	*e*P	P	12 51 08.5	-0.8
ROSB	Rosrio	29.96	58	*e*P	P	12 51 15.2	-1.5
MDP	Montagnes des	30.06	34	P	P	12 51 16.9	-0.7
	comp=Z,33nm,1.0s,baz=206,slow=9.3,SNR=7.7						
EFI	East Falkland	32.44	167	*ce*P	P	12 51 39.0	+0.9
EFI				pmax	pmax		
	comp=Z,75nm,1.0s						
EFI	East Falkland	32.44	167	P	P	12 51 38.3	+0.2
NBMO	Morrinhos-CE	33.06	63	*e*P	P	12 51 42.5	-1.4
NBMO				*e*pP	pP	12 52 04.0	-4.6
NBLI	Livramento-PB	33.76	72	*e*P	P	12 51 49.6	-0.4
JTS	Las Juntas de	34.19	332	*i* P	P	12 51 53.4	-0.3
JTS				pmax	pmax		
	comp=Z,21nm,0.8s						
JTS	Las Juntas de	34.19	332	P	P	12 51 56.2	+2.6
JTS				IAmb	IAmb	12 51 57.6	
	comp=Z,46nm,1.3s						
NBPA	Parau_RN	34.34	69	*e*P	P	12 51 53.6	-1.4
NBRF	Rio Formoso -	34.86	76	*e*P	P	12 51 59.1	-0.4
RCBR	Riachuelo	35.37	71	P	P	12 52 03.6	-0.4
RCBR				pmax	pmax		
	comp=Z,150nm,0.7s						
RCBR	Riachuelo	35.37	71	P	P	12 52 03.6	-0.4
RCBR	Riachuelo	35.37	71	*e*P	P	12 52 03.5	-0.5
NBPV	Pedro Velho	35.65	72	*e*P	P	12 52 05.5	-0.8
NBPV				*e*pP	pP	12 52 26.7	-4.5
MLPR	Magueyes Islan	38.15	3	P	P	12 52 25.7	-1.6
OBIP	Obispado Ponce	38.25	4	P	P	12 52 26.8	-1.3
PDPR	Patillas Dam,	38.26	5	P	P	12 52 26.7	-1.5
SJG	San Juan	38.35	5	P	P	12 52 26.6	-2.4
SJG				pmax	pmax		
	comp=Z,55nm,0.8s						

SJG **San Juan** **38.35** 5 P **P** **12 52 26.6 -2.4**
SJG IAmb IAmb 12 52 32.7
comp=Z,55nm,0.8s
MTP **Monte Pirata** **38.38** 6 P **P** **12 52 27.6 -1.7**
MTP IAmb IAmb 12 52 55.4
comp=Z,33nm,1.0s
MPR **Mayaguez** **38.38** 3 P **P** **12 52 27.7 -1.6**
MPR IAmb IAmb 12 53 06.6
comp=Z,55nm,0.9s
CBYP **Canovanas** **38.53** 5 P **P** **12 52 28.8 -1.8**
CBYP IAmb IAmb 12 52 56.1
comp=Z,78nm,1.1s
BANI **BANI** **38.53 358** P **P** **12 52 32.0 +1.4**
BANI **PcP** **12 54 40.0 -1.5**
GCPR **Guaynabo City** **38.55** 5 P **P** **12 52 28.5 -2.1**
GCPR IAmb IAmb 12 52 35.1
comp=Z,45nm,0.9s
TGUH **Tegucigalpa,Un** **38.56 331** P **P** **12 52 32.1 +1.2**
MTO3 **Montecristo** **39.84 329** IAmb IAmb 12 52 44.5
comp=Z,56nm,1.1s
PETF **Flores** **42.25 330** IAmb IAmb 12 53 04.0
comp=Z,102nm,1.5s
TEIG **Tepich** **44.46 334** P **P** **12 53 19.5 +0.6**
TEIG IAmb IAmb 12 53 22.8
comp=Z,54nm,1.2s
TLIG **Tlapa** **47.46 321** P **P** **12 53 43.2 +0.5**
TLIG IAmb IAmb 12 53 46.0
comp=Z,37nm,1.0s
DWPF **Disney Wildern** **49.62 346** P 12 53 59.6
baz=165
DWPF **Disney Wildern** **49.62 346** P **P** **12 53 58.8 -0.1**
MOIG **Morelia** **50.66 320** P **P** **12 54 08.6 +1.3**
656A **Willston** **51.09 345** P **P** **12 54 10.1 +0.1**
456A **Hilliard** **52.27 346** P **P** **12 54 20.1 +1.3**
553A **Crawfordville** **52.36 343** P **P** **12 54 19.5 +0.1**
TIGA **Tifton** **53.33 345** P 12 54 26.9
baz=163
255A **Hazlehurst** **53.53 346** IAmb IAmb 12 54 29.4
comp=Z,50nm,1.1s
352A **Blakely** **53.72 343** P **P** **12 54 28.5 -0.9**
ZAIG **Zacatecas** **53.85 321** P **P** **12 54 31.7 +0.9**
ZAIG IAmb IAmb 12 54 34.1
comp=Z,42nm,0.9s
BRAL **Brewton** **54.03 341** P 12 54 32.0
baz=159
BRAL **Brewton** **54.03 341** P **P** **12 54 30.7 -0.9**
NHSC **New Hope** **54.19 349** P 12 54 33.5
baz=167,SNR=8.7
250A **Grady** **54.56 342** IAmb IAmb 12 54 36.3
comp=Z,43nm,0.8s
152A **Waverly Hall** **54.79 344** P **P** **12 54 36.4 -0.7**
152A IAmb IAmb 12 54 37.8
comp=Z,32nm,1.1s
GOGA **Godfrey** **55.18 345** P 12 54 39.9
baz=164
GOGA **Godfrey** **55.18 345** P **P** **12 54 39.8 -0.1**
GOGA pmax pmax
comp=Z,12nm,1.2s
X58A **Rowland** **55.46 350** IAmb IAmb 12 54 43.0
comp=Z,40nm,0.8s
JSC **Jenkinsville** **55.54 348** P **P** **12 54 42.4 -0.1**
JSC pmax pmax
comp=Z,10.0nm,0.8s
JSC **Jenkinsville** **55.54 348** P **P** **12 54 42.4 -0.1**
HODGE **Hodges** **55.70 347** P **P** **12 54 43.0 -0.6**
BIRD **Birdtown, Kers** **55.74 349** P **P** **12 54 44.3 +0.4**
Y52A **Lilburn** **55.76 345** P **P** **12 54 44.2 +0.1**
LRAL **Lakeview Retre** **55.76 342** P 12 54 43.1
baz=160,SNR=8.1
LRAL **Lakeview Retre** **55.76 342** P **P** **12 54 43.7 -0.4**
V62A **Hyde County Ai** **55.98 353** P 12 54 45.3
baz=172
W57A **Gilead** **56.16 349** P **P** **12 54 47.0 +0.1**
W57A IAmb IAmb 12 54 48.0
comp=Z,41nm,0.8s
PAULI **Pauline** **56.18 347** P **P** **12 54 47.4 +0.4**
PAULI IAmb IAmb 12 54 48.5
comp=Z,32nm,1.1s
HKT **Hockley** **56.23 332** *e*P **P** **12 54 47.6 +0.2**
HKT **Hockley** **56.23 332** P **P** **12 54 47.6 +0.2**
HKT IAmb IAmb 12 54 49.7
comp=Z,32nm,1.4s
Z47A **Carrollton** **56.23 341** P **P** **12 54 46.4 -1.1**
Z47A IAmb IAmb 12 54 47.9
comp=Z,25nm,0.9s
W56A **Indian Trail** **56.24 349** P 12 54 47.6
baz=167,SNR=7.9
V60A **Jim Taylor Roa** **56.34 352** P 12 54 48.9
baz=171
Y49A **Blount Mountai** **56.36 343** P **P** **12 54 48.1 -0.3**
Y49A IAmb IAmb 12 54 48.8
comp=Z,24nm,1.1s
KMSC **Kings Mountain** **56.39 348** P 12 54 48.4
baz=166,SNR=7.0
KMSC **Kings Mountain** **56.39 348** P **P** **12 54 47.6 -0.9**
KMSC IAmb IAmb 12 54 50.0
comp=Z,42nm,1.1s
V59A **Middlesex** **56.47 351** P 12 54 49.2
baz=170
833A **Chaparral WMA,** **56.53 328** P 12 54 49.9
baz=146,SNR=6.7
BG3 **Lake Jocassee** **56.58 346** P **P** **12 54 49.9 0.0**
X51A **Calhoun** **56.62 344** IAmb IAmb 12 54 51.0
comp=Z,29nm,1.1s
V58A **Windy Hill, Pi** **56.64 350** IAmb IAmb 12 54 51.3
comp=Z,42nm,1.2s
FPAL **Fort Paine** **56.79 344** IAmb IAmb 12 54 52.0
comp=Z,30nm,1.3s
U61A **Possum Corner** **56.80 353** P 12 54 51.4
baz=172
V57A **Coltrane Farms** **56.83 350** P 12 54 50.9
baz=168,SNR=6.3
V56A **Mocksville** **56.88 349** P 12 54 52.2
baz=167,SNR=18
W52A **Murphy** **56.90 346** IAmb IAmb 12 54 52.7
comp=Z,25nm,1.1s
U59A **Littleton** **56.99 352** IAmb IAmb 12 54 53.8
comp=Z,23nm,1.1s
U58A **Oxford** **57.14 351** P 12 54 54.1
baz=169
U57A **Blanch** **57.29 350** P 12 54 55.0
baz=168,SNR=8.3
NATX **Nacogdoches** **57.30 334** P 12 54 55.5
baz=151
NATX **Nacogdoches** **57.30 334** IAmb IAmb 12 54 57.3
comp=Z,41nm,0.8s
W50A **Signal Mountai** **57.34 344** IAmb IAmb 12 54 55.6
comp=Z,22nm,0.7s
CPCT **Cooper Cave** **57.38 345** P **P** **12 54 54.9 -0.6**
CPCT IAmb IAmb 12 54 56.4
comp=Z,23nm,1.1s
U56A **King** **57.39 349** P 12 54 56.2
baz=167,SNR=5.3
U56A **King** **57.39 349** IAmb IAmb 12 54 57.6
comp=Z,44nm,1.1s
TKL **Tuckaleechee C** **57.41 346** P **P** **12 54 55.5 -0.2**
TKL pmax pmax
comp=Z,38nm,1.2s
TKL **Tuckaleechee C** **57.41 346** P **P** **12 54 55.5 -0.2**
TKL IAmb IAmb 12 54 56.4
comp=Z,38nm,1.1s
SWET **Sewanee** **57.52 344** P **P** **12 54 55.8 -0.7**
T59A **Double "B" Far** **57.57 352** IAmb IAmb 12 54 57.9
comp=Z,38nm,1.1s
T58A **Grand View Acr** **57.67 351** P 12 54 57.7
baz=170,SNR=6.9
V51A **Loudon** **57.68 345** IAmb IAmb 12 54 58.3
comp=Z,63nm,1.7s
U54A **Nelsons Funny** **57.82 348** P 12 54 58.6
baz=166,SNR=8.4
U54A **Nelsons Funny** **57.82 348** P **P** **12 54 58.6 -0.1**
U54A IAmb IAmb 12 54 60.0
comp=Z,48nm,1.0s
T57A **Hurt** **57.84 350** P 12 54 59.0
baz=169,SNR=5.0
T57A **Hurt** **57.84 350** P **P** **12 54 58.8 +0.1**
T57A IAmb IAmb 12 55 00.1
comp=Z,53nm,1.4s
OXF **Oxford** **57.86 340** P 12 54 57.6
baz=157
PLAL **Pickwick Lake** **57.89 342** IAmb IAmb 12 54 59.2
comp=Z,34nm,0.9s
T56A **Rocky Mt** **57.99 350** P 12 55 00.4
baz=168,SNR=9.5
CCAR **Cane Creek** **58.11 338** IAmb IAmb 12 55 02.2
comp=Z,30nm,0.8s

BLA **Blacksburg** **58.23 349** P 12 55 01.9
baz=168,SNR=5.4
V48A **Smith Brothers** **58.25 343** P **P** **12 55 01.0 -0.5**
S58A **Poland Farm, P** **58.26 352** P 12 55 01.6
baz=170
S59A **Mechanicsville** **58.31 352** P 12 55 01.9
baz=171
X43A **Marvell** **58.35 339** P 12 55 02.0
baz=156,SNR=5.8
WLAR **White Oak Lake** **58.39 337** P **P** **12 55 03.1 +0.5**
CLTN **Cedars of Leba** **58.45 344** P **P** **12 55 02.4 -0.5**
JCT **Junction City** **58.50 329** P 12 55 03.2
baz=146,SNR=8.0
JCT **Junction City** **58.51 329** IAmb IAmb 12 55 05.0
comp=Z,20nm,0.9s
S57A **Dark Hollow, R** **58.54 351** P 12 55 03.7
baz=169,SNR=5.2
S57A **Dark Hollow, R** **58.54 351** P **P** **12 55 03.8 +0.2**
S57A IAmb IAmb 12 55 05.2
comp=Z,22nm,0.9s
S56A **Natural Bridge** **58.55 350** P 12 55 04.0
baz=168
R58B **Mineral** **58.59 352** P 12 55 03.9
baz=170
R58B **Mineral** **58.59 352** P **P** **12 55 04.4 +0.5**
R58B IAmb IAmb 12 55 05.3
comp=Z,28nm,1.2s
WHTX **Lake Whitney,** **58.69 332** P 12 55 04.8
baz=149,SNR=5.2
WHTX **Lake Whitney,** **58.69 332** P **P** **12 55 04.9 +0.2**
R59A **King George, V** **58.72 353** P 12 55 04.8
baz=171
HPIG **58.83 322** IAmb IAmb 12 55 08.3
comp=Z,35nm,1.2s
WVT **Waverly** **58.89 342** P 12 55 05.0
baz=159
WVT **Waverly** **58.89 342** P **P** **12 55 05.0 -1.1**
WVT pmax pmax
comp=Z,47nm,0.8s
WVT **Waverly** **58.89 342** P **P** **12 55 05.0 -1.1**
R58A **Rapidan** **58.93 352** P 12 55 06.3
baz=170
T50A **Nancy** **58.95 345** IAmb IAmb 12 55 07.1
comp=Z,52nm,1.4s
S54A **Dingess, Beckl** **58.97 349** P 12 55 06.7
baz=167,SNR=6.9
S54A **Dingess, Beckl** **58.97 349** P **P** **12 55 06.5 -0.1**
R57A **Stanardsville** **59.00 351** P 12 55 07.2
baz=170
X40A **Basin Creek Fa** **59.01 337** P 12 55 06.6
baz=154
SLBS **Sierra La Lagu** **59.12 316** P **P** **12 55 08.9 +0.9**
LPAR **Lepanto** **59.15 340** P **P** **12 55 06.2 -1.6**
S51A **Beattyville** **59.27 347** IAmb IAmb 12 55 09.4
comp=Z,31nm,1.3s
R54A **Victor** **59.28 349** P 12 55 09.2
baz=167,SNR=10
MIAR **Mount Ida** **59.33 337** P 12 55 09.0
baz=153,SNR=20
MIAR **Mount Ida** **59.33 337** P **P** **12 55 08.9 -0.2**
MIAR pmax pmax
comp=Z,62nm,1.3s
MIAR **Mount Ida** **59.33 337** P **P** **12 55 08.9 -0.2**
GNAR **Gosnell** **59.40 340** P **P** **12 55 09.3 -0.2**
W41B **Gary Mavity, V** **59.41 338** P 12 55 09.2
baz=155,SNR=7.9
Q58A **Fox Den Farm,** **59.52 352** P 12 55 10.0
baz=171
WHAR **Wooly Hollow** **59.53 338** P **P** **12 55 10.1 -0.3**
WHAR IAmb IAmb 12 55 11.3
comp=Z,23nm,0.9s
TXAR **Lajitas Array** **59.56 325** P **P** **12 55 11.4 +0.5**
comp=Z,5.0nm,0.8s,baz=150,slow=8.2,SNR=56
TXAR pP **pP** **12 55 37.5 +0.3**
comp=Z,3.4nm,0.9s,baz=165,slow=10,SNR=5.4
TXAR **Lajitas Array** **59.56 325** P **P** **12 55 10.8 -0.1**
TXAR **Lajitas Array** **59.56 325** P **P** **12 55 10.8 -0.1**
TX31 **Lajitas Ar. Si** **59.56 325** P **P** **12 55 10.5 -0.4**
Q57A **Strasburg** **59.71 352** P 12 55 12.3
baz=170,SNR=7.3
LCAR **Lake Charles** **59.86 339** P **P** **12 55 11.8 -0.9**
LCAR IAmb IAmb 12 55 13.1
comp=Z,23nm,0.8s
BELA **Belgrano 2** **59.91 172** P **P** **12 55 13.0 +0.5**
BELA IAmb IAmb 12 55 15.4
comp=Z,24nm,1.0s
HENM **Henderson Moun** **59.92 341** P **P** **12 55 13.3 +0.2**
T45A **Paducah** **59.96 342** P **P** **12 55 12.8 -0.5**
W39A **Magazine** **59.99 337** P 12 55 13.9
baz=153,SNR=18
FCAR **Ozark Folk Cen** **60.02 339** IAmb IAmb 12 55 14.2
comp=Z,22nm,0.8s
Q53A **Leroy** **60.03 349** P 12 55 13.2
baz=166,SNR=19
P59A **Jarrettsville** **60.04 354** P 12 55 14.0
baz=172
R50A **Paris** **60.04 346** IAmb IAmb 12 55 14.7
comp=Z,45nm,1.3s
P57A **Homestead Farm** **60.10 352** P 12 55 15.2
baz=170
P57A **Homestead Farm** **60.10 352** IAmb IAmb 12 55 15.8
comp=Z,14nm,0.8s
ABTX **Abilene, Hawle** **60.21 330** P 12 55 14.6
baz=147,SNR=12
ABTX **Abilene, Hawle** **60.21 330** IAmb IAmb 12 55 16.7
comp=Z,44nm,1.1s
P56A **Dayton Farm, R** **60.23 351** P 12 55 15.3
baz=169,SNR=5.3
R49A **Shelbyville** **60.24 346** IAmb IAmb 12 55 15.8
comp=Z,26nm,1.2s
Q52A **Bidwell** **60.27 348** P **P** **12 55 14.9 -0.6**
Q52A IAmb IAmb 12 55 16.4
comp=Z,32nm,1.0s
WCI **Wyandotte Cave** **60.46 345** P 12 55 15.8
baz=161
WCI **Wyandotte Cave** **60.46 345** P **P** **12 55 15.7 -1.0**
WCI pmax pmax
comp=Z,46nm,1.2s
WCI **Wyandotte Cave** **60.46 345** P **P** **12 55 15.7 -1.0**
WCI IAmb IAmb 12 55 17.1
comp=Z,46nm,1.1s
MCWV **Mont Chateau** **60.53 351** P 12 55 17.3
baz=168,SNR=12
MCWV **Mont Chateau** **60.53 351** IAmb IAmb 12 55 19.0
comp=Z,28nm,0.8s
Q51A **Peebles** **60.55 347** IAmb IAmb 12 55 18.1
comp=Z,26nm,0.9s
O58A **Lewisberry** **60.60 353** P 12 55 18.7
baz=172
U40A **Yellville** **60.69 338** P 12 55 17.9
baz=154,SNR=18
U40A **Yellville** **60.69 338** IAmb IAmb 12 55 19.2
comp=Z,33nm,0.9s
T42A **Van Buren** **60.71 340** IAmb IAmb 12 55 18.7
comp=Z,16nm,0.8s
O57A **Amberson** **60.77 353** P 12 55 19.1
baz=171
P52A **Corning** **60.90 349** P 12 55 19.0
baz=166
P52A **Corning** **60.90 349** P **P** **12 55 19.4 -0.3**
P52A IAmb IAmb 12 55 20.5
comp=Z,48nm,1.1s
P51A **Williamsport** **60.93 348** IAmb IAmb 12 55 20.5
comp=Z,46nm,1.2s
O56A **Blue Knob Stat** **60.95 352** P 12 55 20.5
baz=170,SNR=6.1
O56A **Blue Knob Stat** **60.95 352** IAmb IAmb 12 55 21.9
comp=Z,28nm,0.9s
N61A **South Mountain** **60.98 356** P 12 55 20.8
baz=174
HHAR **Hobbs** **61.01 337** IAmb IAmb 12 55 21.6
comp=Z,45nm,1.1s
O54A **Avella** **61.13 350** IAmb IAmb 12 55 22.0
comp=Z,24nm,0.7s
N60A **Cedar Hill Far** **61.16 355** P 12 55 21.5
baz=174
MGMO **Mountain Grove** **61.21 339** P **P** **12 55 21.1 -0.8**
MGMO IAmb IAmb 12 55 22.7
comp=Z,34nm,1.1s
VNA3 **Neumayer Olymp** **61.23 161** P **P** **12 55 22.5 +0.9**
VNA3 **Neumayer Olymp** **61.23 161** pP pP 12 55 50.6 +2.3
N59A **State Game Lan** **61.27 354** P 12 55 22.2
baz=173
N58A **Sunbury** **61.28 353** P 12 55 22.1
baz=172
N58A **Sunbury** **61.29 353** IAmb IAmb 12 55 55.8
comp=Z,20nm,0.9s

N57A **Milroy** **61.30 353** P 12 55 22.6
baz=171,SNR=5.3
O52A **Adamsville** **61.31 349** IAmb IAmb 12 55 23.5
comp=Z,52nm,1.2s
P49A **Miami Univ. Ec** **61.33 346** P 12 55 21.6
baz=163,SNR=8.9
O53A **New Philadelph** **61.33 350** P 12 55 22.3
baz=167,SNR=7.5
TUL1 **Leonard** **61.38 336** P 12 55 22.8
baz=151,SNR=8.6
TUL1 **Leonard** **61.38 336** P **P** **12 55 22.2 -0.8**
TUL1 IAmb IAmb 12 55 24.3
comp=Z,39nm,1.0s
P48A **Milroy** **61.42 346** P **P** **12 55 21.8 -1.5**
P48A IAmb IAmb 12 55 22.6
comp=Z,19nm,0.6s
VNA1 **Neumayer--Stat** **61.44 161** P **P** **12 55 24.1 +1.2**
VNA1 **Neumayer--Stat** **61.44 161** pP pP 12 55 51.7 +1.7
M63A **Gales Ferry** **61.50 358** P 12 55 24.1
baz=177
N56A **West Decatur** **61.55 352** P 12 55 24.6
baz=170
M60A **Port Jervis** **61.58 355** P 12 55 24.0
baz=174
M62A **Hamden** **61.58 357** P 12 55 23.7
baz=176
WMOK **Wichita Mounta** **61.60 332** P 12 55 24.2
baz=148
WMOK **Wichita Mounta** **61.60 332** P **P** **12 55 24.2 -0.4**
WMOK pmax pmax
comp=Z,10.0nm,1.5s
ACSO **Alum Creek Sta** **61.64 348** P 12 55 24.0
baz=165,SNR=11
CCM **Cathedral Cave** **61.70 340** P 12 55 24.9
baz=156
CCM **Cathedral Cave** **61.70 340** P **P** **12 55 24.3 -0.8**
CCM pmax pmax
comp=Z,43nm,1.0s
CCM **Cathedral Cave** **61.70 340** P **P** **12 55 24.3 -0.8**
CCM IAmb IAmb 12 55 25.9
comp=Z,43nm,0.9s
OK025 **Westminster Rd** **61.71 334** IAmb IAmb 12 56 00.0
comp=Z,39nm,0.9s
M58A **Price's Panora** **61.79 354** P 12 55 26.1
baz=172,SNR=5.2
VNA2 **Neumayer--Watz** **61.80 161** P **P** **12 55 26.3 +0.8**
baz=282,slow=6.4
VNA2 **Neumayer--Watz** **61.80 161** pP pP 12 55 53.4 +0.9
N53A **Lisbon** **61.81 350** P **P** **12 55 25.1 -0.7**
M57A **Sunshine Farm,** **61.82 353** P 12 55 26.4
baz=171,SNR=5.6
M57A **Sunshine Farm,** **61.82 353** P **P** **12 55 26.0 +0.1**
M57A IAmb IAmb 12 55 27.7
comp=Z,29nm,1.1s
N54A **Moraine State** **61.83 351** P 12 55 26.0
baz=168,SNR=10
N54A **Moraine State** **61.83 351** P **P** **12 55 26.3 +0.4**
M59A **Waymart** **61.86 355** P 12 55 26.4
baz=173
O49A **Covington** **61.87 347** IAmb IAmb 12 55 26.8
comp=Z,49nm,1.0s
L63A **North Scituate** **61.95 358** P 12 55 26.9
baz=177
QUOK **Quay** **61.97 335** P **P** **12 55 26.4 -0.6**
QUOK IAmb IAmb 12 55 28.2
comp=Z,54nm,1.1s
L64A **Middleborough** **62.00 359** P 12 55 27.0
baz=178
P46A **Rosedale** **62.00 344** P **P** **12 55 25.8 -1.3**
M56A **Emporium** **62.09 352** P 12 55 27.5
baz=170,SNR=8.2
M56A **Emporium** **62.09 352** IAmb IAmb 12 55 28.6
comp=Z,25nm,0.7s
M55A **Ridgway** **62.15 352** IAmb IAmb 12 55 29.6
comp=Z,53nm,1.1s
L60A **Shokan** **62.21 356** P 12 55 28.6
baz=174
R40A **Maddies Statio** **62.24 340** IAmb IAmb 12 55 29.4
comp=Z,34nm,0.9s
M54A **Oil Creek Stat** **62.31 351** P 12 55 29.2
baz=169,SNR=16
MNTX **Cornudas Mount** **62.33 325** P 12 55 28.8
baz=141,SNR=24
L58A **Harry Jones Me** **62.39 354** P 12 55 29.9
baz=173,SNR=6.4
M53A **WI Miller and** **62.40 350** P 12 55 29.9
baz=168,SNR=11
L57A **Andrews Acres** **62.45 354** P 12 55 30.5
baz=172
L59A **Walton** **62.47 355** P 12 55 30.7
baz=174
ALLY **Alegheny Colle** **62.53 351** P **P** **12 55 30.7 +0.1**
T35A **Sooner Cattle** **62.54 335** P **P** **12 55 31.0 +0.2**
T35A IAmb IAmb 12 55 32.2
comp=Z,40nm,1.1s
BINY **Binghamton** **62.56 354** P 12 55 31.5
baz=173
BINY **Binghamton** **62.56 354** P **P** **12 55 31.7 +0.9**
BINY IAmb IAmb 12 55 32.5
comp=Z,41nm,1.1s
M52A **Chesterland** **62.61 350** P **P** **12 55 31.2 0.0**
P43A **Skaggs, Pawnee** **62.65 342** P **P** **12 55 30.3 -1.1**
L56A **Greenwood** **62.66 353** P 12 55 31.7
baz=171,SNR=6.0
L56A **Greenwood** **62.66 353** P **P** **12 55 31.6 0.0**
L56A IAmb IAmb 12 55 33.5
comp=Z,29nm,1.1s
SFIN **Lafayette** **62.69 345** P 12 55 30.4
baz=161,SNR=14
SFIN **Lafayette** **62.69 345** P **P** **12 55 30.6 -1.1**
CROK **Carrier** **62.77 334** P **P** **12 55 32.5 +0.1**
M50A **Fremont** **62.78 348** P **P** **12 55 31.8 -0.5**
M50A IAmb IAmb 12 56 05.8
comp=Z,28nm,0.8s
MSTX **Muleshoe** **62.80 329** P 12 55 32.4
baz=144,SNR=27
MSTX **Muleshoe** **62.80 329** P **P** **12 55 32.4 -0.4**
MSTX IAmb IAmb 12 55 33.9
comp=Z,48nm,1.0s
K61A **Williamstown** **62.82 357** P 12 55 33.0
baz=176
O44A **Mansfield** **62.83 343** P **P** **12 55 30.9 -1.7**
O44A IAmb IAmb 12 55 32.4
comp=Z,47nm,1.0s
N47A **Urbana** **62.83 346** P **P** **12 55 31.7 -0.9**
N47A IAmb IAmb 12 55 32.8
comp=Z,49nm,0.9s
L53A **Girard** **62.84 351** P 12 55 32.7
baz=168,SNR=15
TRY **Troy** **62.91 356** IAmb IAmb 12 55 34.8
comp=Z,31nm,0.9s
ERPA **Erie** **62.96 351** P 12 55 33.6
baz=168,SNR=9.4
AMTX **Amarillo** **63.03 330** P 12 55 34.0
baz=146
K59A **Cooperstown** **63.03 355** P 12 55 34.5
baz=174,SNR=6.6
WVNY **West Valley, N** **63.05 352** IAmb IAmb 12 55 35.6
comp=Z,55nm,1.1s
K58A **Earlville** **63.09 355** P 12 55 34.7
baz=173,SNR=6.0
K58A **Earlville** **63.09 355** IAmb IAmb 12 55 35.8
comp=Z,52nm,1.1s
K57A **Scipio Center** **63.14 354** P 12 55 34.4
baz=172,SNR=5.2
K56A **Middlesex** **63.19 353** P 12 55 35.2
baz=171
MMNY **Mt. Morris Dam** **63.29 353** IAmb IAmb 12 55 36.8
comp=Z,81nm,1.4s
HDIL **Hopedale** **63.43 343** P **P** **12 55 35.6 -1.0**
SNAA **Sanae** **63.43 161** P **P** **12 55 37.1 +0.8**
SNAA **Sanae** **63.43 161** pP pP 12 56 03.6 +0.5
SNAA **Sanae** **63.43 161** *ce*P **P** **12 55 36.4 0.0**
SNAA pmax pmax
comp=Z,45nm,1.0s
SNAA **Sanae** **63.43 161** P **P** **12 55 36.8 +0.4**
SNAA IAmb IAmb 12 55 38.4
comp=Z,36nm,0.9s
HSIG **63.52 319** P **P** **12 55 38.8 +1.4**
HSIG IAmb IAmb 12 55 40.2
comp=Z,64nm,1.4s
L48A **N Adams** **63.58 347** P **P** **12 55 36.5 -1.0**
J59A **Piesco** **63.69 356** P 12 55 38.2
baz=174,SNR=7.3
J59A **Piesco** **63.70 356** P **P** **12 55 38.5 +0.2**
J59A IAmb IAmb 12 56 11.6
comp=Z,48nm,1.2s

J56A **Wolcott** **63.71 354** P 12 55 37.5
baz=172,SNR=11
J56A **Wolcott** **63.71 354** P **P** **12 55 38.3 -0.1**
J56A IAmb IAmb 12 55 39.3
comp=Z,42nm,0.9s
J55A **Hilton** **63.81 353** P **P** **12 55 38.8 -0.2**
J55A IAmb IAmb 12 55 40.1
comp=Z,39nm,1.2s
P38A **Dawn** **63.87 339** P **P** **12 55 38.5 -1.0**
P38A IAmb IAmb 12 55 40.3
comp=Z,35nm,0.7s
I58A **Old Forge** **63.95 355** P 12 55 39.9
baz=174,SNR=6.1
I64A **Boothbay** **63.96 360** P 12 55 40.1
baz=179
I60A **Shoreham** **64.00 357** P 12 55 40.6
baz=176
N41A **Harden Midland** **64.02 342** P **P** **12 55 39.0 -1.4**
K50A **Casco** **64.03 349** P **P** **12 55 40.1 -0.4**
HQIL **Hanson Quary C** **64.22 345** P **P** **12 55 40.5 -1.3**
HQIL IAmb IAmb 12 55 41.7
comp=Z,50nm,1.1s
319A **Douglas** **64.24 322** P **P** **12 55 44.0 +1.7**
121A **Cookes Peak, D** **64.27 324** P 12 55 43.6
baz=140,SNR=14
121A **Cookes Peak, D** **64.27 324** P **P** **12 55 43.6 +1.1**
121A IAmb IAmb 12 55 45.4
comp=Z,66nm,1.4s
LBNH **Lisbon** **64.33 358** P 12 55 42.9
baz=177
KSU1 **Kansas State U** **64.49 337** P 12 55 43.4
baz=151
KSU1 **Kansas State U** **64.49 337** P **P** **12 55 43.1 -0.4**
KSU1 IAmb IAmb 12 55 44.4
comp=Z,35nm,1.1s
L44A **Lake County Fo** **64.59 345** P 12 55 42.9
baz=160
L44A **Lake County Fo** **64.59 345** P **P** **12 55 42.2 -1.9**
L44A IAmb IAmb 12 55 44.4
comp=Z,42nm,0.9s
H58A **Gabriels** **64.62 356** P 12 55 44.6
baz=175
H61A **Lyndonville** **64.62 358** P 12 55 44.4
baz=177
R32A **Long Quarter,** **64.71 335** IAmb IAmb 12 55 46.6
comp=Z,38nm,0.9s
H57A **Richville** **64.75 355** P 12 55 45.2
baz=173,SNR=7.8
I51A **Listowel** **64.77 351** P 12 55 44.5
baz=168,SNR=18
H59A **Cadyville** **64.82 356** P 12 55 45.7
baz=175
N38A **Joes South For** **64.83 340** P **P** **12 55 45.2 -0.6**
N38A IAmb IAmb 12 55 46.4
comp=Z,40nm,0.8s
H66A **Whiting** **64.85 1** P 12 55 46.1
baz=182
LONY **Lake Ozonia** **64.85 356** P 12 55 46.0
baz=174,SNR=6.2
LONY **Lake Ozonia** **64.85 356** IAmb IAmb 12 56 19.4
comp=Z,22nm,0.8s
L42A **Oliver, Polo** **64.88 343** P **P** **12 55 45.4 -0.7**
BNM **Barren Site** **64.89 326** P **P** **12 55 47.9 +1.3**
J47A **Sunmer** **64.90 347** P **P** **12 55 45.6 -0.5**
DELO **Deloro Mine** **65.02 353** IAmb IAmb 12 56 19.3
comp=Z,50nm,1.4s
H53A **Bobcaygeon** **65.19 353** P 12 55 47.6
baz=170,SNR=7.6
G62A **West of Eustis** **65.27 359** P 12 55 48.8
baz=178
G58A **Ormstown** **65.34 356** P 12 55 49.2
baz=175
G61A **St-Isidore-de-** **65.36 358** P 12 55 49.5
baz=177
G57A **Newington** **65.36 355** P 12 55 49.2
baz=174,SNR=5.5
L40A **Anamosa** **65.37 342** IAmb IAmb 12 55 49.8
comp=Z,50nm,1.1s
ANMO **Albuquerque** **65.42 327** P 12 55 50.7
baz=141
ANMO **Albuquerque** **65.42 327** P **P** **12 55 50.9 +1.0**
ANMO pmax pmax
comp=Z,14nm,1.1s
ANMO **Albuquerque** **65.42 327** P **P** **12 55 50.9 +1.0**
SADO **Sadowa** **65.45 352** P **P** **12 55 48.9 -0.7**
SADO IAmb IAmb 12 55 50.4
comp=Z,27nm,1.0s
CBKS **Cedar Bluff** **65.46 334** P 12 55 49.8
baz=148,SNR=12
CBKS **Cedar Bluff** **65.47 334** P **P** **12 55 49.8 -0.2**
CBKS pmax pmax
comp=Z,51nm,0.9s
CBKS **Cedar Bluff** **65.47 334** P **P** **12 55 49.8 -0.2**
CBKS IAmb IAmb 12 55 51.7
comp=Z,51nm,0.9s
PLVO **Plevna** **65.48 354** P **P** **12 55 50.2 +0.3**
N35A **Tabor** **65.69 338** P **P** **12 55 50.9 -0.4**
TUC **Tucson** **65.79 322** P 12 55 53.4
baz=137
TUC **Tucson** **65.79 322** P **P** **12 55 53.5 +1.2**
TUC pmax pmax
comp=Z,30nm,1.3s
TUC **Tucson** **65.79 322** P **P** **12 55 53.5 +1.2**
SCIA **State Center** **65.83 341** P 12 55 51.3
baz=155,SNR=7.1
SCIA **State Center** **65.83 341** P **P** **12 55 52.0 -0.2**
SCIA IAmb IAmb 12 55 53.0
comp=Z,50nm,0.8s
JFWS **Jewell Farm** **65.89 343** P 12 55 52.1
baz=158,SNR=8.1
JFWS **Jewell Farm** **65.89 343** P **P** **12 55 52.0 -0.5**
JFWS pmax pmax
comp=Z,45nm,0.9s
JFWS **Jewell Farm** **65.89 343** P **P** **12 55 52.0 -0.5**
JFWS IAmb IAmb 12 55 53.3
comp=Z,45nm,0.9s
F64A **Sherman** **65.91 1** P 12 55 52.8
baz=181
G54A **Lake Saint Pet** **65.94 353** P 12 55 52.6
baz=171,SNR=5.6
T25A **Trinidad** **66.14 330** P 12 55 55.4
baz=144,SNR=8.2
N33A **J Bar K, Exete** **66.23 337** P **P** **12 55 55.6 +0.8**
N33A IAmb IAmb 12 55 56.0
comp=Z,62nm,1.1s
K38A **Parkersburg** **66.36 341** P **P** **12 55 55.2 -0.4**
K38A IAmb IAmb 12 55 55.7
comp=Z,32nm,0.8s
GLMI **Grayling** **66.38 348** P **P** **12 55 55.6 0.0**
TRQ **Mont Tremblant** **66.44 356** P **P** **12 55 55.6 -0.4**
I42A **Draeger Farm,** **66.45 345** P **P** **12 55 55.7 -0.4**
I42A IAmb IAmb 12 55 57.0
comp=Z,32nm,0.8s
E64A **Bridgewater** **66.47 1** P 12 55 56.0
baz=181
ALGO **Algonquin Park** **66.49 353** P 12 55 56.1
baz=171,SNR=8.2
E58A **La Victoria** **66.52 357** P 12 55 56.6
baz=176
214A **Organ Pipe Nat** **66.73 320** P 12 56 00.0
baz=135,SNR=13
214A **Organ Pipe Nat** **66.73 320** P **P** **12 56 00.2 +2.0**
214A IAmb IAmb 12 56 01.5
comp=Z,66nm,1.1s
E55A **Montcerf-Lytto** **66.79 355** P 12 55 58.1
baz=173
E56A **St. Veronique** **66.80 356** P 12 55 58.3
baz=174,SNR=5.0
G45A **Suttons Bay** **66.80 347** P **P** **12 55 57.4 -0.9**
G45A IAmb IAmb 12 56 31.2
comp=Z,31nm,0.7s
KSCO **Kaye Shedlock'** **66.86 332** P 12 55 59.5
baz=146,SNR=6.1
KSCO **Kaye Shedlock'** **66.86 332** P **P** **12 55 59.3 +0.3**
KSCO IAmb IAmb 12 56 01.1
comp=Z,47nm,1.1s
I40A **Norwalk** **66.89 343** P **P** **12 55 58.2 -0.7**
I40A IAmb IAmb 12 55 59.5
comp=Z,25nm,0.8s
L34A **Svendsen Farm,** **66.93 338** P **P** **12 55 58.8 -0.4**
X18A **Snowflake** **66.96 324** P **P** **12 55 60.0 +0.2**
X18A IAmb IAmb 12 56 02.8
comp=Z,61nm,1.6s
BGNE **Belgrade** **67.07 337** P 12 56 00.4
baz=150,SNR=11
D63A **Stockholm** **67.08 1** P 12 56 00.5
baz=181
D62A **Allapoint, All** **67.12 0** P 12 56 00.7
baz=180
D62A **Allapoint, All** **67.12 0** IAmb IAmb 12 56 33.6
comp=Z,90nm,1.7s
SDCO **Great Sand Dun** **67.15 329** P 12 56 01.7
baz=143,SNR=22
D58A **Chemin du LacG** **67.22 357** P 12 56 01.1
baz=176
D61A **St Aubert, Com** **67.25 359** P 12 56 01.5
baz=179
D56A **ZEC Mazanza, M** **67.28 356** P 12 56 01.3
baz=174
W18A **Petrified Fore** **67.28 325** P 12 56 02.9
baz=139,SNR=17
W18A **Petrified Fore** **67.28 325** IAmb IAmb 12 56 04.6
comp=Z,52nm,1.3s
D55A **Sainte-Anne-du** **67.30 355** P 12 56 01.3
baz=174,SNR=6.1
S22A **4UR Ranch, Cre** **67.79 328** P 12 56 05.9
baz=142,SNR=14
E46A **Sault Ste Mari** **67.81 349** IAmb IAmb 12 56 37.6
comp=Z,22nm,0.8s
Q24A **Divide** **67.95 330** P 12 56 07.1
baz=144,SNR=16
NVL **N'lazarevskaya** **67.98 159** *e*P **P** **12 56 06.8 +1.3**
NVL *e**PP **pP** **12 56 35.9 +3.0**
NVL *e*S **S** **13 04 55.2 -0.7**
NVL pmax pmax
comp=Z,28nm,0.7s
OGNE **Ogallala** **68.21 334** P 12 56 07.4
baz=147
OGNE **Ogallala** **68.21 334** IAmb IAmb 12 56 09.2
comp=Z,28nm,0.8s
MVCO **Mesa Verde** **68.21 327** P 12 56 08.7
baz=140,SNR=19
MVCO **Mesa Verde** **68.21 327** P **P** **12 56 08.5 +0.8**
MVCO IAmb IAmb 12 56 10.2
comp=Z,54nm,1.4s
LIC **Lamto** **68.31 74** *e*P **P** **12 56 07.1 -1.4**
comp=Z,22nm,0.4s
K31A **O'Neill** **68.35 337** P **P** **12 56 08.4 +0.3**
WUAZ **Wupatki** **68.47 324** P 12 56 11.0
baz=137,SNR=36
WUAZ **Wupatki** **68.47 324** IAmb IAmb 12 56 12.4
comp=Z,49nm,0.9s
TIC **Toumodi** **68.49 74** *e*P **P** **12 56 09.5 -0.1**
VLDQ **Val d'Or** **68.56 354** P **P** **12 56 09.8 +0.5**
VLDQ IAmb IAmb 12 56 10.7
comp=Z,33nm,1.1s
ECSD **EROS Data Cent** **68.57 339** P 12 56 09.1
baz=152,SNR=18
ECSD **EROS Data Cent** **68.57 339** P **P** **12 56 09.1 -0.4**
ECSD IAmb IAmb 12 56 10.7
comp=Z,52nm,1.4s
COWI **Conover** **68.58 345** P **P** **12 56 08.8 -0.7**
KIC **Kosan Boka** **68.62 74** *e*P **P** **12 56 09.4 -1.1**
comp=Z,64nm,0.5s
DBIC **Dimbokro** **68.65 74** P **P** **12 56 09.7 -0.9**
comp=Z,17nm,0.5s,baz=220,slow=6.9,SNR=59
DBIC pP **pP** **12 56 37.8 -0.5**
comp=Z,46nm,0.9s,baz=215,slow=6.4,SNR=7.8
DBIC **Dimbokro** **68.65 74** P **P** **12 56 09.3 -1.3**
DBIC IAmb IAmb 12 56 39.7
comp=Z,48nm,0.9s
ESJX **Sierra Juarez** **68.69 318** P **P** **12 56 12.6 +2.0**
GLA **Glamis** **68.71 320** P 12 56 12.1
baz=134
GLA **Glamis** **68.71 320** IAmb IAmb 12 56 13.8
comp=Z,58nm,1.6s
SPMN **Marine on St.** **68.73 342** P 12 56 09.8
baz=156,SNR=7.2
SPMN **Marine on St.** **68.73 342** IAmb IAmb 12 56 11.0
comp=Z,53nm,1.3s
ISCO **Idaho Springs** **68.84 331** P 12 56 12.5
baz=143
ISCO **Idaho Springs** **68.84 331** P **P** **12 56 12.6 +1.0**
ISCO pmax pmax
comp=Z,35nm,1.4s
ISCO **Idaho Springs** **68.84 331** P **P** **12 56 12.6 +1.0**
PV01 **Paradox Valley** **68.96 328** P **P** **12 56 13.4 +1.1**
SMCO **Snowmass** **68.98 329** P **P** **12 56 13.6 +0.9**
PV15 **Paradox Valley** **69.07 328** P **P** **12 56 13.4 +0.3**
PV15 IAmb IAmb 12 56 16.0
comp=Z,49nm,1.1s
PDMCI **Parker Dam,Lak** **69.18 321** P 12 56 14.8
baz=135,SNR=8.2
IKP **In-Ko-Pah, Jac** **69.22 319** P 12 56 15.8
baz=133,SNR=12
SWSC **Sam W. Stewart** **69.23 319** P 12 56 15.8
baz=133
CBX **Cerro Bola** **69.34 318** P **P** **12 56 16.7 +2.1**
D41A **Chassel** **69.35 346** P **P** **12 56 14.1 0.0**
D41A IAmb IAmb 12 56 15.4
comp=Z,36nm,0.9s
PV22 **Blue Mesa, Par** **69.38 328** P **P** **12 56 15.7 +0.9**
LSQQ **Lebel-sur-Quev** **69.45 355** P 12 56 14.8
baz=172
TKX **Tecate** **69.48 318** P **P** **12 56 17.6 +2.3**
TKX IAmb IAmb 12 56 18.6
comp=Z,52nm,1.1s
BC3 **Big Chuckawall** **69.51 320** P 12 56 17.8
baz=134,SNR=23
F36A **Milaca** **69.52 342** P **P** **12 56 14.8 -0.5**
MONP2 **Monument Peak** **69.58 319** P 12 56 18.1
baz=133,SNR=10
W13A **Hualapai Mount** **69.59 322** P **P** **12 56 18.0 +1.8**
BAR **Barrett** **69.59 318** P **P** **12 56 18.0 +1.9**
BAR IAmb IAmb 12 56 19.3
comp=Z,45nm,1.0s
E38A **The Farm, Brul** **69.66 344** P **P** **12 56 15.5 -0.6**
IRM **Iron Mountain** **69.67 321** P 12 56 18.3
baz=134,SNR=39
QSPA **South Pole Qui** **69.83 180** P **P** **12 56 18.6 +1.5**
QSPA IAmb IAmb 12 56 20.1
comp=Z,37nm,1.0s
N23A **Red Feather La** **69.87 331** P 12 56 18.8
baz=143,SNR=11
PHWY **Pilot Hill** **69.98 332** P **P** **12 56 19.2 +0.6**
109C **Camp Elliot, M** **70.00 318** P 12 56 20.2
baz=132
BELC **Belle Mtn. Jos** **70.07 320** P 12 56 20.5
baz=133,SNR=20
TPFO **Pinon Flats** **70.08 319** P 12 56 20.9
baz=133,SNR=15
XPFO **Pion Flat** **70.09 319** P **P** **12 56 20.8 +1.6**
XPFO IAmb IAmb 12 56 22.6
comp=Z,36nm,1.0s
PFO **Pinyon Flats O** **70.09 319** P 12 56 21.1
baz=133,SNR=15
PFO **Pinyon Flats O** **70.09 319** *i* P **P** **12 56 20.1 +0.9**
PFO pmax pmax
comp=Z,39nm,0.9s
PFO **Pinyon Flats O** **70.09 319** P **P** **12 56 20.6 +1.3**
PFO IAmb IAmb 12 56 22.5
comp=Z,35nm,1.0s
MATQ **Matagami** **70.21 354** P 12 56 19.2
baz=171
O20A **White River Ci** **70.34 329** P 12 56 21.9
baz=141,SNR=17
O20A **White River Ci** **70.34 329** P **P** **12 56 21.8 +1.0**
O20A IAmb IAmb 12 56 23.3
comp=Z,43nm,1.2s
GMRC **Granite Mounta** **70.41 321** P 12 56 23.3
baz=134,SNR=43
MURC **Murrieta** **70.53 319** P 12 56 23.7
baz=132,SNR=5.8
LCMT **Little Creek M** **70.59 324** P **P** **12 56 23.7 +1.5**
SRU **San Rafael Swe** **70.69 327** P **P** **12 56 24.2 +1.3**
SRU pmax pmax
comp=Z,36nm,0.9s
SRU **San Rafael Swe** **70.69 327** P **P** **12 56 24.2 +1.3**
SRU IAmb IAmb 12 56 25.3
comp=Z,36nm,0.9s
MTPU **Mount Pierson** **70.77 325** P **P** **12 56 25.2 +1.6**
BBRC **Big Bear Solar** **70.81 320** P 12 56 26.0
baz=133,SNR=6.2
HEC **Hector,Ludlow** **70.84 320** P 12 56 25.8
baz=133,SNR=23
EYMN **Ely** **70.88 344** P 12 56 23.0
baz=158,SNR=7.8
SZCU **Shurtz Canyon** **70.93 324** IAmb IAmb 12 56 27.6
comp=Z,94nm,1.8s
CCUT **Cedar City** **71.05 324** IAmb IAmb 12 56 28.9
comp=Z,64nm,0.9s
P17A **Butcher Ranch,** **71.08 327** P **P** **12 56 26.2 +1.1**
P17A IAmb IAmb 12 56 27.8
comp=Z,54nm,1.0s
RWWY **Rawlins** **71.08 331** P **P** **12 56 26.6 +1.4**
RWWY IAmb IAmb 12 56 27.8
comp=Z,59nm,1.6s
BART **Pico Bartolome** **71.10 36** *e*S **S** **13 05 26.0 -7.6**
MSU **Marysvale** **71.11 326** P **P** **12 56 27.1 +1.7**
MSU **Marysvale** **71.11 326** P **P** **12 56 27.1 +1.7**
CIS **Catalina Islan** **71.16 318** P 12 56 27.3
baz=131
TMUT **Trail Mountain** **71.18 327** P **P** **12 56 27.4 +1.4**
BFSC **Mount Baldy Ra** **71.25 319** P 12 56 28.0
baz=132,SNR=11
RRX **Edison Barstow** **71.27 320** P 12 56 28.2
baz=133
FMP **Fort Macarthur** **71.29 318** P 12 56 28.4
baz=132
SHPR **Sheep Range** **71.31 322** IAmb IAmb 12 56 29.9
comp=Z,32nm,1.0s
GSC **Goldstone, Bar** **71.45 320** P 12 56 29.1
baz=133,SNR=18
GSC **Goldstone, Bar** **71.45 320** IAmb IAmb 12 56 30.7
comp=Z,73nm,1.5s
MWC **Mount Wilson** **71.48 319** IAmb IAmb 12 56 30.9
comp=Z,85nm,1.4s
PASC **Pasadena Art C** **71.53 319** P **P** **12 56 29.6 +1.8**
PASC IAmb IAmb 12 56 31.0
comp=Z,53nm,1.1s
K22A **Casper** **71.53 332** P 12 56 28.6
baz=143,SNR=6.8
K22A **Casper** **71.53 332** P **P** **12 56 28.4 +0.6**
SHOC **Shoshone, Teco** **71.54 321** P 12 56 29.1
baz=134,SNR=11
RSSD **Black Hills** **71.67 334** P 12 56 29.6
baz=146
RSSD **Black Hills** **71.67 334** P **P** **12 56 29.2 +0.5**
RSSD pmax pmax
comp=Z,16nm,0.9s
RSSD **Black Hills** **71.67 334** P **P** **12 56 29.2 +0.5**
DECC **Green Verdugo** **71.67 319** P 12 56 30.2
baz=132
SNCC **San Nicolas Is** **71.76 317** P 12 56 31.1
baz=130
B35A **Bob, Littlefor** **71.85 343** IAmb IAmb 12 56 30.1
comp=Z,48nm,1.1s
EDW2 **Edwards Air Fo** **71.88 319** P 12 56 31.4
baz=132,SNR=19
MPU **Maple Canyon** **71.94 327** IAmb IAmb 12 56 33.1
comp=Z,34nm,1.0s
PSUT **Pine Spring** **72.03 325** P **P** **12 56 32.9 +2.0**
PSUT IAmb IAmb 12 56 34.0
comp=Z,35nm,0.8s
LRMC **Laurel Mtn Rad** **72.09 320** P 12 56 32.9
baz=132,SNR=10.0
NLU **North Lily Min** **72.12 327** P **P** **12 56 33.0 +1.6**
OSI **Osito Audit: C** **72.15 319** P 12 56 33.1
baz=131
TPNV **Topopah Spring** **72.25 322** P 12 56 34.1
baz=134,SNR=53
TPNV **Topopah Spring** **72.25 322** IAmb IAmb 12 56 35.8
comp=Z,48nm,1.1s
FURC **Furnace Creek,** **72.28 321** P 12 56 34.4
baz=133,SNR=28
JLU **Jordanelle** **72.28 327** IAmb IAmb 12 56 35.3
comp=Z,53nm,1.2s
SCZ2 **Santa Cruz Isl** **72.32 318** P 12 56 34.7
baz=131
MPMC **Manual Prospec** **72.37 321** P 12 56 34.4
baz=133,SNR=23
AGMN **Agassiz Nation** **72.40 342** P 12 56 32.4
baz=154,SNR=12
ARVC **Arvin** **72.56 319** P 12 56 35.5
baz=132
TCUT **Toone Canyon** **72.65 328** P **P** **12 56 36.1 +1.5**
DUG **Dugway, Tooele** **72.68 326** P 12 56 36.2
baz=137,SNR=30
DUG **Dugway, Tooele** **72.68 326** P **P** **12 56 36.1 +1.4**
DUG pmax pmax
comp=Z,43nm,1.2s
DUG **Dugway, Tooele** **72.68 326** P **P** **12 56 36.1 +1.4**
DUG IAmb IAmb 12 56 37.7
comp=Z,43nm,1.1s
ISA **Isabella, Lake** **72.70 320** P **P** **12 56 36.5 +1.7**
ISA pmax pmax
comp=Z,44nm,0.9s
ISA **Isabella, Lake** **72.70 320** P **P** **12 56 36.5 +1.7**
ISA IAmb IAmb 12 56 38.1
comp=Z,44nm,0.9s
ISA **Isabella, Lake** **72.70 320** P 12 56 36.9
baz=132,SNR=35
KOWA **Kowa** **72.79 67** P **P** **12 56 34.4 -1.3**
KOWA IAmb IAmb 12 57 04.9
comp=Z,75nm,0.9s
R11A **Troy Canyon, C** **72.85 323** P 12 56 37.9
baz=135,SNR=42
R11A **Troy Canyon, C** **72.85 323** P **P** **12 56 37.5 +1.7**
GRAC **Grapevine Rang** **72.93 321** P 12 56 38.2
baz=133,SNR=11
CWC **Cottonwood Cre** **72.98 321** P 12 56 38.7
baz=132
BW06 **Boulder Array** **73.00 330** P 12 56 37.4
baz=140,SNR=11
PD31 **Pinedale Array** **73.01 330** P **P** **12 56 36.9 +0.2**
PDAR **Pinedale Array** **73.01 330** P **P** **12 56 37.4 +0.7**
comp=Z,3.5nm,0.9s,baz=144,slow=5.5,SNR=24
PDAR pP **pP** **12 57 03.6 -0.3**
comp=Z,1.5nm,0.6s,baz=133,slow=7.6,SNR=2.8
PDAR **Pinedale Array** **73.01 330** P **P** **12 56 36.8 +0.2**
PKM **Mcpherson Peak** **73.01 318** P 12 56 39.0
baz=131,SNR=16
MDND **Maddock** **73.18 339** P 12 56 38.0
baz=150,SNR=6.3
VES **Vestal, Richgr** **73.19 320** P 12 56 39.3
baz=131,SNR=17
SMMC **Simmler** **73.40 319** P 12 56 40.9
baz=131,SNR=18
TIN **Tinemaha, Big** **73.48 321** P 12 56 41.4
baz=132
AHID **Auburn Hatcher** **73.74 329** P **P** **12 56 41.5 +0.5**
AHID IAmb IAmb 12 56 43.2
comp=Z,46nm,1.1s
HVU **Hansel Valley** **73.83 328** P **P** **12 56 42.3 +0.9**
HVU pmax pmax
comp=Z,30nm,1.0s
HVU **Hansel Valley** **73.83 328** P **P** **12 56 42.3 +0.9**
PAGB **Antelope Grade** **73.83 319** P **P** **12 56 43.3 +1.9**
PAGB IAmb IAmb 12 56 44.7
comp=Z,58nm,1.1s
ECR **Eagle Creek** **74.08 329** P **P** **12 56 43.8 +0.8**
ULM **Lac du Bonnet** **74.16 343** P **P** **12 56 42.7 -0.2**
comp=Z,16nm,0.6s,baz=153,slow=6.1,SNR=48
ULM pP **pP** **12 57 10.2 -0.2**
comp=Z,12nm,0.5s,baz=151,slow=7.0,SNR=5.3
ULM **Lac du Bonnet** **74.16 343** *i* P **P** **12 56 42.1 -0.8**
ULM **Lac du Bonnet** **74.16 343** IAmb IAmb 12 56 43.7
comp=Z,66nm,1.4s
ELK **Elko** **74.35 325** P **P** **12 56 45.8 +1.2**
ELK pmax pmax
comp=Z,16nm,1.0s
ELK **Elko** **74.35 325** P **P** **12 56 45.8 +1.2**
NV11 **Mina Array Sit** **74.37 322** P **P** **12 56 46.3 +1.7**
MDPB **Devils Postpil** **74.37 321** P **P** **12 56 46.5 +1.6**
LHV **Little Huntoon** **74.45 322** P **P** **12 56 46.5 +1.6**
LHV IAmb IAmb 12 56 48.3
comp=Z,41nm,1.1s
NVAR **Mina Array Bea** **74.45 322** P **P** **12 56 47.1 +1.9**
comp=Z,14nm,0.8s,baz=153,slow=6.8,SNR=102
NVAR pP **pP** **12 57 14.2 +1.9**
comp=Z,2.0nm,0.5s,baz=157,slow=5.3,SNR=3.4
NVAR **Mina Array Bea** **74.45 322** P **P** **12 56 46.0 +0.8**
PMPB **Monarch Peak** **74.48 319** P **P** **12 56 47.5 +2.3**
PMPB IAmb IAmb 12 56 48.7
comp=Z,46nm,0.8s
FLWY **Flagg Ranch** **74.55 330** P **P** **12 56 46.7 +1.1**
FLWY IAmb IAmb 12 56 48.7
comp=Z,59nm,1.0s
LAO **LASA Array** **74.65 335** P 12 56 47.0
baz=144,SNR=5.1
LAO **LASA Array** **74.66 335** IAmb IAmb 12 56 48.3
comp=Z,42nm,1.1s
RLMT **Red Lodge** **74.70 332** P 12 56 47.7
baz=141,SNR=18
RLMT **Red Lodge** **74.70 332** IAmb IAmb 12 56 49.1
comp=Z,54nm,1.3s
H17A **Grant Village** **74.73 331** P 12 56 48.5
baz=140,SNR=8.6

KVN **Kaiserville** **74.75 323** P **P** **12 56 47.8 +0.9**
KVN pmax pmax
comp=Z,38nm,1.0s
KVN **Kaiserville** **74.75 323** P **P** **12 56 47.8 +0.9**
KVN IAmb IAmb 12 56 49.5
comp=Z,38nm,1.0s
YNE **Yellowstone No** **74.94 331** IAmb IAmb 12 56 50.5
comp=Z,76nm,1.0s
YMR **Madison River** **75.12 331** IAmb IAmb 12 56 52.4
comp=Z,62nm,1.1s
YHH **Holmes Hill** **75.16 331** IAmb IAmb 12 56 52.6
comp=Z,55nm,1.1s
WAKR **Walker** **75.16 321** P **P** **12 56 51.5 +2.2**
DGMT **Dagmar** **75.33 337** P 12 56 51.0
baz=146,SNR=8.8
DGMT **Dagmar** **75.33 337** P **P** **12 56 50.7 +0.9**
DGMT IAmb IAmb 12 56 52.2
comp=Z,59nm,0.9s
YHL **Hebgen Lake** **75.36 331** IAmb IAmb 12 56 53.8
comp=Z,77nm,1.5s
YERR **Yerington** **75.37 322** P **P** **12 56 51.9 +1.5**
YERR IAmb IAmb 12 56 53.8
comp=Z,55nm,1.4s
CMB **Columbia Colle** **75.41 321** P **P** **12 56 50.8 +0.3**
CMB pmax pmax
comp=Z,10.0nm,0.9s
CMB **Columbia Colle** **75.41 321** P **P** **12 56 50.8 +0.3**
PNTR **Pine Nut** **75.64 322** P **P** **12 56 53.9 +1.8**
PNTR IAmb IAmb 12 56 55.4
comp=Z,29nm,0.8s
PAHR **Pah Rah Range** **75.93 322** P **P** **12 56 53.8 +0.2**
PAHR IAmb IAmb 12 56 56.8
comp=Z,65nm,0.8s
HLID **Hailey** **75.95 328** P 12 56 55.4
baz=137,SNR=66
HLID **Hailey** **75.95 328** P **P** **12 56 54.9 +1.3**
HLID IAmb IAmb 12 56 56.9
comp=Z,41nm,1.0s
MCMT **McKenzie Canyo** **76.12 330** P **P** **12 56 55.5 +0.8**
BOZ **Bozeman (W)** **76.13 331** P 12 56 55.6
baz=139,SNR=24
MFID **Camas Ranch** **76.56 327** IAmb IAmb 12 57 00.2
comp=Z,43nm,1.2s
SBA **Scott Base** **76.90 190** P **P** **12 57 00.9 +2.6**
SBA pmax pmax
comp=Z,12nm,2.2s
ORV **Oroville** **77.06 321** P **P** **12 57 01.2 +1.4**
ORV pmax pmax
comp=Z,66nm,1.2s
ORV **Oroville** **77.06 321** P **P** **12 57 01.2 +1.4**
ORV IAmb IAmb 12 57 02.9
comp=Z,66nm,1.1s
HRY **Holter Researc** **77.07 331** P **P** **12 57 01.3 +1.5**
EGMT **Eagleton** **77.17 333** P 12 57 00.6
baz=141,SNR=9.9
EGMT **Eagleton** **77.17 333** P **P** **12 57 01.2 +0.9**
EGMT IAmb IAmb 12 57 02.3
comp=Z,47nm,1.1s
SYO **Syowa Base** **77.65 160**‖ *e*P **P** **12 57 01.6 -1.0**
SYO **Syowa Base** **77.65 160**‖ *e*PcP **PcP** **12 57 09.4 -3.0**
O03E **Paynes Creek** **77.72 322** P 12 57 03.9
baz=130,SNR=12
MOD **Modoc Plateau** **77.91 324** IAmb IAmb 12 57 07.5
comp=Z,58nm,1.4s
VNDA **Vanda** **77.93 190** P **P** **12 57 06.6 +2.5**
comp=Z,7.0nm,0.7s,baz=123,slow=6.1,SNR=22
MSO **Missoula** **78.12 330** P 12 57 07.3
baz=138,SNR=16
O02D **Mt. Diablo Mer** **78.22 321** P 12 57 06.4
baz=130
BMO **Blue Mountains** **78.33 327** IAmb IAmb 12 57 09.4
comp=Z,33nm,0.9s
N02D **Trinity Center** **78.68 322** P 12 57 09.2
baz=130,SNR=11
M04C **Macdoel** **78.70 323** P 12 57 10.3
baz=130,SNR=17
K05A **Summer Lake** **78.79 324** P **P** **12 57 11.3 +1.8**
K05A IAmb IAmb 12 57 12.8
comp=Z,55nm,0.9s
M02C **Callahan** **79.03 322** P 12 57 11.3
baz=130
K04D **Chiloquin, OR** **79.20 323** P 12 57 12.9
baz=131,SNR=10
L04D **Klamath Falls** **79.25 323** P 12 57 12.5
baz=130,SNR=7.3
J05D **Fort Rock, OR** **79.34 324** P 12 57 13.7
baz=131,SNR=19
G08A **Pilot Rock** **79.48 327** P **P** **12 57 14.6 +1.5**
PINE **Pine Mountain** **79.52 325** IAmb IAmb 12 57 16.7
comp=Z,47nm,0.9s
WALA **Waterton Lakes** **79.75 332** P **P** **12 57 15.6 +1.1**
WALA IAmb IAmb 12 57 16.7
comp=Z,34nm,0.9s
J04D **Umpqua Nationa** **79.80 324** P 12 57 16.3
baz=130,SNR=11
HUMO **Hull Mountain** **79.87 323** P **P** **12 57 15.5 +0.4**
FFC **Flin Flon** **79.88 341** *e*P **P** **12 57 15.2 +0.3**
FFC **Flin Flon** **79.88 341** P **P** **12 57 15.0 +0.1**
E09A **Wood Farm, Sta** **79.91 328** P **P** **12 57 16.4 +1.2**
L02E **Cave Junction** **79.95 322** P 12 57 17.5
baz=129,SNR=5.2
I05D **Terrebonne, OR** **80.09 325** P 12 57 18.4
baz=131,SNR=32
I04A **Tendick Farm,** **80.32 324** P 12 57 18.4
baz=130,SNR=11
K02D **Willamette Mer** **80.33 322** P 12 57 19.1
baz=129,SNR=7.7
E08A **Dider Farm, El** **80.35 328** P **P** **12 57 17.4 -0.2**
HAWA **Hanford** **80.52 327** P **P** **12 57 20.0 +1.4**
HAWA IAmb IAmb 12 57 21.4
comp=Z,37nm,0.8s
TSUM **Tsumeb** **80.60 107** P **P** **12 57 20.6 +0.7**
NEW **Newport** **80.64 330** P 12 57 19.5
baz=135,SNR=8.4
NEW **Newport** **80.64 330** P **P** **12 57 19.2 0.0**
NEW pmax pmax
comp=Z,46nm,1.8s
NEW **Newport** **80.64 330** P **P** **12 57 19.2 0.0**
G05D **Wamic, OR** **80.68 326** P 12 57 21.3
baz=131,SNR=9.5
J01E **Myrtle Point** **80.77 323** P 12 57 21.8
baz=129
H04A **Detroit Lake** **80.78 325** P **P** **12 57 20.8 +0.8**
H04A IAmb IAmb 12 57 22.0
comp=Z,26nm,0.8s
I03D **Drain, OR** **80.78 323** P 12 57 21.4
baz=130,SNR=6.2
MORF **Marmelete** **80.82 45** *e*P P 12 57 26.4 +6.0
comp=Z,34nm,1.3s
MORF *e*pP pP 12 57 50.7 +2.0
C09A **Chrisman Ranch** **80.87 329** IAmb IAmb 12 57 22.9
comp=Z,50nm,0.8s
PTEO **Sao Teotonio** **80.91 44** *e*P **P** **12 57 20.0 -0.8**
comp=Z,88nm,1.5s
PTEO *e*pP **pP** **12 57 54.3 +5.2**
H04D **Lebanon** **80.97 324** P 12 57 21.7
baz=130
F05D **White Salmon** **81.18 326** P 12 57 23.8
baz=131,SNR=5.5
PBDV **Barranco-do-Ve** **81.26 45** *e*P **P** **12 57 22.5 -0.2**
comp=Z,39nm,1.3s
PBDV *e*pP **pP** **12 57 53.1 +2.0**
I02D **Swisshome** **81.32 324** P 12 57 24.9
baz=129
COR **Corvallis** **81.32 324** P **P** **12 57 24.3 +1.5**
COR pmax pmax
comp=Z,106nm,1.1s
COR **Corvallis** **81.32 324** P **P** **12 57 24.3 +1.5**
PNCL **Nicolau / Gran** **81.35 44** *e*P **P** **12 57 27.4 +4.3**
comp=Z,25nm,1.9s
PNCL *e*pP **pP** **12 57 53.2 +1.8**
MESJ **Messejana** **81.40 44** *e*P **P** **12 57 24.4 +1.0**
comp=Z,19nm,1.7s
MESJ *e*pP **pP** **12 57 53.5 +1.8**
PCVE **Castro Verde** **81.41 45** *e*P **P** **12 57 24.0 +0.6**
comp=Z,24nm,1.1s
PCVE *e*pP **pP** **12 57 53.7 +1.9**
FCC **Fort Churchill** **81.47 347** P **P** **12 57 22.9 -0.3**
FCC pmax pmax
comp=Z,33nm,0.9s
FCC **Fort Churchill** **81.47 347** P **P** **12 57 22.9 -0.3**
FCC IAmb IAmb 12 57 24.7
comp=Z,33nm,0.9s
PVAQ **Vaqueiros** **81.49 45** *e*pP pP 12 57 54.3 +2.1
LTY **Liberty** **81.68 327** P **P** **12 57 25.6 +0.8**
LTY IAmb IAmb 12 57 27.2
comp=Z,74nm,1.5s
G03D **McMinnville, O** **81.70 325** P 12 57 26.8
baz=130
PBEJ **Beja** **81.74 44** *e*P **P** **12 57 25.9 +0.7**
comp=Z,14nm,1.2s
PBEJ *e*pP **pP** **12 57 55.4 +1.9**
B08A **Colville Reser** **81.77 329** P **P** **12 57 25.8 +0.7**
PMTG **Montargil** **82.09 43** *e*P **P** **12 57 27.7 +0.7**
comp=Z,22nm,1.1s
PMTG *e*pP **pP** **12 57 56.8 +1.5**
E04D **Cinebar** **82.20 326** P 12 57 28.4
baz=130
C06D **Leavenworth** **82.24 328** P 12 57 28.4
baz=132
D05A **Enumclaw** **82.31 327** IAmb IAmb 12 57 30.1
comp=Z,54nm,0.8s
PBAR **Barrancos** **82.37 45** *e*P **P** **12 57 29.1 +0.6**
comp=Z,22nm,1.7s
PBAR *e*pP **pP** **12 57 58.4 +1.6**
PESTR **Estremoz** **82.39 44** *e*P **P** **12 57 30.2 +1.6**
comp=Z,31nm,1.8s
PESTR *e*pP **pP** **12 57 58.8 +1.9**
E03A **Lebam** **82.72 326** IAmb IAmb 12 57 32.7
comp=Z,40nm,1.2s
PMRV **Marv??o** **82.82 43** *e*pP pP 12 58 02.3 +3.1
B06A **Marblemount** **82.93 328** IAmb IAmb 12 57 32.7
comp=Z,49nm,0.8s
PCBR **Castelo Branco** **83.00 43** *e*pP pP 12 58 03.2 +3.1
B05A **Bryant** **83.07 328** P 12 57 32.3
baz=131,SNR=12
D03D **Eldon** **83.10 327** P 12 57 33.2
baz=130,SNR=6.6
PVIS **Viseu** **83.22 42** *e*PcP **PcP** **12 57 42.9 +5.7**
MTE **Manteigas** **83.27 43** *e*PcP **PcP** **12 57 38.0 +0.6**
PVRL **Vila Real** **83.64 42** *e*PcP **PcP** **12 57 44.9 +5.9**
POLO **Lamas de Olo** **83.65 42** *e*PcP **PcP** **12 57 44.8 +5.7**
POLO *e*pP **pP** **12 58 04.8 +1.1**
PCAB **Cabril** **83.69 41** *e*PcP **PcP** **12 57 44.9 +5.7**
FRB **Frobisher Bay** **83.83 0** P **P** **12 57 35.2 -0.1**
FRB pmax pmax
comp=Z,12nm,1.4s
MVO **Moncorvo** **84.01 42** *e*P **P** **12 57 37.5 +0.5**
comp=Z,49nm,1.5s
MVO **Moncorvo** **84.01 42** *e*PcP **PcP** **12 57 46.6 +5.9**
MVO *e*pP **pP** **12 58 06.9 +1.3**
BOSA **Boshof** **84.19 118** P **P** **12 57 39.2 +0.8**
comp=Z,7.0nm,0.8s,baz=292,slow=4.1,SNR=7.8
BOSA pP **pP** **12 58 07.7 +0.9**
comp=Z,21nm,0.9s,baz=254,slow=3.5,SNR=11
TAM **Tamanrasset** **84.53 63** P **P** **12 57 40.5 +0.4**
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM **Tamanrasset** **84.53 63** IAmb IAmb 12 58 12.3
comp=Z,51nm,1.6s
PBRG **Braganca** **84.55 42** *e*P **P** **12 57 40.3 +0.7**
comp=Z,46nm,1.6s
PBRG *e*pP **pP** **12 58 09.3 +1.0**
PAB **San Pablo** **84.87 45** P **P** **12 57 41.7 +0.3**
PAB pmax pmax
comp=Z,31nm,1.2s
PAB **San Pablo** **84.87 45** P **P** **12 57 41.7 +0.3**
PAB IAmb IAmb 12 58 15.0
comp=Z,31nm,1.2s
ESDC **Sonseca Array** **85.19 45** P **P** **12 57 43.5 +0.6**
comp=Z,3.0nm,1.0s,baz=247,slow=5.7,SNR=10
ESDC pP **pP** **12 58 11.9 +0.5**
comp=Z,14nm,1.1s,baz=241,slow=5.9,SNR=7.5
ESDC **Sonseca Array** **85.19 45** P **P** **12 57 42.6 -0.3**
ESDC IAmb IAmb 12 58 16.5
comp=Z,71nm,1.3s
ESBB **Sonseca Array** **85.19 45** P **P** **12 57 42.4 -0.5**
MAW **Mawson** **85.49 163** P **P** **12 57 45.4 +1.5**
comp=Z,17nm,0.4s,baz=265,slow=9.2,SNR=7.9
YKA **Yellowknife Ar** **90.04 341** P **P** **12 58 06.0 +0.5**
comp=Z,42nm,0.8s,baz=130,slow=5.2,SNR=493
YKA pP **pP** **12 58 35.1 +1.4**
comp=Z,23nm,0.9s,baz=132,slow=5.3,SNR=7.1
RSBS **Rosebush, Pemb** **91.20 34** *e*P P 12 58 20.6 +9.5
RSBS IAmb IAmb 12 58 22.6
comp=Z,40nm,0.8s
ICESG **Greenland Ices** **91.70 10** *i* P **P** **12 58 13.8 +0.3**
ICESG IAmb IAmb 12 58 15.7
comp=Z,20nm,0.9s
MCH1 **Michaelchurch** **92.15 34** *e*P P 12 58 25.9 +10
MCH1 IAmb IAmb 12 58 26.1
comp=Z,79nm,1.5s
MONM **Monmouth** **92.17 35** *e*P P 12 58 25.6 +10
MONM IAmb IAmb 12 58 27.1
comp=Z,40nm,0.8s
CLGH **Cloghs, Cushen** **92.21 31** *e*P P 12 58 26.7 +11
HLM1 **Long Mynd** **92.47 34** *e*P P 12 58 26.6 +10
HLM1 IAmb IAmb 12 58 28.2
comp=Z,26nm,0.7s
WRAK **Wrangell Islan** **93.00 330** P 12 58 19.3
baz=123
NEWG **New Galloway** **93.14 31** *e*P P 12 58 30.4 +10
LAWE **Loch Awe, Argy** **93.19 30** *e*P P 12 58 30.2 +10
PGBU **Glenifferbraes** **93.38 31** *e*P P 12 58 32.0 +11
PGBU IAmb IAmb 12 58 33.5
comp=Z,45nm,0.7s
LBWR **Ladybower, Pea** **93.52 34** *e*P P 12 58 32.6 +11
CASY **Casey** **93.63 180** P **P** **12 58 23.8 +1.5**
KPL **Plockton** **93.65 29** *e*P P 12 58 33.2 +11
KPL IAmb IAmb 12 58 35.4
comp=Z,38nm,0.8s
BCLA **Clavier** **96.03 38** *d*PcP **PcP** **12 58 36.8 +3.2**
RES **Resolute Bay** **96.25 353** P **P** **12 58 31.8 -2.0**
RES pmax pmax
comp=Z,6.0nm,2.6s
TULEG **Thule** **96.68 0** P **P** **12 58 33.2 -2.6**
TULEG IAmb IAmb 12 58 37.1
comp=Z,16nm,1.2s
WATA **Walderalm** **98.68 43** *e*P Pdif 12 58 56.0 +10
comp=Z,3.5nm,0.5s
WTTA **Wattenberg** **98.69 43** *e*P Pdif 12 58 56.4 +11
comp=Z,9.4nm,0.7s
KBA **Koelnbreinsper** **99.72 43** *i* P **Pdif** **12 59 00.3 +10**
comp=Z,5.5nm,0.8s
MYKA **Terra Mystica** **99.77 44** *i* P **Pdif** **12 59 01.4 +11**
comp=Z,8.0nm,0.6s
INK **Inuvik** **99.79 340** LR LR 13 50 53.8
comp=Z,113nm,18.0s,baz=109,slow=39
INK **Inuvik** **99.79 340** P **Pdif** **12 58 50.5 +0.6**
INK pmax pmax
comp=Z,6.0nm,1.4s
OBKA **Obir** **100.32 44** *i* P **Pdif** **12 59 04.1 +11**
comp=Z,7.8nm,0.8s
KHC **Kasperske Hory** **100.54 42** *i* P **Pdif** **12 58 53.8 +0.1**
MOA **Molln** **100.56 43** *e*P **Pdif** **12 59 04.1 +10**
comp=Z,2.6nm,0.6s
SOKA **Soboth** **100.69 44** *i* P **Pdif** **12 59 04.1 +10**
comp=Z,3.4nm,0.9s
K27K **Chicken** **100.90 335** P 12 58 54.3
baz=114
Q23K **Middleton Isla** **101.00 329** P 12 58 55.5
baz=111
ZST **Bratislava** **102.48 43** *e*P **Pdif** **12 59 04.1 +1.8**
ZST **Bratislava** **102.48 43** *e*PDIFF **Pdif** **12 59 04.1 +1.8**
NB2 **NORSAR Subarra** **103.05 30** P **Pdif** **12 59 17.3 +13**
comp=Z,10nm,1.1s,baz=253,slow=4.6
NB2 **NORSAR Subarra** **103.05 30** P **Pdif** **12 59 17.3 +13**
baz=253,slow=4.6
ILAR **Eielson Array** **103.12 335** PKKPbc PKKPbc 13 14 59.8 -3.3
comp=Z,0.6nm,0.9s,baz=270,slow=3.1,SNR=4.4
CUT **Chulitna** **103.80 332** P 12 59 07.1
baz=107
KIS **Kishinev** **109.96 46** *e*P **Pdif** **12 59 38.0 +2.4**
KIS **Kishinev** **109.96 46** *e*PKP **PKiKP** **13 03 40.0 +2.9**
KIS LRM MLR 13 48 31.0
comp=Z,200nm,18.0s
KIS **Kishinev** **109.96 46** *e*P **Pdif** **12 59 38.0 +2.4**
FINES **FINESS Array B** **110.15 31** PKKPbc PKKPbc 13 14 40.0 -0.9
comp=Z,4.1nm,1.0s,baz=111,slow=7.6,SNR=3.8
ARCES **ARCESS Array B** **110.53 22** PKKPbc PKKPbc 13 14 38.4 -1.7
comp=Z,6.0nm,1.1s,baz=90,slow=4.0,SNR=7.5
AKASG **Malin Array Be** **110.73 42** PKKPbc PKKPbc 13 14 37.9 -0.8
comp=Z,1.8nm,0.5s,baz=64,slow=3.9,SNR=7.2
KLMR **Klimovskoe** **116.66 31** *e*PKIKP **PKPdf** **13 03 48.9 -0.5**
KLMR pmax pmax
comp=Z,13nm,1.2s
KLMR **Klimovskoe** **116.66 31** *e*PKPdf **PKPdf** **13 03 49.0 -0.5**
KLMR AMP 13 03 51.1
comp=Z,13nm,1.2s
SOC **Sochi** **117.28 51** *i* PKIKP **PKiKP** **13 03 52.7 +1.5**
SOC *e* 13 10 29.8
SOC *e*PS **PKKPdf** **13 14 37.0 -6.7**
KIV **Kislovodsk** **119.44 50**‖ *i* PKIKP **PKiKP** **13 03 56.4 +0.8**
KIV 13 04 22.0
KIV *e* 13 04 27.0
KIV 13 10 46.0
KIV PS **PS** **13 14 55.0 -14**
KIV *e*SS SS 13 21 34.1 +0.3
KIV pmax pmax
comp=Z,2.0nm,0.5s
KBZ **Khabaz** **119.59 51** PKP **PKiKP** **13 03 56.1 +0.5**
comp=Z,5.7nm,0.9s,baz=11,slow=1.5,SNR=16
KBZ pPKP **pPKPdf** **13 04 24.9 -0.7**
comp=Z,4.7nm,0.8s,baz=216,slow=3.3,SNR=6.3
KBZ **Khabaz** **119.59 51***c* *i* PKIKP **PKiKP** **13 03 55.7 0.0**
STKA **Stephens Creek** **120.28 210** PKP **PKiKP** **13 03 57.8 +0.3**
comp=Z,3.2nm,0.7s,baz=124,slow=3.0,SNR=8.1
STKA pPKP **pPKPdf** **13 04 27.7 +0.8**
comp=Z,0.7nm,0.5s,baz=47,slow=5.1,SNR=1.8
STKA **Stephens Creek** **120.28 210** **PKiKP** **13 03 57.7 +0.1**
ZEI **Tsey** **120.31 52** *i* PKIKP **PKiKP** **13 03 57.5 0.0**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
BELG **Belogornoye** **122.17 40** PKP **PKPdf** **13 04 00.2 -0.1**
comp=Z,8.5nm,0.9s,baz=154,slow=2.4,SNR=5.8
BELG PKKPbc **PKKPbc** **13 13 58.4 0.0**
comp=Z,4.9nm,0.7s,baz=137,slow=2.0,SNR=4.1
CTA **Charters Tower** **126.91 223** PKP **PKiKP** **13 04 11.4 +0.4**
comp=Z,5.6nm,0.7s,baz=67,slow=2.2,SNR=6.2
ARU **Arti** **127.34 34** PKP **PKiKP** **13 04 10.8 +0.1**
comp=Z,1.6nm,0.3s,baz=297,slow=2.5,SNR=12
ARU **Arti** **127.34 34***c* *i* PKIKP **PKiKP** **13 04 11.0 +0.4**
ARU pmax pmax
comp=Z,28nm,2.5s
ARU **Arti** **127.34 34** PKPdf **PKiKP** **13 04 11.2 +0.6**
H11S2 **WAKE ISLAND Hy** **127.49 278** T T 15 24 07.0
baz=101,slow=74,SNR=690
H11S1 **WAKE ISLAND Hy** **127.50 278** T T 15 24 07.6
baz=101,slow=74,SNR=504
H11S3 **WAKE ISLAND Hy** **127.51 278** T T 15 24 04.5
baz=101,slow=74,SNR=449
H11N3 **WAKE ISLAND Hy** **127.54 280** T T 15 24 10.1
baz=101,slow=74,SNR=103
H11N2 **WAKE ISLAND Hy** **127.55 280** T T 15 24 08.6
baz=101,slow=74,SNR=141
H11N1 **WAKE ISLAND Hy** **127.56 280** T T 15 24 14.3
baz=101,slow=74,SNR=136
TIXI **Tiksi** **127.64 353** **PKPdf** **13 04 10.3 0.0**
AKTO **Aktyubinsk** **128.94 41** PKP **PKiKP** **13 04 14.0 -0.1**
comp=Z,4.0nm,0.9s,baz=254,slow=2.2,SNR=9.8
AKTO pPKP **pPKPdf** **13 04 42.2 -1.2**
comp=Z,3.1nm,0.8s,baz=252,slow=2.4,SNR=4.3
SEY **Seymchan** **128.96 337** PKP **PKiKP** **13 04 14.2 +0.5**
comp=Z,11nm,0.8s,baz=116,slow=2.5,SNR=25
SEY pPKP **pPKPdf** **13 04 40.8 -1.8**
comp=Z,2.8nm,0.8s,baz=27,slow=22,SNR=1.7
NRIK **Noril'sk** **128.99 10** PKP **PKiKP** **13 04 13.7 +0.1**
comp=Z,3.1nm,0.9s,baz=40,slow=1.8,SNR=6.6
NRIK **Noril'sk** **128.99 10***c* *i* PKIKP **PKPdf** **13 04 13.2 +0.3**
NRIK **Noril'sk** **128.99 10** PKPdf **PKPdf** **13 04 12.8 -0.1**
ABKAR **Akbulak array** **130.47 42** PKPdf **PKiKP** **13 04 16.9 -0.3**
ABKAR **Akbulak array** **130.47 42** PKPdf **PKiKP** **13 04 17.1 0.0**
ASAR **Alice Springs** **130.80 208** PKP **PKPdf** **13 04 17.9 0.0**
comp=Z,11nm,0.9s,baz=133,slow=1.7,SNR=9.0
ASAR pPKP **pPKPdf** **13 04 48.4 +1.1**
comp=Z,1.5nm,0.5s,baz=130,slow=1.6,SNR=2.7
ASAR **Alice Springs** **130.80 208** PKPdf **PKPdf** **13 04 16.4 -1.5**
AS31 **Alice Springs** **130.80 208** PKPdf **PKPdf** **13 04 17.6 -0.2**
PETK **Petropavlovsk-** **131.50 324** PKP **PKiKP** **13 04 19.5 +0.4**
comp=Z,7.4nm,1.1s,baz=145,slow=3.5,SNR=4.8
WSAR **Wadi Sarin** **131.66 77** PKP **PKiKP** **13 04 20.0 -0.4**
comp=Z,6.5nm,0.9s,baz=254,slow=4.3,SNR=3.8
WR0 **Warramunga Arr** **133.69 212** PKPdf **PKPdf** **13 04 23.0 -0.4**
WB2 **Warramunga Arr** **133.80 211** PKPdf **PKiKP** **13 04 24.4 -0.5**
WRA **Warramunga Arr** **133.80 211** PKP **PKPdf** **13 04 24.2 +0.7**
comp=Z,7.9nm,0.7s,baz=152,slow=1.7,SNR=32
WRA pPKP **pPKPdf** **13 04 53.7 +0.6**
comp=Z,2.3nm,0.7s,baz=153,slow=1.4,SNR=2.4
WRA SKP 13 07 43.2
comp=Z,3.2nm,1.0s,baz=162,slow=2.8,SNR=5.9
WRAB **Tennant Creek** **133.81 211** *i* PKIKP **PKPdf** **13 04 22.3 -1.3**
WRAB pmax pmax
comp=Z,30nm,1.7s
WB0 **Warramunga Arr** **133.93 212** PKPdf **PKPdf** **13 04 23.9 +0.1**
BRVK **Borovoye** **134.92 34***c* *i* PKIKP **PKPdf** **13 04 24.9 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BVAR **Borovoye Array** **134.99 34** PKP **PKPdf** **13 04 25.5 +0.7**
comp=Z,2.4nm,0.7s,baz=204,slow=5.5,SNR=12
BVAR pPKP **pPKPdf** **13 04 52.7 -1.6**
comp=Z,1.4nm,0.7s,baz=207,slow=6.2,SNR=3.3
YAK **Yakutsk** **136.36 347***c* *i* PKIKP **PKPdf** **13 04 27.8 +0.9**
YAK pmax pmax
comp=Z,7.0nm,0.6s
IUG **Iuzhnay** **139.41 48** *e*PKP **PKPdf** **13 04 33.1 -0.4**
baz=48
IUG *e*SKP 13 07 58.4
baz=48
IUG **Iuzhnay** **139.41 48** *e*PKIKP **PKPdf** **13 04 33.0 -0.4**
DZA **Taraz** **140.05 47** *e*PKP **PKPdf** **13 04 35.1 +0.7**
baz=46
DZA **Taraz** **140.05 47** *e*PKIKP **PKPdf** **13 04 35.1 +0.7**
KURK **Kurchatov** **140.50 32***c* *i* PKIKP **PKPdf** **13 04 35.7 +0.8**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK **Kurchatov** **140.50 32** PKPdf **PKPdf** **13 04 35.7 +0.8**
KURBB **Kurchatov Arra** **140.51 32** PKP **PKPdf** **13 04 35.4 +0.4**
comp=Z,4.1nm,0.8s,baz=300,slow=2.5,SNR=8.3
ZALV **Zalesovo Beam** **141.02 24** PKhKP PKPpre 13 04 32.7
comp=Z,13nm,0.8s,baz=305,slow=2.5,SNR=26
ZALV PKP **PKPdf** **13 04 36.4 +0.6**
comp=Z,13nm,0.8s,baz=304,slow=3.0,SNR=26
ZALV SKP 13 08 02.6
comp=Z,5.0nm,0.8s,baz=308,slow=4.9,SNR=5.4
AAK **Ala-Archa** **142.29 46** PKP **PKPdf** **13 04 37.1 -1.6**
comp=Z,2.5nm,0.7s,baz=211,slow=4.8,SNR=5.6
AAK **Ala-Archa** **142.29 46** PKPdf **PKPdf** **13 04 37.0 -1.7**
BOD **Bodaibo** **142.52 357** *e*PKHKP PKPpre 13 04 33.3
BOD pmax pmax
comp=Z,9.0nm,0.9s
JAY **Jayapura** **142.92 236** PKP **PKPdf** **13 04 39.0 -1.5**
comp=Z,21nm,0.9s,baz=332,slow=15,SNR=4.3
JAY **Jayapura** **142.92 236** PKIKP **PKPdf** **13 04 39.0 -1.5**
CHKK **Chushkaly** **143.37 42** *e*PKP **PKPdf** **13 04 40.0 -0.4**
baz=42
CHKK **Chushkaly** **143.37 42** *e*PKIKP **PKPdf** **13 04 39.9 -0.4**
AAA **Alma-Ata** **143.63 43** *e*PKP **PKPdf** **13 04 41.0 +0.1**
baz=43
AAA *e*PP **PP** **13 07 55.8 +1.7**
baz=43
AAA **Alma-Ata** **143.63 43** *e*PKIKP **PKPdf** **13 04 40.9 +0.1**
AAA *e* 13 07 55.8
TNSS **Tian-Shan** **143.74 44** *e*PKP **PKPdf** **13 04 40.8 -0.7**
baz=43
TNSS **Tian-Shan** **143.74 44** *e*PKIKP **PKPdf** **13 04 40.7 -0.7**
MDOK **Medeo** **143.74 43** *e*PKP PKPbc 13 04 40.0 +1.0
baz=43
MDOK **Medeo** **143.74 43** *e*PKIKP PKPbc 13 04 40.0 +1.0
ZEA **Zeya** **144.38 343** *e*PKIKP **PKPdf** **13 04 41.3 -0.4**
ZEA pmax pmax
comp=Z,20nm,1.3s
ASAJ **Asahikawa** **144.54 319** PKP **PKPdf** **13 04 42.2 -0.1**
comp=Z,30nm,0.8s,baz=259,slow=1.9,SNR=26
ASAJ pPKP **pPKPdf** **13 05 12.4 +0.5**
comp=Z,17nm,0.7s,baz=163,slow=3.7,SNR=4.4
KSH **Kashi** **144.56 50** PKP **PKPdf** **13 04 42.6 -0.1**
KSH sPKP 13 05 17.2
KSH PP **PP** **13 08 01.3 +1.3**
KSH PKS **PKSdf** **13 08 17.1 -1.2**
KSH SKS **SKSdf** **13 11 39.1 -3.6**
KSH AMB AMB
comp=Z,450nm,5.7s
KPKS **Kokpek** **144.63 42** *e*PKP **PKPab** **13 04 41.2 -0.3**
baz=42
KPKS *e*PP **PP** **13 08 00.3 +0.3**
baz=42
KPKS **Kokpek** **144.63 42** *e*PKIKP **PKPab** **13 04 41.2 -0.3**
KPKS *e* 13 08 00.3
SATY **Saty** **144.66 43** *e*PKP **PKPab** **13 04 41.6 -0.1**
baz=42
SATY **Saty** **144.66 43** *e*PKIKP **PKPab** **13 04 41.6 -0.1**
MAKZ **Makanchi** **144.67 35** PKIKP **PKPab** **13 04 40.7 -0.7**
MAKZ **Makanchi** **144.67 35** PKPdf **PKPab** **13 04 40.7 -0.7**
MK31 **Makanchi Array** **144.85 35** *i* PKIKP PKPbc 13 04 42.4 +0.3
MK31 **Makanchi Array** **144.85 35** **PKPab** **13 04 41.7 -0.4**
MKAR **Makanchi Array** **144.85 35** PKP PKPbc 13 04 42.4 +0.3
comp=Z,21nm,0.9s,baz=313,slow=3.2,SNR=99
MKAR pPKP pPKPdf 13 05 11.7 -0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,11nm,0.9s,baz=305,slow=2.3,SNR=6.5						
MKAR				SKP		13 08 10.0	
	comp=Z,2.8nm,0.9s,baz=282,slow=4.0,SNR=4.8						
MKAR	**Makanchi Array**	**144.85**	**35**		**PKPab**	**13 04 40.8**	**-1.3**
UZB	**Uzynbulak**	**145.01**	**42**	*e*PKP	**PKPab**	**13 04 43.0**	**0.0**
	baz=42						
UZB	**Uzynbulak**	**145.01**	**42**	*e*PKIKP	**PKPab**	**13 04 43.0**	**0.0**
ERM	**Erimo**	**145.23**	**316**	PKIKP	**PKPab**	**13 04 44.8**	**+1.2**
ERM	**Erimo**	**145.23**	**316**		**PKPab**	**13 04 44.8**	**+1.2**
SHLS	**Shalkode**	**145.28**	**42**	*e*PKP	**PKPab**	**13 04 44.5**	**+0.6**
	baz=41						
SHLS	**Shalkode**	**145.28**	**42**	*e*PKIKP	**PKPab**	**13 04 44.5**	**+0.6**
ZSN	**Zaisan**	**145.74**	**32**	*e*PKP	**PKPdf**	**13 04 43.9**	**-0.4**
	baz=31						
ZSN	**Zaisan**	**145.74**	**32**	*e*PKIKP	**PKPdf**	**13 04 43.9**	**-0.4**
BATI	**Baumata**	**147.11**	**204**	PKPbc	**PKPbc**	**13 04 50.1**	**+0.3**
	comp=Z,52nm,0.8s,baz=23,slow=3.1,SNR=8.1						
TEY	**Ternei**	**147.46**	**325**	⇓*e*PKP2	**PKPbc**	**13 04 50.7**	**+0.8**
TEY				pmax	pmax		
	comp=Z,30nm,1.3s						
IRK	**Irkutsk**	**147.77**	**8**	*e*PKIKP	**PKPdf**	**13 04 47.1**	**-0.4**
IRK				pmax	pmax		
	comp=Z,54nm,1.8s						
MOY	**Mondy**	**147.82**	**12**	*e*PKP2	**PKiKP**	**13 04 51.8**	**-0.9**
MOY				pmax	pmax		
	comp=Z,39nm,1.5s						
PALK	**Pallekele**	**148.06**	**110**	PKPbc	**PKPbc**	**13 04 52.2**	**-0.3**
	comp=Z,7.9nm,0.8s,baz=15,slow=3.9,SNR=6.7						
TLY	**Talaya**	**148.24**	**9**	PKPbc	**PKiKP**	**13 04 53.0**	**-0.4**
	comp=Z,5.8nm,0.6s,baz=352,slow=2.2,SNR=5.8						
TLY	**Talaya**	**148.24**	**9**	*e*PKP2	**PKiKP**	**13 04 53.2**	**-0.2**
TLY				pmax	pmax		
	comp=Z,40nm,1.1s						
FAKI	**Fak Fak**	**148.75**	**225**		**PKiKP**	**13 04 55.1**	**-0.5**
HYB	**Hyderabad**	**149.34**	**90**	*i* PKP	**PKPdf**	**13 04 51.0**	**-0.2**
ZAK	**Zakamensk**	**149.45**	**10**	*e*PKHKP	PKPpre	13 04 51.4	
ZAK				pmax	pmax		
	comp=Z,18nm,1.3s						
WMQ	**Urumqi**	**149.67**	**34**	*e*PKPbc	**PKPdf**	**13 04 50.5**	**-0.5**
USRK	**Ussuriysk Ar.**	**150.42**	**328**	PKPbc	**PKiKP**	**13 04 58.5**	**+0.4**
	comp=Z,24nm,0.8s,baz=349,slow=1.2,SNR=36						
USRK				pPKPbc	**pPKPbc**	**13 05 25.1**	**-1.4**
	comp=Z,16nm,0.8s,baz=21,slow=1.0,SNR=6.3						
USRK	**Ussuriysk Ar.**	**150.42**	**328**	PKIKP	**PKiKP**	**13 04 58.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**150.42**	**328**		**PKiKP**	**13 04 58.0**	**-0.1**
SIJI	**Sorong**	**150.92**	**226**	PKPbc	**PKiKP**	**13 05 00.2**	**+0.1**
	comp=Z,49nm,0.8s,baz=8.6,slow=5.2,SNR=22						
SIJI				pPKPbc	**pPKPbc**	**13 05 30.2**	**+1.7**
	comp=Z,19nm,0.8s,baz=7.6,slow=4.2,SNR=2.3						
MJAR	**Matsushiro Arr**	**151.17**	**310**	PKPbc	**PKiKP**	**13 04 59.9**	**0.0**
	comp=Z,19nm,0.8s,baz=89,slow=1.0,SNR=30						
MJAR				pPKPbc	**pPKPbc**	**13 05 28.9**	**+0.3**
	comp=Z,13nm,0.9s,baz=80,slow=2.0,SNR=5.5						
MJAR	**Matsushiro Arr**	**151.17**	**310**	PKIKP	**PKiKP**	**13 04 59.8**	**-0.2**
MJAR	**Matsushiro Arr**	**151.17**	**310**		**PKiKP**	**13 04 59.8**	**-0.2**
MAJO	**Matsushiro**	**151.17**	**310**	PKIKP	**PKiKP**	**13 04 59.8**	**-0.1**
MAJO	**Matsushiro**	**151.17**	**310**		**PKiKP**	**13 04 59.8**	**-0.1**
MAT	**Matsushiro**	**151.17**	**310**	PKP	**PKPbc**	**13 04 59.7**	**+0.3**
CISI	**Cisompet, Garu**	**152.10**	**174**		**PKPbc**	**13 05 01.3**	**-1.0**
SONM	**Songino Array**	**152.35**	**6**	PKP	**PKPdf**	**13 04 56.0**	**+0.9**
	comp=Z,5.0nm,0.8s,baz=310,slow=1.2,SNR=34						
SONM				PKPbc	**PKiKP**	**13 05 02.6**	**+0.4**
	comp=Z,12nm,0.5s,baz=304,slow=1.2,SNR=81						
SONM				pPKP	**pPKPdf**	**13 05 22.3**	**-2.7**
	comp=Z,5.2nm,0.5s,baz=330,slow=1.5,SNR=5.2						
SONM	**Songino Array**	**152.35**	**6**	PKPdf	**PKPdf**	**13 04 55.5**	**+0.4**
SONM				PKPbc	**PKiKP**	**13 05 02.6**	**+0.4**
SONM				PKPab	**PKPab**	**13 05 11.3**	**-0.9**
ULN	**Ulaanbaatar**	**152.39**	**5**	PKIKP	**PKPdf**	**13 04 56.5**	**+1.4**
ULN	**Ulaanbaatar**	**152.39**	**5**	PKPdf	**PKPdf**	**13 04 56.5**	**+1.4**
ULN				PKPbc	**PKiKP**	**13 05 03.0**	**+0.7**
ULN				PKPab	**PKPab**	**13 05 13.8**	**+1.4**
KAPI	**Kappang**	**153.31**	**200**	PKPbc	**PKiKP**	**13 05 06.2**	**+1.3**
	comp=Z,13nm,0.6s,baz=137,slow=12,SNR=3.6						
KAPI				PKPab	**PKPab**	**13 05 18.0**	**+1.0**
	comp=Z,40nm,0.9s,baz=174,slow=7.1,SNR=5.5						
GKN	**Gorkha**	**154.96**	**67**	*e*P	**PKPab**	**13 05 22.0**	**-2.1**
KKN	**Kakani**	**155.56**	**67**	*e*P	**PKPab**	**13 05 23.9**	**-2.8**
PKIN	**Phulchoki**	**155.70**	**68**	*e*P	**PKPab**	**13 05 25.3**	**-2.1**
RAMN	**Ramite**	**156.88**	**69**	*e*P	**PKPab**	**13 05 29.3**	**-3.1**
KSRS	**Korea Array**	**157.39**	**323**	PKP	**PKPdf**	**13 05 03.4**	**+1.3**
	comp=Z,4.1nm,0.8s,baz=102,slow=1.5,SNR=10						
KSRS				PKPab	**PKPab**	**13 05 35.1**	**+1.3**
	comp=Z,12nm,1.0s,baz=60,slow=4.6,SNR=14						
KSAR	**Wonju Array Be**	**157.42**	**323**	PKP2	**PKPab**	**13 05 35.0**	**+1.0**
KSAR						14 05 01.1	
KSAR	**Wonju Array Be**	**157.42**	**323**		**PKPdf**	**13 05 01.1**	**-1.0**
KSAR					**PKPab**	**13 05 35.0**	**+1.0**
ODAN	**Odare**	**157.58**	**69**	*e*P	**PKPab**	**13 05 30.0**	**-5.5**
GTA	**Gaotai**	**158.78**	**24**	⇑PKP	**PKPdf**	**13 05 05.3**	**+1.4**
GTA				pPKP	pPKPdf	13 05 35.8	+2.0
RPSI	**Rantau Prapat**	**158.95**	**145**		**PKPab**	**13 05 42.7**	**+1.5**
PSI	**Prapat**	**159.03**	**145**	PKP2	**PKPab**	**13 05 42.7**	**+1.0**
HHC	**Hu-ho-hao-te**	**159.56**	**358**	*e*PKP	**PKPdf**	**13 05 06.3**	**+1.6**
LSA	**Lhasa**	**159.91**	**59**	PKIKP	**PKPdf**	**13 05 07.3**	**+1.4**
LSA	**Lhasa**	**159.91**	**59**		**PKPdf**	**13 05 07.3**	**+1.4**
KSM	**Kuching**	**161.22**	**178**	PKPdf	**PKPdf**	**13 05 07.3**	**0.0**
KSM				PKPab	**PKPab**	**13 05 52.7**	**+1.7**
SBUM	**Sibu**	**162.15**	**185**	PKPdf	**PKPdf**	**13 05 05.9**	**-2.3**
SBUM				PKPab	**PKPab**	**13 05 56.6**	**+1.6**
LZH	**Lanzhou**	**163.17**	**20**	⇑PKP	**PKPdf**	**13 05 10.8**	**+2.0**
LZH				pPKP	pPKPdf	13 05 39.6	+0.9
LZH				sPKP		13 05 51.0	
LZH				LR	LR		
	comp=Z,320nm,18.0s						
LZH				LR	LR		
	comp=Z,310nm,18.2s						
LZH				LR	LR		
	comp=Z,290nm,20.1s						
XAN	**Xi'an**	**166.27**	**7**	PKP	**PKPdf**	**13 05 12.3**	**+0.9**
NJ2	**Nanjing**	**166.32**	**330**	*e*PKP	**PKPdf**	**13 05 13.6**	**+2.2**
CD2	**Chengdu**	**167.71**	**30**	PKP	**PKPdf**	**13 05 10.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**168.62**	**98**	PKP	**PKPdf**	**13 05 14.1**	**+0.7**
	comp=Z,2.8nm,0.9s,baz=298,slow=2.2,SNR=18						
CMAR	**Chiang Mai Arr**	**168.62**	**98**		**PKPdf**	**13 05 13.0**	**-0.4**
CHTO	**Chiang Mai**	**168.69**	**96**	PKIKP	**PKPdf**	**13 05 10.3**	**-3.2**
CHTO	**Chiang Mai**	**168.69**	**96**		**PKPdf**	**13 05 10.3**	**-3.2**
KMI	**Kunming**	**171.16**	**56**	PKP	**PKPdf**	**13 05 12.3**	**-2.7**
GYA	**Guiyang**	**172.82**	**31**	*e*P	PKPdf	13 05 06.5	-9.1
GYA				pmax	pmax		
	comp=Z,11nm,2.0s						

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*NEIC **03** 12:49:55.9±1.6, 23°.03S±0°.09×174°.13W±0°.05, h10km±1km, mb4.6/5, Error ellipse: s-maj=16.1km s-min=8.0km az=166.0*

*IDC **03** 12:50:23.9±10.0, 19°.04S×177°.08W, h122km±109km, mb2.9/2, mb1 3.3/3, mb1mx3.1/30, mbtmp3.6/3, ML4.1/1, Error ellipse: s-maj=323.0km s-min=75.6km az=151.0*

ISC 03 12:49:57.3±1.2**, 22°.9S**±0°.1×**174°.0W**±0°.2**, h35**km**, n14, σ1s.27**/13**, mb4.3**/5**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.37**	**45**	Pn	Pn	12 51 21.7	+6.7
RAO	**Raoul Island**	**7.24**	**209**	Pn	**Pn**	**12 51 39.3**	**-1.3**
MSVF	**Nonsavu**	**9.10**	**303**	Pn	**Pn**	**12 52 05.8**	**-0.6**
AFI	**Afiamalu**	**9.20**	**13**	P	**Pn**	**12 52 06.7**	**-1.0**
	3.3nm,0.3s,baz=258,slow=18,SNR=9.6						
AFI				S	Sn	12 53 33.5	-17
	2.6nm,0.3s,baz=222,slow=24,SNR=2.1						
AFI	**Afiamalu**	**9.20**	**13**	Pn	**Pn**	**12 52 07.2**	**-0.5**
AS31	**Alice Springs**	**47.67**	**258**	P	**P**	**12 58 30.8**	**+0.1**
ASAR	**Alice Springs**	**47.67**	**258**	P	**P**	**12 58 32.4**	**+1.7**
	0.1nm,0.4s,baz=89,slow=7.9,SNR=6.8						
ASAR	**Alice Springs**	**47.67**	**258**	P	**P**	**12 58 32.0**	**+1.3**
WR0	**Warramunga Arr**	**47.83**	**263**	P	**P**	**12 58 33.0**	**+1.0**
WR0				IAmb	IAmb	12 58 38.6	
	comp=Z,3.6nm,1.1s						
WB2	**Warramunga Arr**	**48.01**	**263**	P	**P**	**12 58 34.3**	**+0.9**
WB2				IAmb	IAmb	12 58 51.0	
	comp=Z,7.6nm,1.4s						
WB0	**Warramunga Arr**	**48.01**	**264**	P	**P**	**12 58 34.3**	**+1.0**
WB0				IAmb	IAmb	12 58 35.0	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**48.02**	**263**	P	**P**	**12 58 33.1**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=95,slow=8.4,SNR=12						
QSPA	**South Pole Qui**	**67.16**	**180**	P	**P**	**13 00 47.4**	**-0.1**
AKASG	**Malin Array Be**	**146.91**	**333**	PKP	**PKiKP**	**13 09 40.8**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=41,slow=3.7,SNR=4.1						

IEPN 03 12:51:35.0, 84°.76N×5°.09E, h10km**, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.94**	**167**	*e*P	Pn	12 52 57.5	-5.3
KBS				*e*S	Sn	12 54 00.1	-11
KBS	**Kingsbay**	**5.94**	**167**	*e*	Sn	12 54 00.1	-11
ZFI	**Zemlya Franca-**	**6.44**	**104**	*e*P	Pn	12 53 08.1	-1.5
ZFI				*e*S	Sn	12 54 16.1	-6.9
SPA0	**Spitsbergen Ar**	**6.80**	**160**	*e*S	Sn	12 54 21.3	-11
SPA0	**Spitsbergen Ar**	**6.80**	**160**	*e*	Sn	12 54 21.8	-10
HSPB	**Hornsund (broa**	**7.95**	**163**	*e*P	Pn	12 53 27.0	-3.3
HSPB				*e*S	Sn	12 54 49.9	-10
HOPEN	**Hopen**	**8.80**	**148**	*e*P	Pn	12 53 38.2	-3.8
HOPEN				S	Sn	12 55 09.5	-11

BER 03 12:52:27.1±1.5**, 78°.11N×3°.07E, h15**km±25km**, ML1.3, Confirmed Earthquake, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.96**	**61**	*e*P	Pn	12 52 58.1	-1.6
KBS				IAML		12 53 08.8	
	comp=Z,4.9nm,0.3s						
KBS				*e*S	Sn	12 53 19.6	-4.3
SPA0	**Spitsbergen Ar**	**2.75**	**82**	*e*P	Pn	12 53 09.6	-0.9
SPA0				*e*S	Sn	12 53 38.6	-4.8
SPA0				IAML		12 54 04.3	
	comp=Z,3.1nm,0.9s						
SPA0	**Spitsbergen Ar**	**2.75**	**82**	*e*P	Pn	12 53 09.6	-0.9
DAG	**Danmarks Havn**	**4.91**	**265**	*e*P	Pn	12 53 37.5	-2.7
DAG				*e*S	Sn	12 54 31.6	-5.0

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*NEIC **03** 13:17:31.9±1.4, 15°.1S±0°.2×173°.3W±0°.2, h10km±1km, mb4.6/38, Error ellipse: s-maj=38.3km s-min=15.6km az=139.0*

*IDC **03** 13:17:31.1±0.6, 14°.99S×173°.60W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.2/35, mbtmp4.2/12, MS3.6/6, Ms1 3.7/6, ms1mx3.4/40, Error ellipse: s-maj=31.9km s-min=15.0km az=133.0*

*BJI **03** 13:17:35.0±0.0, 15°.10S×172°.60W, h29km, mB5.4/5, mb4.9/12, Ms5.0/1, Ms7 4.7/1*

ISC 03 13:17:35.4±0.6**, 15°.2S**±0°.1×**173°.3W**±0°.2**, h30**km**, n74, σ1s.51**/62**, mb4.5**/33**, MS3.8**/4**, 1C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.95**	**49**	Pn	Pn	13 18 00.2	-6.4
	104nm,0.3s,baz=195,slow=3.5,SNR=134						
AFI				Sn	Sn	13 18 19.1	-11
	667nm,0.3s,baz=130,slow=17,SNR=13						
AFI				LR	LR	13 18 39.5	
	comp=Z,512nm,18.7s,baz=112,slow=33						
NIUE	**Niue**	**5.02**	**141**		Pn	13 18 43.7	-5.0
MSVF	**Nonsavu**	**8.68**	**252**	LR	LR	13 22 23.4	
	comp=Z,257nm,18.1s,baz=98,slow=34						
MSVF	**Nonsavu**	**8.68**	**252**		Pn	13 19 48.5	+9.4
DZM	**Mont Dzumac**	**20.37**	**247**	P	**P**	**13 22 09.1**	**-0.8**
	2.2nm,0.7s,baz=198,slow=18,SNR=1.9						
PPT	**Papeete**	**22.87**	**99**	LR	LR	13 29 52.3	
	comp=Z,124nm,18.2s,baz=174,slow=32						
URZ	**Urewera**	**24.48**	**198**	P	**P**	**13 22 52.3**	**+0.4**
	7.9nm,0.9s,baz=213,slow=16,SNR=2.6						
URZ				LR	LR	13 31 12.5	
	comp=Z,254nm,19.2s,baz=23,slow=33						
RPZ	**Rata Peaks**	**31.40**	**202**	P	**P**	**13 23 55.0**	**+1.2**
	8.9nm,0.9s,baz=9.9,slow=13,SNR=2.4						
H11S2	**WAKE ISLAND Hy**	**38.85**	**329**	T	T	14 06 23.8	
	baz=149,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**38.86**	**329**	T	T	14 06 44.2	
	baz=149,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**38.87**	**329**	T	T	14 06 25.2	
	baz=149,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**39.79**	**330**	T	T	14 07 46.1	
	baz=150,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**39.80**	**330**	T	T	14 07 39.9	
	baz=150,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**39.81**	**330**	T	T	14 07 41.2	
	baz=150,slow=76,SNR=10						
STKA	**Stephens Creek**	**44.22**	**240**	P	**P**	**13 25 40.2**	**-1.9**
	4.3nm,0.9s,baz=101,slow=12,SNR=7.8						
STKA	**Stephens Creek**	**44.22**	**240**	P	**P**	**13 25 40.0**	**-2.2**
WRA	**Warramunga Arr**	**49.99**	**257**	P	**P**	**13 26 25.0**	**-2.4**
	1.0nm,0.6s,baz=96,slow=6.8,SNR=15						
WRA				PcP	**PcP**	**13 27 46.1**	**-1.2**
	0.3nm,0.6s,baz=97,slow=3.2,SNR=1.9						
AS31	**Alice Springs**	**50.27**	**252**	P	**P**	**13 26 27.3**	**-2.2**
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**13 26 27.6**	**-1.9**
	6.4nm,0.6s,baz=87,slow=8.4,SNR=225						
ASAR				PcP	**PcP**	**13 27 47.0**	**-1.2**
	0.6nm,0.9s,baz=107,slow=3.4,SNR=1.0						
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**13 26 26.0**	**-3.5**
VNDA	**Vanda**	**63.58**	**186**	P	**P**	**13 28 05.1**	**+2.2**
	2.0nm,0.7s,baz=36,slow=5.9,SNR=14						
VNDA	**Vanda**	**63.58**	**186**	IAmb	IAmb	13 28 23.8	
	comp=Z,9.0nm,1.4s						
YBH	**Yreka Blue Hor**	**73.38**	**37**	LR	LR	13 55 12.3	
	comp=Z,88nm,19.7s,baz=335,slow=31						
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**13 29 10.4**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=227,slow=10.0,SNR=9.4						
QSPA	**South Pole Qui**	**74.84**	**180**	P	**P**	**13 29 13.4**	**+0.5**
QSPA				IAmb	IAmb	13 29 26.1	
	comp=Z,7.1nm,1.4s						
MOD	**Modoc Plateau**	**74.91**	**38**	P	**P**	**13 29 13.4**	**-0.3**
MOD				IAmb	IAmb	13 29 15.6	
	comp=Z,5.6nm,1.1s						
K05A	**Summer Lake**	**75.06**	**37**	P	**P**	**13 29 14.0**	**-0.6**
PINE	**Pine Mountain**	**75.68**	**36**	P	**P**	**13 29 18.6**	**+0.4**
PINE				IAmb	IAmb	13 29 20.5	
	comp=Z,6.0nm,0.8s						
I07A	**Izee**	**76.68**	**37**	P	**P**	**13 29 24.1**	**+0.4**
I07A				IAmb	IAmb	13 29 25.3	
	comp=Z,3.9nm,1.0s						
G08A	**Pilot Rock**	**77.72**	**36**	P	**P**	**13 29 28.8**	**-0.7**
G08A				IAmb	IAmb	13 29 30.9	
	comp=Z,4.9nm,1.0s						
BMO	**Blue Mountains**	**78.41**	**37**	P	**P**	**13 29 32.1**	**-1.3**
MFID	**Camas Ranch**	**78.47**	**39**	P	**P**	**13 29 32.9**	**-0.9**
F10A	**Beach Ranch, E**	**79.10**	**36**	P	**P**	**13 29 36.1**	**-1.0**
TMUT	**Trail Mountain**	**79.26**	**44**	P	**P**	**13 29 39.1**	**+0.7**
TMUT				IAmb	IAmb	13 29 41.0	
	comp=Z,5.4nm,0.9s						
HLID	**Hailey**	**79.41**	**39**	P	**P**	**13 29 38.9**	**-0.1**
HLID				IAmb	IAmb	13 29 40.6	
	comp=Z,5.1nm,0.8s						
TCUT	**Toone Canyon**	**80.04**	**43**	P	**P**	**13 29 42.2**	**-0.4**
TCUT				IAmb	IAmb	13 29 44.0	
	comp=Z,10nm,0.9s						
NJ2	**Nanjing**	**80.13**	**307**	*e*P	P	13 29 48.3	+5.4
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PV14	**Lion Creek, Pa**	**80.31**	**46**	P	**P**	**13 29 43.2**	**-0.9**
PV14				IAmb	IAmb	13 29 45.4	
	comp=Z,6.8nm,1.0s						
PV20	**West Nyswonger**	**80.33**	**46**	P	**P**	**13 29 42.1**	**-2.0**
PV20				IAmb	IAmb	13 29 46.0	
	comp=Z,6.3nm,1.0s						
TX31	**Lajitas Ar. Si**	**80.42**	**56**	P	**P**	**13 29 42.8**	**-1.8**
TX31				IAmb	IAmb	13 29 47.0	
	comp=Z,8.9nm,1.1s						
TX32	**Lajitas Array**	**80.42**	**56**	P	**P**	**13 29 41.6**	**-3.1**
TXAR	**Lajitas Array**	**80.42**	**56**	P	**P**	**13 29 45.5**	**+0.8**
	comp=Z,1.7nm,1.0s,baz=231,slow=4.3,SNR=12						
TXAR	**Lajitas Array**	**80.42**	**56**	P	**P**	**13 29 41.5**	**-3.2**
PV01	**Paradox Valley**	**80.51**	**46**	P	**P**	**13 29 44.0**	**-1.1**
PV01				IAmb	IAmb	13 29 46.4	
	comp=Z,6.1nm,1.0s						
MCMT	**McKenzie Canyo**	**81.04**	**39**	P	**P**	**13 29 46.7**	**-1.1**
WRH	**Wood River Hil**	**81.74**	**11**	P	**P**	**13 29 50.4**	**-0.4**
HDA	**Harding Lake**	**81.89**	**11**	P	**P**	**13 29 50.6**	**-1.0**
HDA				IAmb	IAmb	13 29 52.6	
	comp=Z,8.7nm,1.0s						
CCB	**Clear Creek Bu**	**81.95**	**11**	P	**P**	**13 29 50.8**	**-1.0**
CCB				IAmb	IAmb	13 29 52.3	
	comp=Z,7.2nm,1.0s						
PD31	**Pinedale Array**	**82.05**	**42**	P	**P**	**13 29 51.8**	**-1.4**
PD31				IAmb	IAmb	13 29 54.1	
	comp=Z,4.5nm,1.2s						
PDAR	**Pinedale Array**	**82.05**	**42**	P	**P**	**13 29 53.2**	**0.0**
	comp=Z,1.8nm,0.9s,baz=218,slow=3.5,SNR=14						
PDAR	**Pinedale Array**	**82.05**	**42**	P	**P**	**13 29 51.9**	**-1.4**
YHL	**Hebgen Lake**	**82.06**	**39**	P	**P**	**13 29 53.9**	**+0.6**
SMCO	**Snowmass**	**82.10**	**46**	P	**P**	**13 29 53.3**	**-0.5**
TCOL	**CIGO, UAF Yank**	**82.15**	**11**	P	**P**	**13 29 52.0**	**-0.9**
COLA	**College**	**82.15**	**11**	P	**P**	**13 29 52.0**	**-0.9**
BOZ	**Bozeman (W)**	**82.17**	**39**	P	**P**	**13 29 53.7**	**0.0**
IL31		**82.23**	**11**	P	**P**	**13 29 52.6**	**-0.7**
IL31				IAmb	IAmb	13 29 53.2	
	comp=Z,4.0nm,1.1s						
ILAR	**Eielson Array**	**82.23**	**11**	P	**P**	**13 29 52.8**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=204,slow=5.8,SNR=18						
ILAR				LR	LR	14 01 20.7	
	comp=Z,48nm,19.9s,baz=284,slow=32						
ILAR	**Eielson Array**	**82.23**	**11**	P	**P**	**13 29 52.6**	**-0.8**
LKWY	**Lake**	**82.40**	**40**	P	**P**	**13 29 53.2**	**-1.8**
LKWY				IAmb	IAmb	13 29 57.8	
	comp=Z,4.3nm,0.8s						
HRY	**Holter Researc**	**82.63**	**38**	P	**P**	**13 29 55.6**	**-0.4**
YNE	**Yellowstone No**	**82.87**	**40**	P	**P**	**13 29 57.1**	**-0.3**
YNE				IAmb	IAmb	13 29 59.1	
	comp=Z,4.2nm,0.9s						
MSTX	**Muleshoe**	**82.96**	**52**	P	**P**	**13 29 57.7**	**-0.3**
MSTX				IAmb	IAmb	13 29 60.0	
	comp=Z,4.4nm,1.0s						
RWWY	**Rawlins**	**83.08**	**44**	P	**P**	**13 29 57.9**	**-0.7**
RLMT	**Red Lodge**	**83.38**	**40**	P	**P**	**13 30 00.1**	**+0.1**
AMTX	**Amarillo**	**84.15**	**52**	P	**P**	**13 30 03.1**	**-1.0**
ABTX	**Abilene, Hawle**	**84.86**	**54**	P	**P**	**13 30 06.8**	**-0.9**
HHC	**Hu-ho-hao-te**	**88.97**	**313**	*e*P	**P**	**13 30 30.6**	**+3.1**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,5.7s						
YKA	**Yellowknife Ar**	**89.88**	**23**	P	**P**	**13 30 30.9**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=231,slow=4.4,SNR=15						
KMI	**Kunming**	**91.03**	**296**	⇑P	**P**	**13 30 42.0**	**+4.3**
KMI				pP	sP	13 30 49.9	+0.3
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LZH	**Lanzhou**	**93.19**	**306**	⇓P	**P**	**13 30 50.4**	**+3.0**
LZH				pP	sP	13 30 59.7	0.0
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
GERES	**GERESS Array B**	**145.96**	**352**	PKPbc	**PKPab**	**13 37 12.6**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=34,slow=3.4,SNR=6.3						
GERES	**GERESS Array B**	**145.96**	**352**		**PKPdf**	**13 37 11.5**	**0.0**
BRTR	**Keskin Array B**	**146.07**	**321**	PKPbc	**PKPab**	**13 37 14.0**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=64,slow=5.6,SNR=12						

IDC 03 13:28:21.1±2.0**, 1°.02N×124°.77E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/41**, mbtmp3.4**/3**, MS3.9**/1**, Ms1 3.9**/1**, ms1mx3.1**/26**, Error ellipse: s-maj=196.3km s-min=27.4km az=64.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.85**	**156**	P	P	13 33 25.9	-0.3
	0.9nm,0.6s,baz=334,slow=11,SNR=16						
PSI	**Prapat**	**25.89**	**274**	LR	LR	13 43 38.4	
	comp=Z,248nm,20.7s,baz=270,slow=35						
ASAR	**Alice Springs**	**26.10**	**161**	P	P	13 33 57.0	+0.2
	0.3nm,0.3s,baz=347,slow=12,SNR=13						
MKAR	**Makanchi Array**	**58.70**	**327**	P	P	13 38 20.6	0.0
	0.1nm,0.5s,baz=134,slow=6.2,SNR=2.1						

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*IDC **03** 13:37:06.4±1.3, 39°.50N×144°.61E, h0km, mb3.5/6, mb1 3.7/12, mb1mx3.5/59, mbtmp3.7/12, ML3.7/5, Error ellipse: s-maj=30.9km s-min=18.4km az=96.0*

*JMA **03** 13:37:12.2±0.2, 39°.76N×144°.15E, h45km, M4.4*

ISC 03 13:37:10.0±1.0**, 39°.62N**±0°.05×**144°.36E**±0°.08**, h23**km**, n32, σ2s.29**/53**, mb3.4**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.95**	**280**	P	**Pn**	**13 37 41.0**	**-0.6**
JTH				*e*S	**Sn**	**13 38 02.5**	**-2.8**
MIYJ	**Miyakonagasawa**	**1.96**	**270**	P	**Pn**	**13 37 41.9**	**+0.1**
MIYJ				S	**Sn**	**13 38 03.8**	**-1.9**
JKEN	**Kujiedanarisaw**	**2.12**	**287**	P	**Pn**	**13 37 43.3**	**-0.6**
JKEN				S	**Sn**	**13 38 06.3**	**-3.2**
JANG	**Nango**	**2.31**	**290**	P	**Pn**	**13 37 46.0**	**-0.6**
JANG				*e*S	**Sn**	**13 38 10.4**	**-3.9**
JOM	**Ohasama**	**2.37**	**267**	P	**Pn**	**13 37 48.1**	**+0.6**
JOM				S	**Sn**	**13 38 14.5**	**-1.4**
JMK	**Ichinoseki**	**2.52**	**256**	P	**Pn**	**13 37 49.9**	**+0.4**
JMK				*e*S	**Sn**	**13 38 17.6**	**-2.0**
JNBK	**Urakawa-nobuka**	**2.92**	**336**	P	**Pn**	**13 37 55.5**	**+0.5**
JNBK				*e*S	**Sn**	**13 38 27.0**	**-2.3**
JOT	**Ohata**	**3.07**	**306**	P	**Pn**	**13 37 57.6**	**+0.5**
JOT				*e*S	**Sn**	**13 38 30.4**	**-2.7**
JCH	**Churui**	**3.08**	**346**	P	**Pn**	**13 37 57.0**	**-0.2**
JCH				*e*S	**Sn**	**13 38 30.7**	**-2.7**
JYK	**Kaneyama**	**3.18**	**259**	P	**Pn**	**13 37 59.4**	**+0.8**
JYK				*e*S	**Sn**	**13 38 34.1**	**-1.7**
JAK	**Akkeshi**	**3.38**	**4**	P	**Pn**	**13 38 01.1**	**-0.2**
JAK				S	**Sn**	**13 38 37.8**	**-2.9**
JKB	**Kayabe**	**3.39**	**313**	P	**Pn**	**13 38 01.9**	**+0.5**
JKB				*e*S	**Sn**	**13 38 38.6**	**-2.3**
JAR	**Ashorobuto**	**3.70**	**353**	P	**Pn**	**13 38 05.1**	**-0.6**
JAR				S	**Sn**	**13 38 44.8**	**-3.8**
JFR	**Furan**	**3.78**	**340**	P	**Pn**	**13 38 06.7**	**-0.1**
NEM2	**Nemuro 2**	**3.88**	**15**	P	**Pn**	**13 38 07.3**	**-0.9**
NEM2				S	**Sn**	**13 38 49.2**	**-3.9**
JEW	**Eniwo**	**3.89**	**327**	P	**Pn**	**13 38 09.6**	**+1.3**
JEW				*e*S	**Sn**	**13 38 51.4**	**-1.9**
JTKR	**Abashiri--Toko**	**4.36**	**356**	P	**Pn**	**13 38 15.0**	**+0.3**
JTKR				S	**Sn**	**13 39 01.7**	**-3.1**
JOSM	**Okushiri--Mats**	**4.44**	**305**	P	**Pn**	**13 38 16.8**	**+0.9**
JHR	**Hokuryu**	**4.56**	**335**	P	**Pn**	**13 38 19.7**	**+2.1**
JHR				S	**Sn**	**13 39 09.5**	**-0.4**
ASAJ	**Asahikawa**	**4.68**	**344**	Pn	**Pn**	**13 38 20.0**	**+0.8**
	15nm,0.3s,baz=205,slow=17,SNR=167						
ASAJ				Sn	**Sn**	**13 39 12.1**	**-0.6**
	2.4nm,0.3s,baz=0.1,slow=26,SNR=1.7						
MJAR	**Matsushiro Arr**	**5.74**	**240**	Pn	**Pn**	**13 38 35.0**	**+1.1**
	0.2nm,0.3s,baz=30,slow=14,SNR=11						
MJAR				Sn	**Sn**	**13 39 36.4**	**-2.6**
	0.1nm,0.3s,baz=210,slow=36,SNR=1.3						
MAT	**Matsushiro**	**5.74**	**240**	P	**Pn**	**13 38 35.6**	**+1.8**
MAT				*e*S	**Sn**	**13 39 39.9**	**+0.9**
JHJ	**Hachijo jima 2**	**7.46**	**211**	Pn	**Pn**	**13 38 56.5**	**-0.9**
	5.4nm,0.3s,baz=258,slow=22,SNR=1.2						
JHJ				Sn	**Sn**	**13 40 12.4**	**-8.9**
	20nm,0.3s,baz=273,slow=23,SNR=8.0						
USRK	**Ussuriysk Ar.**	**10.29**	**300**	Pn	**Pn**	**13 39 39.0**	**+2.9**
	baz=102,slow=14,SNR=8.3						
KSRS	**Korea Array**	**13.05**	**266**	Pn	**Pn**	**13 40 17.4**	**+3.5**
	0.2nm,0.3s,baz=69,slow=14,SNR=1.4						
KLR	**Kul'dur**	**13.15**	**321**	Pn	**Pn**	**13 40 17.9**	**+2.7**
	0.1nm,0.3s,baz=140,slow=18,SNR=1.4						
MA2	**Magadan**	**20.38**	**9**	P	Pn	13 41 45.9	-1.1
	3.0nm,0.5s,baz=193,slow=11,SNR=5.8						
SEY	**Seymchan**	**23.84**	**9**	P	**P**	**13 42 22.2**	**+1.1**
	2.2nm,0.7s,baz=181,slow=8.8,SNR=6.9						
SONM	**Songino Array**	**28.40**	**299**	P	**P**	**13 43 04.8**	**+2.1**
	0.2nm,0.5s,baz=99,slow=8.9,SNR=1.5						
MKAR	**Makanchi Array**	**44.76**	**300**	P	**P**	**13 45 21.2**	**-0.3**
	0.3nm,0.6s,baz=88,slow=8.8,SNR=2.6						
MKAR				PcP	**PP**	**13 47 04.3**	**-1.7**
	0.2nm,0.6s,baz=57,slow=5.3,SNR=2.2						
WRA	**Warramunga Arr**	**59.99**	**191**	P	**P**	**13 47 13.6**	**-1.1**
	0.3nm,0.9s,baz=15,slow=7.0,SNR=1.9						
ASAR	**Alice Springs**	**63.71**	**191**	P	**P**	**13 47 39.4**	**-0.3**
	0.3nm,0.8s,baz=11,slow=6.2,SNR=4.1						

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*NEIC **03** 13:41:17.7±2.0, 16°.81S±0°.09×69°.9W±0°.1, h171km±8km, mb4.5/2, Error ellipse: s-maj=17.6km s-min=10.3km az=120.0*

*IDC **03** 13:41:17.8±1.1, 16°.87S×69°.85W, h163km±10km, mb3.8/6, mb1 4.0/9, mb1mx3.6/37, mbtmp4.3/9, Error ellipse: s-maj=17.7km s-min=13.5km az=100.0*

*SJA **03** 13:41:18.9±0.4, 17°.39S×70°.91W, h8km, ML4.1, MW3.8*

*GUC **03** 13:41:20.1±0.8, 16°.97S×70°.13W, h180km±3km, ML4.3*

ISC 03 13:41:17.8±0.7**, 16°.88S**±0°.05×**69°.95W**±0°.07**, h172**km±7km**, n68, σ1s.54**/88**, mb4.3**/8**, 6C-1D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**1.51**	**164**	⇑*i*P	**Pn**	**13 41 52.0**	**+2.2**
PB16				*i* S	**Sn**	**13 42 17.1**	**+2.5**
PB16	**IPOC Station P**	**1.51**	**164**	Pn	**Pn**	**13 41 51.8**	**+2.0**
AP01	**Chacalluta**	**1.53**	**194**	⇑*i*P	**Pn**	**13 41 50.3**	**+0.9**
AP01				*i* S	**Sn**	**13 42 14.2**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AP01				IAML		13 42 15.8	
	comp=E,2µm,0.3s						
AP01	Chacalluta	1.53	194	Pn	Pn	13 41 50.2	+0.9
LPAZ	La Paz	1.84	72	P	Pn	13 41 52.6	-0.6
	comp=E,15nm,0.3s,baz=328,slow=5.5,SNR=358						
LPAZ				S	Sn	13 42 17.7	-2.9
	comp=E,12nm,0.3s,baz=8.2,slow=6.0,SNR=14						
LPAZ	La Paz	1.84	72	Pn	Pn	13 41 52.5	-0.8
LPAZ	La Paz	1.84	72	eP	Sn	13 42 18.3	-2.3
MNMC	Minye Minye	2.27	171	⇑iP	Pn	13 41 59.5	+1.8
MNMC				iS	Sn	13 42 29.6	+1.0
MNMC				IAML		13 42 34.8	
	comp=N,2µm,0.4s						
MNMC	Minye Minye	2.27	171	Pn	Pn	13 41 59.4	+1.8
PSGC	Pisagua	2.71	183	⇑iP	Pn	13 42 03.2	+0.5
PSGC				iS	Sn	13 42 36.2	-1.4
PSGCX	Pisagua	2.71	183		Pn	13 42 03.1	+0.4
PB08	IPOC Station P	3.33	167	⇑iP	Pn	13 42 12.6	+2.0
PB08				iS	Sn	13 42 52.0	+0.3
PB08	IPOC Station P	3.33	167	Pn	Pn	13 42 12.4	+1.9
PB08	IPOC Station P	3.33	167	eP	Pn	13 42 12.7	+2.1
PB08				eS	Sn	13 42 52.8	+1.1
PB08				IAML		13 42 54.2	
	comp=Z,493nm,0.6s						
HMBC	Humberstone	3.38	179	⇑iP	Pn	13 42 11.7	+0.7
HMBC				iS	Sn	13 42 51.1	-1.4
HMBC				IAML		13 42 56.2	
	comp=N,530nm,0.3s						
TA01	Diego Aracena	3.67	183	eP	Pn	13 42 14.9	+0.5
TA01				iS	Sn	13 42 56.3	-2.6
TA01				IAML		13 43 00.5	
	comp=E,418nm,0.3s						
TA01	Diego Aracena	3.67	183		Pn	13 42 14.8	+0.3
PB01	IPOC Station P	4.17	174	eP	Pn	13 42 21.8	+0.9
PB01				iS	Sn	13 43 08.4	-1.9
PB01	IPOC Station P	4.17	174	Pn	Pn	13 42 21.6	+0.7
PB01	IPOC Station P	4.17	174	eP	Pn	13 42 21.9	+1.0
PB01				eS	Sn	13 43 08.5	-1.8
PB01				IAML		13 43 10.0	
	comp=Z,421nm,0.2s						
PB07	IPOC Station P	4.82	179	eP	Pn	13 42 30.2	+0.7
PB07				iS	Sn	13 43 22.7	-3.0
PB07	IPOC Station P	4.82	179		Pn	13 42 30.3	+0.8
PB07	IPOC Station P	4.82	179	eP	Pn	13 42 30.5	+1.1
PB07				eS	Sn	13 43 22.5	-3.1
PB07				IAML		13 43 30.7	
	comp=Z,272nm,0.4s						
PB09	IPOC Station P	4.94	172	⇓iP	Pn	13 42 32.5	+1.6
PB09				iS	Sn	13 43 26.4	-2.0
PB09	IPOC Station P	4.94	172	Pn	Pn	13 42 32.3	+1.4
PB09	IPOC Station P	4.94	172	eP	Pn	13 42 21.9	-9.1
PB09				eS	Sn	13 43 27.4	-0.9
PB09				IAML		13 43 28.8	
	comp=Z,199nm,0.3s						
PB04	IPOC Station P	5.43	182	Pn	Pn	13 42 38.0	+0.6
PB04	IPOC Station P	5.43	182	eP	Pn	13 42 38.4	+1.0
PB04				eS	Sn	13 43 36.8	-3.1
LVC	Limon Verde	5.79	170	P	Pn	13 42 44.0	+1.8
	comp=Z,4.8nm,0.3s,baz=30,slow=8.1,SNR=104						
LVC				S	Sn	13 43 46.5	-2.1
	comp=Z,34nm,0.3s,baz=138,slow=20,SNR=55						
LVC	Limon Verde	5.79	170		Pn	13 42 43.8	+1.6
LVC	Limon Verde	5.79	170	eP	Pn	13 42 44.0	+1.8
LVC				eS	Sn	13 43 46.7	-1.9
LVC				IAML		13 43 53.6	
	comp=Z,50nm,0.5s						
PB06	IPOC Station P	5.81	177	Pn	Pn	13 42 42.7	+0.4
PB06	IPOC Station P	5.81	177	eP	Pn	13 42 43.0	+0.7
PB06				eS	Sn	13 43 48.7	-0.1
PB05	IPOC Station P	5.95	182	eP	Pn	13 42 44.5	+0.3
PB05				eS	Sn	13 43 51.7	-0.4
PB15	IPOC Station P	6.31	176	Pn	Pn	13 42 49.8	+0.8
PB15	IPOC Station P	6.31	176	eP	Pn	13 42 50.1	+1.0
PB15				eS	Sn	13 43 57.9	-3.0
PB10	IPOC Station P	6.63	185	Pn	Pn	13 42 52.9	-0.1
PB10	IPOC Station P	6.63	185	eP	Pn	13 42 53.1	+0.2
PB10				eS	Sn	13 44 04.3	-3.6
YJA	Yavi	6.73	142	eP	Pn	13 42 56.1	+1.4
PB14	IPOC Station P	7.72	183	Pn	Pn	13 43 07.1	-0.6
PB14	IPOC Station P	7.72	183	eP	Pn	13 43 07.3	-0.4
PB14				eS	Sn	13 44 31.3	-3.2
GO02	Mina Guanaco	8.25	178	Pn	Pn	13 43 14.8	+0.1
NNA	Nana	8.26	305	P	Pn	13 43 14.7	+0.1
	comp=Z,11nm,0.3s,baz=130,slow=9.8,SNR=16						
NNA				S	Sn	13 44 45.0	-2.0
	comp=Z,2.9nm,0.3s,baz=240,slow=20,SNR=2.4						
NNA	Nana	8.26	305		Pn	13 43 13.5	-1.1
SIV	San Ignacio	8.57	85	P	Pn	13 43 15.5	-3.2
	comp=Z,1.6nm,0.3s,baz=288,slow=11,SNR=21						
SLA	San Lorenzo	8.84	153	eP	Pn	13 43 22.8	+0.4
AC01	Pan de Azucar	9.24	184	Pn	Pn	13 43 27.1	-0.4
AC02	Maricunga	9.94	176	Pn	Pn	13 43 37.8	+0.7
AC04	Llanos de Chal	11.32	185	Pn	Pn	13 43 53.5	-1.2
AC05	El Transito	11.91	181	Pn	Pn	13 44 01.9	-0.5
TCA	Tanti	15.20	162	eP	P	13 44 44.6	-0.2
TXAR	Lajitas Array	56.30	324	P	P	13 50 42.2	+1.4
	comp=Z,0.3nm,0.5s,baz=146,slow=9.0,SNR=8.1						
LIC	Lamto	68.14	76	eP	P	13 51 59.0	-0.8
	comp=Z,17nm,0.8s						
TIC	Toumodi	68.30	76	eP	P	13 52 01.5	+0.7
KIC	Kosan Boka	68.45	76	eP	P	13 52 00.8	-1.0
	comp=Z,10nm,0.4s						
DBIC	Dimbokro	68.46	76	P	P	13 52 01.4	-0.4
	comp=Z,2.8nm,0.3s,baz=232,slow=6.5,SNR=7.4						
DBIC	Dimbokro	68.46	76	P	P	13 52 01.4	-0.4
DBIC				IAmb	IAmb	13 52 02.0	
	comp=Z,10.0nm,1.2s						
PDAR	Pinedale Array	69.64	330	P	P	13 52 10.2	+1.5
	comp=Z,0.4nm,0.4s,baz=130,slow=8.7,SNR=12						
ULM	Lac du Bonnet	70.64	343	P	P	13 52 14.2	-0.1
	comp=Z,3.2nm,0.8s,baz=160,slow=5.2,SNR=7.0						
ULM	Lac du Bonnet	70.64	343	IAmb	IAmb	13 52 53.0	
	comp=Z,20nm,1.8s						
YKA	Yellowknife Ar	86.52	341	P	P	13 53 42.3	+1.5
	comp=Z,2.5nm,0.7s,baz=130,slow=5.5,SNR=53						
DLBC	Dease Lake	89.67	333	P	P	13 53 55.2	-0.7
	comp=Z,0.6nm,0.4s,baz=135,slow=26,SNR=5.1						
ASAR	Alice Springs	133.45	211	PKP	PKiKP	14 00 16.8	+1.1
	comp=Z,0.3nm,0.9s,baz=126,slow=3.6,SNR=4.4						
WRA	Warramunga Arr	136.32	214	PKP	PKiKP	14 00 22.2	+0.7
	comp=Z,0.3nm,0.3s,baz=146,slow=1.8,SNR=7.8						
ZALV	Zalesovo Beam	138.13	22	PKP	PKPdf	14 00 22.5	+0.5
	comp=Z,0.5nm,0.3s,baz=343,slow=4.6,SNR=4.4						
MKAR	Makanchi Array	142.35	32	PKhKP	PKPpre	14 00 26.3	
	comp=Z,0.2nm,0.3s,baz=353,slow=2.6,SNR=6.0						
MKAR	Makanchi Array	142.35	32	PKPpre	PKPpre	14 00 26.0	
SONM	Songino Array	148.98	5	PKPbc	PKiKP	14 00 47.8	+1.0
	comp=Z,1.4nm,0.4s,baz=319,slow=1.5,SNR=18						

*STR **03** 14:17:15.0±0.2, 45˚N±2˚×˚±˚, h2km, MLv2.2/6, MLv2.4/1, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/ldg_taup-2.11 preliminary*
*MDD **03** 14:17:17.9±4.9, 44.˚97N×4.˚47E, h0km, mb3.5/2, Error ellipse: s-maj=50.7km s-min=33.0km az=104.0, PRXIMO SIN SOLUCIN*
ISC 03 14:17:15.5±0.8**, 44.˚99N**±0.˚03×**3.˚69E**±0.˚03**, h11**km**, n20,** σ1.˚32/31**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBL	Lubilhac	0.39	307	Pg	Pg	14 17 22.5	-0.8
LBL				Sg	Sg	14 17 29.4	+0.9
PYM	Petit Puy Mans	0.90	328	Sg	Sb	14 17 45.3	+0.2
PYM	Petit Puy Mans	0.90	328	Pg	Pg	14 17 32.4	-0.3
PYM				Pn	Pb	14 17 33.2	+0.1
AGO	Saint Agoulin	1.13	340	Sg	Sn	14 17 53.1	+0.3
AGO	Saint Agoulin	1.13	340	Pg	Pg	14 17 37.0	-0.2
OGSM	Saint Maurice	1.54	66	Pn	Pn	14 17 42.5	-0.4
OGSM				Pg	Pb	14 17 44.2	+0.1
OGSM				Sg	Sg	14 18 05.4	+0.3
ORIF	Oris-en-Rattie	1.56	92	Pg	Pn	14 17 43.1	-0.1
RUSF	Rustrel	1.66	129	Pn	Pn	14 17 42.9	-1.6
RUSF				Pg	Pb	14 17 46.6	+0.5
OG35	Corcelles	1.69	51	Pg	Pb	14 17 46.9	+0.3
MONQ	Montcuq	1.89	251	Pn	Pn	14 17 47.8	+0.2
MONQ				Pg	Pb	14 17 50.0	+0.2
MONQ				Sn	Sn	14 18 09.7	-1.7
MONQ				Sg	Sb	14 18 13.5	+0.1
MTLF	Montolieu	1.96	213	Pn	Pn	14 17 46.4	-2.3
MTLF				Pg	Pb	14 17 50.0	-1.2
MTLF	Montolieu	1.96	213	Sg	Sn	14 18 14.9	+1.6
LOR	Lormes	2.28	3	Pg	Pg	14 17 58.4	-0.7
FNEB	Nbias	2.38	209	Pn	Pn	14 17 52.3	-2.1
SJAF	Saint Jean de	2.58	193	S	Sb	14 18 33.9	+0.6
	3.9nm,0.3s,SNR=7.9						
EJON	La Jonquera	2.61	193	S	Sb	14 18 35.0	+0.7
	7.8nm,0.4s,SNR=7.9						
CLLI	Llivia	2.80	207	P	Pb	14 18 06.1	+0.5
	2.4nm,0.3s,SNR=5.8						
CLLI				S	Sb	14 18 41.9	+1.8
	7.0nm,0.3s,SNR=7.9						
CSOR	Sort	3.21	216	P	Pb	14 18 13.7	+1.2
	2.3nm,0.3s,SNR=6.0						
CSOR				S	Sb	14 18 55.5	+3.9
	17nm,0.4s,SNR=7.0						
CFON	Fontmartina	3.36	196	S	Sb	14 18 54.8	-1.1
	5.7nm,0.5s,SNR=7.9						
ECHI	Chisagues Biel	3.44	229	S	Sb	14 19 00.3	+2.1
	5.6nm,0.4s,SNR=7.9						

*BJI **03** 14:53:56.8±0.0, 37.˚62N×72.˚04E, h121km, mB4.6/8, mb4.1/15*
*IDC **03** 14:53:57.6±5.0, 37.˚64N×72.˚17E, h109km±35km, mb3.6/10, mb1 3.7/15, mb1mx3.4/54, mbtmp4.0/15, Error ellipse: s-maj=37.6km s-min=21.1km az=18.0*
*NEIC **03** 14:53:58.8±1.9, 37.˚70N±0.˚07×72.˚06E±0.˚08, h124km±8km, mb4.4/23, Error ellipse: s-maj=10.1km s-min=9.0km az=172.0*
*NNC **03** 14:54:02.9±2.1, 38.˚06N×71.˚94E, h165km±24km, mb3.3, mpv4.0, Error ellipse: s-maj=18.7km s-min=11.9km az=18.0*
ISC 03 14:53:57.8±0.5**, 37.˚66N**±0.˚05×**71.˚96E**±0.˚05**, h130**km**, n92,** σ2.˚63/98**, mb4.2**/21**, 9C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	3.65	58	P	Pn	14 54 49.0	-4.0
KSH				sP		14 55 14.0	
KSH				S	Sn	14 55 23.7	-12
KSH				smax	smax		
	comp=N,2µm,0.7s						
KSH				smax	smax		
	comp=E,600nm,0.5s						
CEP	Cherat	3.83	181	P	Pn	14 54 56.6	+1.2
KBL	Kabul	3.91	218	Pn	Pn	14 54 58.5	+2.0
NIL	Nilore	4.14	165	Pn	Pn	14 55 00.3	+0.9
AML	Almayashu	4.66	16	P	Pn	14 55 07.1	+0.5
	SNR=66						
THW	Thamme Wali	4.86	182	P	Pn	14 55 09.4	+0.4
UCH	Uchtor	4.96	22	P	Pn	14 55 11.2	+0.5
	SNR=24						
EKS2	Erkin-Say	5.19	15	P	Pn	14 55 14.4	+1.0
	SNR=28						
AAK	Ala-Archa	5.34	21	P	Pn	14 55 16.4	+1.0
	5.1nm,0.3s,baz=170,slow=5.8,SNR=57						
AAK				S	Sn	14 56 14.1	-1.9
	8.0nm,0.3s,baz=46,slow=13,SNR=27						
AAK	Ala-Archa	5.34	21	P	Pn	14 55 16.5	+1.0
	SNR=19						
AAK	Ala-Archa	5.34	21	⇑P	Pn	14 55 16.4	+1.0
	6.3nm,0.3s						
AAK				⇑S	Sn	14 56 14.4	-1.6
	81nm,0.7s						
AAK	Ala-Archa	5.34	21		Pn	14 55 16.1	+0.7
KBK	Karagaybulak	5.49	24	P	Pn	14 55 19.5	+2.0
	SNR=11						
KK31	Karatay Array	5.55	349	⇑P	Pn	14 55 18.8	+0.7
	30nm,0.3s,baz=168,slow=12,SNR=880						
KK31				S	Sn	14 56 17.9	-2.9
	36nm,0.4s,baz=37,slow=66,SNR=18						
KK31	Karatay Array	5.55	349		Pn	14 55 18.7	+0.5
KKAR	Karatay Array	5.55	349		Pn	14 55 18.4	+0.3
KKAR	Karatay Array	5.55	349		Pn	14 55 18.6	+0.5
ULHL	Ulahol	5.64	34	P	Pn	14 55 20.4	+0.9
	SNR=6.9						
CHMS	Chumysh	5.74	21	P	Pn	14 55 21.7	+0.9
	SNR=14						
USP	Ospenovka	5.93	18	P	Pn	14 55 23.6	+0.3
	SNR=22						
TKM2	Tokmak 2	5.94	27	P	Pn	14 55 24.5	+0.8
	SNR=16						
TKM2	Tokmak 2	5.94	27	⇓P	Pn	14 55 24.1	+0.5
	5.8nm,0.5s						
TKM2				⇓S	Sn	14 56 29.5	-1.2
	19nm,0.7s						
THN	Thein Dam	6.06	148	ex	Pn	14 55 26.0	+1.0
THN				ex	Sn	14 56 28.5	-4.6
DHRM	DHARAMSHALA	6.47	145	ex	Pn	14 55 28.6	-2.2
DHRM				ex	Sn	14 56 35.8	-7.6
DHRM				IAML		14 56 41.4	
	comp=E,450nm,0.5s						
DHRM				IAML		14 56 41.9	
	comp=N,292nm,0.2s						
SMLA	Simla	7.81	145	eP	Pn	14 55 46.7	-1.9
SMLA				eS	Sn	14 57 06.0	-9.4
SMLA				IAML		14 57 09.8	
	comp=N,252nm,0.9s						
SMLA				IAML		14 57 10.9	
	comp=E,265nm,0.2s						
PDGK	Podgornoye	8.06	43	⇓P	Pn	14 55 51.5	-0.5
	comp=E,3.1nm,0.6s						
GEYT	Alibeck	10.96	276	P	Pn	14 56 29.6	-1.3
	comp=E,0.6nm,0.3s,baz=111,slow=10,SNR=7.0						
GEYT				S	Sn	14 58 26.5	-5.2
	comp=E,1.6nm,0.3s,baz=100,slow=41,SNR=2.9						
GEYT	Alibeck	10.96	276	Pn	Pn	14 56 30.0	-0.9
GYA0B	ALIBECK ARRAY	10.96	276	Pn	Pn	14 56 30.0	-0.9
MAKZ	Makanchi	11.77	36	Pn	Pn	14 56 39.9	-1.5
MK31	Makanchi Array	11.90	37		Pn	14 56 42.8	-0.5
MKAR	Makanchi Array	11.90	37	P	Pn	14 56 43.0	-0.3
	comp=E,0.3nm,0.3s,baz=225,slow=16,SNR=19						
MKAR	Makanchi Array	11.90	37	Pn	Pn	14 56 42.5	-0.8
WMQ	Urumqi	13.42	58	eP	Pn	14 57 03.8	+0.8
KURBB	Kurchatov Arra	13.78	18	P	Pn	14 57 05.0	-2.5
	comp=E,0.0nm,0.3s,baz=208,slow=11,SNR=5.3						
KURBB	Kurchatov Arra	13.78	18	⇑P	Pn	14 57 08.2	+0.7
	comp=E,9.1nm,0.8s						
KURK	Kurchatov	13.89	18	P	P	14 57 13.2	+0.4
GKN	Gorkha	14.35	128	eP	Pn	14 57 10.8	-4.3
	comp=E,46nm,0.4s						
AB31	Akbulak array	14.49	327	⇑P	Pn	14 57 16.4	0.0
	comp=E,1.6nm,0.4s,baz=141,slow=12,SNR=120						
AB31				S	Sn	14 59 47.1	-9.5
	comp=E,2.5nm,0.5s,baz=147,slow=23,SNR=11						
ABKAR	Akbulak array	14.49	327	Pn	Pn	14 57 15.4	-1.1
KKN	Kakani	14.90	127	eP	Pn	14 57 17.8	-4.3
	comp=E,18nm,0.4s						
DMN	Daman	14.92	128	eP	Pn	14 57 18.7	-3.7
	comp=E,13nm,0.4s						
PKIN	Phulchoki	15.12	128	eP	Pn	14 57 21.1	-3.8
	comp=E,15nm,0.4s						
PKI	Pulchoki	15.14	128	eP	Pn	14 57 21.1	-4.0
	comp=E,18nm,0.4s						
GUN	Gumba	15.20	126	eP	Pn	14 57 21.6	-4.3
	comp=E,16nm,0.4s						
BVAR	Borovoye Array	15.40	356	P	Pn	14 57 27.7	-0.3
	comp=E,2.0nm,0.3s,baz=158,slow=11,SNR=46						
BVAR				S	Sn	15 00 09.9	-8.7
	comp=E,0.3nm,0.3s,baz=124,slow=12,SNR=6.7						
BRVK	Borovoye	15.44	356	⇑P	Pn	14 57 28.1	-0.3
	comp=E,6.5nm,1.0s						
BRVK				⇓S	Sn	15 00 11.6	-7.9
	comp=E,1.9nm,0.6s						
BRVK	Borovoye	15.44	356	Pn	Pn	14 57 28.1	-0.3
AKTO	Aktyubinsk	16.20	326	P	Pn	14 57 38.2	+0.4
	comp=E,0.8nm,0.3s,baz=136,slow=9.6,SNR=14						
AKTO				S	Sn	15 00 28.7	-9.0
	comp=E,0.4nm,0.3s,baz=170,slow=21,SNR=3.8						
AKTO	Aktyubinsk	16.20	326	⇑P	Pn	14 57 37.0	-0.7
	comp=E,1.5nm,0.4s						
AKTO				⇑S	Sn	15 00 33.6	-4.1
	comp=E,6.1nm,0.6s						
RAMN	Ramite	16.32	127	eP	Pn	14 57 36.1	-3.6
	comp=E,16nm,0.3s						
TAPN	Taplejung	16.77	123	eP	Pn	14 57 41.5	-3.8
	comp=E,12nm,0.3s						
ODAN	Odare	16.89	125	eP	P	14 57 43.9	-2.7
	comp=E,16nm,0.4s						
LSA	Lhasa	17.82	111		Pn	14 57 58.1	+0.1
ZAA0	Zalesovo Array	18.54	24		P	14 58 04.0	-0.1
ZALV	Zalesovo Beam	18.54	24	P	P	14 58 04.8	+0.7
	comp=E,1.1nm,0.3s,baz=222,slow=10,SNR=23						
ZALV	Zalesovo Beam	18.54	24		P	14 58 03.7	-0.4
SHL	Shillong	20.77	120	P	P	14 58 29.1	+0.6
SHL				IAmb	IAmb	14 58 49.0	
	comp=Z,7.6nm,0.5s						
ARU	Arti	20.81	339	P	Pn	14 58 30.9	-1.5
	comp=Z,0.8nm,0.4s,baz=180,slow=7.4,SNR=5.8						
GTA	Gaotai	21.83	77	eP	P	14 58 42.7	+2.9
GTA				sP	sP	14 59 24.9	+3.2
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SONM	Songino Array	27.05	57	P	P	14 59 29.1	+1.1
	comp=Z,0.3nm,0.8s,baz=224,slow=6.2,SNR=4.1						
KMI	Kunming	28.96	107	⇑P	P	14 59 47.2	+2.0
KMI				pP	pP	15 00 14.3	-0.2
KMI				sP	sP	15 00 27.6	-2.4
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,130nm,3.8s						
ANTO	Ankara	30.46	286	P	P	14 59 59.1	+1.0
HHC	Hu-ho-hao-te	30.65	72	eP	P	15 00 02.2	+2.3
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,76nm,6.6s						
NRIK	Noril'sk	32.85	10	P	P	15 00 20.9	+2.3
	comp=Z,1.8nm,0.4s,baz=201,slow=7.4,SNR=4.6						
NRIK	Noril'sk	32.85	10	IAmb	IAmb	15 00 21.9	
	comp=Z,2.8nm,0.5s						
ATD	Arta Tunnel	36.83	233	P	P	15 00 56.3	+2.8
FIA1	FINESS Array S	36.96	325	P	P	15 00 56.9	+3.0
FINES	FINESS Array B	36.96	325	P	P	15 00 57.0	+3.0
	comp=Z,1.1nm,0.3s,baz=116,slow=9.6,SNR=22						
FINES	FINESS Array B	36.96	325	P	P	15 00 56.7	+2.7
ARCES	ARCESS Array B	40.38	337	P	P	15 01 25.0	+2.6
	comp=Z,4.3nm,0.8s,baz=103,slow=5.4,SNR=15						
ARCES	ARCESS Array B	40.38	337	IAmb	IAmb	15 01 26.0	
	comp=Z,8.0nm,1.1s						
KHC	Kasperske Hory	42.94	305	P	P	15 01 43.7	+0.1
KHC				IAmb	IAmb	15 01 49.1	
	comp=Z,10.0nm,1.2s						
NB2	NORSAR Subarra	43.93	322	P	P	15 01 53.8	+2.5
	comp=Z,0.9nm,0.5s,baz=92,slow=7.4						
NOA	NORSAR Array B	43.93	322	P	P	15 01 53.9	+2.5
	comp=Z,1.0nm,0.5s,baz=92,slow=7.7,SNR=5.4						
NC204	NORSAR Array S	44.16	323	P	P	15 01 55.9	+2.7
TOLK	Toolik Lake Re	69.61	15	P	P	15 04 54.6	+2.2
TOLK				IAmb	IAmb	15 04 55.5	
	comp=Z,2.9nm,0.7s						
INK	Inuvik	72.64	10	P	P	15 05 13.1	+2.5
	comp=Z,2.0nm,0.5s,baz=342,slow=6.7,SNR=8.4						
INK	Inuvik	72.64	10	P	P	15 05 13.1	+2.5
INK				IAmb	IAmb	15 05 13.4	
	comp=Z,2.2nm,0.6s						
C36M	Paulatuk	72.65	6	P	P	15 05 12.7	+2.2
C36M				IAmb	IAmb	15 05 13.2	
	comp=Z,4.0nm,0.6s						
MDM	Murphy Dome	72.99	17	P	P	15 05 15.2	+2.4
MDM				IAmb	IAmb	15 05 24.9	
	comp=Z,5.3nm,1.4s						
POKR	Poker Plat Res	73.04	16	P	P	15 05 15.6	+2.6
POKR				IAmb	IAmb	15 05 16.0	
	comp=Z,3.5nm,0.7s						
ILAR	Eielson Array	73.45	16	P	P	15 05 16.9	+1.5
	comp=Z,0.9nm,0.9s,baz=326,slow=4.2,SNR=7.5						
ILAR	Eielson Array	73.45	16	P	P	15 05 16.6	+1.1
KTH	Kantishna Hill	73.52	19	P	P	15 05 17.3	+1.3
KTH				IAmb	IAmb	15 05 19.2	
	comp=Z,17nm,1.4s						
PPLA	Purkeypile	73.74	19	P	P	15 05 18.8	+1.4
PPLA				IAmb	IAmb	15 05 37.0	
	comp=Z,17nm,1.4s						
RND	Reindeer	74.16	18	P	P	15 05 20.3	+0.7
RND				IAmb	IAmb	15 05 28.6	
	comp=Z,11nm,1.4s						
SKT	Skwentna	74.67	20	P	P	15 05 24.0	+1.4
SKT				IAmb	IAmb	15 05 50.0	
	comp=Z,7.7nm,1.2s						
SUA	Susitna One	75.31	20	P	P	15 05 27.6	+1.2
M24K	Tolsona, Glenn	75.92	17	P	P	15 05 31.5	+1.8
YKA	Yellowknife Ar	80.05	3	P	P	15 05 54.8	+2.3
	comp=Z,1.8nm,0.5s,baz=358,slow=5.3,SNR=46						
WRA	Warramunga Arr	81.96	123	P	P	15 06 03.9	+0.7
	comp=Z,0.4nm,0.8s,baz=327,slow=4.8,SNR=1.0						

*JMA **03** 15:00:42.2±0.2, 43.˚53N×147.˚55E, h42km, M3.9*
*SKHL **03** 15:00:42.1±0.1, 43.˚60N×147.˚70E, h42km±2km, mb4.6/3*
ISC 03 15:00:38.3±2.5**, 43.˚62N**±0.˚08×**147.˚62E**±0.˚09**, h5**km±12km**, n22,** σ1.˚44/33**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	1.34	289	iP	Pb	15 01 04.3	+0.4
YUK				AMB	AMB	15 01 06.0	
	440nm,0.4s						
YUK				iS	Sg	15 01 20.8	-0.5
YUK				A	A	15 01 21.0	
	1µm,0.4s						
YUK				A	A	15 01 21.0	
	2µm,0.4s						
GRPR	Tuman	1.39	286	iP	Pg	15 01 05.0	+0.1
GRPR				iS	Sg	15 01 22.2	-0.7
GRPR				A	A	15 01 25.0	
	1µm,0.5s						
GRPR				A	A	15 01 25.0	
	2µm,0.5s						
NEM2	Nemuro 2	1.39	260	P	Pg	15 01 05.0	+0.1
NEM2				eS	Sg	15 01 21.8	-1.2
NMR	Nemuro--Hokkai	1.40	260	iP	Pg	15 01 05.0	-0.1
NMR				iS	Sg	15 01 22.2	-1.1
GLVR	Golovnino	1.53	275	iP	Pn	15 01 07.4	+1.2
GLVR				AMB	AMB	15 01 08.0	
	360nm,0.3s						
GLVR				iS	Sg	15 01 26.4	-1.0
GLVR				A	A	15 01 31.0	
	2µm,0.5s						
GLVR				A	A	15 01 31.0	
	1µm,0.5s						
KUR	Kuril'sk	1.62	6	iP	Pn	15 01 08.0	+0.5
KUR				AMB	AMB	15 01 09.0	
	50nm,0.2s						
KUR				iS	Sn	15 01 26.8	-2.0
KUR				A	A	15 01 27.0	
	540nm,0.3s						
KUR				A	A	15 01 27.0	
	310nm,0.3s						
JRA	Rausu	1.84	281	P	Pn	15 01 11.7	+1.2
JRA				eS	Sn	15 01 33.7	-0.4
JKHN	Kushirohamanak	1.87	254	P	Pn	15 01 12.0	+1.0
JNSB	Nemuroshibetsu	1.90	276	P	Pn	15 01 12.6	+1.2
JNK	Nakash	2.11	270	P	Pn	15 01 14.9	+0.7
JNK				eS	Sn	15 01 38.8	-2.0
JAK	Akkeshi	2.22	255	P	Pn	15 01 16.3	+0.5
JAK				eS	Sn	15 01 41.3	-2.3
JTKR	Abashiri--Toko	2.71	279	P	Pn	15 01 24.0	+1.5
JAR	Ashorobuto	2.82	265	P	Pn	15 01 25.3	+1.2
JAR				eS	Sn	15 01 57.8	-0.6
JOB	Onbets	2.86	257	P	Pn	15 01 25.5	+1.0
JOB				eS	Sn	15 01 58.3	-0.9
JMP	Maruseppu	3.11	279	P	Pn	15 01 29.6	+1.6
JCH	Churui	3.27	254	P	Pn	15 01 30.9	+0.6
JKK2	Kamakawa 2	3.54	276	P	Pn	15 01 36.1	+2.2
JEM	Erimo	3.65	246	P	Pn	15 01 38.0	+2.5
JFR	Furan	3.69	265	P	Pn	15 01 38.1	+2.1
JNBK	Urakawa-nobuka	3.82	251	P	Pn	15 01 38.4	+0.7
JSE	Soyaes	3.86	292	P	Pn	15 01 39.8	+1.6
JWK2	Keihoku	4.43	294	P	Pn	15 01 49.1	+2.9

*BJI **03** 15:04:16.3±0.0, 35.˚24N×137.˚08E, h40km, mB4.9/28, mb4.5/41, Ms4.2/20, Ms7 4.0/21*
*NEIC **03** 15:04:20.0±2.1, 35.˚37N±0.˚05×136.˚75E±0.˚04, h36km±5km, mb4.6/33, Mwr4.6/27, Error ellipse: s-maj=7.4km s-min=4.5km az=165.0*
*MOS **03** 15:04:19.8±0.9, 35.˚35N×136.˚70E, h52km, mb4.7/12, Error ellipse: s-maj=9.2km s-min=6.3km az=94.8*
*NEIC **03** 15:04:20.2, 35.˚37N×136.˚75E, h42km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.35; $M_{\theta\theta}$0.03; $M_{\phi\phi}$0.32; $M_{r\theta}$-0.12; $M_{\theta\phi}$-0.32; $M_{\phi r}$-0.94; Fault plane solution: $M_0$1.06000×10^{16} NP1:ϕ_s118.13000°, δ21.13000°, λ-152.56000°. NP2:ϕ_s2.28000°, δ80.44000°, λ-71.07000°. Principal axes: T 1.0278, Plg33.0000°, Azm76.0000°; N 0.0618, Plg19.0000°, Azm179.0000°; P*

-1.0896, Plg51.0000°, Azm294.0000°;

*NIED **03** 15:04:20.9, 35°.34N×136°.81E, h40km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.56; $M_{\theta\theta}$0.06; $M_{\phi\phi}$0.50; $M_{r\theta}$-0.12; $M_{\theta\phi}$-0.29; $M_{\phi r}$-0.91; Fault plane solution: $M_0$1.10000×10^{16} NP1:ϕ_s0.00000°, δ75.00000°, λ-74.00000°. NP2:ϕ_s132.00000°, δ22.00000°, λ-136.00000°.*

*JMA **03** 15:04:20.8, 35°.34N×136°.80E, h40km, M4.6 Broadband fault plane solution: P waves. NP1:ϕ_s94.00000°, δ48.00000°, λ-176.00000°. NP2:ϕ_s1.00000°, δ87.00000°, λ-42.00000°. Principal axes: T Plg26.0000°, Azm56.0000°; N Plg47.0000°, Azm178.0000°; P Plg31.0000°, Azm309.0000°;*

JMA Felt IV J1.

*IDC **03** 15:04:21.6±0.9, 35°.36N×136°.69E, h47km±9km, mb3.7/24, mb1 3.9/31, mb1mx3.7/70, mbtmp4.0/31, ML3.8/6, MS3.8/26, Ms1 3.8/26, ms1mx3.6/50 Error ellipse: s-maj=9.4km s-min=7.8km az=153.0*

ISC 03 15:04:20.5±0.4**, 35°.33N**±0°.03×**136°.73E**±0°.03**, h36**km±1km**, n181,** σ1°.51/196**, mb4.3**/50**, MS3.9**/27**, 13C-7D, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JICN	Ichinomiyachia	0.10	108	P	Pn	15 04 27.3	+0.6
JICN				S	Sn	15 04 31.8	+0.9
INU	Inuyama	0.24	86		Pn	15 04 27.9	-0.8
INU				Sn	Sn	15 04 32.8	-3.3
JYTA	Yamagatataniai	0.26	2	⇓P	Pn	15 04 28.5	-0.1
JYTA				S	Sn	15 04 33.8	-1.9
JGF	Kuroka	0.58	62		Pn	15 04 31.5	-1.0
JGF				Sn	Sn	15 04 39.2	-1.5
TSUJ	Tsu 2	0.67	202	⇑P	Pn	15 04 34.4	+0.8
TSUJ				S	Sn	15 04 44.4	+1.6
JIE	Ise	0.94	181	⇑P	Pn	15 04 38.1	+0.9
JIE				S	Sn	15 04 50.4	+1.0
JKG	Kaga	0.99	341	⇓P	Pn	15 04 38.9	+1.0
JKG				S	Sn	15 04 52.4	+1.7
JWT	Wachi	1.08	268	P	Pn	15 04 40.4	+1.2
JWT				S	Sn	15 04 55.2	+2.2
JWT	Wachi	1.08	268		Pn	15 04 40.3	+1.2
JHE	Heguri	1.09	232	⇑P	Pn	15 04 40.3	+1.0
JHE				eS	Sn	15 04 55.3	+2.2
SHZ3	Shizuoka 3	1.24	102	P	Pn	15 04 40.9	-0.5
JSG	Sagara	1.37	118		Pn	15 04 44.1	+1.0
MAJO	Matsushiro	1.70	44	P	Pn	15 04 48.0	+0.3
MAJO	Matsushiro	1.70	44		Pn	15 04 48.0	+0.3
MAT	Matsushiro	1.70	44	P	Pn	15 04 48.2	+0.5
MAT				S	Sn	15 05 09.7	+1.4
MJAR	Matsushiro Arr	1.70	44	P	Pn	15 04 48.8	+1.1
	59nm,0.3s,baz=37,slow=19,SNR=300						
MJAR				S	Sn	15 05 09.7	+1.4
	59nm,0.3s,baz=119,slow=27,SNR=5.5						
MJAR				LR	LR	15 05 43.7	
	comp=Z,2μm,19.4s,baz=220,slow=48						
MJAR	Matsushiro Arr	1.70	44	P	Pn	15 04 48.8	+1.1
MJAR				S	Sn	15 05 09.7	+1.4
MJB9	Matsu-Tunnel	1.70	44		Pn	15 04 48.1	+0.4
JMN	Monobe	2.84	237	Pn	Pn	15 05 04.3	+0.9
JYT	Yasato	2.96	71	Pn	Pn	15 05 05.4	+0.5
JSD	Sado	2.97	24	Pn	Pn	15 05 05.0	0.0
JHS	Saijyo	2.98	265	Pn	Pn	15 05 07.0	+1.8
JHJ	Hachijo jima 2	3.36	130	P	Pn	15 05 10.7	+0.3
	21nm,0.3s,baz=238,slow=22,SNR=1.5						
JHJ				S	Sn	15 05 52.4	+3.3
	37nm,0.3s,baz=40,slow=23,SNR=2.2						
JHJ				LR	LR	15 06 45.8	
	comp=Z,2μm,19.3s,baz=75,slow=42						
JHJ2	Mitsune	3.38	130	Pn	Pn	15 05 11.3	+0.4
JMM	Marumori	4.13	51	Pn	Pn	15 05 23.4	+2.3
JNU	Nakatsue	5.32	247	P	Pn	15 05 39.2	+1.7
	5.7nm,0.3s,baz=143,slow=6.3,SNR=41						
JNU				S	Sn	15 06 39.6	+2.0
	baz=107,slow=6.1,SNR=1.4						
JNU				LR	LR	15 07 59.2	
	comp=Z,2μm,20.6s,baz=72,slow=41						
JNU	Nakatsue	5.32	247	Pn	Pn	15 05 39.7	+2.2
JTU	Tsushima	6.07	264	Pn	Pn	15 05 49.3	+1.6
JSU	Suzuyama	6.49	236	Pn	Pn	15 05 55.2	+1.8
KSRS	Korea Array	7.41	289	P	Pn	15 06 08.0	+1.9
	1.1nm,0.3s,baz=100,slow=14,SNR=7.5						
KSRS				S	Sn	15 07 29.6	+0.8
	2.1nm,0.3s,baz=100,slow=24,SNR=12						
KSRS				LR	LR	15 08 57.2	
	comp=Z,843nm,21.1s,baz=105,slow=37						
KSRS	Korea Array	7.41	289	P	Pn	15 06 08.0	+1.9
KSRS				S	Sn	15 07 29.6	+0.8
KS19	Wonju Array Si	7.46	289	Pn	Pn	15 06 05.5	-1.4
ERM	Erimo	8.35	35	i P	Pn	15 06 21.4	+2.4
ERM	Erimo	8.35	35		Pn	15 06 20.8	+1.8
USRK	Ussuriysk Ar.	9.57	339	P	Pn	15 06 37.5	+1.8
	baz=164,slow=12,SNR=8.9						
USRK				LR	LR	15 09 57.2	
	comp=Z,292nm,22.0s,baz=168,slow=35						
USRK	Ussuriysk Ar.	9.57	339	P	Pn	15 06 37.5	+1.8
USRK	Ussuriysk Ar.	9.57	339	Pn	Pn	15 06 36.9	+1.1
TEY	Ternei	9.69	359	eP	Pn	15 06 26.9	-10
ASAJ	Asahikawa	9.87	25	P	Pn	15 06 41.8	+2.1
	1.3nm,0.3s,baz=237,slow=12,SNR=16						
ASAJ	Asahikawa	9.87	25	P	Pn	15 06 41.8	+2.1
JKA	Kamikawa-asahi	9.87	25		Pn	15 06 41.8	+2.1
NMR	Nemuro--Hokkai	10.62	38	eP	Pn	15 06 50.0	-0.1
GRPR	Tuman	11.10	36	P	Pn	15 06 56.9	+0.3
JOW	Kunigami	11.14	223	P	Pn	15 06 56.7	-0.6
	1.6nm,0.3s,baz=127,slow=27,SNR=1.5						
JOW	Kunigami	11.14	223	Pn	Pn	15 06 57.0	-0.3
YUK	Yuzh-Kuril'sk	11.18	36	P	Pn	15 07 01.9	+4.3
YUK				pmax	pmax		
	comp=Z,139nm,0.4s						
YUK				pmax	pmax		
	comp=E,28nm,0.5s						
YUK				pmax	pmax		
	comp=N,123nm,0.4s						
CN2	Changchun	12.12	318	eP	Pn	15 07 12.0	+1.4
CN2				pmax	pmax		
	comp=N,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=N,220nm,3.7s						
CN2				LR	LR		
	comp=N,350nm,18.0s						
CN2				LR	LR		
	comp=N,420nm,18.0s						
CN2				LR	LR		
	comp=N,520nm,18.0s						
YSS	Yuzh-Sakhalins	12.46	19	eP	P	15 07 30.8	+4.3
KLR	Kul'dur	14.36	347	P	Pn	15 07 43.6	+2.4
	comp=N,0.3nm,0.3s,baz=144,slow=8.1,SNR=8.4						
KLR				LR	LR	15 13 07.7	
	comp=N,189nm,18.8s,baz=160,slow=37						
KLR	Kul'dur	14.36	347	i P	Pn	15 07 41.5	+0.4
KLR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
NJ2	Nanjing	15.23	263	eP	Pn	15 07 51.2	-1.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TPUB	Ta-pu	18.43	234		Pn	15 08 33.5	+0.3
TPUB				IAmb	IAmb	15 08 44.0	
	comp=Z,66nm,1.5s						
ZEA	Zeya	19.57	343	eP	P	15 08 43.2	-1.9
ZEA				pmax	pmax		
	comp=N,10.0nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.4s						
HHC	Hu-ho-hao-te	20.52	293	eP	P	15 08 56.7	+0.9
HHC				pmax	pmax		
	comp=Z,13nm,1.2s						
HHC				pmax	pmax		
	comp=Z,200nm,6.6s						
HHC				LR	LR		
	comp=Z,280nm,18.2s						
HHC				LR	LR		
	comp=Z,260nm,14.8s						
HHC				LR	LR		
	comp=Z,280nm,17.1s						
XAN	Xi'an	22.88	275	P	P	15 09 21.0	+0.1
XAN				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PETK	Petropavlovsk-	23.13	33	LR	LR	15 18 39.3	
	comp=Z,173nm,18.0s,baz=226,slow=37						
ENH	Enshi	23.41	265	P	P	15 09 26.1	-0.3
ENH				IAmb	IAmb	15 09 27.8	
	comp=Z,15nm,0.8s						
ULN	Ulaanbaatar	25.31	309	P	P	15 09 41.8	-2.0
ULN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ULN	Ulaanbaatar	25.31	309	P	P	15 09 41.8	-2.0
TGY	Tagaytay City	25.48	218	LR	LR	15 20 05.6	
	comp=Z,80nm,19.2s,baz=218,slow=37						
SONM	Songino Array	25.72	308	P	P	15 09 46.9	-0.6
	comp=Z,3.9nm,0.9s,baz=112,slow=8.7,SNR=22						
SONM				LR	LR	15 20 34.3	
	comp=Z,328nm,18.6s,baz=114,slow=38						
SONM	Songino Array	25.72	308	P	P	15 09 46.9	-0.6
SONM	Songino Array	25.72	308	P	P	15 09 46.0	-1.5
MA2	Magadan	25.93	16	LR	LR	15 20 38.6	
	comp=Z,95nm,18.9s,baz=198,slow=38						
LZH	Lanzhou	26.64	281	eP	P	15 09 56.0	0.0
LZH				pP	pP	15 10 06.7	+0.4
LZH				sP	sP	15 10 11.0	+0.3
LZH				PP	PnPn	15 10 36.6	-0.9
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
LZH				pmax	pmax		
	comp=Z,73nm,4.8s						
LZH				LR	LR		
	comp=Z,250nm,13.0s						
LZH				LR	LR		
	comp=Z,250nm,13.2s						
LZH				LR	LR		
	comp=Z,300nm,15.3s						
YAK	Yakutsk	27.09	353	LR	LR	15 20 56.4	
	comp=Z,147nm,18.1s,baz=153,slow=37						
YAK	Yakutsk	27.09	353	eP	P	15 09 57.9	-1.6
YAK				e*PP	sP	15 10 12.5	-2.0
YAK				e		15 10 48.4	
YAK				e		15 13 22.1	
YAK				eS	S	15 14 32.3	-2.6
YAK				eSS	SnSn	15 15 51.5	+8.2
YAK				e		15 20 45.2	
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,64nm,2.9s						
YAK				pmax	pmax		
	comp=N,85nm,3.3s						
YAK				pmax	pmax		
	comp=E,87nm,3.6s						
YAK				smax	smax		
	comp=N,32nm,3.3s						
YAK				smax	smax		
	comp=E,74nm,3.3s						
YAK	Yakutsk	27.09	353	P	P	15 09 57.8	-1.6
YAK				IAmb	IAmb	15 10 25.7	
	comp=Z,6.6nm,0.6s						
CD2	Chengdu	27.89	270	eP	P	15 10 06.0	-1.1
TLY	Talaya	28.71	315	LR	LR	15 22 28.1	
	comp=Z,287nm,18.3s,baz=160,slow=38						
TLY	Talaya	28.71	315	ceP	P	15 10 14.6	+0.4
TLY				pmax	pmax		
	comp=Z,1.0nm,1.0s						
QIZ	Qiongzhong	28.78	243	P	P	15 10 15.8	+0.8
QIZ				S	S	15 15 01.4	-0.9
QIZ				LR	LR		
	comp=Z,200nm,18.6s						
DAV	Davao City (W)	29.94	203	LR	LR	15 21 26.7	
	comp=Z,55nm,20.7s,baz=18,slow=34						
KMI	Kunming	30.95	260	⇓P	P	15 10 33.5	-1.0
KMI				pP	pP	15 10 40.9	-3.9
KMI				sP	sP	15 10 50.9	+1.6
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KMI				LR	LR		
	comp=Z,210nm,9.9s						
KMI				LR	LR		
	comp=Z,310nm,8.7s						
KMI				LR	LR		
	comp=Z,240nm,16.2s						
CMAR	Chiang Mai Arr	37.39	253	P	P	15 11 30.5	+0.4
	comp=Z,0.7nm,0.3s,baz=54,slow=7.2,SNR=4.2						
CMAR				LR	LR	15 28 22.5	
	comp=Z,121nm,18.6s,baz=112,slow=39						
CMAR	Chiang Mai Arr	37.39	253	P	P	15 11 30.5	+0.4
WMQ	Urumqi	38.25	298	eP	P	15 11 38.4	+1.2
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.9s						
ZALV	Zalesovo Beam	40.31	314	P	P	15 11 53.1	-1.0
	comp=Z,0.6nm,0.5s,baz=99,slow=6.7,SNR=4.6						
ZALV				PcP	PcP	15 13 56.5	-0.6
	comp=Z,1.4nm,0.5s,baz=72,slow=4.2,SNR=6.8						
ZALV				LR	LR	15 29 11.8	
	comp=Z,167nm,20.0s,baz=96,slow=37						
ZALV	Zalesovo Beam	40.31	314	P	P	15 11 53.1	-1.0
ZALV						15 13 56.5	
ZALV	Zalesovo Beam	40.31	314	P	P	15 11 52.4	-1.8
ZALV					PcP	15 13 56.3	-0.8
MK31	Makanchi Array	41.84	303	P	P	15 12 06.2	-0.7
MK31				pmax	pmax		
	comp=Z,3.0nm,1.3s						
MK31	Makanchi Array	41.84	303	P	P	15 12 06.2	-0.7
MKAR	Makanchi Array	41.84	303	P	P	15 12 06.5	-0.4
	comp=Z,1.1nm,0.7s,baz=89,slow=10,SNR=9.7						
MKAR				PcP	PcP	15 14 02.5	+0.2
	comp=Z,0.8nm,1.0s,baz=101,slow=4.6,SNR=3.8						
MKAR				LR	LR	15 30 05.5	
	comp=Z,161nm,19.7s,baz=74,slow=37						
MKAR	Makanchi Array	41.84	303	i P	P	15 12 06.5	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	41.84	303	P	P	15 12 06.1	-0.7
MAKZ	Makanchi	42.05	303	P	P	15 12 07.4	-1.1
MAKZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MAKZ	Makanchi	42.05	303	P	P	15 12 07.4	-1.1
NRIK	Noril'sk	43.28	337	P	P	15 12 16.7	-1.5
	comp=Z,3.2nm,0.5s,baz=97,slow=12,SNR=6.1						
NRIK				LR	LR	15 31 34.7	
	comp=Z,172nm,18.6s,baz=112,slow=38						
NRIK	Noril'sk	43.28	337	ceP	P	15 12 16.4	-1.8
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
NRIK	Noril'sk	43.28	337	P	P	15 12 16.9	-1.3
KURK	Kurchatov	44.02	309	ceP	P	15 12 23.1	-1.3
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURK	Kurchatov	44.02	309	P	P	15 12 23.1	-1.3
KURK	Kurchatov	44.02	309		PcP	15 14 09.1	-0.3
KURBB	Kurchatov Arra	44.09	309	P	P	15 12 23.6	-1.3
	comp=Z,3.6nm,0.9s,baz=88,slow=8.5,SNR=19						
KURBB				PcP	PcP	15 14 09.1	-0.5
	comp=Z,0.2nm,0.4s,baz=93,slow=4.0,SNR=1.6						
KSH	Kashi	47.63	294	P	P	15 12 57.1	+3.9
KSH				pP	sP	15 13 10.0	+1.7
KSH				PcP	PcP	15 14 25.0	+2.5
KSH				PP	PP	15 14 50.2	+5.3
KSH				pmax	pmax		
	comp=Z,20nm,1.6s						
KSH				pmax	pmax		
	comp=Z,270nm,4.6s						
KSH				LR	LR		
	comp=Z,170nm,9.5s						
KSH				LR	LR		
	comp=Z,190nm,11.4s						
AAK	Ala-Archa	47.96	298	P	P	15 12 56.0	+0.2
	comp=Z,1.2nm,0.5s,baz=117,slow=8.0,SNR=8.1						
AAK	Ala-Archa	47.96	298	ceP	P	15 12 56.2	+0.4
AAK				pmax	pmax		
	comp=Z,35nm,1.8s						
AAK	Ala-Archa	47.96	298	P	P	15 12 55.8	0.0
AAK				IAmb	IAmb	15 12 57.0	
	comp=Z,12nm,1.4s						
BVAR	Borovoye Array	48.92	313	P	P	15 13 01.5	-1.4
	comp=Z,0.4nm,0.4s,baz=58,slow=18,SNR=6.3						
BVAR	Borovoye Array	48.92	313	P	P	15 13 01.5	-1.4
BRVK	Borovoye	48.98	313	ceP	P	15 13 02.3	-1.0
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BRVK	Borovoye	48.98	313	P	P	15 13 02.7	-0.6
BRVK				IAmb	IAmb	15 13 03.4	
	comp=Z,4.7nm,1.2s						
KK31	Karatay Array	50.69	300	P	P	15 13 15.9	-0.5
KK31				pmax	pmax		
	comp=Z,36nm,1.3s						
KK31	Karatay Array	50.69	300	P	P	15 13 15.9	-0.5
KKAR	Karatay Array	50.69	300	P	P	15 13 15.8	-0.6
KKAR	Karatay Array	50.69	300	P	P	15 13 15.8	-0.6
PPLA	Purkeypile	50.71	34	P	P	15 13 16.6	+0.1
RND	Reindeer	52.20	33	P	P	15 13 27.1	-0.4
RND				pmax	pmax		
	comp=Z,9.0nm,1.2s						
RND	Reindeer	52.20	33	P	P	15 13 27.1	-0.4
RND				IAmb	IAmb	15 13 47.1	
	comp=Z,8.5nm,1.2s						
MDM	Murphy Dome	52.35	31	P	P	15 13 27.5	-1.0
MDM				IAmb	IAmb	15 13 41.2	
	comp=Z,5.2nm,1.0s						
IL31		52.94	31	P	P	15 13 32.9	+0.2
ILAR	Eielson Array	52.94	31	P	P	15 13 33.4	+0.5
	comp=Z,0.7nm,0.8s,baz=284,slow=6.9,SNR=9.4						
ILAR	Eielson Array	52.94	31	P	P	15 13 33.4	+0.5
ILAR	Eielson Array	52.94	31	P	P	15 13 32.7	-0.1
FITZ	Fitzroy Crossi	54.17	193	P	P	15 13 42.1	-0.1
DOT	Dot Lake	54.30	33	P	P	15 13 43.1	+0.2
DOT				IAmb	IAmb	15 14 05.2	
	comp=Z,7.6nm,1.4s						
WRAB	Tennant Creek	55.01	183	P	P	15 13 47.6	-0.8
WRAB				pmax	pmax		
	comp=Z,12nm,1.5s						
WRAB	Tennant Creek	55.01	183	P	P	15 13 47.6	-0.8
WRAB				IAmb	IAmb	15 14 10.8	
	comp=Z,12nm,1.5s						
WRA	Warramunga Arr	55.02	183	P	P	15 13 48.0	-0.5
	comp=Z,1.6nm,0.5s,baz=358,slow=7.7,SNR=34						
WRA	Warramunga Arr	55.02	183	P	P	15 13 48.0	-0.5
ARU	Arti	55.12	318	P	P	15 13 46.7	-2.1
	comp=Z,1.7nm,0.8s,baz=84,slow=7.8,SNR=7.9						
ARU	Arti	55.12	318	d iP	P	15 13 47.6	-1.2
ARU						15 15 50.3	
ARU				S	S	15 21 29.8	+0.8
ARU				SS	SS	15 25 07.4	-5.3
ARU				pmax	pmax		
	comp=Z,14nm,1.1s						
ARU	Arti	55.12	318	P	P	15 13 47.7	-1.2
ARU				IAmb	IAmb	15 13 49.5	
	comp=Z,12nm,1.1s						
ABKAR	Akbulak array	56.12	310	P	P	15 13 54.9	-1.3
ABKAR				IAmb	IAmb	15 14 10.6	
	comp=Z,5.1nm,1.1s						
AKTO	Aktyubinsk	56.98	312	P	P	15 14 02.6	+0.4
	comp=Z,0.7nm,0.5s,baz=81,slow=17,SNR=2.2						
AKTO				LR	LR	15 39 29.1	
	comp=Z,120nm,20.2s,baz=71,slow=37						
AKTO	Aktyubinsk	56.98	312	P	P	15 14 02.6	+0.4
AS31	Alice Springs	58.74	183	P	P	15 14 14.1	-0.7
ASAR	Alice Springs	58.74	183	P	P	15 14 14.6	-0.2
	comp=Z,1.0nm,0.6s,baz=12,slow=13,SNR=31						
ASAR	Alice Springs	58.74	183	P	P	15 14 14.6	-0.2
ASAR	Alice Springs	58.74	183	P	P	15 14 14.2	-0.6
HRA	Herat	59.70	293	P	P	15 14 20.4	-1.3
HRA				IAmb	IAmb	15 14 25.0	
	comp=Z,4.7nm,1.1s						
EUNU	Eureka	62.40	8	P	P	15 14 38.1	-1.1
EUNU				IAmb	IAmb	15 15 05.6	
	comp=Z,5.5nm,1.2s						
DIB	Dawson Inlet,	63.06	42	P	P	15 14 42.2	-1.7
ARCES	ARCESS Array B	64.22	339	P	P	15 14 50.8	-0.5
	comp=Z,0.7nm,0.5s,baz=46,slow=7.0,SNR=5.6						
ARCES				LR	LR	15 47 07.5	
	comp=Z,100nm,18.1s,baz=300,slow=40						
ARCES	ARCESS Array B	64.22	339	P	P	15 14 50.8	-0.5
ARCES	ARCESS Array B	64.22	339	P	P	15 14 50.6	-0.7
FORT	Forrest	66.27	188	P	P	15 15 04.8	-0.1
YKA	Yellowknife Ar	67.14	29	P	P	15 15 10.1	-0.1
	comp=Z,0.3nm,0.9s,baz=289,slow=5.8,SNR=2.4						
YKA	Yellowknife Ar	67.14	29	P	P	15 15 10.1	-0.1
OBN	Obninsk	67.15	322	LR	LR	15 46 28.6	
	comp=Z,41nm,19.1s,baz=68,slow=38						
OBN	Obninsk	67.15	322	⇓eP	P	15 15 09.1	-1.2
OBN				pmax	pmax		
	comp=Z,46nm,3.0s						
BBOO	Buckleboo	67.79	181	P	P	15 15 14.4	-0.2
FIA1	FINESS Array S	68.51	331	P	P	15 15 17.9	-0.9
FINES	FINESS Array B	68.51	331	P	P	15 15 18.1	-0.7
	comp=Z,1.6nm,0.4s,baz=70,slow=5.8,SNR=22						
FINES	FINESS Array B	68.51	331	i P	P	15 15 18.1	-0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	FINESS Array B	68.51	331	P	P	15 15 17.8	-1.0
KBZ	Khabaz	69.08	309	P	P	15 15 22.7	0.0
	comp=Z,2.7nm,1.0s,baz=66,slow=4.3,SNR=3.9						
KBZ	Khabaz	69.08	309	ceP	P	15 15 23.6	+0.9
KVAR	Kislovodsk Arr	69.10	310	LR	LR	15 47 24.4	
	comp=Z,103nm,18.9s,baz=205,slow=37						
KIV	Kislovodsk	69.11	310	⇑eP	P	15 15 22.9	-0.1
KIV						15 15 48.0	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,56nm,16.0s						
GNI	Garni	69.63	305	P	P	15 15 24.9	-1.5
GNI				pmax	pmax		
	comp=Z,11nm,1.4s						
GNI	Garni	69.63	305	P	P	15 15 24.9	-1.5
GNI				IAmb	IAmb	15 15 25.2	
	comp=Z,11nm,1.4s						
SUMG	Summit	72.33	358	P	P	15 15 41.6	-0.9
SUMG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SUMG	Summit	72.33	358	P	P	15 15 41.5	-0.9
SUMG				IAmb	IAmb	15 15 44.5	
	comp=Z,9.6nm,0.9s						
TOO	Toolangi	72.99	173	P	P	15 15 45.9	-0.4
TOO				pmax	pmax		
	comp=Z,12nm,1.3s						
TOO	Toolangi	72.99	173	P	P	15 15 45.9	-0.4
TOO				IAmb	IAmb	15 15 53.4	
	comp=Z,12nm,1.3s						
AKASG	Malin Array Be	73.26	321	P	P	15 15 47.0	-0.9
	comp=Z,0.3nm,0.3s,baz=49,slow=6.9,SNR=4.6						
AKASG				LR	LR	15 48 50.9	
	comp=Z,142nm,18.3s,baz=25,slow=36						
AKASG	Malin Array Be	73.26	321	ceP	P	15 15 47.0	-0.9
AKBB	Malin Array Si	73.26	321	ceP	P	15 15 48.3	+0.4
NC405	NORSAR Array S	74.01	336	P	P	15 15 51.4	-0.7
HFS	Hagfors	74.02	334	P	P	15 15 51.6	-0.6
	comp=Z,0.8nm,0.4s,baz=72,slow=9.5,SNR=8.9						
HFS	Hagfors	74.02	334	P	P	15 15 51.6	-0.6
NC204	NORSAR Array S	74.21	336	P	P	15 15 52.6	-0.7
NB2	NORSAR Subarra	74.23	336	P	P	15 15 52.9	-0.5
	comp=Z,2.3nm,0.7s,baz=38,slow=6.2						
NOA	NORSAR Array B	74.23	336	P	P	15 15 52.5	-1.0
	comp=Z,1.0nm,0.6s,baz=27,slow=16,SNR=4.8						
NOA				LR	LR	15 49 25.6	
	comp=Z,27nm,20.1s,baz=30,slow=36						
NOA	NORSAR Array B	74.23	336	P	P	15 15 52.5	-1.0
BRTR	Keskin Array B	77.07	310	P	P	15 16 10.7	+0.4
	comp=Z,1.3nm,0.9s,baz=55,slow=11,SNR=5.0						
BRTR				LR	LR	15 52 04.6	
	comp=Z,69nm,19.9s,baz=38,slow=37						
BRTR	Keskin Array B	77.07	310	ceP	P	15 16 10.6	+0.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	77.07	310	P	P	15 16 09.4	-0.9
NVAR	Mina Array Bea	79.02	51	P	P	15 16 21.1	-0.1
	comp=Z,0.4nm,0.6s,baz=281,slow=3.4,SNR=4.5						
NVAR	Mina Array Bea	79.02	51	P	P	15 16 20.4	-0.8
PDAR	Pinedale Array	81.53	43	P	P	15 16 36.0	+1.3
	comp=Z,0.3nm,0.5s,baz=297,slow=4.0,SNR=3.0						
BTNL	Ternell	84.01	331	dPcP	PcP	15 16 49.6	-1.3
BSTI	Sart Tilman	84.23	331	dPcP	PcP	15 16 51.2	-0.7
PPT	Papeete	87.35	114	LR	LR	15 47 05.1	
	comp=Z,47nm,21.5s,baz=206,slow=29						
TXAR	Lajitas Array	94.14	50	P	P	15 17 35.6	-0.2
	comp=Z,0.5nm,0.7s,baz=261,slow=2.4,SNR=4.6						
TXAR	Lajitas Array	94.14	50	P	P	15 17 35.6	-0.2
ESDC	Sonseca Array	97.02	330	LR	LR	16 07 54.5	
	comp=Z,88nm,19.5s,baz=245,slow=39						
TKL	Tuckaleechee C	99.91	32	LR	LR	16 06 52.5	
	comp=Z,55nm,18.2s,baz=336,slow=38						
LPAZ	La Paz	150.81	56	PKPbc	PKPbc	15 24 10.1	-0.3
	comp=Z,1.2nm,0.6s,baz=322,slow=1.6,SNR=4.0						
LPAZ	La Paz	150.81	56	PKIKP	PKPbc	15 24 10.1	-0.3

*IDC **03** 15:09:12.7±1.0, 28°.64N×51°.87E, h0km, mb4.0/21, mb1 4.1/26, mb1mx3.9/64, mbtmp4.0/26, ML3.4/4, MS3.7/1, Ms1 3.7/1, ms1mx2.5/47, Error ellipse: s-maj=21.8km*

s-min=15.6km az=17.0
*NEIC **03** 15:09:13.8±1.9, 28°.66N±0°.04×51°.9E±0°.1, h10km±1km, mb4.2/15, mb_Lg4.0(TEH), ML3.8(THR), Error ellipse: s-maj=15.4km s-min=6.8km az=271.0*
*TEH **03** 15:09:14.4, 28°.66N×51°.90E, h18km, ML4.0*
*THR **03** 15:09:15.8±0.4, 29°.02N×51°.82E, h16km±3km, ML4.0*
*OMAN **03** 15:09:18.1, 28°.55N×52°.02E, h18km, mb5.2/8, ml4.0/10*
ISC 03 15:09:14.0±0.5**, 28°.64N**±0°.04×**51°.87E**±0°.04**, h10**km**, n142, σ1.34**/155**, mb4.1**/27**, 1C, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AHBU	AHRAM	0.55	294	ePg	Pb	15 09 25.6	-0.1
KAZ1	Kazerun	1.00	349	ePg	Pg	15 09 33.5	+0.3
KAZ1				e		15 10 04.8	
	comp=Z,99nm,0.9s						
QIR1	Qir	1.05	99	ePg	Pg	15 09 34.1	-0.1
QIR1				e		15 09 59.2	
	comp=Z,99nm,0.6s						
SHI	Shiraz	1.15	29	ePg	Pb	15 09 34.6	-1.4
SHI				e		15 10 00.3	
	comp=Z,99nm,0.7s						
JHRM	Jahrom	1.51	95	ePg	Pb	15 09 42.7	+0.5
JHRM				e		15 10 13.6	
	comp=Z,99nm,0.5s						
LMD1	Lamerd	1.73	138	ePg	Pb	15 09 46.9	+1.0
LMD1				e		15 10 23.8	
	comp=Z,99nm,0.6s						
KLNJ	Kolanjah	2.37	354	ePn	Pn	15 09 53.8	+0.5
KLNJ				e		15 10 38.9	
	comp=Z,99nm,0.6s						
ABEH	Behbahan	2.40	325	ePn	Pn	15 09 54.7	+1.3
LAR1	LAR	2.42	113	ePn	Pn	15 09 54.4	+0.8
IRAM	Ramesheh	3.19	8	ePn	Pn	15 10 05.0	+0.6
ISAD	Sadrabad	3.62	25	ePn	Pn	15 10 11.4	+1.0
IMEH	Mehriz	3.63	40	ePn	Pn	15 10 11.9	+1.4
UMR	Umm Al-Rimmam	3.74	285	eP		15 10 14.1	
IGAR	Gharneh	3.75	2	ePn	Pn	15 10 12.7	+0.5
SHK1	Shahrekord	3.77	347	ePn	Pn	15 10 12.6	+0.2
RDF	Al-Radifah	3.80	275	eP		15 10 15.5	
BNDS	Bandar-Abbas	4.00	107	ePn	Pb	15 10 21.1	-3.6
BNDS	Bandar-Abbas	4.00	107	ePn	Pb	15 10 21.1	-3.6
GENO	Geno	4.00	107	ePn	Pn	15 10 19.6	+4.0
IPIR	Pirpir	4.12	348	ePn	Pn	15 10 18.4	+1.2
MIB	Mutribah	4.12	287	eP		15 10 19.3	
ICHK	Chekchek	4.21	31	ePn	Pn	15 10 18.7	+0.3
IZEF	Zefreh	4.26	5	ePn	Pn	15 10 19.8	+0.6
IBAF	Bafgh	4.35	47	ePn	Pn	15 10 21.3	+1.0
SHGR	Shooshtar-Gavs	4.35	323	eSg	Sb	15 11 20.8	-2.4
NGRK	Negar Kerman	4.37	76	ePn	Pn	15 10 21.7	+0.9
KHGB	Koh Gabri	4.38	66	ePn	Pn	15 10 21.8	+1.1
KHGB				e		15 10 41.9	
	comp=Z,99nm,0.8s						
YZKH	Yazd	4.42	32	ePn	Pn	15 10 20.6	-0.5
YZKH	Yazd	4.42	32	ePn	Pn	15 10 20.6	-0.5
KRBR	Kerman	4.48	71	ePn	Pn	15 10 24.4	+2.2
KRBR				eSg	Sb	15 11 32.6	+5.5
KRBR	Kerman	4.48	71	ePn	Pn	15 10 24.4	+2.2
TVBK	TV Kerman	4.48	71	ePn	Pn	15 10 23.0	+0.7
TVBK				e		15 10 45.3	
	comp=Z,99nm,0.5s						
SLWR	Sila	4.55	182	ePn	Pn	15 10 25.1	+2.1
SLWR	Sila	4.55	182	P	Pn	15 10 25.1	+2.1
SHME	Shamm	4.60	123	ePn	Pn	15 10 23.9	+0.4
SHME	Shamm	4.60	123	P	Pn	15 10 24.7	+1.1
SHME				S	Sn	15 11 17.0	0.0
BANOM	Banah	4.79	123	ePn	Pn	15 10 26.8	+0.6
BANOM	Banah	4.79	123	P	Pn	15 10 27.0	+0.8
	SNR=13						
BANOM				S	Sn	15 11 21.1	-0.7
ANAR	Anarak	4.81	19	ePn	Pn	15 10 26.7	+0.1
AJN	Ajban	4.93	145	ePn	Pn	15 10 30.0	+1.9
AJN	Ajban	4.93	145	P	Pn	15 10 30.2	+2.0
NAZ	Nazwa, Dubai	4.97	136	ePn	Pn	15 10 30.0	+1.3
NAZ	Nazwa, Dubai	4.97	136	P	Pn	15 10 30.4	+1.6
NAZ				S	Sn	15 11 26.8	+0.5
MASF	Masafi	5.03	129	P	Pn	15 10 30.6	+1.1
MASF				S	Sn	15 11 27.3	-0.4
MSFE	Esma-Masafi	5.04	129	ePn	Pn	15 10 30.3	+0.7
ASUD	Al Ashush, Dub	5.06	141	P	Pn	15 10 32.1	+2.2
	SNR=35						
ASUD				S	Sn	15 11 29.8	+1.3
CHMN	Cheshme madani	5.11	75	ePn	Pn	15 10 31.8	+0.9
FAQ	Al Faqa, Dubai	5.12	138	ePn	Pn	15 10 32.0	+1.3
FAQ	Al Faqa, Dubai	5.12	138	P	Pn	15 10 32.6	+1.9
FAQ				S	Sn	15 11 29.9	+0.1
MDH	Madha	5.17	129	ePn	Pn	15 10 31.4	0.0
MDH	Madha	5.17	129	P	Pn	15 10 32.2	+0.8
MDH				S	Sn	15 11 29.7	-1.5
MZWR	Madinat Zayed	5.19	159	ePn	Pn	15 10 33.4	+1.8
MZWR	Madinat Zayed	5.19	159	P	Pn	15 10 33.5	+1.8
KRSH	Karshahi	5.32	2	ePn	Pn	15 10 34.2	+0.6
KHMZ	Khomeyn	5.34	343	ePn	Pn	15 10 32.1	-1.9
KHMZ	Khomeyn	5.34	343	ePn	Pn	15 10 32.1	-1.9
UOSS	Minazif	5.35	133	Pn	Pn	15 10 34.3	+0.4
UOSS	Minazif	5.35	133	ePn	Pn	15 10 34.4	+0.5
UOSS	Minazif	5.35	133	P	Pn	15 10 34.4	+0.5
UOSS				S	Sn	15 11 33.6	-1.9
HATD	Hatta, Dubai	5.38	134	ePn	Pn	15 10 35.4	+1.0
HATD	Hatta, Dubai	5.38	134	P	Pn	15 10 35.3	+1.0
ASHO	Ashiyiah	5.44	135	ePn	Pn	15 10 35.7	+0.5
ASHO	Ashiyiah	5.44	135	⇑P	Pn	15 10 36.2	+1.0
	SNR=13						
ASHO				S	Sn	15 11 38.7	+0.8
ALNE	Al Ain	5.74	142	ePn	Pn	15 10 40.8	+1.5
ALNE	Al Ain	5.74	142	P	Pn	15 10 41.1	+1.8
	SNR=6.1						
ALNE				S	Sn	15 11 46.8	+1.4
KBAM	BAM	5.80	84	ePn	Pn	15 10 41.6	+1.5
KBAM				e		15 10 46.6	
	comp=Z,99nm,0.6s						
IDOB	Doab	6.02	329	ePn	Pn	15 10 45.7	+2.3
TPRV	Parvadeh(Tabas	6.03	42	ePn	Pn	15 10 45.0	+1.7
SOHO	SOHO	6.14	136	ePn	Pn	15 10 45.1	+0.4
SOHO	SOHO	6.14	136	P	Pn	15 10 45.2	+0.4
IQOM	Qom	6.22	354	ePn	Pn	15 10 45.6	-0.5
IVRN	Varamin	6.34	359	ePn	Pn	15 10 46.8	-0.7
UMZA	Um Al Zommool	6.61	153	ePn	Pn	15 10 52.1	+0.9
UMZA	Um Al Zommool	6.61	153	P	Pn	15 10 52.2	+0.9
TNSJ	Nastanj	6.68	36	ePn	Pn	15 10 52.9	+0.6
TKDS	Koohdasht(Taba	6.70	41	ePn	Pn	15 10 53.3	+0.8
ARQ	Araqi	6.74	141	P	Pn	15 10 54.0	+0.9
	SNR=15						
ARQ				S	Sn	15 12 10.1	+0.1
IRAZ	Razeghan	6.94	347	ePn	Pn	15 10 56.6	+0.7
HOQ	Hoqain	7.02	135	P	Pn	15 10 57.9	+1.0
HOQ				S	Sn	15 12 15.0	-1.9
SNGE	Sanandaj	7.49	330	ePn	Pn	15 11 02.1	-1.4
SNGE				IAML		15 12 32.8	
	comp=N,14nm,0.5s						
SNGE	Sanandaj	7.49	330	ePn	Pn	15 11 02.1	-1.4
BSY	Bisya	7.59	139	P	Pn	15 11 05.6	+0.9
	SNR=10						
BSY				S	Sn	15 12 30.5	-0.3
RAYN	Ar Rayn	7.66	230		Pn	15 11 06.1	+0.4
AFRZ	Afriz	7.77	50	ePn	Pn	15 11 08.0	+0.7
QALM	Alamut, Qazvin	7.84	353	ePn	Pn	15 11 09.7	+1.4
SMDO	Samad	7.87	134	P	Pn	15 11 09.5	+0.9
	SNR=6.5						
SMDO				S	Sn	15 12 35.8	-2.0
WSAR	Wadi Sarin	8.12	130	Pn	Pn	15 11 10.7	-1.3
	comp=N,1.0nm,0.3s,baz=314,slow=12,SNR=12						
WSAR				Sn	Sn	15 12 39.3	-4.7
	comp=N,1.0nm,0.3s,baz=165,slow=21,SNR=7.7						
JMDO	Jabal Madar	8.41	137	P	Pn	15 11 17.5	+1.5
WBK	Wadi Bani Khal	8.78	132	P	Pn	15 11 19.9	-1.2
SBZV	Sabzevar	9.12	31	ePn	Pn	15 11 26.4	+0.6
JLN	Jalan Bani Buh	9.39	132	P	Pn	15 11 28.4	-1.0
ISFR	Sfrayin	9.85	30	ePn	Pn	15 11 36.1	+0.2
DOK	Doka	10.19	168	P	Pn	15 11 39.7	-0.6
	SNR=6.8						
GEYT	Alibeck	10.63	28	Pn	Pn	15 11 44.7	-1.7
	comp=N,0.2nm,0.3s,baz=18,slow=29,SNR=1.7						
WHFO	Wadi Hawf	10.81	170	P	Pn	15 11 48.4	-0.6
	SNR=10.0						
SOCY	Socotra	16.49	173	Pn	Pn	15 13 02.5	-3.0
SOCY				IAmb	IAmb	15 13 20.0	
	comp=Z,11nm,1.0s						
KBZ	Khabaz	16.69	337	Pn	Pn	15 13 08.9	+1.1
	comp=Z,0.1nm,0.3s,baz=120,slow=6.5,SNR=7.9						
KVAR	Kislovodsk Arr	16.96	337	Pn	Pn	15 13 12.2	+0.8
	baz=277,slow=22,SNR=1.7						
BR131	Keskin Array S	18.66	311	P	P	15 13 32.1	-0.1
BRTR	Keskin Array B	18.66	311	P	Pn	15 13 32.8	+0.3
	baz=54,slow=15,SNR=2.9						
AKTO	Aktyubinsk	22.26	10	P	P	15 14 11.9	+0.9
	comp=Z,8.0nm,1.0s,baz=210,slow=12,SNR=11						
AAK	Ala-Archa	23.00	47	P	P	15 14 20.7	+1.6
	comp=Z,1.2nm,0.7s,baz=229,slow=11,SNR=3.7						
AAK	Ala-Archa	23.00	47	P	P	15 14 19.7	+0.6
BELG	Belogornoye	23.94	354	P	P	15 14 28.9	+0.8
	comp=Z,20nm,1.1s,baz=192,slow=2.9,SNR=5.2						
BELG	Belogornoye	23.94	354	P	P	15 14 28.9	+0.8
MLR	Muntele Rosu	26.49	316	LR	LR	15 26 36.8	
	comp=Z,154nm,18.8s,baz=357,slow=39						
AKASG	Malin Array Be	27.89	328	P	P	15 15 03.7	-0.2
	comp=Z,0.8nm,0.3s,baz=131,slow=8.1,SNR=4.9						
AKASG	Malin Array Be	27.89	328	IAmb	IAmb	15 15 06.2	
	comp=Z,1.4nm,1.1s						
AKBB	Malin Array Si	27.89	328	P	P	15 15 04.2	+0.4
AKBB				IAmb	IAmb	15 15 05.6	
	comp=Z,6.8nm,1.1s						
BVAR	Borovoye Array	27.94	24	P	P	15 15 04.5	+0.2
	comp=Z,1.0nm,0.8s,baz=169,slow=8.7,SNR=4.1						
BURAR	Bucovina Array	28.03	320	P	P	15 15 06.3	+0.9
MAKZ	Makanchi	29.68	44	P	P	15 15 18.4	-1.4
MAKZ				IAmb	IAmb	15 15 22.6	
	comp=Z,5.0nm,1.1s						
KURBB	Kurchatov Arra	29.78	35	P	P	15 15 21.1	+0.4
	comp=Z,2.0nm,0.9s,baz=235,slow=9.3,SNR=13						
MK31	Makanchi Array	29.86	44		P	15 15 21.1	-0.5
MK31				IAmb	IAmb	15 15 23.6	
	comp=Z,3.6nm,1.1s						
MKAR	Makanchi Array	29.86	44	P	P	15 15 22.1	+0.6
	comp=Z,2.1nm,0.9s,baz=232,slow=6.0,SNR=12						
MKAR	Makanchi Array	29.86	44	P	P	15 15 21.3	-0.3
KURK	Kurchatov	29.88	35	P	P	15 15 21.6	0.0
KURK				IAmb	IAmb	15 15 23.8	
	comp=Z,5.3nm,1.1s						
ZAA0	Zalesovo Array	34.85	34	P	P	15 16 04.2	-0.9
ZAA0				IAmb	IAmb	15 16 06.6	
	comp=Z,4.8nm,1.1s						
ZALV	Zalesovo Beam	34.85	34	P	P	15 16 04.8	-0.4
	comp=Z,3.5nm,0.9s,baz=242,slow=8.2,SNR=13						
ZALV	Zalesovo Beam	34.85	34	P	P	15 16 03.8	-1.3
GERES	GERESS Array B	35.46	315	P	P	15 16 11.1	+0.6
	comp=Z,0.2nm,0.3s,baz=225,slow=39,SNR=1.7						
CLL	Collm	36.79	319	eP	P	15 16 22.0	+0.2
FIA1	FINESS Array S	37.02	340	P	P	15 16 22.6	-0.9
FINES	FINESS Array B	37.02	340	P	P	15 16 23.1	-0.4
	comp=Z,4.5nm,0.8s,baz=148,slow=9.3,SNR=8.3						
FINES	FINESS Array B	37.02	340	P	P	15 16 23.0	-0.6
HFS	Hagfors	40.65	332	P	P	15 16 54.0	0.0
	comp=Z,2.2nm,0.4s,baz=135,slow=8.1,SNR=11						
HFS	Hagfors	40.65	332	P	P	15 16 54.0	0.0
NC405	NORSAR Array S	42.00	332	P	P	15 17 05.0	-0.2
NB2	NORSAR Subarra	42.17	332	P	P	15 17 05.3	-1.3
	comp=Z,3.5nm,1.0s,baz=129,slow=7.9						
NOA	NORSAR Array B	42.17	332	P	P	15 17 06.0	-0.6
	comp=Z,1.0nm,0.6s,baz=120,slow=8.2,SNR=3.9						
ARCES	ARCESS Array B	43.67	347	P	P	15 17 19.1	+0.6
	comp=Z,1.9nm,0.8s,baz=129,slow=9.6,SNR=5.4						
CMAR	Chiang Mai Arr	44.09	93	P	P	15 17 22.5	-0.1
	comp=Z,0.4nm,0.3s,baz=352,slow=13,SNR=2.3						
NRIK	Noril'sk	45.64	17	P	P	15 17 35.1	+0.8
	comp=Z,2.7nm,0.7s,baz=191,slow=3.4,SNR=4.7						
NRIK	Noril'sk	45.64	17	P	P	15 17 35.5	+1.2
NRIK				IAmb	IAmb	15 17 36.8	
	comp=Z,4.9nm,1.0s						
SONM	Songino Array	45.89	50	P	P	15 17 36.9	+0.2
	comp=Z,2.1nm,1.1s,baz=259,slow=8.7,SNR=9.1						
SONM	Songino Array	45.89	50	IAmb	IAmb	15 17 39.0	
	comp=Z,1.7nm,1.1s						
ULN	Ulaanbaatar	46.34	50	P	P	15 17 40.0	-0.2
ULN				IAmb	IAmb	15 17 42.2	
	comp=Z,3.2nm,1.1s						
EKA	Eskdalemuir Ar	47.22	320	P	P	15 17 46.7	-0.1
	comp=Z,1.7nm,0.7s,baz=100,slow=8.0,SNR=2.6						
DBIC	Dimbokro	57.72	259	P	P	15 19 06.5	+1.2
	comp=Z,3.2nm,0.8s,baz=31,slow=7.5,SNR=4.5						
ILAR	Eielson Array	85.75	8	P	P	15 21 52.7	-0.3
	comp=Z,1.1nm,1.1s,baz=183,slow=19,SNR=4.3						
ILAR	Eielson Array	85.75	8	P	P	15 21 52.0	-1.0
BPAW	Bear Paw Mtn.	85.83	10	P	P	15 21 52.8	-0.7
YKA	Yellowknife Ar	88.54	354	P	P	15 22 07.3	+0.7
	comp=Z,1.2nm,1.0s,baz=17,slow=4.8,SNR=9.0						
ASAR	Alice Springs	94.52	114	P	P	15 22 35.2	+0.2
	comp=Z,0.6nm,0.8s,baz=296,slow=4.7,SNR=6.4						
ASAR	Alice Springs	94.52	114	P	P	15 22 34.5	-0.5

IDC 03 15:19:11.8±2.4**, 6°.97S**×**129°.06E, h0**km**, mb3.3**/1**, mb1 3.4**/3**, mb1mx3.1**/28**, mbtmp3.2**/3**, ML3.3**/2**, Error ellipse: s-maj=143.4km s-min=33.4km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.88	159	Pn	Pn	15 22 28.9	-1.1
	0.2nm,0.3s,baz=341,slow=13,SNR=9.5						
WRA				Sn	Sn	15 24 51.8	-13
	0.3nm,0.3s,baz=338,slow=22,SNR=8.9						
ASAR	Alice Springs	17.25	165	P	P	15 23 15.3	-0.7
	0.1nm,0.3s,baz=345,slow=10,SNR=7.9						
ASAR				S	Sn	15 26 17.9	-9.1
	0.1nm,0.3s,baz=355,slow=28,SNR=3.3						
MKAR	Makanchi Array	67.69	327	P	P	15 30 11.0	0.0
	0.2nm,0.5s,baz=128,slow=7.0,SNR=2.6						

WEL 03 15:25:48.8±0.9**, 34°S**±18°×**17°9W**±2°4**, h291**km±17km**, M3.8**/20**, mB4.1**/6**, ML3.8**/6**, MLv4.2**/20**, Mw(mB)3.2**/6**, Error ellipse: s-maj=0.0km s-min=0.0km az=124.8, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.87	211	P	Pn	15 26 51.4	-1.6
MXZ				S	S	15 27 44.4	0.0
WMGZ	Waiomatatini S	4.04	208	P	Pn	15 26 54.3	-0.6
WMGZ				S	S	15 27 48.4	+0.5
PKGZ	Pakihiroa	4.24	211	P	Pn	15 26 55.5	-1.7
PKGZ				S	S	15 27 51.3	-0.7
HAZ	Te Kaha	4.26	214	P	Pn	15 26 56.5	-0.9
HAZ				S	S	15 27 53.3	+1.0
RUGZ	Raukumara Rang	4.48	213	P	Pn	15 26 59.3	-0.7
RUGZ				S	S	15 27 55.4	-1.6
TWGZ	Tauwhareparae	4.52	209	P	Pn	15 26 59.7	-0.8
TWGZ				S	S	15 28 01.2	+3.3
TKGZ	Te Karaka	4.80	209	P	Pn	15 27 03.5	-0.1
TKGZ				S	S	15 28 05.6	+2.1
MWZ	Matawai	4.85	212	P	Pn	15 27 02.8	-1.4
MWZ				S	S	15 28 05.8	+1.1
OPRZ	Ohinepanea	4.96	223	P	Pn	15 27 05.7	+0.3
URZ	Urewera	4.98	216	P	Pn	15 27 04.3	-1.4
RIGZ	Rimuhau	5.07	208	P	Pn	15 27 08.6	+1.9
RIGZ				S	S	15 28 11.8	+2.5
SNGZ	Shannon Statio	5.30	211	P	Pn	15 27 09.0	-0.5
SNGZ				S	S	15 28 14.5	+0.2
MUGZ	Murupara	5.32	217	P	Pn	15 27 09.0	-0.7
MUGZ				S	S	15 28 15.8	+1.2
KNZ	Kokohu	5.38	207	P	Pn	15 27 10.2	0.0
MHGZ	Mahia Peninsul	5.41	205	P	Pn	15 27 11.3	+0.6
RAHZ	Arahi	5.52	212	P	Pn	15 27 13.8	+1.7
RAHZ				S	S	15 28 18.9	-0.1
MTHZ	Maungataniwha	5.58	214	P	Pn	15 27 13.8	+1.0
ARHZ	Aropaoanui	5.85	210	P	Pn	15 27 15.8	-0.2
ARHZ				S	S	15 28 27.8	+1.6
BKZ	Black Stump Fm	5.99	214	P	Pn	15 27 16.3	-1.4
WATZ	Wairara	6.03	221	P	Pn	15 27 19.6	+1.4
MCHZ	McNeill Hill	6.13	211	P	Pn	15 27 20.6	+1.3
MCHZ				S	S	15 28 32.1	-0.2
KWHZ	Kaweka Forest	6.23	213	P	Pn	15 27 20.6	-0.1
KWHZ				S	S	15 28 34.3	-0.4
KAHZ	Kahuranaki	6.35	208	P	Pn	15 27 21.9	-0.2
ETVZ	East Tongariro	6.35	219	P	Pn	15 27 22.9	+0.7
OTVZ	Oturere	6.40	219	P	Pn	15 27 23.6	+0.9
HIZ	Hauiti	6.40	227	P	Pn	15 27 24.9	+2.3
KRHZ	Kereru	6.44	212	S	S	15 28 36.5	-2.6
BHHZ	Black Hill Sta	6.45	215	P	Pn	15 27 24.0	+0.7
BHHZ				S	S	15 28 37.3	-2.2

*KNET **03** 15:32:18.0±0.4, 42°.24N×75°.01E, h18km±2km, ml2.8, Error ellipse: s-maj=3.0km s-min=2.3km az=171.0*
*SOME **03** 15:32:18.9, 42°.27N×75°.02E, h10km*
*KRNET **03** 15:32:18.6±0.1, 42°.23N×75°.02E, h17km, mb3.4*
*NNC **03** 15:32:19.7±0.4, 42°.31N×75°.01E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=2.9km s-min=1.0km az=1.0*
ISC 03 15:32:19.0±0.9**, 42°.27N**±0°.02×**75°.00E**±0°.01**, h15**km±8km**, n94, σ1.44**/169**, 47C-38D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UCH	Uchtor	0.36	264	⇓P	Pg	15 32 26.1	-0.6
	92nm,0.2s,SNR=213						
UCH				⇑S	Sg	15 32 31.5	-0.4
	430nm,0.2s						
KBK	Karagaybulak	0.39	354	⇑iP	Pb	15 32 27.4	-0.4
	baz=53						
KBK				⇑iS	Sb	15 32 33.3	-0.4
	baz=53						
KBK	Karagaybulak	0.39	354	⇓P	Pb	15 32 27.6	-0.2
	498nm,0.1s,SNR=488						
KBK				⇑S	Sb	15 32 33.8	0.0
	8μm,0.1s						
AAK	Ala-Archa	0.53	315	⇓iP	Pg	15 32 29.6	+0.1
	baz=17						
AAK				⇓iS	Sb	15 32 37.3	-0.3
	baz=17						
AAK	Ala-Archa	0.53	315	⇓P	Pg	15 32 29.6	+0.1
	269nm,0.2s,SNR=358						
AAK				⇓S	Sg	15 32 37.0	+0.5
	739nm,0.3s						
AAK	Ala-Archa	0.53	315	⇑P	Pg	15 32 29.5	+0.1
	93nm,0.3s						
AAK				⇑S	Sg	15 32 36.8	+0.3
	290nm,0.3s						
FRU1	Bishkek	0.61	333	⇑iP	Pb	15 32 31.5	+0.1
	baz=34						
FRU1				⇑iS	Sb	15 32 40.3	+0.4
	baz=34						
ARLS	Aral	0.65	231	⇑iP	Pg	15 32 30.7	-1.1
	baz=34						
ARLS				⇑iS	Sg	15 32 39.3	-1.1
	baz=34						
BOOM	Boomskoye usch	0.73	72	⇑iP	Pg	15 32 32.4	-0.9
	baz=69						
BOOM				⇑iS	Sg	15 32 42.5	-0.4
	baz=69						
CHMS	Chumysh	0.75	346	⇑iP	Pb	15 32 33.6	-0.3
	baz=46						
CHMS				⇑iS	Sg	15 32 44.4	+0.7
	baz=46						
CHMS	Chumysh	0.75	346	P	Pb	15 32 33.7	-0.3
	28nm,0.1s,SNR=82						
CHMS				⇑S	Sg	15 32 44.4	+0.7
	198nm,0.1s						
TKM2	Tokmak 2	0.79	34	⇓iP	Pb	15 32 34.1	-0.5
	baz=32						
TKM2				⇓iS	Sg	15 32 45.0	+0.2
	baz=32						
TKM2	Tokmak 2	0.79	34	⇓P	Pb	15 32 34.0	-0.5
	40nm,0.1s,SNR=157						
TKM2				⇓S	Sg	15 32 44.8	+0.1
	256nm,0.2s						
TKM2	Tokmak 2	0.79	34	⇑P	Pb	15 32 33.0	-1.6
	20nm,0.3s						
TKM2				⇑S	Sb	15 32 44.6	-0.6
	163nm,0.5s						
ULHL	Ulahol	0.92	91	⇑iP	Pb	15 32 35.5	-1.3
	baz=88						
ULHL				⇑iS	Sb	15 32 47.9	-1.1
	baz=88						
ULHL	Ulahol	0.92	91	⇓P	Pb	15 32 35.6	-1.3
	26nm,0.2s,SNR=18						
ULHL				⇑S	Sb	15 32 47.9	-1.1
	120nm,0.3s						
AML	Almayashu	0.98	262	⇓iP	Pb	15 32 37.1	-0.9
	baz=65						
AML				⇓iS	Sb	15 32 50.7	-0.2
	baz=65						
AML	Almayashu	0.98	262	⇓P	Pb	15 32 37.0	-0.9
	30nm,0.1s,SNR=59						
AML				⇓S	Sb	15 32 50.7	-0.2
	99nm,0.1s						
EKS2	Erkin-Say	0.99	294	⇓iP	Pb	15 32 37.7	-0.2
	baz=96						
EKS2				⇓iS	Sg	15 32 51.4	+0.3
	baz=96						
EKS2	Erkin-Say	0.99	294	⇓P	Pb	15 32 37.8	-0.2
	48nm,0.2s,SNR=43						
EKS2				⇑S	Sn	15 32 52.1	-0.2
	220nm,0.2s						
KST	Kastek	1.05	42	⇓eP	Pn	15 32 38.8	-0.6
	baz=40						
KST				⇓eS	Sn	15 32 53.2	-0.7
	baz=40						
KST	Kastek	1.05	42	⇓eP	Pn	15 32 38.8	-0.6
	28nm,0.3s						
KST				eS	Sn	15 32 53.2	-0.7
	90nm,0.3s						
KST	Kastek	1.05	42	P	Pn	15 32 38.8	-0.6
	28nm,0.3s						
KST				S	Sn	15 32 53.2	-0.7
	90nm,0.3s						
USP	Ospenovka	1.06	340	⇑iP	Pn	15 32 39.1	-0.4
	baz=40						
USP				⇑iS	Sn	15 32 53.9	-0.2
	baz=40						
USP	Ospenovka	1.06	340	⇓P	Pn	15 32 39.2	-0.3
	34nm,0.1s,SNR=76						
USP				⇑S	Sn	15 32 53.9	-0.2
	153nm,0.1s						
DGS	Degeres	1.13	30	⇓eP	Pg	15 32 40.4	-0.4
	baz=29						
DGS				⇓eS	Sg	15 32 56.0	+0.5
	baz=29						
DGS	Degeres	1.13	30	⇓eP	Pg	15 32 40.4	-0.4
	53nm,0.6s						
DGS				eS	Sg	15 32 56.0	+0.5
	114nm,0.2s						
DGS	Degeres	1.13	30	P	Pg	15 32 40.4	-0.4
	53nm,0.6s						
DGS				S	Sg	15 32 56.0	+0.5
	114nm,0.2s						
MTBS	Maitube	1.36	50	eP	Pb	15 32 44.1	-0.2
	baz=49						
MTBS				eS	Sg	15 33 02.5	-0.4
	baz=49						
MTBS	Maitube	1.36	50	eP	Pb	15 32 44.1	-0.2
	15nm,0.3s						
MTBS				eS	Sg	15 33 02.5	-0.4
	84nm,0.2s						
MTBS	Maitube	1.36	50	P	Pb	15 32 44.1	-0.2
	15nm,0.3s						
MTBS				S	Sg	15 33 02.5	-0.4
	84nm,0.2s						
MRKS	Merke	1.40	291	eP	Pb	15 32 45.1	+0.2
	baz=92						
MRKS				eS	Sg	15 33 04.0	-0.1
	baz=92						
MRKS	Merke	1.40	291	eP	Pb	15 32 45.0	+0.1
	8.5nm,0.2s						
MRKS				eS	Sg	15 33 03.9	-0.2
	116nm,0.2s						
MRKS	Merke	1.40	291	P	Pb	15 32 45.0	+0.1
	8.5nm,0.2s						
MRKS				S	Sg	15 33 03.9	-0.2
	116nm,0.2s						
IZV	Izvestkoviy	1.42	57	⇓eP	Pb	15 32 45.4	+0.1
	baz=55						
IZV				⇓eS	Sg	15 33 04.3	-0.4
	baz=55						
IZV	Izvestkoviy	1.42	57	⇓eP	Pb	15 32 45.4	+0.1
	25nm,0.3s						
IZV				eS	Sg	15 33 04.3	-0.4
	56nm,0.5s						
IZV	Izvestkoviy	1.42	57	P	Pb	15 32 45.4	+0.1
	25nm,0.3s						
IZV				S	Sg	15 33 04.3	-0.4
	56nm,0.5s						
KRBS	Karabastau	1.51	19	⇓eP	Pg	15 32 47.3	-0.8
	baz=18						
KRBS				⇓eS	Sg	15 33 07.9	+0.2
	baz=18						
KRBS	Karabastau	1.51	19	⇓eP	Pg	15 32 47.3	-0.8
	31nm,0.2s						
KRBS				eS	Sg	15 33 07.8	+0.2
	146nm,0.1s						
KRBS	Karabastau	1.51	19	P	Pg	15 32 47.3	-0.8
	31nm,0.2s						
KRBS				S	Sg	15 33 07.8	+0.2

	146nm,0.1s						
KDJ	**Kajisay**	**1.62**	**94**	⇑*i*P	**Pb**	**15 32 48.3**	**-0.5**
	baz=93						
KDJ				⇑*i*S	**Sb**	**15 33 09.6**	**+0.4**
	baz=93						
TNSS	**Tian-Shan**	**1.63**	**61**	⇓*e*P	**Pb**	**15 32 49.0**	**0.0**
	baz=60						
TNSS				⇓*e*S	**Sg**	**15 33 10.8**	**-0.8**
	baz=60						
TNSS	**Tian-Shan**	**1.63**	**61**	⇓*e*P	**Pb**	**15 32 49.0**	**0.0**
	18nm,0.5s						
TNSS				*e*S	**Sg**	**15 33 10.7**	**-0.8**
	18nm,0.4s						
TNSS	**Tian-Shan**	**1.63**	**61**	P	**Pb**	**15 32 49.0**	**0.0**
	18nm,0.5s						
TNSS				S	**Sg**	**15 33 10.7**	**-0.8**
	18nm,0.4s						
KNDC	**Almaty**	**1.73**	**56**	⇑P	**Pg**	**15 32 51.3**	**-0.9**
	46nm,0.5s						
KNDC				⇑S	**Sg**	**15 33 14.0**	**-0.8**
	162nm,0.6s						
MDOK	**Medeo**	**1.75**	**59**	⇑*e*P	**Pb**	**15 32 51.4**	**+0.4**
	baz=57						
MDOK				⇑*e*S	**Sg**	**15 33 14.9**	**-0.6**
	baz=57						
MDOK	**Medeo**	**1.75**	**59**	⇑*e*P	**Pb**	**15 32 51.4**	**+0.4**
	25nm,0.3s						
MDOK				*e*S	**Sg**	**15 33 14.9**	**-0.6**
	37nm,0.4s						
MDOK	**Medeo**	**1.75**	**59**	⇑P	**Pb**	**15 32 51.2**	**+0.2**
	17nm,0.4s						
MDOK				⇑S	**Sg**	**15 33 14.7**	**-0.8**
	51nm,0.6s						
MDOK	**Medeo**	**1.75**	**59**	Pg	**Pb**	**15 32 51.4**	**+0.4**
	25nm,0.3s						
MDOK				Lg	Lg	15 33 14.9	
	37nm,0.4s						
ARSB	**Arslanbob**	**1.78**	**239**	⇑*e*P	**Pb**	**15 32 51.1**	**-0.4**
	baz=40						
ARSB				⇑*i*S	**Sb**	**15 33 14.7**	**+1.0**
	baz=40						
KOTS	**Kotyrbulak**	**1.83**	**57**	*e*P	**Pg**	**15 32 53.1**	**-1.1**
	49nm,0.4s						
KOTS				*e*S	**Sg**	**15 33 17.7**	**-0.2**
	146nm,0.5s						
KOTS	**Kotyrbulak**	**1.83**	**57**	P	**Pg**	**15 32 53.1**	**-1.1**
	49nm,0.4s						
KOTS				S	**Sg**	**15 33 17.7**	**-0.2**
	146nm,0.5s						
MNAS	**Manas**	**1.86**	**278**	⇓*e*P	**Pb**	**15 32 52.6**	**-0.3**
	baz=79						
MNAS				⇓*i*S	**Sb**	**15 33 16.9**	**+0.8**
	baz=79						
KUU	**Kurty**	**1.90**	**31**	*e*P	**Pb**	**15 32 54.0**	**+0.6**
	baz=30						
KUU				*e*S	**Sg**	**15 33 19.1**	**-1.0**
	baz=30						
KUU	**Kurty**	**1.90**	**31**	*e*P	**Pb**	**15 32 54.0**	**+0.6**
	34nm,0.2s						
KUU				*e*S	**Sg**	**15 33 19.1**	**-1.0**
	146nm,0.5s						
KUU	**Kurty**	**1.90**	**31**	P	**Pb**	**15 32 54.0**	**+0.6**
	34nm,0.2s						
KUU				S	**Sg**	**15 33 19.1**	**-1.0**
	146nm,0.5s						
KTBS	**Karatobe**	**1.90**	**40**	*e*P	**Pb**	**15 32 54.0**	**+0.6**
	baz=39						
KTBS				*e*S	**Sg**	**15 33 19.2**	**-0.9**
	baz=39						
KTBS	**Karatobe**	**1.90**	**40**	*e*P	**Pb**	**15 32 54.0**	**+0.6**
	49nm,0.3s						
KTBS				*e*S	**Sg**	**15 33 19.2**	**-0.9**
	278nm,0.4s						
KTBS	**Karatobe**	**1.90**	**40**	P	**Pb**	**15 32 54.0**	**+0.6**
	49nm,0.3s						
KTBS				S	**Sg**	**15 33 19.2**	**-0.9**
	278nm,0.4s						
ANVS	**Anan'yevo**	**2.04**	**74**	⇑*e*P	**Pb**	**15 32 54.9**	**-1.0**
	baz=73						
ANVS				⇑*i*S	**Sb**	**15 33 21.0**	**-0.1**
	baz=73						
CHKK	**Chushkaly**	**2.15**	**42**	*e*P	**Pb**	**15 32 58.1**	**+0.4**
	6.9nm,0.3s						
CHKK				*e*S	**Sg**	**15 33 26.3**	**-1.9**
	145nm,0.2s						
CHKK	**Chushkaly**	**2.15**	**42**	Pg	**Pb**	**15 32 58.1**	**+0.4**
	6.9nm,0.3s						
CHKK				Lg	Lg	15 33 26.3	
	145nm,0.2s						
OHH	**Osh**	**2.41**	**224**	⇑*e*P	**Pn**	**15 32 59.7**	**+1.6**
	baz=25						
OHH				⇑*i*S	**Sn**	**15 33 29.1**	**+1.7**
	baz=25						
KURS	**Kuram**	**2.63**	**61**	*e*P	**Pb**	**15 33 06.8**	**+0.9**
	8.7nm,0.7s						
KURS				*e*S	**Sg**	**15 33 41.5**	**-1.9**
	54nm,0.4s						
KURS	**Kuram**	**2.63**	**61**	Pg	**Pb**	**15 33 06.8**	**+0.9**
	8.7nm,0.7s						
KURS				Lg	Lg	15 33 41.5	
	54nm,0.4s						
SATY	**Saty**	**2.63**	**71**	*e*P	**Pb**	**15 33 07.0**	**+1.0**
	6.4nm,0.4s						
SATY				*e*S	**Sg**	**15 33 41.6**	**-2.0**
	24nm,0.2s						
SATY	**Saty**	**2.63**	**71**	Pg	**Pb**	**15 33 07.0**	**+1.0**
	6.4nm,0.4s						
SATY				Lg	Lg	15 33 41.6	
	24nm,0.2s						
ARXS	**Arharly**	**2.83**	**46**	*e*P	**Pb**	**15 33 10.0**	**+0.6**
	14nm,0.3s						
ARXS				*e*S	**Sg**	**15 33 47.0**	**-3.1**
	186nm,0.5s						
ARXS	**Arharly**	**2.83**	**46**	Pg	**Pb**	**15 33 10.0**	**+0.6**
	14nm,0.3s						
ARXS				Lg	Lg	15 33 47.0	
	186nm,0.5s						
BTLS	**Baital**	**2.86**	**346**	*e*P	**Pb**	**15 33 10.6**	**+0.9**
	6.7nm,0.4s						
BTLS				*e*S	**Sg**	**15 33 47.6**	**-3.2**
	93nm,0.5s						
BTLS	**Baital**	**2.86**	**346**	Pg	**Pb**	**15 33 10.6**	**+0.9**
	6.7nm,0.4s						
BTLS				Lg	Lg	15 33 47.6	
	93nm,0.5s						
KPKS	**Kokpek**	**2.96**	**65**	*e*P	**Pb**	**15 33 12.3**	**+0.8**
	18nm,0.4s						
KPKS				*e*S	**Sg**	**15 33 50.3**	**-3.8**
	128nm,0.5s						
TRKS	**Terek-Say**	**2.98**	**257**	⇑*e*P	**Pn**	**15 33 07.5**	**+1.6**
	baz=56						
TRKS				⇑*i*S	**Sn**	**15 33 44.1**	**+2.7**
	baz=56						
MNBS	**Baschi**	**3.08**	**53**	*e*P	**Pb**	**15 33 14.9**	**+1.3**
	13nm,0.3s						
MNBS				*e*S	**Sg**	**15 33 55.0**	**-2.8**
	51nm,0.3s						
MNBS	**Baschi**	**3.08**	**53**	Pg	**Pb**	**15 33 14.9**	**+1.3**
	13nm,0.3s						
MNBS				Lg	Lg	15 33 55.0	
	51nm,0.3s						
UZB	**Uzynbulak**	**3.09**	**72**	*e*P	**Pb**	**15 33 14.7**	**+0.9**
	5.6nm,0.4s						
UZB				*e*S	**Sg**	**15 33 54.6**	**-3.7**
	26nm,0.7s						
UZB	**Uzynbulak**	**3.09**	**72**	Pg	**Pb**	**15 33 14.7**	**+0.9**
	5.6nm,0.4s						
UZB				Lg	Lg	15 33 54.6	
	26nm,0.7s						
SHLS	**Shalkode**	**3.41**	**73**	*e*P	**Pg**	**15 33 27.3**	**+3.0**
	5.3nm,0.2s						
SHLS				*e*S	**Sg**	**15 34 16.5**	**+8.1**
	28nm,0.5s						
SHLS	**Shalkode**	**3.41**	**73**	Pg	**Pg**	**15 33 27.3**	**+3.0**
	5.3nm,0.2s						
SHLS				Lg	Lg	15 34 16.5	
	28nm,0.5s						
KK31	**Karatay Array**	**3.41**	**286**	⇑Pn	**Pn**	**15 33 14.8**	**+3.0**
	2.3nm,0.4s,baz=105,slow=16,SNR=33						
KK31				⇑Lg	Lg	15 34 06.0	
	21nm,0.6s,baz=108,slow=28,SNR=17						
PDGK	**Podgornoye**	**3.47**	**71**	Pg	**Pb**	**15 33 21.6**	**+1.3**
	2.1nm,0.4s						
PDGK				Lg	Lg	15 34 06.6	
	12nm,0.6s						
PDGK	**Podgornoye**	**3.47**	**71**	⇑Pn	**Pn**	**15 33 15.4**	**+2.8**
	8.5nm,0.7s						
PDGK				⇑Lg	Lg	15 34 09.5	
	20nm,0.5s						
TDK	**Taldyqorghan**	**3.68**	**41**	*e*P	**Pb**	**15 33 25.4**	**+1.5**
	7.1nm,0.2s						
TDK				*e*S	**Sg**	**15 34 12.9**	**-4.4**
	63nm,0.5s						
TDK	**Taldyqorghan**	**3.68**	**41**	Pg	**Pb**	**15 33 25.4**	**+1.5**
	7.1nm,0.2s						
TDK				Lg	Lg	15 34 12.9	
	63nm,0.5s						
IUG	**Iuzhnay**	**3.69**	**270**	*e*P	**Pg**	**15 33 27.6**	**-2.2**
	2.7nm,0.2s						
IUG				*e*S	**Sg**	**15 34 16.8**	**-0.8**
	49nm,0.7s						
IUG	**Iuzhnay**	**3.69**	**270**	Pg	**Pg**	**15 33 27.6**	**-2.2**
	2.7nm,0.2s						
IUG				Lg	Lg	15 34 16.8	
	49nm,0.7s						
BRLS	**Borolday**	**3.89**	**283**	*e*P	**Pg**	**15 33 30.6**	**-2.8**
	4.3nm,0.2s						
BRLS				*e*S	**Sg**	**15 34 22.1**	**-1.7**
	29nm,0.7s						
BRLS	**Borolday**	**3.89**	**283**	Pg	**Pg**	**15 33 30.6**	**-2.8**
	4.3nm,0.2s						
BRLS				Lg	Lg	15 34 22.1	
	29nm,0.7s						
DJR	**Jarkent**	**4.06**	**58**	*e*P	**Pg**	**15 33 34.6**	**-2.2**
	5.8nm,0.3s						
DJR				*e*S	**Sg**	**15 34 28.7**	**-0.6**
	41nm,0.6s						
DJR	**Jarkent**	**4.06**	**58**	Pg	**Pg**	**15 33 34.6**	**-2.2**
	5.8nm,0.3s						
DJR				Lg	Lg	15 34 28.7	
	41nm,0.6s						
KTMS	**Ketmen**	**4.11**	**72**	*e*P	**Pb**	**15 33 32.8**	**+1.7**
	3.5nm,0.2s						
KTMS				*e*S	**Sg**	**15 34 25.6**	**-5.3**
	9.0nm,0.5s						
KTMS	**Ketmen**	**4.11**	**72**	Pg	**Pb**	**15 33 32.8**	**+1.7**
	3.5nm,0.2s						
KTMS				Lg	Lg	15 34 25.6	
	9.0nm,0.5s						
MAKZ	**Makanchi**	**6.74**	**45**	⇓Pn	**Pn**	**15 33 59.0**	**+1.5**
	3.0nm,1.1s						
MAKZ				⇑Lg	Lg	15 35 53.6	
	3.0nm,0.6s						
MK31	**Makanchi Array**	**6.90**	**47**	⇑Pn	**Pn**	**15 34 01.6**	**+2.0**
	1.4nm,0.6s,baz=226,slow=13,SNR=23						
MK31				⇓Lg	Lg	15 35 57.2	
	2.0nm,0.6s,baz=231,slow=26,SNR=3.9						

NEIC ***03*** *15:56:01.2±0.9, 37°.20N±0°.02×97°.91W±0°.02, h10km±3km, mb_Lg3.8/150, Error ellipse: s-maj=3.0km s-min=2.3km az=171.0*

ANF ***03*** *15:56:01.1±0.5, 37°.21N×97°.90W, h7km±3km, ML4.7/25, Error ellipse: s-maj=2.2km s-min=1.7km az=69.0*

IDC ***03*** *15:56:02.2±1.6, 37°.32N×98°.16W, h0km, mb3.2/2, mb1 3.7/6, mb1mx3.5/51, mbtmp3.4/6, ML2.5/2, Error ellipse: s-maj=27.3km s-min=10.9km az=106.0*

ISC 03 15:56:01.3±0.8**, 37°.20N**±0°.02×**97°.89W**±0°.02**, h9**km±5km**, n186, σ0°.77**/177**, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.07**	**296**		**Pg**	**15 56 03.4**	**0.0**
KAN08				Sg	**Sg**	**15 56 04.8**	**-0.1**
KAN05	**Bluff City Nor**	**0.09**	**169**		**Pg**	**15 56 03.7**	**+0.1**
KAN01	**Argonia South**	**0.12**	**112**	Pg	**Pg**	**15 56 04.2**	**+0.1**
KAN01				Sg	**Sg**	**15 56 06.1**	**+0.1**
KAN12	**Harper NE Stat**	**0.13**	**320**		**Pg**	**15 56 04.4**	**+0.1**
KAN12				Sg	**Sg**	**15 56 06.5**	**+0.1**
KAN10	**Anthony SW Sta**	**0.18**	**246**		**Pg**	**15 56 05.3**	**+0.3**
KS21	**Milan North St**	**0.20**	**64**		**Pg**	**15 56 05.6**	**+0.1**
KS21				Sg	**Sg**	**15 56 08.6**	**+0.2**
KAN14	**Manchester OK**	**0.25**	**193**		**Pg**	**15 56 06.5**	**+0.3**
KAN14				Sg	**Sg**	**15 56 09.3**	**-0.3**
KAN13	**South Haven SW**	**0.38**	**119**		**Pg**	**15 56 08.9**	**+0.1**
KAN13				Sg	**Sg**	**15 56 13.9**	**+0.2**
CROK	**Carrier**	**0.69**	**186**	Pg	**Pg**	**15 56 14.5**	**-0.2**
CROK				Sg	**Sg**	**15 56 23.7**	**-0.1**
T35A	**Sooner Cattle**	**1.14**	**104**		**Pg**	**15 56 22.6**	**-0.6**
T35B	**Sooner Cattle**	**1.14**	**104**	P	**Pg**	**15 56 22.5**	**-0.7**
	baz=285,SNR=300						
T35B				S	**Sg**	**15 56 37.7**	**-0.4**
	baz=285						
T35B	**Sooner Cattle**	**1.14**	**104**	P		15 56 22.5	
	baz=285,SNR=300						
T35B				S		15 56 37.7	
	baz=285						
U32A	**Winter Ranch,**	**1.21**	**228**		**Pg**	**15 56 23.8**	**-0.7**
U32A	**Winter Ranch,**	**1.21**	**228**	P	**Pg**	**15 56 23.8**	**-0.7**
	baz=47						
U32A				S	**Sb**	**15 56 40.5**	**+0.4**
	baz=47						
U32A	**Winter Ranch,**	**1.21**	**228**	P		15 56 23.8	
	baz=47						
U32A				S		15 56 40.5	
	baz=47						
R32A	**Long Quarter,**	**1.38**	**332**		**Pn**	**15 56 26.9**	**0.0**
R32A	**Long Quarter,**	**1.38**	**332**	P	**Pn**	**15 56 26.9**	**0.0**
	baz=152,SNR=214						
R32A				S	**Sn**	**15 56 45.3**	**0.0**
	baz=152						
R32A	**Long Quarter,**	**1.38**	**332**	P		15 56 26.9	
	baz=152,SNR=214						
R32A				S		15 56 45.3	
	baz=152						
QUOK	**Quay**	**1.40**	**137**		**Pn**	**15 56 26.9**	**-0.2**
OK029	**Liberty Lake**	**1.44**	**166**		**Pn**	**15 56 27.7**	**+0.1**
OK029				IAmb_Lg		15 56 49.4	
	comp=Z,577nm,0.7s						
OK031	**S. Brethren Rd**	**1.50**	**145**		**Pn**	**15 56 28.7**	**+0.2**
BCOK	**Bluff Creek, N**	**1.55**	**171**	Pn	**Pn**	**15 56 29.5**	**+0.3**
OK009	**Oakdale Elemen**	**1.66**	**167**	Pn	**Pn**	**15 56 31.5**	**+0.9**
OK025	**Westminster Rd**	**1.67**	**164**		**Pn**	**15 56 31.3**	**+0.5**
OKCSW	**OKLAHOMA CITY**	**1.82**	**168**		**Pn**	**15 56 33.5**	**+0.5**
FNO	**Franklin**	**1.98**	**168**		**Pn**	**15 56 35.6**	**+0.6**
FNO				IAmb_Lg		15 57 06.3	
	comp=Z,523nm,0.7s						
TUL1	**Leonard**	**2.12**	**127**		**Pn**	**15 56 37.5**	**+0.5**
TUL1				IAmb_Lg		15 57 08.7	
	comp=Z,461nm,0.9s						
TUL1	**Leonard**	**2.12**	**127**	P	**Pn**	**15 56 37.5**	**+0.5**
	baz=308,SNR=84						
TUL1				S	**Sn**	**15 57 05.1**	**+1.6**
	baz=308						
TUL1	**Leonard**	**2.12**	**127**	P		15 56 37.4	
	baz=308,SNR=89						
TUL1				S		15 57 04.4	
	baz=308						
TUL1	**Leonard**	**2.12**	**127**	P		15 56 37.5	
	baz=308,SNR=84						
TUL1				S		15 57 05.1	
	baz=308						
KSU1	**Kansas State U**	**2.15**	**28**	Pn	**Pn**	**15 56 38.0**	**+0.6**
KSU1	**Kansas State U**	**2.15**	**28**	P	**Pn**	**15 56 38.2**	**+0.8**
	baz=209,SNR=34						
KSU1				Sb	**Sb**	**15 57 07.8**	**+0.5**
	baz=209						
KSU1	**Kansas State U**	**2.15**	**28**	P		15 56 38.2	
	baz=209,SNR=63						
KSU1				S		15 57 05.9	
	baz=209						
KSU1	**Kansas State U**	**2.15**	**28**	P		15 56 38.2	
	baz=209,SNR=34						
KSU1				Sb		15 57 07.8	
	baz=209						
CBKS	**Cedar Bluff**	**2.17**	**319**	Pn	**Pn**	**15 56 38.3**	**+0.6**
CBKS				IAmb_Lg		15 57 15.2	
	comp=Z,537nm,0.9s						
CBKS	**Cedar Bluff**	**2.17**	**319**	P	**Pn**	**15 56 38.6**	**+0.8**
	baz=138,SNR=27						
CBKS				Sb	**Sb**	**15 57 08.9**	**+0.9**
	baz=138						
CBKS	**Cedar Bluff**	**2.17**	**319**	P		15 56 38.7	
	baz=138						
CBKS				S		15 57 06.2	
	baz=138						
CBKS	**Cedar Bluff**	**2.17**	**319**	P		15 56 38.6	
	baz=138,SNR=27						
CBKS				Sb		15 57 08.9	
	baz=138						
WMOK	**Wichita Mounta**	**2.56**	**197**		**Pn**	**15 56 43.3**	**+0.3**
WMOK	**Wichita Mounta**	**2.56**	**197**	P	**Pn**	**15 56 43.6**	**+0.6**
	baz=16,SNR=26						
WMOK	**Wichita Mounta**	**2.56**	**197**	P		15 56 43.5	
	baz=16,SNR=30						
WMOK				S		15 57 14.2	
	baz=16						
WMOK	**Wichita Mounta**	**2.56**	**197**	P		15 56 43.6	
	baz=16,SNR=26						
X34A	**Smith Ranch, M**	**2.59**	**179**	IAmb_Lg		15 57 28.1	
	comp=Z,293nm,0.9s						
U38A	**Gravette**	**2.91**	**104**		**Pn**	**15 56 48.6**	**+0.7**
U38A				IAmb_Lg		15 57 40.5	
	comp=Z,321nm,0.8s						
U38A	**Gravette**	**2.91**	**104**	P	**Pn**	**15 56 48.9**	**+1.0**
	baz=286,SNR=56						
U38A	**Gravette**	**2.91**	**104**	P		15 56 48.9	
	baz=286,SNR=56						
HHAR	**Hobbs**	**3.30**	**105**	Pn	**Pn**	**15 56 53.8**	**+0.5**
HHAR				IAmb_Lg		15 57 52.6	
	comp=Z,215nm,1.0s						
HHAR	**Hobbs**	**3.30**	**105**	P	**Pn**	**15 56 54.4**	**+1.1**
	baz=287						
HHAR	**Hobbs**	**3.30**	**105**	P		15 56 54.4	
	baz=287						
X37A	**Clayton**	**3.31**	**141**	Pn	**Pn**	**15 56 53.9**	**+0.5**
X37A	**Clayton**	**3.31**	**141**	P	**Pn**	**15 56 54.2**	**+0.9**
	baz=322						
X37A				S	**Sn**	**15 57 33.8**	**+0.9**
	baz=322						
X37A	**Clayton**	**3.31**	**141**	P		15 56 54.2	
	baz=322						
X37A				S		15 57 33.8	
	baz=322						
N33B	**J Bar K, Exete**	**3.55**	**5**	P	**Pn**	**15 56 56.8**	**+0.2**
	baz=186,SNR=6.8						
N33B				S	**Sn**	**15 57 38.7**	**-0.1**
	baz=186						
N33B	**J Bar K, Exete**	**3.55**	**5**	P		15 56 56.8	
	baz=186,SNR=6.8						
N33B				S		15 57 38.7	
	baz=186						
N33A	**J Bar K, Exete**	**3.55**	**5**	Pn	**Pn**	**15 56 57.0**	**+0.3**
N33A				IAmb_Lg		15 58 02.2	
	comp=Z,252nm,0.8s						
S39A	**Bolivar**	**3.67**	**81**		**Pn**	**15 56 58.5**	**+0.2**
S39A				IAmb_Lg		15 58 01.6	
	comp=Z,220nm,0.7s						
S39A	**Bolivar**	**3.67**	**81**	P	**Pn**	**15 56 58.6**	**+0.2**
	baz=264,SNR=82						
S39A	**Bolivar**	**3.67**	**81**	P		15 56 58.6	
	baz=264,SNR=82						
AMTX	**Amarillo**	**3.84**	**234**	Pn	**Pn**	**15 57 00.9**	**+0.2**
AMTX				IAmb_Lg		15 58 09.5	
	comp=Z,389nm,0.8s						
AMTX	**Amarillo**	**3.84**	**234**	P		15 57 01.5	
	baz=52						
AMTX				S		15 57 45.6	
	baz=52						
W39A	**Magazine**	**3.88**	**120**		**Pn**	**15 57 01.4**	**+0.3**
W39A	**Magazine**	**3.88**	**120**	P		15 57 01.2	
	baz=302						
W39A				S		15 57 45.9	
	baz=302						
Z35A	**Perchaven, San**	**3.89**	**172**		**Pn**	**15 57 01.6**	**+0.3**
Z35A	**Perchaven, San**	**3.89**	**172**	P	**Pn**	**15 57 01.8**	**+0.4**
	baz=352,SNR=9.8						
Z35A				S	**Sn**	**15 57 47.9**	**+0.8**
	baz=352						
Z35A	**Perchaven, San**	**3.89**	**172**	P		15 57 01.8	
	baz=352,SNR=9.8						
Z35A				S		15 57 47.9	
	baz=352						
N35A	**Tabor**	**4.06**	**25**		**Pn**	**15 57 04.3**	**+0.7**
N35A	**Tabor**	**4.06**	**25**	S	**Sn**	**15 57 52.4**	**+1.1**
	baz=206						
N35A	**Tabor**	**4.06**	**25**	S		15 57 52.4	
	baz=206						
U40A	**Yellville**	**4.13**	**100**		**Pn**	**15 57 05.0**	**+0.4**
U40A	**Yellville**	**4.13**	**100**	P	**Pn**	**15 57 05.1**	**+0.5**
	baz=283,SNR=58						
U40A	**Yellville**	**4.13**	**100**	P		15 57 04.9	
	baz=283,SNR=49						
U40A				S		15 57 52.0	
	baz=283						
U40A	**Yellville**	**4.13**	**100**	P		15 57 05.1	
	baz=283,SNR=58						
U40A				P		15 57 05.1	
	baz=283,SNR=58						
KSCO	**Kaye Shedlock'**	**4.15**	**297**		**Pn**	**15 57 05.7**	**+0.7**
KSCO				IAmb_Lg		15 58 24.8	
	comp=Z,271nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.15**	**297**	P		15 57 05.7	
	baz=114,SNR=14						
KSCO				S		15 57 53.6	
	baz=114						
P38A	**Dawn**	**4.20**	**53**	Pn	**Pn**	**15 57 05.9**	**+0.4**
P38A				IAmb_Lg		15 58 17.1	
	comp=Z,213nm,0.7s						
P38A	**Dawn**	**4.20**	**53**	P	**Pn**	**15 57 05.9**	**+0.4**
	baz=236,SNR=32						
P38A	**Dawn**	**4.20**	**53**	P		15 57 05.9	
	baz=236,SNR=32						
BGNE	**Belgrade**	**4.21**	**357**	P		15 57 06.0	
	baz=177						
BGNE				S		15 57 54.9	
	baz=177						
BGNE	**Belgrade**	**4.21**	**357**	P		15 57 06.0	
	baz=177,SNR=5.9						
BGNE	**Belgrade**	**4.21**	**357**	Pn	**Pn**	**15 57 06.1**	**+0.3**
BGNE	**Belgrade**	**4.21**	**357**	P	**Pn**	**15 57 06.0**	**+0.3**
	baz=177,SNR=5.9						
MIAR	**Mount Ida**	**4.39**	**126**		**Pn**	**15 57 08.4**	**+0.2**
MIAR				IAmb_Lg		15 58 26.0	
	comp=Z,196nm,0.8s						
MIAR	**Mount Ida**	**4.39**	**126**	P	**Pn**	**15 57 08.7**	**+0.5**
	baz=308,SNR=28						
MIAR				S	**Sn**	**15 58 00.3**	**+0.8**
	baz=308						
MIAR	**Mount Ida**	**4.39**	**126**	P		15 57 08.7	
	baz=308,SNR=11						
MIAR				S		15 57 58.7	
	baz=308						
MIAR	**Mount Ida**	**4.39**	**126**	P		15 57 08.7	
	baz=308,SNR=28						
MIAR				S		15 58 00.3	
	baz=308						
MGMO	**Mountain Grove**	**4.49**	**89**		**Pn**	**15 57 09.9**	**+0.3**
MGMO				IAmb_Lg		15 58 25.8	
	comp=Z,312nm,0.8s						
R40A	**Maddies Statio**	**4.59**	**75**	P	**Pn**	**15 57 11.2**	**+0.3**
	baz=258,SNR=65						
R40A	**Maddies Statio**	**4.59**	**75**	P		15 57 11.2	
	baz=258,SNR=65						
Z38A	**Mt. Pleasant**	**4.59**	**148**		**Pn**	**15 57 11.3**	**+0.3**
Z38A				IAmb_Lg		15 58 36.8	
	comp=Z,165nm,0.8s						
Z38A	**Mt. Pleasant**	**4.59**	**148**	P	**Pn**	**15 57 11.5**	**+0.6**
	baz=330,SNR=11						
Z38A				S	**Sn**	**15 58 05.7**	**+1.3**
	baz=330						
Z38A	**Mt. Pleasant**	**4.59**	**148**	P		15 57 11.5	
	baz=330,SNR=11						
Z38A				S		15 58 05.7	
	baz=330						
ABTX	**Abilene, Hawle**	**4.78**	**198**	Pn	**Pn**	**15 57 13.8**	**+0.2**
ABTX				IAmb_Lg		15 58 32.9	
	comp=Z,173nm,0.9s						
ABTX	**Abilene, Hawle**	**4.78**	**198**	S		15 58 08.4	
	baz=17						
FCAR	**Ozark Folk Cen**	**4.83**	**104**		**Pn**	**15 57 14.0**	**-0.1**
FCAR				IAmb_Lg		15 58 31.5	
	comp=Z,180nm,0.8s						
L34A	**Svendsen Farm,**	**4.91**	**13**	Pn	**Pn**	**15 57 15.8**	**+0.6**
WHAR	**Wooly Hollow**	**4.91**	**111**	Pn	**Pn**	**15 57 15.6**	**+0.3**
WHAR				IAmb_Lg		15 58 45.0	
	comp=Z,196nm,0.9s						
X40A	**Basin Creek Fa**	**4.92**	**122**		**Pn**	**15 57 16.0**	**+0.6**
X40A				IAmb_Lg		15 58 47.1	
	comp=Z,199nm,0.7s						
X40A	**Basin Creek Fa**	**4.92**	**122**	P	**Pn**	**15 57 16.3**	**+0.9**
	baz=305,SNR=21						
X40A	**Basin Creek Fa**	**4.92**	**122**	P		15 57 16.1	
	baz=305						
X40A				S		15 58 11.5	
	baz=305						
X40A	**Basin Creek Fa**	**4.92**	**122**	P		15 57 16.3	
	baz=305,SNR=21						
X40A				P		15 57 16.3	
	baz=305,SNR=21						
OGNE	**Ogallala**	**4.94**	**321**		**Pn**	**15 57 16.5**	**+0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OGNE				IAmb_Lg		15 58 43.0	
	comp=Z,163nm,0.7s						
OGNE	Ogallala	4.94	321	P		15 57 16.4	
	baz=138,SNR=20						
OGNE				S		15 58 14.6	
	baz=138						
W41B	Gary Mavity, V	4.99	112	P	Pn	15 57 16.7	+0.3
	baz=296,SNR=22						
W41B	Gary Mavity, V	4.99	112	P		15 57 16.5	
	baz=296						
W41B				S		15 58 12.9	
	baz=296						
W41B	Gary Mavity, V	4.99	112	P		15 57 16.7	
	baz=296,SNR=22						
N38A	Joes South For	5.11	44		Pn	15 57 18.1	+0.1
N38A				IAmb_Lg		15 58 53.3	
	comp=Z,281nm,0.7s						
N38A	Joes South For	5.11	44	P	Pn	15 57 18.2	+0.1
	baz=227,SNR=33						
N38A	Joes South For	5.11	44	P		15 57 18.2	
	baz=227,SNR=33						
MSTX	Muleshoe	5.12	232	P		15 57 19.2	
	baz=49						
MSTX				S		15 58 16.8	
	baz=49						
P40A	Paris	5.15	61		Pn	15 57 18.5	-0.1
P40A				IAmb_Lg		15 58 43.8	
	comp=Z,172nm,0.8s						
P40A	Paris	5.15	61	P	Pn	15 57 18.5	-0.1
	baz=245,SNR=14						
P40A	Paris	5.15	61	P		15 57 18.5	
	baz=245,SNR=14						
WHTX	Lake Whitney,	5.21	176	P		15 57 19.0	
	baz=356,SNR=6.3						
WHTX				S		15 58 17.8	
	baz=356						
WHTX	Lake Whitney,	5.21	176	P		15 57 19.1	
	baz=356,SNR=15						
T25A	Trinidad	5.21	271	P		15 57 19.5	
	baz=87						
T25A				S		15 58 18.6	
	baz=87						
WHTX	Lake Whitney,	5.21	176		Pn	15 57 18.9	-0.4
WHTX	Lake Whitney,	5.21	176	P	Pn	15 57 19.1	-0.3
	baz=356,SNR=15						
WLAR	White Oak Lake	5.24	130		Pn	15 57 19.9	0.0
WLAR				IAmb_Lg		15 58 50.5	
	comp=Z,164nm,0.9s						
CCM	Cathedral Cave	5.35	79	Pn	Pn	15 57 21.1	-0.2
CCM				IAmb_Lg		15 58 58.3	
	comp=Z,157nm,0.9s						
CCM	Cathedral Cave	5.35	79	P	Pn	15 57 21.1	-0.2
	baz=263,SNR=14						
CCM	Cathedral Cave	5.35	79	P		15 57 21.1	
	baz=263						
CCM				S		15 58 20.7	
	baz=263						
CCM	Cathedral Cave	5.35	79	P		15 57 21.1	
	baz=263,SNR=14						
T42A	Van Buren	5.44	90		Pn	15 57 22.6	+0.1
T42A	Van Buren	5.44	90	P	Pn	15 57 22.6	+0.1
	baz=274,SNR=22						
T42A	Van Buren	5.44	90	P		15 57 22.6	
	baz=274,SNR=22						
237A	Washetta, Mont	5.46	161		Pn	15 57 22.1	-0.7
237A				IAmb_Lg		15 59 06.2	
	comp=Z,102nm,0.8s						
237A	Washetta, Mont	5.46	161	P	Pn	15 57 22.2	-0.7
	baz=342,SNR=17						
237A	Washetta, Mont	5.46	161	P		15 57 22.2	
	baz=342,SNR=17						
K31A	O'Neill	5.46	353	Pn	Pn	15 57 23.6	+0.7
LCAR	Lake Charles	5.54	100	Pn	Pn	15 57 24.3	+0.4
LCAR				IAmb_Lg		15 58 59.3	
	comp=Z,150nm,0.9s						
Z41A	Richland Creek	5.73	132	S		15 58 30.1	
	baz=315						
SCIA	State Center	5.93	36		Pn	15 57 29.8	+0.5
SCIA	State Center	5.93	36	P	Pn	15 57 29.5	+0.2
	baz=219,SNR=7.7						
SCIA	State Center	5.93	36	P		15 57 29.6	
	baz=219						
SCIA				S		15 58 35.3	
	baz=219						
SCIA	State Center	5.93	36	P		15 57 29.5	
	baz=219,SNR=7.7						
CCAR	Cane Creek	5.97	121	Pn	Pn	15 57 30.2	+0.4
CCAR				IAmb_Lg		15 59 25.2	
	comp=Z,206nm,1.0s						
FVM	French Village	5.98	80		Pn	15 57 29.6	-0.4
PBMO	Poplar Bluff	5.99	92	Pn	Pn	15 57 30.4	+0.2
Q24A	Divide	5.99	289	P		15 57 30.2	
	baz=105						
Q24A				S		15 58 37.7	
	baz=105						
NATX	Nacogdoches	6.04	153	Pn	Pn	15 57 30.5	-0.4
NATX	Nacogdoches	6.04	153	P		15 57 30.4	
	baz=335						
NATX				S		15 58 37.6	
	baz=335						
SDCO	Great Sand Dun	6.08	277	Pn	Pn	15 57 32.5	+0.9
SLM	Saint Louis	6.22	74	IAmb_Lg		15 59 15.9	
	comp=Z,156nm,0.8s						
X43A	Marvell	6.29	113	S		15 58 44.2	
	baz=297						
435B	Jarrell	6.40	178	IAmb_Lg		15 59 35.4	
	comp=Z,161nm,0.8s						
435B	Jarrell	6.40	178	S		15 58 46.7	
	baz=358						
ISCO	Idaho Springs	6.59	296		Pn	15 57 39.1	+0.5
ISCO	Idaho Springs	6.59	296	P	Pn	15 57 39.5	+0.8
	baz=111,SNR=7.4						
ISCO	Idaho Springs	6.59	296	P		15 57 39.0	
	baz=111						
ISCO				S		15 58 52.3	
	baz=111						
ISCO	Idaho Springs	6.59	296	P		15 57 39.5	
	baz=111,SNR=7.4						
ECSD	EROS Data Cent	6.60	8		Pn	15 57 38.0	-0.6
ECSD	EROS Data Cent	6.60	8	P	Pn	15 57 37.9	-0.6
	baz=189,SNR=14						
ECSD	EROS Data Cent	6.60	8	P		15 57 37.8	
	baz=189						
ECSD				S		15 58 50.8	
	baz=189						
ECSD	EROS Data Cent	6.60	8	P		15 57 37.9	
	baz=189,SNR=14						
K38A	Parkersburg	6.72	34		Pn	15 57 40.9	+0.7
JCT	Junction City	6.88	194	Pn	Pn	15 57 42.3	-0.2
JCT				IAmb_Lg		15 59 46.0	
	comp=Z,142nm,0.8s						
JCT	Junction City	6.88	194	P		15 57 42.0	
	baz=13						
S44A	Carbondale	6.89	83		Pn	15 57 42.2	-0.3
SIUC	Southern Illin	6.92	83		Pn	15 57 42.4	-0.5
143A	Socs Landing,	6.96	128	Pn	Pn	15 57 43.6	+0.1
143A				IAmb_Lg		15 59 49.8	
	comp=Z,83nm,0.8s						
P43A	Skaggs, Pawnee	7.01	67		Pn	15 57 44.0	-0.2
P43A				IAmb_Lg		15 59 48.4	
	comp=Z,160nm,0.8s						
L40A	Anamosa	7.08	45		Pn	15 57 44.4	-0.6
L40A				IAmb_Lg		15 59 45.7	
	comp=Z,184nm,0.7s						
PHWY	Pilot Hill	7.16	307		Pn	15 57 46.9	+0.4
PHWY				IAmb_Lg		15 59 47.6	
	comp=Z,76nm,0.8s						
Q44A	Meyer Farm, Va	7.21	74		Pn	15 57 47.0	+0.1
N23A	Red Feather La	7.27	303	P		15 57 48.8	
	baz=118						
N23A				S		15 59 08.6	
	baz=118						
SUSD	Miller	7.28	354	IAmb_Lg		16 00 00.0	
	comp=Z,100nm,0.8s						
SUSD	Miller	7.28	354	S		15 59 08.9	
	baz=173						
ANMO	Albuquerque	7.29	255	Pn	Pn	15 57 49.8	+1.6
	comp=Z,0.2nm,0.3s,baz=67,slow=12,SNR=2.4						
ANMO				Lg	Lg	15 59 47.5	
	comp=Z,3.1nm,0.3s,baz=330,slow=20,SNR=3.1						
W45A	Hickory Valley	7.33	104	Pn	Pn	15 57 48.0	-0.6
W45A	Hickory Valley	7.33	104	P	Pn	15 57 48.0	-0.6
	baz=289,SNR=7.0						
W45A	Hickory Valley	7.33	104	P		15 57 48.0	
	baz=289,SNR=7.0						
OXF	Oxford	7.39	109	Pn	Pn	15 57 49.4	0.0
OXF				IAmb_Lg		16 00 07.6	
	comp=Z,150nm,0.7s						
OXF	Oxford	7.39	109	P		15 57 49.2	
	baz=294						
OXF				S		15 59 09.8	
	baz=294						
HDIL	Hopedale	7.50	61	IAmb_Lg		16 00 16.3	
	comp=Z,135nm,0.7s						
441A	DeRidder	7.52	147	Pn	Pn	15 57 51.4	+0.2
Y45A	Yeager Farm, C	7.58	114	Pn	Pn	15 57 52.7	+0.8
I37A	Lemond, Waseca	7.62	25	IAmb_Lg		16 00 21.8	
	comp=Z,152nm,0.8s						
BNM	Barren Site	7.73	249	Pn	Pn	15 57 55.1	+0.9
VBMS	Vicksburg	7.84	127	P		15 57 55.3	
	baz=311						
O44A	Mansfield	7.94	65	Pn	Pn	15 57 56.1	-0.9
O44A				IAmb_Lg		16 00 25.8	
	comp=Z,106nm,0.8s						
L42A	Oliver, Polo	7.96	50		Pn	15 57 56.1	-1.0
L42A				IAmb_Lg		16 00 19.2	
	comp=Z,135nm,0.9s						
L42A	Oliver, Polo	7.96	50	P	Pn	15 57 56.8	-0.3
	baz=236,SNR=7.5						
L42A	Oliver, Polo	7.96	50	P		15 57 56.8	
	baz=236,SNR=7.5						
Y22D	IRIS PASSCAL I	7.98	250	IAmb_Lg		16 00 24.0	
	comp=Z,126nm,0.7s						
WVT	Waverly	8.16	94		Pn	15 57 58.9	-1.0
WVT				IAmb_Lg		16 00 18.6	
	comp=Z,96nm,0.9s						
WVT	Waverly	8.16	94	P		15 57 59.1	
	baz=280						
JFWS	Jewell Farm	8.18	43		Pn	15 57 59.4	-0.8
JFWS				IAmb_Lg		16 00 34.1	
	comp=Z,108nm,0.7s						
JFWS	Jewell Farm	8.18	43	P	Pn	15 57 59.6	-0.6
	baz=228,SNR=12						
JFWS	Jewell Farm	8.18	43	P		15 57 59.4	
	baz=228						
JFWS				S		15 59 28.6	
	baz=228						
JFWS	Jewell Farm	8.18	43	P		15 57 59.6	
	baz=228,SNR=12						
344A	Westbrook Farm	8.24	132	IAmb_Lg		16 00 40.4	
	comp=Z,72nm,1.3s						
PLAL	Pickwick Lake	8.25	103	Pn	Pn	15 58 00.8	-0.3
PLAL				IAmb_Lg		16 00 20.1	
	comp=Z,63nm,0.8s						
MNTX	Cornudas Mount	8.26	231		Pn	15 58 01.1	-0.3
MNTX	Cornudas Mount	8.26	231	P		15 58 01.1	
	baz=46						
735A	Kenedy	8.32	179	IAmb_Lg		16 00 44.4	
	comp=Z,95nm,1.0s						
RSSD	Black Hills	8.34	328	P		15 58 02.5	
	baz=144						
RWWY	Rawlins	8.49	305		Pn	15 58 05.3	+0.6
RWWY				IAmb_Lg		16 00 48.5	
	comp=Z,75nm,0.9s						
146A	Union	8.56	119	IAmb_Lg		16 00 43.7	
	comp=Z,104nm,0.8s						
K22A	Casper	8.58	312	Pn	Pn	15 58 05.5	-0.4
K22A				IAmb_Lg		16 00 46.0	
	comp=Z,96nm,1.1s						
T47A	Sharon Grove	8.62	88		Pn	15 58 06.2	-0.1
T47A				IAmb_Lg		16 00 45.2	
	comp=Z,136nm,1.0s						
PV02	Paradox Valley	8.65	280	IAmb_Lg		16 00 48.3	
	comp=Z,68nm,1.1s						
I40A	Norwalk	8.68	37	Pn	Pn	15 58 06.8	-0.3
M44A	Midewin, Midew	8.71	58	Pn	Pn	15 58 06.7	-0.7
M44A				IAmb_Lg		16 00 44.3	
	comp=Z,73nm,0.8s						
PV12	Saucer Basin,	8.71	281	IAmb_Lg		16 00 51.9	
	comp=Z,104nm,1.2s						
F33A	5 Mile Ranch,	8.72	7	IAmb_Lg		16 00 53.1	
	comp=Z,63nm,0.9s						
P46A	Rosedale	8.73	71	Pn	Pn	15 58 08.8	+1.0
P46A				IAmb_Lg		16 00 41.6	
	comp=Z,128nm,0.8s						
PV11	David Mesa, Pa	8.77	281	Pn	Pn	15 58 09.1	+0.6
PV11				IAmb_Lg		16 00 44.1	
	comp=Z,82nm,1.1s						
PV16	Nyswonger Mesa	8.80	281	IAmb_Lg		16 00 45.0	
	comp=Z,58nm,1.3s						
SPMN	Marine on St.	8.89	24	IAmb_Lg		16 00 42.6	
	comp=Z,68nm,0.8s						
Z47A	Carrollton	8.97	113	IAmb_Lg		16 00 50.6	
	comp=Z,83nm,0.8s						
V48A	Smith Brothers	9.04	96	IAmb_Lg		16 00 52.8	
	comp=Z,76nm,0.8s						
L44A	Lake County Fo	9.16	54	IAmb_Lg		16 01 05.6	
	comp=Z,108nm,1.0s						
BLO	Bloomington	9.17	74		Pn	15 58 13.6	-0.2
BLO				IAmb_Lg		16 00 60.0	
	comp=Z,97nm,0.7s						
K43A	Burlington	9.17	50	Pn	Pn	15 58 13.0	-0.7
K43A				IAmb_Lg		16 01 04.4	
	comp=Z,94nm,0.8s						
TX31	Lajitas Ar. Si	9.21	213		Pn	15 58 14.0	-0.4
TX32	Lajitas Array	9.21	213		Pn	15 58 14.2	-0.3
TXAR	Lajitas Array	9.21	213	Pn	Pn	15 58 13.9	-0.6
	comp=Z,0.4nm,0.3s,baz=37,slow=12,SNR=22						
TXAR				Lg	Lg	16 00 48.1	
	comp=Z,1.9nm,0.3s,baz=32,slow=26,SNR=3.7						
TXAR	Lajitas Array	9.21	213		Pn	15 58 14.0	-0.5
X48A	Hartselle	9.23	104	IAmb_Lg		16 00 56.3	
	comp=Z,60nm,0.8s						
WCI	Wyandotte Cave	9.25	80		Pn	15 58 15.5	+0.6
WCI				IAmb_Lg		16 00 55.5	
	comp=Z,76nm,0.7s						
CLTN	Cedars of Leba	9.36	93	IAmb_Lg		16 01 05.2	
	comp=Z,53nm,0.8s						
121A	Cookes Peak, D	9.36	243	IAmb_Lg		16 01 05.3	
	comp=Z,53nm,1.2s						
I42A	Draeger Farm,	9.56	43	Pn	Pn	15 58 19.3	+0.2
I42A				IAmb_Lg		16 01 13.9	
	comp=Z,108nm,1.1s						
E28A	Huff	9.60	348	IAmb_Lg		16 01 11.9	
	comp=Z,68nm,0.9s						
U49A	Red Boiling Sp	9.73	90	Pn	Pn	15 58 22.6	+1.1
U49A				IAmb_Lg		16 01 29.5	
	comp=Z,57nm,0.9s						
LRAL	Lakeview Retre	9.84	112	IAmb_Lg		16 01 16.3	
	comp=Z,84nm,1.3s						
SWET	Sewanee	9.87	98	Pn	Pn	15 58 23.6	+0.2
SWET				IAmb_Lg		16 01 12.2	
	comp=Z,62nm,0.8s						
G40A	Rib Lake	9.92	33	Pn	Pn	15 58 23.7	-0.4
Y49A	Blount Mountai	9.93	106	IAmb_Lg		16 01 25.2	
	comp=Z,70nm,0.8s						
D32A	Dogwood Acres,	9.95	3	IAmb_Lg		16 01 34.8	
	comp=Z,79nm,0.7s						
BW06	Boulder Array	10.53	305	Pn	Pn	15 58 31.9	-0.8
PD31	Pinedale Array	10.53	305		Pn	15 58 31.9	-0.7
PDAR	Pinedale Array	10.53	305	Pn	Pn	15 58 32.5	-0.2
	comp=Z,0.6nm,0.3s,baz=118,slow=14,SNR=18						
PDAR				Lg	Lg	16 01 28.2	
	comp=Z,1.2nm,0.3s,baz=107,slow=35,SNR=7.7						
H43A	Windswept, Lux	10.56	43	Pn	Pn	15 58 31.5	-1.3
P49A	Miami Univ. Ec	10.61	73	Pn	Pn	15 58 32.0	-1.4
R50A	Paris	10.80	80		Pn	15 58 35.4	-0.7
CPCT	Cooper Cave	10.93	95	Pn	Pn	15 58 37.6	-0.3
V51A	Loudon	10.99	93	Pn	Pn	15 58 37.4	-1.3
O49A	Covington	11.01	70	Pn	Pn	15 58 36.4	-2.5
COWI	Conover	11.04	34	Pn	Pn	15 58 37.2	-2.2
S51A	Beattyville	11.38	83		Pn	15 58 43.7	-0.4
L48A	N Adams	11.42	61		Pn	15 58 42.9	-1.7
TKL	Tuckaleechee C	11.48	93	Lg	Lg	16 01 55.4	
	comp=Z,4.0nm,0.3s,baz=180,slow=24,SNR=7.1						
TKL	Tuckaleechee C	11.48	93	Pn	Pn	15 58 45.0	-0.5
V52A	Sevierville	11.59	92		Pn	15 58 46.0	-0.9
EYMN	Ely	11.73	22	Pn	Pn	15 58 45.3	-3.4
G45A	Suttons Bay	12.10	46	Pn	Pn	15 58 50.8	-3.0
M50A	Fremont	12.24	65		Pn	15 58 54.1	-1.7
Q52A	Bidwell	12.44	77	Pn	Pn	15 58 57.8	-0.8
U54A	Nelsons Funny	12.89	88	Pn	Pn	15 59 03.8	-1.1
ULM	Lac du Bonnet	13.13	6	Pn	Pn	15 59 03.0	-4.9
	comp=Z,0.3nm,0.3s,baz=178,slow=12,SNR=3.7						
ULM				Sn	Sn	16 01 21.6	-12
	comp=Z,1.2nm,0.3s,baz=108,slow=21,SNR=3.5						
ULM				Lg	Lg	16 02 46.6	
	comp=Z,1.1nm,0.3s,baz=244,slow=4.3,SNR=6.1						
S54A	Dingess, Beckl	13.19	82	Pn	Pn	15 59 08.1	-0.7
V55A	Taylorsville	13.48	91	Pn	Pn	15 59 11.9	-1.0
YKA	Yellowknife Ar	27.35	343	P	P	16 01 46.9	+0.5
	comp=Z,0.1nm,0.3s,baz=136,slow=9.5,SNR=1.9						
ILAR	Eielson Array	39.79	330	P	P	16 03 36.6	+2.3
	comp=Z,0.3nm,0.7s,baz=119,slow=7.2,SNR=5.4						

IDC 03 16:14:22.5±3.1, 4.24N×123.36E, h552km±32km, mb2.4/3, mb1 2.5/3, mb1mx2.3/39, mbtmp3.4/3, Error ellipse: s-maj=224.8km s-min=17.2km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.34	156	P	P	16 19 15.2	+0.1
	0.2nm,0.3s,baz=335,slow=10,SNR=4.9						
ASAR	Alice Springs	29.58	160	P	P	16 19 42.9	-0.4
	0.1nm,0.4s,baz=340,slow=10.0,SNR=1.6						
ASAR				PcP	PcP	16 22 30.6	-0.1
	0.3nm,0.9s,baz=342,slow=2.7,SNR=1.5						
ASAR				ScP	ScP	16 25 20.1	-0.6
	0.2nm,0.6s,baz=356,slow=2.8,SNR=4.2						
MKAR	Makanchi Array	55.26	327	P	P	16 23 03.9	0.0
	0.7nm,0.5s,baz=124,slow=7.7,SNR=25						
MKAR				PcP	PcP	16 23 55.9	-0.6
	0.3nm,0.5s,baz=133,slow=3.9,SNR=4.5						

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*NEIC **03** 16:18:40.1±1.7, 23.5S±0.1×177.1W±0.2, h157km±8km, mb4.3/16, Error ellipse: s-maj=22.1km s-min=19.2km az=222.0*

*IDC **03** 16:18:46.3±11.0, 23.37S×177.47W, h194km±83km, mb3.5/5, mb1 3.6/6, mb1mx3.3/34, mbtmp3.9/6, Error ellipse: s-maj=125.2km s-min=25.8km az=137.0*

ISC 03 16:18:48.6±1.1, 23.4S±0.1×177.5W±0.2, h223km, n25, σ1s42/24, mb3.9/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.02	323	P	Pn	16 20 26.8	-2.6
	0.2nm,0.3s,baz=109,slow=18,SNR=6.0						
NIUE	Niue	8.29	60	Pn	Pn	16 20 31.9	-14
AFI	Afiamalu	10.91	31	Pn	Pn	16 21 05.7	-13
DZM	Mont Dzumac	14.86	272	P	P	16 22 13.7	+5.0
DZM				IAmb	IAmb	16 22 26.1	
	comp=Z,9.5nm,1.2s						
SANVU	Saraoutou	16.44	296	P	P	16 22 25.8	-0.2
SANVU				IAmb	IAmb	16 22 44.0	
	comp=Z,16nm,0.9s						
MLZ	Mavora Lakes	24.82	205	P	P	16 23 47.7	-2.6
MLZ				IAmb	IAmb	16 23 52.7	
	comp=Z,22nm,1.3s						
DCZ	Deep Cove	25.28	206	P	P	16 23 51.5	-2.9
WHZ	Wether Hill Ro	25.33	204	P	P	16 23 52.3	-2.6
CTA	Charters Tower	33.76	269	P	P	16 25 10.4	+1.0
	comp=Z,1.6nm,0.3s,baz=98,slow=11,SNR=12						
CTAO	Charters Tower	33.76	269	P	P	16 25 11.4	+1.9
CTAO				IAmb	IAmb	16 25 35.7	
	comp=Z,20nm,1.4s						
STKA	Stephens Creek	37.01	248	P	P	16 25 37.7	+0.6
	comp=Z,1.0nm,0.6s,baz=92,slow=14,SNR=3.8						
AS31	Alice Springs	44.36	260	P	P	16 26 37.7	+0.5
ASAR	Alice Springs	44.36	260	P	P	16 26 37.8	+0.6
	comp=Z,0.6nm,0.3s,baz=91,slow=7.7,SNR=32						
ASAR				PcP	PcP	16 28 18.4	+1.2
	comp=Z,0.4nm,0.6s,baz=118,slow=3.5,SNR=6.6						
WR0	Warramunga Arr	44.53	265	P	P	16 26 38.7	+0.2
WB2	Warramunga Arr	44.70	265	P	P	16 26 39.9	0.0
WB0	Warramunga Arr	44.71	265	P	P	16 26 39.9	0.0
WB0				IAmb	IAmb	16 27 04.0	
	comp=Z,6.2nm,1.4s						
WRAB	Tennant Creek	44.71	265	P	P	16 26 40.0	0.0
WRAB				IAmb	IAmb	16 27 04.3	
	comp=Z,7.3nm,1.4s						
WRA	Warramunga Arr	44.72	265	P	P	16 26 40.3	+0.3
	comp=Z,0.8nm,0.3s,baz=96,slow=8.6,SNR=43						
WRA				PcP	PcP	16 28 19.6	+1.2
	comp=Z,0.3nm,0.5s,baz=96,slow=2.9,SNR=5.0						
QSPA	South Pole Qui	66.66	180	P	P	16 29 15.1	-0.1
QSPA				IAmb	IAmb	16 29 15.1	
	comp=Z,8.1nm,1.4s						
JNU	Nakatsue	74.70	317	P	P	16 30 03.2	-0.7
TPUB	Ta-pu	75.94	303	P	P	16 30 12.3	+1.1
SSLB	Suanglung	75.96	304	P	P	16 30 12.7	+1.4
SSLB				IAmb	IAmb	16 30 41.7	
	comp=Z,11nm,1.0s						
ILAR	Eielson Array	91.05	13	P	P	16 31 27.1	0.0
	comp=Z,0.3nm,0.8s,baz=213,slow=4.3,SNR=1.9						
FINES	FINESS Array B	138.69	343	PKP	PKPdf	16 37 48.6	+1.3
	comp=Z,2.3nm,1.0s,baz=95,slow=1.5,SNR=3.9						
AKASG	Malin Array Be	145.76	329	PKPbc	PKPbc	16 38 01.4	+0.3
	comp=Z,1.3nm,0.4s,baz=44,slow=4.1,SNR=11						

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*KRSC **03** 16:30:59.6±1.6, 53.01N×161.85E, h80km±27km, ML4.2*

*IDC **03** 16:30:59.3±0.8, 53.27N×161.63E, h0km, mb3.8/18, mb1 4.0/23, mb1mx3.9/39, mbtmp3.9/23, ML4.1/4, MS3.0/4, Ms1 3.0/4, ms1mx2.6/49, Error ellipse: s-maj=20.6km s-min=12.2km az=168.0*

*MOS **03** 16:31:03.4±0.9, 53.12N×161.64E, h51km, mb4.2/6, Error ellipse: s-maj=6.7km s-min=5.3km az=95.9*

*NEIC **03** 16:31:04.0±1.4, 53.1N±0.1×161.7E±0.1, h37km±7km, mb4.2/23, Error ellipse: s-maj=15.0km s-min=8.8km az=172.0*

ISC 03 16:30:60.0±2.8, 53.05N±0.03×161.81E±0.03, h12km±18km, n146, σ1s51/197, mb4.1/32, 3C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.08	273	PN	Pb	16 31 20.5	-0.1
SPN				S	Sn	16 31 35.2	-0.6
SPN	Mys Shipunski	1.08	273	*e*P	Pb	16 31 20.5	-0.1
SPN				*e*S	Sn	16 31 35.2	-0.6
NLC	Nalytchevo	1.49	276	PN	Pn	16 31 26.6	0.0
NLC				S	Sn	16 31 45.3	-0.6
NLC	Nalytchevo	1.49	276	*e*P	Pn	16 31 26.6	0.0
NLC				*e*S	Sn	16 31 45.3	-0.6
KII	Karymskiy	1.72	306	PN	Pn	16 31 29.8	0.0
KII				S	Sb	16 31 50.8	-2.3
KII	Karymskiy	1.72	306	*e*P	Pn	16 31 29.8	0.0
KII				*e*S	Sb	16 31 50.8	-2.3
SDLR	Sedlovina	1.77	278	PN	Pn	16 31 31.1	+0.5
SDLR				S	Sn	16 31 52.3	-0.9
SDLR	Sedlovina	1.77	278	*e*P	Pn	16 31 31.1	+0.5
SDLR				*e*S	Sn	16 31 52.3	-0.9
UGLR	Uglovaya	1.81	276	PN	Pn	16 31 31.8	+0.8
UGLR				S	Sb	16 31 55.2	-0.4
UGLR	Uglovaya	1.81	276	*e*P	Pn	16 31 31.8	+0.8
UGLR				*e*S	Sb	16 31 55.2	-0.4
SMAR	Somma	1.82	278	PN	Pn	16 31 31.7	+0.3
SMAR				S	Sn	16 31 53.6	-0.9
SMAR	Somma	1.82	278	*e*P	Pn	16 31 31.7	+0.3
SMAR				*e*S	Sn	16 31 53.6	-0.9
DALK	Dalny	1.84	271	PN	Pn	16 31 31.6	+0.2
DALK				S	Sn	16 31 53.9	-0.8
DALK	Dalny	1.84	271	*e*P	Pn	16 31 31.6	+0.2
DALK				*e*S	Sn	16 31 53.9	-0.8
KRER	Koryakskii	1.86	279	PN	Pn	16 31 32.7	+0.9
KRER				S	Sb	16 31 56.1	-1.2
KRER	Koryakskii	1.86	279	*e*P	Pn	16 31 32.7	+0.9
KRER				*e*S	Sb	16 31 56.1	-1.2
AVH	Avacha	1.86	278	PN	Pn	16 31 32.6	+0.8
AVH				S	Sb	16 31 55.6	-1.6
AVH	Avacha	1.86	278	*e*P	Pn	16 31 32.6	+0.8
AVH				*e*S	Sb	16 31 55.6	-1.6
PET	Petropavlovsk	1.91	270	*e*PN	Pn	16 31 33.2	+0.9
PET				*e*S	Sn	16 31 54.8	-1.4
PET				smax	smax		
	comp=E,757nm,0.5s						
PET	Petropavlovsk	1.91	270	*e*P	Pn	16 31 32.6	+0.3
PET				*e*S	Sn	16 31 55.8	-0.4
PET	Petropavlovsk	1.91	270		Pn	16 31 32.7	+0.4
KOK	Koryaka	1.93	278	PN	Pn	16 31 33.3	+0.6
KOK	Koryaka	1.93	278	*e*P	Pn	16 31 33.3	+0.6
KRX	Arik	1.93	280	PN	Pn	16 31 32.9	+0.2
KRX				S	Sn	16 31 56.2	-0.7
KRX	Arik	1.93	280	*e*P	Pn	16 31 32.9	+0.2
KRX				*e*S	Sn	16 31 56.2	-0.7
RUS	Russkaya	2.10	254	PN	Pn	16 31 35.2	+0.3
RUS				S	Sn	16 31 59.9	-1.0
RUS	Russkaya	2.10	254	*e*P	Pn	16 31 35.2	+0.3
RUS				*e*S	Sn	16 31 59.9	-1.0
KRMR	Karymshinskiy	2.24	266	PN	Pn	16 31 38.1	+1.3
KRMR				S	Sn	16 32 05.0	+0.6
KRMR	Karymshinskiy	2.24	266	*e*P	Pn	16 31 38.1	+1.3
KRMR				*e*S	Sn	16 32 05.0	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KZV	**Kizimen**	**2.25**	**337**	PN	**Pn**	**16 31 37.8**	**+0.6**
KZV				S	**Sb**	**16 32 05.0**	**-3.4**
KZV	**Kizimen**	**2.25**	**337**	*e*P	**Pn**	**16 31 37.8**	**+0.6**
KZV				*e*S	**Sb**	**16 32 05.0**	**-3.4**
MTVR	**Mutnovka**	**2.28**	**257**	PN	**Pn**	**16 31 38.1**	**+0.6**
MTVR				S	**Sn**	**16 32 04.9**	**-0.7**
MTVR	**Mutnovka**	**2.28**	**257**	*e*P	**Pn**	**16 31 38.1**	**+0.6**
MTVR				*e*S	**Sn**	**16 32 04.9**	**-0.7**
TUMD	**Tumrok D**	**2.31**	**340**	*e*P	**Pn**	**16 31 38.0**	**+0.1**
TUMD				*e*S	**Sn**	**16 32 05.6**	**-0.6**
GRL	**Gorelyy**	**2.32**	**259**	PN	**Pn**	**16 31 39.0**	**+0.9**
GRL	**Gorelyy**	**2.32**	**259**	*e*P	**Pn**	**16 31 39.0**	**+0.9**
GNL	**Ganaly**	**2.40**	**287**	PN	**Pn**	**16 31 40.6**	**+1.3**
GNL	**Ganaly**	**2.40**	**287**	*e*P	**Pn**	**16 31 40.6**	**+1.3**
TUMR	**Tumrok**	**2.44**	**337**	PN	**Pn**	**16 31 40.9**	**+1.2**
TUMR				S	**Sb**	**16 32 09.6**	**-4.3**
TUMR	**Tumrok**	**2.44**	**337**	*e*P	**Pn**	**16 31 40.9**	**+1.2**
TUMR				*e*S	**Sb**	**16 32 09.6**	**-4.3**
ASAK	**Asacha**	**2.47**	**256**	PN	**Pn**	**16 31 41.4**	**+1.3**
ASAK				S	**Sn**	**16 32 09.4**	**-0.9**
ASAK	**Asacha**	**2.47**	**256**	*e*P	**Pn**	**16 31 41.4**	**+1.3**
ASAK				*e*S	**Sn**	**16 32 09.4**	**-0.9**
PEA0B	**Petropavlovsk-**	**2.48**	**273**	*ce*PN	**Pn**	**16 31 41.6**	**+1.4**
PEA0B	**Petropavlovsk-**	**2.48**	**273**		**Pn**	**16 31 41.4**	**+1.2**
PETK	**Petropavlovsk-**	**2.48**	**273**	Pn	**Pn**	**16 31 41.6**	**+1.4**
	comp=E,13nm,0.3s,baz=87,slow=19,SNR=748						
PETK				Sn	**Sn**	**16 32 11.9**	**+1.5**
	comp=E,21nm,0.3s,baz=98,slow=21,SNR=13						
KDTR	**Khodutka, Kamc**	**2.60**	**243**	PN	**Pn**	**16 31 42.2**	**+0.4**
KDTR				S	**Sn**	**16 32 10.2**	**-3.2**
KDTR	**Khodutka, Kamc**	**2.60**	**243**	*e*P	**Pn**	**16 31 42.2**	**+0.4**
KDTR				*e*S	**Sn**	**16 32 10.2**	**-3.2**
KMNR	**Kamenistaya**	**2.86**	**342**	PN	**Pn**	**16 31 47.2**	**+1.7**
KMNR				S	**Sb**	**16 32 20.9**	**-5.1**
KMNR	**Kamenistaya**	**2.86**	**342**	*e*P	**Pn**	**16 31 47.2**	**+1.7**
KMNR				*e*S	**Sb**	**16 32 20.9**	**-5.1**
KBTR	**Krutoberegovo**	**3.21**	**10**	PN	**Pn**	**16 31 50.5**	**+0.2**
KBTR				S	**Sn**	**16 32 26.6**	**-1.9**
KBTR	**Krutoberegovo**	**3.21**	**10**	*e*P	**Pn**	**16 31 50.5**	**+0.2**
KBTR				*e*S	**Sn**	**16 32 26.6**	**-1.9**
KOZ	**Kozyrevsk**	**3.21**	**340**	PN	**Pn**	**16 31 52.0**	**+1.7**
KOZ				S	**Sn**	**16 32 30.1**	**+1.6**
KOZ	**Kozyrevsk**	**3.21**	**340**	*e*P	**Pn**	**16 31 52.0**	**+1.7**
KOZ				*e*S	**Sn**	**16 32 30.1**	**+1.6**
KBG	**Krutoberegovo**	**3.25**	**9**	*e*S	**Sn**	**16 32 27.5**	**-1.8**
BKI	**Bering**	**3.26**	**47**	PN	**Pn**	**16 31 50.5**	**-0.4**
BKI	**Bering**	**3.26**	**47**	*e*P	**Pn**	**16 31 50.5**	**-0.4**
BKI				*e*S	**Sn**	**16 32 25.2**	**-4.4**
KLY	**Klyuchi**	**3.33**	**349**	PN	**Pn**	**16 31 53.2**	**+1.3**
KLY				S	**Sn**	**16 32 30.6**	**-0.8**
KLY	**Klyuchi**	**3.33**	**349**	*e*P	**Pn**	**16 31 53.2**	**+1.3**
KLY				*e*S	**Sn**	**16 32 30.6**	**-0.8**
ESO	**Esso**	**3.40**	**329**	PN	**Pn**	**16 31 54.7**	**+1.8**
ESO				S	**Sn**	**16 32 34.6**	**+1.5**
ESO	**Esso**	**3.40**	**329**	*e*P	**Pn**	**16 31 54.7**	**+1.8**
ESO				*e*S	**Sn**	**16 32 34.6**	**+1.5**
SRDR	**Sredinnyy**	**3.49**	**340**	PN	**Pn**	**16 31 55.2**	**+1.1**
SRDR				S	**Sn**	**16 32 36.2**	**+0.8**
SRDR	**Sredinnyy**	**3.49**	**340**	*e*P	**Pn**	**16 31 55.2**	**+1.1**
SRDR				*e*S	**Sn**	**16 32 36.2**	**+0.8**
BDR	**Baidarnaya**	**3.54**	**355**	PN	**Pn**	**16 31 56.8**	**+2.0**
BDR	**Baidarnaya**	**3.54**	**355**	*e*P	**Pn**	**16 31 56.8**	**+2.0**
SMKR	**Semkarok**	**3.54**	**357**	PN	**Pn**	**16 31 55.5**	**+0.6**
SMKR	**Semkarok**	**3.54**	**357**	*e*P	**Pn**	**16 31 55.5**	**+0.6**
SRKR	**Sorokina**	**3.63**	**354**	PN	**Pn**	**16 31 57.6**	**+1.6**
SRKR				S	**Sn**	**16 32 40.8**	**+2.0**
SRKR	**Sorokina**	**3.63**	**354**	*e*P	**Pn**	**16 31 57.6**	**+1.6**
SRKR				*e*S	**Sn**	**16 32 40.8**	**+2.0**
SKR	**Severo-Kuril's**	**4.25**	**238**	*e*PN	**Pn**	**16 32 06.0**	**+1.5**
SKR				*e*S	**Sn**	**16 32 52.6**	**-1.4**
SKR				smax	smax		
	comp=N,433nm,0.8s						
SKR				smax	smax		
	comp=E,479nm,1.0s						
SKR	**Severo-Kuril's**	**4.25**	**238**	*e*S	**Sn**	**16 32 49.5**	**-4.5**
SMY	**Shemya**	**7.45**	**88**	PN	**Pn**	**16 32 49.6**	**+1.3**
SMY	**Shemya**	**7.45**	**88**	Pn	**Pn**	**16 32 49.6**	**+1.3**
MA2	**Magadan**	**8.96**	**321**	Pn	**Pn**	**16 33 09.4**	**+0.4**
	comp=E,0.3nm,0.3s,baz=140,slow=23,SNR=1.4						
YSS	**Yuzh-Sakhalins**	**13.67**	**251**	*ce*P	**Pn**	**16 34 15.3**	**+1.8**
YSS				pmax	pmax		
	comp=Z,38nm,2.5s						
ATKA	**Atka Island**	**14.58**	**84**	Pn	**Pn**	**16 34 26.8**	**+0.8**
JKA	**Kamikawa-asahi**	**15.50**	**242**		**Pn**	**16 34 38.3**	**+0.1**
ASAJ	**Asahikawa**	**15.50**	**242**	Pn	**Pn**	**16 34 38.3**	**0.0**
	comp=Z,0.3nm,0.3s,baz=45,slow=14,SNR=4.6						
ASAJ				LR	LR	16 40 42.0	
	comp=Z,29nm,19.0s,baz=89,slow=38						
ERM	**Erimo**	**16.69**	**236**	P	**Pn**	**16 34 49.9**	**-3.7**
ERM				pmax	pmax		
	comp=Z,36nm,1.2s						
ERM	**Erimo**	**16.69**	**236**	Pn	**Pn**	**16 34 49.9**	**-3.7**
ERM				IAmb	IAmb	16 35 09.5	
	comp=Z,36nm,1.2s						
KLR	**Kul'dur**	**19.17**	**271**	P	**P**	**16 35 23.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=55,slow=11,SNR=7.5						
KLR				LR	LR	16 42 07.6	
	comp=Z,32nm,18.4s,baz=20,slow=35						
KLR	**Kul'dur**	**19.17**	**271**	*i* P	**P**	**16 35 22.9**	**-0.3**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKUT	**Akutan**	**19.19**	**74**	Pn	**Pn**	**16 35 26.3**	**+2.1**
YAK	**Yakutsk**	**19.25**	**310**	P	**P**	**16 35 22.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=257,slow=2.9,SNR=7.7						
YAK				LR	LR	16 44 16.8	
	comp=Z,40nm,18.5s,baz=50,slow=42						
YAK	**Yakutsk**	**19.25**	**310**	*e*P	**P**	**16 35 21.1**	**-2.8**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK	**Yakutsk**	**19.25**	**310**	P	**P**	**16 35 21.7**	**-2.2**
YAK				IAmb	IAmb	16 35 22.3	
	comp=Z,12nm,0.6s						
USRK	**Ussuriysk Ar.**	**21.48**	**258**	P	**P**	**16 35 49.0**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=44,slow=13,SNR=4.4						
USRK	**Ussuriysk Ar.**	**21.48**	**258**	P	**P**	**16 35 49.0**	**+0.8**
JSD	**Sado**	**22.16**	**237**	P	**P**	**16 35 55.9**	**+0.3**
JSD				IAmb	IAmb	16 36 20.0	
	comp=Z,27nm,1.3s						
MJAR	**Matsushiro Arr**	**23.35**	**234**	P	**P**	**16 36 09.8**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=16,slow=13,SNR=2.5						
TIXI	**Tiksi**	**23.56**	**334**	P	**P**	**16 36 09.0**	**-0.8**
TTA	**Tatalina**	**24.00**	**49**	P	**P**	**16 36 15.2**	**+1.0**
TTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TTA	**Tatalina**	**24.00**	**49**	P	**P**	**16 36 15.2**	**+1.0**
TTA				IAmb	IAmb	16 36 17.2	
	comp=Z,8.0nm,1.2s						
IMAR	**Indian Mountai**	**25.34**	**42**	P	**P**	**16 36 26.6**	**+0.3**
CCB	**Clear Creek Bu**	**27.71**	**45**	P	**P**	**16 36 48.7**	**+1.0**
CCB				IAmb	IAmb	16 36 51.7	
	comp=Z,5.2nm,1.3s						
HDA	**Harding Lake**	**28.08**	**46**	P	**P**	**16 36 51.6**	**+0.5**
HDA				IAmb	IAmb	16 37 09.1	
	comp=Z,5.5nm,1.4s						
ILAR	**Eielson Array**	**28.11**	**45**	P	**P**	**16 36 51.5**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=260,slow=8.5,SNR=12						
K27K	**Chicken**	**30.23**	**47**	P	**P**	**16 37 10.9**	**+0.8**
BCAR	**Beaver Creek A**	**30.47**	**48**	P	**P**	**16 37 13.3**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**33.49**	**171**	T	T	17 13 07.3	
	baz=355,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**33.51**	**171**	T	T	17 13 05.7	
	baz=355,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**33.51**	**171**	T	T	17 13 05.8	
	baz=355,slow=76,SNR=18						
TLY	**Talaya**	**34.70**	**292**	*i* P	**P**	**16 37 49.5**	**+0.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.4s						
SONM	**Songino Array**	**34.91**	**284**	P	**P**	**16 37 50.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=65,slow=7.9,SNR=2.9						
SONM				LR	LR	16 54 14.2	
	comp=Z,41nm,19.8s,baz=342,slow=40						
YKA	**Yellowknife Ar**	**42.49**	**43**	P	**P**	**16 38 54.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=298,slow=7.6,SNR=6.1						
YKA	**Yellowknife Ar**	**42.49**	**43**	*e*P	**P**	**16 38 56.6**	**+2.1**
GTA	**Gaotai**	**43.64**	**278**	*e*P	**P**	**16 39 04.6**	**+0.3**
GTA				pP	sP	16 39 09.5	+2.2
GTA				sP	pwP	16 39 12.5	+0.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.5s						
KURK	**Kurchatov**	**48.63**	**303**	*i* P	**P**	**16 39 42.5**	**-0.8**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**48.63**	**303**	P	**P**	**16 39 41.9**	**-1.3**
KURK				IAmb	IAmb	16 39 42.7	
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**49.10**	**297**	*i* P	**P**	**16 39 45.4**	**-1.6**
MK31	**Makanchi Array**	**49.10**	**297**	P	**P**	**16 39 45.6**	**-1.5**
MKAR	**Makanchi Array**	**49.10**	**297**	P	**P**	**16 39 44.9**	**-2.1**
	comp=Z,0.5nm,0.4s,baz=61,slow=4.0,SNR=8.8						
MKAR	**Makanchi Array**	**49.10**	**297**	P	**P**	**16 39 45.2**	**-1.8**
MKAR	**Makanchi Array**	**49.10**	**297**	P	**P**	**16 39 45.2**	**-1.8**
MAKZ	**Makanchi**	**49.26**	**297**	P	**P**	**16 39 47.1**	**-1.2**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.5s						
MAKZ	**Makanchi**	**49.26**	**297**	P	**P**	**16 39 47.1**	**-1.2**
MAKZ				IAmb	IAmb	16 39 48.4	
	comp=Z,4.5nm,1.4s						
WALA	**Waterton Lakes**	**50.20**	**58**	P	**P**	**16 39 55.9**	**+0.4**
WALA				IAmb	IAmb	16 39 59.4	
	comp=Z,3.2nm,1.1s						
BRVK	**Borovoye**	**51.25**	**309**	*i* P	**P**	**16 39 59.9**	**-3.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**53.64**	**342**	P	**P**	**16 40 21.3**	**+0.6**
	comp=Z,4.7nm,1.0s,baz=45,slow=10,SNR=2.9						
KVN	**Kaiserville**	**54.47**	**70**	P	**P**	**16 40 29.3**	**+1.9**
KVN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KVN	**Kaiserville**	**54.47**	**70**	P	**P**	**16 40 29.3**	**+1.9**
KVN				IAmb	IAmb	16 40 29.7	
	comp=Z,1.5nm,0.7s						
NVAR	**Mina Array Bea**	**54.78**	**71**	P	**P**	**16 40 31.4**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=327,slow=7.1,SNR=4.5						
PDAR	**Pinedale Array**	**56.63**	**62**	P	**P**	**16 40 44.4**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=312,slow=2.4,SNR=8.8						
KLMR	**Klimovskoe**	**57.50**	**331**	*e*P	**P**	**16 40 47.3**	**-1.2**
KLMR				pmax	pmax		
	comp=Z,19nm,1.4s						
KLMR	**Klimovskoe**	**57.50**	**331**	*e*P	**P**	**16 40 47.4**	**-1.1**
KLMR				AMP		16 40 48.9	
	comp=Z,19nm,1.4s						
CHTO	**Chiang Mai**	**58.91**	**260**	P	**P**	**16 41 00.1**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**58.91**	**260**	P	**P**	**16 41 00.1**	**+1.1**
CHTO				IAmb	IAmb	16 41 00.7	
	comp=Z,2.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**59.19**	**260**	P	**P**	**16 41 02.1**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=16,slow=8.4,SNR=10.0						
FINES	**FINESS Array B**	**60.56**	**337**	P	**P**	**16 41 09.8**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=46,slow=8.2,SNR=7.3						
FINES	**FINESS Array B**	**60.56**	**337**	*e*P	**P**	**16 41 10.1**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PMG	**Port Moresby**	**63.46**	**196**	*ce*P	**P**	**16 41 29.7**	**+0.1**
PMG				pmax	pmax		
	comp=Z,12nm,1.3s						
NC405	**NORSAR Array S**	**63.71**	**344**	P	**P**	**16 41 32.2**	**+1.4**
NB201	**NORSAR Array S**	**63.84**	**345**	P	**P**	**16 41 32.3**	**+0.6**
NOA	**NORSAR Array B**	**63.86**	**345**	P	**P**	**16 41 31.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=21,slow=6.6,SNR=3.6						
NOA	**NORSAR Array B**	**63.86**	**345**	*e*P	**P**	**16 41 33.0**	**+1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GEYT	**Alibeck**	**67.97**	**304**	P	**P**	**16 41 58.2**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=151,slow=34,SNR=2.1						
GEYT	**Alibeck**	**67.97**	**304**	P	**P**	**16 41 58.4**	**-0.4**
GEYT				IAmb	IAmb	16 41 59.1	
	comp=Z,1.3nm,0.6s						
AKASG	**Malin Array Be**	**69.17**	**330**	P	**P**	**16 42 05.5**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=28,slow=6.1,SNR=4.3						
TX31	**Lajitas Ar. Si**	**69.69**	**68**	P	**P**	**16 42 10.8**	**+1.2**
TX32	**Lajitas Array**	**69.69**	**68**	P	**P**	**16 42 10.8**	**+1.2**
TX32				IAmb	IAmb	16 42 11.7	
	comp=Z,4.1nm,1.4s						
TXAR	**Lajitas Array**	**69.70**	**68**	P	**P**	**16 42 11.0**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=303,slow=4.8,SNR=14						
TXAR	**Lajitas Array**	**69.70**	**68**	P	**P**	**16 42 10.5**	**+0.8**
TXAR	**Lajitas Array**	**69.70**	**68**	P	**P**	**16 42 10.4**	**+0.8**
KBZ	**Khabaz**	**70.27**	**318**	P	**P**	**16 42 13.1**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=55,slow=5.1,SNR=7.9						
BURAR	**Bucovina Array**	**73.12**	**331**	P	**P**	**16 42 29.6**	**-0.4**
BRTR	**Keskin Array B**	**77.30**	**322**	P	**P**	**16 42 54.3**	**0.0**
	comp=Z,0.6nm,0.5s,baz=204,slow=31,SNR=1.7						
ASAR	**Alice Springs**	**80.16**	**206**	P	**P**	**16 43 10.1**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=9.1,slow=5.9,SNR=4.1						

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*IDC **03** 16:52:53.1±2.6, 5.°05S×144.°73E, h102km±27km, mb3.2/4, mb1 3.3/7, mb1mx3.1/34, mbtmp3.5/7, Error ellipse: s-maj=33.6km s-min=18.5km az=51.0*

ISC 03 16:52:53.1±1.0**, 5.°1S**±0.°1×**144.°7E**±0.°2**, h100km, n7, σ1.s09**/8**, mb3.5**/4**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.75**	**302**	P	**Pn**	**16 54 03.2**	**+0.7**
	0.7nm,0.3s,baz=41,slow=18,SNR=1.3						
PMG	**Port Moresby**	**4.95**	**151**	P	**Pn**	**16 54 06.6**	**+1.4**
	1.4nm,0.3s,baz=342,slow=3.2,SNR=7.3						
PMG				S	**Sn**	**16 55 01.1**	**-0.2**
	1.8nm,0.3s,baz=161,slow=21,SNR=6.0						
WRA	**Warramunga Arr**	**17.93**	**213**	P	**Pn**	**16 56 55.5**	**-0.7**
	0.1nm,0.3s,baz=31,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**21.25**	**208**	P	**P**	**16 57 30.4**	**-1.1**
	0.3nm,0.9s,baz=37,slow=9.5,SNR=1.9						
CMAR	**Chiang Mai Arr**	**50.82**	**299**	P	**P**	**17 01 44.5**	**+0.6**
	0.4nm,0.4s,baz=120,slow=6.4,SNR=5.2						
MKAR	**Makanchi Array**	**75.34**	**321**	P	**P**	**17 04 25.5**	**-0.2**
	0.2nm,0.3s,baz=103,slow=6.4,SNR=6.5						
ILAR	**Eielson Array**	**85.51**	**24**	P	**P**	**17 05 18.4**	**-1.2**
	0.8nm,1.1s,baz=254,slow=5.3,SNR=4.3						

IDC 03 17:03:36.6±11.0**, 8.°40S**×**119.°52E, h199**km±135km**, mb2.6**/2**, mb1 2.9**/4**, mb1mx2.8**/32**, mbtmp3.3**/4**, Error ellipse: s-maj=205.8km s-min=44.1km az=45.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.47**	**114**	S	Sn	17 05 32.9	-4.7
	0.8nm,0.3s,baz=302,slow=7.0,SNR=2.2						
FITZ	**Fitzroy Crossi**	**11.34**	**149**	P	Pn	17 06 13.2	+0.1
	0.1nm,0.3s,baz=321,slow=13,SNR=2.0						
FITZ				S	Sn	17 08 12.5	-7.1
	0.1nm,0.3s,baz=194,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**18.38**	**130**	P	P	17 07 36.3	-0.5
	0.1nm,0.3s,baz=303,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**20.51**	**139**	P	P	17 07 59.9	+0.2
	0.5nm,0.3s,baz=315,slow=8.9,SNR=31						
MKAR	**Makanchi Array**	**64.16**	**332**	P	P	17 13 49.9	0.0
	0.1nm,0.4s,baz=132,slow=6.4,SNR=1.5						

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*IDC **03** 17:25:17.7±0.9, 37.°69N×95.°90E, h0km, mb3.6/9, mb1 3.8/14, mb1mx3.6/55, mbtmp3.6/14, ML3.2/5, MS2.9/1, Ms1 3.1/1, ms1mx2.4/47, Error ellipse: s-maj=29.0km s-min=15.7km az=44.0*

*NEIC **03** 17:25:22.4±2.4, 37.°6N±0.°1×95.°7E±0.°1, h33km±4km, mb4.0/14, Error ellipse: s-maj=19.0km s-min=12.1km az=211.0*

ISC 03 17:25:19.2±0.7**, 37.°66N**±0.°09×**95.°66E**±0.°08**, h10km, n41, σ1.s45**/41**, mb3.7**/13**, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**8.62**	**318**	Pn	**Pn**	**17 27 26.0**	**+2.0**
SONM	**Songino Array**	**12.85**	**34**	Pn	**Pn**	**17 28 23.2**	**+1.2**
	0.3nm,0.3s,baz=217,slow=15,SNR=16						
SONM				Lg	Lg	17 32 03.4	
	baz=218,slow=32,SNR=2.5						
SONM	**Songino Array**	**12.85**	**34**		**Pn**	**17 28 22.4**	**+0.4**
MK31	**Makanchi Array**	**13.45**	**317**		**Pn**	**17 28 29.6**	**-0.5**
MKAR	**Makanchi Array**	**13.45**	**317**	Pn	**Pn**	**17 28 28.7**	**-1.4**
	0.4nm,0.3s,baz=127,slow=14,SNR=28						
MKAR				Sn	**Sn**	**17 30 54.0**	**-5.5**
	0.1nm,0.3s,baz=124,slow=28,SNR=2.0						
MKAR				Lg	Lg	17 32 29.3	
	baz=134,slow=31,SNR=1.7						
MKAR	**Makanchi Array**	**13.45**	**317**		**Pn**	**17 28 29.8**	**-0.2**
MAKZ	**Makanchi**	**13.63**	**316**		**Pn**	**17 28 33.1**	**+0.6**
AAK	**Ala-Archa**	**16.91**	**294**	Pn	**P**	**17 29 18.3**	**+0.3**
	0.2nm,0.3s,baz=86,slow=10,SNR=7.9						
AAK	**Ala-Archa**	**16.91**	**294**	P	**P**	**17 29 17.9**	**-0.2**
KURBB	**Kurchatov Arra**	**17.80**	**322**	Pn	**Pn**	**17 29 24.9**	**-1.9**
	0.1nm,0.3s,baz=136,slow=11,SNR=4.6						
KURK	**Kurchatov**	**17.82**	**323**		**P**	**17 29 28.0**	**+0.2**
KURK	**Kurchatov**	**17.82**	**323**		**P**	**17 29 28.5**	**+0.7**
ZAA0	**Zalesovo Array**	**17.92**	**339**	P	**P**	**17 29 29.9**	**+1.0**
ZALV	**Zalesovo Beam**	**17.92**	**339**	P	**P**	**17 29 29.7**	**+0.8**
	0.1nm,0.3s,baz=155,slow=11,SNR=5.9						
ZALV	**Zalesovo Beam**	**17.92**	**339**	P	**P**	**17 29 29.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**19.35**	**171**	P	**P**	**17 29 44.4**	**-0.4**
	0.0nm,0.3s,baz=338,slow=11,SNR=9.9						
CMAR				LR	LR	17 37 49.5	
	comp=Z,33nm,18.8s,baz=100,slow=39						
KK31	**Karatay Array**	**19.88**	**294**	P	**Pn**	**17 29 52.6**	**+0.5**
KK31				IAmb	IAmb	17 29 59.4	
	comp=Z,5.0nm,1.5s						
KKAR	**Karatay Array**	**19.88**	**294**	P	**Pn**	**17 29 53.0**	**+0.9**
KKAR	**Karatay Array**	**19.88**	**294**	P	**Pn**	**17 29 52.5**	**+0.4**
KKAR				IAmb	IAmb	17 29 59.4	
	comp=Z,5.0nm,1.5s						
BVAR	**Borovoye Array**	**23.31**	**319**	P	**P**	**17 30 27.8**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=104,slow=14,SNR=4.8						
BRVK	**Borovoye**	**23.38**	**319**	P	**P**	**17 30 29.0**	**+1.2**
BRVK				IAmb	IAmb	17 30 31.2	
	comp=Z,1.9nm,0.8s						
KS19	**Wonju Array Si**	**25.46**	**80**	P	**P**	**17 30 47.2**	**-0.1**
KS19				IAmb	IAmb	17 31 22.0	
	comp=Z,21nm,1.2s						
KSAR	**Wonju Array Be**	**25.49**	**81**	P	**P**	**17 30 48.3**	**+0.8**
KSRS	**Korea Array**	**25.52**	**80**	P	**P**	**17 30 45.8**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=277,slow=8.9,SNR=6.0						
USA0B	**Ussuriysk Arra**	**28.05**	**65**	P	**P**	**17 31 08.0**	**-2.5**
USA0B				IAmb	IAmb	17 31 32.9	
	comp=Z,26nm,1.4s						
USRK	**Ussuriysk Ar.**	**28.05**	**65**	P	**P**	**17 31 08.5**	**-2.0**
ABKAR	**Akbulak array**	**28.14**	**306**	P	**P**	**17 31 12.2**	**+1.0**
AKTO	**Aktyubinsk**	**29.58**	**308**	P	**P**	**17 31 25.4**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=107,slow=7.1,SNR=4.0						
NRIK	**Noril'sk**	**32.04**	**355**	P	**P**	**17 31 46.2**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=175,slow=11,SNR=5.0						
NRIK	**Noril'sk**	**32.04**	**355**	IAmb	IAmb	17 31 47.5	
	comp=Z,2.1nm,0.7s						
MYLDM	**Lahad Datu**	**38.47**	**142**	P	**P**	**17 32 39.4**	**-2.0**
BRTR	**Keskin Array B**	**47.59**	**293**	P	**P**	**17 33 56.1**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=76,slow=6.1,SNR=1.7						
NOA	**NORSAR Array B**	**55.32**	**324**	P	**P**	**17 34 51.9**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=72,slow=7.2,SNR=1.9						
TOLK	**Toolik Lake Re**	**63.62**	**22**	P	**P**	**17 35 50.9**	**+1.0**
TOLK				IAmb	IAmb	17 35 51.7	
	comp=Z,2.3nm,0.8s						
IMAR	**Indian Mountai**	**63.84**	**25**	P	**P**	**17 35 51.7**	**+0.4**
BMAR	**Burnt Mountain**	**65.84**	**22**	P	**P**	**17 36 06.3**	**+1.9**
PPLA	**Purkeypile**	**66.18**	**28**	P	**P**	**17 36 07.8**	**+1.0**
KTH	**Kantishna Hill**	**66.25**	**27**	P	**P**	**17 36 07.5**	**+0.4**
ILAR	**Eielson Array**	**66.86**	**24**	P	**P**	**17 36 10.1**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=287,slow=4.7,SNR=6.4						
ASAR	**Alice Springs**	**70.82**	**143**	P	**P**	**17 36 36.3**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=329,slow=6.2,SNR=7.1						
ESDC	**Sonseca Array**	**73.47**	**307**	P	**P**	**17 36 53.2**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=67,slow=5.1,SNR=4.5						

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*TEH **03** 17:58:12.9, 32.°70N×47.°67E, h10km, ML3.1*

*ISN **03** 17:58:13.9±1.3, 32.°70N×47.°76E, h15km±8km, ML3.2*

*THR **03** 17:58:13.1±0.4, 32.°67N×47.°60E, h14km±6km, ML3.1*

ISC 03 17:58:14.5±0.9**, 32.°70N**±0.°03×**47.°75E**±0.°04**, h10km, n34, σ0.s94**/38**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.83**	**6**	*e*Pg	**Pg**	**17 58 29.2**	**-1.3**
IKFM				*e*		17 58 34.6	
	comp=Z,99nm,0.2s						
IKMR	**Kamar-syah**	**0.97**	**33**	*e*Pg	**Pg**	**17 58 32.1**	**-1.2**
IKMR				*e*		17 58 53.7	
	comp=Z,99nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.07**	**123**	*e*Pg	**Pg**	**17 58 34.5**	**-0.6**
SHGR				IAML		17 58 55.1	
	comp=E,406nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.07**	**123**	*e*Pg	**Pg**	**17 58 34.5**	**-0.6**
IDOB	**Doab**	**1.14**	**18**	*e*Pg	**Pb**	**17 58 36.5**	**0.0**
AHWZ	**Ahwaz**	**1.56**	**151**	*e*Pg	**Pb**	**17 58 43.7**	**+0.2**
IBDR	**Badra**	**1.58**	**285**	*e*Pg	**Pn**	**17 58 42.8**	**+0.2**
IBDR				*e*Sg	**Sn**	**17 59 04.0**	**+0.9**
IBDR				AML	AML	17 59 09.3	
	comp=N,124nm,0.3s						
IBDR				AML	AML	17 59 22.0	
	comp=E,147nm,0.7s						
HSAM	**Samen**	**1.67**	**25**	*e*Pg	**Pb**	**17 58 45.7**	**+0.2**
HSAM				*e*		17 58 47.2	
	comp=Z,99nm,0.2s						
KCHF	**Cheshme Sefid,**	**1.68**	**340**	*e*Pg	**Pn**	**17 58 44.5**	**+0.4**
KCHF				*e*		17 59 13.7	
	comp=Z,99nm,0.3s						
KER	**Kermanshah**	**1.76**	**343**	*e*Pg	**Pn**	**17 58 46.3**	**+1.1**
IBZA	**Bozab**	**1.77**	**3**	*e*Pg	**Pb**	**17 58 47.4**	**+0.2**
IBZA				*e*		17 58 50.3	
	comp=Z,99nm,0.3s						
IGHG	**Ghaleghazi**	**1.90**	**329**	*e*Pg	**Pn**	**17 58 48.4**	**+1.2**
IGHG				*e*		17 59 21.7	
	comp=Z,99nm,0.4s						
KHMZ	**Khomeyn**	**2.12**	**60**	*e*Pn	**Pb**	**17 58 52.2**	**-1.0**
KHMZ	**Khomeyn**	**2.12**	**60**	*e*Pn	**Pb**	**17 58 52.2**	**-1.0**
NSR	**Nassriya**	**2.17**	**219**	*e*Pn	**Pn**	**17 58 51.0**	**+0.3**
NSR				*e*Sn	**Sn**	**17 59 17.0**	**-0.6**
NSR				AML	AML	17 59 17.5	
	comp=E,409nm,0.5s						
IDHR	**Dehrash**	**2.29**	**331**	*e*Pn	**Pn**	**17 58 53.1**	**+0.5**
IDHR				*e*		17 59 33.1	
	comp=Z,99nm,0.3s						
SNGE	**Sanandaj**	**2.41**	**352**	*e*Pn	**Pn**	**17 58 54.4**	**+0.2**
SNGE	**Sanandaj**	**2.41**	**352**	*e*Pn	**Pn**	**17 58 54.4**	**+0.2**
HAGD	**Aghdareh**	**2.41**	**28**	*e*Pn	**Pn**	**17 58 55.1**	**+0.8**
HAGD				*e*		17 59 00.2	
	comp=Z,99nm,0.3s						
ASAO	**Ashtian**	**2.65**	**45**	*e*Pn	**Pn**	**17 58 59.2**	**+1.7**
ASAO				*e*Sg	**Sg**	**17 59 39.4**	**-0.3**
ASAO	**Ashtian**	**2.65**	**45**	*e*Pn	**Pn**	**17 58 59.2**	**+1.7**
IPIR	**Pirpir**	**2.65**	**89**	*e*Pn	**Pn**	**17 58 59.5**	**+1.9**
IPIR				*e*		17 59 06.8	
	comp=Z,99nm,0.3s						
SHK1	**Shahrekord**	**2.68**	**97**	*e*Pn	**Pn**	**17 58 58.6**	**+0.7**
SHK1				*e*		17 59 05.7	
	comp=Z,99nm,0.6s						
BHD	**Baghdad**	**2.89**	**282**	*e*Pn	**Pn**	**17 59 01.0**	**+0.5**
BHD				*e*Sn	**Sn**	**17 59 37.0**	**+1.7**
BHD				AML	AML	17 59 37.2	
	comp=E,422nm,0.4s						
QAM	**Ghamsar**	**3.27**	**70**	*e*Pn	**Pn**	**17 59 07.6**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.36**	**26**	*e*Pn	**Pn**	**17 59 07.4**	**0.0**
IQOM	**Qom**	**3.50**	**51**	*e*Pn	**Pn**	**17 59 10.1**	**+0.9**
IGAR	**Gharneh**	**3.64**	**94**	*e*Pn	**Pn**	**17 59 11.5**	**+0.4**
IGAR				*e*		17 59 22.3	
	comp=Z,99nm,0.3s						
KLNJ	**Kolanjah**	**3.68**	**116**	*e*Pn	**Pn**	**17 59 12.1**	**+0.3**
KLNJ				*e*		17 59 30.1	
	comp=Z,99nm,0.6s						
IZEF	**Zefreh**	**3.86**	**86**	*e*Pn	**Pn**	**17 59 15.6**	**+1.3**
KRSH	**Karshahi**	**3.88**	**70**	*e*Pn	**Pn**	**17 59 15.5**	**+1.0**
IRAM	**Ramesheh**	**4.03**	**102**	*e*Pn	**Pn**	**17 59 16.3**	**-0.2**
QALM	**Alamut, Qazvin**	**4.42**	**32**	*e*Pn	**Pn**	**17 59 22.5**	**+0.5**
ANAR	**Anarak**	**5.05**	**83**	*e*Pn	**Pn**	**17 59 31.4**	**+0.9**

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*IDC **03** 18:15:40.9±1.3, 11.°06N×126.°23E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.4/35, mbtmp3.4/5, MS4.3/1, Ms1 4.3/1, ms1mx2.6/33, Error ellipse: s-maj=44.8km s-min=24.0km az=70.0*

*MAN **03** 18:15:46.0, 11.°25N×126.°31E, h32km, MS3.4*

ISC 03 18:15:46.0±1.1**, 11.°30N**±0.°06×**126.°36E**±0.°09**, h35km, n12, σ1.s78**/16**, mb3.3**/5**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**1.52**	**189**	*e*P	**Pn**	**18 16 10.2**	**-0.6**
GLSP				*e*S	**Sn**	**18 16 27.7**	**-1.7**
OCLP	**Ormoc**	**1.73**	**262**	*e*P	**Pn**	**18 16 13.9**	**+0.3**
OCLP				*e*S	**Sn**	**18 16 34.2**	**-0.3**
MSLP	**Maasin**	**1.87**	**232**	*e*P	**Pn**	**18 16 15.4**	**-0.1**
MSLP				*e*S	**Sn**	**18 16 37.2**	**-0.8**
BUTP	**Butuan**	**2.43**	**197**	*e*P	**Pn**	**18 16 23.9**	**+0.8**
CGP	**Cagayan de Oro**	**3.27**	**210⇓**	*e*P	**Pn**	**18 16 38.0**	**+3.3**
CGP				*e*S	**Sn**	**18 17 13.9**	**+1.5**
JCNP	**Jose Panganiba**	**4.64**	**310**	*e*P	**Pn**	**18 16 54.9**	**+1.2**
JCNP				*e*S	**Sn**	**18 17 43.4**	**-2.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	24.97	27	LR	LR	18 30 09.0	
	comp=Z,608nm,19.2s,baz=66,slow=34						
MJAR	Matsushiro Arr	27.32	21	P	P	18 21 29.7	+2.2
	0.6nm,0.4s,baz=214,slow=9.0,SNR=1.9						
CMAR	Chiang Mai Arr	27.41	288	P	P	18 21 27.8	-0.7
	0.3nm,0.6s,baz=102,slow=8.5,SNR=2.0						
WRA	Warramunga Arr	32.02	166	P	P	18 22 07.3	-2.1
	0.3nm,0.8s,baz=347,slow=10.0,SNR=1.6						
ASAR	Alice Springs	35.53	168	P	P	18 22 38.3	-1.6
	0.1nm,0.3s,baz=351,slow=6.9,SNR=2.4						
MKAR	Makanchi Array	51.27	322	P	P	18 24 47.6	+1.1
	0.6nm,0.8s,baz=123,slow=8.8,SNR=7.8						

MEX 03 18:33:38.2±0.4, 14°.08N×93°.29W, h13km±90km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		1.61	2	*e*P	Pn	18 34 03.1	-3.3
PCIG				*i* S	Sn	18 34 22.0	-5.1
CCIG	Comitan	2.45	27	*i* P	Pn	18 34 15.3	-2.9
CCIG				*i* S	Sn	18 34 44.6	-3.4

IDC 03 18:34:45.1±1.3, 3°.01S×139°.34E, h0km, mb3.1/3, mb1 3.4/4, mb1mx3.2/35, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=28.7km s-min=15.0km az=156.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.45	70	Pg	Pn	18 35 12.8	+0.1
	3.1nm,0.3s,baz=221,slow=11,SNR=22						
JAY				Lg	Lg	18 35 30.7	
	12nm,0.3s,baz=339,slow=22,SNR=15						
WRA	Warramunga Arr	17.52	196	P	Pn	18 38 50.2	-0.9
	0.1nm,0.3s,baz=16,slow=13,SNR=6.7						
ASAR	Alice Springs	21.20	194	P	P	18 39 32.2	-0.3
	0.5nm,0.7s,baz=27,slow=9.2,SNR=14						
SONM	Songino Array	58.26	334	P	P	18 44 39.7	-2.0
	0.2nm,0.5s,baz=137,slow=4.6,SNR=1.6						
MKAR	Makanchi Array	70.41	322	P	P	18 46 03.0	+1.8
	0.1nm,0.4s,baz=117,slow=6.2,SNR=2.1						

IDC 03 18:35:05.7±8.9, 8°.86N×103°.51W, h0km, mb3.3/5, mb1 3.7/5, mb1mx3.5/47, mbtmp3.3/5, MS3.2/4, Ms1 3.2/4, ms1mx3.0/19, Error ellipse: s-maj=206.2km s-min=113.5km az=119.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	11.72	45	LR	LR	18 41 18.9	
	comp=Z,148nm,19.5s,baz=194,slow=32						
LPIG	La Paz	16.49	338	LR	LR	18 42 30.2	
	comp=Z,63nm,21.3s,baz=203,slow=27						
TEIG	Tepich	18.55	51	LR	LR	18 44 56.3	
	comp=Z,63nm,18.2s,baz=84,slow=32						
TXAR	Lajitas Array	20.37	360	P	P	18 39 44.5	+0.4
	1.2nm,1.1s,baz=183,slow=14,SNR=5.0						
NVAR	Mina Array Bea	32.31	338	P	P	18 41 36.4	-0.3
	0.1nm,0.3s,baz=124,slow=8.1,SNR=2.0						
NVAR				LR	LR	18 51 27.1	
	comp=Z,65nm,20.7s,baz=188,slow=30						
PDAR	Pinedale Array	34.19	352	P	P	18 41 53.3	+0.2
	0.2nm,0.6s,baz=154,slow=9.0,SNR=1.9						
YKA	Yellowknife Ar	54.14	354	P	P	18 44 31.6	-0.8
	0.1nm,0.3s,baz=165,slow=7.5,SNR=2.4						
ILAR	Eielson Array	63.51	341	P	P	18 45 37.8	+0.3
	0.7nm,0.9s,baz=170,slow=5.5,SNR=4.5						

*IDC **03** 18:50:44.1±2.5, 6°.10S×129°.72E, h0km, mb3.2/1, mb1 3.2/3, mb1mx3.1/31, mbtmp3.0/3, ML2.9/2, Error ellipse: s-maj=150.0km s-min=33.5km az=69.0*
ISC 03 18:50:50.0±5.2, 6°.5S±0°.2×130°.3E±0°.5, h35km, n5, σ3s.93/5, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GENI	Genyem	10.56	69	P	Pn	18 53 22.0	+3.0
JAY	Jayapura	11.09	70	P	Pn	18 53 23.8	-2.5
WRA	Warramunga Arr	13.97	164	Pn	P	18 54 10.7	-2.5
	0.1nm,0.3s,baz=346,slow=13,SNR=1.4						
WRA				Sn	Sn	18 56 35.2	-4.4
	0.1nm,0.3s,baz=339,slow=22,SNR=1.9						
ASAR	Alice Springs	17.46	169	P	P	18 54 54.9	+3.0
	0.0nm,0.3s,baz=342,slow=9.7,SNR=6.4						
ASAR				S	Sn	18 58 05.4	+0.9
	0.0nm,0.3s,baz=353,slow=28,SNR=1.5						
MKAR	Makanchi Array	67.93	327	P	P	19 01 41.0	-4.4
	0.1nm,0.5s,baz=134,slow=6.2,SNR=1.6						

*ANF **03** 19:04:25.7±0.3, 43°.93N×105°.48W, h0km, ML3.4/13, Error ellipse: s-maj=3.7km s-min=2.3km az=172.0, Hypocentre not reviewed by the ISC*
*NEIC **03** 19:04:27.8±1.3, 43°.83N±0°.04×105°.23W±0°.06, h0km±2km, ML3.1/60, Error ellipse: s-maj=7.8km s-min=5.8km az=60.0*
*IDC **03** 19:04:28.7±1.6, 44°.03N×105°.67W, h0km, mb1 3.5/4, mb1mx3.2/51, mbtmp3.3/4, ML3.3/4, Error ellipse: s-maj=46.2km s-min=8.7km az=146.0*
ISC 03 19:04:27.7±1.1, 43°.82N±0°.05×105°.21W±0°.06, h0km, n48, σ0s.83/48, Wyoming

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.90	70	Pg	Pg	19 04 45.8	+0.8
RSSD	Black Hills	0.90	70	P		19 04 46.2	
	baz=260						
RSSD				S		19 05 00.3	
	baz=260						
K22A	Casper	1.51	220	Pn	Pn	19 04 53.9	-2.2
K22A				IAML		19 05 23.1	
	comp=E,287nm,0.3s						
K22A	Casper	1.51	220	P		19 04 53.9	
	baz=31,SNR=203						
K22A				S		19 05 15.1	
	baz=31						
PHWY	Pilot Hill	2.52	184		Pn	19 05 09.8	-0.4
RWWY	Rawlins	2.59	215	Pn	Pn	19 05 11.5	+0.5
RWWY				IAML		19 05 49.0	
	comp=E,97nm,0.3s						
RWWY				IAML		19 05 50.0	
	comp=E,100nm,0.7s						
LAO	LASA Array	2.96	346	Pn	Pn	19 05 16.4	+0.5
LAO	LASA Array	2.96	346	Sg		19 05 59.3	
	baz=169						
N23A	Red Feather La	2.97	191	P		19 05 16.3	
	baz=6.4,SNR=25						
N23A				Sb		19 05 58.8	
	baz=6.4						
RLMT	Red Lodge	3.18	296	Pn	Pn	19 05 18.9	-0.2
RLMT				IAML		19 06 07.7	
	comp=E,48nm,0.3s						
RLMT				IAML		19 06 17.8	
	comp=E,50nm,0.3s						
RLMT	Red Lodge	3.18	296	Pb		19 05 19.4	
	baz=112						
RLMT				Sg		19 06 05.5	
	baz=112						
BW06	Boulder Array	3.34	253		Pn	19 05 21.0	-0.4
BW06	Boulder Array	3.34	253	Pb		19 05 22.2	
	baz=67						
BW06				Sb		19 06 05.9	
	baz=67						
PD31	Pinedale Array	3.34	253		Pn	19 05 20.7	-0.8
PDAR	Pinedale Array	3.34	253	Pn	Pn	19 05 20.9	-0.5
	comp=E,4.2nm,0.3s,baz=70,slow=15,SNR=84						
PDAR				Lg	Lg	19 06 05.7	
	comp=E,18nm,0.3s,baz=68,slow=32,SNR=11						
PDAR	Pinedale Array	3.34	253	Pn	Pn	19 05 20.6	-0.8
YNE	Yellowstone No	3.63	291		Pn	19 05 25.0	-0.4
YNE				IAML		19 06 21.8	
	comp=N,42nm,0.4s						
YMP	Mirror Lake Pl	3.67	286		Pn	19 05 25.9	-0.1
OGNE	Ogallala	3.72	140	Pn	Pn	19 05 26.7	+0.4
OGNE				IAML		19 06 44.0	
	comp=N,48nm,0.6s						
OGNE	Ogallala	3.72	140	P		19 05 27.5	
	baz=321						
GCMT	Greycliff	3.73	303		Pn	19 05 27.3	+0.6
LKWY	Lake	3.80	283		Pn	19 05 29.5	+1.7
LKWY				IAML		19 05 54.5	
	comp=N,28nm,0.5s						
LKWY				IAML		19 06 36.6	
	comp=N,22nm,3.0s						
H17A	Grant Village	3.91	280		Pn	19 05 29.8	+0.7
H17A	Grant Village	3.91	280	Pb		19 05 31.9	
	baz=96						
LOHW	Long Hollow	3.91	269		Pn	19 05 29.6	+0.4
LOHW				IAML		19 06 29.6	
	comp=N,19nm,3.8s						
FLWY	Flagg Ranch	3.97	276		Pn	19 05 29.9	-0.1
FLWY				IAML		19 06 41.2	
	comp=N,37nm,2.5s						
FLWY				IAML		19 07 07.1	
	comp=N,22nm,3.8s						
ISCO	Idaho Springs	4.03	184	Pn	Pn	19 05 31.1	+0.2
ISCO	Idaho Springs	4.03	184	P		19 05 31.2	
	baz=1.4,SNR=8.0						
ISCO				Sb		19 06 32.5	
	baz=1.4						
SNOW	Snow King Moun	4.04	267		Pn	19 05 31.3	+0.3
SNOW				IAML		19 06 39.9	
	comp=N,26nm,1.1s						
SNOW				IAML		19 06 49.8	
	comp=N,26nm,1.7s						
YPP	Pitchstone Pla	4.06	278		Pn	19 05 31.0	-0.2
REDW	Red Top Meadow	4.12	266		Pn	19 05 31.9	-0.2
REDW				IAML		19 06 39.6	
	comp=N,25nm,1.9s						
REDW				IAML		19 06 49.3	
	comp=N,25nm,1.8s						
YHH	Holmes Hill	4.16	285		Pn	19 05 32.5	-0.2
YMR	Madison River	4.22	284		Pn	19 05 33.4	0.0
YMR				IAML		19 06 30.1	
	comp=N,18nm,4.6s						
YMR				IAML		19 07 13.6	
	comp=E,19nm,2.9s						
O20A	White River Ci	4.32	213		Pn	19 05 36.2	+1.4
O20A				IAML		19 06 46.9	
	comp=E,30nm,1.7s						
O20A				IAML		19 07 30.9	
	comp=N,28nm,2.3s						
O20A	White River Ci	4.32	213	Sb		19 06 38.3	
	baz=28						
YHB	Horse Butte	4.39	284		Pn	19 05 35.5	-0.3
YHL	Hebgen Lake	4.40	286	Pn	Pn	19 05 36.0	-0.1
YHL				IAML		19 06 52.8	
	comp=N,15nm,0.9s						
YHL				IAML		19 07 16.7	
	comp=E,16nm,2.2s						
AHID	Auburn Hatcher	4.42	258		Pn	19 05 36.6	+0.3
AHID				IAML		19 06 47.7	
	comp=E,17nm,0.6s						
AHID				IAML		19 06 50.6	
	comp=N,24nm,1.1s						
SUSD	Miller	4.55	80	Sb		19 06 50.3	
	baz=266						
ECR	Eagle Creek	4.55	262		Pn	19 05 38.1	+0.1
RDMU	Red Mountain	4.58	226		Pn	19 05 39.2	+0.8
RDMU				IAML		19 07 01.5	
	comp=N,14nm,2.2s						
RDMU				IAML		19 07 08.1	
	comp=E,14nm,0.9s						
DGMT	Dagmar	4.70	8		Pn	19 05 38.4	-1.5
SMCO	Snowmass	4.82	196		Pn	19 05 41.3	-0.6
SMCO				IAML		19 07 07.6	
	comp=E,20nm,1.4s						
SMCO				IAML		19 07 13.1	
	comp=E,14nm,3.3s						
Q24A	Divide	4.85	179	Sb		19 06 57.6	
	baz=357						
BOZ	Bozeman (W)	4.91	293		Pn	19 05 41.7	-1.1
BOZ				IAML		19 07 25.2	
	comp=E,10nm,4.0s						
BOZ				IAML		19 08 48.0	
	comp=E,10nm,4.5s						
KSCO	Kaye Shedlock'	5.18	157		Pn	19 05 46.1	-0.5
KSCO	Kaye Shedlock'	5.18	157	P		19 05 46.4	
	baz=338						
EGMT	Eagleton	5.26	325		Pn	19 05 47.1	-0.5
TCUT	Toone Canyon	5.32	242	Pn	Pn	19 05 49.0	+0.4
HRY	Holter Researc	5.49	304		Pn	19 05 50.7	-0.1
DLMT	Dillon	5.49	289	Pn	Pn	19 05 51.0	+0.2
MCMT	McKenzie Canyo	5.57	283		Pn	19 05 53.7	+1.7
CTU	Camp Tracy	5.77	239	Pn	Pn	19 05 54.3	-0.3
PV22	Blue Mesa, Par	5.93	208		Pn	19 05 56.4	-0.5
PV07	Paradox Valley	5.97	207		Pn	19 05 57.7	+0.2
SRU	San Rafael Swe	6.17	222		Pn	19 05 59.0	-1.1
PV11	David Mesa, Pa	6.17	208		Pn	19 05 59.4	-0.8
ECSD	EROS Data Cent	6.23	88	P		19 06 01.6	
	baz=275						
TMUT	Trail Mountain	6.37	227		Pn	19 06 03.0	-0.1
ELK	Elko	8.04	251	Pn	Pn	19 06 27.9	+2.0
	comp=E,0.5nm,0.3s,baz=56,slow=11,SNR=6.9						
ULM	Lac du Bonnet	9.05	41	Pn	Pn	19 06 39.5	0.0
	comp=E,0.7nm,0.3s,baz=229,slow=11,SNR=7.3						
ULM				Lg	Lg	19 09 08.1	
	comp=E,0.5nm,0.3s,baz=135,slow=17,SNR=2.9						
YKA	Yellowknife Ar	19.50	347	P	P	19 08 54.5	-1.5
	comp=E,0.1nm,0.3s,baz=180,slow=11,SNR=2.5						

*ATH **03** 19:07:46.8, 38°.43N×20°.51E, h16km±1km, ML2.6/4, Error ellipse: s-maj=2.4km s-min=0.7km az=285.0*
*THE **03** 19:07:47.0, 38°.43N×20°.53E, h9km, ML2.6/13, Error ellipse: s-maj=0.8km s-min=0.4km az=272.0*
ISC 03 19:07:46.4±0.8, 38°.43N±0°.02×20°.52E±0°.03, h12km±4km, n55, σ0s.85/80, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSK1	VASILIKIADES	0.04	118	P	Pg	19 07 48.4	-0.4
VSK1				S	Sg	19 07 49.6	-0.8
FSK	Fiskardo	0.05	50	P	Pg	19 07 48.5	-0.3
FSK				S	Sg	19 07 49.8	-0.7
	19μm,0.2s						
KEF5	Kardakata, Kep	0.16	194	P	Pg	19 07 50.4	+0.3
KEF5				S	Sg	19 07 53.3	+0.6
KEF5	Kardakata, Kep	0.16	194	P	Pg	19 07 50.4	+0.3
KEF5				S	Sg	19 07 53.0	+0.3
	14μm,0.5s						
KEF4	Livadi, Kephal	0.19	203	P	Pg	19 07 51.0	+0.5
KEF4				S	Sg	19 07 54.6	+1.2
KEF4	Livadi, Kephal	0.19	203	P	Pg	19 07 51.0	+0.5
DMLN	Damoulianata-K	0.22	211	P	Pg	19 07 51.5	+0.3
EVGI	Lefkada island	0.22	30	P	Pg	19 07 51.5	+0.3
EVGI				S	Sg	19 07 55.4	+1.0
EVGI	Lefkada island	0.22	30	P	Pg	19 07 51.5	+0.3
EVGI				S	Sg	19 07 55.4	+1.0
	3μm,0.2s						
ARG2	Argostoli	0.25	185	P	Pg	19 07 52.0	+0.3
ARG2				S	Sg	19 07 56.0	+0.8
KEF3	Kipouria, Keph	0.26	210	P	Pg	19 07 51.7	-0.1
KEF3				S	Sg	19 07 56.0	+0.4
KEF3	Kipouria, Keph	0.26	210	P	Pg	19 07 51.7	-0.1
NYDR	Nydri-Lefkada	0.32	27	P	Pg	19 07 53.1	+0.2
NYDR				S	Sg	19 07 58.5	+1.3
NYDR	Nydri-Lefkada	0.32	27	P	Pg	19 07 53.0	+0.1
NYDR				S	Sg	19 07 58.2	+1.0
	2μm,0.3s						
PSDA	Pessada-Kefalo	0.32	170	P	Pg	19 07 53.1	+0.2
PSDA				S	Sg	19 07 58.3	+1.1
PSDA	Pessada-Kefalo	0.32	170	P	Pg	19 07 53.0	+0.1
PSDA				S	Sg	19 07 58.2	+1.0
	775nm,0.2s						
LKD2	Lefkada island	0.38	17	P	Pg	19 07 54.3	+0.3
LKD2				S	Sg	19 08 00.1	+1.1
LKD2				AML	AML	19 08 01.9	
	comp=E,1256μm,0.4s						
LKD2				AML	AML	19 08 05.6	
	comp=N,1387μm,0.5s						
LKD2	Lefkada island	0.38	17	P	Pg	19 07 53.9	-0.1
LKD2				S	Sg	19 08 00.1	+1.1
	comp=N,682nm,0.4s						
TSLK	Tsoukalades, L	0.41	15	P	Pg	19 07 55.1	+0.5
TSLK	Tsoukalades, L	0.41	15	P	Pg	19 07 54.9	+0.3
TSLK				S	Sb	19 08 01.7	-0.1
	comp=N,842nm,0.4s						
PDO	Prodromos	0.55	72	P	Pg	19 07 57.2	0.0
PDO				AML	AML	19 08 10.3	
	comp=E,873μm,0.3s						
PDO				AML	AML	19 08 11.0	
	comp=N,1687μm,0.4s						
PDO	Prodromos	0.55	72	P	Pg	19 07 57.2	0.0
PDO				S	Sg	19 08 04.7	+0.2
	comp=N,892nm,0.4s						
VLMS	Volimes, Zakyn	0.56	168	P	Pg	19 07 57.5	0.0
VLMS				S	Sb	19 08 06.7	+0.5
VLMS				AML	AML	19 08 10.2	
	comp=N,3378μm,0.4s						
VLMS				AML	AML	19 08 10.5	
	comp=E,4321μm,0.4s						
VLMS	Volimes, Zakyn	0.56	168	P	Pg	19 07 57.4	0.0
VLMS				S	Sb	19 08 06.3	+0.1
	comp=E,2μm,0.4s						
LTHK	Lithakia	0.76	161	P	Pg	19 08 00.6	-0.6
LTHK				S	Sb	19 08 12.7	+0.9
LTHK	Lithakia	0.76	161	P	Pg	19 08 00.6	-0.6
LTHK				S	Sb	19 08 13.0	+1.2
	comp=E,580nm,0.2s						
RLS	Riolos of Patr	0.83	116	P	Pg	19 08 02.3	-0.3
RLS	Riolos of Patr	0.83	116	P	Pg	19 08 02.2	-0.3
RLS				S	Sb	19 08 15.1	+1.1
	comp=E,125nm,0.5s						
DRO	Drossia	1.05	116	P	Pb	19 08 06.1	-0.4
DRO	Drossia	1.05	116	P	Pb	19 08 06.2	-0.4
DRO				S	Sn	19 08 22.6	+1.0
	comp=E,325nm,0.2s						
EFP	Efpalio	1.09	90	P	Pb	19 08 06.3	-0.9
EFP				AML	AML	19 08 29.3	
	comp=E,366μm,0.4s						
EFP				AML	AML	19 08 30.4	
	comp=N,542μm,0.5s						
IGT	Igoumenitsa	1.11	353	P	Pb	19 08 07.5	-0.1
IGT	Igoumenitsa	1.11	353	P	Pb	19 08 08.0	+0.5
IGT				S	Sn	19 08 24.9	+1.9
	comp=N,135nm,0.6s						
ANX	Ano Chora	1.11	81	P	Pb	19 08 07.2	-0.4
ANX	Ano Chora	1.11	81	P	Pb	19 08 07.2	-0.4
EVR	Evrytania	1.12	64	P	Pb	19 08 07.3	-0.5
LAKA	Lakka	1.17	99	P	Pb	19 08 08.0	-0.5
SERG	Sergoula	1.21	90	P	Pn	19 08 08.7	-0.4
SERG	Sergoula	1.21	90	P	Pn	19 08 08.7	-0.4
TRIZ	Trizonia	1.22	92	P	Pn	19 08 08.9	-0.4
TRIZ	Trizonia	1.22	92	P	Pn	19 08 08.9	-0.4
KALE	Kalithea	1.28	91	P	Pn	19 08 09.7	-0.4
KALE	Kalithea	1.28	91	P	Pn	19 08 09.7	-0.4
KLV	Kalavryta, Ach	1.34	106	P	Pn	19 08 10.7	-0.3
KLV	Kalavryta, Ach	1.34	106	P	Pn	19 08 10.7	-0.3
KEK	Kerkira	1.40	337	P	Pn	19 08 12.4	+0.7
AGG	Agios Georgios	1.54	67	P	Pn	19 08 14.7	+1.0
ITM	Ithomi	1.67	138	P	Pb	19 08 17.4	+0.3
MAKA	Makarska	5.53	332	Sn	Sn	19 10 10.3	-1.6
HVAR	Hvar	5.66	328	*e*Pn	Pn	19 09 10.3	0.0
RICI	Ricice	5.67	334	Sn	Sn	19 10 12.7	-2.7
KIJV	Kijevo	6.37	332	*i* Pn	Pn	19 09 20.2	+0.1
ZIRJ	Zirje	6.39	326	*e*Pn	Pn	19 09 18.4	-1.8
ZIRJ				Sn	Sn	19 10 29.3	-3.7
MORI	Morici	6.53	328	*e*Pn	Pn	19 09 22.5	+0.3
DUGI	Dugi Otok	6.91	325	*e*Pn	Pn	19 09 27.3	-0.2

IDC 03 19:24:11.0±35.0, 17°.80S×178°.85W, h580km±67km, mb2.6/3, mb1 2.8/4, mb1mx2.6/38, mbtmp3.6/4, Error ellipse: s-maj=683.7km s-min=88.8km az=86.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.95	271	P	P	19 25 28.4	0.0
	0.8nm,0.3s,baz=92,slow=23,SNR=9.7						
STKA	Stephens Creek	38.31	241	P	P	19 30 43.1	-0.1
	1.2nm,0.9s,baz=79,slow=10,SNR=1.7						
WRA	Warramunga Arr	44.24	259	P	P	19 31 29.6	-0.5
	0.2nm,0.5s,baz=96,slow=7.1,SNR=8.4						
ASAR	Alice Springs	44.42	254	P	P	19 31 31.6	+0.1
	1.2nm,0.4s,baz=88,slow=8.3,SNR=42						

*IDC **03** 19:29:27.4±7.2, 52°.89N×171°.64W, h75km±65km, mb3.2/5, mb1 3.5/7, mb1mx3.2/47, mbtmp3.5/7, ML3.6/2, Error ellipse: s-maj=70.5km s-min=35.5km az=161.0*
*AEIC **03** 19:29:33±4.8, 52°.3N±0°.2×171°.2W±0°.1, h142km±6km, Error ellipse: s-maj=29.5km s-min=6.6km az=162.0*
*NEIC **03** 19:29:33.3±3.2, 52°.9N±0°.2×171°.5W±0°.1, h136km±9km, mb4.3/14, ML3.2/35(AEIC), Error ellipse: s-maj=28.3km s-min=6.2km az=164.0*
ISC 03 19:29:33.3±0.8, 53°.0N±0°.2×171°.55W±0°.06, h134km±9km, n61, σ1s.52/68, mb3.3/6, Fox Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.63	90	Sn	Sn	19 30 24.1	-1.7
NIKH	Nikolski High	1.63	90		Pn	19 30 02.8	-0.3
KOFP	Korovin Flat P	1.71	246		Pn	19 30 04.9	+0.8
KOFP					Sn	19 30 28.4	+0.8
KOKL	Mount Kliuchef	1.75	248		Pn	19 30 05.6	+1.1
KOWE	Korovin West	1.76	250		Pn	19 30 05.9	+1.2
ATKA	Atka Island	1.80	245		Pn	19 30 05.3	+0.2
ATKA					Sn	19 30 28.9	-0.5
OKSP	Okmok Steeple	1.98	81		Pn	19 30 07.5	+0.3
OKTU	Okmok Mt. Tuli	2.14	78		Pn	19 30 10.0	+0.7
OKTU					Sn	19 30 39.9	+3.1
OKER	Okmok East Rim	2.15	76		Pn	19 30 10.5	+1.1
MAPS	Pakushin South	2.87	72		Pn	19 30 19.2	+0.9
GSTR	Great Sitkin T	2.90	254	Pn	Pn	19 30 19.8	+1.0
MGOD	Makushin Gods	2.91	72		Pn	19 30 19.8	+0.9
GSMY	Great Sitkin M	2.92	253		Pn	19 30 19.9	+1.0
GSMY					Sn	19 30 55.4	+1.3
GSTD	Great Sitkin T	2.96	253		Pn	19 30 20.5	+0.9
GSTD					Sn	19 30 56.3	+1.0
MREP	Makushin Rep't	2.99	72		Pn	19 30 21.1	+1.2
MSW	Makushin Switc	2.99	70		Pn	19 30 20.9	+1.0
MNAT	Makushin Natee	3.04	71		Pn	19 30 21.4	+0.9
ADK	Adak	3.34	252		Sn	19 31 03.6	-0.2
ADK	Adak	3.34	252		Pn	19 30 25.2	+0.9
AKMO	Akutan Morgan	3.48	69		Pn	19 30 27.8	+1.6
AKMO					Sn	19 31 09.8	+2.7
LVA	Lava Point	3.49	68		Pn	19 30 27.7	+1.4
ZRO	Akutan Zero	3.50	70		Pn	19 30 28.1	+1.6
AKV	Akutan Volcano	3.52	69		Pn	19 30 28.1	+1.4
AKBBA	Akutan Broad B	3.53	70		Pn	19 30 27.4	+0.6
AHB	Akutan Harbor	3.60	70		Pn	19 30 29.4	+1.6
KIKV	Kanaga Island	3.62	254		Pn	19 30 29.7	+1.6
AKUT	Akutan	3.63	69	Pn	Pn	19 30 29.8	+1.7
WESP	Westdahl Peak	4.32	67		Pn	19 30 39.1	+1.7
BRPK	Brown Peak	4.91	67		Pn	19 30 46.5	+1.3
FALS	False Pass	5.15	66	Pn	Pn	19 30 50.1	+1.8
DT1	Dutton Round H	5.85	65		Pn	19 30 58.6	+0.9
AMKA	Amchitka	5.86	258	Pn	Pn	19 30 57.0	-0.8
SDPT	Sand Point	6.91	66	Pn	Pn	19 31 12.0	0.0
CNBA	Chernabura Isl	7.30	71	Pn	Pn	19 31 15.8	-1.3
CHGN	Chignik	8.30	61	Pn	Pn	19 31 30.3	-0.3
SII	Sitkinak Islan	10.64	64	Pn	Pn	19 32 00.9	-1.0
OHAK	Old Harbor	11.27	61	Pn	Pn	19 32 07.0	-3.2
KDAK	Kodiak Island	11.78	58	P	Pn	19 32 14.2	-2.7
	0.7nm,0.3s,baz=246,slow=18,SNR=16						
KDAK				S	Sn	19 34 20.5	-6.2
	0.2nm,0.3s,baz=186,slow=14,SNR=1.9						
CNPM	China Poot	13.01	52	Pn	Pn	19 32 32.1	-0.8
BRLK	Bradley Lake	13.26	51	Pn	Pn	19 32 35.9	-0.2
SEW	Seward	14.06	51	Pn	Pn	19 32 45.0	-1.3
KNK	Knik Glacier	15.01	47	Pn	Pn	19 32 58.2	-0.1
KNK				IAmb	IAmb	19 33 22.5	
	comp=Z,38nm,1.5s						
SML	Sawmill	15.23	45	Pn	Pn	19 33 00.9	-0.1
SML				IAmb	IAmb	19 33 16.0	
	comp=Z,31nm,1.4s						
TRF	Thorofare Moun	15.24	38	Pn	Pn	19 33 01.2	-0.1
TRF				IAmb	IAmb	19 33 29.4	
	comp=Z,17nm,1.5s						
FID	Port Fidalgo	15.67	50	Pn	Pn	19 33 04.4	-2.0
FID				IAmb	IAmb	19 33 15.2	
	comp=Z,32nm,1.2s						
SCM	Sheep Creek Mo	15.67	46	Pn	Pn	19 33 04.8	-1.7
SCM				IAmb	IAmb	19 33 23.4	
	comp=Z,14nm,1.3s						
EYAK	Cordova Ski Ar	15.95	52	Pn	Pn	19 33 08.5	-1.3
KLU	Klutina	16.17	48	Pn	Pn	19 33 12.4	-0.2
KLU				IAmb	IAmb	19 33 35.3	
	comp=Z,22nm,1.6s						
M24K	Tolsona, Glenn	16.28	46	P	P	19 33 15.3	+0.8
RAGM	Ragged Mountai	16.41	53	Pn	Pn	19 33 13.9	-1.7
N25K	Chitina, Valde	16.80	49		P	19 33 20.7	+0.4
N25K				IAmb	IAmb	19 33 21.9	
	comp=Z,19nm,1.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCB	Clear Creek Bu	16.81	37		Pn	19 33 22.1	+1.8
IL31		17.21	37		Pn	19 33 26.0	+0.8
ILAR	Eielson Array	17.21	37	P	P	19 33 25.6	+0.9
	comp=Z,0.1nm,0.3s,baz=225,slow=9.6,SNR=5.6						
INK	Inuvik	23.57	35	P	P	19 34 32.3	+1.2
YKA	Yellowknife Ar	30.83	49	P	P	19 35 36.5	+0.4
	comp=Z,0.1nm,0.3s,baz=275,slow=7.5,SNR=2.5						
NVAR	Mina Array Bea	38.99	90	P	P	19 36 47.1	+0.5
	comp=Z,0.4nm,0.8s,baz=295,slow=4.9,SNR=2.2						
PDAR	Pinedale Array	41.58	78	P	P	19 37 08.9	+1.1
	comp=Z,0.3nm,0.5s,baz=305,slow=2.7,SNR=5.7						
PV13	Radium Mtn., P	44.89	83	P	P	19 37 33.1	-1.4
PV13				IAmb	IAmb	19 37 42.2	
	comp=Z,5.7nm,0.8s						
TXAR	Lajitas Array	54.05	88	P	P	19 38 44.3	+0.4
	comp=Z,0.3nm,0.6s,baz=312,slow=4.7,SNR=5.3						
ASAR	Alice Springs	89.80	228	P	P	19 42 16.3	-0.1
	comp=Z,0.3nm,0.7s,baz=20,slow=5.0,SNR=5.5						

IDC 03 19:40:29.7±2.1, 18°.89S×179°.13W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=54.9km s-min=39.0km az=125.0

NEIC 03 19:41:08.5±2.2, 19°.9S±0°.2×179°.2W±0°.2, h372km±15km, mb4.1/10, Error ellipse: s-maj=32.7km s-min=16.2km az=134.0

ISC 03 19:41:06.7±1.2, 19°.9S±0°.2×179°.2W±0°.2, h350km, n15, σ0s.96/14, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.55	258	P	P	19 44 05.2	-0.4
URZ	Urewera	18.53	189	P	P	19 44 59.4	+0.3
	0.6nm,0.3s,baz=99,slow=8.5,SNR=1.6						
URZ	Urewera	18.53	189	IAmb	IAmb	19 44 60.0	
	comp=Z,32nm,1.4s						
KNTN	Kanton	18.57	24	P	P	19 44 58.8	-1.0
KNTN				IAmb	IAmb	19 45 11.3	
	comp=Z,126nm,1.6s						
HNR	Honiara	22.67	294	P	P	19 45 39.6	+0.5
JOHN	Johnston Islan	37.67	15	P	P	19 47 51.3	+1.6
WR0	Warramunga Arr	43.35	262	P	P	19 48 36.7	+0.8
WR0				IAmb	IAmb	19 48 40.8	
	comp=Z,7.8nm,1.3s						
WB0	Warramunga Arr	43.52	262	P	P	19 48 37.4	+0.2
WB0				IAmb	IAmb	19 48 38.7	
	comp=Z,5.2nm,1.4s						
AS31	Alice Springs	43.53	256	P	P	19 48 35.9	-1.4
WB2	Warramunga Arr	43.53	262	P	P	19 48 37.8	+0.4
WB2				IAmb	IAmb	19 48 42.8	
	comp=Z,6.1nm,1.4s						
ASAR	Alice Springs	43.53	256	P	P	19 48 38.1	+0.8
	comp=Z,0.5nm,0.4s,baz=86,slow=8.3,SNR=14						
WRAB	Tennant Creek	43.53	262	P	P	19 48 37.0	-0.3
WRA	Warramunga Arr	43.54	262	P	P	19 48 37.5	+0.1
	comp=Z,0.3nm,0.3s,baz=98,slow=7.6,SNR=11						
FITZ	Fitzroy Crossi	51.96	262	P	P	19 49 40.2	-1.2
FITZ				IAmb	IAmb	19 49 41.0	
	comp=Z,11nm,1.6s						
ILAR	Eielson Array	88.03	13	P	P	19 53 16.4	-1.0
	comp=Z,0.2nm,0.8s,baz=210,slow=7.0,SNR=1.7						

ISK 03 19:42:10.9, 35°.77N×32°.42E, h26km, ML2.6/10

NIC 03 19:42:13.5±0.0, 35°.65N×32°.53E, h25km±2km, Ml2.4/4

GII 03 19:42:13.1±0.0, 35°.85N×32°.51E, h20km

DDA 03 19:42:19.0, 36°.38N×32°.30E, h7km±3km, ML1.7

ISC 03 19:42:09.7±1.1, 35°.86N±0°.02×32°.41E±0°.03, h13km±9km, n35, σ1s.93/53, 3C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.39	349	PG	Pn	19 42 21.4	+0.4
GAZI				SG	Sb	19 42 28.6	+4.3
GAZI	Gazipasa	0.39	349	i P	Pn	19 42 21.8	+0.8
GAZI				i S	Sb	19 42 25.3	+1.0
GAZI				IAML		19 42 29.0	
	comp=N,209nm,0.7s						
TEKE	Tekeli-Mersin	0.64	63	PG	Pn	19 42 25.4	+0.9
TEKE				SG	Sn	19 42 34.8	+0.3
ALFC	Alefka	0.72	167	⇑P	Pg	19 42 24.2	+0.6
ALFC				S	Sg	19 42 32.2	-0.8
ALFC				AML	AML	19 42 32.8	
	comp=N,2.6nm,0.2s						
ALFC				AML	AML	19 42 32.8	
	comp=N,2.6nm,0.2s						
ALFC				AML	AML	19 42 33.2	
	comp=N,2.8nm,0.2s						
ALFC				AML	AML	19 42 33.2	
	comp=N,2.8nm,0.2s						
ALAN	Alanya-ANTALYA	0.76	337	PG	Pn	19 42 27.4	+1.3
BERE	Bereket-Mersin	0.82	53	PG	Pn	19 42 28.6	+1.5
LEF	Lefka	0.83	152	PG	Pg	19 42 26.0	+0.2
AKMS	Akamas	0.84	184	P	Pg	19 42 26.6	+0.7
AKMS				AML	AML	19 42 35.7	
	comp=N,0.6nm,0.1s						
AKMS				AML	AML	19 42 35.7	
	comp=N,0.6nm,0.1s						
AKMS				S	Sg	19 42 36.3	-0.5
AKMS				AML	AML	19 42 36.4	
	comp=N,0.5nm,0.1s						
AKMS				AML	AML	19 42 36.4	
	comp=N,0.5nm,0.1s						
ERMK	Ermenek	0.89	27	i P	Pn	19 42 29.9	+1.9
ERMK				i S	Sb	19 42 38.2	-0.6
ERMK				IAML		19 42 49.0	
	comp=E,36nm,0.3s						
ERMK				IAML		19 42 52.0	
	comp=N,38nm,0.4s						
AKKU	Akkuyu-Mersin	0.98	72	PG	Pn	19 42 29.8	+0.7
AKKU				SG	Sn	19 42 43.2	+0.4
GULN	MERSIN_Gulnar	0.98	70	i P	Pn	19 42 30.6	+1.5
GULN				i S	Sg	19 42 38.7	-2.7
TEVE	Tevekalti-Mers	1.02	55	PG	Pn	19 42 30.6	+0.9
ATHAL	Athalassa	1.08	131	S	Sg	19 42 43.3	-1.1
NATA	Nata	1.08	173	P	Pb	19 42 30.2	0.0
NATA				AML	AML	19 42 45.4	
	comp=N,0.5nm,0.7s						
NATA				AML	AML	19 42 49.7	
	comp=N,0.6nm,0.5s						
SZAC	Souni	1.17	160	⇓P	Pb	19 42 31.5	-0.2
SZAC				AML	AML	19 42 54.3	
	comp=N,0.2nm,0.2s						
SZAC				AML	AML	19 42 54.9	
	comp=N,0.4nm,0.3s						
CSS	Mathiatis	1.17	139	PN	Pb	19 42 30.5	-1.2
CSS	Mathiatis	1.17	139	Pg	Pb	19 42 30.5	-1.2
CSS	Mathiatis	1.17	139	⇑P	Pb	19 42 30.5	-1.2
KEBE	Keben-Mersin	1.21	60	PN	Pn	19 42 33.3	+0.9
KEPZ	Antalya-Kepez	1.23	328	i P	Pn	19 42 34.4	+1.8
KEPZ				i S	Sb	19 42 45.0	-3.5
ASGA	Asgata	1.27	147	P	Pn	19 42 32.4	-0.7
ASGA				S	Sb	19 42 46.7	-3.0
MVOU	Mavrovouni	1.31	130	⇑P	Pn	19 42 32.6	-1.0
KKBE	Karaman, Kazim	1.43	17	i P	Pg	19 42 39.6	+2.5
KKBE				i S	Sb	19 42 51.9	-2.4
KKBE				IAML		19 43 00.0	
	comp=E,17nm,0.5s						
KIZK	Mersin	1.54	66	PN	Pb	19 42 37.9	-0.1
SEDI	Konya, Seydise	1.68	342	i P	Pg	19 42 42.7	+0.8
SEDI				i S	Sn	19 42 57.3	-2.9
SEDI				IAML		19 43 07.0	
	comp=N,23nm,0.5s						
SEDI				IAML		19 43 07.0	
	comp=E,14nm,0.5s						
AKUM	Antalya-Kumluc	1.73	286	i P	Pn	19 42 42.3	+2.8
AKUM				i S	Sn	19 42 58.8	-2.7
KMER	Konya-Meram	1.91	359	i P	Pg	19 42 46.8	+0.5
KMER				i S	Sn	19 43 01.5	-4.5
KMER				IAML		19 43 13.0	
	comp=E,15nm,0.6s						
KMER				IAML		19 43 17.0	
	comp=N,12nm,0.4s						
MMC7	Mount Meron ar	3.75	138	Pn	Pn	19 43 09.8	+2.5
MMA0B	Mount Meron ar	3.76	138	Pn	Pn	19 43 10.0	+2.5
MMA0B				Sn	Sn	19 43 52.6	+0.9
GEM	Giv'at Ha'Em	3.77	134	Pn	Pn	19 43 09.2	+1.7
GEM				Sn	Sn	19 43 52.1	+0.4
NATI	Neve Ativ	3.77	132	Pn	Pn	19 43 10.0	+2.5
NATI				Sn	Sn	19 43 52.6	+0.8
OFRI	`Ofer	3.87	146	Pn	Pn	19 43 10.8	+1.9
KSHT	Keshet	4.02	135	Pn	Pn	19 43 13.8	+2.8
MMLI	Mount Malkishu	4.23	143	Pn	Pn	19 43 16.5	+2.7
HMDT	Nahal Hemdat	4.43	143	Pn	Pn	19 43 19.1	+2.5
HMDT				Sn	Sn	19 44 09.6	+1.6

TRN 03 20:00:57.7, 13°.56N×61°.01W, h120km, MD3.5, 2C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCLT	Moule a Chique	0.17	24	⇓iP	Pn	20 01 14.5	+0.3
MCLT				eS	Sn	20 01 27.0	+0.3
SFAN	Fancy Village	0.23	223	eP	Pn	20 01 15.7	+1.3
SLDE	Delcer	0.25	349	eP	Pn	20 01 16.0	+1.5
SLDE				eS	Sn	20 01 29.3	+2.3
SLB	Belfond	0.27	354	eP	Pn	20 01 16.4	+1.8
SLB				eS	Sn	20 01 28.8	+1.5
SVV	Soufriere Volc	0.31	220	eP	Pn	20 01 16.6	+2.0
SVV				eS	Sn	20 01 29.6	+2.2
SLPA	Patience	0.31	17	eP	Pn	20 01 16.1	+1.5
SLPA				eS	Sn	20 01 28.6	+1.1
SVB	Belmont	0.37	220	⇓iP	Pn	20 01 15.8	+0.9
SVB				eS	Sn	20 01 28.5	+0.6
SVOC	Richmond Hill,	0.45	207	eP	Pn	20 01 16.4	+1.1
SVOC				eS	Sn	20 01 28.9	+0.4
SLCP	Castries, St.	0.45	3	eP	Pn	20 01 16.3	+1.0
SLCP				eS	Sn	20 01 29.7	+1.1
SLBI	Saint Lucia, B	0.47	4	eP	Pn	20 01 16.3	+0.9
SLBI				eS	Sn	20 01 29.8	+1.0
SLW	Petit Monier	0.47	9	eP	Pn	20 01 17.3	+1.9
SLW				eS	Sn	20 01 30.9	+2.1
MPOM	Morne Pois Mar	0.90	9	⇑iP	Pn	20 01 19.2	+0.5
MPOM				eS	Sn	20 01 34.8	+0.2
BIM	Bigot	0.96	356	⇑iP	Pn	20 01 20.2	+0.9
BIM				eS	Sn	20 01 36.3	+0.6
TRMF	Trois Ilets	0.98	358	eP	Pn	20 01 20.2	+0.7
MVM	Montagne Vaucl	1.00	6	eP	Pn	20 01 20.5	+0.8
ZAM	Aeronautique	1.01	359	eP	Pn	20 01 20.6	+0.9
LPMF	Morne Lapointe	1.01	2	eP	Pn	20 01 20.5	+0.7
GCMP	Grenada, Carri	1.14	201	eP	Pn	20 01 22.1	+1.0
GCMP				eS	Sn	20 01 39.1	+0.3
FDF	Fort de France	1.18	353	eP	Pn	20 01 22.6	+1.0
FDF				eS	Sn	20 01 40.5	+0.8
ILAM	Ilet Lapin Mar	1.22	6	eP	Pn	20 01 22.5	+0.6
ILAM				eS	Sn	20 01 40.6	+0.3
PML	Morne Lenard	1.23	352	eP	Pn	20 01 23.1	+1.0
GBMF	Grand Be	1.24	353	eP	Pn	20 01 24.0	+1.7
CXM	Morne La Croix	1.26	353	eP	Pn	20 01 24.4	+1.9
BAMF	Morne Balai	1.26	354	eP	Pn	20 01 24.1	+1.6
PCM	Pelee Case Pet	1.27	351	eP	Pn	20 01 23.4	+0.9
SVN	Savane Anatole	1.29	353	eP	Pn	20 01 24.0	+1.2
BCHC	Barbados, Cave	1.41	107	eP	Pn	20 01 24.2	+0.2
BCHC				eS	Sn	20 01 46.7	+2.7
BBGH	Gun Hill	1.47	106	eP	Pn	20 01 25.9	+1.1
BBGH				eS	Sn	20 01 46.9	+1.5
GRGR	Grenville	1.55	204	eP	Pn	20 01 26.6	+0.9
GRGR				eS	Sn	20 01 47.7	+0.7
BBSP	Saint Philip	1.58	106	eS	Sn	20 01 47.5	0.0
DSLB	Salisbury	1.91	348	eP	Pn	20 01 31.3	+1.2
DSLB				eS	Sn	20 01 55.6	+0.7
TDBA	Terre de Bas,	2.36	345	eP	Pn	20 01 37.9	+2.2
TDBA	Terre de Bas,	2.36	345	e	Pn	20 01 38.8	+3.1
TBG	Guadaloupe-3	2.37	345	eP	Pn	20 01 37.7	+2.0
MAGL	Barre de l'ile	2.40	354	eP	Pn	20 01 36.8	+0.7
MAGL				eS	Sn	20 02 06.0	+0.4
CBE	Ff, Capester	2.57	347	eP	Pn	20 01 40.0	+1.6
CBE				eS	Sn	20 02 09.8	+0.2
TRN	Trinidad (W)	2.92	188	eP	Pn	20 01 44.4	+1.5
TRN				eS	Sn	20 02 17.1	-0.5
ABD	La Joyeuse, An	2.94	351	eP	Pn	20 01 43.9	+0.8
ANBD	Bethesda, Anti	3.55	348	eP	Pn	20 01 51.9	+0.7
ANBD				eS	Sn	20 02 32.2	-0.4
BPA	Boggy Peak	3.57	347	eP	Pn	20 01 52.0	+0.6
BPA				eS	Sn	20 02 32.7	-0.4
ANWB	Willy Bob	4.16	350	eP	Pn	20 01 59.8	+0.5
BAUV	El Baul	8.28	237	eP	Pn	20 02 58.6	+3.6

IDC 03 20:02:03.0±1.6, 1°.85S×139°.48E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/41, mbtmp3.3/3, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/19, Error ellipse: s-maj=33.4km s-min=22.0km az=34.0

DJA 03 20:02:05.5±0.6, 2°S±6°×13°9E±°, h10km, M4.0/5, mb4.2/1, MLv3.9/5

ISC 03 20:02:07.0±1.2, 1°.85S±0°.09×139°.51E±0°.05, h27km, n12, σ0s.88/14, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	0.98	138	P	Pn	20 02 24.9	-0.2
GENI				S	Sn	20 02 38.3	+0.2
JAY	Jayapura	1.36	119	Pn	Pn	20 02 30.8	+0.5
	31nm,0.3s,baz=232,slow=12,SNR=108						
JAY				Sn	Sn	20 02 47.9	+0.3
	43nm,0.3s,baz=127,slow=16,SNR=11						
JAY	Jayapura	1.36	119	P	Pn	20 02 30.7	+0.5
JAY				S	Sb	20 02 49.9	+1.0
WAMI	Wamena	2.17	202	P	Pb	20 02 44.6	-1.0
WAMI				S	Sb	20 03 13.7	+1.6
SRPI	Serui, Papua	3.27	270	P	Pn	20 02 57.0	+0.5
SRPI				S	Sn	20 03 35.7	+1.1
FAKI	Fak Fak	7.33	262	P	Pn	20 03 52.2	-0.2
WRA	Warramunga Arr	18.68	195	P	P	20 06 21.9	-1.3
	0.1nm,0.3s,baz=19,slow=12,SNR=5.7						
ASAR	Alice Springs	22.35	194	P	P	20 07 03.2	+0.1
	0.4nm,0.5s,baz=26,slow=11,SNR=11						
ASAR				LR	LR	20 15 34.3	
	comp=Z,80nm,20.0s,baz=79,slow=36						
H11S3	WAKE ISLAND Hy	33.52	52	T	T	20 44 20.9	
	baz=236,slow=75,SNR=8.0						
H11S2	WAKE ISLAND Hy	33.53	52	T	T	20 44 22.1	
	baz=236,slow=75,SNR=5.4						
H11S1	WAKE ISLAND Hy	33.54	52	T	T	20 44 24.8	
	baz=236,slow=75,SNR=4.1						
MKAR	Makanchi Array	69.61	322	P	P	20 13 13.7	-0.3
	0.4nm,0.7s,baz=108,slow=7.0,SNR=4.3						

IDC 03 20:12:12.8±1.1, 29°.98S×178°.42W, h158km±12km, mb3.1/3, mb1 3.3/4, mb1mx3.2/23, mbtmp3.6/4, Error ellipse: s-maj=34.7km s-min=21.8km az=101.0

ISC 03 20:12:09.2±2.3, 30°.1S±0°.1×177°.5W±0°.4, h200km, n6, σ2s.99/8, mb3.1/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.94	336	P	Pn	20 12 38.1	-0.5
	85nm,0.3s,baz=217,slow=23,SNR=6.9						
RAO				S	Sn	20 12 56.4	-4.9
	304nm,0.3s,baz=108,slow=23,SNR=8.5						
URZ	Urewera	9.28	207	P	Pn	20 14 19.0	0.0
	0.1nm,0.3s,baz=200,slow=15,SNR=1.4						
URZ				S	Sn	20 15 59.8	-3.1
	1.8nm,0.3s,baz=254,slow=20,SNR=10						
STKA	Stephens Creek	34.98	256	P	P	20 18 45.1	+2.6
	0.6nm,0.4s,baz=81,slow=13,SNR=1.8						
ASAR	Alice Springs	43.58	266	P	P	20 19 54.8	+1.1
	0.3nm,0.5s,baz=101,slow=7.1,SNR=7.5						
WRA	Warramunga Arr	44.54	272	P	P	20 20 02.1	+0.7
	0.2nm,0.4s,baz=108,slow=8.0,SNR=6.8						
FINES	FINESS Array B	145.03	340	PKP	PKiKP	20 31 27.3	+1.6
	3.1nm,1.1s,baz=14,slow=3.9,SNR=4.0						

SOME 03 20:26:39.5, 41°.07N×72°.48E, h15km

KRNET 03 20:26:39.5±0.1, 41°.06N×72°.45E, h18km, mb3.1

NNC 03 20:26:40.2±0.8, 41°.09N×72°.50E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=7.7km s-min=3.1km az=0.0

ISU 03 20:26:41, 41°.00N×72°.20E, h5km

ISC 03 20:26:40.8±0.7, 41°.08N±0°.02×72°.39E±0°.02, h10km, n69, σ1s.68/111, 21C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.51	62	⇓iP	Pg	20 26 48.9	-1.8
	baz=56						
ARSB				⇓iS	Sg	20 26 55.8	-1.6
	baz=56						
FRG	Fergana	0.58	233	eP	Pn	20 26 58.0	+2.8
FRG				eS	Sn	20 27 08.0	+3.3
OHH	Osh	0.63	152	⇑iP	Pg	20 26 50.8	-2.3
	baz=54						
OHH				⇑iS	Sg	20 26 58.8	-2.7
	baz=54						
TRKS	Terek-Say	1.04	296	⇑iP	Pg	20 26 59.0	-1.9
	baz=93						
TRKS				⇑iS	Sg	20 27 13.2	-1.3
	baz=93						
MNAS	Manas	1.40	3	⇓iP	Pn	20 27 05.7	-1.0
	baz=2.0						
MNAS				⇓iS	Sb	20 27 25.1	-0.2
	baz=2.0						
AML	Almayashu	1.43	43	⇑iP	Pn	20 27 06.0	-1.2
	baz=41						
AML				⇑iS	Sb	20 27 24.7	-1.6
	baz=41						
AML	Almayashu	1.43	43	P	Pn	20 27 06.1	-1.2
	SNR=98						
BTK	Batken	1.58	230	⇑iP	Pn	20 27 08.7	-0.3
	baz=32						
BTK				⇑iS	Sg	20 27 30.5	-1.1
	baz=32						
BTK	Batken	1.58	230	eP	Pn	20 27 08.0	-1.0
BTK				eS	Sg	20 27 31.0	-0.6
BTK				eS	Sb	20 27 33.0	+2.8
ARLS	Aral	1.65	61	⇑iP	Pn	20 27 09.3	-0.7
	baz=60						
ARLS				⇑iS	Sn	20 27 30.7	-0.6
	baz=60						
DRK	Karamyk	1.67	196	⇑iP	Pn	20 27 09.8	-0.6
	baz=98						
DRK				⇑iS	Sb	20 27 31.7	-1.2
	baz=98						
MRKS	Merke	1.77	20	eP	Pb	20 27 12.7	-0.8
	25nm,0.2s						
MRKS				eS	Sg	20 27 36.7	-1.1
	89nm,0.3s						
MRKS	Merke	1.77	20	P	Pb	20 27 12.7	-0.8
	25nm,0.2s						
MRKS				S	Sg	20 27 36.7	-1.1
	89nm,0.3s						
CHMG	Chimgan	1.85	285	eP	Pb	20 27 15.0	+0.1
CHMG				eS	Sg	20 27 39.0	-1.4
EKS2	Erkin-Say	1.89	33	⇑eP	Pn	20 27 13.8	+0.6
	baz=31						
EKS2				⇑iS	Sb	20 27 38.4	-0.7
	baz=31						
EKS2	Erkin-Say	1.89	33	P	Pn	20 27 13.8	+0.6
	SNR=27						
CHRV	Charvak	1.92	288	eP	Pb	20 27 15.0	-1.0
CHRV				eS	Sg	20 27 42.0	-0.5
UCH	Uchtor	1.96	54	⇑iP	Pn	20 27 14.5	0.0
	baz=52						
UCH				⇑iS	Sb	20 27 40.2	-1.3
	baz=52						
UCH	Uchtor	1.96	54	P	Pn	20 27 14.6	+0.1
	SNR=54						
DZA	Taraz	1.97	337	eP	Pb	20 27 16.9	+0.1
	39nm,0.1s						
DZA				eS	Sg	20 27 43.9	-0.3
	192nm,0.2s						
DZA	Taraz	1.97	337	Pg	Pb	20 27 16.9	+0.1
	39nm,0.1s						
DZA				Lg	Lg	20 27 43.9	
	192nm,0.2s						
IUG	Iuzhnay	2.06	302	eP	Pb	20 27 18.4	-0.1
	48nm,0.2s						
IUG				eS	Sg	20 27 46.6	-0.6
	237nm,0.3s						
IUG	Iuzhnay	2.06	302	Pg	Pb	20 27 18.4	-0.1
	48nm,0.2s						
IUG				Lg	Lg	20 27 46.6	
	237nm,0.3s						
AAK	Ala-Archa	2.21	45	⇓eP	Pn	20 27 17.9	+0.2
	baz=43						
AAK				⇓iS	Sn	20 27 46.0	+0.9
	baz=43						
AAK	Ala-Archa	2.21	45	P	Pn	20 27 18.4	+0.7
	SNR=17						
AAK	Ala-Archa	2.21	45	⇓Pn	Pn	20 27 18.0	+0.2
	5.4nm,0.4s						
AAK				⇓Lg	Lg	20 27 47.7	
	13nm,0.3s						
TAS	Tashkent	2.35	277	⇓eP	Pn	20 27 20.4	+0.9
	baz=78						
TAS				⇓iS	Sb	20 27 50.3	-2.0
	baz=78						
TAS	Tashkent	2.35	277	eS	Sg	20 27 56.0	-0.3
FRU1	Bishkek	2.40	43	⇑iP	Pn	20 27 20.7	+0.4
	baz=42						
FRU1				⇑iS	Sn	20 27 50.4	+0.6
	baz=42						
CHM	Chimkent	2.43	301	eP	Pg	20 27 25.9	-1.5
	4.0nm,0.3s						
CHM				eS	Sg	20 27 58.8	0.0
	218nm,0.3s						
KK31	Karatay Array	2.46	326	Pn	Pn	20 27 21.6	+0.6
	0.7nm,0.2s,baz=129,slow=13,SNR=146						
KK31				⇑Pg	Pb	20 27 24.7	-0.4
	6.5nm,0.5s,baz=133,slow=15,SNR=15						
KK31				⇑Lg	Lg	20 27 58.8	
	5.1nm,0.2s,baz=132,slow=28,SNR=5.9						
KBK	Karagaybulak	2.47	50	⇓eP	Pn	20 27 22.0	+0.7
	baz=49						
KBK				⇓iS	Sn	20 27 52.3	+0.6
	baz=49						
KBK	Karagaybulak	2.47	50	P	Pn	20 27 22.3	+0.9
	SNR=14						
CHMS	Chumysh	2.60	42	P	Pn	20 27 23.8	+0.8
	SNR=6.3						
USP	Ospenovka	2.69	35	⇓eP	Pn	20 27 24.3	+0.1
	baz=34						
USP				⇓eS	Sn	20 27 57.1	+0.3
	baz=34						
USP	Ospenovka	2.69	35	P	Pn	20 27 24.6	+0.4
	SNR=38						
BRLS	Borolday	2.72	316	eP	Pb	20 27 29.0	-0.6
	20nm,0.3s						
BRLS				eS	Sb	20 28 04.6	+1.6
	64nm,0.3s						
BRLS	Borolday	2.72	316	Pg	Pb	20 27 29.0	-0.6
	20nm,0.3s						
BRLS				Lg	Lg	20 28 04.6	
	64nm,0.3s						
TKM2	Tokmak 2	3.01	51	P	Pn	20 27 29.3	+0.5
	SNR=7.5						
TKM2	Tokmak 2	3.01	51	⇓Pn	Pn	20 27 29.1	+0.3
	3.2nm,0.6s						
TKM2				⇓Lg	Lg	20 28 12.7	
	15nm,0.6s						
KST	Kastek	3.30	52	eP	Pb	20 27 38.8	-0.7
	3.8nm,0.3s						
KST				eS	Sb	20 28 21.3	+1.4
	22nm,0.4s						
KST	Kastek	3.30	52	Pg	Pb	20 27 38.8	-0.7
	3.8nm,0.3s						
KST				Lg	Lg	20 28 21.3	
	22nm,0.4s						
DGS	Degeres	3.31	48	eP	Pb	20 27 39.0	-0.7
	2.9nm,0.5s						
DGS				eS	Sb	20 28 21.8	+1.7
	16nm,0.7s						
DGS	Degeres	3.31	48	Pg	Pb	20 27 39.0	-0.7
	2.9nm,0.5s						
DGS				Lg	Lg	20 28 21.7	
	16nm,0.7s						
KRBS	Karabastau	3.57	42	eP	Pb	20 27 43.4	-0.6
	2.0nm,0.3s						
KRBS				eS	Sb	20 28 29.2	+1.8
	8.6nm,0.4s						
KRBS	Karabastau	3.57	42	Pg	Pb	20 27 43.4	-0.6
	2.0nm,0.3s						
KRBS				Lg	Lg	20 28 29.2	
	8.6nm,0.4s						
MTBS	Maitube	3.63	54	eP	Pb	20 27 45.2	0.0
	1.6nm,0.3s						
MTBS				eS	Sb	20 28 32.1	+2.8
	8.3nm,0.3s						
MTBS	Maitube	3.63	54	Pg	Pb	20 27 45.2	0.0
	1.6nm,0.3s						
MTBS				Lg	Lg	20 28 32.1	
	8.3nm,0.3s						
IZV	Izvestkoviy	3.70	57	eP	Pb	20 27 45.9	-0.4
	1.2nm,0.2s						
IZV				eS	Sb	20 28 33.3	+2.0
	12nm,0.5s						
IZV	Izvestkoviy	3.70	57	Pg	Pb	20 27 45.5	-0.9
	1.2nm,0.2s						
IZV				Lg	Lg	20 28 33.3	
	12nm,0.5s						
TNSS	Tian-Shan	3.91	59	eP	Pb	20 27 50.1	-0.1

	2.1nm,0.3s						
TNSS				eS	Sb	20 28 40.6	+2.9
	6.3nm,0.5s						
TNSS	Tian-Shan	3.91	59	Pg	Pb	20 27 50.2	+0.1
	2.1nm,0.3s						
TNSS				Lg	Lg	20 28 40.6	
	6.3nm,0.5s						
MDOK	Medeo	4.04	58	eP	Pb	20 27 51.8	-0.3
	8.6nm,0.5s						
MDOK				eS	Sb	20 28 43.3	+2.2
	7.3nm,0.6s						
MDOK	Medeo	4.04	58	Pn	Pn	20 27 43.1	+0.2
	0.9nm,0.4s						
MDOK				⇑Pg	Pb	20 27 54.1	+1.9
	8.2nm,0.7s						
MDOK				Lg	Lg	20 28 47.6	
	5.6nm,0.5s						
KUU	Kurty	4.05	45	eP	Pb	20 27 52.5	+0.2
	1.1nm,0.3s						
KUU				eS	Sb	20 28 44.6	+3.4
	6.5nm,0.4s						
KUU	Kurty	4.05	45	Pg	Pb	20 27 52.5	+0.2
	1.1nm,0.3s						
KUU				Lg	Lg	20 28 44.6	
	6.5nm,0.4s						
KOTS	Kotyrbulak	4.11	57	eP	Pb	20 27 54.0	+0.5
	4.4nm,0.4s						
KOTS				eS	Sb	20 28 47.3	+4.1
	21nm,0.4s						
KOTS	Kotyrbulak	4.11	57	Pg	Pb	20 27 54.0	+0.5
	4.4nm,0.4s						
KOTS				Lg	Lg	20 28 47.3	
	21nm,0.4s						
KTBS	Karatobe	4.12	49	eP	Pb	20 27 53.7	+0.2
	1.5nm,0.4s						
KTBS				eS	Sb	20 28 46.7	+3.4
	12nm,0.6s						
KTBS	Karatobe	4.12	49	Pg	Pb	20 27 53.7	+0.2
	1.5nm,0.4s						
KTBS				Lg	Lg	20 28 46.7	
	12nm,0.6s						
BTLS	Baital	4.14	16	eP	Pb	20 27 56.4	+2.7
	1.5nm,0.4s						
BTLS				eS	Sg	20 28 52.2	-1.4
	9.9nm,0.7s						
BTLS	Baital	4.14	16	Pg	Pb	20 27 56.4	+2.7
	1.5nm,0.4s						
BTLS				Lg	Lg	20 28 52.2	
	9.9nm,0.7s						
CHKK	Chushkaly	4.38	49	eP	Pb	20 27 59.2	+1.3
	0.9nm,0.1s						
CHKK				eS	Sg	20 28 55.9	-5.6
	8.2nm,0.6s						
CHKK	Chushkaly	4.38	49	Pg	Pb	20 27 59.2	+1.3
	0.9nm,0.1s						
CHKK				Lg	Lg	20 28 55.9	
	8.2nm,0.6s						
SATY	Saty	4.89	64	eP	Pb	20 28 07.8	+1.2
	2.0nm,0.6s						
SATY				eS	Sb	20 29 10.8	+5.2
	6.5nm,0.3s						
SATY	Saty	4.89	64	Pg	Pb	20 28 07.9	+1.2
	2.0nm,0.6s						
SATY				Lg	Lg	20 29 10.8	
	6.5nm,0.3s						
UZB	Uzynbulak	5.34	65	eP	Pb	20 28 16.0	+1.6
	2.9nm,0.4s						
UZB				eS	Sb	20 29 24.8	+6.2
	5.7nm,0.4s						
UZB	Uzynbulak	5.34	65	Pg	Pb	20 28 16.0	+1.6
	2.9nm,0.4s						
UZB				Lg	Lg	20 29 24.8	
	5.7nm,0.4s						
PDGK	Podgornoye	5.73	65	⇓Pg	Pb	20 28 24.2	+3.3
	1.6nm,0.8s						
PDGK				⇓Lg	Lg	20 29 40.1	
	9.6nm,1.0s						

*INET **03** 20:29:28.3, 8°.82N×84°.23W, h6km, ML2.4, MW3.1*

UCR 03 20:29:30.6±1.5**, 8°.84N×84°.06W, h6km, MD3.6, MW3.9, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RIOS	Rincon, Osa	0.56	105	eP	Pg	20 29 41.8	+0.4
RIOS				eS	Sb	20 29 53.0	+1.8
PEZE	Perez Zeledon,	0.66	35	eP	Pg	20 29 43.6	+0.3
PEZE				eS	Sb	20 29 54.6	+0.5
CDM	Cerro de Muert	0.77	23	eP	Pg	20 29 45.1	-0.3
CDM				eS	Sb	20 29 57.4	-0.1
PIRO	Carate, Puerto	0.84	121	eP	Pg	20 29 46.3	-0.5
PIRO				eS	Sb	20 29 60.0	+0.8
LCR2	La Lucha 2	0.90	4	eP	Pg	20 29 46.8	-1.0
LCR2				eS	Sb	20 30 00.7	-0.3
DRK0	Durika	0.91	63	eP	Pg	20 29 47.5	-0.6
RIMA	Rio Macho	0.94	12	eP	Pg	20 29 47.6	-1.1
RIMA				eS	Sb	20 30 02.7	+0.4
JACO	JACO, Garabito	1.00	324	eP	Pg	20 29 49.6	-0.3
HDC	Heredia	1.15	358	eP	Pg	20 29 51.3	-1.4
HDC				eS	Sb	20 30 08.6	+0.3
CVTR	Volcan Turrial	1.21	14	eP	Pg	20 29 52.6	-1.2
CVTR				eS	Sb	20 30 10.3	+0.1
BRU2	Volcan	1.36	92	eP	Pn	20 29 55.2	-1.1
ARE1	Arenal 1	1.73	338	eP	Pn	20 30 01.1	-0.3
COVE	Coope Vega, Sa	1.89	350	eP	Pn	20 30 03.9	+0.3
CUI	Cuipilapa	2.10	329	eP	Pn	20 30 07.3	+0.8

KRSC 03 20:33:35.1±1.7**, 49°.26N×156°.44E, h7km**±33km**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.44	352	P	Pn	20 34 01.4	-0.2
SKR				eS	Sb	20 34 20.3	-0.5
PAU	Pauzhetka	2.22	6	eS	Sb	20 34 42.0	-1.3
KDTR	Khodutka, Kamc	2.76	22	eS	Sb	20 34 57.1	-1.6
MTVR	Mutnovka	3.41	18	eS	Sb	20 35 14.8	-2.9
RUS	Russkaya	3.44	22	eS	Sn	20 35 13.5	+3.4
GRL	Gorelyy	3.45	17	eP	Pn	20 34 32.0	+2.5
KOK	Koryaka	4.27	18	P	Pn	20 34 45.3	+4.7
SDLR	Sedlovina	4.31	20	P	Pn	20 34 43.7	+2.5
KRX	Arik	4.33	18	P	Pn	20 34 45.3	+3.8
KII	Karymskiy	5.14	20	P	Pn	20 34 57.4	+4.9

*ANF **03** 20:35:28.0±0.6, 41°.81N×119°.76W, h0km, ML3.1/14, Error ellipse: s-maj=5.3km s-min=3.2km az=119.0, Hypocentre not reviewed by the ISC*

*REN **03** 20:35:27.6±2.2, 41°.85N±0°.03×119°.64W±0°.03, h7km±6km, ML3.4/5, ML3.1/32(SEA), ML2.9/90(NEIC), Error ellipse: s-maj=4.0km s-min=2.6km az=194.0*

*SEA **03** 20:35:28.6±3.0, 41°.83N±0°.04×119°.66W±0°.06, h0km±7km, Error ellipse: s-maj=6.4km s-min=5.6km az=63.0*

NEIC 03 20:35:27.9±2.2**, 41°.84N**±0°.04×**119°.64W**±0°.01**, h8km**±7km**, Error ellipse: s-maj=5.8km s-min=0.9km az=171.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOD	Modoc Plateau	0.50	278		Sg	20 35 44.7	+0.5
MOD	Modoc Plateau	0.50	278		Pg	20 35 37.3	-0.3
MOD	Modoc Plateau	0.50	278	IAML		20 35 45.0	
	comp=E,2μm,0.4s						
MOD				IAML		20 35 46.2	
	comp=N,1μm,0.5s						
LKVW	Lakeview	0.66	306		Pg	20 35 40.3	-0.4
LKVW					Sg	20 35 49.5	+0.2
WVOR	Wild Horse Val	0.96	51		Pg	20 35 45.8	-0.5
WVOR					Sg	20 35 58.9	+0.2
WVOR	Wild Horse Val	0.96	51	IAML		20 36 02.9	
	comp=N,473nm,0.9s						
WVOR				IAML		20 36 02.9	
	comp=N,537nm,0.8s						
K05A	Summer Lake	1.29	314		Pn	20 35 51.8	-0.6
K05A				IAML		20 36 16.7	
	comp=E,248nm,1.1s						
K05A				IAML		20 36 16.8	
	comp=N,358nm,1.3s						
LASM	Arnica Sink	1.47	261		Pn	20 35 54.6	-0.3
LTIM	Timbered Crate	1.54	245		Pn	20 35 55.8	0.0
HOG	Hogback Mounta	1.59	285		Pn	20 35 56.4	-0.2
LBCM	Butte Creek Ri	1.63	233		Pn	20 35 57.1	0.0
M04C	Macdoel	1.65	269		Pn	20 35 56.9	-0.3
M04C	Macdoel	1.65	269	P		20 35 56.8	
	baz=87,SNR=53						
M04C				S		20 36 19.0	
	baz=87						
J08A	Circle Bar Ran	1.75	29		Pn	20 35 57.9	-0.7
J08A				IAML		20 36 30.1	
	comp=E,152nm,0.8s						
J08A				IAML		20 36 31.5	
	comp=N,159nm,0.7s						
K04D	Chiloquin, OR	1.76	297		Pb	20 35 59.9	-0.6
K04D	Chiloquin, OR	1.76	297	Pb		20 35 59.8	
	baz=116,SNR=18						
K04D				S		20 36 22.7	
	baz=116						
J05D	Fort Rock, OR	1.87	321		Pb	20 36 01.9	-0.4
J05D	Fort Rock, OR	1.87	321	Pb		20 36 01.9	
	baz=140,SNR=173						
J05D				Sb		20 36 27.6	
	baz=140						
LHEM	Herd Peak	1.94	265		Pb	20 36 03.2	-0.4
M03C	McCloud	1.94	254		Pb	20 36 03.2	-0.4
LGBM	Gray Butte	1.98	256		Pn	20 36 02.1	+0.2
L04D	Klamath Falls	2.02	282		Pn	20 36 01.9	-0.5
L04D	Klamath Falls	2.02	282	P		20 36 01.8	
	baz=100,SNR=121						
L04D				Sb		20 36 31.2	
	baz=100						
BEKR	Beckworth	2.04	196		Pb	20 36 05.1	-0.3
BEKR				IAML		20 36 35.6	
	comp=E,122nm,0.6s						
BEKR				IAML		20 36 38.7	
	comp=N,72nm,0.7s						
B040	Montague	2.08	271		Pn	20 36 02.7	-0.4
TMBU	Tom Butte, New	2.08	328		Pb	20 36 06.2	+0.1
PAHR	Pah Rah Range	2.14	175		Pb	20 36 07.1	+0.2
PINE	Pine Mountain	2.18	334		Pb	20 36 07.0	-0.7
PINE				IAML		20 36 38.7	
	comp=E,125nm,0.6s						
PINE				IAML		20 36 44.9	
	comp=N,66nm,0.6s						
O03E	Paynes Creek	2.25	227	P		20 36 05.7	
	baz=46,SNR=38						
O03E				Sb		20 36 38.3	
	baz=46						
I07A	Izee	2.25	3		Pb	20 36 08.2	-0.6
I07A				IAML		20 36 41.8	
	comp=N,44nm,0.6s						
YBH	Yreka Blue Hor	2.30	268		Pn	20 36 05.4	-0.8
J04D	Umpqua Nationa	2.30	308	Pb		20 36 09.4	
	baz=127						
J04D				Sb		20 36 40.6	
	baz=127						
M02C	Callahan	2.45	261	P		20 36 07.2	
	baz=78,SNR=23						
N02D	Trinity Center	2.46	251	Pb		20 36 11.1	
	baz=68						
WDC	Whiskeytown Da	2.52	241		Pn	20 36 08.7	-0.5
WDC				IAML		20 36 49.2	
	comp=N,40nm,0.7s						
VCNR	Virginia City	2.54	180		Pn	20 36 09.9	+0.3
VCNR				IAML		20 36 53.2	
	comp=N,70nm,0.9s						
VCNR				IAML		20 36 53.6	
	comp=E,75nm,0.8s						
HUMO	Hull Mountain	2.58	288	Pn	Pn	20 36 09.1	-0.9
HUMO				IAML		20 36 54.2	
	comp=N,34nm,0.8s						
ORV	Oroville	2.68	212		Pn	20 36 10.9	-0.5
PNTR	Pine Nut	2.74	179		Pn	20 36 11.8	-0.7
PNTR				IAML		20 37 10.4	
	comp=E,57nm,1.3s						
PNTR				IAML		20 37 10.5	
	comp=N,68nm,0.9s						
I05D	Terrebonne, OR	2.79	334	Sb		20 36 55.9	
	baz=153						
I04A	Tendick Farm,	2.83	315	Pb		20 36 18.6	
	baz=133						
I04A				Sb		20 36 56.4	
	baz=133						
YERR	Yerington	2.86	174		Pb	20 36 16.9	-2.5
YERR				IAML		20 37 02.2	
	comp=N,57nm,0.5s						
YERR				IAML		20 37 08.7	
	comp=E,60nm,1.0s						
O02D	Mt. Diablo Mer	2.90	236	Pb		20 36 19.3	
	baz=54,SNR=10						
O02D				Sb		20 36 57.2	
	baz=54						
L02E	Cave Junction	2.97	278	P		20 36 15.3	
	baz=95,SNR=31						
L02E				Sb		20 36 58.8	
	baz=95						
KVN	Kaiserville	3.02	157	Pn	Pn	20 36 14.6	-1.7
KVN				IAML		20 37 09.6	
	comp=E,32nm,0.6s						
KVN				IAML		20 37 09.8	
	comp=N,31nm,0.8s						
AFDM	Forest Hills D	3.06	200		Pb	20 36 20.5	-2.1
AFDM				IAML		20 37 51.7	
	comp=N,27nm,1.1s						
K02D	Willamette Mer	3.11	287		Pn	20 36 19.3	+2.0
K02D	Willamette Mer	3.11	287	P		20 36 17.5	
	baz=104,SNR=136						
KRMB	Red Mountain	3.21	266	Pn	Pn	20 36 19.4	+0.7
KRMB				IAML		20 36 40.5	
	comp=E,27nm,3.1s						
KRMB				IAML		20 37 11.3	
	comp=N,28nm,2.8s						
KHMM	Horse Mountain	3.23	254		Pn	20 36 18.2	-0.8
KHMM				IAML		20 36 47.6	
	comp=E,39nm,3.7s						
KHMM				IAML		20 37 27.3	
	comp=N,34nm,3.1s						
MFID	Camas Ranch	3.23	59	Pn	Pn	20 36 19.2	+0.3
RYN	Ryan	3.32	165		Pn	20 36 19.0	-1.2
RYN				IAML		20 37 20.2	
	comp=N,27nm,0.8s						
RYN				IAML		20 37 20.6	
	comp=E,36nm,0.9s						
WAKR	Walker	3.33	177		Pn	20 36 21.8	+1.3
H04A	Detroit Lake	3.40	328		Pn	20 36 19.9	-1.4
KBO	Bosley Butte	3.44	278	Pn	Pn	20 36 21.3	-0.6
JCC	Jacoby Creek,	3.46	254	Pn	Pn	20 36 24.1	+2.1
JCC				IAML		20 37 40.9	
	comp=E,34nm,2.7s						
BMO	Blue Mountains	3.46	29		Pn	20 36 24.7	+2.5
G08A	Pilot Rock	3.49	8		Pn	20 36 24.2	+1.7
ELK	Elko	3.49	107	Pn	Pn	20 36 23.5	+0.8
ELK				IAML		20 37 16.3	
	comp=E,20nm,0.4s						
ELK				IAML		20 37 21.7	
	comp=E,16nm,0.6s						
H04D	Lebanon	3.51	321	Pb		20 36 31.6	
	baz=139						
NVAR	Mina Array Bea	3.55	163		Pn	20 36 26.4	+2.8
NV11	Mina Array Sit	3.59	161		Pn	20 36 23.5	-0.4
NV11				IAML		20 37 24.3	
	comp=N,16nm,0.6s						
NV11				IAML		20 37 27.7	
	comp=E,18nm,2.0s						
KEBM	Edson Butte	3.63	288	Pn	Pn	20 36 24.9	+0.4
LHV	Little Huntoon	3.69	166		Pn	20 36 27.3	+2.1
CMB	Columbia Colle	3.84	189		Pn	20 36 30.0	+2.6
TPH	Tonopah	4.19	153	Pn	Pn	20 36 34.5	+2.2
TPH	Tonopah	4.19	153	IAML		20 37 48.8	
	comp=E,18nm,1.1s						
HLID	Hailey	4.22	64	Pn	Pn	20 36 32.7	0.0
HLID				IAML		20 37 41.7	
	comp=E,17nm,0.6s						
MDPB	Devils Postpil	4.22	174		Pn	20 36 32.4	-0.4
MCCM	Marconi Confer	4.45	215	Pn	Pn	20 36 35.1	-0.5
F10A	Beach Ranch, E	4.49	22	Pn	Pn	20 36 35.2	-1.1
F10A				IAML		20 38 52.3	
	comp=E,14nm,4.1s						
F10A				IAML		20 39 29.1	
	comp=N,13nm,4.8s						
R11A	Troy Canyon, C	4.67	137	Pn	Pn	20 36 38.3	-0.6
R11A				IAML		20 37 59.4	
	comp=E,14nm,0.9s						
R11A				IAML		20 38 01.1	
	comp=N,9.9nm,0.5s						
SPR3	Spring Creek 3	4.94	123	Pn	Pn	20 36 41.2	-1.6
BGU	Big Grassy Mou	5.06	98		Pn	20 36 43.5	-0.6
BGU				IAML		20 38 11.3	
	comp=E,9.2nm,0.9s						
BGU				IAML		20 38 14.3	
	comp=N,7.4nm,0.7s						
HVU	Hansel Valley	5.13	88		Pn	20 36 44.5	-0.7
BCYI	Bear Canyon	5.19	59	Pn	Pn	20 36 44.1	-2.0
DUG	Dugway, Tooele	5.42	105		Pn	20 36 48.3	-0.8
SPUT	South Promonto	5.42	93	Pn	Pn	20 36 49.9	+0.7
E03A	Lebam	5.49	330	Pn	Pn	20 36 49.7	-0.2
PSUT	Pine Spring	5.52	125		Pn	20 36 46.8	-3.8
TPNV	Topopah Spring	5.54	151	Pn	Pn	20 36 48.9	-1.9
PRN	Pahroc Range	5.67	140	Pn	Pn	20 36 52.1	-0.5
MCMT	McKenzie Canyo	5.79	57	Pn	Pn	20 36 54.2	0.0
SHPR	Sheep Range	6.36	145	Pn	Pn	20 36 59.2	-2.8

BUC 03 20:44:45.3±0.2**, 45°.24N×25°.24E, h1km, ml1.9**/10**, 24C-24D, Error ellipse: s-maj=2.7km s-min=1.3km az=4.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTUR	Matau	0.13	264	⇓P	Pg	20 44 47.1	-0.7
MTUR	Matau	0.13	264	⇓P	Pg	20 44 47.1	-0.7
VOIR		0.24	325	⇑P	Pg	20 44 49.3	-0.6
VOIR				⇓S	Sg	20 44 54.0	+1.0
VOIR		0.24	325	⇑P	Pg	20 44 49.3	-0.6
VOIR				⇓S	Sg	20 44 54.0	+1.0
ARR	Arges	0.45	287	⇑P	Pg	20 44 52.9	-1.0
ARR				⇑S	Sg	20 45 00.2	+0.5
ARR	Arges	0.45	287	⇑P	Pg	20 44 52.9	-1.0
ARR				⇑S	Sg	20 45 00.2	+0.5
MLR	Muntele Rosu	0.55	63	⇑P	Pg	20 44 55.2	-0.7
MLR				⇓S	Sg	20 45 03.3	+0.2
MLR	Muntele Rosu	0.55	63	⇑P	Pg	20 44 55.2	-0.7
MLR				⇓S	Sg	20 45 03.3	+0.2
HUMR	Humele	0.73	195	⇓P	Pg	20 44 59.5	+0.2
HUMR	Humele	0.73	195	⇓P	Pg	20 44 59.5	+0.2
SULR		0.91	128	⇓P	Pg	20 45 02.3	-0.4
SULR				⇓S	Sg	20 45 15.2	+0.7
SULR		0.91	128	⇓P	Pg	20 45 02.3	-0.4
SULR				⇓S	Sg	20 45 15.2	+0.7
ISR	Istrita	0.93	97	⇓P	Pg	20 45 03.4	+0.4
ISR				⇓S	Sb	20 45 17.1	+0.1
ISR	Istrita	0.93	97	⇓P	Pg	20 45 03.4	+0.4
ISR				⇓S	Sb	20 45 17.1	+0.1
LOT	Lotru	1.06	282	⇑P	Pg	20 45 05.7	+0.1
LOT				⇑S	Sb	20 45 20.9	0.0
LOT	Lotru	1.06	282	⇑P	Pg	20 45 05.7	+0.1
LOT				⇑S	Sb	20 45 20.9	0.0
PLOR	Plostina	1.16	58	⇓P	Pb	20 45 08.0	-0.2
PLOR				⇑S	Sn	20 45 24.7	-0.6
PLOR	Plostina	1.16	58	⇑S	Sn	20 45 24.7	-0.6
PLOR	Plostina	1.16	58	⇓P	Pb	20 45 08.0	-0.2
VRI	Vrincioaia	1.22	58	⇑P	Pg	20 45 07.9	-0.7
VRI	Vrincioaia	1.22	58	⇑P	Pg	20 45 07.9	-0.7
GZR	Gura Zlata	1.75	276	⇓P	Pn	20 45 16.3	-0.5
GZR				⇑S	Sg	20 45 41.4	0.0
GZR	Gura Zlata	1.75	276	⇓P	Pn	20 45 16.3	-0.5
GZR				⇑S	Sg	20 45 41.4	0.0
HERR	Herculane	2.04	261	⇑P	Pn	20 45 20.5	-0.2
HERR				⇑S	Sb	20 45 48.2	-0.6
HERR	Herculane	2.04	261	⇑P	Pn	20 45 20.5	-0.2
HERR				⇑S	Sb	20 45 48.2	-0.6
CFR	Carcaliu	2.04	91	⇓P	Pn	20 45 20.1	-0.7
CFR				⇓S	Sn	20 45 47.9	+1.0
CFR	Carcaliu	2.04	91	⇓S	Sn	20 45 47.9	+1.0
CFR	Carcaliu	2.04	91	⇓P	Pn	20 45 20.1	-0.7
BZS	Buzias	2.58	280	⇑P	Pn	20 45 28.6	+0.4
BZS	Buzias	2.58	280	⇑P	Pn	20 45 28.6	+0.4

*NNC **03** 20:54:47.9±3.0, 42°.15N×82°.88E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=23.7km s-min=10.9km az=148.0*

*SOME **03** 20:54:48.6, 42°.30N×83°.00E, h10km*

ISC 03 20:54:46.1±3.2**, 42°.3N**±0°.2×**83°.4E**±0°.1**, h10km, n11,** σ1s**12**/19**, 2C-4D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTMS	Ketmen	2.48	298	eP	Pb	20 55 30.7	-0.2
	2.8nm,0.6s						
KTMS				eS	Sb	20 56 01.4	-0.1
	8.3nm,0.5s						
SHLS	Shalkode	2.99	288	eP	Pn	20 55 34.2	+0.6
	24nm,0.6s						
SHLS				eS	Sn	20 56 07.3	-2.3
	7.5nm,0.7s						
PDGK	Podgornoye	3.02	291	⇑Pg	Pb	20 55 37.9	-2.1
	1.0nm,0.5s						
PDGK				⇓Lg	Lg	20 56 16.5	
	5.2nm,0.6s						
DJR	Jarkent	3.29	309	eP	Pb	20 55 45.2	+0.5
	1.1nm,0.6s						
DJR				eS	Sb	20 56 25.9	+1.0
	2.1nm,0.5s						
UZB	Uzynbulak	3.30	286	eP	Pb	20 55 44.5	-0.3
	1.1nm,0.6s						
UZB				eS	Sb	20 56 24.8	-0.3
	2.5nm,0.6s						
KPKS	Kokpek	3.62	290	eP	Pb	20 55 50.2	-0.1
	2.5nm,0.6s						
KPKS				eS	Sb	20 56 34.5	+0.2
	6.1nm,0.5s						
SATY	Saty	3.72	283	eP	Pb	20 55 52.4	+0.4
	1.3nm,0.5s						
SATY				eS	Sb	20 56 38.6	+1.3
	2.0nm,0.5s						
MNBS	Baschi	4.03	298	eP	Pb	20 55 57.4	+0.1
	0.6nm,0.4s						
MNBS				eS	Sb	20 56 46.6	+0.6
	3.3nm,0.6s						
MK31	Makanchi Array	4.55	351	⇑Pg	Pg	20 56 13.4	+0.2
	0.3nm,0.5s,baz=171,slow=15,SNR=7.0						
MK31				⇓Lg	Lg	20 57 14.9	
	1.0nm,0.6s,baz=180,slow=30,SNR=3.6						
MAKZ	Makanchi	4.61	348	⇓Pg	Pg	20 56 13.7	-0.6
	0.2nm,0.3s						
MAKZ				⇓Lg	Lg	20 57 16.0	
	0.8nm,0.8s						
KTBS	Karatobe	5.09	288	eP	Pb	20 56 16.1	+0.8
	0.2nm,0.2s						
KTBS				eS	Sb	20 57 18.7	+2.3
	3.0nm,0.7s						

*IDC **03** 20:58:36.2±2.9, 36°.26N×70°.70E, h169km±26km, mb3.5/9, mb1 3.6/15, mb1mx3.2/62, mbtmp4.0/15, Error ellipse: s-maj=21.8km s-min=14.8km az=172.0*

*BJI **03** 20:58:39.2±0.0, 36°.42N×70°.74E, h198km, mB4.9/3, mb4.4/7*

*NEIC **03** 20:58:40.6±2.3, 36°.55N±0°.06×70°.68E±0°.09, h205km±6km, mb4.3/13, Error ellipse: s-maj=11.1km s-min=8.6km az=110.0*

*NNC **03** 20:58:43.8±1.7, 36°.81N×70°.71E, h207km±13km, mb3.2, mpv4.3, Error ellipse: s-maj=14.5km s-min=9.5km az=26.0*

ISC 03 20:58:40.2±0.5**, 36°.51N**±0°.05×**70°.70E**±0°.05**, h204km, n80,** σ1s**73**/89**, mb3.8**/12**, 9C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	2.38	215	Pn	Pn	20 59 23.7	+0.4
CEP	Cherat	2.86	159	P	Pn	20 59 29.0	+0.4
NIL	Nilore	3.54	143	Pn	Pn	20 59 37.2	+0.6
THW	Thamme Wali	3.80	167	P	Pn	20 59 39.9	+0.1
SARP	Sargodha	4.86	160	P	Pn	20 59 52.4	-0.6
TAS	Tashkent	4.93	348	Pn	Pn	20 59 55.1	+1.3
KSH	Kashi	5.13	53	P	Pn	20 59 51.7	-4.7
KSH				S	S	21 00 42.5	-14
KSH				smax	smax		
	comp=N,200nm,0.5s						
KSH				smax	smax		
	comp=E,160nm,0.5s						
THN	Thein Dam	5.80	133	eP	Pn	21 00 06.5	+1.5
THN				eS	S	21 01 09.5	-2.2
AML	Almayashu	6.07	22	P	Pn	21 00 09.1	+0.3
	SNR=142						
DHRM	DHARAMSHALA	6.28	131	eP	Pn	21 00 10.0	-1.5
DHRM				eS	S	21 01 18.7	-4.7
DHRM				IAML		21 01 21.1	
	comp=E,188nm,0.5s						
DHRM				IAML		21 01 21.1	
	comp=N,225nm,0.3s						
UCH	Uchtor	6.43	26	P	Pn	21 00 13.8	+0.3
	SNR=43						

EKS2	**Erkin-Say**	**6.59**	**20**	P		**Pn**	**21 00 15.8**	**+0.6**
	SNR=23							
KK31	**Karatay Array**	**6.59**	**359**	⇑P		**Pn**	**21 00 15.4**	**+0.4**
	comp=N,2.7nm,0.2s,baz=183,slow=12,SNR=251							
KK31				⇑S		**S**	**21 01 26.7**	**-3.4**
	comp=N,46nm,0.4s,baz=139,slow=24,SNR=3.7							
KK31	**Karatay Array**	**6.59**	**359**	Pn		**Pn**	**21 00 15.3**	**+0.3**
KKAR	**Karatay Array**	**6.59**	**359**			**Pn**	**21 00 15.2**	**+0.2**
KKAR	**Karatay Array**	**6.59**	**359**	Pn		**Pn**	**21 00 14.6**	**-0.4**
AAK	**Ala-Archa**	**6.78**	**24**	P		**Pn**	**21 00 18.5**	**+0.7**
	comp=N,4.2nm,0.3s,baz=198,slow=6.8,SNR=103							
AAK				S		**S**	**21 01 32.5**	**-2.5**
	comp=N,6.9nm,0.3s,baz=139,slow=20,SNR=7.2							
AAK	**Ala-Archa**	**6.78**	**24**	P		**Pn**	**21 00 18.3**	**+0.6**
	SNR=22							
AAK	**Ala-Archa**	**6.78**	**24**	⇑P		**Pn**	**21 00 17.7**	**-0.1**
	comp=N,7.1nm,0.4s							
AAK				⇑S		**S**	**21 01 33.4**	**-1.6**
	comp=N,72nm,0.6s							
AAK	**Ala-Archa**	**6.78**	**24**	Pn		**Pn**	**21 00 18.1**	**+0.4**
KBK	**Karagaybulak**	**6.96**	**27**	P		**Pn**	**21 00 20.8**	**+0.7**
	SNR=18							
ULHL	**Ulahol**	**7.16**	**35**	P		**Pn**	**21 00 22.9**	**+0.3**
	SNR=27							
CHMS	**Chumysh**	**7.19**	**24**	P		**Pn**	**21 00 23.7**	**+0.8**
	SNR=7.8							
HRA	**Herat**	**7.22**	**255**	Pn		**Pn**	**21 00 22.1**	**-1.5**
TKM2	**Tokmak 2**	**7.43**	**29**	P		**Pn**	**21 00 26.5**	**+0.4**
	SNR=12							
TKM2	**Tokmak 2**	**7.43**	**29**	⇑P		**Pn**	**21 00 26.1**	**-0.1**
	comp=N,32nm,0.8s							
TKM2				⇑S		**S**	**21 01 48.6**	**-1.7**
	comp=N,25nm,0.8s							
SMLA	**Simla**	**7.60**	**133**	*e*P		**Pn**	**21 00 27.5**	**-0.7**
SMLA				*e*S		**S**	**21 01 47.1**	**-7.0**
SMLA				IAML			21 01 51.6	
	comp=N,59nm,0.3s							
SMLA				IAML			21 01 51.8	
	comp=E,59nm,0.3s							
MDOK	**Medeo**	**8.24**	**34**	P		**Pn**	**21 00 37.0**	**+0.3**
	comp=E,20nm,0.8s							
GEYT	**Alibeck**	**10.14**	**282**	P		**Pn**	**21 01 00.1**	**-1.1**
	comp=E,0.3nm,0.3s,baz=101,slow=7.8,SNR=1.8							
GEYT				S		**S**	**21 02 50.1**	**-4.8**
	comp=E,0.2nm,0.3s,baz=215,slow=38,SNR=1.6							
MAKZ	**Makanchi**	**13.29**	**36**	Pn		**Pn**	**21 01 39.9**	**-1.1**
MK31	**Makanchi Array**	**13.43**	**36**	⇑P		**Pn**	**21 01 43.3**	**+0.5**
	comp=E,11nm,0.8s,baz=217,slow=9.5,SNR=80							
MK31	**Makanchi Array**	**13.43**	**36**	Pn		**Pn**	**21 01 42.8**	**+0.1**
MKAR	**Makanchi Array**	**13.43**	**36**	P		**Pn**	**21 01 42.7**	**0.0**
	comp=E,0.5nm,0.3s,baz=212,slow=11,SNR=29							
MKAR	**Makanchi Array**	**13.43**	**36**	Pn		**Pn**	**21 01 42.0**	**-0.7**
DANN	**Dangsing**	**13.69**	**123**	*e*P		**Pn**	**21 01 45.1**	**-1.4**
BHPL	**Bhopal**	**14.45**	**154**	*e*P		**P**	**21 01 57.1**	**+0.4**
BHPL				*e*S		S	21 04 26.3	-10
GKN	**Gorkha**	**14.51**	**122**	*e*P		**Pn**	**21 01 55.3**	**-1.2**
	comp=E,15nm,0.4s							
WMQ	**Urumqi**	**14.89**	**55**	*e*P		**P**	**21 02 01.5**	**-0.1**
WMQ				pmax		pmax		
	comp=E,11nm,0.6s							
WMQ				pmax		pmax		
	comp=E,160nm,3.7s							
WMQ				LR		LR		
	comp=E,230nm,8.7s							
WMQ				LR		LR		
	comp=E,380nm,7.1s							
WMQ	**Urumqi**	**14.89**	**55**			**P**	**21 02 01.7**	**+0.1**
AB31	**Akbulak array**	**14.96**	**332**	P		**Pn**	**21 02 01.2**	**-0.4**
	comp=E,0.7nm,0.3s,baz=143,slow=12,SNR=53							
AB31				S		**S**	**21 04 45.1**	**-2.2**
	comp=E,1.7nm,0.5s,baz=150,slow=23,SNR=6.4							
ABKAR	**Akbulak array**	**14.96**	**332**	P		**Pn**	**21 02 01.5**	**0.0**
ABKAR	**Akbulak array**	**14.96**	**332**	P		**Pn**	**21 02 01.6**	**0.0**
ABKAR						**S**	**21 04 44.2**	**-3.2**
DMN	**Daman**	**15.08**	**122**	*e*P		**Pn**	**21 02 02.5**	**-1.0**
	comp=E,11nm,0.6s							
KKN	**Kakani**	**15.09**	**121**	*e*P		**Pn**	**21 02 02.2**	**-1.4**
	comp=E,11nm,0.5s							
KURBB	**Kurchatov Arra**	**15.19**	**19**	P		**Pn**	**21 02 03.2**	**-1.2**
	comp=E,0.3nm,0.3s,baz=209,slow=12,SNR=21							
KURBB	**Kurchatov Arra**	**15.19**	**19**	⇓P		**Pn**	**21 02 03.0**	**-1.3**
	comp=E,3.2nm,0.5s							
KURK	**Kurchatov**	**15.30**	**19**			**Pn**	**21 02 05.1**	**-0.6**
KURK				IAmb		IAmb	21 02 07.8	
	comp=Z,14nm,1.5s							
PKIN	**Phulchoki**	**15.30**	**121**	*e*P		**Pn**	**21 02 05.0**	**-1.2**
	comp=Z,17nm,0.4s							
PKI	**Pulchoki**	**15.31**	**121**	*e*P		**Pn**	**21 02 05.3**	**-1.1**
	comp=Z,22nm,0.6s							
GUN	**Gumba**	**15.43**	**119**	*e*P		**Pn**	**21 02 06.5**	**-1.4**
	comp=Z,8.0nm,0.4s							
BVAR	**Bovoye Array**	**16.52**	**359**	P		**Pn**	**21 02 20.4**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=111,slow=8.4,SNR=26							
RAMN	**Ramite**	**16.53**	**121**	*e*P		**P**	**21 02 20.2**	**+0.2**
	comp=Z,8.3nm,0.4s							
BRVK	**Borovoye**	**16.55**	**359**	P		**Pn**	**21 02 20.8**	**+0.1**
BRVK				IAmb		IAmb	21 02 24.2	
	comp=Z,6.0nm,0.8s							
AKTO	**Aktyubinsk**	**16.65**	**331**	P		**Pn**	**21 02 23.0**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=140,slow=12,SNR=13							
AKTO	**Aktyubinsk**	**16.65**	**331**	⇑P		**Pn**	**21 02 22.6**	**+0.6**
	comp=Z,5.3nm,0.9s							
AKTO				⇓S		**S**	**21 05 24.0**	**-0.4**
	comp=Z,3.7nm,1.1s							
UOSS	**Minazif**	**16.95**	**231**	P		**P**	**21 02 25.6**	**+1.2**
UOSS				IAmb		IAmb	21 02 51.1	
	comp=Z,21nm,1.1s							
TAPN	**Taplejung**	**17.06**	**118**	*e*P		**Pn**	**21 02 27.5**	**+0.1**
	comp=Z,9.2nm,0.6s							
ODAN	**Odare**	**17.13**	**119**	*e*P		**Pn**	**21 02 28.1**	**0.0**
	comp=Z,11nm,0.6s							
ZAA0	**Zalesovo Array**	**20.01**	**25**	⇑P		**P**	**21 02 57.3**	**+0.2**
	comp=Z,2.2nm,0.7s							
ZAA0	**Zalesovo Array**	**20.01**	**25**			**P**	**21 02 57.5**	**+0.4**
ZALV	**Zalesovo Beam**	**20.01**	**25**	P		**P**	**21 02 57.8**	**+0.7**
	comp=Z,12nm,0.5s,baz=219,slow=11,SNR=74							
ZALV	**Zalesovo Beam**	**20.01**	**25**			**P**	**21 02 57.7**	**+0.6**
SHL	**Shillong**	**21.13**	**115**	P		**P**	**21 03 09.8**	**+0.3**
GTA	**Gaotai**	**23.09**	**74**	*e*P		**P**	**21 03 34.2**	**+6.1**
GTA				pP		PP	21 04 22.3	-2.7
GTA				sP		sP	21 04 46.8	+14
GTA				pmax		pmax		
	comp=Z,2.0nm,1.1s							
RAYN	**Ar Rayn**	**25.28**	**246**	P		**P**	**21 03 49.0**	**+1.0**
RAYN				IAmb		IAmb	21 03 50.4	
	comp=Z,7.0nm,1.4s							
SONM	**Songino Array**	**28.53**	**55**	P		**P**	**21 04 18.1**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=248,slow=7.6,SNR=6.0							
SONM	**Songino Array**	**28.53**	**55**	IAmb		IAmb	21 04 25.0	
	comp=Z,0.6nm,1.0s							
NRIK	**Noril'sk**	**34.16**	**11**	P		**P**	**21 05 07.8**	**+2.2**
	comp=Z,2.3nm,0.6s,baz=217,slow=7.1,SNR=4.2							
NRIK	**Noril'sk**	**34.16**	**11**	P		**P**	**21 05 07.5**	**+2.0**
OJC	**Ojcow**	**38.71**	**307**	P		**P**	**21 05 43.4**	**-0.8**
OJC				IAmb		IAmb	21 06 02.1	
	comp=Z,9.4nm,1.4s							
ARCES	**ARCESS Array B**	**41.05**	**338**	P		**P**	**21 06 04.4**	**+1.2**
	comp=Z,2.0nm,0.9s,baz=64,slow=2.8,SNR=3.8							
ARCES	**ARCESS Array B**	**41.05**	**338**	IAmb		IAmb	21 06 42.7	
	comp=Z,17nm,1.4s							
GERES	**GERESS Array B**	**42.73**	**305**	P		**P**	**21 06 16.7**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=106,slow=14,SNR=2.9							
GSI	**Gunungsitoli**	**42.96**	**138**	P		**P**	**21 06 20.3**	**+1.1**
MURB	**Monte Urbino**	**44.37**	**297**	P		**P**	**21 06 31.9**	**+1.6**
MURB				IAmb		IAmb	21 06 46.1	
	comp=Z,28nm,1.6s							
NBO00	**NORSAR Array S**	**44.44**	**323**	P		**P**	**21 06 31.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**65.48**	**268**	P		**P**	**21 09 01.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=45,slow=5.9,SNR=5.3							
YKA	**Yellowknife Ar**	**81.25**	**2**	P		**P**	**21 10 34.1**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=356,slow=5.2,SNR=5.1							
WRA	**Warramunga Arr**	**82.20**	**122**	P		**P**	**21 10 37.5**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=324,slow=5.0,SNR=19							
ASAR	**Alice Springs**	**84.46**	**125**	P		**P**	**21 10 49.0**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=310,slow=5.0,SNR=16							

*REY **03** 21:08:27.4, 63°.03N×24°.48W, h10km*
*IDC **03** 21:08:29.2±0.9, 63°.29N×24°.53W, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.5/53, mbtmp3.6/8, ML3.7/2, MS3.4/10, Ms1 3.4/10, ms1mx3.1/38, Error ellipse: s-maj=23.9km s-min=19.8km az=24.0*
ISC 03 21:08:28.7±2.7, 63°.26N±0°.09×24°.33W±0°.06, h1km±16km, n43, σ1s18/51, mb3.5/6, MS3.4/7, Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRNE	**Reykjanes**	**0.92**	**52**	P	**Pb**	**21 08 46.5**	**-0.9**
	baz=45						
IRNE				S	**Sg**	**21 09 00.2**	**+2.0**
	baz=45						
INYL	**Nylenda**	**1.01**	**44**	P	**Pb**	**21 08 47.9**	**-1.1**
	baz=39						
INYL				S	**Sg**	**21 09 02.9**	**+1.8**
	baz=39						
IGRV	**Grindav??k**	**1.03**	**54**	P	**Pb**	**21 08 48.2**	**-1.1**
	baz=47						
IGRV				S	**Sb**	**21 09 03.5**	**+0.1**
	baz=47						
IKRI	**Krysuvik**	**1.19**	**57**	P	**Pn**	**21 08 50.6**	**-1.7**
	baz=51						
IKRI				S	**Sb**	**21 09 07.8**	**+0.1**
	baz=51						
IVOS	**Vogsosar**	**1.32**	**62**	P	**Pn**	**21 08 53.2**	**-1.0**
	baz=55						
IVOS				S	**Sb**	**21 09 11.6**	**+0.1**
	baz=55						
IKAS	**Kald??rsel**	**1.35**	**54**	P	**Pn**	**21 08 53.3**	**-1.2**
	baz=49						
ISAN	**Sandskeio**	**1.47**	**56**	P	**Pn**	**21 08 54.6**	**-1.7**
	baz=50						
ISAN				S	**Sb**	**21 09 16.1**	**+0.2**
	baz=50						
IBJA	**Bjarnastaoir**	**1.52**	**62**	P	**Pn**	**21 08 54.9**	**-2.0**
	baz=56						
IBJA				S	**Sn**	**21 09 16.6**	**-0.7**
	baz=56						
IKUD	**Kuludalsa**	**1.52**	**45**	P	**Pn**	**21 08 55.2**	**-1.8**
	baz=41						
IKUD				S	**Sb**	**21 09 17.4**	**-0.1**
	baz=41						
ISOL	**Solvholt**	**1.66**	**65**	P	**Pn**	**21 08 57.0**	**-1.8**
	baz=59						
ISOL				S	**Sn**	**21 09 20.1**	**-0.6**
	baz=59						
IKRO	**Krokur**	**1.66**	**58**	P	**Pn**	**21 08 57.5**	**-1.3**
	baz=53						
IKRO				S	**Sb**	**21 09 21.1**	**-0.3**
	baz=53						
IHEI	**Heioarbar**	**1.67**	**54**	P	**Pn**	**21 08 57.4**	**-1.6**
	baz=50						
IHEI				S	**Sb**	**21 09 21.4**	**-0.2**
	baz=50						
IASM	**Asmuli**	**1.76**	**69**	P	**Pn**	**21 08 59.2**	**-1.0**
	baz=63						
ISAU	**Saurbar**	**1.90**	**66**	P	**Pn**	**21 09 00.4**	**-1.7**
	baz=60						
ISAU				S	**Sn**	**21 09 27.0**	**+0.4**
	baz=60						
BORG	**Borgarnes**	**2.00**	**40**	Pn	**Pn**	**21 09 02.9**	**-0.6**
	49nm,0.3s,baz=239,slow=6.3,SNR=252						
BORG				Sn	**Sg**	**21 09 32.1**	**-0.7**
	26nm,0.3s,baz=323,slow=23,SNR=11						
IASB	**`sbjarnarst**	**2.00**	**40**	P	**Pn**	**21 09 02.6**	**-0.9**
	baz=38						
IMID	**Miomork**	**2.04**	**77**	P	**Pn**	**21 09 01.6**	**-2.4**
	baz=71						
IGYG	**Gygjarholskot**	**2.10**	**59**	P	**Pn**	**21 09 04.7**	**-0.1**
	baz=55						
IFED	**Fedgar**	**2.21**	**68**	P	**Pn**	**21 09 04.8**	**-1.7**
	baz=63						
IRJU	**Rjupnafell**	**2.57**	**79**	P	**Pn**	**21 09 10.5**	**-0.8**
	baz=75						
IVAT	**Vatnsfell**	**2.58**	**66**	P	**Pn**	**21 09 10.6**	**-1.0**
	baz=62						
IIEY	**Innrieyrar**	**2.89**	**70**	P	**Pn**	**21 09 15.0**	**-0.8**
	baz=67						
IJOK	**Jokulheimar**	**2.91**	**66**	P	**Pn**	**21 09 15.2**	**-0.9**
	baz=62						
ISKR	**Skrokkalda**	**2.93**	**61**	P	**Pn**	**21 09 15.8**	**-0.6**
	baz=58						
IKAL	**Kalfafell**	**3.05**	**74**	P	**Pn**	**21 09 16.8**	**-1.1**
	baz=70						
IHAM	**Hamarinn**	**3.13**	**64**	P	**Pn**	**21 09 18.9**	**-0.3**
	baz=61						
IVON	**Vonarskard**	**3.23**	**61**	P	**Pn**	**21 09 20.2**	**-0.3**
	baz=58						
IKSK	**Karasker**	**3.61**	**72**	P	**Pn**	**21 09 25.0**	**-0.8**
	baz=69						
IHLA	**Hella**	**3.72**	**41**	P	**Pn**	**21 09 27.4**	**+0.3**
	baz=39						
JMIC	**Jan Mayen**	**9.86**	**31**	LR	LR	21 13 22.9	
	comp=Z,106nm,21.3s,baz=270,slow=30						
SFJD	**Kangerlussuaq**	**11.63**	**300**	LR	LR	21 14 58.8	
	comp=Z,208nm,20.6s,baz=82,slow=34						
FRB	**Frobisher Bay**	**19.44**	**291**	P	**P**	**21 12 54.4**	**-1.7**
	0.1nm,0.3s,baz=54,slow=14,SNR=3.8						
FRB				LR	LR	21 19 59.5	
	comp=Z,102nm,19.7s,baz=343,slow=36						
DAVOX	**Davos/Dischmat**	**25.18**	**115**	LR	LR	21 22 27.5	
	comp=Z,85nm,20.0s,baz=315,slow=33						
VRAC	**Vranov**	**26.11**	**103**	LR	LR	21 23 56.3	
	comp=Z,95nm,18.7s,baz=325,slow=35						
ESDC	**Sonseca Array**	**26.57**	**143**	P	**P**	**21 14 09.4**	**+1.4**
	0.9nm,0.8s,baz=341,slow=10,SNR=5.3						
ESDC				LR	LR	21 22 49.8	
	comp=Z,99nm,20.7s,baz=0.0,slow=32						
YKA	**Yellowknife Ar**	**37.92**	**311**	P	**P**	**21 15 47.0**	**+0.1**
	0.2nm,0.6s,baz=48,slow=9.2,SNR=4.2						
YKA				LR	LR	21 30 58.9	
	comp=Z,77nm,19.3s,baz=0.0,slow=36						
ILAR	**Eielson Array**	**45.46**	**330**	P	**P**	**21 16 49.6**	**+1.0**
	0.4nm,0.8s,baz=25,slow=6.3,SNR=4.4						
ILAR				PcP	**PcP**	**21 18 26.6**	**-0.9**
	0.3nm,0.6s,baz=7.7,slow=3.3,SNR=5.2						
PDAR	**Pinedale Array**	**50.87**	**289**	P	**P**	**21 17 30.8**	**-0.2**
	0.9nm,0.6s,baz=62,slow=6.8,SNR=7.3						
PDAR				LR	LR	21 37 16.9	
	comp=Z,47nm,18.2s,baz=62,slow=34						
TORD	**Torodi Ar. Bea**	**53.31**	**148**	P	**P**	**21 17 50.0**	**+0.9**
	1.5nm,0.8s,baz=334,slow=8.5,SNR=3.4						
MKAR	**Makanchi Array**	**56.01**	**53**	P	**P**	**21 18 10.1**	**+1.7**
	0.4nm,0.8s,baz=326,slow=6.1,SNR=4.6						
NVAR	**Mina Array Bea**	**58.17**	**293**	LR		21 43 48.3	
	comp=Z,63nm,21.0s,baz=240,slow=36						
PETK	**Petropavlovsk-**	**63.96**	**359**	LR	LR	21 47 00.5	
	comp=Z,17nm,19.2s,baz=87,slow=36						
ASAR	**Alice Springs**	**137.83**	**30**	PKP	**PKiKP**	**21 27 55.9**	**-0.5**
	0.4nm,0.9s,baz=356,slow=3.7,SNR=2.5						

IDC 03 21:51:02.2±1.6, 6°.92S×128°.95E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.5/44, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=114.2km s-min=28.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.96**	**159**	Pn	Pn	21 54 21.8	+0.3
	0.4nm,0.3s,baz=338,slow=13,SNR=22						
WRA				Sn	Sn	21 56 43.0	-14
	1.1nm,0.3s,baz=329,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.32**	**165**	P	Pn	21 55 05.3	-0.3
	0.2nm,0.3s,baz=333,slow=9.9,SNR=10						
MKAR	**Makanchi Array**	**67.59**	**327**	P	P	22 02 00.8	0.0
	0.3nm,0.4s,baz=118,slow=8.1,SNR=17						
ZALV	**Zalesovo Beam**	**71.05**	**334**	P	P	22 02 22.0	0.0
	0.6nm,0.4s,baz=142,slow=7.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**71.90**	**329**	P	P	22 02 27.1	0.0
	0.7nm,0.6s,baz=129,slow=5.2,SNR=7.6						

*IDC **03** 21:58:08.5±1.3, 2°.17N×125°.85E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/52, mbtmp3.5/6, Error ellipse: s-maj=106.3km s-min=18.6km az=71.0*
ISC 03 21:58:18.0±1.5, 2°.2N±0°.3×126°.1E±0°.8, h83km, n6, σ0s82/6, mb3.3/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.13**	**181**	P	**P**	**22 02 45.2**	**-0.3**
	2.2nm,0.9s,baz=358,slow=7.9,SNR=6.0						
WRA	**Warramunga Arr**	**23.41**	**160**	P	**P**	**22 03 20.6**	**+0.7**
	1.3nm,0.4s,baz=336,slow=10,SNR=27						
ASAR	**Alice Springs**	**26.77**	**164**	P	**P**	**22 03 49.8**	**-0.5**
	0.3nm,0.5s,baz=337,slow=7.7,SNR=4.3						
SONM	**Songino Array**	**48.58**	**342**	P	**P**	**22 06 52.6**	**-0.6**
	0.2nm,0.4s,baz=141,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**58.48**	**326**	P	**P**	**22 08 05.8**	**+0.2**
	0.1nm,0.4s,baz=119,slow=8.3,SNR=5.0						
KURBB	**Kurchatov Arra**	**62.71**	**328**	P	**P**	**22 08 35.0**	**+0.8**
	0.1nm,0.3s,baz=122,slow=5.9,SNR=1.9						

*IDC **03** 22:00:11.1±1.4, 6°.33S×26°.90W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.9/37, mbtmp4.2/4, ML3.4/1, Error ellipse: s-maj=66.3km s-min=33.7km az=38.0*
ISC 03 22:00:14.1±0.9, 60°.3S±0°.2×27°.0W±0°.3, h19km, n7, σ0s78/7, mb4.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**14.87**	**150**	Pn	**Pn**	**22 03 43.4**	**+0.3**
	0.2nm,0.3s,baz=314,slow=16,SNR=11.6						
CPUP	**Villa Florida**	**39.82**	**315**	P	**P**	**22 07 46.3**	**+0.4**
	3.4nm,0.9s,baz=167,slow=9.6,SNR=4.1						
LPAZ	**La Paz**	**53.02**	**308**	P	**P**	**22 09 30.6**	**+0.3**
	1.3nm,0.6s,baz=127,slow=8.8,SNR=1.7						
TORD	**Torodi Ar. Bea**	**76.73**	**29**	P	**P**	**22 12 04.2**	**+0.4**
	3.6nm,0.7s,baz=196,slow=6.1,SNR=4.1						
YKA	**Yellowknife Ar**	**139.35**	**315**	PKP	**PKPdf**	**22 19 37.4**	**-0.8**
	0.4nm,0.8s,baz=112,slow=2.7,SNR=2.5						
INK	**Inuvik**	**149.08**	**316**	PKPbc	**PKPbc**	**22 19 58.1**	**-1.0**
	2.5nm,1.0s,baz=119,slow=5.2,SNR=3.3						
SONM	**Songino Array**	**150.59**	**94**	PKPbc	**PKPbc**	**22 20 03.2**	**-0.5**
	1.7nm,0.9s,baz=230,slow=1.7,SNR=5.8						

IDC 03 22:05:20.0±55.0, 19°.77S×178°.04W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/36, mbtmp4.3/3, Error ellipse: s-maj=1001.0km s-min=152.4km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.07**	**243**	P	P	22 12 40.9	+0.2
	2.5nm,0.5s,baz=88,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**44.65**	**256**	P	P	22 13 34.5	-0.3
	6.3nm,0.8s,baz=98,slow=7.7,SNR=67						
WRA	**Warramunga Arr**	**44.66**	**261**	P	P	22 13 34.6	-0.3
	1.1nm,0.3s,baz=98,slow=7.6,SNR=40						

*INET **03** 22:34:30.1, 8°.85N×84°.12W, h15km, MW3.6*
UCR 03 22:34:30.7±1.6, 8°.84N×84°.07W, h5km, MW4.2, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDDO	**Dominical**	**0.46**	**27**	*e*P	Pg	22 34 39.2	-0.3
RIOS	**Rincon, Osa**	**0.57**	**104**	*e*P	Pg	22 34 41.8	+0.1
RIOS				*e*S	Sb	22 34 52.1	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EDPN	Palmar Norte	0.62	79	⇑eP	Pg	22 34 42.7	+0.2
EDPN				eS	Sb	22 34 53.6	+0.6
EDLM	Las Mercedes	0.64	48	eP	Pg	22 34 42.9	-0.2
EDLM				eS	Sb	22 34 54.2	+0.4
PEZE	Perez Zeledon,	0.66	36	eP	Pg	22 34 42.9	-0.6
PEZE				eS	Sb	22 34 54.4	0.0
CDM	Cerro de Muert	0.77	23	eS	Sb	22 34 57.7	-0.1
PIRO	Carate, Puerto	0.85	121	eP	Pg	22 34 46.4	-0.5
EDBA	Buenos Aires	0.85	68	eP	Pg	22 34 46.5	-0.5
EDBA				eS	Sb	22 35 00.2	+0.6
LCR2	La Lucha 2	0.90	4	eP	Pg	22 34 46.9	-1.1
LCR2				eS	Sb	22 35 00.7	-0.5
DRK0	Durika	0.92	63	eP	Pg	22 34 47.6	-0.7
DRK0				eS	Sb	22 35 02.6	+0.8
RIMA	Rio Macho	0.94	12	eP	Pg	22 34 47.6	-1.2
RIMA				eS	Sb	22 35 01.8	-0.7
LPLA	Las Palmas La	1.06	80	eP	Pg	22 34 50.2	-1.0
LPLA				eS	Sn	22 35 07.0	-0.7
EDSV	San Vito	1.08	91	eP	Pg	22 34 51.5	0.0
HDC	Heredia	1.15	358	eP	Pg	22 34 51.4	-1.5
BRU2	Volcan	1.36	92	eP	Pn	22 34 55.1	-1.5
ARE1	Arenal 1	1.73	338	eP	Pn	22 35 01.7	+0.2
INDI	Punta indio, G	1.74	306	eP	Pn	22 35 01.1	-0.5
CEDE	Laguna Cedeo	1.75	339	i P	Pn	22 35 02.2	+0.4
COVE	Coope Vega, Sa	1.89	350	eP	Pn	22 35 03.5	-0.2
PLVR	Palo Verde	1.96	320	eP	Pn	22 35 04.5	-0.2
COLC	Colonia	2.13	328	i P	Pn	22 35 07.9	+0.9
BUAI	Buenos Aires	2.37	329	i P	Pn	22 35 10.8	+0.4

*IDC **03** 22:39:57.9±0.8, 37°.97N×144°.81E, h0km, mb3.8/13, mb1 4.0/16, mb1mx3.9/52, mbtmp3.8/16, ML3.6/2, MS2.7/2, Ms1 2.7/2, ms1mx2.4/41, Error ellipse: s-maj=20.6km s-min=18.5km az=136.0*

*NEIC **03** 22:40:00.7±1.2, 38°.12N±0°.04×144°.7E±0°.1, h10km±1km, mb4.3/10, Error ellipse: s-maj=18.6km s-min=4.3km az=109.0*

*JMA **03** 22:40:02.7±0.2, 38°.20N×144°.53E, h47km, M4.4*

*NIED **03** 22:40:02.7, 38°.20N×144°.53E, h47km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-7.12; $M_{\theta\theta}$2.41; $M_{\phi\phi}$4.71; $M_{r\theta}$2.17; $M_{\theta\phi}$1.39; $M_{\phi r}$6.59; Fault plane solution: $M_0$9.33000×10^{14} NP1: ϕ_s200.00000°, δ69.00000°, λ-92.00000°. NP2: ϕ_s27.00000°, δ21.00000°, λ-84.00000°.*

ISC 03 22:40:03.8±0.6, **38°.18N**±0°.05×**144°.68E**±0°.06, **h35**km, **n71**, σ**2s.06**/82, **mb3.9**/18, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.52	292	P	Pn	22 40 40.9	-1.3
JIKH	Ishinomakikobu	2.53	274	P	Pn	22 40 40.8	-1.6
JKMT	Kesennumamotoy	2.59	285	P	Pn	22 40 41.7	-1.5
JKMT				S	Sn	22 41 10.8	-2.7
MIYJ	Miyakonagasawa	2.63	303	P	Pn	22 40 42.3	-1.4
MIYJ				S	Sn	22 41 12.0	-2.5
JIO	Ouri	2.63	277	P	Pn	22 40 42.3	-1.4
JIO				S	Sn	22 41 11.7	-2.8
JMK	Ichinoseki	2.82	287	P	Pn	22 40 45.2	-1.1
JMK				S	Sn	22 41 16.8	-2.2
JOM	Ohasama	2.94	297	P	Pn	22 40 47.0	-1.0
JOM				eS	Sn	22 41 20.6	-1.5
JMM	Marumori	3.08	265	Pn	Pn	22 40 48.8	-1.2
JANG	Nango	3.29	313	P	Pn	22 40 51.4	-1.4
JANG				eS	Sn	22 41 28.0	-2.7
JYK	Kaneyama	3.47	284	P	Pn	22 40 54.8	-0.4
JYK				eS	Sn	22 41 33.4	-1.6
JFT	Otama	3.50	260	P	Pn	22 40 55.1	-0.6
JFT				eS	Sn	22 41 34.0	-1.9
ERM	Erimo	4.01	344		Pn	22 41 01.5	-1.1
JYT	Yasato	4.08	243	Pn	Pn	22 41 01.9	-1.6
JOT	Ohata	4.25	320	P	Pn	22 41 04.5	-1.5
JOT				eS	Sn	22 41 50.2	-4.1
JCH	Churui	4.54	348	P	Pn	22 41 07.8	-2.2
JCH				eS	Sn	22 41 57.1	-4.4
BSO1	Boso 1	4.61	221	P	Pn	22 41 08.5	-2.0
BSO1				eS	Sn	22 41 59.5	-3.0
JKB	Kayabe	4.64	324	P	Pn	22 41 11.0	-0.3
JSD	Sado	5.06	270		Pn	22 41 16.0	-1.1
JRY	Ryogami san	5.10	247	P	Pn	22 41 16.3	-1.4
JRY				eS	Sn	22 42 09.9	-5.4
NEM2	Nemuro 2	5.24	9	P	Pn	22 41 15.9	-3.7
NEM2				eS	Sn	22 42 10.9	-7.9
JEW	Eniwo	5.27	333	Pn	Pn	22 41 20.4	+0.4
MJAR	Matsushiro Arr	5.41	254	Pn	Pn	22 41 20.9	-1.0
	0.6nm,0.3s,baz=80,slow=15,SNR=16						
MAJO	Matsushiro	5.41	254		Pn	22 41 21.7	-0.3
MAT	Matsushiro	5.41	254	P	Pn	22 41 22.1	+0.2
MAT				eS	Sn	22 42 17.9	-5.0
JTKR	Abashiri--Toko	5.82	354	P	Pn	22 41 25.5	-2.0
JTKR				eS	Sn	22 42 28.0	-4.9
JHR	Hokuryu	5.99	339	P	Pn	22 41 30.1	+0.2
JHR				eS	Sn	22 42 35.4	-1.8
JKA	Kamikawa-asahi	6.14	346		Pn	22 41 31.1	-0.8
ASAJ	Asahikawa	6.14	346	Pn	Pn	22 41 31.5	-0.4
	2.3nm,0.3s,baz=193,slow=12,SNR=16						
ASAJ				Sn	Sn	22 42 37.0	-3.8
	2.2nm,0.3s,baz=56,slow=26,SNR=7.1						
JGF	Kuroka	6.41	249	Pn	Pn	22 41 36.1	+0.5
INU	Inuyama	6.77	248	Pn	Pn	22 41 40.5	-0.1
JWT	Wachi	7.99	252	Pn	Pn	22 41 57.3	0.0
USA0B	Ussuriysk Arra	11.29	306	Pn	Pn	22 42 43.5	+1.0
USRK	Ussuriysk Ar.	11.29	306	Pn	Pn	22 42 42.4	-0.2
	baz=121,slow=11,SNR=8.4						
USRK	Ussuriysk Ar.	11.29	306		Pn	22 42 43.0	+0.5
KSRS	Korea Array	13.27	272	LR	LR	22 46 49.0	
	comp=Z,20nm,21.8s,baz=74,slow=31						
KLR	Kul'dur	14.45	324	LR	LR	22 48 41.7	
	comp=Z,44nm,19.2s,baz=128,slow=36						
JOW	Kunigami	17.84	235		P	22 44 08.9	-0.8
JOW				IAmb	IAmb	22 44 15.9	
	comp=Z,52nm,1.3s						
SEY	Seymchan	25.23	8	P	P	22 45 27.1	+1.2
	comp=Z,4.3nm,0.8s,baz=192,slow=7.1,SNR=12						
H11N2	WAKE ISLAND Hy	26.64	127	T	T	23 13 13.9	
	baz=319,slow=75,SNR=17						
H11N1	WAKE ISLAND Hy	26.65	127	T	T	23 13 24.8	
	baz=319,slow=75,SNR=7.5						
H11N3	WAKE ISLAND Hy	26.66	127	T	T	23 13 20.2	
	baz=319,slow=75,SNR=8.3						
SONM	Songino Array	29.35	302	P	P	22 46 04.8	+1.5
	comp=Z,0.2nm,0.7s,baz=156,slow=44,SNR=1.7						
ZAA0	Zalesovo Array	43.08	312	P	P	22 48 00.8	+0.7
ZAA0				IAmb	IAmb	22 48 12.0	
	comp=Z,2.2nm,0.8s						
ZALV	Zalesovo Beam	43.08	312	P	P	22 48 01.3	+1.2
	comp=Z,0.5nm,0.4s,baz=91,slow=8.1,SNR=3.3						
ZALV				PcP	PcP	22 49 49.6	+0.1
	comp=Z,0.7nm,0.5s,baz=95,slow=3.0,SNR=4.0						
ZALV	Zalesovo Beam	43.08	312	P	P	22 48 01.0	+0.9
IMAR	Indian Mountai	44.34	31	P	P	22 48 10.6	+0.5
KDAK	Kodiak Island	44.51	43	P	P	22 48 11.4	0.0
PPLA	Purkeypile	44.74	35	P	P	22 48 13.7	+0.2
PPLA				IAmb	IAmb	22 48 17.2	
	comp=Z,6.5nm,1.3s						
SUA	Susitna One	45.38	38	P	P	22 48 19.8	+1.2
MK31	Makanchi Array	45.72	302	P	P	22 48 22.4	+1.0
MKAR	Makanchi Array	45.72	302	P	P	22 48 22.1	+0.8
	comp=Z,0.6nm,0.8s,baz=88,slow=9.9,SNR=7.3						
MKAR	Makanchi Array	45.72	302	P	P	22 48 21.9	+0.6
ILAR	Eielson Array	47.13	33	P	P	22 48 32.2	+0.1
	comp=Z,0.6nm,0.7s,baz=262,slow=6.4,SNR=7.7						
KURK	Kurchatov	47.28	308	P	P	22 48 34.1	+0.6
KURK				IAmb	IAmb	22 48 44.2	
	comp=Z,2.5nm,0.9s						
WRA	Warramunga Arr	58.62	191	P	P	22 49 55.0	-2.4
	comp=Z,1.0nm,0.6s,baz=8.1,slow=7.0,SNR=6.7						
ABKAR	Akbulak array	59.18	311	P	P	22 50 02.0	+1.0
ABKAR	Akbulak array	59.18	311	P	P	22 50 02.6	+1.6
ABKAR				IAmb	IAmb	22 50 19.6	
	comp=Z,3.2nm,1.2s						
YKA	Yellowknife Ar	61.50	31	P	P	22 50 15.9	-0.7
	comp=Z,0.3nm,0.7s,baz=297,slow=5.6,SNR=3.7						
ASAR	Alice Springs	62.34	191	P	P	22 50 20.7	-2.1
	comp=Z,0.4nm,0.5s,baz=9.4,slow=7.3,SNR=2.6						
FINES	FINESS Array B	68.99	333	P	P	22 51 06.0	+0.9
	comp=Z,2.9nm,0.9s,baz=232,slow=22,SNR=2.7						
SUMG	Summit	69.52	1	P	P	22 51 10.0	+1.3
SUMG				IAmb	IAmb	22 51 12.2	
	comp=Z,1.6nm,0.9s						
KBZ	Khabaz	72.10	312	P	P	22 51 25.5	+1.1
	comp=Z,1.1nm,0.7s,baz=212,slow=0.4,SNR=4.5						
NVAR	Mina Array Bea	72.22	55	P	P	22 51 26.3	+0.8
	comp=Z,0.5nm,0.6s,baz=294,slow=6.8,SNR=2.1						
NVAR	Mina Array Bea	72.22	55	P	P	22 51 26.7	+1.2
PDAR	Pinedale Array	75.00	47	P	P	22 51 41.8	0.0
	comp=Z,0.8nm,0.6s,baz=281,slow=2.2,SNR=9.1						
PDAR	Pinedale Array	75.00	47	P	P	22 51 42.2	+0.4
BUR08	Bucovina Ar. S	78.97	323	P	P	22 52 05.0	+1.1
BURAR	Bucovina Array	78.99	323	P	P	22 52 05.2	+1.2
TXAR	Lajitas Array	87.36	54	P	P	22 52 47.9	+0.4
	comp=Z,0.3nm,0.6s,baz=306,slow=4.5,SNR=3.6						
H06E1	SOCORRO T-PHAS	89.35	67	T	T	00 32 52.4	
	SNR=2300						
H06S1	SOCORRO T	89.36	67	T	T	00 32 54.8	
	SNR=6.8						

*IDC **03** 22:41:41.3±1.3, 2°.38S×128°.02E, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.6/43, mbtmp3.7/6, ML3.4/3, MS2.9/4, Ms1 2.8/4, ms1mx2.6/33, Error ellipse: s-maj=31.9km s-min=21.9km az=80.0*

*DJA **03** 22:41:45.8±0.8, 2°S±3°×12°8E±°, h13km±11km, M3.4/6, MLv3.4/6*

ISC 03 22:41:41.8±0.8, **2°.37S**±0°.07×**128°.37E**±0°.06, **h10**km, **n10**, σ**1s.44**/12, **mb3.6**/3, **Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NLAI	Namlea	1.54	236	P	Pb	22 42 10.4	0.0
SANI	Sanana	2.40	278	P	Pn	22 42 20.7	-0.6
SWI	Sorong	3.25	63	P	Pg	22 42 43.2	-1.0
SIJI	Sorong	3.25	63	Pn	Pb	22 42 39.5	-0.3
	4.4nm,0.3s,baz=243,slow=22,SNR=10						
SIJI				Sn	Sb	22 43 21.2	+1.7
	4.3nm,0.3s,baz=241,slow=23,SNR=9.3						
SIJI				LR	LR	22 44 09.2	
	comp=Z,95nm,21.8s,baz=274,slow=41						
FITZ	Fitzroy Crossi	15.86	190	Pn	Pn	22 45 26.4	+1.2
	0.0nm,0.3s,baz=3.4,slow=11,SNR=2.1						
FITZ				LR	LR	22 51 50.0	
	comp=Z,31nm,20.2s,baz=74,slow=38						
WRA	Warramunga Arr	18.41	162	P	Pn	22 45 57.9	+0.5
	0.3nm,0.3s,baz=341,slow=12,SNR=15						
WRA				S	Sn	22 49 22.7	-0.5
	0.1nm,0.3s,baz=333,slow=21,SNR=2.2						
WRA				LR	LR	22 52 45.4	
	comp=Z,38nm,20.6s,baz=305,slow=36						
ASAR	Alice Springs	21.84	166	P	P	22 46 36.6	+1.9
	1.6nm,0.4s,baz=346,slow=10,SNR=30						
ASAR				S	S	22 50 33.2	-2.9
	1.4nm,0.9s,baz=347,slow=17,SNR=5.9						
STKA	Stephens Creek	31.88	158	LR	LR	23 01 26.5	
	comp=Z,38nm,19.7s,baz=210,slow=37						
SONM	Songino Array	53.57	342	P	P	22 51 02.9	-0.2
	0.5nm,0.9s,baz=159,slow=8.6,SNR=3.6						
MKAR	Makanchi Array	63.49	326	P	P	22 52 12.5	+0.2
	0.2nm,0.5s,baz=122,slow=7.5,SNR=2.8						

IDC 03 23:10:49.5±547.0, **16°.26S**×**25°.62W**, **h0**km, **Error ellipse: s-maj=263.7km s-min=194.7km az=176.0, South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I50GB	ASCENSION ISLA	13.75	54	i		00 37 40.0	
	baz=230,slow=320,SNR=2.1						
I09BR	BRASILIA INFRA	21.55	269	i		01 22 10.0	
	baz=93,slow=319,SNR=2.0						
I17CI	DIMBOKRO INFRA	30.68	44	i		02 32 20.0	
	baz=223,slow=315,SNR=3.1						

*IDC **03** 23:39:49.1±1.2, 7°.03S×128°.21E, h233km±14km, mb3.2/5, mb1 3.6/9, mb1mx3.3/38, mbtmp4.1/9, Error ellipse: s-maj=17.9km s-min=10.5km az=96.0*

*NEIC **03** 23:39:51.5±1.9, 7°.0S±0°.1×128°.17E±0°.09, h254km±11km, mb4.0/10, Error ellipse: s-maj=16.5km s-min=11.9km az=155.0*

ISC 03 23:39:50.4±0.6, **7°.04S**±0°.05×**128°.19E**±0°.07, **h250**km, **n33**, σ**1s.61**/38, **mb3.6**/7, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	3.22	107	Pn	Pn	23 40 47.3	+1.9
SOEI	Soe	4.72	235		Pn	23 41 03.5	+0.5
BATI	Baumata	5.47	235	P	Pn	23 41 12.5	+0.4
	246nm,0.3s,baz=93,slow=3.4,SNR=165						
BATI				S	S	23 42 13.8	-3.4
	122nm,0.3s,baz=44,slow=1.9,SNR=12						
FAKI	Fak Fak	5.75	45	Pn	Pn	23 41 15.4	-0.2
SIJI	Sorong	6.86	27	P	Pn	23 41 29.3	0.0
	7.5nm,0.3s,baz=236,slow=23,SNR=29						
SIJI				S	S	23 42 43.2	-5.5
	3.3nm,0.3s,baz=254,slow=23,SNR=5.7						
KAPI	Kappang	8.63	283	Pn	Pn	23 41 53.2	+1.4
FITZ	Fitzroy Crossi	11.27	193	P	Pn	23 42 24.9	0.0
	2.5nm,0.3s,baz=23,slow=12,SNR=49						
FITZ				S	S	23 44 27.9	-3.1
	0.7nm,0.3s,baz=279,slow=22,SNR=1.6						
FITZ	Fitzroy Crossi	11.27	193	Pn	Pn	23 42 24.1	-0.8
WB0	Warramunga Arr	14.01	155		Pn	23 42 58.9	+0.2
WRAB	Tennant Creek	14.14	156		Pn	23 43 00.5	+0.2
WRA	Warramunga Arr	14.15	156	P	Pn	23 42 59.6	-0.8
	1.5nm,0.3s,baz=329,slow=12,SNR=59						
WRA				S	S	23 45 33.4	-3.7
	0.9nm,0.3s,baz=323,slow=22,SNR=7.4						
WB2	Warramunga Arr	14.15	156		Pn	23 43 00.5	0.0
WR0	Warramunga Arr	14.24	155		P	23 43 02.4	+0.4
COEN	Coen	16.25	116	P	Pn	23 43 26.0	+0.4
COEN				IAmb	IAmb	23 43 27.8	
	comp=Z,6.9nm,1.2s						
PSA00	Pilbara Seismi	16.54	208	P	P	23 43 28.3	+1.0
PSA00				IAmb	IAmb	23 43 45.5	
	comp=Z,40nm,1.5s						
AS31	Alice Springs	17.42	162	P	Pn	23 43 39.1	-0.2
AS31				IAmb	IAmb	23 43 39.2	
	comp=Z,2.6nm,0.7s						
ASAR	Alice Springs	17.42	162	P	P	23 43 38.0	+1.1
	comp=Z,1.3nm,0.3s,baz=340,slow=10,SNR=92						
ASAR				S	S	23 46 44.3	-0.7
	comp=Z,0.1nm,0.3s,baz=332,slow=8.7,SNR=2.2						
ASAR	Alice Springs	17.42	162	P	Pn	23 43 39.2	-0.1
PMG	Port Moresby	18.92	98	P	P	23 43 54.1	+1.0
PMG				IAmb	IAmb	23 43 54.9	
	comp=Z,33nm,1.4s						
FORT	Forrest	23.62	180	P	P	23 44 40.3	+1.2
BBOO	Buckleboo	26.66	165	P	P	23 45 08.1	+1.5
STKA	Stephens Creek	27.70	155	P	P	23 45 16.2	+0.5
	comp=Z,0.6nm,0.3s,baz=315,slow=10,SNR=3.8						
STKA	Stephens Creek	27.70	155	P	P	23 45 16.8	+1.0
USRK	Ussuriysk Ar.	51.12	4	P	P	23 48 28.6	+0.8
	comp=Z,1.9nm,0.8s,baz=180,slow=7.5,SNR=3.1						
SONM	Songino Array	57.93	343	P	P	23 49 18.1	+1.3
	comp=Z,0.5nm,0.8s,baz=151,slow=6.3,SNR=2.4						
MK31	Makanchi Array	67.29	328	P	P	23 50 19.9	+1.6
MKAR	Makanchi Array	67.29	328	P	P	23 50 18.6	+0.3
	comp=Z,0.2nm,0.4s,baz=108,slow=8.6,SNR=5.3						
MKAR	Makanchi Array	67.29	328	P	P	23 50 19.5	+1.1
MAKZ	Makanchi	67.46	328	P	P	23 50 20.4	+0.9
MAKZ				IAmb	IAmb	23 50 36.8	
	comp=Z,2.1nm,1.4s						
ZAA0	Zalesovo Array	70.84	335	P	P	23 50 40.2	+0.3
ZAA0				IAmb	IAmb	23 50 44.8	
	comp=Z,1.0nm,0.8s						
ZALV	Zalesovo Beam	70.84	335	P	P	23 50 39.6	-0.3
	comp=Z,0.4nm,0.3s,baz=150,slow=4.7,SNR=2.6						
ZALV	Zalesovo Beam	70.84	335	P	P	23 50 39.9	0.0
TXAR	Lajitas Array	126.49	59	PKP	PKPdf	23 58 23.3	-1.2
	comp=Z,0.2nm,0.8s,baz=165,slow=21,SNR=1.6						

*AAE **03** 23:42:49.4±24.0, 9°.10N×39°.29E, h47km±999km*

EAF 03 23:42:36.5±3.1, **8°.07N**×**37°.99E**, **h0**km±19km, **Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FURI	Furi	1.07	40	eP	Pg	23 42 55.3	-1.8
FURI				eS	Sg	23 43 08.7	-2.3
FURI	Furi	1.07	40	eP	Pg	23 42 54.9	-2.1
FURI				eS	Sg	23 43 09.1	-1.9
AAE	Adis Abeba	1.23	39	eP	Pg	23 42 58.0	-2.1
AAE				eS	Sg	23 43 13.2	-2.8
DILA	Dilla	1.65	170	eP	Pn	23 43 05.4	-1.5
DILA				eS	Sn	23 43 27.8	-1.2
ANKE	Ethiopia-Afar	2.30	49	eP	Pn	23 43 14.1	-1.9
ANKE				eS	Sn	23 43 45.1	-0.2
DESE	Dese	3.44	28	eP	Pn	23 43 32.8	+1.1
DESE				eS	Sb	23 44 19.5	-1.6
TEND	Ethiopian Broa	4.75	39	eP	Pn	23 43 47.8	-1.7
TEND				eS	Sn	23 44 50.2	+5.0
ATD	Arta Tunnel	5.90	54	eP	Pn	23 44 08.8	+3.5
ATD				eS	Sn	23 44 22.7	-51

*NEIC **03** 23:51:54.8±1.5, 43°.60N±0°.04×11°.21E±0°.05, h6km±9km, Error ellipse: s-maj=6.9km s-min=4.4km az=217.0*

*LDG **03** 23:51:54.5±0.1, 43°.59N×11°.14E, h10km, Md3.4/1, Ml3.1/33, Error ellipse: s-maj=1.7km s-min=1.3km az=25.0*

*ROM **03** 23:51:54.4±0.1, 43°.594N±0°.003×11°.164E±0°.004, h9km, ML3.3/61, Error ellipse: s-maj=0.3km s-min=0.1km az=48.0*

*GEN **03** 23:51:54, 43°.59N×11°.18E, h10km±6km, Ml3.3*

*STR **03** 23:51:55.2±1.3, 43°N±6°×1°1E±1°0, h0km, MLv3.2/10, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

*IDC **03** 23:51:56.9±2.0, 43°.80N×11°.48E, h0km, mb3.4/1, mb1 3.6/6, mb1mx3.3/48, mbtmp3.5/6, ML3.1/3, Error ellipse: s-maj=38.9km s-min=19.4km az=97.0*

*PRU **03** 23:51:56.7±0.0, 43°.71N×11°.34E, h0km*

ISC 03 23:51:54.5±0.8, **43°.58N**±0°.01×**11°.15E**±0°.01, **h13**km±5km, **n229**, σ**2s.03**/305, **8C-11D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OSSC	Osservatorio P	0.09	128		Pg	23 51 57.1	-0.3
OSSC				Sg	Sg	23 51 59.1	-0.4
OSSC	Osservatorio P	0.09	128	⇓P	Pg	23 51 57.2	-0.2
OSSC				S	Sg	23 51 58.9	-0.6
OSSC				AML	AML		
	comp=E,56400µm,0.7s						
OSSC				AML	AML		
	comp=N,55950µm,0.7s						
OSSC				AML	AML		
	comp=E,56450µm,0.7s						
OSSC				AML	AML		
	comp=E,56450µm,0.7s						
OSSC				AML	AML		
OSSC				AML	AML		
OSSC				AML	AML		
	comp=E,56450µm,0.7s						
OSSC				AML	AML		
	comp=N,55950µm,0.7s						
CSNT	Castellina Chi	0.15	136	⇓P	Pb	23 51 58.1	-1.1
CSNT				S	Sb	23 52 00.6	-1.7
CSNT				AML	AML		
	comp=E,83150µm,0.6s						
CSNT				AML	AML		
CSNT				AML	AML		
	comp=E,83150µm,0.6s						
FIR	Firenze	0.21	22	⇑P	Pb	23 51 58.9	-1.3
FIR				S	Sb	23 52 01.9	-2.1
CRMI	Carmignano	0.25	328	⇓P	Pb	23 51 59.9	-1.0
CRMI				S	Sb	23 52 04.2	-0.9
CRMI				AML	AML		
	comp=N,6180µm,0.7s						
CRMI				AML	AML		
	comp=N,2585µm,0.7s						
CRMI				AML	AML		
	comp=E,3110µm,0.5s						
CRMI				AML	AML		
	comp=N,2590µm,0.7s						
CRMI				AML	AML		
	comp=E,7635µm,0.5s						
RUFI	Rufina	0.37	45	⇑P	Pg	23 52 01.6	-0.4
RUFI				S	Sg	23 52 06.9	-0.1
RUFI				AML	AML		
	comp=E,9600µm,0.6s						
RUFI				AML	AML		
	comp=N,5745µm,0.7s						
RUFI				AML	AML		
	comp=E,9590µm,0.6s						
FROS	Frosini	0.37	179	⇑P	Pg	23 52 02.6	+0.7
FROS				S	Sg	23 52 08.3	+1.4
FROS				AML	AML		
	comp=E,45050µm,0.7s						
FROS				AML	AML		
	comp=N,32550µm,0.3s						
FROS				AML	AML		
	comp=E,45050µm,0.8s						
FROS				AML	AML		
	comp=E,45050µm,0.8s						
FROS				AML	AML		
	comp=N,32550µm,0.4s						
PTF	Prato	0.38	352	P	Pg	23 52 02.3	+0.1
PTF				S	Sg	23 52 07.9	+0.4
MTCR	Monte La Croce	0.46	346	P	Pg	23 52 03.5	-0.2
MTCR				S	Sg	23 52 10.2	+0.3
MTCR				AML	AML		
	comp=E,6040µm,0.9s						
MTCR				AML	AML		
	comp=E,6045µm,0.9s						
MTCR				AML	AML		
	comp=N,6000µm,0.3s						
PII	Pisa	0.47	288	⇓P	Pg	23 52 04.4	+0.6
PII				S	Sg	23 52 11.0	+0.8
PII				AML	AML		
	comp=N,12050µm,0.8s						
PII				AML	AML		
	comp=E,9755µm,0.3s						
SEI	Scarperia	0.50	18	⇑P	Pg	23 52 04.2	-0.1
SEI				S	Sg	23 52 11.3	+0.3
SEI				AML	AML		
	comp=E,8715µm,0.5s						
SEI				AML	AML		
	comp=N,17850µm,0.4s						
TRIF	Trifonti	0.50	201	⇑P	Pg	23 52 04.9	+0.6
TRIF				S	Sb	23 52 12.4	+0.1
TRIF				AML	AML		
	comp=E,3300µm,1.0s						
TRIF				AML	AML		
	comp=N,7505µm,0.2s						
TRIF				AML	AML		
	comp=N,7505µm,0.3s						
ASQU	Asqua	0.51	65	⇑P	Pg	23 52 04.1	-0.5
ASQU				S	Sg	23 52 11.4	-0.1
ASQU				AML	AML		
	comp=E,9960µm,0.3s						
ASQU				AML	AML		
	comp=N,9175µm,0.5s						
POPM	Popiglio	0.54	329	P	Pb	23 52 05.1	-0.8
POPM				S	Sb	23 52 13.6	0.0
POPM	Popiglio	0.54	329	⇓P	Pb	23 52 05.1	-0.8
POPM				S	Sb	23 52 13.7	0.0
POPM				AML	AML		
	comp=N,3885µm,1.5s						
POPM				AML	AML		
	comp=E,4245µm,1.2s						
MAIM	Mastiano	0.58	305	P	Pb	23 52 06.1	-0.4
MAIM				S	Sb	23 52 13.9	-0.8
MAIM	Mastiano	0.58	305	⇓P	Pb	23 52 06.1	-0.4
MAIM				S	Sb	23 52 13.9	-0.8
MAIM				AML	AML		
	comp=E,3295µm,0.6s						
MAIM				AML	AML		
	comp=N,2535µm,0.5s						
CRE	Caprese Michel	0.58	86	P	Pb	23 52 05.8	-0.9
CRE				S	Sb	23 52 14.1	-0.8
CRE				AML	AML		
	comp=N,12950µm,0.3s						
CRE				AML	AML		
	comp=E,12500µm,0.6s						
FNVD	Fontana Vidola	0.59	358	P	Pb	23 52 05.9	-0.8
FNVD				S	Sb	23 52 14.8	-0.2
FNVD				AML	AML		
	comp=E,5295µm,1.2s						
FNVD				AML	AML		
	comp=N,5130µm,0.8s						
FNVD				AML	AML		
	comp=E,5300µm,1.2s						
SFI	Santa Sofia	0.60	57	⇑P	Pb	23 52 05.6	-1.4
SFI				S	Sb	23 52 14.4	-0.9
SFI				AML	AML		
	comp=E,9850µm,0.5s						
SFI				AML	AML		
	comp=E,9660µm,0.5s						
SFI				AML	AML		
	comp=N,6740µm,0.4s						
SFI				AML	AML		

comp=N,6940µm,0.9s
BDI Bagni Di Lucca 0.63 321 P **Pb** 23 52 06.7 -0.7
BDI AML AML
comp=E,3605µm,0.4s
BDI AML AML
comp=N,3925µm,0.4s
BDI AML AML
comp=N,3435µm,0.4s
BDI AML AML
comp=N,3930µm,0.4s
BDI AML AML
comp=E,3570µm,0.4s
BRIS BRISIGHELLA 0.63 25 P **Pn** 23 52 09.5 +0.4
BRIS AML AML
comp=E,1255µm,0.5s
BRIS AML AML
comp=N,2045µm,0.6s
LMD Lutirano 0.64 39 P **Pb** 23 52 06.4 -1.2
LMD S **Sb** 23 52 15.6 -0.9
LMD AML AML
comp=N,4735µm,0.4s
LMD AML AML
comp=E,4205µm,0.3s
CAFI Castiglion Fio 0.65 113 ⇓P **Pb** 23 52 06.8 -0.9
CAFI S **Sb** 23 52 15.8 -0.8
CAFI AML AML
comp=E,2200µm,0.5s
CAFI AML AML
comp=N,2810µm,1.2s
CAFI AML AML
comp=N,2620µm,0.8s
CAFI AML AML
comp=E,2245µm,0.5s
CAFI AML AML
comp=N,2625µm,0.8s
CAFI AML AML
comp=N,2808µm,1.2s
CARD Cardoso 0.66 313 P **Pb** 23 52 07.3 -0.5
CARD S **Sb** 23 52 16.5 -0.4
CARD Cardoso 0.66 313 ⇓P **Pb** 23 52 07.4 -0.5
CARD S **Sb** 23 52 16.3 -0.6
CARD AML AML
comp=E,2280µm,0.8s
CARD AML AML
comp=N,2405µm,0.5s
SSP9 Sansepolcro 0.71 90 P **Pb** 23 52 08.5 -0.3
SSP9 S **Sb** 23 52 18.0 -0.6
SSP9 AML AML
comp=E,5340µm,1.4s
SSP9 AML AML
comp=N,4600µm,0.5s
SSP9 AML AML
comp=E,5330µm,1.4s
ARCI Arcidosso 0.77 162 P **Pb** 23 52 09.5 -0.2
ARCI S **Sb** 23 52 19.7 -0.4
ARCI AML AML
comp=N,2380µm,1.6s
ARCI AML AML
comp=E,2635µm,0.9s
ZCCA Zocca 0.78 351 **Pb** 23 52 11.0 +1.0
ZCCA Zocca 0.78 351 P **Pb** 23 52 09.0 -1.0
ZCCA AML AML
comp=E,2070µm,0.5s
ZCCA AML AML
comp=N,1980µm,1.6s
ZCCA AML AML
comp=N,1960µm,1.2s
ZCCA AML AML
comp=E,2140µm,0.5s
PARC Parchiule 0.80 85 ⇓P **Pb** 23 52 09.7 -0.5
PARC S **Sb** 23 52 20.2 -0.7
PARC AML AML
comp=E,2855µm,1.5s
PARC AML AML
comp=N,4315µm,0.7s
CDCA Citt' di Caste 0.80 98 P **Pb** 23 52 09.9 -0.4
BADI Badiali 0.80 95 P **Pb** 23 52 09.9 -0.4
BADI S **Sb** 23 52 20.9 -0.1
BADI AML AML
comp=E,5755µm,0.8s
BADI AML AML
comp=N,3820µm,1.5s
VLC Villacollemand 0.80 317 **Pb** 23 52 10.2 -0.2
VLC Villacollemand 0.80 317 P **Pb** 23 52 10.1 -0.2
VLC AML AML
comp=E,1505µm,1.2s
VLC AML AML
comp=N,1475µm,1.2s
VLC AML AML
comp=E,1485µm,1.1s
VLC AML AML
comp=N,1460µm,1.2s
SARO Sassorosso 0.81 318 P **Pb** 23 52 10.2 -0.3
SARO S **Sg** 23 52 23.2 +2.3
SARO Sassorosso 0.81 318 P **Pb** 23 52 10.1 -0.4
SARO S **Sb** 23 52 21.5 +0.1
SARO AML AML
comp=E,2095µm,0.5s
SARO AML AML
comp=N,1530µm,0.5s
CASP Castiglione de 0.81 195 **Pb** 23 52 10.9 +0.4
CASP Sg **Sb** 23 52 21.5 0.0
CASP Castiglione de 0.81 195 P **Pb** 23 52 10.8 +0.2
CASP S **Sg** 23 52 21.8 +0.8
CASP AML AML
comp=E,1795µm,0.6s
CASP AML AML
comp=N,1790µm,0.6s
MTRZ Monterenzio 0.83 16 P **Pb** 23 52 09.7 -1.1
MTRZ S **Sb** 23 52 20.0 -1.9
MTRZ AML AML
comp=E,4105µm,0.5s
MTRZ AML AML
comp=N,3825µm,0.6s
MTRZ AML AML
comp=N,3840µm,0.5s
MTRZ AML AML
comp=E,3970µm,0.5s
CPGN Carpegna, Ital 0.88 75 P **Pb** 23 52 11.6 -0.1
CPGN S **Sb** 23 52 22.8 -0.6
CPGN AML AML
comp=E,3305µm,1.4s
CPGN AML AML
comp=N,3860µm,0.6s
CPGN AML AML
comp=E,3550µm,0.5s
CPGN AML AML
comp=N,4095µm,1.5s
MCIV Monte Civitell 0.89 154 P **Pb** 23 52 11.5 -0.3
MCIV S **Sb** 23 52 23.1 -0.5
MCIV AML AML
comp=E,1365µm,1.3s
MCIV AML AML
comp=N,1685µm,0.9s
IMOL Imola, Italy 0.89 29 P **Pb** 23 52 13.0 +1.2
SACS San Casciano d 0.92 142 ⇓P **Pb** 23 52 12.1 -0.2
SACS AML AML
comp=E,1075µm,1.6s
SACS AML AML
comp=N,1025µm,1.6s
SACS AML AML
comp=E,1035µm,1.6s
SACS AML AML
comp=N,1025µm,1.6s
SACS AML AML
comp=E,1080µm,1.6s
SACS AML AML
comp=N,1024µm,1.6s
SACS AML AML
comp=N,1022µm,1.6s
ATPI Pietralunga - 0.92 98 P **Pb** 23 52 11.9 -0.5
ATPI S **Sb** 23 52 24.3 -0.3
ATPI AML AML
comp=E,1860µm,0.5s
ATPI AML AML
comp=N,3530µm,0.9s
APEC Apecchio 0.93 91 P **Pb** 23 52 12.0 -0.4
APEC S **Sb** 23 52 24.4 -0.2
APEC AML AML
comp=N,852µm,1.1s
APEC AML AML
comp=N,3615µm,0.4s
APEC AML AML
comp=E,756µm,0.4s
APEC AML AML
comp=E,3825µm,0.4s

GROG Isola di Gorgo 0.93 261 P **Pb** 23 52 12.3 -0.1
EQUI Equi 0.93 309 P **Pb** 23 52 12.6 0.0
EQUI S **Sb** 23 52 24.6 -0.1
EQUI Equi 0.93 309 P **Pb** 23 52 12.5 0.0
EQUI AML AML
comp=N,1460µm,1.0s
EQUI AML AML
comp=E,1330µm,0.5s
ATVO AVT- Monte Val 0.94 102 ⇓P **Pb** 23 52 12.2 -0.5
ATVO S **Sb** 23 52 25.1 +0.1
ATVO AML AML
comp=N,3285µm,1.1s
ATVO AML AML
comp=E,3225µm,0.7s
ATTE AVT- Monte Tez 0.96 113 P **Pb** 23 52 12.3 -0.7
ATTE AML AML
comp=E,1905µm,1.0s
ATTE AML AML
comp=N,2425µm,0.7s
MGAB Montegabbione 0.97 133 P **Pb** 23 52 12.6 -0.6
MGAB AML AML
comp=E,1385µm,0.6s
MGAB AML AML
comp=E,1340µm,0.7s
MGAB AML AML
comp=N,1305µm,0.7s
MGAB AML AML
comp=N,1385µm,0.9s
MGAB AML AML
comp=E,1390µm,0.6s
PE3 Peglio 0.99 83 P **Pb** 23 52 13.2 -0.2
PE3 S **Sb** 23 52 26.4 +0.1
PE3 AML AML
comp=E,6310µm,0.7s
PE3 AML AML
comp=N,5940µm,1.0s
FIVI Fivizzano 0.99 312 P **Pb** 23 52 13.6 +0.1
ERBM Eremo 0.99 328 P **Pb** 23 52 13.2 -0.5
ERBM AML AML
comp=N,1195µm,0.9s
ERBM AML AML
comp=E,1154µm,1.2s
PIEI Pieia 1.01 92 P **Pb** 23 52 13.3 -0.6
PIEI AML AML
comp=N,1125µm,0.4s
PIEI AML AML
comp=E,1495µm,1.6s
NARO Abbazia di Nar 1.04 88 P **Pb** 23 52 13.9 -0.5
NARO S **Sb** 23 52 27.9 0.0
NARO AML AML
comp=N,942µm,1.3s
NARO AML AML
comp=E,790µm,0.4s
PLMA Palmaria, Port 1.05 297 P **Pb** 23 52 14.4 -0.1
PLMA AML AML
comp=E,728µm,0.4s
PLMA AML AML
comp=N,882µm,1.1s
PLMA AML AML
comp=N,882µm,1.1s
PLMA AML AML
comp=E,727µm,0.4s
MURB Monte Urbino 1.05 107 **Pb** 23 52 14.1 -0.4
MURB Monte Urbino 1.05 107 P **Pb** 23 52 14.2 -0.4
MURB AML AML
comp=E,5920µm,0.4s
MURB AML AML
comp=N,6680µm,1.0s
MURB AML AML
comp=N,6610µm,1.0s
MURB AML AML
comp=E,5595µm,0.4s
ATFO Monte Foce - G 1.06 101 P **Pb** 23 52 14.2 -0.6
ATFO AML AML
comp=N,1630µm,0.4s
ATFO AML AML
comp=E,2150µm,0.7s
LATE Laterza 1.08 153 **Pb** 23 52 14.8 -0.3
LATE Laterza 1.08 153 P **Pb** 23 52 14.9 -0.2
BLLA Bellaria 1.11 59 P **Pn** 23 52 14.9 -0.9
BLLA AML AML
comp=N,1911µm,1.4s
BLLA AML AML
comp=E,1855µm,1.4s
FRON Frontone 1.15 93 P **Pn** 23 52 15.8 -0.5
FRON S **Sb** 23 52 30.6 -0.4
FRON AML AML
comp=E,957µm,0.7s
FRON AML AML
comp=N,1180µm,0.5s
ATCC AVT- Casa Cast 1.16 109 ⇑P **Pn** 23 52 16.1 -0.4
ATCC AML AML
comp=E,2395µm,0.9s
ATCC AML AML
comp=N,1995µm,0.9s
MPAG Monte Paganucc 1.17 87 P **Pn** 23 52 16.2 -0.4
MPAG AML AML
comp=N,1129µm,0.6s
MPAG AML AML
comp=N,1210µm,0.6s
MPAG AML AML
comp=E,778µm,0.7s
MPAG AML AML
comp=E,774µm,0.7s
FSSB Fossombrone 1.19 84 P **Pn** 23 52 16.6 -0.3
FSSB S **Sb** 23 52 32.2 0.0
FSSB AML AML
comp=N,2680µm,0.5s
FSSB AML AML
comp=E,2505µm,0.3s
SSFR Montelago di S 1.20 96 P **Pn** 23 52 16.3 -0.7
SSFR AML AML
comp=E,1060µm,0.3s
SSFR AML AML
comp=N,1600µm,0.7s
SSFR AML AML
comp=E,1004µm,0.3s
SSFR AML AML
comp=N,1470µm,0.7s
GRAM Graiana 1.20 320 P **Pn** 23 52 17.5 +0.4
GRAM Graiana 1.20 320 P **Pn** 23 52 16.9 -0.1
GRAM AML AML
comp=E,1645µm,0.4s
GRAM AML AML
comp=N,1430µm,1.3s
FOSV Fossato di Vic 1.21 103 P **Pn** 23 52 16.6 -0.6
FOSV AML AML
comp=N,765µm,0.6s
FOSV AML AML
comp=E,898µm,0.5s
NOVE Novellara 1.26 346 P **Pn** 23 52 17.0 -0.7
PESA Pesaro 1.28 73 P **Pn** 23 52 17.9 -0.2
PESA AML AML
comp=N,1905µm,1.1s
PESA AML AML
comp=E,1660µm,1.4s
CAVE Cavezzo 1.29 355 P **Pn** 23 52 18.3 +0.1
MOMA Monte Martano 1.30 126 P **Pn** 23 52 18.2 -0.2
ARVD Arcevia 1.31 93 P **Pn** 23 52 18.2 -0.2
ARVD AML AML
comp=E,552µm,0.9s
ARVD AML AML
comp=N,700µm,0.9s
PRMA PARMA 1.33 333 **Pg** 23 52 21.5 +1.5
SNTG Esanatoglia 1.35 103 P **Pn** 23 52 18.9 -0.1
MSSA Maissana 1.39 303 Pn **Pn** 23 52 19.7 0.0
MSSA Maissana 1.39 303 P **Pn** 23 52 19.7 0.0
MSSA AML AML
comp=N,574µm,0.8s
MSSA AML AML
comp=E,474µm,0.9s
CESI CESI - Serrava 1.41 114 P **Pn** 23 52 19.5 -0.4
CESI AML AML
comp=E,248µm,1.4s
CESI AML AML
comp=N,232µm,0.5s
CESX Cesi 1.43 132 P **Pn** 23 52 20.2 +0.1
CESX AML AML
comp=E,600µm,0.4s
CESX AML AML
comp=N,504µm,0.7s
EL6 Elcito 1.44 99 P **Pn** 23 52 20.7 +0.3
CING Cingoli 1.50 97 P **Pn** 23 52 21.5 +0.3
CING AML AML
comp=E,568µm,0.9s
CING AML AML

comp=N,448µm,0.8s
FDMO Fiordimonte 1.52 110 P **Pn** 23 52 21.5 +0.1
FDMO AML AML
comp=E,304µm,0.4s
FDMO AML AML
comp=N,378µm,0.4s
NRCA Norcia 1.62 117 Pn **Pn** 23 52 22.4 -0.4
LNSS Leonessa 1.69 125 P **Pn** 23 52 24.2 +0.3
LNSS AML AML
comp=E,520µm,0.8s
LNSS AML AML
comp=N,585µm,1.1s
BOB Bobbio (Coli) 1.71 315 AML AML
comp=N,694µm,1.2s
BOB AML AML
comp=E,550µm,1.1s
BOB AML AML
comp=N,626µm,0.6s
BOB AML AML
comp=E,584µm,0.5s
TEOL Teolo 1.82 12 Pn **Pn** 23 52 25.6 +0.1
RM33 Pellescritta (1.85 125 P **Pn** 23 52 26.5 +0.4
PGF Pioggiola 1.88 238 *e*Pn **Pn** 23 52 26.3 -0.2
PGF *e*Sn **Sn** 23 52 48.1 -2.0
comp=E,44nm,0.6s
PGF Pioggiola 1.88 238 P **Pn** 23 52 26.6 +0.1
FIAM Fiamignano 1.95 132 P **Pn** 23 52 28.0 +0.6
AQU L'Aquila 2.06 126 *e*Pn **Pn** 23 52 30.3 +1.5
AQU L'Aquila 2.06 126 Pn **Pn** 23 52 30.0 +1.2
ROVR Rover Verones 2.07 359 AML AML
comp=N,182µm,0.3s
ROVR AML AML
comp=E,190µm,0.5s
SALO Salr 2.09 348 Pn **Pn** 23 52 30.5 +1.2
GUMA Gualdo di Mace 2.10 103 AML AML
comp=N,1865µm,0.7s
GUMA AML AML
comp=E,2255µm,0.7s
GUMA AML AML
comp=N,1495µm,0.6s
GUMA AML AML
comp=E,2170µm,0.6s
FINB Finale Ligure 2.13 287 AML AML
comp=N,120µm,0.6s
FINB AML AML
comp=E,118µm,0.4s
MAGA Magasa 2.23 351 AML AML
comp=N,509µm,1.3s
MAGA AML AML
comp=E,893µm,0.4s
AJAC Base Areonaval 2.41 228 P **Pn** 23 52 34.5 +0.9
AJAC S **Sn** 23 53 03.9 +0.9
CTI Castel Tesino 2.49 8 Pn **Pn** 23 52 35.3 +0.5
INTR Introdacqua 2.56 127 Pn **Pn** 23 52 37.2 +1.4
POLC Polcenigo 2.63 21 AML AML
comp=E,325µm,0.5s
POLC AML AML
comp=N,324µm,1.6s
SAOF Saorge 2.63 280 P **Pn** 23 52 37.2 +0.4
SAOF S **Sn** 23 53 08.3 -0.2
ESCA l'Escarene 2.75 277 P **Pn** 23 52 39.8 +1.5
TURF col de Turini 2.75 280 P **Pn** 23 52 38.8 +0.3
MUGIO Muggio 2.78 328 AML AML
comp=N,124µm,0.6s
MUGIO AML AML
comp=E,112µm,1.0s
TRI Trieste 2.83 40 Pn **Pn** 23 52 40.2 +0.8
TRI Trieste 2.83 40 AML AML
comp=E,101µm,0.9s
TRI AML AML
comp=N,86µm,0.9s
NVLJ Novalja 2.86 69 *e*Pn **Pn** 23 52 40.8 +1.0
NVLJ Sn **Sn** 23 53 11.1 -2.9
DUGI Dugi Otok 2.86 80 *e*Pn **Pn** 23 52 40.2 +0.4
APPI Appiano 2.90 1 AML AML
comp=N,192µm,0.4s
APPI AML AML
comp=E,220µm,0.5s
STAL STALIGIAL 2.90 22 Pn **Pn** 23 52 40.5 +0.1
RIY Rijeka 2.96 53 *e*Pn **Pn** 23 52 41.2 +0.1
RIY Sn **Sn** 23 53 13.2 -3.3
SABO M.te Sabotino 2.97 35 AML AML
comp=E,254µm,1.3s
SABO AML AML
comp=N,240µm,0.8s
ISO Isola 3.02 283 P **Pn** 23 52 43.3 +1.2
ISO S **Sn** 23 53 19.2 +1.0
CALF Calern 3.07 275 P **Pn** 23 52 43.5 +0.7
ABSI Aberstueckl 3.15 2 AML AML
comp=E,232µm,0.6s
ABSI AML AML
comp=N,167µm,0.7s
TUE Stuetta 3.16 337 Pn **Pn** 23 52 45.5 +1.4
TUE Stuetta 3.16 337 AML AML
comp=N,114µm,0.8s
TUE AML AML
comp=N,141µm,0.8s
TUE AML AML
comp=E,130µm,0.8s
TUE AML AML
comp=E,114µm,0.9s
CEY Cerknica 3.18 46 *e*Pn **Pb** 23 52 51.1 +0.2
ZOU Zoufplan 3.25 23 Pn **Pn** 23 52 45.7 +0.4
SURF Saint Ours 3.25 288 P **Pn** 23 52 46.3 +0.9
ZIRJ Zirje 3.27 87 *e*Pn **Pn** 23 52 45.8 +0.4
ZIRJ Sn **Sn** 23 53 22.1 -1.9
FRF La Foret Royal 3.27 271 *e*Pn **Pn** 23 52 45.5 0.0
FRF *e*Sn **Sn** 23 53 21.4 -2.8
comp=E,68nm,0.6s
ABTA Abfaltersbach 3.31 16 *i* Pn **Pn** 23 52 47.3 +1.2
comp=E,11nm,0.5s,SNR=7.7
MORI Morici 3.32 83 *e*Pn **Pn** 23 52 48.0 +1.9
MORI Sn **Sn** 23 53 22.8 -2.6
DAVOX Davos/Dischmat 3.32 345 Pn **Pn** 23 52 49.1 +2.7
baz=175,slow=18
DAVOX Sn **Sn** 23 53 27.6 +1.8
comp=E,5.6nm,0.3s,baz=327,slow=22,SNR=4.8
MBDF Montbardon 3.35 292 *e*P **Pn** 23 52 47.3 +0.6
MBDF *e*Sn **Sn** 23 53 22.9 -3.5
comp=E,21nm,0.6s
ROSI Rosskopf 3.35 3 AML AML
comp=E,211µm,1.2s
ROSI AML AML
comp=N,268µm,0.6s
FUSIO Fusio 3.37 329 AML AML
comp=N,85µm,0.8s
FUSIO AML AML
comp=E,87µm,1.0s
LMR La Mourre 3.39 267 *e*Pn **Pn** 23 52 46.9 -0.1
LMR *e*Sn **Sn** 23 53 23.7 -3.4
comp=E,12nm,0.5s
ACOM Acomizza, Ital 3.41 29 AML AML
comp=E,143µm,0.5s
ACOM AML AML
comp=N,142µm,0.6s
OGAG Argentiere 3.44 286 P **Pn** 23 52 50.5 +2.6
LJU Ljubljana 3.44 43 *e*Pn **Pn** 23 52 48.5 +0.7
FETA Feichten 3.45 355 *e*Pn **Pn** 23 52 50.8 +2.7
UDBI Udbina 3.46 73 *e*Pn **Pn** 23 52 50.0 +1.9
BOJS Bojanci 3.51 55 AML AML
comp=E,74µm,1.1s
BOJS AML AML
comp=N,96µm,1.3s
TREM Isole Tremiti 3.52 113 AML AML
comp=N,154µm,1.4s
TREM AML AML
comp=E,181µm,0.6s
MYKA Terra Mystica 3.52 29 *e*Pn **Pn** 23 52 50.9 +1.9
comp=E,2.6nm,0.2s
BNI Bardonecchia 3.53 296 Pn **Pn** 23 52 50.1 +1.0
OGMO Fort Saint-Gob 3.59 299 Pn **Pn** 23 52 53.3 +3.4
SQTA Sankt Quirin 3.64 1 *i* Pn **Pn** 23 52 52.9 +2.2
comp=E,12nm,0.5s,SNR=19
LPG La Plagne 3.68 303 *e*P **Pn** 23 52 53.3 +1.9
LPG *e*Sn **Sn** 23 53 30.9 -3.9
comp=E,18nm,0.6s
WTTA Wattenberg 3.70 5 *i* Pn **Pn** 23 52 53.8 +2.3
comp=E,7.4nm,0.3s
WTTA *e*Sn **Sn** 23 53 37.7 +2.7
comp=E,23nm,0.4s
LPL La Plagne 3.70 303 *e*P **Pn** 23 52 53.5 +1.9
LPL *e*Sn **Sn** 23 53 31.4 -3.8
comp=E,11nm,0.4s
BLAF les Blancs 3.71 277 P **Pn** 23 52 53.2 +1.6
ASEAF Site Antares, 3.73 260 P **Pn** 23 52 51.9 +0.5
MOTA Moosalm 3.77 360 *i* Pn **Pn** 23 52 55.1 +2.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,4.0nm,0.3s,SNR=12						
MOTA				eSn	Sn	23 53 39.1	+2.5
	comp=E,14nm,0.6s						
WATA	**Walderalm**	**3.77**	**4**	i Pn	**Pn**	**23 52 55.2**	**+2.8**
	comp=E,6.0nm,0.2s,SNR=11						
WATA				eSn	Sn	23 53 39.0	+2.3
	comp=E,16nm,0.4s						
OBKA	**Obir**	**3.79**	**38**	ePn	**Pn**	**23 52 52.8**	**+0.1**
	comp=E,1.8nm,0.2s						
CRES	**Cresnjev**	**3.81**	**52**	ePn	**Pn**	**23 52 54.6**	**+1.8**
DAVA	**Damuels**	**3.81**	**347**	i Pn	**Pn**	**23 52 55.8**	**+2.8**
	comp=E,5.5nm,0.2s						
DAVA				eSn	Sn	23 53 40.7	+2.9
	comp=E,65nm,0.5s						
KBA	**Koelnbreinsper**	**3.83**	**23**	ePn	**Pn**	**23 52 54.2**	**+1.0**
	comp=E,3.5nm,0.3s						
KIJV	**Kijevo**	**3.83**	**82**	ePn	**Pn**	**23 52 54.8**	**+1.7**
KIJV				Sn	Sn	23 53 36.3	-1.8
SGRT	**San Giovanni R**	**3.85**	**117**	Pn	**Pn**	**23 52 54.7**	**+1.2**
RSL	**Roselend**	**3.85**	**305**	P	**Pn**	**23 52 56.7**	**+3.0**
HVAR	**Hvar**	**3.88**	**94**	i Pn	**Pn**	**23 52 54.9**	**+1.0**
HVAR				Sn	Sn	23 53 36.5	-2.9
SENIN	**Lac Senin/Sane**	**3.90**	**317**	Pn	**Pn**	**23 52 57.0**	**+2.7**
RETA	**Reutte**	**3.92**	**356**	i Pn	**Pn**	**23 52 57.0**	**+2.6**
	comp=E,4.0nm,0.3s,SNR=14						
RETA				eSn	Sn	23 53 42.4	+2.2
	comp=E,21nm,0.6s						
MLYF	**Mely**	**3.92**	**278**	P	**Pn**	**23 52 56.2**	**+1.8**
GDM	**Grand'Maison**	**3.96**	**296**	Pn	**Pn**	**23 52 58.1**	**+3.1**
BSTF	**la Bastide-des**	**4.00**	**276**	P	**Pn**	**23 52 56.8**	**+1.3**
ORIF	**Oris-en-Rattie**	**4.01**	**291**	eP	**Pn**	**23 52 58.3**	**+2.5**
ORIF				eSn	Sn	23 53 38.6	-4.1
	comp=E,13nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.01**	**291**	P	**Pn**	**23 52 58.5**	**+2.8**
ORIF	**Oris-en-Rattie**	**4.01**	**291**	AML	AML		
	comp=E,48μm,1.4s						
ORIF				AML	AML		
	comp=N,41μm,0.5s						
SMRF	**Simiane la Rot**	**4.05**	**278**	eP	**Pn**	**23 52 58.1**	**+1.8**
SMRF				eSn	Sn	23 53 39.6	-4.0
	comp=N,8.1nm,0.5s						
RUSF	**Rustrel**	**4.12**	**277**	P	**Pn**	**23 52 58.9**	**+1.8**
VSL	**Villasalto**	**4.29**	**199**	Pn	**Pn**	**23 53 01.3**	**+1.8**
RICI	**Ricice**	**4.35**	**89**	ePn	**Pn**	**23 53 01.6**	**+1.2**
RICI				Sn	Sn	23 53 47.5	-3.4
MGRS	**Mrkonjic Grad**	**4.36**	**77**	ePn	**Pn**	**23 53 02.4**	**+1.9**
OGSM	**Saint Maurice**	**4.39**	**299**	P	**Pn**	**23 53 03.2**	**+2.4**
OGSM				S	Sn	23 53 53.3	+1.5
BLY	**Banja Luka**	**4.50**	**73**	ePn	**Pn**	**23 53 05.6**	**+3.3**
OG35	**Corcelles**	**4.67**	**304**	P	**Pn**	**23 53 06.5**	**+1.7**
OG35				S	Sn	23 53 59.8	+1.0
CABF	**La Chapelle**	**4.69**	**312**	eP	**Pn**	**23 53 06.6**	**+1.5**
CABF				eSn	Sn	23 53 54.9	-4.5
	comp=N,4.4nm,0.4s						
ARSA	**Arzberg**	**4.79**	**38**	ePn	**Pn**	**23 53 06.8**	**+0.4**
	comp=N,2.2nm,0.3s						
MOA	**Molln**	**4.80**	**26**	ePn	**Pn**	**23 53 07.1**	**+0.7**
	comp=N,2.0nm,0.2s						
MOA				eSn	Sn	23 54 02.1	+0.3
	comp=N,4.9nm,0.5s						
VIVF	**Saint-Julien-l**	**4.83**	**288**	eP	**Pn**	**23 53 09.0**	**+2.1**
VIVF				eSn	Sn	23 53 58.0	-4.6
	comp=N,2.1nm,0.3s						
STON	**Ston**	**4.84**	**96**	ePn	**Pn**	**23 53 06.5**	**-0.5**
STON				Sn	Sn	23 53 58.2	-4.6
BEHE	**Becsehely**	**4.92**	**52**	ePn	**Pb**	**23 53 21.2**	**+0.6**
SSB	**Saint Sauveur**	**5.03**	**292**	Pn	**Pn**	**23 53 10.9**	**+1.3**
BFO	**Black Forest**	**5.14**	**339**	Pn	**Pn**	**23 53 12.5**	**+1.3**
HINF	**Hinteralfeld**	**5.20**	**326**	eP	**Pn**	**23 53 12.8**	**+0.9**
HINF				eSn	Sn	23 54 07.4	-4.3
	comp=N,17nm,0.3s						
DBRK	**Dubrovnik**	**5.20**	**98**	ePn	**Pn**	**23 53 12.3**	**+0.3**
LASF	**Ste Croix**	**5.30**	**278**	eP	**Pn**	**23 53 13.9**	**+0.6**
LASF				eSn	Sn	23 54 09.4	-4.8
	comp=N,3.5nm,0.5s						
TREB	**Trebinje**	**5.34**	**97**	ePn	**Pn**	**23 53 14.0**	**+0.1**
BRY	**Bratogost**	**5.44**	**95**	ePn	**Pn**	**23 53 17.2**	**+1.8**
CONA	**Conrad Observa**	**5.46**	**36**	ePn	**Pn**	**23 53 16.1**	**+0.5**
	comp=N,0.6nm,0.2s						
CONA				eSn	Sn	23 54 17.3	-0.9
	comp=N,3.1nm,0.4s						
HCY	**Herceg Novi**	**5.50**	**99**	ePn	**Pn**	**23 53 17.2**	**+1.1**
CDF	**Champ du Feu**	**5.53**	**332**	eP	**Pn**	**23 53 17.3**	**+0.7**
CDF				eSn	Sn	23 54 15.2	-4.9
	comp=N,18nm,0.5s						
HAU	**Haudompre**	**5.55**	**325**	eP	**Pn**	**23 53 18.1**	**+1.3**
HAU				eSn	Sn	23 54 15.6	-4.9
	comp=N,38nm,0.3s						
GEC2	**GERESS Array S**	**5.56**	**18**	Pn	**Pn**	**23 53 16.8**	**-0.1**
GERES	**GERESS Array B**	**5.56**	**18**	Pn	**Pn**	**23 53 17.0**	**0.0**
	comp=N,1.0nm,0.3s,baz=191,slow=13,SNR=22						
GERES				Sn	**Sn**	**23 54 17.8**	**-2.9**
	comp=N,0.5nm,0.3s,baz=200,slow=23,SNR=1.6						
UPM	**Unac-Piva**	**5.67**	**91**	ePn	**Pn**	**23 53 20.3**	**+1.8**
HAPS	**Han Pijesak,Bl**	**5.67**	**82**	ePn	**Pn**	**23 53 15.6**	**-2.9**
CKRC	**Cesky Krumlov**	**5.68**	**22**	ePN	**Pn**	**23 53 18.8**	**+0.2**
CKRC				eSN	Sn	23 54 22.2	-1.5
KHC	**Kasperske Hory**	**5.80**	**16**	ePN	**Pn**	**23 53 20.4**	**+0.1**
KHC				eSN	Sn	23 54 24.6	-2.0
KHC	**Kasperske Hory**	**5.80**	**16**	Pn	**Pn**	**23 53 20.3**	**0.0**
MORH	**Mrgy, Hungar**	**5.94**	**61**	ePn	**Pn**	**23 53 22.4**	**+0.3**
SMF	**Signal de Mont**	**6.01**	**303**	eP	**Pn**	**23 53 24.3**	**+1.2**
SMF				eSn	Sn	23 54 26.2	-5.5
	comp=N,14nm,0.6s						
PDG	**Podgorica**	**6.05**	**98**	ePn	**Pn**	**23 53 26.1**	**+2.4**
PDG	**Podgorica**	**6.05**	**98**	Pn	**Pn**	**23 53 25.7**	**+2.0**
DRME	**Dracevica, Mon**	**6.07**	**101**	ePn	**Pn**	**23 53 24.6**	**+0.7**
PAGF	**Fort de Pagny**	**6.24**	**325**	eP	**Pn**	**23 53 28.1**	**+1.8**
PAGF				eSn	Sn	23 54 31.6	-5.9
	comp=N,5.9nm,0.4s						
SFTF	**Sexfontaines**	**6.29**	**319**	eP	**Pn**	**23 53 28.2**	**+1.3**
	baz=139						
SFTF				eSn	Sn	23 54 32.6	-6.0
	comp=N,6.0nm,0.4s						
LOR	**Lormes**	**6.32**	**308**	eP	**Pn**	**23 53 28.3**	**+1.0**
	baz=128						
LOR				eSn	Sn	23 54 34.1	-5.2
	comp=N,11nm,0.5s						
AVF	**Avril sur Loir**	**6.38**	**303**	eP	**Pn**	**23 53 29.4**	**+1.3**
AVF				eSn	Sn	23 54 34.8	-5.9
	comp=N,1.4nm,0.5s						
SSF	**Saint Saulge**	**6.41**	**306**	eP	**Pn**	**23 53 30.0**	**+1.4**
SSF				eSn	Sn	23 54 35.7	-6.0
	comp=N,3.8nm,0.6s						
MODS	**Modra-Piesok**	**6.42**	**40**	ePN	**Pn**	**23 53 29.0**	**+0.3**
MODS				eSN	Sn	23 54 34.8	-7.0
MEZF	**Maizieres J'vi**	**6.50**	**321**	eP	**Pn**	**23 53 32.1**	**+2.3**
	baz=141						
MEZF				eSn	Sn	23 54 37.9	-5.8
	comp=N,8.5nm,0.5s						
MTLF	**Montolieu**	**6.50**	**271**	eP	**Pn**	**23 53 30.6**	**+0.7**
MTLF				eSn	Sn	23 54 38.1	-5.8
	comp=N,1.0nm,0.2s						
SAVF	**Savonnieres en**	**6.55**	**322**	eP	**Pn**	**23 53 32.9**	**+2.4**
	baz=142						
SAVF				eSn	Sn	23 54 38.8	-6.1
	comp=N,7.7nm,0.5s						
KRUC	**Moravsky**	**6.58**	**32**	ePN	**Pn**	**23 53 31.5**	**+0.7**
BGF	**Bois d'Agland**	**6.59**	**300**	eP	**Pn**	**23 53 32.6**	**+1.6**
BGF				eSn	Sn	23 54 40.3	-5.7
	comp=N,5.3nm,0.4s						
CAF	**Calviac**	**6.66**	**285**	eP	**Pn**	**23 53 33.4**	**+1.3**
CAF				eSn	Sn	23 54 41.7	-6.1
	comp=N,0.5nm,0.2s						
NKC	**Novy Kostel**	**6.71**	**7**	ePN	**Pn**	**23 53 33.5**	**+0.7**
NKC				eSN	Sn	23 54 46.3	-2.8
VRAC	**Vranov**	**6.85**	**31**	Pn	**Pn**	**23 53 34.4**	**-0.3**
	baz=222,slow=14,SNR=1.1						
TCF	**Toulx Ste Croi**	**6.90**	**296**	eP	**Pn**	**23 53 36.9**	**+1.6**
TCF				eSn	Sn	23 54 47.4	-6.2
	comp=N,1.7nm,0.5s						
WLF	**Walferdange**	**6.99**	**332**	Pn	**Pn**	**23 53 38.1**	**+1.6**
RJF	**Les Rejaudoux**	**7.11**	**287**	eP	**Pn**	**23 53 41.5**	**+3.4**
RJF				eSn	Sn	23 54 52.3	-6.4
	comp=N,0.7nm,0.3s						
CLL	**Collm**	**7.83**	**9**	ePn	**Pn**	**23 53 46.0**	**-2.1**
CLL				e		23 53 51.0	
CLL				ePg	Pb	23 54 27.0	+17
CLL				eSn	Sn	23 54 59.0	-18
CLL				e		23 55 32.0	
CLL				e		23 55 49.0	
CLL				eSg	Sb	23 56 01.0	+18
KEST	**Kesra**	**7.96**	**191**	Pn	Pn	23 53 56.3	+6.4
	comp=N,0.3nm,0.3s,baz=316,slow=6.1,SNR=8.9						
BAIF	**Baives**	**8.04**	**326**	eP	**Pn**	**23 53 54.2**	**+3.3**
MFF	**Saint Martin d**	**8.54**	**295**	eP	**Pn**	**23 54 00.2**	**+2.4**
MFF				eSn	Sn	23 55 26.5	-7.5
	comp=N,0.4nm,0.2s						
VTS	**Vitosha**	**8.90**	**92**	Pn	**Pn**	**23 54 03.8**	**+1.0**
FINES	**FINESS Array B**	**19.98**	**21**	Pn	Pn	23 56 29.7	+1.8
	comp=N,0.1nm,0.3s,baz=187,slow=8.1,SNR=2.2						
MKAR	**Makanchi Array**	**48.66**	**60**	P	**P**	**00 00 40.8**	**+2.7**
	comp=N,0.4nm,0.6s,baz=282,slow=7.3,SNR=4.7						

LDG ***03*** *23:59:32.8±0.8, 43°.67N×11°.25E, h10km, Md2.1/1, Ml3.0/5, Error ellipse: s-maj=16.7km s-min=7.7km az=109.0*
STR ***03*** *23:59:34.8±2.3, 44°N±10°×1°1E±1°9, h0km, MLv2.6/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
ROM ***03*** *23:59:37.3±0.1, 43°.617N±0°.006×11°.20E±0°.01, h7km±1km, Md1.7/3, Error ellipse: s-maj=0.9km s-min=0.3km az=245.0*
PRU ***03*** *23:59:38.0±0.0, 43°.65N×11°.13E, h1km*
ISC 03 23:59:37.0±0.9**, 43°.60N**±0°.04×**11°.19E**±0°.04**, h15**km±6km**, n46, σ1ˢ52**/51**, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OSSC	**Osservatorio P**	**0.08**	**150**	P	**Pg**	**23 59 40.0**	**-0.1**
OSSC				S	**Sg**	**23 59 41.8**	**-0.4**
OSSC				AML	AML		
	comp=E,32000μm,1.0s						
OSSC				AML	AML		
	comp=N,54600μm,0.8s						
OSSC				AML	AML		
	comp=E,54250μm,0.8s						
OSSC				AML	AML		
	comp=E,32000μm,0.9s						
OSSC				AML	AML		
	comp=N,31950μm,0.9s						
OSSC				END			
CSNT	**Castellina Chi**	**0.14**	**149**	P	**Pg**	**23 59 40.8**	**-0.1**
CSNT				S	**Sg**	**23 59 43.4**	**-0.1**
CSNT				AML	AML		
	comp=E,28500μm,0.3s						
CSNT				AML	AML		
	comp=N,32350μm,0.2s						
CSNT				END			
FIR	**Firenze**	**0.18**	**15**	P	**Pg**	**23 59 41.4**	**0.0**
FIR				S	**Sg**	**23 59 44.8**	**+0.5**
CRMI	**Carmignano**	**0.25**	**321**	P	**Pg**	**23 59 42.6**	**+0.2**
CRMI				S	**Sg**	**23 59 46.4**	**+0.2**
CRMI				AML	AML		
	comp=E,9530μm,0.4s						
CRMI				AML	AML		
	comp=N,3775μm,0.5s						
CRMI				AML	AML		
	comp=E,9525μm,0.4s						
CRMI				AML	AML		
	comp=N,8985μm,0.5s						
CRMI				AML	AML		
	comp=E,3875μm,0.4s						
CRMI				AML	AML		
	comp=E,44250μm,0.6s						
CRMI				AML	AML		
	comp=N,44000μm,0.6s						
CRMI				AML	AML		
	comp=E,18150μm,0.6s						
CRMI				AML	AML		
	comp=N,18450μm,0.6s						
CRMI				END			
RUFI	**Rufina**	**0.34**	**44**	P	**Pg**	**23 59 44.2**	**+0.3**
RUFI				S	**Sb**	**23 59 49.2**	**-0.7**
RUFI				AML	AML		
	comp=E,9225μm,0.5s						
RUFI				AML	AML		
	comp=N,6535μm,0.5s						
RUFI				AML	AML		
	comp=E,9245μm,0.5s						
RUFI				AML	AML		
	comp=N,6540μm,0.5s						
RUFI				AML	AML		
	comp=E,39850μm,0.5s						
RUFI				AML	AML		
	comp=N,29150μm,0.5s						
MTCR	**Monte La Croce**	**0.45**	**342**	P	**Pg**	**23 59 46.5**	**+0.5**
MTCR				S	**Sb**	**23 59 53.0**	**-0.3**
PII	**Pisa**	**0.50**	**285**	P	**Pb**	**23 59 48.3**	**+0.9**
PII				AML	AML		
	comp=E,2115μm,0.3s						
PII				AML	AML		
	comp=N,2660μm,0.9s						
PII				AML	AML		
	comp=E,21550μm,0.4s						
PII				AML	AML		
	comp=N,31150μm,0.8s						
POPM	**Popiglio**	**0.55**	**325**	P	**Pb**	**23 59 49.4**	**+1.2**
POPM				S	**Sb**	**23 59 56.2**	**+0.4**
POPM				AML	AML		
	comp=E,2300μm,1.4s						
POPM				AML	AML		
	comp=N,2910μm,1.4s						
POPM				AML	AML		
	comp=E,16200μm,0.2s						
POPM				AML	AML		
	comp=N,15600μm,0.3s						
CRE	**Caprese Michel**	**0.56**	**87**	P	**Pb**	**23 59 49.0**	**+0.6**
CRE				S	**Sb**	**23 59 56.8**	**+0.6**
PGF	**Pioggiola**	**1.92**	**238**	ePn	Pn	00 00 05.7	-3.4
PGF				eSn	Sn	00 00 26.1	-6.9
	comp=N,11nm,0.5s						
PGF	**Pioggiola**	**1.92**	**238**	P	**Pn**	**00 00 09.3**	**+0.2**
SAOF	**Saorge**	**2.66**	**280**	P	**Pn**	**00 00 20.1**	**+0.9**
TURF	**col de Turini**	**2.77**	**279**	P	**Pn**	**00 00 21.5**	**+0.5**
CALF	**Calern**	**3.10**	**274**	P	**Pn**	**00 00 26.3**	**+0.9**
SURF	**Saint Ours**	**3.28**	**287**	P	**Pn**	**00 00 28.8**	**+0.9**
FRF	**La Foret Royal**	**3.30**	**271**	ePn	Pn	00 00 24.6	-3.4
MBDF	**Montbardon**	**3.37**	**291**	eP	**Pn**	**00 00 26.3**	**-2.9**
LMR	**La Mourre**	**3.42**	**267**	ePn	Pn	00 00 25.7	-3.9
LMR				eSn	Sn	00 01 02.1	-7.7
	comp=N,13nm,0.2s						
LPG	**La Plagne**	**3.70**	**302**	eP	**Pn**	**00 00 32.0**	**-1.8**
LPL	**La Plagne**	**3.72**	**303**	eP	**Pn**	**00 00 32.3**	**-1.7**
BLAF	**les Blancs**	**3.74**	**277**	P	**Pn**	**00 00 36.1**	**+1.9**
ARTF	**Artigues**	**3.91**	**272**	P	**Pn**	**00 00 38.0**	**+1.5**
MLYF	**Mely**	**3.94**	**278**	P	**Pn**	**00 00 38.1**	**+1.2**
ORIF	**Oris-en-Rattie**	**4.04**	**291**	eP	**Pn**	**00 00 37.3**	**-0.9**
SMRF	**Simiane la Rot**	**4.08**	**277**	eP	**Pn**	**00 00 37.0**	**-1.8**
SMRF				eSn	Sn	00 01 17.9	-8.4
	comp=N,10nm,0.2s						
CABF	**La Chapelle**	**4.70**	**312**	eP	**Pn**	**00 00 46.0**	**-1.4**
VIVF	**Saint-Julien-l**	**4.85**	**287**	eP	**Pn**	**00 00 48.1**	**-1.2**
VIVF				eSn	Sn	00 01 35.4	-10
	comp=N,1.6nm,0.2s						
CHMF	**Charmoille**	**4.85**	**320**	P	**Pn**	**00 00 51.2**	**+1.8**
HINF	**Hinteralfeld**	**5.20**	**326**	eP	**Pn**	**00 00 52.1**	**-2.0**
LASF	**Ste Croix**	**5.33**	**278**	eP	**Pn**	**00 00 52.9**	**-3.0**
OPP	**Oppenau**	**5.33**	**338**	P	**Pn**	**00 00 57.4**	**+1.5**
CDF	**Champ du Feu**	**5.53**	**332**	eP	**Pn**	**00 00 56.4**	**-2.4**
HAU	**Haudompre**	**5.56**	**324**	eP	**Pn**	**00 00 57.0**	**-2.1**
KHC	**Kasperske Hory**	**5.78**	**16**	ePN	**Pn**	**00 01 02.8**	**+0.7**
SMF	**Signal de Mont**	**6.03**	**303**	eP	**Pn**	**00 01 03.6**	**-1.9**
PAGF	**Fort de Pagny**	**6.25**	**324**	eP	**Pn**	**00 01 07.7**	**-0.8**
SFTF	**Sexfontaines**	**6.30**	**319**	eP	**Pn**	**00 01 07.0**	**-2.2**
LOR	**Lormes**	**6.33**	**308**	eP	**Pn**	**00 01 07.2**	**-2.5**
AVF	**Avril sur Loir**	**6.39**	**303**	eP	**Pn**	**00 01 09.0**	**-1.5**
SSF	**Saint Saulge**	**6.43**	**305**	eP	**Pn**	**00 01 08.7**	**-2.3**
MEZF	**Maizieres J'vi**	**6.50**	**321**	eP	**Pn**	**00 01 10.3**	**-1.7**
MTLF	**Montolieu**	**6.53**	**271**	eP	**Pn**	**00 01 09.6**	**-2.8**
SAVF	**Savonnieres en**	**6.55**	**322**	eP	**Pn**	**00 01 12.1**	**-0.6**
BGF	**Bois d'Agland**	**6.61**	**300**	eP	**Pn**	**00 01 11.0**	**-2.4**
TCF	**Toulx Ste Croi**	**6.92**	**296**	eP	**Pn**	**00 01 16.4**	**-1.3**
LFF	**La Frestale**	**7.62**	**284**	eP	**Pn**	**00 01 25.8**	**-1.5**

STR ***04*** *00:00:01.1±0.8, 43°N±3°×1°1E±°, h0km, mb4.4/5, mB5.6/1, MLv3.9/18, Mw(mB)5.2/1, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
ROM ***04*** *00:00:04.3±0.1, 43°.604N±0°.004×11°.175E±0°.004, h9km, ML3.7/99, Mw3.7, Error ellipse: s-maj=0.3km s-min=0.2km az=55.0, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr-0.12; Mθθ1.48; Mϕϕ-1.37; Mrθ-0.19; Mθϕ-3.81; Mϕr-0.38; Fault plane solution: M0 4.09400×10^14 NP1:ϕs80.00000°, δ85.00000°, λ-176.00000°. NP2:ϕs350.00000°, δ86.00000°, λ-5.00000°.*
MED_RC ***04*** *00:00:04.0±0.7, 43°.60N×11°.18E, h10km, MW4.0/8, Moment Tensor Solution.Mantle waves: s8,c9; Duration: 1ˢ0 Moment tensor: Scale 10^15Nm; Mrr-0.17±.10; Mθθ0.08±.11; Mϕϕ0.09±.11; Mrθ0.02±.29; Mθϕ-0.79±.09; Mϕr-1.07±.25; Best double couple: M0 1.34000×10^15 NP1:ϕs93.00000°, δ36.00000°, λ-172.00000°. NP2: ϕs356.00000°, δ85.00000°, λ-54.00000°. Principal axes: T 1.3500, Plg31.0000°, Azm58.0000°; N -0.0300, Plg36.0000°, Azm173.0000°; P -1.3200, Plg39.0000°, Azm299.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
MOS ***04*** *00:00:04.1±1.0, 43°.63N×11°.11E, h14km, mb4.0/7 Error ellipse: s-maj=4.8km s-min=3.5km az=100.3*
GEN ***04*** *00:00:04, 43°.60N×11°.18E, h9km±12km, Ml3.7*
LDG ***04*** *00:00:04.0±0.1, 43°.58N×11°.10E, h10km, Md3.8/1, Ml3.6/43, Error ellipse: s-maj=2.9km s-min=1.9km az=175.0*
NEIC ***04*** *00:00:04.8±2.7, 43°.62N±0°.05×11°.16E±0°.07, h1km±3km, Error ellipse: s-maj=8.4km s-min=6.3km az=47.0*
IDC ***04*** *00:00:04.9±1.0, 43°.66N×11°.15E, h0km, mb3.8/8, mb1 3.8/15, mb1mx3.5/54, mbtmp3.8/15, ML3.5/7, MS3.0/4, Ms1 3.0/4, ms1mx2.7/47, Error ellipse: s-maj=24.9km s-min=15.1km az=112.0*
PRU ***04*** *00:00:09.8±0.0, 43°.79N×11°.59E, h10km*
ISC 04 00:00:05.1±0.7**, 43°.60N**±0°.02×**11°.17E**±0°.02**, h10**km±4km**, n432, σ2ˢ19**/473**, mb3.7**/10**, 5C-21D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OSSC	**Osservatorio P**	**0.09**	**143**	Pg	**Pg**	**00 00 07.4**	**-0.2**
OSSC	**Osservatorio P**	**0.09**	**143**	P	**Pg**	**00 00 07.2**	**-0.4**
OSSC				S	**Sg**	**00 00 09.3**	**-0.1**
OSSC				AML	AML		
OSSC				AML	AML		
OSSC				AML	AML		
OSSC				AML	AML		
OSSC				AML	AML		
CSNT	**Castellina Chi**	**0.15**	**144**	P	**Pg**	**00 00 08.1**	**-0.4**
CSNT				S	**Sg**	**00 00 10.9**	**0.0**
CSNT				AML	AML		
CSNT				AML	AML		
FIR	**Firenze**	**0.19**	**20**	⇑P	**Pg**	**00 00 08.7**	**-0.4**
FIR				S	**Sg**	**00 00 11.8**	**0.0**
CRMI	**Carmignano**	**0.24**	**323**	P	**Pg**	**00 00 09.7**	**-0.3**
CRMI				S	**Sg**	**00 00 13.8**	**+0.5**
CRMI				AML	AML		
	comp=N,44000μm,0.6s						
CRMI				AML	AML		
	comp=E,18150μm,0.6s						
CRMI				AML	AML		
	comp=N,18450μm,0.6s						
CRMI				AML	AML		
	comp=E,44250μm,0.6s						
RUFI	**Rufina**	**0.35**	**45**	P	**Pg**	**00 00 11.4**	**-0.5**
RUFI				S	**Sb**	**00 00 16.5**	**-2.5**
RUFI				AML	AML		
	comp=E,39950μm,0.5s						
RUFI				AML	AML		
	comp=N,29250μm,0.5s						
RUFI				AML	AML		
	comp=E,39850μm,0.5s						
RUFI				AML	AML		
	comp=N,29150μm,0.5s						
RUFI				AML	AML		
	comp=E,39850μm,0.5s						
RUFI				AML	AML		
	comp=N,29150μm,0.5s						
RUFI				AML	AML		
	comp=E,39850μm,0.5s						
RUFI				AML	AML		
	comp=N,29200μm,0.5s						
PTF	**Prato**	**0.37**	**349**	P	**Pg**	**00 00 12.1**	**-0.3**
FROS	**Frosini**	**0.39**	**181**	P	**Pg**	**00 00 12.6**	**-0.1**
FROS				S	**Sg**	**00 00 18.2**	**+0.3**
FROS				AML	AML		
	comp=E,91150μm,0.8s						
FROS				AML	AML		
	comp=N,66550μm,0.4s						
FROS				AML	AML		
	comp=N,66550μm,0.3s						
FROS				AML	AML		
	comp=E,91150μm,0.8s						
FROS				AML	AML		
	comp=E,91150μm,0.8s						
FROS				AML	AML		
	comp=N,66550μm,0.3s						
MTCR	**Monte La Croce**	**0.45**	**344**	eP	**Pg**	**00 00 13.6**	**-0.3**
MTCR				S	**Sg**	**00 00 19.5**	**-0.3**
SEI	**Scarperia**	**0.48**	**17**	P	**Pg**	**00 00 14.0**	**-0.4**
SEI				S	**Sb**	**00 00 21.3**	**-1.4**
SEI				AML	AML		
	comp=E,49050μm,0.3s						
SEI				AML	AML		
	comp=N,87950μm,0.7s						
SEI				AML	AML		
	comp=E,49050μm,0.3s						
SEI				AML	AML		
	comp=N,87950μm,0.7s						
PII	**Pisa**	**0.48**	**285**	⇓P	**Pg**	**00 00 14.3**	**-0.3**
PII				S	**Sg**	**00 00 20.8**	**-0.1**
PII	**Pisa**	**0.48**	**285**	P	**Pg**	**00 00 14.2**	**-0.3**
PII				S	**Sg**	**00 00 20.8**	**-0.1**
PII				AML	AML		
	comp=E,21550μm,0.4s						
PII				AML	AML		
	comp=N,31150μm,0.8s						
PII				AML	AML		
	comp=E,21550μm,0.4s						
ASQU	**Asqua**	**0.49**	**66**	P	**Pg**	**00 00 14.2**	**-0.5**
ASQU				S	**Sb**	**00 00 21.2**	**-2.0**
ASQU				AML	AML		
	comp=E,32500μm,0.9s						
ASQU				AML	AML		
	comp=N,34900μm,0.7s						
ASQU				AML	AML		
	comp=N,34900μm,0.7s						
TRIF	**Trifonti**	**0.52**	**202**	P	**Pg**	**00 00 15.1**	**-0.1**
TRIF				AML	AML		
	comp=E,8855μm,1.4s						
TRIF				AML	AML		
	comp=N,14500μm,0.7s						
TRIF				AML	AML		
	comp=E,8855μm,1.4s						
TRIF				AML	AML		
	comp=N,14500μm,0.7s						
POPM	**Popiglio**	**0.54**	**326**	P	**Pg**	**00 00 15.4**	**-0.2**
POPM				S	**Sg**	**00 00 23.5**	**+0.8**
POPM	**Popiglio**	**0.54**	**326**	P	**Pg**	**00 00 15.3**	**-0.2**
POPM				S	**Sg**	**00 00 23.2**	**+0.6**
POPM				AML	AML		
	comp=E,16150μm,0.2s						
POPM				AML	AML		
	comp=N,15600μm,0.3s						
POPM				AML	AML		
	comp=E,16200μm,0.2s						
POPM				AML	AML		
	comp=N,15600μm,0.3s						
CRE	**Caprese Michel**	**0.57**	**87**	P	**Pb**	**00 00 15.9**	**-1.3**
CRE				S	**Sb**	**00 00 23.9**	**-1.6**
FNVD	**Fontana Vidola**	**0.57**	**357**	P	**Pg**	**00 00 16.0**	**-0.3**
FNVD				S	**Sg**	**00 00 24.1**	**+0.3**
FNVD				AML	AML		
	comp=N,25100μm,0.3s						
FNVD				AML	AML		
	comp=E,16550μm,0.9s						
SFI	**Santa Sofia**	**0.58**	**58**	P	**Pg**	**00 00 15.9**	**-0.5**
SFI				S	**Sb**	**00 00 24.3**	**-1.4**
SFI	**Santa Sofia**	**0.58**	**58**	P	**Pg**	**00 00 15.8**	**-0.5**
SFI				S	**Sb**	**00 00 24.0**	**-1.7**
SFI				AML	AML		
	comp=E,49500μm,0.5s						
SFI				AML	AML		
	comp=E,51900μm,0.4s						
SFI				AML	AML		
	comp=N,38200μm,1.0s						
SFI				AML	AML		
	comp=E,49500μm,0.5s						
SFI				AML	AML		
	comp=N,42850μm,0.4s						
SFI				AML	AML		

comp=N,38150µm,1.0s
SFI AML AML
comp=N,38200µm,1.0s
SFI AML AML
comp=E,51850µm,0.4s
SFI AML AML
comp=E,49550µm,0.5s
SFI AML AML
comp=N,42850µm,0.4s
MAIM Mastiano 0.58 303 P **Pg 00 00 16.1 -0.3**
MAIM S **Sg 00 00 23.7 -0.4**
MAIM Mastiano 0.58 303 P **Pg 00 00 15.9 -0.5**
MAIM AML AML
comp=E,8025µm,0.4s
MAIM AML AML
comp=N,6190µm,0.6s
BRIS BRISIGHELLA 0.60 24 AML AML
comp=N,8435µm,0.5s
BRIS AML AML
comp=E,5480µm,1.0s
LMD Lutirano 0.62 39 P **Pg 00 00 16.4 -0.7**
LMD S **Sb 00 00 25.4 -1.4**
LMD AML AML
comp=N,12940µm,0.5s
LMD AML AML
comp=N,12940µm,0.5s
LMD AML AML
comp=E,10590µm,0.4s
BDI Bagni Di Lucca 0.62 319 ⇓P **Pg 00 00 17.1 -0.1**
BDI S **Sg 00 00 26.6 +1.2**
BDI Bagni Di Lucca 0.62 319 P **Pg 00 00 17.1 -0.1**
BDI AML AML
comp=E,14650µm,1.2s
BDI AML AML
comp=N,19150µm,1.2s
BDI AML AML
comp=E,16300µm,0.5s
BDI AML AML
comp=N,20150µm,1.2s
BDI AML AML
comp=N,19200µm,1.2s
BDI AML AML
comp=E,14600µm,1.2s
BDI AML AML
comp=N,20150µm,1.2s
BDI AML AML
comp=E,16300µm,0.5s
CAFI Castiglion Fio 0.64 114 P **Pg 00 00 16.1 -1.3**
CAFI AML AML
comp=E,4115µm,0.6s
CAFI AML AML
comp=N,5935µm,1.3s
CAFI AML AML
comp=N,5085µm,1.0s
CAFI AML AML
comp=E,4170µm,0.5s
CAFI AML AML
comp=N,5090µm,1.0s
CARD Cardoso 0.66 311 P **Pg 00 00 17.5 -0.3**
CARD Cardoso 0.66 311 ⇓P **Pg 00 00 17.3 -0.5**
CARD AML AML
comp=E,7525µm,0.8s
CARD AML AML
comp=N,10065µm,1.1s
SSP9 Sansepolcro 0.70 92 P **Pb 00 00 18.4 -1.0**
SSP9 S **Sb 00 00 28.2 -0.9**
SSP9 AML AML
comp=N,14000µm,0.5s
SSP9 AML AML
comp=E,12700µm,1.5s
SSP9 AML AML
comp=N,14050µm,0.5s
SSP9 AML AML
comp=E,12750µm,1.5s
ZCCA Zocca 0.77 350 **Pn 00 00 21.4 -0.7**
ZCCA Zocca 0.77 350 AML AML
comp=N,10030µm,1.5s
ZCCA AML AML
comp=E,10195µm,0.5s
ZCCA AML AML
comp=E,9780µm,0.5s
ZCCA AML AML
comp=N,10075µm,1.5s
ARCI Arcidosso 0.78 163 P **Pg 00 00 19.6 -0.5**
ARCI AML AML
comp=E,5005µm,0.9s
ARCI AML AML
comp=N,5495µm,1.1s
PARC Parchiule 0.78 86 P **Pb 00 00 19.8 -1.0**
PARC S **Sb 00 00 29.9 -1.5**
PARC AML AML
comp=E,9015µm,0.3s
PARC AML AML
comp=N,11200µm,0.7s
PARC AML AML
comp=E,9010µm,0.3s
BADI Badiali 0.79 96 P **Pb 00 00 19.9 -1.0**
BADI AML AML
comp=N,7520µm,0.3s
BADI AML AML
comp=E,9570µm,1.0s
VLC Villacollemand 0.80 315 Pg **Pg 00 00 20.2 -0.3**
VLC Villacollemand 0.80 315 P **Pg 00 00 20.2 -0.3**
VLC AML AML
comp=E,5345µm,0.6s
VLC AML AML
comp=E,4945µm,0.6s
VLC AML AML
comp=N,8915µm,0.7s
VLC AML AML
comp=N,8685µm,0.7s
SARO Sassorosso 0.81 317 P **Pg 00 00 20.5 -0.2**
SARO S **Sb 00 00 33.1 +0.7**
SARO Sassorosso 0.81 317 P **Pg 00 00 20.4 -0.2**
SARO AML AML
comp=E,10070µm,0.5s
SARO AML AML
comp=N,12500µm,0.6s
MTRZ Monterenzio 0.81 15 P **Pg 00 00 19.5 -1.2**
MTRZ AML AML
comp=N,14150µm,0.5s
MTRZ AML AML
comp=E,21700µm,0.5s
MTRZ AML AML
comp=N,14100µm,0.5s
MTRZ AML AML
comp=N,14150µm,0.5s
MTRZ AML AML
comp=E,21050µm,0.5s
MTRZ AML AML
comp=E,21700µm,0.5s
CASP Castiglione de 0.84 195 Pg **Pg 00 00 21.0 -0.2**
CASP Castiglione de 0.84 195 P **Pg 00 00 20.5 -0.7**
CASP AML AML
comp=N,4380µm,0.5s
CASP AML AML
comp=E,4005µm,0.7s
CASP AML AML
comp=N,6075µm,0.6s
CPGN Carpegna, Ital 0.86 76 P **Pb 00 00 21.2 -1.0**
CPGN AML AML
comp=E,10770µm,0.4s
CPGN AML AML
comp=E,10385µm,0.6s
CPGN AML AML
comp=N,12300µm,0.4s
CPGN AML AML
comp=E,10390µm,0.6s
CPGN AML AML
comp=N,12290µm,0.4s
CPGN AML AML
comp=N,10200µm,1.3s
CPGN AML AML
comp=E,10790µm,0.4s
MCIV Monte Civitell 0.90 155 P **Pg 00 00 22.0 -0.4**
MCIV AML AML
comp=E,2555µm,1.3s
MCIV AML AML
comp=N,4170µm,0.8s
ATPI Pietralunga - 0.91 99 P **Pg 00 00 21.3 -1.3**
ATPI AML AML
comp=N,7455µm,0.7s
ATPI AML AML
comp=E,4865µm,0.6s
APEC Apecchio 0.91 92 P **Pg 00 00 21.7 -0.9**
APEC AML AML
comp=N,2180µm,0.5s
APEC AML AML
comp=N,11005µm,0.5s
APEC AML AML
comp=E,9140µm,0.5s
APEC AML AML
comp=E,1730µm,0.3s
APEC AML AML
comp=N,11010µm,0.5s
SACS San Casciano d 0.92 144 AML AML
comp=E,2205µm,0.5s
SACS AML AML
comp=N,2175µm,1.6s
SACS AML AML
comp=N,2225µm,1.6s
SACS AML AML
comp=N,2180µm,1.6s
SACS AML AML
comp=E,2235µm,0.6s
SACS AML AML
comp=N,2230µm,1.6s
ATVO AVT- Monte Val 0.93 103 P **Pg 00 00 21.9 -1.0**
ATVO AML AML
comp=E,7270µm,0.5s
ATVO AML AML
comp=N,9305µm,1.0s
EQUI Equi 0.93 308 P **Pg 00 00 23.0 0.0**
EQUI S **Sg 00 00 36.1 +1.1**
EQUI Equi 0.93 308 P **Pg 00 00 22.4 -0.6**
EQUI AML AML
comp=E,3915µm,1.0s
EQUI AML AML
comp=N,5190µm,0.8s
GROG Isola di Gorgo 0.94 260 P **Pg 00 00 23.3 0.0**
GROG S **Sg 00 00 35.2 -0.3**
ATTE AVT- Monte Tez 0.95 114 P **Pg 00 00 22.7 -0.7**
PE3 Peglio 0.97 84 P **Pg 00 00 22.9 -0.8**
PE3 AML AML
comp=N,18150µm,0.7s
PE3 AML AML
comp=N,18150µm,0.7s
PE3 AML AML
comp=E,14750µm,1.0s
MGAB Montegabbione 0.97 134 P **Pg 00 00 22.7 -1.1**
MGAB AML AML
comp=E,2725µm,0.4s
MGAB AML AML
comp=N,3070µm,1.0s
MGAB AML AML
comp=E,2670µm,0.4s
MGAB AML AML
comp=N,3215µm,0.9s
MGAB AML AML
comp=N,3065µm,1.0s
MGAB AML AML
comp=E,2730µm,0.4s
ERBM Eremo 0.99 327 P **Pg 00 00 23.3 -0.8**
FIVI Fivizzano 0.99 311 AML AML
comp=N,6615µm,0.7s
FIVI AML AML
comp=E,5230µm,0.4s
PIEI Pieia 0.99 93 P **Pg 00 00 23.0 -1.2**
PIEI AML AML
comp=E,3240µm,0.6s
PIEI AML AML
comp=N,3030µm,0.6s
NARO Abbazia di Nar 1.03 89 P **Pg 00 00 23.4 -1.4**
NARO AML AML
comp=N,2985µm,1.3s
NARO AML AML
comp=E,2030µm,0.3s
MURB Monte Urbino 1.04 108 Pg **Pb 00 00 24.7 -0.6**
MURB Monte Urbino 1.04 108 P **Pg 00 00 24.2 -0.9**
MURB AML AML
comp=E,9945µm,1.6s
MURB AML AML
comp=N,10620µm,0.3s
MURB AML AML
comp=E,10800µm,1.6s
MURB AML AML
comp=E,9940µm,1.6s
MURB AML AML
comp=N,10630µm,0.3s
MURB AML AML
comp=N,11845µm,0.3s
ATFO Monte Foce - G 1.05 102 P **Pg 00 00 23.6 -1.6**
ATFO AML AML
comp=E,4510µm,0.4s
ATFO AML AML
comp=N,4465µm,0.5s
PLMA Palmaria, Port 1.06 296 P **Pg 00 00 24.1 -1.3**
PLMA AML AML
comp=E,2145µm,0.6s
PLMA AML AML
comp=N,2775µm,0.9s
FIU Minerbio Fiu 1.07 12 AML AML
comp=N,8785µm,0.9s
FIU AML AML
comp=E,15450µm,0.7s
FIU AML AML
comp=E,15450µm,0.7s
BLLA Bellaria 1.09 59 AML AML
comp=N,5590µm,1.5s
BLLA AML AML
comp=E,5940µm,1.4s
LATE Laterza 1.09 154 Pg **Pg 00 00 23.7 -2.2**
LATE Laterza 1.09 154 AML AML
comp=E,638µm,1.4s
LATE AML AML
comp=N,782µm,0.9s
FRON Frontone 1.14 93 P **Pg 00 00 25.3 -1.5**
FRON AML AML
comp=N,2965µm,0.5s
FRON AML AML
comp=E,2690µm,0.8s
FRON AML AML
comp=N,2970µm,0.5s
ATCC AVT- Casa Cast 1.15 111 AML AML
comp=E,6890µm,0.7s
ATCC AML AML
comp=N,4480µm,0.6s
MPAG Monte Paganucc 1.16 88 P **Pg 00 00 24.9 -2.4**
MPAG AML AML
comp=E,1880µm,0.5s
MPAG AML AML
comp=N,3100µm,0.7s
MPAG AML AML
comp=E,1890µm,0.7s
MPAG AML AML
comp=N,3145µm,0.6s
MPAG AML AML
comp=N,3095µm,0.7s
MPAG AML AML
comp=E,1885µm,0.5s
MAON Monte Argentar 1.17 181 P **Pb 00 00 25.4 -2.0**
MAON AML AML
comp=E,2595µm,0.8s
MAON AML AML
comp=N,3080µm,0.8s
FSSB Fossombrone 1.17 85 P **Pg 00 00 26.3 -1.3**
FSSB AML AML
comp=E,5680µm,0.5s
FSSB AML AML
comp=N,6645µm,0.3s
GRAM Graiana 1.20 319 AML AML
comp=E,5020µm,0.3s
GRAM AML AML
comp=N,4985µm,0.4s
FOSV Fossato di Vic 1.20 104 P **Pb 00 00 25.9 -2.0**
FOSV AML AML
comp=N,2210µm,0.7s
FOSV AML AML
comp=E,2270µm,0.7s
PESA Pesaro 1.26 74 AML AML
comp=E,5055µm,1.2s
PESA AML AML
comp=N,4840µm,1.3s
CAVE Cavezzo 1.27 355 AML AML
comp=N,7250µm,0.7s
CAVE AML AML
comp=E,12550µm,0.9s
ARVD Arcevia 1.29 94 P **Pn 00 00 27.7 -1.5**
ARVD AML AML
comp=N,1500µm,1.5s
ARVD AML AML
comp=E,1800µm,1.3s
MOMA Monte Martano 1.30 127 P **Pn 00 00 27.9 -1.5**
MOMA AML AML
comp=E,1675µm,0.6s
MOMA AML AML
comp=E,1695µm,0.6s
MOMA AML AML
comp=N,1535µm,0.6s
MOMA AML AML
comp=N,1635µm,0.6s
SNTG Esanatoglia 1.34 104 AML AML
comp=E,1380µm,0.6s
SNTG AML AML
comp=N,352µm,1.1s
SNTG AML AML
comp=N,2075µm,1.2s
SNTG AML AML
comp=E,208µm,1.5s
MSSA Maissana 1.39 302 Pn **Pn 00 00 29.5 -1.2**
MSSA Maissana 1.39 302 AML AML
comp=E,1190µm,0.3s
MSSA AML AML
comp=N,1890µm,0.5s
CESI CESI - Serrava 1.40 114 P **Pn 00 00 29.1 -1.6**
CESI AML AML
comp=E,688µm,1.1s
CESI AML AML
comp=N,706µm,0.6s
SERM Sermide 1.42 4 AML AML
comp=E,1905µm,0.5s
SERM AML AML
comp=N,3040µm,1.0s
SERM AML AML
comp=E,2965µm,1.1s
SERM AML AML
comp=N,1475µm,0.5s
CESX Cesi 1.43 133 P **Pg 00 00 32.1 -0.4**
CESX AML AML
comp=E,1345µm,0.6s
CESX AML AML
comp=N,1079µm,0.8s
CING Cingoli 1.49 98 AML AML
comp=E,1590µm,0.9s
CING AML AML
comp=N,1295µm,0.7s
SENI Senigallia 1.50 85 AML AML
comp=N,3725µm,0.9s
SENI AML AML
comp=N,14050µm,0.4s
SENI AML AML
comp=E,3295µm,1.6s
SENI AML AML
comp=E,7390µm,1.2s
FDMO Fiordimonte 1.51 111 P **Pn 00 00 30.8 -1.4**
FDMO AML AML
comp=N,960µm,0.9s
FDMO AML AML
comp=E,918µm,0.7s
ARRO Arrone 1.55 130 AML AML
comp=N,822µm,0.9s
ARRO AML AML
comp=E,714µm,0.7s
NRCA Norcia 1.61 118 Pn **Pb 00 00 34.3 -0.7**
NRCA Norcia 1.61 118 P **Pn 00 00 33.2 -0.5**
SRES S.Oreste - Sor 1.68 144 AML AML
comp=N,326µm,1.0s
SRES AML AML
comp=E,232µm,1.0s
GORR Gorreto 1.69 307 AML AML
comp=E,1565µm,0.6s
GORR AML AML
comp=N,1745µm,0.7s
LNSS Leonessa 1.69 125 AML AML
comp=N,1435µm,1.4s
LNSS AML AML
comp=E,1650µm,0.9s
BOB Bobbio (Coli) 1.70 314 ⇑P **Pn 00 00 35.6 +0.7**
BOB Bobbio (Coli) 1.70 314 P **Pn 00 00 34.1 -0.8**
BOB AML AML
comp=E,2205µm,0.6s
BOB AML AML
comp=N,2090µm,0.8s
BOB AML AML
comp=N,2470µm,0.8s
BOB AML AML
comp=E,2200µm,0.6s
BOB AML AML
comp=N,2085µm,0.8s
BOB AML AML
comp=E,2485µm,0.6s
PP3 Marolino 1.79 96 AML AML
comp=E,3510µm,0.7s
PP3 AML AML
comp=E,3605µm,0.7s
PP3 AML AML
comp=N,3295µm,0.9s
PP3 AML AML
comp=N,3345µm,0.9s
TEOL Teolo 1.80 11 Pn **Pn 00 00 35.8 -0.4**
RM33 Pellescritta (1.85 125 AML AML
comp=E,1064µm,0.9s
RM33 AML AML
comp=N,845µm,0.9s
SMA1 SAN MARTINO 1.86 121 AML AML
comp=E,1900µm,0.7s
SMA1 AML AML
comp=N,1189µm,0.6s
PGF Pioggiola 1.90 237 *e*Pn **Pn 00 00 36.4 -1.3**
PGF *e*Sn **Sn 00 00 56.9 -4.9**
comp=N,116nm,0.5s
PGF Pioggiola 1.90 237 ⇑P **Pn 00 00 36.7 -1.1**
PGF Pioggiola 1.90 237 P **Pn 00 00 36.6 -1.1**
PGF Pioggiola 1.90 237 P **Pn 00 00 36.5 -1.3**
PGF AML AML
comp=E,369µm,0.4s
PGF AML AML
comp=N,283µm,0.5s
ROVR Rover Verones 2.05 358 AML AML
comp=N,723µm,0.7s
ROVR AML AML
comp=E,544µm,1.0s
ROVR AML AML
comp=N,1820µm,0.7s
ROVR AML AML
comp=E,1485µm,1.0s
AQU L'Aquila 2.06 126 P **Pb 00 00 41.7 -0.9**
AQU L'Aquila 2.06 126 *e*Pn **Pg 00 00 43.2 -1.3**
AQU L'Aquila 2.06 126 Pn **Pb 00 00 41.7 -0.9**
AQU L'Aquila 2.06 126 AML AML
comp=E,806µm,1.1s
AQU AML AML
comp=N,688µm,1.3s
AQU AML AML
comp=N,677µm,1.3s
AQU AML AML
comp=E,873µm,1.2s
SALO Salr 2.07 347 Pn **Pn 00 00 41.2 +1.2**
SALO Salr 2.07 347 AML AML
comp=E,2195µm,1.0s
SALO AML AML
comp=N,2715µm,0.7s
SALO AML AML
comp=E,5200µm,1.0s
SALO AML AML
comp=N,6820µm,0.7s
PCP Piancastagn 2.11 297 AML AML
comp=E,443µm,0.5s
PCP AML AML
comp=N,496µm,0.5s
QLNO Quiliano 2.16 291 AML AML
comp=E,408µm,0.6s
QLNO AML AML
comp=N,470µm,0.6s
MAGA Magasa 2.21 350 P **Pn 00 00 41.5 -0.4**
MAGA AML AML
comp=E,3305µm,0.5s
MAGA AML AML
comp=N,2570µm,0.4s
ROTM Rocchetta Tana 2.38 303 P **Pn 00 00 43.7 -0.5**
ROTM AML AML
comp=E,1950µm,0.5s
ROTM AML AML
comp=N,2570µm,0.6s
IMI Imperia 2.39 279 AML AML
comp=E,265µm,0.8s
IMI AML AML
comp=N,312µm,1.0s
MDI Monti di Nese 2.42 335 ⇓P **Pn 00 00 45.7 +1.0**
MDI Monti di Nese 2.42 335 P **Pn 00 00 44.3 -0.4**
MDI AML AML

comp=N,850µm,0.8s
MDI AML AML
comp=E,1075µm,1.1s
AJAC Base Areonaval 2.43 228 P **Pn** 00 00 44.4 -0.5
AJAC S **Sn** 00 01 14.3 -0.3
AJAC Base Areonaval 2.43 228 P **Pn** 00 00 44.3 -0.5
AJAC Base Areonaval 2.43 228 AML AML
comp=E,554µm,0.3s
AJAC AML AML
comp=N,572µm,0.4s
CTI Castel Tesino 2.47 8 P **Pn** 00 00 45.3 -0.3
CTI Castel Tesino 2.47 8 Pn **Pn** 00 00 45.3 -0.3
CTI Castel Tesino 2.47 8 P **Pn** 00 00 45.2 -0.3
CTI AML AML
comp=E,926µm,0.7s
CTI AML AML
comp=N,879µm,0.6s
MABI Malga Bissina 2.50 349 P **Pn** 00 00 45.3 -0.7
MABI AML AML
comp=E,405µm,0.6s
MABI AML AML
comp=N,285µm,0.6s
INTR Introdacqua 2.56 127 Pn **Pn** 00 00 47.1 +0.3
INTR Introdacqua 2.56 127 AML AML
comp=E,533µm,0.9s
INTR AML AML
comp=N,695µm,0.9s
POLC Polcenigo 2.61 21 P **Pn** 00 00 47.0 -0.3
POLC AML AML
comp=E,1001µm,1.6s
POLC AML AML
comp=N,1330µm,0.6s
SAOF Saorge 2.65 280 ⇑P **Pn** 00 00 47.4 -0.4
SAOF Saorge 2.65 280 P **Pn** 00 00 46.9 -1.0
SAOF Saorge 2.65 280 P **Pn** 00 00 47.1 -0.8
SAOF Saorge 2.65 280 AML AML
comp=N,402µm,0.7s
SAOF AML AML
comp=E,390µm,0.5s
MONC Moncucco Torin 2.75 304 AML AML
comp=E,1060µm,0.6s
MONC AML AML
comp=N,849µm,0.7s
TURF col de Turini 2.76 279 P **Pn** 00 00 48.4 -1.2
MUGIO Muggio 2.77 328 P **Pn** 00 00 48.9 -0.8
MUGIO AML AML
comp=E,369µm,1.3s
MUGIO AML AML
comp=N,454µm,1.6s
ENR Entracque 2.78 284 ⇑P **Pn** 00 00 49.6 -0.2
ENR Entracque 2.78 284 P **Pn** 00 00 48.6 -1.2
ENR AML AML
comp=N,272µm,0.6s
ENR AML AML
comp=E,199µm,0.8s
TRI Trieste 2.81 40 P **Pn** 00 00 48.8 -1.3
TRI Trieste 2.81 40 Pn **Pn** 00 00 48.8 -1.3
TRI Trieste 2.81 40 AML AML
comp=E,460µm,0.7s
TRI AML AML
comp=N,252µm,1.0s
NVLJ Novalja 2.84 69 *e*Pn **Pn** 00 00 51.3 +0.9
NVLJ Sn **Sn** 00 01 22.8 -1.9
VARE Varese 2.84 324 P **Pn** 00 00 50.4 -0.2
VARE AML AML
comp=E,322µm,1.3s
VARE AML AML
comp=N,282µm,0.5s
DUGI Dugi Otok 2.84 81 *e*Pn **Pn** 00 00 50.2 -0.3
DUGI Sn **Sn** 00 01 22.4 -2.5
STV Sant Anna di V 2.85 284 P **Pn** 00 00 50.4 -0.3
STV Sant Anna di V 2.85 284 P **Pn** 00 00 49.6 -1.1
STV AML AML
comp=E,158µm,0.6s
STV AML AML
comp=N,168µm,1.6s
STAL STALIGIAL 2.88 22 Pn **Pn** 00 00 50.6 -0.5
APPI Appiano 2.88 1 AML AML
comp=N,796µm,0.4s
APPI AML AML
comp=E,800µm,0.7s
RIY Rijeka 2.94 53 *i* Pn **Pn** 00 00 51.3 -0.5
RIY Sn **Sn** 00 01 27.0 -0.1
SABO M.te Sabotino 2.94 35 AML AML
comp=N,756µm,1.1s
SABO AML AML
comp=E,628µm,1.2s
SABO AML AML
comp=E,628µm,1.2s
MIDA Miranda 3.00 130 AML AML
comp=E,204µm,1.3s
MIDA AML AML
comp=N,222µm,1.2s
MIDA AML AML
comp=E,218µm,1.3s
MIDA AML AML
comp=N,141µm,1.1s
ISO Isola 3.03 283 P **Pn** 00 00 53.5 +0.3
MOSI Grossmontoni 3.05 352 AML AML
comp=E,969µm,0.7s
MOSI AML AML
comp=N,1670µm,0.9s
CALF Calern 3.08 274 P **Pn** 00 00 53.4 -0.5
ABSI Aberstueckl 3.13 2 AML AML
comp=E,942µm,0.6s
ABSI AML AML
comp=N,957µm,0.7s
TUE Stuetta 3.15 336 Pn **Pn** 00 00 55.8 +0.8
TUE Stuetta 3.15 336 P **Pn** 00 00 55.1 +0.2
TUE AML AML
comp=N,417µm,0.5s
TUE AML AML
comp=E,392µm,0.5s
TUE AML AML
comp=E,496µm,0.6s
TUE AML AML
comp=N,550µm,0.5s
CEY Cerknica 3.16 46 *e*Pn **Pb** 00 00 58.7 -2.6
PTCC Patocco-Chiusa 3.21 28 AML AML
comp=E,210µm,0.7s
PTCC AML AML
comp=N,230µm,0.5s
ZOU Zoufplan 3.22 23 Pn **Pn** 00 00 55.3 -0.6
ZIRJ Zirje 3.25 87 *i* Pn **Pn** 00 00 55.8 -0.3
ZIRJ Sn **Sn** 00 01 30.9 -4.0
CIRO Champorcher 3.26 309 AML AML
comp=E,184µm,0.8s
CIRO AML AML
comp=N,175µm,0.6s
FRF La Foret Royal 3.29 271 *e*Pn **Pn** 00 00 55.2 -1.4
FRF *e*Sn **Sn** 00 01 29.7 -6.1
comp=N,172nm,0.4s
FRF La Foret Royal 3.29 271 P **Pn** 00 00 53.1 -3.5
ABTA Abfaltersbach 3.29 16 *e*Pn **Pn** 00 00 57.2 +0.4
comp=N,18nm,0.3s
ABTA Abfaltersbach 3.29 16 **Pn** 00 00 57.2 +0.4
MORI Morici 3.30 84 *i* Pn **Pn** 00 00 57.9 +1.1
MORI Sn **Sn** 00 01 34.2 -1.9
DAVOX Davos/Dischmat 3.31 344 Pn **Pn** 00 00 59.2 +2.0
comp=N,11nm,0.3s,baz=163,slow=15,SNR=22
DAVOX Sn **Sn** 00 01 36.3 -0.4
comp=N,14nm,0.3s,baz=150,slow=20,SNR=8.3
DAVOX Davos/Dischmat 3.31 344 AML AML
comp=E,193µm,0.9s
DAVOX AML AML
comp=N,331µm,1.3s
ROSI Rosskopf 3.33 3 AML AML
comp=N,828µm,0.8s
ROSI AML AML
comp=E,693µm,1.2s
MMK Mattmark 3.35 318 ⇓P **Pn** 00 00 58.1 +0.4
MMK Mattmark 3.35 318 AML AML
comp=E,216µm,1.1s
MMK AML AML
comp=N,200µm,0.6s
MBDF Montbardon 3.36 291 *e*P **Pn** 00 00 57.3 -0.5
MBDF *e*Sn **Sn** 00 01 32.0 -5.8
comp=N,102nm,0.5s
MBDF Montbardon 3.36 291 P **Pn** 00 00 56.7 -1.1
FUSIO Fusio 3.36 329 P **Pn** 00 00 58.0 +0.2
FUSIO AML AML
comp=E,479µm,0.8s
FUSIO AML AML
comp=N,244µm,0.8s
ACOM Acomizza, Ital 3.39 29 AML AML
comp=E,486µm,0.7s
ACOM AML AML
comp=N,534µm,0.8s
LMR La Mourre 3.40 267 *e*Pn **Pn** 00 00 56.5 -1.7
LMR *e*Sn **Sn** 00 01 33.0 -5.6
comp=N,46nm,0.5s
LMR La Mourre 3.40 267 P **Pn** 00 00 55.7 -2.5
RISI Rein 3.41 11 P **Pn** 00 00 58.0 -0.5
RISI AML AML
comp=E,810µm,0.7s
RISI AML AML
comp=N,1062µm,0.4s
LJU Ljubljana 3.42 43 *e*Pn **Pn** 00 00 57.8 -0.7
FETA Feichten 3.44 355 *e*Pn **Pn** 00 01 01.8 +2.9
comp=N,21nm,0.4s
FETA *e*Sn **Sn** 00 01 41.3 +1.5
comp=N,53nm,0.7s
FETA Feichten 3.44 355 **Pn** 00 01 01.8 +2.9
FETA Lg 00 01 41.3
UDBI Udbina 3.44 73 *e*Pn **Pn** 00 01 00.0 +1.2
UDBI Sn **Sn** 00 01 36.0 -3.6
OGAG Argentiere 3.45 286 P **Pn** 00 01 00.4 +1.5
BOJS Bojanci 3.49 55 AML AML
comp=N,253µm,1.0s
BOJS AML AML
comp=E,228µm,0.8s
MYKA Terra Mystica 3.50 29 *e*Pn **Pn** 00 01 00.6 +1.0
comp=E,6.2nm,0.2s
MYKA Terra Mystica 3.50 29 **Pn** 00 01 00.7 +1.0
BNI Bardonecchia 3.54 296 P **Pn** 00 01 00.7 +0.5
BNI Bardonecchia 3.54 296 Pn **Pn** 00 01 00.7 +0.5
BNI Bardonecchia 3.54 296 AML AML
comp=N,75µm,1.0s
BNI AML AML
comp=E,73µm,0.5s
OGDI Digne 3.56 280 P **Pn** 00 01 02.1 +1.7
OGMO Fort Saint-Gob 3.59 298 P **Pn** 00 01 01.3 +0.4
SQTA Sankt Quirin 3.62 0 *i* Pn **Pn** 00 01 02.9 +1.5
comp=E,44nm,0.3s,SNR=7.3
SQTA *e*Sn **Sn** 00 01 46.4 +2.1
comp=E,85nm,0.4s
SQTA Sankt Quirin 3.62 0 P **Pn** 00 01 02.9 +1.5
SQTA Sankt Quirin 3.62 0 **Pn** 00 01 02.9 +1.5
SQTA Lg 00 01 46.4
MRGE Morge 3.65 308 P **Pn** 00 01 01.4 -0.3
MRGE AML AML
comp=E,164µm,0.6s
MRGE AML AML
comp=N,225µm,0.7s
PLONS Plons/SG 3.67 341 P **Pn** 00 01 01.5 -0.5
PLONS AML AML
comp=E,440µm,0.7s
PLONS AML AML
comp=N,280µm,0.7s
WTTA Wattenberg 3.68 5 *e*Pn **Pn** 00 01 04.5 +2.3
comp=N,29nm,0.2s
WTTA Wattenberg 3.68 5 P **Pn** 00 01 04.5 +2.3
WTTA Wattenberg 3.68 5 **Pn** 00 01 04.5 +2.3
LPG La Plagne 3.69 303 *e*P **Pn** 00 01 02.7 +0.3
LPG *e*Sn **Sn** 00 01 39.8 -6.2
comp=N,65nm,0.6s
LPG La Plagne 3.69 303 P **Pn** 00 01 03.7 +1.3
LPL La Plagne 3.71 303 *e*P **Pn** 00 01 03.1 +0.5
LPL *e*Sn **Sn** 00 01 40.3 -6.1
comp=N,69nm,0.5s
BLAF les Blancs 3.73 277 P **Pn** 00 01 03.0 +0.3
ASEAF Site Antares, 3.75 259 P **Pn** 00 01 02.0 -0.6
MOTA Moosalm 3.75 359 *e*Pn **Pn** 00 01 05.0 +1.9
comp=N,30nm,0.5s,SNR=10
MOTA *e*Sn **Sn** 00 01 48.5 +1.1
comp=N,99nm,0.6s
MOTA Moosalm 3.75 359 P **Pn** 00 01 05.0 +1.9
MOTA Moosalm 3.75 359 **Pn** 00 01 05.0 +1.9
MOTA Lg 00 01 48.5
WATA Walderalm 3.75 4 *e*Pn **Pn** 00 01 05.1 +2.0
comp=N,38nm,0.4s,SNR=8.8
WATA *e*Sn **Sn** 00 01 48.2 +0.8
comp=N,82nm,0.4s
WATA Walderalm 3.75 4 P **Pn** 00 01 05.1 +2.0
WATA Walderalm 3.75 4 **Pn** 00 01 05.1 +2.0
WATA Lg 00 01 48.2
CRES Cresnjev 3.78 52 *e*Pn **Pn** 00 01 02.9 -0.6
DAVA Damuels 3.80 347 *e*Pn **Pn** 00 01 06.0 +2.2
comp=N,20nm,0.3s,SNR=8.2
DAVA *e*Sn **Sn** 00 01 50.3 +1.6
comp=N,79nm,0.3s
DAVA Damuels 3.80 347 **Pn** 00 01 06.0 +2.2
DAVA Lg 00 01 50.3
BNALP Bannalp 3.80 330 P **Pn** 00 01 03.0 -0.9
BNALP AML AML
comp=E,237µm,0.7s
BNALP AML AML
comp=N,251µm,0.8s
KBA Koelnbreinsper 3.80 23 *e*Pn **Pn** 00 01 04.8 +0.9
comp=N,9.7nm,0.2s
KBA Koelnbreinsper 3.80 23 P **Pn** 00 01 04.8 +0.9
KBA Koelnbreinsper 3.80 23 **Pn** 00 01 04.8 +0.9
KIJV Kijevo 3.81 82 *e*Pn **Pn** 00 01 05.2 +1.3
KIJV Sn **Sn** 00 01 45.9 -2.8
SGRT San Giovanni R 3.84 117 Pn **Pn** 00 01 04.5 +0.2
RSL Roselend 3.86 304 P **Pn** 00 01 06.3 +1.6
HVAR Hvar 3.87 94 *e*Pn **Pn** 00 01 04.6 0.0
HVAR Sn **Sn** 00 01 44.3 -5.9
ARTF Artigues 3.90 272 P **Pn** 00 01 04.7 -0.4
SENIN Lac Senin/Sane 3.90 317 Pn **Pn** 00 01 06.2 +1.0
RETA Reutte 3.90 356 *i* Pn **Pn** 00 01 07.2 +2.1
comp=N,52nm,0.4s,SNR=11
RETA *e*Sn **Sn** 00 01 51.0 0.0
comp=N,35nm,0.3s
RETA Reutte 3.90 356 **Pn** 00 01 07.2 +2.1
RETA Lg 00 01 51.0
MLYF Mely 3.93 278 P **Pn** 00 01 05.1 -0.4
GDM Grand'Maison 3.96 296 P **Pn** 00 01 08.0 +1.9
BSTF la Bastide-des 4.01 276 P **Pn** 00 01 06.9 +0.2
ORIF Oris-en-Rattie 4.02 291 *e*P **Pn** 00 01 08.2 +1.4
ORIF *e*Sn **Sn** 00 01 47.9 -6.1
comp=N,91nm,0.5s
ORIF Oris-en-Rattie 4.02 291 ⇓P **Pn** 00 01 07.4 +0.6
ORIF Oris-en-Rattie 4.02 291 P **Pn** 00 01 08.3 +1.5
ORIF Oris-en-Rattie 4.02 291 AML AML
comp=N,215µm,0.5s
ORIF AML AML
comp=E,159µm,0.5s
SMRF Simiane la Rot 4.07 277 *e*P **Pn** 00 01 08.0 +0.6
SMRF *e*Sn **Sn** 00 01 48.6 -6.5
comp=E,36nm,0.5s
SOKA Soboth 4.12 40 *e*Pn **Pn** 00 01 10.2 +2.1
comp=E,16nm,0.5s
SOKA Soboth 4.12 40 **Pn** 00 01 10.2 +2.1
PTJ Puntijarka 4.12 54 *e*Pn **Pn** 00 01 07.6 -0.7
RUSF Rustrel 4.13 277 P **Pn** 00 01 08.9 +0.6
UBR Ueberruh 4.15 350 *e*Pn **Pn** 00 01 10.0 +1.5
UBR *e*Sn **Sn** 00 01 57.5 +0.3
GRN Grenoble 4.22 295 P **Pn** 00 01 12.8 +3.3
GRN Grenoble 4.22 295 P **Pn** 00 01 09.9 +0.4
ARBF Arbois 4.24 271 P **Pn** 00 01 10.1 +0.4
MAKA Makarska 4.27 92 *i* Pn **Pn** 00 01 11.4 +1.3
MAKA Sn **Sn** 00 01 57.6 -2.5
RJOB Jochberg 4.29 15 *e*Pn **Pn** 00 01 12.6 +2.1
VSL Villasalto 4.31 199 Pn **Pn** 00 01 11.3 +0.5
VSL Villasalto 4.31 199 P **Pn** 00 01 11.5 +0.8
VSL AML AML
comp=E,38µm,0.7s
VSL AML AML
comp=N,62µm,0.7s
RICI Ricice 4.34 89 *e*Pn **Pn** 00 01 11.8 +0.7
RICI Sn **Sn** 00 01 57.0 -4.7
MGRS Mrkonjic Grad 4.34 77 *e*Pn **Pn** 00 01 11.8 +0.6
OGSM Saint Maurice 4.39 299 P **Pn** 00 01 13.3 +1.4
OGSM S **Sn** 00 02 03.0 -0.1
BLY Banja Luka 4.48 73 *e*Pn **Pn** 00 01 13.8 +0.8
KALN Kalnik 4.53 54 *e*Pn **Pn** 00 01 14.3 +0.5
FUR Furstenfeldbru 4.57 1 *e*Pn **Pn** 00 01 18.6 +4.3
OG35 Corcelles 4.67 304 P **Pn** 00 01 16.4 +0.7
OG35 S **Sn** 00 02 09.3 -0.8
CABF La Chapelle 4.69 312 *e*P **Pn** 00 01 16.3 +0.3
CABF *e*Sn **Sn** 00 02 04.0 -6.6
comp=N,25nm,0.6s
CABF La Chapelle 4.69 312 P **Pn** 00 01 14.6 -1.4
CABF S **Sn** 00 02 07.7 -2.9
ARSA Arzberg 4.77 38 *e*Pn **Pn** 00 01 16.7 -0.3
comp=N,11nm,0.3s,SNR=12
ARSA Arzberg 4.77 38 **Pn** 00 01 16.7 -0.3
MOA Molln 4.77 26 *e*Pn **Pn** 00 01 17.9 +0.8
comp=N,5.9nm,0.2s
MOA Molln 4.77 26 **Pn** 00 01 17.9 +0.8
STON Ston 4.83 96 *i* Pn **Pn** 00 01 16.7 -1.1
STON Sn **Sn** 00 02 08.3 -5.4
VIVF Saint-Julien-l 4.83 287 *e*P **Pn** 00 01 18.7 +0.8
VIVF *e*Sn **Sn** 00 02 06.2 -7.8
comp=N,16nm,0.5s
VIVF Saint-Julien-l 4.83 287 P **Pn** 00 01 16.7 -1.2
LOMF Lomont 4.84 322 P **Pn** 00 01 18.7 +0.7
CHMF Charmoille 4.84 321 P **Pn** 00 01 18.6 +0.5
KIZ Kirchzarten 4.92 334 P **Pn** 00 01 18.7 -0.3
SSB Saint Sauveur 5.03 292 P **Pn** 00 01 20.2 -0.5
SSB Saint Sauveur 5.03 292 Pn **Pn** 00 01 20.2 -0.5
MOF Molkenrain 5.11 328 P **Pn** 00 01 21.3 -0.4
BFO Black Forest 5.13 338 *e*P **Pn** 00 01 20.2 -1.8
BFO Black Forest 5.13 338 Pn **Pn** 00 01 20.4 -1.6
BFO Black Forest 5.13 338 *e*Pn **Pn** 00 01 22.2 +0.2
DBRK Dubrovnik 5.19 98 *i* Pn **Pn** 00 01 22.4 -0.4
HINF Hinteralfeld 5.19 326 *e*P **Pn** 00 01 22.6 -0.2
HINF *e*Sn **Sn** 00 02 16.8 -5.9
comp=N,119nm,0.4s
HINF Hinteralfeld 5.19 326 P **Pn** 00 01 21.7 -1.1
LASF Ste Croix 5.31 278 *e*P **Pn** 00 01 23.6 -0.9
LASF *e*Sn **Sn** 00 02 18.6 -7.1
comp=N,14nm,0.5s
OPP Oppenau 5.32 338 P **Pn** 00 01 24.4 -0.2
TREB Trebinje 5.33 97 *e*Pn **Pn** 00 01 25.0 +0.3
T0702 Acquaformosa (5.34 135 P **Pn** 00 01 28.9 +3.9
BRY Bratogost 5.43 95 *e*Pn **Pn** 00 01 25.3 -0.9
CONA Conrad Observa 5.43 36 *e*Pn **Pn** 00 01 26.0 -0.2
comp=N,7.6nm,0.5s,SNR=5.6
CONA *e*Sn **Sn** 00 02 27.3 -1.5
comp=N,22nm,0.5s
CONA Conrad Observa 5.43 36 **Pn** 00 01 26.0 -0.2
CONA **Sn** 00 02 27.3 -1.5
HCY Herceg Novi 5.49 100 *e*Pn **Pn** 00 01 27.1 +0.2
CDF Champ du Feu 5.53 332 *e*P **Pn** 00 01 27.3 -0.2
CDF *e*Sn **Sn** 00 02 24.4 -6.7
comp=N,90nm,0.6s
CDF Champ du Feu 5.53 332 P **Pn** 00 01 27.6 +0.1
GEC2 GERESS Array S 5.54 18 Pn **Pn** 00 01 26.8 -0.8
GEC2 GERESS Array S 5.54 18 *e*Pn **Pn** 00 01 27.0 -0.6
GERES GERESS Array S 5.54 18 Pn **Pn** 00 01 26.9 -0.7
comp=N,3.0nm,0.3s,baz=198,slow=17,SNR=7.8
GERES Sn **Sn** 00 02 28.7 -2.6
comp=N,2.5nm,0.3s,baz=195,slow=22,SNR=1.9
GERES LR LR 00 04 05.4
comp=N,190nm,19.0s,baz=140,slow=44
GERES GERESS Array B 5.54 18 Pn **Pn** 00 01 26.1 -1.5
HAU Haudompre 5.55 324 *e*P **Pn** 00 01 27.8 +0.1
HAU *e*Sn **Sn** 00 02 24.9 -6.6
comp=N,191nm,0.5s
HAU Haudompre 5.55 324 P **Pn** 00 01 26.6 -1.1
HAPS Han Pijesak,Bl 5.65 82 *e*Pn **Pn** 00 01 28.5 -0.7
UPM Unac-Piva 5.65 91 *e*Pn **Pn** 00 01 30.8 +1.5
CKRC Cesky Krumlov 5.66 22 *e*Pn **Pn** 00 01 28.6 -0.6
WET Wettzell 5.67 11 P **Pn** 00 01 29.0 -0.4
WET pmax pmax
comp=Z,23nm,1.2s
WET Wettzell 5.67 11 *e*Pn **Pn** 00 01 28.8 -0.6
KHC Kasperske Hory 5.78 16 *e*P **Pn** 00 01 29.9 -1.0
KHC Kasperske Hory 5.78 16 *e*PN **Pn** 00 01 30.4 -0.5
KHC *ex* x 00 01 54.0
KHC *e*SN **Sn** 00 02 33.6 -3.7
KHC *ex* x 00 03 03.0
KHC Kasperske Hory 5.78 16 Pn **Pn** 00 01 29.8 -1.1
MORH Mrgy, Hungar 5.92 61 *e*Pn **Pn** 00 01 31.6 -1.2
RUDO Rudo 5.96 87 *e*Pn **Pn** 00 01 31.4 -1.9
BBLS Lazići 5.97 85 *e*Pn **Pn** 00 01 36.5 +2.9
SMF Signal de Mont 6.01 303 *e*P **Pn** 00 01 34.1 0.0
SMF *e*Sn **Sn** 00 02 35.5 -7.5
comp=Z,46nm,0.6s
SMF Signal de Mont 6.01 303 P **Pn** 00 01 33.8 -0.3
PDG Podgorica 6.04 98 *e*Pn **Pn** 00 01 34.9 +0.4
DRME Dracevica, Mon 6.05 101 *e*Pn **Pn** 00 01 35.0 +0.3
ZST Bratislava 6.19 40 *e*SN **Sn** 00 02 42.8 -4.4
ROTZ Rotzenmuhle 6.21 6 *e*Pn **Pn** 00 01 36.5 -0.4
ROTZ *e*Sn **Sn** 00 02 42.4 -5.5
PAGF Fort de Pagny 6.24 325 *e*P **Pn** 00 01 38.3 +1.1
PAGF *e*Sn **Sn** 00 02 40.9 -7.6
comp=Z,41nm,0.6s
SFTF Sexfontaines 6.29 319 *e*P **Pn** 00 01 38.1 +0.3
baz=140
SFTF *e*Sn **Sn** 00 02 42.0 -7.7
comp=Z,25nm,0.5s
LOR Lormes 6.32 308 *e*P **Pn** 00 01 38.2 -0.1
baz=128
LOR *e*Sn **Sn** 00 02 43.3 -7.2
comp=Z,21nm,0.3s
LOR Lormes 6.32 308 P **Pn** 00 01 38.4 +0.1
LOR pmax pmax
comp=Z,21nm,1.2s
LOR Lormes 6.32 308 P **Pn** 00 01 38.1 -0.1
AVF Avril sur Loir 6.38 303 *e*P **Pn** 00 01 39.6 +0.5
AVF *e*Sn **Sn** 00 02 44.1 -7.8
comp=Z,8.7nm,0.5s
AVF Avril sur Loir 6.38 303 P **Pn** 00 01 38.3 -0.8
FRGS Fruska Gora 6.39 73 *e*Pn **Pn** 00 01 36.6 -2.6
MODS Modra-Piesok 6.40 40 *e*P **Pn** 00 01 38.6 -0.8
MODS *e* 00 02 44.8
MODS Modra-Piesok 6.40 40 *e*PN **Pn** 00 01 38.6 -0.8
MODS *e*SN **Sn** 00 02 44.8 -7.6
DIVS Divibare 6.40 82 *e*Pn **Pn** 00 01 34.0 -1.5
DIVS Divibare 6.40 82 Pn **Pn** 00 01 39.2 -0.3
SSF Saint Saulge 6.42 305 *e*P **Pn** 00 01 39.6 0.0
SSF *e*Sn **Sn** 00 02 44.9 -8.0
comp=Z,15nm,0.5s
SSF Saint Saulge 6.42 305 P **Pn** 00 01 39.1 -0.5
MANZ Manzenberg 6.42 5 *e*Pn **Pn** 00 01 40.1 +0.4
TREC Trest 6.43 26 *e*P **Pn** 00 01 40.1 +0.3
TREC Trest 6.43 26 *e*PN **Pn** 00 01 40.1 +0.3
MEZF Maizieres J'vi 6.49 321 *e*P **Pn** 00 01 41.2 +0.6
baz=142
MEZF *e*Sn **Sn** 00 02 47.1 -7.6
comp=Z,28nm,0.5s
MTLF Montolieu 6.52 271 *e*P **Pn** 00 01 40.4 -0.6
MTLF *e*Sn Sn 00 02 46.9 -8.5
comp=Z,7.6nm,0.4s
MTLF Montolieu 6.52 271 P **Pn** 00 01 41.0 0.0
MTLF pmax pmax
comp=Z,55nm,0.8s
MTLF Montolieu 6.52 271 P **Pn** 00 01 40.9 -0.1
SAVF Savonnieres en 6.54 322 *e*P **Pn** 00 01 42.7 +1.4
baz=142
SAVF *e*Sn **Sn** 00 02 48.2 -7.8
comp=Z,21nm,0.5s
KRUC Moravsky 6.55 32 *e*PN **Pn** 00 01 39.5 -2.0
KRUC *e*SN **Sn** 00 02 51.7 -4.5
KRUC Moravsky 6.55 32 P **Pn** 00 01 40.9 -0.6
KRUC pmax pmax
comp=Z,14nm,0.9s
SMOL Smolenice 6.57 39 *e*P **Pn** 00 01 41.5 -0.2
SMOL *e* 00 02 51.9
SMOL Smolenice 6.57 39 *e*PN **Pn** 00 01 41.5 -0.2
SMOL *e*SN **Sn** 00 02 51.9 -4.7
BGF Bois d'Agland 6.59 300 *e*P **Pn** 00 01 42.3 +0.2
BGF *e*Sn **Sn** 00 02 49.6 -7.7
comp=Z,31nm,0.5s
BGF Bois d'Agland 6.59 300 P **Pn** 00 01 41.3 -0.8
FNEB Nbias 6.65 267 P **Pn** 00 01 41.5 -1.4
CAF Calviac 6.67 285 *e*P **Pn** 00 01 43.1 -0.1
CAF *e*Sn Sn 00 02 51.0 -8.2
comp=Z,5.4nm,0.6s
CAF Calviac 6.67 285 P **Pn** 00 01 43.6 +0.4
NKC Novy Kostel 6.70 7 *e*P **Pn** 00 01 44.2 +0.7
NKC Novy Kostel 6.70 7 *e*PN **Pn** 00 01 44.2 +0.7
WERN Wernitzgruen 6.74 7 *e*Pn **Pn** 00 01 45.2 +1.1
WERN *e*Sn **Sn** 00 02 57.1 -3.9
ABH Alteburg 6.76 340 P **Pn** 00 01 44.7 +0.3
PRU Pruhonice 6.80 19 *e*P **Pn** 00 01 43.1 -1.7
PRU Pruhonice 6.80 19 *e*PN **Pn** 00 01 43.1 -1.7
GUNZ Gunzen 6.82 6 *e*Pn **Pn** 00 01 45.7 +0.6
VRAC Vranov 6.83 31 Pn **Pn** 00 01 46.8 +1.5
comp=Z,0.5nm,0.3s,baz=227,slow=14,SNR=7.8
VRAC Sn **Sn** 00 02 58.1 -4.9
comp=Z,0.3nm,0.3s,baz=281,slow=16,SNR=1.4
VRAC LR LR 00 03 58.9
comp=Z,68nm,21.4s,baz=238,slow=34
VRAC Vranov 6.83 31 *e*PN **Pn** 00 01 43.7 -1.6
TANN Tannenbergstha 6.88 7 *e*Pn **Pn** 00 01 46.1 +0.1
TNS Taunus Mts 6.88 345 P **Pn** 00 01 46.2 +0.1
TNS pmax pmax
comp=Z,26nm,0.7s
TNS Taunus Mts 6.88 345 *e*Pn **Pn** 00 01 46.6 +0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WERD	**Werda**	**6.90**	**6**	*e*Pn	**Pn**	**00 01 45.6**	**-0.7**
TCF	**Toulx Ste Croi**	**6.90**	**296**	*e*P	**Pn**	**00 01 46.6**	**+0.3**
TCF				*e*Sn	Sn	00 02 56.7	-8.2
	comp=Z,6.9nm,0.5s						
TCF	**Toulx Ste Croi**	**6.90**	**296**	P	**Pn**	**00 01 46.3**	**0.0**
JAVC	**Velka Javorina**	**6.93**	**38**	*e*PN	**Pn**	**00 01 46.4**	**-0.3**
WLF	**Walferdange**	**6.98**	**332**	P	**Pn**	**00 01 47.7**	**+0.4**
WLF	**Walferdange**	**6.98**	**332**	Pn	**Pn**	**00 01 47.7**	**+0.4**
HYF	**Humbligny**	**7.03**	**304**	*e*P	**Pn**	**00 01 49.1**	**+1.0**
HYF				*e*Sn	Sn	00 02 59.7	-8.4
MOX	**Moxa**	**7.06**	**2**	P	**Pn**	**00 01 48.1**	**-0.3**
MOX				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MOX	**Moxa**	**7.06**	**2**	*e*Pn	**Pn**	**00 01 49.2**	**+0.8**
MOX				*e*Sn	**Sn**	**00 03 03.6**	**-5.1**
KOLL	**Kolacno**	**7.08**	**43**	*e*PN	**Pn**	**00 01 50.0**	**+1.3**
KOLL				*e*SN	**Sn**	**00 03 03.3**	**-5.8**
RJF	**Les Rejaudoux**	**7.12**	**287**	*e*P	**Pn**	**00 01 49.7**	**+0.5**
RJF				*e*Sn	Sn	00 03 01.3	-8.8
	comp=Z,3.9nm,0.5s						
MONQ	**Montcuq**	**7.24**	**280**	P	**Pn**	**00 01 50.7**	**-0.2**
PSZ	**Piszkesteto**	**7.48**	**52**	P	**Pn**	**00 01 56.2**	**+2.0**
PSZ	**Piszkesteto**	**7.48**	**52**	Pn	**Pn**	**00 01 56.2**	**+2.0**
BRG	**Berggiesshubel**	**7.52**	**14**	P	**Pn**	**00 01 54.7**	**0.0**
BRG				pmax	pmax		
	comp=Z,14nm,0.6s						
BRG	**Berggiesshubel**	**7.52**	**14**	Pn	**Pn**	**00 01 53.7**	**-1.1**
BRG				Amp		00 01 58.8	
	comp=Z,9.4nm,0.6s						
BRG				*e*x	x	00 03 13.5	
BRG				Amp		00 03 14.6	
	comp=Z,13nm,1.0s						
BRG				*e*x	x	00 04 07.5	
BRG				Amp		00 04 18.9	
	comp=Z,13nm,1.0s						
BRG	**Berggiesshubel**	**7.52**	**14**	*e*Pn	**Pn**	**00 01 53.8**	**-0.9**
KRLC	**Kraliky**	**7.54**	**29**	*e*P	**Pn**	**00 01 56.4**	**+1.4**
KRLC	**Kraliky**	**7.54**	**29**	*e*PN	**Pn**	**00 01 56.4**	**+1.4**
LFF	**La Frestale**	**7.61**	**284**	*e*P	**Pn**	**00 01 57.0**	**+1.1**
LFF	**La Frestale**	**7.61**	**284**	P	**Pn**	**00 01 57.2**	**+1.3**
CHVC	**Chvalec**	**7.75**	**24**	*e*PN	**Pn**	**00 01 56.8**	**-1.1**
CLL	**Collm**	**7.81**	**8**	*e*Pn	**Pn**	**00 02 00.0**	**+1.2**
	comp=Z,12nm,0.7s						
CLL				*e*Sn	Sn	00 03 12.0	-15
CLL				*e*		00 03 34.0	
CLL				*e*		00 03 59.0	
CLL				*e*Sg	**Sg**	**00 04 12.0**	**-3.7**
	comp=Z,28nm,1.0s						
CLL	**Collm**	**7.81**	**8**	*e*P	**Pn**	**00 02 00.0**	**+1.2**
CLL				pmax	pmax		
	comp=Z,12nm,0.7s						
CLL	**Collm**	**7.81**	**8**	Pn	**Pn**	**00 01 57.7**	**-1.0**
CLL	**Collm**	**7.81**	**8**	*e*Pn	**Pn**	**00 01 59.9**	**+1.2**
GIVF	**Givet**	**7.82**	**328**	*e*P	**Pn**	**00 02 00.5**	**+1.6**
GIVF				*e*Sn	**Sn**	**00 03 19.1**	**-8.4**
	comp=Z,14nm,0.7s						
KASTN	**Kahler Asten**	**7.83**	**347**	*e*Pn	**Pn**	**00 01 59.6**	**+0.5**
MEM	**Membach**	**7.85**	**335**	*d*Pn	**Pn**	**00 02 00.9**	**+1.7**
MEM				*d*x	x	00 02 22.6	
MEM				*d*x	x	00 02 25.8	
MEM				*d*Sn	**Sn**	**00 03 24.6**	**-3.5**
DOU	**Dourbes**	**7.91**	**328**	*d*PnPn	Pn	00 02 07.8	+7.8
DOU				*d*Sn	**Sn**	**00 03 29.0**	**-0.5**
BCLA	**Clavier**	**7.91**	**332**	*d*Pn	**Pn**	**00 01 59.6**	**-0.5**
BCLA				*d*PnPn	**PnPn**	**00 02 07.3**	**-0.3**
BCLA				*d*Sn	**Sn**	**00 03 26.6**	**-3.1**
EPF	**Esparros**	**7.92**	**270**	*e*P	**Pn**	**00 01 59.6**	**-0.7**
EPF				*e*Sn	Sn	00 03 20.6	-9.3
	comp=Z,2.7nm,0.5s						
EPF	**Esparros**	**7.92**	**270**	P	**Pn**	**00 01 58.2**	**-2.1**
BGES	**Gesves**	**7.96**	**331**	*d*Pn	**Pn**	**00 02 00.4**	**-0.3**
BGES				*d*Sn	**Sn**	**00 03 27.1**	**-3.7**
KEST	**Kesra**	**7.98**	**191**	Pn	**Pn**	**00 02 03.8**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=333,slow=6.8,SNR=13						
KEST				Sn	**Sn**	**00 03 30.7**	**-0.8**
	baz=307,slow=20,SNR=1.1						
KEST	**Kesra**	**7.98**	**191**	Pn	**Pn**	**00 02 05.3**	**+4.2**
BMRD	**Maredsous**	**8.01**	**329**	*d*Pn	**Pn**	**00 02 00.5**	**-1.0**
BMRD				*d*sPn	**sPn**	**00 02 03.6**	**-1.7**
BMRD				*d*sPg	**Pg**	**00 02 38.9**	**+0.6**
BMRD				*d*Sn	**Sn**	**00 03 29.4**	**-2.6**
BAIF	**Baives**	**8.03**	**326**	*e*P	**Pn**	**00 02 02.8**	**+1.0**
BAIF				*e*Sn	Sn	00 03 23.5	-9.1
	comp=Z,3.7nm,0.5s						
BAIF	**Baives**	**8.03**	**326**	P	**Pn**	**00 02 01.7**	**-0.1**
MFF	**Saint Martin d**	**8.55**	**294**	*e*P	**Pn**	**00 02 09.7**	**+0.8**
MFF				*e*Sn	Sn	00 03 35.6	-10
	comp=Z,7.5nm,0.7s						
MFF	**Saint Martin d**	**8.55**	**294**	P	**Pn**	**00 02 08.9**	**0.0**
ETSF	**Etsaut**	**8.59**	**269**	*e*P	**Pn**	**00 02 12.0**	**+2.5**
DRGR		**8.75**	**65**	P	**Pn**	**00 02 14.2**	**+2.4**
DRGR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
VTS	**Vitosha**	**8.88**	**92**	P	**Pn**	**00 02 14.5**	**+0.9**
VTS	**Vitosha**	**8.88**	**92**	Pn	**Pn**	**00 02 14.5**	**+0.9**
SJPF	**Ste Jean**	**9.04**	**271**	*e*P	**Pn**	**00 02 18.7**	**+3.0**
SJPF				*e*Sn	Sn	00 03 47.4	-10
	comp=Z,0.4nm,0.2s						
LDF	**La Druitiere**	**9.30**	**306**	*e*P	**Pn**	**00 02 20.5**	**+1.4**
LDF				*e*Sn	Sn	00 03 53.6	-10
	comp=Z,3.5nm,0.6s						
LDF	**La Druitiere**	**9.30**	**306**	P	**Pn**	**00 02 18.2**	**-0.9**
FLN	**La Foliniere**	**9.59**	**307**	*e*P	**Pn**	**00 02 24.2**	**+1.1**
	baz=126						
FLN				*e*Sn	Sn	00 04 00.5	-10
	comp=Z,3.2nm,0.4s						
FLN	**La Foliniere**	**9.59**	**307**	P	**Pn**	**00 02 24.2**	**+1.1**
GRR	**Gorron**	**9.64**	**304**	*e*P	**Pn**	**00 02 22.6**	**-1.2**
GRR				*e*Sn	Sn	00 04 01.7	-10
	comp=Z,1.1nm,0.3s						
GRR	**Gorron**	**9.64**	**304**	P	**Pn**	**00 02 21.7**	**-2.1**
KWP	**Kalwaria Pacla**	**9.97**	**49**	P	**Pn**	**00 02 30.4**	**+2.1**
KWP				pmax	pmax		
	comp=Z,14nm,2.4s						
BURAR	**Bucovina Array**	**10.63**	**63**	Pn	**Pn**	**00 02 41.4**	**+3.9**
SGMF	**Saint Gilles**	**10.63**	**301**	*e*P	**Pn**	**00 02 36.2**	**-1.2**
SGMF				*e*Sn	Sn	00 04 25.5	-11
	comp=Z,7.2nm,0.8s						
QUIF	**Quistinic**	**10.90**	**298**	*e*P	**Pn**	**00 02 41.9**	**+0.8**
QUIF				*e*Sn	Sn	00 04 32.0	-11
	comp=Z,0.2nm,0.2s						
ROSF	**Rostrenen**	**11.11**	**300**	*e*P	**Pn**	**00 02 42.4**	**-1.5**
ESDC	**Sonseca Array**	**11.98**	**256**	Pn	**Pn**	**00 02 55.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=64,slow=14,SNR=6.0						
ESDC	**Sonseca Array**	**11.98**	**256**	Pn	**Pn**	**00 02 56.7**	**+0.8**
PAB	**San Pablo**	**12.30**	**256**	P	**Pn**	**00 03 03.5**	**+3.1**
PAB	**San Pablo**	**12.30**	**256**	Pn	**Pn**	**00 03 03.5**	**+3.1**
NOA	**NORSAR Array B**	**17.47**	**0**	P	**P**	**00 04 10.7**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=189,slow=11,SNR=2.0						
ANN	**Anapa**	**18.85**	**77**	*e*P	P	00 04 16.2	-8.9
ANN				pmax	pmax		
	comp=Z,16nm,0.7s						
ANN				MLR	MLR		
	comp=Z,301nm,10.0s						
ANN				MLR	MLR		
	comp=E,278nm,12.0s						
FINES	**FINESS Array B**	**19.95**	**21**	P	**Pn**	**00 04 39.4**	**+0.7**
	comp=E,0.2nm,0.3s,baz=209,slow=6.3,SNR=8.3						
OBN	**Obninsk**	**20.04**	**46**	*i* P	**P**	**00 04 37.6**	**-0.4**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VSR	**Storozhevoye**	**20.33**	**58**	*e*P	Pn	00 04 42.8	-0.5
VSR				pmax	pmax		
	comp=Z,20nm,1.9s						
LPSR	**Galich'ya Gora**	**20.50**	**54**	*e*P	**P**	**00 04 41.4**	**-1.7**
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV	**Kislovodsk**	**22.69**	**78**	*i* P	**P**	**00 05 09.4**	**+2.6**
KIV				*i*		00 05 31.0	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**22.89**	**79**	LR	LR	00 15 59.8	
	comp=Z,38nm,18.2s,baz=306,slow=42						
KBZ	**Khabaz**	**22.89**	**79**	*i* P	**P**	**00 05 08.1**	**-0.6**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BELG	**Belogornoye**	**25.70**	**57**	P	**P**	**00 05 37.5**	**+2.4**
	comp=Z,8.4nm,0.8s,baz=231,slow=13,SNR=2.4						
ARCES	**ARCESS Array B**	**27.02**	**11**	P	**P**	**00 05 48.1**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=186,slow=8.0,SNR=1.2						
TORD	**Torodi Ar. Bea**	**31.42**	**198**	P	**P**	**00 06 28.8**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=9.2,slow=8.7,SNR=2.4						
ARU	**Arti**	**32.37**	**50**	P	**P**	**00 06 36.3**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=282,slow=9.3,SNR=3.0						
ARU	**Arti**	**32.37**	**50**	*i* P	**P**	**00 06 36.4**	**+1.9**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ABKAR	**Akbulak array**	**33.61**	**63**	P	**P**	**00 06 46.6**	**+1.2**
GEYT	**Alibeck**	**35.63**	**83**	LR	LR	00 26 02.4	
	comp=Z,32nm,18.6s,baz=340,slow=44						
KURBB	**Kurchatov Arra**	**44.94**	**56**	P	**P**	**00 08 20.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=300,slow=9.0,SNR=2.4						
KURK	**Kurchatov**	**44.97**	**56**	P	**P**	**00 08 20.1**	**0.0**
MKAR	**Makanchi Array**	**48.64**	**60**	P	**P**	**00 08 49.1**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=289,slow=6.5,SNR=11						
MKAR	**Makanchi Array**	**48.64**	**60**	*e*P	**P**	**00 08 49.2**	**+0.2**
MKAR	**Makanchi Array**	**48.64**	**60**	P	**P**	**00 08 49.2**	**+0.2**
SONM	**Songino Array**	**62.41**	**49**	P	**P**	**00 10 29.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=298,slow=7.4,SNR=3.9						
YKA	**Yellowknife Ar**	**65.71**	**336**	P	**P**	**00 10 50.1**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=47,slow=7.2,SNR=5.1						
YKA	**Yellowknife Ar**	**65.71**	**336**	*i* P	**P**	**00 10 51.2**	**+1.8**

NOU 04 00:09:58.4, 16°.35S×167°.55E, h11km, MLv4.9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.96**	**340**	P	Pg	00 10 16.9	0.0
DVP	**Devils Point**	**1.50**	**156**	P	Pn	00 10 24.9	-0.3
YATNC	**Mamie plateau,**	**5.71**	**186**	P	Pn	00 11 23.3	+0.1
DZM	**Mont Dzumac**	**5.79**	**190**	P	Pn	00 11 23.2	-1.1
OUENC	**Ouen Island, N**	**6.07**	**186**	P	Pn	00 11 28.6	+0.4

IDC 04 00:13:08.4±4.5**, 18°.44S×175°.34W, h0km, mb3.6**/3**, mb1 4.0**/3**, mb1mx3.7**/24**, mbtmp3.6**/3**, Error ellipse: s-maj=300.7km s-min=31.5km az=152.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.40**	**260**	P	P	00 21 44.6	-0.3
	0.8nm,0.9s,baz=96,slow=7.7,SNR=7.0						
ASAR	**Alice Springs**	**47.46**	**255**	P	P	00 21 45.2	-0.1
	0.4nm,0.5s,baz=95,slow=8.5,SNR=5.5						
NVAR	**Mina Array Bea**	**77.82**	**42**	P	P	00 25 07.8	-0.3
	0.4nm,0.6s,baz=229,slow=8.2,SNR=4.1						
AKASG	**Malin Array Be**	**142.34**	**334**	PKP	PKPdf	00 32 41.1	-1.8
	0.8nm,0.4s,baz=38,slow=3.9,SNR=2.1						
GERES	**GERESS Array B**	**148.80**	**348**	PKPbc	PKPbc	00 32 58.2	+0.2
	0.2nm,0.4s,baz=27,slow=3.3,SNR=3.5						

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*NEIC **04** 00:22:33.1±2.5, 30°.17S±0°.09×178°.1W±0°.2, h98km±7km, mb4.4/17, Error ellipse: s-maj=21.7km s-min=12.9km az=101.0*

*IDC **04** 00:22:34.5±1.4, 29°.76S×178°.17W, h111km±10km, mb3.8/5, mb1 4.1/5, mb1mx3.8/22, mbtmp4.1/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/27, Error ellipse: s-maj=55.1km s-min=20.4km az=160.0*

ISC 04 00:22:33.4±0.6**, 30°.15S**±0°.06×**178°.1W**±0°.1**, h100km, n51, σ1ˢ.67**/51**, mb4.2**/12**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.91**	**11**	P	**Pn**	**00 22 52.5**	**-0.4**
	629nm,0.3s,baz=209,slow=2.4,SNR=16						
RAO				S	**Sn**	**00 23 06.3**	**-1.2**
	1μm,0.3s,baz=110,slow=22,SNR=22						
RAO	**Raoul Island**	**0.91**	**11**		**Pn**	**00 22 52.6**	**-0.2**
RIZ	**Raoul Island**	**0.92**	**10**	P	**Pn**	**00 22 52.3**	**-0.6**
RIZ				S	**Sn**	**00 23 08.5**	**+0.9**
MXZ	**Matakaoa Point**	**7.97**	**201**	S	**Sn**	**00 25 55.1**	**+0.3**
URZ	**Urewera**	**9.00**	**205**	P	**Pn**	**00 24 38.5**	**-1.8**
	0.5nm,0.3s,baz=2.1,slow=13,SNR=1.3						
URZ				S	**Sn**	**00 26 19.9**	**0.0**
	14nm,0.3s,baz=24,slow=23,SNR=25						
URZ	**Urewera**	**9.00**	**205**		**Pn**	**00 24 38.1**	**-2.3**
BKZ	**Black Stump Fm**	**10.03**	**205**	Pn	**Pn**	**00 24 54.2**	**-0.2**
DVHZ	**Dannevirke**	**11.15**	**203**	P	**Pn**	**00 25 09.8**	**+0.2**
DVHZ				S	**Sn**	**00 27 05.9**	**-6.3**
BFZ	**Birch Farm**	**11.47**	**202**	Pn	**Pn**	**00 25 12.2**	**-1.6**
NNZ	**Nelson**	**13.02**	**210**	Pn	**Pn**	**00 25 34.5**	**+0.2**
THZ	**Tophouse**	**13.67**	**210**	Pn	**Pn**	**00 25 41.8**	**-1.1**
OXZ	**Oxford**	**15.32**	**208**	P	**Pn**	**00 26 05.3**	**+1.3**
DZM	**Mont Dzumac**	**16.02**	**297**	P	**P**	**00 26 15.6**	**+1.1**
	0.4nm,0.3s,baz=98,slow=19,SNR=6.0						
RPZ	**Rata Peaks**	**16.05**	**210**	P	**Pn**	**00 26 13.8**	**+0.7**
	3.8nm,0.3s,baz=16,slow=2.4,SNR=17						
RPZ				S	Sn	00 28 56.9	-14
	0.7nm,0.3s,baz=17,slow=20,SNR=1.9						
RPZ	**Rata Peaks**	**16.05**	**210**	P	**P**	**00 26 14.2**	**-0.4**
RPZ				IAmb	IAmb	00 26 15.2	
	comp=Z,40nm,1.5s						
ODZ	**Otahua Downs**	**17.30**	**208**	P	**Pn**	**00 26 29.1**	**+0.6**
MLZ	**Mavora Lakes**	**18.64**	**212**	P	**Pn**	**00 26 44.6**	**0.0**
RAR	**Rarotonga**	**18.76**	**66**	LR	LR	00 32 52.5	
	comp=Z,40nm,19.2s,baz=231,slow=33						
EIDS	**Eidsvold**	**27.62**	**272**	P	**P**	**00 28 12.0**	**+0.4**
EIDS				IAmb	IAmb	00 28 12.5	
	comp=Z,13nm,1.3s						
CTAO	**Charters Tower**	**33.66**	**279**	P	**P**	**00 29 06.5**	**+1.7**
CTAO				IAmb	IAmb	00 29 07.0	
	comp=Z,7.8nm,0.7s						
STKA	**Stephens Creek**	**34.44**	**257**	P	**P**	**00 29 13.2**	**+1.8**
	comp=Z,2.0nm,0.4s,baz=100,slow=12,SNR=8.3						
STKA	**Stephens Creek**	**34.44**	**257**	P	**P**	**00 29 12.7**	**+1.3**
BBOO	**Buckleboo**	**38.94**	**254**	P	**P**	**00 29 50.6**	**+1.0**
COEN	**Coen**	**39.11**	**286**	P	**P**	**00 29 52.2**	**+1.0**
COEN				IAmb	IAmb	00 30 10.9	
	comp=Z,5.0nm,1.1s						
ASAR	**Alice Springs**	**43.02**	**267**	P	**P**	**00 30 22.8**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=101,slow=7.3,SNR=24						
ASAR				pP	**pwP**	**00 30 50.5**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=102,slow=7.2,SNR=2.7						
ASAR	**Alice Springs**	**43.02**	**267**	P	**P**	**00 30 23.2**	**-0.1**
WR0	**Warramunga Arr**	**43.81**	**272**	P	**P**	**00 30 30.0**	**+0.4**
WB2	**Warramunga Arr**	**43.98**	**272**	P	**P**	**00 30 31.4**	**+0.5**
WB2				IAmb	IAmb	00 30 31.8	
	comp=Z,3.9nm,0.9s						
WRAB	**Tennant Creek**	**43.98**	**272**	P	**P**	**00 30 31.1**	**+0.2**
WRAB				IAmb	IAmb	00 30 31.8	
	comp=Z,4.3nm,0.9s						
WRA	**Warramunga Arr**	**43.99**	**272**	P	**P**	**00 30 29.9**	**-1.2**
	comp=Z,2.5nm,0.5s,baz=109,slow=7.9,SNR=49						
WRA				pP	**pwP**	**00 30 59.1**	**+3.0**
	comp=Z,1.4nm,0.7s,baz=110,slow=7.6,SNR=3.1						
WRA				S	**S**	**00 36 52.0**	**-3.7**
	comp=Z,0.8nm,0.8s,baz=104,slow=14,SNR=4.7						
WB0	**Warramunga Arr**	**44.01**	**272**	P	**P**	**00 30 31.2**	**0.0**
WB0				IAmb	IAmb	00 30 48.7	
	comp=Z,9.7nm,1.5s						
FORT	**Forrest**	**46.02**	**255**	P	**P**	**00 30 46.3**	**-0.6**
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**00 32 32.1**	**+3.2**
BELA	**Belgrano 2**	**70.05**	**172**	P	**P**	**00 33 35.1**	**+1.2**
H03S2	**Juan Fernandez**	**80.69**	**124**	T	T	02 04 10.1	
	baz=238,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**80.70**	**124**	T	T	02 04 11.8	
	baz=238,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**80.70**	**124**	T	T	02 04 04.8	
	baz=238,slow=74,SNR=14						
H03N3	**Juan Fernandez**	**80.88**	**123**	T	T	02 03 58.6	
	baz=236,slow=71,SNR=36						
H03N2	**Juan Fernandez**	**80.88**	**123**	T	T	02 03 55.7	
	baz=236,slow=71,SNR=30						
H03N1	**Juan Fernandez**	**80.89**	**123**	T	T	02 04 04.3	
	baz=236,slow=71,SNR=39						
BI02	**San Fabin de**	**84.53**	**129**	P	**P**	**00 34 56.5**	**+1.0**
BI02				IAmb	IAmb	00 34 57.1	
	comp=Z,3.3nm,0.9s						
NVAR	**Mina Array Bea**	**88.12**	**43**	P	**P**	**00 35 12.4**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=229,slow=7.8,SNR=8.2						
NVAR	**Mina Array Bea**	**88.12**	**43**	P	**P**	**00 35 12.7**	**-0.3**
PDAR	**Pinedale Array**	**96.02**	**44**	P	**P**	**00 35 48.1**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=229,slow=7.9,SNR=1.8						
PDAR	**Pinedale Array**	**96.02**	**44**	P	**P**	**00 35 47.9**	**-1.6**
FINES	**FINESS Array B**	**144.88**	**340**	PKP	**PKPab**	**00 41 55.1**	**-2.2**
	comp=Z,2.3nm,0.5s,baz=54,slow=3.6,SNR=21						
FINES	**FINESS Array B**	**144.88**	**340**		**PKPab**	**00 41 55.5**	**-1.8**
NB2	**NORSAR Subarra**	**148.49**	**351**	PKP	**PKPbc**	**00 42 06.1**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=11,slow=2.7						
NOA	**NORSAR Array B**	**148.49**	**351**	PKPbc	**PKPbc**	**00 42 05.8**	**-1.9**
	comp=Z,1.0nm,0.9s,baz=11,slow=4.0,SNR=3.5						
AKASG	**Malin Array Be**	**151.04**	**323**	PKPbc	**PKPbc**	**00 42 12.7**	**-1.5**
	comp=Z,0.3nm,0.2s,baz=55,slow=3.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**163.08**	**179**	PKPab	**PKPab**	**00 43 15.3**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=178,slow=3.5,SNR=4.9						

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*IDC **04** 00:46:15.6±2.2, 0°.97S×98°.59E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.6/41, mbtmp3.8/8, ML3.9/2, MS2.4/1, Ms1 2.4/1, ms1mx2.2/43, Error ellipse: s-maj=76.1km s-min=19.7km az=62.0*

*NEIC **04** 00:46:18.6±2.0, 1°.1S±0°.1×98°.25E±0°.09, h30km±6km, mb4.0/3, Error ellipse: s-maj=20.8km s-min=9.6km az=205.0*

ISC 04 00:46:18.6±1.2**, 1°.0S**±0°.1×**98°.5E**±0°.1**, h26km, n26, σ1ˢ.36**/23**, mb4.0**/9**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**2.48**	**338**	Pn	**Pn**	**00 46 57.6**	**+0.3**
BKNI	**Bangkinang**	**2.84**	**62**	Pn	**Pb**	**00 47 09.1**	**+0.4**
RPSI	**Rantau Prapat**	**3.69**	**6**		**Pn**	**00 47 13.8**	**-0.3**
RPSI	**Rantau Prapat**	**3.69**	**6**	Pn	**Pn**	**00 47 14.3**	**+0.2**
PSI	**Prapat**	**3.80**	**6**	Pn	**Pn**	**00 47 13.8**	**-1.9**
	1.6nm,0.3s,baz=180,slow=9.0,SNR=4.5						
PSI				LR	LR	00 48 39.9	
	comp=Z,51nm,21.2s,baz=268,slow=40						
CMAR	**Chiang Mai Arr**	**19.34**	**1**	P	**Pn**	**00 50 43.5**	**+0.1**
	0.5nm,0.3s,baz=192,slow=11,SNR=5.9						
H08S2	**Diego Garcia H**	**26.77**	**255**	T	T	01 19 54.0	
	baz=77,slow=76,SNR=208						
H08S3	**Diego Garcia H**	**26.77**	**255**	T	T	01 19 55.2	
	baz=77,slow=76,SNR=391						
H08S1	**Diego Carcia H**	**26.79**	**255**	T	T	01 19 55.4	
	baz=77,slow=76,SNR=100						
WB0	**Warramunga Arr**	**39.74**	**120**	P	**P**	**00 53 50.0**	**+0.5**
WB0				IAmb	IAmb	00 53 50.7	
	comp=Z,2.3nm,0.9s						
WRA	**Warramunga Arr**	**39.77**	**121**	P	**P**	**00 53 49.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=300,slow=9.1,SNR=11						
WB2	**Warramunga Arr**	**39.78**	**121**	P	**P**	**00 53 50.7**	**+0.9**
WB2				IAmb	IAmb	00 53 52.7	
	comp=Z,3.5nm,1.1s						
WR0	**Warramunga Arr**	**39.95**	**121**	P	**P**	**00 53 52.0**	**+0.8**
WR0				IAmb	IAmb	00 54 05.9	
	comp=Z,9.4nm,1.4s						
ASAR	**Alice Springs**	**41.03**	**126**	P	**P**	**00 54 01.6**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=295,slow=8.1,SNR=4.4						
ASAR	**Alice Springs**	**41.03**	**126**	P	**P**	**00 54 00.4**	**+0.3**
SONM	**Songino Array**	**49.12**	**7**	P	**P**	**00 55 04.7**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=192,slow=7.9,SNR=7.7						
MK31	**Makanchi Array**	**49.69**	**345**	P	**P**	**00 55 09.4**	**+1.1**
MKAR	**Makanchi Array**	**49.69**	**345**	P	**P**	**00 55 09.4**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=147,slow=8.2,SNR=14						
MKAR	**Makanchi Array**	**49.69**	**345**	P	**P**	**00 55 09.2**	**+0.9**
USRK	**Ussuriysk Ar.**	**54.00**	**29**	P	**P**	**00 55 40.4**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=216,slow=7.1,SNR=2.3						
USRK	**Ussuriysk Ar.**	**54.00**	**29**	P	**P**	**00 55 41.1**	**+0.6**
ZAA0	**Zalesovo Array**	**55.93**	**350**	P	**P**	**00 55 55.0**	**+0.7**
ZALV	**Zalesovo Beam**	**55.93**	**350**	P	**P**	**00 55 54.7**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=158,slow=6.3,SNR=7.8						
ZALV	**Zalesovo Beam**	**55.93**	**350**	P	**P**	**00 55 54.9**	**+0.6**
TXAR	**Lajitas Array**	**144.77**	**35**	PKP	**PKiKP**	**01 05 54.3**	**-3.6**
	comp=Z,0.4nm,0.6s,baz=183,slow=1.0,SNR=8.4						
TXAR	**Lajitas Array**	**144.77**	**35**		**PKiKP**	**01 05 54.4**	**-3.4**

KRSC 04 00:54:12.8±2.0**, 48°.71N×155°.91E, h6km**±34km**, ML4.3, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.98**	**4**	*e*P	Pn	00 54 45.3	-1.5
SKR				*e*S	Sn	00 55 12.2	+0.3
PAU	**Pauzhetka**	**2.82**	**12**	*e*P	Pb	00 55 01.6	-2.0
PAU				*e*S	Sb	00 55 37.5	-0.8
KDTR	**Khodutka, Kamc**	**3.40**	**23**	*e*P	Pb	00 55 10.0	-3.4
KDTR				*e*S	Sb	00 55 51.1	-3.9
ASAK	**Asacha**	**3.89**	**18**	*e*P	Pb	00 55 17.6	-4.2
MTVR	**Mutnovka**	**4.05**	**20**	*e*P	Pn	00 55 19.4	+4.1
MTVR				*e*S	Sn	00 56 08.0	+4.9
RUS	**Russkaya**	**4.08**	**23**	*e*P	Pn	00 55 18.7	+3.0
RUS				*e*S	Sn	00 56 07.4	+3.7
GRL	**Gorelyy**	**4.09**	**19**	*e*P	Pn	00 55 20.1	+4.2
KRMR	**Karymshinskiy**	**4.36**	**18**	*e*P	Pn	00 55 22.3	+2.8
DALK	**Dalny**	**4.69**	**22**	*e*P	Pn	00 55 27.9	+3.9
UGLR	**Uglovaya**	**4.87**	**21**	*e*P	Pn	00 55 31.2	+4.6
AVH	**Avacha**	**4.90**	**20**	*e*P	Pn	00 55 31.8	+4.8
KOK	**Koryaka**	**4.90**	**20**	*e*P	Pn	00 55 32.1	+5.1
SMAR	**Somma**	**4.91**	**21**	*e*P	Pn	00 55 31.9	+4.6
SDLR	**Sedlovina**	**4.95**	**21**	*e*P	Pn	00 55 31.5	+3.8
KRX	**Arik**	**4.97**	**19**	*e*P	Pn	00 55 32.6	+4.6
GNL	**Ganaly**	**5.16**	**14**	*e*P	Pn	00 55 35.0	+4.5
TUMR	**Tumrok**	**7.08**	**20**	*e*P	Pn	00 56 01.6	+4.6

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*TEH **04** 01:03:23.1, 28°.50N×53°.05E, h5km, ML3.2*

*SGS **04** 01:03:24.6, 28°.71N×53°.22E, h6km, Ml2.8*

ISC 04 01:03:26.5±1.2**, 28°.49N**±0°.06×**53°.00E**±0°.05**, h10km, n12, σ1ˢ.07**/12**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.04**	**115**	*e*Pg	Pg	01 03 24.0	-4.5
QIR1				*e*		01 03 24.8	
	comp=Z,99nm,0.0s						
JHRM	**Jahrom**	**0.51**	**89**	*e*	Pn	01 03 51.2	+11
	comp=Z,99nm,0.5s						
LMD1	**Lamerd**	**1.16**	**173**	*e*Pg	**Pb**	**01 03 47.9**	**-0.7**
LMD1				*e*		01 04 17.8	
	comp=Z,99nm,0.4s						
SHI	**Shiraz**	**1.22**	**340**	*e*Pg	**Pn**	**01 03 47.8**	**-2.0**
LAR1	**LAR**	**1.47**	**124**	*e*Pg	**Pn**	**01 03 53.2**	**+0.1**
LAR1				*e*Sg	**Sg**	**01 04 14.7**	**+1.0**
LAR1				*e*		01 04 27.7	
	comp=Z,99nm,0.8s						
KAZ1	**Kazerun**	**1.64**	**314**	*e*Pg	**Pn**	**01 03 57.1**	**+1.6**
KAZ1				*e*		01 04 26.0	
	comp=Z,99nm,0.7s						
KLNJ	**Kolanjah**	**2.79**	**334**	*e*Pn	**Pn**	**01 04 11.0**	**-0.5**
IMEH	**Mehriz**	**3.21**	**25**	*e*Pn	**Pn**	**01 04 17.0**	**-0.2**
IRAM	**Ramesheh**	**3.35**	**351**	*e*Pn	**Pn**	**01 04 20.2**	**+1.1**
KHGB	**Koh Gabri**	**3.56**	**57**	*e*Pn	**Pn**	**01 04 21.8**	**-0.3**
KHGB				*e*		01 05 27.6	
	comp=Z,99nm,0.8s						
ICHK	**Chekchek**	**3.93**	**18**	*e*Pn	**Pn**	**01 04 26.9**	**-0.2**
SMAN	**Sihmah**	**4.96**	**243**	P	**Pn**	**01 04 40.9**	**-0.2**
SMAN				S	**Sn**	**01 05 39.1**	**+0.6**

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*IDC **04** 01:08:40.9±2.7, 28°.36N×52°.98E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.5/41, mbtmp3.9/7, MS3.6/3, Ms1 3.7/3, ms1mx2.9/36, Error ellipse: s-maj=68.6km s-min=28.4km az=154.0*

*TEH **04** 01:08:41.5, 28°.50N×53°.05E, h5km, ML3.2*

*SGS **04** 01:08:43.6, 28°.81N×53°.03E, h8km, Ml2.9*

*OMAN **04** 01:08:47.8, 28°.21N×53°.11E, h5km, mb4.3/1, ml3.2/9*

ISC 04 01:08:41.8±1.1**, 28°.50N**±0°.04×**53°.04E**±0°.04**, h1km**±7km**, n41, σ1ˢ.69**/50**, mb4.0**/7**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.02**	**179**	*e*Pg	**Pg**	**01 08 42.4**	**0.0**
QIR1				*e*Sg	**Sg**	**01 08 43.6**	**+0.9**
QIR1				*e*		01 08 43.8	
	comp=Z,99nm,0.1s						
JHRM	**Jahrom**	**0.47**	**89**	*e*Pg	**Pg**	**01 08 51.1**	**+0.2**
JHRM				*e*		01 09 05.9	
	comp=Z,99nm,0.6s						
LMD1	**Lamerd**	**1.16**	**175**	*e*		01 09 31.5	
	comp=Z,99nm,0.6s						
LMD1				*e*Pg	**Pn**	**01 09 05.7**	**+0.5**
SHI	**Shiraz**	**1.23**	**338**	*e*		01 09 42.2	
	comp=Z,99nm,0.6s						
SHI				*e*Pg	**Pn**	**01 09 06.8**	**+0.4**
LAR1	**LAR**	**1.44**	**125**	*e*Pg	**Pg**	**01 09 11.2**	**+1.8**
LAR1				*e*		01 09 45.9	
	comp=Z,99nm,0.8s						
KAZ1	**Kazerun**	**1.67**	**313**	*e*Pg	**Pg**	**01 09 16.1**	**+2.3**
KAZ1				*e*		01 09 54.0	
	comp=Z,99nm,0.8s						
KLNJ	**Kolanjah**	**2.80**	**334**	*e*Pn	**Pn**	**01 09 29.3**	**+1.1**
IMEH	**Mehriz**	**3.19**	**25**	*e*Pn	**Pb**	**01 09 35.7**	**-3.7**
IRAM	**Ramesheh**	**3.35**	**350**	*e*Pn	**Pn**	**01 09 36.9**	**+1.3**
NGRK	**Negar Kerman**	**3.42**	**70**	*e*Pn	**Pn**	**01 09 38.1**	**+1.4**
NGRK				*e*		01 10 35.7	
	comp=Z,99nm,0.3s						
KHGB	**Koh Gabri**	**3.53**	**57**	*e*Pn	**Pn**	**01 09 39.0**	**+0.9**
KHGB				*e*		01 10 45.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,99nm,1.0s						
SHME	**Shamm**	**3.68**	**131**	P	**Pb**	**01 09 43.5**	**-4.1**
BANOM	**Banah**	**3.87**	**131**	P	**Pn**	**01 09 45.0**	**+2.4**
	SNR=9.4						
BANOM				S	**Sn**	**01 10 31.7**	**+3.0**
IGAR	**Gharneh**	**3.99**	**348**	*e*Pn	**Pn**	**01 09 45.9**	**+1.6**
CHMN	**Cheshme madani**	**4.16**	**70**	*e*Pn	**Pn**	**01 09 49.0**	**+2.2**
CHMN				*e*		01 10 05.5	
	comp=Z,99nm,0.4s						
MASF	**Masafi**	**4.17**	**138**	P	**Pn**	**01 09 47.9**	**+1.1**
MASF				S	**Sn**	**01 10 37.1**	**+0.9**
MDH	**Madha**	**4.31**	**137**	P	**Pn**	**01 09 50.0**	**+1.4**
MDH				S	**Sn**	**01 10 40.2**	**+0.6**
ASUD	**Al Ashush, Dub**	**4.37**	**152**	P	**Pn**	**01 09 51.1**	**+1.8**
	SNR=5.1						
ASUD				S	**Sn**	**01 10 43.3**	**+2.4**
IZEF	**Zefreh**	**4.43**	**352**	*e*Pn	**Pn**	**01 09 52.6**	**+2.2**
UOSS	**Minazif**	**4.53**	**141**	P	**Pn**	**01 09 53.0**	**+1.4**
UOSS				S	**Sn**	**01 10 44.3**	**-0.6**
IPIR	**Pirpir**	**4.57**	**337**	*e*Pn	**Pn**	**01 09 53.8**	**+1.4**
HATD	**Hatta, Dubai**	**4.58**	**142**	P	**Pn**	**01 09 54.4**	**+2.1**
HATD				S	**Sn**	**01 10 46.4**	**+0.1**
ASHO	**Ashiyiah**	**4.66**	**144**	P	**Pn**	**01 09 55.0**	**+1.6**
ASHO				S	**Sn**	**01 10 47.7**	**-0.5**
SMAN	**Sihmah**	**5.00**	**244**	P	**Pn**	**01 09 58.9**	**+0.9**
SMAN				S	**Sn**	**01 10 55.1**	**-1.3**
ALNE	**Al Ain**	**5.05**	**151**	P	**Pn**	**01 10 01.5**	**+2.8**
NHRD	**Haradh**	**5.21**	**225**	P	**Pn**	**01 10 03.1**	**+2.2**
NHRD				S	**Sn**	**01 11 03.1**	**+1.4**
SOHO	**SOHO**	**5.36**	**143**	P	**Pn**	**01 10 03.7**	**+0.7**
SOHO				S	**Sn**	**01 11 05.4**	**+0.1**
TPRV	**Parvadeh(Tabas**	**5.50**	**34**	*e*Pn	**Pn**	**01 10 06.4**	**+1.4**
KRSH	**Karshahi**	**5.51**	**352**	*e*Pn	**Pn**	**01 10 06.6**	**+1.4**
ARQ	**Araqi**	**6.02**	**148**	P	**Pn**	**01 10 14.0**	**+1.9**
	SNR=8.6						
ARQ				S	**Sn**	**01 11 20.9**	**-0.8**
HOQ	**Hoqain**	**6.22**	**141**	P	**Pn**	**01 10 16.6**	**+1.7**
GEYT	**Alibeck**	**10.32**	**23**	LR	LR	01 15 37.5	
	comp=Z,54nm,19.1s,baz=245,slow=40						
MKAR	**Makanchi Array**	**29.25**	**43**	P	**P**	**01 14 45.9**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=232,slow=8.7,SNR=1.5						
KURBB	**Kurchatov Arra**	**29.31**	**34**	P	**P**	**01 14 46.1**	**+0.3**
	comp=Z,0.6nm,0.2s,baz=237,slow=8.6,SNR=4.9						
ZALV	**Zalesovo Beam**	**34.40**	**33**	P	**P**	**01 15 30.7**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=244,slow=8.8,SNR=6.6						
FINES	**FINESS Array B**	**37.51**	**339**	P	**P**	**01 15 56.3**	**-0.7**
	comp=Z,5.6nm,1.1s,baz=141,slow=7.1,SNR=5.8						
ARCES	**ARCESS Array B**	**44.04**	**346**	P	**P**	**01 16 51.9**	**+1.1**
	comp=Z,2.6nm,1.0s,baz=142,slow=9.2,SNR=2.2						
ESDC	**Sonseca Array**	**47.80**	**299**	LR	LR	01 39 34.4	
	comp=Z,56nm,18.2s,baz=350,slow=39						
TORD	**Torodi Ar. Bea**	**50.00**	**263**	P	**P**	**01 17 36.7**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=50,slow=7.3,SNR=3.9						
JHJ	**Hachijo jima 2**	**72.53**	**61**	LR	LR	01 55 27.5	
	comp=Z,306nm,20.9s,baz=106,slow=39						
YKA	**Yellowknife Ar**	**88.79**	**354**	P	**P**	**01 21 36.7**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=8.5,slow=4.6,SNR=1.6						

ASRS 04 01:23:28.2±0.2**, 52°N**±1°×**96°1E**±0°9**, h5^{km}, MLh3.9**/16, **smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.63**	**2**	Pg	Pn	01 23 43.5	-0.4
TDJR				Sg	Sg	01 23 47.7	-0.8
KZLR	**Kyzyl**	**1.00**	**267**	Pg	Pg	01 23 47.4	-0.1
KZLR				Sg	Sg	01 24 00.4	-0.1
KNGR	**Kungurtug, Tuv**	**1.49**	**142**	Pg	Pn	01 23 54.9	-0.8
KNGR				Sg	Sg	01 24 16.1	+0.1
ARDR	**Aradan**	**1.81**	**297**	Pg	Pb	01 24 02.3	+0.3
ARDR				Sg	Sg	01 24 26.7	+0.3
BLRR	**Bol'shaya Rech**	**2.56**	**301**	Pg	Pb	01 24 14.3	-0.3
BLRR				Sg	Sg	01 24 49.2	-1.2
DJOS	**Djoyskaya Sosn**	**3.04**	**291**	Pg	Pb	01 24 24.2	+1.4
DJOS				Sg	Sg	01 25 03.4	-2.5
CERR	**Cheremushki**	**3.05**	**293**	Pg	Pb	01 24 24.1	+1.1
CERR				Sg	Sg	01 25 04.0	-2.2
DJO	**Djoy, Khakassi**	**3.14**	**291**	Pg	Pb	01 24 26.3	+1.7
DJO				Sg	Sg	01 25 07.5	-1.6
ORY	**Orie**	**3.28**	**350**	Pg	Pg	01 24 29.6	-1.5
ORY				Sg	Sg	01 25 12.2	-1.4
KTRR	**Kuturchin**	**3.36**	**341**	Pg	Pb	01 24 30.1	+1.9
KTRR				Sg	Sg	01 25 15.7	-0.3
ABNR	**Abakan**	**3.42**	**307**	Sg	Sg	01 25 16.7	-1.4
TBTR	**Tabat**	**3.48**	**292**	Pg	Pb	01 24 31.5	+1.3
TBTR				Sg	Sg	01 25 16.6	-3.1
TEL	**Teeli**	**3.75**	**261**	Pg	Pb	01 24 34.8	-0.2
TEL				Sg	Sb	01 25 22.4	+1.7
SHRR	**Shira**	**4.48**	**310**	Pg	Pg	01 24 51.6	-2.3
SHRR				Sg	Sg	01 25 51.7	-0.2
TLY	**Talaya**	**4.71**	**88**	Pg	Pb	01 24 53.9	+2.6
TLY				Sg	Sg	01 25 56.7	-2.8
ZAK	**Zakamensk**	**4.76**	**104**	Pg	Pb	01 24 54.4	+2.3
ZAK				Sg	Sg	01 25 57.7	-3.3
SHTK	**Zheleznogorsk-**	**4.79**	**343**	Pg	Pb	01 24 53.9	+1.3
SHTK				Sg	Sb	01 25 55.7	+5.2
TASR	**Tashtagol**	**5.12**	**284**	Pg	Pb	01 25 01.6	+3.3
TASR				Sg	Sg	01 26 10.0	-2.6
CUR	**Chagan-Uzun**	**5.16**	**254**	Pn	Pn	01 24 45.4	-0.8
CUR				Pg	Pb	01 25 00.8	+1.8
CUR				Sg	Sg	01 26 09.5	-4.3
ULGR	**Ulagan, Altay**	**5.22**	**260**	Pg	Pg	01 25 04.3	-4.0
ULGR				Sg	Sg	01 26 15.7	-0.2
ARTR	**Artybash**	**5.45**	**274**	Pg	Pb	01 25 07.3	+3.4
ARTR				Sg	Sg	01 26 20.2	-3.0
CHBI	**Chibit, Altay**	**5.60**	**258**	Pn	Pn	01 24 50.4	-1.7
CHBI				Pg	Pb	01 25 09.6	+3.2
CHBI				Sg	Sg	01 26 27.5	-0.3
DGZ	**Jazzator, Alta**	**5.86**	**253**	Pn	Pn	01 24 53.3	-2.6
DGZ				Pg	Pb	01 25 14.9	+4.0
DGZ				Sg	Sg	01 26 30.5	-5.8
ELT	**Eltsovka**	**6.18**	**288**	Sg	Sg	01 26 44.3	-2.2
TRG	**Tyrgan**	**6.39**	**77**	Sg	Sg	01 26 47.5	-5.8

*IDC **04** 01:24:11.9±7.7, 23°17N×108°19W, h0^{km}, mb3.6/2, mb1 4.0/5, mb1mx3.8/28, mbtmp3.6/5, ML4.2/2, MS3.3/3, Ms1 3.3/3, ms1mx3.0/27, Error ellipse: s-maj=124.1km s-min=54.8km az=164.0*

*MEX **04** 01:24:20.1±0.5, 23°86N×108°76W, h15^{km}±7^{km}, MD4.2*

ISC 04 01:24:21.4±1.3**, 24°02N**±0°08×**108°51W**±0°07**, h19^{km}, n14,** σ**2^{s}12**/13**, Gulf of California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSIG	**Sanalona**	**1.48**	**57**	*i* P	**Pn**	**01 24 46.2**	**-0.8**
SSIG				*e*P	**Pb**	**01 24 46.7**	**-1.6**
SSIG				*i* S	**Sg**	**01 25 07.0**	**-2.2**
TSIG	**Topolobambo**	**1.64**	**343**	*i* P	**Pn**	**01 24 46.9**	**-2.3**
TSIG				*i* S	**Sn**	**01 25 06.9**	**-3.0**
LPIG	**La Paz**	**1.65**	**273**	*i* P	Pn	01 24 41.8	-7.5
LPIG				*i* S	Sn	01 24 59.2	-11
MAIG	**Mazatlaan**	**2.08**	**113**	*i* P	**Pn**	**01 24 54.4**	**-1.0**
MAIG				*i* S	**Sn**	**01 25 19.8**	**-1.0**
H06E1	**SOCORRO T-PHAS**	**5.68**	**204**	T	T	01 31 15.9	
	SNR=8.5						
TXAR	**Lajitas Array**	**6.83**	**38**	Pn	**Pn**	**01 26 02.2**	**+1.5**
	0.3nm,0.3s,baz=210,slow=14,SNR=18						
TXAR				Sn	**Sn**	**01 27 20.9**	**+2.7**
	0.3nm,0.3s,baz=216,slow=26,SNR=1.2						
TXAR				Lg	Lg	01 27 58.0	
	0.3nm,0.3s,baz=227,slow=27,SNR=2.1						
TXAR				LR	LR	01 29 07.8	
	comp=Z,219nm,19.1s,baz=0.0,slow=40						
NVAR	**Mina Array Bea**	**16.61**	**332**	P	**P**	**01 28 18.3**	**+2.5**
	0.0nm,0.3s,baz=140,slow=11,SNR=8.5						
NVAR				LR	LR	01 34 23.6	
	comp=Z,64nm,21.1s,baz=180,slow=35						
PDAR	**Pinedale Array**	**18.71**	**358**	P	**Pn**	**01 28 41.5**	**+2.1**
	0.2nm,0.3s,baz=171,slow=11,SNR=28						
YKA	**Yellowknife Ar**	**38.68**	**355**	P	**P**	**01 31 44.0**	**+0.4**
	0.9nm,0.9s,baz=165,slow=8.1,SNR=9.0						
ILAR	**Eielson Array**	**47.70**	**339**	P	**P**	**01 32 57.0**	**+0.5**
	0.5nm,0.7s,baz=150,slow=7.2,SNR=9.3						
H03N2	**Juan Fernandez**	**63.71**	**153**	T	T	02 44 00.3	
	baz=331,slow=78,SNR=24						
H03N1	**Juan Fernandez**	**63.72**	**153**	T	T	02 44 09.8	
	baz=331,slow=78,SNR=46						
H03N3	**Juan Fernandez**	**63.73**	**153**	T	T	02 43 54.3	
	baz=331,slow=78,SNR=36						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRIK	**Noril'sk**	**86.18**	**354**	LR	LR	02 18 09.2	
	comp=Z,32nm,18.8s,baz=198,slow=37						

IDC 04 01:56:20.5±2.5**, 3°61S**×**130°24E, h0^{km}, mb3.1**/2**, mb1 3.3**/3**, mb1mx3.2**/34**, mbtmp3.1**/3**, Error ellipse: s-maj=138.1km s-min=31.7km az=70.0, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.71**	**166**	Pn	Pn	02 00 17.4	+1.2
	baz=347,slow=11,SNR=1.1						
ASAR	**Alice Springs**	**20.25**	**170**	P	P	02 00 57.0	-0.6
	0.3nm,0.6s,baz=350,slow=9.7,SNR=2.3						
MKAR	**Makanchi Array**	**65.56**	**326**	P	P	02 07 06.1	0.0
	0.3nm,0.7s,baz=118,slow=8.3,SNR=3.9						

*UPA **04** 01:57:51.8±0.9, 9°49N×81°27W, h30^{km}±10^{km}, MW4.4, Fault plane solution: NP1:ϕ_s323.50000°, δ41.03000°, λ-74.66000°.*

ISC 04 01:57:50.1±1.4**, 9°45N**±0°05×**81°25W**±0°03**, h5^{km}**±10^{km}**, n38,** σ**1^{s}79**/38**, 12C-3D, Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHGR2	**Aguacate**	**1.02**	**240**	*e*P	Pn	01 58 18.0	+6.9
CHGR2				*e*S	**Sg**	**01 58 22.2**	**-0.7**
CALO3	**Calobre, Verag**	**1.19**	**160**	⇑*i*P	**Pg**	**01 58 12.3**	**-0.7**
CALO3				*e*S	**Sg**	**01 58 28.5**	**+0.1**
CNI2	**El Empalme, Bo**	**1.21**	**269**	⇑*e*P	**Pg**	**01 58 13.2**	**0.0**
CNI2				*e*S	**Sg**	**01 58 28.2**	**-0.7**
NANC3	**Nancito, Chiri**	**1.29**	**202**	⇑*i*P	**Pg**	**01 58 14.6**	**-0.3**
NANC3				*e*S	**Sg**	**01 58 30.4**	**-1.2**
PSOM3	**Paja de Sombre**	**1.30**	**235**	*e*P	Pg	01 58 13.4	-1.7
PSOM3				*e*S	**Sg**	**01 58 30.4**	**-1.6**
PNME	**Penonome**	**1.32**	**136**	⇓*e*P	**Pg**	**01 58 14.3**	**-1.1**
PNME				*e*S	**Sg**	**01 58 31.6**	**-1.0**
PNME	**Penonome**	**1.32**	**136**	*e*P	Pg	01 58 13.9	-1.5
REME3	**Remedios, Chir**	**1.34**	**205**	*e*P	**Pb**	**01 58 20.3**	**+4.5**
REME3				*e*S	**Sg**	**01 58 31.2**	**-2.0**
LNBQ3	**Los Naranjos,**	**1.34**	**241**	*e*P	Pg	01 58 14.0	-1.9
LNBQ3				*e*S	**Sg**	**01 58 31.3**	**-2.1**
RGM0	**Gandoca**	**1.35**	**276**	*e*P	Pg	01 58 13.8	-2.2
RGM0				*e*S	**Sg**	**01 58 33.3**	**-0.1**
STIA3	**Santiago, Vera**	**1.37**	**168**	⇑*i*P	Pg	01 58 14.9	-1.4
VTON	**El Valle, Cocl**	**1.40**	**126**	*e*P	Pg	01 58 15.4	-1.5
VTON				*e*S	**Sg**	**01 58 36.2**	**+1.2**
BCIP	**Isla Barro Col**	**1.42**	**101**	⇑*i*P	Pn	01 58 15.3	-1.3
BCIP				*e*S	**Sg**	**01 58 32.6**	**-3.2**
BCIP	**Isla Barro Col**	**1.42**	**101**	⇑*e*P	Pn	01 58 15.4	-1.2
PVID3	**Puerto Vidal,**	**1.43**	**194**	*e*P	Pn	01 58 15.8	-1.0
PVID3				*e*S	**Sg**	**01 58 34.1**	**-2.2**
PTAR3	**Potrerillos Ar**	**1.44**	**239**	*e*P	Pn	01 58 15.9	-1.1
PTAR3				*e*S	**Sg**	**01 58 34.7**	**-1.8**
ZANG	**Zanguenga, Cho**	**1.45**	**110**	⇑*i*P	Pn	01 58 15.8	-1.2
BCO2	**Palmira**	**1.46**	**240**	⇑*e*P	Pn	01 58 16.0	-1.2
BCO2				*e*S	**Sg**	**01 58 35.0**	**-2.0**
CHIR3	**Chiriqui UPA,**	**1.49**	**226**	*e*P	Pn	01 58 15.6	-2.0
CHIR3				*e*S	**Sg**	**01 58 35.2**	**-3.0**
LOCO3	**Loma Colorada,**	**1.55**	**228**	*e*P	Pn	01 58 17.7	-0.7
LOCO3				*e*S	**Sn**	**01 58 37.3**	**-1.5**
DVD	**David**	**1.56**	**230**	*e*S	**Sn**	**01 58 37.0**	**-2.0**
BRU2	**Volcan**	**1.56**	**246**	⇓*i*P	Pn	01 58 17.7	-1.0
BRU2				*e*S	**Sn**	**01 58 37.7**	**-1.8**
GMAL	**Guarumal, Vera**	**1.67**	**179**	⇓*i*P	Pn	01 58 18.8	-1.3
GMAL				*e*S	**Sn**	**01 58 39.4**	**-2.5**
MLIR3	**Monte Lirio, C**	**1.69**	**247**	*e*S	**Sn**	**01 58 41.0**	**-1.3**
UPA	**Univ. de Panam**	**1.76**	**105**	⇑*e*P	**Pn**	**01 58 20.7**	**-0.5**
UPA				*e*S	**Sn**	**01 58 41.7**	**-2.3**
UPA	**Univ. de Panam**	**1.76**	**105**	*e*P	Pn	01 58 20.0	-1.2
AZU	**Azuero**	**1.91**	**150**	⇑*e*P	Pn	01 58 22.5	-0.8
AZU				*e*S	**Sn**	**01 58 46.2**	**-1.5**
AZU	**Azuero**	**1.91**	**150**	*e*P	Pn	01 58 22.3	-1.0
DRK0	**Durika**	**1.98**	**265**	⇑*e*P	**Pn**	**01 58 24.1**	**-0.3**
DRK0				*e*S	**Sn**	**01 58 47.9**	**-1.8**
CACAO	**El Cacao, Vera**	**2.12**	**170**	⇑*e*P	**Pn**	**01 58 26.6**	**+0.4**
CACAO				*e*S	**Sn**	**01 58 52.0**	**-1.1**
UPD2	**Meteti**	**3.32**	**105**	*e*P	**Pn**	**01 58 42.4**	**-0.3**
PRVC	**Isla de Provid**	**3.91**	**358**	*e*P	Pn	01 58 48.8	-2.0
DBBC	**Dabeiba**	**5.54**	**115**	*e*P	**Pn**	**01 59 14.0**	**+0.7**
MOTC	**Monteria, Cord**	**5.55**	**96**	*e*P	**Pn**	**01 59 14.2**	**+0.7**
CBOC	**Ciudad Bolivar**	**6.29**	**124**	*e*P	Pn	01 59 22.9	-0.9
GUY2C	**Guyana, Caldas**	**7.19**	**125**	*e*P	**Pn**	**01 59 37.1**	**+0.8**
BARC	**Barichara**	**8.48**	**109**	*e*P	**Pn**	**01 59 54.1**	**+0.3**
GARC	**Garzon, Huila**	**9.21**	**141**	*e*P	**Pn**	**02 00 06.7**	**+2.8**

*IDC **04** 02:22:28.1±1.7, 60°58S×26°72W, h0^{km}, mb4.3/3, mb1 4.4/3, mb1mx3.9/19, mbtmp4.3/3, Error ellipse: s-maj=72.0km s-min=38.7km az=20.0*

*NEIC **04** 02:22:30.3±2.4, 60°36S±0°09×26°4W±0°2, h10^{km}±1^{km}, mb4.5/20, Error ellipse: s-maj=20.9km s-min=9.9km az=126.0*

ISC 04 02:22:29.8±0.7**, 60°4S**±0°1×**26°1W**±0°2**, h10^{km}, n30,** σ**1^{s}57**/30**, mb4.4**/12**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.62**	**152**	P	**Pn**	**02 25 26.2**	**-2.9**
VNA3	**Neumayer Olymp**	**12.76**	**155**	P	**Pn**	**02 25 27.8**	**-3.2**
SNAA	**Sanae**	**14.62**	**150**	P	**Pn**	**02 25 54.8**	**-1.6**
SNAA	**Sanae**	**14.62**	**150**	Pn	**Pn**	**02 25 54.4**	**-2.0**
BELA	**Belgrano 2**	**17.81**	**186**		**P**	**02 26 40.7**	**+2.7**
GO09	**Cerro Castillo**	**26.98**	**269**	P	**P**	**02 28 11.5**	**+0.2**
QSPA	**South Pole Qui**	**29.86**	**180**	P	**P**	**02 28 38.4**	**+1.2**
BO02	**Sierra Bellavi**	**38.39**	**291**	P	**P**	**02 29 51.3**	**+0.2**
MT02	**Curacav**	**39.82**	**292**	P	**P**	**02 30 01.6**	**-1.4**
MT02				IAmb	IAmb	02 30 17.7	
	comp=Z,17nm,1.3s						
CPUP	**Villa Florida**	**40.16**	**314**	P	**P**	**02 30 05.6**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=156,slow=8.5,SNR=3.7						
CPUP	**Villa Florida**	**40.16**	**314**	P	**P**	**02 30 04.6**	**-1.3**
CPUP				IAmb	IAmb	02 30 10.9	
	comp=Z,8.9nm,1.2s						
CO03	**El Pedregal**	**41.66**	**295**	P	**P**	**02 30 17.8**	**-0.5**
CO03				IAmb	IAmb	02 30 32.8	
	comp=Z,8.0nm,1.1s						
CO01	**Juntas del Tor**	**42.12**	**296**		**P**	**02 30 22.3**	**0.0**
CO01				IAmb	IAmb	02 30 29.2	
	comp=Z,6.9nm,1.1s						
VNDA	**Vanda**	**42.27**	**183**	P	**P**	**02 30 24.3**	**+1.7**
AC05	**El Transito**	**43.18**	**297**	P	**P**	**02 30 29.1**	**-1.6**
AC05				IAmb	IAmb	02 30 35.9	
	comp=Z,8.5nm,0.6s						
GO02	**Mina Guanaco**	**46.07**	**300**	P	**P**	**02 30 53.1**	**-1.0**
LVC	**Limon Verde**	**48.03**	**302**	P	**P**	**02 31 08.9**	**-0.6**
LVC				IAmb	IAmb	02 31 17.0	
	comp=Z,7.0nm,1.1s						
PB07	**IPOC Station P**	**49.23**	**302**	P	**P**	**02 31 17.3**	**-1.1**
PB01	**IPOC Station P**	**49.67**	**303**	P	**P**	**02 31 20.7**	**-1.0**
PB01				IAmb	IAmb	02 31 37.2	
	comp=Z,9.6nm,1.2s						
MNMC	**Minye Minye**	**51.42**	**304**	P	**P**	**02 31 34.4**	**-0.8**
MNMC				IAmb	IAmb	02 31 35.4	
	comp=Z,9.9nm,0.8s						
LPAZ	**La Paz**	**53.38**	**307**	P	**P**	**02 31 48.9**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=180,slow=2.0,SNR=3.3						
LPAZ	**La Paz**	**53.38**	**307**	P	**P**	**02 31 49.2**	**-0.9**
SAML	**Samuel**	**58.27**	**316**	P	**P**	**02 32 23.0**	**-1.5**
SAML				IAmb	IAmb	02 32 24.6	
	comp=Z,5.8nm,1.4s						
TOA0	**Torodi Ar. Sit**	**76.59**	**28**	P	**P**	**02 34 22.1**	**+1.8**
TOA0				IAmb	IAmb	02 34 22.4	
	comp=Z,2.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.59**	**28**	P	**P**	**02 34 21.9**	**+1.6**
	comp=Z,2.5nm,0.7s,baz=197,slow=6.8,SNR=9.5						
TORD	**Torodi Ar. Bea**	**76.59**	**28**	P	**P**	**02 34 22.3**	**+2.1**
AOPR	**Arecibo Observ**	**85.03**	**322**	P	**P**	**02 35 06.7**	**+1.4**
YKA	**Yellowknife Ar**	**139.69**	**314**	PKP	**PKPdf**	**02 41 54.9**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=120,slow=2.4,SNR=4.7						
SONM	**Songino Array**	**150.17**	**93**	PKPbc	**PKiKP**	**02 42 20.7**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=210,slow=3.0,SNR=8.9						
ILAR	**Eielson Array**	**153.25**	**305**	PKPbc	**PKPbc**	**02 42 25.4**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=160,slow=2.9,SNR=7.2						

*IDC **04** 02:34:05.9±2.0, 7°83S×117°38E, h0^{km}, mb2.9/3, mb1 3.4/5, mb1mx3.2/44, mbtmp3.2/5, ML3.1/2, MS2.3/1, Ms1 2.3/1, ms1mx2.1/13, Error ellipse: s-maj=42.3km s-min=25.6km az=70.0*

*DJA **04** 02:34:07.6±0.3, 8°S±3°×11°7E±°, h10^{km}, M3.9/9, MLv3.9/9*

ISC 04 02:34:10.1±1.0**, 7°92S**±0°05×**117°34E**±0°05**, h35^{km}, n13,** σ**1^{s}08**/17**, Bali Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.93**	**209**	P	**Pn**	**02 34 25.3**	**-1.4**
TWSI				S	**Sn**	**02 34 38.1**	**-0.8**
PLAI	**Plampang**	**1.00**	**154**	P	**Pn**	**02 34 27.8**	**+0.1**
PLAI				S	**Sn**	**02 34 41.8**	**+1.2**
SRBI	**Singaraja**	**2.11**	**265**	P	**Pn**	**02 34 45.1**	**+2.1**
ABJI	**Asem Bagus**	**3.08**	**272**	P	**Pn**	**02 34 55.8**	**-0.5**
JAGI	**Jajag, Banyuwa**	**3.20**	**260**	P	**Pn**	**02 34 57.2**	**-0.8**
JAGI				S	**Pn**	**02 34 57.2**	**-0.8**
BSSI	**Bau Bau, Buton**	**3.59**	**61**	P	**Pn**	**02 35 03.6**	**+0.3**
KAPI	**Kappang**	**3.75**	**40**	Pn	**Pn**	**02 35 04.8**	**-0.7**
	8.1nm,0.3s,baz=152,slow=1.3,SNR=12						
KAPI				Sn	**Sn**	**02 35 47.2**	**-1.3**
	8.0nm,0.3s,baz=244,slow=16,SNR=6.1						
KAPI				LR	LR	02 36 23.4	
	comp=Z,36nm,19.2s,baz=241,slow=38						
BKSI	**Bulukumba**	**3.78**	**47**	P	**Pn**	**02 35 05.5**	**-0.4**
BNSI	**Bone**	**4.45**	**38**	P	**Pn**	**02 35 15.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**12.95**	**142**	Pn	**Pn**	**02 37 10.8**	**-0.9**
	0.0nm,0.3s,baz=292,slow=13,SNR=1.3						
FITZ				Sn	Sn	02 39 25.4	-9.1
	0.1nm,0.3s,baz=198,slow=22,SNR=2.9						
WRA	**Warramunga Arr**	**20.35**	**128**	P	**P**	**02 38 43.6**	**0.0**
	0.2nm,0.4s,baz=302,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**22.30**	**136**	P	**P**	**02 39 06.4**	**+1.7**
	0.2nm,0.4s,baz=315,slow=9.8,SNR=2.3						
MKAR	**Makanchi Array**	**62.76**	**334**	P	**P**	**02 44 32.4**	**+0.6**
	0.2nm,0.6s,baz=141,slow=5.2,SNR=2.0						

*NEIC **04** 02:38:28.2±2.8, 18°3S±0°1×174°5W±0°1, h155^{km}±11^{km}, mb4.3/10, Error ellipse: s-maj=15.8km s-min=14.2km az=142.0*

*IDC **04** 02:38:28.0±2.7, 18°35S×174°69W, h146^{km}±28^{km}, mb3.7/5, mb1 3.9/6, mb1mx3.4/34, mbtmp4.2/6, Error ellipse: s-maj=42.0km s-min=18.9km az=128.0*

ISC 04 02:38:28.3±0.7**, 18°22S**±0°09×**174°6W**±0°1**, h150^{km}, n25,** σ**1^{s}10**/24**, mb4.1**/9**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.53**	**102**		**Pn**	**02 39 36.3**	**+0.7**
AFI	**Afiamalu**	**5.09**	**33**	P	**Pn**	**02 39 44.4**	**+1.4**
	22nm,0.3s,baz=187,slow=2.4,SNR=16						
AFI				S	**Sn**	**02 40 38.5**	**-2.7**
	17nm,0.3s,baz=45,slow=24,SNR=10.0						
MSVF	**Nonsavu**	**6.99**	**273**	P	Pn	02 40 14.4	+6.1
	0.9nm,0.3s,baz=105,slow=17,SNR=6.9						
MSVF	**Nonsavu**	**6.99**	**273**		Pn	02 40 15.8	+7.4
RAO	**Raoul Island**	**11.39**	**195**	Pn	**Pn**	**02 41 06.2**	**-0.3**
URZ	**Urewera**	**21.23**	**198**	P	**P**	**02 43 01.0**	**-1.4**
	4.6nm,0.3s,baz=248,slow=3.3,SNR=13						
URZ				S	S	02 46 36.3	-13
	7.5nm,1.0s,baz=68,slow=7.8,SNR=1.8						
URZ	**Urewera**	**21.23**	**198**	P	**P**	**02 43 01.6**	**-0.8**
URZ				IAmb	IAmb	02 43 03.8	
	comp=Z,8.3nm,0.8s						
HIZ	**Hauiti**	**22.20**	**202**		**P**	**02 43 14.2**	**+1.7**
BKZ	**Black Stump Fm**	**22.25**	**198**	P	**P**	**02 43 12.6**	**-0.4**
BKZ				IAmb	IAmb	02 43 31.6	
	comp=Z,10nm,1.3s						
QRZ	**Quartz Range**	**25.09**	**203**	P	**P**	**02 43 40.2**	**+1.1**
CTA	**Charters Tower**	**36.95**	**261**	P	**P**	**02 45 23.2**	**0.0**
	comp=Z,1.0nm,0.3s,baz=72,slow=6.4,SNR=1.5						
CTAO	**Charters Tower**	**36.95**	**261**	P	**P**	**02 45 23.4**	**+0.2**
CTAO				IAmb	IAmb	02 45 39.2	
	comp=Z,8.9nm,1.1s						
WR0	**Warramunga Arr**	**47.92**	**259**	P	**P**	**02 46 51.5**	**-0.4**
WR0				IAmb	IAmb	02 47 06.5	
	comp=Z,4.5nm,1.2s						
WB0	**Warramunga Arr**	**48.08**	**260**	P	**P**	**02 46 52.3**	**-0.9**
WB2	**Warramunga Arr**	**48.10**	**259**	P	**P**	**02 46 52.3**	**-1.0**
WB2				IAmb	IAmb	02 47 10.0	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**48.11**	**259**	P	**P**	**02 46 52.3**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=97,slow=7.2,SNR=30						
AS31	**Alice Springs**	**48.17**	**254**	P	**P**	**02 46 54.2**	**+0.3**
ASAR	**Alice Springs**	**48.17**	**254**	P	**P**	**02 46 53.1**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=90,slow=8.9,SNR=55						
ASAR	**Alice Springs**	**48.17**	**254**	P	**P**	**02 46 52.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**56.52**	**260**	P	**P**	**02 47 55.4**	**0.0**
FITZ				IAmb	IAmb	02 48 10.8	
	comp=Z,8.6nm,1.4s						
ILAR	**Eielson Array**	**85.43**	**12**	P	**P**	**02 50 49.5**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=221,slow=6.1,SNR=9.0						
ILAR	**Eielson Array**	**85.43**	**12**	P	**P**	**02 50 50.1**	**+1.6**
MKAR	**Makanchi Array**	**111.94**	**314**	PKiKP	**PKiKP**	**02 56 45.6**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=132,slow=2.1,SNR=1.6						
MKAR	**Makanchi Array**	**111.94**	**314**		**PKiKP**	**02 56 45.5**	**-0.2**
GERES	**GERESS Array B**	**148.71**	**349**	PKPbc	**PKPbc**	**02 57 57.6**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=2.9,slow=2.0,SNR=2.0						

*IDC **04** 03:16:30.4±0.7, 6°83N×73°07W, h149^{km}±11^{km}, mb3.1/4, mb1 3.5/8, mb1mx3.2/43, mbtmp3.8/8, Error ellipse: s-maj=30.9km s-min=7.6km az=132.0*

*RSNC **04** 03:16:32.2±1.2, 6°81N×73°16W, h142^{km}±4^{km}, ML3.3, Mw3.8, Fault plane solution: NP1:ϕ_s58.00000°, δ48.00000°, λ-162.00000°.*

ISC 04 03:16:30.3±0.7**, 6°82N**±0°03×**73°09W**±0°04**, h153^{km}**±5^{km}**, n49,** σ**1^{s}49**/90**, mb3.4**/4**, 5C-5D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**203**	⇓*i*P	**Pn**	**03 16 51.7**	**+0.2**
BARC				*e*S	**Sn**	**03 17 06.5**	**-1.1**
BARC				*i*		03 17 07.6	
	comp=Z,523nm,0.4s						
PAMC	**Pamplona, Colo**	**0.64**	**37**	⇓*i*P	**Pn**	**03 16 54.5**	**+1.1**
PAMC				*e*S	**Sn**	**03 17 11.3**	**+0.2**
BRRC	**Barranca, Sant**	**0.68**	**295**	⇓*i*P	**Pn**	**03 16 53.6**	**+0.5**
BRRC				*e*S	**Sn**	**03 17 10.2**	**-0.3**
BRRC				*i*		03 17 14.5	
	comp=Z,316nm,0.3s						
RUSC	**La Rusia**	**0.92**	**180**	*e*P	**Pn**	**03 16 55.7**	**+0.3**
RUSC				*e*S	**Sn**	**03 17 13.1**	**-1.5**
RUSC				*i*		03 17 15.9	
	comp=Z,333nm,0.3s						
TAMC	**Tame, Arauca**	**1.34**	**106**	⇓*i*P	**Pn**	**03 17 00.1**	**+1.4**
TAMC				*e*S	**Sn**	**03 17 20.8**	**+0.5**
TAMC				*i*		03 17 22.2	
	comp=Z,113nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.39**	**258**	*e*P	**Pn**	**03 16 58.3**	**-0.8**
PTBC				*e*S	**Sn**	**03 17 18.5**	**-2.5**
PTBC				*i*		03 17 22.4	
	comp=Z,501nm,0.8s						
OCAC	**Ocana**	**1.43**	**351**	⇑*e*P	**Pn**	**03 16 60.0**	**+0.3**
OCAC				*e*S	**Sn**	**03 17 21.8**	**-0.3**
OCAC				*i*		03 17 25.3	
	comp=Z,321nm,0.3s						
SPBC	**San Pablo de B**	**1.52**	**220**	⇑*i*P	**Pn**	**03 17 00.7**	**+0.2**
SPBC				*e*S	**Sn**	**03 17 21.8**	**-1.8**
SPBC				*i*		03 17 30.7	
	comp=Z,208nm,0.3s						
NORC	**Norcasia**	**2.17**	**235**	*e*P	**Pn**	**03 17 07.7**	**-0.1**
NORC				*e*S	**Sn**	**03 17 35.1**	**-1.4**
NORC				*i*		03 17 43.0	
	comp=Z,98nm,0.5s						
SMLC	**San Martn de**	**2.19**	**334**	*e*P	**Pn**	**03 17 07.9**	**-0.1**
SMLC				*e*S	**Sn**	**03 17 36.3**	**-0.8**
SMLC				*i*		03 17 44.0	
	comp=Z,262nm,0.1s						
CHIC	**Chingaza**	**2.27**	**196**	⇑*e*P	**Pn**	**03 17 09.6**	**+0.3**
CHIC				*e*S	**Sn**	**03 17 38.8**	**-0.5**
CHIC				*i*		03 17 42.7	
	comp=Z,92nm,0.6s						
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**03 17 11.5**	**+1.6**
	comp=Z,46nm,0.3s,baz=304,slow=3.7,SNR=112						
ROSC				S	**Sn**	**03 17 40.2**	**-0.1**
	comp=Z,38nm,0.3s,baz=309,slow=22,SNR=8.1						
ROSC	**El Rosal**	**2.32**	**212**	⇑*i*P	**Pn**	**03 17 11.4**	**+1.6**
ROSC				*e*S	**Sn**	**03 17 38.9**	**-1.4**
ROSC				*i*		03 17 48.2	
	comp=Z,250nm,0.5s						
HELC	**Santa Helena**	**2.50**	**256**	*e*P	**Pn**	**03 17 12.6**	**+0.5**
HELC				*e*S	**Sn**	**03 17 42.3**	**-1.9**
HELC				*i*		03 17 50.9	
	comp=Z,134nm,0.4s						
UREC	**San Jos de Ur**	**2.60**	**291**	*e*P	**Pn**	**03 17 12.1**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
UREC				eS	Sn	03 17 41.8	-3.8
UREC				i		03 17 56.9	
	comp=Z,130nm,0.2s						
GUY2C	Guyana, Caldas	2.77	235	eP	Pn	03 17 15.7	+0.3
GUY2C				eS	Sn	03 17 49.2	-0.9
GUY2C				i		03 18 00.6	
	comp=Z,126nm,0.7s						
PTGC	Puerto Gaitan,	2.77	160	eP	Pn	03 17 14.9	-0.2
PTGC				eS	Sn	03 17 47.5	-2.1
PTGC				i		03 17 50.7	
	comp=Z,219nm,0.5s						
RREF	El Recreo	2.95	230	eP	Pn	03 17 19.1	+1.2
RREF				eS	Sn	03 17 54.1	-0.3
RREF				i		03 18 05.5	
	comp=Z,120nm,0.6s						
CBOC	Ciudad Bolivar	3.06	252	eP	Pn	03 17 19.2	+0.4
CBOC				eS	Sn	03 17 55.2	-1.0
CBOC				i		03 17 57.5	
	comp=Z,47nm,0.6s						
DBBC	Dabeiba	3.11	274⇓	iP	Pn	03 17 19.7	+0.4
DBBC				eS	Sn	03 17 56.6	-0.6
TOLC	Tolima	3.14	225	eP	Pn	03 17 21.1	+1.1
TOLC				eS	Sn	03 17 57.5	-0.9
TOLC				i		03 18 06.0	
	comp=Z,104nm,0.4s						
SDV	Santo Domingo	3.18	50	P	Pn	03 17 21.6	+1.2
	comp=Z,10.0nm,0.3s,baz=208,slow=1.5,SNR=54						
SDV				S	Sn	03 17 58.3	-0.8
	comp=Z,49nm,0.3s,baz=51,slow=12,SNR=43						
SDV	Santo Domingo	3.18	50	eP	Pn	03 17 21.4	+1.0
SDV				eS	Sn	03 17 57.6	-1.5
SDV				i		03 18 03.5	
	comp=Z,169nm,0.7s						
MOTC	Monteria, Cord	3.21	307	eP	Pn	03 17 19.5	-1.0
MOTC				eS	Sn	03 17 57.6	-1.8
MOTC				i		03 18 14.9	
	comp=Z,62nm,0.5s						
ARGC	Ariguani, Magd	3.23	339	eP	Pn	03 17 21.4	+0.6
ARGC				eS	Sn	03 18 00.4	+0.5
ARGC				i		03 18 08.4	
	comp=Z,91nm,0.4s						
ANIL	Santa Ana	3.27	225	eP	Pn	03 17 23.1	+1.6
ANIL				eS	Sn	03 18 00.8	-0.4
ANIL				i		03 18 05.9	
	comp=Z,24nm,0.4s						
PRAC	Prado	3.57	210	eP	Pn	03 17 25.1	-0.1
PRAC				eS	Sn	03 18 07.6	-0.2
PRAC				i		03 18 15.1	
	comp=Z,102nm,0.5s						
ORTC	Ortega, Tolima	3.60	217	eP	Pn	03 17 25.7	0.0
ORTC				eS	Sn	03 18 08.4	-0.1
ORTC				i		03 18 15.0	
	comp=Z,99nm,0.5s						
PLMC	San Jos del P	3.71	239	eP	Pn	03 17 27.8	+0.8
PLMC				eS	Sn	03 18 10.0	-0.9
PLMC				i		03 18 20.3	
	comp=Z,62nm,0.6s						
GUVC	San Jose del G	4.27	174	eP	Pn	03 17 33.0	-1.3
GUVC				eS	Sn	03 18 22.1	-2.1
GUVC				i		03 18 28.2	
	comp=Z,67nm,0.3s						
YOTC	Yotoco, Valle	4.30	229	eP	Pn	03 17 35.1	+0.3
YOTC				eS	Sn	03 18 23.8	-1.0
YOTC				i		03 18 32.3	
	comp=Z,14nm,0.5s						
SMRC	Santa Marta, M	4.46	345	eP	Pn	03 17 37.3	+0.5
SMRC				eS	Sn	03 18 24.2	-4.2
SMRC				i		03 18 31.1	
	comp=Z,24nm,0.2s						
MACC	Macarena, Meta	4.71	189⇑	eP	Pn	03 17 38.9	-1.2
MACC				eS	Sn	03 18 30.1	-4.3
MACC				i		03 18 37.7	
	comp=Z,64nm,0.9s						
MARP	Paez Belalcaza	4.88	216	eP	Pn	03 17 42.2	-0.3
MARP				eS	Sn	03 18 38.1	-0.7
GARC	Garzon, Huila	5.19	208	eP	Pn	03 17 46.1	-0.5
GARC				eS	Sn	03 18 41.9	-4.3
GARC				i		03 18 46.7	
	comp=Z,21nm,0.4s						
PCON	Cinco Dias	5.55	217	eP	Pn	03 17 52.9	+1.2
PCON				i		03 19 15.9	
	comp=Z,15nm,0.6s						
POPC	Popayan, Colom	5.56	220	eP	Pn	03 17 51.9	+0.5
POPC				eS	Sn	03 18 50.6	-4.2
POPC				i		03 19 08.3	
	comp=Z,6.0nm,0.6s						
FLOC	Florencia	5.80	206	eP	Pn	03 17 54.4	-0.1
FLOC				eS	Sn	03 18 50.0	-10
FLOC				i		03 19 06.0	
	comp=Z,13nm,0.7s						
SOTA	Rioblanco	5.83	217	eP	Pn	03 17 57.8	+2.5
SOTA				eS	Sn	03 19 04.4	+2.6
BBAC	Balboa, Cauca	6.32	221	eP	Pn	03 18 01.7	+0.2
BBAC				eS	Sn	03 19 11.9	-1.1
BBAC				i		03 19 17.9	
	comp=Z,14nm,0.6s						
GCUF	Volcan Galeras	6.99	218	eP	Pn	03 18 11.6	+0.7
GCUF				eS	Sn	03 19 29.0	-0.6
GCUF				i		03 19 33.9	
	comp=Z,7.3nm,0.5s						
PCRV	Puerto La Cruz	9.00	68	P	Pn	03 18 39.2	+2.0
	comp=Z,0.8nm,0.3s,baz=90,slow=18,SNR=1.5						
PCRV				S	Sn	03 20 14.7	-2.5
	comp=Z,0.7nm,0.3s,baz=131,slow=18,SNR=1.4						
SJG	San Juan	13.10	30	P	Pn	03 19 30.5	-0.3
	comp=Z,1.6nm,0.3s,baz=202,slow=19,SNR=2.2						
TXAR	Lajitas Array	36.49	312	P	P	03 23 22.6	+1.6
	comp=Z,0.4nm,0.6s,baz=134,slow=9.2,SNR=6.3						
TXAR				PcP	PcP	03 25 43.8	+2.1
	comp=Z,0.2nm,0.7s,baz=129,slow=2.4,SNR=2.0						
ULM	Lac du Bonnet	47.30	340	P	P	03 24 48.5	+0.2
	comp=Z,1.2nm,0.6s,baz=154,slow=7.1,SNR=3.2						
PDAR	Pinedale Array	48.10	324	P	P	03 24 54.5	-0.4
	comp=Z,0.2nm,0.6s,baz=105,slow=9.6,SNR=2.0						
YKA	Yellowknife Ar	63.27	340	P	P	03 26 41.9	-0.5
	comp=Z,0.3nm,0.6s,baz=129,slow=7.8,SNR=6.3						
ASAR	Alice Springs	149.14	234	PKPbc	PKPbc	03 36 01.1	-0.4
	comp=Z,0.5nm,0.8s,baz=118,slow=3.6,SNR=5.1						
WRA	Warramunga Arr	150.37	241	PKPbc	PKPbc	03 36 04.5	-0.1
	comp=Z,0.8nm,1.0s,baz=107,slow=2.8,SNR=8.7						

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*DNK **04** 03:20:23.6±5.0, 82°.44N×6°.62W, h27km±134km, ML3.5*
*IDC **04** 03:20:23.4±1.1, 82°.36N×6°.22W, h0km, mb3.5/8, mb1 3.8/10, mb1mx3.5/56, mbtmp3.6/10, ML4.1/2, MS3.5/19, Ms1 3.5/19, ms1mx3.2/48, Error ellipse: s-maj=23.6km s-min=19.8km az=24.0*
*IEPN **04** 03:20:27.0, 82°.44N×4°.99W, h10km*
ISC 04 03:20:22.9±0.7, **82°.19N**±0°.07×**6°.78W**±0°.05, **h10km, n54, σ2s70**/53, **mb3.5**/8, **MS3.5**/16, **2C, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	4.47	127	eP	Pn	03 21 31.3	+0.7
KBS				eS	Sn	03 22 18.5	-4.0
KBS				e		03 22 18.9	
KBS				IAML		03 22 24.8	
	comp=Z,12nm,0.3s						
KBS	Kingsbay	4.47	127	eP	Pn	03 21 31.0	+0.5
KBS				eS	Sn	03 22 18.5	-4.0
KBS	Kingsbay	4.47	127	iP	Pn	03 21 31.6	+1.1
KBS				e		03 22 18.9	
SPA0	Spitsbergen Ar	5.59	124	eP	Pn	03 21 46.5	+0.5
SPA0				eS	Sn	03 22 45.4	-4.7
SPA0				IAML		03 22 57.3	
	comp=Z,6.2nm,1.1s						
SPA0	Spitsbergen Ar	5.59	124⇑	iP	Pn	03 21 46.5	+0.5
SPA0				eS	Sn	03 22 45.9	-4.2
SPITS	Spitsbergen Ar	5.59	124	Pn	Pn	03 21 46.6	+0.7
	baz=349,slow=3.4,SNR=637						
SPITS				Sn	Sn	03 22 45.7	-4.4
	baz=139,slow=13,SNR=0.7						
SPITS				LR	LR	03 23 51.7	
	comp=Z,312nm,18.3s,baz=280,slow=37						
DAG	Danmarks Havn	5.84	208	iP	Pn	03 21 51.9	+2.5
DAG				iS	Sn	03 22 54.8	-1.5
DAG	Danmarks Havn	5.84	208	eP	Pn	03 21 52.2	+2.8
DAG				eS	Sn	03 22 55.6	-0.7
DAG				IAML		03 23 01.9	
	comp=Z,40nm,0.3s						
DAG	Danmarks Havn	5.84	208	iP	Pn	03 21 52.0	+2.5
DAG				iS	Sn	03 22 54.8	-1.5
DAG				IAML		03 23 01.9	
	comp=Z,40nm,0.3s						
HSPB	Hornsund (broa	6.52	131	eP	Pn	03 22 00.5	+1.8
HSPB	Hornsund (broa	6.52	131⇑	iP	Pn	03 22 00.4	+1.7
HSPB				eS	Sn	03 23 11.4	-1.5
ZFI	Zemlya Franca-	7.90	72	eP	Pn	03 22 14.5	-3.2
ZFI				eS	Sn	03 23 34.0	-13
HOPEN	Hopen	8.02	118	eP	Pn	03 22 20.2	+0.9
HOPEN				IAML		03 23 46.3	
	comp=Z,4.5nm,0.2s						
HOPEN	Hopen	8.02	118	eP	Pn	03 22 20.5	+1.2
HOPEN				iS	Sn	03 23 43.8	-6.0
DBG	Daneborg	8.34	206	e	Pn	03 22 24.6	+1.0
	baz=12,slow=12						
DBG				eP	Pn	03 22 25.1	+1.5
DBG				eS	Sn	03 23 53.2	-4.6
DBG				IAML		03 23 59.2	
	comp=Z,13nm,0.4s						
DBG	Daneborg	8.34	206	e	Pn	03 22 24.6	+1.0
	baz=12,slow=12						
DBG				iP	Pn	03 22 25.1	+1.5
DBG				eS	Sn	03 23 53.0	-4.7
DBG				IAML		03 23 59.2	
	comp=Z,13nm,0.4s						
BJO1	Bjornoya	9.16	133	eP	Pn	03 22 36.2	+1.4
JMIC	Jan Mayen	11.28	183	eP	Pn	03 23 02.2	-1.6
JMIC				e		03 23 07.0	
SUMG	Summit	11.58	232	iP	Pn	03 23 07.0	-1.3
SUMG				i		03 25 10.3	
SUMG	Summit	11.58	232	iP	Pn	03 23 07.0	-1.3
SUMG				i		03 25 10.3	
SUMG				IAML		03 25 16.5	
	comp=Z,18nm,0.4s						
SUMG	Summit	11.58	232	iP	Pn	03 23 07.0	-1.3
SUMG				i		03 25 10.3	
SUMG				IAML		03 25 16.5	
	comp=Z,18nm,0.4s						
TULEG	Thule	12.03	277	iP	Pn	03 23 10.8	-3.2
TULEG				e		03 25 19.0	
TULEG				IAML		03 25 29.3	
	comp=Z,5.0nm,0.3s						
TULEG	Thule	12.03	277	iP	Pn	03 23 10.8	-3.2
TULEG				e		03 25 19.0	
TULEG				IAML		03 25 29.3	
	comp=Z,5.0nm,0.3s						
KULLO	Kullorsuaq	12.10	260	iP	Pn	03 23 13.3	-1.6
KULLO				i		03 25 20.3	
KULLO	Kullorsuaq	12.10	260	iP	Pn	03 23 13.3	-1.6
KULLO				i		03 25 20.3	
KULLO				IAML		03 25 22.8	
	comp=Z,5.5nm,0.4s						
KULLO	Kullorsuaq	12.10	260	iP	Pn	03 23 13.3	-1.6
KULLO				i		03 25 20.3	
KULLO				IAML		03 25 22.8	
	comp=Z,5.5nm,0.4s						
UPNV	Upernavik	13.54	255	iP	Pn	03 23 30.8	-3.9
UPNV				i		03 25 54.5	
UPNV				IAML		03 25 55.8	
	comp=Z,9.0nm,0.4s						
UPNV	Upernavik	13.54	255	iP	Pn	03 23 30.8	-3.9
UPNV				i		03 25 54.5	
UPNV				IAML		03 25 55.8	
	comp=Z,9.0nm,0.4s						
NUUG	Nuugaatsiaq	14.30	249	IAML		03 26 15.2	
	comp=Z,4.6nm,0.3s						
NUUG	Nuugaatsiaq	14.30	249	IAML		03 26 15.2	
	comp=Z,4.6nm,0.3s						
ARCES	ARCESS Array B	14.54	132	Pn	Pn	03 23 48.0	-0.3
	baz=328,slow=11,SNR=17						
ARCES				Sn	Sn	03 26 18.4	-11
	baz=39,slow=7.8,SNR=1.7						
RES	Resolute Bay	17.03	295	P	Pn	03 24 15.8	-4.8
	comp=Z,0.4nm,0.3s,baz=50,slow=8.0,SNR=21						
RES				S	Sn	03 27 15.7	-14
	comp=Z,0.1nm,0.3s,baz=102,slow=22,SNR=2.0						
RES				LR	LR	03 30 42.3	
	comp=Z,172nm,18.4s,baz=78,slow=36						
SFJD	Kangerlussuaq	18.26	240	P	Pn	03 24 33.0	-2.9
	comp=Z,1.0nm,0.3s,baz=22,slow=10,SNR=5.9						
SFJD				S	Sn	03 27 41.3	-18
	comp=Z,1.0nm,0.3s,baz=110,slow=20,SNR=5.0						
SFJD				LR	LR	03 32 21.3	
	comp=Z,148nm,18.4s,baz=17,slow=39						
FINES	FINESS Array B	22.49	137	LR	LR	03 34 25.4	
	comp=Z,34nm,19.4s,baz=349,slow=37						
NRIK	Noril'sk	22.71	66	P	P	03 25 25.6	+1.3
	comp=Z,1.0nm,0.3s,baz=352,slow=8.2,SNR=4.3						
NRIK				LR	LR	03 34 50.8	
	comp=Z,91nm,19.7s,baz=40,slow=38						
FRB	Frobisher Bay	23.65	258	P	P	03 25 36.2	+2.5
	comp=Z,0.9nm,0.4s,baz=350,slow=8.4,SNR=4.7						
FRB				LR	LR	03 34 58.7	
	comp=Z,119nm,18.4s,baz=7.5,slow=37						
YKA	Yellowknife Ar	30.92	301	LR	LR	03 40 11.3	
	comp=Z,59nm,18.3s,baz=0.0,slow=38						
ILAR	Eielson Array	31.79	329	P	P	03 26 47.8	+1.0
	comp=Z,0.7nm,1.0s,baz=2.1,slow=7.2,SNR=6.1						
GERES	GERESS Array B	34.07	156	P	P	03 27 10.7	+3.6
	comp=Z,0.5nm,0.8s,baz=358,slow=6.5,SNR=2.4						
ZALV	Zalesovo Beam	37.18	78	LR	LR	03 46 47.4	
	comp=Z,39nm,18.4s,baz=340,slow=43						
KURBB	Kurchatov Arra	39.58	85	P	P	03 27 54.1	+0.4
	comp=Z,0.2nm,0.6s,baz=337,slow=7.5,SNR=3.4						
ULM	Lac du Bonnet	40.46	278	LR	LR	03 45 29.9	
	comp=Z,30nm,20.9s,baz=344,slow=37						
ESDC	Sonseca Array	42.66	177	P	P	03 28 23.2	+3.9
	comp=Z,0.9nm,1.1s,baz=350,slow=6.5,SNR=3.4						
MKAR	Makanchi Array	43.84	83	P	P	03 28 29.8	+1.2
	comp=Z,0.3nm,0.7s,baz=357,slow=10,SNR=3.0						
MKAR				LR	LR	03 49 27.2	
	comp=Z,67nm,19.0s,baz=336,slow=40						
BRTR	Keskin Array B	44.69	135	LR	LR	03 47 03.2	
	comp=Z,38nm,20.1s,baz=336,slow=36						
NEW	Newport	45.15	298	LR	LR	03 47 00.1	
	comp=Z,103nm,18.6s,baz=7.5,slow=35						
SONM	Songino Array	45.91	60	P	P	03 28 45.9	+0.6
	comp=Z,0.6nm,0.9s,baz=339,slow=3.8,SNR=5.2						
GEYT	Alibeck	49.29	109	LR	LR	03 54 03.8	
	comp=Z,54nm,18.1s,baz=5.0,slow=41						
PDAR	Pinedale Array	49.62	289	LR	LR	03 50 28.8	
	comp=Z,93nm,18.8s,baz=333,slow=36						
YBH	Yreka Blue Hor	52.26	302	LR	LR	03 51 21.2	
	comp=Z,74nm,18.7s,baz=7.0,slow=36						
ELK	Elko	52.33	294	LR	LR	03 51 55.1	
	comp=Z,100nm,19.8s,baz=12,slow=36						
NVAR	Mina Array Bea	54.99	297	LR	LR	03 53 25.5	
	comp=Z,87nm,20.3s,baz=42,slow=36						
TXAR	Lajitas Array	62.06	281	LR	LR	03 56 41.6	
	comp=Z,17nm,21.4s,baz=0.0,slow=35						
CMAR	Chiang Mai Arr	73.95	72	LR	LR	04 07 47.4	
	comp=Z,24nm,18.7s,baz=285,slow=38						

IDC 04 03:23:16.8±1.1, **8°.50S**×**159°.21E, h0km, mb3.7**/7, **mb1 3.9**/7, **mb1mx3.7**/45, **mbtmp3.7**/7, **MS2.9**/1, **Ms1 2.9**/1, **ms1mx2.4**/36, **Error ellipse: s-maj=29.0km s-min=22.1km az=66.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.17	142	Pn	Pb	03 23 40.2	+0.3
	49nm,0.3s,baz=289,slow=2.6,SNR=8.8						
HNR				Sn	Sg	03 23 53.3	-1.2
	196nm,0.3s,baz=335,slow=20,SNR=14						
HNR				LR	LR	03 24 08.4	
	comp=Z,58nm,19.2s,baz=332,slow=44						
WRA	Warramunga Arr	26.62	242	P	P	03 28 57.0	-0.2
	0.9nm,0.9s,baz=66,slow=8.8,SNR=4.4						
WRA				LR	LR	03 38 07.8	
	comp=Z,26nm,20.5s,baz=220,slow=34						
STKA	Stephens Creek	28.45	213	P	P	03 29 13.8	+0.2
	0.9nm,0.5s,baz=31,slow=9.0,SNR=3.0						
ASAR	Alice Springs	28.54	235	P	P	03 29 13.7	-0.8
	0.5nm,0.7s,baz=64,slow=9.3,SNR=6.4						
VNDA	Vanda	69.00	179	P	P	03 34 24.5	+0.9
	0.6nm,0.8s,baz=357,slow=5.2,SNR=3.7						
SONM	Songino Array	72.89	326	P	P	03 34 48.6	+0.7
	0.7nm,0.7s,baz=134,slow=6.3,SNR=5.9						
ILAR	Eielson Array	83.28	20	P	P	03 35 44.2	-0.8
	0.3nm,0.7s,baz=224,slow=5.0,SNR=2.2						
MKAR	Makanchi Array	87.30	318	P	P	03 36 05.5	-0.2
	0.2nm,0.6s,baz=118,slow=5.8,SNR=2.7						

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*ANF **04** 03:39:04.2±0.2, 60°.93N×145°.82W, h21km±2km, ML4.4/43, Error ellipse: s-maj=1.4km s-min=1.3km az=177.0, Hypocentre not reviewed by the ISC*
*NEIC **04** 03:39:04.9±1.6, 60°.96N±0°.02×145°.82W±0°.05, h29km±1km, Error ellipse: s-maj=3.3km s-min=3.2km az=76.0*
*AEIC **04** 03:39:05±1.6, 60°.94N±0°.02×145°.82W±0°.06, h20km±2km, ML4.0, mb4.0/5(NEIC), ML4.2/79(NEIC), Mwr4.1/100(NEIC), Error ellipse: s-maj=4.1km s-min=3.3km az=85.0*
*NEIC **04** 03:39:05, 60°.94N×145°.82W, h32km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.15; $M_{\theta\theta}$-1.37; $M_{\phi\phi}$1.52; $M_{r\theta}$-0.55; $M_{\theta\phi}$0.17; $M_{\phi r}$0.24; Fault plane solution: $M_0$1.58000×10^{15} NP1:ϕ_s139.99000°, δ80.55000°, λ-159.18000°. NP2:ϕ_s46.42000°, δ69.47000°, λ-10.10000°. Principal axes: T 1.5591, Plg8.0000°, Azm272.0000°; N 0.0388, Plg67.0000°, Azm163.0000°; P -1.5979, Plg21.0000°, Azm5.0000°;*
*IDC **04** 03:39:06.6±2.2, 60°.99N×145°.63W, h35km±19km, mb3.3/9, mb1 3.7/14, mb1mx3.5/48, mbtmp3.6/14, ML3.5/5, MS3.1/6, Ms1 3.1/6, ms1mx2.8/35 Error ellipse: s-maj=18.0km s-min=12.2km az=44.0*
ISC 04 03:39:04.8±1.0, **60°.94N**±0°.03×**145°.80W**±0°.03, **h24km**±8km, **n78, σ1s13**/84, **mb3.7**/11, **MS3.2**/4, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FID	Port Fidalgo	0.38	241		Pb	03 39 14.1	+1.0
FID					Sn	03 39 21.1	-0.5
FID				IAML		03 39 23.7	
	comp=E,33μm,0.4s						
EYAK	Cordova Ski Ar	0.39	177	Pg	Pb	03 39 13.6	+0.4
EYAK	Cordova Ski Ar	0.39	177	P		03 39 13.5	
	baz=355,SNR=840						
EYAK				S		03 39 19.6	
	baz=355						
KLU	Klutina	0.56	354		Pb	03 39 15.5	-0.6
KLU					Sb	03 39 23.4	-0.2
KLU				IAML		03 39 24.2	
	comp=N,11μm,0.4s						
KLU	Klutina	0.56	354	P		03 39 15.4	
	baz=175,SNR=1000						
KLU				S		03 39 23.2	
	baz=175						
BMRM	Bremner River	0.58	87	P		03 39 15.7	
	baz=267,SNR=1000						
BMRM				S		03 39 24.2	
	baz=267						
GLI	Glacier Island	0.64	265		Pb	03 39 16.4	-0.9
GLI					Sb	03 39 25.6	-0.2
GLI				IAML		03 39 26.0	
	comp=N,21μm,0.6s						
GLI				IAML		03 39 28.0	
	comp=E,11μm,0.8s						
GLI	Glacier Island	0.64	265	P		03 39 16.4	
	baz=85,SNR=382						
GLI				S		03 39 25.5	
	baz=85						
HIN	Hinchinbrook I	0.64	213		Pb	03 39 17.2	-0.2
HIN					Sb	03 39 27.0	+1.0
HIN				IAML		03 39 27.7	
	comp=N,18μm,0.4s						
RAGM	Ragged Mountai	0.78	135	Pg	Pn	03 39 19.8	-0.6
RAGM				Sg	Sb	03 39 31.1	+1.1
N25K	Chitina, Valde	0.89	40	Pg	Pn	03 39 20.2	-1.7
N25K				Sn	Sb	03 39 31.9	-1.1
N25K				IAML		03 39 33.0	
	comp=E,7μm,0.5s						
N25K	Chitina, Valde	0.89	40	P		03 39 20.4	
	baz=222,SNR=338						
N25K				S		03 39 31.9	
	baz=222						
HMT	Hamilton	0.97	128		Pn	03 39 22.1	-0.8
SCM	Sheep Creek Mo	1.16	321		Pn	03 39 24.4	-1.2
SCM				IAML		03 39 42.7	
	comp=E,6μm,0.6s						
SCM				IAML		03 39 44.0	
	comp=N,4μm,0.8s						
M24K	Tolsona, Glenn	1.19	351		Pn	03 39 25.3	-0.7
M24K				IAML		03 39 46.4	
	comp=E,4μm,1.1s						
M24K	Tolsona, Glenn	1.19	351	P		03 39 25.4	
	baz=172,SNR=310						
M24K				S		03 39 41.9	
	baz=172						
KAIM	Kayak Island	1.22	145		Pn	03 39 25.9	-0.6
KAIM				IAML		03 39 45.8	
	comp=N,4μm,0.8s						
KAIM				IAML		03 39 47.2	
	comp=E,4μm,0.8s						
KAIM	Kayak Island	1.22	145	P		03 39 25.6	
	baz=326,SNR=10						
KAIM				S		03 39 43.2	
	baz=326						
SUCK	Suckling Hills	1.32	130		Pn	03 39 26.9	-0.9
SUCK				IAML		03 39 48.0	
	comp=N,4μm,0.9s						
KNK	Knik Glacier	1.38	291		Pn	03 39 28.2	-0.3
KNK				IAML		03 39 47.8	
	comp=N,5μm,1.1s						
KNK	Knik Glacier	1.38	291	P		03 39 28.3	
	baz=110,SNR=525						
KNK				S		03 39 46.2	
	baz=110						
MCARA	McCarthy VSAT	1.42	70	Pn	Pn	03 39 28.3	-0.8
MCARA				IAML		03 39 50.9	
	comp=E,4μm,0.4s						
MCARA				IAML		03 39 51.1	
	comp=N,4μm,0.3s						
MCARA	McCarthy VSAT	1.42	70	P		03 39 28.2	
	baz=253,SNR=207						
MCARA				S		03 39 47.4	
	baz=253						
TGL	Tana Glacier	1.46	96		Pn	03 39 29.4	-0.5
TGL				IAML		03 39 50.6	
	comp=E,3μm,0.3s						
TGL				IAML		03 39 51.8	
	comp=N,3μm,0.3s						
BGLC	Bering Glacier	1.49	122	P		03 39 29.8	
	baz=304						
BGLC				Sg		03 39 53.3	
	baz=304						
SML	Sawmill	1.50	307	Pn	Pn	03 39 29.9	-0.4
SML				IAML		03 39 52.5	
	comp=N,4μm,0.7s						
SML				IAML		03 39 53.4	
	comp=E,4μm,0.5s						
SML	Sawmill	1.50	307	P		03 39 29.8	
	baz=125,SNR=374						
SML				S		03 39 49.5	
	baz=125						
Q23K	Middleton Isla	1.54	191		Pn	03 39 30.2	-0.5
Q23K	Middleton Isla	1.54	191	P		03 39 30.2	
	baz=9.8,SNR=16						
Q23K				S		03 39 50.6	
	baz=9.8						
MID	Middleton Isla	1.54	190		Pn	03 39 30.3	-0.4
GHO	Glory Hole Cre	1.72	300		Pn	03 39 33.1	-0.3
GHO				IAML		03 39 57.2	
	comp=N,3μm,1.0s						
GHO				IAML		03 40 00.2	
	comp=E,4μm,1.1s						
PMR	Palmer	1.74	294	Pn	Pn	03 39 33.1	-0.3
PMR				IAML		03 39 59.4	
	comp=N,2μm,0.8s						
PMR	Palmer	1.74	294	P		03 39 33.2	
	baz=111,SNR=168						
PMR				S		03 39 55.4	
	baz=111						
RC01	Rabbit Creek A	1.92	276	P		03 39 35.7	
	baz=93,SNR=136						
O22K	Cooper Landing	1.98	258		Pn	03 39 36.4	-0.4
O22K	Cooper Landing	1.98	258	P		03 39 36.4	
	baz=75,SNR=346						
SEW	Seward	1.99	247	Pn	Pn	03 39 36.0	-1.0
SEW	Seward	1.99	247	P		03 39 35.9	
	baz=64,SNR=63						
SEW				S		03 40 01.5	
	baz=64						
PAX	Paxson	2.04	4		Pn	03 39 38.0	+0.2
PAX	Paxson	2.04	4	P		03 39 38.0	
	baz=185,SNR=579						
YAH	Yahtse	2.08	104		Pn	03 39 37.8	-0.6
YAH				IAML		03 40 08.3	
	comp=N,2μm,0.5s						
CTG	Chitna Glacier	2.17	87	P		03 39 39.4	
	baz=271,SNR=85						
CTG				S		03 40 06.7	

baz=271
CTGM Chitina Glacie 2.18 87 Pn 03 39 39.4 -0.3
MENT Mentasta 2.23 25 Pn Pn 03 39 40.6 +0.2
MENT IAML 03 40 12.3
comp=N,2µm,0.5s
TABL Table Mountain 2.34 100 Pn Pn 03 39 41.1 -1.0
SUA Susitna One 2.45 285 Pn Pn 03 39 42.9 -0.6
SUA Susitna One 2.45 285 P 03 39 42.8
baz=100,SNR=137
CUT Chulitna 2.59 307 P 03 39 45.2
baz=123,SNR=93
CUT Sb 03 40 20.0
baz=123
CAPN Captain Cook N 2.63 269 P 03 39 46.0
baz=84,SNR=42
CAPN Sb 03 40 23.6
baz=84
BRSE Bradley Lake S 2.73 246 P 03 39 46.2
baz=62,SNR=13
BRLK Bradley Lake 2.79 247 Pn 03 39 47.1 -0.9
BRLK IAML 03 40 31.8
comp=E,1µm,0.5s
DOT Dot Lake 2.84 16 Pn Pn 03 39 49.2 +0.6
RND Reindeer 2.86 331 Pn Pn 03 39 49.5 +0.5
RND IAML 03 40 30.8
comp=N,953nm,0.7s
RND IAML 03 40 35.9
comp=E,928nm,1.1s
PCA Pinnacle 2.87 105 Pn 03 39 48.4 -0.7
PINM Pinnacle 2.87 105 P 03 39 48.2
baz=289,SNR=22
SKT Skwentna 2.94 293 Pn 03 39 49.9 -0.2
SKT IAML 03 40 35.0
comp=E,755nm,0.6s
SKT IAML 03 40 37.1
comp=N,898nm,0.8s
SKT Skwentna 2.94 293 P 03 39 49.2
baz=108,SNR=192
CNPM China Poot 3.06 245 Pn Pn 03 39 50.8 -0.9
CNPM IAML 03 40 40.5
comp=N,887nm,0.5s
CNPM IAML 03 40 46.7
comp=E,608nm,1.1s
SPCR Spurr Chakacha 3.13 278 P 03 39 51.7
baz=92,SNR=40
MCK McKinley 3.16 334 P 03 39 53.0
baz=151,SNR=108
SCRK Sand Creek 3.17 15 P 03 39 53.4
baz=196,SNR=63
BCPM Bancas Point 3.21 105 Pn Pn 03 39 52.8 -1.0
BCPM IAML 03 40 40.6
comp=N,582nm,0.2s
BCPM IAML 03 40 40.9
comp=E,713nm,0.3s
TRF Thorofare Moun 3.28 322 Pn Pn 03 39 55.3 +0.4
TRF Thorofare Moun 3.28 322 P 03 39 55.0
baz=138,SNR=53
RSO Redoubt South 3.45 265 Pn 03 39 56.0 -1.2
HDA Harding Lake 3.52 352 P 03 39 57.6
baz=171,SNR=168
HDA P 03 39 57.6
baz=171,SNR=168
K27K Chicken 3.55 27 P 03 39 58.6
baz=211
KTH Kantishna Hill 3.55 320 Pn Pn 03 39 58.9 +0.4
PPLA Purkeypile 3.60 306 Pn Pn 03 39 59.0 -0.3
PPLA Purkeypile 3.60 306 P 03 39 58.8
baz=120
WRH Wood River Hil 3.70 344 Pn Pn 03 40 00.3 -0.2
WRH IAML 03 40 59.3
comp=N,393nm,1.2s
WRH IAML 03 41 00.5
comp=E,554nm,0.8s
CCB Clear Creek Bu 3.83 347 Pn 03 40 01.7 -0.6
CCB IAML 03 40 53.3
comp=E,336nm,1.0s
CCB IAML 03 41 02.2
comp=N,289nm,0.8s
IL18 Eielson Array 3.86 354 Pn Pn 03 40 02.0 -0.7
IL31 3.88 353 Pn 03 40 02.1 -0.7
ILAR Eielson Array 3.88 353 Pn Pn 03 40 01.9 -1.1
comp=N,3.9nm,0.3s,baz=177,slow=13,SNR=128
ILAR Sn Sn 03 40 46.1 -1.6
comp=N,5.2nm,0.3s,baz=170,slow=39,SNR=2.1
ILAR Eielson Array 3.88 353 Pn Pn 03 40 02.1 -0.8
ILAR Sn 03 40 48.4 +0.7
NEA2 Nenana 3.96 339 P 03 40 03.1
baz=156,SNR=126
BPAW Bear Paw Mtn. 3.98 325 Pn Pn 03 40 04.2 -0.2
BPAW IAML 03 41 07.0
comp=E,507nm,1.7s
BPAW Bear Paw Mtn. 3.98 325 P 03 40 04.0
baz=141,SNR=43
COLA College 4.06 348 Pn 03 40 05.2 -0.1
COLA College 4.06 348 P 03 40 04.9
baz=166
TCOL CIGO, UAF Yank 4.06 347 Pn Pn 03 40 05.2 -0.2
TCOL CIGO, UAF Yank 4.06 347 P 03 40 04.9
baz=166,SNR=103
MDM Murphy Dome 4.19 346 Pn 03 40 06.7 -0.5
MDM IAML 03 41 02.5
comp=E,292nm,0.9s
MDM IAML 03 41 02.6
comp=N,268nm,1.0s
CHUM Lake Minchumin 4.23 317 P 03 40 07.3
baz=132,SNR=36
POKR Poker Plat Res 4.26 351 P 03 40 07.4
baz=169,SNR=40
EGAK Eagle 4.40 27 P 03 40 10.5
baz=211,SNR=64
I23K Minto, Yukon-K 4.53 341 P 03 40 11.3
baz=158,SNR=186
PRP Porcupine Dome 4.60 1 P 03 40 12.4
baz=182,SNR=17
MLY Manley 4.69 333 P 03 40 13.0
baz=149,SNR=18
KDAK Kodiak Island 4.70 231 Pn Pn 03 40 13.0 -1.1
comp=N,2.9nm,0.3s,baz=69,slow=5.7,SNR=111
KDAK Sn Sn 03 41 02.2 -5.6
comp=N,13nm,0.3s,baz=325,slow=22,SNR=11
KDAK Lg Lg 03 41 29.1
comp=N,4.5nm,0.3s,baz=283,slow=17,SNR=1.8
KDAK LR LR 03 41 32.9
comp=N,31nm,20.8s,baz=60,slow=30
KDAK Kodiak Island 4.70 231 Pn Pn 03 40 13.1 -1.1
KDAK Kodiak Island 4.70 231 P 03 40 13.1
baz=45
SVW2 Sparrevohn 4.76 276 Pn 03 40 13.2 -1.9
SVW2 IAML 03 41 31.2
comp=N,144nm,0.6s
TTA Tatalina 5.22 297 P 03 40 20.1
baz=108
OHAK Old Harbor 5.37 229 P 03 40 21.7
baz=43
SKAG Skagway 5.43 101 P 03 40 23.7
baz=290
SII Sitkinak Islan 6.19 229 P 03 40 33.1
baz=41
COLD Coldfoot 6.60 345 P 03 40 39.5
baz=161,SNR=37
TOLK Toolik Lake Re 7.90 350 P 03 40 57.5
baz=167,SNR=26
DLBC Dease Lake 8.36 100 Pn Pn 03 41 04.1 -0.3
comp=N,0.2nm,0.3s,baz=293,slow=5.8,SNR=8.8
DLBC Lg Lg 03 43 20.0
comp=N,0.4nm,0.3s,baz=231,slow=22,SNR=2.2
DLBC LR LR 03 44 26.4
comp=N,176nm,19.0s,baz=256,slow=39
INK Inuvik 9.06 30 Pn Pn 03 41 13.4 -0.4
comp=N,0.4nm,0.3s,baz=216,slow=15,SNR=35
INK Sn Sn 03 42 56.1 +1.2
comp=N,0.2nm,0.3s,baz=305,slow=7.9,SNR=1.8
INK Lg Lg 03 43 51.0
comp=N,0.1nm,0.3s,baz=104,slow=12,SNR=3.8
YKA Yellowknife Ar 14.79 70 Pn Pn 03 42 31.6 -0.6
comp=N,0.1nm,0.3s,baz=282,slow=13,SNR=11
ADK Adak 19.17 256 P Pn 03 43 26.6 -0.7
ADK IAmb IAmb 03 43 35.8
comp=Z,44nm,1.1s
NEW Newport 20.69 115 P P 03 43 43.1 +0.1
comp=Z,1.9nm,0.8s,baz=341,slow=14,SNR=4.0
WALA Waterton Lakes 21.56 109 P P 03 43 52.5 +0.1
WALA IAmb IAmb 03 44 12.0
comp=Z,3.7nm,1.1s
RES Resolute Bay 22.61 32 P P 03 44 02.3 -1.0
comp=Z,0.8nm,0.7s,baz=225,slow=20,SNR=5.2
SMY Shemya 23.09 267 P P 03 44 09.1 +0.7
MSO Missoula 23.19 113 P P 03 44 09.6 0.0
PDAR Pinedale Array 28.31 113 P P 03 44 57.5 +0.9
comp=Z,0.2nm,0.5s,baz=338,slow=6.8,SNR=2.2
ULM Lac du Bonnet 29.43 88 LR LR 03 56 43.2
comp=Z,70nm,20.1s,baz=330,slow=36
SPITS Spitsbergen Ar 40.70 6 LR LR 04 03 26.8
comp=Z,36nm,21.9s,baz=210,slow=36
TXAR Lajitas Array 42.14 119 P P 03 46 56.3 +1.2
comp=Z,0.3nm,0.7s,baz=316,slow=7.0,SNR=3.9
TXAR Lajitas Array 42.14 119 P P 03 46 55.8 +0.6
KSRS Korea Array 56.38 288 LR LR 04 14 42.1
comp=Z,13nm,18.5s,baz=320,slow=38
SONM Songino Array 57.02 310 P P 03 48 48.3 -0.1
comp=Z,0.7nm,0.7s,baz=21,slow=9.5,SNR=6.5
SONM Songino Array 57.02 310 P P 03 48 48.9 +0.5
SONM IAmb IAmb 03 49 06.3
comp=Z,0.9nm,0.8s
NOA NORSAR Array B 57.07 13 LR LR 04 15 49.0
comp=Z,32nm,18.1s,baz=270,slow=39
HHC Hu-ho-hao-te 60.82 302 *e*P P 03 49 15.7 +0.9
HHC pmax pmax
comp=Z,4.0nm,1.1s
HHC pmax pmax
comp=Z,130nm,5.8s
MKAR Makanchi Array 65.79 326 P P 03 49 48.9 +1.3
comp=Z,0.1nm,0.4s,baz=35,slow=5.3,SNR=1.8
MKAR Makanchi Array 65.79 326 P P 03 49 48.6 +1.0
GTA Gaotai 66.69 310 *e*P P 03 49 56.4 +2.9
GTA pP pP 03 50 03.7 +2.3
GTA sP sP 03 50 06.5 +2.1
GTA pmax pmax
comp=Z,1.0nm,0.7s
WMQ Urumqi 66.93 321 *e*P P 03 49 58.1 +3.2
AKASG Malin Array Be 68.64 3 P P 03 50 03.3 -2.1
comp=Z,0.6nm,0.6s,baz=358,slow=6.2,SNR=2.9
GERES GERESS Array B 69.33 14 P P 03 50 08.9 -0.9
comp=Z,0.4nm,0.6s,baz=351,slow=2.5,SNR=2.0
ESDC Sonseca Array 75.01 30 P P 03 50 43.1 -0.9
comp=Z,0.6nm,0.8s,baz=325,slow=6.3,SNR=3.1

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*BJI **04** 04:05:24.5±0.0, 26°.00S×179°.60W, h500km, mB5.2/6, mb4.9/10*
*NEIC **04** 04:05:26.0±1.5, 26°.1S±0°.1×179°.98W±0°.07, h473km±8km, mb4.7/37, Error ellipse: s-maj=16.3km s-min=9.5km az=179.0*
*NOU **04** 04:05:27.6, 26°.05S×179°.86W, h503km, mb4.9, South of Fiji Islands*
*IDC **04** 04:05:28.1±1.1, 26°.10S×179°.82E, h481km±11km, mb3.9/19, mb1 4.0/24, mb1mx3.8/40, mbtmp4.7/24, Error ellipse: s-maj=13.4km s-min=11.0km az=179.0*
ISC 04 04:05:28.1±0.4**, 26°.10S**±0°.05×**179°.97W**±0°.06**, h500**km**, n124, σ2ˢ01**/144**, mb4.6**/37**, 2D, South of Fiji Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
RIZ Raoul Island 3.62 150 P P 04 06 43.0 -0.5
RIZ S S 04 07 45.4 +0.5
RAO Raoul Island 3.63 150 P P 04 06 44.2 +0.7
368nm,0.3s,baz=82,slow=7.4,SNR=17
RAO S S 04 07 39.7 -5.4
120nm,0.3s,baz=154,slow=21,SNR=1.7
RAO Raoul Island 3.63 150 P P 04 06 43.4 -0.1
RAO S S 04 07 38.9 -6.1
MSVF Nonsavu 8.53 347 P P 04 07 28.5 -1.7
1.8nm,0.3s,baz=255,slow=18,SNR=6.9
MSVF Nonsavu 8.53 347 P 04 07 28.2 -2.0
OUZ Omahuta 10.64 210 P P 04 07 51.8 -0.3
WMGZ Waiomatatini S 11.77 186 P P 04 08 02.5 -1.5
WMGZ S S 04 10 08.6 -3.9
HAZ Te Kaha 11.78 189 P P 04 08 00.7 -3.4
PKGZ Pakihiroa 11.87 188 P P 04 08 03.1 -2.1
RUGZ Raukumara Rang 12.00 189 P P 04 08 05.4 -1.2
TWGZ Tauwhareparae 12.17 188 P P 04 08 07.8 -0.6
URZ Urewera 12.37 191 P P 04 08 08.6 -1.8
2.7nm,0.3s,baz=359,slow=4.4,SNR=13
URZ S S 04 10 17.4 -6.8
1.9nm,0.3s,baz=292,slow=20,SNR=3.9
URZ Urewera 12.37 191 P P 04 08 08.9 -1.5
MWZ Matawai 12.38 189 P P 04 08 10.0 -0.6
CNGZ Carnagh Statio 12.45 187 P P 04 08 10.0 -1.2
RAGZ Rawiri 12.56 189 P P 04 08 09.4 -3.1
YATNC Mamie plateau, 12.66 286 P P 04 08 13.4 -0.3
RAHZ Arahi 13.02 190 S S 04 10 42.5 +5.6
DZM Mont Dzumac 13.04 285 P P 04 08 17.5 -0.4
4.6nm,0.3s,baz=104,slow=12,SNR=62
DZM Mont Dzumac 13.04 285 P P 04 08 17.4 -0.5
DZM Mont Dzumac 13.04 285 P P 04 08 17.7 -0.2
WHHZ Waihua 13.15 190 P P 04 08 20.3 +1.6
WHHZ S S 04 10 46.2 +6.8
NOUC Port Laguerre 13.15 285 P P 04 08 18.7 -0.3
NMHZ Naumai 13.24 191 P P 04 08 18.1 -1.7
BKZ Black Stump Fm 13.37 192 P P 04 08 20.5 -0.5
BKZ Black Stump Fm 13.37 192 P P 04 08 19.9 -1.1
ARHZ Aropaoanui 13.37 190 P P 04 08 21.4 +0.4
MCHZ McNeill Hill 13.60 191 P P 04 08 24.7 +1.4
MCHZ S S 04 10 52.5 +4.5
KWHZ Kaweka Forest 13.63 192 P P 04 08 21.0 -2.8
KWHZ S S 04 10 50.1 +1.4
BHHZ Black Hill Sta 13.76 193 P P 04 08 23.2 -2.0
BHHZ P S 04 10 55.8 +4.6
KRHZ Kereru 13.85 192 P P 04 08 25.8 -0.3
KRHZ S S 04 10 54.0 +1.1
KAHZ Kahuranaki 13.91 190 P P 04 08 24.5 -2.2
KAHZ S S 04 11 01.6 +7.5
AFI Afiamalu 14.36 34 P P 04 08 31.4 -0.4
0.6nm,0.3s,baz=36,slow=19,SNR=2.4
AFI S S 04 10 59.5 -3.7
2.0nm,0.3s,baz=179,slow=18,SNR=2.7
AFI Afiamalu 14.36 34 P P 04 08 28.6 -3.2
DVHZ Dannevirke 14.52 192 P P 04 08 31.5 -1.6
BFZ Birch Farm 14.88 191 P P 04 08 34.8 -2.1
BFZ Birch Farm 14.88 191 P P 04 08 34.2 -2.6
MSWZ Moikau Station 15.78 193 P P 04 08 42.9 -3.3
MSWZ S 04 11 27.2 -2.5
BHW Baring Head 15.86 194 P P 04 08 44.9 -2.1
PLWZ Palliser 15.93 193 P P 04 08 45.3 -2.5
QRZ Quartz Range 15.96 201 P P 04 08 46.0 -2.0
NNZ Nelson 16.05 198 P P 04 08 45.9 -3.2
TUWZ Tuamarina 16.10 197 P P 04 08 45.5 -4.1
TUWZ S 04 11 33.2 -2.5
LTZ Lake Taylor 17.82 199 P P 04 09 03.8 -2.8
LTZ IAmb IAmb 04 09 06.8
comp=Z,15nm,0.9s
LTZ S 04 12 04.0 -1.0
OXZ Oxford 18.38 199 P P 04 09 09.3 -2.5
OXZ IAmb IAmb 04 09 13.2
comp=Z,15nm,0.8s
OXZ S 04 12 14.7 +0.6
RPZ Rata Peaks 19.03 200 P P 04 09 16.2 -1.5
comp=Z,2.1nm,0.3s,baz=19,slow=2.9,SNR=9.4
RPZ S S 04 12 21.8 -3.0
comp=Z,0.5nm,0.3s,baz=319,slow=9.2,SNR=2.0
RPZ Rata Peaks 19.03 200 P P 04 09 16.7 -1.0
RPZ IAmb IAmb 04 09 19.9
comp=Z,9.4nm,0.6s
LHI Lord Howe Isla 19.14 249 P P 04 09 20.2 +1.3
LHI Lord Howe Isla 19.14 249 P P 04 09 20.5 +1.6
MLZ Mavora Lakes 21.48 203 P P 04 09 39.4 -0.5
ARMA Armidale 25.35 254 P P 04 10 15.0 +0.1
EIDS Eidsvold 26.07 265 P P 04 10 21.2 0.0
EIDS IAmb IAmb 04 10 21.9
comp=Z,39nm,0.8s
CAN Canberra 28.13 243 P P 04 10 38.6 -0.6
CAN IAmb IAmb 04 10 40.7
comp=Z,14nm,0.7s
TOO Toolangi 31.33 240 P P 04 11 07.3 +0.4
TOO IAmb IAmb 04 11 08.1
comp=Z,18nm,0.8s
TAU Tasmania Unive 31.50 229 P P 04 11 09.0 +0.8
TAU IAmb IAmb 04 11 10.4
comp=Z,34nm,1.1s
CTA Charters Tower 31.58 274 P P 04 11 09.5 +0.2
comp=Z,33nm,0.3s,baz=97,slow=11,SNR=65
CTAO Charters Tower 31.58 274 P P 04 11 09.5 +0.2
STKA Stephens Creek 33.99 251 P P 04 11 29.5 -0.1
comp=Z,13nm,0.4s,baz=96,slow=11,SNR=65
STKA PcP PcP 04 13 55.8 +2.3
comp=Z,3.3nm,0.7s,baz=52,slow=3.0,SNR=3.1
STKA Stephens Creek 33.99 251 P P 04 11 29.8 +0.2
PMG Port Moresby 35.29 292 P P 04 11 40.9 +0.2
comp=Z,34nm,0.8s,baz=124,slow=5.0,SNR=8.9
PMG Port Moresby 35.29 292 P P 04 11 39.2 -1.5
PMG IAmb IAmb 04 11 41.2
comp=Z,41nm,0.8s
PMG Port Moresby 35.29 292 P P 04 11 41.0 +0.3
COEN Coen 36.55 282 P P 04 11 49.9 -1.2
COEN IAmb IAmb 04 11 52.2
comp=Z,22nm,0.7s
BBOO Buckleboo 38.66 249 P P 04 12 07.4 -0.8
BBOO IAmb IAmb 04 12 08.0
comp=Z,22nm,0.8s
AS31 Alice Springs 41.75 263 P P 04 12 32.4 -0.8
AS31 IAmb IAmb 04 12 34.0
comp=Z,13nm,0.6s
ASAR Alice Springs 41.75 263 P P 04 12 32.8 -0.5
comp=Z,22nm,0.4s,baz=96,slow=8.2,SNR=320
ASAR ScP ScP 04 17 23.9 +3.3
comp=Z,1.3nm,0.8s,baz=108,slow=4.2,SNR=5.6
ASAR S S 04 18 12.9 -1.1
comp=Z,1.2nm,1.0s,baz=103,slow=17,SNR=6.0
ASAR Alice Springs 41.75 263 P P 04 12 32.4 -0.8
WR0 Warramunga Arr 42.15 269 P P 04 12 35.5 -0.8
WR0 IAmb IAmb 04 12 36.2
comp=Z,46nm,1.1s
WB2 Warramunga Arr 42.32 269 P P 04 12 37.4 -0.4
WB2 IAmb IAmb 04 12 37.7
comp=Z,45nm,0.8s
WRAB Tennant Creek 42.33 269 P P 04 12 37.1 -0.7
WRAB IAmb IAmb 04 12 37.6
comp=Z,44nm,0.9s
WRA Warramunga Arr 42.33 269 P P 04 12 36.9 -1.0
comp=Z,34nm,0.5s,baz=103,slow=7.8,SNR=499
WRA PcP PcP 04 14 20.2 +0.1
comp=Z,2.2nm,1.0s,baz=106,slow=4.2,SNR=2.3
WRA ScP ScP 04 17 26.4 +3.5
comp=Z,1.3nm,0.8s,baz=101,slow=3.8,SNR=5.2
WRA S S 04 18 18.6 -3.8
comp=Z,1.2nm,0.8s,baz=98,slow=13,SNR=6.5
WB0 Warramunga Arr 42.34 269 P P 04 12 37.3 -0.5
JAY Jayapura 44.44 295 P P 04 12 54.1 -0.2
comp=Z,8.7nm,0.6s,baz=146,slow=5.2,SNR=5.3
FORT Forrest 45.61 252 P P 04 13 02.3 -0.8
FITZ Fitzroy Crossi 50.72 267 P P 04 13 41.5 +0.1
comp=Z,10nm,0.5s,baz=113,slow=6.6,SNR=32
FITZ Fitzroy Crossi 50.72 267 P P 04 13 40.8 -0.7
SIJI Sorong 53.19 290 P P 04 13 58.8 -0.5
comp=Z,26nm,0.5s,baz=141,slow=4.1,SNR=16
NWAO Narrogin (SRO) 54.38 247 P P 04 14 07.3 -0.2
comp=Z,5.7nm,0.6s,baz=90,slow=5.1,SNR=3.1
LUWI Luwuk 60.39 285 P P 04 14 48.2 -0.7
QSPA South Pole Qui 63.99 180 P P 04 15 13.4 +1.8
comp=Z,1.3nm,0.7s,baz=232,slow=1.5,SNR=10
JAGI Jajag, Banyuwa 64.69 273 P P 04 15 16.3 -0.5
KSM Kuching 72.52 281 P P 04 16 04.3 0.0
KSM IAmb IAmb 04 16 05.4
comp=Z,13nm,0.6s
MJAR Matsushiro Arr 73.72 326 P P 04 16 11.4 +0.7
comp=Z,4.8nm,0.8s,baz=150,slow=4.8,SNR=6.9
MJAR Matsushiro Arr 73.72 326 P P 04 16 11.3 +0.7
KSRS Korea Array 79.95 320 P P 04 16 45.8 +1.1
comp=Z,2.6nm,0.6s,baz=135,slow=6.2,SNR=7.8
SYO Syowa Base 80.89 193⇓*e*P P 04 16 48.5 -0.6
NJ2 Nanjing 82.12 311 *e*P P 04 16 55.4 -0.7
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
USRK Ussuriysk Ar. 82.62 327 P P 04 16 59.8 +1.5
comp=Z,1.1nm,0.6s,baz=130,slow=4.5,SNR=5.4
USRK Ussuriysk Ar. 82.62 327 P P 04 16 58.9 +0.6
NVAR Mina Array Bea 86.31 44 P P 04 17 19.4 +2.5
comp=Z,1.6nm,0.8s,baz=221,slow=7.9,SNR=12
NVAR Mina Array Bea 86.31 44 P P 04 17 17.6 +0.7
PLCA Paso Flores 86.72 134 P P 04 17 21.4 +2.7
comp=Z,1.6nm,0.7s,baz=233,slow=4.7,SNR=11
TPH Tonopah 86.77 45 P P 04 17 19.9 +0.9
PBKT Sadao Pong 87.73 290 P P 04 17 23.9 +0.2
PBKT IAmb IAmb 04 17 25.3
comp=Z,10nm,0.9s
TUC Tucson 87.83 52 P P 04 17 24.7 +0.7
PINE Pine Mountain 88.09 38 P P 04 17 25.9 +0.8
E03A Lebam 88.46 35 P P 04 17 26.1 -0.3
E03A IAmb IAmb 04 17 32.9
comp=Z,8.4nm,1.0s
I07A Izee 89.08 39 P P 04 17 30.6 +1.1
MTPU Mount Pierson 90.00 47 P P 04 17 35.2 +0.8
KMI Kunming 90.31 298 ⇓P P 04 17 33.8 -2.1
KMI pmax pmax
comp=Z,25nm,1.4s
CMAR Chiang Mai Arr 90.31 290 P P 04 17 36.9 +1.1
comp=Z,1.1nm,0.5s,baz=104,slow=3.8,SNR=5.3
GHO Glory Hole Cre 91.07 14 P P 04 17 38.6 +0.3
SML Sawmill 91.23 14 P P 04 17 39.6 +0.7
SML IAmb IAmb 04 17 55.4
comp=Z,22nm,1.2s
TXAR Lajitas Array 91.56 58 P P 04 17 42.6 +1.2
comp=Z,0.7nm,0.7s,baz=211,slow=7.2,SNR=8.6
HHC Hu-ho-hao-te 91.99 315 *e*P P 04 17 39.3 -3.8
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,200nm,5.7s
PDAR Pinedale Array 94.24 44 P P 04 17 55.7 +2.2
comp=Z,0.2nm,0.7s,baz=224,slow=6.2,SNR=2.4
LZH Lanzhou 94.74 308 *e*P P 04 17 52.7 -3.2
LZH pP pP 04 19 48.8 +2.4
LZH sP sP 04 20 36.4 0.0
LZH pmax pmax
comp=Z,16nm,1.1s
SONM Songino Array 98.78 319 P P 04 18 15.7 +1.9
comp=Z,0.2nm,0.7s,baz=127,slow=11,SNR=1.7
MKAR Makanchi Array 113.65 312 PKiKP PKiKP 04 23 09.6 +0.5
comp=Z,0.1nm,0.4s,baz=163,slow=1.5,SNR=1.9
MKAR SKP 04 26 00.6
comp=Z,0.2nm,0.6s,baz=94,slow=1.6,SNR=3.9
KSH Kashi 116.50 303 *e*PKP PKiKP 04 23 16.4 +1.4
GEYT Alibeck 130.07 299 SKPbc SKPab 04 26 22.2 +5.1
comp=Z,2.2nm,0.4s,baz=333,slow=2.0,SNR=4.6
ARCES ARCESS Array B 134.03 348 SKPbc SKPab 04 26 35.0 +1.9
comp=Z,5.3nm,0.9s,baz=28,slow=5.5,SNR=11
KMBO Kilima Mbogo 135.02 239 SKPbc SKPab 04 26 39.7 +0.1
comp=Z,1.0nm,0.4s,baz=74,slow=6.8,SNR=3.7
FINES FINESS Array B 140.53 341 PKhKP PKPpre 04 23 54.1
comp=Z,1.7nm,0.8s,baz=40,slow=2.4,SNR=7.6
MARD Mardin 143.83 298 PKPdf PKPdf 04 24 06.9 +0.6
NC303 NORSAR Array S 144.05 351 PKPdf 04 24 06.5 +0.7
NB2 NORSAR Subarra 144.25 351 PKP PKPab 04 24 06.9 +0.8
comp=Z,12nm,1.0s,baz=17,slow=2.9
NOA NORSAR Array B 144.25 351 PKP PKPab 04 24 06.8 +0.8
comp=Z,2.0nm,0.7s,baz=22,slow=3.9,SNR=10
HFS Hagfors 144.70 348 PKP PKPab 04 24 08.0 +0.4
comp=Z,2.0nm,0.4s,baz=56,slow=3.0,SNR=26
AKASG Malin Array Be 146.81 325 PKPbc PKPbc 04 24 14.4 +0.9
comp=Z,1.3nm,0.5s,baz=43,slow=4.2,SNR=8.2
BR131 Keskin Array S 148.88 304 PKiKP 04 24 20.1 -0.3
BRTR Keskin Array B 148.88 304 PKPbc PKiKP 04 24 20.4 0.0
comp=Z,2.7nm,0.6s,baz=132,slow=2.1,SNR=4.8
BURAR Bucovina Array 150.78 324 PKiKP 04 24 24.8 +0.9
CLL Collm 152.95 342 *e*PKPbc PKiKP 04 24 29.0 +0.8

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*JMA **04** 04:34:25.3±0.1, 33°.50N×140°.74E, h22km, M3.1*
*IDC **04** 04:34:28.5±2.2, 33°.24N×140°.19E, h84km±13km, mb3.4/2, mb1 3.6/3, mb1mx2.9/53, mbtmp3.6/3, Error ellipse: s-maj=55.6km s-min=11.7km az=72.0*
ISC 04 04:34:24.1±1.5**, 33°.31N**±0°.07×**140°.9E**±0°.1**, h48**km**, n14, σ1ˢ06**/15**, Southeast of Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JHJ2 Mitsune 0.92 258 P Pn 04 34 41.3 +0.6
JHJ Hachijo jima 2 0.95 259 P Pn 04 34 41.6 +0.5
337nm,0.3s,baz=68,slow=23,SNR=62
JHJ S Sn 04 34 53.1 -0.4
333nm,0.3s,baz=156,slow=24,SNR=20
BSO1 Boso 1 1.34 3 P Pn 04 34 46.2 +0.3
BSO3 Boso 3 1.52 348 P Pn 04 34 49.1 +0.5
BSO3 S Sn 04 35 06.6 -0.4
BSO4 Boso 4 1.73 345 P Pn 04 34 52.2 +0.5
JIZS Izushimoda 2.18 311 P Pn 04 34 58.6 +0.7
KTJ3 Kamata3 2.21 317 P Pn 04 34 58.7 +0.4
KTJ3 S Sn 04 35 23.3 -1.1
JOD2 Odawara 2 2.45 323 P Pn 04 35 01.8 +0.2
JOD2 S Sn 04 35 28.9 -1.5
MJAR Matsushiro Arr 3.90 326 P Pn 04 35 24.2 +2.7
0.2nm,0.3s,baz=171,slow=14,SNR=4.0
H11N2 WAKE ISLAND Hy 26.82 114 T T 05 08 46.1
baz=311
H11N1 WAKE ISLAND Hy 26.83 114 T T 05 08 46.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=311,slow=74						
H11N3	**WAKE ISLAND Hy**	**26.84**	**114**	T	T	05 08 50.1	
	baz=311,slow=74						
WRA	**Warramunga Arr**	**53.32**	**188**	P	**P**	**04 43 38.1**	**-0.3**
	1.0nm,0.5s,baz=3.3,slow=7.6,SNR=26						
ASAR	**Alice Springs**	**57.05**	**188**	P	**P**	**04 44 04.9**	**-0.4**
	0.4nm,0.6s,baz=7.3,slow=10,SNR=5.7						

*IDC **04** 04:39:03.6±2.3, 35°.28N×77°.49E, h0km, mb3.9/9, mb1 3.9/14, mb1mx3.7/53, mbtmp3.7/14, ML3.3/5, Error ellipse: s-maj=43.1km s-min=26.8km az=171.0*

ISC 04 04:39:13.2±0.8**, 35°.7N**±0°.1×**77°.4E**±0°.1**, h44**km**, n23, σ1^s.44**/24**, mb3.8**/8**, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.27**	**343**	Pn	**Pn**	**04 41 00.7**	**+3.8**
	0.3nm,0.3s,baz=90,slow=7.1,SNR=2.1						
AAK				Sn	**Sn**	**04 42 19.5**	**+1.3**
	0.3nm,0.3s,baz=11,slow=21,SNR=1.5						
AAK				Lg	Lg	04 43 01.5	
	0.4nm,0.3s,baz=175,slow=23,SNR=1.6						
GKN	**Gorkha**	**9.84**	**140**	*e*P	**Pn**	**04 41 34.7**	**+2.5**
	19nm,0.2s						
KKN	**Kakani**	**10.35**	**138**	*e*P	**Pn**	**04 41 41.4**	**+2.1**
	14nm,0.4s						
PKIN	**Phulchoki**	**10.58**	**138**	*e*P	**Pn**	**04 41 44.3**	**+1.8**
	14nm,0.4s						
PKI	**Pulchoki**	**10.59**	**138**	*e*P	**Pn**	**04 41 43.9**	**+1.1**
	9.1nm,0.3s						
GUN	**Gumba**	**10.60**	**135**	*e*P	**Pn**	**04 41 44.3**	**+1.5**
	7.3nm,0.3s						
MKAR	**Makanchi Array**	**11.64**	**17**	Pn	**Pn**	**04 41 57.5**	**+0.8**
	0.2nm,0.3s,baz=198,slow=12,SNR=6.0						
MKAR				Sn	Sn	04 43 52.7	-12
	0.1nm,0.3s,baz=190,slow=14,SNR=1.9						
RAMN	**Ramite**	**11.74**	**136**	*e*P	**Pn**	**04 41 59.1**	**+0.7**
	14nm,0.4s						
TAPN	**Taplejung**	**12.10**	**131**	*e*P	**Pn**	**04 42 04.0**	**+0.7**
	14nm,0.4s						
ODAN	**Odare**	**12.27**	**133**	*e*P	**Pn**	**04 42 06.0**	**+0.5**
	8.8nm,0.3s						
KURBB	**Kurchatov Arra**	**14.91**	**3**	Pn	**Pn**	**04 42 42.0**	**+1.1**
	0.0nm,0.3s,baz=135,slow=47,SNR=1.6						
BVAR	**Borovoye Array**	**17.99**	**346**	P	**P**	**04 43 20.0**	**0.0**
	0.5nm,0.3s,baz=155,slow=18,SNR=7.8						
ZALV	**Zalesovo Beam**	**18.93**	**14**	P	**Pn**	**04 43 31.3**	**+0.1**
	0.5nm,0.3s,baz=215,slow=9.8,SNR=5.6						
AKTO	**Aktyubinsk**	**20.34**	**322**	P	**P**	**04 43 46.0**	**+0.4**
	2.6nm,0.5s,baz=131,slow=9.4,SNR=8.8						
SONM	**Songino Array**	**24.60**	**52**	P	**P**	**04 44 28.7**	**-0.6**
	1.5nm,0.8s,baz=249,slow=12,SNR=3.7						
AKASG	**Malin Array Be**	**37.49**	**309**	P	**P**	**04 46 21.9**	**-0.6**
	0.4nm,0.4s,baz=79,slow=7.2,SNR=5.3						
FINES	**FINESS Array B**	**41.06**	**325**	P	**P**	**04 46 51.5**	**-0.6**
	2.8nm,0.4s,baz=114,slow=8.8,SNR=30						
ARCES	**ARCESS Array B**	**43.89**	**336**	P	**P**	**04 47 14.8**	**-0.3**
	1.5nm,0.4s,baz=105,slow=8.5,SNR=23						
NB2	**NORSAR Subarra**	**48.12**	**323**	P	**P**	**04 47 47.4**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**48.12**	**323**	P	**P**	**04 47 47.5**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=89,slow=7.6,SNR=3.9						
DAVOX	**Davos/Dischmat**	**50.52**	**305**	P	**P**	**04 48 06.2**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=135,slow=4.3						
ILAR	**Eielson Array**	**73.99**	**18**	P	**P**	**04 50 42.5**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=327,slow=4.3,SNR=2.7						
YKA	**Yellowknife Ar**	**81.64**	**6**	P	**P**	**04 51 24.9**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=352,slow=4.9,SNR=5.5						

*IDC **04** 04:57:59.7±3.3, 52°.04N×171°.14E, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.3/52, mbtmp3.6/5, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/45, Error ellipse: s-maj=95.2km s-min=32.8km az=174.0*

*NEIC **04** 04:58:02.2±0.7, 52°.0N±0°.2×171°.1E±0°.1, h20km±7km, mb4.0/5, Error ellipse: s-maj=32.6km s-min=9.1km az=174.0*

ISC 04 04:58:03.8±1.9**, 52°.1N**±0°.4×**170°.88E**±0°.07**, h35**km**, n17, σ1^s.50**/18**, mb3.5**/6**, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.07**	**71**	Pn	**Pn**	**04 58 35.0**	**-1.0**
SMY				Sn	**Sn**	**04 58 59.4**	**-1.0**
PEA0B	**Petropavlovsk-**	**8.09**	**282**	Pn	**Pn**	**05 00 00.3**	**+1.6**
PETK	**Petropavlovsk-**	**8.09**	**282**	Pn	**Pn**	**05 00 00.7**	**+2.0**
	2.7nm,0.3s,baz=96,slow=17,SNR=20						
PETK				Sn	**Sn**	**05 01 24.9**	**-4.0**
	0.1nm,0.3s,baz=70,slow=34,SNR=1.6						
PETK	**Petropavlovsk-**	**8.09**	**282**		**Pn**	**05 00 00.2**	**+1.6**
OHAK	**Old Harbor**	**21.18**	**62**	P	**P**	**05 02 45.6**	**-0.1**
KDAK	**Kodiak Island**	**21.55**	**60**	P	**P**	**05 02 49.1**	**-0.5**
	4.6nm,0.8s,baz=203,slow=13,SNR=5.5						
KDAK	**Kodiak Island**	**21.55**	**60**	P	**P**	**05 02 49.6**	**0.0**
IMAR	**Indian Mountai**	**22.48**	**38**	P	**P**	**05 03 01.5**	**+1.8**
TRF	**Thorofare Moun**	**23.21**	**46**	P	**P**	**05 03 08.6**	**+1.2**
SML	**Sawmill**	**23.87**	**50**	P	**P**	**05 03 13.2**	**-0.4**
SML				IAmb	IAmb	05 03 17.1	
	comp=Z,7.3nm,1.1s						
KLR	**Kul'dur**	**24.77**	**279**	LR	LR	05 15 09.7	
	comp=Z,29nm,18.1s,baz=256,slow=41						
ILAR	**Eielson Array**	**24.93**	**43**	P	**P**	**05 03 23.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=249,slow=7.3,SNR=8.6						
TOLK	**Toolik Lake Re**	**24.96**	**34**	P	**P**	**05 03 24.0**	**+0.5**
TOLK				IAmb	IAmb	05 03 32.3	
	comp=Z,2.2nm,0.9s						
YKA	**Yellowknife Ar**	**39.33**	**45**	P	**P**	**05 05 29.9**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=289,slow=7.1,SNR=5.2						
SONM	**Songino Array**	**40.48**	**291**	P	**P**	**05 05 39.1**	**+0.1**
TXAR	**Lajitas Array**	**64.77**	**74**	P	**P**	**05 08 39.2**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=298,slow=5.8,SNR=2.4						
TXAR	**Lajitas Array**	**64.77**	**74**	P	**P**	**05 08 38.2**	**-0.5**

AEIC 04 04:58:25.7±0.0**, 60°.36N**×**152°.18W, h82**km**, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0, Southern Alaska**

IDC 04 05:11:36.5±3.0**, 54°.06N**×**86°.62E, h0**km**, mb1 2.7**/2**, mb1mx2.7**/61**, mbtmp2.7**/2**, ML2.4**/2**, Error ellipse: s-maj=24.8km s-min=14.7km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**265**	*i*		05 17 34.5	
	baz=84,slow=341,SNR=4.9						
ZALV	**Zalesovo Beam**	**1.07**	**265**	Pg	Pg	05 11 56.3	-0.6
	0.6nm,0.3s,baz=85,slow=16,SNR=7.5						
ZALV				Lg	Lg	05 12 11.9	
	1.4nm,0.3s,baz=86,slow=20,SNR=8.2						
ZALV				Rg	Rg	05 12 19.1	
	17nm,1.1s,baz=77,slow=28,SNR=21						
KURBB	**Kurchatov Arra**	**6.03**	**238**	Pn	Pn	05 13 06.9	+0.1
	0.1nm,0.3s,baz=55,slow=13,SNR=4.6						
MKAR	**Makanchi Array**	**7.78**	**203**	Pn	Pn	05 13 32.4	+1.5
	0.1nm,0.3s,baz=25,slow=14,SNR=5.4						
MKAR				Lg	Lg	05 15 45.7	
	0.1nm,0.3s,baz=27,slow=31,SNR=6.5						

*IDC **04** 05:11:59.5±0.8, 17°.01N×146°.08E, h0km, mb3.9/13, mb1 4.1/13, mb1mx3.9/49, mbtmp3.9/13, MS3.4/10, Ms1 3.4/10, ms1mx3.1/50, Error ellipse: s-maj=25.4km s-min=19.5km az=122.0*

*NEIC **04** 05:12:03.7±1.0, 16°.89N±0°.10×146°.07E±0°.09, h29km±6km, mb4.1/5, Error ellipse: s-maj=16.5km s-min=9.6km az=141.0*

ISC 04 05:12:04.5±0.7**, 16°.9N**±0°.1×**146°.1E**±0°.1**, h35**km**, n35, σ0^s.94**/21**, mb3.9**/13**, MS3.3**/10**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.61**	**213**	Pn	**Pn**	**05 12 15.5**	**-1.2**
JOW	**Kunigami**	**19.25**	**304**	Pn	**Pn**	**05 16 28.6**	**+1.5**
	1.0nm,0.3s,baz=68,slow=22,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**19.72**	**82**	T	T	05 37 06.6	
	baz=269,slow=75,SNR=96						
H11S1	**WAKE ISLAND Hy**	**19.73**	**82**	T	T	05 37 13.4	
	baz=269,slow=75,SNR=74						
H11S2	**WAKE ISLAND Hy**	**19.74**	**82**	T	T	05 37 07.8	
	baz=269,slow=75,SNR=99						
H11N1	**WAKE ISLAND Hy**	**19.98**	**79**	T	T	05 37 22.1	
	baz=266,slow=75,SNR=128						
H11N2	**WAKE ISLAND Hy**	**19.99**	**79**	T	T	05 37 24.0	
	baz=266,slow=75,SNR=119						
H11N3	**WAKE ISLAND Hy**	**20.00**	**79**	T	T	05 37 23.4	
	baz=266,slow=75,SNR=139						
MJAR	**Matsushiro Arr**	**20.81**	**342**	LR	LR	05 23 29.1	
	comp=Z,105nm,20.1s,baz=180,slow=33						
KSRS	**Korea Array**	**26.02**	**326**	P	**P**	**05 17 34.2**	**-0.1**
	0.6nm,0.4s,baz=156,slow=10,SNR=1.5						
KSRS				LR	LR	05 26 14.9	
	comp=Z,40nm,21.1s,baz=145,slow=33						
KAPI	**Kappang**	**33.89**	**232**	LR	LR	05 30 54.3	
	comp=Z,32nm,19.8s,baz=89,slow=33						
WRA	**Warramunga Arr**	**38.34**	**198**	P	**P**	**05 19 22.9**	**+0.7**
	1.4nm,1.0s,baz=16,slow=9.1,SNR=4.7						
WRA				LR	LR	05 35 50.2	
	comp=Z,22nm,19.0s,baz=250,slow=37						
ASAR	**Alice Springs**	**41.99**	**197**	P	**P**	**05 19 53.6**	**+1.1**
	0.5nm,0.7s,baz=19,slow=9.8,SNR=4.7						
DZM	**Mont Dzumac**	**43.53**	**152**	LR	LR	05 37 07.7	
	comp=Z,66nm,19.4s,baz=9.0,slow=34						
SONM	**Songino Array**	**44.80**	**322**	P	**P**	**05 20 14.8**	**-0.3**
	0.3nm,0.5s,baz=133,slow=8.9,SNR=2.2						
SONM	**Songino Array**	**44.80**	**322**	IAmb	IAmb	05 20 27.5	
	comp=Z,1.6nm,1.2s						
CMAR	**Chiang Mai Arr**	**44.83**	**279**	P	**P**	**05 20 15.9**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=71,slow=6.8,SNR=6.1						
CMAR				LR	LR	05 39 55.3	
	comp=Z,22nm,18.1s,baz=179,slow=37						
AFI	**Afiamalu**	**51.65**	**124**	LR	LR	05 37 40.4	
	comp=Z,37nm,19.5s,baz=331,slow=30						
MKAR	**Makanchi Array**	**59.99**	**315**	P	**P**	**05 22 06.9**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=90,slow=8.6,SNR=4.6						
ILAR	**Eielson Array**	**65.14**	**26**	P	**P**	**05 22 40.0**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=259,slow=4.9,SNR=12						
AAK	**Ala-Archa**	**65.30**	**310**	LR	LR	05 53 22.9	
	comp=Z,29nm,19.0s,baz=55,slow=38						
DOT	**Dot Lake**	**66.12**	**27**	P	**P**	**05 22 48.1**	**+0.1**
BMAR	**Burnt Mountain**	**66.67**	**23**	P	**P**	**05 22 52.0**	**+0.5**
NIL	**Nilore**	**66.73**	**300**	P	**P**	**05 22 52.5**	**-0.1**
INK	**Inuvik**	**70.93**	**23**	P	**P**	**05 23 16.8**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=247,slow=8.0,SNR=11						
INK	**Inuvik**	**70.93**	**23**	P	**P**	**05 23 17.6**	**-0.3**
INK				IAmb	IAmb	05 23 17.9	
	comp=Z,3.0nm,0.8s						
PPT	**Papeete**	**72.01**	**115**	LR	LR	05 48 42.4	
	comp=Z,59nm,20.6s,baz=316,slow=31						
DLBC	**Dease Lake**	**72.64**	**33**	P	**P**	**05 23 28.1**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=234,slow=4.2,SNR=4.6						
AKTO	**Aktyubinsk**	**75.97**	**319**	LR	LR	05 57 06.9	
	comp=Z,52nm,18.8s,baz=50,slow=36						
YKA	**Yellowknife Ar**	**79.45**	**28**	P	**P**	**05 24 06.1**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=291,slow=5.1,SNR=12						
PINE	**Pine Mountain**	**80.65**	**47**	P	**P**	**05 24 14.3**	**+0.1**
NVAR	**Mina Array Bea**	**84.00**	**52**	P	**P**	**05 24 33.7**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=266,slow=5.4,SNR=8.5						
ELK	**Elko**	**85.57**	**49**	P	**P**	**05 24 40.9**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=275,slow=2.2,SNR=4.9						
PDAR	**Pinedale Array**	**88.87**	**46**	P	**P**	**05 24 55.7**	**0.0**
	comp=Z,0.3nm,0.7s,baz=238,slow=5.0,SNR=2.5						
LPAZ	**La Paz**	**147.25**	**94**	PKPbc	**PKPbc**	**05 31 46.2**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=315,slow=4.3,SNR=2.8						

*IDC **04** 05:36:49.9±7.5, 15°.05S×167°.43E, h124km±68km, mb3.3/4, mb1 3.5/5, mb1mx3.2/34, mbtmp3.8/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/15, Error ellipse: s-maj=60.6km s-min=41.5km az=165.0*

*NOU **04** 05:36:50.1, 14°.91S×167°.37E, h87km, MLv4.8, Vanuatu Islands*

ISC 04 05:36:50.4±1.4**, 15°.0S**±0°.1×**167°.4E**±0°.2**, h129**km**, n13, σ1^s.44**/14**, mb3.5**/4**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.48**	**200**	P	**Pn**	**05 37 06.5**	**-2.8**
DVP	**Devils Point**	**2.83**	**164**	P	**Pn**	**05 37 34.3**	**-0.5**
MARNC	**Mare, Loyalty**	**6.49**	**175**	P	**Pn**	**05 38 24.2**	**+0.7**
DZM	**Mont Dzumac**	**7.10**	**187**	P	**Pn**	**05 38 31.2**	**-0.6**
	4.4nm,0.3s,baz=0.0,slow=20,SNR=48						
DZM				S	**Sn**	**05 39 48.6**	**-2.6**
	1.2nm,0.3s,baz=323,slow=20,SNR=2.2						
NOUC	**Port Laguerre**	**7.15**	**188**	P	**Pn**	**05 38 32.8**	**+0.4**
ONTNC	**Ouen Toro**	**7.33**	**187**	P	**Pn**	**05 38 36.1**	**+1.3**
OUENC	**Ouen Island, N**	**7.41**	**184**	P	**Pn**	**05 38 36.3**	**+0.4**
STKA	**Stephens Creek**	**28.90**	**230**	P	**P**	**05 42 38.8**	**+1.6**
	1.6nm,0.9s,baz=51,slow=11,SNR=3.1						
RAR	**Rarotonga**	**31.80**	**106**	LR	LR	05 55 51.6	
	comp=Z,31nm,18.6s,baz=196,slow=36						
WRA	**Warramunga Arr**	**31.86**	**256**	P	**P**	**05 43 03.2**	**-0.3**
	0.2nm,0.7s,baz=84,slow=8.6,SNR=1.4						
WRA				PcP	**PcP**	**05 45 50.7**	**-0.7**
	0.3nm,0.9s,baz=87,slow=3.7,SNR=1.5						
ASAR	**Alice Springs**	**32.67**	**249**	P	**P**	**05 43 10.3**	**-0.2**
	0.3nm,0.4s,baz=74,slow=8.7,SNR=6.5						
MKAR	**Makanchi Array**	**97.46**	**316**	P	**P**	**05 50 11.0**	**+1.4**
	0.3nm,0.6s,baz=88,slow=6.3,SNR=4.4						
ARCES	**ARCESS Array B**	**120.53**	**345**	PKP	**PKPdf**	**05 55 25.9**	**-0.3**
	1.0nm,0.6s,baz=84,slow=1.7,SNR=12						

*INMG **04** 05:41:19.4±1.4, 34°.78N×2°.84W, h23km±26km, ML2.2, Error ellipse: s-maj=20.5km s-min=4.9km az=157.0*

*CNRM **04** 05:41:20.6, 35°.03N×2°.99W, h13km, Hypocentre not reviewed by the ISC*

*SFS **04** 05:41:20.0, 34°.99N×2°.85W, ML2.4, KARIET ARKMANE (MARRUECOS)*

*MDD **04** 05:41:20.0±0.9, 34°.96N×2°.82W, h6km±3km, mbLg2.5/15, Error ellipse: s-maj=7.2km s-min=5.8km az=148.0, PRXIMO*

ISC 04 05:41:19.4±1.3**, 34°.96N**±0°.04×**2°.84W**±0°.04**, h18**km±5km**, n70, σ1^s.46**/104**, 2C-3D, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.29**	**334**	P		05 41 25.1	
MELI	**Melilla**	**0.34**	**347**	⇓P	**Pg**	**05 41 26.3**	**-0.4**
	72nm,0.1s,SNR=18						
MELI				S	**Sg**	**05 41 31.4**	**-0.3**
	380nm,0.1s,SNR=7.9						
MELI	**Melilla**	**0.34**	**347**	⇓*i*P	**Pg**	**05 41 26.3**	**-0.4**
MELI				*e*S	**Sg**	**05 41 31.4**	**-0.3**
EMEL	**Melilla**	**0.36**	**344**	⇓P	**Pg**	**05 41 26.5**	**-0.4**
	295nm,0.4s,SNR=18						
EMEL				S	**Sg**	**05 41 31.3**	**-0.6**
	654nm,0.1s,SNR=25						
PALE	**Palemas**	**0.94**	**286**	P		05 41 39.0	
AKLM	**AKL**	**0.95**	**242**	P		05 41 37.9	
AKLM				S		05 41 51.4	
EALB	**Alboran**	**0.99**	**351**	⇑P	**Pb**	**05 41 38.1**	**0.0**
	82nm,0.4s,SNR=18						
EALB				S	**Sb**	**05 41 51.7**	**+0.9**
	182nm,0.4s,SNR=6.5						
PVLZ	**Peæn de**	**1.22**	**281**	P	**Pn**	**05 41 41.9**	**+0.4**
PVLZ				S	**Sg**	**05 42 00.8**	**+1.9**
PVLZ	**Peæn de**	**1.22**	**281**	*e*P	**Pn**	**05 41 41.9**	**+0.4**
PVLZ				*e*S	**Sg**	**05 42 00.8**	**+1.9**
EBER	**Berja**	**1.94**	**359**	P	**Pn**	**05 41 52.3**	**+0.8**
	3.3nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**05 42 13.8**	**-1.7**
	74nm,0.5s,SNR=14						
ELGU	**Los Guajares,**	**2.01**	**342**	⇑P	**Pn**	**05 41 51.7**	**-0.8**
	5.9nm,0.2s,SNR=18						
ELGU				S	**Sn**	**05 42 14.7**	**-2.5**
	34nm,0.3s,SNR=7.9						
TDRA	**Tendrara**	**2.03**	**160**	P		05 41 56.5	
TDRA				S		05 42 25.9	
CHEFC	**Chefchaouen**	**2.06**	**275**	P		05 41 57.0	
ENIJ	**Nijar**	**2.08**	**14**	P	**Pn**	**05 41 52.9**	**-0.4**
	2.5nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**05 42 16.4**	**-2.4**
	28nm,0.3s,SNR=7.9						
SMIR	**Smir Dam**	**2.20**	**290**	P		05 41 53.0	
EMAL	**Malaga-Limoner**	**2.22**	**325**	P	**Pn**	**05 41 54.4**	**-0.8**
EMAL				S	**Sn**	**05 42 19.8**	**-2.4**
EMAL	**Malaga-Limoner**	**2.22**	**325**	*e*P	**Pn**	**05 41 54.4**	**-0.8**
EMAL				*e*S	**Sn**	**05 42 19.8**	**-2.4**
CEU	**Ceuta**	**2.27**	**295**	P	**Pn**	**05 41 53.6**	**-2.4**
CEU	**Ceuta**	**2.27**	**295**	*e*P	**Pn**	**05 41 53.6**	**-2.4**
EQUE	**Quentar**	**2.30**	**348**	P	**Pn**	**05 41 57.5**	**+1.1**
	5.3nm,0.3s,SNR=25						
EQUE				S	**Sn**	**05 42 23.7**	**-0.6**
	9.6nm,0.5s						
IFR	**Ifrane**	**2.38**	**233**	*e*P	**Pb**	**05 42 03.5**	**+1.7**
IFR				*e*S	**Sg**	**05 42 34.8**	**-1.1**
RSA	**Sarsar**	**2.45**	**269**	P		05 42 00.5	
MDT	**Midelt**	**2.59**	**215**	P		05 42 01.3	
EJIF	**Jimena Fronter**	**2.61**	**306**	P	**Pn**	**05 42 03.3**	**+2.7**
	4µm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.85**	**356**	P	**Pn**	**05 42 06.4**	**+2.4**
	5.0nm,0.3s,SNR=29						
EQES				S	**Sn**	**05 42 39.8**	**+1.9**
	15nm,0.3s						
CART	**Cartagena**	**3.02**	**29**	P	**Pn**	**05 42 05.3**	**-0.9**
CART				S	**Sn**	**05 42 40.0**	**-1.8**
CART	**Cartagena**	**3.02**	**29**	*e*P	**Pn**	**05 42 05.3**	**-0.9**
CART				*e*S	**Sn**	**05 42 40.0**	**-1.8**
ESPR	**Espera**	**3.10**	**309**	P	**Pn**	**05 42 09.4**	**+1.9**
	4.1nm,0.7s,SNR=5.0						
ESPR				S	**Sn**	**05 42 44.4**	**+0.3**
	4.7nm,0.3s,SNR=7.9						
FIGM	**Figuig**	**3.11**	**154**	P		05 42 19.0	
EMUR	**La Murta**	**3.16**	**24**	P	**Pn**	**05 42 08.3**	**+0.1**
	5.9nm,0.3s,SNR=11						
EMUR				S	**Sn**	**05 42 43.0**	**-2.4**
	8.7nm,0.4s						
SESP	**Santiago Espad**	**3.17**	**4**	P	**Pn**	**05 42 10.9**	**+2.5**
	2.9nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**05 42 46.4**	**+0.6**
	43nm,0.7s,SNR=7.9						
SESP	**Santiago Espad**	**3.17**	**4**	P		05 42 10.8	
SESP				S		05 42 47.3	
HORN	**Hornachuelos**	**3.48**	**327**	P		05 42 13.8	
ZHG	**ZHG**	**3.49**	**246**	P		05 42 14.3	
EADA	**Adamuz**	**3.50**	**337**	P	**Pn**	**05 42 13.0**	**+0.1**
	3.9nm,0.4s,SNR=17						
EADA				S	**Sn**	**05 42 52.7**	**-1.1**
	5.9nm,0.3s						
ETOB	**Tobarra**	**3.82**	**15**	P	**Pn**	**05 42 19.6**	**+2.2**
	1.5nm,0.3s,SNR=12						
ETOB				S	**Sn**	**05 43 02.0**	**0.0**
	4.0nm,0.4s						
AFON	**Font Roja**	**4.13**	**26**	P	**Pn**	**05 42 23.2**	**+1.5**
	1.1nm,0.2s,SNR=7.9						
AVE	**Averroes**	**4.14**	**248**	*e*P	**Pg**	**05 42 36.6**	**-2.1**
AVE				*e*S	**Sg**	**05 43 34.7**	**+2.5**
EMIN	**Mina Concepcio**	**4.18**	**313**	P	**Pn**	**05 42 22.1**	**0.0**
	1.8nm,0.3s,SNR=11						
EMIN				S	**Sn**	**05 43 08.3**	**-2.1**
	5.1nm,0.6s						
EBEN2	**Beniarda presa**	**4.28**	**29**	P	**Pn**	**05 42 24.7**	**+1.1**
	0.8nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**05 43 10.2**	**-2.9**
	0.7nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.55**	**306**	P	**Pn**	**05 42 27.5**	**+0.2**
	7.1nm,0.3s,SNR=14						
EGRO				S	**Sn**	**05 43 17.2**	**-2.5**
	4.5nm,0.4s						
PVAQ	**Vaqueiros**	**4.64**	**303**	P	**Pn**	**05 42 28.8**	**+0.3**
PVAQ				S	**Sn**	**05 43 21.6**	**-0.3**
PVAQ	**Vaqueiros**	**4.64**	**303**	*e*Pn	**Pn**	**05 42 28.8**	**+0.3**
PVAQ				*e*Sn	**Sn**	**05 43 21.6**	**-0.3**
PBAR	**Barrancos**	**4.66**	**315**	P	**Pn**	**05 42 29.1**	**+0.3**
PBAR				S	**Sn**	**05 43 20.0**	**-2.5**
PBAR	**Barrancos**	**4.66**	**315**	*e*Pn	**Pn**	**05 42 29.1**	**+0.3**
PBAR				*e*Sn	**Sn**	**05 43 20.0**	**-2.5**
PBDV	**Barranco-do-Ve**	**4.71**	**300**	P	**Pn**	**05 42 30.2**	**+0.6**
PBDV				S	**Sn**	**05 43 22.5**	**-1.3**
PBDV	**Barranco-do-Ve**	**4.71**	**300**	*e*Pn	**Pn**	**05 42 30.2**	**+0.6**
PBDV				*e*Sn	**Sn**	**05 43 22.5**	**-1.3**
PAB	**San Pablo**	**4.74**	**346**	P	**Pn**	**05 42 31.7**	**+1.7**
	0.6nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**4.79**	**350**	P	**Pn**	**05 42 32.6**	**+1.9**
	1.4nm,0.3s,baz=173,slow=12,SNR=17						
PCVE	**Castro Verde**	**4.98**	**304**	P	**Pn**	**05 42 34.0**	**+0.8**
PCVE	**Castro Verde**	**4.98**	**304**	*e*Pn	**Pn**	**05 42 34.0**	**+0.8**
MESJ	**Messejana**	**5.21**	**305**	P	**Pn**	**05 42 37.1**	**+0.8**
MESJ	**Messejana**	**5.21**	**305**	*e*Pn	**Pn**	**05 42 37.1**	**+0.8**
EIBI	**Ibiza**	**5.26**	**38**	P	**Pn**	**05 42 38.2**	**+1.1**
	3.6nm,0.3s,SNR=12						
EIBI				S	**Sn**	**05 43 35.0**	**-2.3**
	1.2nm,0.3s						
ZGR	**Zagora**	**5.36**	**207**	P		05 42 40.3	
PESTR	**Estremoz**	**5.45**	**317**	*e*Pn	**Pn**	**05 42 40.8**	**+1.1**
EVO	**Evora**	**5.48**	**312**	P	**Pn**	**05 42 40.6**	**+0.6**
EVO				S	**Sn**	**05 43 40.9**	**-1.6**
EVO	**Evora**	**5.48**	**312**	*e*Pn	**Pn**	**05 42 40.6**	**+0.6**
EVO				*e*Sn	**Sn**	**05 43 40.9**	**-1.6**
PNCL	**Nicolau / Gran**	**5.56**	**306**	P	**Pn**	**05 42 41.1**	**0.0**
PNCL	**Nicolau / Gran**	**5.56**	**306**	*e*Pn	**Pn**	**05 42 41.1**	**0.0**
EMOS	**Mosqueruela**	**5.71**	**18**	P	**Pn**	**05 42 45.8**	**+2.3**
	0.2nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**5.75**	**322**	P	**Pn**	**05 42 44.9**	**+1.0**
PMRV	**Marv??o**	**5.75**	**322**	*e*Pn	**Pn**	**05 42 44.9**	**+1.0**
ETOR	**Torete**	**5.89**	**6**	P	**Pn**	**05 42 47.1**	**+1.4**
	1.4nm,0.3s,SNR=7.9						
PMTG	**Montargil**	**5.95**	**315**	P	**Pn**	**05 42 47.2**	**+0.7**
PMTG	**Montargil**	**5.95**	**315**	*e*Pn	**Pn**	**05 42 47.2**	**+0.7**
PCBR	**Castelo Branco**	**6.11**	**324**	P	**Pn**	**05 42 50.0**	**+1.2**
PCBR	**Castelo Branco**	**6.11**	**324**	*e*Pn	**Pn**	**05 42 50.0**	**+1.2**
ERTA	**Horta de San J**	**6.49**	**22**	P	**Pn**	**05 42 54.0**	**0.0**
	0.7nm,0.1s,SNR=7.9						
PSBE	**So Bento**	**6.58**	**316**	*e*Pn	**Pn**	**05 42 56.8**	**+1.6**
ETOS	**Mallorca**	**6.58**	**41**	P	**Pn**	**05 42 57.7**	**+2.5**
	4.1nm,0.9s,SNR=4.6						
MTE	**Manteigas**	**6.59**	**327**	P	**Pn**	**05 42 56.6**	**+1.2**
MTE	**Manteigas**	**6.59**	**327**	*e*Pn	**Pn**	**05 42 56.6**	**+1.2**
PVIS	**Viseu**	**7.00**	**327**	P	**Pn**	**05 43 02.0**	**+1.0**
PVIS	**Viseu**	**7.00**	**327**	*e*Pn	**Pn**	**05 43 02.0**	**+1.0**
MVO	**Moncorvo**	**7.02**	**333**	P	**Pn**	**05 43 02.3**	**+0.9**
	5.1nm,0.6s,SNR=7.0						
MVO	**Moncorvo**	**7.02**	**333**	*e*Pn	**Pn**	**05 43 02.8**	**+1.5**
PVRL	**Vila Real**	**7.39**	**330**	P	**Pn**	**05 43 07.3**	**+1.0**
PVRL	**Vila Real**	**7.39**	**330**	*e*Pn	**Pn**	**05 43 07.3**	**+1.0**
PBRG	**Braganca**	**7.49**	**337**	P	**Pn**	**05 43 09.1**	**+1.4**
PBRG	**Braganca**	**7.49**	**337**	*e*Pn	**Pn**	**05 43 09.1**	**+1.4**
POLO	**Lamas de Olo**	**7.50**	**330**	P	**Pn**	**05 43 09.0**	**+1.1**
POLO	**Lamas de Olo**	**7.50**	**330**	*e*Pn	**Pn**	**05 43 09.0**	**+1.1**

*MEX **04** 05:43:23.4±0.5, 14°.22N×93°.27W, h5km, MD4.1*

*GCG **04** 05:43:28.2±0.3, 15°.49N×92°.46W, h147km±15km, MD3.9*

ISC 04 05:43:23.2±3.8**, 14°.4N**±0°.1×**93°.22W**±0°.10**, h6**km±18km**, n8, σ1^s.06**/10**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**1.05**	**61**	*e*P	Pg	05 43 42.7	-0.7
THIG				*i* S	**Sg**	**05 43 57.0**	**0.0**
PCIG		**1.30**	**360**	*e*P	Pg	05 43 46.7	-1.5
PCIG				*i* S	**Sg**	**05 44 04.5**	**-0.6**
CCIG	**Comitan**	**2.15**	**29**	*i* P	Pn	05 43 59.2	-0.5
CCIG				*i* S	**Sn**	**05 44 26.9**	**+0.1**
FUG	**Fuego 3**	**2.30**	**88**	*e*P	**Pn**	**05 44 02.6**	**+0.7**
FUG				*e*S	**Sn**	**05 44 29.6**	**-1.1**
TGIG		**2.37**	**2**	*e*P	Pn	05 44 02.2	-0.5
TGIG				*e*S	**Sn**	**05 44 32.9**	**+0.7**
PCG	**Pacaya**	**2.53**	**90**	*e*S	**Sn**	**05 44 34.8**	**-1.5**
IXG	**Ixpaco**	**2.70**	**94**	*e*P	**Pn**	**05 44 08.5**	**+1.2**
IXG				*e*S	**Sn**	**05 44 39.8**	**-0.6**
CMIG	**Matias Romero**	**3.13**	**329**	*e*P	**Pn**	**05 44 12.9**	**-0.1**

*IDC **04** 05:45:21.2±0.6, 28°.00S×12°.96W, h0km, mb4.2/17, mb1 4.2/17, mb1mx4.2/32, mbtmp4.2/17, MS4.3/19, Ms1 4.3/19, ms1mx4.3/19, Error ellipse: s-maj=21.2km s-min=15.3km az=161.0*

*NEIC **04** 05:45:22.2±2.4, 28°.1S±0°.1×13°.01W±0°.07, h10km±1km, mb4.8/16, Error ellipse: s-maj=23.5km s-min=3.4km az=153.0*

*GCMT **04** 05:45:28.2±0.2, 28°.07S±0°.02×13°.16W±0°.01, h12km, MW5.1/132, Moment Tensor Solution. s65,c71; s132,c212; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.09±.10; $M_{\theta\theta}$0.31±.10; $M_{\phi\phi}$4.78±.08; $M_{r\theta}$1.18±.37; $M_{\theta\phi}$-1.42±.08; $M_{\phi r}$-0.12±.30; Best double couple: $M_0$5.27600×10^{16} NP1:ϕ_s175.00000°, δ44.00000°, λ-73.00000°. NP2:ϕ_s332.00000°, δ49.00000°, λ-106.00000°. Principal axes: T 5.2130, Plg3.0000°, Azm73.0000°; N 0.1300, Plg12.0000°, Azm343.0000°; P -5.3400, Plg78.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 05:45:22.3±0.5**, 28°.1S**±0°.1×**13°.02W**±0°.09**, h10**km**, n74, σ1^s.16**/51**, mb4.3**/25**, MS4.5**/21**, Southern Mid-Atlantic**

Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	19.06	355	T	T	06 09 23.6	
	baz=176,slow=74,SNR=11						
H10S3	ASCENSION HYDR	19.07	355	T	T	06 09 23.8	
	baz=44,slow=74,SNR=20						
H10N1	ASCENSION HYDR	20.16	356	T	T	06 10 49.7	
	baz=186,slow=79						
H10N3	ASCENSION HYDR	20.16	356	T	T	06 10 50.9	
	baz=186,slow=79						
H10N2	ASCENSION HYDR	20.17	356	T	T	06 10 48.0	
	baz=186,slow=79						
TSUM	Tsumeb	29.33	79	P	P	05 51 24.4	-1.1
	2.4nm,0.7s,baz=52,slow=1.7,SNR=4.0						
BOSA	Boshof	33.60	100	P	P	05 52 03.2	+0.2
	3.3nm,1.0s,baz=239,slow=5.9,SNR=1.9						
BOSA				LR	LR	06 03 49.1	
	comp=Z,927nm,18.2s,baz=266,slow=33						
LBTB	Lobatse	34.59	94	P	P	05 52 12.2	+0.6
BDFB	Brasilia	34.62	283	P	P	05 52 11.1	-0.9
	3.4nm,0.8s,baz=149,slow=2.2,SNR=6.3						
BDFB				LR	LR	06 03 43.7	
	comp=Z,1μm,20.9s,baz=112,slow=32						
LIC	Lamto	34.95	14	*e*P	P	05 52 19.9	+5.3
	32nm,1.0s						
KIC	Kosan Boka	35.14	14	*e*P	P	05 52 21.3	+5.0
	11nm,0.9s						
TIC	Toumodi	35.36	14	*e*P	P	05 52 23.4	+5.3
DBIC	Dimbokro	35.42	14	P	P	05 52 17.0	-1.6
	3.4nm,1.0s,baz=189,slow=4.3,SNR=3.5						
DBIC				LR	LR	06 03 55.8	
	comp=Z,195nm,18.1s,baz=170,slow=32						
DBIC	Dimbokro	35.42	14	IAmb	IAmb	05 52 34.4	
	comp=Z,22nm,1.4s						
MATP	Matopo	38.47	88	P	P	05 52 43.7	-1.1
	comp=Z,8.2nm,1.0s,baz=241,slow=7.8,SNR=6.6						
CPUP	Villa Florida	39.29	262	P	P	05 52 51.5	+0.1
	comp=Z,2.4nm,1.0s,baz=149,slow=5.9,SNR=2.8						
CPUP				LR	LR	06 06 11.6	
	comp=Z,672nm,21.6s,baz=101,slow=32						
LSZ	Lusaka	40.17	80	P	P	05 52 58.4	-0.6
	comp=Z,1.0nm,0.5s,baz=281,slow=6.3,SNR=2.3						
KOWA	Kowa	43.20	13	P	P	05 53 22.4	-1.2
	comp=Z,5.0nm,0.9s,baz=200,slow=6.8,SNR=13						
KOWA	Kowa	43.20	13	P	P	05 53 22.6	-1.0
SNAA	Sanae	44.02	175	P	P	05 53 30.3	+0.6
	comp=Z,3.9nm,1.1s,baz=306,slow=17,SNR=2.2						
SIV	San Ignacio	45.87	275	P	P	05 53 45.8	+0.7
	comp=Z,2.0nm,0.9s,baz=122,slow=8.8,SNR=6.3						
ZON	Zonda	47.99	252	P	P	05 54 02.2	+0.7
ZON				IAmb	IAmb	05 54 05.2	
	comp=Z,4.1nm,0.8s						
PLCA	Paso Flores	48.34	239	P	P	05 54 05.6	+1.4
	comp=Z,2.4nm,0.8s,baz=113,slow=8.4,SNR=10						
PLCA				LR	LR	06 10 49.6	
	comp=Z,211nm,21.8s,baz=92,slow=32						
PLCA	Paso Flores	48.34	239	P	P	05 54 03.9	-0.3
PLCA				IAmb	IAmb	05 54 28.9	
	comp=Z,11nm,1.5s						
BO02	Sierra Bellavi	49.17	247	P	P	05 54 07.6	-3.0
AC02	Maricunga	49.42	258	P	P	05 54 12.8	-0.4
AC02				IAmb	IAmb	05 54 28.4	
	comp=Z,12nm,1.2s						
CO01	Juntas del Tor	49.50	253	P	P	05 54 13.9	+0.5
CO01				IAmb	IAmb	05 54 20.9	
	comp=Z,9.5nm,1.2s						
SAML	Samuel	50.83	282	P	P	05 54 24.0	+0.6
BELA	Belgrano 2	50.87	186	P	P	05 54 22.0	-0.9
BELA				IAmb	IAmb	05 54 27.9	
	comp=Z,18nm,1.2s						
PB08	IPOC Station P	51.47	266	P	P	05 54 26.7	-2.0
PB08				IAmb	IAmb	05 54 32.0	
	comp=Z,13nm,1.2s						
LPAZ	La Paz	51.98	271	LR	LR	06 15 24.5	
	comp=Z,482nm,19.2s,baz=114,slow=35						
KMBO	Kilima Mbogo	54.98	70	LR	LR	06 16 55.1	
	comp=Z,577nm,18.8s,baz=270,slow=34						
MAW	Mawson	59.02	154	LR	LR	06 15 59.0	
	comp=Z,223nm,18.0s,baz=246,slow=31						
QSPA	South Pole Qui	62.17	180	P	P	05 55 44.1	+0.5
SDV	Santo Domingo	66.67	295	P	P	05 56 14.2	+0.2
SDV	Santo Domingo	66.67	295	*e*P	P	05 56 13.4	-0.5
CHIC	Chingaza	66.83	289	*e*P	P	05 56 14.5	-0.7
KEST	Kesra	66.87	20	P	P	05 56 14.2	-0.4
	comp=Z,3.6nm,1.1s,baz=180,slow=4.0,SNR=2.2						
KEST				LR	LR	06 23 09.7	
	comp=Z,412nm,20.6s,baz=152,slow=34						
PRAC	Prado	67.31	287	*e*P	P	05 56 23.8	+6.0
ROSC	El Rosal	67.44	289	LR	LR	06 25 45.1	
	comp=Z,516nm,18.4s,baz=158,slow=36						
PAMC	Pamplona, Colo	67.47	292	*e*P	P	05 56 21.8	+2.5
ORTC	Ortega, Tolima	67.72	287	*e*P	P	05 56 22.0	+1.6
ESDC	Sonseca Array	67.91	8	P	P	05 56 22.7	+1.6
	comp=Z,1.0nm,0.9s,baz=181,slow=7.5,SNR=5.9						
ESDC				LR	LR	06 23 56.0	
	comp=Z,143nm,18.4s,baz=290,slow=34						
POPC	Popayan, Colom	68.21	285	*e*P	P	05 56 23.7	0.0
PTBC	PUERTO BERRIO,	68.47	290	*e*P	P	05 56 22.9	-2.2
GUY2C	Guyana, Caldas	68.52	289	*e*P	P	05 56 26.8	+0.8
HELC	Santa Helena	69.18	289	*e*P	P	05 56 29.0	-0.9
ZARC	Zaragoza, Cauc	69.33	291	*e*P	P	05 56 29.3	-1.2
SMLC	San Martn de	69.41	292	*e*P	P	05 56 29.9	-1.0
VNDA	Vanda	74.62	179	LR	LR	06 25 28.6	
	comp=Z,264nm,21.7s,baz=178,slow=32						
GERES	GERESS Array B	80.20	18	P	P	05 57 34.3	+1.5
	comp=Z,0.7nm,0.9s,baz=169,slow=1.0,SNR=2.7						
GERES				LR	LR	06 30 44.4	
	comp=Z,106nm,21.0s,baz=218,slow=34						
BRTR	Keskin Array B	80.22	35	P	P	05 57 34.1	+1.0
	comp=Z,2.6nm,0.9s,baz=202,slow=6.1,SNR=6.3						
BRTR				LR	LR	06 33 29.0	
	comp=Z,36nm,20.1s,baz=262,slow=36						
BRTR	Keskin Array B	80.22	35	P	P	05 57 33.7	+0.6
MLR	Muntele Rosu	81.33	27	P	P	05 57 38.8	-0.1
MLR				IAmb	IAmb	05 57 44.0	
	comp=Z,10.0nm,0.8s						
AKASG	Malin Array Be	86.86	25	P	P	05 58 05.8	-0.9
	comp=Z,1.1nm,0.6s,baz=221,slow=4.7,SNR=5.4						
AKASG				LR	LR	06 36 45.1	
	comp=Z,52nm,18.4s,baz=225,slow=36						
AKASG	Malin Array Be	86.86	25	P	P	05 58 06.1	-0.7
KBZ	Khabaz	87.90	37	LR	LR	06 40 20.3	
	comp=Z,33nm,18.0s,baz=220,slow=38						
NB2	NORSAR Subarra	90.95	12	P	P	05 58 30.8	+4.9
	comp=Z,1.1nm,0.8s,baz=203,slow=4.8						
NOA	NORSAR Array B	90.95	12	P	P	05 58 27.3	+1.3
	comp=Z,2.0nm,0.8s,baz=201,slow=4.7,SNR=5.7						
NOA				LR	LR	06 37 53.2	
	comp=Z,65nm,20.4s,baz=210,slow=35						
GEYT	Alibeck	93.47	49	LR	LR	06 39 51.3	
	comp=Z,184nm,20.9s,baz=10.0,slow=35						
FINES	FINESS Array B	94.64	18	LR	LR	06 41 30.6	
	comp=Z,144nm,18.4s,baz=220,slow=36						
TBI	Tubuai	113.84	224	*e*SS	SS	06 20 54.1	+11
	comp=Z,73nm,34.8s						
TBI	Tubuai	113.84	224	*e*LR	LR	06 38 15.3	
	comp=Z,260nm,31.2s,baz=147						
PPT2	Papeete2	118.13	228	*e*SS	SS	06 21 48.2	+8.8
	comp=Z,105nm,28.8s						
PPT2	Papeete2	118.13	228	*e*LR	LR	06 40 16.8	
	comp=Z,159nm,24.2s						
ASAR	Alice Springs	119.49	145	PKP	PKPdf	06 04 11.5	-1.3
	comp=Z,0.7nm,0.9s,baz=223,slow=2.3,SNR=2.1						
YKA	Yellowknife Ar	119.79	328	PKP	PKiKP	06 04 13.0	+0.9
	comp=Z,0.2nm,0.6s,baz=93,slow=2.5,SNR=1.8						
WRA	Warramunga Arr	122.78	143	PKP	PKiKP	06 04 21.5	+2.1
	comp=Z,1.3nm,1.2s,baz=210,slow=4.9,SNR=2.9						
SONM	Songino Array	129.66	50	PKP	PKiKP	06 04 33.6	+1.2
	comp=Z,1.1nm,0.8s,baz=230,slow=2.7,SNR=7.7						
ILAR	Eielson Array	133.26	335	PKP	PKPdf	06 04 37.9	+0.1
	comp=Z,0.5nm,0.8s,baz=7.0,slow=3.3,SNR=2.3						
KLR	Kul'dur	145.75	42	PKPbc	PKPdf	06 05 00.2	-0.6
	comp=Z,0.6nm,0.4s,baz=30,slow=10,SNR=2.7						
KSRS	Korea Array	146.05	64	PKPbc	PKPdf	06 05 01.8	+0.1
	comp=Z,1.6nm,0.7s,baz=296,slow=3.4,SNR=3.2						
KSRS	Korea Array	146.05	64		PKPdf	06 05 01.8	+0.1
USRK	Ussuriysk Ar.	147.76	51	PKPbc	PKPbc	06 05 08.1	+0.9
	comp=Z,3.9nm,1.1s,baz=238,slow=4.6,SNR=4.5						

*NNC **04** 05:52:41.8±3.3,54°.05N×87°.33E,h0km,mb3.1,mpv2.9, Error ellipse: s-maj=26.9km s-min=16.0km az=37.0, Suspected Mining explosion.*

*IDC **04** 05:52:42.0±2.8,54°.20N×87°.23E,h0km,mb1 2.8/2, mb1mx2.8/36,mbtmp2.8/2,ML2.7/2,Error ellipse: s-maj=22.9km s-min=16.1km az=59.0*

ISC 04 05:52:43.0±4.5,**54°.1N**±0°.2×**87°.1E**±0°.2,**h0km,n8,**σ**1§40**/12, **8C-2D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.37	263	*i*		06 00 35.9	
	baz=81,slow=339,SNR=4.2						
ZAA0	Zalesovo Array	1.37	263	⇓P	Pg	05 53 07.9	-1.4
	0.6nm,0.3s						
ZAA0				⇑S	Sn	05 53 29.6	+1.3
	1.8nm,0.3s						
ZALV	Zalesovo Beam	1.37	263	Pg	Pg	05 53 07.7	-1.6
	3.8nm,0.3s,baz=81,slow=16,SNR=40						
ZALV				Lg	Lg	05 53 27.8	
	2.2nm,0.3s,baz=78,slow=30,SNR=11						
KURK	Kurchatov	6.22	240	⇑Pn	Pn	05 54 16.7	+0.7
	3.6nm,1.4s						
KURK				⇑Lg	Lg	05 56 04.2	
	7.0nm,1.4s						
KURBB	Kurchatov Arra	6.33	240	Pn	Pn	05 54 18.4	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=4.3						
KURBB				Sn	Sn	05 55 31.1	+0.7
	0.0nm,0.3s,baz=110,slow=29,SNR=1.6						
KURBB				Lg	Lg	05 56 06.1	
	0.0nm,0.3s,baz=45,slow=29,SNR=2.6						
KURBB	Kurchatov Arra	6.33	240	⇑Pn	Pn	05 54 17.8	+0.3
	0.7nm,0.3s,baz=58,slow=13						
KURBB				⇑Sn	Sn	05 55 31.7	+1.3
	2.3nm,0.7s						
KURBB				⇑Lg	Lg	05 56 08.4	
	7.9nm,0.9s,baz=56,slow=33						
MK31	Makanchi Array	7.97	205	⇑Pn	Pn	05 54 40.8	+0.8
	0.6nm,0.8s,baz=28,slow=15,SNR=7.4						
MK31				⇑Sn	Sn	05 56 08.6	-2.2
	0.7nm,0.9s						
MK31				⇓Lg	Lg	05 56 51.7	
	0.8nm,0.9s,baz=32,slow=29,SNR=3.5						
MKAR	Makanchi Array	7.97	205	Pn	Pn	05 54 41.2	+1.2
	0.1nm,0.3s,baz=28,slow=14,SNR=8.6						
MKAR				Sn	Sn	05 56 11.8	+1.0
	0.1nm,0.3s,baz=31,slow=26,SNR=2.7						

IDC 04 05:55:01.7±3.2,**54°.44N**×**86°.93E,h0km,mb1 2.9**/2, **mb1mx2.7**/43,**mbtmp2.9**/2,**ML2.4**/2,**Error ellipse: s-maj=27.8km s-min=19.7km az=50.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.33	249	*i*		06 02 16.4	
	baz=68,slow=337,SNR=2.6						
ZALV	Zalesovo Beam	1.33	249	Pg	Pg	05 55 26.4	-0.8
	0.7nm,0.3s,baz=72,slow=17,SNR=6.2						
ZALV				Lg	Lg	05 55 45.4	
	0.7nm,0.3s,baz=68,slow=27,SNR=2.7						
KURBB	Kurchatov Arra	6.39	237	Pn	Pn	05 56 37.2	+0.2
	0.1nm,0.3s,baz=53,slow=14,SNR=8.6						
KURBB				Sn	Sn	05 57 49.4	-1.1
	0.0nm,0.3s,baz=87,slow=6.6,SNR=1.7						
MKAR	Makanchi Array	8.20	203	Pn	Pn	05 57 03.3	+1.5
	0.1nm,0.3s,baz=19,slow=18,SNR=4.0						

*IDC **04** 06:00:50.6±3.5,35°.98N×69°.53E,h112km±30km,mb3.4/10, mb1 3.5/15,mb1mx3.3/44,mbtmp3.9/15,MS3.3/2, Ms1 3.3/2,ms1mx2.7/23,Error ellipse: s-maj=27.5km s-min=18.2km az=21.0*

*NEIC **04** 06:00:52.2±1.9,36°.19N±0°.02×69°.48E±0°.10,h136km±8km, mb4.1/4,Error ellipse: s-maj=11.6km s-min=1.8km az=103.0*

*NNC **04** 06:00:56.8±4.0,36°.63N×69°.29E,h103km±61km,mb3.9, mpv4.3,Error ellipse: s-maj=30.7km s-min=24.7km az=18.0*

ISC 04 06:00:50.9±0.6,**36°.19N**±0°.06×**69°.51E**±0°.06,**h112km,n61,** σ**2§11**/64,**mb3.5**/10,**7C-6D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	1.69	193	Pn	Pn	06 01 22.6	+2.3
NIL	Nilore	3.98	128	Pn	Pn	06 01 52.8	+2.7
AML	Almayashu	6.77	27	P	Pn	06 02 29.6	+1.6
	SNR=74						
DHRM	DHARAMSHALA	6.86	123	*e*P	Pn	06 02 29.6	+0.5
DHRM				*e*S	Sn	06 03 42.4	-3.5
DHRM				IAML		06 03 46.7	
	comp=N,198nm,0.0s						
DHRM				IAML		06 03 47.2	
	comp=E,246nm,0.3s						
KK31	Karatay Array	6.95	6	⇓P	Pn	06 02 31.1	+1.1
	comp=E,12nm,0.5s,baz=183,slow=13,SNR=137						
KK31				⇑S	Sn	06 03 44.6	-2.9
	comp=E,6.8nm,0.5s,baz=195,slow=22,SNR=5.7						
KK31	Karatay Array	6.95	6	Pn	Pn	06 02 31.5	+1.5
KKAR	Karatay Array	6.95	6		Pn	06 02 31.5	+1.5
KKAR	Karatay Array	6.95	6	Pn	Pn	06 02 31.3	+1.2
UCH	Uchtor	7.17	31	P	Pn	06 02 35.0	+1.6
	SNR=29						
EKS2	Erkin-Say	7.26	26	P	Pn	06 02 36.1	+1.8
	SNR=17						
AAK	Ala-Archa	7.51	29	P	Pn	06 02 40.0	+2.2
	comp=E,5.9nm,0.3s,baz=196,slow=4.7,SNR=40						
AAK				S	Sn	06 04 00.7	-0.6
	comp=E,1.6nm,0.3s,baz=353,slow=23,SNR=5.6						
AAK	Ala-Archa	7.51	29	P	Pn	06 02 40.0	+2.2
	SNR=22						
AAK	Ala-Archa	7.51	29	⇑P	Pn	06 02 39.7	+1.9
	comp=E,7.7nm,0.3s						
AAK				⇑S	Sn	06 04 01.4	+0.1
	comp=E,11nm,0.5s						
AAK	Ala-Archa	7.51	29	Pn	Pn	06 02 39.8	+2.1
CHMS	Chumysh	7.91	29	P	Pn	06 02 44.8	+1.7
	SNR=8.6						
ULHL	Ulahol	7.99	39	P	Pn	06 02 46.0	+1.6
	SNR=6.1						
USP	Ospenovka	8.05	27	P	Pn	06 02 46.1	+1.2
	SNR=31						
SMLA	Simla	8.14	126	*e*P	Pn	06 02 47.0	+0.8
SMLA				*e*S	Sn	06 04 10.4	-6.1
SMLA				IAML		06 04 16.7	
	comp=N,95nm,0.7s						
SMLA				IAML		06 04 17.0	
	comp=E,97nm,0.5s						
TKM2	Tokmak 2	8.20	33	P	Pn	06 02 49.0	+1.8
	SNR=8.4						
TKM2	Tokmak 2	8.20	33	⇓P	Pn	06 02 48.6	+1.4
	comp=E,4.6nm,0.4s						
TKM2				⇓S	Sn	06 04 17.5	-0.7
	comp=E,5.9nm,0.7s						
GEYT	Alibeck	9.27	284	P	Pn	06 03 02.4	+0.9
	comp=E,0.9nm,0.3s,baz=105,slow=11,SNR=3.5						
GEYT				S	Sn	06 04 41.7	-2.3
	comp=E,1.0nm,0.3s,baz=117,slow=15,SNR=3.0						
NDI	New Delhi	9.92	137	*e*P	Pn	06 03 07.8	-2.6
NDI				*e*S	Sn	06 04 49.7	-10
SONA	Sohna	10.19	139	*e*S	Sn	06 04 57.7	-8.5
MAKZ	Makanchi	14.12	37	Pn	Pn	06 04 06.6	+0.9
MK31	Makanchi Array	14.27	38	⇑P	Pn	06 04 08.9	+1.3
	comp=E,4.9nm,0.8s,baz=208,slow=11,SNR=33						
MK31	Makanchi Array	14.27	38		Pn	06 04 07.8	+0.2
MKAR	Makanchi Array	14.27	38	P	Pn	06 04 09.3	+1.8
	comp=E,0.5nm,0.3s,baz=224,slow=12,SNR=12						
MKAR	Makanchi Array	14.27	38	Pn	Pn	06 04 08.4	+0.8
AB31	Akbulak array	14.81	335	⇓P	Pn	06 04 14.6	+0.1
	comp=E,2.9nm,0.4s,baz=156,slow=14,SNR=152						
AB31				⇑S	Sn	06 06 48.7	-9.2
	comp=E,1.8nm,0.5s,baz=151,slow=24,SNR=6.4						
ABKAR	Akbulak array	14.81	335	Pn	Pn	06 04 13.9	-0.6
ABKAR	Akbulak array	14.81	335	Pn	Pn	06 04 13.5	-1.0
GKN	Gorkha	15.19	118	*e*P	P	06 04 32.3	+10
	comp=E,14nm,0.3s						
DMN	Daman	15.76	118	*e*P	P	06 04 31.6	+3.2
KKN	Kakani	15.77	118	*e*P	P	06 04 32.6	+4.1
KURBB	Kurchatov Arra	15.83	21	P	Pn	06 04 26.3	-0.9
	comp=E,0.2nm,0.3s,baz=210,slow=13,SNR=8.3						
KURBB	Kurchatov Arra	15.83	21	⇑P	P	06 04 31.5	+2.8
	comp=E,8.3nm,0.7s						
KURK	Kurchatov	15.94	22	⇑P	P	06 04 31.3	+1.4
	comp=E,2.6nm,0.7s						
KURK	Kurchatov	15.94	22	P	Pn	06 04 28.4	-0.2
KURK	Kurchatov	15.94	22		Pn	06 04 26.3	-2.2
KURK	Kurchatov	15.94	22	IAmb	IAmb	06 04 34.1	
	comp=Z,3.6nm,0.8s						
PKIN	Phulchoki	15.98	118	*e*P	Pn	06 04 31.2	+1.7
PKI	Pulchoki	15.99	118	*e*P	Pn	06 04 30.7	+0.9
AKTO	Aktyubinsk	16.48	333	P	Pn	06 04 36.4	+1.1
	comp=Z,0.9nm,0.3s,baz=132,slow=14,SNR=16						
AKTO				S	Sn	06 07 28.1	-10
	comp=Z,0.2nm,0.3s,baz=336,slow=20,SNR=1.8						
AKTO	Aktyubinsk	16.48	333	⇓P	Pn	06 04 36.4	+1.1
	comp=Z,4.8nm,0.8s						
AKTO				⇓S	Sn	06 07 30.9	-7.3
	comp=Z,1.5nm,0.5s						
BVAR	Borovoye Array	16.85	2	P	Pn	06 04 40.0	+0.3
	comp=Z,1.5nm,0.3s,baz=199,slow=25,SNR=12						
BRVK	Borovoye	16.88	2		Pn	06 04 39.2	-0.8
BRVK				IAmb	IAmb	06 04 45.5	
	comp=Z,4.3nm,0.7s						
ZAA0	Zalesovo Array	20.71	26	P	P	06 05 22.2	+0.2
ZALV	Zalesovo Beam	20.71	26	P	P	06 05 24.1	+2.0
	comp=Z,11nm,0.4s,baz=220,slow=10,SNR=56						
ARU	Arti	21.56	343	P	P	06 05 32.6	+1.5
	comp=Z,1.5nm,0.6s,baz=160,slow=8.6,SNR=6.9						
SONM	Songino Array	29.50	55	P	P	06 06 45.8	+1.3
	comp=Z,0.2nm,0.5s,baz=266,slow=8.4,SNR=2.7						
AKASG	Malin Array Be	32.21	310	P	P	06 07 09.4	+1.3
	comp=Z,0.4nm,0.4s,baz=82,slow=7.2,SNR=5.1						
FINES	FINESS Array B	37.08	327	P	P	06 07 51.1	+1.3
	comp=Z,1.0nm,0.5s,baz=111,slow=10,SNR=4.5						
ARCES	ARCESS Array B	40.98	338	P	P	06 08 24.0	+1.8
	comp=Z,2.0nm,0.7s,baz=106,slow=8.0,SNR=8.7						
ARCES	ARCESS Array B	40.98	338	IAmb	IAmb	06 08 26.1	
	comp=Z,9.9nm,1.4s						
NOA	NORSAR Array B	43.91	323	P	P	06 08 46.8	+0.7
	comp=Z,0.3nm,0.4s,baz=101,slow=7.9,SNR=2.1						
KSAR	Wonju Array Be	46.09	70	P	P	06 09 00.5	-3.1
KSRS	Korea Array	46.12	70	LR	LR	06 29 31.7	
	comp=Z,21nm,18.7s,baz=125,slow=37						
ILAR	Eielson Array	75.40	15	P	P	06 12 21.9	0.0
	comp=Z,0.2nm,0.5s,baz=301,slow=5.1,SNR=2.7						
YKA	Yellowknife Ar	81.60	2	P	P	06 12 54.0	-1.9
	comp=Z,0.4nm,0.9s,baz=351,slow=4.7,SNR=4.8						
YKA				LR	LR	06 54 42.3	
	comp=Z,27nm,18.1s,baz=0.0,slow=40						
WRA	Warramunga Arr	82.86	121	P	P	06 13 01.7	-1.3
	comp=Z,0.3nm,0.7s,baz=325,slow=4.2,SNR=6.9						
ASAR	Alice Springs	85.07	124	P	P	06 13 13.5	-0.8
	comp=Z,0.4nm,0.5s,baz=316,slow=5.1,SNR=6.6						

*IDC **04** 06:18:52.1±2.5,32°.83N×114°.59W,h0km,mb1 3.1/3, mb1mx3.1/28,mbtmp2.6/3,ML3.2/3,Error ellipse: s-maj=32.9km s-min=18.2km az=55.0*

*NEIC **04** 06:19:00.8±1.5,34°.65N±0°.04×112°.93W±0°.04,h5km±2km, ML3.0/54,Error ellipse: s-maj=7.5km s-min=5.9km az=209.0*

*ANF **04** 06:19:01.7±0.3,34°.69N×112°.91W,h22km±4km,ML3.4/22, Error ellipse: s-maj=3.3km s-min=1.5km az=159.0, Hypocentre not reviewed by the ISC*

ISC 04 06:19:00.9±1.0,**34°.67N**±0°.04×**112°.88W**±0°.04,**h10km,n29,** σ**1§35**/32,**Western Arizona**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
W13A	Hualapai Mount	0.94	298		Pg	06 19 18.3	-0.6
W13A				Sg	Sg	06 19 30.8	-0.4
W13A				IAML		06 19 34.0	
	comp=N,434nm,0.3s						
W13A				IAML		06 19 34.3	
	comp=E,393nm,0.2s						
PDMCI	Parker Dam,Lak	1.11	251	P		06 19 21.3	
	baz=69,SNR=243						
PDMCI				S		06 19 35.9	
	baz=69						
NEE2	Needles Airpor	1.44	275	P		06 19 25.7	
	baz=93						
WUAZ	Wupatki	1.50	55		Pn	06 19 27.8	-0.2
WUAZ					Sn	06 19 47.7	0.0
WUAZ	Wupatki	1.50	55	P		06 19 27.7	
	baz=237						
WUAZ				S		06 19 47.4	
	baz=237						
U15A	North Rim	1.82	15		Pn	06 19 32.9	+0.3
IRM	Iron Mountain	1.94	255	P		06 19 33.3	
	baz=73,SNR=24						
IRM				S		06 19 57.5	
	baz=73						
GLA	Glamis	2.29	226	Pn	Pn	06 19 37.3	-1.4
GLA	Glamis	2.29	226	Pb		06 19 42.6	
	baz=44						
GMRC	Granite Mounta	2.29	274	P		06 19 37.9	
	baz=92,SNR=20						
KNB	Kanab	2.35	1		Pn	06 19 40.0	+0.3
LCMT	Little Creek M	2.36	353		Pb	06 19 43.6	0.0
LCMT				IAML		06 20 18.7	
	comp=E,81nm,0.5s						
X18A	Snowflake	2.42	92		Pn	06 19 41.5	+0.8
SHPR	Sheep Range	2.61	315	Pn	Pn	06 19 43.6	+0.2
W18A	Petrified Fore	2.62	79		Pn	06 19 44.6	+1.1
W18A	Petrified Fore	2.62	79	Pb		06 19 48.5	
	baz=262						
W18A				Sb		06 20 22.0	
	baz=262						
BELC	Belle Mtn. Jos	2.67	256	P		06 19 43.0	
	baz=74,SNR=13						
BELC				S		06 20 14.3	
	baz=74						
214A	Organ Pipe Nat	2.70	179	Pn	Pn	06 19 45.9	+1.4
214A	Organ Pipe Nat	2.70	179	Pb		06 19 49.8	
	baz=358,SNR=54						
214A				Sb		06 20 25.7	
	baz=358						
PKCU	Pink Cliffs	2.81	9		Pn	06 19 47.4	+1.2
HEC	Hector,Ludlow	2.85	274	P		06 19 45.5	
	baz=92						
TUC	Tucson	2.93	143	Pn	Pn	06 19 47.9	+0.2
TUC				IAML		06 20 33.8	
	comp=E,39nm,0.8s						
TUC				IAML		06 20 38.4	
	comp=E,37nm,0.6s						
TUC	Tucson	2.93	143	P		06 19 47.8	
	baz=324						
TUC				Sb		06 20 31.4	
	baz=324						
SWSC	Sam W. Stewart	2.98	236	P		06 19 47.7	
	baz=53						
PIX	Pinacate	3.14	189		Pn	06 19 50.5	+0.1
PIX				IAML		06 20 51.8	
	comp=E,36nm,0.9s						
XPFO	Pion Flat	3.15	251	Pn	Pn	06 19 50.2	-0.5
XPFO				IAML		06 20 42.3	
	comp=E,49nm,0.8s						
XPFO				IAML		06 20 46.0	
	comp=E,34nm,0.7s						
PFO	Pinyon Flats O	3.15	252		Pn	06 19 50.6	-0.1
PFO				IAML		06 20 42.3	
	comp=E,49nm,0.8s						
PFO				IAML		06 20 46.0	
	comp=E,34nm,0.7s						
PFO	Pinyon Flats O	3.15	252	P		06 19 49.9	
	baz=69						
PFO				S		06 20 26.6	
	baz=69						
PRN	Pahroc Range	3.25	328	Pn	Pn	06 19 53.0	+0.8
GSC	Goldstone, Bar	3.29	282	Pn	Pn	06 19 51.9	-0.6
GSC				IAML		06 20 55.4	
	comp=N,32nm,0.7s						
GSC				IAML		06 20 55.8	
	comp=E,44nm,1.0s						
GSC	Goldstone, Bar	3.29	282	S		06 20 29.6	
	baz=100						
IKP	In-Ko-Pah, Jac	3.36	234	P		06 19 53.4	
	baz=52						
BBRC	Big Bear Solar	3.37	264	S		06 20 31.7	
	baz=82						
RMX	La Rumorosa	3.37	233		Pn	06 19 53.4	-0.4
RMX				IAML		06 20 47.1	
	comp=N,32nm,0.5s						
RMX				IAML		06 20 50.3	
	comp=E,33nm,0.7s						
MTPU	Mount Pierson	3.41	9		Pn	06 19 56.9	+2.4
MONP2	Monument Peak	3.44	240	P		06 19 54.4	
	baz=57						
TPNV	Topopah Spring	3.56	311		Pn	06 19 58.5	+2.1
ESJX	Sierra Juarez	3.69	225		Pn	06 19 58.8	+0.6
BAR	Barrett	3.73	239	Pn	Pn	06 19 59.0	+0.3
MURC	Murrieta	3.74	255	P		06 19 58.4	
	baz=72						
BFSC	Mount Baldy Ra	3.97	265	P		06 20 01.7	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=82						
MPMC	Manual Prospec	4.02	292	P		06 20 02.4	
	baz=109						
LRMC	Laurel Mtn Rad	4.02	283	P		06 20 02.2	
	baz=100						
MWC	Mount Wilson	4.30	266	Pn	Pn	06 20 07.5	+0.9
MWC				IAML		06 21 01.7	
	comp=E,16nm,1.6s						
319A	Douglas	4.46	136	Pn	Pn	06 20 09.4	+0.7
121A	Cookes Peak, D	4.75	115	Pn	Pn	06 20 13.3	+0.6
121A	Cookes Peak, D	4.75	115	P		06 20 13.5	
	baz=298,SNR=5.1						
NVAR	Mina Array Bea	5.76	312	Pn	Pn	06 20 27.9	+1.2
	comp=E,0.1nm,0.3s,baz=126,slow=10,SNR=1.3						
NVAR				Pg	Pb	06 20 43.7	+2.1
	comp=E,0.2nm,0.3s,baz=154,slow=17,SNR=3.8						
NVAR				Lg	Lg	06 22 01.2	
	comp=E,0.2nm,0.3s,baz=160,slow=34,SNR=2.2						
NVAR	Mina Array Bea	5.76	312	Pn	Pn	06 20 24.8	-1.8
PDAR	Pinedale Array	8.49	17	Pn	Pg	06 21 29.4	-14
	comp=E,0.1nm,0.3s,baz=196,slow=13,SNR=2.2						
PDAR				Sn	Sg	06 23 28.9	-4.5
	comp=E,0.1nm,0.3s,baz=199,slow=22,SNR=1.6						
TXAR	Lajitas Array	9.45	122	Pn	Pn	06 21 18.2	+1.0
	comp=E,0.1nm,0.3s,baz=293,slow=12,SNR=1.7						
TXAR				Lg	Lg	06 23 56.8	
	comp=E,0.0nm,0.3s,baz=294,slow=27,SNR=4.0						

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*RSNC **04** 06:24:14.6±0.9, 10.°18N×72.°72W, h138km±6km, ML3.3, Mw3.7, Fault plane solution: NP1:φs33.00000°, δ90.00000°, λ-175.00000°.*
*FUNV **04** 06:24:14.0, 10.°24N×72.°79W, h158km, MW4.0*
ISC 04 06:24:11.8±1.5**, 10.°22N**±0.°04×**72.°74W**±0.°04**, h158**km±12km**, n50, σ2.s06**/91**, 9C-9D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCQV	Machiques	0.26	130	eP	Pn	06 24 35.0	+1.9
MCQV				eS	Sn	06 24 50.7	+1.3
CVALL	Valledupar, Ce	0.59	300	eP	Pn	06 24 35.4	+0.9
CVALL				eS	Sn	06 24 51.1	-0.7
CVALL				i		06 24 51.5	
	comp=Z,994nm,0.2s						
CRJC	Cerrejon, Guaj	0.81	350	⇑iP	Pn	06 24 36.9	+0.9
CRJC				eS	Sn	06 24 53.7	-0.9
CRJC				i		06 24 55.6	
	comp=Z,1μm,0.2s						
ARGC	Ariguani, Magd	1.53	257	⇓iP	Pn	06 24 43.8	+1.5
ARGC				eS	Sn	06 25 05.8	+0.2
ARGC				i		06 25 08.3	
	comp=Z,160nm,0.2s						
URIC	Uribia, Colomb	1.65	26	⇑eP	Pn	06 24 44.4	+0.9
URIC				eS	Sn	06 25 07.2	-0.8
URIC				i		06 25 08.3	
	comp=Z,114nm,0.2s						
SMRC	Santa Marta, M	1.74	303	eP	Pn	06 24 45.3	+0.8
SMRC				eS	Sn	06 25 08.8	-0.9
SMRC				i		06 25 14.5	
	comp=Z,329nm,0.3s						
SMLC	San Martn de	1.93	223	⇓iP	Pn	06 24 47.2	+0.6
SMLC				eS	Sn	06 25 11.6	-1.7
SMLC				i		06 25 13.4	
	comp=Z,303nm,0.2s						
OCAC	Ocana	2.05	196	⇑eP	Pn	06 24 49.1	+1.0
OCAC				eS	Sn	06 25 15.6	-0.5
OCAC				i		06 25 21.8	
	comp=Z,197nm,0.3s						
DABV	Dabajuro	2.18	71	eP	Pn	06 24 50.9	+1.4
DABV				eS	Sn	06 25 19.1	+0.6
CAPV	Capacho	2.37	170	⇑iP	Pn	06 24 53.7	+1.7
CAPV				eS	Sn	06 25 22.0	-1.0
SDV	Santo Domingo	2.46	122	⇓eP	Pn	06 24 54.7	+1.7
SDV				eS	Sn	06 25 24.2	-0.6
SDV				i		06 25 28.0	
	comp=Z,149nm,0.5s						
SDV	Santo Domingo	2.46	122	⇓eP	Pn	06 24 54.7	+1.7
SDV				eS	Sn	06 25 24.6	-0.2
SOCV	Socops	2.67	136	eP	Pn	06 24 57.1	+1.7
SOCV				eS	Sn	06 25 29.1	0.0
CURV	Curarigua	2.74	94	⇓iP	Pn	06 24 58.1	+1.8
CURV				eS	Sn	06 25 30.6	-0.1
PAMC	Pamplona, Colo	2.86	179	⇑iP	Pn	06 24 59.8	+1.6
PAMC				eS	Sn	06 25 33.7	-0.4
PAMC				i		06 25 37.5	
	comp=Z,54nm,0.4s						
SIQV	Siquisique	2.91	81	⇓iP	Pn	06 24 59.8	+1.5
SIQV				eS	Sn	06 25 34.5	0.0
MONV	Montecano	3.22	57	eP	Pn	06 25 03.4	+1.2
MONV				eS	Sn	06 25 40.3	-1.1
MOTC	Monteria, Cord	3.22	244	eP	Pn	06 25 02.2	-0.1
MOTC				eS	Sn	06 25 39.6	-1.8
MOTC				i		06 25 43.5	
	comp=Z,91nm,0.2s						
SANV	Sanarito	3.23	102	eP	Pn	06 25 04.5	+2.0
SANV				eS	Sn	06 25 41.5	-0.3
BRRC	Barranca, Sant	3.24	197	⇑eP	Pn	06 25 03.7	+1.2
BRRC				eS	Sn	06 25 42.2	+0.4
BRRC				i		06 25 46.9	
	comp=Z,65nm,0.4s						
BARC	Barichara	3.63	187	⇑eP	Pn	06 25 09.1	+1.3
BARC				eS	Sn	06 25 50.4	-0.7
BARC				i		06 25 57.5	
	comp=Z,32nm,0.6s						
UREC	San Jos de Ur	3.69	229	eP	Pn	06 25 09.2	+0.9
UREC				eS	Sn	06 25 49.4	-2.8
UREC				i		06 25 52.2	
	comp=Z,200nm,0.1s						
LCBC	Los crdobas,	3.83	250	⇑eP	Pn	06 25 11.4	+1.4
LCBC				eS	Sn	06 25 56.5	+1.1
LCBC				i		06 25 58.6	
	comp=Z,135nm,0.4s						
TAMC	Tame, Arauca	3.87	166	eP	Pn	06 25 12.5	+1.9
TAMC				eS	Sn	06 25 56.5	0.0
TAMC				i		06 25 59.1	
	comp=Z,21nm,0.4s						
JACV	Jacura	3.94	77	⇑iP	Pn	06 25 13.4	+2.0
PTBC	PUERTO BERRIO,	4.03	205	eP	Pn	06 25 13.6	+0.9
PTBC				eS	Sn	06 25 57.5	-2.6
PTBC				i		06 26 07.8	
	comp=Z,42nm,0.7s						
MAPV	Macapo	4.23	95	⇓iP	Pn	06 25 16.8	+1.5
MAPV				eS	Sn	06 26 02.9	-1.8
RUSC	La Rusia	4.31	185	eP	Pn	06 25 17.2	+0.5
RUSC	La Rusia	4.31	185	eP	Pn	06 25 17.2	+0.5
ELOV	Elorza	4.53	135	eP	Pn	06 25 20.8	+1.5
ELOV				eS	Sn	06 26 10.9	-0.9
DBBC	Dabeiba	4.68	228	eS	Sn	06 26 07.1	-8.4
SPBC	San Pablo de B	4.72	196	eP	Pn	06 25 22.3	+0.5
SPBC				eS	Sn	06 26 15.2	-1.3
SPBC				i		06 26 22.4	
	comp=Z,16nm,0.2s						
BAUV	El Baul	4.80	105	⇓iP	Pn	06 25 23.5	+0.8
BAUV				eS	Sn	06 26 15.9	-2.2
HELC	Santa Helena	4.86	215	eP	Pn	06 25 25.9	+2.0
HELC				eS	Sn	06 26 17.4	-2.7
HELC				i		06 26 25.6	
	comp=Z,28nm,0.4s						
NORC	Norcasia	5.08	205	eP	Pn	06 25 28.1	+1.6
NORC				eS	Sn	06 26 20.2	-4.7
NORC				i		06 26 29.4	
	comp=Z,17nm,0.2s						
CBOC	Ciudad Bolivar	5.41	217	eP	Pn	06 25 32.7	+1.8
CBOC				eS	Sn	06 26 30.9	-1.8
CBOC				i		06 26 39.0	
	comp=Z,19nm,0.3s						
ROSC	El Rosal	5.57	197	eP	Pn	06 25 36.0	+2.8
GUY2C	Guyana, Caldas	5.60	208	eP	Pn	06 25 35.6	+1.9
TACV	Tcata	5.62	90	eP	Pn	06 25 35.1	+1.5
TACV				eS	Sn	06 26 33.8	-3.8
CHIC	Chingaza	5.64	190	eP	Pn	06 25 37.2	+3.0
FUNV	FUNVISIS	5.83	87	eP	Pn	06 25 37.3	+0.8
FUNV				eS	Sn	06 26 39.7	-3.1
RREF	El Recreo	5.88	206	eP	Pn	06 25 39.8	+2.1
RREF				eS	Sn	06 26 43.7	-1.0
RREF				i		06 26 55.9	
	comp=Z,12nm,0.3s						
TOLC	Tolima	6.15	205	eP	Pn	06 25 43.5	+2.6
PLMC	San Jos del P	6.34	214	⇓eP	Pn	06 25 45.1	+1.9
PLMC				eS	Sn	06 26 53.6	-1.3
PLMC				i		06 26 59.6	
	comp=Z,18nm,0.3s						
BIRV	Birongo	6.37	87	eP	Pn	06 25 44.3	+0.8
BIRV				eS	Sn	06 26 51.3	-4.1
MERV	Las Mercedes	6.42	98	eP	Pn	06 25 44.7	+0.5
MERV				eS	Sn	06 26 52.1	-4.5
ORTC	Ortega, Tolima	6.74	202	eP	Pn	06 25 50.6	+2.0
ORTC				eS	Sn	06 27 02.2	-2.3
ORTC				i		06 27 13.2	
	comp=Z,5.0nm,0.2s						
PRAC	Prado	6.80	198	eP	Pn	06 25 51.3	+2.0
PRAC				eS	Sn	06 27 04.6	-1.4
PRAC				i		06 27 09.2	
	comp=Z,4.8nm,0.3s						
PAYV	Puerto Ayacuch	6.93	133	eP	Pn	06 25 50.7	-0.3
PCRV	Puerto La Cruz	7.97	90	eP	Pn	06 26 06.8	+1.9
PCRV				eS	Sn	06 27 28.1	-5.8

IDC 04 06:44:35.0±2.6**, 54.°33N**×**86.°00E, h0**km**, mb1 2.7**/2**, mb1mx2.7**/43**, mbtmp2.7**/2**, ML2.5**/2**, Error ellipse: s-maj=18.9km s-min=11.8km az=49.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.79	242	i		06 49 16.6	
	baz=63,slow=351,SNR=1.1						
ZALV	Zalesovo Beam	0.79	242	Pg	Pg	06 44 49.1	-1.0
	0.5nm,0.3s,baz=62,slow=18,SNR=5.8						
ZALV				Lg	Lg	06 45 01.2	
	3.0nm,0.3s,baz=57,slow=30,SNR=16						
KURBB	Kurchatov Arra	5.88	234	Pn	Pn	06 46 03.9	+0.6
	0.1nm,0.3s,baz=50,slow=13,SNR=5.3						
KURBB				Sn	Sn	06 47 12.1	+0.8
	0.0nm,0.3s,baz=52,slow=4.9,SNR=1.6						
MKAR	Makanchi Array	7.90	199	Pn	Pn	06 46 31.9	+0.9
	0.1nm,0.3s,baz=21,slow=9.3,SNR=7.3						

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*NNC **04** 07:24:11.6±0.3, 50.°02N×78.°77E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=9.3km s-min=1.8km az=78.0, Suspected Mining explosion.*
*IDC **04** 07:24:12.3±1.0, 50.°03N×78.°66E, h0km, mb1 3.2/2, mb1mx3.0/45, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=11.6km s-min=6.0km az=67.0*
ISC 04 07:24:09.4±1.0**, 49.°98N**±0.°04×**78.°37E**±0.°09**, h0**km**, n22, σ1.s80**/27**, 7C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.65	9	Pg	Pb	07 24 23.8	+0.1
	5.0nm,0.3s,baz=168,slow=18,SNR=366						
KURBB				Lg	Lg	07 24 32.6	
	6.1nm,0.3s,baz=176,slow=32,SNR=37						
KURBB	Kurchatov Arra	0.65	9	⇑P	Pb	07 24 23.8	+0.1
	40nm,0.3s						
KURBB				⇑S	Sb	07 24 32.7	-0.6
	196nm,0.5s						
KURK	Kurchatov	0.75	12	⇑P	Pb	07 24 25.0	-0.4
	20nm,0.4s						
KURK				⇑S	Sb	07 24 35.3	-0.9
	41nm,0.5s						
MAKZ	Makanchi	3.98	142	⇓Pn	Pn	07 25 13.7	+2.0
	0.4nm,0.6s						
MAKZ				⇓Pg	Pb	07 25 20.4	0.0
	3.1nm,0.6s						
MAKZ				⇑Lg	Lg	07 26 09.8	
	18nm,0.6s						
MK31	Makanchi Array	4.12	139	⇑Pn	Pn	07 25 15.8	+2.2
	0.2nm,0.2s,baz=323,slow=10.0,SNR=77						
MK31				Pg	Pb	07 25 22.8	0.0
	3.1nm,0.5s,baz=332,slow=13,SNR=31						
MK31				⇑Lg	Lg	07 26 19.9	
	21nm,0.6s,baz=324,slow=26,SNR=6.3						
MKAR	Makanchi Array	4.12	139	Pn	Pn	07 25 16.0	+2.4
	0.5nm,0.3s,baz=326,slow=10,SNR=61						
MKAR				Pg	Pb	07 25 22.3	-0.5
	1.3nm,0.3s,baz=322,slow=14,SNR=24						
MKAR				Sn	Sn	07 26 04.8	+2.2
	0.9nm,0.3s,baz=330,slow=22,SNR=6.5						
MKAR				Lg	Lg	07 26 18.8	
	3.1nm,0.3s,baz=338,slow=22,SNR=17						
KAPS	Kapalarasan	4.75	172	Pg	Pg	07 25 37.1	-3.2
	2.1nm,0.3s						
KAPS				Lg	Lg	07 26 41.7	
	14nm,0.8s						
ZALV	Zalesovo Beam	5.62	43	Pn	Pn	07 25 36.1	+1.9
	1.7nm,0.3s,baz=234,slow=14,SNR=23						
ZALV				Sn	Sn	07 26 39.0	-0.5
	0.2nm,0.3s,baz=221,slow=31,SNR=2.1						
ZALV				Lg	Lg	07 27 04.2	
	0.5nm,0.3s,baz=224,slow=28,SNR=5.9						
I46RU	ZALESOVO INFRA	5.63	43	i		07 55 30.0	
	baz=220,slow=318,SNR=2.6						
DJR	Jarkent	5.73	170	Pg	Pg	07 25 56.5	-2.7
	2.8nm,0.5s						
DJR				Lg	Lg	07 27 13.8	
	20nm,0.8s						
BTLS	Baital	5.75	212	Pg	Pg	07 25 59.2	-0.3
	1.6nm,0.6s						
BTLS				Lg	Lg	07 27 18.5	
	4.0nm,0.5s						
ARXS	Arharly	5.78	184	Pg	Pg	07 25 58.6	-1.6
	3.5nm,0.4s						
ARXS				Lg	Lg	07 27 17.8	
	21nm,0.8s						
MNBS	Baschi	5.91	180	Pg	Pg	07 26 02.0	-0.5
	3.0nm,0.4s						
MNBS				Lg	Lg	07 27 22.8	
	29nm,0.5s						
KUU	Kurty	6.25	194	Pg	Pg	07 26 06.3	-2.8
	1.2nm,0.3s						
KUU				Lg	Lg	07 27 30.2	
	14nm,0.7s						
KTBS	Karatobe	6.38	191	Pg	Pg	07 26 09.6	-2.0
	0.6nm,0.5s						
KTBS				Lg	Lg	07 27 35.8	
	12nm,0.6s						
KRBS	Karabastau	6.55	197	Pg	Pg	07 26 14.7	-0.3
	1.5nm,0.4s						
KRBS				Lg	Lg	07 27 44.5	
	6.1nm,0.6s						
KTMS	Ketmen	6.68	168	Pg	Pg	07 26 15.4	-1.9
	1.1nm,0.3s						
KTMS				Lg	Lg	07 27 45.8	
	4.0nm,0.5s						
PDGK	Podgornoye	6.70	173	Pg	Pg	07 26 15.9	-1.8
	0.5nm,0.4s						
PDGK				Lg	Lg	07 27 46.7	
	4.2nm,0.7s						
UZB	Uzynbulak	6.85	176	Pg	Pg	07 26 19.0	-1.7
	3.3nm,0.2s						
UZB				Lg	Lg	07 27 51.9	
	8.2nm,0.7s						
DGS	Degeres	6.97	196	Pg	Pg	07 26 20.0	-3.0
	3.7nm,0.5s						
DGS				Lg	Lg	07 27 54.0	
	9.9nm,0.7s						
KST	Kastek	7.14	194	Pg	Pg	07 26 24.8	-1.3
	1.5nm,0.6s						
KST				Lg	Lg	07 28 01.9	
	7.0nm,0.5s						
AAK	Ala-Archa	7.82	202	Lg	Lg	07 28 18.3	
	0.2nm,0.3s,baz=330,slow=8.5,SNR=3.6						

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*IDC **04** 07:27:20.0±9.1, 23.°92S×178.°07W, h562km±100km, mb2.8/4, mb1 3.0/6, mb1mx2.8/32, mbtmp3.9/6, Error ellipse: s-maj=248.8km s-min=37.4km az=76.0*
ISC 04 07:27:20.8±3.1**, 24.°1S**±0.°1×**178.°3W**±0.°4**, h550**km**, n6, σ0.s88**/7**, mb3.6**/4**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.17	331	P	P	07 29 10.1	-0.6
	1.8nm,0.3s,baz=249,slow=22,SNR=8.8						
URZ	Urewera	14.66	194	P	P	07 30 27.4	+0.8
	0.6nm,0.3s,baz=168,slow=5.9,SNR=3.3						
URZ				S	S	07 32 58.3	-1.4
	0.3nm,0.3s,baz=179,slow=14,SNR=2.0						
CTA	Charters Tower	33.02	270	P	P	07 33 11.2	0.0
	1.5nm,0.3s,baz=94,slow=8.9,SNR=1.8						
STKA	Stephens Creek	36.09	248	P	P	07 33 36.9	+0.2
	1.2nm,0.5s,baz=92,slow=13,SNR=3.9						
ASAR	Alice Springs	43.53	260	P	P	07 34 36.8	+0.4
	0.2nm,0.6s,baz=94,slow=6.7,SNR=2.7						
WRA	Warramunga Arr	43.93	266	P	P	07 34 39.7	+0.1
	0.5nm,0.4s,baz=98,slow=8.3,SNR=11						

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*NNC **04** 07:59:43.7±1.1, 51.°61N×75.°29E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=39.8km s-min=7.9km az=30.0, Suspected Mining explosion.*
*IDC **04** 07:59:45.5±1.0, 51.°69N×75.°53E, h0km, mb1 2.9/4, mb1mx2.8/44, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=23.6km s-min=8.6km az=29.0*
ISC 04 07:59:45.1±1.0**, 51.°64N**±0.°09×**75.°41E**±0.°07**, h0**km**, n9, σ0.s71**/16**, 3C-1D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.22	116	Pn	Pn	08 00 22.4	-0.7
	1.1nm,0.3s,baz=301,slow=18,SNR=35						
KURBB				Lg	Lg	08 00 51.8	
	1.3nm,0.3s,baz=290,slow=26,SNR=9.4						
KURK	Kurchatov	2.23	113	Pn	Pn	08 00 22.9	-0.2
	2.4nm,0.4s						
KURK				Sn	Sn	08 00 51.5	+0.1
	13nm,0.5s						
BVAR	Borovoye Array	3.38	296	Pn	Pn	08 00 39.5	+0.5
	0.9nm,0.3s,baz=116,slow=18,SNR=4.5						
BVAR				Sn	Sn	08 01 20.8	+1.1
	1.1nm,0.3s,baz=125,slow=25,SNR=5.4						
BVAR				Lg	Lg	08 01 29.9	
	2.8nm,0.3s,baz=101,slow=30,SNR=8.9						
BRVK	Borovoye	3.45	296	Pn	Pn	08 00 38.7	-1.3
	2.2nm,1.0s						
BRVK				Pg	Pb	08 00 46.3	-0.6
	2.0nm,0.4s						
BRVK				⇓Lg	Lg	08 01 27.0	
	3.2nm,0.6s						
ZALV	Zalesovo Beam	6.16	64	Pn	Pn	08 01 17.7	+0.5
	1.0nm,0.3s,baz=255,slow=14,SNR=12						
ZALV				Sn	Sn	08 02 28.2	-0.1
	0.3nm,0.3s,baz=249,slow=28,SNR=3.4						
ZALV				Lg	Lg	08 02 57.7	
	0.2nm,0.3s,baz=249,slow=28,SNR=1.5						
I46RU	ZALESOVO INFRA	6.16	64	i		08 37 40.0	
	baz=250,slow=329,SNR=1.9						
MAKZ	Makanchi	6.47	136	⇑Pn	Pn	08 01 22.0	+0.5
	0.3nm,0.4s						
MAKZ				Sn	Sn	08 02 37.3	+1.3
	0.7nm,0.4s						
MAKZ				⇑Lg	Lg	08 03 07.4	
	1.7nm,0.5s						
MK31	Makanchi Array	6.62	134	⇑Pn	Pn	08 01 23.8	+0.2
	0.4nm,0.5s,baz=314,slow=11,SNR=8.3						
MK31				Pg	Pb	08 01 41.2	+0.1
	0.5nm,0.5s,baz=326,slow=11,SNR=5.2						
MK31				Sn	Sn	08 02 39.1	-0.6
	0.3nm,0.3s,baz=183,slow=69,SNR=4.7						
MK31				Lg	Lg	08 03 12.0	
	0.8nm,0.5s,baz=320,slow=25,SNR=5.1						
MKAR	Makanchi Array	6.62	134	Pn	Pn	08 01 23.6	0.0
	0.1nm,0.3s,baz=313,slow=12,SNR=8.5						
MKAR				Sn	Sn	08 02 39.6	-0.2
	0.3nm,0.3s,baz=302,slow=25,SNR=4.7						
MKAR				Lg	Lg	08 03 10.1	
	0.3nm,0.3s,baz=316,slow=26,SNR=4.3						

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*IDC **04** 08:16:28.9±0.7, 16.°96N×146.°04E, h0km, mb4.0/19, mb1 4.3/20, mb1mx4.1/57, mbtmp4.1/20, ML3.6/1, MS3.5/12, Ms1 3.5/12, ms1mx3.2/52, Error ellipse: s-maj=20.9km s-min=15.3km az=116.0*
*NEIC **04** 08:16:34.0±1.6, 16.°92N±0.°09×146.°0E±0.°2, h28km±6km, mb4.8/81, Error ellipse: s-maj=22.0km s-min=12.2km az=106.0*
ISC 04 08:16:34.5±0.6**, 16.°92N**±0.°09×**146.°0E**±0.°1**, h35**km**, n107, σ1.s03**/69**, mb4.8**/57**, MS3.5**/12**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANA2	Anatahan	0.64	205	Pn	Pn	08 16 46.3	-0.8
GUMO	Guam	3.49	198	Pn	Pn	08 17 25.2	-1.1
JOW	Kunigami	19.15	304	P	P	08 20 54.9	-0.1
	0.3nm,0.3s,baz=133,slow=9.8,SNR=1.8						
JOW	Kunigami	19.15	304	IAmb	IAmb	08 21 01.3	
	comp=Z,49nm,0.7s						
H11S3	WAKE ISLAND Hy	19.78	82	T	T	08 41 42.2	
	baz=269,slow=75,SNR=122						
H11S1	WAKE ISLAND Hy	19.79	82	T	T	08 41 43.1	
	baz=269,slow=75,SNR=82						
H11S2	WAKE ISLAND Hy	19.80	82	T	T	08 41 44.1	
	baz=269,slow=75,SNR=176						
H11N1	WAKE ISLAND Hy	20.03	79	T	T	08 41 59.0	
	baz=266,slow=74,SNR=155						
H11N2	WAKE ISLAND Hy	20.04	79	T	T	08 41 52.8	
	baz=266,slow=74,SNR=156						
H11N3	WAKE ISLAND Hy	20.05	79	T	T	08 42 00.3	
	baz=266,slow=74,SNR=133						
MJAR	Matsushiro Arr	20.73	342	P	P	08 21 12.2	+0.3
	comp=Z,2.1nm,0.9s,baz=163,slow=12,SNR=1.6						
MJAR				LR	LR	08 27 58.7	
	comp=Z,160nm,20.0s,baz=200,slow=33						
SIJI	Sorong	22.88	221	P	P	08 21 34.6	-0.6
	comp=Z,2.3nm,0.3s,baz=243,slow=23,SNR=1.4						
KSRS	Korea Array	25.92	326	P	P	08 22 03.5	+0.1
	comp=Z,2.3nm,0.9s,baz=150,slow=7.6,SNR=5.0						
KSRS				LR	LR	08 30 42.4	
	comp=Z,54nm,19.1s,baz=128,slow=33						
KAPI	Kappang	33.88	232	LR	LR	08 35 18.1	
	comp=Z,47nm,18.1s,baz=62,slow=33						
KLR	Kul'dur	34.24	343	P	P	08 23 16.6	-0.3
	comp=Z,0.4nm,0.3s,baz=176,slow=14,SNR=1.8						
PETK	Petropavlovsk-	37.26	12	P	P	08 23 41.6	-1.1
	comp=Z,3.0nm,0.8s,baz=175,slow=7.2,SNR=1.4						
PETK				LR	LR	08 36 52.0	
	comp=Z,95nm,19.7s,baz=190,slow=33						
WRA	Warramunga Arr	38.38	198	P	P	08 23 52.2	-0.3
	comp=Z,2.3nm,0.9s,baz=22,slow=9.3,SNR=8.7						
WRA				LR	LR	08 40 21.2	
	comp=Z,47nm,18.6s,baz=230,slow=37						
ASAR	Alice Springs	42.03	197	P	P	08 24 23.1	+0.3
	comp=Z,0.7nm,0.7s,baz=17,slow=9.7,SNR=7.2						
MYKOM	Kota Tinggi	44.08	255	P	P	08 24 42.1	+2.5
SONM	Songino Array	44.70	322	P	P	08 24 42.6	-1.7
	comp=Z,0.3nm,0.6s,baz=135,slow=8.0,SNR=1.3						
SONM				LR	LR	08 42 04.7	
	comp=Z,55nm,20.7s,baz=123,slow=34						
CMAR	Chiang Mai Arr	44.75	279	P	P	08 24 44.5	-0.4
	comp=Z,1.6nm,0.3s,baz=74,slow=6.8,SNR=14						
CMAR				LR	LR	08 43 49.6	
	comp=Z,31nm,18.1s,baz=174,slow=37						
STKA	Stephens Creek	48.70	185	LR	LR	08 46 51.1	
	comp=Z,50nm,18.1s,baz=9.7,slow=37						
ANM	Nome	57.72	23	P	P	08 26 22.4	+0.9
ZALV	Zalesovo Beam	59.59	323	P	P	08 26 34.5	-0.2
	comp=Z,0.3nm,0.4s,baz=106,slow=5.1,SNR=1.0						
MKAR	Makanchi Array	59.90	315	P	P	08 26 36.6	-0.3
	comp=Z,0.6nm,0.9s,baz=87,slow=9.5,SNR=5.0						
MKAR				LR	LR	08 54 23.9	
	comp=Z,38nm,18.0s,baz=102,slow=38						
MKAR	Makanchi Array	59.90	315	P	P	08 26 37.1	+0.1
KDAK	Kodiak Island	60.69	33	P	P	08 26 42.0	-0.1
	comp=Z,16nm,1.1s,baz=324,slow=4.6,SNR=4.4						
KDAK	Kodiak Island	60.69	33	IAmb	IAmb	08 26 46.4	
	comp=Z,40nm,1.4s						
TTA	Tatalina	60.70	26	P	P	08 26 43.1	+0.8
SKT	Skwentna	62.36	28	P	P	08 26 53.5	+0.2
SKT				IAmb	IAmb	08 26 56.5	
	comp=Z,6.9nm,1.0s						
BPAW	Bear Paw Mtn.	63.22	26	P	P	08 26 58.7	-0.3
BPAW				IAmb	IAmb	08 27 00.6	
	comp=Z,7.7nm,0.8s						
SML	Sawmill	63.78	29	P	P	08 27 03.4	+0.6
I23K	Minto, Yukon-K	64.19	25	P	P	08 27 05.8	+0.4
I23K				IAmb	IAmb	08 27 07.1	
	comp=Z,5.7nm,0.8s						
SCM	Sheep Creek Mo	64.25	29	P	P	08 27 04.6	-1.4
COLD	Coldfoot	64.47	23	P	P	08 27 08.3	+1.1
COLD				IAmb	IAmb	08 27 08.9	
	comp=Z,5.2nm,0.8s						
MDM	Murphy Dome	64.60	25	P	P	08 27 09.1	+1.0
MDM				IAmb	IAmb	08 27 10.1	
	comp=Z,5.7nm,0.7s						
HDA	Harding Lake	65.00	26	IAmb	IAmb	08 27 10.7	
	comp=Z,5.9nm,0.9s						
ILAR	Eielson Array	65.11	26	P	P	08 27 09.6	-1.8
	comp=Z,3.5nm,0.8s,baz=256,slow=4.9,SNR=30						
ILAR	Eielson Array	65.11	26	P	P	08 27 10.1	-1.3
TOLK	Toolik Lake Re	65.13	21	P	P	08 27 11.8	+0.3
TOLK				IAmb	IAmb	08 27 13.3	
	comp=Z,7.1nm,0.8s						
AAK	Ala-Archa	65.20	310	LR	LR	08 56 28.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,32nm,19.2s,baz=96,slow=37						
N25K	Chitina, Valde	65.48	29	P	P	08 27 15.0	+1.1
N25K				IAmb	IAmb	08 27 16.3	
	comp=Z,5.2nm,0.7s						
DOT	Dot Lake	66.09	27	P	P	08 27 18.2	+0.4
DOT				IAmb	IAmb	08 27 19.2	
	comp=Z,7.5nm,0.7s						
FYU	Fort Yukon	66.19	24	IAmb	IAmb	08 27 20.1	
	comp=Z,18nm,1.5s						
MCARA	McCarthy VSAT	66.19	30	P	P	08 27 18.9	+0.5
BMAR	Burnt Mountain	66.63	23	P	P	08 27 21.3	+0.1
NIL	Nilore	66.64	300	P	P	08 27 22.5	+0.6
CTGM	Chitina Glacie	66.95	30	IAmb	IAmb	08 27 26.3	
	comp=Z,7.9nm,0.8s						
TABL	Table Mountain	66.98	31	P	P	08 27 25.0	+1.2
KKAR	Karatay Array	68.11	310	P	P	08 27 31.8	+0.8
INK	Inuvik	70.89	23	P	P	08 27 46.9	-0.8
	comp=Z,5.5nm,0.7s,baz=271,slow=6.1,SNR=26						
INK	Inuvik	70.89	23	P	P	08 27 47.7	+0.1
INK				IAmb	IAmb	08 27 48.3	
	comp=Z,6.2nm,0.8s						
H02N1	VAN INLET T-PH	71.54	39	T	T	09 46 26.9	
	SNR=4.3						
H02S1	DAWSON INLET T	71.59	39	T	T	09 46 36.1	
	SNR=11						
PPT	Papeete	72.10	115	LR	LR	08 52 26.7	
	comp=Z,92nm,19.4s,baz=318,slow=30						
C36M	Paulatuk	74.29	22	P	P	08 28 06.0	-1.8
C36M				IAmb	IAmb	08 28 08.3	
	comp=Z,12nm,1.1s						
AKTO	Aktyubinsk	75.88	319	LR	LR	09 02 50.8	
	comp=Z,42nm,18.2s,baz=37,slow=37						
YKA	Yellowknife Ar	79.42	28	P	P	08 28 36.7	-0.2
	comp=Z,2.6nm,0.7s,baz=289,slow=4.9,SNR=34						
B08A	Colville Reser	80.59	42	P	P	08 28 44.2	+0.6
PINE	Pine Mountain	80.65	47	P	P	08 28 45.7	+1.4
K05A	Summer Lake	80.95	48	IAmb	IAmb	08 28 49.0	
	comp=Z,8.2nm,0.9s						
RES	Resolute Bay	81.08	14	P	P	08 28 45.3	-0.3
	comp=Z,1.5nm,0.7s,baz=338,slow=4.1,SNR=10						
ORV	Oroville	81.31	51	P	P	08 28 48.1	+0.6
MOD	Modoc Plateau	81.59	49	P	P	08 28 48.8	-0.4
NEW	Newport	82.04	42	P	P	08 28 52.0	+0.7
BEKR	Beckworth	82.08	51	P	P	08 28 53.1	+1.3
CMB	Columbia Colle	82.55	53	P	P	08 28 54.4	+0.2
PNTR	Pine Nut	82.85	51	IAmb	IAmb	08 28 59.0	
	comp=Z,5.0nm,0.8s						
KVN	Kaiserville	83.99	51	P	P	08 29 03.1	+1.4
NVAR	Mina Array Bea	84.01	52	P	P	08 29 02.4	+0.5
	comp=Z,2.9nm,0.7s,baz=261,slow=6.4,SNR=27						
NVAR	Mina Array Bea	84.01	52	P	P	08 29 02.9	+0.9
NV11	Mina Array Sit	84.12	52	P	P	08 29 03.7	+1.3
MFID	Camas Ranch	84.33	46	P	P	08 29 03.1	-0.2
MFID				IAmb	IAmb	08 29 06.0	
	comp=Z,8.4nm,1.0s						
HLID	Hailey	85.26	46	IAmb	IAmb	08 29 18.2	
	comp=Z,7.4nm,1.3s						
ELK	Elko	85.57	49	P	P	08 29 11.4	+1.6
R11A	Troy Canyon, C	86.07	51	P	P	08 29 13.8	+1.6
SPR3	Spring Creek 3	86.79	50	IAmb	IAmb	08 29 18.9	
	comp=Z,10.0nm,1.4s						
HVU	Hansel Valley	86.99	47	IAmb	IAmb	08 29 19.4	
	comp=Z,7.9nm,1.0s						
YHL	Hebgen Lake	87.01	44	P	P	08 29 18.2	+1.4
YHL				IAmb	IAmb	08 29 27.3	
	comp=Z,7.8nm,1.0s						
YMR	Madison River	87.22	44	IAmb	IAmb	08 29 20.8	
	comp=Z,6.4nm,0.8s						
PSUT	Pine Spring	87.30	51	P	P	08 29 19.9	+1.6
PSUT				IAmb	IAmb	08 29 27.9	
	comp=Z,6.2nm,0.9s						
SPUT	South Promonto	87.38	48	P	P	08 29 19.8	+1.3
SPUT				IAmb	IAmb	08 29 21.1	
	comp=Z,5.0nm,0.9s						
YNR	Norris Junctio	87.39	44	P	P	08 29 21.1	+2.5
YNR				IAmb	IAmb	08 29 22.4	
	comp=Z,7.7nm,1.1s						
DUG	Dugway, Tooele	87.50	49	P	P	08 29 19.5	+0.4
DUG				IAmb	IAmb	08 29 21.6	
	comp=Z,6.9nm,0.8s						
FLWY	Flagg Ranch	87.61	45	IAmb	IAmb	08 29 22.6	
	comp=Z,6.9nm,0.9s						
CCUT	Cedar City	87.99	51	IAmb	IAmb	08 29 31.7	
	comp=Z,5.7nm,1.2s						
CTU	Camp Tracy	88.09	48	IAmb	IAmb	08 29 24.2	
	comp=Z,6.7nm,0.9s						
NLU	North Lily Min	88.11	49	IAmb	IAmb	08 29 24.6	
	comp=Z,5.7nm,0.9s						
TCUT	Toone Canyon	88.18	48	IAmb	IAmb	08 29 24.6	
	comp=Z,5.6nm,0.8s						
JLU	Jordanelle	88.33	48	P	P	08 29 23.8	+0.7
MPU	Maple Canyon	88.41	49	IAmb	IAmb	08 29 25.8	
	comp=Z,5.0nm,1.0s						
FFC	Flin Flon	88.43	33	P	P	08 29 23.4	+0.4
FFC				IAmb	IAmb	08 29 32.1	
	comp=Z,9.7nm,1.5s						
KNB	Kanab	88.58	52	IAmb	IAmb	08 29 35.2	
	comp=Z,9.1nm,1.3s						
PDAR	Pinedale Array	88.86	45	P	P	08 29 24.6	-1.0
	comp=Z,0.4nm,0.8s,baz=174,slow=1.5,SNR=4.8						
TMUT	Trail Mountain	88.97	49	IAmb	IAmb	08 29 28.9	
	comp=Z,3.7nm,0.9s						
Q16A	Castle Valley	89.14	50	P	P	08 29 27.6	+0.7
Q16A				IAmb	IAmb	08 29 29.8	
	comp=Z,6.3nm,1.1s						
SRU	San Rafael Swe	89.54	49	IAmb	IAmb	08 29 38.4	
	comp=Z,6.5nm,0.8s						
PV20	West Nyswonger	90.95	49	P	P	08 29 36.2	+0.8
PV03	Paradox Valley	91.07	49	IAmb	IAmb	08 29 38.1	
	comp=Z,6.1nm,0.9s						
PV13	Radium Mtn., P	91.13	50	P	P	08 29 36.9	+0.6
PV13				IAmb	IAmb	08 29 38.4	
	comp=Z,4.9nm,0.8s						
PV01	Paradox Valley	91.32	49	IAmb	IAmb	08 29 39.3	
	comp=Z,4.9nm,0.8s						
SMCO	Snowmass	92.06	48	P	P	08 29 39.1	-1.6
ISCO	Idaho Springs	92.77	47	P	P	08 29 42.0	-1.9
ISCO				IAmb	IAmb	08 30 10.8	
	comp=Z,6.0nm,1.1s						
TXAR	Lajitas Array	98.60	56	P	P	08 30 11.2	+0.7
	comp=Z,0.2nm,0.7s,baz=294,slow=2.9,SNR=1.4						
H03S2	Juan Fernandez	136.43	121	T	T	11 07 34.9	
	baz=258						
H03S1	Juan Fernandez	136.45	122	T	T	11 07 35.4	
	baz=258						
H03S3	Juan Fernandez	136.45	121	T	T	11 07 34.1	
	baz=258						

IDC 04 08:17:57.4±1.6**, 27°.71N×100°.74E, h0km, mb3.2**/4**, mb1 3.5**/4**, mb1mx3.3**/62**, mbtmp3.3**/4**, Error ellipse: s-maj=83.7km s-min=25.0km az=66.0, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	20.57	11	P	P	08 22 37.6	-0.2
	0.3nm,0.5s,baz=190,slow=12,SNR=3.7						
MKAR	Makanchi Array	23.95	328	P	P	08 23 13.3	0.0
	0.3nm,0.6s,baz=122,slow=8.9,SNR=5.6						
WRA	Warramunga Arr	57.46	142	P	P	08 27 48.1	-0.3
	0.4nm,0.5s,baz=330,slow=7.8,SNR=6.2						
ASAR	Alice Springs	60.27	145	P	P	08 28 08.2	+0.2
	0.3nm,0.7s,baz=328,slow=7.0,SNR=1.5						

IDC 04 08:31:56.9±1.9**, 9°.96S×124°.47E, h0km, mb3.5**/1**, mb1 3.6**/4**, mb1mx3.4**/35**, mbtmp3.4**/4**, ML3.4**/3**, Error ellipse: s-maj=27.8km s-min=21.2km az=15.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	0.83	253	Pn	Pn	08 32 16.1	+0.1
	48nm,0.3s,baz=73,slow=7.2,SNR=40						
BATI				Sn	Sn	08 32 29.3	+0.3
	49nm,0.3s,baz=118,slow=22,SNR=15						
FITZ	Fitzroy Crossi	8.17	172	Pn	Pn	08 33 58.9	+2.1
	0.5nm,0.3s,baz=348,slow=9.9,SNR=14						
FITZ				Sn	Sn	08 35 28.6	-1.3
	0.3nm,0.3s,baz=23,slow=6.3,SNR=3.4						
WRA	Warramunga Arr	13.75	137	Pn	Pn	08 35 12.6	-0.8
	0.2nm,0.3s,baz=316,slow=14,SNR=11						
WRA				Sn	Sn	08 37 42.1	-4.9
	0.2nm,0.3s,baz=312,slow=24,SNR=4.7						
ASAR	Alice Springs	16.34	148	Pn	Pn	08 35 46.9	-0.9
	0.1nm,0.3s,baz=323,slow=12,SNR=7.8						
ASAR				Sn	Sn	08 38 43.5	-6.4
	0.0nm,0.3s,baz=333,slow=24,SNR=1.7						
MKAR	Makanchi Array	67.87	330	P	P	08 42 57.1	-0.1
	0.4nm,0.8s,baz=126,slow=7.2,SNR=3.1						

*PGC **04** 08:35:05.5±0.1, 50°.01N×130°.09W, h10km, MLSn4.0/41, Mw5.1, Mw4.6/41, 204km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*BJI **04** 08:35:05.0±0.0, 50°.30N×129°.70W, h15km, mB5.4/17, mb4.6/24, Ms5.1/7, Ms7 4.7/8*
*IDC **04** 08:35:05.3±0.7, 50°.07N×130°.13W, h0km, mb4.2/17, mb1 4.4/28, mb1mx4.3/51, mbtmp4.2/28, ML4.2/7, MS4.1/35, Ms1 4.1/35, ms1mx4.0/43, Error ellipse: s-maj=15.0km s-min=8.6km az=60.0*
*NEIC **04** 08:35:07.1±2.3, 50°.27N±0°.08×129°.9W±0°.1, h9km±4km, mb4.9/260, Mwr5.1(OTT), Error ellipse: s-maj=15.0km s-min=7.8km az=48.0*
*NEIC **04** 08:35:08.6, 50°.01N×130°.09W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr-1.64; Mθθ-1.00; Mφφ2.19; Mrθ-0.99; Mθφ-0.73; Mφr-3.93; Fault plane solution: Mo4.60000×10^16 NP1:φs13.00000°, δ79.00000°, λ-73.00000°. NP2:φs135.00000°, δ20.00000°, λ-146.00000°. Principal axes: T 4.8005, Plg32.0000°, Azm89.0000°; N -0.4276, Plg17.0000°, Azm190.0000°; P -4.3730, Plg53.0000°, Azm303.0000°;*
*GCMT **04** 08:35:08.1±0.2, 49°.98N±0°.01×130°.15W±0°.02, h12km±1km, MW5.0/123, Moment Tensor Solution. s38,c43; s123,c192; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.64±.14; Mθθ-2.71±.09; Mφφ4.35±.12; Mrθ-0.95±.31; Mθφ-0.97±.08; Mφr0.64±.25; Best double couple: Mo3.93900×10^16 NP1:φs35.00000°, δ65.00000°, λ-16.00000°. NP2:φs132.00000°, δ76.00000°, λ-154.00000°. Principal axes: T 4.5750, Plg7.0000°, Azm262.0000°; N -1.2710, Plg61.0000°, Azm159.0000°; P -3.3040, Plg28.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **04** 08:35:08.0±1.1, 50°.21N×129°.85W, h21km, mb5.0/44 Error ellipse: s-maj=9.8km s-min=4.8km az=109.0*
ISC 04 08:35:07.2±0.9**, 50°.22N**±0°.03×**129°.84W**±0°.03**, h5**km±5km**, n593, σ1s.80**/513**, mb4.9**/153**, MS4.1**/29**, 6C-8D, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.17	68	P	Pb	08 35 29.1	-0.8
HOLB				S	Sn	08 35 45.6	-1.0
PHC	Port Hardy	1.62	72	Pn	Pn	08 35 35.4	-0.9
PHC				Sn	Sn	08 35 57.1	-0.3
MAYB	Maynard	1.72	83	Pn	Pn	08 35 35.9	-1.9
MAYB				Sn	Sn	08 35 57.8	-2.5
FHRB	Fair Harbour	1.76	94	Pn	Pn	08 35 35.8	-2.4
EDB	Eliza Dome	1.79	100	Pn	Pn	08 35 35.8	-2.8
EDB				Sn	Sn	08 35 58.0	-3.7
WOSB	Woss	2.10	90	Pn	Pn	08 35 41.7	-1.4
HG4B	Hotspring	2.24	338	Pn	Pn	08 35 41.9	-3.0
HG4B				Sn	Sn	08 36 10.8	-2.1
BBB	Bella Bella	2.25	28	Pn	Pn	08 35 45.4	+0.5
	132nm,0.3s,baz=226,slow=13,SNR=2698						
BBB				Sn	Sn	08 36 12.8	-0.2
	141nm,0.3s,baz=324,slow=20,SNR=25						
BBB				LR	LR	08 36 46.1	
	comp=Z,4µm,18.9s,baz=210,slow=41						
BBB	Bella Bella	2.25	28	Pn	Pn	08 35 45.2	+0.3
BBB				Sn	Sn	08 36 13.2	+0.2
BBB	Bella Bella	2.25	28		Pn	08 35 45.3	+0.3
ETB	Estevan Point	2.30	110	Pn	Pn	08 35 43.6	-2.0
NCRB	Newcastle Ridg	2.44	84	Pn	Pn	08 35 47.0	-0.7
NC89	ODP889	2.50	127	Pn	Pn	08 35 47.2	-1.0
GDR	Gold River	2.50	99	Pn	Pn	08 35 46.2	-2.2
BNB	Barry Inlet	2.64	334	Pn	Pn	08 35 47.7	-2.7
TOFB	Tofino	2.77	111	Pn	Pn	08 35 49.4	-2.7
TOFB				Sn	Sn	08 36 21.4	-4.5
CBB	Campbell River	2.89	92	Pn	Pn	08 35 52.8	-0.9
CBB				Sn	Sn	08 36 29.0	+0.2
BTB	Buttle Lake	2.90	103	Pn	Pn	08 35 51.9	-2.1
BTB				Sn	Sn	08 36 27.4	-1.9
HG1B	Mitchell Dam	3.07	333	Pn	Pn	08 35 55.5	-0.7
B012	Ucluelet	3.09	113	Pn	Pn	08 35 54.2	-2.3
OZB	Mount Ozzard	3.10	112	Pn	Pn	08 35 54.0	-2.7
OZB				Sn	Sn	08 36 29.4	-4.8
MOBC	Moresby Island	3.21	337	Pn	Pn	08 35 56.2	-2.1
MOBC				Sn	Sn	08 36 36.4	-0.5
BNAB	Bonilla	3.31	352	Pn	Pn	08 35 58.1	-1.5
DIB	Dawson Inlet,	3.40	332	Pn	Pn	08 35 57.6	-3.2
DIB	Dawson Inlet,	3.40	332		Pn	08 35 57.8	-3.0
H02S1	DAWSON INLET T	3.40	332	Pn	Pn	08 35 57.6	-3.2
	SNR=4485						
H02S1				Sn	Sn	08 36 38.3	-3.2
H02S1	DAWSON INLET T	3.40	332		Pn	08 35 57.6	-3.2
H02S1					Sn	08 36 38.3	-3.2
B927	Port Alberni	3.42	105	Pn	Pn	08 36 01.1	+0.2
H02N1	VAN INLET T-PH	3.47	332	Pn	Pn	08 35 58.3	-3.5
	SNR=4912						
H02N1				Sn	Sn	08 36 38.1	-5.1
H02N1	VAN INLET T-PH	3.47	332		Pn	08 35 58.3	-3.5
VIB	Van Inlet	3.47	332	Pn	Pn	08 35 58.4	-3.4
VIB				Sn	Sn	08 36 40.1	-3.1
TXB	Texada	3.53	97	Pn	Pn	08 36 01.1	-1.6
MGB	Mount Grey	3.57	108	Pn	Pn	08 36 01.6	-1.6
MGB				Sn	Sn	08 36 44.0	-1.8
GRNB	Grenville Isla	3.63	359	Pn	Pn	08 36 03.3	-0.7
GRNB				Sn	Sn	08 36 47.1	-0.1
GHNB	Nanoose	3.75	102	Pn	Pn	08 36 05.3	-0.2
PFB	Port Renfrew	3.90	113	Pn	Pn	08 36 06.7	-1.0
PFB				Sn	Sn	08 36 49.2	-4.5
SHB	Sechelt	3.91	97	Pn	Pn	08 36 06.8	-1.1
OCP	Olym-Cheeka Pk	3.92	117	Pn	Pn	08 36 07.5	-0.5
NLLB	Nanaimo Lost L	3.93	102	Pn	Pn	08 36 07.7	-0.3
KITB	Kitimat	3.93	10	Pn	Pn	08 36 08.6	+0.5
KITB				Sn	Sn	08 36 56.6	+2.1
B926	Mesachie Lake	3.98	108	Pn	Pn	08 36 08.1	-0.6
B926				Sn	Sn	08 36 54.8	-0.9
MASB	Masset	4.03	341	Pn	Pn	08 36 09.5	+0.1
RUBB	Prince Rupert	4.12	357	Pn	Pn	08 36 09.9	-0.7
NDB	Naden	4.20	334	Pn	Pn	08 36 09.8	-2.0
BIB	Bowen Island	4.31	98	Pn	Pn	08 36 13.2	-0.1
GOBB	Galiano Island	4.31	105	Pn	Pn	08 36 13.8	+0.5
WPB	Watts Point	4.32	95	Pn	Pn	08 36 13.0	-0.5
OBC	Olympics--Boni	4.37	118	Pn	Pn	08 36 13.8	-0.4
WSLR	Whistler	4.45	89	Pn	Pn	08 36 15.2	-0.2
B009	North Saanich	4.46	108	Pn	Pn	08 36 15.8	+0.5
B010	North Saanich	4.46	108	Pn	Pn	08 36 15.8	+0.5
PA02	PA02 Ocean	4.46	108	Pn	Pn	08 36 15.6	+0.2
PGC	Sidney	4.46	108	Pn	Pn	08 36 15.8	+0.5
PGC	Sidney	4.46	108	Pn	Pn	08 36 14.9	-0.4
PA01	PA01 North	4.46	108	Pn	Pn	08 36 15.2	-0.1
PA12	PA12 Sannich	4.46	108	Pn	Pn	08 36 15.5	+0.2
B011	North Saanich	4.46	108	Pn	Pn	08 36 15.6	+0.3
UBRB	Upper Baezaeko	4.48	51	Pn	Pn	08 36 17.7	+2.0
LIB	Langara Island	4.50	335	Pn	Pn	08 36 16.1	+0.3
STW	Striped Peak	4.55	115	Pn	Pn	08 36 15.9	-0.7
VGZ	Gonzales	4.63	111	Pn	Pn	08 36 18.9	+1.2
MCW	Mount Constitu	4.83	106	Pn	Pn	08 36 20.9	+0.4
NLWA	Neilton Lookou	4.86	123		Pn	08 36 18.6	-2.3
A04D	Lummi Island	4.89	105	P		08 36 20.5	
	baz=292,SNR=36						
WISH	Wishkah	5.08	125	Pn	Pn	08 36 25.1	+1.2
LLLB	Lillooet	5.11	83	Pn	Pn	08 36 24.5	+0.2
HDW	Hoodsport	5.16	117	Pn	Pn	08 36 24.8	-0.4
A05A	Maple Falls	5.19	101	Pn	Pn	08 36 26.4	+1.0
D03D	Eldon	5.21	119	P		08 36 25.3	
	baz=305,SNR=41						
GNW	Green Mountain	5.34	117	Pn	Pn	08 36 27.7	+0.3
CMW	Cultus Mountai	5.36	107	Pn	Pn	08 36 28.6	+0.8
MBW	Mount Baker	5.37	103	Pn	Pn	08 36 28.9	+0.9
B05A	Bryant	5.44	108	P		08 36 28.5	
	baz=295,SNR=41						
J28D	J28D	5.50	160	P	Pn	08 36 29.5	+0.2
J28D				S	Sb	08 37 42.0	-7.5
HOPB	Hope	5.52	95	Pn	Pn	08 36 30.6	+0.7
JCW	Jim Creek	5.57	108	Pn	Pn	08 36 31.7	+1.1
E03A	Lebam	5.57	129	Pn	Pn	08 36 31.5	+0.9
E03A	Lebam	5.57	129		Pn	08 36 30.6	0.0
D04E	Lakebay	5.59	120	P		08 36 30.5	
	baz=307,SNR=7.1						
CRAG	Craig	5.62	341		Pn	08 36 29.7	-1.5
CRAG	Craig	5.62	341	P		08 36 29.5	
	baz=157,SNR=9.6						
B06A	Marblemount	5.72	104	Pn	Pn	08 36 33.6	+1.0
B06A	Marblemount	5.72	104		Pn	08 36 33.3	+0.6
RPW	Rockport	5.73	105	Pn	Pn	08 36 33.3	+0.4
J27D	J27D	5.88	155	S	Sb	08 37 53.0	-7.5
J27D				P	Pn	08 36 33.3	-1.2
D05A	Enumclaw	6.02	117	Pn	Pn	08 36 38.2	+1.4
D05A	Enumclaw	6.02	117		Pn	08 36 37.9	+1.1
E04D	Cinebar	6.08	124	P		08 36 37.6	
	baz=311,SNR=24						
J20D	J20D	6.15	161	P	Pn	08 36 38.4	+0.1
J20D				S	Sb	08 37 58.9	-9.3
F04D	Rainier, OR	6.17	130	P		08 36 38.0	
	baz=316						
C06D	Leavenworth	6.32	108	P		08 36 39.6	
	baz=296						
FMW	Mount Fremont	6.34	118	Pn	Pn	08 36 42.4	+1.0
LON	Longmire	6.37	120	Pn	Pn	08 36 42.5	+0.9
LON	Longmire	6.37	120	P	Pn	08 36 42.6	+0.9
LON	Longmire	6.37	120		Pn	08 36 42.6	+0.9
WRAK	Wrangell Islan	6.39	347	Pn	Pn	08 36 42.1	+0.4
WRAK	Wrangell Islan	6.39	347	P		08 36 40.7	
	baz=165,SNR=12						
J19D	J19D	6.52	157	P	Pn	08 36 50.2	+7.0
J19D				S	Sn	08 38 03.1	+5.4
PNT	Penticton	6.69	94	Pn	Pn	08 36 47.0	+1.0
G03D	McMinnville, O	6.70	136	P		08 36 46.5	
	baz=322,SNR=7.4						
LTY	Liberty	6.75	113	Pn	Pn	08 36 48.0	+1.0
LTY	Liberty	6.75	113		Pn	08 36 47.9	+1.0
BLBC	Blue River	6.92	71	Pn	Pn	08 36 54.0	+4.7
J11D	J11D	7.09	159	P	Pn	08 36 55.2	+4.1
J11D				S	Sn	08 38 20.0	+8.1
F05D	White Salmon	7.10	124	P		08 36 52.9	
	baz=312,SNR=6.5						
B08A	Colville Reser	7.12	101	Pn	Pn	08 36 52.8	+0.8
B08A	Colville Reser	7.12	101		Pn	08 36 51.8	-0.2
COR	Corvallis	7.17	139	P	Pn	08 36 56.5	+3.9
COR	Corvallis	7.17	139		Pn	08 36 56.5	+3.9
I02D	Swisshome	7.36	144	P		08 36 56.0	
	baz=329						
BMBC	Bull Mountain	7.45	36	Pn	Pn	08 36 59.4	+3.0
H04D	Lebanon	7.47	137	P		08 36 57.6	
	baz=323						
MNB	Mounoet Dainar	7.47	70	Pn	Pn	08 36 59.1	+2.2
SLEB	Sale Mountain	7.50	78	Pn	Pn	08 36 58.7	+1.4
SIT	Sitka	7.58	337	P		08 36 58.0	
	baz=152						
H04A	Detroit Lake	7.59	134		Pn	08 36 59.3	+0.9
E07A	Sunnyside	7.59	115		Pn	08 36 58.7	+0.3
G05D	Wamic, OR	7.61	128	P		08 36 58.7	
	baz=315,SNR=8.7						
NBC4	NorthernBC 4	7.79	42	Pn	Pn	08 37 03.8	+2.7
G37D	G37D	7.80	166	P	Pn	08 37 03.7	+2.9
G37D				S	Sn	08 38 37.3	+8.1
HAWA	Hanford	7.87	115	Pn	Pn	08 37 02.6	+0.4
I03D	Drain, OR	7.89	143	P		08 37 03.8	
	baz=329						
D08A	Wollman Farm,	7.90	109		Pn	08 37 02.4	-0.1
F07A	Phinny Hill Vi	7.93	119		Pn	08 37 03.6	+0.7
C09A	Chrisman Ranch	7.99	103	Pn	Pn	08 37 04.0	+0.2
C09A	Chrisman Ranch	7.99	103	Pn	Pn	08 37 03.7	0.0
G36D	G36D	8.03	164	P	Pn	08 37 02.0	-1.8
G36D				S	Sn	08 38 37.3	+2.6
G35D	G35D	8.03	161	S	Sn	08 38 36.0	+1.1
J01E	Myrtle Point	8.15	148	P		08 37 07.9	
	baz=333						
G29D	G29D	8.16	168	P	Pn	08 37 07.0	+1.3
G29D				S	Sn	08 38 52.0	+14
I04A	Tendick Farm,	8.19	139	P		08 37 08.6	
	baz=325,SNR=9.2						
DLBC	Dease Lake	8.23	359	Pn	Pn	08 37 09.7	+2.6
	2.2nm,0.3s,baz=199,slow=12,SNR=39						
DLBC				Sn	Sn	08 38 41.9	+1.4
	baz=251,slow=8.7,SNR=4.0						
DLBC	Dease Lake	8.23	359	Pn	Pn	08 37 09.4	+2.2
I05D	Terrebonne, OR	8.25	132	P		08 37 09.1	
	baz=320						
NBC5	NorthernBC 5	8.45	27	Pn	Pn	08 37 12.8	+2.7
NEW	Newport	8.55	98	Pn	Pn	08 37 12.2	+0.6
	1.4nm,0.3s,baz=291,slow=12,SNR=22						
NEW				LR	LR	08 40 31.6	
	comp=Z,5µm,19.7s,baz=280,slow=37						
NEW	Newport	8.55	98	P	Pn	08 37 12.2	+0.6
NEW	Newport	8.55	98		Pn	08 37 11.4	-0.2
NEW	Newport	8.55	98	P		08 37 11.5	
	baz=289,SNR=21						
E09A	Wood Farm, Sta	8.63	111		Pn	08 37 11.9	-0.6
K02D	Willamette Mer	8.65	148	P		08 37 14.9	
	baz=334						
J04D	Umpqua Nationa	8.77	140	P		08 37 15.9	
	baz=326,SNR=14						
PINE	Pine Mountain	8.85	133		Pn	08 37 17.1	+1.3
G22D	G22D	8.88	171	P	Pn	08 37 17.6	+1.9
G22D				S	Sn	08 39 04.2	+8.4
G20D	G20D	9.02	166	P	Pn	08 37 18.9	+1.4
G20D				S	Sn	08 38 57.1	-2.0
J05D	Fort Rock, OR	9.11	136	P		08 37 20.3	
	baz=324,SNR=9.1						
L02E	Cave Junction	9.15	149	P		08 37 20.7	
	baz=335						
G21D	G21D	9.25	169	S	Sn	08 39 14.4	+9.4
G21D				P	Pn	08 37 24.1	+3.4
I07A	Izee	9.34	127		Pn	08 37 23.1	+0.6
K04D	Chiloquin, OR	9.43	141	P		08 37 24.6	
	baz=327						
FNBB	Fort Nelson	9.54	22	Pn	Pn	08 37 28.5	+3.4
L04D	Klamath Falls	9.55	144	P		08 37 26.4	
	baz=330						
G13D	G13D	9.57	171	S	Sn	08 39 22.0	+9.3
G13D				P	Pn	08 37 29.6	+4.6
NBC6	NorthernBC 6	9.73	27	Pn	Pn	08 37 33.2	+5.7
SKAG	Skagway	9.78	343	P		08 37 27.2	
	baz=158						
YBH	Yreka Blue Hor	9.83	147	Pn	Pn	08 37 30.8	+1.6
	0.1nm,0.3s,baz=328,slow=14,SNR=7.6						
YBH	Yreka Blue Hor	9.83	147	P	Pn	08 37 30.8	+1.6
G10D	G10D	9.90	161	P	Pn	08 37 33.6	+4.0
G10D				S	Sn	08 39 44.7	+24
PLBC	Pleasant Camp	9.98	340	Pn	Pn	08 37 32.3	+1.2
BMO	Blue Mountains	10.03	118	P	Pn	08 37 32.0	+0.1
BMO	Blue Mountains	10.03	118		Pn	08 37 32.0	+0.1
M02C	Callahan	10.09	148	P		08 37 34.3	
	baz=334						
M04C	Macdoel	10.11	144	P		08 37 33.9	
	baz=330						
G05D7	G05D7	10.18	171	S	Sn	08 39 59.5	+32
G04D	G04D	10.29	167	S	Sn	08 40 02.4	+32
J08A	Circle Bar Ran	10.38	127		Pn	08 37 38.1	+1.4
WALA	Waterton Lakes	10.40	90	Pn	Pn	08 37 39.5	+2.5
WALA	Waterton Lakes	10.40	90		Pn	08 37 38.2	+1.2
NBC2	NorthernBC 2	10.46	21	Pn	Pn	08 37 42.1	+4.5
G03D7	G03D7	10.49	164	S	Sn	08 40 13.0	+38
N02D	Trinity Center	10.51	149	P		08 37 39.5	
	baz=335						
JTMT	Jette	10.53	98		Pn	08 37 39.2	+0.5
MOD	Modoc Plateau	10.63	138		Pn	08 37 42.8	+2.6
EDM	Edmonton	10.66	67	Pn	Pn	08 37 41.7	+1.2
WHY	Whitehorse	10.84	347	Pn	Pn	08 37 44.6	+1.7
WDC	Whiskeytown Da	10.92	149	P	Pn	08 37 47.1	+3.1
WDC	Whiskeytown Da	10.92	149		Pn	08 37 47.0	+3.1
WVOR	Wild Horse Val	10.98	131	P	Pn	08 37 46.6	+1.7
WVOR				pmax	pmax		
	comp=Z,66nm,1.4s						
MSO	Missoula	11.08	102	P		08 37 45.6	
	baz=294,SNR=16						
O02D	Mt. Diablo Mer	11.21	151	P		08 37 48.3	
	baz=337						
O03E	Paynes Creek	11.42	147	P		08 37 51.5	
	baz=334						
PINM	Pinnacle	11.53	333	P		08 37 51.4	
	baz=144						
MFID	Camas Ranch	11.76	120		Pn	08 37 57.2	+1.6
YAH	Yahtse	12.19	331		Pn	08 38 03.1	+1.6
BEKR	Beckworth	12.32	144		Pn	08 38 05.1	+1.7
HRY	Holter Researc	12.46	99		Pn	08 38 04.9	-0.2
HLID	Hailey	12.47	116		Pn	08 38 05.7	+0.4
HLID	Hailey	12.47	116	P		08 38 05.4	
	baz=308,SNR=15						
CTGM	Chitina Glacie	12.55	333		Pn	08 38 09.2	+2.9
CTG	Chitna Glacier	12.55	333	P		08 38 05.7	

baz=143
DLMT Dillon 12.57 106 Pn 08 38 06.3 -0.3
BCYI Bear Canyon 12.62 112 Pn 08 38 07.2 -0.2
PAHR Pah Rah Range 12.85 141 Pn 08 38 12.5 +2.0
YUK3 Moose Creek 12.99 337 Pn Pn 08 38 15.2 +2.9
BOZ Bozeman (W) 13.06 104 P 08 38 13.0
baz=298,SNR=5.7
VCNR Virginia City 13.09 143 Pn 08 38 15.6 +1.7
YUK2 White River 13.10 336 Pn Pn 08 38 17.4 +3.7
PNTR Pine Nut 13.29 143 Pn 08 38 18.3 +1.7
EGMT Eagleton 13.34 92 P 08 38 16.9
baz=288,SNR=32
MCARA McCarthy VSAT 13.38 332 Pn 08 38 19.1 +1.6
MCARA McCarthy VSAT 13.38 332 P 08 38 18.3
baz=140
BMRM Bremner River 13.58 328 P 08 38 20.8
baz=135
BVCY Beaver Creek 13.63 338 Pn P 08 38 30.9 +0.9
YHB Horse Butte 13.73 106 Pn 08 38 23.9 +1.3
WAKR Walker 13.86 144 Pn 08 38 26.5 +2.1
YMR Madison River 13.92 106 Pn 08 38 26.1 +1.0
ELK Elko 13.93 127 Pn Pn 08 38 27.9 +2.5
comp=Z,0.0nm,0.3s,baz=332,slow=13,SNR=5.3
ELK LR LR 08 43 44.0
comp=Z,664nm,19.9s,baz=312,slow=37
ELK Elko 13.93 127 P Pn 08 38 27.9 +2.5
N25K Chitina, Valde 14.04 330 P 08 38 26.9
baz=137
RYN Ryan 14.11 141 Pn 08 38 28.9 +1.1
GCMT Greycliff 14.21 100 Pn 08 38 30.0 +1.0
H17A Grant Village 14.30 107 P 08 38 31.6
baz=301,SNR=15
NVAR Mina Array Bea 14.37 141 Pn Pn 08 38 32.5 +1.1
comp=Z,0.0nm,0.3s,baz=320,slow=9.2,SNR=18
NVAR LR LR 08 43 41.8
comp=Z,938nm,18.5s,baz=326,slow=36
NVAR Mina Array Bea 14.37 141 Pn 08 38 32.0 +0.6
YMP Mirror Lake Pl 14.38 105 P Pn 08 38 32.7 +1.1
KLU Klutina 14.40 328 P Pn 08 38 31.1 -0.4
BCAR Beaver Creek A 14.41 338 Pn 08 38 32.8 +1.2
ECR Eagle Creek 14.55 112 P Pn 08 38 35.9 +2.1
RLMT Red Lodge 14.76 102 Pn 08 38 38.4 +1.9
RLMT Red Lodge 14.76 102 P 08 38 36.5
baz=298,SNR=46
DAWY Dawson 14.79 343 Pn Pn 08 38 39.3 +2.6
MLAC Mammoth, Mammo 14.86 144 P 08 38 39.0
baz=332
YKA Yellowknife Ar 14.86 28 Pn Pn 08 38 36.4 -1.3
comp=Z,0.4nm,0.3s,baz=214,slow=12,SNR=34
YKA Sn Sn 08 41 17.5 -4.9
comp=Z,0.2nm,0.3s,baz=213,slow=22,SNR=3.2
YKA LR LR 08 43 45.2
comp=Z,541nm,20.3s,baz=0.0,slow=34
YKA Yellowknife Ar 14.86 28 P Pn 08 38 36.4 -1.3
YKA 08 41 17.5
AHID Auburn Hatcher 14.88 113 P Pn 08 38 41.5 +3.2
M24K Tolsona, Glenn 14.92 329 P Pn 08 38 41.8 +3.2
BGU Big Grassy Mou 14.97 122 IAmb IAmb 08 38 52.9
comp=Z,53nm,1.2s
SPUT South Promonto 15.03 120 IAmb IAmb 08 38 56.1
comp=Z,70nm,1.4s
TPH Tonopah 15.12 139 P Pn 08 38 42.6 +1.1
TPH pmax pmax
comp=Z,102nm,1.0s
TPH Tonopah 15.12 139 Pn 08 38 42.6 +1.1
SCM Sheep Creek Mo 15.12 327 IAmb IAmb 08 38 52.3
comp=Z,70nm,1.4s
BRSE Bradley Lake S 15.25 317 P 08 38 42.7
baz=119
KNK Knik Glacier 15.26 324 Pn 08 38 41.9 -1.1
KNK IAmb IAmb 08 38 53.6
comp=Z,50nm,1.1s
KNK Knik Glacier 15.26 324 P 08 38 42.9
baz=128,SNR=6.6
K27K Chicken 15.31 339 IAmb IAmb 08 38 53.1
comp=Z,51nm,1.5s
K27K PcP 08 43 49.0 +0.7
K27K Chicken 15.31 339 P 08 38 43.7
baz=149
KDAK Kodiak Island 15.31 308 Pn Pn 08 38 43.2 -0.4
comp=Z,0.1nm,0.3s,baz=135,slow=7.0,SNR=2.2
KDAK LR LR 08 42 53.4
comp=Z,1μm,22.0s,baz=141,slow=31
KDAK Kodiak Island 15.31 308 P 08 38 44.3
baz=109
BRLK Bradley Lake 15.33 317 P P 08 38 47.6 -1.2
BRLK IAmb IAmb 08 38 52.3
comp=Z,67nm,1.4s
PMPB Monarch Peak 15.46 152 P Pn 08 38 46.7 +0.9
PMPB IAmb IAmb 08 38 59.6
comp=Z,87nm,1.4s
SML Sawmill 15.47 326 P 08 38 45.0
baz=130,SNR=6.2
DOT Dot Lake 15.47 336 P Pn 08 38 46.9 +1.1
OHAK Old Harbor 15.49 306 P Pn 08 38 46.7 +0.6
OHAK IAmb IAmb 08 38 55.1
comp=Z,81nm,1.4s
OHAK Old Harbor 15.49 306 P 08 38 46.1
baz=106
RC01 Rabbit Creek A 15.56 322 P 08 38 46.3
baz=125,SNR=5.8
TIN Tinemaha, Big 15.59 143 P 08 38 49.3
baz=332
DUG Dugway, Tooele 15.60 123 P Pn 08 38 48.6 +0.8
DUG pmax pmax
comp=Z,48nm,1.1s
DUG Dugway, Tooele 15.60 123 P 08 38 47.8
baz=316,SNR=19
HOM Homer 15.62 316 P 08 38 47.8
baz=117
R11A Troy Canyon, C 15.62 134 P 08 38 48.3
baz=325,SNR=12
PMR Palmer 15.63 324 P Pn 08 38 47.9 +0.1
PMR pmax pmax
comp=Z,56nm,1.3s
PMR Palmer 15.63 324 P Pn 08 38 47.9 +0.1
PMR IAmb IAmb 08 39 00.1
comp=Z,56nm,1.3s
PMR Palmer 15.63 324 P 08 38 47.0
baz=128,SNR=6.6
GHO Glory Hole Cre 15.66 325 P Pn 08 38 48.6 +0.3
GHO IAmb IAmb 08 39 06.8
comp=Z,51nm,1.2s
SPR3 Spring Creek 3 15.71 130 Pn 08 38 49.9 +0.5
SCRK Sand Creek 15.72 337 P 08 38 48.4
baz=144,SNR=22
EGAK Eagle 15.77 342 IAmb IAmb 08 38 57.8
comp=Z,79nm,1.4s
EGAK Eagle 15.77 342 P 08 38 48.8
baz=152,SNR=18
BW06 Boulder Array 15.80 110 P P 08 38 53.2 -1.2
BW06 IAmb IAmb 08 38 58.1
comp=Z,76nm,1.3s
BW06 Boulder Array 15.80 110 P 08 38 49.9
baz=306,SNR=47
PD31 Pinedale Array 15.80 110 IAmb IAmb 08 38 58.1
comp=Z,68nm,1.3s
PDAR Pinedale Array 15.80 110 Pn P 08 38 53.1 -1.3
comp=Z,0.3nm,0.3s,baz=308,slow=8.6,SNR=56
PDAR LR LR 08 45 06.1
comp=Z,777nm,21.5s,baz=313,slow=38
PDAR Pinedale Array 15.80 110 P P 08 38 53.3 -1.1
VOG Valley Oaks Go 15.82 147 P 08 38 51.3
baz=335
LAO LASA Array 16.05 94 IAmb IAmb 08 39 20.4
comp=Z,108nm,1.3s
LAO LASA Array 16.05 94 P 08 38 52.5
baz=292,SNR=15
PAGB Antelope Grade 16.07 151 P Pn 08 38 53.6 -0.2
PAGB IAmb IAmb 08 39 00.8
comp=Z,94nm,1.4s
SUA Susitna One 16.17 322 P Pn 08 38 54.5 -0.5
SUA IAmb IAmb 08 39 03.1
comp=Z,79nm,1.1s
SUA Susitna One 16.17 322 P 08 38 54.3
baz=124,SNR=22
CWC Cottonwood Cre 16.19 144 P 08 38 56.5
baz=332
VES Vestal, Richgr 16.36 147 P 08 38 57.9
baz=335
MPU Maple Canyon 16.37 122 P Pn 08 38 59.0 +1.3
TPNV Topopah Spring 16.49 138 IAmb IAmb 08 39 11.8
comp=Z,82nm,1.3s
TPNV Topopah Spring 16.49 138 P 08 38 58.8
baz=328,SNR=21
SMMC Simmler 16.54 151 P 08 38 59.2
baz=338
CUT Chulitna 16.55 325 P 08 38 59.3
baz=128
SPCR Spurr Chakacha 16.62 320 P 08 38 57.6
baz=121,SNR=8.2
PRN Pahroc Range 16.64 135 Pn 08 39 01.7 +0.6
ISA Isabella, Lake 16.73 146 P 08 39 03.3
baz=334,SNR=22
MPMC Manual Prospec 16.75 143 P 08 39 01.9
baz=332,SNR=28
SKT Skwentna 16.78 323 P 08 38 58.4
baz=124
DGMT Dagmar 16.78 86 IAmb IAmb 08 39 13.7
comp=Z,133nm,1.4s
DGMT Dagmar 16.78 86 P 08 38 59.7
baz=286,SNR=24
HDA Harding Lake 16.86 334 P 08 39 01.4
baz=139,SNR=10.0
HDA P 08 39 01.4
baz=139,SNR=10.0
TCRU Three Creeks R 16.96 127 P P 08 39 07.6 +0.3
MCK McKinley 16.97 330 P 08 39 03.5
baz=134
PKM Mcpherson Peak 16.99 151 P 08 39 06.5
baz=338,SNR=5.2
ARVC Arvin 17.09 148 P 08 39 08.1
baz=336
ILAR Eielson Array 17.12 335 P Pn 08 39 07.7 +0.8
comp=Z,0.1nm,0.3s,baz=149,slow=8.1,SNR=32
ILAR LR LR 08 45 17.7
comp=Z,624nm,19.3s,baz=148,slow=36
ILAR Eielson Array 17.12 335 P Pn 08 39 07.7 +0.8
ILAR Eielson Array 17.12 335 P Pn 08 39 07.7 +0.8
RDMU Red Mountain 17.15 116 P P 08 39 11.1 +1.7
LRMC Laurel Mtn Rad 17.19 144 P 08 39 08.9
baz=333,SNR=6.4
TRF Thorofare Moun 17.23 328 P Pn 08 39 09.5 +1.1
TRF Thorofare Moun 17.23 328 P 08 39 05.4
baz=130
WRH Wood River Hil 17.24 333 P Pn 08 39 09.3 +1.0
SHPR Sheep Range 17.33 137 Pn 08 39 10.0 +0.1
PRP Porcupine Dome 17.37 338 P 08 39 09.5
baz=144
SHOC Shoshone, Teco 17.37 140 P 08 39 09.9
baz=330,SNR=6.0
SBC Santa Barbara 17.43 151 P 08 39 08.9
baz=338
COLA College 17.47 334 P P 08 39 15.4 +3.0
COLA pmax pmax
comp=Z,20nm,1.1s
COLA College 17.47 334 P 08 39 08.8
baz=138
TCOL CIGO, UAF Yank 17.47 334 P 08 39 10.5
baz=138
FFC Flin Flon 17.50 64 P Pn 08 39 11.4 -0.3
FFC pmax pmax
comp=Z,278nm,1.5s
FFC Flin Flon 17.50 64 Pn 08 39 11.4 -0.3
KTH Kantishna Hill 17.51 328 P P 08 39 13.8 +0.9
MTPU Mount Pierson 17.52 127 P P 08 39 13.4 -0.2
POKR Poker Plat Res 17.54 335 P 08 39 08.4
baz=140
PPLA Purkeypile 17.56 325 P Pn 08 39 13.6 +1.1
PPLA Purkeypile 17.56 325 P 08 39 10.3
baz=126,SNR=7.6
OSI Osito Audit: C 17.59 148 P 08 39 12.7
baz=336
EDW2 Edwards Air Fo 17.61 146 P 08 39 12.1
baz=335,SNR=8.5
SRU San Rafael Swe 17.61 122 P Pn 08 39 13.5 +0.1
SRU pmax pmax
comp=Z,38nm,1.0s
SRU San Rafael Swe 17.61 122 P Pn 08 39 13.4 +0.1
GSC Goldstone, Bar 17.68 143 P 08 39 13.1
baz=332,SNR=10
K22A Casper 17.72 106 IAmb IAmb 08 39 19.9
comp=Z,127nm,1.4s
K22A Casper 17.72 106 P 08 39 12.8
baz=304,SNR=25
LCMT Little Creek M 17.80 132 P Pn 08 39 16.0 +0.4
RWWY Rawlins 17.85 110 P Pn 08 39 16.9 +0.6
BPAW Bear Paw Mtn. 17.89 329 P Pn 08 39 16.6 +0.2
BPAW Bear Paw Mtn. 17.89 329 P 08 39 14.3
baz=131,SNR=32
RRX Edison Barstow 17.98 144 P 08 39 16.2
baz=333
SVW2 Sparrevohn 18.01 317 Pn 08 39 18.1 +0.2
SVW2 IAmb IAmb 08 39 21.5
comp=Z,68nm,1.2s
DECC Green Verdugo 18.05 148 P 08 39 17.6
baz=336
I23K Minto, Yukon-K 18.11 333 P 08 39 17.1
baz=136,SNR=15
FYU Fort Yukon 18.17 340 P P 08 39 21.6 +1.4
FYU IAmb IAmb 08 39 28.8
comp=Z,142nm,1.4s
CHUM Lake Minchumin 18.20 327 P 08 39 18.4
baz=128,SNR=48
O20A White River Ci 18.20 115 P Pn 08 39 20.6 -0.1
O20A IAmb IAmb 08 39 30.6
comp=Z,81nm,1.3s
O20A White River Ci 18.20 115 P 08 39 18.9
baz=311,SNR=21
INK Inuvik 18.23 356 P P 08 39 22.2 +1.5
comp=Z,0.1nm,0.3s,baz=165,slow=13,SNR=24
INK LR LR 08 46 23.9
comp=Z,676nm,21.4s,baz=172,slow=37
INK Inuvik 18.23 356 Pn P 08 39 22.8 +2.0
INK Inuvik 18.23 356 P Pn 08 39 21.0 +0.4
INK pmax pmax
comp=Z,36nm,1.3s
INK Inuvik 18.23 356 P Pn 08 39 21.0 +0.4
HEC Hector,Ludlow 18.28 142 P 08 39 20.6
baz=332,SNR=21
BFSC Mount Baldy Ra 18.30 146 P 08 39 19.5
baz=335
MLY Manley 18.44 331 P 08 39 20.6
baz=133,SNR=66
RSSD Black Hills 18.52 99 P P 08 39 24.4 -0.1
RSSD pmax pmax
comp=Z,53nm,1.4s
RSSD Black Hills 18.52 99 P P 08 39 24.4 -0.1
RSSD Black Hills 18.52 99 P 08 39 21.3
baz=299
BBRC Big Bear Solar 18.55 144 P 08 39 24.1
baz=334
GMRC Granite Mounta 18.59 141 P 08 39 23.2
baz=331,SNR=20
SNCC San Nicolas Is 18.60 152 P 08 39 25.2
baz=339
U15A North Rim 18.73 131 P Pn 08 39 27.7 +0.5
BMAR Burnt Mountain 18.77 342 P Pn 08 39 27.9 +0.7
CIS Catalina Islan 18.80 149 P 08 39 27.0
baz=337
PV10 Paradox Valley 18.95 121 IAmb IAmb 08 39 36.0
comp=Z,112nm,1.2s
PV14 Lion Creek, Pa 18.96 121 P P 08 39 29.0 -0.4
PV14 IAmb IAmb 08 39 35.4
comp=Z,87nm,1.1s
PV04 Paradox Valley 19.01 120 P Pn 08 39 30.5 0.0
PV04 IAmb IAmb 08 39 38.8
comp=Z,74nm,1.2s
PV20 West Nyswonger 19.02 121 IAmb IAmb 08 39 35.9
comp=Z,89nm,1.3s
PV19 Morning Glory 19.03 121 IAmb IAmb 08 39 36.7
comp=Z,56nm,1.0s
TTA Tatalina 19.05 322 P 08 39 27.0
baz=119,SNR=15
PV17 East Wray Mesa 19.07 121 P P 08 39 30.5 0.0
PV17 IAmb IAmb 08 39 36.5
comp=Z,106nm,1.2s
PV16 Nyswonger Mesa 19.07 121 P P 08 39 30.6 +0.2
N23A Red Feather La 19.09 110 P 08 39 30.0
baz=308,SNR=18
PV11 David Mesa, Pa 19.10 121 IAmb IAmb 08 39 36.9
comp=Z,48nm,0.9s
KUKN Kugluktuk,NWT 19.11 17 Pn Pn 08 39 33.8 +2.5
PV18 Skein Mesa, Pa 19.12 121 IAmb IAmb 08 39 37.0
comp=Z,86nm,1.1s
PV12 Saucer Basin, 19.12 120 IAmb IAmb 08 39 56.1
comp=Z,48nm,1.0s
SDPT Sand Point 19.13 297 P 08 39 29.3
baz=92
PV05 Paradox Valley 19.13 121 IAmb IAmb 08 39 37.3
comp=Z,138nm,1.3s
BELC Belle Mtn. Jos 19.14 143 P 08 39 30.7
baz=332,SNR=20
PHWY Pilot Hill 19.14 108 IAmb IAmb 08 39 41.7
comp=Z,65nm,1.5s
PV03 Paradox Valley 19.14 121 P P 08 39 30.8 -0.5
SCI2 San Clemente I 19.15 150 P 08 39 30.8
baz=338
PFO Pinyon Flats O 19.31 144 P P 08 39 31.9 -1.1
comp=Z,0.1nm,0.3s,baz=346,slow=20,SNR=5.1
PFO LR LR 08 46 44.2
comp=Z,287nm,19.1s,baz=320,slow=36
PFO Pinyon Flats O 19.31 144 P P 08 39 31.9 -1.1
PFO Pinyon Flats O 19.31 144 P P 08 39 31.9 -1.1
PFO Pinyon Flats O 19.31 144 IAmb IAmb 08 39 37.7
comp=Z,40nm,1.4s
PFO Pinyon Flats O 19.31 144 P 08 39 33.4
baz=334,SNR=7.3
TPFO Pinon Flats 19.31 144 P 08 39 33.0
baz=334,SNR=7.7
IRM Iron Mountain 19.34 141 P 08 39 35.2
baz=331
C36M Paulatuk 19.39 6 Pn Pn 08 39 35.0 +0.5
C36M Paulatuk 19.39 6 P Pn 08 39 35.2 +0.6
C36M IAmb IAmb 08 39 39.1
comp=Z,52nm,1.2s
C36M Paulatuk 19.39 6 P 08 39 31.8
baz=191,SNR=10
PDMCI Parker Dam,Lak 19.64 138 P 08 39 36.8
baz=329
E28A Huff 19.64 89 P Pn 08 39 38.0 +0.2
E28A IAmb IAmb 08 39 44.6
comp=Z,68nm,0.8s
BC3 Big Chuckawall 19.66 142 P 08 39 36.6
baz=332,SNR=11
109C Camp Elliot, M 19.72 147 P Pn 08 39 39.5 +0.7
109C Camp Elliot, M 19.72 147 P 08 39 38.1
baz=336
COLD Coldfoot 19.88 337 IAmb IAmb 08 39 44.9
comp=Z,86nm,1.4s
COLD Coldfoot 19.88 337 P 08 39 37.6
baz=139,SNR=29
WUAZ Wupatki 19.90 131 P 08 39 39.4
baz=324
MDND Maddock 19.91 85 P 08 39 37.4
baz=288,SNR=21
MONP2 Monument Peak 19.96 145 P 08 39 41.0
baz=335,SNR=5.9
ISCO Idaho Springs 19.96 112 P P 08 39 41.4 +1.0
ISCO pmax pmax
comp=Z,45nm,1.5s
ISCO Idaho Springs 19.96 112 P P 08 39 41.4 +1.0
ISCO Idaho Springs 19.96 112 P 08 39 39.5
baz=310,SNR=18
IMAR Indian Mountai 20.01 331 P 08 39 40.8 +0.5
MVCO Mesa Verde 20.09 122 P P 08 39 41.6 -0.1
MVCO Mesa Verde 20.09 122 P 08 39 41.3
baz=318,SNR=49
SWSC Sam W. Stewart 20.15 144 P 08 39 43.0
baz=334
IKP In-Ko-Pah, Jac 20.30 145 P 08 39 44.1
baz=334,SNR=5.7
GLA Glamis 20.43 141 P 08 39 46.8
baz=332
S22A 4UR Ranch, Cre 20.63 118 P 08 39 47.9
baz=315,SNR=34
Q24A Divide 20.78 113 P 08 39 48.8
baz=311,SNR=7.4
FALS False Pass 20.81 296 P 08 39 48.7
baz=89
TOLK Toolik Lake Re 20.83 340 Pn 08 39 51.3 -0.3
TOLK IAmb IAmb 08 39 60.0
comp=Z,74nm,1.2s
TOLK Toolik Lake Re 20.83 340 P 08 39 49.0
baz=142,SNR=31
W18A Petrified Fore 21.03 128 IAmb IAmb 08 39 59.2
comp=Z,98nm,1.1s
W18A Petrified Fore 21.03 128 P 08 39 52.0
baz=322
SDCO Great Sand Dun 21.39 116 IAmb IAmb 08 40 06.3
comp=Z,39nm,1.2s
SDCO Great Sand Dun 21.39 116 P 08 39 55.8
baz=314,SNR=28
X18A Snowflake 21.39 130 IAmb IAmb 08 40 03.5
comp=Z,56nm,0.9s
OGNE Ogallala 21.45 105 P 08 39 56.0
baz=305
SUSD Miller 21.62 94 P P 08 39 58.6 +0.7
SUSD IAmb IAmb 08 40 04.7
comp=Z,62nm,0.8s
SUSD Miller 21.62 94 P 08 39 56.6
baz=297
ULM Lac du Bonnet 21.62 77 P P 08 39 58.5 +0.7
comp=Z,102nm,0.9s,baz=287,slow=11,SNR=38
ULM LR LR 08 49 03.3
comp=Z,1μm,20.7s,baz=292,slow=38
ULM Lac du Bonnet 21.62 77 Pn P 08 39 58.6 +0.7
ULM Lac du Bonnet 21.62 77c i P P 08 39 59.6 +1.7
ULM Lac du Bonnet 21.62 77 P P 08 39 58.8 +0.9
SPX San Pedro Mart 21.98 145 P P 08 40 01.6 -0.7
FCC Fort Churchill 22.22 54 Pn P 08 40 05.4 +1.3
FCC Fort Churchill 22.22 54 P P 08 40 04.9 +0.8
FCC pmax pmax
comp=Z,211nm,1.5s
FCC Fort Churchill 22.22 54 P P 08 40 04.9 +0.8
214A Organ Pipe Nat 22.22 139 P 08 40 05.2
baz=331
KSCO Kaye Shedlock' 22.25 110 P 08 40 05.4
baz=310,SNR=31
PIX Pinacate 22.29 141 IAmb IAmb 08 40 13.3
comp=Z,33nm,1.1s
T25A Trinidad 22.44 116 P 08 40 07.4
baz=314,SNR=26
TUC Tucson 22.81 135 P P 08 40 10.2 -0.6
TUC pmax pmax
comp=Z,25nm,1.0s
TUC Tucson 22.81 135 P P 08 40 10.2 -0.6
TUC IAmb IAmb 08 40 19.1
comp=Z,24nm,1.0s
TUC Tucson 22.81 134 P 08 40 10.9
baz=328
ANMO Albuquerque 22.88 123 P P 08 40 10.8 -0.8
comp=Z,5.1nm,1.0s,baz=318,slow=11,SNR=17
ANMO LR LR 08 49 40.6
comp=Z,436nm,18.2s,baz=311,slow=38
ANMO Albuquerque 22.88 123 P P 08 40 10.8 -0.8
ANMO Albuquerque 22.88 123 P P 08 40 11.6 0.0
ANMO IAmb IAmb 08 40 18.8
comp=Z,27nm,1.1s
ANMO Albuquerque 22.88 123 P 08 40 10.4
baz=320
EPLO Experimental L 23.11 77 Pn P 08 40 14.7 +1.0
Y22D IRIS PASSCAL I 23.29 125 P 08 40 15.2
baz=321
BNM Barren Site 23.39 125 P P 08 40 16.6 -0.3
ECSD EROS Data Cent 23.44 93 P P 08 40 16.6 -0.6
ECSD EROS Data Cent 23.44 93 P 08 40 17.1
baz=298,SNR=48
B35A Bob, Littlefor 23.49 81 IAmb IAmb 08 40 26.6
comp=Z,72nm,1.3s
ANM Nome 23.51 321 P P 08 40 17.9 +0.3
ANM pmax pmax
comp=Z,15nm,1.1s
ANM Nome 23.51 321 P P 08 40 17.9 +0.3
ANM Nome 23.51 321 P 08 40 15.7
baz=110
BGNE Belgrade 23.63 100 P 08 40 18.2
baz=303,SNR=7.9
SOLO Sioux Lookout 24.05 76 Pn P 08 40 23.1 +0.2
121A Cookes Peak, D 24.07 129 IAmb IAmb 08 40 30.2
comp=Z,20nm,0.9s
121A Cookes Peak, D 24.07 129 P 08 40 23.1
baz=324,SNR=6.0
RDOG Red Dog Mine 24.14 330 P P 08 40 24.9 +1.3
RDOG Red Dog Mine 24.14 330 P 08 40 22.2
baz=121
CBKS Cedar Bluff 24.14 107 P 08 40 23.0
baz=308
319A Douglas 24.29 133 P P 08 40 27.5 +2.1
319A IAmb IAmb 08 40 33.9
comp=Z,32nm,1.0s
A21K Barrow 24.45 339 P 08 40 23.8
baz=135
F36A Milaca 24.51 86 P P 08 40 28.2 +1.0
ATKO Atikokan Iron 24.69 78 Pn P 08 40 29.8 +1.0
PKLO Pickle Lake 24.76 72 Pn P 08 40 29.8 +0.4
R32A Long Quarter, 25.01 106 IAmb IAmb 08 40 36.2
comp=Z,64nm,1.4s
EYMN Ely 25.04 80 P P 08 40 33.3 +1.4

EYMN Ely 25.04 80 P 08 40 32.2
baz=290,SNR=22
SPMN Marine on St. 25.23 87 IAmb IAmb 08 40 43.0
comp=Z,28nm,0.8s
SPMN Marine on St. 25.23 87 P 08 40 33.9
baz=295,SNR=12
AMTX Amarillo 25.59 116 P 08 40 38.1
baz=316
MSTX Muleshoe 25.63 119 IAmb IAmb 08 40 46.2
comp=Z,24nm,1.1s
MSTX Muleshoe 25.63 119 P 08 40 37.2
baz=318,SNR=13
KSU1 Kansas State U 25.91 103 P 08 40 40.5
baz=307
MNTX Cornudas Mount 25.95 126 P 08 40 40.5
baz=323,SNR=22
TBO Thunder Bay 26.12 78 Pn P 08 40 42.7 +0.9
K38A Parkersburg 26.43 92 P P 08 40 45.2 +0.6
SCIA State Center 26.52 94 P P 08 40 45.4 -0.1
CROK Carrier 26.68 109 P P 08 40 47.6 +0.7
G40A Rib Lake 26.88 85 P P 08 40 49.1 +0.4
G40A IAmb IAmb 08 40 55.8
comp=Z,39nm,1.4s
COWI Conover 27.22 83 IAmb IAmb 08 41 03.1
comp=Z,34nm,1.2s
I40A Norwalk 27.22 88 P P 08 40 52.3 +0.6
I40A IAmb IAmb 08 40 58.4
comp=Z,29nm,0.8s
GTO Geraldton 27.30 74 Pn P 08 40 53.5 +1.1
T35A Sooner Cattle 27.32 106 P P 08 40 53.1 +0.4
WMOK Wichita Mounta 27.39 113 P P 08 40 53.8 +0.4
WMOK pmax pmax
comp=Z,26nm,1.2s
WMOK Wichita Mounta 27.39 113 IAmb IAmb 08 41 00.8
comp=Z,32nm,1.2s
WMOK Wichita Mounta 27.39 113 P 08 40 53.1
baz=314,SNR=14
SILO Sutton Inlier 27.41 64 Pn P 08 40 55.5 +2.2
P38A Dawn 27.55 99 P P 08 40 54.8 +0.1
OK025 Westminster Rd 27.68 109 IAmb IAmb 08 41 02.6
comp=Z,32nm,1.2s
OK031 S. Brethren Rd 27.74 108 P P 08 40 56.5 0.0
FNO Franklin 27.86 110 IAmb IAmb 08 41 14.0
comp=Z,25nm,0.8s
JFWS Jewell Farm 27.92 90 P P 08 40 58.3 +0.3
JFWS pmax pmax
comp=Z,24nm,0.9s
JFWS Jewell Farm 27.92 90 P P 08 40 58.3 +0.3
JFWS IAmb IAmb 08 41 11.1
comp=Z,24nm,0.9s
JFWS Jewell Farm 27.92 90 P 08 40 57.4
baz=299
X34A Smith Ranch, M 28.05 112 P P 08 40 58.7 -0.5
X34A IAmb IAmb 08 41 06.4
comp=Z,36nm,1.4s
PNPO Pukaskwa Natio 28.09 76 Pn P 08 41 00.5 +1.0
I42A Draeger Farm, 28.32 87 IAmb IAmb 08 41 06.6
comp=Z,27nm,1.1s
ABTX Abilene, Hawle 28.39 117 IAmb IAmb 08 41 09.4
comp=Z,27nm,1.3s
ABTX Abilene, Hawle 28.39 117 P 08 41 02.0
baz=318,SNR=8.8
TUL1 Leonard 28.41 107 P 08 41 02.6
baz=311,SNR=7.4
VIMO Victor Mine 28.42 67 Pn P 08 41 05.4 +3.1
E43A Lone Tree Farm 28.47 81 IAmb IAmb 08 41 06.1
comp=Z,44nm,1.3s
RES Resolute Bay 28.50 19 P P 08 41 04.2 +1.4
comp=Z,0.8nm,0.4s,baz=135,slow=22,SNR=20
RES Resolute Bay 28.50 19 P P 08 41 04.2 +1.4
RES Resolute Bay 28.50 19 P P 08 41 04.2 +1.4
N41A Harden Midland 28.66 94 P P 08 41 03.6 -1.0
N41A IAmb IAmb 08 41 10.7
comp=Z,36nm,1.0s
TX32 Lajitas Array 28.73 127 IAmb IAmb 08 41 17.9
comp=Z,22nm,1.5s
TXAR Lajitas Array 28.73 127 P P 08 41 05.3 -0.1
comp=Z,2.5nm,0.8s,baz=328,slow=7.8,SNR=23
TXAR PcP PcP 08 44 14.5 -1.1
comp=Z,0.8nm,1.0s,baz=318,slow=2.4,SNR=3.7
TXAR LR LR 08 53 21.2
comp=Z,442nm,18.3s,baz=0.0,slow=38
TXAR Lajitas Array 28.73 127 P P 08 41 05.3 -0.1
TXAR 08 44 14.5
TXAR Lajitas Array 28.73 127 P P 08 41 05.3 -0.1
L42A Oliver, Polo 28.75 91 P P 08 41 05.8 +0.4
L42A IAmb IAmb 08 41 11.4
comp=Z,31nm,1.0s
U38A Gravette 28.94 105 IAmb IAmb 08 41 10.0
comp=Z,26nm,1.4s
R40A Maddies Statio 29.13 100 IAmb IAmb 08 41 15.6
comp=Z,32nm,1.5s
Z35A Perchaven, San 29.28 113 P P 08 41 09.6 -0.6
X37A Clayton 29.54 109 P P 08 41 13.2 +0.7
X37A IAmb IAmb 08 41 27.4
comp=Z,28nm,1.4s
HDIL Hopedale 29.74 93 P 08 41 12.2
baz=303
L44A Lake County Fo 29.79 89 P 08 41 12.8
baz=300
MGMO Mountain Grove 29.81 101 P P 08 41 14.4 -0.5
MGMO IAmb IAmb 08 41 21.5
comp=Z,32nm,1.3s
JCT Junction City 29.91 120 IAmb IAmb 08 41 21.6
comp=Z,20nm,0.8s
JCT Junction City 29.91 120 P 08 41 15.1
baz=320,SNR=12
CCM Cathedral Cave 29.91 99 P P 08 41 15.9 +0.1
CCM pmax pmax
comp=Z,30nm,1.4s
CCM Cathedral Cave 29.91 99 P P 08 41 15.9 +0.1
CCM IAmb IAmb 08 41 21.8
comp=Z,30nm,1.4s
CCM Cathedral Cave 29.92 99 P 08 41 15.0
baz=307
U40A Yellville 29.94 103 IAmb IAmb 08 41 22.9
comp=Z,47nm,1.4s
U40A Yellville 29.94 103 P 08 41 15.6
baz=310,SNR=12
P43A Skaggs, Pawnee 30.10 95 P P 08 41 16.9 -0.5
P43A IAmb IAmb 08 41 32.5
comp=Z,27nm,0.9s
W39A Magazine 30.11 106 IAmb IAmb 08 41 18.6
comp=Z,10.0nm,0.8s
W39A Magazine 30.11 106 P 08 41 17.8
baz=312,SNR=5.5
WHTX Lake Whitney, 30.12 115 P 08 41 18.6
baz=317
KAPO Kapuskasing 30.14 73 Pn P 08 41 19.1 +1.5
E46A Sault Ste Mari 30.18 79 IAmb IAmb 08 41 21.9
comp=Z,36nm,1.1s
FVM French Village 30.48 98 IAmb IAmb 08 41 26.8
comp=Z,26nm,1.4s
O44A Mansfield 30.49 93 P P 08 41 20.4 -0.5
O44A IAmb IAmb 08 41 28.1
comp=Z,18nm,1.1s
MIAR Mount Ida 30.67 107 P P 08 41 23.5 +1.0
MIAR pmax pmax
comp=Z,37nm,1.3s
MIAR Mount Ida 30.67 107 IAmb IAmb 08 41 29.8
comp=Z,34nm,1.1s
MIAR Mount Ida 30.67 107 P 08 41 22.7
baz=312,SNR=15
FCAR Ozark Folk Cen 30.70 103 IAmb IAmb 08 41 28.3
comp=Z,19nm,0.8s
L46A Eue Claire 30.91 88 IAmb IAmb 08 41 32.1
comp=Z,31nm,1.1s
435B Jarrell 30.93 117 P P 08 41 24.3 -0.5
WHAR Wooly Hollow 30.98 104 IAmb IAmb 08 41 27.8
comp=Z,18nm,1.1s
237A Washetta, Mont 31.08 113 P P 08 41 26.0 -0.1
237A IAmb IAmb 08 41 32.9
comp=Z,31nm,1.2s
W41B Gary Mavity, V 31.08 104 P 08 41 26.6
baz=311
X40A Basin Creek Fa 31.17 106 P 08 41 27.8
baz=312
LCAR Lake Charles 31.19 102 IAmb IAmb 08 41 29.7
comp=Z,36nm,1.5s
J47A Sunmer 31.25 85 P P 08 41 28.4 +1.0
SFIN Lafayette 31.25 92 P P 08 41 25.5 -2.0
SFIN IAmb IAmb 08 41 30.7
comp=Z,21nm,1.2s
SFIN Lafayette 31.25 92 P 08 41 28.4
baz=303
S44A Carbondale 31.39 98 IAmb IAmb 08 41 34.9
comp=Z,30nm,1.2s
SIUC Southern Illin 31.41 98 IAmb IAmb 08 41 34.3
comp=Z,23nm,1.0s
833A Chaparral WMA, 31.80 122 P 08 41 33.7
baz=322
N47A Urbana 31.88 90 P P 08 41 32.3 -0.8
N47A IAmb IAmb 08 41 36.3
comp=Z,32nm,1.2s
SUNO Sudbury Onapin 31.93 77 Pn P 08 41 34.7 +1.3
HICK Hickman 32.11 100 P P 08 41 34.0 -1.1
L48A N Adams 32.14 87 IAmb IAmb 08 41 42.4
comp=Z,23nm,1.1s
KILO Kirkland Lake 32.20 73 Pn P 08 41 36.9 +1.2
BLO Bloomington 32.28 93 IAmb IAmb 08 41 47.4
comp=Z,18nm,1.1s
HKT Hockley 32.56 116 P P 08 41 38.7 -0.3
HKT pmax pmax
comp=Z,29nm,1.4s
HKT Hockley 32.56 116 P P 08 41 38.7 -0.3
HKT IAmb IAmb 08 41 47.2
comp=Z,29nm,1.4s
P48A Milroy 32.83 92 IAmb IAmb 08 41 48.4
comp=Z,28nm,1.1s
N49A Columbus Grove 32.83 89 P P 08 41 39.5 -1.9
N49A IAmb IAmb 08 41 46.7
comp=Z,19nm,0.9s
MATQ Matagami 33.00 70 P 08 41 42.8
baz=291
P49A Miami Univ. Ec 33.24 91 P 08 41 44.3
baz=304
WVT Waverly 33.25 99 P P 08 41 43.3 -1.8
WVT pmax pmax
comp=Z,17nm,1.3s
WVT Waverly 33.25 99 P P 08 41 43.3 -1.8
WVT IAmb IAmb 08 41 50.7
comp=Z,17nm,1.2s
WVT Waverly 33.25 99 P 08 41 44.7
baz=309
OXF Oxford 33.28 103 P 08 41 45.1
baz=311
I51A Listowel 33.40 82 P 08 41 46.9
baz=299
LSQQ Lebel-sur-Quev 33.66 71 P 08 41 48.9
baz=293
VLDQ Val d'Or 33.74 73 Pn P 08 41 49.0 -0.3
VLDQ Val d'Or 33.74 73 P P 08 41 49.4 +0.2
VLDQ IAmb IAmb 08 41 51.4
comp=Z,36nm,1.4s
LG4Q La Grande 4 33.80 62 Pn P 08 41 50.8 +1.1
PLAL Pickwick Lake 33.82 101 P P 08 41 48.9 -1.1
PLAL IAmb IAmb 08 41 55.3
comp=Z,17nm,0.9s
ACSO Alum Creek Sta 33.97 89 P P 08 41 50.6 -0.8
ACSO Alum Creek Sta 33.97 89 P 08 41 50.2
baz=303
SADO Sadowa 34.14 79 Pn P 08 41 53.4 +0.6
SADO Sadowa 34.14 79 IAmb IAmb 08 41 56.1
comp=Z,36nm,1.4s
ALGO Algonquin Park 34.28 77 P 08 41 54.4
baz=297
P51A Williamsport 34.33 90 P P 08 41 54.0 -0.5
G54A Lake Saint Pet 34.51 78 P 08 41 56.4
baz=297
H53A Bobcaygeon 34.58 79 P 08 41 56.3
baz=298
L53A Girard 34.80 84 P 08 41 59.2
baz=301
M53A WI Miller and 34.81 85 P 08 41 58.5
baz=302
X48A Hartselle 34.81 100 P P 08 41 57.0 -1.7
X48A IAmb IAmb 08 42 04.4
comp=Z,32nm,1.4s
P52A Corning 34.84 89 P P 08 41 58.4 -0.5
P52A IAmb IAmb 08 42 01.4
comp=Z,36nm,1.2s
P52A Corning 34.85 89 P 08 41 57.4
baz=304
ERPA Erie 34.89 84 P 08 41 59.9
baz=301
N53A Lisbon 35.04 86 IAmb IAmb 08 42 05.9
comp=Z,13nm,0.9s
S51A Beattyville 35.05 93 IAmb IAmb 08 42 06.7
comp=Z,38nm,1.4s
O53A New Philadelph 35.10 87 IAmb IAmb 08 42 03.3
comp=Z,39nm,1.4s
O53A New Philadelph 35.10 87 P 08 42 01.8
baz=303
Q52A Bidwell 35.13 90 P P 08 41 59.7 -1.7
E55A Montcerf-Lytto 35.30 75 P 08 42 02.8
baz=296
GRQ Grand Remous 35.36 75 Pn P 08 42 04.5 +1.2
P53A Whipple 35.40 89 P P 08 42 02.5 -1.2
P53A IAmb IAmb 08 42 09.6
comp=Z,22nm,1.0s
M54A Oil Creek Stat 35.42 85 P 08 42 02.5
baz=302
N54A Moraine State 35.50 86 IAmb IAmb 08 42 10.5
comp=Z,43nm,1.4s
N54A Moraine State 35.50 86 P 08 42 02.9
baz=302
WVNY West Valley, N 35.63 82 IAmb IAmb 08 42 11.3
comp=Z,15nm,0.8s
Q53A Leroy 35.67 90 P 08 42 06.0
baz=305
LRAL Lakeview Retre 35.76 102 P P 08 42 05.3 -1.5
LRAL IAmb IAmb 08 42 12.8
comp=Z,21nm,1.2s
LRAL Lakeview Retre 35.76 102 P 08 42 05.8
baz=312
VABQ Val Des Bois 35.83 75 Pn P 08 42 07.3 0.0
D56A ZEC Mazanza, M 35.84 73 P 08 42 06.7
baz=296
MMNY Mt. Morris Dam 35.91 82 IAmb IAmb 08 42 14.0
comp=Z,22nm,1.0s
GAC Glen Almond 36.00 76 Pn P 08 42 09.2 +0.4
M55A Ridgway 36.01 84 IAmb IAmb 08 42 19.4
comp=Z,25nm,1.2s
X51A Calhoun 36.12 98 IAmb IAmb 08 42 16.2
comp=Z,27nm,1.1s
V52A Sevierville 36.13 95 P P 08 42 08.8 -1.2
V52A IAmb IAmb 08 42 15.6
comp=Z,27nm,0.9s
K56A Middlesex 36.30 81 P 08 42 11.1
baz=301
J56A Wolcott 36.30 80 P 08 42 10.7
baz=300
MCWV Mont Chateau 36.30 87 P 08 42 10.6
baz=304
M56A Emporium 36.38 84 P 08 42 10.0
baz=302
W52A Murphy 36.38 97 IAmb IAmb 08 42 15.0
comp=Z,21nm,1.2s
R54A Victor 36.40 90 P 08 42 13.4
baz=306
S54A Dingess, Beckl 36.42 91 P 08 42 12.1
baz=306
L56A Greenwood 36.43 82 P 08 42 11.9
baz=301
G57A Newington 36.59 76 P 08 42 14.6
baz=298
H57A Richville 36.64 77 P 08 42 13.9
baz=299
Z51A Franklin 36.73 100 IAmb IAmb 08 42 21.3
comp=Z,39nm,1.3s
K57A Scipio Center 36.79 81 P 08 42 16.8
baz=301
U54A Nelsons Funny 36.85 93 P 08 42 13.6
baz=308
250A Grady 36.93 103 P P 08 42 16.1 -0.7
P56A Dayton Farm, R 37.03 87 P 08 42 18.3
baz=304
E58A La Victoria 37.06 74 P 08 42 17.7
baz=297
Y52A Lilburn 37.08 98 P P 08 42 16.4 -1.7
Y52A IAmb IAmb 08 42 24.5
comp=Z,46nm,1.4s
M57A Sunshine Farm, 37.13 83 P 08 42 17.5
baz=302
G58A Ormstown 37.15 76 P 08 42 18.2
baz=299
N57A Milroy 37.17 84 P 08 42 18.2
baz=303
I58A Old Forge 37.28 78 P 08 42 19.4
baz=300
K58A Earlville 37.32 80 P 08 42 19.4
baz=301
BLA Blacksburg 37.34 91 P 08 42 18.0
baz=307
O57A Amberson 37.41 85 P 08 42 20.7
baz=304
152A Waverly Hall 37.44 101 P P 08 42 19.6 -1.6
152A IAmb IAmb 08 42 27.0
comp=Z,39nm,1.1s
P57A Homestead Farm 37.57 86 IAmb IAmb 08 42 29.2
comp=Z,30nm,1.2s
P57A Homestead Farm 37.57 86 P 08 42 21.4
baz=304
S56A Natural Bridge 37.61 90 P 08 42 22.2
baz=306
N58A Sunbury 37.66 83 IAmb IAmb 08 42 28.7
comp=Z,22nm,1.1s
N58A Sunbury 37.66 83 P 08 42 21.2
baz=303
J59A Piesco 37.69 78 P 08 42 22.5
baz=300
T56A Rocky Mt 37.70 91 P 08 42 21.8
baz=307
GOGA Godfrey 37.75 98 IAmb IAmb 08 42 29.2
comp=Z,17nm,0.9s
GOGA Godfrey 37.75 98 P 08 42 24.0
baz=311
U56A King 37.88 92 P 08 42 24.5
baz=308
PAULI Pauline 37.90 95 P P 08 42 23.2 -1.9
PAULI IAmb IAmb 08 42 31.2
comp=Z,47nm,1.5s
O58A Lewisberry 37.92 85 P 08 42 24.2
baz=304
I59A Olmsteadville 37.92 78 P 08 42 24.0
baz=300
R57A Stanardsville 37.92 88 P 08 42 24.7
baz=306
S57A Dark Hollow, R 37.95 89 IAmb IAmb 08 42 31.7
comp=Z,22nm,0.9s
S57A Dark Hollow, R 37.95 89 P 08 42 25.4
baz=306
HODGE Hodges 37.99 96 IAmb IAmb 08 42 30.8
comp=Z,15nm,1.1s
KMSC Kings Mountain 38.01 94 P 08 42 25.7
baz=309
M59A Waymart 38.10 82 P 08 42 26.8
baz=302
352A Blakely 38.10 102 P P 08 42 25.4 -1.4
V56A Mocksville 38.13 93 P 08 42 25.9
baz=308
T57A Hurt 38.21 90 P 08 42 27.7
baz=307
N59A State Game Lan 38.22 83 P 08 42 27.4
baz=303
G60A Masonville 38.24 75 P 08 42 25.5
baz=299
D60A Saint Jean D'O 38.25 72 P 08 42 27.8
baz=296
R58A Rapidan 38.25 88 P 08 42 28.3
baz=306
I60A Shoreham 38.26 77 P 08 42 27.2
baz=300
O59A Robesonia 38.28 84 P 08 42 27.3
baz=304
J60A Lant Hill Farm 38.48 78 P 08 42 29.1
baz=301
U57A Blanch 38.50 91 P 08 42 31.2
baz=308
R58B Mineral 38.53 88 IAmb IAmb 08 42 36.5
comp=Z,21nm,0.9s
R58B Mineral 38.53 88 P 08 42 30.6
baz=306
D61A St Aubert, Com 38.57 71 P 08 42 31.2
baz=297
S58A Poland Farm, P 38.62 89 P 08 42 31.8
baz=306
O60A Telford 38.78 83 P 08 42 31.4
baz=304
S59A Mechanicsville 39.02 88 P 08 42 34.0
baz=306
U58A Oxford 39.03 91 P 08 42 33.4
baz=308
T59A Double "B" Far 39.32 89 IAmb IAmb 08 42 43.4
comp=Z,30nm,1.2s
U59A Littleton 39.54 90 IAmb IAmb 08 42 45.2
comp=Z,27nm,1.2s
D63A Stockholm 39.90 70 P 08 42 41.1
baz=298
V60A Jim Taylor Roa 40.24 90 P 08 42 45.3
baz=308
656A Willston 41.05 102 P P 08 42 50.1 -1.3
SFJD Kangerlussuaq 41.24 36 P P 08 42 57.2 +4.7
SFJD pmax pmax
comp=Z,42nm,1.9s
SEY Seymchan 41.95 318 P P 08 42 57.5 -0.8
comp=Z,2.2nm,0.7s,baz=83,slow=6.7,SNR=7.5
SEY Seymchan 41.95 318 i P P 08 42 58.6 +0.2
LMN Caledonia Moun 42.47 70 P P 08 43 00.7 -2.2
PETK Petropavlovsk- 43.26 303 P P 08 43 07.8 -1.4
comp=Z,3.0nm,0.8s,baz=66,slow=4.9,SNR=2.1
PETK LR LR 08 59 41.4
comp=Z,147nm,20.4s,baz=76,slow=34
PETK Petropavlovsk- 43.26 303 P P 08 43 07.8 -1.4
PETK Petropavlovsk- 43.26 303 P P 08 43 07.8 -1.4
SUMG Summit 43.44 26 i P P 08 43 14.7 +3.9
SUMG Summit 43.44 26 P P 08 43 11.4 +0.6
SUMG pmax pmax
comp=Z,16nm,1.2s
SUMG Summit 43.44 26 P P 08 43 11.4 +0.6
SUMG IAmb IAmb 08 43 25.7
comp=Z,16nm,1.2s
SUMG Summit 43.44 26 i P P 08 43 14.7 +3.9
SUMG IAML 08 43 18.6
comp=Z,16nm,1.2s
MA2 Magadan 43.95 314 i eP P 08 43 14.6 0.0
MA2 pmax pmax
comp=Z,18nm,1.7s
DAG Danmarks Havn 46.18 17 i P P 08 43 34.0 +1.9
comp=Z,6.3nm,1.0s
DAG Danmarks Havn 46.18 17 i P P 08 43 34.0 +1.9
DAG pmax pmax
comp=Z,6.0nm,1.0s
DAG Danmarks Havn 46.18 17 i P P 08 43 34.0 +1.9
DAG IAmb IAmb 08 43 39.8
comp=Z,6.3nm,1.0s
TIXI Tiksi 46.60 335 P P 08 43 34.4 -1.1
TIXI pmax pmax
comp=Z,14nm,1.4s
TIXI Tiksi 46.60 335 P P 08 43 34.4 -1.1
TIXI IAmb IAmb 08 43 36.8
comp=Z,14nm,1.4s
DBG Daneborg 47.25 20 i P P 08 43 41.5 +1.0
DBG IAmb IAmb 08 43 49.2
comp=Z,10nm,1.0s
SPITS Spitsbergen Ar 50.22 9 LR LR 09 04 49.1
comp=Z,108nm,21.4s,baz=0.0,slow=35
YAK Yakutsk 51.62 324 LR LR 09 06 31.4
comp=Z,193nm,18.5s,baz=73,slow=36
YAK Yakutsk 51.62 324 eP P 08 44 16.4 +2.4
YAK e*PP pwP 08 44 22.5 +4.4
YAK e 08 45 28.9
YAK e 08 46 08.9
YAK eS S 08 51 36.1 +1.0
YAK e*SS sS 08 51 47.1 +10
YAK e 08 54 02.2
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK pmax pmax
comp=N,4.0nm,1.5s
YAK pmax pmax
comp=Z,162nm,4.0s
YAK pmax pmax
comp=E,90nm,3.5s
YAK pmax pmax
comp=N,108nm,3.5s
YAK smax smax
comp=E,102nm,5.1s
YAK smax smax
comp=N,90nm,5.2s
YAK MLR MLR
comp=Z,299nm,20.0s
YAK MLR MLR
comp=N,145nm,20.0s
YAK MLR MLR
comp=E,112nm,18.0s
ASAJ Asahikawa 56.54 300 LR LR 09 05 20.7
comp=E,143nm,20.0s,baz=102,slow=32

H11N2 WAKE ISLAND Hy 58.03 263 T T 09 47 36.9
baz=42,slow=76,SNR=965
H11N3 WAKE ISLAND Hy 58.03 263 T T 09 47 37.0
baz=42,slow=76,SNR=639
H11N1 WAKE ISLAND Hy 58.05 263 T T 09 47 38.1
baz=42,slow=76,SNR=936
KLR Kul'dur 58.85 311 LR LR 09 09 03.8
comp=E,164nm,20.9s,baz=51,slow=35
H11S1 WAKE ISLAND Hy 59.05 262 T T 09 48 55.0
baz=47,slow=74,SNR=66
H11S2 WAKE ISLAND Hy 59.06 262 T T 09 48 54.4
baz=47,slow=74,SNR=39
H11S3 WAKE ISLAND Hy 59.07 262 T T 09 48 57.3
baz=47,slow=74,SNR=35
ARCES ARCESS Array B 59.19 10 LR LR 09 11 45.4
comp=E,107nm,19.6s,baz=220,slow=37
TAOE Nuku Hiva Isla 59.51 192 *e*T T 09 49 10.0
comp=E,43nm,0.3s
BOD Bodaibo 60.27 326 *e*P **P** **08 45 15.2 -0.8**
BOD pmax pmax
comp=Z,10.0nm,1.6s
SGF Sodankyl 61.31 10 P **P** **08 45 23.9 +0.9**
SGF pmax pmax
comp=Z,16nm,1.2s
USRK Ussuriysk Ar. 62.17 306 P **P** **08 45 28.5 -0.6**
comp=Z,3.7nm,1.1s,baz=56,slow=5.7,SNR=2.8
USRK LR LR 09 12 07.1
comp=Z,113nm,19.5s,baz=27,slow=36
USRK Ussuriysk Ar. 62.17 306 P **P** **08 45 28.5 -0.6**
USRK Ussuriysk Ar. 62.17 306 P **P** **08 45 28.5 -0.6**
CBOC Ciudad Bolivar 62.94 116 *e*P **P** **08 45 39.3 +4.5**
HELC Santa Helena 62.96 115 *e*P P 08 45 40.4 +5.3
MSF Maaselka 63.07 10 P **P** **08 45 35.0 +0.2**
OUL Oulu 63.50 11 P **P** **08 45 38.4 +0.8**
OUL pmax pmax
comp=Z,37nm,1.4s
PLMC San Jos del P 63.56 116 *e*P P 08 45 43.8 +5.0
GUY2C Guyana, Caldas 63.83 115 *e*P **P** **08 45 42.8 +1.7**
NORC Norcasia 63.85 115 *e*P **P** **08 45 42.3 +1.6**
BARC Barichara 64.02 113 *e*P **P** **08 45 43.8 +1.8**
MJAR Matsushiro Arr 64.10 297 LR LR 09 09 08.3
comp=Z,68nm,22.0s,baz=50,slow=32
RREF El Recreo 64.10 116 *e*P **P** **08 45 43.2 +0.2**
YOTC Yotoco, Valle 64.27 117 *e*P P 08 45 48.8 +5.2
TOLC Tolima 64.38 116 *e*P **P** **08 45 44.2 -0.3**
RUSC La Rusia 64.63 113 *e*P **P** **08 45 44.6 -1.8**
ROSC El Rosal 64.75 115 P **P** **08 45 46.9 -0.1**
comp=Z,3.6nm,0.4s,baz=342,slow=23,SNR=3.0
ROSC LR LR 09 18 08.9
comp=Z,87nm,18.3s,baz=30,slow=40
ROSC El Rosal 64.75 115 P **P** **08 45 46.9 -0.1**
ROSC El Rosal 64.75 115 *e*P **P** **08 45 49.8 +2.8**
NB2 NORSAR Subarra 64.76 20 P P 08 45 51.6 +5.5
comp=Z,34nm,1.7s,baz=330,slow=6.5
NB2 NORSAR Subarra 64.76 20 P P 08 45 51.6 +5.5
baz=330,slow=6.5
NOA NORSAR Array B 64.76 20 P **P** **08 45 47.7 +1.6**
comp=Z,2.6nm,1.0s,baz=334,slow=6.3,SNR=3.8
NOA NORSAR Array B 64.76 20 P **P** **08 45 47.7 +1.6**
TAMC Tame, Arauca 64.97 111 *i* Pg **P** **08 45 48.0 0.0**
CHIC Chingaza 65.26 114 *e*P **P** **08 45 49.1 -1.3**
PRAC Prado 65.33 116 *e*P **P** **08 45 52.0 +1.6**
TMCR Tamitsa 65.56 6 *e*P **P** **08 45 52.2 +1.1**
TMCR pmax pmax
comp=Z,19nm,0.6s
PCON Cinco Dias 65.60 118 *e*P **P** **08 45 53.6 +0.9**
OTAV Otavalo 66.17 121 P **P** **08 46 00.0 +3.7**
OTAV pmax pmax
comp=Z,9.0nm,1.4s
OTAV Otavalo 66.17 121 *e*P **P** **08 45 55.2 -1.0**
JOF Joensuu 66.22 9 P **P** **08 45 56.9 +1.5**
JOF pmax pmax
comp=Z,23nm,1.2s
FINES FINESS Array B 67.02 12 P **P** **08 46 00.5 0.0**
comp=Z,5.1nm,1.0s,baz=12,slow=7.5,SNR=2.6
FINES LR LR 09 15 41.7
comp=Z,290nm,18.3s,baz=352,slow=36
FINES FINESS Array B 67.02 12 P **P** **08 46 00.5 0.0**
VAH Vaihoa 67.03 199 *e*T T 09 58 32.3
comp=Z,6.6nm,0.4s
PRGR Permogore 68.43 2 *e*P **P** **08 46 09.5 +0.1**
PRGR pmax pmax
comp=Z,25nm,1.2s
TLY Talaya 68.79 328 *e*P **P** **08 46 11.7 -0.2**
TLY pmax pmax
comp=Z,22nm,1.7s
TLY MLR MLR
comp=Z,295nm,13.0s
KLMR Klimovskoe 68.94 6 *e*P **P** **08 46 10.8 -1.8**
KLMR pmax pmax
comp=Z,53nm,1.3s
KLMR Klimovskoe 68.94 6 *e*P **P** **08 46 10.9 -1.7**
KLMR AMP 08 46 19.8
comp=Z,53nm,1.3s
PPT2 Papeete2 69.73 200 *e*LR LR 09 07 27.0
comp=Z,69nm,23.0s
PPT2 Papeete2 69.73 200 *e*T T 10 01 54.7
comp=Z,6.8nm,0.3s
PAE Paea 69.80 200 *e*T T 10 01 55.3
comp=Z,1.5nm,0.2s
TVO Taravao 69.84 200 *e*T T 10 02 02.8
comp=Z,1.3nm,0.3s
SONM Songino Array 70.98 324 LR LR 09 17 07.1
comp=Z,244nm,21.9s,baz=42,slow=36
SONM Songino Array 70.98 324 P **P** **08 46 25.6 0.0**
SONM pmax pmax
comp=Z,3.0nm,1.4s
ZAA0 Zalesovo Array 72.19 339 IAmb IAmb 08 46 39.1
comp=Z,12nm,1.3s
ZALV Zalesovo Beam 72.19 339 P **P** **08 46 30.3 -2.2**
comp=Z,0.8nm,0.7s,baz=10,slow=9.0,SNR=9.0
ZALV LR LR 09 20 32.5
comp=Z,167nm,19.2s,baz=12,slow=38
ZALV Zalesovo Beam 72.19 339 *i* P **P** **08 46 32.0 -0.5**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 72.19 339 P **P** **08 46 30.0 -2.5**
NACGM Naroch 73.43 14 *i* P P 08 46 44.7 +4.8
NACGM *i* P P 08 46 44.7 +4.8
NACGM *i* P P 08 46 44.7 +4.8
NACGM *i* PcP **PcP** **08 47 00.0 +4.0**
NACGM *i* PP PP 08 49 42.4 +20
NACGM *i* PPP PPP 08 51 14.0
NACGM *i* S **SKiKP** **08 56 16.8 +5.9**
NACGM *i* SS **SS** **09 00 59.8 +10**
NACGM *i* SSS SSS 09 04 11.8
NACGM *i* LQ LQ 09 14 13.0
NACGM *i* LR LR 09 20 36.6
ARU Arti 73.49 355 *d* iP **P** **08 46 40.0 -0.2**
ARU 08 49 20.3
ARU S **S** **08 56 10.2 +0.3**
ARU SS **SS** **09 00 47.3 -3.6**
ARU pmax pmax
comp=Z,12nm,1.3s
ARU Arti 73.49 355 P **P** **08 46 39.9 -0.3**
ARU IAmb IAmb 08 46 45.7
comp=Z,11nm,1.0s
SUW Suwalki 73.69 16 P **P** **08 46 42.0 +0.6**
SUW pmax pmax
comp=Z,30nm,1.1s
MOS Moscow 73.89 7 *e*P **P** **08 46 42.2 -0.3**
CLL Collm 74.02 23 *e*P P 08 46 49.0 +5.6
OBN Obninsk 74.42 8 ǁ *e*P **P** **08 46 47.2 +1.6**
OBN pmax pmax
comp=Z,55nm,1.1s
HHC Hu-ho-hao-te 74.56 316 *e*P **P** **08 46 48.8 +1.9**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC LR LR
comp=Z,310nm,15.9s
HHC LR LR
comp=Z,440nm,16.7s
HHC LR LR
comp=Z,170nm,16.1s
BRG Berggiesshubel 74.66 23 *e*P P 08 46 53.2 +6.0
BRG Amp 08 46 55.8
comp=Z,22nm,1.5s
LOR Lormes 74.99 31 P **P** **08 46 50.1 +0.9**
LOR pmax pmax
comp=Z,15nm,2.0s
KSP Ksiaz 75.25 21 P **P** **08 46 52.9 +2.3**
KSP pmax pmax
comp=Z,11nm,1.2s
BFO Black Forest 75.44 27 P **P** **08 46 55.7 +4.0**
BFO pmax pmax
comp=Z,10.0nm,1.3s
BRVK Borovoye 75.70 348 ǁ *e*P **P** **08 46 52.9 -0.2**
BRVK pmax pmax
comp=Z,13nm,2.5s
BRVK Borovoye 75.70 348 P **P** **08 46 52.4 -0.7**
KHC Kasperske Hory 76.17 24 *e*P P 08 47 01.5 +5.6
KHC Kasperske Hory 76.17 24 *e*P P 08 47 01.5 +5.6
GERES GERESS Array B 76.46 24 P **P** **08 46 56.7 -1.0**
comp=Z,0.2nm,0.3s,baz=350,slow=5.0,SNR=1.7
GERES LR LR 09 21 14.7
comp=Z,130nm,20.5s,baz=330,slow=36
GERES GERESS Array B 76.46 24 P **P** **08 46 56.7 -1.0**
KURK Kurchatov 76.55 342 ǁ *e*P **P** **08 46 57.8 -0.1**
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURK Kurchatov 76.55 342 P **P** **08 46 58.8 +0.9**
KURK IAmb IAmb 08 47 03.8
comp=Z,8.0nm,1.2s
LPSR Galich'ya Gora 77.11 7 *e*P **P** **08 47 01.3 +0.2**
LPSR pmax pmax
comp=Z,30nm,1.5s
NIE Niedzica 77.49 19 P **P** **08 47 05.0 +1.7**
NIE pmax pmax
comp=Z,3.0nm,1.2s
BELG Belogornoye 77.74 2 ǁ *e*P **P** **08 47 04.0 -0.6**
BELG pmax pmax
comp=Z,7.0nm,1.1s
MODS Modra-Piesok 77.79 22 *e*P P 08 47 11.0 +6.0
MODS Modra-Piesok 77.79 22 *e*P P 08 47 11.0 +6.0
AKASG Malin Array Be 77.88 13 P **P** **08 47 05.1 -0.4**
comp=Z,10nm,1.0s,baz=349,slow=5.0,SNR=6.4
AKASG LR LR 09 22 46.2
comp=Z,149nm,18.5s,baz=335,slow=37
AKASG Malin Array Be 77.88 13 *i* P **P** **08 47 06.0 +0.6**
AKASG pmax pmax
comp=Z,11nm,1.0s
AKASG Malin Array Be 77.88 13 P **P** **08 47 04.6 -0.8**
AKBB Malin Array Si 77.88 13 ǁ *e*P **P** **08 47 06.2 +0.8**
AKBB pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 77.88 13 P **P** **08 47 05.4 0.0**
KBA Koelnbreinsper 77.99 25 P **P** **08 47 08.5 +2.1**
KBA pmax pmax
comp=Z,5.0nm,1.2s
NJ2 Nanjing 78.08 306 *e*P **P** **08 47 07.2 +0.4**
NJ2 pmax pmax
comp=Z,13nm,0.5s
ZSN Zaisan 78.20 337 *e*P **P** **08 47 06.4 -0.9**
baz=337
ZSN *e*S **S** **08 57 00.1 -2.2**
baz=337
ZSN Zaisan 78.20 337 *e*P **P** **08 47 06.4 -0.9**
ZSN *e*S **S** **08 57 00.0 -2.2**
BRZS Berezniki 78.33 345 *e*P **P** **08 47 07.2 -0.8**
baz=345
BRZS *e*S **S** **08 57 01.6 -2.0**
baz=345
BRZS Berezniki 78.33 345 *e*P **P** **08 47 07.2 -0.8**
BRZS *e*S **S** **08 57 01.5 -2.0**
VSR Storozhevoye 78.50 7 *e*P **P** **08 47 09.0 +0.1**
VSR pmax pmax
comp=Z,30nm,1.5s
ESDC Sonseca Array 78.65 40 P **P** **08 47 11.0 +1.0**
comp=Z,0.7nm,0.8s,baz=323,slow=5.0,SNR=2.8
ESDC LR LR 09 20 19.1
comp=Z,85nm,19.2s,baz=345,slow=34
UZH Uzhgorod 78.65 18 *e*P **P** **08 47 11.7 +2.0**
UZH *e* 08 47 21.5
VRH Novokhopyorsk 78.70 5 *e*P **P** **08 47 10.0 +0.1**
VRH pmax pmax
comp=Z,20nm,1.3s
MK31 Makanchi Array 79.45 338 ǁ *e*P **P** **08 47 13.2 -1.0**
MKAR Makanchi Array 79.45 338 P **P** **08 47 12.3 -1.9**
comp=Z,0.7nm,0.7s,baz=35,slow=4.4,SNR=7.7
MKAR LR LR 09 26 38.5
comp=Z,134nm,19.0s,baz=16,slow=39
MKAR Makanchi Array 79.45 338 *i* P **P** **08 47 13.0 -1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 79.45 338 P **P** **08 47 12.8 -1.4**
KMPD K-Podol'skiy 79.50 16 P **P** **08 47 19.0 +4.6**
MAKZ Makanchi 79.51 338 P **P** **08 47 13.5 -1.0**
MAKZ pmax pmax
comp=Z,12nm,1.1s
MAKZ Makanchi 79.51 338 P **P** **08 47 13.5 -1.0**
MAKZ IAmb IAmb 08 47 20.3
comp=Z,12nm,1.1s
DRGR 80.49 19 P **P** **08 47 22.2 +2.3**
DRGR pmax pmax
comp=Z,5.0nm,1.5s
ABKAR Akbulak array 80.55 354 P **P** **08 47 19.2 -0.8**
ABKAR Akbulak array 80.55 354 IAmb IAmb 08 47 26.4
comp=Z,12nm,1.2s
WMQ Urumqi 80.78 333 *e*P **P** **08 47 21.6 +0.1**
WMQ pP pwP 08 47 27.7 +2.1
WMQ sP PcP 08 47 30.2 +2.0
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ pmax pmax
comp=Z,290nm,6.1s
XAN Xi'an 81.35 314 P P 08 47 37.8 +13
XAN pP PcP 08 47 42.3 +12
XAN pmax pmax
comp=Z,4.0nm,0.7s
LZH Lanzhou 81.88 319 *e*P **P** **08 47 29.0 +1.4**
LZH sP pwP 08 47 40.9 +9.3
LZH pmax pmax
comp=Z,13nm,1.2s
LZH pmax pmax
comp=Z,71nm,7.6s
LZH LR LR
comp=Z,350nm,19.0s
LZH LR LR
comp=Z,340nm,19.0s
LZH LR LR
comp=Z,230nm,20.1s
DIVS Divibare 82.45 21 P **P** **08 47 30.0 -0.3**
DIVS IAmb IAmb 08 47 36.9
comp=Z,8.4nm,1.1s
CFR Carcaliu 83.07 15 P P 08 47 38.5 +5.1
CFR pmax pmax
comp=Z,12nm,1.3s
CHKK Chushkaly 83.43 341 *e*P **P** **08 47 35.2 -0.2**
baz=341
CHKK Chushkaly 83.43 341 *e*P **P** **08 47 35.1 -0.2**
KPKS Kokpek 83.43 340 *e*P **P** **08 47 34.7 -0.8**
baz=340
KPKS Kokpek 83.43 340 *e*P **P** **08 47 34.6 -0.8**
KUU Kurty 83.52 341 *e*P **P** **08 47 34.6 -1.2**
baz=341
KUU Kurty 83.52 341 *e*P **P** **08 47 34.6 -1.2**
SHLS Shalkode 83.54 339 *e*P **P** **08 47 34.4 -1.7**
comp=Z,3.5nm,1.4s,baz=339
SHLS Shalkode 83.54 339 *e*P **P** **08 47 34.3 -1.7**
SHLS pmax pmax
comp=Z,4.0nm,1.4s
SATY Saty 83.88 340 *e*P **P** **08 47 37.4 -0.5**
comp=Z,2.9nm,1.6s,baz=340
SATY Saty 83.88 340 *e*P **P** **08 47 37.3 -0.5**
SATY pmax pmax
comp=Z,3.0nm,1.6s
MDOK Medeo 84.07 341 *e*P **P** **08 47 37.9 -0.9**
baz=341
MDOK Medeo 84.07 341 *e*P **P** **08 47 37.9 -0.9**
AAK Ala-Archa 85.10 342 ǁ *i* P **P** **08 47 44.5 +0.5**
AAK pmax pmax
comp=Z,14nm,1.5s
KKAR Karatay Array 85.37 345 P **P** **08 47 44.8 -0.4**
KKAR Karatay Array 85.37 345 P **P** **08 47 44.8 -0.4**
LPAZ La Paz 85.49 122 P **P** **08 47 46.6 -0.1**
comp=Z,3.9nm,1.1s,baz=14,slow=8.0,SNR=5.8
LPAZ LR LR 09 28 38.3
comp=Z,69nm,22.0s,baz=330,slow=38
LPAZ La Paz 85.49 122 P **P** **08 47 46.6 -0.1**
LPAZ La Paz 85.49 122 P **P** **08 47 48.2 +1.5**
LPAZ IAmb IAmb 08 47 51.5
comp=Z,7.4nm,1.2s
KIV Kislovodsk 85.98 5 ǁ *e*P **P** **08 47 51.1 +2.8**
KIV pmax pmax
comp=Z,16nm,1.1s
SOC Sochi 86.13 8 *e*P **P** **08 47 47.4 -1.5**
SOC *e* 08 51 05.1
SOC *e*PPP PPP 08 53 04.8
SOC *e*S S 08 58 11.0 -13
SOC *e*SSS SSS 09 07 35.3
SOC pmax pmax
comp=Z,17nm,0.8s
KBZ Khabaz 86.22 5 P **P** **08 47 50.2 +1.0**
comp=Z,5.6nm,0.9s,baz=266,slow=9.9,SNR=5.0
KBZ Khabaz 86.22 5 ǁ *e*P **P** **08 47 51.7 +2.4**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 86.22 5 P **P** **08 47 50.2 +1.0**
CD2 Chengdu 86.32 316 *e*P **P** **08 47 49.0 -1.2**
IUG Iuzhnay 86.38 345 *e*P **P** **08 47 49.2 -1.2**
comp=Z,4.9nm,1.9s,baz=345
IUG Iuzhnay 86.38 345 *e*P **P** **08 47 49.1 -1.2**
IUG pmax pmax
comp=Z,5.0nm,1.9s
KSH Kashi 87.80 340 P **P** **08 47 59.0 +1.7**
KSH pP pwP 08 48 05.3 +4.0
KSH SS SS 09 04 28.8 +3.6
KSH pmax pmax
comp=Z,54nm,1.9s
KSH pmax pmax
comp=Z,230nm,4.3s
GYA Guiyang 88.75 312 *e*P **P** **08 48 06.3 +4.3**
GYA pmax pmax
comp=Z,9.0nm,1.0s
BRTR Keskin Array B 89.26 13 LR LR 09 29 20.2
comp=Z,108nm,19.2s,baz=358,slow=36
GEYT Alibeck 91.94 354 LR LR 09 32 14.7
comp=Z,72nm,20.2s,baz=350,slow=37
BDFB Brasilia 96.74 106 LR LR 09 37 11.2
comp=Z,51nm,19.3s,baz=304,slow=38
PEL Peldehue 98.09 133 P Pdif 08 48 46.6 +2.1
PEL pmax pmax
comp=Z,50nm,0.9s
PEL Peldehue 98.09 133 P Pdif 08 48 46.6 +2.1
CMAR Chiang Mai Arr 99.24 314 LR LR 09 36 58.5
comp=Z,59nm,18.8s,baz=86,slow=37
CPUP Villa Florida 99.49 120 LR LR 09 40 48.7
comp=Z,35nm,18.9s,baz=350,slow=40
BOSA Boshof 151.33 50 PKPbc **PKPbc** **08 55 01.4 -0.3**
comp=Z,5.6nm,1.0s,baz=13,slow=4.4,SNR=3.2
BOSA Boshof 151.33 50 PKIKP **PKPbc** **08 55 01.4 -0.3**
BOSA Boshof 151.33 50 **PKPbc** **08 55 01.4 -0.3**
SYO Syowa Base 160.47 169 ǁ *e*PKPdf **PKPdf** **08 55 07.0 +0.7**

*IDC **04** 08:37:38.5±0.8, 11°.95N×143°.11E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.0/46, mbtmp4.1/14, MS3.3/1, Ms1 3.3/1, ms1mx2.7/34, Error ellipse: s-maj=29.3km s-min=18.8km az=103.0*
*NEIC **04** 08:37:40.2±2.5, 11°.9N±0°.1×143°.1E±0°.1, h11km±4km, mb4.6/24, Error ellipse: s-maj=23.3km s-min=14.0km az=136.0*

ISC 04 08:37:43.4±0.8, 11°.9N±0°.1×143°.1E±0°.1, h31km, n48, σ0.97/40, mb4.4/25, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.38**	**46**		**Pn**	**08 38 19.1**	**-1.1**
JAY	**Jayapura**	**14.55**	**190**	LR	LR	08 46 27.7	
	comp=Z,112nm,18.1s,baz=317,slow=36						
JMN	**Monobe**	**23.28**	**340**	P	**P**	**08 42 48.0**	**-0.5**
H11S3	**WAKE ISLAND Hy**	**23.65**	**71**	T	T	09 07 21.4	
	baz=252,slow=73						
H11S1	**WAKE ISLAND Hy**	**23.67**	**71**	T	T	09 07 22.1	
	baz=252,slow=73						
H11S2	**WAKE ISLAND Hy**	**23.67**	**71**	T	T	09 07 16.8	
	baz=252,slow=73						
H11N1	**WAKE ISLAND Hy**	**24.13**	**68**	T	T	09 07 47.0	
	baz=254,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**24.14**	**68**	T	T	09 07 53.5	
	baz=254,slow=75,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**24.15**	**68**	T	T	09 07 51.4	
	baz=254,slow=75,SNR=8.9						
JWT	**Wachi**	**24.28**	**345**	P	**P**	**08 42 58.7**	**+0.8**
WB0	**Warramunga Arr**	**32.65**	**195**	P	**P**	**08 44 11.4**	**-1.4**
WR0	**Warramunga Arr**	**32.79**	**195**	P	**P**	**08 44 14.3**	**+0.3**
WR0				IAmb	IAmb	08 44 29.7	
	comp=Z,6.0nm,1.3s						
WB2	**Warramunga Arr**	**32.83**	**195**	P	**P**	**08 44 13.4**	**-1.0**
WRA	**Warramunga Arr**	**32.83**	**195**	P	**P**	**08 44 12.9**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=19,slow=9.8,SNR=15						
USRK	**Ussuriysk Ar.**	**33.55**	**345**	P	**P**	**08 44 20.1**	**-0.3**
	comp=Z,2.1nm,1.0s,baz=176,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**36.51**	**194**	P	**P**	**08 44 46.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=20,slow=11,SNR=6.8						
CMAR	**Chiang Mai Arr**	**43.03**	**284**	P	**P**	**08 45 40.5**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=108,slow=7.7,SNR=2.1						
SONM	**Songino Array**	**47.13**	**327**	P	**P**	**08 46 13.1**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=146,slow=6.9,SNR=6.5						
MKAR	**Makanchi Array**	**51.51**	**317**	P	**P**	**08 47 57.2**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=90,slow=7.2,SNR=1.6						
KURK	**Kurchatov**	**64.76**	**321**	P	**P**	**08 48 17.9**	**-0.9**
KURK				IAmb	IAmb	08 48 21.1	
	comp=Z,3.8nm,0.8s						
COLD	**Coldfoot**	**70.12**	**22**	P	**P**	**08 48 53.8**	**+1.3**
COLD				IAmb	IAmb	08 48 54.7	
	comp=Z,7.1nm,1.0s						
WRH	**Wood River Hil**	**70.22**	**25**	P	**P**	**08 48 52.5**	**-0.6**
WRH				IAmb	IAmb	08 48 54.0	
	comp=Z,5.0nm,1.0s						
BRVK	**Borovoye**	**70.24**	**322**	P	**P**	**08 48 52.8**	**-0.7**
BRVK				IAmb	IAmb	08 48 55.3	
	comp=Z,2.8nm,0.8s						
MDM	**Murphy Dome**	**70.28**	**25**	P	**P**	**08 48 52.6**	**-0.9**
MDM				IAmb	IAmb	08 48 55.6	
	comp=Z,2.9nm,0.8s						
CCB	**Clear Creek Bu**	**70.38**	**25**	P	**P**	**08 48 53.5**	**-0.6**
M24K	**Tolsona, Glenn**	**70.53**	**28**	P	**P**	**08 48 56.2**	**+1.0**
HDA	**Harding Lake**	**70.68**	**26**	P	**P**	**08 48 54.9**	**-1.0**
HDA				IAmb	IAmb	08 48 57.3	
	comp=Z,4.6nm,0.9s						
TOLK	**Toolik Lake Re**	**70.77**	**21**	P	**P**	**08 48 57.1**	**+0.7**
TOLK				IAmb	IAmb	08 48 58.0	
	comp=Z,4.0nm,0.6s						
IL31		**70.79**	**25**	P	**P**	**08 48 55.1**	**-1.5**
IL31				IAmb	IAmb	08 48 56.0	
	comp=Z,3.5nm,0.6s						
ILAR	**Eielson Array**	**70.79**	**25**	P	**P**	**08 48 55.3**	**-1.3**
	comp=Z,2.5nm,0.5s,baz=248,slow=5.9,SNR=41						
ILAR	**Eielson Array**	**70.79**	**25**	P	**P**	**08 48 54.8**	**-1.8**
PAX	**Paxson**	**71.02**	**27**	P	**P**	**08 48 58.3**	**+0.1**
PAX				IAmb	IAmb	08 48 58.8	
	comp=Z,2.7nm,0.7s						
DOT	**Dot Lake**	**71.77**	**27**	P	**P**	**08 49 02.4**	**-0.3**
DOT				IAmb	IAmb	08 49 03.7	
	comp=Z,6.0nm,0.8s						
FYU	**Fort Yukon**	**71.86**	**24**	P	**P**	**08 49 02.2**	**-0.8**
MCARA	**McCarthy VSAT**	**71.88**	**29**	P	**P**	**08 49 02.2**	**-1.1**
BMAR	**Burnt Mountain**	**72.28**	**23**	P	**P**	**08 49 06.8**	**+1.2**
INK	**Inuvik**	**76.54**	**22**	P	**P**	**08 49 29.9**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=287,slow=6.5,SNR=4.9						
INK	**Inuvik**	**76.54**	**22**	IAmb	IAmb	08 49 40.3	
	comp=Z,6.3nm,1.4s						
ABKAR	**Akbulak array**	**76.62**	**318**	P	**P**	**08 49 31.9**	**+0.7**
ABKAR	**Akbulak array**	**76.62**	**318**	P	**P**	**08 49 31.8**	**+0.7**
ABKAR				IAmb	IAmb	08 49 32.5	
	comp=Z,1.8nm,0.6s						
YKA	**Yellowknife Ar**	**85.11**	**27**	P	**P**	**08 50 16.2**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=289,slow=4.2,SNR=12						
RES	**Resolute Bay**	**86.55**	**13**	P	**P**	**08 50 24.1**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=334,slow=5.6,SNR=11						
ARCES	**ARCESS Array B**	**88.12**	**342**	P	**P**	**08 50 30.7**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=83,slow=7.4,SNR=6.9						
NVAR	**Mina Array Bea**	**89.29**	**51**	P	**P**	**08 50 38.3**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=268,slow=5.4,SNR=21						
NVAR	**Mina Array Bea**	**89.29**	**51**	P	**P**	**08 50 38.1**	**+0.9**
MFID	**Camas Ranch**	**89.78**	**46**	P	**P**	**08 50 41.0**	**+1.8**
FINES	**FINESS Array B**	**91.93**	**335**	P	**P**	**08 50 47.4**	**-1.3**
	comp=Z,1.5nm,0.7s,baz=62,slow=3.5,SNR=8.7						
PDAR	**Pinedale Array**	**94.34**	**45**	P	**P**	**08 51 01.5**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=245,slow=5.8,SNR=2.6						

ROM 04 08:45:21.9±0.0, 43°.150N±0°.002×13°.003E±0°.005, h11km, ML0.5/3, 2D, Error ellipse: s-maj=0.4km s-min=0.1km az=80.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNTG	**Esanatoglia**	**0.11**	**336**	P	Pg	08 45 25.3	+0.4
SNTG				S	Sg	08 45 27.8	+0.7
SNTG				AML	AML		
	comp=E,73μm,0.1s						
SNTG				AML	AML		
	comp=N,57μm,0.3s						

SNTG				AML	AML		
	comp=E,73μm,0.1s						
SNTG				AML	AML		
	comp=N,57μm,0.3s						
FDMO	**Fiordimonte**	**0.13**	**152**	P	Pg	08 45 25.5	+0.4
FDMO				S	Sg	08 45 28.2	+0.9
FDMO				AML	AML		
	comp=E,29μm,0.4s						
FDMO				AML	AML		
	comp=E,29μm,0.4s						
FDMO				AML	AML		
	comp=N,22μm,1.4s						
CSP1	**Cessapalombo**	**0.16**	**112**	P	Pg	08 45 26.1	+0.5
CSP1				S	Sg	08 45 29.3	+1.1
CESI	**CESI - Serrava**	**0.16**	**206**	P	Pg	08 45 26.2	+0.5
CESI				S	Sg	08 45 29.3	+1.1
CESI				AML	AML		
	comp=N,22μm,0.1s						
CESI				AML	AML		
	comp=E,18μm,0.2s						
CESI				AML	AML		
	comp=N,22μm,0.1s						
EL6	**Elcito**	**0.19**	**22**	P	Pg	08 45 26.7	+0.5
EL6				S	Sg	08 45 30.1	+1.0
NRCA	**Norcia**	**0.33**	**166**	P	Pg	08 45 28.7	+0.2
NRCA				S	Sb	08 45 34.1	-1.0
CPGN	**Carpegna, Ital**	**0.82**	**323**	P	Pn	08 45 39.4	-0.1
FIAM	**Fiamignano**	**0.89**	**175**	S	Sb	08 45 52.0	+0.8
TOLF	**Tolfa**	**1.31**	**215**	P	Pn	08 45 44.8	-1.4
SACR	**S. Croce Del S**	**2.16**	**144**	P	Pb	08 46 01.9	+0.9
CAVE	**Cavezzo**	**2.24**	**321**	S	Sb	08 46 29.0	-1.1
NDIM	**Novi di Modena**	**2.31**	**320**	⇓P	Pn	08 46 00.4	+0.5
CTI	**Castel Tesino**	**3.05**	**342**	S	Sg	08 46 57.0	-3.0
LEOD	**Capriano del C**	**3.10**	**319**	S	Sb	08 46 56.0	+1.2
EUCT	**Pavia**	**3.46**	**308**	P	Pb	08 46 20.6	-2.5
EUCT				S	Sn	08 46 57.0	+0.4
MDI	**Monti di Nese**	**3.53**	**319**	P	Pb	08 46 23.0	-1.4
SOLUN	**Solunto**	**5.07**	**175**	⇓P	Pn	08 46 38.8	+1.0

IDC 04 08:48:06.4±3.5**, 55°.40N×86°.26E, h0km, mb1 2.8**/2**, mb1mx2.8**/36**, mbtmp2.8**/2**, ML2.2**/2**, Error ellipse: s-maj=24.8km s-min=21.8km az=32.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.68**	**211**	*i*		08 58 13.4	
	baz=22,slow=345,SNR=3.3						
ZALV	**Zalesovo Beam**	**1.68**	**211**	Pg	Pn	08 48 35.2	-1.7
	2.2nm,0.3s,baz=32,slow=16,SNR=28						
ZALV				Lg	Lg	08 49 00.7	
	1.8nm,0.3s,baz=32,slow=28,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.68**	**227**	Pn	Pn	08 49 45.9	+0.3
	0.0nm,0.3s,baz=48,slow=15,SNR=4.1						
KURBB				Sn	Sn	08 51 02.4	0.0
	0.1nm,0.3s,baz=31,slow=28,SNR=6.0						
KURBB				Lg	Lg	08 51 39.6	
	0.1nm,0.3s,baz=45,slow=30,SNR=4.3						
MKAR	**Makanchi Array**	**8.97**	**198**	Pn	Pn	08 50 17.4	+0.3
	0.0nm,0.3s,baz=19,slow=10,SNR=3.0						
MKAR				Sn	Sn	08 51 56.0	-2.8
	0.0nm,0.3s,baz=13,slow=23,SNR=1.5						
MKAR				Lg	Lg	08 52 47.7	
	0.0nm,0.3s,baz=19,slow=29,SNR=2.9						

IDC 04 08:52:49.6±3.0**, 54°.34N×87°.06E, h0km, mb1 2.9**/2**, mb1mx2.9**/36**, mbtmp2.9**/2**, ML2.4**/2**, Error ellipse: s-maj=24.3km s-min=18.4km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**254**	*i*		09 00 40.0	
	baz=75,slow=322,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.38**	**254**	Pg	Pg	08 53 14.1	-1.8
	1.9nm,0.3s,baz=75,slow=17,SNR=27						
ZALV				Lg	Lg	08 53 33.4	
	1.3nm,0.3s,baz=68,slow=24,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.40**	**238**	Pn	Pn	08 54 25.9	+0.9
	0.1nm,0.3s,baz=53,slow=14,SNR=6.2						
KURBB				Sn	Sn	08 55 39.3	+0.5
	0.0nm,0.3s,baz=136,slow=16,SNR=0.9						
KURBB				Lg	Lg	08 56 11.9	
	baz=48,slow=28,SNR=2.5						
MKAR	**Makanchi Array**	**8.14**	**204**	Pn	Pn	08 54 50.2	+1.2
	0.1nm,0.3s,baz=18,slow=9.6,SNR=2.9						
MKAR				Lg	Lg	08 57 05.5	
	0.0nm,0.3s,baz=24,slow=25,SNR=3.1						

IDC 04 08:59:59.9±2.5**, 54°.33N×86°.13E, h0km, mb1 3.2**/2**, mb1mx3.0**/42**, mbtmp3.2**/2**, ML2.9**/2**, Error ellipse: s-maj=19.8km s-min=11.7km az=52.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.86**	**244**	*i*		09 04 49.3	
	baz=65,slow=340,SNR=0.9						
ZALV	**Zalesovo Beam**	**0.86**	**244**	Pg	Pg	09 00 14.9	-1.4
	1.5nm,0.3s,baz=62,slow=17,SNR=15						
ZALV				Lg	Lg	09 00 28.7	
	4.6nm,0.3s,baz=60,slow=27,SNR=9.8						
KURBB	**Kurchatov Arra**	**5.94**	**234**	Pn	Pn	09 01 30.5	+1.5
	0.1nm,0.3s,baz=52,slow=14,SNR=11						
MKAR	**Makanchi Array**	**7.93**	**199**	Pn	Pn	09 01 56.8	+0.5
	0.4nm,0.3s,baz=23,slow=9.8,SNR=20						
MKAR				Sn	Sn	09 03 25.9	-0.7
	0.1nm,0.3s,baz=22,slow=28,SNR=2.4						

IDC ***04*** *09:56:10.1±2.2, 39°.81N×143°.62E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.5/40, mbtmp3.6/8, ML2.6/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/34, Error ellipse: s-maj=51.2km s-min=22.7km az=66.0*

JMA ***04*** *09:56:12.7±0.2, 39°.87N×143°.33E, h16km±3km, M4.0*

ISC 04 09:56:11.1±3.8**, 39°.90N**±0°.06×**143°.32E**±0°.08**, h1**km±25km**, n29,** σ**1s.16**/30**, mb3.6**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.12**	**273**	P	**Pb**	**09 56 33.3**	**-0.1**
JTH				S	**Sb**	**09 56 48.2**	**-0.3**
MIYJ	**Miyakonagasawa**	**1.20**	**255**	P	**Pn**	**09 56 34.6**	**-0.5**
MIYJ				*e*S	**Sb**	**09 56 50.5**	**-0.3**
JKEN	**Kujiedanarisaw**	**1.28**	**285**	P	**Pn**	**09 56 35.6**	**-0.5**
JKEN				*e*S	**Sb**	**09 56 52.0**	**-0.9**
JANG	**Nango**	**1.47**	**290**	P	**Pn**	**09 56 38.9**	**+0.1**
JOM	**Ohasama**	**1.62**	**256**	P	**Pb**	**09 56 41.6**	**-0.3**
JOM				*e*S	**Sb**	**09 57 02.3**	**-0.6**
JMK	**Ichinoseki**	**1.88**	**241**	P	**Pn**	**09 56 44.7**	**+0.3**
JMK				*e*S	**Sn**	**09 57 08.0**	**-0.8**
JTM	**Tenmabayashi**	**1.94**	**298**	P	**Pb**	**09 56 46.6**	**-0.7**
JTM				*e*S	**Sb**	**09 57 10.8**	**-1.2**
JAH	**Hinai**	**2.08**	**279**	P	**Pb**	**09 56 49.1**	**-0.6**
JAH				*e*S	**Sb**	**09 57 15.0**	**-1.1**
JIO	**Ouri**	**2.10**	**227**	P	**Pn**	**09 56 47.0**	**-0.5**
JRG	**Rokugo**	**2.13**	**257**	P	**Pb**	**09 56 49.5**	**-1.1**
JRG				*e*S	**Sb**	**09 57 16.5**	**-1.1**
JOT	**Ohata**	**2.28**	**311**	P	**Pb**	**09 56 52.0**	**-1.1**
JNBK	**Urakawa-nobuka**	**2.42**	**350**	P	**Pb**	**09 56 54.6**	**-0.9**
JYK	**Kaneyama**	**2.50**	**248**	P	**Pn**	**09 56 54.4**	**+1.5**
MJAR	**Matsushiro Arr**	**5.24**	**232**	Pn	**Pn**	**09 57 31.2**	**+0.6**
	0.1nm,0.3s,baz=57,slow=7.8,SNR=4.5						
MJAR				LR	LR	09 59 44.0	
	comp=Z,27nm,20.7s,baz=250,slow=40						
USRK	**Ussuriysk Ar.**	**9.46**	**301**	Pn	**Pn**	**09 58 31.8**	**+3.2**
	baz=123,slow=11,SNR=16						
KSRS	**Korea Array**	**12.28**	**263**	Pn	**Pn**	**09 59 09.5**	**+2.3**
	0.1nm,0.3s,baz=75,slow=14,SNR=1.9						
SONM	**Songino Array**	**27.57**	**299**	P	**P**	**10 02 00.6**	**+0.9**
	0.6nm,0.7s,baz=90,slow=8.3,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**28.52**	**128**	T	T	10 33 00.0	
	baz=318,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy**	**28.53**	**128**	T	T	10 33 04.3	
	baz=318,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**28.54**	**128**	T	T	10 33 04.9	
	baz=318,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**29.35**	**130**	T	T	10 32 53.2	
	baz=321,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**29.35**	**130**	T	T	10 32 53.3	
	baz=321,slow=76,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**29.36**	**130**	T	T	10 32 56.0	
	baz=321,slow=76,SNR=6.6						
TGY	**Tagaytay City**	**32.34**	**224**	P	**P**	**10 02 42.0**	**-0.1**
	244nm,0.3s,baz=156,slow=3.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**41.16**	**310**	P	**P**	**10 03 57.7**	**+0.9**
	1.3nm,0.5s,baz=93,slow=8.4,SNR=7.1						
MKAR	**Makanchi Array**	**43.93**	**300**	P	**P**	**10 04 20.3**	**+0.8**
	0.6nm,0.7s,baz=82,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**60.11**	**190**	P	**P**	**10 06 18.9**	**-1.3**
	0.2nm,0.4s,baz=7.0,slow=6.9,SNR=2.0						
ASAR	**Alice Springs**	**63.84**	**190**	P	**P**	**10 06 43.9**	**-1.3**
	0.3nm,0.7s,baz=12,slow=5.7,SNR=4.8						
RAO	**Raoul Island**	**77.66**	**146**	LR	LR	10 38 55.6	
	comp=Z,42nm,20.3s,baz=326,slow=33						

SOME ***04*** *10:03:55.4, 43°.68N×69°.68E*

NNC ***04*** *10:03:56.5±1.9, 43°.69N×69°.75E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=11.2km s-min=6.1km az=137.0, Suspected Mining explosion.*

KRNET ***04*** *10:03:56.1±0.1, 43°.80N×69°.53E, mb2.9*

ISC 04 10:03:54.0±2.2**, 43°.80N**±0°.08×**69°.81E**±0°.09**, h0**km**, n18,** σ**0s.70**/27**, 15C-2D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.77**	**179**	P	**Pn**	**10 04 12.1**	**0.0**
	18nm,0.2s						
BRLS				S	**Sn**	**10 04 24.2**	**-0.1**
	26nm,0.3s						
KK31	**Karatay Array**	**0.86**	**143**	⇑P	**Pb**	**10 04 12.1**	**+0.3**
	0.6nm,0.2s,baz=322,slow=15,SNR=108						
KK31				⇑S	**Sb**	**10 04 23.6**	**-0.2**
	7.4nm,0.3s,baz=323,slow=33,SNR=136						
IUG	**Iuzhnay**	**1.66**	**174**	P	**Pg**	**10 04 26.3**	**+0.6**
	26nm,0.3s						
IUG				S	**Sg**	**10 04 48.1**	**+0.9**
	36nm,0.3s						
MNAS	**Manas**	**2.37**	**123**	⇓*e*P	**Pg**	**10 04 39.3**	**0.0**
	baz=20						
MNAS				⇓*i*S	**Sg**	**10 05 11.3**	**+1.4**
	baz=20						
TRKS	**Terek-Say**	**2.47**	**156**	⇑*e*P	**Pg**	**10 04 41.0**	**-0.2**
	baz=52						
TRKS				⇑*i*S	**Sg**	**10 05 13.3**	**+0.1**
	baz=52						
MRKS	**Merke**	**2.71**	**112**	Pg	**Pg**	**10 04 46.4**	**+0.6**
	5.0nm,0.5s						
MRKS				Lg	Lg	10 05 24.0	
	10nm,0.3s						
EKS2	**Erkin-Say**	**3.11**	**110**	⇑*i*P	**Pb**	**10 04 50.6**	**+0.4**
	baz=9.0						
EKS2				⇑*i*S	**Sb**	**10 05 29.7**	**+0.9**
	baz=9.0						
AML	**Almayashu**	**3.30**	**119**	⇑*i*P	**Pb**	**10 04 53.1**	**-0.5**
	baz=17						
AML				⇑*i*S	**Sb**	**10 05 34.6**	**+0.2**
	baz=17						
ARSB	**Arslanbob**	**3.40**	**135**	⇑*i*P	**Pb**	**10 04 53.9**	**-1.3**
	baz=33						
ARSB				⇑*i*S	**Sb**	**10 05 36.1**	**-1.1**
	baz=33						
AAK	**Ala-Archa**	**3.61**	**107**	⇑*i*P	**Pb**	**10 04 57.4**	**-1.4**
	baz=6.0						
AAK				⇑*i*S	**Sb**	**10 05 42.1**	**-1.1**
	baz=6.0						
AAK	**Ala-Archa**	**3.61**	**107**	Pg	**Pg**	**10 05 03.0**	**-0.2**
	3.3nm,0.6s						
AAK				⇑Lg	Lg	10 05 53.5	
	3.1nm,0.5s						
KRBS	**Karabastau**	**4.25**	**89**	Pg	**Pg**	**10 05 15.6**	**+0.2**
	3.0nm,0.4s						
KRBS				Lg	Lg	10 06 13.1	
	5.2nm,0.5s						
TKM2	**Tokmak 2**	**4.31**	**100**	⇑Pg	**Pg**	**10 05 16.6**	**+0.1**
	2.2nm,0.7s						
TKM2				⇑Lg	Lg	10 06 15.1	
	4.5nm,0.8s						
DGS	**Degeres**	**4.37**	**95**	Pg	**Pg**	**10 05 18.3**	**+0.6**
	2.6nm,0.5s						
DGS				Lg	Lg	10 06 17.6	
	6.8nm,0.5s						
KST	**Kastek**	**4.54**	**97**	Pg	**Pg**	**10 05 21.3**	**+0.2**
	4.7nm,0.7s						
KST				Lg	Lg	10 06 22.6	
	8.4nm,0.6s						
KUU	**Kurty**	**4.72**	**87**	Pg	**Pg**	**10 05 24.9**	**+0.5**
	1.0nm,0.1s						
KUU				Lg	Lg	10 06 28.9	
	9.0nm,0.5s						
TNSS	**Tian-Shan**	**5.25**	**96**	Pg	**Pg**	**10 05 34.6**	**0.0**
	1.2nm,0.4s						
TNSS				Lg	Lg	10 06 45.5	
	2.5nm,0.5s						
ARXS	**Arharly**	**5.80**	**83**	Pg	**Pg**	**10 05 45.3**	**+0.3**
	1.6nm,0.5s						

IDC ***04*** *10:30:46.3±3.2, 40°.53S×175°.80E, h0km, mb3.8/2, mb1 3.8/4, mb1mx3.7/37, mbtmp3.6/4, ML2.5/2, Error ellipse: s-maj=75.0km s-min=23.8km az=134.0*

NOU ***04*** *10:30:49.8, 40°.80S×176°.21E, h47km, MLv3.4, North Island, New Zealand*

WEL ***04*** *10:30:50.9, 40°.6S±0°.6×17°6E±°, h29km±1km, M3.5/24, ML3.8/24, MLv3.5/24, Error ellipse: s-maj=0.0km s-min=0.0km az=97.7*

ISC 04 10:30:51.0±0.9**, 40°.64S**±0°.02×**175°.91E**±0°.02**, h33**km±2km**, n123,** σ**1s.25**/139**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRWZ	**Pori Road**	**0.10**	**29**	P	**Pb**	**10 30 56.5**	**-0.4**
PRWZ				S	**Sb**	**10 31 00.5**	**-0.4**
TIWZ	**Tintock**	**0.13**	**186**	P	**Pb**	**10 30 57.2**	**0.0**
TIWZ				S	**Sb**	**10 31 01.7**	**+0.4**
MRZ	**Mangatainoka R**	**0.25**	**266**	P	**Pb**	**10 30 57.9**	**-0.3**
MRZ				S	**Sn**	**10 31 02.7**	**+1.2**
BFZ	**Birch Farm**	**0.26**	**98**	P	**Pb**	**10 30 58.5**	**+0.1**
BFZ				S	**Sb**	**10 31 04.2**	**+0.8**
POWZ	**Post Office Ro**	**0.27**	**338**	P	**Pb**	**10 30 57.8**	**-0.7**
CPWZ	**Castlepoint**	**0.35**	**140**	P	**Pn**	**10 31 00.8**	**+1.0**
CPWZ				S	**Sb**	**10 31 10.0**	**+4.8**
HOWZ	**Holdsworth Sta**	**0.39**	**229**	P	**Pb**	**10 31 00.3**	**+0.2**
HOWZ				S	**Sb**	**10 31 07.0**	**+0.8**
DVHZ	**Dannevirke**	**0.40**	**30**	P	**Pb**	**10 30 59.6**	**-0.5**
DVHZ				S	**Sb**	**10 31 05.8**	**-0.6**
TMWZ	**Te Maipa**	**0.46**	**181**	P	**Pb**	**10 31 02.0**	**+0.9**
TMWZ				S	**Sn**	**10 31 10.7**	**+2.3**
ANWZ	**Angora Road**	**0.47**	**67**	P	**Pn**	**10 31 01.5**	**+0.1**
ANWZ				S	**Sn**	**10 31 10.0**	**+1.3**
OGWZ	**Otaki Gorge**	**0.58**	**253**	P	**Pn**	**10 31 03.2**	**+0.3**
TSZ	**Takapari Road**	**0.59**	**4**	P	**Pn**	**10 31 02.5**	**-0.5**
MTW	**Mount Morrison**	**0.60**	**211**	P	**Pn**	**10 31 03.5**	**+0.4**
MTW				S	**Sn**	**10 31 13.3**	**+1.6**
OHWZ	**Ohakea**	**0.63**	**314**	P	**Pn**	**10 31 04.2**	**+0.7**
PRHZ	**Porangahau**	**0.67**	**56**	P	**Pn**	**10 31 04.4**	**+0.2**
PRHZ				S	**Sn**	**10 31 15.3**	**+1.7**
WPHZ	**Waipukurau**	**0.71**	**35**	P	**Pn**	**10 31 05.1**	**+0.4**
PNHZ	**Pukenui**	**0.76**	**17**	P	**Pn**	**10 31 05.5**	**0.0**
PNHZ				S	**Sb**	**10 31 16.5**	**+0.4**
TRWZ	**Traveller**	**0.77**	**192**	P	**Pn**	**10 31 05.9**	**+0.3**
CAW	**Cannon Point**	**0.79**	**234**	P	**Pn**	**10 31 06.4**	**+0.6**
CAW				S	**Sn**	**10 31 17.6**	**+1.2**
KIW	**Kapiti Island**	**0.79**	**254**	P	**Pn**	**10 31 06.5**	**+0.7**
KIW				S	**Sn**	**10 31 17.7**	**+1.3**
PAWZ	**Paruwai Farm**	**0.82**	**206**	P	**Pn**	**10 31 06.5**	**+0.2**
MSWZ	**Moikau Station**	**0.92**	**213**	P	**Pn**	**10 31 07.6**	**0.0**
PXZ	**Pawanui**	**0.95**	**50**	P	**Pn**	**10 31 08.1**	**0.0**
PLWZ	**Palliser**	**1.05**	**208**	P	**Pn**	**10 31 09.2**	**-0.2**
KRHZ	**Kereru**	**1.06**	**20**	P	**Pn**	**10 31 09.8**	**+0.2**
WEL	**Wellington**	**1.07**	**233**	P	**Pn**	**10 31 10.1**	**+0.4**
BHW	**Baring Head**	**1.09**	**225**	P	**Pn**	**10 31 10.1**	**+0.1**
KAHZ	**Kahuranaki**	**1.13**	**42**	P	**Pn**	**10 31 10.6**	**+0.1**
WAZ	**Wanganui**	**1.13**	**321**	P	**Pb**	**10 31 12.4**	**+0.3**
BHHZ	**Black Hill Sta**	**1.16**	**6**	P	**Pn**	**10 31 11.7**	**+0.7**
MOVZ	**Moawhango**	**1.24**	**355**	P	**Pn**	**10 31 13.1**	**+0.9**
KWHZ	**Kaweka Forest**	**1.28**	**18**	P	**Pn**	**10 31 13.0**	**+0.3**
MTVZ	**Mangateitei**	**1.30**	**345**	P	**Pn**	**10 31 14.4**	**+1.5**
CKHZ	**Cape Kidnapper**	**1.33**	**43**	P	**Pn**	**10 31 12.8**	**-0.5**
WNVZ	**Wahianoa**	**1.34**	**350**	P	**Pn**	**10 31 14.8**	**+1.3**
MCHZ	**McNeill Hill**	**1.34**	**27**	P	**Pn**	**10 31 13.8**	**+0.3**
TCW	**Tory Channel**	**1.36**	**245**	P	**Pn**	**10 31 13.9**	**+0.2**
TRVZ	**Turoa**	**1.37**	**348**	P	**Pn**	**10 31 15.5**	**+1.5**
WHVZ	**Whangaehu Hut**	**1.38**	**350**	P	**Pn**	**10 31 15.7**	**+1.5**
TUVZ	**Tukino**	**1.39**	**352**	P	**Pn**	**10 31 15.7**	**+1.4**
DRZ	**Dome Shelter**	**1.39**	**349**	P	**Pb**	**10 31 16.5**	**-0.2**
FWVZ	**Far West T-bar**	**1.41**	**349**	P	**Pn**	**10 31 16.1**	**+1.4**
PKVZ	**Pokaka**	**1.42**	**342**	P	**Pn**	**10 31 15.8**	**+1.2**
NGZ	**Ngauruhoe**	**1.49**	**351**	P	**Pn**	**10 31 16.9**	**+1.4**
OTVZ	**Oturere**	**1.49**	**353**	P	**Pn**	**10 31 17.0**	**+1.3**
ETVZ	**East Tongariro**	**1.51**	**354**	P	**Pn**	**10 31 17.2**	**+1.3**
DUWZ	**D'Urville Isla**	**1.52**	**263**	P	**Pn**	**10 31 16.3**	**+0.4**
TMVZ	**Te Maari**	**1.54**	**354**	P	**Pn**	**10 31 17.4**	**+1.2**
BKZ	**Black Stump Fm**	**1.54**	**17**	P	**Pn**	**10 31 16.3**	**0.0**
WTVZ	**West Tongariro**	**1.55**	**351**	P	**Pn**	**10 31 17.7**	**+1.3**
KRVZ	**Karewarewa**	**1.56**	**352**	P	**Pn**	**10 31 18.3**	**+1.8**
TWVZ	**Taurewa**	**1.61**	**347**	P	**Pn**	**10 31 18.6**	**+1.4**
ARHZ	**Aropaoanui**	**1.61**	**32**	P	**Pn**	**10 31 17.3**	**+0.2**
LREZ	**Lake Rotokare**	**1.65**	**315**	P	**Pb**	**10 31 20.6**	**-0.3**
RITZ	**Rihia Road**	**1.67**	**359**	P	**Pb**	**10 31 20.8**	**-0.3**
KATZ	**Kakaramea**	**1.68**	**354**	P	**Pn**	**10 31 20.1**	**+2.0**
TUWZ	**Tuamarina**	**1.68**	**242**	P	**Pn**	**10 31 17.7**	**-0.4**
CMWZ	**Cape Campbell**	**1.69**	**229**	P	**Pb**	**10 31 21.0**	**-0.5**
NMHZ	**Naumai**	**1.69**	**24**	P	**Pn**	**10 31 18.7**	**+0.4**
VRZ	**Vera Road**	**1.76**	**329**	P	**Pn**	**10 31 20.7**	**+1.6**
HATZ	**Hinemaiaia**	**1.76**	**5**	P	**Pn**	**10 31 19.7**	**+0.5**
RATZ	**Rangitukua**	**1.78**	**357**	P	**Pn**	**10 31 21.2**	**+1.7**
MRHZ	**Matea Rd**	**1.85**	**12**	P	**Pn**	**10 31 20.6**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.87**	**234**	P	**Pn**	**10 31 20.4**	**-0.2**
PREZ	**Palmer Road**	**1.87**	**314**	P	**Pb**	**10 31 23.9**	**-0.7**
WHHZ	**Waihua**	**1.87**	**34**	P	**Pn**	**10 31 20.5**	**-0.2**
MTHZ	**Maungataniwha**	**1.93**	**22**	P	**Pn**	**10 31 21.6**	**+0.1**
WATZ	**Wairara**	**1.94**	**356**	P	**Pn**	**10 31 22.4**	**+0.7**
RAHZ	**Arahi**	**1.95**	**28**	P	**Pn**	**10 31 21.6**	**-0.3**
NEZ	**North Egmont**	**1.95**	**314**	P	**Pb**	**10 31 25.0**	**-1.0**
KHEZ	**Kahui Hut**	**1.98**	**312**	P	**Pn**	**10 31 24.9**	**+2.6**
NMEZ	**Namu Road**	**1.98**	**308**	P	**Pb**	**10 31 25.5**	**-1.0**
NNZ	**Nelson**	**2.00**	**253**	P	**Pn**	**10 31 22.9**	**+0.4**
PKE	**Pukeiti**	**2.07**	**314**	P	**Pb**	**10 31 26.6**	**-1.3**
NBEZ	**Newall Road No**	**2.08**	**311**	P	**Pb**	**10 31 27.4**	**-0.8**
ALRZ	**Allen Road**	**2.11**	**9**	P	**Pb**	**10 31 27.8**	**-0.8**
KNZ	**Kokohu**	**2.12**	**41**	P	**Pn**	**10 31 23.1**	**-1.0**
WPRZ	**Whakapapatarin**	**2.13**	**5**	P	**Pb**	**10 31 30.3**	**+1.2**
MHGZ	**Mahia Peninsul**	**2.14**	**47**	P	**Pn**	**10 31 23.4**	**-1.0**
KUTZ	**Kaahu Road**	**2.15**	**358**	P	**Pn**	**10 31 26.2**	**+1.6**
SNGZ	**Shannon Statio**	**2.17**	**31**	P	**Pn**	**10 31 24.3**	**-0.5**
PRRZ	**Plateau Road**	**2.18**	**10**	P	**Pn**	**10 31 25.0**	**+0.1**
RTZ	**Ruatahuna**	**2.19**	**23**	P	**Pn**	**10 31 26.3**	**+1.2**
MUGZ	**Murupara**	**2.27**	**17**	P	**Pn**	**10 31 25.9**	**-0.3**
HRRZ	**Handcock Road**	**2.27**	**8**	P	**Pn**	**10 31 28.2**	**+1.9**
HIZ	**Hauiti**	**2.28**	**339**	P	**Pn**	**10 31 27.6**	**+1.3**
GRRZ	**Galatos Road**	**2.30**	**4**	P	**Pb**	**10 31 33.7**	**+1.9**
PRGZ	**Paritu Road**	**2.30**	**42**	P	**Pn**	**10 31 25.4**	**-1.2**
TLZ	**Tolley Road**	**2.33**	**353**	P	**Pn**	**10 31 28.2**	**+1.1**
HSRZ	**Hossack Road**	**2.34**	**7**	P	**Pn**	**10 31 27.7**	**+0.5**
RRRZ	**Republican Roa**	**2.35**	**12**	P	**Pn**	**10 31 28.7**	**+1.4**
RIGZ	**Rimuhau**	**2.41**	**37**	P	**Pn**	**10 31 27.1**	**-1.0**
RAGZ	**Rawiri**	**2.44**	**29**	P	**Pn**	**10 31 27.6**	**-1.0**
TARZ	**Mount Tarawera**	**2.45**	**11**	P	**Pn**	**10 31 28.8**	**0.0**
KHZ	**Kahutara**	**2.51**	**224**	P	**Pn**	**10 31 28.2**	**-1.2**
THZ	**Tophouse**	**2.52**	**243**	P	**Pn**	**10 31 29.5**	**-0.2**
URZ	**Urewera**	**2.56**	**22**	Pn	**Pn**	**10 31 28.6**	**-1.5**
	0.5nm,0.3s,baz=250,slow=4.0,SNR=15						
URZ				Sn	**Sn**	**10 31 58.8**	**-1.3**
	4.2nm,0.3s,baz=246,slow=7.1,SNR=10						
URZ	**Urewera**	**2.56**	**22**	P	**Pn**	**10 31 28.8**	**-1.4**
QRZ	**Quartz Range**	**2.57**	**265**	P	**Pn**	**10 31 30.6**	**+0.3**
MWZ	**Matawai**	**2.63**	**29**	P	**Pn**	**10 31 29.7**	**-1.5**
TKGZ	**Te Karaka**	**2.67**	**35**	P	**Pn**	**10 31 30.2**	**-1.4**
CNGZ	**Carnagh Statio**	**2.80**	**40**	P	**Pn**	**10 31 32.5**	**-0.9**
WHRZ	**Whale Island**	**2.91**	**17**	P	**Pb**	**10 31 40.5**	**-1.7**
TOZ	**Tahuroa Road**	**2.93**	**354**	P	**Pn**	**10 31 37.1**	**+1.9**
TWGZ	**Tauwhareparae**	**2.94**	**34**	P	**Pn**	**10 31 34.7**	**-0.8**
RUGZ	**Raukumara Rang**	**3.01**	**28**	P	**Pn**	**10 31 35.1**	**-1.4**
PUZ	**Puketiti**	**3.15**	**36**	P	**Pn**	**10 31 36.6**	**-1.7**
GVZ	**Greta Valley S**	**3.16**	**222**	P	**Pn**	**10 31 37.2**	**-1.3**
HAZ	**Te Kaha**	**3.23**	**27**	P	**Pn**	**10 31 38.3**	**-1.1**
DSZ	**Denniston Nort**	**3.28**	**249**	P	**Pn**	**10 31 39.8**	**-0.3**
LTZ	**Lake Taylor**	**3.46**	**231**	P	**Pn**	**10 31 41.5**	**-1.0**
OKCZ	**Okains Bay**	**3.73**	**214**	P	**Pn**	**10 31 44.3**	**-2.0**
MQZ	**McQueen's Vall**	**3.90**	**217**	P	**Pn**	**10 31 46.5**	**-2.1**
INZ	**Inchbonnie**	**3.93**	**237**	P	**Pn**	**10 31 48.5**	**-0.5**
OXZ	**Oxford**	**3.94**	**226**	P	**Pn**	**10 31 48.4**	**-0.7**
RPZ	**Rata Peaks**	**4.73**	**228**	Pn	**Pn**	**10 31 59.3**	**-0.7**
	0.3nm,0.3s,baz=36,slow=21,SNR=1.8						
RPZ				Sn	**Sn**	**10 32 48.4**	**-5.4**
	1.9nm,0.3s,baz=121,slow=23,SNR=15						
TMZ	**Timaru**	**5.20**	**222**	P	**Pn**	**10 32 04.9**	**-1.6**
ODZ	**Otahua Downs**	**5.85**	**220**	P	**Pn**	**10 32 13.6**	**-1.8**
JCZ	**Jackson Bay**	**6.29**	**235**	P	**Pn**	**10 32 25.0**	**+3.5**
CTZ	**Chatham Island**	**6.35**	**122**	P	**Pn**	**10 32 21.9**	**-0.3**
ASAR	**Alice Springs**	**38.97**	**283**	P	**P**	**10 38 13.5**	**-0.7**
	0.4nm,0.3s,baz=124,slow=6.9,SNR=17						
WRA	**Warramunga Arr**	**40.92**	**288**	P	**P**	**10 38 29.3**	**-1.1**
	0.7nm,0.4s,baz=126,slow=8.2,SNR=24						
ARCES	**ARCESS Array B**	**147.15**	**341**	PKPbc	**PKPdf**	**10 50 28.6**	**+1.4**
	2.1nm,0.8s,baz=48,slow=1.3,SNR=2.1						

IDC ***04*** *11:15:57.6±0.9, 38°.85N×92°.67E, h0km, mb3.7/9, mb1 3.9/14, mb1mx3.7/55, mbtmp3.7/14, ML3.3/5, MS3.1/4, Ms1 3.1/4, ms1mx2.7/70, Error ellipse: s-maj=34.0km s-min=15.4km az=58.0*

NNC ***04*** *11:16:03.2±7.4, 39°.64N×93°.16E, h0km, mb4.1, Error ellipse: s-maj=95.4km s-min=56.3km az=42.0*

ISC 04 11:16:02.3±0.9**, 38°.9N**±0°.1×**92°.6E**±0°.1**, h35**km**, n21,** σ**1s.56**/21**, mb3.8**/8**, MS3.1**/3**, 2C-8D, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**10.92**	**319**	⇑Pn	**Pn**	**11 18 37.3**	**+1.3**
	1.0nm,0.3s,baz=122,slow=15,SNR=118						
MK31				⇓Sn	**Sn**	**11 20 41.1**	**+4.2**
	1.9nm,0.5s,baz=133,slow=23						
MK31				⇓Lg	Lg	11 21 41.2	
	8.7nm,0.9s,baz=127,slow=28						
MKAR	**Makanchi Array**	**10.92**	**319**	Pn	**Pn**	**11 18 34.9**	**-1.2**
	1.3nm,0.3s,baz=124,slow=13,SNR=61						
MKAR				Sn	**Sn**	**11 20 34.3**	**-2.6**
	0.1nm,0.3s,baz=135,slow=25,SNR=1.9						
MKAR				Lg	Lg	11 21 41.2	
	0.2nm,0.3s,baz=152,slow=29,SNR=2.6						
MAKZ	**Makanchi**	**11.09**	**319**	⇓Pn	**Pn**	**11 18 37.6**	**-0.8**
	4.2nm,0.5s						
MAKZ				⇓Sn	**Sn**	**11 20 40.7**	**-0.4**
	1.3nm,0.5s						
MAKZ				⇓Lg	Lg	11 21 49.0	
	5.7nm,0.8s						
SONM	**Songino Array**	**13.40**	**44**	Pn	**Pn**	**11 19 08.4**	**-1.6**
	0.2nm,0.3s,baz=226,slow=14,SNR=2.6						
SONM				Lg	Lg	11 22 57.3	
	0.4nm,0.3s,baz=241,slow=36,SNR=6.0						
AAK	**Ala-Archa**	**14.22**	**291**	Pn	**Pn**	**11 19 20.1**	**-1.2**
	0.1nm,0.3s,baz=113,slow=7.7,SNR=1.5						
AAK				Lg	Lg	11 23 37.3	
	0.1nm,0.3s,baz=347,slow=16,SNR=2.2						
AAK				LR	LR	11 25 29.7	
	comp=Z,81nm,19.5s,baz=88,slow=40						
TLY	**Talaya**	**14.92**	**28**	Lg	Lg	11 23 45.4	
	0.0nm,0.3s,baz=270,slow=16,SNR=4.9						
KURBB	**Kurchatov Arra**	**15.37**	**324**	Pn	**Pn**	**11 19 34.9**	**-1.5**
	0.1nm,0.3s,baz=134,slow=11,SNR=5.2						
KURBB				Lg	Lg	11 24 09.8	
	0.0nm,0.3s,baz=131,slow=24,SNR=4.0						
KURBB	**Kurchatov Arra**	**15.37**	**324**	⇓Pn	**P**	**11 19 40.3**	**-0.3**
	1.9nm,0.5s						
KURBB				⇑Lg	Lg	11 24 01.6	
	2.1nm,0.5s						
KURK	**Kurchatov**	**15.39**	**325**	⇓Pn	**Pn**	**11 19 35.9**	**-0.7**
	1.1nm,0.6s						
KURK				⇓Lg	Lg	11 23 59.8	
	1.8nm,1.0s						
ZALV	**Zalesovo Beam**	**15.95**	**343**	Pn	**Pn**	**11 19 42.4**	**-1.5**
	0.1nm,0.3s,baz=159,slow=14,SNR=6.6						
BVAR	**Borovoye Array**	**20.80**	**320**	P	**P**	**11 20 40.6**	**+0.1**
	0.2nm,0.3s,baz=115,slow=15,SNR=1.7						
CMAR	**Chiang Mai Arr**	**21.11**	**163**	P	**P**	**11 20 43.4**	**-0.6**
	0.7nm,0.3s,baz=336,slow=11,SNR=6.7						
CMAR				LR	LR	11 30 45.2	
	comp=Z,6.7nm,21.0s,baz=125,slow=42						
PSI	**Prapat**	**36.40**	**169**	LR	LR	11 38 18.8	
	comp=Z,32nm,18.6s,baz=268,slow=37						
ARCES	**ARCESS Array B**	**46.18**	**333**	P	**P**	**11 24 23.5**	**+0.3**
	5.3nm,1.1s,baz=82,slow=8.5,SNR=4.5						
NOA	**NORSAR Array B**	**52.90**	**323**	P	**P**	**11 25 14.2**	**-0.2**
	0.6nm,0.6s,baz=74,slow=7.6,SNR=2.4						
DAVOX	**Davos/Dischmat**	**58.52**	**307**	LR	LR	11 55 26.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,113nm,19.6s,baz=256,slow=40						
ILAR	**Eielson Array**	**66.70**	**24**	P	**P**	**11 26 50.1**	**+0.8**
	0.6nm,0.8s,baz=298,slow=4.9,SNR=5.7						
INK	**Inuvik**	**67.68**	**17**	P	**P**	**11 26 56.6**	**+1.3**
	0.5nm,0.5s,baz=260,slow=5.3,SNR=1.8						
WRA	**Warramunga Arr**	**70.39**	**138**	P	**P**	**11 27 12.8**	**0.0**
	0.8nm,0.9s,baz=323,slow=4.3,SNR=4.9						
ASAR	**Alice Springs**	**73.28**	**141**	P	**P**	**11 27 30.7**	**+0.6**
	1.1nm,0.8s,baz=330,slow=5.9,SNR=13						
YKA	**Yellowknife Ar**	**76.59**	**13**	P	**P**	**11 27 50.6**	**+1.9**
	0.4nm,0.7s,baz=340,slow=5.3,SNR=4.4						

*NOU **04** 11:22:10.0, 38°.59S×175°.74E, h192km, MLv3.7, North Island, New Zealand*

WEL 04 11:22:12.0, 38°S±2°×17°6E±°, h179km±4km, M2.7/42, MLv2.7/42, Error ellipse: s-maj=0.0km s-min=0.0km az=80.7, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.03**	**79**	P	Pn	11 22 35.8	+0.2
WATZ	**Wairara**	**0.22**	**192**	P	Pn	11 22 36.0	+0.2
TLZ	**Tolley Road**	**0.26**	**309**	P	Pn	11 22 36.1	+0.2
GRRZ	**Galatos Road**	**0.29**	**60**	P	Pn	11 22 36.2	+0.2
WPRZ	**Whakapapatarin**	**0.29**	**95**	P	Pn	11 22 36.0	+0.1
RATZ	**Rangitukua**	**0.37**	**182**	P	Pn	11 22 36.2	0.0
HRRZ	**Handcock Road**	**0.40**	**75**	P	Pn	11 22 36.4	+0.1
HSRZ	**Hossack Road**	**0.40**	**63**	P	Pn	11 22 36.5	+0.2
ALRZ	**Allen Road**	**0.44**	**99**	P	Pn	11 22 36.4	+0.1
ALRZ				S	Sn	11 22 54.4	-0.7
UTU	**Utuhina**	**0.45**	**45**	P	Pn	11 22 36.7	+0.3
HATZ	**Hinemaiaia**	**0.46**	**149**	P	Pn	11 22 36.4	-0.1
HATZ				S	Sn	11 22 54.3	-1.1
PRRZ	**Plateau Road**	**0.47**	**91**	P	Pn	11 22 36.3	-0.2
RITZ	**Rihia Road**	**0.48**	**174**	P	Pn	11 22 36.8	+0.3
KATZ	**Kakaramea**	**0.49**	**189**	P	Pn	11 22 36.7	0.0
NGRZ	**Ngongotaha**	**0.50**	**39**	P	Pn	11 22 36.8	+0.1
KARZ	**Kaharoa**	**0.59**	**37**	P	Pn	11 22 37.2	+0.1
MRHZ	**Matea Rd**	**0.60**	**125**	P	Pn	11 22 36.9	-0.2
MRHZ				S	Sn	11 22 55.3	-1.2
KRVZ	**Karewarewa**	**0.61**	**191**	P	Pn	11 22 37.4	+0.1
TARZ	**Mount Tarawera**	**0.62**	**66**	P	Pn	11 22 37.3	0.0
MKRZ	**Makatiti**	**0.64**	**56**	P	Pn	11 22 37.8	+0.4
TWVZ	**Taurewa**	**0.64**	**206**	P	Pn	11 22 37.4	0.0
WTVZ	**West Tongariro**	**0.64**	**194**	P	Pn	11 22 37.5	+0.1
KMRZ	**Kaimai**	**0.66**	**10**	P	Pn	11 22 37.4	0.0
OTVZ	**Oturere**	**0.68**	**188**	P	Pn	11 22 37.7	0.0
OTVZ				S	Sn	11 22 57.3	-0.3
NGZ	**Ngauruhoe**	**0.70**	**192**	P	Pn	11 22 37.8	0.0
HIZ	**Hauiti**	**0.73**	**268**	P	Pn	11 22 37.8	0.0
MUGZ	**Murupara**	**0.77**	**89**	P	Pn	11 22 37.5	-0.5
MUGZ				S	Sn	11 22 57.5	-0.5
TUVZ	**Tukino**	**0.78**	**188**	P	Pn	11 22 38.3	+0.1
TUVZ				S	Sn	11 22 57.7	-1.0
FWVZ	**Far West T-bar**	**0.78**	**194**	P	Pn	11 22 38.2	-0.1
TOZ	**Tahuroa Road**	**0.80**	**343**	P	Pn	11 22 38.2	+0.1
TOZ				S	Sn	11 22 59.0	+0.7
WHVZ	**Whangaehu Hut**	**0.80**	**191**	P	Pn	11 22 38.5	+0.1
TRVZ	**Turoa**	**0.83**	**193**	P	Pn	11 22 38.7	+0.1
EDRZ	**Edgecumbe**	**0.84**	**63**	P	Pn	11 22 38.2	-0.3
WNVZ	**Wahianoa**	**0.84**	**190**	P	Pn	11 22 38.7	+0.1
WNVZ				S	Sn	11 22 58.1	-1.3
TGRZ	**Tauranga**	**0.85**	**26**	P	Pn	11 22 38.4	-0.1
MARZ	**Manawahe**	**0.86**	**54**	P	Pn	11 22 38.6	0.0
BKZ	**Black Stump Fm**	**0.87**	**141**	P	Pn	11 22 38.6	0.0
PKVZ	**Pokaka**	**0.87**	**204**	P	Pn	11 22 38.6	0.0
OPRZ	**Ohinepanea**	**0.89**	**43**	P	Pn	11 22 38.4	-0.3
MTHZ	**Maungataniwha**	**0.90**	**114**	P	Pn	11 22 38.9	+0.1
MOVZ	**Moawhango**	**0.91**	**182**	P	Pn	11 22 38.7	-0.2
MTVZ	**Mangateitei**	**0.92**	**196**	P	Pn	11 22 39.2	+0.1
RTZ	**Ruatahuna**	**0.94**	**98**	P	Pn	11 22 38.9	-0.2
NMHZ	**Naumai**	**1.00**	**128**	P	Pn	11 22 40.4	+0.8
BHHZ	**Black Hill Sta**	**1.02**	**168**	P	Pn	11 22 39.5	-0.2
VRZ	**Vera Road**	**1.02**	**232**	P	Pn	11 22 39.6	0.0
KWHZ	**Kaweka Forest**	**1.05**	**152**	P	Pn	11 22 40.2	+0.2
URZ	**Urewera**	**1.06**	**78**	P	Pn	11 22 39.2	-0.7
RAHZ	**Arahi**	**1.10**	**113**	P	Pn	11 22 40.7	+0.4
MCHZ	**McNeill Hill**	**1.18**	**144**	P	Pn	11 22 41.8	+0.8
ARHZ	**Aropaoanui**	**1.21**	**130**	P	Pn	11 22 41.7	+0.5
KRHZ	**Kereru**	**1.23**	**159**	P	Pn	11 22 41.5	+0.1
SNGZ	**Shannon Statio**	**1.25**	**104**	P	Pn	11 22 41.7	+0.2
WHHZ	**Waihua**	**1.27**	**118**	P	Pn	11 22 41.9	+0.3
RAGZ	**Rawiri**	**1.27**	**91**	P	Pn	11 22 41.7	-0.2
MWZ	**Matawai**	**1.37**	**84**	P	Pn	11 22 42.1	-0.6
WAZ	**Wanganui**	**1.41**	**206**	P	Pn	11 22 42.7	-0.2
LREZ	**Lake Rotokare**	**1.45**	**228**	P	Pn	11 22 43.6	+0.3
PNHZ	**Pukenui**	**1.45**	**168**	P	Pn	11 22 43.1	-0.2
MKAZ	**Moumakai**	**1.48**	**340**	P	Pn	11 22 43.4	-0.2
PREZ	**Palmer Road**	**1.53**	**236**	P	Pn	11 22 44.2	+0.1
CKHZ	**Cape Kidnapper**	**1.53**	**140**	P	Pn	11 22 44.5	+0.4
NEZ	**North Egmont**	**1.53**	**239**	P	Pn	11 22 44.3	+0.1
KAHZ	**Kahuranaki**	**1.55**	**147**	P	Pn	11 22 44.7	+0.4
RIGZ	**Rimuhau**	**1.56**	**98**	P	Pn	11 22 44.3	-0.1
KNZ	**Kokohu**	**1.56**	**110**	P	Pn	11 22 44.3	-0.1
TSZ	**Takapari Road**	**1.57**	**175**	P	Pn	11 22 44.1	-0.3
RUGZ	**Raukumara Rang**	**1.58**	**71**	P	Pn	11 22 43.2	-1.4
KHEZ	**Kahui Hut**	**1.60**	**239**	P	Pn	11 22 44.8	-0.1
TKGZ	**Te Karaka**	**1.61**	**89**	P	Pn	11 22 44.7	-0.1
WPHZ	**Waipukurau**	**1.65**	**162**	P	Pn	11 22 45.0	-0.2
ETAZ	**East Tamaki Re**	**1.68**	**336**	P	Pn	11 22 45.3	-0.4
PRGZ	**Paritu Road**	**1.69**	**105**	P	Pn	11 22 45.6	-0.1
AWAZ	**Awhitu Peninsu**	**1.69**	**327**	P	Pn	11 22 45.6	-0.2
HAZ	**Te Kaha**	**1.73**	**65**	P	Pn	11 22 44.7	-1.4
PXZ	**Pawanui**	**1.75**	**152**	P	Pn	11 22 46.0	-0.2
KUZ	**Kuaotunu**	**1.75**	**358**	P	Pn	11 22 45.8	-0.4
OHWZ	**Ohakea**	**1.75**	**192**	P	Pn	11 22 46.2	0.0
TWGZ	**Tauwhareparae**	**1.75**	**80**	P	Pn	11 22 46.4	+0.1
WIAZ	**Waiheke Island**	**1.78**	**343**	P	Pn	11 22 46.3	-0.3
MHGZ	**Mahia Peninsul**	**1.78**	**112**	P	Pn	11 22 46.8	+0.2
EPAZ	**Eden Park BICE**	**1.82**	**332**	P	Pn	11 22 46.9	-0.1
DVHZ	**Dannevirke**	**1.83**	**171**	P	Pn	11 22 46.3	-0.8
WTAZ	**Waiatarua**	**1.83**	**328**	P	Pn	11 22 47.3	+0.1
MBAZ	**Motutapu North**	**1.86**	**337**	P	Pn	11 22 47.1	-0.4
PRHZ	**Porangahau**	**1.89**	**160**	P	Pn	11 22 47.3	-0.4
POWZ	**Post Office Ro**	**1.90**	**181**	P	Pn	11 22 46.9	-0.9
CNGZ	**Carnagh Statio**	**1.90**	**90**	P	Pn	11 22 47.9	+0.1
PKGZ	**Pakihiroa**	**1.90**	**72**	P	Pn	11 22 47.2	-0.7
RVAZ	**Riverhead Bore**	**1.97**	**330**	P	Pn	11 22 48.4	-0.2
PUZ	**Puketiti**	**1.98**	**78**	P	Pn	11 22 47.8	-1.0
ANWZ	**Angora Road**	**2.03**	**165**	P	Pn	11 22 48.0	-1.2
PRWZ	**Pori Road**	**2.06**	**176**	P	Pn	11 22 48.9	-0.7
MRZ	**Mangatainoka R**	**2.17**	**184**	P	Pn	11 22 49.5	-1.3
WMGZ	**Waiomatatini S**	**2.17**	**73**	P	Pn	11 22 49.9	-0.9
MXZ	**Matakaoa Point**	**2.19**	**66**	P	Pn	11 22 50.4	-0.7
BFZ	**Birch Farm**	**2.21**	**171**	P	Pn	11 22 50.1	-1.2
TIWZ	**Tintock**	**2.28**	**178**	P	Pn	11 22 50.8	-1.2
OGWZ	**Otaki Gorge**	**2.37**	**191**	P	Pn	11 22 51.8	-1.2
HOWZ	**Holdsworth Sta**	**2.41**	**185**	P	Pn	11 22 51.9	-1.6
CPWZ	**Castlepoint**	**2.43**	**173**	P	Pn	11 22 52.8	-0.9
KIW	**Kapiti Island**	**2.46**	**196**	P	Pn	11 22 52.4	-1.6
TMWZ	**Te Maipa**	**2.61**	**178**	P	Pn	11 22 54.3	-1.5
CAW	**Cannon Point**	**2.67**	**192**	P	Pn	11 22 54.8	-1.7
MTW	**Mount Morrison**	**2.67**	**185**	P	Pn	11 22 54.5	-2.1
DUWZ	**D'Urville Isla**	**2.72**	**211**	P	Pn	11 22 55.2	-1.9
WCZ	**Waipu Caves**	**2.80**	**335**	P	Pn	11 22 57.6	-0.5
WEL	**Wellington**	**2.90**	**195**	P	Pn	11 22 57.4	-1.8
PAWZ	**Paruwai Farm**	**2.90**	**185**	P	Pn	11 22 57.1	-2.2
TRWZ	**Traveller**	**2.90**	**182**	P	Pn	11 22 57.3	-2.0
MSWZ	**Moikau Station**	**2.95**	**188**	P	Pn	11 22 57.6	-2.2
TCW	**Tory Channel**	**2.95**	**203**	P	Pn	11 22 58.0	-1.9
BHW	**Baring Head**	**3.00**	**193**	P	Pn	11 22 58.0	-2.4
PLWZ	**Palliser**	**3.10**	**187**	P	Pn	11 22 59.2	-2.5
TUWZ	**Tuamarina**	**3.26**	**205**	P	Pn	11 23 01.3	-2.3
NNZ	**Nelson**	**3.29**	**214**	P	Pn	11 23 01.5	-2.6
QRZ	**Quartz Range**	**3.43**	**226**	P	Pn	11 23 02.8	-2.9
BSWZ	**Blackbirch Sta**	**3.54**	**204**	P	Pn	11 23 04.9	-2.2
OUZ	**Omahuta**	**3.71**	**331**	P	Pn	11 23 09.4	0.0
KHZ	**Kahutara**	**4.28**	**203**	P	Pn	11 23 13.9	-2.6
DSZ	**Denniston Nort**	**4.46**	**222**	P	Pn	11 23 14.8	-4.0
GVZ	**Greta Valley S**	**4.94**	**204**	P	Pn	11 23 21.8	-3.2
LTZ	**Lake Taylor**	**5.05**	**211**	P	Pn	11 23 22.8	-3.7
AMCZ	**Amberley**	**5.25**	**206**	P	Pn	11 23 25.4	-3.6
INZ	**Inchbonnie**	**5.37**	**217**	P	Pn	11 23 26.3	-4.3
OXZ	**Oxford**	**5.60**	**209**	P	Pn	11 23 29.1	-4.6
OKCZ	**Okains Bay**	**5.62**	**201**	P	Pn	11 23 30.4	-3.5
MQZ	**McQueen's Vall**	**5.72**	**203**	P	Pn	11 23 30.7	-4.4
RACZ	**Rakaia**	**5.91**	**207**	P	Pn	11 23 33.2	-4.5
WVZ	**Waitaha Valley**	**5.97**	**218**	P	Pn	11 23 34.8	-3.6
WACZ	**Wakanui South**	**6.21**	**207**	P	Pn	11 23 37.1	-4.5
RPZ	**Rata Peaks**	**6.32**	**213**	P	Pn	11 23 39.1	-4.0
GCSZ	**Gaunt Creek Bo**	**6.35**	**219**	P	Pn	11 23 39.5	-3.9
ARCZ	**Arundel**	**6.46**	**211**	P	Pn	11 23 40.7	-4.2
FOZ	**Fox Glacier**	**6.76**	**220**	P	Pn	11 23 44.7	-4.1
TMZ	**Timaru**	**6.89**	**210**	P	Pn	11 23 46.1	-4.5
LBZ	**Lake Benmore**	**7.24**	**214**	P	Pn	11 23 50.5	-4.6
ODZ	**Otahua Downs**	**7.59**	**209**	P	Pn	11 23 56.1	-3.6
JCZ	**Jackson Bay**	**7.67**	**221**	P	Pn	11 23 56.1	-4.8
WKZ	**Wanaka**	**8.11**	**217**	P	Pn	11 24 01.6	-5.0
EAZ	**Earnscleugh**	**8.29**	**214**	P	Pn	11 24 03.6	-5.3
MLZ	**Mavora Lakes**	**8.93**	**217**	P	Pn	11 24 12.9	-4.5

*JMA **04** 11:35:56.5±0.2, 26°.20N×125°.38E, h3km, M3.4*
*IDC **04** 11:35:57.4±1.1, 26°.16N×125°.38E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/75, mbtmp3.5/7, ML2.4/1, MS3.3/3, Ms1 3.4/3, ms1mx2.7/33, Error ellipse: s-maj=39.7km s-min=19.2km az=59.0*

ISC 04 11:35:57.0±1.9, 26°.14N±0°.06×125°.44E±0°.06, h2km±13km, n23, σ0s.98/27, mb3.4/6, MS3.1/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.22**	**81**	P	**Pn**	**11 36 19.9**	**-1.1**
JIKM	**Ikemajima**	**1.23**	**188**	P	**Pg**	**11 36 20.8**	**+0.3**
JIKM				*e*S	**Sn**	**11 36 38.0**	**-0.2**
JIRB	**Irabujima**	**1.33**	**191**	P	**Pb**	**11 36 22.1**	**-0.5**
JIRB				*e*S	**Sn**	**11 36 39.7**	**-1.1**
JOGS	**Gusukube**	**1.38**	**181**	P	**Pg**	**11 36 23.5**	**+0.1**
JOGS				S	**Sg**	**11 36 42.0**	**+0.7**
JMJ2	**Miyako jima3**	**1.40**	**184**	P	**Pb**	**11 36 23.7**	**-0.1**
JMJ2				S	**Sg**	**11 36 42.7**	**+0.7**
JTJ	**Tarama**	**1.64**	**204**	P	**Pb**	**11 36 27.0**	**-0.9**
JTJ				*e*S	**Sb**	**11 36 48.7**	**-0.3**
JAGN	**Aguni-jima**	**1.68**	**74**	*e*S	**Sn**	**11 36 48.7**	**-0.6**
JISG	**Ishigakijimahi**	**1.86**	**214**	P	**Pn**	**11 36 29.8**	**0.0**
JISG				*e*S	**Sb**	**11 36 53.5**	**-1.8**
JJT3	**Tamagusuku3**	**2.10**	**89**	P	**Pb**	**11 36 34.8**	**-1.0**
JIJ	**Ishigaki jima**	**2.13**	**214**	P	**Pn**	**11 36 33.6**	**+0.1**
JKRS	**Kuro-shima**	**2.30**	**215**	P	**Pb**	**11 36 37.0**	**-2.2**
JNTH	**Nagotoyohara**	**2.34**	**80**	P	**Pb**	**11 36 38.5**	**-1.4**
IRIF	**Iriomote-Funau**	**2.38**	**221**	P	**Pn**	**11 36 37.5**	**+0.6**
JOW	**Kunigami**	**2.63**	**74**	Pn	**Pn**	**11 36 42.0**	**+1.5**
	1.3nm,0.3s,baz=264,slow=10,SNR=2.8						
YOJ	**Yonaguni jima**	**2.77**	**233**	P	**Pn**	**11 36 42.5**	**+0.2**
KLR	**Kul'dur**	**23.57**	**10**	LR	LR	11 51 03.4	
	comp=Z,44nm,19.1s,baz=146,slow=38						
SONM	**Songino Array**	**26.33**	**330**	P	**P**	**11 41 35.3**	**+1.0**
	0.3nm,0.6s,baz=147,slow=8.6,SNR=3.6						
SONM				LR	LR	11 53 21.7	
	comp=Z,57nm,18.4s,baz=243,slow=40						
MKAR	**Makanchi Array**	**39.74**	**313**	P	**P**	**11 43 31.5**	**+0.5**
	0.6nm,0.6s,baz=100,slow=9.2,SNR=7.2						
ZALV	**Zalesovo Beam**	**40.82**	**324**	P	**P**	**11 43 39.3**	**-0.5**
	0.3nm,0.3s,baz=120,slow=10,SNR=2.3						
KURBB	**Kurchatov Arra**	**43.20**	**317**	P	**P**	**11 43 59.4**	**+0.2**
	0.2nm,0.6s,baz=108,slow=8.8,SNR=4.8						
WRA	**Warramunga Arr**	**46.62**	**168**	P	**P**	**11 44 27.5**	**+0.7**
	0.6nm,0.6s,baz=351,slow=8.4,SNR=7.9						
ASAR	**Alice Springs**	**50.19**	**170**	P	**P**	**11 44 55.3**	**+1.1**
	0.7nm,0.7s,baz=355,slow=10,SNR=7.7						
NOA	**NORSAR Array B**	**78.27**	**333**	LR	LR	12 26 07.0	
	comp=Z,37nm,19.6s,baz=290,slow=38						

*IDC **04** 11:47:16.6±0.9, 58°.42S×25°.55W, h0km, mb4.0/4, mb1 4.0/4, mb1mx3.8/18, mbtmp4.0/4, MS3.4/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=66.9km s-min=30.0km az=99.0*

ISC 04 11:47:21.0±1.0, 58°.5S±0°.1×25°.2W±0°.4, h28km, n17, σ1s.03/12, mb4.0/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.11**	**156**	P	**Pn**	**11 50 37.8**	**-0.7**
VNA3	**Neumayer Olymp**	**14.31**	**159**	P	**Pn**	**11 50 39.7**	**-1.6**
VNA2	**Neumayer--Watz**	**14.50**	**156**	P	**Pn**	**11 50 44.1**	**+0.1**
	baz=322,slow=14						
SNAA	**Sanae**	**16.05**	**154**	P	**Pn**	**11 51 05.5**	**+1.1**
SUR	**Sutherland**	**40.37**	**70**	LR	LR	12 07 52.0	
	comp=Z,37nm,20.6s,baz=151,slow=30						
VNDA	**Vanda**	**44.15**	**182**	P	**P**	**11 55 28.1**	**+1.7**
	1.2nm,1.0s,baz=173,slow=7.9,SNR=2.6						
LBTB	**Lobatse**	**48.80**	**69**	LR	LR	12 12 28.0	
	comp=Z,47nm,18.1s,baz=172,slow=31						
H10N1	**ASCENSION HYDR**	**51.22**	**14**	T	T	12 52 03.2	
	baz=188						
H10N3	**ASCENSION HYDR**	**51.22**	**14**	T	T	12 52 02.4	
	baz=188						
H10N2	**ASCENSION HYDR**	**51.24**	**14**	T	T	12 52 04.7	
	baz=188						
DBIC	**Dimbokro**	**67.01**	**22**	P	**P**	**11 58 10.9**	**-0.2**
	1.2nm,0.6s,baz=158,slow=6.7,SNR=1.9						
TORD	**Torodi Ar. Bea**	**74.72**	**27**	P	**P**	**11 58 58.7**	**+0.8**
	0.7nm,0.4s,baz=200,slow=5.9,SNR=8.3						
ASAR	**Alice Springs**	**96.31**	**161**	P	**P**	**12 00 46.2**	**-0.6**
	0.3nm,0.7s,baz=175,slow=4.8,SNR=4.9						
YKA	**Yellowknife Ar**	**138.69**	**315**	PKP	**PKPdf**	**12 06 42.0**	**-0.6**
	0.6nm,0.6s,baz=123,slow=3.0,SNR=12						
INK	**Inuvik**	**148.37**	**318**	PKPbc	**PKPbc**	**12 07 02.0**	**-0.9**
	2.0nm,0.7s,baz=114,slow=2.6,SNR=9.2						
SONM	**Songino Array**	**149.76**	**89**	PKPbc	**PKPbc**	**12 07 07.0**	**-0.1**
	0.2nm,0.5s,baz=170,slow=0.9,SNR=4.1						
ILAR	**Eielson Array**	**152.51**	**308**	PKPbc	**PKPbc**	**12 07 12.4**	**-0.5**
	1.2nm,0.6s,baz=145,slow=2.2,SNR=17						

IDC 04 11:49:43.7±565.0, 55°.67N×1°.66W, h0km, Error ellipse: s-maj=232.0km s-min=96.7km az=29.0, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**11.62**	**120**	*i*		13 06 10.0	
	baz=309,slow=330,SNR=1.0						
I37NO	**I37NO**	**16.27**	**26**	*i*		13 28 10.0	
	baz=224,slow=330,SNR=1.1						
I43RU	**DUBNA INFRASON**	**21.46**	**71**	*i*		14 00 25.0	
	baz=287,slow=382,SNR=6.7						

*IDC **04** 13:02:27.8±2.2, 4°.16N×126°.95E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/43, mbtmp3.3/3, Error ellipse: s-maj=160.5km s-min=27.7km az=66.0*

ISC 04 13:02:27.0±1.9, 4°.7N±0°.3×128°.3E±0°.4, h10km, n4, σ0s.59/5, mb3.3/3, 1C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.90**	**306**	⥣*e*P	**Pn**	**13 03 26.6**	**-0.5**
KCP				*i* S	**Sb**	**13 04 23.7**	**+0.4**
WRA	**Warramunga Arr**	**25.23**	**167**	P	**P**	**13 07 53.8**	**+0.5**
	0.7nm,0.7s,baz=343,slow=10,SNR=10						
ASAR	**Alice Springs**	**28.75**	**169**	P	**P**	**13 08 24.8**	**-0.2**
	0.2nm,0.7s,baz=345,slow=6.9,SNR=4.9						
MKAR	**Makanchi Array**	**57.64**	**324**	P	**P**	**13 12 17.7**	**+0.2**
	0.1nm,0.3s,baz=121,slow=7.7,SNR=4.3						

*SNET **04** 13:10:04.1±1.5, 13°.76N×90°.68W, h50km±41km, ML3.4*
*GCG **04** 13:10:05.8±0.4, 13°.75N×90°.79W, h33km±3km, MD3.7*

ISC 04 13:10:01.9±2.4, 13°.5N±0°.1×90°.77W±0°.06, h26km±17km, n16, σ1s.28/21, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.74**	**26**	*e*P	**Pn**	**13 10 17.5**	**+0.6**
IXG				*e*S	**Sn**	**13 10 30.9**	**+3.5**
PCG	**Pacaya**	**0.90**	**10**	*e*P	**Pb**	**13 10 19.3**	**+0.3**
FUG	**Fuego 3**	**0.94**	**356**	*e*P	**Pb**	**13 10 19.8**	**+0.1**
NBG	**Las Nubes**	**1.15**	**21**	*e*P	**Pb**	**13 10 23.5**	**+0.1**
NBG				*e*S	**Sb**	**13 10 37.4**	**-0.7**
RTR	**El Retiro**	**1.16**	**70**	*i* P	**Pn**	**13 10 23.2**	**+0.4**
SBLS	**San Blas**	**1.17**	**73**	*i* P	**Pn**	**13 10 23.1**	**+0.3**
SBLS				*e*S	**Sn**	**13 10 38.2**	**+0.1**
SNJE	**San Jose**	**1.19**	**72**	*e*P	**Pn**	**13 10 23.3**	**+0.2**
RTAL	**Retalhuleu**	**1.35**	**319**	*e*P	**Pn**	**13 10 25.2**	**0.0**
RTAL				*e*S	**Sn**	**13 10 41.4**	**-0.9**
BOQS	**Boqueron**	**1.47**	**81**	*e*P	**Pn**	**13 10 27.4**	**+0.4**
SNET	**Serv Nac Est T**	**1.51**	**83**	*e*S	**Sn**	**13 10 45.1**	**-1.3**
SNET				IAML		13 10 48.3	
	comp=Z,538nm,0.2s						
MTO3	**Montecristo**	**1.63**	**57**	*i* P	**Pn**	**13 10 27.8**	**-1.5**
MTO3				*e*S	**Sn**	**13 10 47.2**	**-2.4**
LFRS	**El Faro**	**1.67**	**86**	*e*P	**Pn**	**13 10 30.1**	**+0.4**
LBRS	**Las Brisas**	**1.70**	**82**	*e*P	**Pn**	**13 10 29.9**	**-0.1**
ESQI	**Esquipulas**	**1.74**	**53**	*e*P	**Pn**	**13 10 30.3**	**-0.3**
TECA	**Tecapa**	**2.21**	**90**	*e*P	**Pn**	**13 10 37.2**	**+0.1**
PACA	**Pacayal**	**2.38**	**91**	*e*P	**Pn**	**13 10 41.3**	**+1.8**

IDC 04 13:11:32.1±2.3, 2°.29N×127°.17E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/34, mbtmp3.2/3, Error ellipse: s-maj=168.9km s-min=28.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.19**	**163**	P	P	13 16 40.9	+0.1
	0.5nm,0.8s,baz=342,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**26.62**	**166**	P	P	13 17 12.3	-0.2
	0.4nm,0.9s,baz=345,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**58.98**	**326**	P	P	13 21 33.7	0.0
	0.1nm,0.3s,baz=131,slow=7.3,SNR=2.3						

*INET **04** 13:23:19.3, 12°.09N×88°.48W, h21km, MW3.8*
*NEIC **04** 13:23:21.1±1.8, 12°.23N±0°.08×88°.33W±0°.08, h55km±8km, mb4.5/56, Md4.0(SNET), Error ellipse: s-maj=13.4km s-min=7.7km az=222.0*
*SNET **04** 13:23:21.3±1.3, 12°.27N×88°.45W, h37km±999km, ML4.0*
*IDC **04** 13:23:22.0±2.1, 12°.38N×88°.21W, h48km±22km, mb3.7/9, mb1 4.1/11, mb1mx3.7/40, mbtmp4.0/11, ML3.6/2, MS3.5/14, Ms1 3.5/14, ms1mx3.3/39, Error ellipse: s-maj=37.2km s-min=14.0km az=49.0*
*UCR **04** 13:23:24.4±0.9, 11°.66N×88°.07W, h0km±543km, MW3.6, mb4.5(NEIC)*

ISC 04 13:23:19.5±0.6, 12°.18N±0°.06×88°.40W±0°.06, h35km, n110, σ1s.21/105, mb4.5/31, MS3.5/11, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.22**	**27**	*e*P	**Pn**	**13 23 41.4**	**+1.2**
LCY	**Lacayo**	**1.24**	**5**	*e*P	**Pn**	**13 23 41.7**	**+1.2**
VSM	**San Miguel**	**1.24**	**6**	*e*P	**Pn**	**13 23 41.9**	**+1.1**
PACA	**Pacayal**	**1.28**	**3**	*e*P	**Pn**	**13 23 42.9**	**+1.8**
PACA				*e*S	**Sn**	**13 23 57.8**	**+0.6**
TECA	**Tecapa**	**1.31**	**356**	*e*P	**Pn**	**13 23 42.2**	**+0.7**
CRIN	**San Cristobal**	**1.42**	**69**	Pn	**Pn**	**13 23 43.5**	**+0.6**
LFRS	**El Faro**	**1.57**	**336**	*e*P	**Pn**	**13 23 45.3**	**+0.2**
LFRS				*e*S	**Sn**	**13 24 04.3**	**0.0**
CNGN	**Cerro Negro**	**1.69**	**79**	*e*P	**Pn**	**13 23 48.1**	**+1.5**
CNGN				IAML		13 24 19.6	
	comp=Z,2μm,0.4s						
SNET	**Serv Nac Est T**	**1.70**	**332**	Pn	**Pn**	**13 23 48.5**	**+1.7**
SBLS	**San Blas**	**2.03**	**324**	*e*P	**Pn**	**13 23 52.3**	**+0.8**
SNJE	**San Jose**	**2.05**	**325**	*e*P	**Pn**	**13 23 52.7**	**+1.0**
RTR	**El Retiro**	**2.09**	**325**	*e*P	**Pn**	**13 23 53.3**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.16**	**30**	*e*P	**Pn**	**13 23 54.8**	**+1.5**
TGUH	**Tegucigalpa,Un**	**2.16**	**30**	Pn	**Pn**	**13 23 54.0**	**+0.8**
MTO3	**Montecristo**	**2.39**	**337**	*e*P	**Pn**	**13 23 57.9**	**+1.4**
MTO3	**Montecristo**	**2.39**	**337**	Pn	**Pn**	**13 23 57.4**	**+0.9**
MATN	**Matagalpa**	**2.53**	**73**	Pn	**Pn**	**13 23 57.7**	**-0.6**
ESQI	**Esquipulas**	**2.53**	**339**	*e*P	**Pn**	**13 23 59.8**	**+1.5**
ESQI	**Esquipulas**	**2.53**	**339**	Pn	**Pn**	**13 23 58.8**	**+0.5**
BOAB	**BOACO BROADBAN**	**2.69**	**84**	Pn	**Pn**	**13 24 00.8**	**+0.5**
ACON	**Acoyapa**	**3.16**	**94**	Pn	**Pn**	**13 24 06.6**	**-0.3**
GUAI	**GUAI**	**3.41**	**124**	*i* P	**Pn**	**13 24 11.0**	**+0.7**
COLC	**Colonia**	**3.48**	**115**	*i* P	**Pn**	**13 24 13.1**	**+1.8**
HORNC	**Hornillas**	**3.48**	**114**	*i* P	**Pn**	**13 24 13.1**	**+1.7**
JTS	**Las Juntas de**	**3.87**	**119**	P	**Pn**	**13 24 18.4**	**+1.8**
	comp=Z,4.3nm,0.3s,baz=295,slow=4.5,SNR=7.9						
JTS				S	**Sn**	**13 25 02.5**	**+1.6**
	comp=Z,4.9nm,0.3s,baz=342,slow=20,SNR=1.5						
JTS				LR	LR	13 25 28.1	
	comp=Z,169nm,18.4s,baz=8.0,slow=33						
JTS	**Las Juntas de**	**3.87**	**119**	Pn	**Pn**	**13 24 16.7**	**+0.1**
HDC	**Heredia**	**4.73**	**117**	Pn	**Pn**	**13 24 29.8**	**+1.2**
PETF	**Flores**	**4.92**	**343**	Pn	**Pn**	**13 24 32.3**	**+1.3**
CCIG	**Comitan**	**5.45**	**319**	Pn	**Pn**	**13 24 40.3**	**+1.7**
LPLA	**Las Palmas La**	**6.16**	**120**	*e*P	**Pn**	**13 24 50.4**	**+2.2**
CMIG	**Matias Romero**	**7.95**	**309**	P	**Pn**	**13 25 14.1**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=126,slow=10,SNR=7.5						
TEIG	**Tepich**	**8.00**	**1**	P	**Pn**	**13 25 17.8**	**+4.4**
	comp=Z,0.6nm,0.3s,baz=137,slow=18,SNR=2.4						
TLIG	**Tlapa**	**11.19**	**300**	Pn	**Pn**	**13 25 58.4**	**+1.2**
ROSC	**El Rosal**	**15.71**	**116**	LR	LR	13 34 16.7	
	comp=Z,179nm,18.8s,baz=78,slow=42						
SDV	**Santo Domingo**	**17.77**	**99**	LR	LR	13 36 47.8	
	comp=Z,134nm,18.6s,baz=288,slow=46						
352A	**Blakely**	**19.47**	**9**	P	**P**	**13 27 43.7**	**+0.3**
352A				IAmb	IAmb	13 27 47.3	
	comp=Z,23nm,0.8s						
TIGA	**Tifton**	**19.67**	**12**	P	**P**	**13 27 46.1**	**+0.5**
TIGA				IAmb	IAmb	13 27 56.9	
	comp=Z,38nm,1.0s						
250A	**Grady**	**19.80**	**5**	P	**P**	**13 27 47.9**	**+0.9**
VBMS	**Vicksburg**	**20.04**	**355**	P	**P**	**13 27 50.6**	**+1.0**
152A	**Waverly Hall**	**20.67**	**9**	P	**P**	**13 27 55.2**	**-1.3**
JCT	**Junction City**	**21.05**	**332**	P	**P**	**13 28 00.4**	**-0.2**
Z51A	**Franklin**	**21.24**	**7**	P	**P**	**13 28 01.9**	**-0.7**
ATAH	**Atahualpa**	**21.62**	**152**	LR	LR	13 35 03.0	
	comp=Z,126nm,21.4s,baz=335,slow=32						
TX32	**Lajitas Array**	**22.20**	**323**	P	**P**	**13 28 14.3**	**+1.2**
TXAR	**Lajitas Array**	**22.20**	**323**	P	**P**	**13 28 15.0**	**+1.9**
	comp=Z,3.4nm,0.8s,baz=145,slow=11,SNR=38						
TXAR	**Lajitas Array**	**22.20**	**323**	P	**P**	**13 28 14.2**	**+1.1**
TX31	**Lajitas Ar. Si**	**22.21**	**323**	P	**P**	**13 28 14.1**	**+0.9**
TX31				IAmb	IAmb	13 28 22.4	
	comp=Z,22nm,1.1s						
Z35A	**Perchaven, San**	**22.55**	**340**	P	**P**	**13 28 15.5**	**-1.2**
X40A	**Basin Creek Fa**	**22.57**	**350**	P	**P**	**13 28 15.4**	**-1.4**
X40A				IAmb	IAmb	13 28 28.2	
	comp=Z,20nm,1.4s						
HODGE	**Hodges**	**22.65**	**13**	P	**P**	**13 28 16.2**	**-1.5**
MIAR	**Mount Ida**	**22.75**	**349**	P	**P**	**13 28 17.4**	**-1.4**
MIAR				IAmb	IAmb	13 28 22.5	
	comp=Z,40nm,1.4s						
ABTX	**Abilene, Hawle**	**22.81**	**335**	P	**P**	**13 28 17.6**	**-1.9**
ABTX				IAmb	IAmb	13 28 21.8	
	comp=Z,17nm,1.1s						
X37A	**Clayton**	**23.19**	**345**	P	**P**	**13 28 23.9**	**+0.6**
X37A				IAmb	IAmb	13 28 35.8	
	comp=Z,22nm,1.1s						
WHAR	**Wooly Hollow**	**23.27**	**352**	P	**P**	**13 28 24.2**	**+0.1**
WHAR				IAmb	IAmb	13 28 26.1	
	comp=Z,16nm,1.0s						
W39A	**Magazine**	**23.43**	**349**	P	**P**	**13 28 26.3**	**+0.8**
W39A				IAmb	IAmb	13 28 28.7	
	comp=Z,30nm,1.4s						
TKL	**Tuckaleechee C**	**23.75**	**9**	P	**P**	**13 28 28.4**	**-0.3**
	comp=Z,7.9nm,0.9s,baz=189,slow=9.8,SNR=5.1						
TKL				LR	LR	13 37 22.5	
	comp=Z,134nm,19.7s,baz=139,slow=36						
FCAR	**Ozark Folk Cen**	**23.84**	**353**	P	**P**	**13 28 29.3**	**-0.3**
X34A	**Smith Ranch, M**	**23.91**	**341**	P	**P**	**13 28 28.8**	**-1.4**
LCAR	**Lake Charles**	**23.91**	**354**	P	**P**	**13 28 29.4**	**-0.8**
LPIG	**La Paz**	**23.91**	**303**	LR	LR	13 38 39.7	
	comp=Z,159nm,20.1s,baz=119,slow=38						
FNO	**Franklin**	**24.38**	**342**	P	**P**	**13 28 33.6**	**-0.9**
U40A	**Yellville**	**24.40**	**351**	P	**P**	**13 28 34.1**	**-0.6**
TUL1	**Leonard**	**24.55**	**345**	P	**P**	**13 28 35.3**	**-0.8**
TUL1				IAmb	IAmb	13 28 42.8	
	comp=Z,12nm,0.9s						
T47A	**Sharon Grove**	**24.73**	**2**	P	**P**	**13 28 36.5**	**-1.2**
T47A				IAmb	IAmb	13 28 37.9	
	comp=Z,26nm,1.4s						
U38A	**Gravette**	**24.75**	**348**	P	**P**	**13 28 36.7**	**-1.2**
U38A				IAmb	IAmb	13 28 41.1	
	comp=Z,19nm,1.2s						
OK031	**S. Brethren Rd**	**24.86**	**344**	P	**P**	**13 28 38.4**	**-0.6**
MNTX	**Cornudas Mount**	**24.94**	**324**	P	**P**	**13 28 40.3**	**+0.7**
QUOK	**Quay**	**25.03**	**344**	P	**P**	**13 28 39.9**	**-0.5**
QUOK				IAmb	IAmb	13 28 41.2	
	comp=Z,17nm,0.8s						
MGMO	**Mountain Grove**	**25.11**	**353**	P	**P**	**13 28 41.1**	**0.0**
MSTX	**Muleshoe**	**25.34**	**331**	P	**P**	**13 28 43.5**	**+0.1**
MSTX				IAmb	IAmb	13 28 54.5	
	comp=Z,18nm,1.0s						
S44A	**Carbondale**	**25.42**	**358**	P	**P**	**13 28 43.7**	**-0.2**
AMTX	**Amarillo**	**25.62**	**334**	P	**P**	**13 28 45.9**	**+0.1**
AMTX				IAmb	IAmb	13 28 48.7	
	comp=Z,27nm,1.2s						
T35A	**Sooner Cattle**	**25.68**	**345**	P	**P**	**13 28 46.5**	**+0.2**
T35A				IAmb	IAmb	13 28 56.8	
	comp=Z,16nm,1.3s						

S39A	Bolivar	25.78	351	P	P	13 28 46.9	-0.3
CCM	Cathedral Cave	25.89	355	P	P	13 28 47.1	-1.1
CCM				IAmb	IAmb	13 28 49.3	
	comp=Z,33nm,1.5s						
NNA	Nana	26.61	154	LR	LR	13 37 44.2	
	comp=Z,73nm,20.0s,baz=289,slow=32						
319A	Douglas	27.12	318	P	P	13 28 58.2	-1.4
P38A	Dawn	27.71	351	P	P	13 29 03.2	-1.3
P38A				IAmb	IAmb	13 29 05.5	
	comp=Z,11nm,0.9s						
ANMO	Albuquerque	27.96	327	LR	LR	13 42 07.4	
	comp=Z,49nm,18.1s,baz=141,slow=40						
I37A	Lemond, Waseca	32.01	353	P	P	13 29 42.2	-0.4
ECSD	EROS Data Cent	32.23	349	P	P	13 29 44.1	-0.4
ECSD				IAmb	IAmb	13 29 54.3	
	comp=Z,8.1nm,1.4s						
SAML	Samuel	32.70	129	P	P	13 29 48.7	-0.2
G45A	Suttons Bay	32.83	4	P	P	13 29 49.3	-0.4
F36A	Milaca	33.85	354	P	P	13 29 57.2	-1.4
F36A				IAmb	IAmb	13 29 58.7	
	comp=Z,6.7nm,1.0s						
F33A	5 Mile Ranch,	34.21	350	P	P	13 30 00.5	-1.3
PDAR	Pinedale Array	35.58	333	P	P	13 30 15.3	+1.4
	comp=Z,0.6nm,0.9s,baz=129,slow=12,SNR=3.7						
PDAR				LR	LR	13 48 04.6	
	comp=Z,67nm,18.3s,baz=132,slow=42						
EYMN	Ely	35.75	356	P	P	13 30 13.7	-1.3
EYMN				IAmb	IAmb	13 30 30.5	
	comp=Z,13nm,1.5s						
B35A	Bob, Littlefor	36.34	354	P	P	13 30 18.7	-1.4
B35A				IAmb	IAmb	13 30 20.1	
	comp=Z,4.7nm,0.8s						
REDW	Red Top Meadow	36.63	332	P	P	13 30 21.6	-1.3
REDW				IAmb	IAmb	13 30 35.3	
	comp=Z,8.8nm,1.1s						
NVAR	Mina Array Bea	37.30	320	P	P	13 30 29.7	+1.1
	comp=Z,0.7nm,1.0s,baz=150,slow=5.8,SNR=2.3						
NVAR				PcP	PcP	13 32 49.5	+1.8
	comp=Z,0.8nm,0.8s,baz=136,slow=5.8,SNR=5.1						
NVAR				LR	LR	13 47 22.3	
	comp=Z,106nm,18.4s,baz=42,slow=39						
YHH	Holmes Hill	37.75	334	P	P	13 30 31.0	-1.5
PB01	IPOC Station P	37.89	150	P	P	13 30 32.5	-1.1
YHL	Hebgen Lake	37.94	333	P	P	13 30 32.9	-1.2
ULM	Lac du Bonnet	38.45	352	P	P	13 30 36.9	-1.0
	comp=Z,6.0nm,0.7s,baz=169,slow=9.4,SNR=15						
ULM				LR	LR	13 47 37.2	
	comp=Z,109nm,20.6s,baz=146,slow=38						
ULM	Lac du Bonnet	38.45	352	P	P	13 30 35.8	-2.2
ULM				IAmb	IAmb	13 30 37.7	
	comp=Z,6.3nm,0.8s						
MCMT	McKenzie Canyo	38.67	332	P	P	13 30 41.7	+1.5
FCC	Fort Churchill	46.69	356	P	P	13 31 43.1	-1.5
FCC				IAmb	IAmb	13 31 44.6	
	comp=Z,7.9nm,1.1s						
YKA	Yellowknife Ar	53.63	345	P	P	13 32 37.0	-0.2
	comp=Z,2.3nm,1.0s,baz=137,slow=8.3,SNR=23						
YKA				LR	LR	13 57 27.6	
	comp=Z,68nm,18.5s,baz=0.0,slow=38						
PLCA	Paso Flores	55.18	164	P	P	13 32 50.5	+1.6
	comp=Z,2.2nm,1.0s,baz=315,slow=10,SNR=4.4						
PLCA	Paso Flores	55.18	164	IAmb	IAmb	13 32 54.0	
	comp=Z,7.9nm,1.3s						
RAGM	Ragged Mountai	63.15	332	P	P	13 33 44.0	+0.2
INK	Inuvik	63.18	343	P	P	13 33 43.7	0.0
	comp=Z,3.4nm,1.1s,baz=130,slow=6.0,SNR=6.0						
INK	Inuvik	63.18	343	P	P	13 33 42.6	-1.1
INK				IAmb	IAmb	13 33 44.5	
	comp=Z,5.9nm,1.2s						
TULEG	Thule	65.19	5	P	P	13 33 55.4	-1.4
ILAR	Eielson Array	65.89	336	P	P	13 34 01.3	-0.2
	comp=Z,1.3nm,1.1s,baz=112,slow=4.0,SNR=6.9						
ILAR	Eielson Array	65.89	336	P	P	13 34 00.3	-1.2
PPT	Papeete	67.24	245	LR	LR	13 57 15.8	
	comp=Z,34nm,21.8s,baz=196,slow=30						
VRAC	Vranov	90.40	39	LR	LR	14 12 40.2	
	comp=Z,65nm,19.3s,baz=288,slow=33						
CMAR	Chiang Mai Arr	148.70	346	PKPbc	PKPbc	13 43 03.7	-0.4
	comp=Z,2.1nm,0.6s,baz=343,slow=3.8,SNR=11						
CMAR	Chiang Mai Arr	148.70	346		PKPbc	13 43 02.7	-1.4

*NEIC **04** 13:32:19.9±1.4, 18.°39N±0.°07×145.°6E±0.°1, h238km±5km, mb4.3/59, ML4.7/6, Error ellipse: s-maj=18.3km s-min=10.9km az=87.0*

*IDC **04** 13:32:23.1±3.8, 18.°42N×145.°59E, h270km±38km, mb3.4/17, mb1 3.6/19, mb1mx3.5/45, mbtmp4.1/19, Error ellipse: s-maj=20.9km s-min=10.8km az=99.0*

ISC 04 13:32:21.0±0.5**, 18.°39N**±0.°06×**145.°5E**±0.°1**, h250**km**, n90, σ0.s76**/85**, mb4.1**/46**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.82	188	Pn	Pn	13 33 33.6	-1.1
GUMO				IAML		13 34 33.3	
	335nm,1.5s						
JHJ2	Mitsune	15.53	342	P	P	13 35 47.1	+0.5
JHJ	Hachijo jima 2	15.55	342	P	P	13 35 47.4	+0.6
	14nm,0.3s,baz=50,slow=13,SNR=1.4						
PATS	Pohnpei	16.93	131	P	P	13 36 02.2	0.0
JYT	Yasato	18.38	346	P	P	13 36 18.1	+0.5
INU	Inuyama	18.50	338	P	P	13 36 19.5	+0.5
JGF	Kuroka	18.61	339	P	P	13 36 20.0	-0.1
JWT	Wachi	19.08	334	P	P	13 36 25.6	+0.4
MJAR	Matsushiro Arr	19.20	342	P	P	13 36 26.4	-0.1
	0.2nm,0.3s,baz=168,slow=9.6,SNR=19						
MJAR	Matsushiro Arr	19.20	342	P	P	13 36 25.5	-0.9
MAJO	Matsushiro	19.20	342	P	P	13 36 25.1	-1.4
MAT	Matsushiro	19.20	342	P	P	13 36 25.2	-1.3
JMM	Marumori	19.84	349	P	P	13 36 33.5	+0.2
H11S3	WAKE ISLAND Hy	20.06	86	T	T	13 58 02.5	
	baz=275						
H11S1	WAKE ISLAND Hy	20.08	86	T	T	13 58 00.7	
	baz=275						
H11S2	WAKE ISLAND Hy	20.08	86	T	T	13 58 03.7	
	baz=275						
JSD	Sado	20.58	343	P	P	13 36 41.6	+0.5
YOJ	Yonaguni jima	21.81	290	P	P	13 36 50.4	-3.0
JTM	Tenmabayashi	22.65	351	P	P	13 37 01.4	+0.6
KSRS	Korea Array	24.48	324	P	P	13 37 17.3	-0.1
	2.5nm,0.8s,baz=141,slow=9.8,SNR=7.3						
KSAR	Wonju Array Be	24.49	324	P	P	13 37 17.9	+0.4
JEW	Eniwo	24.62	353	P	P	13 37 19.2	+0.6
FAKI	Fak Fak	24.90	213	P	P	13 37 21.8	+0.3
FAKI				IAmb	IAmb	13 37 45.8	
	comp=Z,22nm,1.1s						
JKA	Kamikawa-asahi	25.76	355	P	P	13 37 28.9	0.0
JKA				IAmb	IAmb	13 37 30.6	
	comp=Z,10nm,0.7s						
ASAJ	Asahikawa	25.77	355	P	P	13 37 29.8	+0.8
	comp=Z,6.6nm,0.5s,baz=236,slow=8.6,SNR=14						
USRK	Ussuriysk Ar.	28.13	339	P	P	13 37 50.4	+0.4
	comp=Z,2.6nm,0.8s,baz=163,slow=10,SNR=4.7						
USRK	Ussuriysk Ar.	28.13	339	P	P	13 37 50.1	+0.1
COEN	Coen	32.23	184	P	P	13 38 27.0	+0.8
COEN				IAmb	IAmb	13 38 36.9	
	comp=Z,8.8nm,1.4s						
PETK	Petropavlovsk-	35.92	13	P	P	13 38 58.0	+0.5
	comp=Z,3.6nm,1.0s,baz=138,slow=8.0,SNR=5.6						
WB0	Warramunga Arr	39.47	197	P	P	13 39 28.0	+0.5
WB0				IAmb	IAmb	13 39 29.0	
	comp=Z,7.4nm,1.2s						
WR0	Warramunga Arr	39.61	196	P	P	13 39 28.7	0.0
WR0				IAmb	IAmb	13 39 29.6	
	comp=Z,13nm,1.4s						
WRAB	Tennant Creek	39.64	197	P	P	13 39 29.1	+0.1
WRAB				IAmb	IAmb	13 39 31.8	
	comp=Z,6.6nm,1.1s						
WB2	Warramunga Arr	39.65	197	P	P	13 39 29.1	+0.2
WB2				IAmb	IAmb	13 39 30.1	
	comp=Z,8.1nm,1.1s						
WRA	Warramunga Arr	39.65	197	P	P	13 39 29.6	+0.5
	comp=Z,2.4nm,0.4s,baz=19,slow=8.7,SNR=52						
FITZ	Fitzroy Crossi	41.20	209	P	P	13 39 42.5	+0.8
MA2	Magadan	41.30	4	P	P	13 39 42.8	+0.8
	comp=Z,1.1nm,0.3s,baz=239,slow=4.9,SNR=3.7						
MA2	Magadan	41.30	4	IAmb	IAmb	13 40 02.3	
	comp=Z,9.0nm,1.5s						
SONM	Songino Array	43.29	322	P	P	13 39 58.6	+0.3
	comp=Z,0.5nm,0.4s,baz=122,slow=7.2,SNR=9.7						
SONM	Songino Array	43.29	322	P	P	13 39 58.0	-0.3
AS31	Alice Springs	43.32	196	P	P	13 39 58.5	-0.2
ASAR	Alice Springs	43.32	196	P	P	13 39 58.9	+0.2
	comp=Z,0.8nm,0.5s,baz=14,slow=6.4,SNR=28						
ASAR	Alice Springs	43.32	196	P	P	13 39 58.6	-0.1
CMAR	Chiang Mai Arr	44.11	278	P	P	13 40 06.9	+1.8
	comp=Z,0.6nm,0.4s,baz=57,slow=6.6,SNR=4.1						
YAK	Yakutsk	44.99	350	P	P	13 40 10.3	-1.0
YAK				IAmb	IAmb	13 40 11.2	
	comp=Z,9.7nm,0.7s						
MORW	Morawa	55.12	212	P	P	13 41 28.2	+0.6
MORW				IAmb	IAmb	13 41 57.5	
	comp=Z,21nm,1.2s						
ANM	Nome	56.53	23	P	P	13 41 36.1	-1.0
ZALV	Zalesovo Beam	58.16	323	P	P	13 41 48.8	0.0
	comp=Z,0.4nm,0.3s,baz=101,slow=7.5,SNR=2.7						
ZALV	Zalesovo Beam	58.16	323	P	P	13 41 47.6	-1.2
MKAR	Makanchi Array	58.56	314	P	P	13 41 52.4	+0.8
	comp=Z,0.5nm,0.5s,baz=89,slow=8.5,SNR=8.6						
MAKZ	Makanchi	58.78	314	P	P	13 41 54.3	+1.2
TTA	Tatalina	59.59	27	P	P	13 41 58.6	+0.2
TTA				IAmb	IAmb	13 42 13.5	
	comp=Z,5.2nm,1.4s						
CNPM	China Poot	60.80	31	P	P	13 42 06.0	-0.7
CNPM				IAmb	IAmb	13 42 34.0	
	comp=Z,23nm,1.4s						
BRLK	Bradley Lake	61.03	31	P	P	13 42 07.3	-0.9
BRLK				IAmb	IAmb	13 42 31.2	
	comp=Z,20nm,1.4s						
PPLA	Purkeypile	61.24	28	P	P	13 42 10.2	+0.5
PPLA				IAmb	IAmb	13 42 19.7	
	comp=Z,14nm,1.5s						
SKT	Skwentna	61.28	29	P	P	13 42 08.7	-1.1
SKT				IAmb	IAmb	13 42 20.4	
	comp=Z,6.9nm,1.3s						
IMAR	Indian Mountai	61.56	24	P	P	13 42 11.8	+0.3
O22K	Cooper Landing	61.76	31	P	P	13 42 12.7	-0.3
O22K				IAmb	IAmb	13 42 31.3	
	comp=Z,16nm,1.1s						
BPAW	Bear Paw Mtn.	62.09	26	P	P	13 42 15.6	+0.4
BPAW				IAmb	IAmb	13 42 23.3	
	comp=Z,4.9nm,1.4s						
TRF	Thorofare Moun	62.22	27	P	P	13 42 15.8	-0.4
TRF				IAmb	IAmb	13 42 16.2	
	comp=Z,6.4nm,1.4s						
PMR	Palmer	62.29	29	P	P	13 42 16.3	-0.2
PMR				IAmb	IAmb	13 42 39.0	
	comp=Z,14nm,1.5s						
KNK	Knik Glacier	62.57	30	P	P	13 42 18.6	+0.3
KNK				IAmb	IAmb	13 42 19.2	
	comp=Z,9.4nm,1.0s						
SML	Sawmill	62.71	29	P	P	13 42 19.6	+0.2
SML				IAmb	IAmb	13 42 39.1	
	comp=Z,14nm,1.3s						
I23K	Minto, Yukon-K	63.05	25	P	P	13 42 21.8	+0.4
I23K				IAmb	IAmb	13 42 23.4	
	comp=Z,3.2nm,1.2s						
COLD	Coldfoot	63.29	23	P	P	13 42 22.8	-0.2
WRH	Wood River Hil	63.41	26	P	P	13 42 22.5	-1.3
WRH				IAmb	IAmb	13 42 41.4	
	comp=Z,4.2nm,1.4s						
MDM	Murphy Dome	63.47	26	P	P	13 42 25.1	+0.9
HDA	Harding Lake	63.88	27	P	P	13 42 26.2	-0.7
HDA				IAmb	IAmb	13 42 28.3	
	comp=Z,7.3nm,1.4s						
TOLK	Toolik Lake Re	63.93	22	P	P	13 42 27.9	+0.7
IL31		63.98	26	P	P	13 42 26.5	-0.9
ILAR	Eielson Array	63.98	26	P	P	13 42 26.5	-1.0
	comp=Z,0.9nm,0.8s,baz=259,slow=5.3,SNR=8.5						
BKZ	Black Stump Fm	64.17	154	P	P	13 42 28.6	-0.5
BKZ				IAmb	IAmb	13 42 44.6	
	comp=Z,13nm,1.4s						
PAX	Paxson	64.25	28	P	P	13 42 29.3	-0.1
SUCK	Suckling Hills	64.61	32	P	P	13 42 30.7	-1.0
DOT	Dot Lake	64.99	28	P	P	13 42 33.2	-0.9
DOT				IAmb	IAmb	13 42 44.5	
	comp=Z,3.0nm,1.1s						
FYU	Fort Yukon	65.03	24	P	P	13 42 34.9	+0.6
FYU				IAmb	IAmb	13 42 46.5	
	comp=Z,10nm,1.5s						
TGL	Tana Glacier	65.16	31	P	P	13 42 35.2	-0.1
TGL				IAmb	IAmb	13 42 51.1	
	comp=Z,8.0nm,1.0s						
K27K	Chicken	65.91	27	P	P	13 42 40.3	+0.4
K27K				IAmb	IAmb	13 42 52.9	
	comp=Z,5.3nm,1.4s						
BCAR	Beaver Creek A	65.92	28	P	P	13 42 40.3	+0.2
RAR	Rarotonga	66.47	124	P	P	13 42 43.8	-0.3
BRVK	Borovoye	66.68	321	P	P	13 42 45.1	+0.1
BRVK				IAmb	IAmb	13 43 02.1	
	comp=Z,4.1nm,0.9s						
INK	Inuvik	69.71	23	P	P	13 43 03.3	-0.2
	comp=Z,1.0nm,0.7s,baz=275,slow=7.3,SNR=6.7						
INK	Inuvik	69.71	23	P	P	13 43 03.1	-0.4
ABKAR	Akbulak array	73.46	317	P	P	13 43 25.4	-0.7
EUNU	Eureka	78.05	8	P	P	13 43 51.8	+0.2
YKA	Yellowknife Ar	78.33	28	P	P	13 43 53.5	+0.2
	comp=Z,0.5nm,0.7s,baz=292,slow=5.1,SNR=6.5						
B08A	Colville Reser	79.80	42	P	P	13 44 01.6	-0.1
ARCES	ARCESS Array B	82.74	342	P	P	13 44 16.3	-0.3
	comp=Z,2.0nm,0.9s,baz=60,slow=4.9,SNR=3.6						
ARCES	ARCESS Array B	82.74	342	IAmb	IAmb	13 44 28.9	
	comp=Z,8.3nm,1.2s						
NVAR	Mina Array Bea	83.45	52	P	P	13 44 21.8	+0.7
	comp=Z,0.6nm,0.6s,baz=270,slow=5.2,SNR=6.5						
FINES	FINESS Array B	87.10	335	P	P	13 44 36.3	-2.0
	comp=Z,0.7nm,0.4s,baz=69,slow=4.0,SNR=11						

*NEIC **04** 14:01:10.9±1.2, 28.°0S±0.°1×13.°3W±0.°1, h14km±4km, mb4.8/27, Error ellipse: s-maj=19.1km s-min=15.2km az=142.0*

*IDC **04** 14:01:11.4±0.7, 27.°84S×13.°25W, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.1/48, mbtmp4.3/15, MS4.5/22, Ms1 4.5/22, ms1mx4.5/23, Error ellipse: s-maj=25.6km s-min=14.5km az=166.0*

*BJI **04** 14:01:12.0±0.0, 28.°00S×13.°20W, h24km, mB5.3/2, Ms5.3/6, Ms7 5.1/6*

*GCMT **04** 14:01:16.9±0.2, 28.°00S±0.°02×13.°16W±0.°01, h12km, MW5.1/119, Moment Tensor Solution. s73,c84; s119,c180; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.50±.11; $M_{\theta\theta}$0.74±.12; $M_{\phi\phi}$4.76±.10; $M_{r\theta}$2.58±.42; $M_{\theta\phi}$-2.14±.09; $M_{\phi r}$-0.06±.35; Best double couple: $M_0$6.13400×10^{16} NP1:ϕ_s175.00000°, δ43.00000°, λ-60.00000°. NP2:ϕ_s317.00000°, δ54.00000°, λ-115.00000°. Principal axes: T 5.7980, Plg6.0000°, Azm64.0000°; N 0.6760, Plg20.0000°, Azm332.0000°; P -6.4700, Plg69.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 14:01:11.0±0.4**, 28.°03S**±0.°09×**13.°15W**±0.°07**, h10**km**, n87, σ1.s78**/71**, mb4.6**/23**, MS4.7**/27**, 1D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	Horse Pasture	13.83	31	Pn	Pn	14 04 26.4	-0.8
H10S2	ASCENSION HYDR	19.02	355	T	T	14 25 06.3	
	baz=176,slow=74,SNR=14						
H10S3	ASCENSION HYDR	19.03	355	T	T	14 25 06.8	
	baz=44,slow=74,SNR=30						
BSFB	Barra de Sao F	26.96	284	eP	P	14 06 52.8	-0.2
SJMB	Sao Joao De Ma	27.31	284	eP	P	14 06 57.3	+1.3
TSUM	Tsumeb	29.43	79	P	P	14 07 16.5	+1.4
	3.4nm,0.9s,baz=270,slow=14,SNR=2.4						
TSUM				LR	LR	14 17 18.8	
	comp=Z,2μm,18.1s,baz=307,slow=33						
TSUM	Tsumeb	29.43	79	P	P	14 07 14.7	-0.4
SUR	Sutherland	29.59	107	P	P	14 07 16.4	-0.1
SUR				IAmb	IAmb	14 07 32.5	
	comp=Z,18nm,1.3s						
SDBA	SAO DESIDERIO	33.47	291	eP	P	14 07 51.7	+1.0
BOSA	Boshof	33.71	100	LR	LR	14 19 18.3	
	comp=Z,2μm,19.4s,baz=265,slow=32						
BDFB	Brasilia	34.51	284	P	P	14 07 59.9	+0.2
	comp=Z,4.3nm,0.8s,baz=95,slow=6.8,SNR=4.3						
BDFB				LR	LR	14 19 30.6	
	comp=Z,2μm,20.1s,baz=115,slow=32						
BDFB	Brasilia	34.51	284	P	P	14 07 57.9	-1.8
BDFB				IAmb	IAmb	14 08 03.1	
	comp=Z,15nm,1.2s						
LBTB	Lobatse	34.70	94	P	P	14 08 03.4	+2.1
	comp=Z,11nm,1.0s,baz=262,slow=5.4,SNR=4.9						
LBTB	Lobatse	34.70	94	P	P	14 08 00.9	-0.4
LBTB				IAmb	IAmb	14 08 09.3	
	comp=Z,22nm,1.1s						
DBIC	Dimbokro	35.41	14	P	P	14 08 07.8	+0.5
	comp=Z,3.2nm,0.9s,baz=173,slow=13,SNR=4.2						
DBIC				LR	LR	14 18 55.3	
	comp=Z,431nm,19.2s,baz=170,slow=30						
DBIC	Dimbokro	35.41	14	P	P	14 08 06.9	-0.4
DBIC				IAmb	IAmb	14 08 11.0	
	comp=Z,30nm,1.5s						
PEXB	Peixe	36.46	289	eP	P	14 08 17.9	+1.5
SMTB	Santa Maria do	37.63	294	eP	P	14 08 27.6	+1.3
ARAG	Araguaiana, MT	37.76	281	eP	P	14 08 28.9	+1.4
LPA	La Plata	38.56	248	eP	P	14 08 25.9	-8.0
LPA				pPP		14 10 05.0	
LPA				PPP	PPP	14 10 19.0	
LPA				PCP	PcP	14 10 45.8	-0.7
LPA				S	S	14 14 30.8	+0.9
LPA				PSP	PSP	14 15 27.2	
LPA				SS	SS	14 17 25.3	+5.7
LPA				PKIKP	PKiKP	14 17 54.4	-6.3
LPA				SCS	ScS	14 18 39.6	-5.4
MATP	Matopo	38.58	88	P	P	14 08 36.5	+2.0
	comp=Z,9.9nm,1.0s,baz=241,slow=6.7,SNR=4.9						
CPUP	Villa Florida	39.18	262	P	P	14 08 40.7	+1.4
	comp=Z,2.4nm,0.8s,baz=77,slow=10,SNR=2.6						
CPUP				LR	LR	14 23 08.7	
	comp=Z,612nm,18.4s,baz=106,slow=34						
CPUP	Villa Florida	39.18	262	P	P	14 08 37.4	-1.8
AQDB	Aquidauana	39.37	271	eP	P	14 08 41.7	+0.8
LSZ	Lusaka	40.27	80	P	P	14 08 52.2	+3.6
	comp=Z,5.7nm,0.9s,baz=263,slow=8.6,SNR=4.1						
VNA2	Neumayer--Watz	43.06	177	P	P	14 09 12.4	+1.8
KOWA	Kowa	43.19	13	LR	LR	14 24 33.5	
	comp=Z,344nm,18.5s,baz=200,slow=33						
KOWA	Kowa	43.19	13	P	P	14 09 12.5	+0.3
KOWA				IAmb	IAmb	14 09 16.0	
	comp=Z,20nm,1.1s						
VNA3	Neumayer Olymp	43.30	178	P	P	14 09 12.9	+0.4
TOA0	Torodi Ar. Sit	43.38	21	P	P	14 09 12.6	-1.2
TORD	Torodi Ar. Bea	43.38	21	P	P	14 09 14.6	+0.8
	comp=Z,3.3nm,1.0s,baz=201,slow=7.6,SNR=6.5						
TORD				PcP	PcP	14 11 03.4	+1.0
	comp=Z,1.3nm,0.9s,baz=225,slow=2.4,SNR=2.7						
TORD				LR	LR	14 23 45.2	
	comp=Z,1μm,19.9s,baz=195,slow=31						
TORD	Torodi Ar. Bea	43.38	21	P	P	14 09 12.6	-1.2
PTLB	Pontes e Lacer	44.27	277	eP	P	14 09 21.1	+0.1
NPGB	Novo Progresso	45.02	289	eP	P	14 09 28.1	+1.0
SIV	San Ignacio	45.76	275	P	P	14 09 34.7	+1.7
	comp=Z,1.9nm,0.9s,baz=104,slow=8.1,SNR=7.3						
PLCA	Paso Flores	48.26	239	P	P	14 09 53.5	+1.2
	comp=Z,1.7nm,0.9s,baz=62,slow=11,SNR=3.1						
PLCA	Paso Flores	48.26	239	IAmb	IAmb	14 10 00.4	
	comp=Z,14nm,1.5s						
BO02	Sierra Bellavi	49.08	247	P	P	14 09 57.5	-1.2
GO04	Tololo Observa	49.96	253	P	P	14 10 04.4	-1.3
GO04				IAmb	IAmb	14 10 21.1	
	comp=Z,17nm,1.1s						
LCO	Las Campanas	50.14	254	P	P	14 10 05.5	-1.5
LCO				IAmb	IAmb	14 10 07.3	
	comp=Z,12nm,1.2s						
GO02	Mina Guanaco	50.17	260	P	P	14 10 07.3	-0.1
AC04	Llanos de Chal	50.65	255	P	P	14 10 10.0	-0.6
AC04				IAmb	IAmb	14 10 25.4	
	comp=Z,18nm,1.1s						
SYO	Syowa Base	51.03	158⇓	eP	P	14 10 12.2	-0.6
PB14	IPOC Station P	51.03	260	P	P	14 10 12.5	-1.4
PB01	IPOC Station P	51.35	265	P	P	14 10 14.6	-1.4
PB01				IAmb	IAmb	14 10 17.7	
	comp=Z,26nm,1.4s						
PB08	IPOC Station P	51.36	266	P	P	14 10 13.8	-2.7
PB08				IAmb	IAmb	14 10 18.2	
	comp=Z,23nm,1.3s						
PB07	IPOC Station P	51.48	264	P	P	14 10 15.5	-1.6
LPAZ	La Paz	51.87	271	P	P	14 10 21.1	+0.5
	comp=Z,1.5nm,0.8s,baz=126,slow=4.7,SNR=4.0						
LPAZ				LR	LR	14 30 53.0	
	comp=Z,736nm,19.5s,baz=110,slow=34						
LPAZ	La Paz	51.87	271	eP	P	14 10 18.7	-1.9
PB16	IPOC Station P	52.32	268	P	P	14 10 22.0	-1.9
PTGA	Pitinga	52.35	293	eP	P	14 10 25.3	+1.8
ETMB	Extrema	52.94	279	eP	P	14 10 27.9	0.0
KMBO	Kilima Mbogo	55.07	70	LR	LR	14 32 23.4	
	comp=Z,1μm,19.2s,baz=272,slow=34						
MAW	Mawson	59.09	154	LR	LR	14 32 53.6	
	comp=Z,213nm,18.1s,baz=274,slow=32						
QSPA	South Pole Qui	62.20	180	P	P	14 11 32.4	-0.2
KEST	Kesra	66.88	20	P	P	14 12 05.8	+2.6
	comp=Z,2.2nm,0.8s,baz=193,slow=8.0,SNR=4.4						
KEST				LR	LR	14 38 55.3	
	comp=Z,987nm,19.8s,baz=174,slow=34						
ROSC	El Rosal	67.32	289	LR	LR	14 39 33.1	
	comp=Z,754nm,21.5s,baz=178,slow=34						
ESDC	Sonseca Array	67.90	8	LR	LR	14 39 52.0	
	comp=Z,326nm,18.6s,baz=170,slow=34						
PDPR	Patillas Dam,	68.66	305	P	P	14 12 13.3	-1.4
VNDA	Vanda	74.65	179	P	P	14 12 54.5	+4.4
	comp=Z,1.6nm,0.9s,baz=214,slow=10,SNR=3.2						
VNDA				LR	LR	14 41 08.2	
	comp=Z,406nm,21.5s,baz=180,slow=32						
VNDA	Vanda	74.65	179	P	P	14 12 49.7	-0.4
VNDA				IAmb	IAmb	14 13 04.6	
	comp=Z,12nm,1.4s						
BFO	Black Forest	78.42	14	P	P	14 13 11.2	-0.4
BFO				IAmb	IAmb	14 13 12.9	
	comp=Z,7.6nm,1.1s						
GERES	GERESS Array B	80.21	18	LR	LR	14 46 30.4	
	comp=Z,170nm,21.9s,baz=206,slow=34						
BRTR	Keskin Array B	80.25	35	LR	LR	14 49 38.4	
	comp=Z,72nm,19.5s,baz=252,slow=36						
MLR	Muntele Rosu	81.35	27	P	P	14 13 28.8	+1.1
	comp=Z,3.5nm,0.6s,baz=225,slow=14,SNR=6.7						
MLR	Muntele Rosu	81.35	27	P	P	14 13 26.4	-1.3
BURAR	Bucovina Array	82.83	25	P	P	14 13 35.1	-0.3
AKASG	Malin Array Be	86.87	25	P	P	14 13 56.5	+1.0
	comp=Z,1.7nm,0.7s,baz=222,slow=5.2,SNR=8.5						
AKASG				LR	LR	14 52 20.9	
	comp=Z,74nm,19.1s,baz=320,slow=35						
KBZ	Khabaz	87.94	37	LR	LR	14 55 45.8	
	comp=Z,53nm,18.4s,baz=236,slow=37						
NOA	NORSAR Array B	90.94	12	LR	LR	14 55 00.5	
	comp=Z,120nm,18.2s,baz=210,slow=36						
GEYT	Alibeck	93.53	49	LR	LR	14 55 38.5	
	comp=Z,403nm,20.4s,baz=220,slow=35						
FINES	FINESS Array B	94.64	18	LR	LR	14 55 22.3	
	comp=Z,246nm,21.1s,baz=228,slow=34						
PALK	Pallekele	96.76	85	LR	LR	14 54 19.8	
	comp=Z,931nm,18.9s,baz=53,slow=33						
TBI	Tubuai	113.79	224	eSS	SS	14 36 27.0	-3.8
	comp=Z,94nm,33.2s						
TBI	Tubuai	113.79	224	eLR	LR	14 53 53.0	
	comp=Z,480nm,31.8s						
WMQ	Urumqi	116.29	52	ePKP	PKPdf	14 19 54.2	-0.5
WMQ				LR	LR		
	comp=Z,240nm,25.7s						
WMQ				LR	LR		
	comp=Z,210nm,25.7s						
TAOE	Nuku Hiva Isla	117.02	242	eLR	LR	14 55 29.0	
	comp=Z,222nm,22.6s						
PPT2	Papeete2	118.07	228	eSS	SS	14 37 24.3	-3.0
	comp=Z,130nm,30.0s						
PPT2	Papeete2	118.07	228	eLR	LR	14 55 47.0	
	comp=Z,241nm,23.5s						
CD2	Chengdu	125.64	71	PKP	PKPdf	14 20 11.0	-2.0
QIZ	Qiongzhong	127.36	87	PKP	PKPdf	14 20 14.9	-1.7
QIZ				PP	PP	14 22 16.9	+0.2
QIZ				AMB	AMB		
	comp=Z,350nm,12.9s						
QIZ				LR	LR		
	comp=Z,230nm,15.7s						
QIZ				LR	LR		
	comp=Z,360nm,25.0s						
QIZ				LR	LR		
	comp=Z,310nm,17.7s						
SONM	Songino Array	129.72	50	PKP	PKiKP	14 20 22.2	+1.0
	comp=Z,0.9nm,1.0s,baz=277,slow=1.2,SNR=5.0						
ILAR	Eielson Array	133.18	335	PKP	PKiKP	14 20 27.4	-0.1
	comp=Z,0.7nm,1.0s,baz=196,slow=2.2,SNR=4.7						
HHC	Hu-ho-hao-te	133.35	59	ePKP	PKiKP	14 20 28.4	-0.3
NJ2	Nanjing	138.52	72	ePKP	PKPdf	14 20 35.7	-1.5
KLR	Kul'dur	145.80	42	PKPbc	PKPdf	14 20 49.9	+0.2
	comp=Z,7.4nm,1.2s,baz=3.9,slow=2.8,SNR=5.8						
KSRS	Korea Array	146.13	64	PKPbc	PKiKP	14 20 53.7	-1.0
	comp=Z,2.9nm,0.9s,baz=278,slow=4.0,SNR=4.8						

IDC 04 14:07:30.6±2.7**, 27.°95S**×**13.°37W, h0**km**, mb4.1**/4**, mb1 4.1**/4**, mb1mx3.7**/42**, mbtmp4.1**/4**, Error ellipse:**

s-maj=146.5km s-min=30.3km az=130.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOWA	**Kowa**	**43.16**	**13**	P	P	14 15 33.2	+0.1
	2.6nm,0.7s,baz=204,slow=11,SNR=7.5						
TORD	**Torodi Ar. Bea**	**43.38**	**22**	P	P	14 15 34.5	-0.4
	1.4nm,0.7s,baz=194,slow=8.0,SNR=4.4						
PLCA	**Paso Flores**	**48.13**	**239**	P	P	14 16 12.4	-0.1
	1.0nm,0.7s,baz=70,slow=6.7,SNR=4.0						
BRTR	**Keskin Array B**	**80.30**	**35**	P	P	14 19 43.6	+0.1
	2.1nm,0.8s,baz=212,slow=5.1,SNR=4.9						

IDC 04 14:14:52.5±4.1**, 3°.19N×94°.59E, h0km, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.3**/67**, mbtmp3.7**/4**, Error ellipse: s-maj=154.7km s-min=27.9km az=58.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.76**	**15**	Pn	P	14 18 42.6	+2.5
	baz=204,slow=11,SNR=4.1						
H08S2	**Diego Garcia H**	**24.53**	**244**	T	T	14 45 34.4	
	baz=65,slow=76,SNR=43						
H08S3	**Diego Garcia H**	**24.53**	**244**	T	T	14 45 33.3	
	baz=65,slow=76,SNR=54						
H08S1	**Diego Carcia H**	**24.55**	**244**	T	T	14 45 34.6	
	baz=65,slow=76,SNR=25						
MKAR	**Makanchi Array**	**44.73**	**348**	P	P	14 23 07.5	-0.1
	0.4nm,0.4s,baz=170,slow=7.9,SNR=9.3						
WRA	**Warramunga Arr**	**45.30**	**122**	P	P	14 23 12.3	-0.1
	0.5nm,0.9s,baz=299,slow=8.8,SNR=3.0						
SONM	**Songino Array**	**45.63**	**11**	P	P	14 23 14.7	-0.1
	0.3nm,0.4s,baz=184,slow=8.1,SNR=2.0						
ZALV	**Zalesovo Beam**	**51.23**	**353**	P	P	14 23 57.5	-0.2
	0.9nm,0.3s,baz=170,slow=8.1,SNR=6.1						

BJI ***04*** *14:19:51.3±0.0, 5°.97N×125°.98E, h141km, mB5.0/9, mb4.6/14*

NEIC ***04*** *14:19:52.9±1.7, 6°.03N±0°.05×126°.12E±0°.09, h149km±4km, mb4.6/44, Error ellipse: s-maj=12.5km s-min=7.6km az=89.0*

IDC ***04*** *14:19:53.0±0.5, 6°.03N×126°.11E, h143km±4km, mb4.0/15, mb1 4.2/18, mb1mx3.9/44, mbtmp4.5/18, MS2.9/1, Ms1 2.9/1, ms1mx2.4/40, Error ellipse: s-maj=18.6km s-min=8.0km az=71.0*

DJA ***04*** *14:19:53.4±0.5, 6°N±4°×12°6E±°, h143km±4km, M4.7/43, mB5.2/19, mb4.8/43, MLv5.2/12, Mw(mB)4.6/19*

MAN ***04*** *14:19:53.0, 6°.01N×125°.97E, h136km, mb5.0, ML4.0, MS4.0*

KLM ***04*** *14:19:54, 5°.93N×126°.29E, h149km, mb4.7*

ISC 04 14:19:52.6±0.6**, 6°.02N**±0°.04×**126°.10E**±0°.05**, h140**km±5km**, n142,** σ1^{s}**50**/160**, mb4.6**/40**, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.39**	**283**	*e*P	**Pn**	**14 20 11.7**	**-0.6**
DDMP				*e*S	**Sn**	**14 20 26.4**	**-0.9**
MATI	**Mati**	**0.94**	**10**	*e*P	**Pn**	**14 20 15.8**	**-0.1**
MATI				*e*S	**Sn**	**14 20 35.4**	**+1.8**
DAV	**Davao City (W)**	**1.17**	**334**	P	**Pn**	**14 20 18.8**	**+0.8**
	367nm,0.3s,baz=77,slow=1.0,SNR=26						
DAV				S	**Sn**	**14 20 38.1**	**+0.8**
	1μm,0.3s,baz=125,slow=3.1,SNR=28						
DAV				LR	LR	14 20 50.5	
	comp=Z,478nm,18.8s,baz=329,slow=50						
KCP	**Kidapawan**	**1.40**	**315**	⇓*i*P	**Pn**	**14 20 21.0**	**+0.6**
KCP				*i* S	**Sn**	**14 20 40.7**	**-1.0**
SKMP	**Bagumbayan, Su**	**1.62**	**288**	*e*P	**Pn**	**14 20 21.9**	**-0.8**
SKMP				*e*S	**Sn**	**14 20 44.8**	**-1.1**
BUKP	**Musuan**	**2.12**	**331**	*e*P	**Pn**	**14 20 29.0**	**+0.4**
BUKP				*e*S	**Sn**	**14 20 56.1**	**-0.1**
SGSI	**Sangihe**	**2.38**	**194**	P	**Pn**	**14 20 32.8**	**+1.0**
CGP	**Cagayan de Oro**	**2.79**	**330**	⇓*e*P	**Pn**	**14 20 37.6**	**+0.7**
CGP				*e*S	**Sn**	**14 21 14.5**	**+3.3**
BUTP	**Butuan**	**2.97**	**351**	*e*P	**Pn**	**14 20 40.2**	**+1.0**
BUTP				*e*S	**Sn**	**14 21 18.7**	**+3.5**
PAGZ	**Pagadian**	**3.25**	**304**	*e*P	**Pn**	**14 20 43.0**	**+0.2**
GLSP	**General Luna,**	**3.74**	**0**	*e*P	**Pn**	**14 20 49.8**	**+0.6**
GLSP				*e*S	**Sn**	**14 21 30.4**	**-2.8**
ZCP	**Zamboanga City**	**4.10**	**283**	⇑*e*P	**Pn**	**14 20 53.9**	**0.0**
ZCP				*e*S	**Sn**	**14 21 42.2**	**+0.7**
MSLP	**Maasin**	**4.27**	**343**	*e*P	**Pn**	**14 20 53.6**	**-2.6**
LLP	**Lapu-Lapu**	**4.76**	**334**	*e*P	**Pn**	**14 21 02.9**	**+0.2**
LLP				*e*S	**Sn**	**14 21 58.3**	**+0.9**
CNOP	**Candoni, Negro**	**5.10**	**318**	*e*P	**Pn**	**14 21 07.2**	**0.0**
TNTI	**Ternate**	**5.36**	**166**	Pn	**Pn**	**14 21 09.7**	**-1.0**
TNTI	**Ternate**	**5.36**	**166**	P	**Pn**	**14 21 10.1**	**-0.6**
	1.8nm5μm395nm,1.0s						
GUIM	**Jordan**	**5.75**	**323**	*e*P	**Pn**	**14 21 15.3**	**-0.5**
KMSI	**Cibinong**	**5.80**	**201**	P	**Pn**	**14 21 16.3**	**-0.3**
	1.1nm4μm284nm,0.8s						
GTOI	**Gorontalo**	**6.17**	**210**	P	**Pn**	**14 21 21.5**	**0.0**
	1.5nm4μm381nm,0.6s						
MRSI	**Marisa**	**6.89**	**217**	P	**Pn**	**14 21 32.2**	**+1.0**
	0.6nm2μm134nm,0.7s						
TOLI2	**Tolitoli**	**7.20**	**228**	Pn	**Pn**	**14 21 34.6**	**-0.7**
MYLDM	**Lahad Datu**	**7.61**	**264**	Pn	**Pn**	**14 21 42.2**	**+1.4**
LUWI	**Luwuk**	**7.76**	**205**	Pn	**Pn**	**14 21 44.8**	**+2.0**
LUWI	**Luwuk**	**7.76**	**205**	P	**Pn**	**14 21 43.7**	**+0.9**
	0.8nm1μm172nm,1.1s						
SANI	**Sanana**	**8.01**	**181**	P	**Pn**	**14 21 43.9**	**-2.3**
	1.4nm3μm130nm,0.7s						
SJMP	**San Jose**	**8.07**	**323**	*e*P	**Pn**	**14 21 47.8**	**+0.8**
APSI	**Ampana**	**8.19**	**213**	P	**Pn**	**14 21 50.2**	**+1.6**
	920nm68nm,1.2s						
SWI	**Sorong**	**8.56**	**143**	P	**Pn**	**14 21 53.3**	**-0.3**
	1μm106nm,0.6s						
SIJI	**Sorong**	**8.57**	**143**	P	**Pn**	**14 21 53.2**	**-0.5**
	20nm,0.3s,baz=336,slow=18,SNR=84						
SIJI				S	**Sn**	**14 23 23.1**	**-5.8**
	baz=323,slow=20,SNR=3.5						
NLAI	**Namlea**	**9.25**	**174**	P	**Pn**	**14 22 00.9**	**-1.9**
	4μm42nm,0.6s						
TGY	**Tagaytay City**	**9.50**	**328**	LR	LR	14 26 15.9	
	comp=Z,80nm,20.1s,baz=237,slow=40						
KKM	**Kota Kinabalu**	**9.83**	**271**	Pn	**Pn**	**14 22 12.6**	**+2.0**
FAKI	**Fak Fak**	**10.80**	**145**	Pn	**Pn**	**14 22 23.3**	**-0.1**
FAKI	**Fak Fak**	**10.80**	**145**	P	**Pn**	**14 22 24.0**	**+0.6**
	68nm,0.8s						
TTSI	**Tana Toraja**	**10.97**	**215**	P	**Pn**	**14 22 27.6**	**+1.9**
	2μm122nm,1.5s						
SPSI	**Sidrap Palu**	**11.76**	**213**	P	**Pn**	**14 22 37.8**	**+1.7**
	25nm,1.0s						
BNSI	**Bone**	**11.95**	**210**	P	**Pn**	**14 22 37.3**	**-1.3**
	46nm,0.8s						
KAPI	**Kappang**	**12.66**	**210**	P	**Pn**	**14 22 48.1**	**+0.3**
	2.5nm,0.3s,baz=317,slow=2.9,SNR=6.6						
APYP	**Conner**	**12.69**	**338**	*e*P	**P**	**14 22 53.2**	**-0.6**
SRPI	**Serui, Papua**	**12.81**	**127**	P	**P**	**14 22 56.0**	**+0.8**
MTKI	**Muara Teweh, K**	**13.15**	**239**	P	**Pn**	**14 22 57.0**	**+2.9**
	38nm,0.7s						
KBKI	**Kotabaru**	**13.56**	**227**	P	**Pn**	**14 23 00.5**	**+1.1**
	2μm67nm,0.9s						
SBUM	**Sibu**	**14.28**	**256**	Pn	**Pn**	**14 23 08.9**	**+0.3**
SBUM	**Sibu**	**14.28**	**256**	P	**P**	**14 23 14.0**	**+2.4**
BBKI	**Banjar Baru**	**14.66**	**230**	P	**P**	**14 23 16.5**	**+0.7**
	4μm48nm,0.9s						
SAUI	**Saumlaki**	**14.84**	**159**	P	**P**	**14 23 17.3**	**-0.6**
MMRI	**Maumere**	**15.06**	**195**		**P**	**14 23 21.2**	**+1.0**
MMRI	**Maumere**	**15.06**	**195**	P	**Pn**	**14 23 18.5**	**+0.3**
	115nm,1.1s						
SOEI	**Soe**	**15.78**	**187**		**Pn**	**14 23 27.9**	**+0.7**
SOEI				IAmb	IAmb	14 23 53.7	
	comp=Z,49nm,0.8s						
SOEI	**Soe**	**15.78**	**187**	P	**P**	**14 23 28.5**	**+0.2**
	comp=Z,61nm,0.8s						
BATI	**Baumata**	**16.30**	**189**	P	**P**	**14 23 35.0**	**+1.1**
	comp=Z,15nm,0.3s,baz=30,slow=2.0,SNR=16						
BATI	**Baumata**	**16.30**	**189**	P	**Pn**	**14 23 33.4**	**-0.2**
	comp=Z,68nm,1.0s						
KSM	**Kuching**	**16.39**	**255**	P	**P**	**14 23 36.3**	**+1.4**
KSM				IAmb	IAmb	14 23 39.4	
	comp=Z,19nm,0.9s						
KSM	**Kuching**	**16.39**	**255**	P	**P**	**14 23 37.0**	**+2.1**
PLAI	**Plampang**	**16.92**	**209**	P	**P**	**14 23 40.4**	**-0.4**
	comp=Z,1μmcomp=Z,144nm,0.7s						
TWSI	**Taliwang, Sumb**	**17.30**	**212**	P	**P**	**14 23 43.8**	**-1.1**
	comp=Z,47nm,0.7s						
KMMI	**Kalianget**	**17.75**	**223**	P	**Pn**	**14 23 50.9**	**-0.2**
	comp=Z,92nm,1.2s						
YULB	**Yu-li**	**17.88**	**346**	P	**P**	**14 23 50.2**	**-1.1**
YULB				IAmb	IAmb	14 24 08.0	
	comp=Z,56nm,1.5s						
TPUB	**Ta-pu**	**17.97**	**344**	P	**P**	**14 23 51.6**	**-0.7**
SSLB	**Suanglung**	**18.35**	**345**	P	**P**	**14 23 55.7**	**-0.7**
SSLB				IAmb	IAmb	14 24 12.9	
	comp=Z,47nm,1.5s						
DLV	**T Lat**	**18.36**	**290**	P	**P**	**14 23 57.1**	**+0.3**
DLV				IAmb	IAmb	14 24 00.2	
	comp=Z,13nm,0.6s						
JAGI	**Jajag, Banyuwa**	**18.68**	**220**	P	**P**	**14 24 01.0**	**+0.9**
JAGI	**Jajag, Banyuwa**	**18.68**	**220**	P	**Pn**	**14 24 01.8**	**-0.3**
	comp=Z,93nm,0.7s						
YHNB	**Yeheng**	**19.09**	**347**	P	**P**	**14 24 04.0**	**-0.6**
KNMB	**Chin-men Tao**	**19.78**	**339**	P	**P**	**14 24 12.3**	**+0.5**
KNMB				IAmb	IAmb	14 24 25.2	
	comp=Z,42nm,1.0s						
TPI	**Tanjungpandan**	**20.38**	**245**	P	**P**	**14 24 18.3**	**-0.1**
	comp=Z,32nm,0.9s						
UGM	**Wanagama**	**20.80**	**228**	P	**P**	**14 24 23.6**	**+0.6**
LEM	**Lembang**	**22.42**	**236**	P	**P**	**14 24 41.5**	**+1.4**
	comp=Z,96nm,1.0s,baz=13,slow=8.9,SNR=12						
MYKOM	**Kota Tinggi**	**22.58**	**260**	P	**P**	**14 24 41.5**	**+0.1**
MYKOM				IAmb	IAmb	14 24 43.9	
	comp=Z,25nm,0.8s						
MYKOM	**Kota Tinggi**	**22.58**	**260**	P	**P**	**14 24 43.0**	**+1.5**
CBJI	**Citeko**	**22.84**	**238**	P	**P**	**14 24 46.4**	**+2.5**
	comp=Z,129nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.97**	**181**	P	**P**	**14 24 54.2**	**+0.1**
	comp=Z,9.2nm,0.4s,baz=10,slow=9.9,SNR=54						
FITZ	**Fitzroy Crossi**	**23.97**	**181**	P	**P**	**14 24 53.9**	**-0.2**
FITZ				IAmb	IAmb	14 24 56.3	
	comp=Z,26nm,1.2s						
MDSI	**Maura Dua**	**24.25**	**245**	P	**P**	**14 24 58.1**	**+1.4**
	comp=Z,28nm,1.4s						
LHSI	**Lahat**	**24.57**	**247**	P	**P**	**14 25 00.3**	**+0.6**
	comp=Z,84nm,1.0s						
IPM	**Ipoh**	**25.01**	**268**	P	**P**	**14 25 03.4**	**-0.4**
KULM	**Kulim**	**25.33**	**270**	P	**P**	**14 25 07.0**	**+0.4**
PMG	**Port Moresby**	**25.99**	**126**	P	**P**	**14 25 12.4**	**-0.1**
	comp=Z,34nm,0.8s,baz=4.0,slow=3.0,SNR=12						
PMG	**Port Moresby**	**25.99**	**126**	P	**P**	**14 25 12.1**	**-0.4**
COEN	**Coen**	**26.10**	**140**	P	**P**	**14 25 13.6**	**+0.1**
COEN				IAmb	IAmb	14 25 18.1	
	comp=Z,13nm,0.7s						
NJ2	**Nanjing**	**26.77**	**346**	*e*P	**P**	**14 25 20.4**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WB0	**Warramunga Arr**	**26.89**	**163**	P	**P**	**14 25 19.8**	**-0.7**
WB0				IAmb	IAmb	14 25 31.3	
	comp=Z,13nm,0.7s						
WRAB	**Tennant Creek**	**27.04**	**163**	P	**P**	**14 25 21.2**	**-0.7**
WRAB				IAmb	IAmb	14 25 41.6	
	comp=Z,8.6nm,0.8s						
WRA	**Warramunga Arr**	**27.04**	**163**	P	**P**	**14 25 21.8**	**-0.2**
	comp=Z,2.8nm,0.5s,baz=340,slow=10,SNR=27						
WRA				S	**S**	**14 29 59.8**	**+10**
	comp=Z,2.3nm,1.0s,baz=339,slow=18,SNR=3.4						
WRA				ScP	**ScP**	**14 32 06.9**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=339,slow=3.3,SNR=5.8						
WB2	**Warramunga Arr**	**27.05**	**163**	P	**P**	**14 25 21.3**	**-0.6**
WB2				IAmb	IAmb	14 25 33.4	
	comp=Z,9.0nm,0.7s						
WR0	**Warramunga Arr**	**27.12**	**162**	P	**P**	**14 25 22.1**	**-0.5**
WR0				IAmb	IAmb	14 25 33.6	
	comp=Z,9.8nm,0.7s						
PSA00	**Pilbara Seismi**	**28.10**	**192**	P	**P**	**14 25 30.6**	**-0.7**
PSA00	**Pilbara Seismi**	**28.10**	**192**	P	**P**	**14 25 30.3**	**-1.0**
PSA00				IAmb	IAmb	14 25 32.0	
	comp=Z,12nm,0.7s						
GSI	**Gunungsitoli**	**28.84**	**262**	P	**P**	**14 25 35.9**	**-2.1**
GSI				IAmb	IAmb	14 25 37.2	
	comp=Z,14nm,0.8s						
GSI	**Gunungsitoli**	**28.84**	**262**	P	**P**	**14 25 37.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**29.22**	**297**	P	**P**	**14 25 41.9**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=114,slow=7.2,SNR=4.5						
CMAR				PcP	**PcP**	**14 28 46.3**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=145,slow=2.2,SNR=4.9						
CMAR				ScP	**ScP**	**14 32 14.2**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=135,slow=1.2,SNR=10						
KMI	**Kunming**	**29.35**	**313**	⇑P	P	14 25 29.8	-13
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
KMI	**Kunming**	**29.35**	**313**	*e*P	**P**	**14 25 43.2**	**+0.6**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
AS31	**Alice Springs**	**30.47**	**166**	P	**P**	**14 25 52.0**	**-0.3**
ASAR	**Alice Springs**	**30.47**	**166**	P	**P**	**14 25 52.5**	**+0.2**
	comp=Z,8.9nm,0.5s,baz=338,slow=6.9,SNR=141						
ASAR				PcP	**PcP**	**14 28 48.5**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=352,slow=2.5,SNR=4.4						
ASAR				S	**S**	**14 30 41.1**	**-2.2**
	comp=Z,1.1nm,0.8s,baz=336,slow=13,SNR=5.0						
ASAR				ScP	**ScP**	**14 32 17.8**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=355,slow=2.2,SNR=5.9						
ASAR	**Alice Springs**	**30.47**	**166**	P	**P**	**14 25 52.2**	**-0.1**
KSAR	**Wonju Array Be**	**31.32**	**3**	P	**P**	**14 26 00.2**	**+0.6**
XAN	**Xi'an**	**32.10**	**333**	P	**P**	**14 26 05.6**	**-1.0**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CD2	**Chengdu**	**32.45**	**322**	*e*P	**P**	**14 26 09.6**	**0.0**
CTA	**Charters Tower**	**32.65**	**143**	P	**P**	**14 26 13.1**	**+1.7**
	comp=Z,5.5nm,0.8s,baz=335,slow=11,SNR=7.5						
CTAO	**Charters Tower**	**32.65**	**143**	P	**P**	**14 26 11.8**	**+0.3**
CTAO				IAmb	IAmb	14 26 16.7	
	comp=Z,5.5nm,0.8s						
MORW	**Morawa**	**36.20**	**195**	P	**P**	**14 26 41.3**	**-0.6**
MORW				IAmb	IAmb	14 26 42.5	
	comp=Z,21nm,0.9s						
LZH	**Lanzhou**	**36.23**	**329**	*e*P	**P**	**14 26 45.0**	**+2.7**
LZH				pP	pP	14 27 16.9	+4.2
LZH				sP	sP	14 27 32.6	+3.9
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
FORT	**Forrest**	**36.64**	**177**	P	**P**	**14 26 45.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**37.04**	**342**	*e*P	**P**	**14 26 49.5**	**+0.5**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,160nm,6.0s						
USRK	**Ussuriysk Ar.**	**38.38**	**7**	P	**P**	**14 27 01.7**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=206,slow=6.7,SNR=4.3						
USRK	**Ussuriysk Ar.**	**38.38**	**7**	P	**P**	**14 26 59.5**	**-0.5**
EIDS	**Eidsvold**	**39.54**	**143**	P	**P**	**14 27 09.2**	**-0.7**
EIDS				IAmb	IAmb	14 27 13.4	
	comp=Z,6.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**39.63**	**192**	P	**P**	**14 27 11.1**	**+0.5**
	comp=Z,32nm,0.4s,baz=26,slow=7.9,SNR=64						
NWAO	**Narrogin (SRO)**	**39.63**	**192**	P	**P**	**14 27 11.0**	**+0.3**
BBOO	**Buckleboo**	**39.76**	**167**	P	**P**	**14 27 12.3**	**+0.7**
STKA	**Stephens Creek**	**40.48**	**160**	P	**P**	**14 27 18.4**	**+0.8**
	comp=Z,4.9nm,0.7s,baz=343,slow=8.6,SNR=9.2						
STKA				PcP	**PcP**	**14 29 18.1**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=320,slow=5.2,SNR=3.0						
STKA	**Stephens Creek**	**40.48**	**160**	P	**P**	**14 27 18.2**	**+0.6**
GTA	**Gaotai**	**40.83**	**328**	*e*P	**P**	**14 27 19.6**	**-1.0**
GTA				pP	pP	14 27 56.0	+4.6
GTA				sP	sP	14 28 11.9	+4.7
KLR	**Kul'dur**	**43.33**	**5**	P	**P**	**14 27 43.7**	**+3.2**
	comp=Z,0.6nm,0.6s,baz=167,slow=19,SNR=1.6						
ARMA	**Armidale**	**43.72**	**147**	P	**P**	**14 27 42.8**	**-1.2**
ARMA				IAmb	IAmb	14 27 55.3	
	comp=Z,7.4nm,0.8s						
SONM	**Songino Array**	**44.94**	**341**	P	**P**	**14 27 53.4**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=134,slow=10,SNR=2.4						
DZM	**Mont Dzumac**	**48.38**	**127**	P	**P**	**14 28 21.5**	**+0.9**
DZM				IAmb	IAmb	14 28 22.6	
	comp=Z,7.1nm,0.7s						
WMQ	**Urumqi**	**50.51**	**324**	*e*P	**P**	**14 28 38.0**	**+1.5**
MK31	**Makanchi Array**	**55.33**	**325**	P	**P**	**14 29 10.7**	**-1.1**
MKAR	**Makanchi Array**	**55.33**	**325**	P	**P**	**14 29 11.1**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=119,slow=7.9,SNR=33						
MKAR				ScP	**ScP**	**14 33 55.1**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=115,slow=6.0,SNR=4.7						
MKAR	**Makanchi Array**	**55.33**	**325**	P	**P**	**14 29 10.8**	**-0.9**
MAKZ	**Makanchi**	**55.52**	**325**	P	**P**	**14 29 12.2**	**-0.9**
KSH	**Kashi**	**56.00**	**314**	P	**P**	**14 29 17.5**	**+0.7**
KSH				pP	pP	14 29 53.1	+3.4
KSH				S	**S**	**14 36 51.4**	**-3.0**
KSH				pmax	pmax		
	comp=Z,19nm,1.5s						
NIL	**Nilore**	**56.05**	**307**	P	**P**	**14 29 16.0**	**-1.1**
NIL				IAmb	IAmb	14 29 17.6	
	comp=Z,10nm,1.1s						
ZALV	**Zalesovo Beam**	**58.28**	**333**	P	**P**	**14 29 31.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=108,slow=9.3,SNR=2.0						
KK31	**Karatay Array**	**61.15**	**316**	P	**P**	**14 29 51.6**	**-0.6**
KKAR	**Karatay Array**	**61.15**	**316**	P	**P**	**14 29 51.4**	**-0.9**
LBZ	**Lake Benmore**	**63.92**	**146**	P	**P**	**14 30 11.5**	**+0.9**
BRVK	**Borovoye**	**65.14**	**327**	P	**P**	**14 30 17.9**	**-0.5**
ABKAR	**Akbulak array**	**69.99**	**320**	P	**P**	**14 30 47.2**	**-1.8**
RAYN	**Ar Rayn**	**79.02**	**293**	P	**P**	**14 31 40.4**	**-1.3**
ILAR	**Eielson Array**	**83.32**	**26**	P	**P**	**14 32 03.5**	**0.0**
	comp=Z,0.8nm,0.7s,baz=246,slow=4.7,SNR=11						
VNDA	**Vanda**	**85.76**	**173**	P	**P**	**14 32 15.7**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=331,slow=6.3,SNR=2.6						
ARCES	**ARCESS Array B**	**88.10**	**340**	P	**P**	**14 32 26.1**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=66,slow=6.9,SNR=9.3						
ARCES	**ARCESS Array B**	**88.10**	**340**	IAmb	IAmb	14 32 27.1	
	comp=Z,6.7nm,1.2s						
FINES	**FINESS Array B**	**89.53**	**332**	P	**P**	**14 32 32.7**	**-1.1**
	comp=Z,2.9nm,0.9s,baz=96,slow=3.8,SNR=11						
VYHS	**Vyhne**	**96.81**	**320**	*e*PDIFF	**P**	**14 33 07.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**121.59**	**289**	PKP	**PKPdf**	**14 38 30.6**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=39,slow=2.0,SNR=9.4						
PLCA	**Paso Flores**	**142.35**	**159**	PKhKP	PKPpre	14 39 05.2	
	comp=Z,1.0nm,0.9s,baz=249,slow=2.2,SNR=5.0						
PLCA	**Paso Flores**	**142.35**	**159**		**PKPdf**	**14 39 06.5**	**-2.5**

BJI ***04*** *14:32:10.2±0.0, 38°.04N×103°.70E, h11km, mB4.5/1, mb4.3/16, ML4.3/23, Ms4.0/9, Ms7 3.6/9*

NEIC ***04*** *14:32:12.2±1.4, 38°.01N±0°.10×104°.0E±0°.1, h29km±5km, mb4.5/28, Error ellipse: s-maj=15.8km s-min=11.4km az=225.0*

IDC ***04*** *14:32:12.1±5.5, 38°.10N×103°.82E, h33km±43km, mb3.7/14, mb1 3.9/17, mb1mx3.7/45, mbtmp3.9/17, ML3.8/3, MS3.3/4, Ms1 3.3/4, ms1mx3.0/44, Error ellipse: s-maj=22.5km s-min=13.5km az=34.0*

ISC 04 14:32:09.5±0.4**, 37°.99N**±0°.04×**103°.88E**±0°.03**, h10km, n74,** σ**2^{s}01**/83**, mb4.3**/30**, 2C, Gansu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**1.90**	**181**	Pn	**Pb**	**14 32 43.9**	**-0.5**
LZH				Pg	**Pg**	**14 32 47.0**	**+1.1**
LZH				Sn	**Sn**	**14 33 06.1**	**-0.1**
LZH				Sg	**Sg**	**14 33 11.0**	**+0.4**
LZH				smax	smax		
	comp=N,7μm,1.0s						
LZH				smax	smax		
	comp=E,8μm,1.1s						
GTA	**Gaotai**	**3.48**	**295**	Pn	**Pn**	**14 33 02.5**	**-1.4**
GTA				Pg	**Pb**	**14 33 10.1**	**-1.2**
GTA				Sn	**Sn**	**14 33 43.1**	**-2.1**
GTA				Sg	**Sb**	**14 33 52.9**	**-0.9**
GTA				smax	smax		
	comp=N,1μm,0.7s						
GTA				smax	smax		
	comp=E,1μm,0.6s						
BTO	**Baotou**	**5.43**	**59**	Pn	**Pn**	**14 33 32.9**	**+2.4**
BTO				Pg	**Pb**	**14 33 48.6**	**+4.2**
BTO				Sn	**Sn**	**14 34 31.2**	**-1.9**
BTO				Sg	**Sb**	**14 34 55.9**	**+6.3**
BTO				smax	smax		
	comp=N,2μm,0.4s						
BTO				smax	smax		
	comp=E,1μm,0.4s						
XAN	**Xi'an**	**5.68**	**133**	Pn	**Pn**	**14 33 34.2**	**+0.3**
XAN				Pg	**Pg**	**14 33 55.7**	**-2.5**
XAN				Sg	**Sg**	**14 35 11.8**	**+0.1**
XAN				smax	smax		
	comp=N,170nm,0.7s						
XAN				smax	smax		
	comp=E,150nm,0.9s						
XAN				LR	LR		
	comp=N,490nm,8.4s						
XAN				LR	LR		
	comp=E,580nm,10.0s						
XAN				LR	LR		
	comp=Z,680nm,12.1s						
XAN	**Xi'an**	**5.68**	**133**		**Pn**	**14 33 32.0**	**-1.9**
HHC	**Hu-ho-hao-te**	**6.59**	**62**	*e*Pg	Pg	14 34 10.3	-5.4
TIY	**Taiyuan**	**6.77**	**90**	*e*Pg	**Pg**	**14 34 16.1**	**-3.0**
TIY				Sg	**Sg**	**14 35 42.7**	**-4.1**
TIY				smax	smax		
	comp=N,520nm,0.7s						
TIY				smax	smax		
	comp=E,480nm,1.1s						
SONM	**Songino Array**	**10.01**	**10**	Pn	**Pn**	**14 34 33.7**	**+0.3**
	1.0nm,0.3s,baz=187,slow=14,SNR=23						
SONM				Lg	Lg	14 37 23.7	
	1.8nm,0.3s,baz=195,slow=29,SNR=7.9						
SONM	**Songino Array**	**10.01**	**10**	Pn	**Pn**	**14 34 34.4**	**+1.0**
ULN	**Ulaanbaatar**	**10.14**	**12**	Pn	**Pn**	**14 34 34.5**	**-0.6**
GYA	**Guiyang**	**11.74**	**168**	*e*P	**Pn**	**14 34 56.9**	**-0.2**
GYA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMI	**Kunming**	**12.87**	**185**	⇑Pg	Pn	14 35 07.6	-5.0
KMI				Sg		14 35 55.6	
KMI				smax	smax		
	comp=N,17nm,1.0s						
KMI				smax	smax		
	comp=E,21nm,1.4s						
KMI	**Kunming**	**12.87**	**185**	⇑P	Pn	14 35 18.7	+6.1
KMI				pmax	pmax		
	comp=E,8.0nm,1.2s						
WMQ	**Urumqi**	**13.55**	**301**	*e*P	**Pn**	**14 35 24.1**	**+2.4**
WMQ				pP	P	14 35 27.5	-3.4
WMQ				sP		14 35 32.7	
WMQ				PP	**PnPn**	**14 35 37.6**	**+8.1**
WMQ				S	**Sn**	**14 37 57.3**	**+4.9**
WMQ				pmax	pmax		
	comp=E,10.0nm,0.7s						
NJ2	**Nanjing**	**13.62**	**111**	*e*P	**Pn**	**14 35 22.7**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TLY	**Talaya**	**13.69**	**359**	Lg	Lg	14 39 23.4	
	comp=Z,0.0nm,0.3s,baz=264,slow=19,SNR=4.2						
TLY				LR	LR	14 41 01.0	
	comp=Z,64nm,19.3s,baz=304,slow=39						
TAPN	**Taplejung**	**17.24**	**237**	*e*P	**Pn**	**14 36 11.0**	**+0.4**
	comp=Z,14nm,0.8s						
ODAN	**Odare**	**17.78**	**236**	*e*P	**Pn**	**14 36 16.8**	**-0.5**
	comp=Z,22nm,0.7s						
GUN	**Gumba**	**18.12**	**242**	*e*P	**Pn**	**14 36 20.5**	**-1.1**
MK31	**Makanchi Array**	**18.17**	**306**	Pn	**Pn**	**14 36 20.3**	**-1.5**
MKAR	**Makanchi Array**	**18.17**	**306**	P	**Pn**	**14 36 20.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=109,slow=13,SNR=10						
MKAR				Lg	Lg	14 41 49.4	
	comp=Z,0.1nm,0.3s,baz=137,slow=26,SNR=4.1						
MKAR				LR	LR	14 43 47.3	
	comp=Z,117nm,18.7s,baz=169,slow=38						
MKAR	**Makanchi Array**	**18.17**	**306**	Pn	**Pn**	**14 36 19.9**	**-1.8**
RAMN	**Ramite**	**18.24**	**238**	*e*P	**Pn**	**14 36 21.2**	**-1.8**
MAKZ	**Makanchi**	**18.38**	**306**	P	**Pn**	**14 36 22.8**	**-1.5**
PKIN	**Phulchoki**	**18.66**	**242**	*e*P	**P**	**14 36 26.7**	**-1.2**
DMN	**Daman**	**18.84**	**242**	*e*P	**P**	**14 36 28.2**	**-1.7**
KSRS	**Korea Array**	**19.02**	**84**	P	**Pn**	**14 36 32.5**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=268,slow=8.6,SNR=11						
CMAR	**Chiang Mai Arr**	**19.94**	**194**	P	**Pn**	**14 36 47.5**	**+4.3**
	comp=Z,0.5nm,0.4s,baz=357,slow=9.4,SNR=1.8						
ZAA0	**Zalesovo Array**	**20.64**	**327**	P	**P**	**14 36 47.1**	**-1.8**
ZALV	**Zalesovo Beam**	**20.64**	**327**	P	**P**	**14 36 47.1**	**-1.8**
	comp=Z,7.2nm,0.8s,baz=131,slow=11,SNR=11						
KURK	**Kurchatov**	**21.96**	**314**	P	**P**	**14 37 02.2**	**-1.0**
KURBB	**Kurchatov Arra**	**21.98**	**313**	P	**P**	**14 37 02.2**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=117,slow=12,SNR=20						
USRK	**Ussuriysk Ar.**	**22.01**	**65**	P	**P**	**14 37 03.6**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=244,slow=16,SNR=2.2						
JNU	**Nakatsue**	**22.46**	**94**	P	**P**	**14 37 08.3**	**-0.4**
	comp=Z,7.1nm,0.9s,baz=259,slow=5.2,SNR=1.8						
JNU				LR	LR	14 45 32.6	
	comp=Z,110nm,19.7s,baz=28,slow=36						
JSU	**Suzuyama**	**22.73**	**99**	P	**P**	**14 37 10.5**	**-1.1**
AAK	**Ala-Archa**	**22.83**	**291**	P	**P**	**14 37 13.3**	**+0.6**
	comp=Z,3.9nm,1.0s,baz=120,slow=8.1,SNR=3.7						
AAK	**Ala-Archa**	**22.83**	**291**	P	**P**	**14 37 13.6**	**+0.9**
NIL	**Nilore**	**25.15**	**269**	P	**P**	**14 37 36.4**	**+1.5**
NIL				IAmb	IAmb	14 37 39.5	
	comp=Z,9.6nm,0.6s						
KK31	**Karatay Array**	**25.76**	**292**	P	**P**	**14 37 40.7**	**+0.4**
KKAR	**Karatay Array**	**25.76**	**292**	P	**P**	**14 37 40.7**	**+0.4**
BVAR	**Borovoye Array**	**27.56**	**314**	P	**P**	**14 37 59.0**	**+2.6**
	comp=Z,0.4nm,0.6s,baz=80,slow=12,SNR=3.8						
YAK	**Yakutsk**	**28.84**	**25**	LR	LR	14 50 09.5	
	comp=Z,39nm,18.9s,baz=152,slow=37						
ABKAR	**Akbulak array**	**33.30**	**304**	P	**P**	**14 38 47.8**	**+0.7**
ABKAR				IAmb	IAmb	14 38 51.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.7nm,0.9s						
GEYT	**Alibeck**	**35.80**	**284**	P	**P**	**14 39 12.3**	**+3.4**
	comp=Z,5.5nm,0.7s,baz=75,slow=6.4,SNR=7.7						
WSAR	**Wadi Sarin**	**41.23**	**262**	P	**P**	**14 39 57.0**	**+2.3**
	comp=Z,2.7nm,0.6s,baz=36,slow=14,SNR=2.8						
ARCES	**ARCESS Array B**	**50.97**	**334**	P	**P**	**14 41 08.5**	**-2.3**
	comp=Z,2.1nm,0.9s,baz=71,slow=7.8,SNR=4.4						
FINES	**FINESS Array B**	**51.85**	**323**	P	**P**	**14 41 13.8**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=89,slow=7.4,SNR=1.1						
BRTR	**Keskin Array B**	**53.41**	**295**	P	**P**	**14 41 27.8**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=80,slow=10,SNR=2.1						
NB2	**NORSAR Subarra**	**58.83**	**325**	P	**P**	**14 42 05.5**	**-2.3**
	comp=Z,1.8nm,0.6s,baz=69,slow=7.4						
NOA	**NORSAR Array B**	**58.83**	**325**	P	**P**	**14 42 05.2**	**-2.6**
	comp=Z,0.6nm,0.5s,baz=67,slow=6.8,SNR=2.9						
TOLK	**Toolik Lake Re**	**60.79**	**24**	P	**P**	**14 42 21.3**	**0.0**
TOLK				IAmb	IAmb	14 42 21.9	
	comp=Z,2.1nm,0.8s						
TTA	**Tatalina**	**61.21**	**31**	P	**P**	**14 42 24.1**	**0.0**
TTA				IAmb	IAmb	14 42 45.7	
	comp=Z,3.1nm,1.4s						
COLD	**Coldfoot**	**61.30**	**25**	P	**P**	**14 42 24.7**	**+0.1**
COLD				IAmb	IAmb	14 42 31.0	
	comp=Z,3.8nm,1.0s						
I23K	**Minto, Yukon-K**	**62.66**	**27**	P	**P**	**14 42 34.0**	**+0.2**
I23K				IAmb	IAmb	14 42 47.3	
	comp=Z,5.5nm,1.4s						
PPLA	**Purkeypile**	**62.75**	**30**	P	**P**	**14 42 34.6**	**0.0**
MDM	**Murphy Dome**	**63.16**	**27**	P	**P**	**14 42 36.5**	**-0.7**
MDM				IAmb	IAmb	14 42 51.8	
	comp=Z,3.2nm,1.1s						
ILAR	**Eielson Array**	**63.75**	**27**	P	**P**	**14 42 40.0**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=305,slow=4.2,SNR=9.9						
WB0	**Warramunga Arr**	**64.21**	**148**	P	**P**	**14 42 44.0**	**-0.5**
WB0				IAmb	IAmb	14 43 05.8	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**64.35**	**148**	P	**P**	**14 42 45.0**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=344,slow=6.7,SNR=21						
WB2	**Warramunga Arr**	**64.35**	**148**	P	**P**	**14 42 44.8**	**-0.7**
WB2				IAmb	IAmb	14 42 46.4	
	comp=Z,8.6nm,1.2s						
WR0	**Warramunga Arr**	**64.45**	**148**	P	**P**	**14 42 45.5**	**-0.6**
WR0				IAmb	IAmb	14 43 15.0	
	comp=Z,6.5nm,1.3s						
SCM	**Sheep Creek Mo**	**65.24**	**30**	P	**P**	**14 42 50.7**	**-0.2**
DOT	**Dot Lake**	**65.41**	**27**	P	**P**	**14 42 51.5**	**-0.4**
DOT				IAmb	IAmb	14 42 57.3	
	comp=Z,1.7nm,0.7s						
M24K	**Tolsona, Glenn**	**65.53**	**29**	P	**P**	**14 42 53.4**	**+0.6**
INK	**Inuvik**	**65.74**	**20**	P	**P**	**14 42 53.0**	**-0.9**
INK				IAmb	IAmb	14 43 11.4	
	comp=Z,5.6nm,1.4s						
KLU	**Klutina**	**65.98**	**30**	P	**P**	**14 42 55.2**	**-0.5**
N25K	**Chitina, Valde**	**66.43**	**29**	P	**P**	**14 42 58.7**	**+0.1**
N25K				IAmb	IAmb	14 43 11.2	
	comp=Z,6.3nm,1.2s						
AS31	**Alice Springs**	**67.51**	**150**	P	**P**	**14 43 05.3**	**-0.5**
ASAR	**Alice Springs**	**67.51**	**150**	P	**P**	**14 43 05.7**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=339,slow=6.8,SNR=66						
ASAR	**Alice Springs**	**67.51**	**150**	P	**P**	**14 43 05.6**	**-0.2**
PCA	**Pinnacle**	**69.03**	**29**	P	**P**	**14 43 16.2**	**+1.1**
CTAO	**Charters Tower**	**70.16**	**138**	P	**P**	**14 43 22.4**	**0.0**
CTAO				IAmb	IAmb	14 43 46.5	
	comp=Z,8.9nm,1.1s						
YKA	**Yellowknife Ar**	**75.18**	**17**	P	**P**	**14 43 50.8**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=333,slow=4.8,SNR=7.0						
STKA	**Stephens Creek**	**77.90**	**148**	P	**P**	**14 44 06.9**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=322,slow=12,SNR=5.5						

IDC 04 14:57:40.6±4.8**, 6.°94S**×**149.°00E, h0**km**, mb3.0**/2**, mb1 3.2**/3**, mb1mx3.1**/23**, mbtmp3.0**/3**, ML2.8**/1**, Error ellipse: s-maj=141.6km s-min=36.7km az=107.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.22**	**226**	P	Pn	15 02 07.4	+0.1
	0.0nm,0.3s,baz=51,slow=11,SNR=1.3						
ASAR	**Alice Springs**	**22.06**	**219**	P	P	15 02 36.6	-0.7
	0.2nm,0.5s,baz=54,slow=8.9,SNR=6.0						
MKAR	**Makanchi Array**	**79.48**	**320**	P	P	15 09 49.3	+0.1
	0.2nm,0.5s,baz=100,slow=6.1,SNR=4.5						

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*DJA **04** 15:17:53.0±0.6, 4°S±5°×12°9E±°, h125km±5km, M3.6/7, MLv3.6/7*
*IDC **04** 15:17:58.2±4.2, 3.°94S×128.°40E, h202km±48km, mb3.4/2, mb1 3.7/3, mb1mx3.2/31, mbtmp4.1/3, Error ellipse: s-maj=208.9km s-min=14.1km az=70.0*
ISC 04 15:17:51.7±1.0**, 3.°74S**±0.°09×**128.°50E**±0.°06**, h150**km**, n8, σ1.ˢ20**/12**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.48**	**290**	P	**Pn**	**15 18 21.2**	**+0.1**
NLAI				S	**Sn**	**15 18 43.2**	**-0.3**
BNDI	**Bandanaira**	**1.60**	**119**	P	**Pn**	**15 18 22.4**	**+0.1**
BNDI				S	**Sn**	**15 18 45.2**	**-0.6**
SANI	**Sanana**	**3.02**	**304**	P	**Pn**	**15 18 39.0**	**-0.3**
SANI				S	**Sn**	**15 19 14.2**	**-1.9**
FAKI	**Fak Fak**	**3.83**	**78**	P	**Pn**	**15 18 49.4**	**-0.3**
SWI	**Sorong**	**3.97**	**44**	P	**Pn**	**15 18 51.1**	**-0.5**
WRA	**Warramunga Arr**	**17.08**	**161**	P	**P**	**15 21 41.0**	**0.0**
	1.5nm,0.3s,baz=337,slow=10.0,SNR=84						
WRA				S	S	15 24 41.9	-10
	0.2nm,0.3s,baz=331,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**20.49**	**166**	P	**P**	**15 22 18.9**	**+0.9**
	8.8nm,0.7s,baz=345,slow=12,SNR=232						
ASAR				S	**S**	**15 25 57.0**	**-2.2**
	0.4nm,0.9s,baz=346,slow=18,SNR=4.3						
MKAR	**Makanchi Array**	**64.70**	**327**	P	**P**	**15 28 15.4**	**+1.7**
	0.2nm,0.3s,baz=117,slow=7.7,SNR=9.8						

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*NEIC **04** 15:20:37.1±1.5, 19.°3S±0.°1×177.°56W±0.°10, h597km±10km, mb4.3/17, Error ellipse: s-maj=21.6km s-min=7.8km az=212.0*
*IDC **04** 15:20:37.8±2.0, 19.°33S×177.°56W, h608km±23km, mb2.8/4, mb1 3.1/6, mb1mx2.9/24, mbtmp3.9/6, Error ellipse: s-maj=29.1km s-min=24.9km az=148.0*
ISC 04 15:20:37.3±0.8**, 19.°3S**±0.°1×**177.°5W**±0.°1**, h600**km**, n29, σ1.ˢ04**/29**, mb4.0**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.50**	**289**	P	**P**	**15 22 07.0**	**+0.5**
	3.0nm,0.3s,baz=219,slow=20,SNR=28						
MSVF	**Nonsavu**	**4.50**	**289**	P	**P**	**15 22 06.8**	**+0.3**
OUZ	**Omahuta**	**17.72**	**205**	P	**P**	**15 24 13.1**	**+2.9**
OUZ				IAmb	IAmb	15 24 18.6	
	comp=Z,21nm,1.4s						
URZ	**Urewera**	**19.48**	**193**	P	**P**	**15 24 25.4**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=278,slow=1.7,SNR=7.6						
URZ	**Urewera**	**19.48**	**193**	P	**P**	**15 24 25.4**	**-0.7**
URZ				IAmb	IAmb	15 24 30.4	
	comp=Z,16nm,1.3s						
BKZ	**Black Stump Fm**	**20.48**	**193**		**P**	**15 24 34.6**	**-0.6**
BKZ				IAmb	IAmb	15 24 48.7	
	comp=Z,12nm,1.4s						
QRZ	**Quartz Range**	**23.10**	**200**		**P**	**15 24 58.8**	**+0.2**
THZ	**Tophouse**	**23.84**	**198**	P	**P**	**15 25 05.2**	**0.0**
KHZ	**Kahutara**	**24.27**	**196**		**P**	**15 25 08.0**	**-0.8**
LTZ	**Lake Taylor**	**24.96**	**198**	P	**P**	**15 25 13.0**	**-2.1**
LTZ				IAmb	IAmb	15 25 29.7	
	comp=Z,14nm,1.4s						
WHZ	**Wether Hill Ro**	**29.13**	**201**		**P**	**15 25 52.9**	**+1.6**
CTAO	**Charters Tower**	**34.10**	**262**	P	**P**	**15 26 33.7**	**-0.2**
CTAO				IAmb	IAmb	15 26 39.2	
	comp=Z,16nm,1.4s						
COEN	**Coen**	**38.00**	**272**	P	**P**	**15 27 06.0**	**0.0**
COEN				IAmb	IAmb	15 27 08.2	
	comp=Z,9.7nm,1.4s						
STKA	**Stephens Creek**	**38.75**	**243**	P	**P**	**15 27 12.3**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=80,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**38.75**	**243**	P	**P**	**15 27 12.6**	**+0.8**
WR0	**Warramunga Arr**	**45.06**	**261**	P	**P**	**15 28 00.9**	**-0.5**
WB0	**Warramunga Arr**	**45.22**	**261**	P	**P**	**15 28 01.8**	**-0.9**
WB0				IAmb	IAmb	15 28 17.4	
	comp=Z,7.9nm,1.4s						
WB2	**Warramunga Arr**	**45.24**	**261**	P	**P**	**15 28 01.8**	**-1.0**
WRAB	**Tennant Creek**	**45.24**	**261**	P	**P**	**15 28 01.8**	**-1.1**
WRAB				IAmb	IAmb	15 28 10.7	
	comp=Z,6.1nm,1.1s						
WRA	**Warramunga Arr**	**45.25**	**261**	P	**P**	**15 28 01.6**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=98,slow=6.9,SNR=16						
AS31	**Alice Springs**	**45.27**	**256**	P	**P**	**15 28 02.6**	**-0.5**
ASAR	**Alice Springs**	**45.27**	**255**	P	**P**	**15 28 02.3**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=87,slow=8.4,SNR=20						
ASAR	**Alice Springs**	**45.27**	**255**	P	**P**	**15 28 02.0**	**-1.0**
QSPA	**South Pole Qui**	**70.77**	**180**	P	**P**	**15 30 54.7**	**+0.5**
PAGB	**Antelope Grade**	**77.00**	**45**	P	**P**	**15 31 29.4**	**-0.3**
PAGB				IAmb	IAmb	15 31 29.9	
	comp=Z,20nm,1.4s						
TXAR	**Lajitas Array**	**86.01**	**57**	P	**P**	**15 32 16.6**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=211,slow=7.1,SNR=4.3						
TXAR	**Lajitas Array**	**86.01**	**57**	P	**P**	**15 32 16.1**	**+0.3**
ARCES	**ARCESS Array B**	**127.82**	**350**	PKP	**PKPdf**	**15 38 33.7**	**-1.3**
	comp=Z,3.0nm,1.0s,baz=352,slow=3.6,SNR=3.9						
BURAR	**Bucovina Array**	**146.24**	**332**	PKPbc	**PKPbc**	**15 39 12.2**	**+0.5**

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*BGR **04** 15:20:46.0±0.0, 21.°34S×176.°26W, h33km*
*BJI **04** 15:21:46.0±0.0, 20.°30S×177.°80W, h550km, mB5.1/24, mb4.9/44*
*MOS **04** 15:21:46.6±1.0, 20.°19S×177.°82W, h548km, mb5.0/27, Error ellipse: s-maj=9.2km s-min=8.7km az=6.3*
*NOU **04** 15:21:47.4, 20.°32S×177.°71W, h553km, mb4.9, Fiji Islands Region*
*NEIC **04** 15:21:47.7±2.0, 20.°24S±0.°10×177.°84W±0.°10, h552km±3km, mb4.8/212, Error ellipse: s-maj=14.4km s-min=13.1km az=142.0*
*IDC **04** 15:21:49.0±0.7, 20.°29S×177.°86W, h565km±8km, mb4.1/18, mb1 4.3/21, mb1mx4.2/24, mbtmp5.0/21, Error ellipse: s-maj=12.7km s-min=8.1km az=154.0*
ISC 04 15:21:47.2±0.4**, 20.°27S**±0.°05×**177.°72W**±0.°05**, h554**km±4km**, h555**km**:pP-P, n549, σ1.ˢ41**/556**, mb4.8**/167**, 20C-27D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.73**	**302**	P	**P**	**15 23 15.9**	**+0.6**
	131nm,0.3s,baz=144,slow=10,SNR=299						
MSVF	**Nonsavu**	**4.73**	**302**	P	**P**	**15 23 15.8**	**+0.5**
MSVF	**Nonsavu**	**4.73**	**302**	P	**P**	**15 23 15.8**	**+0.5**
MSVF	**Nonsavu**	**4.73**	**302**	P	**P**	**15 23 16.3**	**+1.0**
NIUE	**Niue**	**7.44**	**82**	P	**P**	**15 23 39.2**	**-0.4**
NIUE	**Niue**	**7.44**	**82**	P	**P**	**15 23 40.3**	**+0.7**
AFI	**Afiamalu**	**8.50**	**43**	P	**P**	**15 23 48.6**	**-1.7**
	4.6nm,0.3s,baz=53,slow=6.9,SNR=15						
AFI				S	**S**	**15 25 23.4**	**-7.7**
	1.7nm,0.3s,baz=180,slow=20,SNR=5.9						
AFI	**Afiamalu**	**8.50**	**43**	P	**P**	**15 23 48.1**	**-2.2**
AFI	**Afiamalu**	**8.50**	**43**	P	**P**	**15 23 48.1**	**-2.2**
RIZ	**Raoul Island**	**8.94**	**181**	P	**P**	**15 23 58.7**	**+4.4**
RIZ				S	**S**	**15 25 34.3**	**-4.4**
RAO	**Raoul Island**	**8.94**	**181**	S	**S**	**15 25 37.1**	**-1.7**
	150nm,0.3s,baz=86,slow=21,SNR=6.2						
FUNA	**Funafuti**	**12.05**	**345**	P	**P**	**15 24 25.9**	**-0.6**
MARNC	**Mare, Loyalty**	**13.38**	**262**	P	**P**	**15 24 39.2**	**-0.8**
DVP	**Devils Point**	**13.57**	**278**	P	**P**	**15 24 42.8**	**+0.7**
	447μm,0.7s						
DZM	**Mont Dzumac**	**14.88**	**260**	P	**P**	**15 24 54.5**	**-1.1**
	1.9nm,0.3s,baz=82,slow=17,SNR=23						
DZM				S	**S**	**15 27 33.9**	**+3.3**
	0.1nm,0.3s,baz=338,slow=16,SNR=6.6						
DZM	**Mont Dzumac**	**14.88**	**260**	*e*P	**P**	**15 24 53.8**	**-1.8**
	68nm,1.3s						
DZM	**Mont Dzumac**	**14.88**	**260**	P	**P**	**15 24 54.6**	**-1.0**
DZM	**Mont Dzumac**	**14.88**	**260**	P	**P**	**15 24 55.1**	**-0.5**
NOUC	**Port Laguerre**	**15.02**	**260**	P	**P**	**15 24 57.2**	**+0.4**
SANVU	**Saraoutou**	**15.13**	**286**	P	**P**	**15 24 56.8**	**-1.2**
SANVU	**Saraoutou**	**15.13**	**286**	P	**P**	**15 24 58.4**	**+0.3**
OUZ	**Omahuta**	**16.74**	**205**	P	**P**	**15 25 12.8**	**-0.5**
OUZ				IAmb	IAmb	15 25 16.7	
	comp=Z,23nm,0.9s						
OUZ	**Omahuta**	**16.74**	**205**	P	**P**	**15 25 14.4**	**+1.1**
RAR	**Rarotonga**	**16.81**	**96**	P	**P**	**15 25 15.4**	**+1.2**
	comp=Z,1.6nm,0.3s,baz=280,slow=5.5,SNR=5.5						
RAR	**Rarotonga**	**16.81**	**96**	P	**P**	**15 25 15.8**	**+1.7**
WCZ	**Waipu Caves**	**17.09**	**202**	P	**P**	**15 25 18.8**	**+2.4**
KUZ	**Kuaotunu**	**17.39**	**198**	P	**P**	**15 25 19.7**	**+0.6**
WMGZ	**Waiomatatini S**	**17.80**	**190**	P	**P**	**15 25 21.9**	**-1.1**
WMGZ				S	**S**	**15 28 16.4**	**-2.1**
HAZ	**Te Kaha**	**17.86**	**192**	P	**P**	**15 25 23.0**	**-0.3**
MKAZ	**Moumakai**	**17.89**	**199**	P	**P**	**15 25 25.1**	**+1.5**
RUGZ	**Raukumara Rang**	**18.08**	**192**	P	**P**	**15 25 24.3**	**-1.4**
RUGZ				S	**S**	**15 28 17.0**	**-6.3**
TWGZ	**Tauwhareparae**	**18.23**	**191**	P	**P**	**15 25 27.1**	**+0.2**
TWGZ				S	**S**	**15 28 20.6**	**-4.9**
KNTN	**Kanton**	**18.35**	**19**	P	**P**	**15 25 27.8**	**-0.5**
KMRZ	**Kaimai**	**18.36**	**196**	P	**P**	**15 25 29.9**	**+1.8**
URZ	**Urewera**	**18.48**	**193**	P	**P**	**15 25 27.4**	**-1.6**
	comp=Z,9.8nm,0.3s,baz=278,slow=2.5,SNR=56						
URZ				S	**S**	**15 28 22.6**	**-6.8**
	comp=Z,1.7nm,0.3s,baz=190,slow=23,SNR=7.7						
CNGZ	**Carnagh Statio**	**18.49**	**190**	P	**P**	**15 25 29.7**	**+0.5**
TKGZ	**Te Karaka**	**18.51**	**191**	P	**P**	**15 25 29.5**	**+0.2**
TKGZ				S	**S**	**15 28 24.9**	**-5.0**
RAGZ	**Rawiri**	**18.64**	**192**	P	**P**	**15 25 30.7**	**0.0**
MUGZ	**Murupara**	**18.76**	**194**	P	**P**	**15 25 30.5**	**-1.2**
MUGZ				S	**S**	**15 28 27.5**	**-6.5**
RIGZ	**Rimuhau**	**18.78**	**191**	P	**P**	**15 25 28.8**	**-3.2**
RIGZ				S	**S**	**15 28 32.5**	**-2.0**
SNGZ	**Shannon Statio**	**18.93**	**192**	P	**P**	**15 25 32.9**	**-0.4**
SNGZ				S	**S**	**15 28 32.4**	**-4.5**
HIZ	**Hauiti**	**19.28**	**198**	P	**P**	**15 25 38.2**	**+1.7**
HIZ				IAmb	IAmb	15 25 39.5	
	comp=Z,37nm,1.0s						
BKZ	**Black Stump Fm**	**19.48**	**194**	P	**P**	**15 25 35.9**	**-2.4**
SNZO	**South Karori**	**21.94**	**195**	P	**P**	**15 25 59.4**	**-1.0**
SNZO				IAmb	IAmb	15 26 04.1	
	comp=Z,44nm,1.0s						
BHW	**Baring Head**	**21.99**	**195**	P	**P**	**15 26 00.1**	**-0.8**
QRZ	**Quartz Range**	**22.11**	**200**	P	**P**	**15 26 02.1**	**+0.2**
QRZ				IAmb	IAmb	15 26 02.6	
	comp=Z,17nm,0.7s						
THZ	**Tophouse**	**22.85**	**198**	P	**P**	**15 26 08.2**	**-0.4**
THZ				IAmb	IAmb	15 26 10.1	
	comp=Z,13nm,0.8s						
LTZ	**Lake Taylor**	**23.97**	**198**	P	**P**	**15 26 16.8**	**-1.7**
LTZ				IAmb	IAmb	15 26 20.4	
	comp=Z,14nm,0.8s						
HNR	**Honiara**	**24.09**	**293**	P	**P**	**15 26 21.1**	**+1.1**
	comp=Z,29nm,0.8s,baz=175,slow=11,SNR=3.7						
OXZ	**Oxford**	**24.54**	**198**	P	**P**	**15 26 22.5**	**-1.0**
OXZ				IAmb	IAmb	15 26 23.7	
	comp=Z,18nm,0.5s						
RPZ	**Rata Peaks**	**25.19**	**199**	P	**P**	**15 26 29.3**	**0.0**
	comp=Z,6.7nm,0.6s,baz=331,slow=4.0,SNR=9.0						
LBZ	**Lake Benmore**	**26.07**	**200**	P	**P**	**15 26 35.2**	**-1.8**
LBZ				IAmb	IAmb	15 26 41.1	
	comp=Z,20nm,1.3s						
PAE	**Paea**	**26.72**	**89**	*e*P	**P**	**15 26 44.5**	**+1.4**
	comp=Z,11nm,1.1s						
PPT2	**Papeete2**	**26.74**	**89**	*e*P	**P**	**15 26 44.5**	**+1.2**
	comp=Z,62nm,1.2s						
PPT	**Papeete**	**26.74**	**89**	P	**P**	**15 26 44.6**	**+1.2**
	comp=Z,36nm,0.7s,baz=264,slow=3.5,SNR=8.3						
PPTF	**Pamatai, Papee**	**26.75**	**89**	P	**P**	**15 26 45.5**	**+2.1**
WHZ	**Wether Hill Ro**	**28.14**	**202**	P	**P**	**15 26 56.7**	**+1.6**
WHZ				IAmb	IAmb	15 26 57.0	
	comp=Z,22nm,0.6s						
EIDS	**Eidsvold**	**29.16**	**254**	P	**P**	**15 27 03.9**	**-0.4**
EIDS				IAmb	IAmb	15 27 04.8	
	comp=Z,11nm,0.6s						
ARMA	**Armidale**	**29.40**	**244**	P	**P**	**15 27 07.1**	**+0.6**
ARMA				IAmb	IAmb	15 27 07.6	
	comp=Z,9.6nm,0.7s						
CAN	**Canberra**	**32.86**	**236**	P	**P**	**15 27 36.1**	**+0.3**
CAN				pmax	pmax		
	comp=Z,29nm,1.5s						
CAN	**Canberra**	**32.86**	**236**	P	**P**	**15 27 36.1**	**+0.3**
CAN				IAmb	IAmb	15 27 46.2	
	comp=Z,29nm,1.5s						
CTA	**Charters Tower**	**33.77**	**264**	P	**P**	**15 27 44.1**	**+0.3**
	comp=Z,42nm,0.5s,baz=95,slow=12,SNR=18						
CTAO	**Charters Tower**	**33.77**	**264**	P	**P**	**15 27 43.9**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,44nm,0.7s						
CTAO	**Charters Tower**	**33.77**	**264**	P	**P**	**15 27 43.9**	**+0.1**
PMG	**Port Moresby**	**35.55**	**282**⇓	*e*P	**P**	**15 27 58.0**	**-0.6**
PMG				pmax	pmax		
	comp=Z,61nm,1.3s						
PMG	**Port Moresby**	**35.55**	**282**	P	**P**	**15 27 58.7**	**+0.1**
PMG	**Port Moresby**	**35.55**	**282**	P	**P**	**15 27 58.6**	**0.0**
TOO	**Toolangi**	**36.24**	**234**	P	**P**	**15 28 04.4**	**+0.3**
TOO				pmax	pmax		
	comp=Z,17nm,1.1s						
TOO	**Toolangi**	**36.24**	**234**	P	**P**	**15 28 04.4**	**+0.3**
TOO				IAmb	IAmb	15 28 22.8	
	comp=Z,17nm,1.1s						
COEN	**Coen**	**37.83**	**273**	P	**P**	**15 28 17.6**	**+0.2**
COEN				IAmb	IAmb	15 28 18.5	
	comp=Z,30nm,0.9s						
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**	**15 28 19.8**	**+0.3**
	comp=Z,15nm,0.7s,baz=93,slow=10,SNR=42						
STKA				PcP	**PcP**	**15 30 20.8**	**+0.8**
	comp=Z,4.2nm,0.7s,baz=176,slow=2.6,SNR=3.5						
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**	**15 28 20.0**	**+0.5**
BBOO	**Buckleboo**	**42.88**	**243**	P	**P**	**15 28 57.2**	**-0.2**
GENI	**Genyem**	**44.67**	**288**	P	**P**	**15 29 12.0**	**+0.6**
	comp=Z,148nm,0.7s						
WR0	**Warramunga Arr**	**44.70**	**262**	P	**P**	**15 29 10.9**	**-0.8**
WR0				IAmb	IAmb	15 29 12.5	
	comp=Z,31nm,0.9s						
AS31	**Alice Springs**	**44.83**	**256**	P	**P**	**15 29 12.6**	**-0.1**
AS31				IAmb	IAmb	15 29 13.7	
	comp=Z,21nm,1.1s						
ASAR	**Alice Springs**	**44.83**	**256**	P	**P**	**15 29 12.7**	**+0.1**
	comp=Z,64nm,0.8s,baz=97,slow=7.6,SNR=460						
ASAR				PcP	**PcP**	**15 30 42.2**	**-0.4**
	comp=Z,8.1nm,0.7s,baz=109,slow=3.2,SNR=9.2						
ASAR				S	**S**	**15 35 08.2**	**-2.0**
	comp=Z,9.3nm,0.8s,baz=94,slow=15,SNR=31						
ASAR	**Alice Springs**	**44.83**	**256**	P	**P**	**15 29 12.2**	**-0.5**
WB0	**Warramunga Arr**	**44.87**	**262**	P	**P**	**15 29 12.5**	**-0.5**
WB2	**Warramunga Arr**	**44.88**	**262**	P	**P**	**15 29 12.5**	**-0.5**
WRAB	**Tennant Creek**	**44.88**	**262** *d i*	P	**P**	**15 29 12.0**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,69nm,1.1s						
WRAB	**Tennant Creek**	**44.88**	**262**	P	**P**	**15 29 12.4**	**-0.7**
WRA	**Warramunga Arr**	**44.89**	**262**	P	**P**	**15 29 12.2**	**-0.9**
	comp=Z,25nm,0.5s,baz=98,slow=8.5,SNR=114						
WRA				PcP	**PcP**	**15 30 43.3**	**+0.5**
	comp=Z,5.6nm,0.9s,baz=96,slow=3.9,SNR=5.8						
WRA				S	**S**	**15 35 07.6**	**-3.6**
	comp=Z,4.7nm,0.8s,baz=97,slow=12,SNR=11						
HMH	**Humu'ula Sheep**	**45.22**	**30**	P	**P**	**15 29 17.3**	**+1.4**
SMPI	**Sarmi**	**46.24**	**287**	P	**P**	**15 29 23.2**	**-0.2**
	comp=Z,34nm,0.9s						
FORT	**Forrest**	**49.63**	**246**	P	**P**	**15 29 48.0**	**-0.4**
FAKI	**Fak Fak**	**51.71**	**283**	P	**P**	**15 30 03.5**	**-0.3**
FAKI				IAmb	IAmb	15 30 04.5	
	comp=Z,48nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.32**	**262**	S	**S**	**15 37 04.2**	**-1.8**
	comp=Z,2.5nm,1.0s,baz=256,slow=13,SNR=3.8						
FITZ	**Fitzroy Crossi**	**53.32**	**262**	P	**P**	**15 30 15.4**	**+0.1**
SWI	**Sorong**	**53.44**	**285**	P	**P**	**15 30 16.7**	**+0.5**
SWI				pmax	pmax		
	comp=Z,180nm,1.0s						
SWI	**Sorong**	**53.44**	**285**	P	**P**	**15 30 16.4**	**+0.2**
	comp=Z,1μmcomp=Z,180nm,0.9s						
NLAI	**Namlea**	**56.32**	**280**	P	**P**	**15 30 37.1**	**+0.7**
	comp=Z,3μmcomp=Z,45nm,0.8s						
SOEI	**Soe**	**56.76**	**271**	P	**P**	**15 30 40.7**	**+1.1**
SOEI	**Soe**	**56.76**	**271**	P	**P**	**15 30 40.6**	**+1.1**
	comp=Z,2μmcomp=Z,234nm,0.9s						
BATI	**Baumata**	**57.19**	**271**	P	**P**	**15 30 44.1**	**+1.8**
	comp=Z,52nm,0.8s						
TNTI	**Ternate**	**57.66**	**284**	P	**P**	**15 30 46.2**	**+0.7**
	comp=Z,88nm,1.1s						
SANI	**Sanana**	**57.80**	**281**	P	**P**	**15 30 45.9**	**-0.6**
	comp=Z,598nmcomp=Z,67nm,1.0s						
PSA00	**Pilbara Seismi**	**57.98**	**257**	P	**P**	**15 30 46.2**	**-1.4**
SBA	**Scott Base**	**58.11**	**184**	P	**P**	**15 30 51.1**	**+3.6**
SBA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SBA	**Scott Base**	**58.11**	**184**	P	**P**	**15 30 51.1**	**+3.6**
VNDA	**Vanda**	**58.16**	**185**	P	**P**	**15 30 49.6**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=346,slow=7.6,SNR=9.1						
VNDA				pP	**pwP**	**15 32 39.9**	**+1.4**
	comp=Z,1.8nm,1.0s,baz=359,slow=5.2,SNR=3.4						
VNDA	**Vanda**	**58.16**	**185**	P	**P**	**15 30 50.2**	**+2.4**
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
VNDA	**Vanda**	**58.16**	**185**	P	**P**	**15 30 50.2**	**+2.4**
NWAO	**Narrogin (SRO)**	**58.71**	**243**	P	**P**	**15 30 52.5**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,34nm,1.5s						
NWAO	**Narrogin (SRO)**	**58.71**	**243**	P	**P**	**15 30 52.5**	**+0.2**
MMRI	**Maumere**	**59.01**	**272**	P	**P**	**15 30 54.4**	**-0.2**
MMRI				IAmb	IAmb	15 30 54.8	
	comp=Z,87nm,1.0s						
MMRI	**Maumere**	**59.01**	**272**	P	**P**	**15 30 54.5**	**-0.1**
	comp=Z,102nm,1.0s						
MORW	**Morawa**	**60.16**	**247**	P	**P**	**15 31 01.7**	**-0.4**
MORW				IAmb	IAmb	15 31 02.6	
	comp=Z,30nm,1.1s						
WSI	**Waingapu**	**60.51**	**270**	P	**P**	**15 31 05.1**	**+0.5**
	comp=Z,4μmcomp=Z,312nm,0.9s						
JCJ	**Chichijima**	**61.04**	**319**	P	**P**	**15 31 07.5**	**-0.2**
LUWI	**Luwuk**	**61.15**	**280**	P	**P**	**15 31 09.4**	**+0.6**
LUWI	**Luwuk**	**61.15**	**280**	P	**P**	**15 31 09.8**	**+1.0**
	comp=Z,1μmcomp=Z,109nm,1.0s						
APSI	**Ampana**	**62.24**	**280**	P	**P**	**15 31 16.8**	**+0.9**
	comp=Z,472nmcomp=Z,59nm,1.0s						
BNSI	**Bone**	**62.41**	**276**	P	**P**	**15 31 17.2**	**+0.2**
	comp=Z,40nm,1.2s						
MRSI	**Marisa**	**62.50**	**282**	P	**P**	**15 31 18.0**	**+0.4**
	comp=Z,35nm,0.8s						
GIRL	**Giralia**	**62.87**	**254**	P	**P**	**15 31 20.8**	**+0.9**
SPSI	**Sidrap Palu**	**62.87**	**276**	P	**P**	**15 31 17.9**	**-2.1**
	comp=Z,22nm,0.8s						
PLAI	**Plampang**	**63.14**	**270**	P	**P**	**15 31 21.3**	**-0.4**
	comp=Z,1μmcomp=Z,120nm,0.7s						
TOLI2	**Tolitoli**	**63.82**	**282**	P	**P**	**15 31 26.0**	**0.0**
TOLI2				IAmb	IAmb	15 31 26.6	
	comp=Z,40nm,0.9s						
TWSI	**Taliwang, Sumb**	**64.00**	**270**	P	**P**	**15 31 26.9**	**-0.3**
	comp=Z,61nm,1.2s						
JAGI	**Jajag, Banyuwa**	**66.65**	**269**	P	**P**	**15 31 43.0**	**-0.8**
JHJ2	**Mitsune**	**66.80**	**322**	P	**P**	**15 31 44.9**	**+0.6**
JYT	**Yasato**	**68.86**	**324**	P	**P**	**15 31 57.6**	**+0.8**
JMM	**Marumori**	**69.75**	**326**	P	**P**	**15 32 02.6**	**+0.6**
KKM	**Kota Kinabalu**	**69.96**	**285**	P	**P**	**15 32 04.1**	**+0.2**
KKM				IAmb	IAmb	15 32 05.1	
	comp=Z,38nm,0.7s						
JGF	**Kuroka**	**70.00**	**322**	P	**P**	**15 32 04.0**	**+0.4**
JGF				IAmb	IAmb	15 32 04.0	
	comp=Z,20nm,0.8s						
MJAR	**Matsushiro Arr**	**70.18**	**323**	P	**P**	**15 32 04.8**	**+0.1**
	comp=Z,28nm,0.7s,baz=159,slow=6.0,SNR=50						
MJAR	**Matsushiro Arr**	**70.18**	**323**	P	**P**	**15 32 04.6**	**-0.1**
MAJO	**Matsushiro**	**70.19**	**323**	P	**P**	**15 32 05.0**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,34nm,0.7s						
MAJO	**Matsushiro**	**70.19**	**323**	P	**P**	**15 32 05.0**	**+0.3**
MAJO				IAmb	IAmb	15 32 05.5	
	comp=Z,34nm,0.7s						
MAT	**Matsushiro**	**70.19**	**323**	P	**P**	**15 32 04.2**	**-0.5**
JOW	**Kunigami**	**70.22**	**310**	P	**P**	**15 32 06.1**	**+1.0**
UGM	**Wanagama**	**70.23**	**269**	P	**P**	**15 32 05.3**	**-0.2**
JMN	**Monobe**	**70.79**	**319**	P	**P**	**15 32 09.5**	**+1.1**
JMN				IAmb	IAmb	15 32 10.8	
	comp=Z,36nm,1.0s						
JWT	**Wachi**	**70.92**	**321**	P	**P**	**15 32 09.5**	**+0.5**
JWT				IAmb	IAmb	15 32 10.8	
	comp=Z,44nm,1.0s						
JSU	**Suzuyama**	**71.55**	**315**	P	**P**	**15 32 13.3**	**+0.5**
JSU				IAmb	IAmb	15 32 13.7	
	comp=Z,38nm,0.7s						
JTM	**Tenmabayashi**	**71.81**	**328**	P	**P**	**15 32 14.7**	**+0.6**
ADK	**Adak**	**71.85**	**1**	P	**P**	**15 32 13.9**	**-0.1**
ADK				pmax	pmax		
	comp=Z,41nm,0.7s						
ADK	**Adak**	**71.85**	**1**	P	**P**	**15 32 13.9**	**-0.1**
JHS	**Saijyo**	**72.10**	**319**	P	**P**	**15 32 16.8**	**+0.8**
JHS				IAmb	IAmb	15 32 17.7	
	comp=Z,42nm,0.9s						
SBUM	**Sibu**	**72.23**	**280**	P	**P**	**15 32 18.1**	**+1.0**
SBUM	**Sibu**	**72.23**	**280**	P	**P**	**15 32 18.0**	**+0.9**
ATKA	**Atka Island**	**72.23**	**2**	P	**P**	**15 32 16.0**	**-0.2**
JNU	**Nakatsue**	**72.29**	**316**	P	**P**	**15 32 17.3**	**+0.2**
JNU				IAmb	IAmb	15 32 18.3	
	comp=Z,21nm,0.8s						
JEW	**Eniwo**	**73.20**	**330**	P	**P**	**15 32 23.3**	**+1.3**
LEM	**Lembang**	**73.31**	**269**	P	**P**	**15 32 24.3**	**+0.8**
LEM				pmax	pmax		
	comp=Z,106nm,1.0s						
NIKH	**Nikolski High**	**73.34**	**6**	P		15 32 24.3	

baz=189
YULB **Yu-li** 73.60 303 P P 15 32 23.8 -1.0
YULB lAmb lAmb 15 32 31.9
comp=Z,72nm,1.5s
KSM **Kuching** 73.64 278 P P 15 32 25.9 +0.7
KSM **Kuching** 73.64 278 P P 15 32 26.0 +0.7
JKA **Kamikawa-asahi** 73.65 331 P P 15 32 26.7 +2.1
ASAJ **Asahikawa** 73.66 331 P P 15 32 26.7 +2.1
ASAJ pmax pmax
comp=Z,76nm,0.9s
NACB **Ninganchiao** 73.77 304 P P 15 32 25.2 -0.5
SSLB **Suanglung** 74.07 303 P P 15 32 26.5 -0.9
SSLB lAmb lAmb 15 32 27.5
comp=Z,35nm,0.9s
CBJI **Citeko** 74.16 269 P P 15 32 27.3 -0.9
comp=Z,4µmcomp=Z,97nm,0.8s
YHNB **Yeheng** 74.20 304 P P 15 32 28.2 0.0
DBJI **Dramaga** 74.21 269 P P 15 32 28.4 -0.1
comp=Z,2µmcomp=Z,61nm,1.0s
AKUT **Akutan** 74.81 7 P P 15 32 30.4 -0.4
YSS **Yuzh-Sakhalins** 75.81 333 *d i* P P 15 32 37.5 +0.9
YSS pmax pmax
comp=Z,81nm,1.0s
YSS **Yuzh-Sakhalins** 75.81 333 P P 15 32 37.8 +1.2
YSS lAmb lAmb 15 32 38.8
comp=Z,64nm,0.9s
PET **Petropavlovsk** 75.81 346 ⇑ *e* P P 15 32 35.9 -0.6
PET pmax pmax
comp=Z,127nm,1.0s
PEA0B **Petropavlovsk-** 76.12 345 P P 15 32 38.7 +0.5
PEA0B pmax pmax
comp=Z,52nm,1.0s
PEA0B **Petropavlovsk-** 76.12 345 P P 15 32 38.6 +0.5
PEA0B lAmb lAmb 15 32 39.4
comp=Z,52nm,1.0s
PETK **Petropavlovsk-** 76.12 345 P P 15 32 38.6 +0.4
comp=Z,28nm,0.8s,baz=120,slow=8.0,SNR=49
PETK **Petropavlovsk-** 76.12 345 P P 15 32 38.5 +0.3
PPBI **Pangkal Pinang** 76.26 273 P P 15 32 40.6 +0.7
comp=Z,43nm,1.1s
KASI **Kota Agung** 76.66 269 P P 15 32 41.4 -0.7
comp=Z,111nm,1.0s
KSRS **Korea Array** 76.89 318 P P 15 32 43.8 +1.0
comp=Z,5.4nm,0.7s,baz=127,slow=5.6,SNR=13
KSAR **Wonju Array Be** 76.91 318 P P 15 32 44.2 +1.4
KSAR **Wonju Array Be** 76.91 318 P P 15 32 44.2 +1.4
LWLI **Liwa** 77.24 269 P P 15 32 46.7 +1.3
comp=Z,5µmcomp=Z,72nm,1.1s
SCI2 **San Clemente I** 77.42 48 P 15 32 47.2
baz=236
PKM **Mcpherson Peak** 77.65 45 P 15 32 48.7
baz=234
SAO **San Andreas Ge** 77.68 43 P P 15 32 49.6 +2.5
SAO pmax pmax
comp=Z,14nm,0.9s
SAO **San Andreas Ge** 77.68 43 P P 15 32 49.6 +2.5
CIS **Catalina Islan** 77.75 47 P 15 32 49.0
baz=236
SMMC **Simmler** 77.77 45 P 15 32 49.7
baz=234
CHGN **Chignik** 78.00 11 P 15 32 48.2
baz=199
CHGN **Chignik** 78.00 11 P P 15 32 48.8 +0.5
CHGN lAmb lAmb 15 32 59.6
comp=Z,29nm,0.9s
ARVC **Arvin** 78.44 46 P 15 32 52.9
baz=235
VES **Vestal, Richgr** 78.68 45 P 15 32 54.0
baz=235
MURC **Murrieta** 78.70 48 P 15 32 54.2
baz=236
BFSC **Mount Baldy Ra** 78.74 47 P 15 32 54.2
baz=236
MONP2 **Monument Peak** 78.86 49 P 15 32 55.7
baz=237
EDW2 **Edwards Air Fo** 78.87 46 P 15 32 55.6
baz=236,SNR=11
USA0B **Ussuriysk Arra** 78.93 326 *de* P P 15 32 54.5 +1.0
USA0B **Ussuriysk Arra** 78.93 326 P P 15 32 55.1 +1.6
USA0B lAmb lAmb 15 32 55.9
comp=Z,34nm,0.9s
USRK **Ussuriysk Ar.** 78.93 326 P P 15 32 55.4 +1.8
comp=Z,26nm,0.8s,baz=140,slow=3.7,SNR=44
USRK **Ussuriysk Ar.** 78.93 326 P P 15 32 54.9 +1.4
USRK **Ussuriysk Ar.** 78.93 326 P P 15 32 54.9 +1.4
O02D **Mt. Diablo Mer** 78.93 40 P 15 32 56.2
baz=232,SNR=8.4
TYV **Tymovskoe** 78.94 336 *e* P P 15 32 54.3 +0.8
TYV pmax pmax
comp=Z,31nm,1.2s
TYV pmax pmax
comp=Z,300nm,2.5s
IKP **In-Ko-Pah, Jac** 78.95 49 P 15 32 56.1
baz=237
ISA **Isabella, Lake** 78.99 45 P 15 32 55.9
baz=235
SII **Sitkinak Islan** 79.06 13 P 15 32 55.0
baz=202
SII **Sitkinak Islan** 79.06 13 P P 15 32 55.0 +1.0
PFO **Pinyon Flats O** 79.22 48 P 15 32 57.2
baz=237
TPFO **Pinon Flats** 79.22 48 P 15 32 57.2
baz=237
SWSC **Sam W. Stewart** 79.33 49 P 15 32 57.8
baz=237
LRMC **Laurel Mtn Rad** 79.42 46 P 15 32 58.0
baz=236
N02D **Trinity Center** 79.48 39 P 15 32 58.9
baz=232,SNR=6.0
O03E **Paynes Creek** 79.60 40 P 15 32 59.0
baz=232
M02C **Callahan** 79.65 39 P 15 32 59.6
baz=231,SNR=6.8
CWC **Cottonwood Cre** 79.69 45 P 15 32 59.8
baz=235
L02E **Cave Junction** 79.70 38 P 15 32 59.9
baz=231
MDPB **Devils Postpil** 79.72 44 P P 15 33 00.5 +2.2
BELA **Belgrano 2** 79.75 173 P P 15 32 58.5 +1.1
BELC **Belle Mtn. Jos** 79.76 48 P 15 33 00.3
baz=237
MYKOM **Kota Tinggi** 79.78 276 P P 15 32 59.3 +0.6
MYKOM lAmb lAmb 15 33 00.3
comp=Z,33nm,1.0s
MYKOM **Kota Tinggi** 79.78 276 P P 15 32 59.0 +0.2
OHAK **Old Harbor** 79.87 13 P 15 32 58.8
baz=203
OHAK **Old Harbor** 79.87 13 P P 15 32 59.0 +0.8
OHAK lAmb lAmb 15 32 59.9
comp=Z,28nm,1.1s
MPMC **Manual Prospec** 79.87 46 P 15 33 00.5
baz=236,SNR=5.8
MLAC **Mammoth, Mammo** 79.88 44 P 15 33 01.1
baz=235
GSC **Goldstone, Bar** 79.91 47 P 15 33 00.9
baz=236
BC3 **Big Chuckawall** 79.95 49 P 15 33 01.2
baz=238
HEC **Hector,Ludlow** 79.97 47 P 15 33 01.2
baz=237,SNR=8.7
K02D **Willamette Mer** 80.00 37 P 15 33 01.6
baz=230
GLA **Glamis** 80.08 49 P 15 33 01.9
baz=238
J01E **Myrtle Point** 80.15 37 P 15 33 01.8
baz=230
PNTR **Pine Nut** 80.24 42 lAmb lAmb 15 33 03.9
comp=Z,28nm,0.9s
GMRC **Granite Mounta** 80.42 48 P 15 33 03.2
baz=237
IRM **Iron Mountain** 80.44 48 P 15 33 03.9
baz=238
LHV **Little Huntoon** 80.45 43 lAmb lAmb 15 33 05.1
comp=Z,20nm,1.1s
GRAC **Grapevine Rang** 80.48 45 P 15 33 03.9
baz=236
MDJ **Mudanjiang** 80.48 325 P P 15 33 01.9 +0.1
MDJ lAmb lAmb 15 33 04.0
comp=Z,34nm,0.9s
L04D **Klamath Falls** 80.49 38 P 15 33 03.7
baz=232,SNR=5.1
M04C **Macdoel** 80.49 39 P 15 33 03.9
baz=232
KDAK **Kodiak Island** 80.53 13 P 15 33 02.7
baz=204
KDAK **Kodiak Island** 80.53 13 ⇑ *i* P P 15 33 01.7 +0.1
KDAK pmax pmax
comp=Z,62nm,1.2s
KDAK **Kodiak Island** 80.53 13 P P 15 33 02.6 +0.9
KDAK lAmb lAmb 15 33 04.2
comp=Z,28nm,1.1s
NVAR **Mina Array Bea** 80.68 43 P P 15 33 05.0 +1.8
comp=Z,7.2nm,0.9s,baz=225,slow=9.2,SNR=45
NVAR pP pwP 15 35 03.4 -0.5
comp=Z,0.8nm,0.9s,baz=218,slow=5.7,SNR=3.9
I02D **Swisshome** 80.80 36 P 15 33 05.4
baz=230
I03D **Drain, OR** 80.82 37 P 15 33 05.2
baz=231
214A **Organ Pipe Nat** 80.97 51 P 15 33 06.9
baz=239
KVN **Kaiserville** 81.17 43 P P 15 33 07.2 +1.6
KVN pmax pmax
comp=Z,12nm,0.9s
KVN **Kaiserville** 81.17 43 P P 15 33 07.2 +1.6
TPNV **Topopah Spring** 81.19 45 P 15 33 07.6
baz=237,SNR=6.7
PDMCI **Parker Dam,Lak** 81.22 49 P 15 33 07.1
baz=238
J04D **Umpqua Nationa** 81.23 38 P 15 33 07.7
baz=232,SNR=8.5
I04A **Tendick Farm,** 81.41 37 P 15 33 08.0
baz=231,SNR=5.4
GRNR **Gornyy** 81.43 333 *d i* P P 15 33 07.5 +1.0
GRNR pmax pmax
comp=Z,20nm,1.1s
MOD **Modoc Plateau** 81.47 39 P P 15 33 08.8 +1.7
K05A **Summer Lake** 81.62 39 lAmb lAmb 15 33 10.6
comp=Z,20nm,0.7s
H04D **Lebanon** 81.68 36 P 15 33 09.6
baz=231
J05D **Fort Rock, OR** 81.76 38 P 15 33 10.6
baz=232,SNR=27
G03D **McMinnville, O** 81.83 36 P 15 33 10.1
baz=230
H04A **Detroit Lake** 82.09 36 lAmb lAmb 15 33 12.5
comp=Z,39nm,1.4s
PINE **Pine Mountain** 82.24 38 P P 15 33 13.1 +2.1
PINE lAmb lAmb 15 33 14.3
comp=Z,38nm,1.0s
CN2 **Changchun** 82.28 322 *e* P P 15 33 11.4 +0.4
CN2 pmax pmax
comp=Z,20nm,1.0s
I05D **Terrebonne, OR** 82.35 37 P 15 33 13.2
baz=232,SNR=7.8
R11A **Troy Canyon, C** 82.40 45 P 15 33 13.4
baz=237,SNR=5.3
CNPM **China Poot** 82.42 13 P P 15 33 11.9 +0.6
CNPM lAmb lAmb 15 33 12.8
comp=Z,33nm,1.0s
KLR **Kul'dur** 82.47 329 ‖ *e* P P 15 33 12.7 +0.9
KLR pmax pmax
comp=Z,19nm,1.3s
F04D **Rainier, OR** 82.52 35 P 15 33 13.5
baz=231
E03A **Lebam** 82.52 34 lAmb lAmb 15 33 15.0
comp=Z,26nm,0.9s
TUC **Tucson** 82.63 52 P 15 33 15.6
baz=241
TUC **Tucson** 82.63 52 P P 15 33 15.6 +2.5
TUC pmax pmax
comp=Z,12nm,1.1s
TUC **Tucson** 82.63 52 P P 15 33 15.6 +2.5
BRSE **Bradley Lake S** 82.72 13 P 15 33 13.4
baz=206,SNR=6.2
WVOR **Wild Horse Val** 82.79 40 P P 15 33 15.7 +2.0
WVOR pmax pmax
comp=Z,23nm,1.7s
WVOR **Wild Horse Val** 82.79 40 lAmb lAmb 15 33 16.6
comp=Z,22nm,1.2s
NLWA **Neilton Lookou** 82.90 34 P P 15 33 15.7 +1.6
NLWA lAmb lAmb 15 33 17.1
comp=Z,18nm,1.1s
G05D **Wamic, OR** 82.92 36 P 15 33 15.6
baz=232
E04D **Cinebar** 83.06 35 P 15 33 16.6
baz=231
F05D **White Salmon** 83.24 36 P 15 33 17.6
baz=232
I07A **Izee** 83.25 38 P P 15 33 17.3 +1.3
I07A lAmb lAmb 15 33 18.9
comp=Z,17nm,1.0s
SEW **Seward** 83.33 14 P 15 33 16.0
baz=207
D04E **Lakebay** 83.34 34 P 15 33 17.9
baz=231
IPM **Ipoh** 83.36 277 lAmb lAmb 15 33 18.6
comp=Z,34nm,0.8s
IPM **Ipoh** 83.36 277 P P 15 33 18.0 +0.9
D03D **Eldon** 83.40 34 P 15 33 18.2
baz=230
MNSI **Mandailing Nat** 83.43 273 P P 15 33 16.5 -0.9
comp=Z,24nm,0.8s
CAPN **Captain Cook N** 83.56 13 P 15 33 18.0
baz=205
O22K **Cooper Landing** 83.61 14 P 15 33 17.4
baz=206
MA2 **Magadan** 83.64 344 *d i* P P 15 33 16.8 -0.6
MA2 pmax pmax
comp=Z,29nm,1.7s
MA2 **Magadan** 83.64 344 P P 15 33 16.4 -1.0
MA2 lAmb lAmb 15 33 18.1
comp=Z,17nm,0.9s
SPCR **Spurr Chakacha** 83.75 12 P 15 33 17.4
baz=204
D05A **Enumclaw** 83.76 35 lAmb lAmb 15 33 24.3
comp=Z,31nm,1.2s
WUAZ **Wupatki** 83.80 49 P 15 33 20.4
baz=240
PGC **Sidney** 83.93 33 lAmb lAmb 15 33 21.6
comp=Z,15nm,0.9s
KULM **Kulim** 84.00 278 P P 15 33 21.1 +0.8
KULM lAmb lAmb 15 33 22.0
comp=Z,21nm,0.8s
KULM **Kulim** 84.00 278 P P 15 33 21.0 +0.8
RC01 **Rabbit Creek A** 84.16 13 P 15 33 20.0
baz=206,SNR=5.3
G08A **Pilot Rock** 84.28 37 P P 15 33 22.7 +1.6
G08A lAmb lAmb 15 33 23.8
comp=Z,22nm,1.2s
SUA **Susitna One** 84.28 13 P 15 33 20.3
baz=205,SNR=21
SUA **Susitna One** 84.28 13 lAmb lAmb 15 33 21.6
comp=Z,28nm,0.8s
B05A **Bryant** 84.38 34 P 15 33 22.6
baz=231
CRAG **Craig** 84.40 24 P 15 33 22.2
baz=222
GLI **Glacier Island** 84.56 14 P 15 33 21.8
baz=209,SNR=5.2
GLI **Glacier Island** 84.56 14 lAmb lAmb 15 33 23.0
comp=Z,30nm,0.8s
SKT **Skwentna** 84.59 12 P 15 33 21.2
baz=205
EYAK **Cordova Ski Ar** 84.60 15 P 15 33 22.4
baz=210
HAWA **Hanford** 84.61 36 P P 15 33 24.0 +1.5
HAWA lAmb lAmb 15 33 25.4
comp=Z,20nm,1.1s
TTA **Tatalina** 84.68 10 P 15 33 22.8
baz=200,SNR=11
TTA **Tatalina** 84.68 10 lAmb lAmb 15 33 24.4
comp=Z,24nm,1.1s
RPSI **Rantau Prapat** 84.70 275 lAmb lAmb 15 33 24.3
comp=Z,15nm,0.7s
KNK **Knik Glacier** 84.72 14 P 15 33 22.9
baz=208,SNR=6.1
KNK **Knik Glacier** 84.72 14 lAmb lAmb 15 33 24.0
comp=Z,23nm,0.9s
PMR **Palmer** 84.74 13 P 15 33 22.9
baz=207,SNR=8.7
PMR **Palmer** 84.74 13 lAmb lAmb 15 33 24.6
comp=Z,34nm,1.3s
W18A **Petrified Fore** 84.76 50 P 15 33 25.3
baz=241
BGLC **Bering Glacier** 84.86 17 P 15 33 25.2
baz=212
E08A **Dider Farm, El** 84.93 36 P P 15 33 25.7 +1.7
121A **Cookes Peak, D** 84.97 53 P 15 33 26.7
baz=242
ANM **Nome** 85.10 5 P 15 33 25.0
baz=192
SML **Sawmill** 85.10 14 P 15 33 24.8
baz=208
SML **Sawmill** 85.10 14 lAmb lAmb 15 33 30.7
comp=Z,18nm,1.1s
DUG **Dugway, Tooele** 85.21 44 P 15 33 27.5
baz=239
CUT **Chulitna** 85.23 12 P 15 33 25.1
baz=206,SNR=5.5
BMRM **Bremner River** 85.24 16 P 15 33 25.7
baz=211,SNR=7.4
D08A **Wollman Farm,** 85.34 36 lAmb lAmb 15 33 28.8
comp=Z,14nm,1.0s
SCM **Sheep Creek Mo** 85.35 14 P P 15 33 26.4 +0.6
SCM pmax pmax
comp=Z,37nm,0.8s
SCM **Sheep Creek Mo** 85.35 14 P P 15 33 26.4 +0.6
KLU **Klutina** 85.38 15 P 15 33 26.3
baz=210
WRAK **Wrangell Islan** 85.40 23 P 15 33 27.5
baz=222
WRAK **Wrangell Islan** 85.41 23 lAmb lAmb 15 33 28.5
comp=Z,18nm,0.9s
CRQE **Cirque** 85.45 16 P 15 33 27.4
baz=212
E09A **Wood Farm, Sta** 85.45 37 lAmb lAmb 15 33 29.0
comp=Z,21nm,1.2s
GSI **Gunungsitoli** 85.48 273 P P 15 33 28.4 +0.9
comp=Z,1µmcomp=Z,69nm,1.2s
TGL **Tana Glacier** 85.52 16 lAmb lAmb 15 33 28.5
comp=Z,34nm,1.2s
F10A **Beach Ranch, E** 85.66 37 P P 15 33 28.6 +0.9
F10A lAmb lAmb 15 33 29.9
comp=Z,30nm,0.8s
TABL **Table Mountain** 85.72 17 lAmb lAmb 15 33 29.5
comp=Z,28nm,1.0s
N25K **Chitina, Valde** 85.80 15 P 15 33 28.7
baz=211,SNR=7.8
N25K **Chitina, Valde** 85.80 15 lAmb lAmb 15 33 29.1
comp=Z,15nm,0.7s
CAST **Castle Rocks** 85.80 11 P 15 33 28.1
baz=204
TMUT **Trail Mountain** 85.81 46 P P 15 33 30.7 +1.9
M24K **Tolsona, Glenn** 85.85 14 P 15 33 28.9
baz=210
B08A **Colville Reser** 85.89 35 lAmb lAmb 15 33 30.6
comp=Z,12nm,1.1s
BJT **Baijiatuao** 85.91 315 lAmb lAmb 15 33 30.1
comp=Z,10.0nm,0.7s
BJI **Beijing** 85.92 315 P P 15 33 29.9 +1.0
BJI sP sP 15 36 26.2 +1.7
BJI pmax pmax
comp=Z,14nm,0.8s
WAT6 **Susitna Watana** 85.92 13 P 15 33 29.0
baz=208
HLID **Hailey** 85.98 41 P 15 33 31.1
baz=237,SNR=9.9
MCARA **McCarthy VSAT** 86.00 16 P 15 33 29.4
baz=212,SNR=6.2
MCARA **McCarthy VSAT** 86.00 16 lAmb lAmb 15 33 30.7
comp=Z,22nm,1.1s
WAT2 **Susitna Watana** 86.08 13 P 15 33 29.5
baz=207
CTG **Chitina Glacier** 86.10 17 P 15 33 30.0
baz=214
CTGM **Chitina Glacie** 86.10 17 P P 15 33 30.1 +0.7
CTGM lAmb lAmb 15 33 30.8
comp=Z,16nm,0.9s
C09A **Chrisman Ranch** 86.14 36 lAmb lAmb 15 33 32.1
comp=Z,12nm,0.9s
KTH **Kantishna Hill** 86.14 12 lAmb lAmb 15 33 29.9
comp=Z,24nm,1.0s
BESE **Bessie Mountai** 86.15 21 lAmb lAmb 15 33 32.2
comp=Z,17nm,1.1s
TRF **Thorofare Moun** 86.17 12 P 15 33 29.2
baz=206,SNR=20
SRU **San Rafael Swe** 86.18 46 P P 15 33 31.5 +1.1
SRU pmax pmax
comp=Z,8.0nm,1.0s
SRU **San Rafael Swe** 86.18 46 P P 15 33 31.5 +1.1
CHUM **Lake Minchumin** 86.19 11 P 15 33 29.1
baz=204,SNR=8.1
SEY **Seymchan** 86.22 347 ‖ *e* P P 15 33 30.1 +0.3
MNTX **Cornucas Mount** 86.40 54 P 15 33 32.9
baz=244
MNTX **Cornucas Mount** 86.41 54 lAmb lAmb 15 33 34.6
comp=Z,11nm,1.1s
RND **Reindeer** 86.42 13 P P 15 33 31.2 +0.3
RND pmax pmax
comp=Z,52nm,0.9s
RND **Reindeer** 86.42 13 P P 15 33 31.2 +0.3
BPAW **Bear Paw Mtn.** 86.63 11 P 15 33 31.0
baz=205
SKAG **Skagway** 86.68 20 P 15 33 33.3
baz=219
MCK **McKinley** 86.69 12 P 15 33 31.9
baz=207,SNR=20
TX31 **Lajitas Ar. Si** 86.71 57 lAmb lAmb 15 33 36.4
comp=Z,22nm,1.1s
TXAR **Lajitas Array** 86.71 57 P P 15 33 35.5 +2.4
comp=Z,3.9nm,0.8s,baz=218,slow=6.7,SNR=42
TXAR pP pwP 15 35 36.4 +0.3
comp=Z,1.6nm,1.1s,baz=210,slow=7.0,SNR=5.1
TXAR **Lajitas Array** 86.71 57 P P 15 33 34.7 +1.6
TXAR **Lajitas Array** 86.71 57 P P 15 33 34.7 +1.6
GYA **Guiyang** 86.77 300 ⇑ P P 15 33 34.4 +1.0
GYA pmax pmax
comp=Z,9.0nm,1.2s
PAX **Paxson** 86.77 14 P 15 33 32.5
baz=210
PV17 **East Wray Mesa** 86.84 47 lAmb lAmb 15 33 35.9
comp=Z,18nm,1.5s
SYO **Syowa Base** 87.00 193 ⇑ *e* PcP PcP 15 33 35.8 +0.7
NEW **Newport** 87.03 36 P 15 33 35.0
baz=235
NEW **Newport** 87.04 36 P P 15 33 34.8 +0.7
NEW pmax pmax
comp=Z,9.0nm,1.3s
ANMO **Albuquerque** 87.06 51 P 15 33 35.9
baz=243
ANMO **Albuquerque** 87.06 51 P P 15 33 36.2 +1.5
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO **Albuquerque** 87.06 51 P P 15 33 36.2 +1.5
MENT **Mentasta** 87.15 15 lAmb lAmb 15 33 35.5
comp=Z,11nm,1.0s
NEA2 **Nenana** 87.44 12 P 15 33 34.8
baz=207,SNR=11
MLY **Manley** 87.52 11 P 15 33 35.2
baz=205,SNR=19
ZEA **Zeya** 87.56 331 *e* P P 15 33 37.1 +0.8
ZEA pmax pmax
comp=Z,10.0nm,0.6s
MCMT **McKenzie Canyo** 87.61 40 P P 15 33 38.7 +1.6
DOT **Dot Lake** 87.68 14 lAmb lAmb 15 33 38.2
comp=Z,13nm,1.0s
HDA **Harding Lake** 87.70 13 P 15 33 36.7
baz=209,SNR=24
HDA P 15 33 36.7
baz=209,SNR=24
I23K **Minto, Yukon-K** 87.88 12 P 15 33 37.2
baz=207,SNR=9.2
I23K **Minto, Yukon-K** 87.88 12 P P 15 33 36.4 -1.1
I23K lAmb lAmb 15 33 38.3
comp=Z,7.6nm,0.7s
TCOL **CIGO, UAF Yank** 87.93 12 P 15 33 37.5
baz=208,SNR=10
COLA **College** 87.93 12 P 15 33 37.6
baz=208
COLA **College** 87.93 12 P P 15 33 37.3 -0.4
COLA pmax pmax
comp=Z,38nm,0.7s
COLA **College** 87.93 12 P P 15 33 37.3 -0.4
SCRK **Sand Creek** 87.98 14 P 15 33 38.6
baz=212,SNR=9.7
MSO **Missoula** 88.03 38 P 15 33 39.5
baz=237
MSO **Missoula** 88.03 38 lAmb lAmb 15 33 40.8
comp=Z,12nm,1.2s
IL31 **** 88.03 13 lAmb lAmb 15 33 39.1
comp=Z,26nm,1.3s
ILAR **Eielson Array** 88.03 13 P P 15 33 38.1 -0.2
comp=Z,11nm,0.9s,baz=215,slow=5.3,SNR=78
ILAR **Eielson Array** 88.03 13 P P 15 33 37.7 -0.6
DLMT **Dillon** 88.04 40 lAmb lAmb 15 33 41.8
comp=Z,19nm,1.2s
S22A **4UR Ranch, Cre** 88.07 49 P 15 33 40.5
baz=243
REDW **Red Top Meadow** 88.09 42 lAmb lAmb 15 33 42.0
comp=Z,21nm,1.2s

XAN **Xi'an** 88.20 307 P **P** 15 33 40.9 +1.0
XAN pmax pmax
comp=Z,36nm,0.8s
XAN **Xi'an** 88.20 307 P **P** 15 33 40.9 +1.0
XAN pmax pmax
comp=Z,30nm,0.8s
XAN **Xi'an** 88.20 307 P **P** 15 33 40.9 +1.0
O20A **White River Ci** 88.21 46 P 15 33 41.0
baz=242
POKR **Poker Plat Res** 88.23 12 P 15 33 38.9
baz=208
VNA3 **Neumayer Olymp** 88.35 176 P **P** 15 33 39.7 -0.2
K27K **Chicken** 88.47 15 P 15 33 41.9
baz=213
K27K **Chicken** 88.47 15 IAmb IAmb 15 33 42.6
comp=Z,18nm,0.9s
QLMT **Earthquake Lak** 88.47 41 P **P** 15 33 43.3 +2.2
PHIT **Phitsanulok** 88.52 289 P **P** 15 33 44.4 +2.8
FLWY **Flagg Ranch** 88.55 42 IAmb IAmb 15 33 44.6
comp=Z,15nm,1.0s
UTTA **Uttaradit** 88.60 289 P **P** 15 33 43.9 +1.9
BW06 **Boulder Array** 88.61 43 P 15 33 42.8
baz=241
BW06 **Boulder Array** 88.62 43 IAmb IAmb 15 33 43.4
comp=Z,6.3nm,0.8s
PDAR **Pinedale Array** 88.62 43 P **P** 15 33 43.0 +1.1
comp=Z,4.6nm,0.7s,baz=212,slow=3.4,SNR=39
PDAR **Pinedale Array** 88.62 43 P **P** 15 33 42.8 +0.9
YMR **Madison River** 88.68 41 P **P** 15 33 44.4 +2.3
RDOG **Red Dog Mine** 88.74 6 P 15 33 41.8
baz=194
RDOG **Red Dog Mine** 88.74 6 IAmb IAmb 15 33 43.2
comp=Z,7.6nm,0.9s
BOZ **Bozeman (W)** 88.75 40 P 15 33 44.1
baz=239,SNR=13
BOZ **Bozeman (W)** 88.75 40 IAmb IAmb 15 33 45.1
comp=Z,12nm,0.9s
H17A **Grant Village** 88.78 41 P 15 33 45.4
baz=240,SNR=8.0
H17A **Grant Village** 88.78 41 IAmb IAmb 15 33 46.4
comp=Z,9.0nm,0.9s
VNA2 **Neumayer--Watz** 88.80 177 P **P** 15 33 40.8 -1.2
PRP **Porcupine Dome** 88.97 13 P 15 33 42.9
baz=210
SDCO **Great Sand Dun** 89.01 49 P 15 33 45.0
baz=243
VNA1 **Neumayer--Stat** 89.02 177 P **P** 15 33 43.4 +0.4
WALA **Waterton Lakes** 89.25 36 P **P** 15 33 45.2 +0.7
WALA IAmb IAmb 15 33 46.7
comp=Z,7.3nm,0.8s
EGAK **Eagle** 89.32 15 P 15 33 45.0
baz=214,SNR=18
SUKH **Sukhothai** 89.33 289 P **P** 15 33 47.1 +1.8
MSTX **Muleshoe** 89.36 53 P 15 33 46.6
baz=245
HHC **Hu-ho-hao-te** 89.38 314 *e*P **P** 15 33 46.4 +1.1
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,61nm,5.6s
KMI **Kunming** 89.48 297 ⇓P **P** 15 33 48.1 +1.8
KMI pmax pmax
comp=Z,25nm,1.1s
T25A **Trinidad** 89.52 50 P 15 33 47.5
baz=244
COLD **Coldfoot** 89.61 10 P 15 33 46.4
baz=206
COLD **Coldfoot** 89.61 10 IAmb IAmb 15 33 47.5
comp=Z,14nm,0.9s
RWWY **Rawlins** 89.63 45 IAmb IAmb 15 33 48.8
comp=Z,10nm,1.1s
LAMP **Lampang** 89.70 290 P **P** 15 33 48.8 +1.7
833A **Chaparral WMA,** 89.72 60 P 15 33 48.5
baz=247
ISCO **Idaho Springs** 89.85 47 P 15 33 49.4
baz=243
RLMT **Red Lodge** 89.95 41 P 15 33 49.3
baz=241
N23A **Red Feather La** 90.12 46 P 15 33 50.2
baz=243
CM36 **Chiang Mai Arr** 90.17 290 P **P** 15 33 50.0 +0.7
CM35 **Chiang Mai Arr** 90.18 290 P **P** 15 33 50.5 +1.1
CM04 **Chiang Mai Arr** 90.23 289 P **P** 15 33 51.0 +1.4
JCT **Junction City** 90.24 58 P 15 33 50.5
baz=247
CM09 **Chiang Mai Arr** 90.24 289 P **P** 15 33 51.0 +1.4
CM34 **Chiang Mai Arr** 90.25 290 P **P** 15 33 51.0 +1.4
CM01 **Chiang Mai Arr** 90.26 289 P **P** 15 33 51.5 +1.7
CM05 **Chiang Mai Arr** 90.27 289 P **P** 15 33 51.5 +1.7
CM02 **Chiang Mai Arr** 90.28 289 P **P** 15 33 51.0 +1.2
CM31 **Chiang Mai Arr** 90.29 289 P **P** 15 33 51.6 +1.8
CMAR **Chiang Mai Arr** 90.29 289 P **P** 15 33 51.7 +1.9
comp=Z,13nm,0.9s,baz=121,slow=2.9,SNR=66
CMAR **Chiang Mai Arr** 90.29 289 *i* P **P** 15 33 51.4 +1.6
CMAR pmax pmax
comp=Z,13nm,0.9s
CMAR **Chiang Mai Arr** 90.29 289 P **P** 15 33 50.4 +0.5
CM15 **Chiang Mai Arr** 90.30 289 P **P** 15 33 51.6 +1.7
CM13 **Chiang Mai Arr** 90.31 289 P **P** 15 33 51.0 +1.1
CMMT **Chiang Mai** 90.41 290 P **P** 15 33 50.5 +0.1
CM33 **Chiang Mai Arr** 90.41 290 P **P** 15 33 51.0 +0.6
CHTO **Chiang Mai** 90.42 290 P **P** 15 33 51.3 +0.8
CHTO pmax pmax
comp=Z,18nm,0.8s
CHTO **Chiang Mai** 90.42 290 P **P** 15 33 51.2 +0.8
CM32 **Chiang Mai Arr** 90.44 290 P **P** 15 33 52.0 +1.4
K22A **Casper** 90.53 44 P 15 33 52.3
baz=243
AMTX **Amarillo** 90.56 53 P 15 33 52.3
baz=246
TOLK **Toolik Lake Re** 90.99 10 P 15 33 52.4
baz=206
TOLK **Toolik Lake Re** 90.99 10 IAmb IAmb 15 33 53.6
comp=Z,9.9nm,1.2s
EGMT **Eagleton** 91.08 38 P 15 33 54.3
baz=240
MHMT **Maesarieng** 91.08 289 P **P** 15 33 55.6 +2.1
ABTX **Abilene, Hawle** 91.21 56 P 15 33 54.7
baz=247
YAK **Yakutsk** 92.00 338 *d* iP **P** 15 33 55.8 -0.9
YAK pmax pmax
comp=Z,23nm,0.8s
YAK **Yakutsk** 92.00 338 P **P** 15 33 55.5 -1.2
RSSD **Black Hills** 92.81 44 P 15 34 02.0
baz=244
RSSD **Black Hills** 92.81 44 P **P** 15 34 01.8 +0.7
RSSD pmax pmax
comp=Z,6.0nm,1.1s
RSSD **Black Hills** 92.81 44 P **P** 15 34 01.8 +0.7
RSSD IAmb IAmb 15 34 03.7
comp=Z,5.6nm,1.1s
LZH **Lanzhou** 92.84 307 ⇓P **P** 15 34 02.6 +1.2
LZH pP pP 15 36 02.7 +0.4
LZH sP sP 15 36 56.7 -0.7
LZH pmax pmax
comp=Z,18nm,1.1s
CBKS **Cedar Bluff** 93.57 50 P 15 34 06.1
baz=247
INK **Inuvik** 93.98 15 P **P** 15 34 05.6 0.0
INK pmax pmax
comp=Z,8.0nm,1.1s
INK **Inuvik** 93.98 15 IAmb IAmb 15 34 06.7
comp=Z,6.3nm,0.9s
DGMT **Dagmar** 94.58 40 P 15 34 10.5
baz=245
ULN **Ulaanbaatar** 95.36 319 P **P** 15 34 11.9 -0.7
ULN pmax pmax
comp=Z,4.0nm,1.3s
ULN **Ulaanbaatar** 95.36 319 P **P** 15 34 11.9 -0.7
ULN IAmb IAmb 15 34 12.7
comp=Z,4.4nm,1.3s
SONM **Songino Array** 95.76 319 P **P** 15 34 14.5 +0.2
comp=Z,0.6nm,0.6s,baz=132,slow=4.3,SNR=4.8
SONM PP **PP** 15 38 12.6 -3.3
comp=Z,0.9nm,1.1s,baz=124,slow=4.1,SNR=3.7
YKA **Yellowknife Ar** 96.20 25 P **P** 15 34 16.2 +0.4
comp=Z,1.2nm,0.9s,baz=235,slow=3.6,SNR=9.8
MIAR **Mount Ida** 96.62 56 P 15 34 19.7
baz=250
GTA **Gaotai** 97.03 309 *e*P Pdif 15 34 20.9 +0.6
GTA pmax pmax
comp=Z,3.0nm,1.1s
ZALV **Zalesovo Beam** 110.48 321 PKiKP **PKiKP** 15 39 15.7 -0.9
comp=Z,2.3nm,0.6s,baz=149,slow=0.4,SNR=12
MK31 **Makanchi Array** 111.23 313 *d* iPKiKP **PKiKP** 15 39 17.3 -1.0
MKAR **Makanchi Array** 111.23 313 Pdiff **Pdif** 15 35 24.9 +1.8
comp=Z,0.4nm,0.7s,baz=91,slow=7.7,SNR=5.2
MKAR PKiKP **PKiKP** 15 39 17.6 -0.8
comp=Z,2.3nm,0.6s,baz=98,slow=0.2,SNR=35
AAK **Ala-Archa** 116.36 308 ⇑*i* PKIKP **PKPdf** 15 39 28.2 -0.3
AAK pmax pmax
comp=Z,11nm,1.7s
BTLS **Baital** 116.82 311 *e*PKP **PKPdf** 15 39 27.9 -1.1
baz=311
BTLS **Baital** 116.82 311 *e*PKIKP **PKPdf** 15 39 27.9 -1.1
BRZS **Berezniki** 117.80 317 *e*PKP **PKPdf** 15 39 29.3 -1.6
baz=317
BRZS **Berezniki** 117.80 317 *e*PKIKP **PKPdf** 15 39 29.2 -1.6
DZA **Taraz** 118.70 309 *e*PKP **PKPdf** 15 39 31.8 -1.1
baz=308
DZA **Taraz** 118.70 309 *e*PKIKP **PKPdf** 15 39 31.7 -1.1
BRVK **Borovoye** 119.14 320 *d* iPKIKP **PKPdf** 15 39 32.6 -0.6
BRVK pmax pmax
comp=Z,11nm,1.7s
BRVK **Borovoye** 119.14 320 PKPdf **PKPdf** 15 39 32.3 -1.0
KKAR **Karatay Array** 119.31 309 PKIKP **PKPdf** 15 39 32.9 -1.1
KKAR **Karatay Array** 119.31 309 PKPdf **PKPdf** 15 39 32.9 -1.1
IUG **Iuzhnay** 119.65 308 *e*PKP **PKPdf** 15 39 34.1 -0.6
baz=308
IUG **Iuzhnay** 119.65 308 *e*PKIKP **PKPdf** 15 39 34.1 -0.6
KBL **Kabul** 120.01 299 PKIKP **PKPdf** 15 39 35.3 -0.5
KBL **Kabul** 120.01 299 PKPdf **PKPdf** 15 39 35.3 -0.5
DAG **Danmarks Havn** 122.49 6 *i* P **PKPdf** 15 39 37.4 -1.6
comp=Z,1.6nm,0.5s
DAG **Danmarks Havn** 122.49 6 *i* PKIKP **PKPdf** 15 39 37.4 -1.6
DAG pmax pmax
comp=Z,2.0nm,0.5s
DAG **Danmarks Havn** 122.49 6 *i* P **PKPdf** 15 39 37.5 -1.6
DAG IAmb IAmb 15 39 38.6
comp=Z,1.6nm,0.5s
SUMG **Summit** 122.87 14 *i* P **PKPdf** 15 39 40.5 +0.1
comp=Z,5.8nm,0.7s
SUMG **Summit** 122.87 14 *i* PKIKP **PKPdf** 15 39 40.5 +0.1
SUMG pmax pmax
comp=Z,6.0nm,0.7s
SUMG **Summit** 122.87 14 *i* P **PKPdf** 15 39 40.6 +0.1
SUMG IAmb IAmb 15 39 42.1
comp=Z,5.8nm,0.7s
DBG **Daneborg** 124.58 7 *i* P **PKPdf** 15 39 42.5 -0.6
DBG IAmb IAmb 15 39 43.5
comp=Z,3.3nm,1.0s
ARU **Arti** 125.17 326 *c* iPKIKP **PKPdf** 15 39 44.7 0.0
ARU pmax pmax
comp=Z,11nm,1.0s
ARU **Arti** 125.17 326 PKPdf **PKPdf** 15 39 44.3 -0.4
ABKAR **Akbulak array** 126.10 317 PKPdf **PKPdf** 15 39 46.0 -0.7
ARCES **ARCESS Array B** 128.75 350 PKhKP PKPpre 15 39 37.3
comp=Z,1.9nm,1.0s,baz=354,slow=3.7,SNR=5.4
ARCES PKP **PKiKP** 15 39 51.6 -0.4
comp=Z,4.3nm,0.7s,baz=16,slow=1.3,SNR=15
GEYT **Alibeck** 128.88 303 PKP **PKPdf** 15 39 52.4 -0.1
comp=Z,3.3nm,0.7s,baz=215,slow=4.9,SNR=6.2
GEYT **Alibeck** 128.88 303 **PKiKP** 15 39 52.9 -0.4
KIRV **Kirov** 128.90 330 ⇓*i* PKIKP **PKPdf** 15 39 51.5 -0.2
KLMR **Klimovskoe** 131.78 337 *e*PKIKP **PKPdf** 15 39 54.4 -2.7
KLMR pmax pmax
comp=Z,12nm,1.5s
KLMR **Klimovskoe** 131.78 337 *e*PKPdf **PKPdf** 15 39 54.4 -2.7
KLMR AMP 15 40 04.7
comp=Z,12nm,1.5s
MATP **Matopo** 132.10 214 SKPbc **SKPab** 15 42 35.9 +0.1
comp=Z,2.9nm,0.8s,baz=118,slow=4.4,SNR=5.4
BELG **Belogornoye** 132.57 324 *d* iPKIKP **PKPdf** 15 39 58.3 -0.6
FINES **FINESS Array B** 135.63 344 PKhKP PKPpre 15 39 51.9
comp=Z,1.3nm,0.7s,baz=90,slow=1.9,SNR=5.4
FINES PKP **PKPdf** 15 40 02.5 -1.8
comp=Z,1.5nm,0.4s,baz=48,slow=2.8,SNR=11
OBN **Obninsk** 136.68 332 *i* PKIKP **PKPdf** 15 40 05.7 -0.7
OBN pmax pmax
comp=Z,7.0nm,0.8s
LPSR **Galich'ya Gora** 137.09 328 *e*PKIKP **PKPdf** 15 40 07.0 -0.3
LPSR pmax pmax
comp=Z,10.0nm,1.1s
VSR **Storozhevoye** 137.74 326 *e*PKIKP **PKPdf** 15 40 07.9 -0.6
VSR pmax pmax
comp=Z,9.0nm,0.9s
VORD **Divnogorie** 137.81 325 *e*PKIKP **PKPdf** 15 40 07.2 -1.5
VORD pmax pmax
comp=Z,8.0nm,1.3s
NB2 **NORSAR Subarra** 138.79 353 PKP PKPdf 15 40 00.5 -10
comp=Z,12nm,0.7s,baz=13,slow=3.6
NOA **NORSAR Array B** 138.79 353 PKhKP PKPpre 15 40 00.8
comp=Z,1.7nm,0.7s,baz=8.2,slow=2.3,SNR=6.4
KIV **Kislovodsk** 138.99 314 *i* PKIKP **PKPdf** 15 40 11.4 +0.2
KIV pmax pmax
comp=Z,8.0nm,1.1s
NACGM **Naroch** 140.77 338 *i* PKP **PKPdf** 15 40 08.8 -5.1
NACGM *i* PKP **PKPdf** 15 40 08.8 -5.1
NACGM *i* PKP **PKPdf** 15 40 08.8 -5.1
NACGM *i* pPKP **pPKPdf** 15 42 17.4 -5.7
NACGM *i* PP sPKPdf 15 42 59.3 -17
NACGM *i* PPP PPP 15 46 04.3
NACGM *i* SKS **SKSdf** 15 46 26.2 -5.3
NACGM *i* SKKS **SKKSdf** 15 56 05.7 +7.6
NACGM *i* SS SS 16 00 20.8 -42
NACGM *i* SSS SSS 16 05 36.7
HOMB **Homborsund** 141.78 355 *i* P **PKPdf** 15 40 12.2 -3.4
KAC **Achnashellach** 142.41 7 *e*P **PKPdf** 15 40 13.9 -2.9
KPL **Plockton** 142.52 7 *e*P **PKPdf** 15 40 14.3 -2.6
SUW **Suwalki** 142.72 340 *e*PKP **PKPdf** 15 40 15.0 -2.4
GOET **G??ttrup** 142.93 354 *i* P **PKPdf** 15 40 14.7 -2.9
comp=Z,15nm,0.3s
GOET **G??ttrup** 142.93 354 *e*P **PKPdf** 15 40 14.7 -2.9
GOET IAmb IAmb 15 40 15.0
comp=Z,15nm,0.3s
AKASG **Malin Array Be** 142.94 331 PKhKP PKPpre 15 40 14.6
comp=Z,53nm,0.7s,baz=42,slow=4.5,SNR=150
AKASG **Malin Array Be** 142.94 331 PKHKP PKPpre 15 40 14.9
AKASG **Malin Array Be** 142.94 331 PKPpre 15 40 14.9
MUD **Monsted U'grnd** 143.51 354 *i* P PKPab 15 40 17.3 0.0
comp=Z,36nm,0.8s
MUD **Monsted U'grnd** 143.51 354 *i* PKIKP PKPab 15 40 17.3 0.0
MUD pmax pmax
comp=Z,36nm,0.8s
MUD **Monsted U'grnd** 143.51 354 *i* P PKPab 15 40 17.3 0.0
MUD IAmb IAmb 15 40 18.8
comp=Z,36nm,0.8s
LAWE **Loch Awe, Argy** 143.61 7 *e*P PKPbc 15 40 17.7 0.0
BSD **Bornholm Skovb** 143.92 348 *i* P PKPbc 15 40 18.5 -0.3
comp=Z,32nm,0.9s
BSD **Bornholm Skovb** 143.92 348 *i* PKIKP PKPbc 15 40 18.5 -0.3
BSD pmax pmax
comp=Z,32nm,0.9s
BSD **Bornholm Skovb** 143.92 348 *i* P PKPbc 15 40 18.5 -0.2
BSD IAmb IAmb 15 40 19.4
comp=Z,32nm,0.9s
SIM **Simferopol'** 143.99 320 *i* PKIKP PKPbc 15 40 18.5 -0.8
SIM pmax pmax
comp=Z,77nm,0.8s
GAL1 **Galloway** 145.06 7 *e*P **PKPab** 15 40 22.8 -0.4
MBAR **Mbarara** 145.26 237 ⇑*e*PKP2 **PKPab** 15 40 25.5 -0.1
MBAR pmax pmax
comp=Z,25nm,1.2s
MBAR **Mbarara** 145.26 237 **PKPab** 15 40 25.4 -0.1
EDMD **Edmundbyers** 145.35 4 *e*P **PKPbc** 15 40 22.9 -0.2
LVV **L'vov** 145.81 335 *e*PKIKP **PKPbc** 15 40 24.5 -0.2
BSEG **Bad Segeberg** 145.84 352 *e*PKPbc **PKPbc** 15 40 25.2 +0.7
baz=14,slow=2.5
KWP **Kalwaria Pacla** 146.49 336 *e*PKP **PKPbc** 15 40 26.9 +0.4
RUE **Ruedersdorf** 146.63 347 *e*PKPbc **PKPbc** 15 40 27.3 +0.5
baz=14,slow=2.5
WLF1 **Llynfaes** 146.64 7 *e*P **PKPbc** 15 40 26.8 0.0
BR131 **Keskin Array S** 146.88 313 PKP2 **PKPbc** 15 40 27.7 -0.4
BR131 **Keskin Array S** 146.88 313 **PKPbc** 15 40 27.7 -0.4
BRTR **Keskin Array B** 146.88 313 PKPbc **PKPbc** 15 40 28.2 +0.1
comp=Z,13nm,0.7s,baz=133,slow=3.7,SNR=9.3
BURAR **Bucovina Array** 146.99 331 PKIKP **PKPdf** 15 40 26.3 +1.2
BURAR **Bucovina Array** 146.99 331 PKPdf **PKPdf** 15 40 26.3 +1.2
BURAR PKPbc **PKPbc** 15 40 28.8 +0.7
OJC **Ojcow** 147.04 339 *e*PKP **PKPbc** 15 40 28.3 +0.3
FOEL **Foel Wylfa** 147.17 6 *e*P **PKPbc** 15 40 27.1 -1.1
KOLS **Kolonicke sedl** 147.22 335 *e*PKP2 **PKPbc** 15 40 29.2 +0.7
KOLS **Kolonicke sedl** 147.22 335 *e* **PKPab** 15 40 32.6 +0.5
KOLS **Kolonicke sedl** 147.22 335 *e*PKP **PKPbc** 15 40 29.2 +0.7
FLTG **Flechtingen** 147.25 350 *e*PKPbc **PKPbc** 15 40 28.8 +0.3
baz=14,slow=2.5
FLTG *e*PKPab **PKPab** 15 40 31.9 -0.1
baz=14,slow=4.3
NRDL **Niedersach Rie** 147.27 351 *e*PKPbc **PKPbc** 15 40 29.0 +0.6
baz=14,slow=2.5
UZH **Uzhgorod** 147.45 335 *e*PKP2 **PKPbc** 15 40 29.1 0.0
ASSE **Asse, Remlinge** 147.54 350 *e*PKPbc **PKPbc** 15 40 29.8 +0.7
baz=14,slow=2.5
KSP **Ksiaz** 147.55 343 *e*PKP **PKiKP** 15 40 30.1 -0.7
NIE **Niedzica** 147.55 338 *e*PKP **PKiKP** 15 40 30.4 -0.5
NIE **Niedzica** 147.55 338 PKP2 **PKiKP** 15 40 30.4 -0.5
CRVS **Cervenica-Dubn** 147.56 336 *e*PKP2 **PKiKP** 15 40 30.0 +0.6
CRVS **Cervenica-Dubn** 147.56 336 *e*PKP **PKPbc** 15 40 30.0 +0.6
CRVS *e* 15 40 34.3
IBBN **Ibbenburen** 147.74 354 *e*PKPbc **PKPbc** 15 40 30.3 +0.6
baz=14,slow=2.5
IBBN *e*PKPab **PKPab** 15 40 34.4 +0.3
baz=14,slow=4.3
OSTC **Ostas** 147.83 343 ⇑*e*PKP **PKiKP** 15 40 31.3 -0.2
CHVC **Chvalec** 147.85 343 ⇑*e*PKP **PKiKP** 15 40 31.0 -0.5
CLZ **Clausthal** 147.86 351 *e*PKPbc **PKiKP** 15 40 30.9 -0.6
baz=14,slow=2.5
CLL **Collm** 147.90 347 *i* PKPab **PKPab** 15 40 34.9 +0.1
comp=Z,20nm,0.8s
CLL **Collm** 147.90 347 ⇓*i* PKP2 **PKPbc** 15 40 30.7 +0.6
CLL pmax pmax
comp=Z,60nm,0.9s
CLL pmax pmax
comp=Z,20nm,0.8s
CLL **Collm** 147.90 347 *e*PKPbc **PKPbc** 15 40 30.8 +0.6
baz=14,slow=2.5
CLL **Collm** 147.90 347 ⇓*i* PKPbc **PKPbc** 15 40 30.7 +0.6
comp=Z,60nm,0.9s
UPC **Upice** 147.93 343 *e*PKP2 **PKiKP** 15 40 31.1 -0.6
UPC **Upice** 147.93 343 ⇑*e*PKP **PKiKP** 15 40 31.1 -0.6
DPC **Dobruska-Polom** 147.99 343 *e*PKP2 **PKiKP** 15 40 31.2 -0.6
DPC **Dobruska-Polom** 147.99 343 ⇑*e*PKP **PKiKP** 15 40 31.2 -0.6
DPC *e*PKPAB **PKPab** 15 40 36.2 +1.0
MCH1 **Michaelchurch** 148.07 6 *e*P **PKPbc** 15 40 30.3 -0.2
BRG **Berggiesshubel** 148.11 346 PKP2 **PKiKP** 15 40 31.4 -0.6
BRG **Berggiesshubel** 148.11 346 Amp 15 40 36.7
comp=Z,23nm,0.9s
BRG **Berggiesshubel** 148.11 346 *e*PKPbc **PKiKP** 15 40 31.5 -0.6
baz=14,slow=2.5
BRG *e*PKPab **PKPab** 15 40 36.1 +0.5
baz=14,slow=4.3
BRG **Berggiesshubel** 148.11 346 *i* PKP **PKiKP** 15 40 31.4 -0.6
BRG **Berggiesshubel** 148.11 346 Amp 15 40 32.4
comp=Z,29nm,0.9s
BRG **Berggiesshubel** 148.11 346 *i* x x 15 40 36.0
KRLC **Kraliky** 148.11 342 *e*PKP2 **PKPbc** 15 40 31.4 +0.6
KRLC **Kraliky** 148.11 342 ⇑*e*PKP **PKPbc** 15 40 31.4 +0.6
MORC **Moravsky Berou** 148.15 341 *e* **PKPab** 15 40 36.5 +0.6
MORC **Moravsky Berou** 148.15 341 *e*PKP **PKPbc** 15 40 31.4 +0.5
MDUB **Mudurnu** 148.17 316 **PKPbc** 15 40 30.3 -1.1
FBE **Freiberg** 148.19 347 *e*PKPbc **PKiKP** 15 40 32.0 -0.2
baz=14,slow=2.5
FBE *e*PKPab **PKPab** 15 40 36.7 +0.8
baz=14,slow=4.3
GTTG **Gottingen** 148.21 351 *e*PKPbc **PKiKP** 15 40 31.7 -0.5
baz=14,slow=2.5
GTTG *e*PKPab **PKPab** 15 40 36.6 +0.5
baz=14,slow=4.3
NEUB **Neuenburg** 148.24 349 *e*PKPbc **PKiKP** 15 40 31.7 -0.5
baz=14,slow=2.5
MONM **Monmouth** 148.25 6 *e*P **PKPbc** 15 40 30.7 -0.3
KECS **Kecovo** 148.27 337 *e*PKP2 **PKiKP** 15 40 32.4 0.0
KECS **Kecovo** 148.27 337 *e*PKP **PKiKP** 15 40 32.4 0.0
PVCC **Panska Ves** 148.28 345 *e*PKP2 **PKiKP** 15 40 32.0 -0.4
PVCC **Panska Ves** 148.28 345 ⇑*e*PKP **PKiKP** 15 40 32.0 -0.4
BUG **Bochum--Univer** 148.65 354 *e*PKPbc **PKPbc** 15 40 32.5 +0.5
baz=14,slow=2.5
PRA **Prague** 148.74 345 *e*PKP2 **PKiKP** 15 40 33.1 -0.2
PRA **Prague** 148.74 345 ⇑*e*PKP **PKiKP** 15 40 33.1 -0.2
KASTN **Kahler Asten** 148.76 353 *e*PKPbc **PKiKP** 15 40 33.0 -0.4
baz=14,slow=2.5
PRU **Pruhonice** 148.79 345 *e*PKP2 **PKiKP** 15 40 33.0 -0.4
PRU **Pruhonice** 148.79 345 ⇑*e*PKP **PKiKP** 15 40 33.0 -0.4
PRU *e*PKPAB **PKPab** 15 40 39.1 +0.7
MOX **Moxa** 148.81 348 PKP2 **PKiKP** 15 40 33.0 -0.5
MOX **Moxa** 148.81 348 *e*PKPbc **PKiKP** 15 40 33.0 -0.5
baz=14,slow=2.5
MOX *e*PKPab **PKPab** 15 40 38.7 +0.1
baz=14,slow=4.3
VYHS **Vyhne** 148.85 339 *e*PKP2 **PKiKP** 15 40 34.1 +0.5
VYHS **Vyhne** 148.85 339 *e*PKP **PKiKP** 15 40 34.1 +0.5
VRAC **Vranov** 148.85 342 *e*PKP **PKPbc** 15 40 33.1 +0.5
VRAC *e* 15 40 39.6
PLN **Plauen** 148.85 348 *e*PKPbc **PKiKP** 15 40 33.3 -0.3
baz=14,slow=2.5
PLN *e*PKPab **PKPab** 15 40 39.0 +0.3
baz=14,slow=4.3
TANN **Tannenbergstha** 148.86 347 *e*PKPbc **PKiKP** 15 40 33.4 -0.3
baz=14,slow=2.5
TANN *e*PKPab **PKPab** 15 40 39.2 +0.4
baz=14,slow=4.3
WERD **Werda** 148.86 348 *e*PKPbc **PKiKP** 15 40 33.4 -0.2
baz=14,slow=2.5
WERD *e*PKPab **PKPab** 15 40 39.2 +0.4
baz=14,slow=4.3
UBBA **Unterbreizbach** 148.91 351 *e*PKPab **PKPab** 15 40 38.9 +0.1
baz=14,slow=4.3
JAVC **Velka Javorina** 148.92 340 *e*PKP **PKiKP** 15 40 34.5 +0.7
JAVC *e* 15 40 40.9
KOLL **Kolacno** 148.92 339 *e*PKP **PKiKP** 15 40 33.8 +0.1
GUNZ **Gunzen** 148.93 347 *e*PKPbc **PKiKP** 15 40 33.6 -0.1
baz=14,slow=2.5
GUNZ *e*PKPab **PKPab** 15 40 39.7 +0.6
baz=14,slow=4.3
CSS **Mathiatis** 148.99 305 **PKPbc** 15 40 32.4 -1.0
WERN **Wernitzgruen** 149.00 347 *e*PKPbc **PKiKP** 15 40 33.8 -0.1
baz=14,slow=2.5
WERN *e*PKPab **PKPab** 15 40 40.0 +0.6
baz=14,slow=4.3
NKC **Novy Kostel** 149.03 347 *e*PKHKP PKPpre 15 40 33.6
NKC *e* 15 40 39.7
NKC **Novy Kostel** 149.03 347 ⇑*e*PKP **PKiKP** 15 40 33.6 -0.4
NKC *e*PKPAB **PKPab** 15 40 39.7 +0.2
KRUC **Moravsky** 149.13 342 *e*PKP **PKPbc** 15 40 33.7 +0.4
KRUC *e* 15 40 40.6
KRUC **Moravsky** 149.13 342 PKHKP PKPpre 15 40 33.9
TREC **Trest** 149.18 343 *e*PKHKP PKPpre 15 40 34.1
TREC **Trest** 149.18 343 ⇑*e*PKP **PKiKP** 15 40 34.1 -0.2
PBCC **Pribram** 149.20 345 ⇑*e*PKP **PKPbc** 15 40 33.8 +0.3
SMOL **Smolenice** 149.30 340 *e*PKP2 **PKiKP** 15 40 34.9 +0.4
SMOL **Smolenice** 149.30 340 *e*PKP **PKiKP** 15 40 34.9 +0.4
MANZ **Manzenberg** 149.34 348 *e*PKPbc **PKiKP** 15 40 34.6 0.0
baz=14,slow=2.5
MANZ *e*PKPab **PKPab** 15 40 41.2 +0.4
baz=14,slow=4.3
MODS **Modra-Piesok** 149.47 340 *e*PKHKP PKPpre 15 40 34.4
MODS **Modra-Piesok** 149.47 340 *e*PKP **PKPbc** 15 40 34.4 +0.3
ROTZ **Rotzenmuhle** 149.53 347 *e*PKPbc **PKiKP** 15 40 34.9 -0.1
baz=14,slow=2.5
ROTZ *e*PKPab **PKPab** 15 40 42.1 +0.6
baz=14,slow=4.3
AHRW **Bad Neuenahr-A** 149.56 354 *e*PKPbc **PKiKP** 15 40 34.7 -0.3
baz=14,slow=2.5
MEM **Membach** 149.58 355 *d*PKiKP **PKPbc** 15 40 34.4 +0.1
BTNL **Ternell** 149.60 355 *d*PKiKP **PKPbc** 15 40 34.4 0.0
BSTI **Sart Tilman** 149.64 356 *d*PKiKP **PKPbc** 15 40 35.3 +0.2
ZST **Bratislava** 149.68 340 *e*PKP2 **PKiKP** 15 40 36.3 +1.0
ZST **Bratislava** 149.68 340 *e*PKP **PKiKP** 15 40 36.3 +1.0
TNS **Taunus Mts** 149.72 352 *e*PKPbc **PKiKP** 15 40 35.4 0.0
baz=14,slow=2.5
TNS *e*PKPab **PKPab** 15 40 42.7 +0.3
baz=14,slow=4.3
SNF **Seneffe** 149.79 357 *d*PKiKP **PKPbc** 15 40 35.0 +0.2
GRF **Grafenberg Arr** 149.79 348 *e*PKPbc **PKiKP** 15 40 35.6 +0.1
baz=14,slow=2.5
GRF *e*PKPab **PKPab** 15 40 43.4 +0.7
baz=14,slow=4.3
GRFO **Grafenberg** 149.79 348 PKHKP PKPpre 15 40 35.1
GRFO **Grafenberg** 149.79 348 **PKPbc** 15 40 35.1 +0.3
KHC **Kasperske Hory** 149.82 345 ⇓*e*PKIKP **PKPdf** 15 40 27.6 -1.9
KHC **Kasperske Hory** 149.82 345 *e*PKPDF **PKPdf** 15 40 29.4 -0.1
KHC ⇑*e*PKP **PKiKP** 15 40 35.5 -0.1
KHC *e*PKPAB **PKPab** 15 40 43.6 +0.8
KHC **Kasperske Hory** 149.82 345 **PKPdf** 15 40 29.8 +0.3
KHC PKPbc **PKPbc** 15 40 35.3 +0.3
KHC PKPab **PKPab** 15 40 43.4 +0.5
BCLA **Clavier** 149.82 356 *d*PKiKP **PKiKP** 15 40 35.2 -0.3
BGES **Gesves** 149.87 356 *d*PKiKP **PKPbc** 15 40 35.3 +0.3
CKRC **Cesky Krumlov** 149.92 344 ⇑*e*PKP **PKiKP** 15 40 35.9 +0.1
WET **Wettzell** 149.97 346 *e*PKPbc **PKiKP** 15 40 35.9 -0.1
baz=14,slow=2.5
WET *e*PKPab **PKPab** 15 40 44.3 +0.8
baz=14,slow=4.3
BMRD **Maredsous** 149.97 357 *d*PKiKP **PKiKP** 15 40 35.5 -0.3

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GEC2	GERESS Array S	150.05	345	ePKPbc	PKiKP	15 40 36.1	-0.2
	baz=14,slow=2.5						
GEC2				ePKPab	PKPab	15 40 44.4	+0.5
	baz=14,slow=4.3						
GERES	GERESS Array B	150.05	345	PKP	PKPdf	15 40 30.7	+0.7
	comp=Z,3.1nm,1.1s,baz=46,slow=7.7,SNR=5.7						
GERES				PKPbc	PKiKP	15 40 36.0	-0.2
	comp=Z,12nm,0.8s,baz=50,slow=2.1,SNR=54						
GERES	GERESS Array B	150.05	345	PKIKP	PKPdf	15 40 30.0	0.0
GERES						15 40 43.9	
GERES	GERESS Array B	150.05	345	PKPdf	PKPdf	15 40 30.0	0.0
GERES					PKPbc	15 40 35.5	-0.1
GERES				PKPab	PKPab	15 40 43.9	0.0
DOU	Dourbes	150.19	357	dPKiKP	PKPbc	15 40 35.9	+0.1
CONA	Conrad Observa	150.30	341	i P	PKiKP	15 40 36.9	+0.1
	comp=Z,16nm,0.7s,SNR=10						
CONA				eP	PKPab	15 40 46.2	+1.3
	comp=Z,9.7nm,0.7s						
WLF	Walferdange	150.51	355	dPKiKP	PKiKP	15 40 37.4	+0.4
WLF	Walferdange	150.51	355	ePKPbc	PKiKP	15 40 37.6	+0.6
	baz=14,slow=2.5						
WLF				ePKPab	PKPab	15 40 46.3	+0.7
	baz=14,slow=4.3						
MOA	Molln	150.83	343	eP	PKPbc	15 40 37.4	+0.1
	comp=Z,5.2nm,0.8s						
MOA				eP	PKPab	15 40 47.9	+0.8
	comp=Z,14nm,1.2s						
ARSA	Arzberg	151.01	341	eP	PKPbc	15 40 37.4	-0.4
	comp=Z,3.8nm,0.6s						
FUR	Furstenfeldbru	151.24	347	ePKPab	PKPab	15 40 49.6	+0.8
	baz=14,slow=4.3						
RJOB	Jochberg	151.31	345	ePKPab	PKPab	15 40 50.0	+0.9
	baz=14,slow=4.3						
BFO	Black Forest	151.59	352		PKiKP	15 40 39.5	+0.2
BFO					PKPab	15 40 50.2	0.0
BFO	Black Forest	151.59	352	ePKPbc	PKiKP	15 40 39.3	0.0
	baz=14,slow=2.5						
BFO				ePKPab	PKPab	15 40 50.2	0.0
	baz=14,slow=4.3						
SOKA	Soboth	151.67	341	eP	PKPbc	15 40 38.9	-0.5
	comp=Z,11nm,1.1s						
SOKA				eP	PKPab	15 40 52.1	+1.4
	comp=Z,11nm,1.2s						
PERS	Pernice	151.69	341	i PKPbc	PKPbc	15 40 38.9	-0.5
KBA	Koelnbreinsper	151.78	344	eP	PKPbc	15 40 39.8	+0.1
	comp=Z,11nm,0.9s						
UBR	Ueberruh	151.93	349	ePKPbc	PKiKP	15 40 40.0	-0.1
	baz=14,slow=2.5						
WATA	Walderalm	151.96	346	eP	PKiKP	15 40 40.2	0.0
	comp=Z,8.0nm,1.0s						
WATA				eP	PKPab	15 40 52.6	+0.6
	comp=Z,26nm,1.5s						
OBKA	Obir	151.97	342	eP	PKPbc	15 40 39.3	-0.7
	comp=Z,4.0nm,0.8s						
OBKA				eP	PKPab	15 40 52.2	+0.2
	comp=Z,9.5nm,0.8s						
WTTA	Wattenberg	152.02	346	eP	PKiKP	15 40 40.4	0.0
	comp=Z,6.0nm,0.5s						
WTTA				eP	PKPab	15 40 53.0	+0.7
	comp=Z,9.4nm,0.6s						
MOTA	Moosalm	152.06	347	eP	PKPdf	15 40 33.5	+0.4
	comp=Z,8.5nm,1.2s						
MOTA				eP	PKiKP	15 40 40.5	+0.1
	comp=Z,9.5nm,0.8s						
MOTA				eP	PKPab	15 40 52.7	+0.3
	comp=Z,13nm,0.9s						
MYKA	Terra Mystica	152.12	343	eP	PKPbc	15 40 39.7	-0.6
	comp=Z,6.1nm,0.6s						
MYKA				eP	PKPab	15 40 52.5	-0.1
SQTA	Sankt Quirin	152.15	347	eP	PKiKP	15 40 40.8	+0.2
	comp=Z,6.9nm,0.6s						
ABTA	Abfaltersbach	152.30	345	eP	PKPdf	15 40 33.0	-0.4
	comp=Z,9.6nm,0.9s						
ABTA				eP	PKPbc	15 40 40.3	-0.5
	comp=Z,12nm,0.6s						
ABTA				eP	PKPab	15 40 53.5	+0.1
	comp=Z,14nm,0.8s						
DAVA	Damuels	152.35	349	eP	PKPdf	15 40 33.6	0.0
	comp=Z,7.3nm,0.9s						
DAVA				eP	PKiKP	15 40 42.7	+1.7
	comp=Z,12nm,1.1s						
DAVA				eP	PKPab	15 40 53.8	+0.2
	comp=Z,12nm,1.0s						
LJU	Ljubljana	152.40	341	i PKPbc	PKPbc	15 40 40.9	0.0
FETA	Feichten	152.44	347	eP	PKPdf	15 40 34.0	+0.3
	comp=Z,8.1nm,1.0s						
FETA				eP	PKiKP	15 40 41.6	+0.3
	comp=Z,8.9nm,0.9s						
FETA				eP	PKPab	15 40 55.0	+0.9
	comp=Z,11nm,1.1s						
GBAS	Gorenja Brezov	152.52	341	i PKPbc	PKPbc	15 40 41.0	-0.2
DAVOX	Davos/Dischmat	152.84	349	PKP	PKPdf	15 40 34.8	+0.5
	comp=Z,2.1nm,0.6s,baz=331,slow=10,SNR=2.6						
DAVOX				PKPbc	PKiKP	15 40 42.6	+0.4
	comp=Z,7.1nm,0.7s,baz=140,slow=1.5,SNR=12						
DAVOX				PKPab	PKPab	15 40 56.2	+0.4
	comp=Z,2.2nm,0.5s,baz=0.3,slow=7.6,SNR=4.1						
FNA	Florina	153.87	326	PKIKP	PKPbc	15 40 43.0	-1.3
FNA	Florina	153.87	326		PKPbc	15 40 43.0	-1.3
ESDC	Sonseca Array	159.93	14	PKPab	PKPab	15 41 26.9	+0.5
	comp=Z,2.4nm,1.0s,baz=352,slow=4.2,SNR=6.5						
ESDC	Sonseca Array	159.93	14		PKPab	15 41 26.2	-0.3
KEST	Kesra	163.39	340	PKPab	PKPab	15 41 42.1	+0.3
	comp=Z,1.3nm,0.5s,baz=325,slow=5.2,SNR=4.4						
DBIC	Dimbokro	164.81	152	PKP	PKPdf	15 40 47.0	-1.8
	comp=Z,2.5nm,0.8s,baz=333,slow=4.5,SNR=4.1						
MDT	Midelt	166.08	25	PKP	PKPdf	15 40 47.9	-1.6
	comp=Z,4.5nm,1.1s,baz=26,slow=6.9,SNR=4.4						
MDT				PKPab	PKPab	15 41 54.0	+0.2
	comp=Z,1.5nm,0.5s,baz=321,slow=5.0,SNR=4.1						
KOWA	Kowa	171.69	133	PKP	PKPdf	15 40 52.6	-0.7
	comp=Z,1.7nm,0.4s,baz=189,slow=3.7,SNR=4.2						
KOWA	Kowa	171.69	133		PKPdf	15 40 53.4	+0.1
TOA0	Torodi Ar. Sit	172.89	175		PKPdf	15 40 52.9	-0.9
TORD	Torodi Ar. Bea	172.89	175	PKP	PKPdf	15 40 53.5	-0.4
	comp=Z,3.1nm,1.0s,baz=323,slow=1.7,SNR=6.7						
TORD	Torodi Ar. Bea	172.89	175		PKPdf	15 40 53.2	-0.7

ROM 04 15:38:15.2±0.1, 44°.197N±0°.006×10°.917E±0°.009, h17km±2km, ML1.4/1, 1C, Error ellipse: s-maj=0.7km s-min=0.6km az=130.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
FNVD	Fontana Vidola	0.15	101	P	Pg	15 38 19.2	-0.2
FNVD				S	Sg	15 38 22.4	+0.2
ZCCA	Zocca	0.16	15	⇑P	Pb	15 38 19.9	+0.1
MTCR	Monte La Croce	0.18	161	P	Pb	15 38 20.1	-0.1
MTCR				S	Sb	15 38 23.6	+0.1
POPM	Popiglio	0.19	217	P	Pb	15 38 20.1	-0.2
POPM				S	Sb	15 38 23.8	+0.1
POPM				AML	AML		
	comp=E,173μm,0.1s						
POPM				AML	AML		
	comp=N,129μm,0.1s						
BDI	Bagni Di Lucca	0.27	240	P	Pg	15 38 21.2	+0.1
BDI				S	Sb	15 38 25.6	-0.3
SARO	Sassorosso	0.37	268	P	Pg	15 38 22.9	0.0
SARO				S	Sg	15 38 28.5	+0.4
VLC	Villacollemand	0.38	265	P	Pg	15 38 23.2	+0.1
VLC				S	Sb	15 38 29.3	0.0
ERBM	Eremo	0.42	302	P	Pg	15 38 24.0	+0.2

WEL 04 15:48:25.3, 42°S±1°×17°3E±°, h12km±3km, M2.1/7, ML2.2/6, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=116.5, South Island

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
THZ	Tophouse	0.30	96	P	Pg	15 48 32.1	+0.6
DSZ	Denniston Nort	0.52	268	P	Pb	15 48 36.1	-0.4
NNZ	Nelson	0.83	52	P	Pg	15 48 41.6	+0.1
QRZ	Quartz Range	0.91	1	P	Pb	15 48 43.3	+0.3
KHZ	Kahutara	1.03	132	P	Pn	15 48 46.3	+0.7
LTZ	Lake Taylor	1.06	189	P	Pn	15 48 46.7	+0.6
TUWZ	Tuamarina	1.12	75	P	Pb	15 48 46.6	0.0
INZ	Inchbonnie	1.27	218	P	Pn	15 48 49.0	+0.1
GVZ	Greta Valley S	1.29	163	P	Pg	15 48 50.5	+0.3
TCW	Tory Channel	1.43	69	P	Pb	15 48 52.0	+0.1

IDC 04 15:50:07.8±7.2, 5°.40S×146°.48E, h171km±77km, mb3.1/3, mb1 3.1/5, mb1mx2.9/31, mbtmp3.4/5, Error ellipse: s-maj=89.9km s-min=25.8km az=139.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	4.04	170	P	Pn	15 51 09.2	+0.1
	0.8nm,0.3s,baz=277,slow=16,SNR=3.8						
PMG				S	Sn	15 51 57.3	+0.2
	2.2nm,0.3s,baz=302,slow=22,SNR=15						
WRA	Warramunga Arr	18.67	218	P	P	15 54 13.3	+0.3
	0.1nm,0.3s,baz=41,slow=10,SNR=6.5						
ASAR	Alice Springs	21.83	212	P	P	15 54 47.8	+1.0
	0.6nm,0.9s,baz=42,slow=8.0,SNR=8.3						
FITZ	Fitzroy Crossi	23.95	236	P	P	15 55 05.0	-1.4
	0.8nm,0.5s,baz=44,slow=9.6,SNR=3.7						
ILAR	Eielson Array	85.14	23	P	P	16 02 24.5	+0.2
	0.5nm,1.0s,baz=262,slow=5.9,SNR=4.0						

IDC 04 15:50:24.1±6.6, 30°.60S×178°.62W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/29, mbtmp3.7/2, Error ellipse: s-maj=268.2km s-min=57.5km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.56	267	P	P	15 58 21.6	-0.2
	0.7nm,0.9s,baz=108,slow=7.2,SNR=8.4						
WRA	Warramunga Arr	43.57	273	P	P	15 58 30.0	0.0
	0.9nm,0.6s,baz=113,slow=7.8,SNR=10						
FINES	FINESS Array B	145.15	339	PKPbc	PKPbc	16 10 01.5	-0.9
	1.5nm,0.8s,baz=57,slow=5.1,SNR=6.0						

TEH 04 16:08:47.2, 28°.00N×56°.69E, h11km, ML3.1
OMAN 04 16:08:48.3, 27°.88N×56°.69E, h10km, ml2.8/6
THR 04 16:08:48.0±0.3, 27°.97N×56°.70E, h14km±4km, ML3.2
ISC 04 16:08:48.3±1.0, 27°.90N±0°.04×56°.67E±0°.06, h10km, n26, σ0.s51/31, Southern Iran

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GENO	Geno	0.67	222	e		16 09 05.7	
	comp=Z,99nm,0.4s						
GENO				ePg	Pg	16 09 01.8	+0.5
GENO				eSg	Sn	16 09 13.5	-1.2
BNDS	Bandar-Abbas	0.67	222	ePg	Pb	16 09 02.1	-0.1
BNDS	Bandar-Abbas	0.67	222	ePg	Pb	16 09 02.2	-0.1
NGRK	Negar Kerman	1.73	2	ePg	Pn	16 09 18.8	-0.1
NGRK				e		16 09 47.1	
	comp=Z,99nm,0.2s						
SHME	Shamm	1.91	195	P	Pn	16 09 20.1	-0.8
SHME				S	Sn	16 09 45.3	+0.4
KBAM	BAM	1.99	51	ePn	Pn	16 09 21.1	-1.1
KBAM				e		16 09 23.5	
	comp=Z,99nm,0.2s						
BANOM	Banah	2.00	190	P	Pn	16 09 21.6	-0.6
BANOM				P	Pn	16 09 21.7	-0.6
BANOM				S	Sn	16 09 48.2	+0.8
KRBR	Kerman	2.07	2	ePn	Pn	16 09 23.7	+0.2
KRBR				eSg	Sb	16 09 51.5	-0.7
KRBR				IAML		16 09 54.5	
	comp=N,234nm,0.5s						
KRBR				IAML		16 09 56.7	
	comp=E,120nm,0.2s						
KRBR	Kerman	2.07	2	ePn	Pn	16 09 23.7	+0.2
TVBK	TV Kerman	2.08	2	ePn	Pn	16 09 23.5	-0.1
TVBK				e		16 09 25.5	
	comp=Z,99nm,0.4s						
CHMN	Cheshme madani	2.09	21	ePn	Pn	16 09 23.7	-0.1
CHMN				e		16 09 28.7	
	comp=Z,99nm,0.3s						
KHGB	Koh Gabri	2.47	356	ePn	Pn	16 09 29.5	+0.6
KHGB				e		16 09 34.8	
	comp=Z,99nm,0.5s						
MASF	Masafi	2.56	190	P	Pn	16 09 30.4	+0.4
MDH	Madha	2.62	187	P	Pn	16 09 30.7	0.0
UOSS	Minazif	2.98	188	P	Pn	16 09 35.4	-0.2
UOSS				P	Pb	16 09 35.5	-6.0
ASHO	Ashiyiah	3.25	190	P	Pn	16 09 39.5	0.0
ASHO				P	Pb	16 09 39.5	-6.7
FAQ	Al Faqa, Dubai	3.29	197	P	Pn	16 09 39.9	0.0
ASUD	Al Ashush, Dub	3.48	201	P	Pn	16 09 43.0	+0.5
ZHSF	Zahedan	3.98	64	ePn	Pn	16 09 50.1	+0.5
ZHSF	Zahedan	3.98	64	ePn	Pn	16 09 50.1	+0.5
BSRN	Basiran	4.57	27	ePn	Pn	16 09 58.1	+0.4
BSRN	Basiran	4.57	27	ePn	Pn	16 09 58.1	+0.4
IKOO	Kooshah	4.94	24	ePn	Pn	16 10 02.6	-0.2
TPRV	Parvadeh(Tabas	5.11	0	ePn	Pn	16 10 04.7	-0.3
IRAM	Ramesheh	5.39	317	ePn	Pn	16 10 09.0	0.0
KLNJ	Kolanjah	5.40	306	ePn	Pn	16 10 09.5	+0.2

NEIC 04 16:46:24.6±1.3, 31°.66N±0°.02×115°.91W±0°.03, h9km±3km, Error ellipse: s-maj=4.1km s-min=2.1km az=54.0
ECX 04 16:46:25.5±0.5, 31°.65N×115°.90W, h5km±3km, MD2.5, ML2.7
PAS 04 16:46:25.3±2.7, 31°.67N±0°.03×115°.91W±0°.01, h14km±3km, ML3.0/51, ML2.8/22(NEIC), ML2.7(ECX), Error ellipse: s-maj=4.1km s-min=1.4km az=194.0
MEX 04 16:46:27.1±0.7, 31°.59N×115°.96W, h15km±9km, MD3.6
ISC 04 16:46:25.3±0.9, 31°.62N±0°.02×115°.92W±0°.03, h29km±6km, n54, σ1.s26/79, 5C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SJX	San Joaquin	0.14	347	eP	Pb	16 46 31.9	+1.1
SJX				eS	Sb	16 46 36.9	+2.4
VTX	Valle De La Tr	0.26	153	⇑eP	Pb	16 46 30.8	-1.3
VTX				eS	Sb	16 46 34.9	-1.8
VTX				⇓e		16 46 35.6	
VTX				IAML		16 46 35.6	
	comp=N,1μm,0.1s						
ESJX	Sierra Juarez	0.38	357		Pb	16 46 31.9	-2.0
ESJX					Sb	16 46 36.9	-3.0
ESJX				IAML		16 46 37.7	
	comp=N,1μm,0.1s						
SVX	San Vicente	0.41	224	eP	Pb	16 46 33.3	-0.8
SVX				eS	Sb	16 46 39.4	-0.8
CCX	Cicese	0.68	291		Pb	16 46 37.7	-0.9
CCX					Sb	16 46 47.0	-0.7
CCX				IAML		16 46 47.5	
	comp=N,717nm,0.5s						
CCX				IAML		16 46 49.0	
	comp=E,345nm,0.5s						
CCX	Cicese	0.68	291	⇑eP	Pb	16 46 37.8	-0.9
CCX				eS	Sb	16 46 46.9	-0.7
SPIG	San Pedro Mart	0.69	146	eP	Pb	16 46 38.4	-0.6
SPIG				eS	Sb	16 46 47.8	-0.6
SPIG	San Pedro Mart	0.69	146	eP	Pb	16 46 38.1	-1.0
SPIG				eS	Sb	16 46 47.9	-0.5
SPX	San Pedro Mart	0.70	146		Pb	16 46 38.5	-0.6
SPX	San Pedro Mart	0.70	146	Pg	Pb	16 46 38.4	-0.8
SPX	San Pedro Mart	0.70	146	⇑eP	Pb	16 46 38.4	-0.8
SPX				eS	Sb	16 46 47.9	-0.8
ECBX	El Chinero	0.76	101	⇑eP	Pb	16 46 38.4	-1.5
ECBX				eS	Sb	16 46 48.6	-1.3
CBX	Cerro Bola	0.94	318		Pb	16 46 41.8	-1.2
CBX				IAML		16 46 54.8	
	comp=N,187nm,0.5s						
CBX	Cerro Bola	0.94	318	eP	Pb	16 46 41.7	-1.2
CBX				⇓e		16 46 56.2	
CBX				IAML		16 46 56.2	
	comp=N,339nm,0.4s						
RMX	La Rumorosa	0.99	352		Pb	16 46 41.7	-2.2
RMX					Sb	16 46 53.0	-3.6
RMX				IAML		16 46 56.7	
	comp=N,268nm,0.2s						
RMX				IAML		16 46 56.8	
	comp=E,285nm,0.2s						
RMX	La Rumorosa	0.99	352	eP	Pb	16 46 41.7	-2.2
MBIG	Mexicali	1.00	38	eP	Pn	16 46 43.8	+0.5
MBIG				i S	Sn	16 46 56.5	0.0
YUH	Yuha Desert	1.02	360		Pb	16 46 43.1	-1.3
YUH					Sb	16 46 55.6	-1.8
TJIG	Tijuana	1.03	322	eP	Pb	16 46 43.2	-1.3
TJIG				eS	Sb	16 46 56.1	-1.6
IKP	In-Ko-Pah, Jac	1.04	351		Pb	16 46 43.6	-1.1
IKP					Sb	16 46 56.7	-1.3
SGL	Mount Signal	1.04	9		Pb	16 46 43.9	-0.8
SQX	San Quintin	1.04	178	eP	Pn	16 46 44.2	+0.2
SFX	San Felipe	1.09	122		Pb	16 46 45.5	+0.1
SFX	San Felipe	1.09	122		Sn	16 46 59.8	+1.1
SFX				IAML		16 47 01.2	
	comp=N,136nm,0.4s						
SFX	San Felipe	1.09	122	eP	Pn	16 46 44.5	0.0
SFX				eS	Sb	16 46 58.8	-0.4
TKX	Tecate	1.11	329		Pn	16 46 44.4	-0.5
TKX					Sb	16 46 58.2	-1.7
WESC	Westside Schoo	1.15	8		Pb	16 46 46.1	-0.4
BAR	Barrett	1.23	329		Pn	16 46 46.3	-0.3
BAR				IAML		16 47 04.0	
	comp=E,209nm,0.2s						
BAR	Barrett	1.23	329	⇑eP	Pn	16 46 46.4	-0.2
COK2	Cook Ranch 2	1.24	8		Sn	16 47 03.9	+1.5
CRR	Carrizo Plain	1.26	358		Pn	16 46 47.3	+0.3
CRR					Sb	16 47 03.6	-0.7
OLP	Otay Lakes Par	1.30	319		Sn	16 47 03.9	-0.2
TJX	Tijuana	1.31	313	Pn	Pb	16 46 49.0	-0.2
TJX				IAML		16 47 07.3	
	comp=N,226nm,0.7s						
TJX				IAML		16 47 12.8	
	comp=E,217nm,0.9s						
SWSC	Sam W. Stewart	1.32	4		Sb	16 47 06.1	0.0
MONP2	Monument Peak	1.34	342		Pn	16 46 48.8	+0.5
MONP2					Sn	16 47 05.3	+0.1
SDRC	San Diego Road	1.41	322		Pn	16 46 49.5	+0.5
SDRC					Sn	16 47 06.9	+0.3
SLH	Sleepy Hollow	1.59	350		Pb	16 46 53.8	-0.3
SLH					Sb	16 47 13.8	0.0
109C	Camp Elliot, M	1.61	322	Pn	Pn	16 46 53.1	+1.3
109C				IAML		16 47 14.4	
	comp=E,196nm,0.2s						
CPE	Camp Elliot	1.61	322		Pn	16 46 52.6	+0.8
DPP	Dos Picos Cty	1.62	328		Pn	16 46 53.0	+1.0
DPP					Sn	16 47 13.4	+1.4
HWB	Hans Werner Br	1.65	328		Pn	16 46 53.5	+1.1
MATG	Mataguay Scout	1.69	339		Pn	16 46 54.3	+1.4
GORC	Green Oak Ranc	1.89	324		Pn	16 46 57.1	+1.5
GORC					Sb	16 47 20.5	-1.7
PLM	Palomar	1.90	336		Pn	16 46 56.9	+0.9
FRD	Ford Ranch, An	1.96	343		Pb	16 46 60.0	-0.3
FRD	Ford Ranch, An	1.96	343		Pb	16 47 00.0	-0.3
BZNA	Buzz No.'s Pla	1.97	342		Pb	16 46 60.0	-0.6
SNDA	J Saunders Pla	2.01	343		Pb	16 47 01.2	-0.1
CRY	Cary Ranch	2.06	341		Pb	16 47 01.2	-0.8
CRY					Sb	16 47 27.3	+0.1
214A	Organ Pipe Nat	2.67	82	i P	Pn	16 47 06.8	+0.4
214A				i S	Sn	16 47 37.3	-0.5
214A	Organ Pipe Nat	2.67	82	Pn	Pn	16 47 06.7	+0.3
214A				IAML		16 47 38.7	
	comp=E,20nm,0.3s						
RPV	Rancho Palos V	2.98	316		Pb	16 47 18.9	+1.3
U15A	North Rim	5.66	31	Pn	Pn	16 47 50.7	+2.9
W18A	Petrified Fore	6.24	54	Pn	Pn	16 47 58.4	+2.7

MEX 04 17:10:36.4±0.6, 13°.68N×92°.05W, h23km±19km, MD3.9
GCG 04 17:10:40.0±1.0, 13°.96N×91°.97W, h33km±795km, MD3.9
ISC 04 17:10:35.6±3.1, 13°.9N±0°.1×92°.12W±0°.07, h10km±13km, n10, σ1.s08/18, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
THIG		1.04	352	i P	Pg	17 10 55.5	-0.2
THIG				i S	Sg	17 11 09.1	-0.2
FUG	Fuego 3	1.36	65	eP	Pn	17 11 00.7	-0.1
PCG	Pacaya	1.55	70	eP	Pn	17 11 04.3	+0.8
PCG				eS	Sn	17 11 22.8	-1.1
IXG	Ixpaco	1.65	79	eP	Pn	17 11 04.7	-0.2
NBG	Las Nubes	1.86	67	eP	Pn	17 11 09.4	+1.6
NBG				eS	Sn	17 11 30.0	-1.4
PCIG		2.12	330	eP	Pn	17 11 11.3	+0.3
PCIG				eS	Sn	17 11 37.6	+0.2
CCIG	Comitan	2.40	360	eP	Pn	17 11 15.1	-0.1
CCIG				i S	Sn	17 11 44.7	0.0
MRL	Marmol	2.65	63	eP	Pn	17 11 21.2	+2.6
MRL				eS	Sn	17 11 49.5	-1.4
TGIG		3.05	342	i P	Pn	17 11 24.4	+0.5
TGIG				i S	Sn	17 12 01.2	+0.6
CMIG	Matias Romero	4.17	321	i P	Pn	17 11 38.8	-0.5
CMIG				eS	Sn	17 12 28.2	+0.1

IDC 04 17:15:55.6±0.9, 14°.03N×145°.02E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.7/37, mbtmp3.6/7, Error ellipse: s-maj=37.3km s-min=21.7km az=102.0
NEIC 04 17:16:13.6±1.3, 13°.9N±0°.1×144°.9E±0°.2, h158km±6km, mb4.3/21, Error ellipse: s-maj=31.6km s-min=12.4km az=112.0
ISC 04 17:16:13.2±0.7, 13°.9N±0°.1×144°.8E±0°.2, h150km, n37, σ1.s09/35, mb4.1/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GUMO	Guam	0.34	172		Pn	17 16 35.1	+1.2
GUMO				Sn	Sn	17 16 50.6	+0.9
H11N1	WAKE ISLAND Hy	21.89	72	T	T	17 44 16.5	
	baz=257,slow=75						
H11N2	WAKE ISLAND Hy	21.89	72	T	T	17 44 15.8	
	baz=257						
H11N3	WAKE ISLAND Hy	21.90	72	T	T	17 44 16.0	
	baz=257,slow=75						
WB0	Warramunga Arr	35.02	197	P	P	17 22 49.2	-2.4
WB0				IAmb	IAmb	17 22 52.3	
	comp=Z,7.3nm,1.2s						
WR0	Warramunga Arr	35.16	197	P	P	17 22 52.1	-0.7
WR0				IAmb	IAmb	17 23 07.0	
	comp=Z,4.5nm,1.2s						
WRAB	Tennant Creek	35.19	197	P	P	17 22 53.0	-0.1
WRAB				IAmb	IAmb	17 23 01.6	
	comp=Z,11nm,1.4s						
WB2	Warramunga Arr	35.20	197	P	P	17 22 50.9	-2.3
WB2				IAmb	IAmb	17 22 54.1	
	comp=Z,4.3nm,1.0s						
WRA	Warramunga Arr	35.20	197	P	P	17 22 52.9	-0.3
	comp=Z,1.3nm,0.8s,baz=18,slow=9.5,SNR=12						
AS31	Alice Springs	38.86	196	P	P	17 23 24.6	+0.5
ASAR	Alice Springs	38.86	196	P	P	17 23 23.7	-0.4
	comp=Z,0.5nm,0.9s,baz=16,slow=14,SNR=4.5						
ASAR	Alice Springs	38.86	196	P	P	17 23 24.6	+0.5
PETK	Petropavlovsk-	40.40	12	P	P	17 23 35.2	-1.2
STKA	Stephens Creek	45.65	184	P	P	17 24 18.0	-0.8
SONM	Songino Array	46.43	325	P	P	17 24 25.8	+0.8
	comp=Z,0.1nm,0.3s,baz=116,slow=8.0,SNR=2.6						
SONM	Songino Array	46.43	325	P	P	17 24 25.3	+0.4
BBOO	Buckleboo	47.23	190	P	P	17 24 31.0	-0.1
BBOO				IAmb	IAmb	17 24 32.1	
	comp=Z,14nm,1.1s						
MK31	Makanchi Array	61.21	316	P	P	17 26 12.6	+0.4
MKAR	Makanchi Array	61.21	316	P	P	17 26 12.4	+0.1
	comp=Z,0.3nm,0.5s,baz=93,slow=8.5,SNR=6.0						
SII	Sitkinak Islan	62.62	33	P	P	17 26 20.0	-1.4
OHAK	Old Harbor	63.28	32	P	P	17 26 26.5	+0.7
RDOG	Red Dog Mine	63.58	19	P	P	17 26 27.3	-0.3
RDOG				IAmb	IAmb	17 26 56.0	
	comp=Z,3.3nm,0.7s						
KDAK	Kodiak Island	63.81	32	P	P	17 26 28.9	-0.3
BRLK	Bradley Lake	65.20	30	P	P	17 26 37.6	-0.7
PPLA	Purkeypile	65.50	27	P	P	17 26 39.1	-1.2
PPLA				IAmb	IAmb	17 26 46.8	
	comp=Z,13nm,1.4s						
KNK	Knik Glacier	66.78	29	P	P	17 26 49.7	+1.4
KNK				IAmb	IAmb	17 26 54.3	
	comp=Z,12nm,1.2s						
KLU	Klutina	67.98	29	P	P	17 26 55.3	-0.7
KLU				IAmb	IAmb	17 27 09.6	
	comp=Z,9.0nm,1.3s						
IL31		68.28	25	P	P	17 26 56.0	-1.6
IL31				IAmb	IAmb	17 27 21.2	
	comp=Z,4.9nm,1.5s						
ILAR	Eielson Array	68.28	25	P	P	17 26 55.5	-2.2
	comp=Z,0.4nm,0.5s,baz=253,slow=5.7,SNR=9.5						
ILAR	Eielson Array	68.28	25	P	P	17 26 56.8	-0.9
KAIM	Kayak Island	68.42	31	P	P	17 26 58.2	-0.4
PAX	Paxson	68.49	27	P	P	17 26 59.2	+0.1
PAX				IAmb	IAmb	17 27 15.0	
	comp=Z,5.3nm,1.4s						
DOT	Dot Lake	69.25	27	P	P	17 27 02.9	-0.8
BMAR	Burnt Mountain	69.81	23	P	P	17 27 06.6	-0.5
NVAR	Mina Array Bea	86.75	51	P	P	17 28 42.9	+1.9
	comp=Z,0.6nm,0.6s,baz=273,slow=4.8,SNR=5.6						
PDAR	Pinedale Array	91.76	45	P	P	17 29 04.8	+0.4
	comp=Z,0.2nm,0.6s,baz=272,slow=2.6,SNR=1.8						
LPAZ	La Paz	148.12	98	PKPbc	PKiKP	17 35 44.4	-0.3

comp=Z,0.7nm,0.5s,baz=315,slow=1.4,SNR=4.4

*NEIC **04** 17:39:16.7±1.3, 23°.7S±0°.1×180°.0W±0°.2, h550km±9km, mb4.4/20, Error ellipse: s-maj=21.6km s-min=18.2km az=123.0*
*IDC **04** 17:39:16.5±2.0, 23°.73S×179°.96W, h537km±20km, mb2.9/4, mb1 3.3/6, mb1mx3.0/27, mbtmp3.9/6, Error ellipse: s-maj=36.0km s-min=20.2km az=150.0*
ISC 04 17:39:17.0±0.6**, 23°.72S**±0°.08×**180°.0W**±0°.1**, h550**km**, n40, σ0s.95**/42**, mb4.1**/9**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.82**	**162**	P	**P**	**17 40 54.0**	**+0.2**
MSVF	**Nonsavu**	**6.23**	**343**	P	**P**	**17 40 57.5**	**-0.5**
	2.4nm,0.3s,baz=159,slow=16,SNR=24						
MSVF	**Nonsavu**	**6.23**	**343**	P	**P**	**17 40 57.7**	**-0.2**
NIUE	**Niue**	**10.45**	**66**	P	**P**	**17 41 39.1**	**-0.5**
URZ	**Urewera**	**14.71**	**189**	P	**P**	**17 42 23.4**	**+0.2**
	0.8nm,0.3s,baz=255,slow=16,SNR=2.1						
URZ				S	**S**	**17 44 55.2**	**-1.5**
	0.2nm,0.3s,baz=191,slow=22,SNR=0.9						
URZ	**Urewera**	**14.71**	**189**	P	**P**	**17 42 23.3**	**+0.1**
BKZ	**Black Stump Fm**	**15.69**	**190**	P	**P**	**17 42 31.6**	**-1.7**
BKZ				IAmb	IAmb	17 42 41.9	
	comp=Z,11nm,1.3s						
BFZ	**Birch Farm**	**17.21**	**190**	P	**P**	**17 42 47.0**	**-0.3**
MSWZ	**Moikau Station**	**18.09**	**192**	P	**P**	**17 42 54.8**	**-0.7**
QRZ	**Quartz Range**	**18.18**	**198**	P	**P**	**17 42 57.6**	**+1.3**
PLWZ	**Palliser**	**18.24**	**191**	P	**P**	**17 42 57.7**	**+0.9**
NNZ	**Nelson**	**18.31**	**196**	P	**P**	**17 42 58.0**	**+0.5**
NNZ				IAmb	IAmb	17 43 15.9	
	comp=Z,31nm,1.3s						
TUWZ	**Tuamarina**	**18.38**	**195**	P	**P**	**17 42 58.0**	**0.0**
THZ	**Tophouse**	**18.95**	**197**	P	**P**	**17 43 04.0**	**+0.7**
THZ				IAmb	IAmb	17 43 14.7	
	comp=Z,16nm,1.2s						
KHZ	**Kahutara**	**19.41**	**195**	P	**P**	**17 43 07.0**	**-0.4**
KHZ				IAmb	IAmb	17 43 24.0	
	comp=Z,21nm,1.5s						
LTZ	**Lake Taylor**	**20.07**	**197**	P	**P**	**17 43 12.8**	**-0.7**
LTZ				IAmb	IAmb	17 43 21.3	
	comp=Z,24nm,1.5s						
LHI	**Lord Howe Isla**	**20.10**	**243**	P	**P**	**17 43 13.3**	**-0.6**
FOZ	**Fox Glacier**	**21.47**	**201**	P	**P**	**17 43 25.8**	**-0.3**
WHZ	**Wether Hill Ro**	**24.18**	**201**	P	**P**	**17 43 50.7**	**+0.4**
CTAO	**Charters Tower**	**31.48**	**270**	P	**P**	**17 44 55.7**	**+1.4**
CTAO				IAmb	IAmb	17 45 17.3	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**34.79**	**248**	P	**P**	**17 45 21.2**	**-0.8**
COEN	**Coen**	**36.09**	**279**	P	**P**	**17 45 32.6**	**-0.5**
COEN				IAmb	IAmb	17 45 58.7	
	comp=Z,11nm,1.4s						
BBOO	**Buckleboo**	**39.52**	**247**	P	**P**	**17 46 01.4**	**+0.7**
BBOO				IAmb	IAmb	17 46 17.7	
	comp=Z,32nm,1.4s						
AS31	**Alice Springs**	**42.07**	**260**	P	**P**	**17 46 20.3**	**-0.9**
ASAR	**Alice Springs**	**42.07**	**260**	P	**P**	**17 46 21.9**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=93,slow=7.6,SNR=20						
ASAR				ScP	**ScP**	**17 51 04.9**	**+3.4**
	comp=Z,0.3nm,1.0s,baz=112,slow=4.1,SNR=5.0						
ASAR	**Alice Springs**	**42.07**	**260**	P	**P**	**17 46 20.6**	**-0.6**
WR0	**Warramunga Arr**	**42.23**	**266**	P	**P**	**17 46 21.7**	**-0.8**
WB2	**Warramunga Arr**	**42.41**	**266**	P	**P**	**17 46 23.7**	**-0.2**
WB2				IAmb	IAmb	17 46 31.5	
	comp=Z,9.3nm,1.5s						
WB0	**Warramunga Arr**	**42.41**	**266**	P	**P**	**17 46 24.2**	**+0.2**
WB0				IAmb	IAmb	17 46 46.9	
	comp=Z,8.9nm,1.4s						
WRAB	**Tennant Creek**	**42.41**	**266**	P	**P**	**17 46 23.0**	**-0.9**
WRA	**Warramunga Arr**	**42.42**	**266**	P	**P**	**17 46 24.2**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=102,slow=8.3,SNR=26						
QSPA	**South Pole Qui**	**66.36**	**180**	P	**P**	**17 49 12.7**	**+1.4**
NVAR	**Mina Array Bea**	**84.62**	**44**	P	**P**	**17 50 53.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=224,slow=7.4,SNR=2.6						
TXAR	**Lajitas Array**	**90.33**	**58**	P	**P**	**17 51 21.1**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=209,slow=6.8,SNR=5.9						
TXAR	**Lajitas Array**	**90.33**	**58**	P	**P**	**17 51 20.2**	**+0.2**
MKAR	**Makanchi Array**	**112.03**	**313**	PKiKP	**PKiKP**	**17 56 49.3**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=103,slow=3.1,SNR=2.4						
MKAR	**Makanchi Array**	**112.03**	**313**		**PKiKP**	**17 56 49.5**	**-0.4**
AKASG	**Malin Array Be**	**144.82**	**327**	PKP	**PKPdf**	**17 57 50.4**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=38,slow=3.6,SNR=5.0						
AKASG	**Malin Array Be**	**144.82**	**327**		**PKPdf**	**17 57 50.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**169.37**	**189**		**PKPdf**	**17 58 20.8**	**-1.4**

*IDC **04** 17:46:06.2±4.7, 17°.61S×178°.65W, h585km±20km, mb3.3/5, mb1 3.4/6, mb1mx3.0/37, mbtmp4.3/6, Error ellipse: s-maj=88.5km s-min=64.6km az=106.0*
*NEIC **04** 17:46:11.4±1.6, 17°.6S±0°.2×179°.6W±0°.2, h577km±20km, mb4.1/11, Error ellipse: s-maj=32.6km s-min=24.6km az=49.0*
ISC 04 17:46:10.6±2.8**, 17°.5S**±0°.3×**179°.4W**±0°.3**, h600**km**, n20, σ1s.32**/21**, mb4.0**/11**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.47**	**264**	P	**P**	**17 47 25.2**	**-1.9**
	5.3nm,0.3s,baz=95,slow=12,SNR=60						
SANVU	**Saraoutou**	**13.03**	**277**	P	**P**	**17 48 57.8**	**-2.1**
DZM	**Mont Dzumac**	**14.10**	**249**	P	**P**	**17 49 08.4**	**-2.2**
MXZ	**Matakaoa Point**	**20.10**	**185**	P	**P**	**17 50 05.0**	**0.0**
COEN	**Coen**	**36.18**	**270**	P	**P**	**17 52 24.6**	**+0.1**
COEN				IAmb	IAmb	17 52 40.2	
	comp=Z,10nm,1.4s						
STKA	**Stephens Creek**	**38.03**	**240**	P	**P**	**17 52 40.4**	**+1.1**
	comp=Z,3.3nm,1.0s,baz=90,slow=10,SNR=4.1						
STKA	**Stephens Creek**	**38.03**	**240**	P	**P**	**17 52 40.3**	**+1.1**
BBOO	**Buckleboo**	**42.80**	**240**	P	**P**	**17 53 17.6**	**+0.4**
BBOO				IAmb	IAmb	17 53 27.9	
	comp=Z,21nm,1.4s						
WR0	**Warramunga Arr**	**43.61**	**259**	P	**P**	**17 53 23.9**	**+0.3**
WR0				IAmb	IAmb	17 53 31.2	
	comp=Z,3.8nm,1.1s						
WB0	**Warramunga Arr**	**43.77**	**259**	P	**P**	**17 53 25.4**	**+0.6**
WB0				IAmb	IAmb	17 53 36.8	
	comp=Z,6.1nm,1.2s						
WB2	**Warramunga Arr**	**43.79**	**259**	P	**P**	**17 53 26.0**	**+1.0**
WB2				IAmb	IAmb	17 53 54.3	
	comp=Z,6.7nm,1.3s						
WRA	**Warramunga Arr**	**43.80**	**259**	P	**P**	**17 53 26.0**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=93,slow=6.8,SNR=28						
AS31	**Alice Springs**	**44.02**	**254**	P	**P**	**17 53 28.2**	**+1.4**
ASAR	**Alice Springs**	**44.02**	**254**	P	**P**	**17 53 28.1**	**+1.3**
	comp=Z,7.2nm,0.5s,baz=89,slow=7.8,SNR=276						
ASAR				PcP	**PcP**	**17 54 57.5**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=103,slow=4.0,SNR=1.2						
ASAR	**Alice Springs**	**44.02**	**254**	P	**P**	**17 53 27.8**	**+1.0**
FORT	**Forrest**	**49.35**	**244**	P	**P**	**17 54 07.0**	**+0.4**
SIJI	**Sorong**	**51.24**	**283**	P	**P**	**17 54 22.7**	**+2.0**
	comp=Z,12nm,0.8s,baz=165,slow=12,SNR=3.2						
FITZ	**Fitzroy Crossi**	**52.19**	**260**	P	**P**	**17 54 29.2**	**+1.9**
	comp=Z,2.2nm,1.0s,baz=87,slow=7.1,SNR=2.3						
FITZ	**Fitzroy Crossi**	**52.19**	**260**	P	**P**	**17 54 27.1**	**-0.3**
FITZ				IAmb	IAmb	17 54 34.4	
	comp=Z,8.8nm,1.4s						
PSA00	**Pilbara Seismi**	**57.12**	**255**	P	**P**	**17 55 02.1**	**+0.4**
PSA00				IAmb	IAmb	17 55 10.5	
	comp=Z,23nm,1.4s						

IDC 04 17:54:47.8±2.0**, 0°.46N**×**125°.35E, h0**km**, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.2**/41**, mbtmp3.2**/3**, Error ellipse: s-maj=181.8km s-min=28.0km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.11**	**157**	P	P	17 59 43.9	-1.1
	0.5nm,0.4s,baz=335,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**25.39**	**161**	P	P	18 00 17.8	+0.7
	0.3nm,0.4s,baz=336,slow=7.1,SNR=11						
MKAR	**Makanchi Array**	**59.48**	**327**	P	P	18 04 52.6	-0.1
	0.1nm,0.5s,baz=123,slow=7.9,SNR=1.6						

*HEL **04** 18:02:22.9±0.1, 67°.07N×20°.92E, h0km, ML2.1, ML2.4(UPP), Explosion*
*IDC **04** 18:02:22.6±0.9, 67°.12N×21°.25E, h0km, mb1 2.9/4, mb1mx2.8/53, mbtmp2.9/4, ML2.0/3, Error ellipse: s-maj=16.5km s-min=7.0km az=114.0*
*UPP **04** 18:02:22.1±0.1, 67°.07N×20°.91E, h0km, ML2.4, Explosion*
ISC 04 18:02:22.1±0.8**, 67°.09N**±0°.02×**20°.88E**±0°.03**, h0**km**, n40, σ1s.19**/57**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.57**	**49**	P	**Pg**	**18 02 33.1**	**0.0**
MASU				S	**Sg**	**18 02 40.4**	**0.0**
MASU	**Masugnsbyn**	**0.57**	**49**	*i* P	**Pg**	**18 02 33.1**	**0.0**
MASU				*i* S	**Sg**	**18 02 40.4**	**0.0**
PAJU	**Pajala**	**0.88**	**93**	P	**Pg**	**18 02 38.0**	**-0.9**
PAJU				S	**Sg**	**18 02 50.7**	**+0.4**
PAJU	**Pajala**	**0.88**	**93**	*e*P	**Pg**	**18 02 37.9**	**-0.9**
PAJU				*e*SB	**Sg**	**18 02 50.6**	**+0.4**
RATU	**Laukkuluspa**	**0.89**	**327**	P	**Pg**	**18 02 39.1**	**0.0**
RATU	**Laukkuluspa**	**0.89**	**327**	*e*P	**Pg**	**18 02 39.1**	**0.0**
KUA	**Kurravaara**	**0.90**	**347**	P	**Pg**	**18 02 39.3**	**0.0**
KUA	**Kurravaara**	**0.90**	**347**	*e*P	**Pg**	**18 02 39.3**	**0.0**
HARU	**Harads**	**0.93**	**178**	P	**Pg**	**18 02 39.2**	**-0.6**
HARU				S	**Sg**	**18 02 52.3**	**+0.6**
HARU	**Harads**	**0.93**	**178**	*e*P	**Pg**	**18 02 39.2**	**-0.6**
HARU				*e*S	**Sg**	**18 02 52.3**	**+0.6**
SALU	**Saltoluokta**	**0.97**	**289**	*e*P	**Pn**	**18 02 43.1**	**+0.2**
LANU	**Lannavaara**	**1.06**	**23**	P	**Pg**	**18 02 41.6**	**-0.7**
LANU	**Lannavaara**	**1.06**	**23**	*e*P	**Pg**	**18 02 41.6**	**-0.7**
NIKU	**Nikkaluokta**	**1.06**	**319**	P	**Pg**	**18 02 42.2**	**-0.1**
NIKU	**Nikkaluokta**	**1.06**	**319**	*e*P	**Pg**	**18 02 42.2**	**-0.1**
KALU	**Kalix**	**1.58**	**140**	P	**Pn**	**18 02 50.8**	**-0.6**
KALU	**Kalix**	**1.58**	**140**	*e*P	**Pn**	**18 02 50.5**	**-0.8**
TOF	**Tornio**	**1.71**	**125**	*e*P	**Pn**	**18 02 52.8**	**-0.2**
TOF				MSG		18 03 13.2	
	comp=Z,19nm,0.2s						
LILU	**Lilltraesk**	**1.85**	**194**	P	**Pn**	**18 02 55.3**	**+0.3**
LILU	**Lilltraesk**	**1.85**	**194**	*e*P	**Pn**	**18 02 55.3**	**+0.3**
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*P	**Pn**	**18 02 56.8**	**+0.7**
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*PB	**Pb**	**18 02 57.7**	**-0.4**
KIF				MSG		18 03 21.0	
	comp=Z,28nm,0.2s						
KIF				*e*SG	**Sg**	**18 03 24.5**	**+0.5**
RNF	**Rovaniemi**	**2.08**	**101**	*e*P	**Pn**	**18 02 58.9**	**+0.6**
RNF				*e*SG	**Sb**	**18 03 26.9**	**-0.3**
SGF	**Sodankyl**	**2.22**	**78**	*e*P	**Pn**	**18 03 01.0**	**+0.8**
SGF				*e*SG	**Sb**	**18 03 32.4**	**+1.3**
BURU	**Burvik**	**2.52**	**175**	*e*PB	**Pn**	**18 03 05.9**	**+1.7**
OUL	**Oulu**	**2.87**	**132**	*e*P	**Pn**	**18 03 10.5**	**+1.6**
OUL				*e*SG	**Sg**	**18 03 53.0**	**-1.0**
OBF0	**Syolatti, Pyha**	**2.94**	**150**	*e*PB	**Pn**	**18 03 12.6**	**+2.6**
OBF0				*e*S	**Sn**	**18 03 44.5**	**-1.5**
ARA0	**ARCESS Array S**	**3.00**	**33**	*e*P	**Pn**	**18 03 11.4**	**+0.6**
ARA0				*e*SG	**Sg**	**18 03 56.5**	**-1.9**
ARCES	**ARCESS Array B**	**3.00**	**33**	Pn	**Pn**	**18 03 11.1**	**+0.3**
	baz=207,slow=14,SNR=78						
ARCES				Lg	Lg	18 03 51.6	
	baz=211,slow=28,SNR=8.2						
OUF	**Merijarvi**	**3.16**	**148**	*e*P	**Pn**	**18 03 13.7**	**+0.7**
	baz=335						
OUF				MSG		18 03 55.2	
	comp=Z,2.1nm,0.2s						
VRF	**Varrio**	**3.43**	**75**	*e*PG	**Pb**	**18 03 25.3**	**+1.6**
OLKF	**Oulanka, Finla**	**3.47**	**99**	*e*P	**Pn**	**18 03 17.9**	**+0.6**
OLKF				*e*SB	**Sb**	**18 04 05.5**	**-1.6**
MSF	**Maaselka**	**3.48**	**106**	*e*P	**Pn**	**18 03 18.4**	**+1.0**
MSF				*e*SG	**Sb**	**18 04 10.1**	**+2.9**
KU6	**Riekki**	**3.76**	**102**	*e*P	**Pn**	**18 03 21.7**	**+0.5**
HUSU	**Husum**	**3.82**	**191**	*e*P	**Pn**	**18 03 24.4**	**+2.3**
VAF	**Ylistaro**	**4.13**	**169**	*e*P	**Pn**	**18 03 27.2**	**+0.9**
	baz=355						
HEMU	**Hemsoen**	**4.59**	**197**	*e*P	**Pn**	**18 03 35.0**	**+2.3**
	baz=17						
FINES	**FINESS Array B**	**6.10**	**156**	Pn	**Pn**	**18 03 54.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=346,slow=14,SNR=7.8						
FINES				Sn	**Sn**	**18 05 02.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=350,slow=21,SNR=2.1						
FINES				Lg	Lg	18 05 34.0	
	comp=Z,0.2nm,0.3s,baz=336,slow=26,SNR=2.1						
NOA	**NORSAR Array B**	**7.39**	**219**	Pn	**Pn**	**18 04 12.6**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=36,slow=14,SNR=1.6						
NOA				Sn	**Sn**	**18 05 32.4**	**-3.2**
	comp=Z,0.0nm,0.3s,baz=41,slow=20,SNR=1.5						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 04 14.9**	**0.0**
	baz=23,slow=14,SNR=2.4						
HFS				Sn	**Sn**	**18 05 40.2**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=37,slow=29,SNR=2.3						

*DJA **04** 18:32:03.1±0.3, 9°S±3°×11°1E±°, h10km, M4.7/20, mB5.3/6, mb4.8/11, MLv4.8/20, Mw(mB)4.7/6*
*IDC **04** 18:32:04.6±0.8, 8°.68S×111°.44E, h57km±7km, mb3.6/9, mb1 3.8/11, mb1mx3.6/31, mbtmp3.9/11, MS3.0/9, Ms1 3.0/9, ms1mx2.9/31, Error ellipse: s-maj=25.6km s-min=10.7km az=36.0*
*NEIC **04** 18:32:05.5±1.3, 8°.8S±0°.1×111°.28E±0°.08, h72km±4km, mb4.0/12, Error ellipse: s-maj=16.6km s-min=9.2km az=206.0*
ISC 04 18:32:03.5±0.5**, 9°.00S**±0°.06×**111°.28E**±0°.06**, h50**km**, n72, σ1s.78**/73**, mb4.1**/14**, MS2.9**/5**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.31**	**325**		**Pn**	**18 32 25.9**	**+0.3**
UGM	**Wanagama**	**1.31**	**325**	P	**Pn**	**18 32 25.8**	**+0.3**
UGM				S	**Sn**	**18 32 41.6**	**-0.4**
SMRI	**Semarang**	**2.11**	**337**	Pn	**Pn**	**18 32 37.6**	**+1.2**
SMRI	**Semarang**	**2.11**	**337**	P	**Pn**	**18 32 38.1**	**+1.7**
SMRI				S	**Sn**	**18 33 03.8**	**+2.4**
JAGI	**Jajag, Banyuwa**	**2.89**	**80**	Pn	**Pn**	**18 32 48.9**	**+1.8**
JAGI	**Jajag, Banyuwa**	**2.89**	**80**	P	**Pn**	**18 32 48.8**	**+1.7**
ABJI	**Asem Bagus**	**3.16**	**68**	P	**Pn**	**18 32 54.0**	**+3.2**
KMMI	**Kalianget**	**3.29**	**54**	P	**Pn**	**18 32 54.0**	**+1.4**
CISI	**Cisompet, Garu**	**3.71**	**292**	Pn	**Pn**	**18 32 58.6**	**+0.1**
CISI	**Cisompet, Garu**	**3.71**	**292**	P	**Pn**	**18 32 58.6**	**+0.1**
DNP	**Denpasar**	**3.90**	**86**	P	**Pn**	**18 33 05.2**	**+4.2**
SRBI	**Singaraja**	**4.00**	**77**	P	**Pn**	**18 33 04.8**	**+2.5**
LEM	**Lembang**	**4.22**	**300**	P	**Pn**	**18 33 08.0**	**+2.5**
	11nm,0.3s,baz=11,slow=2.9,SNR=9.4						
LEM				S	**Sn**	**18 33 55.7**	**+2.0**
	20nm,0.3s,baz=103,slow=23,SNR=7.7						
LEM				LR	LR	18 35 04.0	
	comp=Z,89nm,18.6s,baz=205,slow=43						
LEM	**Lembang**	**4.22**	**300**	P	**Pn**	**18 33 07.2**	**+1.7**
DBJI	**Dramaga**	**5.10**	**298**	P	**Pn**	**18 33 20.5**	**+3.0**
	0.5nm4μm64nm,1.1s						
TWSI	**Taliwang, Sumb**	**5.54**	**88**	P	**Pn**	**18 33 25.6**	**+2.1**
	0.4nm1μm52nm,0.8s						
XMI	**Christmas Isla**	**5.70**	**255**	P	**Pn**	**18 33 25.4**	**-0.3**
	129nm,0.4s						
XMIS	**Christmas Isla**	**5.74**	**255**	Pn	**Pn**	**18 33 25.5**	**-0.7**
XMIS	**Christmas Isla**	**5.74**	**255**	P	**Pn**	**18 33 25.1**	**-1.1**
	62nm,0.4s						
PBKI	**Pangkalan Bun**	**6.26**	**4**	P	**Pn**	**18 33 35.1**	**+1.6**
	0.5nm107nm,1.0s						
PLAI	**Plampang**	**6.42**	**89**	P	**Pn**	**18 33 38.3**	**+2.7**
	0.7nm2μm194nm,1.0s						
BBKI	**Banjar Baru**	**6.54**	**33**	P	**Pn**	**18 33 39.2**	**+2.0**
	0.1nm1μm23nm,0.7s						
KASI	**Kota Agung**	**7.56**	**297**	P	**Pn**	**18 33 53.7**	**+2.5**
	0.2nm40nm,1.6s						
MDSI	**Maura Dua**	**8.35**	**302**	P	Pn	18 34 18.8	+17
PPBI	**Pangkal Pinang**	**8.50**	**323**	P	**Pn**	**18 34 06.6**	**+2.5**
	14μm22nm,0.9s						
WSI	**Waingapu**	**8.93**	**95**	P	**Pn**	**18 34 12.0**	**+2.1**
	3μm190nm,0.8s						
KAPI	**Kappang**	**9.29**	**65**	P	**Pn**	**18 34 17.7**	**+2.8**
	2.4nm,0.3s,baz=94,slow=15,SNR=2.1						
KAPI				LR	LR	18 38 34.3	
	comp=Z,58nm,20.7s,baz=266,slow=43						
KAPI	**Kappang**	**9.29**	**65**		**Pn**	**18 34 15.9**	**+0.9**
MNAI	**Manna**	**9.46**	**299**	Pn	**Pn**	**18 34 18.6**	**+1.3**
SPSI	**Sidrap Palu**	**9.80**	**60**	P	**Pn**	**18 34 25.9**	**+3.9**
	20nm,1.1s						
MMRI	**Maumere**	**10.84**	**89**	Pn	**Pn**	**18 34 36.4**	**+0.3**
BATI	**Baumata**	**12.27**	**97**	P	**Pn**	**18 34 56.5**	**+0.7**
	8.7nm,0.3s,baz=298,slow=4.1,SNR=17						
BATI				S	**Sn**	**18 37 06.4**	**-4.8**
	4.0nm,0.3s,baz=204,slow=23,SNR=6.9						
SOEI	**Soe**	**12.84**	**94**	Pn	**Pn**	**18 35 02.5**	**-1.1**
SOEI	**Soe**	**12.84**	**94**	P	**Pn**	**18 35 06.3**	**+2.7**
TOLI2	**Tolitoli**	**13.80**	**44**	Pn	**Pn**	**18 35 16.9**	**+0.2**
GIRL	**Giralia**	**13.86**	**169**	Pn	**Pn**	**18 35 17.7**	**+0.3**
PSA00	**Pilbara Seismi**	**14.98**	**148**	Pn	**Pn**	**18 35 31.3**	**-0.9**
PSA00				IAmb	IAmb	18 35 35.7	
	comp=Z,6.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**16.62**	**124**	P	**Pn**	**18 35 54.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=296,slow=9.5,SNR=13						
FITZ				S	Sn	18 38 46.1	-11
	comp=Z,0.2nm,0.3s,baz=75,slow=11,SNR=3.2						
FITZ				LR	LR	18 41 37.8	
	comp=Z,55nm,21.7s,baz=310,slow=34						
FITZ	**Fitzroy Crossi**	**16.62**	**124**	P	**Pn**	**18 35 54.2**	**+0.9**
PSI	**Prapat**	**17.00**	**313**	LR	LR	18 43 19.6	
	comp=Z,57nm,22.0s,baz=94,slow=40						
SIJI	**Sorong**	**21.47**	**69**	P	**P**	**18 36 49.5**	**+1.4**
	comp=Z,7.3nm,0.9s,baz=188,slow=14,SNR=2.2						
NWAO	**Narrogin (SRO)**	**24.44**	**168**	LR	LR	18 45 47.0	
	comp=Z,35nm,20.6s,baz=321,slow=33						
WB0	**Warramunga Arr**	**24.78**	**118**	P	**P**	**18 37 21.4**	**+0.5**
WB0				IAmb	IAmb	18 37 45.6	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**24.80**	**119**	P	**P**	**18 37 21.1**	**0.0**
	comp=Z,2.2nm,0.8s,baz=293,slow=11,SNR=19						
WRA				LR	LR	18 46 27.3	
	comp=Z,41nm,21.8s,baz=255,slow=35						
WRAB	**Tennant Creek**	**24.81**	**119**	P	**P**	**18 37 21.8**	**+0.6**
WRAB				IAmb	IAmb	18 37 41.4	
	comp=Z,6.3nm,0.9s						
WB2	**Warramunga Arr**	**24.81**	**119**	P	**P**	**18 37 21.7**	**+0.5**
WB2				IAmb	IAmb	18 37 41.3	
	comp=Z,6.6nm,0.9s						
WR0	**Warramunga Arr**	**24.98**	**118**	P	**P**	**18 37 24.2**	**+1.5**
AS31	**Alice Springs**	**26.10**	**127**	P	**P**	**18 37 33.9**	**+1.0**
ASAR	**Alice Springs**	**26.10**	**127**	P	**P**	**18 37 34.1**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=306,slow=9.2,SNR=33						
ASAR				PcP	**PcP**	**18 41 00.7**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=316,slow=2.1,SNR=4.5						
ASAR				LR	LR	18 48 25.0	
	comp=Z,29nm,19.6s,baz=230,slow=38						
ASAR	**Alice Springs**	**26.10**	**127**	P	**P**	**18 37 33.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**29.87**	**336**	P	**P**	**18 38 06.4**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=165,slow=7.5,SNR=2.1						
CMAR				LR	LR	18 52 25.7	
	comp=Z,30nm,19.0s,baz=204,slow=41						
STKA	**Stephens Creek**	**36.18**	**133**	P	**P**	**18 39 03.4**	**+1.9**
	comp=Z,1.3nm,0.4s,baz=317,slow=7.1,SNR=7.9						
STKA				PcP	**PcP**	**18 41 27.2**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=315,slow=1.4,SNR=2.2						
STKA				LR	LR	18 54 22.6	
	comp=Z,48nm,19.3s,baz=209,slow=37						
STKA	**Stephens Creek**	**36.18**	**133**	P	**P**	**18 39 02.7**	**+1.2**
STKA				IAmb	IAmb	18 39 23.7	
	comp=Z,2.6nm,1.4s						
H08S2	**Diego Garcia H**	**38.39**	**269**	T	T	19 20 00.7	
	baz=94,slow=76,SNR=5.0						
H08S3	**Diego Garcia H**	**38.40**	**269**	T	T	19 20 07.0	
	baz=94,slow=76,SNR=7.1						
H08S1	**Diego Carcia H**	**38.41**	**269**	T	T	19 19 58.6	
	baz=94,slow=76,SNR=3.1						
SONM	**Songino Array**	**56.75**	**356**	P	**P**	**18 41 40.3**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=178,slow=7.7,SNR=5.8						
SONM	**Songino Array**	**56.75**	**356**	P	**P**	**18 41 40.5**	**-1.9**
SONM				IAmb	IAmb	18 42 01.1	
	comp=Z,2.2nm,1.5s						
MK31	**Makanchi Array**	**61.26**	**338**	P	**P**	**18 42 11.8**	**-1.9**
MKAR	**Makanchi Array**	**61.26**	**338**	P	**P**	**18 42 11.3**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=154,slow=7.1,SNR=13						
MKAR				pP	**pP**	**18 42 27.9**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=150,slow=7.5,SNR=8.6						
MKAR	**Makanchi Array**	**61.26**	**338**	P	**P**	**18 42 11.1**	**-2.5**
WAKE	**Wake Island**	**61.37**	**62**	P	**P**	**18 42 13.5**	**-1.3**
ZALV	**Zalesovo Beam**	**66.58**	**343**	P	**P**	**18 42 46.2**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=162,slow=5.7,SNR=3.2						
ZALV				pP	**pP**	**18 43 02.2**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=170,slow=5.0,SNR=3.2						
VNDA	**Vanda**	**73.25**	**170**	P	**P**	**18 43 29.7**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=278,slow=3.9,SNR=4.0						
VNDA	**Vanda**	**73.25**	**170**	P	**P**	**18 43 29.6**	**+0.5**
ABKAR	**Akbulak array**	**73.32**	**328**	P	**P**	**18 43 27.9**	**-2.0**
PETK	**Petropavlovsk-**	**73.35**	**27**	P	**P**	**18 43 28.9**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=246,slow=15,SNR=1.7						
PETK				pP	**pP**	**18 43 43.7**	**0.0**
	comp=Z,1.9nm,0.8s,baz=183,slow=3.5,SNR=2.0						
PETK	**Petropavlovsk-**	**73.35**	**27**	P	**P**	**18 43 29.4**	**-0.5**
BRTR	**Keskin Array B**	**86.32**	**311**	pP	pP	18 44 56.0	+1.3
	comp=Z,1.6nm,0.8s,baz=116,slow=8.4,SNR=4.4						
CPUP	**Villa Florida**	**143.18**	**197**	PKhKP	PKPpre	18 51 29.8	
	comp=Z,1.0nm,0.4s,baz=207,slow=6.6,SNR=2.9						
BDFB	**Brasilia**	**148.06**	**220**	PKPbc	**PKPbc**	**18 51 45.2**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=141,slow=6.5,SNR=1.7						
TKL	**Tuckaleechee C**	**150.12**	**25**	PKPbc	**PKPbc**	**18 51 49.2**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=319,slow=9.3,SNR=1.9						

*IDC **04** 18:35:20.4±1.2, 21°.54S×66°.65W, h198km±17km, mb3.3/2, mb1 3.1/5, mb1mx3.0/32, mbtmp3.6/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/8, Error ellipse: s-maj=29.7km s-min=13.0km az=119.0*
*GUC **04** 18:35:23.6±0.7, 21°.49S×67°.24W, h252km±9km, ML3.5*
ISC 04 18:35:21.6±1.0**, 21°.42S**±0°.06×**66°.9W**±0°.1**, h220**km±13km**, n18, σ1s.80**/32**, 2C-5D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**2.20**	**260**	⇑*i*P	**Pn**	**18 36 05.7**	**+1.9**
PB09				*i* S	**S**	**18 36 37.5**	**+0.8**
LVC	**Limon Verde**	**2.20**	**237**	P	**Pn**	**18 36 04.5**	**+0.4**
	0.7nm,0.3s,baz=43,slow=8.2,SNR=2.8						
LVC				S	**S**	**18 36 36.1**	**-0.9**
	5.4nm,0.3s,baz=234,slow=20,SNR=29						
PB01	**IPOC Station P**	**2.43**	**278**	⇑*i*P	**Pn**	**18 36 06.7**	**+0.5**
PB01				*e*S	**S**	**18 36 40.4**	**-0.4**
PB01				IAML		18 36 42.4	
	comp=N,118nm,0.3s						
PB08	**IPOC Station P**	**2.45**	**301**	*e*P	**Pn**	**18 36 08.4**	**+1.7**
PB08				*i* S	**S**	**18 36 43.2**	**+1.5**
PB08				IAML		18 36 47.2	
	comp=E,40nm,0.4s						
PB06	**IPOC Station P**	**2.78**	**242**	⇓*i*P	**Pn**	**18 36 11.0**	**+1.0**
PB06				*i* S	**S**	**18 36 46.7**	**-1.1**
PB06				IAML		18 36 48.1	
	comp=E,42nm,0.2s						
PB07	**IPOC Station P**	**2.78**	**263**	⇓*i*P	**Pn**	**18 36 10.7**	**+0.6**
PB07				*i* S	**S**	**18 36 46.5**	**-1.4**
PB07				IAML		18 36 47.6	
	comp=N,109nm,0.4s						
PB15	**IPOC Station P**	**2.96**	**233**	*e*P	**Pn**	**18 36 13.0**	**+0.8**
PB15				*i* S	**S**	**18 36 50.7**	**-0.9**
HMBC	**Humberstone**	**3.00**	**292**	*e*P	**Pn**	**18 36 13.0**	**+0.5**
HMBC				*i* S	**S**	**18 36 51.3**	**-0.9**
HMBC				IAML		18 36 52.6	
	comp=N,94nm,0.2s						
PB04	**IPOC Station P**	**3.14**	**253**	*e*S	**S**	**18 36 52.3**	**-2.8**
PB04				IAML		18 36 55.5	
	comp=N,57nm,0.4s						
TA01	**Diego Aracena**	**3.17**	**285**	*e*P	**Pn**	**18 36 14.3**	**0.0**
TA01				*i* S	**S**	**18 36 53.3**	**-2.0**
TA01				IAML		18 36 55.9	
	comp=E,64nm,0.3s						
PB05	**IPOC Station P**	**3.37**	**244**	⇓*i*P	**Pn**	**18 36 16.9**	**+0.2**
PB05				*i* S	**S**	**18 36 56.7**	**-3.1**
PB05				IAML		18 37 00.1	
	comp=E,26nm,0.3s						
MNMC	**Minye Minye**	**3.39**	**312**	⇓*i*P	**Pn**	**18 36 18.9**	**+1.7**
MNMC				*i* S	**S**	**18 37 01.0**	**+0.4**
PSGC	**Pisagua**	**3.51**	**300**	⇓*i*P	**Pn**	**18 36 18.8**	**+0.4**
PSGC				*i* S	**S**	**18 37 01.2**	**-1.6**
PSGC				IAML		18 37 02.9	
	comp=N,42nm,0.2s						
LPAZ	**La Paz**	**5.23**	**347**	P	**Pn**	**18 36 42.2**	**+2.0**
	comp=N,2.7nm,0.3s,baz=144,slow=7.2,SNR=45						
LPAZ				S	**S**	**18 37 43.4**	**+1.4**
	baz=287,slow=16,SNR=0.8						
SIV	**San Ignacio**	**7.73**	**47**	P	**Pn**	**18 37 10.5**	**-1.1**
	comp=N,0.5nm,0.3s,baz=249,slow=6.9,SNR=8.5						
SIV				S	**S**	**18 38 33.3**	**-6.1**
	comp=N,0.2nm,0.3s,baz=306,slow=19,SNR=1.9						
SIV				LR	LR	18 40 20.0	
	comp=N,85nm,18.6s,baz=28,slow=39						
PTGA	**Pitinga**	**21.65**	**19**	P	**P**	**18 39 56.1**	**+1.1**
	comp=N,0.7nm,0.3s,baz=202,slow=19,SNR=1.9						
TORD	**Torodi Ar. Bea**	**75.58**	**69**	P	**P**	**18 46 42.3**	**-0.4**
	comp=N,0.6nm,0.5s,baz=255,slow=5.5,SNR=2.1						
MKAR	**Makanchi Array**	**144.46**	**37**	PKP	**PKPdf**	**18 54 31.9**	**+0.3**
	comp=N,0.2nm,0.4s,baz=319,slow=2.2,SNR=4.1						

*PRU **04** 18:54:43.0±0.0, 50°.21N×18°.95E, h0km*
*IDC **04** 18:54:45.5±3.0, 50°.27N×18°.82E, h0km, mb1 3.7/2, mb1mx3.1/30, mbtmp3.6/2, ML2.3/3, Error ellipse: s-maj=57.9km s-min=13.0km az=136.0*

ISC 04 18:54:41.1±0.8**, 50°.21N**±0°.04×**19°.06E**±0°.03**, h0**km**, n19, σ1ˢ.16**/30**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.48	89	ePg	Pb	18 54 52.1	-0.2
OJC				eSg	Sb	18 54 58.9	-1.0
MORC	Moravsky Berou	1.07	246	ePG	Pb	18 55 02.3	-0.2
MORC				eSG	Sb	18 55 16.4	-0.6
NIE	Niedzica	1.13	134	ePg	Pn	18 55 05.6	+1.4
NIE				eSg	Sn	18 55 21.9	+1.4
KRLC	Kraliky	1.47	265	ePG	Pb	18 55 09.1	-0.2
KRLC				eSG	Sg	18 55 28.1	-0.1
	comp=Z,19nm,0.6s						
JAVC	Velka Javorina	1.63	214	ePN	Pg	18 55 12.4	+0.2
VYHS	Vyhne	1.73	185	ePN	Pb	18 55 13.6	0.0
VYHS				eSN	Sg	18 55 36.5	0.0
DPC	Dobruska-Polom	1.76	275	ePG	Pb	18 55 13.5	-0.7
DPC				eSG	Sg	18 55 37.7	+0.2
	comp=Z,14nm,0.8s						
VRAC	Vranov	1.83	241	ePN	Pb	18 55 15.7	+0.2
VRAC				eSG	Sb	18 55 38.9	-0.1
OSTC	Ostas	1.85	282	eSG	Sb	18 55 39.7	+0.3
	comp=Z,12nm,0.7s						
KSP	Ksiaz	1.87	291	ePg	Pg	18 55 17.5	+0.6
KSP				eSg	Sg	18 55 42.4	+1.3
CHVC	Chvalec	1.96	282	ePG	Pn	18 55 16.2	+0.7
KRUC	Moravsky	2.08	237	ePN	Pb	18 55 19.4	-0.2
KRUC				eSG	Sb	18 55 46.6	+0.6
PRU	Pruhonice	2.91	267	eSG	Sg	18 56 14.4	-0.2
BRG	Berggiesshubel	3.33	283	Sg	Sg	18 56 29.5	+1.6
BRG				Amp		18 56 32.6	
	comp=Z,2.3nm,0.5s						
CKRC	Cesky Krumlov	3.39	248	eSG	Sg	18 56 27.9	-2.1
KHC	Kasperske Hory	3.72	255	ePN	Pn	18 55 40.6	+0.9
KHC				eSG	Sg	18 56 37.4	-3.0
GERES	GERESS Array B	3.75	251	Pn	Pn	18 55 42.5	+2.4
	comp=Z,0.1nm,0.3s,baz=76,slow=14,SNR=1.5						
GERES				Pg	Pg	18 55 51.4	-1.4
	comp=Z,0.3nm,0.3s,baz=63,slow=17,SNR=5.9						
GERES				Lg	Lg	18 56 39.5	
	comp=Z,0.8nm,0.3s,baz=66,slow=27,SNR=5.8						
FINES	FINESS Array B	11.92	17	Pn	Pn	18 57 30.6	-1.4
	comp=Z,0.1nm,0.3s,baz=199,slow=12,SNR=5.5						
ARCES	ARCESS Array B	19.63	7	Pn	Pn	18 59 11.2	-0.9
	baz=188,slow=12,SNR=1.4						

IDC 04 19:09:12.7±7.6**, 9°.98S**×**121°.51E, h79**km±75km**, mb3.5**/2**, mb1 3.3**/4**, mb1mx3.1**/34**, mbtmp3.6**/4**, ML3.1**/1**, Error ellipse: s-maj=77.4km s-min=44.6km az=61.0, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	2.13	96	P	Pn	19 09 45.9	-0.4
	baz=280,slow=9.2						
BATI				S	Sn	19 10 12.8	+0.8
	19nm,0.3s,baz=107,slow=20,SNR=2.5						
FITZ	Fitzroy Crossi	9.01	154	S	Sn	19 12 55.4	-4.5
	0.3nm,0.3s,baz=96,slow=20,SNR=1.8						
WRA	Warramunga Arr	15.85	130	P	Pn	19 12 47.5	-3.8
	0.1nm,0.3s,baz=292,slow=14,SNR=4.6						
WRA				S	Sn	19 15 32.1	-14
	0.0nm,0.3s,baz=308,slow=24,SNR=2.0						
ASAR	Alice Springs	18.04	141	P	P	19 13 17.5	-0.1
	0.1nm,0.3s,baz=327,slow=13,SNR=1.9						
MKAR	Makanchi Array	66.47	332	P	P	19 19 54.4	+0.6
	0.5nm,0.5s,baz=140,slow=7.3,SNR=9.3						
ZALV	Zalesovo Beam	70.85	338	P	P	19 20 19.9	-0.9
	0.6nm,0.5s,baz=127,slow=4.3,SNR=3.5						

*NEIC **04** 19:18:22.7±1.2, 43°.74N±0°.05×105°.27W±0°.03, h0km±1km, ML3.5/66, Error ellipse: s-maj=8.7km s-min=3.2km az=159.0*

*IDC **04** 19:18:23.3±0.8, 44°.03N×105°.81W, h0km, mb3.9/5, mb1 3.8/11, mb1mx3.6/42, mbtmp3.6/11, ML3.1/5, Error ellipse: s-maj=20.9km s-min=7.5km az=143.0*

ISC 04 19:18:22.1±0.7**, 43°.75N**±0°.06×**105°.29W**±0°.07**, h0**km**, n106, σ0ˢ.88**/105**, mb3.9**/5**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.98	67		Pg	19 18 41.6	+0.7
K22A	Casper	1.42	220	Pn	Pn	19 18 47.8	-1.6
K22A				IAML		19 19 12.4	
	comp=N,1µm,0.3s						
K22A				IAML		19 19 14.2	
	comp=E,1µm,0.3s						
PHWY	Pilot Hill	2.45	183		Pn	19 19 03.5	0.0
RWWY	Rawlins	2.50	215	Pn	Pn	19 19 05.3	+1.1
RWWY				IAML		19 19 43.4	
	comp=E,300nm,0.6s						
LAO	LASA Array	3.02	348	Pn	Pn	19 19 11.8	+0.7
LAO				IAML		19 20 04.0	
	comp=E,198nm,1.1s						
LAO				IAML		19 20 05.0	
	comp=E,220nm,0.8s						
RLMT	Red Lodge	3.17	297	Pn	Pn	19 19 13.7	+0.4
RLMT				IAML		19 20 10.4	
	comp=E,88nm,0.7s						
RLMT				IAML		19 20 11.7	
	comp=E,103nm,0.7s						
BW06	Boulder Array	3.27	254		Pn	19 19 15.3	+0.5
BW06				IAML		19 20 02.0	
	comp=E,95nm,0.5s						
BW06				IAML		19 20 08.6	
	comp=E,74nm,0.4s						
PD31	Pinedale Array	3.27	254	Pn	Pn	19 19 15.6	+0.8
PDAR	Pinedale Array	3.27	254	Pn	Pn	19 19 15.7	+0.9
	comp=E,7.4nm,0.3s,baz=71,slow=16,SNR=116						
PDAR				Lg	Lg	19 19 56.6	
	comp=E,11nm,0.3s,baz=76,slow=31,SNR=3.0						
PDAR	Pinedale Array	3.27	254	Pn	Pn	19 19 15.3	+0.5
YNE	Yellowstone No	3.61	292	Pn	Pn	19 19 20.2	+0.7
YNE				IAML		19 20 25.4	
	comp=N,96nm,0.7s						
YNE				IAML		19 20 27.0	
	comp=E,91nm,0.4s						
YMP	Mirror Lake Pl	3.64	288		Pn	19 19 20.5	+0.5
YMP				IAML		19 20 22.3	
	comp=N,142nm,0.7s						
OGNE	Ogallala	3.69	138	Pn	Pn	19 19 21.5	+1.0
GCMT	Greycliff	3.73	305		Pn	19 19 22.4	+1.4
LKWY	Lake	3.77	284		Pn	19 19 23.7	+2.0
LKWY				IAML		19 19 49.9	
	comp=N,61nm,0.5s						
LOHW	Long Hollow	3.86	270		Pn	19 19 24.2	+1.3
H17A	Grant Village	3.87	281		Pn	19 19 24.9	+1.8
H17A				IAML		19 20 29.3	
	comp=N,42nm,1.2s						
FLWY	Flagg Ranch	3.92	277		Pn	19 19 24.7	+0.9
FLWY				IAML		19 20 33.0	
	comp=N,59nm,1.1s						
FLWY				IAML		19 20 39.9	
	comp=N,49nm,1.6s						
ISCO	Idaho Springs	3.95	184	Pn	Pn	19 19 25.3	+1.1
SNOW	Snow King Moun	3.98	268		Pn	19 19 26.0	+1.4
SNOW				IAML		19 20 53.3	
	comp=N,61nm,1.2s						
SNOW				IAML		19 20 53.5	
	comp=N,61nm,1.1s						
YNR	Norris Junctio	4.00	286		Pn	19 19 24.7	-0.1
YPP	Pitchstone Pla	4.01	279		Pn	19 19 25.9	+0.8
REDW	Red Top Meadow	4.06	266		Pn	19 19 26.8	+1.1
REDW				IAML		19 20 40.1	
	comp=N,73nm,0.7s						
REDW				IAML		19 20 48.0	
	comp=N,91nm,0.7s						
YHH	Holmes Hill	4.13	287		Pn	19 19 27.4	+0.7
YMR	Madison River	4.18	285		Pn	19 19 27.8	+0.5
YMR				IAML		19 20 40.7	
	comp=E,64nm,1.1s						
YMR				IAML		19 20 51.5	
	comp=N,72nm,1.1s						
O20A	White River Ci	4.23	212	Pn	Pn	19 19 28.6	+0.7
O20A				IAML		19 20 44.6	
	comp=N,63nm,0.7s						
O20A				IAML		19 20 45.7	
	comp=E,72nm,0.9s						
E28A	Huff	4.31	47		Pn	19 19 30.0	+1.2
AHID	Auburn Hatcher	4.36	259		Pn	19 19 30.2	+0.5
AHID				IAML		19 20 42.9	
	comp=N,70nm,0.8s						
AHID				IAML		19 20 49.5	
	comp=E,82nm,1.2s						
YHB	Horse Butte	4.36	285		Pn	19 19 30.3	+0.5
YHL	Hebgen Lake	4.37	287		Pn	19 19 30.3	+0.3
YHL				IAML		19 20 45.2	
	comp=E,53nm,0.9s						
YHL				IAML		19 21 03.6	
	comp=N,41nm,1.3s						
ECR	Eagle Creek	4.49	263		Pn	19 19 32.0	+0.5
RDMU	Red Mountain	4.49	227		Pn	19 19 32.3	+0.7
RDMU				IAML		19 20 47.7	
	comp=N,57nm,1.1s						
RDMU				IAML		19 20 47.9	
	comp=E,62nm,0.7s						
QLMT	Earthquake Lak	4.54	286		Pn	19 19 33.0	+0.7
SUSD	Miller	4.61	79		Pn	19 19 33.3	+0.3
SMCO	Snowmass	4.74	196		Pn	19 19 36.0	+0.9
SMCO				IAML		19 20 55.6	
	comp=E,57nm,0.7s						
SMCO				IAML		19 20 58.2	
	comp=E,35nm,1.1s						
DGMT	Dagmar	4.79	9		Pn	19 19 37.0	+1.6
BOZ	Bozeman (W)	4.89	294		Pn	19 19 37.4	+0.4
BOZ				IAML		19 20 58.8	
	comp=E,25nm,1.0s						
BOZ				IAML		19 21 04.5	
	comp=E,19nm,1.2s						
KSCO	Kaye Shedlock'	5.14	156	Pn	Pn	19 19 40.7	+0.4
TCUT	Toone Canyon	5.24	242		Pn	19 19 42.1	+0.3
EGMT	Eagleton	5.29	325	Pn	Pn	19 19 43.3	+0.8
HRY	Holter Researc	5.49	305		Pn	19 19 46.3	+1.1
MCMT	McKenzie Canyo	5.54	284		Pn	19 19 47.2	+1.3
JLU	Jordanelle	5.55	238		Pn	19 19 46.6	+0.4
CTU	Camp Tracy	5.69	240		Pn	19 19 48.4	+0.4
MDND	Maddock	5.71	42		Pn	19 19 49.3	+1.2
BGNE	Belgrade	5.76	111	Pn	Pn	19 19 47.5	-1.3
SPUT	South Promonto	5.83	248		Pn	19 19 47.8	-2.1
PV22	Blue Mesa, Par	5.84	208		Pn	19 19 50.9	+0.9
HVU	Hansel Valley	5.85	253		Pn	19 19 51.1	+0.9
PV07	Paradox Valley	5.88	207	Pn	Pn	19 19 50.8	+0.1
P17A	Butcher Ranch,	5.91	226		Pn	19 19 51.5	+0.5
PV15	Paradox Valley	5.91	205		Pn	19 19 52.4	+1.2
SDCO	Great Sand Dun	6.00	182	Pn	Pn	19 19 52.6	+0.2
PV04	Paradox Valley	6.00	208		Pn	19 19 53.5	+1.2
MPU	Maple Canyon	6.03	234		Pn	19 19 52.6	0.0
PV12	Saucer Basin,	6.04	207		Pn	19 19 53.7	+0.9
PV14	Lion Creek, Pa	6.07	209		Pn	19 19 53.4	+0.2
PV10	Paradox Valley	6.07	209	Pn	Pn	19 19 54.6	+1.4
SRU	San Rafael Swe	6.08	222		Pn	19 19 54.0	+0.6
PV11	David Mesa, Pa	6.08	208		Pn	19 19 54.1	+0.7
PV16	Nyswonger Mesa	6.08	208		Pn	19 19 54.6	+1.1
PV19	Morning Glory	6.11	208		Pn	19 19 53.6	-0.2
PV03	Paradox Valley	6.11	207		Pn	19 19 54.8	+1.0
PV02	Paradox Valley	6.12	206		Pn	19 19 55.5	+1.5
PV17	East Wray Mesa	6.13	208		Pn	19 19 54.5	+0.5
PV01	Paradox Valley	6.13	205		Pn	19 19 55.3	+1.2
PV18	Skein Mesa, Pa	6.14	208		Pn	19 19 55.4	+1.1
PV13	Radium Mtn., P	6.19	207		Pn	19 19 56.2	+1.3
ECSD	EROS Data Cent	6.28	87	Pn	Pn	19 19 56.7	+0.7
TMUT	Trail Mountain	6.29	227		Pn	19 19 57.2	+1.0
NLU	North Lily Min	6.33	236		Pn	19 19 57.0	+0.2
BGU	Big Grassy Mou	6.39	246		Pn	19 19 58.2	+0.6
CBKS	Cedar Bluff	6.46	138	Pn	Pn	19 19 58.5	0.0
Q16A	Castle Valley	6.55	225		Pn	19 19 59.8	0.0
HLID	Hailey	6.62	272	Pn	Pn	19 20 01.8	+1.0
DUG	Dugway, Tooele	6.64	240		Pn	19 20 00.8	-0.2
F33A	5 Mile Ranch,	6.73	69		Pn	19 20 02.5	+0.4
MSO	Missoula	6.84	300	Pn	Pn	19 20 02.5	-1.1
MVCO	Mesa Verde	6.97	202	Pn	Pn	19 20 04.7	-0.9
MSU	Marysvale	7.37	227	Pn	Pn	19 20 11.5	+0.3
MVU	Marysvale	7.40	227	Pn	Pn	19 20 12.4	+0.9
JTMT	Jette	7.46	306		Pn	19 20 13.4	+1.2
MFID	Camas Ranch	7.66	271	Pn	Pn	19 20 16.1	+1.0
MTPU	Mount Pierson	7.73	225		Pn	19 20 16.2	+0.1
ELK	Elko	7.97	251	Pn	Pn	19 20 19.5	+0.2
	comp=E,0.2nm,0.3s,baz=72,slow=14,SNR=5.4						
ELK	Elko	7.97	251		Pn	19 20 19.2	-0.1
AGMN	Agassiz Nation	7.98	52	Pn	Pn	19 20 19.3	+0.1
PSUT	Pine Spring	8.30	234	Pn	Pn	19 20 24.8	+0.9
KAN12	Harper NE Stat	8.50	137	Pn	Pn	19 20 22.2	-4.2
F36A	Milaca	8.63	72	Pn	Pn	19 20 27.4	-0.7
U32A	Winter Ranch,	8.79	145	Pn	Pn	19 20 29.9	-0.5
U15A	North Rim	9.06	219	Pn	Pn	19 20 34.8	+0.4
ULM	Lac du Bonnet	9.14	41	Pn	Pn	19 20 34.6	-0.6
	comp=E,1.5nm,0.3s,baz=228,slow=12,SNR=13						
ULM				Lg	Lg	19 23 07.7	
	comp=E,0.5nm,0.3s,baz=313,slow=22,SNR=1.8						
ULM	Lac du Bonnet	9.14	41	Pn	Pn	19 20 35.4	+0.3
B35A	Bob, Littlefor	9.27	56	Pn	Pn	19 20 37.1	+0.2
W18A	Petrified Fore	9.28	203	Pn	Pn	19 20 38.1	+0.9
WUAZ	Wupatki	9.46	212	Pn	Pn	19 20 40.0	+0.2
NVAR	Mina Array Bea	11.16	246	Pn	Pn	19 21 04.1	+1.0
	comp=E,0.2nm,0.3s,baz=53,slow=10,SNR=4.4						
NVAR				Lg	Lg	19 24 06.6	
	comp=E,0.1nm,0.3s,baz=103,slow=22,SNR=1.7						
FFC	Flin Flon	11.20	10	Pn	Pn	19 21 02.5	-0.8
TXAR	Lajitas Array	14.44	174	Pn	P	19 21 55.2	+0.3
	comp=E,0.1nm,0.3s,baz=351,slow=6.5,SNR=4.8						
TXAR				Pg		19 22 52.2	
	comp=E,0.1nm,0.3s,baz=6.7,slow=15,SNR=5.5						
TXAR				Lg	Lg	19 26 01.8	
	comp=E,0.0nm,0.3s,baz=36,slow=17,SNR=3.0						
YKA	Yellowknife Ar	19.56	347	P	P	19 22 50.2	-0.9
	comp=E,0.1nm,0.3s,baz=162,slow=12,SNR=4.9						
ARCES	ARCESS Array B	61.41	18	P	P	19 28 39.3	-0.2
	comp=E,1.2nm,0.5s,baz=341,slow=6.4,SNR=12						
AKASG	Malin Array Be	77.95	28	P	P	19 30 20.9	-0.8
	comp=E,0.3nm,0.3s,baz=324,slow=4.9,SNR=2.9						
ZALV	Zalesovo Beam	82.30	354	P	P	19 30 44.1	-1.0
	comp=E,0.9nm,0.6s,baz=2.3,slow=4.6,SNR=5.4						
SONM	Songino Array	84.63	339	P	P	19 30 57.8	+0.4
	comp=E,0.4nm,0.6s,baz=357,slow=3.7,SNR=5.0						
MKAR	Makanchi Array	89.59	355	P	P	19 31 21.8	+0.4
	comp=E,0.4nm,0.6s,baz=7.3,slow=4.3,SNR=6.1						

IDC 04 19:34:23.0±2.8**, 7°.02S**×**128°.72E, h0**km**, mb3.1**/1**, mb1 3.2**/3**, mb1mx3.1**/29**, mbtmp3.0**/3**, ML3.0**/2**, Error ellipse: s-maj=286.3km s-min=33.5km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.96	158	Pn	Pn	19 37 42.1	-0.2
	0.1nm,0.3s,baz=336,slow=14,SNR=1.7						
WRA				Sn	Sn	19 40 05.7	-12
	0.2nm,0.3s,baz=330,slow=23,SNR=6.5						
ASAR	Alice Springs	17.29	164	P	Pn	19 38 26.1	+0.1
	0.1nm,0.3s,baz=340,slow=8.9,SNR=1.4						
MKAR	Makanchi Array	67.55	327	P	P	19 45 21.3	0.0
	0.1nm,0.5s,baz=112,slow=7.8,SNR=4.4						

IDC 04 20:09:40.8±2.9**, 6°.80S**×**129°.47E, h129**km±39km**, mb3.1**/1**, mb1 3.0**/5**, mb1mx2.9**/29**, mbtmp3.4**/5**, MS2.8**/2**, Ms1 2.9**/2**, ms1mx2.5**/8**, Error ellipse: s-maj=69.7km s-min=21.1km az=90.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.16	17	P	Pn	20 11 09.6	+0.1
	0.5nm,0.3s,baz=166,slow=22,SNR=25						
SIJI				S	Sn	20 12 14.4	-4.3
	0.6nm,0.3s,baz=227,slow=22,SNR=9.5						
KAPI	Kappang	9.83	280	LR	LR	20 15 49.4	
	comp=Z,35nm,19.1s,baz=146,slow=38						
FITZ	Fitzroy Crossi	11.84	198	P	Pn	20 12 26.0	+0.3
	0.1nm,0.3s,baz=24,slow=9.7,SNR=8.4						
FITZ				S	Sn	20 14 32.2	-4.0
	0.1nm,0.3s,baz=29,slow=23,SNR=1.9						
WRA	Warramunga Arr	13.90	161	P	Pn	20 12 50.7	-1.7
	0.1nm,0.3s,baz=342,slow=12,SNR=1.7						
WRA				S	Sn	20 15 17.4	-8.5
	0.1nm,0.3s,baz=353,slow=21,SNR=1.9						
ASAR	Alice Springs	17.31	166	P	Pn	20 13 35.0	+0.3
	0.1nm,0.3s,baz=345,slow=9.9,SNR=10.0						
CMAR	Chiang Mai Arr	39.20	310	LR	LR	20 34 11.0	
	comp=Z,17nm,18.4s,baz=335,slow=38						
MKAR	Makanchi Array	67.77	327	P	P	20 20 24.8	0.0
	0.2nm,0.3s,baz=124,slow=7.4,SNR=8.8						

JMA 04 20:15:19.2±0.2**, 38°.56N**×**144°.38E, h48**km**, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.18	285	P	Pn	20 15 54.2	+1.2
MIYJ	Miyakonagasawa	2.24	298	P	Pn	20 15 54.7	+0.9
MIYJ				eS	Sn	20 16 20.8	+0.6
JKMT	Kesennumamotoy	2.29	277	P	Pn	20 15 55.6	+1.2
JIKH	Ishinomakikobu	2.30	265	P	Pn	20 15 55.7	+1.1
JIKH				S	Sn	20 16 22.5	+0.8
JMK	Ichinoseki	2.50	280	P	Pn	20 15 58.8	+1.4
JMK				eS	Sn	20 16 27.9	+1.3
JOM	Ohasama	2.57	292	P	Pn	20 15 59.9	+1.5
JANG	Nango	2.86	310	P	Pn	20 16 03.4	+1.1
JANG				eS	Sn	20 16 35.7	+0.1
JYK	Kaneyama	3.17	278	P	Pn	20 16 08.5	+2.0
JFT	Otama	3.36	253	P	Pn	20 16 11.2	+2.1
JFT				eS	Sn	20 16 49.4	+1.6
JOT	Ohata	3.81	319	P	Pn	20 16 16.4	+1.1
JCH	Churui	4.12	349	P	Pn	20 16 18.8	-0.8
JKB	Kayabe	4.20	323	P	Pn	20 16 21.6	+1.0
NEM2	Nemuro 2	4.91	12	eS	Sn	20 17 19.3	-6.6
JRY	Ryogami san	5.05	242	P	Pn	20 16 33.8	+1.4
JRY				S	Sn	20 17 29.0	-0.5
JTKR	Abashiri--Toko	5.42	356	P	Pn	20 16 36.9	-0.5
JTKR				S	Sn	20 17 33.6	-4.7
JHR	Hokuryu	5.55	340	P	Pn	20 16 41.3	+2.1
JHR				eS	Sn	20 17 42.6	+0.9

*IDC **04** 20:34:26.3±13.0, 46°.28N×153°.05E, h47km±29km, mb3.6/4, mb1 3.6/7, mb1mx3.2/34, mbtmp3.8/7, ML2.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/38, Error ellipse: s-maj=283.6km s-min=31.1km az=143.0*

ISC 04 20:34:23.7±7.7**, 46°.0N**±0°.9×**153°.4E**±0°.7**, h50**km**, n14, σ0ˢ.79**/7**, mb3.8**/4**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	7.68	20	P	Pn	20 36 12.3	-0.5
	0.3nm,0.3s,baz=177,slow=13,SNR=4.9						
ASAJ	Asahikawa	7.89	260	P	Pn	20 36 15.2	-0.5
	0.4nm,0.3s,baz=83,slow=17,SNR=1.5						
USRK	Ussuriysk Ar.	15.24	271	P	Pn	20 37 56.4	+0.9
	baz=66,slow=11,SNR=2.0						
YAK	Yakutsk	21.11	328	LR	LR	20 48 19.7	
	comp=Z,70nm,18.9s,baz=100,slow=40						
H11N2	WAKE ISLAND Hy	28.41	153	T	T	21 10 14.5	
	baz=340,slow=76,SNR=9.0						
H11N1	WAKE ISLAND Hy	28.43	153	T	T	21 10 14.6	
	baz=340,slow=76,SNR=7.3						
H11N3	WAKE ISLAND Hy	28.43	153	T	T	21 10 12.7	
	baz=340,slow=76,SNR=7.5						
H11S1	WAKE ISLAND Hy	29.50	154	T	T	21 11 37.3	
	baz=341,slow=76,SNR=6.2						
H11S3	WAKE ISLAND Hy	29.51	154	T	T	21 11 38.4	
	baz=341,slow=76,SNR=5.1						
H11S2	WAKE ISLAND Hy	29.52	154	T	T	21 11 38.1	
	baz=341,slow=76,SNR=6.2						
MKAR	Makanchi Array	47.50	298	P	P	20 42 52.9	-0.7
	0.8nm,0.8s,baz=68,slow=8.0,SNR=8.2						
FINES	FINESS Array B	64.85	335	P	P	20 44 57.2	+0.3
	0.7nm,0.6s,baz=47,slow=8.4,SNR=5.8						
NOA	NORSAR Array B	69.05	341	P	P	20 45 24.3	+0.6
	0.4nm,0.7s,baz=29,slow=6.5,SNR=2.0						
AKASG	Malin Array Be	72.33	326	P	P	20 45 44.3	+0.5
	0.7nm,0.4s,baz=34,slow=6.4,SNR=5.5						

*IDC **04** 22:17:05.3±1.3, 40°.47N×19°.68E, h0km, mb3.6/9, mb1 3.7/13, mb1mx3.5/47, mbtmp3.6/13, ML3.6/4, MS2.7/5, Ms1 2.8/5, ms1mx2.5/47, Error ellipse: s-maj=17.2km s-min=13.7km az=17.0*

*PRU **04** 22:17:06.3±0.0, 40°.29N×19°.76E, h0km*

*TIR **04** 22:17:07.7, 40°.57N×20°.00E, h1km, Md3.7, Ml3.9*

*PDG **04** 22:17:08.7±0.4, 40°.58N×19°.91E, h12km, ML3.6/14, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

*THE **04** 22:17:09.2, 40°.57N×20°.00E, h2km±16km, ML3.5/9, Error ellipse: s-maj=16.9km s-min=0.2km az=230.0*

*SKO **04** 22:17:09.8, 40°.58N×19°.90E, h3km*

*LDG **04** 22:17:09.0±0.1, 40°.53N×19°.90E, h5km, Ml3.3/16, Error ellipse: s-maj=3.5km s-min=2.2km az=26.0*

*ROM **04** 22:17:09.4±0.1, 40°.573N±0°.007×19°.86E±0°.02, h7km, ML3.7/39, Error ellipse: s-maj=1.3km s-min=0.8km az=259.0*

*BEO **04** 22:17:10.3±0.4, 40°.57N×19°.96E, h9km±2km, ML3.7/8*

ISC 04 22:17:08.6±1.0**, 40°.56N**±0°.02×**19°.91E**±0°.02**, h11**km±7km**, n243, σ1ˢ.61**/312**, mb3.6**/8**, 51C-31D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	Vlora	0.33	254	P	Pb	22 17 16.6	+0.2
VLO				S	Sb	22 17 22.6	+0.9
	17µm,0.2s						
VLO	Vlora	0.33	254	P	Pb	22 17 16.5	+0.1
	baz=256						
VLO				S	Sb	22 17 23.2	+1.5
	baz=256						
VLO				AMP			
	comp=E,66nm,0.2s,baz=256						
VLO	Vlora	0.33	254	⇑P	Pb	22 17 16.6	+0.2
VLO				AML	AML		
	comp=E,24400µm,0.8s						
VLO				AML	AML		
	comp=N,24650µm,0.7s						
VLO				AML	AML		
	comp=N,24650µm,0.7s						
LSK	Leskovik	0.67	127	P	Pg	22 17 20.5	-1.1
LSK				S	Sg	22 17 29.8	-0.6
	comp=N,6µm,0.9s						
LSK	Leskovik	0.67	127	P	Pg	22 17 20.3	-1.3
	baz=132						
LSK				S	Sg	22 17 30.5	+0.2
	baz=132						
LSK				AMP			
	comp=N,23nm,0.6s,baz=132						
KBN	Korca	0.67	84	P	Pg	22 17 20.4	-1.3
KBN				S	Sg	22 17 29.3	-1.3
	comp=N,8µm,0.7s						
KBN	Korca	0.67	84	P	Pg	22 17 20.4	-1.3
	baz=84						
KBN				S	Sg	22 17 29.7	-0.9
	baz=84						
KBN				AMP			
	comp=N,46nm,0.8s,baz=84						
SRN	Sarande	0.68	174	P	Pg	22 17 22.0	+0.2
SRN				S	Sg	22 17 32.1	+1.4
	comp=N,3µm,0.6s						
SRN	Sarande	0.68	174	P	Pg	22 17 22.1	+0.2
	baz=181						
SRN				S	Sb	22 17 32.6	+0.8
	baz=181						
SRN				AMP			
	comp=N,14nm,0.7s,baz=181						
SRN	Sarande	0.68	174	P	Pg	22 17 22.3	+0.5
SRN				S	Sb	22 17 33.3	+1.5
SRN				AML	AML		
	comp=N,4435µm,0.7s						
SRN				AML	AML		
	comp=E,2975µm,0.6s						
TIR	Tirane	0.79	358	P	Pg	22 17 24.2	+0.2
TIR				S	Sb	22 17 35.4	+0.3
	comp=E,3µm,0.9s						
TIR	Tirane	0.79	358	ePg	Pg	22 17 24.2	+0.2
TIR				eSg	Sb	22 17 36.8	+1.7
TIR	Tirane	0.79	358	⇓P	Pg	22 17 24.1	+0.2
TIR	Tirane	0.79	358	P	Pg	22 17 24.0	0.0
	baz=353						
TIR				S	Sb	22 17 35.6	+0.5
	baz=353						
TIR				AMP			
	comp=N,9.7nm,0.6s,baz=353						
TIR	Tirane	0.79	358	i Pg	Pg	22 17 24.1	+0.2
TIR	Tirane	0.79	358	⇑P	Pg	22 17 24.1	+0.2
TIR				AML	AML		
	comp=E,11600µm,0.7s						
TIR				AML	AML		
	comp=N,7585µm,0.7s						
KEK	Kerkira	0.85	186	P	Pg	22 17 25.3	+0.3
KEK				S	Sb	22 17 38.1	+1.4
	comp=N,3µm,0.6s						
KEK	Kerkira	0.85	186	⇓P	Pg	22 17 25.7	+0.7
KEK				S	Sb	22 17 39.0	+2.3
KEK				AML	AML		
	comp=E,880µm,0.6s						

KEK AML AML
comp=N,558µm,0.6s
OHR Ohrid 0.87 50 ⇓*i*Pg **Pg 22 17 24.1 -1.4**
OHR *i* Sg **Sg 22 17 37.7 +0.8**
OHR *e*Lg Lg 22 17 38.6
comp=N,623nm,0.5s
NEST Nestorio 0.88 99 P **Pg 22 17 24.4 -1.3**
NEST S **Sg 22 17 36.0 -1.2**
comp=N,2µm,0.5s
PENT Pentalofos 1.01 111 P **Pg 22 17 27.0 -1.0**
PENT S **Sg 22 17 40.9 -0.3**
comp=N,2µm,0.5s
IGT Igoumenitsa 1.07 162 P **Pg 22 17 29.2 -0.1**
IGT S **Sg 22 17 44.5 +1.2**
comp=N,3µm,0.7s
IGT Igoumenitsa 1.07 162 *e*Pg **Pg 22 17 29.1 -0.2**
IGT *e*Sg **Sb 22 17 45.9 +2.7**
IGT Igoumenitsa 1.07 162 ⇓*i*Pg **Pg 22 17 29.1 -0.2**
IGT *i* Sg **Sn 22 17 47.1 +2.7**
FNA Florina 1.14 78 P **Pg 22 17 28.9 -1.7**
FNA Florina 1.14 78 *e*Pg **Pg 22 17 28.8 -1.8**
FNA *e*Sg **Sg 22 17 46.0 +0.6**
FNA Florina 1.14 78 *i*Pg **Pg 22 17 28.8 -1.8**
FNA *i* Sg **Sg 22 17 45.6 +0.2**
JAN Janina 1.15 141 P **Pg 22 17 30.2 -0.6**
PHP Peshkopia 1.20 19 P **Pg 22 17 31.1 -0.6**
PHP Peshkopia 1.20 19 P **Pg 22 17 31.1 -0.6**
baz=16
PHP S **Sb 22 17 48.5 +1.7**
baz=16
PHP AMP
comp=N,12nm,0.6s,baz=16
SCTE Santa Cesarea 1.20 247 AML AML
comp=N,3645µm,0.9s
SCTE AML AML
comp=E,6745µm,0.9s
KPRO Kipourio 1.27 118 P **Pg 22 17 31.8 -1.2**
KZN Kozani 1.44 99 P **Pn 22 17 34.0 -0.7**
PUK Puka 1.48 360 P **Pn 22 17 36.5 +1.2**
baz=357
PUK S **Sn 22 17 58.8 +4.1**
baz=357
PUK AMP
comp=E,7.2nm,0.7s,baz=357
PUK Puka 1.48 360 P **Pb 22 17 37.0 +0.7**
PUK AML AML
comp=E,2250µm,0.7s
PUK AML AML
comp=N,1805µm,0.6s
ULC Ulcinj 1.49 341 *i*Pg **Pn 22 17 36.3 +0.9**
ULC Ulcinj 1.49 341 ⇑*i*Pg **Pn 22 17 35.7 +0.3**
ULC *i* Sg **Sg 22 17 58.0 +1.3**
DRME Dracevica, Mon 1.72 342 ⇑*i*Pn **Pn 22 17 39.6 +1.2**
DRME Dracevica, Mon 1.72 342 ⇓*i*Pn **Pn 22 17 39.4 +1.0**
DRME *i* Sn **Sb 22 18 03.2 +1.4**
PRZK Prizren 1.77 21 *i*Pg **Pb 22 17 41.8 +0.7**
PRZK *i* Sg **Sg 22 18 06.8 +1.2**
BCI Bajram Curri 1.81 4 P **Pb 22 17 42.3 +0.5**
baz=1.0
BCI S **Sg 22 18 08.8 +1.8**
baz=1.0
SKO Skopje 1.82 39 *e*Pn **Pn 22 17 41.4 +1.5**
SKO *e*Sn **Sb 22 18 05.6 +0.7**
SKO Skopje 1.82 39 *i*Pg **Pn 22 17 41.5 +1.6**
SKO *i* Sg **Sg 22 18 08.2 +0.8**
SKO *e*Lg Lg 22 18 08.4
comp=E,128nm,0.9s
THL Klokotos Trika 1.90 121 ⇑P **Pb 22 17 43.6 +0.4**
THL S **Sb 22 18 08.4 +1.6**
THL AML AML
comp=E,198µm,0.7s
THL AML AML
comp=N,246µm,1.3s
BUM Brajici-Budva 1.90 337 ⇑*i*Pn **Pn 22 17 41.8 +0.8**
BUM *i* Sn **Sb 22 18 07.8 +0.7**
PDG Podgorica 1.94 346 *e*Pn **Pn 22 17 42.5 +1.1**
PDG *e*Sn **Sb 22 18 08.8 +0.8**
PDG Podgorica 1.94 346 ⇑P **Pn 22 17 41.3 -0.1**
PDG Podgorica 1.94 346 ⇑*i*Pn **Pn 22 17 42.4 +1.1**
PDG Podgorica 1.94 346 *i*Pn **Pn 22 17 42.6 +1.2**
PDG Podgorica 1.94 346 P **Pn 22 17 42.5 +1.1**
PDG S **Sb 22 18 08.3 +0.3**
PDG AML AML
comp=E,1140µm,0.6s
PDG AML AML
comp=N,730µm,0.9s
PDG AML AML
comp=N,930µm,0.9s
PDG AML AML
comp=E,1450µm,0.6s
TTG Podgorica 1.94 346 ⇑*i*Pn **Pn 22 17 42.1 +0.7**
TTG *i* Sn **Sb 22 18 08.9 +0.9**
GRG Griva 1.94 77 *i*Pn **Pn 22 17 42.3 +0.8**
LIT Litokhoron 2.03 102 *i*Pn **Pn 22 17 44.4 +1.7**
PVY Plav 2.04 1 ⇓*i*Pn **Pn 22 17 43.9 +0.9**
PVY *i* Sn **Sb 22 18 11.3 +0.2**
STIP Stip 2.06 56 *i*Pn **Pb 22 17 46.5 +0.4**
STIP *i* Sn **Sg 22 18 16.9 +2.0**
STIP *e*Lg Lg 22 18 21.1
comp=E,59nm,0.6s
PEJK Peje 2.10 7 *i*Pn **Pn 22 17 46.0 +2.2**
CEME Cevo 2.12 340 ⇑*i*Pn **Pn 22 17 44.8 +0.7**
CEME *i* Sn **Sn 22 18 12.8 +2.3**
VAY Valandovo 2.16 68 *e*Pn **Pn 22 17 45.2 +0.7**
VAY *e*Sn **Sn 22 18 13.4 +2.2**
VAY Valandovo 2.16 68 ⇓*i*Pn **Pn 22 17 45.0 +0.6**
VAY *i* Sn **Sb 22 18 15.8 +1.5**
VAY *e*Lg Lg 22 18 18.2
comp=N,291nm,0.9s
HCY Herceg Novi 2.17 331 ⇑*i*Pn **Pn 22 17 44.7 +0.1**
HCY Herceg Novi 2.17 331 ⇑*i*Pn **Pn 22 17 44.7 +0.1**
HCY *i* Sn **Sn 22 18 14.2 +2.7**
NOCI Noci 2.17 277 AML AML
comp=N,1370µm,1.3s
NOCI AML AML
comp=E,918µm,1.0s
GJIK Gjilan 2.22 31 ⇓*i*Pn **Pn 22 17 47.4 +1.9**
KOME Kolasin 2.31 353 ⇓*i*Pn **Pn 22 17 48.4 +1.7**
KOME *i* Sn **Sn 22 18 17.7 +2.6**
IVA Berane 2.31 360 ⇓*i*Pn **Pn 22 17 47.9 +1.2**
IVA *i* Sn **Sn 22 18 17.7 +2.5**
NKME Niksic 2.32 342 ⇑*i*Pn **Pn 22 17 47.6 +0.8**
NKME *i* Sn **Sn 22 18 18.0 +2.7**
THE Thessaloniki 2.33 87 *i*Pn **Pn 22 17 47.6 +0.8**
NKY Niksic 2.36 343 ⇑*i*Pn **Pn 22 17 48.1 +0.8**
NKY *i* Sn **Sn 22 18 19.1 +2.8**
VLS Valsamata 2.43 167 ⇑P **Pn 22 17 49.2 +0.9**
VLS AML AML
comp=E,108µm,0.7s
VLS AML AML
comp=N,156µm,0.7s
SMRK Smrekonice 2.44 18 *i*Pn **Pn 22 17 50.5 +2.1**
MATE Matera 2.44 273 ⇑P **Pn 22 17 49.6 +1.2**
MATE Matera 2.44 273 ⇓P **Pn 22 17 49.2 +0.9**
MATE AML AML
comp=N,876µm,1.0s
MATE AML AML
comp=E,606µm,0.9s
TREB Trebinje 2.45 332 ⇑*i*Pn **Pn 22 17 48.6 0.0**
DBRK Dubrovnik 2.49 329 *i*Pn **Pn 22 17 47.9 -1.1**
DBRK Sn **Sn 22 18 18.8 -0.6**
AMUR Altamura 2.54 279 ⇓P **Pn 22 17 50.4 +0.7**
AMUR AML AML
comp=E,577µm,0.4s
AMUR AML AML
comp=N,518µm,1.1s
PRVS Prvonek 2.54 39 *e*Pn **Pn 22 17 51.0 +1.2**
BRY Bratogost 2.56 337 *e*Pn **Pn 22 17 50.2 +0.1**
BRY Bratogost 2.56 337 ⇑*i*Pn **Pn 22 17 50.6 +0.5**
BRY *i* Sn **Sn 22 18 23.8 +2.5**
SOH Sokhos 2.63 83 *i*Pn **Pn 22 17 52.3 +1.2**
MIGL Miglionico 2.64 272 AML AML
comp=N,4095µm,1.1s
MIGL AML AML
comp=E,2680µm,1.2s
CRAC Craco 2.66 267 P **Pn 22 17 52.6 +1.3**
CRAC AML AML
comp=E,1415µm,1.6s
CRAC AML AML
comp=N,1960µm,0.9s
BARS Barje 2.67 32 *e*Pn **Pn 22 17 52.2 +0.6**
BARS Barje 2.67 32 *e*Pn Pg 22 18 08.3 +8.5
BARS *e*Sn **Sn 22 18 23.7 -0.2**
BARS *e*Sn Sg 22 18 52.3 +18
BARS Barje 2.67 32 *i*Pn **Pn 22 17 52.2 +0.6**
ORI Oriolo Calabro 2.69 261 ⇑P **Pn 22 17 53.6 +1.8**
ORI AML AML
comp=N,1100µm,1.1s
ORI AML AML
comp=E,1225µm,0.4s
SJES Sjenica 2.70 1 *e*Pn **Pn 22 17 54.8 +2.7**
SJES *e*Sn **Sn 22 18 25.6 +0.8**
BOSS Bosilegrad 2.73 44 *e*Pn **Pn 22 17 53.6 +1.1**
BOSS *e*Sn **Sn 22 18 26.1 +0.6**
UPM Unac-Piva 2.75 345 *e*Pn **Pn 22 17 53.5 +0.7**
UPM Unac-Piva 2.75 345 ⇑*i*Pn **Pn 22 17 53.8 +1.0**
UPM *i* Sn **Sn 22 18 28.0 +1.9**
TIP Timpagrande 2.79 241 ⇑P **Pn 22 17 57.1 +3.8**
PLE Pljevlja 2.80 352 ⇑*i*Pn **Pn 22 17 54.1 +0.7**
PLE *i* Sn **Sn 22 18 29.5 +2.3**
STON Ston 2.84 325 *i*Pn **Pn 22 17 52.8 -1.1**
STON Sn **Sn 22 18 27.0 -1.1**
SRS Serrai 2.85 77 *e*Pn **Pn 22 17 55.4 +1.4**
CELI Celico 2.85 247 ⇑P **Pn 22 17 55.3 +1.1**
CELI AML AML
comp=E,496µm,0.8s
CELI AML AML
comp=N,718µm,0.9s
MRVN Minervino Murg 2.86 281 P **Pn 22 17 55.0 +0.8**
MRVN AML AML
comp=N,305µm,0.3s
MRVN AML AML
comp=E,343µm,0.3s
IVAS Ivanjica 3.02 3 *e*Pn **Pn 22 17 57.3 +0.8**
IVAS *e*Sn **Sn 22 18 34.9 +2.2**
ACER Acerenza 3.02 276 ⇓P **Pn 22 17 57.5 +1.1**
ACER AML AML
comp=E,904µm,0.8s
ACER AML AML
comp=N,773µm,0.9s
ACER AML AML
comp=E,978µm,0.8s
ACER AML AML
comp=N,821µm,1.0s
T0702 Acquaformosa (3.05 255 ⇑P **Pn 22 17 59.6 +2.8**
KLV Kalavryta, Ach 3.05 145 P **Pn 22 17 59.6 +2.8**
KLV AML AML
comp=N,270µm,1.6s
KLV AML AML
comp=E,282µm,1.0s
RUDO Rudo 3.08 353 *e*Pn **Pn 22 17 58.1 +0.8**
SIRI Monte Sirino - 3.11 264 P **Pn 22 17 59.3 +1.6**
SIRI AML AML
comp=E,270µm,1.1s
SIRI AML AML
comp=N,286µm,1.5s
SIRI AML AML
comp=E,282µm,1.1s
SIRI AML AML
comp=N,268µm,1.5s
MCEL Monticello 3.14 267 ⇑P **Pn 22 17 59.9 +1.8**
MCEL AML AML
comp=E,230µm,0.9s
MCEL AML AML
comp=N,352µm,0.8s
MTSN Montesano sull 3.19 266 ⇓P **Pn 22 18 00.2 +1.5**
MTSN AML AML
comp=N,250µm,0.8s
MTSN AML AML
comp=E,247µm,0.9s
CET2 Cetraro 3.20 253 P **Pn 22 18 01.2 +2.3**
CET2 AML AML
comp=E,779µm,0.9s
CET2 AML AML
comp=N,716µm,0.9s
MSAG Monte S. Angel 3.23 292 ⇓P **Pn 22 18 00.3 +0.9**
MSAG AML AML
comp=E,337µm,0.5s
MSAG AML AML
comp=N,541µm,1.4s
VTS Vitosha 3.23 49 ⇑P **Pn 22 18 01.6 +2.1**
SLCN Sala Consilina 3.27 268 P **Pn 22 18 01.6 +1.8**
SLCN AML AML
comp=E,520µm,0.4s
SLCN AML AML
comp=N,380µm,0.7s
BBLS Lazići 3.33 354 *e*Pn **Pn 22 18 03.1 +2.5**
BBLS *e*Sn **Sn 22 18 42.2 +2.0**
BBLS Lazići 3.33 354 *e*Pn **Pn 22 18 02.3 +1.6**
MGR Morigerati 3.35 264 ⇓P **Pn 22 18 03.0 +2.1**
MGR AML AML
comp=N,277µm,1.1s
MGR AML AML
comp=E,218µm,0.9s
SGRT San Giovanni R 3.36 292 ⇓P **Pn 22 18 02.0 +0.9**
SGRT S **Sn 22 18 40.0 -1.1**
SGRT AML AML
comp=N,280µm,0.2s
SGRT AML AML
comp=E,345µm,0.5s
MRLC Muro Lucano 3.37 275 ⇑P **Pn 22 18 03.5 +2.3**
MRLC AML AML
comp=N,312µm,1.6s
MRLC AML AML
comp=E,266µm,0.8s
GRUS Gruza 3.38 10 *e*Pn **Pn 22 18 03.1 +1.8**
PLAC Placanica 3.41 233 P **Pn 22 18 02.8 +1.1**
PLAC AML AML
comp=E,130µm,1.0s
PLAC AML AML
comp=N,140µm,1.0s
MAKA Makarska 3.48 323 *e*Pn **Pn 22 18 02.9 +0.3**
MAKA Sn **Sn 22 18 43.5 -0.2**
DIVS Divibare 3.54 1 *e*Pn **Pn 22 18 05.4 +1.8**
DIVS *e*Sn **Sn 22 18 45.8 +0.4**
DIVS Divibare 3.54 1 *e*Pn **Pn 22 18 04.7 +1.1**
DIVS Divibare 3.54 1 P **Pn 22 18 05.6 +2.0**
RICI Ricice 3.59 326 *e*Pn **Pn 22 18 04.1 -0.1**
RICI Sn **Sn 22 18 45.4 -1.2**
HAPS Han Pijesak,Bl 3.60 349 *e*Pn **Pn 22 18 04.3 -0.1**
MCRV Calabrutti - M 3.61 275 S **Sg 22 19 04.0 -0.6**
TREM Isole Tremiti 3.66 297 P **Pn 22 18 06.2 +1.1**
HVAR Hvar 3.68 317 *i*Pn **Pn 22 18 04.9 -0.5**
HVAR Sn **Sn 22 18 48.4 -0.3**
TRUS Trudelj 3.68 6 *e*Pn **Pn 22 18 06.2 +0.7**
TRUS *e*Sn **Sn 22 18 50.8 +2.0**
ZAGS Zajecar 3.68 27 *e*Pn **Pn 22 18 06.9 +1.4**
MRB1 Monte Rocchett 3.79 280 ⇓P **Pn 22 18 10.7 +3.8**
MRB1 AML AML
comp=E,312µm,0.6s
MRB1 AML AML
comp=N,311µm,1.6s
MELA Melanico ??? S 3.79 289 P **Pn 22 18 08.1 +1.2**
MELA AML AML
comp=E,696µm,0.8s
MELA AML AML
comp=E,687µm,1.2s
MELA AML AML
comp=N,597µm,1.0s
MELA AML AML
comp=N,574µm,1.0s
SVIS Svilajnac 3.83 14 *e*Pn **Pn 22 18 09.4 +1.9**
PSB1 Pescosannita 3.92 281 ⇑P **Pn 22 18 11.4 +2.7**
PSB1 AML AML
comp=E,174µm,1.0s
PSB1 AML AML
comp=N,145µm,1.4s
TEKS Tekeris 4.00 356 *e*Pn **Pn 22 18 10.8 +1.0**
TEKS Tekeris 4.00 356 *e*Pn Pn 22 18 05.7 -4.1
VITU Vitulano (BN) 4.05 281 P **Pn 22 18 13.6 +3.0**
VITU AML AML
comp=N,266µm,0.3s
VITU AML AML
comp=E,194µm,0.7s
KUBS Kucevo 4.07 18 *e*Pn **Pn 22 18 11.2 +0.4**
TRIV Trivento 4.22 288 ⇓P **Pn 22 18 15.1 +2.2**
TRIV AML AML
comp=E,180µm,1.4s
TRIV AML AML
comp=N,246µm,1.4s
SGG Gregorio Mates 4.27 283 P **Pn 22 18 16.3 +2.8**
SGG AML AML
comp=N,146µm,0.5s
SGG AML AML
comp=E,141µm,0.6s
KIJV Kijevo 4.32 324 *i*Pn **Pn 22 18 14.4 +0.2**
KIJV Sn **Sn 22 19 05.2 +0.8**
PUNG Punghina 4.34 30 ⇑P **Pn 22 18 16.0 +1.5**
VAGA Valle Agricola 4.38 283 ⇓P **Pn 22 18 18.2 +3.1**
VAGA AML AML
comp=N,190µm,1.1s
VAGA AML AML
comp=E,106µm,1.3s
MDVR Moldovita 4.43 17 ⇓P **Pn 22 18 16.8 +1.0**
ZIRJ Zirje 4.43 316 *i*Pn **Pn 22 18 15.9 +0.2**
RNI2 Rionero Sannit 4.50 287 ⇓P **Pn 22 18 19.0 +2.3**
RNI2 AML AML
comp=N,148µm,0.8s
RNI2 AML AML
comp=E,154µm,0.4s
RNI2 AML AML
comp=E,160µm,0.4s
RNI2 AML AML
comp=N,136µm,0.8s
PLVB Pleven 4.51 50 ⇓P **Pn 22 18 19.2 +2.4**
MORI Morici 4.55 318 *e*Pn **Pn 22 18 18.0 +0.7**
LPEL Lama dei Pelig 4.56 291 ⇑P **Pn 22 18 20.0 +2.4**
CERA Filignano 4.57 285 ⇑P **Pn 22 18 20.1 +2.4**
CERA AML AML
comp=E,154µm,0.9s
CERA AML AML
comp=N,167µm,1.2s
FRGS Fruska Gora 4.60 359 *e*Pn **Pn 22 18 18.3 +0.2**
FRGS Fruska Gora 4.60 359 ⇑P **Pn 22 18 18.3 +0.2**
FRGS Fruska Gora 4.60 359 *e*Pn **Pn 22 18 17.9 -0.2**
MODR Mondragone 4.61 279 P **Pn 22 18 17.4 -0.8**
BLY Banja Luka 4.65 335 *e*Pn **Pn 22 18 19.3 +0.6**
HERR Herculane 4.70 22 ⇑P **Pn 22 18 20.1 +0.7**
INTR Introdacqua 4.75 290 ⇑P **Pn 22 18 21.6 +1.4**
VLAD Vladila 4.79 43 ⇓P **Pn 22 18 23.5 +2.9**
POFI Posta Fibreno 4.82 286 ⇑P **Pn 22 18 23.6 +2.4**
POFI AML AML
comp=E,73µm,0.7s
POFI AML AML
comp=N,78µm,1.6s
T0110 Collepietro 4.90 292 P **Pn 22 18 24.1 +1.9**
VVLD Villa Vallelon 4.92 288 ⇑P **Pn 22 18 25.3 +2.8**
DUGI Dugi Otok 4.97 315 *i*Pn **Pn 22 18 23.6 +0.4**
UDBI Udbina 5.01 324 *e*Pn **Pn 22 18 25.3 +1.6**
HLNI Lentini 5.07 232 P **Pn 22 18 23.1 -1.4**
AQU L'Aquila 5.21 292 ⇑*i*Pn **Pn 22 18 27.8 +1.3**
BZS Buzias 5.21 13 ⇓P **Pn 22 18 27.0 +0.5**
GZR Gura Zlata 5.27 23 ⇑P **Pn 22 18 29.4 +2.1**
SMA1 SAN MARTINO 5.35 295 ⇓P **Pn 22 18 30.0 +1.6**
HPAC Pachino 5.38 226 ⇑P **Pn 22 18 28.1 -0.7**
FIAM Fiamignano 5.38 291 ⇓P **Pn 22 18 31.6 +2.6**
RM33 Pellescritta (5.39 293 P **Pn 22 18 30.8 +1.8**
NVLJ Novalja 5.46 319 *e*Pn **Pn 22 18 28.8 -1.1**
LNSS Leonessa 5.54 294 ⇑P **Pn 22 18 33.1 +2.0**
MORH Mrgy, Hungar 5.73 351 ⇑P **Pn 22 18 33.4 -0.1**
MORH Mrgy, Hungar 5.73 351 *e*Pn **Pn 22 18 33.4 -0.1**
DEV Deva 5.76 21 ⇑P **Pn 22 18 34.9 +1.0**
RAZG Razgrad 5.76 56 ⇓P **Pn 22 18 36.6 +2.7**
BOJS Bojanci 6.01 327 *i*Pn **Pn 22 18 37.7 +0.3**
BOJS Bojanci 6.01 327 ⇓P **Pn 22 18 36.9 -0.4**
MURB Monte Urbino 6.14 299 ⇑P **Pn 22 18 41.0 +1.8**
VOIR 6.16 36 ⇑P **Pn 22 18 41.5 +1.9**
CRES Cresnjev 6.19 330 *e*Pn **Pn 22 18 40.0 +0.1**
CRES *e*Sn **Sn 22 19 47.4 -3.2**
CRES Cresnjev 6.19 330 *e*Pn **Pn 22 18 39.2 -0.7**
CDCA Citt' di Caste 6.41 299 P Pn 22 18 48.8 +5.9
CEY Cerknica 6.55 324 *e*Pn **Pn 22 18 45.2 +0.4**
CEY Cerknica 6.55 324 ⇑*i*Pn **Pn 22 18 44.9 +0.1**
DRGR 6.55 17 ⇑P **Pn 22 18 46.4 +1.4**
IDI Anoyia 6.57 142 Pn **Pn 22 18 44.6 -0.6**
comp=N,0.3nm,0.3s,baz=208,slow=9.5,SNR=1.3
IDI Sn Sn 22 19 51.8 -8.3
comp=N,0.3nm,0.3s,baz=68,slow=21,SNR=1.7
IDI LR LR 22 22 29.4
comp=N,24nm,20.2s,baz=321,slow=49
MLR Muntele Rosu 6.62 40 Pn **Pn 22 18 48.9 +3.0**
comp=N,0.8nm,0.3s,baz=237,slow=9.0,SNR=17
MLR Sn **Sn 22 20 03.6 +2.1**
comp=N,0.2nm,0.3s,baz=285,slow=18,SNR=3.9
MLR LR LR 22 22 01.3
comp=N,150nm,18.1s,baz=9.5,slow=44
MLR Muntele Rosu 6.62 40 ⇓P **Pn 22 18 49.0 +3.0**
ISR Istrita 6.67 45 ⇑P **Pn 22 18 49.4 +2.8**
GBAS Gorenja Brezov 6.69 325 *e*Pn **Pn 22 18 47.0 +0.2**
GBAS *i* Sn **Sn 22 20 02.0 -1.1**
VNDS Vrh nad Dolski 6.72 327 *e*Pn **Pn 22 18 47.4 +0.2**
DOPR Dopca 6.72 35 ⇑P **Pn 22 18 50.0 +2.7**
LJU Ljubljana 6.74 326 *e*Pn **Pn 22 18 47.5 0.0**
LJU Ljubljana 6.74 326 ⇑P **Pn 22 18 46.6 -0.9**
SOKA Soboth 7.07 332 *i*Pn **Pn 22 18 52.1 +0.1**
comp=N,2.4nm,0.3s,SNR=7.3
OBKA Obir 7.11 329 *i*Pn **Pn 22 18 53.3 +0.7**
comp=N,2.9nm,0.2s,SNR=6.3
OBKA *e*Sn **Sn 22 20 14.0 +0.7**
comp=N,16nm,0.8s
PLOR Plostina 7.23 41 ⇑P **Pn 22 18 57.0 +2.8**
VRI Vrincioaia 7.28 41 ⇓P **Pn 22 18 57.6 +2.7**
PSZ Piszkesteto 7.36 360 ⇑P **Pn 22 18 56.9 +0.9**
ARSA Arzberg 7.40 336 *i*Pn **Pn 22 18 57.0 +0.4**
comp=N,0.8nm,0.2s
MYKA Terra Mystica 7.58 325 *i*Pn **Pn 22 18 59.0 0.0**
comp=N,1.2nm,0.4s
MYKA *e*Sn **Sn 22 20 24.7 -0.3**
comp=N,1.7nm,0.3s
VYHS Vyhne 7.97 355 *e*PN Pn 22 19 13.0 +8.6
VYHS *e*SN **Sn 22 20 35.9 +1.4**
KBA Koelnbreinsper 8.06 326 *i*Pn **Pn 22 19 06.4 +0.7**
comp=N,1.1nm,0.3s
KBA *e*Sn **Sn 22 20 36.7 -0.2**
comp=N,3.5nm,0.8s
ABTA Abfaltersbach 8.19 322 *i*Pn **Pn 22 19 08.9 +1.5**
comp=N,4.5nm,0.6s,SNR=4.4
ABTA *e*Sn **Sn 22 20 37.8 -2.0**
comp=N,9.9nm,0.7s
MOA Molln 8.34 333 *i*Pn **Pn 22 19 10.5 +1.1**
comp=N,1.4nm,0.3s,SNR=5.4
CRVS Cervenica-Dubn 8.42 7 *e*PN Pn 22 19 16.7 +6.2
PGF Pioggiola 8.42 287 *e*Pn **Pn 22 19 09.2 -1.4**
PGF Pioggiola 8.42 287 *e*P **Pn 22 19 14.6 +4.0**
PGF *e*Sn **Sn 22 20 38.5 -7.1**
comp=N,0.6nm,0.4s
KOLS Kolonicke sedl 8.54 11 *e*PN Pn 22 19 18.3 +6.1
WTTA Wattenberg 8.97 321 *i*Pn **Pn 22 19 19.4 +1.2**
comp=N,5.2nm,0.3s,SNR=9.4
WTTA *e*Sn **Sn 22 20 58.8 -0.5**
comp=N,5.8nm,0.5s
WATA Walderalm 9.05 321 *i*Pn **Pn 22 19 20.4 +1.1**
comp=N,3.8nm,0.3s,SNR=6.3
WATA *e*Sn **Sn 22 20 59.4 -1.9**
comp=N,14nm,0.7s
SQTA Sankt Quirin 9.15 320 *i*Pn **Pn 22 19 21.6 +1.0**
comp=N,7.9nm,0.4s,SNR=9.4
SQTA *e*Sn **Sn 22 21 03.7 +0.1**
comp=N,11nm,0.7s
FETA Feichten 9.26 317 *i*Pn **Pn 22 19 23.7 +1.6**
comp=N,0.8nm,0.4s
FETA *e*Sn **Sn 22 21 05.4 -0.9**
comp=N,5.1nm,0.7s
MOTA Moosalm 9.29 320 *i*Pn **Pn 22 19 23.0 +0.5**
comp=N,5.4nm,0.5s,SNR=11
MOTA *e*Sn **Sn 22 21 06.5 -0.5**
comp=N,15nm,0.9s
GERES GERESS Array B 9.39 334 Pn **Pn 22 19 21.8 -2.1**
comp=N,0.3nm,0.3s,baz=162,slow=14,SNR=8.0
GERES Sn **Sn 22 21 07.7 -1.6**
comp=N,0.3nm,0.3s,baz=146,slow=23,SNR=3.9
GERES LR LR 22 24 09.9
comp=N,69nm,21.1s,baz=274,slow=45
RETA Reutte 9.55 319 *e*Pn **Pn 22 19 26.1 0.0**
comp=N,0.8nm,0.3s
DAVOX Davos/Dischmat 9.56 314 Pn **Pn 22 19 27.6 +1.3**
comp=N,0.4nm,0.3s,baz=140,slow=14,SNR=6.6
DAVOX Sn **Sn 22 21 10.9 -2.9**
comp=N,0.2nm,0.3s,baz=128,slow=22,SNR=2.3
DAVOX LR LR 22 24 46.0
comp=N,40nm,20.2s,baz=79,slow=48
KHC Kasperske Hory 9.68 334 *e*PN **Pn 22 19 26.8 -0.9**
KHC *ex* x 22 19 54.0
KHC *e*SN **Sn 22 21 15.0 -1.4**
DAVA Damuels 9.87 316 *e*Pn **Pn 22 19 32.2 +1.7**
comp=N,2.6nm,0.6s
FRF La Foret Royal 10.31 291 *e*P **Pn 22 19 39.9 +3.5**
FRF *e*Sn Sn 22 21 21.2 -11
MBDF Montbardon 10.54 298 *e*Pn **Pn 22 19 38.5 -1.1**
MBDF *e*Sn Sn 22 21 30.1 -7.5
comp=N,0.3nm,0.2s

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPG	La Plagne	10.82	301	ePn	Pn	22 19 42.2	-1.4
LPG				eSn	Sn	22 21 36.6	-8.2
	comp=N,1.9nm,0.4s						
LPL	La Plagne	10.84	302	ePn	Pn	22 19 42.5	-1.3
LPL	La Plagne	10.84	302	eP	Pn	22 19 48.2	+4.4
LPL				eSn	Sn	22 21 37.2	-8.0
	comp=N,4.7nm,0.4s						
SMRF	Simiane la Rot	11.16	293	eP	Pn	22 19 53.7	+5.7
ORIF	Oris-en-Rattie	11.20	298	ePn	Pn	22 19 47.2	-1.4
ORIF				eSn	Sn	22 21 45.6	-8.2
	comp=N,0.7nm,0.3s						
CABF	La Chapelle	11.70	306	ePn	Pn	22 19 54.0	-1.5
CABF				eSn	Sn	22 21 58.1	-8.0
	comp=N,0.8nm,0.4s						
HINF	Hinteralfeld	11.84	312	ePn	Pn	22 19 55.4	-2.0
HINF				eSn	Sn	22 22 01.9	-7.6
	comp=N,1.5nm,0.4s						
VIVF	Saint-Julien-l	12.00	296	ePn	Pn	22 19 58.2	-1.4
HAU	Haudompre	12.23	312	ePn	Pn	22 20 02.6	-0.1
HAU				eSn	Sn	22 22 10.4	-8.5
	comp=N,4.0nm,0.4s						
SMF	Signal de Mont	13.13	303	eP	Pn	22 20 18.1	+3.2
SMF				eSn	Sn	22 22 31.4	-9.5
	comp=N,0.7nm,0.3s						
LOR	Lormes	13.36	305	ePn	Pn	22 20 18.0	-0.1
	baz=114						
LOR				eSn	Sn	22 22 37.1	-9.5
	comp=N,1.8nm,0.3s						
AVF	Avril sur Loir	13.49	303	ePn	Pn	22 20 17.9	-2.0
AVF				eSn	Sn	22 22 40.4	-9.4
	comp=N,0.1nm,0.2s						
SSF	Saint Saulge	13.50	304	ePn	Pn	22 20 18.0	-2.0
SSF				eSn	Sn	22 22 40.5	-9.4
	comp=N,0.5nm,0.3s						
MMAI	Mount Meron Ar	14.51	116	Pn	Pn	22 20 32.4	-1.5
	comp=N,0.3nm,0.3s,baz=304,slow=14,SNR=1.7						
LFF	La Frestale	14.74	294	ePn	Pn	22 20 33.7	-3.3
HFS	Hagfors	19.98	351	P	P	22 21 41.5	+0.8
	comp=N,1.4nm,0.8s,baz=138,slow=16,SNR=1.7						
MDT	Midelt	21.08	256	P	P	22 21 48.9	-4.0
	comp=N,5.4nm,0.7s,baz=106,slow=6.8,SNR=18						
NB2	NORSAR Subarra	21.20	348	P	P	22 21 57.5	+3.6
	comp=Z,1.8nm,1.0s,baz=158,slow=10						
NOA	NORSAR Array B	21.20	348	P	P	22 21 54.2	+0.2
	comp=Z,0.5nm,0.6s,baz=160,slow=10,SNR=1.6						
NOA				LR	LR	22 31 50.8	
	comp=Z,25nm,18.4s,baz=10.0,slow=42						
EKA	Eskdalemuir Ar	21.24	322	P	P	22 21 53.3	-1.1
	comp=Z,3.0nm,0.8s,baz=115,slow=15,SNR=3.0						
FINES	FINESS Array B	21.25	8	P	P	22 21 54.7	+0.3
	comp=Z,1.3nm,0.8s,baz=169,slow=11,SNR=3.9						
BELG	Belogornoye	22.31	49	P	P	22 22 05.3	-0.6
	comp=Z,7.7nm,1.0s,baz=340,slow=3.5,SNR=5.3						
AKTO	Aktyubinsk	28.20	57	P	P	22 23 02.3	+1.2
	comp=Z,0.5nm,0.5s,baz=252,slow=22,SNR=2.0						
ZALV	Zalesovo Beam	44.49	50	P	P	22 25 18.7	-1.0
	comp=Z,0.4nm,0.4s,baz=296,slow=8.3,SNR=2.6						
MKAR	Makanchi Array	44.50	60	P	P	22 25 18.3	-1.6
	comp=Z,0.2nm,0.3s,baz=280,slow=7.5,SNR=5.9						

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*NEIC **04** 22:33:43.1±2.3, 30°.06S±0°.05×177°.7W±0°.1, h35km±2km, mb4.4/12, Error ellipse: s-maj=21.8km s-min=6.7km az=73.0*

*IDC **04** 22:33:43.3±0.9, 29°.18S×178°.54W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/35, mbtmp3.8/5, MS3.5/8, Ms1 3.5/8, ms1mx3.3/27, Error ellipse: s-maj=40.3km s-min=12.1km az=3.0*

ISC 04 22:33:39.5±1.4**, 29°.96S**±0°.07×**177°.2W**±0°.2**, h35**km**, n43, σ1°.81**/28**, mb4.4**/10**, MS3.7**/5**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.94	319	Pn	Pn	22 33 58.0	+1.8
	949nm,0.3s,baz=221,slow=4.7,SNR=33						
RAO				Sn	Sn	22 34 08.9	+0.6
	3μm,0.3s,baz=309,slow=23,SNR=8.4						
RAO				LR	LR	22 34 21.3	
	comp=Z,2μm,19.6s,baz=8.0,slow=70						
RAO	Raoul Island	0.94	319		Pn	22 33 57.8	+1.7
RAO					Sn	22 34 09.3	+1.0
URZ	Urewera	9.52	208	Pn	Pn	22 35 54.2	+0.1
	1.0nm,0.3s,baz=117,slow=8.3,SNR=2.5						
URZ				Sn	Sn	22 37 38.6	-1.2
	0.7nm,0.3s,baz=353,slow=23,SNR=1.6						
URZ	Urewera	9.52	208	Pn	Pn	22 35 52.9	-1.2
BKZ	Black Stump Fm	10.55	208	Pn	Pn	22 36 07.6	-0.6
BFZ	Birch Farm	11.96	205	Pn	Pn	22 36 27.4	+0.1
MSVF	Nonsavu	12.91	339	Pn	Pn	22 36 38.8	-1.9
	0.1nm,0.3s,baz=56,slow=23,SNR=1.4						
MSVF				LR	LR	22 40 24.2	
	comp=Z,326nm,20.7s,baz=168,slow=34						
KHZ	Kahutara	14.49	208	Pn	Pn	22 37 01.0	-0.9
DZM	Mont Dzumac	16.65	294	Pn	Pn	22 37 24.2	-6.1
	0.1nm,0.3s,baz=97,slow=16,SNR=1.9						
DZM				LR	LR	22 42 10.7	
	comp=Z,203nm,19.1s,baz=86,slow=33						
DZM	Mont Dzumac	16.65	294	eLR	LR	22 40 19.5	
	comp=Z,448nm,26.4s						
DZM	Mont Dzumac	16.65	294		Pn	22 37 30.3	0.0
RAR	Rarotonga	17.96	65	LR	LR	22 45 33.2	
	comp=Z,29nm,18.4s,baz=243,slow=38						
TBI	Tubuai	25.62	82	eT	T	23 06 29.7	
	25nm,0.3s						
PAE	Paea	28.01	70	eT	T	23 09 10.7	
	8.7nm,0.3s						
PPT	Papeete	28.06	70	LR	LR	22 48 58.3	
	comp=Z,29nm,20.8s,baz=223,slow=32						
MEH	Mehetia	29.14	72	eT	T	23 10 39.3	
	15nm,0.3s						
HNR	Honiara	29.54	309	LR	LR	22 48 33.3	
	comp=Z,66nm,18.3s,baz=146,slow=32						
VAH	Vaihoa	30.88	68	eT	T	23 12 41.4	
	30nm,0.2s						
CTAO	Charters Tower	34.41	278	P	P	22 40 23.8	+0.1
CTAO				IAmb	IAmb	22 40 29.2	
	comp=Z,8.8nm,1.4s						
STKA	Stephens Creek	35.24	256	P	P	22 40 32.3	+1.5
	comp=Z,6.0nm,0.7s,baz=112,slow=10,SNR=3.1						
STKA				LR	LR	22 52 15.4	
	comp=Z,117nm,18.9s,baz=44,slow=32						
STKA	Stephens Creek	35.24	256	P	P	22 40 33.4	+2.6
STKA				IAmb	IAmb	22 40 40.0	
	comp=Z,1.6nm,0.9s						
BBOO	Buckleboo	39.75	254	P	P	22 41 11.2	+2.3
AS31	Alice Springs	43.82	266	P	P	22 41 43.3	+1.0
ASAR	Alice Springs	43.82	266	P	P	22 41 41.6	-0.8
	comp=Z,1.0nm,0.7s,baz=101,slow=7.9,SNR=6.9						
ASAR	Alice Springs	43.82	266	P	P	22 41 42.5	+0.1
WR0	Warramunga Arr	44.59	271	P	P	22 41 48.8	+0.3
WR0				IAmb	IAmb	22 41 54.8	
	comp=Z,9.2nm,1.3s						
WB2	Warramunga Arr	44.76	271	P	P	22 41 49.1	-0.8
WB2				IAmb	IAmb	22 41 56.9	
	comp=Z,8.5nm,1.1s						
WRA	Warramunga Arr	44.77	271	P	P	22 41 48.8	-1.1
	comp=Z,2.3nm,0.8s,baz=109,slow=7.8,SNR=19						
FORT	Forrest	46.82	254	P	P	22 42 07.6	+1.6
VNDA	Vanda	48.60	186	P	P	22 42 33.0	+14
	comp=Z,1.3nm,1.0s,baz=27,slow=6.3,SNR=2.9						
VNDA	Vanda	48.60	186	P	P	22 42 19.9	+0.7
VNDA				IAmb	IAmb	22 42 20.5	
	comp=Z,3.1nm,1.5s						
FITZ	Fitzroy Crossi	53.05	269	P	P	22 42 53.4	0.0
FITZ				IAmb	IAmb	22 42 56.7	
	comp=Z,13nm,1.4s						
BATI	Baumata	58.27	277	LR	LR	23 07 57.6	
	comp=Z,163nm,18.5s,baz=142,slow=36						
QSPA	South Pole Qui	60.15	180	P	P	22 43 50.8	+7.4
QSPA				IAmb	IAmb	22 43 59.5	
	comp=Z,3.8nm,0.7s						
BELA	Belgrano 2	70.13	172	P	P	22 44 53.8	+6.0
H03S2	Juan Fernandez	80.14	123	T	T	00 15 20.7	
	baz=238,slow=74,SNR=105						
H03S1	Juan Fernandez	80.15	123	T	T	00 15 21.9	
	baz=238,slow=74,SNR=107						
H03S3	Juan Fernandez	80.16	123	T	T	00 15 18.4	
	baz=238,slow=74,SNR=122						
NVAR	Mina Array Bea	87.45	42	P	P	22 46 35.5	+12
	comp=Z,0.2nm,0.6s,baz=226,slow=8.6,SNR=3.9						
PDAR	Pinedale Array	95.34	43	LR	LR	23 28 59.8	
	comp=Z,52nm,18.2s,baz=34,slow=35						
FINES	FINESS Array B	144.96	341	PKP	PKiKP	22 53 17.3	+1.3
	comp=Z,2.6nm,1.1s,baz=40,slow=5.4,SNR=1.9						
AKASG	Malin Array Be	151.35	324	PKPbc	PKPab	22 53 34.8	-2.5
	comp=Z,0.4nm,0.5s,baz=56,slow=3.4,SNR=1.7						
TORD	Torodi Ar. Bea	163.24	176	PKPab	PKPab	22 54 43.0	+14
	comp=Z,2.9nm,1.0s,baz=180,slow=3.0,SNR=7.5						

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*SOME **04** 22:42:31.9, 40°.05N×76°.72E, h15km*

*KRNET **04** 22:42:32.8±0.1, 39°.87N×76°.84E, mb3.1*

*NNC **04** 22:42:36.1±1.5, 40°.22N×76°.76E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=10.2km s-min=7.4km az=172.0*

ISC 04 22:42:31.0±2.0**, 40°.06N**±0°.07×**76°.66E**±0°.03**, h4**km±16km**, n69, σ1°.47**/103**, 21C-17D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDJ	Kajisay	2.11	11	⇑eP	Pg	22 43 11.7	+0.3
	baz=7.0						
KDJ				⇑iS	Sg	22 43 39.8	+1.1
	baz=7.0						
ULHL	Ulahol	2.21	352	⇓eP	Pg	22 43 13.5	+0.2
	baz=49						
ULHL				⇓iS	Sg	22 43 43.3	+1.4
	baz=49						
ULHL	Ulahol	2.21	352	P	Pg	22 43 13.9	+0.6
	SNR=21						
BOOM	Boomskoye usch	2.49	348	⇓iP	Pb	22 43 17.2	+0.8
	baz=46						
BOOM				⇓iS	Sg	22 43 50.2	-0.7
	baz=46						
ARLS	Aral	2.52	316	⇓iP	Pb	22 43 18.0	+1.0
	baz=17						
ARLS				⇓iS	Sg	22 43 51.8	-0.2
	baz=17						
UCH	Uchtor	2.70	324	⇓iP	Pb	22 43 21.2	+0.9
	baz=24						
UCH				⇓iS	Sb	22 43 56.5	+2.5
	baz=24						
UCH	Uchtor	2.70	324	P	Pb	22 43 21.6	+1.3
	SNR=7.3						
PRZ	Przheval'sk	2.75	28	⇑iP	Pb	22 43 20.1	-0.9
	baz=24						
PRZ				⇑iS	Sb	22 43 54.3	-0.9
	baz=24						
ANVS	Anan'yevo	2.83	15	⇓iP	Pb	22 43 21.5	-0.7
	baz=12						
ANVS				⇓iS	Sb	22 43 57.1	-0.1
	baz=12						
KBK	Karagaybulak	2.90	334	⇓iP	Pb	22 43 23.3	-0.1
	baz=33						
KBK				⇓iS	Sb	22 44 00.5	+1.3
	baz=33						
KBK	Karagaybulak	2.90	334	P	Pg	22 43 27.1	+0.6
	SNR=16						
TKM2	Tokmak 2	2.97	345	⇑iP	Pb	22 43 24.2	-0.4
	baz=43						
TKM2				⇑iS	Sb	22 44 02.0	+0.7
	baz=43						
TKM2	Tokmak 2	2.97	345	P	Pb	22 43 25.3	+0.6
	SNR=5.6						
TKM2	Tokmak 2	2.97	345	⇓Pg	Pb	22 43 24.4	-0.2
	3.5nm,0.8s						
TKM2				⇑Lg	Lg	22 44 05.8	
	13nm,0.6s						
IZV	Izvestkoviy	2.97	359	eP	Pg	22 43 27.4	-0.6
	3.1nm,0.4s						
IZV				eS	Sg	22 44 07.7	+1.1
	24nm,0.7s						
IZV	Izvestkoviy	2.97	359	Pg	Pb	22 43 26.1	+1.4
	2.4nm,0.5s						
IZV				Lg	Lg	22 44 03.0	
	24nm,0.7s						
TNSS	Tian-Shan	2.98	4	eP	Pg	22 43 27.2	-1.0
	15nm,0.3s						
TNSS				eS	Sg	22 44 07.2	+0.4
	9.8nm,0.5s						
TNSS	Tian-Shan	2.98	4	Pg	Pg	22 43 27.3	-0.9
	15nm,0.3s						
TNSS				Lg	Lg	22 44 05.0	
	9.8nm,0.5s						
KST	Kastek	3.02	350	eP	Pg	22 43 28.4	-0.7
	4.8nm,0.3s						
KST				eS	Sg	22 44 09.2	+1.0
	15nm,0.6s						
KST	Kastek	3.02	350	Pg	Pg	22 43 28.8	-0.2
	4.8nm,0.3s						
KST				Lg	Lg	22 44 07.6	
	15nm,0.6s						
AAK	Ala-Archa	3.05	328	⇑iP	Pb	22 43 25.8	-0.1
	baz=28						
AAK				⇑iS	Sb	22 44 03.9	+0.4
	baz=28						
AAK	Ala-Archa	3.05	328	P	Pg	22 43 29.4	-0.1
	SNR=7.9						
AAK	Ala-Archa	3.05	328	⇑Pg	Pg	22 43 29.2	-0.2
	5.2nm,0.6s						
AAK				⇑Lg	Lg	22 44 10.1	
	11nm,0.4s						
AML	Almayashu	3.05	314	⇓iP	Pb	22 43 25.5	-0.6
	baz=15						
AML				⇓iS	Sb	22 44 03.5	-0.3
	baz=15						
AML	Almayashu	3.05	314	P	Pb	22 43 26.3	+0.2
	SNR=13						
ARSB	Arslanbob	3.06	296	⇑eP	Pb	22 43 25.3	-0.9
	baz=98						
ARSB				⇑eS	Sb	22 44 03.3	-0.8
	baz=98						
MTBS	Maitube	3.07	357	eP	Pg	22 43 29.2	-0.7
	2.6nm,0.2s						
MTBS				eS	Sg	22 44 10.8	+1.0
	12nm,0.2s						
MTBS	Maitube	3.07	357	Pg	Pg	22 43 30.9	+1.0
	2.6nm,0.2s						
MTBS				Lg	Lg	22 44 10.9	
	12nm,0.2s						
MDOK	Medeo	3.12	5	eP	Pb	22 43 29.3	+2.2
	5.7nm,0.4s						
MDOK				eS	Sg	22 44 10.8	-0.3
	13nm,0.4s						
MDOK	Medeo	3.12	5	Pg	Pb	22 43 29.0	+1.9
	6.6nm,0.5s						
MDOK				Lg	Lg	22 44 11.3	
	17nm,0.6s						
MDOK	Medeo	3.12	5	Pg	Pg	22 43 31.5	+0.8
	5.7nm,0.4s						
MDOK				Lg	Lg	22 44 12.0	
	13nm,0.4s						
DGS	Degeres	3.25	349	eP	Pg	22 43 32.8	-0.5
	3.4nm,0.4s						
DGS				eS	Sg	22 44 16.5	+1.1
	11nm,0.5s						
DGS	Degeres	3.25	349	Pg	Pg	22 43 32.9	-0.4
	3.4nm,0.4s						
DGS				Lg	Lg	22 44 14.5	
	11nm,0.5s						
CHMS	Chumysh	3.27	335	⇑eP	Pb	22 43 28.4	-1.2
	baz=34						
CHMS				⇑iS	Sb	22 44 08.9	-0.8
	baz=34						
EKS2	Erkin-Say	3.38	321	⇑iP	Pb	22 43 30.1	-1.6
	baz=21						
EKS2				⇑iS	Sb	22 44 12.0	-1.2
	baz=21						
EKS2	Erkin-Say	3.38	321	P	Pb	22 43 31.6	-0.1
	SNR=8.3						
UZB	Uzynbulak	3.56	29	eP	Pg	22 43 37.2	-2.1
	2.1nm,0.3s						
UZB				eS	Sg	22 44 24.6	-0.8
	7.1nm,0.4s						
UZB	Uzynbulak	3.56	29	Pg	Pg	22 43 39.3	+0.1
	3.8nm,0.2s						
UZB				Lg	Lg	22 44 25.2	
	7.1nm,0.4s						
USP	Ospenovka	3.59	334	⇑iP	Pb	22 43 32.8	-2.3
	baz=33						
USP				⇑iS	Sb	22 44 16.6	-2.4
	baz=33						
KURS	Kuram	3.61	18	Pg	Pb	22 43 36.2	+0.8
	2.5nm,0.5s						
KURS				Lg	Lg	22 44 20.0	
	9.6nm,0.7s						
KTBS	Karatobe	3.65	0	eP	Pb	22 43 38.9	+2.7
	2.5nm,0.4s						
KTBS				eS	Sg	22 44 27.3	-0.9
	8.8nm,0.5s						
KTBS	Karatobe	3.65	0	Pg	Pg	22 43 40.7	-0.3
	2.5nm,0.4s						
KTBS				Lg	Lg	22 44 27.7	
	8.8nm,0.5s						
KRBS	Karabastau	3.71	349	eP	Pg	22 43 40.8	-1.2
	2.1nm,0.3s						
KRBS				eS	Sg	22 44 30.6	+0.6
	5.4nm,0.3s						
KRBS	Karabastau	3.71	349	Pg	Pg	22 43 42.6	+0.6
	2.1nm,0.3s						
KRBS				Lg	Lg	22 44 31.1	
	5.4nm,0.3s						
MRKS	Merke	3.72	317	eP	Pg	22 43 41.8	-0.5
	3.6nm,0.3s						
MRKS				eS	Sg	22 44 32.2	+1.6
	9.2nm,0.4s						
MRKS	Merke	3.72	317	Pg	Pg	22 43 43.5	+1.2
	3.6nm,0.3s						
MRKS				Lg	Lg	22 44 32.2	
	9.2nm,0.4s						
KPKS	Kokpek	3.73	23	eP	Pb	22 43 39.8	+2.3
	6.5nm,0.5s						
KPKS				eS	Sg	22 44 28.8	-2.0
	16nm,0.4s						
SHLS	Shalkode	3.74	33	eP	Pg	22 43 43.6	+0.9
	5.1nm,0.5s						
SHLS				eS	Sg	22 44 35.3	+4.0
	17nm,0.5s						
SHLS	Shalkode	3.74	33	Pg	Pg	22 43 44.5	+1.7
	5.1nm,0.5s						
SHLS				Lg	Lg	22 44 34.5	
	17nm,0.5s						
CHKK	Chushkaly	3.80	4	eP	Pg	22 43 42.6	-1.3
	1.6nm,0.1s						
CHKK				eS	Sg	22 44 33.2	+0.1
	9.7nm,0.4s						
CHKK	Chushkaly	3.80	4	Pg	Pg	22 43 43.8	0.0
	1.6nm,0.1s						
CHKK				Lg	Lg	22 44 33.2	
	9.7nm,0.4s						
KUU	Kurty	3.84	357	eP	Pb	22 43 42.3	+3.0
	1.6nm,0.4s						
KUU				eS	Sg	22 44 33.1	-1.2
	11nm,0.6s						
KUU	Kurty	3.84	357	Pg	Pg	22 43 42.6	-1.9
	1.6nm,0.4s						
KUU				Lg	Lg	22 44 31.1	
	11nm,0.6s						
PDGK	Podgornoye	3.90	32	Pg	Pb	22 43 42.9	+2.5
	1.7nm,0.4s						
PDGK				Lg	Lg	22 44 31.8	
	4.6nm,0.6s						
PDGK	Podgornoye	3.90	32	⇓Pg	Pb	22 43 41.9	+1.5
	3.4nm,0.7s						
PDGK				⇓Lg	Lg	22 44 34.0	
	18nm,0.8s						
MNBS	Baschi	4.22	17	eP	Pg	22 43 49.4	-2.6
	4.4nm,0.4s						
MNBS				eS	Sg	22 44 45.2	-1.4
	16nm,0.6s						
MNBS	Baschi	4.22	17	Pg	Pg	22 43 50.1	-1.9
	4.4nm,0.4s						
MNBS				Lg	Lg	22 44 44.1	
	16nm,0.6s						
ARXS	Arharly	4.24	11	eP	Pg	22 43 49.9	-2.4
	3.9nm,0.5s						
ARXS				eS	Sg	22 44 46.2	-1.1
	7.6nm,0.4s						
ARXS	Arharly	4.24	11	Pg	Pg	22 43 51.2	-1.1
	3.9nm,0.5s						
ARXS				Lg	Lg	22 44 46.2	
	7.6nm,0.4s						
KTMS	Ketmen	4.37	38	Pg	Pg	22 43 52.6	-2.2
	0.2nm,0.1s						
KTMS				Lg	Lg	22 44 48.4	
	6.9nm,0.4s						
DJR	Jarkent	4.86	28	eP	Pb	22 44 00.6	+3.7
	1.8nm,0.3s						
DJR				eS	Sg	22 45 04.3	-2.9
	3.2nm,0.4s						
DJR	Jarkent	4.86	28	Pg	Pg	22 44 03.1	-1.1
	1.8nm,0.3s						
DJR				Lg	Lg	22 45 05.9	
	3.2nm,0.4s						
TDK	Taldyqorghan	5.11	14	Pg	Pg	22 44 06.9	-2.0
	6.4nm,0.2s						
TDK				Lg	Lg	22 45 12.3	
	20nm,0.5s						
BTLS	Baital	5.34	340	eP	Pg	22 44 11.2	-2.1
	1.2nm,0.3s						
BTLS				eS	Sg	22 45 22.9	+0.5
	2.1nm,0.4s						
BTLS	Baital	5.34	340	Pg	Pg	22 44 13.2	-0.1
	1.2nm,0.3s						
BTLS				Lg	Lg	22 45 23.2	
	2.1nm,0.4s						
IUG	Iuzhnay	5.42	295	eP	Pg	22 44 13.7	-1.2
	1.2nm,0.2s						
IUG				eS	Sg	22 45 26.8	+1.6
	5.7nm,0.7s						
IUG	Iuzhnay	5.42	295	Pg	Pg	22 44 16.7	+1.8
	0.7nm,0.1s						
KK31	Karatay Array	5.52	305	⇑Pg	Pg	22 44 14.1	-2.7
	0.5nm,0.5s,baz=129,slow=15,SNR=5.2						
KK31				⇑Lg	Lg	22 45 22.1	
	0.2nm,0.2s,baz=120,slow=28,SNR=3.7						
KAPS	Kapalarasan	5.59	20	Pg	Pg	22 44 14.8	-3.3
	1.1nm,0.4s						
KAPS				Lg	Lg	22 45 26.0	
	4.0nm,0.6s						

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*IDC **04** 22:49:40.1±2.3, 19°.05S×69°.26W, h127km±14km, mb3.4/3, mb1 3.2/6, mb1mx3.1/29, mbtmp3.7/6, MS3.3/1, Ms1 3.3/1, ms1mx2.6/18, Error ellipse: s-maj=51.9km s-min=9.0km az=98.0*

*GUC **04** 22:49:40.9±0.7, 19°.02S×69°.33W, h112km±3km, ML3.2*

ISC 04 22:49:39.3±1.0**, 19°.03S**±0°.04×**69°.42W**±0°.09**, h122**km±9km**, n18, σ1°.02**/28**, 7C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNMC	Minye Minye	0.19	239	⇑iP	Pn	22 49 56.8	+0.2
MNMC				iS	Sn	22 50 09.2	-0.3
PB16	IPOC Station P	0.70	353	⇑iP	Pn	22 50 00.3	+0.7
PB16				iS	Sn	22 50 15.3	+0.4
PSGC	Pisagua	0.87	230	⇑iP	Pn	22 50 01.0	+0.5
PSGC				iS	Sn	22 50 16.7	+0.3
AP01	Chacalluta	1.09	307	⇑iP	Pn	22 50 03.4	+0.9
AP01				iS	Sn	22 50 20.8	+0.8
PB08	IPOC Station P	1.13	167	⇑iP	Pn	22 50 04.3	+1.0
PB08				iS	Sn	22 50 22.0	+0.5
PB08				IAML		22 50 23.2	
	comp=E,716nm,0.2s						
HMBC	Humberstone	1.31	199	⇑iP	Pn	22 50 05.5	+0.6
HMBC				iS	Sn	22 50 24.9	+0.5
HMBC				IAML		22 50 27.7	
	comp=N,550nm,0.2s						
TA02	Huaiquique	1.40	208	eP	Pn	22 50 06.1	+0.3
TA02				iS	Sn	22 50 26.2	+0.3
TA01	Diego Aracena	1.68	205	iP	Pn	22 50 09.4	+0.4
TA01				iS	Sn	22 50 30.8	-0.9
TA01				IAML		22 50 32.9	
	comp=E,172nm,0.3s						
PB01	IPOC Station P	2.00	182	⇑iP	Pn	22 50 13.9	+0.8
PB01				iS	Sn	22 50 38.7	-0.1
PB01				IAML		22 50 39.9	
	comp=E,195nm,0.2s						
PB09	IPOC Station P	2.75	176	eP	Pn	22 50 24.3	+1.6
PB09				IAML		22 51 00.9	
	comp=E,64nm,0.7s						
LPAZ	La Paz	3.00	25	P	Pn	22 50 28.1	+1.8
	comp=E,1.2nm,0.3s,baz=202,slow=7.5,SNR=21						
LPAZ				S	Sn	22 51 02.7	+0.4
	comp=E,0.5nm,0.3s,baz=188,slow=7.1,SNR=6.1						
PB04	IPOC Station P	3.35	192	eP	Pn	22 50 31.4	+0.8
LVC	Limon Verde	3.59	172	P	Pn	22 50 35.5	+1.6
	comp=E,1.1nm,0.3s,baz=4.8,slow=7.5,SNR=17						
LVC				S	Sn	22 51 16.0	+0.1
	comp=E,4.3nm,0.3s,baz=307,slow=23,SNR=7.5						
SIV	San Ignacio	8.52	71	P	Pn	22 51 37.4	-2.6
	comp=E,0.8nm,0.3s,baz=274,slow=9.2,SNR=13						
PTGA	Pitinga	20.42	28	P	P	22 54 05.6	-1.4
	comp=E,2.5nm,0.3s,baz=304,slow=23,SNR=14						
BDFB	Brasilia	20.71	84	P	P	22 54 11.0	+0.7
	comp=E,1.5nm,0.4s,baz=256,slow=12,SNR=3.0						
SDV	Santo Domingo	27.77	357	LR	LR	23 07 53.8	
	comp=E,64nm,20.4s,baz=34,slow=39						
TORD	Torodi Ar. Bea	77.00	71	P	P	23 01 18.6	-0.7
	comp=E,0.3nm,0.4s,baz=262,slow=4.6,SNR=2.1						

*BJI **05** 00:07:10.4±0.0, 0°.17N×97°.05E, h7km, mB5.3/56, mb5.1/80, Ms5.1/85, Ms7 4.9/74*

*NEIC **05** 00:07:12.1, 0°.21N×96°.96E, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-5.21; $M_{\theta\theta}$1.67; $M_{\phi\phi}$3.54; $M_{r\theta}$2.39; $M_{\theta\phi}$-2.65; $M_{\phi r}$-3.09; Fault plane solution: $M_0$6.60000×10^{16} NP1:ϕ_s323.25000°, δ63.15000°, λ-91.36000°. NP2:ϕ_s146.26000°, δ26.88000°, λ-87.32000°. Principal axes: T 6.6958, Plg18.0000°, Azm54.0000°; N -0.2063, Plg1.0000°, Azm324.0000°; P -6.4895, Plg72.0000°, Azm230.0000°;*

*NEIC **05** 00:07:12.1±1.2, 0°.21N±0°.07×96°.96E±0°.08, h10km±1km, mb5.5/110, Ms_20 4.8/57, Mwb5.1/19, Mww5.3, Mwc5.2(GCMT) Error ellipse: s-maj=13.5km s-min=11.9km az=108.0*

*MOS **05** 00:07:13.1±0.9, 0°.28N×96°.97E, h25km, mb5.6/90, MS4.8/11, Error ellipse: s-maj=6.2km s-min=3.6km az=115.7*

*KLM **05** 00:07:14, 0°.35N×96°.94E, h14km, mb5.6*

*DJA **05** 00:07:14.5±0.8, 0°N±2°×9°7E±°, h23km±7km, M5.2/37, mb5.4/37, mB5.7/28, MLv5.6/15, Mw(mB)5.2/28, MwMwp4.9/11, Mwp5.2/11*

*GCMT **05** 00:07:15.1±0.1, 0°.20N±0°.01×96°.89E±0°.01, h14km, MW5.2/126, Moment Tensor Solution. s105,c148; s126,c216; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.76±.02; $M_{\theta\theta}$0.17±.01; $M_{\phi\phi}$0.59±.01; $M_{r\theta}$0.48±.03; $M_{\theta\phi}$-0.41±.01; $M_{\phi r}$-0.13±.03; Best double couple: $M_0$0.94500×10^{17} NP1:ϕ_s168.00000°, δ36.00000°, λ-56.00000°. NP2:ϕ_s308.00000°, δ61.00000°, λ-112.00000°. Principal axes: T 0.9270, Plg13.0000°, Azm54.0000°; N 0.0360, Plg19.0000°, Azm320.0000°; P -0.9630, Plg67.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 00:07:15, 0°.15N×96°.87E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-7.54; $M_{\theta\theta}$1.83; $M_{\phi\phi}$5.71; $M_{r\theta}$3.65; $M_{\theta\phi}$-4.40; $M_{\phi r}$-2.05; Fault plane solution: $M_0$9.13000×10^{16} NP1:ϕ_s161.00000°, δ34.00000°, λ-67.00000°. NP2:ϕ_s314.00000°, δ59.00000°, λ-105.00000°. Principal axes: T 9.4087, Plg13.0000°, Azm55.0000°; N -0.5941, Plg13.0000°, Azm322.0000°; P -8.8146, Plg72.0000°, Azm187.0000°;*

*IDC **05** 00:07:16.4±0.4, 0°.20N×96°.95E, h38km±3km, mb4.8/49, mb1 4.8/51, mb1mx4.7/60, mbtmp5.0/51, ML5.0/2, MS4.4/34, Ms1 4.4/34, ms1mx4.3/51 Error ellipse: s-maj=10.7km s-min=7.4km az=44.0*

*NEIC **05** 00:07:17, 0°.13N×96°.90E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.79; $M_{\theta\theta}$0.37; $M_{\phi\phi}$0.42; $M_{r\theta}$-0.57; $M_{\theta\phi}$-0.33; $M_{\phi r}$0.43; Fault plane solution: $M_0$1.05000×10^{17} NP1:ϕ_s322.00000°, δ24.00000°, λ-79.00000°. NP2:ϕ_s131.00000°, δ67.00000°, λ-94.00000°. Principal axes: T 1.0074, Plg22.0000°, Azm224.0000°; N 0.0715, Plg4.0000°, Azm132.0000°; P -1.0790, Plg68.0000°, Azm32.0000°;*

*BGR **05** 00:07:18.9±0.0, 0°.27N×96°.54E, h41km, mb5.4*

ISC 05 00:07:14.4±0.3**, 0°.16N**±0°.03×**97°.00E**±0°.04**, h24**km±2km**, h24**km**:pP-P, n915, σ1s.33**/1017**, mb5.4**/241**, MS4.6**/86**, 39C-46D, Fault plane solution: NP1:**ϕ_s304.69913°, δ70.67607°, λ-93.87701°. **NP2:**ϕ_s136.27327°, δ19.69444°, λ-79.08617°. **Principal axes:** T Plg25.5790°, Azm37.7376°**;** N Plg3.6583°, Azm305.9838°**;** P Plg64.1227°, Azm208.4099°**; Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.27**	**27**	P	**Pn**	**00 07 35.9**	**-0.8**
GSI				S	**Sb**	**00 07 52.8**	**-0.9**
MNSI	**Mandailing Nat**	**2.66**	**76**	P	**Pn**	**00 07 55.6**	**-0.2**
TPTI		**3.08**	**3**	P	**Pn**	**00 07 59.1**	**-2.5**
TPTI				S	**Sn**	**00 08 35.2**	**-2.5**
RPSI	**Rantau Prapat**	**3.17**	**37**		**Pn**	**00 08 02.2**	**-0.6**
PSI	**Prapat**	**3.25**	**36**	Pn	**Pn**	**00 08 03.0**	**-1.1**
	59nm,0.3s,baz=180,slow=9.8,SNR=143						
PSI				Sn	**Sn**	**00 08 37.6**	**-4.5**
	27nm,0.3s,baz=0.0,slow=13,SNR=4.2						
PSI				LR	LR	00 09 01.9	
	comp=Z,6µm,20.6s,baz=269,slow=33						
PSI	**Prapat**	**3.25**	**36**	P	**Pn**	**00 08 02.2**	**-1.9**
TSI	**Tuntungan**	**3.67**	**25**	P	**Pn**	**00 08 09.4**	**-0.3**
BKNI	**Bangkinang**	**4.05**	**88**	P	**Pn**	**00 08 14.8**	**-0.1**
LHMI	**Lhok Sumawe**	**5.03**	**359**	P	**Pn**	**00 08 27.7**	**-0.7**
	7.8nm8µm10µm444nm,0.8s						
LHMI				S	**Sn**	**00 09 25.0**	**-0.9**
	7.8nm8µm10µm444nm,0.8s						
IPM	**Ipoh**	**5.88**	**43**	Pn	**Pn**	**00 08 40.0**	**-0.2**
IPM	**Ipoh**	**5.88**	**43**	P	**Pn**	**00 08 41.0**	**+0.9**
KULM	**Kulim**	**6.27**	**36**	Pn	**Pn**	**00 08 44.3**	**-1.1**
KULM	**Kulim**	**6.27**	**36**	P	**Pn**	**00 08 45.0**	**-0.4**
JMBI	**JAMBI**	**6.88**	**105**	P	**Pn**	**00 08 54.2**	**+0.4**
	2.2nm232nm,0.6s						
MYKOM	**Kota Tinggi**	**7.04**	**77**	Pn	**Pn**	**00 08 55.5**	**-0.6**
MYKOM	**Kota Tinggi**	**7.04**	**77**	P	**Pn**	**00 08 57.0**	**+0.9**
MNAI	**Manna**	**7.46**	**127**	P	**Pn**	**00 09 02.1**	**+0.3**
	9.8nm12µm816nm,1.3s						
LHSI	**Lahat**	**7.63**	**121**	P	**Pn**	**00 09 04.5**	**+0.3**
	2.1nm7µm599nm,0.9s						
PKDT	**Phuket**	**7.79**	**10**	P	**Pn**	**00 09 02.0**	**-4.4**
	2.8nm9µm178nm,0.9s						
MDSI	**Maura Dua**	**8.53**	**123**	P	**Pn**	**00 09 16.4**	**-0.1**
	3µm2µm182nm,0.6s						
LWLI	**Liwa**	**8.73**	**126**	P	**Pn**	**00 09 19.3**	**-0.1**
	268nm,0.4s						
SURT	**Suratani**	**8.92**	**12**	P	**Pn**	**00 09 24.2**	**+2.4**
	3.2nm,1.1s						
KLSI		**9.11**	**122**	P	**Pn**	**00 09 24.1**	**-0.3**
	656nm39nm,0.6s						
KASI	**Kota Agung**	**9.38**	**127**	P	**Pn**	**00 09 27.2**	**-1.0**
	2µm166nm,0.7s						
PPBI	**Pangkal Pinang**	**9.43**	**104**	P	**Pn**	**00 09 28.9**	**+0.1**
	11µm125nm,1.2s						
BLSI	**Bandar Lampung**	**9.90**	**124**	P	Pn	00 09 49.5	+14
TPI	**Tanjungpandan**	**11.04**	**105**	P	**Pn**	**00 09 51.5**	**+0.6**
	1µm104nm,1.1s						
DBJI	**Dramaga**	**11.80**	**125**	P	**Pn**	**00 10 00.3**	**-1.1**
	25µm47nm,0.8s						
COCO	**West Island**	**12.27**	**181**	P	**Pn**	**00 10 07.1**	**-0.7**
COCO	**West Island**	**12.27**	**181**	Pn	**Pn**	**00 10 07.1**	**-0.7**
LEM	**Lembang**	**12.67**	**123**	Pn	**Pn**	**00 10 12.3**	**-1.1**
	5.2nm,0.3s,baz=144,slow=22,SNR=1.8						
LEM				Sn	**Sn**	**00 12 30.5**	**-3.4**
	4.5nm,0.3s,baz=155,slow=22,SNR=1.3						
LEM				LR	LR	00 15 55.2	
	comp=Z,2µm,20.0s,baz=274,slow=41						
PHET	**Kaeng Krachan**	**12.93**	**12**	P	**Pn**	**00 10 16.6**	**-0.2**
	894nm95nm,1.0s						
PATY	**Pattaya**	**13.25**	**17**	P	**Pn**	**00 10 20.6**	**-0.5**
	9µm125nm,1.1s						
KSM	**Kuching**	**13.38**	**84**	Pn	**Pn**	**00 10 22.0**	**-0.9**
KSM	**Kuching**	**13.38**	**84**	P	**Pn**	**00 10 25.0**	**+2.1**
SRDT	**SRDT**	**14.25**	**8**	P	**P**	**00 10 41.6**	**-0.3**
SRAK	**Srakaew**	**14.64**	**20**	P	**Pn**	**00 10 41.6**	**+1.4**
	18µm2µm,0.9s						
PBKI	**Pangkalan Bun**	**14.94**	**101**	P	**Pn**	**00 10 44.3**	**0.0**
	432nm,0.6s						
SBUM	**Sibu**	**15.39**	**81**	Pn	**Pn**	**00 10 49.9**	**-0.3**
SBUM				IAmb	IAmb	00 10 56.8	
	comp=Z,284nm,1.3s						
SBUM	**Sibu**	**15.39**	**81**	P	**Pn**	**00 10 51.0**	**+0.8**
UTHA	**Uthaitani**	**15.49**	**9**	P	**Pn**	**00 10 52.7**	**+1.3**
	comp=Z,4µmcomp=Z,637nm,0.9s						
UMPA	**Umpang Tak**	**16.05**	**6**	P	**Pn**	**00 10 57.1**	**-1.5**
	comp=Z,4µmcomp=Z,365nm,0.9s						
DLV	**T Lat**	**16.34**	**44**	Pn	**Pn**	**00 11 01.3**	**-1.3**
CHAI	**Chaiyaphum**	**16.40**	**17**	P	**Pn**	**00 11 01.0**	**-2.1**
	comp=Z,3µmcomp=Z,423nm,1.0s						
UBPT	**Khong Chiam**	**17.20**	**29**	P	**Pn**	**00 11 11.6**	**-1.6**
	comp=Z,2µmcomp=Z,155nm,1.1s						
UBPT	**Khong Chiam**	**17.20**	**29**	P	**Pn**	**00 11 11.3**	**-1.9**
UBPT				IAmb	IAmb	00 11 16.0	
	comp=Z,294nm,1.1s						
PHIT	**Phitsanulok**	**17.25**	**11**	P	**P**	**00 11 14.8**	**-0.4**
	comp=Z,21µmcomp=Z,3µm,1.0s						
SUKH	**Sukhothai**	**17.41**	**8**	P	**Pn**	**00 11 15.0**	**-0.8**
	comp=Z,7µmcomp=Z,824nm,1.0s						
PALK	**Pallekele**	**17.72**	**294**	P	**P**	**00 11 21.9**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=220,slow=9.4,SNR=35						
PALK				S	Sn	00 14 18.0	-19
	comp=Z,0.5nm,0.3s,baz=139,slow=21,SNR=0.9						
PALK				LR	LR	00 17 19.4	
	comp=Z,2µm,18.1s,baz=218,slow=34						
PALK	**Pallekele**	**17.72**	**294**	*de*P	**P**	**00 11 21.4**	**+0.9**
PALK	**Pallekele**	**17.72**	**294**	P	**Pn**	**00 11 20.0**	**+0.3**
PALK	**Pallekele**	**17.72**	**294**	P	**P**	**00 11 22.9**	**+2.4**
UTTA	**Uttaradit**	**17.82**	**11**	P	**Pn**	**00 11 19.9**	**-1.0**
	comp=Z,3µmcomp=Z,464nm,1.0s						
MHMT	**Maesarieng**	**17.93**	**3**	P	**Pn**	**00 11 21.4**	**-0.8**
	comp=Z,3µmcomp=Z,208nm,0.8s						
MTKI	**Muara Teweh, K**	**17.93**	**94**	P	**Pn**	**00 11 22.0**	**-0.4**
BBKI	**Banjar Baru**	**18.20**	**102**	P	**Pn**	**00 11 24.0**	**-1.6**
	comp=Z,4µmcomp=Z,94nm,1.0s						
CM05	**Chiang Mai Arr**	**18.23**	**6**	P	**P**	**00 11 25.8**	**-0.3**
	comp=Z,1µmcomp=Z,111nm,0.8s						
CM04	**Chiang Mai Arr**	**18.23**	**6**	P	**Pn**	**00 11 25.0**	**-0.9**
	comp=Z,1µmcomp=Z,132nm,0.8s						
CM13	**Chiang Mai Arr**	**18.24**	**6**	P	**P**	**00 11 25.9**	**-0.2**
	comp=Z,1µmcomp=Z,153nm,0.8s						
CM01	**Chiang Mai Arr**	**18.25**	**6**	P	**P**	**00 11 26.1**	**-0.2**
	comp=Z,2µmcomp=Z,184nm,0.9s						
CM02	**Chiang Mai Arr**	**18.26**	**6**	P	**Pn**	**00 11 26.0**	**-0.3**
	comp=Z,1µmcomp=Z,124nm,0.8s						
CM09	**Chiang Mai Arr**	**18.27**	**6**	P	**P**	**00 11 26.4**	**-0.1**
	comp=Z,1µmcomp=Z,149nm,0.8s						
CM15	**Chiang Mai Arr**	**18.27**	**6**	P	**P**	**00 11 26.5**	**0.0**
	comp=Z,1µmcomp=Z,161nm,0.8s						
CM31	**Chiang Mai Arr**	**18.28**	**6**	P	**P**	**00 11 26.7**	**+0.1**
	comp=Z,36µmcomp=Z,4µm,0.8s						
CM31	**Chiang Mai Arr**	**18.28**	**6**	P	**Pn**	**00 11 25.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**18.28**	**6**	P	**Pn**	**00 11 25.9**	**-0.8**
	comp=Z,3.8nm,0.3s,baz=195,slow=12,SNR=138						
CMAR				PcP	**PcP**	**00 15 58.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=226,slow=4.1,SNR=4.4						
CMAR				LR	LR	00 19 16.0	
	comp=Z,2µm,19.6s,baz=224,slow=39						
CMAR	**Chiang Mai Arr**	**18.28**	**6**	*i* P	**Pn**	**00 11 25.8**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,73nm,0.7s						
CMAR	**Chiang Mai Arr**	**18.28**	**6**		**Pn**	**00 11 25.0**	**-1.6**
CM36	**Chiang Mai Arr**	**18.36**	**6**	P	**P**	**00 11 26.0**	**-1.5**
LAMP	**Lampang**	**18.43**	**8**	P	**Pn**	**00 11 28.1**	**-0.3**
	comp=Z,3µmcomp=Z,362nm,0.9s						
CM32	**Chiang Mai Arr**	**18.47**	**6**	P	**P**	**00 11 28.0**	**-0.6**
CM35	**Chiang Mai Arr**	**18.52**	**6**	P	**P**	**00 11 28.0**	**-1.3**
CHTO	**Chiang Mai**	**18.63**	**6**	P	**P**	**00 11 29.4**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,128nm,0.9s						
CHTO	**Chiang Mai**	**18.63**	**6**	P	**P**	**00 11 29.4**	**-1.1**
CHTO	**Chiang Mai**	**18.63**	**6**	P	**P**	**00 11 29.9**	**-0.5**
CMMT	**Chiang Mai**	**18.63**	**6**	P	**P**	**00 11 28.8**	**-1.7**
	comp=Z,1µmcomp=Z,100nm,1.0s						
CM33	**Chiang Mai Arr**	**18.64**	**6**	P	**P**	**00 11 29.0**	**-1.5**
CM34	**Chiang Mai Arr**	**18.69**	**6**	P	**P**	**00 11 30.0**	**-1.1**
NONG	**Nongkai**	**18.79**	**18**	P	**P**	**00 11 30.5**	**-1.7**
	comp=Z,7µmcomp=Z,150nm,1.0s						
ABJI	**Asem Bagus**	**18.92**	**115**	P	**Pn**	**00 11 34.6**	**+0.2**
	comp=Z,81nm,1.0s						
BKB	**Balikpapan**	**19.95**	**94**	P	**P**	**00 11 45.0**	**0.0**
	comp=Z,2µmcomp=Z,4µmcomp=Z,284nm,1.0s						
KKM	**Kota Kinabalu**	**20.05**	**73**	P	**P**	**00 11 46.6**	**+0.4**
MDRS	**Chennai**	**20.98**	**308**	*e*P	Pn	00 11 57.8	-0.9
TRD	**Trivandrum**	**21.61**	**293**	*e*P	**P**	**00 12 04.8**	**+1.8**
TWSI	**Taliwang, Sumb**	**21.69**	**115**	P	**P**	**00 12 03.3**	**-0.5**
	comp=Z,25nm,1.2s						
MYLDM	**Lahad Datu**	**22.05**	**77**	P	**P**	**00 12 07.2**	**-0.3**
MYLDM				IAmb	IAmb	00 12 35.9	
	comp=Z,156nm,1.0s						
SLVN	**Son La**	**22.10**	**17**	P	**P**	**00 12 07.1**	**-1.0**
SLVN				IAmb	IAmb	00 12 10.1	
	comp=Z,193nm,0.8s						
SAIH	**SAIHA**	**22.53**	**350**	*e*P	**P**	**00 12 12.8**	**-0.1**
PLAI	**Plampang**	**22.55**	**114**	P	**P**	**00 12 11.3**	**-1.7**
	comp=Z,69nm,1.4s						
QIZ	**Qiongzhong**	**22.59**	**33**	P	**P**	**00 12 14.5**	**+1.1**
QIZ				S	**S**	**00 16 22.8**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,100nm,1.7s						
QIZ				LR	LR		
	comp=Z,1µm,20.6s						
QIZ				LR	LR		
	comp=Z,1µm,22.6s						
QIZ				LR	LR		
	comp=Z,1µm,24.5s						
QIZ	**Qiongzhong**	**22.59**	**33**	P	**P**	**00 12 12.7**	**-0.8**
QIZ				IAmb	IAmb	00 12 16.6	
	comp=Z,194nm,1.2s						
TTSI	**Tana Toraja**	**23.04**	**98**	P	**P**	**00 12 18.5**	**+0.4**
	comp=Z,126nm,1.1s						
SPSI	**Sidrap Palu**	**23.12**	**100**	P	**P**	**00 12 20.4**	**+1.4**
	comp=Z,2µmcomp=Z,52nm,1.1s						
KAPI	**Kappang**	**23.30**	**103**	P	**P**	**00 12 20.4**	**-0.4**
	comp=Z,16nm,0.6s,baz=255,slow=9.7,SNR=4.7						
KAPI				LR	LR	00 21 34.2	
	comp=Z,804nm,18.1s,baz=282,slow=37						
KAPI	**Kappang**	**23.30**	**103**	P	**P**	**00 12 20.6**	**-0.2**
KAPI				IAmb	IAmb	00 12 33.6	
	comp=Z,317nm,1.4s						
BNSI	**Bone**	**23.53**	**101**	P	**P**	**00 12 23.1**	**+0.1**
BELO	**BELONIA**	**23.57**	**347**	*e*P	**P**	**00 12 24.1**	**+0.8**
HYB	**Hyderabad**	**24.97**	**314**	*i* P	**P**	**00 12 36.0**	**-0.4**
HYB	**Hyderabad**	**24.97**	**314**	*e*P	**P**	**00 12 36.6**	**+0.2**
KMI	**Kunming**	**25.43**	**12**	⇑P	**P**	**00 12 42.2**	**+1.5**
KMI				pP	sP	00 12 47.8	-0.8
KMI				sP	pwP	00 12 50.9	-2.1
KMI				PcP	**PcP**	**00 16 14.5**	**+1.8**
KMI				S	**S**	**00 17 07.2**	**+0.7**
KMI				sS	sS	00 17 17.6	+1.7
KMI				SS	**SnSn**	**00 18 04.3**	**+4.5**
KMI				pmax	pmax		
	comp=Z,140nm,1.2s						
KMI				pmax	pmax		
	comp=Z,400nm,3.5s						
KMI				LR	LR		
	comp=Z,3µm,13.3s						
KMI				LR	LR		
	comp=Z,1µm,13.9s						
KMI				LR	LR		
	comp=Z,4µm,13.3s						
KMI	**Kunming**	**25.43**	**12**	P	**P**	**00 12 40.4**	**-0.3**
KMI				pmax	pmax		
	comp=Z,111nm,0.8s						
KMI				MLR	MLR		
	comp=Z,3µm,18.0s						
KMI	**Kunming**	**25.43**	**12**	P	**P**	**00 12 40.4**	**-0.3**
KMI				IAmb	IAmb	00 12 54.4	
	comp=Z,111nm,0.8s						
KMI	**Kunming**	**25.43**	**12**	IAMs_20	IAMs_20	00 24 03.1	
	comp=Z,3µm,18.0s						
H08S2	**Diego Garcia H**	**25.63**	**252**	T	T	00 40 07.0	
	baz=73,slow=76,SNR=270						
H08S3	**Diego Garcia H**	**25.64**	**252**	T	T	00 40 05.1	
	baz=73,slow=76,SNR=835						
H08S1	**Diego Carcia H**	**25.65**	**252**	T	T	00 39 55.0	
	baz=73,slow=76,SNR=86						
SHL	**Shillong**	**25.73**	**349**	*e*P	**P**	**00 12 43.2**	**-0.1**
SHL				IAmb	IAmb	00 12 57.2	
	comp=Z,670nm,1.1s						
BOK	**Bokaro**	**25.85**	**336**	*e*P	**P**	**00 12 45.9**	**+1.7**
MOKO	**MOKOCHONG**	**26.12**	**355**	*e*P	**P**	**00 12 48.1**	**+1.3**
GUWA	**GUWAHATI**	**26.38**	**349**	*e*P	**P**	**00 12 49.0**	**0.0**
ZIRO	**ZIRO**	**27.38**	**354**	*e*P	**P**	**00 12 57.9**	**-0.3**
TGY	**Tagaytay City**	**27.45**	**59**	P	**P**	**00 12 58.4**	**-0.4**
	comp=Z,104nm,0.3s,baz=49,slow=3.9,SNR=3.8						
TGY				LR	LR	00 23 37.1	
	comp=Z,792nm,21.3s,baz=246,slow=36						
GYA	**Guiyang**	**27.75**	**19**	⇑P	**P**	**00 13 01.3**	**-0.2**
GYA				pP	pP	00 13 06.5	-0.6
GYA				S	**S**	**00 17 44.9**	**+1.9**
GYA				SS	**SnSn**	**00 18 59.7**	**+3.2**
GYA				pmax	pmax		
	comp=Z,35nm,1.2s						
GYA				LR	LR		
	comp=Z,2µm,14.7s						
GYA				LR	LR		
	comp=Z,1µm,16.6s						
GYA				LR	LR		
	comp=Z,3µm,14.3s						
ODAN	**Odare**	**28.11**	**342**	*e*P	**P**	**00 13 06.9**	**+2.1**
	comp=Z,236nm,0.9s						
GTK	**Tadong**	**28.18**	**344**	*e*P	**P**	**00 13 08.8**	**+3.5**
GTK				IAmb	IAmb	00 13 26.9	
	comp=Z,776nm,2.2s						
RAMN	**Ramite**	**28.45**	**340**	*e*P	**P**	**00 13 09.6**	**+1.7**
	comp=Z,216nm,0.8s						
BATI	**Baumata**	**28.46**	**112**	P	**P**	**00 13 08.8**	**+1.0**
	comp=Z,15nm,0.4s,baz=308,slow=12,SNR=1.9						
BATI				LR	LR	00 26 45.7	
	comp=Z,2µm,18.3s,baz=286,slow=41						
TAPN	**Taplejung**	**28.47**	**342**	*e*P	**P**	**00 13 11.0**	**+2.9**
	comp=Z,264nm,0.9s						
SZP	**Santa**	**28.84**	**52**	P	**P**	**00 13 10.8**	**-0.3**
PKI	**Pulchoki**	**29.44**	**339**	*e*P	**P**	**00 13 18.0**	**+1.3**
	comp=Z,191nm,1.1s						
PKIN	**Phulchoki**	**29.45**	**339**	*e*P	**P**	**00 13 17.9**	**+1.2**
	comp=Z,42nm,0.7s						
GUN	**Gumba**	**29.58**	**340**	*e*P	**P**	**00 13 19.0**	**+1.0**
	comp=Z,332nm,1.0s						
DMN	**Daman**	**29.58**	**338**	*e*P	**P**	**00 13 19.1**	**+1.2**
	comp=Z,88nm,0.9s						
KKN	**Kakani**	**29.68**	**339**	*e*P	**P**	**00 13 20.1**	**+1.3**
	comp=Z,124nm,1.0s						
BHPL	**Bhopal**	**29.80**	**322**	*e*P	**P**	**00 13 19.2**	**-0.5**
BHPL				IAmb	IAmb	00 13 33.5	
	comp=Z,27nm,1.1s						
LSA	**Lhasa**	**29.90**	**350**	P	**P**	**00 13 21.8**	**+0.9**
LSA				S	**S**	**00 18 11.9**	**-5.4**
LSA				LR	LR		
	comp=Z,1µm,19.2s						
LSA				LR	LR		
	comp=Z,2µm,14.2s						
LSA				LR	LR		
	comp=Z,2µm,16.4s						
LSA	**Lhasa**	**29.90**	**350**	*i* P	**P**	**00 13 23.1**	**+2.2**
	SNR=14						
LSA	**Lhasa**	**29.90**	**350**	P	**P**	**00 13 21.0**	**+0.1**
LSA				pmax	pmax		
	comp=Z,97nm,1.0s						
LSA	**Lhasa**	**29.90**	**350**	P	**P**	**00 13 21.0**	**+0.1**
LSA				IAmb	IAmb	00 13 34.8	
	comp=Z,96nm,1.0s						
GKN	**Gorkha**	**30.11**	**338**	*e*P	**P**	**00 13 23.1**	**+0.6**
	comp=Z,168nm,1.1s						
PSA00	**Pilbara Seismi**	**31.05**	**136**	P	**P**	**00 13 31.7**	**+1.0**
CD2	**Chengdu**	**31.25**	**11**	P	**P**	**00 13 32.0**	**-0.4**
CD2				pP	pP	00 13 35.8	-2.2
CD2				S	**S**	**00 18 36.7**	**-0.9**
CD2				sS	sS	00 18 51.0	+3.8
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
CD2				pmax	pmax		
	comp=Z,280nm,4.5s						
CD2				LR	LR		
	comp=Z,3µm,16.2s						
CD2				LR	LR		
	comp=Z,4µm,18.6s						
CD2				LR	LR		
	comp=Z,4µm,15.7s						
ENH	**Enshi**	**32.22**	**21**	P	**P**	**00 13 39.9**	**-1.0**
ENH				IAMs_20	IAMs_20	00 29 07.4	
	comp=Z,2µm,19.0s						
QZH	**Quanzhou**	**32.30**	**39**	P	**P**	**00 13 42.2**	**+0.6**
QZH				S	**S**	**00 19 00.6**	**+6.5**
QZH				LR	LR		
	comp=Z,1µm,15.9s						
QZH				LR	LR		
	comp=Z,2µm,17.2s						
QZH				LR	LR		
	comp=Z,2µm,12.2s						
TWG	**Pinlang**	**32.49**	**44**	P	**P**	**00 13 43.8**	**+0.4**
TWG				IAMs_20	IAMs_20	00 26 02.1	
	comp=Z,1µm,20.0s						
YULB	**Yu-li**	**33.02**	**44**	P	**P**	**00 13 48.5**	**+0.5**
YULB				IAMs_20	IAMs_20	00 25 46.0	
	comp=Z,1µm,19.0s						
SSLB	**Suanglung**	**33.05**	**43**	IAMs_20	IAMs_20	00 25 23.5	
	comp=Z,1µm,22.0s						
FITZ	**Fitzroy Crossi**	**33.50**	**124**	P	**P**	**00 13 52.4**	**+0.1**
	comp=Z,26nm,0.9s,baz=298,slow=4.7,SNR=47						
FITZ				LR	LR	00 28 32.3	
	comp=Z,388nm,19.3s,baz=310,slow=38						
FITZ	**Fitzroy Crossi**	**33.50**	**124**	P	**P**	**00 13 52.5**	**+0.3**
	baz=34,SNR=20						
FITZ	**Fitzroy Crossi**	**33.50**	**124**	P	**P**	**00 13 52.4**	**+0.1**
NACB	**Ninganchiao**	**33.74**	**43**	IAMs_20	IAMs_20	00 26 10.9	
	comp=Z,1µm,21.0s						
MORW	**Morawa**	**34.30**	**150**	P	**P**	**00 14 01.4**	**+2.4**
	baz=34,SNR=4.7						
MORW	**Morawa**	**34.30**	**150**	P	**P**	**00 14 00.8**	**+1.8**
WHN	**Wuhan**	**34.42**	**27**	⇑P	P	00 14 10.9	+11
WHN				pmax	pmax		
	comp=Z,100nm,1.1s						
WHN	**Wuhan**	**34.42**	**27**	⇑P	**P**	**00 14 00.8**	**+0.7**
WHN				pP	**pP**	**00 14 05.3**	**-0.4**
WHN				S	**S**	**00 19 32.9**	**+6.0**
WHN				pmax	pmax		
	comp=Z,170nm,1.1s						
WHN				LR	LR		
	comp=Z,10µm,20.4s						
WHN				LR	LR		
	comp=Z,8µm,23.1s						
WHN				LR	LR		
	comp=Z,2µm,12.7s						
XAN	**Xi'an**	**35.51**	**17**	P	**P**	**00 14 09.2**	**-0.3**
XAN				pP	sP	00 14 19.5	+2.0
XAN				S	**S**	**00 19 40.9**	**-2.8**
XAN				SS	**SnSn**	**00 21 59.3**	**-5.4**
XAN				pmax	pmax		
	comp=Z,70nm,1.0s						
XAN				pmax	pmax		
	comp=Z,270nm,3.5s						
XAN				LR	LR		
	comp=Z,1µm,16.5s						
XAN				LR	LR		
	comp=Z,2µm,17.1s						
XAN				LR	LR		
	comp=Z,2µm,16.0s						
XAN	**Xi'an**	**35.51**	**17**	P	**P**	**00 14 08.5**	**-1.0**
XAN				pmax	pmax		
	comp=Z,79nm,0.7s						
XAN				MLR	MLR		
	comp=Z,2µm,22.0s						
XAN	**Xi'an**	**35.51**	**17**	P	**P**	**00 14 08.5**	**-1.0**
XAN	**Xi'an**	**35.51**	**17**	IAMs_20	IAMs_20	00 28 54.1	
	comp=Z,2µm,22.0s						
BLDU	**Ballidu**	**35.89**	**150**	P	**P**	**00 14 14.9**	**+2.1**
	baz=36,SNR=5.7						
SMLA	**Simla**	**36.09**	**330**	*e*P	**P**	**00 14 13.7**	**-0.7**
SMLA				IAmb	IAmb	00 14 27.1	
	comp=Z,177nm,1.6s						
LZH	**Lanzhou**	**36.31**	**9**	*e*P	**P**	**00 14 16.7**	**+0.3**
LZH				pP	pP	00 14 21.9	-0.2
LZH				sP	sP	00 14 24.0	-0.4
LZH				PP	**PP**	**00 15 39.7**	**+0.4**
LZH				S	**S**	**00 19 58.7**	**+2.6**
LZH				SS	**SnSn**	**00 22 22.8**	**-1.3**
LZH				pmax	pmax		
	comp=Z,31nm,1.0s						
LZH				pmax	pmax		
	comp=Z,280nm,7.0s						
LZH				LR	LR		
	comp=Z,2µm,16.8s						
LZH				LR	LR		
	comp=Z,2µm,16.3s						
LZH				LR	LR		
	comp=Z,1µm,15.7s						
MUN	**Mundaring**	**36.77**	**152**	P	**P**	**00 14 22.6**	**+2.3**
	baz=37,SNR=6.6						
KLBR	**Kellerberrin**	**37.20**	**150**	P	**P**	**00 14 26.2**	**+2.2**
	baz=37,SNR=4.1						
DHRM	**DHARAMSHALA**	**37.42**	**330**	*e*P	**P**	**00 14 24.4**	**-1.7**
KDU	**Kakadu**	**37.43**	**111**	P	**P**	**00 14 25.9**	**-0.2**
	baz=37,SNR=3.1						
NJ2	**Nanjing**	**37.85**	**31**	*e*P	**P**	**00 14 29.8**	**+0.4**
NJ2				sP	**pP**	**00 14 34.9**	**-0.2**
NJ2				S	**S**	**00 20 18.1**	**-1.3**
NJ2				sS	**pS**	**00 20 26.2**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,170nm,3.5s						
NJ2				LR	LR		
	comp=Z,1µm,11.6s						
NJ2				LR	LR		
	comp=Z,830nm,11.1s						
NJ2				LR	LR		
	comp=Z,1µm,12.3s						
NWAO	**Narrogin (SRO)**	**38.04**	**152**	P	**P**	**00 14 31.1**	**+0.1**
	comp=Z,69nm,1.1s,baz=324,slow=10,SNR=14						
NWAO				LR	LR	00 28 24.4	
	comp=Z,527nm,19.0s,baz=334,slow=33						

NWAO **Narrogin (SRO)** 38.04 152 P **P** 00 14 32.7 +1.7
baz=38,SNR=10
NWAO **Narrogin (SRO)** 38.04 152 P **P** 00 14 32.3 +1.3
NWAO IAmb IAmb 00 14 33.8
comp=Z,117nm,1.1s
NWAO **Narrogin (SRO)** 38.04 152 P **P** 00 14 31.3 +0.3
NWAO IAmb IAmb 00 14 33.8
comp=Z,93nm,1.1s
H01W3 **Cape Leeuwin H** 38.37 157 T T 00 55 33.2
baz=334,slow=76,SNR=54
SSE **Sheshan** 38.38 34 P **P** 00 14 34.8 +0.9
SSE S **S** 00 20 30.4 +3.0
SSE pmax pmax
comp=Z,11nm,0.7s
SSE pmax pmax
comp=Z,180nm,3.4s
SSE LR LR
comp=Z,580nm,14.1s
SSE LR LR
comp=Z,620nm,15.4s
SSE **Sheshan** 38.38 34 P **P** 00 14 34.5 +0.7
SSE **Sheshan** 38.38 34 IAMs_20 IAMs_20 00 31 39.0
comp=Z,859nm,19.0s
H01W2 **Cape Leeuwin H** 38.38 157 T T 00 55 19.7
baz=334,slow=76,SNR=68
H01W1 **Cape Leeuwin H** 38.39 157 T T 00 55 23.7
baz=334,slow=76,SNR=49
GTA **Gaotai** 39.15 3 P **P** 00 14 40.3 -0.1
GTA pP sP 00 14 48.6 +0.2
GTA sP pwP 00 14 52.2 -0.6
GTA PP **PnPn** 00 16 18.1 +5.0
GTA S **S** 00 20 36.9 -2.1
GTA pmax pmax
comp=Z,16nm,1.1s
GTA pmax pmax
comp=Z,200nm,6.6s
GTA LR LR
comp=Z,510nm,14.9s
GTA LR LR
comp=Z,440nm,13.5s
GTA LR LR
comp=Z,580nm,14.2s
KMBL **Kambalda** 39.24 145 P **P** 00 14 43.0 +1.8
baz=39,SNR=20
WRKA **Warakurna** 39.29 132 P **P** 00 14 42.9 +1.2
baz=39,SNR=19
TIY **Taiyuan** 39.99 19 *e*P **P** 00 14 47.4 0.0
TIY S **S** 00 20 58.1 +6.5
TIY pmax pmax
comp=Z,200nm,6.5s
TIY LR LR
comp=Z,1μm,13.9s
TIY LR LR
comp=Z,800nm,12.0s
TIY LR LR
comp=Z,1μm,13.9s
NIL **Nilore** 40.09 329 P **P** 00 14 47.4 -0.8
NIL pmax pmax
comp=Z,99nm,1.0s
NIL **Nilore** 40.09 329 P **P** 00 14 47.4 -0.8
NIL IAmb IAmb 00 15 02.2
comp=Z,99nm,0.9s
JOW **Kunigami** 40.10 46 P **P** 00 14 48.7 +0.3
comp=Z,22nm,0.6s,baz=265,slow=9.3,SNR=2.9
JOW pP **pwP** 00 14 59.8 -1.2
comp=Z,55nm,0.7s,baz=258,slow=8.1,SNR=5.2
JOW **Kunigami** 40.10 46 P **P** 00 14 48.5 +0.1
TIA **Tai'an** 40.45 25 P **P** 00 14 51.1 0.0
TIA S **S** 00 20 57.3 -1.1
TIA pmax pmax
comp=Z,24nm,1.0s
TIA pmax pmax
comp=Z,130nm,3.8s
TIA LR LR
comp=Z,680nm,14.2s
TIA LR LR
comp=Z,900nm,17.1s
TIA LR LR
comp=Z,240nm,16.7s
WB0 **Warramunga Arr** 41.65 121 P **P** 00 15 01.4 +0.1
WB0 IAmb IAmb 00 15 13.8
comp=Z,73nm,0.8s
WB8 **Warramunga Arr** 41.66 121 IAMs_20 IAMs_20 00 30 48.5
comp=Z,801nm,21.0s
WRA **Warramunga Arr** 41.67 121 P **P** 00 15 01.5 +0.1
comp=Z,35nm,0.8s,baz=298,slow=9.1,SNR=125
WRA pP **pwP** 00 15 13.6 +1.0
comp=Z,53nm,0.7s,baz=301,slow=9.1,SNR=21
WRA PcP **PcP** 00 16 58.1 0.0
comp=Z,4.3nm,1.0s,baz=302,slow=2.9,SNR=2.9
WRA S **S** 00 21 13.3 -3.8
comp=Z,1.6nm,1.2s,baz=297,slow=15,SNR=6.6
WRA LR LR 00 36 06.4
comp=Z,399nm,18.1s,baz=325,slow=42
WRAB **Tennant Creek** 41.68 121 *d* iP **P** 00 15 01.4 -0.1
WRAB pmax pmax
comp=Z,62nm,1.0s
WRAB **Tennant Creek** 41.68 121 P **P** 00 15 02.0 +0.5
WRAB IAmb IAmb 00 15 14.2
comp=Z,86nm,0.9s
WR9 **Warramunga Arr** 41.83 121 IAMs_20 IAMs_20 00 31 54.1
comp=Z,950nm,21.0s
BTO **Baotou** 41.96 15 P **P** 00 15 03.4 -0.2
BTO S **S** 00 21 13.1 -7.9
BTO LR LR
comp=Z,3μm,21.6s
BTO LR LR
comp=Z,7μm,17.5s
HHC **Hu-ho-hao-te** 42.60 16 *e*P **P** 00 15 10.4 +1.6
HHC pP pP 00 15 14.9 +0.3
HHC PP **PP** 00 16 52.0 +4.1
HHC S **S** 00 21 32.5 +2.0
HHC sS sS 00 21 39.9 0.0
HHC pmax pmax
comp=Z,32nm,1.1s
HHC pmax pmax
comp=Z,410nm,5.3s
HHC LR LR
comp=Z,1μm,12.9s
HHC LR LR
comp=Z,500nm,11.8s
HHC LR LR
comp=Z,890nm,12.2s
FORT **Forrest** 42.62 139 P **P** 00 15 11.1 +2.0
baz=43,SNR=8.8
FORT **Forrest** 42.62 139 P **P** 00 15 10.0 +1.0
FORT IAmb IAmb 00 15 12.0
comp=Z,104nm,0.8s
JLN **Jalan Bani Buh** 42.63 303 P **P** 00 15 11.4 +2.2
AS31 **Alice Springs** 42.95 126 P **P** 00 15 12.3 +0.5
ASAR **Alice Springs** 42.95 126 P **P** 00 15 12.3 +0.5
comp=Z,20nm,1.0s,baz=301,slow=7.5,SNR=87
ASAR PcP **PcP** 00 17 02.1 -0.2
comp=Z,4.8nm,1.0s,baz=306,slow=3.9,SNR=2.4
ASAR S **S** 00 21 33.6 -2.2
comp=Z,2.7nm,1.2s,baz=292,slow=13,SNR=4.8
ASAR LR LR 00 35 13.1
comp=Z,261nm,19.9s,baz=313,slow=39
KBL **Kabul** 43.05 325 P **P** 00 15 11.6 -1.1
KBL pmax pmax
comp=Z,9.0nm,0.9s
KBL **Kabul** 43.05 325 P **P** 00 15 11.6 -1.1
WBK **Wadi Bani Khal** 43.20 304 P **P** 00 15 15.6 +1.7
DQM **DQM** 43.33 299 P **P** 00 15 16.3 +1.3
DQM P **P** 00 15 16.3 +1.3
BJT **Baijiatuau** 43.35 22 P **P** 00 15 15.3 +0.6
BJT pmax pmax
comp=Z,82nm,0.8s
BJT MLR MLR
comp=Z,500nm,18.0s
BJT **Baijiatuau** 43.35 22 P **P** 00 15 15.3 +0.6
BJT IAmb IAmb 00 15 28.7
comp=Z,82nm,0.8s
MHTO **MHTO** 43.37 301 P **P** 00 15 16.3 +1.1
MHTO P **P** 00 15 16.3 +1.1
BJI **Beijing** 43.37 22 P **P** 00 15 16.3 +1.4
BJI S **S** 00 21 46.2 +4.7
BJI pmax pmax
comp=Z,54nm,0.8s
BJI LR LR
comp=Z,340nm,11.6s
BJI LR LR
comp=Z,530nm,17.8s
KSH **Kashi** 43.63 336 P **P** 00 15 16.1 -1.1
KSH sP pP 00 15 23.5 +0.6
KSH PP **PP** 00 17 00.5 +1.5
KSH S **S** 00 21 42.4 -3.2
KSH ScS **ScS** 00 25 12.9 -2.7
KSH pmax pmax
comp=Z,56nm,0.9s
KSH pmax pmax
comp=Z,480nm,5.6s
KSH LR LR
comp=Z,380nm,14.9s
KSH LR LR
comp=Z,750nm,14.1s
KSH LR LR
comp=Z,1μm,18.6s
JMDO **Jabal Madar** 43.82 303 P **P** 00 15 20.5 +1.7
SMDO **Samad** 44.16 304 P **P** 00 15 23.9 +2.2
SNR=6.2
WMQ **Urumqi** 44.26 350 *e*P **P** 00 15 24.4 +2.3
WMQ sP pwP 00 15 35.0 +0.2
WMQ pmax pmax
comp=Z,140nm,1.3s
WMQ pmax pmax
comp=Z,550nm,6.7s
WMQ LR LR
comp=Z,590nm,21.7s
WMQ LR LR
comp=Z,680nm,21.7s
WMQ LR LR
comp=Z,490nm,18.9s
WMQ **Urumqi** 44.26 350 P **P** 00 15 22.5 +0.4
WMQ pmax pmax
comp=Z,196nm,1.2s
WMQ **Urumqi** 44.26 350 P **P** 00 15 22.5 +0.4
BIDO **Bidbid** 44.29 304 P **P** 00 15 24.9 +2.2
SNR=9.2
BIDO P **P** 00 15 24.9 +2.2
SNR=9.2
SOCY **Socotra** 44.31 287 P **P** 00 15 24.7 +1.7
SHAO **Shalim** 44.36 296 P **P** 00 15 25.0 +1.8
SHAO **Shalim** 44.36 296 P **P** 00 15 25.6 +2.4
JSU **Suzuyama** 44.44 42 P **P** 00 15 23.6 0.0
JSU IAmb IAmb 00 15 36.4
comp=Z,107nm,1.1s
DL2 **Dalian** 44.69 28 P **P** 00 15 26.2 +0.7
DL2 sP **pwP** 00 15 37.8 -0.2
DL2 S **S** 00 22 02.6 +1.9
DL2 pmax pmax
comp=Z,67nm,0.9s
DL2 pmax pmax
comp=Z,330nm,3.5s
DL2 LR LR
comp=Z,620nm,15.2s
DL2 LR LR
comp=Z,950nm,14.2s
DL2 LR LR
comp=Z,600nm,21.8s
BSY **Bisya** 44.73 303 P **P** 00 15 28.3 +2.1
SNR=8.8
DMTO **DMTO** 44.88 295 P **P** 00 15 28.8 +1.4
HOQ **Hoqain** 44.99 304 P **P** 00 15 30.4 +2.1
SNR=8.4
RBK **Rabkut** 45.48 295 P **P** 00 15 34.0 +1.8
SHLS **Shalkode** 45.60 342 *e*P **P** 00 15 31.2 -1.7
comp=Z,14nm,1.2s,baz=342
SHLS *e*S **S** 00 22 13.0 -1.1
baz=342
SHLS **Shalkode** 45.60 342 *e*P **P** 00 15 31.1 -1.7
SHLS *e*S **S** 00 22 12.9 -1.1
SHLS pmax pmax
comp=Z,14nm,1.2s
JNU **Nakatsue** 45.72 41 P **P** 00 15 33.4 -0.5
comp=Z,26nm,0.8s,baz=156,slow=4.7,SNR=9.4
JNU LR LR 00 38 29.5
comp=Z,394nm,19.0s,baz=266,slow=41
JNU **Nakatsue** 45.72 41 P **P** 00 15 33.9 0.0
UZB **Uzynbulak** 45.73 342 *e*P **P** 00 15 33.1 -0.8
baz=342
UZB *e*S **S** 00 22 16.6 +0.6
baz=342
UZB **Uzynbulak** 45.73 342 *e*P **P** 00 15 33.1 -0.8
UZB *e*S **S** 00 22 16.5 +0.6
TJN **Taejon** 45.74 35⇑ *e*P **P** 00 15 33.9 0.0
SOHO **SOHO** 45.87 304 *i* P **P** 00 15 36.7 +1.6
SNR=6.6
SOHO **SOHO** 45.87 304 P **P** 00 15 36.8 +1.6
ULHL **Ulahol** 45.88 338 P **P** 00 15 36.5 +1.4
SNR=11
DOK **Doka** 45.90 296 P **P** 00 15 37.1 +1.7
SNR=9.0
WHFO **Wadi Hawf** 46.00 295 P **P** 00 15 37.7 +1.4
SNR=5.8
KPKS **Kokpek** 46.12 341 *e*P **P** 00 15 36.4 -0.5
comp=Z,13nm,0.9s,baz=342
KPKS *e*S **S** 00 22 22.5 +0.9
baz=342
KPKS **Kokpek** 46.12 341 *e*P **P** 00 15 36.4 -0.5
KPKS *e*S **S** 00 22 22.4 +0.9
KPKS pmax pmax
comp=Z,13nm,0.9s
ABTO **Aybut** 46.27 294 P **P** 00 15 39.9 +1.5
SNR=8.7
TNSS **Tian-Shan** 46.32 340 *e*P **P** 00 15 38.2 -0.6
baz=340
TNSS *e*S **S** 00 22 25.6 +0.6
baz=340
TNSS **Tian-Shan** 46.32 340 *e*P **P** 00 15 38.2 -0.6
TNSS *e*S **S** 00 22 25.5 +0.6
MDOK **Medeo** 46.39 340 *e*P **P** 00 15 38.8 -0.4
baz=340
MDOK *e*S **S** 00 22 26.6 +1.0
baz=340
MDOK **Medeo** 46.39 340 *e*P **P** 00 15 38.7 -0.4
MDOK *e*S **S** 00 22 26.5 +1.0
QIS **Mount Isa** 46.47 119 P **P** 00 15 40.8 +0.8
baz=46,SNR=17
AAA **Alma-Ata** 46.48 340 *e*P **P** 00 15 39.6 -0.2
comp=Z,7.7nm,0.7s,baz=340
AAA *e*S **S** 00 22 27.9 +1.3
baz=340
AAA **Alma-Ata** 46.48 340 *e*P **P** 00 15 39.5 -0.2
AAA *e*S **S** 00 22 27.9 +1.3
AAA pmax pmax
comp=Z,8.0nm,0.7s
ALNE **Al Ain** 46.49 304 *i* P **P** 00 15 42.0 +1.9
SNR=11
ALNE **Al Ain** 46.49 304 P **P** 00 15 42.2 +2.1
SNR=6.8
ALNE P **P** 00 15 42.2 +2.1
SNR=6.8
ASHO **Ashiyiah** 46.50 305 P **P** 00 15 41.7 +1.6
HATD **Hatta, Dubai** 46.50 305 P **P** 00 15 42.2 +2.1
HATD P **P** 00 15 42.2 +2.1
UCH **Uchtor** 46.52 337 P **P** 00 15 41.4 +0.9
SNR=27
TKM2 **Tokmak 2** 46.70 338 P **P** 00 15 43.1 +1.5
SNR=16
TKM2 **Tokmak 2** 46.70 338 *i* P **P** 00 15 42.2 +0.6
TKM2 pmax pmax
comp=Z,81nm,1.2s
KBK **Karagaybulak** 46.71 338 P **P** 00 15 43.4 +1.7
SNR=30
AML **Almayashu** 46.76 336 P **P** 00 15 44.0 +1.6
SNR=26
KSAR **Wonju Array Be** 46.78 34 P **P** 00 15 42.4 +0.3
KSAR **Wonju Array Be** 46.78 34 P **P** 00 15 42.4 +0.3
KSRS **Korea Array** 46.81 34 P **P** 00 15 42.2 -0.1
comp=Z,48nm,0.8s,baz=216,slow=9.1,SNR=43
KSRS LR LR 00 35 24.0
comp=Z,366nm,21.5s,baz=225,slow=36
KSRS PKP2ab 00 48 04.6
comp=Z,3.0nm,0.6s,baz=352,slow=9.7,SNR=4.2
KS19 **Wonju Array Si** 46.82 34 P **P** 00 15 42.2 -0.1
AAK **Ala-Archa** 46.87 337 P **P** 00 15 44.1 +1.2
comp=Z,4.7nm,0.9s,baz=174,slow=6.7,SNR=14
AAK **Ala-Archa** 46.87 337 P P 00 15 47.8 +4.9
SNR=8.3
AAK **Ala-Archa** 46.87 337 *i* P **P** 00 15 44.6 +1.6
SNR=14
AAK **Ala-Archa** 46.87 337‖ *e*P **P** 00 15 43.3 +0.4
AAK pmax pmax
comp=Z,64nm,1.5s
AAK **Ala-Archa** 46.87 337 P **P** 00 15 43.0 +0.1
AAK IAmb IAmb 00 16 01.1
comp=Z,38nm,1.1s
AAK IAMs_20 IAMs_20 00 37 17.8
comp=Z,624nm,20.0s
AAK **Ala-Archa** 46.87 337 P **P** 00 15 44.7 +1.8
AAK P **P** 00 15 44.7 +1.8
FAQ **Al Faqa, Dubai** 46.91 305 P **P** 00 15 44.9 +1.6
NAZ **Nazwa, Dubai** 46.95 305 P **P** 00 15 45.3 +1.7
NAZ **Nazwa, Dubai** 46.95 305 P **P** 00 15 45.5 +1.8
NAZ P **P** 00 15 45.5 +1.8
CHKK **Chushkaly** 47.02 340 *e*P **P** 00 15 43.5 -0.5
baz=340
CHKK **Chushkaly** 47.02 340 *e*P **P** 00 15 43.4 -0.5
HRA **Herat** 47.07 320 P **P** 00 15 43.4 -1.3
HRA IAMs_20 IAMs_20 00 38 14.8
comp=Z,527nm,18.0s
ASUD **Al Ashush, Dub** 47.08 304 P **P** 00 15 46.3 +1.7
ASUD P **P** 00 15 46.3 +1.7
CHMS **Chumysh** 47.08 338 P **P** 00 15 45.5 +1.1
SNR=7.3
EKS2 **Erkin-Say** 47.17 337 P **P** 00 15 46.5 +1.3
SNR=20
KUU **Kurty** 47.28 340 *e*P **P** 00 15 45.0 -1.0
comp=Z,50nm,1.5s,baz=340
KUU **Kurty** 47.28 340 *e*P **P** 00 15 44.9 -1.0
KUU pmax pmax
comp=Z,50nm,1.5s
USP **Ospenovka** 47.41 338 P **P** 00 15 47.6 +0.7
SNR=39
SGDS **Sogindy** 47.52 338 *e*P **P** 00 15 47.7 -0.2
baz=338
SGDS **Sogindy** 47.52 338 *e*P **P** 00 15 47.6 -0.2
TDK **Taldyqorghan** 47.59 342 *e*P **P** 00 15 47.8 -0.5
comp=Z,5.4nm,0.7s,baz=342
TDK **Taldyqorghan** 47.59 342 *e*P **P** 00 15 47.8 -0.5
TDK pmax pmax
comp=Z,5.0nm,0.7s
COEN **Coen** 47.81 109 P **P** 00 15 50.3 -0.2
SNY **Shenyang** 47.91 27 ⇑P **P** 00 15 51.1 +0.3
SNY S **S** 00 22 50.0 +3.1
SNY pmax pmax
comp=Z,23nm,0.9s
SNY LR LR
comp=Z,750nm,16.3s
SNY LR LR
comp=Z,650nm,17.5s
SNY LR LR
comp=Z,840nm,19.9s
SONM **Songino Array** 48.18 8 P **P** 00 15 53.7 +0.8
comp=Z,15nm,0.8s,baz=188,slow=9.1,SNR=144
SONM PcP **PcP** 00 17 20.6 +0.5
comp=Z,3.7nm,0.7s,baz=196,slow=3.4,SNR=1.1
SONM LR LR 00 38 54.6
comp=Z,945nm,19.0s,baz=184,slow=39
SONM **Songino Array** 48.18 8 P **P** 00 15 53.2 +0.2
SONM pmax pmax
comp=Z,48nm,0.9s
SONM **Songino Array** 48.18 8 P **P** 00 15 53.2 +0.2
SONM IAmb IAmb 00 16 06.3
comp=Z,48nm,0.9s
MK31 **Makanchi Array** 48.20 346 *de*P **P** 00 15 53.3 +0.3
MK31 pmax pmax
comp=Z,65nm,0.7s
MK31 **Makanchi Array** 48.20 346 P **P** 00 15 53.3 +0.3
MK31 IAmb IAmb 00 16 06.1
comp=Z,63nm,1.0s
MKAR **Makanchi Array** 48.20 346 P **P** 00 15 53.4 +0.4
comp=Z,10nm,0.7s,baz=158,slow=8.0,SNR=70
MKAR PP **PP** 00 17 46.1 +0.6
comp=Z,4.8nm,0.9s,baz=158,slow=7.8,SNR=1.1
MKAR LR LR 00 38 35.7
comp=Z,200nm,20.1s,baz=164,slow=39
MKAR **Makanchi Array** 48.20 346 P **P** 00 15 52.9 -0.1
MKAR **Makanchi Array** 48.20 346 P **P** 00 15 52.9 -0.1
ZSN **Zaisan** 48.27 349 *e*P **P** 00 15 53.3 -0.3
baz=349
ZSN **Zaisan** 48.27 349 *e*P **P** 00 15 53.2 -0.3
MAKZ **Makanchi** 48.28 346 P **P** 00 15 53.5 -0.1
MAKZ pmax pmax
comp=Z,56nm,1.0s
MAKZ **Makanchi** 48.28 346 P **P** 00 15 53.5 -0.1
MAKZ IAmb IAmb 00 16 06.6
comp=Z,56nm,1.0s
ULN **Ulaanbaatar** 48.31 9 P **P** 00 15 53.9 -0.1
ULN pmax pmax
comp=Z,42nm,1.0s
ULN MLR MLR
comp=Z,800nm,20.0s
ULN **Ulaanbaatar** 48.31 9 P **P** 00 15 53.9 -0.1
ULN IAmb IAmb 00 16 07.1
comp=Z,42nm,1.0s
ULN **Ulaanbaatar** 48.31 9 IAMs_20 IAMs_20 00 38 26.1
comp=Z,847nm,20.0s
IUG **Iuzhnay** 48.34 333 *e*P **P** 00 15 53.5 -0.8
baz=333
IUG **Iuzhnay** 48.34 333 *e*P **P** 00 15 53.4 -0.8
DZA **Taraz** 48.37 335 *e*P **P** 00 15 52.8 -1.6
comp=Z,7.0nm,0.7s,baz=335
DZA **Taraz** 48.37 335 *e*P **P** 00 15 52.8 -1.6
DZA pmax pmax
comp=Z,7.0nm,0.7s
KK31 **Karatay Array** 48.89 334 P **P** 00 15 57.8 -0.6
KK31 pmax pmax
comp=Z,60nm,1.1s
KK31 **Karatay Array** 48.89 334 P **P** 00 15 57.8 -0.6
KK31 IAmb IAmb 00 16 11.9
comp=Z,60nm,1.1s
KKAR **Karatay Array** 48.89 334 P **P** 00 15 58.0 -0.4
KKAR **Karatay Array** 48.89 334 P **P** 00 15 58.0 -0.4
BTLS **Baital** 49.09 339 *e*P **P** 00 15 58.2 -1.7
comp=Z,8.4nm,1.2s,baz=338
BTLS **Baital** 49.09 339 *e*P **P** 00 15 58.1 -1.7
BTLS pmax pmax
comp=Z,8.0nm,1.2s
BBOO **Buckleboo** 49.28 136 P **P** 00 16 01.8 +0.3
BBOO IAmb IAmb 00 16 03.6
comp=Z,73nm,1.3s
MTSU **Mount Surprise** 49.93 114 P **P** 00 16 07.6 +0.9
baz=50,SNR=8.7
CN2 **Changchun** 50.32 27 *e*P **P** 00 16 09.3 +0.1
CN2 S **S** 00 23 22.8 +2.1
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,300nm,5.3s
CN2 LR LR
comp=Z,700nm,14.6s
CN2 LR LR
comp=Z,600nm,14.6s
CN2 LR LR
comp=Z,500nm,14.6s
ZAK **Zakamensk** 50.32 5 *e*P **P** 00 16 09.4 +0.2
ZAK pmax pmax
comp=Z,12nm,1.0s
ANA2 **Anatahan** 50.63 69 IAMs_20 IAMs_20 00 29 34.7
comp=Z,1μm,22.0s
PMG **Port Moresby** 50.83 102 P **P** 00 16 14.1 +0.5
comp=Z,26nm,0.7s,baz=187,slow=3.6,SNR=2.5
PMG **Port Moresby** 50.83 102‖ *e*P **P** 00 16 13.9 +0.3
PMG pmax pmax
comp=Z,44nm,0.9s
PMG **Port Moresby** 50.83 102 P **P** 00 16 14.1 +0.5
PMG IAmb IAmb 00 16 26.5
comp=Z,64nm,0.8s
PMG **Port Moresby** 50.83 102 P P 00 16 19.1 +5.5
JCJ **Chichijima** 50.98 54 P **P** 00 16 12.8 -1.7
comp=Z,44nm,0.7s,baz=285,slow=20,SNR=2.6
JCJ LR LR 00 35 36.7
comp=Z,137nm,20.6s,baz=258,slow=33
MOY **Mondy** 51.43 3 *e*P **P** 00 16 18.3 +0.7
MOY pmax pmax
comp=Z,50nm,2.4s
HTT **Hallett** 51.64 135 P **P** 00 16 20.7 +1.3
baz=52,SNR=8.7
TLY **Talaya** 51.64 5 P **P** 00 16 17.2 -1.8
comp=Z,11nm,0.7s,baz=234,slow=7.1,SNR=8.8
TLY **Talaya** 51.64 5⇑ *e*P **P** 00 16 20.4 +1.4
TLY pmax pmax
comp=Z,12nm,0.7s
TLY **Talaya** 51.64 5 P **P** 00 16 19.7 +0.7
TLY IAmb IAmb 00 16 32.8
comp=Z,52nm,0.9s
TLY IAMs_20 IAMs_20 00 40 36.6
comp=Z,1μm,18.0s
GEYT **Alibeck** 51.88 321 P **P** 00 16 20.9 -0.3
comp=Z,10nm,0.8s,baz=160,slow=9.3,SNR=22
GEYT LR LR 00 39 23.9
comp=Z,156nm,19.5s,baz=175,slow=37
GEYT **Alibeck** 51.88 321 P **P** 00 16 20.7 -0.4
GYA0B **ALIBECK ARRAY** 51.88 321 P **P** 00 16 20.9 -0.2
GYA0B IAmb IAmb 00 16 40.0
comp=Z,37nm,0.8s

CTA **Charters Tower** 52.23 116 P **P** 00 16 24.6 +0.5
comp=Z,27nm,1.0s,baz=295,slow=9.5,SNR=17
CTAO **Charters Tower** 52.23 116 P **P** 00 16 24.7 +0.7
CTAO pmax pmax
comp=Z,73nm,1.0s
CTAO **Charters Tower** 52.23 116 P **P** 00 16 24.7 +0.7
CTAO IAmb IAmb 00 16 37.5
comp=Z,72nm,0.9s
IRK **Irkutsk** 52.26 6 *e*P **P** 00 16 23.9 +0.3
IRK pmax pmax
comp=Z,92nm,1.9s
ABPO **Ambohimpanom** 52.40 246 P **P** 00 16 24.8 -0.7
ABPO pmax pmax
comp=Z,27nm,1.0s
ABPO **Ambohimpanom** 52.40 246 P **P** 00 16 24.8 -0.7
MAJO **Matsushiro** 52.59 42 P **P** 00 16 26.4 0.0
MAJO pmax pmax
comp=Z,51nm,1.2s
MAJO **Matsushiro** 52.59 42 P **P** 00 16 26.4 0.0
MAT **Matsushiro** 52.59 42 P **P** 00 16 25.4 -1.0
MAT *e*S S 00 23 36.6 -16
MJAR **Matsushiro Arr** 52.59 42 P **P** 00 16 26.1 -0.3
comp=Z,14nm,0.9s,baz=220,slow=6.8,SNR=10.0
MJAR PcP **PcP** 00 17 37.8 +1.3
comp=Z,7.1nm,1.0s,baz=247,slow=3.9,SNR=1.4
KURBB **Kurchatov Arra** 52.67 345 PP PP 00 18 31.8 +5.7
comp=Z,2.8nm,0.7s,baz=164,slow=8.7,SNR=1.9
KURBB S **S** 00 23 51.5 -1.4
comp=Z,0.7nm,0.2s,baz=160,slow=14,SNR=1.9
STKA **Stephens Creek** 52.82 131 P **P** 00 16 28.6 +0.4
comp=Z,66nm,1.0s,baz=306,slow=7.4,SNR=36
STKA pP **pwP** 00 16 41.4 +0.5
comp=Z,32nm,0.7s,baz=333,slow=5.6,SNR=10
STKA LR LR 00 40 18.9
comp=Z,265nm,20.4s,baz=291,slow=38
STKA **Stephens Creek** 52.82 131 P **P** 00 16 29.4 +1.3
baz=53,SNR=26
STKA **Stephens Creek** 52.82 131⇓ *e*P **P** 00 16 28.4 +0.2
STKA **Stephens Creek** 52.82 131 P **P** 00 16 29.1 +0.9
MDJ **Mudanjiang** 52.87 29 P **P** 00 16 29.4 +1.1
MDJ pmax pmax
comp=Z,18nm,0.8s
CIT **Chita** 53.52 13 *e*P **P** 00 16 33.8 +0.8
CIT *e* 00 17 44.3
CIT pmax pmax
comp=Z,221nm,1.2s
USA0B **Ussuriysk Arra** 53.76 31⇓ *e*P **P** 00 16 34.9 +0.1
USA0B **Ussuriysk Arra** 53.76 31 P **P** 00 16 35.4 +0.6
USRK **Ussuriysk Ar.** 53.76 31 P **P** 00 16 34.9 0.0
comp=Z,31nm,0.9s,baz=232,slow=5.6,SNR=51
USRK pP **pwP** 00 16 46.8 -0.8
comp=Z,79nm,0.9s,baz=232,slow=6.0,SNR=32
USRK LR LR 00 39 23.0
comp=Z,613nm,22.0s,baz=210,slow=36
USRK **Ussuriysk Ar.** 53.76 31 P **P** 00 16 35.5 +0.7
BRZS **Berezniki** 53.81 341 *e*P **P** 00 16 34.4 -0.8
baz=341
BRZS **Berezniki** 53.81 341 *e*P **P** 00 16 34.3 -0.8
ZAA0 **Zalesovo Array** 54.55 351 P **P** 00 16 40.2 -0.1
ZAA0 IAMs_20 IAMs_20 00 43 20.1
comp=Z,390nm,18.0s
ZALV **Zalesovo Beam** 54.55 351 P **P** 00 16 40.7 +0.3
comp=Z,11nm,0.4s,baz=170,slow=6.6,SNR=85
ZALV S **S** 00 24 17.2 -0.9
comp=Z,3.4nm,1.1s,baz=168,slow=10.0,SNR=6.6
ZALV LR LR 00 43 39.8
comp=Z,312nm,18.9s,baz=170,slow=40
ZALV PKP2bc 00 47 01.9
comp=Z,1.9nm,1.0s,baz=323,slow=2.2,SNR=4.5
ZALV **Zalesovo Beam** 54.55 351 P **P** 00 16 40.3 0.0
QRN **Al-Qurain** 54.79 306 *e*P 00 16 43.1
ATD **Arta Tunnel** 54.93 284 P **P** 00 16 43.5 -0.5
comp=Z,20nm,0.9s,baz=101,slow=3.1,SNR=11
RAYN **Ar Rayn** 55.07 299 *i* P **P** 00 16 45.2 +0.4
SNR=28
RAYN **Ar Rayn** 55.07 299 P **P** 00 16 44.6 -0.2
RAYN pmax pmax
comp=Z,41nm,1.1s
RAYN **Ar Rayn** 55.07 299 P **P** 00 16 44.6 -0.2
RAYN IAmb IAmb 00 16 46.4
comp=Z,41nm,1.1s
RAYN IAMs_20 IAMs_20 00 39 18.3
comp=Z,591nm,19.0s
RDF **Al-Radifah** 55.16 306 *e*P 00 16 45.1
UMR **Umm Al-Rimmam** 55.26 307 *e*P 00 16 45.8
MIB **Mutribah** 55.66 307 *e*P 00 16 49.3
CMSA **Cobar Meteorol** 55.80 129 P **P** 00 16 51.5 +1.7
baz=56,SNR=29
RMQ **Roma** 56.40 122 P **P** 00 16 56.6 +2.4
baz=56,SNR=19
BRVK **Borovoye** 57.22 341⇑ *i*P **P** 00 16 59.2 -0.4
BRVK pmax pmax
comp=Z,23nm,1.7s
BRVK **Borovoye** 57.22 341 P **P** 00 16 58.7 -0.9
KLR **Kul'dur** 57.27 26 P **P** 00 17 00.3 +0.3
comp=Z,12nm,0.8s,baz=256,slow=6.7,SNR=26
KLR LR LR 00 43 27.5
comp=Z,649nm,18.7s,baz=213,slow=38
KLR **Kul'dur** 57.27 26⇑ *e*P **P** 00 17 00.5 +0.5
EIDS **Eidsvold** 58.03 120 P **P** 00 17 06.9 +1.1
baz=58,SNR=13
EIDS **Eidsvold** 58.03 120 P **P** 00 17 06.1 +0.3
EIDS IAmb IAmb 00 17 19.7
comp=Z,33nm,0.8s
AB31 **Akbulak array** 58.33 332⇑ *e*P **P** 00 17 06.5 -0.9
AB31 pmax pmax
comp=Z,34nm,0.8s
ABKAR **Akbulak array** 58.33 332 P **P** 00 17 06.2 -1.2
ABKAR **Akbulak array** 58.33 332 P **P** 00 17 06.6 -0.9
ABKAR IAmb IAmb 00 17 19.3
comp=Z,42nm,0.8s
LKRN **Lenkeran, Azer** 58.46 317 P **P** 00 17 07.8 -0.8
FURI **Furi** 58.71 280 P **P** 00 17 11.2 +0.1
ZEA **Zeya** 58.98 20 *e*P **P** 00 17 12.1 +0.3
ZEA *e*S **S** 00 25 21.8 +5.0
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,40nm,0.9s
ZEA MLR MLR
comp=N,600nm,15.0s
ZEA MLR MLR
comp=Z,600nm,14.0s
KIBK **Kibwezi** 58.99 267 P **P** 00 17 14.1 +1.3
YNG **Young** 59.01 131 P **P** 00 17 14.3 +1.8
baz=59,SNR=6.1
BOD **Bodaibo** 59.06 11 *e*P **P** 00 17 12.6 +0.2
BOD pmax pmax
comp=Z,112nm,1.1s
ASAJ **Asahikawa** 59.61 37 P **P** 00 17 16.5 +0.1
comp=Z,6.5nm,0.7s,baz=152,slow=25,SNR=2.2
KMBO **Kilima Mbogo** 59.75 269 P **P** 00 17 17.7 -0.6
comp=Z,15nm,0.9s,baz=64,slow=9.4,SNR=35
KMBO LR LR 00 38 43.6
comp=Z,294nm,19.5s,baz=95,slow=32
KMBO **Kilima Mbogo** 59.75 269 *i* P **P** 00 17 19.5 +1.2
KMBO pmax pmax
comp=Z,15nm,0.9s
CAN **Canberra** 59.88 132 P **P** 00 17 19.5 +0.9
AKTO **Aktyubinsk** 60.05 332 P **P** 00 17 18.4 -0.9
comp=Z,9.9nm,1.0s,baz=129,slow=6.9,SNR=14
ARMA **Armidale** 60.09 126 P **P** 00 17 21.2 +1.0
baz=60,SNR=6.8
ARMA **Armidale** 60.09 126 P **P** 00 17 21.3 +1.2
ARMA IAmb IAmb 00 17 23.8
comp=Z,50nm,1.1s
GRNR **Gornyy** 60.48 28⇑ *i*P **P** 00 17 22.8 +0.5
GRNR pmax pmax
comp=Z,4.0nm,1.2s
MNGR **Mingechevir, A** 60.60 318 P **P** 00 17 22.6 -0.7
SEKA **Sheki** 60.73 319 P **P** 00 17 23.6 -0.7
NAX **Nakhchivan** 60.95 316 P **P** 00 17 25.0 -0.8
GANJ **Ganja** 61.05 318 P **P** 00 17 26.2 -0.2
YSS **Yuzh-Sakhalins** 61.32 34⇓ *e*P **P** 00 17 28.1 +0.1
YSS *e* 00 18 10.0
YSS *e*S **S** 00 25 44.5 -2.6
YSS *e* 00 27 16.1
YSS *e*SS **SS** 00 29 45.0 -2.9
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=Z,800nm,4.8s
YSS **Yuzh-Sakhalins** 61.32 34 P **P** 00 17 28.2 +0.1

ZKTA **Zakatala** 61.32 319 P **P** 00 17 27.8 -0.4
LODK **Lodwar** 61.68 274 P **P** 00 17 33.0 +1.9
SNR=8.6
GNI **Garni** 61.90 317 P **P** 00 17 32.2 -0.1
comp=Z,14nm,1.1s,baz=240,slow=12,SNR=4.0
GNI **Garni** 61.90 317 P **P** 00 17 32.9 +0.5
GNI **Garni** 61.90 317 P **P** 00 17 31.6 -0.7
GNI pmax pmax
comp=Z,54nm,1.2s
GNI **Garni** 61.90 317 P **P** 00 17 31.6 -0.7
GNI IAmb IAmb 00 17 59.9
comp=Z,54nm,1.2s
GNI **Garni** 61.90 317 P **P** 00 17 33.5 +1.1
GROC **Groznyy** 62.61 320 *e*P **P** 00 17 36.6 -0.2
GROC *e* 00 18 15.3
GROC *e* 00 19 54.2
GROC pmax pmax
comp=Z,64nm,1.3s
KZRT **Kazreti** 62.68 318 P **P** 00 17 34.2 -3.2
GUDG **Gudauri** 63.12 319 P **P** 00 17 42.1 +1.6
KARS **Kars** 63.25 316 P **P** 00 17 44.6 +3.3
HNR **Honiara** 63.37 101 P **P** 00 17 42.6 +0.2
comp=Z,90nm,0.6s,baz=221,slow=3.2,SNR=5.3
HNR **Honiara** 63.37 101 P **P** 00 17 42.8 +0.4
HNR **Honiara** 63.37 101 P P 00 17 48.4 +6.0
TYV **Tymovskoe** 63.57 30 *e*P P 00 17 49.0 +6.0
TYV pmax pmax
comp=Z,22nm,1.4s
TYV pmax pmax
comp=Z,200nm,4.2s
SVE **Sverdlovsk** 63.57 339⇑ *e*P **P** 00 17 42.5 -0.4
SVE pmax pmax
comp=Z,89nm,1.5s
SVE MLR MLR
comp=Z,451nm,20.0s
MARD **Mardin** 63.58 312 P **P** 00 17 43.6 +0.1
ZEI **Tsey** 63.64 319 *e*P **P** 00 17 43.3 -0.7
ZEI pmax pmax
comp=Z,19nm,1.0s
ARU **Arti** 64.06 337 P **P** 00 17 45.3 -0.8
comp=Z,1.6nm,0.6s,baz=146,slow=7.0,SNR=17
ARU **Arti** 64.06 337 *c i*P **P** 00 17 45.8 -0.3
ARU 00 20 07.4
ARU PPP PPP 00 21 39.4
ARU S **S** **00 26 26.3 +5.2**
ARU SS **SS** **00 30 31.3 +0.9**
ARU pmax pmax
comp=Z,31nm,1.4s
ARU **Arti** 64.06 337 P **P** 00 17 45.4 -0.7
NCK **Nalchik** 64.16 320⇓ *e*P **P** 00 17 47.3 +0.2
NCK pmax pmax
comp=Z,39nm,1.8s
NEY **Neytrino** 64.62 319⇓ *e*P **P** 00 17 52.3 +2.0
NEY pmax pmax
comp=Z,2.0nm,0.8s
KBZ **Khabaz** 64.72 320 P **P** 00 17 50.8 +0.1
comp=Z,7.5nm,0.8s,baz=100,slow=9.7,SNR=15
KBZ **Khabaz** 64.72 320⇑ *e*P **P** 00 17 50.2 -0.5
KBZ pmax pmax
comp=Z,40nm,2.0s
KIV **Kislovodsk** 64.96 320 *i* P **P** 00 17 52.4 -0.1
SNR=7.2
KIV **Kislovodsk** 64.96 320 P **P** 00 17 51.9 -0.5
KIV pmax pmax
comp=Z,40nm,1.1s
KIV **Kislovodsk** 64.96 320 P **P** 00 17 51.9 -0.5
KIV IAmb IAmb 00 18 11.7
comp=Z,40nm,1.1s
KIV **Kislovodsk** 64.96 320 P **P** 00 17 52.5 +0.1
MALT **Malatya** 65.67 313 P **P** 00 17 57.9 +0.7
GAZ **Gaziantep** 66.19 311 P **P** 00 18 00.9 +0.4
MBAR **Mbarara** 66.26 269 *ce*P **P** 00 18 02.5 +1.0
MBAR pmax pmax
comp=Z,46nm,1.7s
MBAR **Mbarara** 66.26 269 P **P** 00 18 01.1 -0.4
MBAR IAmb IAmb 00 18 03.8
comp=Z,28nm,0.9s
MBAR **Mbarara** 66.26 269 P **P** 00 18 02.8 +1.3
BELG **Belogornoye** 66.34 329 *d i*P **P** 00 17 59.5 -1.5
BELG pmax pmax
comp=Z,10.0nm,1.5s
YAK **Yakutsk** 66.47 16 P **P** 00 18 01.4 -0.2
comp=Z,11nm,0.4s,baz=5.7,slow=0.6,SNR=1.8
YAK LR LR 00 48 34.2
comp=Z,533nm,20.2s,baz=242,slow=37
YAK **Yakutsk** 66.47 16 *e*P **P** 00 18 03.2 +1.6
YAK *e*PP **pwP** **00 18 12.4 -2.0**
YAK *e* 00 18 30.1
YAK *e* 00 20 34.6
YAK *e*PPP PPP 00 22 09.5
YAK *e*S **S** **00 26 51.4 +0.9**
YAK *e*SS **sS** **00 27 06.0 +5.7**
YAK pmax pmax
comp=Z,120nm,1.1s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,17nm,1.4s
YAK pmax pmax
comp=Z,213nm,5.3s
YAK pmax pmax
comp=N,223nm,5.3s
YAK pmax pmax
comp=E,307nm,5.8s
YAK smax smax
comp=N,181nm,3.2s
YAK smax smax
comp=E,158nm,3.8s
YAK MLR MLR
comp=Z,682nm,15.0s
YAK MLR MLR
comp=N,269nm,13.0s
YAK MLR MLR
comp=E,243nm,16.0s
YAK **Yakutsk** 66.47 16 P **P** 00 18 01.3 -0.3
YAK IAMs_20 IAMs_20 00 48 23.2
comp=Z,617nm,21.0s
SOC **Sochi** 66.75 318 *e*P **P** 00 18 00.7 -3.1
SOC *e* 00 20 32.2
SOC *e*PPP PPP 00 22 03.5
SOC *e*S **S** **00 26 51.1 -3.5**
SOC *e*SS **SS** **00 31 09.1 -3.7**
SOC pmax pmax
comp=Z,59nm,1.0s
SOC MLR MLR
comp=Z,57nm,13.0s
TOKA **Tokat** 67.78 314 P **P** 00 18 10.2 -0.3
KOUNC **Koumac, New Ca** 68.85 112 P P 00 18 26.5 +9.0
VRH **Novokhopyorsk** 68.86 326 *e*P **P** 00 18 15.2 -1.8
VRH pmax pmax
comp=Z,50nm,1.5s
KIRV **Kirov** 69.16 336 P **P** 00 18 18.4 -0.3
comp=Z,12nm,0.8s,baz=99,slow=0.6,SNR=3.5
KIRV **Kirov** 69.16 336 *d i*P **P** 00 18 18.2 -0.4
LSZ **Lusaka** 69.62 254 P **P** 00 18 22.2 -0.3
LSZ pmax pmax
comp=Z,46nm,1.8s
LSZ **Lusaka** 69.62 254 P **P** 00 18 22.2 -0.3
LSZ IAmb IAmb 00 18 47.8
comp=Z,46nm,1.8s
LSZ **Lusaka** 69.62 254 IAMs_20 IAMs_20 00 46 16.2
comp=Z,870nm,18.0s
BRTR **Keskin Array B** 69.66 313 P **P** 00 18 21.4 -1.0
comp=Z,11nm,0.8s,baz=132,slow=7.2,SNR=60
BRTR pP **sP** **00 18 31.8 +1.3**
comp=Z,9.6nm,0.9s,baz=128,slow=7.0,SNR=11
BRTR LR LR 00 50 42.9
comp=Z,150nm,19.9s,baz=126,slow=38
BR131 **Keskin Array S** 69.66 313 *d i*P **P** 00 18 21.2 -1.2
BR131 **Keskin Array S** 69.66 313 P **P** 00 18 21.1 -1.2
BR131 IAmb IAmb 00 18 22.6
comp=Z,32nm,0.9s
ILGA **Ilgaz** 70.01 314 P **P** 00 18 24.1 -0.4
VORD **Divnogorie** 70.12 325 *e*P **P** 00 18 23.4 -1.3
VORD pmax pmax
comp=Z,30nm,1.4s
VSR **Storozhevoye** 70.30 326 *e*P **P** 00 18 23.9 -2.0
VSR pmax pmax
comp=Z,30nm,1.5s
BR231 **Keskin MP Arra** 70.33 313 P **P** 00 18 26.0 -0.4
BR231 IAmb IAmb 00 18 27.0
comp=Z,34nm,1.0s
SKR **Severo-Kuril's** 70.81 35 *e*P **P** 00 18 26.9 -2.1
SKR *e*S **S** **00 27 41.8 -0.7**
SKR pmax pmax
comp=Z,33nm,1.7s
SKR pmax pmax
comp=Z,200nm,8.8s
SKR MLR MLR
comp=Z,400nm,17.0s
LPSR **Galich'ya Gora** 71.05 327 *e*P **P** 00 18 28.7 -1.6
LPSR pmax pmax
comp=Z,30nm,1.2s
DZM **Mont Dzumac** 71.06 113 P **P** 00 18 32.0 +0.8
comp=Z,8.5nm,1.0s,baz=185,slow=6.9,SNR=4.0
DZM **Mont Dzumac** 71.06 113 *e*P P 00 18 26.3 -4.9
comp=Z,33nm,0.9s
DZM **Mont Dzumac** 71.06 113 *e*LR LR 00 40 07.3
comp=Z,291nm,22.6s
DZM **Mont Dzumac** 71.06 113 P P 00 18 39.7 +8.5
MAW **Mawson** 71.66 193 LR LR 00 43 34.7
comp=Z,337nm,19.2s,baz=48,slow=30
MDUB **Mudumu** 71.67 313 P **P** 00 18 33.0 -1.6
ELL **Elmali** 71.68 309 P **P** 00 18 34.3 -0.4
ELL pmax pmax
comp=Z,258nm,1.1s
ELL **Elmali** 71.68 309 P **P** 00 18 34.3 -0.4
MA2 **Magadan** 72.35 26 P **P** 00 18 39.3 +0.2
comp=Z,8.4nm,0.7s,baz=203,slow=9.1,SNR=8.5
MA2 **Magadan** 72.35 26⇓ *e*P **P** 00 18 39.3 +1.2
MA2 pmax pmax
comp=Z,10.0nm,0.8s
MA2 **Magadan** 72.35 26 P **P** 00 18 38.1 0.0
MA2 IAmb IAmb 00 18 50.9
comp=Z,33nm,0.8s
MA2 IAMs_20 IAMs_20 00 53 15.4
comp=Z,454nm,20.0s
PETK **Petropavlovsk-** 72.71 33 P **P** 00 18 40.6 +0.2
comp=Z,6.0nm,0.9s,baz=224,slow=4.0,SNR=3.0
PETK LR LR 00 52 20.9
comp=Z,185nm,19.3s,baz=237,slow=37
MOS **Moscow** 73.11 329 *e*P **P** 00 18 38.9 -3.8
MOS *e* 00 18 50.8
MOS *e* 00 18 54.5
MOS pmax pmax
comp=Z,106nm,1.7s
MANT **Manisa** 73.13 310 P **P** 00 18 42.8 -0.7
PET **Petropavlovsk** 73.20 34 *e*P **P** 00 18 43.2 0.0
PET *e*S **S** **00 28 10.7 +0.8**
PET pmax pmax
comp=Z,41nm,1.3s
PET pmax pmax
comp=Z,100nm,13.8s
PET **Petropavlovsk** 73.20 34 P **P** 00 18 43.8 +0.6
PET IAmb IAmb 00 18 55.9
comp=Z,46nm,0.8s
LBTB **Lobatse** 73.25 244 P **P** 00 18 43.9 -0.4
LBTB pmax pmax
comp=Z,68nm,1.5s
LBTB **Lobatse** 73.25 244 P **P** 00 18 43.9 -0.4
LBTB IAmb IAmb 00 18 46.1
comp=Z,68nm,1.5s
OBN **Obninsk** 73.39 329 *de*P **P** 00 18 43.1 -1.2
OBN *e* 00 18 57.7
OBN *e* 00 21 27.8
OBN pmax pmax
comp=Z,89nm,1.7s
OBN MLR MLR
comp=Z,133nm,22.0s
OBN **Obninsk** 73.39 329 P **P** 00 18 43.5 -0.8
BOSA **Boshof** 74.09 240 P **P** 00 18 49.3 +0.2
comp=Z,18nm,1.1s,baz=85,slow=5.5,SNR=14
BOSA LR LR 00 47 02.5
comp=Z,354nm,18.2s,baz=70,slow=32
BOSA **Boshof** 74.09 240 P **P** 00 18 49.0 -0.2
BOSA pmax pmax
comp=Z,58nm,1.4s
BOSA **Boshof** 74.09 240 P **P** 00 18 49.0 -0.2
BOSA IAmb IAmb 00 18 50.6
comp=Z,58nm,1.4s
TIXI **Tiksi** 74.24 10 P **P** 00 18 48.5 -0.5
TIXI pmax pmax
comp=Z,176nm,1.3s
TIXI MLR MLR
comp=Z,500nm,22.0s
TIXI **Tiksi** 74.24 10 P **P** 00 18 48.5 -0.5
TIXI IAMs_20 IAMs_20 00 53 10.9
comp=Z,464nm,22.0s
JURR **Jurilovca** 74.49 317 ⇓P **P** 00 18 51.0 +0.1
KLMR **Klimovskoe** 74.59 335 *e*P **P** 00 18 48.9 -2.3
KLMR pmax pmax
comp=Z,55nm,1.4s
KLMR **Klimovskoe** 74.59 335 *e*P **P** 00 18 48.9 -2.3
KLMR AMP 00 18 52.0
comp=Z,55nm,1.4s
TIRR **Tirgusor** 74.72 316 P **P** 00 18 52.4 +0.1
SEY **Seymchan** 74.79 23 P **P** 00 18 53.0 +0.6
comp=Z,6.3nm,0.7s,baz=239,slow=11,SNR=7.3
SEY pP **pwP** **00 19 03.4 -1.8**
comp=Z,26nm,0.9s,baz=248,slow=7.3,SNR=17
SEY LR LR 00 54 36.0
comp=Z,408nm,19.2s,baz=203,slow=38
SEY **Seymchan** 74.79 23⇓ *e*P **P** 00 18 53.5 +1.2
HARR **Harsova** 75.12 316 ⇓P **P** 00 18 55.1 +0.5
EZN **Ezine** 75.13 311 P **P** 00 18 55.2 +0.4
IDI **Anoyia** 75.35 306 ⇑P **P** 00 18 56.9 +0.6
ALN **Alexandroupoli** 75.57 312 P **P** 00 18 57.3 0.0
SORM **Soroca** 75.76 320 ⇑P **P** 00 18 58.0 -0.2
AKASG **Malin Array Be** 75.95 323 P **P** 00 18 58.3 -1.0
comp=Z,16nm,0.8s,baz=88,slow=4.8,SNR=79
AKASG pP **PcP** **00 19 10.0 -1.6**
comp=Z,20nm,0.8s,baz=86,slow=4.7,SNR=8.3
AKASG **Malin Array Be** 75.95 323 *de*P **P** 00 18 58.2 -1.0
AKASG pmax pmax
comp=Z,25nm,0.8s
AKASG **Malin Array Be** 75.95 323 P **P** 00 18 58.2 -1.0
AKBB **Malin Array Si** 75.95 323 *d i*P **P** 00 18 58.4 -0.9
AKBB pmax pmax
comp=Z,36nm,0.9s
AKBB **Malin Array Si** 75.95 323 P **P** 00 18 58.3 -1.0
AKBB IAmb IAmb 00 18 59.6
comp=Z,30nm,0.8s
VRI **Vrincioaia** 76.24 317 ⇑P **P** 00 19 02.0 +0.9
VRI **Vrincioaia** 76.24 317 P **P** 00 19 01.4 +0.3
TESR **Tescani** 76.45 318 ⇑P **P** 00 19 02.8 +0.5
MLR **Muntele Rosu** 76.68 317 ⇓P **P** 00 19 03.8 0.0
MLR **Muntele Rosu** 76.68 317 P **P** 00 19 03.9 +0.2
MLR pmax pmax
comp=Z,67nm,1.4s
TMCR **Tamitsa** 76.79 337 *e*P **P** 00 19 03.1 -0.6
TMCR pmax pmax
comp=Z,71nm,1.5s
PLD **Plovdiv** 76.81 313 P **P** 00 19 03.9 -0.4
PLD pmax pmax
comp=Z,80nm,1.6s
PRAR **RASCA** 76.94 319 ⇓P **P** 00 19 05.4 +0.4
HUMR **Humele** 77.13 316 ⇑P **P** 00 19 05.5 -0.5
PLVB **Pleven** 77.14 315 ⇑P **P** 00 19 06.4 +0.2
PAIG **Paliouri** 77.14 311 P **P** 00 19 07.4 +1.1
DOPR **Dopca** 77.17 317 ⇑P **P** 00 19 06.5 +0.2
VOIR 77.28 317 ⇑P **P** 00 19 06.5 -0.5
SRS **Serrai** 77.43 312 P **P** 00 19 06.8 -1.1
SRS pmax pmax
comp=Z,24nm,1.4s
ARR **Arges** 77.55 317 ⇑P **P** 00 19 08.3 -0.2
SOH **Sokhos** 77.55 312 P **P** 00 19 07.9 -0.7
BURAR **Bucovina Array** 77.67 319 ⇓P **P** 00 19 10.1 +0.9
BURAR **Bucovina Array** 77.67 319 P **P** 00 19 08.8 -0.4
BURAR **Bucovina Array** 77.67 319 P **P** 00 19 09.4 +0.2
BUR08 **Bucovina Ar. S** 77.68 319 P **P** 00 19 09.6 +0.3
BUR08 IAmb IAmb 00 19 24.5
comp=Z,73nm,1.2s
THE **Thessaloniki** 77.81 312 P **P** 00 19 08.9 -1.1
MNK **Minsk** 77.86 326 *i* P **P** 00 19 09.0 -0.9
comp=E,8.0nm,1.4s
MNK *i* P **P** 00 19 09.0 -0.9
comp=N,12nm,1.0s
MNK *i* P **P** 00 19 09.0 -0.9
comp=Z,90nm,1.4s
MNK *i* PP **PP** **00 22 04.2 -1.7**
MNK *i* PPP PPP 00 23 51.7
MNK *i* S **S** **00 29 02.7 +1.2**
MNK *i* SS **SS** **00 34 03.3 +0.9**
MNK *i* LQ LQ 00 48 22.8
MNK *i* LR LR 00 54 18.1
MNK *i* LRM MLR 00 56 02.9
comp=E,15nm,12.9s
MNK *i* LRM MLR 00 56 11.3
comp=Z,59nm,10.3s
MNK *i* LRM MLR 00 56 12.6

comp=N,100nm,12.2s
VTS Vitosha 77.98 314 ⇑P P 00 19 11.1 0.0
VTS Vitosha 77.98 314 P P 00 19 10.4 -0.7
AGG Agios Georgios 78.01 310 P P 00 19 11.0 -0.2
LIT Litokhoron 78.07 311 P P 00 19 10.5 -1.0
ARCR ARCALIA 78.12 318 ⇑P P 00 19 12.6 +1.0
LOT Lotru 78.16 316 ⇑P P 00 19 12.4 +0.4
VAY Valandovo 78.22 312 P P 00 19 11.6 -0.7
VAY Valandovo 78.22 312 *i* P P 00 19 10.7 -1.6
GRG Griva 78.29 312 P P 00 19 11.5 -1.2
SUR Sutherland 78.43 237 P P 00 19 14.3 +0.4
SUR IAmb IAmb 00 19 16.7
comp=E,41nm,1.1s
STIP Stip 78.57 312 ⇓*i* P P 00 19 11.7 -2.5
NACGM Naroch 78.59 326 *i* P P 00 19 13.8 -0.2
NACGM *i* P P 00 19 13.8 -0.2
NACGM *i* P P 00 19 13.8 -0.2
NACGM *i* Pb pP 00 19 16.7 -3.3
comp=E,36nm,1.4s
NACGM *i* Pb sP 00 19 17.2 -5.0
comp=N,16nm,1.1s
NACGM *i* PPP PPP 00 25 02.9
NACGM *i* S S 00 30 24.9 +76
NACGM *i* PS 00 31 56.7
NACGM *i* SS SS 00 34 20.5 +7.2
NACGM *i* SSS SSS 00 38 29.9
RPZ Rata Peaks 78.62 135 P P 00 19 14.9 +0.4
comp=N,20nm,0.8s,baz=190,slow=3.5,SNR=9.5
RPZ Rata Peaks 78.62 135 P P 00 19 15.4 +0.9
IDID Didziasalis 78.73 327 *e*P P 00 19 14.8 0.0
BMR Baia Mare 78.81 319 P P 00 19 16.4 +1.0
GZR Gura Zlata 78.84 316 ⇓P P 00 19 16.1 +0.5
DEV Deva 78.84 317 ⇑P P 00 19 16.6 +1.0
LVV L'vov 78.94 321 *e*P P 00 19 14.0 -2.0
SYO Syowa Base 78.96 198 ⇓*e*P P 00 19 17.2 +1.5
SYO Syowa Base 78.96 198 ⇓*e*PcP PcP 00 19 25.8 +1.6
SYO Syowa Base 78.96 198 ⇓*e*pPKiKP PKiKP 00 24 52.6 +2.8
HERR Herculane 78.99 316 ⇑P P 00 19 16.6 +0.2
FNA Florina 79.02 311 P P 00 19 16.2 -0.6
IGN Ignalina 79.03 327 *e*P P 00 19 16.4 0.0
ISAL Salakas 79.14 327 *e*P P 00 19 16.9 0.0
DRGR 79.16 318 ⇑P P 00 19 18.1 +0.7
DRGR 79.16 318 P P 00 19 17.6 +0.2
DRGR pmax pmax
comp=Z,21nm,1.3s
SKO Skopje 79.17 313 *i* P P 00 19 16.2 -1.3
QRZ Quartz Range 79.18 132 P P 00 19 17.9 +0.3
BOVS Bovan 79.26 314 ⇑P P 00 19 16.1 -1.8
MDVR Moldovita 79.46 316 ⇓P P 00 19 18.6 -0.5
OHR Ohrid 79.51 312 *i* P P 00 19 17.9 -1.5
THZ Tophouse 79.61 132 P P 00 19 19.9 -0.1
THZ IAmb IAmb 00 19 21.3
comp=Z,38nm,1.0s
IGT Igoumenitsa 79.62 310 P P 00 19 19.6 -0.4
IGT pmax pmax
comp=Z,44nm,1.0s
VSU Vasula 79.64 330 *e*P P 00 19 20.0 +0.4
VSU Vasula 79.64 330 *de*P P 00 19 19.0 -0.6
VSU pmax pmax
comp=Z,105nm,1.1s
BZS Buzias 79.68 316 ⇑P P 00 19 20.4 +0.2
LVZ Lovozero 79.73 340 ⇓*e*P P 00 19 19.5 -0.5
LVZ pmax pmax
comp=Z,70nm,1.9s
KWP Kalwaria Pacla 79.73 320 *e*P P 00 19 20.6 +0.2
KWP Kalwaria Pacla 79.73 320 P P 00 19 21.0 +0.6
UZH Uzhgorod 79.80 319 *e*P P 00 19 18.7 -2.0
UZH *e* 00 19 30.3
LTVH Ltavrtes, Hu 79.81 318 ⇑P P 00 19 21.4 +0.5
KOLS Kolonicke sedl 79.87 320 *e*P P 00 19 21.9 +0.7
KOLS *e* 00 19 34.0
KOLS pmax pmax
comp=Z,65nm,1.1s
KOLS Kolonicke sedl 79.87 320 *e*P P 00 19 21.9 +0.7
KOLS *e* 00 19 34.0
APA Apatity 80.02 340 ⇓*i*P P 00 19 18.1 -3.4
APA *i* 00 19 24.9
APA *i* 00 22 27.2
APA *i* PS PnS 00 30 22.0 +12
APA pmax pmax
comp=Z,17nm,1.0s
TSUM Tsumeb 80.05 251 P P 00 19 22.3 -0.6
TSUM IAMs_20 IAMs_20 00 53 27.4
comp=Z,466nm,19.0s
PABE Paberze 80.31 326 *e*P P 00 19 23.4 +0.1
CRVS Cervenica-Dubn 80.39 320 *e*P P 00 19 24.6 +0.6
CRVS *e* 00 19 38.4
CRVS pmax pmax
comp=Z,97nm,1.7s
CRVS Cervenica-Dubn 80.39 320 *e*P P 00 19 24.6 +0.6
CRVS *e* 00 19 38.4
SUW Suwalki 80.40 325 *e*P P 00 19 22.8 -1.0
SUW Suwalki 80.40 325 *e*P P 00 19 23.4 -0.4
DIVS Divibare 80.56 315 *e*P P 00 19 24.4 -0.7
DIVS Divibare 80.56 315 P P 00 19 24.6 -0.4
DIVS IAmb IAmb 00 19 27.0
comp=Z,52nm,1.3s
HIZ Hauiti 80.61 129 P P 00 19 25.4 0.0
HIZ IAmb IAmb 00 19 28.1
comp=Z,72nm,1.1s
FIA1 FINESS Array S 80.82 333 P P 00 19 24.7 -1.2
FINES FINESS Array B 80.82 333 P P 00 19 26.0 0.0
comp=Z,9.8nm,0.7s,baz=104,slow=5.1,SNR=39
FINES FINESS Array B 80.82 333 P P 00 19 24.2 -1.8
FINES FINESS Array B 80.82 333 P P 00 19 24.2 -1.8
PDG Podgorica 80.85 313 ⇑P P 00 19 26.4 -0.1
PDG Podgorica 80.85 313 *e*P P 00 19 25.8 -0.7
FRGS Fruska Gora 80.86 316 *e*P P 00 19 25.6 -1.0
PLE Pljevlja 80.88 314 P P 00 19 28.2 +1.4
BBLS Lazići 80.95 314 *e*P P 00 19 27.0 -0.1
KECS Kecovo 80.95 319 *e*P P 00 19 27.5 +0.5
KECS pmax pmax
comp=Z,26nm,1.8s
KECS Kecovo 80.95 319 *e*P P 00 19 27.5 +0.5
TEKS Tekeris 80.96 315 *e*P P 00 19 27.4 +0.3
MTSE Matsula 81.18 330 *e*P P 00 19 27.6 -0.3
UPM Unac-Piva 81.21 314 *e*P P 00 19 27.8 -0.9
NIE Niedzica 81.23 320 *e*P P 00 19 29.1 +0.6
PSZ Piszkesteto 81.24 318 ⇑P P 00 19 28.9 +0.2
HAPS Han Pijesak,BI 81.30 315 *e*P P 00 19 27.9 -1.2
HCY Herceg Novi 81.41 313 *e*P P 00 19 28.6 -0.9
MSVF Nonsavu 81.53 108 P P 00 19 31.5 +0.8
comp=Z,10nm,1.0s,baz=316,slow=21,SNR=5.2
MSVF LR LR 00 56 03.6
comp=Z,89nm,21.4s,baz=50,slow=36
MSVF Nonsavu 81.53 108 P P 00 19 31.3 +0.6
MSVF pmax pmax
comp=Z,29nm,1.2s
MSVF Nonsavu 81.53 108 P P 00 19 31.3 +0.6
PBUR Paburge 81.55 327 *e*P P 00 19 30.2 +0.3
TREB Trebinje 81.55 313 *e*P P 00 19 29.5 -0.8
OJC Ojcow 81.69 321 *e*P P 00 19 30.9 +0.1
SLIT Slitere, Latvi 81.70 328 *e*P P 00 19 29.9 -0.8
MORH Mrgy, Hungar 81.82 317 ⇑P P 00 19 31.6 0.0
MORH Mrgy, Hungar 81.82 317 *e*P P 00 19 30.6 -1.0
BKZ Black Stump Fm 81.96 129 P P 00 19 32.8 +0.2
VYHS Vyhne 82.03 319 *e*P P 00 19 33.1 +0.4
VYHS Vyhne 82.03 319 *e*P P 00 19 33.1 +0.4
URZ Urewera 82.33 129 P P 00 19 34.3 -0.1
comp=Z,25nm,1.0s,baz=344,slow=2.8,SNR=6.4
MATE Matera 82.52 311 ⇑P P 00 19 35.7 +0.3
BLY Banja Luka 82.64 315 *e*P P 00 19 35.5 -0.5
JAVC Velka Javorina 82.85 319 *e*P P 00 19 37.4 +0.4
SMOL Smolenice 82.96 319 *e*P P 00 19 37.8 +0.2
SMOL *e* 00 19 50.0
SMOL pmax pmax
comp=Z,8.0nm,1.3s
SMOL Smolenice 82.96 319 *e*P P 00 19 37.8 +0.2
SMOL *e* 00 19 50.0
KEV Kevo 83.01 341 P P 00 19 37.2 -0.1
KEV pmax pmax
comp=Z,57nm,1.4s
KEV Kevo 83.01 341 P P 00 19 37.2 -0.1
KEV IAmb IAmb 00 19 38.1
comp=Z,57nm,1.4s
MODS Modra-Piesok 83.04 319 *e*P P 00 19 37.2 -0.8
MODS *e* 00 19 49.5
MODS pmax pmax
comp=Z,58nm,1.4s
MODS Modra-Piesok 83.04 319 *e*P P 00 19 37.2 -0.8
MODS *e* 00 19 49.5
MORC Moravsky Berou 83.06 320 ⇑P P 00 19 38.5 +0.4
MORC Moravsky Berou 83.06 320 *e*P P 00 19 37.7 -0.4
MORC Moravsky Berou 83.06 320 P P 00 19 38.3 +0.2
ZST Bratislava 83.14 318 *e*P P 00 19 39.0 +0.6
ZST *e* 00 19 50.4
ZST pmax pmax
comp=Z,128nm,1.4s
ZST Bratislava 83.14 318 *e*P P 00 19 39.0 +0.6
ZST *e* 00 19 50.4
AAL Aland 83.41 331 *e*P P 00 19 38.9 -0.6
ARA0 ARCESS Array S 83.44 340 P P 00 19 39.8 +0.2
ARA0 IAmb IAmb 00 19 54.1
comp=Z,55nm,1.2s
ARCES ARCESS Array B 83.44 340 P P 00 19 39.9 +0.4
comp=Z,5.9nm,0.5s,baz=104,slow=4.7,SNR=62
ARCES LR LR 00 59 45.3
comp=Z,275nm,20.8s,baz=105,slow=38
KRLC Kraliky 83.59 320 *e*P P 00 19 40.6 -0.2
KRLC *e* 00 19 52.5
KRLC Kraliky 83.59 320 *e*P P 00 19 40.6 -0.2
KRLC *ex* x 00 19 52.5
VRAC Vranov 83.61 320 *e*P P 00 19 40.4 -0.5
KRUC Moravsky 83.71 319 *e*P P 00 19 40.5 -0.9
GKP Gorka Klasztor 83.74 324 *e*P P 00 19 41.3 -0.1
DPC Dobruska-Polom 83.92 321 *e*P P 00 19 42.8 +0.3
DPC *e* 00 19 54.5
DPC Dobruska-Polom 83.92 321 *e*P P 00 19 42.8 +0.3
DPC *ex* x 00 19 54.5
CONA Conrad Observa 83.93 318 *e*P P 00 19 42.3 -0.4
comp=Z,10nm,1.1s
CRES Cresnjev 83.98 316 *e*P P 00 19 43.1 +0.2
KSP Ksiaz 84.00 321 *e*P P 00 19 43.0 +0.2
OSTC Ostas 84.01 321 *e*P P 00 19 43.2 +0.3
OSTC *ex* x 00 19 54.6
GROS Grobnik 84.01 317 *i* P P 00 19 43.0 -0.1
GROS epP pwP 00 19 55.2 -1.0
RAFF Raffo Rosso 84.03 307 IAMs_20 IAMs_20 00 47 47.8
comp=Z,506nm,22.0s
KTK1 Kautokeino 84.07 340 *e*P P 00 19 43.2 +0.4
ARSA Arzberg 84.08 317 *i* P P 00 19 43.5 +0.2
comp=Z,37nm,1.6s,SNR=10
CHVC Chvalec 84.11 321 *e*P P 00 19 43.5 0.0
CHVC *ex* x 00 19 55.2
UPC Upice 84.13 321 *e*P P 00 19 43.8 +0.3
UPC *e* 00 19 55.3
UPC Upice 84.13 321 *e*P P 00 19 43.8 +0.3
UPC *ex* x 00 19 55.3
TREC Trest 84.33 319 *e*P P 00 19 43.9 -0.7
TREC *e* 00 19 57.1
TREC Trest 84.33 319 *e*P P 00 19 43.9 -0.7
TREC *ex* x 00 19 57.1
HAMF Hammerfest 84.35 341 *e*P P 00 19 44.5 +0.3
SOKA Soboth 84.36 317 *i* P P 00 19 44.9 +0.1
comp=Z,43nm,1.5s,SNR=9.4
UPP Uppsala 84.52 330 *e*P P 00 19 44.9 -0.3
LJU Ljubljana 84.65 316 *i* P P 00 19 46.6 +0.3
LJU epP pwP 00 19 58.6 -0.7
LJU Ljubljana 84.65 316 *e*P P 00 19 45.9 -0.3
OBKA Obir 84.67 317 *e*P P 00 19 46.8 +0.3
comp=Z,20nm,1.1s
CEY Cerknica 84.69 316 *e*P P 00 19 45.6 -0.9
INTR Introdacqua 84.75 312 IAMs_20 IAMs_20 00 48 21.6
comp=Z,255nm,18.0s
VNDA Vanda 84.85 169 P P 00 19 46.7 +0.1
comp=Z,13nm,1.2s,baz=312,slow=5.4,SNR=16
VNDA LR LR 00 57 11.2
comp=Z,194nm,18.1s,baz=306,slow=35
VNDA Vanda 84.85 169 P P 00 19 47.2 +0.5
VNDA IAmb IAmb 00 19 48.6
comp=Z,44nm,1.4s
MOA Molln 84.99 318 *i* P P 00 19 47.8 -0.2
comp=Z,20nm,1.7s,SNR=6.0
PRU Pruhonice 85.01 320 *e*P P 00 19 48.1 +0.1
PRU *e* 00 19 59.5
PRU Pruhonice 85.01 320 *e*P P 00 19 48.1 +0.1
PRU *ex* x 00 19 59.5
PVCC Panska Ves 85.05 321 *e*P P 00 19 48.7 +0.6
PVCC *e* 00 20 00.5
PVCC Panska Ves 85.05 321 *e*P P 00 19 48.7 +0.6
PVCC *ex* x 00 20 00.5
CKRC Cesky Krumlov 85.05 319 *e*P P 00 19 47.3 -0.9
CKRC *ex* x 00 19 59.1
PRA Prague 85.09 320 *e*P P 00 19 48.7 +0.4
PRA *e* 00 20 01.3
PRA Prague 85.09 320 *e*P P 00 19 48.7 +0.4
PRA *ex* x 00 20 01.3
AQU L'Aquila 85.15 312 P P 00 19 49.9 +1.0
AQU pmax pmax
comp=Z,102nm,1.6s
AQU L'Aquila 85.15 312 *e*P P 00 19 48.1 -0.8
JETT Jettan, Norway 85.17 340 *e*P P 00 19 39.0 -9.4
MYKA Terra Mystica 85.31 317 *i* P P 00 19 49.4 -0.2
comp=Z,32nm,1.5s
PBCC Pribram 85.34 320 *e*P P 00 19 49.8 +0.2
PBCC *ex* x 00 20 00.9
GEC2 GERESS Array S 85.45 319 P P 00 19 50.1 -0.2
GEC2 IAmb IAmb 00 19 51.8
comp=Z,48nm,1.2s
GEC2 GERESS Array S 85.45 319 *e*P P 00 19 50.6 +0.2
comp=Z,60nm,1.4s,baz=93,slow=4.9
GEC2 epP pwP 00 20 02.6 -0.8
baz=93,slow=4.9
GERES GERESS Array B 85.45 319 P P 00 19 50.5 +0.1
comp=Z,13nm,1.0s,baz=100,slow=5.5,SNR=58
GERES GERESS Array B 85.45 319 P P 00 19 50.2 -0.2
GERES GERESS Array B 85.45 319 P P 00 19 50.2 -0.2
BRG Berggiesshubel 85.48 321 P P 00 19 50.8 +0.5
BRG Berggiesshubel 85.48 321 *i* P P 00 19 50.8 +0.5
BRG Amp 00 19 51.8
comp=Z,49nm,1.6s
BRG *ex* x 00 20 02.5
BRG Amp 00 20 05.3
comp=Z,34nm,1.4s
BRG *ex* x 00 20 15.3
BRG Amp 00 20 17.0
comp=Z,32nm,1.4s
BRG Berggiesshubel 85.48 321 *e*P P 00 19 50.6 +0.3
comp=Z,49nm,1.6s,baz=93,slow=4.9
BRG epP pwP 00 20 02.7 -0.7
baz=93,slow=4.9
KBA Koelnbreinsper 85.55 317 *e*P P 00 19 48.5 -2.4
comp=Z,19nm,1.8s
KHC Kasperske Hory 85.56 319 ⇓*e*P P 00 19 50.6 -0.2
KHC Kasperske Hory 85.56 319 *e*P P 00 19 50.3 -0.5
KHC *ex* x 00 20 01.7
TRO Tromso 85.70 340 *e*P P 00 19 50.8 -0.1
RUE Ruedersdorf 85.73 322 *e*P P 00 19 52.1 +0.6
comp=Z,78nm,1.2s,baz=93,slow=4.9
RUE epP pwP 00 20 04.1 -0.5
baz=93,slow=4.9
FBE Freiberg 85.86 321 *e*P P 00 19 52.7 +0.6
comp=Z,52nm,1.4s,baz=93,slow=4.9
FBE epP pwP 00 20 04.7 -0.5
baz=93,slow=4.9
SBA Scott Base 85.95 169 P P 00 19 53.3 +1.2
SBA pmax pmax
comp=Z,31nm,1.2s
SBA Scott Base 85.95 169 P P 00 19 53.3 +1.2
SBA IAmb IAmb 00 19 54.5
comp=Z,31nm,1.1s
WET Wettzell 86.02 319 *e*P P 00 19 53.3 +0.2
comp=Z,39nm,1.4s,baz=93,slow=4.9
WET epP pwP 00 20 05.4 -0.8
baz=93,slow=4.9
CLL Collm 86.11 321 *i* P P 00 19 52.8 -0.6
comp=Z,27nm,1.3s
CLL *i* (pP) pwP 00 20 04.8 -1.7
comp=Z,24nm,1.2s
CLL Collm 86.11 321 *i* P P 00 19 52.8 -0.6
CLL *i* *PP pwP 00 20 04.8 -1.7
CLL pmax pmax
comp=Z,27nm,1.3s
CLL Collm 86.11 321 *e*P P 00 19 53.3 -0.1
comp=Z,27nm,1.3s,baz=93,slow=4.9
CLL epP pwP 00 20 05.4 -1.1
baz=93,slow=4.9
NKC Novy Kostel 86.38 320 *e*P P 00 19 54.9 +0.1
NKC *e* 00 20 07.1
NKC Novy Kostel 86.38 320 *e*P P 00 19 54.9 +0.1
NKC *ex* x 00 20 07.1
TANN Tannenbergstha 86.38 320 *e*P P 00 19 54.8 0.0
comp=Z,23nm,1.4s,baz=93,slow=4.9
TANN epP pwP 00 20 07.0 -1.0
baz=93,slow=4.9
WERN Wernitzgruen 86.43 320 *e*P P 00 19 55.3 +0.3
comp=Z,18nm,1.2s,baz=93,slow=4.9
WERN epP pwP 00 20 07.4 -0.8
baz=93,slow=4.9
GUNZ Gunzen 86.46 320 *e*P P 00 19 55.6 +0.4
comp=Z,20nm,1.2s,baz=93,slow=4.9
GUNZ epP pwP 00 20 07.6 -0.7
baz=93,slow=4.9
WERD Werda 86.48 320 *e*P P 00 19 55.2 -0.1
comp=Z,10nm,1.0s,baz=93,slow=4.9
WERD epP pwP 00 20 07.5 -0.9
baz=93,slow=4.9
N2IH Innhavet 86.49 338 *e*P P 00 19 54.8 -0.1
ROTZ Rotzenmuhle 86.50 320 *e*P P 00 19 55.9 +0.5
comp=Z,24nm,1.2s,baz=93,slow=4.9
ROTZ epP pwP 00 20 07.9 -0.6
baz=93,slow=4.9
MANZ Manzenberg 86.58 320 *e*P P 00 19 56.5 +0.7
comp=Z,39nm,1.2s,baz=93,slow=4.9
MANZ epP pwP 00 20 08.6 -0.3
baz=93,slow=4.9
PLN Plauen 86.58 320 *e*P P 00 19 55.9 +0.2
comp=Z,24nm,1.3s,baz=93,slow=4.9
PLN epP pwP 00 20 07.9 -0.9
baz=93,slow=4.9
NBB29 Rokland skole 86.59 337 *e*P P 00 19 55.7 +0.4
FAUS Fauske 86.65 337 *e*P P 00 19 55.8 +0.1
N2HS Hamsund 86.67 338 *e*P P 00 19 54.8 -1.0
WTTA Wattenberg 86.72 317 *i* P P 00 19 56.5 -0.2
comp=Z,17nm,1.0s,SNR=5.2
WTTA Wattenberg 86.72 317 P P 00 19 56.5 -0.2
N2TV T¥rnvik 86.74 338 *e*P P 00 19 56.3 +0.2
STEI Steigen 86.74 338 *e*P P 00 19 56.7 +0.6
WATA Walderalm 86.77 317 *i* P P 00 19 56.5 -0.4
comp=Z,25nm,1.7s,SNR=5.4
MOR8 Moi Rana 86.83 336 *e*P P 00 19 56.2 -0.5
NEUB Neuenburg 86.87 321 *e*P P 00 19 57.4 +0.3
comp=Z,32nm,1.0s,baz=93,slow=4.9
NEUB epP pwP 00 20 09.2 -1.0
baz=93,slow=4.9
MOX Moxa 86.94 321 *e*P P 00 19 57.8 +0.3
comp=Z,45nm,1.6s,baz=93,slow=4.9
MOX epP pwP 00 20 09.9 -0.8
baz=93,slow=4.9
NBB28 Valnes 86.95 337 *e*P P 00 19 57.6 +0.5
SQTA Sankt Quirin 87.01 317 *e*P P 00 19 57.9 -0.2
comp=Z,10nm,0.7s
MOTA Moosalm 87.09 317 *e*P P 00 19 58.2 -0.3
comp=Z,14nm,0.9s
NBB05 Inndyr 87.10 337 *e*P P 00 19 58.0 +0.2
NBB17 Glomfjord B¥r 87.10 337 *e*P P 00 19 58.3 +0.4
GRF Grafenberg Arr 87.13 320 *e*P P 00 19 58.9 +0.4
comp=Z,22nm,1.1s,baz=93,slow=4.9
GRF epP pwP 00 20 11.1 -0.5
baz=93,slow=4.9
FLTG Flechtingen 87.27 322 *e*P P 00 19 58.9 -0.2
comp=Z,11nm,1.0s,baz=93,slow=4.9
FLTG epP pwP 00 20 10.8 -1.4
baz=93,slow=4.9
RETA Reutte 87.33 317 *e*P P 00 19 59.5 0.0
comp=Z,12nm,0.8s
FETA Feichten 87.33 317 *e*P P 00 19 59.9 +0.2
comp=Z,6.6nm,1.0s
NC405 NORSAR Array S 87.57 331 P P 00 20 00.4 +0.1
ASSE Asse, Remlinge 87.61 322 *e*P P 00 20 00.8 +0.2
comp=Z,34nm,1.2s,baz=93,slow=4.9
ASSE epP pwP 00 20 12.9 -0.8
baz=93,slow=4.9
NC602 NORSAR Array S 87.63 331 *e*P P 00 20 00.5 -0.1
NORES NORESS Array B 87.63 331 P P 00 20 00.7 +0.1
NORES pmax pmax
comp=Z,7.0nm,0.6s
NSS Namsos 87.71 334 *e*P P 00 20 01.1 +0.3
CLZ Clausthal 87.78 322 *e*P P 00 20 01.9 +0.4
comp=Z,45nm,1.4s,baz=93,slow=4.9
CLZ epP pwP 00 20 14.0 -0.7
baz=93,slow=4.9
NB2 NORSAR Subarra 87.81 331 P P 00 20 00.8 -0.7
comp=Z,4.9nm,0.8s,baz=98,slow=4.6
NB2 NORSAR Subarra 87.81 331 P P 00 19 58.5 -3.0
NB2 pmax pmax
comp=Z,9.0nm,0.8s
NB2 NORSAR Subarra 87.81 331 P P 00 20 00.8 -0.7
baz=98,slow=4.6
NOA NORSAR Array B 87.81 331 P P 00 20 00.8 -0.7
comp=Z,14nm,0.9s,baz=95,slow=4.8,SNR=27
NOA PP PP 00 23 28.1 +0.7
comp=Z,1.2nm,0.9s,baz=84,slow=6.9,SNR=3.4
NOA LR LR 01 02 58.8
comp=Z,139nm,20.2s,baz=90,slow=38
BSEG Bad Segeberg 87.91 324 *e*P P 00 20 02.6 +0.6
comp=Z,65nm,1.2s,baz=93,slow=4.9
BSEG epP pwP 00 20 14.7 -0.4
baz=93,slow=4.9
SPA0 Spitsbergen Ar 87.92 348 P P 00 20 01.5 -0.2
SPA0 Spitsbergen Ar 87.92 348 *e*P P 00 20 01.7 0.0
DAVA Damuels 87.92 317 *i* P P 00 20 02.8 +0.3
comp=Z,19nm,0.9s
UBBA Unterbreizbach 87.97 321 *e*P P 00 20 02.6 +0.3
comp=Z,13nm,1.1s,baz=93,slow=4.9
UBBA epP pwP 00 20 14.7 -0.8
baz=93,slow=4.9
NRDL Niedersach Rie 87.97 322 *e*P P 00 20 03.2 +0.9
comp=Z,70nm,1.2s,baz=93,slow=4.9
NRDL epP pwP 00 20 15.4 -0.1
baz=93,slow=4.9
KEST Kesra 87.99 306 P P 00 20 03.2 +0.2
comp=Z,29nm,0.9s,baz=93,slow=0.6,SNR=13
KEST LR LR 01 01 07.9
comp=Z,81nm,19.7s,baz=6.5,slow=37
KEST Kesra 87.99 306 P P 00 20 03.3 +0.3
GTTG Gottingen 88.02 321 *e*P P 00 20 03.2 +0.5
comp=Z,30nm,1.1s,baz=93,slow=4.9
GTTG epP pwP 00 20 15.2 -0.6
baz=93,slow=4.9
KONO Kongsberg 88.54 330 P P 00 20 04.7 -0.2
KONO pmax pmax
comp=Z,39nm,1.1s
KONO Kongsberg 88.54 330 P P 00 20 04.7 -0.2
KONO IAmb IAmb 00 20 25.0
comp=Z,39nm,1.1s
KONO Kongsberg 88.54 330 *e*P P 00 20 05.1 +0.2
NVL N'lazarevskaya 88.55 199 ⇑*i*P P 00 20 06.0 +1.3
NVL pmax pmax
comp=Z,97nm,1.1s
MUD Monsted U'grnd 88.66 326 *i* P P 00 20 07.1 +1.6
MUD *i* 00 20 17.8
MUD Monsted U'grnd 88.66 326 *i* P P 00 20 07.1 +1.6
MUD *i* 00 20 17.8
MUD Monsted U'grnd 88.66 326 *i* P P 00 20 07.1 +1.6
MUD *i* 00 20 17.8
DOMB Dombas 88.88 332 *e*P P 00 20 06.6 0.0
KBS Kingsbay 88.89 349 *e*P P 00 20 06.1 -0.1
TNS Taunus Mts 88.94 320 *e*P P 00 20 07.8 +0.6
comp=Z,30nm,1.2s,baz=93,slow=4.9
TNS epP pwP 00 20 19.7 -0.5
baz=93,slow=4.9
KASTN Kahler Asten 88.98 321 *e*P P 00 20 07.7 +0.4
comp=Z,38nm,1.2s,baz=93,slow=4.9
KASTN epP pwP 00 20 19.9 -0.5
baz=93,slow=4.9
BFO Black Forest 88.99 318 P P 00 20 06.3 -1.1
BFO pmax pmax
comp=Z,17nm,1.3s
BFO Black Forest 88.99 318 P P 00 20 06.3 -1.1
BFO Black Forest 88.99 318 *e*P P 00 20 07.1 -0.3
comp=Z,12nm,1.1s,baz=93,slow=4.9
HOMB Homborsund 89.07 328 *e*P P 00 20 06.9 -0.5
SKAR Skarslia 89.22 331 *e*P P 00 20 08.7 +0.5
IBBN Ibbenburen 89.41 322 *e*P P 00 20 09.8 +0.6
comp=Z,70nm,1.1s,baz=93,slow=4.9
IBBN epP pwP 00 20 21.9 -0.4
baz=93,slow=4.9
SENIN Lac Senin/Sane 89.67 316 P P 00 20 10.6 -0.2
CDF Champ du Feu 89.69 318 *e*P P 00 20 09.6 -1.1
CDF pmax pmax
comp=Z,27nm,1.6s
BUG Bochum--Univer 89.70 321 *e*P P 00 20 11.1 +0.6
comp=Z,58nm,1.2s,baz=93,slow=4.9
BUG epP pwP 00 20 23.2 -0.5
baz=93,slow=4.9
SNART Snartemo 89.75 328 *e*P P 00 20 10.5 -0.1
AHRW Bad Neuenahr-A 89.83 320 *e*P P 00 20 11.9 +0.7
comp=Z,38nm,1.1s,baz=93,slow=4.9
AHRW epP pwP 00 20 24.0 -0.3
baz=93,slow=4.9
AKN Aaknes 89.86 332 *e*P P 00 20 10.7 -0.4

LPG	La Plagne	90.06	315	*e*P	P	00 20 12.1	-0.7
LPG				pmax	pmax		
	comp=Z,24nm,1.0s						
LPL	La Plagne	90.07	315	*e*P	P	00 20 12.1	-0.6
LPL				pmax	pmax		
	comp=Z,36nm,1.0s						
QSPA	South Pole Qui	90.11	180	P	P	00 20 13.0	+0.7
BLS5	Blasjo	90.14	329	*e*P	P	00 20 13.1	+0.6
FRF	La Foret Royal	90.14	313	*e*P	P	00 20 12.3	-0.5
FRF				pmax	pmax		
	comp=Z,46nm,1.2s						
HAU	Haudompre	90.32	318	*e*P	P	00 20 12.6	-1.0
HAU				pmax	pmax		
	comp=Z,51nm,1.4s						
WLF	Walferdange	90.42	319	*d*PcP	PcP	00 20 14.5	-0.6
WLF				*d*x	x	00 20 26.2	
WLF	Walferdange	90.42	319	*e*P	P	00 20 14.8	+0.8
	comp=Z,53nm,1.4s,baz=93,slow=4.9						
WLF				*e*pP	pwP	00 20 26.8	-0.4
	baz=93,slow=4.9						
BTNL	Ternell	90.43	320	*d*PcP	P	00 20 14.5	+0.5
BTNL				*d*x	x	00 20 25.5	
MEM	Membach	90.51	320	*d*PcP	PcP	00 20 14.9	-0.6
CABF	La Chapelle	90.51	316	*e*P	P	00 20 14.1	-0.5
CABF				pmax	pmax		
	comp=Z,38nm,1.3s						
ORIF	Oris-en-Rattie	90.68	315	*e*P	P	00 20 15.0	-0.4
ORIF				pmax	pmax		
	comp=Z,85nm,1.7s						
BER	Bergen	90.69	330	*e*P	P	00 20 15.3	+0.4
BCLA	Clavier	90.96	320	*d*PcP	PcP	00 20 17.0	-0.5
BGES	Gesves	91.10	320	*d*PcP	P	00 20 17.5	+0.4
GIVF	Givet	91.28	320	*e*P	P	00 20 17.5	-0.4
GIVF				pmax	pmax		
	comp=Z,28nm,1.1s						
BMRD	Maredsous	91.31	320	*d*PcP	PcP	00 20 18.5	-0.5
DOU	Dourbes	91.42	320	*d*PcP	PcP	00 20 19.3	-0.2
DOU				*d*x	x	00 20 31.1	
VIVF	Saint-Julien-l	91.54	315	*e*P	P	00 20 18.8	-0.5
VIVF				pmax	pmax		
	comp=Z,35nm,1.4s						
SNF	Seneffe	91.61	320	*d*PcP	PcP	00 20 20.0	-0.4
BAIF	Baives	91.67	320	*e*P	P	00 20 19.6	-0.2
BAIF				pmax	pmax		
	comp=Z,48nm,1.0s						
LOR	Lormes	92.02	317	*e*P	P	00 20 20.8	-0.7
LOR				pmax	pmax		
	comp=Z,40nm,1.1s						
SMF	Signal de Mont	92.06	317	*e*P	P	00 20 20.9	-0.8
SMF				pmax	pmax		
	comp=Z,25nm,1.0s						
SSF	Saint Saulge	92.27	317	*e*P	P	00 20 23.3	+0.7
SSF				pmax	pmax		
	comp=Z,30nm,1.4s						
AVF	Avril sur Loir	92.39	317	*e*P	P	00 20 22.5	-0.7
AVF				pmax	pmax		
	comp=Z,27nm,1.2s						
BGF	Bois d'Agland	92.75	316	*e*P	P	00 20 24.6	-0.2
BGF				pmax	pmax		
	comp=Z,71nm,1.3s						
MTLF	Montolieu	93.37	313	*e*P	P	00 20 27.5	-0.3
MTLF				pmax	pmax		
	comp=Z,100nm,1.7s						
RDOG	Red Dog Mine	93.63	22	P		00 20 28.7	
	baz=280						
FLN	La Foliniere	94.82	319	*e*P	P	00 20 34.7	+0.4
FLN				pmax	pmax		
	comp=Z,56nm,1.7s						
VNA2	Neumayer--Watz	94.84	199	P	P	00 20 35.2	+1.2
TOA0	Torodi Ar. Sit	95.13	283	P	P	00 20 36.1	-0.3
TOA0				IAmb	IAmb	00 20 38.1	
	comp=Z,35nm,1.8s						
TORD	Torodi Ar. Bea	95.13	283	P	P	00 20 36.1	-0.4
	comp=Z,1.9nm,0.7s,baz=85,slow=4.3,SNR=12						
TORD				LR	LR	01 01 17.7	
	comp=Z,99nm,19.7s,baz=25,slow=34						
TORD	Torodi Ar. Bea	95.13	283	P	P	00 20 36.5	+0.1
VNA1	Neumayer--Stat	95.18	199	P	P	00 20 36.7	+1.2
VNA3	Neumayer Olymp	95.48	198	P	P	00 20 37.3	+0.5
DAG	Danmarks Havn	95.56	348	*i* P	P	00 20 36.0	-1.1
DAG				*i*		00 20 48.0	
DAG	Danmarks Havn	95.56	348	*i* P	P	00 20 36.0	-1.1
DAG				*i*		00 20 48.0	
DAG	Danmarks Havn	95.56	348	*i* P	P	00 20 36.0	-1.1
DAG				*i*		00 20 48.0	
EKA	Eskdalemuir Ar	95.65	326	P	P	00 20 38.1	+0.2
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SDPT	Sand Point	96.98	34	P		00 20 43.7	
	baz=280						
TTA	Tatalina	97.54	26	P	P	00 20 45.5	-1.0
TTA				pmax	pmax		
	comp=Z,16nm,1.1s						
TTA	Tatalina	97.54	26	P	P	00 20 45.5	-1.0
TTA				IAmb	IAmb	00 21 00.4	
	comp=Z,16nm,1.1s						
TTA	Tatalina	97.54	26	P		00 20 46.2	
	baz=285						
IMAR	Indian Mountai	97.61	23	P	P	00 20 46.0	-0.6
TOLK	Toolik Lake Re	98.22	20	IAMs_20	IAMs_20	01 09 21.8	
	comp=Z,592nm,19.0s						
TOLK	Toolik Lake Re	98.23	20	P		00 20 49.5	
	baz=292						
ESDC	Sonseca Array	98.33	310	P	P	00 20 50.4	-0.2
	comp=Z,0.8nm,0.9s,baz=57,slow=4.7,SNR=3.5						
COLD	Coldfoot	98.53	21	IAMs_20	IAMs_20	01 11 19.9	
	comp=Z,378nm,20.0s						
COLD	Coldfoot	98.53	21	P		00 20 50.7	
	baz=291						
CHUM	Lake Minchumin	98.85	25	P		00 20 51.8	
	baz=289						
MLY	Manley	99.11	23	P		00 20 53.4	
	baz=290						
BPAW	Bear Paw Mtn.	99.33	24	P		00 20 54.2	
	baz=290						
SUA	Susitna One	100.34	27	P		00 20 58.4	
	baz=290						
KOWA	Kowa	100.62	285	P	Pdif	00 21 02.1	+0.9
	comp=Z,1.8nm,1.0s,baz=298,slow=0.3,SNR=4.2						
ILAR	Eielson Array	100.73	23	P	Pdif	00 21 00.6	0.0
	comp=Z,0.2nm,0.8s,baz=289,slow=4.9,SNR=1.8						
ILAR				PP	PP	00 25 04.3	-3.4
	comp=Z,1.3nm,0.9s,baz=282,slow=8.3,SNR=7.0						
ILAR				PKKPbc	PKKPbc	00 37 14.3	-2.5
	comp=Z,1.3nm,0.9s,baz=97,slow=1.6,SNR=8.4						
DBIC	Dimbokro	101.75	277	P	Pdif	00 21 05.7	-0.5
	comp=Z,3.8nm,0.9s,baz=18,slow=6.1,SNR=4.3						
INK	Inuvik	103.52	17	PKiKP	PKiKP	00 25 31.1	-0.3
	comp=Z,2.8nm,0.9s,baz=338,slow=2.7,SNR=3.9						
RES	Resolute Bay	104.91	3	Pdiff	Pdif	00 21 18.6	-0.3
	comp=Z,1.2nm,1.0s,baz=72,slow=2.6,SNR=2.8						
RES				PKiKP	PKiKP	00 25 34.1	+0.3
	comp=Z,1.6nm,0.9s,baz=343,slow=4.2,SNR=5.3						
TBI	Tubuai	111.61	115	*e*LR	LR	00 59 00.9	
	comp=Z,178nm,23.8s						
PPT2	Papeete2	112.34	109	*e*LR	LR	00 59 16.3	
	comp=Z,145nm,25.5s						
YKA	Yellowknife Ar	113.14	15	PKiKP	PKiKP	00 25 49.1	-0.4
	comp=Z,1.3nm,1.0s,baz=335,slow=1.5,SNR=6.9						
YKA				PP	PP	00 26 39.0	+0.4
	comp=Z,2.1nm,0.9s,baz=334,slow=7.0,SNR=8.7						
YKA				PKKPbc	PKKPbc	00 36 35.6	-2.4
	comp=Z,1.7nm,0.9s,baz=138,slow=3.9,SNR=15						
YKA				SKKPbc	SKKPbc	00 40 27.2	+5.1
	comp=Z,0.2nm,0.6s,baz=140,slow=4.7,SNR=2.2						
FCC	Fort Churchill	120.60	7	PKIKP	PKPdf	00 26 02.5	-1.5
FCC	Fort Churchill	120.60	7		PKPdf	00 26 02.5	-1.5
NLWA	Neilton Lookou	120.78	31		PKPdf	00 26 03.3	-1.5
D03D	Eldon	121.09	31	P		00 26 04.9	
	baz=311						
B05A	Bryant	121.10	29	P		00 26 05.0	
	baz=313						
E03A	Lebam	121.49	32		PKPdf	00 26 04.0	-2.0
E04D	Cinebar	122.00	31	P		00 26 07.2	
	baz=312						
LTY	Liberty	122.49	30		PKPdf	00 26 07.4	-0.7
H04D	Lebanon	123.24	33	P		00 26 09.4	
	baz=310,SNR=5.2						
I03D	Drain, OR	123.43	34	P		00 26 09.9	
	baz=309						
J01E	Myrtle Point	123.43	35	P		00 26 10.0	
	baz=308						
NEW	Newport	123.44	27	PKIKP	PKPdf	00 26 09.7	-0.2
NEW	Newport	123.44	27		PKPdf	00 26 09.7	-0.2
NEW	Newport	123.44	27	P		00 26 09.6	
	baz=318						
HAWA	Hanford	123.65	30		PKiKP	00 26 10.4	-0.1
E08A	Dider Farm, El	123.82	29		PKPdf	00 26 10.3	-0.3
K02D	Willamette Mer	123.87	35	P		00 26 10.3	
	baz=308						
I04A	Tendick Farm,	123.89	34	P		00 26 10.4	
	baz=310						
J04D	Umpqua Nationa	124.41	34	P		00 26 12.2	
	baz=310,SNR=5.4						
J05D	Fort Rock, OR	124.87	33	P		00 26 13.2	
	baz=311,SNR=6.9						
KHMM	Horse Mountain	124.95	37	PKPdf	PKPdf	00 26 13.2	0.0
L04D	Klamath Falls	124.96	35	P		00 26 12.9	
	baz=310						
M02C	Callahan	125.16	36	P		00 26 13.5	
	baz=309						
K05A	Summer Lake	125.43	34	PKPdf	PKiKP	00 26 14.4	0.0
M04C	Macdoel	125.50	35	P		00 26 14.3	
	baz=310						
N02D	Trinity Center	125.50	36	P		00 26 14.2	
	baz=308						
MSO	Missoula	125.94	26	PKPdf	PKPdf	00 26 14.4	-0.4
MSO	Missoula	125.94	26	P		00 26 14.2	
	baz=321						
O02D	Mt. Diablo Mer	125.94	37	P		00 26 14.8	
	baz=308						
MOD	Modoc Plateau	126.30	34	PKPdf	PKiKP	00 26 16.1	-0.1
O03E	Paynes Creek	126.46	37	P		00 26 15.4	
	baz=309						
EGMT	Eagleton	126.68	22	PKPdf	PKPdf	00 26 15.5	-0.6
EGMT	Eagleton	126.68	22	P		00 26 15.6	
	baz=326						
AFDM	Forest Hills D	127.81	37	PKPdf	PKiKP	00 26 18.7	-0.4
BOZ	Bozeman (W)	127.90	25	P		00 26 18.4	
	baz=323						
HLID	Hailey	128.21	29	PKPdf	PKiKP	00 26 19.8	-0.1
HLID	Hailey	128.21	29	P		00 26 19.0	
	baz=319						
ULM	Lac du Bonnet	128.59	11	PKP	PKPdf	00 26 18.8	-0.8
	comp=Z,5.2nm,0.8s,baz=342,slow=2.6,SNR=11						
ULM	Lac du Bonnet	128.59	11	PKPdf	PKPdf	00 26 19.0	-0.6
CMB	Columbia Colle	128.74	38	PKIKP	PKPdf	00 26 20.1	-0.2
CMB	Columbia Colle	128.74	38		PKPdf	00 26 20.1	-0.2
LAO	LASA Array	129.09	20	PKPdf	PKiKP	00 26 21.3	-0.1
LAO	LASA Array	129.10	20	P		00 26 21.5	
	baz=330						
RLMT	Red Lodge	129.27	24	P		00 26 21.2	
	baz=325						
NVAR	Mina Array Bea	129.74	36	PKP	PKiKP	00 26 22.8	-0.4
	comp=Z,3.6nm,0.8s,baz=281,slow=1.7,SNR=27						
NVAR				pPKP	sPKPdf	00 26 36.0	+5.1
	comp=Z,7.1nm,0.9s,baz=266,slow=1.5,SNR=15						
NV11	Mina Array Sit	129.82	36		PKiKP	00 26 23.0	-0.3
ELK	Elko	129.86	32	PKIKP	PKiKP	00 26 23.1	-0.3
ELK	Elko	129.86	32	PKPdf	PKiKP	00 26 23.1	-0.3
MATQ	Matagami	130.06	355	P		00 26 22.1	
	baz=7.0						
PAGB	Antelope Grade	130.25	40		PKiKP	00 26 24.1	+0.1
LSQQ	Lebel-sur-Quev	130.70	355	P		00 26 23.0	
	baz=8.0						
PKM	Mcpherson Peak	131.04	41	P		00 26 25.0	
	baz=308						
BW06	Boulder Array	131.06	26	P		00 26 24.3	
	baz=324						
PD31	Pinedale Array	131.06	26	PKPdf	PKPdf	00 26 24.8	0.0
PDAR	Pinedale Array	131.06	26	PKP	PKPdf	00 26 24.1	-0.7
	comp=Z,1.2nm,0.7s,baz=252,slow=1.2,SNR=11						
PDAR				pPKP	sPKPdf	00 26 37.2	+3.9
	comp=Z,2.4nm,0.8s,baz=247,slow=0.7,SNR=10						
PDAR				PP	PP	00 28 41.4	+0.5
	comp=Z,0.5nm,0.9s,baz=320,slow=3.8,SNR=1.7						
PDAR	Pinedale Array	131.06	26		PKPdf	00 26 24.3	-0.5
CWC	Cottonwood Cre	131.17	38	P		00 26 23.7	
	baz=310						
R11A	Troy Canyon, C	131.36	34		PKiKP	00 26 26.4	0.0
R11A	Troy Canyon, C	131.36	34	P		00 26 25.5	
	baz=314,SNR=20						
D62A	Allapoint, All	131.39	347	P		00 26 25.4	
	baz=19						
ISA	Isabella, Lake	131.42	39	P		00 26 25.1	
	baz=310						
DUG	Dugway, Tooele	131.52	31	IAMs_20	IAMs_20	01 08 44.5	
	comp=Z,197nm,19.0s						
DUG	Dugway, Tooele	131.52	31	P		00 26 25.9	
	baz=319						
EYMN	Ely	131.52	8	P		00 26 24.6	
	baz=349						
MPMC	Manual Prospec	131.78	38	P		00 26 27.1	
	baz=311						
LATQ	La Tuque	131.81	351	P		00 26 25.1	
	baz=14						
TPNV	Topopah Spring	131.94	36	PKIKP	PKiKP	00 26 27.4	-0.2
TPNV	Topopah Spring	131.94	36		PKiKP	00 26 27.4	-0.2
TPNV	Topopah Spring	131.94	36	P		00 26 26.1	
	baz=313						
LRMC	Laurel Mtn Rad	132.03	39	P		00 26 27.0	
	baz=310						
RSSD	Black Hills	132.09	20	PKIKP	PKiKP	00 26 27.3	-0.5
RSSD	Black Hills	132.09	20		PKiKP	00 26 27.3	-0.5
SNCC	San Nicolas Is	132.22	42	P		00 26 27.1	
	baz=307						
EDW2	Edwards Air Fo	132.22	40	P		00 26 27.5	
	baz=310						
E61A	Lac Etchemin	132.31	348	P		00 26 27.0	
	baz=17						
K22A	Casper	132.42	24	P		00 26 27.7	
	baz=327						
D55A	Sainte-Anne-du	132.55	353	P		00 26 26.9	
	baz=10						
SHOC	Shoshone, Teco	132.62	37	P		00 26 28.2	
	baz=312						
BFSC	Mount Baldy Ra	132.84	40	P		00 26 28.2	
	baz=309						
E58A	La Victoria	132.88	351	P		00 26 27.6	
	baz=13						
E56A	St. Veronique	132.96	352	P		00 26 27.7	
	baz=11						
F60A	Warwick	133.04	349	P		00 26 28.2	
	baz=15						
GMRC	Granite Mounta	133.74	38	P		00 26 29.9	
	baz=312						
O20A	White River Ci	133.76	27	P		00 26 29.4	
	baz=324						
ALGO	Algonquin Park	133.87	355	P		00 26 29.4	
	baz=6.9						
PFO	Pinyon Flats O	134.00	40⇓	*e*PKIKP	PKPdf	00 26 30.3	-0.2
PFO	Pinyon Flats O	134.00	40		PKPdf	00 26 30.9	+0.4
PFO	Pinyon Flats O	134.00	40	P		00 26 30.3	
	baz=310						
TPFO	Pinon Flats	134.01	40	P		00 26 30.2	
	baz=310						
N23A	Red Feather La	134.13	24	P		00 26 30.9	
	baz=327						
G54A	Lake Saint Pet	134.43	355	P		00 26 29.5	
	baz=6.9						
IRM	Iron Mountain	134.47	38	P		00 26 31.1	
	baz=312						
MONP2	Monument Peak	134.49	41	P		00 26 30.6	
	baz=310						
W13A	Hualapai Mount	134.60	36	PKPdf	PKiKP	00 26 32.4	-0.7
H59A	Cadyville	134.62	351	P		00 26 30.7	
	baz=13						
ECSD	EROS Data Cent	134.64	14	P		00 26 31.3	
	baz=341						
LBNH	Lisbon	134.70	349	P		00 26 31.4	
	baz=16						
PV22	Blue Mesa, Par	134.78	29	IAMs_20	IAMs_20	01 13 31.7	
	comp=Z,356nm,21.0s						
IKP	In-Ko-Pah, Jac	134.84	41	P		00 26 32.0	
	baz=310						
SWSC	Sam W. Stewart	134.85	40	P		00 26 31.8	
	baz=310						
PV17	East Wray Mesa	134.90	29		PKPdf	00 26 32.4	+0.2
H58A	Gabriels	134.92	351	P		00 26 30.9	
	baz=12						
SADO	Sadowa	135.13	356	PKP	PKPdf	00 26 30.7	-1.4
	comp=Z,2.8nm,0.7s,baz=80,slow=6.2,SNR=3.2						
SADO	Sadowa	135.13	356		PKPdf	00 26 31.2	-0.9
ISCO	Idaho Springs	135.19	25	P		00 26 31.8	
	baz=327						
GLA	Glamis	135.41	39	P		00 26 33.2	
	baz=312						
I59A	Olmsteadville	135.48	351	P		00 26 32.4	
	baz=13						
WUAZ	Wupatki	135.74	34	PKPdf	PKPdf	00 26 34.2	+0.4
WUAZ	Wupatki	135.74	34	P		00 26 32.5	
	baz=317,SNR=5.4						
J60A	Lant Hill Farm	135.94	350	P		00 26 32.3	
	baz=14						
MVCO	Mesa Verde	135.97	30	P		00 26 33.9	
	baz=322						
SPX	San Pedro Mart	136.29	42	IAMs_20	IAMs_20	01 24 12.4	
	comp=Z,298nm,18.0s						
HRV	Adam Dziewonsk	136.29	348	P		00 26 34.3	
	baz=17						
JFWS	Jewell Farm	136.63	8	P		00 26 34.5	
	baz=350						
K58A	Earlville	136.76	352	P		00 26 34.1	
	baz=11						
K57A	Scipio Center	136.90	353	P		00 26 33.9	
	baz=9.5						
L63A	North Scituate	136.92	348	P		00 26 34.3	
	baz=17						
W18A	Petrified Fore	136.93	33	P		00 26 36.5	
	baz=319						
SDCO	Great Sand Dun	136.94	26	P		00 26 36.1	
	baz=326						
K56A	Middlesex	137.03	354	P		00 26 34.3	
	baz=8.4						
M64A	Tiverton	137.13	347	P		00 26 34.5	
	baz=18						
BINY	Binghamton	137.36	352	P		00 26 35.9	
	baz=10						
214A	Organ Pipe Nat	137.40	39	P		00 26 36.1	
	baz=313						
L58A	Harry Jones Me	137.49	352	P		00 26 35.3	
	baz=11						
L56A	Greenwood	137.61	354	P		00 26 35.9	
	baz=8.1						
L57A	Andrews Acres	137.66	353	P		00 26 36.2	
	baz=9.2						
M59A	Waymart	137.93	352	P		00 26 36.9	
	baz=11						
T25A	Trinidad	137.93	26	P		00 26 37.6	
	baz=327						
PLCA	Paso Flores	138.06	194	PKhKP	PKPpre	00 26 28.8	
	comp=Z,3.1nm,1.0s,baz=88,slow=4.4,SNR=3.3						
M56A	Emporium	138.32	355	P		00 26 37.5	
	baz=7.3						
M57A	Sunshine Farm,	138.35	353	P		00 26 36.5	
	baz=8.9						
TUC	Tucson	138.39	36	PKIKP	PKPdf	00 26 39.5	+0.8
TUC	Tucson	138.39	36		PKPdf	00 26 39.5	+0.8
TUC	Tucson	138.39	36	P		00 26 38.6	
	baz=316						
M54A	Oil Creek Stat	138.41	356	P		00 26 36.9	
	baz=5.1						
N60A	Cedar Hill Far	138.53	351	P		00 26 38.0	
	baz=12						
N59A	State Game Lan	138.59	352	P		00 26 38.5	
	baz=11						
ANMO	Albuquerque	138.77	30	PKIKP	PKPdf	00 26 39.3	-0.1
ANMO	Albuquerque	138.77	30		PKPdf	00 26 39.2	-0.1
ANMO	Albuquerque	138.77	30	P		00 26 38.5	
	baz=323						
KSU1	Kansas State U	138.98	16		PKPdf	00 26 39.0	-0.4
BNM	Barren Site	139.31	31	PKPdf	PKPdf	00 26 40.0	-0.5
O58A	Lewisberry	139.52	353	P		00 26 40.2	
	baz=9.4						
O56A	Blue Knob Stat	139.56	355	P		00 26 39.4	
	baz=6.9						
121A	Cookes Peak, D	139.95	33	P		00 26 40.3	
	baz=320						
P59A	Jarrettsville	139.97	352	P		00 26 40.2	
	baz=10						
Q56A	Snyder Ridge,	140.83	355	P		00 26 40.8	
	baz=6.1						
MSTX	Muleshoe	141.31	27	PKPdf	PKPdf	00 26 43.4	-0.6
MSTX	Muleshoe	141.31	27	P		00 26 42.8	
	baz=327						
WCI	Wyandotte Cave	141.68	4	P		00 26 42.3	
	baz=355						
R58B	Mineral	141.77	353	P		00 26 42.5	
	baz=8.3						
MNTX	Cornudas Mount	141.88	32	PKPdf	PKPdf	00 26 44.6	-0.4
MNTX	Cornudas Mount	141.88	32	P		00 26 43.9	
	baz=322						
S57A	Dark Hollow, R	142.08	355	P		00 26 44.4	
	baz=6.6						
BDFB	Brasilia	142.19	244	PKhKP	PKPpre	00 26 41.2	
	comp=Z,8.8nm,1.1s,baz=154,slow=9.0,SNR=7.2						
BDFB	Brasilia	142.19	244	PKIKP	PKPdf	00 26 45.7	-0.3
BDFB	Brasilia	142.19	244	PKPdf	PKPdf	00 26 45.7	-0.3
TUL1	Leonard	142.19	17	P		00 26 43.4	
	baz=339						
HHAR	Hobbs	142.34	15	PKPdf	PKPdf	00 26 44.7	-0.9
U40A	Yellville	142.53	13	P		00 26 43.9	
	baz=344						
BLA	Blacksburg	142.74	357	P		00 26 44.2	
	baz=4.3						
T58A	Grand View Acr	142.85	354	P		00 26 44.9	
	baz=7.4						
T57A	Hurt	142.86	355	P		00 26 44.9	
	baz=6.2						
FCAR	Ozark Folk Cen	143.14	12		PKPdf	00 26 45.9	-1.1
U58A	Oxford	143.39	354	P		00 26 45.4	
	baz=7.5						
W39A	Magazine	143.41	15	P		00 26 45.4	
	baz=342						
U54A	Nelsons Funny	143.49	358	P		00 26 45.6	
	baz=2.0						
WVT	Waverly	143.62	7	P		00 26 46.2	
	baz=352						
V59A	Middlesex	143.98	353	P		00 26 46.8	
	baz=8.1						
V57A	Coltrane Farms	144.01	356	P		00 26 46.4	
	baz=5.5						
MIAR	Mount Ida	144.08	15	PKIKP	PKPbc	00 26 46.7	+0.1
MIAR	Mount Ida	144.08	15		PKPbc	00 26 46.7	+0.1
MIAR	Mount Ida	144.08	15	P		00 26 46.6	
	baz=342						
CPUP	Villa Florida	144.10	222	PKP	PKPbc	00 26 47.2	+0.3
	comp=Z,60nm,0.9s,baz=113,slow=3.1,SNR=101						
CPUP	Villa Florida	144.10	222	PKIKP	PKPab	00 26 46.7	+0.3
CPUP	Villa Florida	144.10	222		PKPab	00 26 46.7	+0.3
V56A	Mocksville	144.14	357	P		00 26 46.9	
	baz=4.3						
X40A	Basin Creek Fa	144.32	14	P		00 26 47.5	
	baz=343						
TKL	Tuckaleechee C	144.36	1	PKP	PKPab	00 26 46.5	-0.6
	comp=Z,4.9nm,0.7s,baz=106,slow=3.6,SNR=5.5						
TKL	Tuckaleechee C	144.36	1		PKPab	00 26 46.9	-0.2
TCA	Tanti	144.42	208	*e*P	PKPbc	00 26 48.4	+0.5
CNNC	Cliffs of the	144.46	353	P		00 26 47.7	
	baz=8.8						
CPCT	Cooper Cave	144.54	2		PKPab	00 26 47.4	-0.4
TX32	Lajitas Array	144.65	32		PKPdf	00 26 49.3	-0.7
TXAR	Lajitas Array	144.65	32	PKP	PKPdf	00 26 49.5	-0.4
	comp=Z,14nm,0.9s,baz=298,slow=2.7,SNR=46						
TXAR				pPKP	sPKPdf	00 27 00.2	+1.8
	comp=Z,36nm,0.9s,baz=240,slow=1.0,SNR=22						
TXAR	Lajitas Array	144.65	32	PKIKP	PKPdf	00 26 49.2	-0.8
TXAR	Lajitas Array	144.65	32	PKPdf	PKPbc	00 26 49.2	+0.4
SWET	Sewanee	144.70	4		PKPab	00 26 47.2	-1.2
SLBS	Sierra La Lagu	144.70	46		PKPdf	00 26 50.0	-0.2
W56A	Indian Trail	144.81	357	P		00 26 47.9	
	baz=4.2,SNR=5.3						
KMSC	Kings Mountain	144.84	358	P		00 26 47.1	
	baz=3.0,SNR=8.9						
X60A	Albert Glenn T	145.12	353	P		00 26 48.1	
	baz=8.8,SNR=5.4						
PAULI	Pauline	145.18	358		PKPbc	00 26 49.2	-0.9
WHTX	Lake Whitney,	145.22	22	P		00 26 47.7	
	baz=334						
BIRD	Birdtown, Kers	145.29	356		PKPbc	00 26 50.1	-0.4
ROC1	El Roble	145.46	198	*e*P	PKPab	00 26 52.0	+0.4
ACHE	Chepes	145.49	205	*e*P	PKPab	00 26 51.8	+0.1
Z41A	Richland Creek	145.50	15	P		00 26 48.6	
	baz=343						
JCT	Junction City	145.59	26	PKIKP	PKPdf	00 26 51.2	-0.3
JCT	Junction City	145.59	26	PKPdf	PKPdf	00 26 51.2	-0.3
JCT	Junction City	145.59	26	P		00 26 50.3	
	baz=330						
AUSP	Uspallata	145.61	201	*e*P	PKPab	00 26 53.3	+1.1
RTCV	Cerro Valdivia	145.63	202	*e*P	PKPab	00 26 52.5	+0.5
HODGE	Hodges	145.78	359		PKPdf	00 26 51.2	-0.4
RTLS	Leoncito	145.97	201	*e*P	PKPab	00 26 53.7	+0.2
RTLL	Cerro Villicun	146.08	203	*e*P	PKPbc	00 26 53.5	+0.3
APLL	PUNTA DE LOS L	146.09	206⇓	*e*P	PKPbc	00 26 53.5	+0.3
AVFE	Valle Fertil	146.26	205	*e*P	PKPbc	00 26 54.1	+0.4
NATX	Nacogdoches	146.39	18	P		00 26 51.6	
	baz=339						
GOGA	Godfrey	146.60	1	P		00 26 53.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=359,SNR=9.0						
LRAL	Lakeview Retre	146.77	6	PKPdf	PKPdf	00 26 53.1	-0.3
LRAL	Lakeview Retre	146.77	6	P		00 26 53.0	
	baz=353,SNR=7.2						
NHSC	New Hope	146.80	356	P		00 26 53.8	
	baz=5.2						
ACCO	Cerro Coronel	146.97	202	eP	PKPbc	00 26 56.6	+0.5
ACLC	CERRO LA CRUZ	147.11	206	eP	PKPdf	00 26 54.8	+0.5
AROD	Rodeo	147.50	202	eP	PKPab	00 26 58.8	-0.8
833A	Chaparral WMA,	147.61	28	P		00 26 54.9	
	baz=328						
HKT	Hockley	147.66	21	PKIKP	PKPdf	00 26 55.0	+0.2
HKT	Hockley	147.66	21	PKPdf	PKPdf	00 26 55.0	+0.2
AGUA	GUANDACOL	147.72	204	eP	PKPbc	00 26 58.7	+0.7
GO04	Tololo Observa	147.97	200	eP	PKPdf	00 26 56.8	+1.0
VCA	Vinchina	148.26	205	eP	PKiKP	00 27 00.7	-0.5
LCO	Las Campanas	149.00	201	PKIKP	PKPdf	00 26 57.9	+0.4
LCO	Las Campanas	149.00	201		PKPdf	00 26 57.9	+0.4
MDP	Montagnes des	149.23	280	PKPbc	PKPbc	00 27 01.8	-0.4
	comp=Z,41nm,1.1s,baz=81,slow=3.0,SNR=5.6						
FSA	Cafayete	149.42	211	eP	PKiKP	00 27 03.2	-0.5
GO03	Copiap	150.10	203	eP	PKPbc	00 27 04.2	+0.2
ZAIG	Zacatecas	150.30	39	PKPdf	PKPdf	00 26 59.5	-0.2
LVC	Limon Verde	153.81	211	PKIKP	PKPdf	00 27 04.1	-1.0
LVC	Limon Verde	153.81	211		PKPdf	00 27 04.1	-1.0
PTGA	Pitinga	156.96	269		PKPdf	00 27 08.6	-0.5
PTGA					PKPab	00 27 40.1	+0.8
SDDR	Presa de Saban	157.77	329		PKPab	00 27 41.6	-0.8
LPAZ	La Paz	158.28	222	PKP	PKPdf	00 27 10.8	-0.6
	comp=Z,4.0nm,0.9s,baz=47,slow=2.6,SNR=12						
LPAZ				PP	PP	00 31 23.6	-1.0
	comp=Z,1.3nm,0.7s,baz=116,slow=4.0,SNR=6.0						
LPAZ	La Paz	158.28	222		PKPdf	00 27 11.3	-0.1
LPAZ	La Paz	158.28	222	eP	PKPdf	00 27 10.0	-1.4
SAML	Samuel	158.42	246	PKIKP	PKPdf	00 27 10.1	-0.8
SAML						00 27 45.7	
SAML	Samuel	158.42	246		PKPdf	00 27 10.1	-0.8
SAML					PKPab	00 27 45.7	+0.3
CMIG	Matias Romero	159.24	34	PKP	PKPdf	00 27 11.5	-0.3
	comp=Z,1.0nm,0.5s,baz=304,slow=20,SNR=2.2						
CMIG				PKPab	PKPab	00 27 48.9	+0.2
	comp=Z,2.5nm,0.8s,baz=152,slow=6.8,SNR=2.3						
RUSC	La Rusia	168.41	301	eP	PKPdf	00 27 19.4	-1.5
MOTC	Monteria, Cord	168.50	321	eP	PKPdf	00 27 20.1	-0.2
UREC	San Jos de Ur	169.17	317	eP	PKPdf	00 27 20.2	-0.6
PTBC	PUERTO BERRIO,	169.18	308	eP	PKPdf	00 27 19.4	-1.4
CHIC	Chingaza	169.59	297	eP	PKPdf	00 27 16.8	-4.8
ROSC	El Rosal	170.00	300	PKP	PKPdf	00 27 21.5	-0.3
	comp=Z,4.5nm,0.4s,baz=231,slow=18,SNR=5.4						
ROSC	El Rosal	170.00	300	PKIKP	PKPdf	00 27 20.8	-1.0
ROSC	El Rosal	170.00	300		PKPdf	00 27 20.8	-1.0
NORC	Norcasia	170.08	305	eP	PKPdf	00 27 19.9	-1.6
RREF	El Recreo	170.85	303	eP	PKPdf	00 27 24.7	+2.1
TOLC	Tolima	170.99	302	eP	PKPdf	00 27 20.5	-1.7
PRAC	Prado	171.02	295	eP	PKPdf	00 27 19.0	-2.9
ORTC	Ortega, Tolima	171.26	298	eP	PKPdf	00 27 20.7	-1.3
PLMC	San Jos del P	171.61	307	eP	PKPdf	00 27 21.3	-0.9
YOTC	Yotoco, Valle	172.18	302	eP	PKPdf	00 27 20.8	-1.8
POPC	Popayan, Colom	173.13	293	eP	PKPdf	00 27 21.9	-1.3
OTAV	Otavalo	175.43	275	PKP2	PKPab	00 29 00.9	-0.3
OTAV						01 27 23.2	
OTAV	Otavalo	175.43	275		PKPdf	00 27 23.2	-1.0
OTAV					PKPab	00 29 00.9	-0.3
OTAV	Otavalo	175.43	275	eP	PKPdf	00 27 23.7	-0.5

*IDC **05** 00:07:54.7±3.6, 58°.75S×22°.99W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.7/29, mbtmp4.1/2 Error ellipse: s-maj=98.7km s-min=88.4km az=54.0*

ISC 05 00:07:56.4±2.7**, 58°.7S**±0°.1×**23°.0W**±0°.5**, h10km, n7, σ0s.56/7, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.47	159	P	Pn	00 11 07.9	+0.8
VNA3	Neumayer Olymp	13.72	162	P	Pn	00 11 10.7	0.0
VNA2	Neumayer--Watz	13.86	158	P	Pn	00 11 12.2	-0.3
	baz=323,slow=15						
SNAA	Sanae	15.37	156	P	Pn	00 11 32.5	-0.4
BOSA	Boshof	44.59	69	P	P	00 16 08.6	0.0
	4.4nm,1.1s,baz=202,slow=11,SNR=2.1						
TORD	Torodi Ar. Bea	74.38	25	P	P	00 19 34.3	+0.2
	0.6nm,0.4s,baz=197,slow=5.9,SNR=6.5						
SONM	Songino Array	148.57	88	PKPbc	PKPbc	00 27 42.0	-0.5
	0.3nm,0.4s,baz=224,slow=2.3,SNR=5.1						

IDC 05 00:43:16.2±1.4**, 2°.52S×140°.19E, h0km, mb3.3**/3**, mb1 3.6**/4**, mb1mx3.4**/30**, mbtmp3.4**/4**, ML3.4**/1**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.4**/23**, Error ellipse: s-maj=16.9km s-min=9.5km az=168.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	Jayapura	0.52	89	Pg	Pg	00 43 26.8	+0.6
	128nm,0.3s,baz=265,slow=17,SNR=575						
JAY				Lg	Lg	00 43 32.7	
	328nm,0.3s,baz=131,slow=20,SNR=34						
WRA	Warramunga Arr	18.23	198	P	Pn	00 47 30.5	-0.4
	0.1nm,0.3s,baz=20,slow=12,SNR=12						
KAPI	Kappang	20.54	262	LR	LR	00 57 47.1	
	comp=Z,24nm,18.9s,baz=270,slow=42						
FITZ	Fitzroy Crossi	21.05	222	P	P	00 48 02.8	+0.8
	1.6nm,1.0s,baz=58,slow=13,SNR=1.9						
ASAR	Alice Springs	21.88	196	P	P	00 48 10.7	-0.2
	0.6nm,0.5s,baz=27,slow=10,SNR=8.1						
MKAR	Makanchi Array	70.55	322	P	P	00 54 32.3	-0.9
	0.2nm,0.7s,baz=107,slow=7.7,SNR=2.6						

PRU 05 01:17:28.4±0.0**, 50°.26N×18°.84E, h0km, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.62	93	ePg	Pg	01 17 39.2	-1.0
OJC				eSg	Sg	01 17 47.0	-1.2
MORC	Moravsky Berou	0.97	240	ePG	Pg	01 17 47.1	+0.2
MORC				eSG	Sg	01 17 59.2	-0.2
NIE	Niedzica	1.27	131	ePg	Pg	01 17 52.2	-0.4
NIE				eSg	Sg	01 18 09.4	+0.4
KRLC	Kraliky	1.34	263	eSG	Sg	01 18 11.1	-0.2

BUC 05 01:20:20.9±0.2**, 44°.72N×27°.04E, h10km**±2km**, ml1.8**/9**, 43C-32D, Error ellipse: s-maj=1.9km s-min=1.6km az=169.0, Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PGOR	Pogoanele	0.19	349	⇑P	Pg	01 20 25.2	+0.2
PGOR				⇑S	Sg	01 20 27.5	-0.3
PGOR	Pogoanele	0.19	349	⇑P	Pg	01 20 25.2	+0.2
PGOR	Pogoanele	0.19	349	⇑P	Pg	01 20 25.2	+0.2
PGOR				⇑S	Sg	01 20 27.5	-0.3
LEHL	Lehliu	0.29	212	⇓P	Pg	01 20 26.0	-0.8
LEHL				⇑S	Sb	01 20 32.2	-0.9
LEHL	Lehliu	0.29	212	⇓P	Pg	01 20 26.0	-0.8
LEHL				⇑S	Sb	01 20 32.4	-0.6
LEHL	Lehliu	0.29	212	⇓P	Pg	01 20 26.0	-0.8
LEHL				⇑S	Sb	01 20 32.2	-0.9
ISR	Istrita	0.53	319	⇓P	Pb	01 20 31.9	-0.5
ISR				⇑S	Sb	01 20 39.9	-0.2
ISR	Istrita	0.53	319	⇓P	Pb	01 20 31.9	-0.5
ISR				⇑S	Sb	01 20 39.9	-0.2
ISR	Istrita	0.53	319	⇓P	Pb	01 20 31.9	-0.5
ISR				⇑S	Sb	01 20 39.9	-0.2
SULR		0.56	266	⇑S	Sg	01 20 39.9	+0.8
SULR		0.56	266	⇑S	Sg	01 20 39.9	+0.8
SULR		0.56	266	⇑S	Sg	01 20 39.9	+0.8
CFR	Carcaliu	0.91	59	⇓P	Pg	01 20 37.6	-0.7
CFR				⇑S	Sg	01 20 50.3	+0.2
CFR	Carcaliu	0.91	59	⇓P	Pg	01 20 37.6	-0.7
CFR				⇑S	Sg	01 20 50.3	+0.1
CFR	Carcaliu	0.91	59	⇓P	Pg	01 20 37.6	-0.7
CFR				⇑S	Sg	01 20 50.3	+0.2
SGRR	Singureni	0.91	237	⇑S	Sb	01 20 51.0	+0.1
SGRR	Singureni	0.91	237	⇑S	Sb	01 20 51.0	+0.1
TPGR	Topolog	0.99	82	⇑P	Pg	01 20 40.0	0.0
TPGR				⇑S	Sn	01 20 54.2	-0.8
TPGR	Topolog	0.99	82	⇑P	Pg	01 20 40.0	0.0
TPGR				⇓S	Sn	01 20 55.5	+0.5
TPGR	Topolog	0.99	82	⇑P	Pg	01 20 40.0	0.0
TPGR				⇑S	Sn	01 20 54.2	-0.8
TIRR	Tirgusor	1.02	104	⇓P	Pb	01 20 40.7	+0.1
TIRR				⇓S	Sn	01 20 55.3	-0.2
TIRR	Tirgusor	1.02	104	⇓P	Pb	01 20 40.7	+0.1
TIRR				⇓S	Sn	01 20 55.6	+0.1
TIRR	Tirgusor	1.02	104	⇓P	Pb	01 20 40.7	+0.1
TIRR				⇓S	Sn	01 20 55.3	-0.2
ODBI	Odobesti	1.04	1	⇓P	Pb	01 20 41.0	0.0
ODBI				⇑S	Sn	01 20 56.4	+0.2
ODBI	Odobesti	1.04	1	⇓P	Pb	01 20 41.0	0.0
ODBI				⇓S	Sn	01 20 57.4	+1.2
ODBI	Odobesti	1.04	1	⇓P	Pb	01 20 41.0	0.0
ODBI				⇑S	Sn	01 20 56.4	+0.2
MLR	Muntele Rosu	1.09	315	⇓P	Pg	01 20 40.7	-1.2
MLR				⇑S	Sn	01 20 57.1	-0.6
MLR	Muntele Rosu	1.09	315	⇑S	Sn	01 20 57.1	-0.6
MLR	Muntele Rosu	1.09	315	⇓P	Pg	01 20 40.7	-1.2
MLR				⇑S	Sn	01 20 57.1	-0.6
PLOR	Plostina	1.16	347	⇑P	Pg	01 20 43.3	0.0
PLOR				⇑S	Sn	01 21 00.3	+1.0
PLOR	Plostina	1.16	347	⇑P	Pg	01 20 43.3	0.0
PLOR				⇓S	Sn	01 21 01.0	+1.7
PLOR	Plostina	1.16	347	⇑P	Pg	01 20 43.3	0.0
PLOR				⇑S	Sn	01 21 00.3	+1.0
VRI	Vrincioaia	1.17	349	⇑P	Pb	01 20 42.5	-0.7
VRI				⇓S	Sn	01 21 00.3	+0.9
VRI	Vrincioaia	1.17	349	⇑P	Pb	01 20 42.5	-0.7
VRI				⇓S	Sn	01 21 00.7	+1.4
VRI	Vrincioaia	1.17	349	⇑P	Pb	01 20 42.5	-0.7
VRI				⇓S	Sn	01 21 00.3	+0.9
HUMR	Humele	1.48	263	⇓P	Pn	01 20 47.4	-0.2
HUMR				⇓S	Sg	01 21 08.0	-0.5
HUMR	Humele	1.48	263	⇓P	Pn	01 20 47.4	-0.2
HUMR				⇓S	Sg	01 21 08.0	-0.5
HUMR	Humele	1.48	263	⇓P	Pn	01 20 47.4	-0.2
HUMR				⇓S	Sg	01 21 08.0	-0.5
VOIR		1.58	298	⇑P	Pn	01 20 48.3	-0.7
VOIR				⇑S	Sb	01 21 10.2	-0.2
VOIR		1.58	298	⇑P	Pn	01 20 48.1	-1.0
VOIR				⇑S	Sb	01 21 10.2	-0.2
VOIR		1.58	298	⇑P	Pn	01 20 48.3	-0.7
VOIR				⇑S	Sb	01 21 10.2	-0.2

*KLM **05** 01:44:33, 3°.93N×124°.32E, h412km, mb4.7*

*NEIC **05** 01:44:34.9±0.9, 3°.63N±0°.10×124°.0E±0°.1, h430km±8km, mb4.2/32, Error ellipse: s-maj=16.3km s-min=13.3km az=54.0*

*DJA **05** 01:44:34.4±0.2, 4°N±3°×12°4E±°, h408km±2km, M4.4/31, mb4.5/31, mB4.9/13, MLv4.7/12, Mw(mB)4.2/13, MwMwp5.0/2, Mwp5.3/2*

*IDC **05** 01:44:36.2±1.1, 3°.66N×124°.02E, h446km±12km, mb3.5/25, mb1 3.7/28, mb1mx3.6/39, mbtmp4.4/28, Error ellipse: s-maj=13.2km s-min=6.6km az=75.0*

ISC 05 01:44:34.3±0.5**, 3°.68N**±0°.04×**124°.08E**±0°.06**, h423**km±5km**, n161, σ1s.24**/182**, mb4.1**/51**, 1D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.44	90	P	P	01 45 27.6	-1.9
SKMP	Bagumbayan, Su	2.86	9	eP	P	01 45 36.3	-1.9
SKMP				eS	S	01 46 27.4	-2.6
DDMP	Don Marcelino,	2.91	34	eP	P	01 45 36.4	-2.1
DDMP				eS	S	01 46 27.9	-2.7
KMSI	Cibinong	3.08	182	P	P	01 45 40.2	+0.3
KMSI				S	S	01 46 33.2	+0.1
GTOI	Gorontalo	3.21	200	P	P	01 45 39.8	-1.1
KCP	Kidapawan	3.46	17	⇓iP	P	01 45 43.1	0.0
MRSI	Marisa	3.83	214	P	P	01 45 46.7	+0.5
MATI	Mati	3.90	34	eP	P	01 45 45.0	-1.8
MATI				eS	S	01 46 45.7	-0.2
TOLI2	Tolitoli	4.17	232		P	01 45 48.6	-0.7
PAGZ	Pagadian	4.20	350	eP	P	01 45 49.0	-0.6
PAGZ				eS	S	01 46 50.3	-0.6
BUKP	Musuan	4.29	13	eP	P	01 45 50.7	+0.3
BUKP				eS	S	01 46 52.7	+0.3
TNTI	Ternate	4.37	131		P	01 45 51.1	0.0
TNTI	Ternate	4.37	131	P	P	01 45 51.2	0.0
LUWI	Luwuk	4.87	196		P	01 45 55.5	-0.5
LUWI					S	01 46 58.0	-4.6
LUWI	Luwuk	4.87	196	P	P	01 45 57.4	+1.4
	1.1nm92nm,0.5s						
APSI	Ampana	5.17	208	P	P	01 45 59.7	+0.7
	0.3nm1μm76nm,0.5s						
MYLDM	Lahad Datu	5.76	285		P	01 46 05.8	+0.7
SANI	Sanana	6.00	161	P	P	01 46 05.2	-2.4
	2.5nm5μm460nm,0.7s						
NLAI	Namlea	7.50	156	P	P	01 46 25.8	+1.5
	1.3nm3μm96nm,0.7s						
SPMM	Sapulut	7.67	278	P	P	01 46 27.0	+0.9
TTSI	Tana Toraja	7.92	213	P	P	01 46 30.4	+1.5
KKM	Kota Kinabalu	8.18	287	P	P	01 46 31.4	-0.3
SWI	Sorong	8.47	122	P	P	01 46 36.1	+1.3
	97nm,1.1s						
SIJI	Sorong	8.48	122	P	P	01 46 36.6	+1.7
	11nm,0.3s,baz=332,slow=11,SNR=14						
SPSI	Sidrap Palu	8.73	210	P	P	01 46 38.3	+0.7
	920nm54nm,0.8s						
BNSI	Bone	8.95	206	P	P	01 46 42.6	+2.5
	69nm,0.9s						
KAPI	Kappang	9.66	207	P	P	01 46 48.2	+0.3
	2.2nm,0.3s,baz=337,slow=4.0,SNR=7.3						
KAPI	Kappang	9.66	207		P	01 46 47.8	-0.1
FAKI	Fak Fak	10.47	129	P	P	01 46 57.4	+0.6
FAKI	Fak Fak	10.47	129	P	P	01 46 58.8	+2.0
	101nm,0.6s						
BBKI	Banjar Baru	11.64	233	P	P	01 47 16.2	+6.4
SBUM	Sibu	11.91	264	P	P	01 47 15.6	+3.0
SBUM	Sibu	11.91	264	P	P	01 47 16.0	+3.4
SOEI	Soe	13.35	179	P	P	01 47 29.3	+0.9
SOEI	Soe	13.35	179	P	P	01 47 30.5	+2.0
	35nm,0.7s						
BATI	Baumata	13.80	182	P	P	01 47 34.5	+1.2
	39nm,0.3s,baz=301,slow=1.3,SNR=23						
BATI	Baumata	13.80	182	P	P	01 47 35.1	+1.8
	1μm121nm,0.7s						
PLAI	Plampang	13.92	207	P	P	01 47 36.6	+2.0
	59nm,0.6s						
KSM	Kuching	13.93	261	P	P	01 47 33.2	-1.5
KSM	Kuching	13.93	261	P	P	01 47 36.0	+1.3
TWSI	Taliwang, Sumb	14.27	210	P	P	01 47 39.7	+1.3
	33nm,0.7s						
KMMI	Kalianget	14.68	223	P	P	01 47 45.7	+2.9
	174nm,1.1s						
JAGI	Jajag, Banyuwa	15.61	219	P	P	01 47 53.9	+1.1
SMPI	Sarmi	15.67	111	P	P	01 47 56.0	+2.6
	2μm56nm,0.7s						
LEM	Lembang	19.47	238	P	P	01 48 33.6	+0.7
	8.2nm,0.3s,baz=325,slow=23,SNR=5.6						
KLSI		21.05	247	P	P	01 48 47.7	+0.6
	12nm,0.8s						
MDSI	Maura Dua	21.48	248	P	P	01 48 52.2	+1.2
	1μm12nm,1.1s						
UBPT	Khong Chiam	21.65	303	P	P	01 48 53.1	+0.5
FITZ	Fitzroy Crossi	21.69	176	P	P	01 48 53.5	+0.6
	5.3nm,0.7s,baz=0.4,slow=9.4,SNR=29						
FITZ	Fitzroy Crossi	21.69	176	P	P	01 48 53.0	+0.1
FITZ				IAmb	IAmb	01 48 55.2	
	comp=Z,6.1nm,0.9s						
PSI	Prapat	25.13	269	P	P	01 49 23.3	-0.7
	comp=Z,4.6nm,0.4s,baz=178,slow=0.6,SNR=5.9						
RPSI	Rantau Prapat	25.14	269	P	P	01 49 23.3	-0.7
RPSI				IAmb	IAmb	01 49 26.3	
	comp=Z,10nm,1.0s						
RPSI	Rantau Prapat	25.14	269	P	P	01 49 23.3	-0.7
WB0	Warramunga Arr	25.41	157	P	P	01 49 26.2	0.0
WB0				IAmb	IAmb	01 49 27.8	
	comp=Z,13nm,1.1s						
WRA	Warramunga Arr	25.55	157	P	P	01 49 27.6	+0.1
	comp=Z,4.7nm,0.4s,baz=331,slow=11,SNR=125						
WRA				PcP	PcP	01 52 45.6	-0.1
	comp=Z,1.1nm,0.5s,baz=329,slow=2.3,SNR=5.1						
WRA				S	S	01 53 21.6	-2.3
	comp=Z,1.3nm,0.7s,baz=334,slow=17,SNR=5.3						
WRA				ScP	ScP	01 55 42.5	-2.0
	comp=Z,0.3nm,0.6s,baz=340,slow=2.9,SNR=1.5						
WB2	Warramunga Arr	25.55	157	P	P	01 49 27.2	-0.3
WB2				IAmb	IAmb	01 49 29.1	
	comp=Z,11nm,0.9s						
WR0	Warramunga Arr	25.64	157	P	P	01 49 28.2	-0.1
WR0				IAmb	IAmb	01 49 29.4	
	comp=Z,4.6nm,0.4s						
GSI	Gunungsitoli	26.59	266	P	P	01 49 35.7	-1.1
GSI	Gunungsitoli	26.59	266	P	P	01 49 36.7	-0.1
	comp=Z,5μmcomp=Z,53nm,0.7s						
CMAR	Chiang Mai Arr	28.65	303	P	P	01 49 56.3	+1.4
	comp=Z,2.6nm,0.3s,baz=122,slow=6.7,SNR=4.3						
CMAR				PcP	PcP	01 52 52.7	-0.6
	comp=Z,0.9nm,0.3s,baz=177,slow=1.5,SNR=4.2						
CMAR	Chiang Mai Arr	28.65	303	P	P	01 49 54.6	-0.3
AS31	Alice Springs	28.82	161	P	P	01 49 56.1	-0.2
ASAR	Alice Springs	28.82	161	P	P	01 49 57.1	+0.8
	comp=Z,5.3nm,0.4s,baz=341,slow=7.4,SNR=71						
ASAR				PcP	PcP	01 52 53.2	-0.4
	comp=Z,1.1nm,0.7s,baz=336,slow=4.1,SNR=5.4						
ASAR				S	S	01 54 14.2	-1.1
	comp=Z,1.7nm,0.9s,baz=334,slow=12,SNR=6.1						
ASAR				ScP	ScP	01 55 51.6	-2.9
	comp=Z,0.9nm,0.6s,baz=343,slow=2.9,SNR=5.9						
ASAR	Alice Springs	28.82	161	P	P	01 49 57.1	+0.8
ASAR					PcP	01 52 53.6	0.0
ENH	Enshi	29.84	334	P	P	01 50 05.1	-0.1
CTA	Charters Tower	32.13	138	P	P	01 50 26.4	+1.2
	comp=Z,2.1nm,0.4s,baz=308,slow=11,SNR=6.1						
XAN	Xi'an	33.35	337	P	P	01 50 36.0	+0.6
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
XAN	Xi'an	33.35	337	P	P	01 50 35.3	-0.1
XAN				IAmb	IAmb	01 50 36.8	
	comp=Z,8.5nm,0.6s						
KSRS	Korea Array	33.80	5	P	P	01 50 39.9	+0.8
	comp=Z,1.3nm,0.5s,baz=173,slow=10,SNR=4.4						
MJAR	Matsushiro Arr	35.20	20	P	P	01 50 51.3	+0.3
	comp=Z,3.0nm,0.6s,baz=194,slow=9.6,SNR=4.3						
NWAO	Narrogin (SRO)	36.98	190	P	P	01 51 06.3	+0.4
	comp=Z,5.2nm,0.5s,baz=31,slow=6.9,SNR=6.9						
NWAO	Narrogin (SRO)	36.98	190	P	P	01 51 05.3	-0.7
NWAO				IAmb	IAmb	01 51 18.5	
	comp=Z,6.2nm,0.9s						
EIDS	Eidsvold	38.99	139	P	P	01 51 22.4	-0.1
EIDS				IAmb	IAmb	01 51 24.4	
	comp=Z,7.6nm,1.1s						
STKA	Stephens Creek	39.09	156	P	P	01 51 24.1	+0.8
	comp=Z,2.2nm,0.3s,baz=342,slow=7.5,SNR=6.1						
STKA	Stephens Creek	39.09	156	P	P	01 51 22.9	-0.4
LSA	Lhasa	40.52	313	P	P	01 51 35.0	-0.5
USRK	Ussuriysk Ar.	40.95	9	P	P	01 51 37.8	-0.4
	comp=Z,2.6nm,0.7s,baz=190,slow=8.5,SNR=7.3						
USRK	Ussuriysk Ar.	40.95	9	P	P	01 51 38.5	+0.3
GTA	Gaotai	41.83	331	eP	P	01 51 47.1	+1.6
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TAPN	Taplejung	41.94	308	eP	P	01 51 48.2	+1.4
	comp=Z,11nm,0.5s						
ODAN	Odare	41.97	307	eP	P	01 51 48.2	+1.3
	comp=Z,17nm,0.6s						
RAMN	Ramite	42.64	307	eP	P	01 51 53.6	+1.3
	comp=Z,21nm,0.7s						
ASAJ	Asahikawa	43.46	19	P	P	01 51 59.6	+1.4
	comp=Z,5.7nm,0.5s,baz=199,slow=16,SNR=4.5						
JKA	Kamikawa-asahi	43.47	19	P	P	01 51 58.7	+0.5
JKA				IAmb	IAmb	01 52 00.9	
	comp=Z,6.3nm,0.8s						
GUN	Gumba	43.64	308	eP	P	01 52 01.3	+1.1
	comp=Z,35nm,0.6s						
PKI	Pulchoki	43.86	307	eP	P	01 52 02.4	+0.4
	comp=Z,7.3nm,0.5s						
PKIN	Phulchoki	43.88	307	eP	P	01 52 02.4	+0.4
	comp=Z,5.5nm,0.3s						
GKN	Gorkha	44.67	307	eP	P	01 52 08.9	+0.8
SONM	Songino Array	46.55	344	P	P	01 52 21.7	-0.4
	comp=Z,1.4nm,0.7s,baz=159,slow=8.8,SNR=12						
SONM				PcP	PcP	01 53 47.6	-0.7
	comp=Z,0.9nm,0.6s,baz=158,slow=3.9,SNR=5.9						
SONM	Songino Array	46.55	344	P	P	01 52 21.8	-0.4
ZSN	Zaisan	55.14	328	eP	P	01 53 25.4	+0.3
	baz=329						
SHLS	Shalkode	55.72	322	eP	P	01 53 28.2	-1.3
	baz=322						
NIL	Nilore	55.88	309	P	P	01 53 30.1	-0.5
NIL				IAmb	IAmb	01 53 32.0	
	comp=Z,6.5nm,0.7s						
UZB	Uzynbulak	55.99	321	eP	P	01 53 32.0	+0.6
	baz=322						
MK31	Makanchi Array	56.12	327	P	P	01 53 32.1	+0.1
MKAR	Makanchi Array	56.12	327	P	P	01 53 32.2	+0.2
	comp=Z,2.9nm,0.3s,baz=122,slow=8.0,SNR=128						
MKAR				PcP	PcP	01 54 23.8	-0.4
	comp=Z,3.2nm,0.7s,baz=122,slow=3.6,SNR=13						
MKAR				ScP	ScP	01 57 40.9	-1.3
	comp=Z,0.5nm,0.7s,baz=129,slow=5.2,SNR=3.0						
MKAR				S	S	02 00 50.2	+2.5
	comp=Z,0.1nm,0.4s,baz=127,slow=13,SNR=1.9						
MKAR	Makanchi Array	56.12	327	P	P	01 53 32.2	+0.2
MKAR					PcP	01 54 24.2	+0.1
KSH	Kashi	56.23	316	P	P	01 53 34.9	+1.8
KSH				PcP	PcP	01 54 28.8	+3.9
KSH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,300nm,5.1s						
KSH				LR	LR		
	comp=N,220nm,10.5s						
KSH				LR	LR		
	comp=E,350nm,7.4s						
MAKZ	Makanchi	56.30	326	P	P	01 53 33.4	+0.2
KPKS	Kokpek	56.37	321	eP	P	01 53 34.4	+0.5
	baz=322						
PETK	Petropavlovsk-	56.50	24	P	P	01 53 35.1	+0.6
	comp=E,2.3nm,0.6s,baz=207,slow=4.0,SNR=9.1						
PETK				PcP	PcP	01 54 26.1	+0.6
	comp=E,1.8nm,0.8s,baz=204,slow=3.3,SNR=4.2						
MDOK	Medeo	57.24	320	eP	P	01 53 40.8	+0.8
	baz=321						
TNSS	Tian-Shan	57.24	320	eP	P	01 53 41.2	+0.9
	baz=320						
TDK	Taldyqorghan	57.34	323	eP	P	01 53 41.1	+0.6
	baz=323						
AAA	Alma-Ata	57.35	320	eP	P	01 53 41.7	+1.0
	baz=321						
CHKK	Chushkaly	57.62	321	eP	P	01 53 42.4	-0.1
	baz=321						
KUU	Kurty	58.05	321	eP	P	01 53 45.8	+0.4
	comp=E,9.3nm,0.8s,baz=321						
TKM2	Tokmak 2	58.05	320	P	P	01 53 46.7	+1.0
	SNR=5.4						
UCH	Uchtor	58.44	318	P	P	01 53 50.5	+1.8
	SNR=9.6						
AAK	Ala-Archa	58.64	319	P	P	01 53 49.8	+0.2
USP	Ospenovka	58.92	320	P	P	01 53 52.3	+0.9
	SNR=7.5						
SGDS	Sogindy	58.93	320	eP	P	01 53 51.1	-0.4
	baz=320						
AML	Almayashu	58.94	318	P	P	01 53 53.3	+1.3
	SNR=9.5						
EKS2	Erkin-Say	59.12	319	P	P	01 53 54.4	+1.6
	SNR=5.6						
MA2	Magadan	59.42	15	P	P	01 53 55.0	+0.7
ZALV	Zalesovo Beam	59.46	334	P	P	01 53 53.6	-1.1
	comp=E,1.5nm,0.5s,baz=108,slow=6.1,SNR=8.2						
ZALV	Zalesovo Beam	59.46	334	P	P	01 53 54.0	-0.7
KBL	Kabul	59.47	308	P	P	01 53 54.7	-0.8
KBL				IAmb	IAmb	01 53 56.6	
	comp=Z,11nm,0.8s						
BTLS	Baital	60.04	321	eP	P	01 53 58.5	-0.3
	baz=321						
DZA	Taraz	60.85	318	eP	P	01 54 03.7	-0.6
	baz=318						
IUG	Iuzhnay	61.43	317	eP	P	01 54 08.4	+0.1
	baz=317						
KK31	Karatay Array	61.48	318	P	P	01 54 08.3	-0.2
KKAR	Karatay Array	61.48	318	P	P	01 54 08.6	+0.1
KKAR	Karatay Array	61.48	318	P	P	01 54 08.4	-0.1
BRZS	Berezniki	63.22	326	eP	P	01 54 19.1	-0.5
	baz=326						
BRVK	Borovoye	66.01	328	P	P	01 54 37.3	0.0
BRVK				IAmb	IAmb	01 54 39.1	
	comp=Z,5.6nm,1.1s						
TIXI	Tiksi	67.95	2	P	P	01 54 49.3	+0.2
GEYT	Alibeck	68.87	309	P	P	01 54 55.4	-0.1
	comp=Z,1.9nm,0.6s,baz=102,slow=14,SNR=5.5						
SOCY	Socotra	69.78	282	P	P	01 55 00.2	-1.2
ABKAR	Akbulak array	70.53	321	P	P	01 55 04.9	-0.2
ABKAR	Akbulak array	70.53	321	P	P	01 55 04.9	-0.2
ABKAR				IAmb	IAmb	01 55 06.6	
	comp=Z,3.3nm,0.7s						
ARU	Arti	73.58	328	P	P	01 55 22.4	-0.4
ARU				IAmb	IAmb	01 55 22.9	
	comp=Z,3.8nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAYN	**Ar Rayn**	**78.07**	**293**	P	**P**	**01 55 47.7**	**-0.9**
RAYN				IAmb	IAmb	01 55 49.3	
	comp=Z,4.4nm,0.8s						
VNDA	**Vanda**	**83.72**	**172**	P	**P**	**01 56 17.7**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=320,slow=6.8,SNR=11						
KLMR	**Klimovskoe**	**84.15**	**331**	eP	**P**	**01 56 18.4**	**-1.0**
KLMR				AMP		01 56 19.8	
	comp=Z,10.0nm,0.6s						
ILAR	**Eielson Array**	**86.28**	**25**	P	**P**	**01 56 29.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=243,slow=4.7,SNR=5.8						
KMBO	**Kilima Mbogo**	**86.91**	**269**	P	**P**	**01 56 33.0**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=3.6,slow=1.7,SNR=4.8						
BMAR	**Burnt Mountain**	**87.15**	**23**	P	**P**	**01 56 34.3**	**+0.4**
BRTR	**Keskin Array B**	**88.02**	**309**	P	**P**	**01 56 37.3**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=150,slow=4.7,SNR=4.1						
ARCES	**ARCESS Array B**	**89.58**	**340**	P	**P**	**01 56 43.9**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=83,slow=6.4,SNR=15						
HAMF	**Hammerfest**	**90.00**	**341**	eP	**P**	**01 56 46.7**	**-0.3**
SPA0	**Spitsbergen Ar**	**90.01**	**349**	eP	**P**	**01 56 47.0**	**0.0**
AKASG	**Malin Array Be**	**90.26**	**321**	P	**P**	**01 56 46.9**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=73,slow=4.6,SNR=4.3						
KTK1	**Kautokeino**	**90.47**	**339**	eP	**P**	**01 56 47.8**	**-1.4**
FINES	**FINESS Array B**	**90.62**	**332**	P	**P**	**01 56 48.6**	**-1.4**
	comp=Z,2.8nm,0.5s,baz=57,slow=4.9,SNR=30						
JETT	**Jettan, Norway**	**91.33**	**340**	eP	**P**	**01 56 54.5**	**+1.2**
TRO	**Tromso**	**91.81**	**340**	eP	**P**	**01 56 55.6**	**+0.3**
BURAR	**Bucovina Array**	**93.28**	**318**	P	**P**	**01 57 02.5**	**-0.3**
BUR08	**Bucovina Ar. S**	**93.28**	**318**	P	**P**	**01 57 02.5**	**-0.3**
BUR08				IAmb	IAmb	01 57 05.0	
	comp=Z,1.6nm,0.8s						
STEI	**Steigen**	**93.60**	**339**	eP	**P**	**01 57 02.5**	**-1.1**
N2TV	**T¥rnvik**	**93.76**	**339**	eP	**P**	**01 57 05.7**	**+1.4**
FAUS	**Fauske**	**93.76**	**338**	eP	**P**	**01 57 02.4**	**-2.0**
NBB28	**Valnes**	**94.13**	**338**	eP	**P**	**01 57 06.6**	**+0.5**
LOF	**Lofoten**	**94.13**	**339**	eP	**P**	**01 57 07.0**	**+0.9**
NBB30	**Finnes**	**94.47**	**338**	eP	**P**	**01 57 09.6**	**+2.0**
N2VA	**Vr¸y**	**94.60**	**339**	eP	**P**	**01 57 08.4**	**+0.3**
NSS	**Namsos**	**96.03**	**336**	eP	**P**	**01 57 14.9**	**+0.2**
NB2	**NORSAR Subarra**	**97.65**	**333**	P	**P**	**01 57 20.4**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=67,slow=4.4						
NOA	**NORSAR Array B**	**97.65**	**333**	P	**P**	**01 57 20.3**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=68,slow=4.5,SNR=3.7						
PDAR	**Pinedale Array**	**113.11**	**40**	PKKPbc	PKKPbc	02 13 09.3	-2.6
	comp=Z,0.2nm,0.5s,baz=99,slow=5.7,SNR=3.4						
PDAR				PKKPab	**PKKPab**	**02 13 18.8**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=122,slow=6.7,SNR=5.6						
TORD	**Torodi Ar. Bea**	**120.42**	**287**	PKP	**PKPdf**	**02 02 36.2**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=80,slow=1.6,SNR=6.5						

*IASPEI **05** 01:46:14.0±1.1, 37.°09N±0.°03×97.°84W±0.°03, h7km±7km, Error ellipse: s-maj=4.2km s-min=3.8km az=171.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

*ANF **05** 01:46:14.8±0.4, 37.°09N×97.°83W, h8km, ML3.6/14, Error ellipse: s-maj=5.3km s-min=3.3km az=40.0*

*NEIC **05** 01:46:14.3±0.5, 37.°09N±0.°04×97.°84W±0.°07, h8km±6km, mb_Lg2.9/57, Error ellipse: s-maj=7.7km s-min=5.2km az=72.0*

ISC 05 01:46:14.3±0.9**, 37.°09N**±0.°02×**97.°84W**±0.°02**, h5**km±6km**, n72,** σ0.°36/74**, Kansas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.03**	**311**	Pg	**Pg**	**01 46 15.2**	**-0.2**
KAN05				Sg	**Sg**	**01 46 16.0**	**-0.2**
KAN01	**Argonia South**	**0.09**	**46**	Pg	**Pg**	**01 46 16.3**	**0.0**
KAN01				Sg	**Sg**	**01 46 17.8**	**+0.1**
KAN08	**Anthony NE Sta**	**0.17**	**324**		**Pg**	**01 46 17.8**	**+0.1**
KAN08				Sg	**Sg**	**01 46 20.4**	**+0.4**
KAN10	**Anthony SW Sta**	**0.20**	**280**		**Pg**	**01 46 18.4**	**+0.1**
KAN10				Sg	**Sg**	**01 46 21.3**	**+0.3**
GC02	**Grant County #**	**0.24**	**183**	Pg	**Pg**	**01 46 19.1**	**+0.2**
GC02				Sg	**Sg**	**01 46 22.6**	**+0.6**
KAN12	**Harper NE Stat**	**0.24**	**329**		**Pg**	**01 46 19.0**	**0.0**
KAN12				Sg	**Sg**	**01 46 22.5**	**+0.3**
KS21	**Milan North St**	**0.24**	**36**		**Pg**	**01 46 19.0**	**0.0**
KS21				Sg	**Sg**	**01 46 22.7**	**+0.4**
KAN13	**South Haven SW**	**0.30**	**104**	Pg	**Pg**	**01 46 20.2**	**+0.1**
KAN13				Sg	**Sg**	**01 46 24.6**	**+0.4**
CROK	**Carrier**	**0.59**	**191**	Pg	**Pg**	**01 46 25.6**	**-0.1**
CROK				Sg	**Sg**	**01 46 33.7**	**+0.3**
T35A	**Sooner Cattle**	**1.08**	**99**		**Pg**	**01 46 34.4**	**-0.6**
T35B	**Sooner Cattle**	**1.08**	**99**	P	**Pg**	**01 46 34.3**	**-0.7**
	baz=280,SNR=222						
T35B				S	**Sg**	**01 46 48.4**	**-0.5**
	baz=280						
T35B	**Sooner Cattle**	**1.08**	**99**	P		01 46 34.3	
	baz=280,SNR=222						
T35B				S		01 46 48.4	
	baz=280						
U32A	**Winter Ranch,**	**1.17**	**233**		**Pg**	**01 46 36.0**	**-0.7**
U32A	**Winter Ranch,**	**1.17**	**233**	P	**Pg**	**01 46 35.9**	**-0.7**
	baz=52						
U32A	**Winter Ranch,**	**1.17**	**233**	P		01 46 35.9	
	baz=52						
QUOK	**Quay**	**1.29**	**135**		**Pn**	**01 46 38.2**	**-0.7**
OK031	**S. Brethren Rd**	**1.39**	**144**		**Pn**	**01 46 39.9**	**-0.4**
BCOK	**Bluff Creek, N**	**1.44**	**172**		**Pn**	**01 46 40.8**	**-0.2**
R32A	**Long Quarter,**	**1.50**	**333**		**Pn**	**01 46 41.7**	**-0.2**
R32A	**Long Quarter,**	**1.50**	**333**	P	**Pn**	**01 46 41.7**	**-0.2**
	baz=152,SNR=58						
R32A				S	**Sg**	**01 47 02.4**	**0.0**
	baz=152						
R32A	**Long Quarter,**	**1.50**	**333**	P		01 46 41.7	
	baz=152,SNR=58						
R32A				S		01 47 02.4	
	baz=152						
OK025	**Westminster Rd**	**1.56**	**165**		**Pn**	**01 46 42.7**	**+0.1**
OK025				IAmb_Lg		01 47 06.8	
	comp=Z,76nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**1.71**	**169**		**Pn**	**01 46 44.9**	**+0.1**
FNO	**Franklin**	**1.86**	**169**	Pn	**Pn**	**01 46 46.9**	**+0.1**
FNO				IAmb_Lg		01 47 15.8	
	comp=Z,78nm,0.7s						
TUL1	**Leonard**	**2.03**	**125**		**Pn**	**01 46 49.0**	**0.0**
TUL1	**Leonard**	**2.03**	**125**	P	**Pn**	**01 46 49.2**	**+0.1**
	baz=306,SNR=42						
TUL1				S	**Sb**	**01 47 17.7**	**+0.6**
	baz=306						
TUL1	**Leonard**	**2.03**	**125**	P		01 46 49.2	
	baz=306,SNR=42						
TUL1				S		01 47 17.7	
	baz=306						
KSU1	**Kansas State U**	**2.23**	**25**	Pn	**Pn**	**01 46 51.7**	**-0.2**
KSU1				IAmb_Lg		01 47 23.5	
	comp=Z,64nm,0.7s						
KSU1	**Kansas State U**	**2.23**	**25**	P	**Pn**	**01 46 52.0**	**+0.1**
	baz=206,SNR=14						
KSU1				S	**Sn**	**01 47 20.3**	**+0.5**
	baz=206						
KSU1	**Kansas State U**	**2.23**	**25**	P		01 46 52.0	
	baz=206,SNR=14						
KSU1				S		01 47 20.3	
	baz=206						
CBKS	**Cedar Bluff**	**2.28**	**320**	Pn	**Pn**	**01 46 52.6**	**0.0**
CBKS	**Cedar Bluff**	**2.28**	**320**	P	**Pn**	**01 46 52.8**	**+0.2**
	baz=138,SNR=27						
CBKS				S	**Sb**	**01 47 24.4**	**-0.1**
	baz=138						
CBKS	**Cedar Bluff**	**2.28**	**320**	P		01 46 52.8	
	baz=138,SNR=27						
CBKS				S		01 47 24.4	
	baz=138						
WMOK	**Wichita Mounta**	**2.47**	**198**	Pn	**Pn**	**01 46 55.3**	**+0.2**
X34A	**Smith Ranch, M**	**2.48**	**180**	Pn	**Pn**	**01 46 55.5**	**+0.2**
X34A				Sg	**Sg**	**01 47 33.9**	**-0.1**
U38A	**Gravette**	**2.85**	**102**		**Pn**	**01 47 00.0**	**-0.4**
U38A	**Gravette**	**2.85**	**102**	P	**Pn**	**01 47 01.1**	**+0.7**
	baz=284,SNR=32						
U38A	**Gravette**	**2.85**	**102**	P		01 47 01.1	
	baz=284,SNR=32						
X37A	**Clayton**	**3.20**	**140**		**Pn**	**01 47 05.6**	**+0.5**
X37A				IAmb_Lg		01 47 59.0	
	comp=Z,34nm,0.8s						
X37A	**Clayton**	**3.20**	**140**	P	**Pn**	**01 47 05.7**	**+0.5**
	baz=322						
X37A	**Clayton**	**3.20**	**140**	P		01 47 05.7	
	baz=322						
HHAR	**Hobbs**	**3.24**	**103**		**Pn**	**01 47 05.7**	**-0.1**
S39A	**Bolivar**	**3.65**	**79**		**Pn**	**01 47 11.3**	**-0.1**
S39A	**Bolivar**	**3.65**	**79**	P	**Pn**	**01 47 11.3**	**-0.1**
	baz=262,SNR=26						
S39A	**Bolivar**	**3.65**	**79**	P		01 47 11.3	
	baz=262,SNR=26						
N33B	**J Bar K, Exete**	**3.66**	**5**	P	**Pn**	**01 47 11.3**	**-0.2**
	baz=185						
N33B	**J Bar K, Exete**	**3.66**	**5**	P		01 47 11.3	
	baz=185						
Z35A	**Perchaven, San**	**3.78**	**172**	IAmb_Lg		01 48 20.5	
	comp=Z,25nm,0.7s						
W39A	**Magazine**	**3.79**	**119**	Pn	**Pn**	**01 47 13.1**	**-0.2**
W39A				IAmb_Lg		01 48 24.6	
	comp=Z,32nm,0.8s						
AMTX	**Amarillo**	**3.81**	**236**	Pn	**Pn**	**01 47 13.4**	**-0.3**
AMTX				IAmb_Lg		01 48 15.5	
	comp=Z,26nm,0.8s						
U40A	**Yellville**	**4.08**	**99**	Pn	**Pn**	**01 47 17.0**	**-0.2**
U40A	**Yellville**	**4.08**	**99**	P	**Pn**	**01 47 17.3**	**+0.1**
	baz=282,SNR=20						
U40A	**Yellville**	**4.08**	**99**	P		01 47 17.3	
	baz=282,SNR=20						
U40A				P		01 47 17.3	
	baz=282,SNR=20						
N35A	**Tabor**	**4.14**	**24**	Pn	**Pn**	**01 47 17.8**	**-0.3**
P38A	**Dawn**	**4.23**	**52**	Pn	**Pn**	**01 47 19.1**	**-0.2**
P38A				IAmb_Lg		01 48 39.4	
	comp=Z,23nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.24**	**298**	Pn	**Pn**	**01 47 19.7**	**+0.1**
KSCO				IAmb_Lg		01 48 39.9	
	comp=Z,24nm,0.9s						
MIAR	**Mount Ida**	**4.30**	**125**	Pn	**Pn**	**01 47 20.1**	**-0.1**
MIAR				IAmb_Lg		01 48 34.3	
	comp=Z,24nm,0.9s						
MIAR	**Mount Ida**	**4.30**	**125**	P	**Pn**	**01 47 20.7**	**+0.5**
	baz=308,SNR=11						
MIAR	**Mount Ida**	**4.30**	**125**	P		01 47 20.7	
	baz=308,SNR=11						
BGNE	**Belgrade**	**4.32**	**357**	Pn	**Pn**	**01 47 20.3**	**-0.3**
BGNE				IAmb_Lg		01 48 34.9	
	comp=Z,39nm,1.1s						
MGMO	**Mountain Grove**	**4.46**	**87**		**Pn**	**01 47 22.3**	**-0.2**
Z38A	**Mt. Pleasant**	**4.48**	**148**	IAmb_Lg		01 48 44.2	
	comp=Z,35nm,0.9s						
R40A	**Maddies Statio**	**4.58**	**73**	Pn	**Pn**	**01 47 24.0**	**-0.1**
R40A				IAmb_Lg		01 48 48.2	
	comp=Z,18nm,1.1s						
R40A	**Maddies Statio**	**4.58**	**73**	P	**Pn**	**01 47 24.4**	**+0.2**
	baz=256,SNR=18						
R40A	**Maddies Statio**	**4.58**	**73**	P		01 47 24.4	
	baz=256,SNR=18						
X40A	**Basin Creek Fa**	**4.83**	**121**	Pn	**Pn**	**01 47 27.4**	**-0.1**
X40A				IAmb_Lg		01 48 52.9	
	comp=Z,18nm,0.8s						
WHAR	**Wooly Hollow**	**4.84**	**110**	Pn	**Pn**	**01 47 27.6**	**-0.1**
WHAR				IAmb_Lg		01 48 55.4	
	comp=Z,33nm,0.8s						
L34A	**Svendsen Farm,**	**5.00**	**13**	Pn	**Pn**	**01 47 29.7**	**-0.3**
OGNE	**Ogallala**	**5.05**	**321**	Pn	**Pn**	**01 47 30.4**	**-0.3**
OGNE				IAmb_Lg		01 49 04.5	
	comp=Z,27nm,0.7s						
MSTX	**Muleshoe**	**5.08**	**234**	Pn	**Pn**	**01 47 31.3**	**+0.2**
WHTX	**Lake Whitney,**	**5.09**	**176**	P	**Pn**	**01 47 31.3**	**+0.1**
	baz=357,SNR=13						
WHTX	**Lake Whitney,**	**5.09**	**176**	P		01 47 31.3	
	baz=357,SNR=13						
WLAR	**White Oak Lake**	**5.14**	**130**	IAmb_Lg		01 49 03.0	
	comp=Z,21nm,0.8s						
P40A	**Paris**	**5.17**	**60**	Pn	**Pn**	**01 47 31.9**	**-0.3**
P40A				IAmb_Lg		01 48 56.6	
	comp=Z,17nm,0.9s						
CCM	**Cathedral Cave**	**5.33**	**78**	Pn	**Pn**	**01 47 34.3**	**-0.1**
CCM				IAmb_Lg		01 49 06.8	
	comp=Z,28nm,1.0s						
PBMO	**Poplar Bluff**	**5.95**	**91**	IAmb_Lg		01 49 26.2	
	comp=Z,22nm,0.8s						
435B	**Jarrell**	**6.29**	**178**	IAmb_Lg		01 49 47.4	
	comp=Z,13nm,0.7s						
ECSD	**EROS Data Cent**	**6.70**	**8**	Pn	**Pn**	**01 47 51.9**	**-1.4**
K38A	**Parkersburg**	**6.78**	**34**	IAmb_Lg		01 49 53.2	
	comp=Z,21nm,0.7s						
JCT	**Junction City**	**6.79**	**194**	IAmb_Lg		01 50 08.0	
	comp=Z,16nm,0.9s						
S44A	**Carbondale**	**6.87**	**82**	IAmb_Lg		01 49 53.0	
	comp=Z,20nm,0.8s						
SIUC	**Southern Illin**	**6.89**	**82**	IAmb_Lg		01 50 04.1	
	comp=Z,12nm,0.8s						
HDIL	**Hopedale**	**7.52**	**60**	IAmb_Lg		01 50 24.0	
	comp=Z,20nm,0.8s						
JFWS	**Jewell Farm**	**8.23**	**43**	IAmb_Lg		01 50 44.5	
	comp=Z,14nm,0.8s						
K22A	**Casper**	**8.68**	**312**	IAmb_Lg		01 50 58.0	
	comp=Z,10nm,0.9s						
F33A	**5 Mile Ranch,**	**8.82**	**7**	IAmb_Lg		01 50 51.7	
	comp=Z,8.6nm,1.0s						

*UPA **05** 01:50:36.0±0.9, 11.°56N×81.°39W, h31km±26km, MW4.5*

ISC 05 01:50:35.1±1.5**, 11.°65N**±0.°06×**81.°37W**±0.°06**, h35**km**, n12,** σ0.°79/20**, 1C, North of Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**1.72**	**0**	eP	**Pn**	**01 51 02.6**	**+0.1**
CNI2	**El Empalme, Bo**	**2.46**	**206**	eP	**Pn**	**01 51 14.0**	**+1.4**
CNI2				eS	**Sn**	**01 51 41.7**	**+0.2**
CHGR2	**Aguacate**	**2.80**	**196**	eP	**Pn**	**01 51 17.5**	**+0.2**
CHGR2				eS	**Sn**	**01 51 48.4**	**-1.5**
BCIP	**Isla Barro Col**	**2.89**	**148**	eP	**Pn**	**01 51 19.0**	**+0.4**
BCIP				eS	**Sn**	**01 51 51.8**	**-0.3**
BCIP	**Isla Barro Col**	**2.89**	**148⇑**	eP	**Pn**	**01 51 19.0**	**+0.4**
DRK0	**Durika**	**3.00**	**218**	eP	**Pn**	**01 51 20.7**	**+0.4**
DRK0				eS	**Sn**	**01 51 54.2**	**-1.0**
BRU2	**Volcan**	**3.12**	**205**	eP	**Pn**	**01 51 21.8**	**-0.2**
BRU2				eS	**Sn**	**01 51 57.7**	**-0.3**
BCO2	**Palmira**	**3.12**	**202**	eP	**Pn**	**01 51 22.0**	**0.0**
BCO2				eS	**Sn**	**01 51 58.0**	**-0.2**
JTS	**Las Juntas de**	**3.77**	**249**	eP	**Pn**	**01 51 31.4**	**+0.7**
JTS				eS	**Sn**	**01 52 13.4**	**-0.5**
JTS	**Las Juntas de**	**3.77**	**249**	eP	**Pn**	**01 51 31.4**	**+0.7**
AZU	**Azuero**	**3.98**	**164**	eP	**Pn**	**01 51 34.6**	**+1.0**
AZU				eS	**Sn**	**01 52 17.7**	**-1.4**
MOTC	**Monteria, Cord**	**6.29**	**116**	eP	**Pn**	**01 52 06.2**	**+0.7**

*SJA **05** 02:08:40.2±0.9, 34.°21S×73.°51W, h18km±105km, ML4.5, MW4.5*

*IDC **05** 02:08:48.0±0.5, 34.°34S×72.°48W, h0km, mb4.6/14, mb1 4.6/17, mb1mx4.5/26, mbtmp4.5/17, ML4.4/3, MS4.4/21, Ms1 4.4/21, ms1mx4.3/27, Error ellipse: s-maj=20.9km s-min=14.7km az=81.0*

*NEIC **05** 02:08:49.4±0.8, 34.°23S±0.°04×72.°57W±0.°07, h6km±3km, Error ellipse: s-maj=8.4km s-min=6.4km az=98.0*

*GUC **05** 02:08:49.8±0.7, 34.°31S×72.°76W, h32km±2km, ML5.0*

*NEIC **05** 02:08:49.1, 34.°23S×72.°57W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.50; $M_{\theta\theta}$0.56; $M_{\phi\phi}$-0.06; $M_{r\theta}$-0.32; $M_{\theta\phi}$-1.02; $M_{\phi r}$-3.39; Fault plane solution: $M_0$3.59000×10^{16} NP1:ϕ_s97.22000°, δ17.00000°, λ-172.63000°. NP2:ϕ_s0.16000°, δ87.85000°, λ-73.13000°. Principal axes: T 3.2227, Plg41.0000°, Azm75.0000°; N 0.6478, Plg17.0000°, Azm180.0000°; P -3.8706, Plg45.0000°, Azm287.0000°;*

*VAO **05** 02:08:54.9±0.9, 34.°31S×72.°38W, h41km±8km, mb4.7*

*GCMT **05** 02:08:55.0±0.4, 34.°17S±0.°02×72.°74W±0.°03, h25km±2km, MW5.0/75, Moment Tensor Solution. s24,c25; s75,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.22±.16; $M_{\theta\theta}$0.66±.11; $M_{\phi\phi}$-0.87±.12; $M_{r\theta}$-0.21±.21; $M_{\theta\phi}$-2.07±.09; $M_{\phi r}$-3.59±.52; Best double couple: $M_0$4.17700×10^{16} NP1:ϕ_s83.00000°, δ31.00000°, λ175.00000°. NP2: ϕ_s177.00000°, δ88.00000°, λ60.00000°. Principal axes: T 3.8110, Plg40.0000°, Azm59.0000°; N 0.7310, Plg30.0000°, Azm178.0000°; P -4.5420, Plg35.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 02:08:49.2±1.4**, 34.°23S**±0.°03×**72.°64W**±0.°04**, h8**km±8km**, n283,** σ1.°42/285**, mb4.8**/51**, MS4.4**/21**, 21C-11D, Fault plane solution: NP1:**ϕ_s180.36340°, δ64.01859°, λ84.55248°. **NP2:**ϕ_s12.64441°, δ26.50746°, λ101.02339°. **Principal axes:** T Plg70.4829°, Azm78.7720°; N Plg4.8956°, Azm182.7557°; P Plg18.8447°, Azm274.4308°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.62**	**115⇓**	iP	**Pg**	**02 09 02.0**	**+0.9**
BO03				i S	**Sb**	**02 09 11.4**	**+0.2**
BO03				IAML		02 09 13.9	
	comp=N,130μm,0.4s						
VA05	**Santo Domingo**	**1.03**	**56⇑**	iP	**Pn**	**02 09 09.6**	**-0.3**
VA05				i S	**Sn**	**02 09 24.6**	**0.0**
VA05				IAML		02 09 34.1	
	comp=N,41μm,0.3s						
MT09	**Talagante**	**1.45**	**72⇑**	iP	**Pn**	**02 09 15.2**	**-0.6**
MT09				i S	**Sg**	**02 09 35.5**	**-0.2**
MT02	**Curacav**	**1.58**	**53⇓**	eP	**Pn**	**02 09 17.2**	**-0.4**
MT02				i S	**Sb**	**02 09 37.8**	**-1.2**
MT02	**Curacav**	**1.58**	**53**		**Pn**	**02 09 17.3**	**-0.4**
BO02	**Sierra Bellavi**	**1.63**	**110⇑**	iP	**Pn**	**02 09 18.2**	**-0.1**
BO02				i S	**Sn**	**02 09 39.9**	**+0.3**
BO02				IAML		02 09 45.6	
	comp=N,35μm,0.3s						
BO02	**Sierra Bellavi**	**1.63**	**110**		**Pn**	**02 09 18.3**	**-0.1**
BO02				Sn	**Sn**	**02 09 39.3**	**-0.3**
MT05	**Renca**	**1.79**	**63⇑**	iP	**Pn**	**02 09 20.5**	**0.0**
MT05				i S	**Sg**	**02 09 44.8**	**-2.0**
MT05	**Renca**	**1.79**	**63**	Pn	**Pn**	**02 09 20.1**	**-0.4**
MT05				Sn	**Sb**	**02 09 43.5**	**-1.6**
ROC1	**El Roble**	**1.85**	**48**	eP	**Pn**	**02 09 21.6**	**+0.2**
ROC1				eS	**Sb**	**02 09 45.6**	**-1.2**
ROCH	**El Roble**	**1.85**	**48⇑**	eP	**Pn**	**02 09 21.6**	**+0.1**
ROCH				i S	**Sb**	**02 09 45.7**	**-1.2**
FSR	**Penalolen**	**1.91**	**67**	eP	**Pb**	**02 09 23.8**	**-0.6**
FSR				i S	**Sb**	**02 09 48.0**	**-0.5**
MT03	**Universidad Ad**	**1.92**	**68⇑**	iP	**Pn**	**02 09 22.4**	**+0.1**
MT03				i S	**Sb**	**02 09 47.4**	**-1.4**
MT03				IAML		02 09 58.9	
	comp=E,10μm,0.4s						
PEL	**Peldehue**	**1.96**	**57⇑**	iP	**Pn**	**02 09 23.5**	**+0.7**
PEL				eS	**Sb**	**02 09 49.3**	**-0.5**
PEL	**Peldehue**	**1.96**	**57**	Pn	**Pn**	**02 09 23.1**	**+0.3**
PEL	**Peldehue**	**1.96**	**57**	eP	**Pb**	**02 09 23.8**	**-1.4**
PEL				eS	**Sb**	**02 09 49.2**	**-0.5**
LMEL	**Las Melosas**	**2.06**	**80⇑**	iP	**Pn**	**02 09 24.8**	**+0.5**
LMEL				i S	**Sb**	**02 09 51.4**	**-1.4**
VA03	**San Esteban**	**2.28**	**51⇑**	eP	**Pn**	**02 09 28.0**	**+0.7**
VA03				eS	**Sb**	**02 09 57.1**	**-1.9**
VA03				IAML		02 10 16.0	
	comp=E,8μm,0.4s						
VA03	**San Esteban**	**2.28**	**51**		**Pn**	**02 09 27.4**	**+0.1**
BI03	**Tigo**	**2.62**	**187**	eP	**Pn**	**02 09 30.9**	**-1.0**
BI03				i S	**Sn**	**02 10 00.2**	**-3.7**
BI03				IAML		02 10 23.6	
	comp=E,11μm,0.5s						
COIS	**El Sosneado**	**2.66**	**110**	eP	**Pn**	**02 09 34.2**	**+1.8**
COIS				eS	Sg	02 10 24.4	+10
BI02	**San Fabin de**	**2.67**	**156⇓**	iP	**Pn**	**02 09 32.0**	**-0.6**
BI02				i S	**Sn**	**02 10 02.4**	**-2.7**
BI02	**San Fabin de**	**2.67**	**156**	Pn	**Pn**	**02 09 32.0**	**-0.6**
LAMA	**Las Malvinas**	**2.91**	**105**	eP	**Pn**	**02 09 38.4**	**+2.5**
LAJA	**Laja**	**3.04**	**181**	eP	**Pn**	**02 09 35.7**	**-1.9**
CO02	**Combarbal**	**3.32**	**25**	eP	**Pn**	**02 09 41.8**	**+0.1**
CO02	**Combarbal**	**3.32**	**25**		**Pn**	**02 09 42.0**	**+0.3**
AUSP	**Uspallata**	**3.38**	**55**	eP	**Pn**	**02 09 45.4**	**+2.8**
AUSP				eS	**Sb**	**02 10 31.9**	**+0.9**
RFA	**San Rafael**	**3.49**	**100**	eP	**Pb**	**02 09 48.0**	**-3.3**
RFA				eS	**Sg**	**02 10 39.2**	**-2.0**
RFA				IAML		02 10 47.4	
	comp=N,741nm,0.6s						
CO03	**El Pedregal**	**3.77**	**26⇑**	eP	**Pn**	**02 09 48.2**	**+0.5**
CO03	**El Pedregal**	**3.77**	**26**		**Pn**	**02 09 48.2**	**+0.5**
CANA	**Caviahue**	**3.86**	**161**	eP	**Pn**	**02 09 50.8**	**+1.6**
CANA				IAML		02 11 01.7	
	comp=Z,522nm,0.9s						
RTCV	**Cerro Valdivia**	**4.18**	**57**	eP	**Pn**	**02 09 55.8**	**+2.5**
RTCV				IAML		02 11 09.7	
	comp=Z,246nm,0.6s						
ZON	**Zonda**	**4.28**	**52**		**Pn**	**02 09 54.4**	**-0.3**
ZON	**Zonda**	**4.28**	**52**	eP	**Pn**	**02 09 58.8**	**+4.1**
ZON				IAML		02 11 16.9	
	comp=Z,303nm,0.5s						
GO04	**Tololo Observa**	**4.34**	**22⇓**	eP	**Pn**	**02 09 55.1**	**-0.6**
GO04	**Tololo Observa**	**4.34**	**22**	Pn	**Pn**	**02 09 55.6**	**-0.1**
GO04	**Tololo Observa**	**4.34**	**22**	eP	**Pn**	**02 09 56.0**	**+0.3**
GO04				eS	**Sn**	**02 10 45.1**	**-1.5**
RTLL	**Cerro Villicun**	**4.55**	**52**	eP	**Pn**	**02 10 00.6**	**+2.2**
RTLL	**Cerro Villicun**	**4.55**	**52**	eP	**Pn**	**02 10 01.0**	**+2.5**
RTLL				eS	**Sg**	**02 11 11.8**	**-3.5**
RTLL				IAML		02 11 16.4	
	comp=Z,448nm,0.5s						
ACCO	**Cerro Coronel**	**4.73**	**41**	eP	**Pn**	**02 10 03.6**	**+2.5**
ACCO				IAML		02 11 26.0	
	comp=Z,364nm,0.6s						
CO01	**Juntas del Tor**	**4.76**	**28⇑**	eP	**Pn**	**02 10 02.6**	**+1.0**
CO01	**Juntas del Tor**	**4.76**	**28**		**Pn**	**02 10 01.9**	**+0.3**
AROD	**Rodeo**	**4.86**	**34**	eP	**Pn**	**02 10 05.4**	**+2.4**
ACDV	**Cuesta del Vie**	**5.03**	**37**	eP	**Pn**	**02 10 08.4**	**+3.2**
ACDV				IAML		02 11 39.6	
	comp=Z,217nm,0.6s						
VA04	**Juan Fernndez**	**5.18**	**275⇓**	iP	**Pn**	**02 10 06.9**	**-0.1**
VA04	**Juan Fernndez**	**5.18**	**275**	Pn	**Pn**	**02 10 07.0**	**-0.1**
H03S1	**Juan Fernandez**	**5.22**	**273**	T	T	02 16 17.6	
	baz=97,slow=75,SNR=2214						
H03S3	**Juan Fernandez**	**5.22**	**273**	T	T	02 16 19.0	
	baz=97,slow=75,SNR=2574						
H03S2	**Juan Fernandez**	**5.23**	**273**	T	T	02 16 18.2	
	baz=97,slow=75,SNR=4667						
H03N1	**Juan Fernandez**	**5.28**	**277**	T	T	02 16 25.5	
	baz=97,slow=74,SNR=58						
H03N3	**Juan Fernandez**	**5.29**	**277**	T	T	02 16 29.9	
	SNR=23						
H03N2	**Juan Fernandez**	**5.30**	**277**	T	T	02 16 25.5	
	baz=165,slow=74,SNR=32						
LCO	**Las Campanas**	**5.46**	**18**	Pn	**Pn**	**02 10 10.7**	**-0.5**
AC05	**El Transito**	**5.75**	**21**		**Pn**	**02 10 15.3**	**+0.4**
MRA	**San Martin**	**6.07**	**75**	eP	**Pn**	**02 10 22.6**	**+3.2**
MRA				IAML		02 12 16.5	
	comp=N,81nm,0.6s						
AC04	**Llanos de Chal**	**6.16**	**13**	Pn	**Pn**	**02 10 19.2**	**-1.3**
APLL	**PUNTA DE LOS L**	**6.43**	**55**	eP	**Pn**	**02 10 25.3**	**+1.0**
APLL				eS	**Sb**	**02 11 56.5**	**-2.1**
VCA	**Vinchina**	**6.66**	**36**	eP	**Pn**	**02 10 29.0**	**+1.5**
PLCA	**Paso Flores**	**6.70**	**166**	Pn	**Pn**	**02 10 27.7**	**-0.2**
	comp=N,3.4nm,0.3s,baz=343,slow=12,SNR=101						
PLCA				Lg	Lg	02 12 06.3	
	baz=326,slow=13,SNR=1.6						
PLCA				LR	LR	02 13 22.6	
	comp=N,3μm,19.4s,baz=350,slow=42						
PLCA	**Paso Flores**	**6.70**	**166**	eP	**Pn**	**02 10 28.4**	**+0.5**
ACLC	**CERRO LA CRUZ**	**6.81**	**47**	eP	**Pn**	**02 10 30.0**	**+0.4**
GO03	**Copiap**	**6.93**	**18**	Pn	**Pn**	**02 10 29.9**	**-1.3**
AC02	**Maricunga**	**7.97**	**23**	Pn	**Pn**	**02 10 45.2**	**-0.6**
AC01	**Pan de Azucar**	**8.25**	**13**	Pn	**Pn**	**02 10 47.1**	**-2.1**
GO07	**Milladeo Hill,**	**8.90**	**185**		**Pn**	**02 10 56.6**	**-1.5**
PB14	**IPOC Station P**	**9.77**	**12**	Pn	**Pn**	**02 11 07.0**	**-3.4**
LVC	**Limon Verde**	**12.04**	**17**	Pn	**Pn**	**02 11 37.4**	**-4.0**
	comp=N,0.5nm,0.3s,baz=353,slow=19,SNR=2.4						
LVC				LR	LR	02 17 06.0	
	comp=N,3μm,18.8s,baz=219,slow=41						
LVC	**Limon Verde**	**12.04**	**17**	Pn	**Pn**	**02 11 37.7**	**-3.7**
LPA	**La Plata**	**12.14**	**97**	eP	Pn	02 11 35.0	-7.5
LPA				pP		02 11 46.0	
LPA				PPP	PPP	02 11 59.8	
LPA				PP	**PbPb**	**02 12 24.6**	**+2.7**
LPA				S	**Sn**	**02 13 58.6**	**+0.5**
LPA				SS	**SnSn**	**02 14 12.2**	**+2.2**
LPA				SSS	SSS	02 14 24.2	
LPA				SKIKP		02 28 49.5	
ITQB	**Itaqui**	**14.34**	**76**	eP	**Pn**	**02 12 13.8**	**+1.3**
PB08	**IPOC Station P**	**14.37**	**13**	Pn	**Pn**	**02 12 13.2**	**-0.2**
MNMC	**Minye Minye**	**15.29**	**11**		**P**	**02 12 28.0**	**-2.5**
CPUP	**Villa Florida**	**15.38**	**63**	Pn	**Pn**	**02 12 23.9**	**-2.7**
	comp=N,0.1nm,0.3s,baz=239,slow=10,SNR=2.9						
CPUP				LR	LR	02 19 30.1	
	comp=N,2μm,19.4s,baz=241,slow=42						
CPSB	**Cacapava Do Su**	**16.67**	**82**	eP	**Pn**	**02 12 42.5**	**-0.7**
LPAZ	**La Paz**	**18.32**	**14**	P	**P**	**02 13 06.2**	**+1.6**
	comp=N,0.6nm,0.3s,baz=178,slow=7.9,SNR=52						
LPAZ	**La Paz**	**18.32**	**14**	eP	**P**	**02 13 06.2**	**+1.6**
LPAZ	**La Paz**	**18.32**	**14**	eP	**P**	**02 13 06.2**	**+1.6**
ITAB	**Concordia**	**18.94**	**74**	eP	**Pn**	**02 13 11.1**	**-0.3**
PTGB	**Pitanga**	**20.24**	**68**	eP	**P**	**02 13 24.8**	**-0.2**
AQDB	**Aquidauana**	**20.31**	**52**	eP	Pn	02 13 26.8	-0.9

TER01	Tubaro-SC	20.84	81	eP	P	02 13 31.0	-0.5
TRCB	Terra Rica	20.91	62	eP	P	02 13 31.9	-0.3
SIV	San Ignacio	20.94	33	P	P	02 13 32.5	-0.1
	comp=N,33nm,0.9s,baz=229,slow=12,SNR=39						
SIV				LR	LR	02 23 23.6	
	comp=N,3µm,18.7s,baz=226,slow=42						
TIJ01	Guaruva-PR	22.31	73	eP	P	02 13 44.6	-2.8
PTLB	Pontes e Lacer	22.32	36	eP	P	02 13 48.7	+1.3
NNA	Nana	22.48	349	P	P	02 13 51.5	+2.4
	comp=N,9.3nm,0.6s,baz=187,slow=8.5,SNR=7.9						
NNA				LR	LR	02 20 41.1	
	comp=N,1µm,20.1s,baz=191,slow=32						
PCMB	Pacaembu	22.64	62	eP	P	02 13 49.9	-1.0
PP1B	Ponte de Pedra	22.95	48	eP	P	02 13 54.3	+0.2
VILB	Vilhena	24.01	31	eP	P	02 14 05.2	+0.6
SPB	Sao Paulo	24.42	71	eP	P	02 14 09.1	+0.7
ITRB	Iturama	24.50	59	eP	P	02 14 08.4	-0.7
BB19B	Bebedouro	24.99	65	eP	P	02 14 13.5	-0.1
ETMB	Extrema	25.01	15	eP	P	02 14 15.1	+1.5
VAO	Valinhos	25.09	70	eP	P	02 14 15.5	+1.0
ARAG	Araguaiana, MT	26.30	51	eP	P	02 14 24.9	-0.6
CZSB	Cruzeiro do Su	26.38	360	eP	P	02 14 28.6	+2.5
SAML	Samuel	26.62	21	P	P	02 14 28.4	0.0
IPMB	Ipameri, GO	27.16	60	eP	P	02 14 32.1	-1.1
ATAH	Atahualpa	27.49	348	LR	LR	02 23 54.0	
	comp=N,600nm,18.9s,baz=194,slow=33						
BDFB	Brasilia	28.88	56	P	P	02 14 47.0	-1.7
	comp=N,11nm,0.7s,baz=227,slow=8.8,SNR=22						
BDFB				LR	LR	02 27 52.4	
	comp=N,2µm,18.9s,baz=233,slow=40						
DUB01	Friburgo-RJ	29.19	73	eP	P	02 14 51.4	+0.1
SNDB	Serra Nova Dou	29.48	46	eP	P	02 14 54.9	+1.0
NPGB	Novo Progresso	31.41	34	eP	P	02 15 11.2	+0.2
JANB	Januaria	31.88	60	eP	P	02 15 15.2	+0.1
SJMB	Sao Joao De Ma	31.96	69	eP	P	02 15 15.5	-0.3
BSFB	Barra de Sao F	32.15	70	eP	P	02 15 16.5	-0.9
SDBA	SAO DESIDERIO	33.28	56	eP	P	02 15 27.3	-0.1
ITTB	Itaituba	33.61	32	eP	P	02 15 30.9	+0.7
OTAV	Otavalo	34.72	350	eP	P	02 15 43.3	+3.0
PTGA	Pitinga	35.38	22	eP	P	02 15 45.2	-0.3
PTGA	Pitinga	35.38	22	eP	P	02 15 46.8	+1.3
GDU01	Guandu, BA	36.22	64	eP	P	02 15 52.3	-0.5
BBAC	Balboa, Cauca	36.32	352	eP	P	02 15 56.5	+2.7
SOTA	Rioblanco	36.37	353	eP	P	02 15 57.7	+3.2
MALB	Monte Alegre	36.50	32	eP	P	02 15 55.0	-0.1
PCON	Cinco Dias	36.54	354	eP	P	02 16 00.0	+3.9
POPC	Popayan, Colom	36.77	353	eP	P	02 15 58.6	+0.9
PRAC	Prado	37.80	356	eP	P	02 16 09.3	+3.1
ORTC	Ortega, Tolima	38.02	356	eP	P	02 16 10.9	+2.9
YOTC	Yotoco, Valle	38.17	354	eP	P	02 16 11.2	+1.8
BOAV	Boa Vista	38.18	20	eP	P	02 16 10.0	+0.7
CHIC	Chingaza	38.67	358	eP	P	02 16 15.2	+1.3
TOLC	Tolima	38.69	356	eP	P	02 16 16.9	+2.9
ROSC	El Rosal	38.90	357	P	P	02 16 18.4	+2.6
	comp=N,14nm,0.5s,baz=58,slow=4.7,SNR=7.0						
ROSC	El Rosal	38.90	357	eP	P	02 16 20.7	+4.9
RREF	El Recreo	39.01	356	eP	P	02 16 21.6	+4.6
PLMC	San Jos del P	39.08	354	eP	P	02 16 17.8	+0.8
NBLA	Lagarto - SE	39.31	62	eP	P	02 16 17.6	-1.4
GUY2C	Guyana, Caldas	39.33	356	eP	P	02 16 22.0	+2.5
NORC	Norcasia	39.64	357	eP	P	02 16 24.0	+2.3
SPBC	San Pablo de B	39.69	358	eP	P	02 16 23.3	+1.2
RUSC	La Rusia	39.91	359	eP	P	02 16 26.2	+1.8
CBOC	Ciudad Bolivar	40.01	355	eP	P	02 16 26.8	+2.0
HELC	Santa Helena	40.30	356	eP	P	02 16 29.5	+2.0
TAMC	Tame, Arauca	40.46	1	eP	P	02 16 29.6	+1.2
BARC	Barichara	40.61	359	eP	P	02 16 31.0	+1.1
NBPB	Pedra_Branca-C	41.85	54	eP	P	02 16 41.0	+1.0
NBLI	Livramento-PB	42.38	59	eP	P	02 16 43.6	-0.7
SDV	Santo Domingo	42.92	3	eP	P	02 16 49.7	+0.9
SDV	Santo Domingo	42.92	3	eP	P	02 16 50.2	+1.4
NBPV	Pedro Velho	44.22	60	eP	P	02 17 00.3	+1.2
VNA3	Neumayer Olymp	49.33	158	P	P	02 17 39.3	+0.8
VNA2	Neumayer--Watz	49.99	157	P	P	02 17 43.7	+0.2
	baz=287,slow=9.3						
SNAA	Sanae	51.56	158	P	P	02 17 55.5	+0.1
SNAA	Sanae	51.56	158	P	P	02 17 55.1	-0.2
	comp=N,17nm,0.8s,baz=265,slow=8.1,SNR=28						
SDDR	Presa de Saban	52.94	2	P	P	02 18 04.2	-1.9
SDDR					S	02 25 31.3	-4.4
QSPA	South Pole Qui	56.00	180	P	P	02 18 28.8	+0.8
VNDA	Vanda	63.77	191	P	P	02 19 21.1	-0.1
	comp=N,1.5nm,0.9s,baz=133,slow=6.0,SNR=5.7						
VNDA				LR	LR	02 44 03.5	
	comp=N,100nm,18.8s,baz=131,slow=33						
VNDA	Vanda	63.77	191	P	P	02 19 22.6	+1.5
SYO	Syowa Base	65.83	159⇓	eP	P	02 19 27.8	-6.8
TBI	Tubuai	66.78	257	eS	S	02 28 30.5	-3.6
	comp=N,72nm,22.2s						
TBI	Tubuai	66.78	257	eLR	LR	02 39 50.5	
	comp=N,435nm,25.8s,baz=119						
LPIG	La Paz	68.17	323	LR	LR	02 44 13.9	
	comp=N,56nm,18.6s,baz=152,slow=31						
MEH	Mehetia	68.32	263	eT	T	03 33 46.3	
	comp=N,12nm,0.2s						
JCT	Junction City	69.28	335	P		02 19 59.1	
	baz=156						
JCT	Junction City	69.28	335	P	P	02 19 58.4	+1.4
JCT				IAmb	IAmb	02 20 12.7	
	comp=Z,7.4nm,0.9s						
TX31	Lajitas Ar. Si	69.70	331	P	P	02 20 00.4	+0.8
TX31				IAmb	IAmb	02 20 06.8	
	comp=Z,10nm,1.0s						
TX32	Lajitas Array	69.70	331	P	P	02 20 00.4	+0.8
TXAR	Lajitas Array	69.70	331	P	P	02 20 00.0	+0.4
	comp=Z,3.2nm,1.0s,baz=152,slow=8.5,SNR=11						
TXAR				LR	LR	02 46 03.5	
	comp=Z,338nm,18.5s,baz=0.0,slow=32						
TXAR	Lajitas Array	69.70	331	P	P	02 20 00.5	+1.0
PPT2	Papeete2	69.71	262	eS	S	02 29 06.6	-2.8
	comp=Z,124nm,22.0s						
PPT2	Papeete2	69.71	262	eLR	LR	02 41 06.0	
	comp=Z,273nm,26.8s						
PPT	Papeete	69.72	262	LR	LR	02 43 12.0	
	comp=Z,172nm,19.1s,baz=158,slow=30						
V56A	Mocksville	70.07	353	P		02 20 02.5	
	baz=173						
W50A	Signal Mountai	70.08	349	P	P	02 20 02.0	+0.3
SWET	Sewanee	70.20	348	P	P	02 20 02.9	+0.5
CPCT	Cooper Cave	70.21	350	P	P	02 20 03.6	+1.2
CPCT				IAmb	IAmb	02 20 04.4	
	comp=Z,6.6nm,0.8s						
PLAL	Pickwick Lake	70.36	347	P	P	02 20 04.2	+0.9
PLAL				IAmb	IAmb	02 20 05.1	
	comp=Z,8.3nm,0.8s						
V48A	Smith Brothers	70.86	348	P	P	02 20 06.4	0.0
U54A	Nelsons Funny	70.91	352	P		02 20 07.4	
	baz=172						
T58A	Grand View Acr	71.03	355	P		02 20 08.7	
	baz=175						
T60A	Surry	71.11	357	P		02 20 10.0	
	baz=176						
T60A	Surry	71.11	357	P	P	02 20 09.0	+1.1
CLTN	Cedars of Leba	71.12	348	P	P	02 20 09.0	+1.0
CLTN				IAmb	IAmb	02 20 10.0	
	comp=Z,11nm,0.9s						
ABTX	Abilene, Hawle	71.19	336	P		02 20 10.3	
	baz=157						
ABTX	Abilene, Hawle	71.19	336	P	P	02 20 09.7	+1.1
ABTX				IAmb	IAmb	02 20 10.4	
	comp=Z,5.2nm,0.8s						
WVT	Waverly	71.42	347	P		02 20 10.6	
	baz=167						
WVT	Waverly	71.42	347	P	P	02 20 10.2	+0.4
W41B	Gary Mavity, V	71.44	343	P		02 20 11.3	
	baz=163						
WHAR	Wooly Hollow	71.56	343	P	P	02 20 12.1	+1.4
WHAR				IAmb	IAmb	02 20 15.2	
	comp=Z,5.6nm,1.0s						
S59A	Mechanicsville	71.76	356	P		02 20 13.6	
	baz=176						
W39A	Magazine	71.85	342	P		02 20 14.0	
	baz=162						
W39A	Magazine	71.85	342	P	P	02 20 13.5	+1.1
LCAR	Lake Charles	72.05	344	P	P	02 20 14.2	+0.6
LCAR				IAmb	IAmb	02 20 15.2	
	comp=Z,8.6nm,0.8s						
MNTX	Cornudas Mount	72.47	331	P		02 20 16.4	
	baz=152						
MNTX	Cornudas Mount	72.47	331	P	P	02 20 16.2	-0.1
MNTX				IAmb	IAmb	02 20 17.8	
	comp=Z,5.8nm,1.0s						
U40A	Yellville	72.72	343	P		02 20 18.4	
	baz=163						
U40A	Yellville	72.72	343	P	P	02 20 18.9	+1.3
U40A				IAmb	IAmb	02 20 19.5	
	comp=Z,7.3nm,0.8s						
WMOK	Wichita Mounta	72.85	338	P		02 20 18.7	
	baz=158						
TUL1	Leonard	73.06	341	P		02 20 20.7	
	baz=160						
MAW	Mawson	73.10	164	LR	LR	02 51 59.1	
	comp=Z,410nm,19.0s,baz=232,slow=36						
MSTX	Muleshoe	73.50	334	P	P	02 20 23.3	+0.9
MSTX				IAmb	IAmb	02 20 24.6	
	comp=Z,8.3nm,0.9s						
P57A	Homestead Farm	73.52	356	P		02 20 24.0	
	baz=176						
319A	Douglas	73.83	328	P	P	02 20 25.1	+0.7
319A				IAmb	IAmb	02 20 27.9	
	comp=Z,17nm,1.1s						
AMTX	Amarillo	73.94	335	P	P	02 20 26.0	+1.0
AMTX				IAmb	IAmb	02 20 27.5	
	comp=Z,14nm,1.1s						
CCM	Cathedral Cave	73.97	345	P		02 20 25.8	
	baz=164						
CCM	Cathedral Cave	73.97	345	P	P	02 20 25.5	+0.6
CCM				IAmb	IAmb	02 20 27.0	
	comp=Z,15nm,1.0s						
P52A	Corning	74.02	352	P		02 20 26.2	
	baz=172						
121A	Cookes Peak, D	74.18	330	P		02 20 29.0	
	baz=150						
121A	Cookes Peak, D	74.18	330	P	P	02 20 27.5	+0.9
121A				IAmb	IAmb	02 20 30.1	
	comp=Z,14nm,1.1s						
T35A	Sooner Cattle	74.20	340	P	P	02 20 27.5	+1.1
T35A				IAmb	IAmb	02 20 28.6	
	comp=Z,13nm,1.0s						
R40A	Maddies Statio	74.42	344	P	P	02 20 28.4	+0.9
R40A				IAmb	IAmb	02 20 29.4	
	comp=Z,15nm,1.1s						
ACSO	Alum Creek Sta	74.71	352	P		02 20 29.8	
	baz=171						
ACSO	Alum Creek Sta	74.71	352	P	P	02 20 30.0	+0.8
N57A	Milroy	74.76	356	P		02 20 30.8	
	baz=176						
N60A	Cedar Hill Far	74.77	358	P		02 20 31.2	
	baz=178						
N58A	Sunbury	74.80	357	P		02 20 31.6	
	baz=177						
N59A	State Game Lan	74.84	358	P		02 20 31.9	
	baz=177						
TUC	Tucson	75.29	327	P		02 20 35.5	
	baz=148						
TUC	Tucson	75.29	327	P	P	02 20 33.6	+0.8
LIC	Lamto	75.32	72	eP	P	02 20 34.0	+0.6
	comp=Z,44nm,1.6s						
N49A	Columbus Grove	75.54	351	P	P	02 20 34.9	+0.9
P40A	Paris	75.56	345	P	P	02 20 35.2	+1.1
P40A				IAmb	IAmb	02 20 36.1	
	comp=Z,13nm,0.9s						
TIC	Toumodi	75.58	72	eP	P	02 20 34.4	-0.5
KIC	Kosan Boka	75.63	72	eP	P	02 20 35.9	+0.7
	comp=Z,13nm,0.8s						
DBIC	Dimbokro	75.73	72	P	P	02 20 35.9	+0.2
	comp=Z,4.2nm,0.7s,baz=206,slow=5.5,SNR=11						
DBIC				LR	LR	02 52 24.7	
	comp=Z,330nm,18.8s,baz=205,slow=35						
DBIC	Dimbokro	75.73	72	P	P	02 20 35.5	-0.1
DBIC				IAmb	IAmb	02 20 37.2	
	comp=Z,5.4nm,0.8s						
ANMO	Albuquerque	75.75	332	P		02 20 37.5	
	baz=152						
ANMO	Albuquerque	75.75	332	P	P	02 20 36.3	+0.7
ANMO				IAmb	IAmb	02 20 38.9	
	comp=Z,9.1nm,1.1s						
P38A	Dawn	75.99	344	P	P	02 20 37.4	+0.8
P38A				IAmb	IAmb	02 20 38.1	
	comp=Z,10nm,1.0s						
RAR	Rarotonga	76.11	254	LR	LR	02 44 07.0	
	comp=Z,46nm,21.4s,baz=110,slow=28						
L56A	Greenwood	76.13	356	P		02 20 38.7	
	baz=176						
X18A	Snowflake	76.82	329	P	P	02 20 42.3	+0.7
CBKS	Cedar Bluff	76.90	339	P	P	02 20 42.3	+0.5
T25A	Trinidad	76.92	334	P		02 20 44.3	
	baz=154						
N38A	Joes South For	77.03	344	P	P	02 20 43.2	+0.8
W18A	Petrified Fore	77.23	330	P		02 20 46.7	
	baz=149						
W18A	Petrified Fore	77.23	330	P	P	02 20 44.8	+0.8
W18A				IAmb	IAmb	02 20 48.0	
	comp=Z,16nm,1.1s						
SDCO	Great Sand Dun	77.86	334	P		02 20 49.4	
	baz=153						
SDCO	Great Sand Dun	77.86	334	P	P	02 20 47.7	+0.2
WUAZ	Wupatki	78.27	329	P		02 20 52.2	
	baz=148						
WUAZ	Wupatki	78.27	329	P	P	02 20 50.3	+0.6
WUAZ				IAmb	IAmb	02 21 00.9	
	comp=Z,4.8nm,0.8s						
S22A	4UR Ranch, Cre	78.35	333	P		02 20 52.0	
	baz=152						
MVCO	Mesa Verde	78.53	331	P		02 20 52.9	
	baz=151						
MVCO	Mesa Verde	78.53	331	P	P	02 20 51.7	+0.5
Q24A	Divide	78.81	335	P		02 20 54.6	
	baz=153						
G57A	Newington	78.99	358	P		02 20 53.9	
	baz=178						
PFO	Pinyon Flats O	79.03	324	P		02 20 56.9	
	baz=144						
PFO	Pinyon Flats O	79.03	324	LR	LR	02 50 24.9	
	comp=Z,155nm,19.2s,baz=142,slow=32						
PFO	Pinyon Flats O	79.03	324	P	P	02 20 54.7	+0.8
PV01	Paradox Valley	79.36	332	P	P	02 20 56.4	+0.6
PV01				IAmb	IAmb	02 20 59.0	
	comp=Z,6.6nm,1.1s						
U15A	North Rim	79.43	328	P	P	02 20 56.7	+0.4
U15A				IAmb	IAmb	02 20 59.8	
	comp=Z,8.4nm,1.0s						
PV02	Paradox Valley	79.49	332	P	P	02 20 57.1	+0.7
PV02				IAmb	IAmb	02 20 59.4	
	comp=Z,7.9nm,1.1s						
PV03	Paradox Valley	79.57	332	P	P	02 20 57.5	+0.6
GMRC	Granite Mounta	79.60	325	P		02 20 59.2	
	baz=145						
PV12	Saucer Basin,	79.61	332	P	P	02 20 57.6	+0.5
PV12				IAmb	IAmb	02 21 00.1	
	comp=Z,8.0nm,1.1s						
PV17	East Wray Mesa	79.64	332	P	P	02 20 57.7	+0.5
PV17				IAmb	IAmb	02 21 00.0	
	comp=Z,7.1nm,1.0s						
SMCO	Snowmass	79.66	334	P	P	02 20 58.1	+0.5
SMCO				IAmb	IAmb	02 21 01.0	
	comp=Z,6.8nm,0.9s						
ISCO	Idaho Springs	79.72	335	P	P	02 20 58.3	+0.5
PV14	Lion Creek, Pa	79.74	332	P	P	02 20 58.4	+0.6
PV14				IAmb	IAmb	02 21 00.7	
	comp=Z,7.8nm,1.1s						
K31A	O'Neill	80.14	341	P	P	02 20 59.8	+0.2
I37A	Lemond, Waseca	80.14	345	P	P	02 21 00.4	+0.9
KNB	Kanab	80.16	328	P	P	02 21 00.9	+0.8
LCMT	Little Creek M	80.34	328	P	P	02 21 01.4	+0.4
BOSA	Boshof	80.40	118	P	P	02 21 01.1	-0.6
	comp=Z,6.2nm,1.1s,baz=217,slow=5.7,SNR=4.9						
BOSA				LR	LR	02 54 15.9	
	comp=Z,156nm,18.1s,baz=210,slow=34						
E56A	St. Veronique	80.43	358	P		02 21 01.7	
	baz=178						
GSC	Goldstone, Bar	80.56	325	P		02 21 04.9	
	baz=144						
GSC	Goldstone, Bar	80.56	325	P	P	02 21 02.9	+0.8
ECSD	EROS Data Cent	80.62	343	P		02 21 03.0	
	baz=160						
ECSD	EROS Data Cent	80.62	343	P	P	02 21 03.2	+1.1
ECSD				IAmb	IAmb	02 21 04.1	
	comp=Z,13nm,1.0s						
MTPU	Mount Pierson	80.75	329	P	P	02 21 03.9	+0.5
MTPU				IAmb	IAmb	02 21 06.5	
	comp=Z,5.9nm,0.9s						
SZCU	Shurtz Canyon	80.76	329	P	P	02 21 04.0	+0.7
SHPR	Sheep Range	80.78	327	P	P	02 21 04.0	+0.7
EDW2	Edwards Air Fo	80.80	324	P		02 21 05.1	
	baz=144						
CCUT	Cedar City	80.84	328	P	P	02 21 04.4	+0.7
CCUT				IAmb	IAmb	02 21 07.6	
	comp=Z,11nm,1.1s						
E46A	Sault Ste Mari	80.92	352	P	P	02 21 04.3	+0.7
E46A				IAmb	IAmb	02 21 05.2	
	comp=Z,13nm,0.9s						
D55A	Sainte-Anne-du	80.92	358	P		02 21 04.1	
	baz=178						
D58A	Chemin du LacG	80.96	360	P		02 21 05.0	
	baz=180						
O20A	White River Ci	80.97	333	P		02 21 06.0	
	baz=151						
SPMN	Marine on St.	81.17	346	P	P	02 21 05.7	+0.7
SPMN				IAmb	IAmb	02 21 06.2	
	comp=Z,9.8nm,1.0s						
KOWA	Kowa	81.19	66	P	P	02 21 05.6	-0.2
KOWA				IAmb	IAmb	02 21 07.0	
	comp=Z,4.9nm,0.7s						
TPNV	Topopah Spring	81.64	326	P		02 21 09.3	
	baz=145						
ISA	Isabella, Lake	81.66	324	P		02 21 09.9	
	baz=143						
PKM	Mcpherson Peak	81.71	322	P		02 21 09.1	
	baz=142						
GRAC	Grapevine Rang	82.20	325	P		02 21 13.1	
	baz=144						
R11A	Troy Canyon, C	82.48	327	P		02 21 14.5	
	baz=146						
K22A	Casper	82.56	335	P		02 21 15.0	
	baz=152						
DUG	Dugway, Tooele	82.82	330	P		02 21 16.1	
	baz=148						
LSQQ	Lebel-sur-Quev	83.01	357	P		02 21 15.0	
	baz=176						
RSSD	Black Hills	83.06	338	P		02 21 16.5	
	baz=154						
RSSD	Black Hills	83.06	338	P	P	02 21 16.0	+0.7
LTZ	Lake Taylor	83.09	222	P	P	02 21 16.6	+1.0
URZ	Urewera	83.13	228	LR	LR	02 49 22.6	
	comp=Z,225nm,20.1s,baz=210,slow=29						
RPZ	Rata Peaks	83.14	221	LR	LR	02 50 30.4	
	comp=Z,242nm,18.3s,baz=154,slow=30						
RPZ	Rata Peaks	83.14	221	P	P	02 21 16.7	+0.9
EYMN	Ely	83.53	347	P		02 21 18.2	
	baz=164						
EYMN	Ely	83.54	347	P	P	02 21 18.2	+0.9
EYMN				IAmb	IAmb	02 21 19.3	
	comp=Z,7.5nm,1.1s						
PDAR	Pinedale Array	83.75	334	P	P	02 21 19.4	+0.5
	comp=Z,1.8nm,1.0s,baz=163,slow=4.0,SNR=11						
PDAR	Pinedale Array	83.75	334	P	P	02 21 19.5	+0.7
NVAR	Mina Array Bea	83.79	326	P	P	02 21 20.8	+1.6
	comp=Z,2.3nm,0.8s,baz=156,slow=6.1,SNR=17						
NVAR				LR	LR	02 55 39.1	
	comp=Z,79nm,18.7s,baz=170,slow=34						
NVAR	Mina Array Bea	83.79	326	P	P	02 21 19.9	+0.7
TORD	Torodi Ar. Bea	84.76	70	P	P	02 21 24.4	+0.1
	comp=Z,3.0nm,0.7s,baz=268,slow=3.7,SNR=9.4						
TORD				LR	LR	02 58 35.7	
	comp=Z,430nm,18.1s,baz=240,slow=35						
PAHR	Pah Rah Range	85.32	326	P	P	02 21 26.8	0.0
RLMT	Red Lodge	85.68	335	P		02 21 29.6	
	baz=150						
LAO	LASA Array	86.04	338	P		02 21 31.4	
	baz=153						
HLID	Hailey	86.29	331	P		02 21 33.8	
	baz=147						
ULM	Lac du Bonnet	86.59	345	P	P	02 21 32.6	0.0
	comp=Z,4.5nm,0.9s,baz=143,slow=4.7,SNR=8.6						
O03E	Paynes Creek	86.92	325	P		02 21 35.1	
	baz=141						
DGMT	Dagmar	87.03	340	P		02 21 36.3	
	baz=154						
N02D	Trinity Center	87.88	324	P		02 21 40.2	
	baz=141						
M04C	Macdoel	88.10	325	P		02 21 41.6	
	baz=141						
M02C	Callahan	88.28	325	P		02 21 42.3	
	baz=141						
EGMT	Eagleton	88.37	336	P		02 21 41.9	
	baz=150						
YBH	Yreka Blue Hor	88.47	325	P	P	02 21 42.6	+0.6
	comp=Z,4.4nm,0.9s,baz=92,slow=4.3,SNR=13						
L04D	Klamath Falls	88.66	326	P		02 21 43.8	
	baz=141						
K04D	Chiloquin, OR	88.71	326	P		02 21 44.9	
	baz=141						
J05D	Fort Rock, OR	88.99	327	P		02 21 46.5	
	baz=142						
J04D	Umpqua Nationa	89.36	326	P		02 21 48.1	
	baz=141						
ESDC	Sonseca Array	97.10	46	LR	LR	03 06 07.4	
	comp=Z,384nm,18.2s,baz=250,slow=35						
DZM	Mont Dzumac	100.70	234	eLR	LR	02 55 27.0	
	comp=Z,136nm,21.4s						
YKA	Yellowknife Ar	102.12	341	P	Pdif	02 22 43.0	-0.6
	comp=Z,0.4nm,0.7s,baz=137,slow=4.7,SNR=7.0						
YKA				PP	PP	02 26 56.6	+0.6
	comp=Z,0.3nm,0.7s,baz=134,slow=9.1,SNR=5.0						
ILAR	Eielson Array	114.18	333	PKP	PKPdf	02 27 27.6	-0.6
	comp=Z,0.4nm,0.9s,baz=202,slow=2.3,SNR=4.5						
ASAR	Alice Springs	117.13	207	PKP	PKPdf	02 27 34.1	-1.4
	comp=Z,0.2nm,0.5s,baz=233,slow=36,SNR=2.6						
WRA	Warramunga Arr	120.31	210	PKP	PKPdf	02 27 40.6	-1.0
	comp=Z,1.1nm,0.5s,baz=174,slow=1.5,SNR=21						
BRTR	Keskin Array B	122.38	61	PKP	PKPdf	02 27 44.9	-0.2
	comp=Z,1.7nm,0.7s,baz=199,slow=3.4,SNR=10						
BRTR	Keskin Array B	122.38	61		PKPdf	02 27 45.5	+0.4
AKASG	Malin Array Be	122.72	48	PKP	PKPdf	02 27 44.1	-1.0
	comp=Z,1.1nm,0.6s,baz=255,slow=2.8,SNR=6.8						
AKASG	Malin Array Be	122.72	48		PKPdf	02 27 44.6	-0.5
FINES	FINESS Array B	123.47	35	PKP	PKPdf	02 27 45.8	-0.4
	comp=Z,1.2nm,0.9s,baz=252,slow=18,SNR=1.5						
ARCES	ARCESS Array B	124.44	25	PKP	PKPdf	02 27 47.1	-0.8
	comp=Z,2.4nm,0.9s,baz=262,slow=0.9,SNR=4.9						
FITZ	Fitzroy Crossi	125.12	201	PKP	PKPdf	02 27 49.9	-1.0
	comp=Z,1.9nm,0.8s,baz=190,slow=5.3,SNR=6.2						
FITZ	Fitzroy Crossi	125.12	201		PKPdf	02 27 50.0	-0.8
H11S2	WAKE ISLAND Hy	125.27	269	T	T	04 46 30.8	
	baz=200,slow=74,SNR=3.7						
H11S1	WAKE ISLAND Hy	125.28	269	T	T	04 46 30.9	
	baz=130,slow=74,SNR=4.2						
H11S3	WAKE ISLAND Hy	125.28	269	T	T	04 46 28.4	
H11N3	WAKE ISLAND Hy	125.69	271	T	T	04 47 00.1	
	SNR=4.1						
H11N1	WAKE ISLAND Hy	125.70	271	T	T	04 46 59.1	
	baz=271,slow=74,SNR=2.8						
H11N2	WAKE ISLAND Hy	125.70	271	T	T	04 47 01.6	
	baz=123,slow=74,SNR=3.6						
KLMR	Klimovskoe	129.89	36	ePKPdf	PKPdf	02 27 57.4	-1.1
KLMR				AMP		02 28 00.8	
	comp=Z,14nm,1.3s						
ABKAR	Akbulak array	142.22	52		PKPpre	02 28 16.7	
HYB	Hyderabad	149.28	116	i PKP	PKPbc	02 28 39.0	-0.1
AML	Almayashu	152.52	63	P	PKiKP	02 28 47.8	+1.0
	SNR=8.2						
EKS2	Erkin-Say	152.53	62	P	PKiKP	02 28 47.5	+1.1
	SNR=8.8						
USP	Ospenovka	152.97	61	P	PKiKP	02 28 48.2	+1.0
	SNR=7.6						
AAK	Ala-Archa	153.06	62	P	PKiKP	02 28 48.3	+0.8
	SNR=8.1						
UCH	Uchtor	153.12	63	P	PKiKP	02 28 49.5	+1.5
	SNR=9.5						
KSH	Kashi	154.42	69	PKPbc	PKPdf	02 28 43.7	+1.7
KSH				sPKP		02 28 56.0	
KSH				PKS	PKSdf	02 32 15.9	-0.4
KSH				SKS	SKSdf	02 35 49.4	+0.3
ZALV	Zalesovo Beam	154.69	32	PKP	PKPdf	02 28 42.2	+0.5
	comp=Z,1.0nm,0.6s,baz=222,slow=2.0,SNR=7.0						
ZALV				PKPbc	PKPbc	02 28 50.0	-0.2
	comp=Z,7.1nm,0.7s,baz=305,slow=1.8,SNR=14						
MKAR	Makanchi Array	157.29	49	PKP	PKPdf	02 28 45.7	+0.3
	comp=Z,0.7nm,0.8s,baz=45,slow=1.9,SNR=6.4						
MKAR				PKPab	PKPab	02 29 16.8	+0.2
	comp=Z,1.1nm,0.6s,baz=304,slow=3.7,SNR=6.8						
MKAR	Makanchi Array	157.29	49	PKPdf	PKPdf	02 28 46.0	+0.5
WMQ	Urumqi	162.01	52	eP	PKPdf	02 28 50.6	-0.4
WMQ				pmax	pmax		
	comp=Z,94nm,3.9s						
CMAR	Chiang Mai Arr	162.59	152	PKP	PKPdf	02 28 51.5	-0.8
	comp=Z,0.8nm,0.3s,baz=294,slow=2.3,SNR=4.2						
CMAR	Chiang Mai Arr	162.59	152		PKPdf	02 28 52.1	-0.2
KSRS	Korea Array	163.02	287	PKPab	PKPab	02 29 43.7	+1.8
	comp=Z,0.7nm,0.4s,baz=150,slow=40,SNR=3.5						
SONM	Songino Array	166.39	3	PKP	PKPdf	02 28 54.5	-0.4
	comp=Z,0.7nm,0.8s,baz=48,slow=2.1,SNR=5.0						
SONM				PKPab	PKPab	02 29 57.7	+1.3
	comp=Z,3.1nm,0.8s,baz=333,slow=4.5,SNR=19						
NJ2	Nanjing	170.12	260	eP	PKPdf	02 28 57.9	+0.2
NJ2				pmax	pmax		

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,6.0nm,0.5s						
GTA	**Gaotai**	**172.05**	**47**	*e*P	**PKPdf**	**02 29 00.0**	**+1.3**
GTA				pP	sPKPdf	02 29 11.1	+10
GTA				sP	pPKPdf	02 29 16.8	+16
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**172.60**	**334**	*e*P	**PKPdf**	**02 29 00.7**	**+1.9**

*IDC **05** 02:13:56.9±1.5, 22°.06S×67°.10W, h160km±14km, mb3.5/2, mb1 3.8/4, mb1mx3.4/19, mbtmp4.2/4 Error ellipse: s-maj=43.4km s-min=15.5km az=140.0*
*SJA **05** 02:13:57.0±0.7, 22°.07S×67°.53W, h210km±7km, ML3.7, MW4.0*
*GUC **05** 02:13:58.6±0.8, 22°.03S×67°.77W, h204km±6km, ML3.5*
ISC 05 02:13:58.0±0.9**, 22°.09S**±0°.04×**67°.46W**±0°.05**, h187**km±8km**, n40,** σ1ˢ.43/69**, 3C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.44**	**249**	P	**Pn**	**02 14 31.2**	**+0.7**
	34nm,0.3s,baz=44,slow=6.1,SNR=414						
LVC				S	**Sn**	**02 14 55.9**	**+0.4**
	11nm,0.3s,baz=266,slow=22,SNR=11						
LVC	**Limon Verde**	**1.44**	**249**	*e*P	**Pn**	**02 14 31.2**	**+0.7**
LVC				*i* S	**Sn**	**02 14 56.3**	**+0.7**
LVC	**Limon Verde**	**1.44**	**249**	*e*P	**Pn**	**02 14 31.2**	**+0.7**
PB09	**IPOC Station P**	**1.68**	**280**	*e*P	**Pn**	**02 14 33.1**	**+0.6**
PB09				*i* S	**Sn**	**02 14 59.3**	**0.0**
PB09				IAML		02 15 02.9	
	comp=E,134nm,0.3s						
PB09	**IPOC Station P**	**1.68**	**280**	*e*P	**Pn**	**02 14 33.2**	**+0.6**
PB09				*e*S	**Sn**	**02 15 02.3**	**+3.0**
PB09				IAML		02 15 23.0	
	comp=Z,175nm,2.8s						
YJA	**Yavi**	**1.81**	**93**	*e*P	**Pn**	**02 14 34.2**	**+0.1**
YJA				*e*S	**Sn**	**02 15 00.5**	**-1.4**
YJA				IAML		02 15 02.9	
	comp=Z,151nm,0.6s						
PB06	**IPOC Station P**	**2.05**	**252**	⇑*i*P	**Pn**	**02 14 36.7**	**+0.4**
PB06				*i* S	**Sn**	**02 15 06.4**	**+0.4**
PB06				IAML		02 15 07.1	
	comp=N,286nm,0.2s						
PB06	**IPOC Station P**	**2.05**	**252**	*e*P	**Pn**	**02 14 36.8**	**+0.4**
PB06				*e*S	**Sn**	**02 15 06.4**	**+0.4**
PB06				IAML		02 15 12.1	
	comp=Z,125nm,0.3s						
PB01	**IPOC Station P**	**2.16**	**299**	*e*P	**Pn**	**02 14 37.4**	**0.0**
PB01				IAML		02 15 08.0	
	comp=N,251nm,0.4s						
PB01	**IPOC Station P**	**2.16**	**299**	*e*P	**Pn**	**02 14 37.6**	**+0.1**
PB01				*e*S	**Sn**	**02 15 07.4**	**-0.6**
PB01				IAML		02 15 09.4	
	comp=Z,204nm,0.1s						
PB15	**IPOC Station P**	**2.17**	**239**	*e*P	**Pn**	**02 14 38.4**	**+0.7**
PB15				*i* S	**Sn**	**02 15 09.1**	**+0.6**
PB15	**IPOC Station P**	**2.17**	**239**	*e*P	**Pn**	**02 14 38.5**	**+0.9**
PB15				*e*S	**Sn**	**02 15 08.9**	**+0.5**
PB15				IAML		02 15 15.0	
	comp=Z,642nm,0.1s						
PB07	**IPOC Station P**	**2.28**	**279**	*e*P	**Pn**	**02 14 38.9**	**+0.1**
PB07				*i* S	**Sn**	**02 15 09.1**	**-1.5**
PB07				IAML		02 15 11.3	
	comp=E,282nm,0.5s						
PB07	**IPOC Station P**	**2.28**	**279**	*e*P	**Pn**	**02 14 39.0**	**+0.1**
PB07				*e*S	**Sn**	**02 15 10.0**	**-0.7**
PB07				IAML		02 15 12.9	
	comp=Z,195nm,0.4s						
PB04	**IPOC Station P**	**2.50**	**264**	*e*P	**Pn**	**02 14 41.5**	**+0.2**
PB04				*i* S	**Sn**	**02 15 14.0**	**-1.1**
PB04	**IPOC Station P**	**2.50**	**264**	*e*P	**Pn**	**02 14 41.5**	**+0.2**
PB04				*e*S	**Sn**	**02 15 14.8**	**-0.2**
PB04				IAML		02 15 20.8	
	comp=Z,117nm,0.3s						
PB08	**IPOC Station P**	**2.50**	**321**	*e*P	**Pn**	**02 14 42.5**	**+0.8**
PB08				*i* S	**Sn**	**02 15 15.6**	**+0.1**
PB08				IAML		02 15 16.6	
	comp=E,119nm,0.7s						
PB08	**IPOC Station P**	**2.50**	**321**	*e*P	**Pn**	**02 14 42.4**	**+0.8**
PB08				*e*S	**Sn**	**02 15 15.2**	**-0.3**
PB05	**IPOC Station P**	**2.65**	**253**	*e*P	**Pn**	**02 14 43.1**	**+0.2**
PB05				*i* S	**Sn**	**02 15 16.5**	**-1.5**
PB05	**IPOC Station P**	**2.65**	**253**	*e*P	**Pn**	**02 14 43.2**	**+0.2**
PB05				*e*S	**Sn**	**02 15 16.9**	**-1.1**
HMBC	**Humberstone**	**2.90**	**308**	⇑*i*P	**Pn**	**02 14 45.1**	**-0.8**
HMBC				*i* S	**Sn**	**02 15 20.5**	**-2.8**
TA01	**Diego Aracena**	**2.96**	**300**	*e*P	**Pn**	**02 14 46.6**	**+0.1**
TA01				*i* S	**Sn**	**02 15 22.1**	**-2.2**
SLA	**San Lorenzo**	**3.17**	**146**	*e*P	**Pn**	**02 14 50.5**	**+1.2**
SLA				IAML		02 15 54.6	
	comp=Z,85nm,2.6s						
PB10	**IPOC Station P**	**3.19**	**243**	*e*P	**Pn**	**02 14 49.4**	**+0.1**
PB10				*i* S	**Sn**	**02 15 27.1**	**-2.2**
PB10	**IPOC Station P**	**3.19**	**243**	*e*P	**Pn**	**02 14 49.4**	**+0.1**
PB10				*e*S	**Sn**	**02 15 27.8**	**-1.6**
PB10				IAML		02 15 32.9	
	comp=Z,54nm,0.3s						
PSGC	**Pisagua**	**3.52**	**314**	⇑*i*P	**Pn**	**02 14 51.8**	**-1.7**
PSGC				*i* S	**Sn**	**02 15 32.6**	**-4.2**
PSGC				IAML		02 15 35.9	
	comp=N,76nm,0.4s						
PSGCX	**Pisagua**	**3.52**	**314**	*e*P	**Pn**	**02 14 51.9**	**-1.6**
PSGCX				IAML		02 15 40.8	
	comp=Z,49nm,0.2s						
MNMC	**Minye Minye**	**3.56**	**325**	*e*P	**Pn**	**02 14 54.0**	**-0.2**
MNMC				*i* S	**Sn**	**02 15 36.2**	**-1.9**
MNMCX	**Minye Minye**	**3.56**	**325**	*e*P	**Pn**	**02 14 54.0**	**-0.2**
MNMCX				IAML		02 15 40.0	
	comp=Z,120nm,0.4s						
PB14	**IPOC Station P**	**3.70**	**226**	⇓*i*P	**Pn**	**02 14 56.4**	**+0.5**
PB14				*i* S	**Sn**	**02 15 39.1**	**-2.1**
PB14				IAML		02 15 41.3	
	comp=E,55nm,0.2s						
PB14	**IPOC Station P**	**3.70**	**226**	*e*P	**Pn**	**02 14 56.1**	**+0.3**
PB14				*e*S	**Sn**	**02 15 39.5**	**-1.7**
PB14				IAML		02 15 41.7	
	comp=Z,70nm,0.2s						
AC01	**Pan de Azucar**	**4.95**	**215**	⇓*i*P	**Pn**	**02 15 10.9**	**-0.6**
AC01				*e*S	**Sn**	**02 16 06.3**	**-3.1**
LPAZ	**La Paz**	**5.81**	**354**	P	**Pn**	**02 15 23.6**	**+0.3**
	comp=Z,4.4nm,0.3s,baz=141,slow=5.2,SNR=48						
VCA	**Vinchina**	**6.65**	**186**	*e*P	**Pn**	**02 15 35.3**	**+1.6**
VCA				*e*S	**Sn**	**02 16 50.1**	**+0.7**
VCA				IAML		02 17 31.3	
	comp=Z,30nm,2.2s						
ACLC	**CERRO LA CRUZ**	**7.32**	**177**	*e*P	**Pn**	**02 15 42.9**	**+0.4**
ACLC				IAML		02 17 17.7	
	comp=Z,38nm,2.6s						
AGUA	**GUANDACOL**	**7.42**	**187**	*e*P	**Pn**	**02 15 44.8**	**+1.0**
AGUA				*e*S	**Sn**	**02 17 03.1**	**-4.5**
AGUA				IAML		02 17 46.6	
	comp=Z,28nm,2.7s						
SIV	**San Ignacio**	**8.56**	**46**	P	**Pn**	**02 15 55.3**	**-3.5**
	comp=Z,12nm,0.3s,baz=246,slow=8.1,SNR=86						
SIV				S	Sn	02 17 24.4	-10
	comp=Z,1.2nm,0.3s,baz=171,slow=16,SNR=6.5						
TORD	**Torodi Ar. Bea**	**76.29**	**70**	P	**P**	**02 25 26.7**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=257,slow=5.4,SNR=4.8						
YKA	**Yellowknife Ar**	**92.20**	**340**	P	**P**	**02 26 47.4**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=129,slow=4.6,SNR=5.1						
MKAR	**Makanchi Array**	**145.30**	**37**	PKPbc	**PKPdf**	**02 33 14.5**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=319,slow=5.0,SNR=1.7						

IDC 05 02:14:13.7±2.9**, 2°.07S**×**134°.83E, h0**km**, mb3.6**/2**, mb1 3.9**/4**, mb1mx3.6**/29**, mbtmp3.7**/4**, ML3.4**/2**, Error ellipse: s-maj=106.0km s-min=28.7km az=82.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.77**	**182**	P	P	02 18 23.5	0.0
	0.1nm,0.3s,baz=2.1,slow=13,SNR=13						
FITZ	**Fitzroy Crossi**	**18.30**	**209**	P	Pn	02 18 28.0	-1.2
	0.1nm,0.3s,baz=4.8,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**21.48**	**182**	P	P	02 19 04.5	+0.4
	3.4nm,0.7s,baz=7.1,slow=12,SNR=21						
MKAR	**Makanchi Array**	**66.95**	**324**	P	P	02 25 08.1	-0.2
	0.4nm,1.0s,baz=103,slow=6.2,SNR=1.9						

*RSPR **05** 02:24:53.8, 19°.55N×68°.49W, h47km±10km, MD3.4/8*
*NEIC **05** 02:24:53.6±0.7, 19°.5N±0°.1×68°.51W±0°.07, h47km±85km, Error ellipse: s-maj=16.9km s-min=5.8km az=208.0*
*OSPL **05** 02:24:56.6±2.4, 18°.55N×68°.53W, h0km±23km, ML3.3*
ISC 05 02:24:52.2±1.6**, 19°.4N**±0°.2×**68°.52W**±0°.03**, h19**km±5km**, n40,** σ**0ˢ.95**/56**, 8C-1D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDD	**Santo Domingo**	**1.63**	**234**	Pn	**Pn**	**02 25 20.4**	**+0.5**
SDD					**Sn**	**02 25 37.6**	**-2.7**
SDD				IAML		02 25 39.0	
	comp=E,372nm,0.4s						
SDD				IAML		02 25 44.9	
	comp=N,390nm,0.6s						
SDD	**Santo Domingo**	**1.63**	**234**	*i* P	**Pn**	**02 25 20.1**	**+0.2**
SDD				*e*S	**Sn**	**02 25 37.6**	**-2.7**
AGPR	**Aguadilla, PR**	**1.64**	**125**	⇑*e*P	**Pn**	**02 25 19.8**	**-0.3**
AGPR	**Aguadilla, PR**	**1.64**	**125**	*e*S	**Sn**	**02 25 40.4**	**-0.2**
AGPR	**Aguadilla, PR**	**1.64**	**125**		**Pn**	**02 25 19.8**	**-0.3**
AGPR					**Sn**	**02 25 40.4**	**-0.2**
AGPR	**Aguadilla, PR**	**1.64**	**125**	IAML		02 25 40.9	
	comp=E,437nm,0.6s						
AGPR				IAML		02 25 45.2	
	comp=N,322nm,0.6s						
AGPR	**Aguadilla, PR**	**1.64**	**125**	*i* P	**Pn**	**02 25 20.2**	**+0.2**
AGPR				*e*S	**Sn**	**02 25 39.8**	**-0.9**
AGPR				IAML		02 25 45.8	
	comp=Z,159nm,1.6s						
LSP	**Las Mesas**	**1.84**	**132**	⇑*e*P	**Pn**	**02 25 23.0**	**+0.1**
LSP	**Las Mesas**	**1.84**	**132**	*e*S	**Sn**	**02 25 45.6**	**-0.1**
LSP	**Las Mesas**	**1.84**	**132**		**Pn**	**02 25 23.0**	**+0.1**
LSP					**Sn**	**02 25 45.6**	**-0.1**
AOPR	**Arecibo Observ**	**1.99**	**122**	⇑*e*P	**Pn**	**02 25 24.8**	**-0.1**
AOPR	**Arecibo Observ**	**1.99**	**122**	*e*S	**Sn**	**02 25 48.7**	**-0.6**
AOPR	**Arecibo Observ**	**1.99**	**122**		**Pn**	**02 25 24.8**	**-0.1**
AOPR					**Sn**	**02 25 48.7**	**-0.6**
MLPR	**Magueyes Islan**	**2.01**	**136**	⇑*e*P	**Pn**	**02 25 25.1**	**-0.1**
MLPR				*e*S	**Sn**	**02 25 50.0**	**+0.1**
MLPR	**Magueyes Islan**	**2.01**	**136**		**Pn**	**02 25 25.1**	**-0.1**
MLPR					**Sn**	**02 25 50.0**	**+0.1**
BANI	**BANI**	**2.02**	**240**	*i* P	**Pn**	**02 25 25.5**	**+0.1**
BANI				*e*S	**Sn**	**02 25 49.4**	**-0.7**
SC01	**Santiago de lo**	**2.08**	**270**	*i* P	**Pg**	**02 25 31.9**	**-0.3**
SC01				*e*S	**Sg**	**02 26 01.3**	**+2.1**
SC01				IAML		02 26 13.6	
	comp=Z,174nm,0.3s						
GBPR	**Guanica, Bosqu**	**2.12**	**132**	⇓*e*P	**Pn**	**02 25 27.1**	**+0.5**
GBPR	**Guanica, Bosqu**	**2.12**	**132**	*e*S	**Sn**	**02 25 53.0**	**+0.4**
GBPR	**Guanica, Bosqu**	**2.12**	**132**		**Pn**	**02 25 27.1**	**+0.5**
GBPR					**Sn**	**02 25 53.0**	**+0.4**
OBIP	**Obispado Ponce**	**2.28**	**127**	⇑*e*P	**Pn**	**02 25 28.8**	**-0.1**
OBIP	**Obispado Ponce**	**2.28**	**127**	*e*S	**Sn**	**02 25 56.1**	**-0.3**
OBIP	**Obispado Ponce**	**2.28**	**127**		**Pn**	**02 25 28.8**	**-0.1**
OBIP					**Sn**	**02 25 56.1**	**-0.3**
OBIP	**Obispado Ponce**	**2.28**	**127**	IAML		02 25 58.4	
	comp=N,186nm,0.7s						
OBIP				IAML		02 25 59.6	
	comp=E,120nm,0.6s						
CELP	**Cerrillos**	**2.28**	**126**	⇑*e*P	**Pn**	**02 25 29.0**	**+0.2**
CELP	**Cerrillos**	**2.28**	**126**	*e*S	**Sn**	**02 25 56.1**	**-0.3**
CELP	**Cerrillos**	**2.28**	**126**		**Pn**	**02 25 29.0**	**+0.2**
CELP					**Sn**	**02 25 56.1**	**-0.3**
GCPR	**Guaynabo City**	**2.56**	**115**	Pn	**Pn**	**02 25 32.6**	**-0.1**
GCPR					**Sn**	**02 26 03.0**	**-0.4**
SJG	**San Juan**	**2.60**	**120**	Pn	**Pn**	**02 25 33.1**	**-0.2**
SJG					**Sn**	**02 26 02.0**	**-2.4**
SJG				IAML		02 26 08.7	
	comp=E,107nm,0.6s						
SJG				IAML		02 26 17.9	
	comp=E,119nm,0.5s						
SDDR	**Presa de Saban**	**2.65**	**261**	*i* P	**Pb**	**02 25 37.8**	**-1.3**
SDDR				*e*S	**Sb**	**02 26 14.4**	**+3.1**
SDDR				IAML		02 26 21.7	
	comp=Z,144nm,0.8s						
IGPR	**InterUniversit**	**2.71**	**122**	⇑*e*P	**Pn**	**02 25 35.3**	**+0.5**
IGPR	**InterUniversit**	**2.71**	**122**	*e*S	**Sn**	**02 26 06.8**	**-0.3**
IGPR	**InterUniversit**	**2.71**	**122**		**Sn**	**02 26 06.8**	**-0.3**
IGPR	**InterUniversit**	**2.71**	**122**	Pn	**Pn**	**02 25 34.8**	**0.0**
IGPR				IAML		02 26 13.0	
	comp=E,161nm,0.3s						
PDPR	**Patillas Dam,**	**2.75**	**120**	Pn	**Pn**	**02 25 35.3**	**0.0**
PDPR					**Sn**	**02 26 05.9**	**-2.2**
CBYP	**Canovanas**	**2.77**	**114**	Pn	**Pn**	**02 25 35.8**	**+0.1**
CBYP					**Sn**	**02 26 07.9**	**-0.8**
HUMP	**Col San Antoni**	**2.83**	**116**	⇑*e*P	**Pn**	**02 25 36.3**	**-0.2**
HUMP	**Col San Antoni**	**2.83**	**116**	*e*S	**Sn**	**02 26 09.7**	**-0.4**
HUMP	**Col San Antoni**	**2.83**	**116**		**Pn**	**02 25 36.3**	**-0.2**
HUMP					**Sn**	**02 26 09.7**	**-0.4**
HUMP	**Col San Antoni**	**2.83**	**116**	IAML		02 26 18.5	
	comp=E,62nm,0.2s						
HUMP				IAML		02 26 18.6	
	comp=N,69nm,0.6s						

WEL 05 02:29:58.0, 38°.9S±0°.4×**175°.7E**±0°.7**, h7**km±1km**, M1.0**/10**, ML1.3**/10**, MLv1.0**/10**, Error ellipse: s-maj=0.0km s-min=0.0km az=77.2, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.04**	**154**	P	Pg	02 29 60.0	+0.4
RATZ	**Rangitukua**	**0.11**	**47**	P	Pg	02 30 01.1	+0.7
RATZ				S	Sg	02 30 03.3	+1.2
RITZ	**Rihia Road**	**0.15**	**105**	P	Pg	02 30 01.9	+0.7
RITZ				S	Sg	02 30 04.6	+1.3
KRVZ	**Karewarewa**	**0.16**	**189**	P	Pg	02 30 02.1	+0.8
TMVZ	**Te Maari**	**0.18**	**172**	P	Pg	02 30 02.5	+0.9
WTVZ	**West Tongariro**	**0.19**	**200**	P	Pg	02 30 02.7	+0.9
ETVZ	**East Tongariro**	**0.20**	**171**	P	Pg	02 30 02.9	+0.9
OTVZ	**Oturere**	**0.22**	**181**	P	Pg	02 30 03.4	+0.9
TWVZ	**Taurewa**	**0.23**	**234**	P	Pg	02 30 03.4	+0.9
WATZ	**Wairara**	**0.24**	**12**	P	Pg	02 30 03.7	+1.0
NGZ	**Ngauruhoe**	**0.24**	**193**	P	Pg	02 30 03.7	+0.9
TUVZ	**Tukino**	**0.33**	**182**	P	Pb	02 30 05.6	-0.6
TLZ	**Tolley Road**	**0.62**	**350**	P	Pb	02 30 11.9	+0.8
MLZ	**Mavora Lakes**	**8.53**	**219**	P	Pn	02 32 04.1	+2.2

IDC 05 02:30:43.1±3.0**, 32°.66S**×**178°.49W, h0**km**, mb3.8**/2**, mb1 4.0**/3**, mb1mx3.7**/30**, mbtmp3.8**/3**, ML3.7**/1**, Error ellipse: s-maj=70.7km s-min=45.1km az=120.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.64**	**211**	Pn	Pn	02 32 21.6	-0.3
	1.5nm,0.3s,baz=274,slow=4.1,SNR=19						
URZ				Sn	Sn	02 33 32.8	-5.5
	1.9nm,0.3s,baz=234,slow=5.1,SNR=6.7						
ASAR	**Alice Springs**	**42.62**	**270**	P	P	02 38 41.0	-0.4
	0.3nm,0.4s,baz=113,slow=7.5,SNR=5.6						
WRA	**Warramunga Arr**	**43.81**	**275**	P	P	02 38 51.1	+0.1
	1.2nm,0.4s,baz=115,slow=7.6,SNR=25						
FINES	**FINESS Array B**	**147.10**	**338**	PKPbc	PKPbc	02 50 26.5	-0.7
	0.5nm,0.4s,baz=56,slow=3.7,SNR=6.4						

*MOS **05** 02:45:50.3±1.1, 33°.06N×139°.43E, h153km, mb4.5/32, Error ellipse: s-maj=9.1km s-min=4.5km az=93.0*
*BJI **05** 02:45:51.2±0.0, 33°.17N×139°.56E, h154km, mB4.9/22, mb4.5/31*
*NEIC **05** 02:45:53.7±0.8, 33°.12N±0°.07×139°.48E±0°.09, h172km±4km, mb4.7/210, Error ellipse: s-maj=11.2km s-min=10.4km az=94.0*
*NIED **05** 02:45:54.6, 33°.23N×139°.48E, h174km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.34; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$0.21; $M_{r\theta}$0.25; $M_{\theta\phi}$-0.73; $M_{\phi r}$-0.55; Fault plane solution: $M_0$1.06000×10^{16} NP1: ϕ_s200.00000°, δ67.00000°, λ32.00000°. NP2:ϕ_s97.00000°, δ61.00000°, λ154.00000°.*
*IDC **05** 02:45:54.5±0.4, 33°.10N×139°.18E, h172km±3km, mb3.9/28, mb1 4.1/31, mb1mx4.0/48, mbtmp4.4/31, MS3.2/4, Ms1 3.2/4, ms1mx2.9/35 Error ellipse: s-maj=11.1km s-min=7.7km az=77.0*
*JMA **05** 02:45:54.5±0.1, 33°.23N×139°.48E, h174km±1km, M4.7*
ISC 05 02:45:54.1±0.5**, 33°.19N**±0°.04×**139°.53E**±0°.04**, h169**km±3km**, n348,** σ**1ˢ.28**/333**, mb4.6**/143**, 26C-28D, Fault plane solution: NP1:**ϕ_s173.86948°, δ41.92783°, λ26.54800°. **NP2:**ϕ_s63.47853°, δ72.62361°, λ128.77936°. **Principal axes:** T Plg47.4980°, Azm14.4374°**;** N Plg36.7082°, Azm229.9860°**;** P Plg18.3549°, Azm125.6636°**;**
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.23**	**109**	P	**Pn**	**02 46 18.1**	**+1.4**
	471nm,0.3s,baz=111,slow=23,SNR=58						
JHJ				S	**Sn**	**02 46 38.6**	**+4.8**
	898nm,0.3s,baz=93,slow=23,SNR=7.5						
JHJ2	**Mitsune**	**0.26**	**108**	⇑P	**Pn**	**02 46 17.9**	**+1.2**
JHJ2	**Mitsune**	**0.26**	**108**	Pn	**Pn**	**02 46 16.8**	**+0.1**
JHJ2				Sn	**Sn**	**02 46 33.7**	**-0.3**
JHCJ	**Hachijojimakas**	**0.26**	**118**	⇑P	**Pn**	**02 46 17.8**	**+1.1**
JHCJ				*e*S	**Sn**	**02 46 35.9**	**+1.9**
JMKN	**Mikurajimanish**	**0.70**	**4**	P	**Pn**	**02 46 19.6**	**+1.0**
JMKN				*e*S	**Sn**	**02 46 38.6**	**+1.0**
JAOM	**Aogashimamukai**	**0.75**	**165**	P	**Pn**	**02 46 20.6**	**+1.6**
JAOM				*e*S	**Sn**	**02 46 39.8**	**+1.7**
JKO	**Kozu shima**	**1.04**	**342**	⇓P	**Pn**	**02 46 21.8**	**+0.8**
JKO				*e*S	**Sn**	**02 46 41.9**	**+0.1**
JIM2	**Oshima 3**	**1.52**	**357**	⇓P	**Pn**	**02 46 26.3**	**+1.0**
JIM2				*e*S	**Sn**	**02 46 50.5**	**+0.9**
JIZS	**Izushimoda**	**1.61**	**341**	⇓P	**Pn**	**02 46 27.0**	**+0.8**
JIZS				S	**Sn**	**02 46 51.6**	**+0.4**
TK02	**Tokai 2**	**1.66**	**297**	⇑P	**Pn**	**02 46 27.0**	**+0.6**
TK02				*e*S	**Sn**	**02 46 52.4**	**+0.9**
BSO3	**Boso 3**	**1.80**	**27**	⇑P	**Pn**	**02 46 29.3**	**+1.4**
TK04	**Tokai 4**	**1.82**	**311**	⇓P	**Pn**	**02 46 29.0**	**+0.8**
TK04				*e*S	**Sn**	**02 46 54.7**	**0.0**
JSG	**Sagara**	**1.85**	**323**		**Pn**	**02 46 28.7**	**0.0**
BSO1	**Boso 1**	**1.89**	**39**	⇑P	**Pn**	**02 46 29.9**	**+1.4**
BSO1				*e*S	**Sn**	**02 46 56.1**	**+0.7**
JOD2	**Odawara 2**	**2.10**	**350**	⇓P	**Pn**	**02 46 32.3**	**+0.8**
JOD2				*e*S	**Sn**	**02 47 01.0**	**+0.5**
JFNN	**Fujinakano**	**2.12**	**341**	⇓P	**Pn**	**02 46 32.7**	**+1.1**
JFNN				*e*S	**Sn**	**02 47 01.6**	**+0.8**
TTO2	**TONANKAI O.B.S**	**2.16**	**285**	⇑P	**Pn**	**02 46 32.1**	**+0.3**
TTO2				*e*S	**Sn**	**02 47 01.9**	**+0.8**
SHZ3	**Shizuoka 3**	**2.17**	**330**	P	**Pn**	**02 46 33.1**	**+0.8**
SHZ3				*e*S	**Sn**	**02 47 02.9**	**+0.9**
TTO1	**TONANKAI O.B.S**	**2.33**	**281**	⇑P	**Pn**	**02 46 34.0**	**+0.1**
JYN	**Shimob**	**2.44**	**341**	⇓P	**Pn**	**02 46 36.6**	**+1.1**
JIE	**Ise**	**2.64**	**298**	⇓P	**Pn**	**02 46 37.7**	**0.0**
JIE				S	**Sn**	**02 47 10.3**	**-1.3**
JRY	**Ryogami san**	**2.87**	**350**	⇓P	**Pn**	**02 46 41.5**	**+1.0**
JRY				*e*S	**Sn**	**02 47 16.7**	**-0.1**
INU	**Inuyama**	**2.99**	**317**	Pn	**Pn**	**02 46 41.8**	**-0.3**
JGF	**Kuroka**	**3.00**	**324**	Pn	**Pn**	**02 46 42.3**	**+0.1**
JYT	**Yasato**	**3.08**	**10**	Pn	**Pn**	**02 46 42.0**	**-1.1**
MJAR	**Matsushiro Arr**	**3.51**	**342**	P	**Pn**	**02 46 48.4**	**-0.3**
	7.1nm,0.3s,baz=127,slow=12,SNR=191						
MJAR				S	**Sn**	**02 47 31.0**	**-0.2**
	3.0nm,0.3s,baz=151,slow=12,SNR=1.5						
MJAR				LR	LR	02 48 18.9	
	comp=Z,345nm,18.4s,baz=5.0,slow=41						
MJAR	**Matsushiro Arr**	**3.51**	**342**		**Pn**	**02 46 48.2**	**-0.4**
MAJO	**Matsushiro**	**3.52**	**342**	P	**Pn**	**02 46 48.8**	**+0.2**
MAJO	**Matsushiro**	**3.52**	**342**	Pn	**Pn**	**02 46 48.8**	**+0.2**
MAT	**Matsushiro**	**3.52**	**342**	P	**Pn**	**02 46 48.9**	**+0.3**
MAT				S	**Sn**	**02 47 30.6**	**-0.6**
MJB9	**Matsu-Tunnel**	**3.52**	**342**		**Pn**	**02 46 48.8**	**+0.2**
JWT	**Wachi**	**4.00**	**303**	Pn	**Pn**	**02 46 54.1**	**-0.7**
JMN	**Monobe**	**4.75**	**278**	Pn	**Pn**	**02 47 03.3**	**-1.3**
JMM	**Marumori**	**4.78**	**12**	Pn	**Pn**	**02 47 04.1**	**-0.7**
JSD	**Sado**	**4.94**	**348**	Pn	**Pn**	**02 47 06.0**	**-1.0**
JHS	**Saijyo**	**5.62**	**290**	Pn	**Pn**	**02 47 14.9**	**-0.9**
JCJ	**Chichijima**	**6.50**	**159**	P	**Pn**	**02 47 24.1**	**-3.4**
	57nm,0.3s,baz=271,slow=23,SNR=71						
JCJ				S	**Sn**	**02 48 35.2**	**-5.9**
	125nm,0.3s,baz=206,slow=22,SNR=7.5						
JNU	**Nakatsue**	**7.25**	**272**	P	**Pn**	**02 47 36.8**	**-0.7**
	1.9nm,0.3s,baz=218,slow=3.8,SNR=7.7						
JNU				S	Sn	02 48 44.5	-15
	0.5nm,0.3s,baz=210,slow=22,SNR=1.3						
JNU	**Nakatsue**	**7.25**	**272**		**Pn**	**02 47 36.2**	**-1.3**
JTM	**Tenmabayashi**	**7.68**	**9**	Pn	**Pn**	**02 47 42.2**	**-0.8**
ERM	**Erimo**	**9.27**	**17**	⇓*e*P	**Pn**	**02 48 02.9**	**-1.1**
ERM	**Erimo**	**9.27**	**17**	Pn	**Pn**	**02 48 02.2**	**-1.8**
JEW	**Eniwo**	**9.75**	**8**	Pn	**Pn**	**02 48 08.5**	**-1.9**
KSRS	**Korea Array**	**10.39**	**297**	P	**Pn**	**02 48 19.0**	**+0.2**
	0.6nm,0.3s,baz=114,slow=13,SNR=34						
KSRS				LR	LR	02 52 00.0	
	comp=Z,98nm,18.1s,baz=110,slow=36						
KSAR	**Wonju Array Be**	**10.41**	**297**	P	**Pn**	**02 48 18.3**	**-0.8**
KSAR	**Wonju Array Be**	**10.41**	**297**		**Pn**	**02 48 18.3**	**-0.8**
KS19	**Wonju Array Si**	**10.45**	**298**	Pn	**Pn**	**02 48 18.6**	**-1.0**
ASAJ	**Asahikawa**	**11.17**	**11**	P	**Pn**	**02 48 26.8**	**-2.1**
	27nm,0.3s,baz=218,slow=12,SNR=66						
ASAJ				S	Sn	02 50 23.9	-8.8
	7.6nm,0.3s,baz=323,slow=24,SNR=5.3						
ASAJ	**Asahikawa**	**11.17**	**11**	P	**Pn**	**02 48 26.6**	**-2.3**
JKA	**Kamikawa-asahi**	**11.17**	**11**	Pn	**Pn**	**02 48 26.6**	**-2.3**
NMR	**Nemuro--Hokkai**	**11.26**	**24**	⇑*i*P	**Pn**	**02 48 28.5**	**-1.6**
GLVR	**Golovnino**	**11.53**	**22**	*e*P	**Pn**	**02 48 31.6**	**-1.9**
GLVR				*e*S	Sn	02 50 31.4	-10
GLVR				pmax	pmax		
	comp=Z,1μm,1.3s						
GLVR				pmax	pmax		
	comp=N,56nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,136nm,0.3s						
RUSJ	**Misakicho**	**11.77**	**21**	*e*P	**Pn**	**02 48 36.0**	**-0.7**
RUSJ				*e*S	**Sn**	**02 50 41.2**	**-5.9**
GRPR	**Tuman**	**11.83**	**23**	*e*P	**Pn**	**02 48 36.6**	**-0.9**
GRPR				*e*S	Sn	02 50 40.0	-8.6
GRPR				pmax	pmax		
	comp=Z,171nm,0.3s						
GRPR				pmax	pmax		
	comp=N,57nm,0.1s						
GRPR				pmax	pmax		
	comp=E,52nm,0.1s						
TEY	**Ternei**	**12.04**	**350**	*e*P	**Pn**	**02 48 38.9**	**-1.3**
USA0B	**Ussuriysk Arra**	**12.46**	**334**	*de*P	**Pn**	**02 48 44.2**	**-1.4**
USA0B	**Ussuriysk Arra**	**12.46**	**334**	Pn	**Pn**	**02 48 44.5**	**-1.1**
USRK	**Ussuriysk Ar.**	**12.46**	**334**	P	**Pn**	**02 48 44.6**	**-1.0**
	baz=146,slow=12,SNR=56						
USRK	**Ussuriysk Ar.**	**12.46**	**334**	Pn	**Pn**	**02 48 42.9**	**-2.7**
MDJ	**Mudanjiang**	**13.77**	**329**	P	**Pn**	**02 49 02.6**	**+0.4**
MDJ				pmax	pmax		
	comp=E,30nm,0.6s						
MDJ				pmax	pmax		
	comp=E,290nm,3.7s						
MDJ	**Mudanjiang**	**13.77**	**329**	Pn	**Pn**	**02 49 01.8**	**-0.4**
YSS	**Yuzh-Sakhalins**	**13.96**	**9**	⇓*i*P	**Pn**	**02 49 03.5**	**-1.1**
YSS				pmax	pmax		
	comp=Z,63nm,0.5s						
YSS	**Yuzh-Sakhalins**	**13.96**	**9**	Pn	**Pn**	**02 49 02.7**	**-1.9**
KLR	**Kul'dur**	**17.04**	**342**	P	**P**	**02 49 39.7**	**-1.6**
	comp=Z,5.6nm,0.3s,baz=149,slow=10,SNR=208						
KLR				LR	LR	02 56 17.6	
	comp=Z,77nm,18.9s,baz=44,slow=36						
KLR	**Kul'dur**	**17.04**	**342**	⇑*i*P	**P**	**02 49 39.7**	**-1.6**
KLR				pmax	pmax		
	comp=Z,66nm,0.7s						
NJ2	**Nanjing**	**17.46**	**272**	*e*P	**Pn**	**02 49 46.9**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GRNR	**Gornyy**	**17.71**	**354**	⇓*i*P	**P**	**02 49 48.8**	**+0.1**
GRNR				*e*S	**S**	**02 52 58.2**	**-5.6**
GRNR				pmax	pmax		
	comp=E,4.0nm,0.7s						
GRNR				pmax	pmax		
	comp=N,9.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GRNR				smax	smax		
	comp=N,5.0nm,0.7s						
TYV	**Tymovskoe**	**17.81**	**6**	*e*P	**Pn**	**02 49 53.6**	**+2.3**
TYV				*e*S	**S**	**02 53 07.8**	**+2.3**
TYV				pmax	pmax		
	comp=Z,114nm,0.6s						
TYV				pmax	pmax		
	comp=Z,700nm,4.5s						
TYV				smax	smax		
	comp=E,11nm,1.3s						
TYV				smax	smax		
	comp=E,700nm,7.5s						
WHN	**Wuhan**	**21.53**	**270**	⇑P	**P**	**02 50 35.2**	**+5.2**
WHN				PP	**pwP**	**02 51 07.1**	**+3.4**
ZEA	**Zeya**	**22.32**	**341**	*e*P	**P**	**02 50 38.2**	**+0.5**
ZEA				pmax	pmax		
	comp=N,40nm,0.9s						
ZEA				pmax	pmax		
	comp=E,30nm,0.8s						
ZEA				pmax	pmax		

comp=Z,80nm,0.8s
HHC Hu-ho-hao-te 23.53 297 eP P 02 50 50.2 +1.2
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.4s
PEA0B Petropavlovsk- 23.79 28⇑ eP P 02 50 53.7 +2.6
PETK Petropavlovsk- 23.79 28 P P 02 50 52.9 +1.8
comp=Z,8.0nm,0.7s,baz=232,slow=5.9,SNR=13
PETK LR LR 03 01 34.9
comp=Z,82nm,18.6s,baz=36,slow=39
MA2 Magadan 27.43 12 P P 02 51 25.2 +1.4
comp=Z,8.2nm,0.7s,baz=203,slow=8.9,SNR=11
MA2 Magadan 27.43 12⇑ iP P 02 51 24.6 +0.8
MA2 pmax pmax
comp=Z,20nm,2.5s
MA2 Magadan 27.43 12 P P 02 51 24.5 +0.7
MA2 IAmb IAmb 02 51 40.5
comp=Z,8.3nm,0.7s
H11N2 WAKE ISLAND Hy 27.83 112 T T 03 20 40.9
baz=306,slow=75,SNR=20
H11N1 WAKE ISLAND Hy 27.84 112 T T 03 21 01.6
baz=306,slow=75,SNR=22
H11N3 WAKE ISLAND Hy 27.85 112 T T 03 20 38.6
baz=306,slow=75,SNR=21
H11S3 WAKE ISLAND Hy 28.38 114 T T 03 21 26.1
baz=307,slow=75,SNR=14
H11S1 WAKE ISLAND Hy 28.38 114 T T 03 21 26.9
baz=307,slow=75,SNR=14
H11S2 WAKE ISLAND Hy 28.40 114 T T 03 21 27.3
baz=307,slow=75,SNR=6.6
SONM Songino Array 28.87 310 P P 02 51 35.9 -1.0
comp=Z,1.2nm,0.7s,baz=106,slow=8.3,SNR=9.8
SONM ScP ScP 02 58 05.3 -2.0
comp=Z,1.2nm,0.8s,baz=125,slow=3.1,SNR=7.0
SONM Songino Array 28.87 310 P P 02 51 36.1 -0.8
SONM ScP 02 58 05.4 -2.0
LZH Lanzhou 29.40 286 eP P 02 51 44.4 +2.6
LZH pP pP 02 52 16.2 +0.1
LZH sP sP 02 52 37.5 +2.2
LZH pmax pmax
comp=Z,12nm,1.1s
BOD Bodaibo 30.09 333 eP P 02 51 47.5 +0.2
BOD pmax pmax
comp=Z,11nm,1.1s
CD2 Chengdu 30.32 276 eP P 02 51 49.6 -0.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SEY Seymchan 30.85 11 P P 02 51 55.4 +1.4
comp=Z,2.7nm,0.7s,baz=207,slow=5.2,SNR=13
SEY Seymchan 30.85 11⇓ iP P 02 51 56.1 +2.1
TLY Talaya 31.86 316 P P 02 52 03.2 +0.2
comp=Z,2.7nm,0.6s,baz=164,slow=3.2,SNR=5.4
TLY Talaya 31.86 316⇑ eP P 02 52 04.0 +1.0
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY Talaya 31.86 316 P P 02 52 02.3 -0.7
GTA Gaotai 32.41 293 eP P 02 52 05.3 -2.8
GTA pP pP 02 52 39.5 -3.2
GTA sP sP 02 52 59.3 -2.5
GTA pmax pmax
comp=Z,1.0nm,0.6s
GTA pmax pmax
comp=Z,55nm,5.2s
GTA LR LR
comp=Z,150nm,14.5s
GTA LR LR
comp=Z,88nm,13.1s
GTA LR LR
comp=Z,120nm,16.4s
WMQ Urumqi 41.32 300 eP P 02 53 24.8 +1.6
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ pmax pmax
comp=Z,190nm,5.5s
SPIA Saint Paul Isl 41.48 39 P 02 53 26.4
baz=257
NIKH Nikolski High 41.51 46 P 02 53 26.2
baz=263
ZALV Zalesovo Beam 43.46 315 P P 02 53 38.8 -1.4
comp=Z,2.9nm,0.7s,baz=112,slow=7.8,SNR=7.0
ZALV PcP PP 02 55 24.1 -0.5
comp=Z,1.9nm,0.4s,baz=92,slow=2.7,SNR=6.0
ZALV ScP ScP 02 58 57.5 -3.1
comp=Z,0.6nm,0.5s,baz=97,slow=3.6,SNR=4.1
FALS False Pass 44.91 43 P 02 53 52.6
baz=265
MK31 Makanchi Array 44.95 305⇓ iP P 02 53 51.0 -1.2
MK31 Makanchi Array 44.95 305 P P 02 53 51.1 -1.1
MKAR Makanchi Array 44.95 305 P P 02 53 51.1 -1.1
comp=Z,2.0nm,0.8s,baz=86,slow=9.2,SNR=19
MKAR ScP ScP 02 59 04.8 -2.2
comp=Z,1.2nm,0.7s,baz=82,slow=5.4,SNR=7.1
MKAR Makanchi Array 44.95 305 P P 02 53 50.8 -1.4
MKAR ScP ScP 02 59 05.1 -1.8
MAKZ Makanchi 45.17 305 P P 02 53 53.2 -0.7
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
MAKZ Makanchi 45.17 305 P P 02 53 53.2 -0.7
NRIK Noril'sk 46.15 337 P P 02 54 01.5 +0.3
comp=Z,4.7nm,0.5s,baz=100,slow=12,SNR=4.3
NRIK ScP ScP 02 59 10.3 -1.1
comp=Z,5.3nm,0.8s,baz=99,slow=4.2,SNR=3.4
NRIK Noril'sk 46.15 337⇓ eP P 02 54 02.7 +1.5
NRIK pmax pmax
comp=Z,6.0nm,0.7s
SDPT Sand Point 46.63 43 P 02 54 06.2
baz=267
CNBA Chernabura Isl 47.12 44 P P 02 54 09.5 +0.6
CHNA Chernabura Isl 47.12 44 P 02 54 10.5
baz=269
KURK Kurchatov 47.17 311 P P 02 54 08.3 -1.1
KURK Kurchatov 47.17 311 P P 02 54 08.3 -1.1
KURBB Kurchatov Arra 47.23 311 P P 02 54 08.3 -1.6
comp=Z,3.2nm,0.7s,baz=88,slow=7.7,SNR=24
RDOG Red Dog Mine 47.63 25 P P 02 54 12.3 -0.4
RDOG lAmb lAmb 02 54 15.8
comp=Z,10nm,0.8s
RDOG Red Dog Mine 47.63 25 P 02 54 15.1
baz=253,SNR=7.9
CHGN Chignik 47.83 42 P 02 54 16.0
baz=268
MDOK Medeo 49.09 301 eP P 02 54 23.4 -1.0
baz=301
MDOK Medeo 49.09 301 eP P 02 54 23.4 -1.0
TTA Tatalina 49.47 33 P P 02 54 26.0 -0.8
TTA pmax pmax
comp=Z,7.0nm,0.9s
TTA Tatalina 49.47 33 P P 02 54 26.0 -0.8
TTA Tatalina 49.47 33 P 02 54 29.2
baz=264,SNR=6.6
SVW2 Sparrevohn 49.52 35 P P 02 54 26.7 -0.5
SVW2 lAmb lAmb 02 54 32.0
comp=Z,16nm,1.1s
SII Sitkinak Islan 50.18 41 P 02 54 33.7
baz=272
A21K Barrow 50.59 22 P P 02 54 34.9 -0.1
A21K Barrow 50.59 22 P 02 54 37.2
baz=257,SNR=9.4
KSH Kashi 50.64 296 P P 02 54 38.2 +2.0
KSH pP pP 02 55 13.4 0.0
KSH ScS ScS 03 04 11.8 +2.1
KSH pmax pmax
comp=Z,49nm,2.1s
KSH pmax pmax
comp=Z,360nm,6.5s
OHAK Old Harbor 50.65 40 P 02 54 37.1
baz=272
IMAR Indian Mountai 50.74 29 P P 02 54 36.5 +0.1
BTLS Baital 50.88 304 eP P 02 54 36.5 -1.2
baz=304
BTLS Baital 50.88 304 eP P 02 54 36.4 -1.2
RSO Redoubt South 50.89 36 P P 02 54 37.3 -0.5
KDAK Kodiak Island 51.01 40 P P 02 54 39.9 +1.5
comp=Z,27nm,0.6s,baz=285,slow=4.5,SNR=82
KDAK Kodiak Island 51.01 40c iP P 02 54 40.0 +1.6
KDAK pmax pmax
comp=Z,53nm,0.9s
KDAK Kodiak Island 51.01 40 P P 02 54 38.9 +0.5
KDAK Kodiak Island 51.01 40 P 02 54 40.2
baz=272
BRZS Berezniki 51.03 310 eP P 02 54 37.9 -0.9
baz=310
BRZS Berezniki 51.03 310 eP P 02 54 37.8 -0.9
CHUM Lake Minchumin 51.20 32 P 02 54 42.6
baz=267,SNR=7.8
PPLA Purkeypile 51.21 33 P P 02 54 42.5 +2.4
PPLA lAmb lAmb 02 54 43.5
comp=Z,18nm,0.6s
PPLA Purkeypile 51.21 33 P 02 54 42.8
baz=268,SNR=8.6
HOM Homer 51.45 37 P 02 54 43.6
baz=271
SKT Skwentna 51.49 34 P P 02 54 43.0 +1.0
SKT lAmb lAmb 02 54 45.0
comp=Z,12nm,0.7s
SKT Skwentna 51.49 34 P 02 54 43.7
baz=269,SNR=8.4
CNPM China Poot 51.66 37 P P 02 54 43.2 0.0
CNPM lAmb lAmb 02 54 46.8
comp=Z,14nm,0.7s
CAPN Captain Cook N 51.68 36 P 02 54 45.0
baz=271
BPAW Bear Paw Mtn. 51.79 32 P P 02 54 45.1 +1.0
BPAW Bear Paw Mtn. 51.79 32 P 02 54 46.6
baz=268,SNR=7.9
KTH Kantishna Hill 51.80 32 P P 02 54 44.6 +0.3
KTH lAmb lAmb 02 54 47.9
comp=Z,11nm,1.0s
BRLK Bradley Lake 51.83 37 P P 02 54 44.5 -0.1
SUA Susitna One 51.87 35 P P 02 54 45.2 +0.3
SUA lAmb lAmb 02 54 48.1
comp=Z,23nm,0.8s
SUA Susitna One 51.87 35 P 02 54 46.4
baz=270,SNR=14
BRSE Bradley Lake S 51.91 37 P 02 54 48.0
baz=272,SNR=7.6
MLY Manley 51.93 30 P 02 54 47.5
baz=268,SNR=16
TRF Thorofare Moun 52.08 32 P P 02 54 46.6 +0.1
TRF Thorofare Moun 52.08 32 P 02 54 48.4
baz=269
CUT Chulitna 52.09 34 P 02 54 47.9
baz=270
BRVK Borovoye 52.14 314⇑ eP P 02 54 46.5 -0.4
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 52.14 314 P P 02 54 46.5 -0.4
COLD Coldfoot 52.26 28 P 02 54 49.7
baz=266
RC01 Rabbit Creek A 52.36 35 P 02 54 49.7
baz=272,SNR=6.3
O22K Cooper Landing 52.39 36 P P 02 54 48.6 0.0
O22K Cooper Landing 52.39 36 P 02 54 50.2
baz=272
I23K Minto, Yukon-K 52.52 30 P P 02 54 49.4 0.0
I23K PcP 02 55 58.7 +1.2
I23K Minto, Yukon-K 52.52 30 P 02 54 51.9
baz=269,SNR=5.7
SEW Seward 52.54 37 P P 02 54 49.8 +0.1
SEW Seward 52.54 37 P 02 54 51.0
baz=273,SNR=6.7
TOLK Toolik Lake Re 52.59 26 P P 02 54 50.4 +0.3
TOLK lAmb lAmb 02 54 54.0
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 52.59 26 P 02 54 52.5
baz=266,SNR=15
NEA2 Nenana 52.63 31 P 02 54 52.5
baz=270,SNR=6.8
PMR Palmer 52.64 35 P P 02 54 50.7 +0.3
PMR pmax pmax
comp=Z,22nm,1.0s
PMR Palmer 52.64 35 P P 02 54 50.6 +0.3
PMR lAmb lAmb 02 54 52.9
comp=Z,22nm,1.0s
PMR Palmer 52.64 35 P 02 54 51.9
baz=272,SNR=7.3
MCK McKinley 52.69 32 P 02 54 52.6
baz=270,SNR=12
FITZ Fitzroy Crossi 52.70 197 P P 02 54 50.0 -1.4
comp=Z,2.3nm,0.6s,baz=199,slow=9.4,SNR=3.9
FITZ Fitzroy Crossi 52.70 197 P P 02 54 49.7 -1.6
RND Reindeer 52.73 32 P P 02 54 51.2 0.0
RND pmax pmax
comp=Z,18nm,0.7s
RND Reindeer 52.73 32 P P 02 54 51.2 0.0
RND lAmb lAmb 02 54 53.7
comp=Z,18nm,0.7s
GHO Glory Hole Cre 52.73 35 P P 02 54 51.0 -0.3
WAT2 Susitna Watana 52.86 33 P 02 54 53.5
baz=271
KNK Knik Glacier 52.97 35 P P 02 54 52.8 -0.1
KNK Knik Glacier 52.97 35 P 02 54 54.5
baz=272,SNR=6.8
MDM Murphy Dome 52.99 31 P P 02 54 52.9 -0.2
SML Sawmill 53.01 34 P P 02 54 53.1 -0.1
SML Sawmill 53.01 34 P 02 54 55.0
baz=272,SNR=5.7
WRH Wood River Hil 53.06 31 P P 02 53.4 0.0
WRH lAmb lAmb 02 54 57.5
comp=Z,7.3nm,0.8s
WRAB Tennant Creek 53.06 186⇓ eP P 02 54 52.1 -1.8
WRAB pmax pmax
comp=Z,10.0nm,1.6s
WRA Warramunga Arr 53.07 186 P P 02 54 52.2 -1.8
comp=Z,3.2nm,0.6s,baz=1.3,slow=7.8,SNR=25
WRA ScP ScP 02 59 41.0 -0.7
comp=Z,0.7nm,0.8s,baz=1.0,slow=4.4,SNR=4.6
TCOL CIGO, UAF Yank 53.15 31 P P 02 54 54.1 0.0
TCOL lAmb lAmb 02 54 57.9
comp=Z,13nm,0.8s
COLA College 53.16 31 P P 02 54 55.0 +0.9
COLA pmax pmax
comp=Z,14nm,0.8s
COLA College 53.16 31 P P 02 54 55.0 +0.9
COLA lAmb lAmb 02 54 57.9
comp=Z,14nm,0.8s
COLA College 53.16 31 P 02 54 56.6
baz=270
CCB Clear Creek Bu 53.18 31 P P 02 54 54.5 +0.2
POKR Poker Plat Res 53.33 30 P P 02 54 55.5 +0.1
POKR lAmb lAmb 02 54 59.1
comp=Z,20nm,0.8s
POKR Poker Plat Res 53.33 30 P 02 54 57.7
baz=271,SNR=9.9
CTA Charters Tower 53.37 172 P P 02 54 56.0 -0.2
comp=Z,2.2nm,0.4s,baz=359,slow=10,SNR=5.0
CTA Charters Tower 53.37 172 P P 02 54 56.0 -0.2
SCM Sheep Creek Mo 53.49 34 P P 02 54 56.9 +0.2
SCM pmax pmax
comp=Z,40nm,0.9s
SCM Sheep Creek Mo 53.49 34 P P 02 54 56.9 +0.2
HDA Harding Lake 53.55 31 P P 02 54 57.1 0.0
HDA lAmb lAmb 02 54 59.3
comp=Z,18nm,1.0s
HDA Harding Lake 53.55 31 P 02 54 58.1
baz=272,SNR=16
HDA P 02 54 58.1
baz=272,SNR=16
IL31 53.57 31 P P 02 54 57.3 +0.2
IL31 lAmb lAmb 02 54 59.4
comp=Z,8.9nm,0.9s
IL31 PcP 02 56 01.4 -0.1
ILAR Eielson Array 53.57 31 P P 02 54 58.4 +1.2
comp=Z,4.8nm,0.7s,baz=275,slow=6.0,SNR=52
ILAR ScP ScP 02 59 44.8 +1.5
comp=Z,0.2nm,0.7s,baz=259,slow=4.2,SNR=1.9
GLI Glacier Island 53.66 36 P P 02 54 57.9 0.0
GLI Glacier Island 53.66 36 P 02 54 59.5
baz=274,SNR=9.1
KK31 Karatay Array 53.78 302 P P 02 54 58.3 -0.8
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KK31 Karatay Array 53.78 302 P P 02 54 58.3 -0.8
KKAR Karatay Array 53.78 302 P P 02 54 58.3 -0.8
KKAR Karatay Array 53.78 302 P P 02 54 58.3 -0.8
KKAR Karatay Array 53.78 302 P P 02 54 58.3 -0.8
KKAR lAmb lAmb 02 54 58.9
comp=Z,2.8nm,0.8s
FID Port Fidalgo 53.97 36 P P 02 54 59.9 -0.3
M24K Tolsona, Glenn 54.01 34 P P 02 55 00.5 0.0
M24K Tolsona, Glenn 54.01 34 P 02 55 02.9
baz=274
PRP Porcupine Dome 54.12 30 P P 02 55 01.3 -0.1
PRP Porcupine Dome 54.12 30 P 02 55 03.2
baz=272
Q23K Middleton Isla 54.16 37 P 02 55 03.7
baz=276
KLU Klutina 54.18 35 P P 02 55 01.7 -0.1
KLU lAmb lAmb 02 55 05.0
comp=Z,14nm,0.8s
KLU Klutina 54.18 35 P 02 55 04.0
baz=275,SNR=5.3
FYU Fort Yukon 54.21 28 P P 02 55 01.9 +0.2
FYU lAmb lAmb 02 55 05.9
comp=Z,24nm,1.2s
PAX Paxson 54.28 33 P P 02 55 02.4 -0.1
PAX pmax pmax
comp=Z,9.0nm,0.8s
PAX Paxson 54.28 33 P P 02 55 02.4 -0.1
PAX lAmb lAmb 02 55 05.6
comp=Z,8.8nm,0.8s
PAX Paxson 54.28 33 P 02 55 04.1
baz=274,SNR=6.3
EYAK Cordova Ski Ar 54.35 36 P 02 55 05.3
baz=275
IUG Iuzhnay 54.36 301 eP P 02 55 02.9 -0.6
baz=301
IUG Iuzhnay 54.36 301 eP P 02 55 02.8 -0.6
BMAR Burnt Mountain 54.44 27 P P 02 55 03.6 +0.1
BMAR PcP PcP 02 56 04.8 -0.1
N25K Chitina, Valde 54.80 35 P P 02 55 06.1 -0.1
N25K Chitina, Valde 54.80 35 P 02 55 08.7
baz=276
DOT Dot Lake 54.86 32 P P 02 55 06.5 -0.1
DOT lAmb lAmb 02 55 09.1
comp=Z,12nm,0.7s
BMRM Bremner River 54.86 35 P 02 55 08.7
baz=276,SNR=7.1
SCRK Sand Creek 54.87 32 P 02 55 08.3
baz=274,SNR=17
MENT Mentasta 55.08 33 P P 02 55 08.2 +0.1
MCARA McCarthy VSAT 55.58 35 P P 02 55 11.7 0.0
MCARA McCarthy VSAT 55.58 35 P 02 55 14.2
baz=277,SNR=8.3
CRQE Cirque 55.62 35 P 02 55 14.4
baz=278
K27K Chicken 55.70 31 P P 02 55 12.6 +0.1
K27K lAmb lAmb 02 55 16.0
comp=Z,16nm,0.9s
K27K Chicken 55.70 31 P 02 55 15.0
baz=276
TGL Tana Glacier 55.75 35 P P 02 55 12.8 -0.3
BCAR Beaver Creek A 55.94 33 P P 02 55 14.4 0.0
EGAK Eagle 56.02 31 P P 02 55 14.8 +0.1
EGAK lAmb lAmb 02 55 17.2
comp=Z,8.0nm,0.6s
EGAK Eagle 56.02 31 P 02 55 16.2
baz=276,SNR=8.2
YAH Yahtse 56.34 36 P P 02 55 17.3 -0.1
YAH lAmb lAmb 02 55 20.4
comp=Z,14nm,0.7s
CTG Chitna Glacier 56.44 35 P 02 55 20.3
baz=279,SNR=6.0
CTGM Chitina Glacie 56.45 35 P P 02 55 17.8 -0.2
CTGM lAmb lAmb 02 55 21.3
comp=Z,14nm,0.7s
AS31 Alice Springs 56.79 186 P P 02 55 19.0 -1.8
ASAR Alice Springs 56.80 186 P P 02 55 19.2 -1.5
comp=Z,1.0nm,0.5s,baz=0.6,slow=6.2,SNR=11
ASAR ScP ScP 02 59 58.1 +0.1
comp=Z,0.4nm,0.7s,baz=2.9,slow=5.6,SNR=3.1
ASAR Alice Springs 56.80 186 P P 02 55 19.3 -1.4
ASAR Alice Springs 56.80 186 P P 02 55 19.3 -1.4
ARU Arti 58.25 320c iP P 02 55 29.5 -1.1
ARU S S 03 03 22.0 +3.0
ARU SS SS 03 07 17.5 +4.5
ARU pmax pmax
comp=Z,15nm,1.6s
INK Inuvik 58.51 26 P P 02 55 33.5 +1.5
comp=Z,12nm,0.6s,baz=293,slow=6.0,SNR=61
INK Inuvik 58.51 26 P P 02 55 32.2 +0.1
INK lAmb lAmb 02 55 34.7
comp=Z,13nm,0.7s
ABKAR Akbulak array 59.27 311 P P 02 55 36.9 -0.8
ABKAR Akbulak array 59.27 311 P P 02 55 36.9 -0.8
SKAG Skagway 59.69 36 P 02 55 42.9
baz=285
C36M Paulatuk 61.56 24 P P 02 55 53.0 +0.2
C36M Paulatuk 61.56 24 P 02 55 54.5
baz=289,SNR=8.6
CRAG Craig 61.97 40 P 02 55 58.2
baz=288
KIRV Kirov 62.40 324⇓ eP P 02 55 59.9 +1.3
EUNU Eureka 64.20 8 P P 02 56 10.3 +0.1
EUNU lAmb lAmb 02 56 12.0
comp=Z,10nm,0.7s
STKA Stephens Creek 64.75 178 P P 02 56 14.2 -0.1
comp=Z,4.8nm,0.7s,baz=329,slow=7.1,SNR=7.5
STKA Stephens Creek 64.75 178⇑ eP P 02 56 13.9 -0.4
STKA Stephens Creek 64.75 178 P P 02 56 13.6 -0.6
BELG Belogornoye 65.58 318 deP P 02 56 19.6 +0.2
BELG pmax pmax
comp=Z,2.0nm,0.9s
RES Resolute Bay 66.69 14 P P 02 56 27.6 +1.4
RES pmax pmax
comp=Z,20nm,1.4s
ARCES ARCESS Array B 67.05 340 P P 02 56 28.4 -0.1
comp=Z,1.6nm,0.8s,baz=62,slow=8.4,SNR=6.1
ARCES ARCESS Array B 67.05 340 P P 02 56 28.9 +0.4
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 67.05 340 P P 02 56 28.9 +0.4
YKA Yellowknife Ar 67.91 29 P P 02 56 35.1 +1.1
comp=Z,4.5nm,0.8s,baz=300,slow=5.7,SNR=44
DAG Danmarks Havn 69.45 355 iP P 02 56 44.0 +0.6
comp=Z,5.2nm,0.9s
DAG Danmarks Havn 69.45 355 iP P 02 56 44.0 +0.6
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 69.45 355 iP P 02 56 44.0 +0.6
DAG lAmb lAmb 02 56 45.2
comp=Z,5.2nm,0.9s
PGC Sidney 70.13 44 P P 02 56 47.8 -0.2
A04D Lummi Island 70.53 44 P 02 56 52.9
baz=298,SNR=11
D03D Eldon 70.87 45 P 02 56 55.8
baz=298,SNR=16
B05A Bryant 71.11 44 P 02 56 56.5
baz=299,SNR=16
B06A Marblemount 71.34 44 P P 02 56 55.1 -0.2
FINES FINESS Array B 71.49 332 P P 02 56 55.8 -0.1
comp=Z,1.3nm,0.4s,baz=55,slow=6.5,SNR=24
FINES FINESS Array B 71.49 332 ceP P 02 56 55.7 -0.2
FINES pmax pmax
comp=Z,1.0nm,0.4s
E04D Cinebar 71.65 46 P 02 57 00.0
baz=299
G03D McMinnville, O 71.88 48 P 02 57 00.5
baz=299
LON Longmire 72.01 46 P P 02 56 59.0 -0.5
LON pmax pmax
comp=Z,3.0nm,1.1s
LON Longmire 72.01 46 P P 02 56 59.0 -0.5
I02D Swisshome 72.05 49 P 02 57 02.2
baz=299
KBZ Khabaz 72.23 311 P P 02 57 00.3 -0.4
comp=Z,7.2nm,0.9s,baz=32,slow=18,SNR=2.4
KBZ Khabaz 72.23 311⇑ eP P 02 57 01.7 +1.0
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 72.26 311⇑ eP P 02 56 59.7 -1.3
KIV pmax pmax
comp=Z,10.0nm,0.9s
LTY Liberty 72.44 45 P P 02 57 01.5 -0.5
J01E Myrtle Point 72.45 50 P 02 57 04.4
baz=299
H04D Lebanon 72.54 48 P 02 57 05.4
baz=300
I03D Drain, OR 72.56 49 P 02 57 05.7
baz=299,SNR=5.1
B08A Colville Reser 72.67 43 P P 02 57 02.9 -0.4
B08A lAmb lAmb 02 57 06.5
comp=Z,16nm,0.8s
H04A Detroit Lake 72.80 48 P P 02 57 03.7 -0.5
H04A lAmb lAmb 02 57 07.1
comp=Z,8.3nm,0.7s
K02D Willamette Mer 72.85 50 P 02 57 07.1
baz=299
G05D Wamic, OR 73.06 47 P 02 57 08.4
baz=300
I04A Tendick Farm, 73.11 49 P 02 57 08.3
baz=300,SNR=9.1
L02E Cave Junction 73.16 50 P 02 57 09.1
baz=300
E07A Sunnyside 73.28 45 P P 02 57 06.5 -0.4
E07A lAmb lAmb 02 57 10.4
comp=Z,16nm,1.1s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
I05D	**Terrebonne, OR**	**73.50**	**48**	P		02 57 10.7	
	baz=300						
HAWA	**Hanford**	**73.55**	**45**	P	**P**	**02 57 08.0**	**-0.4**
C09A	**Chrisman Ranch**	**73.56**	**43**	P	**P**	**02 57 08.3**	**-0.2**
C09A				IAmb	IAmb	02 57 11.1	
	comp=Z,8.1nm,0.8s						
D08A	**Wollman Farm,**	**73.57**	**44**	P	**P**	**02 57 08.2**	**-0.4**
D08A				IAmb	IAmb	02 57 11.7	
	comp=Z,11nm,1.0s						
J04D	**Umpqua Nationa**	**73.57**	**49**	P		02 57 11.5	
	baz=300,SNR=12						
E08A	**Dider Farm, El**	**73.78**	**45**	P	**P**	**02 57 09.4**	**-0.3**
E08A				IAmb	IAmb	02 57 13.1	
	comp=Z,12nm,1.1s						
YBH	**Yreka Blue Hor**	**73.94**	**51**	P	**P**	**02 57 10.4**	**-0.6**
YBH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YBH	**Yreka Blue Hor**	**73.94**	**51**	P	**P**	**02 57 10.3**	**-0.6**
L04D	**Klamath Falls**	**73.96**	**50**	P		02 57 13.5	
	baz=300,SNR=11						
NEW	**Newport**	**73.98**	**43**	P	**P**	**02 57 10.5**	**-0.4**
NEW				pmax	pmax		
	comp=Z,11nm,1.0s						
NEW	**Newport**	**73.98**	**43**	P	**P**	**02 57 10.5**	**-0.4**
NEW				IAmb	IAmb	02 57 14.1	
	comp=Z,11nm,0.9s						
NEW	**Newport**	**73.98**	**43**	P		02 57 12.9	
	baz=302,SNR=9.4						
M02C	**Callahan**	**74.02**	**51**	P		02 57 14.2	
	baz=300,SNR=5.9						
J05D	**Fort Rock, OR**	**74.10**	**49**	P		02 57 14.8	
	baz=301,SNR=15						
E09A	**Wood Farm, Sta**	**74.31**	**44**	P	**P**	**02 57 12.5**	**-0.3**
E09A				IAmb	IAmb	02 57 16.2	
	comp=Z,15nm,1.1s						
N02D	**Trinity Center**	**74.33**	**51**	P		02 57 16.1	
	baz=300,SNR=8.0						
G08A	**Pilot Rock**	**74.47**	**46**	P	**P**	**02 57 13.4**	**-0.6**
M04C	**Macdoel**	**74.48**	**50**	P		02 57 16.8	
	baz=301,SNR=14						
SUMG	**Summit**	**74.51**	**359**	*i*P	**P**	**02 57 15.4**	**+1.4**
	comp=Z,25nm,0.8s						
SUMG	**Summit**	**74.51**	**359**	*i*P	**P**	**02 57 15.4**	**+1.4**
SUMG				pmax	pmax		
	comp=Z,25nm,0.8s						
SUMG	**Summit**	**74.51**	**359**	P	**P**	**02 57 13.5**	**-0.5**
SUMG				IAmb	IAmb	02 57 16.3	
	comp=Z,17nm,0.9s						
SUMG	**Summit**	**74.51**	**359**	*i*P	**P**	**02 57 15.5**	**+1.4**
SUMG				IAmb	IAmb	02 57 16.9	
	comp=Z,25nm,0.8s						
K05A	**Summer Lake**	**74.60**	**49**	P	**P**	**02 57 14.1**	**-0.7**
K05A				IAmb	IAmb	02 57 18.6	
	comp=Z,20nm,0.8s						
WDC	**Whiskeytown Da**	**74.64**	**51**	P	**P**	**02 57 14.4**	**-0.4**
WDC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WDC	**Whiskeytown Da**	**74.64**	**51**	P	**P**	**02 57 14.4**	**-0.4**
O02D	**Mt. Diablo Mer**	**74.68**	**52**	P		02 57 18.1	
	baz=301,SNR=5.7						
O03E	**Paynes Creek**	**75.27**	**51**	P		02 57 20.5	
	baz=301						
WALA	**Waterton Lakes**	**75.33**	**41**	IAmb	IAmb	02 57 21.8	
	comp=Z,13nm,0.9s						
MOD	**Modoc Plateau**	**75.40**	**49**	IAmb	IAmb	02 57 22.6	
	comp=Z,9.2nm,0.7s						
BMO	**Blue Mountains**	**75.69**	**46**	IAmb	IAmb	02 57 24.1	
	comp=Z,12nm,0.9s						
ORV	**Oroville**	**75.85**	**52**	P	**P**	**02 57 22.3**	**+0.5**
ORV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ORV	**Oroville**	**75.85**	**52**	P	**P**	**02 57 22.3**	**+0.5**
JTMT	**Jette**	**75.86**	**42**	IAmb	IAmb	02 57 25.0	
	comp=Z,12nm,0.7s						
WVOR	**Wild Horse Val**	**76.17**	**48**	IAmb	IAmb	02 57 26.6	
	comp=Z,6.1nm,0.7s						
AKASG	**Malin Array Be**	**76.38**	**322**	P	**P**	**02 57 24.1**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=48,slow=6.1,SNR=7.7						
AKASG	**Malin Array Be**	**76.38**	**322**	*ce*P	**P**	**02 57 25.0**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**76.38**	**322**	P	**P**	**02 57 24.5**	**-0.1**
BEKR	**Beckworth**	**76.43**	**51**	IAmb	IAmb	02 57 28.2	
	comp=Z,12nm,0.7s						
MSO	**Missoula**	**76.57**	**43**	P		02 57 27.4	
	baz=304						
NB2	**NORSAR Subarra**	**77.12**	**337**	P	**P**	**02 57 28.4**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=44,slow=5.9						
NOA	**NORSAR Array B**	**77.12**	**337**	P	**P**	**02 57 28.5**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=43,slow=5.5,SNR=6.7						
PAHR	**Pah Rah Range**	**77.16**	**51**	IAmb	IAmb	02 57 32.4	
	comp=Z,11nm,0.8s						
VCNR	**Virginia City**	**77.20**	**51**	IAmb	IAmb	02 57 33.3	
	comp=Z,9.0nm,0.8s						
PNTR	**Pine Nut**	**77.34**	**52**	IAmb	IAmb	02 57 33.8	
	comp=Z,14nm,0.8s						
MFID	**Camas Ranch**	**77.37**	**46**	IAmb	IAmb	02 57 33.6	
	comp=Z,10nm,0.8s						
CMB	**Columbia Colle**	**77.39**	**53**	IAmb	IAmb	02 57 33.1	
	comp=Z,6.3nm,0.7s						
YERR	**Yerington**	**77.64**	**51**	IAmb	IAmb	02 57 35.2	
	comp=Z,16nm,0.9s						
WAKR	**Walker**	**77.77**	**52**	IAmb	IAmb	02 57 36.2	
	comp=Z,8.2nm,0.9s						
FFC	**Flin Flon**	**77.77**	**31**	P	**P**	**02 57 32.6**	**+0.3**
FFC				pmax	pmax		
	comp=Z,17nm,1.2s						
FFC	**Flin Flon**	**77.77**	**31**	P	**P**	**02 57 32.6**	**+0.3**
FFC				IAmb	IAmb	02 57 34.2	
	comp=Z,17nm,1.1s						
ICESG	**Greenland Ices**	**78.02**	**360**	*i*P	**P**	**02 57 35.3**	**+1.5**
ICESG				IAmb	IAmb	02 57 36.3	
	comp=Z,7.8nm,0.8s						
FCC	**Fort Churchill**	**78.12**	**25**	IAmb	IAmb	02 57 35.4	
	comp=Z,6.8nm,0.8s						
HLID	**Hailey**	**78.14**	**46**	P		02 57 37.0	
	baz=305,SNR=13						
EGMT	**Eagleton**	**78.19**	**40**	P		02 57 36.6	
	baz=307,SNR=16						
RYN	**Ryan**	**78.30**	**51**	IAmb	IAmb	02 57 38.9	
	comp=Z,11nm,0.9s						
KVN	**Kaiserville**	**78.35**	**51**	IAmb	IAmb	02 57 39.1	
	comp=Z,18nm,0.7s						
LHV	**Little Huntoon**	**78.52**	**52**	IAmb	IAmb	02 57 40.0	
	comp=Z,7.8nm,0.7s						
NVAR	**Mina Array Bea**	**78.55**	**52**	P	**P**	**02 57 39.2**	**+2.0**
	comp=Z,9.0nm,0.8s,baz=287,slow=5.4,SNR=79						
NVAR	**Mina Array Bea**	**78.55**	**52**	P	**P**	**02 57 37.0**	**-0.2**
BOZ	**Bozeman (W)**	**78.59**	**43**	IAmb	IAmb	02 57 40.0	
	comp=Z,10nm,0.7s						
BOZ	**Bozeman (W)**	**78.59**	**43**	P		02 57 39.1	
	baz=306,SNR=17						
MLAC	**Mammoth, Mammo**	**78.64**	**52**	P		02 57 40.0	
	baz=303						
ELK	**Elko**	**79.23**	**48**	IAmb	IAmb	02 57 43.8	
	comp=Z,7.6nm,0.7s						
VES	**Vestal, Richgr**	**79.45**	**54**	P		02 57 43.5	
	baz=303						
PKM	**Mcpherson Peak**	**79.47**	**55**	P		02 57 44.4	
	baz=303						
CWC	**Cottonwood Cre**	**79.80**	**53**	P		02 57 45.8	
	baz=304						
H17A	**Grant Village**	**79.90**	**43**	P		02 57 48.0	
	baz=307,SNR=26						
ISA	**Isabella, Lake**	**79.96**	**54**	P	**P**	**02 57 45.0**	**+0.3**
ISA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ISA	**Isabella, Lake**	**79.96**	**54**	P	**P**	**02 57 45.0**	**+0.3**
ISA	**Isabella, Lake**	**79.96**	**54**	P		02 57 45.6	
	baz=304						
GRAC	**Grapevine Rang**	**79.97**	**52**	P		02 57 46.8	
	baz=304						
ARVC	**Arvin**	**80.02**	**55**	P		02 57 46.6	
	baz=304						
RLMT	**Red Lodge**	**80.21**	**42**	P		02 57 48.1	
	baz=308,SNR=11						
BR131	**Keskin Array S**	**80.22**	**311**	P	**P**	**02 57 45.6**	**-0.4**
BR131				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BR131	**Keskin Array S**	**80.22**	**311**	P	**P**	**02 57 45.6**	**-0.4**
BRTR	**Keskin Array B**	**80.22**	**311**	P	**P**	**02 57 45.7**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=125,slow=3.7,SNR=5.9						
BRTR	**Keskin Array B**	**80.22**	**311**	P	**P**	**02 57 45.2**	**-0.8**
BUR08	**Bucovina Ar. S**	**80.34**	**321**	P	**P**	**02 57 46.0**	**-0.5**
BURAR	**Bucovina Array**	**80.35**	**321**	P	**P**	**02 57 46.9**	**+0.4**
BURAR	**Bucovina Array**	**80.35**	**321**	P	**P**	**02 57 46.2**	**-0.4**
R11A	**Troy Canyon, C**	**80.37**	**50**	IAmb	IAmb	02 57 50.0	
	comp=Z,9.0nm,0.8s						
R11A	**Troy Canyon, C**	**80.37**	**50**	P		02 57 49.1	
	baz=305,SNR=20						
MPMC	**Manual Prospec**	**80.41**	**53**	P		02 57 49.1	
	baz=304,SNR=14						
FURC	**Furnace Creek,**	**80.60**	**53**	P		02 57 49.8	
	baz=304,SNR=8.2						
LRMC	**Laurel Mtn Rad**	**80.60**	**54**	P		02 57 49.8	
	baz=304,SNR=8.4						
EDW2	**Edwards Air Fo**	**80.72**	**54**	P		02 57 50.8	
	baz=304,SNR=13						
TPNV	**Topopah Spring**	**80.73**	**52**	IAmb	IAmb	02 57 51.8	
	comp=Z,19nm,0.8s						
TPNV	**Topopah Spring**	**80.73**	**52**	P		02 57 50.8	
	baz=305,SNR=30						
DGMT	**Dagmar**	**80.81**	**37**	IAmb	IAmb	02 57 51.7	
	comp=Z,9.4nm,0.8s						
DGMT	**Dagmar**	**80.81**	**37**	P		02 57 50.2	
	baz=310						
DECC	**Green Verdugo**	**80.84**	**55**	P		02 57 51.5	
	baz=304						
LAO	**LASA Array**	**80.90**	**39**	IAmb	IAmb	02 57 52.3	
	comp=Z,16nm,0.8s						
LAO	**LASA Array**	**80.90**	**39**	P		02 57 51.4	
	baz=309,SNR=7.8						
KOLS	**Kolonicke sedl**	**81.00**	**324**	*e*P	**P**	**02 57 52.6**	**+2.7**
KOLS	**Kolonicke sedl**	**81.00**	**324**	*e*P	**P**	**02 57 52.6**	**+2.7**
DUG	**Dugway, Tooele**	**81.06**	**48**	IAmb	IAmb	02 57 53.8	
	comp=Z,16nm,0.7s						
DUG	**Dugway, Tooele**	**81.06**	**48**	P		02 57 52.9	
	baz=306,SNR=22						
PRN	**Pahroc Range**	**81.25**	**51**	IAmb	IAmb	02 57 57.5	
	comp=Z,11nm,0.8s						
CIS	**Catalina Islan**	**81.26**	**56**	P		02 57 53.4	
	baz=304						
GSC	**Goldstone, Bar**	**81.29**	**54**	P		02 57 53.5	
	baz=305,SNR=8.3						
SHOC	**Shoshone, Teco**	**81.31**	**53**	P		02 57 53.7	
	baz=305						
BFSC	**Mount Baldy Ra**	**81.31**	**55**	P		02 57 53.6	
	baz=304						
PDAR	**Pinedale Array**	**81.48**	**44**	P	**P**	**02 57 54.2**	**+1.4**
	comp=Z,4.5nm,0.7s,baz=260,slow=1.7,SNR=51						
PDAR	**Pinedale Array**	**81.48**	**44**	P	**P**	**02 57 53.1**	**+0.3**
BW06	**Boulder Array**	**81.48**	**44**	P		02 57 54.2	
	baz=308,SNR=9.4						
SHPR	**Sheep Range**	**81.70**	**52**	IAmb	IAmb	02 57 57.2	
	comp=Z,7.5nm,0.8s						
HEC	**Hector,Ludlow**	**81.88**	**54**	P		02 57 56.7	
	baz=305						
MURC	**Murrieta**	**81.99**	**55**	P		02 57 57.0	
	baz=305						
GMRC	**Granite Mounta**	**82.36**	**53**	P		02 57 59.3	
	baz=305,SNR=5.6						
PFO	**Pinyon Flats O**	**82.48**	**55⇓**	*i*P	**P**	**02 57 59.2**	**+1.1**
PFO				pmax	pmax		
	comp=Z,16nm,1.0s						
PFO	**Pinyon Flats O**	**82.48**	**55**	P	**P**	**02 57 58.1**	**0.0**
PFO				IAmb	IAmb	02 58 00.8	
	comp=Z,9.9nm,1.0s						
PFO	**Pinyon Flats O**	**82.49**	**55**	P		02 57 59.5	
	baz=305,SNR=6.5						
TPFO	**Pinon Flats**	**82.49**	**55**	P		02 57 59.6	
	baz=305,SNR=6.9						
BELC	**Belle Mtn. Jos**	**82.58**	**54**	P		02 57 59.8	
	baz=305						
DPC	**Dobruska-Polom**	**82.87**	**327**	*e*P	**P**	**02 58 00.2**	**+0.6**
DPC	**Dobruska-Polom**	**82.87**	**327**	*e*P	**P**	**02 58 00.2**	**+0.6**
MONP2	**Monument Peak**	**82.92**	**55**	P		02 58 01.9	
	baz=305						
IRM	**Iron Mountain**	**83.07**	**54**	P		02 58 02.8	
	baz=306,SNR=5.7						
BC3	**Big Chuckawall**	**83.15**	**54**	P		02 58 03.2	
	baz=305						
IKP	**In-Ko-Pah, Jac**	**83.28**	**55**	P		02 58 03.9	
	baz=305						
K22A	**Casper**	**83.30**	**43**	IAmb	IAmb	02 58 04.4	
	comp=Z,9.7nm,0.7s						
K22A	**Casper**	**83.30**	**43**	P		02 58 03.3	
	baz=310,SNR=6.9						
SWSC	**Sam W. Stewart**	**83.32**	**55**	P		02 58 03.8	
	baz=305						
RWWY	**Rawlins**	**83.51**	**44**	IAmb	IAmb	02 58 05.9	
	comp=Z,17nm,0.9s						
MDND	**Maddock**	**83.52**	**36**	P		02 58 04.2	
	baz=314						
ULM	**Lac du Bonnet**	**83.56**	**32**	P	**P**	**02 58 04.7**	**+1.5**
	comp=Z,2.2nm,0.6s,baz=320,slow=7.3,SNR=5.9						
U15A	**North Rim**	**83.62**	**50**	IAmb	IAmb	02 58 07.9	
	comp=Z,11nm,0.7s						
CLL	**Collm**	**83.63**	**330⇓**	*i*P	**P**	**02 58 03.5**	**+0.1**
CLL				*e*		02 58 52.0	
CLL				Lm	MLR	03 14 00.0	
	comp=Z,300nm,18.5s						
CLL	**Collm**	**83.63**	**330⇓**	*i*P	**P**	**02 58 03.5**	**+0.1**
CLL				*e**SP	**sP**	**02 58 58.0**	**-4.2**
PDMCI	**Parker Dam,Lak**	**83.66**	**53**	P		02 58 05.4	
	baz=306						
RSSD	**Black Hills**	**83.73**	**40**	P	**P**	**02 58 03.7**	**-0.7**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.6s						
RSSD	**Black Hills**	**83.73**	**40**	P	**P**	**02 58 03.7**	**-0.7**
RSSD	**Black Hills**	**83.73**	**40**	P		02 58 05.7	
	baz=311						
ESJX	**Sierra Juarez**	**83.76**	**56**	IAmb	IAmb	02 58 07.7	
	comp=Z,10nm,1.0s						
O20A	**White River Ci**	**83.88**	**46**	IAmb	IAmb	02 58 07.9	
	comp=Z,18nm,0.9s						
O20A	**White River Ci**	**83.88**	**46**	P		02 58 06.9	
	baz=309,SNR=12						
GLA	**Glamis**	**83.92**	**54**	IAmb	IAmb	02 58 08.2	
	comp=Z,16nm,0.7s						
GLA	**Glamis**	**83.92**	**54**	P		02 58 07.2	
	baz=306,SNR=5.1						
PV22	**Blue Mesa, Par**	**84.54**	**47**	IAmb	IAmb	02 58 11.7	
	comp=Z,13nm,0.9s						
PV04	**Paradox Valley**	**84.56**	**47**	IAmb	IAmb	02 58 11.8	
	comp=Z,18nm,0.9s						
PV12	**Saucer Basin,**	**84.67**	**47**	IAmb	IAmb	02 58 13.0	
	comp=Z,17nm,0.8s						
PV03	**Paradox Valley**	**84.68**	**47**	IAmb	IAmb	02 58 12.3	
	comp=Z,16nm,0.9s						
N23A	**Red Feather La**	**84.75**	**44**	P		02 58 11.9	
	baz=310,SNR=11						
WUAZ	**Wupatki**	**84.76**	**51**	IAmb	IAmb	02 58 12.7	
	comp=Z,12nm,0.8s						
WUAZ	**Wupatki**	**84.76**	**51**	P		02 58 11.6	
	baz=307,SNR=9.1						
PHWY	**Pilot Hill**	**84.77**	**43**	IAmb	IAmb	02 58 12.5	
	comp=Z,9.9nm,0.9s						
PV02	**Paradox Valley**	**84.78**	**47**	IAmb	IAmb	02 58 12.8	
	comp=Z,12nm,0.8s						
PV01	**Paradox Valley**	**84.93**	**47**	IAmb	IAmb	02 58 13.4	
	comp=Z,14nm,1.0s						
KHC	**Kasperske Hory**	**84.98**	**328⇓**	*e*P	**P**	**02 58 10.4**	**+0.1**
KHC				pmax	pmax		
	comp=Z,59nm,3.9s						
KHC	**Kasperske Hory**	**84.98**	**328**	*e*P	**P**	**02 58 10.3**	**0.0**
GERES	**GERESS Array B**	**85.13**	**327**	P	**P**	**02 58 10.7**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=35,slow=4.9,SNR=7.5						
SMCO	**Snowmass**	**85.24**	**46**	IAmb	IAmb	02 58 15.4	
	comp=Z,8.8nm,0.8s						
MVCO	**Mesa Verde**	**85.55**	**48**	P		02 58 15.3	
	baz=309						
ISCO	**Idaho Springs**	**85.65**	**45**	IAmb	IAmb	02 58 17.3	
	comp=Z,5.8nm,0.8s						
ISCO	**Idaho Springs**	**85.65**	**45**	P		02 58 16.1	
	baz=310,SNR=6.7						
B35A	**Bob, Littlefor**	**85.90**	**32**	IAmb	IAmb	02 58 16.0	
	comp=Z,4.2nm,0.5s						
214A	**Organ Pipe Nat**	**85.94**	**54**	P		02 58 17.6	
	baz=307						
S22A	**4UR Ranch, Cre**	**86.24**	**47**	P		02 58 19.4	
	baz=310						
Q24A	**Divide**	**86.47**	**45**	P		02 58 19.9	
	baz=311						
F33A	**5 Mile Ranch,**	**86.54**	**35**	IAmb	IAmb	02 58 20.3	
	comp=Z,7.5nm,0.8s						
SDCO	**Great Sand Dun**	**87.05**	**46**	P		02 58 22.6	
	baz=310						
TUC	**Tucson**	**87.10**	**53**	P		02 58 23.1	
	baz=308						
EYMN	**Ely**	**87.21**	**32**	P		02 58 22.1	
	baz=319						
ECSD	**EROS Data Cent**	**87.90**	**37**	P	**P**	**02 58 24.8**	**+0.2**
ECSD				IAmb	IAmb	02 58 26.6	
	comp=Z,9.5nm,0.9s						
ECSD	**EROS Data Cent**	**87.90**	**37**	P		02 58 25.4	
	baz=316,SNR=7.3						
KSCO	**Kaye Shedlock'**	**87.91**	**44**	P		02 58 26.5	
	baz=312						
T25A	**Trinidad**	**88.10**	**46**	P		02 58 27.6	
	baz=311						
E38A	**The Farm, Brul**	**88.19**	**32**	IAmb	IAmb	02 58 27.5	
	comp=Z,10nm,0.7s						
ANMO	**Albuquerque**	**88.26**	**49**	P	**P**	**02 58 26.9**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	**Albuquerque**	**88.26**	**49**	P	**P**	**02 58 26.9**	**+0.2**
ANMO	**Albuquerque**	**88.26**	**49**	P		02 58 28.9	
	baz=310						
SPMN	**Marine on St.**	**88.66**	**34**	P		02 58 29.3	
	baz=318						
CBKS	**Cedar Bluff**	**89.69**	**42**	IAmb	IAmb	02 58 35.5	
	comp=Z,7.7nm,0.8s						
CBKS	**Cedar Bluff**	**89.69**	**42**	P		02 58 34.2	
	baz=314						
SCIA	**State Center**	**90.94**	**36**	P		02 58 40.5	
	baz=318						
MNTX	**Cornudas Mount**	**91.04**	**51**	P		02 58 40.6	
	baz=311						
MATQ	**Matagami**	**91.07**	**23**	P		02 58 40.4	
	baz=330						
KSU1	**Kansas State U**	**91.22**	**40**	P		02 58 41.3	
	baz=316,SNR=5.2						
AMTX	**Amarillo**	**91.25**	**46**	P		02 58 42.3	
	baz=313						
JFWS	**Jewell Farm**	**91.61**	**34**	P		02 58 43.1	
	baz=320						
LSQQ	**Lebel-sur-Quev**	**91.89**	**23**	P		02 58 44.3	
	baz=330						
T35A	**Sooner Cattle**	**92.84**	**42**	IAmb	IAmb	02 58 50.0	
	comp=Z,7.4nm,0.8s						
WMOK	**Wichita Mounta**	**93.08**	**45**	IAmb	IAmb	02 58 51.1	
	comp=Z,6.2nm,0.8s						
WMOK	**Wichita Mounta**	**93.08**	**45**	P		02 58 50.0	
	baz=314,SNR=6.9						
TXAR	**Lajitas Array**	**93.70**	**51**	P	**P**	**02 58 53.6**	**+1.7**
	comp=Z,6.4nm,0.6s,baz=294,slow=2.8,SNR=72						
TXAR	**Lajitas Array**	**93.70**	**51**	P	**P**	**02 58 51.2**	**-0.7**
TUL1	**Leonard**	**93.97**	**42**	P		02 58 54.1	
	baz=316						
ABTX	**Abilene, Hawle**	**94.03**	**47**	P		02 58 54.2	
	baz=314						
D55A	**Sainte-Anne-du**	**94.16**	**23**	P		02 58 54.3	
	baz=331						
ALGO	**Algonquin Park**	**94.20**	**25**	P		02 58 54.0	
	baz=329						
U38A	**Gravette**	**94.36**	**41**	IAmb	IAmb	02 58 56.5	
	comp=Z,5.0nm,0.8s						
D56A	**ZEC Mazanza, M**	**94.37**	**23**	P		02 58 55.2	
	baz=332						
E55A	**Montcerf-Lytto**	**94.46**	**24**	P		02 58 55.7	
	baz=331						
G54A	**Lake Saint Pet**	**94.67**	**26**	P		02 58 55.3	
	baz=329						
E56A	**St. Veronique**	**94.73**	**23**	P		02 58 56.4	
	baz=332						
CCM	**Cathedral Cave**	**94.83**	**38**	P	**P**	**02 58 56.7**	**-0.1**
CCM				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CCM	**Cathedral Cave**	**94.83**	**38**	P	**P**	**02 58 56.7**	**-0.1**
CCM				IAmb	IAmb	02 58 58.5	
	comp=Z,6.2nm,0.8s						
CCM	**Cathedral Cave**	**94.83**	**38**	P		02 58 57.3	
	baz=319						
I51A	**Listowel**	**94.90**	**28**	P		02 58 57.9	
	baz=327						
MGMO	**Mountain Grove**	**94.97**	**39**	IAmb	IAmb	02 58 58.9	
	comp=Z,6.2nm,0.9s						
U40A	**Yellville**	**95.25**	**40**	P		02 58 59.6	
	baz=318						
E58A	**La Victoria**	**95.44**	**22**	P		02 58 60.0	
	baz=333						
G57A	**Newington**	**96.01**	**24**	P		02 59 02.5	
	baz=332						
MIAR	**Mount Ida**	**96.20**	**42**	P		02 59 04.5	
	baz=318						
F61A	**St Evariste**	**96.50**	**21**	P		02 59 05.4	
	baz=335						
E63A	**Oxbow**	**96.83**	**19**	P		02 59 06.4	
	baz=337						
H58A	**Gabriels**	**96.88**	**24**	P		02 59 06.6	
	baz=332						
WCI	**Wyandotte Cave**	**97.15**	**35**	P		02 59 07.5	
	baz=323						
TORD	**Torodi Ar. Bea**	**118.83**	**312**	PKP	**PKPdf**	**03 04 22.2**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=20,slow=1.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**118.83**	**312**		**PKPdf**	**03 04 22.1**	**-0.9**
DBIC	**Dimbokro**	**127.90**	**313**	PKP	**PKiKP**	**03 04 40.5**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=122,slow=2.0,SNR=4.8						
DBIC	**Dimbokro**	**127.90**	**313**		**PKPdf**	**03 04 39.3**	**-1.0**
PTGA	**Pitinga**	**142.87**	**34**	PKhKP	PKPpre	03 05 05.1	
	comp=Z,1.1nm,0.3s,baz=325,slow=22,SNR=4.9						
LPAZ	**La Paz**	**149.90**	**63**	PKPbc	**PKiKP**	**03 05 27.1**	**+0.6**
	comp=Z,5.2nm,0.9s,baz=8.6,slow=2.9,SNR=15						
LPAZ	**La Paz**	**149.90**	**63**	PKIKP	**PKPbc**	**03 05 24.7**	**-0.9**
LPAZ	**La Paz**	**149.90**	**63**	PKPbc	**PKPbc**	**03 05 24.7**	**-0.9**
SIV	**San Ignacio**	**154.70**	**52**	PKP	**PKPdf**	**03 05 26.9**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=269,slow=6.8,SNR=3.6						
SIV				PKPbc	**PKiKP**	**03 05 36.6**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=173,slow=2.1,SNR=5.1						
SIV				PKPab	**PKPab**	**03 05 51.0**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=286,slow=5.0,SNR=12						
PLCA	**Paso Flores**	**154.90**	**116**	PKPab	**PKPab**	**03 05 51.6**	**0.0**
	comp=Z,1.7nm,1.0s,baz=139,slow=5.2,SNR=3.3						
BDFB	**Brasilia**	**161.24**	**23**	PKPab	**PKPab**	**03 06 20.1**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=295,slow=1.3,SNR=6.1						

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*IDC **05** 02:47:04.6±1.1, 2.°46S×134.°77E, h0km, mb4.3/5, mb1 4.4/8, mb1mx3.9/36, mbtmp4.3/8, ML3.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/23 Error ellipse: s-maj=40.8km s-min=18.7km az=79.0*

*DJA **05** 02:47:08.6±0.5, 3°S±3°×13°4E±°, h10km, M4.4/6, mb4.6/1, MLv4.3/6*

ISC 05 02:47:10.0±0.7**, 2.°49S**±0.°06×**134.°52E**±0.°05**, h30km, n15, σ1.s41**/20**, mb4.2**/6**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.03**	**341**	P	**Pn**	**02 47 27.6**	**-0.9**
RKPI				S	**Sb**	**02 47 43.3**	**+0.7**
SRPI	**Serui, Papua**	**1.82**	**70**	P	**Pn**	**02 47 39.9**	**+0.5**
BAKI	**Biak**	**2.04**	**51**	P	**Pb**	**02 47 46.3**	**-0.2**
FAKI	**Fak Fak**	**2.31**	**259**	P	**Pn**	**02 47 46.4**	**+0.4**
FAKI				S	**Sn**	**02 48 15.2**	**+1.7**
SIJI	**Sorong**	**3.63**	**296**	Pn	**Pn**	**02 48 04.7**	**+0.5**
	16nm,0.3s,baz=74,slow=13,SNR=22						
SIJI				Sn	**Sn**	**02 48 45.0**	**-1.2**
	20nm,0.3s,baz=145,slow=23,SNR=10						
SWI	**Sorong**	**3.64**	**296**	P	**Pn**	**02 48 04.8**	**+0.4**
SWI				S	**Sn**	**02 48 49.0**	**+2.7**
SMPI	**Sarmi**	**4.21**	**83**	P	**Pn**	**02 48 13.9**	**+1.6**
WRA	**Warramunga Arr**	**17.34**	**181**	P	**Pn**	**02 51 09.0**	**-1.0**
	0.5nm,0.3s,baz=1.9,slow=13,SNR=52						
WRA				LR	LR	02 58 56.9	
	comp=Z,43nm,21.8s,baz=165,slow=41						
FITZ	**Fitzroy Crossi**	**17.79**	**209**	P	**Pn**	**02 51 13.8**	**-1.6**
	0.3nm,0.3s,baz=39,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**21.06**	**182**	P	**P**	**02 51 51.3**	**-0.5**
	19nm,0.8s,baz=7.3,slow=12,SNR=70						
STKA	**Stephens Creek**	**29.98**	**168**	P	**P**	**02 53 16.0**	**+0.1**
	1.8nm,0.5s,baz=306,slow=14,SNR=1.9						
CMAR	**Chiang Mai Arr**	**40.74**	**302**	P	**P**	**02 54 50.8**	**+2.2**
	1.9nm,0.4s,baz=90,slow=5.4,SNR=3.1						
CMAR				PcP	**PcP**	**02 56 47.4**	**-2.4**
	2.1nm,0.4s,baz=131,slow=4.4,SNR=6.5						
SONM	**Songino Array**	**55.83**	**337**	P	**P**	**02 56 45.0**	**+0.3**
	0.1nm,0.3s,baz=132,slow=2.1,SNR=2.0						
MA2	**Magadan**	**63.20**	**9**	P	**P**	**02 57 33.5**	**-1.6**
	3.0nm,0.3s,baz=165,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**67.11**	**324**	P	**P**	**02 58 01.1**	**+0.2**
	0.3nm,0.4s,baz=109,slow=7.6,SNR=6.2						

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*SJA **05** 03:41:01.0±0.4, 33.°55S×68.°00W, h191km±5km, ML4.3, MW4.0*

*NEIC **05** 03:41:01.5±1.2, 33.°51S±0.°06×68.°10W±0.°06, h193km±7km, Error ellipse: s-maj=9.7km s-min=5.8km az=145.0*

*IDC **05** 03:41:01.4±0.7, 33.°58S×68.°09W, h186km±5km, mb3.7/9, mb1 3.8/14, mb1mx3.7/28, mbtmp4.2/14, Error ellipse: s-maj=19.8km s-min=11.5km az=100.0*

*GUC **05** 03:41:02.3±0.6, 33°.52S×68°.51W, h234km±7km, ML4.6*
ISC 05 03:41:02.1±0.6**, 33°.50S**±0°.04×**68°.22W**±0°.07**, h204**km±6km**, n87, σ1§39**/119**, mb4.0**/12**, 3D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUSP	Uspallata	1.61	322	eP	Pn	03 41 37.6	+0.1
AUSP				eS	S	03 42 04.8	+0.3
RTCV	Cerro Valdivia	1.65	350	eP	Pn	03 41 36.8	-0.9
RTCV				eS	S	03 42 03.1	-1.8
LMEL	Las Melosas	1.69	258	eP	Pn	03 41 38.9	+0.8
LMEL				eS	S	03 42 09.5	+3.9
MT03	Universidad Ad	1.92	269	eP	Pn	03 41 40.5	+0.4
MT03				eS	S	03 42 10.2	+0.9
MT03				IAML		03 42 13.4	
	comp=N,1μm,0.3s						
ZON	Zonda	1.98	349	Pn	Pn	03 41 40.1	-0.7
ZON				Sn	S	03 42 08.6	-1.9
ZON	Zonda	1.98	349	eP	Pn	03 41 40.3	-0.6
ZON				eS	S	03 42 09.2	-1.3
ZON				IAML		03 42 10.4	
	comp=Z,781nm,0.3s						
VA03	San Esteban	2.09	290	eP	Pn	03 41 42.5	+0.5
VA03				eS	S	03 42 13.1	+0.7
VA03				IAML		03 42 14.8	
	comp=E,1μm,0.5s						
VA03	San Esteban	2.09	290		Pn	03 41 42.4	+0.5
VA03				Sn	S	03 42 13.3	+0.9
PEL	Peldehue	2.10	279	i P	Pn	03 41 42.1	+0.2
PEL				eS	S	03 42 12.7	+0.2
PEL				IAML		03 42 15.2	
	comp=N,2μm,0.3s						
PEL	Peldehue	2.10	279	Pn	Pn	03 41 41.7	-0.2
PEL				Sn	S	03 42 12.8	+0.4
PEL	Peldehue	2.10	279	eP	Pn	03 41 42.3	+0.3
PEL				eS	S	03 42 12.9	+0.4
MT05	Renca	2.11	272	eP	Pn	03 41 42.7	+0.6
MT05				eS	S	03 42 13.2	+0.5
MT05	Renca	2.11	272		Pn	03 41 42.2	+0.2
MT05				Sn	S	03 42 13.2	+0.5
RTLL	Cerro Villicun	2.17	354	⇓iP	Pn	03 41 42.0	-0.8
RTLL				eS	S	03 42 12.4	-1.6
RTLL				IAML		03 42 14.4	
	comp=N,3μm,0.5s						
RTLL	Cerro Villicun	2.17	354	eP	Pn	03 41 42.0	-0.8
RTLL				eS	S	03 42 12.7	-1.3
RTLL				IAML		03 42 17.9	
	comp=Z,484nm,0.9s						
MT09	Talagante	2.33	262	eP	Pn	03 41 44.0	-0.5
MT09				eS	S	03 42 16.1	-0.8
ROCH	El Roble	2.40	282	eP	Pn	03 41 45.2	-0.1
ROCH				eS	S	03 42 18.1	-0.4
ROCH				IAML		03 42 21.3	
	comp=N,2μm,0.3s						
ROC1	El Roble	2.40	282	eP	Pn	03 41 45.3	-0.1
ROC1				eS	S	03 42 18.0	-0.6
MT02	Curacav	2.46	275	⇓iP	Pn	03 41 45.2	-0.5
MT02				eS	S	03 42 18.2	-1.0
MT02	Curacav	2.46	275	Pn	Pn	03 41 45.2	-0.5
MT02				Sn	S	03 42 18.0	-1.2
BO02	Sierra Bellavi	2.49	238	eP	Pn	03 41 46.0	-0.2
BO02				eS	S	03 42 20.0	0.0
BO02	Sierra Bellavi	2.49	238		Pn	03 41 45.9	-0.3
BO02				Sn	S	03 42 20.3	+0.3
VA05	Santo Domingo	2.84	266	eP	Pn	03 41 49.0	-1.1
VA05				eS	S	03 42 24.1	-2.8
VA05				IAML		03 42 31.9	
	comp=N,1μm,0.2s						
ACCO	Cerro Coronel	2.99	346	eP	Pn	03 41 52.7	+0.5
ACCO				eS	S	03 42 31.1	+0.4
ACCO				IAML		03 42 34.7	
	comp=Z,1μm,0.8s						
BO03	Pichilemu	3.27	251	eS	S	03 42 33.4	-2.5
CO02	Combarbal	3.28	313	eP	Pn	03 41 56.0	+0.6
CO02				i S	S	03 42 36.2	-0.3
CO02	Combarbal	3.28	313		Pn	03 41 56.0	+0.6
CO02				Sn	S	03 42 36.2	-0.3
CO03	El Pedregal	3.38	321	⇓iP	Pn	03 41 57.5	+0.9
CO03				i S	S	03 42 38.3	-0.3
CO03	El Pedregal	3.38	321		Pn	03 41 57.3	+0.7
ACDV	Cuesta del Vie	3.40	347	eP	Pn	03 41 57.5	+0.5
ACDV				eS	S	03 42 38.3	-1.1
ACDV				IAML		03 42 43.3	
	comp=Z,428nm,0.3s						
CO01	Juntas del Tor	3.86	335		Pn	03 42 04.0	+1.4
GO04	Tololo Observa	3.98	326	Pn	Pn	03 42 03.7	-0.3
BI02	San Fabin de	4.03	218	Pn	Pn	03 42 03.5	-0.9
LCO	Las Campanas	4.95	334	Pn	Pn	03 42 16.1	-0.2
AC05	El Transito	4.97	339		Pn	03 42 16.9	+0.5
BI03	Tigo	5.16	228		Pn	03 42 16.4	-2.2
AC04	Llanos de Chal	5.82	334	Pn	Pn	03 42 26.6	-0.5
GO03	Copiap	6.14	343	Pn	Pn	03 42 31.1	-0.2
AC02	Maricunga	6.69	353		Pn	03 42 38.4	-0.4
PLCA	Paso Flores	7.46	194	P	Pn	03 42 46.3	-2.0
	comp=Z,0.9nm,0.3s,baz=13,slow=11,SNR=44						
PLCA				S	S	03 44 09.0	-3.7
	baz=312,slow=13,SNR=1.5						
PLCA	Paso Flores	7.46	194		Pn	03 42 46.4	-1.9
AC01	Pan de Azucar	7.61	344	Pn	Pn	03 42 49.8	-0.5
GO02	Mina Guanaco	8.39	351		Pn	03 43 00.4	-0.4
PB14	IPOC Station P	9.04	347	Pn	Pn	03 43 08.2	-1.1
PB15	IPOC Station P	10.31	354		Pn	03 43 25.2	-0.3
PB06	IPOC Station P	10.82	353		Pn	03 43 31.2	-0.8
LVC	Limon Verde	10.86	357	P	Pn	03 43 32.3	-0.5
	comp=Z,4.1nm,0.3s,baz=197,slow=7.4,SNR=29						
LVC				S	S	03 45 34.6	0.0
	comp=Z,1.0nm,0.3s,baz=181,slow=21,SNR=1.6						
LVC	Limon Verde	10.86	357	Pn	Pn	03 43 32.6	-0.2
LVC					S	03 45 33.8	-0.8
PB09	IPOC Station P	11.69	355		Pn	03 43 43.1	-0.1
PB07	IPOC Station P	11.82	352		Pn	03 43 43.0	-1.8
CPUP	Villa Florida	11.84	56	P	Pn	03 43 42.5	-2.3
	comp=Z,0.1nm,0.3s,baz=252,slow=13,SNR=1.7						
PB01	IPOC Station P	12.46	354	P	Pn	03 43 51.9	-0.9
PB01					S	03 46 11.5	+0.1
PB08	IPOC Station P	13.33	356	Pn	Pn	03 44 03.8	-0.2
MNMC	Minye Minye	14.36	355	Pn	P	03 44 16.8	-1.2
PB16	IPOC Station P	15.14	355		Pn	03 44 26.0	-0.5
PB16				IAmb	IAmb	03 44 32.6	
	comp=Z,19nm,0.8s						
LPAZ	La Paz	17.14	0	P	Pn	03 44 51.0	+0.6
	comp=Z,1.7nm,0.3s,baz=172,slow=7.7,SNR=30						
LPAZ	La Paz	17.14	0	P	Pn	03 44 49.0	-1.5
LPAZ				IAmb	IAmb	03 44 55.1	
	comp=Z,26nm,1.0s						
SIV	San Ignacio	18.59	22	P	P	03 45 05.1	+1.0
	comp=Z,0.7nm,0.3s,baz=200,slow=8.0,SNR=17						
EFI	East Falkland	19.61	161	P	P	03 45 13.7	-1.0
BDFB	Brasilia	25.48	51	P	P	03 46 14.2	+2.4
	comp=Z,2.5nm,0.8s,baz=207,slow=19,SNR=2.6						
HOPE	Hope Point	30.49	143	P	P	03 46 56.6	+0.9
HOPE				IAmb	IAmb	03 47 11.1	
	comp=Z,14nm,0.9s						
BELA	Belgrano 2	46.84	171	P	P	03 49 11.8	+0.8
VNA3	Neumayer Olymp	48.64	158	P	P	03 49 24.6	-0.3
VNA2	Neumayer--Watz	49.25	158	P	P	03 49 28.5	-1.1
	baz=284,slow=8.8						
SNAA	Sanae	50.86	158	P	P	03 49 41.2	-0.4
SNAA	Sanae	50.86	158	P	P	03 49 42.2	+0.5
	comp=Z,2.6nm,0.6s,baz=219,slow=21,SNR=3.1						
SNAA	Sanae	50.86	158	P	P	03 49 41.8	+0.1
OBIP	Obispado Ponce	51.27	2	P	P	03 49 45.2	0.0
OBIP				IAmb	IAmb	03 49 54.7	
	comp=Z,20nm,1.0s						
QSPA	South Pole Qui	56.74	180	P	P	03 50 25.3	+1.0
QSPA				IAmb	IAmb	03 50 32.3	
	comp=Z,3.6nm,1.1s						
TEIG	Tepich	56.75	337	P	P	03 50 26.5	+1.7
VNDA	Vanda	65.20	191	P	P	03 51 22.8	+1.9
	comp=Z,1.0nm,0.6s,baz=139,slow=6.3,SNR=7.9						
VNDA	Vanda	65.20	191	P	P	03 51 22.0	+1.1
DBIC	Dimbokro	72.02	69	P	P	03 52 04.6	+0.6
	comp=Z,2.9nm,0.6s,baz=204,slow=6.6,SNR=5.8						
DBIC				pP	pP	03 52 49.4	-3.0
	comp=Z,2.1nm,0.6s,baz=217,slow=7.7,SNR=3.0						
DBIC	Dimbokro	72.02	69	P	P	03 52 03.9	0.0
DBIC				IAmb	IAmb	03 52 05.5	
	comp=Z,3.2nm,0.7s						
BOSA	Boshof	77.45	116	P	P	03 52 35.3	+0.1
	comp=Z,1.7nm,0.7s,baz=215,slow=4.8,SNR=7.1						
TORD	Torodi Ar. Bea	81.06	68	P	P	03 52 55.4	+0.7
	comp=Z,3.2nm,0.6s,baz=275,slow=5.1,SNR=12						
TORD				pP	pP	03 53 40.8	-3.4
	comp=Z,1.9nm,0.9s,baz=245,slow=5.0,SNR=4.4						
PDAR	Pinedale Array	84.82	331	P	P	03 53 14.8	+1.3
	comp=Z,0.6nm,0.6s,baz=131,slow=4.1,SNR=9.4						
NVAR	Mina Array Bea	85.35	323	P	P	03 53 19.1	+2.7
	comp=Z,1.0nm,0.7s,baz=145,slow=4.8,SNR=11						
ULM	Lac du Bonnet	86.91	343	P	P	03 53 24.7	+1.4
	comp=Z,1.0nm,0.5s,baz=173,slow=4.8,SNR=3.6						
FINES	FINESS Array B	120.78	34	PKP	PKiKP	03 59 30.1	+1.1
	comp=Z,1.0nm,0.7s,baz=117,slow=0.4,SNR=4.0						
FINES	FINESS Array B	120.78	34		PKiKP	03 59 30.0	+0.9
WRA	Warramunga Arr	122.67	205	PKP	PKiKP	03 59 34.5	+0.3
	comp=Z,1.2nm,0.6s,baz=171,slow=1.6,SNR=25						
WRA				pPKP	pPKPdf	04 00 24.1	-2.9
	comp=Z,0.2nm,0.5s,baz=170,slow=1.7,SNR=2.1						
KSH	Kashi	150.73	68	PKPbc	PKiKP	04 00 31.4	+0.7
ZALV	Zalesovo Beam	152.04	35	PKPbc	PKiKP	04 00 34.1	+1.4
	comp=Z,4.8nm,0.4s,baz=312,slow=2.3,SNR=21						
ZALV				pPKPbc	pPKPdf	04 01 22.1	+3.2
	comp=Z,1.7nm,0.7s,baz=298,slow=3.2,SNR=3.3						
ZALV	Zalesovo Beam	152.04	35		PKiKP	04 00 33.2	+0.5
MKAR	Makanchi Array	154.01	51	PKP	PKPbc	04 00 30.0	-7.0
	comp=Z,0.3nm,0.7s,baz=114,slow=3.0,SNR=2.7						
MKAR				PKPbc	PKiKP	04 00 38.4	+1.3
	comp=Z,0.7nm,0.7s,baz=299,slow=2.1,SNR=7.7						
MKAR				pPKPbc	pPKPdf	04 01 27.1	+5.0
	comp=Z,0.5nm,0.9s,baz=28,slow=2.9,SNR=3.0						
MKAR	Makanchi Array	154.01	51		PKiKP	04 00 37.6	+0.5

*HLW **05** 04:06:01.4, 34°.56N×33°.88E, h10km±11km, Ml3.2*
*ISK **05** 04:06:02.1, 34°.46N×33°.89E, h14km, ML3.2/22*
*NIC **05** 04:06:04.2±0.0, 34°.50N×33°.86E, h14km±1km, Ml3.1/6*
*GII **05** 04:06:06.8±0.0, 34°.43N×34°.01E, h30km, MD2.3/4, Mm2.5/5*
*DDA **05** 04:06:08.9, 34°.87N×33°.61E, h36km±1km, ML2.5*
ISC 05 04:06:02.9±1.7**, 34°.49N**±0°.02×**33°.92E**±0°.03**, h16**km±13km**, n73, σ1§47**/105**, 4C-2D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MVOU	Mavrovouni	0.57	336	⇑P	Pb	04 06 14.8	+0.3
MVOU				S	Sb	04 06 23.9	+1.5
MVOU				AML	AML	04 06 25.6	
	0.8nm,0.5s						
MVOU				AML	AML	04 06 25.6	
	0.8nm,0.5s						
MVOU				AML	AML	04 06 25.6	
	0.7nm,0.2s						
MVOU				AML	AML	04 06 25.6	
	0.7nm,0.2s						
ASGA	Asgata	0.62	298	⇑P	Pb	04 06 15.7	+0.3
ASGA				S	Sb	04 06 24.1	+0.2
ASGA				AML	AML	04 06 24.5	
	1.5nm,0.3s						
ASGA				AML	AML	04 06 24.5	
	1.5nm,0.3s						
ASGA				AML	AML	04 06 27.1	
	1.9nm,0.4s						
ASGA				AML	AML	04 06 27.1	
	1.9nm,0.4s						
AKIN	Akıncılar- Kıb	0.64	325	PG	Pb	04 06 15.7	0.0
AKIN				SG	Sb	04 06 24.9	+0.5
CSS	Mathiatis	0.67	314	PG	Pb	04 06 15.7	-0.5
CSS				SG	Sb	04 06 26.2	+0.9
CSS	Mathiatis	0.67	314	⇓P	Pb	04 06 16.2	0.0
CSS				S	Sb	04 06 26.1	+0.9
ATHAL	Athalassa	0.78	327	⇓P	Pn	04 06 19.3	+0.2
SZAC	Souni	0.89	287	⇑P	Pb	04 06 20.8	+0.8
SZAC				AML	AML	04 06 32.5	
	3.3nm,0.6s						
SZAC				AML	AML	04 06 32.5	
	3.3nm,0.6s						
SZAC				AML	AML	04 06 32.6	
	4.3nm,0.4s						
SZAC				AML	AML	04 06 32.6	
	4.3nm,0.4s						
SZAC				S	Sb	04 06 33.2	+1.6
LEF	Lefka	1.05	307	PN	Pb	04 06 23.2	+0.5
LEF	Lefka	1.05	307	i P	Pb	04 06 22.7	+0.1
EREN	Erenkoy	1.05	11	PN	Pb	04 06 23.5	+0.8
EREN	Erenkoy	1.05	11	i P	Pn	04 06 24.9	+1.9
EREN				IAML		04 06 42.0	
	comp=N,149nm,0.4s						
AKDN	Akdeniz- Kıbrı	1.12	316	PN	Pb	04 06 23.9	+0.1
NATA	Nata	1.15	285	P	Pn	04 06 24.9	+0.7
NATA				S	Sn	04 06 41.1	+1.5
NATA				AML	AML	04 06 42.7	
	comp=N,1.9nm,0.2s						
NATA				AML	AML	04 06 42.7	
	comp=N,1.9nm,0.2s						
NATA				AML	AML	04 06 44.1	
	comp=N,1.5nm,0.2s						
NATA				AML	AML	04 06 44.1	
	comp=N,1.5nm,0.2s						
ALFC	Alefka	1.27	302	P	Pg	04 06 26.3	-1.1
ALFC				S	Sn	04 06 44.2	+1.5
ALFC				AML	AML	04 06 46.4	
	comp=N,0.8nm,0.2s						
ALFC				AML	AML	04 06 46.4	
	comp=N,0.8nm,0.2s						
ALFC				AML	AML	04 06 47.5	
	comp=N,0.7nm,0.2s						
ALFC				AML	AML	04 06 47.5	
	comp=N,0.7nm,0.2s						
AKMS	Akamas	1.40	292	⇑P	Pn	04 06 28.6	+0.8
AKMS				S	Sn	04 06 47.8	+1.9
AKMS				AML	AML	04 06 48.7	
	comp=N,0.8nm,0.3s						
AKMS				AML	AML	04 06 48.7	
	comp=N,0.8nm,0.3s						
AKMS				AML	AML	04 06 48.9	
	comp=N,1.0nm,0.2s						
AKMS				AML	AML	04 06 48.9	
	comp=N,1.0nm,0.2s						
AKK2	Akkuyu-Mersin	1.67	350	PN	Pn	04 06 32.1	+0.7
AKK1	Akkuyu-Mersin	1.68	350	PN	Pn	04 06 32.3	+0.8
TISA	Tisan-Mersin	1.68	353	PN	Pn	04 06 32.3	+0.8
AKKU	Akkuyu-Mersin	1.69	350	PN	Pn	04 06 32.4	+0.7
YESI	Yesilovacik-Me	1.71	353	PN	Pn	04 06 32.8	+0.8
GULN	MERSIN_Gulnar	1.71	350	i P	Pn	04 06 32.8	+0.7
GULN				i S	Sn	04 06 51.3	-2.3
KARG	Kargicak-Mersi	1.71	354	PN	Pn	04 06 32.7	+0.6
OREN	Orenkoy-Mersin	1.75	348	PN	Pn	04 06 33.3	+0.8
TEPK	Tepekoy-MERSIN	1.75	350	PN	Pn	04 06 33.3	+0.7
HNTI	Hanita	1.75	143	Pn	Pn	04 06 33.3	+0.7
TEKE	Tekeli-Mersin	1.77	339	PN	Pn	04 06 33.3	+0.5
SILI	Silifke-Mersin	1.87	0	PN	Pn	04 06 35.1	+0.9
MMA0B	Mount Meron ar	1.93	140	Pn	Pn	04 06 35.9	+0.9
MMA0B				Sn	Sn	04 06 58.5	-0.4
BERE	Bereket-Mersin	1.94	343	PN	Pn	04 06 36.0	+0.8
GEM	Giv'at Ha'Em	1.94	131	Pn	Pn	04 06 35.9	+0.8
GEM				Sn	Sn	04 06 57.6	-1.5
NATI	Neve Ativ	1.95	129	Pn	Pn	04 06 36.4	+1.1
NATI				Sn	Sn	04 06 58.7	-0.7
KEBE	Keben-Mersin	1.96	355	PN	Pn	04 06 36.3	+0.8
OSC2	CSNet OBS 4	1.97	225	P	Pn	04 06 35.9	+0.3
OSC2				S	Sb	04 07 02.3	-0.4
TEVE	Tevekalti-Mers	1.98	349	PN	Pn	04 06 36.8	+1.1
KIZK	Mersin	1.99	5	PN	Pn	04 06 36.9	+1.0
KIZK	Mersin	1.99	5	i P	Pn	04 06 37.4	+1.5
KIZK				IAML		04 07 03.0	
	comp=E,41nm,0.4s						
BLGI	Bet Lehem HaGe	2.05	148	Pn	Pn	04 06 38.0	+1.3
OFRI	`Ofer	2.07	154	Pn	Pn	04 06 37.3	+0.3
OFRI				Sn	Sn	04 07 01.2	-1.2
GAZI	Gazipasa	2.17	323	PN	Pn	04 06 39.1	+0.7
GAZI	Gazipasa	2.17	323	i P	Pn	04 06 38.9	+0.5
GAZI				i S	Sn	04 07 00.3	-4.7
KSHT	Keshet	2.18	133	Pn	Pn	04 06 39.9	+1.3
KSHT				Sn	Sn	04 07 05.1	-0.2
ERMK	Ermenek	2.29	339	i P	Pn	04 06 41.8	+1.5
ERMK				i S	Sn	04 07 07.7	-0.5
ERMK				IAML		04 07 13.0	
	comp=E,35nm,0.5s						
KRTS	Karatas	2.39	29	PN	Pn	04 06 42.6	+1.2
MMLI	Mount Malkishu	2.41	148	PN	Pn	04 06 42.3	+0.7
MMLI	Mount Malkishu	2.41	148	Pn	Pn	04 06 42.8	+1.2
MMLI				Sn	Sn	04 07 10.6	-0.1
OSC1	CSNet OBS 1	2.41	246	P	Pn	04 06 43.1	+1.5
OSC1				S	Sn	04 07 12.3	+1.7
SLTI	Sal'it	2.44	157	Pn	Pn	04 06 42.9	+0.9
DED	Mersin	2.56	16	i P	Pn	04 06 44.5	+0.8
DED				i S	Sn	04 07 11.1	-3.5
HMDT	Nahal Hemdat	2.61	148	Pn	Pn	04 06 45.8	+1.4
HMDT				Sn	Sn	04 07 15.6	-0.1
KKBE	Karaman, Kazim	2.83	344	i P	Pn	04 06 48.9	+1.4
KKBE				i S	Sn	04 07 20.6	-0.8
KARA	Karaisali	2.91	18	PN	Pn	04 06 49.9	+1.4
KERG	Konya-Eregli	2.92	3	i P	Pn	04 06 50.9	+2.2
KERG				i S	Sn	04 07 23.5	-0.1
KERG				IAML		04 07 28.0	
	comp=N,47nm,0.7s						
KERG				IAML		04 07 28.0	
	comp=E,17nm,0.4s						
KEPZ	Antalya-Kepez	3.05	323	i P	Pn	04 06 52.1	+1.6
KEPZ				IAML		04 07 33.0	
	comp=N,33nm,0.5s						
AMAZ	Amatzia	3.07	164	Pn	Pn	04 06 51.6	+0.9
AMAZ				Sn	Sn	04 07 26.9	-0.2
DSI	Dead Sea	3.16	157	Pn	Pn	04 06 53.7	+1.7
DSI				Sn	Sn	04 07 29.4	0.0
CMRD	Camardi-Nigde	3.28	15	PN	Pn	04 06 55.3	+1.6
YTIR	Yattir	3.28	162	Pn	Pn	04 06 55.2	+1.5
YTIR				Sn	Sn	04 07 32.5	+0.1
YESY	Yesilyurt	3.29	358	PN	Pn	04 06 55.3	+1.5
KOZT	Kozan	3.36	27	PN	Pn	04 06 56.4	+1.7
KUZU	Kuzuini	3.43	48	i P	Pn	04 06 55.3	-0.4
KUZU				IAML		04 07 36.0	
	comp=E,10.0nm,1.0s						
KUZU				IAML		04 07 37.0	
	comp=N,35nm,1.1s						
GHAJ	Ghor Haditha	3.47	156	Pn	Pn	04 06 58.0	+1.8
KAMA	Osmaniye	3.50	39	i P	Pn	04 06 56.7	+0.1
KAMA				i S	Sn	04 07 32.6	-5.1
NIDE	Nigde/Merkez-G	3.57	11	i P	Pn	04 06 57.3	-0.4
NIDE				IAML		04 07 47.0	
	comp=E,12nm,0.3s						
KONT	Konya--Tatoy	3.67	340	PN	Pn	04 07 00.8	+1.9
PRNI	Paran	4.23	167	Pn	Pn	04 07 08.0	+1.3
KRMI	Paran Flat	4.42	171	Pn	Pn	04 07 10.8	+1.5
HRFI	Mount Harif	4.54	168	Pn	Pn	04 07 12.3	+1.3
HRFI				Sn	Sn	04 08 03.3	-0.2
SUZ	Suez	4.73	191	P	Pn	04 07 14.5	+0.9
	baz=191						
MBRI	Mt Berech	4.76	169	Pn	Pn	04 07 16.0	+2.0
KOT	Kottamia	4.88	202	P	Pn	04 07 15.5	-0.2
	baz=202						
HKAT	Jabal Katrina	5.95	179	P	Pn	04 07 30.9	+0.4
	baz=179						
HKAT				AMP		04 08 00.0	
	baz=179						
HKAT				S	Sn	04 08 35.4	-3.1
	baz=179						
RYAN	Fayoum	6.22	211	P	Pn	04 07 35.4	+1.4
	baz=211						
RYAN				AMP		04 08 00.0	
	baz=211						
RYAN				S	Sn	04 08 41.5	-3.3
	baz=211						
SWA2		8.89	236	P	Pn	04 08 10.8	+0.1
	baz=236						
SWA2				S	Sn	04 09 45.5	-5.1
	baz=236						

*NEIC **05** 04:06:05.6±2.1, 5°.4S±0°.1×154°.2E±0°.1, h167km±12km, mb4.2/11, Error ellipse: s-maj=20.5km s-min=14.4km az=176.0*
*IDC **05** 04:06:12.0±14.0, 5°.56S×154°.27E, h238km±155km, mb3.5/7, mb1 3.7/8, mb1mx3.3/47, mbtmp4.1/8, Error ellipse: s-maj=56.1km s-min=22.4km az=164.0*
ISC 05 04:06:03.7±1.2**, 5°.5S**±0°.1×**154°.4E**±0°.1**, h150**km**, n25, σ1§53**/26**, mb4.2**/11**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	2.53	300	Pn	Pn	04 06 46.2	+1.0
RABL				Sn	Sn	04 07 19.4	+2.3
COEN	Coen	13.89	232		P	04 09 18.7	+1.1
CTA	Charters Tower	16.55	208	P	Pn	04 09 49.3	+2.2
	0.6nm,0.3s,baz=32,slow=14,SNR=9.3						
CTAO	Charters Tower	16.55	208	P	P	04 09 48.0	+0.9
CTAO				IAmb	IAmb	04 09 51.8	
	comp=Z,6.7nm,0.9s						
DZM	Mont Dzumac	20.24	146	P	P	04 10 29.1	+1.7
	comp=Z,6.9nm,0.5s,baz=274,slow=7.1,SNR=24						
DZM	Mont Dzumac	20.24	146	P	P	04 10 29.5	+2.1
DZM				IAmb	IAmb	04 10 32.1	
	comp=Z,9.0nm,1.0s						
WR0	Warramunga Arr	24.07	231	P	P	04 11 05.0	-0.3
WR0				IAmb	IAmb	04 11 06.2	
	comp=Z,20nm,1.1s						
WB0	Warramunga Arr	24.08	232	P	P	04 11 04.8	-0.7
WB2	Warramunga Arr	24.21	232	P	P	04 11 06.6	0.0
WRA	Warramunga Arr	24.22	232	P	P	04 11 06.8	0.0
	comp=Z,12nm,0.6s,baz=57,slow=9.9,SNR=124						
AS31	Alice Springs	26.76	225	P	P	04 11 27.5	-2.2
ASAR	Alice Springs	26.76	225	P	P	04 11 28.9	-0.8
	comp=Z,1.3nm,0.5s,baz=54,slow=9.1,SNR=23						
ASAR	Alice Springs	26.76	225	P	P	04 11 28.0	-1.6
STKA	Stephens Creek	28.88	203	P	P	04 11 47.2	-1.2
	comp=Z,2.5nm,0.9s,baz=44,slow=11,SNR=2.9						
STKA	Stephens Creek	28.88	203	P	P	04 11 46.4	-2.0
FITZ	Fitzroy Crossi	30.74	243	P	P	04 12 03.5	-1.4
	comp=Z,3.9nm,0.6s,baz=79,slow=11,SNR=8.2						
FITZ	Fitzroy Crossi	30.74	243	P	P	04 12 03.8	-1.2
BBOO	Buckleboo	32.13	210	P	P	04 12 16.2	-0.7
BBOO				IAmb	IAmb	04 12 25.1	
	comp=Z,6.4nm,0.9s						
FORT	Forrest	35.30	221	P	P	04 12 41.7	-2.7
FORT				IAmb	IAmb	04 12 47.1	
	comp=Z,12nm,0.8s						
MBWA	Marble Bar	37.02	242	P	P	04 12 57.3	-1.9
PSA00	Pilbara Seismi	37.06	241	P	P	04 12 58.4	-1.1
MORW	Morawa	43.17	233	P	P	04 13 48.5	-1.3
MORW				IAmb	IAmb	04 13 51.5	
	comp=Z,6.7nm,1.0s						
SONM	Songino Array	67.71	327	P	P	04 16 44.1	-0.9
	comp=Z,0.2nm,0.7s,baz=120,slow=10,SNR=1.6						
VNDA	Vanda	72.13	178	P	P	04 17 12.2	+0.9
VNDA				IAmb	IAmb	04 17 17.5	
	comp=Z,0.9nm,1.0s						
MKAR	Makanchi Array	81.84	319	P	P	04 18 05.4	-0.8
	comp=Z,0.3nm,0.7s,baz=110,slow=5.9,SNR=3.5						

IDC 05 04:20:58.0±2.1**, 11°.09S**×**164°.67E, h0**km**, mb3.7**/3**, mb1 3.9**/4**, mb1mx3.6**/35**, mbtmp3.8**/4**, ML3.8**/1**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.6**/30**, Error ellipse: s-maj=51.9km s-min=43.6km az=85.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	4.93	289	LR	LR	04 24 07.8	
	comp=Z,109nm,19.9s,baz=192,slow=38						
DZM	Mont Dzumac	11.06	171	Pn	Pn	04 23 36.7	-0.9
	0.7nm,0.3s,baz=37,slow=6.6,SNR=10						
H11S2	WAKE ISLAND Hy	29.46	4	T	T	04 58 07.9	
	baz=184,slow=76,SNR=7.0						
H11S3	WAKE ISLAND Hy	29.46	4	T	T	04 58 13.2	
	baz=184,slow=76,SNR=6.4						
H11S1	WAKE ISLAND Hy	29.47	4	T	T	04 58 11.9	
	baz=184,slow=76,SNR=4.5						
WRA	Warramunga Arr	30.48	249	P	P	04 27 13.0	+0.1
	1.2nm,0.7s,baz=81,slow=9.2,SNR=9.1						
WRA				PcP	PcP	04 30 12.9	+0.5
	0.7nm,0.7s,baz=72,slow=3.1,SNR=8.0						
H11N1	WAKE ISLAND Hy	30.68	4	T	T	04 59 41.6	
	baz=193,slow=74,SNR=7.6						
H11N3	WAKE ISLAND Hy	30.69	4	T	T	04 59 43.9	
H11N2	WAKE ISLAND Hy	30.70	4	T	T	04 59 41.6	
	baz=201,slow=74,SNR=3.1						
ASAR	Alice Springs	31.83	243	P	P	04 27 24.6	-0.3
	0.6nm,0.7s,baz=65,slow=10.0,SNR=9.3						
ASAR				PcP	PcP	04 30 15.9	-0.1
	0.6nm,0.7s,baz=82,slow=1.9,SNR=6.2						
MKAR	Makanchi Array	92.83	317	P	P	04 34 11.6	-1.1
	0.2nm,0.6s,baz=100,slow=6.7,SNR=2.2						

*BJI **05** 04:31:01.8±0.0, 1°.98N×128°.78E, h243km, mB4.7/35, mb4.6/59*
*KLM **05** 04:31:04, 2°.32N×128°.74E, h230km, mb4.7*
*IDC **05** 04:31:05.0±0.6, 2°.10N×128°.48E, h247km±5km, mb4.3/25, mb1 4.3/29, mb1mx4.1/45, mbtmp4.9/29, Error ellipse:*

s-maj=12.5km s-min=5.7km az=77.0

*NEIC **05** 04:31:05.1±1.0,2°.08N±0°.07×128°.44E±0°.05,h250km±6km, mb4.7/61,Error ellipse: s-maj=10.2km s-min=6.5km az=194.0*

*GCMT **05** 04:31:05.1±0.4,2°.21N±0°.02×128°.41E±0°.03,h220km±4km, MW5.0/72,Moment Tensor Solution. s14,c14; s72,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.84±.16; $M_{\theta\theta}$0.12±.18; $M_{\phi\phi}$-0.96±.21; $M_{r\theta}$-2.28±.12; $M_{\theta\phi}$2.52±.15; $M_{\phi r}$-0.51±.14; Best double couple: $M_0$3.53400×10^{16} NP1:ϕ_s180.00000°,δ51.00000°,λ164.00000°. NP2: ϕ_s280.00000°,δ77.00000°,λ40.00000°. Principal axes: T 3.7500, Plg37.0000°, Azm148.0000°; N -0.4340, Plg48.0000°, Azm294.0000°; P -3.3170, Plg17.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **05** 04:31:05.5±0.2,2°N±2°×12°8E±°,h237km±2km,M4.6/36, mb4.7/36,mB5.0/19,MLv5.2/18,Mw(mB)4.4/19, MwMwp5.2/3,Mwp5.4/3*

ISC 05 04:31:05.1±0.4**,2°.10N**±0°.04×**128°.47E**±0°.05**,h249**km±4km**, h249**km**:pP-P,n187,**σ**1°.37**/226**,mb4.6**/66**,1C-3D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	1.71	220	Pn	Pn	04 31 45.5	+0.5
TNTI				S	S	04 32 15.5	-1.0
TNTI	Ternate	1.71	220	P	Pn	04 31 45.4	+0.4
TNTI				S	S	04 32 16.2	-0.2
SGSI	Sangihe	3.33	298	P	Pn	04 32 00.6	-0.6
SGSI				S	S	04 32 43.9	-1.7
SWI	Sorong	4.05	136	P	Pn	04 32 10.5	+1.0
SWI				S	S	04 33 01.1	+0.4
SIJI	Sorong	4.06	136	P	Pn	04 32 10.3	+0.6
	13nm,0.3s,baz=338,slow=8.1,SNR=26						
SIJI				S	S	04 33 00.1	-0.8
	4.2nm,0.3s,baz=165,slow=22,SNR=6.8						
KMSI	Cibinong	4.73	251	P	Pn	04 32 18.5	+0.9
KMSI				S	S	04 33 14.5	-0.8
SANI	Sanana	4.80	211	P	Pn	04 32 17.5	-1.0
SANI				S	S	04 33 11.7	-5.3
DDMP	Don Marcelino,	4.84	326	*e*P	Pn	04 32 17.8	-1.1
MATI	Mati	5.30	336	*e*P	Pn	04 32 22.3	-2.2
NLAI	Namlea	5.47	194	P	Pn	04 32 28.1	+1.4
	1.2nm291μm4μm305nm,1.4s						
GTOI	Gorontalo	5.64	255	P	Pn	04 32 30.0	+1.2
	1.0nm1μm65nm,0.5s						
GTOI				S	S	04 33 35.2	-0.4
	1.0nm1μm65nm,0.5s						
DAV	Davao City (W)	5.72	330	P	Pn	04 32 30.2	+0.4
	70nm,0.3s,baz=99,slow=2.2,SNR=20						
DAV				S	S	04 33 37.4	0.0
	81nm,0.3s,baz=238,slow=17,SNR=1.8						
DAV	Davao City (W)	5.72	330		Pn	04 32 30.3	+0.5
DAV					S	04 33 36.0	-1.4
SKMP	Bagumbayan, Su	5.88	318	*e*P	Pn	04 32 30.1	-1.7
KCP	Kidapawan	5.93	326	⇑*e*P	Pn	04 32 32.2	-0.3
KCP				*i* S	S	04 33 41.0	-1.3
FAKI	Fak Fak	6.25	143	Pn	Pn	04 32 37.1	+0.6
FAKI	Fak Fak	6.25	143	P	Pn	04 32 37.4	+0.9
	0.8nm3μm275nm,1.2s						
FAKI				S	S	04 33 49.7	+0.1
	0.8nm3μm275nm,1.2s						
LUWI	Luwuk	6.49	241	Pn	Pn	04 32 40.1	+0.7
LUWI				S	S	04 33 53.5	-1.4
LUWI	Luwuk	6.49	241	P	Pn	04 32 40.1	+0.7
	3.7nm5μm206nm,0.7s						
LUWI				S	S	04 33 50.8	-4.1
	3.7nm5μm206nm,0.7s						
BUKP	Musuan	6.67	330	*e*P	Pn	04 32 41.2	-0.6
MRSI	Marisa	6.72	256	P	Pn	04 32 42.3	0.0
	0.7nm4μm3μm145nm,0.6s						
MRSI				S	S	04 33 57.8	-2.3
	0.7nm4μm3μm145nm,0.6s						
RKPI	Ransiki, Papua	6.74	122	P	Pn	04 32 45.0	+2.4
	2.4nm7μm603nm,1.4s						
CGP	Cagayan de Oro	7.35	329	⇓*e*P	Pn	04 32 51.9	+1.6
APSI	Ampana	7.44	246	P	Pn	04 32 51.5	+0.1
	1.0nm3μm105nm,1.2s						
APSI				S	S	04 34 14.6	-2.2
	1.0nm3μm105nm,1.2s						
PAGZ	Pagadian	7.63	319	*e*P	Pn	04 32 52.7	-1.1
TOLI2	Tolitoli	7.74	263	Pn	Pn	04 32 55.4	+0.2
GLSP	General Luna,	7.99	343	*e*P	Pn	04 32 54.7	-3.6
CNOP	Candoni, Negro	9.62	323	*e*P	Pn	04 33 18.8	-0.2
TTSI	Tana Toraja	10.04	239	P	Pn	04 33 24.9	+0.6
	1μm59nm,1.1s						
TTSI				S	S	04 35 12.7	-4.5
	1μm59nm,1.1s						
MYLDM	Lahad Datu	10.40	287	Pn	Pn	04 33 29.7	+0.8
BNSI	Bone	10.55	232	P	Pn	04 33 31.2	+0.4
	33nm,1.1s						
BNSI				S	S	04 35 29.9	+0.7
	33nm,1.1s						
SPSI	Sidrap Palu	10.57	235	P	Pn	04 33 32.0	+1.0
	997nm36nm,0.7s						
SPSI				S	S	04 35 29.6	0.0
	997nm36nm,0.7s						
SMPI	Sarmi	11.02	112	P	Pn	04 33 37.1	+0.5
	119nm,1.4s						
KAPI	Kappang	11.21	231	P	Pn	04 33 39.6	+0.6
	1.9nm,0.3s,baz=130,slow=23,SNR=1.1						
KAPI				S	S	04 35 46.2	+1.8
	3.5nm,0.3s,baz=157,slow=22,SNR=1.8						
SPMM	Sapulut	12.26	283	P	P	04 33 55.0	+0.2
SOEI	Soe	12.49	199	Pn	Pn	04 33 54.1	-0.9
SOEI	Soe	12.49	199	P	P	04 33 57.2	-0.3
	79nm,1.0s						
SOEI				S	S	04 36 16.0	+1.7
	79nm,1.0s						
GENI	Genyem	12.59	112	P	P	04 33 58.2	-0.3
	9μm932nm,1.1s						
JAY	Jayapura	13.06	110	P	P	04 34 03.0	-0.8
	686nm99nm,1.0s						
BATI	Baumata	13.12	201	P	Pn	04 34 02.8	+0.1
	8.1nm,0.3s,baz=234,slow=3.1,SNR=5.7						
BATI	Baumata	13.12	201	P	P	04 34 04.9	+0.5
	30nm,0.7s						
JCNP	Jose Panganiba	13.39	335	*e*P	P	04 34 09.8	+2.5
LUBP	Lubang	14.13	325	*e*P	P	04 34 17.0	+1.4
BALP	Baler	15.16	334	*e*P	Pn	04 34 28.2	+0.8
PLAI	Plampang	15.21	224	P	Pn	04 34 30.5	+2.5
	1μm84nm,1.2s						
SBUM	Sibu	16.24	272		P	04 34 38.1	-0.6
SBUM				IAmb	IAmb	04 34 44.4	
	comp=Z,19nm,0.8s						
APYP	Conner	17.20	336	*e*P	P	04 34 49.9	+0.7
SZP	Santa	17.26	333	P	P	04 34 49.4	-0.4
KSM	Kuching	18.16	268	P	P	04 34 58.0	-1.7
KSM				IAmb	IAmb	04 35 03.6	
	comp=Z,18nm,0.9s						
KSM	Kuching	18.16	268	P	Pn	04 35 03.0	+0.2
FITZ	Fitzroy Crossi	20.26	188	P	P	04 35 22.1	-0.1
	comp=Z,3.6nm,0.5s,baz=42,slow=4.3,SNR=6.2						
FITZ	Fitzroy Crossi	20.26	188	P	P	04 35 20.8	-1.3
COEN	Coen	21.61	138	P	P	04 35 34.6	-1.2
TWG	Pinlang	21.82	341	P	P	04 35 35.9	-1.8
YULB	Yu-li	22.28	342	P	P	04 35 40.1	-1.9
YULB				IAmb	IAmb	04 35 46.2	
	comp=Z,18nm,0.7s						
TPUB	Ta-pu	22.41	341	P	P	04 35 42.3	-0.7
WB0	Warramunga Arr	22.49	165	P	P	04 35 43.7	-0.2
WRA	Warramunga Arr	22.65	166	P	P	04 35 45.1	-0.2
	comp=Z,75nm,0.5s,baz=345,slow=10,SNR=508						
WRA				S	S	04 39 30.4	-4.0
	comp=Z,1.1nm,0.8s,baz=185,slow=19,SNR=1.7						
WRA				ScP	ScP	04 42 43.8	+0.2
	comp=Z,3.1nm,0.8s,baz=339,slow=2.9,SNR=8.7						
WB2	Warramunga Arr	22.65	165	P	P	04 35 45.2	-0.1
WR0	Warramunga Arr	22.71	165	P	P	04 35 44.9	-1.0
SSLB	Suanglung	22.76	342	P	P	04 35 46.1	-0.2
SSLB				IAmb	IAmb	04 35 55.6	
	comp=Z,23nm,1.0s						
YHNB	Yeheng	23.46	344	P	P	04 35 52.6	-0.1
KNMB	Chin-men Tao	24.28	337	P	P	04 35 59.6	-0.4
JOW	Kunigami	24.60	360	P	P	04 36 03.1	+0.2
	comp=Z,36nm,0.7s,baz=177,slow=13,SNR=8.3						
AS31	Alice Springs	26.15	169	P	P	04 36 16.6	-0.3
AS31				IAmb	IAmb	04 36 23.1	
	comp=Z,6.4nm,0.6s						
ASAR	Alice Springs	26.15	169	P	P	04 36 17.3	+0.4
	comp=Z,11nm,0.5s,baz=357,slow=8.6,SNR=155						
ASAR				pP	pP	04 37 05.9	+0.7
	comp=Z,12nm,0.9s,baz=340,slow=9.5,SNR=9.9						
ASAR				PcP	PcP	04 39 37.9	+0.6
	comp=Z,1.5nm,0.4s,baz=360,slow=1.9,SNR=5.8						
ASAR				S	S	04 40 29.5	-0.5
	comp=Z,2.0nm,0.8s,baz=354,slow=23,SNR=4.7						
ASAR				ScP	ScP	04 42 53.7	+0.4
	comp=Z,4.1nm,0.8s,baz=343,slow=3.0,SNR=11						
ASAR	Alice Springs	26.15	169	P	P	04 36 17.0	+0.1
ASAR					PcP	04 39 37.3	-0.1
CTAO	Charters Tower	28.12	142	P	P	04 36 34.5	0.0
CTAO				IAmb	IAmb	04 36 40.0	
	comp=Z,10nm,0.7s						
JCJ	Chichijima	28.12	27	P	P	04 36 33.1	-1.3
	comp=Z,45nm,0.3s,baz=265,slow=20,SNR=18						
NJ2	Nanjing	31.14	344	*e*P	P	04 37 03.5	+2.6
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GYA	Guiyang	32.02	321	*e*P	P	04 37 09.7	+0.9
GYA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CMAR	Chiang Mai Arr	33.19	301	P	P	04 37 19.4	+0.4
	comp=Z,0.9nm,0.4s,baz=124,slow=6.7,SNR=7.7						
CMAR				pP	pP	04 38 09.0	+0.9
	comp=Z,1.7nm,0.4s,baz=114,slow=7.3,SNR=6.5						
ENH	Enshi	33.30	329	P	P	04 37 19.5	-0.3
ENH				IAmb	IAmb	04 37 22.7	
	comp=Z,20nm,0.9s						
KMI	Kunming	33.75	315	⇓P	P	04 37 26.2	+2.2
KMI				pmax	pmax		
	comp=Z,15nm,1.3s						
EIDS	Eidsvold	35.01	143	P	P	04 37 34.1	-0.3
EIDS				IAmb	IAmb	04 37 35.3	
	comp=Z,21nm,1.1s						
KSAR	Wonju Array Be	35.18	359	P	P	04 37 35.6	-0.1
KSRS	Korea Array	35.19	359	P	P	04 37 35.6	-0.2
	comp=Z,9.6nm,0.6s,baz=176,slow=9.6,SNR=30						
KS19	Wonju Array Si	35.24	359	P	P	04 37 36.1	-0.1
KS19				IAmb	IAmb	04 37 36.4	
	comp=Z,10nm,0.6s						
MJAR	Matsushiro Arr	35.44	14	P	P	04 37 36.2	-1.7
	comp=Z,12nm,0.5s,baz=193,slow=8.8,SNR=22						
MJAR	Matsushiro Arr	35.44	14	P	P	04 37 36.0	-2.0
MAJO	Matsushiro	35.44	14	P	P	04 37 36.0	-2.0
MAJO				IAmb	IAmb	04 37 38.0	
	comp=Z,20nm,0.7s						
MAT	Matsushiro	35.44	14	P	P	04 37 36.0	-2.0
BBOO	Buckleboo	35.45	169	P	P	04 37 38.2	+0.1
STKA	Stephens Creek	36.01	161	P	P	04 37 43.1	+0.3
	comp=Z,36nm,0.4s,baz=340,slow=8.0,SNR=99						
STKA				PP	PP	04 39 08.8	-1.8
	comp=Z,6.8nm,0.8s,baz=339,slow=11,SNR=3.0						
STKA	Stephens Creek	36.01	161	P	P	04 37 42.9	+0.1
STKA				IAmb	IAmb	04 37 44.3	
	comp=Z,12nm,0.6s						
XAN	Xi'an	36.65	332	P	P	04 37 48.6	+0.3
XAN				pmax	pmax		
	comp=Z,30nm,0.8s						
XAN	Xi'an	36.65	332	P	P	04 37 47.8	-0.5
XAN				IAmb	IAmb	04 37 49.0	
	comp=Z,18nm,0.6s						
CD2	Chengdu	36.98	323	P	P	04 37 51.6	+0.5
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
DL2	Dalian	37.17	351	P	P	04 37 52.9	+0.5
DL2				pmax	pmax		
	comp=Z,20nm,0.8s						
JMM	Marumori	37.36	16	P	P	04 37 54.1	+0.1
ARMA	Armidale	39.16	147	P	P	04 38 09.3	0.0
ARMA				IAmb	IAmb	04 38 10.7	
	comp=Z,18nm,0.8s						
BJT	Baijiatuau	39.37	345	P	P	04 38 10.6	-0.2
BJT				IAmb	IAmb	04 38 11.3	
	comp=Z,21nm,0.7s						
BJI	Beijing	39.39	345	P	P	04 38 10.9	0.0
BJI				pmax	pmax		
	comp=Z,29nm,0.7s						
LZH	Lanzhou	40.78	329	⇓P	P	04 38 24.3	+1.7
LZH				pP	pwP	04 39 19.3	+2.2
LZH				sP	sP	04 39 46.2	+5.1
LZH				pmax	pmax		
	comp=Z,43nm,1.1s						
H11S3	WAKE ISLAND Hy	40.84	64	T	T	05 22 43.6	
	baz=252,slow=75,SNR=31						
H11S2	WAKE ISLAND Hy	40.86	64	T	T	05 22 47.7	
	baz=252,slow=75,SNR=13						
H11S1	WAKE ISLAND Hy	40.86	64	T	T	05 22 43.4	
	baz=252,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	41.43	62	T	T	05 23 24.3	
	baz=250,slow=75,SNR=40						
H11N2	WAKE ISLAND Hy	41.44	62	T	T	05 23 24.0	
	baz=250,slow=75,SNR=19						
H11N3	WAKE ISLAND Hy	41.45	62	T	T	05 23 25.0	
	baz=250,slow=75,SNR=38						
HHC	Hu-ho-hao-te	41.49	341	*e*P	P	04 38 28.8	+0.5
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,160nm,5.4s						
USA0B	Ussuriysk Arra	42.04	4	P	P	04 38 32.4	0.0
USA0B				IAmb	IAmb	04 38 33.1	
	comp=Z,15nm,0.8s						
USRK	Ussuriysk Ar.	42.04	4	P	P	04 38 32.4	-0.1
	comp=Z,7.6nm,0.5s,baz=183,slow=7.1,SNR=27						
USRK	Ussuriysk Ar.	42.04	4	P	P	04 38 32.5	0.0
SHL	Shillong	42.23	307	P	P	04 38 34.4	-0.2
SHL				IAmb	IAmb	04 38 36.3	
	comp=Z,16nm,0.7s						
MDJ	Mudanjiang	42.35	1	P	P	04 38 34.8	-0.2
JKA	Kamikawa-asahi	43.68	15	P	P	04 38 45.5	0.0
JKA				IAmb	IAmb	04 38 52.7	
	comp=Z,33nm,1.1s						
GTA	Gaotai	45.38	329	P	P	04 39 00.0	+0.7
GTA				pP	pP	04 39 50.0	-1.0
GTA				sP	sP	04 40 20.0	+1.3
GTA				PcP	PcP	04 40 35.4	+1.2
GTA				ScP	ScP	04 44 04.1	+1.1
GTA				pmax	pmax		
	comp=Z,11nm,1.3s						
GTA				pmax	pmax		
	comp=Z,36nm,4.3s						
GTA				LR	LR		
	comp=Z,120nm,14.2s						
GTA				LR	LR		
	comp=Z,140nm,17.8s						
GTA				LR	LR		
	comp=Z,160nm,15.6s						
ULN	Ulaanbaatar	49.21	341	P	P	04 39 28.5	-0.1
ULN				IAmb	IAmb	04 39 29.6	
	comp=Z,17nm,0.7s						
SONM	Songino Array	49.40	341	P	P	04 39 30.3	+0.4
	comp=Z,8.0nm,0.6s,baz=153,slow=8.1,SNR=84						
SONM				PcP	PcP	04 40 49.1	+0.7
	comp=Z,1.8nm,0.9s,baz=146,slow=4.7,SNR=4.1						
SONM	Songino Array	49.40	341	P	P	04 39 29.9	-0.1
WMQ	Urumqi	55.05	325	*e*P	P	04 40 12.7	+1.3
WMQ				pP	pP	04 41 06.9	+1.7
WMQ				pmax	pmax		
	comp=Z,25nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,240nm,4.1s						
PETK	Petropavlovsk-	56.31	21	P	P	04 40 20.6	+0.5
	comp=Z,18nm,0.9s,baz=192,slow=3.6,SNR=13						
PETK	Petropavlovsk-	56.31	21	P	P	04 40 20.2	+0.2
ZSN	Zaisan	58.81	327	*e*P	P	04 40 37.2	-0.4
	baz=327						
LBZ	Lake Benmore	59.37	146	P	P	04 40 41.4	-0.1
LBZ				IAmb	IAmb	04 40 42.9	
	comp=Z,18nm,0.7s						
SHLS	Shalkode	59.70	320	*e*P	P	04 40 42.0	-1.9
	baz=320						
YAK	Yakutsk	59.80	1	P	P	04 40 44.3	+0.3
MK31	Makanchi Array	59.88	325	P	P	04 40 45.0	0.0
MK31				IAmb	IAmb	04 40 45.8	
	comp=Z,11nm,0.5s						
MKAR	Makanchi Array	59.88	325	P	P	04 40 45.0	0.0
	comp=Z,15nm,0.4s,baz=114,slow=8.1,SNR=406						
MKAR				pP	pP	04 41 38.6	-0.9
	comp=Z,2.8nm,0.7s,baz=121,slow=8.7,SNR=5.6						
MA2	Magadan	59.88	13	P	P	04 40 45.3	+0.6
	comp=Z,9.4nm,0.6s,baz=172,slow=8.0,SNR=12						
MA2	Magadan	59.88	13	P	P	04 40 44.6	0.0
MA2				IAmb	IAmb	04 40 46.0	
	comp=Z,15nm,0.7s						
UZB	Uzynbulak	59.98	320	*e*P	P	04 40 45.9	0.0
	baz=320						
MAKZ	Makanchi	60.07	325	P	P	04 40 46.2	0.0
MAKZ				IAmb	IAmb	04 40 46.9	
	comp=Z,18nm,0.5s						
SATY	Saty	60.34	320	*e*P	P	04 40 48.5	+0.2
	comp=Z,3.9nm,0.7s,baz=320						
KPKS	Kokpek	60.35	320	*e*P	P	04 40 47.1	-1.2
	comp=Z,5.3nm,0.8s,baz=320						
KSH	Kashi	60.42	315	P	P	04 40 50.6	+1.7
KSH				pP	pP	04 41 44.5	+0.9
KSH				PP	PP	04 43 10.4	+5.1
KSH				pmax	pmax		
	comp=Z,28nm,1.5s						
KSH				pmax	pmax		
	comp=Z,540nm,7.1s						
MDOK	Medeo	61.26	319	*e*P	P	04 40 54.7	+0.1
	baz=319						
TDK	Taldyqorghan	61.27	322	*e*P	P	04 40 54.4	+0.1
	comp=Z,4.7nm,0.5s,baz=322						
TNSS	Tian-Shan	61.27	319	*e*P	P	04 40 54.9	0.0
	baz=319						
AAA	Alma-Ata	61.37	319	*e*P	P	04 40 54.9	-0.2
	comp=Z,10nm,0.5s,baz=319						
CHKK	Chushkaly	61.62	320	*e*P	P	04 40 56.2	-0.4
	baz=320						
KUU	Kurty	62.05	320	*e*P	P	04 40 59.0	-0.6
	comp=Z,5.6nm,0.7s,baz=320						
TKM2	Tokmak 2	62.11	319	P	P	04 41 00.7	+0.5
	SNR=7.1						
UCH	Uchtor	62.54	317	P	P	04 41 04.3	+0.9
	SNR=9.8						
AAK	Ala-Archa	62.73	318	P	P	04 41 04.0	-0.2
ZAA0	Zalesovo Array	62.82	333	P	P	04 41 03.8	-0.6
ZALV	Zalesovo Beam	62.82	333	P	P	04 41 03.0	-1.4
	comp=Z,3.3nm,0.4s,baz=116,slow=6.6,SNR=16						
ZALV	Zalesovo Beam	62.82	333	P	P	04 41 03.6	-0.8
USP	Ospenovka	62.98	318	P	P	04 41 06.1	+0.3
	SNR=5.8						
AML	Almayashu	63.06	317	P	P	04 41 07.7	+1.0
	SNR=7.0						
EKS2	Erkin-Say	63.22	318	P	P	04 41 08.4	+1.0
	SNR=7.2						
SEY	Seymchan	63.24	12	P	P	04 41 08.1	+1.1
	comp=Z,13nm,0.7s,baz=218,slow=5.4,SNR=40						
BTLS	Baital	64.03	320	*e*P	P	04 41 12.0	-0.5
	baz=320						
IUG	Iuzhnay	65.59	316	*e*P	P	04 41 22.9	+0.1
	baz=316						
KK31	Karatay Array	65.60	317	P	P	04 41 22.6	-0.1
KKAR	Karatay Array	65.60	317	P	P	04 41 22.6	-0.1
KKAR	Karatay Array	65.60	317	P	P	04 41 22.6	-0.1
BRZS	Berezniki	67.02	325	*e*P	P	04 41 30.7	-0.8
	baz=324						
ATKA	Atka Island	68.87	34	P	P	04 41 43.1	+0.2
TIXI	Tiksi	69.45	0	P	P	04 41 45.8	-0.4
TIXI				IAmb	IAmb	04 41 46.7	
	comp=Z,11nm,0.8s						
BRVK	Borovoye	69.70	327	P	P	04 41 48.1	+0.1
BRVK				IAmb	IAmb	04 41 48.5	
	comp=Z,8.0nm,0.7s						
NRIK	Noril'sk	72.42	346	P	P	04 42 03.6	-0.4
	comp=Z,8.3nm,0.6s,baz=124,slow=6.2,SNR=15						
NRIK	Noril'sk	72.42	346	P	P	04 42 04.2	+0.3
NRIK				IAmb	IAmb	04 42 04.6	
	comp=Z,10nm,0.7s						
ABKAR	Akbulak array	74.50	321	P	P	04 42 16.3	-0.2
ABKAR	Akbulak array	74.50	321	P	P	04 42 16.3	-0.2
ABKAR				IAmb	IAmb	04 42 16.7	
	comp=Z,3.7nm,0.8s						
MWH	Moku'aweowe	76.05	71	P	P	04 42 24.3	-2.3
MLOA	Mauna Loa Obse	76.07	71	P	P	04 42 25.1	-1.5
RDOG	Red Dog Mine	80.18	21	P	P	04 42 48.0	+0.5
RDOG				IAmb	IAmb	04 42 49.3	
	comp=Z,7.5nm,0.7s						
TTA	Tatalina	81.57	27	P	P	04 42 55.2	+0.1
VNDA	Vanda	81.60	173	P	P	04 42 55.5	+0.7
	comp=Z,2.5nm,0.5s,baz=320,slow=6.3,SNR=18						
VNDA	Vanda	81.60	173	P	P	04 42 55.5	+0.7
KDAK	Kodiak Island	82.34	32	P	P	04 42 59.8	+0.8
	comp=Z,7.5nm,0.6s,baz=280,slow=6.7,SNR=17						
IMAR	Indian Mountai	83.13	24	P	P	04 43 03.3	+0.3
A21K	Barrow	83.22	18	P	P	04 43 03.9	+0.7
A21K				IAmb	IAmb	04 43 05.2	
	comp=Z,16nm,0.7s						
SKT	Skwentna	83.46	28	P	P	04 43 04.9	+0.1
SKT				IAmb	IAmb	04 43 05.4	
	comp=Z,20nm,1.1s						
SUA	Susitna One	83.76	28	P	P	04 43 06.4	0.0
SUA				IAmb	IAmb	04 43 07.3	
	comp=Z,14nm,0.8s						
PMR	Palmer	84.55	28	P	P	04 43 10.6	+0.4
PMR				IAmb	IAmb	04 43 11.3	
	comp=Z,15nm,1.0s						
COLD	Coldfoot	84.72	23	P	P	04 43 11.4	+0.4
I23K	Minto, Yukon-K	84.81	25	P	P	04 43 11.8	+0.4
KNK	Knik Glacier	84.85	29	P	P	04 43 12.0	+0.3
KNK				IAmb	IAmb	04 43 13.4	
	comp=Z,17nm,0.9s						
TOLK	Toolik Lake Re	85.13	21	P	P	04 43 13.4	+0.4
KBZ	Khabaz	85.35	314	P	P	04 43 14.7	+0.1
	comp=Z,1.3nm,0.8s,baz=114,slow=20,SNR=1.6						
ILAR	Eielson Array	85.83	25	P	P	04 43 15.8	-0.7
	comp=Z,0.6nm,0.4s,baz=250,slow=4.7,SNR=9.9						
ILAR				PP	PP	04 46 37.7	-1.9
	comp=Z,1.1nm,1.1s,baz=273,slow=7.2,SNR=4.4						
BMAR	Burnt Mountain	86.91	23	P	P	04 43 22.0	+0.3
KLMR	Klimovskoe	87.67	331	*e*P	P	04 43 22.4	-3.0
KLMR				AMP		04 43 26.2	
	comp=Z,12nm,1.4s						
KLMR				*e*pP	pP	04 44 22.7	-1.5
KLMR				*e*PP	PP	04 46 49.6	-4.8
K27K	Chicken	87.89	26	P	P	04 43 26.7	+0.3
INK	Inuvik	91.03	22	P	P	04 43 40.4	-0.6
	comp=Z,1.5nm,0.8s,baz=255,slow=2.4,SNR=4.5						
ARCES	ARCESS Array B	92.57	340	P	P	04 43 46.3	-1.7
	comp=Z,4.1nm,0.9s,baz=80,slow=6.0,SNR=8.8						
ARCES	ARCESS Array B	92.57	340	P	P	04 43 46.6	-1.4
FINES	FINESS Array B	94.08	332	P	P	04 43 53.6	-1.5
	comp=Z,0.8nm,0.5s,baz=27,slow=4.7,SNR=5.5						
MNK	Minsk	94.45	325	*i* P	P	04 43 56.7	-0.2
	comp=E,2.0nm,1.0s						
MNK				*i* P	P	04 43 56.7	-0.2
	comp=N,10.0nm,0.8s						
MNK				*i* P	P	04 43 56.7	-0.2
	comp=Z,7.0nm,0.6s						
MNK				*i* pP	pwP	04 45 06.7	+6.1
MNK				*i* PP	PP	04 47 47.7	-0.1
MNK				*i* PPP	PPP	04 49 49.5	
MNK				*i* S	SKSac	04 54 11.7	+3.8
MNK				*i* sS	pS	04 55 59.2	-4.9
MNK				*i* SS	SS	05 01 13.7	-1.6
MNK				*i* SSS	SSS	05 04 57.8	
MNK				*i* LRM	MLR	05 27 39.1	
	comp=E,2.0nm,8.0s						
MNK				*i* LRM	MLR	05 27 42.0	
	comp=N,115nm,15.9s						
MNK				*i* LRM	MLR	05 27 50.0	
	comp=Z,25nm,10.8s						
RES	Resolute Bay	99.09	11	P	Pdif	04 44 16.9	-0.6
	comp=Z,3.4nm,0.6s,baz=300,slow=5.4,SNR=17						
YKA	Yellowknife Ar	100.25	25	P	Pdif	04 44 21.9	-1.0
	comp=Z,0.6nm,0.8s,baz=300,slow=4.1,SNR=7.3						
TORD	Torodi Ar. Bea	125.07	288	PKP	PKiKP	04 49 37.2	-0.1
	comp=Z,0.4nm,0.4s,baz=48,slow=2.2,SNR=2.5						
CPUP	Villa Florida	155.27	167	PKPab	PKPab	04 50 55.7	+0.1
	comp=Z,1.9nm,0.9s,baz=177,slow=7.2,SNR=4.1						
LPAZ	La Paz	158.42	132	PKPab	PKPab	04 51 11.8	+1.5
	comp=Z,1.3nm,0.7s,baz=182,slow=5.6,SNR=3.9						

IDC 05 05:15:00.1±2.7**,30°.24S**×**138°.53E,h0**km**,mb1 3.6**/4**, mb1mx3.5**/26**,mbtmp3.4**/4**,ML3.4**/4**,Error ellipse: s-maj=68.9km s-min=15.1km az=43.0,South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.10	123	Pn	Pn	05 15 51.4	+1.1
	1.3nm,0.3s,baz=303,slow=14,SNR=12						
STKA				Sn	Sn	05 16 27.8	-0.3
	3.0nm,0.3s,baz=272,slow=13,SNR=4.1						
STKA				Lg	Lg	05 16 37.6	
	7.2nm,0.3s,baz=179,slow=22,SNR=8.5						
ASAR	Alice Springs	7.73	327	Pn	Pn	05 16 55.8	+1.8
	0.6nm,0.3s,baz=152,slow=12,SNR=12						
ASAR				Sn	Sn	05 18 21.2	-1.1
	0.3nm,0.3s,baz=150,slow=22,SNR=4.3						
WRA	Warramunga Arr	10.93	339	Pn	Pn	05 17 38.2	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.3nm,0.3s,baz=155,slow=12,SNR=17						
WRA				Sn	Sn	05 19 39.4	-1.5
	0.1nm,0.3s,baz=163,slow=24,SNR=2.4						
FITZ	**Fitzroy Crossi**	**16.84**	**313**	Pn	Pn	05 18 55.7	-1.6
	0.2nm,0.3s,baz=143,slow=11,SNR=2.2						

*IDC **05** 05:20:53.5±1.3, 6°.83S×152°.86E, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/28, mbtmp3.9/9, MS3.3/1, Ms1 3.3/1, ms1mx2.6/26, Error ellipse: s-maj=47.0km s-min=21.3km az=129.0*

*NEIC **05** 05:20:58.5±1.3, 6°.7S±0°.1×152°.6E±0°.1, h30km±5km, mb4.1/10, Error ellipse: s-maj=20.4km s-min=11.3km az=131.0*

ISC 05 05:20:59.3±0.9, **6°.7S**±0°.1×**152°.7E**±0°.2, **h35**km, **n30**, σ**1s.02**/27, **mb4.0**/13, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.55**	**348**	Pn	**Pn**	**05 21 37.6**	**-0.6**
DZM	**Mont Dzumac**	**20.25**	**140**	LR	LR	05 31 46.6	
	comp=Z,84nm,21.6s,baz=70,slow=33						
WR0	**Warramunga Arr**	**21.99**	**231**	P	**P**	**05 25 50.4**	**-0.1**
WR0				IAmb	IAmb	05 26 17.6	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**21.99**	**232**	P	**P**	**05 25 49.9**	**-0.7**
WB0				IAmb	IAmb	05 26 03.7	
	comp=Z,10nm,1.4s						
MTN	**Manton Dam**	**22.08**	**252**	P	**P**	**05 25 50.9**	**-0.6**
WB2	**Warramunga Arr**	**22.12**	**232**	P	**P**	**05 25 51.3**	**-0.7**
WB2				IAmb	IAmb	05 26 14.1	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**22.13**	**232**	P	**P**	**05 25 51.1**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=54,slow=11,SNR=9.8						
AS31	**Alice Springs**	**24.69**	**225**	P	**P**	**05 26 17.3**	**0.0**
ASAR	**Alice Springs**	**24.69**	**225**	P	**P**	**05 26 17.6**	**+0.2**
	comp=Z,5.4nm,0.9s,baz=59,slow=9.1,SNR=22						
ASAR	**Alice Springs**	**24.69**	**225**	P	**P**	**05 26 18.1**	**+0.8**
H11S3	**WAKE ISLAND Hy**	**28.60**	**29**	T	T	05 56 51.4	
	baz=208,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.61**	**29**	T	T	05 56 49.5	
	baz=208,slow=76						
H11S1	**WAKE ISLAND Hy**	**28.62**	**29**	T	T	05 56 50.5	
	baz=208,slow=76						
FITZ	**Fitzroy Crossi**	**28.68**	**244**	P	**P**	**05 26 52.3**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=62,slow=7.4,SNR=12						
FITZ	**Fitzroy Crossi**	**28.68**	**244**	P	**P**	**05 26 53.0**	**-0.3**
FORT	**Forrest**	**33.26**	**221**	P	**P**	**05 27 31.7**	**-1.7**
CMAR	**Chiang Mai Arr**	**58.59**	**296**	P	**P**	**05 30 55.8**	**+2.7**
	comp=Z,1.1nm,0.3s,baz=105,slow=5.1,SNR=5.5						
SHL	**Shillong**	**67.17**	**301**	P	**P**	**05 31 49.8**	**-0.6**
ULN	**Ulaanbaatar**	**67.54**	**329**	P	**P**	**05 31 52.7**	**+0.4**
ULN				IAmb	IAmb	05 31 55.1	
	comp=Z,1.4nm,0.8s						
SONM	**Songino Array**	**67.87**	**328**	P	**P**	**05 31 55.4**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=143,slow=3.3,SNR=5.3						
SONM	**Songino Array**	**67.87**	**328**	P	**P**	**05 31 53.5**	**-0.8**
MKAR	**Makanchi Array**	**81.67**	**319**	P	**P**	**05 33 14.7**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=90,slow=7.0,SNR=2.8						
MKAR	**Makanchi Array**	**81.67**	**319**	P	**P**	**05 33 15.1**	**+1.0**
ZALV	**Zalesovo Beam**	**82.66**	**326**	P	**P**	**05 33 18.1**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=100,slow=4.4,SNR=1.7						
QSPA	**South Pole Qui**	**83.27**	**180**	P	**P**	**05 33 22.8**	**+0.6**
ILAR	**Eielson Array**	**83.96**	**22**	P	**P**	**05 33 24.2**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=247,slow=5.3,SNR=11						
ILAR	**Eielson Array**	**83.96**	**22**	P	**P**	**05 33 24.1**	**-1.5**
NVAR	**Mina Array Bea**	**93.35**	**52**	P	**P**	**05 34 12.4**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=263,slow=5.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**150.73**	**285**	PKPbc	**PKPbc**	**05 40 48.7**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=70,slow=2.4,SNR=5.0						
TORD				PKPab	**sPKPdf**	**05 40 57.2**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=57,slow=2.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**150.73**	**285**		**PKiKP**	**05 40 49.7**	**+0.1**

IDC 05 06:08:29.1±5.5, **8°.62S**×**116°.31E**, **h155**km±73km, **mb2.6**/3, **mb1 2.8**/4, **mb1mx2.7**/32, **mbtmp3.2**/4, **Error ellipse: s-maj=213.1km s-min=18.5km az=44.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.08**	**137**	P	Pn	06 11 27.4	-1.8
	0.1nm,0.3s,baz=323,slow=10,SNR=3.8						
FITZ				S	Sn	06 13 43.6	-10
	0.1nm,0.3s,baz=8.4,slow=19,SNR=1.7						
WRA	**Warramunga Arr**	**20.76**	**125**	P	P	06 12 58.6	+0.7
	0.2nm,0.6s,baz=304,slow=12,SNR=4.7						
WRA				S	S	06 16 41.7	+0.4
	0.6nm,0.7s,baz=16,slow=22,SNR=3.8						
ASAR	**Alice Springs**	**22.53**	**134**	P	P	06 13 17.2	+0.9
	0.2nm,0.3s,baz=306,slow=9.3,SNR=2.5						
MKAR	**Makanchi Array**	**62.94**	**334**	P	P	06 18 38.8	-0.3
	0.1nm,0.4s,baz=146,slow=7.4,SNR=1.9						
VNA2	**Neumayer--Watz**	**92.28**	**196**	P	P	06 21 32.2	+11

IDC 05 06:09:16.3±4.5, **2°.56S**×**139°.83E**, **h0**km, **mb3.5**/2, **mb1 4.0**/3, **mb1mx3.5**/30, **mbtmp3.8**/3, **ML3.9**/1, **MS3.0**/1, **Ms1 3.0**/1, **ms1mx2.4**/34, **Error ellipse: s-maj=164.7km s-min=20.0km az=92.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.96**	**133**	LR	LR	06 16 42.7	
	comp=Z,77nm,19.9s,baz=214,slow=45						
WRA	**Warramunga Arr**	**18.09**	**197**	P	P	06 13 30.3	+0.6
	0.4nm,0.3s,baz=21,slow=12,SNR=30						
FITZ	**Fitzroy Crossi**	**20.79**	**221**	S	S	06 17 47.5	-4.7
	2.1nm,0.9s,baz=167,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**21.75**	**195**	P	P	06 14 10.7	+1.1
	1.2nm,0.5s,baz=25,slow=9.7,SNR=28						
ASAR				S	S	06 18 11.5	+0.2
	0.3nm,0.5s,baz=19,slow=24,SNR=3.1						
MKAR	**Makanchi Array**	**70.36**	**322**	P	P	06 20 31.8	-0.3
	0.4nm,0.6s,baz=115,slow=6.8,SNR=6.3						

*IDC **05** 06:20:43.1±2.5, 0°.77N×128°.61E, h99km±27km, mb3.4/4, mb1 3.7/7, mb1mx3.3/54, mbtmp4.0/7, Error ellipse: s-maj=26.3km s-min=21.6km az=35.0*

ISC 05 06:20:43.0±1.3, **0°.8N**±0°.1×**128°.7E**±0°.1, **h100**km, **n7**, σ**1s.53**/8, **mb3.5**/4, **Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.07**	**122**	P	**Pn**	**06 21 28.5**	**-1.2**
	3.3nm,0.3s,baz=190,slow=20,SNR=4.4						
SIJI				S	**Sn**	**06 22 08.1**	**+2.3**
	1.0nm,0.3s,baz=270,slow=20,SNR=1.1						
KAPI	**Kappang**	**10.61**	**237**	P	**Pn**	**06 23 12.9**	**+0.8**
	2.4nm,0.3s,baz=120,slow=20,SNR=2.9						
BATI	**Baumata**	**12.01**	**204**	P	**Pn**	**06 23 30.6**	**-0.2**
	4.9nm,0.3s,baz=90,slow=5.1,SNR=1.9						
WRA	**Warramunga Arr**	**21.34**	**165**	P	**P**	**06 25 20.4**	**-1.7**
	0.6nm,0.6s,baz=343,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**24.83**	**169**	P	**P**	**06 25 57.1**	**+1.0**
	1.8nm,0.8s,baz=347,slow=11,SNR=15						
MKAR	**Makanchi Array**	**61.07**	**325**	P	**P**	**06 30 46.7**	**+0.3**
	0.3nm,0.7s,baz=122,slow=6.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**65.25**	**327**	P	**P**	**06 31 13.7**	**-0.2**
	0.3nm,0.3s,baz=132,slow=6.4,SNR=1.7						

*INET **05** 06:37:46.8, 11°.79N×87°.70W, h15km, MW3.5*

*SNET **05** 06:37:47.8±1.1, 11°.97N×87°.96W, h16km±7km, ML3.6*

*UPA **05** 06:38:58.0±4.2, 9°.03N×83°.31W, h28km±260km, MW3.1*

ISC 05 06:37:47.1±4.6, **11°.78N**±0°.09×**87°.88W**±0°.08, **h35**km±17km, **n32**, σ**0s.77**/43, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.49**	**2**	*e*P	**Pn**	**06 38 11.1**	**-0.5**
LCND	**La Caada**	**1.52**	**360**	*e*P	**Pn**	**06 38 10.8**	**-1.0**
LCND				*e*S	**Sn**	**06 38 29.7**	**-0.8**
LCND				IAML		06 38 34.7	
	comp=Z,1µm,0.4s						
VSM	**San Miguel**	**1.69**	**347**	*e*P	**Pn**	**06 38 15.0**	**+0.7**
VSM				*e*S	**Sn**	**06 38 35.0**	**+0.1**
RANC	**El Ranchito**	**1.69**	**346**	*e*P	**Pn**	**06 38 13.7**	**-0.6**
RANC				*e*S	**Sn**	**06 38 34.8**	**-0.2**
PACA	**Pacayal**	**1.74**	**346**	*e*P	**Pn**	**06 38 14.9**	**0.0**
PACA				*e*S	**Sn**	**06 38 36.0**	**0.0**
TECA	**Tecapa**	**1.81**	**340**	*e*P	**Pn**	**06 38 15.4**	**-0.6**
TECA				*e*S	**Sn**	**06 38 37.5**	**-0.4**
COEB	**Comit de Eme**	**1.82**	**340**	*e*P	**Pn**	**06 38 15.1**	**-1.1**
COEB				IAML		06 38 50.2	
	comp=Z,352nm,0.4s						
PQSS	**Presa 15 de Se**	**1.95**	**340**	*e*P	**Pn**	**06 38 17.2**	**-0.5**
PQSS				*e*S	**Sn**	**06 38 39.9**	**-1.2**
COEG	**Centro de Oper**	**2.08**	**332**	*e*P	**Pn**	**06 38 19.1**	**-0.5**
COEG				*e*S	**Sn**	**06 38 43.7**	**-0.6**
COEG				IAML		06 38 56.2	
	comp=Z,505nm,0.3s						
LFRS	**El Faro**	**2.17**	**328**	*e*P	**Pn**	**06 38 20.1**	**-0.8**
LFRS				*e*S	**Sn**	**06 38 46.0**	**-0.6**
LBRS	**Las Brisas**	**2.26**	**330**	*e*P	**Pn**	**06 38 22.0**	**-0.1**
UEES	**Universidad Ev**	**2.34**	**326**	*e*P	**Pn**	**06 38 23.1**	**-0.1**
UEES				IAML		06 38 57.7	
	comp=Z,450nm,0.2s						
TGUH	**Tegucigalpa,Un**	**2.34**	**15**	*e*P	**Pn**	**06 38 23.3**	**0.0**
PMON	**Piamonte**	**2.38**	**324**	*e*P	**Pn**	**06 38 23.6**	**-0.2**
PMON				*e*S	**Sn**	**06 38 51.8**	**0.0**
JAYA	**Jayaque - finc**	**2.41**	**321**	*e*P	**Pn**	**06 38 23.1**	**-1.2**
JAYA				*e*S	**Sn**	**06 38 50.9**	**-1.8**
JAYA				IAML		06 38 56.3	
	comp=Z,670nm,0.2s						
TACO	**Tacachico**	**2.61**	**327**	*e*P	**Pn**	**06 38 26.6**	**-0.3**
TACO				*e*S	**Sn**	**06 38 57.3**	**-0.1**
CEVE	**Cerro Verde**	**2.66**	**320**	*e*P	**Pn**	**06 38 28.6**	**+1.0**
UNIC	**Universidad Ca**	**2.73**	**324**	*e*P	**Pn**	**06 38 28.8**	**+0.2**
MTO3	**Montecristo**	**2.98**	**331**	*e*P	**Pn**	**06 38 32.2**	**0.0**
ESQI	**Esquipulas**	**3.11**	**333**	*e*P	**Pn**	**06 38 34.4**	**+0.5**
CNI2	**El Empalme, Bo**	**5.81**	**113**	*e*P	**Pn**	**06 39 10.7**	**-0.1**
BRU2	**Volcan**	**5.90**	**120**	*i* P	**Pn**	**06 39 11.8**	**-0.5**
BCO2	**Palmira**	**6.08**	**120**	*i* P	**Pn**	**06 39 14.3**	**-0.4**
DVD	**David**	**6.29**	**121**	*e*P	**Pn**	**06 39 17.4**	**-0.1**
TOLC	**Tolima**	**14.33**	**119**	*e*P	**P**	**06 41 15.7**	**+1.0**
POPC	**Popayan, Colom**	**14.41**	**129**	*e*P	**P**	**06 41 14.6**	**-0.8**
SOTA	**Rioblanco**	**14.72**	**130**	*e*P	**P**	**06 41 18.1**	**-1.0**
ORTC	**Ortega, Tolima**	**14.75**	**121**	*e*P	**P**	**06 41 20.4**	**+1.4**
OCAC	**Ocana**	**14.76**	**102**	*e*P	**Pn**	**06 41 13.5**	**-0.1**
SPBC	**San Pablo de B**	**14.94**	**113**	*e*P	**P**	**06 41 19.4**	**-1.7**
PRAC	**Prado**	**15.15**	**121**	*e*P	**P**	**06 41 24.3**	**+0.8**
RUSC	**La Rusia**	**15.74**	**111**	*e*P	**P**	**06 41 29.7**	**-0.8**

KRSC 05 06:50:18.2±1.5, **49°.76N**×**158°.85E**, **h40**km±35km, **ML4.1**, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.99**	**299**	*e*P	Pn	06 50 50.9	+1.6
SKR				*e*S	Sn	06 51 14.6	+1.7
KDTR	**Khodutka, Kamc**	**2.12**	**347**	*e*P	Pn	06 50 53.7	+2.6
KDTR				*e*S	Sn	06 51 19.1	+3.0
PAU	**Pauzhetka**	**2.15**	**324**	*e*P	Pn	06 50 54.8	+3.2
PAU				*e*S	Sn	06 51 20.8	+3.8
ALID	**Alaid**	**2.39**	**299**	*e*P	Pn	06 50 57.4	+2.4
ALID				*e*S	Sn	06 51 26.1	+2.9
RUS	**Russkaya**	**2.69**	**356**	*e*P	Pn	06 51 02.0	+3.0
RUS				*e*S	Sn	06 51 32.9	+2.6
ASAK	**Asacha**	**2.70**	**347**	*e*P	Pn	06 51 02.5	+3.3
ASAK				*e*S	Sn	06 51 34.5	+3.9
MTVR	**Mutnovka**	**2.76**	**351**	*e*P	Pn	06 51 03.5	+3.4
MTVR				*e*S	Sn	06 51 35.5	+3.2
GRL	**Gorelyy**	**2.84**	**350**	*e*P	Pn	06 51 04.9	+3.7
GRL				*e*S	Sn	06 51 37.9	+3.7
KRMR	**Karymshinskiy**	**3.11**	**352**	*e*P	Pn	06 51 09.3	+4.5
KRMR				*e*S	Sn	06 51 45.9	+5.2
PET	**Petropavlovsk**	**3.28**	**358**	*e*P	Pn	06 51 10.6	+3.6
PET				*e*S	Sn	06 51 48.3	+3.6
DALK	**Dalny**	**3.28**	**359**	*e*P	Pn	06 51 10.3	+3.2
DALK				*e*S	Sn	06 51 47.8	+3.0
APC	**Apacha**	**3.35**	**342**	*e*P	Pn	06 51 12.1	+4.1
UGLR	**Uglovaya**	**3.46**	**360**	P	Pn	06 51 14.1	+4.5
SMAR	**Somma**	**3.51**	**359**	*e*P	Pn	06 51 15.0	+4.5
AVH	**Avacha**	**3.52**	**359**	*e*P	Pn	06 51 14.6	+4.2
AVH				*e*S	Sn	06 51 55.6	+4.9
SDLR	**Sedlovina**	**3.53**	**0**	*e*P	Pn	06 51 13.7	+3.1
SDLR				*e*S	Sn	06 51 53.7	+2.6
KOK	**Koryaka**	**3.54**	**358**	*i* P	Pn	06 51 15.3	+4.5
KOK				*e*S	Sn	06 51 57.0	+5.5
KRER	**Koryakskii**	**3.56**	**359**	*e*P	Pn	06 51 15.7	+4.7
KRER				*e*S	Sn	06 51 57.7	+5.8
KRX	**Arik**	**3.61**	**358**	*e*P	Pn	06 51 15.9	+4.1
KRX				*e*S	Sn	06 51 57.7	+4.5
GNL	**Ganaly**	**3.99**	**352**	*e*P	Pn	06 51 21.6	+4.7
GNL				*e*S	Sn	06 52 08.3	+5.9
MKZ	**Mys Kozlova**	**5.12**	**19**	P	Pn	06 51 36.1	+3.8
KBTR	**Krutoberegovo**	**6.89**	**19**	*e*P	Pn	06 52 00.1	+3.5

*NNC **05** 07:08:56.5±1.8, 49°.99N×78°.62E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=47.9km s-min=5.4km az=75.0, Suspected Mining explosion.*

*IDC **05** 07:08:57.4±1.0, 50°.02N×78°.59E, h0km, mb1 2.6/2, mb1mx2.6/35, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=11.8km s-min=6.2km az=67.0*

ISC 05 07:08:56.3±1.2, **50°.46N**±0°.07×**79°.39E**±0°.06, **h0**km, **n7**, σ**1s.01**/10, **5C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.57**	**287**	Pg	**Pb**	**07 09 08.9**	**-0.4**
	1.2nm,0.3s,baz=167,slow=18,SNR=46						
KURBB				Lg	Lg	07 09 18.0	
	1.5nm,0.3s,baz=176,slow=32,SNR=9.9						
KURBB	**Kurchatov Arra**	**0.57**	**287**	⇑P	**Pb**	**07 09 08.8**	**-0.4**
	10nm,0.3s						
KURBB				⇑S	**Sb**	**07 09 18.0**	**+0.1**
	44nm,0.8s						
MAKZ	**Makanchi**	**4.04**	**154**	⇓Pg	**Pb**	**07 10 09.2**	**+0.9**
	0.7nm,0.6s						
MAKZ				⇑Lg	Lg	07 10 55.9	
	2.8nm,0.5s						
MK31	**Makanchi Array**	**4.14**	**151**	⇑Pn	**Pn**	**07 10 00.7**	**-0.1**
	0.1nm,0.3s,baz=352,slow=3.8,SNR=19						
MK31				⇑Pg	**Pb**	**07 10 09.1**	**-1.0**
	0.1nm,0.2s,baz=324,slow=14,SNR=12						
MK31				⇓Lg	Lg	07 11 02.1	
	1.1nm,0.4s,baz=320,slow=26,SNR=14						
MKAR	**Makanchi Array**	**4.14**	**151**	Pn	**Pn**	**07 10 00.9**	**+0.1**
	0.2nm,0.3s,baz=321,slow=10,SNR=24						
MKAR				Pg	**Pb**	**07 10 08.3**	**-1.8**
	0.3nm,0.3s,baz=328,slow=16,SNR=13						
MKAR				Sn	**Sn**	**07 10 51.3**	**+1.3**
	0.3nm,0.3s,baz=328,slow=19,SNR=3.7						
MKAR				Lg	Lg	07 11 02.2	
	0.9nm,0.3s,baz=319,slow=27,SNR=13						
I46RU	**ZALESOVO INFRA**	**4.83**	**42**	*i*		07 43 40.0	
	baz=224,slow=332,SNR=1.4						
ZALV	**Zalesovo Beam**	**4.83**	**42**	Pn	**Pb**	**07 10 21.5**	**-0.2**
	0.4nm,0.3s,baz=230,slow=14,SNR=4.8						

*NNC **05** 07:17:06.4±8.7, 54°.55N×88°.10E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=102.7km s-min=48.1km az=5.0, Suspected Mining explosion.*

*IDC **05** 07:17:09.4±3.3, 55°.62N×86°.23E, h0km, mb1 2.8/2, mb1mx2.8/48, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=24.4km s-min=24.0km az=66.0*

ISC 05 07:17:08.6±4.1, **55°.7N**±0°.2×**86°.1E**±0°.2, **h0**km, **n8**, σ**0s.60**/8, **5C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**203**	*i*		07 27 40.0	
	baz=26,slow=341,SNR=1.2						
ZAA0	**Zalesovo Array**	**1.89**	**203**	⇓Pn	**Pn**	**07 17 41.2**	**-0.9**
	0.6nm,0.3s						
ZAA0				⇑Sn	**Sb**	**07 18 08.2**	**+0.1**
	1.6nm,0.4s						
ZALV	**Zalesovo Beam**	**1.89**	**203**	Pg	**Pn**	**07 17 41.6**	**-0.5**
	4.0nm,0.3s,baz=29,slow=15,SNR=25						
ZALV				Lg	Lg	07 18 08.0	
	3.6nm,0.3s,baz=28,slow=28,SNR=9.4						
KURBB	**Kurchatov Arra**	**6.80**	**225**	Pn	**Pn**	**07 18 50.1**	**+0.5**
	0.1nm,0.3s,baz=42,slow=14,SNR=4.9						
KURBB				Sn	**Sn**	**07 20 07.4**	**-0.3**
	0.0nm,0.3s,baz=42,slow=22,SNR=1.8						
KURBB				Lg	Lg	07 20 45.8	
	0.0nm,0.3s,baz=44,slow=29,SNR=4.6						
KURBB	**Kurchatov Arra**	**6.80**	**225**	⇓Pn	**Pn**	**07 18 49.7**	**+0.1**
	3.8nm,1.1s						
KURBB				⇑Lg	Lg	07 20 47.6	
	13nm,1.4s						
MK31	**Makanchi Array**	**9.22**	**196**	⇑Pn	Pn	07 19 14.1	-8.6
	0.4nm,0.6s,baz=23,slow=13,SNR=4.6						
MK31				⇓Lg	Lg	07 21 40.0	
	1.8nm,0.9s,baz=33,slow=28						
MKAR	**Makanchi Array**	**9.22**	**196**	Pn	**Pn**	**07 19 23.3**	**+0.5**
	0.1nm,0.3s,baz=18,slow=12,SNR=4.6						
MKAR				Sn	**Sn**	**07 21 07.5**	**+0.3**
	0.0nm,0.3s,baz=11,slow=24,SNR=2.2						
MKAR				Lg	Lg	07 21 56.7	
	0.0nm,0.3s,baz=18,slow=30,SNR=6.0						
MAKZ	**Makanchi**	**9.26**	**198**	⇑Pn	Pn	07 19 15.8	-7.5
	0.4nm,0.6s						
MAKZ				⇑Lg	Lg	07 21 42.6	
	3.8nm,1.1s						

*SJA **05** 07:23:10.2±0.8, 24°.30S×67°.22W, h192km±7km, ML4.5, MW4.2*

*NEIC **05** 07:23:10.7±2.0, 24°.32S±0°.04×67°.32W±0°.10, h198km±7km, Error ellipse: s-maj=12.9km s-min=6.2km az=98.0*

*VAO **05** 07:23:11.1±0.4, 24°.25S×67°.24W, h192km±4km, mb4.4*

*IDC **05** 07:23:11.2±1.1, 24°.20S×67°.03W, h167km±9km, mb3.7/10, mb1 3.9/15, mb1mx3.8/26, mbtmp4.2/15, Error ellipse: s-maj=16.6km s-min=12.7km az=26.0*

*GUC **05** 07:23:11.0±0.6, 24°.30S×67°.25W, h171km±6km, ML4.7*

ISC 05 07:23:10.6±0.6, **24°.27S**±0°.03×**67°.25W**±0°.03, **h184**km±6km, **n159**, σ**1s.33**/196, **mb4.2**/18, **13C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.65**	**106**	*e*P	**Pn**	**07 23 45.0**	**+0.6**
SLA				*e*S	**Sn**	**07 24 10.2**	**-0.6**
SLA	**San Lorenzo**	**1.65**	**106**	*e*P	**Pn**	**07 23 45.1**	**+0.6**
SLA				*e*S	**Sn**	**07 24 10.9**	**+0.2**
LVC	**Limon Verde**	**2.25**	**317**	P	**Pn**	**07 23 52.5**	**+1.5**
	92nm,0.3s,baz=140,slow=6.5,SNR=722						
LVC				S	**Sn**	**07 24 22.9**	**+0.4**
	242nm,0.3s,baz=10,slow=20,SNR=76						
LVC	**Limon Verde**	**2.25**	**317**	*e*P	**Pn**	**07 23 52.6**	**+1.5**
LVC				*e*S	**Sn**	**07 24 23.1**	**+0.7**
LVC	**Limon Verde**	**2.25**	**317**		**Pn**	**07 23 52.3**	**+1.2**
LVC				Sn	**Sn**	**07 24 22.6**	**+0.1**
LVC	**Limon Verde**	**2.25**	**317**	*e*P	**Pn**	**07 23 52.5**	**+1.5**
LVC				*e*S	**Sn**	**07 24 22.8**	**+0.3**
LVC	**Limon Verde**	**2.25**	**317**	*e*P	**Pn**	**07 23 52.6**	**+1.5**
LVC				*e*S	**Sn**	**07 24 23.0**	**+0.6**
PB15	**IPOC Station P**	**2.29**	**297**	*e*P	**Pn**	**07 23 52.4**	**+1.0**
PB15				*i* S	**Sn**	**07 24 24.1**	**+1.0**
PB15	**IPOC Station P**	**2.29**	**297**		**Pn**	**07 23 52.4**	**+1.0**
PB15				Sn	**Sn**	**07 24 23.1**	**+0.1**
PB15	**IPOC Station P**	**2.29**	**297**	*e*P	**Pn**	**07 23 52.9**	**+1.5**
PB15				*e*S	**Sn**	**07 24 24.3**	**+1.2**
PB15				IAML		07 24 25.2	
	comp=Z,5µm,0.4s						
GO02	**Mina Guanaco**	**2.31**	**247**	⇑*i*P	**Pn**	**07 23 52.7**	**+1.1**
GO02				*i* S	**Sn**	**07 24 24.1**	**+0.7**
GO02				IAML		07 24 25.1	
	comp=E,3µm,0.3s						
GO02	**Mina Guanaco**	**2.31**	**247**		**Pn**	**07 23 52.7**	**+1.1**
GO02				Sn	**Sn**	**07 24 24.0**	**+0.5**
YJA	**Yavi**	**2.63**	**38**	*e*P	**Pn**	**07 23 56.7**	**+1.2**
YJA				*e*S	**Sn**	**07 24 31.1**	**+0.8**
PB06	**IPOC Station P**	**2.64**	**306**	⇑*i*P	**Pn**	**07 23 56.7**	**+1.4**
PB06				*i* S	**Sn**	**07 24 29.7**	**-0.5**
PB06				IAML		07 24 32.8	
	comp=N,3µm,0.3s						
PB06	**IPOC Station P**	**2.64**	**306**		**Pn**	**07 23 56.1**	**+0.7**
PB06				Sn	**Sn**	**07 24 29.3**	**-0.8**
PB06	**IPOC Station P**	**2.64**	**306**	*e*P	**Pn**	**07 23 56.7**	**+1.4**
PB06				*e*S	**Sn**	**07 24 30.2**	**+0.1**
PB06				IAML		07 24 34.9	
	comp=Z,1µm,0.6s						
PB14	**IPOC Station P**	**2.90**	**262**	⇑*i*P	**Pn**	**07 23 59.0**	**+0.6**
PB14				*e*S	**Sn**	**07 24 34.7**	**-1.0**
PB14				IAML		07 24 36.3	
	comp=E,543nm,0.4s						
PB14	**IPOC Station P**	**2.90**	**262**		**Pn**	**07 23 59.0**	**+0.6**
PB14				Sn	**Sn**	**07 24 35.0**	**-0.7**
PB14	**IPOC Station P**	**2.90**	**262**	*e*P	**Pn**	**07 23 59.1**	**+0.6**
PB14				*e*S	**Sn**	**07 24 35.0**	**-0.7**
PB14				IAML		07 24 39.6	
	comp=Z,550nm,0.4s						
AHML	**Horco Molle**	**3.04**	**146**	*e*P	**Pn**	**07 24 00.2**	**+0.3**
AHML				*e*S	**Sn**	**07 24 37.2**	**-1.4**
PB05	**IPOC Station P**	**3.06**	**297**	⇑*i*P	**Pn**	**07 24 01.1**	**+0.9**
PB05				*i* S	**Sn**	**07 24 37.2**	**-1.7**
PB05				IAML		07 24 41.0	
	comp=N,1µm,0.4s						
PB05	**IPOC Station P**	**3.06**	**297**	*e*S	**Sn**	**07 24 37.6**	**-1.3**
PB05				IAML		07 24 42.1	
	comp=Z,755nm,0.5s						
AC02	**Maricunga**	**3.06**	**213**	⇑*i*P	**Pn**	**07 24 01.7**	**+1.0**
AC02				*e*S	**Sn**	**07 24 41.2**	**+1.4**
AC02	**Maricunga**	**3.06**	**213**	Pn	**Pn**	**07 24 01.6**	**+1.0**
PB09	**IPOC Station P**	**3.07**	**323**	⇑*i*P	**Pn**	**07 24 02.2**	**+1.6**
PB09				*i* S	**Sn**	**07 24 39.8**	**+0.5**
PB09				IAML		07 24 41.1	
	comp=N,1µm,0.5s						
PB09	**IPOC Station P**	**3.07**	**323**		**Pn**	**07 24 02.2**	**+1.6**
PB09	**IPOC Station P**	**3.07**	**323**	*e*P	**Pn**	**07 24 02.1**	**+1.6**
PB09				*e*S	**Sn**	**07 24 39.9**	**+0.5**
PB09				IAML		07 24 40.8	
	comp=Z,864nm,0.8s						
PB10	**IPOC Station P**	**3.12**	**283**	⇑*i*P	**Pn**	**07 24 01.9**	**+1.0**
PB10				*e*S	**Sn**	**07 24 39.5**	**-0.5**
PB10				IAML		07 24 44.9	
	comp=N,571nm,0.3s						
PB10	**IPOC Station P**	**3.12**	**283**	Pn	**Pn**	**07 24 01.9**	**+1.0**
PB10	**IPOC Station P**	**3.12**	**283**	*e*P	**Pn**	**07 24 01.9**	**+1.0**
PB10				*e*S	**Sn**	**07 24 40.0**	**0.0**
PB10				IAML		07 24 41.6	
	comp=Z,543nm,0.4s						
PB04	**IPOC Station P**	**3.29**	**305**	⇑*i*P	**Pn**	**07 24 03.9**	**+0.7**
PB04				*i* S	**Sn**	**07 24 42.5**	**-1.6**
PB04				IAML		07 24 53.7	
	comp=N,1µm,0.6s						
PB04	**IPOC Station P**	**3.29**	**305**		**Pn**	**07 24 04.0**	**+0.7**
PB04	**IPOC Station P**	**3.29**	**305**	*e*P	**Pn**	**07 24 03.9**	**+0.7**
PB04				*e*S	**Sn**	**07 24 43.2**	**-1.0**
PB04				IAML		07 24 47.5	
	comp=Z,851nm,0.5s						
PB07	**IPOC Station P**	**3.51**	**316**	⇑*i*P	**Pn**	**07 24 06.8**	**+0.9**
PB07				*e*S	**Sn**	**07 24 47.2**	**-1.9**
PB07	**IPOC Station P**	**3.51**	**316**		**Pn**	**07 24 06.8**	**+0.9**
PB07	**IPOC Station P**	**3.51**	**316**	*e*P	**Pn**	**07 24 06.6**	**+0.7**
PB07				*e*S	**Sn**	**07 24 48.1**	**-1.0**
PB07				IAML		07 24 50.6	
	comp=Z,2µm,0.6s						
AC01	**Pan de Azucar**	**3.56**	**238**	⇑*i*P	**Pn**	**07 24 06.0**	**-0.3**
AC01				*i* S	**Sn**	**07 24 47.4**	**-2.5**
AC01				IAML		07 24 48.4	
	comp=N,831nm,0.4s						
AC01	**Pan de Azucar**	**3.56**	**238**		**Pn**	**07 24 05.8**	**-0.5**
PB01	**IPOC Station P**	**3.82**	**327**	⇑*i*P	**Pn**	**07 24 10.1**	**+0.3**
PB01				*i* S	**Sn**	**07 24 54.1**	**-1.8**
PB01	**IPOC Station P**	**3.82**	**327**		**Pn**	**07 24 10.2**	**+0.5**
GO03	**Copiap**	**4.26**	**218**	⇑*i*P	**Pn**	**07 24 14.3**	**-0.8**
GO03				*i* S	**Sn**	**07 25 03.4**	**-2.5**
GO03				IAML		07 25 07.4	
	comp=N,392nm,0.2s						
GO03	**Copiap**	**4.26**	**218**	Pn	**Pn**	**07 24 14.4**	**-0.8**
GO03	**Copiap**	**4.26**	**218**	*e*P	**Pn**	**07 24 14.8**	**-0.4**
GO03				*e*S	**Sn**	**07 25 03.9**	**-2.0**
PB08	**IPOC Station P**	**4.47**	**336**	⇑*i*P	**Pn**	**07 24 19.3**	**+1.0**
PB08				*i* S	**Sn**	**07 25 10.5**	**-0.9**
PB08				IAML		07 25 12.2	
	comp=E,263nm,0.2s						
PB08	**IPOC Station P**	**4.47**	**336**		**Pn**	**07 24 19.3**	**+1.0**
TA01	**Diego Aracena**	**4.58**	**323**	Pn	**Pn**	**07 24 19.0**	**-0.2**
HMBC	**Humberstone**	**4.67**	**328**	⇓*i*P	**Pn**	**07 24 19.8**	**-0.7**
HMBC				*i* S	**Sn**	**07 25 09.2**	**-6.2**
AC04	**Llanos de Chal**	**5.21**	**220**	Pn	**Pn**	**07 24 25.5**	**-1.8**
AC05	**El Transito**	**5.29**	**210**		**Pn**	**07 24 27.6**	**-0.9**
PSGCX	**Pisagua**	**5.36**	**330**	Pn	**Pn**	**07 24 27.9**	**-1.5**
MNMC	**Minye Minye**	**5.56**	**336**	Pn	**Pn**	**07 24 32.6**	**+0.4**
LCO	**Las Campanas**	**5.64**	**212**	Pn	**Pn**	**07 24 31.3**	**-1.9**
CO01	**Juntas del Tor**	**6.22**	**203**		**Pn**	**07 24 40.5**	**-0.2**
GO04	**Tololo Observa**	**6.67**	**207**	Pn	**Pn**	**07 24 44.3**	**-2.3**
CO03	**El Pedregal**	**7.22**	**204**		**Pn**	**07 24 51.7**	**-1.9**
CO02	**Combarbal**	**7.66**	**205**	Pn	**Pn**	**07 24 57.8**	**-1.7**
LPAZ	**La Paz**	**7.99**	**354**	P	**Pn**	**07 25 06.0**	**+1.6**
	comp=E,2.2nm,0.3s,baz=137,slow=4.7,SNR=36						

LPAZ				S	Sn	07 26 32.5	-1.9
	comp=E,0.5nm,0.3s,baz=345,slow=17,SNR=5.6						
LPAZ	La Paz	7.99	354	Pn	Pn	07 25 05.5	+1.1
LPAZ	La Paz	7.99	354	eP	Pn	07 25 05.6	+1.2
VA03	San Esteban	8.94	198	Pn	Pn	07 25 14.7	-1.6
CPUP	Villa Florida	9.21	105	P	Pn	07 25 17.2	-2.5
	comp=E,0.4nm,0.3s,baz=284,slow=12,SNR=18						
CPUP	Villa Florida	9.21	105	Pn	Pn	07 25 18.6	-1.1
MT02	Curacav	9.58	200	Pn	Pn	07 25 24.8	+0.3
PTLB	Pontes e Lacer	11.63	42	eP	Pn	07 25 50.2	-1.1
BI02	San Fabin de	12.83	195		Pn	07 26 07.2	+0.8
VILB	Vilhena	13.09	32	eP	Pn	07 26 10.4	+0.5
TRCB	Terra Rica	13.49	87	eP	Pn	07 26 14.5	-0.4
CPSB	Cacapava Do Su	13.71	119	eP	Pn	07 26 16.8	-0.7
PTGB	Pitanga	13.83	95	eP	Pn	07 26 20.1	+0.8
ITAB	Concordia	13.94	105	eP	P	07 26 22.1	-0.7
PLTB	Pedras Altas	14.17	125	eP	Pn	07 26 22.0	-1.2
PCMB	Pacaembu	14.97	83	eP	Pn	07 26 32.5	-0.7
CNLB	Canela	15.47	112	eP	P	07 26 39.9	+0.1
SAML	Samuel	15.73	15	P	P	07 26 42.5	-0.2
ITRB	Iturama	16.31	77	eP	Pn	07 26 49.5	0.0
PLCA	Paso Flores	16.64	189	P	Pn	07 26 54.5	+1.0
	comp=E,0.4nm,0.3s,baz=15,slow=10,SNR=17						
PLCA	Paso Flores	16.64	189	P	P	07 26 51.2	-1.5
PLCA				IAmb	IAmb	07 27 02.9	
	comp=Z,12nm,0.6s						
PLCA	Paso Flores	16.64	189	eP	Pn	07 26 52.8	-0.6
TER01	Tubaro-SC	16.78	109	eP	Pn	07 26 54.3	-0.7
ARAG	Araguaiana, MT	16.82	62	eP	Pn	07 26 55.5	-0.1
CLDB	Colider	17.21	41	eP	P	07 26 58.8	-0.2
BB19B	Bebedouro	17.57	83	eP	P	07 27 03.3	+0.3
SPB	Sao Paulo	18.13	92	eP	P	07 27 09.4	+0.4
PET01	Itanhaem-SP	18.21	94	eP	P	07 27 09.1	-0.8
VAO	Valinhos	18.63	90	eP	P	07 27 14.3	-0.2
IPMB	Ipameri, GO	18.82	74	eP	P	07 27 16.8	+0.2
SNDB	Serra Nova Dou	19.46	54	eP	P	07 27 22.9	-0.5
PARB	Paraibuna	19.81	92	eP	P	07 27 27.1	-0.2
BDFB	Brasilia	20.00	68	P	P	07 27 29.4	+0.1
	comp=Z,5.1nm,0.3s,baz=244,slow=10,SNR=58						
BDFB	Brasilia	20.00	68	P	P	07 27 29.5	+0.1
NPGB	Novo Progresso	20.58	36	eP	P	07 27 33.4	-2.0
ESAR	Angra dos Reis	20.93	91	eP	P	07 27 38.8	-0.3
BSCB	Bom Sucesso	21.00	86	eP	P	07 27 39.7	-0.3
PEXB	Peixe	21.66	59	eP	P	07 27 45.7	-1.1
VAS01	Vassouras-RJ	21.95	90	eP	P	07 27 49.8	0.0
ITTB	Itaituba	22.69	31	eP	P	07 27 55.9	-0.8
DUB01	Friburgo-RJ	22.96	90	eP	P	07 27 59.6	+0.4
JANB	Januaria	23.44	71	eP	P	07 28 03.1	-0.4
SDBA	SAO DESIDERIO	24.23	65	eP	P	07 28 10.2	-0.5
SMTB	Santa Maria do	24.24	54	eP	P	07 28 10.5	-0.3
PTGA	Pitinga	24.44	18	P	P	07 28 13.2	+0.6
	comp=Z,2.3nm,0.5s,baz=190,slow=14,SNR=6.0						
PRPB	Parauapebas	24.58	46	eP	P	07 28 13.1	-0.8
ALF01	Guarapari-ES	24.77	87	eP	P	07 28 14.9	-0.7
SJMB	Sao Joao De Ma	24.86	82	eP	P	07 28 15.7	-0.7
BSFB	Barra de Sao F	25.13	83	eP	P	07 28 18.2	-0.6
RIB01	Linhares ES	25.40	84	eP	P	07 28 20.9	-0.4
MALB	Monte Alegre	25.58	31	eP	P	07 28 22.5	-0.4
NAN01	Guarapari, ES	26.08	81	eP	P	07 28 26.8	-0.6
BOAV	Boa Vista	27.30	15	eP	P	07 28 38.3	0.0
GDU01	Guandu, BA	28.14	73	eP	P	07 28 45.0	-0.8
NBLA	Lagarto - SE	30.94	70	eP	P	07 29 09.2	-1.4
NBAN	Anadia - AL	32.89	69	eP	P	07 29 27.1	-0.5
NBLI	Livramento-PB	33.53	65	eP	P	07 29 32.7	-0.5
NBPA	Parau_RN	34.31	62	eP	P	07 29 39.4	-0.4
NBPV	Pedro Velho	35.42	65	eP	P	07 29 48.6	-0.7
VNA3	Neumayer Olymp	56.97	161	P	P	07 32 38.4	+1.9
VNA1	Neumayer--Stat	57.17	160	P	P	07 32 39.7	+1.9
VNA2	Neumayer--Watz	57.54	160	P	P	07 32 41.9	+1.5
SNAA	Sanae	59.17	161	P	P	07 32 53.3	+1.5
TXAR	Lajitas Array	63.77	325	P	P	07 33 26.5	+3.3
	comp=Z,0.2nm,0.4s,baz=126,slow=9.0,SNR=2.2						
TXAR	Lajitas Array	63.77	325	P	P	07 33 23.6	+0.5
TX31	Lajitas Ar. Si	63.77	325	P	P	07 33 22.1	-1.0
TX32	Lajitas Array	63.77	325	P	P	07 33 21.7	-1.5
TX32				IAmb	IAmb	07 33 49.5	
	comp=Z,4.7nm,1.4s						
QSPA	South Pole Qui	65.93	180	P	P	07 33 35.1	-1.6
S39A	Bolivar	66.33	338	P	P	07 33 37.8	-1.5
S39A				IAmb	IAmb	07 33 42.6	
	comp=Z,6.4nm,0.9s						
ERPA	Erie	67.10	350	P	P	07 33 43.6	-0.5
LIC	Lamto	67.74	72	eP	P	07 33 49.2	+0.4
	comp=Z,27nm,1.5s						
TIC	Toumodi	67.95	71	eP	P	07 33 47.8	-2.3
KIC	Kosan Boka	68.05	72	eP	P	07 33 50.8	0.0
	comp=Z,7.2nm,0.6s						
DBIC	Dimbokro	68.10	72	P	P	07 33 51.4	+0.3
	comp=Z,2.1nm,0.5s,baz=208,slow=8.3,SNR=7.4						
DBIC	Dimbokro	68.10	72	IAmb	IAmb	07 34 08.8	
	comp=Z,10nm,1.5s						
VNDA	Vanda	74.39	190	P	P	07 34 31.2	+3.5
	comp=Z,1.9nm,0.9s,baz=115,slow=2.9,SNR=5.6						
VNDA	Vanda	74.39	190	P	P	07 34 25.4	-2.3
VNDA				IAmb	IAmb	07 34 32.6	
	comp=Z,4.5nm,1.1s						
SRU	San Rafael Swe	74.92	326	P	P	07 34 29.5	-2.0
CCUT	Cedar City	75.24	324	P	P	07 34 32.8	-0.6
MSU	Marysvale	75.32	325	P	P	07 34 32.6	-1.3
MVU	Marysvale	75.33	325	P	P	07 34 31.6	-2.3
JLU	Jordanelle	76.52	327	P	P	07 34 41.2	+0.5
TOA0	Torodi Ar. Sit	76.88	69	P	P	07 34 41.6	-1.3
TORD	Torodi Ar. Bea	76.88	69	P	P	07 34 44.4	+1.5
	comp=Z,1.8nm,0.4s,baz=260,slow=5.2,SNR=21						
TORD	Torodi Ar. Bea	76.88	69	P	P	07 34 40.7	-2.2
PDAR	Pinedale Array	77.27	329	P	P	07 34 47.2	+2.5
	comp=Z,0.5nm,0.6s,baz=142,slow=7.3,SNR=6.2						
PDAR	Pinedale Array	77.27	329	P	P	07 34 42.9	-1.8
ULM	Lac du Bonnet	78.41	342	P	P	07 34 52.9	+2.3
	comp=Z,2.0nm,0.7s,baz=163,slow=5.9,SNR=4.9						
ULM	Lac du Bonnet	78.41	342	P	P	07 34 49.8	-0.7
NVAR	Mina Array Bea	78.61	321	P	P	07 34 55.5	+3.3
	comp=Z,0.5nm,0.6s,baz=145,slow=5.7,SNR=6.2						
KVN	Kaiserville	78.92	322	P	P	07 34 53.6	-0.2
KVN				IAmb	IAmb	07 34 58.0	
	comp=Z,2.8nm,0.8s						
HLID	Hailey	80.19	327	P	P	07 35 01.1	+0.5
HLID				IAmb	IAmb	07 35 05.8	
	comp=Z,3.9nm,0.8s						
BOSA	Boshof	80.81	117	P	P	07 35 06.9	+2.6
	comp=Z,0.9nm,0.4s,baz=207,slow=4.5,SNR=1.2						
WDC	Whiskeytown Da	82.48	321	P	P	07 35 10.5	-1.9
K05A	Summer Lake	82.97	323	P	P	07 35 11.9	-3.4
K05A				IAmb	IAmb	07 35 25.1	
	comp=Z,13nm,1.4s						
FCC	Fort Churchill	85.67	346	P	P	07 35 28.0	-0.1
FCC				IAmb	IAmb	07 35 31.4	
	comp=Z,4.5nm,0.7s						
YKA	Yellowknife Ar	94.30	340	P	P	07 36 11.1	+2.6
	comp=Z,1.1nm,0.7s,baz=125,slow=5.1,SNR=22						
ASAR	Alice Springs	128.11	205	PKP	PKiKP	07 41 57.5	+1.3
	comp=Z,1.3nm,0.7s,baz=129,slow=1.6,SNR=7.5						
WRA	Warramunga Arr	131.28	207	PKP	PKiKP	07 42 04.0	+1.4
	comp=Z,1.1nm,0.5s,baz=158,slow=1.8,SNR=7.9						
WRA				SKPbc	SKPab	07 45 12.4	+2.4
	comp=Z,0.3nm,0.5s,baz=154,slow=3.7,SNR=8.3						
PETK	Petropavlovsk-	135.69	322	PKP	PKiKP	07 42 12.1	+1.7
	comp=Z,5.4nm,1.0s,baz=49,slow=4.4,SNR=2.1						
KURBB	Kurchatov Arra	142.73	36	PKP	PKiKP	07 42 24.0	-0.9
	comp=Z,0.4nm,0.6s,baz=314,slow=2.7,SNR=2.4						
ZALV	Zalesovo Beam	143.74	28	PKP	PKPdf	07 42 23.9	+0.6
	comp=Z,1.6nm,0.5s,baz=312,slow=6.0,SNR=4.8						
MKAR	Makanchi Array	146.88	40	PKPbc	PKPab	07 42 31.9	-1.1
	comp=Z,2.2nm,0.5s,baz=309,slow=3.0,SNR=18						

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*DJA **05** 07:26:45.9±1.3, 9°S±43°×12°6E±°, h14km±31km, M3.3/3, MLv3.3/3*

*IDC **05** 07:26:47.5±6.9, 9.°27S×126.°15E, h51km±82km, mb3.4/1, mb1 3.9/5, mb1mx3.5/35, mbtmp3.8/5, ML3.7/4, Error ellipse: s-maj=75.5km s-min=19.0km az=16.0*

ISC 05 07:26:45.8±1.4**, 9.°3S**±0.°1×**126.°25E**±0.°09**, h35km, n7,** σ1.°50/12**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.01	257	P	Pn	07 27 17.3	-0.1
BATI	Baumata	2.71	250	P	Pn	07 27 26.8	-0.1
	12nm,0.3s,baz=96,slow=2.7,SNR=8.8						
BATI				S	Sn	07 27 58.9	+0.5
	14nm,0.3s,baz=223,slow=21,SNR=7.1						
BATI	Baumata	2.71	250	P	Pn	07 27 27.2	+0.3
BATI				S	Sn	07 27 59.3	+0.9
FITZ	Fitzroy Crossi	8.76	184	P	Pn	07 28 52.5	+2.4
	0.6nm,0.3s,baz=6.0,slow=11,SNR=40						
FITZ				S	Sn	07 30 24.9	-2.8
	2.3nm,0.3s,baz=358,slow=13,SNR=11						
WRA	Warramunga Arr	13.15	144	P	Pn	07 29 52.2	+2.0
	0.6nm,0.3s,baz=312,slow=15,SNR=28						
WRA				S	Sn	07 32 14.8	-0.5
	1.2nm,0.3s,baz=303,slow=22,SNR=9.7						
ASAR	Alice Springs	16.05	154	P	P	07 30 31.2	-0.8
	0.4nm,0.3s,baz=322,slow=10,SNR=25						
ASAR				S	Sn	07 33 25.1	-0.8
	0.5nm,0.3s,baz=328,slow=16,SNR=7.5						
MKAR	Makanchi Array	68.20	329	P	P	07 37 42.2	-0.5
	0.6nm,0.7s,baz=130,slow=7.4,SNR=7.2						

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*IDC **05** 07:30:39.0±0.6, 39.°84N×143.°22E, h0km, mb4.2/24, mb1 4.3/28, mb1mx4.2/42, mbtmp4.2/28, ML3.7/4, MS3.8/25, Ms1 3.8/25, ms1mx3.6/52, Error ellipse: s-maj=16.5km s-min=13.2km az=116.0*

*NIED **05** 07:30:40.4, 39.°91N×143.°37E, h22km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}3.05; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-2.94; $M_{r\theta}$2.08; $M_{\theta\phi}$-1.66; $M_{\phi r}$3.46; Fault plane solution: $M_0$5.26000×10^{15} NP1:ϕ_s30.00000°, δ70.00000°, λ94.00000°. NP2:ϕ_s197.00000°, δ20.00000°, λ78.00000°.*

*JMA **05** 07:30:40.3±0.3, 39.°91N×143.°37E, h22km±5km, M4.5*

JMA Felt I J1.

*MOS **05** 07:30:41.3±0.9, 39.°93N×143.°30E, h32km, mb4.8/36, Error ellipse: s-maj=7.4km s-min=4.7km az=113.0*

*BJI **05** 07:30:41.0±0.0, 39.°72N×143.°14E, h26km, mB4.9/32, mb4.7/49, Ms4.4/28, Ms7 4.1/26*

*NEIC **05** 07:30:42.4±2.1, 39.°83N±0.°06×143.°3E±0.°1, h26km±5km, mb4.5/30, Error ellipse: s-maj=13.4km s-min=7.7km az=109.0*

ISC 05 07:30:39.4±0.5**, 39.°92N**±0.°04×**143.°35E**±0.°05**, h6km, n230,** σ1.°61/228**, mb4.6**/77**, MS4.0**/28**, 10C-5D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.14	271	P	Pg	07 31 01.2	0.0
MIYJ	Miyakonagasawa	1.23	254	P	Pg	07 31 02.6	-0.3
MIYJ				eS	Sg	07 31 18.7	-0.1
JKEN	Kujiedanarisaw	1.29	283	P	Pn	07 31 03.1	-0.8
JKEN				eS	Sg	07 31 19.9	-0.9
JANG	Nango	1.47	288	P	Pn	07 31 06.2	-0.3
JOM	Ohasama	1.65	255	P	Pn	07 31 09.3	+0.4
JMK	Ichinoseki	1.91	240	P	Pn	07 31 12.4	-0.1
JTM	Tenmabayashi	1.94	297	P	Pn	07 31 13.8	+0.9
ERM	Erimo	2.09	356	i P	Pb	07 31 17.1	-0.6
ERM	Erimo	2.09	356		Pb	07 31 17.2	-0.6
JAH	Hinai	2.10	278	P	Pn	07 31 16.2	+1.2
JIO	Ouri	2.14	227	P	Pn	07 31 14.7	-0.8
JOT	Ohata	2.28	311	P	Pn	07 31 18.8	+1.3
JOT				eS	Sn	07 31 46.1	+0.3
JNBK	Urakawa-nobuka	2.40	349	P	Pb	07 31 21.1	-1.8
JYK	Kaneyama	2.52	247	P	Pn	07 31 21.6	+0.7
JKB	Kayabe	2.63	319	P	Pn	07 31 24.2	+1.8
JCH	Churui	2.69	0	P	Pn	07 31 24.2	+1.0
JCH				eS	Sn	07 31 56.0	0.0
JMM	Marumori	2.86	225	Pn	Pn	07 31 25.0	-0.6
JEW	Eniwo	3.25	335		Pb	07 31 35.2	-2.2
NMR	Nemuro--Hokkai	3.88	27	⇓iP	Pn	07 31 39.7	+0.2
NMR				i S	Sn	07 32 21.9	-3.4
GLVR	Golovnino	4.14	22	eP	Pn	07 31 44.5	+1.4
GLVR				eS	Sn	07 32 29.4	-2.5
GLVR				pmax	pmax		
	comp=E,54nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,116nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,797nm,1.2s						
GLVR				smax	smax		
	comp=E,1μm,0.4s						
GLVR				smax	smax		
	comp=N,1μm,0.3s						
JKA	Kamikawa-asahi	4.23	353	Pn	Pn	07 31 47.4	+3.1
JKA	Kamikawa-asahi	4.23	353		Sn	07 32 34.3	+0.4
ASAJ	Asahikawa	4.23	353	Pn	Pn	07 31 46.6	+2.3
	comp=N,5.0nm,0.3s,baz=186,slow=12,SNR=20						
ASAJ				Sn	Sn	07 32 34.3	+0.4
	comp=N,3.0nm,0.3s,baz=195,slow=6.1,SNR=5.5						
ASAJ				LR	LR	07 33 09.1	
	comp=N,189nm,21.2s,baz=186,slow=35						
JSD	Sado	4.39	246	Pn	Pn	07 31 47.6	+1.1
GRPR	Tuman	4.45	23	eP	Pn	07 31 47.6	+0.2
GRPR				eS	Sn	07 32 36.5	-2.9
GRPR				pmax	pmax		
	comp=Z,156nm,0.4s						
GRPR				pmax	pmax		
	comp=N,47nm,0.2s						
GRPR				pmax	pmax		
	comp=E,66nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,624nm,1.9s						
GRPR				smax	smax		
	comp=N,691nm,0.2s						
GRPR				smax	smax		
	comp=E,2μm,0.3s						
JYT	Yasato	4.45	215		Pn	07 31 47.4	+0.1
MJAR	Matsushiro Arr	5.27	232	Pn	Pn	07 31 59.0	+0.4
	comp=E,1.0nm,0.3s,baz=36,slow=12,SNR=33						
MJAR				LR	LR	07 34 13.4	
	comp=E,629nm,19.2s,baz=50,slow=42						
MJAR	Matsushiro Arr	5.27	232	P	Pn	07 31 59.3	+0.6
MJAR	Matsushiro Arr	5.27	232		Pn	07 31 59.3	+0.6
MAJO	Matsushiro	5.27	232	P	Pn	07 32 00.4	+1.7
MAJO	Matsushiro	5.27	232		Pn	07 32 00.4	+1.7
MAT	Matsushiro	5.27	232	P	Pn	07 31 59.9	+1.2
MAT				eS	Sn	07 33 01.2	+1.5
KUR	Kuril'sk	6.27	31	P	Pn	07 32 12.8	+0.5
KUR				eS	Sn	07 33 21.4	-2.8
KUR				pmax	pmax		
	comp=Z,123nm,0.7s						
KUR				smax	smax		
	comp=N,204nm,0.4s						
KUR				smax	smax		
	comp=E,77nm,0.2s						
JGF	Kuroka	6.41	230	Pn	Pn	07 32 16.2	+1.8
INU	Inuyama	6.79	230	Pn	Pn	07 32 21.5	+2.0
YSS	Yuzh-Sakhalins	7.04	357	⇓eP	Pn	07 32 23.2	+0.3
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS				MLR	MLR		
	comp=E,800nm,14.0s						
TEY	Ternei	7.14	318	eP	Pn	07 32 25.3	+1.1
JHJ2	Mitsune	7.37	204	Pn	Pn	07 32 25.7	-1.7
JHJ	Hachijo jima 2	7.37	204	Pn	Pn	07 32 25.5	-2.0
	comp=E,20nm,0.3s,baz=248,slow=10,SNR=2.4						
JHJ				Sn	Sn	07 33 40.8	-11
	comp=E,14nm,0.3s,baz=246,slow=23,SNR=1.4						
JHJ				LR	LR	07 35 24.3	
	comp=E,347nm,19.0s,baz=104,slow=39						
JWT	Wachi	7.82	236	Pn	Pn	07 32 36.1	+2.4
USA0B	Ussuriysk Arra	9.46	301	P	Pn	07 32 59.1	+2.9
USA0B	Ussuriysk Arra	9.46	301		Pn	07 32 59.1	+2.9
USRK	Ussuriysk Ar.	9.46	301	Pn	Pn	07 32 58.9	+2.7
	baz=106,slow=11,SNR=4.1						
USRK				LR	LR	07 36 29.1	
	comp=E,647nm,19.5s,baz=81,slow=37						
USRK	Ussuriysk Ar.	9.46	301	P	Pn	07 32 59.1	+2.9
USRK	Ussuriysk Ar.	9.46	301		Pn	07 32 59.1	+2.9
JHS	Saijyo	9.50	242	Pn	Pn	07 32 59.0	+2.3
TYV	Tymovskoe	10.95	358	eP	Pn	07 33 28.8	+12
TYV				pmax	pmax		
	comp=Z,14nm,1.6s						
TYV				pmax	pmax		
	comp=Z,500nm,5.7s						
JNU	Nakatsue	12.10	240	LR	LR	07 38 21.1	
	comp=Z,533nm,21.7s,baz=44,slow=39						
KSRS	Korea Array	12.30	263	Pn	Pn	07 33 37.2	+2.1
	comp=Z,1.1nm,0.3s,baz=80,slow=14,SNR=8.5						
KSRS				LR	LR	07 38 02.6	
	comp=Z,529nm,19.3s,baz=74,slow=36						
KLR	Kul'dur	12.43	322	Pn	Pn	07 33 38.4	+1.6
	comp=Z,0.1nm,0.3s,baz=134,slow=13,SNR=6.9						
KLR	Kul'dur	12.43	322	ceP	Pn	07 33 38.2	+1.4
PETK	Petropavlovsk-	16.43	32	LR	LR	07 41 46.2	
	comp=Z,153nm,18.5s,baz=215,slow=40						
ZEA	Zeya	17.61	327	eP	Pn	07 34 44.2	-1.0
ZEA				pmax	pmax		
	comp=N,10.0nm,0.4s						
ZEA				pmax	pmax		
	comp=E,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
HIA	Hailar	19.16	307	P	P	07 35 03.3	-0.1
HIA				pmax	pmax		
	comp=Z,16nm,1.1s						
HIA	Hailar	19.16	307	P	P	07 35 03.3	-0.1
MA2	Magadan	20.22	11	P	Pn	07 35 16.6	-0.2
	comp=Z,8.4nm,0.6s,baz=200,slow=9.8,SNR=13						
MA2	Magadan	20.22	11	ceP	P	07 35 14.4	-0.5
MA2				pmax	pmax		
	comp=Z,12nm,1.0s						
MA2	Magadan	20.22	11	P	Pn	07 35 16.3	-0.5
BJI	Beijing	20.80	279	P	P	07 35 19.4	-1.8
BJI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TIA	Tai'an	20.95	268	P	P	07 35 21.0	-1.9
TIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TIA				pmax	pmax		
	comp=Z,82nm,3.9s						
TIA				LR	LR		
	comp=Z,240nm,5.7s						
TIA				LR	LR		
	comp=Z,550nm,14.9s						
TIA				LR	LR		
	comp=Z,760nm,13.5s						
NJ2	Nanjing	21.27	256	eP	P	07 35 27.8	+1.4
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
YAK	Yakutsk	23.65	344	eP	P	07 35 49.0	-2.1
YAK				e*PP	pwP	07 35 58.8	+4.2
YAK				e		07 36 23.3	
YAK				eS	S	07 40 02.9	-3.0
YAK				eSS	SnSn	07 40 49.2	+6.5
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,250nm,4.4s						
YAK				pmax	pmax		
	comp=N,137nm,3.8s						
YAK				pmax	pmax		
	comp=E,97nm,3.3s						
YAK				smax	smax		
	comp=N,298nm,4.4s						
YAK				smax	smax		
	comp=E,130nm,3.7s						
YAK				MLR	MLR		
	comp=Z,164nm,18.0s						
YAK				MLR	MLR		
	comp=N,85nm,15.0s						
YAK				MLR	MLR		
	comp=E,60nm,15.0s						
SEY	Seymchan	23.67	10	P	P	07 35 51.8	+0.4
	comp=E,12nm,1.0s,baz=192,slow=5.7,SNR=27						
SEY	Seymchan	23.67	10	i P	P	07 35 50.1	-1.3
HHC	Hu-ho-hao-te	24.16	283	eP	P	07 35 55.5	-0.9
HHC				pmax	pmax		
	comp=E,7.0nm,1.0s						
HHC				pmax	pmax		
	comp=E,49nm,5.6s						
HHC				LR	LR		
	comp=E,170nm,13.1s						
HHC				LR	LR		
	comp=E,620nm,15.9s						
HHC				LR	LR		
	comp=E,670nm,15.9s						
WHN	Wuhan	25.38	257	⇓iP	P	07 36 07.5	+0.2
WHN				pmax	pmax		
	comp=E,54nm,0.7s						
BOD	Bodaibo	26.01	323	eP	P	07 36 12.8	0.0
BOD				pmax	pmax		
	comp=Z,19nm,1.0s						
ULN	Ulaanbaatar	27.13	299	P	P	07 36 23.3	0.0
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ULN	Ulaanbaatar	27.13	299	P	P	07 36 23.3	0.0
ULN				IAmb	IAmb	07 36 25.0	
	comp=Z,9.9nm,0.9s						
SONM	Songino Array	27.57	299	P	P	07 36 28.0	+0.8
	comp=Z,6.1nm,0.8s,baz=94,slow=8.7,SNR=24						
SONM				LR	LR	07 48 04.1	
	comp=Z,465nm,18.8s,baz=68,slow=38						
SONM	Songino Array	27.57	299	P	P	07 36 27.5	+0.3
XAN	Xi'an	28.00	269	P	P	07 36 29.8	-1.3
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN	Xi'an	28.00	269	P	P	07 36 29.3	-1.8
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN	Xi'an	28.00	269	P	P	07 36 29.3	-1.8
H11N2	WAKE ISLAND Hy	28.52	128	T	T	08 06 26.2	
	baz=320						
H11N1	WAKE ISLAND Hy	28.54	128	T	T	08 06 28.0	
	baz=320,slow=74						
H11N3	WAKE ISLAND Hy	28.54	128	T	T	08 06 28.5	
	baz=320,slow=74						
ENH	Enshi	29.18	261	P	P	07 36 39.8	-1.8
H11S1	WAKE ISLAND Hy	29.35	130	T	T	08 07 34.4	
	baz=322,slow=74						
H11S3	WAKE ISLAND Hy	29.35	130	T	T	08 07 35.1	
	baz=322						
H11S2	WAKE ISLAND Hy	29.37	130	T	T	08 07 33.1	
	baz=322,slow=74						
TLY	Talaya	29.70	307	P	P	07 36 47.3	+1.3
	comp=Z,0.9nm,0.3s,baz=129,slow=6.4,SNR=4.9						
TLY				LR	LR	07 48 41.4	
	comp=Z,106nm,21.2s,baz=80,slow=36						
TLY	Talaya	29.70	307	eP	P	07 36 46.3	+0.3
TLY				pmax	pmax		
	comp=Z,11nm,1.0s						
TLY				MLR	MLR		
	comp=Z,521nm,12.0s						
TLY	Talaya	29.70	307	P	P	07 36 45.1	-0.9
ZAK	Zakamensk	29.79	304	eP	P	07 36 47.3	+0.4
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
LZH	Lanzhou	31.19	276	⇑P	P	07 36 59.8	+0.4
LZH				pP	sP	07 37 08.7	+7.3
LZH				sP	pP	07 37 12.7	+12
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				LR	LR		
	comp=Z,210nm,14.1s						
LZH				LR	LR		
	comp=Z,390nm,15.7s						
LZH				LR	LR		
	comp=Z,310nm,16.8s						
TIXI	Tiksi	32.63	352	LR	LR	07 52 00.9	
	comp=Z,155nm,18.8s,baz=167,slow=39						
GYA	Guiyang	33.27	257	⇑P	P	07 37 16.7	-1.0
GYA				pP	sP	07 37 25.8	+6.1
GYA				pmax	pmax		
	comp=Z,13nm,0.9s						
GYA				pmax	pmax		
	comp=Z,170nm,4.1s						
GYA				LR	LR		
	comp=Z,190nm,14.4s						
GTA	Gaotai	33.27	283	⇓P	P	07 37 18.3	+0.7
GTA				pP	sP	07 37 27.7	+8.1
GTA				sP	pP	07 37 32.0	+13
GTA				pmax	pmax		
	comp=Z,11nm,0.9s						
GTA				pmax	pmax		
	comp=Z,72nm,4.9s						
GTA				LR	LR		
	comp=Z,120nm,16.4s						
GTA				LR	LR		
	comp=Z,470nm,16.0s						
GTA				LR	LR		
	comp=Z,560nm,16.7s						
QIZ	Qiongzhong	35.53	244	P	P	07 37 34.1	-3.1
QIZ				S	S	07 43 12.7	-0.5
QIZ				LR	LR		
	comp=Z,250nm,19.6s						
QIZ				LR	LR		

comp=Z,440nm,19.1s
QIZ LR LR
comp=Z,230nm,16.2s
KMI Kunming 36.95 259 ⇓P **P 07 37 49.9 +0.3**
KMI pmax pmax
comp=Z,17nm,1.0s
KMI LR LR
comp=Z,290nm,8.9s
KMI LR LR
comp=Z,250nm,14.4s
KMI LR LR
comp=Z,320nm,14.6s
SLVN Son La 38.29 253 P **P 07 37 59.6 -1.2**
SLVN IAmb IAmb 07 38 03.0
comp=Z,7.5nm,1.2s
WMQ Urumqi 40.96 294 *e*P **P 07 38 23.9 +1.0**
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ pmax pmax
comp=Z,120nm,4.7s
ZAA0 Zalesovo Array 41.16 310 P **P 07 38 23.6 -0.6**
ZAA0 IAmb IAmb 07 38 25.4
comp=Z,7.9nm,0.6s
ZALV Zalesovo Beam 41.16 310 P **P 07 38 24.9 +0.6**
comp=Z,8.4nm,0.4s,baz=94,slow=8.4,SNR=35
ZALV PcP **PcP 07 40 23.4 +0.1**
comp=Z,1.6nm,0.5s,baz=72,slow=4.8,SNR=3.6
ZALV LR LR 07 56 16.8
comp=Z,145nm,20.6s,baz=62,slow=37
ZALV Zalesovo Beam 41.16 310 P **P 07 38 24.1 -0.1**
NRIK Noril'sk 41.32 334 P **P 07 38 25.2 -0.1**
comp=Z,1.4nm,0.3s,baz=121,slow=9.8,SNR=4.1
NRIK LR LR 07 56 47.8
comp=Z,166nm,18.4s,baz=118,slow=38
NRIK Noril'sk 41.32 334*ce*P **P 07 38 25.5 +0.2**
NRIK pmax pmax
comp=Z,4.0nm,1.1s
ZSN Zaisan 42.07 300 *e*P **P 07 38 32.0 +0.1**
baz=300
ZSN Zaisan 42.07 300 *e*P **P 07 38 31.9 +0.1**
CMAR Chiang Mai Arr 43.73 254 P **P 07 38 44.6 -0.9**
comp=Z,1.4nm,0.3s,baz=51,slow=6.5,SNR=5.6
CMAR LR LR 07 58 34.7
comp=Z,42nm,19.8s,baz=36,slow=38
CMAR Chiang Mai Arr 43.73 254 P **P 07 38 45.3 -0.2**
CMAR Chiang Mai Arr 43.73 254 P **P 07 38 45.3 -0.2**
MK31 Makanchi Array 43.93 300 *i* P **P 07 38 47.0 +0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 43.93 300 P **P 07 38 47.1 +0.2**
MK31 IAmb IAmb 07 38 48.2
comp=Z,5.5nm,0.9s
MKAR Makanchi Array 43.93 300 P **P 07 38 47.2 +0.3**
comp=Z,5.9nm,0.9s,baz=83,slow=9.6,SNR=37
MKAR LR LR 07 58 01.9
comp=Z,244nm,18.7s,baz=44,slow=37
KDAK Kodiak Island 43.95 44 P **P 07 38 47.4 +0.5**
comp=Z,3.3nm,0.8s,baz=117,slow=20,SNR=2.5
MAKZ Makanchi 44.14 300 P **P 07 38 49.0 +0.4**
MAKZ pmax pmax
comp=Z,11nm,1.2s
MAKZ Makanchi 44.14 300 P **P 07 38 49.0 +0.4**
MAKZ IAmb IAmb 07 38 50.0
comp=Z,11nm,1.2s
SHL Shillong 45.00 268 P **P 07 38 54.5 -1.4**
SHL pmax pmax
comp=Z,12nm,1.2s
SHL Shillong 45.00 268 P **P 07 38 54.5 -1.4**
SHL IAmb IAmb 07 38 57.4
comp=Z,12nm,1.2s
ILAR Eielson Array 46.25 34 P **P 07 39 06.3 +1.2**
comp=Z,0.9nm,0.8s,baz=264,slow=6.4,SNR=6.2
PDGK Podgornoye 46.82 296 *i* P **P 07 39 09.2 -0.8**
PDGK pmax pmax
comp=Z,10.0nm,1.3s
SHLS Shalkode 46.89 296 *e*P **P 07 39 08.0 -2.6**
comp=Z,3.7nm,0.9s,baz=296
SHLS Shalkode 46.89 296 *e*P **P 07 39 07.9 -2.6**
SHLS pmax pmax
comp=Z,4.0nm,0.9s
TDK Taldyqorghan 47.03 299 *e*P **P 07 39 11.5 0.0**
comp=Z,9.5nm,0.6s,baz=299
TDK Taldyqorghan 47.03 299 *e*P **P 07 39 11.5 0.0**
TDK pmax pmax
comp=Z,10.0nm,0.6s
UZB Uzynbulak 47.20 296 *e*P **P 07 39 12.9 -0.2**
baz=296
UZB Uzynbulak 47.20 296 *e*P **P 07 39 12.8 -0.2**
TAPN Taplejung 47.30 272 *e*P **P 07 39 14.8 +0.7**
KPKS Kokpek 47.33 296 *e*P **P 07 39 13.5 -0.4**
comp=Z,5.1nm,1.0s,baz=297
KPKS Kokpek 47.33 296 *e*P **P 07 39 13.5 -0.4**
KPKS pmax pmax
comp=Z,5.0nm,1.0s
DOT Dot Lake 47.57 35 P **P 07 39 16.6 +1.2**
DOT IAmb IAmb 07 39 36.8
comp=Z,4.9nm,1.4s
SATY Saty 47.65 296 *e*P **P 07 39 16.3 -0.2**
baz=296
SATY Saty 47.65 296 *e*P **P 07 39 16.3 -0.2**
ODAN Odare 47.79 272 *e*P **P 07 39 18.8 +0.9**
comp=Z,15nm,0.3s
RAMN Ramite 48.35 273 *e*P **P 07 39 22.2 0.0**
comp=Z,40nm,0.9s
CHKK Chushkaly 48.36 298 *e*P **P 07 39 21.5 -0.4**
baz=298
CHKK Chushkaly 48.36 298 *e*P **P 07 39 21.4 -0.4**
GUN Gumba 48.42 274 *e*P **P 07 39 23.2 +0.3**
comp=Z,25nm,0.5s
MDOK Medeo 48.55 297 *e*P **P 07 39 23.4 -0.1**
baz=297
MDOK Medeo 48.55 297 *e*P **P 07 39 23.4 -0.1**
AAA Alma-Ata 48.63 297 *e*P **P 07 39 24.1 +0.1**
baz=297
AAA Alma-Ata 48.63 297 *e*P **P 07 39 24.0 +0.1**
TNSS Tian-Shan 48.67 297 *e*P **P 07 39 24.9 +0.1**
baz=297
TNSS Tian-Shan 48.67 297 *e*P **P 07 39 24.8 +0.1**
KUU Kurty 48.79 298 *e*P **P 07 39 24.5 -0.7**
comp=Z,8.6nm,0.8s,baz=298
KUU Kurty 48.79 298 *e*P **P 07 39 24.4 -0.7**
KUU pmax pmax
comp=Z,9.0nm,0.8s
KKN Kakani 48.94 274 *e*P **P 07 39 27.0 +0.3**
comp=Z,27nm,0.8s
PKI Pulchoki 48.95 274 *e*P **P 07 39 26.9 -0.1**
comp=Z,9.5nm,0.5s
DMN Daman 49.16 274 *e*P **P 07 39 29.0 +0.5**
BRZS Berezniki 49.27 306 *e*P **P 07 39 28.1 -0.6**
baz=306
BRZS Berezniki 49.27 306 *e*P **P 07 39 28.1 -0.6**
TKM2 Tokmak 2 49.64 297 *i* P **P 07 39 32.3 +0.4**
TKM2 pmax pmax
comp=Z,18nm,0.9s
BRVK Borovoye 49.84 311 *i* P **P 07 39 30.5 -2.5**
BRVK pmax pmax
comp=Z,7.0nm,1.1s
BTLS Baital 49.95 300 *e*P **P 07 39 33.2 -0.8**
baz=300
BTLS Baital 49.95 300 *e*P **P 07 39 33.1 -0.8**
SGDS Sogindy 50.11 298 *e*P **P 07 39 35.1 -0.2**
baz=298
SGDS Sogindy 50.11 298 *e*P **P 07 39 35.1 -0.2**
AAK Ala-Archa 50.50 297*ce*P **P 07 39 37.6 -0.7**
AAK pmax pmax
comp=Z,26nm,2.5s
AAK Ala-Archa 50.50 297 P **P 07 39 37.4 -0.9**
AAK IAmb IAmb 07 39 39.1
comp=Z,4.2nm,1.0s
KSH Kashi 50.66 293 P **P 07 39 43.8 +4.2**
KSH pP sP 07 39 53.4 +12
KSH pmax pmax
comp=Z,12nm,0.7s
KSH pmax pmax
comp=Z,270nm,7.2s
KSH LR LR
comp=Z,290nm,9.7s
KSH LR LR
comp=Z,190nm,7.0s
INK Inuvik 51.12 28 P **P 07 39 44.3 +1.9**
comp=Z,0.5nm,0.4s,baz=304,slow=5.1,SNR=1.9
DZA Taraz 52.55 298 *e*P **P 07 39 53.7 0.0**
baz=298
DZA Taraz 52.55 298 *e*P **P 07 39 53.6 0.0**
KK31 Karatay Array 53.03 299 P **P 07 39 56.5 -0.6**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KK31 Karatay Array 53.03 299 P **P 07 39 56.5 -0.6**
KK31 IAmb IAmb 07 39 57.5
comp=Z,4.2nm,0.7s
KKAR Karatay Array 53.03 299 P **P 07 39 56.9 -0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 53.03 299 P **P 07 39 56.9 -0.2**
KKAR IAmb IAmb 07 39 57.5
comp=Z,4.2nm,0.7s
IUG Iuzhnay 53.73 298 *e*P **P 07 40 02.5 +0.1**
comp=Z,3.4nm,1.3s,baz=298
IUG Iuzhnay 53.73 298 *e*P **P 07 40 02.4 +0.1**
IUG pmax pmax
comp=Z,3.0nm,1.3s
PSI Prapat 54.58 239 LR LR 08 04 43.5
comp=Z,48nm,18.9s,baz=88,slow=38
NIL Nilore 55.18 287 P **P 07 40 12.6 -0.3**
NIL pmax pmax
comp=Z,12nm,0.9s
NIL Nilore 55.18 287 P **P 07 40 12.6 -0.3**
ARU Arti 55.23 318*c i* P **P 07 40 10.6 -2.2**
ARU S **S 07 47 52.1 -4.4**
ARU pmax pmax
comp=Z,13nm,1.3s
ARU MLR MLR
comp=Z,264nm,14.0s
ARU Arti 55.23 318 P **P 07 40 11.7 -1.1**
AB31 Akbulak array 57.26 309 *i* P **P 07 40 27.7 +0.2**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 57.26 309 P **P 07 40 27.3 -0.2**
ABKAR IAmb IAmb 07 40 28.3
comp=Z,6.0nm,0.7s
KBL Kabul 57.82 290 P **P 07 40 30.8 -1.2**
KBL pmax pmax
comp=Z,10.0nm,0.7s
KBL Kabul 57.82 290 P **P 07 40 30.8 -1.2**
AKTO Aktyubinsk 57.90 311 LR LR 08 08 33.1
comp=Z,100nm,20.4s,baz=20,slow=39
WB0 Warramunga Arr 59.97 190 P **P 07 40 45.3 -1.2**
WB0 IAmb IAmb 07 41 10.8
comp=Z,4.1nm,0.8s
WRAB Tennant Creek 60.13 190 *i* P **P 07 40 47.5 -0.2**
WRAB pmax pmax
comp=Z,3.0nm,0.9s
WB2 Warramunga Arr 60.14 190 P **P 07 40 47.1 -0.7**
WB2 IAmb IAmb 07 40 57.6
comp=Z,3.7nm,0.8s
WRA Warramunga Arr 60.15 190 P **P 07 40 47.0 -0.8**
comp=Z,2.5nm,0.7s,baz=7.3,slow=7.0,SNR=17
WRA Warramunga Arr 60.15 190 P **P 07 40 47.0 -0.8**
YKA Yellowknife Ar 60.55 31 P **P 07 40 51.6 +1.5**
comp=Z,0.1nm,0.5s,baz=301,slow=5.8,SNR=5.7
ARCES ARCESS Array B 61.83 339 P **P 07 40 58.8 +0.1**
comp=Z,4.6nm,1.1s,baz=51,slow=7.1,SNR=2.3
ARCES LR LR 08 10 55.5
comp=Z,89nm,18.9s,baz=270,slow=39
KLMR Klimovskoe 62.13 327 *e*P **P 07 40 58.7 -2.1**
KLMR pmax pmax
comp=Z,12nm,1.3s
KLMR Klimovskoe 62.13 327 *e*P **P 07 40 58.7 -2.1**
KLMR AMP 07 41 01.6
comp=Z,12nm,1.3s
BELG Belogornoye 62.73 317 LR LR 08 10 49.8
comp=Z,229nm,18.3s,baz=157,slow=38
BELG Belogornoye 62.73 317 *i* P **P 07 41 04.1 -0.9**
BELG pmax pmax
comp=Z,4.0nm,0.9s
HRA Herat 62.76 293 P **P 07 41 05.3 -0.4**
HRA IAmb IAmb 07 41 06.6
comp=Z,4.7nm,1.0s
GEYT Alibeck 63.78 299 P **P 07 41 12.6 +0.3**
comp=Z,2.4nm,0.7s,baz=45,slow=10,SNR=4.7
GEYT Alibeck 63.78 299 P **P 07 41 11.6 -0.7**
ASAR Alice Springs 63.87 190 P **P 07 41 12.8 0.0**
comp=Z,1.2nm,0.7s,baz=4.7,slow=5.7,SNR=12
ASAR Alice Springs 63.87 190 P **P 07 41 13.4 +0.6**
ASAR Alice Springs 63.87 190 P **P 07 41 13.4 +0.6**
VRH Novokhopyorsk 66.46 318 *e*P **P 07 41 28.7 -0.7**
VRH pmax pmax
comp=Z,9.0nm,0.7s
OBN Obninsk 66.69 323 *e*P **P 07 41 30.3 -0.5**
OBN *e* 07 41 58.8
OBN *e* 07 44 00.3
OBN pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 66.97 332 P **P 07 41 33.0 +0.6**
comp=Z,3.1nm,0.7s,baz=60,slow=7.5,SNR=10
FINES LR LR 08 14 03.9
comp=Z,180nm,18.9s,baz=360,slow=39
FINES FINESS Array B 66.97 332 P **P 07 41 33.0 +0.6**
FINES FINESS Array B 66.97 332 P **P 07 41 32.7 +0.3**
LPSR Galich'ya Gora 67.06 320 *e*P **P 07 41 32.3 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 67.76 319 *e*P **P 07 41 36.8 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.3s
GDXM Geysers 68.99 57 P **P 07 41 47.1 +1.4**
BEKR Beckworth 69.93 55 P **P 07 41 51.1 -0.5**
KIV Kislovodsk 70.16 311⇑ *e*P **P 07 41 53.5 +0.6**
KIV pmax pmax
comp=Z,13nm,0.8s
KIV Kislovodsk 70.16 311 P **P 07 41 53.4 +0.6**
KBZ Khabaz 70.17 311 P **P 07 41 54.1 +1.4**
comp=Z,7.4nm,0.9s,baz=65,slow=4.0,SNR=8.7
KBZ Khabaz 70.17 311*ce*P **P 07 41 51.5 -1.2**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
SHA1 Shidzhatmaz 70.31 311 *i* P **P 07 41 53.9 0.0**
FFC Flin Flon 70.46 34 P **P 07 41 54.5 +0.2**
FFC pmax pmax
comp=Z,5.0nm,1.5s
FFC Flin Flon 70.46 34 P **P 07 41 54.5 +0.2**
FFC IAmb IAmb 07 41 56.5
comp=Z,5.0nm,1.4s
NACGM Naroch 71.14 327 *i* P **P 07 42 00.1 +1.6**
NACGM *i* P **P 07 42 00.1 +1.6**
NACGM *i* P **P 07 42 00.1 +1.6**
NACGM *i* PPP PPP 07 46 26.6
NACGM *i* S **S 07 51 24.0 +8.6**
NACGM *i* SS **SS 07 55 38.7 -9.1**
NACGM *i* SSS SSS 07 59 19.1
NACGM *i* LR LR 08 14 38.8
STKA Stephens Creek 71.46 182 LR LR 08 18 11.7
comp=Z,35nm,18.1s,baz=29,slow=40
KVN Kaiserville 71.82 54 P **P 07 42 04.3 +1.2**
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN Kaiserville 71.82 54 P **P 07 42 04.3 +1.2**
NVAR Mina Array Bea 72.06 55 P **P 07 42 06.5 +1.8**
comp=Z,0.4nm,0.5s,baz=297,slow=5.8,SNR=3.7
NVAR Mina Array Bea 72.06 55 P **P 07 42 04.3 -0.3**
NB2 NORSAR Subarra 72.10 338 P **P 07 42 04.6 +0.4**
comp=Z,1.0nm,0.6s,baz=36,slow=6.2
NOA NORSAR Array B 72.10 338 P **P 07 42 04.6 +0.4**
comp=Z,2.7nm,0.8s,baz=37,slow=6.0,SNR=8.8
NOA LR LR 08 17 49.9
comp=Z,61nm,19.3s,baz=35,slow=39
AKASG Malin Array Be 72.93 323 P **P 07 42 09.4 +0.1**
comp=Z,0.7nm,0.4s,baz=43,slow=5.7,SNR=6.9
AKASG Malin Array Be 72.93 323 P **P 07 42 08.5 -0.8**
AKBB Malin Array Si 72.93 323*ce*P **P 07 42 08.9 -0.4**
PDAR Pinedale Array 74.57 47 P **P 07 42 22.6 +3.2**
comp=Z,0.2nm,0.5s,baz=296,slow=2.9,SNR=3.5
BURAR Bucovina Array 76.97 322 P **P 07 42 32.3 -0.5**
BURAR Bucovina Array 76.97 322 P **P 07 42 32.3 -0.5**
CLL Collm 79.33 331 *e*P **P 07 42 47.0 +1.3**
CLL Collm 79.33 331 *e*P **P 07 42 47.0 +1.3**
KHC Kasperske Hory 80.86 329 *e*P **P 07 42 54.4 +0.3**
KHC Kasperske Hory 80.86 329 *e*P **P 07 42 54.4 +0.3**
GERES GERESS Array B 81.04 329 P **P 07 42 55.4 +0.3**
comp=Z,0.6nm,0.5s,baz=43,slow=6.0,SNR=5.3
GERES LR LR 08 23 16.1
comp=Z,88nm,18.0s,baz=327,slow=39
PPT Papeete 84.61 118 LR LR 08 19 32.7
comp=Z,26nm,19.1s,baz=336,slow=35
PPT2 Papeete2 84.62 118 *e*LR LR 08 09 48.0
comp=Z,82nm,22.0s
PPT2 Papeete2 84.62 118 *e*T T 09 15 49.9
comp=Z,1.8nm,0.3s
TXAR Lajitas Array 87.17 54 P **P 07 43 29.5 +2.8**
comp=Z,0.4nm,0.6s,baz=305,slow=3.2,SNR=2.4
TBI Tubuai 88.74 122 *e*LR LR 08 11 29.9
comp=Z,52nm,29.2s
TBI Tubuai 88.74 122 *e*T T 09 20 55.4
comp=Z,3.8nm,0.3s
ESDC Sonseca Array 95.34 335 LR LR 08 31 10.2
comp=Z,90nm,18.6s,baz=315,slow=38

ANF ***05*** *07:55:51.9±0.2, 62°.63N×149°.55W, h70km±3km, ML5.0/46, Error ellipse: s-maj=1.9km s-min=1.5km az=93.0, Hypocentre not reviewed by the ISC*

NEIC ***05*** *07:55:52, 62°.62N×149°.49W, h70km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.01; $M_{\theta\theta}$-1.38; $M_{\phi\phi}$3.96; $M_{r\theta}$0.40; $M_{r\phi}$0.24; Fault plane solution: $M_0$4.77000×10^{15} NP1:ϕ_s292.25000°, δ16.35000°, λ110.28000°. NP2:ϕ_s91.19000°, δ74.69000°, λ84.19000°. Principal axes: T 5.3055, Plg60.0000°, Azm353.0000°; N -1.3897, Plg6.0000°, Azm93.0000°; P -3.9158, Plg29.0000°, Azm186.0000°;*

NEIC ***05*** *07:55:52.4±1.5, 62°.64N±0°.03×149°.48W±0°.07, h67km±3km Error ellipse: s-maj=4.6km s-min=4.0km az=83.0*

AEIC ***05*** *07:55:52±1.4, 62°.64N±0°.03×149°.46W±0°.07, h66km±4km, ML4.5,mb4.2/43(NEIC),ML4.8/96(NEIC), Mwr4.4/114(NEIC),Error ellipse: s-maj=4.5km s-min=3.8km az=64.0*

IDC ***05*** *07:55:52.4±0.6, 62°.78N×149°.64W, h72km±5km, mb4.0/32, mb1 4.1/36,mb1mx4.0/50,mbtmp4.3/36,MS3.4/9, Ms1 3.4/9,ms1mx3.1/50,Error ellipse: s-maj=10.1km s-min=9.0km az=42.0*

ISC 05 07:55:52.2±0.5, 62°.67N±0°.03×149°.53W±0°.03, h70km±4km, h70km:pP-P, n265, σ1§03/296, mb4.3/62, 1D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.32**	**351**			**Pn**	**07 56 03.5**	**0.0**
HUR						**Sn**	**07 56 12.4**	**+0.6**
CUT	**Chulitna**	**0.43**	**233**			**Pn**	**07 56 03.8**	**-0.5**
CUT						**Sn**	**07 56 13.5**	**+0.3**
CUT	**Chulitna**	**0.43**	**233**	P			07 56 04.0	
	baz=57,SNR=1000							
CUT				S			07 56 13.2	
	baz=57							
WAT1	**Susitna Watana**	**0.48**	**69**			**Pn**	**07 56 04.4**	**-0.4**
WAT1						**Sn**	**07 56 13.4**	**-0.7**
WAT2	**Susitna Watana**	**0.53**	**55**			**Pn**	**07 56 05.1**	**-0.2**
WAT2						**Sn**	**07 56 14.8**	**-0.2**
WAT2	**Susitna Watana**	**0.53**	**55**	P			07 56 05.1	
	baz=232							
WAT2				S			07 56 14.8	
	baz=232							
RND	**Reindeer**	**0.80**	**22**			**Pn**	**07 56 08.6**	**+0.2**
RND					Sn	**Sn**	**07 56 20.4**	**+0.1**
TRF	**Thorofare Moun**	**0.86**	**336**		Pn	**Pn**	**07 56 09.7**	**+0.6**
TRF						**Sn**	**07 56 22.6**	**+1.0**
TRF					IAML		07 56 23.2	
	comp=N,21μm,0.5s							
TRF	**Thorofare Moun**	**0.86**	**336**	P			07 56 09.7	
	baz=155,SNR=1000							
TRF				S			07 56 22.5	
	baz=155							
GHO	**Glory Hole Cre**	**0.94**	**162**			**Pn**	**07 56 09.3**	**-0.7**
GHO					IAML		07 56 26.8	
	comp=E,19μm,0.5s							
SML	**Sawmill**	**1.03**	**147**			**Pn**	**07 56 10.2**	**-0.9**
SML					IAML		07 56 26.2	
	comp=E,27μm,0.7s							
SML					IAML		07 56 28.4	
	comp=N,17μm,0.6s							
SML	**Sawmill**	**1.03**	**147**	P			07 56 10.2	
	baz=328,SNR=1000							
SML				S			07 56 24.6	
	baz=328							
PMR	**Palmer**	**1.09**	**170**			**Pn**	**07 56 11.1**	**-0.7**
PMR					Sn	**Sn**	**07 56 26.0**	**-0.3**
PMR					IAML		07 56 27.5	
	comp=E,20μm,0.6s							
PMR					IAML		07 56 27.7	
	comp=N,12μm,0.5s							
PMR	**Palmer**	**1.09**	**170**	P			07 56 11.1	
	baz=351,SNR=1000							
PMR				S			07 56 26.3	
	baz=351							
KTH	**Kantishna Hill**	**1.09**	**325**			**Pn**	**07 56 12.6**	**+0.7**
KTH						**Sn**	**07 56 28.0**	**+1.4**
KTH					IAML		07 56 29.0	
	comp=N,11μm,0.8s							
MCK	**McKinley**	**1.10**	**14**			**Pn**	**07 56 12.7**	**+0.7**
MCK	**McKinley**	**1.10**	**14**	P			07 56 12.7	
	baz=193,SNR=1000							
MCK				S			07 56 27.3	
	baz=193							
SKT	**Skwentna**	**1.16**	**235**			**Pn**	**07 56 12.8**	**+0.1**
SKT					IAML		07 56 28.6	
	comp=E,13μm,0.7s							
SKT					IAML		07 56 28.9	
	comp=N,18μm,0.7s							
SKT	**Skwentna**	**1.16**	**235**	P			07 56 12.7	
	baz=54,SNR=1000							
SKT				S			07 56 28.0	
	baz=54							
PPLA	**Purkeypile**	**1.25**	**282**	Pn		**Pn**	**07 56 14.1**	**+0.2**
PPLA	**Purkeypile**	**1.25**	**282**			**Sn**	**07 56 31.1**	**+0.9**
PPLA	**Purkeypile**	**1.25**	**282**	P			07 56 14.1	
	baz=101,SNR=272							
PPLA				S			07 56 30.2	
	baz=101							
SCM	**Sheep Creek Mo**	**1.32**	**128**			**Pn**	**07 56 14.5**	**-0.4**
SUA	**Susitna One**	**1.34**	**206**			**Pn**	**07 56 14.9**	**-0.1**
SUA						**Sn**	**07 56 31.8**	**-0.4**
SUA					IAML		07 56 34.6	
	comp=E,13μm,0.8s							
SUA	**Susitna One**	**1.34**	**206**	P			07 56 14.9	
	baz=26,SNR=1000							
SUA				S			07 56 31.9	
	baz=26							
KNK	**Knik Glacier**	**1.35**	**158**			**Pn**	**07 56 15.2**	**0.0**
KNK	**Knik Glacier**	**1.35**	**158**	P			07 56 15.0	
	baz=339							
KNK				S			07 56 31.6	
	baz=339							
CAST	**Castle Rocks**	**1.39**	**304**			**Pn**	**07 56 16.7**	**+1.1**
FIS	**Fire Island**	**1.56**	**192**			**Pn**	**07 56 18.5**	**+0.7**
BPAW	**Bear Paw Mtn.**	**1.58**	**336**			**Pn**	**07 56 18.6**	**+0.4**
BPAW						**Sn**	**07 56 36.9**	**-0.9**
BPAW	**Bear Paw Mtn.**	**1.58**	**336**	P			07 56 18.6	
	baz=155,SNR=1000							
BPAW				S			07 56 36.9	
	baz=155							
RC01	**Rabbit Creek A**	**1.58**	**184**			**Pn**	**07 56 17.7**	**-0.5**
RC01						**Sn**	**07 56 38.3**	**+0.4**
RC01	**Rabbit Creek A**	**1.58**	**184**	P			07 56 17.8	
	baz=4.3,SNR=959							
RC01				S			07 56 37.6	
	baz=4.3							
STLK	**Strandline Lak**	**1.60**	**224**			**Pn**	**07 56 18.3**	**-0.1**
M24K	**Tolsona, Glenn**	**1.66**	**108**			**Pn**	**07 56 20.2**	**+1.0**
M24K					IAML		07 56 44.6	
	comp=E,16μm,0.8s							
M24K					IAML		07 56 47.7	
	comp=N,9μm,0.3s							
M24K	**Tolsona, Glenn**	**1.66**	**108**	P			07 56 20.0	
	baz=290,SNR=1000							
M24K				S			07 56 40.4	
	baz=290							
CHUM	**Lake Minchumin**	**1.76**	**315**			**Pn**	**07 56 21.1**	**+0.6**
CHUM	**Lake Minchumin**	**1.76**	**315**	P			07 56 21.2	
	baz=133,SNR=1000							
CHUM				S			07 56 42.1	
	baz=133							
CRP	**Crater Peak**	**1.87**	**223**			**Pn**	**07 56 22.6**	**+0.4**
SPCP	**Crater Peak Br**	**1.87**	**223**			**Pn**	**07 56 22.2**	**0.0**
PAX	**Paxson**	**1.89**	**79**			**Pn**	**07 56 23.1**	**+0.8**
PAX	**Paxson**	**1.89**	**79**			**Sn**	**07 56 47.8**	**+2.6**
PAX	**Paxson**	**1.89**	**79**	P			07 56 22.9	
	baz=262,SNR=1000							
PWL	**Port Wells**	**1.90**	**162**			**Pn**	**07 56 21.8**	**-0.7**
PWL						**Sn**	**07 56 44.8**	**-0.6**
SPCN	**Chakachatna No**	**1.92**	**222**			**Pn**	**07 56 23.1**	**+0.4**
WRH	**Wood River Hil**	**1.92**	**19**			**Pn**	**07 56 23.1**	**+0.4**
SPCR	**Spurr Chakacha**	**1.94**	**222**			**Pn**	**07 56 23.1**	**+0.1**
SPCR	**Spurr Chakacha**	**1.94**	**222**	P			07 56 23.0	
	baz=41,SNR=246							

NEA2 **Nenana** 1.95 6 Pn 07 56 23.3 +0.3
NEA2 **Nenana** 1.95 6 P 07 56 23.3
baz=186,SNR=903
NEA2 S 07 56 46.1
baz=186
PS11 **TAPS Pump St11** 1.98 106 Pn 07 56 24.3 +0.8
PS11 Sn 07 56 48.9 +1.6
CAPN **Captain Cook N** 2.06 203 Pn 07 56 25.8 +1.3
CAPN **Captain Cook N** 2.06 203 P 07 56 25.4
baz=22,SNR=241
KLU **Klutina** 2.06 123 Pn 07 56 24.2 -0.5
KLU IAML 07 56 56.5
comp=N,8μm,0.3s
KLU IAML 07 56 56.7
comp=E,8μm,0.5s
KLU **Klutina** 2.06 123 P 07 56 24.2
baz=306,SNR=475
HDA **Harding Lake** 2.10 32 Pn 07 56 25.7 +0.7
HDA IAML 07 56 53.6
comp=N,8μm,0.4s
HDA IAML 07 56 53.8
comp=E,4μm,0.5s
HDA **Harding Lake** 2.10 32 P 07 56 25.5
baz=214,SNR=1000
HDA P 07 56 25.5
baz=214,SNR=1000
CCB **Clear Creek Bu** 2.13 20 Pn 07 56 26.0 +0.5
CCB Sn 07 56 50.7 -0.3
GLI **Glacier Island** 2.13 146 Pn 07 56 24.7 -0.9
GLI Sn 07 56 50.0 -1.0
GLI IAML 07 56 58.0
comp=E,11μm,0.5s
GLI IAML 07 57 03.6
comp=N,9μm,0.7s
GLI **Glacier Island** 2.13 146 P 07 56 24.8
baz=328,SNR=288
GLI S 07 56 50.5
baz=328
VMT **TAPS Tl Valdez** 2.18 135 Pn 07 56 25.2 -0.9
SLKM **Skilak Lake** 2.19 189 Pn 07 56 25.2 -1.1
SLKM Sn 07 56 53.9 +1.4
O22K **Cooper Landing** 2.19 183 Pn 07 56 25.8 -0.5
O22K **Cooper Landing** 2.19 183 P 07 56 25.4
baz=3.0,SNR=322
PS08 **TAPS Pump Stn8** 2.24 31 Pn 07 56 27.3 +0.4
TCOL **CIGO, UAF Yank** 2.34 18 Pn 07 56 29.1 +0.8
TCOL **CIGO, UAF Yank** 2.34 18 P 07 56 28.9
baz=198,SNR=1000
TCOL S 07 56 55.7
baz=198
COLA **College** 2.34 18 Pn 07 56 29.1 +0.9
COLA **College** 2.34 18 Sn 07 56 55.5 -0.5
COLA **College** 2.34 18 P 07 56 29.0
baz=198
DIV **Divide** 2.35 129 Pn 07 56 27.5 -1.0
MDM **Murphy Dome** 2.37 13 Pn 07 56 29.8 +1.0
FID **Port Fidalgo** 2.41 142 Pn 07 56 28.9 -0.4
FID Sn 07 56 56.7 -1.0
FID IAML 07 57 04.7
comp=E,6μm,0.5s
FID IAML 07 57 06.2
comp=N,5μm,0.5s
IL31 2.42 28 Pn 07 56 30.0 +0.6
ILAR **Eielson Array** 2.42 28 P Pn 07 56 29.6 +0.2
comp=N,181nm,0.3s,baz=210,slow=14,SNR=7951
ILAR S Sn 07 56 57.2 -0.7
comp=N,294nm,0.3s,baz=101,slow=22,SNR=3.7
ILAR LR LR 07 57 42.8
comp=N,304nm,20.7s,baz=324,slow=47
IL18 **Eielson Array** 2.43 29 Pn Pn 07 56 30.2 +0.6
MLY **Manley** 2.44 348 Pn 07 56 30.1 +0.4
MLY **Manley** 2.44 348 P 07 56 30.2
baz=166,SNR=991
MLY S 07 56 57.9
baz=166
I23K **Minto, Yukon-K** 2.49 2 Pn 07 56 31.4 +1.1
I23K IAML 07 57 01.8
comp=N,3μm,0.8s
I23K **Minto, Yukon-K** 2.49 2 P 07 56 31.3
baz=181,SNR=1000
RDT **Redoubt** 2.51 215 Pn 07 56 31.0 +0.3
N25K **Chitina, Valde** 2.55 112 Pn 07 56 31.6 +0.4
N25K IAML 07 57 08.7
comp=N,6μm,0.5s
N25K IAML 07 57 09.6
comp=E,4μm,0.7s
N25K **Chitina, Valde** 2.55 112 P 07 56 31.1
baz=296,SNR=520
DFR **Drift River** 2.57 217 Pn 07 56 31.9 +0.3
SEW **Seward** 2.57 179 Pn Pn 07 56 32.1 +0.7
SEW **Seward** 2.57 179 Sn 07 57 04.2 +2.6
SEW **Seward** 2.57 179 P 07 56 31.1
baz=360,SNR=99
POKR **Poker Plat Res** 2.63 20 Pn 07 56 33.2 +1.0
POKR **Poker Plat Res** 2.63 20 P 07 56 33.0
baz=201,SNR=177
POKR S 07 57 02.0
baz=201
NCT **North Crescent** 2.67 219 Pn 07 56 33.0 +0.2
DOT **Dot Lake** 2.67 66 Pn Pn 07 56 34.1 +1.3
MENT **Mentasta** 2.68 82 Pn Pn 07 56 34.2 +1.2
MENT IAML 07 57 11.9
comp=E,3μm,0.7s
MENT IAML 07 57 19.4
comp=N,4μm,0.5s
RSO **Redoubt South** 2.70 216 Pn 07 56 34.1 +0.7
HIN **Hinchinbrook I** 2.70 146 Pn 07 56 32.8 -0.5
HIN IAML 07 57 20.0
comp=N,5μm,0.9s
HIN IAML 07 57 20.7
comp=E,4μm,0.7s
PS07 **TAPS Pump Stn7** 2.71 11 Pn 07 56 34.3 +0.9
RED **Redoubt Volcan** 2.74 216 Pn 07 56 33.9 +0.1
EYAK **Cordova Ski Ar** 2.79 138 Pn Pn 07 56 34.2 -0.1
EYAK **Cordova Ski Ar** 2.79 138 P 07 56 33.8
baz=321,SNR=135
SCRK **Sand Creek** 2.83 60 Pn 07 56 35.6 +0.6
SCRK **Sand Creek** 2.83 60 P 07 56 35.2
baz=244,SNR=1000
BMRM **Bremner River** 2.89 124 Pn 07 56 35.3 -0.6
BMRM **Bremner River** 2.89 124 P 07 56 34.5
baz=308,SNR=230
BRLK **Bradley Lake** 2.98 193 Pn Pn 07 56 37.8 +0.7
BRLK IAML 07 57 22.8
comp=E,2μm,0.7s
BRLK IAML 07 57 24.3
comp=N,2μm,0.9s
TTA **Tatalina** 2.99 278 Pn Pn 07 56 37.3 0.0
TTA **Tatalina** 2.99 278 P 07 56 37.1
baz=93,SNR=197
BRSE **Bradley Lake S** 2.99 192 Pn 07 56 37.5 +0.3
BRSE **Bradley Lake S** 2.99 192 P 07 56 36.6
baz=11,SNR=161
IVE **Iliamna Volcan** 3.15 214 Pn 07 56 39.1 -0.3
HOM **Homer** 3.19 200 P 07 56 39.6
baz=18,SNR=22
PS06 **TAPS Pump Stn6** 3.20 358 Pn 07 56 40.8 +0.8
ILS **Iliamna Low So** 3.21 214 Pn 07 56 41.2 +1.0
CNPM **China Poot** 3.26 196 Pn 07 56 41.7 +0.9
CNPM IAML 07 57 31.7
comp=N,2μm,0.5s
CNPM IAML 07 57 34.2
comp=E,2μm,0.6s
RAGM **Ragged Mountai** 3.26 132 Pn 07 56 40.5 -0.4
SVW2 **Sparrevohn** 3.27 244 Pn Pn 07 56 41.1 +0.2
MCARA **McCarthy VSAT** 3.32 110 Pn 07 56 42.1 +0.4
MCARA **McCarthy VSAT** 3.32 110 P 07 56 41.6
baz=295,SNR=119
PRP **Porcupine Dome** 3.36 30 Pn 07 56 43.3 +1.0
PRP IAML 07 57 25.3
comp=N,2μm,0.6s
PRP **Porcupine Dome** 3.36 30 P 07 56 43.0
baz=213,SNR=394
HMT **Hamilton** 3.44 130 Pn 07 56 42.4 -0.9
OPT **Oil Point** 3.52 212 Pn 07 56 44.8 +0.4
BCAR **Beaver Creek A** 3.57 80 Pn 07 56 44.5 -0.6
CRQM **Cirque** 3.59 119 Pn 07 56 44.9 -0.6
Q23K **Middleton Isla** 3.59 153 Pn 07 56 46.0 +0.6
Q23K IAML 07 58 06.0
comp=N,1μm,1.1s
Q23K IAML 07 58 07.3
comp=E,1μm,1.2s
Q23K **Middleton Isla** 3.59 153 P 07 56 45.3
baz=336
MID **Middleton Isla** 3.60 153 Pn 07 56 46.1 +0.7
MID IAML 07 57 59.1
comp=N,1μm,0.8s
MID IAML 07 58 05.8
comp=E,1μm,1.1s
BERG **Berg Lake** 3.60 127 Pn 07 56 44.8 -0.7
NICHA **Nichawak Mount** 3.61 130 Pn 07 56 45.0 -0.7
CRQE **Cirque** 3.61 119 P 07 56 44.9
baz=305
K27K **Chicken** 3.62 65 Pn 07 56 46.1 +0.4
K27K IAML 07 57 31.9
comp=N,1μm,0.6s
K27K **Chicken** 3.62 65 P 07 56 45.7
baz=251
PTPK **Patty Peak** 3.65 111 Pn 07 56 46.0 -0.4
KAIM **Kayak Island** 3.69 136 Pn 07 56 45.4 -1.3
KAIM IAML 07 57 50.0
comp=E,1μm,0.9s
KAIM IAML 07 57 49.0
comp=N,1μm,0.6s
KAIM **Kayak Island** 3.69 136 P 07 56 45.0
baz=320
TGL **Tana Glacier** 3.72 118 Pn 07 56 46.2 -1.0
KHIT **Khitrov Hills** 3.74 124 Pn 07 56 46.5 -1.0
AU22 **Augustine Moun** 3.80 211 Pn 07 56 49.0 +0.8
SUCK **Suckling Hills** 3.80 131 Pn 07 56 47.7 -0.5
SUCK IAML 07 57 49.7
comp=E,3μm,0.6s
AUL **Augustine Lava** 3.80 212 Pn 07 56 48.9 +0.7
IMAR **Indian Mountai** 3.80 333 Pn 07 56 48.8 +0.5
IM01 **Indian Mountai** 3.81 333 Pn 07 56 49.0 +0.8
GRIN **Grindle Hills** 3.82 126 Pn 07 56 47.7 -0.7
AUCH **Augustine Cone** 3.82 212 Pn 07 56 49.1 +0.6
BGLC **Bering Glacier** 3.94 128 Pn 07 56 49.8 -0.2
BGLC **Bering Glacier** 3.94 128 P 07 56 49.7
baz=313
BVCY **Beaver Creek** 4.02 90 Pn 07 56 51.5 +0.3
KULT **Kultieth River** 4.07 124 Pn 07 56 51.5 -0.4
YUK2 **White River** 4.16 98 Pn 07 56 53.3 +0.2
PS05 **TAPS Pump Stn5** 4.19 354 Pn 07 56 54.7 +1.2
CTG **Chitna Glacier** 4.24 110 P 07 56 54.0
baz=297,SNR=52
CTGM **Chitina Glacie** 4.24 110 Pn 07 56 54.4 0.0
CTGM IAML 07 58 01.2
comp=E,668nm,0.8s
CTGM IAML 07 58 07.5
comp=N,1μm,0.8s
EGAK **Eagle** 4.28 57 Pn Pn 07 56 55.7 +1.0
EGAK IAML 07 57 46.7
comp=N,1μm,0.8s
EGAK IAML 07 57 52.0
comp=N,1μm,0.7s
EGAK **Eagle** 4.28 57 P 07 56 55.5
baz=244,SNR=366
FYU **Fort Yukon** 4.33 23 Pn 07 56 56.5 +1.1
FYU IAML 07 57 51.3
comp=E,915nm,0.7s
FYU IAML 07 57 52.9
comp=N,826nm,0.6s
YUK3 **Moose Creek** 4.34 98 Pn 07 56 56.0 +0.3
YAH **Yahtse** 4.38 118 Pn 07 56 56.2 -0.2
YAH IAML 07 58 05.4
comp=E,985nm,0.7s
LOGN **Logan Glacier** 4.45 111 Pn 07 56 56.5 -0.7
COLD **Coldfoot** 4.59 357 Pn 07 57 00.2 +1.3
COLD **Coldfoot** 4.59 357 P 07 57 00.0
baz=176,SNR=114
DAWY **Dawson** 4.77 68 Pn 07 57 01.8 +0.3
CHX **Chaix Hills** 4.81 119 Pn 07 57 01.8 -0.3
SAMH **Samovar Hills** 4.91 117 Pn 07 57 03.6 +0.2
KDAK **Kodiak Island** 5.13 199 P Pn 07 57 05.4 -0.9
comp=E,6.7nm,0.3s,baz=32,slow=12,SNR=191
KDAK S Sn 07 58 00.7 -3.4
comp=E,16nm,0.3s,baz=202,slow=18,SNR=6.9
KDAK LR LR 07 59 17.1
comp=E,390nm,21.9s,baz=57,slow=39
KDAK **Kodiak Island** 5.13 199 Pn 07 57 04.9 -1.4
KDAK IAML 07 58 24.0
comp=E,371nm,0.9s
KDAK **Kodiak Island** 5.13 199 P 07 57 04.9
baz=16
PCA **Pinnacle** 5.15 116 Pn 07 57 06.3 -0.3
PINM **Pinnacle** 5.15 116 P 07 57 05.8
baz=304,SNR=21
KCG **Knife Ck. Glac** 5.17 215 Pn 07 57 07.2 +0.3
BM05 **Burnt Mountain** 5.22 21 Pn 07 57 08.3 +0.8
BMAR **Burnt Mountain** 5.22 21 Pn 07 57 05.9 -1.6
CAHL **Cahill** 5.44 214 Pn 07 57 11.0 +0.3
BCPM **Bancas Point** 5.49 115 Pn 07 57 11.3 +0.1
KJL **Kejulik** 5.51 216 Pn 07 57 11.8 +0.2
PNL **Peninsula** 5.75 117 Pn 07 57 13.0 -1.0
OHAK **Old Harbor** 5.78 201 Pn 07 57 13.0 -2.2
OHAK **Old Harbor** 5.78 201 P 07 57 12.9
baz=18,SNR=13
PS04 **TAPS Pump Stn4** 5.78 1 Pn 07 57 16.8 +1.6
TOLK **Toolik Lake Re** 6.00 360 Pn 07 57 20.7 +2.5
TOLK **Toolik Lake Re** 6.00 360 P 07 57 20.1
baz=180
PLK1 **Peulik 1** 6.02 219 Pn 07 57 18.9 +0.5
PLK3 **Peulik 3** 6.02 217 Pn 07 57 19.0 +0.5
SII **Sitkinak Islan** 6.56 203 Pn 07 57 25.6 -0.4
SII **Sitkinak Islan** 6.56 203 P 07 57 24.2
baz=19
PLBC **Pleasant Camp** 7.15 111 Pn 07 57 33.4 -0.5
WHY **Whitehorse** 7.25 100 Pn 07 57 34.7 -0.8
SKAG **Skagway** 7.60 109 Pn 07 57 39.5 -0.4
SKAG **Skagway** 7.60 109 P 07 57 38.7
baz=301
PS01 **TAPS Pump Stn** 7.64 2 Pn 07 57 40.7 +0.2
RDOG **Red Dog Mine** 7.76 320 Pn 07 57 43.1 +0.9
RDOG **Red Dog Mine** 7.76 320 P 07 57 44.7
baz=128
CHGN **Chignik** 7.82 219 P 07 57 41.5
baz=32
BESE **Bessie Mountai** 8.29 113 Pn 07 57 48.8 -0.7
JIS **Juneau Island** 8.67 114 Pn 07 57 53.6 -1.0
INK **Inuvik** 8.71 43 P Pn 07 57 55.7 +0.6
comp=E,4.4nm,0.3s,baz=223,slow=15,SNR=140
INK S Sn 07 59 31.6 0.0
comp=E,5.1nm,0.3s,baz=255,slow=11,SNR=6.1
INK LR LR 08 01 45.0
comp=E,188nm,18.6s,baz=202,slow=41
INK **Inuvik** 8.71 43 Pn 07 57 56.5 +1.4
SIT **Sitka** 9.08 122 Pn 07 57 59.2 -1.0
SIT **Sitka** 9.08 122 P 07 57 58.7
baz=314,SNR=8.9
A21K **Barrow** 9.12 345 Pn 07 58 01.1 +0.5
A21K **Barrow** 9.12 345 P 07 58 01.0
baz=159,SNR=12
SDPT **Sand Point** 9.25 222 P 07 58 00.2
baz=33
CHNA **Chernabura Isl** 9.43 218 P 07 58 02.5
baz=30
DLBC **Dease Lake** 10.47 105 P Pn 07 58 18.8 -0.6
comp=E,0.5nm,0.3s,baz=292,slow=10.0,SNR=16
DLBC LR LR 08 03 08.3
comp=E,102nm,21.8s,baz=308,slow=41
DLBC **Dease Lake** 10.47 105 Pn 07 58 18.3 -1.0
WRAK **Wrangell Islan** 10.71 118 P 07 58 19.2
baz=313
C36M **Paulatuk** 12.24 46 Pn 07 58 40.8 -2.4
C36M **Paulatuk** 12.25 46 P 07 58 40.6
baz=249
BBB **Bella Bella** 15.51 123 P Pn 07 59 27.6 +1.3
comp=E,0.5nm,0.3s,baz=347,slow=12,SNR=4.7
BBB LR LR 08 04 28.7
comp=E,124nm,18.2s,baz=348,slow=33
BBB **Bella Bella** 15.51 123 IAmb IAmb 07 59 31.7
comp=Z,19nm,0.9s
YKA **Yellowknife Ar** 15.97 75 P Pn 07 59 31.1 -1.1
comp=Z,0.6nm,0.3s,baz=287,slow=13,SNR=40
YKA ScP ScP 08 07 52.7 0.0
comp=Z,0.0nm,0.3s,baz=300,slow=1.7,SNR=8.9
NLWA **Neilton Lookou** 21.00 125 P Pn 08 00 31.7 -1.1
NLWA IAmb IAmb 08 00 50.8
comp=Z,16nm,1.2s
B06A **Marblemount** 21.01 119 P P 08 00 30.8 +1.2
B06A IAmb IAmb 08 00 31.7
comp=Z,17nm,1.1s
D05A **Enumclaw** 21.89 122 P P 08 00 40.5 +1.5
B08A **Colville Reser** 22.02 117 P P 08 00 41.5 +1.0
RES **Resolute Bay** 22.15 35 P P 08 00 40.7 -0.9
comp=Z,7.5nm,0.6s,baz=258,slow=12,SNR=35
LON **Longmire** 22.32 123 P P 08 00 45.4 +1.6
LTY **Liberty** 22.35 120 P P 08 00 45.6 +1.4
NEW **Newport** 23.02 114 P P 08 00 51.5 +0.5
comp=Z,2.6nm,0.6s,baz=326,slow=9.1,SNR=13
NEW pP pP 08 01 07.2 +0.9
comp=Z,5.7nm,1.0s,baz=333,slow=7.7,SNR=7.6
NEW **Newport** 23.02 114 P P 08 00 52.5 +1.5
NEW IAmb IAmb 08 01 08.8
comp=Z,9.7nm,1.1s
NEW **Newport** 23.02 114 P 08 00 50.2
baz=321,SNR=6.0
D08A **Wollman Farm,** 23.22 118 P P 08 00 53.0 0.0
D08A IAmb IAmb 08 01 11.7
comp=Z,7.5nm,0.9s
F07A **Phinny Hill Vi** 23.76 121 P P 08 00 58.8 +1.0
F07A IAmb IAmb 08 01 18.0
comp=Z,8.6nm,0.8s
E09A **Wood Farm, Sta** 23.97 118 P P 08 01 01.1 +1.3
E09A IAmb IAmb 08 01 02.4
comp=Z,8.1nm,1.1s
EUNU **Eureka** 24.51 22 P P 08 01 05.1 +0.7
EUNU IAmb IAmb 08 01 07.5
comp=Z,9.9nm,0.9s
G08A **Pilot Rock** 24.64 121 P P 08 01 05.2 -0.8
F10A **Beach Ranch, E** 24.79 117 P P 08 01 08.4 +1.1
K02D **Willamette Mer** 25.10 131 P 08 01 09.4
baz=332
HUMO **Hull Mountain** 25.43 130 P P 08 01 14.7 +1.7
MSO **Missoula** 25.49 112 P P 08 01 14.1 +0.5
MSO **Missoula** 25.49 112 P 08 01 13.2
baz=321
BMO **Blue Mountains** 25.67 119 P P 08 01 17.5 +2.2
SEY **Seymchan** 25.79 297 P P 08 01 15.1 -0.9
comp=Z,7.3nm,0.7s,baz=91,slow=7.6,SNR=30
YBH **Yreka Blue Hor** 26.28 130 P P 08 01 22.1 +1.2
comp=Z,1.3nm,0.7s,baz=344,slow=15,SNR=5.4
YBH pP pP 08 01 38.3 +0.6
comp=Z,2.1nm,0.9s,baz=287,slow=2.0,SNR=4.1
YBH LR LR 08 10 30.7
comp=Z,66nm,19.0s,baz=14,slow=33
YBH **Yreka Blue Hor** 26.28 130 P P 08 01 19.4 -1.4
HRY **Holter Researc** 26.49 109 P P 08 01 23.2 +0.5
FCC **Fort Churchill** 26.68 73 P P 08 01 24.7 +0.7
FCC IAmb IAmb 08 01 25.6
comp=Z,4.6nm,0.8s
N02D **Trinity Center** 26.95 131 P 08 01 27.6
baz=333
WDC **Whiskeytown Da** 27.36 131 P P 08 01 32.1 +1.7
WDC IAmb IAmb 08 01 53.1
comp=Z,5.2nm,1.1s
MCMT **McKenzie Canyo** 27.54 113 P P 08 01 32.5 +0.3
O03E **Paynes Creek** 27.87 130 P 08 01 35.2
baz=333
QLMT **Earthquake Lak** 28.14 111 P P 08 01 38.4 +0.8
YHL **Hebgen Lake** 28.23 111 P P 08 01 40.0 +1.6
YHH **Holmes Hill** 28.43 111 P P 08 01 40.9 +0.7
RLMT **Red Lodge** 28.85 109 P P 08 01 44.4 +0.5
RLMT IAmb IAmb 08 01 47.9
comp=Z,4.8nm,1.0s
TIXI **Tiksi** 30.37 322 P P 08 01 55.9 -0.9
comp=Z,3.2nm,0.6s,baz=74,slow=6.6,SNR=9.1
TIXI PcP PcP 08 04 53.6 -1.1
comp=Z,2.5nm,0.6s,baz=74,slow=3.2,SNR=3.9
PDAR **Pinedale Array** 30.61 112 P P 08 02 00.3 +0.8
comp=Z,0.6nm,0.8s,baz=329,slow=5.5,SNR=5.3
PDAR pP pP 08 02 17.6 +1.1
comp=Z,1.4nm,0.8s,baz=331,slow=4.6,SNR=6.2
PDAR LR LR 08 13 50.5
comp=Z,92nm,20.7s,baz=354,slow=35
PDAR **Pinedale Array** 30.61 112 P P 08 01 60.0 +0.5
NVAR **Mina Array Bea** 30.78 127 P P 08 02 02.3 +1.3
comp=Z,1.6nm,0.8s,baz=316,slow=9.9,SNR=5.7
NVAR pP pP 08 02 20.0 +1.9
comp=Z,3.3nm,0.9s,baz=308,slow=8.2,SNR=8.3
NVAR **Mina Array Bea** 30.78 127 P P 08 02 02.1 +1.1
NV11 **Mina Array Sit** 30.83 127 P P 08 02 02.8 +1.4
NV11 IAmb IAmb 08 02 21.3
comp=Z,6.0nm,1.1s
ULM **Lac du Bonnet** 31.15 88 P P 08 02 04.7 +0.8
comp=Z,1.1nm,0.7s,baz=293,slow=8.6,SNR=3.5
PAGB **Antelope Grade** 32.50 132 P P 08 02 18.0 +2.1
PAGB IAmb IAmb 08 02 35.4
comp=Z,7.0nm,0.8s
TPNV **Topopah Spring** 32.85 126 P P 08 02 21.3 +2.2
TPNV IAmb IAmb 08 02 38.2
comp=Z,3.5nm,1.1s
EYMN **Ely** 34.81 87 P P 08 02 36.7 +0.9
U15A **North Rim** 34.83 121 P P 08 02 36.8 +0.4
U15A IAmb IAmb 08 02 55.7
comp=Z,2.8nm,0.8s
SUMG **Summit** 37.26 28 *i* P P 08 02 57.5 +0.6
comp=Z,44nm,0.7s
SUMG **Summit** 37.26 28 P P 08 02 57.7 +0.8
SUMG **Summit** 37.26 28 *i* P P 08 02 57.5 +0.6
SUMG IAmb IAmb 08 02 58.4
comp=Z,44nm,0.7s
DAG **Danmarks Havn** 37.47 17 *i* P P 08 02 57.9 -0.2
comp=Z,10nm,0.7s
DAG **Danmarks Havn** 37.47 17 *i* P P 08 02 57.9 -0.2
DAG IAmb IAmb 08 02 58.7
comp=Z,10nm,0.7s
DBG **Daneborg** 39.28 19 *i* P P 08 03 13.2 -0.2
DBG IAmb IAmb 08 03 14.0
comp=Z,3.7nm,0.8s
ICESG **Greenland Ices** 39.50 32 *i* P P 08 03 16.0 +0.4
ICESG IAmb IAmb 08 03 16.7
comp=Z,20nm,0.8s
NRIK **Noril'sk** 42.24 334 P P 08 03 37.7 0.0
comp=Z,11nm,0.9s,baz=44,slow=7.3,SNR=14
NRIK LR LR 08 22 29.1
comp=Z,59nm,19.4s,baz=342,slow=38
KLR **Kul'dur** 43.19 290 P P 08 03 44.5 -1.1
comp=Z,1.9nm,0.7s,baz=39,slow=8.6,SNR=6.8
TX31 **Lajitas Ar. Si** 44.51 117 P P 08 03 57.5 +0.9
TX31 IAmb IAmb 08 04 24.9
comp=Z,9.5nm,1.1s
TX32 **Lajitas Array** 44.51 117 P P 08 03 57.2 +0.6
TX32 IAmb IAmb 08 04 24.9
comp=Z,3.1nm,1.1s
TXAR **Lajitas Array** 44.51 117 P P 08 03 57.5 +1.0
comp=Z,0.5nm,0.6s,baz=318,slow=5.2,SNR=2.5
TXAR pP pP 08 04 15.7 +1.3
comp=Z,0.8nm,0.7s,baz=347,slow=5.1,SNR=3.1
TXAR LR LR 08 23 07.3
comp=Z,86nm,18.3s,baz=0.0,slow=37
TXAR **Lajitas Array** 44.51 117 P P 08 03 57.0 +0.4
TXAR pP 08 04 14.1 -0.2
USRK **Ussuriysk Ar.** 46.95 285 P P 08 04 15.4 -0.1
comp=Z,1.0nm,0.6s,baz=60,slow=5.7,SNR=4.5
ARCES **ARCESS Array B** 48.04 2 P P 08 04 22.8 -0.8
comp=Z,1.7nm,0.6s,baz=11,slow=8.7,SNR=4.1
ARCES PcP PcP 08 05 48.6 -1.7
comp=Z,6.7nm,0.9s,baz=302,slow=1.7,SNR=5.4
HIA **Hailar** 48.21 299 P P 08 04 25.2 0.0
WAKE **Wake Island** 52.71 235 P P 08 04 59.0 -0.4
KSRS **Korea Array** 54.21 283 P P 08 05 10.3 +0.1
comp=Z,2.2nm,0.7s,baz=28,slow=7.3,SNR=9.1
KSRS pP pP 08 05 27.0 -1.2
comp=Z,1.1nm,0.5s,baz=30,slow=6.6,SNR=2.8
KSAR **Wonju Array Be** 54.24 283 P P 08 05 10.4 0.0
ULN **Ulaanbaatar** 54.29 306 P P 08 05 11.2 +0.3
SONM **Songino Array** 54.56 307 P P 08 05 13.2 +0.4
comp=Z,3.6nm,0.8s,baz=22,slow=5.6,SNR=18
SONM PcP PcP 08 06 15.2 +0.1
comp=Z,1.2nm,0.7s,baz=47,slow=4.5,SNR=1.9
SONM **Songino Array** 54.56 307 P P 08 05 13.1 +0.3
NB2 **NORSAR Subarra** 55.75 11 P P 08 05 19.7 -1.3
comp=Z,4.3nm,1.0s,baz=349,slow=7.4
NOA **NORSAR Array B** 55.75 11 P P 08 05 20.2 -0.8
comp=Z,1.0nm,0.6s,baz=350,slow=7.1,SNR=5.6
FINES **FINESS Array B** 56.16 3 P P 08 05 22.8 -1.2
comp=Z,1.6nm,0.6s,baz=355,slow=12,SNR=7.3
FINES **FINESS Array B** 56.16 3 P P 08 05 22.6 -1.3
ZALV **Zalesovo Beam** 56.19 325 P P 08 05 23.1 -1.0
comp=Z,5.2nm,0.7s,baz=17,slow=7.9,SNR=10
ZALV **Zalesovo Beam** 56.19 325 P P 08 05 24.1 -0.1
KLMR **Klimovskoe** 56.61 355 *eP* P 08 05 25.4 -1.7
KLMR AMP 08 05 27.2
comp=Z,10.0nm,0.9s
KIRV **Kirov** 58.20 348 P P 08 05 37.8 -0.5
comp=Z,12nm,0.6s,baz=277,slow=0.8,SNR=4.0
HHC **Hu-ho-hao-te** 58.42 298 *eP* P 08 05 43.6 +3.4
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,86nm,5.1s
ARU **Arti** 59.25 342 P P 08 05 44.9 -0.7
comp=Z,10.0nm,0.5s,baz=22,slow=2.9,SNR=52
ARU **Arti** 59.25 342 P P 08 05 45.2 -0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRVK	Borovoye	60.45	334	P	P	08 05 53.2	-0.7
BVAR	Borovoye Array	60.46	334	P	P	08 05 52.5	-1.5
	comp=Z,4.5nm,0.6s,baz=152,slow=13,SNR=32						
KURK	Kurchatov	60.73	327	P	P	08 05 55.1	-0.7
KURBB	Kurchatov Arra	60.84	327	P	P	08 05 55.1	-1.4
	comp=Z,3.3nm,0.6s,baz=28,slow=7.3,SNR=17						
ZSN	Zaisan	62.03	321	eP	P	08 06 03.6	-1.0
	comp=Z,8.0nm,0.7s,baz=321						
BRZS	Berezniki	62.82	331	eP	P	08 06 07.9	-2.1
	baz=331						
MK31	Makanchi Array	63.35	323	P	P	08 06 12.3	-1.2
MK31				IAmb	IAmb	08 06 13.7	
	comp=Z,3.0nm,0.7s						
MKAR	Makanchi Array	63.35	323	P	P	08 06 11.8	-1.7
	comp=Z,4.2nm,0.5s,baz=38,slow=6.6,SNR=49						
MKAR	Makanchi Array	63.35	323	P	P	08 06 12.2	-1.3
MAKZ	Makanchi	63.43	323	P	P	08 06 12.7	-1.3
GTA	Gaotai	64.23	306	⇓P	P	08 06 19.6	+0.1
GTA				pP	pP	08 06 38.1	+0.1
GTA				sP	sP	08 06 46.3	+0.4
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,100nm,5.5s						
GTA				LR	LR		
	comp=N,90nm,17.8s						
GTA				LR	LR		
	comp=E,230nm,18.2s						
GTA				LR	LR		
	comp=Z,94nm,16.7s						
WMQ	Urumqi	64.46	318	eP	P	08 06 24.3	+3.4
BELG	Belogornoye	64.49	348	P	P	08 06 19.8	-1.0
	comp=Z,35nm,0.6s,baz=328,slow=1.2,SNR=12						
AKTO	Aktyubinsk	65.15	341	P	P	08 06 24.4	-0.8
	comp=Z,14nm,0.7s,baz=18,slow=6.8,SNR=48						
LZH	Lanzhou	65.59	302	eP	P	08 06 28.4	-0.1
LZH				pP	pP	08 06 44.5	-2.5
LZH				sP	sP	08 06 51.9	-2.9
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
TDK	Taldyqorghan	66.06	325	eP	P	08 06 29.9	-1.2
	comp=Z,10nm,0.6s,baz=325						
AKASG	Malin Array Be	66.97	1	P	P	08 06 36.1	-0.7
	comp=Z,2.1nm,0.4s,baz=2.5,slow=6.4,SNR=7.7						
BTLS	Baital	67.14	328	eP	P	08 06 36.3	-1.7
	comp=Z,3.5nm,0.9s,baz=328						
KPKS	Kokpek	67.41	324	eP	P	08 06 38.7	-1.2
	baz=324						
SHLS	Shalkode	67.48	323	eP	P	08 06 38.9	-1.5
	comp=Z,7.8nm,0.5s,baz=323						
CHKK	Chushkaly	67.50	325	eP	P	08 06 38.0	-2.3
	baz=325						
UZB	Uzynbulak	67.62	324	eP	P	08 06 39.6	-1.6
	baz=324						
KUU	Kurty	67.64	326	eP	P	08 06 39.2	-2.0
	baz=326						
SATY	Saty	67.86	324	eP	P	08 06 41.4	-1.3
	baz=324						
GERES	GERESS Array B	68.04	12	P	P	08 06 42.3	-1.4
	comp=Z,0.5nm,0.3s,baz=352,slow=6.0,SNR=5.7						
AAA	Alma-Ata	68.12	325	eP	P	08 06 44.2	-0.1
	baz=325						
MDOK	Medeo	68.13	325	eP	P	08 06 42.9	-1.5
	baz=325						
SGDS	Sogindy	68.49	327	eP	P	08 06 45.4	-1.1
	baz=327						
AAK	Ala-Archa	69.28	327	P	P	08 06 51.0	-0.6
	comp=Z,5.0nm,0.8s,baz=112,slow=1.4,SNR=8.5						
KKAR	Karatay Array	69.81	330	P	P	08 06 53.4	-1.3
BUR08	Bucovina Ar. S	69.96	4	P	P	08 06 55.4	-0.2
BUR08				IAmb	IAmb	08 06 55.9	
	comp=Z,1.6nm,0.7s						
BURAR	Bucovina Array	69.99	4	P	P	08 06 55.2	-0.6
IUG	Iuzhnay	70.83	330	eP	P	08 07 00.1	-1.0
	comp=Z,3.0nm,0.7s,baz=330						
KSH	Kashi	71.83	325	P	P	08 07 09.2	+2.1
KSH				PcP	PcP	08 07 29.4	+3.8
KSH				sP	sP	08 07 37.4	+3.8
KSH				pmax	pmax		
	comp=Z,13nm,0.8s						
KSH				pmax	pmax		
	comp=Z,340nm,6.8s						
KBZ	Khabaz	73.49	351	P	P	08 07 16.3	-0.4
	comp=Z,6.0nm,0.8s,baz=292,slow=4.5,SNR=8.1						
ESDC	Sonseca Array	74.32	27	P	P	08 07 21.8	0.0
	comp=Z,6.0nm,0.9s,baz=342,slow=5.7,SNR=14						
ESDC				pP	pP	08 07 40.1	-0.6
	comp=Z,2.2nm,0.8s,baz=343,slow=6.1,SNR=3.3						
GEYT	Alibeck	77.31	338	P	P	08 07 38.8	0.0
	comp=Z,2.3nm,0.6s,baz=286,slow=7.2,SNR=4.4						
GEYT	Alibeck	77.31	338	P	P	08 07 38.7	-0.1
BRTR	Keskin Array B	77.92	358	P	P	08 07 41.0	-1.2
	comp=Z,1.8nm,0.7s,baz=0.0,slow=4.9,SNR=7.1						
CMAR	Chiang Mai Arr	83.20	297	P	P	08 08 09.7	-0.9
	comp=Z,2.2nm,0.5s,baz=0.8,slow=5.8,SNR=17						
BOSA	Boshof	145.77	8	PKPbc	PKPdf	08 15 22.6	+0.4
	comp=Z,3.5nm,0.4s,baz=13,slow=3.7,SNR=23						
BOSA	Boshof	145.77	8		PKPdf	08 15 22.8	+0.6
SUR	Sutherland	149.07	16	PKPbc	PKPbc	08 15 32.6	+0.7

*KRNET **05** 08:01:16.8±0.1, 42°.06N×70°.33E, h17^{km}, mb3.0*
*SOME **05** 08:01:16.6, 42°.05N×70°.37E, h5^{km}*
*ISU **05** 08:01:17, 42°.00N×70°.40E, h5^{km}*
*NNC **05** 08:01:17.5±0.6, 42°.14N×70°.34E, h0^{km}±6^{km}, mb3.4, mpv3.3, Error ellipse: s-maj=4.0km s-min=1.8km az=64.0*
ISC 05 08:01:15.0±1.1**, 42°.03N**±0°.02×**70°.43E**±0°.02**, h4**^{km}±10^{km}**, n39,** σ**1^{s}46**/70**, 24C-2D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	0.32	292	eP	Pg	08 01 21.7	+0.4
	baz=91						
IUG				eS	Sg	08 01 25.7	+0.1
	baz=91						
IUG	Iuzhnay	0.32	292	eP	Pg	08 01 21.7	+0.4
	393nm,0.2s						
IUG				eS	Sg	08 01 25.6	+0.1
	6µm,0.3s						
IUG	Iuzhnay	0.32	292	P	Pg	08 01 21.7	+0.4
	393nm,0.2s						
IUG				S	Sg	08 01 25.6	+0.1
	6µm,0.3s						
CHRV	Charvak	0.53	223	eP	Pb	08 01 26.0	-0.9
CHRV				eS	Sg	08 01 33.0	+1.0
CHMG	Chimgan	0.57	213	eP	Pb	08 01 28.0	+0.3
CHMG				eS	Sb	08 01 35.0	-1.2
CHMG				eS	Sn	08 01 54.0	+14
CHM	Chimkent	0.68	296	eP	Pg	08 01 28.3	+0.2
	6.4nm,0.3s						
CHM				eS	Sg	08 01 37.0	+0.1
	1µm,0.3s						
TRKS	Terek-Say	0.73	133	⇑iP	Pn	08 01 33.0	+0.8
	baz=33						
TRKS				⇑iS	Sn	08 01 44.8	+0.9
	baz=33						
KK31	Karatay Array	1.08	3	P	Pb	08 01 36.2	0.0
	14nm,0.2s,baz=186,slow=11,SNR=235						
KK31				S	Sg	08 01 49.7	+0.1
	8.8nm,0.3s,baz=190,slow=31,SNR=12						
DZA	Taraz	1.09	37	eP	Pn	08 01 37.7	+0.6
	baz=41						
DZA				eS	Sn	08 01 53.0	+0.3
	baz=41						
DZA	Taraz	1.09	37	eP	Pn	08 01 37.7	+0.6
	55nm,0.1s						
DZA				eS	Sn	08 01 53.0	+0.3
	165nm,0.2s						
DZA	Taraz	1.09	37	P	Pn	08 01 37.7	+0.6
	55nm,0.1s						
DZA				S	Sn	08 01 53.0	+0.3
	165nm,0.2s						
MNAS	Manas	1.61	73	⇑iP	Pg	08 01 47.4	+1.6
	baz=74						
MNAS				⇑iS	Sg	08 02 08.9	+2.2
	baz=74						
BTK	Batken	1.99	171	⇑iP	Pg	08 01 52.8	-0.4
	baz=69						
BTK				⇑iS	Sg	08 02 18.9	-0.1
	baz=69						
BTK	Batken	1.99	171	eP	Pb	08 01 52.0	+0.2
BTK				eS	Sg	08 02 19.0	0.0
ARSB	Arslanbob	2.04	109	⇑iP	Pg	08 01 54.1	0.0
	baz=9.0						
ARSB				⇑iS	Sg	08 02 21.0	+0.5
	baz=9.0						
MRKS	Merke	2.19	70	eP	Pg	08 01 58.1	+1.1
	5.0nm,0.3s						
MRKS				eS	Sg	08 02 28.0	+2.5
	31nm,0.5s						
MRKS	Merke	2.19	70	Pg	Pg	08 01 58.1	+1.1
	5.0nm,0.3s						
MRKS				Lg	Lg	08 02 28.0	
	31nm,0.5s						
AML	Almayashu	2.43	87	⇑iP	Pb	08 01 59.5	-0.1
	baz=87						
AML				⇑iS	Sb	08 02 30.7	+0.7
	baz=87						
EKS2	Erkin-Say	2.56	75	⇑eP	Pb	08 02 00.8	-0.8
	baz=76						
EKS2				⇑iS	Sb	08 02 32.7	-0.7
	baz=76						
DRK	Karamyk	2.75	157	⇑iP	Pb	08 02 04.0	-0.9
	baz=56						
DRK				⇑iS	Sb	08 02 38.0	-1.1
	baz=56						
ARLS	Aral	2.91	92	⇑eP	Pb	08 02 06.0	-1.5
	baz=93						
ARLS				⇑iS	Sb	08 02 41.5	-2.0
	baz=93						
UCH	Uchtor	3.04	85	⇓iP	Pb	08 02 07.9	-2.1
	baz=86						
UCH				⇓iS	Sb	08 02 45.1	-2.6
	baz=86						
AAK	Ala-Archa	3.07	77	⇑iP	Pb	08 02 08.3	-2.1
	baz=78						
AAK				⇑iS	Sb	08 02 45.6	-2.7
	baz=78						
AAK	Ala-Archa	3.07	77	Pg	Pg	08 02 14.6	+0.6
	1.1nm,0.3s						
AAK				Lg	Lg	08 02 55.2	
	3.5nm,0.6s						
SFK	Sufi-Kurgan	3.08	130	⇑iP	Pb	08 02 08.3	-2.1
	baz=29						
SFK				⇑iS	Sb	08 02 45.6	-2.8
	baz=29						
CHMS	Chumysh	3.34	72	⇑iP	Pb	08 02 11.5	-3.3
	baz=72						
CHMS				⇑iS	Sb	08 02 51.7	-4.0
	baz=72						
TKM2	Tokmak 2	3.92	75	⇑eP	Pn	08 02 19.7	+3.5
	baz=76						
TKM2				⇑iS	Sn	08 03 05.9	+3.1
	baz=76						
TKM2	Tokmak 2	3.92	75	Pg	Pg	08 02 29.9	-0.4
	0.9nm,0.5s						
TKM2				Lg	Lg	08 03 23.3	
	2.0nm,0.5s						
BTLS	Baital	4.00	40	eP	Pg	08 02 30.5	-1.1
	1.5nm,0.2s						
BTLS				eS	Sg	08 03 23.9	+0.5
	9.0nm,0.6s						
DGS	Degeres	4.12	71	eP	Pg	08 02 33.0	-1.0
	2.7nm,0.4s						
DGS				eS	Sg	08 03 27.8	+0.4
	7.1nm,0.5s						
DGS	Degeres	4.12	71	Pg	Pg	08 02 33.0	-1.0
	2.7nm,0.4s						
DGS				Lg	Lg	08 03 27.8	
	7.1nm,0.5s						
KRBS	Karabastau	4.20	65	eP	Pg	08 02 35.2	-0.3
	1.8nm,0.4s						
KRBS				eS	Sg	08 03 33.0	+3.1
	9.4nm,0.6s						
KRBS	Karabastau	4.20	65	Pg	Pg	08 02 35.2	-0.3
	1.8nm,0.4s						
KRBS				Lg	Lg	08 03 33.0	
	9.4nm,0.6s						
KST	Kastek	4.21	74	eP	Pg	08 02 35.3	-0.5
	3.8nm,0.5s						
KST				eS	Sg	08 03 32.2	+1.9
	5.7nm,0.7s						
KST	Kastek	4.21	74	Pg	Pg	08 02 35.3	-0.5
	3.8nm,0.5s						
KST				Lg	Lg	08 03 32.2	
	5.7nm,0.7s						
KUU	Kurty	4.72	65	eP	Pg	08 02 44.4	-1.1
	0.5nm,0.2s						
KUU				eS	Sg	08 03 47.2	+0.6
	6.7nm,0.5s						
KUU	Kurty	4.72	65	Pg	Pg	08 02 44.4	-1.1
	0.5nm,0.2s						
KUU				Lg	Lg	08 03 47.2	
	6.7nm,0.5s						
KTBS	Karatobe	4.89	68	eP	Pg	08 02 47.6	-1.2
	1.0nm,0.5s						
KTBS				eS	Sg	08 03 52.6	+0.5
	5.4nm,0.7s						
KTBS	Karatobe	4.89	68	Pg	Pg	08 02 47.6	-1.2
	1.0nm,0.5s						
KTBS				Lg	Lg	08 03 52.6	
	5.4nm,0.7s						

*IDC **05** 08:08:13.7±2.8, 53°.61N×87°.90E, h0^{km}, mb1 3.4/2, mb1mx3.1/40, mbtmp3.4/2, ML3.0/2, Error ellipse: s-maj=23.5km s-min=14.9km az=59.0*
*NNC **05** 08:08:14.0±3.0, 53°.52N×87°.92E, h0^{km}, mb3.5, mpv3.2, Error ellipse: s-maj=25.0km s-min=11.8km az=62.0, Suspected Mining explosion.*
ISC 05 08:08:15.2±3.5**, 53°.6N**±0°.1×**87°.8E**±0°.2**, h0**^{km}**, n9,** σ**1^{s}02**/14**, 3C-7D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.78	283	i		08 21 15.0	
	baz=96,slow=304,SNR=8.2						
ZAA0	Zalesovo Array	1.78	283	⇑Pn	Pn	08 08 46.4	-0.8
	3.0nm,0.7s						
ZAA0				⇓Sn	Sg	08 09 13.6	+1.3
	9.5nm,0.6s						
ZALV	Zalesovo Beam	1.78	283	Pg	Pn	08 08 46.4	-0.8
	5.6nm,0.3s,baz=102,slow=16,SNR=43						
ZALV				Lg	Lg	08 09 12.9	
	6.7nm,0.3s,baz=102,slow=24,SNR=17						
KURBB	Kurchatov Arra	6.42	246	Pn	Pn	08 09 51.2	+0.3
	0.3nm,0.3s,baz=62,slow=14,SNR=13						
KURBB				Sn	Sn	08 11 03.7	-1.1
	0.1nm,0.3s,baz=60,slow=30,SNR=3.1						
KURBB				Lg	Lg	08 11 40.6	
	0.1nm,0.3s,baz=65,slow=33,SNR=7.1						
KURBB	Kurchatov Arra	6.42	246	⇓Pn	Pn	08 09 50.9	0.0
	3.9nm,0.5s						
KURBB				⇑Sn	Sn	08 11 02.7	-2.0
	5.5nm,0.7s						
KURBB				⇓Lg	Lg	08 11 36.5	
	12nm,0.9s						
MK31	Makanchi Array	7.66	209	⇓Pn	Pn	08 10 08.1	+0.1
	0.7nm,0.6s,baz=28,slow=13,SNR=12						
MK31				Sn	Sn	08 11 35.4	0.0
	3.8nm,1.3s,baz=31,slow=24,SNR=3.7						
MK31				⇓Lg	Lg	08 12 16.4	
	2.2nm,0.6s,baz=29,slow=30,SNR=7.6						
MKAR	Makanchi Array	7.66	209	Pn	Pn	08 10 08.5	+0.5
	0.3nm,0.3s,baz=30,slow=13,SNR=9.6						
MKAR				Sn	Sn	08 11 35.3	-0.2
	0.2nm,0.3s,baz=29,slow=25,SNR=6.4						
MKAR				Lg	Lg	08 12 16.4	
	0.2nm,0.3s,baz=32,slow=30,SNR=12						
MAKZ	Makanchi	7.74	211	⇓Pn	Pn	08 10 09.4	+0.3
	1.5nm,0.8s						
MAKZ				⇑Sn	Sn	08 11 37.1	-0.3
	1.1nm,0.6s						
MAKZ				⇓Lg	Lg	08 12 20.6	
	3.1nm,0.8s						
BVAR	Borovoye Array	10.41	274	Pn	Pn	08 10 47.2	+1.6
	0.3nm,0.3s,baz=133,slow=8.3,SNR=5.0						

*IDC **05** 08:18:42.1±0.7, 35°.46N×140°.87E, h0^{km}, mb3.8/14, mb1 3.9/18, mb1mx3.8/52, mbtmp3.8/18, ML3.8/4, MS3.3/8, Ms1 3.3/8, ms1mx3.0/42, Error ellipse: s-maj=21.1km s-min=13.8km az=102.0*
*NEIC **05** 08:18:47.4±1.7, 35°.49N±0°.04×140°.98E±0°.09, h40^{km}±8^{km}, mb4.4/9, Error ellipse: s-maj=11.1km s-min=5.9km az=77.0*
*JMA **05** 08:18:47.1±0.1, 35°.52N×140°.95E, h39^{km}±1^{km}, M3.5*
*NIED **05** 08:18:47.1, 35°.52N×140°.95E, h39^{km}, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.89; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-0.99; $M_{r\theta}$-1.63; $M_{\theta\phi}$0.64; $M_{\phi r}$0.93; Fault plane solution: $M_0$2.19000×10^{15} NP1: ϕ_s305.00000°, δ77.00000°, λ70.00000°. NP2: ϕ_s184.00000°, δ23.00000°, λ147.00000°.*
ISC 05 08:18:46.9±0.9**, 35°.47N**±0°.04×**140°.98E**±0°.05**, h35**^{km}±3^{km}**, n72,** σ**0^{s}97**/67**, mb3.8**/18**, MS3.3**/5**, 2C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.25	337	⇑P	Pn	08 18 54.2	+0.4
CHOJ				S	Sb	08 18 59.3	+0.2
JSMT	Sammumatsuo	0.46	292	P	Pn	08 18 57.0	-0.1
JIHU	Itakohorinouch	0.61	323	P	Pb	08 18 59.2	-0.1
JIHU				S	Sb	08 19 06.8	-1.1
KTR	Katsuura	0.63	239	P	Pb	08 19 00.0	+0.4
JCN	Nagara	0.64	265	⇓P	Pb	08 19 00.3	+0.6
BSO4	Boso 4	0.71	228	P	Pb	08 19 01.0	+0.1
BSO3	Boso 3	0.77	210	⇓P	Pb	08 19 01.6	-0.2
BSO3				X		08 19 12.8	
BSO1	Boso 1	0.82	180	⇑P	Pb	08 19 02.4	0.0
JYT	Yasato	0.98	320	P	Pn	08 19 03.8	-0.4
JYT				eS	Sn	08 19 16.5	-0.4
JYT	Yasato	0.98	320		Pn	08 19 04.0	-0.2
JYT				Sn	Sn	08 19 16.6	-0.4
JIM2	Oshima 3	1.48	240	S	Sn	08 19 29.5	+0.4
JOD2	Odawara 2	1.56	263	P	Pn	08 19 12.5	+0.4
JOD2				eS	Sn	08 19 31.8	+0.7
JAG	Ashikaga	1.56	308	P	Pn	08 19 12.0	-0.1
JMM	Marumori	2.39	357		Pn	08 19 24.2	+0.6
MJAR	Matsushiro Arr	2.48	296	Pn	Pn	08 19 25.8	+0.9
	1.5nm,0.3s,baz=108,slow=8.5,SNR=24						
MAJO	Matsushiro	2.49	296		Pn	08 19 25.9	+1.0
MAT	Matsushiro	2.49	296	P	Pn	08 19 26.4	+1.5
MAT				eS	Sn	08 19 55.7	+1.6
MJB9	Matsu-Tunnel	2.49	296	Pn	Pn	08 19 26.6	+1.7
JHJ	Hachijo jima 2	2.55	203	Pn	Pn	08 19 25.8	+0.1
	46nm,0.3s,baz=300,slow=23,SNR=14						
JHJ				Sn	Sn	08 19 56.0	+0.4
	18nm,0.3s,baz=284,slow=23,SNR=1.6						
JGF	Kuroka	2.96	274		Pn	08 19 31.9	+0.5
INU	Inuyama	3.24	269		Pn	08 19 36.9	+1.7
JSD	Sado	3.36	320	Pn	Pn	08 19 38.3	+1.4
JWT	Wachi	4.56	269	Pn	Pn	08 19 54.2	+0.8
JTM	Tenmabayashi	5.30	1	Pn	Pn	08 20 04.6	+1.0
JHS	Saijyo	6.45	268	Pn	Pn	08 20 19.9	+0.5
JCJ	Chichijima	8.41	173	Pn	Pn	08 20 44.1	-2.2
	7.4nm,0.3s,baz=131,slow=22,SNR=1.9						
JCJ	Chichijima	8.41	173	Pn	Pn	08 20 45.1	-1.3
ASAJ	Asahikawa	8.72	8	Pn	Pn	08 20 48.8	-1.7
	1.3nm,0.3s,baz=230,slow=11,SNR=5.9						
ASAJ				LR	LR	08 25 05.0	
	comp=Z,171nm,18.3s,baz=110,slow=44						
JKA	Kamikawa-asahi	8.72	8		Pn	08 20 48.8	-1.7
KSRS	Korea Array	10.70	284	Pn	Pn	08 21 15.0	-2.6
	0.1nm,0.3s,baz=94,slow=15,SNR=1.8						
KSRS				LR	LR	08 25 40.2	
	comp=Z,73nm,18.5s,baz=50,slow=39						
USRK	Ussuriysk Ar.	11.12	324	LR	LR	08 25 22.4	
	comp=Z,88nm,21.4s,baz=313,slow=36						
PETK	Petropavlovsk-	21.22	29	LR	LR	08 31 31.8	
	comp=Z,82nm,20.3s,baz=247,slow=36						
MA2	Magadan	24.95	12	P	P	08 24 07.0	+0.3
	2.3nm,0.3s,baz=192,slow=10,SNR=4.8						
MA2				LR	LR	08 33 32.1	
	comp=Z,75nm,18.4s,baz=161,slow=36						
H11N2	WAKE ISLAND Hy	27.70	118	T	T	08 53 44.3	
	baz=313,slow=75						
H11N1	WAKE ISLAND Hy	27.70	118	T	T	08 53 36.7	
	baz=313,slow=75						
H11N3	WAKE ISLAND Hy	27.71	118	T	T	08 53 39.4	
	baz=313,slow=75						
H11S1	WAKE ISLAND Hy	28.35	120	T	T	08 54 24.4	
	baz=314,slow=75						
H11S3	WAKE ISLAND Hy	28.35	120	T	T	08 54 23.7	
	baz=314,slow=75						
H11S2	WAKE ISLAND Hy	28.36	120	T	T	08 54 24.2	
	baz=314,slow=75						
SEY	Seymchan	28.39	11	P	P	08 24 37.1	-0.5
	0.4nm,0.3s,baz=170,slow=17,SNR=4.3						
SONM	Songino Array	28.39	306	P	P	08 24 37.9	-0.2
	0.2nm,0.4s,baz=316,slow=47,SNR=3.1						
SONM	Songino Array	28.39	306	P	P	08 24 37.5	-0.6
TIXI	Tiksi	36.80	354	P	P	08 25 50.7	-0.2
TIXI				IAmb	IAmb	08 26 05.8	
	comp=Z,6.0nm,1.5s						
NIKH	Nikolski High	39.08	47	P	P	08 26 10.8	+0.4
CMAR	Chiang Mai Arr	40.78	257	LR	LR	08 46 14.3	
	comp=Z,42nm,18.1s,baz=23,slow=41						
ZALV	Zalesovo Beam	42.72	314	P	P	08 26 40.7	+0.3
	comp=Z,0.5nm,0.4s,baz=95,slow=7.2,SNR=2.0						
ZALV	Zalesovo Beam	42.72	314	P	P	08 26 40.4	0.0
NRIK	Noril'sk	44.54	336	P	P	08 26 55.2	+0.5
	comp=Z,0.9nm,0.2s,baz=157,slow=13,SNR=2.1						
NRIK	Noril'sk	44.54	336	IAmb	IAmb	08 26 56.3	
	comp=Z,3.3nm,1.4s						
MKAR	Makanchi Array	44.66	303	P	P	08 26 55.4	-0.7
	comp=Z,0.4nm,0.6s,baz=88,slow=7.9,SNR=5.1						
MKAR	Makanchi Array	44.66	303	P	P	08 26 54.3	-1.8
KURK	Kurchatov	46.63	309	P	P	08 27 11.9	+0.4
KURBB	Kurchatov Arra	46.70	309	P	P	08 27 11.9	-0.2
	comp=Z,1.1nm,0.5s,baz=81,slow=7.6,SNR=7.9						
PSI	Prapat	50.70	240	LR	LR	08 49 13.8	
	comp=Z,41nm,18.0s,baz=87,slow=36						
ILAR	Eielson Array	51.00	32	P	P	08 27 46.1	+1.2
	comp=Z,1.0nm,0.7s,baz=266,slow=6.5,SNR=11						
ILAR	Eielson Array	51.00	32	P	P	08 27 44.6	-0.3
BCAR	Beaver Creek A	53.38	34	P	P	08 28 03.1	+0.4
WR0	Warramunga Arr	55.47	187	P	P	08 28 18.2	0.0
WR0				IAmb	IAmb	08 28 42.4	
	comp=Z,9.6nm,1.4s						
WB2	Warramunga Arr	55.47	188	P	P	08 28 18.4	+0.1
WB2				IAmb	IAmb	08 28 18.6	
	comp=Z,5.7nm,1.1s						
WRA	Warramunga Arr	55.47	188	P	P	08 28 18.0	-0.3
	comp=Z,2.7nm,0.9s,baz=3.6,slow=7.5,SNR=14						
INK	Inuvik	55.93	27	P	P	08 28 21.9	+1.0
	comp=Z,0.5nm,0.6s,baz=254,slow=7.4,SNR=1.9						
ABKAR	Akbulak array	58.68	311	P	P	08 28 40.0	-0.7
C36M	Paulatuk	58.99	24	P	P	08 28 44.1	+1.6
C36M				IAmb	IAmb	08 28 44.9	
	comp=Z,1.2nm,0.8s						
ASAR	Alice Springs	59.20	188	P	P	08 28 44.2	-0.3
	comp=Z,0.8nm,1.1s,baz=1.1,slow=6.8,SNR=4.2						
YKA	Yellowknife Ar	65.33	30	P	P	08 29 26.4	+1.2
	comp=Z,0.4nm,0.7s,baz=300,slow=5.8,SNR=7.4						
NOA	NORSAR Array B	75.49	337	LR	LR	09 06 18.2	
	comp=Z,19nm,20.1s,baz=255,slow=38						
NVAR	Mina Array Bea	76.21	53	P	P	08 30 33.2	+1.2
	comp=Z,0.2nm,0.5s,baz=264,slow=5.9,SNR=3.5						
NVAR	Mina Array Bea	76.21	53	P	P	08 30 32.4	+0.4
NV11	Mina Array Sit	76.30	53	P	P	08 30 31.7	-0.8
PDAR	Pinedale Array	79.01	45	P	P	08 30 49.0	+1.4
	comp=Z,0.3nm,0.6s,baz=270,slow=1.5,SNR=3.8						
MVU	Marysvale	80.04	50	P	P	08 30 52.0	-1.3
MSU	Marysvale	80.06	50	P	P	08 30 51.9	-1.4

*IDC **05** 08:30:52.1±2.5, 49°.69S×124°.41E, h0^{km}, mb4.0/4, mb1 4.2/4, mb1mx3.9/32, mbtmp4.0/4, MS3.5/11, Ms1 3.4/11, ms1mx3.3/25, Error ellipse: s-maj=109.7km s-min=23.7km az=96.0*
*NEIC **05** 08:30:54.6±1.4, 49°.64S±0°.02×125°.1E±0°.3, h10^{km}±1^{km}, mb4.4/14, Error ellipse: s-maj=29.0km s-min=3.9km az=271.0*
ISC 05 08:30:54.5±0.7**, 49°.63S**±0°.09×**125°.0E**±0°.2**, h10**^{km}**, n31,** σ**0^{s}91**/19**, mb4.3**/10**, MS3.4**/10**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	16.75	327	T	T	08 52 14.1	
	baz=158,slow=78,SNR=26						
H01W2	Cape Leeuwin H	16.76	327	T	T	08 52 14.5	
	baz=158,slow=78,SNR=29						
H01W3	Cape Leeuwin H	16.77	327	T	T	08 52 23.7	
	baz=158,slow=78,SNR=23						
TAU	Tasmania Unive	16.77	75	P	P	08 34 51.0	-0.6
NWAO	Narrogin (SRO)	17.67	338	LR	LR	08 40 08.4	
	comp=Z,100nm,19.4s,baz=162,slow=32						
CASY	Casey	18.30	199		Pn	08 35 07.5	-0.6
STKA	Stephens Creek	21.63	41	P	P	08 35 46.5	+1.7
	2.6nm,0.8s,baz=197,slow=14,SNR=4.1						
STKA				LR	LR	08 42 27.0	
	comp=Z,139nm,22.0s,baz=207,slow=32						
MORW	Morawa	21.65	338	P	P	08 35 45.2	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MORW				IAmb	IAmb	08 36 01.9	
	comp=Z,19nm,1.1s						
ASAR	**Alice Springs**	**26.83**	**18**	P	**P**	**08 36 36.0**	**+0.9**
	comp=Z,3.4nm,0.9s,baz=194,slow=8.9,SNR=24						
ASAR				LR	LR	08 47 28.0	
	comp=Z,86nm,18.8s,baz=181,slow=37						
ASAR	**Alice Springs**	**26.83**	**18**	P	**P**	**08 36 35.1**	**0.0**
AS31	**Alice Springs**	**26.83**	**18**	P	**P**	**08 36 34.6**	**-0.4**
WRA	**Warramunga Arr**	**30.54**	**17**	P	**P**	**08 37 08.9**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=194,slow=8.1,SNR=5.2						
WR0	**Warramunga Arr**	**30.56**	**18**	P	**P**	**08 37 08.7**	**+0.4**
WR0				IAmb	IAmb	08 37 18.8	
	comp=Z,5.8nm,1.4s						
WB0	**Warramunga Arr**	**30.72**	**17**	P	**P**	**08 37 09.9**	**+0.3**
VNDA	**Vanda**	**31.27**	**165**	P	**P**	**08 37 13.2**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=311,slow=8.8,SNR=18						
VNDA	**Vanda**	**31.27**	**165**	P	**P**	**08 37 13.6**	**-0.4**
VNDA				IAmb	IAmb	08 37 20.9	
	comp=Z,6.3nm,0.9s						
SBA	**Scott Base**	**32.30**	**165**	P	**P**	**08 37 24.9**	**+1.9**
SBA				IAmb	IAmb	08 37 43.1	
	comp=Z,6.7nm,1.1s						
MAW	**Mawson**	**35.11**	**216**	LR	LR	08 48 39.6	
	comp=Z,103nm,21.0s,baz=66,slow=31						
URZ	**Urewera**	**38.45**	**93**	LR	LR	08 51 16.3	
	comp=Z,50nm,19.3s,baz=211,slow=32						
BATI	**Baumata**	**39.31**	**358**	LR	LR	08 54 36.8	
	comp=Z,32nm,18.8s,baz=218,slow=36						
QSPA	**South Pole Qui**	**40.50**	**180**	P	**P**	**08 38 33.7**	**+0.4**
QSPA				IAmb	IAmb	08 38 40.1	
	comp=Z,11nm,1.4s						
DZM	**Mont Dzumac**	**42.59**	**65**	LR	LR	08 53 22.6	
	comp=Z,63nm,18.5s,baz=164,slow=31						
PMG	**Port Moresby**	**44.13**	**32**	LR	LR	08 57 40.9	
	comp=Z,60nm,18.1s,baz=260,slow=36						
KAPI	**Kappang**	**44.68**	**352**	LR	LR	08 57 30.5	
	comp=Z,17nm,19.8s,baz=183,slow=36						
HNR	**Honiara**	**49.47**	**48**	LR	LR	08 58 33.1	
	comp=Z,42nm,19.4s,baz=220,slow=33						
BELA	**Belgrano 2**	**52.15**	**185**	P	**P**	**08 40 04.7**	**+0.2**
MSVF	**Nonsavu**	**52.92**	**73**	LR	LR	08 59 43.8	
	comp=Z,166nm,21.4s,baz=13,slow=32						
MSVF	**Nonsavu**	**52.92**	**73**	P	**P**	**08 40 09.7**	**-1.3**
MSVF				IAmb	IAmb	08 40 14.8	
	comp=Z,7.1nm,1.0s						
SBUM	**Sibu**	**53.04**	**344**	P	**P**	**08 40 10.6**	**-1.0**
SBUM				IAmb	IAmb	08 40 23.2	
	comp=Z,3.8nm,1.1s						
SNAA	**Sanae**	**53.53**	**198**	P	**P**	**08 40 15.0**	**+0.2**
YKA	**Yellowknife Ar**	**145.63**	**45**	PKPbc	**PKPab**	**08 50 32.3**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=268,slow=2.1,SNR=4.3						

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*IDC **05** 08:36:08.0±0.9, 30°.88N×141°.94E, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.6/49, mbtmp3.7/10, ML2.9/2, Error ellipse: s-maj=30.5km s-min=18.6km az=81.0*

ISC 05 08:36:11.8±1.0**, 30°.9N**±0°.1×**141°.8E**±0°.2**, h24**km**, n10, σ1s01**/11**, mb3.7**/8**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.80**	**322**	Pn	**Pn**	**08 36 55.4**	**+0.2**
	4.5nm,0.3s,baz=247,slow=15,SNR=1.8						
JHJ				Sn	**Sn**	**08 37 26.8**	**-1.4**
	11nm,0.3s,baz=67,slow=22,SNR=1.6						
MJAR	**Matsushiro Arr**	**6.37**	**333**	Pn	**Pn**	**08 37 45.0**	**+0.8**
	0.2nm,0.3s,baz=151,slow=11,SNR=14						
PETK	**Petropavlovsk-**	**25.00**	**23**	P	**P**	**08 41 34.6**	**+1.0**
	4.0nm,0.8s,baz=195,slow=4.5,SNR=1.8						
SONM	**Songino Array**	**31.84**	**312**	P	**P**	**08 42 36.0**	**+1.2**
	0.4nm,0.5s,baz=120,slow=7.9,SNR=3.3						
ZALV	**Zalesovo Beam**	**46.45**	**317**	P	**P**	**08 44 35.9**	**-0.7**
	0.4nm,0.3s,baz=105,slow=9.1,SNR=2.9						
MKAR	**Makanchi Array**	**47.88**	**307**	P	**P**	**08 44 48.1**	**+0.3**
	0.3nm,0.6s,baz=92,slow=8.1,SNR=2.9						
WRA	**Warramunga Arr**	**51.08**	**189**	P	**P**	**08 45 12.1**	**-0.3**
	0.7nm,0.5s,baz=5.7,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**54.80**	**189**	P	**P**	**08 45 39.7**	**-0.2**
	0.4nm,0.4s,baz=6.6,slow=6.6,SNR=12						
YKA	**Yellowknife Ar**	**68.94**	**29**	P	**P**	**08 47 13.1**	**-1.5**
	0.1nm,0.4s,baz=296,slow=5.4,SNR=2.6						
NVAR	**Mina Array Bea**	**78.41**	**52**	P	**P**	**08 48 11.1**	**+0.2**
	0.3nm,0.5s,baz=292,slow=4.8,SNR=2.8						

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*JMA **05** 08:41:04.1±0.3, 38°.26N×133°.84E, h485km, M3.7*

*IDC **05** 08:41:05.6±1.0, 38°.39N×133°.58E, h455km±12km, mb2.9/11, mb1 3.1/17, mb1mx2.9/55, mbtmp3.8/17, Error ellipse: s-maj=17.0km s-min=15.9km az=144.0*

ISC 05 08:41:05.0±0.7**, 38°.38N**±0°.09×**133°.69E**±0°.08**, h448**km**, n31, σ1s15**/34**, mb3.4**/11**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKSM	**Kasumi**	**2.90**	**164**	P	**P**	**08 42 12.5**	**+1.3**
JKY	**Yasaka**	**2.97**	**157**	P	**P**	**08 42 13.1**	**+1.4**
JWT	**Wachi**	**3.39**	**156**	P	**P**	**08 42 16.6**	**+1.7**
JHS	**Saijyo**	**3.41**	**188**	P	**P**	**08 42 16.1**	**+0.9**
JSD	**Sado**	**3.62**	**94**	P	**P**	**08 42 18.0**	**+1.4**
JNG	**Nsakai**	**4.03**	**118**	P	**P**	**08 42 21.1**	**+0.8**
MAT	**Matsushiro**	**4.04**	**116**	P	**P**	**08 42 21.2**	**+0.9**
MAT				*e*S	**S**	**08 43 20.5**	**-1.1**
MJAR	**Matsushiro Arr**	**4.04**	**116**	P	**P**	**08 42 21.8**	**+1.5**
	0.4nm,0.3s,baz=298,slow=11,SNR=19						
KSRS	**Korea Array**	**4.66**	**260**	P	**P**	**08 42 27.4**	**+1.5**
	0.4nm,0.3s,baz=76,slow=8.9,SNR=7.8						
JTNC	**Tanabenakahech**	**4.81**	**161**	P	**P**	**08 42 27.8**	**+0.3**
JFT	**Otama**	**5.32**	**97**	P	**P**	**08 42 33.0**	**+0.6**
JFT				*e*S	**S**	**08 43 43.7**	**0.0**
JRG	**Rokugo**	**5.51**	**77**	P	**P**	**08 42 36.2**	**+2.1**
JTO	**Tosashimizu**	**5.56**	**188**	P	**P**	**08 42 36.0**	**+1.2**
JMM	**Marumori**	**5.62**	**93**	P	**P**	**08 42 35.3**	**0.0**
JNU	**Nakatsue**	**5.73**	**204**	P	**P**	**08 42 37.5**	**+1.0**
	2.2nm,0.3s,baz=26,slow=4.1,SNR=17						
JFK	**Kawauchi**	**5.77**	**98**	P	**P**	**08 42 37.0**	**+0.1**
JFK				*e*S	**S**	**08 43 49.9**	**-2.1**
JMK	**Ichinoseki**	**5.92**	**82**	P	**P**	**08 42 38.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**5.95**	**348**	P	**P**	**08 42 39.7**	**+1.2**
	baz=166,slow=9.5,SNR=74						
ASAJ	**Asahikawa**	**8.82**	**47**	P	**P**	**08 43 08.8**	**-0.2**
	2.7nm,0.3s,baz=244,slow=10,SNR=11						
KLR	**Kul'dur**	**10.93**	**353**	P	**P**	**08 43 32.1**	**+0.1**
	2.1nm,0.3s,baz=186,slow=9.9,SNR=40						
SONM	**Songino Array**	**21.95**	**304**	P	**P**	**08 45 25.2**	**+1.1**
	0.5nm,0.4s,baz=108,slow=9.3,SNR=2.9						
SEY	**Seymchan**	**27.07**	**19**	P	**P**	**08 46 10.4**	**+1.0**
	0.9nm,0.5s,baz=212,slow=4.1,SNR=5.0						
MKAR	**Makanchi Array**	**38.17**	**300**	P	**P**	**08 47 43.4**	**-1.0**
	0.3nm,0.6s,baz=82,slow=11,SNR=4.9						
NRIK	**Noril'sk**	**39.52**	**336**	P	**P**	**08 47 52.8**	**-2.2**
	0.7nm,0.3s,baz=17,slow=9.6,SNR=4.2						
ILAR	**Eielson Array**	**51.65**	**32**	P	**P**	**08 49 29.1**	**+0.8**
	1.2nm,0.7s,baz=287,slow=8.5,SNR=15						
WRA	**Warramunga Arr**	**58.02**	**179**	P	**P**	**08 50 13.1**	**-0.6**
	0.4nm,0.9s,baz=354,slow=7.4,SNR=2.4						
ARCES	**ARCESS Array B**	**60.49**	**337**	P	**P**	**08 50 29.2**	**-0.5**
	2.1nm,0.9s,baz=62,slow=9.4,SNR=4.6						
FINES	**FINESS Array B**	**64.66**	**330**	P	**P**	**08 50 56.4**	**-0.5**
	0.5nm,0.3s,baz=79,slow=9.9,SNR=3.7						
YKA	**Yellowknife Ar**	**65.62**	**28**	P	**P**	**08 51 03.4**	**+0.5**
	0.3nm,0.5s,baz=311,slow=5.2,SNR=5.5						
NOA	**NORSAR Array B**	**70.44**	**334**	P	**P**	**08 51 31.9**	**-0.7**
	0.5nm,0.5s,baz=43,slow=6.1,SNR=3.4						
NVAR	**Mina Array Bea**	**78.93**	**50**	P	**P**	**08 52 22.3**	**+1.1**
	0.2nm,0.6s,baz=286,slow=6.0,SNR=4.2						

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*IDC **05** 08:56:32.5±1.0, 12°.18N×143°.43E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.0/54, mbtmp4.3/13, MS3.3/2, Ms1 3.4/2, ms1mx2.8/40, Error ellipse: s-maj=30.8km s-min=25.6km az=36.0*

*NEIC **05** 08:56:38.5±1.4, 12°.16N±0°.10×143°.5E±0°.1, h40km±3km, mb4.4/15, Error ellipse: s-maj=15.4km s-min=14.2km az=100.0*

ISC 05 08:56:36.6±0.6**, 12°.16N**±0°.09×**143°.4E**±0°.1**, h25**km**, n43, σ0s72**/37**, mb4.4**/18**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.00**	**44**	Pn	**Pn**	**08 57 09.1**	**+0.3**
GUMO				Sn	**Sn**	**08 57 32.7**	**-0.4**
JOW	**Kunigami**	**20.39**	**318**	P	Pn	09 01 12.9	-1.0
	10.0nm,0.3s,baz=138,slow=15,SNR=2.2						
JOW	**Kunigami**	**20.39**	**318**	P	**P**	**09 01 11.5**	**-0.3**
PMG	**Port Moresby**	**21.74**	**170**	P	**P**	**09 01 26.6**	**+0.3**
H11N1	**WAKE ISLAND Hy**	**23.76**	**69**	T	T	09 26 32.2	
	baz=255,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**23.77**	**69**	T	T	09 26 39.1	
	baz=255,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**23.78**	**69**	T	T	09 26 36.1	
	baz=255,slow=75,SNR=19						
SSLB	**Suanglung**	**24.27**	**302**	P	**P**	**09 01 53.3**	**+1.3**
WRA	**Warramunga Arr**	**33.13**	**196**	P	**P**	**09 03 10.3**	**-0.7**
	1.7nm,0.5s,baz=358,slow=9.4,SNR=1.9						
DZM	**Mont Dzumac**	**40.83**	**146**	P	**P**	**09 04 16.6**	**+0.1**
DZM				IAmb	IAmb	09 04 16.9	
	comp=Z,6.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.28**	**284**	LR	LR	09 21 27.2	
	comp=Z,20nm,19.9s,baz=85,slow=34						
SONM	**Songino Array**	**47.12**	**326**	LR	LR	09 25 22.9	
	comp=Z,52nm,18.6s,baz=9.5,slow=37						
MK31	**Makanchi Array**	**61.55**	**317**	P	**P**	**09 06 52.5**	**+0.7**
MKAR	**Makanchi Array**	**61.55**	**317**	P	**P**	**09 06 52.2**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=92,slow=9.1,SNR=7.4						
MKAR	**Makanchi Array**	**61.55**	**317**	P	**P**	**09 06 52.4**	**+0.6**
MAKZ	**Makanchi**	**61.77**	**317**	P	**P**	**09 06 53.9**	**+0.6**
MAKZ				IAmb	IAmb	09 06 54.5	
	comp=Z,2.8nm,0.9s						
ZAA0	**Zalesovo Array**	**61.98**	**325**	P	**P**	**09 06 54.1**	**-0.4**
ZALV	**Zalesovo Beam**	**61.98**	**325**	P	**P**	**09 06 54.2**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=116,slow=7.0,SNR=6.4						
ZALV	**Zalesovo Beam**	**61.98**	**325**	P	**P**	**09 06 53.1**	**-1.3**
KURK	**Kurchatov**	**64.78**	**321**	P	**P**	**09 07 13.2**	**+0.1**
KURBB	**Kurchatov Arra**	**64.82**	**320**	P	**P**	**09 07 13.2**	**-0.1**
	comp=Z,5.6nm,0.6s,baz=106,slow=6.6,SNR=38						
KKAR	**Karatay Array**	**69.34**	**312**	P	**P**	**09 07 43.0**	**+0.8**
BVAR	**Borovoye Array**	**70.18**	**322**	P	**P**	**09 07 46.8**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=151,slow=19,SNR=15						
BRVK	**Borovoye**	**70.25**	**322**	P	**P**	**09 07 48.3**	**+0.7**
BRVK				IAmb	IAmb	09 07 48.4	
	comp=Z,3.0nm,0.7s						
ILAR	**Eielson Array**	**70.46**	**25**	P	**P**	**09 07 47.4**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=256,slow=5.9,SNR=8.4						
DOT	**Dot Lake**	**71.44**	**27**	P	**P**	**09 07 54.6**	**-0.1**
FYU	**Fort Yukon**	**71.53**	**24**	P	**P**	**09 07 55.8**	**+0.7**
FYU				IAmb	IAmb	09 08 01.2	
	comp=Z,7.3nm,1.2s						
BMAR	**Burnt Mountain**	**71.96**	**23**	P	**P**	**09 07 58.9**	**+1.1**
INK	**Inuvik**	**76.22**	**22**	P	**P**	**09 08 22.4**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=258,slow=9.7,SNR=5.2						
INK	**Inuvik**	**76.22**	**22**	IAmb	IAmb	09 08 23.3	
	comp=Z,6.1nm,1.2s						
ABKAR	**Akbulak array**	**76.66**	**318**	P	**P**	**09 08 25.3**	**-0.1**
ABKAR				IAmb	IAmb	09 08 25.8	
	comp=Z,2.0nm,0.5s						
ABKAR	**Akbulak array**	**76.66**	**318**	P	**P**	**09 08 25.4**	**-0.1**
C36M	**Paulatuk**	**79.60**	**21**	P	**P**	**09 08 41.2**	**-0.1**
C36M				IAmb	IAmb	09 08 47.9	
	comp=Z,5.2nm,1.4s						
BELG	**Belogornoye**	**83.99**	**322**	P	**P**	**09 09 04.5**	**-0.3**
	comp=Z,4.5nm,0.5s,baz=232,slow=2.8,SNR=4.8						
YKA	**Yellowknife Ar**	**84.77**	**27**	P	**P**	**09 09 08.3**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=292,slow=5.2,SNR=9.0						
ARCES	**ARCESS Array B**	**88.01**	**342**	P	**P**	**09 09 24.2**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=76,slow=7.9,SNR=16						
ARCES	**ARCESS Array B**	**88.01**	**342**	P	**P**	**09 09 23.3**	**-1.0**
NVAR	**Mina Array Bea**	**88.91**	**51**	P	**P**	**09 09 31.0**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=265,slow=5.7,SNR=14						
FINES	**FINESS Array B**	**91.86**	**335**	P	**P**	**09 09 40.7**	**-1.8**
	comp=Z,1.4nm,0.4s,baz=68,slow=5.1,SNR=21						
GO02	**Mina Guanaco**	**146.25**	**117**	PKPab	**PKPab**	**09 16 17.4**	**+0.5**
MNMC	**Minye Minye**	**147.49**	**107**	PKPab	**PKPab**	**09 16 21.2**	**-0.6**
LVC	**Limon Verde**	**147.50**	**113**	PKPab	**PKPab**	**09 16 21.4**	**-0.5**
LPAZ	**La Paz**	**149.15**	**101**	PKPbc	**PKPbc**	**09 16 24.9**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=225,slow=2.0,SNR=5.6						

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*NEIC **05** 08:58:46.9±1.3, 7°.13S±0°.07×129°.17E±0°.05, h160km±8km, mb4.1/8, Error ellipse: s-maj=10.1km s-min=7.1km az=175.0*

*DJA **05** 08:58:47.7±1.6, 7°S±18°×12°9E±1°6, h132km±79km, M4.5/6, mb4.5/4, mB4.8/3, MLv4.6/6, Mw(mB)4.0/3*

*IDC **05** 08:58:47.4±2.0, 7°.18S×129°.05E, h166km±20km, mb3.4/5, mb1 3.7/10, mb1mx3.3/45, mbtmp4.1/10, Error ellipse: s-maj=29.6km s-min=15.0km az=85.0*

ISC 05 08:58:45.8±0.6**, 7°.21S**±0°.05×**129°.15E**±0°.06**, h156**km**, n37, σ2s26**/47**, mb3.6**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.27**	**110**	Pn	**Pn**	**08 59 27.7**	**+3.2**
SAUI				Sn	**Sn**	**08 59 55.7**	**+1.5**
SAUI	**Saumlaki**	**2.27**	**110**	P	**Pn**	**08 59 28.1**	**+3.7**
SAUI				S	**Sn**	**08 59 57.6**	**+3.4**
FAKI	**Fak Fak**	**5.26**	**36**	Pn	**Pn**	**09 00 02.6**	**-0.3**
FAKI				Sn	**Sn**	**09 00 59.9**	**-3.1**
FAKI	**Fak Fak**	**5.26**	**36**	P	**Pn**	**09 00 02.5**	**-0.3**
	0.3nm64nm,1.2s						
FAKI				S	**Sn**	**09 01 00.4**	**-2.6**
	0.3nm64nm,1.2s						
SOEI	**Soe**	**5.45**	**242**		**Pn**	**09 00 07.9**	**+2.4**
SOEI	**Soe**	**5.45**	**242**	P	**Pn**	**09 00 06.6**	**+1.1**
	0.9nm2μm156nm,0.7s						
SOEI				S	**Sn**	**09 01 08.5**	**+0.8**
	0.9nm2μm156nm,0.7s						
MTN	**Manton Dam**	**5.93**	**161**		**Pn**	**09 00 13.7**	**+2.0**
BATI	**Baumata**	**6.19**	**241**	P	**Pn**	**09 00 17.0**	**+1.9**
	43nm,0.3s,baz=154,slow=1.9,SNR=18						
BATI				S	**Sn**	**09 01 22.2**	**-2.9**
	52nm,0.3s,baz=256,slow=12,SNR=8.9						
BATI	**Baumata**	**6.19**	**241**	P	**Pn**	**09 00 16.6**	**+1.5**
	0.5nm1μm77nm,0.7s						
BATI				S	**Sn**	**09 01 25.2**	**+0.1**
	0.5nm1μm77nm,0.7s						
SIJI	**Sorong**	**6.64**	**19**	P	**Pn**	**09 00 23.6**	**+2.4**
	1.2nm,0.3s,baz=215,slow=22,SNR=7.0						
SIJI				S	**Sn**	**09 01 32.1**	**-3.9**
	1.3nm,0.3s,baz=226,slow=22,SNR=1.6						
KNRA	**Kununurra**	**8.43**	**183**	Pn	**Pn**	**09 00 47.1**	**+2.2**
FITZ	**Fitzroy Crossi**	**11.35**	**197**	P	**Pn**	**09 01 23.1**	**-0.4**
	0.3nm,0.3s,baz=30,slow=12,SNR=14						
FITZ				S	**Sn**	**09 03 23.0**	**-6.2**
	1.8nm,0.3s,baz=90,slow=16,SNR=4.1						
FITZ	**Fitzroy Crossi**	**11.35**	**197**	Pn	**Pn**	**09 01 24.1**	**+0.5**
WB0	**Warramunga Arr**	**13.48**	**158**	Pn	**Pn**	**09 01 50.3**	**-0.8**
WRA	**Warramunga Arr**	**13.62**	**159**	P	**Pn**	**09 01 52.8**	**0.0**
	1.0nm,0.3s,baz=340,slow=10,SNR=55						
WRA				S	**Sn**	**09 04 17.3**	**-6.6**
	3.2nm,0.3s,baz=340,slow=21,SNR=9.6						
WB2	**Warramunga Arr**	**13.63**	**159**		**Pn**	**09 01 52.0**	**-0.9**
WR0	**Warramunga Arr**	**13.71**	**158**		**Pn**	**09 01 53.1**	**-0.9**
COEN	**Coen**	**15.33**	**117**	P	**P**	**09 02 16.4**	**+1.0**
COEN				IAmb	IAmb	09 02 29.4	
	comp=Z,5.1nm,0.8s						
MYLDM	**Lahad Datu**	**16.26**	**319**	P	**Pn**	**09 02 24.4**	**-1.1**
MYLDM				IAmb	IAmb	09 02 24.6	
	comp=Z,14nm,0.7s						
AS31	**Alice Springs**	**16.99**	**165**	P	**Pn**	**09 02 35.7**	**+1.3**
AS31				IAmb	IAmb	09 02 37.3	
	comp=Z,4.9nm,0.6s						
ASAR	**Alice Springs**	**16.99**	**165**	P	**Pn**	**09 02 36.3**	**+1.9**
	comp=Z,2.3nm,0.3s,baz=342,slow=10,SNR=227						
ASAR				S	**S**	**09 05 39.2**	**-3.7**
	comp=Z,0.8nm,0.3s,baz=315,slow=17,SNR=5.5						
ASAR	**Alice Springs**	**16.99**	**165**	P	**Pn**	**09 02 35.3**	**+0.9**
SBUM	**Sibu**	**19.43**	**299**	IAmb	IAmb	09 03 04.1	
	comp=Z,7.9nm,1.0s						
SBUM	**Sibu**	**19.43**	**299**	P	**Pn**	**09 03 03.2**	**+0.1**
SBUM				IAmb	IAmb	09 03 04.1	
	comp=Z,7.9nm,1.0s						
SBUM	**Sibu**	**19.43**	**299**	P	**Pn**	**09 03 03.1**	**-0.1**
FORT	**Forrest**	**23.47**	**182**	P	**P**	**09 03 43.8**	**+2.4**
STKA	**Stephens Creek**	**27.15**	**156**	P	**P**	**09 04 16.0**	**+1.4**
	comp=Z,2.7nm,0.6s,baz=338,slow=16,SNR=3.3						
STKA	**Stephens Creek**	**27.15**	**156**	P	**P**	**09 04 15.4**	**+0.8**
SLVN	**Son La**	**37.66**	**319**	P	**P**	**09 05 45.8**	**-0.4**
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**09 09 27.9**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=119,slow=7.6,SNR=3.8						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**09 09 28.3**	**+0.5**
SEY	**Seymchan**	**72.17**	**11**	P	**P**	**09 09 53.3**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=171,slow=3.0,SNR=5.9						
KURBB	**Kurchatov Arra**	**72.25**	**329**	P	**P**	**09 09 53.1**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=121,slow=4.9,SNR=4.2						
VNDA	**Vanda**	**72.35**	**173**	P	**P**	**09 09 54.9**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=337,slow=5.7,SNR=6.8						
VNDA	**Vanda**	**72.35**	**173**	P	**P**	**09 09 55.3**	**+1.2**
QSPA	**South Pole Qui**	**82.77**	**180**	P	**P**	**09 10 52.9**	**+0.6**
CPUP	**Villa Florida**	**146.07**	**170**	PKPbc	**PKPab**	**09 18 09.1**	**0.0**
	comp=Z,2.4nm,1.1s,baz=9.9,slow=1.8,SNR=3.7						

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*NNC **05** 08:59:52.1±2.8, 54°.37N×86°.19E, h0km, mb3.2, mpv2.5, Error ellipse: s-maj=31.6km s-min=13.4km az=164.0, Suspected Mining explosion.*

*IDC **05** 08:59:54.3±2.4, 54°.29N×86°.13E, h0km, mb1 3.1/2, mb1mx2.9/46, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=18.9km s-min=12.5km az=49.0*

ISC 05 08:59:47.0±2.5**, 53°.47N**±0°.08×**86°.3E**±0°.1**, h0**km**, n8, σ1s35**/12**, 7C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**299**	*i*		09 04 40.0	
	baz=67,slow=342,SNR=0.4						
ZAA0	**Zalesovo Array**	**1.02**	**299**	⇑P	**Pn**	**09 00 09.2**	**+0.7**
	0.2nm,0.3s						
ZAA0				⇑S	**Sb**	**09 00 22.4**	**+0.9**
	1.2nm,0.3s						
ZALV	**Zalesovo Beam**	**1.02**	**299**	Pg	**Pn**	**09 00 09.0**	**+0.5**
	1.8nm,0.3s,baz=61,slow=17,SNR=14						
ZALV				Lg	Lg	09 00 22.3	
	3.6nm,0.3s,baz=66,slow=27,SNR=5.1						
ZALV				Rg	Rg	09 00 30.0	
	5.6nm,0.4s,baz=56,slow=28,SNR=4.7						
KURBB	**Kurchatov Arra**	**5.59**	**242**	Pn	**Pb**	**09 01 24.1**	**-1.3**
	0.1nm,0.3s,baz=50,slow=14,SNR=16						
KURBB				Sn	**Sb**	**09 02 32.5**	**-0.6**
	0.0nm,0.3s,baz=319,slow=18,SNR=1.2						
KURBB				Lg	Lg	09 03 04.1	
	0.1nm,0.3s,baz=1.5,slow=30,SNR=1.7						
KURBB	**Kurchatov Arra**	**5.59**	**242**	⇑Pn	**Pb**	**09 01 24.0**	**-1.5**
	0.5nm,0.3s						
KURBB				⇑Sn	**Sb**	**09 02 34.5**	**+1.5**
	0.6nm,0.3s						
KURBB				⇓Lg	Lg	09 03 01.8	
	3.3nm,0.9s						
MK31	**Makanchi Array**	**7.17**	**203**	⇑Pn	**Pb**	**09 01 51.0**	**-1.4**
	0.1nm,0.3s,baz=26,slow=14,SNR=33						
MK31				Sn	**Sb**	**09 03 19.3**	**+0.9**
	0.2nm,0.3s,baz=133,slow=17,SNR=18						
MK31				⇑Lg	Lg	09 04 02.3	
	1.3nm,0.5s,baz=133,slow=27,SNR=7.3						
MKAR	**Makanchi Array**	**7.17**	**203**	Pn	**Pb**	**09 01 51.0**	**-1.3**
	0.6nm,0.3s,baz=20,slow=14,SNR=22						
MAKZ	**Makanchi**	**7.23**	**204**	⇓Pn	**Pb**	**09 01 52.8**	**-0.6**
	0.3nm,0.3s						
MAKZ				⇑Sn	**Sb**	**09 03 22.1**	**+1.9**
	0.2nm,0.3s						
MAKZ				⇓Lg	Lg	09 04 05.3	
	0.5nm,0.5s						

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*SNET **05** 09:25:25.6±1.1, 13°.11N×90°.04W, h23km±4km, ML3.1*

*GCG **05** 09:25:29.2±0.6, 13°.31N×90°.24W, h7km±12km, MD3.7*

ISC 05 09:25:24.4±2.1**, 13°.17N**±0°.09×**90°.09W**±0°.05**, h14**km±10km**, n23, σ0s66**/38**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.79**	**52**	*e*P	**Pn**	**09 25 40.8**	**-0.4**
JAYA				*e*S	**Sn**	**09 25 51.9**	**-1.0**
JAYA				IAML		09 25 54.5	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**0.80**	**34**	*e*P	**Pn**	**09 25 41.2**	**-0.3**
CEVE				*e*S	**Sn**	**09 25 54.6**	**+1.4**
CEVE				IAML		09 25 57.7	
	comp=Z,2μm,0.3s						
SBLS	**San Blas**	**0.81**	**34**	*e*P	**Pn**	**09 25 41.4**	**-0.2**
SBLS				*e*S	**Sn**	**09 25 54.3**	**+0.8**
SNJE	**San Jose**	**0.84**	**34**	*e*P	**Pn**	**09 25 42.1**	**+0.1**
RTR	**El Retiro**	**0.84**	**30**	*e*P	**Pn**	**09 25 42.1**	**+0.1**
BOQS	**Boqueron**	**0.97**	**54**	*e*P	**Pg**	**09 25 43.4**	**+0.2**
BOQS				*e*S	**Sn**	**09 25 57.5**	**+0.1**
SNET	**Serv Nac Est T**	**0.98**	**58**	*e*P	**Pn**	**09 25 43.5**	**-0.2**
SNET				*e*S	**Sn**	**09 25 57.8**	**+0.3**
SNET				IAML		09 26 01.9	
	comp=Z,370nm,0.2s						
UEES	**Universidad Ev**	**0.99**	**56**	*e*P	**Pg**	**09 25 44.0**	**+0.4**
UEES				*e*S	**Sn**	**09 25 57.5**	**-0.3**
OPAM	**Oficina de Pla**	**1.02**	**58**	*e*P	**Pg**	**09 25 44.7**	**+0.6**
OPAM				*e*S	**Sn**	**09 25 58.6**	**+0.1**
OPAM				IAML		09 26 03.0	
	comp=Z,409nm,0.3s						
TACO	**Tacachico**	**1.07**	**42**	*e*P	**Pg**	**09 25 45.1**	**0.0**
TACO				*e*S	**Sg**	**09 26 00.4**	**+1.3**
LFRS	**El Faro**	**1.10**	**65**	*e*P	**Pn**	**09 25 44.8**	**-0.6**
LFRS				*e*S	**Sb**	**09 25 59.7**	**+0.3**
LBRS	**Las Brisas**	**1.16**	**61**	*e*P	**Pn**	**09 25 46.2**	**-0.1**
COEG	**Centro de Oper**	**1.26**	**69**	*e*P	**Pn**	**09 25 47.2**	**-0.3**
COEG				IAML		09 26 08.6	
	comp=Z,318nm,0.4s						
PCG	**Pacaya**	**1.32**	**338**	*e*P	**Pg**	**09 25 50.6**	**+0.7**
MTO3	**Montecristo**	**1.42**	**30**	*e*P	**Pg**	**09 25 50.8**	**-0.9**
NBG	**Las Nubes**	**1.44**	**350**	*e*P	**Pg**	**09 25 52.5**	**+0.4**
NBG				*e*S	**Sg**	**09 26 11.7**	**+0.9**
FUG	**Fuego 3**	**1.47**	**330**	*e*P	**Pg**	**09 25 52.8**	**0.0**
FUG				*e*S	**Sg**	**09 26 10.7**	**-1.2**
COEB	**Comit de Eme**	**1.55**	**77**	*e*P	**Pn**	**09 25 50.9**	**-0.8**
COEB				IAML		09 26 13.2	
	comp=Z,154nm,0.4s						
PQSS	**Presa 15 de Se**	**1.55**	**73**	*e*P	**Pn**	**09 25 51.0**	**-0.6**
PQSS				*e*S	**Sn**	**09 26 12.0**	**+0.5**
ESQI	**Esquipulas**	**1.56**	**27**	*e*P	**Pb**	**09 25 53.1**	**-0.1**
ESQI				*e*S	**Sg**	**09 26 13.4**	**-1.5**
TECA	**Tecapa**	**1.58**	**78**	*e*P	**Pn**	**09 25 52.8**	**+0.7**
MRL	**Marmol**	**1.94**	**12**	*e*P	**Pg**	**09 26 01.7**	**-0.1**
MRL				*e*S	**Sg**	**09 26 26.6**	**-0.5**
LCND	**La Caada**	**2.14**	**86**	*e*P	**Pn**	**09 25 59.9**	**+0.2**
LCND				*e*S	**Sn**	**09 26 25.6**	**-0.5**
LCND				IAML		09 26 31.4	
	comp=Z,94nm,0.3s						

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*IDC **05** 09:44:46.2±3.0, 45°.62N×93°.84E, h0km, mb1 3.1/3, mb1mx2.8/49, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=48.6km s-min=20.5km az=8.0*

*NNC **05** 09:44:51.6±4.8, 45°.03N×93°.42E, h0km, mb3.8, mpv3.1, Error ellipse: s-maj=46.5km s-min=34.5km az=143.0*

ISC 05 09:44:42.5±1.7**, 45°.5N**±0°.3×**94°.32E**±0°.09**, h10**km**, n9, σ2s11**/6**, 4C-4D, Mongolia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**8.46**	**283**	Pn	Pn	09 46 49.2	+4.2
	0.4nm,0.5s,baz=103,slow=15,SNR=8.6						
MK31				⇑Lg	Lg	09 49 02.5	
	26nm,0.8s,baz=98,slow=25,SNR=4.1						
MKAR	**Makanchi Array**	**8.46**	**283**	Pn	**Pn**	**09 46 46.9**	**+1.9**
	0.1nm,0.3s,baz=100,slow=15,SNR=5.1						
MKAR				Lg	Lg	09 49 03.1	
	1.4nm,0.3s,baz=88,slow=29,SNR=7.4						
SONM	**Songino Array**	**8.63**	**70**	Pn	Pn	09 46 56.9	+9.4
	0.1nm,0.3s,baz=257,slow=13,SNR=7.7						
SONM				Pg	**Pg**	**09 47 27.2**	**-0.4**
	0.5nm,0.3s,baz=259,slow=18,SNR=8.2						
SONM				Lg	Lg	09 49 21.6	
	2.4nm,0.3s,baz=268,slow=26,SNR=17						
MAKZ	**Makanchi**	**8.67**	**283**	⇑Pn	**Pn**	**09 46 49.7**	**+1.7**
	1.6nm,1.1s						
MAKZ				⇑Lg	Lg	09 49 08.0	
	25nm,0.8s						
TLY	**Talaya**	**8.74**	**42**	Pg	Pg	09 47 20.4	-9.3
	0.0nm,0.3s,baz=230,slow=15,SNR=7.7						
TLY				Lg	Lg	09 49 18.1	
	0.0nm,0.3s,baz=2.3,slow=16,SNR=7.2						
ZALV	**Zalesovo Beam**	**10.45**	**327**	Pg	Pn	09 47 52.0	+40
	0.5nm,0.3s,baz=144,slow=14,SNR=3.2						
ZALV				Lg	Lg	09 50 11.9	
	0.5nm,0.3s,baz=135,slow=27,SNR=6.7						
PDGK	**Podgornoye**	**10.83**	**264**	⇓Pn	**Pn**	**09 47 18.5**	**+0.9**
	2.7nm,0.6s						
PDGK				⇑Sn	**Sn**	**09 49 16.4**	**-2.5**
	8.4nm,0.8s						
PDGK				⇓Lg	Lg	09 50 13.9	
	28nm,1.2s						
KURBB	**Kurchatov Arra**	**11.74**	**302**	Pn	**Pn**	**09 47 29.9**	**+0.1**
	0.0nm,0.3s,baz=108,slow=15,SNR=2.9						
KURBB				Lg	Lg	09 50 46.4	
	0.1nm,0.3s,baz=112,slow=30,SNR=4.8						
KURBB	**Kurchatov Arra**	**11.74**	**302**	⇓Pn	Pn	09 47 37.7	+7.9
	5.0nm,1.1s						
KURBB				⇓Lg	Lg	09 50 56.3	
	80nm,0.8s						

*IDC **05** 10:11:35.6±0.7, 7°.53S×87°.12W, h0km, mb3.8/13, mb1 4.1/14, mb1mx3.9/44, mbtmp3.9/14, ML3.6/1, MS3.1/7, Ms1 3.1/7, ms1mx2.9/33, Error ellipse: s-maj=31.1km s-min=14.1km az=55.0*

ISC 05 10:11:37.1±0.7**, 7°.5S**±0°.1×**87°.13W**±0°.10**, h10km, n24, σ1s.14**/22**, mb3.9**/13**, MS3.2**/4**, Southeast of Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**8.67**	**88**	Pn	**Pn**	**10 13 42.7**	**-0.4**
	0.7nm,0.3s,baz=357,slow=2.2,SNR=8.8						
ATAH				Sn	**Sn**	**10 15 21.7**	**+0.5**
	0.5nm,0.3s,baz=180,slow=11,SNR=3.2						
ATAH				LR	LR	10 16 27.4	
	comp=Z,49nm,20.5s,baz=15,slow=34						
NNA	**Nana**	**11.06**	**114**	LR	LR	10 17 37.8	
	comp=Z,35nm,21.4s,baz=334,slow=33						
JTS	**Las Juntas de**	**17.83**	**7**	LR	LR	10 20 58.1	
	comp=Z,132nm,21.2s,baz=230,slow=32						
LPAZ	**La Paz**	**20.51**	**117**	P	**P**	**10 16 17.5**	**+1.2**
	1.7nm,0.6s,baz=266,slow=8.9,SNR=6.6						
LPAZ				LR	LR	10 23 43.8	
	comp=Z,32nm,20.2s,baz=256,slow=36						
LVC	**Limon Verde**	**23.07**	**133**	P	**P**	**10 16 44.7**	**+1.3**
	2.2nm,0.6s,baz=336,slow=5.4,SNR=5.4						
H03N2	**Juan Fernandez**	**26.88**	**165**	T	T	10 44 59.9	
	baz=344,slow=76,SNR=4.2						
H03N1	**Juan Fernandez**	**26.89**	**165**	T	T	10 45 00.5	
	baz=344,slow=76,SNR=6.2						
H03N3	**Juan Fernandez**	**26.90**	**165**	T	T	10 44 59.4	
	baz=344,slow=76,SNR=6.3						
TEIG	**Tepich**	**27.60**	**358**	LR	LR	10 26 30.2	
	comp=Z,68nm,19.9s,baz=113,slow=32						
PLCA	**Paso Flores**	**36.22**	**158**	P	**P**	**10 18 39.6**	**-0.8**
	1.1nm,0.8s,baz=333,slow=3.9,SNR=3.1						
PLCA				LR	LR	10 29 07.5	
	comp=Z,35nm,20.5s,baz=225,slow=29						
TXAR	**Lajitas Array**	**39.96**	**337**	P	**P**	**10 19 12.0**	**0.0**
	0.7nm,0.7s,baz=156,slow=12,SNR=5.0						
TXAR				PcP	**PcP**	**10 21 17.9**	**+0.5**
	0.4nm,0.5s,baz=133,slow=5.3,SNR=3.0						
TXAR				LR	LR	10 33 12.2	
	comp=Z,80nm,18.8s,baz=0.0,slow=32						
ANMO	**Albuquerque**	**46.02**	**338**	P	**P**	**10 20 02.4**	**+1.3**
	0.8nm,0.6s,baz=154,slow=7.4,SNR=5.6						
USHA	**Ushuaia**	**49.50**	**166**	P	**P**	**10 20 29.2**	**+1.6**
	72nm,0.5s,baz=153,slow=1.6,SNR=6.1						
PDAR	**Pinedale Array**	**54.06**	**340**	P	**P**	**10 21 02.9**	**+0.6**
	0.7nm,0.7s,baz=134,slow=8.5,SNR=7.6						
PDAR				PcP	**PcP**	**10 22 06.7**	**-0.5**
	0.6nm,0.6s,baz=147,slow=6.2,SNR=6.6						
NVAR	**Mina Array Bea**	**54.15**	**330**	P	**P**	**10 21 04.1**	**+1.3**
	0.3nm,0.7s,baz=178,slow=7.1,SNR=3.8						
ELK	**Elko**	**54.56**	**334**	P	**P**	**10 21 06.8**	**+1.0**
	1.1nm,0.8s,baz=159,slow=6.2,SNR=6.0						
ULM	**Lac du Bonnet**	**58.04**	**353**	P	**P**	**10 21 30.0**	**-0.2**
	2.4nm,0.5s,baz=178,slow=6.3,SNR=8.0						
ULM				PcP	**PcP**	**10 22 21.3**	**-0.7**
	1.2nm,0.5s,baz=145,slow=2.3,SNR=3.9						
YKA	**Yellowknife Ar**	**72.95**	**347**	P	**P**	**10 23 06.3**	**-0.1**
	0.6nm,0.7s,baz=142,slow=6.0,SNR=11						
DLBC	**Dease Lake**	**74.25**	**338**	P	**P**	**10 23 15.3**	**+1.0**
	1.2nm,0.7s,baz=194,slow=12,SNR=2.2						
ILAR	**Eielson Array**	**84.46**	**338**	P	**P**	**10 24 09.5**	**-0.3**
	0.4nm,0.6s,baz=145,slow=4.2,SNR=5.4						
KOWA	**Kowa**	**85.25**	**75**	P	**P**	**10 24 13.5**	**-1.3**
	2.0nm,0.6s,baz=247,slow=4.3,SNR=7.2						
ASAR	**Alice Springs**	**129.33**	**231**	PKP	**PKPdf**	**10 30 44.8**	**-2.1**
	0.7nm,0.7s,baz=106,slow=2.2,SNR=5.3						
WRA	**Warramunga Arr**	**130.91**	**236**	PKP	**PKPdf**	**10 30 47.8**	**-2.1**
	0.5nm,0.7s,baz=116,slow=2.1,SNR=5.4						
ZALV	**Zalesovo Beam**	**133.25**	**7**	PKP	**PKPdf**	**10 30 52.2**	**-1.1**
	0.8nm,0.7s,baz=282,slow=3.6,SNR=3.6						

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*IDC **05** 10:16:52.7±1.0, 33°.13N×5°.31W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/69, mbtmp3.7/7, ML4.0/2, MS3.3/2, Ms1 3.4/2, ms1mx2.8/36, Error ellipse: s-maj=23.1km s-min=9.1km az=35.0*

*CNRM **05** 10:16:53.6, 33°.09N×5°.31W, h6km, ml4.2, Hypocentre not reviewed by the ISC*

*SFS **05** 10:16:54.0, 33°.07N×5°.45W, ML4.5, KHENIFRA (MARRUECOS)*

*MDD **05** 10:16:55.4±1.3, 33°.14N×5°.33W, h0km, mb4.6/24, Error ellipse: s-maj=11.7km s-min=7.9km az=171.0, PRXIMO*

*IGIL **05** 10:16:55.8, 33°.08N×5°.45W, h0km, ML3.4*

*INMG **05** 10:16:56.2±1.9, 33°.14N×5°.26W, h17km±11km, ML3.3, Error ellipse: s-maj=7.4km s-min=4.8km az=152.0*

ISC 05 10:16:54.6±1.2**, 33°.15N**±0°.05×**5°.34W**±0°.03**, h16km**±9km**, n100, σ1s.91**/179**, mb3.4**/4**, 2D, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFR	**Ifrane**	**0.41**	**26**⇓	*i*P	**Pb**	**10 17 03.5**	**-0.1**
IFR				*i* S	**Sb**	**10 17 10.4**	**+0.8**
LCRM	**LCR**	**0.67**	**37**	S		10 17 09.3	
MDT	**Midelt**	**0.70**	**118**	Pg	**Pg**	**10 17 06.3**	**-2.1**
	245nm,0.3s,baz=28,slow=18,SNR=2884						
MDT				Lg	Lg	10 17 14.3	
	1µm,0.3s,baz=354,slow=10,SNR=56						
MDT				LR	LR	10 17 32.7	
	comp=Z,229nm,18.3s,baz=42,slow=60						
MDT	**Midelt**	**0.70**	**118**	P		10 17 06.0	
GOLM	**Goulmima**	**1.48**	**167**	P		10 17 21.5	
RTC	**Rabat Centre**	**1.52**	**304**	P	**Pg**	**10 17 24.4**	**+0.6**
	SNR=7.9						
RTC				S	**Sg**	**10 17 44.8**	**+1.2**
	SNR=7.9						
AVE	**Averroes**	**1.74**	**275**⇓	*i*P	**Pg**	**10 17 26.3**	**-1.8**
AVE				*i* S	**Sg**	**10 17 51.8**	**+1.0**
PVLZ	**Peæn de**	**2.19**	**23**	P	**Pb**	**10 17 34.3**	**+0.3**
PVLZ				S	**Sb**	**10 18 00.8**	**-0.1**
PVLZ	**Peæn de**	**2.19**	**23**	*e*P	**Pb**	**10 17 34.3**	**+0.3**
PVLZ				*e*S	**Sb**	**10 18 00.8**	**-0.1**
SRHM	**Skhour des Reh**	**2.26**	**253**	P		10 17 33.0	
OUZM	**OUZ**	**2.54**	**209**	P		10 17 37.0	
ECEU	**Ceuta**	**2.74**	**359**	P	**Pb**	**10 17 41.7**	**-1.6**
	3.9nm,0.1s,SNR=4.7						
ECEU				S	**Sn**	**10 18 07.1**	**-3.7**
	35nm,0.6s						
MELI	**Melilla**	**2.92**	**42**	S	**Sn**	**10 18 16.8**	**+1.5**
	340nm,0.5s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.29**	**358**	P	**Pn**	**10 17 48.3**	**+2.7**
	SNR=7.9						
EJIF				S	**Sn**	**10 18 26.9**	**+2.5**
	SNR=7.9						
EMAL	**Malaga-Limoner**	**3.68**	**11**	P	**Pn**	**10 17 51.1**	**+0.3**
EMAL				S	**Sn**	**10 18 34.3**	**+0.4**
EMAL	**Malaga-Limoner**	**3.68**	**11**	*e*P	**Pn**	**10 17 51.1**	**+0.3**
EMAL				*i* S	**Sn**	**10 18 34.3**	**+0.4**
ESPR	**Espera**	**3.73**	**354**	P	**Pn**	**10 17 52.9**	**+1.3**
	4.8nm,0.3s,SNR=7.0						
ESPR				S	**Sn**	**10 18 36.5**	**+1.3**
	25nm,0.3s						
ELGU	**Los Guajares,**	**3.97**	**20**	P	**Pn**	**10 17 55.5**	**+0.6**
	6.3nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**10 18 40.6**	**-0.5**
	32nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.25**	**28**	P	**Pn**	**10 17 59.3**	**+0.5**
	1.5nm,0.2s,SNR=9.5						
EBER				S	**Sn**	**10 18 46.7**	**-1.5**
	9.9nm,0.3s						
EQUE	**Quentar**	**4.33**	**21**	P	**Pn**	**10 18 02.1**	**+2.1**
	3.8nm,0.2s,SNR=11						
EQUE				S	**Sn**	**10 18 52.0**	**+1.7**
	4.8nm,0.3s						
ENIJ	**Nijar**	**4.60**	**33**	S	**Sn**	**10 18 57.1**	**+0.5**
	8.1nm,0.4s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.60**	**333**	P	**Pn**	**10 18 04.8**	**+1.2**
PBDV				S	**Sn**	**10 18 56.3**	**-0.4**
	26nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.60**	**333**	*e*Pn	**Pn**	**10 18 04.8**	**+1.2**
PBDV				*e*Sn	**Sn**	**10 18 56.3**	**-0.4**
PBDV				A	A	10 19 01.1	
	26nm,0.3s						
PVAQ	**Vaqueiros**	**4.67**	**336**	P	**Pn**	**10 18 05.6**	**+1.2**
PVAQ				S	**Sn**	**10 18 57.6**	**-0.7**
	42nm,0.4s						
PVAQ	**Vaqueiros**	**4.67**	**336**	*e*Pn	**Pn**	**10 18 05.6**	**+1.2**
PVAQ				*e*Sn	**Sn**	**10 18 57.6**	**-0.7**
PVAQ				A	A	10 19 01.1	
	42nm,0.4s						
PVAQ	**Vaqueiros**	**4.67**	**336**	P		10 18 05.6	
HORN	**Hornachuelos**	**4.69**	**1**	P		10 18 05.5	
EGRO	**El Granado**	**4.71**	**339**	P	**Pn**	**10 18 06.6**	**+1.5**
	30nm,0.1s,SNR=168						
EGRO				S	**Sn**	**10 18 59.3**	**-0.1**
	13nm,0.1s						
EMIN	**Mina Concepcio**	**4.73**	**347**	P	**Pn**	**10 18 06.5**	**+1.1**
	4.9nm,0.1s,SNR=82						
EMIN				S	**Sn**	**10 18 59.5**	**-0.4**
	4.7nm,0.4s						
PFVI	**Vila Bisbo**	**4.89**	**325**	P	**Pn**	**10 18 08.8**	**+1.2**
	27nm,0.2s,SNR=22						
PFVI				S	**Sn**	**10 19 02.8**	**-1.0**
	4.8nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.89**	**325**	*e*Pn	**Pn**	**10 18 08.7**	**+1.2**
PFVI				*e*Sn	**Sn**	**10 19 02.4**	**-1.4**
PFVI				A	A	10 19 10.3	
	16nm,0.2s						
PFVI	**Vila Bisbo**	**4.89**	**325**	P		10 18 08.8	
MORF	**Marmelete**	**4.95**	**328**	*e*P	**Pn**	**10 18 09.3**	**+1.0**
MORF				*e*S	**Sn**	**10 19 03.7**	**-1.7**
MORF				AML	AML	10 19 09.3	
	comp=E,84nm,0.3s						
MORF	**Marmelete**	**4.95**	**328**	P	**Pn**	**10 18 09.4**	**+1.0**
MORF				S	**Sn**	**10 19 04.8**	**-0.6**
	comp=E,42nm,0.2s						
MORF	**Marmelete**	**4.95**	**328**	*e*Pn	**Pn**	**10 18 09.4**	**+1.0**
MORF				*e*Sn	**Sn**	**10 19 04.8**	**-0.6**
MORF				A	A	10 19 08.8	
	comp=E,42nm,0.2s						
PCVE	**Castro Verde**	**4.98**	**335**	P	**Pn**	**10 18 10.1**	**+1.3**
PCVE				Sn	**Sn**	**10 19 05.1**	**-1.0**
	comp=E,18nm,0.4s						
PCVE	**Castro Verde**	**4.98**	**335**	*e*Pn	**Pn**	**10 18 10.1**	**+1.3**
PCVE				*e*Sn	**Sn**	**10 19 05.1**	**-1.0**
PCVE				A	A	10 19 06.2	
	comp=E,18nm,0.4s						
EQES	**Quesada**	**5.00**	**21**	P	**Pn**	**10 18 11.5**	**+2.4**
	comp=E,9.0nm,0.2s,SNR=6.3						
EQES				S	**Sn**	**10 19 09.8**	**+3.2**
	comp=E,9.6nm,0.6s						
EADA	**Adamuz**	**5.04**	**7**	P	**Pn**	**10 18 10.7**	**+1.0**
	comp=E,4.3nm,0.1s,SNR=23						
EADA				S	**Sn**	**10 19 06.7**	**-1.0**
	comp=E,9.5nm,0.7s						
PTEO	**Sao Teotonio**	**5.18**	**329**	P	**Pn**	**10 18 12.8**	**+1.3**
PTEO				S	**Sn**	**10 19 10.9**	**-0.1**
	comp=E,10nm,0.6s						
PTEO	**Sao Teotonio**	**5.18**	**329**	*e*Pn	**Pn**	**10 18 12.8**	**+1.3**
PTEO				*e*Sn	**Sn**	**10 19 10.9**	**-0.1**
PTEO				A	A	10 19 19.4	
	comp=E,20nm,0.6s						
PBAR	**Barrancos**	**5.20**	**345**	P	**Pn**	**10 18 13.2**	**+1.4**
PBAR				S	**Sn**	**10 19 10.1**	**-1.3**
	comp=E,25nm,0.4s						
PBAR	**Barrancos**	**5.20**	**345**	*e*Pn	**Pn**	**10 18 13.2**	**+1.4**
PBAR				*e*Sn	**Sn**	**10 19 10.1**	**-1.3**
PBAR				A	A	10 19 19.8	
	comp=E,25nm,0.4s						
MESJ	**Messejana**	**5.23**	**334**	*e*P	**Pn**	**10 18 13.3**	**+1.1**
MESJ				*e*S	**Sn**	**10 19 10.2**	**-2.0**
MESJ				AML	AML	10 19 14.2	
	comp=N,39nm,0.4s						
MESJ	**Messejana**	**5.23**	**334**	P	**Pn**	**10 18 13.4**	**+1.1**
MESJ				S	**Sn**	**10 19 10.2**	**-2.0**
	comp=N,39nm,0.4s						
MESJ	**Messejana**	**5.23**	**334**	*e*Pn	**Pn**	**10 18 13.4**	**+1.1**
MESJ				*e*Sn	**Sn**	**10 19 12.7**	**+0.5**
MESJ				A	A	10 19 16.3	
	comp=N,22nm,0.5s						
PBEJ	**Beja**	**5.28**	**338**	P	**Pn**	**10 18 14.1**	**+1.2**
PBEJ				S	**Sn**	**10 19 12.9**	**-0.5**
	comp=N,7.1nm,0.5s						
PBEJ	**Beja**	**5.28**	**338**	*e*Pn	**Pn**	**10 18 14.1**	**+1.2**
PBEJ				*e*Sn	**Sn**	**10 19 12.9**	**-0.5**
PBEJ				A	A	10 19 19.1	
	comp=N,14nm,0.5s						
SESP	**Santiago Espad**	**5.46**	**24**	P	**Pn**	**10 18 18.9**	**+3.4**
	comp=N,6.8nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**10 19 21.1**	**+3.1**
	comp=N,5.9nm,0.4s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.59**	**333**	P	**Pn**	**10 18 18.3**	**+1.2**
PNCL				S	**Sn**	**10 19 19.0**	**-2.0**
	comp=N,13nm,0.4s						
PNCL	**Nicolau / Gran**	**5.59**	**333**	*e*Pn	**Pn**	**10 18 18.3**	**+1.2**
PNCL				*e*Sn	**Sn**	**10 19 19.0**	**-2.0**
PNCL				A	A	10 19 28.2	
	comp=N,13nm,0.4s						
EMUR	**La Murta**	**5.75**	**34**	P	**Pn**	**10 18 20.1**	**+0.7**
	comp=N,2.0nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**10 19 20.3**	**-4.8**
	comp=N,4.3nm,0.6s,SNR=7.9						
EVO	**Evora**	**5.79**	**339**	P	**Pn**	**10 18 21.4**	**+1.5**
EVO				S	**Sn**	**10 19 24.4**	**-1.6**
EVO	**Evora**	**5.79**	**339**	*e*P	**Pn**	**10 18 21.0**	**+1.1**
EVO				*e*S	**Sn**	**10 19 25.4**	**-0.6**
EVO	**Evora**	**5.79**	**339**	*e*Pn	**Pn**	**10 18 21.4**	**+1.5**
EVO				*e*Sn	**Sn**	**10 19 24.4**	**-1.6**
PESTR	**Estremoz**	**5.99**	**343**	*e*Pn	**Pn**	**10 18 23.9**	**+1.3**
PESTR				*e*Sn	**Sn**	**10 19 30.2**	**-0.6**
PESTR				A	A	10 19 47.4	
	comp=N,13nm,0.5s						
PESTR	**Estremoz**	**5.99**	**343**	P		10 18 23.8	
ETOB	**Tobarra**	**6.29**	**28**	P	**Pn**	**10 18 29.2**	**+2.4**
	comp=N,2.3nm,0.2s,SNR=7.9						
PMTG	**Montargil**	**6.35**	**339**	P	**Pn**	**10 18 28.8**	**+1.3**
PMTG				S	**Sn**	**10 19 39.0**	**-0.7**
	comp=N,9.6nm,0.5s						
PMTG	**Montargil**	**6.35**	**339**	*e*Pn	**Pn**	**10 18 28.8**	**+1.3**
PMTG				*e*Sn	**Sn**	**10 19 39.0**	**-0.7**
PMTG				A	A	10 20 00.0	
	comp=N,9.6nm,0.5s						
PAB	**San Pablo**	**6.43**	**7**	P	**Pn**	**10 18 29.4**	**+0.6**
	comp=N,2.8nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**10 19 38.9**	**-3.0**
	comp=N,4.8nm,0.5s,SNR=7.9						
PAB	**San Pablo**	**6.43**	**7**	P		10 18 29.9	
PMRV	**Marv??o**	**6.48**	**346**	P	**Pn**	**10 18 30.9**	**+1.5**
PMRV				S	**Sn**	**10 19 41.2**	**-1.8**
	comp=N,15nm,0.6s						
PMRV	**Marv??o**	**6.48**	**346**	*e*Pn	**Pn**	**10 18 30.9**	**+1.5**
PMRV				*e*Sn	**Sn**	**10 19 41.2**	**-1.8**
PMRV				A	A	10 19 43.3	
	comp=N,15nm,0.6s						
ESDC	**Sonseca Array**	**6.60**	**9**	Pn	**Pn**	**10 18 31.9**	**+0.7**
	comp=N,1.5nm,0.3s,baz=196,slow=13,SNR=19						
ESDC				Sn	**Sn**	**10 19 42.8**	**-3.3**
	comp=N,1.6nm,0.3s,baz=193,slow=23,SNR=8.4						
ESDC	**Sonseca Array**	**6.60**	**9**	P	**Pn**	**10 18 31.8**	**+0.7**
	comp=N,5.9nm,0.2s,baz=195,slow=13,SNR=59						
ESDC				S	**Sn**	**10 19 42.8**	**-3.3**
	comp=N,2.6nm,0.3s,baz=193,slow=23,SNR=6.2						
PMAFR	**Mafra**	**6.61**	**332**	P	**Pn**	**10 18 32.4**	**+1.2**
	comp=N,19nm,0.2s,SNR=7.4						
PMAFR				S	**Sn**	**10 19 43.5**	**-2.7**
	comp=N,13nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**6.61**	**332**	*e*Pn	**Pn**	**10 18 33.4**	**+2.2**
PMAFR				*e*Sn	**Sn**	**10 19 46.0**	**-0.2**
PCBR	**Castelo Branco**	**6.89**	**346**	P	**Pn**	**10 18 36.5**	**+1.5**
PCBR				S	**Sn**	**10 19 49.7**	**-3.4**
	comp=N,3.9nm,0.7s						
PCBR	**Castelo Branco**	**6.89**	**346**	*e*Pn	**Pn**	**10 18 36.5**	**+1.5**
PCBR				*e*Sn	**Sn**	**10 19 49.7**	**-3.4**
PCBR				A	A	10 19 54.4	
	comp=N,7.8nm,0.7s						
EPLA	**Plasencia**	**6.92**	**355**	P	**Pn**	**10 18 36.5**	**+1.0**
	comp=N,25nm,0.2s,SNR=59						
EPLA				S	**Sn**	**10 19 50.5**	**-3.5**
	comp=N,8.1nm,0.4s						
PSBE	**So Bento**	**6.93**	**337**	*e*Pn	**Pn**	**10 18 37.2**	**+1.6**
PCAS	**Casmilo, Conde**	**7.34**	**341**	P	**Pn**	**10 18 42.4**	**+1.2**
PCAS	**Casmilo, Conde**	**7.34**	**341**	*e*Pn	**Pn**	**10 18 42.4**	**+1.2**
MTE	**Manteigas**	**7.45**	**347**	P	**Pn**	**10 18 44.2**	**+1.5**
MTE				S	**Sn**	**10 20 06.1**	**-0.7**
MTE	**Manteigas**	**7.45**	**347**	*e*Pn	**Pn**	**10 18 44.2**	**+1.5**
MTE				*e*Sn	**Sn**	**10 20 06.1**	**-0.7**
GUD	**Guadarrama**	**7.54**	**7**	P	**Pn**	**10 18 44.8**	**+0.8**
	SNR=7.9						
GUD				S	**Sn**	**10 20 05.7**	**-3.5**
	comp=N,3.0nm,0.4s,SNR=7.9						
PVIS	**Viseu**	**7.82**	**346**	P	**Pn**	**10 18 49.5**	**+1.7**
PVIS				S	**Sn**	**10 20 12.7**	**-3.3**
PVIS	**Viseu**	**7.82**	**346**	*e*Pn	**Pn**	**10 18 49.5**	**+1.7**
PVIS				*e*Sn	**Sn**	**10 20 12.7**	**-3.3**
ETOR	**Torete**	**8.09**	**18**	P	**Pn**	**10 18 52.7**	**+1.1**
	comp=N,6.2nm,0.2s,SNR=8.5						
ETOR				S	**Sn**	**10 20 20.2**	**-2.5**
	comp=N,12nm,0.5s						
MVO	**Moncorvo**	**8.11**	**351**	P	**Pn**	**10 18 53.3**	**+1.5**
	comp=N,30nm,0.2s,SNR=21						
MVO				S	**Sn**	**10 20 20.7**	**-2.5**
	comp=N,9.4nm,0.5s						
MVO	**Moncorvo**	**8.11**	**351**	*e*Pn	**Pn**	**10 18 53.3**	**+1.5**
MVO				*e*Sn	**Sn**	**10 20 19.6**	**-3.6**
PVRL	**Vila Real**	**8.33**	**348**	P	**Pn**	**10 18 56.3**	**+1.6**
PVRL				S	**Sn**	**10 20 26.4**	**-2.1**
PVRL	**Vila Real**	**8.33**	**348**	*e*Pn	**Pn**	**10 18 56.3**	**+1.6**
PVRL				*e*Sn	**Sn**	**10 20 26.4**	**-2.1**
PTO	**Porto**	**8.39**	**343**	P	**Pn**	**10 18 56.8**	**+1.3**
PTO	**Porto**	**8.39**	**343**	*e*Pn	**Pn**	**10 18 56.8**	**+1.3**
POLO	**Lamas de Olo**	**8.44**	**347**	P	**Pn**	**10 18 57.8**	**+1.5**
POLO				S	**Sn**	**10 20 28.1**	**-3.1**
POLO	**Lamas de Olo**	**8.44**	**347**	*e*Pn	**Pn**	**10 18 57.8**	**+1.5**
POLO				*e*Sn	**Sn**	**10 20 28.1**	**-3.1**
PBRG	**Braganca**	**8.71**	**353**	P	**Pn**	**10 19 01.0**	**+1.0**
PBRG				S	**Sn**	**10 20 34.1**	**-3.8**
PBRG	**Braganca**	**8.71**	**353**	*e*Pn	**Pn**	**10 19 01.0**	**+1.0**
PBRG				*e*Sn	**Sn**	**10 20 34.1**	**-3.8**
PCAB	**Cabril**	**8.81**	**347**	P	**Pn**	**10 19 02.8**	**+1.5**
PCAB				S	**Sn**	**10 20 36.1**	**-4.1**
PCAB	**Cabril**	**8.81**	**347**	*e*Pn	**Pn**	**10 19 02.8**	**+1.5**
PCAB				*e*Sn	**Sn**	**10 20 36.1**	**-4.1**
ECAL	**Calabor**	**8.84**	**353**	P	**Pn**	**10 19 02.4**	**+0.5**
	comp=N,1.1nm,0.1s,SNR=6.7						
ECAL				S	**Sn**	**10 20 38.5**	**-2.7**
	comp=N,9.6nm,0.5s						
ELOB	**Lobios**	**8.96**	**347**	P	**Pn**	**10 19 04.7**	**+1.2**
	comp=N,8.7nm,0.3s,SNR=13						
ELOB				S	**Sn**	**10 20 42.0**	**-2.1**
	comp=N,6.4nm,0.6s						
PGAV	**Gavieira, Arco**	**9.10**	**346**	P	**Pn**	**10 19 06.8**	**+1.4**
PGAV				S	**Sn**	**10 20 44.4**	**-3.1**
PGAV	**Gavieira, Arco**	**9.10**	**346**	*e*P	**Pn**	**10 19 06.8**	**+1.4**
PGAV				S	**Sn**	**10 20 44.4**	**-3.1**
EZAM	**Zamans**	**9.37**	**344**	P	**Pn**	**10 19 10.5**	**+1.6**
	SNR=7.9						
EZAM				S	**Sn**	**10 20 49.4**	**-4.6**
	comp=N,16nm,0.8s,SNR=7.9						
EAGO	**Agolada(Pontev**	**9.88**	**348**	P	**Pn**	**10 19 17.3**	**+1.3**
	comp=N,1.2nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**10 21 02.1**	**-4.3**
	comp=N,1.7nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**10.13**	**1**	P	**Pn**	**10 19 20.9**	**+1.4**
	comp=N,0.5nm,0.2s,SNR=7.9						
EARI				S	**Sn**	**10 21 07.5**	**-5.3**
	comp=N,2.0nm,2.2s,SNR=7.9						
ELAN	**Lanestosa**	**10.18**	**8**	P	**Pn**	**10 19 21.4**	**+1.4**
	comp=N,2.6nm,0.2s,SNR=7.9						
ELAN				S	**Sn**	**10 21 10.4**	**-3.5**
	comp=N,0.7nm,0.7s,SNR=7.9						
EMAZ	**Mazaricos**	**10.19**	**345**	P	**Pn**	**10 19 21.5**	**+1.3**
	comp=N,6.4nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**10.26**	**353**	P	**Pn**	**10 19 23.1**	**+1.9**
	comp=N,1.4nm,0.2s,SNR=7.9						
KOWA	**Kowa**	**18.61**	**176**	P	**P**	**10 21 10.0**	**-1.4**
	comp=N,0.2nm,0.3s,baz=16,slow=13,SNR=5.3						
TORD	**Torodi Ar. Bea**	**20.92**	**160**	P	**P**	**10 21 37.4**	**+0.8**
	comp=N,3.7nm,0.7s,baz=344,slow=11,SNR=9.3						
GERES	**GERESS Array B**	**21.18**	**37**	P	**P**	**10 21 39.5**	**+0.1**
	comp=N,1.2nm,0.6s,baz=215,slow=9.6,SNR=6.4						
DBIC	**Dimbokro**	**26.35**	**179**	P	**P**	**10 22 30.9**	**+0.9**
	comp=N,2.2nm,0.8s,baz=353,slow=7.2,SNR=4.1						
HFS	**Hagfors**	**29.76**	**19**	LR	LR	10 37 11.6	
	comp=N,128nm,21.3s,baz=262,slow=41						
NOA	**NORSAR Array B**	**29.91**	**16**	LR	LR	10 36 33.6	
	comp=N,32nm,19.4s,baz=300,slow=40						
YKA	**Yellowknife Ar**	**69.30**	**332**	P	**P**	**10 28 02.1**	**+1.3**
	comp=N,0.1nm,0.6s,baz=66,slow=7.0,SNR=3.0						
PDAR	**Pinedale Array**	**77.50**	**313**	P	**P**	**10 28 49.7**	**-0.1**
	comp=N,0.3nm,0.8s,baz=79,slow=4.7,SNR=2.1						

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*MAN **05** 10:18:00.6, 5°.76N×123°.86E, h562km, MS4.0*

*NEIC **05** 10:18:03.7±1.5, 5°.63N±0°.09×123°.6E±0°.1, h545km±10km, mb4.2/29, Error ellipse: s-maj=16.0km s-min=12.6km az=86.0*

*IDC **05** 10:18:04.8±1.2, 5°.59N×123°.56E, h560km±14km, mb3.4/26, mb1 3.5/28, mb1mx3.4/58, mbtmp4.4/28, Error ellipse: s-maj=17.4km s-min=7.1km az=74.0*

ISC 05 10:18:03.2±0.5**, 5°.66N**±0°.05×**123°.67E**±0°.08**, h541km**±6km**, n83, σ1s.04**/97**, mb4.1**/38**, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**1.22**	**45**	*e*P	**P**	**10 19 08.4**	**-0.8**
SKMP				*e*S	**S**	**10 20 01.4**	**-1.3**
KCP	**Kidapawan**	**1.95**	**46**⇑	*e*P	**P**	**10 19 13.3**	**+1.4**
DDMP	**Don Marcelino,**	**2.08**	**78**	*e*P	**P**	**10 19 10.8**	**-1.6**
DDMP				*e*S	**S**	**10 20 07.9**	**-0.7**
PAGZ	**Pagadian**	**2.19**	**353**	*e*P	**P**	**10 19 13.1**	**+0.1**
PAGZ				*e*S	**S**	**10 20 11.0**	**+1.3**
MATI	**Mati**	**2.87**	**63**	*e*P	**P**	**10 19 16.4**	**-0.3**
MATI				*e*S	**S**	**10 20 14.3**	**-2.2**
CNOP	**Candoni, Negro**	**4.27**	**346**	*e*P	**P**	**10 19 24.8**	**-1.7**
CNOP				*e*S	**S**	**10 20 32.6**	**-1.8**
MYLDM	**Lahad Datu**	**5.17**	**265**		**P**	**10 19 34.9**	**+0.9**
TOLI2	**Tolitoli**	**5.36**	**213**		**P**	**10 19 35.9**	**+0.2**
TNTI	**Ternate**	**6.10**	**143**	P	**P**	**10 19 43.0**	**+0.6**
LUWI	**Luwuk**	**6.71**	**188**	P	**P**	**10 19 49.0**	**+0.8**
KKM	**Kota Kinabalu**	**7.42**	**273**		**P**	**10 19 55.2**	**0.0**
SIJI	**Sorong**	**9.98**	**130**	P	**P**	**10 20 22.6**	**+1.6**
	5.1nm,0.3s,baz=335,slow=8.4,SNR=10						
SBUM	**Sibu**	**11.86**	**255**	P	**P**	**10 20 40.9**	**+0.5**
FAKI	**Fak Fak**	**12.08**	**135**	P	**P**	**10 20 43.6**	**+0.9**
KSM	**Kuching**	**13.96**	**253**	P	**P**	**10 21 02.0**	**-0.2**
BATI	**Baumata**	**15.76**	**180**	P	**P**	**10 21 20.5**	**-0.3**
	8.0nm,0.3s,baz=95,slow=1.8,SNR=6.7						
FITZ	**Fitzroy Crossi**	**23.68**	**175**	P	**P**	**10 22 32.9**	**+0.1**
	1.2nm,0.5s,baz=5.1,slow=6.9,SNR=10.0						
FITZ	**Fitzroy Crossi**	**23.68**	**175**	IAmb	IAmb	10 22 34.2	
	comp=Z,4.8nm,1.2s						
CMAR	**Chiang Mai Arr**	**27.27**	**300**	P	**P**	**10 23 04.3**	**-0.3**
	comp=Z,2.1nm,0.3s,baz=118,slow=6.2,SNR=4.9						
WB0	**Warramunga Arr**	**27.38**	**158**	P	**P**	**10 23 05.4**	**-0.2**
COEN	**Coen**	**27.47**	**135**	P	**P**	**10 23 05.6**	**-0.8**
COEN				IAmb	IAmb	10 23 10.1	
	comp=Z,9.0nm,1.4s						
WRAB	**Tennant Creek**	**27.52**	**158**	P	**P**	**10 23 06.1**	**-0.6**
WRA	**Warramunga Arr**	**27.52**	**158**	P	**P**	**10 23 06.5**	**-0.2**
	comp=Z,7.7nm,0.5s,baz=331,slow=11,SNR=155						
WRA				S	**S**	**10 27 06.0**	**-4.0**
	comp=Z,0.6nm,0.6s,baz=335,slow=16,SNR=3.7						
WRA				ScP	**ScP**	**10 28 56.0**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=342,slow=3.0,SNR=11						
WB2	**Warramunga Arr**	**27.52**	**158**	P	**P**	**10 23 06.7**	**-0.1**
WR0	**Warramunga Arr**	**27.61**	**157**	P	**P**	**10 23 07.4**	**-0.1**
WR0				IAmb	IAmb	10 23 08.0	
	comp=Z,6.5nm,1.1s						
ENH	**Enshi**	**27.89**	**333**	P	**P**	**10 23 11.1**	**+1.1**
AS31	**Alice Springs**	**30.81**	**161**	P	**P**	**10 23 34.7**	**-0.6**
ASAR	**Alice Springs**	**30.81**	**161**	P	**P**	**10 23 35.9**	**+0.6**
	comp=Z,4.4nm,0.5s,baz=340,slow=7.2,SNR=52						
ASAR				PcP	**PcP**	**10 26 15.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=345,slow=2.7,SNR=5.7						
ASAR				S	**S**	**10 27 59.0**	**-2.0**
	comp=Z,1.6nm,0.8s,baz=339,slow=14,SNR=12						
ASAR				ScP	**ScP**	**10 29 06.5**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=343,slow=3.5,SNR=8.6						
ASAR	**Alice Springs**	**30.81**	**161**	P	**P**	**10 23 35.5**	**+0.2**
XAN	**Xi'an**	**31.38**	**336**	P	**P**	**10 23 40.3**	**+0.3**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN	**Xi'an**	**31.38**	**336**	P	**P**	**10 23 39.1**	**-0.9**
XAN				IAmb	IAmb	10 23 41.2	
	comp=Z,6.2nm,0.7s						
KSRS	**Korea Array**	**31.89**	**6**	P	**P**	**10 23 45.8**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=178,slow=9.9,SNR=3.8						
MJAR	**Matsushiro Arr**	**33.51**	**21**	P	**P**	**10 23 57.7**	**-0.3**
	comp=Z,5.2nm,0.8s,baz=191,slow=9.2,SNR=8.0						
MJAR	**Matsushiro Arr**	**33.51**	**21**	IAmb	IAmb	10 24 22.8	
	comp=Z,5.6nm,1.4s						
CTAO	**Charters Tower**	**33.88**	**140**	P	**P**	**10 24 03.0**	**+1.6**
CTAO				IAmb	IAmb	10 24 03.6	
	comp=Z,5.7nm,0.9s						
MORW	**Morawa**	**35.30**	**192**	P	**P**	**10 24 12.3**	**-0.7**
JMM	**Marumori**	**35.65**	**24**	P	**P**	**10 24 16.9**	**+1.1**
FORT	**Forrest**	**36.47**	**174**	P	**P**	**10 24 23.4**	**+0.7**
USA0B	**Ussuriysk Arra**	**39.08**	**10**	P	**P**	**10 24 44.4**	**+0.6**
USA0B				IAmb	IAmb	10 24 45.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,13nm,1.2s						
USRK	Ussuriysk Ar.	39.08	10	P	P	10 24 44.9	+1.1
	comp=Z,2.4nm,0.6s,baz=187,slow=6.9,SNR=12						
USRK				PcP	PcP	10 26 40.0	0.0
	comp=Z,0.3nm,0.6s,baz=176,slow=2.9,SNR=4.2						
USRK	Ussuriysk Ar.	39.08	10	P	P	10 24 44.7	+0.9
GTA	Gaotai	39.91	331	eP	P	10 24 52.2	+1.4
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
EIDS	Eidsvold	40.76	140	P	P	10 24 58.3	+0.8
EIDS				IAmb	IAmb	10 24 59.0	
	comp=Z,9.0nm,0.9s						
STKA	Stephens Creek	41.05	157	P	P	10 25 01.0	+1.2
	comp=Z,5.9nm,0.6s,baz=334,slow=7.6,SNR=9.7						
STKA	Stephens Creek	41.05	157	P	P	10 25 00.9	+1.1
SONM	Songino Array	44.55	343	P	P	10 25 28.0	+0.9
	comp=Z,3.5nm,0.9s,baz=158,slow=9.4,SNR=16						
SONM				PcP	PcP	10 26 58.8	+0.3
	comp=Z,0.7nm,0.4s,baz=125,slow=4.7,SNR=5.4						
SONM	Songino Array	44.55	343	P	P	10 25 27.8	+0.7
MK31	Makanchi Array	54.25	326	P	P	10 26 39.1	+0.7
MK31				IAmb	IAmb	10 26 40.1	
	comp=Z,5.2nm,0.6s						
MK31					PcP	10 27 34.3	0.0
MKAR	Makanchi Array	54.25	326	P	P	10 26 39.2	+0.8
	comp=Z,5.7nm,0.4s,baz=120,slow=7.6,SNR=100						
MKAR				PcP	PcP	10 27 34.1	-0.2
	comp=Z,2.7nm,0.5s,baz=117,slow=4.1,SNR=16						
MKAR	Makanchi Array	54.25	326	P	P	10 26 39.0	+0.5
MKAR					PcP	10 27 34.0	-0.3
MAKZ	Makanchi	54.44	326	P	P	10 26 40.6	+0.9
MAKZ				IAmb	IAmb	10 26 41.3	
	comp=Z,6.8nm,0.6s						
MAKZ					PcP	10 27 34.6	-0.4
PETK	Petropavlovsk-	54.88	24	P	P	10 26 44.2	+1.5
	comp=Z,3.2nm,0.5s,baz=189,slow=3.1,SNR=13						
PETK				PcP	PcP	10 27 36.2	-0.3
	comp=Z,2.1nm,0.8s,baz=214,slow=2.4,SNR=3.2						
PETK	Petropavlovsk-	54.88	24	P	P	10 26 43.9	+1.2
ZALV	Zalesovo Beam	57.51	334	P	P	10 27 01.4	+0.6
	comp=Z,1.6nm,0.5s,baz=116,slow=6.8,SNR=7.9						
ZALV				PcP	PcP	10 27 45.3	-1.6
	comp=Z,0.7nm,0.4s,baz=97,slow=6.0,SNR=3.2						
KK31	Karatay Array	59.75	317	P	P	10 27 15.7	-0.4
KKAR	Karatay Array	59.75	317	P	P	10 27 15.9	-0.3
KKAR	Karatay Array	59.75	317	P	P	10 27 15.2	-1.0
KKAR				IAmb	IAmb	10 27 18.0	
	comp=Z,5.8nm,1.1s						
BVAR	Borovoye Array	64.06	327	P	P	10 27 44.4	+0.4
	comp=Z,0.5nm,0.4s,baz=220,slow=22,SNR=8.0						
BRVK	Borovoye	64.13	327	P	P	10 27 44.1	-0.3
BRVK				IAmb	IAmb	10 28 07.7	
	comp=Z,3.4nm,0.7s						
BKZ	Black Stump Fm	66.05	137	P	P	10 27 57.6	+0.8
BKZ				IAmb	IAmb	10 28 10.3	
	comp=Z,17nm,1.3s						
NRIK	Noril'sk	67.86	347	P	P	10 28 07.9	+0.6
	comp=Z,4.5nm,0.6s,baz=134,slow=6.8,SNR=6.6						
NRIK	Noril'sk	67.86	347	P	P	10 28 05.8	-1.5
NRIK				IAmb	IAmb	10 28 08.4	
	comp=Z,5.6nm,0.7s						
ABKAR	Akbulak array	68.74	321	P	P	10 28 12.6	-0.4
ABKAR	Akbulak array	68.74	321	P	P	10 28 12.3	-0.7
AKTO	Aktyubinsk	70.27	322	P	P	10 28 21.9	-0.3
	comp=Z,2.2nm,0.6s,baz=105,slow=9.0,SNR=11						
ARU	Arti	71.69	328	P	P	10 28 30.0	-0.3
	comp=Z,1.6nm,0.5s,baz=94,slow=2.2,SNR=7.3						
IMAR	Indian Mountai	81.84	24	P	P	10 29 25.3	-0.3
TOLK	Toolik Lake Re	83.58	22	P	P	10 29 36.3	+1.8
TOLK				IAmb	IAmb	10 29 37.2	
	comp=Z,4.6nm,0.7s						
ILAR	Eielson Array	84.69	25	P	P	10 29 39.2	-0.6
	comp=Z,0.6nm,0.5s,baz=245,slow=5.2,SNR=13						
BMAR	Burnt Mountain	85.49	23	P	P	10 29 45.3	+1.5
BRTR	Keskin Array B	86.45	309	P	P	10 29 47.8	-1.3
	comp=Z,1.1nm,0.7s,baz=112,slow=5.5,SNR=7.8						
ARCES	ARCESS Array B	87.59	340	P	P	10 29 52.6	-1.0
	comp=Z,1.0nm,0.6s,baz=79,slow=6.8,SNR=7.4						
ARCES	ARCESS Array B	87.59	340	IAmb	IAmb	10 30 06.3	
	comp=Z,8.9nm,1.1s						
SPITS	Spitsbergen Ar	88.01	349	P	P	10 29 55.1	-0.3
	comp=Z,2.7nm,0.5s,baz=151,slow=9.9,SNR=14						
AKASG	Malin Array Be	88.48	321	P	P	10 29 56.9	-1.2
	comp=Z,0.2nm,0.2s,baz=72,slow=4.0,SNR=4.3						
FINES	FINESS Array B	88.70	332	P	P	10 29 58.0	-0.9
	comp=Z,2.3nm,0.7s,baz=80,slow=4.5,SNR=10.0						
INK	Inuvik	89.49	21	P	P	10 30 02.1	-0.3
	comp=Z,1.7nm,0.9s,baz=237,slow=3.9,SNR=4.2						
INK	Inuvik	89.49	21	IAmb	IAmb	10 30 03.1	
	comp=Z,4.6nm,1.3s						
BURAR	Bucovina Array	91.54	318	P	P	10 30 12.2	-0.3
HFS	Hagfors	94.90	332	P	P	10 30 25.7	-1.7
	comp=Z,0.6nm,0.5s,baz=134,slow=4.2,SNR=6.6						
NOA	NORSAR Array B	95.71	333	P	P	10 30 29.3	-1.8
	comp=Z,0.4nm,0.6s,baz=70,slow=4.6,SNR=2.4						
RES	Resolute Bay	96.45	10	P	P	10 30 34.6	+0.5
	comp=Z,0.8nm,0.7s,baz=297,slow=8.7,SNR=4.6						
TORD	Torodi Ar. Bea	119.42	288	PKP	PKPdf	10 35 52.4	0.0
	comp=Z,0.8nm,0.6s,baz=74,slow=1.8,SNR=2.5						

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*HEL **05** 11:01:54.6±0.2, 64°.68N×30°.50E, h0km, ML1.9, Explosion*
*IDC **05** 11:01:57.7±2.6, 64°.74N×30°.06E, h0km, mb1 2.7/2, mb1mx2.7/37, mbtmp2.7/2, ML2.6/1, Error ellipse: s-maj=44.2km s-min=8.3km az=97.0*
*UPP **05** 11:02:06.4±2.4, 64°.85N×28°.72E, h0km, ML1.6, Suspected explosion*
ISC 05 11:01:54.2±1.0**, 64°.66N**±0°.03×**30°.21E**±0°.05**, h0km, n22, σ2s22**/27**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSF	Maaselka	1.35	339	PN	Pb	11 02 20.3	-0.1
	baz=150						
MSF				SN	Sn	11 02 38.5	-0.4
KU6	Riekki	1.38	355	PN	Pg	11 02 20.0	-0.7
	baz=166						
KU6				MSG		11 02 36.1	
	comp=Z,6.6nm,0.2s						
KU6				SG	Sg	11 02 37.9	-0.7
OLKF	Oulanka, Finla	1.71	349	PG	Pb	11 02 26.0	-0.3
OLKF				SN	Sg	11 02 48.6	-0.3
JOF	Joensuu	1.81	164	PG	Pb	11 02 26.8	-1.3
JOF				SG	Sg	11 02 51.6	-0.7
OBF0	Syolatti, Pyha	2.58	269	PG	Pg	11 02 43.5	-0.1
RNF	Rovaniemi	2.62	320	SG	Sg	11 03 16.6	-1.8
SUF	Sumiainen	2.65	225	MSG		11 03 16.0	
	comp=Z,4.7nm,0.2s						
SUF				SG	Sg	11 03 19.6	+0.3
TOF	Tornio	2.85	303	MSG		11 03 21.1	
	comp=Z,4.1nm,0.2s						
TOF				SG	Sg	11 03 23.8	-1.9
KAF	Kangasniemi	3.10	216	PG	Pb	11 02 49.1	-1.0
VRF	Varrio	3.12	356	PG	Pb	11 02 49.8	-0.6
FINES	FINESS Array B	3.73	212	Pn	Pn	11 02 56.0	+3.0
	baz=33,slow=12,SNR=1.8						
FINES				Pg	Pg	11 03 04.3	-1.4
	comp=Z,0.4nm,0.3s,baz=24,slow=14,SNR=6.4						
FINES				Lg	Lg	11 03 55.2	
	comp=Z,0.8nm,0.3s,baz=37,slow=29,SNR=9.0						
PAJU	Pajala	3.76	312	SG	Sg	11 03 53.8	-1.2
BURU	Burvik	3.80	273	P	Pn	11 02 57.3	+3.3
ODEU	Stanfors	4.11	271	P	Pn	11 03 00.9	+2.8
ODEU				S	Sn	11 03 43.4	-3.4
SVAU	Svanoeiden	4.59	273	P	Pn	11 03 07.9	+3.3
HUSU	Husum	5.01	260	P	Pn	11 03 13.9	+3.4
ARCES	ARCESS Array B	5.23	342	Pn	Pn	11 03 14.4	+0.9
	baz=151,slow=13,SNR=8.0						
ARCES				Sn	Sn	11 04 12.5	-2.0
	baz=156,slow=25,SNR=1.8						
ARCES				Lg	Lg	11 04 35.5	
	baz=155,slow=32,SNR=6.1						
KOVU	Salmi	5.39	316	P	Pn	11 03 19.3	+3.6
HEMU	Hemsoen	5.77	255	P	Pn	11 03 23.8	+2.9
SOLU	Sollefteaa	5.88	262	P	Pn	11 03 27.9	+5.5
IGGU	Iggoen	7.02	243	P	Pn	11 03 42.1	+4.0
I43RU	DUBNA INFRASON	8.66	153	i		11 56 30.0	
	baz=346,slow=329,SNR=1.7						

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*MOS **05** 11:20:06.5±1.0, 34°.55N×136°.91E, h335km, mb4.1/30, Error ellipse: s-maj=9.0km s-min=5.7km az=102.4*
*IDC **05** 11:20:07.4±0.6, 34°.58N×136°.95E, h327km±5km, mb3.7/28, mb1 3.8/35, mb1mx3.7/63, mbtmp4.4/35, Error ellipse: s-maj=9.8km s-min=7.7km az=77.0*
*JMA **05** 11:20:08.0±0.1, 34°.68N×136°.95E, h336km±1km, M4.0*
*NEIC **05** 11:20:08.3±2.3, 34°.63N±0°.07×137°.01E±0°.09, h334km±6km, mb4.2/99, Error ellipse: s-maj=11.2km s-min=9.9km az=123.0*
*NIED **05** 11:20:08.0, 34°.68N×136°.95E, h336km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.10; Mθθ0.28; Mφφ-1.38; Mrθ-1.07; Mθφ-0.71; Mφr-2.04; Fault plane solution: M0 2.68000×10^15 NP1: φs208.00000°, δ75.00000°, λ96.00000°. NP2: φs6.00000°, δ16.00000°, λ69.00000°.*
ISC 05 11:20:07.7±0.5**, 34°.67N**±0°.05×**136°.96E**±0°.05**, h330km**±4km**, n242, σ1s31**/243**, mb4.2**/97**, 23C-2D, Western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAA	Atsumi	0.16	106	⇑P	Pn	11 20 50.6	+1.5
JAA				eS	S	11 21 23.9	+1.6
JIE	Ise	0.35	217	⇑P	Pn	11 20 50.7	+1.2
JIE				S	S	11 21 24.0	+1.2
JAO	Obara	0.64	22	⇑P	Pn	11 20 51.3	+1.3
JAO				S	S	11 21 25.3	+1.5
HMMJ	Hamamatsu 2	0.65	74	⇑P	Pn	11 20 51.1	+1.1
HMMJ				S	S	11 21 24.7	+0.9
JEG	Eigenji	0.66	315	⇑P	Pn	11 20 51.5	+1.5
JEG				eS	S	11 21 25.0	+1.1
INU	Inuyama	0.68	4	Pn	Pn	11 20 51.2	+1.2
JKN2	Miekihoku	0.71	233	⇑P	Pn	11 20 51.4	+1.1
JKN2				S	S	11 21 24.8	+0.6
JYTA	Yamagatataniai	0.94	349	⇑P	Pn	11 20 52.2	+1.3
JYTA				eS	S	11 21 26.3	+0.8
JGF	Kuroka	0.98	19		Pn	11 20 52.2	+1.1
TK02	Tokai 2	0.98	138	⇓P	Pn	11 20 52.6	+1.7
JNY	Yasuok	1.01	47	⇑P	Pn	11 20 52.3	+1.0
JNY				eS	S	11 21 27.4	+1.2
JSG	Sagara	1.01	90		Pn	11 20 52.8	+1.5
JWY	Kouya	1.22	248	⇑P	Pn	11 20 53.6	+1.2
JWY				eS	S	11 21 28.7	+0.6
JTNC	Tanabenakahech	1.41	233	⇑P	Pn	11 20 54.4	+1.1
JTNC				S	S	11 21 30.7	+0.9
JWT	Wachi	1.42	296	⇑P	Pn	11 20 54.5	+1.2
JWT				S	S	11 21 29.2	-0.5
JWT	Wachi	1.42	296	Pn	Pn	11 20 54.5	+1.2
JFNN	Fujinakano	1.51	69	P	Pn	11 20 54.8	+1.0
JYN	Shimob	1.54	57	P	Pn	11 20 55.0	+1.0
MAJO	Matsushiro	2.12	28	P	Pn	11 20 59.0	+1.0
MAJO	Matsushiro	2.12	28	Pn	Pn	11 20 59.0	+1.0
MAT	Matsushiro	2.12	28	P	Pn	11 20 58.9	+0.9
MAT				S	S	11 21 38.4	+0.1
MJAR	Matsushiro Arr	2.12	28	P	Pn	11 20 59.0	+1.0
	3.2nm,0.3s,baz=211,slow=8.7,SNR=132						
MJAR				S	S	11 21 38.7	+0.4
	1.1nm,0.3s,baz=107,slow=16,SNR=14						
MJAR	Matsushiro Arr	2.12	28		Pn	11 20 58.8	+0.8
MJB9	Matsu-Tunnel	2.12	28		Pn	11 20 59.1	+1.1
JMN	Monobe	2.72	251	Pn	Pn	11 21 04.0	+0.9
JHJ	Hachijo jima 2	2.81	123	P	Pn	11 21 04.2	+0.4
	35nm,0.3s,baz=336,slow=22,SNR=11						
JHJ				S	S	11 21 52.3	+3.4
	18nm,0.3s,baz=78,slow=20,SNR=1.6						
JHJ2	Mitsune	2.84	122	Pn	Pn	11 21 04.4	+0.3
JYT	Yasato	3.06	59	Pn	Pn	11 21 05.2	-0.8
JHS	Saijyo	3.18	277	Pn	Pn	11 21 08.3	+1.1
JSD	Sado	3.52	17	Pn	Pn	11 21 11.3	+0.9
JMM	Marumori	4.44	43		Pn	11 21 19.8	-0.3
JNU	Nakatsue	5.29	255	P	Pn	11 21 30.6	+0.9
	1.7nm,0.3s,baz=66,slow=2.3,SNR=16						
JNU	Nakatsue	5.29	255	Pn	Pn	11 21 30.7	+1.0
JSU	Suzuyama	6.31	242	Pn	Pn	11 21 41.4	-0.1
JTM	Tenmabayashi	6.92	27		Pn	11 21 48.0	-0.4
KSRS	Korea Array	7.83	293	P	Pn	11 22 01.1	+1.7
	1.5nm,0.3s,baz=107,slow=12,SNR=58						
KSAR	Wonju Array Be	7.85	293	P	Pn	11 21 59.9	+0.2
KSAR	Wonju Array Be	7.85	293		Pn	11 21 59.9	+0.2
KS19	Wonju Array Si	7.88	294		Pn	11 22 00.4	+0.4
TJN	Taejon	8.01	285	ceP	Pn	11 22 01.1	-0.5
JCJ	Chichijima	8.79	148	P	Pn	11 22 07.2	-3.9
	5.4nm,0.3s,baz=6.4,slow=20,SNR=7.9						
JCJ				S	S	11 23 39.4	-12
	25nm,0.3s,baz=282,slow=22,SNR=14						
ERM	Erimo	8.79	32	i P	Pn	11 22 10.2	-0.7
ERM	Erimo	8.79	32	Pn	Pn	11 22 11.4	+0.5
JEW	Eniwo	8.87	22	Pn	Pn	11 22 12.0	+0.1
USA0B	Ussuriysk Arra	10.26	340	P	Pn	11 22 28.7	+0.1
USA0B	Ussuriysk Arra	10.26	340	Pn	Pn	11 22 28.7	+0.1
USRK	Ussuriysk Ar.	10.26	340	P	Pn	11 22 29.9	+1.3
	baz=148,slow=11,SNR=35						
USRK	Ussuriysk Ar.	10.26	340		Pn	11 22 29.4	+0.8
ASAJ	Asahikawa	10.38	23	P	Pn	11 22 30.1	0.0
	2.1nm,0.3s,baz=223,slow=15,SNR=9.3						
ASAJ				S	S	11 24 20.4	-6.6
	1.0nm,0.3s,baz=66,slow=20,SNR=1.9						
JKA	Kamikawa-asahi	10.39	23	P	Pn	11 22 30.1	0.0
NMR	Nemuro--Hokkai	11.03	36	⇓iP	P	11 22 40.2	+1.0
NMR				i S	S	11 24 32.9	-8.6
GLVR	Golovnino	11.22	34	eP	P	11 22 42.6	+1.3
GLVR				eS	S	11 24 38.9	-6.7
GLVR				pmax	pmax		
	comp=Z,2μm,1.9s						
GLVR				pmax	pmax		
	comp=Z,69nm,0.5s						
GLVR				pmax	pmax		
	comp=E,157nm,0.6s						
GLVR				pmax	pmax		
	comp=N,107nm,0.5s						
GRPR	Tuman	11.53	34	eP	P	11 22 47.2	+2.4
GRPR				eS	S	11 24 45.9	-6.8
GRPR				pmax	pmax		
	comp=E,16nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,30nm,0.1s						
GRPR				pmax	pmax		
	comp=N,29nm,0.2s						
CN2	Changchun	12.74	319	eP	Pn	11 22 58.7	+0.3
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
DL2	Dalian	12.99	293	P	Pn	11 23 01.3	-0.1
DL2				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS	Yuzh-Sakhalins	13.02	18	⇑eP	P	11 23 02.1	+0.9
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	Yuzh-Sakhalins	13.02	18	P	Pn	11 23 02.5	+0.9
KLR	Kul'dur	15.05	347	P	P	11 23 23.2	-0.3
	comp=Z,1.4nm,0.3s,baz=159,slow=12,SNR=32						
KLR	Kul'dur	15.05	347	ceP	P	11 23 22.2	-1.3
BJT	Baijiatuau	17.36	294	P	P	11 23 48.3	-0.4
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	Baijiatuau	17.36	294	P	P	11 23 48.3	-0.4
BJT				IAmb	IAmb	11 23 48.8	
	comp=Z,9.9nm,0.6s						
SSLB	Suanglung	17.66	236	P	P	11 23 49.3	-2.9
SSLB				IAmb	IAmb	11 24 11.2	
	comp=Z,16nm,1.0s						
TPUB	Ta-pu	18.21	236	P	P	11 23 55.4	-2.6
HIA	Hailar	19.34	324	P	P	11 24 08.7	-1.0
HIA				pmax	pmax		
	comp=Z,18nm,0.8s						
HIA	Hailar	19.34	324	P	P	11 24 08.7	-1.0
WHN	Wuhan	19.48	264	⇑P	P	11 24 11.0	-0.4
WHN				pmax	pmax		
	comp=Z,46nm,0.8s						
ZEA	Zeya	20.25	343	eP	P	11 24 18.7	-0.4
ZEA				pmax	pmax		
	comp=N,10.0nm,0.3s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	Hu-ho-hao-te	20.97	295	eP	P	11 24 26.7	+0.7
HHC				pmax	pmax		
	comp=Z,35nm,1.0s						
HHC				pmax	pmax		
	comp=Z,60nm,5.2s						
XAN	Xi'an	23.13	276	P	P	11 24 45.2	-0.4
XAN				pmax	pmax		
	comp=Z,19nm,0.8s						
XAN	Xi'an	23.13	276	P	P	11 24 45.3	-0.4
XAN				pmax	pmax		
	comp=Z,21nm,0.9s						
XAN	Xi'an	23.13	276	P	P	11 24 45.3	-0.4
ENH	Enshi	23.56	267	P	P	11 24 48.9	-0.7
PETK	Petropavlovsk-	23.58	32	P	P	11 24 50.2	+0.8
	comp=Z,3.8nm,0.8s,baz=220,slow=3.6,SNR=6.6						
PETK	Petropavlovsk-	23.58	32	P	P	11 24 50.4	+1.0
PETK	Petropavlovsk-	23.58	32	P	P	11 24 50.4	+1.0
ULN	Ulaanbaatar	25.88	310	P	P	11 25 10.4	+0.1
ULN				pmax	pmax		
	comp=Z,16nm,0.8s						
ULN	Ulaanbaatar	25.88	310	P	P	11 25 10.4	+0.1
SONM	Songino Array	26.28	309	P	P	11 25 15.4	+1.5
	comp=Z,10nm,0.7s,baz=110,slow=8.7,SNR=73						
SONM	Songino Array	26.28	309	P	P	11 25 15.3	+1.5
SONM				IAmb	IAmb	11 25 16.4	
	comp=Z,9.0nm,0.9s						
LZH	Lanzhou	26.97	283	eP	P	11 25 19.9	-0.3
LZH				pP	pP	11 26 22.0	+0.4
LZH				sP	sP	11 27 04.9	+4.2
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
ZAK	Zakamensk	29.06	313	eP	P	11 25 38.5	+0.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TLY	Talaya	29.31	316	P	P	11 25 40.4	0.0
	comp=Z,7.6nm,0.7s,baz=151,slow=2.2,SNR=10						
TLY	Talaya	29.31	316	P	P	11 25 41.2	+0.8
TLY				IAmb	IAmb	11 25 44.0	
	comp=Z,9.2nm,0.8s						
GTA	Gaotai	29.88	290	eP	P	11 25 45.8	0.0
GTA				pP	pP	11 26 46.3	-1.8
GTA				sP	sP	11 27 29.8	+3.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	Tiksi	37.29	356	P	P	11 26 48.9	+0.4
	comp=Z,1.3nm,0.3s,baz=139,slow=8.1,SNR=6.0						
TIXI	Tiksi	37.29	356	IAmb	IAmb	11 26 54.4	
	comp=Z,2.8nm,1.0s						
WMQ	Urumqi	38.74	299	eP	P	11 27 02.6	+1.6
ZAA0	Zalesovo Array	40.91	315	P	P	11 27 18.0	-0.5
ZALV	Zalesovo Beam	40.91	315	P	P	11 27 18.7	+0.3
	comp=Z,4.0nm,0.4s,baz=112,slow=8.0,SNR=13						
ZALV	Zalesovo Beam	40.91	315	i P	P	11 27 20.8	+2.3
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZALV	Zalesovo Beam	40.91	315	P	P	11 27 18.4	0.0
MK31	Makanchi Array	42.36	304	i P	P	11 27 30.9	+0.6
MK31				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MK31	Makanchi Array	42.36	304	P	P	11 27 30.9	+0.6
MKAR	Makanchi Array	42.36	304	P	P	11 27 31.0	+0.7
	comp=Z,9.5nm,0.7s,baz=86,slow=10,SNR=104						
MKAR				ScP	ScP	11 32 34.5	-0.9
	comp=Z,0.5nm,0.6s,baz=88,slow=4.8,SNR=6.4						
MKAR	Makanchi Array	42.36	304	P	P	11 27 30.9	+0.7
TAPN	Taplejung	42.50	274	eP	P	11 27 31.3	-0.7
	comp=Z,5.4nm,0.4s						
MAKZ	Makanchi	42.57	304	P	P	11 27 32.5	+0.5
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAKZ	Makanchi	42.57	304	P	P	11 27 32.5	+0.5
ODAN	Odare	42.95	274	eP	P	11 27 35.3	-0.2
	comp=Z,8.2nm,0.3s						
RAMN	Ramite	43.56	274	eP	P	11 27 39.9	-0.5
	comp=Z,26nm,0.7s						
GUN	Gumba	43.79	276	eP	P	11 27 42.2	-0.1
	comp=Z,21nm,0.6s						
NRIK	Noril'sk	43.96	337	P	P	11 27 43.7	+1.1
	comp=Z,2.4nm,0.4s,baz=105,slow=13,SNR=4.4						
NRIK	Noril'sk	43.96	337	ceP	P	11 27 43.3	+0.7
NRIK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
NRIK	Noril'sk	43.96	337	P	P	11 27 43.7	+1.1
PKI	Pulchoki	44.30	275	eP	P	11 27 45.7	-0.6
	comp=Z,20nm,0.8s						
PKIN	Phulchoki	44.31	276	eP	P	11 27 45.6	-0.7
	comp=Z,14nm,0.6s						
KKN	Kakani	44.33	276	eP	P	11 27 46.0	-0.4
	comp=Z,35nm,0.7s						
DMN	Daman	44.54	276	eP	P	11 27 47.4	-0.7
	comp=Z,16nm,0.8s						
GKN	Gorkha	44.77	276	eP	P	11 27 49.4	-0.4
	comp=Z,30nm,0.7s						
AAK	Ala-Archa	48.45	299	ceP	P	11 28 18.3	+0.5
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
COEN	Coen	48.72	172	P	P	11 28 19.3	-0.7
BVAR	Borovoye Array	49.51	313	P	P	11 28 25.6	+0.1
	comp=Z,0.9nm,0.3s,baz=199,slow=14,SNR=14						
BRVK	Borovoye	49.57	313	ceP	P	11 28 26.0	+0.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	Borovoye	49.57	313	P	P	11 28 26.5	+0.5
KK31	Karatay Array	51.19	300	P	P	11 28 38.5	+0.3
KK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KK31	Karatay Array	51.19	300	P	P	11 28 38.5	+0.3
KKAR	Karatay Array	51.19	300	P	P	11 28 37.5	-0.6
KKAR	Karatay Array	51.19	300	P	P	11 28 37.5	-0.6
KKAR	Karatay Array	51.19	300	IAmb	IAmb	11 28 39.4	
	comp=Z,5.3nm,0.8s						
CNPM	China Poot	51.80	38	P	P	11 28 41.7	-0.6
CNPM				IAmb	IAmb	11 29 09.5	
	comp=Z,22nm,1.3s						
SUA	Susitna One	51.89	36	P	P	11 28 44.2	+1.1
SUA				IAmb	IAmb	11 28 46.1	
	comp=Z,7.0nm,0.8s						
COLD	Coldfoot	51.95	28	P	P	11 28 44.5	+1.2
BRLK	Bradley Lake	51.95	38	P	P	11 28 44.0	+0.5
BRLK				IAmb	IAmb	11 29 08.1	
	comp=Z,13nm,1.3s						
I23K	Minto, Yukon-K	52.33	31	P	P	11 28 47.9	+1.9
RND	Reindeer	52.64	33	IAmb	IAmb	11 28 50.2	
	comp=Z,6.7nm,0.6s						
SEW	Seward	52.64	37	P	P	11 28 49.3	+0.9
SEW				IAmb	IAmb	11 28 54.1	
	comp=Z,14nm,1.2s						
PMR	Palmer	52.66	35	P	P	11 28 48.9	+0.4
PMR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PMR	Palmer	52.66	35	P	P	11 28 48.9	+0.4
GHO	Glory Hole Cre	52.74	35	P	P	11 28 50.3	+1.1
GHO				IAmb	IAmb	11 28 51.2	
	comp=Z,6.4nm,0.7s						
MDM	Murphy Dome	52.81	31	P	P	11 28 51.7	+2.0
MDM				IAmb	IAmb	11 28 52.4	
	comp=Z,8.2nm,0.8s						
WRH	Wood River Hil	52.91	32	P	P	11 28 51.6	+1.3
KNK	Knik Glacier	52.99	35	P	P	11 28 51.6	+0.6
KNK				IAmb	IAmb	11 28 52.6	
	comp=Z,5.7nm,0.6s						
SML	Sawmill	53.01	35	P	P	11 28 51.9	+0.7
SML				IAmb	IAmb	11 28 52.1	
	comp=Z,20nm,1.5s						
CCB	Clear Creek Bu	53.02	31	P	P	11 28 51.9	+0.8
POKR	Poker Plat Res	53.14	31	P	P	11 28 53.6	+1.6
POKR				IAmb	IAmb	11 28 54.9	
	comp=Z,5.8nm,0.6s						
ILAR	Eielson Array	53.40	31	P	P	11 28 54.5	+0.6
	comp=Z,1.4nm,0.5s,baz=262,slow=5.1,SNR=25						
SCM	Sheep Creek Mo	53.48	35	P	P	11 28 55.2	+0.6
SCM				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SCM	Sheep Creek Mo	53.48	35	P	P	11 28 55.2	+0.6
SCM				IAmb	IAmb	11 28 56.8	
	comp=Z,5.5nm,0.6s						
FITZ	Fitzroy Crossi	53.57	193	P	P	11 28 54.8	-0.8
	comp=Z,4.9nm,0.7s,baz=14,slow=7.3,SNR=13						
GLI	Glacier Island	53.71	36	P	P	11 28 56.7	+0.5
FID	Port Fidalgo	54.03	36	P	P	11 28 59.8	+1.3
FID				IAmb	IAmb	11 29 20.6	
	comp=Z,17nm,1.3s						
BMAR	Burnt Mountain	54.12	28	P	P	11 29 01.5	+2.4
KLU	Klutina	54.19	35	P	P	11 29 00.8	+1.1
WB0	Warramunga Arr	54.19	183	IAmb	IAmb	11 28 59.5	
	comp=Z,7.8nm,0.8s						
WRAB	Tennant Creek	54.36	183	ceP	P	11 28 58.6	-2.7
WRAB				pmax	pmax		
	comp=Z,18nm,2.5s						
WRAB	Tennant Creek	54.36	183	P	P	11 28 59.8	-1.4
WRAB				IAmb	IAmb	11 29 01.9	
	comp=Z,7.0nm,0.7s						
WB2	Warramunga Arr	54.37	183	P	P	11 29 00.2	-1.1
WB2				IAmb	IAmb	11 29 00.5	
	comp=Z,8.7nm,0.6s						
WRA	Warramunga Arr	54.37	183	P	P	11 29 00.1	-1.2
	comp=Z,7.6nm,0.5s,baz=357,slow=7.7,SNR=201						
WRA				PcP	PcP	11 30 00.4	-0.1
	comp=Z,0.8nm,0.5s,baz=358,slow=4.3,SNR=3.0						

EYAK	Cordova Ski Ar	54.41	36	P	P	11 29 02.8	+1.6
EYAK				IAmb	IAmb	11 29 06.8	
	comp=Z,13nm,1.2s						
DOT	Dot Lake	54.75	32	P	P	11 29 04.4	+0.8
RAGM	Ragged Mountai	54.96	36	P	P	11 29 07.5	+2.3
CTA	Charters Tower	55.17	169	P	P	11 29 06.6	-0.4
CTAO	Charters Tower	55.17	169	P	P	11 29 06.6	-0.4
MCARA	McCarthy VSAT	55.59	35	P	P	11 29 11.1	+1.6
MCARA				IAmb	IAmb	11 29 18.3	
	comp=Z,11nm,1.0s						
CRQM	Cirque	55.65	36	P	P	11 29 11.7	+1.5
CRQM				IAmb	IAmb	11 29 17.9	
	comp=Z,16nm,1.2s						
ARU	Arti	55.74	319	P	P	11 29 10.3	-0.4
	comp=Z,0.7nm,0.3s,baz=22,slow=1.7,SNR=3.9						
ARU	Arti	55.74	319c	*i*P	P	11 29 09.7	-0.9
ARU				S	S	11 36 30.6	-0.1
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARU	Arti	55.74	319	IAmb	IAmb	11 29 23.7	
	comp=Z,4.7nm,0.7s						
TGL	Tana Glacier	55.79	36	P	P	11 29 12.6	+1.5
TGL				IAmb	IAmb	11 29 19.5	
	comp=Z,12nm,1.1s						
BCAR	Beaver Creek A	55.86	33	P	P	11 29 12.6	+1.2
CTGM	Chitina Glacie	56.47	35	P	P	11 29 17.2	+1.3
CTGM				IAmb	IAmb	11 29 30.8	
	comp=Z,12nm,1.3s						
ABKAR	Akbulak array	56.69	310	P	P	11 29 17.3	-0.2
ABKAR	Akbulak array	56.69	310	P	P	11 29 17.8	+0.3
ABKAR				IAmb	IAmb	11 29 18.0	
	comp=Z,8.6nm,0.5s						
AKTO	Aktyubinsk	57.56	312	P	P	11 29 23.5	0.0
	comp=Z,7.8nm,0.7s,baz=74,slow=13,SNR=27						
AKTO	Aktyubinsk	57.56	312	*i* P	P	11 29 25.6	+2.1
AKTO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ASAR	Alice Springs	58.09	183	P	P	11 29 26.2	-1.2
	comp=Z,2.1nm,0.3s,baz=357,slow=5.7,SNR=108						
ASAR	Alice Springs	58.09	183	P	P	11 29 26.6	-0.8
ASAR	Alice Springs	58.09	183	P	P	11 29 26.6	-0.8
INK	Inuvik	58.11	26	P	P	11 29 27.9	+1.0
INK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
INK	Inuvik	58.11	26	P	P	11 29 27.9	+1.0
C36M	Paulatuk	61.06	24	P	P	11 29 47.0	+0.1
C36M				IAmb	IAmb	11 29 48.8	
	comp=Z,6.1nm,0.7s						
DZM	Mont Dzumac	63.00	149	P	P	11 29 59.0	-1.5
	comp=Z,3.0nm,0.6s,baz=45,slow=7.1,SNR=3.3						
DZM	Mont Dzumac	63.00	149	P	P	11 29 58.9	-1.5
BELG	Belogornoye	63.04	317	*i* P	P	11 29 58.8	-1.4
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	ARCESS Array B	64.91	339	P	P	11 30 12.9	+0.9
	comp=Z,1.8nm,0.5s,baz=61,slow=8.5,SNR=14						
ARCES	ARCESS Array B	64.91	339	IAmb	IAmb	11 30 38.0	
	comp=Z,10nm,1.2s						
FORT	Forrest	65.64	188	P	P	11 30 16.6	-0.6
RES	Resolute Bay	65.75	13	P	P	11 30 18.0	+0.8
	comp=Z,1.5nm,0.4s,baz=292,slow=5.5,SNR=13						
RES	Resolute Bay	65.75	13	P	P	11 30 18.2	+0.9
RES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
JOF	Joensuu	66.31	331	P	P	11 30 21.3	+0.3
JOF				pmax	pmax		
	comp=Z,8.0nm,1.5s						
STKA	Stephens Creek	66.34	176	P	P	11 30 21.2	-0.3
	comp=Z,4.6nm,0.8s,baz=143,slow=21,SNR=5.0						
BBOO	Buckleboo	67.14	181	P	P	11 30 26.0	-0.5
YKA	Yellowknife Ar	67.63	28	P	P	11 30 29.6	+0.4
	comp=Z,1.0nm,0.6s,baz=298,slow=5.6,SNR=17						
YKA	Yellowknife Ar	67.63	28c	*e*P	P	11 30 30.0	+0.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
OBN	Obninsk	67.78	322	*e*P	P	11 30 28.4	-1.9
OBN				*e*		11 30 54.3	
OBN				*i* PPP	PPP	11 34 48.8	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	69.18	331	P	P	11 30 39.0	+0.3
	comp=Z,2.3nm,0.5s,baz=65,slow=6.1,SNR=20						
FINES	FINESS Array B	69.18	331	*i* P	P	11 30 38.7	-0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	69.18	331	P	P	11 30 38.5	-0.2
KBZ	Khabaz	69.65	310	P	P	11 30 42.5	+0.6
	comp=Z,8.1nm,0.8s,baz=351,slow=1.7,SNR=11						
KBZ	Khabaz	69.65	310c	*e*P	P	11 30 42.4	+0.4
KBZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KIV	Kislovodsk	69.67	310	*i* P	P	11 30 42.5	+0.2
KIV				pmax	pmax		
	comp=Z,11nm,1.2s						
NLWA	Neilton Lookou	70.96	45	P	P	11 30 51.9	+2.1
NLWA				IAmb	IAmb	11 30 53.0	
	comp=Z,12nm,1.4s						
AKASG	Malin Array Be	73.89	321	P	P	11 31 06.8	-0.1
	comp=Z,1.9nm,0.5s,baz=50,slow=6.3,SNR=8.6						
AKASG	Malin Array Be	73.89	321c	*e*P	P	11 31 06.5	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PINE	Pine Mountain	74.61	47	P	P	11 31 13.1	+1.7
NC405	NORSAR Array S	74.69	336	P	P	11 31 11.8	+0.5
NC204	NORSAR Array S	74.89	336	P	P	11 31 12.9	+0.4
NB2	NORSAR Subarra	74.91	336	P	P	11 31 12.4	-0.2
	comp=Z,0.6nm,0.4s,baz=44,slow=5.9						
NOA	NORSAR Array B	74.91	336	P	P	11 31 12.5	-0.1
	comp=Z,0.7nm,0.5s,baz=56,slow=7.4,SNR=3.9						
K05A	Summer Lake	75.22	48	P	P	11 31 16.7	+1.7
K05A				IAmb	IAmb	11 31 17.7	
	comp=Z,6.4nm,1.0s						
BMO	Blue Mountains	76.17	45	IAmb	IAmb	11 31 22.3	
	comp=Z,3.4nm,0.8s						
JTMT	Jette	76.17	41	P	P	11 31 21.4	+1.4
J08A	Circle Bar Ran	76.33	47	IAmb	IAmb	11 31 23.6	
	comp=Z,8.2nm,1.1s						
BEKR	Beckworth	77.15	50	P	P	11 31 26.4	+0.7
BEKR				IAmb	IAmb	11 31 27.7	
	comp=Z,3.6nm,0.7s						
PNTR	Pine Nut	78.08	51	P	P	11 31 32.2	+1.3
PNTR				IAmb	IAmb	11 31 33.6	
	comp=Z,3.4nm,0.5s						
CMB	Columbia Colle	78.17	52	IAmb	IAmb	11 31 32.7	
	comp=Z,3.1nm,0.6s						
WAKR	Walker	78.52	51	P	P	11 31 34.9	+1.6
WAKR				IAmb	IAmb	11 31 35.1	
	comp=Z,2.8nm,0.5s						
DLMT	Dillon	78.54	42	IAmb	IAmb	11 31 35.4	
	comp=Z,4.9nm,0.8s						
HLID	Hailey	78.61	45	P	P	11 31 35.2	+1.6
BOZ	Bozeman (W)	78.93	42	IAmb	IAmb	11 31 37.5	
	comp=Z,3.2nm,0.8s						
KVN	Kaiserville	79.05	50	P	P	11 31 37.5	+1.3
KVN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KVN	Kaiserville	79.05	50	P	P	11 31 37.5	+1.3
KVN				IAmb	IAmb	11 31 38.3	
	comp=Z,3.9nm,0.7s						
LHV	Little Huntoon	79.26	51	IAmb	IAmb	11 31 39.8	
	comp=Z,2.4nm,0.8s						
NVAR	Mina Array Bea	79.29	51	P	P	11 31 39.0	+1.5
	comp=Z,2.0nm,0.7s,baz=301,slow=5.4,SNR=21						
NVAR	Mina Array Bea	79.29	51	P	P	11 31 38.6	+1.1
HVU	Hansel Valley	80.65	45	P	P	11 31 46.3	+1.7
HVU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HVU	Hansel Valley	80.65	45	P	P	11 31 46.3	+1.7
HVU				IAmb	IAmb	11 31 47.1	
	comp=Z,4.3nm,0.7s						
R11A	Troy Canyon, C	81.05	49	P	P	11 31 48.1	+1.3
TPNV	Topopah Spring	81.47	51	P	P	11 31 50.0	+1.0
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TPNV	Topopah Spring	81.47	51	P	P	11 31 50.0	+1.0
BW06	Boulder Array	81.88	43	P	P	11 31 50.1	-0.9
BW06				IAmb	IAmb	11 31 53.1	
	comp=Z,2.6nm,0.8s						
PDAR	Pinedale Array	81.88	43	P	P	11 31 52.3	+1.3
	comp=Z,2.1nm,0.7s,baz=284,slow=2.3,SNR=22						
PDAR	Pinedale Array	81.88	43	P	P	11 31 51.6	+0.6
MPU	Maple Canyon	82.43	46	P	P	11 31 54.0	+0.1
MPU				IAmb	IAmb	11 31 55.8	
	comp=Z,2.7nm,0.7s						
SHPR	Sheep Range	82.44	51	IAmb	IAmb	11 31 56.3	
	comp=Z,2.8nm,1.0s						
KHC	Kasperske Hory	82.58	326	*e*P	P	11 31 55.0	+0.7
KHC	Kasperske Hory	82.58	326	*e*P	P	11 31 55.0	+0.7
GERES	GERESS Array B	82.73	326	P	P	11 31 55.4	+0.3
	comp=Z,1.3nm,0.6s,baz=38,slow=6.8,SNR=6.0						
GERES	GERESS Array B	82.73	326	P	P	11 31 54.6	-0.5
MTPU	Mount Pierson	83.35	48	IAmb	IAmb	11 32 01.7	
	comp=Z,3.3nm,0.8s						
ULM	Lac du Bonnet	83.42	31	P	P	11 31 59.1	+0.7
	comp=Z,1.4nm,0.8s,baz=300,slow=4.6,SNR=4.1						
SRU	San Rafael Swe	83.67	46	P	P	11 32 00.7	+0.5
SRU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SRU	San Rafael Swe	83.67	46	P	P	11 32 00.7	+0.5
SRU				IAmb	IAmb	11 32 02.2	
	comp=Z,5.4nm,0.8s						
U15A	North Rim	84.30	49	IAmb	IAmb	11 32 06.9	
	comp=Z,3.0nm,1.1s						
O20A	White River Ci	84.34	44	IAmb	IAmb	11 32 05.3	
	comp=Z,5.2nm,0.9s						
PV14	Lion Creek, Pa	85.04	46	P	P	11 32 08.2	+1.1
PV22	Blue Mesa, Par	85.07	46	IAmb	IAmb	11 32 09.6	
	comp=Z,5.0nm,1.0s						
PV03	Paradox Valley	85.22	46	IAmb	IAmb	11 32 10.4	
	comp=Z,2.9nm,0.8s						
SMCO	Snowmass	85.71	44	IAmb	IAmb	11 32 12.7	
	comp=Z,3.7nm,0.9s						
TXAR	Lajitas Array	94.41	50	P	P	11 32 51.3	+0.3
	comp=Z,1.0nm,0.6s,baz=286,slow=2.8,SNR=6.2						
LPAZ	La Paz	151.01	57	PKPbc	PKiKP	11 39 23.7	+0.2
	comp=Z,2.1nm,0.7s,baz=24,slow=8.4,SNR=8.3						
PLCA	Paso Flores	157.46	114	PKPab	PKPab	11 39 58.3	+0.1
	comp=Z,0.9nm,0.7s,baz=260,slow=6.1,SNR=3.2						

*TEH **05** 11:25:18.9, 28°.27N×57°.21E, h10km, ML3.1*
*THR **05** 11:25:20.7±0.3, 28°.10N×57°.27E, h14km±6km, ML3.1*
ISC 05 11:25:20.2±1.1**, 28°.11N**±0°.05×**57°.24E**±0°.06**, h10**km**, n10,** σ**1s.38**/12**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.44	111	*e*Pg	Pb	11 25 30.1	0.0
GENO	Geno	1.18	234	*e*Pg	Pb	11 25 43.1	+0.2
GENO				*e*		11 25 44.0	
	comp=Z,99nm,0.2s						
BNDS	Bandar-Abbas	1.18	234	*e*Pg	Pb	11 25 43.1	+0.2
BNDS				*e*Sg	Sn	11 25 59.4	+0.2
BNDS				IAML		11 26 01.5	
	comp=N,355nm,0.4s						
KBAM	BAM	1.48	46	*e*Pg	Pn	11 25 44.9	-2.1
KBAM				*e*		11 25 51.8	
	comp=Z,99nm,0.3s						
NGRK	Negar Kerman	1.60	344	*e*Pg	Pn	11 25 46.4	-2.5
NGRK				*e*		11 26 16.0	
	comp=Z,99nm,0.2s						
CHMN	Cheshme madani	1.77	8	*e*Pg	Pn	11 25 50.5	-0.7
KRBR	Kerman	1.92	347	*e*Pn	Pb	11 25 55.4	-0.1
KRBR				*e*Sg	Sg	11 26 21.8	-0.1
TVBK	TV Kerman	1.92	347	*e*Pn	Pn	11 25 52.3	-1.0
TVBK				*e*		11 26 25.4	
	comp=Z,99nm,0.2s						
KHGB	Koh Gabri	2.36	344	*e*	Pg	11 26 06.5	+1.0
	comp=Z,99nm,0.3s						
BSRN	Basiran	4.18	23	*e*Pn	Pn	11 26 26.1	+2.0

KRSC 05 11:47:44.8±1.4**, 48°.33N**×**155°.71E, h49**km±29km**, ML4.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.37	6	*e*P	Pn	11 48 23.8	+2.6
SKR				S	Sn	11 48 51.5	+2.5
ALID	Alaid	2.55	358	*e*P	Pn	11 48 25.1	+1.4
PAU	Pauzhetka	3.22	12	S	Sn	11 49 14.7	+4.8
KDTR	Khodutka, Kamc	3.80	23	S	Sn	11 49 28.8	+4.6
ASAK	Asacha	4.29	18	*e*P	Pn	11 48 52.0	+4.4
MTVR	Mutnovka	4.45	20	*e*P	Pn	11 48 53.6	+3.8
RUS	Russkaya	4.49	23	P	Pn	11 48 53.2	+3.1
GRL	Gorelyy	4.49	19	*e*P	Pn	11 48 54.6	+4.3
UGLR	Uglovaya	5.27	21	P	Pn	11 49 05.4	+4.4
KOK	Koryaka	5.30	19	P	Pn	11 49 06.4	+4.9
SDLR	Sedlovina	5.35	21	P	Pn	11 49 06.2	+4.1

*NNC **05** 11:52:24.7±1.0, 50°.28N×79°.35E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=31.5km s-min=2.9km az=41.0, Suspected Mining explosion.*
*IDC **05** 11:52:25.7±1.0, 50°.10N×78°.75E, h0km, mb1 2.6/2, mb1mx2.6/49, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=14.4km s-min=6.0km az=65.0*
ISC 05 11:52:22.7±4.4**, 49°.97N**±0°.06×**78°.1E**±0°.4**, h0**km**, n7,** σ**0s.73**/10**, 3C-4D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.71	23	Pg	Pg	11 52 35.7	-0.6
	0.8nm,0.3s,baz=164,slow=18,SNR=69						
KURBB				Lg	Lg	11 52 44.7	
	0.9nm,0.3s,baz=164,slow=31,SNR=18						
KURBB	Kurchatov Arra	0.71	23	⇑P	Pg	11 52 36.9	+0.6
	10nm,0.3s						
KURBB				⇓S	Sg	11 52 45.8	+0.3
	16nm,0.4s						
MAKZ	Makanchi	4.08	139	⇑Pg	Pb	11 53 35.5	+0.1
	0.8nm,0.7s						
MAKZ				⇓Lg	Lg	11 54 25.4	
	1.2nm,0.5s						
MK31	Makanchi Array	4.23	137	⇓Pn	Pn	11 53 28.2	-0.2
	0.2nm,0.3s,baz=319,slow=9.6,SNR=18						
MK31				⇑Pg	Pb	11 53 37.7	-0.2
	0.4nm,0.3s,baz=331,slow=14,SNR=19						
MK31				⇓Lg	Lg	11 54 31.9	
	1.1nm,0.5s,baz=331,slow=23,SNR=8.2						
MKAR	Makanchi Array	4.23	137	Pn	Pn	11 53 29.2	+0.8
	0.2nm,0.3s,baz=321,slow=10,SNR=18						
MKAR				Pg	Pb	11 53 36.5	-1.4
	0.7nm,0.3s,baz=323,slow=14,SNR=20						
MKAR				Sn	Sn	11 54 18.9	+0.4
	0.3nm,0.3s,baz=328,slow=16,SNR=4.5						
MKAR				Lg	Lg	11 54 32.0	
	0.8nm,0.3s,baz=329,slow=30,SNR=5.5						
I46RU	ZALESOVO INFRA	5.75	44	*i*		12 25 40.0	
	baz=222,slow=330,SNR=1.6						
ZALV	Zalesovo Beam	5.75	44	Pn	Pn	11 53 49.2	0.0
	0.3nm,0.3s,baz=231,slow=14,SNR=5.3						

ISC 05 12:01:33.3±1.4**, 48°.80N**±0°.05×**20°.92E**±0°.04**, h4**km±17km**, n5,** σ**0s.31**/10**, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRVS	Cervenica-Dubn	0.37	74	*e*PG	Pg	12 01 40.5	+0.1
CRVS				*e*SG	Sg	12 01 45.4	+0.1
CRVS				*e*LG	Lg	12 01 48.1	
KECS	Kecovo	0.43	223	*e*PG	Pb	12 01 43.4	-0.1
KECS				*e*SG	Sb	12 01 50.7	+0.3
KOLS	Kolonicke sedl	0.90	81	*e*PG	Pb	12 01 51.1	-0.4
KOLS				*e*SG	Sb	12 02 04.2	+0.3
KOLS				*e*LG	Lg	12 02 05.9	
LANS	Liptovska Anna	1.02	291	*e*PG	Pg	12 01 52.8	-0.1
LANS				*e*SG	Sb	12 02 07.2	-0.2
LANS				*e*LG	Lg	12 02 12.7	
OJC	Ojcow	1.60	333	*e*Pg	Pb	12 02 03.4	0.0
OJC				*e*Sg	Sb	12 02 24.3	+0.3

*IDC **05** 12:01:49.5±1.6, 10°.11N×126°.83E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/37, mbtmp3.6/6, Error ellipse: s-maj=127.5km s-min=19.7km az=74.0*
ISC 05 12:01:54.7±1.0**, 10°.0N**±0°.1×**126°.6E**±0°.1**, h35**km**, n7,** σ**1s.48**/8**, mb3.4**/6**, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	2.37	231⇑	*e*P	Pn	12 02 29.9	-1.1
CGP				*e*S	Sn	12 02 59.6	+0.7
FITZ	Fitzroy Crossi	27.90	182	P	P	12 07 44.5	+2.9
	1.0nm,0.5s,baz=25,slow=8.8,SNR=6.6						
WRA	Warramunga Arr	30.70	166	P	P	12 08 06.1	-0.3
	0.2nm,0.8s,baz=340,slow=9.1,SNR=2.6						
ASAR	Alice Springs	34.20	168	P	P	12 08 36.6	-0.4
	0.1nm,0.3s,baz=349,slow=7.4,SNR=5.3						
SONM	Songino Array	41.39	339	P	P	12 09 38.3	+0.6
	0.3nm,0.5s,baz=153,slow=7.2,SNR=2.8						
MKAR	Makanchi Array	52.43	323	P	P	12 11 03.5	-0.3
	0.3nm,0.6s,baz=118,slow=7.6,SNR=4.7						
ARCES	ARCESS Array B	84.57	340	P	P	12 14 23.9	-0.2
	1.3nm,0.8s,baz=76,slow=7.5,SNR=4.1						

*MAN **05** 12:10:12.0, 9°.84N×126°.58E, h8km, MS2.4*
*NEIC **05** 12:10:17.2±2.1, 9°.95N±0°.08×126°.6E±0°.1, h72km±8km, mb4.3/13, Error ellipse: s-maj=20.8km s-min=11.5km az=84.0*
*IDC **05** 12:10:18.6±12.0, 9°.81N×126°.38E, h75km±115km, mb3.7/11, mb1 3.8/11, mb1mx3.5/47, mbtmp4.0/11, MS3.3/2, Ms1 3.3/2, ms1mx2.9/49, Error ellipse: s-maj=60.4km s-min=15.9km az=61.0*
ISC 05 12:10:10.1±2.0**, 9°.85N**±0°.05×**126°.61E**±0°.07**, h11**km±12km**, n42,** σ**1s.34**/40**, mb4.2**/14**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	General Luna,	0.48	262	*e*P	Pb	12 10 21.5	+0.9
GLSP				*e*S	Sb	12 10 27.8	+0.1
BUTP	Butuan	1.31	228	*e*P	Pg	12 10 35.0	-0.4
BUTP				*e*S	Sg	12 10 54.0	+1.6
MSLP	Maasin	1.75	279	*e*P	Pb	12 10 41.2	-1.0
MSLP				*e*S	Sg	12 11 09.4	+3.0
BUKP	Musuan	2.48	218	*e*P	Pb	12 10 53.4	-1.4
BUKP				*e*S	Sb	12 11 26.0	+0.6
LLP	Lapu-Lapu	2.65	280	*e*P	Pb	12 10 56.0	-1.6
LLP				*e*S	Sb	12 11 28.3	-1.8
DAV	Davao City (W)	2.94	200	P	Pg	12 11 07.6	+1.0
	70nm,0.3s,baz=36,slow=14,SNR=2.1						
DAV	Davao City (W)	2.94	200	Sn	Sg	12 11 41.6	-3.2
KCP	Kidapawan	3.20	208⇓	*e*P	Pb	12 11 04.8	-2.3
LQP	Lukban	6.52	311	*e*P	Pn	12 11 45.6	-0.7
MYLDM	Lahad Datu	9.28	241	Pn	Pn	12 12 32.5	+8.6
MYLDM				Sn	Sn	12 14 08.4	-0.1
SZP	Santa	9.71	323	Pn	Pn	12 12 37.4	+7.5
YULB	Yu-li	14.39	340		P	12 13 40.1	-0.8
TPUB	Ta-pu	14.55	338		P	12 13 42.0	-0.6
SOEI	Soe	19.61	187		Pn	12 14 41.2	+1.0
SOEI				IAmb	IAmb	12 14 59.5	
	comp=Z,26nm,1.2s						
BATI	Baumata	20.14	188	P	Pn	12 14 46.9	+0.6
	comp=Z,10nm,0.5s,baz=128,slow=3.8,SNR=3.2						
FITZ	Fitzroy Crossi	27.79	182	P	P	12 16 01.0	+1.8
	comp=Z,2.6nm,0.5s,baz=29,slow=9.1,SNR=16						
FITZ	Fitzroy Crossi	27.79	182	IAmb	IAmb	12 16 10.4	
	comp=Z,6.7nm,1.2s						
PMG	Port Moresby	28.00	132	LR	LR	12 30 12.6	
	comp=Z,80nm,18.7s,baz=82,slow=42						
CMAR	Chiang Mai Arr	28.13	291	P	P	12 16 01.9	-0.6
	comp=Z,0.5nm,0.3s,baz=101,slow=7.6,SNR=8.9						
CMAR	Chiang Mai Arr	28.13	291	P	P	12 16 02.0	-0.4
XAN	Xi'an	29.04	329	P	P	12 16 09.8	-0.6
XAN				IAmb	IAmb	12 16 11.0	
	comp=Z,4.9nm,0.6s						
WRA	Warramunga Arr	30.57	166	P	P	12 16 24.1	+0.1
	comp=Z,0.3nm,0.7s,baz=344,slow=9.7,SNR=4.0						
WB2	Warramunga Arr	30.57	166	P	P	12 16 23.9	-0.2
WR0	Warramunga Arr	30.63	165	P	P	12 16 25.6	+1.1
WR0				IAmb	IAmb	12 16 29.9	
	comp=Z,6.7nm,1.5s						
ASAR	Alice Springs	34.06	168	P	P	12 16 55.0	+0.3
	comp=Z,0.3nm,0.4s,baz=352,slow=7.1,SNR=19						
KLR	Kul'dur	39.49	5	LR	LR	12 32 38.3	
	comp=Z,35nm,19.8s,baz=188,slow=34						
FORT	Forrest	40.42	178	P	P	12 17 48.8	+0.3
SONM	Songino Array	41.53	339	P	P	12 17 58.5	+0.9
	comp=Z,1.4nm,0.7s,baz=157,slow=10,SNR=8.8						
SONM	Songino Array	41.53	339	IAmb	IAmb	12 17 58.9	
	comp=Z,1.0nm,0.7s						
BBOO	Buckleboo	43.37	168	P	P	12 18 13.2	+0.6
NWAO	Narrogin (SRO)	43.47	191	P	P	12 18 14.0	+0.6
STKA	Stephens Creek	43.90	162	P	P	12 18 19.8	+2.9
	comp=Z,1.3nm,0.7s,baz=330,slow=7.3,SNR=2.8						
MK31	Makanchi Array	52.56	323	P	P	12 19 23.3	-0.5
MKAR	Makanchi Array	52.56	323	P	P	12 19 23.5	-0.2
	comp=Z,1.5nm,0.6s,baz=119,slow=8.2,SNR=19						
MKAR	Makanchi Array	52.56	323	P	P	12 19 23.1	-0.6
KK31	Karatay Array	58.78	315	P	P	12 20 07.3	-1.2
KK31				IAmb	IAmb	12 20 09.4	
	comp=Z,4.0nm,1.4s						
KKAR	Karatay Array	58.78	315	P	P	12 20 06.8	-1.7
KKAR	Karatay Array	58.78	315	P	P	12 20 07.1	-1.5
KKAR				IAmb	IAmb	12 20 09.4	
	comp=Z,4.0nm,1.4s						
ARCES	ARCESS Array B	84.70	340	P	P	12 22 43.7	-0.1
	comp=Z,1.4nm,0.6s,baz=67,slow=6.7,SNR=10						
ARCES	ARCESS Array B	84.70	340	IAmb	IAmb	12 22 51.4	
	comp=Z,5.5nm,1.1s						
FINES	FINESS Array B	86.42	332	P	P	12 22 51.9	-0.6
	comp=Z,1.2nm,0.6s,baz=22,slow=2.1,SNR=7.4						
YKA	Yellowknife Ar	94.00	24	P	P	12 23 29.0	+1.0
	comp=Z,0.4nm,0.9s,baz=304,slow=3.9,SNR=5.7						

*MAN **05** 12:11:34.3, 9°.81N×126°.60E, h4km, MS4.1*
*IDC **05** 12:11:40.5±4.9, 9°.83N×126°.32E, h62km±46km, mb4.0/24, mb1 4.1/24, mb1mx4.0/48, mbtmp4.3/24, MS3.6/4, Ms1 3.6/4, ms1mx3.1/50, Error ellipse: s-maj=22.0km s-min=10.5km az=71.0*
*BJI **05** 12:11:40.7±0.0, 9°.54N×126°.27E, h108km, mB4.9/11, mb4.5/20*
*NEIC **05** 12:11:41.6±2.1, 9°.87N±0°.09×126°.3E±0°.1, h71km±6km, mb4.6/46, Error ellipse: s-maj=16.2km s-min=12.4km az=80.0*
ISC 05 12:11:34.9±1.1**, 9°.90N**±0°.04×**126°.56E**±0°.05**, h17**km±4km**, n126,** σ**1s.57**/126**, mb4.5**/55**, MS3.4**/4**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	General Luna,	0.44	255	*e*P	Pg	12 11 43.6	-0.2
GLSP				*e*S	Sb	12 11 51.1	+0.6
BUTP	Butuan	1.31	225	*e*P	Pg	12 11 58.2	-1.9
BUTP				*e*S	Sn	12 12 16.8	+1.4
MSLP	Maasin	1.69	278	*e*P	Pn	12 12 05.2	+1.5
MSLP				*e*S	Sb	12 12 28.7	+2.1
CGP	Cagayan de Oro	2.33	232⇑	*i*P	Pn	12 12 12.8	+0.3
CGP				*i* S	Sn	12 12 42.5	+1.6
BUKP	Musuan	2.49	217	*e*P	Pn	12 12 16.6	+1.9
BUKP				*e*S	Sn	12 12 44.9	+0.1
LLP	Lapu-Lapu	2.59	280	*e*P	Pn	12 12 18.6	+2.6
LLP				*i* S	Sn	12 12 50.6	+3.5
DAV	Davao City (W)	2.97	199	LR	LR	12 13 26.9	
	comp=Z,1μm,19.9s,baz=12,slow=37						
PAGZ	Pagadian	3.74	237	*e*P	Pn	12 12 34.9	+3.0
PAGZ				*e*S	Sn	12 13 17.2	+1.6
DDMP	Don Marcelino,	3.86	193	*e*P	Pn	12 12 34.5	+1.0
DDMP				*e*S	Sn	12 13 19.9	+1.3
SKMP	Bagumbayan, Su	3.91	211	*e*P	Pn	12 12 35.5	+1.3
SKMP				*e*S	Sb	12 13 32.9	+2.6
JCNP	Jose Panganiba	5.77	320	*e*P	Pn	12 13 00.8	+1.0
LQP	Lukban	6.45	311⇓	*e*P	Pn	12 13 03.9	-5.5
MYLDM	Lahad Datu	9.26	240	Pn	Pn	12 13 51.0	+3.2
YULB	Yu-li	14.33	340	Pn	Pn	12 15 01.3	+4.2
TPUB	Ta-pu	14.48	338	Pn	Pn	12 15 03.0	+3.7
SBUM	Sibu	16.05	243	P	Pn	12 15 22.5	+2.5
SOEI	Soe	19.66	187	P	Pn	12 16 04.3	-0.4
BATI	Baumata	20.18	188	P	Pn	12 16 11.0	+0.3
	58nm,0.6s,baz=340,slow=0.9,SNR=11						
UBPT	Khong Chiam	21.26	287	P	P	12 16 24.0	+3.5
	5.5nm,1.3s						
JCJ	Chichijima	22.59	39	LR	LR	12 26 14.7	
	comp=Z,141nm,18.6s,baz=76,slow=38						
MTN	Manton Dam	23.05	169	P	P	12 16 43.0	+3.5
MYKOM	Kota Tinggi	23.97	252	P	P	12 16 49.4	+0.8
MYKOM				IAmb	IAmb	12 16 50.5	
	comp=Z,25nm,0.8s						
KHON	Khomkaen	23.97	288	P	P	12 16 49.0	+0.3
	comp=Z,37nm,1.2s						
NONG	Nongkai	24.11	292	P	P	12 16 49.3	-0.6
	comp=Z,18nm,1.3s						
CHAI	Chaiyaphum	24.67	287	P	P	12 16 54.0	-1.1
	comp=Z,29nm,0.8s						
IPM	Ipoh	25.89	260	P	P	12 17 05.9	-0.3
IPM				IAmb	IAmb	12 17 08.2	
	comp=Z,15nm,0.7s						
JHJ	Hachijo jima 2	26.13	26	LR	LR	12 25 37.9	
	comp=Z,92nm,21.9s,baz=268,slow=32						
KSRS	Korea Array	27.46	2	P	P	12 17 21.9	+1.8

	comp=Z,0.6nm,0.5s,baz=187,slow=11,SNR=2.5						
KSRS				LR	LR	12 30 13.5	
	comp=Z,108nm,18.8s,baz=188,slow=40						
FITZ	**Fitzroy Crossi**	**27.83**	**182**	P	**P**	**12 17 23.5**	**-0.1**
	comp=Z,8.6nm,0.8s,baz=358,slow=4.3,SNR=18						
FITZ	**Fitzroy Crossi**	**27.83**	**182**	P	**P**	**12 17 24.4**	**+0.9**
FITZ				IAmb	IAmb	12 17 32.7	
	comp=Z,10nm,0.9s						
CM35	**Chiang Mai Arr**	**27.92**	**291**	P	**P**	**12 17 24.0**	**-0.5**
CM36	**Chiang Mai Arr**	**27.94**	**291**	P	**P**	**12 17 24.0**	**-0.6**
CM34	**Chiang Mai Arr**	**27.97**	**292**	P	**P**	**12 17 24.0**	**-0.9**
CM09	**Chiang Mai Arr**	**28.01**	**291**	P	**P**	**12 17 25.9**	**+0.6**
	comp=Z,7.0nm,1.1s						
CM04	**Chiang Mai Arr**	**28.02**	**291**	P	**P**	**12 17 25.9**	**+0.5**
	comp=Z,4.5nm,1.0s						
CM01	**Chiang Mai Arr**	**28.04**	**291**	P	**P**	**12 17 26.2**	**+0.7**
	comp=Z,70nmcomp=Z,6.5nm,1.2s						
CM05	**Chiang Mai Arr**	**28.05**	**291**	P	**P**	**12 17 26.0**	**+0.4**
	comp=Z,41nmcomp=Z,3.7nm,1.2s						
CM02	**Chiang Mai Arr**	**28.05**	**291**	P	**P**	**12 17 26.2**	**+0.5**
	comp=Z,7.3nm,1.1s						
CM31	**Chiang Mai Arr**	**28.06**	**291**	P	**P**	**12 17 26.6**	**+0.8**
	comp=Z,272nm,0.6s						
CMAR	**Chiang Mai Arr**	**28.06**	**291**	P	**P**	**12 17 25.4**	**-0.4**
	comp=Z,3.8nm,1.0s,baz=106,slow=7.3,SNR=21						
CM15	**Chiang Mai Arr**	**28.08**	**291**	P	**P**	**12 17 25.9**	**0.0**
	comp=Z,74nmcomp=Z,8.2nm,1.2s						
CM13	**Chiang Mai Arr**	**28.09**	**291**	P	**P**	**12 17 26.0**	**0.0**
	comp=Z,45nmcomp=Z,5.0nm,1.2s						
CM33	**Chiang Mai Arr**	**28.15**	**291**	P	**P**	**12 17 25.0**	**-1.5**
CHTO	**Chiang Mai**	**28.15**	**291**	P	**P**	**12 17 24.1**	**-2.4**
CM32	**Chiang Mai Arr**	**28.20**	**291**	P	**P**	**12 17 27.0**	**0.0**
XAN	**Xi'an**	**28.97**	**329**	P	**P**	**12 17 32.5**	**-1.2**
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN	**Xi'an**	**28.97**	**329**	P	**P**	**12 17 32.1**	**-1.6**
XAN				IAmb	IAmb	12 17 33.3	
	comp=Z,13nm,0.7s						
GSI	**Gunungsitoli**	**30.05**	**255**	P	**P**	**12 17 42.8**	**-0.7**
GSI				IAmb	IAmb	12 17 50.1	
	comp=Z,14nm,0.8s						
WB0	**Warramunga Arr**	**30.47**	**165**	P	**P**	**12 17 46.0**	**-1.1**
WRAB	**Tennant Creek**	**30.62**	**165**	P	**P**	**12 17 49.5**	**+1.1**
WRA	**Warramunga Arr**	**30.63**	**166**	P	**P**	**12 17 47.5**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=341,slow=9.5,SNR=2.6						
WB2	**Warramunga Arr**	**30.63**	**166**	P	**P**	**12 17 49.7**	**+1.2**
WR0	**Warramunga Arr**	**30.69**	**165**	P	**P**	**12 17 48.5**	**-0.5**
WR0				IAmb	IAmb	12 18 09.7	
	comp=Z,8.5nm,1.4s						
PSA00	**Pilbara Seismi**	**31.96**	**192**	P	**P**	**12 18 00.2**	**0.0**
AS31	**Alice Springs**	**34.12**	**168**	P	**P**	**12 18 19.2**	**+0.2**
ASAR	**Alice Springs**	**34.12**	**168**	P	**P**	**12 18 18.3**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=352,slow=7.2,SNR=17						
ASAR				PcP	**PcP**	**12 20 55.9**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=343,slow=2.4,SNR=2.2						
ASAR	**Alice Springs**	**34.12**	**168**	P	**P**	**12 18 17.9**	**-1.2**
USRK	**Ussuriysk Ar.**	**34.50**	**7**	P	**P**	**12 18 23.1**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=177,slow=5.8,SNR=3.6						
CTA	**Charters Tower**	**35.55**	**147**	P	**P**	**12 18 32.9**	**+1.4**
	comp=Z,3.3nm,0.6s,baz=341,slow=13						
CTAO	**Charters Tower**	**35.55**	**147**	P	**P**	**12 18 32.9**	**+1.4**
CTAO				IAmb	IAmb	12 18 37.6	
	comp=Z,4.2nm,0.7s						
GTA	**Gaotai**	**37.85**	**325**	*e*P	**P**	**12 18 50.8**	**-0.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,53nm,6.3s						
GTA				LR	LR		
	comp=Z,150nm,14.9s						
GTA				LR	LR		
	comp=Z,130nm,16.4s						
GTA				LR	LR		
	comp=Z,210nm,14.9s						
KLR	**Kul'dur**	**39.45**	**5**	P	**P**	**12 19 05.2**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=179,slow=5.5,SNR=2.4						
MORW	**Morawa**	**40.05**	**194**	P	**P**	**12 19 09.4**	**+0.1**
FORT	**Forrest**	**40.47**	**178**	P	**P**	**12 19 13.0**	**+0.2**
ULN	**Ulaanbaatar**	**41.27**	**340**	P	**P**	**12 19 20.1**	**+0.7**
ULN				IAmb	IAmb	12 19 20.9	
	comp=Z,9.1nm,0.8s						
SONM	**Songino Array**	**41.47**	**339**	P	**P**	**12 19 21.5**	**+0.5**
	comp=Z,4.4nm,0.7s,baz=157,slow=10,SNR=22						
SONM	**Songino Array**	**41.47**	**339**	P	**P**	**12 19 21.2**	**+0.2**
SONM				IAmb	IAmb	12 19 22.7	
	comp=Z,12nm,1.4s						
BBOO	**Buckleboo**	**43.42**	**168**	P	**P**	**12 19 37.4**	**+0.4**
BBOO				IAmb	IAmb	12 19 40.1	
	comp=Z,9.8nm,0.8s						
NWAO	**Narrogin (SRO)**	**43.50**	**191**	P	**P**	**12 19 38.1**	**+0.6**
NWAO	**Narrogin (SRO)**	**43.50**	**191**	P	**P**	**12 19 38.0**	**+0.5**
NWAO				IAmb	IAmb	12 19 38.9	
	comp=Z,20nm,1.0s						
STKA	**Stephens Creek**	**43.96**	**161**	P	**P**	**12 19 41.9**	**+0.6**
	comp=Z,3.3nm,0.5s,baz=360,slow=6.2,SNR=7.0						
STKA	**Stephens Creek**	**43.96**	**161**	P	**P**	**12 19 41.9**	**+0.6**
TLY	**Talaya**	**45.68**	**340**	P	**P**	**12 19 55.5**	**+0.8**
PETK	**Petropavlovsk-**	**49.86**	**24**	P	**P**	**12 20 29.3**	**+2.1**
	comp=Z,5.0nm,0.9s,baz=230,slow=6.5,SNR=5.3						
DZM	**Mont Dzumac**	**50.39**	**129**	P	**P**	**12 20 32.4**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=270,slow=11,SNR=4.6						
DZM	**Mont Dzumac**	**50.39**	**129**	IAmb	IAmb	12 20 58.3	
	comp=Z,9.7nm,1.3s						
MK31	**Makanchi Array**	**52.49**	**323**	P	**P**	**12 20 46.4**	**-0.7**
MK31				IAmb	IAmb	12 20 47.2	
	comp=Z,3.7nm,0.7s						
MKAR	**Makanchi Array**	**52.49**	**323**	P	**P**	**12 20 46.4**	**-0.7**
	comp=Z,4.8nm,0.7s,baz=119,slow=8.0,SNR=26						
MKAR				PcP	**PcP**	**12 21 55.6**	**-1.9**
	comp=Z,1.3nm,0.8s,baz=118,slow=5.9,SNR=1.5						
SHLS	**Shalkode**	**52.61**	**318**	*e*P	P	12 20 43.5	-4.7
	baz=318						
MAKZ	**Makanchi**	**52.69**	**323**	P	**P**	**12 20 47.8**	**-0.7**
MAKZ				IAmb	IAmb	12 20 48.7	
	comp=Z,11nm,1.4s						
KPKS	**Kokpek**	**53.26**	**318**	*e*P	**P**	**12 20 50.5**	**-2.4**
	baz=318						
SATY	**Saty**	**53.28**	**317**	*e*P	**P**	**12 20 50.9**	**-2.1**
	baz=317						
KUU	**Kurty**	**54.99**	**317**	*e*P	**P**	**12 21 03.3**	**-2.1**
	comp=Z,4.6nm,0.7s,baz=317						
ZAA0	**Zalesovo Array**	**55.09**	**331**	P	**P**	**12 21 03.7**	**-2.2**
ZALV	**Zalesovo Beam**	**55.09**	**331**	P	**P**	**12 21 04.2**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=116,slow=6.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**55.09**	**331**	P	**P**	**12 21 04.0**	**-1.9**
SGDS	**Sogindy**	**55.98**	**316**	*e*P	P	12 21 09.5	-3.1
	baz=316						
BTLS	**Baital**	**56.94**	**318**	*e*P	**P**	**12 21 16.7**	**-2.6**
	baz=318						
KK31	**Karatay Array**	**58.71**	**315**	P	**P**	**12 21 29.7**	**-2.1**
KK31				IAmb	IAmb	12 21 31.7	
	comp=Z,7.4nm,1.4s						
KKAR	**Karatay Array**	**58.71**	**315**	P	**P**	**12 21 29.9**	**-2.0**
KKAR	**Karatay Array**	**58.71**	**315**	P	**P**	**12 21 30.7**	**-1.2**
KKAR				IAmb	IAmb	12 21 31.7	
	comp=Z,7.4nm,1.4s						
BRZS	**Berezniki**	**59.65**	**323**	*e*P	**P**	**12 21 35.7**	**-2.5**
	baz=323						
TIXI	**Tiksi**	**61.72**	**1**	P	**P**	**12 21 52.0**	**+0.1**
BRVK	**Borovoye**	**62.20**	**325**	P	**P**	**12 21 53.5**	**-2.0**
BRVK				IAmb	IAmb	12 21 55.6	
	comp=Z,4.6nm,0.8s						
NRIK	**Noril'sk**	**64.44**	**346**	P	**P**	**12 22 10.4**	**+0.4**
	comp=Z,6.2nm,0.7s,baz=103,slow=6.0,SNR=8.7						
NRIK	**Noril'sk**	**64.44**	**346**	P	**P**	**12 22 09.4**	**-0.7**
GEYT	**Alibeck**	**66.99**	**307**	P	**P**	**12 22 26.6**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=113,slow=3.9,SNR=4.8						
GEYT	**Alibeck**	**66.99**	**307**	IAmb	IAmb	12 22 27.6	
	comp=Z,8.0nm,1.4s						
BKZ	**Black Stump Fm**	**67.32**	**140**	P	**P**	**12 22 30.9**	**+1.8**
ABKAR	**Akbulak array**	**67.34**	**319**	P	**P**	**12 22 27.0**	**-2.0**
ABKAR	**Akbulak array**	**67.34**	**319**	IAmb	IAmb	12 22 28.3	
	comp=Z,1.9nm,0.9s						
ARU	**Arti**	**69.69**	**327**	P	**P**	**12 22 41.9**	**-1.7**
ARU				IAmb	IAmb	12 22 42.6	
	comp=Z,4.6nm,0.6s						
SOCY	**Socotra**	**71.07**	**280**	P	**P**	**12 22 50.5**	**-2.4**
TTA	**Tatalina**	**75.53**	**27**	P	**P**	**12 23 18.3**	**0.0**
IMAR	**Indian Mountai**	**76.82**	**24**	P	**P**	**12 23 26.2**	**+0.6**
RAYN	**Ar Rayn**	**77.97**	**292**	P	**P**	**12 23 31.8**	**-1.1**
RAYN				IAmb	IAmb	12 23 32.5	
	comp=Z,9.5nm,1.4s						
COLD	**Coldfoot**	**78.32**	**23**	P	**P**	**12 23 36.0**	**+2.1**
COLD				IAmb	IAmb	12 23 45.6	
	comp=Z,4.1nm,1.2s						
I23K	**Minto, Yukon-K**	**78.60**	**25**	P	**P**	**12 23 37.1**	**+1.7**
CCB	**Clear Creek Bu**	**79.26**	**26**	P	**P**	**12 23 40.2**	**+1.1**
CCB				IAmb	IAmb	12 23 47.5	
	comp=Z,4.9nm,1.4s						
ILAR	**Eielson Array**	**79.65**	**26**	P	**P**	**12 23 41.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=230,slow=5.8,SNR=5.4						
ILAR	**Eielson Array**	**79.65**	**26**	P	**P**	**12 23 41.9**	**+0.7**
KLMR	**Klimovskoe**	**79.99**	**330**	*e*P	**P**	**12 23 40.8**	**-2.3**
KLMR				AMP		12 23 43.5	
	comp=Z,13nm,1.2s						
K27K	**Chicken**	**81.78**	**26**	P	**P**	**12 23 55.2**	**+2.5**
K27K				IAmb	IAmb	12 24 04.1	
	comp=Z,7.5nm,1.4s						
BCAR	**Beaver Creek A**	**82.01**	**27**	P	**P**	**12 23 56.6**	**+2.7**
ARCES	**ARCESS Array B**	**84.64**	**340**	P	**P**	**12 24 07.3**	**0.0**
	comp=Z,4.3nm,0.6s,baz=80,slow=6.7,SNR=23						
ARCES	**ARCESS Array B**	**84.64**	**340**	IAmb	IAmb	12 24 08.0	
	comp=Z,5.8nm,0.8s						
BRTR	**Keskin Array B**	**85.99**	**309**	P	**P**	**12 24 13.2**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=106,slow=4.0,SNR=3.8						
FINES	**FINESS Array B**	**86.35**	**332**	P	**P**	**12 24 15.5**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=75,slow=5.3,SNR=13						
FINES	**FINESS Array B**	**86.35**	**332**	P	**P**	**12 24 15.2**	**-0.8**
AKASG	**Malin Array Be**	**87.03**	**321**	P	**P**	**12 24 17.7**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=65,slow=4.4,SNR=5.4						
C36M	**Paulatuk**	**87.50**	**20**	P	**P**	**12 24 21.7**	**+0.4**
C36M				IAmb	IAmb	12 24 35.5	
	comp=Z,3.4nm,0.8s						
CRVS	**Cervenica-Dubn**	**92.35**	**320**	*e*P	**P**	**12 24 45.1**	**+0.5**
NB2	**NORSAR Subarra**	**93.22**	**334**	P	**P**	**12 24 46.6**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**93.22**	**334**	P	**P**	**12 24 46.0**	**-2.4**
	comp=Z,1.1nm,0.7s,baz=64,slow=4.6,SNR=4.1						
YKA	**Yellowknife Ar**	**93.98**	**24**	P	**P**	**12 24 52.7**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=305,slow=4.2,SNR=14						
PLCA	**Paso Flores**	**145.75**	**157**	PKPbc	**PKPdf**	**12 31 14.4**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=198,slow=3.2,SNR=3.1						

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*IDC **05** 12:18:15.9±0.8, 36°.71N×140°.73E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.4/50, mbtmp3.8/4, ML2.4/1, MS3.9/2, Ms1 3.8/2, ms1mx2.8/53, Error ellipse: s-maj=14.5km s-min=8.2km az=178.0*

*JMA **05** 12:18:18.7, 36°.64N×140°.65E, h11km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕ_s142.00000°, δ29.00000°, λ-116.00000°. NP2: ϕ_s351.00000°, δ64.00000°, λ-76.00000°. Principal axes: T Plg18.0000°, Azm71.0000°; N Plg12.0000°, Azm165.0000°; P Plg68.0000°, Azm288.0000°;*

JMA Felt II J1.

*NIED **05** 12:18:18.7, 36°.64N×140°.65E, h11km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; M_{rr}-1.52; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$1.82; $M_{r\theta}$-0.60; $M_{\theta\phi}$-0.25; $M_{\phi r}$-1.09; Fault plane solution: $M_0$2.11000×10^14 NP1: ϕ_s14.00000°, δ64.00000°, λ-68.00000°. NP2: ϕ_s152.00000°, δ33.00000°, λ-127.00000°.*

ISC 05 12:18:18.0±1.0**, 36°.65N**±0°.04×**140°.66E**±0°.05**, h13**km±6km**, n23, σ0ˢ.64**/21**, mb3.9**/3**, 6C, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.09**	**242**	⇑P	**Pg**	**12 18 21.1**	**+0.2**
JHO				S	**Sg**	**12 18 22.7**	**-0.2**
JHYU	**Hitachinakayam**	**0.32**	**191**	⇑P	**Pb**	**12 18 24.9**	**-0.5**
JHYU				S	**Sg**	**12 18 29.4**	**+0.6**
JFFD	**Fukushimafurud**	**0.45**	**349**	⇑P	**Pb**	**12 18 27.4**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.46**	**14**	P	**Pb**	**12 18 27.8**	**-0.2**
ONAJ				S	**Sb**	**12 18 34.6**	**-0.1**
JYT	**Yasato**	**0.57**	**222**	⇑P	**Pg**	**12 18 29.2**	**+0.1**
JSB	**Shiboa**	**0.68**	**298**	P	**Pb**	**12 18 32.0**	**+0.4**
JSB				*e*S	**Sb**	**12 18 41.0**	**+0.2**
JFK	**Kawauchi**	**0.73**	**13**	⇑P	**Pb**	**12 18 32.3**	**-0.3**
JFT	**Otama**	**0.90**	**343**	P	**Pn**	**12 18 35.7**	**-0.6**
JAG	**Ashikaga**	**1.00**	**257**	⇑P	**Pg**	**12 18 36.2**	**-1.1**
JFY	**Yanaizu**	**1.07**	**315**	P	**Pn**	**12 18 38.8**	**+0.1**
MJAR	**Matsushiro Arr**	**1.98**	**268**	Pn	**Pn**	**12 18 51.1**	**0.0**
	1.3nm,0.3s,baz=82,slow=9.4,SNR=60						
MJAR				Sn	**Sn**	**12 19 17.0**	**+1.3**
	3.0nm,0.3s,baz=307,slow=32,SNR=6.2						
MAT	**Matsushiro**	**1.98**	**268**	P	**Pb**	**12 18 52.6**	**-1.2**
MAT				S	**Sb**	**12 19 18.6**	**+0.2**
SONM	**Songino Array**	**27.50**	**305**	P	**P**	**12 24 03.3**	**-0.7**
	0.4nm,0.5s,baz=116,slow=9.8,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**28.48**	**119**	T	T	12 53 57.4	
	baz=312,slow=75,SNR=487						
H11N1	**WAKE ISLAND Hy**	**28.49**	**119**	T	T	12 53 57.5	
	baz=312,slow=75,SNR=501						
H11N3	**WAKE ISLAND Hy**	**28.50**	**119**	T	T	12 54 00.1	
	baz=312,slow=75,SNR=402						
H11S1	**WAKE ISLAND Hy**	**29.17**	**121**	T	T	12 54 49.0	
	baz=314,slow=76,SNR=3096						
H11S3	**WAKE ISLAND Hy**	**29.17**	**121**	T	T	12 54 49.4	
	baz=314,slow=76,SNR=1265						
H11S2	**WAKE ISLAND Hy**	**29.18**	**121**	T	T	12 54 50.5	
	baz=314,slow=76,SNR=1409						
ZALV	**Zalesovo Beam**	**41.73**	**313**	P	**P**	**12 26 07.2**	**+0.8**
	0.9nm,0.4s,baz=83,slow=6.2,SNR=4.2						
WRA	**Warramunga Arr**	**56.60**	**187**	P	**P**	**12 28 00.5**	**0.0**
	0.9nm,0.8s,baz=4.3,slow=7.3,SNR=6.7						
CTA	**Charters Tower**	**56.68**	**174**	LR	LR	12 52 07.1	
	comp=Z,126nm,20.6s,baz=328,slow=36						
KBZ	**Khabaz**	**70.69**	**310**	LR	LR	13 01 51.2	
	comp=Z,59nm,18.6s,baz=36,slow=37						

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*WEL **05** 12:18:00, 36°.69S×177°.11E, h5km, ML4.3, Mw4.6, Moment Tensor Solution. s11 Moment tensor: Scale 10^16Nm; M_{rr}-0.77; $M_{\theta\theta}$0.02; $M_{\phi\phi}$0.76; $M_{r\theta}$-0.39; $M_{\theta\phi}$0.53; $M_{\phi r}$0.09; Fault plane solution: $M_0$1.01000×10^16 NP1: ϕ_s182.00000°, δ48.00000°, λ-129.00000°. NP2: ϕ_s52.00000°, δ54.00000°, λ-55.00000°. Principal axes: T 1038.1000, Plg3.0000°, Azm118.0000°; N -55.7300, Plg27.0000°, Azm209.0000°; P -982.3700, Plg62.0000°, Azm22.0000°;*

*NEIC **05** 12:18:20.4±3.3, 36°.70S±0°.07×177°.35E±0°.09, h3km±5km Error ellipse: s-maj=12.9km s-min=7.9km az=46.0*

*NOU **05** 12:18:22.8, 36°.62S×177°.04E, h0km, MLv4.5, Off E. Coast of N. Island, N.Z.*

*WEL **05** 12:18:22.8±0.5, 37°S±4°×17°7E±°, h12km, M4.2/47, ML4.4/45, MLv4.2/47, Error ellipse: s-maj=0.0km s-min=0.0km az=28.5*

*IDC **05** 12:18:22.4±1.2, 36°.76S×177°.13E, h0km, mb4.4/8, mb1 4.5/9, mb1mx4.2/37, mbtmp4.4/9, ML3.2/1, MS3.8/12, Ms1 3.8/12, ms1mx3.6/30, Error ellipse: s-maj=37.1km s-min=18.4km az=59.0*

ISC 05 12:18:21.8±1.6**, 36°.67S**±0°.04×**177°.15E**±0°.03**, h2**km±10km**, n192, σ1ˢ.46**/192**, mb4.6**/9**, MS3.8**/10**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.86**	**178**	P	**Pg**	**12 18 38.3**	**0.0**
WIZ				S	**Sg**	**12 18 50.0**	**+0.6**
KUZ	**Kuaotunu**	**1.15**	**266**	P	**Pb**	**12 18 43.0**	**-1.5**
KUZ				S	**Sb**	**12 18 58.0**	**-2.0**
WHRZ	**Whale Island**	**1.19**	**187**	P	**Pg**	**12 18 45.8**	**+1.1**
HAZ	**Te Kaha**	**1.20**	**155**	P	**Pn**	**12 18 43.1**	**-2.6**
OPRZ	**Ohinepanea**	**1.27**	**202**	P	**Pn**	**12 18 44.4**	**-2.3**
OPRZ				S	**Sb**	**12 19 00.8**	**-2.5**
TGRZ	**Tauranga**	**1.28**	**214**	P	**Pn**	**12 18 44.1**	**-2.7**
TGRZ				S	**Sb**	**12 19 01.1**	**-2.5**
MXZ	**Matakaoa Point**	**1.28**	**134**	Pn	**Pn**	**12 18 44.8**	**-2.1**
MXZ	**Matakaoa Point**	**1.28**	**134**	P	**Pn**	**12 18 44.6**	**-2.3**
MXZ				S	**Sb**	**12 19 00.8**	**-2.9**
RUGZ	**Raukumara Rang**	**1.36**	**162**	P	**Pn**	**12 18 46.0**	**-2.0**
MARZ	**Manawahe**	**1.37**	**196**	P	**Pn**	**12 18 45.9**	**-2.2**
PKGZ	**Pakihiroa**	**1.42**	**149**	P	**Pn**	**12 18 46.7**	**-2.1**
GRZ	**Great Barrier**	**1.43**	**286**	P	**Pn**	**12 18 47.2**	**-1.6**
GRZ				S	**Sn**	**12 19 05.4**	**-2.9**
LIRZ	**Lichensteins R**	**1.47**	**204**	P	**Pn**	**12 18 48.0**	**-1.4**
EDRZ	**Edgecumbe**	**1.47**	**193**	P	**Pn**	**12 18 48.8**	**-0.8**
KMRZ	**Kaimai**	**1.52**	**219**	P	**Pn**	**12 18 47.7**	**-2.5**
WMGZ	**Waiomatatini S**	**1.53**	**139**	P	**Pn**	**12 18 50.1**	**-0.1**
WMGZ				S	**Sb**	**12 19 10.7**	**-0.1**
KARZ	**Kaharoa**	**1.53**	**208**	P	**Pn**	**12 18 49.4**	**-0.9**
OMRZ	**Omania**	**1.56**	**203**	P	**Pb**	**12 18 51.3**	**-0.3**
OMRZ				S	**Sn**	**12 19 10.6**	**-1.1**
MKRZ	**Makatiti**	**1.57**	**200**	P	**Pb**	**12 18 51.1**	**-0.6**
URZ	**Urewera**	**1.59**	**181**	Pn	**Pn**	**12 18 49.0**	**-2.0**
	55nm,0.3s,baz=291,slow=3.4,SNR=65						
URZ				LR	LR	12 19 20.1	
	comp=Z,858nm,19.9s,baz=32,slow=39						
URZ	**Urewera**	**1.59**	**181**		**Pn**	**12 18 49.1**	**-2.0**
URZ	**Urewera**	**1.59**	**181**	P	**Pn**	**12 18 49.1**	**-2.0**
NGRZ	**Ngongotaha**	**1.62**	**208**	P	**Pb**	**12 18 52.7**	**+0.1**
WIAZ	**Waiheke Island**	**1.63**	**265**	P	**Pn**	**12 18 50.2**	**-1.4**
WIAZ				S	**Sn**	**12 19 11.0**	**-2.2**
TWGZ	**Tauwhareparae**	**1.64**	**157**	P	**Pn**	**12 18 52.2**	**+0.3**
TARZ	**Mount Tarawera**	**1.65**	**198**	P	**Pn**	**12 18 51.9**	**0.0**
PUZ	**Puketiti**	**1.65**	**148**	P	**Pn**	**12 18 52.0**	**0.0**
MKAZ	**Moumakai**	**1.66**	**254**	P	**Pn**	**12 18 50.3**	**-1.6**
MKAZ				S	**Sn**	**12 19 12.6**	**-1.3**
MWZ	**Matawai**	**1.69**	**170**	P	**Pn**	**12 18 50.5**	**-2.0**
UTU	**Utuhina**	**1.69**	**207**	P	**Pb**	**12 18 54.4**	**+0.7**
TOZ	**Tahuroa Road**	**1.69**	**231**	P	**Pn**	**12 18 51.2**	**-1.2**
TOZ				S	**Sn**	**12 19 13.6**	**-1.1**
HLRZ	**Highlands Stat**	**1.71**	**202**	P	**Pb**	**12 18 53.7**	**-0.3**
RRRZ	**Republican Roa**	**1.74**	**197**	P	**Pg**	**12 18 56.6**	**+1.3**
HSRZ	**Hossack Road**	**1.79**	**204**	P	**Pn**	**12 18 53.0**	**-0.9**
ETAZ	**East Tamaki Re**	**1.81**	**260**	P	**Pn**	**12 18 52.8**	**-1.3**
ETAZ				S	**Sb**	**12 19 17.7**	**-1.1**
MBAZ	**Motutapu North**	**1.81**	**266**	P	**Pn**	**12 18 53.0**	**-1.2**
MUGZ	**Murupara**	**1.83**	**189**	P	**Pn**	**12 18 52.9**	**-1.5**
RAGZ	**Rawiri**	**1.84**	**174**	P	**Pn**	**12 18 53.6**	**-1.0**
TKGZ	**Te Karaka**	**1.85**	**163**	P	**Pn**	**12 18 54.4**	**-0.3**
HRRZ	**Handcock Road**	**1.85**	**202**	P	**Pn**	**12 18 53.7**	**-1.1**
ABAZ	**Army Bay**	**1.87**	**271**	P	**Pn**	**12 18 54.3**	**-0.6**
ABAZ				S	**Sb**	**12 19 20.3**	**-0.3**
GRRZ	**Galatos Road**	**1.87**	**206**	P	**Pn**	**12 18 54.2**	**-0.8**
PRRZ	**Plateau Road**	**1.93**	**198**	P	**Pg**	**12 18 59.3**	**+0.6**
EPAZ	**Eden Park BICE**	**1.95**	**263**	P	**Pn**	**12 18 55.1**	**-0.8**
RTZ	**Ruatahuna**	**1.95**	**184**	P	**Pn**	**12 18 54.8**	**-1.3**
HBAZ	**Herne Bay Bore**	**1.95**	**264**	P	**Pn**	**12 18 55.3**	**-0.7**
HBAZ				S	**Sb**	**12 19 22.8**	**-0.2**
CNGZ	**Carnagh Statio**	**2.00**	**156**	P	**Pn**	**12 18 57.6**	**+0.9**
WPRZ	**Whakapapatarin**	**2.01**	**203**	P	**Pg**	**12 19 00.2**	**-0.1**
AWAZ	**Awhitu Peninsu**	**2.05**	**258**	P	**Pn**	**12 18 56.6**	**-0.8**
AWAZ				S	**Sb**	**12 19 25.8**	**0.0**
RVAZ	**Riverhead Bore**	**2.07**	**266**	P	**Pn**	**12 18 57.2**	**-0.5**
WTAZ	**Waiatarua**	**2.09**	**262**	P	**Pn**	**12 18 57.2**	**-0.7**
RIGZ	**Rimuhau**	**2.09**	**167**	P	**Pn**	**12 18 58.5**	**+0.5**
TLZ	**Tolley Road**	**2.10**	**217**	P	**Pn**	**12 18 57.0**	**-1.1**
KUTZ	**Kaahu Road**	**2.10**	**210**	P	**Pn**	**12 18 57.6**	**-0.5**
SNGZ	**Shannon Statio**	**2.12**	**176**	P	**Pb**	**12 18 59.7**	**-1.3**
MTHZ	**Maungataniwha**	**2.19**	**186**	P	**Pn**	**12 18 58.7**	**-0.7**
MRHZ	**Matea Rd**	**2.24**	**195**	P	**Pn**	**12 19 00.4**	**+0.3**
RAHZ	**Arahi**	**2.25**	**181**	P	**Pn**	**12 19 01.4**	**+1.3**
PRGZ	**Paritu Road**	**2.32**	**166**	P	**Pb**	**12 19 02.9**	**-1.6**
WATZ	**Wairara**	**2.33**	**209**	P	**Pn**	**12 19 00.4**	**-0.8**
HATZ	**Hinemaiaia**	**2.37**	**200**	P	**Pn**	**12 19 00.6**	**-1.3**
WCZ	**Waipu Caves**	**2.38**	**287**	P	**Pn**	**12 19 00.9**	**-1.1**
KNZ	**Kokohu**	**2.39**	**170**	P	**Pn**	**12 19 02.1**	**+0.1**
WHHZ	**Waihua**	**2.41**	**178**	P	**Pn**	**12 19 03.8**	**+1.5**
NMHZ	**Naumai**	**2.44**	**186**	P	**Pb**	**12 19 04.9**	**-1.7**
RATZ	**Rangitukua**	**2.45**	**206**	P	**Pb**	**12 19 08.0**	**+1.2**
RITZ	**Rihia Road**	**2.52**	**204**	P	**Pn**	**12 19 01.4**	**-2.5**
BKZ	**Black Stump Fm**	**2.55**	**192**	Pn	**Pn**	**12 19 04.3**	**0.0**
BKZ	**Black Stump Fm**	**2.55**	**192**	P	**Pn**	**12 19 04.5**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.55**	**167**	P	**Pn**	**12 19 05.8**	**+1.5**
HIZ	**Hauiti**	**2.59**	**224**		**Pn**	**12 19 03.9**	**-1.0**
HIZ	**Hauiti**	**2.59**	**224**	P	**Pn**	**12 19 04.2**	**-0.7**
ARHZ	**Aropaoanui**	**2.59**	**183**	P	**Pn**	**12 19 06.0**	**+1.1**
TMVZ	**Te Maari**	**2.70**	**205**	P	**Pb**	**12 19 09.4**	**-1.6**
KRVZ	**Karewarewa**	**2.70**	**206**	P	**Pb**	**12 19 11.2**	**+0.2**
ETVZ	**East Tongariro**	**2.71**	**204**	P	**Pb**	**12 19 10.5**	**-0.7**
WTVZ	**West Tongariro**	**2.74**	**206**	P	**Pb**	**12 19 12.2**	**+0.6**
OTVZ	**Oturere**	**2.75**	**205**	P	**Pb**	**12 19 10.1**	**-1.8**
TWVZ	**Taurewa**	**2.76**	**209**	P	**Pb**	**12 19 12.1**	**+0.2**
NGZ	**Ngauruhoe**	**2.79**	**206**	P	**Pb**	**12 19 13.0**	**+0.4**
MCHZ	**McNeill Hill**	**2.79**	**187**	P	**Pn**	**12 19 08.9**	**+1.3**
KWHZ	**Kaweka Forest**	**2.81**	**192**	P	**Pn**	**12 19 10.1**	**+2.1**
TUVZ	**Tukino**	**2.85**	**204**	P	**Pb**	**12 19 15.4**	**+1.8**
FWVZ	**Far West T-bar**	**2.88**	**206**	P	**Pb**	**12 19 13.5**	**-0.6**
WHVZ	**Whangaehu Hut**	**2.89**	**205**	P	**Pb**	**12 19 13.8**	**-0.5**
WNVZ	**Wahianoa**	**2.92**	**204**	P	**Pb**	**12 19 13.3**	**-1.6**
BHHZ	**Black Hill Sta**	**2.94**	**197**	P	**Pn**	**12 19 11.7**	**+2.0**
MOVZ	**Moawhango**	**2.95**	**202**	P	**Pb**	**12 19 12.4**	**-2.8**
PKVZ	**Pokaka**	**2.98**	**208**	P	**Pb**	**12 19 16.6**	**+0.9**
CKHZ	**Cape Kidnapper**	**2.99**	**181**	P	**Pn**	**12 19 11.8**	**+1.5**
MTVZ	**Mangateitei**	**3.02**	**206**	P	**Pb**	**12 19 14.8**	**-1.6**
KRHZ	**Kereru**	**3.03**	**192**	P	**Pn**	**12 19 11.7**	**+0.8**
VRZ	**Vera Road**	**3.10**	**217**	P	**Pn**	**12 19 11.9**	**+0.1**
KAHZ	**Kahuranaki**	**3.13**	**184**	P	**Pn**	**12 19 12.9**	**+0.6**
OUZ	**Omahuta**	**3.23**	**296**	Pn	**Pn**	**12 19 12.8**	**-0.8**
OUZ	**Omahuta**	**3.23**	**296**	P	**Pn**	**12 19 13.1**	**-0.5**
PNHZ	**Pukenui**	**3.33**	**193**	P	**Pn**	**12 19 15.4**	**+0.4**
PXZ	**Pawanui**	**3.37**	**184**	P	**Pn**	**12 19 15.8**	**+0.3**
WPHZ	**Waipukurau**	**3.44**	**189**	P	**Pn**	**12 19 18.8**	**+2.3**
TSZ	**Takapari Road**	**3.51**	**195**	P	**Pn**	**12 19 17.8**	**+0.3**
WAZ	**Wanganui**	**3.52**	**208**	P	**Pb**	**12 19 22.6**	**-2.3**
LREZ	**Lake Rotokare**	**3.53**	**217**	P	**Pn**	**12 19 19.9**	**+2.1**
NEZ	**North Egmont**	**3.55**	**222**	P	**Pn**	**12 19 20.0**	**+1.9**
KHEZ	**Kahui Hut**	**3.61**	**222**	P	**Pb**	**12 19 23.3**	**-3.2**
PRHZ	**Porangahau**	**3.62**	**186**	P	**Pn**	**12 19 19.5**	**+0.6**
NBEZ	**Newall Road No**	**3.67**	**224**	P	**Pn**	**12 19 22.4**	**+2.7**
DVHZ	**Dannevirke**	**3.71**	**192**	P	**Pn**	**12 19 21.7**	**+1.5**
OHWZ	**Ohakea**	**3.82**	**202**	P	**Pb**	**12 19 27.7**	**-2.2**
POWZ	**Post Office Ro**	**3.87**	**196**	P	**Pn**	**12 19 25.3**	**+2.8**
PRWZ	**Pori Road**	**3.99**	**193**	P	**Pn**	**12 19 25.6**	**+1.5**
BFZ	**Birch Farm**	**4.07**	**190**	Pn	**Pn**	**12 19 25.3**	**+0.2**
BFZ	**Birch Farm**	**4.07**	**190**	P	**Pn**	**12 19 25.4**	**+0.2**
MRZ	**Mangatainoka R**	**4.17**	**197**	P	**Pn**	**12 19 25.9**	**-0.7**
TIWZ	**Tintock**	**4.22**	**193**	P	**Pn**	**12 19 27.6**	**+0.4**
HOWZ	**Holdsworth Sta**	**4.41**	**196**	P	**Pn**	**12 19 29.2**	**-0.7**
OGWZ	**Otaki Gorge**	**4.42**	**200**	P	**Pn**	**12 19 30.1**	**+0.1**
KIW	**Kapiti Island**	**4.54**	**202**	P	**Pn**	**12 19 31.9**	**+0.3**
TMWZ	**Te Maipa**	**4.54**	**192**	P	**Pn**	**12 19 31.3**	**-0.4**
MTW	**Mount Morrison**	**4.67**	**196**	P	**Pn**	**12 19 33.3**	**0.0**
CAW	**Cannon Point**	**4.72**	**200**	P	**Pn**	**12 19 33.6**	**-0.5**
DUWZ	**D'Urville Isla**	**4.84**	**210**	P	**Pn**	**12 19 39.7**	**+3.9**
TRWZ	**Traveller**	**4.86**	**193**	P	**Pn**	**12 19 34.4**	**-1.7**
PAWZ	**Paruwai Farm**	**4.89**	**195**	P	**Pn**	**12 19 35.8**	**-0.8**
MSWZ	**Moikau Station**	**4.97**	**197**		**Pn**	**12 19 35.3**	**-2.2**
WEL	**Wellington**	**4.97**	**201**	P	**Pn**	**12 19 36.1**	**-1.4**
SNZO	**South Karori**	**5.01**	**202**		**Pn**	**12 19 38.1**	**0.0**
BHW	**Baring Head**	**5.06**	**200**		**Pn**	**12 19 37.3**	**-1.4**
BHW	**Baring Head**	**5.06**	**200**	P	**Pn**	**12 19 39.7**	**+1.0**
TCW	**Tory Channel**	**5.06**	**205**	P	**Pn**	**12 19 40.7**	**+1.9**
PLWZ	**Palliser**	**5.11**	**196**	Pn	**Pn**	**12 19 36.9**	**-2.6**
TUWZ	**Tuamarina**	**5.37**	**207**		**Pn**	**12 19 41.4**	**-1.6**
TUWZ	**Tuamarina**	**5.37**	**207**	P	**Pn**	**12 19 43.8**	**+0.8**
NNZ	**Nelson**	**5.41**	**212**		**Pn**	**12 19 42.4**	**-1.2**
NNZ	**Nelson**	**5.41**	**212**	P	**Pn**	**12 19 47.0**	**+3.4**
QRZ	**Quartz Range**	**5.50**	**220**	Pn	**Pn**	**12 19 45.1**	**+0.2**
QRZ	**Quartz Range**	**5.50**	**220**	P	**Pn**	**12 19 46.2**	**+1.4**
BSWZ	**Blackbirch Sta**	**5.65**	**206**		**Pn**	**12 19 46.3**	**-0.5**
THZ	**Tophouse**	**6.06**	**212**	Pn	**Pn**	**12 19 52.7**	**+0.1**
THZ	**Tophouse**	**6.06**	**212**	P	**Pn**	**12 19 53.1**	**+0.5**
KHZ	**Kahutara**	**6.38**	**205**	Pn	**Pn**	**12 19 55.1**	**-1.8**
KHZ	**Kahutara**	**6.38**	**205**	P	**Pn**	**12 19 56.0**	**-0.9**
GVZ	**Greta Valley S**	**7.04**	**205**	P	**Pn**	**12 20 06.4**	**+0.3**
LTZ	**Lake Taylor**	**7.17**	**210**	Pn	**Pn**	**12 20 07.0**	**-0.8**
LTZ	**Lake Taylor**	**7.17**	**210**	P	**Pn**	**12 20 12.1**	**+4.3**
OXZ	**Oxford**	**7.72**	**209**	Pn	**Pn**	**12 20 13.0**	**-2.3**
OXZ	**Oxford**	**7.72**	**209**	P	**Pn**	**12 20 15.9**	**+0.6**
RPZ	**Rata Peaks**	**8.44**	**212**	Pn	Pn	12 20 30.5	+5.2
	0.9nm,0.3s,baz=146,slow=3.5,SNR=5.1						
RPZ				LR	LR	12 24 03.3	
	comp=Z,462nm,19.5s,baz=51,slow=41						
RAO	**Raoul Island**	**8.47**	**31**	LR	LR	12 23 18.6	
	comp=Z,546nm,18.6s,baz=232,slow=35						
CTZ	**Chatham Island**	**8.52**	**148**	P	**Pn**	**12 20 25.5**	**-0.7**
TMZ	**Timaru**	**9.01**	**209**	P	**Pn**	**12 20 33.1**	**+0.1**
DZM	**Mont Dzumac**	**17.26**	**324**	P	**P**	**12 22 27.2**	**+1.4**
	0.1nm,0.3s,baz=154,slow=13,SNR=5.4						
DZM				LR	LR	12 27 48.1	
	comp=Z,595nm,18.6s,baz=156,slow=33						
DZM	**Mont Dzumac**	**17.26**	**324**	*e*Pn	**Pn**	**12 22 24.3**	**0.0**
	53nm,1.5s						
DZM				*e*LR	LR	12 26 25.9	
	comp=Z,794nm,29.2s						
DZM	**Mont Dzumac**	**17.26**	**324**		**P**	**12 22 24.6**	**-1.3**
DZM				IAmb	IAmb	12 22 30.7	
	comp=Z,20nm,1.2s						
MSVF	**Nonsavu**	**18.88**	**3**	LR	LR	12 28 19.2	
	comp=Z,283nm,18.4s,baz=186,slow=32						
MSVF	**Nonsavu**	**18.88**	**3**		**Pn**	**12 22 43.7**	**-0.4**
MSVF				IAmb	IAmb	12 22 49.1	
	comp=Z,42nm,1.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.66**	**269**	P	**P**	**12 24 31.0**	**+2.0**
	comp=Z,6.3nm,1.2s,baz=79,slow=16,SNR=2.2						
CTA	**Charters Tower**	**31.63**	**293**	P	**P**	**12 24 47.0**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=144,slow=8.7,SNR=4.6						
TBI	**Tubuai**	**31.64**	**75**	*e*LR	LR	12 32 35.5	
	comp=Z,240nm,27.5s,baz=226						
TBI	**Tubuai**	**31.64**	**75**	*e*T	T	12 57 53.7	
	comp=Z,30nm,0.3s						
PAE	**Paea**	**34.89**	**66**	*e*T	T	13 01 58.7	
	comp=Z,2.7nm,0.3s						
PPT2	**Papeete2**	**34.94**	**66**	*e*LR	LR	12 34 11.2	
	comp=Z,220nm,26.0s,baz=223						
PPT2	**Papeete2**	**34.94**	**66**	*e*T	T	13 01 59.9	
	comp=Z,7.7nm,0.3s						
PPT	**Papeete**	**34.95**	**66**	LR	LR	12 35 48.5	
	comp=Z,117nm,20.8s,baz=214,slow=30						
MEH	**Mehetia**	**35.88**	**68**	*e*T	T	13 03 12.8	
	comp=Z,12nm,0.3s						
VAH	**Vaihoa**	**37.88**	**65**	*e*T	T	13 05 42.0	
	comp=Z,16nm,0.2s						
AS31	**Alice Springs**	**39.26**	**277**	P	**P**	**12 25 50.1**	**-2.0**
ASAR	**Alice Springs**	**39.26**	**277**	P	**P**	**12 25 52.5**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=121,slow=7.9,SNR=16						
ASAR				LR	LR	12 41 37.2	
	comp=Z,124nm,19.8s,baz=118,slow=36						
ASAR	**Alice Springs**	**39.26**	**277**	P	**P**	**12 25 50.4**	**-1.7**
WRA	**Warramunga Arr**	**40.85**	**282**	P	**P**	**12 26 05.5**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=123,slow=7.2,SNR=13						
WRA				LR	LR	12 41 54.2	
	comp=Z,169nm,21.2s,baz=120,slow=35						
FITZ	**Fitzroy Crossi**	**48.74**	**278**	P	**P**	**12 27 09.0**	**+0.8**
	comp=Z,6.1nm,1.1s,baz=122,slow=8.5,SNR=5.2						
FITZ	**Fitzroy Crossi**	**48.74**	**278**	P	**P**	**12 27 07.8**	**-0.4**
FITZ				IAmb	IAmb	12 27 25.6	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**53.45**	**180**	P	**P**	**12 27 44.6**	**+1.4**
	comp=Z,8.9nm,1.1s,baz=51,slow=5.8,SNR=18						
QSPA	**South Pole Qui**	**53.45**	**180**	P	**P**	**12 27 43.8**	**+0.5**
SIJI	**Sorong**	**55.35**	**299**	LR	LR	12 50 25.1	
	comp=Z,126nm,21.1s,baz=92,slow=35						
RPN	**Rapa Nui**	**61.77**	**104**	LR	LR	12 49 28.0	
	comp=Z,34nm,18.7s,baz=246,slow=30						
SNAA	**Sanae**	**71.96**	**180**	P	**P**	**12 29 48.4**	**+1.9**
VNA3	**Neumayer Olymp**	**72.28**	**178**	P	**P**	**12 29 49.2**	**+0.9**
VNA2	**Neumayer--Watz**	**72.66**	**178**	P	**P**	**12 29 53.0**	**+2.4**
	baz=226,slow=6.8						
VNA1	**Neumayer--Stat**	**72.92**	**178**	P	**P**	**12 29 54.8**	**+2.8**
PLCA	**Paso Flores**	**81.10**	**135**	LR	LR	12 58 06.2	
	comp=Z,71nm,21.9s,baz=186,slow=29						
KSRS	**Korea Array**	**86.69**	**323**	P	**P**	**12 31 08.1**	**+1.1**
	comp=Z,4.2nm,0.9s,baz=142,slow=5.8,SNR=11						
KSAR	**Wonju Array Be**	**86.70**	**323**	P	**P**	**12 31 07.4**	**+0.3**
USRK	**Ussuriysk Ar.**	**90.31**	**329**	P	**P**	**12 31 25.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**91.79**	**292**	P	**P**	**12 31 32.3**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=151,slow=3.4,SNR=20						
CMAR				LR	LR	13 15 01.5	
	comp=Z,24nm,20.6s,baz=178,slow=37						
CMAR	**Chiang Mai Arr**	**91.79**	**292**	P	**P**	**12 31 31.9**	**+0.3**
CHTO	**Chiang Mai**	**92.00**	**292**	P	**P**	**12 31 33.4**	**+0.8**
CHTO				IAmb	IAmb	12 31 35.2	
	comp=Z,4.2nm,1.0s						
CPUP	**Villa Florida**	**99.03**	**132**	LR	LR	13 10 48.8	
	comp=Z,76nm,18.4s,baz=224,slow=32						
FINES	**FINESS Array B**	**149.27**	**333**	PKPbc	**PKiKP**	**12 38 12.5**	**0.0**
	comp=Z,1.4nm,0.5s,baz=73,slow=6.4,SNR=6.0						
DBIC	**Dimbokro**	**150.09**	**176**	PKPbc	**PKiKP**	**12 38 16.4**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=135,slow=4.3,SNR=3.8						
BRTR	**Keskin Array B**	**151.29**	**287**	PKPbc	**PKPbc**	**12 38 15.3**	**-1.8**
	comp=Z,1.0nm,0.9s,baz=129,slow=4.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**156.23**	**191**	PKPab	**PKPab**	**12 38 45.1**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=163,slow=2.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**156.23**	**191**	PKPdf	**PKPdf**	**12 38 17.2**	**-1.5**

*IDC **05** 12:23:31.0±2.2, 42°.29N×143°.14E, h69km±16km, mb3.5/9, mb1 3.5/12, mb1mx3.4/38, mbtmp3.7/12, MS3.6/2, Ms1 3.6/2, ms1mx2.8/52, Error ellipse: s-maj=25.1km s-min=13.4km az=106.0*
*SKHL **05** 12:23:30.3±0.6, 42°.20N×143°.00E, h57km±2km, mb4.7/3*
*NIED **05** 12:23:31.1, 42°.32N×143°.02E, h52km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr7.07; Mθθ-2.93; Mφφ-4.14; Mrθ4.08; Mθφ-3.54; Mφr2.68; Fault plane solution: Mo8.61000×10¹⁴ NP1:φs49.00000°, δ62.00000°, λ99.00000°. NP2:φs211.00000°, δ29.00000°, λ74.00000°.*
*JMA **05** 12:23:31.0±0.1, 42°.32N×143°.02E, h52km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs232.00000°, δ42.00000°, λ102.00000°. NP2: φs35.00000°, δ50.00000°, λ79.00000°. Principal axes: T Plg81.0000°, Azm249.0000°; N Plg8.0000°, Azm42.0000°; P Plg4.0000°, Azm133.0000°;*
JMA Felt I J1.
ISC 05 12:23:30.3±0.7**, 42°.28N**±0°.05×**143°.04E**±0°.04**, h57**km±6km**, n49, σ1§06**/55**, mb3.8**/9**, 5C-7D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.19**	**86**	⇑P	**Pn**	**12 23 39.6**	**+0.2**
JTHR				*e*S	**Sn**	**12 23 46.2**	**+0.2**
JNBK	**Urakawa-nobuka**	**0.22**	**271**	⇑P	**Pn**	**12 23 39.4**	**-0.2**
JNBK				*e*S	**Sn**	**12 23 46.3**	**+0.1**
JEM	**Erimo**	**0.28**	**162**	⇑P	**Pn**	**12 23 40.6**	**+0.6**
JCH	**Churui**	**0.41**	**35**	⇑P	**Pn**	**12 23 41.2**	**0.0**
JCH				*e*S	**Sn**	**12 23 49.2**	**+0.2**
JSHD	**Hidakashinhida**	**0.45**	**287**	⇓P	**Pn**	**12 23 41.7**	**+0.2**
JBT2	**Biratori 2**	**0.71**	**315**	⇓P	**Pn**	**12 23 44.6**	**+0.1**
JOB	**Onbets**	**0.86**	**43**	⇑P	**Pn**	**12 23 47.3**	**+0.9**
JOB				*e*S	**Sn**	**12 23 59.8**	**+1.6**
JIAM	**Iburiatsuma**	**0.90**	**293**	⇓P	**Pn**	**12 23 48.2**	**+1.3**
JFR	**Furan**	**0.94**	**340**	⇓P	**Pn**	**12 23 46.6**	**-1.0**
JFR				*e*S	**Sn**	**12 23 59.2**	**-1.1**
JAR	**Ashorobuto**	**1.15**	**27**	P	**Pn**	**12 23 50.3**	**0.0**
JAR				*e*S	**Sn**	**12 24 04.4**	**-0.7**
JEW	**Eniwo**	**1.30**	**296**	⇓P	**Pn**	**12 23 52.8**	**+0.5**
JEW				*e*S	**Sn**	**12 24 09.8**	**+1.0**
JAB	**Ashibetsu**	**1.37**	**334**	⇓P	**Pn**	**12 23 53.8**	**+0.6**
JAK	**Akkeshi**	**1.42**	**59**	⇓P	**Pn**	**12 23 54.1**	**+0.3**
JAK				*e*S	**Sn**	**12 24 12.4**	**+1.0**
ASAJ	**Asahikawa**	**1.87**	**350**	P	**Pn**	**12 24 00.9**	**+1.0**
	48nm,0.3s,baz=200,slow=16,SNR=249						
ASAJ				S	**Sn**	**12 24 24.0**	**+1.6**
	16nm,0.3s,baz=308,slow=31,SNR=10						
NMR	**Nemuro--Hokkai**	**2.26**	**60**	*i* P	**Pn**	**12 24 04.9**	**-0.3**
NMR				*i* S	**Sn**	**12 24 30.6**	**-1.3**
GLVR	**Golovnino**	**2.33**	**50**	*e*P	**Pn**	**12 24 07.4**	**+1.2**
GLVR				AMB	AMB	12 24 10.0	
	180nm,0.4s						
GLVR				*e*S	**Sn**	**12 24 34.8**	**+1.1**
GLVR				A	A	12 24 36.0	
	1µm,0.5s						
GLVR				A	A	12 24 36.0	
	1µm,0.5s						
GRPR	**Tuman**	**2.63**	**48**	*e*P	**Pn**	**12 24 11.1**	**+0.7**
GRPR				AMB	AMB	12 24 13.9	
	110nm,0.4s						
GRPR				*e*S	**Sn**	**12 24 42.4**	**+1.3**
GRPR				A	A	12 24 43.0	
	310nm,0.4s						
GRPR				A	A	12 24 43.0	
	360nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.71**	**49**	*e*P	**Pn**	**12 24 12.6**	**+1.2**
YUK				AMB	AMB	12 24 13.8	
	80nm,0.4s						
YUK				*e*S	**Sn**	**12 24 43.9**	**+1.0**
YUK				A	A	12 24 47.8	
	350nm,0.5s						
YUK				A	A	12 24 47.8	
	380nm,0.5s						
KUR	**Kuril'sk**	**4.58**	**48**	*e*S	**Sn**	**12 25 30.3**	**+1.6**
KUR				A	A	12 25 40.0	
	70nm,0.5s						
KUR				A	A	12 25 40.0	
	100nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.68**	**358**	*e*P	**Pn**	**12 24 41.0**	**+2.6**
YSS				AMB	AMB	12 24 43.2	
	20nm,0.7s						
MJAR	**Matsushiro Arr**	**6.84**	**215**	P	**Pn**	**12 25 09.5**	**+1.4**
	0.1nm,0.3s,baz=25,slow=14,SNR=2.8						
USRK	**Ussuriysk Ar.**	**8.30**	**287**	P	**Pn**	**12 25 29.1**	**+1.2**
	baz=101,slow=13,SNR=3.2						
KSRS	**Korea Array**	**12.57**	**252**	P	**Pn**	**12 26 27.4**	**+1.0**
	0.1nm,0.3s,baz=73,slow=13,SNR=2.5						
SEY	**Seymchan**	**21.41**	**12**	P	**P**	**12 28 10.7**	**-2.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.0nm,0.5s,baz=178,slow=12,SNR=5.0						
SONM	**Songino Array**	**26.30**	**295**	P	**P**	**12 29 00.3**	**-0.2**
	0.9nm,0.5s,baz=92,slow=8.1,SNR=5.3						
SONM				LR	LR	12 40 03.9	
	comp=Z,124nm,19.6s,baz=161,slow=38						
H11N2	**WAKE ISLAND Hy**	**30.20**	**131**	T	T	13 01 07.0	
	baz=324,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**30.21**	**131**	T	T	13 01 07.3	
	baz=324,slow=75,SNR=56						
H11N3	**WAKE ISLAND Hy**	**30.21**	**131**	T	T	13 01 09.8	
	baz=324,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**31.07**	**132**	T	T	13 02 12.5	
	baz=325,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**31.07**	**132**	T	T	13 02 12.9	
	baz=325,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**31.09**	**132**	T	T	13 02 13.1	
	baz=325,slow=76,SNR=26						
ZALV	**Zalesovo Beam**	**39.50**	**308**	P	**P**	**12 30 54.9**	**-0.1**
	1.2nm,0.4s,baz=94,slow=7.0,SNR=8.6						
MKAR	**Makanchi Array**	**42.60**	**298**	P	**P**	**12 31 20.5**	**-0.1**
	1.1nm,0.6s,baz=83,slow=10,SNR=14						
MKAR				PcP	**PcP**	**12 33 12.2**	**+0.3**
	0.2nm,0.5s,baz=64,slow=4.6,SNR=2.4						
CM34	**Chiang Mai Arr**	**43.80**	**252**	P	**P**	**12 31 33.0**	**+2.4**
CM35	**Chiang Mai Arr**	**43.91**	**251**	P	**P**	**12 31 33.0**	**+1.5**
CM33	**Chiang Mai Arr**	**43.97**	**252**	P	**P**	**12 31 33.0**	**+1.1**
CM36	**Chiang Mai Arr**	**44.06**	**251**	P	**P**	**12 31 33.0**	**+0.3**
CM32	**Chiang Mai Arr**	**44.15**	**252**	P	P	12 31 41.0	+7.6
CM02	**Chiang Mai Arr**	**44.22**	**251**	P	**P**	**12 31 33.8**	**-0.2**
CM04	**Chiang Mai Arr**	**44.22**	**251**	P	**P**	**12 31 33.3**	**-0.7**
CM01	**Chiang Mai Arr**	**44.22**	**251**	P	**P**	**12 31 33.0**	**-1.0**
CM05	**Chiang Mai Arr**	**44.25**	**251**	P	**P**	**12 31 33.4**	**-0.8**
CM13	**Chiang Mai Arr**	**44.26**	**251**	P	**P**	**12 31 33.9**	**-0.4**
RES	**Resolute Bay**	**57.22**	**16**	P	**P**	**12 33 09.9**	**-1.1**
	0.8nm,0.5s,baz=312,slow=5.9,SNR=11						
YKA	**Yellowknife Ar**	**58.67**	**32**	P	**P**	**12 33 21.0**	**-0.3**
	0.2nm,0.5s,baz=309,slow=6.5,SNR=4.2						
ARCES	**ARCESS Array B**	**59.55**	**339**	P	**P**	**12 33 27.3**	**-0.1**
	0.7nm,0.5s,baz=40,slow=8.6,SNR=3.9						
WRA	**Warramunga Arr**	**62.43**	**189**	P	**P**	**12 33 46.9**	**-0.5**
	0.7nm,1.0s,baz=23,slow=6.4,SNR=4.6						
FINES	**FINESS Array B**	**64.78**	**332**	P	**P**	**12 34 01.4**	**-1.0**
	1.1nm,0.4s,baz=50,slow=6.7,SNR=17						
NVAR	**Mina Array Bea**	**70.90**	**55**	LR	LR	13 07 02.2	
	comp=Z,37nm,18.0s,baz=346,slow=37						

IDC 05 12:44:12.6±8.8**, 7°.65S**×**159°.39E, h177**km±46km**, mb3.3**/3**, mb1 3.3**/4**, mb1mx3.0**/25**, mbtmp3.8**/4**, Error ellipse: s-maj=170.2km s-min=74.7km az=45.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.86**	**163**	P	Pn	12 44 47.9	0.0
	48nm,0.3s,baz=197,slow=11,SNR=44						
HNR				S	Sn	12 45 08.5	-6.9
	76nm,0.3s,baz=125,slow=23,SNR=9.8						
CTA	**Charters Tower**	**17.75**	**224**	P	P	12 48 07.3	0.0
	0.1nm,0.3s,baz=42,slow=15,SNR=2.3						
WRA	**Warramunga Arr**	**27.18**	**241**	P	P	12 49 40.5	+0.6
	0.5nm,0.4s,baz=66,slow=9.5,SNR=8.0						
ASAR	**Alice Springs**	**29.17**	**234**	P	P	12 49 57.0	-0.5
	0.3nm,0.5s,baz=62,slow=10.0,SNR=13						
STKA	**Stephens Creek**	**29.26**	**212**	P	P	12 49 58.1	0.0
	0.9nm,0.4s,baz=32,slow=13,SNR=2.2						

*IDC **05** 12:54:16.7±2.0, 20°.44S×68°.70W, h97km±20km, mb4.0/8, mb1 4.2/10, mb1mx3.9/34, mbtmp4.4/10, MS2.8/1, Ms1 3.0/1, ms1mx2.6/20, Error ellipse: s-maj=21.0km s-min=17.4km az=137.0*
*NEIC **05** 12:54:16.9±3.0, 20°.50S±0°.05×68°.93W±0°.10, h101km±2km, Error ellipse: s-maj=13.4km s-min=7.0km az=92.0*
*GUC **05** 12:54:17.9±0.6, 20°.51S×68°.95W, h102km±2km, ML4.2*
*SJA **05** 12:54:17.2±0.6, 20°.53S×69°.02W, h104km±3km, ML4.3, MW4.2*
*VAO **05** 12:54:17.0±0.6, 20°.39S×68°.86W, h106km±5km, mb4.7*
ISC 05 12:54:16.6±0.6**, 20°.51S**±0°.03×**69°.00W**±0°.04**, h104**km±5km**, n160, σ1§52**/183**, mb4.4**/12**, 11C-3D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.40**	**338**	⇓*i*P	**Pn**	**12 54 33.7**	**+1.0**
PB08				*i* S	**Sn**	**12 54 45.7**	**+1.1**
PB08				IAML		12 54 46.6	
	comp=E,15µm,0.4s						
PB08	**IPOC Station P**	**0.40**	**338**		**Pn**	**12 54 33.2**	**+0.6**
PB08	**IPOC Station P**	**0.40**	**338**	*e*P	**Pn**	**12 54 33.7**	**+1.0**
PB08				*e*S	**Sn**	**12 54 45.8**	**+1.2**
PB08				IAML		12 54 48.8	
	comp=Z,4µm,1.3s						
PB01	**IPOC Station P**	**0.70**	**221**	⇑*i*P	**Pn**	**12 54 35.4**	**+0.9**
PB01				*i* S	**Sn**	**12 54 49.2**	**+1.2**
PB01				IAML		12 54 51.5	
	comp=N,6µm,0.8s						
PB01	**IPOC Station P**	**0.70**	**221**		**Pn**	**12 54 35.4**	**+0.9**
PB01	**IPOC Station P**	**0.70**	**221**	*e*P	**Pn**	**12 54 35.5**	**+0.9**
PB01				*e*S	**Sn**	**12 54 49.8**	**+1.8**
HMBC	**Humberstone**	**0.87**	**285**	⇑*i*P	**Pn**	**12 54 36.9**	**+0.8**
HMBC				*i* S	**Sn**	**12 54 51.9**	**+1.1**
HMBC				IAML		12 54 53.1	
	comp=N,6µm,0.4s						
TA02	**Huaiquique**	**1.09**	**282**	⇑*i*P	**Pn**	**12 54 39.5**	**+1.2**
TA02				*i* S	**Sn**	**12 54 55.7**	**+1.0**
TA02				IAML		12 54 58.6	
	comp=E,6µm,0.1s						
TA01	**Diego Aracena**	**1.11**	**267**	⇑*i*P	**Pn**	**12 54 39.3**	**+0.8**
TA01				*i* S	**Sn**	**12 54 55.8**	**+0.7**
TA01	**Diego Aracena**	**1.11**	**267**	Pn	**Pn**	**12 54 39.3**	**+0.8**
PB09	**IPOC Station P**	**1.30**	**190**	⇑*i*P	**Pn**	**12 54 42.2**	**+1.3**
PB09				*i* S	**Sn**	**12 55 01.1**	**+1.8**
PB09				IAML		12 55 03.3	
	comp=E,4µm,0.5s						
PB09	**IPOC Station P**	**1.30**	**190**		**Pn**	**12 54 42.1**	**+1.3**
PB09	**IPOC Station P**	**1.30**	**190**	*e*P	**Pn**	**12 54 42.2**	**+1.3**
PB09				*e*S	**Sn**	**12 55 01.9**	**+2.7**
PB09				IAML		12 55 02.5	
	comp=Z,5µm,0.6s						
PSGCX	**Pisagua**	**1.40**	**310**		**Pn**	**12 54 42.8**	**+0.9**
PSGCX	**Pisagua**	**1.40**	**310**	*e*P	**Pn**	**12 54 43.1**	**+1.2**
PSGCX				*e*S	**Sn**	**12 55 02.8**	**+1.7**
PSGC	**Pisagua**	**1.40**	**310**	⇑*i*P	**Pn**	**12 54 42.6**	**+0.7**
PSGC				*i* S	**Sn**	**12 55 01.9**	**+0.8**
PB07	**IPOC Station P**	**1.47**	**214**	⇑*i*P	**Pn**	**12 54 43.8**	**+0.9**
PB07				*i* S	**Sn**	**12 55 03.8**	**+1.0**
PB07				IAML		12 55 09.2	
	comp=N,3µm,0.6s						
PB07	**IPOC Station P**	**1.47**	**214**		**Pn**	**12 54 43.6**	**+0.7**
PB07	**IPOC Station P**	**1.47**	**214**	*e*P	**Pn**	**12 54 44.0**	**+1.2**
PB07				*e*S	**Sn**	**12 55 04.3**	**+1.6**
PB07				IAML		12 55 05.2	
	comp=Z,3µm,0.6s						
MNMC	**Minye Minye**	**1.48**	**337**	⇓*i*P	**Pn**	**12 54 44.6**	**+1.5**
MNMC				*i* S	**Sn**	**12 55 04.6**	**+1.4**
MNMC	**Minye Minye**	**1.48**	**337**		**Pn**	**12 54 44.8**	**+1.7**
MNMCX	**Minye Minye**	**1.48**	**337**	*e*P	**Pn**	**12 54 44.9**	**+1.7**
MNMCX				*e*S	**Sn**	**12 55 06.2**	**+3.0**
LVC	**Limon Verde**	**2.09**	**178**	P	**Pn**	**12 54 52.6**	**+1.8**
	comp=Z,88nm,0.3s,baz=49,slow=10,SNR=511						
LVC				S	**Sn**	**12 55 18.8**	**+1.8**
	comp=Z,42nm,0.3s,baz=208,slow=17,SNR=7.7						
LVC	**Limon Verde**	**2.09**	**178**	⇑*i*P	**Pn**	**12 54 52.2**	**+1.4**
LVC				*i* S	**Sn**	**12 55 18.7**	**+1.7**
LVC	**Limon Verde**	**2.09**	**178**	Pn	**Pn**	**12 54 52.9**	**+2.0**
LVC	**Limon Verde**	**2.09**	**178**	*e*P	**Pn**	**12 54 52.7**	**+1.8**
LVC	**Limon Verde**	**2.09**	**178**	*e*P	**Pn**	**12 54 52.7**	**+1.8**
LVC				*e*S	**Sn**	**12 55 19.8**	**+2.8**
LVC				IAML		12 55 22.6	
	comp=Z,849nm,0.7s						
PB04	**IPOC Station P**	**2.11**	**210**	⇑*i*P	**Pn**	**12 54 51.9**	**+0.9**
PB04				*i* S	**Sn**	**12 55 17.8**	**+0.7**
PB04				IAML		12 55 27.1	
	comp=E,2µm,0.6s						
PB04	**IPOC Station P**	**2.11**	**210**		**Pn**	**12 54 52.1**	**+1.3**
PB04	**IPOC Station P**	**2.11**	**210**	*e*P	**Pn**	**12 54 52.2**	**+1.3**
PB04				IAML		12 55 27.9	
	comp=Z,2µm,0.5s						
PB16	**IPOC Station P**	**2.22**	**347**	⇑*i*P	**Pn**	**12 54 54.2**	**+1.5**
PB16				*i* S	**Sn**	**12 55 22.2**	**+2.0**
PB16	**IPOC Station P**	**2.22**	**347**		**Pn**	**12 54 54.8**	**+2.2**
PB16	**IPOC Station P**	**2.22**	**347**	*e*P	**Pn**	**12 54 54.9**	**+2.2**
PB16				*e*S	**Sn**	**12 55 23.6**	**+3.5**
PB06	**IPOC Station P**	**2.25**	**194**	⇑*i*P	**Pn**	**12 54 53.9**	**+1.2**
PB06				*i* S	**Sn**	**12 55 21.6**	**+1.2**
PB06	**IPOC Station P**	**2.25**	**194**		**Pn**	**12 54 54.3**	**+1.6**
PB06	**IPOC Station P**	**2.25**	**194**	*e*P	**Pn**	**12 54 54.0**	**+1.2**
PB06				*e*S	**Sn**	**12 55 21.0**	**+0.6**
PB06				IAML		12 55 32.0	
	comp=Z,1µm,0.9s						
AP01	**Chacalluta**	**2.48**	**329**	*e*P	**Pn**	**12 54 56.2**	**+0.7**
AP01				*i* S	**Sn**	**12 55 26.3**	**+0.9**
AP01	**Chacalluta**	**2.48**	**329**		**Pn**	**12 54 56.4**	**+0.8**
PB05	**IPOC Station P**	**2.59**	**205**	⇓*i*P	**Pn**	**12 54 57.8**	**+0.7**
PB05				*i* S	**Sn**	**12 55 28.8**	**+0.6**
PB05	**IPOC Station P**	**2.59**	**205**	*e*P	**Pn**	**12 54 58.0**	**+0.9**
PB05				*e*S	**Sn**	**12 55 27.5**	**-0.7**
PB05				IAML		12 55 40.9	
	comp=Z,1µm,0.6s						
PB15	**IPOC Station P**	**2.72**	**189**	*e*P	**Pn**	**12 55 00.5**	**+1.5**
PB15				*i* S	**Sn**	**12 55 33.1**	**+1.6**
PB15	**IPOC Station P**	**2.72**	**189**		**Pn**	**12 55 00.5**	**+1.5**
PB15	**IPOC Station P**	**2.72**	**189**	*e*P	**Pn**	**12 55 00.7**	**+1.7**
PB15				*e*S	**Sn**	**12 55 32.5**	**+1.0**
PB15				IAML		12 55 40.0	
	comp=Z,2µm,0.4s						
PB10	**IPOC Station P**	**3.32**	**206**	*e*P	**Pn**	**12 55 05.9**	**-0.8**
PB10				*e*S	**Sn**	**12 55 46.8**	**+1.4**
PB10				IAML		12 56 00.1	
	comp=E,589nm,0.5s						
PB10	**IPOC Station P**	**3.32**	**206**	Pn	**Pn**	**12 55 06.2**	**-0.5**
PB10	**IPOC Station P**	**3.32**	**206**	*e*P	Pn	12 55 01.4	-5.3
PB10				IAML		12 55 57.7	
	comp=Z,423nm,0.6s						
YJA	**Yavi**	**3.64**	**118**	*e*P	**Pn**	**12 55 14.1**	**+2.6**
YJA				*e*S	**Sn**	**12 55 56.7**	**+2.9**
LPAZ	**La Paz**	**4.28**	**11**	P	**Pn**	**12 55 23.1**	**+3.0**
	comp=Z,17nm,0.3s,baz=188,slow=8.5,SNR=105						
LPAZ				LR	LR	12 56 59.3	
	comp=Z,122nm,18.5s,baz=216,slow=39						
LPAZ	**La Paz**	**4.28**	**11**	Pn	**Pn**	**12 55 22.4**	**+2.2**
LPAZ	**La Paz**	**4.28**	**11**	*e*P	**Pn**	**12 55 22.8**	**+2.6**
PB14	**IPOC Station P**	**4.30**	**197**	Pn	**Pn**	**12 55 21.0**	**+0.8**
PB14	**IPOC Station P**	**4.30**	**197**	*e*P	**Pn**	**12 55 19.7**	**-0.5**
PB14				IAML		12 56 25.2	
	comp=Z,530nm,1.0s						
GO02	**Mina Guanaco**	**4.67**	**187**	Pn	**Pn**	**12 55 25.3**	**+0.2**
SLA	**San Lorenzo**	**5.29**	**143**	*e*P	**Pn**	**12 55 35.5**	**+2.1**
AC01	**Pan de Azucar**	**5.80**	**194**	Pn	**Pn**	**12 55 38.7**	**-1.5**
AC02	**Maricunga**	**6.30**	**181**		**Pn**	**12 55 47.0**	**-0.4**
AHML	**Horco Molle**	**7.09**	**152**	*e*P	**Pn**	**12 55 58.6**	**+0.8**
GO03	**Copiap**	**7.14**	**189**	Pn	**Pn**	**12 55 57.4**	**-1.0**
GO03	**Copiap**	**7.14**	**189**	*e*P	**Pn**	**12 55 59.5**	**+1.0**
AC04	**Llanos de Chal**	**7.89**	**193**	Pn	**Pn**	**12 56 05.0**	**-3.6**
VCA	**Vinchina**	**8.22**	**175**	*e*P	**Pn**	**12 56 13.5**	**+0.3**
AC05	**El Transito**	**8.37**	**188**	Pn	**Pn**	**12 56 12.9**	**-2.3**
CO01	**Juntas del Tor**	**9.48**	**186**	Pn	**Pn**	**12 56 30.5**	**+0.2**
GO04	**Tololo Observa**	**9.76**	**189**	Pn	**Pn**	**12 56 31.0**	**-3.2**
CO03	**El Pedregal**	**10.40**	**188**	Pn	**Pn**	**12 56 41.1**	**-1.6**
PTLB	**Pontes e Lacer**	**10.64**	**63**	*e*P	**Pn**	**12 56 43.3**	**-2.8**
ETMB	**Extrema**	**10.96**	**15**	*e*P	**Pn**	**12 56 48.9**	**-1.5**
VILB	**Vilhena**	**11.28**	**50**	*e*P	**Pn**	**12 56 52.6**	**-2.1**
TCA	**Tanti**	**11.48**	**161**	*e*P	**Pn**	**12 56 53.9**	**-3.5**
CPUP	**Villa Florida**	**12.17**	**121**	P	**Pn**	**12 57 05.0**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=302,slow=12,SNR=23						
CPUP	**Villa Florida**	**12.17**	**121**	Pn	**Pn**	**12 57 05.2**	**-1.2**
AQDB	**Aquidauana**	**12.46**	**92**	*e*P	**Pn**	**12 57 07.7**	**-2.6**
SAML	**Samuel**	**12.79**	**27**		**Pn**	**12 57 12.4**	**-2.3**
SAML	**Samuel**	**12.79**	**27**	*e*P	**Pn**	**12 57 12.4**	**-2.3**
MT02	**Curacav**	**12.84**	**188**	Pn	**Pn**	**12 57 14.7**	**-0.6**
PP1B	**Ponte de Pedra**	**13.66**	**80**	*e*P	**Pn**	**12 57 24.5**	**-1.5**
BO02	**Sierra Bellavi**	**14.32**	**186**	Pn	**Pn**	**12 57 35.2**	**+0.8**
TRCB	**Terra Rica**	**15.38**	**101**	*e*P	**Pn**	**12 57 47.7**	**-0.4**
CLDB	**Colider**	**15.90**	**55**	*e*P	**Pn**	**12 57 54.2**	**-0.4**
PTGB	**Pitanga**	**16.18**	**108**	*e*P	**Pn**	**12 57 58.4**	**+0.3**
BI02	**San Fabin de**	**16.22**	**187**	Pn	**Pn**	**12 57 57.5**	**-0.9**
BI02				IAmb	IAmb	12 58 00.3	
	comp=Z,14nm,0.8s						
PCMB	**Pacaembu**	**16.59**	**97**	*e*P	**Pn**	**12 58 02.5**	**-0.5**
ITAB	**Concordia**	**16.81**	**117**	*e*P	**Pn**	**12 58 05.7**	**+0.1**
ARAG	**Araguaiana, MT**	**17.01**	**77**	*e*P	**Pn**	**12 58 07.5**	**-0.7**
CPSB	**Cacapava Do Su**	**17.14**	**128**	*e*P	**Pn**	**12 58 09.7**	**0.0**
ITRB	**Iturama**	**17.52**	**91**	*e*P	**P**	**12 58 13.5**	**-0.6**
FRTB	**Fartura**	**18.25**	**102**	*e*P	**P**	**12 58 21.2**	**-0.8**
CNLB	**Canela**	**18.63**	**122**	*e*P	**P**	**12 58 25.2**	**-0.9**
NPGB	**Novo Progresso**	**18.81**	**47**	*e*P	**P**	**12 58 26.1**	**-2.1**
SNDB	**Serra Nova Dou**	**18.98**	**66**	*e*P	**P**	**12 58 28.7**	**-1.3**
TIJ01	**Guaruva-PR**	**19.02**	**108**	*e*P	**P**	**12 58 30.4**	**-0.1**
MACA	**Manacapuru-AM**	**19.05**	**26**	*e*P	**P**	**12 58 30.0**	**-0.8**
BB19B	**Bebedouro**	**19.15**	**95**	*e*P	**P**	**12 58 30.8**	**-1.0**
TER01	**Tubaro-SC**	**19.74**	**118**	*e*P	**P**	**12 58 37.0**	**-1.3**
IPMB	**Ipameri, GO**	**19.78**	**86**	*e*P	**P**	**12 58 37.4**	**-1.4**
PLCA	**Paso Flores**	**20.20**	**183**	P	**P**	**12 58 44.5**	**+1.3**
	comp=Z,17nm,0.9s,baz=12,slow=13,SNR=31						
PLCA	**Paso Flores**	**20.20**	**183**	P	**P**	**12 58 44.3**	**+1.1**
PLCA				IAmb	IAmb	12 58 45.4	
	comp=Z,23nm,0.9s						
PLCA	**Paso Flores**	**20.20**	**183**	*e*P	**P**	**12 58 44.7**	**+1.5**
SPB	**Sao Paulo**	**20.22**	**103**	*e*P	**P**	**12 58 42.8**	**-0.6**
PET01	**Itanhaem-SP**	**20.43**	**105**	*e*P	**P**	**12 58 44.7**	**-0.9**
BDFB	**Brasilia**	**20.52**	**80**	P	**P**	**12 58 45.4**	**-1.5**
	comp=Z,5.7nm,0.4s,baz=252,slow=14,SNR=8.0						
BDFB	**Brasilia**	**20.52**	**80**	P	**P**	**12 58 45.3**	**-1.5**
ITTB	**Itaituba**	**20.59**	**41**	*e*P	**P**	**12 58 45.2**	**-2.2**
VAO	**Valinhos**	**20.61**	**101**	*e*P	**P**	**12 58 45.8**	**-1.9**
PEXB	**Peixe**	**21.53**	**70**	*e*P	**P**	**12 58 55.9**	**-1.7**
PTGA	**Pitinga**	**21.55**	**25**	P	**P**	**12 58 55.1**	**-2.5**
	comp=Z,7.3nm,0.4s,baz=194,slow=15,SNR=16						
PTGA	**Pitinga**	**21.55**	**25**	P	**P**	**12 58 55.2**	**-2.5**
PTGA	**Pitinga**	**21.55**	**25**	*e*P	**P**	**12 58 55.2**	**-2.5**
PARB	**Paraibuna**	**21.86**	**102**	*e*P	**P**	**12 58 58.9**	**-2.1**
BSCB	**Bom Sucesso**	**22.65**	**96**	*e*P	**P**	**12 59 08.6**	**-0.8**
PRPB	**Parauapebas**	**23.44**	**55**	*e*P	**P**	**12 59 14.6**	**-2.1**
MALB	**Monte Alegre**	**23.47**	**40**	*e*P	**P**	**12 59 14.8**	**-2.2**
SMTB	**Santa Maria do**	**23.69**	**64**	*e*P	**P**	**12 59 17.5**	**-1.5**
DIAM	**Diamantina, MG**	**23.98**	**89**	*e*P	**P**	**12 59 20.8**	**-0.9**
JANB	**Januaria**	**24.11**	**81**	*e*P	**P**	**12 59 20.5**	**-2.4**
BOAV	**Boa Vista**	**24.23**	**21**	*e*P	**P**	**12 59 23.7**	**-0.2**
SDBA	**SAO DESIDERIO**	**24.44**	**75**	*e*P	**P**	**12 59 24.9**	**-1.0**
MCPB	**Macapa, AP**	**25.99**	**42**	*e*P	**P**	**12 59 39.2**	**-0.7**
SJMB	**Sao Joao De Ma**	**26.25**	**91**	*e*P	**P**	**12 59 41.6**	**-0.6**
ALF01	**Guarapari-ES**	**26.46**	**95**	*e*P	**P**	**12 59 43.9**	**-0.1**
BSFB	**Barra de Sao F**	**26.55**	**91**	*e*P	**P**	**12 59 44.0**	**-0.9**
RIB01	**Linhares ES**	**26.90**	**92**	*e*P	**P**	**12 59 47.4**	**-0.7**
GDU01	**Guandu, BA**	**28.89**	**81**	*e*P	**P**	**13 00 04.7**	**-1.1**
NBPN	**Ponto Novo - B**	**29.30**	**75**	*e*P	**P**	**13 00 07.7**	**-1.7**
NBLA	**Lagarto - SE**	**31.44**	**77**	*e*P	**P**	**13 00 27.1**	**-1.2**
NBPB	**Pedra_Branca-C**	**32.20**	**67**	*e*P	**P**	**13 00 33.2**	**-1.7**
NBAN	**Anadia - AL**	**33.31**	**76**	*e*P	**P**	**13 00 43.6**	**-1.1**
RCBR	**Riachuelo**	**35.27**	**70**	*e*P	**P**	**13 01 00.5**	**-1.2**
OBIP	**Obispado Ponce**	**38.38**	**4**	P	**P**	**13 01 26.2**	**-1.6**
456A	**Hilliard**	**52.46**	**346**		**PcP**	**13 04 25.6**	**-2.4**
TXAR	**Lajitas Array**	**59.77**	**325**	P	**P**	**13 04 13.5**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=144,slow=6.7,SNR=2.6						
GDL2	**Guadalupe Moun**	**62.40**	**326**		pP	13 04 55.5	+0.5
N49A	**Columbus Grove**	**62.73**	**347**		pP	13 04 58.0	+0.8
LMN	**Caledonia Moun**	**66.15**	**3**	P	**P**	**13 04 52.2**	**-0.5**
LIC	**Lamto**	**68.19**	**74**	*e*P	**P**	**13 05 04.7**	**-1.6**
	comp=Z,27nm,0.8s						
TIC	**Toumodi**	**68.38**	**74**	*e*P	**P**	**13 05 06.2**	**-1.3**
KIC	**Kosan Boka**	**68.51**	**74**	*e*P	**P**	**13 05 07.3**	**-1.0**
	comp=Z,33nm,0.7s						
DBIC	**Dimbokro**	**68.53**	**74**	P	**P**	**13 05 07.6**	**-0.8**
	comp=Z,16nm,0.6s,baz=222,slow=6.4,SNR=32						
DBIC	**Dimbokro**	**68.53**	**74**	P	**P**	**13 05 07.8**	**-0.7**
DBIC				IAmb	IAmb	13 05 08.4	
	comp=Z,18nm,0.7s						
ECSD	**EROS Data Cent**	**68.77**	**339**	P	**P**	**13 05 10.0**	**+0.8**
CBX	**Cerro Bola**	**69.56**	**318**		**PcP**	**13 05 38.3**	**+1.3**
QSPA	**South Pole Qui**	**69.68**	**180**	P	**P**	**13 05 16.7**	**+1.9**
QSPA				IAmb	IAmb	13 05 17.1	
	comp=Z,3.8nm,0.8s						
KOWA	**Kowa**	**72.70**	**67**	P	**P**	**13 05 33.1**	**-0.6**
KOWA				IAmb	IAmb	13 05 33.3	
	comp=Z,4.9nm,0.7s						
ECR	**Eagle Creek**	**74.30**	**329**		**PcP**	**13 05 58.7**	**+1.6**
NVAR	**Mina Array Bea**	**74.67**	**322**	P	**P**	**13 05 46.0**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=167,slow=8.0,SNR=6.3						
YNE	**Yellowstone No**	**75.15**	**331**	IAmb	IAmb	13 05 50.4	
	comp=Z,3.6nm,0.7s						
TOA0	**Torodi Ar. Sit**	**77.10**	**71**		**P**	**13 05 58.3**	**-0.8**
TOA0				IAmb	IAmb	13 05 59.1	
	comp=Z,12nm,1.0s						
TORD	**Torodi Ar. Bea**	**77.10**	**71**	P	**P**	**13 05 58.3**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,3.7nm,0.4s,baz=254,slow=5.2,SNR=26						
TORD	Torodi Ar. Bea	77.10	71	P	P	13 05 58.1	-1.0
TORD				IAmb	IAmb	13 05 59.1	
	comp=Z,7.8nm,0.9s						
ANGG	Ammassalik, Gr	89.11	12		pP	13 07 30.0	+1.7
YKA	Yellowknife Ar	90.23	341	P	P	13 07 06.0	+1.0
	comp=Z,1.6nm,0.8s,baz=129,slow=5.1,SNR=29						
ASAR	Alice Springs	130.75	208	PKP	PKPdf	13 13 16.9	+0.6
	comp=Z,0.5nm,0.5s,baz=126,slow=1.7,SNR=19						
WRA	Warramunga Arr	133.76	211	PKP	PKPdf	13 13 23.1	+1.1
	comp=Z,0.9nm,0.6s,baz=157,slow=1.8,SNR=17						
ZALV	Zalesovo Beam	141.09	25	PKP	PKPdf	13 13 36.2	+1.8
	comp=Z,1.1nm,0.9s,baz=335,slow=6.4,SNR=2.5						
JKA	Kamikawa-asahi	144.76	319		PKPdf	13 13 42.3	+1.1
ASAJ	Asahikawa	144.76	319	PKP	PKPdf	13 13 42.3	+1.1
	comp=Z,8.6nm,0.8s,baz=252,slow=3.2,SNR=4.4						
MKAR	Makanchi Array	144.88	35	PKP	PKPbc	13 13 41.6	+0.8
	comp=Z,1.4nm,0.8s,baz=328,slow=2.9,SNR=15						
MKAR	Makanchi Array	144.88	35		PKPbc	13 13 41.4	+0.6
KLR	Kul'dur	146.90	335	PKPbc	PKPbc	13 13 47.6	+0.9
	comp=Z,0.5nm,0.4s,baz=212,slow=4.0,SNR=4.3						
SONM	Songino Array	152.49	7	PKPbc	PKPbc	13 14 00.9	+0.2
	comp=Z,0.7nm,0.7s,baz=331,slow=1.7,SNR=5.7						

*IDC **05** 13:04:57.5±2.5, 49°.23N×27°.65W, h0^{km}, mb3.7/5, mb1 3.8/6, mb1mx3.4/62, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=73.4km s-min=28.9km az=22.0*

ISC 05 13:05:01.9±2.1**, 49°.6N**±0°.4×**27°.3W**±0°.2**, h10**^{km}**, n10,** σ0^{s}67/7**, mb3.7**/5**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESDC	Sonseca Array	19.27	112	P	P	13 09 25.9	-0.7
	0.0nm,0.3s,baz=299,slow=9.3,SNR=6.8						
AKASG	Malin Array Be	35.48	66	P	P	13 11 58.2	-0.1
	0.2nm,0.2s,baz=283,slow=8.7,SNR=4.1						
BRTR	Keskin Array B	43.35	79	P	P	13 13 05.0	+0.8
	1.0nm,0.7s,baz=300,slow=8.2,SNR=4.5						
YKA	Yellowknife Ar	46.63	320	P	P	13 13 29.6	-0.2
	0.5nm,0.8s,baz=65,slow=8.5,SNR=5.4						
BVAR	Borovoye Array	56.45	46	P	P	13 14 43.3	-0.1
	1.0nm,0.8s,baz=239,slow=10,SNR=4.9						
H10N2	ASCENSION HYDR	58.27	165	T	T	14 17 12.2	
	baz=350,slow=75,SNR=3.9						
H10N3	ASCENSION HYDR	58.28	165	T	T	14 17 12.7	
	baz=350,slow=75,SNR=3.8						
H10N1	ASCENSION HYDR	58.29	165	T	T	14 17 13.1	
	baz=350,slow=75,SNR=3.7						
MKAR	Makanchi Array	66.31	45	P	P	13 15 49.8	-0.4
	0.7nm,0.7s,baz=321,slow=6.1,SNR=6.4						
ASAR	Alice Springs	150.21	36	PKPbc	PKPdf	13 24 48.6	+0.7
	0.2nm,0.6s,baz=350,slow=1.8,SNR=6.3						

IDC 05 13:29:00.1±6.8**, 7°.00S**×**127°.26E, h364**^{km}±79^{km}**, mb2.6**/1**, mb1 3.1**/5**, mb1mx2.8**/32**, mbtmp3.8**/5**, Error ellipse: s-maj=108.0km s-min=22.8km az=50.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	4.77	228	P	Pn	13 30 18.7	+0.7
	26nm,0.3s,baz=61,slow=2.3,SNR=25						
BATI				S	S	13 31 21.0	-0.1
	6.8nm,0.3s,baz=332,slow=13,SNR=7.4						
FITZ	Fitzroy Crossi	11.14	188	P	Pn	13 31 31.6	0.0
	0.1nm,0.3s,baz=355,slow=12,SNR=1.5						
WRA	Warramunga Arr	14.58	153	P	P	13 32 08.7	-0.9
	1.1nm,0.3s,baz=330,slow=12,SNR=62						
ASAR	Alice Springs	17.75	160	P	P	13 32 43.9	+0.1
	0.4nm,0.3s,baz=345,slow=13,SNR=47						
MKAR	Makanchi Array	66.77	328	P	P	13 39 13.4	-0.1
	0.1nm,0.5s,baz=128,slow=6.3,SNR=4.5						

*BJI **05** 13:41:45.7±0.0, 44°.85N×151°.43E, h50^{km}, mB4.8/8, mb4.3/14, Ms4.4/2, Ms7 4.2/2*
*JMA **05** 13:41:46.6±0.6, 45°.36N×151°.28E, h30^{km}, M4.6*
*SKHL **05** 13:41:46.8±0.6, 45°.00N×151°.40E, h52^{km}±3^{km}, mb4.8/12*
*MOS **05** 13:41:48.6±1.1, 45°.32N×151°.02E, h47^{km}, mb4.3/11, Error ellipse: s-maj=8.8km s-min=7.3km az=137.7*
*IDC **05** 13:41:52.1±2.8, 45°.41N×150°.90E, h57^{km}±24^{km}, mb3.5/18, mb1 3.7/23, mb1mx3.6/49, mbtmp3.8/23, ML3.3/5, MS3.1/3, Ms1 3.1/3, ms1mx2.7/38, Error ellipse: s-maj=20.3km s-min=13.9km az=142.0*
*NEIC **05** 13:41:52.6±1.5, 45°.5N±0°.1×151°.0E±0°.2, h63^{km}±7^{km}, mb4.2/8, Error ellipse: s-maj=23.4km s-min=13.6km az=133.0*

ISC 05 13:41:48.3±0.6**, 45°.10N**±0°.08×**151°.20E**±0°.07**, h35**^{km}**, n141,** σ1^{s}69/156**, mb4.1**/30**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.36	275	ePN	Pn	13 42 24.7	+0.3
KUR				eS	Sn	13 42 52.6	+0.4
KUR				pmax	pmax		
	comp=N,110nm,0.2s						
KUR				pmax	pmax		
	comp=E,45nm,0.2s						
KUR				pmax	pmax		
	comp=Z,372nm,0.2s						
KUR				smax	smax		
	comp=N,734nm,0.3s						
KUR				smax	smax		
	comp=E,476nm,0.4s						
KUR	Kuril'sk	2.36	275	eP	Pn	13 42 24.8	+0.3
KUR				AMB	AMB	13 42 25.0	
	comp=E,370nm,0.4s						
KUR				eS	Sn	13 42 52.8	+0.6
KUR				A	A	13 42 55.0	
	comp=E,740nm,0.4s						
KUR				A	A	13 42 55.0	
	comp=E,480nm,0.4s						
YUK	Yuzh-Kuril'sk	3.96	256	i PN	Pn	13 42 47.0	+0.6
YUK	Yuzh-Kuril'sk	3.96	256	eP	Pn	13 42 47.4	+1.0
YUK				AMB	AMB	13 42 49.0	
	comp=E,180nm,0.4s						
YUK				eS	Sn	13 43 33.0	+1.4
YUK				A	A	13 43 41.0	
	comp=E,260nm,0.4s						
YUK				A	A	13 43 41.0	
	comp=E,410nm,0.4s						
GRPR	Tuman	4.03	256	ePN	Pn	13 42 48.1	+0.6
GRPR				eS	Sn	13 43 36.0	+2.6
GRPR				pmax	pmax		
	comp=Z,122nm,0.3s						
GRPR				smax	smax		
	comp=N,156nm,0.3s						
GRPR				smax	smax		
	comp=E,171nm,0.3s						
GRPR	Tuman	4.03	256	eP	Pn	13 42 48.2	+0.7
GRPR				AMB	AMB	13 42 50.0	
	comp=E,120nm,0.3s						
GRPR				eS	Sn	13 43 34.6	+1.2
GRPR				A	A	13 43 36.0	
	comp=E,160nm,0.3s						
GRPR				A	A	13 43 36.0	
	comp=E,170nm,0.3s						
NEM2	Nemuro 2	4.28	248	P	Pn	13 42 51.0	+0.1
NEM2				eS	Sn	13 43 39.2	-0.4
GLVR	Golovnino	4.29	254	ePN	Pn	13 42 52.3	+1.3
GLVR				eS	Sn	13 43 40.6	+0.9
GLVR				pmax	pmax		
	comp=Z,223nm,0.4s						
GLVR				smax	smax		
	comp=N,415nm,0.5s						
GLVR				smax	smax		
	comp=E,306nm,0.5s						
GLVR	Golovnino	4.29	254	eP	Pn	13 42 52.3	+1.3
GLVR				AMB	AMB	13 42 54.0	
	comp=E,220nm,0.4s						
GLVR				eS	Sn	13 43 40.6	+0.9
GLVR				A	A	13 43 52.0	
	comp=E,415nm,0.5s						
GLVR				A	A	13 43 52.0	
	comp=E,306nm,0.5s						
NMR	Nemuro--Hokkai	4.29	248	ePN	Pn	13 42 51.0	0.0
NMR				eS	Sn	13 43 39.3	-0.5
NMR	Nemuro--Hokkai	4.29	248	eP	Pn	13 42 51.0	0.0
NMR				eS	Sn	13 43 39.3	-0.5
RUSJ	Misakicho	4.36	259	ePN	Pn	13 42 53.7	+1.7
RUSJ				eS	Sn	13 43 44.1	+2.5
JNK	Nakash	4.88	254	P	Pn	13 43 00.6	+1.4
JAK	Akkeshi	5.13	248	P	Pn	13 43 02.8	+0.2
JAK				eS	Sn	13 43 59.4	-1.2
JTKR	Abashiri--Toko	5.33	260	P	Pn	13 43 07.3	+2.0
JAR	Ashorobuto	5.63	254	P	Pn	13 43 11.2	+1.7
JAR				eS	Sn	13 44 14.0	+1.0
JMP	Maruseppu	5.71	262	P	Pn	13 43 12.9	+2.4
JOB	Onbets	5.74	250	P	Pn	13 43 12.0	+1.0
JOB				eS	Sn	13 44 14.1	-1.5
YSS	Yuzh-Sakhalins	6.16	291	ePN	Pn	13 43 18.9	+2.1
YSS	Yuzh-Sakhalins	6.16	291	eP	Pn	13 43 18.9	+2.1
YSS				AMB	AMB	13 43 20.3	
	comp=E,20nm,0.3s						
JKK2	Kamakawa 2	6.17	262	P	Pn	13 43 19.0	+2.2
JCH	Churui	6.18	249	P	Pn	13 43 17.8	+0.8
JCH				eS	Sn	13 44 25.3	-1.2
JKA	Kamikawa-asahi	6.21	264		Pn	13 43 19.7	+2.2
JKA	Kamikawa-asahi	6.21	264	eP	Pn	13 43 20.2	+2.7
ASAJ	Asahikawa	6.22	264	P	Pn	13 43 20.1	+2.6
	comp=E,1.8nm,0.3s,baz=74,slow=20,SNR=15						
ASAJ				LR	LR	13 45 46.7	
	comp=E,180nm,19.6s,baz=102,slow=39						
JFR	Furan	6.49	256	P	Pn	13 43 23.4	+2.2
SKR	Severo-Kuril's	6.50	29	ePN	Pn	13 43 23.0	+1.7
SKR				pmax	pmax		
	comp=Z,16nm,0.5s						
SKR	Severo-Kuril's	6.50	29	eP	Pn	13 43 21.5	+0.2
SKR				AMB	AMB	13 43 23.0	
	comp=Z,20nm,0.4s						
SKR				eS	Sn	13 44 32.0	-2.0
SKR				A	A	13 44 37.0	
	comp=Z,30nm,0.6s						
SKR				A	A	13 44 37.0	
	comp=Z,30nm,0.6s						
JWK2	Keihoku	6.57	275	P	Pn	13 43 26.6	+4.2
JEM	Erimo	6.60	245		Pn	13 43 25.3	+2.5
ERM	Erimo	6.60	245	i PN	Pn	13 43 24.4	+1.6
ERM	Erimo	6.60	245	Pn	Pn	13 43 25.3	+2.5
JAB	Ashibetsu	6.63	259	P	Pn	13 43 25.7	+2.5
JNBK	Urakawa-nobuka	6.74	248	P	Pn	13 43 24.8	+0.2
JNBK				eS	Sn	13 44 38.5	-1.6
JBT2	Biratori 2	6.78	253	P	Pn	13 43 25.9	+0.6
JEW	Eniwo	7.38	256	Pn	Pn	13 43 36.9	+3.4
PAU	Pauzhetka	7.39	28	eP	Pn	13 43 34.4	+0.8
PAU				AMB	AMB	13 43 40.1	
	comp=Z,20nm,0.5s						
PAU				eS	Sn	13 44 52.6	-3.5
PAU				A	A	13 44 55.1	
	comp=Z,40nm,0.3s						
PAU				A	A	13 44 55.1	
	comp=Z,80nm,0.3s						
UGL	Uglegorsk	7.39	306	eP	Pn	13 43 35.2	+1.6
UGL				AMB	AMB	13 43 40.3	
	comp=Z,40nm,0.5s						
JNB	Noboribetsu	7.80	254	P	Pn	13 43 40.2	+0.9
JNB				eS	Sn	13 45 04.5	-1.9
JKB	Kayabe	8.05	250	P	Pn	13 43 42.9	+0.2
TYV	Tymovskoe	8.13	318	eP	Pn	13 43 44.8	+1.1
TYV				AMB	AMB	13 43 45.7	
	comp=Z,7.0nm,0.3s						
JYM2	Yakumo 2	8.40	253	P	Pn	13 43 47.9	+0.4
JANG	Nango	8.54	240	P	Pn	13 43 47.8	-1.6
JANG				eS	Sn	13 45 17.4	-7.2
JTM	Tenmabayashi	8.59	243	P	Pn	13 43 49.7	-0.3
JTM				eS	Sn	13 45 18.9	-6.6
JTH	Tanohata	8.60	236	P	Pn	13 43 48.5	-1.8
JTH				eS	Sn	13 45 18.1	-7.9
PETK	Petropavlovsk-	9.08	26	P	Pn	13 43 57.6	+0.9
	comp=Z,0.3nm,0.3s,baz=174,slow=11,SNR=8.4						
PETK				LR	LR	13 46 56.2	
	comp=Z,71nm,19.2s,baz=51,slow=34						
PETK	Petropavlovsk-	9.08	26		Pn	13 43 57.1	+0.4
PET	Petropavlovsk	9.32	29	i PN	Pn	13 43 59.3	-0.7
PET	Petropavlovsk	9.32	29	eP	Pn	13 44 00.7	+0.7
NKL	Nikolayevsk	10.59	323	eP	Pn	13 44 17.2	-0.2
NKL				AMB	AMB	13 44 20.2	
	comp=Z,20nm,0.7s						
MJB9	Matsu-Tunnel	13.02	233	Pn	Pn	13 44 56.8	+6.1
USRK	Ussuriysk Ar.	13.71	273	P	Pn	13 44 59.5	-0.5
	baz=78,slow=11,SNR=5.0						
KLR	Kul'dur	13.85	294	P	Pn	13 45 04.7	+2.7
	comp=Z,0.1nm,0.3s,baz=40,slow=7.5,SNR=4.2						
KLR				LR	LR	13 49 49.6	
	comp=Z,82nm,18.5s,baz=90,slow=35						
EKMR	Ekimchan	14.34	310	eP	Pn	13 45 08.5	-0.2
JWT	Wachi	15.52	236	Pn	Pn	13 45 26.8	+2.3
BMKR	Bomnak	17.25	312	eP	Pn	13 45 43.9	-2.3
ZEA	Zeya	17.75	308	eP	Pn	13 45 49.1	-3.3
SEY	Seymchan	17.89	2	P	P	13 45 53.2	-1.2
	comp=Z,0.2nm,0.3s,baz=136,slow=10,SNR=4.3						
KROS	Kirovskiy	18.14	310	eP	P	13 45 58.0	+0.7
KROS				AMB	AMB	13 45 59.0	
	comp=Z,6.0nm,0.8s						
KSRS	Korea Array	19.04	255	P	Pn	13 46 08.3	+0.1
	comp=Z,0.2nm,0.3s,baz=59,slow=11,SNR=5.1						
H11N2	WAKE ISLAND Hy	28.45	148	T	T	14 19 20.6	
	baz=337,slow=76,SNR=290						
H11N1	WAKE ISLAND Hy	28.46	148	T	T	14 19 21.8	
	baz=337,slow=76,SNR=196						
H11N3	WAKE ISLAND Hy	28.47	148	T	T	14 19 22.0	
	baz=337,slow=76,SNR=213						
H11S1	WAKE ISLAND Hy	29.50	149	T	T	14 20 37.4	
	baz=338,slow=76,SNR=4.4						
H11S3	WAKE ISLAND Hy	29.50	149	T	T	14 20 40.9	
	baz=338,slow=76,SNR=116						
H11S2	WAKE ISLAND Hy	29.51	149	T	T	14 20 39.0	
	baz=338,slow=76,SNR=119						
SONM	Songino Array	30.65	291	P	P	13 47 59.4	+0.1
	comp=Z,0.3nm,0.3s,baz=90,slow=4.3,SNR=2.6						
TLY	Talaya	31.78	299	i P	P	13 48 08.5	-0.6
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TLY	Talaya	31.78	299	eP	P	13 48 08.5	-0.6
ILAR	Eielson Array	38.68	37	P	P	13 49 08.0	-0.1
	comp=Z,0.2nm,0.5s,baz=267,slow=7.2,SNR=1.6						
ZALV	Zalesovo Beam	42.51	307	PcP	PcP	13 51 31.8	-0.2
	comp=Z,0.5nm,0.7s,baz=72,slow=5.0,SNR=4.1						
INK	Inuvik	43.76	31	P	P	13 49 50.5	+0.7
	comp=Z,0.4nm,0.5s,baz=253,slow=4.5,SNR=5.5						
INK	Inuvik	43.76	31	P	P	13 49 49.0	-0.8
MK31	Makanchi Array	46.52	298	i P	P	13 50 09.6	-2.5
MK31	Makanchi Array	46.52	298	P	P	13 50 10.7	-1.4
MKAR	Makanchi Array	46.52	298	P	P	13 50 11.0	-1.1
	comp=Z,0.9nm,0.7s,baz=74,slow=7.1,SNR=15						
MKAR				PcP	PcP	13 51 46.4	+0.4
	comp=Z,0.4nm,0.5s,baz=47,slow=2.4,SNR=5.7						
MKAR	Makanchi Array	46.52	298	i P	P	13 50 11.3	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	46.52	298	P	P	13 50 10.8	-1.3
MKAR	Makanchi Array	46.52	298	eP	P	13 50 11.3	-0.8
MAKZ	Makanchi	46.71	298	P	P	13 50 13.1	-0.5
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.5s						
MAKZ	Makanchi	46.71	298	P	P	13 50 13.1	-0.5
MAKZ				IAmb	IAmb	13 50 15.5	
	comp=Z,4.7nm,1.4s						
C36M	Paulatuk	46.92	29	P	P	13 50 15.3	+0.5
C36M				IAmb	IAmb	13 50 18.7	
	comp=Z,5.4nm,1.4s						
KURK	Kurchatov	47.18	304	P	P	13 50 16.0	-1.1
KURK	Kurchatov	47.18	304	eP	P	13 50 16.0	-1.1
KURBB	Kurchatov Arra	47.27	304	P	P	13 50 15.9	-1.8
	comp=Z,0.7nm,0.4s,baz=73,slow=8.3,SNR=5.6						
KPKS	Kokpek	50.29	295	eP	P	13 50 40.6	-0.7
	baz=295						
KPKS	Kokpek	50.29	295	eP	P	13 50 40.6	-0.7
SATY	Saty	50.67	295	eP	P	13 50 43.6	-0.5
	baz=295						
SATY	Saty	50.67	295	eP	P	13 50 43.6	-0.5
CMAR	Chiang Mai Arr	50.67	256	P	P	13 50 45.4	+1.1
	comp=Z,0.6nm,0.3s,baz=46,slow=7.7,SNR=4.5						
CMAR	Chiang Mai Arr	50.67	256	i P	P	13 50 44.9	+0.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CHKK	Chushkaly	51.18	297	eP	P	13 50 47.2	-0.7
	baz=296						
CHKK	Chushkaly	51.18	297	eP	P	13 50 47.2	-0.7
MDOK	Medeo	51.48	296	eP	P	13 50 49.5	-0.9
	baz=296						
MDOK	Medeo	51.48	296	eP	P	13 50 49.4	-0.9
KUU	Kurty	51.58	297	eP	P	13 50 49.4	-1.4
	baz=297						
KUU	Kurty	51.58	297	eP	P	13 50 49.4	-1.4
TAPN	Taplejung	52.85	273	eP	P	13 51 01.8	+0.9
YKA	Yellowknife Ar	53.05	35	P	P	13 51 02.2	+0.8
	comp=Z,0.2nm,0.6s,baz=300,slow=6.5,SNR=4.4						
AAK	Ala-Archa	53.37	297	P	P	13 51 03.3	-1.0
	comp=Z,1.1nm,0.5s,baz=94,slow=3.8,SNR=6.4						
GUN	Gumba	53.81	275	eP	P	13 51 08.4	+0.5
	comp=Z,11nm,0.6s						
RAMN	Ramite	53.88	273	eP	P	13 51 08.7	+0.4
	comp=Z,13nm,0.6s						
KSH	Kashi	54.05	292	eP	P	13 51 13.3	+4.0
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PKI	Pulchoki	54.35	275	eP	P	13 51 12.0	+0.2
	comp=Z,3.5nm,0.6s						
PKIN	Phulchoki	54.35	275	eP	P	13 51 12.1	+0.3
DMN	Daman	54.54	275	eP	P	13 51 13.7	+0.6
GKN	Gorkha	54.63	276	eP	P	13 51 14.1	+0.4
	comp=Z,5.4nm,0.4s						
ABKAR	Akbulak array	58.46	310	P	P	13 51 39.7	-0.7
ABKAR				IAmb	IAmb	13 51 53.6	
	comp=Z,2.9nm,1.4s						
ABKAR	Akbulak array	58.46	310	P	P	13 51 39.2	-1.2
FFC	Flin Flon	62.87	39	i P	P	13 52 08.2	-2.1
FINES	FINESS Array B	64.96	334	P	P	13 52 21.6	-2.4
	comp=Z,1.6nm,0.8s,baz=22,slow=8.4,SNR=7.1						
FINES	FINESS Array B	64.96	334	i P	P	13 52 22.2	-1.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	64.96	334	P	P	13 52 21.7	-2.2
OBN	Obninsk	65.91	325	eP	P	13 52 29.4	-0.8
OBN				e		13 53 00.3	
OBN				e		13 54 53.8	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN	Obninsk	65.91	325	eP	P	13 52 29.4	-0.8
GEYT	Alibeck	66.30	300	P	P	13 52 32.8	-0.3
	comp=Z,2.4nm,0.6s,baz=38,slow=13,SNR=3.5						
GEYT	Alibeck	66.30	300	P	P	13 52 32.7	-0.3
GEYT				IAmb	IAmb	13 52 33.7	
	comp=Z,1.9nm,0.6s						
WRA	Warramunga Arr	66.52	197	P	P	13 52 36.2	+1.7
	comp=Z,0.7nm,0.8s,baz=15,slow=6.5,SNR=5.9						
WRA	Warramunga Arr	66.52	197	i P	P	13 52 36.7	+2.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	Pinedale Array	66.81	52	P	P	13 52 37.7	+1.2
	comp=Z,0.3nm,0.7s,baz=332,slow=5.5,SNR=3.0						
NB2	NORSAR Subarra	69.35	340	P	P	13 52 50.5	-1.4
	comp=Z,0.5nm,0.4s,baz=30,slow=6.5						
NOA	NORSAR Array B	69.35	340	P	P	13 52 50.7	-1.2
	comp=Z,0.9nm,0.6s,baz=27,slow=6.4,SNR=5.1						
ASAR	Alice Springs	70.23	197	P	P	13 53 00.8	+3.2
	comp=Z,0.7nm,0.8s,baz=11,slow=6.9,SNR=8.3						
ASAR	Alice Springs	70.23	197	P	P	13 53 01.1	+3.5
ASAR	Alice Springs	70.23	197	P	P	13 53 01.1	+3.5
KBZ	Khabaz	71.03	313	P	P	13 53 01.9	-0.5
	comp=Z,3.1nm,0.8s,baz=28,slow=1.7,SNR=5.8						
KBZ	Khabaz	71.03	313	i P	P	13 53 01.3	-1.1
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	Khabaz	71.03	313	eP	P	13 53 01.3	-1.1
BUR08	Bucovina Ar. S	76.20	326	P	P	13 53 32.1	-0.7
BURAR	Bucovina Array	76.22	326	P	P	13 53 32.6	-0.3
KOLS	Kolonicke sedl	76.28	328	eP	P	13 53 32.9	-0.2
KOLS				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KOLS	Kolonicke sedl	76.28	328	eP	P	13 53 32.9	-0.2
LANS	Liptovska Anna	77.12	330	eP	P	13 53 39.0	+1.1
LANS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LANS	Liptovska Anna	77.12	330	eP	P	13 53 39.0	+1.1
BRTR	Keskin Array B	78.66	316	P	P	13 53 47.0	+0.2
	comp=Z,1.5nm,0.9s,baz=132,slow=1.8,SNR=4.7						
BRTR	Keskin Array B	78.66	316	i P	P	13 53 46.7	-0.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KHC	Kasperske Hory	79.13	333	eP	P	13 53 48.6	-0.4
KHC	Kasperske Hory	79.13	333	eP	P	13 53 48.6	-0.4
GERES	GERESS Array B	79.34	333	P	P	13 53 49.4	-0.9
	comp=Z,0.7nm,0.5s,baz=46,slow=5.8,SNR=5.7						
GERES	GERESS Array B	79.34	333	P	P	13 53 49.1	-1.1
TXAR	Lajitas Array	79.48	59	P	P	13 53 54.1	+2.7
	comp=Z,0.3nm,0.6s,baz=287,slow=3.7,SNR=1.7						

*IDC **05** 14:09:06.3±2.2, 6°.50S×130°.18E, h129^{km}±23^{km}, mb3.5/4, mb1 4.0/9, mb1mx3.6/35, mbtmp4.3/9, Error ellipse: s-maj=36.5km s-min=19.4km az=92.0*

ISC 05 14:09:06.7±0.9**, 6°.70S**±0°.06×**130°.2E**±0°.1**, h150**^{km}**, n9,** σ2^{s}80/13**, mb3.6**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	5.90	11	P	Pn	14 10 29.0	-3.2
	17nm,0.3s,baz=81,slow=20,SNR=98						
SIJI				S	Sn	14 11 28.7	-10
	18nm,0.3s,baz=107,slow=23,SNR=15						
BATI	Baumata	7.30	241	P	Pn	14 10 52.5	+1.5
	11nm,0.3s,baz=181,slow=2.4,SNR=8.6						
BATI				S	Sn	14 12 10.5	-2.1
	5.4nm,0.3s,baz=168,slow=9.3,SNR=3.1						
FITZ	Fitzroy Crossi	12.15	201	P	Pn	14 11 56.8	+1.7
	2.2nm,0.3s,baz=35,slow=10,SNR=51						
FITZ				S	Sn	14 14 03.9	-5.6
	1.4nm,0.3s,baz=254,slow=20,SNR=3.4						
WRA	Warramunga Arr	13.77	163	P	Pn	14 12 17.7	+1.8
	2.7nm,0.3s,baz=344,slow=13,SNR=75						
WRA				S	Sn	14 14 46.1	-2.4
	1.2nm,0.3s,baz=337,slow=23,SNR=5.6						
ASAR	Alice Springs	17.25	168	P	Pn	14 13 02.6	+4.0
	1.5nm,0.3s,baz=339,slow=8.7,SNR=144						
ASAR				S	S	14 16 09.8	-0.3
	0.2nm,0.3s,baz=350,slow=25,SNR=2.4						
CMAR	Chiang Mai Arr	39.66	310	P	P	14 16 25.1	+0.7
	0.6nm,0.5s,baz=140,slow=7.3,SNR=5.9						
SONM	Songino Array	58.21	341	P	P	14 18 45.9	+0.6
	0.3nm,0.6s,baz=148,slow=6.2,SNR=2.4						
MKAR	Makanchi Array	68.06	327	P	P	14 19 51.4	+1.2
	3.8nm,0.5s,baz=115,slow=8.4,SNR=70						
ZALV	Zalesovo Beam	71.39	334	P	P	14 20 10.4	+0.1
	0.6nm,0.5s,baz=123,slow=5.1,SNR=3.6						

*BJI **05** 14:32:12.9±0.0, 8°.06S×126°.30E, h25^{km}, mB5.0/27, mb4.6/40, Ms4.6/6, Ms7 4.2/4*
*IDC **05** 14:32:17.2±0.6, 7°.28S×125°.87E, h0^{km}, mb4.4/19, mb1 4.5/23, mb1mx4.4/44, mbtmp4.5/23, ML4.4/4, MS3.6/12, Ms1 3.6/12, ms1mx3.4/38, Error ellipse: s-maj=20.2km s-min=12.1km az=77.0*
*DJA **05** 14:32:21.5±1.0, 7°S±2°×12°6E±°, h20^{km}±8^{km}, M4.6/29, mB5.2/9, mb4.7/29, MLv4.7/18, Mw(mB)4.5/9*
*NEIC **05** 14:32:22.4±2.3, 7°.36S±0°.07×125°.96E±0°.08, h44^{km}±9^{km}, mb4.4/10, Error ellipse: s-maj=11.8km s-min=10.4km az=104.0*

ISC 05 14:32:21.8±0.4**, 7°.40S**±0°.04×**126°.06E**±0°.06**, h35**^{km}**, n108,** σ1^{s}77/112**, mb4.5**/42**, MS3.5**/8**, 3D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	2.94	217		Pn	14 33 09.4	+3.3
SOEI	Soe	2.94	217	P	Pn	14 33 09.0	+2.9
SOEI				S	Sn	14 33 42.4	+2.2
BATI	Baumata	3.66	220	Pn	Pn	14 33 18.6	+2.7
	65nm,0.3s,baz=61,slow=2.3,SNR=66						
BATI				Sn	Sn	14 34 02.4	+4.4
	26nm,0.3s,baz=166,slow=23,SNR=6.1						
BATI	Baumata	3.66	220	P	Pn	14 33 17.9	+2.0
BATI				S	Sn	14 33 59.9	+2.0
MMRI	Maumere	3.98	252		Pn	14 33 19.0	-1.3
MMRI	Maumere	3.98	252	P	Pn	14 33 19.5	-0.8
NLAI	Namlea	4.26	14	P	Pn	14 33 24.0	-0.2
EDFI	Ende, Flores	4.53	253	P	Pn	14 33 28.4	+0.4
BNDI	Bandanaira	4.77	53	P	Pn	14 33 32.9	+1.7
MSAI	Masohi	4.94	35	P	Pn	14 33 34.7	+1.2
SANI	Sanana	5.32	359	P	Pn	14 33 36.3	-2.4
	0.1nm21nm,0.8s						
BSSI	Bau Bau, Buton	5.67	282	P	Pn	14 33 41.9	-1.7
	0.3nm81nm,1.4s						
BASI	Baing, Sumba	6.10	242	P	Pn	14 33 49.7	+0.2
	0.8nm2μm271nm,1.0s						
WSI	Waingapu	6.13	248	P	Pn	14 33 49.1	-0.8
	3.2nm5μm428nm,0.8s						
BKSI	Bulukumba	6.25	289	P	Pn	14 33 49.8	-1.8
	0.3nm1μm65nm,0.9s						
BNSI	Bone	6.63	296	P	Pn	14 33 55.1	-1.7
	0.6nm2μm165nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KAPI	**Kappang**	**6.71**	**290**	Pn	**Pn**	**14 33 56.6**	**-1.2**
	3.5nm,0.3s,baz=132,slow=10,SNR=5.4						
KAPI	**Kappang**	**6.71**	**290**	Pn	**Pn**	**14 33 56.1**	**-1.8**
LUWI	**Luwuk**	**7.12**	**332**	Pn	**Pn**	**14 34 01.9**	**-1.6**
SPSI	**Sidrap Palu**	**7.13**	**298**	P	**Pn**	**14 34 01.4**	**-2.3**
	0.3nm1µm100nm,0.7s						
TTSI	**Tana Toraja**	**7.57**	**305**	P	**Pn**	**14 34 08.1**	**-1.6**
	0.2nm2µm49nm,0.7s						
FAKI	**Fak Fak**	**7.60**	**54**	Pn	**Pn**	**14 34 11.6**	**+1.5**
APSI	**Ampana**	**7.80**	**325**	P	**Pn**	**14 34 12.1**	**-0.8**
	5.8nm828nm72nm,1.0s						
SIJI	**Sorong**	**8.31**	**39**	Pn	**Pn**	**14 34 21.1**	**+1.3**
	0.9nm,0.3s,baz=242,slow=23,SNR=11						
SIJI				LR	LR	14 37 34.5	
	comp=Z,482nm,20.7s,baz=239,slow=38						
PLAI	**Plampang**	**8.32**	**260**	P	**Pn**	**14 34 20.9**	**+0.8**
	71nm,1.1s						
GTOI	**Gorontalo**	**8.54**	**339**	P	**Pn**	**14 34 23.6**	**+0.5**
	10nm,1.8s						
TOLI2	**Tolitoli**	**9.96**	**328**	Pn	**Pn**	**14 34 42.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**10.64**	**182**	Pn	**Pn**	**14 34 51.4**	**-0.4**
	2.6nm,0.3s,baz=16,slow=10,SNR=55						
FITZ				Sn	**Sn**	**14 36 46.3**	**-3.5**
	5.4nm,0.3s,baz=75,slow=8.7,SNR=10						
FITZ	**Fitzroy Crossi**	**10.64**	**182**		**Pn**	**14 34 52.0**	**+0.2**
WB0	**Warramunga Arr**	**14.71**	**147**	Pn	**Pn**	**14 35 45.8**	**-1.7**
WRAB	**Tennant Creek**	**14.83**	**148**	Pn	Pn	14 35 44.6	-4.4
WRA	**Warramunga Arr**	**14.83**	**148**	Pn	**Pn**	**14 35 46.8**	**-2.2**
	1.2nm,0.3s,baz=318,slow=14,SNR=73						
WRA				Sn	**Sn**	**14 38 26.2**	**-6.0**
	3.2nm,0.3s,baz=322,slow=25,SNR=10						
WRA				LR	LR	14 42 34.6	
	comp=Z,185nm,19.7s,baz=205,slow=41						
WB2	**Warramunga Arr**	**14.83**	**148**	Pn	**Pn**	**14 35 47.0**	**-2.1**
WR0	**Warramunga Arr**	**14.95**	**147**	Pn	**Pn**	**14 35 48.8**	**-1.8**
WR0				IAmb	IAmb	14 36 04.6	
	comp=Z,22nm,0.8s						
PSA00	**Pilbara Seismi**	**15.31**	**202**		**Pn**	**14 35 52.0**	**-3.5**
PSA00				IAmb	IAmb	14 36 02.3	
	comp=Z,33nm,1.1s						
AS31	**Alice Springs**	**17.84**	**156**	P	**P**	**14 36 28.4**	**+0.6**
AS31				IAmb	IAmb	14 36 33.3	
	comp=Z,17nm,0.8s						
ASAR	**Alice Springs**	**17.84**	**156**	P	**Pn**	**14 36 27.7**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=331,slow=8.2,SNR=98						
ASAR				S	**Sn**	**14 39 39.3**	**-6.0**
	comp=Z,0.7nm,0.3s,baz=315,slow=18,SNR=7.8						
ASAR				LR	LR	14 44 39.7	
	comp=Z,320nm,18.4s,baz=331,slow=41						
ASAR	**Alice Springs**	**17.84**	**156**	P	**P**	**14 36 29.1**	**+1.3**
COEN	**Coen**	**18.03**	**113**	P	**P**	**14 36 31.0**	**+1.1**
LEM	**Lembang**	**18.31**	**271**	P	**P**	**14 36 32.6**	**-0.6**
	comp=Z,2.5nm,0.3s,baz=343,slow=19,SNR=2.1						
LEM				LR	LR	14 44 10.7	
	comp=Z,218nm,20.7s,baz=95,slow=39						
PMG	**Port Moresby**	**20.96**	**97**	P	**P**	**14 37 04.9**	**+2.9**
	comp=Z,19nm,0.7s,baz=270,slow=3.0,SNR=4.9						
CTA	**Charters Tower**	**23.28**	**125**	P	**P**	**14 37 29.0**	**+2.4**
	comp=Z,2.7nm,0.7s,baz=285,slow=16,SNR=3.8						
FORT	**Forrest**	**23.33**	**176**	P	**P**	**14 37 28.2**	**+1.3**
MORW	**Morawa**	**23.53**	**202**	P	**P**	**14 37 29.3**	**+0.4**
NWAO	**Narrogin (SRO)**	**26.69**	**197**	P	**P**	**14 37 58.5**	**+0.8**
	comp=Z,10.0nm,0.8s,baz=37,slow=5.1,SNR=4.7						
NWAO				LR	LR	14 50 02.7	
	comp=Z,126nm,20.1s,baz=9.5,slow=40						
MNSI	**Mandailing Nat**	**27.64**	**286**	P	**P**	**14 38 08.7**	**+2.2**
STKA	**Stephens Creek**	**28.33**	**151**	P	**P**	**14 38 15.5**	**+3.1**
	comp=Z,9.1nm,0.8s,baz=326,slow=9.0,SNR=16						
STKA				LR	LR	14 50 59.3	
	comp=Z,182nm,20.2s,baz=349,slow=39						
STKA	**Stephens Creek**	**28.33**	**151**	P	**P**	**14 38 14.5**	**+2.0**
STKA				IAmb	IAmb	14 38 16.5	
	comp=Z,3.0nm,1.1s						
JOW	**Kunigami**	**34.10**	**4**	LR	LR	14 51 32.5	
	comp=Z,112nm,19.7s,baz=141,slow=34						
CMAR	**Chiang Mai Arr**	**37.10**	**314**	P	**P**	**14 39 29.3**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=144,slow=7.5,SNR=16						
CMAR				LR	LR	14 56 03.5	
	comp=Z,71nm,18.7s,baz=186,slow=39						
GYA	**Guiyang**	**38.56**	**331**	⇓P	**P**	**14 39 41.9**	**+0.4**
GYA				pP	sP	14 39 52.7	-1.3
GYA				pmax	pmax		
	comp=Z,10.0nm,1.6s						
GYA				pmax	pmax		
	comp=Z,91nm,3.8s						
KMI	**Kunming**	**39.51**	**326**	⇓P	**P**	**14 39 51.0**	**+1.5**
KMI				sP	sP	14 40 02.7	+0.6
KMI				pmax	pmax		
	comp=Z,16nm,1.4s						
NJ2	**Nanjing**	**39.83**	**350**	*e*P	**P**	**14 39 53.1**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,14nm,0.7s						
XAN	**Xi'an**	**44.30**	**339**	P	**P**	**14 40 27.7**	**-0.7**
XAN				pP	pP	14 40 34.4	-2.9
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KSRS	**Korea Array**	**44.65**	**2**	P	**P**	**14 40 30.8**	**-0.3**
	comp=Z,3.9nm,1.1s,baz=171,slow=8.9,SNR=7.2						
KSRS				LR	LR	14 58 35.6	
	comp=Z,33nm,21.4s,baz=156,slow=35						
MJAR	**Matsushiro Arr**	**45.17**	**14**	P	**P**	**14 40 35.0**	**-0.2**
	comp=Z,10nm,1.0s,baz=186,slow=8.9,SNR=11						
MAT	**Matsushiro**	**45.17**	**14**	P	**P**	**14 40 34.6**	**-0.7**
LZH	**Lanzhou**	**48.04**	**336**	*e*P	**P**	**14 40 58.3**	**+0.4**
LZH				pP	pP	14 41 05.7	-1.3
LZH				sP	sP	14 41 10.3	-0.3
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
LZH				pmax	pmax		
	comp=Z,91nm,7.1s						
HHC	**Hu-ho-hao-te**	**49.83**	**346**	*e*P	**P**	**14 41 12.0**	**+0.5**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,5.7s						
ODAN	**Odare**	**50.64**	**314**	*e*P	**P**	**14 41 17.3**	**-0.7**
	comp=Z,48nm,1.5s						
TAPN	**Taplejung**	**50.70**	**315**	*e*P	**P**	**14 41 17.2**	**-1.4**
	comp=Z,20nm,1.0s						
RAMN	**Ramite**	**51.26**	**313**	*e*P	**P**	**14 41 22.0**	**-0.7**
	comp=Z,14nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.64**	**5**	P	**P**	**14 41 24.3**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=183,slow=7.5,SNR=6.9						
MDJ	**Mudanjiang**	**51.87**	**3**	P	**P**	**14 41 27.0**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,18nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,210nm,5.1s						
GUN	**Gumba**	**52.34**	**314**	*e*P	**P**	**14 41 29.6**	**-1.3**
	comp=Z,48nm,1.3s						
PKI	**Pulchoki**	**52.48**	**313**	*e*P	**P**	**14 41 30.0**	**-1.9**
	comp=Z,7.3nm,0.6s						
PKIN	**Phulchoki**	**52.49**	**313**	*e*P	**P**	**14 41 30.2**	**-1.7**
	comp=Z,7.9nm,0.6s						
GTA	**Gaotai**	**52.54**	**334**	⇓P	**P**	**14 41 32.1**	**+0.2**
GTA				pP	pP	14 41 40.2	-0.9
GTA				sP	sP	14 41 44.0	-0.7
GTA				PcP	**PcP**	**14 42 43.7**	**+1.7**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KKN	**Kakani**	**52.70**	**313**	*e*P	**P**	**14 41 32.5**	**-0.9**
DMN	**Daman**	**52.72**	**313**	*e*P	**P**	**14 41 32.4**	**-1.2**
GKN	**Gorkha**	**53.29**	**313**	*e*P	**P**	**14 41 36.3**	**-1.4**
ASAJ	**Asahikawa**	**53.41**	**15**	P	**P**	**14 41 38.6**	**+0.5**
	comp=Z,15nm,1.0s,baz=232,slow=29,SNR=5.3						
KLR	**Kul'dur**	**56.61**	**4**	P	**P**	**14 41 59.8**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=281,slow=5.2,SNR=3.7						
SONM	**Songino Array**	**57.68**	**344**	P	**P**	**14 42 09.1**	**+0.3**
	comp=Z,5.5nm,1.2s,baz=164,slow=7.8,SNR=17						
WMQ	**Urumqi**	**61.67**	**329**	*e*P	**P**	**14 42 36.7**	**+0.4**
WMQ				sP	pP	14 42 46.6	+0.9
WMQ				pmax	pmax		
	comp=Z,14nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.5s						
ZSN	**Zaisan**	**65.64**	**331**	*e*P	**P**	**14 43 00.7**	**-1.6**
	baz=331						
SHLS	**Shalkode**	**65.70**	**324**	*e*P	**P**	**14 42 59.8**	**-3.2**
	comp=Z,4.3nm,1.3s,baz=324						
KSH	**Kashi**	**65.72**	**319**	P	**P**	**14 43 03.4**	**+0.1**
KSH				pmax	pmax		
	comp=Z,14nm,1.2s						
KSH				pmax	pmax		
	comp=Z,230nm,6.0s						
UZB	**Uzynbulak**	**65.95**	**324**	*e*P	**P**	**14 43 03.5**	**-1.2**
	baz=324						
PETK	**Petropavlovsk-**	**65.98**	**20**	P	**P**	**14 43 04.7**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=189,slow=8.3,SNR=4.2						
PETK				LR	LR	15 11 51.1	
	comp=Z,18nm,19.9s,baz=145,slow=36						
SATY	**Saty**	**66.26**	**324**	*e*P	**P**	**14 43 05.0**	**-1.6**
	comp=Z,7.9nm,1.5s,baz=324						
KPKS	**Kokpek**	**66.34**	**324**	*e*P	**P**	**14 43 05.7**	**-1.5**
	comp=Z,3.6nm,0.9s,baz=324						
MK31	**Makanchi Array**	**66.48**	**329**	P	**P**	**14 43 07.0**	**-0.8**
MK31				IAmb	IAmb	14 43 09.6	
	comp=Z,5.0nm,1.1s						
MKAR	**Makanchi Array**	**66.48**	**329**	P	**P**	**14 43 07.0**	**-0.8**
	comp=Z,2.2nm,0.5s,baz=122,slow=7.9,SNR=52						
MKAR	**Makanchi Array**	**66.48**	**329**	P	**P**	**14 43 07.0**	**-0.8**
TNSS	**Tian-Shan**	**67.11**	**323**	*e*P	**P**	**14 43 11.6**	**-0.8**
	baz=323						
MDOK	**Medeo**	**67.12**	**323**	*e*P	**P**	**14 43 11.1**	**-1.0**
	baz=323						
AAA	**Alma-Ata**	**67.23**	**323**	*e*P	**P**	**14 43 12.0**	**-0.8**
	baz=323						
TDK	**Taldyqorghan**	**67.43**	**325**	*e*P	**P**	**14 43 12.6**	**-1.4**
	baz=325						
CHKK	**Chushkaly**	**67.56**	**324**	*e*P	**P**	**14 43 13.6**	**-1.2**
	baz=324						
KUU	**Kurty**	**67.97**	**323**	*e*P	**P**	**14 43 15.8**	**-1.5**
	comp=Z,21nm,1.7s,baz=324						
SGDS	**Sogindy**	**68.74**	**322**	*e*P	**P**	**14 43 21.3**	**-0.9**
	comp=Z,2.6nm,1.2s,baz=322						
MA2	**Magadan**	**69.61**	**13**	P	**P**	**14 43 29.1**	**+2.0**
	comp=Z,8.9nm,0.9s,baz=174,slow=7.1,SNR=9.5						
BTLS	**Baital**	**69.97**	**324**	*e*P	**P**	**14 43 27.9**	**-1.8**
	baz=324						
ZALV	**Zalesovo Beam**	**70.27**	**336**	P	**P**	**14 43 29.5**	**-1.8**
	comp=Z,3.7nm,0.7s,baz=130,slow=4.6,SNR=16						
ZALV	**Zalesovo Beam**	**70.27**	**336**	P	**P**	**14 43 29.7**	**-1.6**
DZA	**Taraz**	**70.48**	**320**	*i* P	**P**	**14 43 31.4**	**-1.5**
	baz=320						
IUG	**Iuzhnay**	**70.94**	**319**	*e*P	**P**	**14 43 33.7**	**-2.2**
	comp=Z,3.0nm,1.1s,baz=319						
VNDA	**Vanda**	**72.55**	**172**	P	**P**	**14 43 46.1**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=326,slow=8.0,SNR=5.6						
VNDA				LR	LR	15 15 23.3	
	comp=Z,73nm,18.0s,baz=316,slow=36						
SEY	**Seymchan**	**72.97**	**12**	P	**P**	**14 43 48.5**	**+1.1**
	comp=Z,7.9nm,0.9s,baz=211,slow=5.5,SNR=24						
BRZS	**Berezniki**	**73.49**	**327**	*e*P	**P**	**14 43 49.2**	**-1.6**
	baz=327						
TIXI	**Tiksi**	**78.91**	**1**	P	**P**	**14 44 20.7**	**-0.4**
TIXI				IAmb	IAmb	14 44 22.9	
	comp=Z,5.5nm,0.9s						
ABKAR	**Akbulak array**	**80.42**	**323**	P	**P**	**14 44 29.1**	**-0.7**
ABKAR	**Akbulak array**	**80.42**	**323**	P	**P**	**14 44 28.9**	**-0.8**
NRIK	**Noril'sk**	**81.04**	**347**	P	**P**	**14 44 31.0**	**-1.7**
	comp=Z,1.4nm,0.4s,baz=152,slow=4.9,SNR=8.6						
AKTO	**Aktyubinsk**	**82.03**	**323**	LR	LR	15 23 49.6	
	comp=Z,62nm,19.6s,baz=314,slow=38						
ILAR	**Eielson Array**	**95.38**	**25**	P	**P**	**14 45 41.4**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=265,slow=5.2,SNR=6.8						
CPUP	**Villa Florida**	**146.31**	**175**	PKPbc	**PKiKP**	**14 52 01.9**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=124,slow=5.9,SNR=3.3						

*SOME **05** 14:36:33.7, 39°.62N×74°.67E, h10km*
*KRNET **05** 14:36:34.3±0.1, 39°.57N×74°.58E, mb3.4*
*NNC **05** 14:36:39.5±3.3, 39°.85N×74°.41E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=24.7km s-min=13.7km az=167.0*
ISC 05 14:36:37.4±1.7**, 39°.76N**±0°.06×**74°.55E**±0°.03**, h2**km±11km**, n53, σ1s.38**/84**, 30C-10D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.84**	**288**	⇑*e*P	**Pg**	**14 36 52.6**	**-0.9**
	baz=99						
SFK				⇑*e*S	**Sg**	**14 37 05.2**	**+0.8**
	baz=99						
OHH	**Osh**	**1.55**	**300**	⇑*i*P	**Pn**	**14 37 05.1**	**-1.0**
	baz=5.0						
OHH				⇑*i*S	**Sg**	**14 37 28.1**	**+0.9**
	baz=5.0						
ARSB	**Arslanbob**	**1.96**	**323**	⇑*i*P	**Pn**	**14 37 12.7**	**+0.9**
	baz=26						
ARSB				⇑*i*S	**Sg**	**14 37 40.4**	**0.0**
	baz=26						
ARLS	**Aral**	**2.10**	**355**	⇑*i*P	**Pn**	**14 37 14.9**	**+1.2**
	baz=55						
ARLS				⇑*i*S	**Sg**	**14 37 45.5**	**+0.6**
	baz=55						
DRK	**Karamyk**	**2.14**	**263**	⇑*i*P	**Pn**	**14 37 13.3**	**-1.1**
	baz=69						
DRK				⇑*i*S	**Sn**	**14 37 41.3**	**-0.3**
	baz=69						
AML	**Almayashu**	**2.45**	**345**	⇓*e*P	**Pn**	**14 37 20.1**	**+1.3**
	baz=46						
AML				⇓*i*S	**Sb**	**14 37 53.4**	**+0.2**
	baz=46						
AML	**Almayashu**	**2.45**	**345**	P	**Pn**	**14 37 20.3**	**+1.6**
	SNR=78						
UCH	**Uchtor**	**2.46**	**359**	⇑*e*P	**Pn**	**14 37 20.4**	**+1.4**
	baz=59						
UCH				⇑*i*S	**Sb**	**14 37 53.9**	**+0.3**
	baz=59						
UCH	**Uchtor**	**2.46**	**359**	P	**Pn**	**14 37 20.6**	**+1.6**
	SNR=15						
ULHL	**Ulahol**	**2.79**	**27**	⇑*e*P	**Pn**	**14 37 24.4**	**+1.1**
	baz=25						
ULHL				⇑*i*S	**Sb**	**14 38 00.9**	**-1.9**
	baz=25						
ULHL	**Ulahol**	**2.79**	**27**	P	**Pb**	**14 37 27.9**	**-0.2**
	SNR=7.5						
AAK	**Ala-Archa**	**2.87**	**359**	P	**Pb**	**14 37 26.9**	**-2.5**
	SNR=14						
AAK	**Ala-Archa**	**2.87**	**359**	Pg	**Pb**	**14 37 28.0**	**-1.4**
	17nm,1.0s						
AAK				Lg	Lg	14 38 12.1	
	42nm,0.8s						
BTK	**Batken**	**2.88**	**277**	⇑*e*P	**Pn**	**14 37 23.9**	**-0.5**
	baz=81						
BTK				⇑*i*S	**Sn**	**14 38 00.3**	**+0.6**
	baz=81						
KBK	**Karagaybulak**	**2.91**	**6**	⇑*e*P	**Pn**	**14 37 26.9**	**+2.1**
	baz=5.0						
KBK				⇑*i*S	**Sb**	**14 38 03.9**	**-2.2**
	baz=5.0						
KBK	**Karagaybulak**	**2.91**	**6**	P	**Pb**	**14 37 27.5**	**-2.5**
	SNR=5.7						
BOOM	**Boomskoye usch**	**2.92**	**21**	⇑*e*P	**Pn**	**14 37 25.8**	**+0.8**
	baz=19						
BOOM				⇑*i*S	**Sb**	**14 38 04.1**	**-2.4**
	baz=19						
EKS2	**Erkin-Say**	**2.95**	**349**	⇓*i*P	**Pn**	**14 37 27.2**	**+1.8**
	baz=49						
EKS2				⇓*i*S	**Sb**	**14 38 05.5**	**-1.9**
	baz=49						
FRU1	**Bishkek**	**3.04**	**1**	⇓*i*P	**Pn**	**14 37 28.1**	**+1.5**
	baz=1.0						
FRU1				⇓*i*S	**Sb**	**14 38 07.7**	**-2.3**
	baz=1.0						
MNAS	**Manas**	**3.13**	**331**	⇑*i*P	**Pn**	**14 37 28.7**	**+0.9**
	baz=32						
MNAS				⇑*i*S	**Sb**	**14 38 09.3**	**-3.1**
	baz=32						
TRKS	**Terek-Say**	**3.13**	**305**	⇓*e*P	**Pn**	**14 37 27.8**	**-0.1**
	baz=7.0						
TRKS				⇓*i*S	**Sn**	**14 38 06.8**	**+0.8**
	baz=7.0						
MRKS	**Merke**	**3.14**	**342**	*e*P	**Pb**	**14 37 34.5**	**+0.5**
	11nm,0.3s						
MRKS				*e*S	**Sg**	**14 38 18.8**	**+0.5**
	16nm,0.7s						
MRKS	**Merke**	**3.14**	**342**	Pg	**Pb**	**14 37 34.5**	**+0.5**
	11nm,0.3s						
MRKS				Lg	Lg	14 38 12.5	
	16nm,0.7s						
TKM2	**Tokmak 2**	**3.25**	**14**	⇑*i*P	**Pn**	**14 37 30.5**	**+0.9**
	baz=13						
TKM2				⇑*i*S	**Sb**	**14 38 12.1**	**-4.0**
	baz=13						
TKM2	**Tokmak 2**	**3.25**	**14**	⇑Pg	**Pn**	**14 37 30.8**	**+1.2**
	7.5nm,0.6s						
TKM2				⇓Lg	Lg	14 38 21.8	
	35nm,1.2s						
KST	**Kastek**	**3.45**	**18**	*e*P	**Pb**	**14 37 39.8**	**+0.6**
	10nm,0.5s						
KST				*e*S	**Sg**	**14 38 27.3**	**-0.8**
	28nm,0.8s						
KST	**Kastek**	**3.45**	**18**	Pg	**Pg**	**14 37 43.5**	**0.0**
	9.5nm,0.5s						
KST				Lg	Lg	14 38 26.8	
	28nm,0.8s						
USP	**Ospenovka**	**3.50**	**359**	P	**Pb**	**14 37 41.5**	**+1.5**
	SNR=9.4						
DGS	**Degeres**	**3.60**	**14**	*e*P	**Pb**	**14 37 43.2**	**+1.5**
	14nm,0.5s						
DGS				*e*S	**Sg**	**14 38 33.0**	**+0.1**
	19nm,0.6s						
DGS	**Degeres**	**3.60**	**14**	Pg	**Pg**	**14 37 46.0**	**-0.3**
	16nm,0.6s						
DGS				Lg	Lg	14 38 31.1	
	19nm,0.6s						
IZV	**Izvestkoviy**	**3.62**	**25**	*e*P	**Pb**	**14 37 43.8**	**+1.6**
	1.9nm,0.4s						
IZV				*e*S	**Sg**	**14 38 33.6**	**-0.1**
	19nm,0.6s						
IZV	**Izvestkoviy**	**3.62**	**25**	Pg	**Pg**	**14 37 47.7**	**+0.9**
IZV				Lg	Lg	14 38 33.7	
MTBS	**Maitube**	**3.65**	**22**	*e*P	**Pb**	**14 37 43.1**	**+0.4**
	6.3nm,0.5s						
MTBS				*e*S	**Sg**	**14 38 33.1**	**-1.5**
	12nm,0.4s						
MTBS	**Maitube**	**3.65**	**22**	Pg	**Pg**	**14 37 47.5**	**+0.2**
	6.3nm,0.3s						
MTBS				Lg	Lg	14 38 34.5	
	12nm,0.4s						
TNSS	**Tian-Shan**	**3.74**	**28**	*e*P	**Pb**	**14 37 44.5**	**+0.2**
	1.3nm,0.4s						
TNSS				*e*S	**Sg**	**14 38 35.6**	**-1.8**
	8.3nm,0.6s						
TNSS	**Tian-Shan**	**3.74**	**28**	Pg	**Pg**	**14 37 49.5**	**+0.5**
	5.3nm,0.6s						
TNSS				Lg	Lg	14 38 37.2	
	8.3nm,0.6s						
MDOK	**Medeo**	**3.88**	**28**	*e*P	**Pb**	**14 37 48.0**	**+1.3**
	2.7nm,0.5s						
MDOK				*e*S	**Sg**	**14 38 41.3**	**-0.8**
	15nm,0.7s						
MDOK	**Medeo**	**3.88**	**28**	Pg	**Pb**	**14 37 47.3**	**+0.7**
	4.0nm,0.7s						
MDOK				Lg	Lg	14 38 39.8	
	14nm,0.6s						
MDOK	**Medeo**	**3.88**	**28**	Pg	**Pg**	**14 37 52.1**	**+0.3**
	4.2nm,0.4s						
MDOK				Lg	Lg	14 38 41.3	
	15nm,0.7s						
KOTS	**Kotyrbulak**	**3.97**	**28**	*e*P	**Pb**	**14 37 49.6**	**+1.5**
	5.3nm,0.4s						
KOTS				*e*S	**Sg**	**14 38 44.4**	**-0.4**
	43nm,0.5s						
KOTS	**Kotyrbulak**	**3.97**	**28**	Pg	**Pg**	**14 37 54.1**	**+0.7**
	10nm,0.4s						
KOTS				Lg	Lg	14 38 44.4	
	43nm,0.5s						
KRBS	**Karabastau**	**4.02**	**12**	*e*P	**Pb**	**14 37 50.4**	**+1.4**
	7.3nm,0.3s						
KRBS				*e*S	**Sg**	**14 38 45.9**	**-0.6**
	7.6nm,0.7s						
KRBS	**Karabastau**	**4.02**	**12**	Pg	**Pg**	**14 37 54.9**	**+0.5**
KRBS				Lg	Lg	14 38 46.2	
IUG	**Iuzhnay**	**4.17**	**306**	*e*P	**Pb**	**14 37 54.2**	**+2.7**
	13nm,0.2s						
IUG				*e*S	**Sg**	**14 38 52.1**	**+0.9**
	35nm,0.7s						
IUG	**Iuzhnay**	**4.17**	**306**	Pg	**Pb**	**14 37 52.8**	**+1.3**
	13nm,0.2s						
IUG				Lg	Lg	14 38 42.6	
	35nm,0.7s						
KTBS	**Karatobe**	**4.26**	**21**	*e*P	**Pb**	**14 37 54.7**	**+1.7**
	3.1nm,0.6s						
KTBS				*e*S	**Sg**	**14 38 53.0**	**-1.1**
	19nm,0.6s						
KTBS	**Karatobe**	**4.26**	**21**	Pg	**Pg**	**14 37 58.9**	**0.0**
	4.5nm,0.5s						
KTBS				Lg	Lg	14 38 53.0	
	19nm,0.6s						
KUU	**Kurty**	**4.34**	**17**	*e*P	**Pb**	**14 37 56.1**	**+1.8**
	2.6nm,0.3s						
KUU				*e*S	**Sg**	**14 38 55.7**	**-1.0**
	32nm,0.7s						
KUU	**Kurty**	**4.34**	**17**	Pg	**Pg**	**14 38 00.3**	**-0.2**
	3.3nm,0.7s						
KUU				Lg	Lg	14 38 55.7	
	32nm,0.7s						
CHKK	**Chushkaly**	**4.48**	**23**	*e*P	**Pb**	**14 37 58.0**	**+1.3**
	0.6nm,0.2s						
CHKK				*e*S	**Sg**	**14 38 58.8**	**-2.3**
	7.1nm,0.3s						
CHKK	**Chushkaly**	**4.48**	**23**	Pg	**Pg**	**14 38 02.3**	**-0.8**
	2.4nm,0.2s						
CHKK				Lg	Lg	14 38 58.8	
	7.1nm,0.3s						
KK31	**Karatay Array**	**4.51**	**319**	⇑Pn	**Pn**	**14 37 46.5**	**-0.2**
	0.3nm,0.2s,baz=127,slow=12,SNR=26						
KK31				⇑Pg	**Pb**	**14 37 58.2**	**+0.9**
	1.6nm,0.5s,baz=137,slow=16,SNR=6.2						
KK31				⇓Sn	**Sn**	**14 38 40.8**	**+1.1**
	1.3nm,0.3s						
KK31				⇑Lg	Lg	14 39 01.9	
	5.1nm,0.5s,baz=131,slow=28,SNR=3.9						
PDGK	**Podgornoye**	**5.14**	**45**	⇑Pg	**Pb**	**14 38 10.2**	**+2.1**
	4.3nm,0.9s						
PDGK				⇑Lg	Lg	14 39 16.0	
	10.0nm,1.0s						

WEL 05 14:43:22.9±1.3**, 35°S**±17°×**18°0W**±2°6**, h33**km**, M3.6**/10**, ML3.8**/10**, MLv3.6**/10**, Error ellipse: s-maj=0.0km s-min=0.0km az=122.1, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.16**	**205**	P	Pn	14 44 09.4	-0.9
PKGZ	**Pakihiroa**	**3.34**	**208**	P	Pn	14 44 12.7	-0.2
PKGZ				S	Sn	14 44 51.9	+0.3
HAZ	**Te Kaha**	**3.36**	**213**	P	Pn	14 44 13.9	+0.9
HAZ				S	Sn	14 44 54.5	+2.8
PUZ	**Puketiti**	**3.44**	**205**	S	Sn	14 44 54.2	+0.3
RUGZ	**Raukumara Rang**	**3.58**	**212**	P	Pn	14 44 17.1	+0.9
RUGZ				S	Sn	14 44 59.0	+1.7
TWGZ	**Tauwhareparae**	**3.63**	**207**	P	Pn	14 44 17.3	+0.4
TWGZ				S	Sn	14 44 59.6	+1.0
CNGZ	**Carnagh Statio**	**3.83**	**203**	P	Pn	14 44 19.6	+0.1
TKGZ	**Te Karaka**	**3.91**	**207**	P	Pn	14 44 21.0	+0.3
TKGZ				S	Sn	14 45 05.0	-0.5
MWZ	**Matawai**	**3.95**	**211**	P	Pn	14 44 21.0	-0.2
URZ	**Urewera**	**4.07**	**215**	P	Pn	14 44 22.9	+0.1
URZ				S	Sn	14 45 08.3	-1.1
RIGZ	**Rimuhau**	**4.18**	**206**	P	Pn	14 44 24.4	0.0
MUGZ	**Murupara**	**4.41**	**216**	P	Pn	14 44 25.7	-1.8
MUGZ				S	Sn	14 45 18.0	+0.3
MTHZ	**Maungataniwha**	**4.68**	**213**	P	Pn	14 44 31.7	+0.5
MTHZ				S	Sn	14 45 25.2	+0.9
BKZ	**Black Stump Fm**	**5.09**	**213**	P	Pn	14 44 35.9	-1.0

*ANF **05** 14:48:59.7±0.2, 36°.95N×104°.90W, h2km±2km, ML3.6/16, Error ellipse: s-maj=1.6km s-min=1.2km az=160.0, Hypocentre not reviewed by the ISC*
*NEIC **05** 14:49:01.3±2.3, 36°.95N±0°.04×104°.90W±0°.05, h3km±7km, mb_Lg3.4/105, ML3.3/28, Error ellipse: s-maj=6.4km s-min=5.1km az=57.0*
*IDC **05** 14:49:01.2±2.3, 36°.95N×105°.30W, h0km, mb3.0/1, mb1 3.2/3, mb1mx3.1/39, mbtmp2.9/3, ML3.2/2, Error ellipse: s-maj=48.9km s-min=13.9km az=97.0*
ISC 05 14:49:01.5±0.9**, 36°.91N**±0°.05×**104°.94W**±0°.07**, h10**km**, n47, σ1s.15**/26**, New Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.48**	**62**	P		14 49 08.4	
	baz=246						
T25A				S		14 49 14.8	
	baz=246						
SDCO	**Great Sand Dun**	**0.94**	**332**		**Pg**	**14 49 18.4**	**-1.4**
SDCO				Sg	**Sg**	**14 49 31.4**	**-0.7**
SDCO				IAML		14 49 38.3	
	428nm,0.4s						
SDCO	**Great Sand Dun**	**0.94**	**332**	Pb		14 49 18.5	
	baz=149,SNR=170						
SDCO				S		14 49 31.3	
	baz=149						
S22A	**4UR Ranch, Cre**	**1.72**	**299**	Pg		14 49 32.9	
	baz=117,SNR=358						
Q24A	**Divide**	**2.05**	**355**	Pg		14 49 38.3	
	baz=175,SNR=157						

Q24A				Sb		14 50 05.3	
	baz=175						
ANMO	Albuquerque	2.32	213	Pn	Pn	14 49 39.7	-0.2
	1.7nm,0.3s,baz=44,slow=16,SNR=24						
ANMO				Lg	Lg	14 50 10.9	
	1.2nm,0.3s,baz=171,slow=23,SNR=6.5						
ANMO	Albuquerque	2.32	213	Pn	Pn	14 49 39.8	-0.2
ANMO				Sn	Sb	14 50 11.3	-1.0
ANMO	Albuquerque	2.32	213	P		14 49 39.7	
	baz=32						
ANMO				S		14 50 10.3	
	baz=32						
SMCO	Snowmass	2.77	325		Pn	14 49 46.9	+0.5
KSCO	Kaye Shedlock'	2.78	40	Pn	Pn	14 49 46.2	0.0
KSCO	Kaye Shedlock'	2.78	40	P		14 49 45.5	
	baz=222						
KSCO				Sb		14 50 25.7	
	baz=222						
MVCO	Mesa Verde	2.87	277		Pn	14 49 48.5	+1.0
MVCO				IAML		14 50 32.7	
	100nm,0.6s						
MVCO	Mesa Verde	2.87	277	Pb		14 49 52.1	
	baz=94,SNR=189						
MVCO				Sb		14 50 30.6	
	baz=94						
ISCO	Idaho Springs	2.93	350		Pn	14 49 50.6	+2.1
ISCO				IAML		14 50 39.7	
	63nm,1.2s						
ISCO	Idaho Springs	2.93	350	P		14 49 48.5	
	baz=169,SNR=12						
ISCO				Sb		14 50 32.0	
	baz=169						
BNM	Barren Site	3.08	207	Pn	Pn	14 49 50.8	+0.3
AMTX	Amarillo	3.33	127	Pn	Pn	14 49 55.7	+1.9
AMTX				IAmb_Lg		14 50 46.0	
	comp=Z,107nm,0.9s						
AMTX	Amarillo	3.33	127	P		14 49 53.4	
	baz=309						
MSTX	Muleshoe	3.43	148	Pn	Pn	14 49 56.3	+1.2
MSTX	Muleshoe	3.43	148	Pb		14 50 00.8	
	baz=330						
PV04	Paradox Valley	3.48	296		Pn	14 49 57.6	+1.7
PV04				IAML		14 50 58.7	
	comp=E,89nm,1.5s						
N23A	Red Feather La	4.05	349	Pg		14 50 17.0	
	baz=168						
O20A	White River Ci	4.13	322		Pn	14 50 05.5	+0.6
O20A				IAML		14 51 24.0	
	comp=N,39nm,1.4s						
O20A				IAML		14 51 30.7	
	comp=E,44nm,1.3s						
O20A	White River Ci	4.13	322	Pg		14 50 18.7	
	baz=140						
W18A	Petrified Fore	4.28	247	Pb		14 50 17.7	
	baz=63						
CBKS	Cedar Bluff	4.53	64		Pn	14 50 09.3	-0.9
CBKS	Cedar Bluff	4.53	64	P		14 50 09.2	
	baz=247						
OGNE	Ogallala	4.62	28	Pn	Pn	14 50 12.6	+1.2
OGNE				IAmb_Lg		14 51 37.3	
	comp=Z,72nm,0.8s						
GDL2	Guadalupe Moun	4.72	174	Pn	Pn	14 50 14.6	+1.6
U32A	Winter Ranch,	4.80	95	Pn	Pn	14 50 13.9	0.0
U32A				IAmb_Lg		14 51 36.8	
	comp=Z,58nm,1.0s						
121A	Cookes Peak, D	4.96	209		Pn	14 50 15.8	-0.4
121A				IAML		14 51 47.5	
	comp=E,17nm,0.9s						
121A				IAML		14 51 51.7	
	comp=N,18nm,4.3s						
121A	Cookes Peak, D	4.96	209	P		14 50 15.8	
	baz=27						
121A				Sb		14 51 33.0	
	baz=27						
R32A	Long Quarter,	5.16	71	IAmb_Lg		14 51 51.1	
	comp=Z,69nm,0.8s						
MNTX	Cornudas Mount	5.21	184	Pb		14 50 32.6	
	baz=4.1,SNR=24						
MNTX				Sb		14 51 39.4	
	baz=4.1						
WUAZ	Wupatki	5.39	257	P		14 50 22.3	
	baz=73						
WMOK	Wichita Mounta	5.45	112	IAmb_Lg		14 52 01.5	
	comp=Z,57nm,1.1s						
WMOK	Wichita Mounta	5.45	112	Pb		14 50 34.5	
	baz=296,SNR=22						
KAN10	Anthony SW Sta	5.48	86	IAmb_Lg		14 52 01.4	
	comp=Z,60nm,1.2s						
KAN12	Harper NE Stat	5.56	84	IAmb_Lg		14 51 55.4	
	comp=Z,58nm,1.0s						
KAN08	Anthony NE Sta	5.58	85	IAmb_Lg		14 51 53.8	
	comp=Z,63nm,1.1s						
KAN05	Bluff City Nor	5.66	86	IAmb_Lg		14 52 04.9	
	comp=Z,49nm,1.1s						
U15A	North Rim	5.93	268		Pn	14 50 30.9	+1.2
KAN13	South Haven SW	5.97	87	IAmb_Lg		14 52 20.5	
	comp=Z,54nm,1.1s						
BCOK	Bluff Creek, N	6.05	100	IAmb_Lg		14 52 21.7	
	comp=Z,63nm,1.0s						
ABTX	Abilene, Hawle	6.11	133	Pb		14 50 48.4	
	baz=316						
FNO	Franklin	6.32	103	IAmb_Lg		14 52 25.3	
	comp=Z,43nm,0.9s						
T35A	Sooner Cattle	6.75	87	Pn	Pn	14 50 40.2	-0.5
T35A				IAmb_Lg		14 52 40.5	
	comp=Z,62nm,1.1s						
BW06	Boulder Array	6.84	330	Pg		14 51 09.5	
	baz=147						
PDAR	Pinedale Array	6.84	330	Pn	Pn	14 50 43.9	+1.8
	comp=Z,0.1nm,0.3s,baz=140,slow=14,SNR=4.3						
PDAR				Lg	Lg	14 52 35.6	
	comp=Z,0.2nm,0.3s,baz=123,slow=31,SNR=2.7						
DUG	Dugway, Tooele	6.99	300	Pg		14 51 12.4	
	baz=115						
RSSD	Black Hills	7.23	5	Pn	Pn	14 50 47.9	+0.4
Z35A	Perchaven, San	7.24	117	IAmb_Lg		14 53 00.4	
	comp=Z,41nm,1.2s						
TUL1	Leonard	7.44	95	IAmb_Lg		14 53 01.9	
	comp=Z,54nm,1.0s						
TXAR	Lajitas Array	7.63	172	Pg	Pb	14 51 15.4	+1.4
	comp=Z,0.2nm,0.3s,baz=346,slow=15,SNR=3.5						
TXAR				Lg	Lg	14 52 53.8	
	comp=Z,0.5nm,0.3s,baz=354,slow=27,SNR=14						
JCT	Junction City	7.71	145	IAmb_Lg		14 53 14.8	
	comp=Z,52nm,1.1s						
WHTX	Lake Whitney,	7.89	126	IAmb_Lg		14 53 32.8	
	comp=Z,31nm,1.1s						
X37A	Clayton	8.11	104	IAmb_Lg		14 53 32.1	
	comp=Z,35nm,0.8s						
U38A	Gravette	8.49	90	Pn	Pn	14 51 03.8	-0.8
435B	Jarrell	8.64	133	IAmb_Lg		14 53 38.0	
	comp=Z,36nm,0.8s						
SUSD	Miller	8.78	29	IAmb_Lg		14 53 52.8	
	comp=Z,32nm,0.8s						
HHAR	Hobbs	8.87	91	IAmb_Lg		14 53 43.9	
	comp=Z,38nm,1.0s						
W39A	Magazine	9.19	97	IAmb_Lg		14 54 01.8	
	comp=Z,38nm,0.9s						
S39A	Bolivar	9.29	82	IAmb_Lg		14 53 57.1	
	comp=Z,23nm,0.9s						
ECSD	EROS Data Cent	9.31	40	IAmb_Lg		14 54 00.7	
	comp=Z,25nm,1.0s						
P38A	Dawn	9.37	70	IAmb_Lg		14 54 01.5	
	comp=Z,38nm,0.8s						
U40A	Yellville	9.73	90	IAmb_Lg		14 54 18.3	
	comp=Z,36nm,1.1s						
NVAR	Mina Array Bea	10.71	282	Pg	Pn	14 52 18.5	+43
	comp=Z,0.2nm,0.3s,baz=102,slow=17,SNR=4.3						
YKA	Yellowknife Ar	26.30	350	P	P	14 54 36.9	-0.1
	comp=Z,0.2nm,0.6s,baz=169,slow=9.7,SNR=2.8						

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*IDC **05** 15:16:48.8±3.2, 13.°50N×92.°17W, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.7/35, mbtmp3.6/8, ML3.9/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/28, Error ellipse: s-maj=58.9km s-min=42.4km az=170.0*

*MEX **05** 15:16:50.4±0.6, 13.°34N×92.°28W, h40km, MD3.9*

*NEIC **05** 15:16:54.6±2.1, 13.°71N±0.°08×92.°41W±0.°07, h38km±8km, mb4.3/21, Md3.9/18(MEX), Error ellipse: s-maj=11.9km s-min=8.8km az=210.0*

*GCG **05** 15:17:11.0±0.3, 14.°35N×91.°25W, h31km±3km, MD3.8*

ISC 05 15:16:52.3±1.1**, 13.°54N**±0.°09×**92.°37W**±0.°05**, h32**km**, n53,** σ1**s62**/59**, mb4.1**/13**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	1.18	34		Pb	15 17 13.0	-1.2
THIG		1.36	4	eP	Pn	15 17 12.8	-2.4
THIG				i S	Sn	15 17 32.5	+0.3
THIG		1.36	4		Pn	15 17 12.8	-2.4
THIG					Sn	15 17 32.5	+0.3
FUG	Fuego 3	1.73	58	eP	Pn	15 17 20.4	0.0
PCG	Pacaya	1.91	63	eP	Pn	15 17 20.7	-2.2
NBG	Las Nubes	2.22	62	eP	Pb	15 17 28.4	-3.5
PCIG		2.31	339	eP	Pn	15 17 27.8	-0.3
PCIG				eS	Sn	15 17 55.8	+0.4
PCIG		2.31	339		Pn	15 17 27.8	-0.3
PCIG					Sn	15 17 55.8	+0.4
CCIG	Comitan	2.74	5	eP	Pb	15 17 37.1	-3.6
CCIG				i S	Sn	15 18 10.6	+4.3
CCIG	Comitan	2.74	5		Pb	15 17 37.1	-3.6
CCIG					LR	15 18 10.6	
MRL	Marmol	3.02	59	eP	Pn	15 17 39.0	+0.9
MRL				eS	Sn	15 18 00.9	-12
MTO3	Montecristo	3.04	73		Pn	15 17 37.8	-0.6
TGIG		3.30	347	i P	Pn	15 17 40.8	-1.1
TGIG				eS	Sn	15 18 21.7	+1.5
TGIG		3.30	347		Pn	15 17 40.8	-1.1
TGIG					Sn	15 18 21.7	+1.5
PETF	Flores	4.13	35		Pn	15 17 53.7	+0.4
CMIG	Matias Romero	4.29	326	Pn	Pn	15 17 55.7	+0.3
	1.9nm,0.3s,baz=131,slow=11,SNR=13						
CMIG				Sn	Sn	15 18 43.0	-1.3
	2.6nm,0.3s,baz=120,slow=20,SNR=3.6						
CMIG	Matias Romero	4.29	326	eP	Pn	15 17 56.0	+0.6
CMIG				i S	Sn	15 18 46.4	+2.1
CMIG	Matias Romero	4.29	326		Pn	15 17 56.0	+0.6
CMIG					Sn	15 18 46.4	+2.1
TEIG	Tepich	7.72	30	Pn	Pn	15 18 43.8	+1.3
	3.0nm,0.3s,baz=273,slow=1.5,SNR=15						
TEIG				Sn	Sn	15 20 11.5	+2.7
	baz=96,slow=19,SNR=1.6						
TEIG				LR	LR	15 21 51.9	
	comp=Z,96nm,21.6s,baz=286,slow=40						
TEIG	Tepich	7.72	30		Pn	15 18 43.1	+0.7
JTS	Las Juntas de	7.94	113	Pn	Pn	15 18 51.5	+5.9
TX32	Lajitas Array	18.89	328	P	Pn	15 21 11.1	0.0
TXAR	Lajitas Array	18.89	328	P	Pn	15 21 14.3	+3.2
	0.2nm,0.3s,baz=138,slow=12,SNR=2.0						
TXAR	Lajitas Array	18.89	328	P	P	15 21 08.7	-1.6
TX31	Lajitas Ar. Si	18.89	328	P	Pn	15 21 10.3	-0.8
Z47A	Carrollton	19.96	11	P	Pn	15 21 22.7	-1.0
Z47A				IAmb	IAmb	15 21 24.1	
	comp=Z,15nm,0.7s						
ABTX	Abilene, Hawle	20.13	342	P	Pn	15 21 25.4	-0.3
ABTX				IAmb	IAmb	15 21 27.1	
	comp=Z,4.7nm,0.6s						
X48A	Hartselle	21.37	12	P	P	15 21 37.8	+0.6
SC01	Santiago de lo	21.55	71	P	P	15 21 40.0	+0.8
MNTX	Cornudas Mount	21.67	329	P	P	15 21 40.9	+0.5
SWET	Sewanee	22.35	14	P	P	15 21 47.6	-0.1
SWET				IAmb	IAmb	15 22 16.2	
	comp=Z,19nm,1.4s						
V48A	Smith Brothers	22.66	12	P	P	15 21 50.5	-0.5
V48A				IAmb	IAmb	15 21 51.7	
	comp=Z,11nm,0.9s						
AMTX	Amarillo	22.86	340	P	P	15 21 53.5	+0.4
AMTX				IAmb	IAmb	15 21 58.0	
	comp=Z,11nm,1.2s						
WVT	Waverly	22.86	9	P	P	15 21 51.9	-1.1
WVT				IAmb	IAmb	15 21 53.0	
	comp=Z,3.5nm,0.6s						
TKL	Tuckaleechee C	23.35	18	P	P	15 21 57.7	-0.2
	comp=Z,2.0nm,0.5s,baz=190,slow=11,SNR=1.9						
TKL				LR	LR	15 31 04.8	
	comp=Z,97nm,19.0s,baz=44,slow=37						
TKL	Tuckaleechee C	23.35	18	IAmb	IAmb	15 22 03.8	
	comp=Z,20nm,1.6s						
U49A	Red Boiling Sp	23.63	13	P	P	15 21 59.8	-0.8
U49A				IAmb	IAmb	15 22 01.2	
	comp=Z,7.8nm,0.8s						
T47A	Sharon Grove	23.82	10	P	P	15 22 02.1	-0.4
T47A				IAmb	IAmb	15 22 02.9	
	comp=Z,14nm,1.1s						
S44A	Carbondale	24.22	6	P	P	15 22 06.1	0.0
BNM	Barren Site	24.26	330	P	P	15 22 06.7	-0.2
T50A	Nancy	24.34	15	P	P	15 22 06.1	-1.1
T50A				IAmb	IAmb	15 22 33.9	
	comp=Z,5.5nm,1.1s						
V55A	Taylorsville	24.38	22	P	P	15 22 08.0	+0.4
V55A				IAmb	IAmb	15 22 33.7	
	comp=Z,19nm,1.4s						
WCI	Wyandotte Cave	25.18	11	P	P	15 22 14.3	-0.5
CBYP	Canovanas	25.91	76	P	P	15 22 23.0	+1.2
P46A	Rosedale	26.37	9	P	P	15 22 25.0	-0.7
ISCO	Idaho Springs	28.64	338	P	P	15 22 45.2	-1.2
PDAR	Pinedale Array	32.69	336	P	P	15 23 23.2	+1.1
	comp=Z,0.1nm,0.5s,baz=123,slow=9.8,SNR=2.6						
NVAR	Mina Array Bea	33.81	322	P	P	15 23 35.5	+3.6
	comp=Z,0.7nm,0.8s,baz=134,slow=8.1,SNR=6.0						
NVAR	Mina Array Bea	33.81	322	P	P	15 23 31.8	-0.1
YKA	Yellowknife Ar	51.39	347	P	P	15 25 55.4	+1.6
	comp=Z,0.7nm,0.6s,baz=144,slow=8.0,SNR=12						
ILAR	Eielson Array	63.12	337	P	P	15 27 18.6	+1.9
	comp=Z,0.5nm,0.9s,baz=123,slow=4.4,SNR=3.8						
CMAR	Chiang Mai Arr	146.31	340	PKPbc	PKiKP	15 36 31.9	-1.9
	comp=Z,0.6nm,0.5s,baz=344,slow=2.9,SNR=5.7						
CMAR	Chiang Mai Arr	146.31	340		PKiKP	15 36 30.9	-3.0

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*IDC **05** 15:43:01.4±0.6, 3.°21S×134.°63E, h0km, mb4.6/16, mb1 4.8/19, mb1mx4.6/32, mbtmp4.7/19, ML3.9/3, MS3.7/10, Ms1 3.7/10, ms1mx3.5/30, Error ellipse: s-maj=24.9km s-min=13.1km az=64.0*

*BJI **05** 15:43:01.1±0.0, 3.°76S×134.°70E, h33km, mB5.0/30, mb4.7/50, Ms4.6/11, Ms7 4.2/13*

*DJA **05** 15:43:05.1±0.2, 3°S±3°×13°5E±°, h10km, M4.8/22, mB5.2/10, mb4.8/22, MLv5.1/12, Mw(mB)4.6/10*

*NEIC **05** 15:43:06.5±1.7, 3.°40S±0.°08×134.°52E±0.°08, h38km±6km, mb4.8/63, Error ellipse: s-maj=12.3km s-min=10.3km az=56.0*

ISC 05 15:43:03.7±0.3**, 3.°51S**±0.°04×**134.°62E**±0.°04**, h24**km**, n196,** σ1**s64**/199**, mb4.8**/86**, MS4.0**/13**, 4C, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	2.30	45	P	Pn	15 43 39.4	-0.8
SRPI				S	Sn	15 44 06.6	-1.2
FAKI	Fak Fak	2.44	284	Pn	Pn	15 43 41.7	-0.3
FAKI	Fak Fak	2.44	284	P	Pn	15 43 42.2	+0.2
FAKI				S	Sn	15 44 12.6	+1.5
BAKI	Biak	2.75	33	P	Pn	15 43 46.5	+0.2
SIJI	Sorong	4.25	308	Pn	Pn	15 44 05.5	-1.6
	36nm,0.3s,baz=107,slow=13,SNR=128						
SIJI				Sn	Sn	15 44 53.4	-2.7
	10nm,0.3s,baz=43,slow=19,SNR=2.1						
SIJI				LR	LR	15 45 46.6	
	comp=Z,1μm,21.5s,baz=126,slow=40						
SWI	Sorong	4.26	308	P	Pn	15 44 05.6	-1.6
SWI				S	Sn	15 44 53.4	-2.8
BNDI	Bandanaira	4.80	258	P	Pn	15 44 16.9	+2.3
SAUI	Saumlaki	5.53	216	Pn	Pn	15 44 25.3	+0.7
GENI	Genyem	5.62	81	P	Pn	15 44 30.1	+4.2
	1.3nm4μm382nm,1.1s						
JAY	Jayapura	6.16	81	P	Pn	15 44 35.7	+2.3
	808nm55nm,1.0s						
NLAI	Namlea	7.51	272	P	Pn	15 44 53.5	+1.7
	0.3nm70nm,0.6s						
MMPI	Merauke	7.56	131	P	Pn	15 44 59.0	+6.5
	2.8nm410nm,1.0s						
SANI	Sanana	8.74	279	P	Pn	15 45 08.8	+0.1
	0.3nm766nm69nm,0.7s						
KDU	Kakadu	9.36	193	P	Pn	15 45 20.6	+3.4
	baz=9.4,SNR=81						
KMSI	Cibinong	11.38	291	P	Pn	15 45 45.0	+0.1
	56nm,0.9s						
SOEI	Soe	12.00	238	Pn	Pn	15 45 54.6	+1.1
SOEI					Sn	15 48 09.3	+2.5
SOEI	Soe	12.00	238	P	Pn	15 45 59.4	+5.9
	57nm,1.1s						
LUWI	Luwuk	12.09	281	Pn	Pn	15 45 54.1	-0.5
BATI	Baumata	12.74	238	Pn	Pn	15 46 04.3	+0.7
	2.7nm,0.3s,baz=90,slow=9.1,SNR=4.0						
BATI				Sn	Sn	15 48 24.4	-0.4
	0.9nm,0.3s,baz=77,slow=21,SNR=1.4						
BATI	Baumata	12.74	238	P	P	15 46 08.6	-5.9
	32nm,0.9s						
APSI	Ampana	13.21	281	P	Pn	15 46 10.3	+0.3
	699nm60nm,0.8s						
COEN	Coen	13.38	141		Pn	15 46 13.4	+1.1
PMG	Port Moresby	13.77	116	Pn	Pn	15 46 20.5	+2.9
	2.6nm,0.3s,baz=333,slow=14,SNR=9.1						
PMG	Port Moresby	13.77	116	P	P	15 46 23.9	-2.0
DAV	Davao City (W)	13.85	319	LR	LR	15 51 40.4	
	comp=Z,255nm,18.9s,baz=139,slow=38						
BSSI	Bau Bau, Buton	14.31	259	P	P	15 46 28.3	-3.7
	76nm,1.5s						
BNSI	Bone	14.50	266	P	P	15 46 30.5	-3.6
	29nm,1.4s						
BKSI	Bulukumba	14.56	262	P	Pn	15 46 30.1	+1.7
	26nm,1.4s						
TTSI	Tana Toraja	14.78	271	P	P	15 46 34.9	-2.3
	799nm62nm,1.2s						
WRAB	Tennant Creek	16.32	181	Pn	P	15 46 52.5	-1.8
WB2	Warramunga Arr	16.33	181	P	P	15 46 52.7	-1.8
	baz=16						
WB2	Warramunga Arr	16.33	181		Pn	15 46 51.9	+0.3
WRA	Warramunga Arr	16.33	181	Pn	Pn	15 46 51.1	-0.6
	0.7nm,0.3s,baz=4.7,slow=14,SNR=37						
WRA				Sn	Sn	15 49 43.2	-9.1
	0.4nm,0.3s,baz=348,slow=23,SNR=3.2						
WRA				Lg	Lg	15 51 40.7	
	baz=140,slow=29,SNR=1.8						
WRA				LR	LR	15 52 59.9	
	comp=Z,142nm,19.7s,baz=5.0,slow=36						
WR0	Warramunga Arr	16.35	180	Pn	P	15 46 53.0	-1.5
WR0				IAmb	IAmb	15 47 02.3	
	comp=Z,72nm,1.4s						
FITZ	Fitzroy Crossi	16.95	211	P	Pn	15 46 58.5	-1.0
	comp=Z,1.6nm,0.3s,baz=35,slow=11,SNR=31						
FITZ				S	Sn	15 49 59.0	-8.3
	comp=Z,0.4nm,0.3s,baz=175,slow=17,SNR=3.0						
FITZ	Fitzroy Crossi	16.95	211	P	P	15 46 59.5	-1.8
	baz=17,SNR=16						
FITZ	Fitzroy Crossi	16.95	211		P	15 46 59.7	-1.5
MTSU	Mount Surprise	17.36	148	P	P	15 47 05.9	+0.1
	baz=18,SNR=32						
QIS	Mount Isa	17.62	164	P	P	15 47 10.2	+1.4
	baz=18,SNR=16						
MYLDM	Lahad Datu	18.27	298		P	15 47 16.5	+0.6
MYLDM				IAmb	IAmb	15 47 51.0	
	comp=Z,113nm,1.4s						
BBKI	Banjar Baru	19.74	270	P	Pn	15 47 35.9	+2.3
	comp=Z,2μmcomp=Z,89nm,1.4s						
MTKI	Muara Teweh, K	19.87	277	P	Pn	15 47 36.5	+1.4
	comp=Z,43nm,1.9s						
CTA	Charters Tower	20.01	146	P	Pn	15 47 38.8	+2.1
	comp=Z,37nm,0.8s,baz=325,slow=13,SNR=40						
CTAO	Charters Tower	20.01	146		Pn	15 47 37.1	+0.4
AS31	Alice Springs	20.05	182		Pn	15 47 38.6	+1.4
ASAR	Alice Springs	20.05	182	P	Pn	15 47 39.2	+2.1
	comp=Z,29nm,0.6s,baz=5.4,slow=12,SNR=283						
ASAR				S	S	15 51 16.5	-3.2
	comp=Z,0.4nm,0.4s,baz=95,slow=28,SNR=1.1						
ASAR				Lg	Lg	15 53 42.7	
	comp=Z,0.7nm,0.7s,baz=41,slow=53,SNR=1.3						
ASPA	Alice Springs	20.05	182	P	Pn	15 47 39.4	+2.2
	baz=20						
KKM	Kota Kinabalu	20.68	297	P	Pn	15 47 43.3	-1.5
TGY	Tagaytay City	22.14	323	P	P	15 47 57.4	-0.7
	comp=Z,108nm,0.6s,baz=157,slow=7.7,SNR=4.8						
WRKA	Warakurna	22.25	195	P	P	15 48 02.3	+3.2
	baz=22,SNR=20						
PSA00	Pilbara Seismi	22.98	217	P	P	15 48 08.6	+1.8
PSA00				IAmb	IAmb	15 48 18.0	
	comp=Z,27nm,0.9s						
PSA00	Pilbara Seismi	22.98	217	P	P	15 48 08.3	+1.5
PSA00				IAmb	IAmb	15 48 12.5	
	comp=Z,12nm,1.0s						
SBUM	Sibu	23.15	285	P	P	15 48 09.1	+0.5
KSM	Kuching	24.80	281	P	P	15 48 25.3	+1.1
KSM				IAmb	IAmb	15 48 28.1	
	comp=Z,29nm,0.9s						
STKA	Stephens Creek	28.97	168	P	P	15 49 05.8	+4.2
	comp=Z,5.8nm,1.0s,baz=357,slow=12,SNR=4.4						
STKA				LR	LR	16 01 39.3	
	comp=Z,410nm,21.7s,baz=349,slow=38						
DLV	T Lat	30.18	301	P	P	15 49 12.0	-0.7
DLV				IAmb	IAmb	15 49 14.0	
	comp=Z,33nm,1.3s						
KMBL	Kambalda	30.19	202	P	P	15 49 14.3	+1.9
	baz=30						
QIZ	Qiongzhong	33.11	313	P	P	15 49 38.8	+0.7
QIZ				S	S	15 54 57.1	+0.9
QIZ				LR	LR		
	comp=Z,200nm,14.7s						
UBPT	Khong Chiam	34.37	304	P	P	15 49 49.0	-0.2
DZM	Mont Dzumac	35.96	124	eLR	LR	15 59 52.7	
	comp=Z,244nm,23.6s						
RPSI	Rantau Prapat	36.20	279	P	P	15 50 05.0	0.0
RPSI				IAmb	IAmb	15 50 06.5	
	comp=Z,23nm,1.3s						
RPSI	Rantau Prapat	36.20	279	P	P	15 50 05.3	+0.3
PSI	Prapat	36.22	280	P	P	15 50 05.3	0.0
	comp=Z,4.2nm,0.4s,baz=180,slow=5.7,SNR=6.3						
TRTT	Trang	36.62	288	P	P	15 50 09.2	+0.6
	comp=Z,686nmcomp=Z,59nm,1.1s						
SRAK	Srakaew	36.70	299	P	P	15 50 05.6	-3.6
	comp=Z,2μmcomp=Z,146nm,0.8s						
GSI	Gunungsitoli	37.33	277	P	P	15 50 13.8	-0.8
GSI				IAmb	IAmb	15 50 15.2	
	comp=Z,27nm,1.1s						
GSI	Gunungsitoli	37.33	277	P	P	15 50 14.9	+0.3
CHAI	Chaiyaphum	37.60	302	P	P	15 50 17.5	+0.7
	comp=Z,38nm,0.7s						
NONG	Nongkai	37.71	306	P	P	15 50 18.0	+0.2
	comp=Z,23nm,0.9s						
PHET	Kaeng Krachan	38.38	296	P	P	15 50 25.9	+2.4
	comp=Z,22nm,1.2s						
NJ2	Nanjing	38.41	338	eP	P	15 50 26.0	+2.6
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WHN	Wuhan	39.01	332	⇑P	P	15 50 29.2	+0.7
WHN				pmax	pmax		
	comp=Z,32nm,1.0s						
UTHA	Uthaitani	39.63	299	P	P	15 50 35.1	+1.2
	comp=Z,18nm,0.9s						
GYA	Guiyang	40.23	319	⇑P	P	15 50 38.7	-0.2
GYA				pP	sP	15 50 49.4	0.0
GYA				sP	pP	15 50 55.3	+8.9
GYA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
UMPA	Umpang Tak	40.42	300	P	P	15 50 43.1	+2.6
	comp=Z,1μmcomp=Z,18nm,1.2s						
LAMP	Lampang	40.82	304	P	P	15 50 45.0	+1.2
	comp=Z,19nm,1.1s						
KSRS	Korea Array	41.23	352	P	P	15 50 43.7	-3.1
	comp=Z,1.4nm,0.8s,baz=179,slow=10.0,SNR=5.6						
KSRS				LR	LR	16 05 50.2	
	comp=Z,39nm,21.8s,baz=165,slow=33						
CM35	Chiang Mai Arr	41.29	304	P	P	15 50 48.0	+0.3
CM04	Chiang Mai Arr	41.31	303	P	P	15 50 49.0	+1.1
	comp=Z,96nmcomp=Z,10.0nm,0.9s						
CM09	Chiang Mai Arr	41.32	303	P	P	15 50 49.0	+1.2
	comp=Z,123nmcomp=Z,12nm,1.0s						
CM01	Chiang Mai Arr	41.33	303	P	P	15 50 49.0	+1.0
	comp=Z,107nmcomp=Z,12nm,1.1s						
CM05	Chiang Mai Arr	41.34	303	P	P	15 50 48.0	0.0
	comp=Z,64nmcomp=Z,7.8nm,1.1s						
CM02	Chiang Mai Arr	41.35	303	P	P	15 50 49.0	+0.8
	comp=Z,92nmcomp=Z,11nm,1.1s						
CM31	Chiang Mai Arr	41.37	303	P	P	15 50 49.4	+1.1
CM31	Chiang Mai Arr	41.37	303	P	P	15 50 48.4	+0.1
CM31				IAmb	IAmb	15 50 49.9	
	comp=Z,20nm,1.1s						
CMAR	Chiang Mai Arr	41.37	303	P	P	15 50 48.4	+0.1
	comp=Z,7.5nm,1.0s,baz=126,slow=6.6,SNR=37						
CMAR				PcP	PcP	15 52 49.0	+2.5
	comp=Z,1.0nm,0.3s,baz=93,slow=1.8,SNR=1.7						
CMAR				LR	LR	16 09 19.1	
	comp=Z,24nm,19.6s,baz=120,slow=38						
CM13	Chiang Mai Arr	41.38	303	P	P	15 50 49.0	+0.7
	comp=Z,85nmcomp=Z,11nm,1.0s						
CM15	Chiang Mai Arr	41.38	303	P	P	15 50 49.0	+0.6
	comp=Z,122nmcomp=Z,13nm,1.0s						
CHTO	Chiang Mai	41.53	304	P	P	15 50 49.5	-0.2
CM33	Chiang Mai Arr	41.53	304	P	P	15 50 49.0	-0.7
CM32	Chiang Mai Arr	41.54	303	P	P	15 50 50.0	+0.3
KMI	Kunming	42.04	314	⇑P	P	15 50 53.6	-0.4
KMI				pP	sP	15 51 04.7	+0.2
KMI				S	S	15 57 16.9	+4.8
KMI				pmax	pmax		
	comp=Z,12nm,1.5s						
KMI				pmax	pmax		
	comp=Z,160nm,4.5s						

KMI				LR	LR		
	comp=Z,100nm,19.1s						
KMI				LR	LR		
	comp=Z,160nm,19.6s						
KMI				LR	LR		
	comp=Z,160nm,22.5s						
XAN	**Xi'an**	**44.52**	**329**	P	**P**	**15 51 13.1**	**-0.6**
XAN				pmax	pmax		
	comp=Z,17nm,1.3s						
XAN	**Xi'an**	**44.52**	**329**	P	**P**	**15 51 12.7**	**-1.0**
XAN				IAmb	IAmb	15 51 13.9	
	comp=Z,20nm,1.2s						
CD2	**Chengdu**	**45.14**	**322**	P	**P**	**15 51 18.5**	**-0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				pmax	pmax		
	comp=Z,110nm,5.0s						
BJI	**Beijing**	**46.53**	**340**	P	**P**	**15 51 29.2**	**-0.2**
BJI				pmax	pmax		
	comp=Z,11nm,0.9s						
USRK	**Ussuriysk Ar.**	**47.56**	**357**	P	**P**	**15 51 35.8**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=171,slow=10,SNR=3.0						
LZH	**Lanzhou**	**48.78**	**327**	⇑P	**P**	**15 51 48.1**	**+1.0**
LZH				pP	sP	15 51 58.3	+0.6
LZH				sP	pP	15 52 03.1	+8.4
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
HHC	**Hu-ho-hao-te**	**48.92**	**337**	*e*P	**P**	**15 51 50.0**	**+1.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,93nm,5.7s						
SHL	**Shillong**	**50.50**	**307**	P	**P**	**15 52 00.1**	**-0.4**
RPZ	**Rata Peaks**	**51.38**	**147**	LR	LR	16 14 35.4	
	comp=Z,197nm,19.8s,baz=296,slow=37						
URZ	**Urewera**	**51.91**	**137**	LR	LR	16 13 44.4	
	comp=Z,268nm,21.2s,baz=30,slow=35						
LSA	**Lhasa**	**53.11**	**312**	P	**P**	**15 52 20.5**	**+0.3**
GTA	**Gaotai**	**53.38**	**327**	P	**P**	**15 52 21.9**	**+0.2**
GTA				pP	pP	15 52 29.7	+0.4
GTA				sP	sP	15 52 33.1	+0.8
GTA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,93nm,8.2s						
GTA				LR	LR		
	comp=Z,120nm,15.6s						
GTA				LR	LR		
	comp=Z,110nm,14.9s						
GTA				LR	LR		
	comp=Z,85nm,17.8s						
HIA	**Hailar**	**54.13**	**348**	P	**P**	**15 52 26.6**	**-0.3**
TAPN	**Taplejung**	**54.64**	**307**	*e*P	**P**	**15 52 31.2**	**-0.1**
	comp=Z,20nm,0.9s						
ODAN	**Odare**	**54.68**	**307**	*e*P	**P**	**15 52 31.4**	**-0.1**
	comp=Z,29nm,0.8s						
RAMN	**Ramite**	**55.35**	**306**	*e*P	**P**	**15 52 36.7**	**+0.3**
	comp=Z,19nm,0.8s						
GUN	**Gumba**	**56.34**	**307**	*e*P	**P**	**15 52 43.8**	**+0.2**
	comp=Z,17nm,0.8s						
PKI	**Pulchoki**	**56.57**	**306**	*e*P	**P**	**15 52 46.0**	**+0.8**
	comp=Z,13nm,1.0s						
ULN	**Ulaanbaatar**	**56.58**	**338**	P	**P**	**15 52 44.9**	**+0.2**
ULN				IAmb	IAmb	15 52 46.2	
	comp=Z,14nm,1.5s						
PKIN	**Phulchoki**	**56.59**	**306**	*e*P	**P**	**15 52 44.9**	**-0.3**
	comp=Z,11nm,1.0s						
KKN	**Kakani**	**56.77**	**307**	*e*P	**P**	**15 52 46.5**	**0.0**
	comp=Z,14nm,0.8s						
SONM	**Songino Array**	**56.80**	**338**	P	**P**	**15 52 46.0**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=152,slow=7.8,SNR=6.9						
SONM				PcP	**PcP**	**15 53 42.7**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=160,slow=3.8,SNR=2.0						
SONM				LR	LR	16 17 36.9	
	comp=Z,60nm,19.7s,baz=174,slow=37						
SONM	**Songino Array**	**56.80**	**338**	P	**P**	**15 52 45.8**	**-0.4**
DMN	**Daman**	**56.83**	**306**	*e*P	**P**	**15 52 47.0**	**0.0**
	comp=Z,20nm,0.9s						
GKN	**Gorkha**	**57.37**	**306**	*e*P	**P**	**15 52 50.8**	**+0.1**
	comp=Z,33nm,1.0s						
HYB	**Hyderabad**	**59.07**	**293**	*i* P	**P**	**15 53 03.0**	**+0.4**
TLY	**Talaya**	**60.97**	**339**	P	**P**	**15 53 13.8**	**-1.2**
TLY				IAmb	IAmb	15 53 25.0	
	comp=Z,4.7nm,0.6s						
WMQ	**Urumqi**	**63.16**	**324**	P	**P**	**15 53 31.1**	**+1.2**
WMQ				pP	sP	15 53 41.4	+0.8
WMQ				sP	pP	15 53 43.7	+6.0
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.9s						
WMQ	**Urumqi**	**63.16**	**324**	P	**P**	**15 53 30.5**	**+0.6**
YAK	**Yakutsk**	**65.47**	**357**	P	**P**	**15 53 43.0**	**-1.5**
YAK				IAmb	IAmb	15 53 44.7	
	comp=Z,9.5nm,0.9s						
ZSN	**Zaisan**	**66.86**	**326**	*e*P	**P**	**15 53 53.3**	**-0.5**
	baz=326						
SHLS	**Shalkode**	**67.92**	**320**	*e*P	**P**	**15 53 58.2**	**-2.6**
	comp=Z,9.4nm,0.8s,baz=320						
MK31	**Makanchi Array**	**67.98**	**324**	P	**P**	**15 54 01.2**	**+0.2**
MK31				IAmb	IAmb	15 54 02.7	
	comp=Z,10nm,0.9s						
MKAR	**Makanchi Array**	**67.98**	**324**	P	**P**	**15 54 01.7**	**+0.8**
	comp=Z,9.4nm,0.7s,baz=114,slow=8.1,SNR=126						
MKAR	**Makanchi Array**	**67.98**	**324**	P	**P**	**15 54 00.9**	**0.0**
MAKZ	**Makanchi**	**68.17**	**324**	P	**P**	**15 54 02.2**	**+0.1**
UZB	**Uzynbulak**	**68.20**	**319**	*e*P	**P**	**15 54 01.9**	**-0.7**
	comp=Z,8.5nm,0.7s,baz=320						
SATY	**Saty**	**68.56**	**319**	*e*P	**P**	**15 54 04.3**	**-0.5**
	comp=Z,9.8nm,0.8s,baz=319						
NIL	**Nilore**	**68.56**	**308**	P	**P**	**15 54 05.5**	**+0.6**
NIL				IAmb	IAmb	15 54 06.8	
	comp=Z,11nm,0.8s						
KPKS	**Kokpek**	**68.57**	**320**	*e*P	**P**	**15 54 04.1**	**-0.7**
	comp=Z,21nm,1.2s,baz=320						
KSH	**Kashi**	**68.70**	**315**	P	**P**	**15 54 07.9**	**+2.2**
KSH				sP	sP	15 54 22.0	+5.5
KSH				PcP	**PcP**	**15 54 32.4**	**+1.9**
KSH				pmax	pmax		
	comp=Z,21nm,0.8s						
KSH				pmax	pmax		
	comp=Z,390nm,5.8s						
TDK	**Taldyqorghan**	**69.45**	**321**	*e*P	**P**	**15 54 10.2**	**+0.1**
	comp=Z,8.0nm,0.7s,baz=321						
MDOK	**Medeo**	**69.50**	**319**	*e*P	**P**	**15 54 10.9**	**+0.3**
	baz=319						
TNSS	**Tian-Shan**	**69.51**	**319**	*e*P	**P**	**15 54 10.7**	**-0.3**
	baz=319						
AAA	**Alma-Ata**	**69.61**	**319**	*e*P	**P**	**15 54 11.7**	**+0.4**
	comp=Z,4.7nm,0.5s,baz=319						
CHKK	**Chushkaly**	**69.84**	**319**	*e*P	**P**	**15 54 12.9**	**+0.3**
	baz=320						
KUU	**Kurty**	**70.28**	**319**	*e*P	**P**	**15 54 14.8**	**-0.5**
	comp=Z,27nm,1.2s,baz=319						
TKM2	**Tokmak 2**	**70.36**	**318**	P	**P**	**15 54 17.0**	**+1.0**
	SNR=7.1						
ZAA0	**Zalesovo Array**	**70.62**	**331**	P	**P**	**15 54 16.2**	**-0.9**
ZAA0				IAmb	IAmb	15 54 17.5	
	comp=Z,10nm,1.1s						
ZALV	**Zalesovo Beam**	**70.62**	**331**	P	**P**	**15 54 16.6**	**-0.5**
	comp=Z,6.0nm,0.9s,baz=106,slow=5.4,SNR=20						
ZALV	**Zalesovo Beam**	**70.62**	**331**	P	**P**	**15 54 16.1**	**-1.0**
UCH	**Uchtor**	**70.81**	**317**	P	**P**	**15 54 20.4**	**+1.4**
	SNR=16						
AAK	**Ala-Archa**	**70.98**	**317**	P	**P**	**15 54 20.0**	**+0.2**
AAK				IAmb	IAmb	15 54 22.1	
	comp=Z,9.7nm,1.3s						
SGDS	**Sogindy**	**71.22**	**318**	*e*P	**P**	**15 54 20.8**	**-0.3**
	baz=318						
USP	**Ospenovka**	**71.23**	**318**	P	**P**	**15 54 21.8**	**+0.7**
	SNR=17						
AML	**Almayashu**	**71.33**	**317**	P	**P**	**15 54 23.4**	**+1.3**
	SNR=18						
EKS2	**Erkin-Say**	**71.48**	**317**	P	**P**	**15 54 24.0**	**+1.3**
	SNR=11						
KBL	**Kabul**	**72.16**	**308**	P	**P**	**15 54 26.9**	**-0.2**
KBL				IAmb	IAmb	15 54 28.5	
	comp=Z,6.7nm,0.9s						
BTLS	**Baital**	**72.25**	**320**	*e*P	**P**	**15 54 26.7**	**-0.5**
	comp=Z,7.4nm,1.4s,baz=320						
DZA	**Taraz**	**73.23**	**317**	*e*P	**P**	**15 54 33.0**	**0.0**
	baz=317						
NIKH	**Nikolski High**	**73.47**	**32**	P	**P**	**15 54 36.3**	**+2.1**
IUG	**Iuzhnay**	**73.87**	**316**	*e*P	**P**	**15 54 36.9**	**0.0**
	baz=316						
KK31	**Karatay Array**	**73.87**	**317**	P	**P**	**15 54 37.0**	**+0.2**
KK31				IAmb	IAmb	15 54 38.4	
	comp=Z,8.3nm,1.0s						
KKAR	**Karatay Array**	**73.87**	**317**	P	**P**	**15 54 36.9**	**+0.1**
KKAR	**Karatay Array**	**73.87**	**317**	P	**P**	**15 54 37.0**	**+0.3**
KKAR				IAmb	IAmb	15 54 38.4	
	comp=Z,8.3nm,1.0s						
TIXI	**Tiksi**	**75.12**	**358**	P	**P**	**15 54 42.6**	**-0.8**
BRZS	**Berezniki**	**75.13**	**324**	*e*P	**P**	**15 54 43.4**	**-0.6**
	comp=Z,4.0nm,0.7s,baz=324						
VNDA	**Vanda**	**75.38**	**174**	P	**P**	**15 54 46.9**	**+2.0**
	comp=Z,4.5nm,0.9s,baz=308,slow=5.8,SNR=9.6						
VNDA	**Vanda**	**75.38**	**174**	P	**P**	**15 54 46.5**	**+1.7**
PPT2	**Papeete2**	**75.42**	**107**	*e*LR	LR	16 18 09.9	
	comp=Z,179nm,33.0s						
TBI	**Tubuai**	**75.69**	**113**	*e*LR	LR	16 18 19.2	
	comp=Z,92nm,28.8s						
HRA	**Herat**	**77.54**	**306**	P	**P**	**15 54 58.0**	**-0.2**
HRA				IAmb	IAmb	15 54 59.2	
	comp=Z,7.5nm,1.1s						
BRVK	**Borovoye**	**77.73**	**326**	P	**P**	**15 54 58.6**	**0.0**
BRVK				IAmb	IAmb	15 55 00.1	
	comp=Z,14nm,1.0s						
NRIK	**Noril'sk**	**79.37**	**345**	P	**P**	**15 55 07.2**	**-0.2**
	comp=Z,6.6nm,0.8s,baz=134,slow=5.6,SNR=11						
NRIK				LR	LR	16 30 19.0	
	comp=Z,89nm,21.4s,baz=166,slow=36						
NRIK	**Noril'sk**	**79.37**	**345**	P	**P**	**15 55 07.2**	**-0.2**
NRIK				IAmb	IAmb	15 55 08.6	
	comp=Z,16nm,1.1s						
GEYT	**Alibeck**	**81.55**	**309**	P	**P**	**15 55 21.1**	**+1.4**
	comp=Z,4.6nm,0.8s,baz=174,slow=3.9,SNR=9.9						
GEYT	**Alibeck**	**81.55**	**309**	P	**P**	**15 55 20.9**	**+1.1**
GEYT				IAmb	IAmb	15 55 22.2	
	comp=Z,8.1nm,1.1s						
GYA0B	**ALIBECK ARRAY**	**81.55**	**309**	P	**P**	**15 55 20.5**	**+0.7**
GYA0B				IAmb	IAmb	15 55 22.1	
	comp=Z,28nm,1.5s						
SOCY	**Socotra**	**81.59**	**283**	P	**P**	**15 55 20.9**	**+0.4**
SOCY				IAmb	IAmb	15 55 26.2	
	comp=Z,12nm,0.9s						
ABKAR	**Akbulak array**	**82.71**	**320**	P	**P**	**15 55 25.0**	**-0.5**
ABKAR	**Akbulak array**	**82.71**	**320**	P	**P**	**15 55 25.5**	**0.0**
RDOG	**Red Dog Mine**	**83.28**	**20**	P	**P**	**15 55 28.9**	**+0.8**
RDOG				IAmb	IAmb	15 55 37.5	
	comp=Z,9.7nm,1.1s						
TTA	**Tatalina**	**83.87**	**26**	P	**P**	**15 55 32.3**	**+1.0**
TTA				IAmb	IAmb	15 55 48.8	
	comp=Z,10nm,1.4s						
ARU	**Arti**	**85.24**	**327**	P	**P**	**15 55 37.3**	**-0.9**
KTH	**Kantishna Hill**	**86.26**	**26**	P	**P**	**15 55 42.8**	**-0.5**
KTH				IAmb	IAmb	15 55 44.6	
	comp=Z,8.8nm,1.0s						
BPAW	**Bear Paw Mtn.**	**86.38**	**25**	P	**P**	**15 55 44.0**	**+0.1**
KNK	**Knik Glacier**	**86.83**	**28**	P	**P**	**15 55 46.2**	**+0.1**
SML	**Sawmill**	**86.98**	**28**	P	**P**	**15 55 47.5**	**+0.6**
RND	**Reindeer**	**87.12**	**26**	P	**P**	**15 55 47.3**	**-0.2**
RND				IAmb	IAmb	15 55 48.5	
	comp=Z,9.2nm,0.9s						
I23K	**Minto, Yukon-K**	**87.32**	**24**	P	**P**	**15 55 49.4**	**+1.1**
I23K				IAmb	IAmb	15 55 50.5	
	comp=Z,9.2nm,0.9s						
SCM	**Sheep Creek Mo**	**87.45**	**28**	P	**P**	**15 55 49.2**	**+0.1**
COLD	**Coldfoot**	**87.52**	**22**	P	**P**	**15 55 50.3**	**+1.0**
COLD				IAmb	IAmb	15 55 59.9	
	comp=Z,4.5nm,1.0s						
WRH	**Wood River Hil**	**87.69**	**25**	P	**P**	**15 55 50.6**	**+0.5**
CCB	**Clear Creek Bu**	**87.85**	**25**	P	**P**	**15 55 50.6**	**-0.3**
HDA	**Harding Lake**	**88.16**	**25**	P	**P**	**15 55 52.7**	**+0.3**
HDA				IAmb	IAmb	15 56 00.3	
	comp=Z,5.7nm,0.9s						
ILAR	**Eielson Array**	**88.26**	**25**	P	**P**	**15 55 52.0**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=260,slow=4.4,SNR=19						
ILAR	**Eielson Array**	**88.26**	**25**	P	**P**	**15 55 51.6**	**-1.3**
PAX	**Paxson**	**88.53**	**27**	P	**P**	**15 55 53.9**	**-0.4**
PAX				IAmb	IAmb	15 55 56.3	
	comp=Z,7.3nm,1.3s						
KLMR	**Klimovskoe**	**95.54**	**331**	*e*P	**P**	**15 56 23.7**	**-2.9**
KLMR				AMP		15 56 36.2	
	comp=Z,12nm,1.3s						
ARCES	**ARCESS Array B**	**99.90**	**340**	P	**Pdif**	**15 56 45.0**	**-1.1**
	comp=Z,5.7nm,1.1s,baz=45,slow=5.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**132.52**	**285**	PKP	**PKiKP**	**16 02 18.0**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=66,slow=1.5,SNR=2.0						
CPUP	**Villa Florida**	**148.16**	**159**	PKPbc	**PKPab**	**16 02 50.6**	**-0.6**
	comp=Z,6.0nm,0.9s,baz=206,slow=2.6,SNR=7.7						
LPAZ	**La Paz**	**150.12**	**132**	PKPbc	**PKPab**	**16 02 57.6**	**-2.6**
	comp=Z,5.8nm,1.0s,baz=25,slow=1.7,SNR=11						
LPAZ	**La Paz**	**150.12**	**132**		**PKPab**	**16 02 57.4**	**-2.8**

IDC 05 16:02:21.7±940.0**,52°.50N**×**32°.98E,h0**km**,Error ellipse: s-maj=381.8km s-min=113.3km az=34.0,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.89**	**29**	*i*		16 31 20.0	
	baz=212,slow=327,SNR=2.7						
I31KZ	**AKTYUBINSK INF**	**15.73**	**88**	*i*		17 40 20.0	
	baz=287,slow=320,SNR=3.1						
I46RU	**ZALESOVO INFRA**	**30.50**	**66**	*i*		19 11 00.0	
	baz=289,slow=318,SNR=2.0						

*NEIC **05** 16:04:22.1±1.4, 17°.8S±0°.1×179°.4W±0°.1, h614km±11km, mb4.3/11, Error ellipse: s-maj=22.4km s-min=9.1km az=46.0*

*IDC **05** 16:04:22.7±3.3, 17°.71S×179°.39W, h622km±10km, mb3.1/4, mb1 3.2/5, mb1mx2.8/38, mbtmp4.0/5, Error ellipse: s-maj=93.7km s-min=32.7km az=133.0*

ISC 05 16:04:22.7±1.0**,17°.8S**±0°.2×**179°.4W**±0°.1**,h621**km±10km**, n17,**σ**0s.65**/23**,mb4.0**/11**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.41**	**271**	P	**P**	**16 05 39.9**	**-0.7**
	4.2nm,0.3s,baz=191,slow=5.2,SNR=32						
MSVF				S	**S**	**16 06 45.5**	**+1.3**
	0.2nm,0.3s,baz=32,slow=23,SNR=5.7						
MSVF	**Nonsavu**	**2.41**	**271**	P	**P**	**16 05 40.0**	**-0.7**
DZM	**Mont Dzumac**	**13.95**	**250**	P	**P**	**16 07 20.0**	**-0.4**
QRZ	**Quartz Range**	**23.97**	**195**	P	**P**	**16 08 50.1**	**-0.4**
QRZ				IAmb	IAmb	16 08 56.3	
	comp=Z,95nm,1.5s						
WHZ	**Wether Hill Ro**	**29.91**	**198**	P	**P**	**16 09 41.3**	**-1.0**
WHZ				IAmb	IAmb	16 09 55.1	
	comp=Z,59nm,1.4s						
STKA	**Stephens Creek**	**37.84**	**241**	P	**P**	**16 10 49.4**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=80,slow=11,SNR=5.8						
TAOE	**Nuku Hiva Isla**	**39.17**	**82**	P	**P**	**16 10 59.9**	**+0.3**
WR0	**Warramunga Arr**	**43.51**	**260**	P	**P**	**16 11 34.1**	**+0.6**
WR0				IAmb	IAmb	16 11 48.0	
	comp=Z,6.5nm,1.4s						
WB0	**Warramunga Arr**	**43.66**	**260**	P	**P**	**16 11 34.5**	**-0.2**
WB0				IAmb	IAmb	16 11 44.4	
	comp=Z,8.3nm,1.5s						
WB0				PcP	**PcP**	**16 13 07.2**	**-0.5**
WB2	**Warramunga Arr**	**43.69**	**260**	P	**P**	**16 11 33.9**	**-1.0**
WB2				IAmb	IAmb	16 11 52.8	
	comp=Z,10nm,1.4s						
WB2				PcP	**PcP**	**16 13 07.8**	**+0.1**
WRA	**Warramunga Arr**	**43.70**	**260**	P	**P**	**16 11 34.9**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=95,slow=6.9,SNR=22						
AS31	**Alice Springs**	**43.89**	**254**	P	**P**	**16 11 36.9**	**+0.5**
AS31				IAmb	IAmb	16 11 37.3	
	comp=Z,2.2nm,0.6s						
AS31				PcP	**PcP**	**16 13 09.1**	**+0.6**
ASAR	**Alice Springs**	**43.89**	**254**	P	**P**	**16 11 36.9**	**+0.4**
	comp=Z,8.0nm,0.6s,baz=89,slow=7.9,SNR=269						
ASAR				PcP	**PcP**	**16 13 08.8**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=108,slow=4.1,SNR=5.2						
ASAR	**Alice Springs**	**43.89**	**254**	P	**P**	**16 11 36.4**	**0.0**
ASAR				PcP	**PcP**	**16 13 08.7**	**+0.2**
VNDA	**Vanda**	**60.47**	**185**	P	**P**	**16 13 34.1**	**+0.6**
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	**16 14 46.3**	**0.0**
QSPA				IAmb	IAmb	16 14 47.8	
	comp=Z,16nm,1.6s						
SEY	**Seymchan**	**83.46**	**347**	P	**P**	**16 15 45.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=72,slow=18,SNR=4.1						

*SJA **05** 16:04:23.2±0.5, 39°.37S×75°.75W, h10km, ML4.7, MW4.6*

*NEIC **05** 16:05:00, 37°.22S×74°.13W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.29; $M_{\theta\theta}$-0.51; $M_{\phi\phi}$-1.78; $M_{r\theta}$0.47; $M_{\theta\phi}$-1.36; $M_{\phi r}$-1.34; Fault plane solution: $M_0$2.87000×10^{15} NP1:ϕ_s54.01000°, δ39.60000°, λ126.45000°. NP2:ϕ_s190.22000°, δ59.16000°, λ63.83000°. Principal axes: T 2.9181, Plg65.0000°, Azm52.0000°; N -0.1065, Plg22.0000°, Azm204.0000°; P -2.8116, Plg11.0000°, Azm299.0000°;*

*NEIC **05** 16:05:00.6±2.2, 37°.21S±0°.03×74°.11W±0°.04, h13km±6km, mb4.2/13, Mwr4.2/10, ML4.4(GUC) Error ellipse: s-maj=5.5km s-min=4.2km az=225.0*

*GUC **05** 16:05:01.6±0.5, 37°.36S×74°.05W, h37km±5km, ML4.4*

*IDC **05** 16:05:04.5±1.3, 37°.15S×72°.68W, h0km, mb4.2/6, mb1 4.3/8, mb1mx4.1/28, mbtmp4.1/8, ML3.3/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/26, Error ellipse: s-maj=48.0km s-min=16.5km az=70.0*

*VAO **05** 16:05:08.8±1.4, 37°.50S×73°.64W, h79km±24km, mb4.6*

ISC 05 16:05:00.5±0.5**,37°.26S**±0°.04×**74°.05W**±0°.04**,h10**km**,n101,** σ**1s.35**/106**,mb4.3**/8**,MS3.7**/4**,4C-1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.92**	**63**	⇑*i*P	**Pb**	**16 05 18.4**	**-0.2**
BI03				*i* S	**Sb**	**16 05 31.3**	**+0.4**
BI03				IAML		16 05 35.4	
	comp=E,51μm,0.4s						
BI03	**Tigo**	**0.92**	**63**		**Pb**	**16 05 18.5**	**-0.1**
BI03				Sg	**Sb**	**16 05 31.2**	**+0.2**
LAJA	**Laja**	**1.07**	**91**	*e*P	**Pg**	**16 05 20.1**	**-1.1**
LAJA				*e*S	**Sg**	**16 05 33.6**	**-1.4**
BI04	**Isla Mocha**	**1.16**	**173**	*e*P	Pg	16 05 42.8	+20
BI04				*i* S	Sn	16 05 56.2	+18
BI04				IAML		16 06 11.3	
	comp=E,8μm,0.7s						
BI02	**San Fabin de**	**2.31**	**76**	⇑*i*P	**Pn**	**16 05 38.4**	**-0.2**
BI02				IAML		16 06 19.0	
	comp=E,1μm,0.8s						
BI02	**San Fabin de**	**2.31**	**76**	Pn	**Pn**	**16 05 38.5**	**-0.2**
BI02				Sn	**Sn**	**16 06 06.2**	**-1.0**
BO03	**Pichilemu**	**3.24**	**32**	⇑*i*P	**Pn**	**16 05 51.4**	**0.0**
BO03				IAML		16 06 56.2	
	comp=E,383nm,0.6s						
BO02	**Sierra Bellavi**	**3.62**	**48**	*e*P	**Pn**	**16 05 57.4**	**+0.7**
BO02				IAML		16 07 09.1	
	comp=E,646nm,0.4s						
BO02	**Sierra Bellavi**	**3.62**	**48**	Pn	**Pn**	**16 05 56.5**	**-0.2**
BO02				Sn	**Sn**	**16 06 39.2**	**-0.4**
COIS	**El Sosneado**	**4.20**	**61**	*i* P	**Pn**	**16 06 06.3**	**+1.7**
COIS				*e*S	**Sg**	**16 07 12.9**	**-2.5**
PLCA	**Paso Flores**	**4.41**	**143**	Pn	**Pn**	**16 06 07.6**	**0.0**
	comp=E,0.5nm,0.3s,baz=304,slow=10,SNR=13						
PLCA				Pg	**Pb**	**16 06 15.4**	**-2.8**
	comp=E,3.6nm,0.3s,baz=319,slow=17,SNR=13						
PLCA				Lg	Lg	16 07 12.3	
	comp=E,2.8nm,0.3s,baz=234,slow=22,SNR=4.0						
PLCA	**Paso Flores**	**4.41**	**143**	Pn	**Pn**	**16 06 07.4**	**-0.2**
PLCA	**Paso Flores**	**4.41**	**143**	*e*P	**Pn**	**16 06 08.0**	**+0.4**
LAMA	**Las Malvinas**	**4.56**	**61**	*i* P	**Pn**	**16 06 11.3**	**+1.8**
MT02	**Curacav**	**4.65**	**32**	⇑*i*P	**Pn**	**16 06 09.9**	**-1.0**
MT02	**Curacav**	**4.65**	**32**		**Pn**	**16 06 09.9**	**-1.0**
MT02				Sn	**Sn**	**16 07 02.6**	**-2.3**
MT05	**Renca**	**4.72**	**36**	Pn	**Pn**	**16 06 11.5**	**-0.3**
ROC1	**El Roble**	**4.95**	**31**	*i* P	**Pn**	**16 06 14.7**	**-0.5**
ROC1				*e*S	**Sg**	**16 07 38.3**	**-1.2**
PEL	**Peldehue**	**4.95**	**35**		**Pn**	**16 06 15.2**	**+0.3**
PEL				Sn	**Sn**	**16 07 10.2**	**-2.1**
PEL	**Peldehue**	**4.95**	**35**	*i* P	**Pn**	**16 06 15.3**	**+0.3**
PEL				*e*S	**Sg**	**16 07 43.2**	**+3.7**
ROCH	**El Roble**	**4.95**	**31**	⇓*i*P	**Pn**	**16 06 14.6**	**-0.6**
RFA	**San Rafael**	**5.17**	**63**	*i* P	**Pn**	**16 06 18.8**	**+0.9**
RFA				*e*S	**Sb**	**16 07 37.0**	**+3.9**
RFA				IAML		16 07 47.2	
	comp=Z,101nm,1.7s						
H03S1	**Juan Fernandez**	**5.22**	**309**	T	T	16 11 43.3	
	baz=129,slow=73,SNR=497						
H03S3	**Juan Fernandez**	**5.24**	**309**	T	T	16 11 49.9	
	baz=129,slow=73,SNR=450						
H03S2	**Juan Fernandez**	**5.24**	**309**	T	T	16 11 42.3	
	baz=129,slow=73,SNR=497						
LL01	**San Ignacio de**	**5.26**	**167**	Pn	**Pn**	**16 06 18.9**	**-0.3**
VA04	**Juan Fernndez**	**5.31**	**311**	Pn	**Pn**	**16 06 18.7**	**-1.2**
VA04				Sn	**Sn**	**16 07 16.6**	**-4.6**
VA03	**San Esteban**	**5.33**	**34**		**Pn**	**16 06 19.5**	**-0.7**
VA03				Sn	**Sn**	**16 07 18.9**	**-2.9**
H03N3	**Juan Fernandez**	**5.50**	**312**	T	T	16 12 12.1	
	baz=121,slow=77,SNR=22						
H03N1	**Juan Fernandez**	**5.50**	**312**	T	T	16 12 13.8	
	baz=121,slow=77,SNR=17						
H03N2	**Juan Fernandez**	**5.52**	**312**	T	T	16 12 15.7	
	baz=121,slow=77,SNR=12						
GO07	**Milladeo Hill,**	**5.85**	**177**		**Pn**	**16 06 26.3**	**-1.0**
AUSP	**Uspallata**	**6.33**	**39**	*i* P	**Pn**	**16 06 34.9**	**+0.7**
CO02	**Combarbal**	**6.55**	**24**		**Pn**	**16 06 36.5**	**-0.6**
CO03	**El Pedregal**	**6.99**	**25**		**Pn**	**16 06 42.6**	**-0.5**
ZON	**Zonda**	**7.23**	**39**	Pn	**Pn**	**16 06 46.0**	**-0.2**
GO04	**Tololo Observa**	**7.57**	**22**	Pn	**Pn**	**16 06 49.8**	**-1.4**
ACCO	**Cerro Coronel**	**7.84**	**33**	*i* P	**Pn**	**16 06 54.7**	**-0.3**
CO01	**Juntas del Tor**	**7.98**	**26**		**Pn**	**16 06 56.4**	**-0.4**
AROD	**Rodeo**	**8.04**	**30**	*i* P	**Pn**	**16 06 58.4**	**+0.8**
LCO	**Las Campanas**	**8.70**	**20**	Pn	**Pn**	**16 07 05.3**	**-1.4**
AC05	**El Transito**	**8.98**	**22**	Pn	**Pn**	**16 07 08.9**	**-1.5**
AC04	**Llanos de Chal**	**9.37**	**16**	Pn	**Pn**	**16 07 15.9**	**+0.2**
GO03	**Copiap**	**10.16**	**20**	Pn	**Pn**	**16 07 25.9**	**-0.7**
AC02	**Maricunga**	**11.20**	**23**	Pn	**Pn**	**16 07 39.0**	**-2.2**
AC01	**Pan de Azucar**	**11.46**	**16**	Pn	**Pn**	**16 07 41.3**	**-3.0**
GO02	**Mina Guanaco**	**12.65**	**19**	Pn	**Pn**	**16 08 02.5**	**+1.7**
PB14	**IPOC Station P**	**12.98**	**15**	Pn	**Pn**	**16 08 05.9**	**+0.6**
PB15	**IPOC Station P**	**14.55**	**17**		**Pn**	**16 08 26.4**	**-0.4**
PB06	**IPOC Station P**	**15.02**	**16**	Pn	**Pn**	**16 08 31.4**	**-1.5**
LVC	**Limon Verde**	**15.26**	**18**	Pn	**Pn**	**16 08 36.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=222,slow=14,SNR=2.0						
LVC				LR	LR	16 14 00.2	
	comp=Z,158nm,19.9s,baz=204,slow=36						
LVC	**Limon Verde**	**15.26**	**18**		**Pn**	**16 08 35.2**	**-1.3**
LVC				IAmb	IAmb	16 08 45.7	
	comp=Z,5.9nm,0.7s						
PB07	**IPOC Station P**	**15.90**	**14**		**Pn**	**16 08 43.5**	**-1.1**
PB07				IAmb	IAmb	16 09 05.5	
	comp=Z,44nm,1.6s						
PB09	**IPOC Station P**	**15.97**	**16**		**Pn**	**16 08 43.7**	**-1.8**
PB09				IAmb	IAmb	16 08 54.4	
	comp=Z,16nm,0.9s						
PB01	**IPOC Station P**	**16.64**	**15**		**Pn**	**16 08 53.9**	**-0.1**
PB01				IAmb	IAmb	16 09 00.6	
	comp=Z,33nm,1.3s						
PB08	**IPOC Station P**	**17.59**	**15**	Pn	**Pn**	**16 09 04.4**	**-1.8**
CPUP	**Villa Florida**	**17.89**	**57**	Pn	**Pn**	**16 09 07.2**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=216,slow=11,SNR=3.5						
CPUP				LR	LR	16 15 56.4	
	comp=Z,72nm,19.5s,baz=236,slow=39						
CPUP	**Villa Florida**	**17.89**	**57**	P	**P**	**16 09 10.7**	**+0.6**
EFI	**East Falkland**	**18.32**	**147**	P	**P**	**16 09 15.8**	**+1.1**
MNMC	**Minye Minye**	**18.48**	**13**	P	**Pn**	**16 09 17.6**	**+0.5**
MNMC				IAmb	IAmb	16 09 21.8	
	comp=Z,18nm,0.9s						
PB16	**IPOC Station P**	**19.27**	**13**	P	**Pn**	**16 09 27.7**	**+0.7**
ITAB	**Concordia**	**21.02**	**68**	*e*P	**P**	**16 09 43.8**	**-0.6**
LPAZ	**La Paz**	**21.54**	**16**	P	**P**	**16 09 53.0**	**+2.4**
	comp=Z,8.1nm,0.8s,baz=173,slow=7.3,SNR=11						
LPAZ	**La Paz**	**21.54**	**16**	P	**P**	**16 09 50.9**	**+0.3**
LPAZ				IAmb	IAmb	16 09 57.7	
	comp=Z,9.5nm,0.8s						
LPAZ	**La Paz**	**21.54**	**16**	*e*P	**P**	**16 09 53.5**	**+2.9**
PTGB	**Pitanga**	**22.56**	**63**	*e*P	**P**	**16 10 00.8**	**-0.2**
TRCB	**Terra Rica**	**23.41**	**58**	*e*P	**P**	**16 10 09.5**	**-0.4**
TIJ01	**Guaruva-PR**	**24.41**	**68**	*e*P	**P**	**16 10 17.8**	**-1.6**
PCMB	**Pacaembu**	**25.15**	**58**	*e*P	**P**	**16 10 25.3**	**-0.7**
FRTB	**Fartura**	**25.20**	**64**	*e*P	**P**	**16 10 24.2**	**-2.1**
PTLB	**Pontes e Lacer**	**25.44**	**35**	*e*P	**P**	**16 10 28.6**	**+0.1**
SPB	**Sao Paulo**	**26.59**	**67**	P	**P**	**16 10 39.9**	**+0.9**
ITRB	**Iturama**	**27.08**	**56**	*e*P	**P**	**16 10 44.0**	**+0.5**
VAO	**Valinhos**	**27.28**	**66**	*e*P	**P**	**16 10 43.6**	**-1.7**
BB19B	**Bebedouro**	**27.40**	**61**	*e*P	**P**	**16 10 46.0**	**-0.3**
ETMB	**Extrema**	**28.23**	**17**	*e*P	**P**	**16 10 55.1**	**+1.4**
IPMB	**Ipameri, GO**	**29.73**	**57**	*e*P	**P**	**16 11 06.4**	**-0.7**
CLDB	**Colider**	**30.99**	**37**	*e*P	**P**	**16 11 19.2**	**+1.0**
BDFB	**Brasilia**	**31.55**	**54**	LR	LR	16 25 18.6	
	comp=Z,157nm,19.0s,baz=185,slow=40						
JANB	**Januaria**	**34.42**	**58**	*e*P	**P**	**16 11 47.8**	**-0.6**
SDBA	**SAO DESIDERIO**	**35.96**	**54**	*e*P	**P**	**16 12 01.2**	**-0.3**
SMTB	**Santa Maria do**	**37.05**	**47**	*e*P	**P**	**16 12 11.0**	**+0.1**
VNA3	**Neumayer Olymp**	**47.00**	**156**	P	**P**	**16 13 30.8**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VNA1	Neumayer--Stat	47.35	156	P	P	16 13 35.5	+1.4
VNA2	Neumayer--Watz	47.68	156	P	P	16 13 37.4	+0.7
	baz=278,slow=6.8						
SNAA	Sanae	49.22	157	P	P	16 13 48.3	-0.3
SNAA	Sanae	49.22	157	P	P	16 13 49.1	+0.4
SNAA				PcP	PcP	16 15 10.9	-0.7
QSPA	South Pole Qui	52.98	180	P	P	16 14 18.6	+1.5
PPT	Papeete	68.21	264	LR	LR	16 36 40.9	
	comp=Z,9.4nm,21.2s,baz=116,slow=27						
TXAR	Lajitas Array	71.83	333	P	P	16 16 32.1	+8.6
	comp=Z,1.2nm,0.9s,baz=139,slow=8.0,SNR=4.1						
TXAR				LR	LR	16 43 44.3	
	comp=Z,38nm,18.9s,baz=0.0,slow=32						
LIC	Lamto	77.35	72	eP	P	16 16 56.0	+0.2
	comp=Z,20nm,1.1s						
TIC	Toumodi	77.63	72	eP	P	16 16 57.8	+0.4
KIC	Kosan Boka	77.66	72	eP	P	16 16 58.0	+0.5
	comp=Z,8.9nm,0.8s						
DBIC	Dimbokro	77.77	72	P	P	16 16 58.1	0.0
	comp=Z,3.8nm,0.9s,baz=218,slow=7.5,SNR=6.6						
BOSA	Boshof	79.99	118	P	P	16 17 11.2	+0.8
	comp=Z,4.2nm,0.9s,baz=241,slow=7.1,SNR=3.3						
PFO	Pinyon Flats O	80.83	325	LR	LR	16 46 21.4	
	comp=Z,75nm,19.7s,baz=16,slow=30						
PDAR	Pinedale Array	85.96	335	P	P	16 17 48.8	+7.9
	comp=Z,0.4nm,0.8s,baz=174,slow=4.2,SNR=5.0						
TORD	Torodi Ar. Bea	86.84	71	P	P	16 17 45.6	0.0
	comp=Z,0.6nm,0.4s,baz=193,slow=3.8,SNR=2.0						
BRTR	Keskin Array B	124.80	63	PKP	PKiKP	16 24 01.5	+0.6
	comp=Z,0.5nm,0.6s,baz=184,slow=2.7,SNR=2.4						
ZALV	Zalesovo Beam	157.85	34	PKP	PKPdf	16 24 57.6	+0.9
	comp=Z,0.4nm,0.4s,baz=336,slow=3.2,SNR=4.0						
ZALV				PKPab	pPKPab	16 25 31.0	-1.4
	comp=Z,0.3nm,0.3s,baz=304,slow=3.4,SNR=3.5						
MKAR	Makanchi Array	160.08	54	PKP	PKPdf	16 25 00.5	+0.9
	comp=Z,0.5nm,1.0s,baz=55,slow=0.5,SNR=3.6						
MKAR				PKPab	PKPab	16 25 40.4	+0.8
	comp=Z,0.8nm,0.8s,baz=289,slow=3.7,SNR=6.4						

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*JMA **05** 16:13:17.4±0.2, 39°.83N×143°.46E, h27km, M3.6*
*NIED **05** 16:13:17.4, 39°.83N×143°.46E, h27km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.29; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-2.43; $M_{r\theta}$1.30; $M_{\theta\phi}$-0.77; $M_{\phi r}$1.10; Fault plane solution: $M_0$3.01000×10^{14} NP1:ϕ_s34.00000°, δ63.00000°, λ110.00000°. NP2:ϕ_s176.00000°, δ33.00000°, λ57.00000°.*
*IDC **05** 16:13:22.5±1.7, 40°.11N×142°.37E, h0km, mb3.5/5, mb1 3.5/7, mb1mx3.4/42, mbtmp3.4/7, ML2.7/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/47 Error ellipse: s-maj=47.6km s-min=21.1km az=82.0*
ISC 05 16:13:16.1±1.5**, 39°.84N**±0°.06×**143°.41E**±0°.08**, h6**km**, n23, σ1.04**/21**, mb3.5**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.20	275	P	Pb	16 13 39.0	-0.2
JTH				eS	Sg	16 13 54.9	+0.3
MIYJ	Miyakonagasawa	1.26	259	P	Pg	16 13 40.1	-0.1
MIYJ				eS	Sg	16 13 56.2	-0.3
JKEN	Kujiedanarisaw	1.36	286	P	Pn	16 13 41.5	-0.1
JKEN				eS	Sb	16 13 59.3	-0.3
JANG	Nango	1.55	291	P	Pn	16 13 44.1	-0.2
JOM	Ohasama	1.68	258	P	Pb	16 13 46.7	-0.7
JMK	Ichinoseki	1.92	243	P	Pn	16 13 49.4	+0.1
JMK				eS	Sn	16 14 13.5	-0.2
JTM	Tenmabayashi	2.03	299	P	Pn	16 13 51.8	+1.0
JIO	Ouri	2.12	230	P	Pn	16 13 51.6	-0.4
JNBK	Urakawa-nobuka	2.49	349	P	Pb	16 13 58.8	-2.5
JYK	Kaneyama	2.54	250	P	Pn	16 13 59.1	+1.2
JCH	Churui	2.77	359	eS	Sn	16 14 33.4	-1.5
ASAJ	Asahikawa	4.32	352	Pn	Pn	16 14 24.7	+2.4
	0.7nm,0.3s,baz=191,slow=10,SNR=7.2						
ASAJ				Sn	Sn	16 15 13.8	+0.8
	1.0nm,0.3s,baz=336,slow=20,SNR=1.7						
MJAR	Matsushiro Arr	5.25	233	Pn	Pn	16 14 35.8	+0.6
	0.1nm,0.3s,baz=42,slow=12,SNR=4.4						
KSRS	Korea Array	12.34	264	LR	LR	16 20 10.8	
	comp=Z,22nm,19.4s,baz=355,slow=35						
SONM	Songino Array	27.66	299	P	P	16 19 05.1	+0.4
	0.3nm,0.5s,baz=93,slow=10,SNR=2.7						
H11N2	WAKE ISLAND Hy	28.43	128	T	T	16 50 13.5	
	baz=318,slow=75,SNR=7.2						
H11N1	WAKE ISLAND Hy	28.44	128	T	T	16 50 12.3	
	baz=318,slow=75,SNR=4.4						
H11N3	WAKE ISLAND Hy	28.45	128	T	T	16 50 15.9	
	baz=318,slow=75,SNR=2.7						
ZALV	Zalesovo Beam	41.25	310	P	P	16 21 02.4	+0.6
	0.8nm,0.5s,baz=91,slow=8.4,SNR=3.9						
MKAR	Makanchi Array	44.02	300	P	P	16 21 24.8	+0.4
	0.8nm,1.0s,baz=81,slow=10,SNR=4.7						
BATI	Baumata	53.06	205	LR	LR	16 47 57.2	
	comp=Z,35nm,18.4s,baz=299,slow=39						
WRA	Warramunga Arr	60.07	190	P	P	16 23 32.3	+8.2
	0.6nm,0.8s,baz=9.3,slow=5.9,SNR=2.7						
ASAR	Alice Springs	63.80	190	P	P	16 23 57.5	+8.5
	0.2nm,0.7s,baz=15,slow=7.7,SNR=5.1						

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*JMA **05** 16:23:27.4±0.2, 44°.23N×141°.26E, h236km±2km, M3.2*
*IDC **05** 16:23:28.2±0.8, 44°.25N×141°.26E, h226km±9km, mb2.8/4, mb1 3.0/7, mb1mx2.8/53, mbtmp3.5/7, Error ellipse: s-maj=24.6km s-min=18.0km az=151.0*
ISC 05 16:23:28.3±0.8**, 44°.20N**±0°.05×**141°.28E**±0°.06**, h230**km±6km**, n29, σ0.78**/41**, mb3.0**/4**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	Yagishiri	0.25	25	P	Pn	16 23 57.9	-0.4
JYG				eS	S	16 24 21.3	-0.6
JSS	Shosan	0.46	64	P	Pn	16 23 58.9	+0.1
JSS				eS	S	16 24 23.0	+0.4
JHR	Hokuryu	0.56	145	P	Pn	16 23 59.4	+0.2
JHR				eS	S	16 24 23.6	+0.3
JISS	Ishikarishitsu	0.93	174	eS	S	16 24 27.1	+0.8
JRR	Rishiri	0.94	1	P	Pn	16 24 00.8	0.0
ASAJ	Asahikawa	0.95	95	P	Pn	16 24 00.5	-0.5
	11nm,0.3s,baz=260,slow=10,SNR=159						
ASAJ				S	S	16 24 26.1	-0.3
	1.4nm,0.3s,baz=248,slow=19,SNR=1.4						
ASAJ	Asahikawa	0.95	95	P	Pn	16 24 00.4	-0.5
ASAJ				eS	S	16 24 26.6	+0.2
JSK	Shakotan	1.03	215	P	Pn	16 24 01.1	-0.3
JKK2	Kamakawa 2	1.11	107	P	Pn	16 24 01.6	-0.3
JKK2				eS	S	16 24 27.9	-0.3
JWK2	Keihoku	1.20	21	P	Pn	16 24 02.2	-0.2
JSE	Soyaes	1.20	50	P	Pn	16 24 02.0	-0.5
JRBN	Rebuntou	1.23	353	P	Pn	16 24 02.0	-0.7
JEW	Eniwo	1.36	175	P	Pn	16 24 04.2	+0.4
JEW				eS	S	16 24 32.0	+0.6
JFR	Furan	1.41	137	P	Pn	16 24 03.6	-0.5
JFR				eS	S	16 24 32.3	+0.3
JTKR	Abashiri--Toko	1.91	96	P	Pn	16 24 08.6	+0.3
JAR	Ashorobuto	2.02	116	P	Pn	16 24 09.6	+0.3
JAR				eS	S	16 24 41.9	+0.6
JCH	Churui	2.19	136	P	Pn	16 24 10.2	-0.9
JCH				eS	S	16 24 41.8	-2.6
JNBK	Urakawa-nobuka	2.20	150	P	Pn	16 24 11.8	+0.6
JNBK				eS	S	16 24 46.2	+1.6
JKB	Kayabe	2.32	185	P	Pn	16 24 11.9	-0.4
JOSM	Okushiri--Mats	2.50	213	P	Pn	16 24 13.5	-0.7
JAK	Akkeshi	2.76	115	eS	S	16 24 53.2	-1.7
JOT	Ohata	2.82	184	P	Pn	16 24 17.6	-0.1
JOT				eS	S	16 24 54.9	-1.4
USRK	Ussuriysk Ar.	6.68	273	P	Pn	16 25 04.3	-0.3
	baz=84,slow=14,SNR=15						
PETK	Petropavlovsk-	14.01	45	P	P	16 26 38.6	+0.4
	0.2nm,0.3s,baz=229,slow=11,SNR=4.8						
SEY	Seymchan	19.84	15	P	P	16 27 40.6	-0.9
	0.2nm,0.3s,baz=224,slow=17,SNR=7.0						
SONM	Songino Array	24.37	291	P	P	16 28 25.5	0.0
	0.4nm,0.4s,baz=73,slow=9.5,SNR=5.5						
MKAR	Makanchi Array	40.59	295	P	P	16 30 45.5	+0.1
	0.4nm,0.7s,baz=78,slow=8.9,SNR=3.8						
YKA	Yellowknife Ar	57.73	32	P	P	16 32 55.1	+0.4
	0.1nm,0.5s,baz=307,slow=6.3,SNR=2.5						
WRA	Warramunga Arr	64.14	187	P	P	16 33 38.5	+0.3
	0.3nm,0.9s,baz=14,slow=6.7,SNR=1.2						

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*IDC **05** 16:27:20.9±4.7, 5°.64S×103°.10E, h67km±39km, mb3.8/13, mb1 3.9/14, mb1mx3.7/49, mbtmp4.1/14, ML4.4/1, Error ellipse: s-maj=41.7km s-min=14.7km az=56.0*
*DJA **05** 16:27:21.8±0.4, 6°S±3°×10°3E±°, h63km±9km, M4.7/13, mb5.4/1, mB6.0/1, MLv4.4/13, Mw(mB)5.6/1*
*NEIC **05** 16:27:21.0±2.3, 5°.76S±0°.08×103°.05E±0°.10, h78km±8km, mb4.4/23, Error ellipse: s-maj=16.5km s-min=7.9km az=52.0*
ISC 05 16:27:20.2±1.4**, 5°.82S**±0°.08×**103°.07E**±0°.08**, h71**km±11km**, n64, σ1.44**/69**, mb4.3**/19**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	Liwa	1.27	51	P	Pn	16 27 42.3	0.0
LWLI				S	Sn	16 27 57.7	-1.1
KASI	Kota Agung	1.45	78	P	Pn	16 27 44.9	+0.3
KASI				S	Sn	16 28 02.1	-0.8
MNAI	Manna	1.45	356		Pn	16 27 44.4	-0.3
MNAI				Sn	Sn	16 28 02.5	-0.6
MNAI	Manna	1.45	356	P	Pn	16 27 44.4	-0.3
MNAI				S	Sn	16 28 02.4	-0.6
MDSI	Maura Dua	1.72	40	P	Pn	16 27 48.3	+0.1
MDSI				S	Sn	16 28 08.7	-0.7
KLSI		2.00	56	P	Pn	16 27 52.3	+0.4
KLSI				S	Sn	16 28 15.6	-0.4
LHSI	Lahat	2.03	13	P	Pn	16 27 52.6	+0.3
LHSI				S	Sn	16 28 16.7	-0.1
BLSI	Bandar Lampung	2.21	78	P	Pn	16 27 55.4	+0.6
PMBI	Palembang	3.34	31	Pn	Pn	16 28 10.1	0.0
PMBI	Palembang	3.34	31	P	Pn	16 28 10.1	0.0
DBJI	Dramaga	3.73	101	P	Pn	16 28 17.1	+1.6
CBJI	Citeko	3.81	99	P	Pn	16 28 20.2	+3.7
LEM	Lembang	4.63	103	P	Pn	16 28 30.2	+2.3
	16nm,0.3s,baz=188,slow=18,SNR=18						
LEM				S	Sn	16 29 21.1	+0.7
	4.3nm,0.3s,baz=319,slow=20,SNR=1.2						
LEM	Lembang	4.63	103	P	Pn	16 28 29.4	+1.5
PPBI	Pangkal Pinang	4.75	40	P	Pn	16 28 29.5	+0.1
CISI	Cisompet, Garu	5.02	110		Pn	16 28 33.2	+0.1
CISI				Sn	Sn	16 29 24.1	-5.8
CISI	Cisompet, Garu	5.02	110	P	Pn	16 28 33.4	+0.3
UGM	Wanagama	7.69	106	Pn	Pn	16 29 10.4	+0.8
UGM				Sn	Sn	16 30 32.6	-2.7
GSI	Gunungsitoli	8.95	322	Pn	Pn	16 29 24.7	-2.2
KULM	Kulim	11.30	348	Pn	Pn	16 29 57.7	-1.2
JAGI	Jajag, Banyuwa	11.31	104	Pn	Pn	16 29 59.1	+0.1
KKM	Kota Kinabalu	17.64	48	P	P	16 31 23.7	+2.1
KKM				IAmb	IAmb	16 31 52.9	
	comp=Z,36nm,1.1s						
DLV	T Lat	18.45	17	P	P	16 31 30.8	+0.2
MYLDM	Lahad Datu	18.89	55		Pn	16 31 37.7	+1.2
MYLDM				IAmb	IAmb	16 31 59.6	
	comp=Z,46nm,1.5s						
TOLI2	Tolitoli	18.98	69	P	Pn	16 31 37.6	0.0
TOLI2				IAmb	IAmb	16 31 44.2	
	comp=Z,19nm,1.1s						
MMRI	Maumere	19.22	100	P	Pn	16 31 41.9	+1.5
MMRI				IAmb	IAmb	16 31 43.4	
	comp=Z,26nm,0.8s						
BATI	Baumata	20.85	103	P	P	16 31 58.4	+1.8
	comp=Z,5.4nm,0.3s,baz=270,slow=5.1,SNR=2.3						
BATI				S	S	16 35 40.7	-4.7
	comp=Z,3.9nm,0.4s,baz=0.0,slow=20,SNR=1.5						
SOEI	Soe	21.36	102	P	P	16 32 00.8	-1.3
SOEI				IAmb	IAmb	16 32 52.7	
	comp=Z,20nm,1.0s						
CMAR	Chiang Mai Arr	24.46	351	P	P	16 32 32.2	-0.5
	comp=Z,1.8nm,0.6s,baz=182,slow=9.1,SNR=20						
CHTO	Chiang Mai	24.81	351	P	P	16 32 35.5	-0.4
FITZ	Fitzroy Crossi	25.19	121	P	P	16 32 40.8	+1.4
	comp=Z,1.3nm,0.8s,baz=297,slow=9.0,SNR=1.7						
H01W3	Cape Leeuwin H	30.68	162	T	T	17 06 48.8	
	baz=340						
H01W2	Cape Leeuwin H	30.69	162	T	T	17 06 58.4	
	baz=340						
H01W1	Cape Leeuwin H	30.69	162	T	T	17 06 58.4	
	baz=340						
WB0	Warramunga Arr	33.46	117	P	P	16 33 53.3	+0.4
WB0				IAmb	IAmb	16 34 33.4	
	comp=Z,16nm,1.9s						
WRA	Warramunga Arr	33.47	118	P	P	16 33 54.2	+1.2
	comp=Z,0.6nm,0.5s,baz=289,slow=11,SNR=6.7						
WB2	Warramunga Arr	33.48	118	P	P	16 33 54.3	+1.3
WR0	Warramunga Arr	33.66	118	P	P	16 33 55.9	+1.4
WR0				IAmb	IAmb	16 34 34.0	
	comp=Z,9.3nm,1.5s						
ASAR	Alice Springs	34.56	124	P	P	16 34 04.0	+1.6
	comp=Z,1.1nm,0.8s,baz=307,slow=8.8,SNR=23						
ASAR	Alice Springs	34.56	124	P	P	16 34 03.1	+0.6
AS31	Alice Springs	34.57	124	P	P	16 34 03.2	+0.8
NACB	Ninganchiao	34.86	31	P	P	16 33 59.5	-5.3
ENH	Enshi	36.41	9	P	P	16 34 12.4	-5.7
XAN	Xi'an	40.03	8	P	P	16 34 46.6	-1.9
STKA	Stephens Creek	44.35	131	P	P	16 35 25.9	+2.3
	comp=Z,1.7nm,0.5s,baz=302,slow=9.9,SNR=4.5						
KSRS	Korea Array	48.90	26	P	P	16 35 58.9	-0.1
	comp=Z,1.1nm,0.5s,baz=225,slow=7.3,SNR=8.0						
SONM	Songino Array	53.50	3	P	P	16 36 34.0	+0.5
	comp=Z,4.6nm,0.8s,baz=178,slow=9.0,SNR=25						
SONM	Songino Array	53.50	3		P	16 36 34.1	+0.5
SONM				IAmb	IAmb	16 36 34.9	
	comp=Z,3.3nm,0.8s						
MK31	Makanchi Array	55.53	343	P	P	16 36 48.3	+0.1
MK31				IAmb	IAmb	16 36 48.7	
	comp=Z,2.1nm,0.6s						
MKAR	Makanchi Array	55.53	343	P	P	16 36 48.2	0.0
	comp=Z,2.8nm,0.5s,baz=147,slow=8.6,SNR=53						
MKAR	Makanchi Array	55.53	343	P	P	16 36 47.7	-0.5
MAKZ	Makanchi	55.64	343	P	P	16 36 48.8	-0.2
MAKZ				IAmb	IAmb	16 38 11.7	
	comp=Z,5.5nm,1.9s						
USA0B	Ussuriysk Arra	56.19	25	P	P	16 36 52.8	-0.1
USRK	Ussuriysk Ar.	56.19	25	P	P	16 36 52.7	-0.2
	comp=Z,1.9nm,0.4s,baz=216,slow=4.0,SNR=16						
ZAA0	Zalesovo Array	61.49	348	P	P	16 37 29.0	-0.4
ZAA0				IAmb	IAmb	16 37 29.7	
	comp=Z,2.8nm,0.6s						
ZALV	Zalesovo Beam	61.49	348	P	P	16 37 28.9	-0.5
	comp=Z,2.9nm,0.4s,baz=157,slow=5.6,SNR=21						
ZALV	Zalesovo Beam	61.49	348		P	16 37 28.8	-0.6
BRVK	Borovoye	64.88	339	P	P	16 37 51.9	0.0
ABKAR	Akbulak array	66.44	331	P	P	16 38 01.6	-0.5
ABKAR	Akbulak array	66.44	331	P	P	16 38 01.7	-0.3
ABKAR				IAmb	IAmb	16 38 03.0	
	comp=Z,8.4nm,1.8s						
BRTR	Keskin Array B	78.14	312	P	P	16 39 12.5	+0.3
	comp=Z,0.5nm,0.6s,baz=126,slow=7.3,SNR=3.6						
TIXI	Tiksi	79.15	8	P	P	16 39 15.7	-1.2
	comp=Z,0.6nm,0.3s,baz=199,slow=3.6,SNR=3.7						
TIXI	Tiksi	79.15	8	IAmb	IAmb	16 39 24.7	
	comp=Z,8.3nm,1.7s						
TXAR	Lajitas Array	145.58	44	PKPbc	PKPdf	16 46 52.4	+1.1
	comp=Z,1.9nm,0.6s,baz=312,slow=1.4,SNR=13						

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*JMA **05** 16:35:30.7±0.5, 34°.59N×137°.08E, h345km±5km, M2.7*
*IDC **05** 16:35:32.0±1.4, 34°.65N×137°.30E, h350km±33km, mb2.8/3, mb1 3.0/4, mb1mx2.7/49, mbtmp3.4/4, Error ellipse: s-maj=79.5km s-min=22.3km az=54.0*
ISC 05 16:35:31.6±1.1**, 34°.6N**±0°.1×**137°.2E**±0°.1**, h341**km±10km**, n14, σ0.63**/15**, mb2.9**/3**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	Atsumi	0.04	336	P	Pn	16 36 14.5	+0.3
JIE	Ise	0.43	242	P	Pn	16 36 14.6	-0.2
JAO	Obara	0.67	7	P	Pn	16 36 15.2	-0.1
JKN2	Miekihoku	0.82	244	P	Pn	16 36 15.3	-0.4
JEG	Eigenji	0.83	310	P	Pn	16 36 15.3	-0.5
JNY	Yasuok	0.95	37	P	Pn	16 36 16.2	-0.1
JYTA	Yamagatataniai	1.05	341	P	Pn	16 36 16.1	-0.4
JRY	Ryogami san	2.01	45	eS	S	16 37 01.8	-0.8
MJAR	Matsushiro Arr	2.12	23	P	Pn	16 36 22.9	-0.1
	0.2nm,0.3s,baz=209,slow=8.8,SNR=14						
MJAR				S	S	16 37 05.4	+1.3
	0.1nm,0.3s,baz=200,slow=26,SNR=1.8						
JHU	Hanno	2.14	54	P	Pn	16 36 23.4	+0.3
JAG	Ashikaga	2.61	45	P	Pn	16 36 25.8	-1.0
SONM	Songino Array	26.46	309	P	P	16 40 38.8	+0.2
	0.3nm,0.5s,baz=111,slow=7.9,SNR=1.7						
MKAR	Makanchi Array	42.54	304	P	P	16 42 54.7	-0.1
	0.2nm,0.5s,baz=88,slow=9.5,SNR=7.3						
WRA	Warramunga Arr	54.30	183	P	P	16 44 24.0	+0.1
	0.3nm,0.3s,baz=358,slow=7.7,SNR=4.7						

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*NEIC **05** 16:36:03.9±1.8, 17°.9S±0°.1×178°.3W±0°.1, h626km±8km, mb4.4/55, Error ellipse: s-maj=18.5km s-min=14.1km az=124.0*
*IDC **05** 16:36:04.2±1.3, 17°.94S×178°.23W, h627km±15km, mb3.3/14, mb1 3.5/17, mb1mx3.3/46, mbtmp4.3/17, Error ellipse: s-maj=26.1km s-min=11.5km az=151.0*
ISC 05 16:36:04.1±0.7**, 17°.91S**±0°.09×**178°.18W**±0°.08**, h631**km±8km**, n123, σ2.54**/112**, mb4.3**/41**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.59	272	P	P	16 37 30.0	+0.6
	1.7nm,0.3s,baz=133,slow=4.3,SNR=23						
MSVF				S	S	16 38 42.4	+3.6
	0.1nm,0.3s,baz=48,slow=21,SNR=1.6						
MSVF	Nonsavu	3.59	272	P	P	16 37 29.9	+0.5
AFI	Afiamalu	7.33	58	P	P	16 37 57.0	-1.5
	7.2nm,0.3s,baz=230,slow=7.9,SNR=5.4						
AFI	Afiamalu	7.33	58	P	P	16 37 56.8	-1.8
SANVU	Saraoutou	14.22	278	P	P	16 39 02.7	-1.2
DZM	Mont Dzumac	15.03	251	P	P	16 39 11.7	+0.2
	0.2nm,0.3s,baz=73,slow=18,SNR=3.3						
KNTN	Kanton	16.32	24	P	P	16 39 21.2	-1.9
OUZ	Omahuta	18.73	201	P	P	16 39 45.0	+0.2
OUZ				IAmb	IAmb	16 39 50.5	
	comp=Z,52nm,1.6s						
MUGZ	Murupara	20.97	191	P	P	16 40 22.3	+17
TLZ	Tolley Road	21.08	194	P	P	16 40 18.4	+13
MRHZ	Matea Rd	21.38	192	P	P	16 40 14.0	+5.4
HIZ	Hauiti	21.41	195	P	P	16 40 18.0	+9.1
RITZ	Rihia Road	21.63	193	P	P	16 40 09.5	-1.3
KATZ	Kakaramea	21.66	193	P	P	16 40 08.2	-3.0
BKZ	Black Stump Fm	21.69	191	P	P	16 40 11.5	+0.1
BKZ				IAmb	IAmb	16 40 23.4	
	comp=Z,40nm,1.5s						
BKZ	Black Stump Fm	21.69	191	P	P	16 40 11.4	0.0
KRVZ	Karewarewa	21.79	193	P	P	16 40 05.9	-6.4
TMVZ	Te Maari	21.80	193	P	P	16 40 05.6	-6.8
TWVZ	Taurewa	21.81	193	P	P	16 40 06.6	-5.9
ETVZ	East Tongariro	21.81	193	P	P	16 40 05.3	-7.2
WTVZ	West Tongariro	21.82	193	P	P	16 40 05.7	-6.9
OTVZ	Oturere	21.85	193	P	P	16 40 04.9	-8.0
NGZ	Ngauruhoe	21.87	193	P	P	16 40 04.8	-8.3
KWHZ	Kaweka Forest	21.95	191	P	P	16 40 09.5	-4.3
TUVZ	Tukino	21.95	193	P	P	16 40 03.5	-10
FWVZ	Far West T-bar	21.96	193	P	P	16 40 03.7	-10
DRZ	Dome Shelter	21.98	193	P	P	16 40 08.2	-6.1
WHVZ	Whangaehu Hut	21.98	193	P	P	16 40 03.4	-11
TRVZ	Turoa	22.00	193	P	P	16 40 03.3	-11
VRZ	Vera Road	22.02	195	P	P	16 40 12.5	-1.7
WNVZ	Wahianoa	22.02	193	P	P	16 40 02.7	-12
MOVZ	Moawhango	22.06	193	P	P	16 40 01.8	-13
BHHZ	Black Hill Sta	22.08	192	P	P	16 40 04.5	-10
KRHZ	Kereru	22.17	191	P	P	16 40 09.0	-6.7
PNHZ	Pukenui	22.46	191	P	P	16 40 08.9	-9.3
WAZ	Wanganui	22.57	194	P	P	16 40 08.8	-10
WPHZ	Waipukurau	22.57	191	P	P	16 40 14.4	-4.7
TSZ	Takapari Road	22.65	192	P	P	16 40 09.3	-11
PRHZ	Porangahau	22.73	190	P	P	16 40 18.8	-1.7
DVHZ	Dannevirke	22.84	191	P	P	16 40 15.0	-6.6
ANWZ	Angora Road	22.95	191	P	P	16 40 19.5	-2.9
POWZ	Post Office Ro	23.01	192	P	P	16 40 14.2	-8.9
PRWZ	Pori Road	23.13	191	P	P	16 40 18.5	-5.6
BFZ	Birch Farm	23.20	191	P	P	16 40 22.2	-2.6
MRZ	Mangatainoka R	23.31	192	P	P	16 40 18.5	-7.1
OGWZ	Otaki Gorge	23.54	193	P	P	16 40 22.0	-5.7
KIW	Kapiti Island	23.64	193	P	P	16 40 22.3	-6.3
DUWZ	D'Urville Isla	23.81	195	P	P	16 40 30.1	0.0
CAW	Cannon Point	23.84	193	P	P	16 40 26.4	-4.0
TCW	Tory Channel	24.11	194	P	P	16 40 32.1	-0.6
QRZ	Quartz Range	24.20	197	P	P	16 40 33.1	-0.5
NNZ	Nelson	24.34	196	P	P	16 40 34.3	-0.4
BSWZ	Blackbirch Sta	24.69	194	P	P	16 40 43.0	+5.2
BSWZ	Blackbirch Sta	24.69	194	P	P	16 40 43.2	+5.3
THZ	Tophouse	24.97	196	P	P	16 40 39.3	-1.1
THZ				IAmb	IAmb	16 40 50.4	
	comp=Z,31nm,1.2s						
KHZ	Kahutara	25.43	194	P	P	16 40 41.7	-2.6
LTZ	Lake Taylor	26.09	196	P	P	16 40 47.6	-2.6
LTZ				IAmb	IAmb	16 40 56.1	
	comp=Z,32nm,1.2s						
OXZ	Oxford	26.66	196	P	P	16 40 53.1	-2.1
OXZ				IAmb	IAmb	16 41 24.7	
	comp=Z,14nm,1.0s						
LBZ	Lake Benmore	28.15	198	P	P	16 41 05.6	-2.5
LBZ				IAmb	IAmb	16 41 23.7	
	comp=Z,52nm,1.3s						
WKZ	Wanaka	28.91	199	P	P	16 41 12.8	-1.8
MLZ	Mavora Lakes	29.67	200	P	P	16 41 19.7	-1.5
WHZ	Wether Hill Ro	30.20	199	P	P	16 41 24.7	-0.9
CTAO	Charters Tower	33.66	261	P	P	16 41 54.4	-0.9
CTAO				IAmb	IAmb	16 41 56.1	
	comp=Z,5.4nm,0.7s						
CAN	Canberra	33.88	233	P	P	16 41 57.4	+0.5
PMG	Port Moresby	34.67	279	P	P	16 42 04.8	+1.1
	comp=Z,13nm,0.9s,baz=117,slow=7.2,SNR=3.9						
PMG	Port Moresby	34.67	279	P	P	16 42 05.1	+1.4
PMG				IAmb	IAmb	16 42 05.5	
	comp=Z,14nm,0.9s						
STKA	Stephens Creek	38.82	241	P	P	16 42 37.2	-0.1
	comp=Z,5.5nm,0.7s,baz=85,slow=11,SNR=9.2						
STKA	Stephens Creek	38.82	241	P	P	16 42 37.4	+0.1
HMH	Humu'ula Sheep	43.43	32	P	P	16 43 14.9	+0.9
WR0	Warramunga Arr	44.66	259	P	P	16 43 22.9	-0.2
WR0				IAmb	IAmb	16 43 23.1	
	comp=Z,11nm,1.4s						
WC3	Warramunga Arr	44.81	259	P	P	16 43 23.6	-0.7
WC3				IAmb	IAmb	16 43 24.4	
	comp=Z,4.7nm,0.6s						
WB2	Warramunga Arr	44.84	259	P	P	16 43 23.4	-1.0
WB2				IAmb	IAmb	16 43 24.6	
	comp=Z,5.3nm,0.6s						
WB2				PcP	PcP	16 44 52.3	0.0
WRAB	Tennant Creek	44.84	260	P	P	16 43 24.0	-0.4
WRAB				IAmb	IAmb	16 43 42.6	
	comp=Z,11nm,0.6s						
WRA	Warramunga Arr	44.85	259	P	P	16 43 24.1	-0.4
	comp=Z,3.4nm,0.4s,baz=96,slow=6.9,SNR=124						
WRA				PcP	PcP	16 44 52.4	+0.1
	comp=Z,0.5nm,0.5s,baz=102,slow=3.7,SNR=2.7						
AS31	Alice Springs	45.00	254	P	P	16 43 24.9	-0.8
AS31				PcP	PcP	16 44 52.6	-0.2
ASAR	Alice Springs	45.00	254	P	P	16 43 25.5	-0.2
	comp=Z,11nm,0.6s,baz=90,slow=8.2,SNR=235						
ASAR				PcP	PcP	16 44 52.8	0.0
	comp=Z,1.1nm,0.5s,baz=103,slow=3.7,SNR=8.0						
ASAR	Alice Springs	45.00	254	P	P	16 43 25.0	-0.7
ASAR				PcP	PcP	16 44 52.6	-0.2
MIDW	Midway	45.85	1	P	P	16 43 31.9	0.0
FAKI	Fak Fak	50.79	281	P	P	16 44 08.3	-0.4
FAKI				IAmb	IAmb	16 44 25.6	
	comp=Z,61nm,1.2s						
SIJI	Sorong	52.45	283	P	P	16 44 20.9	+0.3
	comp=Z,13nm,0.7s,baz=138,slow=7.6,SNR=12						
FITZ	Fitzroy Crossi	53.24	260	P	P	16 44 25.9	-0.2
	comp=Z,0.8nm,0.3s,baz=80,slow=6.9,SNR=8.3						
SOEI	Soe	56.29	270	P	P	16 44 48.7	+1.3
SOEI				IAmb	IAmb	16 44 58.5	
	comp=Z,17nm,0.8s						
SOEI				PcP	PcP	16 45 34.4	-1.0
JCJ	Chichijima	58.98	318	P	P	16 45 02.3	-2.9
SBA	Scott Base	60.44	184	P	P	16 45 15.2	+1.3
VNDA	Vanda	60.47	185	P	P	16 45 14.6	+0.5
	comp=Z,0.6nm,0.8s,baz=7.4,slow=6.8,SNR=1.7						
VNDA	Vanda	60.47	185	P	P	16 45 14.7	+0.5
MJAR	Matsushiro Arr	68.03	323	P	P	16 46 01.0	-1.4
UGM	Wanagama	69.86	268	P	P	16 46 12.3	-1.6
QSPA	South Pole Qui	72.15	180	P	P	16 46 26.5	+0.1
PETK	Petropavlovsk-	73.73	345	P	P	16 46 35.8	+0.5
	comp=Z,4.7nm,0.9s,baz=126,slow=7.3,SNR=5.9						
PETK	Petropavlovsk-	73.73	345	P	P	16 46 36.5	+1.2
OHAK	Old Harbor	77.68	14	P	P	16 46 57.5	+0.6
OHAK				IAmb	IAmb	16 47 10.8	
	comp=Z,17nm,1.3s						
MDPB	Devils Postpil	78.32	44	P	P	16 47 01.5	+0.3
KDAK	Kodiak Island	78.35	14	P	P	16 47 00.9	+0.5
KDAK				IAmb	IAmb	16 47 05.9	
	comp=Z,16nm,1.3s						
YBH	Yreka Blue Hor	78.39	39	P	P	16 47 02.4	+1.2
	comp=Z,1.3nm,0.5s,baz=207,slow=4.5,SNR=4.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YBH	**Yreka Blue Hor**	**78.39**	**39**	P	**P**	**16 47 03.2**	**+2.0**
NVAR	**Mina Array Bea**	**79.27**	**44**	P	**P**	**16 47 07.3**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=224,slow=9.1,SNR=11						
NVAR	**Mina Array Bea**	**79.27**	**44**	P	**P**	**16 47 06.6**	**+0.5**
KVN	**Kaiserville**	**79.74**	**43**	P	**P**	**16 47 09.6**	**+1.1**
MOD	**Modoc Plateau**	**79.94**	**40**	P	**P**	**16 47 10.3**	**+0.8**
K05A	**Summer Lake**	**80.06**	**39**	P	**P**	**16 47 11.6**	**+1.5**
CNPM	**China Poot**	**80.23**	**14**	P	**P**	**16 47 11.0**	**+0.7**
CNPM				IAmb	IAmb	16 47 36.0	
	comp=Z,12nm,1.1s						
H04A	**Detroit Lake**	**80.46**	**37**	P	**P**	**16 47 12.9**	**+1.0**
H04A				IAmb	IAmb	16 47 13.4	
	comp=Z,3.5nm,0.6s						
BRLK	**Bradley Lake**	**80.52**	**14**	P	**P**	**16 47 12.3**	**+0.5**
BRLK				IAmb	IAmb	16 47 38.3	
	comp=Z,31nm,1.6s						
PINE	**Pine Mountain**	**80.65**	**38**	P	**P**	**16 47 14.2**	**+1.1**
RSO	**Redoubt South**	**80.75**	**12**	P	**P**	**16 47 13.0**	**-0.2**
I07A	**Izee**	**81.67**	**38**	P	**P**	**16 47 19.7**	**+1.5**
SUA	**Susitna One**	**82.08**	**13**	P	**P**	**16 47 20.0**	**+0.1**
SUA				IAmb	IAmb	16 47 20.9	
	comp=Z,4.5nm,1.0s						
U15A	**North Rim**	**82.36**	**48**	P	**P**	**16 47 23.3**	**+1.2**
GLI	**Glacier Island**	**82.39**	**15**	P	**P**	**16 47 21.4**	**+0.1**
GLI				IAmb	IAmb	16 47 32.1	
	comp=Z,13nm,1.2s						
TTA	**Tatalina**	**82.43**	**10**	P	**P**	**16 47 22.2**	**+0.7**
TTA				IAmb	IAmb	16 47 34.3	
	comp=Z,8.2nm,1.5s						
GHO	**Glory Hole Cre**	**82.75**	**14**	P	**P**	**16 47 23.4**	**+0.2**
GHO				IAmb	IAmb	16 47 23.7	
	comp=Z,4.4nm,0.6s						
SCM	**Sheep Creek Mo**	**83.17**	**14**	P	**P**	**16 47 25.5**	**+0.3**
SCM				IAmb	IAmb	16 48 03.7	
	comp=Z,21nm,1.6s						
YAH	**Yahtse**	**83.36**	**17**	P	**P**	**16 47 26.0**	**-0.4**
YAH				IAmb	IAmb	16 47 38.0	
	comp=Z,47nm,1.6s						
TABL	**Table Mountain**	**83.60**	**17**	P	**P**	**16 47 28.4**	**+0.8**
TABL				IAmb	IAmb	16 47 48.6	
	comp=Z,38nm,1.5s						
N25K	**Chitina, Valde**	**83.64**	**15**	P	**P**	**16 47 28.0**	**+0.5**
N25K				IAmb	IAmb	16 47 28.8	
	comp=Z,4.8nm,0.8s						
MAW	**Mawson**	**83.94**	**200**		**P**	**16 47 32.7**	**+3.8**
TRF	**Thorofare Moun**	**83.96**	**12**	P	**P**	**16 47 28.0**	**-1.2**
TRF				IAmb	IAmb	16 47 30.2	
	comp=Z,5.2nm,0.8s						
CTGM	**Chitina Glacie**	**83.97**	**17**	P	**P**	**16 47 29.5**	**+0.2**
CTGM				IAmb	IAmb	16 47 53.2	
	comp=Z,23nm,1.6s						
TXAR	**Lajitas Array**	**85.81**	**58**	P	**P**	**16 47 40.8**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=218,slow=6.0,SNR=6.5						
ILAR	**Eielson Array**	**85.83**	**13**	P	**P**	**16 47 37.9**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=218,slow=5.0,SNR=20						
PDAR	**Pinedale Array**	**87.20**	**43**	P	**P**	**16 47 46.0**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=199,slow=3.1,SNR=7.9						
YKA	**Yellowknife Ar**	**94.24**	**25**	P	**P**	**16 48 17.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=234,slow=4.3,SNR=2.3						

IDC 05 16:47:07.3±2.4**, 2°.81N**×**128°.25E, h0**km**, mb3.2**/3**, mb1 3.5**/3**, mb1mx3.2**/35**, mbtmp3.3**/3**, Error ellipse: s-maj=175.1km s-min=27.1km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.39**	**165**	P	P	16 52 18.1	+0.2
	0.6nm,0.5s,baz=345,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**26.88**	**168**	P	P	16 52 49.8	-0.3
	0.2nm,0.8s,baz=350,slow=6.2,SNR=1.4						
MKAR	**Makanchi Array**	**59.17**	**325**	P	P	16 57 10.2	0.0
	0.1nm,0.4s,baz=111,slow=7.9,SNR=5.0						

*NOU **05** 17:09:06.8, 40°.58S×176°.45E, h50km, MLv3.4, North Island, New Zealand*

WEL 05 17:09:07.9, 40°.4S±0°.6×**17°6E**±°**, h26**km±1km**, M3.3**/19**, ML3.7**/19**, MLv3.3**/19**, Error ellipse: s-maj=0.0km s-min=0.0km az=72.5, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POWZ	**Post Office Ro**	**0.15**	**261**	P	Pb	17 09 13.7	+0.5
POWZ				S	Sb	17 09 18.1	+1.4
DVHZ	**Dannevirke**	**0.17**	**67**	P	Pb	17 09 13.3	-0.1
DVHZ				S	Sb	17 09 16.9	-0.2
PRWZ	**Pori Road**	**0.19**	**178**	P	Pb	17 09 14.0	+0.5
PRWZ				S	Sb	17 09 18.7	+1.4
TSZ	**Takapari Road**	**0.31**	**0**	P	Pb	17 09 15.4	+0.2
TSZ				S	Sb	17 09 20.9	+0.8
BFZ	**Birch Farm**	**0.38**	**145**	P	Pb	17 09 16.6	+0.4
ANWZ	**Angora Road**	**0.40**	**103**	P	Pb	17 09 17.0	+0.4
ANWZ				S	Sn	17 09 24.4	-0.5
TIWZ	**Tintock**	**0.41**	**188**	P	Pb	17 09 17.4	+0.6
TIWZ				S	Sn	17 09 24.5	-0.7
MRZ	**Mangatainoka R**	**0.41**	**225**	P	Pb	17 09 17.2	+0.5
MRZ				S	Sn	17 09 24.0	-1.1
WPHZ	**Waipukurau**	**0.48**	**51**	P	Pb	17 09 18.3	+0.5
PNHZ	**Pukenui**	**0.49**	**22**	P	Pb	17 09 18.3	+0.2
PNHZ				S	Sn	17 09 26.1	-0.9
OHWZ	**Ohakea**	**0.52**	**288**	P	Pn	17 09 20.1	+0.4
PRHZ	**Porangahau**	**0.53**	**79**	P	Pn	17 09 19.2	-0.6
PRHZ				S	Sn	17 09 28.2	+0.3
CPWZ	**Castlepoint**	**0.57**	**161**	P	Pn	17 09 20.3	-0.1
HOWZ	**Holdsworth Sta**	**0.63**	**213**	P	Pn	17 09 20.8	-0.4
HOWZ				S	Sn	17 09 30.3	-0.2
TMWZ	**Te Maipa**	**0.74**	**184**	P	Pb	17 09 22.2	-0.1
TMWZ				S	Sn	17 09 33.8	+0.6
OGWZ	**Otaki Gorge**	**0.75**	**233**	P	Pn	17 09 22.9	0.0
PXZ	**Pawanui**	**0.77**	**64**	P	Pb	17 09 22.6	0.0
PXZ				S	Sn	17 09 35.0	+1.2
KRHZ	**Kereru**	**0.79**	**24**	P	Pn	17 09 23.4	0.0
MTW	**Mount Morrison**	**0.86**	**204**	P	Pb	17 09 23.9	-0.4
BHHZ	**Black Hill Sta**	**0.88**	**5**	P	Pn	17 09 24.8	+0.1
BHHZ				S	Sn	17 09 36.5	-0.2
KAHZ	**Kahuranaki**	**0.91**	**51**	P	Pb	17 09 24.8	-0.2
KIW	**Kapiti Island**	**0.94**	**238**	P	Pb	17 09 25.9	+0.3
KIW				S	Sn	17 09 38.7	+0.5
WAZ	**Wanganui**	**0.97**	**309**	P	Pb	17 09 27.6	+1.6
WAZ				S	Sn	17 09 41.9	+3.2
MOVZ	**Moawhango**	**0.97**	**350**	P	Pb	17 09 26.5	+0.3
MOVZ				S	Sn	17 09 40.4	+1.4
KWHZ	**Kaweka Forest**	**1.01**	**21**	P	Pb	17 09 26.7	-0.1
KWHZ				S	Sn	17 09 41.0	+1.1
TRWZ	**Traveller**	**1.05**	**191**	P	Pn	17 09 26.4	-0.6
TRWZ				S	Sb	17 09 40.5	-0.4
WNVZ	**Wahianoa**	**1.08**	**345**	P	Pb	17 09 28.5	+0.5
WNVZ				S	Sb	17 09 44.5	+2.8
MCHZ	**McNeill Hill**	**1.08**	**32**	P	Pn	17 09 27.5	0.0
MCHZ				S	Sb	17 09 43.1	+1.4
PAWZ	**Paruwai Farm**	**1.09**	**202**	P	Pn	17 09 26.8	-0.8
TRVZ	**Turoa**	**1.11**	**343**	P	Pb	17 09 29.3	+0.6
TRVZ				S	Sb	17 09 44.3	+1.4
WHVZ	**Whangaehu Hut**	**1.12**	**345**	P	Pb	17 09 29.3	+0.5
TUVZ	**Tukino**	**1.12**	**348**	P	Pb	17 09 29.4	+0.6
TUVZ				S	Sb	17 09 46.1	+3.0
FWVZ	**Far West T-bar**	**1.16**	**344**	P	Pb	17 09 29.7	+0.4
PKVZ	**Pokaka**	**1.18**	**336**	P	Pb	17 09 30.8	+1.1
MSWZ	**Moikau Station**	**1.18**	**207**	P	Pn	17 09 27.7	-1.1
NGZ	**Ngauruhoe**	**1.22**	**347**	P	Pb	17 09 30.9	+0.4
OTVZ	**Oturere**	**1.22**	**349**	P	Pb	17 09 30.8	+0.3
ETVZ	**East Tongariro**	**1.25**	**351**	P	Pb	17 09 31.3	+0.5
TMVZ	**Te Maari**	**1.27**	**351**	P	Pb	17 09 31.6	+0.4
BKZ	**Black Stump Fm**	**1.27**	**19**	P	Pn	17 09 30.0	-0.1
WTVZ	**West Tongariro**	**1.28**	**347**	P	Pb	17 09 31.8	+0.3
KRVZ	**Karewarewa**	**1.29**	**349**	P	Pb	17 09 32.0	+0.3
PLWZ	**Palliser**	**1.31**	**204**	P	Pn	17 09 29.5	-1.1
BHW	**Baring Head**	**1.33**	**218**	P	Pn	17 09 30.1	-0.7
TWVZ	**Taurewa**	**1.36**	**343**	P	Pb	17 09 32.9	+0.1
ARHZ	**Aropaoanui**	**1.36**	**36**	P	Pn	17 09 31.1	-0.2
RITZ	**Rihia Road**	**1.39**	**357**	P	Pb	17 09 34.2	+0.9
KATZ	**Kakaramea**	**1.41**	**352**	P	Pb	17 09 34.5	+0.9
LREZ	**Lake Rotokare**	**1.50**	**307**	P	Pb	17 09 35.9	+0.8
RATZ	**Rangitukua**	**1.51**	**354**	P	Pb	17 09 36.5	+1.3
TCW	**Tory Channel**	**1.53**	**236**	P	Pn	17 09 33.2	-0.4
VRZ	**Vera Road**	**1.55**	**323**	P	Pb	17 09 35.4	-0.6
MRHZ	**Matea Rd**	**1.57**	**13**	P	Pn	17 09 35.0	+0.7
DUWZ	**D'Urville Isla**	**1.61**	**254**	P	Pn	17 09 35.7	+1.0
MTHZ	**Maungataniwha**	**1.66**	**24**	P	Pn	17 09 35.7	+0.3
WATZ	**Wairara**	**1.67**	**354**	P	Pb	17 09 37.6	-0.3
RAHZ	**Arahi**	**1.69**	**31**	P	Pn	17 09 35.2	-0.6
MHEZ	**Mangahewa**	**1.81**	**315**	P	Pb	17 09 43.5	+3.2
NEZ	**North Egmont**	**1.81**	**307**	P	Pb	17 09 40.8	+0.4
ALRZ	**Allen Road**	**1.83**	**9**	P	Pb	17 09 42.2	+1.5
TUWZ	**Tuamarina**	**1.86**	**235**	P	Pn	17 09 37.2	-0.9
PKE	**Pukeiti**	**1.92**	**307**	P	Pb	17 09 42.6	+0.3
NBEZ	**Newall Road No**	**1.95**	**304**	P	Pb	17 09 43.3	+0.5
MUGZ	**Murupara**	**1.99**	**19**	P	Pn	17 09 41.1	+1.2
HIZ	**Hauiti**	**2.04**	**335**	P	Pb	17 09 43.6	-0.7
TLZ	**Tolley Road**	**2.06**	**351**	P	Pb	17 09 42.9	-1.8
BSWZ	**Blackbirch Sta**	**2.07**	**229**	P	Pn	17 09 40.1	-0.9
NNZ	**Nelson**	**2.14**	**246**	P	Pb	17 09 46.3	+0.4
RIGZ	**Rimuhau**	**2.17**	**41**	P	Pn	17 09 40.6	-1.8
URZ	**Urewera**	**2.29**	**23**	P	Pn	17 09 42.4	-1.5
MWZ	**Matawai**	**2.37**	**31**	P	Pn	17 09 43.4	-1.7
LIRZ	**Lichensteins R**	**2.38**	**8**	P	Pn	17 09 46.3	+0.9
QRZ	**Quartz Range**	**2.65**	**259**	P	Pb	17 09 52.1	-2.6
TWGZ	**Tauwhareparae**	**2.69**	**36**	P	Pn	17 09 48.4	-1.2
THZ	**Tophouse**	**2.70**	**238**	P	Pn	17 09 48.6	-1.1
KHZ	**Kahutara**	**2.74**	**221**	P	Pn	17 09 48.3	-1.9
RUGZ	**Raukumara Rang**	**2.75**	**30**	P	Pn	17 09 48.7	-1.7
MKAZ	**Moumakai**	**3.32**	**349**	P	Pb	17 10 05.9	-0.1
GVZ	**Greta Valley S**	**3.40**	**219**	P	Pn	17 09 57.9	-1.4
TMZ	**Timaru**	**5.44**	**221**	P	Pn	17 10 26.0	-1.3

*PRU **05** 17:19:47.2±0.0, 51°.43N×16°.06E, h0km*

*VIE **05** 17:19:47.6±1.5, 51°.33N×16°.16E, h0km, mb2.4/2, ml2.5/4, Error ellipse: s-maj=11.3km s-min=8.6km az=98.0 65 km WNW of Wroclaw Suspected Mining induced.*

ISC 05 17:19:46.6±1.2**, 51°.42N**±0°.05×**16°.10E**±0°.03**, h0**km**, n24,** σ**0.89**/49**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**168**	*e*Pg	**Pg**	**17 19 58.6**	**+0.7**
KSP				*e*Sg	**Sb**	**17 20 07.1**	**-1.6**
CHVC	**Chvalec**	**0.84**	**182**	*e*PG	**Pb**	**17 20 03.3**	**-0.7**
CHVC				*e*SG	**Sg**	**17 20 14.2**	**+0.8**
	comp=Z,18nm,0.6s						
OSTC	**Ostas**	**0.87**	**175**	*e*PG	**Pb**	**17 20 04.0**	**-0.5**
OSTC				*e*SG	**Sg**	**17 20 15.2**	**+0.7**
	comp=Z,12nm,0.3s						
UPC	**Upice**	**0.92**	**184**	*e*PG	**Pb**	**17 20 04.9**	**-0.4**
UPC				*e*SG	**Sb**	**17 20 17.3**	**-0.8**
	comp=Z,60nm,0.7s						
DPC	**Dobruska-Polom**	**1.08**	**172**	*e*PG	**Pg**	**17 20 07.2**	**-0.1**
DPC				*e*SG	**Sg**	**17 20 21.9**	**+0.6**
	comp=Z,26nm,1.0s						
PVCC	**Panska Ves**	**1.32**	**228**	*e*PG	**Pg**	**17 20 12.0**	**+0.2**
PVCC				*e*SG	**Sn**	**17 20 30.3**	**-0.2**
	comp=Z,58nm,0.3s						
KRLC	**Kraliky**	**1.42**	**162**	*e*PG	**Pn**	**17 20 13.6**	**0.0**
KRLC				*e*SG	**Sg**	**17 20 32.0**	**0.0**
	comp=Z,34nm,1.0s						
BRG	**Berggiesshubel**	**1.47**	**249**	Pg	**Pn**	**17 20 14.3**	**0.0**
BRG				Sg	**Sn**	**17 20 34.4**	**+0.3**
BRG				Amp		17 20 35.1	
	comp=Z,23nm,0.3s						
PRU	**Pruhonice**	**1.75**	**215**	*e*PG	**Pn**	**17 20 17.9**	**-0.2**
PRU				*e*SG	**Sb**	**17 20 42.1**	**+0.2**
	comp=Z,6.4nm,0.3s						
MORC	**Moravsky Berou**	**1.89**	**150**	*e*PN	**Pn**	**17 20 19.4**	**-0.7**
MORC				*e*SG	**Sg**	**17 20 46.6**	**-0.5**
CLL	**Collm**	**1.95**	**268**	*e*Pn	**Pn**	**17 20 19.0**	**-1.8**
CLL				*e*Pg	**Pb**	**17 20 23.0**	**+0.1**
CLL				*i*		17 20 25.3	
CLL				*e*Sg	**Sb**	**17 20 48.0**	**+0.3**
VRAC	**Vranov**	**2.14**	**171**	*e*PN	**Pn**	**17 20 23.6**	**+0.1**
VRAC				*e*SG	**Sg**	**17 20 54.9**	**-0.4**
TREC	**Trest**	**2.17**	**191**	*e*SG	**Sg**	**17 20 55.8**	**-0.3**
	comp=Z,9.9nm,0.3s						
PBCC	**Pribram**	**2.20**	**218**	*e*SG	**Sg**	**17 20 56.5**	**-0.6**
	comp=Z,3.7nm,0.4s						
KRUC	**Moravsky**	**2.37**	**175**	*e*PN	**Pn**	**17 20 27.3**	**+0.6**
KRUC				*e*SG	**Sg**	**17 21 02.3**	**-0.4**
NKC	**Novy Kostel**	**2.60**	**244**	*e*PN	**Pn**	**17 20 30.1**	**+0.2**
NKC				*e*PG	**Pb**	**17 20 35.1**	**+1.0**
NKC				*e*SG	**Sg**	**17 21 10.2**	**0.0**
	comp=Z,14nm,0.3s						
OJC	**Ojcow**	**2.64**	**116**	*e*Pg	**Pg**	**17 20 36.5**	**-0.5**
OJC				*e*Sg	**Sg**	**17 21 12.4**	**+1.2**
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PN	**Pn**	**17 20 32.7**	**0.0**
KHC				*e*PG	**Pb**	**17 20 38.5**	**+0.9**
KHC				*e*SN	**Sn**	**17 21 07.3**	**0.0**
KHC				*e*SG	**Sg**	**17 21 16.2**	**-0.5**
CKRC	**Cesky Krumlov**	**2.85**	**205**	*e*PG	**Pb**	**17 20 39.2**	**+0.9**
CKRC				*e*SG	**Sg**	**17 21 18.0**	**0.0**
LANS	**Liptovska Anna**	**3.14**	**135**	*e*SG	**Sg**	**17 21 30.0**	**+2.8**
MODS	**Modra-Piesok**	**3.15**	**166**	*e*SG	**Sg**	**17 21 26.2**	**-1.4**
CONA	**Conrad Observa**	**3.50**	**183**	*i* Pn	**Pn**	**17 20 43.2**	**+0.9**
	comp=Z,0.8nm,0.3s						
CONA				*e*Pg	**Pg**	**17 20 53.0**	**-0.6**
	comp=Z,1.7nm,0.3s						
CONA				*e*Sg	**Sg**	**17 21 39.3**	**+0.3**
	comp=Z,5.1nm,0.3s						
MOA	**Molln**	**3.77**	**199**	*i* Pn	**Pn**	**17 20 46.3**	**+0.4**
	comp=Z,0.6nm,0.2s						
MOA				*e*Sg	**Sg**	**17 21 48.9**	**+1.3**
	comp=Z,4.3nm,0.4s						
ARSA	**Arzberg**	**4.19**	**185**	*e*Pg	**Pg**	**17 21 05.7**	**-1.2**
	comp=Z,1.3nm,0.3s						
ARSA				*e*Sg	**Sg**	**17 22 03.5**	**+2.4**
	comp=Z,3.7nm,0.5s						

*TAP **05** 17:30:23.2, 24°.82N×122°.00E, h101km, ML3.0, B*

*JMA **05** 17:30:23.6±0.2, 24°.79N×121°.95E, h95km±2km, M2.2*

ISC 05 17:30:24.4±1.5**, 24°.78N**±0°.05×**121°.99E**±0°.03**, h94**km±8km**, n91,** σ**0.62**/133**, 1C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.16**	**299**	*e*P	**Pn**	**17 30 37.8**	**0.0**
	baz=284						
TWC	**Suao**	**0.21**	**216**	P	**Pn**	**17 30 37.8**	**-0.2**
	baz=210						
TWC				*e*S	**Sn**	**17 30 47.8**	**-0.2**
	baz=210						
ILA	**Ilan**	**0.21**	**267**	*e*P	**Pn**	**17 30 38.2**	**+0.2**
	baz=256						
ILA				S	**Sn**	**17 30 48.5**	**+0.4**
	baz=256						
TWB1	**Santiao Chiao**	**0.23**	**1**	*e*P	**Pn**	**17 30 37.5**	**-0.6**
TWB1				*e*S	**Sn**	**17 30 47.2**	**-1.0**
TIPB	**Shuangxi**	**0.24**	**323**	*e*P	**Pn**	**17 30 37.5**	**-0.7**
	baz=315						
NDS	**Dongshan**	**0.28**	**240**	P	**Pn**	**17 30 38.7**	**+0.4**
	baz=234						
NDS				*e*S	**Sn**	**17 30 49.7**	**+1.0**
	baz=234						
TWE	**Neicheng**	**0.29**	**259**	*e*P	**Pn**	**17 30 38.3**	**0.0**
	baz=250						
TWE				*e*S	**Sn**	**17 30 49.9**	**+1.2**
	baz=250						
NWF	**Wu-fen Shan**	**0.35**	**328**	*e*P	**Pn**	**17 30 38.0**	**-0.7**
	baz=322						
WFSB	**Wu-fen Shan**	**0.35**	**328**	*e*P	**Pn**	**17 30 38.0**	**-0.6**
	baz=322						
ENTT	**Nioudou**	**0.40**	**250**	⇑P	**Pn**	**17 30 39.2**	**+0.2**
	baz=245						
ENTT				*e*S	**Sn**	**17 30 50.8**	**+0.9**
	baz=245						
ENA	**Nanau**	**0.41**	**213**	P	**Pn**	**17 30 39.2**	**+0.1**
	baz=209						
ENA				*e*S	**Sn**	**17 30 50.8**	**+0.9**
	baz=209						
TWA	**Mucha**	**0.42**	**299**	*e*P	**Pn**	**17 30 38.8**	**-0.2**
	baz=293						
TWA				S	**Sn**	**17 30 50.0**	**0.0**
	baz=293						
TNOU	**National Taiwa**	**0.42**	**333**	*e*S	**Sn**	**17 30 51.9**	**+1.9**
	baz=328						
NWLT	**Wulai**	**0.44**	**270**	P	**Pn**	**17 30 38.7**	**-0.5**
	baz=264						
NWLT				*e*S	**Sn**	**17 30 50.1**	**-0.2**
	baz=264						
NHDH	**Xindian Distri**	**0.46**	**294**	P	**Pn**	**17 30 39.0**	**-0.3**
	baz=288						
NHDH				*e*S	**Sn**	**17 30 50.3**	**-0.1**
	baz=288						
NDT	**Datong Townshi**	**0.46**	**248**	P	**Pn**	**17 30 39.5**	**+0.2**
	baz=244						
NDT				S	**Sn**	**17 30 50.9**	**+0.4**
	baz=244						
TATO	**Taipei**	**0.49**	**294**	*e*P	**Pn**	**17 30 38.8**	**-0.7**
	baz=289						
TATO				*e*S	**Sn**	**17 30 49.5**	**-1.4**
	baz=289						
YM01	**YM01**	**0.53**	**314**	*e*P	**Pn**	**17 30 38.0**	**-1.9**
	baz=310						
YM11	**YM11**	**0.54**	**316**	*e*P	**Pn**	**17 30 40.3**	**+0.3**
	baz=312						
YM10	**YM10**	**0.54**	**315**	*e*P	**Pn**	**17 30 40.4**	**+0.4**
	baz=310						
YM05	**YM05**	**0.54**	**315**	*e*P	**Pn**	**17 30 39.7**	**-0.4**
	baz=311						
YM08	**YM08**	**0.54**	**319**	*e*P	**Pn**	**17 30 40.4**	**+0.3**
	baz=315						
YM04	**YM04**	**0.55**	**313**	*e*P	**Pn**	**17 30 39.7**	**-0.4**
	baz=308						
YHNB	**Yeheng**	**0.56**	**259**	*e*P	**Pn**	**17 30 39.7**	**-0.5**
	baz=255						
YHNB				*e*S	**Sn**	**17 30 51.0**	**-1.0**
	baz=255						
YM03	**YM03**	**0.57**	**315**	*e*P	**Pn**	**17 30 40.6**	**+0.3**
	baz=311						
NSK	**Sanguang**	**0.58**	**260**	P	**Pn**	**17 30 39.8**	**-0.6**
	baz=255						
NSK				*e*S	**Sn**	**17 30 51.5**	**-0.8**
	baz=255						
ANP	**Anpu**	**0.59**	**314**	*e*P	**Pn**	**17 30 40.5**	**+0.1**
	baz=310						
TWS1	**Kuangyinshan**	**0.61**	**302**	*e*P	**Pn**	**17 30 40.2**	**-0.3**
	baz=298						
TWS1				*e*S	**Sn**	**17 30 52.9**	**+0.4**
	baz=298						
NTST	**Danshui**	**0.62**	**309**	*e*P	**Pn**	**17 30 40.2**	**-0.4**
	baz=304						
NNSB	**Datong**	**0.65**	**238**	P	**Pn**	**17 30 41.0**	**0.0**
	baz=235						
NNSB				*e*S	**Sn**	**17 30 54.1**	**+0.7**
	baz=235						
NNSH	**Datong**	**0.65**	**238**	P	**Pn**	**17 30 40.9**	**-0.1**
	baz=235						
NNSH				*e*S	**Sn**	**17 30 54.1**	**+0.7**
	baz=235						
NNS	**Nan Shan**	**0.65**	**239**	P	**Pn**	**17 30 41.0**	**-0.1**
	baz=235						
NNS				*e*S	**Sn**	**17 30 54.4**	**+1.0**
	baz=235						
NTY	**Taoyuan**	**0.66**	**290**	*e*P	**Pn**	**17 30 40.8**	**-0.2**
	baz=286						
NACB	**Ninganchiao**	**0.70**	**211**	P	**Pn**	**17 30 40.6**	**-0.8**
	baz=209						
NACB				*e*S	**Sn**	**17 30 54.2**	**+0.3**
	baz=209						
ETLH	**Xiulin Townshi**	**0.73**	**219**	P	**Pn**	**17 30 41.3**	**-0.4**
	baz=217						
ETLH				*e*S	**Sn**	**17 30 54.7**	**+0.1**
	baz=217						
NCU	**National Centr**	**0.75**	**285**	*e*P	**Pn**	**17 30 41.5**	**-0.3**
	baz=281						
NCUH	**Zhongli**	**0.75**	**285**	*e*P	**Pn**	**17 30 41.4**	**-0.5**
	baz=281						
TWD	**Chiawan**	**0.78**	**207**	*e*P	**Pn**	**17 30 41.6**	**-0.5**
	baz=205						
TWD				*e*S	**Sn**	**17 30 55.3**	**0.0**
	baz=205						
NJD	**Zhudong**	**0.82**	**267**	*e*P	**Pn**	**17 30 42.3**	**-0.2**
	baz=264						
FUSS	**Fushou**	**0.86**	**232**	*e*P	**Pn**	**17 30 43.4**	**+0.2**
	baz=230						
FUSS				*e*S	**Sn**	**17 30 57.5**	**+0.3**
	baz=230						
HSN1	**Hsinchu**	**0.88**	**270**	*e*P	**Pn**	**17 30 42.8**	**-0.3**
	baz=267						
NHW	**Xinwu Township**	**0.88**	**285**	*e*P	**Pn**	**17 30 42.7**	**-0.4**
	baz=282						
LIOB	**Emei**	**0.89**	**262**	*e*P	**Pn**	**17 30 42.9**	**-0.4**
	baz=259						
LIOB				*e*S	**Sn**	**17 30 56.8**	**-0.6**
	baz=259						
TWT	**Tachien**	**0.90**	**235**	*e*P	**Pn**	**17 30 44.0**	**+0.5**
	baz=233						
TWT				*e*S	**Sn**	**17 30 58.7**	**+0.8**
	baz=233						
NSTT	**Nanjuang**	**0.91**	**261**	*e*P	**Pn**	**17 30 43.0**	**-0.4**
	baz=258						
NSTT				*e*S	**Sn**	**17 30 56.8**	**-0.9**
	baz=258						
WHF	**Hehuan Shan**	**0.91**	**226**	*e*P	**Pn**	**17 30 43.9**	**0.0**
	baz=224						
WHF				*e*S	**Sn**	**17 30 58.4**	**-0.1**
	baz=224						
JYNG	**Yonagunijimaku**	**0.93**	**110**	P	**Pn**	**17 30 43.6**	**-0.1**
JYNG				*e*S	**Sn**	**17 30 58.3**	**+0.2**
YOJ	**Yonaguni jima**	**0.98**	**108**	*e*P	**Pn**	**17 30 43.9**	**-0.3**
	baz=110						
YOJ	**Yonaguni jima**	**0.98**	**108**	P	**Pn**	**17 30 44.1**	**-0.2**
YOJ				*e*S	**Sn**	**17 30 59.4**	**+0.2**
WHP	**Taichung City**	**1.07**	**243**	P	**Pn**	**17 30 45.5**	**+0.2**
	baz=240						
WHP				*e*S	**Sn**	**17 31 00.8**	**-0.3**
	baz=240						
ESL	**Shilin**	**1.08**	**208**	*e*P	**Pn**	**17 30 44.2**	**-1.2**
	baz=206						
NMLH	**Miaoli**	**1.11**	**258**	*e*P	**Pn**	**17 30 46.4**	**+0.6**
	baz=255						
WPL	**Puli Township**	**1.21**	**231**	*e*P	**Pn**	**17 30 47.5**	**+0.6**
	baz=230						
WCS	**Beigang Elemen**	**1.21**	**234**	*e*P	**Pn**	**17 30 47.0**	**+0.1**
	baz=232						
WCS				*e*S	**Sn**	**17 31 04.0**	**+0.2**
	baz=232						
EGFH	**Guangfu**	**1.22**	**205**	*e*P	**Pn**	**17 30 46.5**	**-0.5**
	baz=204						
DPDB	**Guoxing**	**1.22**	**233**	*e*P	**Pn**	**17 30 47.1**	**+0.1**
	baz=231						
VWDT	**VWDT**	**1.28**	**217**	*e*P	**Pn**	**17 30 47.9**	**+0.2**
	baz=216						
WDJ	**Dajia District**	**1.30**	**251**	*e*P	**Pn**	**17 30 47.4**	**-0.5**
	baz=249						
WDJ				*e*S	**Sn**	**17 31 05.0**	**-0.6**
	baz=249						
SMLT	**Sun Moon Lake**	**1.33**	**228**	*e*P	**Pn**	**17 30 48.6**	**+0.1**
	baz=226						
SMLT				*e*S	**Sn**	**17 31 07.6**	**+1.0**
	baz=226						
TYC	**Yuchr**	**1.35**	**230**	*e*P	**Pn**	**17 30 48.8**	**+0.3**
	baz=228						
TYC				*e*S	**Sn**	**17 31 07.6**	**+0.9**
	baz=228						
SSLB	**Suanglung**	**1.36**	**224**	*e*P	**Pn**	**17 30 48.9**	**+0.1**
	baz=222						
SSLB				*e*S	**Sn**	**17 31 07.9**	**+0.8**
	baz=222						
HGSD	**Ruisui**	**1.38**	**202**	*e*P	**Pn**	**17 30 48.8**	**-0.2**
	baz=201						
EHY	**Hungye**	**1.40**	**206**	*e*P	**Pn**	**17 30 48.6**	**-0.6**
	baz=204						
WNT	**Mingjian**	**1.49**	**233**	*e*S	**Sn**	**17 31 10.2**	**+0.4**
	baz=231						
WJS	**Zhushan**	**1.49**	**231**	*e*P	**Pn**	**17 30 50.2**	**-0.1**
	baz=229						
WJS				*e*S	**Sn**	**17 31 10.4**	**+0.5**
	baz=229						
WHYT	**Xinyi Township**	**1.49**	**224**	*e*P	**Pn**	**17 30 50.9**	**+0.5**
	baz=223						
YULB	**Yu-li**	**1.52**	**205**	*e*P	**Pn**	**17 30 50.0**	**-0.6**
	baz=204						
EYUL	**Yuli**	**1.55**	**203**	*e*P	**Pn**	**17 30 51.4**	**+0.4**
	baz=202						
TWF1	**Yuli**	**1.55**	**204**	*e*P	**Pn**	**17 30 50.6**	**-0.5**
	baz=203						
IRIF	**Iriomote-Funau**	**1.65**	**105**	P	**Pn**	**17 30 52.0**	**-0.3**
IRIF				S	**Sn**	**17 31 13.2**	**-0.2**
ALS	**Alishan**	**1.66**	**221**	*e*P	**Pn**	**17 30 53.5**	**+0.8**
	baz=219						
CHN5	**Tsauling**	**1.67**	**226**	*e*P	**Pn**	**17 30 52.8**	**+0.1**
	baz=224						
FULB	**Fuli**	**1.69**	**202**	*e*P	**Pn**	**17 30 53.0**	**0.0**
	baz=201						
CHKT	**Chengkung**	**1.76**	**199**	*e*P	**Pn**	**17 30 53.1**	**-0.6**
	baz=198						
HATJ	**Hateruma jima**	**1.81**	**113**	P	**Pn**	**17 30 55.0**	**+0.7**
ELDTW	**Lidau**	**1.81**	**209**	*e*P	**Pn**	**17 30 54.3**	**-0.2**
	baz=208						
EDH	**Donghe**	**1.90**	**199**	*e*P	**Pn**	**17 30 55.0**	**-0.6**
	baz=198						
EDH				*e*S	**Sn**	**17 31 18.1**	**-1.1**
	baz=198						
CHN4	**Tsaushan**	**1.91**	**222**	*e*P	**Pn**	**17 30 56.0**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=221						
JKRS	**Kuro-shima**	**1.92**	**106**	P	**Pn**	**17 30 56.1**	**+0.3**
JKRS				S	**Sn**	**17 31 19.4**	**-0.2**
TPUB	**Ta-pu**	**1.92**	**220**	*e*P	**Pn**	**17 30 56.2**	**+0.3**
	baz=219						
TPUB				*e*S	**Sn**	**17 31 19.6**	**-0.1**
	baz=219						
STYH	**Taoyuan**	**1.94**	**215**	*e*P	**Pn**	**17 30 56.0**	**-0.1**
	baz=214						
WTP	**Ta-pu**	**1.97**	**220**	*e*P	**Pn**	**17 30 56.6**	**+0.1**
	baz=218						
JIJ	**Ishigaki jima**	**2.01**	**101**	P	**Pn**	**17 30 56.7**	**-0.2**
JIJ				S	**Sn**	**17 31 20.7**	**-1.0**
LONT	**Longtian**	**2.02**	**203**	*e*S	**Sn**	**17 31 21.0**	**-1.0**
	baz=202						
TWK	**Hsinying**	**2.03**	**223**	*e*P	**Pn**	**17 30 57.2**	**-0.1**
	baz=221						
CHN1	**Nanshi**	**2.07**	**220**	*e*S	**Sn**	**17 31 23.2**	**0.0**
	baz=219						
SGST	**Jiashian**	**2.12**	**218**	*e*P	**Pn**	**17 30 58.6**	**+0.2**
	baz=216						
JISG	**Ishigakijimahi**	**2.12**	**95**	P	**Pn**	**17 30 58.6**	**+0.2**
JISG				S	**Sn**	**17 31 24.8**	**+0.4**
LDUT	**Ludao**	**2.15**	**193**	*e*S	**Sn**	**17 31 23.1**	**-1.8**
	baz=192						
SLGT	**Liugui**	**2.16**	**215**	*e*P	**Pn**	**17 31 01.0**	**+2.1**
	baz=214						
JTJ	**Tarama**	**2.48**	**93**	P	**Pn**	**17 31 03.4**	**+0.4**
JTJ				S	**Sn**	**17 31 33.2**	**+0.5**

*BJI **05** 17:36:29.1±0.0, 5°.51N×120°.03E, h16km, mB4.8/22, mb4.4/34, Ms4.1/6, Ms7 3.8/3*
*IDC **05** 17:36:32.6±0.6, 6°.11N×119°.99E, h0km, mb4.0/16, mb1 4.1/16, mb1mx4.0/36, mbtmp4.0/16, MS3.3/8, Ms1 3.4/8, ms1mx3.0/50, Error ellipse: s-maj=31.7km s-min=13.8km az=70.0*
*NEIC **05** 17:36:35.3±1.2, 6°.10N±0°.06×119°.96E±0°.07, h17km±3km, mb4.6/24, Error ellipse: s-maj=10.7km s-min=8.7km az=66.0*
*MAN **05** 17:36:36.0, 6°.42N×120°.01E, h9km, MS4.0*
*DJA **05** 17:36:40.6±0.4, 6°N±4°×12°0E±°, h104km±6km, M4.7/13, mB5.0/7, mb4.9/12, MLv4.9/13, Mw(mB)4.3/7*
ISC 05 17:36:36.1±2.0, **6°.10N**±0°.05×**119°.92E**±0°.04, **h23**km±14km, **n101**, σ**1§82**/108, **mb4.4**/38, **MS3.4**/6, **1C-3D, Sulu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MYLDM	**Lahad Datu**	**1.68**	**237**	Pn	**Pn**	**17 37 05.3**	**+1.2**
ZCP	**Zamboanga City**	**2.30**	**69**	⇑*i*P	**Pn**	**17 37 13.0**	**+0.4**
ZCP				*i* S	**Sb**	**17 37 48.5**	**+3.6**
BATP	**Bataraza**	**3.40**	**322**	*e*P	**Pn**	**17 37 28.3**	**+0.5**
BATP				*e*S	**Sn**	**17 38 07.2**	**-0.3**
KKM	**Kota Kinabalu**	**3.68**	**269**		**Pn**	**17 37 32.2**	**+0.5**
PAGZ	**Pagadian**	**3.85**	**63**	*e*P	**Pn**	**17 37 33.3**	**-0.7**
PAGZ				*e*S	**Sn**	**17 38 15.9**	**-2.7**
CNOP	**Candoni, Negro**	**4.58**	**36**	*e*P	**Pn**	**17 37 41.9**	**-2.1**
CNOP				*e*S	**Sn**	**17 38 30.1**	**-6.4**
SKMP	**Bagumbayan, Su**	**4.62**	**85**	*e*P	**Pn**	**17 37 43.4**	**-1.1**
SKMP				*e*S	**Sn**	**17 38 36.7**	**-0.7**
CUYO	**Cuyo Island**	**4.84**	**13**	*e*P	**Pn**	**17 37 46.4**	**-1.3**
TOLI2	**Tolitoli**	**5.03**	**170**		**Pn**	**17 37 49.9**	**-0.3**
ENPP	**El Nido**	**5.10**	**355**	*e*P	**Pn**	**17 37 48.5**	**-2.6**
ENPP				*e*S	**Sn**	**17 38 42.4**	**-6.9**
GUIM	**Jordan**	**5.22**	**30**	*e*P	**Pn**	**17 37 51.6**	**-1.2**
GUIM				*e*S	**Sn**	**17 38 50.0**	**-2.3**
KCP	**Kidapawan**	**5.22**	**80**	⇓*e*P	**Pn**	**17 37 56.4**	**+3.5**
CGP	**Cagayan de Oro**	**5.29**	**63**	⇓*e*P	**Pn**	**17 37 56.7**	**+3.0**
BUKP	**Musuan**	**5.40**	**71**	*e*P	**Pn**	**17 37 55.3**	**0.0**
BUKP				*e*S	**Sb**	**17 39 10.7**	**-3.7**
LLP	**Lapu-Lapu**	**5.80**	**43**	*e*P	**Pn**	**17 38 00.6**	**-0.1**
LLP				*e*S	Sn	17 38 48.0	-19
BUSP	**Coron**	**5.87**	**3**	*e*P	**Pn**	**17 37 59.8**	**-2.0**
BUSP				*e*S	Sn	17 38 57.6	-11
MRSI	**Marisa**	**5.94**	**160**	P	**Pn**	**17 38 04.3**	**+1.6**
	1.2nm3μm231nm,0.6s						
MRSI				S	**Sn**	**17 39 08.3**	**-1.8**
	1.2nm3μm231nm,0.6s						
SGSI	**Sangihe**	**6.08**	**113**	P	**Pn**	**17 38 07.6**	**+2.9**
	1.5nm287nm,0.6s						
KMSI	**Cibinong**	**6.82**	**143**	P	**Pn**	**17 38 17.0**	**+2.1**
	0.5nm2μm110nm,0.5s						
APSI	**Ampana**	**7.17**	**166**	P	**Pn**	**17 38 19.5**	**-0.2**
	0.7nm1μm114nm,0.7s						
LUWI	**Luwuk**	**7.64**	**158**	Pn	**Pn**	**17 38 26.0**	**-0.1**
LUWI	**Luwuk**	**7.64**	**158**	P	**Pn**	**17 38 27.8**	**+1.7**
	2.2nm5μm266nm,0.6s						
BKB	**Balikpapan**	**7.91**	**203**	P	**Pn**	**17 38 26.2**	**-3.6**
	0.3nm44nm,0.7s						
LQP	**Lukban**	**8.12**	**11**	*e*P	Pn	17 38 43.2	+10
SBUM	**Sibu**	**8.49**	**245**	Pn	**Pn**	**17 38 37.5**	**-0.2**
TTSI	**Tana Toraja**	**9.08**	**181**	P	**Pn**	**17 38 46.8**	**+0.9**
	41nm,0.9s						
TNTI	**Ternate**	**9.12**	**125**	Pn	**Pn**	**17 38 45.5**	**-1.0**
KAPI	**Kappang**	**11.04**	**181**	LR	LR	17 43 57.3	
	comp=Z,158nm,19.0s,baz=20,slow=40						
SIJI	**Sorong**	**13.28**	**121**	LR	LR	17 44 44.6	
	comp=Z,38nm,21.2s,baz=244,slow=37						
PPBI	**Pangkal Pinang**	**16.02**	**240**	P	P	17 40 32.8	+9.4
QIZ	**Qiongzhong**	**16.17**	**324**	P	**P**	**17 40 25.5**	**+0.4**
QIZ				S	**Sn**	**17 43 24.5**	**+3.7**
QIZ				LR	LR		
	comp=N,220nm,18.7s						
QIZ				LR	LR		
	comp=E,240nm,13.9s						
BATI	**Baumata**	**16.62**	**167**	LR	LR	17 48 14.3	
	comp=Z,137nm,18.5s,baz=306,slow=42						
LEM	**Lembang**	**17.76**	**224**	LR	LR	17 48 38.1	
	comp=Z,183nm,18.0s,baz=35,slow=41						
KLSI		**18.57**	**235**	P	Pn	17 41 02.8	+11
MDSI	**Maura Dua**	**18.91**	**237**	P	**P**	**17 40 50.3**	**-5.1**
	20nm,1.1s						
MNSI	**Mandailing Nat**	**20.97**	**256**	P	**P**	**17 41 12.2**	**-5.6**
PSI	**Prapat**	**21.18**	**262**	LR	LR	17 51 30.5	
	comp=Z,83nm,18.5s,baz=273,slow=42						
JOW	**Kunigami**	**22.10**	**20**	LR	LR	17 49 43.9	
	comp=Z,63nm,20.7s,baz=44,slow=36						
GSI	**Gunungsitoli**	**22.79**	**259**	P	**P**	**17 41 36.7**	**-0.7**
GSI				IAmb	IAmb	17 41 49.4	
	comp=Z,13nm,0.8s						
GSI	**Gunungsitoli**	**22.79**	**259**	P	P	17 41 45.0	+7.6
CMAR	**Chiang Mai Arr**	**23.86**	**303**	P	**P**	**17 41 49.5**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=129,slow=7.1,SNR=1.5						
CMAR				LR	LR	17 50 55.3	
	comp=Z,78nm,21.6s,baz=173,slow=36						
CMAR	**Chiang Mai Arr**	**23.86**	**303**	P	**P**	**17 41 47.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**24.70**	**167**	P	**P**	**17 41 56.2**	**+0.6**
	comp=Z,2.6nm,1.1s,baz=18,slow=6.4,SNR=2.7						
KMI	**Kunming**	**25.07**	**321**	⇓P	**P**	**17 42 00.5**	**+1.2**
KMI				pP	pP	17 42 05.5	-0.1
KMI				sP	pwP	17 42 07.3	-0.7
KMI				PP	**PnPn**	**17 42 38.6**	**+5.4**
KMI				S	**S**	**17 46 24.3**	**+1.5**
KMI				pmax	pmax		
	comp=Z,11nm,1.1s						
KMI				pmax	pmax		
	comp=Z,61nm,3.5s						
KMI				LR	LR		
	comp=Z,140nm,16.0s						
KMI				LR	LR		
	comp=Z,140nm,18.7s						
NJ2	**Nanjing**	**25.84**	**358**	*e*P	**P**	**17 42 08.4**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CD2	**Chengdu**	**28.97**	**330**	*e*P	**P**	**17 42 35.0**	**+0.9**
WRA	**Warramunga Arr**	**29.51**	**152**	P	**P**	**17 42 38.3**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=334,slow=9.6,SNR=8.7						
WRA				PcP	**PcP**	**17 45 43.4**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=337,slow=3.4,SNR=1.7						
ASAR	**Alice Springs**	**32.59**	**156**	P	**P**	**17 43 06.3**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=336,slow=8.0,SNR=6.4						
ASAR				PcP	**PcP**	**17 45 51.6**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=342,slow=2.5,SNR=8.0						
BJT	**Baijiatuau**	**33.94**	**355**	P	**P**	**17 43 18.1**	**+0.5**
BJT				IAmb	IAmb	17 43 22.3	
	comp=Z,6.4nm,0.5s						
BJI	**Beijing**	**33.96**	**355**	P	**P**	**17 43 18.5**	**+0.7**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**35.40**	**349**	*e*P	**P**	**17 43 32.3**	**+1.9**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,5.4s						
TAPN	**Taplejung**	**37.19**	**308**	*e*P	**P**	**17 43 46.2**	**+0.1**
	comp=Z,8.4nm,0.7s						
ODAN	**Odare**	**37.21**	**307**	*e*P	**P**	**17 43 46.4**	**+0.2**
	comp=Z,13nm,0.8s						
GTA	**Gaotai**	**37.80**	**334**	P	**P**	**17 43 51.6**	**+0.7**
GTA				pP	pP	17 43 56.4	-0.9
GTA				sP	pwP	17 43 58.6	-1.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,46nm,6.7s						
GTA				LR	LR		
	comp=Z,120nm,13.8s						
GTA				LR	LR		
	comp=Z,140nm,15.3s						
GTA				LR	LR		
	comp=Z,120nm,16.0s						
RAMN	**Ramite**	**37.88**	**307**	*e*P	**P**	**17 43 52.6**	**+0.7**
	comp=Z,22nm,1.1s						
GUN	**Gumba**	**38.88**	**308**	*e*P	**P**	**17 44 00.6**	**+0.1**
	comp=Z,21nm,0.7s						
PKI	**Pulchoki**	**39.10**	**307**	*e*P	**P**	**17 44 02.0**	**-0.3**
	comp=Z,5.8nm,0.5s						
PKIN	**Phulchoki**	**39.12**	**307**	*e*P	**P**	**17 44 02.3**	**0.0**
	comp=Z,5.9nm,0.5s						
KKN	**Kakani**	**39.30**	**307**	*e*P	**P**	**17 44 03.4**	**-0.4**
	comp=Z,6.7nm,0.5s						
GKN	**Gorkha**	**39.91**	**307**	*e*P	**P**	**17 44 08.7**	**-0.1**
	comp=Z,12nm,0.8s						
ULN	**Ulaanbaatar**	**43.05**	**347**	P	**P**	**17 44 33.8**	**-0.4**
ULN				IAmb	IAmb	17 44 36.0	
	comp=Z,6.0nm,0.8s						
STKA	**Stephens Creek**	**43.05**	**153**	P	**P**	**17 44 35.0**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=312,slow=9.9,SNR=1.4						
STKA	**Stephens Creek**	**43.05**	**153**	P	**P**	**17 44 34.3**	**0.0**
SONM	**Songino Array**	**43.16**	**347**	P	**P**	**17 44 35.9**	**+0.8**
	comp=Z,4.0nm,0.9s,baz=160,slow=9.2,SNR=26						
SONM				PcP	**PcP**	**17 46 24.3**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=154,slow=4.0,SNR=3.7						
SONM	**Songino Array**	**43.16**	**347**	P	**P**	**17 44 35.7**	**+0.6**
SONM					**PcP**	**17 46 23.9**	**-0.6**
KLR	**Kul'dur**	**44.13**	**11**	P	**P**	**17 44 42.9**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=198,slow=6.4,SNR=3.7						
WMQ	**Urumqi**	**47.02**	**328**	*e*P	**P**	**17 45 07.4**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.7s						
KSH	**Kashi**	**51.63**	**317**	P	**P**	**17 45 41.4**	**+0.2**
KSH				sP	pwP	17 45 50.5	+0.3
KSH				pmax	pmax		
	comp=Z,290nm,5.9s						
MK31	**Makanchi Array**	**51.84**	**328**	P	**P**	**17 45 43.2**	**+0.7**
MKAR	**Makanchi Array**	**51.84**	**328**	P	**P**	**17 45 43.4**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=132,slow=8.7,SNR=24						
MKAR				PcP	**PcP**	**17 46 55.5**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=134,slow=5.2,SNR=4.5						
MKAR	**Makanchi Array**	**51.84**	**328**	P	**P**	**17 45 42.8**	**+0.2**
MAKZ	**Makanchi**	**52.02**	**328**	P	**P**	**17 45 44.2**	**+0.4**
AAK	**Ala-Archa**	**54.11**	**320**	P	**P**	**17 46 00.6**	**+1.1**
AAK				IAmb	IAmb	17 46 01.8	
	comp=Z,3.9nm,1.1s						
ZALV	**Zalesovo Beam**	**55.52**	**336**	P	**P**	**17 46 09.4**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=119,slow=8.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**55.52**	**336**	P	**P**	**17 46 08.9**	**-0.4**
PETK	**Petropavlovsk-**	**56.08**	**26**	P	**P**	**17 46 13.7**	**+0.3**
	comp=Z,6.2nm,0.9s,baz=112,slow=0.6,SNR=5.7						
KK31	**Karatay Array**	**56.92**	**318**	P	**P**	**17 46 20.0**	**+0.4**
KKAR	**Karatay Array**	**56.92**	**318**	P	**P**	**17 46 19.4**	**-0.1**
KKAR	**Karatay Array**	**56.92**	**318**	P	**P**	**17 46 20.2**	**+0.6**
KKAR				IAmb	IAmb	17 46 20.9	
	comp=Z,2.7nm,0.8s						
MA2	**Magadan**	**58.31**	**18**	P	**P**	**17 46 29.5**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=247,slow=6.6,SNR=4.3						
MA2	**Magadan**	**58.31**	**18**	P	**P**	**17 46 29.5**	**+0.5**
MA2				IAmb	IAmb	17 46 30.9	
	comp=Z,5.5nm,1.0s						
BRVK	**Borovoye**	**61.78**	**329**	P	**P**	**17 46 53.3**	**+0.4**
BRVK				IAmb	IAmb	17 47 02.1	
	comp=Z,7.2nm,1.0s						
TIXI	**Tiksi**	**65.72**	**3**	P	**P**	**17 47 17.8**	**-0.8**
	comp=Z,4.0nm,1.0s,baz=143,slow=7.4,SNR=15						
TIXI	**Tiksi**	**65.72**	**3**	P	**P**	**17 47 17.7**	**-0.8**
TIXI				IAmb	IAmb	17 47 18.8	
	comp=Z,5.0nm,1.0s						
ABKAR	**Akbulak array**	**66.06**	**322**	P	**P**	**17 47 21.3**	**+0.1**
ABKAR	**Akbulak array**	**66.06**	**322**	P	**P**	**17 47 19.8**	**-1.4**
ABKAR				IAmb	IAmb	17 47 22.3	
	comp=Z,3.7nm,0.8s						
NRIK	**Noril'sk**	**66.62**	**348**	P	**P**	**17 47 24.6**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=135,slow=5.7,SNR=5.3						
NRIK	**Noril'sk**	**66.62**	**348**	P	**P**	**17 47 23.1**	**-1.3**
NRIK				IAmb	IAmb	17 47 25.0	
	comp=Z,3.5nm,0.7s						
KBZ	**Khabaz**	**76.43**	**313**	P	**P**	**17 48 24.0**	**0.0**
	comp=Z,1.1nm,0.7s,baz=83,slow=8.1,SNR=2.1						
BRTR	**Keskin Array B**	**83.28**	**309**	P	**P**	**17 49 01.5**	**0.0**
	comp=Z,1.0nm,0.9s,baz=96,slow=6.3,SNR=4.4						
BRTR	**Keskin Array B**	**83.28**	**309**	P	**P**	**17 49 01.2**	**-0.3**
SKT	**Skwentna**	**83.98**	**28**	P	**P**	**17 49 04.5**	**+0.1**
SKT				IAmb	IAmb	17 49 05.2	
	comp=Z,7.3nm,1.0s						
BPAW	**Bear Paw Mtn.**	**84.16**	**26**	P	**P**	**17 49 06.2**	**+0.9**
SUA	**Susitna One**	**84.37**	**29**	P	**P**	**17 49 06.8**	**+0.3**
I23K	**Minto, Yukon-K**	**84.81**	**25**	P	**P**	**17 49 09.7**	**+1.2**
RND	**Reindeer**	**85.14**	**27**	P	**P**	**17 49 10.3**	**0.0**
MDM	**Murphy Dome**	**85.31**	**25**	P	**P**	**17 49 11.6**	**+0.6**
MDM				IAmb	IAmb	17 49 13.8	
	comp=Z,7.9nm,1.3s						
SML	**Sawmill**	**85.50**	**28**	P	**P**	**17 49 12.6**	**+0.5**
ILAR	**Eielson Array**	**85.89**	**25**	P	**P**	**17 49 13.6**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=254,slow=4.0,SNR=6.0						
ILAR				LR	LR	18 27 46.7	
	comp=Z,41nm,20.3s,baz=124,slow=36						
M24K	**Tolsona, Glenn**	**86.49**	**28**	P	**P**	**17 49 17.3**	**+0.3**
YKA	**Yellowknife Ar**	**100.05**	**23**	P	**Pdif**	**17 50 19.4**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=306,slow=3.5,SNR=7.4						

*BGR **05** 17:55:05.3±0.0, 32°.17N×138°.90E, h33km, mb5.2*
*BJI **05** 17:55:22.7±0.0, 32°.58N×139°.30E, h216km, mB4.8/29, mb4.5/41*
*NIED **05** 17:55:27.8, 32°.78N×139°.09E, h232km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr5.92; Mθθ-7.23; Mφφ1.31; Mrθ-1.19; Mθφ-2.50; Mφr-0.33; Fault plane solution: M0 7.02000×10^15 NP1: φs255.00000°, δ50.00000°, λ90.00000°. NP2: φs75.00000°, δ40.00000°, λ90.00000°.*
*JMA **05** 17:55:27.7±0.3, 32°.78N×139°.09E, h232km±3km, M4.6*
*MOS **05** 17:55:28.5±0.9, 32°.89N×138°.78E, h225km, mb4.6/25, Error ellipse: s-maj=6.6km s-min=4.2km az=98.5*
*IDC **05** 17:55:28.1±0.4, 32°.67N×138°.85E, h217km±3km, mb4.1/39, mb1 4.2/43, mb1mx4.1/63, mbtmp4.7/43, Error ellipse: s-maj=8.3km s-min=6.7km az=93.0*
*NEIC **05** 17:55:28.4±1.5, 32°.66N±0°.02×138°.91E±0°.08, h222km±5km, mb4.6/241, Error ellipse: s-maj=10.5km s-min=3.2km az=98.0*
ISC 05 17:55:27.9±0.4, **32°.76N**±0°.04×**138°.98E**±0°.03, **h219**km±3km, **n609**, σ**1§24**/654, **mb4.5**/221, **41C-15D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.73**	**114**	⇑P	**Pn**	**17 55 59.3**	**+1.1**
JHCJ	**Hachijojimakas**	**0.76**	**66**	⇑P	**Pn**	**17 55 59.2**	**+1.0**
JHCJ				*e*S	**S**	**17 56 23.7**	**+1.8**
JHJ	**Hachijo jima 2**	**0.77**	**62**	P	**Pn**	**17 55 59.5**	**+1.2**
	1μm,0.3s,baz=49,slow=2.7,SNR=201						
JHJ				S	**S**	**17 56 23.5**	**+1.6**
	730nm,0.3s,baz=94,slow=23,SNR=8.7						
JHJ2	**Mitsune**	**0.79**	**64**	⇑P	**Pn**	**17 55 59.4**	**+1.0**
JHJ2	**Mitsune**	**0.79**	**64**	Pn	**Pn**	**17 55 59.2**	**+0.9**
JMKN	**Mikurajimanish**	**1.24**	**24**	⇑P	**Pn**	**17 56 02.0**	**+0.8**
JMKN				*e*S	**S**	**17 56 28.2**	**+1.0**
JKO	**Kozu shima**	**1.43**	**5**	P	**Pn**	**17 56 03.7**	**+1.1**
JKO				*e*S	**S**	**17 56 31.8**	**+2.0**
TK01	**Tokai 1**	**1.53**	**311**	P	**Pn**	**17 56 04.8**	**+1.6**
TK02	**Tokai 2**	**1.56**	**319**	⇑P	**Pn**	**17 56 05.4**	**+1.9**
TK03	**Tokai 3**	**1.63**	**329**	P	**Pn**	**17 56 06.4**	**+2.1**
TTO3	**TONANKAI O.B.S**	**1.72**	**310**	⇑P	**Pn**	**17 56 06.9**	**+1.9**
TTO5	**TONANKAI O.B.S**	**1.82**	**325**	⇓P	**Pn**	**17 56 07.9**	**+2.0**
TTO5				S	**S**	**17 56 38.5**	**+3.0**
JSG	**Sagara**	**2.02**	**341**		**Pn**	**17 56 09.8**	**+1.9**
TTO1	**TONANKAI O.B.S**	**2.03**	**296**	⇑P	**Pn**	**17 56 09.6**	**+1.8**
JFNN	**Fujinakano**	**2.44**	**354**	⇓P	**Pn**	**17 56 13.7**	**+1.4**
JIE	**Ise**	**2.50**	**311**	⇓P	**Pn**	**17 56 14.5**	**+1.6**
JIE				S	**S**	**17 56 49.7**	**+1.8**
JOD2	**Odawara 2**	**2.50**	**2**	⇓P	**Pn**	**17 56 13.9**	**+1.0**
BSO1	**Boso 1**	**2.52**	**41**	P	**Pn**	**17 56 12.0**	**-0.5**
BSO1				S	**S**	**17 56 47.8**	**+0.4**
JYN	**Shimob**	**2.75**	**353**	⇓P	**Pn**	**17 56 17.3**	**+1.5**
JTNC	**Tanabenakahech**	**3.01**	**291**	⇓P	**Pn**	**17 56 20.2**	**+1.5**
JTNC				S	**S**	**17 56 59.8**	**+1.6**
INU	**Inuyama**	**3.05**	**328**	Pn	**Pn**	**17 56 20.6**	**+1.6**
JGF	**Kuroka**	**3.13**	**335**	Pn	**Pn**	**17 56 21.4**	**+1.4**
JWY	**Kouya**	**3.18**	**298**	⇓P	**Pn**	**17 56 22.5**	**+1.8**
JWY				*e*S	**S**	**17 57 04.1**	**+2.3**
JRY	**Ryogami san**	**3.25**	**359**	⇓P	**Pn**	**17 56 22.5**	**+1.1**
JYTA	**Yamagatataniai**	**3.38**	**327**	⇓P	**Pn**	**17 56 23.8**	**+0.9**
JYT	**Yasato**	**3.60**	**16**	Pn	**Pn**	**17 56 23.3**	**-2.2**
JAG	**Ashikaga**	**3.67**	**6**	⇓P	**Pn**	**17 56 25.6**	**-0.8**
JAG				S	**S**	**17 57 09.0**	**-3.3**
MJAR	**Matsushiro Arr**	**3.82**	**351**	P	**Pn**	**17 56 29.0**	**+0.8**
	12nm,0.3s,baz=166,slow=10,SNR=321						
MJAR	**Matsushiro Arr**	**3.82**	**351**	Pn	**Pn**	**17 56 28.4**	**+0.2**
MAJO	**Matsushiro**	**3.82**	**351**	P	**Pn**	**17 56 29.1**	**+0.8**
MAJO	**Matsushiro**	**3.82**	**351**	Pn	**Pn**	**17 56 29.1**	**+0.8**
MAT	**Matsushiro**	**3.82**	**351**	P	**Pn**	**17 56 28.9**	**+0.7**
MAT				S	**S**	**17 57 15.8**	**+0.2**
MAT	**Matsushiro**	**3.82**	**351**	P	**Pn**	**17 56 28.9**	**+0.7**
MJB9	**Matsu-Tunnel**	**3.83**	**351**		**Pn**	**17 56 28.2**	**-0.1**
JWT	**Wachi**	**3.89**	**311**	⇓P	**Pn**	**17 56 30.7**	**+1.7**
JWT				*e*S	**S**	**17 57 19.8**	**+2.9**
JWT	**Wachi**	**3.89**	**311**	Pn	**Pn**	**17 56 30.3**	**+1.3**
JMN	**Monobe**	**4.38**	**284**	Pn	**Pn**	**17 56 36.1**	**+1.0**
JSD	**Sado**	**5.29**	**354**	Pn	**Pn**	**17 56 45.7**	**-0.7**
JMM	**Marumori**	**5.30**	**16**		**Pn**	**17 56 45.2**	**-1.3**
JHS	**Saijyo**	**5.36**	**296**	Pn	**Pn**	**17 56 48.8**	**+1.5**
JCJ	**Chichijima**	**6.30**	**153**	P	Pn	17 56 54.6	-4.7
	108nm,0.3s,baz=241,slow=24,SNR=42						
JCJ				S	S	17 58 03.7	-8.1
	154nm,0.3s,baz=270,slow=22,SNR=7.5						
JCJ	**Chichijima**	**6.30**	**153**	Pn	Pn	17 56 54.5	-4.8
JNU	**Nakatsue**	**6.82**	**275**	P	**Pn**	**17 57 06.6**	**+0.6**
	0.2nm,0.3s,baz=82,slow=15,SNR=1.9						
JNU	**Nakatsue**	**6.82**	**275**		**Pn**	**17 57 03.2**	**-2.7**
JTM	**Tenmabayashi**	**8.18**	**11**	Pn	**Pn**	**17 57 21.8**	**-1.6**
ERM	**Erimo**	**9.81**	**19**	*ce*P	**Pn**	**17 57 43.8**	**-0.6**
ERM				pmax	pmax		
	comp=Z,127nm,0.8s						
ERM	**Erimo**	**9.81**	**19**	Pn	**Pn**	**17 57 43.1**	**-1.3**
KSRS	**Korea Array**	**10.19**	**300**	P	**Pn**	**17 57 51.8**	**+2.6**
	comp=Z,1.1nm,0.3s,baz=109,slow=13,SNR=60						
KSAR	**Wonju Array Be**	**10.21**	**300**	P	**Pn**	**17 57 49.5**	**-0.1**
KSAR	**Wonju Array Be**	**10.21**	**300**		**Pn**	**17 57 49.5**	**-0.1**
TJN	**Taejon**	**10.23**	**294**	*i* P	**Pn**	**17 57 46.9**	**-2.9**
JEW	**Eniwo**	**10.25**	**10**	Pn	**Pn**	**17 57 48.3**	**-1.6**
KS19	**Wonju Array Si**	**10.25**	**301**	Pn	**Pn**	**17 57 51.2**	**+1.2**
JOW	**Kunigami**	**11.01**	**240**	P	**Pn**	**17 57 58.8**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=74,slow=11,SNR=1.7						
JOW	**Kunigami**	**11.01**	**240**		**Pn**	**17 57 58.7**	**-1.2**
ASAJ	**Asahikawa**	**11.68**	**13**	P	**Pn**	**17 58 06.7**	**-1.5**
	comp=Z,28nm,0.3s,baz=214,slow=12,SNR=154						
ASAJ				S	**S**	**18 00 12.2**	**-5.0**
	comp=Z,2.8nm,0.3s,baz=258,slow=19,SNR=2.3						
ASAJ	**Asahikawa**	**11.68**	**13**	P	**Pn**	**17 58 06.5**	**-1.7**
JKA	**Kamikawa-asahi**	**11.68**	**13**		**Pn**	**17 58 06.5**	**-1.7**
NMR	**Nemuro--Hokkai**	**11.84**	**25**	*e*P	**Pn**	**17 58 08.9**	**-1.3**
NMR				*e*S	S	18 00 11.1	-10
GLVR	**Golovnino**	**12.10**	**23**	*e*P	**P**	**17 58 14.5**	**-2.8**
GLVR				pmax	pmax		
	comp=E,32nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,169nm,0.3s						
RUSJ	**Misakicho**	**12.34**	**22**	*e*P	**P**	**17 58 18.1**	**-1.9**
RUSJ				*e*S	**S**	**18 00 27.4**	**-5.3**
TEY	**Ternei**	**12.39**	**352**	⇑*i*P	**Pn**	**17 58 16.6**	**-0.5**
TEY				pmax	pmax		
	comp=N,90nm,0.8s						
TEY				pmax	pmax		
	comp=E,40nm,0.8s						
TEY				pmax	pmax		
	comp=Z,110nm,0.8s						
GRPR	**Tuman**	**12.41**	**23**	*e*P	**Pn**	**17 58 16.1**	**-1.2**
GRPR				*e*S	S	18 00 24.0	-10
GRPR				pmax	pmax		
	comp=Z,358nm,0.3s						
USA0B	**Ussuriysk Arra**	**12.66**	**336**	*i* P	**Pn**	**17 58 18.6**	**-1.8**
USA0B	**Ussuriysk Arra**	**12.66**	**336**		**Pn**	**17 58 19.9**	**-0.5**
USRK	**Ussuriysk Ar.**	**12.66**	**336**	P	**Pn**	**17 58 20.2**	**-0.2**
	baz=143,slow=11,SNR=28						
USRK	**Ussuriysk Ar.**	**12.66**	**336**		**Pn**	**17 58 19.7**	**-0.6**
MDJ	**Mudanjiang**	**13.91**	**331**	P	**P**	**17 58 37.8**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,24nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,260nm,4.6s						
MDJ	**Mudanjiang**	**13.91**	**331**	Pn	**Pn**	**17 58 35.5**	**-0.4**
KUR	**Kuril'sk**	**14.23**	**26**	*e*P	**P**	**17 58 40.8**	**-0.1**
KUR				*e*S	**S**	**18 01 15.2**	**-1.9**
KUR				pmax	pmax		
	comp=Z,115nm,0.6s						
KUR				smax	smax		
	comp=N,62nm,0.7s						
KUR				smax	smax		
	comp=E,54nm,0.7s						
YSS	**Yuzh-Sakhalins**	**14.46**	**10**	⇑*e*P	**P**	**17 58 41.8**	**-1.7**
YSS				*e*S	**S**	**18 01 18.8**	**-3.7**
YSS				pmax	pmax		
	comp=Z,290nm,1.0s						
YSS				smax	smax		
	comp=E,30nm,1.1s						
YSS	**Yuzh-Sakhalins**	**14.46**	**10**		**P**	**17 58 42.3**	**-1.2**
SNY	**Shenyang**	**15.21**	**311**	⇓P	**Pn**	**17 58 55.0**	**+3.2**
SNY				pmax	pmax		
	comp=E,5.0nm,0.7s						
DL2	**Dalian**	**15.34**	**298**	P	**Pn**	**17 58 54.8**	**+1.4**
DL2				pmax	pmax		
	comp=E,33nm,0.7s						
YOJ	**Yonaguni jima**	**16.26**	**244**	P	**P**	**17 59 02.6**	**-1.0**
YOJ				pmax	pmax		
	comp=Z,355nm,1.3s						
YOJ	**Yonaguni jima**	**16.26**	**244**	P	**P**	**17 59 02.6**	**-1.0**
NJ2	**Nanjing**	**17.01**	**273**	*e*P	**P**	**17 59 11.2**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TATO	**Taipei**	**17.16**	**248**	Pn	**Pn**	**17 59 14.4**	**-0.7**
KLR	**Kul'dur**	**17.32**	**344**	P	**P**	**17 59 14.8**	**-0.1**
	comp=Z,4.7nm,0.3s,baz=158,slow=10,SNR=104						
KLR	**Kul'dur**	**17.32**	**344**	*ce*P	**P**	**17 59 13.7**	**-1.2**
YHNB	**Yeheng**	**17.40**	**247**		**P**	**17 59 16.5**	**+0.4**
NACB	**Ninganchiao**	**17.50**	**245**	P	**P**	**17 59 16.6**	**-0.6**
GRNR	**Gornyy**	**18.09**	**355**	⇑*i*P	**Pn**	**17 59 25.1**	**-0.8**
GRNR				*e*S	**S**	**18 02 38.9**	**0.0**
GRNR				pmax	pmax		
	comp=N,20nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,30nm,0.8s						
GRNR				smax	smax		
	comp=N,4.0nm,0.6s						
GRNR				MLR	MLR		
	comp=E,130nm,15.0s						
YULB	**Yu-li**	**18.16**	**244**	P	**P**	**17 59 23.5**	**-0.8**
YULB				IAmb	IAmb	17 59 28.9	
	comp=Z,20nm,0.8s						
SSLB	**Suanglung**	**18.20**	**245**	P	**P**	**17 59 23.7**	**-1.1**
TWG	**Pinlang**	**18.66**	**242**	P	**P**	**17 59 28.9**	**-0.8**
TPUB	**Ta-pu**	**18.72**	**244**	P	**P**	**17 59 29.2**	**-1.1**
ZEA	**Zeya**	**22.58**	**342**	*e*P	**P**	**18 00 10.7**	**+1.1**
ZEA				*e*S	**S**	**18 03 59.4**	**-0.8**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=N,30nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,60nm,0.7s						
HHC	**Hu-ho-hao-te**	**23.32**	**298**	*e*P	**P**	**18 00 17.1**	**+0.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,5.4s						
PETK	**Petropavlovsk-**	**24.38**	**28**	P	**P**	**18 00 27.2**	**+1.2**
	comp=Z,4.1nm,0.8s,baz=237,slow=7.9,SNR=1.6						
XAN	**Xi'an**	**25.09**	**281**	P	**P**	**18 00 32.0**	**-0.6**
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						

XAN Xi'an 25.09 281 P **P** 18 00 31.0 -1.6
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN Xi'an 25.09 281 P **P** 18 00 31.0 -1.6
XAN IAmb IAmb 18 00 32.5
comp=Z,8.5nm,0.8s
ENH Enshi 25.23 272 P **P** 18 00 33.4 -0.5
ENH IAmb IAmb 18 00 35.0
comp=Z,28nm,1.5s
MA2 Magadan 27.95 13 P **P** 18 00 59.2 +1.4
comp=Z,7.9nm,0.7s,baz=202,slow=7.9,SNR=18
MA2 Magadan 27.95 13 *ceP* **P** 18 00 59.0 +1.2
MA2 pmax pmax
comp=Z,6.0nm,0.7s
MA2 Magadan 27.95 13 P **P** 18 00 58.8 +1.0
MA2 IAmb IAmb 18 01 00.5
comp=Z,9.0nm,0.7s
H11N2 WAKE ISLAND Hy 28.11 111 T T 18 30 40.9
baz=306,slow=75,SNR=16
H11N1 WAKE ISLAND Hy 28.11 111 T T 18 30 39.7
baz=306,slow=75,SNR=12
H11N3 WAKE ISLAND Hy 28.12 111 T T 18 30 43.2
baz=306,slow=75,SNR=12
H11S3 WAKE ISLAND Hy 28.63 113 T T 18 30 30.7
baz=304
H11S1 WAKE ISLAND Hy 28.64 113 T T 18 30 49.5
baz=304,slow=74
H11S2 WAKE ISLAND Hy 28.65 113 T T 18 30 28.7
baz=304,slow=74
SONM Songino Array 28.80 311 P **P** 18 01 07.6 +2.0
comp=Z,0.8nm,0.5s,baz=116,slow=9.6,SNR=7.3
SONM PcP **PcP** 18 04 10.2 +0.6
comp=Z,1.4nm,0.3s,baz=111,slow=1.8,SNR=13
SONM Songino Array 28.80 311 P **P** 18 01 06.4 +0.8
SONM PcP **PcP** 18 04 10.1 +0.5
LZH Lanzhou 29.07 286 *eP* **P** 18 01 09.0 +0.7
LZH pP pP 18 01 53.2 +2.1
LZH sP sP 18 02 19.4 +3.3
LZH pmax pmax
comp=Z,16nm,1.0s
YAK Yakutsk 29.89 351 *eP* P 18 01 25.5 +11
YAK *e* 18 05 50.6
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.3s
CD2 Chengdu 29.90 276 *eP* **P** 18 01 15.0 -0.4
SEY Seymchan 31.36 12 P **P** 18 01 29.3 +1.4
comp=E,1.5nm,0.6s,baz=198,slow=5.9,SNR=11
SEY PcP **PcP** 18 04 16.7 +0.8
comp=E,2.0nm,0.3s,baz=135,slow=1.4,SNR=5.2
SEY Seymchan 31.36 12 *i* P **P** 18 01 25.7 -2.1
TLY Talaya 31.85 317 PcP **PcP** 18 04 17.9 +0.5
comp=E,2.7nm,0.7s,baz=67,slow=7.7,SNR=3.1
GTA Gaotai 32.15 293 P **P** 18 01 34.4 -0.8
GTA pP pP 18 02 18.4 -0.2
GTA sP sP 18 02 48.2 +5.0
GTA PcP **PcP** 18 04 19.4 +0.8
GTA ScP **ScP** 18 07 40.4 -0.9
GTA pmax pmax
comp=E,3.0nm,0.9s
TOLI2 Tolitoli 35.84 212 P **P** 18 02 05.1 -1.9
TOLI2 IAmb IAmb 18 02 08.1
comp=Z,15nm,1.0s
CHTO Chiang Mai 38.40 259 P **P** 18 02 28.4 0.0
CHTO pmax pmax
comp=Z,4.0nm,1.1s
CHTO Chiang Mai 38.40 259 P **P** 18 02 28.4 0.0
CMAR Chiang Mai Arr 38.57 258 P **P** 18 02 29.8 -0.1
comp=Z,0.8nm,0.5s,baz=48,slow=7.4,SNR=5.9
CMAR PcP **PcP** 18 04 38.0 +0.3
comp=Z,1.0nm,0.4s,baz=56,slow=1.0,SNR=6.4
SBUM Sibu 39.24 225 P **P** 18 02 34.4 -1.0
TIXI Tiksi 39.32 355 P **P** 18 02 35.9 +0.4
comp=Z,2.7nm,0.5s,baz=140,slow=6.8,SNR=32
TIXI PcP **PcP** 18 04 39.4 +0.2
comp=Z,2.1nm,0.3s,baz=129,slow=4.0,SNR=7.3
TIXI Tiksi 39.32 355 *eP* **P** 18 02 35.2 -0.2
TIXI Tiksi 39.32 355 P **P** 18 02 35.8 +0.4
TIXI **PcP** 18 04 39.0 -0.1
LSA Lhasa 40.74 279 P **P** 18 02 47.7 -0.5
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 40.74 279 P **P** 18 02 47.7 -0.5
WMQ Urumqi 41.14 301 *eP* **P** 18 02 52.0 +1.2
ZAA0 Zalesovo Array 43.44 316 P **P** 18 03 08.8 -0.3
ZAA0 PcP **PP** 18 04 52.9 -1.8
ZALV Zalesovo Beam 43.44 316 P **P** 18 03 09.4 +0.3
comp=Z,2.6nm,0.5s,baz=99,slow=7.2,SNR=14
ZALV PcP **PP** 18 04 53.0 -1.6
comp=Z,12nm,0.6s,baz=101,slow=2.9,SNR=34
ZALV Zalesovo Beam 43.44 316 *i* P **P** 18 03 11.3 +2.2
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 43.44 316 P **P** 18 03 08.8 -0.3
ZALV PcP **PP** 18 04 52.9 -1.8
TAPN Taplejung 44.35 277 *eP* **P** 18 03 16.6 -0.5
comp=Z,7.5nm,0.4s
SOEI Soe 44.55 201 P **P** 18 03 17.1 -1.3
SOEI IAmb IAmb 18 03 32.8
comp=Z,15nm,0.9s
ODAN Odare 44.79 276 *eP* **P** 18 03 19.8 -0.7
comp=Z,18nm,0.6s
MK31 Makanchi Array 44.82 305 *i* P **P** 18 03 19.7 -0.5
MK31 Makanchi Array 44.82 305 P **P** 18 03 20.1 -0.1
MKAR Makanchi Array 44.82 305 P **P** 18 03 20.2 0.0
comp=Z,1.2nm,0.4s,baz=86,slow=9.3,SNR=61
MKAR PcP **PcP** 18 04 58.1 0.0
comp=Z,1.8nm,0.5s,baz=65,slow=5.4,SNR=11
MKAR ScP **ScP** 18 08 28.6 -0.8
comp=Z,1.0nm,0.6s,baz=81,slow=5.1,SNR=8.1
MKAR Makanchi Array 44.82 305 P **P** 18 03 20.1 -0.2
MKAR ScP **ScP** 18 08 28.1 -1.3
MAKZ Makanchi 45.04 305 P **P** 18 03 21.8 -0.1
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 45.04 305 P **P** 18 03 21.8 -0.1
IPM Ipoh 45.24 240 P **P** 18 03 22.7 -1.1
RAMN Ramite 45.42 277 *eP* **P** 18 03 24.9 -0.5
comp=Z,40nm,0.7s
GUN Gumba 45.69 279 *eP* **P** 18 03 27.2 -0.5
comp=Z,23nm,0.5s
PKI Pulchoki 46.20 278 *eP* **P** 18 03 30.5 -1.1
comp=Z,16nm,0.5s
PKIN Phulchoki 46.21 278 *eP* **P** 18 03 30.7 -0.9
comp=Z,15nm,0.5s
KKN Kakani 46.23 279 *eP* **P** 18 03 31.0 -0.7
comp=Z,29nm,0.8s
NRIK Noril'sk 46.37 337 P **P** 18 03 32.7 +0.8
comp=Z,6.3nm,0.4s,baz=116,slow=5.4,SNR=12
NRIK PcP **PcP** 18 05 03.3 +0.3
comp=Z,3.7nm,0.5s,baz=103,slow=4.7,SNR=4.2
NRIK Noril'sk 46.37 337 *ceP* **P** 18 03 32.2 +0.3
NRIK pmax pmax
comp=Z,12nm,1.3s
NRIK Noril'sk 46.37 337 P **P** 18 03 32.1 +0.3
DMN Daman 46.44 278 *eP* **P** 18 03 32.7 -0.7
comp=Z,8.5nm,0.5s
GKN Gorkha 46.70 279 *eP* **P** 18 03 34.6 -0.6
comp=Z,18nm,0.6s
KURK Kurchatov 47.10 311 P **P** 18 03 38.1 +0.3
KURK 18 05 06.0
KURK Kurchatov 47.10 311 P **P** 18 03 38.1 +0.3
KURBB Kurchatov Arra 47.16 311 P **P** 18 03 38.1 -0.2
comp=Z,2.1nm,0.4s,baz=89,slow=6.8,SNR=27
KURBB PcP **PcP** 18 05 06.0 -0.2
comp=Z,2.3nm,0.7s,baz=88,slow=4.4,SNR=8.9
SDPT Sand Point 47.26 43 P **P** 18 03 39.3 +0.4
SDPT Sand Point 47.26 43 P 18 03 38.5
baz=267
CHNA Chernabura Isl 47.75 43 P 18 03 43.7
baz=269
CNBA Chernabura Isl 47.75 43 P **P** 18 03 43.6 +0.9
CNBA IAmb IAmb 18 03 44.3
comp=Z,39nm,0.9s
RDOG Red Dog Mine 48.21 25 P **P** 18 03 48.1 +2.0
RDOG Red Dog Mine 48.21 25 P 18 03 47.9
baz=254
CHGN Chignik 48.45 41 P **P** 18 03 49.1 +1.1
CHGN IAmb IAmb 18 04 14.3
comp=Z,32nm,1.2s
CHKK Chushkaly 48.84 302 *eP* **P** 18 03 50.2 -1.1
baz=302
CHKK Chushkaly 48.84 302 *eP* **P** 18 03 50.2 -1.1
MDOK Medeo 48.91 301 *eP* **P** 18 03 51.7 -0.4
baz=301
MDOK Medeo 48.91 301 *eP* **P** 18 03 51.6 -0.4
AAA Alma-Ata 49.00 301 *eP* **P** 18 03 51.7 -0.9
baz=301
AAA Alma-Ata 49.00 301 *eP* **P** 18 03 51.7 -0.9
KUU Kurty 49.30 302 *eP* **P** 18 03 53.8 -1.1
baz=302
KUU Kurty 49.30 302 *eP* **P** 18 03 53.7 -1.1
GSI Gunungsitoli 49.91 240 P **P** 18 03 59.0 -0.7
TTA Tatalina 50.08 33 P **P** 18 04 02.0 +1.6
TTA pmax pmax
comp=Z,7.0nm,1.3s
TTA Tatalina 50.08 33 P **P** 18 04 02.0 +1.6
TTA Tatalina 50.08 33 P 18 04 01.7
baz=265
SVW2 Sparrevohn 50.14 35 P **P** 18 04 03.0 +2.2
KSH Kashi 50.42 297 P **P** 18 04 06.7 +3.3
KSH PcP **PcP** 18 05 20.4 +2.0
KSH PP **PP** 18 06 04.1 +3.0
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH pmax pmax
comp=Z,520nm,6.0s
BTLS Baital 50.73 304 *eP* **P** 18 04 04.5 -1.0
baz=304
BTLS Baital 50.73 304 *eP* **P** 18 04 04.4 -1.0
SII Sitkinak Islan 50.80 41 P **P** 18 04 07.0 +1.2
AAK Ala-Archa 50.85 301 *i* P **P** 18 04 05.7 -0.9
AAK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 50.85 301 P **P** 18 04 06.5 -0.1
AAK **sP** 18 05 20.1 +3.1
BRZS Berezniki 50.95 310 *eP* **P** 18 04 06.1 -1.0
baz=310
BRZS Berezniki 50.95 310 *eP* **P** 18 04 06.0 -1.0
A21K Barrow 51.16 22 P **P** 18 04 09.0 +0.8
A21K Barrow 51.16 22 P 18 04 09.7
baz=257
OHAK Old Harbor 51.27 40 P **P** 18 04 10.1 +0.8
OHAK IAmb IAmb 18 04 34.0
comp=Z,39nm,1.5s
OHAK Old Harbor 51.27 40 P 18 04 10.0
baz=272
IMAR Indian Mountai 51.34 29 P **P** 18 04 11.3 +1.6
RSO Redoubt South 51.51 36 P **P** 18 04 12.2 +1.0
KDAK Kodiak Island 51.64 39 P **P** 18 04 12.8 +0.9
comp=Z,31nm,0.5s,baz=294,slow=2.2,SNR=111
KDAK Kodiak Island 51.64 39 *i* P **P** 18 04 12.3 +0.4
KDAK pmax pmax
comp=Z,31nm,0.8s
KDAK Kodiak Island 51.64 39 P **P** 18 04 12.8 +0.9
KDAK Kodiak Island 51.64 39 P 18 04 12.7
baz=272
PPLA Purkeypile 51.82 33 P **P** 18 04 15.1 +1.7
PPLA IAmb IAmb 18 04 16.3
comp=Z,11nm,0.5s
PPLA Purkeypile 51.82 33 P 18 04 15.8
baz=268
BRVK Borovoye 52.11 315 *ceP* **P** 18 04 15.5 0.0
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BRVK Borovoye 52.11 315 P **P** 18 04 15.1 -0.4
SKT Skwentna 52.11 34 P **P** 18 04 16.5 +1.1
SKT Skwentna 52.11 34 P 18 04 17.1
baz=270
CNPM China Poot 52.28 37 P **P** 18 04 17.0 +0.3
CNPM IAmb IAmb 18 04 18.4
comp=Z,11nm,0.7s
CAPN Captain Cook N 52.30 36 P 18 04 19.1
baz=271
BPAW Bear Paw Mtn. 52.40 31 P **P** 18 04 19.1 +1.6
BPAW Bear Paw Mtn. 52.40 31 P 18 04 19.1
baz=268
KTH Kantishna Hill 52.41 32 P **P** 18 04 18.4 +0.7
WB0 Warramunga Arr 52.42 185 P **P** 18 04 16.6 -1.5
BRLK Bradley Lake 52.45 37 P **P** 18 04 18.4 +0.5
BRLK IAmb IAmb 18 04 22.1
comp=Z,23nm,1.1s
SUA Susitna One 52.48 35 P **P** 18 04 19.3 +1.0
SUA IAmb IAmb 18 04 20.1
comp=Z,14nm,1.0s
SUA Susitna One 52.48 35 P 18 04 19.5
baz=271
BRSE Bradley Lake S 52.53 37 P 18 04 20.6
baz=272
MLY Manley 52.53 30 P 18 04 20.6
baz=268
WRAB Tennant Creek 52.59 185 *ceP* **P** 18 04 17.7 -1.6
WRAB pmax pmax
comp=Z,10.0nm,1.3s
WB2 Warramunga Arr 52.59 185 P **P** 18 04 17.6 -1.8
WRA Warramunga Arr 52.59 185 P **P** 18 04 18.2 -1.2
comp=Z,3.8nm,0.4s,baz=0.5,slow=7.4,SNR=64
WRA PcP **PcP** 18 05 27.4 +0.9
comp=Z,6.3nm,0.4s,baz=356,slow=3.8,SNR=14
WRA ScP **ScP** 18 09 03.0 +0.5
comp=Z,1.0nm,0.9s,baz=357,slow=3.3,SNR=3.0
WRA S **S** 18 11 26.4 -3.1
comp=Z,1.1nm,0.9s,baz=1.6,slow=15,SNR=5.5
WRA Warramunga Arr 52.59 185 *i* P **P** 18 04 18.1 -1.3
WRA pmax pmax
comp=Z,5.0nm,0.5s
WR0 Warramunga Arr 52.60 185 P **P** 18 04 18.0 -1.4
TRF Thorofare Moun 52.69 32 P **P** 18 04 21.1 +1.2
TRF Thorofare Moun 52.69 32 P 18 04 21.2
baz=270
COLD Coldfoot 52.85 27 P 18 04 22.2
baz=267
RC01 Rabbit Creek A 52.98 35 P 18 04 22.8
baz=272
O22K Cooper Landing 53.01 36 P **P** 18 04 22.8 +0.8
O22K IAmb IAmb 18 04 36.1
comp=Z,15nm,0.7s
CTA Charters Tower 53.01 171 P **P** 18 04 22.4 -0.1
comp=Z,1.4nm,0.6s,baz=0.3,slow=5.0,SNR=3.0
I23K Minto, Yukon-K 53.12 30 P **P** 18 04 23.9 +1.2
I23K PcP **PcP** 18 05 29.4 +1.6
I23K Minto, Yukon-K 53.12 30 P 18 04 24.4
baz=269
SEW Seward 53.16 36 P **P** 18 04 24.0 +0.9
SEW IAmb IAmb 18 04 24.9
comp=Z,23nm,0.9s
TOLK Toolik Lake Re 53.18 26 P **P** 18 04 25.0 +1.8
TOLK Toolik Lake Re 53.18 26 P 18 04 25.0
baz=266
NEA2 Nenana 53.24 31 P 18 04 25.3
baz=270
PMR Palmer 53.26 35 P **P** 18 04 24.9 +1.2
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 53.26 35 P **P** 18 04 24.9 +1.2
PMR IAmb IAmb 18 04 25.5
comp=Z,14nm,1.0s
PMR Palmer 53.26 35 P 18 04 25.2
baz=272
MCK McKinley 53.30 32 P 18 04 25.1
baz=270
RND Reindeer 53.34 32 P **P** 18 04 25.3 +0.8
RND pmax pmax
comp=Z,14nm,0.8s
RND Reindeer 53.34 32 P **P** 18 04 25.3 +0.8
RND IAmb IAmb 18 04 26.4
comp=Z,14nm,0.8s
GHO Glory Hole Cre 53.35 34 P **P** 18 04 25.7 +1.1
GHO IAmb IAmb 18 04 26.7
comp=Z,8.3nm,0.6s
WAT2 Susitna Watana 53.47 33 P 18 04 26.4
baz=271
KNK Knik Glacier 53.59 35 P **P** 18 04 27.4 +1.2
KNK IAmb IAmb 18 04 28.3
comp=Z,17nm,0.7s
KNK Knik Glacier 53.59 35 P 18 04 27.7
baz=273
MDM Murphy Dome 53.60 30 P **P** 18 04 28.0 +1.7
MDM IAmb IAmb 18 04 29.1
comp=Z,19nm,0.7s
KK31 Karatay Array 53.61 302 P **P** 18 04 26.5 -0.2
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 53.61 302 P **P** 18 04 26.5 -0.2
KKAR Karatay Array 53.61 302 P **P** 18 04 26.4 -0.4
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 53.61 302 P **P** 18 04 26.5 -0.2
KKAR Karatay Array 53.61 302 P **P** 18 04 26.4 -0.4
SML Sawmill 53.63 34 P **P** 18 04 27.7 +1.2
SML pmax pmax
comp=Z,11nm,0.8s
SML Sawmill 53.63 34 P **P** 18 04 27.7 +1.2
SML IAmb IAmb 18 04 29.2
comp=Z,11nm,0.8s
SML Sawmill 53.63 34 P 18 04 27.9
baz=272
WRH Wood River Hil 53.66 31 P **P** 18 04 28.1 +1.4
WRH PcP **PcP** 18 05 30.6 +0.6
CCB Clear Creek Bu 53.78 31 P **P** 18 04 29.0 +1.4
WAT6 Susitna Watana 53.87 33 P 18 04 29.9
baz=272
POKR Poker Plat Res 53.93 30 P **P** 18 04 30.5 +1.9
POKR IAmb IAmb 18 04 31.7
comp=Z,13nm,0.8s
POKR Poker Plat Res 53.93 30 P 18 04 30.7
baz=271
SCM Sheep Creek Mo 54.10 34 P **P** 18 04 31.7 +1.7
SCM pmax pmax
comp=Z,25nm,0.9s
SCM Sheep Creek Mo 54.10 34 P **P** 18 04 31.7 +1.7
NIL Nilore 54.13 290 P **P** 18 04 30.7 +0.1
NIL pmax pmax
comp=Z,13nm,0.5s
NIL Nilore 54.13 290 P **P** 18 04 30.7 +0.1
NIL IAmb IAmb 18 04 31.6
comp=Z,13nm,0.5s
HDA Harding Lake 54.16 31 P **P** 18 04 30.9 +0.7
HDA IAmb IAmb 18 04 31.9
comp=Z,11nm,0.8s
HDA Harding Lake 54.16 31 P 18 04 31.0
baz=272
HDA P 18 04 31.0
baz=272
IL31 54.17 31 P **P** 18 04 31.0 +0.7
ILAR Eielson Array 54.17 31 P **P** 18 04 31.2 +0.8
comp=Z,2.7nm,0.5s,baz=258,slow=5.4,SNR=35
ILAR PcP **PcP** 18 05 31.9 -0.1
comp=Z,2.3nm,0.6s,baz=270,slow=4.0,SNR=11
ILAR Eielson Array 54.17 31 P **P** 18 04 30.8 +0.4
IUG Iuzhnay 54.18 301 *eP* **P** 18 04 30.8 -0.2
baz=301
IUG Iuzhnay 54.18 301 *eP* **P** 18 04 30.7 -0.2
M24K Tolsona, Glenn 54.63 34 P **P** 18 04 35.6 +1.9
M24K Tolsona, Glenn 54.63 34 P 18 04 35.5
baz=274
PRP Porcupine Dome 54.72 30 P **P** 18 04 36.4 +1.9
PRP IAmb IAmb 18 04 36.9
comp=Z,5.1nm,0.5s
PRP Porcupine Dome 54.72 30 P 18 04 35.9
baz=272
KLU Klutina 54.80 35 P **P** 18 04 36.5 +1.5
KLU Klutina 54.80 35 P 18 04 36.4
baz=275
FYU Fort Yukon 54.80 28 P **P** 18 04 37.2 +2.4
FYU IAmb IAmb 18 04 38.0
comp=Z,14nm,1.2s
PAX Paxson 54.89 33 P **P** 18 04 37.2 +1.5
PAX pmax pmax
comp=Z,6.0nm,0.6s
PAX Paxson 54.89 33 P **P** 18 04 37.2 +1.5
PAX IAmb IAmb 18 04 38.5
comp=Z,6.3nm,0.6s
PAX Paxson 54.89 33 P 18 04 37.1
baz=274
EYAK Cordova Ski Ar 54.97 36 P 18 04 37.8
baz=276
SANVU Saraoutou 55.02 146 P **P** 18 04 37.6 +0.6
BMAR Burnt Mountain 55.03 27 P **P** 18 04 38.7 +2.1
N25K Chitina, Valde 55.42 34 P **P** 18 04 41.1 +1.7
N25K Chitina, Valde 55.42 34 P 18 04 41.1
baz=276
DOT Dot Lake 55.47 32 P **P** 18 04 41.1 +1.4
DOT IAmb IAmb 18 04 41.7
comp=Z,12nm,0.8s
SCRK Sand Creek 55.48 31 P 18 04 40.7
baz=275
BMRM Bremner River 55.48 35 P 18 04 41.5
baz=276
RAGM Ragged Mountai 55.51 36 P **P** 18 04 42.2 +2.1
CRQM Cirque 56.22 35 P **P** 18 04 45.1 -0.2
CRQM IAmb IAmb 18 04 47.7
comp=Z,18nm,1.1s
CRQE Cirque 56.24 35 P 18 04 46.9
baz=278
K27K Chicken 56.31 31 P **P** 18 04 47.5 +1.9
K27K IAmb IAmb 18 04 48.5
comp=Z,8.6nm,0.7s
K27K Chicken 56.31 31 P 18 04 47.4
baz=276
AS31 Alice Springs 56.32 186 P **P** 18 04 45.1 -1.1
ASAR Alice Springs 56.32 186 P **P** 18 04 45.2 -1.0
comp=Z,3.4nm,0.5s,baz=22,slow=11,SNR=92
ASAR PcP **PcP** 18 05 41.9 +1.1
comp=Z,2.6nm,0.4s,baz=6.5,slow=4.3,SNR=11
ASAR ScP **ScP** 18 09 18.3 -0.6
comp=Z,0.2nm,0.6s,baz=9.9,slow=4.7,SNR=1.7
ASAR S **S** 18 12 19.6 +0.5
comp=Z,0.9nm,0.8s,baz=19,slow=19,SNR=6.3
TGL Tana Glacier 56.37 35 P **P** 18 04 47.8 +1.6
TGL IAmb IAmb 18 04 48.8
comp=Z,12nm,0.8s
BCAR Beaver Creek A 56.55 32 P **P** 18 04 49.3 +1.9
EGAK Eagle 56.62 30 P **P** 18 04 49.1 +1.3
EGAK IAmb IAmb 18 04 49.6
comp=Z,7.6nm,0.6s
EGAK Eagle 56.62 30 P 18 04 48.8
baz=277
CTG Chitna Glacier 57.06 35 P 18 04 52.7
baz=279
CTGM Chitina Glacie 57.06 35 P **P** 18 04 52.9 +1.8
CTGM IAmb IAmb 18 04 53.4
comp=Z,8.5nm,0.6s
PCA Pinnacle 57.73 36 P **P** 18 04 57.5 +1.7
PINM Pinnacle 57.74 36 P 18 04 57.5
baz=280
ARU Arti 58.28 320 *di* P **P** 18 04 58.6 -0.9
ARU S **S** 18 12 45.5 +1.6
ARU pmax pmax
comp=Z,8.0nm,0.5s
ARU Arti 58.28 320 P **P** 18 04 59.6 +0.1
ARU IAmb IAmb 18 05 00.4
comp=Z,16nm,1.0s
INK Inuvik 59.09 26 P **P** 18 05 06.2 +1.3
comp=Z,14nm,0.4s,baz=283,slow=5.7,SNR=88
INK Inuvik 59.09 26 P **P** 18 05 06.2 +1.3
ABKAR Akbulak array 59.21 312 P **P** 18 05 05.9 -0.1
ABKAR Akbulak array 59.21 312 P **P** 18 05 05.7 -0.3
PALK Pallekele 59.52 258 P **P** 18 05 08.6 -0.1
PALK pmax pmax
comp=Z,14nm,0.9s
PALK Pallekele 59.52 258 P **P** 18 05 08.6 -0.1
PALK IAmb IAmb 18 05 09.3
comp=Z,14nm,0.8s
SKAG Skagway 60.31 36 P **P** 18 05 15.7 +2.5
DZM Mont Dzumac 60.51 151 P **P** 18 05 16.5 +1.3
DZM IAmb IAmb 18 05 21.6
comp=Z,21nm,1.5s
JIS Juneau Island 61.09 37 P **P** 18 05 21.0 +2.4
JIS IAmb IAmb 18 05 21.8
comp=Z,10.0nm,0.8s
C36M Paulatuk 62.14 23 P **P** 18 05 26.6 +1.3
C36M Paulatuk 62.14 23 P 18 05 26.6
baz=289
KIRV Kirov 62.47 324 *ceP* **P** 18 05 28.3 +0.6
DLBC Dease Lake 63.23 36 P **P** 18 05 34.9 +2.0
comp=Z,3.1nm,0.6s,baz=297,slow=3.4,SNR=14
PRGR Permogore 63.27 328 *eP* **P** 18 05 32.4 -0.6
PRGR pmax pmax
comp=Z,18nm,0.7s
GEYT Alibeck 64.18 300 P **P** 18 05 39.5 0.0
comp=Z,2.1nm,0.6s,baz=294,slow=7.4,SNR=5.0
GEYT Alibeck 64.18 300 P **P** 18 05 39.4 0.0
STKA Stephens Creek 64.34 178 P **P** 18 05 40.3 0.0
comp=Z,2.7nm,0.4s,baz=336,slow=7.6,SNR=12
STKA Stephens Creek 64.34 178 P **P** 18 05 40.1 -0.1
EUNU Eureka 64.69 8 P **P** 18 05 43.0 +1.0
EUNU IAmb IAmb 18 05 43.9
comp=Z,10nm,0.7s
TMCR Tamitsa 65.54 332 *eP* **P** 18 05 47.3 -0.3
TMCR pmax pmax
comp=Z,17nm,0.6s

BELG Belogornoye 65.58 318 *i* P **P** 18 05 46.6 -1.5
BELG pmax pmax
comp=Z,4.0nm,0.8s
KLMR Klimovskoe 66.31 328 *e*P **P** 18 05 51.6 -0.9
KLMR pmax pmax
comp=Z,14nm,0.6s
KLMR Klimovskoe 66.31 328 *e*P **P** 18 05 51.6 -0.9
KLMR AMP 18 05 53.4
comp=Z,14nm,0.6s
RES Resolute Bay 67.22 13 P **P** 18 05 59.3 +1.2
comp=Z,14nm,0.7s,baz=307,slow=6.6,SNR=76
RES PcP **PcP** 18 06 25.8 +1.5
comp=Z,4.0nm,0.7s,baz=279,slow=4.3,SNR=4.8
ARCES ARCESS Array B 67.28 340 P **P** 18 05 59.4 +0.8
comp=Z,1.2nm,0.3s,baz=63,slow=8.0,SNR=26
ARCES ARCESS Array B 67.28 340 P **P** 18 05 59.2 +0.6
ARCES IAmb IAmb 18 06 18.7
comp=Z,11nm,1.2s
YKA Yellowknife Ar 68.50 29 P **P** 18 06 07.1 +0.8
comp=Z,6.4nm,0.8s,baz=298,slow=5.5,SNR=70
YKA Yellowknife Ar 68.50 29 *i* P **P** 18 06 07.0 +0.7
YKA pmax pmax
comp=Z,6.0nm,0.8s
VRH Novokhopyorsk 69.41 318 *e*P **P** 18 06 11.2 -0.8
VRH pmax pmax
comp=Z,10.0nm,0.5s
TULEG Thule 69.58 7 P **P** 18 06 13.6 +0.9
TULEG Thule 69.58 7 *i* P **P** 18 06 13.5 +0.9
TULEG IAmb IAmb 18 06 14.1
comp=Z,16nm,0.5s
DAG Danmarks Havn 69.84 355 *i* P **P** 18 06 15.0 +0.8
comp=Z,11nm,0.9s
DAG Danmarks Havn 69.84 355 *i* P **P** 18 06 15.0 +0.8
DAG pmax pmax
comp=Z,11nm,0.9s
DAG Danmarks Havn 69.84 355 *i* P **P** 18 06 15.1 +0.8
DAG IAmb IAmb 18 06 16.2
comp=Z,11nm,0.9s
OBN Obninsk 70.32 323 *e*P **P** 18 06 17.5 0.0
OBN *e* 18 06 37.6
OBN *e*PPP PPP 18 10 37.3
OBN pmax pmax
comp=Z,4.0nm,0.5s
PGC Sidney 70.76 44 P **P** 18 06 21.3 +1.1
PGC IAmb IAmb 18 06 23.2
comp=Z,14nm,0.8s
VSR Storozhevoye 70.83 319 *e*P **P** 18 06 20.1 -0.6
VSR pmax pmax
comp=Z,10.0nm,0.6s
NLWA Neilton Lookou 71.10 45 P **P** 18 06 24.8 +2.3
A04D Lummi Island 71.17 44 P 18 06 24.6
baz=298
A05A Maple Falls 71.39 43 P **P** 18 06 25.3 +1.2
A05A IAmb IAmb 18 06 26.7
comp=Z,18nm,1.1s
D03D Eldon 71.50 45 P 18 06 27.1
baz=298,SNR=9.8
FIA1 FINESS Array S 71.65 332 P **P** 18 06 25.6 +0.3
FINES FINESS Array B 71.65 332 P **P** 18 06 25.8 +0.4
comp=Z,18nm,0.7s,baz=66,slow=5.7,SNR=105
B05A Bryant 71.74 44 P 18 06 27.7
baz=299
B06A Marblemount 71.97 44 P **P** 18 06 28.9 +1.4
KBZ Khabaz 72.16 311 P **P** 18 06 29.4 +0.6
comp=Z,11nm,0.8s,baz=91,slow=3.5,SNR=27
KBZ Khabaz 72.16 311 *ce*P **P** 18 06 29.2 +0.4
KBZ pmax pmax
comp=Z,14nm,0.9s
KIV Kislovodsk 72.19 311 ⇑P **P** 18 06 29.6 +0.5
KIV Kislovodsk 72.19 311 ⇑*e*P **P** 18 06 30.1 +1.0
KIV pmax pmax
comp=Z,7.0nm,0.6s
KIV Kislovodsk 72.19 311 P **P** 18 06 29.4 +0.3
E04D Cinebar 72.28 46 P 18 06 31.2
baz=299
DBG Daneborg 72.31 354 *i* P **P** 18 06 29.4 +0.3
DBG IAmb IAmb 18 06 30.5
comp=Z,4.9nm,0.8s
NEY Neytrino 72.50 310 *i* P **P** 18 06 31.8 +0.7
NEY pmax pmax
comp=Z,3.0nm,1.0s
LON Longmire 72.64 45 P **P** 18 06 32.7 +1.0
LON pmax pmax
comp=Z,10.0nm,1.5s
LON Longmire 72.64 45 P **P** 18 06 32.7 +1.0
I02D Swisshome 72.68 48 P 18 06 33.8
baz=299
AKH Akhalkalaki 72.88 308 ⇑P **P** 18 06 34.1 +0.8
AKH Akhalkalaki 72.88 308 P **P** 18 06 34.1 +0.8
LTY Liberty 73.07 44 P **P** 18 06 35.3 +1.1
LTY IAmb IAmb 18 06 36.5
comp=Z,6.2nm,0.7s
J01E Myrtle Point 73.08 49 P 18 06 36.2
baz=299
VSU Vasula 73.11 329 *e*P **P** 18 06 34.5 +0.5
VSU Vasula 73.11 329 P **P** 18 06 35.0 +1.0
H04D Lebanon 73.17 48 P 18 06 36.7
baz=300
I03D Drain, OR 73.19 49 P 18 06 37.2
baz=299,SNR=8.1
B08A Colville Reser 73.30 43 P **P** 18 06 36.5 +1.0
B08A IAmb IAmb 18 06 38.0
comp=Z,8.2nm,0.8s
H04A Detroit Lake 73.43 47 P **P** 18 06 37.9 +1.6
H04A IAmb IAmb 18 06 38.9
comp=Z,12nm,0.7s
K02D Willamette Mer 73.48 50 P 18 06 38.2
baz=299,SNR=5.3
G05D Wamic, OR 73.69 47 P 18 06 39.6
baz=300
I04A Tendick Farm, 73.74 48 P 18 06 39.7
baz=300,SNR=11
L02E Cave Junction 73.79 50 P 18 06 40.2
baz=300
HUMO Hull Mountain 73.98 50 P **P** 18 06 41.6 +2.1
HUMO IAmb IAmb 18 06 44.2
comp=Z,12nm,1.5s
I05D Terrebonne, OR 74.13 47 P 18 06 42.1
baz=300
MTSE Matsula 74.19 331 *e*P **P** 18 06 39.9 -0.4
C09A Chrisman Ranch 74.19 43 P **P** 18 06 41.6 +1.0
C09A IAmb IAmb 18 06 43.1
comp=Z,13nm,0.9s
D08A Wollman Farm, 74.20 44 P **P** 18 06 42.1 +1.4
D08A IAmb IAmb 18 06 43.2
comp=Z,12nm,0.8s
F07A Phinny Hill Vi 74.20 45 P **P** 18 06 42.1 +1.4
F07A IAmb IAmb 18 06 43.6
comp=Z,13nm,0.7s
J04D Umpqua Nationa 74.20 49 P 18 06 42.6
baz=300,SNR=7.1
E08A Dider Farm, El 74.41 45 P **P** 18 06 43.3 +1.4
E08A IAmb IAmb 18 06 44.5
comp=Z,10nm,0.7s
YBH Yreka Blue Hor 74.57 50 P **P** 18 06 44.8 +1.8
comp=Z,7.5nm,0.8s,baz=251,slow=9.1,SNR=27
YBH Yreka Blue Hor 74.57 50 P **P** 18 06 45.0 +2.0
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH Yreka Blue Hor 74.57 50 P **P** 18 06 45.0 +2.0
YBH IAmb IAmb 18 06 46.1
comp=Z,8.1nm,0.8s
L04D Klamath Falls 74.59 50 P 18 06 45.0
baz=300,SNR=10
NEW Newport 74.61 42 P **P** 18 06 44.3 +1.3
comp=Z,7.0nm,0.9s,baz=293,slow=4.2,SNR=11
NEW Newport 74.61 42 P **P** 18 06 44.5 +1.5
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW Newport 74.61 42 P **P** 18 06 44.5 +1.5
NEW IAmb IAmb 18 06 45.5
comp=Z,8.1nm,0.9s
NEW Newport 74.61 42 P 18 06 44.6
baz=302
M02C Callahan 74.65 51 P 18 06 45.7
baz=300,SNR=9.5
PINE Pine Mountain 74.66 48 P **P** 18 06 45.6 +2.0
J05D Fort Rock, OR 74.73 48 P 18 06 45.9
baz=301,SNR=15
MNK Minsk 74.89 326 *i* P **P** 18 06 41.8 -2.7
comp=E,2.0nm,0.9s
MNK *i* P **P** 18 06 41.8 -2.7
comp=N,11nm,0.8s
MNK *i* P **P** 18 06 41.8 -2.7
comp=Z,15nm,1.0s
MNK *i* pP pP 18 07 29.5 -5.8
MNK *i* PP **PP** 18 09 31.5 -3.1
MNK *i* PPP PPP 18 11 18.0
MNK *i* S **S** 18 16 01.4 -1.7
MNK *i* sS sS 18 17 25.9 -7.7
MNK *i* SS **SS** 18 20 55.0 -0.2
MNK *i* SSS SSS 18 24 23.9
MNK *i* LRM MLR 18 42 11.9
comp=Z,115nm,11.8s
MNK *i* LRM MLR 18 42 16.9
comp=E,12nm,11.2s
MNK *i* LRM MLR 18 42 16.9
comp=N,98nm,15.1s
SUMG Summit 74.93 359 *i* P **P** 18 06 46.9 +2.1
comp=N,40nm,0.9s
SUMG Summit 74.93 359 *i* P **P** 18 06 46.9 +2.1
SUMG pmax pmax
comp=Z,40nm,0.9s
SUMG Summit 74.93 359 P **P** 18 06 46.5 +1.7
SUMG Summit 74.93 359 *i* P **P** 18 06 47.0 +2.1
SUMG IAmb IAmb 18 06 47.9
comp=Z,40nm,0.9s
E09A Wood Farm, Sta 74.94 44 P **P** 18 06 46.6 +1.7
E09A IAmb IAmb 18 06 47.6
comp=Z,14nm,0.9s
IDID Didziasalis 74.95 327 *e*P **P** 18 06 45.9 +1.1
N02D Trinity Center 74.96 51 P 18 06 47.3
baz=300,SNR=9.2
KCPM Cahto Peak 75.03 52 P **P** 18 06 47.8 +2.1
ISAL Salakas 75.08 327 *e*P **P** 18 06 46.4 +0.8
G08A Pilot Rock 75.10 46 P **P** 18 06 47.5 +1.5
M04C Macdoel 75.11 50 P 18 06 48.0
baz=301,SNR=15
IIGN Ignalina 75.17 327 *e*P **P** 18 06 47.2 +1.2
NACGM Naroch 75.17 326 *i* P **P** 18 06 46.3 +0.3
NACGM *i* P **P** 18 06 46.3 +0.3
NACGM *i* P **P** 18 06 46.3 +0.3
NACGM *i* pP **pP** 18 07 33.5 -3.4
NACGM *i* PP **PP** 18 09 31.4 -5.4
NACGM *i* PPP PPP 18 11 25.9
NACGM *i* S S 18 15 56.7 -10
NACGM *i* sS **sS** 18 17 33.1 -3.7
NACGM *i* SS SS 18 20 43.9 -16
NACGM *i* SSS SSS 18 24 18.9
K05A Summer Lake 75.23 49 P **P** 18 06 48.8 +1.9
WDC Whiskeytown Da 75.27 51 P **P** 18 06 48.7 +1.8
WDC pmax pmax
comp=Z,8.0nm,1.1s
WDC Whiskeytown Da 75.27 51 P **P** 18 06 48.6 +1.8
O02D Mt. Diablo Mer 75.31 52 P 18 06 48.8
baz=300,SNR=8.4
I07A Izee 75.40 47 P **P** 18 06 49.2 +1.5
I07A IAmb IAmb 18 06 50.5
comp=Z,12nm,1.5s
SLIT Slitere, Latvi 75.50 330 *e*P **P** 18 06 47.9 +0.1
F10A Beach Ranch, E 75.77 44 P **P** 18 06 50.8 +1.0
F10A IAmb IAmb 18 06 52.7
comp=Z,5.3nm,0.7s
UPP Uppsala 75.89 334 *e*P **P** 18 06 50.4 +0.4
O03E Paynes Creek 75.90 51 P 18 06 51.5
baz=301
WALA Waterton Lakes 75.96 40 P **P** 18 06 52.2 +1.4
MOD Modoc Plateau 76.03 49 P **P** 18 06 52.8 +1.3
MOD IAmb IAmb 18 06 54.0
comp=Z,7.1nm,0.7s
PABE Paberze 76.10 328 *e*P **P** 18 06 52.0 +0.8
BMO Blue Mountains 76.32 45 P **P** 18 06 54.2 +1.3
BMO Blue Mountains 76.32 45 P **P** 18 06 54.2 +1.3
BMO IAmb IAmb 18 06 55.5
comp=Z,11nm,0.7s
J08A Circle Bar Ran 76.41 47 P **P** 18 06 55.3 +1.9
AKASG Malin Array Be 76.43 322 P **P** 18 06 53.2 0.0
comp=Z,7.5nm,0.4s,baz=50,slow=6.3,SNR=60
AKASG Malin Array Be 76.43 322 *i* P **P** 18 06 53.0 -0.2
AKASG pmax pmax
comp=Z,8.0nm,0.4s
AKASG Malin Array Be 76.43 322 P **P** 18 06 52.6 -0.6
AKBB Malin Array Si 76.43 322 *ce*P **P** 18 06 53.2 0.0
AKBB Malin Array Si 76.43 322 P **P** 18 06 52.7 -0.5
KIEV Kiev 76.44 322 P **P** 18 06 52.0 -1.3
ORV Oroville 76.48 52 P **P** 18 06 54.4 +0.7
ORV pmax pmax
comp=Z,8.0nm,1.1s
ORV Oroville 76.48 52 P **P** 18 06 54.4 +0.7
JTMT Jette 76.49 42 P **P** 18 06 54.6 +0.8
PBUR Paburge 76.67 329 *e*P **P** 18 06 55.2 +0.7
MARD Mardin 76.74 306 P **P** 18 06 54.9 -0.5
WVOR Wild Horse Val 76.80 48 P **P** 18 06 57.1 +1.4
WVOR pmax pmax
comp=Z,14nm,1.2s
WVOR Wild Horse Val 76.80 48 P **P** 18 06 57.1 +1.4
WVOR IAmb IAmb 18 06 58.5
comp=Z,14nm,1.2s
BEKR Beckworth 77.06 51 P **P** 18 06 58.3 +1.1
BEKR IAmb IAmb 18 06 59.5
comp=Z,12nm,0.8s
NC405 NORSAR Array S 77.11 337 P **P** 18 06 57.5 +0.7
HFS Hagfors 77.13 335 P **P** 18 06 57.3 +0.3
comp=Z,9.2nm,0.4s,baz=90,slow=3.0,SNR=89
NC303 NORSAR Array S 77.14 337 P **P** 18 06 57.1 +0.1
AFDM Forest Hills D 77.14 52 P **P** 18 06 55.6 -1.9
MSO Missoula 77.19 42 P **P** 18 06 58.4 +0.7
MSO Missoula 77.20 42 P 18 06 58.8
baz=304
NB201 NORSAR Array S 77.29 337 P **P** 18 06 58.0 +0.1
NC204 NORSAR Array S 77.30 337 P **P** 18 06 58.3 +0.3
NB2 NORSAR Subarra 77.33 337 P **P** 18 06 58.1 0.0
comp=Z,4.8nm,0.5s,baz=43,slow=5.3
NOA NORSAR Array B 77.33 337 P **P** 18 06 58.4 +0.3
comp=Z,21nm,0.5s,baz=56,slow=7.0,SNR=40
SUW Suwalki 77.39 327 *e*P **P** 18 06 58.5 0.0
NC602 NORSAR Array S 77.44 336 P **P** 18 06 58.5 -0.2
NC602 IAmb IAmb 18 07 13.3
comp=Z,10nm,1.0s
NORES NORESS Array B 77.44 336 P **P** 18 06 58.7 0.0
NORES pmax pmax
comp=Z,3.0nm,0.3s
NBO00 NORSAR Array S 77.48 337 P **P** 18 06 58.8 -0.2
NAO01 NORSAR Array S 77.58 337 P **P** 18 06 59.7 +0.2
PAHR Pah Rah Range 77.78 51 P **P** 18 07 02.2 +1.0
PAHR IAmb IAmb 18 07 03.5
comp=Z,9.3nm,0.8s
SAO San Andreas Ge 77.97 54 P **P** 18 07 01.4 -0.7
SAO pmax pmax
comp=Z,7.0nm,1.0s
SAO San Andreas Ge 77.97 54 P **P** 18 07 01.4 -0.7
PNTR Pine Nut 77.97 51 P **P** 18 07 02.6 +0.2
PNTR IAmb IAmb 18 07 05.0
comp=Z,11nm,0.8s
MFID Camas Ranch 78.00 46 P **P** 18 07 03.2 +0.9
MFID IAmb IAmb 18 07 05.0
comp=Z,9.9nm,0.9s
CMB Columbia Colle 78.02 53 P **P** 18 07 02.8 +0.4
CMB pmax pmax
comp=Z,20nm,1.4s
CMB Columbia Colle 78.02 53 P **P** 18 07 02.8 +0.4
CMB IAmb IAmb 18 07 04.7
comp=Z,20nm,1.4s
ILULI Ilulissat 78.06 4 P **P** 18 07 02.5 +0.6
ILULI pmax pmax
comp=Z,27nm,1.5s
ILULI Ilulissat 78.06 4 P **P** 18 07 02.5 +0.6
ILULI IAmb IAmb 18 07 15.6
comp=Z,27nm,1.5s
YERR Yerington 78.27 51 P **P** 18 07 05.1 +1.2
YERR IAmb IAmb 18 07 06.4
comp=Z,13nm,0.9s
FFC Flin Flon 78.38 31 P **P** 18 07 04.4 +0.4
FFC pmax pmax
comp=Z,8.0nm,1.1s
FFC Flin Flon 78.38 31 P **P** 18 07 04.4 +0.4
FFC IAmb IAmb 18 07 05.7
comp=Z,8.3nm,1.1s
WAKR Walker 78.39 52 P **P** 18 07 03.8 -0.8
WAKR IAmb IAmb 18 07 06.9
comp=Z,5.1nm,0.6s
SORM Soroca 78.40 320 ⇑P **P** 18 07 04.1 -0.1
SORM Soroca 78.40 320 P **P** 18 07 04.0 -0.1
ICESG Greenland Ices 78.45 359 *i* P **P** 18 07 06.1 +1.6
ICESG IAmb IAmb 18 07 07.1
comp=Z,13nm,0.7s
HRY Holter Researc 78.45 42 P **P** 18 07 04.9 +0.2
LRM Limekiln Ridge 78.62 43 P **P** 18 07 06.9 +1.1
FCC Fort Churchill 78.71 25 P **P** 18 07 06.0 +0.4
FCC pmax pmax
comp=Z,7.0nm,0.7s
FCC Fort Churchill 78.71 25 P **P** 18 07 06.0 +0.4
FCC IAmb IAmb 18 07 06.8
comp=Z,7.4nm,0.7s
HLID Hailey 78.77 45 P **P** 18 07 08.2 +1.7
HLID Hailey 78.77 45 P 18 07 08.4
baz=305,SNR=9.1
DLMT Dillon 78.80 43 P **P** 18 07 08.2 +1.5
DLMT IAmb IAmb 18 07 09.2
comp=Z,14nm,0.8s
EGMT Eagleton 78.81 40 P **P** 18 07 07.7 +1.2
EGMT Eagleton 78.81 40 P 18 07 07.8
baz=307,SNR=11
RYN Ryan 78.93 51 P **P** 18 07 07.4 -0.1
RYN IAmb IAmb 18 07 10.0
comp=Z,7.4nm,0.8s
BCYI Bear Canyon 78.94 44 P **P** 18 07 08.3 +0.8
MCMT McKenzie Canyo 78.97 44 P **P** 18 07 08.8 +1.1
KVN Kaiserville 78.98 51 P **P** 18 07 09.2 +1.4
KVN pmax pmax
comp=Z,14nm,0.7s
KVN Kaiserville 78.98 51 P **P** 18 07 09.2 +1.4
MDPB Devils Postpil 79.10 52 P **P** 18 07 07.7 -0.9
LHV Little Huntoon 79.15 51 P **P** 18 07 10.5 +2.1
LHV IAmb IAmb 18 07 11.6
comp=Z,7.9nm,0.9s
NVAR Mina Array Bea 79.18 51 P **P** 18 07 10.7 +1.7
comp=Z,6.2nm,0.7s,baz=288,slow=5.3,SNR=60
NVAR Mina Array Bea 79.18 51 P **P** 18 07 09.4 +0.5
BOZ Bozeman (W) 79.22 42 P **P** 18 07 09.2 +0.3
BOZ pmax pmax
comp=Z,8.0nm,0.7s
BOZ Bozeman (W) 79.22 42 P **P** 18 07 09.2 +0.3
BOZ IAmb IAmb 18 07 11.3
comp=Z,7.7nm,0.7s
BOZ Bozeman (W) 79.22 42 P 18 07 10.3
baz=306,SNR=7.5
GAZ Gaziantep 79.23 307 P **P** 18 07 08.6 -0.5
GAZ IAmb IAmb 18 07 10.3
comp=Z,7.0nm,0.7s
NV11 Mina Array Sit 79.28 51 P **P** 18 07 10.2 +0.8
PAGB Antelope Grade 79.34 54 P **P** 18 07 11.2 +1.6
PAGB IAmb IAmb 18 07 12.3
comp=Z,15nm,0.8s
SOCY Socotra 79.34 278 P **P** 18 07 08.2 -1.8
SOCY IAmb IAmb 18 07 08.7
comp=Z,7.4nm,0.8s
QLMT Earthquake Lak 79.78 43 P **P** 18 07 12.9 +0.9
ELK Elko 79.86 48 P **P** 18 07 14.4 +1.8
comp=Z,4.9nm,0.5s,baz=310,slow=5.7,SNR=21
ELK Elko 79.86 48 P **P** 18 07 14.1 +1.5
ELK IAmb IAmb 18 07 14.9
comp=Z,5.5nm,0.5s
YHL Hebgen Lake 79.91 43 P **P** 18 07 14.5 +1.6
YHL IAmb IAmb 18 07 15.8
comp=Z,11nm,0.9s
YHB Horse Butte 79.96 43 P **P** 18 07 14.5 +1.4
YHB IAmb IAmb 18 07 16.0
comp=Z,13nm,0.8s
VES Vestal, Richgr 80.08 54 P 18 07 14.7
baz=303
TPH Tonopah 80.09 51 P **P** 18 07 15.0 +1.2
TPH pmax pmax
comp=Z,40nm,1.0s
TPH Tonopah 80.09 51 P **P** 18 07 15.0 +1.2
PKM Mcpherson Peak 80.09 55 P 18 07 15.2
baz=303
YHH Holmes Hill 80.14 43 P **P** 18 07 15.9 +1.9
YMR Madison River 80.14 43 P **P** 18 07 15.0 +1.0
YMR IAmb IAmb 18 07 17.1
comp=Z,10nm,0.8s
BR131 Keskin Array S 80.16 311 P **P** 18 07 14.2 +0.1
BR131 pmax pmax
comp=Z,13nm,0.8s
BR131 Keskin Array S 80.16 311 P **P** 18 07 14.2 +0.1
BR131 IAmb IAmb 18 07 15.2
comp=Z,13nm,0.8s
BRTR Keskin Array B 80.16 311 P **P** 18 07 14.4 +0.3
comp=Z,6.5nm,0.6s,baz=105,slow=4.4,SNR=39
BRTR Keskin Array B 80.16 311 P **P** 18 07 13.8 -0.3
YNR Norris Junctio 80.28 43 P **P** 18 07 14.3 -0.4
YNR IAmb IAmb 18 07 18.4
comp=Z,7.8nm,0.9s
SFJD Kangerlussuaq 80.28 4 P **P** 18 07 15.0 +1.0
comp=Z,9.0nm,0.8s,baz=327,slow=6.7,SNR=4.4
CFR Carcaliu 80.29 318 ⇑P **P** 18 07 14.2 -0.2
TESR Tescani 80.30 320 ⇑P **P** 18 07 14.3 -0.2
BUR08 Bucovina Ar. S 80.38 321 P **P** 18 07 15.1 0.0
BUR08 IAmb IAmb 18 07 17.0
comp=Z,11nm,1.3s
BURAR Bucovina Array 80.39 321 ⇑P **P** 18 07 15.7 +0.6
BURAR Bucovina Array 80.39 321 P **P** 18 07 15.6 +0.6
BURAR Bucovina Array 80.39 321 P **P** 18 07 15.7 +0.6
RAYN Ar Rayn 80.39 292 P **P** 18 07 15.5 0.0
RAYN pmax pmax
comp=Z,15nm,0.7s
RAYN Ar Rayn 80.39 292 P **P** 18 07 15.5 0.0
KWP Kalwaria Pacla 80.40 324 P **P** 18 07 15.4 +0.4
KWP pmax pmax
comp=Z,30nm,1.1s
KWP Kalwaria Pacla 80.40 324 P **P** 18 07 15.3 +0.4
CWC Cottonwood Cre 80.43 53 P 18 07 16.5
baz=304
YNE Yellowstone No 80.49 42 P **P** 18 07 17.5 +1.7
LKWY Lake 80.53 43 P P 18 07 19.0 +2.9
LKWY pmax pmax
comp=Z,15nm,0.9s
LKWY Lake 80.53 43 P P 18 07 19.0 +2.9
LKWY IAmb IAmb 18 07 20.5
comp=Z,15nm,0.8s
H17A Grant Village 80.53 43 P P 18 07 19.3 +3.1
H17A Grant Village 80.53 43 P 18 07 19.6
baz=307,SNR=16
ISA Isabella, Lake 80.59 54 P 18 07 16.8
baz=304
FLWY Flagg Ranch 80.65 43 P **P** 18 07 19.1 +2.4
FLWY IAmb IAmb 18 07 20.4
comp=Z,12nm,1.0s
VRI Vrincioaia 80.66 319 ⇑P **P** 18 07 17.7 +1.2
VRI Vrincioaia 80.66 319 P **P** 18 07 17.6 +1.2
PLOR Plostina 80.71 319 ⇑P **P** 18 07 18.8 +2.0
PLOR Plostina 80.71 319 P **P** 18 07 18.7 +2.0
HVU Hansel Valley 80.78 46 P **P** 18 07 19.1 +1.7
HVU pmax pmax
comp=Z,11nm,0.7s
HVU Hansel Valley 80.78 46 P **P** 18 07 19.1 +1.7
HVU IAmb IAmb 18 07 20.2
comp=Z,11nm,0.7s
RLMT Red Lodge 80.83 42 P **P** 18 07 18.3 +0.6
RLMT IAmb IAmb 18 07 21.2
comp=Z,14nm,1.4s
RLMT Red Lodge 80.84 42 P 18 07 19.5
baz=308,SNR=7.5
LOHW Long Hollow 80.98 44 P **P** 18 07 19.3 +0.8
R11A Troy Canyon, C 81.00 50 P **P** 18 07 18.2 -0.4
R11A IAmb IAmb 18 07 20.6
comp=Z,6.5nm,0.6s
R11A Troy Canyon, C 81.00 50 P 18 07 20.2
baz=305,SNR=14
MPMC Manual Prospec 81.03 53 P 18 07 20.1
baz=304,SNR=7.4
KOLS Kolonicke sedl 81.07 323 *e*P **P** 18 07 18.6 0.0
KOLS pmax pmax
comp=Z,5.0nm,1.2s
KOLS Kolonicke sedl 81.07 323 *e*P **P** 18 07 18.6 0.0
ICOR Ion Corvin 81.12 317 ⇑P **P** 18 07 19.4 +0.6
BGU Big Grassy Mou 81.13 47 P **P** 18 07 19.5 +0.3
FURC Furnace Creek, 81.22 52 P 18 07 21.0
baz=304
LRMC Laurel Mtn Rad 81.23 53 P 18 07 20.8
baz=304,SNR=5.1
BMR Baia Mare 81.26 322 ⇑P **P** 18 07 21.0 +1.5
MDUB Mudurnu 81.26 313 P **P** 18 07 19.4 -0.5
MLR Muntele Rosu 81.32 319 ⇓P **P** 18 07 21.6 +1.5
MLR Muntele Rosu 81.32 319 P **P** 18 07 21.5 +1.5
DOPR Dopca 81.33 320 ⇑P **P** 18 07 21.0 +1.0
EDW2 Edwards Air Fo 81.35 54 P 18 07 21.7
baz=304,SNR=6.7
TPNV Topopah Spring 81.36 52 P **P** 18 07 21.7 +1.2
TPNV pmax pmax
comp=Z,13nm,0.8s
TPNV Topopah Spring 81.36 52 P **P** 18 07 21.7 +1.2
TPNV IAmb IAmb 18 07 22.7
comp=Z,12nm,0.8s
TPNV Topopah Spring 81.36 52 P 18 07 21.6

baz=305,SNR=24
SPR3 Spring Creek 3 81.43 49 P P 18 07 21.4 +0.3
DGMT Dagmar 81.44 37 P 18 07 21.4
baz=311
OJC Ojcow 81.44 325 P P 18 07 20.1 -0.3
OJC pmax pmax
comp=Z,13nm,0.9s
OJC Ojcow 81.44 325 P P 18 07 20.1 -0.3
OJC IAmb IAmb 18 07 22.0
comp=Z,13nm,0.9s
CRVS Cervenica-Dubn 81.50 324 eP P 18 07 22.1 +1.2
CRVS pmax pmax
comp=Z,12nm,1.0s
CRVS Cervenica-Dubn 81.50 324 eP P 18 07 22.0 +1.2
LAO LASA Array 81.53 39 P 18 07 22.5
baz=309
DUG Dugway, Tooele 81.69 47 P P 18 07 23.5 +1.4
DUG pmax pmax
comp=Z,13nm,0.8s
DUG Dugway, Tooele 81.69 47 P P 18 07 23.5 +1.4
DUG IAmb IAmb 18 07 24.9
comp=Z,13nm,0.8s
DUG Dugway, Tooele 81.69 47 P 18 07 23.7
baz=306,SNR=12
CJR Cluj-Napoca 81.82 321 ⇑P P 18 07 23.4 +0.8
CJR Cluj-Napoca 81.82 321 P P 18 07 23.3 +0.8
VOIR 81.84 319 ⇑P P 18 07 23.6 +0.8
VOIR 81.84 319 P P 18 07 23.5 +0.8
PRN Pahroc Range 81.89 51 P P 18 07 23.3 0.0
GSC Goldstone, Bar 81.92 53 P P 18 07 22.6 -0.8
GSC pmax pmax
comp=Z,4.0nm,0.7s
GSC Goldstone, Bar 81.92 53 P P 18 07 22.6 -0.8
GSC Goldstone, Bar 81.92 53 P 18 07 24.8
baz=304
BFSC Mount Baldy Ra 81.94 54 P 18 07 24.9
baz=304
TCUT Toone Canyon 82.00 46 P P 18 07 23.7 -0.2
TCUT IAmb IAmb 18 07 26.6
comp=Z,11nm,0.7s
PSUT Pine Spring 82.00 49 P P 18 07 24.6 +0.7
PSUT IAmb IAmb 18 07 25.8
comp=Z,4.7nm,0.6s
SCI2 San Clemente I 82.02 56 P 18 07 24.8
baz=304
BW06 Boulder Array 82.11 44 P P 18 07 24.2 -0.2
PD31 Pinedale Array 82.11 44 P P 18 07 24.8 +0.3
PDAR Pinedale Array 82.11 44 P P 18 07 25.4 +1.0
comp=Z,3.3nm,0.7s,baz=278,slow=3.0,SNR=30
PDAR Pinedale Array 82.11 44 P P 18 07 24.7 +0.3
BW06 Boulder Array 82.11 44 P 18 07 25.4
baz=308,SNR=6.6
ARR Arges 82.12 320 ⇓P P 18 07 25.5 +1.4
JLU Jordanelle 82.28 46 P P 18 07 25.0 -0.4
NLU North Lily Min 82.29 47 P P 18 07 24.7 -0.6
NLU IAmb IAmb 18 07 27.6
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 82.31 325 eP P 18 07 26.3 +1.2
LANS pmax pmax
comp=Z,4.0nm,0.6s
LANS Liptovska Anna 82.31 325 eP P 18 07 26.3 +1.2
SHPR Sheep Range 82.33 51 P P 18 07 25.2 -0.4
HEC Hector,Ludlow 82.50 53 P 18 07 27.4
baz=305
MPU Maple Canyon 82.52 47 P P 18 07 25.5 -1.0
MPU IAmb IAmb 18 07 29.2
comp=Z,8.5nm,0.7s
MORC Moravsky Berou 82.81 326 ⇑P P 18 07 28.2 +0.6
MORC Moravsky Berou 82.81 326 eP P 18 07 28.1 +0.5
MORC Moravsky Berou 82.81 326 P P 18 07 27.2 -0.4
MORC pmax pmax
comp=Z,14nm,1.3s
MORC Moravsky Berou 82.81 326 P P 18 07 27.2 -0.4
MORC IAmb IAmb 18 07 29.1
comp=Z,14nm,1.3s
CCUT Cedar City 82.89 50 P P 18 07 28.6 +0.1
CCUT IAmb IAmb 18 07 31.2
comp=Z,13nm,1.5s
BSEG Bad Segeberg 82.93 332 eP P 18 07 28.6 +0.5
comp=Z,15nm,1.1s,baz=42,slow=4.9
CHVC Chvalec 82.93 327 eP P 18 07 28.3 +0.1
PSZ Piszkesteto 82.93 324 ⇑P P 18 07 28.8 +0.5
KRLC Kraliky 82.95 327 eP P 18 07 27.8 -0.6
KRLC Kraliky 82.95 327 eP P 18 07 27.8 -0.6
DPC Dobruska-Polom 82.97 327 eP P 18 07 29.2 +0.7
DPC Dobruska-Polom 82.97 327 eP P 18 07 29.2 +0.7
GMRC Granite Mounta 82.99 53 P 18 07 30.0
baz=305
UPC Upice 83.01 327 eP P 18 07 28.9 +0.3
UPC Upice 83.01 327 eP P 18 07 28.9 +0.3
MVU Marysvale 83.06 48 P P 18 07 31.4 +2.0
VYHS Vyhne 83.07 325 eP P 18 07 30.0 +1.1
VYHS Vyhne 83.07 325 eP P 18 07 30.0 +1.1
MSU Marysvale 83.08 48 P P 18 07 31.4 +1.9
MSU Marysvale 83.08 48 P P 18 07 31.4 +1.9
GZR Gura Zlata 83.11 320 ⇑P P 18 07 29.1 -0.1
PFO Pinyon Flats O 83.11 54 P P 18 07 30.8 +1.2
comp=Z,7.9nm,0.8s,baz=293,slow=4.8,SNR=12
PFO Pinyon Flats O 83.11 54 P 18 07 30.6
baz=305,SNR=5.9
TPFO Pinon Flats 83.12 54 P 18 07 30.4
baz=305,SNR=5.9
BELC Belle Mtn. Jos 83.20 54 P 18 07 30.6
baz=305,SNR=6.2
TMUT Trail Mountain 83.22 47 P P 18 07 30.4 +0.2
LCMT Little Creek M 83.29 50 P P 18 07 31.2 +0.7
LCMT IAmb IAmb 18 07 33.1
comp=Z,6.5nm,0.8s
MTPU Mount Pierson 83.36 49 P P 18 07 32.4 +1.3
MTPU IAmb IAmb 18 07 34.2
comp=Z,8.7nm,1.0s
JAVC Velka Javorina 83.38 325 eP P 18 07 32.2 +1.6
P17A Butcher Ranch, 83.40 47 P P 18 07 29.8 -1.3
RDMU Red Mountain 83.44 46 P P 18 07 30.3 -1.0
RDMU IAmb IAmb 18 07 33.9
comp=Z,12nm,0.8s
Q16A Castle Valley 83.47 48 P P 18 07 31.4 0.0
Q16A IAmb IAmb 18 07 35.1
comp=Z,5.4nm,0.7s
BAR Barrett 83.49 55 P P 18 07 29.6 -1.9
BAR IAmb IAmb 18 07 33.4
comp=Z,11nm,1.1s
MONP2 Monument Peak 83.55 55 P 18 07 32.8
baz=305
KNB Kanab 83.56 50 P P 18 07 33.5 +1.6
KNB pmax pmax
comp=Z,10.0nm,0.7s
KNB Kanab 83.56 50 P P 18 07 33.5 +1.6
KNB IAmb IAmb 18 07 34.7
comp=Z,10nm,0.7s
BZS Buzias 83.58 321 ⇑P P 18 07 31.4 -0.1
BZS Buzias 83.58 321 P P 18 07 31.4 -0.1
VRAC Vranov 83.58 326 P P 18 07 32.0 +0.6
comp=Z,7.7nm,0.6s,baz=73,slow=3.6,SNR=10
VRAC Vranov 83.58 326 ⇑P P 18 07 31.9 +0.3
VRAC Vranov 83.58 326 eP P 18 07 32.1 +0.6
HERR Herculane 83.63 320 ⇑P P 18 07 31.6 -0.3
PVCC Panska Ves 83.64 328 eP P 18 07 32.6 +0.8
PVCC Panska Ves 83.64 328 eP P 18 07 32.6 +0.8
BRG Berggiesshubel 83.67 329 i P P 18 07 32.2 +0.3
BRG Amp 18 07 33.3
comp=Z,20nm,1.3s
BRG Berggiesshubel 83.67 329 eP P 18 07 32.3 +0.3
comp=Z,20nm,1.3s,baz=42,slow=4.9
IRM Iron Mountain 83.69 53 P 18 07 33.6
baz=306
SMOL Smolenice 83.73 325 eP P 18 07 33.7 +1.4
SMOL pmax pmax
comp=Z,6.0nm,0.7s
SMOL Smolenice 83.73 325 eP P 18 07 33.7 +1.4
SRU San Rafael Swe 83.75 47 P P 18 07 34.1 +1.3
SRU pmax pmax
comp=Z,17nm,0.9s
SRU San Rafael Swe 83.75 47 P P 18 07 34.1 +1.3
FLTG Flechtingen 83.75 331 eP P 18 07 32.2 0.0
comp=Z,14nm,0.7s,baz=42,slow=4.9
CLL Collm 83.77 329 i P P 18 07 32.5 +0.1
comp=Z,24nm,1.1s
CLL Collm 83.77 329 i P P 18 07 32.5 +0.1
CLL pmax pmax
comp=Z,24nm,1.1s
CLL Collm 83.77 329 P P 18 07 32.3 -0.1
CLL Collm 83.77 329 eP P 18 07 32.6 +0.1
comp=Z,24nm,1.1s,baz=42,slow=4.9

BC3 Big Chuckawall 83.77 54 P 18 07 34.0
baz=305
KRUC Moravsky 83.84 326 eP P 18 07 33.2 +0.3
FBE Freiberg 83.89 329 eP P 18 07 33.7 +0.6
comp=Z,15nm,0.9s,baz=42,slow=4.9
IKP In-Ko-Pah, Jac 83.90 55 P 18 07 34.4
baz=305
MODS Modra-Piesok 83.90 325 eP P 18 07 32.1 -1.1
MODS Modra-Piesok 83.90 325 eP P 18 07 32.1 -1.1
K22A Casper 83.93 42 P P 18 07 34.3 +0.6
K22A IAmb IAmb 18 07 35.5
comp=Z,8.5nm,0.7s
K22A Casper 83.93 42 P 18 07 34.6
baz=310
SWSC Sam W. Stewart 83.94 55 P 18 07 34.5
baz=305
PRU Pruhonice 84.04 328 eP P 18 07 33.8 0.0
PRU Pruhonice 84.04 328 eP P 18 07 33.8 0.0
MDVR Moldovita 84.08 320 ⇑P P 18 07 33.9 -0.2
ULM Lac du Bonnet 84.17 32 P P 18 07 35.0 +0.5
comp=Z,2.5nm,0.5s,baz=348,slow=5.5,SNR=6.4
ULM Lac du Bonnet 84.17 32 P P 18 07 35.0 +0.5
U15A North Rim 84.25 50 P P 18 07 36.3 +0.8
U15A IAmb IAmb 18 07 38.1
comp=Z,5.5nm,0.8s
ELL Elmali 84.28 310 P P 18 07 35.0 -0.5
ELL pmax pmax
comp=Z,48nm,0.6s
ELL Elmali 84.28 310 P P 18 07 35.0 -0.5
PDMCI Parker Dam,Lak 84.28 53 P 18 07 36.4
baz=306
RSSD Black Hills 84.36 40 P P 18 07 36.1 +0.2
RSSD pmax pmax
comp=Z,5.0nm,0.7s
RSSD Black Hills 84.36 40 P P 18 07 36.1 +0.2
RSSD IAmb IAmb 18 07 38.6
comp=Z,5.1nm,0.7s
RSSD Black Hills 84.36 40 P 18 07 36.5
baz=311
NEUB Neuenburg 84.36 330 eP P 18 07 35.6 +0.2
comp=Z,24nm,1.2s,baz=42,slow=4.9
CLZ Clausthal 84.48 331 eP P 18 07 36.6 +0.5
comp=Z,19nm,1.1s,baz=42,slow=4.9
O20A White River Ci 84.51 45 P P 18 07 36.9 +0.2
O20A IAmb IAmb 18 07 38.9
comp=Z,10nm,0.8s
O20A White River Ci 84.51 45 P 18 07 37.5
baz=309
GLA Glamis 84.55 54 P 18 07 37.9
baz=306
VTS Vitosha 84.65 318 ⇑P P 18 07 39.0 +1.8
CONA Conrad Observa 84.89 326 eP P 18 07 39.4 +1.1
comp=Z,3.4nm,0.6s
CKRC Cesky Krumlov 84.98 327 eP P 18 07 38.3 -0.3
KHC Kasperske Hory 85.09 327 eP P 18 07 39.2 0.0
KHC Kasperske Hory 85.09 327 eP P 18 07 39.2 0.0
PV10 Paradox Valley 85.12 47 P P 18 07 40.1 +0.4
PV14 Lion Creek, Pa 85.13 47 P P 18 07 41.3 +1.5
PV14 IAmb IAmb 18 07 42.3
comp=Z,14nm,0.9s
IBBN Ibbenburen 85.17 332 eP P 18 07 39.6 +0.3
comp=Z,26nm,1.0s,baz=42,slow=4.9
PV22 Blue Mesa, Par 85.17 47 P P 18 07 39.4 -0.7
PV22 IAmb IAmb 18 07 43.3
comp=Z,6.5nm,1.0s
PV20 West Nyswonger 85.19 47 P P 18 07 39.4 -0.6
PV04 Paradox Valley 85.19 47 P P 18 07 40.7 +0.6
PV04 IAmb IAmb 18 07 43.4
comp=Z,10nm,1.0s
PV19 Morning Glory 85.19 47 P P 18 07 39.9 -0.3
PV19 IAmb IAmb 18 07 42.6
comp=Z,14nm,0.9s
PV17 East Wray Mesa 85.23 47 P P 18 07 41.0 +0.7
PV16 Nyswonger Mesa 85.23 47 P P 18 07 41.3 +1.0
GEC2 GERESS Array S 85.24 327 eP P 18 07 39.8 -0.2
comp=Z,2.5nm,0.8s,baz=42,slow=4.9
GERES GERESS Array B 85.24 327 P P 18 07 39.9 -0.1
comp=Z,2.1nm,0.7s,baz=46,slow=5.8,SNR=17
PV05 Paradox Valley 85.27 47 P P 18 07 41.9 +1.4
PV05 IAmb IAmb 18 07 42.9
comp=Z,8.1nm,0.8s
PV11 David Mesa, Pa 85.27 47 P P 18 07 40.6 +0.2
PV18 Skein Mesa, Pa 85.28 47 P P 18 07 41.5 +1.0
PV18 IAmb IAmb 18 07 43.0
comp=Z,10nm,1.1s
PV12 Saucer Basin, 85.30 47 P P 18 07 42.0 +1.3
PV12 IAmb IAmb 18 07 43.9
comp=Z,6.7nm,0.8s
PV03 Paradox Valley 85.31 47 P P 18 07 39.9 -0.8
PV03 IAmb IAmb 18 07 43.2
comp=Z,9.0nm,1.0s
N23A Red Feather La 85.38 44 P 18 07 42.7
baz=310
PV13 Radium Mtn., P 85.39 47 P P 18 07 41.2 +0.1
PV13 IAmb IAmb 18 07 44.1
comp=Z,6.6nm,0.8s
WUAZ Wupatki 85.39 50 P P 18 07 42.6 +1.5
WUAZ IAmb IAmb 18 07 44.0
comp=Z,6.9nm,1.1s
WUAZ Wupatki 85.39 50 P 18 07 42.2
baz=307
SMCO Snowmass 85.87 45 P P 18 07 44.5 +0.8
SMCO IAmb IAmb 18 07 46.3
comp=Z,6.0nm,1.0s
ISCO Idaho Springs 86.28 44 P 18 07 46.8
baz=310
EKA Eskdalemuir Ar 86.45 339 P P 18 07 46.0 +0.4
214A Organ Pipe Nat 86.57 54 P 18 07 48.1
baz=307
SUSD Miller 86.83 37 P 18 07 48.7
baz=314
S22A 4UR Ranch, Cre 86.87 46 P 18 07 49.8
baz=310
Q24A Divide 87.10 45 P 18 07 50.5
baz=311
F33A 5 Mile Ranch, 87.16 35 P P 18 07 50.0 +0.7
F33A IAmb IAmb 18 07 51.2
comp=Z,14nm,0.9s
ABTA Abfaltersbach 87.32 326 eP P 18 07 49.5 -0.7
comp=Z,3.8nm,0.8s
OGNE Ogallala 87.58 42 P 18 07 51.8
baz=313
SDCO Great Sand Dun 87.68 46 P 18 07 53.5
baz=310
TUC Tucson 87.73 53 P 18 07 54.4
baz=308
EYMN Ely 87.81 31 P P 18 07 52.8 +0.4
EYMN IAmb IAmb 18 07 54.1
comp=Z,9.5nm,1.1s
EYMN Ely 87.81 31 P 18 07 53.2
baz=320
FETA Feichten 87.94 327 eP P 18 07 52.3 -0.9
comp=Z,2.2nm,0.6s
DAVOX Davos/Dischmat 88.50 328 P P 18 07 55.8 0.0
comp=Z,6.0nm,0.7s,baz=42,slow=7.4,SNR=8.1
ECSD EROS Data Cent 88.52 37 P P 18 07 56.5 +0.7
ECSD IAmb IAmb 18 07 57.4
comp=Z,7.8nm,0.9s
ECSD EROS Data Cent 88.52 37 P 18 07 56.4
baz=316
T25A Trinidad 88.73 46 P 18 07 58.4
baz=311
E38A The Farm, Brul 88.80 32 P P 18 07 57.5 +0.5
G40A Rib Lake 90.44 32 P P 18 08 05.3 +0.6
G40A IAmb IAmb 18 08 06.1
comp=Z,5.2nm,0.7s
MATQ Matagami 91.64 23 P 18 08 11.2
baz=330
MNTX Cornudas Mount 91.67 50 P 18 08 11.4
baz=311
MSTX Muleshoe 91.83 47 P 18 08 12.3
baz=312
KSU1 Kansas State U 91.85 40 P 18 08 11.9
baz=316
AMTX Amarillo 91.88 46 P P 18 08 11.9 +0.2
AMTX Amarillo 91.88 46 P 18 08 13.0
baz=313
LSQQ Lebel-sur-Quev 92.46 23 P 18 08 15.2
baz=330
WMOK Wichita Mounta 93.71 44 P 18 08 21.1
baz=314
TX31 Lajitas Ar. Si 94.33 51 P P 18 08 24.4 +1.3
TX32 Lajitas Array 94.33 51 P P 18 08 24.2 +1.2
TXAR Lajitas Array 94.33 51 P P 18 08 24.5 +1.5
comp=Z,5.1nm,0.6s,baz=295,slow=2.9,SNR=43
D55A Sainte-Anne-du 94.74 23 P 18 08 25.2
baz=332
ALGO Algonquin Park 94.78 25 P 18 08 24.9
baz=330
D56A ZEC Mazanza, M 94.94 22 P 18 08 25.8
baz=332
G54A Lake Saint Pet 95.25 25 P 18 08 27.4
baz=329
CCM Cathedral Cave 95.45 38 P 18 08 28.3
baz=320
D58A Chemin du LacG 95.49 21 P 18 08 28.6
baz=334
H53A Bobcaygeon 95.78 26 P 18 08 29.3
baz=329
U40A Yellville 95.88 40 P 18 08 29.8
baz=318
E58A La Victoria 96.02 22 P 18 08 30.9
baz=333
D60A Saint Jean D'O 96.24 20 P 18 08 31.7
baz=335
G57A Newington 96.58 23 P 18 08 34.0
baz=332
F59A Saint Guilaume 96.64 22 P 18 08 34.0
baz=334
F61A St Evariste 97.07 21 P 18 08 36.0
baz=335
J56A Wolcott 97.53 26 P 18 08 37.9
baz=330
L57A Andrews Acres 98.64 26 P 18 08 43.0
baz=330
O56A Blue Knob Stat 99.46 28 P 18 08 47.2
baz=329
J63A Strafford 99.48 22 P 18 08 47.0
baz=335
K62A Royalston 99.66 23 P 18 08 48.0
baz=334
TORD Torodi Ar. Bea 118.77 311 PKP PKiKP 18 13 50.1 -0.7
comp=Z,1.0nm,0.5s,baz=55,slow=1.5,SNR=7.7
TORD Torodi Ar. Bea 118.77 311 PKiKP 18 13 50.0 -0.8
DBIC Dimbokro 127.84 312 PKP PKiKP 18 14 07.9 -0.9
comp=Z,1.4nm,0.4s,baz=347,slow=2.8,SNR=4.4
TIC Toumodi 127.97 312 ePKP1 PKiKP 18 14 08.2 -0.8
KIC Kosan Boka 128.01 312 ePKP1 PKiKP 18 14 08.4 -0.7
comp=Z,11nm,1.0s
LIC Lamto 128.29 312 ePKP1 PKiKP 18 14 09.2 -0.5
comp=Z,28nm,1.6s
SNAA Sanae 136.09 196 PKPdf PKiKP 18 14 21.6 -2.1
VNA2 Neumayer--Watz 137.67 196 PKPdf PKiKP 18 14 25.7 -1.2
VNA3 Neumayer Olymp 137.94 195 PKPdf PKiKP 18 14 27.2 -0.3
LPAZ La Paz 150.51 63 PKPbc PKiKP 18 14 56.2 +0.6
comp=Z,18nm,0.8s,baz=345,slow=3.5,SNR=60
LPAZ La Paz 150.51 63 PKIKP PKiKP 18 14 55.5 -0.2
LPAZ La Paz 150.51 63 PKiKP 18 14 55.5 -0.2
PLCA Paso Flores 155.12 117 PKPbc PKPbc 18 15 04.7
comp=Z,1.5nm,0.8s,baz=40,slow=1.2,SNR=3.6
PLCA PKPab **PKPab 18 15 21.7 +1.0**
comp=Z,1.8nm,0.7s,baz=236,slow=5.4,SNR=4.7
PLCA Paso Flores 155.12 117 PKPdf 18 15 04.2 +9.4
BDFB Brasilia 161.81 22 PKPab PKPab 18 15 51.6 +1.5
comp=Z,2.6nm,0.7s,baz=262,slow=2.2,SNR=4.9

*KOLA **05** 18:00:25.4, 66.65N×20.48E, h0km, ML2.6, Sweden, Lapland*
*UPP **05** 18:00:26.4±0.1, 67.08N×20.88E, h0km, ML2.1, Explosion*
*HEL **05** 18:00:27.0±0.1, 67.08N×20.88E, h0km, ML2.2, ML2.1(UPP), Explosion*
*IDC **05** 18:00:28.6±0.8, 67.17N×21.39E, h0km, mb1 2.9/4, mb1mx2.8/56, mbtmp2.9/4, ML1.8/4, Error ellipse: s-maj=18.0km s-min=6.5km az=115.0*
ISC 05 18:00:27.2±0.8, 67.13N±0.02×20.92E±0.03, h0km, n43, σ1s29/55, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DUNU	**Dundret**	**0.14**	**268**	P		**Pg**	**18 00 29.1**	**-0.7**
DUNU	**Dundret**	**0.14**	**268**	*i* P		**Pg**	**18 00 29.1**	**-0.7**
MASU	**Masugnsbyn**	**0.54**	**51**	P		**Pg**	**18 00 37.4**	**-0.1**
MASU	**Masugnsbyn**	**0.54**	**51**	*i* P		**Pg**	**18 00 37.4**	**-0.1**
KUA	**Kurravaara**	**0.86**	**345**	P		**Pg**	**18 00 43.2**	**-0.5**
KUA	**Kurravaara**	**0.86**	**345**	*e*P		**Pg**	**18 00 43.2**	**-0.5**
RATU	**Laukkuluspa**	**0.87**	**325**	P		**Pg**	**18 00 42.9**	**-0.9**
RATU				S		**Sb**	**18 00 57.6**	**+0.4**
RATU	**Laukkuluspa**	**0.87**	**325**	*e*P		**Pg**	**18 00 42.9**	**-0.9**
PAJU	**Pajala**	**0.87**	**96**	P		**Pg**	**18 00 42.5**	**-1.3**
PAJU	**Pajala**	**0.87**	**96**	*e*P		**Pg**	**18 00 42.1**	**-1.7**
baz=277								
PAJU				*e*S		**Sg**	**18 00 53.6**	**-1.4**
HARU	**Harads**	**0.97**	**179**	P		**Pg**	**18 00 43.7**	**-2.0**
HARU	**Harads**	**0.97**	**179**	*e*P		**Pg**	**18 00 43.7**	**-2.0**
LANU	**Lannavaara**	**1.01**	**23**	P		**Pg**	**18 00 46.2**	**-0.4**
LANU	**Lannavaara**	**1.01**	**23**	*e*P		**Pg**	**18 00 45.8**	**-0.8**
KOVU	**Salmi**	**1.14**	**346**	P		**Pb**	**18 00 49.4**	**-0.4**
KOVU	**Salmi**	**1.14**	**346**	*e*P		**Pb**	**18 00 49.4**	**-0.4**
KALU	**Kalix**	**1.60**	**141**	P		**Pn**	**18 00 55.7**	**-1.1**
KALU	**Kalix**	**1.60**	**141**	*e*P		**Pn**	**18 00 55.0**	**-1.8**
baz=324								
KALU				*e*SN		**Sn**	**18 01 18.9**	**+0.8**
HEF	**Hetta**	**1.66**	**38**	*e*P		**Pn**	**18 00 57.3**	**-0.3**
HEF	**Hetta**	**1.66**	**38**	MSG			18 01 15.9	
comp=Z,13nm,0.2s								
HEF				*e*SN		**Sg**	**18 01 21.4**	**+1.0**
TOF	**Tornio**	**1.72**	**126**	*e*P		**Pn**	**18 00 57.5**	**-0.9**
TOF				MSG			18 01 17.0	
comp=Z,25nm,0.2s								
TOF				*e*SN		**Sg**	**18 01 24.1**	**+1.7**
KIF	**Kilpisjarvi**	**1.89**	**359**	*e*P		**Pg**	**18 01 02.5**	**-0.9**
KIF	**Kilpisjarvi**	**1.89**	**359**	*e*PG		**Pb**	**18 01 01.9**	**-0.5**
baz=175								
KIF				MSG			18 01 24.7	
comp=Z,36nm,0.2s								
LILU	**Lilltraesk**	**1.90**	**194**	P		**Pn**	**18 00 59.9**	**-0.9**
LILU	**Lilltraesk**	**1.90**	**194**	*e*P		**Pn**	**18 00 59.9**	**-0.9**
RNF	**Rovaniemi**	**2.08**	**102**	*e*P		**Pn**	**18 01 03.0**	**-0.3**
RNF				*e*SG		**Sb**	**18 01 32.5**	**+0.4**
SGF	**Sodankyl**	**2.20**	**79**	*e*P		**Pn**	**18 01 05.2**	**+0.3**
baz=261								
SGF				*e*SG		**Sg**	**18 01 37.4**	**-0.4**
BURU	**Burvik**	**2.56**	**176**	*e*PB		**Pn**	**18 01 10.9**	**+1.0**
OUL	**Oulu**	**2.88**	**133**	*e*PB		**Pn**	**18 01 16.3**	**+2.0**
ARA0	**ARCESS Array S**	**2.96**	**33**	*e*P		**Pn**	**18 01 15.6**	**+0.2**
baz=211								
ARCES	**ARCESS Array B**	**2.96**	**33**	Pn		**Pn**	**18 01 15.7**	**+0.3**
baz=211,slow=14,SNR=48								
ARCES				Pg		**Pb**	**18 01 17.6**	**-3.2**
baz=212,slow=13,SNR=3.6								
ARCES				Lg		Lg	18 01 57.3	
baz=218,slow=20,SNR=8.6								
OBF0	**Syolatti, Pyha**	**2.97**	**151**	*e*SG		**Sb**	**18 01 57.3**	**-0.5**
OUF	**Merijarvi**	**3.19**	**149**	*e*PB		**Pn**	**18 01 21.1**	**+2.6**
OUF				MSG			18 01 59.7	
comp=Z,3.0nm,0.2s								
VRF	**Varrio**	**3.41**	**75**	*e*P		**Pn**	**18 01 22.0**	**+0.4**
OLKF	**Oulanka, Finla**	**3.46**	**100**	*e*PB		**Pn**	**18 01 24.8**	**+2.4**
MSF	**Maaselka**	**3.47**	**107**	*e*PG		**Pb**	**18 01 30.3**	**+0.8**
KU6	**Riekki**	**3.75**	**103**	*e*P		**Pn**	**18 01 28.7**	**+2.4**
HUSU	**Husum**	**3.87**	**191**	*e*PB		**Pn**	**18 01 30.5**	**+2.6**
HUSU				*e*S		**Sn**	**18 02 13.4**	**-0.5**
VAF	**Ylistaro**	**4.17**	**169**	*e*P		**Pn**	**18 01 32.8**	**+0.8**
baz=350								
APA0	**Apatity Array**	**4.69**	**79**	P		**Pn**	**18 01 40.0**	**+0.8**
APA0				S		**Sn**	**18 02 36.1**	**+1.9**
FINES	**FINESS Array B**	**6.13**	**156**	Pn		**Pn**	**18 02 00.2**	**+1.4**
comp=Z,0.1nm,0.3s,baz=343,slow=13,SNR=7.7								
FINES				Sn		**Sn**	**18 03 09.8**	**+0.2**
comp=Z,0.2nm,0.3s,baz=346,slow=22,SNR=6.0								
NOA	**NORSAR Array B**	**7.43**	**219**	Pn		**Pn**	**18 02 18.5**	**+1.6**
comp=Z,0.0nm,0.3s,baz=20,slow=9.8,SNR=4.1								
NOA				Sn		**Sn**	**18 03 42.9**	**+1.1**
comp=Z,0.0nm,0.3s,baz=47,slow=26,SNR=3.2								
HFS	**Hagfors**	**7.71**	**208**	Pn		**Pn**	**18 02 22.0**	**+1.4**
comp=Z,0.0nm,0.3s,baz=19,slow=14,SNR=1.4								
HFS				Sn		**Sn**	**18 03 47.8**	**-0.8**
comp=Z,0.1nm,0.3s,baz=21,slow=26,SNR=0.8								

IDC 05 18:16:58.2±910.0, 52.14N×33.14E, h0km, Error ellipse: s-maj=370.6km s-min=119.9km az=32.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I43RU	**DUBNA INFRASON**	**5.17**	**26**	*i*			18 47 10.0	
baz=209,slow=332,SNR=1.2								
I31KZ	**AKTYUBINSK INF**	**15.65**	**86**	*i*			19 55 50.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=286,slow=313,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**30.56**	**66**	*i*		21 25 50.8	
	baz=283,slow=344						

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*IDC **05** 18:23:31.4±1.6, 33.°78N×27.°22E, h0km, mb3.7/3, mb1 3.6/4, mb1mx3.3/39, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=177.4km s-min=24.2km az=140.0*
*THE **05** 18:23:32.6, 34.°96N×26.°38E, h0km±1km, ML2.9/6, Error ellipse: s-maj=3.5km s-min=1.1km az=161.0*
*ATH **05** 18:23:33.7, 35.°03N×26.°34E, h18km±2km, ML3.1/5, Error ellipse: s-maj=3.6km s-min=1.4km az=165.0*
*ISK **05** 18:23:33.5, 35.°29N×26.°33E, h7km, ML3.2/19*
ISC 05 18:23:33.4±1.0**, 35.°03N**±0.°05×**26.°31E**±0.°02**, h17**km±5km**, n64, σ1.§35**/80**, mb3.6**/3**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.11**	**319**	P	**Pb**	**18 23 37.4**	**+0.2**
ZKR				S	**Sg**	**18 23 40.9**	**+1.3**
ZKR				AML	AML	18 23 42.3	
	comp=E,57894μm,0.3s						
ZKR				AML	AML	18 23 42.4	
	comp=N,11814μm,0.2s						
ZKR	**Zakros**	**0.11**	**319**	P	**Pb**	**18 23 37.4**	**+0.2**
ZKR				S	**Sg**	**18 23 41.7**	**+2.1**
	comp=N,17μm,0.2s						
ZKR	**Zakros**	**0.11**	**319**	PG	**Pb**	**18 23 37.5**	**+0.2**
ZKR				SG	**Sg**	**18 23 41.4**	**+1.8**
STIA	**Sitia Lasithi**	**0.25**	**314**	P	**Pb**	**18 23 38.6**	**-0.9**
STIA				S	**Sb**	**18 23 44.6**	**+1.1**
FRMA	**Ierapetra Chan**	**0.47**	**268**	P	**Pg**	**18 23 40.9**	**-2.0**
FRMA				S	**Sb**	**18 23 48.3**	**-1.7**
	comp=N,2μm,0.2s						
NPS	**Neapolis**	**0.61**	**292**	P	**Pn**	**18 23 45.9**	**-1.5**
NPS				S	**Sb**	**18 23 53.5**	**-0.7**
NPS				AML	AML	18 24 00.6	
	comp=N,3130μm,0.5s						
NPS				AML	AML	18 24 01.0	
	comp=E,3598μm,0.5s						
NPS	**Neapolis**	**0.61**	**292**	P	**Pn**	**18 23 46.2**	**-1.2**
NPS				S	**Sn**	**18 23 58.4**	**+1.4**
	comp=E,2μm,0.5s						
LAST	**Lasithi**	**0.69**	**281**	P	**Pb**	**18 23 46.7**	**-0.5**
LAST				S	**Sn**	**18 23 57.1**	**-1.8**
LAST				AML	AML	18 24 02.3	
	comp=E,1213μm,0.4s						
LAST				AML	AML	18 24 03.1	
	comp=N,1694μm,0.6s						
LAST	**Lasithi**	**0.69**	**281**	P	**Pn**	**18 23 47.0**	**-1.6**
LAST				S	**Sn**	**18 23 59.9**	**+1.0**
	comp=N,800nm,0.5s						
KARP	**Karpathos**	**0.87**	**53**	P	**Pg**	**18 23 48.8**	**-1.6**
KARP				S	**Sg**	**18 24 00.8**	**-1.0**
KARP				AML	AML	18 24 04.8	
	comp=N,11279μm,0.4s						
KARP				AML	AML	18 24 06.0	
	comp=E,12462μm,0.4s						
KARP	**Karpathos**	**0.87**	**53**	P	**Pg**	**18 23 48.8**	**-1.6**
KARP				S	**Sb**	**18 24 02.4**	**+0.9**
KARP	**Karpathos**	**0.87**	**53**	PG	**Pg**	**18 23 48.4**	**-2.0**
HRKL	**Herakleio**	**1.03**	**286**	PG	**Pn**	**18 23 53.3**	**+0.2**
HRKL				SG	**Sn**	**18 24 07.6**	**+0.5**
KSTL	**Kastelli Herak**	**1.05**	**285**	P	**Pb**	**18 23 49.9**	**-3.3**
KSTL				S	**Sb**	**18 24 04.6**	**-2.0**
IDI	**Anoyia**	**1.19**	**283**	P	**Pg**	**18 23 56.1**	**-0.3**
IDI				S	**Sn**	**18 24 11.4**	**+0.2**
IDI				AML	AML	18 24 19.9	
	comp=N,552μm,0.3s						
IDI				AML	AML	18 24 25.9	
	comp=E,554μm,0.5s						
IDI	**Anoyia**	**1.19**	**283**	P	**Pg**	**18 23 56.2**	**-0.3**
IDI				S	**Sn**	**18 24 15.4**	**+4.2**
	comp=E,275nm,0.4s						
IDI	**Anoyia**	**1.19**	**283**	PN	**Pg**	**18 23 56.2**	**-0.3**
IDI				SN	**Sn**	**18 24 12.8**	**+1.6**
SIVA	**Sivas**	**1.23**	**270**	P	**Pg**	**18 23 56.5**	**-0.7**
SIVA	**Sivas**	**1.23**	**270**	P	**Pg**	**18 23 56.8**	**-0.4**
SIVA				S	**Sn**	**18 24 14.1**	**+2.0**
	comp=E,762nm,0.4s						
SANT	**Santorini**	**1.51**	**333**	P	**Pg**	**18 24 01.2**	**-1.3**
SANT	**Santorini**	**1.51**	**333**	PN	**Pn**	**18 23 58.5**	**-1.2**
THR6	**Thira Island,**	**1.52**	**331**	P	**Pg**	**18 24 01.8**	**-0.9**
THR6	**Thira Island,**	**1.52**	**331**	P	**Pg**	**18 24 01.4**	**-1.3**
THR8	**Santorini-Mono**	**1.53**	**334**	P	**Pb**	**18 24 00.7**	**-0.6**
THR8	**Santorini-Mono**	**1.53**	**334**	P	**Pb**	**18 24 01.5**	**+0.1**
SNT1	**Gialos, Santor**	**1.56**	**333**	P	**Pb**	**18 24 01.4**	**-0.4**
SNT5	**Nea Kammeni, S**	**1.56**	**332**	P	**Pb**	**18 24 01.5**	**-0.3**
SNT5	**Nea Kammeni, S**	**1.56**	**332**	P	**Pb**	**18 24 01.8**	**0.0**
THR3	**Thira Island,**	**1.56**	**332**	P	**Pg**	**18 24 02.2**	**-1.3**
THR3	**Thira Island,**	**1.56**	**332**	P	**Pg**	**18 24 02.1**	**-1.4**
THT2	**Imerovigli**	**1.58**	**333**	PN	**Pn**	**18 23 58.5**	**-2.2**
THR2	**Thira island,**	**1.58**	**334**	P	**Pb**	**18 24 02.3**	**0.0**
THR5	**Thira Island,**	**1.59**	**331**	P	**Pb**	**18 24 01.8**	**-0.5**
THR5	**Thira Island,**	**1.59**	**331**	P	**Pg**	**18 24 02.6**	**-1.4**
NISR	**Nisiros**	**1.71**	**23**	P	**Pb**	**18 24 03.6**	**-0.9**
KOSK	**Kos Island**	**1.80**	**17**	PN	**Pn**	**18 24 02.1**	**-1.6**
GVDS	**Gavdos**	**1.83**	**265**	PN	**Pg**	**18 24 07.4**	**-1.2**
GVD	**Gavdhos**	**1.83**	**265**	PN	**Pg**	**18 24 07.1**	**-1.6**
ARG	**Arkhangelos**	**1.90**	**51**	P	**Pb**	**18 24 07.2**	**-0.4**
ARG	**Arkhangelos**	**1.90**	**51**	P	**Pb**	**18 24 06.3**	**-1.3**
ARG	**Arkhangelos**	**1.90**	**51**	PN	**Pn**	**18 24 04.7**	**-0.3**
IMMV	**Iera Moni Meta**	**1.95**	**283**	PN	**Pb**	**18 24 07.6**	**-1.0**
APE	**Apeiranthos**	**2.13**	**343**	P	**Pb**	**18 24 10.0**	**-1.6**
APE	**Apeiranthos**	**2.13**	**343**	PN	**Pn**	**18 24 07.0**	**-1.3**
KNDR	**Palaiochora Ch**	**2.16**	**276**	PN	**Pb**	**18 24 11.7**	**-0.4**
BODT	**Bodrum**	**2.19**	**22**	PN	**Pn**	**18 24 07.6**	**-1.4**
TURN	**Turunc**	**2.35**	**42**	PN	**Pn**	**18 24 10.7**	**-0.5**
MLSB	**Milas**	**2.55**	**27**	PN	**Pn**	**18 24 13.0**	**-1.1**
DALY	**Dalyan (Mula)**	**2.61**	**46**	PN	**Pn**	**18 24 14.6**	**-0.2**
YER	**Yerkesik**	**2.64**	**37**	PN	**Pn**	**18 24 14.7**	**-0.6**
FETY	**Fethiye**	**2.77**	**54**	PN	**Pn**	**18 24 17.1**	**+0.1**
GCAM	**G?zelcaml?**	**2.77**	**15**	PN	**Pn**	**18 24 16.1**	**-0.9**
KTHA	**Kythira Island**	**2.91**	**296**	PN	**Pn**	**18 24 20.3**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**3.18**	**23**	PN	**Pn**	**18 24 21.9**	**-0.9**
URLA	**Izmir**	**3.33**	**4**	PN	**Pn**	**18 24 23.8**	**-1.0**
CHOS	**Chios island**	**3.36**	**357**	PN	**Pn**	**18 24 24.1**	**-1.1**
ELL	**Elmali**	**3.39**	**59**	PN	**Pn**	**18 24 26.2**	**+0.5**
BLCB	**Balcova**	**3.40**	**10**	PN	**Pn**	**18 24 24.9**	**-0.8**
KORT	**Korkueli**	**3.82**	**58**	PN	**Pn**	**18 24 32.1**	**+0.5**
KULA	**Kula-Manisa**	**3.96**	**28**	PN	**Pn**	**18 24 33.2**	**-0.3**
BRTR	**Keskin Array B**	**7.48**	**49**	Pn	Pn	18 25 28.1	+6.2
	comp=E,0.1nm,0.3s,baz=218,slow=14,SNR=2.4						
TORD	**Torodi Ar. Bea**	**31.14**	**232**	P	**P**	**18 29 50.5**	**-0.8**
	comp=E,4.0nm,1.1s,baz=39,slow=7.9,SNR=7.9						
MKAR	**Makanchi Array**	**43.06**	**57**	P	**P**	**18 31 33.3**	**+1.0**
	comp=E,0.3nm,0.6s,baz=286,slow=6.8,SNR=6.0						
ZALV	**Zalesovo Beam**	**44.41**	**46**	P	**P**	**18 31 46.7**	**+3.6**
	comp=E,0.4nm,0.4s,baz=279,slow=10.0,SNR=2.7						

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*IDC **05** 18:35:45.5±1.0, 9.°24S×110.°09W, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.2/39, mbtmp4.1/17, MS4.2/18, Ms1 4.2/18, ms1mx4.0/29, Error ellipse: s-maj=30.7km s-min=17.5km az=54.0*
*NEIC **05** 18:35:46.6±2.1, 9.°5S±0.°1×110.°2W±0.°2, h10km±1km, mb4.7/76, Error ellipse: s-maj=28.8km s-min=20.1km az=240.0*
*BJI **05** 18:35:49.0±0.0, 9.°40S×110.°20W, h10km, mB5.2/2, Ms5.3/2, Ms7 5.1/2*
*GCMT **05** 18:35:50.6±0.2, 9.°14S±0.°01×109.°78W±0.°01, h25km±1km, MW5.1/120, Moment Tensor Solution. s40,c48; s120,c166; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.96±.18; $M_{\theta\theta}$1.80±.16; $M_{\phi\phi}$-0.84±.16; $M_{r\theta}$0.34±.29; $M_{\theta\phi}$4.94±.11; $M_{\phi r}$-1.61±.32; Best double couple: $M_0$5.41700×10^{16} NP1:ϕ_s276.00000°, δ72.00000°, λ-10.00000°. NP2:ϕ_s9.00000°, δ81.00000°, λ-161.00000°. Principal axes: T 5.6720, Plg6.0000°, Azm142.0000°; N -0.5110, Plg69.0000°, Azm34.0000°; P -5.1630, Plg20.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 18:35:47.2±0.5**, 9.°36S**±0.°09×**110.°07W**±0.°10**, h10**km**, n137, σ1.§30**/116**, mb4.7**/51**, MS4.3**/21**, 1C, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**17.68**	**178**	LR	LR	18 45 05.7	
	comp=Z,845nm,20.4s,baz=0.0,slow=32						
RKT	**Rikitea**	**27.49**	**237**	*e*LR	LR	18 48 28.7	
	comp=Z,1μm,27.0s						
CMIG	**Matias Romero**	**30.27**	**30**	P	**P**	**18 41 58.8**	**+0.2**
	1.0nm,0.5s,baz=4.5,slow=13,SNR=1.8						
NNA	**Nana**	**32.74**	**98**	LR	LR	18 52 22.4	
	comp=Z,194nm,18.1s,baz=264,slow=30						
TEIG	**Tepich**	**36.39**	**36**	P	**P**	**18 42 50.9**	**-1.0**
	9.4nm,0.7s,baz=234,slow=15,SNR=4.2						
TEIG	**Tepich**	**36.39**	**36**	P	**P**	**18 42 51.3**	**-0.7**
H03N2	**Juan Fernandez**	**37.35**	**135**	T	T	19 22 32.0	
	baz=307,slow=77,SNR=154						
H03N3	**Juan Fernandez**	**37.36**	**135**	T	T	19 22 37.4	
	baz=307,slow=77,SNR=181						
H03N1	**Juan Fernandez**	**37.36**	**135**	T	T	19 22 33.3	
	baz=307,slow=77,SNR=202						
ROSC	**El Rosal**	**38.32**	**70**	LR	LR	18 55 45.6	
	comp=Z,193nm,21.6s,baz=252,slow=31						
TXAR	**Lajitas Array**	**38.96**	**9**	P	**P**	**18 43 12.4**	**-1.3**
	0.3nm,0.7s,baz=190,slow=9.8,SNR=3.1						
TXAR				LR	LR	18 56 11.2	
	comp=Z,194nm,18.8s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**38.96**	**9**	P	**P**	**18 43 13.4**	**-0.3**
PPT	**Papeete**	**39.22**	**254**	LR	LR	18 53 32.2	
	comp=Z,142nm,18.1s,baz=80,slow=27						
PPT2	**Papeete2**	**39.22**	**254**	*e*S	**S**	**18 49 16.5**	**-0.3**
	174nm,27.0s						
PPT2				*e*LQ	LQ	18 52 14.8	
	1μm,28.8s						
PPT2				*e*LR	LR	18 53 53.9	
	comp=Z,620nm,25.0s,baz=79						
TBI	**Tubuai**	**40.13**	**245**	*e*S	**S**	**18 49 30.4**	**+0.2**
	70nm,25.8s						
TBI				*e*LQ	LQ	18 52 36.0	
	940nm,30.5s						
TBI				*e*LR	LR	18 54 19.2	
	comp=Z,822nm,28.2s,baz=74						
TBI	**Tubuai**	**40.13**	**245**	*e*T	T	19 25 48.0	
	6.8nm,0.3s						
PB16	**IPOC Station P**	**40.30**	**107**	P	**P**	**18 43 26.1**	**+0.5**
SPX	**San Pedro Mart**	**40.50**	**353**	P	**P**	**18 43 28.6**	**+1.8**
319A	**Douglas**	**40.51**	**1**	P	**P**	**18 43 28.9**	**+2.2**
MNTX	**Cornudas Mount**	**41.07**	**6**	P	**P**	**18 43 32.9**	**+1.8**
LPAZ	**La Paz**	**41.40**	**104**	P	**P**	**18 43 35.0**	**+0.1**
	1.5nm,0.7s,baz=349,slow=6.9,SNR=4.8						
LPAZ				LR	LR	18 56 56.8	
	comp=Z,291nm,19.0s,baz=265,slow=31						
LPAZ	**La Paz**	**41.40**	**104**	P	**P**	**18 43 35.3**	**+0.5**
LVC	**Limon Verde**	**41.55**	**114**	LR	LR	18 56 30.6	
	comp=Z,420nm,19.4s,baz=283,slow=30						
AC02	**Maricunga**	**42.38**	**120**	P	**P**	**18 43 41.1**	**-1.5**
AC02				IAmb	IAmb	18 43 54.7	
	comp=Z,10nm,0.8s						
SDV	**Santo Domingo**	**43.25**	**66**	P	**P**	**18 43 48.4**	**-1.0**
	comp=Z,3.8nm,0.8s,baz=276,slow=12,SNR=2.5						
BO02	**Sierra Bellavi**	**43.91**	**131**	P	**P**	**18 43 54.7**	**+0.3**
BO02				IAmb	IAmb	18 44 03.8	
	comp=Z,9.8nm,0.7s						
W13A	**Hualapai Mount**	**44.37**	**356**	P	**P**	**18 43 58.5**	**+0.4**
BI02	**San Fabin de**	**44.39**	**134**	P	**P**	**18 43 59.1**	**+0.9**
BI02				IAmb	IAmb	18 44 06.2	
	comp=Z,11nm,0.9s						
GSC	**Goldstone, Bar**	**44.88**	**352**	P	**P**	**18 44 02.4**	**+0.4**
GSC				IAmb	IAmb	18 44 09.5	
	comp=Z,7.0nm,0.9s						
SAML	**Samuel**	**46.26**	**93**	P	**P**	**18 44 10.9**	**-2.3**
TPNV	**Topopah Spring**	**46.43**	**353**	P	**P**	**18 44 16.0**	**+1.6**
PRN	**Pahroc Range**	**46.76**	**355**	P	**P**	**18 44 19.6**	**+2.8**
CCUT	**Cedar City**	**46.77**	**356**	P	**P**	**18 44 19.5**	**+2.4**
CCUT				IAmb	IAmb	18 44 28.1	
	comp=Z,4.6nm,0.8s						
PLCA	**Paso Flores**	**46.88**	**139**	P	**P**	**18 44 18.6**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=295,slow=12,SNR=5.0						
PLCA				LR	LR	18 59 19.8	
	comp=Z,636nm,18.6s,baz=326,slow=30						
PLCA	**Paso Flores**	**46.88**	**139**	P	**P**	**18 44 19.3**	**+1.5**
PLCA				IAmb	IAmb	18 44 30.9	
	comp=Z,12nm,1.2s						
TPH	**Tonopah**	**47.66**	**352**	P	**P**	**18 44 24.2**	**+0.1**
R11A	**Troy Canyon, C**	**47.74**	**354**	P	**P**	**18 44 25.5**	**+0.9**
R11A				IAmb	IAmb	18 44 30.3	
	comp=Z,15nm,2.0s						
KAN12	**Harper NE Stat**	**47.77**	**13**	P	**P**	**18 44 25.3**	**+0.6**
PSUT	**Pine Spring**	**47.78**	**356**	P	**P**	**18 44 27.2**	**+2.3**
PSUT				IAmb	IAmb	18 44 39.6	
	comp=Z,6.0nm,0.9s						
U38A	**Gravette**	**47.89**	**17**	P	**P**	**18 44 27.0**	**+1.4**
U38A				IAmb	IAmb	18 44 38.6	
	comp=Z,13nm,1.2s						
LHV	**Little Huntoon**	**48.02**	**351**	P	**P**	**18 44 28.5**	**+2.0**
LHV				IAmb	IAmb	18 44 38.6	
	comp=Z,5.8nm,0.9s						
NVAR	**Mina Array Bea**	**48.16**	**351**	P	**P**	**18 44 28.1**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=175,slow=9.8,SNR=9.5						
NVAR				LR	LR	18 59 57.3	
	comp=Z,466nm,21.2s,baz=172,slow=30						
NVAR	**Mina Array Bea**	**48.16**	**351**	P	**P**	**18 44 28.4**	**+0.5**
U40A	**Yellville**	**48.27**	**19**	P	**P**	**18 44 28.3**	**-0.3**
U40A				IAmb	IAmb	18 44 36.5	
	comp=Z,7.6nm,1.1s						
SPR3	**Spring Creek 3**	**48.27**	**356**	P	**P**	**18 44 28.4**	**-0.5**
RYN	**Ryan**	**48.39**	**351**	P	**P**	**18 44 30.4**	**+0.8**
RYN				IAmb	IAmb	18 44 42.0	
	comp=Z,7.2nm,1.0s						
LCAR	**Lake Charles**	**48.58**	**20**	P	**P**	**18 44 31.0**	**+0.2**
LCAR				IAmb	IAmb	18 44 39.7	
	comp=Z,8.4nm,1.0s						
KVN	**Kaiserville**	**48.74**	**352**	P	**P**	**18 44 32.5**	**+0.2**
PNTR	**Pine Nut**	**49.01**	**350**	P	**P**	**18 44 35.3**	**+0.9**
PNTR				IAmb	IAmb	18 44 45.5	
	comp=Z,7.6nm,0.8s						
S39A	**Bolivar**	**49.36**	**18**	P	**P**	**18 44 38.3**	**+1.4**
S39A				IAmb	IAmb	18 44 46.1	
	comp=Z,7.9nm,1.1s						
SWET	**Sewanee**	**49.86**	**26**	P	**P**	**18 44 42.5**	**+1.7**
SWET				IAmb	IAmb	18 44 48.9	
	comp=Z,8.2nm,0.8s						
ELK	**Elko**	**50.08**	**355**	LR	LR	19 02 06.7	
	comp=Z,489nm,18.6s,baz=168,slow=32						
ELK	**Elko**	**50.08**	**355**	P	**P**	**18 44 44.0**	**+1.4**
CCM	**Cathedral Cave**	**50.34**	**19**	P	**P**	**18 44 45.6**	**+1.3**
CCM				IAmb	IAmb	18 44 57.9	
	comp=Z,7.9nm,0.8s						
PTGA	**Pitinga**	**50.58**	**83**	P	**P**	**18 44 48.3**	**+1.7**
	comp=Z,3.2nm,0.8s,baz=164,slow=6.0,SNR=6.0						
PTGA	**Pitinga**	**50.58**	**83**	P	**P**	**18 44 48.9**	**+2.3**
PTGA				IAmb	IAmb	18 44 52.1	
	comp=Z,8.6nm,1.1s						
T47A	**Sharon Grove**	**50.89**	**24**	P	**P**	**18 44 51.4**	**+2.9**
T47A				IAmb	IAmb	18 44 56.8	
	comp=Z,10.0nm,0.8s						
WDC	**Whiskeytown Da**	**51.01**	**348**	P	**P**	**18 44 49.9**	**+0.5**
TKL	**Tuckaleechee C**	**51.19**	**28**	P	**P**	**18 44 49.6**	**-1.2**
	comp=Z,7.9nm,1.1s,baz=16,slow=15,SNR=1.9						
V53A	**Saluda**	**51.65**	**28**	P	**P**	**18 44 56.6**	**+2.3**
V53A				IAmb	IAmb	18 45 06.9	
	comp=Z,17nm,1.1s						
Q44A	**Meyer Farm, Va**	**51.86**	**21**	P	**P**	**18 44 56.4**	**+0.7**
PDAR	**Pinedale Array**	**51.88**	**0**	P	**P**	**18 44 55.0**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=154,slow=5.9,SNR=5.3						
PDAR	**Pinedale Array**	**51.88**	**0**	P	**P**	**18 44 56.3**	**+0.2**
WVOR	**Wild Horse Val**	**52.14**	**352**	P	**P**	**18 44 58.6**	**+0.7**
YBH	**Yreka Blue Hor**	**52.15**	**348**	LR	LR	19 01 58.0	
	comp=Z,305nm,19.6s,baz=166,slow=30						
CPUP	**Villa Florida**	**52.59**	**116**	P	**P**	**18 45 02.0**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=269,slow=4.3,SNR=3.2						
CPUP				LR	LR	19 03 17.8	
	comp=Z,318nm,20.4s,baz=282,slow=31						
CPUP	**Villa Florida**	**52.59**	**116**	P	**P**	**18 45 00.9**	**-0.6**
LOHW	**Long Hollow**	**52.72**	**360**	P	**P**	**18 45 01.2**	**-1.2**
K05A	**Summer Lake**	**52.77**	**350**	P	**P**	**18 45 03.1**	**+0.4**
K05A				IAmb	IAmb	18 45 18.7	
	comp=Z,14nm,1.2s						
MFID	**Camas Ranch**	**52.78**	**355**	P	**P**	**18 45 02.6**	**-0.1**
MFID				IAmb	IAmb	18 45 14.4	
	comp=Z,9.7nm,1.1s						
HLID	**Hailey**	**52.82**	**356**	P	**P**	**18 45 04.5**	**+1.5**
FLWY	**Flagg Ranch**	**53.19**	**359**	P	**P**	**18 45 06.8**	**+1.0**
FLWY				IAmb	IAmb	18 45 24.5	
	comp=Z,13nm,1.1s						
BCYI	**Bear Canyon**	**53.50**	**357**	P	**P**	**18 45 10.0**	**+1.8**
V58A	**Windy Hill, Pi**	**53.56**	**31**	P	**P**	**18 45 09.1**	**+0.7**
I07A	**Izee**	**53.88**	**352**	P	**P**	**18 45 10.9**	**+0.2**
I07A				IAmb	IAmb	18 45 18.1	
	comp=Z,6.2nm,1.0s						
YHH	**Holmes Hill**	**53.90**	**359**	P	**P**	**18 45 10.8**	**-0.3**
MCMT	**McKenzie Canyo**	**53.99**	**358**	P	**P**	**18 45 11.1**	**-0.6**
H04A	**Detroit Lake**	**54.90**	**349**	P	**P**	**18 45 17.6**	**-0.5**
H04A				IAmb	IAmb	18 45 24.2	
	comp=Z,8.8nm,1.2s						
G08A	**Pilot Rock**	**54.99**	**352**	P	**P**	**18 45 19.9**	**+1.2**
I37A	**Lemond, Waseca**	**55.24**	**15**	P	**P**	**18 45 21.9**	**+1.5**
P53A	**Whipple**	**55.41**	**27**	P	**P**	**18 45 23.1**	**+1.3**
F10A	**Beach Ranch, E**	**55.46**	**354**	P	**P**	**18 45 22.6**	**+0.5**
L48A	**N Adams**	**56.21**	**23**	P	**P**	**18 45 29.0**	**+1.5**
LON	**Longmire**	**56.84**	**350**	P	**P**	**18 45 32.6**	**+0.7**
LON				IAmb	IAmb	18 45 50.9	
	comp=Z,10nm,1.4s						
F36A	**Milaca**	**56.94**	**14**	P	**P**	**18 45 32.2**	**-0.4**
JTMT	**Jette**	**56.98**	**357**	P	**P**	**18 45 32.9**	**-0.1**
G40A	**Rib Lake**	**57.25**	**17**	P	**P**	**18 45 35.1**	**+0.3**
G40A				IAmb	IAmb	18 45 42.9	
	comp=Z,10nm,1.1s						
NEW	**Newport**	**57.71**	**354**	LR	LR	19 06 07.0	
	comp=Z,252nm,19.5s,baz=175,slow=32						
COWI	**Conover**	**58.31**	**17**	P	**P**	**18 45 41.0**	**-1.3**
COWI				IAmb	IAmb	18 45 50.5	
	comp=Z,11nm,1.1s						
WVNY	**West Valley, N**	**59.01**	**27**	P	**P**	**18 45 47.4**	**+0.2**
L56A	**Greenwood**	**59.27**	**28**	P	**P**	**18 45 48.7**	**-0.4**
EYMN	**Ely**	**59.38**	**14**	P	**P**	**18 45 50.1**	**+0.5**
MMNY	**Mt. Morris Dam**	**59.58**	**27**	P	**P**	**18 45 52.3**	**+1.2**
ULM	**Lac du Bonnet**	**60.64**	**10**	P	**P**	**18 45 56.8**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=193,slow=8.5,SNR=7.5						
ULM	**Lac du Bonnet**	**60.64**	**10**	P	**P**	**18 45 58.4**	**+0.1**
ULM				IAmb	IAmb	18 46 02.8	
	comp=Z,6.2nm,0.8s						
SADO	**Sadowa**	**60.69**	**25**	LR	LR	19 11 00.6	
	comp=Z,179nm,19.3s,baz=250,slow=35						
SADO	**Sadowa**	**60.69**	**25**	P	**P**	**18 45 58.5**	**-0.1**
BDFB	**Brasilia**	**60.73**	**103**	P	**P**	**18 45 58.4**	**-1.4**
	comp=Z,1.9nm,0.4s,baz=185,slow=11,SNR=3.2						
BDFB	**Brasilia**	**60.73**	**103**	P	**P**	**18 45 58.3**	**-1.4**
ACCN	**Adirondack Com**	**62.06**	**29**	P	**P**	**18 46 08.5**	**+0.5**
BBB	**Bella Bella**	**63.23**	**348**	LR	LR	19 08 29.8	
	comp=Z,128nm,21.4s,baz=110,slow=31						
FCC	**Fort Churchill**	**69.11**	**9**	P	**P**	**18 46 51.4**	**-1.9**
FCC				IAmb	IAmb	18 47 02.8	
	comp=Z,8.5nm,1.1s						
YKA	**Yellowknife Ar**	**71.72**	**358**	P	**P**	**18 47 08.0**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=164,slow=6.1,SNR=5.4						
YKA				LR	LR	19 15 24.7	
	comp=Z,166nm,18.5s,baz=0.0,slow=33						
DOT	**Dot Lake**	**77.26**	**345**	P	**P**	**18 47 40.9**	**-0.5**
DOT				IAmb	IAmb	18 47 52.6	
	comp=Z,5.0nm,1.0s						
EGAK	**Eagle**	**77.52**	**347**	P	**P**	**18 47 42.6**	**-0.2**
EGAK				IAmb	IAmb	18 47 57.1	
	comp=Z,12nm,1.4s						
RND	**Reindeer**	**78.35**	**343**	P	**P**	**18 47 47.0**	**-0.5**
RND				IAmb	IAmb	18 48 02.5	
	comp=Z,5.5nm,0.9s						
ILAR	**Eielson Array**	**78.90**	**345**	P	**P**	**18 47 49.4**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=180,slow=4.6,SNR=5.5						
ILAR				LR	LR	19 15 29.3	
	comp=Z,123nm,19.1s,baz=138,slow=30						
WRH	**Wood River Hil**	**78.98**	**344**	P	**P**	**18 47 51.0**	**+0.1**
WRH				IAmb	IAmb	18 48 04.2	
	comp=Z,8.5nm,1.0s						
KTH	**Kantishna Hill**	**79.06**	**343**	P	**P**	**18 47 51.1**	**-0.3**
KTH				IAmb	IAmb	18 48 02.3	
	comp=Z,13nm,1.1s						
INK	**Inuvik**	**79.25**	**351**	P	**P**	**18 47 50.6**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=143,slow=6.1,SNR=3.7						
INK	**Inuvik**	**79.25**	**351**	P	**P**	**18 47 52.7**	**+0.5**
FRB	**Frobisher Bay**	**79.41**	**17**	P	**P**	**18 47 52.1**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=198,slow=7.4,SNR=5.0						
FRB				LR	LR	19 20 49.1	
	comp=Z,167nm,18.6s,baz=228,slow=34						
BPAW	**Bear Paw Mtn.**	**79.50**	**343**	P	**P**	**18 47 53.0**	**-0.8**
BPAW				IAmb	IAmb	18 48 01.0	
	comp=Z,8.4nm,1.3s						
COLD	**Coldfoot**	**81.67**	**345**	P	**P**	**18 48 05.5**	**+0.2**
COLD				IAmb	IAmb	18 48 17.1	
	comp=Z,7.2nm,1.1s						
VNA3	**Neumayer Olymp**	**84.53**	**161**	P	**P**	**18 48 21.3**	**+1.1**
VNA1	**Neumayer--Stat**	**85.12**	**161**	P	**P**	**18 48 24.1**	**+1.0**
VNA2	**Neumayer--Watz**	**85.33**	**161**	P	**P**	**18 48 23.2**	**-1.0**
SNAA	**Sanae**	**86.51**	**162**	P	**P**	**18 48 29.6**	**-0.5**
H11S2	**WAKE ISLAND Hy**	**86.59**	**289**	T	T	20 24 19.3	
	baz=101,slow=75,SNR=86						
H11S1	**WAKE ISLAND Hy**	**86.60**	**289**	T	T	20 24 29.3	
	baz=101,slow=75,SNR=68						
H11S3	**WAKE ISLAND Hy**	**86.61**	**289**	T	T	20 24 20.4	
	baz=101,slow=75,SNR=65						
H11N3	**WAKE ISLAND Hy**	**86.64**	**290**	T	T	20 24 32.5	
	baz=101,slow=74,SNR=38						
H11N2	**WAKE ISLAND Hy**	**86.65**	**291**	T	T	20 24 34.2	
	baz=101,slow=74,SNR=46						
H11N1	**WAKE ISLAND Hy**	**86.65**	**290**	T	T	20 24 33.7	
	baz=101,slow=74,SNR=24						
NJ2	**Nanjing**	**129.50**	**304**	*e*PKP	**PKPdf**	**18 54 56.5**	**-0.4**
SONM	**Songino Array**	**130.86**	**328**	PKP	**PKPdf**	**18 54 58.4**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=60,slow=1.0,SNR=2.6						
HHC	**Hu-ho-hao-te**	**131.67**	**318**	*e*PKP	**PKiKP**	**18 55 02.0**	**+0.1**
BRTR	**Keskin Array B**	**135.75**	**41**	PKP	**PKPdf**	**18 55 06.8**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=68,slow=1.4,SNR=2.4						
GTA	**Gaotai**	**139.91**	**323**	*e*P	**PKiKP**	**18 55 25.1**	**+6.3**
GTA				pP	sPKPdf	18 55 30.2	+11
GTA				sP	pPKPdf	18 55 33.7	+15
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
MKAR	**Makanchi Array**	**141.24**	**346**	PKP	**PKPdf**	**18 55 19.4**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=73,slow=4.2,SNR=4.0						
MKAR	**Makanchi Array**	**141.24**	**346**		**PKPdf**	**18 55 17.5**	**-0.9**
WMQ	**Urumqi**	**142.35**	**339**	*e*PKP	**PKPdf**	**18 55 20.1**	**-0.4**
KMI	**Kunming**	**145.10**	**301**	⇑PKPbc	**PKPbc**	**18 55 23.1**	**-2.4**
KMI				sPKP		18 55 29.8	
KMI				LR	LR		
	comp=Z,130nm,16.9s						
KMI				LR	LR		
	comp=Z,170nm,23.8s						
KMI				LR	LR		
	comp=Z,210nm,19.5s						
KSH	**Kashi**	**149.49**	**351**	*e*PKPbc	**PKiKP**	**18 55 39.9**	**+1.5**
GEYT	**Alibeck**	**149.63**	**19**	PKPbc	**PKPbc**	**18 55 37.6**	**0.0**
	comp=Z,2.0nm,0.7s,baz=204,slow=3.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**150.47**	**291**	PKPbc	**PKiKP**	**18 55 40.2**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=40,slow=0.7,SNR=20						
CMAR	**Chiang Mai Arr**	**150.47**	**291**		**PKPbc**	**18 55 38.5**	**-1.6**

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*IDC **05** 18:37:43.1±0.8, 6.°74N×72.°95W, h162km±10km, mb3.2/2, mb1 3.8/4, mb1mx3.2/35, mbtmp4.0/4, Error ellipse: s-maj=39.8km s-min=8.1km az=131.0*
*RSNC **05** 18:37:44.2±1.3, 6.°82N×73.°12W, h151km±5km, ML3.6, Mw3.8, Fault plane solution: NP1:ϕ_s98.00000°, δ66.00000°, λ58.00000°.*
ISC 05 18:37:43.1±0.9**, 6.°83N**±0.°04×**73.°11W**±0.°05**, h155**km±6km**, n22, σ0.§76**/40**, 5C-5D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**198**	⇑*i*P	**Pn**	**18 38 04.7**	**+0.2**
BARC				*e*S	**Sn**	**18 38 20.2**	**-0.6**
BARC				*i*		18 38 22.3	
	comp=Z,653nm,0.2s						
PAMC	**Pamplona, Colo**	**0.65**	**39**	⇓*i*P	**Pn**	**18 38 07.5**	**+1.0**
PAMC				*e*S	**Sn**	**18 38 24.5**	**+0.3**
PAMC				*i*		18 38 26.7	
	comp=Z,706nm,0.3s						
BRRC	**Barranca, Sant**	**0.66**	**295**	⇑*i*P	**Pn**	**18 38 06.6**	**+0.7**
BRRC				*e*S	**Sn**	**18 38 24.1**	**+0.7**
BRRC				*i*		18 38 26.2	
	comp=Z,497nm,0.2s						
RUSC	**La Rusia**	**0.93**	**179**	⇑*i*P	**Pn**	**18 38 08.5**	**0.0**
RUSC				*e*S	**Sn**	**18 38 27.0**	**-0.9**
RUSC				*i*		18 38 29.7	
	comp=Z,228nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	⇑*i*P	**Pn**	**18 38 11.2**	**-0.7**
PTBC				*e*S	**Sn**	**18 38 32.5**	**-1.4**
PTBC				*i*		18 38 38.3	
	comp=Z,850nm,0.5s						
OCAC	**Ocana**	**1.42**	**351**	*e*P	**Pn**	**18 38 12.7**	**+0.2**
OCAC				*e*S	**Sn**	**18 38 34.6**	**-0.3**
OCAC				*i*		18 38 40.9	
	comp=Z,442nm,0.4s						
SPBC	**San Pablo de B**	**1.52**	**219**	⇑*i*P	**Pn**	**18 38 13.5**	**+0.1**
SPBC				*e*S	**Sn**	**18 38 36.1**	**-0.5**
SPBC				*i*		18 38 42.8	

comp=Z,876nm,0.4s
ZARC Zaragoza, Cauc 1.86 291 eP Pn 18 38 17.1 +0.1
ZARC eS Sn 18 38 42.7 -0.4
ZARC i 18 38 49.8
comp=Z,610nm,0.4s
NORC Norcasia 2.16 234⇓eP Pn 18 38 20.4 -0.1
NORC eS Sn 18 38 48.1 -1.1
NORC i 18 38 52.9
comp=Z,440nm,0.2s
SMLC San Martn de 2.18 334 eP Pn 18 38 20.7 0.0
SMLC eS Sn 18 38 49.2 -0.4
SMLC i 18 38 54.3
comp=Z,469nm,0.1s
CHIC Chingaza 2.27 196⇓iP Pn 18 38 22.6 +0.4
CHIC eS Sn 18 38 51.6 -0.7
CHIC i 18 38 55.7
comp=Z,153nm,0.5s
ROSC El Rosal 2.32 211 P Pn 18 38 24.2 +1.5
comp=Z,101nm,0.3s,baz=254,slow=5.7,SNR=44
ROSC S Sn 18 38 54.2 +1.0
comp=Z,75nm,0.3s,baz=104,slow=20,SNR=9.7
HELC Santa Helena 2.49 255 eP Pn 18 38 25.5 +0.7
HELC eS Sn 18 38 57.0 +0.1
HELC i 18 39 03.4
comp=Z,290nm,0.4s
GUY2C Guyana, Caldas 2.76 235 eP Pn 18 38 28.8 +0.7
GUY2C eS Sn 18 39 04.5 +1.7
GUY2C i 18 39 11.2
comp=Z,330nm,0.4s
SDV Santo Domingo 3.19 50 P Pn 18 38 33.9 +0.6
comp=Z,80nm,0.3s,baz=216,slow=5.0,SNR=258
SDV S Sn 18 39 11.5 -0.7
comp=Z,22nm,0.3s,baz=232,slow=22,SNR=8.5
SDV Santo Domingo 3.19 50⇓iP Pn 18 38 33.9 +0.6
SDV eS Sn 18 39 11.5 -0.7
SDV i 18 39 13.4
comp=Z,57nm,0.3s
PRAC Prado 3.57 210 eP Pn 18 38 37.6 -0.4
PRAC eS Sn 18 39 20.1 -0.6
PRAC i 18 39 26.0
comp=Z,216nm,0.6s
ORTC Ortega, Tolima 3.60 216⇓iP Pn 18 38 38.8 +0.3
ORTC eS Sn 18 39 22.0 +0.6
ORTC i 18 39 27.2
comp=Z,153nm,0.4s
TXAR Lajitas Array 36.47 312 P P 18 44 34.2 +0.8
comp=Z,0.3nm,0.6s,baz=128,slow=8.4,SNR=1.6
YKA Yellowknife Ar 63.26 340 P P 18 47 54.9 0.0
comp=Z,0.9nm,0.6s,baz=128,slow=7.3,SNR=10
ASAR Alice Springs 149.13 234 PKPbc PKPbc 18 57 12.8 -1.2
comp=Z,0.3nm,0.6s,baz=117,slow=3.5,SNR=6.1
WRA Warramunga Arr 150.35 241 PKPbc PKPbc 18 57 16.1 -1.0
comp=Z,0.3nm,0.4s,baz=116,slow=3.1,SNR=8.0

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*UCR **05** 18:40:34.9±1.3, 12°.34N×88°.64W, h20km, MW4.9, mb4.4(NEIC)*
*IDC **05** 18:40:44.1±1.8, 12°.69N×87°.30W, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.9/40, mbtmp4.0/8, ML3.5/2, MS3.9/2, Ms1 3.9/2, ms1mx3.3/34, Error ellipse: s-maj=63.4km s-min=25.6km az=46.0*
*INET **05** 18:40:46.0, 12°.09N×87°.78W, h6km, MW4.0*
*NEIC **05** 18:40:47.7±2.1, 12°.19N±0°.05×87°.74W±0°.06, h35km±2km, mb4.4/70, Error ellipse: s-maj=12.6km s-min=3.0km az=228.0*
*SNET **05** 18:40:47.9±1.0, 12°.21N×87°.85W, h18km±5km, ML3.6*
ISC 05 18:40:47.0±0.7**, 12°.14N**±0°.05×**87°.74W**±0°.05**, h35km, n146, σ1s.16**/150**, mb4.3**/40**, Near coast of Nicaragua**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CSGN Cosiguina Volc 0.85 12 Pn 18 41 02.8 +0.2
CRIN San Cristobal 0.88 50 Pn 18 41 03.7 +0.8
CNGN Cerro Negro 1.08 70 eP Pn 18 41 05.7 0.0
CNCH Conchagua 1.14 355 eP Pn 18 41 07.6 +1.0
LCND La Caada 1.17 353 eP Pn 18 41 07.4 +0.5
LCND IAML 18 41 32.2
comp=Z,2μm,0.4s
JUCU Jucuar¡n 1.22 336 eP Pn 18 41 07.3 -0.3
JUCU IAML 18 41 29.5
comp=Z,1μm,0.3s
VSM San Miguel 1.38 338 eP Pn 18 41 10.8 +0.7
LCY Lacayo 1.39 337 eP Pn 18 41 11.2 +1.2
PACA Pacayal 1.44 337 eP Pn 18 41 12.1 +1.3
PACA eS Sn 18 41 29.9 +1.4
TECA Tecapa 1.54 331 eP Pn 18 41 12.8 +0.6
COEB Comit de Eme 1.56 330 eP Pn 18 41 13.0 +0.7
COEB eS Sn 18 41 33.6 +2.3
COEB IAML 18 41 45.9
comp=Z,661nm,0.4s
UESV Universidad de 1.81 326 eS Sn 18 41 38.9 +1.4
COEG Centro de Oper 1.85 323 eP Pn 18 41 17.4 +1.1
COEG eS Sn 18 41 39.8 +1.4
COEG IAML 18 41 52.2
comp=Z,564nm,0.5s
MATN Matagalpa 1.94 66 eP Pn 18 41 18.0 +0.4
MATN Matagalpa 1.94 66 Pn 18 41 18.6 +1.0
LFRS El Faro 1.96 319 eP Pn 18 41 18.2 +0.3
TGUH Tegucigalpa,Un 1.96 13 eP Pn 18 41 19.1 +1.2
TGUH Tegucigalpa,Un 1.96 13 Pn 18 41 18.4 +0.5
BOAB BOACO BROADBAN2.05 81 Pn Pn 18 41 19.4 +0.4
SNET Serv Nac Est T 2.12 317 Pn Pn 18 41 19.9 -0.1
BOQS Boqueron 2.19 317 eP Pn 18 41 22.0 +0.9
PMON Piamonte 2.19 316 eP Pn 18 41 22.0 +0.9
JAYA Jayaque - finc 2.25 312 eP Pn 18 41 22.6 +0.8
TACO Tacachico 2.41 319 eP Pn 18 41 24.8 +0.9
TACO eS Sn 18 41 52.8 +0.5
CEVE Cerro Verde 2.49 313 eP Pn 18 41 26.8 +1.5
CEVE IAML 18 42 09.5
comp=Z,563nm,0.4s
ACON Acoyapa 2.52 94 eP Pn 18 41 26.3 +0.8
ACON Acoyapa 2.52 94 Pn 18 41 25.6 +0.2
HZTE Horizontes, Gu 2.54 124 eP Pn 18 41 26.8 +1.1
GBS3 Finca Las Img 2.62 121 i P Pn 18 41 28.7 +1.9
MTO3 Montecristo 2.75 325 eP Pn 18 41 29.9 +1.2
MTO3 Montecristo 2.75 325 Pn 18 41 28.2 -0.6
ORTG Ortega, Santa 2.85 128 eP Pn 18 41 30.4 +0.3
ORTG Ortega, Santa 2.85 128 Pn 18 41 30.5 +0.3
SAJU San Juanillo, 2.86 136 eP Pn 18 41 29.8 -0.4
ESQI Esquipulas 2.87 327 Pn 18 41 30.6 +0.2
GUAI GUAI 2.87 130 i P Pn 18 41 30.2 0.0
COLC Colonia 2.89 120 i P Pn 18 41 31.6 +1.1
CUI Cuipilapa 2.92 120 i P Pn 18 41 31.3 +0.2
PLVR Palo Verde 2.94 127 eP Pn 18 41 31.1 -0.4
DUNO Dulce Nombre, 3.01 133 eP Pn 18 41 33.4 +1.2
GRZA Playa Garza 3.02 137 eP Pn 18 41 32.2 -0.2
INDI Punta indio, G 3.15 136 eP Pn 18 41 34.0 -0.2
JTS Las Juntas de 3.29 124 Pn Pn 18 41 37.9 +1.7
comp=Z,9.5nm,0.3s,baz=26,slow=7.6,SNR=15
JTS Sn Sn 18 42 15.0 +0.8
comp=Z,8.9nm,0.3s,baz=294,slow=9.6,SNR=5.4
JTS LR LR 18 43 18.6
comp=Z,2μm,18.9s,baz=18,slow=47
JTS Las Juntas de 3.29 124 Pn 18 41 36.8 +0.6
ESPN Las Esperanzas 3.37 89 Pn 18 41 38.1 +1.0
ARE1 Arenal 1 3.40 119 eP Pn 18 41 39.4 +1.8
CAO2 Cobano, Puntar 3.55 133 Pn 18 41 39.7 0.0
COVE Coope Vega, Sa 3.56 113 Pn Pn 18 41 40.5 +0.6
LAFE Finca La Fe, P 3.62 130 eP Pn 18 41 41.0 +0.4
JACO JACO, Garabito 3.90 129 eP Pn 18 41 46.4 +1.9
HDC Heredia 4.14 120 Pn Pn 18 41 48.4 +0.5
LCR2 La Lucha 2 4.38 123 eP Pn 18 41 53.8 +2.6
RIMA Rio Macho 4.48 121 eP Pn 18 41 55.8 +3.2
MRVA Moravia de Chi 4.81 118 eP Pn 18 41 59.5 +2.5
PEZE Perez Zeledon, 4.84 124 eP Pn 18 41 59.2 +1.7
PEZE Perez Zeledon, 4.84 124 Pn 18 41 59.6 +2.1
PETF Flores 5.18 337 Pn Pn 18 42 00.3 -1.7
DRK0 Durika 5.26 122 eP Pn 18 42 05.1 +1.8
RIOS Rincon, Osa 5.38 129 Pn 18 42 07.4 +2.5
PIRO Carate, Puerto 5.71 130 eP Pn 18 42 10.9 +1.6
CCIG Comitan 5.93 315 Pn Pn 18 42 08.7 -3.8
CMIG Matias Romero 8.49 306 Pn Pn 18 42 49.8 +2.3
comp=Z,0.3nm,0.3s,baz=151,slow=10,SNR=1.8
152A Waverly Hall 20.62 7 P P 18 45 23.2 -0.2
152A IAmb IAmb 18 45 27.7
comp=Z,44nm,1.5s
JCT Junction City 21.40 330 P 18 45 33.3 +1.4
JCT IAmb IAmb 18 45 37.4
comp=Z,13nm,0.9s
GOGA Godfrey 21.53 10 P P 18 45 35.2 +2.0
GOGA IAmb IAmb 18 45 38.6
comp=Z,12nm,0.8s
FPAL Fort Paine 22.39 5 P P 18 45 40.6 -1.8
FPAL IAmb IAmb 18 45 41.3
comp=Z,21nm,1.2s
HODGE Hodges 22.55 12 P P 18 45 43.1 -1.1
HODGE IAmb IAmb 18 45 48.5
comp=Z,16nm,1.0s
TXAR Lajitas Array 22.64 322 P P 18 45 46.0 +0.8
comp=Z,11nm,0.9s,baz=136,slow=9.9,SNR=21
TXAR Lajitas Array 22.64 322 P P 18 45 45.9 +0.7
TX31 Lajitas Ar. Si 22.64 322 P P 18 45 46.2 +1.0
TX32 Lajitas Array 22.64 322 P P 18 45 46.1 +0.9
TX32 IAmb IAmb 18 45 49.1
comp=Z,13nm,0.9s
X40A Basin Creek Fa 22.73 349 P P 18 45 47.2 +1.3
Z35A Perchaven, San 22.82 339 P P 18 45 46.3 -0.7
MIAR Mount Ida 22.93 348 P 18 45 48.5 +0.4
MIAR IAmb IAmb 18 45 53.7
comp=Z,16nm,1.1s
ABTX Abilene, Hawle 23.13 334 P P 18 45 51.1 +0.9
ABTX IAmb IAmb 18 45 53.6
comp=Z,20nm,1.2s
X37A Clayton 23.40 344 P P 18 45 54.3 +1.5
X37A IAmb IAmb 18 46 01.0
comp=Z,8.2nm,0.9s
WHAR Wooly Hollow 23.42 351 P P 18 45 53.9 +0.9
CLTN Cedars of Leba 23.88 3 P P 18 45 56.6 -0.8
FCAR Ozark Folk Cen 23.98 351 P P 18 45 60.0 +1.7
LCAR Lake Charles 24.03 353 P P 18 45 57.4 -1.3
U40A Yellville 24.55 350 P P 18 46 05.6 +2.1
FNO Franklin 24.63 341 P P 18 46 04.7 +0.4
WMOK Wichita Mounta 24.64 338 P P 18 46 05.0 +0.6
HHAR Hobbs 24.68 348 P P 18 46 05.2 +0.5
T47A Sharon Grove 24.75 1 P P 18 46 04.9 -0.4
T47A IAmb IAmb 18 46 07.2
comp=Z,9.2nm,0.8s
TUL1 Leonard 24.76 344 P P 18 46 04.2 -1.2
TUL1 IAmb IAmb 18 46 08.6
comp=Z,12nm,0.9s
U38A Gravette 24.93 347 P 18 46 06.7 -0.3
OK029 Liberty Lake 25.14 341 P P 18 46 08.1 -0.8
OK029 IAmb IAmb 18 46 14.0
comp=Z,11nm,0.8s
MNTX Cornudas Mount 25.36 323 P P 18 46 11.4 +0.4
MSTX Muleshoe 25.70 330 P P 18 46 14.1 0.0
S39A Bolivar 25.93 350 P P 18 46 14.8 -1.2
S39A IAmb IAmb 18 46 18.9
comp=Z,5.8nm,0.8s
AMTX Amarillo 25.94 333 P P 18 46 17.1 +0.8
AMTX IAmb IAmb 18 46 21.4
comp=Z,18nm,1.2s
CROK Carrier 25.96 341 P P 18 46 14.9 -1.4
U32A Winter Ranch, 26.18 339 P P 18 46 16.3 -2.1
P38A Dawn 27.85 350 P P 18 46 33.0 -0.3
P38A IAmb IAmb 18 47 00.9
comp=Z,7.5nm,1.1s
BNM Barren Site 27.86 325 P P 18 46 31.9 -1.8
SFIN Lafayette 28.14 1 P P 18 46 37.5 +1.7
SFIN IAmb IAmb 18 46 38.1
comp=Z,8.8nm,1.0s
ECSD EROS Data Cent 32.40 348 P P 18 47 13.0 -0.5
ECSD IAmb IAmb 18 47 15.0
comp=Z,4.4nm,0.8s
J56A Wolcott 32.42 15 P P 18 47 14.7 +1.1
O20A White River Ci 33.24 331 P P 18 47 21.4 +0.3
TCUT Toone Canyon 35.55 329 P P 18 47 41.1 0.0
TCUT IAmb IAmb 18 47 59.9
comp=Z,5.2nm,0.7s
BW06 Boulder Array 35.91 332 P P 18 47 44.9 +0.7
BW06 IAmb IAmb 18 47 51.6
comp=Z,3.5nm,1.1s
PD31 Pinedale Array 35.91 332 P P 18 47 43.8 -0.5
PDAR Pinedale Array 35.91 332 P P 18 47 44.0 -0.2
comp=Z,1.6nm,0.8s,baz=129,slow=8.0,SNR=8.5
PDAR Pinedale Array 35.91 332 P P 18 47 43.8 -0.5
AHID Auburn Hatcher 36.63 331 P P 18 47 51.4 +1.0
HVU Hansel Valley 36.74 328 P P 18 47 52.4 +1.2
HVU IAmb IAmb 18 47 57.7
comp=Z,2.9nm,0.7s
MDND Maddock 36.96 347 P P 18 47 52.7 -0.1
REDW Red Top Meadow 36.97 332 P P 18 47 53.5 +0.3
SNOW Snow King Moun 37.01 332 P P 18 47 53.8 +0.2
LOHW Long Hollow 37.05 332 P P 18 47 54.9 +1.0
LOHW IAmb IAmb 18 47 57.3
comp=Z,8.0nm,1.1s
FLWY Flagg Ranch 37.46 332 P P 18 47 58.5 +1.1
H17A Grant Village 37.65 333 P P 18 48 00.5 +1.5
YPP Pitchstone Pla 37.66 333 P P 18 47 59.2 0.0
YPP IAmb IAmb 18 48 13.7
comp=Z,4.8nm,1.3s
RLMT Red Lodge 37.66 335 P P 18 47 58.7 -0.4
LKWY Lake 37.70 333 P P 18 47 58.9 -0.6
LKWY IAmb IAmb 18 48 25.2
comp=Z,10nm,1.4s
MDPB Devils Postpil 37.80 318 P P 18 47 59.4 -1.1
YNE Yellowstone No 37.88 334 P P 18 48 01.0 0.0
YNE IAmb IAmb 18 48 03.7
comp=Z,4.4nm,0.9s
YMR Madison River 38.04 333 P P 18 48 03.4 +1.1
YMR IAmb IAmb 18 48 06.6
comp=Z,7.3nm,0.8s
YHH Holmes Hill 38.08 333 P P 18 48 04.3 +1.6
YHH IAmb IAmb 18 48 09.1
comp=Z,3.9nm,0.9s
YHB Horse Butte 38.20 333 P P 18 48 05.0 +1.4
YHB IAmb IAmb 18 48 18.5
comp=Z,5.4nm,0.8s
YHL Hebgen Lake 38.28 333 P P 18 48 05.4 +1.0
YHL IAmb IAmb 18 48 09.3
comp=Z,5.3nm,0.9s
ULM Lac du Bonnet 38.59 352 P P 18 48 04.1 -2.4
comp=Z,2.2nm,0.6s,baz=168,slow=4.7,SNR=3.5
ULM Lac du Bonnet 38.59 352 P P 18 48 05.2 -1.3
DGMT Dagmar 38.73 342 P P 18 48 08.0 +0.2
BCYI Bear Canyon 38.90 330 P P 18 48 10.1 +0.6
MCMT McKenzie Canyo 39.02 331 P P 18 48 11.8 +1.2
BOZ Bozeman (W) 39.05 333 P P 18 48 11.6 +0.9
BOZ IAmb IAmb 18 48 14.2
comp=Z,4.4nm,0.8s
DLMT Dillon 39.31 332 P P 18 48 14.3 +1.5
DLMT IAmb IAmb 18 48 16.6
comp=Z,4.5nm,0.8s
EGMT Eagleton 40.23 337 P P 18 48 20.8 +0.4
EGMT IAmb IAmb 18 48 23.6
comp=Z,9.3nm,1.2s
MSO Missoula 41.03 332 P P 18 48 28.3 +1.2
MSO IAmb IAmb 18 48 30.0
comp=Z,6.1nm,1.0s
F10A Beach Ranch, E 41.98 329 P P 18 48 35.1 +0.3
NEW Newport 43.55 332 P P 18 48 48.3 +0.9
D08A Wollman Farm, 43.57 329 P P 18 48 48.2 +0.6
D08A IAmb IAmb 18 48 50.3
comp=Z,4.0nm,0.6s
B08A Colville Reser 44.66 330 P P 18 48 55.6 -0.8
B08A IAmb IAmb 18 49 08.4
comp=Z,5.5nm,1.1s
LON Longmire 44.87 327 P P 18 48 57.5 -0.5
FRB Frobisher Bay 53.28 11 P P 18 50 00.8 -1.2
comp=Z,2.2nm,0.7s,baz=220,slow=9.5,SNR=3.6
YKA Yellowknife Ar 53.84 345 P P 18 50 05.1 -1.1
comp=Z,1.2nm,0.8s,baz=134,slow=8.4,SNR=12
RCBR Riachuelo 54.54 106 LR LR 19 14 56.5
comp=Z,113nm,18.1s,baz=319,slow=38
NRS Narsarsuaq 57.77 23 P P 18 50 34.3 -0.1
CMLA Cha da Macela 60.75 53 P P 18 50 55.4 0.0
ILAR Eielson Array 66.19 336 P P 18 51 31.2 +0.3
comp=Z,0.3nm,0.5s,baz=125,slow=6.0,SNR=4.4
ILAR Eielson Array 66.19 336 P P 18 51 31.4 +0.5
BMAR Burnt Mountain 66.47 339 P P 18 51 32.7 0.0
RND Reindeer 66.47 335 P P 18 51 33.0 +0.2
RND IAmb IAmb 18 51 35.0
comp=Z,5.3nm,1.0s
CMAR Chiang Mai Arr 148.89 348 PKPbc PKPbc 19 00 32.4 +0.3
comp=Z,0.5nm,0.6s,baz=334,slow=3.4,SNR=5.0

IDC 05 18:44:02.2±999.0**, 57°.18N**×**34°.61E, h0km, Error ellipse: s-maj=734.7km s-min=34.6km az=106.0, Baltic States-Belarus-Northwestern Russia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
I43RU DUBNA INFRASON 1.50 107 i 18 54 00.0
baz=289,slow=313,SNR=0.7
I31KZ AKTYUBINSK INF 15.36 106 i 20 15 01.3
baz=303,slow=313,SNR=5.9
I46RU ZALESOVO INFRA28.05 75 i 21 35 08.1
baz=293,slow=342

IDC 05 18:46:03.3±3.4**, 5°.57S**×**150°.01E, h0km, mb3.7**/3**, mb1 4.0**/4**, mb1mx3.5**/26**, mbtmp3.8**/4**, ML2.0**/1**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.6**/34**, Error ellipse: s-maj=100.6km s-min=38.0km az=116.0, New Britain region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PMG Port Moresby 4.75 216 Pn Pn 18 47 18.0 +1.9
5.0nm,0.3s,baz=46,slow=9.2,SNR=20
PMG Sn Sn 18 48 11.3 -0.6
7.4nm,0.3s,baz=339,slow=21,SNR=6.5
WRA Warramunga Arr 20.89 225 P P 18 50 47.2 -0.2
1.5nm,0.5s,baz=50,slow=10,SNR=14
ASAR Alice Springs 23.76 219 P P 18 51 16.9 -0.7
0.5nm,0.4s,baz=54,slow=9.5,SNR=22
FITZ Fitzroy Crossi 26.86 240 P P 18 51 46.2 +0.3
0.9nm,0.3s,baz=50,slow=9.0,SNR=12
AFI Afiamalu 38.51 105 LR LR 19 06 49.8
comp=Z,94nm,18.1s,baz=68,slow=32
TORD Torodi Ar. Bea 147.88 286 PKPbc PKPbc 19 05 50.9 -0.6
0.3nm,0.3s,baz=105,slow=2.8,SNR=2.3

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*IDC **05** 18:55:35.4±0.8, 3°.39S×145°.35E, h0km, mb4.1/14, mb1 4.3/18, mb1mx4.2/41, mbtmp4.2/18, ML4.1/2, MS3.6/11, Ms1 3.6/11, ms1mx3.4/31, Error ellipse: s-maj=25.4km s-min=14.6km az=99.0*
*NEIC **05** 18:55:39.0±1.2, 3°.46S±0°.09×145°.4E±0°.1, h25km±6km, mb4.7/15, Error ellipse: s-maj=20.2km s-min=6.9km az=51.0*
ISC 05 18:55:38.9±0.5**, 3°.39S**±0°.06×**145°.4E**±0°.1**, h23km, n52, σ1s.13**/50**, mb4.6**/26**, MS3.4**/8**, Near north coast of New Guinea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PMG Port Moresby 6.22 164 Pn Pn 18 57 08.8 -0.6
2.2nm,0.3s,baz=10,slow=6.1,SNR=13
PMG Sn Sn 18 58 23.9 +4.0
2.0nm,0.3s,baz=28,slow=10.0,SNR=3.1
PMG Port Moresby 6.22 164 Pn 18 57 07.8 -1.6
SIJI Sorong 14.34 280 LR LR 19 04 44.3
comp=Z,81nm,21.5s,baz=80,slow=38
HNR Honiara 15.65 113 Pn P 18 59 19.7 -2.4
6.4nm,0.3s,baz=150,slow=0.7,SNR=3.6
HNR LR LR 19 04 17.3
comp=Z,185nm,21.8s,baz=260,slow=33
CTA Charters Tower 16.61 177 Pn P 18 59 31.4 -1.3
0.1nm,0.3s,baz=328,slow=9.5,SNR=1.3
WB0 Warramunga Arr 19.50 213 P P 19 00 03.7 -0.9
WB0 IAmb IAmb 19 00 07.8
comp=Z,25nm,1.0s
WR0 Warramunga Arr 19.58 212 P P 19 00 04.6 -0.9
WR0 IAmb IAmb 19 00 08.5
comp=Z,28nm,0.8s
WB2 Warramunga Arr 19.66 212 P P 19 00 05.7 -0.7
WB2 IAmb IAmb 19 00 09.7
comp=Z,38nm,1.0s
WRA Warramunga Arr 19.67 212 P P 19 00 05.6 -0.9
comp=Z,1.1nm,0.3s,baz=35,slow=9.7,SNR=89
WRA LR LR 19 08 07.0
comp=Z,267nm,21.3s,baz=35,slow=38
SOEI Soe 21.91 252 P P 19 00 30.1 -0.8
SOEI IAmb IAmb 19 00 51.0
comp=Z,52nm,0.8s
BATI Baumata 22.60 252 P P 19 00 37.7 -0.5
comp=Z,43nm,1.1s,baz=90,slow=5.1,SNR=4.0
BATI LR LR 19 11 48.0
comp=Z,124nm,18.8s,baz=96,slow=43
LUWI Luwuk 22.73 275 P P 19 00 38.8 -0.7
AS31 Alice Springs 23.01 208 P P 19 00 42.0 -0.4
ASAR Alice Springs 23.01 208 P P 19 00 41.5 -1.0
comp=Z,4.3nm,0.8s,baz=29,slow=13,SNR=39
ASAR S S 19 04 53.0 +1.0
comp=Z,0.2nm,0.7s,baz=72,slow=36,SNR=2.8
ASAR LR LR 19 10 12.6
comp=Z,139nm,20.2s,baz=32,slow=38
ASAR Alice Springs 23.01 208 P P 19 00 41.6 -0.8
FITZ Fitzroy Crossi 24.25 232 P P 19 00 53.2 -1.2
comp=Z,7.4nm,0.8s,baz=52,slow=11,SNR=10
FITZ LR LR 19 11 58.4
comp=Z,110nm,18.3s,baz=52,slow=41
TOLI2 Tolitoli 25.01 280 P P 19 01 00.2 -1.1
TOLI2 IAmb IAmb 19 01 09.5
comp=Z,11nm,0.7s
KAPI Kappang 25.62 266 LR LR 19 11 50.7
comp=Z,60nm,20.1s,baz=86,slow=38
DZM Mont Dzumac 27.60 134 LR LR 19 11 11.9
comp=Z,208nm,18.0s,baz=292,slow=34
STKA Stephens Creek 28.56 187 P P 19 01 34.5 +1.4
comp=Z,1.9nm,0.8s,baz=27,slow=13,SNR=1.9
STKA Stephens Creek 28.56 187 P P 19 01 34.4 +1.4
MJB9 Matsu-Tunnel 40.30 351 P P 19 03 14.6 +0.1
KSRS Korea Array 43.77 340 P P 19 03 42.7 0.0
comp=Z,2.4nm,0.8s,baz=158,slow=11,SNR=4.5
PLWZ Palliser 46.49 149 P P 19 04 03.5 -0.9
USRK Ussuriysk Ar. 48.88 347 P P 19 04 23.4 +0.6
comp=Z,3.4nm,0.8s,baz=166,slow=38,SNR=2.6
CM31 Chiang Mai Arr 50.63 297 P P 19 04 36.8 +0.2
CM31 IAmb IAmb 19 04 45.0
comp=Z,12nm,1.2s
CMAR Chiang Mai Arr 50.63 297 P P 19 04 37.2 +0.6
comp=Z,2.1nm,0.8s,baz=117,slow=6.1,SNR=14
CMAR LR LR 19 26 26.0
comp=Z,22nm,19.8s,baz=190,slow=37
CMAR Chiang Mai Arr 50.63 297 P P 19 04 36.9 +0.3
CHTO Chiang Mai 50.76 298 P P 19 04 38.3 +0.7
CHTO IAmb IAmb 19 04 45.5
comp=Z,7.3nm,1.2s
PETK Petropavlovsk- 57.24 9 P P 19 05 24.4 +0.1
comp=Z,8.1nm,1.0s,baz=190,slow=13,SNR=3.7
SONM Songino Array 61.37 331 P P 19 05 54.3 +1.2
comp=Z,1.1nm,1.0s,baz=147,slow=4.7,SNR=4.9
SONM Songino Array 61.37 331 P P 19 05 53.9 +0.8
TAPN Taplejung 63.40 303 eP P 19 06 05.4 -2.0
comp=Z,13nm,1.2s
ODAN Odare 63.51 302 eP P 19 06 06.4 -1.6
comp=Z,21nm,1.3s
GUN Gumba 65.12 303 eP P 19 06 19.1 +0.4
comp=Z,21nm,1.0s
PKI Pulchoki 65.41 302 eP P 19 06 21.3 +0.8
comp=Z,27nm,1.5s
PKIN Phulchoki 65.42 302 eP P 19 06 21.0 +0.5
comp=Z,21nm,1.5s
KKN Kakani 65.58 302 eP P 19 06 21.6 +0.1
comp=Z,9.5nm,0.9s
DMN Daman 65.67 302 eP P 19 06 23.4 +1.2
GKN Gorkha 66.19 303 eP P 19 06 26.1 +0.7
comp=Z,18nm,1.1s
NIKH Nikolski High 68.01 28 P P 19 06 37.2 +1.0
MKAR Makanchi Array 74.48 321 P P 19 07 15.0 -0.6
comp=Z,0.6nm,0.9s,baz=101,slow=7.1,SNR=5.7
MKAR Makanchi Array 74.48 321 P P 19 07 16.1 +0.5
ZALV Zalesovo Beam 75.97 328 P P 19 07 23.8 -0.2
comp=Z,0.3nm,0.3s,baz=93,slow=5.8,SNR=1.4
ZALV LR LR 19 40 52.9
comp=Z,94nm,19.2s,baz=9.0,slow=36
NRIK Noril'sk 82.32 342 P P 19 07 58.8 +0.4
comp=Z,1.3nm,0.3s,baz=131,slow=5.4,SNR=4.9
NRIK LR LR 19 44 09.5
comp=Z,173nm,19.8s,baz=1.0,slow=35
CCB Clear Creek Bu 83.32 23 P P 19 08 03.3 -0.3
CCB IAmb IAmb 19 08 10.8
comp=Z,12nm,1.5s
ILAR Eielson Array 83.74 24 P P 19 08 04.8 -1.0
comp=Z,2.1nm,0.7s,baz=257,slow=4.8,SNR=17
ILAR Eielson Array 83.74 24 P P 19 08 04.4 -1.4
BCAR Beaver Creek A 85.30 26 P P 19 08 13.6 -0.2
BMAR Burnt Mountain 85.56 21 P P 19 08 16.0 +1.0
EGAK Eagle 86.06 24 P P 19 08 17.5 +0.1
EGAK IAmb IAmb 19 08 27.2
comp=Z,5.7nm,1.1s
YKA Yellowknife Ar 97.62 27 P Pdif 19 09 12.0 +0.6
comp=Z,0.3nm,0.6s,baz=275,slow=3.8,SNR=4.7

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*NNC **05** 18:58:42.0±15.0, 36°.83N×69°.95E, h30km±671km, mb4.0, mpv3.6, Error ellipse: s-maj=462.1km s-min=59.9km az=13.0*
ISC 05 18:58:41.2±4.8**, 36°.7N**±0°.3×**70°.1E**±0°.2**, h35km, n9,**

σ1.^{s}03/12, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	6.11	26	P	Pn	19 00 09.9	+0.5
	SNR=52						
KK31	Karatay Array	6.40	3	⇑P	Pn	19 00 14.0	+1.0
	0.8nm,0.3s,baz=177,slow=12,SNR=58						
KK31				⇓S	Sn	19 01 23.1	-1.8
	1.9nm,0.7s,baz=186,slow=27						
UCH	Uchtor	6.51	31	P	Pn	19 00 15.0	+0.1
	SNR=18						
EKS2	Erkin-Say	6.61	25	P	Pn	19 00 16.5	+0.5
	SNR=5.4						
AAK	Ala-Archa	6.85	29	P	Pn	19 00 19.6	+0.3
	SNR=5.8						
AAK	Ala-Archa	6.85	29	⇑P	Pn	19 00 18.9	-0.3
	1.5nm,0.3s						
AAK				⇑S	Sn	19 01 36.4	+0.4
	3.4nm,0.7s						
USP	Ospenovka	7.39	26	P	Pn	19 00 26.4	-0.2
	SNR=7.7						
TKM2	Tokmak 2	7.54	33	P	Pn	19 00 27.9	-0.9
	SNR=6.5						
TKM2	Tokmak 2	7.54	33	⇑P	Pn	19 00 27.4	-1.4
	4.6nm,0.7s						
TKM2				⇑S	Sn	19 01 54.3	+1.3
	1.4nm,1.1s						

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*GCMT **05** 19:20:00.0±0.4, 9.°10S±0.°02×109.°67W±0.°02, h21km±1km, MW4.9/84, Moment Tensor Solution. s22,c22; s84,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.32±.15; $M_{\theta\theta}$0.68±.12; $M_{\phi\phi}$-1.00±.12; $M_{r\theta}$-0.52±.20; $M_{\theta\phi}$2.45±.11; $M_{\phi r}$-0.38±.21; Best double couple: $M_0$2.68000×10^{16} NP1:ϕ_s281.00000°,δ79.00000°,λ11.00000°. NP2: ϕ_s188.00000°,δ79.00000°,λ169.00000°. Principal axes: T 2.6100, Plg16.0000°, Azm144.0000°; N 0.1420, Plg74.0000°, Azm325.0000°; P -2.7500, Plg0.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 05 19:19:55.5±1.6, **9.°68S**×**110.°63W, h0km, mb3.6**/4, **mb1 3.9**/4, **mb1mx3.7**/26, **mbtmp3.6**/4, **MS4.0**/12, **Ms1 4.0**/12, **ms1mx3.8**/24 **Error ellipse: s-maj=61.1km s-min=30.6km az=58.0, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	17.39	176	LR	LR	19 28 51.2	
	comp=Z,231nm,18.6s,baz=336,slow=31						
RKT	Rikitea	26.85	237	eLR	LR	19 32 43.4	
	comp=Z,578nm,24.0s						
H03N2	Juan Fernandez	37.52	134	T	T	20 06 39.9	
	baz=307,slow=77,SNR=96						
H03N3	Juan Fernandez	37.54	134	T	T	20 06 41.4	
	baz=307,slow=77,SNR=81						
H03N1	Juan Fernandez	37.54	134	T	T	20 06 42.9	
	baz=307,slow=77,SNR=112						
PPT	Papeete	38.59	254	LR	LR	19 39 41.7	
	comp=Z,144nm,19.0s,baz=33,slow=31						
PPT2	Papeete2	38.60	254	eLQ	LQ	19 36 30.7	
	429nm,26.8s						
PPT2				eLR	LR	19 38 09.5	
	comp=Z,498nm,26.2s,baz=86						
ROSC	El Rosal	38.95	70	LR	LR	19 38 50.8	
	comp=Z,188nm,21.5s,baz=254,slow=29						
TXAR	Lajitas Array	39.37	10	P	P	19 27 27.1	+0.1
	0.4nm,0.6s,baz=172,slow=8.1,SNR=2.9						
TXAR				LR	LR	19 39 46.7	
	comp=Z,74nm,20.6s,baz=0.0,slow=30						
TBI	Tubuai	39.49	245	eS	S	19 33 41.4	+10
	70nm,27.5s						
TBI				eLQ	LQ	19 36 50.4	
	400nm,30.5s						
TBI				eLR	LR	19 38 35.4	
	comp=Z,535nm,27.8s,baz=68						
LPAZ	La Paz	41.87	104	P	P	19 27 48.8	+0.2
	1.2nm,0.7s,baz=275,slow=8.6,SNR=3.6						
LPAZ				LR	LR	19 40 54.9	
	comp=Z,110nm,18.7s,baz=273,slow=30						
PLCA	Paso Flores	47.01	138	P	P	19 28 28.2	-0.5
	2.2nm,1.1s,baz=321,slow=11,SNR=2.9						
PLCA				LR	LR	19 42 58.9	
	comp=Z,330nm,20.4s,baz=330,slow=29						
CPUP	Villa Florida	52.95	116	LR	LR	19 47 15.1	
	comp=Z,173nm,20.9s,baz=282,slow=31						
MDP	Montagnes des	59.61	78	LR	LR	19 53 13.9	
	comp=Z,113nm,18.3s,baz=249,slow=34						
BDFB	Brasilia	61.20	103	LR	LR	19 53 09.5	
	comp=Z,72nm,21.4s,baz=110,slow=33						
URZ	Urewera	70.15	233	LR	LR	19 55 35.0	
	comp=Z,132nm,19.9s,baz=211,slow=30						
YKA	Yellowknife Ar	72.02	358	P	P	19 31 20.4	-0.5
	0.1nm,0.4s,baz=174,slow=4.5,SNR=1.6						
RPZ	Rata Peaks	74.94	227	LR	LR	19 57 02.2	
	comp=Z,116nm,18.2s,baz=86,slow=30						
KDAK	Kodiak Island	75.42	338	LR	LR	19 58 36.4	
	comp=Z,192nm,18.3s,baz=141,slow=31						
H11S2	WAKE ISLAND Hy	86.17	289	T	T	21 08 31.4	
	baz=101,slow=74,SNR=53						
H11S1	WAKE ISLAND Hy	86.18	289	T	T	21 08 29.5	
	baz=101,slow=74,SNR=34						
H11S3	WAKE ISLAND Hy	86.19	289	T	T	21 08 31.3	
	baz=101,slow=74,SNR=38						
H11N3	WAKE ISLAND Hy	86.23	291	T	T	21 08 35.5	
	baz=101,slow=74,SNR=15						
H11N2	WAKE ISLAND Hy	86.24	291	T	T	21 08 39.6	
	baz=101,slow=74,SNR=14						
H11N1	WAKE ISLAND Hy	86.24	291	T	T	21 08 37.2	
	baz=101,slow=74,SNR=9.7						
MKAR	Makanchi Array	141.41	346	PKP	PKPdf	19 39 29.5	+0.7
	0.2nm,0.9s,baz=7.1,slow=3.5,SNR=1.3						
CMAR	Chiang Mai Arr	150.06	290	PKPbc	PKPbc	19 39 49.0	-0.1
	0.5nm,0.4s,baz=66,slow=0.5,SNR=4.5						

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*IDC **05** 19:28:47.0±6.3, 7.°60S×145.°47E, h84km±77km, mb3.2/2, mb1 3.3/6, mb1mx3.1/29, mbtmp3.4/6, ML3.2/3, Error ellipse: s-maj=58.9km s-min=31.7km az=148.0*

ISC 05 19:28:43.1±1.7, **7.°4S**±0.°2×**145.°3E**±0.°1, **h35km, n6,** σ**1.^{s}30**/7, **Near south coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.68	138	P	Pn	19 29 24.5	+0.7
	4.9nm,0.3s,baz=304,slow=7.3,SNR=18						
PMG				S	Sn	19 29 55.2	+0.1
	7.1nm,0.3s,baz=312,slow=23,SNR=9.5						
CTA	Charters Tower	12.64	176	P	Pn	19 31 39.7	-0.8
	0.1nm,0.3s,baz=3.8,slow=16,SNR=1.4						
WRA	Warramunga Arr	16.40	219	P	Pn	19 32 31.8	+1.0
	0.1nm,0.3s,baz=38,slow=12,SNR=8.7						
ASAR	Alice Springs	19.54	213	P	P	19 33 06.3	-1.6
	0.1nm,0.3s,baz=45,slow=9.4,SNR=16						
FITZ	Fitzroy Crossi	21.93	239	P	P	19 33 35.1	+1.4
	2.1nm,0.9s,baz=79,slow=16,SNR=2.1						
MKAR	Makanchi Array	77.54	321	P	P	19 40 35.0	-0.4
	0.3nm,0.9s,baz=98,slow=6.0,SNR=2.4						

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*IDC **05** 19:31:10.5±0.8, 27.°44N×56.°14E, h0km, mb3.8/15, mb1 4.0/19, mb1mx3.9/47, mbtmp3.9/19, ML3.8/3, Error ellipse: s-maj=18.8km s-min=15.8km az=20.0*

*THR **05** 19:31:11.7±0.4, 27.°40N×56.°19E, h14km±1km, ML3.7*

*MOS **05** 19:31:11.9±1.4, 27.°42N×56.°10E, h26km, mb4.4/6, Error ellipse: s-maj=10.4km s-min=7.7km az=88.4*

*NEIC **05** 19:31:12.3±1.4, 27.°54N±0.°03×56.°1E±0.°1, h10km±1km, mb4.0/18, mb_Lg3.7(TEH), Error ellipse: s-maj=19.0km s-min=4.6km az=100.0*

*TEH **05** 19:31:12.4, 27.°46N×56.°24E, h10km, ML3.7*

*OMAN **05** 19:31:14.8, 27.°58N×56.°27E, h33km, ml3.5/10*

ISC 05 19:31:12.2±0.9, **27.°48N**±0.°03×**56.°19E**±0.°04, **h13**km±6km, **n130,** σ**1.^{s}75**/143, **mb3.8**/29, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.09	192	ePg	Pg	19 31 14.4	-0.6
BNDS				IAML		19 31 16.9	
	comp=N,39µm,0.2s						
BNDS	Bandar-Abbas	0.09	192	ePg	Pg	19 31 14.5	-0.6
KHNJ	Kahnooj	1.42	71	ePg	Pb	19 31 38.3	-0.3
SHME	Shamm	1.43	182	ePn	Pb	19 31 39.1	+0.4
SHME	Shamm	1.43	182	P	Pb	19 31 38.7	0.0
	SNR=6.5						
SHME				S	Sg	19 31 59.1	+0.9
BANOM	Banah	1.56	176	ePn	Pb	19 31 41.1	+0.2
BANOM	Banah	1.56	176	P	Pb	19 31 40.9	0.0
	SNR=29						
BANOM				S	Sg	19 32 02.6	+0.3
LAR1	LAR	1.62	277	ePg	Pg	19 31 43.9	+0.5
LAR1				e		19 32 38.4	
	comp=Z,99nm,0.5s						
MASF	Masafi	2.10	181	P	Pb	19 31 49.3	-0.9
MASF				S	Sb	19 32 15.2	-1.1
MSFE	Esma-Masafi	2.12	181	ePn	Pb	19 31 49.9	-0.5
MDH	Madha	2.18	177	ePn	Pb	19 31 50.7	-0.8
MDH	Madha	2.18	177	P	Pb	19 31 50.0	-1.5
NGRK	Negar Kerman	2.21	12	ePn	Pn	19 31 50.8	+1.9
NGRK				e		19 32 47.0	
	comp=Z,99nm,1.0s						
JHRM	Jahrom	2.53	294	ePn	Pn	19 31 56.2	+3.1
JHRM				e		19 32 50.3	
	comp=Z,99nm,0.4s						
UOSS	Minazif	2.53	180	Pn	Pn	19 31 54.7	+1.7
UOSS	Minazif	2.53	180	P	Pn	19 31 54.5	+1.5
NAZ	Nazwa, Dubai	2.53	191	ePn	Pb	19 31 55.7	-1.8
KRBR	Kerman	2.54	11	ePn	Pn	19 31 56.0	+2.5
KRBR				eSg	Sg	19 32 33.9	0.0
KRBR	Kerman	2.54	11	ePn	Pn	19 31 55.9	+2.5
TVBK	TV Kerman	2.54	11	ePn	Pb	19 31 56.8	-1.2
TVBK				e		19 33 00.4	
	comp=Z,99nm,1.1s						
KBAM	BAM	2.59	50	ePn	Pb	19 31 56.7	-1.8
KBAM				e		19 32 40.0	
	comp=Z,99nm,0.6s						
HATD	Hatta, Dubai	2.65	181	ePn	Pn	19 31 57.1	+2.5
HATD	Hatta, Dubai	2.65	181	P	Pn	19 31 56.9	+2.3
HATD				S	Sb	19 32 32.3	+0.4
CHMN	Cheshme madani	2.65	26	ePn	Pb	19 31 58.0	-1.7
CHMN				e		19 32 47.0	
	comp=Z,99nm,1.0s						
FAQ	Al Faqa, Dubai	2.78	191	ePn	Pn	19 31 58.9	+2.5
FAQ	Al Faqa, Dubai	2.78	191	P	Pn	19 31 58.6	+2.1
ASHO	Ashiyiah	2.79	182	ePn	Pn	19 31 59.0	+2.4
ASHO	Ashiyiah	2.79	182	P	Pn	19 31 58.6	+2.0
	SNR=7.3						
KHGB	Koh Gabri	2.89	5	ePn	Pn	19 32 01.2	+3.0
KHGB				e		19 33 05.4	
	comp=Z,99nm,1.1s						
ASUD	Al Ashush, Dub	2.95	195	P	Pn	19 32 01.7	+2.9
	SNR=7.3						
SOHO	SOHO	3.35	175	ePn	Pn	19 32 05.7	+1.4
SOHO	SOHO	3.35	175	P	Pn	19 32 05.5	+1.2
ALNE	Al Ain	3.44	187	ePn	Pn	19 32 08.2	+2.7
ALNE	Al Ain	3.44	187	P	Pn	19 32 07.9	+2.4
IBAF	Bafgh	4.13	353	ePn	Pn	19 32 18.1	+2.9
IMEH	Mehriz	4.13	341	ePn	Pn	19 32 18.7	+3.4
WSAR	Wadi Sarin	4.77	152	Pn	Pn	19 32 24.3	+0.5
	comp=Z,3.7nm,0.3s,baz=28,slow=16,SNR=37						
WSAR				Sn	Sn	19 33 18.2	-0.8
	comp=Z,1.3nm,0.3s,baz=210,slow=18,SNR=5.8						
UMZA	Um Al Zommool	4.84	191	ePn	Pn	19 32 28.2	+3.4
ISAD	Sadrabad	4.92	334	ePn	Pn	19 32 30.5	+4.3
YZKH	Yazd	5.08	345	ePn	Pn	19 32 30.9	+2.6
YZKH	Yazd	5.08	345	ePn	Pn	19 32 30.9	+2.6
BSRN	Basiran	5.14	29	ePn	Pn	19 32 31.4	+2.4
BSRN	Basiran	5.14	29	ePn	Pn	19 32 31.5	+2.4
NHDN	Nehbandan	5.15	40	ePn	Pn	19 32 30.5	+1.3
KLNJ	Kolanjah	5.34	312	ePn	Pn	19 32 34.4	+2.4
IRAM	Ramesheh	5.44	323	ePn	Pn	19 32 36.5	+3.3
IKOO	Kooshah	5.50	26	ePn	Pn	19 32 35.8	+1.8
TPRV	Parvadeh(Tabas	5.54	4	ePn	Pn	19 32 38.0	+3.4
ANAR	Anarak	6.07	340	ePn	Pn	19 32 44.5	+2.6
IGAR	Gharneh	6.08	325	ePn	Pn	19 32 45.1	+3.0
TKDS	Koohdasht(Taba	6.16	7	ePn	Pn	19 32 46.9	+3.8
IZEF	Zefreh	6.35	329	ePn	Pn	19 32 47.7	+2.0
TNSJ	Nastanj	6.47	3	ePn	Pn	19 32 50.5	+3.2
IPIR	Pirpir	6.92	320	ePn	Pn	19 32 56.6	+2.9
HRA	Herat	8.62	36	Pn	Pn	19 33 17.1	+0.1
RAYN	Ar Rayn	10.43	250	P	Pn	19 33 39.2	-2.4
RAYN	Ar Rayn	10.43	250	Pn	Pn	19 33 39.1	-2.4
GNI	Garni	15.80	326	Pn	P	19 34 58.1	-0.3
	comp=Z,0.2nm,0.3s,baz=96,slow=18,SNR=3.6						
NIL	Nilore	15.92	63	P	Pn	19 34 57.1	+1.0
NIL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NIL	Nilore	15.92	63	Pn	Pn	19 34 57.1	+1.0
NIL				IAmb	IAmb	19 35 09.1	
	comp=Z,4.4nm,0.9s						
ZEI	Tsey	18.25	330	eP	P	19 35 27.0	+1.4
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MMAI	Mount Meron Ar	18.78	292	P	P	19 35 32.5	+1.2
	comp=Z,0.3nm,0.3s,baz=116,slow=13,SNR=8.0						
EIL	Elat	18.78	282	P	P	19 35 32.0	+0.8
	comp=Z,0.2nm,0.3s,baz=4.2,slow=8.6,SNR=5.0						
NCK	Nalchik	18.95	331	i P	P	19 35 33.8	+0.8
NCK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KK31	Karatay Array	19.44	33	P	P	19 35 38.3	-0.1
KK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KK31	Karatay Array	19.44	33	P	P	19 35 38.3	-0.1
KKAR	Karatay Array	19.44	33	P	P	19 35 38.3	-0.1
KKAR	Karatay Array	19.44	33	P	P	19 35 38.3	-0.1
KKAR	Karatay Array	19.44	33	P	P	19 35 38.2	-0.1
KKAR				IAmb	IAmb	19 35 43.0	
	comp=Z,3.0nm,0.9s						
KSH	Kashi	20.35	49	P	P	19 35 45.6	-2.9
KSH				pP	sP	19 35 54.4	+0.5
KSH				PP	PnPn	19 36 06.1	+0.6
KSH				pmax	pmax		
	comp=Z,13nm,1.0s						
KSH				pmax	pmax		
	comp=Z,300nm,7.3s						
AAK	Ala-Archa	21.22	40	P	P	19 35 59.5	+1.6
	comp=Z,1.3nm,0.8s,baz=212,slow=9.6,SNR=7.3						
AAK	Ala-Archa	21.22	40	i P	P	19 35 58.3	+0.4
AAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AAK	Ala-Archa	21.22	40	P	P	19 35 58.7	+0.8
AAK				IAmb	IAmb	19 36 13.1	
	comp=Z,3.8nm,1.0s						
ABKAR	Akbulak array	21.93	7	P	P	19 36 05.9	+0.6
ABKAR				IAmb	IAmb	19 36 09.6	
	comp=Z,12nm,1.0s						
ABKAR	Akbulak array	21.93	7	P	P	19 36 05.4	+0.1
BR131	Keskin Array S	22.33	309	i P	P	19 36 09.3	-0.6
BR131	Keskin Array S	22.33	309	P	P	19 36 09.3	-0.6
BR131				IAmb	IAmb	19 36 14.8	
	comp=Z,8.8nm,0.8s						
BRTR	Keskin Array B	22.33	309	P	P	19 36 09.8	-0.1
	comp=Z,5.2nm,0.8s,baz=133,slow=12,SNR=20						
BRTR	Keskin Array B	22.33	309	P	P	19 36 08.3	-1.6
BRTR	Keskin Array B	22.33	309	P	P	19 36 08.3	-1.6
AKTO	Aktyubinsk	22.96	3	P	P	19 36 17.3	+1.0
	comp=Z,4.0nm,0.9s,baz=194,slow=9.8,SNR=12						
ELL	Elmali	24.04	299	P	P	19 36 26.9	-0.3
ELL				pmax	pmax		
	comp=Z,51nm,1.1s						
ELL	Elmali	24.04	299	P	P	19 36 26.9	-0.3
BRVK	Borovoye	27.61	18	i P	P	19 36 58.2	-1.0
BRVK	Borovoye	27.61	18	P	P	19 36 59.9	+0.6
BRVK				IAmb	IAmb	19 37 06.4	
	comp=Z,1.4nm,0.8s						
BVAR	Borovoye Array	27.61	19	P	P	19 36 59.9	+0.6
	comp=Z,1.0nm,0.8s,baz=18,slow=9.8,SNR=9.7						
MAKZ	Makanchi	27.98	40	P	P	19 37 04.6	+2.0
MAKZ				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MAKZ	Makanchi	27.98	40	P	P	19 37 04.6	+2.0
MAKZ				IAmb	IAmb	19 37 06.1	
	comp=Z,2.4nm,1.2s						
MK31	Makanchi Array	28.15	40	i P	P	19 37 04.6	+0.4
MK31	Makanchi Array	28.15	40	P	P	19 37 03.4	-0.7
MKAR	Makanchi Array	28.15	40	P	P	19 37 04.8	+0.6
	comp=Z,0.4nm,0.7s,baz=224,slow=6.8,SNR=5.7						
MKAR	Makanchi Array	28.15	40	i P	P	19 37 05.5	+1.3
MKAR	Makanchi Array	28.15	40	P	P	19 37 04.5	+0.4
ARU	Arti	28.98	3	P	P	19 37 10.5	-0.8
	comp=Z,0.5nm,0.4s,baz=181,slow=11,SNR=3.2						
WMQ	Urumqi	30.12	49	eP	P	19 37 24.7	+3.0
AKASG	Malin Array Be	30.93	326	P	P	19 37 28.4	-0.3
	comp=Z,0.2nm,0.2s,baz=122,slow=7.8,SNR=5.0						
AKASG	Malin Array Be	30.93	326	i P	P	19 37 29.3	+0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKBB	Malin Array Si	30.93	326	eP	P	19 37 28.9	+0.2
AKBB	Malin Array Si	30.93	326	P	P	19 37 28.5	-0.1
OBN	Obninsk	31.07	338	eP	P	19 37 28.6	-1.3
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KOLS	Kolonicke sedl	33.77	319	eP	P	19 37 56.3	+2.6
KOLS	Kolonicke sedl	33.77	319	eP	P	19 37 56.3	+2.6
ZALV	Zalesovo Beam	33.78	31	P	P	19 37 54.3	+0.7
	comp=Z,0.5nm,0.4s,baz=238,slow=8.5,SNR=5.1						
ZALV	Zalesovo Beam	33.78	31	P	P	19 37 53.9	+0.3
MNK	Minsk	33.99	330	i P	P	19 37 53.5	-2.0
	comp=E,2.0nm,1.0s						
MNK				i P	P	19 37 53.5	-2.0
	comp=N,10.0nm,0.9s						
MNK				i P	P	19 37 53.5	-2.0
	comp=Z,9.0nm,0.9s						
MNK				i PP	PnPn	19 39 06.7	-1.9
MNK				i PcP	PcP	19 40 31.6	-1.7
MNK				i S	S	19 43 16.8	-3.4
MNK				i SS	SnSn	19 45 24.4	-2.4
MNK				i SSS	SSS	19 45 41.0	
MNK				i LR	LR	19 52 03.9	
MNK				i LRM	MLR	19 53 01.9	
	comp=E,10.0nm,16.6s						
MNK				i LRM	MLR	19 53 01.9	
	comp=N,181nm,16.6s						
MNK				i LRM	MLR	19 53 01.9	
	comp=Z,105nm,15.2s						
MOA	Molln	38.32	313	eP	P	19 38 33.9	+1.2
	comp=Z,1.2nm,0.6s						
GERES	GERESS Array B	38.98	315	P	P	19 38 38.2	0.0
	comp=Z,0.4nm,0.6s,baz=123,slow=9.7,SNR=5.7						
GERES	GERESS Array B	38.98	315	P	P	19 38 38.0	-0.2
GERES	GERESS Array B	38.98	315	P	P	19 38 38.0	-0.2
KHC	Kasperske Hory	39.14	315	i P	P	19 38 37.4	-2.1
KHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KHC	Kasperske Hory	39.14	315	eP	P	19 38 39.7	+0.2
KHC	Kasperske Hory	39.14	315	P	P	19 38 38.1	-1.5
KHC				IAmb	IAmb	19 38 52.0	
	comp=Z,4.8nm,1.1s						
FINES	FINESS Array B	39.48	338	P	P	19 38 41.9	-0.2
	comp=Z,1.6nm,0.9s,baz=140,slow=15,SNR=4.1						
FETA	Feichten	40.44	311	eP	P	19 38 51.4	+0.9
	comp=Z,2.6nm,0.8s						
DAVA	Damuels	41.06	311	eP	P	19 38 56.2	+0.6
	comp=Z,3.7nm,0.6s						
LZH	Lanzhou	41.07	66	eP	P	19 38 58.2	+2.4
LZH				pP	sP	19 39 07.9	+6.1
LZH				sP	pP	19 39 09.5	+10
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
SONM	Songino Array	43.75	48	P	P	19 39 18.8	+1.3
	comp=Z,1.8nm,1.0s,baz=256,slow=5.8,SNR=10						
SONM	Songino Array	43.75	48	P	P	19 39 16.8	-0.7
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	Songino Array	43.75	48	P	P	19 39 16.8	-0.7
SONM				IAmb	IAmb	19 39 20.3	
	comp=Z,2.0nm,1.0s						
NRIK	Noril'sk	45.70	15	i P	P	19 39 33.2	+0.7
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TAM	Tamanrasset	45.86	276	P	P	19 39 32.5	-2.1
TAM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TAM	Tamanrasset	45.86	276	P	P	19 39 32.5	-2.1
TAM				IAmb	IAmb	19 39 36.7	
	comp=Z,2.2nm,0.8s						
HHC	Hu-ho-hao-te	47.00	59	eP	P	19 39 45.6	+2.3
HHC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,77nm,5.4s						
TOA0	Torodi Ar. Sit	52.67	266	P	P	19 40 25.9	-0.7
TORD	Torodi Ar. Bea	52.67	266	P	P	19 40 26.1	-0.6
	comp=Z,2.8nm,0.7s,baz=60,slow=7.3,SNR=14						
TORD	Torodi Ar. Bea	52.67	266	P	P	19 40 25.9	-0.8
TORD				IAmb	IAmb	19 40 27.7	
	comp=Z,3.1nm,0.8s						
KOWA	Kowa	57.20	270	P	P	19 40 59.7	+0.2
WRA	Warramunga Arr	89.08	113	P	P	19 44 08.8	+1.2
	comp=Z,1.1nm,0.9s,baz=267,slow=3.3,SNR=5.7						
YKA	Yellowknife Ar	90.03	356	P	P	19 44 12.3	+0.9
	comp=Z,0.5nm,1.0s,baz=4.8,slow=4.8,SNR=6.1						
ASAR	Alice Springs	90.57	116	P	P	19 44 14.2	-0.3
	comp=Z,0.4nm,1.0s,baz=302,slow=5.3,SNR=6.1						

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*SOME **05** 19:36:33.5, 43.°17N×78.°32E, h5km*

*KRNET **05** 19:36:33.7±0.1, 43.°16N×78.°36E, h19km, mb2.3*

*NNC **05** 19:36:34.3±0.3, 43.°12N×78.°48E, h5km±2km, mb2.7, mpv2.5, Error ellipse: s-maj=3.0km s-min=1.5km az=156.0*

ISC 05 19:36:33.9±0.9, **43.°15N**±0.°03×**78.°36E**±0.°03, **h11**km±6km, **n22,** σ**0.^{s}63**/43, **12C-2D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SATY	Saty	0.10	161	eP	Pg	19 36 36.6	-0.2
	baz=62						
SATY				eS	Sg	19 36 38.8	-0.1
	baz=62						
SATY	Saty	0.10	161	eP	Pg	19 36 36.6	-0.2
	14nm,0.1s						
SATY				eS	Sg	19 36 38.8	-0.1
	176nm,0.2s						
SATY	Saty	0.10	161	P	Pg	19 36 36.6	-0.2
	14nm,0.1s						
SATY				S	Sg	19 36 38.8	-0.1
	176nm,0.2s						
KPKS	Kokpek	0.39	37	eP	Pg	19 36 41.6	-0.1
	baz=38						
KPKS				eS	Sg	19 36 47.0	0.0
	baz=38						
KPKS	Kokpek	0.39	37	eP	Pg	19 36 41.6	-0.1
	3.5nm,0.1s						
KPKS				eS	Sg	19 36 47.0	0.0
	41nm,0.2s						
UZB	Uzynbulak	0.48	91	eP	Pg	19 36 43.1	-0.3
	baz=92						
UZB				eS	Sg	19 36 49.8	-0.1
	baz=92						
UZB	Uzynbulak	0.48	91	eP	Pg	19 36 43.1	-0.3
	8.0nm,0.1s						
UZB				eS	Sg	19 36 49.8	-0.1
	17nm,0.1s						
UZB	Uzynbulak	0.48	91	P	Pg	19 36 43.1	-0.3
	8.0nm,0.1s						
UZB				S	Sg	19 36 49.8	-0.1
	17nm,0.1s						
ANVS	Anan'yevo	0.63	234	⇓iP	Pg	19 36 46.0	-0.2
	baz=34						
ANVS				⇓iS	Sg	19 36 54.7	+0.1
	baz=34						
PRZ	Przheval'sk	0.67	178	⇑iP	Pg	19 36 46.4	-0.6
	baz=78						
PRZ				⇑iS	Sg	19 36 56.2	+0.4
	baz=78						
PDGK	Podgornoye	0.84	78	P	Pg	19 36 49.6	-0.7
	0.8nm,0.1s						
PDGK				S	Sg	19 37 00.8	-0.4
	1.5nm,0.2s						
PDGK	Podgornoye	0.84	78	⇑P	Pg	19 36 49.2	-1.0
	0.3nm,0.3s						
PDGK				⇑S	Sg	19 37 00.2	-1.1
	0.9nm,0.3s						
MNBS	Baschi	0.93	2	eP	Pg	19 36 51.4	-0.4
	2.6nm,0.1s						
MNBS				eS	Sg	19 37 03.9	0.0
	10nm,0.2s						
MNBS	Baschi	0.93	2	P	Pg	19 36 51.4	-0.4
	2.6nm,0.1s						
MNBS				S	Sg	19 37 03.9	0.0
	10nm,0.2s						
KDJ	Kajisay	1.34	221	⇑iP	Pn	19 36 58.6	-0.2
	baz=20						
KDJ				⇑iS	Sg	19 37 16.5	-0.7
	baz=20						
DJR	Jarkent	1.57	41	eP	Pn	19 37 02.6	+0.9
	1.5nm,0.2s						
DJR				eS	Sg	19 37 23.6	-0.8
	4.2nm,0.4s						
DJR	Jarkent	1.57	41	P	Pn	19 37 02.7	+0.9
	1.5nm,0.2s						
DJR				S	Sg	19 37 23.6	-0.8
	4.2nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**1.90**	**250**	⇑iP	**Pn**	**19 37 08.0**	**+1.6**
	baz=50						
BOOM				⇑iS	**Sb**	**19 37 33.2**	**+0.7**
	baz=50						
TKM2	**Tokmak 2**	**2.04**	**264**	⇑eP	**Pb**	**19 37 10.3**	**-0.8**
	baz=64						
TKM2				⇑iS	**Sb**	**19 37 36.6**	**0.0**
	baz=64						
TKM2	**Tokmak 2**	**2.04**	**264**	⇑Pn	**Pb**	**19 37 10.7**	**-0.4**
	0.8nm,0.7s						
TKM2				⇑Sn	**Sg**	**19 37 38.5**	**-1.1**
	0.7nm,0.4s						
KAPS	**Kapalarasan**	**2.25**	**18**	eP	**Pb**	**19 37 15.0**	**+0.4**
	0.3nm,0.1s						
KAPS				eS	**Sg**	**19 37 44.5**	**-1.7**
	2.9nm,0.5s						
KAPS	**Kapalarasan**	**2.25**	**18**	Pg	**Pb**	**19 37 15.0**	**+0.4**
	0.3nm,0.1s						
KAPS				Lg	Lg	19 37 44.5	
	2.9nm,0.5s						

*NEIC **05** 19:43:37.6±1.3, 18°.0S±0°.1×174°.21W±0°.05, h10km±1km, mb4.6/21, Error ellipse: s-maj=21.1km s-min=7.7km az=187.0*
*IDC **05** 19:43:37.4±0.7, 17°.89S×174°.36W, h0km, mb4.4/10, mb1 4.6/12, mb1mx4.2/35, mbtmp4.4/12, ML3.9/2, MS3.2/6, Ms1 3.2/6, ms1mx3.1/30, Error ellipse: s-maj=30.5km s-min=15.8km az=127.0*
*NOU **05** 19:44:37.7, 13°.69S×171°.67W, h45km, MLv2.7, Samoa Islands*
ISC 05 19:43:38.3±0.6**, 17°.70S**±0°.10×**174°.41W**±0°.10**, h10km, n75,** σ**1s.95**/64**, mb4.6**/13**, MS3.5**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.54**	**34**	Pn	**Pn**	**19 44 50.6**	**+3.4**
	43nm,0.3s,baz=116,slow=4.0,SNR=44						
AFI				Sn	**Sn**	**19 45 35.0**	**-5.1**
	92nm,0.3s,baz=75,slow=23,SNR=11						
AFI	**Afiamalu**	**4.54**	**34**		**Pn**	**19 44 48.0**	**+0.8**
AFI				Sn	**Sn**	**19 45 35.0**	**-5.1**
AFI	**Afiamalu**	**4.54**	**34**	P	**Pn**	**19 44 48.4**	**+1.2**
MSVF	**Nonsavu**	**7.18**	**269**	LR	LR	19 47 18.1	
	comp=Z,47nm,20.9s,baz=88,slow=30						
MSVF	**Nonsavu**	**7.18**	**269**		**Pb**	**19 45 40.6**	**-2.7**
RAR	**Rarotonga**	**14.24**	**107**	LR	LR	19 51 08.6	
	comp=Z,60nm,19.3s,baz=287,slow=32						
DZM	**Mont Dzumac**	**18.52**	**253**	P	**Pn**	**19 47 56.6**	**+1.4**
	0.0nm,0.3s,baz=142,slow=22,SNR=1.7						
DZM	**Mont Dzumac**	**18.52**	**253**	eP	**Pn**	**19 47 57.5**	**+2.3**
	44nm,1.3s						
DZM				eLR	LR	19 52 28.7	
	comp=Z,306nm,27.1s						
DZM	**Mont Dzumac**	**18.52**	**253**	P	**P**	**19 47 53.6**	**-1.5**
OUZ	**Omahuta**	**20.46**	**209**	P	**P**	**19 48 14.0**	**-2.0**
OUZ				IAmb	IAmb	19 48 27.3	
	comp=Z,41nm,1.4s						
HAZ	**Te Kaha**	**21.13**	**197**	P	**P**	**19 48 23.7**	**+0.5**
PKGZ	**Pakihiroa**	**21.17**	**197**	P	**P**	**19 48 25.1**	**+1.3**
RUGZ	**Raukumara Rang**	**21.35**	**197**	P	**P**	**19 48 26.1**	**+0.2**
TWGZ	**Tauwhareparae**	**21.46**	**197**	P	**P**	**19 48 28.0**	**+1.1**
OPRZ	**Ohinepanea**	**21.58**	**200**	P	**P**	**19 48 29.7**	**+1.5**
CNGZ	**Carnagh Statio**	**21.69**	**196**	P	**P**	**19 48 31.2**	**+1.9**
TKGZ	**Te Karaka**	**21.75**	**197**	P	**P**	**19 48 30.6**	**+0.7**
URZ	**Urewera**	**21.79**	**198**	P	**P**	**19 48 28.7**	**-1.7**
	comp=Z,32nm,0.5s,baz=346,slow=2.4,SNR=25						
URZ	**Urewera**	**21.79**	**198**	P	**P**	**19 48 29.0**	**-1.4**
URZ	**Urewera**	**21.79**	**198**	P	**P**	**19 48 29.1**	**-1.3**
KNZ	**Kokohu**	**22.34**	**196**	P	**P**	**19 48 36.5**	**+0.2**
HIZ	**Hauiti**	**22.76**	**202**	P	**P**	**19 48 38.8**	**-2.0**
BKZ	**Black Stump Fm**	**22.81**	**198**	P	**P**	**19 48 38.6**	**-2.8**
KAHZ	**Kahuranaki**	**23.28**	**197**	P	**P**	**19 48 47.7**	**+1.5**
PAE	**Paea**	**23.66**	**94**	eT	T	20 12 01.6	
	comp=Z,2.1nm,0.3s						
PPT2	**Papeete2**	**23.66**	**94**	eLQ	LQ	19 53 10.5	
	comp=Z,217nm,27.5s						
PPT2				eLR	LR	19 54 06.6	
	comp=Z,322nm,31.2s						
PPT	**Papeete**	**23.67**	**93**	LR	LR	19 55 59.4	
	comp=Z,38nm,19.1s,baz=194,slow=31						
TBI	**Tubuai**	**24.02**	**108**	eLR	LR	19 54 23.0	
	comp=Z,226nm,30.2s,baz=295						
TBI	**Tubuai**	**24.02**	**108**	eT	T	20 12 37.6	
	comp=Z,5.6nm,0.3s						
BFZ	**Birch Farm**	**24.28**	**197**	P	**P**	**19 48 53.7**	**-2.1**
PLWZ	**Palliser**	**25.39**	**198**	P	**P**	**19 49 04.3**	**-1.6**
QRZ	**Quartz Range**	**25.65**	**203**	P	**P**	**19 49 06.0**	**-2.2**
VAH	**Vaihoa**	**25.79**	**88**	eT	T	20 14 38.0	
	comp=Z,4.8nm,0.3s						
HNR	**Honiara**	**26.22**	**285**	LR	LR	19 58 43.3	
	comp=Z,54nm,18.3s,baz=124,slow=34						
THZ	**Tophouse**	**26.33**	**202**	P	**P**	**19 49 12.5**	**-1.9**
KHZ	**Kahutara**	**26.70**	**200**	P	**P**	**19 49 15.4**	**-2.2**
LTZ	**Lake Taylor**	**27.45**	**202**	P	**P**	**19 49 21.1**	**-3.4**
OXZ	**Oxford**	**28.01**	**201**	P	**P**	**19 49 25.2**	**-4.2**
RPZ	**Rata Peaks**	**28.70**	**202**	P	**P**	**19 49 35.8**	**+0.2**
	comp=Z,38nm,0.9s,baz=59,slow=3.9,SNR=9.2						
RPZ	**Rata Peaks**	**28.70**	**202**	P	**P**	**19 49 32.3**	**-3.3**
LBZ	**Lake Benmore**	**29.59**	**203**	P	**P**	**19 49 39.7**	**-3.9**
WHZ	**Wether Hill Ro**	**31.71**	**204**	P	**P**	**19 49 58.9**	**-3.4**
TAOE	**Nuku Hiva Isla**	**34.43**	**80**	eLR	LR	19 58 59.9	
	comp=Z,375nm,29.1s						
TAOE	**Nuku Hiva Isla**	**34.43**	**80**	eT	T	20 25 25.2	
	comp=Z,25nm,0.2s						
CTA	**Charters Tower**	**37.23**	**260**	P	**P**	**19 50 52.2**	**+1.9**
	comp=Z,3.3nm,0.5s,baz=89,slow=12,SNR=8.4						
CTAO	**Charters Tower**	**37.23**	**260**	P	**P**	**19 50 52.6**	**+2.2**
CTAO				IAmb	IAmb	19 50 54.5	
	comp=Z,5.9nm,0.7s						
STKA	**Stephens Creek**	**42.08**	**242**	P	**P**	**19 51 30.4**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=103,slow=12,SNR=6.6						
STKA	**Stephens Creek**	**42.08**	**242**	P	**P**	**19 51 30.3**	**-0.3**
WR0	**Warramunga Arr**	**48.22**	**259**	P	**P**	**19 52 19.9**	**+0.3**
WR0				IAmb	IAmb	19 52 31.5	
	comp=Z,8.7nm,1.4s						
WB0	**Warramunga Arr**	**48.38**	**259**	P	**P**	**19 52 21.2**	**+0.3**
WB2	**Warramunga Arr**	**48.40**	**259**	P	**P**	**19 52 21.6**	**+0.6**
WRA	**Warramunga Arr**	**48.41**	**259**	P	**P**	**19 52 21.1**	**0.0**
	comp=Z,2.4nm,0.4s,baz=98,slow=7.4,SNR=42						
AS31	**Alice Springs**	**48.51**	**254**	P	**P**	**19 52 22.0**	**+0.2**
AS31				IAmb	IAmb	19 52 25.0	
	comp=Z,3.8nm,0.6s						
ASAR	**Alice Springs**	**48.51**	**254**	P	**P**	**19 52 22.3**	**+0.5**
	comp=Z,12nm,0.6s,baz=93,slow=8.0,SNR=105						
ASAR	**Alice Springs**	**48.51**	**254**	P	**P**	**19 52 21.9**	**+0.1**
VNDA	**Vanda**	**61.01**	**186**	P	**P**	**19 53 50.5**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=15,slow=9.2,SNR=4.0						
QSPA	**South Pole Qui**	**72.36**	**180**	P	**P**	**19 55 02.6**	**-1.7**
QSPA				IAmb	IAmb	19 55 03.4	
	comp=Z,7.1nm,0.9s						
PETK	**Petropavlovsk-**	**74.52**	**343**	P	**P**	**19 55 18.1**	**+1.2**
	comp=Z,2.7nm,0.8s,baz=153,slow=9.7,SNR=1.7						
NVAR	**Mina Array Bea**	**76.67**	**42**	P	**P**	**19 55 32.6**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=238,slow=7.3,SNR=5.4						
NVAR				LR	LR	20 20 48.2	
	comp=Z,46nm,20.2s,baz=3.5,slow=29						
ILAR	**Eielson Array**	**84.87**	**11**	P	**P**	**19 56 14.6**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=214,slow=5.8,SNR=6.9						
CMAR	**Chiang Mai Arr**	**92.42**	**288**	LR	LR	20 36 17.9	
	comp=Z,18nm,20.2s,baz=80,slow=34						
ARCES	**ARCESS Array B**	**126.73**	**351**	PKP	**PKPdf**	**20 02 41.0**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=8.5,slow=2.5,SNR=4.1						
FINES	**FINESS Array B**	**133.95**	**346**	PKP	**PKPdf**	**20 02 55.2**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=266,slow=3.6,SNR=1.7						
NOA	**NORSAR Array B**	**136.52**	**356**	PKP	**PKPdf**	**20 03 01.1**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=10,slow=5.7,SNR=3.3						
KMBO	**Kilima Mbogo**	**143.64**	**242**	PKP	PKPbc	20 03 12.8	+0.6
	comp=Z,1.3nm,0.5s,baz=25,slow=7.5,SNR=5.8						
CLL	**Collm**	**145.95**	**352**		**PKPbc**	**20 03 18.5**	**+0.5**
BURAR	**Bucovina Array**	**146.09**	**336**		**PKPbc**	**20 03 19.2**	**+0.4**
DPC	**Dobruska-Polom**	**146.30**	**348**	ePKP	**PKPab**	**20 03 20.3**	**+0.3**
BR131	**Keskin Array S**	**147.26**	**318**		**PKPdf**	**20 03 20.0**	**-0.1**
BRTR	**Keskin Array B**	**147.26**	**318**	PKPbc	**PKPbc**	**20 03 23.1**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=139,slow=4.7,SNR=8.0						
BRTR	**Keskin Array B**	**147.26**	**318**		**PKPbc**	**20 03 22.4**	**-0.1**
KHC	**Kasperske Hory**	**147.98**	**350**	ePKP	**PKPbc**	**20 03 24.2**	**+0.2**
GERES	**GERESS Array B**	**148.24**	**350**	PKPbc	**PKPbc**	**20 03 25.3**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=16,slow=2.5,SNR=7.3						
MMAI	**Mount Meron Ar**	**149.18**	**305**	PKPbc	**PKiKP**	**20 03 28.8**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=46,slow=7.1,SNR=3.7						
DAVOX	**Davos/Dischmat**	**150.78**	**354**	PKPbc	**PKPbc**	**20 03 31.7**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=266,slow=5.4,SNR=6.2						

*MEX **05** 19:47:19.3±1.1, 14°.09N×93°.56W, h10km, MD3.8*
*IDC **05** 19:47:19.1±1.9, 14°.45N×93°.31W, h0km, mb3.8/5, mb1 4.1/8, mb1mx3.8/52, mbtmp3.8/8, ML3.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/36, Error ellipse: s-maj=41.8km s-min=23.4km az=31.0*
ISC 05 19:47:23.0±1.3**, 14°.3N**±0°.1×**93°.44W**±0°.07**, h36km, n13,** σ**1s.56**/19**, mb3.9**/5**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.30**	**61**	eP	**Pn**	**19 47 42.9**	**-1.6**
THIG				eS	**Sn**	**19 48 00.7**	**0.0**
PCIG		**1.43**	**9**	i P	**Pn**	**19 47 43.8**	**-2.5**
PCIG				i S	**Sn**	**19 48 04.2**	**+0.4**
CCIG	**Comitan**	**2.35**	**32**	eP	**Pn**	**19 47 58.9**	**-0.3**
CCIG				i S	**Sn**	**19 48 29.1**	**+2.2**
TGIG		**2.50**	**7**	eP	**Pn**	**19 48 00.5**	**-0.6**
TGIG				eS	**Sn**	**19 48 32.1**	**+1.8**
CMIG	**Matias Romero**	**3.11**	**334**	Pn	**Pn**	**19 48 07.3**	**-2.3**
	3.2nm,0.3s,baz=176,slow=12,SNR=32						
CMIG				Sn	**Sn**	**19 48 44.4**	**-1.1**
	12nm,0.3s,baz=350,slow=8.3,SNR=4.5						
TEIG	**Tepich**	**7.70**	**39**	Pn	**Pn**	**19 49 10.4**	**-2.1**
	11nm,0.3s,baz=225,slow=4.3,SNR=25						
TEIG				Sn	**Sn**	**19 50 36.5**	**-2.0**
	3.2nm,0.3s,baz=73,slow=19,SNR=4.0						
TEIG				LR	LR	19 52 04.6	
	comp=Z,99nm,20.8s,baz=268,slow=38						
TXAR	**Lajitas Array**	**17.71**	**329**	P	**P**	**19 51 27.9**	**+0.4**
	0.1nm,0.3s,baz=153,slow=11,SNR=4.8						
SDV	**Santo Domingo**	**22.97**	**101**	P	**P**	**19 52 24.8**	**0.0**
	1.9nm,0.4s,baz=307,slow=7.0,SNR=3.9						
PDAR	**Pinedale Array**	**31.60**	**337**	P	**P**	**19 53 43.9**	**+1.3**
	0.5nm,0.8s,baz=145,slow=11,SNR=2.5						
NVAR	**Mina Array Bea**	**32.58**	**322**	P	**P**	**19 53 53.2**	**+2.0**
	1.3nm,0.8s,baz=139,slow=9.2,SNR=9.2						
YKA	**Yellowknife Ar**	**50.43**	**347**	P	**P**	**19 56 16.3**	**-0.4**
	2.7nm,0.7s,baz=150,slow=7.7,SNR=38						
ILAR	**Eielson Array**	**62.03**	**337**	P	**P**	**19 57 40.1**	**+0.7**
	0.6nm,0.8s,baz=139,slow=6.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**145.25**	**339**	PKPbc	**PKPdf**	**20 06 57.5**	**-0.3**
	1.6nm,0.7s,baz=340,slow=3.1,SNR=9.2						

*NEIC **05** 19:48:16.6±1.7, 17°.6S±0°.1×178°.79W±0°.05, h541km±9km, mb4.8/32, Error ellipse: s-maj=18.2km s-min=4.6km az=162.0*
*NOU **05** 19:48:17.1, 18°.29S×178°.69W, h449km, mb4.4, Fiji Islands Region*
*IDC **05** 19:48:17.5±1.2, 17°.64S×178°.87W, h532km±12km, mb3.5/11, mb1 3.7/14, mb1mx3.4/32, mbtmp4.4/14, Error ellipse: s-maj=20.5km s-min=12.8km az=138.0*
ISC 05 19:48:17.3±0.5**, 17°.70S**±0°.08×**178°.80W**±0°.09**, h539km, n93,** σ**0s.99**/96**, mb4.7**/25**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.00**	**269**	P	**P**	**19 49 32.0**	**+0.5**
	2.6nm,0.3s,baz=71,slow=3.0,SNR=22						
MSVF	**Nonsavu**	**3.00**	**269**	P	**P**	**19 49 31.4**	**-0.1**
AFI	**Afiamalu**	**7.74**	**62**	P	**P**	**19 50 11.8**	**-0.5**
	7.4nm,0.3s,baz=38,slow=21,SNR=4.2						
AFI	**Afiamalu**	**7.74**	**62**	P	**P**	**19 50 11.2**	**-1.1**
FUNA	**Funafuti**	**9.32**	**348**	P	**P**	**19 50 27.5**	**-0.7**
DVP	**Devils Point**	**12.40**	**268**	P	**P**	**19 51 01.0**	**+1.0**
LIFNC	**LIFOU**	**13.53**	**255**	P	**P**	**19 51 11.1**	**-0.6**
SANVU	**Saraoutou**	**13.60**	**277**	P	**P**	**19 51 11.6**	**-0.9**
SANVU	**Saraoutou**	**13.60**	**277**	P	**P**	**19 51 16.4**	**+3.9**
YATNC	**Mamie plateau,**	**14.14**	**250**	P	**P**	**19 51 18.4**	**+0.4**
OUENC	**Ouen Island, N**	**14.28**	**248**	P	**P**	**19 51 19.6**	**+0.1**
DZM	**Mont Dzumac**	**14.54**	**250**	P	**P**	**19 51 20.8**	**-1.6**
	1.2nm,0.3s,baz=74,slow=16,SNR=12						
DZM	**Mont Dzumac**	**14.54**	**250**	P	**P**	**19 51 21.1**	**-1.3**
DZM	**Mont Dzumac**	**14.54**	**250**	P	**P**	**19 51 22.2**	**-0.1**
ONTNC	**Ouen Toro**	**14.59**	**249**	P	**P**	**19 51 23.3**	**+0.5**
NOUC	**Port Laguerre**	**14.68**	**250**	P	**P**	**19 51 24.6**	**+1.0**
URZ	**Urewera**	**20.80**	**189**	P	**P**	**19 52 20.1**	**-0.9**
URZ				IAmb	IAmb	19 52 25.0	
	comp=Z,18nm,1.0s						
BKZ	**Black Stump Fm**	**21.78**	**190**	P	**P**	**19 52 28.7**	**-1.2**
BKZ				IAmb	IAmb	19 52 49.0	
	comp=Z,32nm,1.5s						
BFZ	**Birch Farm**	**23.30**	**190**	P	**P**	**19 52 42.2**	**-1.2**
BFZ				IAmb	IAmb	19 53 11.0	
	comp=Z,38nm,1.2s						
BHW	**Baring Head**	**24.25**	**192**	P	**P**	**19 52 50.6**	**-1.2**
NNZ	**Nelson**	**24.39**	**194**	P	**P**	**19 52 53.1**	**+0.1**
KHZ	**Kahutara**	**25.49**	**193**	P	**P**	**19 53 01.4**	**-1.3**
LTZ	**Lake Taylor**	**26.13**	**195**	P	**P**	**19 53 07.1**	**-1.4**
LTZ				IAmb	IAmb	19 53 17.9	
	comp=Z,59nm,1.4s						
RPZ	**Rata Peaks**	**27.32**	**196**	P	**P**	**19 53 18.6**	**-0.3**
	comp=Z,30nm,1.1s,baz=3.8,slow=17,SNR=2.3						
RPZ	**Rata Peaks**	**27.32**	**196**	P	**P**	**19 53 18.7**	**-0.2**
RPZ				IAmb	IAmb	19 53 22.8	
	comp=Z,64nm,1.3s						
LBZ	**Lake Benmore**	**28.18**	**197**	P	**P**	**19 53 25.3**	**-1.1**
LBZ				IAmb	IAmb	19 53 42.5	
	comp=Z,56nm,1.4s						
ODZ	**Otahua Downs**	**28.66**	**196**	P	**P**	**19 53 30.2**	**-0.4**
ODZ				IAmb	IAmb	19 53 58.1	
	comp=Z,52nm,1.5s						
WKZ	**Wanaka**	**28.91**	**198**	P	**P**	**19 53 32.1**	**-0.7**
EIDS	**Eidsvold**	**28.99**	**249**	P	**P**	**19 53 33.8**	**+0.1**
	baz=29,SNR=7.8						
MLZ	**Mavora Lakes**	**29.67**	**199**	P	**P**	**19 53 40.0**	**+0.6**
MLZ				IAmb	IAmb	19 53 40.8	
	comp=Z,26nm,0.7s						
ARMA	**Armidale**	**29.72**	**239**	P	**P**	**19 53 41.5**	**+1.3**
	baz=30,SNR=37						
WHZ	**Wether Hill Ro**	**30.20**	**199**	P	**P**	**19 53 44.3**	**+0.4**
MGCD	**Mangrove Creek**	**31.11**	**234**	P	**P**	**19 53 53.3**	**+1.4**
	baz=31,SNR=24						
RMQ	**Roma**	**31.23**	**248**	P	**P**	**19 53 54.2**	**+1.1**
	baz=31,SNR=40						
CTA	**Charters Tower**	**33.11**	**260**	P	**P**	**19 54 09.2**	**+0.1**
	comp=Z,10nm,0.7s,baz=90,slow=11,SNR=25						
CTAO	**Charters Tower**	**33.11**	**260**	P	**P**	**19 54 09.0**	**-0.1**
CTAO				IAmb	IAmb	19 54 10.0	
	comp=Z,12nm,0.8s						
CNB	**Canberra Magne**	**33.26**	**232**	P	**P**	**19 54 11.6**	**+1.3**
	baz=33,SNR=27						
CAN	**Canberra**	**33.53**	**232**	P	**P**	**19 54 13.5**	**+0.9**
CAN				IAmb	IAmb	19 54 14.3	
	comp=Z,16nm,0.8s						
CMSA	**Cobar Meteorol**	**34.93**	**240**	P	**P**	**19 54 24.9**	**+0.7**
	baz=35,SNR=66						
MTSU	**Mount Surprise**	**35.06**	**263**	P	**P**	**19 54 25.5**	**0.0**
	baz=35,SNR=10.0						
QLP	**Quilpie**	**35.26**	**249**	P	**P**	**19 54 27.3**	**+0.3**
	baz=35,SNR=10						
TOO	**Toolangi**	**37.01**	**230**	P	**P**	**19 54 42.6**	**+1.2**
	baz=37,SNR=8.7						
TAU	**Tasmania Unive**	**38.15**	**222**	P	**P**	**19 54 51.0**	**+0.5**
STKA	**Stephens Creek**	**38.40**	**241**	P	**P**	**19 54 53.9**	**+1.1**
	comp=Z,16nm,0.5s,baz=88,slow=10,SNR=78						
STKA	**Stephens Creek**	**38.40**	**241**	P	**P**	**19 54 53.9**	**+1.1**
	baz=38,SNR=61						
STKA	**Stephens Creek**	**38.40**	**241**	P	**P**	**19 54 53.7**	**+0.9**
ARPS	**Mount Arapiles**	**39.47**	**233**	P	**P**	**19 55 02.2**	**+0.8**
	baz=39,SNR=5.0						
HTT	**Hallett**	**40.93**	**239**	P	**P**	**19 55 14.0**	**+0.9**
	baz=41,SNR=9.7						
BBOO	**Buckleboo**	**43.18**	**241**	P	**P**	**19 55 31.3**	**+0.5**
	baz=43,SNR=39						
WR0	**Warramunga Arr**	**44.11**	**259**	P	**P**	**19 55 37.1**	**-1.1**
WB0	**Warramunga Arr**	**44.27**	**260**	P	**P**	**19 55 38.4**	**-1.1**
WB2	**Warramunga Arr**	**44.29**	**259**	P	**P**	**19 55 38.8**	**-0.8**
WB2				IAmb	IAmb	19 55 39.9	
	comp=Z,11nm,0.7s						
WRAB	**Tennant Creek**	**44.29**	**259**	P	**P**	**19 55 38.5**	**-1.1**
WRAB				IAmb	IAmb	19 56 08.0	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**44.30**	**259**	P	**P**	**19 55 38.9**	**-0.8**
	comp=Z,7.7nm,0.7s,baz=89,slow=7.8,SNR=66						
AS31	**Alice Springs**	**44.48**	**254**	P	**P**	**19 55 41.0**	**-0.1**
AS31				IAmb	IAmb	19 55 41.8	
	comp=Z,21nm,0.6s						
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**	**19 55 41.1**	**0.0**
	comp=Z,73nm,0.7s,baz=89,slow=8.0,SNR=389						
ASAR				PcP	**PcP**	**19 57 13.2**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=100,slow=4.3,SNR=5.1						
ASAR				ScP	**ScP**	**20 00 15.4**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=100,slow=4.9,SNR=5.6						
ASAR				S	**S**	**20 01 34.8**	**-2.6**
	comp=Z,1.4nm,1.0s,baz=88,slow=15,SNR=7.9						
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**	**19 55 40.4**	**-0.7**
KDU	**Kakadu**	**47.18**	**269**	P	**P**	**19 56 01.7**	**0.0**
	baz=47,SNR=11						
WRKA	**Warakurna**	**49.55**	**252**	P	**P**	**19 56 19.5**	**+0.3**
	baz=49,SNR=225						
FORT	**Forrest**	**49.76**	**244**	P	**P**	**19 56 20.5**	**-0.1**
	baz=50,SNR=35						
FITZ	**Fitzroy Crossi**	**52.69**	**260**	P	**P**	**19 56 42.4**	**+0.3**
	baz=52,SNR=9.6						
KMBL	**Kambalda**	**55.07**	**244**	P	**P**	**19 56 58.1**	**-0.5**
	baz=55,SNR=9.7						
SOEI	**Soe**	**55.69**	**270**	P	**P**	**19 57 04.4**	**+1.0**
SOEI				IAmb	IAmb	19 57 05.8	
	comp=Z,27nm,0.7s						
KLBR	**Kellerberrin**	**58.59**	**243**	P	**P**	**19 57 22.4**	**-0.4**
	baz=58,SNR=17						
NWAO	**Narrogin (SRO)**	**58.98**	**242**	P	**P**	**19 57 25.7**	**+0.3**
	baz=59,SNR=4.4						
NWAO	**Narrogin (SRO)**	**58.98**	**242**	P	**P**	**19 57 24.2**	**-1.2**
BLDU	**Ballidu**	**59.53**	**245**	P	**P**	**19 57 28.7**	**-0.4**
	baz=59,SNR=9.9						
MORW	**Morawa**	**60.22**	**246**	P	**P**	**19 57 33.6**	**-0.1**
	baz=60,SNR=6.2						
VNDA	**Vanda**	**60.62**	**185**	P	**P**	**19 57 36.9**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=0.4,slow=6.8,SNR=7.6						
VNDA	**Vanda**	**60.62**	**185**	P	**P**	**19 57 35.2**	**-0.3**
TOLI2	**Tolitoli**	**62.31**	**281**	P	**P**	**19 57 47.1**	**-0.5**
GIRL	**Giralia**	**62.59**	**253**	P	**P**	**19 57 50.6**	**+1.3**
	baz=62,SNR=3.7						
MJAR	**Matsushiro Arr**	**67.51**	**324**	P	**P**	**19 58 20.1**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=166,slow=6.1,SNR=6.1						
MJAR	**Matsushiro Arr**	**67.51**	**324**	P	**P**	**19 58 18.1**	**-1.9**
JWT	**Wachi**	**68.28**	**321**	P	**P**	**19 58 24.0**	**-0.6**
JWT				IAmb	IAmb	19 58 26.0	
	comp=Z,45nm,1.3s						
KKM	**Kota Kinabalu**	**68.33**	**284**	P	**P**	**19 58 25.4**	**-0.1**
KKM				IAmb	IAmb	19 58 54.4	
	comp=Z,29nm,1.1s						
UGM	**Wanagama**	**69.28**	**268**	P	**P**	**19 58 29.1**	**-2.1**
CISI	**Cisompet, Garu**	**71.95**	**268**	P	**P**	**19 58 46.2**	**-0.8**
QSPA	**South Pole Qui**	**72.36**	**180**	P	**P**	**19 58 49.5**	**+1.1**
PETK	**Petropavlovsk-**	**73.38**	**345**	P	**P**	**19 58 54.3**	**0.0**
	comp=Z,4.1nm,0.8s,baz=122,slow=8.6,SNR=4.7						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**19 59 30.1**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=219,slow=9.0,SNR=4.4						
ILAR	**Eielson Array**	**85.77**	**13**	P	**P**	**19 59 58.5**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=222,slow=4.8,SNR=7.5						
PDAR	**Pinedale Array**	**87.46**	**44**	P	**P**	**20 00 08.9**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=216,slow=2.4,SNR=3.6						
CMAR	**Chiang Mai Arr**	**88.46**	**290**	P	**P**	**20 00 13.8**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=120,slow=3.0,SNR=4.6						
PHWY	**Pilot Hill**	**89.59**	**46**	P	**P**	**20 00 16.9**	**-1.1**
SNAA	**Sanae**	**90.82**	**179**	P	**P**	**20 00 22.4**	**-0.5**
VNA3	**Neumayer Olymp**	**90.97**	**177**	P	**P**	**20 00 23.5**	**-0.1**
VNA2	**Neumayer--Watz**	**91.41**	**177**	P	**P**	**20 00 25.5**	**0.0**
MKAR	**Makanchi Array**	**108.72**	**314**	PKiKP	**PKiKP**	**20 05 44.1**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=52,slow=0.6,SNR=5.7						
BRTR	**Keskin Array B**	**144.37**	**315**	PKP	**PKPdf**	**20 06 53.2**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=108,slow=3.2,SNR=5.8						
MMAI	**Mount Meron Ar**	**145.71**	**303**	PKPbc	**PKPbc**	**20 06 57.6**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=65,slow=5.9,SNR=7.4						
GERES	**GERESS Array B**	**147.31**	**345**	PKPbc	**PKPbc**	**20 07 01.1**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=38,slow=2.4,SNR=6.2						
DAVOX	**Davos/Dischmat**	**150.12**	**348**	PKPbc	**PKPbc**	**20 07 07.9**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=268,slow=4.1,SNR=5.8						

WEL 05 20:15:21.6±1.0**, 35°S**±17°×**18°0E**±2°1**, h239**km±21km**, M4.0**/17**, MLv4.0**/17**, Error ellipse: s-maj=0.0km s-min=0.0km az=123.9, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.94**	**203**	P	Pn	20 16 12.0	-0.7
MXZ				S	S	20 16 53.4	+0.4
HAZ	**Te Kaha**	**3.31**	**209**	P	Pn	20 16 16.5	-0.2
HAZ				S	S	20 17 01.0	+0.7
PKGZ	**Pakihiroa**	**3.31**	**204**	P	Pn	20 16 16.5	-0.4
PUZ	**Puketiti**	**3.43**	**200**	P	Pn	20 16 17.8	-0.3
PUZ				S	S	20 17 03.8	+0.9
RUGZ	**Raukumara Rang**	**3.53**	**208**	P	Pn	20 16 19.3	-0.1
TWGZ	**Tauwhareparae**	**3.61**	**203**	P	Pn	20 16 20.6	+0.4
TWGZ				S	S	20 17 07.9	+1.2
CNGZ	**Carnagh Statio**	**3.83**	**199**	P	Pn	20 16 23.4	+0.7
TKGZ	**Te Karaka**	**3.89**	**203**	P	Pn	20 16 23.5	0.0
TKGZ				S	S	20 17 13.3	+0.8
MWZ	**Matawai**	**3.91**	**207**	P	Pn	20 16 23.5	-0.2
MWZ				S	S	20 17 12.7	-0.3
OPRZ	**Ohinepanea**	**3.95**	**220**	P	Pn	20 16 23.6	-0.6
URZ	**Urewera**	**4.01**	**212**	P	Pn	20 16 25.1	+0.2
URZ				S	S	20 17 14.3	-0.8
RIGZ	**Rimuhau**	**4.16**	**202**	P	Pn	20 16 26.5	-0.2
RIGZ				S	S	20 17 19.0	+0.5
MUGZ	**Murupara**	**4.34**	**213**	P	Pn	20 16 28.9	0.0
MUGZ				S	S	20 17 22.5	+0.2
SNGZ	**Shannon Statio**	**4.37**	**206**	P	Pn	20 16 29.5	+0.2
SNGZ				S	S	20 17 25.4	+2.4
KNZ	**Kokohu**	**4.48**	**201**	P	Pn	20 16 31.4	+0.9
KNZ				S	S	20 17 24.7	-0.5
RAHZ	**Arahi**	**4.58**	**207**	P	Pn	20 16 32.0	+0.1
RAHZ				S	S	20 17 27.4	-0.2
MTHZ	**Maungataniwha**	**4.62**	**210**	P	Pn	20 16 32.7	+0.4
BKZ	**Black Stump Fm**	**5.03**	**210**	P	Pn	20 16 36.4	-1.0
HIZ	**Hauiti**	**5.37**	**226**	P	Pn	20 16 43.4	+1.8
KAHZ	**Kahuranaki**	**5.44**	**204**	P	Pn	20 16 42.0	-0.4
KRHZ	**Kereru**	**5.49**	**209**	P	Pn	20 16 41.3	-1.8
PNHZ	**Pukenui**	**5.79**	**208**	P	Pn	20 16 45.9	-0.9
BFZ	**Birch Farm**	**6.45**	**205**	P	Pn	20 16 53.0	-2.0

*IDC **05** 20:19:59.7±2.4, 41°.77N×79°.59E, h0km, mb1 3.3/7, mb1mx3.1/47, mbtmp3.3/7, ML2.8/6, Error ellipse: s-maj=28.8km s-min=17.2km az=147.0*
*KRNET **05** 20:20:01.8±0.1, 41°.83N×79°.35E, h10km, mb4.1*
*SOME **05** 20:20:01.1, 41°.87N×79°.43E, h15km, MS2.9*
*NNC **05** 20:20:02.3±0.9, 41°.91N×79°.43E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=6.7km s-min=3.9km az=147.0*
ISC 05 20:20:02.5±1.2**, 41°.90N**±0°.05×**79°.51E**±0°.04**, h10km, n92,** σ**1s.49**/143**, 31C-19D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.01**	**306**	⇓iP	**Pg**	**20 20 20.7**	**-1.3**
	baz=14						
PRZ				⇓iS	**Sg**	**20 20 34.2**	**-1.0**
	baz=14						
SHLS	**Shalkode**	**1.26**	**358**	eP	**Pb**	**20 20 26.3**	**-0.2**
	243nm,0.3s						
SHLS				eS	**Sn**	**20 20 44.7**	**+1.4**
	1μm,0.3s						
SHLS	**Shalkode**	**1.26**	**358**	P	**Pb**	**20 20 26.3**	**-0.2**
	243nm,0.3s						
SHLS				S	**Sn**	**20 20 44.7**	**+1.4**
	1μm,0.3s						
UZB	**Uzynbulak**	**1.30**	**344**	eP	**Pn**	**20 20 25.9**	**-0.9**
	234nm,0.4s						
UZB				eS	**Sg**	**20 20 44.2**	**-0.1**
UZB	**Uzynbulak**	**1.30**	**344**	P	**Pn**	**20 20 25.9**	**-0.9**
	234nm,0.4s						
UZB				S	**Sb**	**20 20 43.8**	**-0.1**
	144nm,0.3s						
SATY	**Saty**	**1.42**	**325**	eP	**Pn**	**20 20 27.8**	**-0.8**
	152nm,0.3s						
SATY				eS	**Sb**	**20 20 47.3**	**0.0**
	896nm,0.2s						
SATY	**Saty**	**1.42**	**325**	P	**Pn**	**20 20 27.8**	**-0.8**
	151nm,0.3s						
SATY				S	**Sb**	**20 20 47.3**	**0.0**
	896nm,0.2s						
PDGK	**Podgornoye**	**1.43**	**359**	P	**Pn**	**20 20 28.2**	**-0.5**
	102nm,0.5s						
PDGK				S	**Sb**	**20 20 47.5**	**-0.1**
	289nm,0.3s						
PDGK	**Podgornoye**	**1.43**	**359**	⇑P	**Pn**	**20 20 28.2**	**-0.5**
	68nm,0.3s						
PDGK				⇑S	**Sg**	**20 20 49.0**	**+0.5**
	837nm,0.5s						
ANVS	**Anan'yevo**	**1.63**	**303**	⇑iP	**Pn**	**20 20 31.8**	**+0.3**
	baz=8.0						
ANVS				⇑iS	**Sb**	**20 20 53.6**	**+0.1**
	baz=8.0						

KTMS	**Ketmen**	**1.66**	**22**	*e*P	**Pn**	**20 20 32.4**	**+0.5**
	5.8nm,0.3s						
KTMS				*e*S	**Sb**	**20 20 55.1**	**+0.7**
	692nm,0.4s						
KTMS	**Ketmen**	**1.66**	**22**	P	**Pn**	**20 20 32.4**	**+0.5**
	5.8nm,0.3s						
KTMS				S	**Sb**	**20 20 55.1**	**+0.7**
	692nm,0.4s						
KPKS	**Kokpek**	**1.68**	**339**	*e*P	**Pn**	**20 20 32.8**	**+0.7**
	864nm,0.1s						
KPKS				*e*S	**Sb**	**20 20 55.5**	**+0.6**
	2µm,0.4s						
KDJ	**Kajisay**	**1.75**	**278**	⇑*i*P	**Pn**	**20 20 32.4**	**-0.8**
	baz=81						
KDJ				⇑*i*S	**Sn**	**20 20 55.3**	**-0.4**
	baz=81						
KURS	**Kuram**	**1.87**	**328**	*e*P	**Pn**	**20 20 36.1**	**+1.5**
	406nm,0.5s						
KURS				*e*S	**Sb**	**20 21 01.1**	**+0.8**
	356nm,0.6s						
KURS	**Kuram**	**1.87**	**328**	P	**Pn**	**20 20 36.1**	**+1.5**
	406nm,0.5s						
KURS				S	**Sb**	**20 21 01.1**	**+0.8**
	356nm,0.6s						
TNSS	**Tian-Shan**	**2.21**	**302**	*e*P	**Pn**	**20 20 41.8**	**+2.1**
	70nm,0.3s						
TNSS				*e*S	**Sb**	**20 21 11.0**	**+0.5**
	814nm,0.6s						
TNSS	**Tian-Shan**	**2.21**	**302**	Pg	**Pn**	**20 20 41.8**	**+2.1**
	70nm,0.3s						
TNSS				Lg	Lg	20 21 11.0	
	814nm,0.6s						
MDOK	**Medeo**	**2.22**	**306**	*e*P	**Pn**	**20 20 41.1**	**+1.6**
	79nm,0.4s						
MDOK				*e*S	**Sb**	**20 21 10.9**	**+0.5**
MDOK	**Medeo**	**2.22**	**306**	⇓Pn	**Pn**	**20 20 40.8**	**+1.3**
	53nm,0.5s						
MDOK				Lg	Lg	20 21 11.4	
	968nm,0.6s						
MDOK	**Medeo**	**2.22**	**306**	Pg	**Pn**	**20 20 41.1**	**+1.6**
	79nm,0.4s						
MDOK				Lg	Lg	20 21 10.9	
	1µm,0.5s						
KOTS	**Kotyrbulak**	**2.22**	**308**	*e*P	**Pn**	**20 20 41.6**	**+2.0**
	191nm,0.3s						
KOTS				*e*S	**Sb**	**20 21 10.8**	**+0.4**
	1µm,0.4s						
KOTS	**Kotyrbulak**	**2.22**	**308**	Pg	**Pn**	**20 20 41.6**	**+2.0**
	191nm,0.3s						
KOTS				Lg	Lg	20 21 10.8	
	1µm,0.4s						
KNDC	**Almaty**	**2.30**	**306**	⇑Pn	**Pn**	**20 20 42.5**	**+2.0**
	71nm,0.7s						
KNDC				⇑Lg	Lg	20 21 14.3	
	1µm,0.5s						
AAA	**Alma-Ata**	**2.32**	**305**	*e*P	**Pb**	**20 20 43.4**	**-1.1**
	190nm,0.3s						
AAA				*e*S	**Sb**	**20 21 14.9**	**+1.6**
	2µm,0.4s						
AAA	**Alma-Ata**	**2.32**	**305**	Pg	**Pb**	**20 20 43.4**	**-1.1**
	190nm,0.3s						
AAA				Lg	Lg	20 21 14.9	
	2µm,0.4s						
MNBS	**Baschi**	**2.33**	**340**	*e*P	**Pb**	**20 20 44.8**	**+0.2**
	621nm,0.5s						
MNBS				*e*S	**Sg**	**20 21 15.8**	**-1.4**
	591nm,0.3s						
MNBS	**Baschi**	**2.33**	**340**	Pg	**Pb**	**20 20 44.8**	**+0.2**
	621nm,0.5s						
MNBS				Lg	Lg	20 21 15.8	
	591nm,0.3s						
IZV	**Izvestkoviy**	**2.43**	**299**	*e*P	**Pb**	**20 20 45.2**	**-1.1**
	103nm,0.2s						
IZV				*e*S	**Sb**	**20 21 17.3**	**+0.9**
	2µm,0.6s						
IZV	**Izvestkoviy**	**2.43**	**299**	Pg	**Pb**	**20 20 45.2**	**-1.1**
	103nm,0.2s						
IZV				Lg	Lg	20 21 17.3	
	2µm,0.6s						
DJR	**Jarkent**	**2.44**	**5**	*e*P	**Pn**	**20 20 43.6**	**+1.1**
DJR				*e*S	**Sb**	**20 21 14.8**	**-1.9**
	734nm,0.3s						
DJR	**Jarkent**	**2.44**	**5**	Pg	**Pn**	**20 20 43.6**	**+1.1**
DJR				Lg	Lg	20 21 14.8	
	734nm,0.3s						
ULHL	**Ulahol**	**2.46**	**279**	⇑*i*P	**Pn**	**20 20 44.1**	**+1.2**
	baz=81						
ULHL				⇑*i*S	**Sn**	**20 21 14.5**	**+1.4**
	baz=81						
ULHL	**Ulahol**	**2.46**	**279**	P	**Pn**	**20 20 44.2**	**+1.3**
	SNR=76						
MTBS	**Maitube**	**2.59**	**299**	*e*P	**Pb**	**20 20 47.6**	**-1.5**
	37nm,0.4s						
MTBS				*e*S	**Sb**	**20 21 21.7**	**+0.6**
	489nm,0.2s						
MTBS	**Maitube**	**2.59**	**299**	Pg	**Pb**	**20 20 47.6**	**-1.5**
	37nm,0.4s						
MTBS				Lg	Lg	20 21 21.7	
	489nm,0.2s						
ARXS	**Arharly**	**2.62**	**332**	*e*P	**Pb**	**20 20 49.6**	**0.0**
	246nm,0.4s						
ARXS				*e*S	**Sg**	**20 21 25.2**	**-1.6**
	384nm,0.6s						
ARXS	**Arharly**	**2.62**	**332**	Pg	**Pb**	**20 20 49.6**	**0.0**
	246nm,0.4s						
ARXS				Lg	Lg	20 21 25.2	
	384nm,0.6s						
CHKK	**Chushkaly**	**2.69**	**317**	*e*P	**Pb**	**20 20 50.2**	**-0.6**
	38nm,0.2s						
CHKK				*e*S	**Sb**	**20 21 24.8**	**+0.8**
	481nm,0.4s						
CHKK	**Chushkaly**	**2.69**	**317**	Pg	**Pn**	**20 20 47.5**	**+1.5**
	38nm,0.2s						
CHKK				Lg	Lg	20 21 21.4	
	481nm,0.4s						
BOOM	**Boomskoye usch**	**2.72**	**284**	⇑*i*P	**Pn**	**20 20 47.3**	**+0.9**
	baz=86						
BOOM				⇑*i*S	**Sn**	**20 21 21.0**	**+1.5**
	baz=86						
KTBS	**Karatobe**	**2.76**	**312**	*e*P	**Pb**	**20 20 51.0**	**-0.9**
	73nm,0.3s						
KTBS				*e*S	**Sb**	**20 21 26.9**	**+1.1**
	486nm,0.2s						
KTBS	**Karatobe**	**2.76**	**312**	Pg	**Pb**	**20 20 51.0**	**-0.9**
	73nm,0.3s						
KTBS				Lg	Lg	20 21 26.9	
	486nm,0.2s						
KST	**Kastek**	**2.86**	**295**	*e*P	**Pb**	**20 20 52.5**	**-1.3**
	66nm,0.3s						
KST				*e*S	**Sb**	**20 21 29.6**	**+0.6**
	656nm,0.6s						
KST	**Kastek**	**2.86**	**295**	Pg	**Pb**	**20 20 52.5**	**-1.3**
	66nm,0.3s						
KST				Lg	Lg	20 21 29.6	
	656nm,0.6s						
KUU	**Kurty**	**3.07**	**312**	*e*P	**Pb**	**20 20 57.1**	**-0.1**
	34nm,0.3s						
KUU				*e*S	**Sb**	**20 21 37.2**	**+2.5**
	341nm,0.4s						
KUU	**Kurty**	**3.07**	**312**	Pg	**Pb**	**20 20 57.1**	**-0.1**
	34nm,0.3s						
KUU				Lg	Lg	20 21 37.2	
	341nm,0.4s						
DGS	**Degeres**	**3.07**	**297**	*e*P	**Pb**	**20 20 55.8**	**-1.5**
	32nm,0.4s						
DGS				*e*S	**Sb**	**20 21 35.1**	**+0.2**
	234nm,0.7s						
DGS	**Degeres**	**3.07**	**297**	Pg	**Pn**	**20 20 54.3**	**+3.1**
	32nm,0.4s						
DGS				Lg	Lg	20 21 33.0	
	234nm,0.7s						
TKM2	**Tokmak 2**	**3.07**	**291**	⇓*i*P	**Pn**	**20 20 52.4**	**+1.1**
	baz=93						
TKM2				⇓*i*S	**Sn**	**20 21 30.0**	**+1.7**
	baz=93						
TKM2	**Tokmak 2**	**3.07**	**291**	P	**Pn**	**20 20 52.4**	**+1.1**
	SNR=17						
TKM2	**Tokmak 2**	**3.07**	**291**	⇑Pn	**Pn**	**20 20 52.5**	**+1.1**
	12nm,0.2s						
TKM2				⇑Lg	Lg	20 21 36.6	
	170nm,0.5s						
TDK	**Taldyqorghan**	**3.20**	**346**	*e*P	**Pb**	**20 20 59.6**	**+0.1**
	183nm,0.5s						
TDK				*e*S	**Sb**	**20 21 41.0**	**+2.4**
	102nm,0.3s						
TDK	**Taldyqorghan**	**3.20**	**346**	Pg	**Pb**	**20 20 59.6**	**+0.1**
	183nm,0.5s						
TDK				Lg	Lg	20 21 41.1	
	102nm,0.3s						
KRBS	**Karabastau**	**3.35**	**304**	*e*P	**Pb**	**20 21 01.2**	**-0.8**
	27nm,0.4s						
KRBS				*e*S	**Sb**	**20 21 44.3**	**+1.5**
	270nm,0.4s						
KRBS	**Karabastau**	**3.35**	**304**	Pg	**Pb**	**20 21 02.1**	**+0.1**
	46nm,0.3s						
KRBS				Lg	Lg	20 21 46.5	
	270nm,0.4s						
KAPS	**Kapalarasan**	**3.38**	**358**	*e*P	**Pb**	**20 21 03.3**	**+0.7**
	27nm,0.3s						
KAPS				*e*S	**Sb**	**20 21 47.1**	**+3.2**
	157nm,0.5s						
KAPS	**Kapalarasan**	**3.38**	**358**	Pg	**Pb**	**20 21 02.5**	**-0.2**
	27nm,0.3s						
KAPS				Lg	Lg	20 21 47.2	
	157nm,0.5s						
KBK	**Karagaybulak**	**3.47**	**284**	⇓*i*P	**Pn**	**20 20 57.7**	**+1.0**
	baz=86						
KBK				⇓*i*S	**Sn**	**20 21 39.1**	**+1.1**
	baz=86						
KBK	**Karagaybulak**	**3.47**	**284**	P	**Pn**	**20 20 57.8**	**+1.0**
	SNR=19						
CHMS	**Chumysh**	**3.69**	**289**	⇓*e*P	**Pn**	**20 21 01.1**	**+1.4**
	baz=91						
CHMS				⇓*i*S	**Sn**	**20 21 44.4**	**+1.2**
	baz=91						
CHMS	**Chumysh**	**3.69**	**289**	P	**Pb**	**20 21 05.6**	**-2.2**
	SNR=14						
FRU1	**Bishkek**	**3.73**	**286**	⇑*i*P	**Pn**	**20 21 01.5**	**+1.2**
	baz=88						
FRU1				⇑*i*S	**Sn**	**20 21 45.2**	**+0.9**
	baz=88						
UCH	**Uchtor**	**3.74**	**277**	⇑*i*P	**Pn**	**20 21 01.6**	**+0.9**
	baz=78						
UCH				⇑*i*S	**Sn**	**20 21 45.4**	**+0.4**
	baz=78						
UCH	**Uchtor**	**3.74**	**277**	P	**Pb**	**20 21 08.1**	**-0.8**
	SNR=35						
AAK	**Ala-Archa**	**3.80**	**283**	Pn	**Pn**	**20 21 03.0**	**+1.7**
	1.6nm,0.3s,baz=106,slow=7.2,SNR=25						
AAK				Lg	Lg	20 21 57.6	
	6.2nm,0.3s,baz=316,slow=14,SNR=8.1						
AAK	**Ala-Archa**	**3.80**	**283**	⇓*i*P	**Pn**	**20 21 02.7**	**+1.5**
	baz=84						
AAK				⇓*i*S	**Sn**	**20 21 46.8**	**+0.8**
	baz=84						
AAK	**Ala-Archa**	**3.80**	**283**	P	**Pn**	**20 21 03.3**	**+2.1**
	SNR=14						
AAK	**Ala-Archa**	**3.80**	**283**	⇑Pn	**Pn**	**20 21 03.3**	**+2.1**
	13nm,0.3s						
AAK				⇑Lg	Lg	20 21 57.3	
	112nm,0.9s						
ARLS	**Aral**	**3.88**	**271**	⇑*i*P	**Pn**	**20 21 03.2**	**+0.9**
	baz=72						
ARLS				⇑*i*S	**Sn**	**20 21 48.0**	**0.0**
	baz=72						
USP	**Ospenovka**	**3.94**	**292**	⇓*i*P	**Pn**	**20 21 05.0**	**+1.8**
	baz=94						
USP				⇓*i*S	**Sn**	**20 21 50.6**	**+1.1**
	baz=94						
USP	**Ospenovka**	**3.94**	**292**	P	**Pn**	**20 21 03.5**	**+0.3**
	SNR=10						
EKS2	**Erkin-Say**	**4.32**	**282**	⇓*i*P	**Pn**	**20 21 09.6**	**+1.2**
	baz=83						
EKS2				⇓*i*S	**Sn**	**20 21 59.3**	**+0.3**
	baz=83						
EKS2	**Erkin-Say**	**4.32**	**282**	P	**Pb**	**20 21 19.2**	**+0.5**
	SNR=45						
AML	**Almayashu**	**4.34**	**275**	⇑*i*P	**Pn**	**20 21 10.1**	**+1.2**
	baz=76						
AML				⇑*i*S	**Sn**	**20 21 59.9**	**+0.1**
	baz=76						
AML	**Almayashu**	**4.34**	**275**	P	**Pb**	**20 21 18.1**	**-1.1**
	SNR=33						
MRKS	**Merke**	**4.74**	**282**	*e*P	**Pb**	**20 21 27.4**	**+1.7**
	41nm,0.7s						
MRKS				*e*S	**Sb**	**20 22 28.7**	**+5.9**
	78nm,0.3s						
MRKS	**Merke**	**4.74**	**282**	Pg	**Pb**	**20 21 27.4**	**+1.7**
	41nm,0.7s						
MRKS				Lg	Lg	20 22 28.7	
	78nm,0.3s						
BTLS	**Baital**	**5.07**	**310**	*e*P	**Pb**	**20 21 33.7**	**+2.4**
	4.7nm,0.3s						
BTLS				*e*S	**Sg**	**20 22 40.1**	**-5.0**
	10nm,0.6s						
BTLS	**Baital**	**5.07**	**310**	Pg	**Pb**	**20 21 33.2**	**+2.0**
	11nm,0.7s						
BTLS				Lg	Lg	20 22 38.8	
	10nm,0.6s						
MAKZ	**Makanchi**	**5.21**	**19**	⇓Pn	**Pn**	**20 21 22.0**	**+1.5**
	4.4nm,0.3s						
MAKZ				⇑Sn	**Sn**	**20 22 23.9**	**+3.2**
	21nm,0.7s						
MAKZ				⇑Lg	Lg	20 22 46.8	
	5.2nm,0.3s						
MNAS	**Manas**	**5.24**	**279**	⇓*i*P	**Pn**	**20 21 22.0**	**+0.9**
	baz=80						
MNAS				⇓*i*S	**Sn**	**20 22 20.9**	**-0.7**
	baz=80						
MK31	**Makanchi Array**	**5.28**	**21**	⇑Pn	**Pn**	**20 21 22.6**	**+1.1**
	2.0nm,0.3s,baz=201,slow=13,SNR=398						
MK31				⇑Sn	**Sn**	**20 22 24.8**	**+2.4**
	22nm,0.6s,baz=200,slow=22,SNR=13						
MK31				⇑Lg	Lg	20 22 49.4	
	16nm,0.5s						
MKAR	**Makanchi Array**	**5.28**	**21**	Pn	**Pn**	**20 21 22.8**	**+1.3**
	5.4nm,0.3s,baz=204,slow=14,SNR=258						
MKAR				Sn	**Sn**	**20 22 24.3**	**+1.8**
	6.0nm,0.3s,baz=198,slow=19,SNR=18						
MKAR				Lg	Lg	20 22 46.9	
	5.3nm,0.3s,baz=206,slow=28,SNR=5.4						
ZSN	**Zaisan**	**6.73**	**33**	Pg	Pn	20 21 47.3	+5.9
	4.5nm,0.3s						
ZSN				Lg	Lg	20 23 02.8	
	41nm,0.8s						
KK31	**Karatay Array**	**6.76**	**283**	Pg	**Pb**	**20 22 02.0**	**+1.9**
	6.3nm,0.6s,baz=94,slow=15,SNR=52						
KK31				⇑Lg	Lg	20 23 36.2	
	8.8nm,0.5s,baz=87,slow=26,SNR=6.0						
KURBB	**Kurchatov Arra**	**8.75**	**356**	Pn	**Pn**	**20 22 09.6**	**+0.5**
	0.0nm,0.3s,baz=163,slow=11,SNR=4.3						
KURBB				Lg	Lg	20 24 42.3	
	0.3nm,0.3s,baz=185,slow=30,SNR=4.3						
KURBB	**Kurchatov Arra**	**8.75**	**356**	⇓Pn	**Pn**	**20 22 13.3**	**+4.3**
	3.4nm,1.1s						
KURBB				⇑Lg	Lg	20 24 43.5	
	34nm,0.8s						
ZALV	**Zalesovo Beam**	**12.56**	**15**	Pn	**Pn**	**20 23 01.0**	**-0.2**
	0.6nm,0.3s,baz=196,slow=13,SNR=12						
ZALV				Sn	**Sn**	**20 25 18.2**	**-2.9**
	0.9nm,0.3s,baz=202,slow=23,SNR=9.8						
BVAR	**Borovoye Array**	**12.71**	**334**	Pn	**Pn**	**20 23 02.9**	**-0.4**
	0.1nm,0.3s,baz=108,slow=14,SNR=2.8						
BVAR				Lg	Lg	20 26 50.4	
	0.3nm,0.3s,baz=146,slow=24,SNR=4.0						
ARU	**Arti**	**19.86**	**324**	P	**P**	**20 24 31.7**	**-1.8**
	0.0nm,0.3s,baz=102,slow=20,SNR=1.9						
SONM	**Songino Array**	**19.90**	**64**	P	**P**	**20 24 33.4**	**-0.8**
	0.1nm,0.3s,baz=268,slow=12,SNR=5.8						

IDC 05 20:48:16.1±7.8**, 1°.48N×128°.28E, h92**km±92km**, mb3.2**/3**, mb1 3.4**/4**, mb1mx3.1**/35**, mbtmp3.6**/4**, ML3.6**/1**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.5**/20**, Error ellipse: s-maj=142.4km s-min=26.0km az=74.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.79**	**128**	P	Pn	20 49 12.7	+0.4
	4.9nm,0.3s,baz=196,slow=23,SNR=28						
BATI	**Baumata**	**12.48**	**202**	LR	LR	20 56 11.5	
	comp=Z,68nm,20.0s,baz=294,slow=38						
WRA	**Warramunga Arr**	**22.10**	**165**	P	P	20 53 03.1	-0.9
	1.0nm,0.6s,baz=345,slow=12,SNR=9.9						
ASAR	**Alice Springs**	**25.58**	**168**	P	P	20 53 37.6	+0.8
	0.2nm,0.5s,baz=345,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**60.28**	**325**	P	P	20 58 15.0	-0.1
	0.5nm,0.3s,baz=113,slow=8.1,SNR=12						

*ANF **05** 20:59:41.9±0.4, 36°.80N×98°.27W, h9km, ML3.9/12, Error ellipse: s-maj=4.8km s-min=3.6km az=151.0*
CERI 05 20:59:41.0, 36°.79N×98°.26W, h9km, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.72**	**234**	P	Pg	20 59 55.0	-0.9
	baz=55						
U32A				S	Sg	21 00 05.1	-0.2
	baz=55						
U32A	**Winter Ranch,**	**0.72**	**236**	P		20 59 55.0	
	baz=55						
U32A				S		21 00 05.1	
	baz=55						
T35B	**Sooner Cattle**	**1.41**	**84**	P		21 00 07.3	
	baz=266						
T35B				S		21 00 26.0	
	baz=266						
T35B	**Sooner Cattle**	**1.42**	**85**	P	Pn	21 00 07.3	-0.6
	baz=266						
T35B				S	Sn	21 00 26.0	-0.7
	baz=266						
R32A	**Long Quarter,**	**1.66**	**348**	P	Pn	21 00 11.4	+0.2
	baz=168,SNR=52						
R32A				S	Sb	21 00 33.3	-0.3
	baz=168						
R32A	**Long Quarter,**	**1.67**	**348**	P		21 00 11.4	
	baz=168,SNR=52						
R32A				S		21 00 33.3	
	baz=168						
WMOK	**Wichita Mounta**	**2.09**	**192**	P		21 00 17.5	
	baz=11						
WMOK				S		21 00 45.6	
	baz=11						
WMOK	**Wichita Mounta**	**2.09**	**192**	P		21 00 17.4	
	baz=11,SNR=44						
WMOK				S		21 00 45.6	
	baz=11						
WMOK	**Wichita Mounta**	**2.10**	**191**	P	Pn	21 00 17.4	+0.1
	baz=11,SNR=44						
WMOK				S	Sb	21 00 45.6	-0.8
	baz=11						
TUL1	**Leonard**	**2.18**	**113**	P		21 00 19.9	
	baz=295						
TUL1				S		21 00 49.3	
	baz=295						
TUL1	**Leonard**	**2.18**	**113**	P		21 00 19.7	
	baz=295,SNR=42						
TUL1				Sb		21 00 49.5	
	baz=295						
TUL1	**Leonard**	**2.19**	**113**	P	Pn	21 00 19.7	+1.2
	baz=295,SNR=42						
TUL1				Sb	Sb	21 00 49.5	+0.5
	baz=295						
CBKS	**Cedar Bluff**	**2.32**	**330**	P	Pn	21 00 21.3	+1.0
	baz=150						
CBKS	**Cedar Bluff**	**2.33**	**330**	P		21 00 21.4	
	baz=150						
CBKS				S		21 00 51.6	
	baz=150						
CBKS	**Cedar Bluff**	**2.33**	**330**	P		21 00 21.3	
	baz=150						
KSU1	**Kansas State U**	**2.65**	**29**	P		21 00 26.1	
	baz=210						
KSU1				S		21 01 02.3	
	baz=210						
U38A	**Gravette**	**3.14**	**95**	P		21 00 32.5	
	baz=278,SNR=15						
U38A	**Gravette**	**3.15**	**95**	P	Pn	21 00 32.5	+0.8
	baz=278,SNR=15						
X37A	**Clayton**	**3.22**	**132**	P		21 00 33.1	
	baz=314						
X37A	**Clayton**	**3.23**	**132**	P	Pn	21 00 33.1	+0.2
	baz=314						
AMTX	**Amarillo**	**3.37**	**237**	Pb		21 00 41.7	
	baz=54						
Z35A	**Perchaven, San**	**3.55**	**166**	P		21 00 38.7	
	baz=347,SNR=6.3						
Z35A	**Perchaven, San**	**3.56**	**166**	P	Pn	21 00 38.7	+1.3
	baz=347,SNR=6.3						
U40A	**Yellville**	**4.38**	**94**	P		21 00 49.5	
	baz=277						
BGNE	**Belgrade**	**4.61**	**1**	P		21 00 51.9	
	baz=181						
WHTX	**Lake Whitney,**	**4.83**	**172**	P		21 00 55.8	
	baz=352						
X40A	**Basin Creek Fa**	**4.98**	**116**	P		21 00 57.8	
	baz=299						
X40A	**Basin Creek Fa**	**4.98**	**116**	P		21 00 57.8	
	baz=299,SNR=8.6						
X40A				P		21 00 57.8	
	baz=299,SNR=8.6						
R40A	**Maddies Statio**	**4.99**	**71**	P		21 00 58.0	
	baz=254,SNR=14						
X40A	**Basin Creek Fa**	**5.00**	**116**	P	Pn	21 00 57.8	+0.8
	baz=299,SNR=8.6						
R40A	**Maddies Statio**	**5.00**	**71**	P	Pn	21 00 58.0	+0.9
	baz=254,SNR=14						
237A	**Washetta, Mont**	**5.19**	**156**	P		21 00 59.0	
	baz=338,SNR=6.8						
237A	**Washetta, Mont**	**5.20**	**156**	P	Pn	21 00 59.0	-1.0
	baz=338,SNR=6.8						
N38A	**Joes South For**	**5.60**	**43**	P	Pn	21 01 04.6	-0.8
	baz=226,SNR=5.2						
N38A	**Joes South For**	**5.60**	**43**	P		21 01 04.6	
	baz=226,SNR=5.2						
Z41A	**Richland Creek**	**5.70**	**127**	S		21 02 10.1	
	baz=310						

*IDC **05** 21:02:04.9±0.6, 32°.63N×141°.61E, h0km, mb4.1/25, mb1 4.2/29, mb1mx4.1/54, mbtmp4.1/29, ML3.8/3, MS3.3/9, Ms1 3.3/9, ms1mx3.0/41, Error ellipse: s-maj=16.2km s-min=13.4km az=56.0*
*JMA **05** 21:02:08.5±0.5, 32°.76N×141°.69E, h82km, M3.7*
*NEIC **05** 21:02:08.4±1.0, 32°.75N±0°.07×141°.8E±0°.1, h26km±6km, mb4.5/21, Error ellipse: s-maj=12.5km s-min=10.5km az=88.0*
*NIED **05** 21:02:08.6, 32°.76N×141°.69E, h82km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.78; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-1.84; $M_{r\theta}$-0.66; $M_{\theta\phi}$-0.41; $M_{\phi r}$1.06; Fault plane solution: $M_0$2.24000×10^{15} NP1: ϕ_s350.00000°, δ62.00000°, λ68.00000°. NP2: ϕ_s211.00000°, δ35.00000°, λ125.00000°.*
ISC 05 21:02:10.2±0.5**, 32°.73N**±0°.06×**141°.75E**±0°.07**, h35**km**, n105, σ1s.28**/110**, mb4.4**/51**, MS3.4**/5**, 1C, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.67**	**284**	P	**Pn**	**21 02 35.6**	**-1.3**
JHJ2	**Mitsune**	**1.67**	**284**		**Pn**	**21 02 35.4**	**-1.5**
JHCJ	**Hachijojimakas**	**1.67**	**282**	P	**Pn**	**21 02 35.7**	**-1.3**
JAOM	**Aogashimamukai**	**1.69**	**261**	P	**Pn**	**21 02 36.4**	**-0.9**
JHJ	**Hachijo jima 2**	**1.69**	**284**	Pn	**Pn**	**21 02 35.1**	**-2.2**
	172nm,0.3s,baz=50,slow=5.2,SNR=18						
JHJ				LR	LR	21 02 53.0	
	comp=Z,438nm,18.4s,baz=185,slow=30						
JHJ				Sn	**Sn**	**21 02 58.2**	**+0.4**
	180nm,0.3s,baz=246,slow=22,SNR=5.8						
BSO1	**Boso 1**	**2.02**	**342**	P	**Pn**	**21 02 41.0**	**-0.3**
JMKN	**Mikurajimanish**	**2.14**	**303**	P	**Pn**	**21 02 42.4**	**-1.1**
JOD2	**Odawara 2**	**3.35**	**320**	P	**Pn**	**21 02 59.0**	**-1.1**
JYT	**Yasato**	**3.71**	**340**	Pn	**Pn**	**21 03 02.5**	**-2.6**
JHU	**Hanno**	**3.72**	**327**	P	**Pn**	**21 03 04.7**	**-0.4**
JHU				*e*S	**Sn**	**21 03 46.8**	**-0.9**
JHO	**Hitachi**	**3.99**	**346**	P	**Pn**	**21 03 07.6**	**-1.2**
JHO				*e*S	**Sn**	**21 03 51.6**	**-2.7**
JGF	**Kuroka**	**4.63**	**309**		**Pn**	**21 03 18.0**	**+0.3**
INU	**Inuyama**	**4.71**	**305**	Pn	**Pn**	**21 03 17.6**	**-1.2**
MJAR	**Matsushiro Arr**	**4.79**	**323**	Pn	**Pn**	**21 03 19.1**	**-0.8**
	0.7nm,0.3s,baz=149,slow=11,SNR=40						
MJAR				Sn	**Sn**	**21 04 17.0**	**+2.9**
	0.7nm,0.3s,baz=158,slow=19,SNR=3.1						
MJAR				LR	LR	21 05 19.5	
	comp=Z,220nm,20.3s,baz=140,slow=41						
MJAR	**Matsushiro Arr**	**4.79**	**323**		**Pn**	**21 03 18.6**	**-1.2**
MAJO	**Matsushiro**	**4.79**	**323**	Pn	**Pn**	**21 03 18.6**	**-1.3**
MAT	**Matsushiro**	**4.79**	**323**	P	**Pn**	**21 03 20.1**	**+0.2**
MAT				S	**Sn**	**21 04 14.7**	**+0.5**
JMM	**Marumori**	**5.18**	**352**		**Pn**	**21 03 24.2**	**-1.0**
JCJ	**Chichijima**	**5.63**	**176**	Pn	**Pn**	**21 03 29.4**	**-2.1**
	11nm,0.3s,baz=287,slow=20,SNR=7.3						
JCJ	**Chichijima**	**5.63**	**176**	Pn	**Pn**	**21 03 29.9**	**-1.5**
JWT	**Wachi**	**5.85**	**297**	Pn	**Pn**	**21 03 34.0**	**-0.4**
JSD	**Sado**	**6.01**	**333**	Pn	**Pn**	**21 03 36.4**	**-0.2**
JMN	**Monobe**	**6.67**	**281**	Pn	**Pn**	**21 03 44.8**	**-0.9**
JTM	**Tenmabayashi**	**8.06**	**356**	Pn	**Pn**	**21 04 03.4**	**-1.3**
JNU	**Nakatsue**	**9.14**	**275**	LR	LR	21 07 25.8	
	comp=Z,184nm,20.6s,baz=88,slow=36						
ERM	**Erimo**	**9.33**	**7**	Pn	**Pn**	**21 04 19.4**	**-2.8**
ASAJ	**Asahikawa**	**11.38**	**3**	Pn	**Pn**	**21 04 49.1**	**-1.1**

1.2nm,0.3s,baz=220,slow=12,SNR=9.3
KSRS Korea Array 12.26 296 Pn **Pn 21 05 04.4 +2.2**
0.1nm,0.3s,baz=109,slow=14,SNR=8.1
KSRS LR LR 21 09 14.8
comp=Z,151nm,20.3s,baz=86,slow=35
JOW Kunigami 13.09 247 LR LR 21 09 57.7
comp=Z,121nm,19.4s,baz=184,slow=36
USRK Ussuriysk Ar. 13.75 329 Pn **Pn 21 05 19.8 -2.8**
baz=158,slow=12,SNR=3.2
USRK LR LR 21 10 49.4
comp=Z,96nm,18.2s,baz=165,slow=38
KLR Kul'dur 18.10 339 P **Pn 21 06 15.9 -2.8**
0.3nm,0.3s,baz=147,slow=9.2,SNR=6.3
HIA Hailar 23.29 322 P **P 21 07 13.9 -0.8**
HIA IAmb IAmb 21 07 14.2
comp=Z,8.0nm,0.6s
PETK Petropavlovsk- 23.38 25 LR LR 21 19 28.3
comp=Z,28nm,18.4s,baz=194,slow=44
HHC Hu-ho-hao-te 25.40 297 *eP* **P 21 07 35.1 +0.7**
HHC pmax pmax
comp=Z,7.0nm,1.1s
HHC pmax pmax
comp=Z,100nm,5.8s
XAN Xi'an 27.38 282 P **P 21 07 50.0 -2.3**
XAN pP pP 21 07 54.8 -5.9
XAN pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 30.59 310 P **P 21 08 20.9 +0.1**
comp=Z,3.3nm,1.0s,baz=116,slow=9.2,SNR=6.2
SONM LR LR 21 21 05.9
comp=Z,72nm,18.3s,baz=36,slow=37
SONM Songino Array 30.59 310 P **P 21 08 20.4 -0.4**
SEY Seymchan 30.96 9 P **P 21 08 24.8 +1.1**
comp=Z,0.7nm,0.5s,baz=275,slow=23,SNR=4.7
LZH Lanzhou 31.32 287 *eP* **P 21 08 31.2 +3.8**
LZH pP sP 21 08 37.9 -1.6
LZH sP pwP 21 08 40.7 -1.9
LZH pmax pmax
comp=Z,18nm,1.0s
GTA Gaotai 34.30 293 *eP* **P 21 08 52.2 -1.2**
GTA pP pP 21 09 01.1 -0.9
GTA sP sP 21 09 04.6 -1.0
GTA pmax pmax
comp=Z,1.0nm,1.2s
GTA pmax pmax
comp=Z,180nm,6.0s
GTA LR LR
comp=N,98nm,14.9s
GTA LR LR
comp=E,120nm,17.4s
GTA LR LR
comp=Z,130nm,17.1s
KMI Kunming 34.82 268 ⇑P **P 21 08 59.7 +1.6**
KMI sP pwP 21 09 11.2 -2.2
KMI pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 39.58 354 P **P 21 09 37.7 +0.1**
comp=Z,0.9nm,0.6s,baz=217,slow=3.2,SNR=2.8
CMAR Chiang Mai Arr 40.86 260 LR LR 21 27 45.6
comp=Z,46nm,18.6s,baz=336,slow=38
LSA Lhasa 43.05 280 P **P 21 10 06.0 -1.3**
WMQ Urumqi 43.16 301 *eP* **P 21 10 08.5 +1.0**
WMQ pmax pmax
comp=Z,12nm,1.3s
WMQ pmax pmax
comp=Z,94nm,4.3s
ZAA0 Zalesovo Array 45.09 316 P **P 21 10 22.3 -0.5**
ZAA0 IAmb IAmb 21 10 24.1
comp=Z,8.3nm,1.5s
ZALV Zalesovo Beam 45.09 316 P **P 21 10 22.5 -0.2**
comp=Z,1.3nm,0.5s,baz=110,slow=8.1,SNR=9.0
ZALV PcP **PcP 21 12 02.9 -0.1**
comp=Z,1.5nm,0.6s,baz=96,slow=3.6,SNR=5.8
ZALV LR LR 21 31 59.5
comp=Z,74nm,18.5s,baz=296,slow=40
ZALV Zalesovo Beam 45.09 316 P **P 21 10 22.2 -0.5**
ZALV **PcP 21 12 02.8 -0.1**
TAPN Taplejung 46.67 278 *eP* **P 21 10 35.4 -0.5**
comp=Z,5.3nm,0.5s
MK31 Makanchi Array 46.74 306 P **P 21 10 35.2 -0.7**
MK31 IAmb IAmb 21 10 38.4
comp=Z,4.3nm,0.8s
MKAR Makanchi Array 46.74 306 P **P 21 10 35.8 0.0**
comp=Z,5.0nm,0.6s,baz=86,slow=9.3,SNR=75
MKAR PcP **PcP 21 12 09.4 +0.5**
comp=Z,0.7nm,0.7s,baz=115,slow=3.3,SNR=2.7
MKAR Makanchi Array 46.74 306 P **P 21 10 35.6 -0.3**
MAKZ Makanchi 46.95 306 P **P 21 10 37.5 -0.1**
MAKZ IAmb IAmb 21 10 40.2
comp=Z,4.1nm,0.6s
ODAN Odare 47.11 278 *eP* **P 21 10 38.0 -1.3**
comp=Z,10nm,0.6s
NRIK Noril'sk 47.30 337 P **P 21 10 40.9 +1.0**
comp=Z,2.4nm,0.8s,baz=58,slow=3.4,SNR=4.0
RAMN Ramite 47.73 278 *eP* **P 21 10 43.0 -1.1**
comp=Z,28nm,0.9s
GUN Gumba 48.00 280 *eP* **P 21 10 45.6 -0.7**
comp=Z,14nm,0.8s
PKI Pulchoki 48.51 279 *eP* **P 21 10 48.9 -1.3**
comp=Z,9.1nm,0.8s
PKIN Phulchoki 48.52 279 *eP* **P 21 10 49.1 -1.1**
comp=Z,6.6nm,0.7s
KKN Kakani 48.54 280 *eP* **P 21 10 49.7 -0.6**
comp=Z,15nm,0.8s
DMN Daman 48.75 280 *eP* **P 21 10 51.4 -0.6**
comp=Z,11nm,0.8s
KURBB Kurchatov Arra 48.94 311 P **P 21 10 52.6 -0.2**
comp=Z,2.4nm,0.6s,baz=87,slow=7.5,SNR=24
GKN Gorkha 49.00 280 *eP* **P 21 10 52.9 -0.9**
comp=Z,17nm,0.9s
KSH Kashi 52.51 297 P **P 21 11 21.1 +1.0**
KSH PP **PP 21 13 23.7 +4.7**
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,500nm,7.0s
WB2 Warramunga Arr 52.85 189 P **P 21 11 21.3 -1.1**
WB2 IAmb IAmb 21 11 24.8
comp=Z,7.0nm,0.9s
WRA Warramunga Ar 52.85 189 P **P 21 11 21.4 -1.2**
comp=Z,4.1nm,0.5s,baz=5.4,slow=7.1,SNR=55
AAK Ala-Archa 52.86 301 P **P 21 11 22.0 -0.6**
comp=Z,1.6nm,0.7s,baz=132,slow=7.8,SNR=9.0
AAK Ala-Archa 52.86 301 P **P 21 11 22.6 0.0**
ILAR Eielson Array 53.01 31 P **P 21 11 23.9 +0.7**
comp=Z,1.2nm,0.9s,baz=261,slow=6.0,SNR=7.0
BVAR Borovoye Array 53.73 315 P **P 21 11 28.5 -0.1**
comp=Z,1.5nm,0.7s,baz=103,slow=6.4,SNR=6.4
KK31 Karatay Array 55.60 303 P **P 21 11 42.4 0.0**
KK31 IAmb IAmb 21 11 45.1
comp=Z,3.6nm,0.8s
KKAR Karatay Array 55.60 303 P **P 21 11 42.4 0.0**
KKAR IAmb IAmb 21 11 45.1
comp=Z,3.6nm,0.8s
KKAR Karatay Array 55.60 303 P **P 21 11 42.2 -0.1**
NIL Nilore 56.32 291 P **P 21 11 47.7 0.0**
NIL IAmb IAmb 21 11 49.3
comp=Z,5.3nm,0.8s
AS31 Alice Springs 56.58 189 P **P 21 11 48.3 -1.2**
ASAR Alice Springs 56.58 189 P **P 21 11 48.2 -1.2**
comp=Z,0.7nm,0.5s,baz=11,slow=8.6,SNR=20
ARU Arti 59.80 320 P **P 21 12 11.5 -0.1**
comp=Z,4.2nm,0.6s,baz=84,slow=4.8,SNR=21
ARU Arti 59.80 320 P **P 21 12 11.3 -0.3**
ABKAR Akbulak array 60.97 312 P **P 21 12 19.3 -0.4**
ABKAR IAmb IAmb 21 12 19.9
comp=Z,2.0nm,0.6s
ABKAR Akbulak array 60.97 312 P **P 21 12 19.1 -0.6**
AKTO Aktyubinsk 61.80 314 P **P 21 12 25.9 +0.5**
comp=Z,3.0nm,1.0s,baz=69,slow=16,SNR=5.1
KIRV Kirov 63.87 324 P **P 21 12 39.0 0.0**
comp=Z,6.4nm,0.6s,baz=170,slow=4.0,SNR=3.1
HRA Herat 64.56 296 P **P 21 12 43.8 -0.4**
RES Resolute Bay 66.69 14 P **P 21 12 57.8 +0.8**
comp=Z,0.8nm,0.6s,baz=316,slow=6.3,SNR=5.1
YKA Yellowknife Ar 67.40 29 P **P 21 13 02.5 +0.8**
comp=Z,0.5nm,0.8s,baz=298,slow=5.5,SNR=4.9
FINES FINESS Array B 72.75 333 P **P 21 13 34.5 0.0**
comp=Z,1.4nm,0.7s,baz=63,slow=8.8,SNR=5.5
KBZ Khabaz 73.94 312 P **P 21 13 42.4 +0.6**
comp=Z,3.7nm,0.9s,baz=105,slow=3.7,SNR=5.4
NVAR Mina Array Bea 77.37 52 P **P 21 14 04.8 +2.9**
comp=Z,0.5nm,0.7s,baz=289,slow=4.5,SNR=3.9
AKASG Malin Array Be 77.88 323 P **P 21 14 03.8 -0.4**
comp=Z,0.4nm,0.4s,baz=47,slow=6.6,SNR=4.5
NB2 NORSAR Subarra 78.25 338 P **P 21 14 06.7 +0.6**
comp=Z,1.2nm,0.8s,baz=40,slow=5.9
NOA NORSAR Array B 78.25 338 P **P 21 14 05.4 -0.8**
comp=Z,1.1nm,0.8s,baz=40,slow=5.1,SNR=3.4
PDAR Pinedale Array 80.50 45 P **P 21 14 20.1 +1.1**
comp=Z,0.3nm,0.7s,baz=207,slow=0.3,SNR=4.1
BURAR Bucovina Array 81.86 322 P 21 14 24.7 -1.3
BR131 Keskin Array S 81.92 312 P 21 14 25.8 -0.7
BR131 IAmb IAmb 21 14 41.8
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 81.92 312 P **P 21 14 25.3 -1.2**
comp=Z,0.7nm,0.6s,baz=118,slow=4.8,SNR=5.0
BRTR Keskin Array B 81.92 312 P 21 14 26.3 -0.2
SRU San Rafael Swe 82.04 48 P **P 21 14 28.2 +1.0**
RAYN Ar Rayn 82.56 293 P **P 21 14 29.5 -0.5**
RAYN IAmb IAmb 21 14 31.0
comp=Z,2.8nm,0.8s
PV14 Lion Creek, Pa 83.43 48 P P 21 14 34.7 +0.2
PV17 East Wray Mesa 83.52 48 P P 21 14 34.6 -0.3
PV03 Paradox Valley 83.61 48 P P 21 14 36.3 +0.9
CLL Collm 84.96 331 *eP* **P 21 14 42.0 +0.4**
TXAR Lajitas Array 92.52 53 P **P 21 15 19.2 +1.0**
comp=Z,1.3nm,0.9s,baz=300,slow=2.7,SNR=6.8
TORD Torodi Ar. Bea 120.52 313 PKP **PKPdf 21 20 57.7 -1.0**
comp=Z,0.6nm,0.6s,baz=28,slow=1.3,SNR=2.7
LPAZ La Paz 148.42 66 PKPbc **PKiKP 21 21 56.1 +0.1**
comp=Z,1.5nm,0.8s,baz=117,slow=2.3,SNR=2.8

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*IDC **05** 21:03:07.9±2.6,61.86N×152.08W,h70km±29km,mb3.4/4, mb1 3.5/8,mb1mx3.1/54,mbtmp3.6/8, Error ellipse: s-maj=42.9km s-min=18.2km az=116.0*
*ANF **05** 21:03:10.7±0.4,61.72N×151.54W,h97km±5km,ML3.5/38, Error ellipse: s-maj=3.4km s-min=2.3km az=72.0, Hypocentre not reviewed by the ISC*
*NEIC **05** 21:03:10.7±1.1,61.71N±0.04×151.60W±0.07, h100km±4km,Error ellipse: s-maj=6.5km s-min=4.6km az=159.0*
*AEIC **05** 21:03:11±1.1,61.69N±0.01×151.58W±0.09,h96km±5km, ML3.2,ML3.4/94(NEIC),Error ellipse: s-maj=6.2km s-min=1.4km az=99.0*

ISC 05 21:03:10.4±0.8,61.70N±0.03×151.59W±0.03, h106km±5km,n136,σ0.85/139,mb3.6/4,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STLK	**Strandline Lak**	**0.23**	**210**		**Pn**	**21 03 25.0**	**-0.5**
STLK					**Sn**	**21 03 35.4**	**-1.4**
SKT	**Skwentna**	**0.28**	**5**		**Pn**	**21 03 25.2**	**-0.4**
SKT					**Sn**	**21 03 35.6**	**-1.4**
SKT				IAML		21 03 36.2	
	comp=E,1μm,0.5s						
SKT				IAML		21 03 36.6	
	comp=N,2μm,0.3s						
SKT	**Skwentna**	**0.28**	**5**	P		21 03 25.2	
	baz=184,SNR=98						
SKT				S		21 03 35.6	
	baz=184						
SUA	**Susitna One**	**0.47**	**120**		**Pn**	**21 03 27.2**	**+0.5**
SUA					**Sn**	**21 03 38.5**	**-0.4**
SUA				IAML		21 03 39.5	
	comp=N,2μm,0.7s						
SUA				IAML		21 03 40.6	
	comp=E,1μm,0.6s						
SUA	**Susitna One**	**0.47**	**120**	P		21 03 27.1	
	baz=300,SNR=226						
SUA				S		21 03 38.1	
	baz=300						
CRP	**Crater Peak**	**0.52**	**212**		**Pn**	**21 03 26.8**	**-0.3**
CRP					**Sn**	**21 03 38.5**	**-1.1**
SPCP	**Crater Peak Br**	**0.52**	**212**		**Pn**	**21 03 26.8**	**-0.3**
SPCP					**Sn**	**21 03 38.3**	**-1.2**
SPCN	**Chakachatna No**	**0.56**	**211**		**Pn**	**21 03 27.0**	**-0.2**
SPCN					**Sn**	**21 03 40.1**	**+0.2**
BGL	**Barrier Glacie**	**0.58**	**222**		**Pn**	**21 03 27.2**	**-0.3**
SPCR	**Spurr Chakacha**	**0.58**	**211**		**Pn**	**21 03 26.7**	**-0.8**
SPCR	**Spurr Chakacha**	**0.58**	**211**	P		21 03 27.0	
	baz=31,SNR=131						
SPCR				S		21 03 39.0	
	baz=31						
FIS	**Fire Island**	**0.86**	**130**		**Pn**	**21 03 30.4**	**+0.6**
FIS					**Sn**	**21 03 44.4**	**0.0**
CUT	**Chulitna**	**0.94**	**41**		**Pn**	**21 03 31.1**	**+0.5**
CUT	**Chulitna**	**0.94**	**41**	P		21 03 31.1	
	baz=222,SNR=133						
CUT				S		21 03 46.1	
	baz=222						
CAPN	**Captain Cook N**	**0.96**	**167**		**Pn**	**21 03 31.4**	**+0.6**
CAPN	**Captain Cook N**	**0.96**	**167**	P		21 03 32.6	
	baz=348,SNR=33						
RC01	**Rabbit Creek A**	**1.08**	**124**		**Pn**	**21 03 32.5**	**+0.4**
RC01	**Rabbit Creek A**	**1.08**	**124**	P		21 03 32.5	
	baz=305,SNR=107						
RC01				S		21 03 48.1	
	baz=305						
PMR	**Palmer**	**1.18**	**94**		**Pn**	**21 03 32.8**	**-0.3**
PMR	**Palmer**	**1.18**	**94**		**Sn**	**21 03 49.6**	**-0.7**
PMR	**Palmer**	**1.18**	**94**	P		21 03 32.8	
	baz=276,SNR=26						
PMR				S		21 03 49.0	
	baz=276						
PPLA	**Purkeypile**	**1.23**	**347**		**Pn**	**21 03 34.1**	**+0.2**
PPLA	**Purkeypile**	**1.23**	**347**	P		21 03 34.1	
	baz=166,SNR=39						
PPLA				S		21 03 50.9	
	baz=166						
GHO	**Glory Hole Cre**	**1.27**	**86**		**Pn**	**21 03 34.3**	**0.0**
GHO				IAML		21 03 54.6	
	comp=N,282nm,0.4s						
GHO				IAML		21 03 58.0	
	comp=E,305nm,0.4s						
NCT	**North Crescent**	**1.32**	**210**		**Pn**	**21 03 35.3**	**+0.4**
NCT					**Sn**	**21 03 53.6**	**+0.3**
RSO	**Redoubt South**	**1.37**	**205**		**Pn**	**21 03 35.7**	**+0.1**
SLKM	**Skilak Lake**	**1.37**	**150**		**Pn**	**21 03 35.2**	**-0.2**
RED	**Redoubt Volcan**	**1.41**	**205**		**Pn**	**21 03 36.1**	**+0.1**
O22K	**Cooper Landing**	**1.52**	**143**		**Pn**	**21 03 37.4**	**+0.2**
O22K	**Cooper Landing**	**1.52**	**143**	P		21 03 37.4	
	baz=324,SNR=8.5						
O22K				S		21 03 56.9	
	baz=324						
KNK	**Knik Glacier**	**1.53**	**100**		**Pn**	**21 03 37.2**	**0.0**
KNK				IAML		21 03 58.5	
	comp=N,705nm,0.4s						
KNK				IAML		21 03 58.8	
	comp=E,710nm,0.4s						
KNK	**Knik Glacier**	**1.53**	**100**		**Sn**	**21 03 57.8**	**+0.1**
KNK	**Knik Glacier**	**1.53**	**100**	P		21 03 37.2	
	baz=282,SNR=74						
KNK				S		21 03 57.4	
	baz=282						
SML	**Sawmill**	**1.55**	**85**		**Pn**	**21 03 37.4**	**-0.2**
SML				IAML		21 04 00.4	
	comp=E,337nm,0.6s						
SML				IAML		21 04 01.3	
	comp=N,240nm,0.5s						
SML	**Sawmill**	**1.55**	**85**	P		21 03 37.4	
	baz=267,SNR=71						
SML				S		21 03 57.6	
	baz=267						
HUR	**Hurricane**	**1.57**	**35**		**Pn**	**21 03 38.5**	**+0.8**
HUR					**Sn**	**21 03 58.5**	**-0.1**
PWL	**Port Wells**	**1.78**	**117**		**Pn**	**21 03 40.0**	**-0.4**
WAT1	**Susitna Watana**	**1.82**	**50**		**Pn**	**21 03 41.2**	**+0.4**
WAT1					**Sn**	**21 04 03.8**	**-0.3**
IVE	**Iliamna Volcan**	**1.83**	**203**		**Pn**	**21 03 41.0**	**0.0**
TRF	**Thorofare Moun**	**1.85**	**18**		**Pn**	**21 03 42.0**	**+0.6**
TRF				IAML		21 04 05.7	
	comp=E,448nm,0.5s						
TRF	**Thorofare Moun**	**1.85**	**18**	P		21 03 42.0	
	baz=199,SNR=50						
TRF				S		21 04 04.7	
	baz=199						
KTH	**Kantishna Hill**	**1.88**	**9**		**Pn**	**21 03 42.2**	**+0.5**
KTH					**Sn**	**21 04 05.1**	**-0.6**
KTH				IAML		21 04 07.5	
	comp=E,282nm,0.8s						
KTH				IAML		21 04 08.4	
	comp=N,465nm,0.7s						
WAT2	**Susitna Watana**	**1.89**	**47**		**Pn**	**21 03 42.3**	**+0.5**
WAT2	**Susitna Watana**	**1.89**	**47**	P		21 03 42.3	
	baz=229,SNR=40						
WAT2				S		21 04 05.1	
	baz=229						
ILS	**Iliamna Low So**	**1.90**	**203**		**Pn**	**21 03 42.4**	**+0.5**
SEW	**Seward**	**1.91**	**146**		**Pn**	**21 03 42.2**	**+0.2**
SEW	**Seward**	**1.91**	**146**	P		21 03 42.2	
	baz=328,SNR=9.6						
SEW				S		21 04 04.2	
	baz=328						
BRLK	**Bradley Lake**	**1.98**	**170**		**Pn**	**21 03 42.8**	**-0.1**
BRLK	**Bradley Lake**	**1.98**	**170**		**Sn**	**21 04 07.3**	**-0.3**
BRSE	**Bradley Lake S**	**2.01**	**168**		**Pn**	**21 03 43.1**	**-0.2**
BRSE					**Sn**	**21 04 07.4**	**-1.0**
BRSE	**Bradley Lake S**	**2.01**	**168**	P		21 03 43.2	
	baz=348,SNR=12						
BRSE				S		21 04 07.6	
	baz=348						
SVW2	**Sparrevohn**	**2.02**	**254**		**Pn**	**21 03 43.4**	**+0.1**
SVW2	**Sparrevohn**	**2.02**	**254**	IAML		21 04 08.6	
	comp=E,140nm,0.9s						
SCM	**Sheep Creek Mo**	**2.03**	**84**		**Pn**	**21 03 43.5**	**-0.1**
SCM				IAML		21 04 11.3	
	comp=N,302nm,0.8s						
HOM	**Homer**	**2.05**	**181**		**Pn**	**21 03 43.9**	**+0.1**
HOM					**Sn**	**21 04 10.8**	**+1.5**
HOM	**Homer**	**2.05**	**181**	P		21 03 44.0	
	baz=1.0						
HOM				S		21 04 09.6	
	baz=1.0						
RND	**Reindeer**	**2.13**	**35**		**Pn**	**21 03 45.5**	**+0.7**
RND				IAML		21 04 14.0	
	comp=E,130nm,0.4s						
CNPM	**China Poot**	**2.19**	**175**		**Pn**	**21 03 45.3**	**-0.3**
CNPM	**China Poot**	**2.19**	**175**	IAML		21 04 16.3	
	comp=E,118nm,0.4s						
OPT	**Oil Point**	**2.21**	**202**		**Pn**	**21 03 46.7**	**+0.8**
CHUM	**Lake Minchumin**	**2.21**	**352**	P		21 03 46.1	
	baz=171,SNR=31						
CHUM				S		21 04 11.8	
	baz=171						
GLI	**Glacier Island**	**2.32**	**109**		**Pn**	**21 03 46.2**	**-1.0**
GLI					**Sn**	**21 04 14.4**	**-1.1**
GLI	**Glacier Island**	**2.32**	**109**	IAML		21 04 15.7	
	comp=E,367nm,0.6s						
GLI	**Glacier Island**	**2.32**	**109**	P		21 03 46.2	
	baz=293,SNR=9.2						
GLI				S		21 04 14.3	
	baz=293						
MCK	**McKinley**	**2.38**	**30**		**Pn**	**21 03 48.7**	**+0.7**
MCK	**McKinley**	**2.38**	**30**	P		21 03 48.5	
	baz=212,SNR=8.8						
MCK				S		21 04 16.2	
	baz=212						
TTA	**Tatalina**	**2.41**	**303**		**Pn**	**21 03 48.5**	**0.0**
TTA	**Tatalina**	**2.41**	**303**	P		21 03 48.4	
	baz=119,SNR=7.9						
TTA				S		21 04 16.1	
	baz=119						
BPAW	**Bear Paw Mtn.**	**2.42**	**6**		**Pn**	**21 03 48.6**	**0.0**
BPAW					**Sn**	**21 04 16.4**	**-1.5**
BPAW	**Bear Paw Mtn.**	**2.42**	**6**	IAML		21 04 17.6	
	comp=N,184nm,0.6s						
BPAW				IAML		21 04 17.7	
	comp=E,219nm,0.4s						
BPAW	**Bear Paw Mtn.**	**2.42**	**6**	P		21 03 48.6	
	baz=187,SNR=31						
BPAW				S		21 04 15.9	
	baz=187						
AU22	**Augustine Moun**	**2.50**	**201**		**Pn**	**21 03 50.0**	**+0.5**
AUL	**Augustine Lava**	**2.50**	**202**		**Pn**	**21 03 50.6**	**+1.0**
M24K	**Tolsona, Glenn**	**2.59**	**79**		**Pn**	**21 03 51.7**	**+0.9**
M24K	**Tolsona, Glenn**	**2.59**	**79**	IAML		21 04 25.2	
	comp=N,193nm,0.6s						
M24K				IAML		21 04 25.4	
	comp=E,183nm,0.5s						
M24K	**Tolsona, Glenn**	**2.59**	**79**	P		21 03 51.7	
	baz=263,SNR=43						
M24K				S		21 04 23.0	
	baz=263						
FID	**Port Fidalgo**	**2.65**	**109**		**Pn**	**21 03 50.1**	**-1.4**
KLU	**Klutina**	**2.72**	**92**		**Pn**	**21 03 52.0**	**-0.5**
KLU				IAML		21 04 25.6	
	comp=E,102nm,0.3s						
KLU				IAML		21 04 26.0	
	comp=N,95nm,0.3s						
KLU	**Klutina**	**2.72**	**92**	P		21 03 52.1	
	baz=277,SNR=15						
KLU				S		21 04 24.4	
	baz=277						
HIN	**Hinchinbrook I**	**2.80**	**116**		**Pn**	**21 03 53.0**	**-0.6**
HIN				IAML		21 04 27.5	
	comp=E,166nm,0.5s						
DIV	**Divide**	**2.85**	**99**		**Pn**	**21 03 53.5**	**-0.8**
PS11	**TAPS Pump St11**	**2.92**	**80**		**Pn**	**21 03 56.1**	**+1.0**
EYAK	**Cordova Ski Ar**	**3.06**	**110**		**Pn**	**21 03 56.3**	**-0.6**
EYAK	**Cordova Ski Ar**	**3.06**	**110**	P		21 03 56.3	
	baz=295						
EYAK				S		21 04 32.1	
	baz=295						
PS12	**TAPS Pump St12**	**3.09**	**91**		**Pn**	**21 03 56.7**	**-0.7**
NEA2	**Nenana**	**3.12**	**20**		**Pn**	**21 03 57.8**	**0.0**
NEA2	**Nenana**	**3.12**	**20**	P		21 03 57.5	
	baz=202,SNR=8.0						
NEA2				S		21 04 31.4	
	baz=202						
PAX	**Paxson**	**3.12**	**63**		**Pn**	**21 03 58.7**	**+0.8**
PAX	**Paxson**	**3.12**	**63**	P		21 03 58.7	
	baz=248,SNR=9.5						
PAX				S		21 04 34.0	
	baz=248						
WRH	**Wood River Hil**	**3.20**	**28**		**Pn**	**21 03 59.0**	**+0.1**
N25K	**Chitina, Valde**	**3.33**	**89**		**Pn**	**21 04 00.6**	**-0.2**
N25K	**Chitina, Valde**	**3.34**	**89**	P		21 04 00.5	
	baz=275,SNR=8.2						
N25K				S		21 04 39.0	
	baz=275						
MLY	**Manley**	**3.36**	**6**		**Pn**	**21 04 01.3**	**+0.3**
MLY	**Manley**	**3.36**	**6**	P		21 04 01.1	
	baz=187						
MLY				S		21 04 38.8	
	baz=187						
CCB	**Clear Creek Bu**	**3.42**	**28**		**Pn**	**21 04 01.7**	**0.0**
HDA	**Harding Lake**	**3.44**	**36**		**Pn**	**21 04 02.5**	**+0.5**
HDA				IAML		21 04 42.0	
	comp=E,93nm,0.5s						
HDA				IAML		21 04 42.2	
	comp=N,131nm,0.4s						
HDA	**Harding Lake**	**3.44**	**36**	P		21 04 02.4	
	baz=220,SNR=20						
HDA				P		21 04 02.4	
	baz=220,SNR=20						
HDA				S		21 04 39.0	
	baz=220						
HDA				S		21 04 39.0	
	baz=220						
BMRM	**Bremner River**	**3.44**	**99**		**Pn**	**21 04 01.4**	**-0.7**
BMRM	**Bremner River**	**3.44**	**99**	P		21 04 01.0	
	baz=285						
Q23K	**Middleton Isla**	**3.45**	**129**		**Pn**	**21 04 02.4**	**+0.3**
Q23K	**Middleton Isla**	**3.45**	**129**	S		21 04 40.7	
	baz=314						
MID	**Middleton Isla**	**3.45**	**129**		**Pn**	**21 04 02.9**	**+0.7**
MID	**Middleton Isla**	**3.45**	**129**	IAML		21 04 49.6	
	comp=N,155nm,2.9s						
PS08	**TAPS Pump Stn8**	**3.58**	**35**		**Pn**	**21 04 04.2**	**+0.3**
TCOL	**CIGO, UAF Yank**	**3.60**	**26**		**Pn**	**21 04 04.2**	**0.0**
TCOL				IAML		21 04 47.5	
	comp=E,137nm,0.7s						
I23K	**Minto, Yukon-K**	**3.60**	**15**		**Pn**	**21 04 04.7**	**+0.5**
I23K	**Minto, Yukon-K**	**3.60**	**15**	P		21 04 04.5	
	baz=197,SNR=20						
I23K				S		21 04 43.2	
	baz=197						
TCOL	**CIGO, UAF Yank**	**3.60**	**26**	P		21 04 04.6	
	baz=209						
TCOL				S		21 04 43.1	
	baz=209						
COLA	**College**	**3.60**	**26**	Pn	**Pn**	**21 04 03.9**	**-0.2**
COLA	**College**	**3.60**	**26**	P		21 04 04.4	
	baz=209						
COLA				S		21 04 43.2	
	baz=209						
MDM	**Murphy Dome**	**3.60**	**23**		**Pn**	**21 04 04.7**	**+0.5**
MDM	**Murphy Dome**	**3.60**	**23**	IAML		21 04 43.9	
	comp=E,35nm,0.8s						
RAGM	**Ragged Mountai**	**3.61**	**108**		**Pn**	**21 04 03.7**	**-0.7**
RAGM				IAML		21 05 05.0	
	comp=E,136nm,0.5s						
IL31		**3.74**	**33**		**Pn**	**21 04 06.4**	**+0.4**
ILAR	**Eielson Array**	**3.74**	**33**	P	**Pn**	**21 04 04.8**	**-1.3**

comp=E,3.6nm,0.3s,baz=220,slow=14,SNR=56
ILAR S Sn 21 04 45.6 -3.6
comp=E,5.4nm,0.3s,baz=219,slow=21,SNR=3.1
ILAR Eielson Array 3.74 33 Pn Pn 21 04 06.0 -0.1
KVTA Katmai Vly 10 3.81 211 Pn 21 04 08.1 +1.0
HMT Hamilton 3.82 108 Pn Pn 21 04 06.2 -1.0
MENT Mentasta 3.88 68 Pn Pn 21 04 08.6 +0.7
KBM Katmai Bkd Mtn 3.89 209 Pn 21 04 08.9 +0.8
POKR Poker Plat Res 3.90 27 Pn 21 04 09.0 +0.8
POKR Poker Plat Res 3.90 27 P 21 04 08.8
baz=210,SNR=6.3
POKR S 21 04 50.3
baz=210
KAIM Kayak Island 3.94 114 Pn 21 04 09.0 +0.3
KDAK Kodiak Island 3.96 188 P Pn 21 04 07.9 -1.2
comp=E,0.7nm,0.3s,baz=60,slow=13,SNR=39
KDAK S Sn 21 04 50.2 -4.3
comp=E,2.4nm,0.3s,baz=219,slow=15,SNR=13
KDAK Kodiak Island 3.96 188 Pn 21 04 08.5 -0.6
KDAK Kodiak Island 3.96 188 P 21 04 07.8
baz=6.9
KDAK S 21 04 51.4
baz=6.9
DOT Dot Lake 3.98 57 Pn 21 04 09.9 +0.6
MCARA McCarthy VSAT 4.11 91 Pn 21 04 11.7 +0.7
MCARA McCarthy VSAT 4.11 91 IAML 21 05 03.9
comp=E,49nm,0.3s
MCARA IAML 21 05 06.2
comp=N,52nm,0.6s
MCARA McCarthy VSAT 4.11 91 P 21 04 11.5
baz=278,SNR=6.2
SUCK Suckling Hills 4.15 110 Pn Pn 21 04 12.8 +1.3
SCRK Sand Creek 4.17 53 Pn 21 04 12.5 +0.6
SCRK Sand Creek 4.17 53 P 21 04 12.5
baz=240,SNR=12
SCRK S 21 04 57.0
baz=240
CRQM Cirque 4.19 99 Pn 21 04 13.1 +0.7
CRQM IAML 21 05 19.4
comp=E,37nm,0.9s
CRQM IAML 21 05 26.8
comp=N,46nm,1.2s
KHIT Khitrov Hills 4.24 104 Pn 21 04 13.6 +0.7
TGL Tana Glacier 4.34 99 Pn 21 04 14.1 -0.1
TGL Tana Glacier 4.34 99 IAML 21 05 05.7
comp=N,41nm,0.3s
TGL IAML 21 05 24.3
comp=E,34nm,0.5s
IMAR Indian Mountai 4.40 348 Pn 21 04 14.8 -0.1
PTPK Patty Peak 4.41 93 Pn 21 04 15.5 +0.2
IM01 Indian Mountai 4.41 349 Pn 21 04 15.4 +0.3
KULT Kultieth River 4.56 105 Pn 21 04 16.2 -1.0
OHAK Old Harbor 4.58 192 Pn Pn 21 04 16.5 -0.8
OHAK IAML 21 05 12.5
comp=E,25nm,2.8s
OHAK IAML 21 05 32.5
comp=N,30nm,2.7s
PRP Porcupine Dome 4.69 33 Pn 21 04 19.3 +0.4
PRP Porcupine Dome 4.69 33 IAML 21 05 13.5
comp=E,30nm,0.8s
PRP IAML 21 05 14.5
comp=N,26nm,0.7s
PRP Porcupine Dome 4.69 33 P 21 04 20.0
baz=218,SNR=44
PRP S 21 05 10.5
baz=218
BCAR Beaver Creek A 4.76 69 Pn 21 04 20.0 +0.2
BC05 Beaver Creek A 4.78 69 Pn 21 04 20.5 +0.5
GRNC Granite Creek 4.85 97 Pn 21 04 21.5 +0.2
K27K Chicken 4.94 58 Pn 21 04 22.5 +0.3
K27K Chicken 4.94 58 IAML 21 05 34.0
comp=N,15nm,0.9s
YAH Yahtse 4.97 101 Pn 21 04 22.8 0.0
YAH Yahtse 4.97 101 IAML 21 06 17.2
comp=E,36nm,1.5s
YAH IAML 21 06 19.7
comp=N,46nm,1.4s
CTG Chitna Glacier 4.99 94 P 21 04 23.8
baz=283
CTG S 21 05 19.1
baz=283
CTGM Chitina Glacie 4.99 94 Pn 21 04 23.6 +0.5
CTGM Chitina Glacie 4.99 94 IAML 21 05 13.5
comp=N,15nm,3.0s
CTGM IAML 21 05 20.8
comp=E,13nm,1.2s
YUK2 White River 5.11 84 Pn 21 04 25.0 +0.4
LOGN Logan Glacier 5.18 95 Pn 21 04 25.6 -0.1
TABL Table Mountain 5.23 99 Pn 21 04 26.2 -0.1
TABL Table Mountain 5.23 99 IAML 21 06 18.5
comp=E,20nm,1.0s
TABL IAML 21 06 20.1
comp=N,27nm,1.2s
YUK3 Moose Creek 5.29 84 Pn 21 04 27.5 +0.3
SII Sitkinak Islan 5.33 196 Pn Pn 21 04 28.5 +1.0
CHX Chaix Hills 5.37 103 Pn 21 04 28.6 +0.5
COLD Coldfoot 5.58 6 Pn 21 04 31.9 +1.1
COLD Coldfoot 5.58 6 P 21 04 31.5
baz=187,SNR=6.5
EGAK Eagle 5.63 52 Pn 21 04 32.1 +0.6
EGAK Eagle 5.63 52 P 21 04 31.9
baz=241
PCA Pinnacle 5.76 101 Pn 21 04 33.7 +0.3
PINM Pinnacle 5.76 101 P 21 04 33.3
baz=291
DAWY Dawson 6.06 62 Pn 21 04 36.9 -0.5
BCPM Bancas Point 6.10 101 Pn 21 04 37.9 -0.1
PNL Peninsula 6.33 103 Pn 21 04 40.9 -0.1
BMAR Burnt Mountain 6.49 25 Pn 21 04 43.5 +0.3
TOLK Toolik Lake Re 7.02 6 Pn Pn 21 04 53.1 +2.8
INK Inuvik 10.08 41 P Pn 21 05 31.0 -0.7
comp=N,0.4nm,0.3s,baz=236,slow=13,SNR=11
YKA Yellowknife Ar 17.18 71 P P 21 07 05.3 +1.9
comp=N,0.1nm,0.3s,baz=282,slow=12,SNR=2.7
RES Resolute Bay 23.50 34 P P 21 08 10.9 +0.8
comp=N,0.5nm,0.5s,baz=264,slow=4.0,SNR=6.3
ARCES ARCESS Array B 49.03 1 P P 21 11 46.4 +0.6
comp=N,2.1nm,0.9s,baz=353,slow=6.6,SNR=5.1
FINES FINESS Array B 57.16 1 P P 21 12 45.5 +0.1
comp=N,1.6nm,0.9s,baz=356,slow=7.6,SNR=3.7
MKAR Makanchi Array 63.53 322 P P 21 13 27.8 -1.2
comp=N,0.2nm,0.7s,baz=31,slow=3.4,SNR=1.4

TAP ***05*** *21:24:53.9,24.03N×122.30E,h30km,ML3.0,D*
JMA ***05*** *21:24:53.0±0.1,23.94N×122.30E,h15km±3km,M2.9*
ISC 05 21:24:53.8±1.1,24.01N±0.02×122.29E±0.02,h25km±12km, n91,σ0962/162,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.63**	**267**	*e*P	**Pb**	**21 25 05.0**	**-1.1**
HWA	baz=253			*e*S	**Sn**	**21 25 16.4**	**+0.1**
TWD	**Chiawan**	**0.64**	**276**	P	**Pb**	**21 25 06.2**	**-0.2**
TWD	baz=275			S	**Sb**	**21 25 15.7**	**+0.8**
ENA	**Nanau**	**0.65**	**310**	*i* P	**Pb**	**21 25 05.8**	**-0.8**
ENA	baz=315			S	**Sb**	**21 25 15.8**	**+0.5**
NACB	**Ninganchiao**	**0.66**	**285**	P	**Pb**	**21 25 06.3**	**-0.3**
NACB	baz=271			*e*S	**Sb**	**21 25 15.1**	**-0.3**
TWC	**Suao**	**0.72**	**326**	*i* P	**Pb**	**21 25 06.7**	**-1.0**
TWC	baz=325			S	**Sb**	**21 25 17.5**	**+0.3**
JYNG	**Yonagunijimaku**	**0.74**	**54**	P	**Pb**	**21 25 07.4**	**-0.7**
JYNG				S	**Sn**	**21 25 18.9**	**-0.2**
ETLH	**Xiulin Townshi**	**0.76**	**285**	P	**Pn**	**21 25 08.3**	**-0.7**
ETLH	baz=273			S	**Sb**	**21 25 18.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.80**	**55**	P	**Pn**	**21 25 08.8**	**-0.6**
YOJ	baz=55			S	**Sn**	**21 25 20.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.80**	**55**	P	**Pn**	**21 25 08.6**	**-0.8**
YOJ				S	**Sn**	**21 25 20.2**	**-0.3**
ESL	**Shilin**	**0.81**	**256**	*i* P	**Pn**	**21 25 08.2**	**-1.4**
ESL	baz=248			S	**Sb**	**21 25 19.7**	**0.0**
NDS	**Dongshan**	**0.81**	**320**	P	**Pn**	**21 25 08.6**	**-1.0**
NDS	baz=325			S	**Sn**	**21 25 20.2**	**-0.7**
EGFH	**Guangfu**	**0.86**	**247**	S	**Sb**	**21 25 22.4**	**+1.2**
ILA	**Ilan**	**0.90**	**327**	*e*P	**Pn**	**21 25 10.2**	**-0.7**
ILA	baz=325			S	**Sb**	**21 25 23.1**	**+0.8**
TWE	**Neicheng**	**0.91**	**321**	P	**Pn**	**21 25 10.3**	**-0.6**
TWE	baz=320			S	**Sn**	**21 25 22.2**	**-1.0**
ENTT	**Nioudou**	**0.91**	**314**	P	**Pn**	**21 25 10.6**	**-0.4**
ENTT	baz=300			*i* S	**Sb**	**21 25 23.2**	**+0.5**
NDT	**Datong Townshi**	**0.92**	**310**	*i* P	**Pb**	**21 25 11.4**	**+0.3**
NDT	baz=308			S	**Sn**	**21 25 22.9**	**-0.7**
NNSB	**Datong**	**0.93**	**297**	P	**Pn**	**21 25 11.0**	**-0.3**
NNSB	baz=284			S	**Sb**	**21 25 23.4**	**+0.2**
NNSH	**Datong**	**0.93**	**297**	*e*P	**Pn**	**21 25 10.9**	**-0.4**
NNSH	baz=286			*e*S	**Sn**	**21 25 23.4**	**-0.5**
NTC	**Toucheng**	**0.94**	**334**	*e*P	**Pb**	**21 25 11.4**	**0.0**
NTC	baz=343			*e*S	**Sb**	**21 25 24.5**	**+1.0**
NNS	**Nan Shan**	**0.94**	**297**	*i* P	**Pn**	**21 25 11.1**	**-0.4**
NNS	baz=285			*i* S	**Sb**	**21 25 24.2**	**+0.5**
HGSD	**Ruisui**	**0.95**	**237**	*e*P	**Pn**	**21 25 10.3**	**-1.2**
HGSD	baz=237			*e*S	**Sn**	**21 25 23.8**	**-0.4**
WHF	**Hehuan Shan**	**0.95**	**278**	*i* P	**Pn**	**21 25 11.1**	**-0.7**
WHF	baz=266			*i* S	**Sb**	**21 25 24.6**	**+0.5**
FUSS	**Fushou**	**0.98**	**284**	P	**Pn**	**21 25 12.0**	**-0.2**
EHY	**Hungye**	**1.02**	**241**	P	**Pn**	**21 25 11.8**	**-0.7**
EHY	baz=254			*i* S	**Sn**	**21 25 25.7**	**-0.3**
CHGB	**Renai**	**1.02**	**273**	P	**Pn**	**21 25 12.0**	**-0.7**
CHGB	baz=261			S	**Sb**	**21 25 26.8**	**+0.7**
TWB1	**Santiao Chiao**	**1.03**	**345**	P	**Pb**	**21 25 13.3**	**+0.3**
TWB1	baz=342			*i* S	**Sb**	**21 25 26.4**	**+0.3**
TIPB	**Shuangxi**	**1.05**	**336**	*i* P	**Pb**	**21 25 13.4**	**+0.1**
TIPB	baz=334			S	**Sn**	**21 25 26.0**	**-0.7**
NWLT	**Wulai**	**1.05**	**317**	*e*P	**Pb**	**21 25 13.3**	**0.0**
NWLT	baz=314			*e*S	**Sb**	**21 25 27.4**	**+0.7**
YHNB	**Yeheng**	**1.06**	**308**	P	**Pn**	**21 25 13.1**	**0.0**
YHNB	baz=306			*e*S	**Sb**	**21 25 28.4**	**+1.3**
NSK	**Sanguang**	**1.08**	**308**	P	**Pn**	**21 25 13.1**	**-0.2**
NSK	baz=306			S	**Sb**	**21 25 28.2**	**+0.7**
VWDT	**VWDT**	**1.08**	**257**	P	**Pn**	**21 25 13.3**	**0.0**
VWDT	baz=256			*e*S	**Sb**	**21 25 27.7**	**+0.2**
YULB	**Yu-li**	**1.10**	**236**	P	**Pn**	**21 25 12.8**	**-0.8**
YULB	baz=250			S	**Sn**	**21 25 27.3**	**-0.7**
EYUL	**Yuli**	**1.11**	**234**	*e*P	**Pn**	**21 25 13.3**	**-0.4**
EYUL	baz=224			*e*S	**Sb**	**21 25 28.9**	**+0.6**
TWF1	**Yuli**	**1.12**	**234**	*i* P	**Pn**	**21 25 13.3**	**-0.5**
TWF1	baz=249			*i* S	**Sn**	**21 25 28.3**	**-0.2**
NWF	**Wu-fen Shan**	**1.15**	**336**	P	**Pb**	**21 25 15.4**	**+0.3**
NWF	baz=348			S	**Sb**	**21 25 29.8**	**+0.1**
WFSB	**Wu-fen Shan**	**1.15**	**336**	P	**Pb**	**21 25 15.0**	**0.0**
WFSB	baz=348			S	**Sb**	**21 25 29.6**	**0.0**
TWA	**Mucha**	**1.16**	**326**	*e*P	**Pb**	**21 25 15.1**	**-0.1**
TWA	baz=324			*e*S	**Sb**	**21 25 29.7**	**-0.1**
NHDH	**Xindian Distri**	**1.18**	**324**	*e*S	**Sb**	**21 25 31.9**	**+1.6**
TATO	**Taipei**	**1.21**	**323**	*e*P	**Pb**	**21 25 16.2**	**+0.2**
TATO	baz=320			S	**Sb**	**21 25 31.0**	**-0.2**
WPL	**Puli Township**	**1.22**	**270**	*e*P	**Pb**	**21 25 15.8**	**-0.4**
FULB	**Fuli**	**1.22**	**229**	P	**Pn**	**21 25 14.7**	**-0.6**
FULB	baz=218			S	**Sb**	**21 25 32.1**	**+0.6**
TAP1	**Taipei**	**1.24**	**326**	*e*S	**Sb**	**21 25 33.4**	**+1.3**
CHKT	**Chengkung**	**1.24**	**223**	P	**Pb**	**21 25 16.4**	**-0.2**
SSLB	**Suanglung**	**1.24**	**260**	P	**Pn**	**21 25 15.5**	**0.0**
SSLB	baz=259			*e*S	**Sb**	**21 25 32.4**	**+0.2**
DPDB	**Guoxing**	**1.25**	**271**	P	**Pn**	**21 25 15.6**	**-0.1**
DPDB	baz=263			*e*S	**Sb**	**21 25 33.2**	**+0.9**
WHP	**Taichung City**	**1.26**	**283**	*e*P	**Pn**	**21 25 16.2**	**+0.4**
WHP	baz=272			S	**Sn**	**21 25 32.0**	**0.0**
WCS	**Beigang Elemen**	**1.26**	**272**	*e*P	**Pb**	**21 25 16.6**	**-0.3**
SMLT	**Sun Moon Lake**	**1.28**	**265**	P	**Pn**	**21 25 16.2**	**0.0**
SMLT	baz=263			S	**Sn**	**21 25 32.9**	**+0.3**
YM01	**YM01**	**1.31**	**330**	*e*P	**Pb**	**21 25 17.7**	**0.0**
YM01	baz=343			*e*S	**Sb**	**21 25 33.6**	**-0.5**
TYC	**Yuchr**	**1.31**	**266**	P	**Pn**	**21 25 17.0**	**+0.4**
TYC	baz=265			S	**Sn**	**21 25 33.6**	**+0.3**
YM10	**YM10**	**1.32**	**330**	*e*P	**Pn**	**21 25 16.4**	**-0.3**
YM11	**YM11**	**1.32**	**331**	*e*P	**Pb**	**21 25 17.9**	**-0.1**
LIOB	**Emei**	**1.32**	**299**	P	**Pn**	**21 25 16.9**	**+0.2**
LIOB	baz=297			*e*S	**Sb**	**21 25 34.6**	**0.0**
YM05	**YM05**	**1.32**	**330**	*e*P	**Pb**	**21 25 17.7**	**-0.3**
YM05	baz=342			*e*S	**Sb**	**21 25 35.3**	**+0.7**
NSTT	**Nanjuang**	**1.33**	**298**	*e*S	**Sb**	**21 25 35.1**	**+0.5**
YM04	**YM04**	**1.33**	**329**	*e*P	**Pb**	**21 25 17.7**	**-0.4**
YM04	baz=341			*e*S	**Sb**	**21 25 35.4**	**+0.7**
YUS	**Yu-Shan**	**1.33**	**247**	P	**Pn**	**21 25 17.3**	**+0.1**
YUS	baz=247			S	**Sn**	**21 25 33.8**	**-0.5**
YM08	**YM08**	**1.33**	**332**	*e*P	**Pn**	**21 25 17.1**	**+0.3**
YM08	baz=343			*e*S	**Sb**	**21 25 34.6**	**-0.2**
TWS1	**Kuangyinshan**	**1.35**	**324**	P	**Pb**	**21 25 17.5**	**-0.9**
TWS1	baz=321			S	**Sb**	**21 25 34.7**	**-0.4**
IRIF	**Iriomote-Funau**	**1.35**	**76**	P	**Pb**	**21 25 17.6**	**-0.9**
IRIF				S	**Sb**	**21 25 36.3**	**+0.9**
ANP	**Anpu**	**1.36**	**329**	*e*S	**Sb**	**21 25 35.7**	**-0.1**
EDH	**Donghe**	**1.37**	**221**	*e*P	**Pn**	**21 25 16.4**	**-1.0**
EDH	baz=214			*e*S	**Sn**	**21 25 32.6**	**-2.1**
HATJ	**Hateruma jima**	**1.39**	**88**	P	**Pn**	**21 25 18.0**	**+0.5**
HATJ				*e*S	**Sb**	**21 25 35.5**	**-0.8**
ELDTW	**Lidau**	**1.43**	**235**	P	**Pn**	**21 25 17.5**	**-0.6**
ELDTW	baz=235			*e*S	**Sn**	**21 25 36.1**	**0.0**
TWQ1	**Liyutan**	**1.43**	**284**	*e*P	**Pn**	**21 25 18.3**	**+0.3**
TWQ1	baz=282			*e*S	**Sb**	**21 25 37.2**	**-0.2**
WJS	**Zhushan**	**1.44**	**263**	*e*P	**Pn**	**21 25 18.3**	**0.0**
ALS	**Alishan**	**1.45**	**250**	*i* P	**Pn**	**21 25 19.2**	**+0.6**
ALS	baz=250			S	**Sb**	**21 25 38.2**	**-0.2**
NMLH	**Miaoli**	**1.47**	**291**	*e*S	**Sn**	**21 25 37.6**	**+0.6**
CHN5	**Tsauling**	**1.53**	**255**	P	**Pb**	**21 25 20.7**	**-0.9**
CHN5	baz=245			S	**Sn**	**21 25 39.5**	**+0.7**
JKRS	**Kuro-shima**	**1.59**	**81**	P	**Pn**	**21 25 21.1**	**+0.8**
JKRS				S	**Sb**	**21 25 42.2**	**+0.1**
STYH	**Taoyuan**	**1.62**	**239**	*e*P	**Pn**	**21 25 21.3**	**+0.6**
STYH	baz=230			*e*S	**Sn**	**21 25 41.6**	**+0.8**
TWGBT	**Beinan**	**1.63**	**223**	P	**Pn**	**21 25 21.0**	**+0.2**
TWGBT	baz=234			*e*S	**Sn**	**21 25 41.3**	**+0.3**
TWG	**Pinlang**	**1.63**	**224**	P	**Pn**	**21 25 22.1**	**+1.2**
TWG	baz=235			S	**Sn**	**21 25 40.8**	**-0.2**
STYT	**Tauyuan**	**1.64**	**239**	P	**Pn**	**21 25 21.7**	**+0.6**
STYT	baz=230			S	**Sn**	**21 25 42.4**	**+1.0**
TPUB	**Ta-pu**	**1.68**	**245**	*e*P	**Pn**	**21 25 21.9**	**+0.3**
TPUB	baz=245			*e*S	**Sn**	**21 25 42.4**	**+0.1**
CHN4	**Tsaushan**	**1.69**	**247**	P	**Pb**	**21 25 23.2**	**-1.0**
CHN4	baz=247			S	**Sn**	**21 25 43.1**	**+0.6**
WTP	**Ta-pu**	**1.71**	**244**	*e*P	**Pb**	**21 25 23.9**	**-0.7**
WTP	baz=244			*e*S	**Sn**	**21 25 43.6**	**+0.4**
JIJ	**Ishigaki jima**	**1.73**	**78**	P	**Pn**	**21 25 22.8**	**+0.6**
JIJ				S	**Sn**	**21 25 43.7**	**+0.2**
TWK	**Hsinying**	**1.81**	**246**	*e*P	**Pn**	**21 25 23.8**	**+0.3**
TWK	baz=246			*e*S	**Sn**	**21 25 46.5**	**+0.9**
SLGT	**Liugui**	**1.82**	**236**	*e*P	**Pn**	**21 25 23.3**	**-0.1**
SLGT	baz=229			*e*S	**Sn**	**21 25 46.3**	**+0.7**
ECL	**Taimali**	**1.87**	**221**	*e*P	**Pn**	**21 25 23.6**	**-0.6**
ECL	baz=222			*e*S	**Sn**	**21 25 46.5**	**-0.4**
JISG	**Ishigakijimahi**	**1.93**	**72**	P	**Pn**	**21 25 25.4**	**+0.4**
JISG				S	**Sn**	**21 25 48.2**	**-0.3**
SSD	**Sandimen**	**1.98**	**231**	P	**Pn**	**21 25 26.2**	**+0.6**
SSD	baz=226			S	**Sn**	**21 25 50.7**	**+1.1**
MASBT	**Mashibuluo**	**2.06**	**228**	*e*P	**Pn**	**21 25 28.3**	**+1.5**
LAY	**Lan-yu**	**2.08**	**199**	*e*P	**Pn**	**21 25 27.0**	**-0.1**
EAST	**Anshuo**	**2.09**	**220**	*e*P	**Pn**	**21 25 27.2**	**-0.1**
SCZT	**Fangliau**	**2.24**	**224**	*e*P	**Pn**	**21 25 29.4**	**+0.2**
SCZT	baz=220			S	**Sn**	**21 25 56.8**	**+0.7**
SLIU	**Shizi**	**2.25**	**218**	*e*S	**Sn**	**21 25 56.4**	**0.0**
JTJ	**Tarama**	**2.29**	**74**	S	**Sn**	**21 25 58.1**	**+0.8**
PHUB	**P'eng-hu**	**2.54**	**259**	*e*S	**Sn**	**21 26 04.0**	**+0.5**
PTMZ	**Houxiangcun**	**3.06**	**290**	*e*P	**Pn**	**21 25 41.0**	**+0.4**

BGR ***05*** *21:27:05.0±0.0,34.81N×71.48E,h33km,mb4.9*
MOS ***05*** *21:27:27.0±0.9,36.70N×71.45E,h192km,mb4.6/56,Error ellipse: s-maj=4.7km s-min=3.3km az=105.2*
BJI ***05*** *21:27:28.8±0.0,36.81N×71.49E,h187km,mB4.6/15, mb4.4/20*
NEIC ***05*** *21:27:29.0±1.5,36.69N±0.05×71.33E±0.08,h196km±5km, mb4.6/91,Error ellipse: s-maj=9.1km s-min=7.4km az=78.0*
NNC ***05*** *21:27:29.2±1.9,36.91N×71.12E,h193km±19km,mb4.3, mpv5.3,Error ellipse: s-maj=18.2km s-min=10.0km az=165.0*
IDC ***05*** *21:27:29.0±0.6,36.61N×71.33E,h200km±6km,mb4.0/34, mb1 4.2/40,mb1mx4.0/47,mbtmp4.6/40,Error ellipse: s-maj=8.0km s-min=7.0km az=15.0*
ISC 05 21:27:27.6±0.3,36.68N±0.03×71.33E±0.03,h184km±3km, h184km:pP-P,n519,σ1949/584,mb4.5/152,33C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.83**	**222**	PN	**Pn**	**21 28 15.9**	**+1.2**
KBL						21 28 51.5	
KBL	**Kabul**	**2.83**	**222**	Pn	**Pn**	**21 28 15.9**	**+1.2**
KBL				Sn	**Sn**	**21 28 51.5**	**+0.2**
KBL	**Kabul**	**2.83**	**222**	P	**Pn**	**21 28 16.1**	**+1.4**
KBL	SNR=1353			S	**Sn**	**21 28 51.5**	**+0.2**
CEP	**Cherat**	**2.89**	**170**	P	**Pn**	**21 28 16.7**	**+1.4**
NIL	**Nilore**	**3.41**	**152**	PN	**Pn**	**21 28 23.4**	**+1.9**
NIL	**Nilore**	**3.41**	**152**	Pn	**Pn**	**21 28 23.4**	**+1.9**
NIL	**Nilore**	**3.41**	**152**	P	**Pn**	**21 28 23.4**	**+1.9**
NIL				S	**Sn**	**21 29 01.8**	**-1.8**
THW	**Thamme Wali**	**3.89**	**175**	P	**Pn**	**21 28 28.5**	**+0.9**
KSH	**Kashi**	**4.63**	**51**	P	**Pn**	**21 28 33.9**	**-3.0**
KSH				S	Sn	21 29 20.4	-11
SARP	**Sargodha**	**4.88**	**166**	P	**Pn**	**21 28 40.2**	**+0.1**
TAS	**Tashkent**	**4.90**	**342**	PN	**Pn**	**21 28 41.5**	**+1.2**
TAS	**Tashkent**	**4.90**	**342**	Pn	**Pn**	**21 28 41.5**	**+1.2**
TAS				Sn	**Sn**	**21 29 35.9**	**-1.6**
IUG	**Iuzhnay**	**5.55**	**350**	*e*P	**Pn**	**21 28 48.9**	**+0.1**
IUG	**Iuzhnay**	**5.55**	**350**	*e*PN	**Pn**	**21 28 48.8**	**+0.1**
AML	**Almayashu**	**5.74**	**18**	P	**Pn**	**21 28 52.2**	**+0.6**
DHRM	**DHARAMSHALA**	**6.04**	**136**	*e*P	**Pn**	**21 28 54.9**	**-0.5**
DHRM				*e*S	**Sn**	**21 30 00.5**	**-3.9**
UCH	**Uchtor**	**6.06**	**23**	P	**Pn**	**21 28 56.4**	**+0.6**
EKS2	**Erkin-Say**	**6.26**	**17**	P	**Pn**	**21 28 58.9**	**+0.8**
AAK	**Ala-Archa**	**6.43**	**21**	P	**Pn**	**21 29 01.1**	**+0.8**
AAK	110nm,0.3s,baz=198,slow=7.1,SNR=1666			S	**Sn**	**21 30 11.8**	**-1.7**
AAK	**Ala-Archa**	**6.43**	**21**	P	**Pn**	**21 29 01.2**	**+0.9**
AAK	**Ala-Archa**	**6.43**	**21**	P	**Pn**	**21 29 01.2**	**+0.9**

28nm,0.3s,baz=161,slow=17,SNR=14
SNR=454
SNR=341
SNR=626
SNR=360

AAK	Ala-Archa	6.43	21	⇑P	Pn	21 29 01.3	+0.9
	251nm,0.5s						
AAK				⇓S	Sn	21 30 12.1	-1.5
	304nm,0.6s						
AAK	Ala-Archa	6.43	21	*i* PN	Pn	21 29 01.3	+0.9
AAK				pmax	pmax		
	comp=Z,251nm,0.4s						
AAK	Ala-Archa	6.43	21	Pn	Pn	21 29 01.2	+0.9
AAK				Sn	Sn	21 30 11.3	-2.2
AAK	Ala-Archa	6.43	21	P	Pn	21 29 01.2	+0.9
AAK				S	Sn	21 30 11.9	-1.7
KK31	Karatay Array	6.44	355	⇑P	Pn	21 29 00.8	+0.4
	comp=Z,140nm,0.3s,baz=173,slow=11,SNR=7049						
KK31				⇓S	Sn	21 30 10.8	-2.9
	comp=Z,450nm,0.5s,baz=176,slow=19,SNR=28						
KK31	Karatay Array	6.44	355	PN	Pn	21 29 01.0	+0.6
KK31	Karatay Array	6.44	355	Pn	Pn	21 29 01.0	+0.6
KK31				Sn	Sn	21 30 09.7	-4.0
KKAR	Karatay Array	6.44	355	PN	Pn	21 29 01.0	+0.6
KKAR	Karatay Array	6.44	355		Pn	21 29 01.0	+0.6
KKAR				Sn	Sn	21 30 09.7	-4.0
KBK	Karagaybulak	6.59	24	P	Pn	21 29 03.1	+0.7
	SNR=218						
ULHL	Ulahol	6.73	33	P	Pn	21 29 04.5	+0.1
	SNR=27						
BHK	Bhakra	6.74	140	*e*P	Pn	21 29 01.8	-2.6
BHK				*e*S	Sn	21 30 16.6	-4.2
CHMS	Chumysh	6.84	22	P	Pn	21 29 06.0	+0.4
	SNR=67						
USP	Ospenovka	7.01	19	P	Pn	21 29 07.9	0.0
	SNR=366						
TKM2	Tokmak 2	7.04	26	P	Pn	21 29 09.0	+0.5
	SNR=229						
TKM2	Tokmak 2	7.04	26	⇓P	Pn	21 29 08.8	+0.3
	comp=Z,157nm,0.7s						
TKM2				⇑S	Sn	21 30 26.8	-1.4
	comp=Z,433nm,1.1s						
TKM2	Tokmak 2	7.04	26	*i* PN	Pn	21 29 08.7	+0.3
TKM2				pmax	pmax		
	comp=Z,157nm,0.7s						
SGDS	Sogindy	7.22	20	*e*P	Pn	21 29 09.6	-1.1
	baz=19						
SGDS	Sogindy	7.22	20	*e*PN	Pn	21 29 09.5	-1.1
SMLA	Simla	7.37	137	*e*P	Pn	21 29 12.2	-0.3
SMLA				*e*S	Sn	21 30 30.1	-5.5
SMLA				IAML		21 30 34.3	
	comp=N,2µm,0.3s						
TNSS	Tian-Shan	7.68	33	*e*P	Pn	21 29 15.1	-1.8
	baz=32						
TNSS	Tian-Shan	7.68	33	*e*PN	Pn	21 29 15.1	-1.8
HRA	Herat	7.75	255	Pn	Pn	21 29 18.3	+0.5
AAA	Alma-Ata	7.80	32	*e*P	Pn	21 29 17.7	-0.5
	baz=31						
AAA	Alma-Ata	7.80	32	*e*PN	Pn	21 29 17.7	-0.5
MDOK	Medeo	7.82	32	*e*P	Pn	21 29 17.7	-1.0
	baz=32						
MDOK	Medeo	7.82	32	⇑P	Pn	21 29 19.2	+0.6
	comp=N,53nm,0.6s						
MDOK				⇓S	Sn	21 30 46.8	+0.2
	comp=N,115nm,0.9s						
MDOK	Medeo	7.82	32	*e*PN	Pn	21 29 17.6	-1.0
KNDC	Almaty	7.83	32	⇑P	Pn	21 29 19.9	+1.3
	comp=N,114nm,0.6s						
KUU	Kurty	8.16	26	*e*P	Pn	21 29 20.7	-2.1
	comp=N,16nm,0.6s,baz=26						
KUU	Kurty	8.16	26	*e*PN	Pn	21 29 20.7	-2.1
KUU				pmax	pmax		
	comp=Z,16nm,0.6s						
CHKK	Chushkaly	8.37	29	*e*P	Pn	21 29 23.9	-1.7
	baz=29						
CHKK	Chushkaly	8.37	29	*e*PN	Pn	21 29 23.9	-1.7
SATY	Saty	8.38	38	*e*P	Pn	21 29 24.0	-1.9
	baz=38						
SATY	Saty	8.38	38	*e*PN	Pn	21 29 23.9	-1.9
BTLS	Baital	8.60	13	*e*P	Pn	21 29 26.9	-1.7
	comp=Z,21nm,0.7s,baz=12						
BTLS	Baital	8.60	13	*e*PN	Pn	21 29 26.9	-1.7
BTLS				pmax	pmax		
	comp=Z,21nm,0.7s						
UZB	Uzynbulak	8.75	40	*e*P	Pn	21 29 29.4	-1.4
	comp=Z,6.0nm,0.3s,baz=40						
UZB	Uzynbulak	8.75	40	*e*PN	Pn	21 29 29.4	-1.4
UZB				pmax	pmax		
	comp=Z,6.0nm,0.3s						
KPKS	Kokpek	8.81	37	⇑*i*P	Pn	21 29 30.6	-1.0
	comp=Z,24nm,0.7s,baz=37						
KPKS	Kokpek	8.81	37*c*	*i*PN	Pn	21 29 30.5	-1.0
KPKS				pmax	pmax		
	comp=Z,24nm,0.7s						
SHLS	Shalkode	8.99	42	*e*P	Pn	21 29 35.9	+1.9
	baz=42						
SHLS	Shalkode	8.99	42	*e*P	Pn	21 29 35.8	+1.9
PDGK	Podgornoye	9.12	41	⇓P	Pn	21 29 35.0	-0.6
	comp=Z,18nm,0.8s						
PDGK				⇑S	Sn	21 31 16.1	-1.4
	comp=Z,23nm,0.7s						
NDI	New Delhi	9.39	146	*e*P	Pn	21 29 37.5	-1.7
NDI				*e*S	Sn	21 31 15.5	-8.5
TDK	Taldyqorghan	9.89	31	*e*P	Pn	21 29 44.4	-1.2
	comp=Z,23nm,0.7s,baz=30						
TDK	Taldyqorghan	9.89	31	*e*P	Pn	21 29 44.3	-1.2
TDK				pmax	pmax		
	comp=Z,23nm,0.7s						
AJM	Ajmer	10.56	164	⇑*i*P	Pn	21 29 53.0	-1.4
AJM				*i* S	Sn	21 31 40.0	-12
GEYT	Alibeck	10.60	281	P	Pn	21 29 53.2	-1.6
	comp=Z,5.4nm,0.3s,baz=110,slow=13,SNR=52						
GEYT				S	Sn	21 31 49.6	-3.1
	comp=Z,9.4nm,0.3s,baz=154,slow=20,SNR=3.6						
GEYT	Alibeck	10.60	281	Pn	Pn	21 29 52.6	-2.2
GYA0B	ALIBECK ARRAY	10.60	281	⇓P	Pn	21 29 52.7	-2.1
GYA0B				⇑S	Sn	21 31 47.5	-5.2
GYA0B	ALIBECK ARRAY	10.60	281	Pn	Pn	21 29 52.7	-2.1
MAKZ	Makanchi	12.86	35	⇓P	Pn	21 30 22.1	-1.6
	comp=Z,24nm,0.5s						
MAKZ	Makanchi	12.86	35	P	Pn	21 30 23.0	-0.7
MAKZ	Makanchi	12.86	35		Pn	21 30 23.0	-0.7
MK31	Makanchi Array	12.99	36	⇑P	Pn	21 30 24.8	-0.6
	comp=Z,15nm,0.6s,baz=202,slow=9.6,SNR=318						
MK31	Makanchi Array	12.99	36	*i* P	Pn	21 30 25.0	-0.4
MK31				pmax	pmax		
	comp=Z,15nm,0.5s						
MK31	Makanchi Array	12.99	36	Pn	Pn	21 30 26.0	+0.6
MKAR	Makanchi Array	12.99	36	P	Pn	21 30 25.2	-0.2
	comp=Z,2.0nm,0.3s,baz=207,slow=12,SNR=90						
MKAR	Makanchi Array	12.99	36	P	Pn	21 30 25.6	+0.2
MKAR	Makanchi Array	12.99	36	Pn	Pn	21 30 25.6	+0.2
BRZS	Berezniki	13.33	4	*e*P	Pn	21 30 29.4	-0.3
	comp=Z,6.0nm,0.5s,baz=3.5						
BRZS	Berezniki	13.33	4	*e*P	Pn	21 30 29.3	-0.3
BRZS				pmax	pmax		
	comp=Z,6.0nm,0.5s						
DANN	Dangsing	13.37	125	*e*P	Pn	21 30 30.6	0.0
BHUJ	Bhuj	13.46	187	*e*P	Pn	21 30 30.7	-0.8
GKN	Gorkha	14.18	124	*e*P	Pn	21 30 39.9	-0.7
	comp=Z,163nm,0.4s						
WMQ	Urumqi	14.38	55	P	Pn	21 30 42.8	0.0
WMQ	Urumqi	14.38	55	Pn	Pn	21 30 42.8	0.0
BHPL	Bhopal	14.39	157	*e*P	Pn	21 30 40.5	-2.7
BHPL				*i* x	x	21 30 45.2	
BHPL				*e*x	x	21 33 10.3	
BHPL				IAML		21 33 13.9	
	comp=E,100nm,1.0s						
BHPL				IAML		21 33 15.2	
	comp=N,133nm,0.6s						
ZSN	Zaisan	14.70	39	*e*P	Pn	21 30 46.1	-0.7
	baz=38						
ZSN	Zaisan	14.70	39	*e*P	Pn	21 30 46.0	-0.7
KKN	Kakani	14.75	123	*e*P	Pn	21 30 47.3	-0.4
	comp=N,293nm,0.5s						
DMN	Daman	14.76	124	*e*P	Pn	21 30 48.0	+0.2
	comp=N,233nm,0.5s						
KURBB	Kurchatov Arra	14.87	18	P	Pn	21 30 48.6	0.0
	comp=N,1.3nm,0.3s,baz=206,slow=10,SNR=79						
KURBB				S	S	21 33 36.2	+0.7
	baz=202,slow=20,SNR=4.1						
KURBB	Kurchatov Arra	14.87	18	⇓P	Pn	21 30 47.6	-1.0
	comp=N,22nm,0.5s						
PKIN	Phulchoki	14.97	123	*e*P	Pn	21 30 50.1	-0.3
	comp=N,228nm,0.5s						
KURK	Kurchatov	14.97	18	P	Pn	21 30 48.7	-1.3
KURK	Kurchatov	14.97	18	P	Pn	21 30 48.6	-1.3
PKI	Pulchoki	14.98	123	*e*P	Pn	21 30 50.2	-0.4
	comp=N,159nm,0.4s						
AB31	Akbulak array	15.05	330	⇑P	Pn	21 30 49.7	-1.3
	comp=N,66nm,0.7s,baz=143,slow=11,SNR=1027						
AB31				⇑S	Sn	21 33 28.8	-10
	comp=N,69nm,0.6s,baz=148,slow=22,SNR=15						
ABKAR	Akbulak array	15.05	330	Pn	Pn	21 30 50.5	-0.4
GUN	Gumba	15.09	121	*e*P	Pn	21 30 51.0	-0.9
	comp=N,216nm,0.3s						
RAMN	Ramite	16.19	122	*e*P	P	21 31 04.7	-0.2
	comp=N,150nm,0.4s						
BVAR	Borovoye Array	16.36	358	P	P	21 31 06.4	+0.1
	comp=N,7.3nm,0.3s,baz=136,slow=10,SNR=106						
BVAR				S	S	21 34 05.6	-1.7
	comp=N,1.6nm,0.3s,baz=157,slow=21,SNR=5.8						
BRVK	Borovoye	16.39	358	⇑P	P	21 31 06.8	+0.2
	comp=N,67nm,1.2s						
BRVK	Borovoye	16.39	358	*i* P	P	21 31 06.7	+0.1
BRVK				pmax	pmax		
	comp=Z,25nm,0.6s						
BRVK	Borovoye	16.39	358	P	Pn	21 31 07.3	+0.2
BRVK	Borovoye	16.39	358	P	Pn	21 31 07.6	+0.4
BRVK				S	S	21 34 06.1	-1.9
TAPN	Taplejung	16.70	119	*e*P	P	21 31 10.7	0.0
	comp=Z,100nm,0.4s						
BANOM	Banah	16.71	234	*i* P	P	21 31 10.4	-0.1
	SNR=6.7						
BANOM	Banah	16.71	234	P	Pn	21 31 11.4	+0.1
	SNR=6.8						
SHME	Shamm	16.73	235	P	P	21 31 11.1	+0.5
SHME	Shamm	16.73	235	P	P	21 31 10.6	+0.1
AKTO	Aktyubinsk	16.75	329	P	Pn	21 31 11.7	+0.1
	comp=Z,36nm,0.3s,baz=138,slow=9.3,SNR=604						
AKTO				S	S	21 34 15.9	+0.1
	comp=Z,5.1nm,0.3s,baz=40,slow=22,SNR=7.3						
AKTO	Aktyubinsk	16.75	329	⇑P	Pn	21 31 11.8	+0.3
	comp=Z,178nm,0.7s						
AKTO				⇑S	S	21 34 12.4	-3.4
	comp=Z,92nm,0.8s						
ODAN	Odare	16.79	121	*e*P	P	21 31 11.4	-0.1
	comp=Z,116nm,0.4s						
MDH	Madha	17.14	233	P	P	21 31 14.6	-0.6
MDH	Madha	17.14	233	P	Pn	21 31 15.9	-0.5
MASF	Masafi	17.18	233	P	P	21 31 16.3	+0.7
MSFE	Esma-Masafi	17.19	233	P	P	21 31 15.7	0.0
WSAR	Wadi Sarin	17.31	223	P	P	21 31 16.8	-0.2
	comp=Z,2.1nm,0.3s,baz=82,slow=6.3,SNR=27						
GTK	Tadong	17.35	118	*e*P	Pn	21 31 18.7	-0.3
GTK				IAmb	IAmb	21 31 19.9	
	comp=Z,24nm,1.0s						
BIDO	Bidbid	17.37	225	P	Pn	21 31 18.9	-0.1
UOSS	Minazif	17.45	232	P	P	21 31 18.0	-0.6
UOSS	Minazif	17.45	232	P	P	21 31 18.9	+0.3
UOSS				IAmb	IAmb	21 31 32.4	
	comp=Z,28nm,1.0s						
UOSS	Minazif	17.45	232	P	P	21 31 18.8	+0.3
HATD	Hatta, Dubai	17.59	232	P	P	21 31 19.3	-0.7
HATD	Hatta, Dubai	17.59	232	P	Pn	21 31 21.0	-0.7
WBK	Wadi Bani Khal	17.64	221	P	Pn	21 31 22.9	+0.6
	SNR=7.9						
ASHO	Ashiyiah	17.73	232	*i* P	P	21 31 20.6	-1.1
	SNR=21						
ASHO	Ashiyiah	17.73	232	P	P	21 31 22.5	+0.8
	SNR=21						
NAZ	Nazwa, Dubai	17.77	233	P	P	21 31 21.1	-0.9
NAZ	Nazwa, Dubai	17.77	233	P	P	21 31 22.6	+0.6
SMDO	Samad	17.77	224	P	Pn	21 31 23.4	-0.6
HOQ	Hoqain	17.79	227	P	Pn	21 31 24.9	+0.9
JLN	Jalan Bani Buh	17.79	219	P	P	21 31 20.2	-2.0
SOHO	SOHO	17.84	230	P	P	21 31 20.4	-2.3
SOHO	SOHO	17.84	230	P	P	21 31 22.0	-0.8
BOK	Bokaro	17.95	132	*e*P	P	21 31 24.6	+0.6
LKRN	Lenkeran, Azer	17.95	283	P	Pn	21 31 25.1	-0.7
LSA	Lhasa	17.98	107	P	Pn	21 31 27.3	+0.6
LSA				pmax	pmax		
	comp=Z,13nm,0.6s						
LSA	Lhasa	17.98	107	P	Pn	21 31 27.3	+0.6
LSA				IAmb	IAmb	21 31 33.4	
	comp=Z,13nm,0.6s						
FAQ	Al Faqa, Dubai	17.99	233	P	P	21 31 24.3	-0.1
FAQ	Al Faqa, Dubai	17.99	233	P	P	21 31 24.9	+0.6
POO	Poona	18.22	172	*e*P	P	21 31 26.0	-1.0
	comp=Z,110nm,0.6s						
POO				*e*S	S	21 34 50.0	+4.0
ASUD	Al Ashush, Dub	18.24	233	*i* P	P	21 31 27.4	+0.3
	SNR=11						
ASUD	Al Ashush, Dub	18.24	233	P	P	21 31 28.2	+1.1
	SNR=11						
JMDO	Jabal Madar	18.30	222	P	Pn	21 31 29.5	-0.5
ALNE	Al Ain	18.38	231	*i* P	P	21 31 28.6	-0.1
	SNR=9.2						
ALNE	Al Ain	18.38	231	P	P	21 31 29.4	+0.8
	SNR=9.2						
ARQ	Araqi	18.44	228	P	P	21 31 29.1	-0.3
	SNR=7.8						
BSY	Bisya	18.50	225	P	Pn	21 31 31.5	-1.0
AJN	Ajban	18.51	234	P	P	21 31 30.4	+0.4
SEKA	Sheki	19.28	291	P	Pn	21 31 40.1	-1.4
KAD	Karad	19.46	172	⇑*i*P	P	21 31 41.2	+0.7
KAD				*i* S	S	21 35 14.9	+4.3
MHTO	MHTO	19.50	220	P	P	21 31 42.3	+1.5
ZAA0	Zalesovo Array	19.64	24	⇑P	P	21 31 41.1	-0.9
	comp=Z,7.1nm,0.6s						
ZAA0	Zalesovo Array	19.64	24	P	P	21 31 42.0	+0.1
ZALV	Zalesovo Beam	19.64	24	P	P	21 31 42.1	+0.1
	comp=Z,19nm,0.3s,baz=223,slow=11,SNR=273						
ZALV	Zalesovo Beam	19.64	24	*i* P	P	21 31 42.0	+0.1
ZALV				pmax	pmax		
	comp=Z,46nm,0.3s						
ZALV	Zalesovo Beam	19.64	24	P	P	21 31 42.0	0.0
ZKTA	Zakatala	19.76	292	P	P	21 31 45.0	+1.6
MZWR	Madinat Zayed	19.79	234	P	Pn	21 31 46.1	-1.5
GANJ	Ganja	19.90	289	P	P	21 31 45.6	+0.6
LGD	Lagodekhi	20.06	293	P	P	21 31 48.3	+1.6
HYB	Hyderabad	20.23	160	*i* P	P	21 31 48.5	-0.1
HYB				*e*S	S	21 35 28.0	+2.5
GROC	Groznyy	20.58	296	*e*P	P	21 31 53.5	+1.3
GROC				*e**PP	pP	21 32 21.8	-1.7
GROC				*e**SP	sP	21 32 46.9	0.0
GROC				*e*S	S	21 35 36.8	+4.8
GROC				*e*		21 35 53.5	
GROC				pmax	pmax		
	comp=Z,73nm,0.7s						
DQM	DQM	20.60	220	P	P	21 31 53.7	+1.2
SHL	Shillong	20.75	116	P	P	21 31 54.2	-0.1
SHL				pmax	pmax		
	comp=Z,44nm,0.6s						
SHL	Shillong	20.75	116	*e*P	P	21 31 54.2	-0.1
SHL				IAmb	IAmb	21 31 57.2	
	comp=Z,19nm,0.7s						
SHL	Shillong	20.75	116	P	P	21 31 54.2	-0.1
SHL	Shillong	20.75	116	P	P	21 31 54.3	0.0
	SNR=21						
UMR	Umm Al-Rimmam	20.98	257	*e*P		21 31 56.1	
GNI	Garni	21.09	288	P	P	21 31 58.1	+0.3
	comp=Z,25nm,1.1s,baz=146,slow=5.8,SNR=8.0						
GNI	Garni	21.09	288	P	P	21 31 59.7	+2.0
ZIRO	ZIRO	21.11	109	*e*P	P	21 31 58.6	+0.4
ZIRO				IAmb	IAmb	21 32 00.7	
	comp=Z,137nm,0.1s						
MIB	Mutribah	21.17	258	*e*P		21 31 58.2	
QRN	Al-Qurain	21.19	255	*e*P		21 31 58.6	
SVE	Sverdlovsk	21.39	344*c*	*e*P	P	21 32 01.1	+0.5
SVE				*e*S	Sn	21 35 57.7	-11
SVE				pmax	pmax		
	comp=Z,40nm,0.9s						
RDF	Al-Radifah	21.39	256	*e*P		21 32 01.2	
GUDG	Gudauri	21.44	294	P	P	21 32 06.0	+4.5
ARU	Arti	21.55	340	P	P	21 32 02.5	+0.4
	comp=Z,6.6nm,0.5s,baz=151,slow=7.4,SNR=48						
ARU	Arti	21.55	340*c*	*i*P	P	21 32 02.6	+0.4
ARU				*PP	pP	21 32 32.9	-1.6
ARU				S	S	21 35 49.5	+0.8
ARU				pmax	pmax		
	comp=Z,41nm,0.9s						
ARU	Arti	21.55	340	P	P	21 32 02.8	+0.6
ZEI	Tsey	21.90	295	*e*P	P	21 32 08.2	+2.0
ZEI				pmax	pmax		
	comp=Z,16nm,0.7s						
BGD	Bogdanovka	21.99	291	P	P	21 32 11.1	+3.9
AKH	Akhalkalaki	22.08	291	P	P	21 32 11.2	+3.2
ONI	Oni	22.21	294	P	P	21 32 12.4	+3.4
NCK	Nalchik	22.21	296	*i* P	P	21 32 09.7	+0.6
NCK				pmax	pmax		
	comp=Z,26nm,0.9s						
MOKO	MOKOCHONG	22.26	111	*e*P	P	21 32 10.5	+0.7
MOKO				IAmb	IAmb	21 32 11.4	
	comp=Z,28nm,0.3s						
KOHI	KOHIMA	22.29	113	*e*P	P	21 32 10.8	+0.7
KOHI				IAmb	IAmb	21 32 13.4	
	comp=Z,21nm,0.7s						
GEVA	Gevas	22.45	283	P	P	21 32 12.0	+0.5
GEVA				IAmb	IAmb	21 32 16.6	
	comp=Z,12nm,0.8s						
GTA	Gaotai	22.56	74	P	P	21 32 13.9	+1.4
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBZ	Khabaz	22.75	297	P	P	21 32 14.7	+0.8
	comp=Z,8.9nm,0.9s,baz=147,slow=5.2,SNR=15						
KBZ	Khabaz	22.75	297*c*	*e*P	P	21 32 14.4	+0.5
KBZ				pmax	pmax		
	comp=Z,13nm,1.0s						
NEY	Neytrino	22.81	296	*i* P	P	21 32 16.5	+1.8
NEY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GOF	Gofitskoye	22.88	300	⇑*e*P	P	21 32 17.1	+2.0
GOF				pmax	pmax		
	comp=Z,86nm,0.8s						
BELG	Belogornoye	22.91	321	P	P	21 32 16.1	+0.8
	comp=Z,62nm,0.7s,baz=344,slow=1.4,SNR=57						
BELG	Belogornoye	22.91	321*d*	*i*P	P	21 32 16.0	+0.8
BELG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SHA1	Shidzhatmaz	22.93	297*d*	*i*P	P	21 32 17.1	+1.3
KVAR	Kislovodsk Arr	22.93	297	P	P	21 32 15.8	+0.2
	comp=Z,4.8nm,0.6s,baz=268,slow=23,SNR=4.4						
KIV	Kislovodsk	22.93	297	*i* P	P	21 32 16.3	+0.6
	SNR=7.5						
KIV	Kislovodsk	22.93	297	⇑*e*P	P	21 32 16.2	+0.5
KIV				pmax	pmax		
	comp=Z,11nm,0.6s						
KIV	Kislovodsk	22.93	297	P	P	21 32 15.8	+0.1
KIV				IAmb	IAmb	21 32 17.8	
	comp=Z,17nm,0.7s						
SAIH	SAIHA	23.48	121	*e*x	x	21 32 23.3	
DOK	Doka	23.51	225	P	P	21 32 21.5	+0.5
	SNR=5.6						
DMTO	DMTO	23.79	222	P	P	21 32 24.4	+0.9
	SNR=14						
WHFO	Wadi Hawf	24.27	224	P	P	21 32 28.0	0.0
	SNR=35						
WHFO				P	P	21 32 28.0	0.0
	SNR=10						
RBK	Rabkut	24.37	223	P	P	21 32 28.8	-0.1
	SNR=5.5						
ABTO	Aybut	24.99	224	P	P	21 32 34.4	-0.2
	SNR=13						
VRH	Novokhopyorsk	25.57	314	*e*P	P	21 32 39.3	-0.1
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MOY	Mondy	25.79	45	*e*P	P	21 32 43.0	+1.5
RAYN	Ar Rayn	25.81	247	*i* P	P	21 32 41.2	-0.7
	SNR=13						
RAYN	Ar Rayn	25.81	247	P	P	21 32 41.6	-0.3
RAYN				pmax	pmax		
	comp=Z,18nm,1.2s						
RAYN	Ar Rayn	25.81	247	P	P	21 32 41.6	-0.3
RAYN				IAmb	IAmb	21 32 43.3	
	comp=Z,18nm,1.1s						
KIRV	Kirov	26.19	334	P	P	21 32 46.0	+1.2
	comp=Z,26nm,0.7s,baz=224,slow=1.5,SNR=14						
KIRV	Kirov	26.19	334*c*	*e*P	P	21 32 45.2	+0.4
ZAK	Zakamensk	26.67	49	*e*P	P	21 32 49.7	+0.3
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VORD	Divnogorie	26.91	312	*e*P	P	21 32 52.3	+0.9
VORD				*e**PP	pP	21 33 29.0	-0.3
VORD				pmax	pmax		
	comp=Z,10.0nm,0.5s						
VSR	Storozhevoye	27.07	313	*e*P	P	21 32 51.8	-1.0
VSR				*e**PP	pP	21 33 29.5	-1.3
VSR				pmax	pmax		
	comp=Z,20nm,1.5s						
TLY	Talaya	27.32	46	P	P	21 32 55.9	+0.7
	comp=Z,2.7nm,0.5s,baz=255,slow=9.9,SNR=5.5						
LPSR	Galich'ya Gora	27.71	315	*e*P	P	21 32 57.2	-1.2
LPSR				*e**PP	pP	21 33 35.9	-0.7
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SONM	Songino Array	28.02	56	P	P	21 33 01.7	+0.2
	comp=Z,3.2nm,0.9s,baz=269,slow=8.9,SNR=21						
SONM				pP	pP	21 33 44.0	+3.5
	comp=Z,1.6nm,0.8s,baz=252,slow=9.7,SNR=3.8						
SONM	Songino Array	28.02	56	P	P	21 33 01.3	-0.1
ULN	Ulaanbaatar	28.46	56	P	P	21 33 05.6	+0.2
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	Ulaanbaatar	28.46	56	P	P	21 33 05.6	+0.2
SOCY	Socotra	28.95	217	P	P	21 33 07.6	-2.4
SOCY				IAmb	IAmb	21 33 08.7	
	comp=Z,8.3nm,0.7s						
SOCY	Socotra	28.95	217	P	P	21 33 07.9	-2.1
	SNR=11						
BR131	Keskin Array S	29.63	288	*i* P	P	21 33 17.0	+1.2
BR131	Keskin Array S	29.63	288	P	P	21 33 17.1	+1.3
BR131				IAmb	IAmb	21 33 18.5	
	comp=Z,8.4nm,0.7s						
BRTR	Keskin Array B	29.63	288	P	P	21 33 16.8	+0.9
	comp=Z,4.8nm,0.6s,baz=103,slow=9.1,SNR=28						
BRTR	Keskin Array B	29.63	288*c*	*e*P	P	21 33 17.6	+1.8
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRTR	Keskin Array B	29.63	288	P	P	21 33 17.5	+1.6
PRGR	Permogore	29.71	335	*e*P	P	21 33 15.6	-0.5
PRGR				*e*		21 34 19.2	
PRGR				pmax	pmax		
	comp=Z,19nm,0.6s						
OBN	Obninsk	29.97	319*d*	*e*P	P	21 33 19.2	+0.8
OBN				*e**PP	pP	21 33 58.9	+2.1
OBN				*e**SP	sP	21 34 20.8	+2.5
OBN				*e*		21 34 29.9	
OBN				pmax	pmax		
	comp=Z,36nm,0.6s						
OBN	Obninsk	29.97	319	P	P	21 33 19.3	+0.9
CHTO	Chiang Mai	30.08	119	P	P	21 33 20.1	+0.3
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHTO	Chiang Mai	30.08	119	P	P	21 33 20.1	+0.3
CM15	Chiang Mai Arr	30.30	119	P	P	21 33 23.6	+1.8
CM13	Chiang Mai Arr	30.31	119	P	P	21 33 24.0	+2.1
CM31	Chiang Mai Arr	30.31	119	P	P	21 33 24.5	+2.6
CMAR	Chiang Mai Arr	30.31	119	P	P	21 33 22.4	+0.6
	comp=Z,3.9nm,0.7s,baz=302,slow=8.5,SNR=26						
CM35	Chiang Mai Arr	30.32	119	P	P	21 33 25.0	+3.1
CM02	Chiang Mai Arr	30.33	119	P	P	21 33 23.6	+1.6
CM01	Chiang Mai Arr	30.35	119	P	P	21 33 26.8	+4.6
CM05	Chiang Mai Arr	30.35	119	P	P	21 33 23.0	+0.8
CM09	Chiang Mai Arr	30.36	119	P	P	21 33 24.1	+1.9
CM04	Chiang Mai Arr	30.38	119	P	P	21 33 25.4	+2.9
CM36	Chiang Mai Arr	30.38	119	P	P	21 33 24.0	+1.5
PALK	Pallekele	30.50	161	P	P	21 33 24.2	+0.7
	comp=Z,20nm,0.7s,baz=81,slow=10,SNR=17						
PALK	Pallekele	30.50	161	P	P	21 33 24.3	+0.7
PALK				pmax	pmax		
	comp=Z,22nm,0.8s						
PALK	Pallekele	30.50	161	P	P	21 33 24.3	+0.7
XAN	Xi'an	30.65	84	P	P	21 33 25.8	+1.1
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN	Xi'an	30.65	84	P	P	21 33 25.0	+0.2
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XAN	Xi'an	30.65	84	P	P	21 33 25.0	+0.2
KLMR	Klimovskoe	31.45	330	*e*P	P	21 33 28.6	-2.8
KLMR				*e**SP	sP	21 34 31.7	-0.2
KLMR				pmax	pmax		
	comp=Z,14nm,0.6s						
KLMR	Klimovskoe	31.45	330	*e*P	P	21 33 28.6	-2.8
KLMR				AMP		21 33 32.3	
	comp=Z,14nm,0.6s						
KLMR				*e*sP	sP	21 34 31.7	-0.2
UTHA	Uthaitani	32.66	123	P	P	21 33 44.1	+1.7
ELL	Elmali	33.02	283	P	P	21 33 47.1	+1.6
ELL				pmax	pmax		
	comp=Z,47nm,0.9s						
ELL	Elmali	33.02	283	P	P	21 33 47.1	+1.6
AKASG	Malin Array Be	33.04	309	P	P	21 33 45.8	+0.5
	comp=Z,10.0nm,0.5s,baz=80,slow=6.9,SNR=46						
AKASG				PP	PP	21 35 04.6	+0.9
	comp=Z,7.1nm,0.8s,baz=89,slow=11,SNR=8.2						
AKASG	Malin Array Be	33.04	309*c*	*e*P	P	21 33 45.7	+0.4
AKASG				pmax	pmax		

comp=Z,15nm,0.5s
AKASG **Malin Array Be** 33.04 309 P **P** 21 33 46.0 +0.7
AKBB **Malin Array Si** 33.04 309 *ce*P **P** 21 33 44.8 -0.5
AKBB **Malin Array Si** 33.04 309 P **P** 21 33 45.5 +0.2
AKBB IAmb IAmb 21 33 46.6
comp=Z,18nm,0.8s
SRDT **SRDT** 33.31 125 P **P** 21 33 48.9 +0.9
NONG **Nongkai** 33.58 115 P **P** 21 33 50.8 +0.4
NRIK **Noril'sk** 33.90 10 P **P** 21 33 53.8 +1.2
comp=Z,14nm,0.7s,baz=202,slow=5.8,SNR=26
NRIK **Noril'sk** 33.90 10 *ce*P **P** 21 33 53.0 +0.5
NRIK pmax pmax
comp=Z,17nm,0.8s
NRIK **Noril'sk** 33.90 10 P **P** 21 33 53.6 +1.1
NRIK IAmb IAmb 21 33 54.7
comp=Z,17nm,0.8s
TMCR **Tamitsa** 33.99 335 *e*P **P** 21 33 53.6 +0.2
TMCR pmax pmax
comp=Z,29nm,0.6s
KHON **Khomkaen** 34.47 118 P **P** 21 33 59.0 +0.9
MNK **Minsk** 34.55 315 *i* P **P** 21 33 57.2 -1.1
comp=E,3.0nm,1.1s
MNK *i* P **P** 21 33 57.2 -1.1
comp=N,9.0nm,0.8s
MNK *i* P **P** 21 33 57.2 -1.1
comp=Z,19nm,0.8s
MNK *i* pP **pP** 21 34 36.8 -0.4
MNK *i* PP **PP** 21 35 20.1 -0.3
MNK *i* PcP **PcP** 21 36 26.2 -2.4
MNK *i* S **S** 21 39 12.7 -0.7
MNK *i* sS **sS** 21 40 24.6 +1.2
MNK *i* SS **SS** 21 41 51.5 +2.6
MNK *i* LRM MLR 21 49 45.5
comp=E,6.0nm,10.1s
MNK *i* LRM MLR 21 49 45.5
comp=N,76nm,13.8s
MNK *i* LRM MLR 21 49 45.5
comp=Z,57nm,10.8s
PHET **Kaeng Krachan** 34.70 126 P **P** 21 34 01.9 +1.9
MLR **Muntele Rosu** 34.92 299 P **P** 21 34 03.9 +2.1
MLR pmax pmax
comp=Z,27nm,1.0s
MLR **Muntele Rosu** 34.92 299 P **P** 21 34 03.9 +2.1
MLR IAmb IAmb 21 34 05.9
comp=Z,27nm,1.0s
BOD **Bodaibo** 35.04 39 *e*P **P** 21 34 02.8 +0.3
BOD pmax pmax
comp=Z,8.0nm,1.7s
NACGM **Naroch** 35.27 315 *i* P **P** 21 34 04.9 +0.4
NACGM *i* P **P** 21 34 04.9 +0.4
NACGM *i* P **P** 21 34 04.9 +0.4
NACGM *i* PP **PP** 21 35 28.3 +0.1
NACGM *i* S **S** 21 39 23.0 -1.2
NACGM *i* sS **sS** 21 40 31.9 -2.5
NACGM *i* SS **SnSn** 21 42 09.8 +4.5
IDID **Didziasalis** 35.38 316 *e*P **P** 21 34 06.4 +1.0
BURAR **Bucovina Array** 35.41 303 P **P** 21 34 07.4 +1.5
BURAR **Bucovina Array** 35.41 303 P **P** 21 34 07.1 +1.2
BUR08 **Bucovina Ar. S** 35.42 303 P **P** 21 34 07.0 +1.0
KARP **Karpathos** 35.46 282 P **P** 21 34 08.1 +1.7
SRAK **Srakaew** 35.52 121 P P 21 34 12.6 +5.5
VOIR 35.55 299 P **P** 21 34 08.2 +1.1
VOIR pmax pmax
comp=Z,7.0nm,0.7s
IIGN **Ignalina** 35.68 316 *e*P **P** 21 34 09.4 +1.5
ISAL **Salakas** 35.78 316 *e*P **P** 21 34 10.1 +1.3
JOF **Joensuu** 35.84 330 P **P** 21 34 10.5 +1.3
JOF pmax pmax
comp=Z,72nm,0.6s
VSU **Vasula** 36.20 321 *e*P **P** 21 34 13.3 +1.0
LVV **L'vov** 36.26 306 *e*P **P** 21 34 13.9 +0.9
PABE **Paberze** 36.37 316 *e*P **P** 21 34 19.7 +0.9
UBPT **Khong Chiam** 37.07 116 P **P** 21 34 20.7 +0.5
UBPT **Khong Chiam** 37.07 116 P **P** 21 34 19.9 -0.3
UBPT IAmb IAmb 21 34 21.0
comp=Z,7.0nm,0.7s
KWP **Kalwaria Pacla** 37.11 306 *e*P **P** 21 34 21.8 +1.6
KWP **Kalwaria Pacla** 37.11 306 P **P** 21 34 20.8 +0.6
KWP pmax pmax
comp=Z,18nm,0.7s
KWP **Kalwaria Pacla** 37.11 306 P **P** 21 34 20.8 +0.6
KWP IAmb IAmb 21 34 22.8
comp=Z,18nm,0.7s
SUW **Suwalki** 37.18 313 *e*P **P** 21 34 20.9 +0.2
SUW **Suwalki** 37.18 313 P **P** 21 34 20.5 -0.2
SUW pmax pmax
comp=Z,24nm,1.1s
SUW **Suwalki** 37.18 313 P **P** 21 34 20.5 -0.2
SUW IAmb IAmb 21 34 22.0
comp=Z,24nm,1.1s
IDI **Anoyia** 37.32 282 P **P** 21 34 22.0 -0.1
IDI IAmb IAmb 21 34 32.3
comp=Z,14nm,1.1s
UZH **Uzhgorod** 37.37 304 *c e* iP **P** 21 34 21.6 -0.7
UZH 21 35 02.9
KOLS **Kolonicke sedl** 37.39 305 *e*P **P** 21 34 23.9 +1.4
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS **Kolonicke sedl** 37.39 305 *e*P **P** 21 34 23.9 +1.4
LVZ **Lovozero** 37.39 338 P **P** 21 34 22.8 +0.5
LVZ pmax pmax
comp=Z,16nm,0.6s
LVZ **Lovozero** 37.39 338 P **P** 21 34 22.8 +0.5
LVZ IAmb IAmb 21 34 24.1
comp=Z,16nm,0.6s
FIA1 **FINESS Array S** 37.48 326 P **P** 21 34 23.0 -0.1
FINES **FINESS Array B** 37.48 326 P **P** 21 34 23.9 +0.8
comp=Z,13nm,0.4s,baz=118,slow=9.7,SNR=188
FINES **FINESS Array B** 37.48 326 P **P** 21 34 23.8 +0.7
MTSE **Matsula** 37.74 321 *e*P **P** 21 34 26.2 +0.9
CRVS **Cervenica-Dubn** 37.92 305 *e*P **P** 21 34 30.8 +3.8
CRVS pmax pmax
comp=Z,8.0nm,0.8s
CRVS **Cervenica-Dubn** 37.92 305 *e*P **P** 21 34 30.8 +3.8
QIZ **Qiongzhong** 38.02 107 P **P** 21 34 28.6 +0.5
PBUR **Paburge** 38.19 316 *e*P **P** 21 34 29.6 +0.5
SLIT **Slitere, Latvi** 38.29 319 *e*P **P** 21 34 30.1 +0.3
NIE **Niedzica** 38.68 306 *e*P **P** 21 34 35.5 +2.1
NIE **Niedzica** 38.68 306 P **P** 21 34 35.7 +2.4
NIE pmax pmax
comp=Z,17nm,0.8s
FNA **Florina** 38.76 292 P **P** 21 34 34.3 +0.2
FNA pmax pmax
comp=Z,8.0nm,1.1s
FNA **Florina** 38.76 292 P **P** 21 34 34.3 +0.2
FNA IAmb IAmb 21 34 46.5
comp=Z,8.4nm,1.1s
OJC **Ojcow** 39.00 307 *e*P **P** 21 34 37.0 +1.1
OJC **Ojcow** 39.00 307 P **P** 21 34 36.7 +0.7
OJC pmax pmax
comp=Z,13nm,0.9s
OJC **Ojcow** 39.00 307 P **P** 21 34 36.7 +0.7
OJC IAmb IAmb 21 34 37.9
comp=Z,13nm,0.9s
LANS **Liptovska Anna** 39.23 305 *e*P **P** 21 34 40.1 +2.2
LANS pmax pmax
comp=Z,3.0nm,0.6s
LANS **Liptovska Anna** 39.23 305 *e*P **P** 21 34 40.1 +2.2
JAVC **Velka Javorina** 40.42 305 *e*P **P** 21 34 49.8 +2.0
MORC **Moravsky Berou** 40.47 306 *e*P **P** 21 34 49.6 +1.5
MORC **Moravsky Berou** 40.47 306 P **P** 21 34 49.7 +1.6
MORC pmax pmax
comp=Z,8.0nm,0.7s
MORC **Moravsky Berou** 40.47 306 P **P** 21 34 49.7 +1.6
MORC IAmb IAmb 21 34 50.4
comp=Z,7.7nm,0.7s
SMOL **Smolenice** 40.60 304 *e*P **P** 21 34 50.8 +1.6
SMOL **Smolenice** 40.60 304 *e*P **P** 21 34 50.8 +1.6
GKP **Gorka Klasztor** 40.65 312 *e*P **P** 21 34 50.8 +1.4
KEV **Kevo** 40.73 338 P **P** 21 34 50.8 +0.9
KEV pmax pmax
comp=Z,14nm,0.7s
KEV **Kevo** 40.73 338 P **P** 21 34 50.8 +0.9
KEV IAmb IAmb 21 34 51.1
comp=Z,14nm,0.7s
KRLC **Kraliky** 40.95 307 *e*P **P** 21 34 52.5 +0.5
KRLC **Kraliky** 40.95 307 *e*P **P** 21 34 52.5 +0.5
ARCES **ARCESS Array B** 41.08 337 P **P** 21 34 53.8 +1.1
comp=Z,20nm,0.5s,baz=113,slow=8.5,SNR=187
ARCES **ARCESS Array B** 41.08 337 P **P** 21 34 54.0 +1.2
ARCES pmax pmax
comp=Z,18nm,0.6s
ARCES **ARCESS Array B** 41.08 337 P **P** 21 34 54.0 +1.2
ARCES IAmb IAmb 21 34 54.3
comp=Z,18nm,0.6s
UPP **Uppsala** 41.09 322 *e*P **P** 21 34 53.6 +0.7
VRAC **Vranov** 41.11 306 *e*P **P** 21 34 55.1 +1.8
VRAC **Vranov** 41.11 306 P **P** 21 34 55.4 +2.1
VRAC pmax pmax
comp=Z,12nm,1.1s
DPC **Dobruska-Polom** 41.23 307 *e*P **P** 21 34 55.2 +0.9
DPC **Dobruska-Polom** 41.23 307 *e*P **P** 21 34 55.2 +0.9
KRUC **Moravsky** 41.25 305 *e*P **P** 21 34 56.0 +1.6
KRUC **Moravsky** 41.25 305 P **P** 21 34 56.4 +2.0
KRUC pmax pmax
comp=Z,7.0nm,0.8s
OSTC **Ostas** 41.29 308 *e*P **P** 21 34 56.1 +1.3
CHVC **Chvalec** 41.39 308 *e*P **P** 21 34 56.5 +0.9
UPC **Upice** 41.42 307 *e*P **P** 21 34 57.5 +1.7
UPC **Upice** 41.42 307 *e*P **P** 21 34 57.5 +1.7
KTK1 **Kautokeino** 41.55 336 *e*P **P** 21 34 57.3 +0.6
CONA **Conrad Observa** 41.70 304 *e*P **P** 21 34 59.6 +1.4
comp=Z,15nm,1.1s
ZEA **Zeya** 41.75 48 *e*P **P** 21 35 00.1 +1.7
ZEA pmax pmax
comp=Z,10.0nm,0.7s
IPM **Ipoh** 42.07 133 P **P** 21 35 01.3 -0.2
IPM IAmb IAmb 21 35 02.1
comp=Z,10nm,1.0s
HAMF **Hammerfest** 42.15 338 *e*P **P** 21 35 02.8 +1.3
PSI **Prapat** 42.23 136 P **P** 21 35 02.3 -0.6
comp=Z,3.8nm,0.5s,baz=359,slow=4.9,SNR=5.0
PRU **Pruhonice** 42.39 307 *e*P **P** 21 35 05.3 +1.6
PRU **Pruhonice** 42.39 307 *e*P **P** 21 35 05.3 +1.6
SOKA **Soboth** 42.40 302 P **P** 21 35 05.6 +1.7
comp=Z,6.6nm,0.6s,SNR=6.5
BRG **Berggiesshubel** 42.72 308 P **P** 21 35 07.8 +1.5
BRG pmax pmax
comp=Z,15nm,1.0s
BRG **Berggiesshubel** 42.72 308 *i* P **P** 21 35 07.8 +1.5
BRG Amp 21 35 09.7
comp=Z,14nm,0.7s
BRG *i* pP **pP** 21 35 50.6 +4.3
BRG Amp 21 35 51.6
comp=Z,9.1nm,1.0s
BRG **Berggiesshubel** 42.72 308 *e*P **P** 21 35 07.7 +1.4
baz=85,slow=7.9
SGRT **San Giovanni R** 42.73 295 P **P** 21 35 06.7 +0.1
GSI **Gunungsitoli** 42.76 139 P **P** 21 35 07.7 +0.7
MOA **Molln** 42.77 304 *e*P **P** 21 35 08.0 +1.2
comp=Z,7.1nm,0.9s
RGN **Rugen** 42.98 314 P **P** 21 35 09.4 +1.1
GEC2 **GERESS Array S** 43.04 305 P **P** 21 35 09.9 +0.9
GERES **GERESS Array B** 43.04 305 P **P** 21 35 09.3 +0.3
comp=Z,1.0nm,0.6s,baz=85,slow=7.6,SNR=6.3
GERES PP **PcP** 21 36 56.5 +0.9
comp=Z,2.2nm,0.9s,baz=95,slow=8.2,SNR=5.8
FBE **Freiberg** 43.09 308 *e*P **P** 21 35 10.8 +1.6
comp=Z,13nm,0.8s,baz=85,slow=7.9
KHC **Kasperske Hory** 43.09 306 *e*P **P** 21 35 10.3 +0.9
KHC **Kasperske Hory** 43.09 306 *e*P **P** 21 35 10.3 +0.9
KHC **Kasperske Hory** 43.09 306 P **P** 21 35 11.1 +1.8
TRO **Tromso** 43.21 336 *e*P **P** 21 35 10.7 +0.8
CLL **Collm** 43.28 309 *e*P **P** 21 35 12.0 +1.2
comp=Z,7.0nm,0.8s
CLL *e*pP **pP** 21 35 54.0 +3.0
CLL *e*PP **PcP** 21 36 57.0 +0.7
CLL *e*PPP PPP 21 37 37.0
CLL Lm MLR 22 33 00.0
comp=N,300nm,19.4s
CLL Lm MLR 22 33 00.0
comp=E,400nm,18.1s
CLL **Collm** 43.28 309 *e*P **P** 21 35 12.0 +1.2
CLL *e**PP **pP** 21 35 54.0 +3.0
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL **Collm** 43.28 309 P **P** 21 35 11.5 +0.8
N2ST **Straumen** 43.64 332 *e*P **P** 21 35 14.2 +0.9
YAK **Yakutsk** 43.67 36 *e*P **P** 21 35 13.2 -0.4
YAK *e**PP **pP** 21 35 51.6 -3.4
YAK *e* 21 36 55.6
YAK *e*S **S** 21 41 29.3 +0.2
YAK *e*SS **SS** 21 44 51.3 +0.3
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax smax
comp=N,127nm,5.0s
YAK smax smax
comp=E,110nm,4.2s
YAK **Yakutsk** 43.67 36 P **P** 21 35 13.3 -0.4
YAK IAmb IAmb 21 35 14.6
comp=Z,24nm,0.8s
N2IH **Innhavet** 43.69 333 *e*P **P** 21 35 14.7 +0.9
NKC **Novy Kostel** 43.72 307 P **P** 21 35 16.8 +2.5
NKC pmax pmax
comp=Z,6.0nm,1.4s
FAUS **Fauske** 43.76 332 *e*P **P** 21 35 15.2 +0.8
MOR8 **Moi Rana** 43.79 331 *e*P **P** 21 35 14.8 +0.2
STEI **Steigen** 43.93 333 *e*P **P** 21 35 16.5 +0.9
NBB28 **Valnes** 44.02 332 *e*P **P** 21 35 17.5 +1.0
NC405 **NORSAR Array S** 44.16 323 P **P** 21 35 18.1 +0.4
NC602 **NORSAR Array S** 44.21 322 P **P** 21 35 18.1 +0.1
NC602 **NORSAR Array S** 44.21 322 *e*P **P** 21 35 18.2 +0.1
NORES **NORESS Array B** 44.21 322 P **P** 21 35 18.0 0.0
NORES pmax pmax
comp=Z,7.0nm,0.3s
MOX **Moxa** 44.21 308 P **P** 21 35 19.4 +1.2
MOX pmax pmax
comp=Z,8.0nm,1.7s
MOX **Moxa** 44.21 308 *e*P **P** 21 35 19.3 +1.1
comp=Z,5.0nm,0.7s,baz=85,slow=7.9
YHNB **Yeheng** 44.23 91 P **P** 21 35 19.0 +0.2
YHNB IAmb IAmb 21 35 33.1
comp=Z,26nm,1.1s
NBB30 **Finnes** 44.25 332 *e*P **P** 21 35 19.0 +0.8
FLTG **Flechtingen** 44.30 310 *e*P **P** 21 35 19.6 +0.7
comp=Z,19nm,0.6s,baz=85,slow=7.9
SSLB **Suanglung** 44.31 93 P **P** 21 35 21.0 +1.6
SSLB IAmb IAmb 21 35 37.1
comp=Z,18nm,1.1s
NC303 **NORSAR Array S** 44.33 323 P **P** 21 35 19.5 +0.5
NB201 **NORSAR Array S** 44.35 323 P **P** 21 35 19.6 +0.3
NB201 IAmb IAmb 21 35 31.6
comp=Z,19nm,0.9s
KONS **Konsvik** 44.38 331 *e*P **P** 21 35 19.9 +0.6
NB2 **NORSAR Subarra** 44.39 323 P **P** 21 35 19.6 0.0
comp=Z,14nm,0.5s,baz=96,slow=7.9
NB2 **NORSAR Subarra** 44.39 323 P **P** 21 35 16.1 -3.5
NB2 pmax pmax
comp=Z,9.0nm,0.4s
NB2 **NORSAR Subarra** 44.39 323 P **P** 21 35 19.6 0.0
baz=96,slow=7.9
NOA **NORSAR Array B** 44.39 323 P **P** 21 35 19.6 0.0
comp=Z,18nm,0.6s,baz=96,slow=7.7,SNR=65
NOA pP **pP** 21 36 02.0 +1.7
comp=Z,5.5nm,0.8s,baz=96,slow=8.1,SNR=4.6
NAO01 **NORSAR Array S** 44.54 323 P **P** 21 35 20.6 -0.1
GRF **Grafenberg Arr** 44.56 307 *e*P **P** 21 35 22.9 +1.9
comp=Z,15nm,1.1s,baz=85,slow=7.9
KSRS **Korea Array** 44.57 71 P **P** 21 35 21.4 +0.1
comp=Z,0.7nm,0.5s,baz=271,slow=6.5,SNR=6.0
NBO00 **NORSAR Array S** 44.60 323 P **P** 21 35 21.1 -0.1
WTTA **Wattenberg** 44.62 303 *e*P **P** 21 35 22.9 +1.2
comp=Z,3.6nm,0.5s
BSEG **Bad Segeberg** 44.76 313 P **P** 21 35 24.3 +1.8
BSEG pmax pmax
comp=Z,25nm,0.9s
BSEG **Bad Segeberg** 44.76 313 *e*P **P** 21 35 24.0 +1.6
comp=Z,17nm,0.7s,baz=85,slow=7.9
YULB **Yu-li** 44.78 93 P **P** 21 35 23.7 +0.6
CTI **Castel Tesino** 44.81 301 P **P** 21 35 23.4 +0.3
CTI pmax pmax
comp=Z,6.0nm,0.6s
CTI **Castel Tesino** 44.81 301 P **P** 21 35 23.4 +0.3
KLR **Kul'dur** 44.83 54 P **P** 21 35 23.7 +0.6
comp=Z,2.0nm,0.5s,baz=278,slow=8.6,SNR=17
KLR **Kul'dur** 44.83 54 *ce*P **P** 21 35 21.4 -1.7
KLR pmax pmax
comp=Z,17nm,2.8s
CLZ **Clausthal** 44.88 310 *e*P **P** 21 35 25.8 +2.3
comp=Z,8.8nm,0.8s,baz=85,slow=7.9
SQTA **Sankt Quirin** 44.91 303 *e*P **P** 21 35 23.9 0.0
comp=Z,3.4nm,0.5s
RAFF **Raffo Rosso** 44.92 289 P **P** 21 35 23.9 -0.1
MOTA **Moosalm** 44.96 303 P **P** 21 35 25.3 +0.9
comp=Z,12nm,1.1s,SNR=5.0
KONO **Kongsberg** 45.11 321 P **P** 21 35 25.5 +0.3
KONO pmax pmax
comp=Z,16nm,0.9s
KONO **Kongsberg** 45.11 321 P **P** 21 35 25.5 +0.3
KONO IAmb IAmb 21 35 26.2
comp=Z,16nm,0.8s
KONO **Kongsberg** 45.11 321 *e*P **P** 21 35 25.7 +0.6
GTTG **Gottingen** 45.16 309 *e*P **P** 21 35 27.0 +1.4
comp=Z,14nm,0.8s,baz=85,slow=7.9
FETA **Feichten** 45.27 303 *e*P **P** 21 35 27.2 +0.4
comp=Z,4.5nm,0.5s
TIXI **Tiksi** 45.51 22 *ce*P **P** 21 35 28.1 0.0
TIXI **Tiksi** 45.51 22 P **P** 21 35 28.3 +0.2
TIXI IAmb IAmb 21 35 29.2
comp=Z,17nm,0.8s
OSSC **Osservatorio P** 45.59 298 P **P** 21 35 30.2 +1.0
OSSC IAmb IAmb 21 35 34.6
comp=Z,15nm,1.1s
DAVA **Damuels** 45.79 303 P **P** 21 35 31.7 +0.7
comp=Z,20nm,0.6s,SNR=12
USRK **Ussuriysk Ar.** 45.85 61 P **P** 21 35 31.5 +0.3
comp=Z,1.1nm,0.6s,baz=299,slow=8.6,SNR=5.2
VLC **Villacollemand** 46.05 299 P **P** 21 35 32.8 -0.1
VLC IAmb IAmb 21 35 38.7
comp=Z,12nm,1.0s
TUE **Stuetta** 46.30 302 P **P** 21 35 34.8 -0.1
SNART **Snartemo** 46.34 319 *e*P **P** 21 35 35.8 +1.1
SNART **Snartemo** 46.34 319 *i* P **P** 21 35 36.1 +1.4
MSSA **Maissana** 46.63 300 P **P** 21 35 37.5 +0.1
MSSA IAmb IAmb 21 35 45.5
comp=Z,16nm,1.0s
CDF **Champ du Feu** 47.32 305 *e*P **P** 21 35 44.0 +1.3
CDF pmax pmax
comp=Z,3.0nm,0.7s
ASK **Askoy** 47.33 322 *e*P **P** 21 35 43.2 +0.8
SPA0 **Spitsbergen Ar** 47.38 347 P **P** 21 35 44.0 +1.4
SPA0 IAmb IAmb 21 35 50.5
comp=Z,27nm,1.1s
SPA0 **Spitsbergen Ar** 47.38 347 *e*P **P** 21 35 44.2 +1.6
PGF **Pioggiola** 47.42 297 *e*P **P** 21 35 44.3 +0.7
PGF pmax pmax
comp=Z,112nm,1.7s
SENIN **Lac Senin/Sane** 47.71 303 P **P** 21 35 45.8 0.0
SENIN IAmb IAmb 21 35 47.8
comp=Z,12nm,0.8s
HINF **Hinteralfeld** 47.71 305 *e*P **P** 21 35 45.7 +0.1
HINF pmax pmax
comp=Z,8.0nm,0.9s
WLF **Walferdange** 47.82 307 P **P** 21 35 48.0 +1.6
WLF pmax pmax
comp=Z,8.0nm,0.8s
WLF **Walferdange** 47.82 307 P **P** 21 35 48.0 +1.6
WLF **Walferdange** 47.82 307 *e*P **P** 21 35 47.8 +1.4
baz=85,slow=7.9
HAU **Haudompre** 48.01 305 *e*P **P** 21 35 48.1 +0.2
HAU pmax pmax
comp=Z,4.0nm,0.5s
LPG **La Plagne** 48.27 302 *e*P **P** 21 35 51.6 +1.3
LPG pmax pmax
comp=Z,8.0nm,0.8s
LPL **La Plagne** 48.28 302 *e*P **P** 21 35 51.6 +1.3
LPL pmax pmax
comp=Z,6.0nm,0.4s
JNU **Nakatsue** 48.29 76 P **P** 21 35 50.9 +0.6
BNI **Bardonecchia** 48.43 301 P **P** 21 35 51.2 -0.1
BNI pmax pmax
comp=Z,8.0nm,1.0s
BNI **Bardonecchia** 48.43 301 P **P** 21 35 51.2 -0.1
KBS **Kingsbay** 48.49 347 P **P** 21 35 52.6 +1.5
KBS pmax pmax
comp=Z,22nm,0.7s
KBS **Kingsbay** 48.49 347 P **P** 21 35 52.6 +1.5
KBS IAmb IAmb 21 35 53.4
comp=Z,22nm,0.7s
JOW **Kunigami** 48.79 85 P **P** 21 35 53.8 -0.4
JOW IAmb IAmb 21 35 57.2
comp=Z,14nm,1.0s
BAIF **Baives** 48.99 308 *e*P **P** 21 35 55.5 +0.2
BAIF pmax pmax
comp=Z,17nm,1.1s
KMBO **Kilima Mbogo** 49.15 228 P **P** 21 35 57.2 0.0
comp=Z,2.4nm,0.5s,baz=32,slow=14,SNR=9.2
KMBO **Kilima Mbogo** 49.15 228 *i* P **P** 21 35 58.4 +1.2
KMBO pmax pmax
comp=Z,2.0nm,0.4s
KIBK **Kibwezi** 49.66 226 P **P** 21 36 01.9 +1.0
SNR=6.6
LOR **Lormes** 49.81 305 *e*P **P** 21 36 02.0 +0.4
LOR pmax pmax
comp=Z,52nm,2.2s
SSB **Saint Sauveur** 49.84 302 P **P** 21 36 02.8 +0.9
SSB pmax pmax
comp=Z,11nm,1.0s
SSB **Saint Sauveur** 49.84 302 P **P** 21 36 02.8 +0.9
SSB IAmb IAmb 21 36 03.5
comp=Z,11nm,1.0s
VIVF **Saint-Julien-l** 49.86 301 *e*P **P** 21 36 02.4 +0.4
VIVF pmax pmax
comp=Z,48nm,1.7s
AVF **Avril sur Loir** 50.26 304 *e*P **P** 21 36 05.0 +0.1
AVF pmax pmax
comp=Z,21nm,1.1s
CAF **Calviac** 51.62 302 *e*P **P** 21 36 15.7 +0.5
CAF pmax pmax
comp=Z,35nm,1.6s
RJF **Les Rejaudoux** 51.89 303 *e*P **P** 21 36 17.8 +0.7
RJF pmax pmax
comp=Z,11nm,1.0s
FLN **La Foliniere** 52.26 307 *e*P **P** 21 36 19.5 -0.3
FLN pmax pmax
comp=Z,6.0nm,0.7s
EKA **Eskdalemuir Ar** 52.34 316 P **P** 21 36 19.9 -0.3
YSS **Yuzh-Sakhalins** 52.51 55 *ce*P **P** 21 36 21.9 +0.3
YSS pmax pmax
comp=Z,22nm,1.7s
GRR **Gorron** 52.60 307 *e*P **P** 21 36 22.0 -0.3
GRR pmax pmax
comp=Z,6.0nm,0.7s
MBAR **Mbarara** 52.83 235 P **P** 21 36 24.8 +0.2
MBAR pmax pmax
comp=Z,9.0nm,0.7s
MBAR **Mbarara** 52.83 235 P **P** 21 36 24.8 +0.2
MBAR IAmb IAmb 21 36 25.4
comp=Z,9.2nm,0.7s
MBAR **Mbarara** 52.83 235 P **P** 21 36 24.9 +0.4
SGMF **Saint Gilles** 53.73 307 *e*P **P** 21 36 30.6 +0.1
SGMF pmax pmax
comp=Z,11nm,1.0s
ETSF **Etsaut** 54.05 300 *e*P **P** 21 36 33.5 +0.5
ETSF pmax pmax
comp=Z,9.0nm,0.6s
SEY **Seymchan** 54.12 34 *i* P **P** 21 36 33.1 0.0
ROSF **Rostrenen** 54.16 307 *e*P **P** 21 36 33.6 -0.1
ROSF pmax pmax
comp=Z,11nm,0.8s
QUIF **Quistinic** 54.22 307 *e*P **P** 21 36 33.7 -0.3
QUIF pmax pmax
comp=Z,28nm,1.5s
DAG **Danmarks Havn** 54.63 344 *i* P **P** 21 36 37.0 +0.4
comp=Z,9.3nm,0.5s
DAG *i* 21 37 21.9
DAG **Danmarks Havn** 54.63 344 *i* P **P** 21 36 37.0 +0.4
DAG *i* 21 37 21.9
DAG pmax pmax
comp=Z,9.0nm,0.5s
DAG **Danmarks Havn** 54.63 344 *i* P **P** 21 36 37.0 +0.4
DAG IAmb IAmb 21 36 38.0
comp=Z,9.3nm,0.5s
DAG *i* 21 37 21.9
DBG **Daneborg** 55.50 341 *i* P **P** 21 36 44.1 +1.3
DBG IAmb IAmb 21 36 44.7
comp=Z,3.5nm,0.6s
SCO **Scoresbysund** 56.99 336 P **P** 21 36 54.5 +1.1
SCO **Scoresbysund** 56.99 336 P **P** 21 36 54.5 +1.1
ESBB **Sonseca Array** 57.60 298 P **P** 21 36 58.9 +0.6
ESDC **Sonseca Array** 57.60 298 P **P** 21 36 58.9 +0.6
comp=Z,2.2nm,0.5s,baz=54,slow=7.7,SNR=42
ESDC **Sonseca Array** 57.60 298 P **P** 21 36 58.6 +0.3
PAB **San Pablo** 57.93 298 P **P** 21 37 01.0 +0.4
PAB pmax pmax
comp=Z,4.0nm,1.2s
PAB **San Pablo** 57.93 298 P **P** 21 37 01.0 +0.4
PETK **Petropavlovsk-** 59.66 44 P **P** 21 37 11.3 -0.9
comp=Z,2.8nm,0.8s,baz=316,slow=4.0,SNR=1.5

ABPO Ambohimpanom 59.89 207 P P 21 37 14.3 0.0
ABPO pmax pmax
comp=Z,15nm,1.2s
ABPO Ambohimpanom 59.89 207 P P 21 37 14.3 0.0
ABPO IAmb IAmb 21 37 22.4
comp=Z,14nm,1.1s
SUMG Summit 60.97 341 *i* P P 21 37 22.5 +1.2
comp=Z,33nm,0.7s
SUMG *i* 21 38 08.2
SUMG Summit 60.97 341 *i* P P 21 37 22.5 +1.2
SUMG *i* 21 38 08.2
SUMG pmax pmax
comp=Z,33nm,0.7s
SUMG Summit 60.97 341 P P 21 37 22.7 +1.4
SUMG IAmb IAmb 21 37 23.5
comp=Z,17nm,0.8s
SUMG Summit 60.97 341 *i* P P 21 37 22.6 +1.2
SUMG IAmb IAmb 21 37 23.3
comp=Z,33nm,0.7s
SUMG *i* 21 38 08.3
LSZ Lusaka 65.77 226 P P 21 37 52.8 -0.3
LSZ pmax pmax
comp=Z,6.0nm,0.8s
LSZ Lusaka 65.77 226 P P 21 37 52.8 -0.3
LSZ IAmb IAmb 21 37 53.6
comp=Z,5.8nm,0.8s
TOA0 Torodi Ar. Sit 65.98 269 P P 21 37 52.6 -1.9
TOA0 IAmb IAmb 21 37 53.3
comp=Z,5.0nm,0.7s
TORD Torodi Ar. Bea 65.98 269 P P 21 37 52.8 -1.8
comp=Z,4.5nm,0.7s,baz=40,slow=5.5,SNR=20
TORD Torodi Ar. Bea 65.98 269 P P 21 37 52.5 -2.0
KOWA Kowa 69.82 273 P P 21 38 17.4 -1.1
KOWA IAmb IAmb 21 38 17.9
comp=Z,5.5nm,0.7s
TOLK Toolik Lake Re 70.68 15 IAmb IAmb 21 38 24.2
comp=Z,8.4nm,0.8s
COLD Coldfoot 71.72 16 P P 21 38 29.5 +0.4
IMAR Indian Mountai 71.92 18 P P 21 38 29.9 -0.4
BMAR Burnt Mountain 72.70 14 P P 21 38 36.0 +1.0
CMLA Cha da Macela 73.34 305 *i* P P 21 38 37.9 -1.3
I23K Minto, Yukon-K 73.65 17 P P 21 38 41.3 +0.8
I23K IAmb IAmb 21 38 42.0
comp=Z,8.6nm,1.1s
INK Inuvik 73.68 9 P P 21 38 41.2 +0.7
comp=Z,4.7nm,0.5s,baz=349,slow=5.9,SNR=27
INK pP pP 21 39 28.6 +2.9
comp=Z,6.8nm,1.0s,baz=0.8,slow=9.1,SNR=4.9
INK Inuvik 73.68 9 P P 21 38 41.1 +0.5
INK IAmb IAmb 21 38 41.7
comp=Z,6.2nm,0.6s
MDM Murphy Dome 74.07 16 IAmb IAmb 21 38 43.7
comp=Z,6.7nm,1.1s
ILAR Eielson Array 74.53 16 P P 21 38 45.0 -0.6
comp=Z,2.2nm,0.9s,baz=317,slow=5.1,SNR=16
ILAR pP pP 21 39 32.8 +2.0
comp=Z,2.2nm,1.0s,baz=318,slow=5.6,SNR=5.4
FRB Frobisher Bay 74.97 343 P P 21 38 48.0 0.0
comp=Z,3.3nm,0.7s,baz=70,slow=9.8,SNR=9.1
DBIC Dimbokro 74.97 267 P P 21 38 47.4 -1.5
comp=Z,1.6nm,0.5s,baz=34,slow=5.3,SNR=6.0
SKT Skwentna 75.76 19 IAmb IAmb 21 38 53.4
comp=Z,8.0nm,1.0s
K27K Chicken 76.20 14 P P 21 38 55.5 +0.4
SML Sawmill 76.73 18 P P 21 38 58.2 0.0
SML IAmb IAmb 21 38 58.4
comp=Z,9.1nm,0.7s
BCAR Beaver Creek A 77.12 15 P P 21 39 01.3 +1.0
BOSA Boshof 78.06 220 P P 21 39 04.5 -1.4
comp=Z,2.1nm,0.5s,baz=74,slow=8.4,SNR=8.3
YKA Yellowknife Ar 81.05 3 P P 21 39 21.8 +0.2
comp=Z,6.9nm,0.7s,baz=356,slow=5.1,SNR=90
YKA pP pP 21 40 10.3 +2.7
comp=Z,2.6nm,0.7s,baz=356,slow=5.5,SNR=6.3
WRA Warramunga Arr 81.86 122 P P 21 39 24.9 -1.6
comp=Z,2.9nm,0.5s,baz=323,slow=4.9,SNR=38
WRAB Tennant Creek 81.87 122 *ce*P P 21 39 23.9 -2.6
WRAB pmax pmax
comp=Z,14nm,2.5s
AS31 Alice Springs 84.14 125 P P 21 39 36.8 -1.4
ASAR Alice Springs 84.14 125 P P 21 39 36.7 -1.5
comp=Z,3.0nm,0.6s,baz=310,slow=5.0,SNR=35
ASAR Alice Springs 84.14 125 P P 21 39 36.4 -1.8
STKA Stephens Creek 94.69 127 P P 21 40 26.8 -1.0
comp=Z,0.9nm,0.4s,baz=272,slow=5.5,SNR=2.8
PLCA Paso Flores 150.13 250 PKPbc PKPbc 21 46 55.5 -1.0
comp=Z,2.5nm,1.0s,baz=122,slow=5.6,SNR=3.3

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*SJA **05** 21:30:25.0±0.7, 29°12S×71°77W, h10km, ML5.7, MW5.0*
*GUC **05** 21:30:31.3±0.5, 29°28S×71°28W, h55km±2km, ML5.3*
*VAO **05** 21:30:31.2±0.8, 29°28S×71°28W, h30km±6km, mb5.2*
*MOS **05** 21:30:32.0±0.9, 29°13S×71°63W, h33km, mb5.4/9, Error ellipse: s-maj=33.8km s-min=11.9km az=112.6*
*IDC **05** 21:30:33.3±0.5, 29°17S×71°16W, h43km±3km, mb4.7/17, mb1 4.8/21, mb1mx4.7/27, mbtmp4.9/21, ML4.6/4, MS4.4/26, Ms1 4.4/26, ms1mx4.3/34, Error ellipse: s-maj=15.9km s-min=12.4km az=71.0*
*NEIC **05** 21:30:33.6±2.9, 29°22S±0°04×71°38W±0°06, h47km±3km, Error ellipse: s-maj=8.3km s-min=6.2km az=110.0*
*NEIC **05** 21:30:33.4, 29°23S×71°36W, h37km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.71; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$-0.52; $M_{r\theta}$-0.44; $M_{\theta\phi}$-0.49; $M_{\phi r}$0.96; Fault plane solution: $M_0$1.33000×10^{17} NP1:ϕ_s237.58000°, δ32.06000°, λ146.65000°. NP2:ϕ_s356.73000°, δ73.03000°, λ62.38000°. Principal axes: T 1.4706, Plg54.0000°, Azm233.0000°; N -0.3623, Plg26.0000°, Azm5.0000°; P -1.1083, Plg23.0000°, Azm108.0000°;*
*NEIC **05** 21:30:33.4, 29°23S×71°36W, h46km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}3.83; $M_{\theta\theta}$1.79; $M_{\phi\phi}$-5.63; $M_{r\theta}$-4.45; $M_{\theta\phi}$-2.24; $M_{\phi r}$6.42; Fault plane solution: $M_0$9.53000×10^{16} NP1:ϕ_s337.99000°, δ77.19000°, λ61.87000°. NP2:ϕ_s225.46000°, δ30.70000°, λ154.25000°. Principal axes: T 10.0764, Plg50.0000°, Azm217.0000°; N -1.2054, Plg27.0000°, Azm345.0000°; P -8.8710, Plg27.0000°, Azm90.0000°;*
*BJI **05** 21:30:34.0±0.0, 29°10S×71°20W, h41km, mB5.2/12, Ms5.4/12, Ms7 5.1/12*
*NEIC **05** 21:30:35, 29°20S×71°42W, h60km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}5.43; $M_{\theta\theta}$3.06; $M_{\phi\phi}$-8.50; $M_{r\theta}$-2.86; $M_{\theta\phi}$-3.19; $M_{\phi r}$4.02; Fault plane solution: $M_0$9.49000×10^{16} NP1:ϕ_s227.00000°, δ45.00000°, λ145.00000°. NP2:ϕ_s344.00000°, δ66.00000°, λ51.00000°. Principal axes: T 8.8528, Plg52.0000°, Azm207.0000°; N 1.1670, Plg35.0000°, Azm2.0000°; P -10.0198, Plg12.0000°, Azm101.0000°;*
*GCMT **05** 21:30:36.0±0.2, 29°31S±0°01×71°52W±0°01, h60km±1km, MW5.2/125, Moment Tensor Solution. s82,c97; s125,c185; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.31±.02; $M_{\theta\theta}$0.33±.02; $M_{\phi\phi}$-0.63±.02; $M_{r\theta}$-0.28±.01; $M_{\theta\phi}$-0.36±.01; $M_{\phi r}$0.50±.02; Best double couple: $M_0$0.86900×10^{17} NP1:ϕ_s237.00000°, δ44.00000°, λ160.00000°. NP2:ϕ_s342.00000°, δ76.00000°, λ48.00000°. Principal axes: T 0.8450, Plg43.0000°, Azm211.0000°; N 0.0480, Plg41.0000°, Azm354.0000°; P -0.8930, Plg20.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 21:30:32.6±0.3, **29°25S**±0°03×**71°42W**±0°04, **h41**km±3km, **h41**km**:pP-P, n636, σ1s50**/692, **mb5.1**/154, **MS4.7**/29, **16C-10D, Near coast of central Chile**

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

LCO Las Campanas 0.68 70⇑*i*P Pn 21 30 45.3 -0.7
LCO *i* S Sn 21 30 55.6 0.0
LCO Las Campanas 0.68 70 P Pn 21 30 45.1 -1.0
LCO 21 30 55.1
LCO Las Campanas 0.68 70 Pn 21 30 45.0 -1.0
LCO Sn Sn 21 30 55.1 -0.5
GO04 Tololo Observa 1.07 150⇓*e*P Pn 21 30 50.9 -0.5
GO04 *i* S Sn 21 31 05.3 +0.1
GO04 Tololo Observa 1.07 150 Pn 21 30 51.0 -0.5
GO04 Tololo Observa 1.07 150 *e*P Pn 21 30 51.1 -0.3
GO04 *e*S Sn 21 31 05.4 +0.1
AC04 Llanos de Chal 1.08 17⇑*i*P Pn 21 30 51.3 -0.1
AC04 *e*S Sn 21 31 07.1 +2.0
AC04 IAML 21 31 08.6
comp=N,98µm,0.5s
AC04 Llanos de Chal 1.08 17 Pn 21 30 51.1 -0.2
AC05 El Transito 1.09 68⇑*i*P Pn 21 30 51.4 -0.1
AC05 *i* S Sn 21 31 05.2 -0.3
AC05 IAML 21 31 08.5
comp=N,107µm,0.5s
AC05 El Transito 1.09 68 Pn Pn 21 30 51.4 -0.1
CO01 Juntas del Tor 1.37 123⇓*i*P Pn 21 30 55.7 +0.2
CO01 *e*S Sn 21 31 12.4 -0.2
CO01 IAML 21 31 17.0
comp=N,77µm,0.5s
CO01 Juntas del Tor 1.37 123 Pn 21 30 55.6 +0.2
CO03 El Pedregal 1.71 158⇑*i*P Pn 21 30 59.9 -0.2
CO03 *i* S Sn 21 31 21.5 +0.7
CO03 IAML 21 31 27.2
comp=E,59µm,0.3s
CO03 El Pedregal 1.71 158 Pn 21 30 60.0 -0.2
AROD Rodeo 1.93 119 *e*P Pn 21 31 05.2 +1.9
GO03 Copiap 1.95 33⇓*i*P Pn 21 31 03.1 -0.2
GO03 *i* S Sn 21 31 28.2 +1.5
GO03 IAML 21 31 36.4
comp=N,31µm,0.5s
GO03 Copiap 1.95 33 Pn 21 31 03.2 -0.1
GO03 Copiap 1.95 33 *e*P Pn 21 31 03.3 0.0
GO03 *e*S Sn 21 31 28.8 +2.1
CO02 Combarbal 1.99 169⇑*i*P Pn 21 31 03.8 -0.1
CO02 *i* S Sn 21 31 28.7 +1.1
CO02 IAML 21 31 40.4
comp=N,64µm,0.5s
CO02 Combarbal 1.99 169 Pn 21 31 03.8 -0.1
ACDV Cuesta del Vie 2.21 115 *e*P Pn 21 31 09.4 +2.4
ACDV *e*S Sn 21 31 41.1 +8.0
ACDV IAML 21 31 42.9
comp=Z,17µm,0.5s
ACCO Cerro Coronel 2.45 124 *e*P Pn 21 31 12.8 +2.4
AGUA GUANDACOL 2.57 96 *e*P Pn 21 31 15.3 +3.4
AGUA IAML 21 32 04.1
comp=Z,12µm,0.6s
VCA Vinchina 2.87 81⇓*i*P Pn 21 31 19.9 +3.9
VCA *e*S Sn 21 31 52.4 +3.1
VCA Vinchina 2.87 81 *e*P Pn 21 31 20.1 +4.1
VCA IAML 21 32 09.4
comp=Z,18µm,0.6s
RTLS Leoncito 3.14 145 *e*P Pn 21 31 22.7 +2.8
RTLS IAML 21 32 23.0
comp=Z,11µm,0.7s
AC02 Maricunga 3.14 41⇓*i*P Pn 21 31 21.0 +0.9
AC02 *e*S Sn 21 31 59.1 +2.4
AC02 Maricunga 3.14 41 Pn 21 31 21.0 +0.9
AC01 Pan de Azucar 3.17 14⇑*e*P Pn 21 31 18.4 -1.6
AC01 IAML 21 32 10.8
comp=E,9µm,0.2s
AC01 Pan de Azucar 3.17 14 Pn Pn 21 31 18.5 -1.6
RTLL Cerro Villicun 3.29 130⇓*e*P Pn 21 31 23.7 +1.9
RTLL Cerro Villicun 3.29 130 *e*P Pn 21 31 23.5 +1.7
RTLL IAML 21 32 23.6
comp=Z,14µm,0.9s
ZON Zonda 3.30 135 P Pn 21 31 23.9 +2.0
ZON Zonda 3.30 135 Pn 21 31 23.9 +2.0
ZON Zonda 3.30 135 *e*P Pn 21 31 23.9 +2.0
AUSP Uspallata 3.45 150 *e*P Pn 21 31 26.9 +2.7
VA03 San Esteban 3.59 168⇑*e*P Pn 21 31 26.6 +0.7
VA03 *e*S Sn 21 32 06.7 -0.3
VA03 San Esteban 3.59 168 Pn 21 31 26.5 +0.7
RTCV Cerro Valdivia 3.60 137 *e*P Pn 21 31 28.4 +2.4
ROCH El Roble 3.73 175⇑*e*P Pn 21 31 27.8 -0.2
ROCH *i* S Sn 21 32 13.2 +2.4
ACLC CERRO LA CRUZ 3.91 94 *e*P Pn 21 31 31.9 +1.5
ACLC *e*S Sn 21 32 25.6 +10
ACLC IAML 21 32 28.3
comp=Z,7µm,0.9s
PEL Peldehue 3.94 171⇓*e*P Pn 21 31 30.1 -0.6
PEL *e*S Sn 21 32 15.2 -0.4
PEL Peldehue 3.94 171 P Pn 21 31 31.0 +0.4
PEL Peldehue 3.94 171 Pn Pn 21 31 31.0 +0.4
PEL Peldehue 3.94 171 *e*P Pn 21 31 31.1 +0.5
MT02 Curacav 4.01 177⇑*e*P Pn 21 31 30.7 -0.9
MT02 *e*S Sn 21 32 17.5 +0.2
MT02 Curacav 4.01 177 Pn 21 31 30.6 -0.9
MT05 Renca 4.17 172⇑*e*P Pn 21 31 34.0 +0.1
MT05 *e*S Sn 21 32 22.9 +1.4
MT05 Renca 4.17 172 Pn Pn 21 31 34.0 +0.1
MT03 Universidad Ad 4.31 170⇑*e*P Pn 21 31 36.3 +0.6
MT03 *e*S Sn 21 32 24.2 -0.6
GO02 Mina Guanaco 4.38 22 Pn Pn 21 31 36.0 -1.0
VA05 Santo Domingo 4.40 182 *e*P Pn 21 31 35.5 -1.4
APLL PUNTA DE LOS L 4.41 106 *e*P Pn 21 31 38.3 +1.2
APLL IAML 21 32 57.4
comp=Z,14µm,3.7s
MT09 Talagante 4.53 175⇑*e*P Pn 21 31 38.6 -0.3
MT09 *e*S Sn 21 32 30.7 +0.3
PB14 IPOC Station P 4.69 11 Pn Pn 21 31 38.6 -2.6
PB14 IPOC Station P 4.69 11 *e*P Pn 21 31 38.6 -2.6
PB14 IAML 21 32 59.5
comp=Z,3µm,0.6s
LMEL Las Melosas 4.71 168⇑*e*P Pn 21 31 42.3 +1.0
BO02 Sierra Bellavi 5.56 175 Pn Pn 21 31 52.2 -0.7
FSA Cafayete 5.75 58 *e*P Pn 21 31 57.5 +1.9
PB10 IPOC Station P 5.76 8 Pn Pn 21 31 52.5 -3.2
PB10 IPOC Station P 5.76 8 *e*P Pn 21 31 52.7 -2.9
PB10 IAML 21 33 40.5
comp=Z,1µm,0.7s
MRA San Martin 5.84 124 *e*P Pn 21 31 57.0 +0.2
MRA IAML 21 33 13.4
comp=Z,4µm,1.4s
AHML Horco Molle 5.92 67 *e*P Pn 21 31 59.6 +1.8
AHML *e*S Sn 21 33 16.6 +12
AHML IAML 21 33 38.2
comp=Z,1µm,0.7s
LAMA Las Malvinas 5.97 162 *e*P Pn 21 32 01.5 +2.9
COIS El Sosneado 6.05 166 *e*P Pn 21 32 01.1 +1.5
RFA San Rafael 6.05 156 *e*P Pn 21 32 01.0 +1.3
RFA IAML 21 34 01.4
comp=Z,2µm,0.9s
PB15 IPOC Station P 6.26 17 Pn 21 32 00.3 -2.4
PB15 IPOC Station P 6.26 17 *e*P Pn 21 32 01.0 -1.8
PB15 IAML 21 33 42.7
comp=Z,7µm,0.4s
PB06 IPOC Station P 6.72 15 Pn 21 32 05.8 -3.2
PB06 IPOC Station P 6.72 15 *e*P Pn 21 32 06.4 -2.6
PB06 IAML 21 34 07.8
comp=Z,3µm,0.6s
SLA San Lorenzo 6.94 51 *e*P Pn 21 32 14.8 +2.8
SLA San Lorenzo 6.94 51 *e*P Pn 21 32 14.4 +2.4
PB04 IPOC Station P 6.98 10 Pn 21 32 08.5 -4.0
PB04 IPOC Station P 6.98 10 *e*P Pn 21 32 08.7 -3.8
PB04 IAML 21 34 20.4
comp=Z,2µm,1.9s
LVC Limon Verde 6.98 19 P Pn 21 32 10.5 -2.3
comp=Z,7.4nm,0.3s,baz=172,slow=9.9,SNR=41
LVC S Sn 21 33 42.7 +12
comp=Z,119nm,0.3s,baz=175,slow=15,SNR=4.1
LVC LR LR 21 34 59.5
comp=Z,7µm,21.9s,baz=212,slow=39
LVC Limon Verde 6.98 19 P Pn 21 32 10.8 -2.0
LVC Limon Verde 6.98 19 Pn Pn 21 32 10.8 -2.0
LVC Limon Verde 6.98 19 *e*P Pn 21 32 10.4 -2.3
BI02 San Fabin de 7.40 179 Pn Pn 21 32 16.5 -1.7
PB07 IPOC Station P 7.62 11 Pn 21 32 17.1 -4.2
H03N1 Juan Fernandez 7.65 235 T T 21 40 05.1
baz=62,slow=72,SNR=2909
H03N2 Juan Fernandez 7.66 235 T T 21 40 07.5
baz=62,slow=72,SNR=2558
H03N3 Juan Fernandez 7.66 235 T T 21 40 07.1
baz=62,slow=72,SNR=1924
PB09 IPOC Station P 7.67 15 Pn Pn 21 32 19.4 -2.6
PB09 IPOC Station P 7.67 15 *e*P Pn 21 32 19.7 -2.4
BI03 Tigo 7.70 190 Pn 21 32 19.5 -2.6
VA04 Juan Fernndez 7.70 233 *e*P Pn 21 32 18.9 -3.2
VA04 Juan Fernndez 7.70 233 Pn Pn 21 32 19.2 -2.9
PB01 IPOC Station P 8.35 13 Pn 21 32 27.0 -4.3
TA01 Diego Aracena 8.71 8 Pn Pn 21 32 31.9 -4.2
PB08 IPOC Station P 9.30 13 Pn 21 32 41.6 -2.9
PSGCX Pisagua 9.68 7 Pn 21 32 44.7 -4.8
MNMC Minye Minye 10.21 10 Pn 21 32 53.0 -3.9
PB16 IPOC Station P 11.00 10 Pn 21 33 04.2 -3.9
PLCA Paso Flores 11.48 177 P Pn 21 33 13.0 -1.1
comp=Z,0.8nm,0.3s,baz=340,slow=11,SNR=27
PLCA LR LR 21 38 06.6
comp=Z,3µm,20.4s,baz=353,slow=39
PLCA Paso Flores 11.48 177 P Pn 21 33 11.2 -2.9
PLCA Paso Flores 11.48 177 Pn 21 33 11.2 -2.9
PLCA Paso Flores 11.48 177 *e*P Pn 21 33 12.3 -1.8
CPUP Villa Florida 12.81 80 P Pn 21 33 28.4 -3.8
comp=Z,2.1nm,0.3s,baz=255,slow=12,SNR=26
CPUP LR LR 21 39 30.3
comp=Z,1µm,19.0s,baz=256,slow=43
CPUP Villa Florida 12.81 80 P Pn 21 33 29.9 -2.3
CPUP Villa Florida 12.81 80 Pn 21 33 29.9 -2.3
ITQB Itaqui 12.91 96 *e*P Pn 21 33 30.2 -3.3
LPAZ La Paz 13.25 14 P Pn 21 33 36.0 -2.8
comp=Z,0.5nm,0.3s,baz=192,slow=8.1,SNR=7.4
LPAZ LR LR 21 39 09.3
comp=Z,2µm,18.8s,baz=180,slow=39
LPAZ La Paz 13.25 14 P Pn 21 33 36.0 -2.8
LPAZ La Paz 13.25 14 Pn 21 33 35.0 -3.8
LPAZ La Paz 13.25 14 *e*P Pn 21 33 36.4 -2.4
PLTB Pedras Altas 15.57 104 *e*P Pn 21 34 07.4 -1.8
AQDB Aquidauana 16.71 62 *e*P Pn 21 34 21.8 -2.1
ITAB Concordia 17.12 88 *e*P Pn 21 34 26.8 -2.1
PTLB Pontes e Lacer 17.80 42 *e*P Pn 21 34 36.9 -0.5
PTGB Pitanga 17.83 80 *e*P Pn 21 34 37.1 -0.7
NNA Nana 17.90 343 P P 21 34 39.3 +0.4
comp=Z,1.6nm,0.3s,baz=172,slow=15,SNR=1.6
NNA LR LR 21 40 23.2
comp=Z,307nm,19.8s,baz=172,slow=33
NNA Nana 17.90 343 *i* P P 21 34 40.1 +1.2
TRCB Terra Rica 18.06 74 *e*P Pn 21 34 39.6 -1.0
PP1B Ponte de Pedra 19.07 56 *e*P P 21 34 51.5 -0.3
VILB Vilhena 19.28 35 *e*P P 21 34 53.4 -0.6
TER01 Tubaro-SC 19.54 93 *e*P P 21 34 55.7 -1.1
PCMB Pacaembu 19.72 72 *e*P P 21 34 57.9 -0.9
ETMB Extrema 19.94 15 *e*P P 21 35 01.8 +0.6
ETMB *e*S Sn 21 38 44.7 -1.7
TIJ01 Guaruva-PR 20.30 84 *e*P P 21 35 01.7 -3.5
ITRB Iturama 21.37 68 *e*P P 21 35 15.6 -1.1
CZSB Cruzeiro do Su 21.44 357 *e*P P 21 35 18.7 +1.4
SAML Samuel 21.62 23 P P 21 35 16.4 -2.9
SAML pmax pmax
comp=Z,50nm,0.8s
SAML Samuel 21.62 23 P P 21 35 16.4 -2.9
SAML IAmb IAmb 21 35 35.2
comp=Z,50nm,0.8s
SAML Samuel 21.62 23 *e*P P 21 35 18.5 -0.8
PET01 Itanhaem-SP 22.10 83 *e*P P 21 35 23.8 -0.7
SPB Sao Paulo 22.20 81 P P 21 35 24.7 -0.8
SPB IAmb IAmb 21 35 38.7
comp=Z,59nm,0.8s
SPB Sao Paulo 22.20 81 *e*P P 21 35 25.1 -0.3
BB19B Bebedouro 22.24 74 *e*P P 21 35 23.9 -2.2
BB19B *e*S S 21 39 27.7 -0.9
ARAG Araguaiana, MT 22.54 58 *e*P P 21 35 26.7 -2.5
VAO Valinhos 22.80 80 *e*P P 21 35 30.1 -1.9
CLDB Colider 23.39 42 *e*P P 21 35 36.5 -1.4
PARB Paraibuna 23.84 82 *e*P P 21 35 41.0 -1.3
IPMB Ipameri, GO 24.00 67 *e*P P 21 35 42.1 -1.5
SNDB Serra Nova Dou 25.43 52 *e*P P 21 35 55.7 -0.9
BSCB Bom Sucesso 25.45 77 *e*P P 21 35 55.6 -1.2
BDFB Brasilia 25.46 63 P P 21 35 55.5 -1.5
comp=Z,14nm,0.6s,baz=238,slow=8.7,SNR=16
BDFB LR LR 21 47 02.0
comp=Z,1µm,18.4s,baz=240,slow=39
BDFB Brasilia 25.46 63 P P 21 35 55.2 -1.9
USHA Ushuaia 25.66 176 P P 21 35 59.3 +0.9
comp=Z,37nm,0.7s,baz=358,slow=7.5,SNR=6.8
NPGB Novo Progresso 26.78 38 *e*P P 21 36 07.7 -1.2
PEXB Peixe 27.46 56 *e*P P 21 36 14.0 -1.0
JANB Januaria 28.72 66 *e*P P 21 36 24.7 -1.6
ITTB Itaituba 28.87 34 *e*P P 21 36 27.8 +0.2
SJMB Sao Joao De Ma 29.48 76 *e*P P 21 36 31.7 -1.2
BSFB Barra de Sao F 29.71 76 *e*P P 21 36 33.5 -1.5
SDBA SAO DESIDERIO 29.81 61 *e*P P 21 36 34.5 -1.5
OTAV Otavalo 30.08 346 P P 21 36 42.8 +4.1
OTAV pmax pmax
comp=Z,6.0nm,0.9s
OTAV Otavalo 30.08 346 P P 21 36 42.8 +4.1
OTAV Otavalo 30.08 346 *e*P P 21 36 39.5 +0.8
SMTB Santa Maria do 30.19 53 *e*P P 21 36 38.0 -1.3
PTGA Pitinga 30.39 23 LR LR 21 49 41.4
comp=Z,1µm,20.2s,baz=194,slow=38
PTGA Pitinga 30.39 23 P P 21 36 36.9 -4.1
NAN01 Guarapari, ES 30.76 75 *e*P P 21 36 42.7 -1.6
SOTA Rioblanco 31.59 350 *e*P P 21 36 54.1 +2.0
BOAV Boa Vista 33.15 20 *e*P P 21 37 04.2 -1.0
GDU01 Guandu, BA 33.28 69 *e*P P 21 37 04.9 -1.5
YOTC Yotoco, Valle 33.38 351 *e*P P 21 37 07.7 +0.3
TOLC Tolima 33.84 353 *e*P P 21 37 13.9 +2.2
MCPB Macapa, AP 34.16 36 *e*P P 21 37 12.1 -1.9
RREF El Recreo 34.16 353 *e*P P 21 37 16.0 +1.3
GUY2C Guyana, Caldas 34.48 353 *e*P P 21 37 15.3 -2.0
TMAB Tom-Au,PA,Br 34.74 44 *e*P P 21 37 18.7 -0.4
NORC Norcasia 34.77 354 *e*P P 21 37 18.1 -1.2
SPBC San Pablo de B 34.79 355 *e*P P 21 37 19.1 -0.5
RUSC La Rusia 34.97 357⇑*e*P P 21 37 21.2 -0.4
HELC Santa Helena 35.45 353 *e*P P 21 37 26.5 +0.9
PMSA Palmer Station 35.85 175 P P 21 37 29.2 +1.2
comp=Z,20nm,0.8s,baz=53,slow=5.9,SNR=4.2
PMSA LR LR 21 51 44.2
comp=Z,2µm,21.1s,baz=348,slow=35
PMSA Palmer Station 35.85 175 IAmb IAmb 21 37 31.4
comp=Z,91nm,1.1s
NBLA Lagarto - SE 36.24 67 *e*P P 21 37 30.0 -2.0
DBBC Dabeiba 36.35 352 *e*P P 21 37 32.1 -0.8
UREC San Jos de Ur 36.99 353 *e*P P 21 37 37.8 -0.5
SMLC San Martn de 37.91 356 *e*P P 21 37 44.0 -2.0
SDV Santo Domingo 37.92 1 P P 21 37 45.6 -0.8
SDV IAmb IAmb 21 38 03.3
comp=Z,12nm,0.9s
SDV Santo Domingo 37.92 1 *e*P P 21 37 46.1 -0.2
SDV Santo Domingo 37.92 1 *e*P P 21 37 46.2 -0.1
NBAN Anadia - AL 38.22 67 *e*P P 21 37 47.1 -1.7
NBLI Livramento-PB 39.06 63 *e*P P 21 37 54.6 -1.4
RCBR Riachuelo 40.83 62 P P 21 38 10.0 -0.6
RCBR pmax pmax
comp=Z,42nm,1.1s
RCBR Riachuelo 40.83 62 P P 21 38 10.0 -0.6
RCBR IAmb IAmb 21 38 24.4
comp=Z,42nm,1.1s
RCBR Riachuelo 40.83 62 *e*P P 21 38 09.8 -0.8
NBPV Pedro Velho 40.94 63 *e*P P 21 38 10.8 -0.6
CMIG Matias Romero 51.34 331 P P 21 39 33.4 +0.4
comp=Z,2.4nm,0.6s,baz=150,slow=7.7,SNR=4.8
CMIG LR LR 21 56 23.3
comp=Z,152nm,21.3s,baz=166,slow=30
BELA Belgrano 2 51.46 171 P P 21 39 33.3 0.0
TEIG Tepich 51.80 340 P P 21 39 36.3 -0.1
comp=Z,20nm,0.7s,baz=184,slow=7.3,SNR=11
TEIG Tepich 51.80 340 P P 21 39 36.6 +0.2
VNA3 Neumayer Olymp 53.58 159 P P 21 39 49.9 +0.7
VNA3 Neumayer Olymp 53.58 159 PcP PcP 21 40 54.2 -1.1
VNA3 Neumayer Olymp 53.58 159 pP pP 21 40 00.7 -0.3
VNA1 Neumayer--Stat 53.86 158 P P 21 39 51.9 +0.8
VNA1 Neumayer--Stat 53.86 158 PcP PcP 21 40 56.9 +0.7
VNA2 Neumayer--Watz 54.21 159 P P 21 39 54.0 +0.3
baz=284,slow=8.2
VNA2 Neumayer--Watz 54.21 159 pP pP 21 40 04.3 -1.2
SNAA Sanae 55.80 159 P P 21 40 05.1 -0.2
SNAA Sanae 55.80 159 pP pP 21 40 15.9 -1.2
SNAA Sanae 55.80 159 *i* P P 21 40 05.4 +0.1
SNAA pmax pmax
comp=Z,28nm,0.9s
SNAA Sanae 55.80 159 P P 21 40 05.4 +0.1
RKT Rikitea 56.76 260 *e*LR LR 21 57 00.5
comp=Z,1µm,24.0s
NVL N'lazarevskaya 60.49 158 *e*P P 21 40 38.5 +0.6
NVL pmax pmax
comp=Z,41nm,1.1s
TIGA Tifton 61.45 348 P 21 40 46.0
baz=168
NHSC New Hope 62.56 352 P 21 40 53.0
baz=171
833A Chaparral WMA, 63.19 332 P 21 40 57.2
baz=153
GOGA Godfrey 63.35 349 P 21 40 57.7
baz=168
LRAL Lakeview Retre 63.67 345 P 21 40 59.4
baz=165
NATX Nacogdoches 64.56 338 P 21 41 05.4
baz=158
KMSC Kings Mountain 64.72 351 P 21 41 06.5
baz=170
LPIG La Paz 64.89 321 LR LR 22 03 50.3
comp=Z,104nm,19.5s,baz=154,slow=31
V59A Middlesex 64.98 354 P 21 41 08.4
baz=173

X48A **Hartselle** 65.05 346 P **P** 21 41 08.8 +0.2
X48A **pP** 21 41 21.2 +0.4
JCT Junction City 65.26 333 P **P** 21 41 11.8 +1.6
JCT pmax pmax
comp=Z,21nm,0.7s
JCT Junction City 65.26 333 P **P** 21 41 11.8 +1.6
V57A Coltrane Farms 65.26 353 P 21 41 10.2
baz=172
V56A Mocksville 65.27 352 P 21 41 09.8
baz=171
Z41A Richland Creek 65.38 340 P 21 41 10.9
baz=160
W50A Signal Mountai 65.43 348 P **P** 21 41 11.0 -0.2
W50A **pP** 21 41 23.3 0.0
CPCT Cooper Cave 65.52 348 P **P** 21 41 11.5 -0.2
CPCT IAmb IAmb 21 41 25.3
comp=Z,16nm,0.8s
SWET Sewanee 65.56 347 P **P** 21 41 11.7 -0.3
U60A Pendleton 65.59 355 P 21 41 12.7
baz=174
TKL Tuckaleechee C 65.60 349 P **P** 21 41 12.3 +0.1
TKL pmax pmax
comp=Z,20nm,0.9s
TKL Tuckaleechee C 65.60 349 P **P** 21 41 12.3 +0.1
TKL IAmb IAmb 21 41 25.9
comp=Z,20nm,0.9s
U58A Oxford 65.63 354 P 21 41 12.9
baz=173
U57A Blanch 65.75 353 P 21 41 13.5
baz=172
U56A King 65.79 352 P 21 41 13.6
baz=171
PLAL Pickwick Lake 65.79 345 P **P** 21 41 13.4 0.0
PLAL IAmb IAmb 21 41 30.8
comp=Z,17nm,1.0s
V51A Loudon 65.84 349 **P** 21 41 13.4 -0.3
V51A IAmb IAmb 21 41 27.6
comp=Z,21nm,0.8s
TX32 Lajitas Array 65.89 329 P **P** 21 41 15.4 +1.1
TXAR Lajitas Array 65.89 329 P **P** 21 41 15.3 +1.0
comp=Z,3.6nm,0.7s,baz=150,slow=7.9,SNR=34
TXAR pP **pP** 21 41 27.4 +1.1
comp=Z,5.3nm,0.6s,baz=153,slow=9.5,SNR=20
TXAR LR LR 22 05 43.1
comp=Z,142nm,20.5s,baz=0.0,slow=32
TXAR Lajitas Array 65.89 329 P **P** 21 41 15.0 +0.7
TX31 Lajitas Ar. Si 65.89 329 P **P** 21 41 15.4 +1.0
TX31 IAmb IAmb 21 41 28.7
comp=Z,19nm,0.7s
X43A Marvell 66.03 342 P 21 41 14.9
baz=162
U54A Nelsons Funny 66.14 351 P 21 41 15.8
baz=170
T58A Grand View Acr 66.18 354 P 21 41 16.5
baz=173
V48A Smith Brothers 66.25 346 P **P** 21 41 16.7 +0.3
V48A IAmb IAmb 21 41 33.8
comp=Z,18nm,0.9s
T57A Hurt 66.30 353 P 21 41 16.7
baz=173
T56A Rocky Mt 66.42 352 P 21 41 17.9
baz=172
CLTN Cedars of Leba 66.49 347 P **P** 21 41 18.8 +0.9
CLTN IAmb IAmb 21 41 36.7
comp=Z,14nm,0.8s
S58A Poland Farm, P 66.80 354 P 21 41 20.6
baz=174
MIAR Mount Ida 66.81 340 P 21 41 20.7
baz=159
WVT Waverly 66.83 346 P 21 41 20.5
baz=164
WVT Waverly 66.84 346 P **P** 21 41 19.9 -0.2
WVT pmax pmax
comp=Z,26nm,0.9s
WVT Waverly 66.84 346 P **P** 21 41 19.9 -0.2
Z35A Perchaven, San 66.88 337 P **P** 21 41 21.4 +1.0
Z35A pP **pP** 21 41 33.8 +1.2
S59A Mechanicsville 66.88 355 P 21 41 21.6
baz=174
W41B Gary Mavity, V 67.02 342 P 21 41 22.3
baz=160
S57A Dark Hollow, R 67.03 354 P 21 41 21.7
baz=173
ABTX Abilene, Hawle 67.10 334 P 21 41 22.7
baz=153
ABTX Abilene, Hawle 67.11 334 P **P** 21 41 23.3 +1.3
ABTX pP **pP** 21 41 35.6 +1.5
ABTX IAmb IAmb 21 41 36.7
comp=Z,20nm,0.8s
R58B Mineral 67.13 354 P 21 41 23.4
baz=174
R58B Mineral 67.13 354 P **P** 21 41 23.4 +1.5
TAOE Nuku Hiva Isla 67.19 273 *e*LR LR 22 01 43.3
comp=Z,640nm,25.6s
R59A King George, V 67.30 355 P 21 41 24.6
baz=175
R58A Rapidan 67.47 354 P 21 41 24.7
baz=174
W39A Magazine 67.48 340 P 21 41 25.4
baz=159
W39A Magazine 67.48 340 P **P** 21 41 25.6 +1.5
W39A IAmb IAmb 21 41 42.8
comp=Z,33nm,1.2s
T47A Sharon Grove 67.51 346 P **P** 21 41 24.6 +0.2
T47A pP **pP** 21 41 36.5 -0.1
T47A IAmb IAmb 21 41 38.8
comp=Z,22nm,0.8s
R57A Stanardsville 67.52 354 P 21 41 25.2
baz=173,SNR=5.5
LCAR Lake Charles 67.57 343 P **P** 21 41 24.9 +0.2
FCAR Ozark Folk Cen 67.66 342 P **P** 21 41 25.9 +0.6
T45A Paducah 67.87 345 P **P** 21 41 27.6 +1.0
Q61A Milford 67.87 357 P 21 41 26.8
baz=176
Q59A Harwood 67.93 356 P 21 41 26.8
baz=175
PBMO Poplar Bluff 68.06 344 P **P** 21 41 28.0 +0.2
Q58A Fox Den Farm, 68.08 355 P 21 41 28.7
baz=174
Q57A Strasburg 68.24 354 P 21 41 30.1
baz=173
U40A Yellville 68.29 341 P 21 41 29.8
baz=160
U40A Yellville 68.30 341 P **P** 21 41 30.0 +0.6
U40A **pP** 21 42.1 +0.5
U40A IAmb IAmb 21 41 43.4
comp=Z,16nm,0.7s
Q56A Snyder Ridge, 68.32 354 P 21 41 29.9
baz=173
R49A Shelbyville 68.41 348 pP 21 41 42.7 +0.5
T42A Van Buren 68.46 343 P **P** 21 41 31.0 +0.7
T42A IAmb IAmb 21 41 32.5
comp=Z,11nm,0.8s
HHAR Hobbs 68.53 341 P **P** 21 41 31.3 +0.5
HHAR IAmb IAmb 21 41 45.4
comp=Z,16nm,0.8s
WCI Wyandotte Cave 68.55 347 P 21 41 31.0
baz=166
WCI Wyandotte Cave 68.55 347 P **P** 21 41 31.0 +0.2
WCI pmax pmax
comp=Z,20nm,0.7s
WCI Wyandotte Cave 68.55 347 P **P** 21 41 31.0 +0.2
WCI pP **pP** 21 41 42.7 -0.4
WCI IAmb IAmb 21 41 44.8
comp=Z,20nm,0.8s
P57A Homestead Farm 68.65 355 P 21 41 32.4
baz=174,SNR=5.7
P57A Homestead Farm 68.65 355 P **P** 21 41 33.2 +1.8
S44A Carbondale 68.65 345 P **P** 21 41 30.7 -0.8
P59A Jarrettsville 68.66 356 P 21 41 32.7
baz=175
MNTX Cornudas Mount 68.67 329 P 21 41 32.0
baz=148
MNTX Cornudas Mount 68.67 329 P **P** 21 41 31.2 -0.6
WMOK Wichita Mounta 68.68 336 P 21 41 31.6
baz=154
WMOK Wichita Mounta 68.68 336 pP 21 41 44.3 +0.2
P56A Dayton Farm, R 68.74 354 P 21 41 32.8
baz=173
TUL1 Leonard 68.75 339 P 21 41 32.5
baz=157
TUL1 Leonard 68.75 339 P **P** 21 41 32.9 +0.7
TUL1 IAmb IAmb 21 41 46.2
comp=Z,23nm,0.8s
U38A Gravette 68.81 340 P **P** 21 41 33.3 +0.7
U38A pP **pP** 21 41 45.5 +0.7

VNDA Vanda 68.85 191 P **P** 21 41 33.4 +1.0
comp=Z,4.6nm,0.8s,baz=131,slow=4.6,SNR=14
VNDA LR LR 22 08 24.8
comp=Z,158nm,19.6s,baz=152,slow=33
VNDA Vanda 68.85 191 P **P** 21 41 34.1 +1.7
VNDA pmax pmax
comp=Z,8.0nm,1.1s
VNDA Vanda 68.85 191 P **P** 21 41 34.1 +1.7
MGMO Mountain Grove 68.89 342 P **P** 21 41 33.7 +0.7
MGMO IAmb IAmb 21 41 50.9
comp=Z,16nm,0.9s
TBI Tubuai 69.02 254 *e*S **S** 21 50 41.4 +4.9
comp=Z,111nm,28.2s
TBI Tubuai 69.02 254 *e*LR LR 22 02 30.9
comp=Z,832nm,27.0s
TBI Tubuai 69.02 254 *e*T T 22 56 44.7
comp=Z,23nm,0.2s
O58A Lewisberry 69.20 355 P 21 41 35.6
baz=175
FVM French Village 69.20 344 P **P** 21 41 35.6 +0.7
FVM pmax pmax
comp=Z,44nm,0.8s
FVM French Village 69.20 344 P **P** 21 41 35.6 +0.7
P51A Williamsport 69.23 350 P **P** 21 41 35.0 0.0
P51A **pP** 21 41 47.6 +0.3
P51A IAmb IAmb 21 41 48.0
comp=Z,20nm,0.7s
P52A Corning 69.25 351 P 21 41 35.3
baz=170
P52A Corning 69.25 351 P **P** 21 41 35.5 +0.3
P52A **pP** 21 41 47.6 +0.2
P52A IAmb IAmb 21 41 49.9
comp=Z,25nm,0.9s
O60A Telford 69.31 357 P 21 41 36.5
baz=176
O57A Amberson 69.34 355 P 21 41 36.3
baz=174
O59A Robesonia 69.34 356 P 21 41 36.4
baz=176
CCM Cathedral Cave 69.47 343 P 21 41 37.3
baz=162
CCM Cathedral Cave 69.47 343 P **P** 21 41 37.0 +0.4
CCM pmax pmax
comp=Z,32nm,0.8s
CCM Cathedral Cave 69.47 343 P **P** 21 41 37.0 +0.4
O56A Blue Knob Stat 69.48 354 P 21 41 37.4
baz=173
MSTX Muleshoe 69.52 333 P 21 41 38.2
baz=151
MSTX Muleshoe 69.52 333 P **P** 21 41 37.7 +0.6
MSTX IAmb IAmb 21 41 51.1
comp=Z,20nm,0.8s
P49A Miami Univ. Ec 69.54 349 P 21 41 37.0
baz=168
P48A Milroy 69.59 348 pP pP 21 41 49.2 -0.3
S39A Bolivar 69.67 342 P **P** 21 41 38.7 +0.8
S39A IAmb IAmb 21 41 52.6
comp=Z,18nm,0.8s
O52A Adamsville 69.68 352 pP 21 41 50.5 +0.4
N61A South Mountain 69.69 358 P 21 41 39.0
baz=177
Q44A Meyer Farm, Va 69.76 345 P **P** 21 41 38.2 -0.1
Q44A **pP** 21 41 50.8 +0.2
Q44A IAmb IAmb 21 41 52.9
comp=Z,21nm,0.8s
N60A Cedar Hill Far 69.84 357 P 21 41 39.4
baz=177
N57A Milroy 69.88 355 P 21 41 40.0
baz=174
AMTX Amarillo 69.89 334 P 21 41 40.1
baz=152
AMTX Amarillo 69.89 334 P **P** 21 41 41.1 +1.7
AMTX pP **pP** 21 41 52.9 +1.3
AMTX IAmb IAmb 21 41 56.9
comp=Z,13nm,0.8s
N58A Sunbury 69.90 356 P 21 41 39.9
baz=175
N58A Sunbury 69.90 356 P **P** 21 41 40.8 +1.6
N58A IAmb IAmb 21 41 54.5
comp=Z,26nm,1.0s
N59A State Game Lan 69.92 356 P 21 41 40.5
baz=176
N59A State Game Lan 69.92 356 P **P** 21 41 41.2 +1.9
N59A IAmb IAmb 21 41 54.4
comp=Z,17nm,0.8s
ACSO Alum Creek Sta 69.95 351 P 21 41 39.9
baz=169
ACSO Alum Creek Sta 69.95 351 P **P** 21 41 39.6 +0.1
ACSO **pP** 21 41 52.2 +0.4
R40A Maddies Statio 69.96 343 P **P** 21 41 40.0 +0.4
P46A Rosedale 70.07 347 P **P** 21 41 40.4 +0.1
P46A **pP** 21 41 52.5 0.0
MEH Mehetia 70.09 260 *e*T T 22 58 08.4
comp=Z,30nm,0.3s
SYO Syowa Base 70.09 159 ||/X P 21 41 45.8 +5.7
N56A West Decatur 70.10 354 P 21 41 41.0
baz=174
319A Douglas 70.22 326 P **P** 21 41 40.0 -1.6
319A IAmb IAmb 21 41 57.0
comp=Z,21nm,0.9s
M60A Port Jervis 70.28 357 P 21 41 41.6
baz=177
N54A Moraine State 70.30 353 P 21 41 42.2
baz=172
M62A Hamden 70.34 359 P 21 41 43.1
baz=179
M58A Price's Panora 70.42 356 P 21 41 43.4
baz=175
M57A Sunshine Farm, 70.42 355 P 21 41 42.9
baz=175
M59A Waymart 70.53 357 P 21 41 43.9
baz=176,SNR=5.6
P43A Skaggs, Pawnee 70.58 345 P **P** 21 41 43.6 +0.3
M56A Emporium 70.65 355 P 21 41 44.6
baz=174
M56A Emporium 70.65 355 P **P** 21 41 44.5 +0.7
M56A pP **pP** 21 41 55.2 -0.8
M56A IAmb IAmb 21 41 58.0
comp=Z,30nm,0.9s
L63A North Scituate 70.75 360 P 21 41 45.4
baz=180
N49A Columbus Grove 70.81 350 P **P** 21 41 44.5 -0.2
M54A Oil Creek Stat 70.81 353 P 21 41 45.3
baz=172
M54A Oil Creek Stat 70.81 353 P **P** 21 41 45.4 +0.6
M54A pP **pP** 21 41 57.4 +0.4
M54A IAmb IAmb 21 41 58.6
comp=Z,19nm,0.8s
O44A Mansfield 70.84 346 P **P** 21 41 45.1 +0.2
O44A **pP** 21 41 57.1 0.0
M53A WI Miller and 70.85 353 P 21 41 45.3
baz=172
M53A WI Miller and 70.85 353 P **P** 21 41 45.7 +0.8
M53A pP **pP** 21 41 58.0 +0.7
M53A IAmb IAmb 21 41 59.3
comp=Z,21nm,0.9s
L60A Shokan 70.92 358 P 21 41 46.6
baz=177
N47A Urbana 71.02 349 P **P** 21 41 45.3 -0.7
N47A pP **pP** 21 41 58.2 -0.1
M52A Chesterland 71.03 352 P **P** 21 41 46.7 +0.7
M52A IAmb IAmb 21 41 59.8
comp=Z,26nm,0.8s
L58A Harry Jones Me 71.05 357 P 21 41 47.6
baz=176
L57A Andrews Acres 71.07 356 P 21 41 47.7
baz=175
P40A Paris 71.07 343 P **P** 21 41 46.8 +0.4
L61A Hillsdale 1, H 71.11 358 P 21 41 48.2
baz=178
M50A Fremont 71.11 351 P **P** 21 41 46.6 +0.1
M50A **pP** 21 41 59.2 +0.5
L59A Walton 71.16 357 P 21 41 47.7
baz=177,SNR=5.6
L59A Walton 71.16 357 P **P** 21 41 48.3 +1.4
BINY Binghamton 71.21 356 P 21 41 48.0
baz=176
L56A Greenwood 71.25 355 P 21 41 48.2
baz=174
L56A Greenwood 71.25 355 P **P** 21 41 48.3 +0.9
L56A **pP** 21 42 00.3 +0.6
L53A Girard 71.31 353 P 21 41 48.4
baz=172
L61B Northampton 71.35 359 P 21 41 49.1
baz=179
HDIL Hopedale 71.40 346 P 21 41 48.8
baz=164
HDIL Hopedale 71.40 346 P **P** 21 41 48.7 +0.4
HDIL **pP** 21 42 01.1 +0.5
ERPA Erie 71.44 353 P 21 41 49.2
baz=172
ERPA Erie 71.45 353 P **P** 21 41 49.4 +0.8
ERPA IAmb IAmb 21 42 02.5
comp=Z,20nm,0.8s
ERPA pP **pP** 21 42 02.0 +1.2
PPT2 Papeete2 71.51 260 *e*S **S** 21 51 09.6 +3.7
comp=Z,165nm,26.0s
PPT2 Papeete2 71.51 260 *e*LR LR 22 03 41.9
comp=Z,1µm,22.8s,baz=112
PPT Papeete 71.52 260 P **P** 21 41 51.5 +1.8
comp=Z,45nm,0.8s,baz=99,slow=2.3,SNR=5.4
PPT LR LR 22 05 11.2
comp=Z,776nm,19.1s,baz=172,slow=29
K60A Five Rivers En 71.54 358 P 21 41 50.3
baz=178
P38A Dawn 71.54 342 P **P** 21 41 49.6 +0.4
P38A IAmb IAmb 21 42 03.2
comp=Z,19nm,0.8s
K62A Royalston 71.56 359 P 21 41 49.5
baz=179
K61A Williamstown 71.58 359 P 21 41 49.8
baz=178
WVNY West Valley, N 71.60 354 P **P** 21 41 50.4 +0.9
TRY Troy 71.65 358 P **P** 21 41 51.7 +2.0
K59A Cooperstown 71.73 357 P 21 41 51.0
baz=177,SNR=7.1
K58A Earlville 71.76 357 P 21 41 51.2
baz=176,SNR=5.9
K58A Earlville 71.76 357 P **P** 21 41 51.8 +1.3
K58A IAmb IAmb 21 41 53.1
comp=Z,23nm,0.8s
K57A Scipio Center 71.77 356 P 21 41 51.4
baz=175
K56A Middlesex 71.79 355 P 21 41 51.6
baz=175
L48A N Adams 71.85 350 P **P** 21 41 50.8 -0.1
MMNY Mt. Morris Dam 71.87 355 P **P** 21 41 51.8 +0.7
MMNY IAmb IAmb 21 42 05.4
comp=Z,24nm,0.8s
N41A Harden Midland 71.90 345 P **P** 21 41 51.2 -0.1
N41A pP **pP** 21 42 03.5 -0.1
ANMO Albuquerque 71.90 330 P 21 41 52.1
baz=148
ANMO Albuquerque 71.90 330 LR LR 22 09 50.3
comp=Z,232nm,19.1s,baz=150,slow=33
M44A Midewin, Midew 71.94 347 P **P** 21 41 52.0 +0.5
M44A IAmb IAmb 21 42 05.0
comp=Z,26nm,0.8s
J62A Henniker 72.11 360 P 21 41 53.6
baz=180
L46A Eue Claire 72.22 348 P **P** 21 41 51.2 -2.0
J61A Chester 72.24 359 P 21 41 54.8
baz=179
J56A Wolcott 72.34 356 P 21 41 54.7
baz=175
J56A Wolcott 72.34 356 P **P** 21 41 52.5 -1.4
J56A pP **pP** 21 42 06.3 +0.1
K50A Casco 72.40 351 P **P** 21 41 54.0 -0.3
K50A pP **pP** 21 42 05.4 -1.1
J59A Piesco 72.41 358 P 21 41 55.0
baz=177
J59A Piesco 72.41 358 P **P** 21 41 55.7 +1.4
J59A pP **pP** 21 42 06.6 0.0
J59A IAmb IAmb 21 42 09.0
comp=Z,21nm,1.0s
214A Organ Pipe Nat 72.46 324 P 21 41 56.1
baz=143
214A Organ Pipe Nat 72.46 324 P **P** 21 41 55.6 +0.7
N38A Joes South For 72.56 343 P **P** 21 41 54.8 -0.5
N38A pP **pP** 21 42 07.8 +0.2
I58A Old Forge 72.65 357 P 21 41 56.4
baz=177,SNR=5.9
CBKS Cedar Bluff 72.68 337 P 21 41 57.3
baz=154
I59A Olmsteadville 72.72 358 P 21 41 57.0
baz=178
I60A Shoreham 72.75 359 P 21 41 57.4
baz=178
LIC Lamto 72.81 72 *e*P **P** 21 41 56.0 -1.4
comp=Z,35nm,0.7s
T25A Trinidad 72.92 333 P 21 41 59.6
baz=150
T25A Trinidad 72.93 333 P **P** 21 41 58.8 +1.0
T25A IAmb IAmb 21 42 12.9
comp=Z,13nm,0.7s
I63A Otisfield 72.94 1 P 21 41 58.6
baz=181
TIC Toumodi 73.05 72 *e*P **P** 21 41 58.2 -0.6
KIC Kosan Boka 73.12 73 *e*P **P** 21 41 58.2 -1.1
comp=Z,26nm,0.6s
LBNH Lisbon 73.13 360 P 21 41 59.8
baz=180
J47A Sunmer 73.17 350 P **P** 21 41 55.7 -3.2
J47A IAmb IAmb 21 42 12.2
comp=Z,20nm,0.7s
DBIC Dimbokro 73.19 72 P **P** 21 41 58.9 -0.7
comp=Z,10nm,0.4s,baz=212,slow=6.8,SNR=33
DBIC LR LR 22 11 24.2
comp=Z,533nm,21.5s,baz=214,slow=34
DBIC Dimbokro 73.19 72 P **P** 21 41 58.2 -1.5
DBIC pP **pP** 21 42 12.3 +0.3
DBIC IAmb IAmb 21 42 13.1
comp=Z,18nm,0.7s
I51A Listowel 73.22 353 P 21 41 58.9
baz=171,SNR=11
L40A Anamosa 73.27 345 P **P** 21 41 59.4 -0.1
N35A Tabor 73.28 341 P **P** 21 41 59.8 +0.3
H58A Gabriels 73.35 358 P 21 42 01.0
baz=178
H61A Lyndonville 73.42 360 P 21 42 01.2
baz=180
H57A Richville 73.44 357 P 21 42 01.2
baz=176
H63A New Sharon 73.56 1 P 21 42 02.7
baz=181
H59A Cadyville 73.56 358 P 21 42 02.0
baz=178
LONY Lake Ozonia 73.56 358 P 21 42 02.1
baz=177
SCIA State Center 73.60 343 P 21 42 02.2
baz=160
FRNY Flat Rock 73.75 358 P **P** 21 42 03.6 +1.4
FRNY IAmb IAmb 21 42 18.7
comp=Z,13nm,0.8s
H53A Bobcaygeon 73.75 355 P 21 42 03.0
baz=174
JFWS Jewell Farm 73.86 346 P 21 42 04.0
baz=163
JFWS Jewell Farm 73.86 346 P **P** 21 42 03.4 +0.5
JFWS pmax pmax
comp=Z,24nm,0.7s
JFWS Jewell Farm 73.86 346 P **P** 21 42 03.4 +0.5
JFWS PcP **pP** 21 42 16.1 +0.8
KSCO Kaye Shedlock' 73.88 335 P 21 42 04.6
baz=152
SDCO Great Sand Dun 73.89 332 P 21 42 04.2
baz=149
SDCO Great Sand Dun 73.89 332 P **P** 21 42 05.1 +1.5
SDCO PcP **pP** 21 42 16.2 +0.4
G59A Clarenceville 73.99 359 P 21 42 04.7
baz=178
SADO Sadowa 74.00 354 LR LR 22 16 12.0
comp=Z,194nm,19.6s,baz=126,slow=37
SADO Sadowa 74.00 354 P **P** 21 42 03.9 +0.3
SADO PcP **pP** 21 42 15.8 -0.1
SADO IAmb IAmb 21 42 17.6
comp=Z,25nm,0.8s
G63A Kingsbury 74.02 1 P 21 42 05.1
baz=182
G57A Newington 74.06 357 P 21 42 04.4
baz=177,SNR=6.2
G58A Ormstown 74.08 358 P 21 42 04.7
baz=178
G62A West of Eustis 74.11 1 P 21 42 05.9
baz=181
G61A St-Isidore-de- 74.17 360 P 21 42 06.2
baz=180
K38A Parkersburg 74.19 344 P **P** 21 42 05.5 +0.7
K38A PcP **pP** 21 42 17.5 +0.3
K38A IAmb IAmb 21 42 18.6
comp=Z,22nm,0.7s
S22A 4UR Ranch, Cre 74.43 332 P 21 42 08.0

baz=148
I42A Draeger Farm, 74.52 347 P **P** **21 42 07.2 +0.5**
I42A PcP **pP** **21 42 19.3 +0.2**
I42A IAmb IAmb 21 42 20.9
comp=Z,19nm,0.8s
G54A Lake Saint Pet 74.53 355 P 21 42 07.5
baz=174
WUAZ Wupatki 74.61 327 P 21 42 09.1
baz=144
WUAZ Wupatki 74.61 327 P **P** **21 42 06.0 -1.6**
WUAZ IAmb IAmb 21 42 23.5
comp=Z,11nm,0.9s
MVCO Mesa Verde 74.69 330 P 21 42 09.4
baz=147
MVCO Mesa Verde 74.69 330 P **P** **21 42 06.7 -1.4**
MVCO IAmb IAmb 21 42 23.2
comp=Z,10nm,0.8s
Q24A Divide 74.80 333 P 21 42 10.5
baz=150
F60A Warwick 74.86 360 P 21 42 09.1
baz=180
H43A Windswept, Lux 74.86 348 P **P** **21 42 07.1 -1.6**
H43A IAmb IAmb 21 42 22.3
comp=Z,22nm,0.8s
G45A Suttons Bay 75.06 350 P **P** **21 42 10.3 +0.5**
G45A PcP **PcP** **21 42 21.6 -1.7**
G45A IAmb IAmb 21 42 23.5
comp=Z,17nm,0.8s
BAR Barrett 75.07 322 P **P** **21 42 08.3 -1.8**
ALGO Algonquin Park 75.08 355 P 21 42 10.8
baz=174
TRQ Mont Tremblant 75.17 358 P **P** **21 42 11.0 +0.5**
TRQ PcP **PcP** **21 42 22.5 -1.3**
E60A Ste Agathe de 75.26 360 P 21 42 11.6
baz=180
E58A La Victoria 75.28 359 P 21 42 11.5
baz=178
E63A Oxbow 75.36 2 P 21 42 12.5
baz=183
E55A Montcerf-Lytto 75.46 357 P 21 42 12.4
baz=176
W13A Hualapai Mount 75.50 325 P **P** **21 42 13.2 +0.4**
PV01 Paradox Valley 75.50 331 P **P** **21 42 11.3 -1.5**
E56A St. Veronique 75.50 357 P 21 42 12.6
baz=177,SNR=5.9
PV13 Radium Mtn., P 75.62 330 P **P** **21 42 15.1 +1.6**
PV13 IAmb IAmb 21 42 17.3
comp=Z,12nm,0.8s
PV02 Paradox Valley 75.63 330 P **P** **21 42 15.6 +2.1**
I37A Lemond, Waseca 75.63 344 P **P** **21 42 13.6 +0.5**
I37A PcP **PcP** **21 42 24.3 -1.5**
PV15 Paradox Valley 75.63 331 P **P** **21 42 12.1 -1.5**
PFO Pinyon Flats O 75.67 322 LR LR 22 09 08.0
comp=Z,170nm,19.3s,baz=152,slow=31
ISCO Idaho Springs 75.70 333 P 21 42 15.0
baz=150
ISCO Idaho Springs 75.70 333 P **P** **21 42 15.5 +1.5**
ISCO pmax pmax
comp=Z,13nm,0.8s
ISCO Idaho Springs 75.70 333 P **P** **21 42 12.4 -1.6**
ISCO pP **pP** **21 42 27.5 +1.1**
SMCO Snowmass 75.71 332 P **P** **21 42 12.8 -1.4**
SMCO IAmb IAmb 21 42 29.9
comp=Z,14nm,0.8s
PV03 Paradox Valley 75.72 330 P **P** **21 42 13.4 -0.6**
PV18 Skein Mesa, Pa 75.74 330 P **P** **21 42 14.4 +0.2**
PV18 IAmb IAmb 21 42 17.7
comp=Z,13nm,0.8s
PV12 Saucer Basin, 75.75 330 P **P** **21 42 11.7 -2.5**
PV12 IAmb IAmb 21 42 18.0
comp=Z,13nm,0.8s
PV11 David Mesa, Pa 75.76 330 P **P** **21 42 11.9 -2.4**
PV11 IAmb IAmb 21 42 18.9
comp=Z,10.0nm,0.7s
PV07 Paradox Valley 75.78 331 P **P** **21 42 14.5 +0.1**
PV17 East Wray Mesa 75.79 330 P **P** **21 42 14.4 0.0**
PV17 IAmb IAmb 21 42 17.9
comp=Z,12nm,0.8s
PV16 Nyswonger Mesa 75.79 330 P **P** **21 42 16.4 +1.9**
D60A Saint Jean D'O 75.80 0 P 21 42 15.0
baz=180
K31A O'Neill 75.81 340 P **P** **21 42 14.1 -0.2**
PV19 Morning Glory 75.82 330 P **P** **21 42 14.4 -0.2**
PV20 West Nyswonger 75.84 330 P **P** **21 42 13.2 -1.5**
PV04 Paradox Valley 75.86 330 P **P** **21 42 12.6 -2.2**
PV14 Lion Creek, Pa 75.89 330 P **P** **21 42 13.7 -1.3**
PV14 IAmb IAmb 21 42 18.6
comp=Z,10.0nm,0.8s
PV10 Paradox Valley 75.90 330 P **P** **21 42 15.6 +0.5**
PV10 IAmb IAmb 21 42 18.3
comp=Z,22nm,0.8s
PV22 Blue Mesa, Par 75.92 331 P **P** **21 42 15.4 +0.2**
D63A Stockholm 75.98 2 P 21 42 15.4
baz=183
D55A Sainte-Anne-du 76.00 357 P 21 42 15.1
baz=176,SNR=8.9
D58A Chemin du LacG 76.00 359 P 21 42 15.8
baz=179
MURC Murrieta 76.05 322 P 21 42 17.2
baz=140
D61A St Aubert, Com 76.10 1 P 21 42 17.3
baz=181
G40A Rib Lake 76.10 346 P **P** **21 42 14.6 -1.2**
G40A IAmb IAmb 21 42 30.6
comp=Z,11nm,0.8s
GMRC Granite Mounta 76.15 324 P 21 42 18.3
baz=141,SNR=7.1
E46A Sault Ste Mari 76.16 351 P **P** **21 42 16.2 +0.2**
E46A PcP **PcP** **21 42 27.5 -0.4**
ECSD EROS Data Cent 76.21 341 P 21 42 17.4
baz=158
ECSD EROS Data Cent 76.21 341 P **P** **21 42 16.6 +0.2**
ECSD IAmb IAmb 21 42 30.9
comp=Z,23nm,0.8s
KNB Kanab 76.51 327 P **P** **21 42 21.0 +2.5**
KNB pmax pmax
comp=Z,15nm,0.9s
KNB Kanab 76.51 327 P **P** **21 42 21.0 +2.5**
KNB IAmb IAmb 21 42 35.2
comp=Z,15nm,0.9s
PKCU Pink Cliffs 76.61 328 P **P** **21 42 21.9 +2.6**
PKCU IAmb IAmb 21 42 22.9
comp=Z,13nm,1.0s
COWI Conover 76.69 347 P **P** **21 42 19.7 +0.6**
COWI IAmb IAmb 21 42 35.1
comp=Z,9.9nm,0.8s
LCMT Little Creek M 76.70 327 P **P** **21 42 21.7 +2.1**
N23A Red Feather La 76.77 334 P 21 42 21.7
baz=150
BFSC Mount Baldy Ra 76.78 322 P 21 42 21.7
baz=140
MTPU Mount Pierson 77.03 328 P **P** **21 42 23.3 +1.6**
MTPU IAmb IAmb 21 42 25.4
comp=Z,14nm,0.8s
O20A White River Ci 77.04 332 P 21 42 23.0
baz=148
O20A White River Ci 77.04 332 P **P** **21 42 23.1 +1.7**
O20A IAmb IAmb 21 42 37.0
comp=Z,22nm,0.8s
SZCU Shurtz Canyon 77.10 327 P **P** **21 42 20.0 -1.8**
GSC Goldstone, Bar 77.14 323 P 21 42 23.9
baz=140,SNR=6.2
GSC Goldstone, Bar 77.15 323 P **P** **21 42 20.4 -1.6**
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC Goldstone, Bar 77.15 323 P **P** **21 42 20.4 -1.6**
SRU San Rafael Swe 77.16 330 P **P** **21 42 22.8 +0.7**
SRU pmax pmax
comp=Z,14nm,0.8s
SRU San Rafael Swe 77.16 330 P **P** **21 42 22.8 +0.7**
SRU IAmb IAmb 21 42 36.8
comp=Z,14nm,0.8s
CCUT Cedar City 77.19 327 P **P** **21 42 21.3 -1.2**
CCUT IAmb IAmb 21 42 38.7
comp=Z,11nm,0.9s
VLDQ Val d'Or 77.19 356 P **P** **21 42 21.4 -0.4**
VLDQ IAmb IAmb 21 42 36.3
comp=Z,16nm,1.0s
SHPR Sheep Range 77.24 325 P **P** **21 42 24.5 +1.9**
Q16A Castle Valley 77.29 329 P **P** **21 42 21.7 -1.1**
Q16A IAmb IAmb 21 42 26.8
comp=Z,10nm,0.8s
F36A Milaca 77.40 344 P **P** **21 42 23.2 +0.1**
F36A IAmb IAmb 21 42 36.9
comp=Z,15nm,0.8s

MSU Marysvale 77.41 328 P **P** **21 42 25.4 +1.8**
MSU Marysvale 77.41 328 P **P** **21 42 25.4 +1.8**
MVU Marysvale 77.42 328 P **P** **21 42 25.6 +1.9**
EDW2 Edwards Air Fo 77.45 322 P 21 42 25.6
baz=140
D41A Chassel 77.51 348 P **P** **21 42 24.4 +0.8**
P17A Butcher Ranch, 77.55 330 P **P** **21 42 26.2 +1.9**
P17A IAmb IAmb 21 42 40.1
comp=Z,13nm,1.0s
MAW Mawson 77.58 164 P **P** **21 42 24.1 +0.2**
comp=Z,34nm,1.0s,baz=248,slow=11,SNR=2.3
MAW LR LR 22 17 13.7
comp=Z,369nm,21.2s,baz=226,slow=36
TMUT Trail Mountain 77.61 329 P **P** **21 42 26.8 +2.0**
E38A The Farm, Brul 77.66 346 P **P** **21 42 24.8 +0.3**
E38A IAmb IAmb 21 42 38.5
comp=Z,10nm,0.9s
SCZ2 Santa Cruz Isl 77.68 321 P 21 42 27.2
baz=138
LRMC Laurel Mtn Rad 77.74 323 P 21 42 27.1
baz=140
PRN Pahroc Range 77.89 326 P **P** **21 42 27.0 +0.8**
PRN IAmb IAmb 21 42 30.7
comp=Z,14nm,0.9s
RWWY Rawlins 77.94 333 P **P** **21 42 28.1 +1.5**
RDMU Red Mountain 77.96 331 P **P** **21 42 27.9 +1.3**
RDMU IAmb IAmb 21 42 30.1
comp=Z,16nm,0.7s
MPMC Manual Prospec 78.08 323 P 21 42 28.8
baz=140
LSQQ Lebel-sur-Quev 78.11 356 P 21 42 27.3
baz=175
TPNV Topopah Spring 78.13 325 P 21 42 29.6
baz=141,SNR=12
TPNV Topopah Spring 78.13 325 P **P** **21 42 29.6 +2.0**
TPNV pmax pmax
comp=Z,7.0nm,0.8s
TPNV Topopah Spring 78.13 325 P **P** **21 42 29.6 +2.0**
PSUT Pine Spring 78.21 327 P **P** **21 42 29.9 +1.8**
KOWA Kowa 78.21 66 P **P** **21 42 26.9 -1.4**
KOWA IAmb IAmb 21 42 29.7
comp=Z,24nm,0.8s
ISA Isabella, Lake 78.30 323 P 21 42 29.8
baz=139,SNR=12
ISA Isabella, Lake 78.30 323 P **P** **21 42 30.1 +1.6**
ISA pmax pmax
comp=Z,10.0nm,0.8s
ISA Isabella, Lake 78.30 323 P **P** **21 42 30.1 +1.6**
ISA IAmb IAmb 21 42 31.8
comp=Z,9.6nm,0.8s
MPU Maple Canyon 78.39 330 P **P** **21 42 30.9 +1.9**
MPU IAmb IAmb 21 42 32.6
comp=Z,13nm,0.8s
PKM Mcpherson Peak 78.44 321 P 21 42 30.6
baz=138,SNR=12
K22A Casper 78.50 334 P 21 42 31.2
baz=149
K22A Casper 78.50 334 P **P** **21 42 30.9 +1.5**
NLU North Lily Min 78.53 329 P **P** **21 42 31.8 +2.0**
CWC Cottonwood Cre 78.68 323 P 21 42 32.1
baz=140
GRAC Grapevine Rang 78.74 324 P 21 42 32.7
baz=140
VES Vestal, Richgr 78.76 322 P 21 42 32.8
baz=139
JLU Jordanelle 78.79 330 P **P** **21 42 33.0 +1.7**
JLU IAmb IAmb 21 42 34.7
comp=Z,22nm,0.8s
SPR3 Spring Creek 3 78.80 327 P **P** **21 42 33.1 +1.7**
MATQ Matagami 78.84 356 P 21 42 30.9
baz=174,SNR=5.3
SMMC Simmler 78.86 321 P 21 42 33.0
baz=138,SNR=7.8
RSSD Black Hills 78.87 337 P 21 42 33.0
baz=151
RSSD Black Hills 78.87 337 P **P** **21 42 33.0 +1.4**
RSSD pmax pmax
comp=Z,12nm,0.8s
RSSD Black Hills 78.87 337 P **P** **21 42 33.0 +1.4**
RSSD IAmb IAmb 21 42 46.6
comp=Z,12nm,0.8s
R11A Troy Canyon, C 78.89 326 P 21 42 33.0
baz=142,SNR=9.9
R11A Troy Canyon, C 78.89 326 P **P** **21 42 33.5 +1.7**
EYMN Ely 78.93 346 P 21 42 31.8
baz=162
CTU Camp Tracy 78.99 330 P **P** **21 42 34.1 +1.9**
CTU IAmb IAmb 21 42 35.4
comp=Z,11nm,0.8s
DUG Dugway, Tooele 79.06 329 P 21 42 33.9
baz=144,SNR=11
DUG Dugway, Tooele 79.06 329 P **P** **21 42 34.2 +1.6**
DUG pmax pmax
comp=Z,10.0nm,0.8s
DUG Dugway, Tooele 79.06 329 P **P** **21 42 34.2 +1.6**
DUG IAmb IAmb 21 42 36.3
comp=Z,9.6nm,0.8s
TCUT Toone Canyon 79.19 330 P **P** **21 42 35.1 +1.7**
TCUT IAmb IAmb 21 42 37.8
comp=Z,22nm,0.7s
TIN Tinemaha, Big 79.23 324 P 21 42 35.3
baz=140,SNR=6.8
PAGB Antelope Grade 79.31 321 P **P** **21 42 36.2 +2.3**
PAGB IAmb IAmb 21 42 36.9
comp=Z,12nm,0.9s
TPH Tonopah 79.49 325 P **P** **21 42 36.7 +1.6**
TPH pmax pmax
comp=Z,24nm,0.7s
TPH Tonopah 79.49 325 P **P** **21 42 36.7 +1.6**
BGU Big Grassy Mou 79.75 329 P **P** **21 42 36.1 -0.3**
BW06 Boulder Array 79.78 332 P 21 42 38.1
baz=147,SNR=6.3
BW06 Boulder Array 79.78 332 P **P** **21 42 37.2 +0.6**
PD31 Pinedale Array 79.78 332 P **P** **21 42 37.2 +0.6**
PDAR Pinedale Array 79.78 332 P **P** **21 42 36.9 +0.3**
comp=Z,4.1nm,0.6s,baz=126,slow=8.3,SNR=36
PDAR pP **pP** **21 42 51.6 +2.5**
comp=Z,4.9nm,0.7s,baz=123,slow=5.7,SNR=10
PDAR PKKPbc **PKKPbc** **22 01 23.5 -1.5**
comp=Z,0.5nm,0.7s,baz=81,slow=0.9,SNR=4.8
PDAR LR LR 22 17 22.5
comp=Z,133nm,18.0s,baz=125,slow=35
PDAR Pinedale Array 79.78 332 P **P** **21 42 36.8 +0.2**
B35A Bob, Littlefor 79.80 345 P **P** **21 42 35.9 -0.3**
SPUT South Promonto 79.80 330 P **P** **21 42 37.8 +1.1**
SPUT IAmb IAmb 21 42 39.5
comp=Z,17nm,0.7s
E28A Huff 79.98 340 P **P** **21 42 39.0 +1.7**
E28A IAmb IAmb 21 42 52.1
comp=Z,21nm,0.8s
TSUM Tsumeb 80.03 106 P **P** **21 42 35.5 -3.0**
NV11 Mina Array Sit 80.24 325 P **P** **21 42 40.5 +1.5**
AGMN Agassiz Nation 80.24 344 P 21 42 39.0
baz=158,SNR=7.1
AGMN Agassiz Nation 80.24 344 P **P** **21 42 38.8 +0.2**
AGMN IAmb IAmb 21 42 41.0
comp=Z,12nm,0.8s
LHV Little Huntoon 80.28 324 P **P** **21 42 41.1 +2.1**
NVAR Mina Array Bea 80.31 324 P **P** **21 42 40.1 +0.6**
comp=Z,3.4nm,0.8s,baz=159,slow=6.5,SNR=24
NVAR LR LR 22 12 10.0
comp=Z,102nm,21.1s,baz=174,slow=31
NVAR Mina Array Bea 80.31 324 P **P** **21 42 40.8 +1.3**
HVU Hansel Valley 80.33 330 P **P** **21 42 40.3 +0.8**
HVU pmax pmax
comp=Z,19nm,0.7s
HVU Hansel Valley 80.33 330 P **P** **21 42 40.3 +0.8**
HVU IAmb IAmb 21 42 42.4
comp=Z,19nm,0.7s
AHID Auburn Hatcher 80.42 332 P **P** **21 42 40.8 +0.8**
AHID IAmb IAmb 21 42 43.7
comp=Z,12nm,1.0s
RYN Ryan 80.57 324 P **P** **21 42 42.9 +2.0**
ELK Elko 80.61 328 LR LR 22 14 19.2
comp=Z,111nm,21.1s,baz=143,slow=32
ELK Elko 80.61 328 P **P** **21 42 42.3 +1.2**
ELK pmax pmax
comp=Z,10.0nm,0.8s
ELK Elko 80.61 328 P **P** **21 42 42.2 +1.2**
ELK IAmb IAmb 21 42 44.0
comp=Z,9.6nm,0.8s
KVN Kaiserville 80.68 325 P **P** **21 42 42.9 +1.4**
KVN pmax pmax
comp=Z,4.0nm,0.8s
KVN Kaiserville 80.68 325 P **P** **21 42 42.9 +1.4**

ECR Eagle Creek 80.77 332 P **P** **21 42 43.7 +1.8**
REDW Red Top Meadow 80.81 332 P **P** **21 42 40.0 -2.0**
MDND Maddock 80.81 341 P 21 42 42.4
baz=155
MDND Maddock 80.81 341 P **P** **21 42 41.0 -0.7**
SNOW Snow King Moun 80.85 332 P **P** **21 42 40.1 -2.2**
SNOW IAmb IAmb 21 42 58.2
comp=Z,11nm,0.8s
LOHW Long Hollow 80.91 332 P **P** **21 42 42.5 -0.1**
WAKR Walker 80.95 324 P **P** **21 42 42.1 -0.9**
YERR Yerington 81.21 324 P **P** **21 42 42.2 -2.1**
FLWY Flagg Ranch 81.34 333 P **P** **21 42 44.0 -0.9**
FLWY IAmb IAmb 21 43 00.7
comp=Z,13nm,0.8s
PNTR Pine Nut 81.47 324 P **P** **21 42 46.5 +0.8**
PNTR IAmb IAmb 21 42 49.8
comp=Z,18nm,0.8s
H17A Grant Village 81.55 333 P 21 42 47.2
baz=146
H17A Grant Village 81.55 333 P **P** **21 42 46.6 +0.6**
LKWY Lake 81.62 333 P **P** **21 42 44.2 -2.2**
LKWY pmax pmax
comp=Z,5.0nm,0.8s
LKWY Lake 81.62 333 P **P** **21 42 44.2 -2.2**
RLMT Red Lodge 81.64 334 P 21 42 47.1
baz=147,SNR=15
RLMT Red Lodge 81.64 334 P **P** **21 42 47.1 +0.7**
RLMT IAmb IAmb 21 42 49.5
comp=Z,9.4nm,0.7s
RUBR Rubicon Trail 81.73 324 P **P** **21 42 49.8 +2.7**
RUBR IAmb IAmb 21 42 53.3
comp=Z,15nm,0.7s
BOSA Boshof 81.83 118 P **P** **21 42 46.9 -1.0**
comp=Z,11nm,0.5s,baz=262,slow=4.0,SNR=20
BOSA LR LR 22 13 42.6
comp=Z,335nm,21.7s,baz=224,slow=32
BOSA Boshof 81.83 118 P **P** **21 42 44.3 -3.6**
BOSA IAmb IAmb 21 43 01.3
comp=Z,21nm,0.9s
PAHR Pah Rah Range 81.83 325 P **P** **21 42 49.2 +1.7**
PAHR IAmb IAmb 21 42 51.4
comp=Z,12nm,0.9s
YNE Yellowstone No 81.83 333 P **P** **21 42 48.5 +1.0**
LAO LASA Array 81.87 337 P 21 42 48.3
baz=150
LAO LASA Array 81.87 337 P **P** **21 42 49.0 +1.6**
LAO IAmb IAmb 21 42 49.6
comp=Z,18nm,0.8s
YMR Madison River 81.93 333 P **P** **21 42 50.1 +2.1**
YMR IAmb IAmb 21 42 51.8
comp=Z,14nm,0.8s
YHH Holmes Hill 81.98 333 P **P** **21 42 49.9 +1.5**
YHH IAmb IAmb 21 43 03.9
comp=Z,9.2nm,0.8s
ULM Lac du Bonnet 82.06 344 P **P** **21 42 48.0 -0.2**
comp=Z,16nm,0.8s,baz=155,slow=5.3,SNR=32
ULM Lac du Bonnet 82.06 344*c iP* **P** **21 42 48.3 +0.1**
ULM Lac du Bonnet 82.06 344 P **P** **21 42 48.1 -0.1**
ULM IAmb IAmb 21 42 50.4
comp=Z,17nm,0.8s
AFDM Forest Hills D 82.08 323 P **P** **21 42 50.3 +1.6**
YHB Horse Butte 82.09 333 P **P** **21 42 47.8 -1.1**
TOA0 Torodi Ar. Sit 82.11 70 P **P** **21 42 48.5 -0.8**
TOA0 IAmb IAmb 21 42 50.5
comp=Z,21nm,0.8s
TORD Torodi Ar. Bea 82.11 70 P **P** **21 42 48.5 -0.8**
comp=Z,19nm,0.7s,baz=275,slow=5.6,SNR=95
TORD LR LR 22 17 27.8
comp=Z,488nm,20.4s,baz=235,slow=34
TORD Torodi Ar. Bea 82.11 70 P **P** **21 42 48.5 -0.8**
TORD IAmb IAmb 21 42 50.5
comp=Z,18nm,0.8s
YHL Hebgen Lake 82.17 333 P **P** **21 42 48.3 -1.0**
HLID Hailey 82.48 330 P 21 42 52.2
baz=143,SNR=22
HLID Hailey 82.48 330 P **P** **21 42 50.0 -0.8**
HLID IAmb IAmb 21 42 54.5
comp=Z,11nm,0.9s
BCYI Bear Canyon 82.64 331 P **P** **21 42 49.7 -2.0**
DGMT Dagmar 82.75 339 P 21 42 52.3
baz=152,SNR=8.0
DGMT Dagmar 82.75 339 P **P** **21 42 50.9 -1.0**
DGMT pP **pP** **21 43 05.5 +1.0**
ORV Oroville 82.80 323 P **P** **21 42 53.0 +0.6**
ORV pmax pmax
comp=Z,18nm,1.2s
ORV Oroville 82.80 323 P **P** **21 42 50.9 -1.5**
ORV pP **pP** **21 43 07.0 +2.3**
ORV IAmb IAmb 21 43 12.4
comp=Z,18nm,1.2s
MCMT McKenzie Canyo 82.83 332 P **P** **21 42 54.2 +1.4**
GDXM Geysers 82.94 322 P **P** **21 42 52.5 -0.7**
BOZ Bozeman (W) 82.96 333 P 21 42 53.5
baz=145
MFID Camas Ranch 82.99 329 P **P** **21 42 51.7 -1.7**
O03E Paynes Creek 83.50 324 P 21 42 56.4
baz=137,SNR=13
LBTB Lobatse 83.83 115 P **P** **21 42 55.7 -2.6**
LBTB pmax pmax
comp=Z,32nm,0.8s
LBTB Lobatse 83.83 115 P **P** **21 42 55.7 -2.6**
O02D Mt. Diablo Mer 83.93 323 P 21 42 58.7
baz=137
MOD Modoc Plateau 83.94 326 P **P** **21 42 57.1 -1.2**
MOD IAmb IAmb 21 43 01.3
comp=Z,10.0nm,0.8s
WDC Whiskeytown Da 84.09 323 P **P** **21 42 59.0 0.0**
WDC pmax pmax
comp=Z,5.0nm,0.8s
WDC Whiskeytown Da 84.09 323 P **P** **21 42 59.0 0.0**
J08A Circle Bar Ran 84.16 328 P **P** **21 43 00.8 +1.4**
J08A IAmb IAmb 21 43 02.5
comp=Z,17nm,0.7s
EGMT Eagleton 84.26 335 P 21 43 00.1
baz=147
EGMT Eagleton 84.26 335 P **P** **21 43 00.0 +0.2**
N02D Trinity Center 84.47 324 P 21 43 01.8
baz=137
M04C Macdoel 84.61 325 P 21 43 02.3
baz=138,SNR=7.0
BMO Blue Mountains 84.77 329 P **P** **21 43 03.0 +0.5**
BMO pmax pmax
comp=Z,4.0nm,0.9s
BMO Blue Mountains 84.77 329 P **P** **21 43 03.0 +0.5**
K05A Summer Lake 84.84 326 P **P** **21 43 04.2 +1.2**
M02C Callahan 84.85 324 P 21 43 03.8
baz=137
KHMM Horse Mountain 84.93 323 P **P** **21 43 03.8 +0.4**
KHMM IAmb IAmb 21 43 30.6
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 85.02 324 LR LR 22 15 02.2
comp=Z,94nm,21.8s,baz=142,slow=31
YBH Yreka Blue Hor 85.02 324 P **P** **21 43 03.8 0.0**
YBH pmax pmax
comp=Z,4.0nm,0.8s
YBH Yreka Blue Hor 85.02 324 P **P** **21 43 03.8 0.0**
L04D Klamath Falls 85.17 325 P 21 43 05.4
baz=137
K04D Chiloquin, OR 85.19 325 P 21 43 05.3
baz=138
I07A Izee 85.19 327 P **P** **21 43 05.9 +1.3**
I07A IAmb IAmb 21 43 08.1
comp=Z,7.0nm,0.8s
J05D Fort Rock, OR 85.42 326 P 21 43 06.1
baz=138,SNR=8.6
KRMB Red Mountain 85.49 323 P **P** **21 43 08.1 +1.9**
KRMB IAmb IAmb 21 43 25.0
comp=Z,13nm,1.1s
F10A Beach Ranch, E 85.61 330 P **P** **21 43 05.9 -0.8**
F10A IAmb IAmb 21 43 26.2
comp=Z,10nm,0.8s
PINE Pine Mountain 85.66 326 P **P** **21 43 08.4 +1.4**
JTMT Jette 85.78 333 P **P** **21 43 08.2 +0.8**
JTMT IAmb IAmb 21 43 10.3
comp=Z,10nm,0.7s
HUMO Hull Mountain 85.78 325 P **P** **21 43 08.1 +0.7**
L02E Cave Junction 85.79 324 P 21 43 08.6
baz=136,SNR=7.5
J04D Umpqua Nationa 85.82 325 P 21 43 08.3
baz=137,SNR=7.4
G08A Pilot Rock 85.86 329 P **P** **21 43 08.7 +0.8**
K02D Willamette Mer 86.21 324 P 21 43 10.6
baz=136,SNR=7.6
I05D Terrebonne, OR 86.26 327 P 21 43 10.6
baz=138,SNR=10

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
I04A	Tendick Farm,	86.38	326	P		21 43 10.7	
	baz=137,SNR=7.5						
E09A	Wood Farm, Sta	86.43	330	P	P	21 43 09.2	-1.3
J01E	Myrtle Point	86.68	324	P		21 43 12.9	
	baz=136						
WALA	Waterton Lakes	86.69	334	P	P	21 43 10.4	-1.5
WALA				IAmb	IAmb	21 43 27.6	
	comp=Z,12nm,0.9s						
I03D	Drain, OR	86.77	325	P		21 43 13.7	
	baz=136						
E08A	Dider Farm, El	86.82	329	P	P	21 43 10.8	-1.6
E08A				IAmb	IAmb	21 43 16.1	
	comp=Z,6.0nm,0.8s						
G05D	Wamic, OR	86.92	327	P		21 43 14.1	
	baz=138						
H04A	Detroit Lake	86.92	326	P	P	21 43 12.3	-0.7
HAWA	Hanford	86.96	329	P	P	21 43 11.4	-1.7
HAWA				IAmb	IAmb	21 43 15.8	
	comp=Z,13nm,0.8s						
H04D	Lebanon	87.07	326	P		21 43 14.7	
	baz=137						
D08A	Wollman Farm,	87.19	330	P	P	21 43 15.3	+1.1
D08A				IAmb	IAmb	21 43 16.9	
	comp=Z,11nm,0.7s						
I02D	Swisshome	87.31	325	P		21 43 15.8	
	baz=136						
NEW	Newport	87.35	331	P	P	21 43 15.9	+0.8
NEW				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NEW	Newport	87.35	331	P	P	21 43 15.8	+0.8
COR	Corvallis	87.39	326	P	P	21 43 14.4	-0.9
COR				pmax	pmax		
	comp=Z,27nm,0.8s						
COR	Corvallis	87.39	326	P	P	21 43 14.3	-0.9
C09A	Chrisman Ranch	87.48	331	P	P	21 43 16.5	+0.9
C09A				IAmb	IAmb	21 43 18.2	
	comp=Z,11nm,0.7s						
FFC	Flin Flon	87.67	343	P	P	21 43 16.4	+0.1
FFC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FFC	Flin Flon	87.67	343	P	P	21 43 16.4	+0.1
FFC				IAmb	IAmb	21 43 17.7	
	comp=Z,5.6nm,0.8s						
LTY	Liberty	88.12	329	P	P	21 43 19.1	+0.4
LTY				IAmb	IAmb	21 43 20.9	
	comp=Z,5.4nm,0.7s						
LON	Longmire	88.27	328	P	P	21 43 19.6	+0.1
LON				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LON	Longmire	88.27	328	P	P	21 43 19.6	+0.1
LON				IAmb	IAmb	21 43 22.0	
	comp=Z,8.6nm,0.9s						
E03A	Lebam	88.94	327	P	P	21 43 24.0	+1.5
E03A				pP	pP	21 43 35.1	0.0
D04E	Lakebay	89.03	328	P		21 43 23.7	
	baz=137						
B06A	Marblemount	89.43	329	P	P	21 43 25.5	+0.7
B06A				pP	pP	21 43 37.0	-0.4
B05A	Bryant	89.51	329	P		21 43 25.2	
	baz=138						
FCC	Fort Churchill	89.69	348	P	P	21 43 26.3	+0.6
FCC				pmax	pmax		
	comp=Z,23nm,0.8s						
FCC	Fort Churchill	89.69	348	P	P	21 43 26.3	+0.6
NLWA	Neilton Lookou	89.70	327	P	P	21 43 27.1	+1.0
NLWA				IAmb	IAmb	21 43 29.3	
	comp=Z,5.8nm,0.9s						
A04D	Lummi Island	90.12	329	P		21 43 28.0	
	baz=137						
PGC	Sidney	90.41	328	P	P	21 43 30.9	+1.6
PGC				IAmb	IAmb	21 43 32.3	
	comp=Z,9.6nm,0.8s						
ESDC	Sonseca Array	92.90	46	P	P	21 43 41.0	-0.2
	comp=Z,0.5nm,0.8s,baz=251,slow=3.9,SNR=4.9						
ESDC				LR	LR	22 25 00.5	
	comp=Z,604nm,18.7s,baz=245,slow=35						
YKA	Yellowknife Ar	97.74	341	P	P	21 44 02.4	-0.3
	comp=Z,2.6nm,0.7s,baz=136,slow=4.7,SNR=32						
YKA				pP	pP	21 44 16.1	+0.8
	comp=Z,1.5nm,0.7s,baz=137,slow=4.4,SNR=6.5						
YKA				PKKPbc	PKKPbc	22 00 39.8	-0.4
	comp=Z,0.1nm,0.3s,baz=340,slow=3.2,SNR=3.8						
KEST	Kesra	99.70	55	LR	LR	22 31 56.2	
	comp=Z,816nm,18.8s,baz=184,slow=37						
DZM	Mont Dzumac	104.45	234	*e*PS	PS	21 58 08.2	+2.2
	comp=Z,99nm,24.9s						
DZM	Mont Dzumac	104.45	234	*e*LR	LR	22 19 00.8	
	comp=Z,739nm,28.1s						
ILAR	Eielson Array	110.19	334	PKiKP	PKiKP	21 48 59.6	+0.4
	comp=Z,0.5nm,0.8s,baz=42,slow=0.6,SNR=4.5						
SPCR	Spurr Chakacha	110.94	329	P		21 49 01.2	
	baz=112						
TRF	Thorofare Moun	111.00	332	P		21 49 00.9	
	baz=113						
BPAW	Bear Paw Mtn.	111.54	332	P		21 49 01.8	
	baz=112						
COLD	Coldfoot	112.42	336	P		21 49 03.1	
	baz=112						
TOLK	Toolik Lake Re	112.74	337	P		21 49 04.2	
	baz=112						
TTA	Tatalina	113.23	330	P		21 49 05.4	
	baz=109						
RDOG	Red Dog Mine	117.32	335	P		21 49 13.2	
	baz=100						
MNK	Minsk	118.51	41	*i* PKP	PKiKP	21 49 16.0	+0.6
	comp=E,1.0nm,1.1s						
MNK				*i* PKP	PKiKP	21 49 16.0	+0.6
	comp=N,6.0nm,0.8s						
MNK				*i* PKP	PKPdf	21 49 16.8	+1.4
	comp=Z,5.0nm,0.7s						
MNK				*i* PP	PP	21 50 29.3	-3.9
MNK				*i* PPP	PPP	21 53 03.0	
MNK				*i* SKS	SKSdf	21 56 25.4	+1.5
MNK				*i* PS	PS	22 00 25.2	+5.2
MNK				*i* SS	SS	22 06 48.1	+0.5
MNK				*i* SSS	SSS	22 11 09.6	
MNK				*i* LR	LR	22 35 31.5	
MNK				*i* LRM	MLR	22 38 45.4	
	comp=Z,175nm,17.4s						
MNK				*i* LRM	MLR	22 38 56.3	
	comp=N,199nm,18.8s						
MNK				*i* LRM	MLR	22 39 07.1	
	comp=E,16nm,16.7s						
AKASG	Malin Array Be	118.54	45	PKP	PKPdf	21 49 15.1	-0.5
	comp=E,1.3nm,0.6s,baz=266,slow=2.7,SNR=9.6						
AKASG	Malin Array Be	118.54	45	PKPdf	PKPdf	21 49 14.7	-0.8
FINES	FINESS Array B	118.76	33	PKP	PKiKP	21 49 15.8	+0.1
	comp=E,1.8nm,0.8s,baz=340,slow=2.8,SNR=5.0						
FINES				PKKPbc	PKKPbc	21 59 33.2	+0.5
	comp=E,2.4nm,1.0s,baz=113,slow=4.4,SNR=3.7						
BR131	Keskin Array S	118.98	58	*i* PKIKP	PKPdf	21 49 16.9	-0.1
BRTR	Keskin Array B	118.98	58	PKP	PKiKP	21 49 17.4	+0.3
	comp=E,1.7nm,0.8s,baz=192,slow=4.0,SNR=10						
BRTR				PKKPbc	PKKPab	21 59 34.0	+1.6
	comp=E,0.5nm,0.8s,baz=36,slow=4.6,SNR=3.9						
ARCES	ARCESS Array B	119.48	24	PKP	PKPdf	21 49 15.8	-1.0
	comp=E,3.9nm,1.0s,baz=282,slow=3.7,SNR=7.1						
AS31	Alice Springs	122.02	208	PKPdf	PKPdf	21 49 22.4	-0.8
ASAR	Alice Springs	122.02	208	PKP	PKPdf	21 49 22.4	-0.9
	comp=E,6.4nm,0.8s,baz=145,slow=2.1,SNR=45						
ASAR				PKKPbc	PKKPbc	21 59 21.4	+1.2
	comp=E,1.3nm,0.8s,baz=328,slow=3.2,SNR=9.7						
ASAR	Alice Springs	122.02	208	PKPdf	PKPdf	21 49 22.1	-1.2
ANN	Anapa	122.85	53	*i* PKIKP	PKiKP	21 49 25.8	+1.6
ANN				pmax	pmax		
	comp=Z,51nm,1.1s						
OBN	Obninsk	123.57	41	*e*PKIKP	PKPdf	21 49 25.2	+0.2
OBN				*e*PPP	PPP	21 53 46.9	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SOC	Sochi	124.26	55	*e*PKIKP	PKiKP	21 49 27.9	+0.8
SOC				*e*		21 51 13.7	
SOC				*e*PPP	PPP	21 53 53.1	
SOC				*e*PS	PS	22 01 11.0	-0.7
SOC				*e*SS	SS	22 08 00.7	-1.0
SOC				*e*SSS	SSS	22 12 35.9	
SOC				MLR	MLR		
	comp=Z,113nm,17.0s						
WR0	Warramunga Arr	125.04	210	PKPdf	PKPdf	21 49 28.6	-0.5
WB2	Warramunga Arr	125.14	210	PKPdf	PKPdf	21 49 28.7	-0.6
WRA	Warramunga Arr	125.14	210	PKP	PKPdf	21 49 28.5	-0.8
	comp=Z,17nm,0.7s,baz=153,slow=2.1,SNR=82						
WRAB	Tennant Creek	125.15	210	*d i* PKIKP	PKPdf	21 49 28.2	-1.1
KLMR	Klimovskoe	125.22	34	*e*PKIKP	PKPdf	21 49 27.9	-0.1
KLMR				pmax	pmax		
	comp=Z,12nm,0.9s						
KLMR	Klimovskoe	125.22	34	*e*PKPdf	PKPdf	21 49 28.0	-0.1
KLMR				AMP		21 49 29.4	
	comp=Z,12nm,0.9s						
H11N3	WAKE ISLAND Hy	126.53	274	T	T	00 08 48.3	
	baz=113,slow=75,SNR=98						
H11N1	WAKE ISLAND Hy	126.54	274	T	T	00 08 49.4	
	baz=113,slow=75,SNR=30						
H11N2	WAKE ISLAND Hy	126.55	274	T	T	00 08 53.0	
	baz=113,slow=75,SNR=132						
KBZ	Khabaz	126.56	55	PKP	PKiKP	21 49 31.8	+0.1
	comp=Z,4.1nm,0.9s,baz=146,slow=1.8,SNR=6.5						
KBZ	Khabaz	126.56	55	*i* PKIKP	PKiKP	21 49 32.3	+0.7
PRGR	Permogore	128.09	33	*e*PKIKP	PKiKP	21 49 33.9	-0.2
PRGR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ARU	Arti	135.74	38	*i* PKIKP	PKiKP	21 49 49.4	-0.3
ARU	Arti	135.74	38	PKPdf	PKiKP	21 49 49.5	-0.3
TIXI	Tiksi	136.11	351	*i* PKIKP	PKPdf	21 49 48.5	+0.1
SEY	Seymchan	136.12	333	*i* PKIKP	PKiKP	21 49 50.2	-0.1
PETK	Petropavlovsk-	137.10	318	PKP	PKiKP	21 49 52.5	-0.1
	comp=Z,6.7nm,0.9s,baz=94,slow=5.9,SNR=4.1						
NRIK	Noril'sk	138.07	11	*i* PKIKP	PKiKP	21 49 53.4	-0.7
ABKAR	Akbulak array	138.21	48	PKPdf	PKPdf	21 49 46.5	-6.4
MA2	Magadan	138.41	329	*i* PKIKP	PKiKP	21 49 54.4	-0.7
HRA	Herat	140.56	70	PKPdf	PKiKP	21 49 59.6	-1.0
BRVK	Borovoye	143.28	39	*i* PKIKP	PKiKP	21 50 05.6	+0.3
YAK	Yakutsk	144.39	343	*e*PKIKP	PKPbc	21 50 02.2	+0.1
YAK				pmax	pmax		
	comp=Z,33nm,0.7s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
BRZS	Berezniki	145.92	42	*e*PKP	PKPbc	21 50 07.5	+0.1
	baz=42						
BRZS	Berezniki	145.92	42	*e*PKIKP	PKPbc	21 50 07.5	+0.1
KBL	Kabul	146.18	71	PKIKP	PKPdf	21 50 08.1	+0.2
KBL	Kabul	146.18	71		PKPdf	21 50 08.1	+0.2
IUG	Iuzhnay	146.44	57	*e*PKP	PKPdf	21 50 08.4	+0.4
	baz=57						
IUG	Iuzhnay	146.44	57	*e*PKIKP	PKPdf	21 50 08.3	+0.4
KK31	Karatay Array	146.60	55	PKIKP	PKPbc	21 50 09.3	-0.4
KK31	Karatay Array	146.60	55		PKPbc	21 50 09.3	-0.4
KKAR	Karatay Array	146.60	55	PKIKP	PKPdf	21 50 08.9	+0.8
KKAR	Karatay Array	146.60	55		PKPdf	21 50 08.9	+0.8
LUWI	Luwuk	146.96	207	PKPab	PKPab	21 50 13.5	+0.6
YSS	Yuzh-Sakhalins	148.14	313	*e*PKP2	PKiKP	21 50 14.9	-0.5
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS	Yuzh-Sakhalins	148.14	313	PKPab	PKiKP	21 50 15.0	-0.5
BTLS	Baital	148.56	50	*e*PKP	PKPdf	21 50 12.2	+0.9
	baz=50						
BTLS	Baital	148.56	50	*e*PKIKP	PKPdf	21 50 12.1	+0.9
EKS2	Erkin-Say	149.04	55	P	PKiKP	21 50 18.1	+0.5
	SNR=27						
AML	Almayashu	149.11	56	P	PKiKP	21 50 18.6	+0.4
	SNR=14						
JKA	Kamikawa-asahi	149.19	308	PKPab	PKiKP	21 50 18.9	+1.2
ASAJ	Asahikawa	149.19	308	PKP2	PKiKP	21 50 18.9	+1.2
USP	Ospenovka	149.40	54	P	PKiKP	21 50 18.7	+0.4
	SNR=12						
SGDS	Sogindy	149.44	53	*e*PKP	PKPdf	21 50 13.7	+0.9
	baz=53						
SGDS	Sogindy	149.44	53	*e*PKHKP	PKPpre	21 50 13.6	
AAK	Ala-Archa	149.56	55	P	PKiKP	21 50 18.7	-0.1
	SNR=24						
AAK	Ala-Archa	149.56	55	PKHKP	PKPpre	21 50 17.0	
AAK	Ala-Archa	149.56	55		PKPbc	21 50 17.0	-0.8
NIL	Nilore	149.64	73	PKHKP	PKPpre	21 50 17.9	
NIL	Nilore	149.64	73		PKPbc	21 50 17.9	-0.1
CHMS	Chumysh	149.65	54	P	PKiKP	21 50 19.3	+0.6
	SNR=11						
UCH	Uchtor	149.68	55	P	PKPbc	21 50 17.5	-0.9
	SNR=28						
TOLI2	Tolitoli	149.70	205		PKPbc	21 50 17.7	-1.0
ZAA0	Zalesovo Array	149.87	28		PKPdf	21 50 14.0	+1.0
ZALV	Zalesovo Beam	149.87	28	PKP	PKPdf	21 50 13.7	+0.7
	comp=Z,24nm,0.5s,baz=311,slow=2.4,SNR=48						
ZALV				PKPbc	PKPbc	21 50 18.1	+0.2
	comp=Z,45nm,0.5s,baz=302,slow=3.0,SNR=107						
ZALV				pPKPbc	pPKPbc	21 50 30.5	-0.4
	comp=Z,42nm,0.6s,baz=306,slow=3.5,SNR=13						
ZALV	Zalesovo Beam	149.87	28		PKPdf	21 50 13.5	+0.5
KBK	Karagaybulak	149.88	54	P	PKiKP	21 50 19.7	+0.2
	SNR=13						
HYB	Hyderabad	150.11	107	*i* PKP	PKPbc	21 50 20.0	+0.4
HYB				*e*		21 50 31.5	
TKM2	Tokmak 2	150.26	54	P	PKiKP	21 50 20.2	-0.1
	SNR=14						
GSI	Gunungsitoli	150.30	157	PKPab	PKPbc	21 50 20.7	+0.5
KUU	Kurty	150.49	52	*e*PKP	PKPdf	21 50 14.8	+0.5
	baz=52						
KUU	Kurty	150.49	52	*e*PKIKP	PKPdf	21 50 14.8	+0.5
ULHL	Ulahol	150.91	55	P	PKiKP	21 50 23.0	+1.3
	SNR=19						
BOD	Bodaibo	151.19	354	*e*PKIKP	PKPbc	21 50 20.3	-0.6
BOD				pmax	pmax		
	comp=Z,17nm,1.4s						
MDOK	Medeo	151.21	53	*e*PKP	PKPdf	21 50 16.6	+0.8
	baz=52						
MDOK	Medeo	151.21	53	*e*PKIKP	PKPdf	21 50 16.5	+0.8
KSH	Kashi	151.35	60	PKPbc	PKPdf	21 50 17.5	+1.5
KSH				sPKP		21 50 30.1	
ZEA	Zeya	151.99	336	*e*PKIKP	PKPbc	21 50 22.9	+0.1
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RPSI	Rantau Prapat	152.05	159		PKPbc	21 50 23.9	-0.4
PSI	Prapat	152.15	159	PKIKP	PKPbc	21 50 23.9	-0.7
SATY	Saty	152.18	52	*e*PKP	PKPdf	21 50 18.2	+1.1
	baz=52						
SATY	Saty	152.18	52	*e*PKIKP	PKPdf	21 50 18.2	+1.1
KPKS	Kokpek	152.23	51	*e*PKP	PKPdf	21 50 18.3	+1.2
	baz=51						
KPKS	Kokpek	152.23	51	*e*PKIKP	PKPdf	21 50 18.3	+1.2
KSM	Kuching	152.33	184	PKPab	PKPab	21 50 35.5	+0.7
TEY	Ternei	152.84	313	⇓ *e*PKIKP	PKiKP	21 50 26.2	+1.0
TEY				pmax	pmax		
	comp=Z,50nm,0.7s						
SHLS	Shalkode	152.87	51	*e*PKP	PKPdf	21 50 19.1	+1.0
	baz=51						
SHLS	Shalkode	152.87	51	*e*PKIKP	PKPdf	21 50 19.1	+1.0
MAKZ	Makanchi	152.87	42	PKIKP	PKPdf	21 50 17.9	0.0
MAKZ	Makanchi	152.87	42	PKPdf	PKPdf	21 50 17.9	0.0
MK31	Makanchi Array	153.07	42	PKIKP	PKPdf	21 50 18.9	+0.7
MK31	Makanchi Array	153.07	42	PKPdf	PKPdf	21 50 18.9	+0.7
MKAR	Makanchi Array	153.07	42	PKP	PKPdf	21 50 18.9	+0.7
	comp=Z,1.5nm,0.8s,baz=299,slow=1.2,SNR=17						
MKAR				PKPbc	PKPbc	21 50 25.2	-0.4
	comp=Z,12nm,0.8s,baz=315,slow=2.0,SNR=57						
MKAR				pPKPbc	sPKPdf	21 50 38.2	+2.4
	comp=Z,6.9nm,0.6s,baz=326,slow=2.5,SNR=12						
MKAR	Makanchi Array	153.07	42	PKPdf	PKPdf	21 50 18.6	+0.5
SBUM	Sibu	153.13	188		PKPbc	21 50 26.7	+0.1
MJAR	Matsushiro Arr	154.14	294	PKPbc	PKiKP	21 50 28.9	+0.6
	comp=Z,2.8nm,0.8s,baz=168,slow=1.7,SNR=5.6						
MJAR				pPKPbc	pPKPbc	21 50 42.9	+1.7
	comp=Z,9.3nm,0.8s,baz=116,slow=2.3,SNR=12						
MJAR				pPKPab	pPKPab	21 50 56.0	+1.4
	comp=Z,14nm,0.7s,baz=104,slow=2.5,SNR=11						
MAJO	Matsushiro	154.15	294	PKP2	PKPab	21 50 43.4	+1.3
MAJO	Matsushiro	154.15	294	PKPab	PKPab	21 50 43.4	+1.3
MAT	Matsushiro	154.15	294	*e*PKP	PKPbc	21 50 27.3	-0.9
ZSN	Zaisan	154.16	39	*e*PKP	PKPdf	21 50 21.2	+1.4
	baz=39						
ZSN	Zaisan	154.16	39	*e*PKIKP	PKPdf	21 50 21.1	+1.4
USRK	Ussuriysk Ar.	156.13	315	PKP	PKPdf	21 50 23.9	+1.4
	comp=Z,1.1nm,0.7s,baz=241,slow=3.1,SNR=4.2						
USRK				PKPab	PKPab	21 50 50.7	+0.5
	comp=Z,4.5nm,0.7s,baz=64,slow=3.2,SNR=8.4						
USRK				pPKPab	pPKPab	21 51 03.8	+1.0
	comp=Z,5.5nm,0.8s,baz=357,slow=1.4,SNR=5.4						
USRK	Ussuriysk Ar.	156.13	315	PKPab	PKPab	21 50 51.8	+1.6
TLY	Talaya	157.29	8	*e*PKIKP	PKPab	21 50 40.1	-15
TLY				pmax	pmax		
	comp=Z,22nm,1.1s						
WMQ	Urumqi	157.88	43	*e*PKP	PKPdf	21 50 24.9	+0.1
WMQ				LR	LR		
	comp=Z,500nm,25.7s						
WMQ				LR	LR		
	comp=Z,200nm,20.9s						
ZAK	Zakamensk	158.51	9	*e*PKIKP	PKPdf	21 50 24.7	-0.7
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GKN	Gorkha	158.96	88	*e*P	PKPdf	21 50 27.3	+0.6
DMN	Daman	159.30	89	*e*P	PKPdf	21 50 28.3	+1.1
KKN	Kakani	159.48	88	*e*P	PKPdf	21 50 28.3	+0.9
PKIN	Phulchoki	159.55	89	*e*P	PKPdf	21 50 28.6	+1.1
PKI	Pulchoki	159.56	89	*e*P	PKPdf	21 50 28.6	+1.0
GUN	Gumba	160.03	88	*e*P	PKPdf	21 50 28.5	+0.3
RAMN	Ramite	160.48	91	*e*P	PKPdf	21 50 29.3	+0.7
	comp=Z,11nm,0.7s						
ODAN	Odare	161.15	92	*e*P	PKPdf	21 50 29.7	+0.4
	comp=Z,15nm,0.8s						
SONM	Songino Array	161.36	5	PKP	PKPdf	21 50 30.1	+1.4
	comp=Z,1.8nm,0.8s,baz=338,slow=0.7,SNR=15						
SONM				PKPab	PKPab	21 51 12.7	-0.1
	comp=Z,2.4nm,0.8s,baz=326,slow=4.1,SNR=8.6						
SONM	Songino Array	161.36	5	PKPdf	PKPdf	21 50 29.8	+1.1
TAPN	Taplejung	161.53	91	*e*P	PKPdf	21 50 31.0	+1.2
	comp=Z,23nm,1.3s						
KSRS	Korea Array	161.90	302	PKP	PKPdf	21 50 30.2	+0.8
	comp=Z,1.4nm,0.6s,baz=15,slow=0.2,SNR=6.1						
KSRS				PKPab	PKPab	21 51 17.9	+2.4
	comp=Z,1.4nm,0.7s,baz=87,slow=5.4,SNR=4.5						
CMAR	Chiang Mai Arr	166.12	139	PKP	PKPdf	21 50 34.9	+1.0
	comp=Z,1.2nm,0.6s,baz=265,slow=2.5,SNR=6.9						
CMAR	Chiang Mai Arr	166.12	139		PKPdf	21 50 33.8	0.0
GTA	Gaotai	167.55	33	PKP	PKPdf	21 50 35.6	+1.1
GTA				pPKP	pPKPdf	21 50 44.8	-2.8
GTA				sPKP		21 50 48.9	
GTA				PKPab	PKPab	21 51 38.7	-1.7
GTA				PP	PP	21 55 34.9	+6.4
GTA				AMB	AMB		
	comp=Z,57nm,5.3s						
GTA				LR	LR		
	comp=Z,150nm,20.0s						
GTA				LR	LR		
	comp=Z,150nm,19.3s						
GTA				LR	LR		
	comp=Z,310nm,23.3s						
HHC	Hu-ho-hao-te	168.17	349	*e*PKP	PKPdf	21 50 35.7	+0.9
TIA	Tai'an	170.00	316	PKP	PKPdf	21 50 36.7	+0.7
NJ2	Nanjing	170.72	290	*e*PKP	PKPdf	21 50 38.3	+1.8
KMI	Kunming	173.38	127	⇑PKP	PKPdf	21 50 38.3	+0.1
KMI				pPKP	pPKPdf	21 50 49.9	-1.3
KMI				sPKP		21 50 54.5	
KMI				SS	SS	22 17 10.1	-1.5
KMI				LR	LR		
	comp=Z,190nm,20.7s						
KMI				LR	LR		
	comp=Z,220nm,26.6s						
KMI				LR	LR		
	comp=Z,290nm,35.3s						
CD2	Chengdu	175.51	67	PKP	PKPdf	21 50 38.1	-0.4

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*IDC **05** 22:02:27.8±3.7, 27°.61S×66°.68W, h0km, mb4.1/2, mb1 4.2/2, mb1mx3.6/34, mbtmp4.1/2, Error ellipse: s-maj=138.7km s-min=80.4km az=55.0*
*NEIC **05** 22:02:46.7±1.5, 27°.87S±0°.07×66°.9W±0°.2, h163km±15km, mb4.1/4, Error ellipse: s-maj=20.4km s-min=9.7km az=97.0*
ISC 05 22:02:47.0±0.8, **27°.83S**±0°.05×**66°.90W**±0°.08, **h164km, n29,** σ1s**03**/37, **mb3.9**/3, **Catamarca Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AC02	Maricunga	2.21	296		Pn	22 03 26.8	+0.9
AC02				Sn	Sn	22 03 53.7	-2.3
GO03	Copiap	2.96	274		Pn	22 03 35.1	+0.6
GO03				Sn	Sn	22 04 11.1	-0.3
AC05	El Transito	3.14	250		Pn	22 03 37.5	+0.7
AC05				Sn	Sn	22 04 16.0	+0.6
CO01	Juntas del Tor	3.53	232		Pn	22 03 43.1	+1.4
CO01				Sn	Sn	22 04 26.4	+2.1
LCO	Las Campanas	3.55	250	Pn	Pn	22 03 42.0	0.0
LCO				Sn	Sn	22 04 24.6	-0.3
GO02	Mina Guanaco	3.58	317		Pn	22 03 44.3	+1.7
AC01	Pan de Azucar	3.70	296	Pn	Pn	22 03 43.9	+0.1
AC01					Sn	22 04 25.6	-2.4
AC04	Llanos de Chal	3.71	263	Pn	Pn	22 03 43.6	-0.2
GO04	Tololo Observa	4.14	235		Pn	22 03 49.4	-0.2
CO03	El Pedregal	4.47	227		Pn	22 03 53.7	0.0
PB14	IPOC Station P	4.48	315		Pn	22 03 55.1	+1.0
PB14					Sn	22 04 45.9	-0.6
CO02	Combarbal	4.91	226		Sn	22 04 55.4	-0.9
VA03	San Esteban	5.85	212	Pn	Pn	22 04 11.8	-0.1
VA03				Sn	Sn	22 05 17.4	-1.0
PEL	Peldehue	6.22	211	Pn	Pn	22 04 15.4	-1.4
MT05	Renca	6.46	210	Pn	Pn	22 04 19.3	-0.6
MT05				Sn	Sn	22 05 31.6	-1.3
MT02	Curacav	6.53	213	Pn	Pn	22 04 19.8	-1.0
BO02	Sierra Bellavi	7.70	205	Pn	Pn	22 04 35.7	-0.7
PB08	IPOC Station P	7.92	344	Pn	Pn	22 04 38.9	-0.8
MNMC	Minye Minye	9.00	343	Pn	Pn	22 04 54.7	+0.8
BI02	San Fabin de	9.56	202	Pn	Pn	22 05 00.9	-0.1
PB16	IPOC Station P	9.74	345	Pn	Pn	22 05 05.4	+1.3
SAML	Samuel	19.10	11	P	P	22 06 57.8	+0.4
SAML				IAmb	IAmb	22 07 20.1	
	comp=Z,12nm,1.8s						
BDFB	Brasilia	21.29	59	P	P	22 07 20.6	-0.4
BDFB				IAmb	IAmb	22 07 27.0	
	comp=Z,20nm,1.9s						
TORD	Torodi Ar. Bea	77.88	68	P	P	22 14 26.4	-0.5
	comp=Z,1.2nm,0.7s,baz=257,slow=5.3,SNR=5.4						
TORD	Torodi Ar. Bea	77.88	68	IAmb	IAmb	22 14 27.4	
	comp=Z,1.1nm,0.7s						
BOSA	Boshof	78.94	116	P	P	22 14 33.4	+0.6
	comp=Z,2.4nm,1.0s,baz=247,slow=7.7,SNR=1.4						
BOSA	Boshof	78.94	116	P	P	22 14 32.3	-0.5
ZALV	Zalesovo Beam	146.67	31	PKPbc	PKPbc	22 22 09.6	+0.7
	comp=Z,0.5nm,0.5s,baz=332,slow=4.9,SNR=2.8						
MKAR	Makanchi Array	149.32	44	PKPbc	PKPbc	22 22 17.0	+0.8
	comp=Z,0.4nm,0.8s,baz=307,slow=2.5,SNR=4.2						

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*JMA **05** 22:14:31.0±0.4, 32°.75N×141°.81E, h41km, M3.5*
*IDC **05** 22:14:34.5±2.4, 31°.88N×139°.99E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/31, mbtmp3.4/4, ML1.9/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/26, Error ellipse: s-maj=76.5km s-min=25.1km az=82.0*
ISC 05 22:14:32.9±1.5, **32°.70N**±0°.09×**141°.8E**±0°.1, **h35km, n12,** σ1s**22**/11, **mb3.6**/3, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.69	285	P	Pn	22 14 59.5	-0.4
JHJ	Hachijo jima 2	1.72	285	Pn	Pn	22 14 58.7	-1.6
	18nm,0.3s,baz=49,slow=20,SNR=1.2						
BSO1	Boso 1	2.05	342	P	Pn	22 15 03.6	-0.8
BSO1				*e*S	Sn	22 15 27.4	-1.1
JHO	Hitachi	4.02	346	P	Pn	22 15 31.5	-0.5
JAG	Ashikaga	4.17	333	P	Pn	22 15 34.1	0.0
JAG				*e*S	Sn	22 16 21.5	-0.1
JFK	Kawauchi	4.71	351	P	Pn	22 15 40.4	-1.1
MJAR	Matsushiro Arr	4.82	324	Pn	Pn	22 15 50.1	+7.1
	0.1nm,0.3s,baz=158,slow=13,SNR=1.9						
SONM	Songino Array	30.62	310	P	P	22 20 46.1	+2.4
	0.2nm,0.5s,baz=110,slow=11,SNR=2.5						
CMAR	Chiang Mai Arr	40.87	260	LR	LR	22 40 54.3	
	comp=Z,13nm,18.6s,baz=60,slow=40						
MKAR	Makanchi Array	46.77	306	P	P	22 22 58.6	-0.1
	0.4nm,0.6s,baz=93,slow=7.9,SNR=6.5						
WRA	Warramunga Arr	52.83	189	P	P	22 23 44.3	-0.6
	1.1nm,0.9s,baz=4.3,slow=6.8,SNR=3.9						
MMAI	Mount Meron Ar	84.72	306	LR	LR	23 07 59.5	
	comp=Z,193nm,20.3s,baz=90,slow=38						

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*DSN **05** 22:54:43.1±2.1, 28°.53N×57°.19E, h10km, ML5.5/9, Error ellipse: s-maj=29.5km s-min=17.6km az=84.0*
*BJI **05** 22:54:43.1±0.0, 28°.09N×56°.34E, h10km, mB5.0/42, mb5.1/68, Ms4.6/41, Ms7 4.3/39*
*MOS **05** 22:54:46.5±1.0, 28°.01N×56°.86E, h10km, mb5.4/82, MS4.1/7, Error ellipse: s-maj=4.4km s-min=2.8km az=116.4*
*NEIC **05** 22:54:48.5±1.5, 28°.04N±0°.06×56°.81E±0°.08, h10km±1km, mb5.2/162, mb_Lg5.2(TEH), Error ellipse: s-maj=11.9km s-min=10.0km az=96.0*
*TEH **05** 22:54:49.6, 28°.06N×56°.96E, h16km, ML5.2*
*THR **05** 22:54:50.2±0.3, 28°.12N×57°.02E, h18km±8km, ML5.2*
*OMAN **05** 22:54:50.4, 27°.96N×57°.10E, h10km, ml5.1/14*
*IDC **05** 22:54:51.1±2.5, 28°.04N×56°.91E, h25km±16km, mb4.9/40, mb1 4.9/47, mb1mx4.8/57, mbtmp5.0/47, ML4.6/5, MS4.2/25, Ms1 4.2/25, ms1mx4.0/41, Error ellipse: s-maj=11.6km*

s-min=8.8km az=0.0
GCMT ***05*** *22:54:51.5±0.4,27.°82N±0.°03×56.°66E±0.°03,h31km±1km, MW4.9/62,Moment Tensor Solution. s25,c26; s62,c83; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.18±.20; Mθθ-2.36±.12; Mϕϕ0.18±.12; Mrθ1.71±.13; Mθϕ-0.48±.07; Mϕr0.32±.18; Best double couple: M0 2.89400×10^16 NP1:ϕs260.00000°,δ27.00000°,λ91.00000°. NP2: ϕs79.00000°,δ63.00000°,λ90.00000°. Principal axes: T 2.7610, Plg72.0000°, Azm349.0000°; N 0.2720, Plg0.0000°, Azm80.0000°; P -3.0270, Plg18.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
SGS ***05*** *22:55:04.7,28.°24N×55.°65E,h12km,Ml4.6*
BGR ***05*** *22:55:10.9±0.0,28.°82N×53.°61E,h10km,mb5.1*
ISC 05 22:54:49.5±0.5**,28.°06N**±0.°02×**56.°84E**±0.°03**,h14**km±2km**, h15**km**:pP-P,n917,**σ1.s**26**/970**,mb5.2**/314**,MS4.2**/37**, 110C-15D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.77	98	ePg	Pg	22 55 03.1	-1.4
GENO	Geno	0.89	222	e		22 55 29.3	
	comp=Z,99nm,0.3s						
GENO				ePg	Pn	22 55 08.9	+1.2
BNDS	Bandar-Abbas	0.89	222	ePg	Pn	22 55 09.7	+2.0
BNDS				eSg	Sn	22 55 24.0	+3.6
BNDS				IAML		22 55 26.9	
	comp=E,58µm,0.4s						
BNDS	Bandar-Abbas	0.89	222	ePg	Pn	22 55 09.7	+2.0
NGRK	Negar Kerman	1.58	356	ePn	Pn	22 55 17.6	+0.2
NGRK				e		22 55 44.3	
	comp=Z,99nm,0.5s						
KBAM	BAM	1.77	53	ePn	Pn	22 55 19.4	-0.4
KBAM				e		22 55 55.7	
	comp=Z,99nm,0.3s						
CHMN	Cheshme madani	1.89	19	ePn	Pb	22 55 22.7	-1.3
CHMN				e		22 55 54.4	
	comp=Z,99nm,0.7s						
KRBR	Kerman	1.91	358	ePn	Pb	22 55 23.7	-0.7
KRBR	Kerman	1.91	358	ePn	Pb	22 55 23.7	-0.7
TVBK	TV Kerman	1.92	358	ePn	Pn	22 55 23.1	+1.1
TVBK				e		22 55 59.4	
	comp=Z,99nm,0.4s						
SHME	Shamm	2.10	197	eP	Pb	22 55 26.3	-1.0
	SNR=71						
SHME	Shamm	2.10	197	ePn	Pn	22 55 24.6	+0.4
SHME	Shamm	2.10	197	P	Pb	22 55 26.4	-1.0
	SNR=71						
SHME				P	Pb	22 55 26.4	-1.0
	SNR=161						
BANOM	Banah	2.19	193	eP	Pb	22 55 27.4	-1.4
	SNR=903						
BANOM				S	Sg	22 56 00.4	+0.6
BANOM	Banah	2.19	193	ePn	Pn	22 55 26.3	+0.9
BANOM	Banah	2.19	193	P	Pb	22 55 27.4	-1.4
	SNR=903						
BANOM				S	Sb	22 55 56.0	+0.2
LAR1	LAR	2.22	260	ePn	Pb	22 55 28.5	-0.9
LAR1				e		22 56 32.2	
	comp=Z,99nm,0.9s						
KHGB	Koh Gabri	2.33	352	ePn	Pb	22 55 30.2	-1.1
KHGB				e		22 56 13.0	
	comp=Z,99nm,0.5s						
JSK1	Jask	2.55	161	ePn	Pn	22 55 32.0	+1.6
MASF	Masafi	2.75	193	P	Pn	22 55 35.9	+2.7
	SNR=49						
MASF				S	Sb	22 56 10.7	-1.3
MSFE	Esma-Masafi	2.76	193	iP	Pn	22 55 35.2	+1.9
	SNR=49						
MSFE	Esma-Masafi	2.76	193	ePn	Pn	22 55 33.9	+0.6
MDH	Madha	2.80	190	iP	Pn	22 55 33.7	-0.1
	SNR=15						
MDH	Madha	2.80	190	ePn	Pn	22 55 34.6	+0.8
MDH	Madha	2.80	190	P	Pn	22 55 33.7	-0.1
	SNR=41						
MDH				S	Sn	22 56 07.7	+0.4
JHRM	Jahrom	2.91	279	ePn	Pn	22 55 38.5	+3.0
UOSS	Minazif	3.16	191	iP	Pn	22 55 39.0	+0.3
	SNR=34						
UOSS	Minazif	3.16	191		Pn	22 55 38.9	+0.1
UOSS	Minazif	3.16	191	ePn	Pn	22 55 39.4	+0.7
UOSS	Minazif	3.16	191	P	Pn	22 55 38.9	+0.1
UOSS				S	Sn	22 56 17.4	+1.2
NAZ	Nazwa, Dubai	3.24	199	iP	Pn	22 55 43.1	+3.2
	SNR=267						
NAZ	Nazwa, Dubai	3.24	199	ePn	Pn	22 55 40.7	+0.8
NAZ	Nazwa, Dubai	3.24	199	P	Pn	22 55 43.1	+3.2
	SNR=62						
NAZ				S	Sn	22 56 21.8	+3.5
HATD	Hatta, Dubai	3.29	191	ePn	Pn	22 55 41.4	+0.9
HATD	Hatta, Dubai	3.29	191	P	Pn	22 55 41.1	+0.5
	SNR=38						
LMD1	Lamerd	3.34	258	ePn	Pn	22 55 43.8	+2.6
LMD1				e		22 57 07.3	
	comp=Z,99nm,0.6s						
QIR1	Qir	3.37	278	ePn	Pn	22 55 44.4	+2.6
ASHO	Ashiyiah	3.44	192	iP	Pn	22 55 45.1	+2.5
	SNR=399						
ASHO	Ashiyiah	3.44	192	ePn	Pn	22 55 43.5	+0.9
ASHO	Ashiyiah	3.44	192	P	Pn	22 55 45.1	+2.5
	SNR=398						
FAQ	Al Faqa, Dubai	3.49	199	iP	Pn	22 55 46.4	+3.1
	SNR=261						
FAQ	Al Faqa, Dubai	3.49	199	ePn	Pn	22 55 44.2	+0.9
FAQ	Al Faqa, Dubai	3.49	199	P	Pn	22 55 46.5	+3.1
	SNR=44						
FAQ				S	Sn	22 56 27.1	+2.7
ASUD	Al Ashush, Dub	3.68	202	iP	Pn	22 55 49.8	+3.8
	SNR=1860						
ASUD	Al Ashush, Dub	3.68	202	P	Pn	22 55 49.8	+3.8
	SNR=1860						
IBAF	Bafgh	3.69	343	ePn	Pn	22 55 48.6	+2.5
IMEH	Mehriz	3.84	330	ePn	Pn	22 55 51.2	+2.8
AJN	Ajban	3.86	206	iP	Pn	22 55 51.5	+3.1
	SNR=390						
AJN	Ajban	3.86	206	ePn	Pn	22 55 49.0	+0.6
AJN	Ajban	3.86	206	P	Pn	22 55 51.6	+3.1
	SNR=390						
SOHO	SOHO	3.92	184	iP	Pn	22 55 49.0	-0.2
	SNR=59						
SOHO	SOHO	3.92	184	ePn	Pn	22 55 49.3	0.0
SOHO	SOHO	3.92	184	P	Pn	22 55 48.8	-0.5
CHBR	Chabahar	4.08	126	ePn	Pn	22 55 52.4	+1.0
CHBR	Chabahar	4.08	126	ePn	Pn	22 55 52.4	+1.0
ALNE	Al Ain	4.11	194	iP	Pn	22 55 53.9	+2.1
	SNR=31						
ALNE	Al Ain	4.11	194	ePn	Pn	22 55 52.5	+0.7
ALNE	Al Ain	4.11	194	P	Pn	22 55 54.2	+2.3
	SNR=31						
ALNE				S	Sn	22 56 42.9	+3.1
SHI	Shiraz	4.11	294	ePn	Pn	22 55 54.6	+2.6
NHDN	Nehbandan	4.34	39	ePn	Pn	22 55 56.0	+0.9
BSRN	Basiran	4.36	26	ePn	Pn	22 55 56.4	+0.9
BSRN	Basiran	4.36	26	ePn	Pn	22 55 56.4	+0.9
HOQ	Hoqain	4.48	174	P	Pn	22 55 57.2	+0.2
	SNR=191						
HOQ				S	Sn	22 56 48.7	-0.2
BIDO	Bidbid	4.67	165	ePn	Pn	22 55 59.9	+0.4
BIDO	Bidbid	4.67	165	P	Pn	22 55 59.9	+0.4
	SNR=218						
BIDO				S	Sn	22 56 51.8	-1.8
ICHK	Chekchek	4.67	334	ePn	Pn	22 56 02.4	+2.7
ISAD	Sadrabad	4.71	325	ePn	Pn	22 56 03.2	+2.8
ARQ	Araqi	4.71	184	P	Pn	22 56 02.5	+2.3
	SNR=250						
ARQ				S	Sn	22 56 57.9	+3.2
YZKH	Yazd	4.73	336	ePn	Pn	22 56 03.4	+2.9
YZKH	Yazd	4.73	336	ePn	Pn	22 56 03.4	+2.9
IKOO	Kooshah	4.73	23	ePn	Pn	22 56 03.7	+3.1
KAZ1	Kazerun	4.82	290	ePn	Pn	22 56 03.7	+2.0
TPRV	Parvadeh(Tabas	4.95	358	ePn	Pn	22 56 06.6	+3.1
WSAR	Wadi Sarin	5.07	161	Pn	Pn	22 56 06.2	+1.1
	comp=Z,218nm,0.3s,baz=359,slow=11,SNR=757						
WSAR				Sn	Sn	22 57 02.4	-1.0
	comp=Z,338nm,0.3s,baz=251,slow=23,SNR=22						
ITEG	Tejag	5.09	18	ePn	Pn	22 56 07.9	+2.4
IDAH	Dahanechah	5.34	29	ePn	Pn	22 56 13.2	+4.2
IRAM	Ramesheh	5.38	315	ePn	Pn	22 56 12.1	+2.6
KLNJ	Kolanjah	5.43	304	ePn	Pn	22 56 12.7	+2.3
TKDS	Koohdasht(Taba	5.54	2	ePn	Pn	22 56 13.0	+1.4
IMON	Monand	5.66	25	ePn	Pn	22 56 15.1	+1.7
AFRZ	Afriz	5.66	19	ePn	Pn	22 56 16.6	+3.3
ANAR	Anarak	5.77	333	ePn	Pn	22 56 17.1	+2.3
TNSJ	Nastanj	5.88	358	ePn	Pn	22 56 19.6	+3.3
IGAR	Gharneh	6.00	317	ePn	Pn	22 56 20.3	+2.3
SLWR	Sila	6.10	231	ePn	Pn	22 56 20.6	+1.4
IZEF	Zefreh	6.19	322	ePn	Pn	22 56 22.8	+2.1
ABEH	Behbahan	6.28	295	ePn	Pn	22 56 24.6	+2.9
SLWS		6.44	241	P	Pn	22 56 27.1	+3.2
SLWS		6.44	241	S	Sn	22 57 36.0	-1.0
SHK1	Shahrekord	6.68	311	ePn	Pn	22 56 29.7	+2.3
IPIR	Pirpir	6.90	313	ePn	Pn	22 56 32.7	+2.2
IKLH	Kolahrood	6.93	320	ePn	Pn	22 56 32.2	+1.4
QAM	Ghamsar	7.33	322	ePn	Pn	22 56 38.9	+2.6
NHRD	Haradh	7.77	246	P	Pn	22 56 43.8	+1.7
HRA	Herat	7.82	35	Pn	Pn	22 56 46.9	+3.9
ILAS	Lasjerd	8.01	337	ePn	Pn	22 56 49.0	+3.4
SMAN	Sihmah	8.04	259	P	Pn	22 56 46.8	+0.9
SMAN	Sihmah	8.04	259	S	Sn	22 58 08.9	-7.7
UMR	Umm Al-Rimmam	8.14	283	eP		22 56 47.3	
RDF	Al-Radifah	8.22	278	eP		22 56 48.9	
IFIR	Firoozkooh	8.32	336	ePn	Pn	22 56 50.5	+0.7
SBZV	Sabzevar	8.33	4	ePn	Pn	22 56 53.9	+3.9
MIB	Mutribah	8.51	284	eP		22 56 52.4	
IAKL	Akhelmad	8.67	10	ePn	Pn	22 56 59.9	+5.2
IHSB	Hasanabad	8.74	329	ePn	Pn	22 56 58.2	+2.6
IGLO	Ghaloghah	8.79	344	ePn	Pn	22 57 00.1	+3.8
IKRD	Kardeh	8.98	14	ePn	Pn	22 57 03.6	+4.7
IPRN	Peran	9.00	336	ePn	Pn	22 57 02.6	+3.5
IKMR	Kamar-syah	9.08	309	ePn	Pn	22 57 00.6	+0.5
IMND	Minoodasht	9.25	353	ePn	Pn	22 57 04.1	+1.7
HSAM	Samen	9.35	313	ePn	Pn	22 57 04.4	+0.4
IDOB	Doab	9.37	310	ePn	Pn	22 57 05.1	+0.8
IRAZ	Razeghan	9.39	323	ePn	Pn	22 57 06.2	+1.7
HAGD	Aghdareh	9.41	318	ePn	Pn	22 57 06.8	+1.9
DHL1	Dehloran	9.45	301	ePn	Pn	22 57 06.3	+1.1
IKFM	Kafar-mosalman	9.46	307	ePn	Pn	22 57 04.8	-0.4
QABG	Abgarm-Qazvin	9.80	323	ePn	Pn	22 57 11.1	+0.9
QALM	Alamut, Qazvin	9.85	329	ePn	Pn	22 57 14.0	+3.1
GYB1	ALIBECK ARRAY	9.89	6	Pn	Pn	22 57 14.6	+3.4
GYA1	ALIBECK ARRAY	9.89	6	Pn	Pn	22 57 14.6	+3.4
GEYT	Alibeck	9.90	6	Pn	Pn	22 57 13.7	+2.4
	comp=Z,3.6nm,0.3s,baz=173,slow=13,SNR=27						
GEYT				LR	LR	23 01 36.7	
	comp=Z,4µm,18.4s,baz=180,slow=41						
GEYT	Alibeck	9.90	6	Pn	Pn	22 57 15.3	+4.0
GYA0	ALIBECK ARRAY	9.90	6	P	Pn	22 57 14.9	+3.6
GYA0	ALIBECK ARRAY	9.90	6	Pn	Pn	22 57 14.9	+3.6
GYA0B	ALIBECK ARRAY	9.90	6		Pn	22 57 14.9	+3.6
GYA3	ALIBECK ARRAY	9.90	6	Pn	Pn	22 57 15.2	+3.8
GYA2	ALIBECK ARRAY	9.90	6	Pn	Pn	22 57 15.4	+4.0
IALM	Almabolaq	10.03	315	ePn	Pn	22 57 13.9	+0.5
SHAO	Shalim	10.06	187	iP	Pn	22 57 12.6	-0.9
	SNR=298						
KER	Kermanshah	10.43	310	ePn	Pn	22 57 19.0	+0.3
KCHF	Cheshme Sefid,	10.43	309	ePn	Pn	22 57 18.7	0.0
IGHG	Ghaleghazi	10.78	308	ePn	Pn	22 57 24.2	+0.5
ILIN	Lien	10.85	311	ePn	Pn	22 57 24.8	+0.2
IDHR	Dehrash	11.11	309	ePn	Pn	22 57 27.7	-0.4
RAYN	Ar Rayn	11.17	249	iP	Pn	22 57 27.3	-1.5
	SNR=109						
RAYN	Ar Rayn	11.17	249	P	Pn	22 57 27.0	-1.8
RAYN	Ar Rayn	11.17	249	Pn	Pn	22 57 27.0	-1.8
KBL	Kabul	12.27	55	P	Pn	22 57 48.9	+5.0
KBL	Kabul	12.27	55	Pn	Pn	22 57 48.9	+5.0
ISRB	Sarab	12.41	324	ePn	Pn	22 57 47.1	+1.3
MAHB	Mahabad	12.79	316	ePn	Pn	22 57 52.0	+1.0
IHRS	Heris	13.10	324	ePn	Pn	22 57 57.4	+2.1
THW	Thamme Wali	13.69	66	P	Pn	22 58 05.1	+1.9
CEP	Cherat	14.14	62	P	Pn	22 58 11.6	+2.1
SARP	Sargodha	14.25	70	P	Pn	22 58 11.5	+0.7
NIL	Nilore	15.15	64	P	Pn	22 58 24.2	+1.1
NIL				pmax	pmax		
	comp=Z,46nm,0.8s						
NIL	Nilore	15.15	64	Pn	Pn	22 58 24.2	+1.1
GEVA	Gevas	15.40	315	Pn	Pn	22 58 25.6	-0.8
GNI	Garni	15.66	323	Pn	P	22 58 32.6	-1.3
	comp=Z,2.7nm,0.3s,baz=317,slow=4.1,SNR=25						
GNI				LR	LR	23 05 14.6	
	comp=Z,1µm,21.1s,baz=141,slow=40						
GNI	Garni	15.66	323	P	Pn	22 58 32.0	+2.2
GNI				pmax	pmax		
	comp=Z,70nm,0.8s						
GNI	Garni	15.66	323	P	Pn	22 58 32.0	+2.2
GNI				IAmb	IAmb	22 58 45.3	
	comp=Z,70nm,0.8s						
SOCY	Socotra	16.02	190		Pn	22 58 29.7	-4.8
LGD	Lagodekhi	16.24	331	P	P	22 58 39.5	-0.6
MARD	Mardin	16.35	308	Pn	Pn	22 58 36.4	-2.2
MAK	Makhachkala	16.68	335	eP	Pn	22 58 39.9	-2.7
MAK				eS	Sn	23 01 44.3	-3.3
MAK				pmax	pmax		
	comp=Z,231nm,0.9s						
MAK				MLR	MLR		
	comp=Z,681nm,14.0s						
TAS	Tashkent	16.71	34	P	Pn	22 58 44.0	+0.9
TAS				pmax	pmax		
	comp=Z,177nm,0.9s						
TAS	Tashkent	16.71	34		Pn	22 58 44.0	+0.9
TAS				IAmb	IAmb	22 58 47.9	
	comp=Z,177nm,0.9s						
KZRT	Kazreti	16.75	326	P	P	22 58 45.1	-0.7
SEAG	Tbilisi Sea	16.84	327	P	P	22 58 50.2	+3.4
KARS	Kars	16.89	321	P	P	22 58 51.6	+4.0
AKH	Akhalkalaki	17.22	324	P	P	22 58 54.1	+2.8
GUDG	Gudauri	17.53	328	P	P	22 58 57.2	+2.5
GROC	Groznyy	17.55	332	eP	P	22 58 54.8	+0.2
GROC				eS	Sn	23 02 06.2	-2.5
GROC				pmax	pmax		
	comp=Z,173nm,0.8s						
IUG	Iuzhnay	17.69	34	eP	Pn	22 58 54.9	-0.5
	baz=34						
IUG				eS	Sn	23 02 11.4	-0.8
	baz=34						
IUG	Iuzhnay	17.69	34	eP	Pn	22 58 54.9	-0.5
IUG				eS	Sn	23 02 11.4	-0.8
KOPT	Kop Dagi	18.01	316	P	P	22 59 00.9	+0.8
ZEI	Tsey	18.05	328	eP	Pn	22 58 59.6	-0.4
ZEI				pmax	pmax		
	comp=Z,71nm,1.5s						
ONI	Oni	18.11	327	P	P	22 59 05.9	+4.9
MALT	Malatya	18.46	308	P	Pn	22 59 06.8	+1.8
KK31	Karatay Array	18.64	33	P	Pn	22 59 07.3	+0.3
KK31				pmax	pmax		
	comp=Z,86nm,1.4s						
KK31	Karatay Array	18.64	33	P	Pn	22 59 07.3	+0.3
KKAR	Karatay Array	18.64	33	P	P	22 59 06.5	-0.2
KKAR	Karatay Array	18.64	33	P	Pn	22 59 07.3	+0.3
KKAR	Karatay Array	18.64	33	P	P	22 59 06.5	-0.2
NCK	Nalchik	18.74	329	iP	Pn	22 59 10.4	+2.2
RCY	Rachaya	18.83	292	eP	Pn	22 59 10.9	+1.3
GAZ	Gaziantep	18.84	304	P	Pn	22 59 10.0	+0.5
GAZ				IAmb	IAmb	22 59 14.3	
	comp=Z,109nm,1.0s						
HWQ	Hawqa	18.91	294	eP	Pn	22 59 12.6	+2.2
NEY	Neytrino	18.96	327	iP	Pn	22 59 11.8	+0.7
BHL	Bhannes	19.06	293	eP	Pn	22 59 13.7	+1.4
MMAI	Mount Meron Ar	19.11	290	P	Pn	22 59 13.8	+1.0
	comp=Z,3.8nm,0.3s,baz=96,slow=13,SNR=42						
EIL	Elat	19.24	280	P	Pn	22 59 15.1	+0.7
	comp=Z,1.7nm,0.3s,baz=98,slow=2.1,SNR=14						
EIL				LR	LR	23 07 38.8	
	comp=Z,176nm,18.6s,baz=96,slow=40						
KBZ	Khabaz	19.24	328	P	Pn	22 59 15.7	+1.5
	comp=Z,0.8nm,0.3s,baz=153,slow=9.3,SNR=23						
KBZ				ScP	ScP	23 07 10.8	-0.7
	comp=Z,0.0nm,0.3s,baz=204,slow=0.1,SNR=4.1						
KBZ				LR	LR	23 08 00.3	
	comp=Z,211nm,18.8s,baz=120,slow=41						
KBZ	Khabaz	19.24	328c	eP	Pn	22 59 15.3	+1.1
KBZ				pmax	pmax		
	comp=Z,29nm,0.9s						
SHA1	Shidzhatmaz	19.36	328c	iP	Pn	22 59 16.9	+0.9
KVAR	Kislovodsk Arr	19.51	328	P	Pn	22 59 19.1	+1.5
	baz=84,slow=19,SNR=14						
KIV	Kislovodsk	19.51	328⥣	eP	Pn	22 59 18.5	+0.9
KIV				pmax	pmax		
	comp=Z,40nm,0.6s						
KIV	Kislovodsk	19.51	328		Pn	22 59 18.0	+0.3
KSH	Kashi	19.54	49	P	P	22 59 10.9	-5.8
KSH				pP	Pn	22 59 15.4	-2.6
KSH				PcP	PcP	23 03 33.8	-3.1
KSH				pmax	pmax		
	comp=Z,150nm,1.3s						
KSH				pmax	pmax		
	comp=Z,640nm,9.0s						
KSH				LR	LR		
	comp=Z,2µm,9.6s						
KSH				LR	LR		
	comp=Z,2µm,16.2s						
KSH				LR	LR		
	comp=Z,3µm,14.4s						
AML	Almayashu	19.62	40	P	P	22 59 18.4	+0.5
	SNR=126						
EKS2	Erkin-Say	20.02	39	P	Pn	22 59 23.1	-0.6
	SNR=98						
UCH	Uchtor	20.16	41	P	P	22 59 24.3	+0.6
	SNR=42						
GOF	Gofitskoye	20.21	331⥣	iP	Pn	22 59 25.2	-0.6
GOF				pmax	pmax		
	comp=Z,255nm,0.8s						
AAK	Ala-Archa	20.41	40	P	Pn	22 59 27.5	-0.8
	comp=Z,41nm,0.6s,baz=220,slow=6.1,SNR=210						
AAK				PcP	PcP	23 03 39.1	+0.6
	comp=Z,3.9nm,0.6s,baz=186,slow=5.1,SNR=5.0						
AAK				LR	LR	23 08 18.6	
	comp=Z,1µm,18.6s,baz=244,slow=40						
AAK	Ala-Archa	20.41	40	P	Pn	22 59 27.6	-0.7
	SNR=60						
AAK	Ala-Archa	20.41	40	iP	P	22 59 26.2	+0.1
AAK				pmax	pmax		
	comp=Z,41nm,0.7s						
AAK	Ala-Archa	20.41	40	P	Pn	22 59 27.4	-0.8
KBK	Karagaybulak	20.68	40	P	Pn	22 59 30.6	-0.9
	SNR=30						
SOC	Sochi	20.74	323	eP	P	22 59 28.2	-1.3
SOC				ePPP	PPP	22 59 54.1	
SOC				eS	S	23 03 20.4	-0.2
SOC				eSS	SnSn	23 03 39.8	-0.7
SOC				eSSS	SSS	23 03 56.7	
SOC				pmax	pmax		
	comp=Z,93nm,0.8s						
SOC				MLR	MLR		
	comp=Z,901nm,15.0s						
TOKA	Tokat	20.76	311	P	Pn	22 59 31.4	-0.9
TOKA				IAmb	IAmb	22 59 33.4	
	comp=Z,87nm,0.8s						
CHMS	Chumysh	20.78	39	P	P	22 59 30.5	+0.4
	SNR=13						
USP	Ospenovka	20.82	39	P	P	22 59 30.6	+0.1
	SNR=31						
SGDS	Sogindy	21.01	38	eP	P	22 59 31.7	-0.9
	baz=39						
SGDS	Sogindy	21.01	38	eP	P	22 59 31.6	-0.9
ATD	Arta Tunnel	21.03	221	P	P	22 59 32.3	-0.7
CSS	Mathiatis	21.16	295	P	P	22 59 34.4	+0.1
CSS				IAmb	IAmb	22 59 41.0	
	comp=Z,70nm,0.8s						
ULHL	Ulahol	21.19	43	P	P	22 59 36.1	+1.4
	SNR=60						
TKM2	Tokmak 2	21.21	41	P	P	22 59 35.6	+0.6
	SNR=33						
AB31	Akbulak array	21.30	6	iP	P	22 59 36.0	+0.5
AB31				pmax	pmax		
	comp=Z,64nm,0.5s						
ABKAR	Akbulak array	21.30	6	P	P	22 59 35.4	-0.1
ABKAR	Akbulak array	21.30	6	IAmb	IAmb	22 59 39.8	
	comp=Z,105nm,0.7s						
KVT	Kavak	21.42	313	P	P	22 59 39.3	+2.3
LEF	Lefka	21.55	295	⥣P	P	22 59 40.5	+2.2
BTLS	Baital	21.79	34	eP	P	22 59 39.8	-1.1
	comp=Z,21nm,0.6s,baz=35						
BTLS	Baital	21.79	34	eP	P	22 59 39.8	-1.1
BTLS				pmax	pmax		
	comp=Z,21nm,0.6s						
TNSS	Tian-Shan	22.07	42	eP	P	22 59 43.6	-0.9
	baz=42						
TNSS	Tian-Shan	22.07	42	eP	P	22 59 43.5	-0.9
AAA	Alma-Ata	22.16	42	eP	P	22 59 44.4	-0.6
	comp=Z,23nm,0.9s,baz=42						
AAA				eS	S	23 03 48.0	-0.7
	baz=42						
AAA	Alma-Ata	22.16	42	eP	P	22 59 44.3	-0.6
AAA				eS	S	23 03 47.9	-0.7
AAA				pmax	pmax		
	comp=Z,23nm,0.9s						
MDOK	Medeo	22.21	42	eP	P	22 59 44.6	-1.0
	baz=42						
MDOK				eS	S	23 03 49.3	-0.5
	baz=42						
MDOK	Medeo	22.21	42	eP	P	22 59 44.6	-1.0
MDOK				eS	S	23 03 49.2	-0.5
DIKM	Dikmen	22.23	313	⥣P	P	22 59 47.3	+1.7
KUU	Kurty	22.24	40	eP	P	22 59 45.4	-0.4
	comp=Z,45nm,0.7s,baz=40						
KUU	Kurty	22.24	40	eP	P	22 59 45.4	-0.4
KUU				pmax	pmax		
	comp=Z,45nm,0.7s						
AKTO	Aktyubinsk	22.36	2	P	P	22 59 47.4	+0.4
	comp=Z,56nm,0.8s,baz=176,slow=10,SNR=120						
AKTO				LR	LR	23 10 06.8	
	comp=Z,2µm,18.4s,baz=171,slow=41						
BR131	Keskin Array S	22.43	307c	iP	P	22 59 48.9	+1.0
BR131	Keskin Array S	22.43	307	P	P	22 59 49.1	+1.0
BRTR	Keskin Array B	22.43	307	P	P	22 59 49.0	+1.0
	comp=Z,48nm,0.8s,baz=133,slow=11,SNR=135						
BRTR				ScP	ScP	23 07 18.7	-0.8
	comp=Z,1.0nm,0.7s,baz=154,slow=5.2,SNR=3.6						
BRTR				LR	LR	23 10 11.9	
	comp=Z,2µm,19.4s,baz=119,slow=41						
BRTR	Keskin Array B	22.43	307	P	P	22 59 48.3	+0.3
BRTR	Keskin Array B	22.43	307	P	P	22 59 48.3	+0.3
CHKK	Chushkaly	22.59	40	eP	P	22 59 48.8	-0.7
	baz=41						
CHKK	Chushkaly	22.59	40	eP	P	22 59 48.8	-0.7
HYB	Hyderabad	22.62	113	iP	P	22 59 51.0	+1.0
ANN	Anapa	22.77	322	eP	P	22 59 50.7	-0.6
ANN				ePPP	PPP	23 00 24.6	
ANN				pmax	pmax		
	comp=Z,103nm,1.2s						
ANN				MLR	MLR		
	comp=Z,395nm,15.0s						
ILGA	Ilgaz	22.95	310	P	P	22 59 53.2	-0.3
ILGA				IAmb	IAmb	23 00 07.7	
	comp=Z,110nm,1.1s						
SATY	Saty	22.96	44	eP	P	22 59 52.6	-1.0
	baz=44						
SATY				eS	S	23 04 03.3	-0.2
	baz=44						
SATY	Saty	22.96	44	eP	P	22 59 52.5	-1.0
SATY				eS	S	23 04 03.2	-0.2
BR231	Keskin MP Arra	23.09	307	P	P	22 59 55.3	+0.5
BR231				IAmb	IAmb	23 00 05.7	
	comp=Z,50nm,0.8s						
BZK	Bozkurt	23.19	313	⥣P	P	22 59 57.1	+1.4
KPKS	Kokpek	23.36	43	eP	P	22 59 56.8	-0.7
	baz=43						
KPKS				eS	S	23 04 09.9	-0.1
	baz=43						
KPKS	Kokpek	23.36	43	eP	P	22 59 56.8	-0.7
KPKS				eS	S	23 04 09.9	-0.1
UZB	Uzynbulak	23.39	44	eP	P	22 59 57.4	-0.5
	comp=Z,15nm,0.7s,baz=44						
UZB				eS	S	23 04 10.9	+0.3
	baz=44						
UZB	Uzynbulak	23.39	44	eP	P	22 59 57.4	-0.5
UZB				eS	S	23 04 10.9	+0.3
UZB				pmax	pmax		
	comp=Z,15nm,0.7s						
SHLS	Shalkode	23.67	45	eP	P	23 00 02.0	+1.4
	comp=Z,35nm,0.9s,baz=45						
SHLS	Shalkode	23.67	45	eP	P	23 00 02.0	+1.4
SHLS				pmax	pmax		
	comp=Z,35nm,0.9s						
ISP	Isparta	24.07	301	P	P	23 00 05.3	+0.8
ISP				pmax	pmax		
	comp=Z,78nm,0.9s						
ISP	Isparta	24.07	301	P	P	23 00 05.3	+0.8
ISP				IAmb	IAmb	23 00 22.7	
	comp=Z,78nm,0.9s						
TDK	Taldyqorghan	24.09	40	eP	P	23 00 03.2	-1.4
	comp=Z,64nm,1.1s,baz=40						
TDK	Taldyqorghan	24.09	40	eP	P	23 00 03.1	-1.4
TDK				pmax	pmax		
	comp=Z,64nm,1.1s						
ELL	Elmali	24.27	298	P	P	23 00 07.5	+1.2
ELL				pmax	pmax		
	comp=Z,235nm,0.7s						
ELL	Elmali	24.27	298	P	P	23 00 07.5	+1.2

AKAS Kas 24.40 296 P **P** **23 00 07.0 -0.6**
AKAS IAmb IAmb 23 00 20.3
comp=Z,58nm,1.2s
MDUB Mudurnu 24.45 307 P **P** **23 00 07.5 -0.4**
GKN Gorkha 24.52 84 *e*P **P** **23 00 09.2 +0.5**
comp=Z,74nm,0.5s
KDZE Karadeniz Ereo 24.61 309 ⇑P **P** **23 00 11.1 +1.8**
SIM Simferopol' 24.72 319 *e*P **P** **23 00 09.3 -0.9**
SIM *e*S **S** **23 04 29.4 -2.3**
SIM pmax pmax
comp=Z,102nm,0.7s
DMN Daman 24.98 84 *e*P **P** **23 00 13.6 +0.6**
comp=Z,59nm,0.5s
BRZS Berezniki 25.01 25 *e*P **P** **23 00 11.8 -1.0**
comp=Z,24nm,0.9s,baz=25
BRZS Berezniki 25.01 25 *e*P **P** **23 00 11.7 -1.0**
BRZS pmax pmax
comp=Z,24nm,0.9s
KKN Kakani 25.11 84 *e*P **P** **23 00 14.8 +0.7**
comp=Z,109nm,0.5s
PKIN Phulchoki 25.24 84 *e*P **P** **23 00 16.0 +0.6**
comp=Z,100nm,0.5s
PKI Pulchoki 25.25 84 *e*P **P** **23 00 16.0 +0.4**
comp=Z,133nm,0.6s
BELG Belogornoye 25.26 347 P **P** **23 00 14.9 0.0**
comp=Z,110nm,0.8s,baz=335,slow=0.7,SNR=124
BELG LR LR 23 13 12.6
comp=Z,486nm,19.0s,baz=135,slow=44
BELG Belogornoye 25.26 347*c i*P **P** **23 00 14.8 -0.1**
BELG pmax pmax
comp=Z,25nm,0.9s
GUN Gumba 25.62 83 *e*P **P** **23 00 19.1 +0.2**
comp=Z,190nm,0.7s
MANT Manisa 25.74 301 P **P** **23 00 20.0 +0.2**
VRH Novokhopyorsk 25.78 338 *e*P **P** **23 00 19.4 -0.3**
VRH pmax pmax
comp=Z,370nm,0.6s
KARP Karpathos 26.24 294 P **P** **23 00 23.2 -0.9**
VORD Divnogorie 26.45 335 *e*P **P** **23 00 25.3 -0.4**
VORD pmax pmax
comp=Z,90nm,1.0s
VSR Storozhevoye 26.69 335 *e*P **P** **23 00 27.3 -0.7**
VSR pmax pmax
comp=Z,90nm,0.6s
BRVK Borovoye 26.88 18 *i*P **P** **23 00 28.9 -0.8**
BRVK pmax pmax
comp=Z,45nm,1.0s
BRVK Borovoye 26.88 18 P **P** **23 00 30.2 +0.5**
BRVK IAmb IAmb 23 00 31.2
comp=Z,50nm,0.9s
BVAR Borovoye Array 26.88 18 P **P** **23 00 29.5 -0.2**
comp=Z,52nm,0.9s,baz=188,slow=9.0,SNR=165
VORR Voronezh 27.05 335 *e*P **P** **23 00 32.0 +0.9**
VORR pmax pmax
comp=Z,500nm,0.8s
MAKZ Makanchi 27.17 40 P **P** **23 00 32.5 +0.1**
MAKZ pmax pmax
comp=Z,56nm,1.2s
MAKZ Makanchi 27.17 40 P **P** **23 00 32.5 +0.1**
MAKZ IAmb IAmb 23 00 34.0
comp=Z,56nm,1.1s
MK31 Makanchi Array 27.34 40*c i*P **P** **23 00 34.2 +0.3**
MK31 Makanchi Array 27.34 40 P **P** **23 00 34.1 +0.2**
MKAR Makanchi Array 27.34 40 P **P** **23 00 34.1 +0.2**
comp=Z,8.0nm,0.6s,baz=226,slow=9.2,SNR=185
MKAR LR LR 23 12 31.8
comp=Z,572nm,18.2s,baz=247,slow=39
MKAR Makanchi Array 27.34 40 P **P** **23 00 33.9 0.0**
MKAR Makanchi Array 27.34 40 P **P** **23 00 33.9 0.0**
JURR Jurilovca 27.81 314 ⇑P **P** **23 00 38.5 +0.4**
KURBB Kurchatov Arra 27.89 30 P **P** **23 00 39.5 +0.8**
comp=Z,32nm,0.8s,baz=229,slow=8.6,SNR=294
LPSR Galich'ya Gora 27.90 336 *e*P **P** **23 00 38.5 -0.3**
LPSR pmax pmax
comp=Z,90nm,0.6s
TIRR Tirgusor 27.97 313 ⇑P **P** **23 00 39.3 -0.3**
TIRR Tirgusor 27.97 313 P **P** **23 00 39.2 -0.3**
KURK Kurchatov 28.00 30 P **P** **23 00 39.6 -0.1**
KURK Kurchatov 28.00 30 P **P** **23 00 39.5 -0.1**
IDI Anoyia 28.05 293 P **P** **23 00 41.7 +1.3**
comp=Z,37nm,0.6s,baz=76,slow=10,SNR=45
IDI Anoyia 28.05 293 ⇑P **P** **23 00 41.8 +1.4**
IDI Anoyia 28.05 293 P **P** **23 00 40.4 0.0**
IDI IAmb IAmb 23 00 42.6
comp=Z,42nm,0.7s
TLCR 28.05 315 ⇑P **P** **23 00 41.2 +0.9**
TLCR 28.05 315 P **P** **23 00 41.1 +0.9**
TPGR Topolog 28.14 314 ⇑P **P** **23 00 41.2 +0.1**
ICOR Ion Corvin 28.22 312 ⇑P **P** **23 00 41.7 -0.1**
TLBR Topalu 28.24 313 ⇑P **P** **23 00 42.2 +0.3**
ALN Alexandroupoli 28.28 305 P **P** **23 00 41.5 -0.8**
ALN pmax pmax
comp=Z,14nm,0.8s
ALN Alexandroupoli 28.28 305 P **P** **23 00 41.5 -0.8**
ARU Arti 28.38 2 P **P** **23 00 43.5 +0.5**
comp=Z,1.9nm,0.4s,baz=174,slow=3.4,SNR=12
ARU LR LR 23 13 24.1
comp=Z,447nm,20.3s,baz=186,slow=39
ARU Arti 28.38 2*d i*P **P** **23 00 43.6 +0.6**
ARU S **S** **23 05 31.6 +2.4**
ARU pmax pmax
comp=Z,18nm,1.1s
ARU Arti 28.38 2 P **P** **23 00 43.0 0.0**
HARR Harsova 28.38 313 ⇑P **P** **23 00 43.6 +0.4**
HARR Harsova 28.38 313 P **P** **23 00 43.5 +0.4**
CFR Carcaliu 28.47 315 ⇑P **P** **23 00 43.8 -0.2**
CFR Carcaliu 28.47 315 P **P** **23 00 43.7 -0.2**
SVE Sverdlovsk 28.87 4‖*e*P **P** **23 00 47.3 -0.1**
SVE pmax pmax
comp=Z,23nm,1.3s
SVE MLR MLR
comp=Z,1μm,17.0s
VARL Varlezi 28.98 316 ⇑P **P** **23 00 49.0 +0.5**
ZSN Zaisan 29.17 41 *e*P **P** **23 00 49.2 -1.0**
baz=41
ZSN Zaisan 29.17 41 *e*P **P** **23 00 49.2 -1.0**
BIR Birlad 29.29 316 ⇑P **P** **23 00 51.9 +0.7**
BIR Birlad 29.29 316 P **P** **23 00 51.9 +0.7**
WMQ Urumqi 29.30 49 P **P** **23 00 52.4 +0.9**
WMQ pP sP 23 00 57.5 -1.1
WMQ pmax pmax
comp=Z,38nm,0.7s
WMQ pmax pmax
comp=Z,290nm,4.5s
WMQ LR LR
comp=Z,740nm,15.7s
WMQ LR LR
comp=Z,930nm,21.9s
WMQ LR LR
comp=Z,670nm,22.7s
WMQ Urumqi 29.30 49 P **P** **23 00 52.0 +0.5**
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ Urumqi 29.30 49 P **P** **23 00 52.0 +0.5**
WMQ IAmb IAmb 23 00 59.9
comp=Z,26nm,0.7s
GHRR 29.33 316 ⇑P **P** **23 00 52.9 +1.3**
VASR Vaslui 29.37 317 ⇑P **P** **23 00 52.6 +0.6**
ODBI Odobesti 29.41 315 ⇑P **P** **23 00 53.7 +1.3**
PLD Plovdiv 29.60 307 P **P** **23 00 57.6 +3.5**
PLD pmax pmax
comp=Z,87nm,0.9s
VRI Vrincioaia 29.66 315 ⇑P **P** **23 00 55.6 +1.0**
VRI Vrincioaia 29.66 315 P **P** **23 00 56.0 +1.4**
VRI pmax pmax
comp=Z,22nm,1.0s
PLOR Plostina 29.71 315 ⇑P **P** **23 00 55.8 +0.8**
PLOR Plostina 29.71 315 P **P** **23 00 55.8 +0.8**
NEHR Nehoiu 29.75 314 ⇑P **P** **23 00 57.2 +1.8**
IAS Iasi 29.78 318 ⇑P **P** **23 00 55.9 +0.3**
IAS Iasi 29.78 318 P **P** **23 00 55.8 +0.3**
SORM Soroca 29.80 320 ⇑P **P** **23 00 55.3 -0.4**
SORM Soroca 29.80 320 P **P** **23 00 55.3 -0.4**
COPA Copaceanca 29.94 311 ⇑P **P** **23 00 58.4 +1.4**
MLR Muntele Rosu 30.00 314 P **P** **23 00 58.2 +0.5**
comp=Z,14nm,0.9s,baz=37,slow=2.5,SNR=14
MLR Muntele Rosu 30.00 314 ⇑P **P** **23 00 59.1 +1.4**
MLR Muntele Rosu 30.00 314 P **P** **23 00 58.2 +0.5**
MLR IAmb IAmb 23 01 08.1
comp=Z,28nm,1.0s
TESR Tescani 30.00 316 ⇑P **P** **23 00 58.1 +0.5**
LSA Lhasa 30.02 79 P **P** **23 00 58.9 +0.4**
LSA pmax pmax
comp=Z,8.0nm,0.6s
comp=Z,249nm,19.0s,baz=96,slow=37
KECS Kecovo 34.62 316 *e*P **P** **23 01 39.1 +1.1**
KECS pmax pmax
comp=Z,27nm,1.5s
KECS Kecovo 34.62 316 *e*P **P** **23 01 39.1 +1.1**
PSZ Piszkesteto 34.78 315 ⇑P **P** **23 01 39.6 +0.1**
PSZ Piszkesteto 34.78 315 P **P** **23 01 38.9 -0.6**
PSZ pmax pmax
comp=Z,17nm,1.1s
PSZ Piszkesteto 34.78 315 P **P** **23 01 38.9 -0.6**
KLMR Klimovskoe 34.81 345 *e*P **P** **23 01 36.4 -3.0**
KLMR *e* 23 02 53.3
KLMR pmax pmax
comp=Z,117nm,1.4s
KLMR Klimovskoe 34.81 345 *e*P **P** **23 01 36.4 -3.0**
KLMR AMP 23 01 40.1
comp=Z,117nm,1.4s
KLMR *e*PP **PnPn** **23 02 53.3 -2.4**
KLMR LQ LQ 23 15 06.5
KLMR LQ LQ 23 15 06.5
KLMR LR LR 23 18 10.6
IDID Didziasalis 34.81 330 *e*P **P** **23 01 40.4 +0.9**
TIP Timpagrande 34.91 299 ⇑P **P** **23 01 41.5 +0.7**
TIP Timpagrande 34.91 299 P **P** **23 01 40.6 -0.2**
MORH Mrgy, Hungar 35.01 312 ⇑P **P** **23 01 42.3 +0.9**
MORH Mrgy, Hungar 35.01 312 *e*P **P** **23 01 41.8 +0.4**
IIGN Ignalina 35.06 330 *e*P **P** **23 01 43.0 +1.3**
NIE Niedzica 35.11 317 P **P** **23 01 45.1 +2.9**
BUD Budapest 35.17 314 P **P** **23 01 43.7 +0.9**
BUD pmax pmax
comp=Z,31nm,1.2s
ISAL Salakas 35.24 330 *e*P **P** **23 01 44.4 +1.1**
LANS Liptovska Anna 35.50 317 *e*P **P** **23 01 46.6 +0.9**
LANS pmax pmax
comp=Z,19nm,1.2s
LANS Liptovska Anna 35.50 317 *e*P **P** **23 01 46.6 +0.9**
MGRS Mrkonjic Grad 35.58 308 *e*P **P** **23 01 47.1 +0.7**
BLY Banja Luka 35.59 309 *e*P **P** **23 01 44.6 -1.9**
VYHS Vyhne 35.65 315 *e*P **P** **23 01 47.4 +0.5**
VYHS Vyhne 35.65 315 *e*P **P** **23 01 47.3 +0.4**
SUW Suwalki 35.72 326 *e*P **P** **23 01 47.2 -0.1**
SUW Suwalki 35.72 326 *e*P **P** **23 01 47.4 0.0**
SUW Suwalki 35.72 326 P **P** **23 01 46.5 -0.9**
SUW pmax pmax
comp=Z,108nm,1.3s
SUW Suwalki 35.72 326 P **P** **23 01 46.5 -0.9**
OJC Ojcow 35.73 318 *e*P **P** **23 01 48.1 +0.6**
OJC Ojcow 35.73 318 P **P** **23 01 47.6 0.0**
OJC pmax pmax
comp=Z,214nm,1.3s
OJC Ojcow 35.73 318 P **P** **23 01 47.6 0.0**
SRO Srobarova 35.74 314 *e*P **P** **23 01 48.9 +1.3**
SRO Srobarova 35.74 314 *e*P **P** **23 01 48.9 +1.3**
BEL Belsk 35.87 321 *e*P **P** **23 01 49.2 +0.5**
BEL Belsk 35.87 321 P **P** **23 01 51.2 +2.5**
BEL pmax pmax
comp=Z,122nm,0.9s
PABE Paberze 36.18 328 *e*P **P** **23 01 51.9 +0.6**
JAVC Velka Javorina 36.50 315 *e*P **P** **23 01 55.5 +1.3**
PUL Pulkovo 36.51 338*c e*P **P** **23 01 54.2 +0.1**
PUL pmax pmax
comp=Z,123nm,0.7s
SMOL Smolenice 36.53 315 *e*P **P** **23 01 54.8 +0.4**
SMOL pmax pmax
comp=Z,13nm,1.3s
SMOL Smolenice 36.53 315 *e*P **P** **23 01 54.8 +0.4**
MODS Modra-Piesok 36.58 315 *e*P **P** **23 01 54.5 -0.4**
MODS pmax pmax
comp=Z,62nm,1.5s
MODS Modra-Piesok 36.58 315 *e*P **P** **23 01 54.5 -0.4**
VAE Valguarnera 36.63 296 P **P** **23 01 57.0 +1.4**
comp=Z,21nm,0.7s,baz=251,slow=1.8,SNR=7.0
ZST Bratislava 36.63 314 *e*P **P** **23 01 55.6 +0.3**
ZST pmax pmax
comp=Z,125nm,1.4s
ZST Bratislava 36.63 314 *e*P **P** **23 01 55.6 +0.3**
KOGS Kog 36.67 311 *i*P **P** **23 01 56.2 +0.6**
comp=Z,73nm,0.5s
PAOL Paolisi 36.80 302 P **P** **23 01 56.8 -0.1**
PAOL IAmb IAmb 23 01 58.3
comp=Z,31nm,0.7s
SOP Sopron 36.82 313 P **P** **23 01 57.5 +0.6**
SOP pmax pmax
comp=Z,93nm,1.1s
VSU Vasula 36.87 334 *e*P **P** **23 01 57.6 +0.4**
VSU Vasula 36.87 334*c i*P **P** **23 01 57.3 +0.1**
VSU pmax pmax
comp=Z,345nm,0.9s
MORC Moravsky Berou 36.90 317 ⇑P **P** **23 01 57.8 +0.1**
MORC Moravsky Berou 36.90 317 *e*P **P** **23 01 57.7 +0.1**
MORC Moravsky Berou 36.90 317 P **P** **23 01 57.4 -0.2**
MORC pmax pmax
comp=Z,25nm,0.7s
MORC Moravsky Berou 36.90 317 P **P** **23 01 57.4 -0.2**
MORC IAmb IAmb 23 01 58.3
comp=Z,25nm,0.7s
CRES Cresnjev 37.04 310 *e*P **P** **23 01 59.6 +0.8**
BOJS Bojanci 37.10 309 *i*P **P** **23 02 00.2 +0.8**
GTA Gaotai 37.17 61 ⇑P **P** **23 02 00.5 +0.3**
GTA pP pP 23 02 05.1 -0.2
GTA sP sP 23 02 07.7 +0.3
GTA S **S** **23 07 46.0 -0.5**
GTA pmax pmax
comp=Z,28nm,0.9s
GTA pmax pmax
comp=Z,220nm,7.7s
GTA LR LR
comp=Z,240nm,17.4s
GTA LR LR
comp=Z,140nm,17.8s
GTA LR LR
comp=Z,210nm,20.0s
VRAC Vranov 37.32 316 P **P** **23 02 01.2 +0.1**
comp=Z,19nm,0.5s,baz=100,slow=8.7,SNR=53
VRAC Vranov 37.32 316 ⇑P **P** **23 02 01.8 +0.7**
VRAC Vranov 37.32 316 *e*P **P** **23 02 01.6 +0.5**
CONA Conrad Observa 37.34 313 *i*P **P** **23 02 01.6 +0.2**
comp=Z,7.5nm,0.5s,SNR=7.3
KRUC Moravsky 37.36 315 *e*P **P** **23 02 01.9 +0.4**
KRUC Moravsky 37.36 315 P **P** **23 02 01.9 +0.4**
KRUC pmax pmax
comp=Z,41nm,1.3s
ARSA Arzberg 37.37 312 *i*P **P** **23 02 02.1 +0.5**
comp=Z,13nm,0.7s,SNR=6.8
PBUR Paburge 37.43 328 *e*P **P** **23 02 02.1 +0.2**
KRLC Kraliky 37.47 317 *e*P **P** **23 02 02.0 -0.4**
KRLC Kraliky 37.47 317 *e*P **P** **23 02 02.0 -0.4**
SOKA Soboth 37.54 311 *i*P **P** **23 02 03.5 +0.4**
comp=Z,5.6nm,0.5s
VALR Valaam 37.54 340 *i*P **P** **23 02 02.5 -0.3**
VALR pmax pmax
comp=Z,50nm,0.9s
CEY Cerknica 37.72 309 *e*P **P** **23 02 04.9 +0.3**
LJU Ljubljana 37.72 310 *i*P **P** **23 02 05.5 +0.9**
LJU Ljubljana 37.72 310 *e*P **P** **23 02 05.2 +0.6**
OBKA Obir 37.82 311 *i*P **P** **23 02 06.0 +0.5**
comp=Z,15nm,0.9s
DPC Dobruska-Polom 37.84 317 *e*P **P** **23 02 04.9 -0.7**
DPC Dobruska-Polom 37.84 317 *e*P **P** **23 02 04.9 -0.7**
MBAR Mbarara 37.94 226 P **P** **23 02 06.8 -0.1**
MBAR pmax pmax
comp=Z,11nm,0.9s
MBAR Mbarara 37.94 226 P **P** **23 02 06.8 -0.1**
OSTC Ostas 37.98 318 *e*P **P** **23 02 06.2 -0.5**
TREC Trest 38.00 315 *e*P **P** **23 02 06.9 0.0**
TREC Trest 38.00 315 *e*P **P** **23 02 06.9 -0.4**
KSP Ksiaz 38.03 318 *e*P **P** **23 02 07.6 +0.4**
KSP Ksiaz 38.03 318 P **P** **23 02 07.5 +0.4**
KSP pmax pmax
comp=Z,30nm,1.5s
TMCR Tamitsa 38.07 347 *e*P **P** **23 02 06.1 -1.1**
TMCR pmax pmax
comp=Z,64nm,1.1s
UPC Upice 38.08 317 *e*P **P** **23 02 07.5 -0.1**
UPC Upice 38.08 317 *e*P **P** **23 02 07.5 -0.1**
CHVC Chvalec 38.08 318 *e*P **P** **23 02 07.6 0.0**
TRI Trieste 38.17 309 P **P** **23 02 06.7 -1.6**
TRI pmax pmax
comp=Z,53nm,1.0s
TRI Trieste 38.17 309 P **P** **23 02 06.7 -1.6**
TRI IAmb IAmb 23 02 19.5
comp=Z,53nm,1.0s
SLIT Slitere, Latvi 38.18 330 *e*P **P** **23 02 08.0 -0.2**

LSA Lhasa 30.02 79 P **P** **23 00 58.9 +0.4**
PLVB Pleven 30.07 309 ⇑P **P** **23 00 59.0 +0.7**
SRS Serrai 30.12 304 P **P** **23 00 59.5 +0.8**
SRS pmax pmax
comp=Z,28nm,1.5s
SOH Sokhos 30.22 304 P **P** **23 01 01.4 +1.8**
VOIR 30.55 313 ⇑P **P** **23 01 03.4 +0.9**
VOIR 30.55 313 P **P** **23 01 03.8 +1.3**
VOIR pmax pmax
comp=Z,37nm,1.1s
DOPR Dopca 30.55 314 ⇑P **P** **23 01 03.3 +0.9**
AGG Agios Georgios 30.60 300 P **P** **23 01 02.2 -0.8**
AGG pmax pmax
comp=Z,40nm,1.2s
AGG Agios Georgios 30.60 300 P **P** **23 01 02.2 -0.8**
AGG IAmb IAmb 23 01 10.9
comp=Z,40nm,1.2s
ITM Ithomi 30.64 296 P **P** **23 01 02.8 -0.6**
ITM IAmb IAmb 23 01 11.3
comp=Z,64nm,1.2s
PRAR RASCA 30.65 317 ⇑P **P** **23 01 02.9 -0.5**
OBN Obninsk 30.76 337 P **P** **23 01 04.8 +0.7**
comp=Z,34nm,0.6s,baz=64,slow=2.8,SNR=30
OBN Obninsk 30.76 337 ⇑P **P** **23 01 04.8 +0.7**
OBN Obninsk 30.76 337*ce*P **P** **23 01 04.6 +0.5**
OBN *e**PP **pP** **23 01 08.5 -0.6**
OBN *e* 23 02 04.1
OBN *e* 23 04 03.0
OBN *i*S **S** **23 06 06.0 -0.6**
OBN pmax pmax
comp=Z,119nm,0.6s
OBN pmax pmax
comp=Z,165nm,0.7s
OBN MLR MLR
comp=Z,219nm,14.0s
OBN Obninsk 30.76 337 P **P** **23 01 04.7 +0.6**
AKASG Malin Array Be 30.78 325 P **P** **23 01 03.9 -0.5**
comp=Z,15nm,0.7s,baz=127,slow=8.3,SNR=75
AKASG PcP **PcP** **23 04 01.0 -0.5**
comp=Z,1.1nm,0.5s,baz=98,slow=2.4,SNR=4.2
AKASG ScP **ScP** **23 07 42.1 -1.6**
comp=Z,0.2nm,0.3s,baz=93,slow=2.6,SNR=5.6
AKASG LR LR 23 16 22.6
comp=Z,322nm,21.2s,baz=110,slow=42
AKASG Malin Array Be 30.78 325 P **P** **23 01 03.6 -0.8**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 30.78 325 P **P** **23 01 03.6 -0.8**
AKBB Malin Array Si 30.78 325*ce*P **P** **23 01 03.7 -0.7**
AKBB Malin Array Si 30.78 325 P **P** **23 01 03.5 -0.9**
AKBB IAmb IAmb 23 01 05.3
comp=Z,29nm,0.7s
ARR Arges 30.79 313 ⇑P **P** **23 01 05.6 +1.0**
VTS Vitosha 30.79 307 ⇑P **P** **23 01 05.6 +0.8**
VTS Vitosha 30.79 307 P **P** **23 01 08.3 +3.5**
VTS pmax pmax
comp=Z,18nm,1.0s
MOS Moscow 30.92 339 *e*P **P** **23 01 05.1 -0.4**
MOS *e* 23 02 12.0
MOS pmax pmax
comp=Z,66nm,0.7s
MOS MLR MLR
comp=Z,300nm,17.0s
VAY Valandovo 30.92 304 P **P** **23 01 07.9 +2.2**
VAY pmax pmax
comp=Z,52nm,1.2s
VAY Valandovo 30.92 304 *i*P **P** **23 01 05.9 +0.2**
KIRV Kirov 30.95 352 P **P** **23 01 06.1 +0.4**
comp=Z,42nm,0.8s,baz=161,slow=5.7,SNR=20
KIRV Kirov 30.95 352*ce*P **P** **23 01 05.9 +0.2**
GRG Griva 30.95 304 P **P** **23 01 07.7 +1.6**
STIP Stip 31.29 305 *i*P **P** **23 01 08.5 -0.5**
BURAR Bucovina Array 31.38 317 ⇑P **P** **23 01 10.6 +0.8**
BURAR Bucovina Array 31.38 317 P **P** **23 01 10.6 +0.8**
BURAR Bucovina Array 31.38 317 P **P** **23 01 09.3 -0.6**
LOT Lotru 31.38 312 ⇑P **P** **23 01 09.9 0.0**
BUR08 Bucovina Ar. S 31.40 317 P **P** **23 01 10.3 +0.3**
ARCR ARCALIA 31.67 316 ⇑P **P** **23 01 13.5 +1.2**
FNA Florina 31.67 303 P **P** **23 01 12.6 +0.2**
FNA pmax pmax
comp=Z,28nm,0.7s
FNA Florina 31.67 303 P **P** **23 01 12.6 +0.2**
FNA IAmb IAmb 23 01 14.8
comp=Z,28nm,0.7s
GZR Gura Zlata 32.01 312 ⇑P **P** **23 01 16.1 +0.7**
HERR Herculane 32.07 311 ⇑P **P** **23 01 16.0 +0.1**
DEV Deva 32.11 313 ⇑P **P** **23 01 18.1 +2.0**
DEV Deva 32.11 313 P **P** **23 01 18.1 +2.0**
OHR Ohrid 32.17 303 P **P** **23 01 17.3 +0.5**
OHR pmax pmax
comp=Z,115nm,1.0s
OHR Ohrid 32.17 303 *i*P **P** **23 01 17.6 +0.8**
MDVR Moldovita 32.51 310 ⇑P **P** **23 01 20.9 +1.1**
BZS Buzias 32.86 312 ⇑P **P** **23 01 23.5 +0.8**
ZALV Zalesovo Beam 32.99 31 P **P** **23 01 23.8 +0.1**
comp=Z,63nm,0.3s,baz=240,slow=9.4,SNR=365
ZALV PcP **PcP** **23 04 06.9 -0.5**
comp=Z,2.8nm,0.5s,baz=257,slow=3.4,SNR=3.7
ZALV LR LR 23 16 20.4
comp=Z,442nm,21.3s,baz=227,slow=39
ZALV Zalesovo Beam 32.99 31 P **P** **23 01 23.7 0.0**
SIRR Siria 33.06 313 ⇑P **P** **23 01 26.0 +1.5**
BANR Banloc 33.10 311 ⇑P **P** **23 01 26.4 +1.6**
LVV L'vov 33.11 320 *e*P **P** **23 01 24.7 -0.1**
DIVS Divibare 33.48 308 *e*P **P** **23 01 27.9 -0.4**
DIVS Divibare 33.48 308 P **P** **23 01 28.3 0.0**
DIVS IAmb IAmb 23 01 36.9
comp=Z,21nm,0.9s
UZH Uzhgorod 33.59 317*c i*P **P** **23 01 28.1 -0.9**
UZH *e* 23 01 33.4
KOLS Kolonicke sedl 33.73 318 *e*P **P** **23 01 31.6 +1.3**
KOLS pmax pmax
comp=Z,138nm,1.3s
KOLS Kolonicke sedl 33.73 318 *e*P **P** **23 01 31.6 +1.3**
KWP Kalwaria Pacla 33.78 319 *e*P **P** **23 01 31.3 +0.6**
KWP Kalwaria Pacla 33.78 319 P **P** **23 01 30.8 +0.1**
KWP pmax pmax
comp=Z,192nm,1.3s
KWP Kalwaria Pacla 33.78 319 P **P** **23 01 30.8 +0.1**
MNK Minsk 33.78 329 *i*P **P** **23 01 30.6 -0.1**
comp=E,7.0nm,1.0s
MNK *i*P **P** **23 01 30.6 -0.1**
comp=N,25nm,0.8s
MNK *i*P **P** **23 01 30.6 -0.1**
comp=Z,64nm,0.8s
MNK *i*PP **PnPn** **23 02 43.7 +0.8**
MNK *i*PPP PPP 23 02 55.0
MNK *i*PcP **PcP** **23 04 08.2 -1.5**
MNK *i*S **S** **23 06 56.2 +2.4**
MNK *i*SS **SnSn** **23 08 59.2 +0.7**
MNK *i*SSS SSS 23 09 20.2
MNK *i*LR LR 23 15 22.3
MNK *i*LRM MLR 23 17 17.5
comp=Z,310nm,21.0s
MNK *i*LRM MLR 23 17 20.4
comp=N,210nm,17.4s
MNK *i*LRM MLR 23 17 21.8
comp=E,14nm,18.1s
BBLS Lazići 33.83 308 *e*P **P** **23 01 30.0 -1.3**
FRGS Fruska Gora 33.91 310 ⇑P **P** **23 01 32.6 +0.7**
FRGS Fruska Gora 33.91 310 *e*P **P** **23 01 32.2 +0.2**
HCV Herceg Novi 34.14 305 *e*P **P** **23 01 33.2 -0.7**
CRVS Cervenica-Dubn 34.20 317 *e*P **P** **23 01 35.2 +0.8**
CRVS pmax pmax
comp=Z,46nm,1.3s
CRVS Cervenica-Dubn 34.20 317 *e*P **P** **23 01 35.2 +0.8**
CRVS *e* 23 17 49.6
HAPS Han Pijesak,Bl 34.20 308 *e*P **P** **23 01 34.1 -0.5**
TREB Trebinje 34.30 306 *e*P **P** **23 01 33.9 -1.4**
PRGR Permogore 34.40 351 *e*P **P** **23 01 33.9 -2.0**
PRGR pmax pmax
comp=Z,43nm,1.6s
NACGM Naroch 34.53 329 *i*P **P** **23 01 37.0 -0.2**
NACGM *i*P **P** **23 01 37.0 -0.2**
NACGM *i*P **P** **23 01 37.0 -0.2**
NACGM *i*PP **PP** **23 02 54.4 -1.0**
NACGM *i*PPP PPP 23 03 07.7
NACGM *i*S **S** **23 07 04.5 -0.8**
NACGM *i*SS **SnSn** **23 09 16.1 -0.7**
NACGM *i*SSS SSS 23 10 05.8
NACGM *i*LQ LQ 23 12 31.5
NACGM *i*LR LR 23 16 50.1
KMBO Kilima Mbogo 34.59 216 LR LR 23 16 12.0

MTSE Matsula 38.20 333 *e*P **P** **23 02 08.8 +0.5**
MOA Molln 38.35 313 *i* P **P** **23 02 10.3 +0.4**
comp=Z,26nm,0.7s,SNR=13
GKP Gorka Klasztor 38.45 322 *e*P **P** **23 02 10.7 +0.1**
GKP Gorka Klasztor 38.45 322 *e*P **P** **23 02 11.0 +0.4**
GKP Gorka Klasztor 38.45 322 P **P** **23 02 12.1 +1.5**
GKP pmax pmax
comp=Z,73nm,1.7s
MYKA Terra Mystica 38.46 311 *i* P **P** **23 02 11.3 +0.4**
comp=Z,5.8nm,0.4s
KBA Koelnbreinsper 38.76 311 *i* P **P** **23 02 13.9 +0.3**
comp=Z,18nm,0.7s,SNR=8.7
KBA Koelnbreinsper 38.76 311 P **P** **23 02 14.0 +0.5**
PRU Pruhonice 38.80 316 *e*P **P** **23 02 12.9 -0.7**
PRU Pruhonice 38.80 316 *e*P **P** **23 02 12.9 -0.7**
ZOU Zoufplan 38.89 310 P **P** **23 02 14.3 -0.4**
ZOU IAmb IAmb 23 02 24.6
comp=Z,52nm,1.4s
PRA Prague 38.89 316 *e*P **P** **23 02 14.0 -0.4**
PRA Prague 38.89 316 *e*P **P** **23 02 14.0 -0.4**
PVCC Panska Ves 38.95 317 *e*P **P** **23 02 14.9 0.0**
PVCC Panska Ves 38.95 317 *e*P **P** **23 02 14.9 0.0**
GEC2 GERESS Array S 38.98 314 P **P** **23 02 14.9 -0.4**
GEC2 GERESS Array S 38.98 314 *e*P **P** **23 02 15.4 +0.1**
comp=Z,34nm,0.9s,baz=107,slow=8.4
GERES GERESS Array B 38.98 314 P **P** **23 02 15.3 0.0**
comp=Z,14nm,0.8s,baz=106,slow=8.4,SNR=107
GERES PcP **PcP** **23 04 25.1 -0.4**
comp=Z,1.8nm,0.6s,baz=123,slow=3.6,SNR=3.2
GERES GERESS Array B 38.98 314 P **P** **23 02 14.7 -0.6**
GERES GERESS Array B 38.98 314 P **P** **23 02 14.7 -0.6**
PBCC Pribram 39.04 315 *e*P **P** **23 02 15.7 0.0**
KHC Kasperske Hory 39.14 315 *c i*P **P** **23 02 16.2 -0.3**
KHC pmax pmax
comp=Z,165nm,1.4s
KHC Kasperske Hory 39.14 315 *e*P **P** **23 02 16.6 +0.1**
KHC *e*pP **pP** **23 02 21.5 -0.1**
FIA1 FINESS Array S 39.17 337 P **P** **23 02 16.5 0.0**
FINES FINESS Array B 39.17 337 P **P** **23 02 16.7 +0.2**
comp=Z,62nm,0.6s,baz=133,slow=9.8,SNR=374
FINES PcP **PcP** **23 04 26.6 +0.9**
comp=Z,2.5nm,0.6s,baz=169,slow=2.8,SNR=1.1
FINES LR LR 23 23 13.6
comp=Z,261nm,18.7s,baz=182,slow=43
ABTA Abfaltersbach 39.24 311 *i* P **P** **23 02 17.7 +0.2**
comp=Z,20nm,0.5s,SNR=8.1
BRG Berggiesshubel 39.44 317 *i* P **P** **23 02 19.1 +0.1**
BRG Amp 23 02 21.0
comp=Z,26nm,1.0s
BRG Berggiesshubel 39.44 317 *e*P **P** **23 02 19.1 +0.1**
comp=Z,26nm,1.0s,baz=107,slow=8.4
TEOL Teolo 39.54 308 P **P** **23 02 19.5 -0.4**
TEOL IAmb IAmb 23 02 28.2
comp=Z,41nm,0.8s
CHTO Chiang Mai 39.55 94 P **P** **23 02 21.0 +0.7**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 39.55 94 P **P** **23 02 20.9 +0.7**
CM33 Chiang Mai Arr 39.55 94 P **P** **23 02 21.0 +0.7**
OSSC Osservatorio P 39.56 305 P **P** **23 02 20.1 0.0**
WET Wettzell 39.59 314 *e*P **P** **23 02 20.0 -0.2**
comp=Z,66nm,1.5s,baz=107,slow=8.4
CMAR Chiang Mai Arr 39.68 95 P **P** **23 02 20.6 -0.8**
comp=Z,1.6nm,0.4s,baz=287,slow=11,SNR=7.0
CMAR PcP **PcP** **23 04 28.3 +0.2**
comp=Z,3.5nm,0.7s,baz=287,slow=5.0,SNR=8.0
CMAR LR LR 23 21 47.4
comp=Z,187nm,19.9s,baz=351,slow=41
CMAR Chiang Mai Arr 39.68 95 *ce*P **P** **23 02 22.3 +1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CTI Castel Tesino 39.68 309 P **P** **23 02 20.9 -0.3**
CTI pmax pmax
comp=Z,33nm,0.9s
CTI Castel Tesino 39.68 309 P **P** **23 02 20.9 -0.3**
CTI IAmb IAmb 23 02 29.6
comp=Z,32nm,0.9s
CM34 Chiang Mai Arr 39.72 94 P **P** **23 02 22.0 +0.4**
CM35 Chiang Mai Arr 39.78 94 P **P** **23 02 23.0 +0.8**
FBE Freiberg 39.81 317 *e*P **P** **23 02 22.4 +0.4**
comp=Z,40nm,1.5s,baz=107,slow=8.4
ZCCA Zocca 39.87 307 P **P** **23 02 23.0 +0.3**
WTTA Wattenberg 39.94 311 *i* P **P** **23 02 23.3 -0.1**
comp=Z,53nm,0.5s,SNR=16
WTTA Wattenberg 39.94 311 P **P** **23 02 23.2 -0.1**
WATA Walderalm 39.99 311 *i* P **P** **23 02 23.2 -0.6**
comp=Z,26nm,0.6s,SNR=15
RUE Ruedersdorf 40.08 320 *e*P **P** **23 02 24.6 +0.4**
comp=Z,72nm,0.9s,baz=107,slow=8.4
CLL Collm 40.14 318 ⇑ *i*P **P** **23 02 25.3 +0.5**
comp=Z,91nm,1.3s
CLL *e*(sP) **sP** **23 02 31.0 -0.9**
comp=Z,75nm,1.3s
CLL *e*PP **PP** **23 03 58.0 +0.9**
CLL *e*PcP **PcP** **23 04 28.0 -1.0**
CLL *e*PcS **PcS** **23 08 19.0 -0.1**
CLL LmV 23 28 00.0
comp=Z,200nm,20.8s
CLL Collm 40.14 318 ⇑ *i*P **P** **23 02 25.3 +0.5**
CLL *e* 23 02 31.0
CLL pmax pmax
comp=Z,91nm,1.3s
CLL Collm 40.14 318 IAmb IAmb 23 02 27.2
comp=Z,85nm,1.2s
CLL Collm 40.14 318 *e*P **P** **23 02 25.4 +0.5**
comp=Z,91nm,1.3s,baz=107,slow=8.4
NKC Novy Kostel 40.16 316 *e*P **P** **23 02 25.1 +0.1**
NKC Novy Kostel 40.16 316 *e*P **P** **23 02 25.1 +0.1**
ROTZ Rotzenmuhle 40.18 315 *e*P **P** **23 02 25.5 +0.4**
comp=Z,30nm,0.8s,baz=107,slow=8.4
TANN Tannenbergstha 40.20 316 *e*P **P** **23 02 25.2 -0.1**
comp=Z,4.9nm,0.9s,baz=107,slow=8.4
LNIZ Loecknitz 40.20 321 *e*P **P** **23 02 24.3 -0.9**
comp=Z,73nm,1.1s,baz=107,slow=8.4
SQTA Sankt Quirin 40.21 311 *i* P **P** **23 02 25.1 -0.5**
comp=Z,60nm,0.4s,SNR=25
WERN Wernitzgruen 40.22 316 *e*P **P** **23 02 25.8 +0.3**
comp=Z,16nm,0.9s,baz=107,slow=8.4
VLC Villacollemand 40.26 306 P **P** **23 02 24.6 -1.4**
VLC IAmb IAmb 23 02 40.1
comp=Z,66nm,1.2s
GUNZ Gunzen 40.27 316 *e*P **P** **23 02 25.5 -0.4**
comp=Z,21nm,1.4s,baz=107,slow=8.4
MANZ Manzenberg 40.30 315 *e*P **P** **23 02 26.3 +0.1**
comp=Z,31nm,1.3s,baz=107,slow=8.4
LZH Lanzhou 40.31 66 ⇓P **P** **23 02 27.2 +0.6**
LZH pP pP 23 02 31.6 -0.1
LZH sP sP 23 02 34.3 +0.5
LZH pmax pmax
comp=Z,49nm,1.0s
LZH LR LR
comp=Z,480nm,16.3s
LZH LR LR
comp=Z,310nm,16.8s
LZH LR LR
comp=Z,250nm,15.7s
WERD Werda 40.31 316 *e*P **P** **23 02 26.1 -0.1**
comp=Z,10nm,1.5s,baz=107,slow=8.4
MOTA Moosalm 40.31 311 *i* P **P** **23 02 25.7 -0.7**
comp=Z,30nm,0.4s,SNR=16
FUR Furstenfeldbru 40.37 312 *e*P **P** **23 02 26.5 -0.3**
comp=Z,43nm,1.1s,baz=107,slow=8.4
SALO Salr 40.38 308 P **P** **23 02 26.1 -0.8**
PRMA PARMA 40.40 307 P **P** **23 02 26.8 -0.1**
PRMA IAmb IAmb 23 02 36.8
comp=Z,68nm,0.9s
PLN Plauen 40.41 316 *e*P **P** **23 02 26.8 -0.2**
comp=Z,7.1nm,0.9s,baz=107,slow=8.4
MOY Mondy 40.44 42 *e*P **P** **23 02 28.5 +1.1**
MOY pmax pmax
comp=Z,44nm,1.5s
BSD Bornholm Skovb 40.47 324 ⇑ *i*P **P** **23 02 26.2 -1.1**
comp=Z,45nm,0.7s
BSD Bornholm Skovb 40.47 324 *e*P **P** **23 02 26.6 -0.7**
BSD Bornholm Skovb 40.47 324 P **P** **23 02 26.9 -0.5**
BSD pmax pmax
comp=Z,73nm,0.8s
BSD Bornholm Skovb 40.47 324 ⇑ *i*P **P** **23 02 26.2 -1.1**
BSD IAmb IAmb 23 02 27.3
comp=Z,45nm,0.7s
UMPA Umpang Tak 40.48 98 P **P** **23 02 31.3 +3.3**
comp=Z,59nm,0.7s
FETA Feichten 40.49 311 *i* P **P** **23 02 27.9 -0.1**
comp=Z,36nm,0.5s,SNR=23
RETA Reutte 40.56 311 *i* P **P** **23 02 27.9 -0.6**
comp=Z,31nm,0.9s,SNR=7.9

AAL Aland 40.64 333 *e*P **P** **23 02 28.6 -0.1**
VSL Villasalto 40.65 299 P **P** **23 02 29.1 0.0**
VSL IAmb IAmb 23 02 31.2
comp=Z,58nm,0.9s
CD2 Chengdu 40.71 74 P **P** **23 02 29.3 -0.5**
CD2 pmax pmax
comp=Z,30nm,0.7s
KEST Kesra 40.72 293 P **P** **23 02 31.9 +2.1**
comp=Z,18nm,0.6s,baz=21,slow=2.5,SNR=20
KEST Kesra 40.72 293 P **P** **23 02 30.0 +0.1**
KEST IAmb IAmb 23 02 33.0
comp=Z,67nm,1.1s
GRA1 Grafenberg Arr 40.77 315 P **P** **23 02 30.0 -0.1**
GRA1 IAmb IAmb 23 02 31.6
comp=Z,66nm,0.9s
GRF Grafenberg Arr 40.77 315 P **P** **23 02 30.0 -0.1**
GRF pmax pmax
comp=Z,66nm,0.9s
GRF Grafenberg Arr 40.77 315 *e*P **P** **23 02 30.6 +0.5**
comp=Z,64nm,0.8s,baz=107,slow=8.4
GRFO Grafenberg 40.78 315 P **P** **23 02 30.6 +0.5**
GRFO pmax pmax
comp=Z,68nm,1.0s
GRFO Grafenberg 40.78 315 P **P** **23 02 30.6 +0.5**
GRFO IAmb IAmb 23 02 31.5
comp=Z,68nm,1.0s
MOX Moxa 40.78 316 *e*P **P** **23 02 30.4 +0.2**
comp=Z,13nm,0.9s,baz=107,slow=8.4
NEUB Neuenburg 40.85 317 *e*P **P** **23 02 31.3 +0.6**
comp=Z,31nm,0.6s,baz=107,slow=8.4
MSSA Maissana 40.90 306 P **P** **23 02 30.4 -0.9**
MSSA IAmb IAmb 23 02 38.4
comp=Z,19nm,0.6s
KMI Kunming 40.97 83 ⇑P **P** **23 02 32.4 +0.2**
KMI pP pP 23 02 36.5 -0.6
KMI sP sP 23 02 37.8 -1.3
KMI S **S** **23 08 44.4 +0.3**
KMI pmax pmax
comp=Z,45nm,0.7s
KMI pmax pmax
comp=Z,100nm,3.5s
KMI LR LR
comp=Z,210nm,21.4s
KMI LR LR
comp=Z,210nm,21.4s
KMI LR LR
comp=Z,220nm,17.7s
KMI Kunming 40.97 83 P **P** **23 02 32.5 +0.2**
KMI pmax pmax
comp=Z,33nm,0.7s
KMI Kunming 40.97 83 P **P** **23 02 32.5 +0.2**
KMI IAmb IAmb 23 02 33.6
comp=Z,33nm,0.7s
DAVOX Davos/Dischmat 41.02 310 P **P** **23 02 32.3 0.0**
comp=Z,44nm,0.5s,baz=112,slow=4.2,SNR=109
UBR Ueberruh 41.04 311 *e*P **P** **23 02 32.1 -0.3**
comp=Z,68nm,0.8s,baz=107,slow=8.4
RGN Rugen 41.09 322 P **P** **23 02 32.7 +0.2**
RGN Rugen 41.09 322 *e*P **P** **23 02 33.5 +1.0**
comp=Z,233nm,0.9s,baz=107,slow=8.4
DAVA Damuels 41.11 311 *i* P **P** **23 02 32.8 -0.3**
comp=Z,92nm,0.6s,SNR=24
UTHA Uthaitani 41.26 98 P **P** **23 02 36.0 +1.6**
comp=Z,354nmcomp=Z,46nm,0.7s
TUE Stuetta 41.33 310 P **P** **23 02 35.0 0.0**
TUE IAmb IAmb 23 02 36.8
comp=Z,31nm,0.6s
UTTA Uttaradit 41.36 95 P **P** **23 02 37.1 +1.8**
comp=Z,250nmcomp=Z,23nm,0.7s
UPP Uppsala 41.45 331 *e*P **P** **23 02 35.3 0.0**
ZAK Zakamensk 41.46 44 *e*P **P** **23 02 35.0 -0.8**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
FLTG Flechtingen 41.50 319 *e*P **P** **23 02 36.5 +0.6**
comp=Z,116nm,0.9s,baz=107,slow=8.4
ASSE Asse, Remlinge 41.77 318 *e*P **P** **23 02 38.8 +0.7**
comp=Z,49nm,1.1s,baz=107,slow=8.4
UBBA Unterbreizbach 41.82 316 *e*P **P** **23 02 39.1 +0.6**
comp=Z,33nm,1.2s,baz=107,slow=8.4
STU Stuttgart 41.86 313 P **P** **23 02 38.0 -0.9**
STU pmax pmax
comp=Z,22nm0.9s
STU Stuttgart 41.86 313 P **P** **23 02 38.0 -0.9**
STU Stuttgart 41.86 313 *e*P **P** **23 02 38.2 -0.7**
comp=Z,33nm,1.2s,baz=107,slow=8.4
CLZ Clausthal 41.87 318 *e*P **P** **23 02 40.1 +1.0**
comp=Z,156nm,1.4s,baz=107,slow=8.4
LLD Lille Linde 41.97 323 *i* P **P** **23 02 40.3 +0.6**
LLD Lille Linde 41.97 323 *i* P **P** **23 02 40.3 +0.6**
LLD Lille Linde 41.97 323 *i* P **P** **23 02 40.4 +0.6**
COP Copenhagen 41.99 324 ⇑ *i*P **P** **23 02 40.6 +0.7**
comp=Z,64nm,0.7s
COP Copenhagen 41.99 324 ⇑ *i*P **P** **23 02 40.6 +0.7**
COP pmax pmax
comp=Z,64nm,0.7s
COP Copenhagen 41.99 324 ⇑ *i*P **P** **23 02 40.7 +0.7**
COP IAmb IAmb 23 02 41.8
comp=Z,64nm,0.7s
TLY Talaya 42.02 43 *e*P **P** **23 02 42.4 +2.1**
TLY pmax pmax
comp=Z,15nm,0.6s
TLY MLR MLR
comp=Z,969nm,13.0s
TLY Talaya 42.02 43 P **P** **23 02 40.7 +0.4**
LVZ Lovozero 42.03 348 *ce*P **P** **23 02 38.7 -1.4**
LVZ pmax pmax
comp=Z,84nm,2.5s
LVZ Lovozero 42.03 348 P **P** **23 02 39.0 -1.1**
LVZ IAmb IAmb 23 02 40.9
comp=Z,41nm,1.2s
GTTG Gottingen 42.03 317 *e*P **P** **23 02 41.2 +0.8**
comp=Z,73nm,1.3s,baz=107,slow=8.4
NRDL Niedersach Rie 42.21 318 *e*P **P** **23 02 42.8 +1.1**
comp=Z,103nm,1.2s,baz=107,slow=8.4
BFO Black Forest 42.34 312 P **P** **23 02 43.6 +0.7**
BFO pmax pmax
comp=Z,9.0nm,0.8s
BFO Black Forest 42.34 312 P **P** **23 02 43.6 +0.7**
BSEG Bad Segeberg 42.53 321 *e*P **P** **23 02 44.9 +0.6**
comp=Z,51nm,1.0s,baz=107,slow=8.4
IRK Irkutsk 42.55 42 *e*P **P** **23 02 44.5 -0.1**
IRK pmax pmax
comp=Z,35nm,1.4s
PHET Kaeng Krachan 42.59 102 P **P** **23 02 48.0 +2.7**
comp=Z,38nm,0.6s
TNS Taunus Mts 42.64 315 *e*P **P** **23 02 46.1 +0.7**
comp=Z,85nm,1.3s,baz=107,slow=8.4
SENIN Lac Senin/Sane 42.72 309 IAmb IAmb 23 02 46.9
comp=Z,35nm,0.6s
KASTN Kahler Asten 42.88 316 *e*P **P** **23 02 48.4 +1.0**
comp=Z,45nm,0.8s,baz=107,slow=8.4
FRF La Foret Royal 42.89 305 *e*P **P** **23 02 46.8 -0.7**
FRF pmax pmax
comp=Z,124nm,1.8s
MBDF Montbardon 42.90 307 *e*P **P** **23 02 47.1 -0.6**
MBDF pmax pmax
comp=Z,27nm,0.6s
SONM Songino Array 42.94 49 P **P** **23 02 48.3 +0.4**
comp=Z,8.7nm,0.7s,baz=261,slow=9.1,SNR=94
SONM Songino Array 42.94 49 P **P** **23 02 47.8 -0.1**
SONM pmax pmax
comp=Z,6.0nm,0.7s
SONM Songino Array 42.94 49 P **P** **23 02 47.8 -0.1**
LPG La Plagne 42.99 308 *e*P **P** **23 02 48.1 -0.5**
LPG pmax pmax
comp=Z,31nm,0.6s
BNI Bardonecchia 43.00 307 IAmb IAmb 23 02 48.9
comp=Z,40nm,0.7s
LPL La Plagne 43.01 308 *e*P **P** **23 02 47.3 -1.3**
LPL pmax pmax
comp=Z,38nm,0.6s
CDF Champ du Feu 43.04 312 *e*P **P** **23 02 46.9 -1.8**
CDF pmax pmax
comp=Z,9.0nm,0.8s
SLVN Son La 43.07 88 P **P** **23 02 49.9 +0.7**
SKMB Sankelmark Bun 43.26 321 *e*P **P** **23 02 51.3 +1.1**
comp=Z,180nm,1.4s,baz=107,slow=8.4
CHAI Chaiyaphum 43.35 96 P **P** **23 02 54.0 +2.5**
comp=Z,312nmcomp=Z,38nm,0.8s
ULN Ulaanbaatar 43.38 49 P **P** **23 02 51.1 -0.5**
ULN **P** **23 02 51.3 -0.3**
ULN IAmb IAmb 23 02 52.3
comp=Z,17nm,0.6s
ORIF Oris-en-Rattie 43.55 307 *e*P **P** **23 02 50.5 -2.4**
ORIF pmax pmax
comp=Z,12nm,0.7s

IBBN Ibbenburen 43.55 318 *e*P **P** **23 02 53.6 +0.9**
comp=Z,68nm,0.9s,baz=107,slow=8.4
AHRW Bad Neuenahr-A 43.57 315 *e*P **P** **23 02 53.8 +1.0**
comp=Z,54nm,1.4s,baz=107,slow=8.4
CABF La Chapelle 43.58 309 *e*P **P** **23 02 52.3 -0.8**
CABF pmax pmax
comp=Z,40nm,0.7s
HAU Haudompre 43.59 311 *e*P **P** **23 02 51.4 -1.7**
HAU pmax pmax
comp=Z,14nm,0.7s
BUG Bochum--Univer 43.64 316 *e*P **P** **23 02 54.3 +1.0**
comp=Z,150nm,1.5s,baz=107,slow=8.4
KHON Khomkaen 43.91 95 P **P** **23 02 57.4 +1.4**
comp=Z,62nm,0.7s
HLG Helgoland 43.97 320 *e*P **P** **23 02 57.5 +1.5**
comp=Z,245nm,1.0s,baz=107,slow=8.4
MUD Monsted U'grnd 43.98 324 ⇑ *i*P **P** **23 02 56.6 +0.7**
comp=Z,52nm,0.8s
MUD Monsted U'grnd 43.98 324 P **P** **23 02 57.0 +1.0**
MUD pmax pmax
comp=Z,91nm,1.0s
MUD Monsted U'grnd 43.98 324 ⇑ *i*P **P** **23 02 56.7 +0.7**
MUD *i* P **P** **23 02 57.0 +1.0**
MUD IAmb IAmb 23 02 57.7
comp=Z,52nm,0.8s
WLF Walferdange 43.98 314 *d*P **P** **23 02 56.3 +0.2**
WLF Walferdange 43.98 314 P **P** **23 02 56.3 +0.2**
WLF pmax pmax
comp=Z,55nm,1.2s
WLF Walferdange 43.98 314 P **P** **23 02 56.2 +0.2**
WLF IAmb IAmb 23 02 57.3
comp=Z,55nm,1.2s
WLF Walferdange 43.98 314 *e*P **P** **23 02 56.4 +0.2**
comp=Z,68nm,1.4s,baz=107,slow=8.4
GYA Guiyang 44.07 80 ⇑P **P** **23 02 56.4 -0.9**
GYA pmax pmax
comp=Z,10.0nm,0.6s
BTNL Ternell 44.17 315 *bP* **P** **23 02 58.6 +0.9**
SRAK Srakaew 44.19 99 P P 23 03 04.0 +5.8
BHOU Houvegnez 44.20 315 *bP* **P** **23 02 58.8 +0.9**
MEM Membach 44.25 315 *bP* **P** **23 02 59.2 +1.0**
VIVF Saint-Julien-l 44.40 307 *e*P **P** **23 02 58.2 -1.4**
VIVF pmax pmax
comp=Z,35nm,1.0s
BEBN Eben Emael 44.49 315 *bP* **P** **23 03 01.1 +0.9**
NC602 NORSAR Array S 44.52 330 P **P** **23 02 59.7 -0.6**
NC602 IAmb IAmb 23 03 04.0
comp=Z,38nm,1.2s
NC602 NORSAR Array S 44.52 330 *e*P **P** **23 03 00.0 -0.3**
NORES NORESS Array B 44.52 330 P **P** **23 03 00.4 +0.1**
NORES pmax pmax
comp=Z,7.0nm,0.4s
BSTI Sart Tilman 44.52 315 *bP* **P** **23 03 01.4 +1.0**
SSB Saint Sauveur 44.52 307 IAmb IAmb 23 03 08.4
comp=Z,24nm,0.9s
OSL Oslo 44.54 329 *e*P **P** **23 03 00.9 +0.5**
NC405 NORSAR Array S 44.61 331 P **P** **23 03 00.0 -1.1**
XAN Xi'an 44.62 69 P **P** **23 03 00.7 -0.9**
XAN pP sP 23 03 09.9 +1.5
XAN pmax pmax
comp=Z,20nm,0.8s
XAN pmax pmax
comp=Z,130nm,7.3s
XAN LR LR
comp=Z,500nm,23.4s
XAN LR LR
comp=Z,200nm,11.4s
XAN LR LR
comp=Z,340nm,18.5s
XAN Xi'an 44.62 69 P **P** **23 03 00.7 -0.9**
XAN Xi'an 44.62 69 P **P** **23 03 00.7 -0.9**
XAN IAmb IAmb 23 03 10.6
comp=Z,13nm,0.6s
BCLA Clavier 44.66 315 *d*P **P** **23 03 02.5 +1.0**
RCHB Rochefort 44.66 314 *d*P **P** **23 03 02.2 +0.6**
comp=Z,57nm,1.2s
NB201 NORSAR Array S 44.77 330 P **P** **23 03 01.5 -0.8**
BGES Gesves 44.79 314 *bP* **P** **23 03 03.5 +0.9**
NB2 NORSAR Subarra 44.80 330 P **P** **23 03 01.6 -1.0**
comp=Z,20nm,0.8s,baz=116,slow=7.9
NB2 NORSAR Subarra 44.80 330 P **P** **23 03 01.6 -1.0**
baz=116,slow=7.9
NOA NORSAR Array B 44.80 330 P **P** **23 03 01.7 -0.9**
comp=Z,11nm,0.7s,baz=116,slow=7.9,SNR=42
NOA LR LR 23 24 50.6
comp=Z,425nm,20.0s,baz=120,slow=40
NC303 NORSAR Array S 44.81 331 P **P** **23 03 02.0 -0.6**
NC303 IAmb IAmb 23 03 10.6
comp=Z,22nm,0.8s
NAO01 NORSAR Array S 44.85 330 P **P** **23 03 02.4 -0.6**
NAO01 IAmb IAmb 23 03 15.0
comp=Z,50nm,1.1s
GIVF Givet 44.91 314 *e*P **P** **23 03 03.6 +0.1**
GIVF pmax pmax
comp=Z,82nm,1.1s
KONO Kongsberg 44.94 328 P **P** **23 03 02.8 -0.9**
KONO pmax pmax
comp=Z,68nm,1.5s
KONO Kongsberg 44.94 328 P **P** **23 03 02.8 -0.9**
HOMB Homborsund 44.95 326 *e*P **P** **23 03 04.2 +0.5**
HOMB Homborsund 44.95 326 *i* P **P** **23 03 04.2 +0.5**
BMRD Maredsous 44.97 314 *bP* **P** **23 03 05.0 +0.9**
comp=Z,36nm,1.0s
NBO00 NORSAR Array S 44.98 330 P **P** **23 03 02.8 -1.2**
NBO00 IAmb IAmb 23 03 21.0
comp=Z,27nm,1.1s
NRIK Noril'sk 44.99 15 P **P** **23 03 04.4 +0.5**
comp=Z,15nm,0.8s,baz=220,slow=5.0,SNR=31
NRIK LR LR 23 25 12.3
comp=Z,630nm,18.8s,baz=214,slow=40
NRIK Noril'sk 44.99 15 *ce*P **P** **23 03 04.0 0.0**
NRIK pmax pmax
comp=Z,22nm,1.0s
NRIK Noril'sk 44.99 15 P **P** **23 03 04.0 0.0**
NRIK IAmb IAmb 23 03 05.5
comp=Z,24nm,1.0s
DOU Dourbes 45.05 314 *d*P **P** **23 03 05.6 +0.9**
DOU Dourbes 45.05 314 P **P** **23 03 05.7 +1.0**
DOU pmax pmax
comp=Z,79nm,1.1s
NC204 NORSAR Array S 45.10 331 P **P** **23 03 04.3 -0.7**
NC204 IAmb IAmb 23 03 06.8
comp=Z,47nm,1.1s
KEV Kevo 45.12 346 P **P** **23 03 04.8 -0.2**
KEV pmax pmax
comp=Z,49nm,0.8s
KEV Kevo 45.12 346 P **P** **23 03 04.8 -0.2**
LOR Lormes 45.17 310 *e*P **P** **23 03 04.5 -1.2**
LOR pmax pmax
comp=Z,37nm,0.8s
ARCES ARCESS Array B 45.29 345 P **P** **23 03 06.6 +0.3**
comp=Z,20nm,0.8s,baz=139,slow=8.4,SNR=38
ARCES PcP **PcP** **23 04 45.6 -0.2**
comp=Z,5.6nm,0.6s,baz=149,slow=2.8,SNR=4.1
ARCES LR LR 23 26 08.6
comp=Z,166nm,18.7s,baz=260,slow=41
ARCES ARCESS Array B 45.29 345 P **P** **23 03 05.5 -0.8**
ARCES pmax pmax
comp=Z,23nm,0.9s
ARCES ARCESS Array B 45.29 345 P **P** **23 03 05.5 -0.8**
BAIF Baives 45.29 314 *e*P **P** **23 03 06.9 +0.3**
BAIF pmax pmax
comp=Z,115nm,1.2s
SNF Seneffe 45.31 315 *bP* **P** **23 03 07.7 +1.0**
UCC Uccle 45.31 315 P **P** **23 03 05.9 -0.8**
UCC pmax pmax
comp=Z,27nm,0.7s
UCC Uccle 45.31 315 P **P** **23 03 05.9 -0.8**
UCC IAmb IAmb 23 03 07.8
comp=Z,27nm,0.7s
KTK1 Kautokeino 45.43 344 *e*P **P** **23 03 07.8 +0.4**
SNART Snartemo 45.61 326 *e*P **P** **23 03 09.5 +0.5**
SNART Snartemo 45.61 326 *i* P **P** **23 03 09.5 +0.5**
ENH Enshi 45.69 74 P **P** **23 03 08.9 -1.1**
ENH IAmb IAmb 23 03 11.4
comp=Z,14nm,0.5s
SKAR Skarslia 45.94 329 *e*P **P** **23 03 12.6 +1.0**
NSS Namsos 46.15 335 *e*P **P** **23 03 13.5 +0.4**
MOR8 Moi Rana 46.15 338 *e*P **P** **23 03 13.0 -0.2**
DOMB Dombas 46.16 331 *e*P **P** **23 03 13.8 +0.5**
HHC Hu-ho-hao-te 46.20 59 *e*P **P** **23 03 14.9 +0.8**
HHC sP sP 23 03 21.9 +0.5
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax

comp=Z,57nm,5.2s
CLF Chambon-Foret 46.32 311 P P 23 03 14.1 -0.6
CLF lAmb lAmb 23 03 24.3
comp=Z,42nm,1.2s
TAM Tamanrasset 46.37 276 P P 23 03 16.0 +0.3
TAM pmax pmax
comp=Z,15nm,0.8s
TAM Tamanrasset 46.37 276 P P 23 03 16.0 +0.3
TAM lAmb lAmb 23 03 17.7
comp=Z,15nm,0.8s
ODD1 Odda 46.43 328 eP P 23 03 16.0 +0.5
N2ST Straumen 46.46 339 eP P 23 03 15.9 +0.4
JETT Jettan, Norway 46.53 343 eP P 23 03 16.8 +0.6
HAMF Hammerfest 46.54 345 eP P 23 03 16.3 +0.2
FAUS Fauske 46.58 339 eP P 23 03 16.8 +0.4
UBPT Khong Chiam 46.66 95 P P 23 03 17.6 -0.3
UBPT lAmb lAmb 23 03 24.4
comp=Z,33nm,1.5s
NBB17 Glomfjord Bⱳr 46.68 338 eP P 23 03 17.8 +0.5
NBB28 Valnes 46.73 339 eP P 23 03 18.1 +0.4
N2TV TVrnvik 46.74 339 eP P 23 03 18.0 +0.3
NBB15 Halsa Church 46.76 338 eP P 23 03 18.2 +0.4
KONS Konsvik 46.78 338 eP P 23 03 18.1 0.0
NBB05 Inndyr 46.78 339 eP P 23 03 18.5 +0.5
NBB08 Skaug oppvekst 46.79 339 eP P 23 03 18.5 +0.4
KMY Karmoy 46.86 326 eP P 23 03 19.4 +0.6
STEI Steigen 46.92 340 eP P 23 03 19.1 0.0
TRO Tromso 46.96 343 eP P 23 03 19.9 +0.5
TIY Taiyuan 47.07 63 eP P 23 03 20.6 -0.3
TIY pmax pmax
comp=Z,40nm,0.6s
AKN Aaknes 47.10 331 eP P 23 03 21.5 +0.7
GSI Gunungsitoli 47.15 117 P P 23 03 23.5 +1.8
comp=Z,15nm,0.7s
BER Bergen 47.20 328 eP P 23 03 22.1 +0.7
EPF Esparros 47.48 304 eP P 23 03 22.7 -1.3
EPF pmax pmax
comp=Z,42nm,1.7s
WACR West Acre 47.90 317 eP P 23 03 26.9 -0.1
WACR lAmb lAmb 23 03 27.8
comp=Z,115nm,0.8s
IPM Ipoh 48.08 111 P P 23 03 28.1 -0.8
IPM lAmb lAmb 23 03 43.7
comp=Z,9.5nm,0.7s
ETSF Etsaut 48.14 304 eP P 23 03 28.7 -0.4
ETSF pmax pmax
comp=Z,21nm,0.9s
FLN La Foliniere 48.20 312 eP P 23 03 28.1 -1.2
FLN pmax pmax
comp=Z,58nm,0.9s
WOL Wolverton 48.87 315 eP P 23 03 34.4 -0.2
GDLE Glaisdale, N Y 49.00 319 eP P 23 03 35.4 0.0
QIZ Qiongzhong 49.10 88 P P 23 03 35.9 -0.8
QIZ S S **23 10 41.0 -0.5**
QIZ LR LR
comp=Z,260nm,19.1s
QIZ LR LR
comp=Z,330nm,15.2s
QIZ LR LR
comp=Z,220nm,23.5s
JQE Queens East 49.24 312 eP P 23 03 37.1 -0.3
SWN1 Swindon 49.25 315⇑eP P 23 03 37.8 +0.4
SWN1 lAmb lAmb 23 03 38.5
comp=Z,98nm,0.6s
BOD Bodaibo 49.32 36 eP P 23 03 37.2 -0.7
BOD pmax pmax
comp=Z,51nm,1.7s
JSA Saint Aubin 49.33 312⇑eP P 23 03 36.5 -1.5
JSA lAmb lAmb 23 03 37.5
comp=Z,72nm,1.0s
JVM Valle D.L. Mar 49.35 312 eP P 23 03 38.0 -0.2
LBWR Ladybower, Pea 49.40 318⇑eP P 23 03 37.9 -0.6
LBWR lAmb lAmb 23 03 38.9
comp=Z,58nm,0.9s
STRD Stroud 49.50 316⇑eP P 23 03 38.8 -0.5
STRD lAmb lAmb 23 03 39.7
comp=Z,78nm,0.8s
SGMF Saint Gilles 49.55 311 eP P 23 03 38.9 -0.9
SGMF pmax pmax
comp=Z,36nm,0.7s
EDMD Edmundbyers 49.72 320⇑eP P 23 03 40.9 0.0
EDMD lAmb lAmb 23 03 41.2
comp=Z,90nm,0.6s
OLDB Oldbury-Upon-S 49.73 315⇑eP P 23 03 40.6 -0.5
OLDB lAmb lAmb 23 03 41.4
comp=Z,99nm,0.8s
WHN Wuhan 49.74 72 ⇑P P 23 03 41.2 -0.3
BJT Baijiatuau 49.76 60 P P 23 03 41.2 -0.3
BJT pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuau 49.76 60 P P 23 03 41.2 -0.3
BJT lAmb lAmb 23 03 42.3
comp=Z,11nm,0.6s
BJI Beijing 49.77 60 P P 23 03 41.5 0.0
BJI pmax pmax
comp=Z,14nm,0.6s
BJI LR LR
comp=Z,390nm,12.9s
BJI LR LR
comp=Z,220nm,10.3s
MONM Monmouth 49.90 316⇑eP P 23 03 41.7 -0.6
MONM lAmb lAmb 23 03 42.6
comp=Z,80nm,0.6s
QUIF Quistinic 49.95 310 eP P 23 03 41.7 -1.1
QUIF pmax pmax
comp=Z,40nm,0.8s
ROSF Rostrenen 50.03 311 eP P 23 03 42.4 -1.0
ROSF pmax pmax
comp=Z,37nm,0.8s
MCH1 Michaelchurch 50.03 316⇑eP P 23 03 42.9 -0.5
MCH1 lAmb lAmb 23 03 43.6
comp=Z,95nm,0.9s
ESY Stoneypath 50.24 321⇑eP P 23 03 44.5 -0.3
DRUM Mains of Drumt 50.31 322⇑eP P 23 03 45.1 -0.3
DRUM lAmb lAmb 23 03 46.0
comp=Z,98nm,0.6s
EBL Broad Law 50.46 321⇑eP P 23 03 46.5 -0.1
EKA Eskdalemuir Ar 50.47 320 P P 23 03 45.9 -0.7
EKA pmax pmax
comp=Z,2.0nm,0.3s
ESK Eskdalemuir 50.49 320⇑eP P 23 03 46.3 -0.5
LLW Llanuwchllyn 50.51 317⇑eP P 23 03 46.7 -0.2
DYA Yadsworthy 50.52 314⇑eP P 23 03 47.0 -0.1
DYA lAmb lAmb 23 03 47.8
comp=Z,66nm,0.9s
EDI Edinburgh 50.56 321 eP P 23 03 47.0 -0.2
DLV T Lat 50.74 98 P P 23 03 50.0 +0.6
ESDC Sonseca Array 50.93 300 P P 23 03 50.5 +0.1
comp=Z,7.4nm,0.7s,baz=69,slow=7.4,SNR=92
ESDC PcP **PcP 23 05 06.5 -0.2**
comp=Z,3.2nm,0.8s,baz=49,slow=3.5,SNR=4.6
ESDC LR LR 23 29 06.8
comp=Z,211nm,18.6s,baz=330,slow=40
ESDC Sonseca Array 50.93 300 P P 23 03 50.2 -0.3
WME Myndd Eilian 50.94 318⇑eP P 23 03 50.1 -0.1
WME lAmb lAmb 23 03 50.8
comp=Z,68nm,0.7s
TIA Tai'an 50.98 65 P P 23 03 50.6 -0.2
TIA pmax pmax
comp=Z,30nm,0.5s
WLF1 Llynfaes 50.98 317⇑eP P 23 03 50.3 -0.2
NEWG New Galloway 51.05 320 eP P 23 03 50.8 -0.2
WPS Cemaes, Angles 51.05 317⇑eP P 23 03 51.1 +0.1
WPS lAmb lAmb 23 03 51.8
comp=Z,63nm,0.7s
YRC Rhoscolyn 51.09 317 eP P 23 03 51.2 0.0
INVG Invergeldie, C 51.10 321⇑eP P 23 03 51.0 -0.3
INVG lAmb lAmb 23 03 51.7
comp=Z,42nm,0.7s
PAB San Pablo 51.24 300 P P 23 03 53.1 +0.3
PAB pmax pmax
comp=Z,15nm,0.7s
PAB San Pablo 51.24 300 P P 23 03 53.1 +0.3
PAB lAmb lAmb 23 03 53.6
comp=Z,15nm,0.7s
LSZ Lusaka 51.25 216 P P 23 03 52.6 -0.5
LSZ pmax pmax
comp=Z,30nm,1.5s
LSZ Lusaka 51.25 216 P P 23 03 52.6 -0.5
LSZ lAmb lAmb 23 04 00.0
comp=Z,30nm,1.5s
PGBU Glenifferbraes 51.27 321 eP P 23 03 52.5 -0.1
LAWE Loch Awe, Argy 51.83 321 eP P 23 03 56.8 0.0
LAWE lAmb lAmb 23 03 57.7

comp=Z,57nm,0.7s
HIA Hailar 51.88 48 P P 23 03 57.4 0.0
HIA pmax pmax
comp=Z,18nm,0.7s
HIA Hailar 51.88 48 P P 23 03 57.4 0.0
HIA lAmb lAmb 23 03 58.5
comp=Z,18nm,0.7s
KAC Achnashellach 51.91 323⇑eP P 23 03 57.1 -0.3
DSB Dublin 52.17 317 P P 23 03 59.0 -0.4
DSB lAmb lAmb 23 04 00.3
comp=Z,30nm,0.7s
PBRG Braganca 52.79 303 *eP* **P 23 04 05.0 +0.7**
comp=Z,23nm,1.5s
MVO Moncorvo 53.08 302 *eP* **P 23 04 07.4 +1.0**
comp=Z,42nm,1.0s
MVO *epP* **sP 23 04 12.5 -1.2**
NJ2 Nanjing 53.18 70 *eP* **P 23 04 07.2 0.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
TOA0 Torodi Ar. Sit 53.29 266 P P 23 04 07.5 -0.7
TORD Torodi Ar. Bea 53.29 266 P P 23 04 08.0 -0.2
comp=Z,30nm,0.6s,baz=59,slow=7.1,SNR=181
TORD LR LR 23 29 16.0
comp=Z,232nm,18.9s,baz=10.0,slow=39
TORD Torodi Ar. Bea 53.29 266 P P 23 04 07.4 -0.9
SPA0 Spitsbergen Ar 53.38 350 P P 23 04 07.5 -0.5
SPA0 lAmb lAmb 23 04 16.6
comp=Z,36nm,1.0s
PBAR Barrancos 53.51 298 *eP* **P 23 04 09.9 +0.3**
comp=Z,44nm,0.8s
MTE Manteigas 53.57 301 *eP* **P 23 04 09.6 -0.4**
comp=Z,51nm,1.6s
MTE Manteigas 53.57 301 P P 23 04 10.0 -0.1
MTE lAmb lAmb 23 04 12.2
comp=Z,44nm,1.5s
PMRV Marv??o 53.59 300 *eP* **P 23 04 10.6 +0.4**
comp=Z,55nm,1.1s
PMRV *epP* **sP 23 04 20.3 +2.9**
PCBR Castelo Branco 53.59 300 *eP* **P 23 04 11.0 +0.9**
comp=Z,42nm,1.1s
POLO Lamas de Olo 53.62 302 *eP* **P 23 04 11.3 +0.8**
comp=Z,26nm,1.6s
PVIS Viseu 53.79 302 *eP* **P 23 04 12.8 +1.2**
comp=Z,37nm,1.4s
PVIS *epP* **sP 23 04 17.4 -1.5**
PESTR Estremoz 53.83 299 P P 23 04 10.6 -1.3
PGAV Gavieira, Arco 53.90 303 *eP* **P 23 04 13.7 +1.2**
comp=Z,84nm,1.3s
PGAV *epP* **sP 23 04 21.7 +2.0**
IGLA Glengowla, Co 53.97 317 *eP* **P 23 04 12.0 -0.6**
DL2 Dalian 54.09 61 P P 23 04 14.2 +0.4
DL2 *eS* **S 23 11 51.1 +1.2**
DL2 pmax pmax
comp=Z,24nm,0.6s
DL2 LR LR
comp=Z,310nm,17.6s
DL2 LR LR
comp=Z,230nm,18.8s
DL2 LR LR
comp=Z,280nm,19.3s
PBEJ Beja 54.18 298 *eP* **P 23 04 14.9 +0.4**
comp=Z,31nm,1.6s
EVO Evora 54.21 299 *eP* **P 23 04 15.3 +0.6**
comp=Z,39nm,1.0s
COI Coimbra 54.25 301 P P 23 04 13.9 -1.1
COI pmax pmax
comp=Z,33nm,0.7s
COI Coimbra 54.25 301 *eP* **P 23 04 16.2 +1.3**
comp=Z,55nm,1.3s
COI Coimbra 54.25 301 P P 23 04 13.8 -1.1
PMTG Montargil 54.28 300 *eP* **P 23 04 15.5 +0.3**
comp=Z,16nm,1.5s
PCAS Casmilo, Conde 54.34 301 *eP* **P 23 04 16.5 +0.9**
comp=Z,53nm,1.4s
PCAS *epP* **sP 23 04 22.6 -0.2**
PCVE Castro Verde 54.38 298 *eP* **P 23 04 16.1 +0.2**
comp=Z,53nm,1.7s
MESJ Messejana 54.49 298 *eP* **P 23 04 15.4 -1.3**
comp=Z,36nm,1.8s
KBS Kingsbay 54.54 350 P P 23 04 16.6 +0.2
KBS pmax pmax
comp=Z,36nm,0.7s
KBS Kingsbay 54.54 350 P P 23 04 16.6 +0.2
PSBE So Bento 54.65 300 *eP* **P 23 04 19.0 +1.1**
comp=Z,50nm,1.2s
PNCL Nicolau / Gran 54.68 298 *eP* **P 23 04 18.8 +0.7**
comp=Z,50nm,1.1s
PMAFR Mafra 55.12 300 *eP* **P 23 04 22.4 +1.1**
comp=Z,96nm,1.8s
ZEA Zeya 56.46 42 *eP* **P 23 04 30.6 -0.1**
ZEA *e* 23 04 37.4
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,200nm,16.0s
YAK Yakutsk 57.61 32 *eP* **P 23 04 36.7 -1.9**
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,16nm,1.3s
YAK Yakutsk 57.61 32 P P 23 04 37.2 -1.4
KOWA Kowa 57.77 270 P P 23 04 40.2 -0.3
TIXI Tiksi 57.98 21 *ceP* **P 23 04 40.5 -0.5**
TIXI Tiksi 57.98 21 P P 23 04 40.4 -0.7
TIXI lAmb lAmb 23 04 42.7
comp=Z,36nm,1.2s
SBUM Sibu 58.57 106 P P 23 04 44.9 -1.1
KS19 Wonju Array Si 59.19 61 P P 23 04 49.0 -1.1
KS19 lAmb lAmb 23 04 50.1
comp=Z,22nm,0.9s
KSAR Wonju Array Be 59.22 61 P P 23 04 49.8 -0.5
KSAR Wonju Array Be 59.22 61 P P 23 04 49.8 -0.5
KSRS Korea Array 59.24 61 P P 23 04 49.4 -1.1
comp=Z,12nm,0.6s,baz=278,slow=6.8,SNR=47
DAG Danmarks Havn 59.58 345 *i* **P P 23 04 51.8 -0.3**
comp=Z,13nm,0.7s
DAG Danmarks Havn 59.58 345 *i* **P P 23 04 51.8 -0.3**
DAG pmax pmax
comp=Z,13nm,0.7s
DAG Danmarks Havn 59.58 345 *i* **P P 23 04 51.9 -0.3**
DAG lAmb lAmb 23 04 52.4
comp=Z,13nm,0.7s
KLR Kul'dur 59.72 47 P P 23 04 52.6 -0.9
comp=Z,17nm,0.8s,baz=286,slow=8.6,SNR=50
KLR Kul'dur 59.72 47 *ceP* **P 23 04 52.3 -1.3**
KLR pmax pmax
comp=Z,16nm,0.9s
DBG Daneborg 59.72 342 *i* **P P 23 04 53.5 +0.3**
DBG lAmb lAmb 23 04 54.4
comp=Z,8.0nm,0.6s
SCO Scoresbysund 60.10 338 *i* **P P 23 04 57.0 +1.2**
comp=Z,7.2nm,0.6s
SCO Scoresbysund 60.10 338 *i* **P P 23 04 57.0 +1.2**
SCO pmax pmax
comp=Z,7.0nm,0.6s
SCO Scoresbysund 60.10 338 *i* **P P 23 04 57.0 +1.2**
SCO lAmb lAmb 23 04 57.6
comp=Z,7.2nm,0.6s
TSUM Tsumeb 60.42 223 P P 23 04 59.1 +0.3
TSUM lAmb lAmb 23 05 05.9
comp=Z,18nm,0.9s
LBTB Lobatse 60.74 213 P P 23 05 00.9 0.0
LBTB pmax pmax
comp=Z,34nm,0.8s
LBTB Lobatse 60.74 213 P P 23 05 00.9 0.0
USA0B Ussuriysk Arra 60.79 53 *i* **P P 23 04 58.9 -2.0**
USA0B Ussuriysk Arra 60.79 53 P P 23 04 59.4 -1.5
USRK Ussuriysk Ar. 60.79 53 P P 23 04 59.7 -1.3
comp=Z,6.7nm,0.7s,baz=274,slow=6.6,SNR=24
USRK Ussuriysk Ar. 60.79 53 P P 23 04 59.2 -1.7
DBIC Dimbokro 61.95 262 P P 23 05 08.3 -0.9
comp=Z,8.7nm,0.7s,baz=47,slow=7.9,SNR=12
DBIC LR LR 23 34 04.5
comp=Z,112nm,18.5s,baz=25,slow=38
DBIC Dimbokro 61.95 262 P P 23 05 08.4 -0.8
DBIC lAmb lAmb 23 05 10.0
comp=Z,15nm,1.1s
KIC Kosan Boka 62.00 262 *eP* **P 23 05 09.2 -0.4**
comp=Z,27nm,1.0s
TIC Toumodi 62.11 262 *eP* **P 23 05 09.9 -0.4**
LIC Lamto 62.31 262 *eP* **P 23 05 11.3 -0.4**
comp=Z,39nm,1.0s

PMAR Madeira 62.60 294 *eP* **P 23 05 14.7 +1.1**
JNU Nakatsue 62.71 65 P P 23 05 13.7 -0.4
comp=Z,6.8nm,0.6s,baz=294,slow=5.8,SNR=4.2
JNU Nakatsue 62.71 65 P P 23 05 13.4 -0.8
BOSA Boshof 63.96 211 P P 23 05 21.5 -0.9
comp=Z,6.8nm,0.5s,baz=26,slow=7.2,SNR=34
BOSA LR LR 23 34 39.8
comp=Z,127nm,18.1s,baz=359,slow=37
BOSA Boshof 63.96 211 P P 23 05 22.5 +0.1
BKB Balikpapan 64.48 106 P P 23 05 25.4 -0.6
SUMG Summit 65.06 341 *i* **P P 23 05 30.0 +0.6**
comp=Z,71nm,0.9s
SUMG Summit 65.06 341 P P 23 05 29.3 -0.1
SUMG pmax pmax
comp=Z,42nm,1.0s
SUMG Summit 65.06 341 P P 23 05 29.3 -0.1
SUMG Summit 65.06 341 *i* **P P 23 05 30.0 +0.6**
SUMG lAmb lAmb 23 05 38.7
comp=Z,71nm,0.9s
MAT Matsushiro 67.40 60 P P 23 05 43.2 -1.4
MJAR Matsushiro Arr 67.40 60 P P 23 05 43.8 -0.8
comp=Z,4.1nm,0.7s,baz=284,slow=5.5,SNR=12
YSS Yuzh-Sakhalins 67.41 48 *eP* **P 23 05 42.8 -1.6**
YSS pmax pmax
comp=Z,50nm,0.7s
SEY Seymchan 67.84 29 P P 23 05 46.4 -0.5
comp=Z,29nm,0.7s,baz=281,slow=11,SNR=10
SEY Seymchan 67.84 29 *c* *iP* **P 23 05 47.1 +0.2**
MRSI Marisa 67.92 102 P P 23 05 49.9 +1.8
MA2 Magadan 68.16 33 P P 23 05 48.3 -0.6
comp=Z,15nm,0.8s,baz=295,slow=5.7,SNR=13
MA2 Magadan 68.16 33 *ceP* **P 23 05 48.1 -0.9**
MA2 pmax pmax
comp=Z,20nm,1.0s
MA2 Magadan 68.16 33 P P 23 05 48.0 -0.9
MA2 lAmb lAmb 23 05 49.3
comp=Z,19nm,0.9s
UPNV Upernavik 69.88 343 *i* **P P 23 05 59.3 -0.1**
UPNV lAmb lAmb 23 06 00.3
comp=Z,13nm,0.7s
EUNU Eureka 70.26 354 P P 23 06 02.2 +0.5
EUNU lAmb lAmb 23 06 03.2
comp=Z,20nm,0.8s
TULEG Thule 70.47 348 P P 23 06 02.1 -0.9
TULEG Thule 70.47 348 *i* **P P 23 06 02.0 -0.9**
TULEG lAmb lAmb 23 06 03.3
comp=Z,42nm,0.6s
PETK Petropavlovsk- 74.16 38 LR LR 23 41 59.6
comp=Z,222nm,18.4s,baz=295,slow=38
BATI Baumata 74.93 110 P P 23 06 31.7 +1.3
SWI Sorong 76.68 98 P P 23 06 42.8 +2.3
A21K Barrow 78.14 10 P P 23 06 47.4 -0.3
A21K lAmb lAmb 23 06 54.0
comp=Z,13nm,0.7s
A21K Barrow 78.14 10 P 23 06 47.7
baz=330
RDOG Red Dog Mine 79.73 14 P P 23 06 56.4 -0.1
RDOG Red Dog Mine 79.73 14 P 23 06 56.1
baz=325
MORW Morawa 80.22 130 P P 23 07 00.7 +1.0
baz=80,SNR=3.4
FITZ Fitzroy Crossi 80.82 116 P P 23 07 04.4 +1.3
baz=81,SNR=3.6
TOLK Toolik Lake Re 81.63 9 P P 23 07 06.0 -0.7
TOLK lAmb lAmb 23 07 18.5
comp=Z,12nm,0.9s
TOLK Toolik Lake Re 81.64 9 P 23 07 06.9
baz=337
COLD Coldfoot 82.84 10 P P 23 07 12.7 -0.3
COLD lAmb lAmb 23 07 20.1
comp=Z,9.3nm,0.9s
COLD Coldfoot 82.84 10 P 23 07 13.1
baz=336
C36M Paulatuk 82.88 0 P 23 07 12.6
baz=359
IMAR Indian Mountai 83.36 12 P P 23 07 14.7 -1.0
BMAR Burnt Mountain 83.45 8 P P 23 07 16.6 +0.4
KDU Kakadu 83.58 108 P P 23 07 19.0 +1.4
baz=84,SNR=4.1
FYU Fort Yukon 84.18 9 P P 23 07 20.1 +0.2
FYU lAmb lAmb 23 07 26.5
comp=Z,28nm,1.4s
MLY Manley 84.77 11 P 23 07 23.0
baz=336
I23K Minto, Yukon-K 84.89 11 P P 23 07 23.4 -0.1
I23K lAmb lAmb 23 07 24.8
comp=Z,12nm,1.2s
I23K Minto, Yukon-K 84.89 11 P 23 07 24.1
baz=337
POKR Poker Plat Res 85.23 10 P 23 07 25.6
baz=339
CHUM Lake Minchumin 85.52 12 P 23 07 27.0
baz=334
BPAW Bear Paw Mtn. 85.57 12 lAmb lAmb 23 07 27.8
comp=Z,35nm,1.4s
BPAW Bear Paw Mtn. 85.57 12 P 23 07 26.8
baz=336
ILAR Eielson Array 85.64 10 P P 23 07 26.1 -1.2
comp=Z,1.0nm,0.5s,baz=320,slow=4.4,SNR=21
ILAR PKKPbc **PKKPbc 23 25 29.5 -1.4**
comp=Z,0.5nm,0.7s,baz=185,slow=2.8,SNR=5.2
ILAR Eielson Array 85.64 10 P P 23 07 25.8 -1.5
ILAR Eielson Array 85.64 10 P P 23 07 25.8 -1.5
HDA Harding Lake 85.97 10 P 23 07 27.7
baz=339
HDA P 23 07 27.7
baz=339
MCK McKinley 86.27 11 P 23 07 30.5
baz=337
EGAK Eagle 86.40 8 P P 23 07 30.5 -0.6
EGAK lAmb lAmb 23 07 41.4
comp=Z,11nm,0.9s
EGAK Eagle 86.41 8 P 23 07 31.0
baz=344
PPLA Purkeypile 86.44 13 P P 23 07 31.6 +0.2
PPLA lAmb lAmb 23 07 47.4
comp=Z,22nm,1.3s
RND Reindeer 86.59 11 P P 23 07 31.7 -0.4
RND pmax pmax
comp=Z,9.0nm,1.2s
RND Reindeer 86.59 11 P P 23 07 31.7 -0.4
WRKA Warakurna 86.67 121 P P 23 07 34.3 +1.3
baz=87,SNR=9.6
SCRK Sand Creek 86.81 9 P 23 07 33.4
baz=342
K27K Chicken 87.01 8 P P 23 07 33.6 -0.5
K27K lAmb lAmb 23 07 40.4
comp=Z,12nm,0.8s
K27K Chicken 87.02 8 P 23 07 34.2
baz=343
SKT Skwentna 87.40 13 P P 23 07 35.5 -0.5
SKT lAmb lAmb 23 07 37.0
comp=Z,14nm,1.2s
SKT Skwentna 87.40 13 P 23 07 35.8
baz=335
WAT6 Susitna Watana 87.55 11 P 23 07 37.3
baz=338
BCAR Beaver Creek A 87.98 8 P P 23 07 38.3 -0.5
SUA Susitna One 88.03 13 P 23 07 39.4
baz=336
GHO Glory Hole Cre 88.09 12 P P 23 07 38.8 -0.6
SML Sawmill 88.17 12 P P 23 07 38.9 -0.8
SML lAmb lAmb 23 07 43.7
comp=Z,13nm,1.1s
WRA Warramunga Arr 88.78 113 P P 23 07 44.3 +1.0
comp=Z,15nm,1.0s,baz=302,slow=3.6,SNR=57
WRA Warramunga Arr 88.78 113 *i* **P P 23 07 44.2 +1.0**
WRA pmax pmax
comp=Z,11nm,0.7s
WB2 Warramunga Arr 88.79 113 P P 23 07 43.4 +0.1
WR0 Warramunga Arr 88.95 113 P P 23 07 43.7 -0.3
WR0 lAmb lAmb 23 07 50.2
comp=Z,9.6nm,0.8s
YKA Yellowknife Ar 89.50 356 P P 23 07 46.0 +0.2
comp=Z,9.5nm,0.9s,baz=6.9,slow=4.8,SNR=91
YKA LR LR 23 54 08.6
comp=Z,167nm,18.1s,baz=0.0,slow=40
FCC Fort Churchill 90.18 345 P P 23 07 48.6 -0.5
AS31 Alice Springs 90.31 117 P P 23 07 50.8 +0.4
ASAR Alice Springs 90.31 117 P P 23 07 51.2 +0.9
comp=Z,2.7nm,0.6s,baz=306,slow=4.9,SNR=27
ASAR Alice Springs 90.31 117 P P 23 07 50.8 +0.5
ASAR Alice Springs 90.31 117 P P 23 07 50.8 +0.5
MATQ Matagami 92.60 332 P 23 08 00.6
baz=39
LSQQ Lebel-sur-Quev 92.87 332 P 23 08 01.8

	baz=40						
D55A	Sainte-Anne-du	93.77	330	P		23 08 06.0	
	baz=41						
H60A	Morristown	94.30	326	P		23 08 08.6	
	baz=43						
G58A	Ormstown	94.52	328	P		23 08 09.3	
	baz=42						
H58A	Gabriels	95.12	327	P		23 08 11.7	
	baz=42						
LONY	Lake Ozonia	95.16	327	P		23 08 12.2	
	baz=42						
I59A	Olmsteadville	95.43	327	P		23 08 13.7	
	baz=42						
FFC	Flin Flon	95.56	348	P	P	23 08 13.8	-0.2
FFC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FFC	Flin Flon	95.56	348	P	P	23 08 13.8	-0.2
J59A	Piesco	95.99	327	P		23 08 16.6	
	baz=42						
I58A	Old Forge	96.05	327	P		23 08 16.5	
	baz=41						
ULM	Lac du Bonnet	98.36	343	LR	LR	23 54 56.5	
	comp=Z,185nm,18.7s,baz=52,slow=37						
PDAR	Pinedale Array	108.42	349	PKKPbc	PKKPbc	23 24 38.5	+10
	comp=Z,0.4nm,0.6s,baz=175,slow=2.7,SNR=3.8						
NVAR	Mina Array Bea	113.70	356	PKiKP	PKiKP	23 13 28.7	+0.7
	comp=Z,1.0nm,0.6s,baz=331,slow=0.6,SNR=7.6						
BELA	Belgrano 2	117.53	194		PKPdf	23 13 33.3	-0.5
MNTX	Cornudas Mount	118.20	343		PKPdf	23 13 36.6	0.0
MNTX	Cornudas Mount	118.21	343	P		23 13 36.2	
	baz=18						
TXAR	Lajitas Array	119.96	340	PKP	PKPdf	23 13 39.7	-0.5
	comp=Z,1.0nm,0.7s,baz=179,slow=1.5,SNR=9.7						
CPUP	Villa Florida	122.09	255	PKP	PKPdf	23 13 43.4	-0.7
	comp=Z,1.5nm,0.6s,baz=97,slow=2.5,SNR=5.1						
LPAZ	La Paz	128.09	271	PKP	PKPdf	23 13 56.8	+0.3
	comp=Z,0.6nm,0.4s,baz=334,slow=3.6,SNR=3.5						
OTAV	Otavalo	128.77	296	PKIKP	PKPdf	23 13 56.4	-1.4
OTAV	Otavalo	128.77	296		PKPdf	23 13 56.4	-1.4
PB16	IPOC Station P	130.08	269		PKPdf	23 14 00.4	+0.2

DJA 05 23:03:42.5±0.5,**9°S**±13°×**11°7E**±°,**h147**km±4km,**M3.8**/9, **MLv3.8**/9,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.40	130	P	Pn	23 04 04.4	+1.4
PLAI				S	Sn	23 04 20.5	+1.8
TWSI	Taliwang, Sumb	0.60	254	P	Pn	23 04 05.4	+1.3
TWSI				S	Sn	23 04 22.4	+1.9
DNP	Denpasar	2.24	267	P	Pn	23 04 20.1	-0.2
SRBI	Singaraja	2.29	282	P	Pn	23 04 21.3	+0.5
WSI	Waingapu	3.00	112	P	Pn	23 04 28.9	-0.8
JAGI	Jajag, Banyuwa	3.28	271	P	Pn	23 04 32.5	-0.9
ABJI	Asem Bagus	3.29	283	P	Pn	23 04 33.6	+0.1
BASI	Baing, Sumba	3.48	118	P	Pn	23 04 36.6	+0.7
KMMI	Kalianget	3.79	293	P	Pn	23 04 39.9	0.0

*BGR **05** 23:05:54.9±0.0, 42°05N×143°82E, h33km, mb4.8*

*BJI **05** 23:05:57.5±0.0, 42°27N×142°80E, h66km, mB4.9/41, mb4.6/55, Ms4.3/28, Ms7 4.0/28*

*SKHL **05** 23:05:58.5±0.7, 42°10N×142°50E, h66km±3km, mb5.5/17, mbv5.3/1*

*MOS **05** 23:05:58.9±0.9, 42°34N×142°53E, h61km, mb5.1/55, Error ellipse: s-maj=5.3km s-min=3.8km az=101.7*

*NIED **05** 23:06:00.9, 42°41N×142°62E, h57km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.27; $M_{\theta\theta}$-0.46; $M_{\phi\phi}$-0.81; $M_{r\theta}$-0.79; $M_{\theta\phi}$1.15; $M_{\phi r}$-0.40; Fault plane solution: $M_0$1.83000×10^{16} NP1: ϕ_s291.00000°, δ57.00000°, λ50.00000°. NP2: ϕ_s168.00000°, δ50.00000°, λ135.00000°.*

*NEIC **05** 23:06:00.4, 42°29N×142°61E, h76km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.00; $M_{\theta\theta}$0.79; $M_{\phi\phi}$-1.79; $M_{r\theta}$-0.97; $M_{\theta\phi}$1.80; $M_{\phi r}$-1.03; Fault plane solution: $M_0$2.77000×10^{16} NP1: ϕ_s294.22000°, δ57.89000°, λ23.46000°. NP2: ϕ_s191.23000°, δ70.30000°, λ145.62000°. Principal axes: T 2.7523, Plg38.0000°, Azm149.0000°; N 0.0306, Plg51.0000°, Azm345.0000°; P -2.7829, Plg8.0000°, Azm245.0000°;*

*JMA **05** 23:06:00.8±0.1, 42°40N×142°62E, h57km±1km, M4.9 Broadband fault plane solution: P waves. NP1: ϕ_s281.00000°, δ68.00000°, λ19.00000°. NP2: ϕ_s183.00000°, δ72.00000°, λ156.00000°. Principal axes: T Plg29.0000°, Azm141.0000°; N Plg61.0000°, Azm328.0000°; P Plg3.0000°, Azm233.0000°;*

JMA Felt III J1.

*IDC **05** 23:06:00.2±1.4, 42°38N×142°59E, h56km±12km, mb4.2/33, mb1 4.5/42, mb1mx4.4/50, mbtmp4.6/42, MS3.9/20, Ms1 3.9/20, ms1mx3.7/37 Error ellipse: s-maj=11.2km s-min=9.3km az=136.0*

*NEIC **05** 23:06:00.9±1.7, 42°27N±0°05×142°6E±0°1, h63km±4km, mb4.8/198, Mwr4.9/27, Error ellipse: s-maj=11.2km s-min=7.4km az=106.0*

*GCMT **05** 23:06:01.9±0.5, 42°39N±0°02×142°61E±0°04, h54km±2km, MW4.8/65, Moment Tensor Solution. s19,c19; s65,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.25±.20; $M_{\theta\theta}$-0.05±.13; $M_{\phi\phi}$-1.21±.13; $M_{r\theta}$-0.77±.08; $M_{\theta\phi}$1.73±.07; $M_{\phi r}$-0.84±.08; Best double couple: $M_0$2.40500×10^{16} NP1: ϕ_s289.00000°, δ56.00000°, λ33.00000°. NP2: ϕ_s179.00000°, δ63.00000°, λ141.00000°. Principal axes: T 2.3400, Plg46.0000°, Azm141.0000°; N 0.1230, Plg44.0000°, Azm329.0000°; P -2.4690, Plg4.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 23:06:00.6±0.4,**42°33N**±0°03×**142°58E**±0°03,**h61**km±3km, **h61**km**:pP-P,n583,**σ1s**27**/573,**mb4.8**/232,**47C-13D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSHD	Hidakashinhida	0.11	311	⇑P	Pn	23 06 09.4	-0.4
JNBK	Urakawa-nobuka	0.14	113	⇑P	Pn	23 06 09.5	-0.3
JNBK				eS	Sn	23 06 16.5	0.0
JBT2	Biratori 2	0.47	340	⇑P	Pn	23 06 11.4	-1.0
JBT2				eS	Sn	23 06 19.8	-1.1
ERM	Erimo	0.53	127c	iPN	Pn	23 06 12.8	-0.2
ERM	Erimo	0.53	127	Pn	Pn	23 06 13.4	+0.4
JEM	Erimo	0.53	126	⇑P	Pn	23 06 13.3	+0.3
JTHR	Tokachihiroo	0.53	94	⇓P	Pn	23 06 12.9	-0.1
JTHR				eS	Sn	23 06 22.1	+0.1
JIAM	Iburiatsuma	0.57	301	⇑P	Pn	23 06 13.8	+0.5
JCH	Churui	0.64	64	⇓P	Pn	23 06 13.7	-0.5
JCH				eS	Sn	23 06 23.4	-0.7
JFR	Furan	0.83	1	⇑P	Pn	23 06 15.5	-1.0
JEW	Eniwo	0.98	302	⇑P	Pn	23 06 18.4	0.0
JEW				eS	Sn	23 06 31.6	+0.1
JEW	Eniwo	0.98	302		Pn	23 06 18.5	+0.2
JOB	Onbets	1.08	58	⇓P	Pn	23 06 19.8	0.0
JNB	Noboribetsu	1.15	277	⇓P	Pn	23 06 19.6	-1.0
JNB				eS	Sn	23 06 34.5	-1.1
JAB	Ashibetsu	1.20	347	⇑P	Pn	23 06 20.8	-0.5
JKB	Kayabe	1.24	249	⇓P	Pn	23 06 21.6	-0.1
JKB				eS	Sn	23 06 37.4	-0.1
JISS	Ishikarishitsu	1.27	318	⇑P	Pn	23 06 22.1	-0.1
JISS				eS	Sn	23 06 38.4	0.0
JAR	Ashorobuto	1.30	42	⇓P	Pn	23 06 21.9	-0.7
JAR				eS	Sn	23 06 36.9	-2.2
ASAJ	Asahikawa	1.78	0	P	Pn	23 06 28.9	-0.2
	851nm,0.3s,baz=213,slow=10,SNR=1212						
ASAJ				S	Sn	23 06 50.1	-0.5
	848nm,0.3s,baz=186,slow=24,SNR=33						
ASAJ	Asahikawa	1.78	0	PN	Pn	23 06 29.3	+0.2
JKA	Kamikawa-asahi	1.78	0	Pn	Pn	23 06 29.3	+0.2
JKA	Kamikawa-asahi	1.78	0	eP	Pn	23 06 29.3	+0.2
AKK	Akkeshi	1.80	67	eP	Pn	23 06 28.6	-0.7
AKK				eS	Sn	23 06 50.3	-0.8
JTM	Tenmabayashi	1.92	217	Pn	Pn	23 06 31.3	+0.4
NMR	Nemuro--Hokkai	2.53	65	⇑iPN	Pn	23 06 38.0	-1.3
NMR				eS	Sn	23 07 06.8	-2.2
NMR	Nemuro--Hokkai	2.53	65	iP	Pn	23 06 38.0	-1.3
NMR				eS	Sn	23 07 07.6	-1.4
GLVR	Golovnino	2.57	56	⇑iPN	Pn	23 06 39.8	0.0
GLVR				iS	Sn	23 07 11.2	+1.3
GLVR				pmax	pmax		
	comp=N,504nm,0.2s						
GLVR				pmax	pmax		
	comp=E,511nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,2µm,0.2s						
GLVR				smax	smax		
	comp=N,16µm,0.3s						
GLVR				smax	smax		
	comp=E,9µm,0.2s						
GLVR	Golovnino	2.57	56	iP	Pn	23 06 39.8	0.0
GLVR				AMB	AMB	23 06 41.8	
	comp=E,2µm,0.4s						
GLVR				iS	Sn	23 07 11.2	+1.3
GLVR				A	A	23 07 12.5	
	comp=E,16µm,0.5s						
GLVR				A	A	23 07 12.5	
	comp=E,9µm,0.5s						
RUSJ	Misakicho	2.63	47	⇑iPN	Pn	23 06 41.6	+1.0
RUSJ				eS	Sn	23 07 15.5	+4.1
GRPR	Tuman	2.86	54	⇓iPN	Pn	23 06 43.8	0.0
GRPR				iS	Sn	23 07 18.2	+1.2
GRPR				pmax	pmax		
	comp=N,727nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,2µm,0.2s						
GRPR				pmax	pmax		
	comp=E,416nm,0.3s						
GRPR				smax	smax		
	comp=E,4µm,0.3s						
GRPR				smax	smax		
	comp=N,8µm,0.4s						
GRPR	Tuman	2.86	54	iP	Pn	23 06 43.8	0.0
GRPR				AMB	AMB	23 06 50.2	
	comp=N,2µm,0.5s						
GRPR				iS	Sn	23 07 18.2	+1.2
GRPR				A	A	23 07 20.1	
	comp=N,8µm,0.5s						
GRPR				A	A	23 07 20.1	
	comp=N,4µm,0.5s						
YUK	Yuzh-Kuril'sk	2.94	54	iPN	Pn	23 06 44.8	0.0
YUK	Yuzh-Kuril'sk	2.94	54	iP	Pn	23 06 45.3	+0.5
YUK				AMB	AMB	23 06 49.1	
	comp=N,150nm,0.4s						
YUK				AMB	AMB	23 06 49.1	
	comp=N,370nm,0.4s						
YUK				AMB	AMB	23 06 49.1	
	comp=N,3µm,0.4s						
YUK				iS	Sn	23 07 20.2	+1.3
YUK				A	A	23 07 22.3	
	comp=N,2µm,0.5s						
YUK				A	A	23 07 22.3	
	comp=N,13µm,0.5s						
YUK				AMS	AMS	23 08 42.4	
	comp=N,400nm,11.0s						
YSS	Yuzh-Sakhalins	4.62	1	⇑ePN	Pn	23 07 09.5	+1.7
YSS				eS	Sn	23 08 02.1	+2.0
YSS				pmax	pmax		
	comp=Z,220nm,0.9s						
YSS				pmax	pmax		
	comp=Z,400nm,3.8s						
YSS	Yuzh-Sakhalins	4.62	1	Pn	Pn	23 07 09.2	+1.4
YSS	Yuzh-Sakhalins	4.62	1	eP	Pn	23 07 09.5	+1.7
YSS				AMB	AMB	23 07 10.2	
	comp=Z,220nm,0.9s						
YSS				AMB	AMB	23 07 11.7	
	comp=Z,400nm,4.0s						
YSS				eS	Sn	23 08 02.1	+2.0
YSS				AMS	AMS	23 08 58.0	
	comp=Z,2µm,18.0s						
JMM	Marumori	4.67	198		Pn	23 07 08.0	-0.5
KUR	Kuril'sk	4.80	51c	iPN	Pn	23 07 11.9	+1.6
KUR	Kuril'sk	4.80	51	eP	Pn	23 07 11.9	+1.6
KUR				AMB	AMB	23 07 14.0	
	comp=Z,1µm,0.8s						
KUR				iS	Sn	23 08 07.0	+2.5
KUR				A	A	23 08 17.8	
	comp=Z,900nm,0.4s						
KUR				A	A	23 08 17.8	
	comp=Z,750nm,0.4s						
TEY	Ternei	5.11	304	⇑ePN	Pn	23 07 14.4	-0.1
TEY				e		23 08 17.0	
TEY				pmax	pmax		
	comp=Z,40nm,0.8s						
TEY				pmax	pmax		
	comp=N,30nm,0.5s						
TEY				pmax	pmax		
	comp=E,60nm,0.5s						
TEY	Ternei	5.11	304	eP	Pn	23 07 14.4	-0.1
TEY				AMB	AMB	23 07 14.9	
	comp=E,50nm,0.5s						
TEY				eS	Sn	23 08 09.2	-2.9
TEY				A	A	23 08 10.0	
	comp=E,50nm,0.5s						
TEY				A	A	23 08 10.0	
	comp=E,90nm,0.5s						
JSD	Sado	5.42	219	Pn	Pn	23 07 20.1	+1.3
JYT	Yasato	6.37	198		Pn	23 07 31.5	-0.4
MJB9	Matsu-Tunnel	6.70	212	Pn	Pn	23 07 37.2	+0.9
MAJO	Matsushiro	6.70	212	PN	Pn	23 07 38.0	+1.6
MAJO	Matsushiro	6.70	212	Pn	Pn	23 07 38.0	+1.6
MAT	Matsushiro	6.70	212	P	Pn	23 07 37.7	+1.3
MAT				eS	Sn	23 08 52.4	+1.1
MJAR	Matsushiro Arr	6.70	212	P	Pn	23 07 37.1	+0.7
	comp=E,3.8nm,0.3s,baz=22,slow=15,SNR=72						
MJAR				LR	LR	23 10 42.9	
	comp=E,658nm,19.9s,baz=25,slow=42						
MJAR	Matsushiro Arr	6.70	212		Pn	23 07 38.2	+1.8
UGL	Uglegorsk	6.75	357	eP	Pn	23 07 39.2	+2.2
UGL				AMB	AMB	23 07 40.0	
	comp=E,80nm,1.0s						
UGL				eS	Sn	23 08 54.0	+1.6
UGL				A	A	23 09 00.0	
	comp=E,150nm,1.0s						
JGF	Kuroka	7.86	213	Pn	Pn	23 07 53.1	+0.8
USA0B	Ussuriysk Arra	7.95	287	iPN	Pn	23 07 53.5	0.0
USA0B	Ussuriysk Arra	7.95	287	Pn	Pn	23 07 55.1	+1.7
USRK	Ussuriysk Ar.	7.95	287	P	Pn	23 07 53.4	0.0
	baz=97,slow=13,SNR=26						
USRK				LR	LR	23 10 56.6	
	comp=E,656nm,21.9s,baz=98,slow=37						
USRK	Ussuriysk Ar.	7.95	287	PN	Pn	23 07 54.5	+1.0
USRK	Ussuriysk Ar.	7.95	287	Pn	Pn	23 07 54.5	+1.0
INU	Inuyama	8.21	214		Pn	23 07 59.0	+2.0
MSHR	Mys Shultsa	8.45	276	iPN	Pn	23 07 58.7	-1.6
TYV	Tymovskoe	8.53	0	eP	Pn	23 08 03.6	+2.3
TYV				AMB	AMB	23 08 06.9	
	comp=E,30nm,0.7s						
JWT	Wachi	9.00	221	Pn	Pn	23 08 09.3	+1.6
GRNR	Gornyy	9.44	335	⇑iPN	Pn	23 08 14.9	+1.1
GRNR				eS	Sn	23 10 01.4	+3.1
GRNR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GRNR				smax	smax		
	comp=N,5.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,3µm,16.0s						
GRNR	Gornyy	9.44	335	eP	Pn	23 08 14.9	+1.1
GRNR				AMB	AMB	23 08 16.5	
	comp=E,6.0nm,0.7s						
GRNR				A	A	23 10 01.9	
	comp=E,50nm,0.7s						
GRNR				AMS	AMS	23 11 57.9	
	comp=E,1µm,16.0s						
GRNR				AMS	AMS	23 11 57.9	
	comp=E,3µm,16.0s						
GRNR				AMS	AMS	23 11 57.9	
	comp=E,200nm,16.0s						
JHJ	Hachijo jima 2	9.46	194	P	Pn	23 08 12.9	-1.2
	comp=E,69nm,0.3s,baz=97,slow=23,SNR=11						
JHJ				S	Sn	23 09 50.9	-8.1
	comp=E,56nm,0.3s,baz=45,slow=23,SNR=6.0						
JHJ				LR	LR	23 12 47.2	
	comp=E,310nm,18.3s,baz=110,slow=43						
MDJ	Mudanjiang	9.72	288	P	Pn	23 08 20.6	+3.0
MDJ				sP		23 08 37.5	
MDJ				S	Sn	23 10 06.5	+1.4
MDJ				pmax	pmax		
	comp=E,20nm,1.5s						
MDJ				pmax	pmax		
	comp=E,330nm,4.8s						
MDJ				LR	LR		
	comp=E,470nm,22.8s						
MDJ				LR	LR		
	comp=E,520nm,23.5s						
MDJ				LR	LR		
	comp=E,720nm,23.5s						
KLR	Kul'dur	10.23	316	P	Pn	23 08 24.9	+0.4
	comp=E,0.3nm,0.3s,baz=122,slow=14,SNR=17						
KLR				LR	LR	23 12 31.3	
	comp=E,353nm,21.7s,baz=129,slow=38						
KLR	Kul'dur	10.23	316	iPN	Pn	23 08 24.4	-0.1
KLR				pmax	pmax		
	comp=Z,33nm,1.3s						
KLR	Kul'dur	10.23	316	eP	Pn	23 08 24.4	-0.1
JHS	Saijyo	10.41	228	Pn	Pn	23 08 29.0	+1.9
NKL	Nikolayevsk	10.90	354	eP	Pn	23 08 35.5	+1.9
NKL				AMB	AMB	23 08 37.5	
	comp=Z,140nm,0.9s						
JMN	Monobe	10.99	221		Pn	23 08 36.1	+1.1
OKH	Okha	11.23	1	eP	Pn	23 08 38.5	+0.4
OKH				AMB	AMB	23 08 39.0	
	comp=Z,70nm,0.3s						
OKH				eS	Sn	23 10 43.7	+1.9
OKH				A	A	23 10 47.2	
	comp=Z,80nm,0.5s						
OKH				A	A	23 10 47.2	
	comp=Z,150nm,0.5s						
OKH				AMS	AMS	23 13 35.0	
	comp=Z,600nm,18.0s						
OKH				AMS	AMS	23 13 35.0	
	comp=Z,500nm,18.0s						
OKH				AMS	AMS	23 13 35.0	
	comp=Z,400nm,18.0s						
KSRS	Korea Array	12.27	251	P	Pn	23 08 54.0	+1.6
	comp=Z,6.0nm,0.3s,baz=64,slow=14,SNR=70						
KSRS				S	Sn	23 11 13.3	+6.0
	comp=Z,0.9nm,0.3s,baz=63,slow=24,SNR=4.5						
KSRS				LR	LR	23 13 27.3	
	comp=Z,288nm,19.7s,baz=58,slow=36						
KSRS	Korea Array	12.27	251	PN	Pn	23 08 54.0	+1.6
KS19	Wonju Array Si	12.28	252	Pn	Pn	23 08 54.6	+2.0
KSAR	Wonju Array Be	12.30	251	PN	Pn	23 08 53.7	+0.9
KSAR	Wonju Array Be	12.30	251		Pn	23 08 53.7	+0.9
SKR	Severo-Kuril's	12.50	43	ePN	Pn	23 08 55.8	+0.3
SKR				pmax	pmax		
	comp=Z,115nm,0.8s						
SKR	Severo-Kuril's	12.50	43	eP	Pn	23 08 55.0	-0.5
SKR				AMB	AMB	23 08 58.5	
	comp=Z,60nm,0.6s						
SKR				eS	Sn	23 11 10.1	-2.8
SKR				A	A	23 11 18.6	
	comp=Z,20nm,0.6s						
SKR				A	A	23 11 18.6	
	comp=Z,40nm,0.6s						
EKMR	Ekimchan	12.53	332	eP	Pn	23 08 55.5	-0.5
EKMR				AMB	AMB	23 09 21.0	
	comp=Z,30nm,0.8s						
JNU	Nakatsue	13.04	229	P	Pn	23 09 02.1	-1.0
	comp=Z,0.9nm,0.3s,baz=58,slow=9.5,SNR=4.7						
TJN	Taejon	13.19	248	iPN	Pn	23 09 03.9	-1.0
PAU	Pauzhetka	13.32	42	eP	Pn	23 09 05.6	-1.1
PAU				AMB	AMB	23 09 08.4	
	comp=Z,210nm,0.6s						
PEA0B	Petropavlovsk-	14.79	38	P	Pn	23 09 25.9	-0.1
PEA0B	Petropavlovsk-	14.79	38	Pn	Pn	23 09 25.9	-0.1
PETK	Petropavlovsk-	14.79	38	P	Pn	23 09 23.3	-2.7
	comp=Z,3.0nm,0.3s,baz=215,slow=8.6,SNR=23						
PETK				LR	LR	23 14 40.8	
	comp=Z,216nm,19.9s,baz=245,slow=35						
PETK	Petropavlovsk-	14.79	38	P	Pn	23 09 24.5	-1.6
PETK	Petropavlovsk-	14.79	38	Pn	Pn	23 09 24.5	-1.6
PET	Petropavlovsk	15.18	40	eP	Pn	23 09 31.5	+0.5
PET				eS	Sn	23 12 18.0	+0.1
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PET	Petropavlovsk	15.18	40	eP	Pn	23 09 29.9	-1.1
PET				AMB	AMB	23 09 32.7	
	comp=Z,70nm,0.3s						
PET				eS	Sn	23 12 12.5	-5.4
JCJ	Chichijima	15.21	181	P	Pn	23 09 29.7	-1.9
	comp=Z,19nm,0.3s,baz=261,slow=23,SNR=11						
JCJ				S	Sn	23 12 06.8	-12
	comp=Z,15nm,0.3s,baz=273,slow=22,SNR=4.5						
JCJ	Chichijima	15.21	181	Pn	Pn	23 09 30.9	-0.7
ZEA	Zeya	15.30	323	eP	Pn	23 09 33.3	+0.6
ZEA				pmax	pmax		
	comp=E,20nm,1.2s						
ZEA				pmax	pmax		
	comp=N,30nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,40nm,1.0s						
ZEA				MLR	MLR		
	comp=E,200nm,11.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,12.0s						
ZEA	Zeya	15.30	323	eP	Pn	23 09 31.3	-1.4
ZEA				AMB	AMB	23 09 48.4	
	comp=Z,40nm,1.0s						
BMKR	Bomnak	15.33	329	eP	Pn	23 09 32.2	-0.9
BMKR				AMB	AMB	23 09 38.0	
	comp=Z,30nm,0.8s						
KROS	Kirovskiy	15.89	325	eP	Pn	23 09 39.0	-1.2
KROS				AMB	AMB	23 09 41.9	
	comp=Z,30nm,1.0s						
DL2	Dalian	16.27	265	P	P	23 09 49.0	+1.9
DL2				sP	sP	23 10 11.3	+3.8
DL2				eS	S	23 12 53.7	-0.6
DL2				pmax	pmax		
	comp=Z,14nm,0.5s						
DL2				LR	LR		
	comp=Z,450nm,15.2s						
DL2				LR	LR		
	comp=Z,320nm,17.6s						
DL2				LR	LR		
	comp=Z,440nm,12.7s						
MA2	Magadan	17.99	14	P	P	23 10 04.5	-1.5
	comp=Z,1.8nm,0.3s,baz=208,slow=10,SNR=12						
MA2	Magadan	17.99	14	iP	P	23 10 04.6	-1.3
MA2				pmax	pmax		
	comp=Z,42nm,1.2s						
MA2	Magadan	17.99	14	P	P	23 10 04.7	-1.3
JOW	Kunigami	19.40	222	P	P	23 10 21.9	+0.3
	comp=Z,4.5nm,0.3s,baz=90,slow=14,SNR=7.0						
BJI	Beijing	19.98	272	P	P	23 10 26.4	-1.5
BJI				pmax	pmax		
	comp=Z,17nm,1.4s						
TIA	Tai'an	20.60	261	P	P	23 10 32.7	-1.9
TIA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YAK	Yakutsk	21.18	343	eP	P	23 10 39.8	-0.7
YAK				eS	S	23 14 25.7	-6.7
YAK				e		23 21 56.2	
YAK				pmax	pmax		
	comp=Z,24nm,1.5s						
YAK				pmax	pmax		
	comp=N,14nm,1.4s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				smax	smax		
	comp=N,170nm,3.2s						
YAK				smax	smax		
	comp=E,107nm,2.3s						
YAK	Yakutsk	21.18	343	eP	P	23 10 39.8	-0.7
SEY	Seymchan	21.42	12	P	P	23 10 41.2	-2.0
	comp=E,11nm,0.5s,baz=192,slow=8.8,SNR=19						
SEY	Seymchan	21.42	12	iP	P	23 10 41.5	-1.7
NJ2	Nanjing	21.45	249	eP	P	23 10 44.1	+0.4
NJ2				pmax	pmax		
	comp=E,8.0nm,0.5s						
HHC	Hu-ho-hao-te	23.19	277	eP	P	23 11 02.2	+0.1
HHC				pmax	pmax		
	comp=E,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=E,78nm,5.3s						
BOD	Bodaibo	23.76	321	eP	P	23 11 05.4	-1.7
BOD				pmax	pmax		
	comp=Z,8.0nm,1.9s						
BOD	Bodaibo	23.76	321	eP	P	23 11 05.4	-1.7
WHN	Wuhan	25.46	252	⇓P	P	23 11 23.9	+1.1
ULN	Ulaanbaatar	25.53	295	P	P	23 11 23.5	0.0
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ULN	Ulaanbaatar	25.53	295	P	P	23 11 23.5	0.0
ULN	Ulaanbaatar	25.53	295	eP	P	23 11 23.5	0.0
SONM	Songino Array	25.97	295	P	P	23 11 27.3	-0.2
	comp=Z,15nm,1.2s,baz=82,slow=7.2,SNR=28						
SONM				ScP	ScP	23 18 28.3	-0.3
	comp=Z,1.0nm,1.1s,baz=85,slow=1.8,SNR=4.2						
SONM	Songino Array	25.97	295	P	P	23 11 27.2	-0.2
TLY	Talaya	27.85	303	P	P	23 11 45.0	+0.7
	comp=Z,3.3nm,0.6s,baz=97,slow=9.7,SNR=3.2						

TLY Talaya 27.85 303 *e*P **P** **23 11 47.8 +3.6**
TLY pmax pmax
comp=Z,35nm,0.8s
TLY MLR MLR
comp=Z,448nm,11.0s
TLY Talaya 27.85 303 P **P** **23 11 45.9 +1.6**
TLY Talaya 27.85 303 *e*P **P** **23 11 43.8 -0.4**
ZAK Zakamensk 28.02 300 *e*P **P** **23 11 47.2 +1.4**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
GSTR Great Sitkin T 29.38 56 P **P** **23 12 01.7 +4.0**
MOY Mondy 29.50 303 *e*P **P** **23 12 00.0 +1.0**
MOY pmax pmax
comp=Z,28nm,1.7s
TIXI Tiksi 30.16 351 P **P** **23 12 05.7 +1.3**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 30.16 351 P **P** **23 12 05.7 +1.3**
TIXI Tiksi 30.16 351 *e*P **P** **23 12 05.7 +1.3**
LZH Lanzhou 30.46 271 *e*P **P** **23 12 07.9 +0.2**
LZH pP pP 23 12 22.5 -0.1
LZH sP sP 23 12 30.1 +0.3
LZH pmax pmax
comp=Z,12nm,1.0s
H11N2 WAKE ISLAND Hy 30.49 130 T T 23 43 52.7
baz=324,slow=75,SNR=1185
H11N1 WAKE ISLAND Hy 30.50 130 T T 23 43 46.2
baz=324,slow=75,SNR=913
H11N3 WAKE ISLAND Hy 30.51 130 T T 23 43 46.9
baz=324,slow=75,SNR=762
GTA Gaotai 32.23 279 P **P** **23 12 24.0 +0.9**
GTA pP pP 23 12 39.2 +1.1
GTA sP sP 23 12 45.9 +0.7
GTA PcP **PcP** **23 15 10.4 +0.1**
GTA ScP **ScP** **23 18 50.7 +2.1**
GTA PcS **PcS** **23 18 55.5 +0.1**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,150nm,7.1s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,160nm,16.4s
GTA LR LR
comp=Z,180nm,14.9s
CD2 Chengdu 32.92 263 *e*P **P** **23 12 29.0 -0.1**
GYA Guiyang 33.32 253 ⇑P **P** **23 12 32.9 +0.2**
GYA pP pP 23 12 50.5 +2.9
GYA pmax pmax
comp=Z,5.0nm,1.5s
QIZ Qiongzhong 36.15 240 P **P** **23 12 55.6 -1.5**
QIZ S **S** **23 18 32.8 +0.3**
QIZ LR LR
comp=Z,260nm,17.5s
QIZ LR LR
comp=Z,290nm,17.7s
QIZ LR LR
comp=Z,230nm,18.1s
KMI Kunming 36.93 255 ⇓P **P** **23 13 05.9 +2.0**
KMI pP pP 23 13 20.0 +1.1
KMI sP sP 23 13 26.1 +0.2
KMI S **S** **23 18 42.8 -2.0**
KMI sS sS 23 19 11.0 +0.3
KMI pmax pmax
comp=Z,11nm,0.9s
KMI pmax pmax
comp=Z,74nm,4.0s
KMI LR LR
comp=Z,140nm,15.2s
KMI LR LR
comp=Z,180nm,19.4s
KMI LR LR
comp=Z,200nm,15.2s
RDOG Red Dog Mine 38.41 30 P **P** **23 13 16.4 +0.7**
RDOG IAmb IAmb 23 13 22.3
comp=Z,31nm,1.9s
RDOG Red Dog Mine 38.41 30 P 23 13 16.0
baz=256
SLVN Son La 38.52 249 P **P** **23 13 18.3 +1.0**
SLVN IAmb IAmb 23 13 20.4
comp=Z,8.6nm,0.9s
SDPT Sand Point 38.58 50 P **P** **23 13 19.5 +2.3**
NRIK Noril'sk 38.91 332 P **P** **23 13 19.2 -0.7**
comp=Z,1.7nm,0.4s,baz=131,slow=7.1,SNR=5.5
NRIK PcP **PcP** **23 15 29.1 -0.3**
comp=Z,3.0nm,0.5s,baz=340,slow=3.0,SNR=4.5
NRIK Noril'sk 38.91 332 *i* P **P** **23 13 18.2 -1.6**
NRIK pmax pmax
comp=Z,2.0nm,1.1s
NRIK Noril'sk 38.91 332 IAmb IAmb 23 13 36.2
comp=Z,24nm,1.9s
NRIK **PcP** **23 15 30.1 +0.8**
CHNA Chernabura Isl 39.13 51 P 23 13 21.8
baz=276
ZAA0 Zalesovo Array 39.20 308 IAmb IAmb 23 13 39.5
comp=Z,12nm,0.8s
ZAA0 **PcP** **23 15 30.9 +0.5**
ZALV Zalesovo Beam 39.20 308 P **P** **23 13 22.5 +0.1**
comp=Z,5.7nm,0.6s,baz=88,slow=7.3,SNR=24
ZALV PcP **PcP** **23 15 30.6 +0.1**
comp=Z,7.1nm,0.7s,baz=89,slow=2.9,SNR=7.8
ZALV ScP **ScP** **23 19 14.6 +1.1**
comp=Z,1.5nm,0.7s,baz=64,slow=3.4,SNR=3.9
ZALV LR LR 23 29 43.2
comp=Z,101nm,21.4s,baz=83,slow=36
ZALV Zalesovo Beam 39.20 308 *i* P **P** **23 13 22.2 -0.2**
ZALV pmax pmax
comp=Z,6.0nm,0.6s
ZALV Zalesovo Beam 39.20 308 P **P** **23 13 22.0 -0.4**
ZALV **PcP** **23 15 30.4 -0.1**
ZALV **S** **23 19 16.1 -2.0**
WMQ Urumqi 39.50 291 *e*P **P** **23 13 27.1 +1.9**
WMQ pP pP 23 13 39.9 -0.6
WMQ sP sP 23 13 47.0 -0.6
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,120nm,6.3s
WMQ LR LR
comp=Z,230nm,13.9s
WMQ LR LR
comp=Z,240nm,18.5s
WMQ Urumqi 39.50 291 IAmb IAmb 23 13 31.4
comp=Z,12nm,0.8s
CHGN Chignik 39.65 48 P 23 13 25.5
baz=275
ZSN Zaisan 40.40 298 *e*P **P** **23 13 32.2 -0.3**
baz=298
ZSN Zaisan 40.40 298 *e*P **P** **23 13 32.2 -0.3**
TTA Tatalina 40.62 38 P **P** **23 13 35.5 +1.3**
TTA pmax pmax
comp=Z,9.0nm,1.2s
TTA Tatalina 40.62 38 P **P** **23 13 35.5 +1.3**
TTA Tatalina 40.62 38 P 23 13 34.6
baz=269
SVW2 Sparrevohn 40.84 41 P **P** **23 13 37.2 +1.2**
SVW2 IAmb IAmb 23 14 56.5
comp=Z,18nm,1.4s
A21K Barrow 41.26 25 P 23 13 38.8
baz=259,SNR=5.6
SGSI Sangihe 41.39 206 P **P** **23 13 40.8 -0.1**
comp=Z,149nm,0.8s
MK31 Makanchi Array 42.27 297 *c i* P **P** **23 13 47.5 -0.4**
MK31 Makanchi Array 42.27 297 P **P** **23 13 47.9 0.0**
MKAR Makanchi Array 42.27 297 P **P** **23 13 47.7 -0.2**
comp=Z,4.8nm,0.6s,baz=84,slow=9.6,SNR=63
MKAR PcP **PcP** **23 15 40.9 +0.2**
comp=Z,2.0nm,0.5s,baz=32,slow=1.1,SNR=5.8
MKAR Makanchi Array 42.27 297 P **P** **23 13 47.5 -0.4**
OHAK Old Harbor 42.35 47 P **P** **23 13 47.1 -1.3**
OHAK Old Harbor 42.35 47 P 23 13 48.0
baz=278
MAKZ Makanchi 42.47 298 P **P** **23 13 49.2 -0.3**
MAKZ pmax pmax
comp=Z,9.0nm,0.6s
MAKZ Makanchi 42.47 298 P **P** **23 13 49.2 -0.3**
MAKZ IAmb IAmb 23 13 54.2
comp=Z,9.4nm,0.6s
KDAK Kodiak Island 42.65 46 P 23 13 50.2
baz=278
SKT Skwentna 42.73 39 P 23 13 50.9
baz=274
BPAW Bear Paw Mtn. 42.86 36 P 23 13 52.1
baz=272

LSA Lhasa 42.87 270 P **P** **23 13 55.0 +1.6**
LSA pmax pmax
comp=Z,12nm,0.9s
LSA Lhasa 42.87 270 IAmb IAmb 23 14 20.9
comp=Z,9.1nm,0.8s
KTH Kantishna Hill 42.91 37 IAmb IAmb 23 14 07.7
comp=Z,17nm,1.0s
MLY Manley 42.94 35 P 23 13 53.5
baz=272
COLD Coldfoot 43.13 32 IAmb IAmb 23 14 53.0
comp=Z,7.4nm,0.4s
COLD Coldfoot 43.13 32 P 23 13 54.4
baz=270
SUA Susitna One 43.15 40 P **P** **23 13 55.3 +0.4**
SUA IAmb IAmb 23 14 19.8
comp=Z,7.7nm,0.6s
SUA Susitna One 43.15 40 P 23 13 55.1
baz=275
TRF Thorofare Moun 43.20 37 IAmb IAmb 23 14 19.2
comp=Z,9.1nm,0.8s
TRF Thorofare Moun 43.20 37 P 23 13 55.4
baz=274
BRSE Bradley Lake S 43.34 43 P 23 13 55.9
baz=277
TOLK Toolik Lake Re 43.38 30 IAmb IAmb 23 13 59.0
comp=Z,7.8nm,0.6s
TOLK Toolik Lake Re 43.38 30 P 23 13 55.9
baz=269,SNR=9.7
I23K Minto, Yukon-K 43.51 35 IAmb IAmb 23 14 16.9
comp=Z,29nm,1.8s
I23K Minto, Yukon-K 43.51 35 P 23 13 57.1
baz=273
KURK Kurchatov 43.54 304 P **P** **23 13 58.6 +0.5**
KURK Kurchatov 43.54 304 P **P** **23 13 58.5 +0.5**
KURK Kurchatov 43.54 304 *e*P **P** **23 13 58.6 +0.5**
KURBB Kurchatov Arra 43.62 304 P **P** **23 13 58.5 -0.1**
comp=Z,18nm,0.6s,baz=76,slow=8.6,SNR=72
CHTO Chiang Mai 43.67 251 P **P** **23 14 00.3 +0.9**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 43.67 251 P **P** **23 14 00.3 +0.9**
NEA2 Nenana 43.67 36 P 23 13 58.7
baz=274,SNR=18
RC01 Rabbit Creek A 43.68 41 P 23 13 58.8
baz=277
O22K Cooper Landing 43.76 41 P **P** **23 13 56.5 -3.1**
MCK McKinley 43.79 37 P 23 13 59.8
baz=274
RND Reindeer 43.85 37 P **P** **23 14 00.1 -0.4**
RND pmax pmax
comp=Z,8.0nm,0.7s
RND Reindeer 43.85 37 P **P** **23 14 00.1 -0.4**
CMAR Chiang Mai Arr 43.91 251 P **P** **23 14 02.3 +1.0**
comp=Z,1.8nm,0.4s,baz=43,slow=7.0,SNR=8.1
CMAR LR LR 23 33 54.2
comp=Z,114nm,18.9s,baz=16,slow=38
CMAR Chiang Mai Arr 43.91 251 *i* P **P** **23 14 01.2 -0.1**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
PMR Palmer 43.91 40 P 23 14 00.7
baz=277
SEW Seward 43.94 42 P 23 14 01.1
baz=278
GHO Glory Hole Cre 43.98 40 IAmb IAmb 23 14 27.0
comp=Z,18nm,0.8s
WAT2 Susitna Watana 44.01 38 P 23 14 00.7
baz=276,SNR=8.6
TCOL CIRO, UAF Yank 44.17 35 P 23 14 02.8
baz=274
COLA College 44.17 35 P **P** **23 14 03.7 +0.8**
COLA College 44.17 35 P **P** **23 14 03.7 +0.8**
COLA College 44.17 35 P 23 14 03.0
baz=274
KNK Knik Glacier 44.25 40 IAmb IAmb 23 14 27.8
comp=Z,33nm,1.3s
KNK Knik Glacier 44.25 40 P 23 14 03.1
baz=277
SML Sawmill 44.26 39 P 23 14 03.4
baz=277,SNR=6.1
POKR Poker Plat Res 44.33 35 P **P** **23 14 05.0 +0.8**
POKR IAmb IAmb 23 14 26.9
comp=Z,9.0nm,0.8s
POKR Poker Plat Res 44.33 35 P 23 14 03.8
baz=274
IL31 44.59 35 IAmb IAmb 23 14 28.0
comp=Z,11nm,0.8s
ILAR Eielson Array 44.59 35 P **P** **23 14 05.8 -0.5**
comp=Z,3.9nm,0.5s,baz=259,slow=5.2,SNR=83
HDA Harding Lake 44.60 36 IAmb IAmb 23 14 07.0
comp=Z,8.5nm,0.5s
HDA Harding Lake 44.60 36 P 23 14 05.4
baz=276,SNR=20
HDA P 23 14 05.4
baz=276,SNR=20
SCM Sheep Creek Mo 44.73 39 P **P** **23 14 07.8 +0.3**
SCM pmax pmax
comp=Z,16nm,0.9s
SCM Sheep Creek Mo 44.73 39 P **P** **23 14 07.8 +0.3**
SCM IAmb IAmb 23 14 28.7
comp=Z,16nm,0.9s
GLI Glacier Island 44.98 41 P **P** **23 14 10.5 +1.0**
GLI IAmb IAmb 23 15 16.6
comp=Z,24nm,1.4s
GLI Glacier Island 44.98 41 P 23 14 09.2
baz=279
GTOI Gorontalo 45.09 208 P **P** **23 14 10.1 -0.6**
comp=Z,2µmcomp=Z,11nm,0.8s
PRP Porcupine Dome 45.09 34 IAmb IAmb 23 14 32.3
comp=Z,13nm,0.8s
PRP Porcupine Dome 45.09 34 P 23 14 09.9
baz=276,SNR=13
M24K Tolsona, Glenn 45.23 39 P 23 14 11.2
baz=278
SHLS Shalkode 45.36 293 *e*P **P** **23 14 09.7 -3.2**
baz=293
SHLS Shalkode 45.36 293 *e*P **P** **23 14 09.7 -3.2**
TDK Taldyqorghan 45.41 296 *e*P **P** **23 14 12.7 -0.5**
comp=Z,7.3nm,0.6s,baz=296
TDK Taldyqorghan 45.41 296 *e*P **P** **23 14 12.6 -0.5**
TDK pmax pmax
comp=Z,7.0nm,0.6s
PAX Paxson 45.43 38 P **P** **23 14 14.4 +1.4**
PAX pmax pmax
comp=Z,6.0nm,0.8s
PAX Paxson 45.43 38 P **P** **23 14 14.4 +1.4**
PAX Paxson 45.43 38 P 23 14 13.0
baz=278
KLU Klutina 45.44 40 IAmb IAmb 23 14 42.5
comp=Z,18nm,1.1s
KLU Klutina 45.44 40 P 23 14 13.3
baz=279
MRSI Marisa 45.62 210 P **P** **23 14 14.7 -0.2**
comp=Z,31nm,1.0s
KPKS Kokpek 45.78 294 *e*P **P** **23 14 15.3 -0.8**
baz=294
KPKS Kokpek 45.78 294 *e*P **P** **23 14 15.2 -0.8**
SCRK Sand Creek 45.94 36 P 23 14 16.3
baz=278,SNR=30
DOT Dot Lake 45.95 37 IAmb IAmb 23 14 18.1
comp=Z,6.8nm,0.6s
N25K Chitina, Valde 46.05 39 P **P** **23 14 18.2 +0.2**
N25K IAmb IAmb 23 14 43.1
comp=Z,22nm,1.6s
N25K Chitina, Valde 46.05 39 P 23 14 17.9
baz=280
SATY Saty 46.12 294 *e*P **P** **23 14 17.7 -1.1**
baz=294
SATY Saty 46.12 294 *e*P **P** **23 14 17.7 -1.1**
BMRM Bremner River 46.16 40 P 23 14 18.8
baz=281
KAIM Kayak Island 46.46 42 P 23 14 21.5
baz=282
SANI Sanana 46.66 203 P **P** **23 14 22.6 -0.5**
comp=Z,17nm,1.2s
TAPN Taplejung 46.68 270 *e*P **P** **23 14 23.8 +0.2**
comp=Z,20nm,0.5s
CHKK Chushkaly 46.77 295 *e*P **P** **23 14 22.9 -0.9**
baz=295
CHKK Chushkaly 46.77 295 *e*P **P** **23 14 22.9 -0.9**
MCARA McCarthy VSAT 46.83 39 IAmb IAmb 23 14 34.2
comp=Z,11nm,0.7s
MCARA McCarthy VSAT 46.83 39 P 23 14 24.4
baz=282,SNR=5.3
MDOK Medeo 47.00 294 *e*P **P** **23 14 24.8 -1.0**
baz=294
MDOK Medeo 47.00 294 *e*P **P** **23 14 24.7 -1.0**
EGAK Eagle 47.02 35 IAmb IAmb 23 14 45.7
comp=Z,17nm,1.1s
EGAK Eagle 47.02 35 P 23 14 25.1
baz=280
TGL Tana Glacier 47.06 40 P **P** **23 14 27.4 +1.5**
TGL IAmb IAmb 23 14 47.3
comp=Z,15nm,1.0s
AAA Alma-Ata 47.07 295 *e*P **P** **23 14 25.5 -0.8**
baz=294
AAA Alma-Ata 47.07 295 *e*P **P** **23 14 25.4 -0.8**
AAA Alma-Ata 47.07 295 *e*P **P** **23 14 25.4 -0.8**
TNSS Tian-Shan 47.11 294 *e*P **P** **23 14 26.0 -1.0**
baz=294
TNSS Tian-Shan 47.11 294 *e*P **P** **23 14 25.9 -1.0**
ODAN Odare 47.19 269 *e*P **P** **23 14 27.9 +0.4**
comp=Z,31nm,0.7s
KUU Kurty 47.19 296 *e*P **P** **23 14 25.9 -1.2**
comp=Z,3.8nm,0.5s,baz=296
KUU Kurty 47.19 296 *e*P **P** **23 14 25.9 -1.2**
KUU pmax pmax
comp=Z,4.0nm,0.5s
BRZS Berezniki 47.40 305 *e*P **P** **23 14 28.0 -0.6**
baz=304
BRZS Berezniki 47.40 305 *e*P **P** **23 14 27.9 -0.6**
RAMN Ramite 47.72 270 *e*P **P** **23 14 31.8 +0.2**
comp=Z,35nm,0.5s
CTG Chitna Glacier 47.72 40 P 23 14 31.1
baz=283
GUN Gumba 47.73 271 *e*P **P** **23 14 32.2 +0.4**
comp=Z,102nm,0.3s
BVAR Borovoye Array 47.80 309 P **P** **23 14 31.1 -0.6**
comp=Z,5.1nm,0.4s,baz=51,slow=18,SNR=84
BRVK Borovoye 47.85 309 *i* P **P** **23 14 31.7 -0.3**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 47.85 309 P **P** **23 14 32.0 0.0**
BRVK IAmb IAmb 23 14 50.6
comp=Z,20nm,1.1s
BRVK Borovoye 47.85 309 *e*P **P** **23 14 31.7 -0.3**
TKM2 Tokmak 2 48.07 295 P **P** **23 14 34.7 +0.5**
SNR=20
KKN Kakani 48.24 272 *e*P **P** **23 14 36.1 +0.5**
comp=Z,13nm,0.3s
PKI Pulchoki 48.26 271 *e*P **P** **23 14 35.8 -0.1**
comp=Z,28nm,0.6s
PKIN Phulchoki 48.27 271 *e*P **P** **23 14 35.7 -0.2**
comp=Z,16nm,0.4s
BTLS Baital 48.28 298 *e*P **P** **23 14 34.4 -1.0**
baz=298
BTLS Baital 48.28 298 *e*P **P** **23 14 34.4 -1.0**
DMN Daman 48.47 272 *e*P **P** **23 14 37.6 +0.2**
comp=Z,25nm,0.5s
GKN Gorkha 48.60 272 *e*P **P** **23 14 38.3 0.0**
comp=Z,19nm,0.4s
KBK Karagaybulak 48.61 295 P **P** **23 14 38.6 +0.4**
SNR=17
USP Ospenovka 48.67 296 P **P** **23 14 38.6 0.0**
SNR=9.8
AAK Ala-Archa 48.93 295 P **P** **23 14 40.5 -0.1**
comp=Z,4.9nm,0.3s,baz=121,slow=4.8,SNR=44
AAK LR LR 23 36 59.2
comp=Z,155nm,20.8s,baz=56,slow=38
AAK Ala-Archa 48.93 295 P **P** **23 14 40.7 0.0**
SNR=7.2
AAK Ala-Archa 48.93 295 *i* P **P** **23 14 39.7 -1.0**
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK Ala-Archa 48.93 295 P **P** **23 14 40.5 -0.1**
AAK Ala-Archa 48.93 295 *e*P **P** **23 14 39.7 -1.0**
KSH Kashi 49.24 290 P **P** **23 14 46.6 +3.6**
KSH pP sP 23 15 02.4 -3.4
KSH pmax pmax
comp=Z,31nm,1.8s
KSH pmax pmax
comp=Z,250nm,9.6s
KSH LR LR
comp=Z,280nm,9.2s
KSH LR LR
comp=Z,560nm,10.1s
INK Inuvik 49.29 29 P **P** **23 14 42.6 -0.2**
comp=Z,5.1nm,0.4s,baz=261,slow=5.7,SNR=30
INK Inuvik 49.29 29 IAmb IAmb 23 14 46.9
comp=Z,8.1nm,1.1s
EKS2 Erkin-Say 49.40 295 P **P** **23 14 44.2 0.0**
SNR=14
AML Almayashu 49.68 294 P **P** **23 14 47.1 +0.4**
SNR=9.3
KK31 Karatay Array 51.39 297 IAmb IAmb 23 15 16.6
comp=Z,6.8nm,0.8s
KKAR Karatay Array 51.39 297 P **P** **23 14 58.4 -0.7**
KKAR Karatay Array 51.39 297 P **P** **23 14 58.4 -0.7**
KKAR Karatay Array 51.39 297 IAmb IAmb 23 15 16.6
comp=Z,6.8nm,0.8s
SVE Sverdlovsk 51.86 316 ⇑*e*P **P** **23 15 02.8 +0.5**
SVE pmax pmax
comp=Z,18nm,1.2s
IUG Iuzhnay 52.13 296 *e*P **P** **23 15 04.2 -0.6**
baz=296
IUG Iuzhnay 52.13 296 *e*P **P** **23 15 04.1 -0.6**
ARU Arti 53.07 316 *d i* P **P** **23 15 10.6 -0.8**
ARU *PP **pP** **23 15 26.6 -0.7**
ARU 23 16 16.9
ARU 23 17 10.6
ARU S **S** **23 22 39.8 +3.2**
ARU SS **SS** **23 26 10.9 -5.1**
ARU pmax pmax
comp=Z,27nm,1.4s
ARU Arti 53.07 316 P **P** **23 15 10.5 -0.8**
ARU Arti 53.07 316 *e*P **P** **23 15 10.7 -0.6**
WRAK Wrangell Islan 53.61 43 P 23 15 15.0
baz=293
DLBC Dease Lake 53.95 41 P **P** **23 15 18.5 +0.7**
comp=Z,2.9nm,0.6s,baz=356,slow=5.0,SNR=10
NIL Nilore 53.96 285 P **P** **23 15 18.7 +0.5**
NIL pmax pmax
comp=Z,9.0nm,0.8s
NIL Nilore 53.96 285 P **P** **23 15 18.7 +0.5**
NIL IAmb IAmb 23 15 50.0
comp=Z,8.5nm,0.8s
AB31 Akbulak array 55.31 308 *i* P **P** **23 15 27.6 -0.1**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 55.31 308 P **P** **23 15 27.5 -0.2**
ABKAR Akbulak array 55.31 308 IAmb IAmb 23 15 44.4
comp=Z,8.6nm,0.7s
PSI Prapat 55.36 237 LR LR 23 40 13.2
comp=Z,45nm,18.5s,baz=86,slow=37
SPA0 Spitsbergen Ar 55.51 348 *e*P **P** **23 15 28.3 -0.5**
SPITS Spitsbergen Ar 55.51 348 P **P** **23 15 28.4 -0.4**
AKTO Aktyubinsk 55.89 310 *i* P **P** **23 15 31.4 -0.5**
AKTO pmax pmax
comp=Z,4.0nm,0.8s
COEN Coen 56.01 179 P **P** **23 15 34.1 +1.1**
TPTI 56.10 239 P **P** **23 15 33.9 +0.1**
comp=Z,8.5nm,0.8s
KBL Kabul 56.49 288 P **P** **23 15 35.6 -1.0**
KBL pmax pmax
comp=Z,6.0nm,0.9s
KBL Kabul 56.49 288 P **P** **23 15 35.6 -1.0**
KBL IAmb IAmb 23 16 12.3
comp=Z,6.1nm,0.8s
KIRV Kirov 56.62 321 *i* P **P** **23 15 36.6 -0.3**
RIM Rim 56.73 94 P **P** **23 15 38.2 -0.2**
PRGR Permogore 56.86 326 *e*P **P** **23 15 36.9 -1.6**
PRGR pmax pmax
comp=Z,18nm,1.1s
RES Resolute Bay 57.25 15 P **P** **23 15 40.3 -0.8**
RES pmax pmax
comp=Z,19nm,0.8s
GSI Gunungsitoli 57.37 237 P **P** **23 15 43.3 +0.6**
GSI Gunungsitoli 57.37 237 P **P** **23 15 43.3 +0.6**
comp=Z,16nm,0.7s
KLSI 58.06 226 P **P** **23 15 47.8 +0.2**
comp=Z,5.2nm,1.4s
TMCR Tamitsa 58.56 330 *e*P **P** **23 15 47.1 -3.3**
TMCR pmax pmax
comp=Z,19nm,1.5s
YKA Yellowknife Ar 58.81 32 P **P** **23 15 51.5 -0.7**
comp=Z,2.8nm,0.7s,baz=310,slow=6.0,SNR=22
YKA Yellowknife Ar 58.81 32 *i* P **P** **23 15 52.5 +0.3**
YKA pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 59.38 339 P **P** **23 15 55.4 -0.6**
comp=Z,1.3nm,0.5s,baz=50,slow=7.7,SNR=13
ARCES LR LR 23 46 37.7
comp=Z,133nm,18.2s,baz=255,slow=41
TULEG Thule 59.73 8 IAmb IAmb 23 16 27.5

comp=Z,10nm,0.9s
KLMR Klimovskoe 59.80 327 *e*P **P** **23 15 56.8 -2.2**
KLMR pmax pmax
comp=Z,21nm,1.1s
KLMR Klimovskoe 59.80 327 *e*P **P** **23 15 56.8 -2.2**
KLMR AMP 23 15 59.9
comp=Z,21nm,1.1s
KTK1 Kautokeino 60.33 339 *e*P **P** **23 16 02.4 -0.2**
DAG Danmarks Havn 60.58 355 *i* P **P** **23 16 03.0 -1.1**
comp=Z,2.3nm,0.7s
DAG Danmarks Havn 60.58 355 *i* P **P** **23 16 03.0 -1.1**
DAG pmax pmax
comp=Z,2.0nm,0.7s
DAG Danmarks Havn 60.58 355 *i* P **P** **23 16 03.0 -1.1**
DAG IAmb IAmb 23 16 07.8
comp=Z,2.3nm,0.7s
BELG Belogornoye 60.60 316 *i* P **P** **23 16 03.5 -1.1**
BELG pmax pmax
comp=Z,5.0nm,1.0s
JETT Jettan, Norway 60.69 340 *e*P **P** **23 16 05.1 0.0**
TRO Tromso 61.01 341 *e*P **P** **23 16 06.5 -0.7**
HRA Herat 61.31 292 P **P** **23 16 10.2 +0.1**
HRA IAmb IAmb 23 16 11.9
comp=Z,7.6nm,0.9s
SANVU Saraoutou 61.81 153 P **P** **23 16 12.3 -0.9**
FITZ Fitzroy Crossi 62.13 198 IAmb IAmb 23 16 16.9
comp=Z,11nm,1.0s
GEYT Alibeck 62.14 297 P **P** **23 16 15.3 -0.1**
GEYT comp=Z,3.3nm,0.5s,baz=42,slow=6.8,SNR=7.7 LR LR 23 45 17.3
comp=Z,97nm,18.1s,baz=220,slow=38
GEYT Alibeck 62.14 297 P **P** **23 16 15.3 -0.1**
GEYT IAmb IAmb 23 16 16.9
comp=Z,6.4nm,1.0s
CTA Charters Tower 62.20 176 P **P** **23 16 16.3 +0.6**
CTA pmax pmax
comp=Z,7.0nm,1.2s
CTAO Charters Tower 62.20 176 P **P** **23 16 15.4 -0.3**
CTAO pmax pmax
comp=Z,24nm,1.8s
CTAO Charters Tower 62.20 176 P **P** **23 16 15.4 -0.3**
WRAB Tennant Creek 62.42 189 *i* P **P** **23 16 16.0 -1.2**
WRAB pmax pmax
comp=Z,14nm,0.9s
WB2 Warramunga Arr 62.43 189 P **P** **23 16 16.9 -0.3**
WRA Warramunga Arr 62.43 189 P **P** **23 16 17.0 -0.3**
comp=Z,15nm,0.5s,baz=7.4,slow=5.9,SNR=134
WRA Warramunga Arr 62.43 189 *i* P **P** **23 16 17.0 -0.3**
WRA pmax pmax
comp=Z,15nm,0.5s
A04D Lummi Island 62.46 48 P 23 16 17.3
baz=304
NLWA Neilton Lookou 62.54 50 P **P** **23 16 18.4 +0.6**
NLWA IAmb IAmb 23 16 20.5
comp=Z,6.7nm,0.9s
D03D Eldon 62.90 49 P 23 16 20.4
baz=304
B05A Bryant 63.05 48 P 23 16 20.7
baz=304
B06A Marblemount 63.24 48 P **P** **23 16 22.4 0.0**
B06A IAmb IAmb 23 16 31.6
comp=Z,12nm,0.9s
LOF Lofoten 63.44 341 *e*P **P** **23 16 24.1 +0.7**
MOS Moscow 63.57 322 *e*P **P** **23 16 24.0 -0.5**
MOS *e* 23 16 43.1
MOS pmax pmax
comp=Z,37nm,1.1s
MOS Moscow 63.57 322 *e*P **P** **23 16 24.0 -0.5**
NBB08 Skaug oppvekst 63.74 340⇑ *e*P **P** **23 16 25.2 -0.1**
E04D Cinebar 63.75 50 P 23 16 25.6
baz=305
LON Longmire 64.06 50 P **P** **23 16 27.8 -0.2**
LON pmax pmax
comp=Z,5.0nm,1.0s
LON Longmire 64.06 50 P **P** **23 16 27.8 -0.2**
LTY Liberty 64.41 49 IAmb IAmb 23 16 53.7
comp=Z,9.6nm,1.1s
OBN Obninsk 64.43 322 *i* P **P** **23 16 28.1 -2.0**
OBN *e**PP **pP** **23 16 44.4 -2.1**
OBN *e**SP **sP** **23 16 50.9 -2.5**
OBN pmax pmax
comp=Z,14nm,1.3s
OBN Obninsk 64.43 322 *e*P **P** **23 16 28.1 -2.0**
B08A Colville Reser 64.51 47 P **P** **23 16 30.6 -0.3**
B08A IAmb IAmb 23 17 01.8
comp=Z,21nm,1.8s
FIA1 FINESS Array S 64.57 332 P **P** **23 16 30.1 -0.8**
FINES FINESS Array B 64.57 332 P **P** **23 16 30.1 -0.9**
comp=Z,8.0nm,0.5s,baz=50,slow=7.4,SNR=117
FINES LR LR 23 45 29.3
comp=Z,160nm,19.4s,baz=351,slow=37
MOR8 Moi Rana 64.72 339 *e*P **P** **23 16 30.0 -1.8**
KONS Konsvik 64.81 340 *e*P **P** **23 16 33.3 +0.9**
I03D Drain, OR 64.93 53 P 23 16 34.1
baz=305
H04A Detroit Lake 65.04 52 P **P** **23 16 34.7 +0.4**
H04A IAmb IAmb 23 16 57.0
comp=Z,10nm,0.9s
G05D Wamic, OR 65.22 51 P 23 16 35.6
baz=306
SUMG Summit 65.39 0 *i* P **P** **23 16 36.5 -0.1**
SUMG Summit 65.39 0 *i* P **P** **23 16 36.5 -0.1**
SUMG pmax pmax
comp=Z,22nm,0.9s
SUMG Summit 65.39 0 P **P** **23 16 36.8 +0.2**
SUMG Summit 65.39 0 *i* P **P** **23 16 36.6 -0.1**
SUMG IAmb IAmb 23 16 37.5
comp=Z,22nm,0.9s
C09A Chrisman Ranch 65.41 47 IAmb IAmb 23 17 00.1
comp=Z,8.3nm,0.9s
I04A Tendick Farm, 65.43 52 P 23 16 37.2
baz=306
D08A Wollman Farm, 65.50 48 P **P** **23 16 37.4 +0.2**
D08A IAmb IAmb 23 16 45.9
comp=Z,30nm,1.8s
VSR Storozhevoye 65.58 318 *e*P **P** **23 16 35.4 -2.2**
VSR pmax pmax
comp=Z,20nm,1.7s
F07A Phinny Hill Vi 65.62 49 P **P** **23 16 38.6 +0.6**
L02E Cave Junction 65.67 55 P 23 16 38.8
baz=306
I05D Terrebonne, OR 65.73 52 P 23 16 39.6
baz=306
NEW Newport 65.75 46 P **P** **23 16 39.0 +0.1**
comp=Z,2.7nm,0.7s,baz=287,slow=7.6,SNR=5.7
NEW Newport 65.75 46 P **P** **23 16 39.5 +0.6**
NEW pmax pmax
comp=Z,10.0nm,1.3s
NEW Newport 65.75 46 P **P** **23 16 39.5 +0.6**
NEW IAmb IAmb 23 16 45.3
comp=Z,10nm,1.3s
NEW Newport 65.75 46 P 23 16 39.3
baz=307
E08A Dider Farm, El 65.76 49 P **P** **23 16 39.5 +0.6**
E08A IAmb IAmb 23 17 02.1
comp=Z,18nm,1.2s
J04D Umpqua Nationa 65.93 53 P 23 16 40.5
baz=306
AS31 Alice Springs 66.16 189 P **P** **23 16 41.2 -0.4**
ASAR Alice Springs 66.16 189 P **P** **23 16 42.0 +0.4**
comp=Z,6.9nm,0.6s,baz=8.7,slow=7.2,SNR=85
ASAR Alice Springs 66.16 189 P **P** **23 16 40.1 -1.5**
E09A Wood Farm, Sta 66.25 48 IAmb IAmb 23 17 05.9
comp=Z,20nm,1.2s
PINE Pine Mountain 66.29 52 P **P** **23 16 43.7 +1.1**
PINE IAmb IAmb 23 17 07.1
comp=Z,15nm,0.9s
VSU Vasula 66.37 329 *e*P **P** **23 16 41.8 -0.8**
VSU Vasula 66.37 329 *i* P **P** **23 16 41.5 -1.1**
VSU pmax pmax
comp=Z,44nm,1.2s
L04D Klamath Falls 66.42 54 P 23 16 42.5
baz=306,SNR=5.1
J05D Fort Rock, OR 66.42 52 P 23 16 43.9
baz=306
YBH Yreka Blue Hor 66.46 54 P **P** **23 16 44.0 +0.4**
comp=Z,2.0nm,0.7s,baz=359,slow=3.8,SNR=6.1
G08A Pilot Rock 66.53 50 IAmb IAmb 23 17 20.9
comp=Z,9.8nm,1.4s
M02C Callahan 66.57 55 P 23 16 44.8
baz=306
NSS Namsos 66.65 339 *e*P **P** **23 16 44.9 +0.6**
N02D Trinity Center 66.91 55 P 23 16 45.9
baz=307,SNR=5.2
K05A Summer Lake 66.95 53 P **P** **23 16 48.4 +1.5**

M04C Macdoel 66.95 54 P 23 16 47.0
baz=307
WDC Whiskeytown Da 67.25 55 IAmb IAmb 23 17 18.1
comp=Z,12nm,1.4s
GOF Gofitskoye 67.28 311⇑ *e*P **P** **23 16 49.0 +0.4**
GOF pmax pmax
comp=Z,24nm,1.1s
MTSE Matsula 67.28 330 *e*P **P** **23 16 47.0 -1.3**
O02D Mt. Diablo Mer 67.34 56 P 23 16 50.0
baz=307
JTMT Jette 67.58 45 IAmb IAmb 23 17 14.5
comp=Z,8.7nm,0.9s
O03E Paynes Creek 67.87 55 P 23 16 52.7
baz=307
NCK Nalchik 67.92 309 *i* P **P** **23 16 52.4 -0.3**
NCK pmax pmax
comp=Z,9.0nm,1.1s
J08A Circle Bar Ran 67.98 51 sP 23 17 15.6 -1.3
KIV Kislovodsk 68.16 310 ⇑P **P** **23 16 55.8 +1.4**
KIV Kislovodsk 68.16 310 *i* P **P** **23 16 54.3 0.0**
KIV pmax pmax
comp=Z,20nm,1.3s
KIV Kislovodsk 68.16 310 P **P** **23 16 55.7 +1.4**
KIV Kislovodsk 68.16 310 *e*P **P** **23 16 54.3 0.0**
KBZ Khabaz 68.18 310 P **P** **23 16 55.0 +0.7**
comp=Z,3.6nm,0.8s,baz=83,slow=1.3,SNR=9.7
KBZ Khabaz 68.18 310 *i* P **P** **23 16 53.5 -0.8**
KBZ pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 68.18 310 *e*P **P** **23 16 53.5 -0.8**
ZEI Tsey 68.18 308 *e*P P 23 17 06.8 +12
ZEI pmax pmax
comp=Z,7.0nm,1.0s
SHA1 Shidzhatmaz 68.31 310 *i* P **P** **23 16 55.6 +0.2**
MSO Missoula 68.34 46 IAmb IAmb 23 17 03.9
comp=Z,12nm,1.4s
MSO Missoula 68.34 46 P 23 16 55.3
baz=309
WVOR Wild Horse Val 68.45 52 P **P** **23 16 52.4 -3.8**
WVOR pmax pmax
comp=Z,5.0nm,1.1s
ORV Oroville 68.50 56 IAmb IAmb 23 17 23.3
comp=Z,13nm,1.6s
IDID Didziasalis 68.55 326 *e*P **P** **23 16 56.6 +0.2**
UPP Uppsala 68.60 334 *e*P **P** **23 16 55.7 -0.9**
ISAL Salakas 68.62 327 *e*P **P** **23 16 56.8 0.0**
MNK Minsk 68.64 325 *i* P **P** **23 16 57.1 +0.1**
MNK comp=E,3.0nm,1.0s *i* P **P** **23 16 57.1 +0.1**
MNK comp=N,28nm,1.2s *i* P **P** **23 16 57.1 +0.1**
MNK comp=Z,25nm,1.2s *i* PP **PP** **23 19 29.1 +0.6**
MNK *i* PPP PPP 23 21 09.1
MNK *i* S **S** **23 25 54.9 +0.1**
MNK *i* ScS **ScS** **23 26 51.6 +0.2**
MNK *i* SS **SS** **23 30 27.1 +8.0**
MNK *i* SSS SSS 23 33 35.6
MNK *i* LQ LQ 23 42 22.3
MNK *i* LR LR 23 47 36.1
MNK *i* LRM MLR 23 49 45.3
MNK comp=N,73nm,18.1s *i* LRM MLR 23 49 45.3
MNK comp=Z,67nm,13.1s
IIGN Ignalina 68.73 327 *e*P **P** **23 16 57.7 +0.1**
FFC Flin Flon 68.79 34 P **P** **23 16 58.1 +0.2**
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 68.79 34 P **P** **23 16 58.1 +0.2**
NACGM Naroch 68.81 326 *i* P **P** **23 16 57.8 -0.3**
NACGM *i* P **P** **23 16 57.8 -0.3**
NACGM *i* P **P** **23 16 57.8 -0.3**
NACGM *i* PP **PP** **23 19 32.2 +2.2**
NACGM *i* PPP PPP 23 21 16.2
NACGM *i* S **S** **23 25 57.0 +0.1**
NACGM *i* SS SS 23 30 07.9 -14
NACGM *i* SSS SSS 23 33 32.9
NACGM *i* LQ LQ 23 42 18.4
NACGM *i* LR LR 23 47 03.0
ICESG Greenland Ices 68.88 1 *i* P **P** **23 16 58.3 -0.5**
ICESG IAmb IAmb 23 16 59.2
comp=Z,11nm,0.7s
DOMB Dombas 69.44 339 *e*P **P** **23 17 01.4 -0.5**
MFID Camas Ranch 69.45 50 P **P** **23 17 02.8 +0.4**
MFID IAmb IAmb 23 17 25.9
comp=Z,13nm,1.5s
PABE Paberze 69.53 328 *e*P **P** **23 17 02.4 -0.1**
NC204 NORSAR Array S 69.59 337 *e*P **P** **23 17 02.5 -0.3**
NB2 NORSAR Subarra 69.66 337 P **P** **23 17 02.2 -1.0**
comp=Z,6.4nm,0.8s,baz=36,slow=6.5
NB2 NORSAR Subarra 69.66 337 P **P** **23 17 02.2 -1.0**
baz=36,slow=6.5
NOA NORSAR Array B 69.66 337 P **P** **23 17 02.4 -0.8**
comp=Z,6.9nm,0.7s,baz=36,slow=6.2,SNR=26
NOA LR LR 23 51 03.9
comp=Z,97nm,20.6s,baz=280,slow=39
EGMT Eagleton 69.74 43 IAmb IAmb 23 17 22.5
comp=Z,13nm,1.1s
EGMT Eagleton 69.74 43 P 23 17 04.2
baz=311
NC602 NORSAR Array S 69.81 337 *e*P **P** **23 17 02.8 -1.3**
NORES NORESS Array B 69.81 337 P **P** **23 17 04.1 0.0**
NORES pmax pmax
comp=Z,1.0nm,0.3s
AKN Aaknes 69.88 340 *e*P **P** **23 17 02.9 -1.6**
PBUR Paburge 69.94 329 *e*P **P** **23 17 04.4 -0.6**
DLMT Dillon 69.99 46 IAmb IAmb 23 17 27.2
comp=Z,14nm,1.3s
HLID Hailey 70.16 49 P 23 17 06.4
baz=310
BOZ Bozeman (W) 70.36 46 IAmb IAmb 23 17 16.9
comp=Z,25nm,1.6s
BOZ Bozeman (W) 70.36 46 P 23 17 07.5
baz=311,SNR=9.0
AKASG Malin Array Be 70.68 322 P **P** **23 17 08.8 -0.7**
comp=Z,1.8nm,0.3s,baz=42,slow=6.5,SNR=23
AKASG Malin Array Be 70.68 322 P **P** **23 17 09.2 -0.3**
AKBB Malin Array Si 70.68 322 IAmb IAmb 23 17 10.5
comp=Z,18nm,1.2s
KIEV Kiev 70.69 322 P **P** **23 17 07.0 -2.6**
SKAR Skarslia 70.77 338 *e*P **P** **23 17 09.2 -0.9**
HYA Hoyanger 70.94 339 *e*P **P** **23 17 10.8 -0.2**
YHB Horse Butte 71.14 46 IAmb IAmb 23 17 22.9
comp=Z,6.3nm,0.8s
NVAR Mina Array Bea 71.15 55 P **P** **23 17 12.9 -0.1**
comp=Z,2.7nm,0.7s,baz=287,slow=6.8,SNR=19
NVAR Mina Array Bea 71.15 55 P **P** **23 17 13.4 +0.5**
NV11 Mina Array Sit 71.24 55 IAmb IAmb 23 17 31.9
comp=Z,14nm,1.6s
KONO Kongsberg 71.26 337 *e*P **P** **23 17 13.2 +0.2**
FRB Frobisher Bay 71.42 14 P **P** **23 17 13.1 -0.7**
FRB pmax pmax
comp=Z,13nm,0.9s
PAGB Antelope Grade 71.65 58 IAmb IAmb 23 17 18.0
comp=Z,11nm,0.9s
H17A Grant Village 71.71 46 P **P** **23 17 17.2 +0.9**
H17A Grant Village 71.71 46 P 23 17 17.3
baz=312
BER Bergen 71.83 339 *e*P **P** **23 17 16.7 +0.4**
ODD1 Odda 71.88 338 *e*P **P** **23 17 17.1 +0.4**
RLMT Red Lodge 71.92 45 P 23 17 17.7
baz=312
DGMT Dagmar 72.17 40 P 23 17 18.5
baz=314
VES Vestal, Richgr 72.31 58 P 23 17 19.9
baz=310
BLS5 Blasjo 72.34 338 *e*P **P** **23 17 19.7 +0.3**
PKM Mcpherson Peak 72.46 59 P 23 17 20.9
baz=310
CWC Cottonwood Cre 72.56 57 P 23 17 21.8
baz=310
GRAC Grapevine Rang 72.64 56 P 23 17 22.5
baz=310
ISA Isabella, Lake 72.81 57 P 23 17 22.8
baz=310
R11A Troy Canyon, C 72.84 54 P 23 17 23.1
baz=311
SORM Soroca 72.88 320 ⇑P **P** **23 17 21.9 -1.0**
SORM Soroca 72.88 320 ⇑P **P** **23 17 21.9 -1.0**
SNART Snartemo 73.04 337 *e*P **P** **23 17 23.2 -0.4**
MPMC Manual Prospec 73.17 57 P 23 17 25.1
baz=310,SNR=5.9
DUG Dugway, Tooele 73.25 51 P **P** **23 17 26.3 +0.9**
DUG pmax pmax
comp=Z,8.0nm,1.0s

DUG Dugway, Tooele 73.25 51 P 23 17 25.7
baz=312
FURC Furnace Creek, 73.29 56 P 23 17 26.0
baz=310
TPNV Topopah Spring 73.35 55 P 23 17 26.0
baz=311,SNR=5.2
BW06 Boulder Array 73.35 47 IAmb IAmb 23 17 49.9
comp=Z,14nm,1.5s
PDAR Pinedale Array 73.35 47 P **P** **23 17 26.1 0.0**
comp=Z,1.6nm,0.5s,baz=62,slow=0.2,SNR=23
PDAR Pinedale Array 73.35 47 P **P** **23 17 26.0 -0.1**
BW06 Boulder Array 73.35 47 P 23 17 25.8
baz=313,SNR=5.8
LRMC Laurel Mtn Rad 73.42 57 P 23 17 26.5
baz=310
KMPD K-Podol'skiy 73.46 322 P **P** **23 17 24.0 -2.3**
MARD Mardin 73.50 306 P **P** **23 17 27.0 +0.1**
MARD IAmb IAmb 23 17 28.7
comp=Z,14nm,1.0s
EDW2 Edwards Air Fo 73.61 58 P 23 17 27.8
baz=310
SNCC San Nicolas Is 73.69 60 P 23 17 28.0
baz=310
STKA Stephens Creek 73.85 181 P **P** **23 17 28.7 +0.2**
comp=Z,2.2nm,0.6s,baz=352,slow=11,SNR=6.1
STKA LR LR 23 54 30.8
comp=Z,104nm,19.0s,baz=331,slow=39
GSC Goldstone, Bar 74.08 57 P 23 17 30.4
baz=311
FMP Fort Macarthur 74.18 59 P 23 17 30.8
baz=310
BFSC Mount Baldy Ra 74.24 58 P 23 17 31.5
baz=311
MALT Malatya 74.24 308 P **P** **23 17 33.4 +2.2**
SHPR Sheep Range 74.30 55 P **P** **23 17 31.6 0.0**
CIS Catalina Islan 74.30 59 P 23 17 31.9
baz=310
KWP Kalwaria Pacla 74.36 324 P **P** **23 17 31.4 -0.1**
KWP pmax pmax
comp=Z,24nm,1.3s
ULM Lac du Bonnet 74.61 35 P **P** **23 17 32.8 -0.2**
comp=Z,1.6nm,0.6s,baz=324,slow=6.6,SNR=4.8
HEC Hector,Ludlow 74.68 57 P 23 17 33.9
baz=311
BURAR Bucovina Array 74.72 321 ⇑P **P** **23 17 33.8 -0.1**
BURAR Bucovina Array 74.72 321 ⇑P **P** **23 17 33.8 -0.1**
BURAR Bucovina Array 74.72 321 P **P** **23 17 33.7 -0.1**
RDMU Red Mountain 74.83 49 P **P** **23 17 35.0 +0.3**
RDMU IAmb IAmb 23 17 36.3
comp=Z,14nm,1.0s
TESR Tescani 74.85 320 ⇑P **P** **23 17 33.9 -0.5**
P17A Butcher Ranch, 74.92 50 P **P** **23 17 35.4 +0.2**
P17A IAmb IAmb 23 17 49.3
comp=Z,9.1nm,0.7s
MURC Murrieta 74.94 58 P 23 17 35.3
baz=311
MTPU Mount Pierson 75.05 52 P **P** **23 17 36.3 +0.1**
MTPU IAmb IAmb 23 17 57.2
comp=Z,25nm,2.0s
K22A Casper 75.06 46 P 23 17 35.6
baz=314
KOLS Kolonicke sedl 75.07 324 *e*P **P** **23 17 35.1 -0.6**
KOLS *e* 23 17 51.8
KOLS pmax pmax
comp=Z,13nm,1.4s
KOLS Kolonicke sedl 75.07 324 *e*P **P** **23 17 35.1 -0.6**
KOLS *e* 23 17 51.8
CFR Carcaliu 75.09 318 ⇑P **P** **23 17 34.9 -0.9**
CFR Carcaliu 75.09 318 ⇑P **P** **23 17 34.9 -0.9**
LCMT Little Creek M 75.12 53 P **P** **23 17 36.4 +0.1**
GMRC Granite Mounta 75.13 56 P 23 17 35.9
baz=311
OJC Ojcow 75.15 326 *e*P **P** **23 17 36.1 0.0**
OJC Ojcow 75.15 326 IAmb IAmb 23 17 55.5
comp=Z,11nm,0.7s
VRI Vrincioaia 75.28 319 ⇑P **P** **23 17 37.0 +0.1**
VRI Vrincioaia 75.28 319 ⇑P **P** **23 17 37.0 +0.1**
SRU San Rafael Swe 75.29 50 IAmb IAmb 23 18 02.1
comp=Z,15nm,0.8s
RSSD Black Hills 75.31 43 P 23 17 37.1
baz=315
PLOR Plostina 75.33 319 ⇑P **P** **23 17 36.3 -0.9**
PLOR Plostina 75.33 319 ⇑P **P** **23 17 36.3 -0.9**
PFO Pinyon Flats O 75.40 58 P **P** **23 17 38.0 0.0**
comp=Z,1.9nm,0.6s,baz=318,slow=5.4,SNR=4.2
PFO Pinyon Flats O 75.40 58 P **P** **23 17 38.0 0.0**
PFO Pinyon Flats O 75.40 58 P 23 17 38.1
baz=311
TPFO Pinon Flats 75.41 58 P 23 17 37.8
baz=311
BELC Belle Mtn. Jos 75.43 57 P 23 17 37.9
baz=311
NIE Niedzica 75.55 325 *e*P **P** **23 17 39.4 +1.0**
NIE Niedzica 75.55 325 P **P** **23 17 39.5 +1.0**
NIE pmax pmax
comp=Z,4.0nm,1.7s
DOPR Dopca 75.85 320 ⇑P **P** **23 17 41.0 +0.8**
IRM Iron Mountain 75.86 57 P 23 17 40.7
baz=312
O20A White River Ci 75.87 48 P 23 17 40.5
baz=314
MONP2 Monument Peak 75.90 58 P 23 17 41.0
baz=311
MLR Muntele Rosu 75.93 320 ⇑P **P** **23 17 40.0 -0.8**
MLR Muntele Rosu 75.93 320 ⇑P **P** **23 17 40.0 -0.8**
BC3 Big Chuckawall 76.00 57 P 23 17 41.9
baz=312
ICOR Ion Corvin 76.02 318 ⇑P **P** **23 17 41.5 +0.4**
BRTR Keskin Array B 76.03 311 P **P** **23 17 41.4 -0.1**
comp=Z,0.9nm,0.4s,baz=104,slow=2.2,SNR=9.0
BRTR LR LR 23 56 23.6
comp=Z,70nm,19.5s,baz=4.0,slow=40
KSP Ksiaz 76.08 328 *e*P **P** **23 17 41.9 +0.5**
KSP Ksiaz 76.08 328 P **P** **23 17 42.1 +0.8**
KSP pmax pmax
comp=Z,11nm,2.0s
IKP In-Ko-Pah, Jac 76.25 58 P 23 17 43.2
baz=312
OSTC Ostas 76.33 328 *e*P **P** **23 17 41.9 -0.9**
CHVC Chvalec 76.37 328 *e*P **P** **23 17 43.0 -0.1**
CHVC *ex* x 23 18 04.8
PDMCI Parker Dam,Lak 76.38 56 P 23 17 43.8
baz=312
VOIR 76.40 320 P **P** **23 17 44.0 +0.6**
VOIR pmax pmax
comp=Z,6.0nm,2.1s
MORC Moravsky Berou 76.42 327 ⇑P **P** **23 17 43.0 -0.3**
MORC Moravsky Berou 76.42 327 *e*P **P** **23 17 43.4 0.0**
MORC Moravsky Berou 76.42 327 ⇑P **P** **23 17 43.0 -0.3**
MORC Moravsky Berou 76.42 327 IAmb IAmb 23 17 44.6
comp=Z,10.0nm,1.0s
DPC Dobruska-Polom 76.45 328 *e*P **P** **23 17 43.5 -0.1**
DPC *e* 23 18 00.6
DPC Dobruska-Polom 76.45 328 *e*P **P** **23 17 43.5 -0.1**
DPC *ep*P **pP** **23 18 00.6 +0.1**
KRLC Kraliky 76.49 327 *e*P **P** **23 17 43.6 -0.2**
KRLC *e* 23 18 00.3
KRLC Kraliky 76.49 327 *e*P **P** **23 17 43.6 -0.2**
KRLC *ep*P **pP** **23 18 00.3 -0.4**
N23A Red Feather La 76.60 46 P 23 17 44.3
baz=315
ARR Arges 76.65 320 ⇓P **P** **23 17 45.3 +0.5**
PV22 Blue Mesa, Par 76.67 50 IAmb IAmb 23 18 09.0
comp=Z,18nm,1.2s
PV04 Paradox Valley 76.70 50 IAmb IAmb 23 18 10.0
comp=Z,12nm,1.1s
PV20 West Nyswonger 76.70 50 IAmb IAmb 23 18 10.4
comp=Z,15nm,1.1s
PV19 Morning Glory 76.72 50 IAmb IAmb 23 18 07.3
comp=Z,20nm,1.3s
PV17 East Wray Mesa 76.75 50 IAmb IAmb 23 17 47.2
comp=Z,19nm,1.1s
PV16 Nyswonger Mesa 76.75 50 IAmb IAmb 23 17 47.2
comp=Z,6.2nm,0.8s
PV11 David Mesa, Pa 76.79 50 IAmb IAmb 23 18 10.4
comp=Z,20nm,1.1s
GLA Glamis 76.79 57 P 23 17 45.7
baz=312
PV18 Skein Mesa, Pa 76.80 50 IAmb IAmb 23 18 07.7
comp=Z,9.6nm,1.0s
PV05 Paradox Valley 76.81 50 IAmb IAmb 23 17 47.8
comp=Z,20nm,1.2s
PV07 Paradox Valley 76.82 50 IAmb IAmb 23 18 07.2
comp=Z,7.9nm,1.1s
PV03 Paradox Valley 76.83 50 IAmb IAmb 23 18 12.5
comp=Z,6.7nm,0.9s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PSZ	**Piszkesteto**	**76.87**	**324**	P	**P**	**23 17 46.9**	**+0.9**
PSZ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
VYHS	**Vyhne**	**76.88**	**325**	*e*P	**P**	**23 17 45.6**	**-0.4**
VYHS				*e*		23 17 56.2	
VYHS	**Vyhne**	**76.88**	**325**	*e*P	**P**	**23 17 45.5**	**-0.4**
VYHS				*e*		23 17 56.2	
PV13	**Radium Mtn., P**	**76.91**	**50**	P	**P**	**23 17 47.2**	**+0.5**
PV13				IAmb	IAmb	23 19 50.6	
	comp=Z,9.5nm,0.8s						
CLL	**Collm**	**76.95**	**330**	*e*P	**P**	**23 17 46.0**	**-0.3**
CLL				*e*PcP	**PcP**	**23 17 57.0**	**-0.1**
CLL				*e*pP	**pP**	**23 18 04.0**	**+0.8**
CLL				*e*PP	**PP**	**23 20 35.0**	**-4.4**
CLL	**Collm**	**76.95**	**330**	*e*P	**P**	**23 17 46.0**	**-0.3**
CLL				*e**PP	**pP**	**23 18 04.0**	**+0.8**
CLL	**Collm**	**76.95**	**330**	IAmb	IAmb	23 17 46.9	
	comp=Z,13nm,1.0s						
BRG	**Berggiesshubel**	**76.95**	**329**	P	**P**	**23 17 46.5**	**+0.2**
BRG				pmax	pmax		
	comp=Z,8.0nm,2.4s						
BRG	**Berggiesshubel**	**76.95**	**329**	*e*P	**P**	**23 17 46.8**	**+0.5**
BRG				Amp		23 17 48.0	
	comp=Z,7.9nm,1.2s						
B35A	**Bob, Littlefor**	**76.96**	**35**	IAmb	IAmb	23 18 15.1	
	comp=Z,18nm,1.4s						
PV01	**Paradox Valley**	**77.07**	**50**	IAmb	IAmb	23 17 59.1	
	comp=Z,26nm,2.0s						
JAVC	**Velka Javorina**	**77.08**	**326**	*e*P	**P**	**23 17 48.2**	**+1.1**
VRAC	**Vranov**	**77.17**	**327**	⇑P	**P**	**23 17 46.6**	**-1.0**
VRAC	**Vranov**	**77.17**	**327**	*e*P	**P**	**23 17 47.8**	**+0.2**
VRAC	**Vranov**	**77.17**	**327**	P	**P**	**23 17 48.4**	**+0.8**
VRAC				pmax	pmax		
	comp=Z,9.0nm,1.3s						
WUAZ	**Wupatki**	**77.24**	**54**	P		23 17 49.3	
	baz=313						
SMCO	**Snowmass**	**77.24**	**48**	P	**P**	**23 17 48.9**	**+0.2**
PRU	**Pruhonice**	**77.44**	**329**	*e*P	**P**	**23 17 48.8**	**-0.2**
PRU	**Pruhonice**	**77.44**	**329**	*e*P	**P**	**23 17 48.8**	**-0.2**
KRUC	**Moravsky**	**77.44**	**327**	*e*P	**P**	**23 17 49.4**	**+0.3**
KRUC	**Moravsky**	**77.44**	**327**	P	**P**	**23 17 49.8**	**+0.7**
KRUC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GZR	**Gura Zlata**	**77.50**	**321**	⇑P	**P**	**23 17 49.1**	**-0.4**
GZR	**Gura Zlata**	**77.50**	**321**	⇑P	**P**	**23 17 49.1**	**-0.4**
ISCO	**Idaho Springs**	**77.55**	**47**	P		23 17 50.7	
	baz=315						
MODS	**Modra-Piesok**	**77.62**	**326**	*e*P	**P**	**23 17 50.1**	**-0.1**
MODS				*e*		23 18 04.6	
MODS				pmax	pmax		
	comp=Z,12nm,1.3s						
MODS	**Modra-Piesok**	**77.62**	**326**	*e*P	**P**	**23 17 50.0**	**-0.1**
MODS				*e*		23 18 04.6	
MVCO	**Mesa Verde**	**77.75**	**51**	IAmb	IAmb	23 18 50.5	
	comp=Z,32nm,2.0s						
MVCO	**Mesa Verde**	**77.75**	**51**	P		23 17 51.5	
	baz=314						
BZS	**Buzias**	**77.87**	**322**	⇑P	**P**	**23 17 51.9**	**+0.4**
BZS	**Buzias**	**77.87**	**322**	⇑P	**P**	**23 17 51.9**	**+0.4**
EYMN	**Ely**	**78.22**	**34**	P		23 17 53.3	
	baz=322						
S22A	**4UR Ranch, Cre**	**78.33**	**49**	P		23 17 55.4	
	baz=315						
Q24A	**Divide**	**78.40**	**47**	P		23 17 55.2	
	baz=316						
EKA	**Eskdalemuir Ar**	**78.43**	**341**	P	**P**	**23 17 54.2**	**-0.3**
W18A	**Petrified Fore**	**78.48**	**53**	P		23 17 55.5	
	baz=314						
KHC	**Kasperske Hory**	**78.50**	**329**	*e*P	**P**	**23 17 54.9**	**-0.1**
KHC				*e*		23 18 11.9	
KHC	**Kasperske Hory**	**78.50**	**329**	*e*P	**P**	**23 17 54.9**	**-0.1**
KHC				*e*pP	**pP**	**23 18 11.9**	**-0.1**
KHC	**Kasperske Hory**	**78.50**	**329**	IAmb	IAmb	23 17 56.2	
	comp=Z,7.6nm,1.0s						
CONA	**Conrad Observa**	**78.56**	**327**	*e*P	**P**	**23 17 55.2**	**-0.2**
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**78.68**	**328**	P	**P**	**23 17 55.3**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=46,slow=5.8,SNR=8.6						
GERES				LR	LR	23 54 31.1	
	comp=Z,167nm,18.1s,baz=320,slow=37						
WET	**Wettzell**	**78.76**	**329**	P	**P**	**23 17 56.7**	**+0.3**
GRA1	**Grafenberg Arr**	**78.93**	**330**	IAmb	IAmb	23 17 58.6	
	comp=Z,17nm,1.1s						
GRF	**Grafenberg Arr**	**78.93**	**330**	P	**P**	**23 17 58.1**	**+0.8**
GRF				pmax	pmax		
	comp=Z,18nm,1.3s						
GRF	**Grafenberg Arr**	**78.93**	**330**	*e*P	**P**	**23 17 57.5**	**+0.2**
	comp=Z,19nm,1.4s,baz=34,slow=4.6						
GRFO	**Grafenberg**	**78.93**	**330**	P	**P**	**23 17 58.4**	**+1.1**
GRFO				pmax	pmax		
	comp=Z,15nm,1.1s						
GRFO	**Grafenberg**	**78.93**	**330**	P	**P**	**23 17 58.4**	**+1.1**
GRFO				IAmb	IAmb	23 17 58.6	
	comp=Z,15nm,1.1s						
SDCO	**Great Sand Dun**	**79.07**	**49**	P		23 17 58.5	
	baz=316						
ECSD	**EROS Data Cent**	**79.22**	**39**	P		23 17 58.5	
	baz=320						
E38A	**The Farm, Brul**	**79.25**	**35**	IAmb	IAmb	23 18 02.8	
	comp=Z,12nm,1.1s						
VTS	**Vitosha**	**79.37**	**319**	⇑P	**P**	**23 18 00.4**	**+0.3**
VTS	**Vitosha**	**79.37**	**319**	⇑P	**P**	**23 18 00.4**	**+0.3**
RAYN	**Ar Rayn**	**79.49**	**292**	P	**P**	**23 18 01.0**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
RAYN	**Ar Rayn**	**79.49**	**292**	P	**P**	**23 18 01.0**	**+0.1**
RAYN				IAmb	IAmb	23 18 03.7	
	comp=Z,10nm,1.1s						
TUC	**Tucson**	**79.79**	**56**	P		23 18 02.5	
	baz=314						
SOKA	**Soboth**	**79.89**	**326**	*i* P	**P**	**23 18 03.0**	**+0.3**
	comp=Z,4.7nm,0.7s,SNR=5.0						
MEM	**Membach**	**79.98**	**334**	*d*P	**P**	**23 18 02.7**	**-0.3**
T25A	**Trinidad**	**80.11**	**48**	IAmb	IAmb	23 18 05.5	
	comp=Z,8.8nm,1.1s						
T25A	**Trinidad**	**80.11**	**48**	P		23 18 04.6	
	baz=316,SNR=5.3						
OBKA	**Obir**	**80.23**	**326**	*e*P	**P**	**23 18 05.1**	**+0.6**
	comp=Z,2.6nm,0.6s						
ANMO	**Albuquerque**	**80.52**	**51**	P		23 18 07.0	
	baz=316						
BMRD	**Maredsous**	**80.65**	**334**	*d*P	**P**	**23 18 05.4**	**-1.1**
WATA	**Walderalm**	**80.74**	**329**	*e*P	**P**	**23 18 07.4**	**+0.1**
	comp=Z,1.9nm,0.4s						
WTTA	**Wattenberg**	**80.77**	**329**	*e*P	**P**	**23 18 07.8**	**+0.2**
	comp=Z,3.9nm,0.7s						
MOTA	**Moosalm**	**80.91**	**329**	*i* P	**P**	**23 18 08.3**	**+0.1**
	comp=Z,3.2nm,0.4s						
RETA	**Reutte**	**80.92**	**329**	*e*P	**P**	**23 18 08.5**	**+0.3**
	comp=Z,2.8nm,0.6s						
SQTA	**Sankt Quirin**	**80.97**	**329**	*e*P	**P**	**23 18 08.5**	**0.0**
	comp=Z,1.7nm,0.3s						
BAIF	**Baives**	**81.04**	**334**	*e*P	**P**	**23 18 11.7**	**+3.1**
BAIF				pmax	pmax		
	comp=Z,26nm,1.6s						
BFO	**Black Forest**	**81.12**	**331**	P	**P**	**23 18 08.4**	**-0.8**
BFO				pmax	pmax		
	comp=Z,21nm,1.5s						
BFO	**Black Forest**	**81.12**	**331**	P	**P**	**23 18 08.4**	**-0.8**
BFO				IAmb	IAmb	23 18 57.8	
	comp=Z,21nm,1.5s						
FETA	**Feichten**	**81.32**	**329**	*e*P	**P**	**23 18 10.6**	**+0.2**
	comp=Z,10nm,1.1s						
CDF	**Champ du Feu**	**81.42**	**332**	*e*P	**P**	**23 18 10.1**	**-0.7**
CDF				pmax	pmax		
	comp=Z,10.0nm,1.2s						
DAVA	**Damuels**	**81.42**	**330**	*i* P	**P**	**23 18 11.0**	**0.0**
	comp=Z,3.8nm,0.6s,SNR=5.7						
121A	**Cookes Peak, D**	**81.45**	**54**	P		23 18 11.2	
	baz=315						
MATQ	**Matagami**	**81.75**	**25**	P		23 18 12.4	
	baz=331						
HINF	**Hinteralfeld**	**82.08**	**332**	*e*P	**P**	**23 18 13.0**	**-1.3**
HINF				pmax	pmax		
	comp=Z,15nm,1.6s						
LSQQ	**Lebel-sur-Quev**	**82.57**	**25**	P		23 18 16.2	
	baz=332						
KSU1	**Kansas State U**	**82.76**	**42**	P		23 18 17.4	
	baz=320						
VLDQ	**Val d'Or**	**83.25**	**26**	IAmb	IAmb	23 18 19.8	
	comp=Z,18nm,1.2s						
AMTX	**Amarillo**	**83.26**	**48**	P		23 18 21.2	
	baz=318						
MNTX	**Cornudas Mount**	**83.47**	**53**	P		23 18 21.6	
	baz=316						
LOR	**Lormes**	**83.58**	**333**	P	**P**	**23 18 21.9**	**-0.1**
LOR				pmax	pmax		
	comp=Z,16nm,2.3s						
LDF	**La Druitiere**	**83.67**	**336**	*e*P	**P**	**23 18 21.2**	**-1.2**
LDF				pmax	pmax		
	comp=Z,26nm,1.7s						
P38A	**Dawn**	**83.86**	**40**	IAmb	IAmb	23 18 44.1	
	comp=Z,14nm,1.1s						
SSF	**Saint Saulge**	**83.88**	**333**	*e*P	**P**	**23 18 22.7**	**-0.8**
SSF				pmax	pmax		
	comp=Z,15nm,1.2s						
LPL	**La Plagne**	**84.08**	**331**	*e*P	**P**	**23 18 24.9**	**0.0**
LPL				pmax	pmax		
	comp=Z,52nm,1.8s						
LPG	**La Plagne**	**84.09**	**330**	*e*P	**P**	**23 18 24.8**	**-0.2**
LPG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SMF	**Signal de Mont**	**84.13**	**333**	*e*P	**P**	**23 18 24.0**	**-0.8**
SMF				pmax	pmax		
	comp=Z,24nm,1.3s						
AVF	**Avril sur Loir**	**84.17**	**333**	*e*P	**P**	**23 18 24.3**	**-0.7**
AVF				pmax	pmax		
	comp=Z,14nm,0.9s						
SGMF	**Saint Gilles**	**84.69**	**337**	*e*P	**P**	**23 18 26.9**	**-0.7**
SGMF				pmax	pmax		
	comp=Z,85nm,2.1s						
MBDF	**Montbardon**	**84.75**	**330**	*e*P	**P**	**23 18 28.9**	**+0.7**
MBDF				pmax	pmax		
	comp=Z,149nm,2.6s						
D55A	**Sainte-Anne-du**	**84.84**	**25**	P		23 18 27.8	
	baz=333						
ORIF	**Oris-en-Rattie**	**84.91**	**331**	*e*P	**P**	**23 18 29.8**	**+0.9**
ORIF				pmax	pmax		
	comp=Z,83nm,2.0s						
ALGO	**Algonquin Park**	**84.94**	**27**	P		23 18 28.0	
	baz=331						
WMOK	**Wichita Mounta**	**84.95**	**47**	P	**P**	**23 18 29.0**	**-0.2**
WMOK				pmax	pmax		
	comp=Z,7.0nm,3.0s						
WMOK	**Wichita Mounta**	**84.95**	**47**	P		23 18 29.1	
	baz=319						
TCF	**Toulx Ste Croi**	**84.98**	**334**	*e*P	**P**	**23 18 28.6**	**-0.6**
TCF				pmax	pmax		
	comp=Z,37nm,1.8s						
D56A	**ZEC Mazanza, M**	**85.04**	**25**	P		23 18 28.6	
	baz=333						
VIVF	**Saint-Julien-l**	**85.39**	**331**	*e*P	**P**	**23 18 30.8**	**-0.4**
VIVF				pmax	pmax		
	comp=Z,95nm,2.2s						
E56A	**St. Veronique**	**85.41**	**25**	P		23 18 30.6	
	baz=333						
G54A	**Lake Saint Pet**	**85.42**	**27**	P		23 18 30.3	
	baz=331						
TUL1	**Leonard**	**85.63**	**44**	P		23 18 32.2	
	baz=321						
I51A	**Listowel**	**85.75**	**30**	P		23 18 33.0	
	baz=329						
H53A	**Bobcaygeon**	**85.97**	**28**	P		23 18 34.5	
	baz=331						
LMR	**La Mourre**	**86.03**	**330**	*e*P	**P**	**23 18 33.1**	**-1.3**
LMR				pmax	pmax		
	comp=Z,130nm,2.4s						
RJF	**Les Rejaudoux**	**86.08**	**334**	*e*P	**P**	**23 18 36.6**	**+2.0**
RJF				pmax	pmax		
	comp=Z,61nm,1.9s						
E58A	**La Victoria**	**86.10**	**24**	P		23 18 34.3	
	baz=334						
CCM	**Cathedral Cave**	**86.19**	**40**	P	**P**	**23 18 35.2**	**-0.1**
CCM				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CCM	**Cathedral Cave**	**86.19**	**40**	P	**P**	**23 18 35.2**	**-0.1**
CCM				IAmb	IAmb	23 18 35.4	
	comp=Z,6.5nm,0.7s						
CCM	**Cathedral Cave**	**86.19**	**40**	P		23 18 35.0	
	baz=323						
TX32	**Lajitas Array**	**86.20**	**53**	IAmb	IAmb	23 18 36.9	
	comp=Z,11nm,1.4s						
TXAR	**Lajitas Array**	**86.20**	**53**	P	**P**	**23 18 36.3**	**+0.7**
	comp=Z,2.7nm,0.5s,baz=292,slow=4.2,SNR=44						
TXAR	**Lajitas Array**	**86.20**	**53**	P	**P**	**23 18 35.7**	**+0.1**
CAF	**Calviac**	**86.23**	**333**	*e*P	**P**	**23 18 35.6**	**+0.2**
CAF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PPT	**Papeete**	**86.25**	**118**	LR	LR	23 48 13.4	
	comp=Z,61nm,21.6s,baz=0.0,slow=29						
PPT2	**Papeete2**	**86.26**	**118**	*e*LR	LR	23 45 39.1	
	comp=Z,237nm,34.0s						
PPT2	**Papeete2**	**86.26**	**118**	*e*T	T	00 53 19.9	
	comp=Z,3.2nm,0.3s						
LFF	**La Frestale**	**86.66**	**334**	*e*P	**P**	**23 18 38.7**	**+1.3**
LFF				pmax	pmax		
	comp=Z,29nm,1.3s						
G57A	**Newington**	**86.70**	**26**	P		23 18 37.0	
	baz=333						
U40A	**Yellville**	**86.77**	**42**	P		23 18 37.6	
	baz=322,SNR=7.1						
F61A	**St Evariste**	**87.13**	**23**	P		23 18 39.7	
	baz=336						
MEH	**Mehetia**	**87.46**	**117**	*e*T	T	00 54 43.3	
	comp=Z,11nm,0.3s						
FCAR	**Ozark Folk Cen**	**87.49**	**42**	IAmb	IAmb	23 19 00.9	
	comp=Z,4.7nm,0.8s						
H58A	**Gabriels**	**87.58**	**25**	P		23 18 41.2	
	baz=334						
PBMO	**Poplar Bluff**	**87.60**	**40**	IAmb	IAmb	23 18 43.0	
	comp=Z,10nm,1.0s						
G61A	**St-Isidore-de-**	**87.61**	**23**	P		23 18 41.8	
	baz=335						
MIAR	**Mount Ida**	**87.83**	**43**	P		23 18 42.8	
	baz=322						
P49A	**Miami Univ. Ec**	**87.91**	**35**	P		23 18 43.6	
	baz=327						
M53A	**WI Miller and**	**87.92**	**31**	P		23 18 43.7	
	baz=330						
G62A	**West of Eustis**	**87.95**	**23**	P		23 18 43.6	
	baz=336						
I58A	**Old Forge**	**87.97**	**26**	P		23 18 43.9	
	baz=333						
W41B	**Gary Mavity, V**	**88.00**	**42**	P		23 18 43.9	
	baz=323						
ACSO	**Alum Creek Sta**	**88.04**	**33**	P		23 18 44.1	
	baz=328						
H61A	**Lyndonville**	**88.17**	**24**	P		23 18 44.7	
	baz=335						
I59A	**Olmsteadville**	**88.23**	**26**	P		23 18 44.6	
	baz=334						
M54A	**Oil Creek Stat**	**88.24**	**30**	P		23 18 45.2	
	baz=330						
X40A	**Basin Creek Fa**	**88.25**	**43**	P		23 18 45.2	
	baz=322						
PKME	**Peaks-Kenny Pk**	**88.26**	**22**	P		23 18 44.8	
	baz=337						
WCI	**Wyandotte Cave**	**88.31**	**36**	P		23 18 45.2	
	baz=326						
J59A	**Piesco**	**88.32**	**26**	P		23 18 45.5	
	baz=334						
H62A	**Milan**	**88.36**	**23**	P		23 18 45.0	
	baz=336						
L56A	**Greenwood**	**88.46**	**29**	P		23 18 45.8	
	baz=332						
K58A	**Earlville**	**88.57**	**27**	P		23 18 46.1	
	baz=333						
N54A	**Moraine State**	**88.59**	**31**	P		23 18 46.8	
	baz=330						
H63A	**New Sharon**	**88.61**	**23**	P		23 18 46.8	
	baz=336						
O53A	**New Philadelph**	**88.73**	**32**	P		23 18 47.1	
	baz=329						
M56A	**Emporium**	**88.81**	**29**	P		23 18 47.5	
	baz=331						
L57A	**Andrews Acres**	**88.83**	**28**	P		23 18 47.9	
	baz=332						
P52A	**Corning**	**88.89**	**33**	P		23 18 47.6	
	baz=329						
ETSF	**Etsaut**	**88.90**	**334**	*e*P	**P**	**23 18 48.6**	**+0.3**
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
H65A	**Eastbrook**	**89.07**	**21**	P		23 18 48.7	
	baz=338						
L58A	**Harry Jones Me**	**89.14**	**28**	P		23 18 49.4	
	baz=333						
H66A	**Whiting**	**89.24**	**21**	P		23 18 49.9	
	baz=338						
N56A	**West Decatur**	**89.26**	**30**	P		23 18 50.0	
	baz=331						
L59A	**Walton**	**89.28**	**27**	P		23 18 50.1	
	baz=333						
M57A	**Sunshine Farm,**	**89.32**	**29**	P		23 18 50.4	
	baz=332						
WVT	**Waverly**	**89.35**	**39**	P		23 18 50.7	
	baz=325						
J62A	**Henniker**	**89.39**	**24**	P		23 18 50.7	
	baz=335						
M58A	**Price's Panora**	**89.52**	**28**	P		23 18 50.2	
	baz=332						
N57A	**Milroy**	**89.67**	**29**	P		23 18 51.8	
	baz=332						
O56A	**Blue Knob Stat**	**89.73**	**30**	P		23 18 52.3	
	baz=331						
Q53A	**Leroy**	**89.80**	**33**	P		23 18 52.6	
	baz=329						
L61B	**Northampton**	**89.82**	**25**	P		23 18 52.7	
	baz=335						
N58A	**Sunbury**	**89.90**	**29**	P		23 18 53.0	
	baz=332						
K63A	**Dunstable**	**89.97**	**24**	P		23 18 54.2	
	baz=336						
HRV	**Adam Dziewonsk**	**90.12**	**25**	P		23 18 54.0	
	baz=335						
O57A	**Amberson**	**90.12**	**30**	P		23 18 54.0	
	baz=331						
N59A	**State Game Lan**	**90.17**	**28**	P		23 18 54.1	
	baz=333						
M60A	**Port Jervis**	**90.19**	**27**	P		23 18 53.9	
	baz=333						
P56A	**Dayton Farm, R**	**90.29**	**31**	P		23 18 54.2	
	baz=331						
TBI	**Tubuai**	**90.50**	**122**	*e*T	T	00 58 25.6	
	comp=Z,18nm,0.3s						
O59A	**Robesonia**	**90.56**	**29**	P		23 18 56.1	
	baz=332						
L64A	**Middleborough**	**90.86**	**24**	P		23 18 56.3	
	baz=336						
M63A	**Gales Ferry**	**90.97**	**25**	P		23 18 56.8	
	baz=335						
L65A	**Cape Cod Natio**	**91.01**	**24**	P		23 18 57.0	
	baz=336						
P60A	**Greenville**	**91.19**	**28**	P		23 18 57.8	
	baz=333						
Q58A	**Fox Den Farm,**	**91.22**	**30**	P		23 18 57.9	
	baz=331						
ESDC	**Sonseca Array**	**92.91**	**335**	P	**P**	**23 19 06.1**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=17,slow=4.1,SNR=5.9						
ESDC				LR	LR	00 06 17.6	
	comp=Z,60nm,18.0s,baz=0.0,slow=39						
MDT	**Midelt**	**99.38**	**332**	LR	LR	00 09 19.7	
	comp=Z,57nm,20.1s,baz=24,slow=38						
TORD	**Torodi Ar. Bea**	**114.13**	**318**	PP	**PP**	**23 25 27.9**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=46,slow=6.4,SNR=4.3						
LPAZ	**La Paz**	**143.06**	**55**	PKP	**PKPdf**	**23 25 29.9**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=210,slow=2.7,SNR=4.6						
BELA	**Belgrano 2**	**144.33**	**181**	PKPdf	**PKPab**	**23 25 25.3**	**-1.2**
SNAA	**Sanae**	**146.06**	**199**	PKPdf	**PKPbc**	**23 25 32.2**	**-0.3**
H03N2	**Juan Fernandez**	**146.33**	**89**	T	T	02 08 50.8	
	baz=300,slow=77,SNR=19						
H03N3	**Juan Fernandez**	**146.34**	**89**	T	T	02 08 56.2	
	baz=300,slow=77,SNR=28						
H03N1	**Juan Fernandez**	**146.35**	**89**	T	T	02 08 52.6	
	baz=300,slow=77,SNR=20						
VNA2	**Neumayer--Watz**	**147.64**	**198**	PKPbc	**PKPbc**	**23 25 36.9**	**0.0**
	baz=119,slow=1.4						
VNA3	**Neumayer Olymp**	**147.91**	**196**	PKPbc	**PKPbc**	**23 25 37.4**	**-0.2**
VNA1	**Neumayer--Stat**	**148.04**	**198**	PKPbc	**PKPbc**	**23 25 38.7**	**+0.8**
LCO	**Las Campanas**	**150.07**	**74**	PKIKP	**PKiKP**	**23 25 45.2**	**-0.3**
LCO	**Las Campanas**	**150.07**	**74**		**PKiKP**	**23 25 45.2**	**-0.3**
BDFB	**Brasilia**	**151.88**	**22**	PKPbc	**PKPbc**	**23 25 49.0**	**0.0**
	comp=Z,5.6nm,0.8s,baz=353,slow=2.9,SNR=9.8						
BDFB	**Brasilia**	**151.88**	**22**		**PKiKP**	**23 25 49.5**	**+0.1**
BI02	**San Fabin de**	**153.38**	**89**		**PKiKP**	**23 25 52.0**	**+0.2**

*IDC **05** 23:32:49.3±1.6, 32.°11S×67.°81W, h0km, mb4.3/3, mb1 4.1/6, mb1mx3.9/29, mbtmp4.1/6, ML3.8/3, Error ellipse: s-maj=59.8km s-min=26.0km az=98.0*

*NEIC **05** 23:33:03.8±1.7, 31.°46S±0.°07×67.°8W±0.°1, h98km±6km, mb4.0/4, Error ellipse: s-maj=18.2km s-min=9.5km az=96.0*

ISC 05 23:33:03.8±1.1**, 31.°46S**±0.°07×**67.°9W**±0.°1**, h103**km±12km**,**
n36, σ**1**ˢ**38**/40**, mb4.0**/4**, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.71**	**263**	Pn	**Pn**	**23 33 21.9**	**+0.3**
ZON				Sn	**Sn**	**23 33 35.1**	**0.0**
CO01	**Juntas del Tor**	**2.43**	**307**	Pn	**Pn**	**23 33 43.8**	**+1.5**
CO01				Sn	**Sn**	**23 34 13.3**	**+1.5**
CO03	**El Pedregal**	**2.51**	**284**	Pn	**Pn**	**23 33 44.1**	**+0.9**
CO03				Sn	**Sn**	**23 34 13.5**	**+0.1**
VA03	**San Esteban**	**2.63**	**240**		**Pn**	**23 33 45.5**	**+0.7**
VA03				Sn	**Sn**	**23 34 17.4**	**+1.1**
CO02	**Combarbal**	**2.70**	**275**	Pn	**Pn**	**23 33 46.0**	**+0.2**
CO02				Sn	**Sn**	**23 34 18.1**	**0.0**
GO04	**Tololo Observa**	**2.84**	**296**	Pn	**Pn**	**23 33 48.0**	**+0.3**
PEL	**Peldehue**	**2.93**	**234**	Pn	**Pn**	**23 33 48.9**	**+0.2**
MT05	**Renca**	**3.11**	**231**		**Pn**	**23 33 51.5**	**+0.4**
MT02	**Curacav**	**3.31**	**236**	Pn	**Pn**	**23 33 52.8**	**-0.9**
AC05	**El Transito**	**3.35**	**321**	Pn	**Pn**	**23 33 56.3**	**+1.9**
LCO	**Las Campanas**	**3.47**	**314**	Pn	**Pn**	**23 33 57.0**	**+0.8**
BO02	**Sierra Bellavi**	**4.13**	**216**	Pn	**Pn**	**23 34 04.9**	**+0.1**
AC04	**Llanos de Chal**	**4.28**	**318**	Pn	**Pn**	**23 34 08.7**	**+1.9**
GO03	**Copiap**	**4.38**	**331**	Pn	**Pn**	**23 34 09.3**	**+1.2**
GO03					**Sn**	**23 34 56.5**	**-1.7**
AC02	**Maricunga**	**4.74**	**346**	Pn	**Pn**	**23 34 16.1**	**+2.5**
AC01	**Pan de Azucar**	**5.81**	**335**	Pn	**Pn**	**23 34 28.0**	**+0.4**
BI02	**San Fabin de**	**5.91**	**208**	Pn	**Pn**	**23 34 27.3**	**-1.7**
GO02	**Mina Guanaco**	**6.46**	**346**	Pn	**Pn**	**23 34 37.0**	**+0.4**
BI03	**Tigo**	**6.87**	**217**	Pn	**Pn**	**23 34 37.3**	**-4.5**
PB14	**IPOC Station P**	**7.17**	**341**	Pn	**Pn**	**23 34 46.6**	**+0.3**
PB15	**IPOC Station P**	**8.35**	**350**		**Pn**	**23 35 02.0**	**-0.2**
PB06	**IPOC Station P**	**8.85**	**350**	Pn	**Pn**	**23 35 07.8**	**-1.3**
LVC	**Limon Verde**	**8.87**	**354**	Pn	**Pn**	**23 35 08.1**	**-1.3**
	1.5nm,0.3s,baz=162,slow=9.3,SNR=18						
PB09	**IPOC Station P**	**9.71**	**352**	Pn	**Pn**	**23 35 19.1**	**-1.6**
PB07	**IPOC Station P**	**9.86**	**349**	Pn	**Pn**	**23 35 20.4**	**-2.4**
PB01	**IPOC Station P**	**10.48**	**352**	Pn	**Pn**	**23 35 28.9**	**-2.2**
LPAZ	**La Paz**	**15.11**	**359**	Pn	**Pn**	**23 36 32.9**	**+0.5**
	0.1nm,0.3s,baz=162,slow=7.0,SNR=2.2						
LPAZ	**La Paz**	**15.11**	**359**		**Pn**	**23 36 31.5**	**-0.9**
SIV	**San Ignacio**	**16.60**	**23**	P	**P**	**23 36 51.2**	**+0.2**
	0.3nm,0.3s,baz=232,slow=12,SNR=8.5						
SAML	**Samuel**	**22.82**	**12**	P	**P**	**23 37 59.0**	**+0.9**
SAML				IAmb	IAmb	23 38 22.1	
	comp=Z,15nm,1.9s						
USHA	**Ushuaia**	**23.36**	**181**	P	P	23 37 52.6	-10
	comp=Z,26nm,0.4s,baz=307,slow=1.0,SNR=3.1						
BDFB	**Brasilia**	**23.99**	**54**	P	**P**	**23 38 08.9**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=226,slow=9.7,SNR=6.8						
BDFB	**Brasilia**	**23.99**	**54**	IAmb	IAmb	23 38 10.4	
	comp=Z,3.7nm,0.7s						
KOWA	**Kowa**	**76.36**	**63**	P	**P**	**23 44 42.6**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=242,slow=5.6,SNR=1.9						
ZALV	**Zalesovo Beam**	**150.19**	**33**	PKPbc	**PKPbc**	**23 52 42.5**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=299,slow=2.0,SNR=6.7						
MKAR	**Makanchi Array**	**152.45**	**48**	PKPbc	**PKPbc**	**23 52 47.8**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=314,slow=1.4,SNR=6.3						

*IDC **05** 23:57:29.6±2.5, 31.°05N×70.°12E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.4/72, mbtmp3.7/12, ML3.5/2, MS3.7/2, Ms1 3.7/2, ms1mx2.8/47, Error ellipse: s-maj=54.0km s-min=23.8km az=138.0*

*NEIC **05** 23:57:33.6±1.8, 31.°0N±0.°1×70.°5E±0.°1, h35km±2km, mb4.0/13, Error ellipse: s-maj=19.6km s-min=14.1km az=202.0*

ISC 05 23:57:30.0±0.7**, 30.°81N**±0.°08×**70.°45E**±0.°07**, h16**km**, n48,**
σ**1**ˢ**40**/45**, mb3.9**/13**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**3.70**	**39**		**Pn**	**23 58 28.1**	**+1.5**
KBL	**Kabul**	**3.91**	**343**	Pn	**Pn**	**23 58 30.8**	**+1.1**
DHRM	**DHARAMSHALA**	**5.20**	**72**	*e*P	**Pn**	**23 58 50.2**	**+2.8**
DHRM				*e*S	Sn	23 59 33.4	-14
DHRM				IAML		00 00 13.4	
	comp=E,66nm,0.4s						
SMLA	**Simla**	**5.78**	**85**	*e*x	**Pn**	**23 58 59.5**	**+4.4**
SMLA				*e*x	Sn	23 59 50.1	-11
SMLA				IAML		00 00 05.2	
	comp=E,29nm,0.6s						
NDI	**New Delhi**	**6.25**	**108**	*e*x	**Sn**	**00 00 12.0**	**-0.8**
BHPL	**Bhopal**	**9.77**	**139**	*e*x	**Sn**	**00 01 38.4**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AAK	Ala-Archa	12.24	14	Pn	Pn	00 00 22.2	-1.6
	comp=E,0.4nm,0.3s,baz=188,slow=9.6,SNR=12						
AAK	Ala-Archa	12.24	14		Pn	00 00 23.0	-0.9
KK31	Karatay Array	12.27	0	Pn	Pn	00 00 22.7	-1.5
KKAR	Karatay Array	12.27	0	Pn	Pn	00 00 23.7	-0.5
KKAR	Karatay Array	12.27	0	Pn	Pn	00 00 23.0	-1.2
GKN	Gorkha	12.68	99	eP	Pn	00 00 29.5	-0.4
	comp=E,7.2nm,0.3s						
KKN	Kakani	13.29	99	eP	Pn	00 00 38.0	-0.2
	comp=E,4.8nm,0.2s						
PKIN	Phulchoki	13.45	100	eP	Pn	00 00 39.9	-0.6
	comp=E,5.4nm,0.3s						
PKI	Pulchoki	13.46	100	eP	Pn	00 00 40.2	-0.5
	comp=E,4.1nm,0.2s						
GUN	Gumba	13.76	98	eP	Pn	00 00 44.1	-0.7
	comp=E,13nm,0.3s						
RAMN	Ramite	14.66	101	eP	Pn	00 00 55.9	-1.2
	comp=E,8.2nm,0.5s						
ODAN	Odare	15.36	101	eP	Pn	00 01 05.9	-0.5
	comp=E,2.9nm,0.3s						
TAPN	Taplejung	15.48	99	eP	Pn	00 01 07.1	-0.9
	comp=E,3.1nm,0.4s						
MAKZ	Makanchi	18.30	26	P	Pn	00 01 42.8	-0.3
MK31	Makanchi Array	18.40	27	P	P	00 01 43.9	-0.5
MKAR	Makanchi Array	18.40	27	P	P	00 01 43.4	-1.1
	comp=E,0.1nm,0.3s,baz=206,slow=11,SNR=6.3						
WMQ	Urumqi	18.84	42	P	Pn	00 01 50.9	+1.0
WMQ				IAmb	IAmb	00 01 53.8	
	comp=Z,21nm,1.1s						
ABKAR	Akbulak array	20.07	340	P	P	00 02 02.3	-0.3
ABKAR				IAmb	IAmb	00 02 04.1	
	comp=Z,1.6nm,0.7s						
ABKAR	Akbulak array	20.07	340	P	P	00 02 02.5	-0.1
KURBB	Kurchatov Arra	20.70	15	P	Pn	00 02 10.6	-1.1
	comp=Z,0.2nm,0.4s,baz=207,slow=9.1,SNR=3.1						
KURK	Kurchatov	20.80	15	P	P	00 02 10.6	+0.1
AKTO	Aktyubinsk	21.70	338	P	P	00 02 16.7	-3.5
	comp=Z,0.9nm,0.6s,baz=148,slow=8.8,SNR=5.9						
GNI	Garni	22.85	301	P	P	00 02 35.8	+3.0
GNI				IAmb	IAmb	00 02 40.1	
	comp=Z,11nm,1.1s						
GEVA	Gevas	23.71	296	P	P	00 02 41.9	+0.4
SOCY	Socotra	23.98	223	P	P	00 02 44.7	+0.6
SOCY				IAmb	IAmb	00 02 47.1	
	comp=Z,3.6nm,0.9s						
KBZ	Khabaz	25.31	308	P	P	00 02 54.6	-1.2
	comp=Z,1.7nm,0.8s,baz=114,slow=9.7,SNR=5.1						
ZALV	Zalesovo Beam	25.35	20	P	P	00 02 58.5	+2.4
	comp=Z,0.2nm,0.4s,baz=207,slow=16,SNR=1.8						
AKASG	Malin Array Be	36.41	315	P	P	00 04 32.1	-1.6
	comp=Z,0.6nm,0.5s,baz=98,slow=7.1,SNR=4.4						
MLR	Muntele Rosu	37.45	306	P	P	00 04 44.3	+1.5
MLR				IAmb	IAmb	00 04 45.2	
	comp=Z,2.7nm,0.8s						
BURAR	Bucovina Array	38.26	309	P	P	00 04 49.6	0.0
BUR08	Bucovina Ar. S	38.28	309	P	P	00 04 49.4	-0.3
ITM	Ithomi	40.38	293	P	P	00 05 06.6	-0.6
FIA1	FINESS Array S	42.06	330	P	P	00 05 20.6	-0.1
FINES	FINESS Array B	42.06	330	P	P	00 05 20.8	+0.1
	comp=Z,1.1nm,0.7s,baz=128,slow=11,SNR=6.5						
ARCES	ARCESS Array B	46.27	340	P	P	00 05 55.1	+0.7
	comp=Z,1.8nm,0.8s,baz=100,slow=10,SNR=4.4						
MBAR	Mbarara	48.97	238	LR	LR	00 27 35.7	
	comp=Z,73nm,18.4s,baz=141,slow=37						
SENIN	Lac Senin/Sane	50.45	307	P	P	00 06 26.6	-0.6
SENIN				IAmb	IAmb	00 06 27.8	
	comp=Z,4.2nm,1.0s						
TORD	Torodi Ar. Bea	65.24	271	P	P	00 08 10.6	-0.7
	comp=Z,2.6nm,0.7s,baz=54,slow=5.1,SNR=1.9						
KOWA	Kowa	69.52	275	P	P	00 08 39.0	+0.6
	comp=Z,1.3nm,0.5s,baz=44,slow=7.3,SNR=6.4						
KOWA	Kowa	69.52	275	P	P	00 08 38.7	+0.3
KOWA				IAmb	IAmb	00 08 53.9	
	comp=Z,1.0nm,1.1s						
YKA	Yellowknife Ar	86.94	2	P	P	00 10 14.2	+0.2
	comp=Z,0.2nm,0.6s,baz=0.4,slow=4.9,SNR=5.1						
STKA	Stephens Creek	91.79	126	LR	LR	00 55 34.2	
	comp=Z,34nm,18.3s,baz=205,slow=38						

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*BJI **05** 23:59:29.6±0.0, 24°81N×125°39E, h20km, mB4.7/19, mb4.2/25, Ms3.9/6, Ms7 3.7/6*

*NIED **05** 23:59:35.1, 24°80N×125°38E, h49km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.52; Mθθ-0.52; Mφφ-1.00; Mrθ3.75; Mθφ-1.08; Mφr2.19; Fault plane solution: Mo4.67000×10¹⁵ NP1:φs58.00000°, δ80.00000°, λ99.00000°. NP2:φs197.00000°, δ13.00000°, λ49.00000°.*

*IDC **05** 23:59:36.0±0.7, 24°90N×125°29E, h46km±7km, mb3.9/33, mb1 4.1/36, mb1mx3.9/65, mbtmp4.2/36, ML3.5/3, MS3.5/10, Ms1 3.5/10, ms1mx3.2/44 Error ellipse: s-maj=13.1km s-min=12.8km az=137.0*

*JMA **05** 23:59:35.1±0.1, 24°80N×125°38E, h49km±1km, M4.4*

JMA Felt III J1.

*NEIC **05** 23:59:38.0±1.9, 25°22N±0°09×125°01E±0°07, h41km±7km, mb4.6/50, Error ellipse: s-maj=12.9km s-min=8.7km az=159.0*

ISC 05 23:59:35.8±0.5**, 24°89N**±0°07×**125°30E**±0°04**, h45**km±4km**, n121,** σ1**°00**/116**, mb4.4**/55**, MS3.5**/9**, 1C, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	Ikemajima	0.06	308	P	Pn	23 59 43.1	+0.2
JIKM				S	Sn	23 59 49.1	+1.2
JIRB	Irabujima	0.13	244	P	Pn	23 59 43.1	-0.1
JIRB				S	Sn	23 59 48.8	+0.4
JMJ2	Miyako jima3	0.14	171	P	Pn	23 59 42.6	-0.7
JMJ2				S	Sn	23 59 48.2	-0.3
JOGS	Gusukube	0.16	143	P	Pn	23 59 42.6	-0.8
JOGS				S	Sn	23 59 48.0	-0.6
JTJ	Tarama	0.60	246	P	Pn	23 59 48.2	+0.2
JTJ				S	Sn	23 59 57.8	+1.0
JISG	Ishigakijimahi	0.95	252	P	Pn	23 59 52.6	-0.1
JISG				S	Sn	00 00 06.2	+1.0
JIJ	Ishigaki jima	1.18	244	P	Pn	23 59 55.8	0.0
JIJ				eS	Sn	00 00 11.2	+0.5
JKRS	Kuro-shima	1.34	242	P	Pn	23 59 58.5	+0.4
JKRS				eS	Sn	00 00 15.5	+0.7
IRIF	Iriomote-Funau	1.53	249	P	Pn	00 00 00.8	+0.1
IRIF				eS	Sn	00 00 19.8	+0.4
HATJ	Hateruma jima	1.59	239	P	Pn	00 00 01.4	-0.2
HATJ				eS	Sn	00 00 21.0	0.0
YOJ	Yonaguni jima	2.13	259	Pn	Pn	00 00 08.3	-0.6
JOW	Kunigami	3.31	53	P	Pn	00 00 24.9	-0.2
	12nm,0.3s,baz=110,slow=27,SNR=26						
JOW				S	Sn	00 01 04.3	+1.1
	41nm,0.3s,baz=163,slow=22,SNR=3.6						
JOW	Kunigami	3.31	53		Pn	00 00 25.0	-0.1
NACB	Ninganchiao	3.45	259		Pn	00 00 27.0	0.0
TATO	Taipei	3.46	272		Pn	00 00 24.9	-2.3
YHNB	Yeheng	3.58	267	Pn	Pn	00 00 29.5	+0.7
YULB	Yu-li	3.95	249	Pn	Pn	00 00 32.2	-1.7
SSLB	Suanglung	4.11	256	Pn	Pn	00 00 35.6	-0.6
TWG	Pinlang	4.38	243		Pn	00 00 37.7	-2.2
TPUB	Ta-pu	4.55	251		Pn	00 00 42.5	+0.3
JMZ	Minamidaito 2	5.43	79		Pn	00 00 59.8	+5.5
KSRS	Korea Array	12.73	10	P	Pn	00 02 33.4	-0.8
	0.2nm,0.3s,baz=188,slow=14,SNR=3.1						
KSRS				LR	LR	00 07 31.7	
	comp=Z,83nm,19.6s,baz=190,slow=38						
JCJ	Chichijima	15.34	78	LR	LR	00 08 27.0	
	comp=Z,39nm,19.9s,baz=310,slow=35						
MAJO	Matsushiro	16.05	41	Pn	Pn	00 03 18.2	-0.2
MJAR	Matsushiro Arr	16.05	41	P	Pn	00 03 18.8	+0.4
	0.1nm,0.3s,baz=227,slow=8.8,SNR=6.6						
MJAR	Matsushiro Arr	16.05	41	IAmb	IAmb	00 03 23.5	
	comp=Z,6.9nm,1.4s						
XAN	Xi'an	16.91	306	P	P	00 03 32.6	+1.8
XAN				pP	pP	00 03 42.4	+1.4
XAN				sP	sP	00 03 46.2	-0.3
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
XAN	Xi'an	16.91	306		Pn	00 03 24.9	-4.5
MDJ	Mudanjiang	19.99	9	P	P	00 04 02.2	-2.3
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.7s						
USRK	Ussuriysk Ar.	20.03	14	P	P	00 04 04.1	-0.8
	comp=Z,1.1nm,0.6s,baz=206,slow=11,SNR=5.4						
KMI	Kunming	20.45	275	⇑P	P	00 04 10.2	+0.3
KMI				pP	Pn	00 04 16.0	+3.7
KMI				sP	pP	00 04 17.9	-2.4
KMI				PP	PnPn	00 04 31.7	+3.4
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI				pmax	pmax		
	comp=Z,160nm,4.2s						
LZH	Lanzhou	21.55	306	eP	P	00 04 20.9	-0.7
LZH				pP	pP	00 04 26.6	-5.3
LZH				sP	pwP	00 04 30.3	-4.0
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
ASAJ	Asahikawa	23.81	32	P	P	00 04 44.3	-0.2
	comp=Z,4.6nm,0.6s,baz=148,slow=19,SNR=2.3						
ASAJ				LR	LR	00 14 21.6	
	comp=Z,70nm,18.3s,baz=108,slow=37						
HIA	Hailar	24.73	351	P	P	00 04 54.0	+1.1
KLR	Kul'dur	24.82	10	P	P	00 04 52.2	-1.4
	comp=Z,1.1nm,0.6s,baz=273,slow=0.9,SNR=4.6						
CHTO	Chiang Mai	25.18	261	P	P	00 04 57.9	+0.7
CMAR	Chiang Mai Arr	25.29	261	P	P	00 04 57.8	-0.5
	comp=Z,1.4nm,0.3s,baz=61,slow=8.2,SNR=8.9						
CMAR				LR	LR	00 14 53.5	
	comp=Z,56nm,19.3s,baz=10.0,slow=36						
GTA	Gaotai	25.88	310	P	P	00 05 03.2	-0.3
GTA				pP	pP	00 05 11.5	-3.5
GTA				sP	sP	00 05 15.7	-4.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,65nm,4.5s						
GTA				LR	LR		
	comp=N,160nm,11.6s						
GTA				LR	LR		
	comp=E,120nm,13.1s						
GTA				LR	LR		
	comp=Z,140nm,16.0s						
SONM	Songino Array	27.36	332	P	P	00 05 16.2	-0.6
	comp=Z,1.1nm,0.5s,baz=149,slow=9.2,SNR=12						
SONM				PcP	PcP	00 08 35.7	+0.6
	comp=Z,0.3nm,0.6s,baz=162,slow=5.1,SNR=2.6						
SONM				LR	LR	00 16 38.0	
	comp=Z,95nm,21.1s,baz=142,slow=37						
SONM	Songino Array	27.36	332	P	P	00 05 16.1	-0.8
KAPI	Kappang	30.21	191	LR	LR	00 17 21.6	
	comp=Z,48nm,21.8s,baz=66,slow=35						
PETK	Petropavlovsk-	37.23	32	P	P	00 06 42.7	-0.2
	comp=Z,2.0nm,0.6s,baz=218,slow=9.1,SNR=1.7						
PET	Petropavlovsk	37.65	33	P	P	00 06 48.9	+2.6
MK31	Makanchi Array	40.51	314	P	P	00 07 10.0	-0.4
MKAR	Makanchi Array	40.51	314	P	P	00 07 09.5	-0.8
	comp=Z,3.2nm,0.5s,baz=101,slow=10,SNR=68						
MKAR				pP	pP	00 07 24.1	+1.6
	comp=Z,2.1nm,0.6s,baz=97,slow=10,SNR=6.4						
MKAR	Makanchi Array	40.51	314	P	P	00 07 09.7	-0.7
MAKZ	Makanchi	40.72	314	P	P	00 07 11.3	-0.9
MAKZ				IAmb	IAmb	00 07 12.7	
	comp=Z,5.9nm,0.7s						
ZAA0	Zalesovo Array	41.77	325	P	P	00 07 19.6	-1.0
ZALV	Zalesovo Beam	41.77	325	P	P	00 07 19.6	-1.0
	comp=Z,2.9nm,0.5s,baz=110,slow=8.2,SNR=19						
ZALV				LR	LR	00 25 52.9	
	comp=Z,68nm,21.0s,baz=68,slow=38						
ZALV	Zalesovo Beam	41.77	325	P	P	00 07 19.2	-1.4
SEY	Seymchan	42.09	18	P	P	00 07 23.1	-0.1
	comp=Z,2.4nm,0.5s,baz=223,slow=18,SNR=23						
COEN	Coen	42.36	154	P	P	00 07 34.7	+8.9
COEN				IAmb	IAmb	00 07 39.5	
	comp=Z,6.0nm,0.8s						
KURK	Kurchatov	44.02	318	P	P	00 07 38.1	-0.7
KURBB	Kurchatov Arra	44.04	318	P	P	00 07 38.1	-0.9
	comp=Z,1.2nm,0.6s,baz=108,slow=8.4,SNR=9.7						
AAK	Ala-Archa	45.09	306	P	P	00 07 47.8	0.0
	comp=Z,0.8nm,0.5s,baz=124,slow=7.2,SNR=6.5						
AAK				LR	LR	00 29 22.2	
	comp=Z,111nm,18.9s,baz=343,slow=40						
AAK	Ala-Archa	45.09	306	P	P	00 07 47.7	-0.1
WRA	Warramunga Arr	45.42	168	P	P	00 07 49.9	-0.4
	comp=Z,1.8nm,0.8s,baz=350,slow=8.7,SNR=7.2						
WRA				pP	pP	00 08 02.5	-0.2
	comp=Z,13nm,0.9s,baz=348,slow=7.6,SNR=28						
WB2	Warramunga Arr	45.42	168	P	P	00 08 00.0	+10
WR0	Warramunga Arr	45.47	168	P	P	00 07 59.6	+8.9
NIL	Nilore	45.84	294	P	P	00 07 53.2	-0.5
NIL				IAmb	IAmb	00 07 55.7	
	comp=Z,7.3nm,0.9s						
KK31	Karatay Array	48.05	306	P	P	00 08 10.5	-0.3
KKAR	Karatay Array	48.05	306	P	P	00 08 10.1	-0.7
KKAR	Karatay Array	48.05	306	P	P	00 08 09.6	-1.2
KKAR				IAmb	IAmb	00 08 13.2	
	comp=Z,2.1nm,1.2s						
ASAR	Alice Springs	48.98	170	P	P	00 08 17.9	-0.1
	comp=Z,0.3nm,0.4s,baz=356,slow=7.3,SNR=6.5						
ASAR				pP	pP	00 08 30.6	+0.1
	comp=Z,2.9nm,0.6s,baz=356,slow=8.4,SNR=12						
KBL	Kabul	49.26	295	P	P	00 08 22.0	+1.6
KBL				IAmb	IAmb	00 08 23.1	
	comp=Z,8.0nm,1.1s						
BVAR	Borovoye Array	49.55	319	P	P	00 08 21.2	-0.8
	comp=Z,0.6nm,0.7s,baz=108,slow=7.9,SNR=4.8						
NRIK	Noril'sk	49.75	343	P	P	00 08 22.6	-0.7
	comp=Z,3.7nm,1.0s,baz=124,slow=6.4,SNR=3.8						
ABKAR	Akbulak array	55.65	314	P	P	00 09 07.7	+0.4
ABKAR	Akbulak array	55.65	314	P	P	00 09 08.1	+0.8
ABKAR				IAmb	IAmb	00 09 08.9	
	comp=Z,3.7nm,0.8s						
ARU	Arti	56.83	322	P	P	00 09 15.1	-0.4
	comp=Z,1.0nm,0.5s,baz=112,slow=2.7,SNR=7.0						
ARU	Arti	56.83	322	P	P	00 09 15.4	-0.1
ARU				IAmb	IAmb	00 09 15.8	
	comp=Z,3.5nm,0.5s						
AKTO	Aktyubinsk	56.91	315	P	P	00 09 16.0	-0.2
	comp=Z,0.9nm,0.7s,baz=181,slow=2.9,SNR=3.8						
GEYT	Alibeck	57.68	300	P	P	00 09 22.7	+0.8
	comp=Z,5.9nm,0.7s,baz=85,slow=3.3,SNR=11						
GEYT	Alibeck	57.68	300	P	P	00 09 22.5	+0.6
GEYT				IAmb	IAmb	00 09 24.1	
	comp=Z,5.5nm,0.8s						
GYA0B	ALIBECK ARRAY	57.68	300	P	P	00 09 21.8	-0.1
GYA0B				IAmb	IAmb	00 09 24.0	
	comp=Z,4.8nm,0.8s						
RDOG	Red Dog Mine	60.37	24	P	P	00 09 41.0	+1.0
RDOG				IAmb	IAmb	00 09 43.5	
	comp=Z,5.3nm,0.8s						
DZM	Mont Dzumac	61.44	136	P	P	00 09 54.8	+6.8
DZM				IAmb	IAmb	00 10 13.0	
	comp=Z,5.8nm,0.7s						
A21K	Barrow	62.83	21	P	P	00 09 57.5	+1.0
BELG	Belogornoye	63.29	318	P	P	00 09 59.8	0.0
	comp=Z,10nm,0.6s,baz=1.6,slow=1.5,SNR=15						
KDAK	Kodiak Island	65.16	36	P	P	00 10 12.4	+0.4
	comp=Z,6.2nm,0.9s,baz=0.0,slow=2.0,SNR=4.2						
COLD	Coldfoot	65.20	25	P	P	00 10 14.6	+2.4
COLD				IAmb	IAmb	00 10 16.6	
	comp=Z,4.5nm,1.1s						
I23K	Minto, Yukon-K	65.77	28	IAmb	IAmb	00 10 33.3	
	comp=Z,7.5nm,1.4s						
RND	Reindeer	66.22	29	P	P	00 10 18.9	0.0
ILAR	Eielson Array	66.86	28	P	P	00 10 23.2	+0.3
	comp=Z,1.5nm,0.6s,baz=297,slow=9.7,SNR=21						
ILAR	Eielson Array	66.86	28	P	P	00 10 24.6	+1.8
HDA	Harding Lake	66.89	28	IAmb	IAmb	00 10 26.1	
	comp=Z,4.7nm,0.8s						
KBZ	Khabaz	67.96	309	P	P	00 10 31.2	+1.1
	comp=Z,5.8nm,0.7s,baz=124,slow=3.9,SNR=20						
KVAR	Kislovodsk Arr	68.05	309	P	P	00 10 31.4	+0.5
	comp=Z,4.9nm,0.8s,baz=90,slow=20,SNR=3.4						
KIV	Kislovodsk	68.05	309	P	P	00 10 31.8	+0.9
DOT	Dot Lake	68.28	29	IAmb	IAmb	00 10 35.8	
	comp=Z,3.9nm,0.6s						
MENT	Mentasta	68.59	29	IAmb	IAmb	00 10 38.7	
	comp=Z,3.2nm,0.6s						
K27K	Chicken	69.06	28	IAmb	IAmb	00 10 40.7	
	comp=Z,3.1nm,0.6s						
EGAK	Eagle	69.26	27	IAmb	IAmb	00 10 41.8	
	comp=Z,3.8nm,0.6s						
INK	Inuvik	71.15	23	P	P	00 10 50.2	+0.9
	comp=Z,5.0nm,0.7s,baz=299,slow=5.9,SNR=17						
INK	Inuvik	71.15	23	IAmb	IAmb	00 10 52.2	
	comp=Z,10nm,1.2s						
MARD	Mardin	71.23	303	P	P	00 10 50.6	0.0
FINES	FINESS Array B	72.72	330	P	P	00 10 58.5	-0.4
	comp=Z,1.2nm,0.5s,baz=64,slow=5.7,SNR=19						
EUNU	Eureka	73.87	5	IAmb	IAmb	00 11 06.3	
	comp=Z,3.1nm,0.8s						
C36M	Paulatuk	73.88	20	IAmb	IAmb	00 11 07.2	
	comp=Z,6.9nm,0.7s						
GAZ	Gaziantep	73.98	304	P	P	00 11 07.3	+0.4
GAZ				IAmb	IAmb	00 11 08.8	
	comp=Z,14nm,1.2s						
AKASG	Malin Array Be	74.82	319	P	P	00 11 10.7	-0.7
	comp=Z,2.6nm,0.5s,baz=61,slow=6.5,SNR=12						
AKASG	Malin Array Be	74.82	319	P	P	00 11 11.2	-0.3
AKASG				IAmb	IAmb	00 11 11.7	
	comp=Z,1.9nm,0.6s						
BRTR	Keskin Array B	75.76	307	P	P	00 11 17.7	+0.5
	comp=Z,6.2nm,0.8s,baz=96,slow=6.1,SNR=30						
BRTR	Keskin Array B	75.76	307	P	P	00 11 17.2	0.0
DLBC	Dease Lake	76.41	32	P	P	00 11 21.0	+0.5
	comp=Z,2.6nm,1.1s,baz=246,slow=8.9,SNR=4.1						
DLBC	Dease Lake	76.41	32	IAmb	IAmb	00 11 24.0	
	comp=Z,14nm,1.5s						
SUW	Suwalki	76.98	324	P	P	00 11 23.1	-0.5
BUR08	Bucovina Ar. S	78.43	317	P	P	00 11 32.5	+0.5
BURAR	Bucovina Array	78.43	317	P	P	00 11 32.1	0.0
KWP	Kalwaria Pacla	79.10	320	IAmb	IAmb	00 11 36.7	
	comp=Z,8.6nm,0.8s						
NB2	NORSAR Subarra	79.33	333	P	P	00 11 36.4	-0.2
	comp=Z,1.1nm,0.6s,baz=57,slow=5.3						
NOA	NORSAR Array B	79.33	333	P	P	00 11 36.3	-0.3
	comp=Z,1.6nm,0.7s,baz=53,slow=5.4,SNR=6.0						
YKA	Yellowknife Ar	80.84	24	P	P	00 11 44.4	-0.2
	comp=Z,1.1nm,0.7s,baz=306,slow=5.0,SNR=19						
VTS	Vitosha	81.83	313	IAmb	IAmb	00 11 52.1	
	comp=Z,8.5nm,1.0s						
SUMG	Summit	82.17	355	iP	P	00 11 52.4	+0.4
	comp=Z,19nm,0.8s						
SUMG	Summit	82.17	355	P	P	00 11 52.7	+0.7
SUMG	Summit	82.17	355	iP	P	00 11 52.4	+0.4
SUMG				IAmb	IAmb	00 11 53.4	
	comp=Z,19nm,0.8s						
GERES	GERESS Array B	84.65	322	P	P	00 12 05.3	+0.5
	comp=Z,1.2nm,0.8s,baz=60,slow=5.8,SNR=6.8						
GERES				LR	LR	00 50 49.9	
	comp=Z,207nm,18.3s,baz=324,slow=36						
DAVOX	Davos/Dischmat	87.93	322	P	P	00 12 21.1	-0.1
	comp=Z,2.3nm,0.6s,baz=30,slow=3.6,SNR=4.4						
NVAR	Mina Array Bea	93.33	45	P	P	00 12 46.8	+0.2
	comp=Z,0.3nm,0.5s,baz=298,slow=4.4,SNR=4.1						
ULM	Lac du Bonnet	96.78	25	LR	LR	01 01 30.8	
	comp=Z,44nm,18.9s,baz=93,slow=38						

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*IDC **06** 00:07:46.3±0.9, 51°53N×175°82W, h0km, mb3.9/15, mb1 4.1/17, mb1mx3.9/61, mbtmp3.9/17, ML4.0/2, MS3.5/8, Ms1 3.5/8, ms1mx3.2/48, Error ellipse: s-maj=30.0km s-min=13.5km az=175.0*

*AEIC **06** 00:07:50±2.4, 51°35N±0°08×175°85W±0°08, h45km±6km, ML4.3, mb4.4/101(NEIC), Error ellipse: s-maj=11.9km s-min=6.8km az=165.0*

*NEIC **06** 00:07:52.3±2.5, 51°39N±0°07×175°90W±0°06, h47km±7km, Error ellipse: s-maj=10.8km s-min=5.0km az=162.0*

ISC 06 00:07:52.6±0.6**, 51°46N**±0°10×**175°85W**±0°04**, h47**km**, n203,** σ1**°40**/190**, mb4.4**/56**, MS3.6**/7**, 1C, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSCK	Great Sitkin C	0.59	341		Pn	00 08 05.4	+0.6
GSMY	Great Sitkin M	0.60	348		Pn	00 08 05.1	+0.1
GSTD	Great Sitkin T	0.63	343		Pn	00 08 05.6	+0.2
GSTR	Great Sitkin T	0.65	348		Pn	00 08 03.0	-2.6
KIMD	Kanaga Island	0.92	290		Pn	00 08 07.5	-1.6
KIKV	Kanaga Island	0.93	298		Pn	00 08 08.3	-1.0
KICM	Kanaga Island	0.96	299		Pn	00 08 09.3	-0.4
ATKA	Atka Island	1.27	53	Pn	Pn	00 08 12.7	-1.1
KOFP	Korovin Flat P	1.36	52		Pn	00 08 14.9	-0.3
TAFP	Tanaga Falls P	1.40	289		Pn	00 08 14.8	-0.9
TASE	Tanaga Southea	1.42	286		Pn	00 08 14.9	-1.0
TANO	Tanaga North	1.49	289		Pn	00 08 16.0	-0.9
GAEA	Gareloi East	1.84	281		Pn	00 08 20.9	-0.7
GALAA	Gareloi Lava P	1.85	281		Pn	00 08 21.0	-0.8
NIKH	Nikolski High	4.56	68	Pn	Pn	00 08 58.9	0.0
NIKH	Nikolski High	4.56	68	P		00 08 59.0	
	baz=254						
OKSO	Okmok South	5.08	65		Pn	00 09 06.2	+0.2
MAPS	Pakushin South	5.91	63		Pn	00 09 17.9	+0.4
MREP	Makushin Rep't	6.02	63		Pn	00 09 20.9	+1.8
MSW	Makushin Switc	6.04	62		Pn	00 09 19.5	+0.2
MNAT	Makushin Natee	6.08	63		Pn	00 09 20.4	+0.6
AKBBA	Akutan Broad B	6.57	62		Pn	00 09 27.5	+1.0
SPIA	Saint Paul Isl	6.60	28		Pn	00 09 29.6	+2.8
AKUT	Akutan	6.67	62	Pn	Pn	00 09 29.0	+1.1
FALS	False Pass	8.21	61	Pn	Pn	00 09 48.3	-0.7
FALS	False Pass	8.21	61	P		00 09 48.9	
	baz=251						
SDPT	Sand Point	9.97	61	Pn	Pn	00 10 12.5	-0.5
CNBA	Chernabura Isl	10.33	65	Pn	Pn	00 10 16.7	-1.2
CHGN	Chignik	11.37	58	Pn	Pn	00 10 32.5	+0.4
SII	Sitkinak Islan	13.70	60	Pn	Pn	00 11 03.1	-0.8
OHAK	Old Harbor	14.33	57	Pn	Pn	00 11 08.9	-3.5
SVW2	Sparrevohn	14.76	41		Pn	00 11 19.0	+0.9
KDAK	Kodiak Island	14.84	56	Pn	Pn	00 11 15.9	-3.3
	0.5nm,0.3s,baz=301,slow=4.2,SNR=13						
KDAK				Sn	Sn	00 13 58.1	-4.0
	0.1nm,0.3s,baz=162,slow=20,SNR=1.8						
KDAK	Kodiak Island	14.84	56	Pn	Pn	00 11 18.6	-0.6
TTA	Tatalina	15.65	35	P	P	00 11 34.5	+1.4
TTA	Tatalina	15.65	35	P		00 11 31.3	
	baz=232,SNR=10						
RSO	Redoubt South	15.68	46	P	Pn	00 11 32.5	+2.2
CNPM	China Poot	16.04	50		Pn	00 11 36.1	+1.4
CNPM				IAmb	IAmb	00 11 42.6	
	comp=Z,16nm,0.8s						
PEA0B	Petropavlovsk-	16.24	286	Pn	Pn	00 11 35.9	-1.3
PEA0B				IAmb	IAmb	00 11 41.7	
	comp=Z,34nm,1.1s						
PETK	Petropavlovsk-	16.24	286	Pn	P	00 11 39.2	-0.4
	comp=Z,0.2nm,0.3s,baz=91,slow=15,SNR=2.9						
PETK				LR	LR	00 17 41.0	
	comp=Z,111nm,21.5s,baz=91,slow=37						
PETK	Petropavlovsk-	16.24	286	P	Pn	00 11 34.9	-2.3
SPCR	Spurr Chakacha	16.24	44	P		00 11 38.4	
	baz=244,SNR=6.8						
BRLK	Bradley Lake	16.29	50	Pn	Pn	00 11 36.3	-1.5
BRSE	Bradley Lake S	16.35	50	P		00 11 39.1	
	baz=251						
SKT	Skwentna	16.89	42	P	P	00 11 49.0	+2.2
SKT				IAmb	IAmb	00 11 54.5	
	comp=Z,24nm,1.0s						
SKT	Skwentna	16.89	42	P		00 11 46.6	
	baz=242,SNR=13						
SUA	Susitna One	16.99	44		P	00 11 48.1	0.0
SUA	Susitna One	16.99	44	P		00 11 48.1	
	baz=245						
PPLA	Purkeypile	17.07	39	Pn	P	00 11 52.0	+3.0
PPLA				IAmb	IAmb	00 12 00.0	
	comp=Z,35nm,1.1s						
SEW	Seward	17.08	49		Pn	00 11 46.5	-1.1
SEW				IAmb	IAmb	00 12 04.6	
	comp=Z,11nm,0.7s						
KTH	Kantishna Hill	17.90	38	P	P	00 11 60.0	+1.9
GHO	Glory Hole Cre	17.92	44	Pn	Pn	00 11 58.5	+0.5
KNK	Knik Glacier	17.99	46	P	Pn	00 11 58.9	0.0
KNK	Knik Glacier	17.99	46	P		00 11 59.5	
	baz=249						
TRF	Thorofare Moun	18.10	39		Pn	00 12 02.4	+2.1
TRF				IAmb	IAmb	00 12 08.6	
	comp=Z,46nm,1.2s						
TRF	Thorofare Moun	18.10	39	P		00 12 02.6	
	baz=240,SNR=11						
BPAW	Bear Paw Mtn.	18.17	36		Pn	00 12 02.8	+1.7
BPAW				IAmb	IAmb	00 12 11.3	
	comp=Z,15nm,0.9s						
BPAW	Bear Paw Mtn.	18.17	36	P		00 12 03.0	
	baz=238,SNR=20						
SML	Sawmill	18.19	45	P	Pn	00 12 02.6	+1.3
IMAR	Indian Mountai	18.37	29	P	Pn	00 12 05.5	+2.0
GLI	Glacier Island	18.43	48	P	P	00 12 04.0	+0.3
WAT2	Susitna Watana	18.55	41	P		00 12 05.5	
	baz=244,SNR=19						
HIN	Hinchinbrook I	18.57	50	P	P	00 12 05.5	+0.2
HIN				IAmb	IAmb	00 12 07.4	
	comp=Z,23nm,1.0s						
RND	Reindeer	18.64	40		P	00 12 06.8	+0.7
SCM	Sheep Creek Mo	18.64	45	P	P	00 12 06.7	+0.6
SCM				IAmb	IAmb	00 12 14.5	
	comp=Z,12nm,0.8s						
FID	Port Fidalgo	18.68	49	P	P	00 12 05.8	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FID				IAmb	IAmb	00 12 12.1	
	comp=Z,19nm,0.9s						
WAT6	**Susitna Watana**	**18.75**	**43**	P		00 12 07.8	
	baz=247						
MCK	**McKinley**	**18.76**	**39**	P		00 12 08.7	
	baz=242,SNR=5.3						
MLY	**Manley**	**18.77**	**34**	P		00 12 09.3	
	baz=236,SNR=26						
NEA2	**Nenana**	**19.14**	**36**	P		00 12 12.1	
	baz=239						
KLU	**Klutina**	**19.16**	**47**	P	**P**	**00 12 12.9**	**+1.0**
KLU	**Klutina**	**19.16**	**47**	P		00 12 12.2	
	baz=252						
M24K	**Tolsona, Glenn**	**19.25**	**45**	P	**Pn**	**00 12 14.8**	**+0.7**
M24K				IAmb	IAmb	00 12 31.2	
	comp=Z,14nm,0.7s						
M24K	**Tolsona, Glenn**	**19.25**	**45**	P		00 12 14.0	
	baz=250						
I23K	**Minto, Yukon-K**	**19.32**	**35**		**Pn**	**00 12 14.9**	**0.0**
I23K				IAmb	IAmb	00 12 25.7	
	comp=Z,27nm,0.9s						
I23K	**Minto, Yukon-K**	**19.32**	**35**	P		00 12 15.2	
	baz=238,SNR=15						
WRH	**Wood River Hil**	**19.44**	**37**	Pn	**P**	**00 12 14.8**	**0.0**
WRH				IAmb	IAmb	00 12 24.6	
	comp=Z,20nm,1.0s						
RAGM	**Ragged Mountai**	**19.45**	**51**	P	**Pn**	**00 12 17.2**	**+0.8**
RAGM				IAmb	IAmb	00 12 22.1	
	comp=Z,15nm,0.9s						
KAIM	**Kayak Island**	**19.47**	**52**	P	**Pn**	**00 12 16.5**	**-0.2**
BMRM	**Bremner River**	**19.62**	**49**	P		00 12 17.4	
	baz=255						
MDM	**Murphy Dome**	**19.63**	**36**	P	**P**	**00 12 18.1**	**+1.2**
MDM				IAmb	IAmb	00 12 26.5	
	comp=Z,16nm,0.7s						
HMT	**Hamilton**	**19.64**	**51**	P	**P**	**00 12 18.3**	**+1.3**
HMT				IAmb	IAmb	00 12 32.0	
	comp=Z,11nm,0.8s						
CCB	**Clear Creek Bu**	**19.64**	**37**	P	**Pn**	**00 12 18.9**	**+0.2**
CCB				IAmb	IAmb	00 12 25.1	
	comp=Z,12nm,0.6s						
N25K	**Chitina, Valde**	**19.80**	**47**	P	**Pn**	**00 12 20.8**	**+0.1**
N25K	**Chitina, Valde**	**19.80**	**47**	P		00 12 19.7	
	baz=253						
SUCK	**Suckling Hills**	**19.82**	**52**	P	**Pn**	**00 12 21.1**	**+0.3**
SUCK				IAmb	IAmb	00 12 32.1	
	comp=Z,30nm,1.2s						
HDA	**Harding Lake**	**19.85**	**38**		**Pn**	**00 12 21.2**	**0.0**
HDA				IAmb	IAmb	00 12 25.8	
	comp=Z,18nm,0.6s						
HDA	**Harding Lake**	**19.85**	**38**	P		00 12 21.0	
	baz=243,SNR=28						
HDA				P		00 12 21.0	
	baz=243,SNR=28						
PAX	**Paxson**	**19.86**	**43**	P	**Pn**	**00 12 21.1**	**-0.2**
PAX				IAmb	IAmb	00 12 28.8	
	comp=Z,9.5nm,0.7s						
PAX	**Paxson**	**19.86**	**43**	P		00 12 20.9	
	baz=249						
POKR	**Poker Plat Res**	**20.01**	**36**	P	**P**	**00 12 22.1**	**+1.1**
POKR				IAmb	IAmb	00 12 41.5	
	comp=Z,8.2nm,0.7s						
IL31		**20.04**	**37**		Pn	00 12 23.0	-0.4
IL31				IAmb	IAmb	00 12 28.5	
	comp=Z,8.4nm,0.7s						
ILAR	**Eielson Array**	**20.04**	**37**	P	**P**	**00 12 19.8**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=228,slow=10,SNR=20						
ILAR				ScP	**ScP**	**00 20 13.8**	**+6.5**
	comp=Z,0.1nm,0.3s,baz=282,slow=3.8,SNR=8.5						
ILAR	**Eielson Array**	**20.04**	**37**	P	**P**	**00 12 21.2**	**-0.1**
COLD	**Coldfoot**	**20.26**	**29**		**P**	**00 12 24.6**	**+1.0**
COLD	**Coldfoot**	**20.26**	**29**	P		00 12 25.4	
	baz=232,SNR=10						
CRQM	**Cirque**	**20.27**	**50**		**P**	**00 12 23.9**	**-0.2**
SEY	**Seymchan**	**20.44**	**316**	P	**P**	**00 12 25.3**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=112,slow=11,SNR=4.2						
MCARA	**McCarthy VSAT**	**20.47**	**48**		Pn	00 12 30.0	+1.5
MCARA				IAmb	IAmb	00 12 35.8	
	comp=Z,12nm,0.9s						
MCARA	**McCarthy VSAT**	**20.47**	**48**	P		00 12 27.2	
	baz=256						
MENT	**Mentasta**	**20.60**	**44**		Pn	00 12 30.3	+0.2
MENT				IAmb	IAmb	00 12 44.0	
	comp=Z,7.8nm,0.6s						
SCRK	**Sand Creek**	**20.85**	**41**	P		00 12 30.0	
	baz=248,SNR=83						
YAH	**Yahtse**	**20.87**	**51**	P	Pn	00 12 32.9	-0.6
YAH				IAmb	IAmb	00 12 48.8	
	comp=Z,10nm,1.0s						
PRP	**Porcupine Dome**	**20.90**	**36**	P	**P**	**00 12 31.6**	**+0.8**
PRP	**Porcupine Dome**	**20.90**	**36**	P		00 12 31.9	
	baz=242						
TABL	**Table Mountain**	**21.18**	**51**	P	**P**	**00 12 37.5**	**+3.6**
TABL				IAmb	IAmb	00 12 54.3	
	comp=Z,14nm,1.0s						
CTGM	**Chitina Glacie**	**21.18**	**50**	P	**P**	**00 12 36.9**	**+3.1**
TOLK	**Toolik Lake Re**	**21.35**	**26**	P	**P**	**00 12 37.0**	**+1.6**
TOLK				IAmb	IAmb	00 12 46.9	
	comp=Z,20nm,0.8s						
TOLK	**Toolik Lake Re**	**21.35**	**26**	P		00 12 36.7	
	baz=230						
BCAR	**Beaver Creek A**	**21.48**	**44**	P	**P**	**00 12 36.9**	**0.0**
FYU	**Fort Yukon**	**21.51**	**34**	P	**P**	**00 12 36.6**	**-0.5**
FYU				IAmb	IAmb	00 12 51.7	
	comp=Z,17nm,1.1s						
PCA	**Pinnacle**	**21.56**	**53**	P	**P**	**00 12 39.2**	**+1.4**
PCA				IAmb	IAmb	00 12 49.2	
	comp=Z,16nm,0.9s						
K27K	**Chicken**	**21.66**	**42**	P		00 12 39.6	
	baz=250						
BCPM	**Bancas Point**	**21.85**	**53**	P	**P**	**00 12 38.7**	**-2.1**
BCPM				IAmb	IAmb	00 12 46.8	
	comp=Z,26nm,1.0s						
BMAR	**Burnt Mountain**	**22.17**	**32**	P	**P**	**00 12 45.6**	**+1.4**
EGAK	**Eagle**	**22.29**	**40**		**P**	**00 12 45.2**	**-0.3**
EGAK	**Eagle**	**22.29**	**40**	P		00 12 45.5	
	baz=250,SNR=7.4						
DAWY	**Dawson**	**22.79**	**42**	P	**P**	**00 12 53.0**	**+2.0**
DAWY				IAmb	IAmb	00 12 59.7	
	comp=Z,11nm,0.7s						
SKAG	**Skagway**	**23.99**	**55**	P		00 13 03.5	
	baz=269						
SIT	**Sitka**	**24.05**	**61**	P		00 13 04.4	
	baz=274						
CRAG	**Craig**	**25.45**	**64**	P	**P**	**00 13 18.2**	**+2.5**
CRAG				IAmb	IAmb	00 13 36.3	
	comp=Z,23nm,1.2s						
WRAK	**Wrangell Islan**	**25.74**	**62**	P	**P**	**00 13 21.3**	**+3.0**
WRAK				IAmb	IAmb	00 13 24.0	
	comp=Z,14nm,0.8s						
WRAK	**Wrangell Islan**	**25.74**	**62**	P		00 13 19.5	
	baz=278						
INK	**Inuvik**	**26.34**	**34**	P	**P**	**00 13 23.7**	**0.0**
	comp=Z,1.4nm,0.5s,baz=251,slow=6.9,SNR=4.5						
INK	**Inuvik**	**26.34**	**34**	P	**P**	**00 13 23.9**	**+0.3**
YKA	**Yellowknife Ar**	**33.83**	**47**	P	**P**	**00 14 30.2**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=287,slow=7.1,SNR=8.2						
YKA				PcP	**PcP**	**00 17 08.4**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=292,slow=2.6,SNR=9.7						
YKA				LR	LR	00 29 47.5	
	comp=Z,116nm,18.0s,baz=0.0,slow=39						
H11N2	**WAKE ISLAND Hy**	**34.45**	**210**	T	T	00 51 11.4	
	baz=18,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**34.46**	**210**	T	T	00 51 14.0	
	baz=18,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**34.47**	**210**	T	T	00 51 11.9	
	baz=18,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**35.66**	**209**	T	T	00 52 43.7	
	baz=18,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**35.67**	**209**	T	T	00 52 45.6	
	baz=18,slow=76,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**35.67**	**209**	T	T	00 52 40.4	
	baz=18,slow=76,SNR=8.3						
B08A	**Colville Reser**	**35.76**	**72**	P	**P**	**00 14 47.5**	**+0.7**
H04A	**Detroit Lake**	**35.79**	**79**	P	**P**	**00 14 47.3**	**+0.2**
H04A				IAmb	IAmb	00 14 59.5	
	comp=Z,9.1nm,1.2s						
HAWA	**Hanford**	**36.56**	**75**	P	**P**	**00 14 52.6**	**-1.0**
HAWA				IAmb	IAmb	00 15 04.4	
	comp=Z,5.2nm,0.8s						
YBH	**Yreka Blue Hor**	**37.04**	**84**	LR	LR	00 26 40.9	
	comp=Z,67nm,19.1s,baz=304,slow=31						
NEW	**Newport**	**37.12**	**71**	P	**P**	**00 14 58.8**	**+0.5**
NEW	**Newport**	**37.12**	**71**	P		00 14 58.7	
	baz=298						
WAKR	**Walker**	**40.95**	**86**	P	**P**	**00 15 31.9**	**+1.2**
HRY	**Holter Researc**	**41.01**	**71**	P	**P**	**00 15 31.1**	**+0.2**
HLID	**Hailey**	**41.13**	**76**	P	**P**	**00 15 32.7**	**+0.6**
BCYI	**Bear Canyon**	**41.34**	**75**	P	**P**	**00 15 34.2**	**+0.4**
RYN	**Ryan**	**41.45**	**85**	P	**P**	**00 15 35.0**	**+0.3**
KVN	**Kaiserville**	**41.46**	**84**	P	**P**	**00 15 34.4**	**-0.4**
KSRS	**Korea Array**	**41.48**	**273**	P	**P**	**00 15 36.1**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=58,slow=7.4,SNR=2.4						
KSRS				LR	LR	00 31 35.4	
	comp=Z,14nm,21.1s,baz=70,slow=34						
NVAR	**Mina Array Bea**	**41.71**	**85**	P	**P**	**00 15 36.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=321,slow=7.0,SNR=3.0						
BOZ	**Bozeman (W)**	**41.71**	**72**	P	**P**	**00 15 36.7**	**0.0**
BOZ	**Bozeman (W)**	**41.71**	**72**	P		00 15 36.5	
	baz=302						
ELK	**Elko**	**42.23**	**80**	LR	LR	00 31 27.8	
	comp=Z,71nm,18.8s,baz=322,slow=34						
YHL	**Hebgen Lake**	**42.38**	**73**	P	**P**	**00 15 42.9**	**+0.5**
YHL				IAmb	IAmb	00 16 01.9	
	comp=Z,6.3nm,1.1s						
YHH	**Holmes Hill**	**42.61**	**72**	IAmb	IAmb	00 16 04.1	
	comp=Z,7.1nm,1.0s						
RLMT	**Red Lodge**	**43.37**	**71**	P	**P**	**00 15 50.5**	**+0.3**
RLMT				IAmb	IAmb	00 16 09.3	
	comp=Z,6.1nm,1.1s						
RLMT	**Red Lodge**	**43.37**	**71**	P		00 15 49.6	
	baz=303						
R11A	**Troy Canyon, C**	**43.45**	**83**	P	**P**	**00 15 51.2**	**+0.3**
TPNV	**Topopah Spring**	**43.90**	**85**	P	**P**	**00 15 55.1**	**+0.5**
TPNV	**Topopah Spring**	**43.90**	**85**	P		00 15 54.4	
	baz=309						
TULEG	**Thule**	**44.32**	**19**	P	**P**	**00 15 55.7**	**-1.5**
TULEG				IAmb	IAmb	00 15 58.5	
	comp=Z,6.0nm,0.9s						
PRN	**Pahroc Range**	**44.36**	**84**	P	**P**	**00 15 58.6**	**+0.3**
PRN				IAmb	IAmb	00 16 13.9	
	comp=Z,4.6nm,1.0s						
BW06	**Boulder Array**	**44.52**	**74**	IAmb	IAmb	00 16 07.3	
	comp=Z,5.0nm,0.9s						
PD31	**Pinedale Array**	**44.52**	**74**	P	**P**	**00 15 59.8**	**+0.2**
PD31				IAmb	IAmb	00 16 07.3	
	comp=Z,4.8nm,0.9s						
PDAR	**Pinedale Array**	**44.52**	**74**	P	**P**	**00 15 59.9**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=308,slow=4.2,SNR=27						
PDAR	**Pinedale Array**	**44.52**	**74**	P	**P**	**00 15 59.5**	**-0.1**
BW06	**Boulder Array**	**44.52**	**74**	P		00 15 59.5	
	baz=305						
FCC	**Fort Churchill**	**44.56**	**47**	P	**P**	**00 16 00.5**	**+1.2**
FCC				IAmb	IAmb	00 16 05.7	
	comp=Z,2.6nm,0.7s						
U15A	**North Rim**	**46.69**	**83**	IAmb	IAmb	00 16 29.3	
	comp=Z,3.4nm,0.6s						
O20A	**White River Ci**	**46.87**	**76**	P	**P**	**00 16 18.6**	**+0.5**
O20A				IAmb	IAmb	00 16 33.6	
	comp=Z,6.8nm,0.9s						
PV17	**East Wray Mesa**	**47.58**	**79**	IAmb	IAmb	00 16 35.3	
	comp=Z,3.6nm,0.7s						
PV11	**David Mesa, Pa**	**47.62**	**79**	P	**P**	**00 16 23.5**	**-0.5**
PV01	**Paradox Valley**	**47.91**	**79**	IAmb	IAmb	00 16 44.6	
	comp=Z,3.3nm,0.7s						
ULM	**Lac du Bonnet**	**48.08**	**58**	P	**P**	**00 16 26.6**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=312,slow=9.1,SNR=4.3						
ULM				LR	LR	00 35 45.5	
	comp=Z,85nm,19.6s,baz=68,slow=35						
SONM	**Songino Array**	**48.25**	**298**	P	**P**	**00 16 28.5**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=31,slow=8.8,SNR=3.6						
SONM				PcP	**PcP**	**00 17 55.5**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=67,slow=3.3,SNR=4.1						
SONM				ScP	**ScP**	**00 21 50.3**	**+4.9**
	comp=Z,0.5nm,0.8s,baz=62,slow=3.2,SNR=4.0						
SONM				LR	LR	00 38 50.5	
	comp=Z,84nm,18.1s,baz=7.5,slow=39						
SONM	**Songino Array**	**48.25**	**298**	P	**P**	**00 16 27.8**	**-0.8**
SPX	**San Pedro Mart**	**48.27**	**91**	P	**P**	**00 16 25.1**	**-4.1**
SPX				IAmb	IAmb	00 16 32.7	
	comp=Z,4.4nm,1.2s						
HHC	**Hu-ho-hao-te**	**49.44**	**288**	*e*P	**P**	**00 16 38.6**	**+0.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.7s						
SDCO	**Great Sand Dun**	**50.03**	**77**	P		00 16 42.4	
	baz=310						
T25A	**Trinidad**	**51.09**	**77**	P		00 16 50.1	
	baz=310						
SUMG	**Summit**	**52.76**	**15**	P	**P**	**00 17 03.3**	**+0.7**
SUMG				IAmb	IAmb	00 17 08.0	
	comp=Z,2.4nm,0.7s						
WHN	**Wuhan**	**54.49**	**276**	⇑P	**P**	**00 17 16.9**	**+1.6**
E43A	**Lone Tree Farm**	**55.14**	**58**	P	**P**	**00 17 20.6**	**+0.8**
ZALV	**Zalesovo Beam**	**55.30**	**315**	LR	LR	00 42 46.1	
	comp=Z,118nm,18.4s,baz=336,slow=38						
XAN	**Xi'an**	**55.45**	**283**	P	**P**	**00 17 22.0**	**-0.3**
XAN				sP	pP	00 17 35.0	-0.1
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WMOK	**Wichita Mounta**	**56.09**	**75**	P		00 17 26.9	
	baz=313						
E46A	**Sault Ste Mari**	**56.55**	**56**	P	**P**	**00 17 30.8**	**+0.9**
E46A				IAmb	IAmb	00 17 44.6	
	comp=Z,5.5nm,1.0s						
TX32	**Lajitas Array**	**56.81**	**83**	P	**P**	**00 17 30.9**	**-1.2**
TXAR	**Lajitas Array**	**56.81**	**83**	P	**P**	**00 17 31.1**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=298,slow=2.7,SNR=6.7						
TXAR	**Lajitas Array**	**56.81**	**83**	P	**P**	**00 17 31.6**	**-0.5**
P40A	**Paris**	**56.85**	**67**	P	**P**	**00 17 32.0**	**-0.2**
LZH	**Lanzhou**	**57.13**	**288**	*e*P	**P**	**00 17 35.2**	**+0.8**
LZH				pP	pP	00 17 39.7	-7.4
LZH				sP	sP	00 17 41.4	-11
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
KEV	**Kevo**	**57.95**	**351**	P	**P**	**00 17 37.4**	**-2.0**
ARCES	**ARCESS Array B**	**58.31**	**351**	PcP	**PcP**	**00 18 32.9**	**+0.3**
	comp=Z,5.5nm,1.0s,baz=24,slow=4.9,SNR=6.0						
LVZ	**Lovozero**	**58.80**	**347**	P	**P**	**00 17 43.1**	**-2.3**
FCAR	**Ozark Folk Cen**	**59.28**	**70**	P	**P**	**00 17 48.3**	**-0.9**
MIAR	**Mount Ida**	**59.35**	**72**	P		00 17 49.5	
	baz=314						
ZSN	**Zaisan**	**59.71**	**309**	*e*P	**P**	**00 17 50.7**	**-1.3**
	baz=309						
ALGO	**Algonquin Park**	**60.02**	**53**	P		00 17 54.5	
	baz=314						
SADO	**Sadowa**	**60.30**	**55**	P	**P**	**00 17 56.4**	**+0.3**
SADO				IAmb	IAmb	00 18 11.8	
	comp=Z,5.4nm,1.1s						
G54A	**Lake Saint Pet**	**60.39**	**53**	P		00 17 57.0	
	baz=315						
H53A	**Bobcaygeon**	**60.72**	**54**	P		00 17 59.2	
	baz=315						
CD2	**Chengdu**	**60.76**	**284**	P	**P**	**00 17 57.8**	**-1.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WMQ	**Urumqi**	**60.84**	**305**	*e*P	**P**	**00 18 02.1**	**+2.3**
E56A	**St. Veronique**	**61.09**	**51**	P		00 18 02.0	
	baz=316						
DELO	**Deloro Mine**	**61.25**	**54**	P	**P**	**00 18 01.1**	**-1.4**
MK31	**Makanchi Array**	**61.41**	**310**	P	**P**	**00 18 02.4**	**-1.2**
MKAR	**Makanchi Array**	**61.41**	**310**	P	**P**	**00 18 02.5**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=48,slow=6.6,SNR=29						
MKAR	**Makanchi Array**	**61.41**	**310**	P	**P**	**00 18 02.6**	**-1.0**
MAKZ	**Makanchi**	**61.55**	**310**	P	**P**	**00 18 03.6**	**-1.0**
MEDO	**Medina**	**61.78**	**55**	P	**P**	**00 18 06.8**	**+0.7**
M53A	**WI Miller and**	**61.84**	**58**	P		00 18 07.1	
	baz=315						
J55A	**Hilton**	**62.04**	**55**	P	**P**	**00 18 08.5**	**+0.7**
Q51A	**Peebles**	**62.10**	**62**	P	**P**	**00 18 06.8**	**-1.6**
O52A	**Adamsville**	**62.15**	**60**	P	**P**	**00 18 07.3**	**-1.4**
M54A	**Oil Creek Stat**	**62.33**	**57**	P		00 18 10.7	
	baz=316						
J56A	**Wolcott**	**62.52**	**54**	P	**P**	**00 18 10.9**	**-0.1**
J56A	**Wolcott**	**62.52**	**54**	P		00 18 11.5	
	baz=316						
N54A	**Moraine State**	**62.54**	**58**	P	**P**	**00 18 11.2**	**-0.1**
T50A	**Nancy**	**62.69**	**64**	P	**P**	**00 18 11.9**	**-0.4**
LONY	**Lake Ozonia**	**62.69**	**52**	P	**P**	**00 18 11.5**	**-0.7**
K56A	**Middlesex**	**62.70**	**55**	P		00 18 12.9	
	baz=316						
L56A	**Greenwood**	**62.98**	**56**	P	**P**	**00 18 15.3**	**+1.1**
L56A	**Greenwood**	**62.98**	**56**	P		00 18 14.6	
	baz=316						
K57A	**Scipio Center**	**63.09**	**55**	P		00 18 15.6	
	baz=316						
L57A	**Andrews Acres**	**63.44**	**55**	P		00 18 18.0	
	baz=316						
BINY	**Binghamton**	**63.74**	**55**	P		00 18 19.6	
	baz=317						
L58A	**Harry Jones Me**	**63.92**	**55**	P		00 18 21.0	
	baz=317						
M58A	**Price's Panora**	**64.10**	**56**	P		00 18 22.3	
	baz=317						
H62A	**Milan**	**64.39**	**50**	P		00 18 23.8	
	baz=318						
M59A	**Waymart**	**64.50**	**55**	P		00 18 24.7	
	baz=317						
F63A	**Nahmakanta, Br**	**64.52**	**48**	P		00 18 24.6	
	baz=318						
TDK	**Taldyqorghan**	**64.58**	**311**	*e*P	**P**	**00 18 23.6**	**-1.1**
	comp=Z,4.7nm,0.8s,baz=311						
M60A	**Port Jervis**	**65.07**	**55**	P		00 18 28.4	
	baz=318						
N60A	**Cedar Hill Far**	**65.17**	**55**	P		00 18 29.5	
	baz=318						
SHLS	**Shalkode**	**65.44**	**309**	*e*P	**P**	**00 18 28.4**	**-2.1**
	baz=309						
KPKS	**Kokpek**	**65.59**	**310**	*e*P	**P**	**00 18 30.7**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=310						
UZB	**Uzynbulak**	**65.67**	**309**	*e*P	**P**	**00 18 31.1**	**-0.8**
	baz=309						
SATY	**Saty**	**66.03**	**309**	*e*P	**P**	**00 18 33.1**	**-1.1**
	baz=310						
CHKK	**Chushkaly**	**66.11**	**311**	*e*P	**P**	**00 18 33.0**	**-1.5**
	baz=311						
KUU	**Kurty**	**66.38**	**311**	*e*P	**P**	**00 18 34.6**	**-1.7**
	comp=Z,2.5nm,1.1s,baz=311						
BTLS	**Baital**	**66.57**	**313**	*e*P	**P**	**00 18 36.8**	**-0.7**
	baz=314						
MDOK	**Medeo**	**66.60**	**310**	*e*P	**P**	**00 18 36.8**	**-1.2**
	baz=310						
TNSS	**Tian-Shan**	**66.75**	**310**	*e*P	**P**	**00 18 37.7**	**-1.5**
	baz=310						
TKM2	**Tokmak 2**	**67.48**	**311**	P	**P**	**00 18 44.0**	**+0.4**
	SNR=5.0						
ULHL	**Ulahol**	**67.69**	**310**	P	**P**	**00 18 45.4**	**+0.5**
	SNR=6.2						
USP	**Ospenovka**	**67.72**	**312**	P	**P**	**00 18 45.6**	**+0.7**
	SNR=11						
KBK	**Karagaybulak**	**67.98**	**311**	P	**P**	**00 18 47.3**	**+0.6**
	SNR=5.4						
AAK	**Ala-Archa**	**68.21**	**312**	P	**P**	**00 18 48.6**	**+0.4**
	comp=Z,4.1nm,0.6s,baz=111,slow=4.2,SNR=26						
AAK	**Ala-Archa**	**68.21**	**312**	P	**P**	**00 18 48.5**	**+0.4**
	SNR=7.4						
EKS2	**Erkin-Say**	**68.53**	**312**	P	**P**	**00 18 50.9**	**+0.8**
	SNR=8.1						
AKTO	**Aktyubinsk**	**68.67**	**326**	P	**P**	**00 18 50.8**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=64,slow=12,SNR=6.6						
AML	**Almayashu**	**68.98**	**312**	P	**P**	**00 18 53.5**	**+0.3**
	SNR=8.0						
KSH	**Kashi**	**69.92**	**309**	P	**P**	**00 19 02.5**	**+3.8**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,150nm,6.1s						
IUG	**Iuzhnay**	**70.65**	**314**	*e*P	**P**	**00 19 02.4**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=314						
TAPN	**Taplejung**	**72.90**	**292**	*e*P	**P**	**00 19 17.2**	**+0.1**
	comp=Z,22nm,1.0s						
ODAN	**Odare**	**73.45**	**292**	*e*P	**P**	**00 19 20.4**	**+0.1**
GUN	**Gumba**	**73.53**	**294**	*e*P	**P**	**00 19 21.0**	**+0.2**
	comp=Z,24nm,0.7s						
RAMN	**Ramite**	**73.84**	**293**	*e*P	**P**	**00 19 22.7**	**+0.1**
	comp=Z,20nm,0.7s						
KKN	**Kakani**	**73.96**	**294**	*e*P	**P**	**00 19 23.5**	**+0.3**
	comp=Z,12nm,0.6s						
PKI	**Pulchoki**	**74.05**	**294**	*e*P	**P**	**00 19 23.9**	**0.0**
	comp=Z,16nm,1.0s						
PKIN	**Phulchoki**	**74.06**	**294**	*e*P	**P**	**00 19 23.8**	**0.0**
	comp=Z,9.7nm,0.8s						
GKN	**Gorkha**	**74.16**	**295**	*e*P	**P**	**00 19 24.3**	**0.0**
	comp=Z,19nm,0.9s						
DMN	**Daman**	**74.20**	**294**	*e*P	**P**	**00 19 24.9**	**+0.3**
	comp=Z,6.8nm,0.6s						
GEYT	**Alibeck**	**79.25**	**319**	P	**P**	**00 19 53.5**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=305,slow=5.1,SNR=4.9						
WRA	**Warramunga Arr**	**83.38**	**226**	P	**P**	**00 20 15.7**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=37,slow=5.7,SNR=2.3						
BRTR	**Keskin Array B**	**85.61**	**338**	P	**P**	**00 20 26.0**	**0.0**
	comp=Z,1.0nm,1.0s,baz=22,slow=5.1,SNR=4.1						

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*RSNC **06** 00:29:14.8±1.0, 8.°29N×72.°14W, h4km±6km, ML3.4, Mw3.7*
*FUNV **06** 00:29:16.3, 8.°22N×72.°14W, h5km, MW4.2*
ISC 06 00:29:13.8±1.8**, 8.°29N**±0.°02×**72.°13W**±0.°03**, h2km**±14km**,**
n42, σ**2**^{s}**10**/75**, 1C, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**1.10**	**211**	⇑*e*P	**Pb**	**00 29 34.5**	**-1.3**
PAMC				*e*S	**Sb**	**00 29 49.3**	**-1.4**
PAMC				*i*		00 29 56.5	
	comp=Z,660nm,0.5s						
OCAC	**Ocana**	**1.18**	**268**	*e*P	**Pn**	**00 29 35.0**	**-2.4**
OCAC				*e*S	**Sb**	**00 29 50.8**	**-1.9**
OCAC				*i*		00 29 55.9	
	comp=Z,576nm,0.4s						
SOCV	**Socops**	**1.26**	**90**	*e*S	**Sg**	**00 29 56.4**	**+2.1**
SDV	**Santo Domingo**	**1.59**	**68**	*e*P	**Pn**	**00 29 42.7**	**-0.5**
SDV				*e*S	**Sn**	**00 30 03.8**	**-0.7**
SDV				*i*		00 30 07.2	
	comp=Z,468nm,0.5s						
MCQV	**Machiques**	**1.80**	**347**	*e*S	**Sb**	**00 30 11.1**	**+0.7**
TAMC	**Tame, Arauca**	**1.87**	**170**	*e*P	**Pn**	**00 29 47.3**	**+0.5**
TAMC				*e*S	**Sg**	**00 30 15.6**	**+1.7**
TAMC				*i*		00 30 18.2	
	comp=Z,300nm,0.6s						
BRRC	**Barranca, Sant**	**1.96**	**233**	*e*P	**Pb**	**00 29 49.7**	**-0.5**
BRRC				*e*S	**Sb**	**00 30 16.0**	**+1.0**
BRRC				*i*		00 30 21.4	
	comp=Z,194nm,0.5s						
BARC	**Barichara**	**1.98**	**212**	*e*P	**Pn**	**00 29 49.6**	**+1.1**
BARC				*e*S	**Sb**	**00 30 16.7**	**+0.8**
BARC				*i*		00 30 20.2	
	comp=Z,318nm,0.5s						
SMLC	**San Martn de**	**1.99**	**285**	*e*P	**Pn**	**00 29 47.3**	**-1.1**
SMLC				*e*S	**Sb**	**00 30 15.0**	**-0.9**
RUSC	**La Rusia**	**2.56**	**202**	*e*P	**Pn**	**00 29 59.0**	**+2.2**
RUSC				*e*S	**Sb**	**00 30 33.9**	**+1.1**
RUSC				*i*		00 30 38.3	
	comp=Z,123nm,0.6s						
ARGC	**Ariguani, Magd**	**2.61**	**307**	*e*P	**Pn**	**00 29 56.5**	**-0.5**
ARGC				*e*S	**Sn**	**00 30 28.9**	**-0.3**
ARGC				*i*		00 30 54.6	
	comp=Z,150nm,0.5s						
CURV	**Curarigua**	**2.74**	**51**	*e*P	**Pn**	**00 30 00.4**	**+1.5**
CURV				*e*S	**Sn**	**00 30 34.3**	**+1.6**
ZARC	**Zaragoza, Cauc**	**2.81**	**254**	*e*P	**Pn**	**00 30 00.5**	**+0.7**
ZARC				*e*S	**Sn**	**00 30 34.6**	**+0.3**
ZARC				*i*		00 30 50.9	
	comp=Z,163nm,0.5s						
CRJC	**Cerrejon, Guaj**	**2.82**	**345**	*e*P	**Pn**	**00 29 59.6**	**-0.3**
CRJC				*e*S	**Sb**	**00 30 38.8**	**-1.0**
SANV	**Sanarito**	**2.83**	**65**	*e*P	**Pn**	**00 30 01.9**	**+1.7**
SANV				*e*S	**Sn**	**00 30 35.5**	**+0.6**
PTBC	**PUERTO BERRIO,**	**2.89**	**233**	*e*P	**Pn**	**00 30 00.4**	**-0.4**
PTBC				*e*S	**Sn**	**00 30 34.9**	**-1.2**
PTBC				*i*		00 30 46.0	
	comp=Z,155nm,0.5s						
ELOV	**Elorza**	**2.92**	**116**	*e*P	**Pn**	**00 30 01.5**	**+0.3**
ELOV				*e*S	**Sn**	**00 30 37.1**	**+0.2**
DABV	**Dabajuro**	**3.00**	**29**	*e*P	**Pn**	**00 30 04.4**	**+2.0**
DABV				*e*S	**Sn**	**00 30 40.6**	**+1.6**
SPBC	**San Pablo de B**	**3.25**	**217**	*e*P	**Pn**	**00 30 07.1**	**+1.2**
SPBC				*e*S	**Sb**	**00 30 49.4**	**-2.9**
SPBC				*i*		00 31 00.2	
	comp=Z,99nm,0.5s						
SIQV	**Siquisique**	**3.28**	**44**	*e*P	**Pn**	**00 30 07.0**	**+0.8**
SIQV				*e*S	**Sn**	**00 30 47.2**	**+1.4**
URIC	**Uribia, Colomb**	**3.40**	**2**	*e*P	**Pb**	**00 30 13.0**	**-1.7**
SMRC	**Santa Marta, M**	**3.53**	**324**	*e*S	**Sb**	**00 31 00.9**	**+0.6**
SMRC				*i*		00 31 04.4	
	comp=Z,199nm,0.5s						
MOTC	**Monteria, Cord**	**3.53**	**278**	*e*P	**Pn**	**00 30 10.4**	**+0.7**
MOTC				*e*S	**Sn**	**00 30 55.3**	**+3.3**
MOTC				*i*		00 31 20.7	
	comp=Z,32nm,0.6s						
NORC	**Norcasia**	**3.83**	**225**	*e*P	**Pn**	**00 30 14.0**	**+0.1**
NORC				*e*S	**Sn**	**00 31 03.0**	**+3.5**
NORC				*i*		00 31 16.1	
	comp=Z,50nm,0.5s						
MAPV	**Macapo**	**3.94**	**67**	*e*S	**Sn**	**00 31 01.3**	**-0.8**
HELC	**Santa Helena**	**3.96**	**239**	*e*S	**Sn**	**00 31 07.0**	**+3.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HELC				i		00 31 19.3	
	comp=Z,56nm,0.5s						
CHIC	**Chingaza**	**3.97**	**204**	eP	**Pn**	**00 30 17.0**	**+1.0**
CHIC				eS	**Sg**	**00 31 19.6**	**-1.8**
CHIC				i		00 31 33.2	
	comp=Z,32nm,0.6s						
PTGC	**Puerto Gaitan,**	**4.06**	**180**	eP	**Pn**	**00 30 15.8**	**-1.1**
PTGC				eS	**Sn**	**00 31 03.6**	**-1.5**
PTGC				i		00 31 41.8	
	comp=Z,46nm,0.2s						
BAUV	**El Baul**	**4.09**	**81**	eP	**Pn**	**00 30 18.3**	**+0.9**
BAUV				eS	**Sn**	**00 31 03.6**	**-2.3**
MONV	**Montecano**	**4.22**	**30**	eS	**Sn**	**00 31 07.5**	**-1.5**
GUY2C	**Guyana, Caldas**	**4.42**	**227**	eP	**Pn**	**00 30 23.9**	**+1.5**
GUY2C				eS	**Sn**	**00 31 18.6**	**+3.9**
GUY2C				i		00 31 51.7	
	comp=Z,52nm,0.7s						
CBOC	**Ciudad Bolivar**	**4.54**	**238**	eP	**Pn**	**00 30 25.9**	**+2.1**
RREF	**El Recreo**	**4.64**	**224**	eP	**Pn**	**00 30 28.6**	**+3.1**
RREF				eS	**Sn**	**00 31 21.2**	**+1.0**
RREF				i		00 31 46.8	
	comp=Z,31nm,0.7s						
TURV	**Turiamo**	**4.75**	**63**	eP	**Pn**	**00 30 27.0**	**+0.7**
TURV				eS	**Sn**	**00 31 20.6**	**-1.4**
TOLC	**Tolima**	**4.85**	**221**	eP	**Pn**	**00 30 29.2**	**+1.1**
TOLC				eS	**Sn**	**00 31 24.7**	**-0.4**
TOLC				i		00 31 50.3	
	comp=Z,45nm,0.7s						
ANIL	**Santa Ana**	**4.98**	**221**	eP	**Pn**	**00 30 32.3**	**+2.4**
ANIL				eS	**Sn**	**00 31 32.2**	**+4.0**
PAYV	**Puerto Ayacuch**	**5.28**	**122**	eP	**Pn**	**00 30 32.8**	**-0.9**
PAYV				eS	**Sn**	**00 31 30.8**	**-4.3**
PRAC	**Prado**	**5.30**	**211**	eS	**Sn**	**00 31 42.2**	**+6.3**
PRAC				i		00 32 11.4	
	comp=Z,23nm,0.6s						
ORTC	**Ortega, Tolima**	**5.34**	**216**	eP	**Pn**	**00 30 36.2**	**+1.7**
ORTC				eS	**Sn**	**00 31 43.5**	**+6.8**
ORTC				i		00 32 11.4	
	comp=Z,16nm,0.9s						
TACV	**Tcata**	**5.36**	**70**	eP	**Pn**	**00 30 36.0**	**+1.0**
TACV				eS	**Sn**	**00 31 35.1**	**-2.2**
MERV	**Las Mercedes**	**5.84**	**80**	eP	**Pn**	**00 30 41.7**	**+0.2**
MERV				eS	**Sn**	**00 31 46.2**	**-2.9**
BIRV	**Birongo**	**6.18**	**69**	eP	**Pn**	**00 30 47.0**	**+1.0**
BIRV				eS	**Sn**	**00 31 54.1**	**-3.2**

*IDC **06** 00:37:44.6±1.1, 14.°50N×93.°24W, h0km, mb4.2/14, mb1 4.4/17, mb1mx4.2/41, mbtmp4.2/17, ML4.1/2, MS3.5/10, Ms1 3.5/10, ms1mx3.3/34, Error ellipse: s-maj=40.3km s-min=13.7km az=44.0*
*SNET **06** 00:37:46.3±1.0, 14.°28N×93.°32W, h15km±9km, ML4.3*
*MEX **06** 00:37:47.3±0.7, 14.°19N×93.°56W, h18km±26km, MD4.1*
*NEIC **06** 00:37:49.5±1.5, 14.°25N±0.°03×93.°44W±0.°05, h38km±9km, mb4.3/129, Md4.1/26(MEX), Error ellipse: s-maj=8.0km s-min=3.3km az=58.0*
*GCG **06** 00:37:58.1±16.0, 15.°42N×93.°19W, h10km, MD4.6*
ISC 06 00:37:48.6±2.3, **14.°32N**±0.°05×**93.°49W**±0.°04, **h32**km±16km, **n218**, σ**1.§45**/216, **mb4.3**/73, **MS3.4**/8, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**1.32**	**64**	eP	**Pn**	**00 38 09.4**	**-1.5**
THIG				i S	**Sn**	**00 38 25.4**	**-1.9**
THIG		**1.32**	**64**		**Pn**	**00 38 09.4**	**-1.5**
THIG					**Sn**	**00 38 25.4**	**-1.9**
PCIG		**1.40**	**11**	eP	**Pn**	**00 38 10.0**	**-1.9**
PCIG				i SG	**Sn**	**00 38 28.6**	**-0.7**
PCIG		**1.40**	**11**		**Pn**	**00 38 10.0**	**-1.9**
RTAL	**Retalhuleu**	**1.75**	**83**	eP	**Pn**	**00 38 15.3**	**-1.4**
RTAL				eS	**Sn**	**00 38 37.6**	**-0.4**
RTAL	**Retalhuleu**	**1.75**	**83**	Pn	**Pn**	**00 38 15.7**	**-1.0**
RTAL				Sn	**Sn**	**00 38 38.3**	**+0.3**
HUEH	**Huehuetenango**	**2.16**	**63**	eP	**Pn**	**00 38 22.6**	**0.0**
HUEH				eS	**Sb**	**00 38 51.5**	**-2.4**
HUEH	**Huehuetenango**	**2.16**	**63**	Pn	**Pn**	**00 38 22.9**	**+0.3**
HUEH				Sn	**Sb**	**00 38 52.6**	**-1.3**
CCIG	**Comitan**	**2.35**	**34**	eP	**Pn**	**00 38 25.7**	**+0.6**
CCIG				eS	**Sn**	**00 38 55.1**	**+2.1**
CCIG	**Comitan**	**2.35**	**34**		**Pn**	**00 38 26.1**	**+1.0**
CCIG	**Comitan**	**2.35**	**34**		**Sn**	**00 38 55.1**	**+2.1**
TGIG		**2.47**	**8**	eP	**Pn**	**00 38 26.8**	**+0.1**
TGIG				eS	**Sn**	**00 38 56.9**	**+1.1**
TGIG		**2.47**	**8**		**Pn**	**00 38 26.8**	**+0.1**
TGIG					**Sn**	**00 38 56.9**	**+1.1**
TGBT	**Tuxtla Gutierr**	**2.47**	**9**	eP	**Pn**	**00 38 26.4**	**-0.3**
TGBT				eS	**Sn**	**00 38 55.5**	**-0.3**
TGBT	**Tuxtla Gutierr**	**2.47**	**9**		**Pn**	**00 38 26.4**	**-0.3**
TGBT					**Sn**	**00 38 55.5**	**-0.3**
FUG	**Fuego 3**	**2.57**	**87**	eP	**Pn**	**00 38 28.2**	**+0.1**
PCG	**Pacaya**	**2.80**	**88**	eP	**Pn**	**00 38 32.4**	**+1.0**
HUIG	**Huatulco**	**2.91**	**300**	i P	Pn	00 38 30.8	-1.9
HUIG				eS	**Sn**	**00 39 03.3**	**-3.2**
HUIG	**Huatulco**	**2.91**	**300**		Pn	00 38 30.8	-1.9
HUIG					**Sn**	**00 39 03.3**	**-3.2**
NBG	**Las Nubes**	**3.06**	**85**	eP	**Pn**	**00 38 36.1**	**+1.1**
CMIG	**Matias Romero**	**3.06**	**334**	Pn	**Pn**	**00 38 33.2**	**-1.6**
	5.9nm,0.3s,baz=148,slow=10.0,SNR=42						
CMIG				Sn	**Sn**	**00 39 08.7**	**-1.7**
	37nm,0.3s,baz=201,slow=23,SNR=5.8						
CMIG				LR	LR	00 39 18.6	
	comp=Z,134nm,21.9s,baz=214,slow=31						
CMIG	**Matias Romero**	**3.06**	**334**	eP	**Pn**	**00 38 33.7**	**-1.1**
CMIG				i S	**Sn**	**00 39 09.9**	**-0.5**
CMIG	**Matias Romero**	**3.06**	**334**		**Pn**	**00 38 33.7**	**-1.1**
CMIG					**Sn**	**00 39 09.9**	**-0.5**
MRL	**Marmol**	**3.76**	**78**	eP	**Pn**	**00 38 44.1**	**-0.5**
MRL	**Marmol**	**3.76**	**78**	eP	**Pn**	**00 38 47.4**	**+2.8**
CEVE	**Cerro Verde**	**3.79**	**97**	eP	**Pn**	**00 38 44.5**	**-0.4**
CEVE				eS	**Sn**	**00 39 30.7**	**+2.2**
CEVE				IAML		00 39 50.5	
	comp=Z,1μm,0.5s						
JAYA	**Jayaque - finc**	**3.98**	**99**	eP	**Pn**	**00 38 46.5**	**-1.1**
MTO3	**Montecristo**	**4.00**	**88**	eP	**Pn**	**00 38 47.2**	**-0.7**
MTO3	**Montecristo**	**4.00**	**88**	Pn	**Pn**	**00 38 48.2**	**+0.2**
CEDA	**San Andres**	**4.01**	**97**	IAML		00 40 03.1	
	comp=Z,521nm,0.4s						
SNET	**Serv Nac Est T**	**4.18**	**98**	Pn	**Pn**	**00 38 48.8**	**-1.5**
PETF	**Flores**	**4.34**	**53**	eP	**Pn**	**00 38 52.1**	**-0.3**
PETF	**Flores**	**4.34**	**53**	Pn	**Pn**	**00 38 52.6**	**+0.3**
COEG	**Centro de Oper**	**4.53**	**98**	eP	**Pn**	**00 38 54.6**	**-0.4**
COEG				IAML		00 40 02.2	
	comp=Z,142nm,0.3s						
TLIG	**Tlapa**	**5.85**	**304**		**Pn**	**00 39 15.7**	**+2.5**
TGUH	**Tegucigalpa,Un**	**6.04**	**92**	Pn	**Pn**	**00 39 16.8**	**+1.0**
CRIN	**San Cristobal**	**6.47**	**104**	Pn	**Pn**	**00 39 21.2**	**-0.5**
MATN	**Matagalpa**	**7.48**	**100**	Pn	**Pn**	**00 39 35.0**	**-0.7**
TEIG	**Tepich**	**7.70**	**40**	Pn	**Pn**	**00 39 35.9**	**-2.6**
	comp=Z,10nm,0.3s,baz=267,slow=2.2,SNR=32						
TEIG				Sn	**Sn**	**00 40 57.5**	**-7.1**
	baz=150,slow=20,SNR=1.3						
TEIG				LR	LR	00 42 57.3	
	comp=Z,697nm,20.8s,baz=256,slow=42						
TEIG	**Tepich**	**7.70**	**40**	Pn	**Pn**	**00 39 37.8**	**-0.7**
BOAB	**BOACO BROADBAN**	**7.84**	**103**	Pn	**Pn**	**00 39 37.8**	**-2.7**
ACON	**Acoyapa**	**8.43**	**105**	Pn	**Pn**	**00 39 47.3**	**-1.3**
ORTG	**Ortega, Santa**	**8.78**	**116**	Pn	**Pn**	**00 39 51.3**	**-2.1**
JTS	**Las Juntas de**	**9.26**	**115**	Pn	Pn	00 40 07.7	+7.8
	comp=Z,0.8nm,0.3s,baz=15,slow=19,SNR=2.1						
JTS				Sn	Sn	00 41 34.8	-8.2
	comp=Z,0.4nm,0.3s,baz=163,slow=19,SNR=2.1						
SOR	**Soroa**	**13.02**	**48**	Pn	**Pn**	**00 40 51.7**	**+0.3**
JCT	**Junction City**	**17.10**	**341**	P	**P**	**00 41 48.2**	**+1.5**
TX31	**Lajitas Ar. Si**	**17.66**	**329**	P	**P**	**00 41 54.0**	**+1.0**
TX31				IAmb	IAmb	00 42 08.1	
	comp=Z,32nm,1.2s						
TX32	**Lajitas Array**	**17.66**	**329**	P	**P**	**00 41 53.9**	**+0.9**
TXAR	**Lajitas Array**	**17.66**	**329**	P	**Pn**	**00 41 52.8**	**+0.5**
	baz=155,slow=15,SNR=9.8						
TXAR	**Lajitas Array**	**17.66**	**329**	P	**P**	**00 41 54.2**	**+1.2**
237A	**Washetta, Mont**	**17.73**	**354**		**P**	**00 41 54.3**	**+0.7**
237A				IAmb	IAmb	00 42 12.5	
	comp=Z,22nm,1.1s						
553A	**Crawfordville**	**17.86**	**26**		**P**	**00 41 57.0**	**+1.9**
ABTX	**Abilene, Hawle**	**19.06**	**344**		**Pn**	**00 42 09.8**	**+0.5**
PLMC	**San Jos del P**	**19.36**	**117**	eP	**Pn**	**00 42 16.2**	**+3.2**
Z47A	**Carrollton**	**19.43**	**14**		**Pn**	**00 42 14.3**	**+0.7**
SMLC	**San Martn de**	**19.80**	**104**	eP	**Pn**	**00 42 21.5**	**+3.4**
GUY2C	**Guyana, Caldas**	**20.00**	**115**	eP	**Pn**	**00 42 20.8**	**-0.3**
MIAR	**Mount Ida**	**20.14**	**360**	P	**P**	**00 42 19.9**	**-0.1**
MIAR				IAmb	IAmb	00 42 32.7	
	comp=Z,12nm,0.9s						
BBAC	**Balboa, Cauca**	**20.17**	**126**	eP	Pn	00 42 23.6	+0.8
RREF	**El Recreo**	**20.17**	**116**	eP	Pn	00 42 23.6	+0.3
PTBC	**PUERTO BERRIO,**	**20.24**	**111**	eP	**P**	**00 42 20.9**	**-0.5**
X37A	**Clayton**	**20.25**	**356**	P	Pn	00 42 23.3	-0.1
X37A				IAmb	IAmb	00 42 30.0	
	comp=Z,31nm,1.2s						
NORC	**Norcasia**	**20.29**	**114**	eP	Pn	00 42 23.7	-0.3
POPC	**Popayan, Colom**	**20.32**	**124**	eP	Pn	00 42 23.9	-0.6
TOLC	**Tolima**	**20.35**	**117**	eP	**P**	**00 42 24.3**	**+1.5**
MNTX	**Cornudas Mount**	**20.44**	**330**	P	Pn	00 42 24.8	-0.8
LGNH	**Logne**	**20.46**	**75**	P	**P**	**00 42 23.4**	**-0.3**
SOTA	**Rioblanco**	**20.61**	**124**	eP	**P**	**00 42 26.8**	**+0.9**
PCON	**Cinco Dias**	**20.66**	**124**	eP	Pn	00 42 28.4	-0.5
ORTC	**Ortega, Tolima**	**20.75**	**118**	eP	Pn	00 42 28.7	-0.8
WMOK	**Wichita Mounta**	**20.88**	**348**	P	Pn	00 42 30.5	-0.3
WHAR	**Wooly Hollow**	**20.91**	**3**	P	**P**	**00 42 29.9**	**+1.5**
WHAR				IAmb	IAmb	00 42 37.0	
	comp=Z,24nm,1.4s						
GOGA	**Godfrey**	**21.07**	**24**	P	**P**	**00 42 31.2**	**+1.0**
GOGA				IAmb	IAmb	00 42 37.7	
	comp=Z,11nm,1.0s						
ROSC	**El Rosal**	**21.10**	**115**	P	**P**	**00 42 33.0**	**+1.9**
	comp=Z,7.8nm,0.5s,baz=263,slow=24,SNR=4.2						
ROSC				LR	LR	00 49 51.2	
	comp=Z,62nm,19.5s,baz=224,slow=35						
FNO	**Franklin**	**21.14**	**351**		**P**	**00 42 33.3**	**+2.4**
PRAC	**Prado**	**21.16**	**118**	eP	**P**	**00 42 32.3**	**+1.0**
MSTX	**Muleshoe**	**21.29**	**338**	P	**P**	**00 42 35.1**	**+2.4**
MSTX				IAmb	IAmb	00 42 43.4	
	comp=Z,21nm,1.1s						
BARC	**Barichara**	**21.38**	**109**	eP	**P**	**00 42 38.2**	**+4.3**
OK025	**Westminster Rd**	**21.45**	**351**	P	**P**	**00 42 35.1**	**+0.9**
FCAR	**Ozark Folk Cen**	**21.51**	**3**	P	**P**	**00 42 35.9**	**+1.0**
FCAR				IAmb	IAmb	00 42 37.7	
	comp=Z,8.8nm,0.7s						
BCOK	**Bluff Creek, N**	**21.57**	**351**	P	**P**	**00 42 36.8**	**+1.4**
TUL1	**Leonard**	**21.60**	**355**	P	**P**	**00 42 37.5**	**+1.7**
TUL1				IAmb	IAmb	00 42 46.4	
	comp=Z,19nm,1.0s						
CHIC	**Chingaza**	**21.72**	**114**	eP	**P**	**00 42 40.8**	**+3.1**
OK031	**S. Brethren Rd**	**21.75**	**353**	P	**P**	**00 42 39.4**	**+2.0**
OK031				IAmb	IAmb	00 42 48.5	
	comp=Z,16nm,0.9s						
RUSC	**La Rusia**	**21.75**	**111**	eP	**P**	**00 42 37.6**	**-0.5**
LCAR	**Lake Charles**	**21.76**	**5**	P	**P**	**00 42 38.1**	**+0.7**
LCAR				IAmb	IAmb	00 42 50.7	
	comp=Z,21nm,1.5s						
AMTX	**Amarillo**	**21.77**	**342**	P	**P**	**00 42 38.3**	**+0.6**
AMTX				IAmb	IAmb	00 42 56.6	
	comp=Z,13nm,0.7s						
HHAR	**Hobbs**	**21.87**	**359**	P	**P**	**00 42 40.3**	**+1.6**
HHAR				IAmb	IAmb	00 42 40.9	
	comp=Z,8.7nm,0.7s						
U40A	**Yellville**	**21.95**	**1**	P	**P**	**00 42 39.8**	**+0.2**
U38A	**Gravette**	**22.04**	**358**	P	**P**	**00 42 41.6**	**+1.0**
319A	**Douglas**	**22.31**	**322**	P	**P**	**00 42 45.7**	**+2.1**
319A				IAmb	IAmb	00 43 01.1	
	comp=Z,15nm,1.2s						
121A	**Cookes Peak, D**	**22.33**	**327**	P	**P**	**00 42 45.8**	**+1.9**
PBMO	**Poplar Bluff**	**22.53**	**6**	IAmb	IAmb	00 42 46.8	
	comp=Z,11nm,0.7s						
T35A	**Sooner Cattle**	**22.66**	**354**	P	**P**	**00 42 46.0**	**-1.2**
T42A	**Van Buren**	**22.72**	**5**	IAmb	IAmb	00 42 47.6	
	comp=Z,16nm,1.4s						
TAMC	**Tame, Arauca**	**22.72**	**108**	eP	**P**	**00 42 48.9**	**+0.8**
MGMO	**Mountain Grove**	**22.77**	**3**	P	**P**	**00 42 48.0**	**-0.2**
MGMO				IAmb	IAmb	00 43 00.4	
	comp=Z,12nm,1.3s						
TKL	**Tuckaleechee C**	**22.97**	**21**	LR	LR	00 53 36.0	
	comp=Z,140nm,19.1s,baz=200,slow=42						
SDV	**Santo Domingo**	**23.02**	**101**	P	**P**	**00 42 51.0**	**-0.4**
	comp=Z,7.3nm,0.7s,baz=262,slow=4.8,SNR=8.5						
SDV	**Santo Domingo**	**23.02**	**101**	P	**P**	**00 42 50.0**	**-1.3**
SDV				IAmb	IAmb	00 42 53.5	
	comp=Z,6.3nm,0.7s						
SDV	**Santo Domingo**	**23.02**	**101**	eP	**P**	**00 42 52.1**	**+0.7**
KAN05	**Bluff City Nor**	**23.03**	**351**	P	**P**	**00 42 51.0**	**+0.1**
BNM	**Barren Site**	**23.05**	**331**	P	**P**	**00 42 53.0**	**+1.6**
LENM	**Lemitar**	**23.22**	**331**	P	**P**	**00 42 54.5**	**+1.3**
ANMO	**Albuquerque**	**23.63**	**333**	P	**P**	**00 42 58.1**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=144,slow=10,SNR=5.5						
ANMO				LR	LR	00 52 43.8	
	comp=Z,72nm,18.3s,baz=112,slow=38						
CCM	**Cathedral Cave**	**23.72**	**4**	P	**P**	**00 42 56.8**	**-1.0**
CCM				IAmb	IAmb	00 42 57.7	
	comp=Z,8.8nm,0.9s						
TUC	**Tucson**	**23.87**	**322**	P	**P**	**00 43 01.0**	**+1.7**
TUC				IAmb	IAmb	00 43 03.1	
	comp=Z,10nm,1.0s						
R32A	**Long Quarter,**	**24.45**	**350**	P	**P**	**00 43 04.5**	**-0.1**
WCI	**Wyandotte Cave**	**24.65**	**14**	P	**P**	**00 43 06.2**	**-0.2**
WCI				IAmb	IAmb	00 43 07.5	
	comp=Z,9.3nm,0.8s						
T25A	**Trinidad**	**24.72**	**339**	P	**P**	**00 43 08.7**	**+1.4**
T25A				IAmb	IAmb	00 43 10.8	
	comp=Z,13nm,0.9s						
OLIL	**Olney**	**24.78**	**10**	P	**P**	**00 43 07.5**	**+0.1**
CBKS	**Cedar Bluff**	**25.01**	**348**	P	**P**	**00 43 09.8**	**+0.1**
X18A	**Snowflake**	**25.02**	**326**	P	**P**	**00 43 12.0**	**+2.1**
PIX	**Pinacate**	**25.08**	**317**	P	**P**	**00 43 11.7**	**+1.4**
PIX				IAmb	IAmb	00 43 16.2	
	comp=Z,12nm,0.9s						
SDCO	**Great Sand Dun**	**25.65**	**338**	IAmb	IAmb	00 43 18.6	
	comp=Z,8.5nm,1.1s						
MVCO	**Mesa Verde**	**26.43**	**332**	P	**P**	**00 43 23.7**	**+1.0**
MVCO				IAmb	IAmb	00 43 25.7	
	comp=Z,8.0nm,1.1s						
SJG	**San Juan**	**26.51**	**78**	LR	LR	00 53 19.7	
	comp=Z,56nm,19.6s,baz=92,slow=36						
WUAZ	**Wupatki**	**26.53**	**326**	P	**P**	**00 43 24.4**	**+0.8**
WUAZ				IAmb	IAmb	00 43 31.9	
	comp=Z,7.1nm,1.1s						
PV01	**Paradox Valley**	**27.22**	**333**	P	**P**	**00 43 31.5**	**+1.5**
PV01				IAmb	IAmb	00 43 33.2	
	comp=Z,7.4nm,1.1s						
PV13	**Radium Mtn., P**	**27.35**	**333**	P	**P**	**00 43 32.2**	**+1.1**
PV02	**Paradox Valley**	**27.36**	**333**	P	**P**	**00 43 32.4**	**+1.3**
PV02				IAmb	IAmb	00 43 34.3	
	comp=Z,5.3nm,0.8s						
PV15	**Paradox Valley**	**27.36**	**334**	P	**P**	**00 43 31.8**	**+0.7**
PV15				IAmb	IAmb	00 43 34.6	
	comp=Z,11nm,1.2s						
PV05	**Paradox Valley**	**27.41**	**333**	P	**P**	**00 43 32.4**	**+0.8**
PV03	**Paradox Valley**	**27.45**	**333**	P	**P**	**00 43 33.5**	**+1.6**
PV03				IAmb	IAmb	00 43 34.8	
	comp=Z,6.6nm,1.1s						
SMCO	**Snowmass**	**27.46**	**337**	P	**P**	**00 43 32.9**	**+0.6**
SMCO				IAmb	IAmb	00 43 35.1	
	comp=Z,8.2nm,1.3s						
PV18	**Skein Mesa, Pa**	**27.46**	**333**	P	**P**	**00 43 33.1**	**+1.0**
PV18				IAmb	IAmb	00 43 40.6	
	comp=Z,7.0nm,1.1s						
PV12	**Saucer Basin,**	**27.48**	**333**	P	**P**	**00 43 33.9**	**+1.7**
PV12				IAmb	IAmb	00 43 35.5	
	comp=Z,9.6nm,0.9s						
PV11	**David Mesa, Pa**	**27.49**	**333**	P	**P**	**00 43 34.0**	**+1.7**
PV11				IAmb	IAmb	00 43 50.1	
	comp=Z,8.8nm,1.1s						
PV07	**Paradox Valley**	**27.51**	**334**	P	**P**	**00 43 33.5**	**+1.1**
PV07				IAmb	IAmb	00 43 35.7	
	comp=Z,6.9nm,0.8s						
PV17	**East Wray Mesa**	**27.52**	**333**	P	**P**	**00 43 33.9**	**+1.4**
PV17				IAmb	IAmb	00 43 34.8	
	comp=Z,8.5nm,1.1s						
ISCO	**Idaho Springs**	**27.52**	**340**	P	**P**	**00 43 34.4**	**+1.7**
PV16	**Nyswonger Mesa**	**27.52**	**333**	P	**P**	**00 43 33.8**	**+1.2**
OGNE	**Ogallala**	**27.55**	**346**	P	**P**	**00 43 33.3**	**+0.7**
PV20	**West Nyswonger**	**27.57**	**333**	P	**P**	**00 43 34.0**	**+1.1**
PV04	**Paradox Valley**	**27.59**	**333**	P	**P**	**00 43 34.7**	**+1.6**
PV04				IAmb	IAmb	00 43 44.3	
	comp=Z,9.7nm,1.1s						
PV14	**Lion Creek, Pa**	**27.62**	**333**	P	**P**	**00 43 34.8**	**+1.3**
PV14				IAmb	IAmb	00 43 47.8	
	comp=Z,9.3nm,1.4s						
PV10	**Paradox Valley**	**27.63**	**333**	P	**P**	**00 43 32.2**	**-1.3**
PV10				IAmb	IAmb	00 43 48.3	
	comp=Z,9.0nm,1.1s						
PV22	**Blue Mesa, Par**	**27.65**	**334**	P	**P**	**00 43 34.9**	**+1.2**
PV22				IAmb	IAmb	00 43 36.8	
	comp=Z,4.8nm,0.9s						
W13A	**Hualapai Mount**	**27.66**	**322**	P	**P**	**00 43 35.4**	**+1.5**
U15A	**North Rim**	**27.70**	**326**	P	**P**	**00 43 36.0**	**+1.7**
PFO	**Pinyon Flats O**	**28.33**	**317**	LR	LR	00 55 29.0	
	comp=Z,76nm,18.6s,baz=89,slow=38						
KNB	**Kanab**	**28.42**	**326**	P	**P**	**00 43 41.4**	**+0.8**
MTPU	**Mount Pierson**	**28.86**	**328**	P	**P**	**00 43 45.1**	**+0.5**
SRU	**San Rafael Swe**	**28.90**	**332**	P	**P**	**00 43 46.5**	**+1.7**
SZCU	**Shurtz Canyon**	**28.99**	**327**	P	**P**	**00 43 48.0**	**+2.3**
Q16A	**Castle Valley**	**29.04**	**331**	P	**P**	**00 43 48.0**	**+1.9**
P17A	**Butcher Ranch,**	**29.29**	**332**	P	**P**	**00 43 49.2**	**+1.0**
P17A				IAmb	IAmb	00 43 51.0	
	comp=Z,6.0nm,1.0s						
RDMU	**Red Mountain**	**29.69**	**335**	P	**P**	**00 43 52.5**	**+0.7**
PSUT	**Pine Spring**	**30.09**	**327**	P	**P**	**00 43 56.2**	**+0.8**
TCUT	**Toone Canyon**	**30.92**	**333**	P	**P**	**00 44 04.1**	**+1.3**
TCUT				IAmb	IAmb	00 44 13.4	
	comp=Z,7.5nm,0.8s						
RSSD	**Black Hills**	**31.04**	**345**	P	**P**	**00 44 04.2**	**+0.5**
RSSD				IAmb	IAmb	00 44 11.9	
	comp=Z,7.5nm,1.2s						
BW06	**Boulder Array**	**31.55**	**337**	P	**P**	**00 44 08.9**	**+0.7**
PD31	**Pinedale Array**	**31.55**	**337**	IAmb	IAmb	00 44 12.0	
	comp=Z,5.5nm,1.4s						
PDAR	**Pinedale Array**	**31.55**	**337**	P	**P**	**00 44 09.3**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=134,slow=8.5,SNR=9.9						
HVU	**Hansel Valley**	**32.06**	**332**	P	**P**	**00 44 13.5**	**+0.8**
HVU				IAmb	IAmb	00 44 15.2	
	comp=Z,3.8nm,0.8s						
NV11	**Mina Array Sit**	**32.44**	**322**	P	**P**	**00 44 16.7**	**+0.7**
NV11				IAmb	IAmb	00 44 19.8	
	comp=Z,3.3nm,0.8s						
ELK	**Elko**	**32.45**	**328**	P	**P**	**00 44 17.2**	**+1.0**
MDPB	**Devils Postpil**	**32.48**	**320**	P	**P**	**00 44 17.7**	**+1.2**
MDPB				IAmb	IAmb	00 44 20.0	
	comp=Z,2.8nm,0.8s						
NVAR	**Mina Array Bea**	**32.52**	**322**	P	**P**	**00 44 18.5**	**+1.7**
	comp=Z,3.3nm,0.7s,baz=139,slow=8.7,SNR=20						
NVAR				LR	LR	00 59 20.3	
	comp=Z,104nm,21.3s,baz=166,slow=40						
NVAR	**Mina Array Bea**	**32.52**	**322**	P	**P**	**00 44 18.9**	**+2.1**
LHV	**Little Huntoon**	**32.53**	**322**	P	**P**	**00 44 19.1**	**+2.5**
LHV				IAmb	IAmb	00 44 30.6	
	comp=Z,5.9nm,1.2s						
REDW	**Red Top Meadow**	**32.55**	**336**	P	**P**	**00 44 18.1**	**+1.0**
REDW				IAmb	IAmb	00 44 26.6	
	comp=Z,8.0nm,1.1s						
SNOW	**Snow King Moun**	**32.60**	**336**	P	**P**	**00 44 18.6**	**+1.1**
LOHW	**Long Hollow**	**32.66**	**337**	P	**P**	**00 44 19.3**	**+1.3**
LOHW				IAmb	IAmb	00 44 20.6	
	comp=Z,5.9nm,0.9s						
KVN	**Kaiserville**	**32.81**	**323**	P	**P**	**00 44 20.9**	**+1.5**
H17A	**Grant Village**	**33.32**	**337**	P	**P**	**00 44 25.6**	**+1.8**
H17A				IAmb	IAmb	00 44 34.3	
	comp=Z,6.3nm,1.4s						
YMP	**Mirror Lake Pl**	**33.47**	**338**	P	**P**	**00 44 25.0**	**-0.1**
RLMT	**Red Lodge**	**33.49**	**340**	P	**P**	**00 44 25.6**	**+0.4**
RLMT				IAmb	IAmb	00 44 30.3	
	comp=Z,8.3nm,1.4s						
YUF	**Upper Falls**	**33.57**	**338**	P	**P**	**00 44 26.4**	**+0.4**
YNE	**Yellowstone No**	**33.64**	**339**	P	**P**	**00 44 28.1**	**+1.5**
YNE				IAmb	IAmb	00 44 30.4	
	comp=Z,5.2nm,1.1s						
YMR	**Madison River**	**33.70**	**337**	P	**P**	**00 44 28.2**	**+1.2**
YMR				IAmb	IAmb	00 44 30.1	
	comp=Z,4.4nm,0.9s						
YHH	**Holmes Hill**	**33.76**	**338**	P	**P**	**00 44 27.8**	**+0.2**
YHL	**Hebgen Lake**	**33.94**	**337**	P	**P**	**00 44 30.7**	**+1.5**
YHL				IAmb	IAmb	00 44 42.5	
	comp=Z,8.8nm,1.4s						
PAHR	**Pah Rah Range**	**33.99**	**323**	P	**P**	**00 44 30.5**	**+0.9**
PAHR				IAmb	IAmb	00 44 45.8	
	comp=Z,5.3nm,1.5s						
QLMT	**Earthquake Lak**	**34.01**	**337**	P	**P**	**00 44 30.8**	**+1.0**
HLID	**Hailey**	**34.21**	**333**	P	**P**	**00 44 32.4**	**+0.9**
HLID				IAmb	IAmb	00 44 34.5	
	comp=Z,3.6nm,0.8s						
BCYI	**Bear Canyon**	**34.37**	**334**	P	**P**	**00 44 33.6**	**+0.7**
MCMT	**McKenzie Canyo**	**34.57**	**335**	P	**P**	**00 44 36.3**	**+1.7**
BEKR	**Beckworth**	**34.67**	**322**	P	**P**	**00 44 37.0**	**+1.5**
DLMT	**Dillon**	**34.91**	**336**	P	**P**	**00 44 38.1**	**+0.7**
DLMT				IAmb	IAmb	00 44 40.1	
	comp=Z,5.8nm,0.9s						
WVOR	**Wild Horse Val**	**35.43**	**327**	P	**P**	**00 44 42.8**	**+0.9**
WVOR				IAmb	IAmb	00 44 44.7	
	comp=Z,4.0nm,0.9s						
HRY	**Holter Researc**	**35.76**	**338**	P	**P**	**00 44 45.5**	**+0.8**
ULM	**Lac du Bonnet**	**35.88**	**357**	P	**P**	**00 44 43.6**	**-1.9**
	comp=Z,1.0nm,0.4s,baz=188,slow=11,SNR=4.0						
MOD	**Modoc Plateau**	**35.97**	**325**	P	**P**	**00 44 47.7**	**+1.1**
MOD				IAmb	IAmb	00 44 49.0	
	comp=Z,2.8nm,0.8s						
J08A	**Circle Bar Ran**	**36.00**	**328**	P	**P**	**00 44 48.5**	**+1.7**
EGMT	**Eagleton**	**36.21**	**341**	P	**P**	**00 44 49.8**	**+1.3**
PTGA	**Pitinga**	**36.40**	**111**	P	**P**	**00 44 50.1**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=304,slow=11,SNR=7.2						
BMO	**Blue Mountains**	**36.53**	**331**	P	**P**	**00 44 52.0**	**+0.7**
MSO	**Missoula**	**36.65**	**336**	P	**P**	**00 44 53.4**	**+1.1**
MSO				IAmb	IAmb	00 44 54.8	
	comp=Z,3.7nm,0.9s						
F10A	**Beach Ranch, E**	**37.35**	**332**	P	**P**	**00 44 58.7**	**+0.5**
JTMT	**Jette**	**37.54**	**337**	P	**P**	**00 45 00.7**	**+0.8**
JTMT				IAmb	IAmb	00 45 01.9	
	comp=Z,4.3nm,0.8s						
H04A	**Detroit Lake**	**38.85**	**327**	P	**P**	**00 45 12.0**	**+1.2**
C09A	**Chrisman Ranch**	**39.21**	**333**	P	**P**	**00 45 14.8**	**+1.1**
C09A				IAmb	IAmb	00 45 15.8	
	comp=Z,3.5nm,0.6s						
LPAZ	**La Paz**	**39.41**	**140**	LR	LR	00 59 59.7	
	comp=Z,74nm,19.4s,baz=205,slow=34						
LON	**Longmire**	**40.07**	**330**	P	**P**	**00 45 22.1**	**+1.1**
SIV	**San Ignacio**	**43.97**	**132**	P	**P**	**00 45 52.8**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=303,slow=8.0,SNR=3.1						
AC05	**El Transito**	**48.42**	**152**	P	P	00 46 24.9	-3.2
YKA	**Yellowknife Ar**	**50.39**	**347**	P	**P**	**00 46 42.7**	**+0.2**
	comp=Z,8.2nm,0.7s,baz=150,slow=7.7,SNR=108						
YKA				PcP	**PcP**	**00 48 00.5**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=148,slow=4.0,SNR=4.3						
SIT	**Sitka**	**53.09**	**333**	P	**P**	**00 47 03.8**	**+1.0**
BO02	**Sierra Bellavi**	**53.40**	**157**	P	**P**	**00 47 04.1**	**-1.3**
BDFB	**Brasilia**	**53.92**	**122**	P	**P**	**00 47 11.4**	**+1.8**
	comp=Z,2.9nm,0.7s,baz=287,slow=6.2,SNR=4.8						
BDFB	**Brasilia**	**53.92**	**122**	P	**P**	**00 47 06.6**	**-3.0**
TABL	**Table Mountain**	**57.50**	**334**	P	**P**	**00 47 34.5**	**-0.3**
CTGM	**Chitina Glacie**	**57.86**	**335**	P	**P**	**00 47 38.9**	**+1.6**
ILAR	**Eielson Array**	**61.98**	**337**	P	**P**	**00 48 05.8**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=138,slow=4.6,SNR=16						
ILAR	**Eielson Array**	**61.98**	**337**	P	**P**	**00 48 05.5**	**+0.2**
RND	**Reindeer**	**62.13**	**335**	P	**P**	**00 48 07.1**	**+0.7**
SUA	**Susitna One**	**62.13**	**333**	P	**P**	**00 48 07.1**	**+0.6**
CCB	**Clear Creek Bu**	**62.27**	**337**	P	**P**	**00 48 06.7**	**-0.4**
CCB				IAmb	IAmb	00 48 17.9	
	comp=Z,3.4nm,1.2s						
TRF	**Thorofare Moun**	**62.73**	**335**	P	**P**	**00 48 11.2**	**+0.7**
KTH	**Kantishna Hill**	**63.03**	**335**	P	**P**	**00 48 12.9**	**+0.5**
I23K	**Minto, Yukon-K**	**63.09**	**337**	P	**P**	**00 48 13.2**	**+0.6**
I23K				IAmb	IAmb	00 48 14.6	
	comp=Z,3.6nm,0.9s						
ESDC	**Sonseca Array**	**80.65**	**51**	P	**P**	**00 49 56.9**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=287,slow=5.6,SNR=4.7						
NOA	**NORSAR Array B**	**84.55**	**28**	P	**P**	**00 50 18.0**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=292,slow=4.8,SNR=3.7						
NOA				LR	LR	01 26 28.8	
	comp=Z,102nm,19.4s,baz=290,slow=35						
KOWA	**Kowa**	**86.00**	**76**	P	**P**	**00 50 25.6**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=271,slow=8.8,SNR=8.1						
ARCES	**ARCESS Array B**	**86.28**	**18**	P	**P**	**00 50 26.1**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=298,slow=4.0,SNR=5.6						
MKAR	**Makanchi Array**	**119.05**	**3**	PKP	**PKPdf**	**00 56 33.1**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=289,slow=2.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**145.20**	**339**	PKPbc	**PKPbc**	**00 57 23.8**	**+0.3**
	comp=Z,3.9nm,0.6s,baz=342,slow=3.4,SNR=19						

*NEIC **06** 00:39:31.2±1.4, 0.°5S±0.°1×91.°7E±0.°1, h10km±2km, mb4.8/7, Error ellipse: s-maj=23.2km s-min=17.8km az=159.0*
*IDC **06** 00:39:33.0±2.0, 0.°18S×91.°84E, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.6/47, mbtmp3.9/7, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/41, Error ellipse: s-maj=49.6km s-min=25.5km az=48.0*
ISC 06 00:39:33.2±1.3, **0.°4S**±0.°2×**91.°9E**±0.°1, **h10**km, **n22**, σ**1.§64**/21, **mb4.1**/8, **South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.96**	**73**		**Pn**	**00 41 01.8**	**+0.2**

LHMI	Lhok Sumawe	7.56	42		Pn	00 41 23.2	-0.3
RPSI	Rantau Prapat	7.70	66		Pn	00 41 25.5	-0.1
RPSI	Rantau Prapat	7.70	66	Pn	Pn	00 41 25.4	-0.1
PSI	Prapat	7.75	66	Pn	Pn	00 41 25.5	-0.8
	1.2nm,0.3s,baz=180,slow=13,SNR=3.0						
PSI				LR	LR	00 43 59.5	
	comp=Z,68nm,20.2s,baz=90,slow=35						
IPM	Ipoh	10.36	62	Pn	Pn	00 42 01.7	-0.3
KULM	Kulim	10.44	57	Pn	Pn	00 42 02.5	-0.6
PALK	Pallekele	13.49	305	Pn	Pn	00 42 45.0	+0.1
	0.7nm,0.3s,baz=225,slow=10.0,SNR=1.9						
PALK				Sn	Sn	00 45 03.2	-12
	1.4nm,0.3s,baz=137,slow=13,SNR=5.6						
CMAR	Chiang Mai Arr	19.99	20	P	P	00 44 06.2	+0.1
	baz=212,slow=12,SNR=9.7						
CHTO	Chiang Mai	20.32	20	P	P	00 44 08.6	-1.1
JAGI	Jajag, Banyuwa	23.61	110	P	P	00 44 43.7	-1.0
JAGI				IAmb	IAmb	00 44 46.5	
	comp=Z,37nm,0.7s						
SHL	Shillong	25.82	0		S	00 49 40.5	+5.8
SZP	Santa	33.33	56	P	P	00 46 11.5	-0.1
WRA	Warramunga Arr	45.88	118	P	P	00 47 58.5	+2.3
	comp=Z,2.9nm,0.8s,baz=294,slow=8.5,SNR=16						
MKAR	Makanchi Array	47.74	351	P	P	00 48 09.9	-0.6
	comp=Z,0.4nm,0.6s,baz=173,slow=8.2,SNR=6.0						
MKAR	Makanchi Array	47.74	351	P	P	00 48 09.2	-1.3
SONM	Songino Array	49.68	13	P	P	00 48 25.1	-0.4
	comp=Z,0.7nm,0.6s,baz=193,slow=8.5,SNR=5.1						
SONM	Songino Array	49.68	13	P	P	00 48 24.6	-0.9
ATD	Arta Tunnel	50.10	285	P	P	00 48 26.2	-2.9
ATD				IAmb	IAmb	00 48 28.0	
	comp=Z,9.3nm,1.0s						
ZAA0	Zalesovo Array	54.48	355	P	P	00 48 59.5	-1.3
ZAA0				IAmb	IAmb	00 49 16.2	
	comp=Z,1.2nm,0.9s						
ZALV	Zalesovo Beam	54.48	355	P	P	00 48 59.8	-1.1
	comp=Z,0.4nm,0.5s,baz=184,slow=8.2,SNR=2.1						
JEW	Eniwo	61.83	39	P	P	00 49 52.1	-0.5
JEW				IAmb	IAmb	00 50 09.7	
	comp=Z,22nm,1.0s						

*IDC **06** 00:46:33.0±1.9,2°.42S×134°.69E,h0km,mb4.0/2, mb1 4.2/5,mb1mx3.7/31,mbtmp4.0/5,ML3.9/3,Error ellipse: s-maj=39.7km s-min=20.3km az=57.0*
*NEIC **06** 00:46:36.0±2.1,2°.5S±0°.1×134°.64E±0°.09,h30km±9km, mb4.1/6,Error ellipse: s-maj=16.6km s-min=12.9km az=197.0*
ISC 06 00:46:37.3±1.2,**2°.6S**±0°.1×**134°.5E**±0°.1,**h30**km,**n18**, σ**2s.23**/20,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.30	262		Pn	00 47 14.3	+1.1
SIJI	Sorong	3.70	298	Pn	Pn	00 47 30.8	-1.7
	7.5nm,0.3s,baz=186,slow=22,SNR=34						
SIJI				Sn	Sn	00 48 13.9	-1.2
	22nm,0.3s,baz=315,slow=22,SNR=10						
SIJI				Lg	Lg	00 48 31.9	
	5.0nm,0.3s,baz=0.0,slow=20,SNR=1.7						
MTN	Manton Dam	10.70	198		Pn	00 49 13.1	+4.5
LUWI	Luwuk	11.86	277	Pn	Pn	00 49 24.5	0.0
COEN	Coen	14.14	143	Pn	Pn	00 49 55.3	-0.3
TOLI2	Tolitoli	14.24	285	Pn	Pn	00 49 56.0	-1.0
WB0	Warramunga Arr	17.04	180		P	00 50 35.7	+0.6
WB0				IAmb	IAmb	00 51 31.3	
	comp=Z,26nm,1.9s						
WB2	Warramunga Arr	17.22	181	P	Pn	00 50 36.9	+1.2
WRA	Warramunga Arr	17.22	181	P	Pn	00 50 36.8	+1.0
	comp=Z,0.4nm,0.3s,baz=3.4,slow=12,SNR=26						
WRA				S	Sn	00 53 40.3	-6.3
	comp=Z,0.1nm,0.3s,baz=7.4,slow=24,SNR=3.9						
WR0	Warramunga Arr	17.23	180	P	Pn	00 50 36.8	+0.9
WR0				IAmb	IAmb	00 51 21.2	
	comp=Z,25nm,1.9s						
FITZ	Fitzroy Crossi	17.68	209	P	Pn	00 50 42.4	+0.9
	comp=Z,0.3nm,0.3s,baz=41,slow=9.7,SNR=7.1						
FITZ				S	Sn	00 53 49.3	-8.4
	comp=Z,0.1nm,0.3s,baz=204,slow=17,SNR=2.1						
AS31	Alice Springs	20.93	182	P	P	00 51 19.8	+2.1
AS31				IAmb	IAmb	00 51 23.6	
	comp=Z,3.0nm,0.7s						
ASAR	Alice Springs	20.93	182	P	P	00 51 20.4	+2.7
	comp=Z,11nm,0.8s,baz=7.3,slow=12,SNR=61						
ASAR	Alice Springs	20.93	182	P	P	00 51 19.1	+1.4
EIDS	Eidsvold	27.67	146	P	P	00 52 22.2	-0.6
FORT	Forrest	28.67	192	P	P	00 52 31.0	-0.6
FORT				IAmb	IAmb	00 52 42.9	
	comp=Z,16nm,0.9s						
MKAR	Makanchi Array	67.21	324	P	P	00 57 29.3	+0.5
	comp=Z,0.4nm,0.4s,baz=109,slow=7.9,SNR=12						
MKAR	Makanchi Array	67.21	324	P	P	00 57 29.0	+0.2

*IDC **06** 01:07:02.5±2.2,32°.91S×178°.19W,h0km,mb4.1/3, mb1 4.3/4,mb1mx3.9/32,mbtmp4.1/4,ML3.8/1,MS3.2/2, Ms1 3.2/2,ms1mx2.7/34,Error ellipse: s-maj=54.2km s-min=34.4km az=126.0*
ISC 06 01:07:06.0±2.5,**33°.0S**±0°.2×**178°.0W**±0°.4,**h34**km,**n8**, σ**0s.78**/7,**mb4.3**/3,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.64	216	Pn	Pn	01 08 41.4	+0.3
	1.8nm,0.3s,baz=236,slow=3.4,SNR=9.6						
URZ				Sn	Sn	01 09 55.3	-0.3
	2.0nm,0.3s,baz=49,slow=21,SNR=1.5						
DZM	Mont Dzumac	17.55	304	LR	LR	01 17 02.2	
	comp=Z,146nm,18.3s,baz=64,slow=34						
CTA	Charters Tower	34.31	283	P	P	01 13 50.3	+0.8
	2.2nm,0.5s,baz=112,slow=10,SNR=7.1						
ASAR	Alice Springs	43.06	270	P	P	01 15 02.2	-0.6
	0.7nm,0.5s,baz=108,slow=8.6,SNR=14						
WRA	Warramunga Arr	44.28	275	P	P	01 15 11.9	-0.7
	3.1nm,0.5s,baz=116,slow=7.5,SNR=16						
JCJ	Chichijima	70.72	323	LR	LR	01 46 50.7	
	comp=Z,10.0nm,20.5s,baz=312,slow=34						
FINES	FINESS Array B	147.54	339	PKPbc	PKPab	01 26 47.3	-0.7
	1.8nm,0.6s,baz=51,slow=4.1,SNR=12						
BRTR	Keskin Array B	153.75	294	PKPbc	PKiKP	01 27 02.2	+0.6
	0.5nm,0.5s,baz=103,slow=2.1,SNR=4.4						

IDC 06 01:11:12.7±2.8,**6°.63S**×**129°.94E**,**h79**km±38km,**mb3.2**/1, **mb1 3.9**/5,**mb1mx3.4**/32,**mbtmp4.0**/5,**Error ellipse: s-maj=64.6km s-min=22.7km az=91.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.87	13	P	Pn	01 12 36.5	-0.7
	2.1nm,0.3s,baz=246,slow=20,SNR=20						
SIJI				S	Sn	01 13 34.8	-8.5
	4.3nm,0.3s,baz=173,slow=23,SNR=5.6						
FITZ	Fitzroy Crossi	12.15	200	P	Pn	01 14 04.2	+1.4
	0.4nm,0.3s,baz=25,slow=12,SNR=26						
FITZ				S	Sn	01 16 10.1	-6.4
	1.0nm,0.3s,baz=29,slow=21,SNR=10						
WRA	Warramunga Arr	13.91	163	P	Pn	01 14 24.7	-1.6
	1.2nm,0.3s,baz=339,slow=14,SNR=32						
WRA				S	Sn	01 16 51.1	-8.1
	0.6nm,0.3s,baz=336,slow=21,SNR=7.1						
ASAR	Alice Springs	17.36	168	P	Pn	01 15 09.4	-0.6
	0.2nm,0.3s,baz=354,slow=9.7,SNR=13						
ASAR				S	Sn	01 18 12.8	-10
	0.1nm,0.3s,baz=355,slow=27,SNR=5.4						
MKAR	Makanchi Array	67.89	327	P	P	01 22 03.1	+0.3
	0.4nm,0.7s,baz=115,slow=8.1,SNR=5.0						

*NORS **06** 01:15:55.2±0.0,43°.25N×43°.64E,h6km,MPVA3.7*
*TIF **06** 01:15:56.8,43°.26N×43°.74E,h4km±2km*
*MOS **06** 01:15:57.2±0.0,43°.27N×43°.66E,h3km,MPVA3.6*
ISC 06 01:15:57.2±1.0,**43°.28N**±0°.02×**43°.68E**±0°.02,**h3**km±9km, **n42**,σ**1s.07**/86,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNR	Lesken	0.10	91	ePg	Pg	01 15 58.8	-0.5
LSNR				eSg	Sg	01 16 00.8	+0.1
NCK	Nalchik	0.23	344	iPg	Pg	01 16 02.0	+0.5
NCK				eSg	Sg	01 16 05.0	+0.5
STDR	Stavd-Durt	0.29	72	iPg	Pg	01 16 02.9	0.0
STDR				eSg	Sg	01 16 07.6	+1.0
DIGR	Digorskoe uzhe	0.39	191	iPg	Pg	01 16 04.9	+0.2
DIGR				eSg	Sb	01 16 10.8	-2.5
ARNR	Ardon	0.45	103	ePg	Pb	01 16 06.8	-1.0
ARNR				eSg	Sg	01 16 12.6	+0.9
ZEI	Tsey	0.52	162	ePg	Pg	01 16 07.2	0.0
ZEI				eSg	Sg	01 16 14.4	+0.6
LACR	Lac	0.64	135	iPg	Pg	01 16 09.5	0.0
LACR				eSg	Sg	01 16 18.4	+0.7
PRTR	Priterechnaya	0.64	43	ePg	Pb	01 16 11.0	-0.1
PRTR				eSg	Sb	01 16 20.5	0.0
NEY	Neytrino	0.70	268	iPg	Pg	01 16 10.7	0.0
NEY				eSg	Sb	01 16 20.4	-2.0
ONI	Oni	0.71	194	P	Pb	01 16 11.4	-0.9
ONI				S	Sb	01 16 21.9	-0.5
KBZ	Khabaz	0.73	308	iPg	Pg	01 16 10.3	-0.9
KBZ				eSg	Sg	01 16 20.8	+0.3
VLKR	Vladikavkaz	0.76	107	ePg	Pg	01 16 11.9	+0.1
VLKR				ePg	Pb	01 16 12.8	-0.4
VLKR				eSg	Sg	01 16 22.4	+0.6
VLKR				eSg	Sn	01 16 25.8	-1.3
SHA1	Shidzhatmaz	0.88	302	iPg	Pg	01 16 13.5	-0.5
SHA1				eSg	Sb	01 16 26.5	-0.9
TRKR	Terskaya	0.88	60	ePg	Pb	01 16 15.1	-0.2
TRKR				eSg	Sb	01 16 27.8	+0.4
PYA1	Pyatigorsk	0.89	332	ePg	Pg	01 16 14.1	-0.2
PYA1				eSg	Sb	01 16 27.5	-0.2
KMGR	Komgaron	0.89	104	ePg	Pb	01 16 14.7	-0.8
KMGR				eSg	Sb	01 16 27.4	-0.4
PNSH	Pansheti	0.94	133	P	Pg	01 16 14.8	-0.5
PNSH				S	Sg	01 16 27.1	-0.4
BEYR	Belyy Ugol+	0.96	320	ePg	Pg	01 16 15.6	-0.1
BEYR				eSg	Sb	01 16 29.5	-0.3
KIV	Kislovodsk	0.99	313	iPg	Pg	01 16 15.9	-0.3
KIV				eSg	Sg	01 16 29.2	+0.1
GUDG	Gudauri	1.00	144	P	Pb	01 16 16.9	-0.5
GUDG				S	Sb	01 16 30.1	-1.0
CHVG	Ch'k'valeri	1.30	245	P	Pn	01 16 22.8	+0.4
CHVG				S	Sn	01 16 42.6	+2.4
DOMR	Dombai	1.50	271	ePg	Pb	01 16 25.0	-0.9
DOMR				eSg	Sg	01 16 45.8	+0.3
BKRG	Bakuriani	1.52	185	P	Pg	01 16 26.6	+0.1
BKRG				S	Sg	01 16 47.9	+1.7
GROC	Groznyy	1.55	92	ePg	Pb	01 16 26.4	-0.1
GROC				eSg	Sg	01 16 48.0	+1.1
ABS	Abastumani	1.65	203	P	Pg	01 16 28.3	-0.6
ABS				S	Sg	01 16 54.4	+4.0
BRNG	Burnasheti	1.66	176	P	Pg	01 16 29.2	+0.2
BRNG				S	Sg	01 16 53.2	+2.7
TRLG	Trialeti	1.77	170	P	Pg	01 16 31.0	-0.1
TRLG				S	Sg	01 16 55.4	+1.4
ARXR	Arkhyz	1.78	280	ePg	Pb	01 16 29.9	-0.6
ARXR				eSg	Sg	01 16 53.6	-0.7
BTNK	Botanikuri	1.80	152	P	Pb	01 16 30.2	-0.6
BTNK				S	Sg	01 16 55.8	+0.9
DVE	Vedeno	1.82	99	ePg	Pb	01 16 30.4	-0.8
DVE				eSg	Sg	01 16 55.3	-0.3
GOF	Gofitskoye	1.84	346	ePg	Pb	01 16 31.1	-0.3
GOF				eSg	Sb	01 16 54.6	-0.3
AKH	Akhalkalaki	1.87	184	P	Pg	01 16 32.9	-0.2
AKH				S	Sg	01 16 58.9	+1.5
BTLR	Botlikh	1.96	107	ePg	Pb	01 16 32.8	-0.9
BTLR				eSg	Sb	01 16 58.8	+0.2
DMNI	Dmanisi	1.98	169	P	Pg	01 16 34.1	-1.2
DMNI				S	Sg	01 17 00.5	-0.5
BGD	Bogdanovka	2.02	182	P	Pg	01 16 35.2	-0.6
BGD				S	Sg	01 17 03.2	+1.3
AHMR	Akhmetovskaya	2.10	296	ePg	Pb	01 16 36.1	0.0
AHMR				eSg	Sb	01 17 00.8	-1.8
LGD	Lagodekhi	2.38	126	P	Pb	01 16 38.9	-1.8
LGD				S	Sg	01 17 13.9	+0.3
ARKR	Arakani	2.52	104	ePn	Pn	01 16 40.5	+1.3
ARKR				eSn	Sb	01 17 13.1	-1.6
BUJR	Buynaksk	2.55	99	ePn	Pb	01 16 42.9	-0.7
BUJR				eSn	Sn	01 17 10.8	-0.4
DDFL	Dedoflistskaro	2.57	135	P	Pg	01 16 44.8	-1.7
DDFL				S	Sg	01 17 22.6	+2.7
GNBR	Gunib	2.57	109	ePn	Pn	01 16 40.2	+0.3
GNBR				eSn	Sn	01 17 13.4	+1.7
GUZR	Guzeripl'	2.69	287	ePn	Pn	01 16 41.6	+0.2
GUZR				eSn	Sn	01 17 15.1	+0.6

IDC 06 03:02:58.5±3.8,**4°.80S**×**152°.91E**,**h0**km,**mb3.7**/2, **mb1 4.0**/2,**mb1mx3.4**/47,**mbtmp3.7**/2,**MS3.4**/1,**Ms1 3.4**/1, **ms1mx2.5**/42,**Error ellipse: s-maj=163.3km s-min=51.3km az=121.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.52	229	P	P	03 08 09.9	-0.6
	1.1nm,0.4s,baz=54,slow=9.7,SNR=22						
ASAR	Alice Springs	26.22	223	P	P	03 08 35.8	+0.4
	0.5nm,0.3s,baz=55,slow=9.4,SNR=12						
ASAJ	Asahikawa	49.57	350	LR	LR	03 34 32.4	
	comp=Z,40nm,18.6s,baz=146,slow=38						
TORD	Torodi Ar. Bea	150.41	288	PKPbc	PKPbc	03 22 52.9	-0.2
	0.6nm,0.4s,baz=72,slow=2.3,SNR=2.0						

*IDC **06** 03:06:44.3±1.3,10°.88S×120°.70E,h0km,mb4.0/4, mb1 4.2/8,mb1mx3.9/42,mbtmp4.1/8,ML3.9/4,MS3.4/1, Ms1 3.4/1,ms1mx2.5/48,Error ellipse: s-maj=49.0km s-min=19.4km az=51.0*
*DJA **06** 03:06:51.4±0.9,11°S±8°×12°1E±°,h19km±6km,M4.1/7, mb4.2/1,MLv4.0/7*
*NEIC **06** 03:06:52.4±1.4,10°.64S±0°.08×121°.01E±0°.10,h59km±3km, mb4.0/10,Error ellipse: s-maj=14.9km s-min=10.7km az=63.0*
ISC 06 03:06:51.0±0.9,**10°.69S**±0°.06×**121°.03E**±0°.05,**h46**km±12km, **n36**,σ**1s.85**/39,**mb4.1**/6,**Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	Baing, Sumba	0.64	316	P	Pn	03 07 04.3	+0.5
BASI				S	Sn	03 07 11.9	-1.1
WSI	Waingapu	1.24	325	P	Pn	03 07 11.9	0.0
WSI				S	Sn	03 07 27.9	+0.5
MMRI	Maumere	2.36	31	Pn	Pn	03 07 26.9	-0.4
MMRI	Maumere	2.36	31	P	Pn	03 07 26.9	-0.4
MMRI				S	Sn	03 07 54.0	-1.1
BATI	Baumata	2.64	80	Pn	Pn	03 07 33.1	+2.0
	97nm,0.3s,baz=291,slow=3.0,SNR=35						
BATI				Sn	Sn	03 08 03.6	+1.7
	30nm,0.3s,baz=355,slow=23,SNR=8.0						
BATI	Baumata	2.64	80	P	Pn	03 07 33.1	+2.0
BATI				S	Sn	03 08 04.0	+2.1
SOEI	Soe	3.32	74	Pn	Pn	03 07 42.2	+1.5
SOEI	Soe	3.32	74	P	Pn	03 07 42.1	+1.5
PLAI	Plampang	3.70	300	P	Pn	03 07 46.7	+1.1
TWSI	Taliwang, Sumb	4.52	295	P	Pn	03 07 57.7	+0.8
KAPI	Kappang	5.77	347	Pn	Pn	03 08 15.3	+1.1
	4.2nm,0.3s,baz=144,slow=13,SNR=6.4						
KAPI				LR	LR	03 10 54.5	
	comp=Z,308nm,19.9s,baz=194,slow=42						
KAPI	Kappang	5.77	347	Pn	Pn	03 08 15.5	+1.3
BNSI	Bone	6.31	352	P	Pn	03 08 37.7	+16
FITZ	Fitzroy Crossi	8.62	149	Pn	Pn	03 08 54.6	+1.5
KNRA	Kununurra	9.02	124	Pn	Pn	03 08 58.8	+0.1
UGM	Wanagama	10.72	284	Pn	Pn	03 09 22.6	+0.5
PSA00	Pilbara Seismi	10.88	186	Pn	Pn	03 09 25.5	+1.3
SBUM	Sibu	15.72	326		P	03 10 32.8	0.0
SBUM				IAmb	IAmb	03 10 35.7	
	comp=Z,12nm,0.8s						
WB0	Warramunga Arr	15.73	127	Pn	Pn	03 10 28.6	-1.0
WRA	Warramunga Arr	15.79	127	Pn	Pn	03 10 28.4	-1.9
	comp=Z,0.3nm,0.3s,baz=302,slow=13,SNR=8.4						
WRA				Sn	Sn	03 13 13.3	-11
	comp=Z,0.6nm,0.3s,baz=287,slow=20,SNR=8.1						
WR0	Warramunga Arr	15.96	127	Pn	Pn	03 10 30.8	-1.7
WR0				IAmb	IAmb	03 10 31.6	
	comp=Z,9.0nm,1.2s						
AS31	Alice Springs	17.81	138	P	P	03 10 56.2	+0.2
ASAR	Alice Springs	17.81	138	P	P	03 10 54.6	-1.4
	comp=Z,0.3nm,0.3s,baz=325,slow=13,SNR=55						
ASAR				S	Sn	03 14 05.1	-8.4
	comp=Z,0.3nm,0.3s,baz=317,slow=24,SNR=7.7						
ASAR	Alice Springs	17.81	138	P	Pn	03 10 57.1	+1.4
FORT	Forrest	21.04	163	P	P	03 11 33.1	+2.0
BBOO	Buckleboo	26.01	150	P	P	03 12 20.9	+1.1
STKA	Stephens Creek	28.39	141	P	P	03 12 42.0	+0.8
	comp=Z,2.3nm,0.8s,baz=301,slow=5.0,SNR=4.8						
STKA	Stephens Creek	28.39	141	IAmb	IAmb	03 13 16.0	
	comp=Z,6.9nm,1.9s						
SONM	Songino Array	59.69	349	P	P	03 16 51.0	+0.1
	comp=Z,0.8nm,0.6s,baz=167,slow=8.3,SNR=7.5						
SONM	Songino Array	59.69	349	IAmb	IAmb	03 16 51.5	
	comp=Z,0.9nm,0.7s						
MK31	Makanchi Array	66.86	332	P	P	03 17 38.0	-0.2
MK31				IAmb	IAmb	03 18 35.6	
	comp=Z,5.2nm,1.9s						
MKAR	Makanchi Array	66.86	332	P	P	03 17 38.9	+0.6
	comp=Z,0.8nm,0.6s,baz=147,slow=7.2,SNR=15						
MKAR	Makanchi Array	66.86	332	P	P	03 17 38.1	-0.2
ZAA0	Zalesovo Array	71.33	338	P	P	03 18 05.5	-0.2
ZAA0				IAmb	IAmb	03 18 07.3	
	comp=Z,2.4nm,0.9s						
ZALV	Zalesovo Beam	71.33	338	P	P	03 18 05.3	-0.4
	comp=Z,0.9nm,0.4s,baz=147,slow=5.1,SNR=6.0						
ZALV	Zalesovo Beam	71.33	338	P	P	03 18 05.1	-0.6

*IDC **06** 03:21:30.6±1.0,34°.66N×139°.18E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.5/59,mbtmp3.7/7,ML2.8/1,Error ellipse: s-maj=39.0km s-min=15.8km az=67.0*
*JMA **06** 03:21:31.9±0.1,34°.74N×139°.27E,h1km±2km,M3.1*
JMA Felt III J1.
ISC 06 03:21:32.1±1.0,**34°.74N**±0°.03×**139°.29E**±0°.05,**h10**km±7km, **n24**,σ**0s.71**/25,**mb3.7**/6,**3D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.12	99	P	Pg	03 21 34.7	-0.2
JTHY	Toshimahigashi	0.21	180	P	Pg	03 21 36.7	+0.2
KTJ3	Kamata3	0.27	318	⇓P	Pg	03 21 37.1	-0.4
KTJ3				eS	Sg	03 21 40.9	-0.2
JIZS	Izushimoda	0.34	267	⇓P	Pg	03 21 38.7	-0.1
JIZS				S	Sg	03 21 43.8	+0.5
JOD2	Odawara 2	0.55	343	⇓P	Pg	03 21 42.5	-0.3
JOD2				S	Sg	03 21 50.4	+0.3
JKO	Kozu shima	0.56	193	P	Pg	03 21 43.2	+0.2
JFNN	Fujinakano	0.67	313	P	Pg	03 21 45.1	0.0
JFNN				S	Sb	03 21 55.2	-0.2
JMKN	Mikurajimanish	0.88	163	P	Pg	03 21 49.1	+0.1
JMKN				S	Sb	03 22 01.1	-0.2
SHZ3	Shizuoka 3	0.94	291	P	Pg	03 21 49.9	-0.4
JHJ	Hachijo jima 2	1.67	166	Pn	Pn	03 22 01.2	-0.1
	48nm,0.3s,baz=279,slow=8.9,SNR=3.7						
JHJ				Sn	Sb	03 22 24.5	+0.6
	38nm,0.3s,baz=232,slow=19,SNR=2.0						
MJAR	Matsushiro Arr	2.00	334	Pn	Pn	03 22 07.1	+1.0
	3.3nm,0.3s,baz=164,slow=14,SNR=149						
MAT	Matsushiro	2.00	334	P	Pn	03 22 06.6	+0.5
MAT				S	Sn	03 22 32.5	+1.2
H11N2	WAKE ISLAND Hy	28.62	114	T	T	03 57 21.0	
	baz=308,slow=75,SNR=104						
H11N1	WAKE ISLAND Hy	28.62	114	T	T	03 57 23.1	
	baz=308,slow=75,SNR=53						
H11N3	WAKE ISLAND Hy	28.64	114	T	T	03 57 24.0	
	baz=308,slow=75,SNR=73						
H11S3	WAKE ISLAND Hy	29.22	117	T	T	03 58 07.1	
	baz=310,slow=76,SNR=22						
H11S1	WAKE ISLAND Hy	29.22	117	T	T	03 58 07.3	
	baz=310,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	29.24	117	T	T	03 58 08.4	
	baz=310,slow=76,SNR=27						
ZALV	Zalesovo Beam	42.23	314	P	P	03 29 24.8	-0.4
	0.4nm,0.4s,baz=104,slow=6.3,SNR=3.9						
MKAR	Makanchi Array	43.92	304	P	P	03 29 38.9	-0.1
	0.6nm,0.8s,baz=96,slow=8.9,SNR=6.5						
KURBB	Kurchatov Arra	46.09	310	P	P	03 29 55.8	-0.4
	1.1nm,0.8s,baz=88,slow=8.2,SNR=5.5						
WRA	Warramunga Arr	54.58	186	P	P	03 30 58.3	-2.4
	1.0nm,0.9s,baz=0.9,slow=6.4,SNR=4.6						
ASAR	Alice Springs	58.31	186	P	P	03 31 27.6	+0.3
	0.6nm,0.8s,baz=15,slow=8.7,SNR=5.4						
NVAR	Mina Array Bea	77.75	52	P	P	03 33 30.3	+0.5
	0.5nm,0.7s,baz=297,slow=5.3,SNR=5.2						

*IDC **06** 03:26:51.9±3.7,4°.62N×127°.74E,h103km±39km,mb3.7/6, mb1 3.8/7,mb1mx3.4/58,mbtmp4.1/7,MS3.6/3,Ms1 3.6/3, ms1mx2.8/49,Error ellipse: s-maj=73.0km s-min=16.2km az=69.0*
ISC 06 03:26:52.1±1.1,**4°.6N**±0°.2×**127°.7E**±0°.4,**h100**km,**n10**, σ**1s.15**/10,**mb4.0**/6,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.47	147	P	Pn	03 28 25.8	+0.9
	3.1nm,0.3s,baz=259,slow=23,SNR=18						
SIJI				S	Sn	03 29 36.9	-0.4
	3.7nm,0.3s,baz=199,slow=23,SNR=8.5						
KAPI	Kappang	12.43	220	LR	LR	03 34 54.3	
	comp=Z,40nm,20.7s,baz=173,slow=39						
FITZ	Fitzroy Crossi	22.64	185	P	P	03 31 45.2	+0.3
	1.7nm,0.5s,baz=13,slow=9.6,SNR=9.5						
WRA	Warramunga Arr	25.23	165	P	P	03 32 08.3	-0.6
	1.4nm,0.3s,baz=342,slow=11,SNR=36						
ASAR	Alice Springs	28.72	168	P	P	03 32 40.0	-0.2
	0.7nm,0.5s,baz=356,slow=8.3,SNR=12						
ASAR				PcP	PcP	03 35 47.2	-1.1
	0.3nm,0.4s,baz=352,slow=2.7,SNR=4.8						
STKA	Stephens Creek	38.59	161	P	P	03 34 05.3	-0.2
	1.0nm,0.4s,baz=340,slow=8.1,SNR=6.1						
MKAR	Makanchi Array	57.43	324	P	P	03 36 29.9	-0.6
	0.9nm,0.4s,baz=113,slow=8.1,SNR=23						
MKAR				pP	pP	03 36 55.7	+2.3
	0.9nm,0.6s,baz=118,slow=8.1,SNR=5.6						
KURBB	Kurchatov Arra	61.57	327	P	P	03 36 57.8	-1.0
	1.5nm,0.5s,baz=126,slow=6.5,SNR=18						
ATD	Arta Tunnel	84.10	281	LR	LR	04 14 14.8	
	comp=Z,28nm,20.2s,baz=72,slow=34						
FINES	FINESS Array B	91.55	332	LR	LR	04 27 34.0	
	comp=Z,210nm,21.4s,baz=256,slow=40						

*ISK **06** 03:45:02.9,36°.99N×27°.28E,h13km,ML3.3/19*
*DDA **06** 03:45:03.7,36°.96N×27°.25E,h6km±1km,ML3.5*
*ATH **06** 03:45:04.0,36°.93N×27°.18E,h32km±3km,ML3.2/6,Error ellipse: s-maj=3.7km s-min=1.2km az=216.0*
*THE **06** 03:45:04.0,36°.97N×27°.27E,h3km±2km,ML3.3/5,Error ellipse: s-maj=2.5km s-min=0.9km az=11.0*
ISC 06 03:45:03.7±0.8,**36°.97N**±0°.02×**27°.27E**±0°.02,**h11**km±5km, **n63**,σ**0s.56**/86,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	Bodrum	0.09	20	P	Pg	03 45 05.9	-0.4
BODT				S	Sg	03 45 08.8	+0.6
BODT	Bodrum	0.09	20	PG	Pg	03 45 05.9	-0.4
BODT				SG	Sg	03 45 07.9	-0.3
BDRM	Kayabasi	0.17	57	iP	Pg	03 45 07.7	+0.3
BDRM				iP	Pg	03 45 07.8	+0.3
BDRM				IAML		03 45 10.0	
	comp=N,25μm,0.4s						
BDRM				IAML		03 45 10.0	
	comp=E,10μm,0.3s						
BDRM				iS	Sg	03 45 10.4	+0.5
BDRM				iS	Sg	03 45 10.4	+0.5
BDRM				IAML		03 45 12.0	
	comp=E,10μm,0.3s						
KOSK	Kos Island	0.32	227	P	Pg	03 45 10.6	+0.5
KOSK				S	Sg	03 45 15.4	+0.9
	comp=E,7μm,0.4s						
KOSK	Kos Island	0.32	227	PG	Pg	03 45 10.6	+0.5
KOSK				SG	Sg	03 45 15.4	+0.9
NISR	Nisiros	0.38	198	P	Pg	03 45 11.6	+0.4
NISR				S	Sb	03 45 17.3	-1.0
NISR				AML	AML	03 45 17.6	
	comp=N,15824μm,0.2s						
NISR				AML	AML	03 45 17.6	
	comp=E,44242μm,0.2s						
NISR	Nisiros	0.38	198	P	Pg	03 45 11.5	+0.4
NISR				S	Sb	03 45 17.3	-1.0
	comp=E,15μm,0.2s						
DDIM	Aydin, Didim	0.48	357	iP	Pg	03 45 13.5	+0.4
DDIM				iS	Sb	03 45 21.1	-0.2
DDIM				IAML		03 45 22.0	
	comp=N,4μm,0.2s						
DDIM				IAML		03 45 22.0	
	comp=E,3μm,0.5s						
GCAM	G?zelcaml?	0.72	358	PG	Pg	03 45 17.9	+0.2
GCAM	G?zelcaml?	0.72	358	iP	Pg	03 45 17.9	+0.2
GCAM				iS	Sb	03 45 29.0	+0.7
GCAM				IAML		03 45 31.0	
	comp=N,2μm,0.5s						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MRSB	Marmaris-Mugla	0.79	109	PG	Pg	03 45 18.6	-0.3
TURN	Turunc	0.81	104	PG	Pg	03 45 18.9	-0.3
TURN	Turunc	0.81	104	iP	Pg	03 45 18.7	-0.6
TURN				iS	Sb	03 45 31.2	+0.6
TURN				IAML		03 45 34.0	
	comp=E,1µm,0.2s						
SMG	Samos	0.81	335	P	Pg	03 45 19.5	+0.1
SMG				S	Sg	03 45 30.1	+0.2
SMG				AML	AML	03 45 34.9	
	comp=N,9292µm,0.2s						
SMG				AML	AML	03 45 35.4	
	comp=E,11128µm,0.4s						
SMG	Samos	0.81	335	P	Pg	03 45 19.4	+0.1
SMG				S	Sb	03 45 31.7	+0.9
	comp=E,5µm,0.3s						
YER	Yerkesik	0.82	78	P	Pg	03 45 19.5	-0.1
YER				S	Sb	03 45 31.6	+0.3
YER	Yerkesik	0.82	78	PG	Pg	03 45 19.6	-0.1
MULA	Mugla, Merkez-	0.89	71	iP	Pg	03 45 20.5	-0.3
ARG	Arkhangelos	1.02	137	P	Pb	03 45 23.1	-0.3
ARG				S	Sg	03 45 37.5	+0.8
ARG				AML	AML	03 45 42.0	
	comp=E,2066µm,0.2s						
ARG				AML	AML	03 45 46.9	
	comp=N,1974µm,1.0s						
ARG	Arkhangelos	1.02	137	P	Pb	03 45 23.1	-0.3
ARG	Arkhangelos	1.02	137	PG	Pb	03 45 23.2	-0.2
AYDB	Zeytinkoy-Aydi	1.09	27	PG	Pb	03 45 24.2	-0.4
DALY	Dalyan (Mula)	1.12	98	PN	Pb	03 45 24.6	-0.5
DALY	Dalyan (Mula)	1.12	98	iP	Pg	03 45 25.7	+0.5
DALY				iS	Sn	03 45 41.2	+0.5
APE	Apeiranthos	1.40	274	P	Pn	03 45 28.4	-0.7
APE				AML	AML	03 45 52.8	
	comp=E,929µm,0.4s						
APE				AML	AML	03 45 55.1	
	comp=N,1050µm,0.2s						
APE	Apeiranthos	1.40	274	P	Pn	03 45 28.6	-0.6
APE				S	Sn	03 45 46.5	-1.2
	comp=N,500nm,0.3s						
APE	Apeiranthos	1.40	274	PN	Pn	03 45 28.5	-0.7
TAVA	DENIZLI_Tavas	1.40	69	iP	Pg	03 45 31.3	+0.7
ZEYE	Izmir, Urla-Ze	1.40	334	iP	Pg	03 45 30.9	+0.3
BLCB	Balcova	1.42	353	P	Pn	03 45 28.7	-0.8
BLCB	Balcova	1.42	353	PN	Pn	03 45 28.9	-0.6
KARP	Karpathos	1.43	184	P	Pn	03 45 28.4	-1.2
KARP				AML	AML	03 45 50.4	
	comp=E,961µm,0.5s						
KARP				AML	AML	03 45 51.3	
	comp=N,612µm,0.4s						
KARP	Karpathos	1.43	184	P	Pn	03 45 28.4	-1.2
KARP				S	Sn	03 45 48.1	-0.3
	comp=N,395nm,0.4s						
KARP	Karpathos	1.43	184	PN	Pn	03 45 28.5	-1.2
URLA	Izmir	1.48	339	PN	Pn	03 45 29.7	-0.7
URLA	Izmir	1.48	339	iP	Pb	03 45 31.2	-0.1
FETY	Fethiye	1.49	103	P	Pn	03 45 30.9	+0.4
FETY				S	Sg	03 45 52.0	+0.3
FETY	Fethiye	1.49	103	PN	Pn	03 45 30.8	+0.3
FETY	Fethiye	1.49	103	iP	Pb	03 45 31.6	+0.1
FETY				iS	Sg	03 45 52.6	+0.9
THR8	Santorini-Mono	1.55	249	P	Pb	03 45 32.4	0.0
THR2	Thira island,	1.57	251	P	Pn	03 45 31.5	0.0
THR7	Fira-Santorini	1.58	250	P	Pb	03 45 32.8	-0.1
THT2	Imerovigli	1.58	251	P	Pn	03 45 31.4	-0.2
SNT1	Gialos, Santor	1.58	250	P	Pn	03 45 31.0	-0.7
THR3	Thira Island,	1.60	250	P	Pn	03 45 32.5	+0.5
THR6	Thira Island,	1.63	248	P	Pn	03 45 32.5	+0.2
CAEL	Denizli, Camel	1.65	84	iP	Pb	03 45 33.8	-0.4
CAEL				iS	Sg	03 45 56.2	-0.4
CHOS	Chios island	1.71	326	P	Pn	03 45 33.0	-0.5
CHOS				AML	AML	03 46 04.1	
	comp=E,826µm,0.5s						
CHOS				AML	AML	03 46 06.9	
	comp=N,596µm,0.5s						
CHOS	Chios island	1.71	326	P	Pn	03 45 33.8	+0.3
CHOS	Chios island	1.71	326	PN	Pn	03 45 33.3	-0.2
GOMA	Golmarmara-Man	1.81	16	PN	Pn	03 45 34.3	-0.5
GOLH	Golhisar	1.85	81	iP	Pg	03 45 39.2	0.0
GOLH				iS	Sb	03 46 02.1	+1.3
KULA	Kula-Manisa	1.89	35	PN	Pn	03 45 35.9	-0.1
AKAS	Kas	2.02	111	PN	Pn	03 45 37.4	-0.4
AKAS	Kas	2.02	111	iP	Pb	03 45 40.5	0.0
ZKR	Zakros	2.04	205	P	Pn	03 45 38.5	+0.5
ZKR	Zakros	2.04	205	PN	Pn	03 45 38.1	+0.1
DKL	Dikili	2.11	352	PN	Pn	03 45 38.7	-0.3
NPS	Neapolis	2.17	219	P	Pn	03 45 39.8	0.0
PRK	Paraskevi	2.40	341	P	Pn	03 45 43.8	+0.8
STEP	BALIKESIR_Sava	2.42	8	iP	Pg	03 45 49.9	-0.2
KORT	Korkueli	2.47	88	iP	Pb	03 45 47.5	-0.6
SIGR	SIGRI	2.50	334	PN	Pn	03 45 44.1	-0.2

RSNC 06 03:48:23.7±1.0, 6.81N×73.18W, h148km±6km, ML1.3, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BARC	Barichara	0.21	182	eP	Pn	03 48 43.4	-0.7
BARC				eS	Sn	03 48 58.6	-1.0
BARC				i		03 48 59.1	
	comp=Z,2.8nm,0.2s						
BRRC	Barranca, Sant	0.61	299	eP	Pn	03 48 45.5	+0.1
BRRC				eS	Sn	03 49 01.9	0.0
BRRC				i		03 49 05.9	
	comp=Z,5.5nm,0.2s						
PAMC	Pamplona, Colo	0.71	42	⇑eP	Pn	03 48 46.4	-0.3
PAMC				eS	Sn	03 49 03.6	-0.5
PAMC				i		03 49 05.6	
	comp=Z,3.1nm,0.6s						
RUSC	La Rusia	0.91	174	eP	Pn	03 48 47.6	-0.6
RUSC				eS	Sn	03 49 06.7	-0.1
RUSC				i		03 49 07.9	
	comp=Z,2.4nm,0.3s						
PTBC	PUERTO BERRIO,	1.30	258	eP	Pn	03 48 49.7	-1.4
PTBC				eS	Sn	03 49 11.2	-0.8
PTBC				i		03 49 15.9	
	comp=Z,3.2nm,0.5s						
SPBC	San Pablo de B	1.45	218	eP	Pn	03 48 52.5	-0.2
SPBC				eS	Sn	03 49 14.7	-0.3
SPBC				i		03 49 19.7	
	comp=Z,3.0nm,0.2s						
CHIC	Chingaza	2.23	194	eP	Pn	03 49 01.9	-0.1
CHIC				eS	Sn	03 49 30.8	-0.5
CHIC				i		03 49 34.4	
	comp=Z,1.0nm,0.6s						

*IDC **06** 04:01:49.5±0.7, 35.00N×2.97W, h0km, mb3.8/15, mb1 4.0/20, mb1mx3.8/61, mbtmp3.9/20, ML4.4/4, MS3.9/27, Ms1 3.9/27, ms1mx3.7/55, Error ellipse: s-maj=21.0km s-min=12.1km az=119.0*

*NEIC **06** 04:01:49.3±2.1, 34.90N±0.03×2.80W±0.08, h5km±1km, mb4.3/13, mb_Lg3.9(MDD), Error ellipse: s-maj=10.9km s-min=5.2km az=260.0*

*MDD **06** 04:01:51.0±0.7, 34.93N×2.89W, h5km±3km, mbLg4.0/40, Error ellipse: s-maj=5.3km s-min=3.8km az=173.0, PRXIMO*

MDD EMS: III INTENSIDAD MAXIMA - ESPAA.

*SFS **06** 04:01:50.0, 34.90N×2.80W, h5km, ML3.9, HASSI BERNAKE (MARRUECOS)*

*IGIL **06** 04:01:51.0, 34.91N×2.89W, h0km, ML3.7*

*LDG **06** 04:01:51.0±0.2, 34.84N×2.92W, h5km, Ml3.5/22, Error ellipse: s-maj=4.1km s-min=3.1km az=171.0*

*MED_RC **06** 04:01:51.0±0.3, 34.92N×2.71W, h10km, MW4.6/25, Moment Tensor Solution. Body waves: s1,c2;Mantle waves: s25,c40; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.56±.34; $M_{\theta\theta}$-2.02±.27; $M_{\phi\phi}$4.59±.38; $M_{r\theta}$4.25±.91; $M_{\theta\phi}$-6.56±.25; $M_{\phi r}$2.21±.89; Best double couple: $M_0$9.02000×10^{15} NP1:ϕ_s188.00000°, δ64.00000°, λ-25.00000°. NP2:ϕ_s289.00000°, δ68.00000°, λ-152.00000°. Principal axes: T 8.6400, Plg2.0000°, Azm58.0000°; N 0.7700, Plg55.0000°, Azm325.0000°; P -9.4000, Plg35.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

*CRAAG **06** 04:01:51.2, 34.97N×2.94W, Mb4.4*

*CNRM **06** 04:01:52.4, 34.97N×2.99W, h14km, ml4.8, Hypocentre not reviewed by the ISC*

*INMG **06** 04:01:53.6±2.4, 35.04N×3.02W, h12km±7km, ML3.7, Error ellipse: s-maj=5.4km s-min=4.4km az=130.0*

ISC 06 04:01:51.1±1.1, 35.01N±0.03×2.87W±0.03, h15km±7km, n347, σ2.29/450, mb4.3/23, MS3.9/22, 17C-18D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MELI	Melilla	0.28	350	⇓P	Pg	04 01 57.7	+0.6
	3µm,0.2s,SNR=18						
MELI				S	Sb	04 02 02.9	+0.5
	28µm,0.3s,SNR=7.9						
MELI	Melilla	0.28	350	eP	Pg	04 01 57.6	+0.6
MELI				iS	Sb	04 02 02.8	+0.3
MELI	Melilla	0.28	350		Pg	04 01 57.7	+0.6
MELI					Sb	04 02 03.0	+0.5
EMLI	Melilla	0.29	348		Pg	04 01 57.9	+0.7
EMLI					Sb	04 02 03.1	+0.4
EMEL	Melilla	0.29	347	⇓P	Pg	04 01 57.9	+0.7
	4µm,0.1s,SNR=18						
EMEL				S	Sb	04 02 03.1	+0.3
	41µm,0.2s						
PALE	Palemas	0.90	283	P		04 02 09.0	
EALB	Alboran	0.93	352	⇓P	Pb	04 02 09.4	+0.4
	5µm,0.6s,SNR=18						
EALB				S	Sn	04 02 23.6	+0.8
	7µm,0.4s,SNR=1317						
AKLM	AKL	0.96	239	P		04 02 09.1	
PVLZ	Peæn de	1.18	278	P	Pn	04 02 13.2	+0.1
PVLZ				S	Sb	04 02 29.3	+1.0
PVLZ	Peæn de	1.18	278	eP	Pn	04 02 13.2	+0.1
PVLZ				eS	Sb	04 02 29.3	+1.0
EBER	Berja	1.88	360	P	Pn	04 02 22.2	-0.7
	430nm,0.6s,SNR=153						
EBER				S	Sn	04 02 44.8	-1.6
	6µm,0.6s,SNR=7.8						
EBER	Berja	1.88	360		Pn	04 02 22.2	-0.7
EBER					Sn	04 02 44.8	-1.6
ELGU	Los Guajares,	1.95	342	⇓P	Pn	04 02 22.9	-0.8
	407nm,0.5s,SNR=18						
ELGU	Los Guajares,	1.95	342		Pn	04 02 22.9	-0.8
ENIJ	Nijar	2.03	15	⇑P	Pn	04 02 24.3	-0.4
	354nm,0.5s,SNR=18						
ENIJ				S	Sn	04 02 48.6	-1.3
	2µm,0.4s,SNR=7.9						
ENIJ	Nijar	2.03	15		Pn	04 02 24.5	-0.2
USTO	Oran	2.03	69	P	Pb	04 02 27.0	-0.7
EMAL	Malaga-Limoner	2.15	325	P	Pn	04 02 25.9	-0.6
EMAL				S	Sn	04 02 50.9	-2.0
EMAL	Malaga-Limoner	2.15	325	⇓iP	Pn	04 02 25.9	-0.6
EMAL				eS	Sn	04 02 50.9	-2.0
SMIR	Smir Dam	2.15	289	P		04 02 27.0	
CEU	Ceuta	2.22	294	eP	Pn	04 02 25.1	-2.3
CEU				eS	Sn	04 02 49.5	-5.1
ECEU	Ceuta	2.23	294	P	Pn	04 02 26.0	-1.5
	275nm,0.5s,SNR=28						
ECEU				S	Sn	04 02 55.5	+0.8
	579nm,0.6s,SNR=11						
ECEU	Ceuta	2.23	294		Pn	04 02 26.0	-1.5
EQUE	Quentar	2.23	348	⇓P	Pn	04 02 28.5	+0.8
	359nm,0.5s,SNR=18						
EQUE				S	Sn	04 02 56.3	+1.2
	697nm,0.6s,SNR=4.6						
ODJA	Bouhanifia	2.25	81	P	Pb	04 02 31.0	-0.5
IFR	Ifrane	2.39	232	eP	Pn	04 02 30.9	+1.1
IFR				eS	Sb	04 03 04.7	+1.4
GORA	Gorafe	2.46	357	⇓P	Pn	04 02 32.4	+1.6
	663nm,0.5s,SNR=18						
GORA				S	Sn	04 03 01.6	+0.9
	4µm,0.7s,SNR=7.9						
EJIF	Jimena Fronter	2.55	305	⇑P	Pn	04 02 32.6	+0.7
	SNR=18						
MDT	Midelt	2.63	214	Pn	Pn	04 02 32.6	-0.4
	21nm,0.3s,baz=324,slow=11,SNR=350						
MDT				Lg	Lg	04 03 12.2	
	58nm,0.3s,baz=68,slow=19,SNR=4.0						
MDT				LR	LR	04 03 36.7	
	comp=Z,2µm,21.5s,baz=49,slow=42						
MDT	Midelt	2.63	214	P		04 02 32.6	
OJBR	Djebel Berber	2.69	77	P	Pn	04 02 35.0	+1.0
OJBR	Djebel Berber	2.69	77	P	Pn	04 02 35.0	+1.0
EQES	Quesada	2.79	357	P	Pn	04 02 37.0	+1.7
	670nm,0.6s,SNR=236						
EQES				S	Sb	04 03 11.9	-2.8
	1µm,0.6s,SNR=8.0						
LIJA	Lijar	2.79	313	P	Pn	04 02 37.0	+1.7
LIJA	Lijar	2.79	313	iP	Pn	04 02 37.0	+1.7
LIJA				iS	Sg	04 03 20.0	-0.7
CNIL	Conil	2.92	299	P	Pn	04 02 39.0	+2.0
CNIL	Conil	2.92	299	eP	Pn	04 02 39.0	+2.0
CNIL				eS	Sg	04 03 23.0	-1.9
CART	Cartagena	2.98	30	P	Pn	04 02 37.1	-0.7
CART				S	Sn	04 03 08.4	-4.9
CART	Cartagena	2.98	30	eP	Pn	04 02 37.1	-0.7
CART				eS	Sn	04 03 08.4	-4.9
CART	Cartagena	2.98	30		Pn	04 02 36.7	-1.1
OJGS	Djebel Guires	3.00	80	P	Pb	04 02 42.0	-2.4
OJGS	Djebel Guires	3.00	80	P	Pb	04 02 42.0	-2.4
OKGL	Djebel Kef Gue	3.04	69	P	Pn	04 02 41.0	+2.2
OKGL	Djebel Kef Gue	3.04	69	P	Pn	04 02 38.9	+0.1
	276nm,0.7s,SNR=7.9						
OKGL				S	Sn	04 03 15.0	0.0
	1µm,0.6s,SNR=7.9						
ESPR	Espera	3.05	308	⇓P	Pn	04 02 40.1	+1.3
	284nm,0.9s,SNR=18						
ESPR				S	Sn	04 03 17.4	+2.5
	219nm,0.4s						
SFS	San Fernando	3.07	299	eP	Pg	04 02 55.6	+5.6
SFS	San Fernando	3.07	299	Pn	Pn	04 02 39.1	0.0
SESP	Santiago Espad	3.11	5	⇓P	Pn	04 02 42.0	+2.3
	123nm,0.2s,SNR=18						
SESP				S	Sn	04 03 17.9	+1.2
	3µm,0.7s,SNR=7.9						
SESP	Santiago Espad	3.11	5	P		04 02 41.9	
EMUR	La Murta	3.11	25	⇑P	Pn	04 02 39.7	0.0
	191nm,0.3s,SNR=18						
EMUR				S	Sn	04 03 12.6	-4.1
	582nm,0.8s,SNR=5.1						
FIGM	Figuig	3.17	154	P		04 02 42.1	
EANR	'Ain N'Sour	3.37	73	P	Pn	04 02 43.0	-0.3
EANR	'Ain N'Sour	3.37	73	P	Pn	04 02 43.0	-0.3
HORN	Hornachuelos	3.42	326	P		04 02 44.7	
EADA	Adamuz	3.43	337	⇑P	Pn	04 02 45.2	+1.1
	422nm,0.6s,SNR=18						
EADA				S	Sn	04 03 24.1	-0.4
	480nm,0.6s,SNR=5.4						
ETRT	Tiaret	3.44	83	P	Pn	04 02 44.0	-0.3
ETRT	Tiaret	3.44	83	P	Pn	04 02 44.0	-0.3
RTC	Rabat Centre	3.44	254	Pn	Pn	04 02 44.8	+0.6
ETRV	Los Montesinos	3.45	29	P	Pn	04 02 44.5	+0.2
	253nm,0.3s,SNR=7.9						
ETRV				S	Sn	04 03 23.9	-1.0
	481nm,0.5s,SNR=7.9						
ZHG	ZHG	3.49	244	P		04 02 46.0	
ECHF	Ech Chlef	3.62	70	P	Pn	04 02 44.0	-2.6
ECHA	Ech Chlef	3.64	71	P	Pn	04 02 44.0	-2.8
ECAB	El Cabril	3.68	327	P	Pn	04 02 48.0	+0.5
	97nm,0.5s,SNR=95						
ECAB				S	Sn	04 03 30.5	-0.1
	3µm,0.9s						
ETOB	Tobarra	3.78	16	P	Pn	04 02 50.6	+1.8
	48nm,0.3s,SNR=80						
ETOB				S	Sn	04 03 32.3	-0.7
	112nm,0.3s,SNR=4.2						
EBNR	Beni Rached	3.81	69	P	Pn	04 02 49.6	+0.4
AFON	Font Roja	4.10	26	P	Pn	04 02 54.1	+0.8
	82nm,0.3s,SNR=49						
AFON				S	Sn	04 03 41.7	+0.7
	159nm,0.3s						
EMIN	Mina Concepcio	4.12	313	⇓P	Pn	04 02 53.4	0.0
	111nm,0.5s,SNR=18						
EMIN				S	Sn	04 03 40.2	-1.2
	81nm,0.6s						
AVE	Averroes	4.13	247	eP	Pn	04 02 55.2	+1.5
AVE				eS	Sg	04 04 00.3	-3.6
EBEN2	Beniarda presa	4.24	30	P	Pn	04 02 56.6	+1.4
	83nm,0.4s,SNR=7.9						
EBEN2				S	Sn	04 03 43.5	-1.0
	100nm,0.4s,SNR=7.9						
EGRO	El Granado	4.49	305	⇓P	Pn	04 02 58.5	-0.1
	319nm,0.6s,SNR=18						
EGRO				S	Sn	04 03 48.2	-2.4
	116nm,0.4s						
PVAQ	Vaqueiros	4.58	303	P	Pn	04 02 59.9	0.0
PVAQ				S	Sn	04 03 50.1	-2.8
	98nm,0.5s						
PVAQ	Vaqueiros	4.58	303	ePn	Pn	04 02 59.9	0.0
PVAQ				eSn	Sn	04 03 50.1	-2.8
PVAQ				A	A	04 04 01.8	
	98nm,0.5s						
PVAQ	Vaqueiros	4.58	303		Pn	04 02 59.4	-0.5
PVAQ	Vaqueiros	4.58	303	P		04 03 00.0	
PBAR	Barrancos	4.60	314	P	Pn	04 03 00.1	0.0
PBAR				S	Sn	04 03 51.8	-1.5
	77nm,0.5s						
PBAR	Barrancos	4.60	314	ePn	Pn	04 03 00.1	0.0
PBAR				eSn	Sn	04 03 51.8	-1.5
PBAR				A	A	04 03 59.0	
	77nm,0.5s						
PBDV	Barranco-do-Ve	4.66	300	P	Pn	04 03 00.8	-0.1
PBDV				S	Sn	04 03 51.8	-3.0
	100nm,0.6s						
PBDV	Barranco-do-Ve	4.66	300	ePn	Pn	04 03 00.8	-0.1
PBDV				eSn	Sn	04 03 51.8	-3.0
PBDV				A	A	04 04 00.1	
	100nm,0.6s						
PAB	San Pablo	4.67	346	P	Pn	04 03 02.7	+1.6
	162nm,0.6s,SNR=7.9						
PAB				S	Sn	04 03 53.8	-1.4
	107nm,0.8s,SNR=7.9						
PAB	San Pablo	4.67	346		Pn	04 03 02.6	+1.4
PAB	San Pablo	4.67	346	P		04 03 02.9	
ESDC	Sonseca Array	4.73	350	Pn	Pn	04 03 03.8	+1.7
	19nm,0.3s,baz=172,slow=12,SNR=761						
ESDC				Lg	Lg	04 04 11.2	
	5.6nm,0.3s,baz=179,slow=24,SNR=7.2						
ESDC				LR	LR	04 05 04.2	
	comp=Z,686nm,19.2s,baz=140,slow=41						
ESDC	Sonseca Array	4.73	350	P	Pn	04 03 03.7	+1.7
	141nm,0.4s,baz=173,slow=12,SNR=313						
ESDC				S	Sn	04 03 55.3	-1.3
	64nm,0.8s,baz=172,slow=27,SNR=377						
ESDC	Sonseca Array	4.73	350		Pn	04 03 03.3	+1.4
ESBB	Sonseca Array	4.73	350		Pn	04 03 03.6	+1.6
TZRR	Tazzarine	4.79	209	P		04 03 04.0	
ECHE	Chera	4.81	18	P	Pn	04 03 04.8	+1.7
	29nm,0.4s,SNR=7.9						
ECHE				S	Sn	04 03 57.3	-1.4
	68nm,0.8s,SNR=7.9						
SRHM	Skhour des Reh	4.89	240	P		04 03 08.0	
PCVE	Castro Verde	4.92	304	P	Pn	04 03 04.4	-0.1
PCVE				S	Sn	04 03 58.1	-3.1
	65nm,0.5s						
PCVE	Castro Verde	4.92	304	ePn	Pn	04 03 04.4	-0.1
PCVE				eSn	Sn	04 03 58.1	-3.1
PCVE				A	A	04 04 07.4	
	65nm,0.5s						
PBEJ	Beja	5.02	308	P	Pn	04 03 06.1	+0.2
PBEJ				S	Sn	04 04 02.6	-1.0
	30nm,0.4s						
PBEJ	Beja	5.02	308	ePn	Pn	04 03 06.1	+0.2
PBEJ				eSn	Sn	04 04 02.6	-1.0
PBEJ				A	A	04 04 08.5	
	60nm,0.4s						
MESJ	Messejana	5.15	305	eP	Pn	04 03 07.5	-0.2
MESJ				eS	Sn	04 04 03.9	-2.9
MESJ				AML	AML	04 04 11.7	
	comp=N,111nm,0.4s						
MESJ	Messejana	5.15	305	P	Pn	04 03 07.6	-0.1
MESJ				S	Sn	04 04 04.3	-2.5
	comp=N,88nm,0.5s						
MESJ	Messejana	5.15	305	ePn	Pn	04 03 07.6	-0.1
MESJ				eSn	Sn	04 04 04.3	-2.5
MESJ				A	A	04 04 09.5	
	comp=N,88nm,0.5s						
MORF	Marmelete	5.20	298	eP	Pn	04 03 08.2	-0.2
MORF				eS	Sn	04 04 05.1	-3.1
MORF				AML	AML	04 04 11.4	
	comp=N,94nm,0.4s						
MORF	Marmelete	5.20	298	P	Pn	04 03 09.4	+1.0
MORF				S	Sn	04 04 05.9	-2.3
	comp=N,39nm,0.8s						
MORF	Marmelete	5.20	298	ePn	Pn	04 03 09.4	+1.0
MORF				eSn	Sn	04 04 05.9	-2.3
MORF				A	A	04 04 17.9	
	comp=N,39nm,0.8s						
EIBI	Ibiza	5.24	39	P	Pn	04 03 09.8	+1.0
	comp=N,187nm,0.5s,SNR=31						
EIBI				S	Sn	04 04 06.8	-2.1
	comp=N,44nm,0.3s,SNR=7.9						
OUZM	OUZ	5.24	220	P		04 03 11.0	
PFVI	Vila Bisbo	5.26	295	⇑P	Pn	04 03 10.1	+0.9
	comp=N,38nm,0.4s,SNR=18						
PFVI				S	Sn	04 04 07.6	-2.0
	comp=N,152nm,0.6s,SNR=7.9						
PFVI	Vila Bisbo	5.26	295	ePn	Pn	04 03 10.4	+1.2
PFVI				eSn	Sn	04 04 07.3	-2.4
PFVI				A	A	04 04 23.6	
	comp=N,64nm,0.5s						
PFVI	Vila Bisbo	5.26	295		Pn	04 03 09.3	+0.1
PFVI	Vila Bisbo	5.26	295	P		04 03 10.4	
UCM	Universidad Co	5.29	357	P	Pn	04 03 11.6	+2.0
UCM				S	Sn	04 04 04.9	-5.5
UCM	Universidad Co	5.29	357	eP	Pn	04 03 11.6	+2.0
UCM				eS	Sn	04 04 04.9	-5.5
PTEO	Sao Teotonio	5.36	300	P	Pn	04 03 11.0	+0.5
PTEO				S	Sn	04 04 10.4	-1.6
	comp=N,41nm,0.7s						
PTEO	Sao Teotonio	5.36	300	ePn	Pn	04 03 11.0	+0.5
PTEO				eSn	Sn	04 04 10.4	-1.6
PTEO				A	A	04 04 22.9	
	comp=N,81nm,0.7s						
PESTR	Estremoz	5.39	317	ePn	Pn	04 03 11.9	+0.9
PESTR				eSn	Sn	04 04 13.1	+0.3
PESTR				A	A	04 04 17.6	
	comp=N,59nm,0.6s						
PESTR	Estremoz	5.39	317		Pn	04 03 11.2	+0.2
PESTR	Estremoz	5.39	317	P		04 03 11.6	
ZGR	Zagora	5.40	206	P		04 03 12.0	
EVO	Evora	5.42	312	P	Pn	04 03 11.8	+0.5
EVO				S	Sn	04 04 11.6	-1.8
	comp=N,84nm,0.3s						
EVO	Evora	5.42	312	eP	Pn	04 03 11.7	+0.5
EVO				eS	Sn	04 04 09.8	-3.6
EVO	Evora	5.42	312	ePn	Pn	04 03 11.8	+0.5
EVO				eSn	Sn	04 04 11.6	-1.8
EVO				A	A	04 04 16.9	
	comp=N,84nm,0.3s						
PNCL	Nicolau / Gran	5.50	306	P	Pn	04 03 12.8	+0.3
PNCL				S	Sn	04 04 10.4	-5.1
	comp=N,53nm,0.8s						
PNCL	Nicolau / Gran	5.50	306	ePn	Pn	04 03 12.8	+0.3
PNCL				eSn	Sn	04 04 10.4	-5.1
PNCL				A	A	04 04 20.0	
	comp=N,53nm,0.8s						
EPLA	Plasencia	5.65	334	⇑P	Pn	04 03 15.2	+0.7
	comp=N,117nm,0.5s,SNR=18						
EPLA				S	Sn	04 04 16.5	-2.7
	comp=N,44nm,0.5s,SNR=7.9						
OUK	Oukaimeden	5.65	229	P		04 03 15.0	
EMOS	Mosqueruela	5.67	19	P	Pn	04 03 16.7	+1.8
	comp=N,22nm,0.5s,SNR=39						
EMOS				S	Sn	04 04 18.2	-1.6
	comp=N,32nm,0.6s,SNR=7.9						
PMRV	Marv??o	5.69	322	P	Pn	04 03 15.9	+0.8
PMRV				S	Sn	04 04 17.3	-2.9
	comp=N,57nm,0.6s						
PMRV	Marv??o	5.69	322	ePn	Pn	04 03 15.9	+0.8
PMRV				eSn	Sn	04 04 17.3	-2.9
PMRV				A	A	04 04 20.4	
	comp=N,57nm,0.6s						
GUD	Guadarrama	5.71	350	P	Pn	04 03 16.9	+1.4
	comp=N,37nm,0.5s,SNR=67						
GUD				S	Sn	04 04 23.0	+2.2
	comp=N,31nm,0.5s						
ETOR	Torete	5.83	6	P	Pn	04 03 19.0	+1.9
	comp=N,106nm,0.7s,SNR=67						
ETOR				S	Sn	04 04 26.3	+2.5
	comp=N,161nm,0.9s,SNR=7.9						
PMTG	Montargil	5.89	315	P	Pn	04 03 18.1	+0.3
PMTG				S	Sn	04 04 22.6	-2.5
	comp=N,56nm,0.5s						
PMTG	Montargil	5.89	315	ePn	Pn	04 03 18.1	+0.3
PMTG				eSn	Sn	04 04 22.6	-2.5
PMTG				A	A	04 04 41.7	
	comp=N,56nm,0.5s						
PCBR	Castelo Branco	6.05	324	P	Pn	04 03 20.9	+0.9
PCBR				S	Sn	04 04 26.1	-2.9
	comp=N,22nm,0.5s						
PCBR	Castelo Branco	6.05	324	ePn	Pn	04 03 20.9	+0.9

PCBR eSn Sn 04 04 26.1 -2.9
PCBR A A 04 04 31.2
comp=N,44nm,0.5s
LIS Lisbon 6.24 308 eP Pn **04 03 23.1 +0.4**
LIS Lisbon 6.24 308 P Pn **04 03 23.2 +0.6**
LIS S Sn **04 04 33.5 -0.2**
LIS Lisbon 6.24 308 ePn Pn **04 03 23.2 +0.6**
LIS eSn Sn **04 04 33.5 -0.2**
ERTA Horta de San J 6.45 22 P Pn **04 03 27.4 +1.8**
comp=N,106nm,0.5s,SNR=50
ERTA S Sn **04 04 37.8 -1.1**
comp=N,73nm,0.9s,SNR=7.9
PMAFR Mafra 6.46 309 ⇑P Pn **04 03 26.1 +0.5**
comp=N,256nm,0.7s,SNR=18
PMAFR S Sn **04 04 37.0 -2.2**
comp=N,313nm,0.8s,SNR=7.9
PMAFR Mafra 6.46 309 ePn Pn **04 03 26.2 +0.5**
PMAFR eSn Sn **04 04 38.0 -1.2**
PMAFR A A 04 05 03.6
comp=N,61nm,0.5s
PSBE So Bento 6.52 315 ePn Pn **04 03 27.0 +0.6**
PSBE eSn Sn **04 04 37.7 -2.8**
PSBE A A 04 04 54.1
comp=N,48nm,0.6s
MTE Manteigas 6.53 327 P Pn **04 03 27.4 +0.8**
MTE S Sn **04 04 38.4 -2.4**
comp=N,34nm,0.7s
MTE Manteigas 6.53 327 ePn Pn **04 03 27.4 +0.8**
MTE eSn Sn **04 04 38.4 -2.4**
MTE A A 04 04 56.6
comp=N,69nm,0.7s
MTE Manteigas 6.53 327 Pn **04 03 27.0 +0.4**
ETOS Mallorca 6.56 42 P Pn **04 03 27.4 +0.4**
comp=N,135nm,0.7s,SNR=7.9
ETOS S Sn **04 04 39.7 -1.8**
comp=N,25nm,0.6s,SNR=7.9
PCAS Casmilo, Conde 6.73 320 P Pn **04 03 30.1 +0.8**
PCAS S Sn **04 04 42.1 -3.6**
comp=N,54nm,0.6s
PCAS Casmilo, Conde 6.73 320⇑ePn Pn **04 03 30.1 +0.8**
PCAS eSn Sn **04 04 42.1 -3.6**
PCAS A A 04 05 31.3
comp=N,54nm,0.6s
COI Coimbra 6.80 321 P Pn **04 03 30.8 +0.6**
COI S Sn **04 04 44.8 -2.6**
comp=N,53nm,0.6s
COI Coimbra 6.80 321 ePn Pn **04 03 30.8 +0.6**
COI eSn Sn **04 04 44.8 -2.6**
COI A A 04 04 50.2
comp=N,105nm,0.6s
COI Coimbra 6.80 321 Pn **04 03 30.3 +0.1**
PVIS Viseu 6.94 327 P Pn **04 03 33.0 +0.7**
PVIS S Sn **04 04 47.7 -3.3**
comp=N,22nm,0.6s
PVIS Viseu 6.94 327 ePn Pn **04 03 33.0 +0.7**
PVIS eSn Sn **04 04 47.7 -3.3**
PVIS A A 04 04 58.8
comp=N,44nm,0.6s
MVO Moncorvo 6.96 333 ⇓P Pn **04 03 33.3 +0.8**
comp=N,392nm,0.7s,SNR=18
MVO S Sn **04 04 47.8 -3.7**
comp=N,211nm,0.7s,SNR=7.9
MVO Moncorvo 6.96 333 ePn Pn **04 03 33.5 +0.9**
MVO eSn Sn **04 04 48.5 -3.0**
EPOB Poblet 7.05 25 P Pn **04 03 34.8 +1.0**
comp=N,15nm,0.5s,SNR=30
EPOB S Sn **04 04 51.2 -2.6**
comp=N,12nm,0.4s,SNR=7.9
PVRL Vila Real 7.32 330 P Pn **04 03 38.6 +1.1**
PVRL S Sn **04 04 56.6 -3.8**
PVRL Vila Real 7.32 330 ePn Pn **04 03 38.6 +1.1**
PVRL eSn Sn **04 04 56.6 -3.8**
PBRG Braganca 7.43 337 P Pn **04 03 39.9 +0.9**
PBRG S Sn **04 04 59.1 -3.9**
PBRG Braganca 7.43 337 ePn Pn **04 03 39.9 +0.9**
PBRG eSn Sn **04 04 59.1 -3.9**
POLO Lamas de Olo 7.44 330 P Pn **04 03 39.9 +0.8**
POLO S Sn **04 04 57.3 -6.0**
POLO Lamas de Olo 7.44 330 ePn Pn **04 03 39.9 +0.8**
POLO eSn Sn **04 04 57.3 -6.0**
ECAL Calabor 7.55 338 P Pn **04 03 41.5 +0.8**
comp=N,78nm,0.7s,SNR=19
ECAL S Sn **04 05 02.0 -4.0**
comp=N,72nm,0.7s,SNR=7.9
PTO Porto 7.60 325 P Pn **04 03 42.3 +1.0**
PTO S Sn **04 05 03.0 -4.1**
PTO Porto 7.60 325 ePn Pn **04 03 42.3 +1.0**
PTO eSn Sn **04 05 03.0 -4.1**
PCAB Cabril 7.81 330 P Pn **04 03 45.3 +1.0**
PCAB S Sn **04 05 07.6 -4.9**
PCAB Cabril 7.81 330 ePn Pn **04 03 45.3 +1.0**
PCAB eSn Sn **04 05 07.6 -4.9**
CFON Fontmartina 7.92 30 P Pn **04 03 47.2 +1.4**
comp=N,19nm,0.3s,SNR=7.9
CFON S Sn **04 05 12.1 -3.1**
comp=N,12nm,0.3s,SNR=7.9
ELOB Lobios 7.96 331 ⇑P Pn **04 03 47.3 +1.0**
comp=N,80nm,0.6s,SNR=18
ELOB S Sn **04 05 10.4 -5.7**
comp=N,55nm,0.9s,SNR=7.9
EORO Oroz-Betelu 7.96 8 P Pn **04 03 48.4 +2.1**
comp=N,32nm,0.7s,SNR=10
EORO S Sn **04 05 12.3 -3.8**
comp=N,72nm,0.8s,SNR=7.9
CSOR Sort 7.99 22 P Pn **04 03 48.9 +2.1**
comp=N,40nm,0.6s,SNR=7.9
CSOR S Sn **04 05 18.7 +1.8**
comp=N,48nm,1.0s,SNR=7.9
ECHI Chisagues Biel 8.01 16 P Pn **04 03 49.0 +2.1**
comp=N,15nm,0.7s,SNR=7.9
ETSF Etsaut 8.08 12 P Pn **04 03 50.0 +2.1**
ETSF S Sn **04 05 18.1 -0.9**
comp=N,3.6nm,0.6s
ETSF Etsaut 8.08 12 ePn Pn **04 03 50.0 +2.1**
ETSF eSn Sn **04 05 18.1 -0.9**
comp=N,7.2nm,0.6s
PGAV Gavieira, Arco 8.13 330 P Pn **04 03 49.6 +1.0**
PGAV S Sn **04 05 15.5 -4.7**
PGAV Gavieira, Arco 8.13 330 ePn Pn **04 03 49.6 +1.0**
PGAV eSn Sn **04 05 15.5 -4.7**
SJPF Ste Jean 8.19 9 P Pn **04 03 51.9 +2.5**
SJPF S Sn **04 05 19.5 -2.1**
comp=N,15nm,0.8s
SJPF Ste Jean 8.19 9 ePn Pn **04 03 51.9 +2.5**
SJPF Ste Jean 8.19 9 eP Pn 04 03 55.4 +6.0
SJPF eSn Sn **04 05 19.5 -2.1**
comp=N,30nm,0.8s
ELAN Lanestosa 8.22 357 P Pn **04 03 51.9 +2.1**
comp=N,45nm,0.8s,SNR=7.9
ATE Arette 8.23 11 P Pn **04 03 52.1 +2.1**
comp=N,3.8nm,0.3s,SNR=7.9
CLLI Llivia 8.36 25 P Pn **04 03 54.4 +2.5**
comp=N,9.5nm,0.5s,SNR=7.9
EPF Esparros 8.39 16 P Pn **04 03 53.5 +1.4**
EPF S Sn **04 05 24.6 -1.9**
comp=N,8.9nm,0.8s
EPF Esparros 8.39 16 ePn Pn **04 03 53.5 +1.4**
EPF Esparros 8.39 16 eP Pn 04 03 58.9 +6.8
EPF eSn Sn **04 05 24.6 -1.9**
comp=N,18nm,0.8s
EZAM Zamans 8.46 329 P Pn **04 03 54.1 +1.1**
comp=N,38nm,0.4s,SNR=7.9
EARI Arriondas 8.47 348 P Pn **04 03 54.9 +1.6**
comp=N,70nm,0.5s,SNR=79
EJON La Jonquera 8.68 30 P Pn **04 03 57.3 +1.2**
comp=N,11nm,0.5s,SNR=7.9
SJAF Saint Jean de 8.71 29 P Pn **04 03 58.2 +1.7**
comp=N,11nm,0.4s,SNR=7.9
EAGO Agolada(Pontev 8.77 334 P Pn **04 03 58.8 +1.4**
comp=N,16nm,0.4s,SNR=7.9
EAGO S Sn **04 05 30.3 -5.7**
comp=N,49nm,1.0s,SNR=7.9
EPON Pontenova 8.94 340 P Pn **04 04 00.8 +1.1**
comp=N,6.4nm,0.3s,SNR=14
EPON S Sn **04 05 35.8 -4.2**
comp=N,60nm,1.2s,SNR=7.9
MTLF Montolieu 9.20 24 P Pn **04 04 05.1 +1.8**
MTLF S Sn **04 05 44.4 -2.2**
comp=N,0.8nm,0.4s
MTLF Montolieu 9.20 24 ePn Pn **04 04 05.1 +1.8**
MTLF Montolieu 9.20 24 eP Pn 04 04 09.8 +6.5
MTLF eSn Sn **04 05 44.4 -2.2**
comp=N,1.6nm,0.4s
EMAZ Mazaricos 9.23 331 P Pn **04 04 05.1 +1.3**
comp=N,26nm,0.7s,SNR=7.9
EMAZ S Sn **04 05 42.6 -4.8**
comp=N,46nm,1.1s,SNR=7.9
KEST Kesra 10.01 82 Pn Pn **04 04 15.0 +0.7**
comp=N,1.0nm,0.3s,baz=211,slow=6.1,SNR=8.9
KEST LR LR 04 08 59.9
comp=N,1μm,18.1s,baz=204,slow=43
LFF La Frestale 10.29 15 P Pn **04 04 20.2 +2.0**
LFF La Frestale 10.29 15 ePn Pn **04 04 20.2 +2.0**
LFF La Frestale 10.29 15 eP Pn 04 04 25.0 +6.8
LASF Ste Croix 10.43 28 P Pn **04 04 21.1 +1.0**
LASF S Sn **04 06 12.9 -3.8**
comp=N,1.9nm,0.6s
LASF Ste Croix 10.43 28 ePn Pn **04 04 21.1 +1.0**
LASF eSn Sn **04 06 12.9 -3.8**
comp=N,3.7nm,0.6s
CAF Calviac 10.60 19 P Pn **04 04 23.8 +1.4**
CAF S Sn **04 06 17.1 -3.7**
comp=N,0.2nm,0.2s
CAF Calviac 10.60 19 ePn Pn **04 04 23.8 +1.4**
CAF Calviac 10.60 19 eP Pn 04 04 28.3 +5.9
CAF eSn Sn **04 06 17.1 -3.7**
comp=N,0.4nm,0.2s
RJF Les Rejaudoux 10.81 17 P Pn **04 04 26.1 +0.8**
RJF S Sn **04 06 22.1 -3.9**
comp=N,0.6nm,0.4s
RJF Les Rejaudoux 10.81 17 ePn Pn **04 04 26.1 +0.8**
RJF Les Rejaudoux 10.81 17 eP Pn 04 04 31.8 +6.5
RJF eSn Sn **04 06 22.1 -3.9**
comp=N,1.3nm,0.4s
LMR La Mourre 11.04 38 P Pn **04 04 29.9 +1.5**
LMR S Sn **04 06 26.8 -4.8**
comp=N,1.0nm,0.4s
LMR La Mourre 11.04 38 ePn Pn **04 04 29.9 +1.5**
LMR La Mourre 11.04 38 eP Pn 04 04 34.7 +6.3
LMR eSn Sn **04 06 26.8 -4.8**
comp=N,2.0nm,0.4s
SMRF Simiane la Rot 11.07 34 P Pn **04 04 29.7 +0.8**
SMRF S Sn **04 06 28.3 -4.1**
comp=N,2.1nm,0.6s
SMRF Simiane la Rot 11.07 34 ePn Pn **04 04 29.7 +0.8**
SMRF Simiane la Rot 11.07 34 eP Pn 04 04 36.0 +7.1
SMRF eSn Sn **04 06 28.3 -4.1**
comp=N,2.1nm,0.6s
FRF La Foret Royal 11.27 38 P Pn **04 04 33.1 +1.5**
FRF S Sn **04 06 32.9 -4.4**
comp=N,0.9nm,0.5s
FRF La Foret Royal 11.27 38 ePn Pn **04 04 33.1 +1.5**
FRF La Foret Royal 11.27 38 eP Pn 04 04 37.9 +6.3
FRF eSn Sn **04 06 32.9 -4.4**
comp=N,1.7nm,0.5s
VIVF Saint-Julien-l 11.40 28 P Pn **04 04 33.6 +0.2**
VIVF S Sn **04 06 36.4 -4.1**
comp=N,0.6nm,0.5s
VIVF Saint-Julien-l 11.40 28 ePn Pn **04 04 33.6 +0.2**
VIVF Saint-Julien-l 11.40 28 eP Pn 04 04 40.4 +7.0
VIVF eSn Sn **04 06 36.4 -4.1**
comp=N,1.1nm,0.5s
MFF Saint Martin d 11.76 9 P Pn **04 04 38.5 +0.3**
MFF Saint Martin d 11.76 9 ePn Pn **04 04 38.5 +0.3**
MFF Saint Martin d 11.76 9 eP Pn 04 04 44.7 +6.5
PMAR Madeira 11.89 263 eP Pn 04 04 34.8 -5.5
FUL Funchal 11.89 263 eP Pn 04 04 48.3 +8.1
TCF Toulx Ste Croi 11.90 17 P Pn **04 04 40.8 +0.6**
TCF Toulx Ste Croi 11.90 17 ePn Pn **04 04 40.8 +0.6**
TCF Toulx Ste Croi 11.90 17 eP Pn 04 04 46.0 +5.8
PGF Pioggiola 11.93 47 P Pn **04 04 42.2 +1.6**
PGF S Sn **04 06 48.5 -5.0**
comp=N,0.9nm,0.4s
PGF Pioggiola 11.93 47 ePn Pn **04 04 42.2 +1.6**
PGF Pioggiola 11.93 47 eP Pn 04 04 46.9 +6.2
PGF eSn Sn **04 06 48.5 -5.0**
comp=N,1.8nm,0.4s
ORIF Oris-en-Rattie 11.95 31 P Pn **04 04 41.7 +0.8**
ORIF Oris-en-Rattie 11.95 31 ePn Pn **04 04 41.7 +0.8**
ORIF Oris-en-Rattie 11.95 31 eP Pn 04 04 47.1 +6.2
ORIF eSn Sn **04 06 51.0 -2.9**
comp=N,1.1nm,0.5s
MBDF Montbardon 12.20 34 ePn P **04 04 54.6 -2.3**
BGF Bois d'Agland 12.31 19 P Pn **04 04 47.9 +2.1**
BGF Bois d'Agland 12.31 19 ePn Pn **04 04 47.9 +2.1**
AVF Avril sur Loir 12.67 20 P Pn **04 04 50.9 +0.3**
AVF Avril sur Loir 12.67 20 ePn Pn **04 04 50.9 +0.3**
AVF Avril sur Loir 12.67 20 eP P 04 04 56.6 -5.3
SMF Signal de Mont 12.68 22 P Pn **04 04 52.5 +1.7**
SMF Signal de Mont 12.68 22 ePn Pn **04 04 52.5 +1.7**
SMF Signal de Mont 12.68 22 eP P 04 04 57.2 -4.9
LPG La Plagne 12.78 32 P Pn **04 04 53.6 +1.1**
LPG S Sn **04 07 09.6 -5.0**
comp=N,0.1nm,0.2s
LPG La Plagne 12.78 32 ePn Pn **04 04 53.6 +1.1**
LPG eSn Sn **04 07 09.6 -5.0**
comp=N,0.2nm,0.2s
LPL La Plagne 12.79 32 P Pn **04 04 53.0 +0.5**
LPL S Sn **04 07 09.8 -4.9**
comp=N,0.2nm,0.3s
LPL La Plagne 12.79 32 ePn Pn **04 04 53.0 +0.5**
LPL La Plagne 12.79 32 eP P 04 04 58.9 -4.7
LPL eSn Sn **04 07 09.8 -4.9**
comp=N,0.5nm,0.3s
QUIF Quistinic 12.89 359 P Pn **04 04 54.0 +0.3**
QUIF S Sn **04 07 12.1 -4.8**
comp=N,0.5nm,0.3s
QUIF Quistinic 12.89 359 ePn Pn **04 04 54.0 +0.3**
QUIF Quistinic 12.89 359 eP P 04 05 00.0 -4.4
QUIF eSn Sn **04 07 12.1 -4.8**
comp=N,1.0nm,0.3s
HYF Humbligny 12.92 17 P Pn **04 04 54.8 +0.6**
HYF Humbligny 12.92 17 ePn Pn **04 04 54.8 +0.6**
SSF Saint Saulge 12.96 20 P Pn **04 04 56.5 +1.9**
SSF Saint Saulge 12.96 20 ePn Pn **04 04 56.5 +1.9**
SGMF Saint Gilles 13.23 1 P Pn **04 04 58.7 +0.4**
SGMF S Sn **04 07 17.9 -7.2**
comp=N,0.4nm,0.4s
SGMF Saint Gilles 13.23 1 ePn Pn **04 04 58.7 +0.4**
SGMF Saint Gilles 13.23 1 eP P **04 05 04.8 -3.4**
SGMF eSn Sn **04 07 17.9 -7.2**
comp=N,0.8nm,0.4s
ROSF Rostrenen 13.31 359 P Pn **04 05 00.3 +0.8**
ROSF S Sn **04 07 21.9 -5.3**
comp=N,0.2nm,0.2s
ROSF Rostrenen 13.31 359 ePn Pn **04 05 00.3 +0.8**
ROSF Rostrenen 13.31 359 eP P **04 05 04.7 -4.4**
ROSF eSn Sn **04 07 21.9 -5.3**
comp=N,0.5nm,0.2s
CABF La Chapelle 13.41 28 P Pn **04 05 01.4 +0.5**
CABF La Chapelle 13.41 28 ePn Pn **04 05 01.4 +0.5**
GRR Gorron 13.45 6 P Pn **04 05 02.0 +0.7**
GRR Gorron 13.45 6 ePn Pn **04 05 02.0 +0.7**
LDF La Druitiere 13.72 8 ePn Pn **04 05 04.0 -1.0**
LDF La Druitiere 13.72 8 eP P **04 05 11.2 -2.5**
FLN La Foliniere 13.85 7 P Pn **04 05 06.6 -0.2**
FLN La Foliniere 13.85 7 ePn Pn **04 05 06.6 -0.2**
baz=187
FLN La Foliniere 13.85 7 eP P **04 05 12.3 -2.8**
TAM Tamanrasset 14.22 147 Pn Pn **04 05 10.9 -1.2**
DAVOX Davos/Dischmat 15.18 35 Pn Pn **04 05 25.1 +0.1**
comp=N,0.1nm,0.3s,baz=297,slow=16,SNR=2.3
DAVOX LR LR 04 10 41.5
comp=N,325nm,20.4s,baz=256,slow=35
CDF Champ du Feu 15.36 26 P Pn **04 05 26.9 -0.5**
CDF Champ du Feu 15.36 26 ePn Pn **04 05 26.9 -0.5**
FETA Feichten 15.76 36 eP P **04 05 38.3 +1.8**
comp=N,11nm,0.9s
WLF Walferdange 16.07 22 dPnPn P **04 05 44.1 +4.4**
SQTA Sankt Quirin 16.13 37 eP P **04 05 41.9 +1.3**
comp=N,26nm,1.3s
MOTA Moosalm 16.17 36 eP P **04 05 42.2 +1.2**
comp=N,23nm,1.9s
BMRD Maredsous 16.27 18 dPnPn P **04 05 47.0 +5.1**
WTTA Wattenberg 16.37 37 eP P **04 05 45.3 +2.0**
comp=N,13nm,0.9s
WATA Walderalm 16.39 37 eP P **04 05 44.5 +1.0**
comp=N,11nm,1.3s
BGES Gesves 16.42 18 dPnPn P **04 05 46.1 +2.5**
ABTA Abfaltersbach 16.48 40 eP P **04 05 47.8 +3.4**
comp=N,12nm,1.2s
BCLA Clavier 16.51 19 dPnPn P **04 05 49.5 +4.9**
MYKA Terra Mystica 17.02 42 eP P **04 05 55.8 +5.4**
comp=N,22nm,1.4s
OBKA Obir 17.45 44 eP P **04 06 00.6 +5.5**
comp=N,40nm,1.8s
MOA Molln 18.10 40 eP P 04 06 12.4 +10
comp=N,14nm,1.5s
ARSA Arzberg 18.42 43 eP Pn **04 06 10.3 +4.4**
comp=N,20nm,1.5s
GERES GERESS Array B 18.46 37 P Pn **04 06 06.6 +0.1**
comp=N,0.6nm,0.3s,baz=186,slow=12,SNR=10
GERES LR LR 04 12 22.2
comp=N,420nm,21.1s,baz=238,slow=34
GERES GERESS Array B 18.46 37 P **04 06 05.2 -1.1**
KHC Kasperske Hory 18.60 36 eP Pn **04 06 10.8 +2.8**
CONA Conrad Observa 19.00 42 eP Pn **04 06 16.7 +3.7**
comp=N,17nm,1.8s
PRU Pruhonice 19.64 35 eP Pn **04 06 24.4 +3.9**
MORH Mrgy, Hungar 19.73 49 ⇑P Pn **04 06 22.5 +0.9**
CLL Collm 19.91 30 e(P) Pn **04 06 26.0 +2.3**
comp=Z,9.0nm,1.3s
KRUC Moravsky 19.97 39 eP Pn **04 06 26.0 +1.6**
BRG Berggiesshubel 19.99 32 eP Pn **04 06 28.2 +3.6**
BRG Amp 04 06 31.6
comp=Z,12nm,1.4s
MODS Modra-Piesok 20.04 42 eP Pn 04 06 25.5 +0.3
SMOL Smolenice 20.20 42 eP Pn 04 06 29.4 +2.3
VRAC Vranov 20.22 39 P P **04 06 25.0 -0.4**
comp=Z,2.0nm,0.6s,baz=230,slow=4.5,SNR=3.7
VRAC LR LR 04 13 12.3
comp=Z,278nm,20.5s,baz=299,slow=34
VRAC Vranov 20.22 39 eP Pn 04 06 27.0 -0.4
SRO Srobarova 20.32 45 eP Pn 04 06 30.5 +2.0
EKA Eskdalemuir Ar 20.32 360 P P **04 06 26.8 +0.3**
comp=Z,3.2nm,0.7s,baz=182,slow=11,SNR=3.3
KOWA Kowa 20.46 183 P P **04 06 28.2 0.0**
comp=Z,3.2nm,0.6s,baz=12,slow=12,SNR=6.6
KOWA LR LR 04 13 51.1
comp=Z,204nm,18.9s,baz=16,slow=35
KOWA Kowa 20.46 183 P P **04 06 28.0 -0.2**
JAVC Velka Javorina 20.53 41 eP Pn 04 06 30.1 -0.9
DPC Dobruska-Polom 20.74 36 eP Pn 04 06 32.8 -0.7
KRLC Kraliky 20.79 38 eP Pn 04 06 33.9 -0.2
MORC Moravsky Berou 21.00 39 ⇑P Pn 04 06 36.6 +0.2
MORC Moravsky Berou 21.00 39 eP Pn 04 06 35.8 -0.7
MDVR Moldovita 21.16 55 ⇓P P **04 06 37.7 +1.9**
PSZ Piszkesteto 21.29 46 ⇑P P **04 06 36.1 -0.9**
VTS Vitosha 21.66 62 ⇑P P **04 06 40.2 -0.9**
HERR Herculane 21.67 55 ⇑P P **04 06 43.3 +2.2**
LANS Liptovska Anna 21.67 43 eP P **04 06 44.0 +2.9**
GZR Gura Zlata 22.08 54 ⇓P P 04 06 53.4 +7.9
TOA0 Torodi Ar. Sit 22.16 168 P P **04 06 46.0 -0.5**
TOA0 IAmb IAmb 04 06 54.0
comp=Z,13nm,1.0s
TORD Torodi Ar. Bea 22.16 168 P P **04 06 46.8 +0.3**
comp=Z,7.7nm,0.9s,baz=352,slow=11,SNR=8.7
TORD LR LR 04 15 20.6
comp=Z,223nm,20.4s,baz=5.0,slow=37
TORD Torodi Ar. Bea 22.16 168 P P **04 06 47.6 +1.0**
TORD IAmb IAmb 04 07 06.0
comp=Z,8.0nm,1.0s
OJC Ojcow 22.44 40 P P **04 06 49.4 +0.1**
OJC IAmb IAmb 04 07 04.2
comp=Z,20nm,1.4s
CRVS Cervenica-Dubn 22.68 45 eP P **04 06 55.3 +3.4**
IDI Anoyia 22.68 81 LR LR 04 17 40.9
comp=Z,140nm,19.7s,baz=279,slow=42
KOLS Kolonicke sedl 23.16 45 eP P **04 06 59.1 +2.2**
ARR Arges 23.32 55 ⇑P P **04 06 59.9 +1.4**
VOIR 23.62 55 ⇑P P **04 07 04.6 +3.1**
KWP Kalwaria Pacla 23.74 44 P P **04 07 03.8 +1.2**
MLR Muntele Rosu 24.24 56 LR LR 04 16 35.7
comp=Z,319nm,20.0s,baz=329,slow=36
MLR Muntele Rosu 24.24 56 P P **04 07 06.8 -0.6**
BUR08 Bucovina Ar. S 24.42 50 P P **04 07 08.7 -0.4**
BURAR Bucovina Array 24.42 50 ⇑P P **04 07 11.5 +2.4**
NOA NORSAR Array B 27.57 15 LR LR 04 19 33.9
comp=Z,192nm,21.2s,baz=320,slow=39
AKASG Malin Array Be 27.99 46 P P **04 07 39.6 -1.5**
comp=Z,2.3nm,0.7s,baz=247,slow=9.9,SNR=6.0
AKASG LR LR 04 18 54.8
comp=Z,196nm,18.6s,baz=305,slow=36
DBIC Dimbokro 28.27 184 LR LR 04 20 55.6
comp=Z,114nm,19.1s,baz=350,slow=41
BRTR Keskin Array B 29.26 70 LR LR 04 19 38.7
comp=Z,144nm,18.4s,baz=312,slow=36
FINES FINESS Array B 32.22 26 P P **04 08 20.9 +2.5**
comp=Z,3.1nm,1.0s,baz=222,slow=7.4,SNR=3.4
KBZ Khabaz 36.05 62 LR LR 04 26 13.8
comp=Z,110nm,18.5s,baz=316,slow=40
ARCES ARCESS Array B 37.94 16 LR LR 04 24 24.4
comp=Z,313nm,19.4s,baz=235,slow=36
AKTO Aktyubinsk 46.01 51 P P **04 10 15.3 +1.5**
comp=Z,0.6nm,0.5s,baz=255,slow=12,SNR=3.0
ARU Arti 46.13 43 P P **04 10 15.5 +0.9**
comp=Z,3.5nm,0.6s,baz=276,slow=6.4,SNR=16
ARU Arti 46.13 43 P P **04 10 14.9 +0.3**
ABKAR Akbulak array 47.38 52 P P **04 10 24.7 +0.3**
GEYT Alibeck 48.36 68 LR LR 04 33 51.8
comp=Z,66nm,18.3s,baz=210,slow=40
HRA Herat 52.65 71 P P **04 11 04.7 -0.3**
HRA IAmb IAmb 04 11 05.2
comp=Z,3.0nm,1.2s
KK31 Karatay Array 55.89 58 P P **04 11 28.6 +0.4**
KKAR Karatay Array 55.89 58 P P **04 11 28.0 -0.2**
NRIK Noril'sk 57.87 25 LR LR 04 39 45.6
comp=Z,214nm,19.3s,baz=306,slow=39
KURBB Kurchatov Arra 58.77 47 P P **04 11 49.6 +1.2**
comp=Z,3.0nm,0.8s,baz=292,slow=7.9,SNR=12
KSH Kashi 61.00 60 P P **04 12 06.1 +2.0**
KSH PcP **PcP 04 12 49.2 +1.9**
KSH pmax pmax
comp=Z,26nm,1.3s
KSH pmax pmax
comp=Z,120nm,5.0s
ZAA0 Zalesovo Array 61.30 42 P P **04 12 05.7 0.0**
ZAA0 IAmb IAmb 04 12 16.3
comp=Z,2.1nm,0.8s
ZALV Zalesovo Beam 61.30 42 P P **04 12 07.2 +1.5**
comp=Z,1.2nm,0.5s,baz=282,slow=7.4,SNR=5.6
ZALV Zalesovo Beam 61.30 42 P P **04 12 06.6 +0.9**
MAKZ Makanchi 62.24 51 P P **04 12 13.4 +1.2**
MAKZ IAmb IAmb 04 12 30.1
comp=Z,1.8nm,0.7s
MK31 Makanchi Array 62.45 51 P P **04 12 13.7 +0.1**
MK31 IAmb IAmb 04 12 29.1
comp=Z,4.0nm,1.5s
MKAR Makanchi Array 62.45 51 P P **04 12 15.0 +1.4**
comp=Z,1.4nm,0.8s,baz=282,slow=5.9,SNR=13
MKAR Makanchi Array 62.45 51 P P **04 12 14.3 +0.7**
ULM Lac du Bonnet 65.77 315 P P **04 12 35.2 -0.2**
comp=Z,1.7nm,1.1s,baz=84,slow=10,SNR=3.0
BDFB Brasilia 66.12 228 LR LR 04 40 15.7
comp=Z,92nm,18.6s,baz=81,slow=35
WMQ Urumqi 67.16 52 eP P **04 12 46.6 +2.2**
YKA Yellowknife Ar 68.61 332 P P **04 12 53.5 +0.4**
comp=Z,0.7nm,0.6s,baz=62,slow=7.1,SNR=8.2
YKA LR LR 04 40 27.2
comp=Z,107nm,19.4s,baz=0.0,slow=34
BOSA Boshof 68.64 154 LR LR 04 43 41.9
comp=Z,117nm,18.2s,baz=164,slow=37
ROSC El Rosal 72.05 263 LR LR 04 43 37.0
comp=Z,68nm,18.1s,baz=66,slow=35
SONM Songino Array 76.14 41 P P **04 13 40.4 +1.9**
comp=Z,0.6nm,0.8s,baz=299,slow=5.9,SNR=3.7
ILAR Eielson Array 76.62 345 P P **04 13 42.0 +1.2**
comp=Z,0.3nm,0.6s,baz=10,slow=4.6,SNR=4.4
PDAR Pinedale Array 77.71 314 P P **04 13 47.7 +0.1**
comp=Z,0.5nm,0.6s,baz=42,slow=6.8,SNR=4.6
CPUP Villa Florida 79.85 228 LR LR 04 49 07.1
comp=Z,67nm,18.2s,baz=125,slow=36
LPAZ La Paz 80.17 242 LR LR 04 45 53.0
comp=Z,84nm,21.9s,baz=70,slow=33
TXAR Lajitas Array 81.71 300 LR LR 04 50 39.7
comp=Z,82nm,18.4s,baz=0.0,slow=36
LZH Lanzhou 81.74 52 eP P **04 14 06.0 -3.5**
LZH pP PcP 04 14 10.2 -5.0
LZH sP pP 04 14 13.8 -0.6
LZH pmax pmax
comp=Z,18nm,1.0s
HHC Hu-ho-hao-te 83.42 44 eP P **04 14 19.1 +1.0**
HHC pmax pmax
comp=Z,8.0nm,1.3s
HHC pmax pmax
comp=Z,130nm,7.1s
XAN Xi'an 86.26 51 P P **04 14 33.1 +0.6**
XAN sP sP 04 14 46.5 +7.3
XAN pmax pmax
comp=Z,3.0nm,1.3s
USRK Ussuriysk Ar. 91.12 31 LR LR 04 59 29.0
comp=Z,59nm,19.1s,baz=342,slow=38
KSRS Korea Array 94.64 37 LR LR 05 02 43.7
comp=Z,76nm,18.9s,baz=336,slow=39

MEX 06 04:02:25.6±0.5, 14°.58N×92°.56W, h70km±38km, MD3.5, Near coast of Chiapas

IDC 06 04:44:48.0±5.5, 19°.81S×178°.34W, h564km±34km, mb3.1/4, mb1 3.3/5, mb1mx3.0/34, mbtmp4.0/5, Error ellipse: s-maj=134.6km s-min=23.4km az=140.0

ISC 06 04:44:52.7±2.2, 19°.0S±0°.5×179°.1W±0°.4, h600km, n7, σ1s75/8, mb3.8/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.03**	**295**	P	**P**	**04 46 10.8**	**-1.4**
	4.2nm,0.3s,baz=170,slow=2.3,SNR=24						
STKA	**Stephens Creek**	**37.55**	**242**	P	**P**	**04 51 17.0**	**-0.6**
	1.1nm,0.4s,baz=48,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**43.83**	**261**	P	**P**	**04 52 08.4**	**+1.0**
	1.1nm,0.3s,baz=96,slow=7.6,SNR=24						
ASAR	**Alice Springs**	**43.90**	**255**	P	**P**	**04 52 09.9**	**+2.0**
	4.1nm,0.8s,baz=95,slow=7.6,SNR=40						
ASAR				PcP	**PcP**	**04 53 40.3**	**-0.2**
	0.6nm,0.7s,baz=110,slow=3.5,SNR=4.8						
ILAR	**Eielson Array**	**87.12**	**13**	P	**P**	**04 56 37.0**	**+1.5**
	0.2nm,0.5s,baz=218,slow=5.7,SNR=3.6						
AKASG	**Malin Array Be**	**141.25**	**331**	PKP	**PKPdf**	**05 03 13.5**	**-2.4**
	0.9nm,0.5s,baz=42,slow=3.6,SNR=4.6						
GERES	**GERESS Array B**	**148.52**	**344**	PKPbc	**PKiKP**	**05 03 34.2**	**+0.2**
	0.8nm,0.9s,baz=1.9,slow=2.9,SNR=3.3						

IDC 06 04:50:28.3±23.0, 44°.96N×149°.47E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/33, mbtmp3.3/3, Error ellipse: s-maj=673.8km s-min=38.2km az=167.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**29.02**	**144**	T	T	05 27 18.6	
	baz=334,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**29.04**	**144**	T	T	05 27 16.5	
	baz=334,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**29.04**	**144**	T	T	05 27 17.6	
	baz=334,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**30.04**	**146**	T	T	05 28 34.5	
	baz=335,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**30.05**	**146**	T	T	05 28 43.3	
	baz=335,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**30.06**	**146**	T	T	05 28 36.5	
	baz=335,slow=76,SNR=11						
ILAR	**Eielson Array**	**39.52**	**37**	P	P	04 57 59.1	-1.3
	0.5nm,0.8s,baz=261,slow=6.9,SNR=3.6						
MKAR	**Makanchi Array**	**45.50**	**297**	P	P	04 58 49.0	-0.3
	0.2nm,0.6s,baz=74,slow=7.7,SNR=3.5						
YKA	**Yellowknife Ar**	**53.86**	**35**	P	P	04 59 54.0	+1.3
	0.2nm,0.6s,baz=300,slow=6.6,SNR=4.6						

KRSC 06 04:53:26.4±3.5, 48°.20N×157°.45E, h36km±70km, ML4.2
IDC 06 04:53:29.8±3.1, 48°.22N×154°.90E, h62km±25km, mb3.6/11, mb1 3.8/15, mb1mx3.5/43, mbtmp3.9/15, ML3.4/4, MS3.4/2, Ms1 3.4/2, ms1mx2.7/58, Error ellipse: s-maj=41.3km s-min=18.3km az=151.0
NEIC 06 04:53:30.6±1.0, 48°.4N±0°.2×154°.7E±0°.2, h61km±12km, mb4.2/5, Error ellipse: s-maj=32.3km s-min=11.4km az=141.0

ISC 06 04:53:26.5±1.2, 48°.2N±0°.1×155°.1E±0°.1, h33km, n37, σ1s75/30, mb4.0/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**3.47**	**18**	P	**Pn**	**04 54 20.9**	**+2.9**
PAU				eS	**Sn**	**04 54 58.1**	**+0.2**
MTVR	**Mutnovka**	**4.74**	**24**	P	**Pn**	**04 54 34.4**	**-1.2**
GRL	**Gorelyy**	**4.77**	**23**	eP	**Pn**	**04 54 36.8**	**+0.7**
RUS	**Russkaya**	**4.79**	**26**	eP	**Pn**	**04 54 34.7**	**-1.4**
PEA0B	**Petropavlovsk-**	**5.20**	**18**	Pn	**Pn**	**04 54 44.4**	**+2.6**
PETK	**Petropavlovsk-**	**5.20**	**18**	P	**Pn**	**04 54 44.7**	**+2.9**
	1.4nm,0.3s,baz=188,slow=12,SNR=15						
PETK	**Petropavlovsk-**	**5.20**	**18**		**Pn**	**04 54 43.9**	**+2.1**
YSS	**Yuzh-Sakhalins**	**8.41**	**266**	Pn	**Pn**	**04 55 28.1**	**+2.1**
JKA	**Kamikawa-asahi**	**9.56**	**249**		**Pn**	**04 55 44.0**	**+2.3**
ASAJ	**Asahikawa**	**9.56**	**249**	P	**Pn**	**04 55 44.2**	**+2.5**
	2.2nm,0.3s,baz=91,slow=16,SNR=12						
JEW	**Eniwo**	**10.94**	**246**	Pn	**Pn**	**04 56 02.7**	**+2.1**
KLR	**Kul'dur**	**15.41**	**283**	P	**Pn**	**04 57 02.9**	**+1.6**
	0.1nm,0.3s,baz=88,slow=11,SNR=2.7						
KLR				LR	LR	05 03 15.5	
	comp=Z,77nm,19.2s,baz=18,slow=38						
USRK	**Ussuriysk Ar.**	**16.45**	**265**	P	**Pn**	**04 57 14.9**	**+0.4**
	baz=64,slow=11,SNR=5.9						
KSRS	**Korea Array**	**22.50**	**252**	P	**P**	**04 58 22.9**	**-0.1**
	2.5nm,0.5s,baz=52,slow=11,SNR=7.3						
HIA	**Hailar**	**23.19**	**286**	P	**P**	**04 58 26.2**	**-4.0**
H11N2	**WAKE ISLAND Hy**	**29.97**	**157**	T	T	05 31 14.1	
	baz=345,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**29.99**	**157**	T	T	05 31 16.1	
	baz=345,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**29.99**	**157**	T	T	05 31 10.7	
	baz=345,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**31.09**	**158**	T	T	05 32 36.6	
	baz=344,slow=76,SNR=224						
H11S3	**WAKE ISLAND Hy**	**31.10**	**158**	T	T	05 32 37.4	
	baz=344,slow=76,SNR=207						
H11S2	**WAKE ISLAND Hy**	**31.11**	**158**	T	T	05 32 35.1	
	baz=344,slow=76,SNR=116						
MK31	**Makanchi Array**	**47.45**	**297**	P	**P**	**05 01 56.4**	**-1.4**
MKAR	**Makanchi Array**	**47.45**	**297**	P	**P**	**05 01 56.4**	**-1.4**
	1.5nm,0.6s,baz=66,slow=8.0,SNR=19						
MAKZ	**Makanchi**	**47.63**	**297**	P	**P**	**05 01 57.9**	**-1.3**
MAKZ				IAmb	IAmb	05 01 58.7	
	comp=Z,3.8nm,1.4s						
YKA	**Yellowknife Ar**	**48.97**	**38**	P	**P**	**05 02 09.3**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=302,slow=6.6,SNR=4.6						
RES	**Resolute Bay**	**49.04**	**19**	P	**P**	**05 02 10.6**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=340,slow=14,SNR=3.6						
RES	**Resolute Bay**	**49.04**	**19**	IAmb	IAmb	05 02 13.5	
	comp=Z,4.9nm,1.5s						
SHL	**Shillong**	**53.72**	**269**	P	**P**	**05 02 44.8**	**-0.7**
ARCES	**ARCESS Array B**	**56.91**	**341**	P	**P**	**05 03 06.8**	**-0.9**
	comp=Z,4.1nm,0.8s,baz=23,slow=7.1,SNR=3.0						
ABKAR	**Akbulak array**	**58.51**	**310**	P	**P**	**05 03 17.8**	**-1.3**
FINES	**FINESS Array B**	**63.28**	**335**	P	**P**	**05 03 51.2**	**-0.2**
	comp=Z,6.7nm,1.1s,baz=18,slow=5.0,SNR=3.6						
NOA	**NORSAR Array B**	**67.27**	**342**	P	**P**	**05 04 17.6**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=19,slow=3.7,SNR=2.9						
AKASG	**Malin Array Be**	**71.06**	**327**	P	**P**	**05 04 39.6**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=35,slow=6.1,SNR=2.6						
LPIG	**La Paz**	**75.38**	**70**	LR	LR	05 32 20.6	
	comp=Z,44nm,21.5s,baz=7.5,slow=31						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	**05 05 08.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=300,slow=5.0,SNR=4.0						
GERES	**GERESS Array B**	**77.72**	**335**	P	**P**	**05 05 20.1**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=46,slow=5.8,SNR=6.0						
BRTR	**Keskin Array B**	**78.22**	**318**	P	**P**	**05 05 23.1**	**+0.4**
	comp=Z,4.9nm,1.2s,baz=26,slow=12,SNR=5.3						

IDC 06 05:00:53.2±0.7, 5°.34N×73°.11W, h0km, mb3.0/1, mb1 3.3/1, mb1mx3.1/26, mbtmp3.0/1, Error ellipse: s-maj=25.2km s-min=5.6km az=148.0
RSNC 06 05:00:57.1±1.1, 3°.80N×74°.85W, h42km±4km, ML3.4, Mw3.5, Fault plane solution: NP1:φs108.00000°, δ28.00000°, λ-76.00000°.

ISC 06 05:00:57.1±1.4, 3°.80N±0°.03×74°.84W±0°.03, h37km±1km, n41, σ1s62/69, 9C-5D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRAC	**Prado**	**0.10**	**211**⇓	iP	**Pn**	**05 01 03.0**	**-0.5**
PRAC				eS	**Sn**	**05 01 09.0**	**+1.2**
PRAC				i		05 01 10.4	
	comp=Z,6μm,0.3s						
ORTC	**Ortega, Tolima**	**0.42**	**285**⇓	iP	**Pn**	**05 01 06.1**	**-0.4**
ORTC				eS	**Sn**	**05 01 14.0**	**+0.6**
ANIL	**Santa Ana**	**0.89**	**321**	eP	**Pn**	**05 01 12.0**	**-1.4**
ANIL				eS	**Sn**	**05 01 24.7**	**-0.6**
ANIL				i		05 01 25.3	
	comp=Z,1μm,0.3s						
TOLC	**Tolima**	**0.92**	**328**⇑	eP	**Pn**	**05 01 12.5**	**-1.4**
TOLC				eS	**Sn**	**05 01 25.5**	**-0.5**
TOLC				i		05 01 26.6	
	comp=Z,2μm,0.2s						
ROSC	**El Rosal**	**1.16**	**26**	Pg	**Pn**	**05 01 18.1**	**+1.0**
	comp=Z,71nm,0.3s,baz=17,slow=11,SNR=102						
ROSC				Lg	Lg	05 01 36.2	
	comp=Z,165nm,0.3s,baz=315,slow=20,SNR=15						
ROSC	**El Rosal**	**1.16**	**26**	eP	**Pn**	**05 01 17.1**	**0.0**
ROSC				eS	**Sn**	**05 01 33.4**	**+1.5**
ROSC				i		05 01 49.2	
	comp=Z,517nm,0.3s						
RREF	**El Recreo**	**1.21**	**335**⇑	eP	**Pn**	**05 01 17.1**	**-0.9**
RREF				eS	**Sn**	**05 01 33.3**	**-0.2**
RREF				i		05 01 37.2	
	comp=Z,858nm,0.3s						
BETC	**Betania**	**1.26**	**209**	eP	**Pn**	**05 01 16.3**	**-2.0**
BETC				eS	**Sn**	**05 01 32.6**	**-1.5**
CHIC	**Chingaza**	**1.38**	**53**⇓	iP	**Pn**	**05 01 20.4**	**+0.3**
CHIC				eS	**Sn**	**05 01 39.6**	**+2.2**
CHIC				i		05 01 42.5	
	comp=Z,365nm,0.7s						
MARP	**Paez Belalcaza**	**1.47**	**230**⇑	eP	**Pn**	**05 01 20.5**	**-0.8**
MARP				eS	**Sn**	**05 01 39.7**	**+0.3**
MARP				i		05 01 40.7	
	comp=Z,586nm,0.4s						
GUY2C	**Guyana, Caldas**	**1.51**	**340**⇑	iP	**Pn**	**05 01 22.1**	**-0.1**
GUY2C				eS	**Sn**	**05 01 40.7**	**-0.1**
GUY2C				i		05 01 43.0	
	comp=Z,362nm,0.2s						
YOTC	**Yotoco, Valle**	**1.52**	**277**⇓	eP	**Pn**	**05 01 20.8**	**-1.1**
YOTC				eS	**Sn**	**05 01 39.8**	**-0.6**
YOTC				i		05 01 46.7	
	comp=Z,200nm,0.3s						
GARC	**Garzon, Huila**	**1.73**	**202**	eP	**Pn**	**05 01 22.9**	**-2.0**
GARC				eS	**Sn**	**05 01 44.4**	**-1.5**
GARC				i		05 01 52.0	
	comp=Z,1μm,0.2s						
NORC	**Norcasia**	**1.75**	**359**⇑	eP	**Pn**	**05 01 23.8**	**-1.2**
NORC				eS	**Sn**	**05 01 46.7**	**+0.5**
NORC				i		05 01 48.7	
	comp=Z,278nm,0.2s						
PLMC	**San Jos del P**	**1.81**	**307**	eP	**Pn**	**05 01 25.7**	**-0.3**
PLMC				eS	**Sn**	**05 01 48.7**	**+0.9**
PLMC				i		05 01 51.8	
	comp=Z,215nm,0.5s						
MACC	**Macarena, Meta**	**1.92**	**149**	eP	**Pn**	**05 01 25.6**	**-1.7**
MACC				eS	**Sn**	**05 01 50.2**	**+0.1**
MACC				i		05 01 56.6	
	comp=Z,462nm,0.5s						
SPBC	**San Pablo de B**	**1.99**	**22**⇑	eP	**Pn**	**05 01 27.4**	**-1.0**
PCON	**Cinco Dias**	**2.13**	**227**⇑	eP	**Pn**	**05 01 30.1**	**-0.7**
PCON				eS	**Sn**	**05 01 58.6**	**+2.3**
PCON				i		05 02 04.9	
	comp=Z,246nm,0.4s						
POPC	**Popayan, Colom**	**2.22**	**236**⇑	eP	**Pn**	**05 01 32.0**	**+0.4**
POPC				eS	**Sn**	**05 01 59.5**	**+1.5**
POPC				i		05 02 02.8	
	comp=Z,72nm,0.3s						
CBOC	**Ciudad Bolivar**	**2.36**	**330**	eP	**Pn**	**05 01 34.3**	**+0.8**
SOTA	**Rioblanco**	**2.42**	**227**⇑	eP	**Pn**	**05 01 34.7**	**+0.1**
HELC	**Santa Helena**	**2.48**	**344**⇓	eP	**Pn**	**05 01 35.7**	**+0.5**
HELC				eS	**Sn**	**05 02 05.8**	**+1.3**
HELC				i		05 02 15.9	
	comp=Z,56nm,0.4s						
MALC	**Bahia Malaga**	**2.50**	**275**	eP	**Pn**	**05 01 36.0**	**+0.7**
MALC				eS	**Sn**	**05 02 06.0**	**+1.4**
MALC				i		05 02 09.1	
	comp=Z,93nm,0.4s						
GUVC	**San Jose del G**	**2.53**	**119**	eP	**Pn**	**05 01 34.9**	**-0.9**
GUVC				eS	**Sn**	**05 02 04.7**	**-0.6**
GUVC				i		05 02 21.1	
	comp=Z,442nm,0.1s						
RUSC	**La Rusia**	**2.72**	**40**	eP	**Pn**	**05 01 39.0**	**+0.3**
PTGC	**Puerto Gaitan,**	**2.73**	**81**	eP	**Pn**	**05 01 37.5**	**-0.9**
PTGC				eS	**Sn**	**05 02 11.5**	**+1.4**
PTGC				i		05 02 27.6	
	comp=Z,188nm,0.3s						
PTBC	**PUERTO BERRIO,**	**2.75**	**8**	eP	**Pn**	**05 01 38.0**	**-0.8**
PTBC				eS	**Sn**	**05 02 10.3**	**-0.4**
PTBC				i		05 02 33.9	
	comp=Z,88nm,0.5s						
BBAC	**Balboa, Cauca**	**2.98**	**234**	eP	**Pn**	**05 01 38.2**	**-3.9**
BARC	**Barichara**	**3.23**	**31**	eP	**Pn**	**05 01 45.3**	**-0.3**
BARC				eS	**Sn**	**05 02 21.9**	**-0.9**
BARC				i		05 02 32.1	
	comp=Z,87nm,0.4s						
BRRC	**Barranca, Sant**	**3.47**	**19**	eP	**Pn**	**05 01 46.8**	**-1.9**
DBBC	**Dabeiba**	**3.48**	**337**	eP	**Pn**	**05 01 49.6**	**+0.8**
GCUF	**Volcan Galeras**	**3.58**	**225**	eP	**Pn**	**05 01 50.8**	**+0.2**
PTLC	**Puerto Leguiza**	**3.60**	**179**	eP	**Pn**	**05 01 54.0**	**+3.5**
PTLC				eS	Sn	05 02 50.2	+18
PTLC				i		05 03 07.5	
	comp=Z,76nm,0.6s						
TAMC	**Tame, Arauca**	**4.01**	**49**	eP	**Pn**	**05 01 56.0**	**-0.1**
TAMC				eS	**Sn**	**05 02 42.0**	**+0.2**
TAMC				i		05 02 59.3	
	comp=Z,31nm,0.3s						
PAMC	**Pamplona, Colo**	**4.11**	**31**	eP	**Pn**	**05 01 57.6**	**-0.2**
PAMC				eS	**Sn**	**05 02 46.5**	**+1.5**
PAMC				i		05 02 55.6	
	comp=Z,31nm,0.2s						
OCAC	**Ocana**	**4.66**	**19**	eP	**Pn**	**05 02 05.2**	**0.0**
OCAC				eS	**Sn**	**05 02 58.4**	**+0.2**
OCAC				i		05 03 10.3	
	comp=Z,51nm,0.5s						
MOTC	**Monteria, Cord**	**5.02**	**351**	eP	**Pn**	**05 02 09.6**	**-0.4**
SMLC	**San Martn de**	**5.03**	**9**	eP	**Pn**	**05 02 08.5**	**-1.6**
SMLC				eS	**Sn**	**05 03 05.9**	**-1.1**
SMLC				i		05 03 25.0	
	comp=Z,17nm,0.3s						
SDV	**Santo Domingo**	**6.56**	**39**	eP	**Pn**	**05 02 30.7**	**-0.6**
SDV				eS	**Sn**	**05 03 39.9**	**-5.1**
SDV				i		05 03 47.7	
	comp=Z,28nm,0.5s						
YKA	**Yellowknife Ar**	**65.52**	**341**	P	**P**	**05 11 32.6**	**-4.0**
	comp=Z,0.1nm,0.5s,baz=152,slow=4.9,SNR=3.1						
WRA	**Warramunga Arr**	**147.35**	**238**	PKPbc	**PKiKP**	**05 20 46.1**	**+5.9**
	comp=Z,0.5nm,0.7s,baz=129,slow=3.3,SNR=4.5						

IDC 06 05:04:55.2±4.6, 5°.76S×146°.66E, h82km±48km, mb3.2/4, mb1 3.5/7, mb1mx3.3/44, mbtmp3.7/7, ML2.7/2, Error ellipse: s-maj=34.9km s-min=30.4km az=141.0

ISC 06 05:04:56.7±1.2, 5°.9S±0°.1×146°.7E±0°.2, h100km, n8, σ0s79/9, mb3.2/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.55**	**173**	P	**Pn**	**05 05 49.3**	**-0.6**
	6.0nm,0.3s,baz=49,slow=6.4,SNR=5.4						
PMG				S	**Sn**	**05 06 31.9**	**+1.0**
	4.7nm,0.3s,baz=1.6,slow=21,SNR=3.6						
CTA	**Charters Tower**	**14.14**	**182**	P	**P**	**05 08 16.2**	**-0.9**
	0.9nm,0.3s,baz=31,slow=5.9,SNR=3.8						
SIJI	**Sorong**	**16.19**	**287**	P	**Pn**	**05 08 38.5**	**0.0**
	1.1nm,0.3s,baz=84,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**18.45**	**220**	P	**Pn**	**05 09 06.0**	**+0.1**
	0.1nm,0.3s,baz=45,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**21.57**	**214**	P	**P**	**05 09 39.3**	**+0.9**
	0.4nm,0.7s,baz=36,slow=9.9,SNR=5.2						
FITZ	**Fitzroy Crossi**	**23.89**	**238**	P	**P**	**05 10 01.4**	**0.0**
	2.6nm,0.5s,baz=68,slow=5.4,SNR=12						
MKAR	**Makanchi Array**	**77.21**	**321**	P	**P**	**05 16 39.3**	**-0.5**
	0.1nm,0.5s,baz=99,slow=5.8,SNR=2.3						
ILAR	**Eielson Array**	**85.47**	**23**	P	**P**	**05 17 23.9**	**+0.8**
	0.4nm,0.6s,baz=254,slow=5.1,SNR=7.8						

WEL 06 05:07:37.1±1.0, 36°S±13°×17°8E±1°2, h212km±15km, M3.6/20, MLv3.6/20, Error ellipse: s-maj=0.0km s-min=0.0km az=151.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.90**	**183**	P	Pn	05 08 16.0	+0.5
MXZ				S	S	05 08 44.6	-0.8
HAZ	**Te Kaha**	**2.16**	**194**	P	Pn	05 08 18.1	+0.1
HAZ				S	S	05 08 49.6	-0.2
WMGZ	**Waiomatatini S**	**2.16**	**180**	P	Pn	05 08 18.9	+0.8
WMGZ				S	S	05 08 51.5	+1.6
PKGZ	**Pakihiroa**	**2.25**	**187**	P	Pn	05 08 19.3	+0.3
PKGZ				S	S	05 08 51.9	+0.3
RUGZ	**Raukumara Rang**	**2.38**	**194**	P	Pn	05 08 20.0	-0.5
PUZ	**Puketiti**	**2.41**	**183**	P	Pn	05 08 21.1	+0.3
PUZ				S	S	05 08 55.0	+0.3
TWGZ	**Tauwhareparae**	**2.54**	**188**	P	Pn	05 08 22.9	+0.7
TWGZ				S	S	05 09 00.2	+3.0
OPRZ	**Ohinepanea**	**2.65**	**214**	P	Pn	05 08 24.7	+1.4
MWZ	**Matawai**	**2.77**	**195**	P	Pn	05 08 24.6	-0.1
MWZ				S	S	05 09 00.8	-0.9
URZ	**Urewera**	**2.80**	**202**	P	Pn	05 08 24.7	-0.3
URZ				S	S	05 09 03.8	+1.5
TKGZ	**Te Karaka**	**2.81**	**189**	P	Pn	05 08 25.1	0.0
TKGZ				S	S	05 09 04.5	+1.9
CNGZ	**Carnagh Statio**	**2.83**	**183**	P	Pn	05 08 25.9	+0.6
MKAZ	**Moumakai**	**3.00**	**240**	P	Pn	05 08 26.3	-1.1
RIGZ	**Rimuhau**	**3.09**	**190**	P	Pn	05 08 28.0	-0.4
RIGZ				S	S	05 09 09.1	+0.7
MUGZ	**Murupara**	**3.11**	**205**	P	Pn	05 08 28.2	-0.4
MUGZ				S	S	05 09 09.1	+0.4
RTZ	**Ruatahuna**	**3.17**	**201**	P	Pn	05 08 28.2	-1.2
SNGZ	**Shannon Statio**	**3.24**	**195**	P	Pn	05 08 30.2	+0.1
SNGZ				S	S	05 09 12.2	+0.7
PRGZ	**Paritu Road**	**3.29**	**187**	P	Pn	05 08 30.6	-0.1
KNZ	**Kokohu**	**3.41**	**190**	P	Pn	05 08 31.2	-0.9
RAHZ	**Arahi**	**3.42**	**198**	P	Pn	05 08 31.8	-0.5
MTHZ	**Maungataniwha**	**3.43**	**201**	P	Pn	05 08 32.2	-0.2
TLZ	**Tolley Road**	**3.53**	**220**	P	Pn	05 08 35.3	+1.7
WHHZ	**Waihua**	**3.54**	**195**	P	Pn	05 08 33.1	-0.6
MRHZ	**Matea Rd**	**3.55**	**206**	P	Pn	05 08 32.7	-1.2
NMHZ	**Naumai**	**3.67**	**200**	P	Pn	05 08 35.3	-0.1
ARHZ	**Aropaoanui**	**3.77**	**197**	P	Pn	05 08 35.7	-0.8
BKZ	**Black Stump Fm**	**3.83**	**203**	P	Pn	05 08 36.0	-1.1
MCHZ	**McNeill Hill**	**4.02**	**199**	P	Pn	05 08 38.7	-0.8
HIZ	**Hauiti**	**4.03**	**224**	P	Pn	05 08 41.5	+1.8
TMVZ	**Te Maari**	**4.08**	**211**	P	Pn	05 08 39.9	-0.4
KWHZ	**Kaweka Forest**	**4.08**	**202**	P	Pn	05 08 39.4	-0.9
ETVZ	**East Tongariro**	**4.09**	**211**	P	Pn	05 08 39.8	-0.7
WTVZ	**West Tongariro**	**4.12**	**212**	P	Pn	05 08 40.8	-0.1
OTVZ	**Oturere**	**4.13**	**211**	P	Pn	05 08 40.4	-0.7
CKHZ	**Cape Kidnapper**	**4.13**	**195**	P	Pn	05 08 39.6	-1.3
BHHZ	**Black Hill Sta**	**4.26**	**205**	P	Pn	05 08 40.6	-1.9
KRHZ	**Kereru**	**4.30**	**202**	P	Pn	05 08 41.0	-2.0
MOVZ	**Moawhango**	**4.30**	**209**	P	Pn	05 08 41.2	-1.9
KAHZ	**Kahuranaki**	**4.31**	**196**	P	Pn	05 08 41.7	-1.4
PXZ	**Pawanui**	**4.54**	**195**	P	Pn	05 08 44.0	-1.9
PNHZ	**Pukenui**	**4.60**	**202**	P	Pn	05 08 44.2	-2.6
WPHZ	**Waipukurau**	**4.67**	**199**	P	Pn	05 08 45.5	-2.1
TSZ	**Takapari Road**	**4.81**	**203**	P	Pn	05 08 46.5	-2.8
PRHZ	**Porangahau**	**4.81**	**197**	P	Pn	05 08 47.5	-1.9
DVHZ	**Dannevirke**	**4.97**	**200**	P	Pn	05 08 48.6	-2.7
BFZ	**Birch Farm**	**5.30**	**198**	P	Pn	05 08 53.0	-2.5
MRZ	**Mangatainoka R**	**5.48**	**203**	P	Pn	05 08 54.8	-3.0
TIWZ	**Tintock**	**5.49**	**201**	P	Pn	05 08 55.4	-2.6
OGWZ	**Otaki Gorge**	**5.75**	**205**	P	Pn	05 08 58.0	-3.3
TMWZ	**Te Maipa**	**5.79**	**199**	P	Pn	05 08 58.6	-3.2
TRWZ	**Traveller**	**6.12**	**200**	P	Pn	05 09 02.5	-3.5
TCW	**Tory Channel**	**6.43**	**209**	P	Pn	05 09 05.9	-4.0
THZ	**Tophouse**	**7.47**	**214**	P	Pn	05 09 19.7	-3.7

IDC 06 05:15:31.6±5.5, 36°.55N×71°.15E, h203km±46km, mb3.2/6, mb1 3.4/9, mb1mx3.0/56, mbtmp3.8/9, Error ellipse: s-maj=46.9km s-min=19.8km az=39.0
NNC 06 05:15:37.7±3.5, 37°.26N×71°.21E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=26.7km s-min=25.0km az=154.0

ISC 06 05:15:32.0±1.2, 36°.7N±0°.1×71°.1E±0°.1, h200km, n19, σ2s00/23, mb3.2/6, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.81**	**20**	P	**Pn**	**05 16 58.5**	**+1.5**
	SNR=26						
UCH	**Uchtor**	**6.14**	**25**	P	**Pn**	**05 17 03.1**	**+1.7**
	SNR=15						
EKS2	**Erkin-Say**	**6.33**	**18**	P	**Pn**	**05 17 05.6**	**+2.1**
	SNR=6.4						
KK31	**Karatay Array**	**6.43**	**356**	⇓Pn	**Pn**	**05 17 05.7**	**+1.1**
	0.5nm,0.3s,baz=184,slow=13,SNR=6.1						
KK31				⇓Sn	**Sn**	**05 18 15.3**	**-2.9**
	4.3nm,0.6s,baz=185,slow=22,SNR=9.7						
AAK	**Ala-Archa**	**6.51**	**23**	P	**Pn**	**05 17 07.8**	**+2.0**
	1.6nm,0.3s,baz=179,slow=6.8,SNR=16						
AAK				S	**Sn**	**05 18 20.4**	**+0.2**
	0.6nm,0.3s,baz=185,slow=21,SNR=7.5						
AAK	**Ala-Archa**	**6.51**	**23**	P	**Pn**	**05 17 08.9**	**+3.0**
	SNR=7.6						
AAK	**Ala-Archa**	**6.51**	**23**	⇓Pn	**Pn**	**05 17 07.4**	**+1.5**
	3.2nm,0.5s						
AAK				⇑Sn	**Sn**	**05 18 15.7**	**-4.6**
	5.9nm,0.8s						
KBK	**Karagaybulak**	**6.67**	**25**	P	**Pn**	**05 17 10.8**	**+2.8**
	SNR=5.2						
TKM2	**Tokmak 2**	**7.14**	**28**	P	**Pn**	**05 17 16.1**	**+2.0**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.14**	**28**	⇓Pn	**Pn**	**05 17 15.6**	**+1.5**
	5.3nm,0.6s						
TKM2				⇑Sn	**Sn**	**05 18 34.0**	**-1.2**
	5.1nm,1.0s						
MKAR	**Makanchi Array**	**13.11**	**36**	P	**Pn**	**05 18 31.9**	**+1.1**
	0.0nm,0.3s,baz=208,slow=12,SNR=3.2						
AKTO	**Aktyubinsk**	**16.65**	**330**	P	**Pn**	**05 19 13.8**	**0.0**
	0.2nm,0.3s,baz=138,slow=8.6,SNR=7.4						
ZALV	**Zalesovo Beam**	**19.73**	**25**	P	**P**	**05 19 47.5**	**+1.4**
	0.2nm,0.3s,baz=220,slow=8.9,SNR=4.0						
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**05 22 25.7**	**+0.8**
	1.4nm,0.6s,baz=123,slow=14,SNR=4.3						
ARCES	**ARCESS Array B**	**40.99**	**337**	P	**P**	**05 22 54.6**	**-0.3**
	6.8nm,1.2s,baz=101,slow=8.4,SNR=4.8						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**05 23 21.8**	**+0.4**
	0.8nm,0.9s,baz=108,slow=8.0,SNR=2.0						
YKA	**Yellowknife Ar**	**81.06**	**3**	P	**P**	**05 27 24.4**	**+0.2**
	0.2nm,0.5s,baz=359,slow=5.0,SNR=4.1						
WRA	**Warramunga Arr**	**82.04**	**122**	P	**P**	**05 27 28.4**	**-1.6**
	0.4nm,0.8s,baz=316,slow=4.7,SNR=2.9						
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**05 27 40.0**	**-1.6**
	0.3nm,0.6s,baz=317,slow=6.6,SNR=3.5						

JMA 06 05:20:01.5±0.2, 26°.23N×127°.19E, h37km±2km, M3.8
JMA Felt II J1.
NIED 06 05:20:01.5, 26°.23N×127°.19E, h37km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-7.26; $M_{\theta\theta}$1.21; $M_{\phi\phi}$6.06; $M_{r\theta}$3.92; $M_{\theta\phi}$-2.69; $M_{\phi r}$-0.38; Fault plane solution: $M_0$8.18000×10^{14} NP1: ϕ_s315.00000°, δ56.00000°, λ-115.00000°. NP2: ϕ_s175.00000°, δ41.00000°, λ-58.00000°.
IDC 06 05:20:03.1±2.2, 26°.35N×127°.37E, h65km±20km, mb3.5/11, mb1 3.7/12, mb1mx3.4/60, mbtmp3.9/12, MS3.4/3, Ms1 3.4/3, ms1mx2.8/48 Error ellipse: s-maj=30.2km s-min=21.7km az=62.0

ISC 06 05:20:00.8±0.9, 26°.26N±0°.08×127°.16E±0°.05, h48km±7km, n24, σ0s99/30, mb3.8/12, MS3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.34**	**12**	P	**Pn**	**05 20 10.2**	**+0.1**
JAGN				S	**Sn**	**05 20 16.5**	**-0.2**
JKE	**Kume jima 2**	**0.34**	**282**	P	**Pn**	**05 20 10.3**	**+0.2**
JKE				S	**Sn**	**05 20 16.6**	**-0.2**
JJT3	**Tamagusuku3**	**0.57**	**101**	P	**Pn**	**05 20 13.0**	**+0.2**
JJT3				S	**Sn**	**05 20 21.7**	**+0.3**
JNTH	**Nagotoyohara**	**0.81**	**71**	P	**Pn**	**05 20 15.9**	**0.0**
JNTH				S	**Sn**	**05 20 26.6**	**-0.4**
JIH	**Iheya**	**1.06**	**43**	P	**Pn**	**05 20 19.5**	**+0.3**
JIH				S	**Sn**	**05 20 32.3**	**-0.6**
JOW	**Kunigami**	**1.15**	**60**	P	**Pn**	**05 20 20.9**	**+0.4**
	1μm,0.3s,baz=180,slow=29,SNR=1524						
JOW				LR	LR	05 20 26.6	
	comp=Z,89nm,18.2s,baz=340,slow=25						
JOW				S	**Sn**	**05 20 34.1**	**-1.0**
	851nm,0.3s,baz=321,slow=29,SNR=24						
JOW	**Kunigami**	**1.15**	**60**	P	**Pn**	**05 20 20.9**	**+0.4**
JOW				S	**Sn**	**05 20 35.2**	**+0.1**
JYRO	**Yoronjima**	**1.39**	**56**	P	**Pn**	**05 20 23.9**	**+0.2**
JYRO				S	**Sn**	**05 20 40.8**	**0.0**
JNU	**Nakatsue**	**7.57**	**24**	P	**Pn**	**05 21 50.4**	**+1.9**
	1.8nm,0.3s,baz=341,slow=8.5,SNR=8.9						
SONM	**Songino Array**	**27.02**	**328**	P	**P**	**05 25 39.5**	**+1.1**
	0.4nm,0.4s,baz=142,slow=13,SNR=2.8						
BATI	**Baumata**	**36.40**	**186**	LR	LR	05 44 47.8	
	comp=Z,55nm,18.2s,baz=60,slow=41						
MA2	**Magadan**	**37.10**	**20**	LR	LR	05 44 31.7	
	comp=Z,43nm,18.3s,baz=333,slow=40						
MKAR	**Makanchi Array**	**40.80**	**312**	P	**P**	**05 27 37.8**	**+0.3**
	0.3nm,0.4s,baz=102,slow=9.6,SNR=5.1						
MKAR				PcP	**PcP**	**05 29 39.1**	**+1.3**
	0.2nm,0.8s,baz=87,slow=3.0,SNR=2.0						
ZALV	**Zalesovo Beam**	**41.65**	**323**	P	**P**	**05 27 44.6**	**+0.3**
	0.7nm,0.5s,baz=124,slow=7.2,SNR=2.4						

KURBB	**Kurchatov Arra**	**44.17**	**317**	P	**P**	**05 28 05.2**	**+0.4**
	0.5nm,0.3s,baz=104,slow=8.2,SNR=3.0						
WRA	**Warramunga Arr**	**46.45**	**171**	P	**P**	**05 28 24.0**	**+0.9**
	1.1nm,0.9s,baz=353,slow=8.4,SNR=6.7						
BVAR	**Borovoye Array**	**49.62**	**318**	P	**P**	**05 28 49.2**	**+1.9**
	0.4nm,0.3s,baz=133,slow=13,SNR=5.5						
MSVF	**Nonsavu**	**66.00**	**126**	LR	LR	05 58 54.6	
	comp=Z,40nm,18.4s,baz=130,slow=35						
INK	**Inuvik**	**69.24**	**23**	P	**P**	**05 31 01.0**	**-1.3**
	1.6nm,1.0s,baz=216,slow=6.7,SNR=4.2						
ARCES	**ARCESS Array B**	**69.63**	**338**	P	**P**	**05 31 04.6**	**-0.1**
	4.3nm,0.9s,baz=67,slow=7.0,SNR=2.2						
FINES	**FINESS Array B**	**72.37**	**330**	P	**P**	**05 31 22.1**	**+0.7**
	1.4nm,0.4s,baz=71,slow=4.8,SNR=14						
AKASG	**Malin Array Be**	**74.89**	**319**	P	**P**	**05 31 33.2**	**-3.1**
	0.7nm,0.4s,baz=62,slow=6.4,SNR=6.2						
NOA	**NORSAR Array B**	**78.86**	**334**	P	**P**	**05 31 58.5**	**-0.1**
	1.1nm,0.7s,baz=58,slow=5.1,SNR=2.5						
YKA	**Yellowknife Ar**	**78.90**	**25**	P	**P**	**05 31 58.9**	**+0.1**
	0.3nm,0.7s,baz=302,slow=4.5,SNR=4.0						

IDC 06 05:25:50.9±7.7**, 19°.07S×177°.88W, h0km, mb3.9**/2**, mb1 4.2**/2**, mb1mx3.5**/36**, mbtmp3.9**/2**, Error ellipse: s-maj=324.0km s-min=120.1km az=153.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.93**	**261**	P	P	05 34 08.7	+0.7
	0.8nm,0.3s,baz=94,slow=8.4,SNR=35						
ASAR	**Alice Springs**	**44.98**	**255**	P	P	05 34 07.2	-1.1
	0.8nm,0.6s,baz=90,slow=8.1,SNR=10						
AKASG	**Malin Array Be**	**141.82**	**332**	PKP	PKPdf	05 45 23.9	-0.6
	0.3nm,0.3s,baz=44,slow=4.0,SNR=4.3						

*IDC **06** 05:27:26.6±3.5, 52°.25N×174°.41W, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.5/50, mbtmp3.8/6, ML4.2/2, Error ellipse: s-maj=65.6km s-min=40.8km az=111.0*
*AEIC **06** 05:27:49±1.3, 52°.5N±0°.3×173°.3W±0°.1, h170km±7km, ML3.5/17, mb4.0/27(NEIC), Error ellipse: s-maj=38.0km s-min=8.0km az=164.0*
*NEIC **06** 05:27:49.3±1.2, 52°.6N±0°.3×173°.4W±0°.2, h163km±11km, Error ellipse: s-maj=45.5km s-min=8.1km az=165.0*
ISC 06 05:27:49.4±0.8**, 52°.7N**±0°.2×**173°.39W**±0°.06**, h150km, n51, σ1^{s}00**/56**, mb3.6**/4**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.63**	**223**		**Pn**	**05 28 12.9**	**+1.3**
KOKL	**Mount Kliuchef**	**0.65**	**230**		**Pn**	**05 28 13.2**	**+1.5**
ATKA	**Atka Island**	**0.73**	**223**		**Pn**	**05 28 12.7**	**+0.6**
ATKA	**Atka Island**	**0.73**	**223**		**Sn**	**05 28 31.1**	**+1.8**
GSTR	**Great Sitkin T**	**1.76**	**250**	Pn	**Pn**	**05 28 21.8**	**0.0**
GSMY	**Great Sitkin M**	**1.78**	**248**		**Pn**	**05 28 22.0**	**0.0**
GSTD	**Great Sitkin T**	**1.82**	**249**		**Pn**	**05 28 22.6**	**0.0**
GSTD					**Sn**	**05 28 48.7**	**+0.7**
ADK	**Adak**	**2.20**	**248**		**Pn**	**05 28 26.7**	**-0.1**
ADK					**Sn**	**05 28 55.5**	**0.0**
KIKV	**Kanaga Island**	**2.48**	**251**		**Pn**	**05 28 30.6**	**+0.4**
KIMD	**Kanaga Island**	**2.56**	**249**		**Pn**	**05 28 31.4**	**+0.2**
KIMD					**Sn**	**05 29 03.9**	**+0.5**
NIKH	**Nikolski High**	**2.76**	**83**		**Pn**	**05 28 34.2**	**+0.6**
NIKH					**Sn**	**05 29 08.3**	**+0.5**
OKSO	**Okmok South**	**3.22**	**77**		**Sn**	**05 29 19.3**	**+1.0**
MNAT	**Makushin Natee**	**4.18**	**71**		**Pn**	**05 28 51.4**	**-0.6**
AMKA	**Amchitka**	**4.71**	**256**	Pn	**Pn**	**05 28 58.8**	**-0.1**
KDAK	**Kodiak Island**	**12.87**	**59**	Pn	**Pn**	**05 30 43.6**	**-3.1**
	1.2nm,0.3s,baz=224,slow=1.4,SNR=27						
KDAK				Sn	**Sn**	**05 33 11.0**	**+2.2**
	0.3nm,0.3s,baz=23,slow=15,SNR=8.8						
CNPM	**China Poot**	**14.05**	**52**	Pn	**Pn**	**05 31 02.0**	**+0.3**
BRLK	**Bradley Lake**	**14.30**	**52**	Pn	**Pn**	**05 31 04.7**	**-0.1**
O22K	**Cooper Landing**	**15.09**	**50**	P	**P**	**05 31 16.0**	**-0.3**
SEW	**Seward**	**15.09**	**51**	Pn	**Pn**	**05 31 13.9**	**-0.8**
SEW				IAmb	IAmb	05 31 40.4	
	comp=Z,7.4nm,1.1s						
PPLA	**Purkeypile**	**15.12**	**39**	P	**P**	**05 31 19.6**	**+2.8**
PPLA				IAmb	IAmb	05 31 33.1	
	comp=Z,8.5nm,1.2s						
KTH	**Kantishna Hill**	**15.96**	**38**	P	**P**	**05 31 27.2**	**+1.2**
KTH				IAmb	IAmb	05 31 29.9	
	comp=Z,7.3nm,0.9s						
KNK	**Knik Glacier**	**16.00**	**47**	P	**Pn**	**05 31 25.9**	**0.0**
KNK				IAmb	IAmb	05 31 26.7	
	comp=Z,4.5nm,0.9s						
SML	**Sawmill**	**16.21**	**46**	P	**P**	**05 31 28.7**	**-0.1**
SML				IAmb	IAmb	05 31 32.2	
	comp=Z,13nm,1.4s						
BPAW	**Bear Paw Mtn.**	**16.23**	**37**	P	**P**	**05 31 30.5**	**+1.5**
BPAW				IAmb	IAmb	05 31 31.9	
	comp=Z,5.0nm,1.0s						
IMAR	**Indian Mountai**	**16.51**	**29**	P	**P**	**05 31 32.6**	**+0.6**
SCM	**Sheep Creek Mo**	**16.66**	**47**	P	**P**	**05 31 33.8**	**+0.1**
RND	**Reindeer**	**16.68**	**41**	P	**P**	**05 31 33.3**	**-0.6**
FID	**Port Fidalgo**	**16.69**	**51**	P	**P**	**05 31 32.0**	**-2.0**
KLU	**Klutina**	**17.18**	**49**	P	**P**	**05 31 39.2**	**-0.2**
KLU				IAmb	IAmb	05 31 40.1	
	comp=Z,8.0nm,1.3s						
I23K	**Minto, Yukon-K**	**17.40**	**35**	P	**Pn**	**05 31 43.0**	**+0.2**
I23K				IAmb	IAmb	05 31 44.6	
	comp=Z,3.3nm,0.6s						
WRH	**Wood River Hil**	**17.50**	**38**	P	**P**	**05 31 41.9**	**-0.9**
WRH				IAmb	IAmb	05 31 47.2	
	comp=Z,8.7nm,1.5s						
CCB	**Clear Creek Bu**	**17.70**	**38**	P	**P**	**05 31 44.0**	**-1.0**
MDM	**Murphy Dome**	**17.70**	**37**	P	**P**	**05 31 44.9**	**-0.2**
N25K	**Chitina, Valde**	**17.82**	**49**	P	**P**	**05 31 46.6**	**+0.2**
N25K				IAmb	IAmb	05 31 48.2	
	comp=Z,8.6nm,1.4s						
SUCK	**Suckling Hills**	**17.83**	**54**	P	**P**	**05 31 45.8**	**-0.8**
PAX	**Paxson**	**17.89**	**44**	P	**Pn**	**05 31 47.9**	**-0.7**
HDA	**Harding Lake**	**17.90**	**39**	P	**Pn**	**05 31 47.9**	**-0.8**
IL31		**18.10**	**38**	P	**P**	**05 31 49.6**	**+0.2**
IL31				IAmb	IAmb	05 31 51.1	
	comp=Z,3.9nm,0.4s						
ILAR	**Eielson Array**	**18.10**	**38**	P	**P**	**05 31 48.8**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=224,slow=11,SNR=94						
DOT	**Dot Lake**	**18.73**	**43**	P	**P**	**05 31 55.7**	**-0.6**
DOT				IAmb	IAmb	05 31 56.5	
	comp=Z,7.0nm,0.7s						
YAH	**Yahtse**	**18.88**	**54**	P	**Pn**	**05 32 01.0**	**+0.5**
BCAR	**Beaver Creek A**	**19.50**	**46**	P	**Pn**	**05 32 06.9**	**-0.6**
TOLK	**Toolik Lake Re**	**19.52**	**26**	P	**P**	**05 32 05.3**	**+0.4**
TOLK				IAmb	IAmb	05 32 08.8	
	comp=Z,3.8nm,0.9s						
K27K	**Chicken**	**19.69**	**43**	P	**P**	**05 32 06.4**	**-0.3**
K27K				IAmb	IAmb	05 32 09.9	
	comp=Z,3.3nm,0.9s						
BMAR	**Burnt Mountain**	**20.27**	**32**	P	**P**	**05 32 14.2**	**+1.3**
EGAK	**Eagle**	**20.33**	**41**	P	**P**	**05 32 12.9**	**-0.6**
EGAK				IAmb	IAmb	05 32 15.7	
	comp=Z,9.1nm,1.5s						
DAWY	**Dawson**	**20.82**	**44**	P	**P**	**05 32 19.7**	**+0.9**
INK	**Inuvik**	**24.42**	**35**	P	**P**	**05 32 52.7**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=226,slow=11,SNR=2.5						
NVAR	**Mina Array Bea**	**40.12**	**88**	P	**P**	**05 35 10.2**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=310,slow=7.1,SNR=7.4						
PDAR	**Pinedale Array**	**42.73**	**77**	P	**P**	**05 35 30.8**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=297,slow=4.0,SNR=10						
TXAR	**Lajitas Array**	**55.18**	**86**	P	**P**	**05 37 05.3**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=300,slow=5.5,SNR=12						

*IDC **06** 05:42:43.0±2.2, 36°.30N×142°.84E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.7/57, mbtmp3.8/11, ML3.4/2, MS2.7/2, Ms1 2.7/2, ms1mx2.4/54, Error ellipse: s-maj=52.3km s-min=22.1km az=172.0*
*JMA **06** 05:42:45.8±0.2, 36°.51N×142°.63E, h22km, M3.5*
*NIED **06** 05:42:45.9, 36°.51N×142°.63E, h22km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.82; $M_{\theta\theta}$-1.21; $M_{\phi\phi}$-3.61; $M_{r\theta}$-0.75; $M_{\theta\phi}$-1.84; $M_{\phi r}$0.96; Fault plane solution: $M_0$4.86000×10^{14} NP1:ϕ_s17.00000°, δ49.00000°, λ74.00000°. NP2:ϕ_s220.00000°, δ43.00000°, λ107.00000°.*
ISC 06 05:42:46.4±1.1**, 36°.49N**±0°.08×**142°.68E**±0°.09**, h15km, n29, σ1^{s}23**/25**, mb3.8**/8**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.67**	**242**	*e*S	**Sn**	**05 43 35.2**	**-1.1**
JFK	**Kawauchi**	**1.69**	**302**	P	**Pn**	**05 43 14.1**	**-1.3**
JHYU	**Hitachinakayam**	**1.69**	**265**	*e*S	**Sn**	**05 43 35.2**	**-1.6**
JHO	**Hitachi**	**1.70**	**275**	P	**Pn**	**05 43 14.1**	**-1.5**
JFT	**Otama**	**2.14**	**299**	P	**Pn**	**05 43 21.2**	**-0.3**
JAG	**Ashikaga**	**2.60**	**269**	P	**Pn**	**05 43 27.3**	**-0.6**
JMK	**Ichinoseki**	**2.71**	**335**	P	**Pn**	**05 43 28.7**	**-0.7**
JYK	**Kaneyama**	**3.04**	**323**	P	**Pn**	**05 43 33.5**	**-0.4**
JRY	**Ryogami san**	**3.09**	**262**	P	**Pn**	**05 43 33.6**	**-1.1**
JRY				S	**Sn**	**05 44 09.9**	**-1.5**
JOM	**Ohasama**	**3.17**	**340**	S	**Sn**	**05 44 12.1**	**-1.2**
MJAR	**Matsushiro Arr**	**3.60**	**272**	Pn	**Pn**	**05 43 41.0**	**-0.7**
	0.5nm,0.3s,baz=87,slow=8.8,SNR=13						
MJAR				LR	LR	05 45 12.9	
	comp=Z,115nm,18.2s,baz=320,slow=40						
MAT	**Matsushiro**	**3.60**	**272**	P	**Pn**	**05 43 41.9**	**+0.2**
MAT				*e*S	**Sn**	**05 44 24.7**	**+0.7**
ASAJ	**Asahikawa**	**7.62**	**360**	Pn	**Pn**	**05 44 36.6**	**-0.1**
	1.4nm,0.3s,baz=206,slow=5.9,SNR=5.6						
ASAJ				Sn	**Sn**	**05 46 00.5**	**-2.3**
	0.8nm,0.3s,baz=107,slow=19,SNR=2.7						
USRK	**Ussuriysk Ar.**	**11.21**	**317**	Pn	**Pn**	**05 45 28.0**	**+2.0**
	baz=130,slow=14,SNR=4.3						
KSRS	**Korea Array**	**11.85**	**279**	LR	LR	05 49 29.7	
	comp=Z,32nm,18.1s,baz=310,slow=34						
MA2	**Magadan**	**23.69**	**10**	P	**P**	**05 47 58.1**	**+0.8**
	3.0nm,0.3s,baz=150,slow=8.1,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**27.00**	**122**	T	T	06 16 36.2	
	baz=313,slow=75,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**27.01**	**122**	T	T	06 16 38.5	
	baz=313,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**27.02**	**122**	T	T	06 16 40.4	
	baz=313,slow=75,SNR=6.6						
H11S1	**WAKE ISLAND Hy**	**27.71**	**124**	T	T	06 17 35.5	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**27.71**	**124**	T	T	06 17 33.6	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**27.73**	**124**	T	T	06 17 36.6	
	baz=316						
SONM	**Songino Array**	**28.93**	**304**	P	**P**	**05 48 47.6**	**+2.6**
	0.7nm,0.8s,baz=117,slow=9.3,SNR=4.4						
MKAR	**Makanchi Array**	**45.27**	**303**	P	**P**	**05 51 03.7**	**+0.4**
	0.8nm,0.6s,baz=88,slow=12,SNR=11						
KURBB	**Kurchatov Arra**	**47.13**	**309**	P	**P**	**05 51 18.3**	**+0.5**
	1.9nm,0.8s,baz=84,slow=7.8,SNR=8.9						
ILAR	**Eielson Array**	**49.41**	**32**	P	**P**	**05 51 35.3**	**+0.1**
	1.0nm,1.0s,baz=242,slow=4.4,SNR=4.5						
YKA	**Yellowknife Ar**	**63.76**	**30**	P	**P**	**05 53 16.3**	**-1.0**
	0.2nm,0.7s,baz=304,slow=6.1,SNR=5.2						
NVAR	**Mina Array Bea**	**74.49**	**54**	P	**P**	**05 54 24.3**	**-0.3**
	0.2nm,0.6s,baz=287,slow=7.6,SNR=3.6						
AKASG	**Malin Array Be**	**75.34**	**323**	P	**P**	**05 54 28.1**	**-0.8**
	0.4nm,0.5s,baz=54,slow=4.7,SNR=2.7						

*IDC **06** 05:47:51.4±1.1, 0°.15S×129°.44E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.6/60, mbtmp4.0/6, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/41, Error ellipse: s-maj=41.7km s-min=19.5km az=62.0*
*DJA **06** 05:47:53.6±0.4, 0°S±5°×13°0E±°, h10km, M4.1/9, mb4.5/2, MLv3.9/9*
ISC 06 05:47:56.6±0.9**, 0°.2S**±0°.1×**129°.53E**±0°.08**, h35km, n16, σ1^{s}33**/15**, mb4.0**/4**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.87**	**112**	P	**Pn**	**05 48 25.0**	**-1.0**
SIJI	**Sorong**	**1.88**	**112**	Pn	**Pn**	**05 48 25.4**	**-0.8**
	22nm,0.3s,baz=105,slow=23,SNR=32						
SIJI				Sn	**Sn**	**05 48 49.1**	**+0.4**
	19nm,0.3s,baz=331,slow=22,SNR=7.0						
TNTI	**Ternate**	**2.35**	**293**	P	**Pn**	**05 48 32.2**	**-0.5**
FAKI	**Fak Fak**	**3.86**	**135**	P	**Pn**	**05 48 54.2**	**+0.7**
SANI	**Sanana**	**4.00**	**242**	P	**Pn**	**05 48 55.8**	**+0.4**
GTOI	**Gorontalo**	**6.56**	**277**	P	**Pn**	**05 49 33.1**	**+2.5**
	0.1nm18nm,0.9s						
APSI	**Ampana**	**7.91**	**265**	P	**Pn**	**05 49 49.2**	**0.0**
SPSI	**Sidrap Palu**	**10.45**	**249**	P	**Pn**	**05 50 23.8**	**-0.2**
BATI	**Baumata**	**11.55**	**210**	LR	LR	05 56 07.2	
	comp=Z,96nm,18.7s,baz=38,slow=43						
FITZ	**Fitzroy Crossi**	**18.22**	**192**	P	**P**	**05 52 03.9**	**-2.9**
	0.1nm,0.3s,baz=19,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**20.21**	**167**	P	**P**	**05 52 27.5**	**-1.1**
	4.0nm,0.9s,baz=348,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.74**	**170**	P	**P**	**05 53 06.5**	**+0.8**
	3.1nm,0.6s,baz=352,slow=9.1,SNR=26						
STKA	**Stephens Creek**	**33.54**	**161**	P	**P**	**05 54 34.5**	**+1.3**
	3.3nm,0.6s,baz=328,slow=11,SNR=7.1						
KSRS	**Korea Array**	**37.46**	**358**	LR	LR	06 10 42.0	
	comp=Z,43nm,18.1s,baz=354,slow=37						
MKAR	**Makanchi Array**	**62.33**	**325**	P	**P**	**05 58 15.2**	**-0.3**
	0.4nm,0.5s,baz=120,slow=8.2,SNR=6.0						
AKTO	**Aktyubinsk**	**78.43**	**322**	P	**P**	**05 59 54.0**	**+0.2**
	1.2nm,0.7s,baz=153,slow=2.3,SNR=3.6						

IDC 06 05:53:03.6±1.9**, 5°.22N×94°.78E, h0km, mb3.9**/8**, mb1 4.0**/8**, mb1mx3.6**/69**, mbtmp3.9**/8**, Error ellipse: s-maj=91.9km s-min=19.9km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.80**	**347**	P	P	06 01 03.3	+0.1
	0.6nm,0.4s,baz=156,slow=7.6,SNR=10						
SONM	**Songino Array**	**43.61**	**11**	P	P	06 01 09.2	-0.6
	0.3nm,0.5s,baz=195,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**46.24**	**124**	P	P	06 01 31.1	0.0
	1.0nm,0.6s,baz=302,slow=9.2,SNR=9.7						
KURBB	**Kurchatov Arra**	**47.26**	**346**	P	P	06 01 38.8	+0.3
	1.7nm,0.2s,baz=170,slow=7.2,SNR=4.7						
ASAR	**Alice Springs**	**47.76**	**129**	P	P	06 01 42.9	0.0
	0.3nm,0.6s,baz=298,slow=7.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**49.25**	**352**	P	P	06 01 54.1	+0.2
	1.9nm,0.4s,baz=172,slow=6.6,SNR=5.7						
AKTO	**Aktyubinsk**	**54.57**	**332**	P	P	06 02 34.1	+0.4
	0.5nm,0.5s,baz=90,slow=12,SNR=2.8						
ARCES	**ARCESS Array B**	**77.96**	**340**	P	P	06 05 02.3	-1.1
	2.9nm,0.9s,baz=116,slow=8.1,SNR=4.1						

*IDC **06** 06:00:51.0±1.0, 40°.95N×51°.34E, h0km, mb3.8/9, mb1 4.0/18, mb1mx3.8/62, mbtmp4.0/18, ML3.7/7, Error ellipse: s-maj=18.9km s-min=10.5km az=167.0*
*MOS **06** 06:00:54.7±1.4, 41°.18N×51°.60E, h44km, mb4.4/3, Error ellipse: s-maj=7.3km s-min=4.9km az=40.9*
*NNC **06** 06:01:02.3±1.8, 41°.39N×52°.95E, h0km, mb4.2, Error ellipse: s-maj=19.9km s-min=5.9km az=76.0*
ISC 06 06:00:54.8±0.5**, 41°.21N**±0°.05×**51°.63E**±0°.04**, h35km, n79, σ2^{s}48**/90**, mb3.9**/10**, 19C-7D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	**Akhty**	**2.95**	**276***c*	*i*P	**Pn**	**06 01 41.1**	**+1.8**
LKRN	**Lenkeran, Azer**	**3.33**	**222**	P	**Pn**	**06 01 43.5**	**-0.8**
SEKA	**Sheki**	**3.35**	**271**	P	**Pn**	**06 01 46.1**	**+1.4**
MAK	**Makhachkala**	**3.53**	**301**	*e*P	**Pn**	**06 01 46.4**	**-0.8**
MAK				*e*		06 02 29.9	
MAK				pmax	pmax		
	comp=Z,129nm,0.3s						
MAK				smax	smax		
	comp=E,799nm,0.3s						
MAK				smax	smax		
	comp=E,1μm,0.4s						
MAK				MLR	MLR		
	comp=Z,120nm,6.0s						
BUJR	**Buynaksk**	**3.74**	**297**	*e*P	Pn	06 01 55.0	+5.0
ZKTA	**Zakatala**	**3.79**	**278**	P	**Pn**	**06 01 53.3**	**+2.5**
GANJ	**Ganja**	**4.06**	**264**	P	**Pn**	**06 01 54.0**	**-0.5**
BTLR	**Botlikh**	**4.29**	**292**	*e*P	**Pn**	**06 02 01.7**	**+4.1**
DVE	**Vedeno**	**4.45**	**295**	*e*P	**Pn**	**06 02 03.0**	**+3.1**
GROC	**Groznyy**	**4.77**	**297**	*e*P	**Pn**	**06 02 07.0**	**+2.9**
GROC				*e*		06 03 05.3	
GROC				pmax	pmax		
	comp=Z,53nm,0.4s						
GROC				smax	smax		
	comp=N,135nm,1.0s						
GROC				smax	smax		
	comp=N,149nm,0.4s						
GROC				smax	smax		
	comp=E,56nm,0.4s						
GROC				MLR	MLR		
	comp=Z,99nm,2.0s						
GNI	**Garni**	**5.35**	**261**	Pn	**Pn**	**06 02 12.4**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=63,slow=5.3,SNR=3.3						
ZEI	**Tsey**	**5.97**	**288**	*e*P	Pn	06 02 27.6	+6.7
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GEYT	**Alibeck**	**5.99**	**121**	Pn	**Pn**	**06 02 21.9**	**+1.0**
	comp=Z,5.9nm,0.3s,baz=302,slow=13,SNR=43						
GEYT				Sn	**Sn**	**06 03 25.6**	**-2.6**
	comp=Z,14nm,0.3s,baz=79,slow=23,SNR=9.0						
GYA0	**ALIBECK ARRAY**	**5.99**	**121**	P	**Pn**	**06 02 22.9**	**+2.0**
GYA0				S	**Sn**	**06 03 24.7**	**-3.6**
GYA0B	**ALIBECK ARRAY**	**5.99**	**121**	⇑P	**Pn**	**06 02 22.9**	**+2.0**
GYA0B				⇑S	**Sn**	**06 03 24.7**	**-3.5**
KBZ	**Khabaz**	**6.93**	**294**	Pn	**Pn**	**06 02 34.4**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=118,slow=5.4,SNR=34						
KBZ				Sn	**Sn**	**06 03 48.1**	**-3.3**
	comp=Z,5.6nm,0.3s,baz=301,slow=0.7,SNR=6.7						
KBZ	**Khabaz**	**6.93**	**294**	*i* P	**Pn**	**06 02 35.0**	**+1.2**
SHA1	**Shidzhatmaz**	**7.10**	**294**	*i* P	**Pn**	**06 02 37.2**	**+0.8**
KIV	**Kislovodsk**	**7.15**	**295**	*i* P	**Pn**	**06 02 38.3**	**+1.4**
KIV				*i* S	**Sn**	**06 03 53.9**	**-3.0**
KIV				pmax	pmax		
	comp=Z,11nm,0.7s						
KIV				smax	smax		
	comp=N,55nm,1.2s						
GOF	**Gofitskoye**	**7.36**	**304**	⇑*e*P	Pn	06 02 45.4	+5.6
GOF				*e*S	**Sn**	**06 03 59.6**	**-2.4**
GOF				pmax	pmax		
	comp=Z,33nm,0.5s						
GOF				smax	smax		
	comp=N,84nm,0.6s						
GOF				smax	smax		
	comp=E,120nm,0.4s						
RPOR	**Krasnaya Polya**	**8.76**	**290**	*i* P	**Pn**	**06 03 03.8**	**+4.8**
AB31	**Akbulak array**	**9.94**	**33**	P	**Pn**	**06 03 17.3**	**+2.2**
	comp=E,1.3nm,0.3s,baz=210,slow=13,SNR=79						
AB31				⇑S	**Sn**	**06 05 04.1**	**-1.3**
	comp=E,8.8nm,0.3s,baz=182,slow=25,SNR=17						
AB31	**Akbulak array**	**9.94**	**33**	P	**Pn**	**06 03 17.3**	**+2.2**
AB31				S	**Sn**	**06 05 04.5**	**-0.9**
AKTO	**Aktyubinsk**	**10.24**	**24**	Pn	**Pn**	**06 03 22.0**	**+2.9**
	comp=E,1.3nm,0.3s,baz=204,slow=3.1,SNR=28						
AKTO				Sn	**Sn**	**06 05 10.2**	**-2.3**
	comp=E,17nm,0.3s,baz=53,slow=23,SNR=25						
AKTO	**Aktyubinsk**	**10.24**	**24**	⇑P	**Pn**	**06 03 23.0**	**+3.9**
	comp=E,1.7nm,0.3s						
AKTO				⇑S	**Sn**	**06 05 12.6**	**0.0**
	comp=E,100nm,0.5s						
BELG	**Belogornoye**	**11.51**	**348**	*i* P	**Pn**	**06 03 39.3**	**+2.8**
BELG				pmax	pmax		
	comp=Z,8.0nm,0.3s						
VRH	**Novokhopyorsk**	**12.11**	**329**	*e*P	**Pn**	**06 03 46.9**	**+2.2**
VRH				*e*S	**Sn**	**06 05 52.3**	**-6.0**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRH				smax	smax		
	comp=E,70nm,0.5s						
VORD	**Divnogorie**	**12.96**	**323**	*e*P	**Pn**	**06 03 56.8**	**+0.5**
VORD				*e*S	**Sn**	**06 06 16.0**	**-3.2**
VORD				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VORD				smax	smax		
	comp=E,140nm,0.9s						
VSR	**Storozhevoye**	**13.19**	**323**	*e*P	**Pn**	**06 03 58.9**	**-0.6**
VSR				*e*S	**Sn**	**06 06 20.2**	**-4.6**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VSR				smax	smax		
	comp=N,50nm,0.9s						
BRTR	**Keskin Array B**	**13.78**	**270**	Pn	**Pn**	**06 04 08.1**	**+0.3**
	comp=N,0.1nm,0.3s,baz=104,slow=12,SNR=3.3						
KK31	**Karatay Array**	**14.13**	**76**	⇑P	**Pn**	**06 04 11.1**	**-1.3**
	comp=N,2.4nm,0.4s,baz=271,slow=16,SNR=37						
KK31				⇑S	Sn	06 06 37.6	-10
	comp=N,2.5nm,0.5s,baz=272,slow=21,SNR=6.4						
KK31	**Karatay Array**	**14.13**	**76**	P	**Pn**	**06 04 11.8**	**-0.6**
LPSR	**Galich'ya Gora**	**14.30**	**327**	*e*P	**Pn**	**06 04 14.5**	**0.0**
LPSR				*e*S	**Sn**	**06 06 45.6**	**-6.1**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
LPSR				smax	smax		
	comp=E,40nm,0.6s						
MMAI	**Mount Meron Ar**	**15.30**	**243**	Pn	**Pn**	**06 04 27.3**	**-0.9**
	comp=E,3.1nm,0.3s,baz=338,slow=17,SNR=5.1						
ARU	**Arti**	**15.88**	**14**	Pn	**Pn**	**06 04 34.4**	**-1.1**
	comp=E,0.0nm,0.3s,baz=213,slow=10,SNR=3.2						
ARU				Sn	Sn	06 07 19.3	-11
	comp=E,0.0nm,0.3s,baz=328,slow=23,SNR=11						
ARU	**Arti**	**15.88**	**14**	P	**Pn**	**06 04 35.5**	**0.0**
ARU				S	**Sn**	**06 07 33.4**	**+3.2**
AAK	**Ala-Archa**	**17.07**	**78**	P	**P**	**06 04 53.3**	**+1.0**
	comp=E,0.8nm,0.3s,baz=246,slow=5.0,SNR=12						
AAK	**Ala-Archa**	**17.07**	**78**	*i* P	**P**	**06 04 52.8**	**+0.6**
AAK				pmax	pmax		
	comp=Z,12nm,0.8s						
OBN	**Obninsk**	**17.10**	**329**	*e*P	**P**	**06 04 54.4**	**+2.1**
OBN				*e*S	**Sn**	**06 07 54.9**	**-4.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRVK	**Borovoye**	**17.30**	**40**	⇓P	**Pn**	**06 04 54.3**	**+0.9**
	comp=Z,3.1nm,0.6s						
BRVK				⇓S	**Sn**	**06 08 02.1**	**-2.4**
	comp=Z,4.8nm,0.5s						
BRVK	**Borovoye**	**17.30**	**40**	*i* P	**P**	**06 04 55.2**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVAR	**Borovoye Array**	**17.33**	**41**	P	**P**	**06 04 56.1**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=228,slow=7.2,SNR=11						
BVAR				S	**Sn**	**06 07 57.8**	**-7.6**
	comp=Z,0.7nm,0.3s,baz=230,slow=20,SNR=2.9						
CFR	**Carcaliu**	**17.57**	**291**	⇓P	**Pn**	**06 04 56.0**	**-0.8**
CFR	**Carcaliu**	**17.57**	**291**	⇓P	**Pn**	**06 04 56.0**	**-0.8**
AKASG	**Malin Array Be**	**18.18**	**309**	P	**Pn**	**06 05 04.0**	**-0.2**
	comp=Z,3.9nm,0.3s,baz=102,slow=21,SNR=13						
AKASG	**Malin Array Be**	**18.18**	**309**	*i* P	**Pn**	**06 05 04.3**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKBB	**Malin Array Si**	**18.18**	**309**	*i* P	**P**	**06 05 06.0**	**+1.8**
VRI	**Vrincioaia**	**18.62**	**293**	⇑P	**Pn**	**06 05 10.7**	**+1.1**
VRI	**Vrincioaia**	**18.62**	**293**	⇑P	**Pn**	**06 05 10.7**	**+1.1**
PLOR	**Plostina**	**18.67**	**293**	⇑P	**Pn**	**06 05 10.7**	**+0.4**
PLOR	**Plostina**	**18.67**	**293**	⇑P	**Pn**	**06 05 10.7**	**+0.4**
TESR	**Tescani**	**18.74**	**295**	⇑P	**Pn**	**06 05 11.9**	**+0.8**
WSAR	**Wadi Sarin**	**18.86**	**160**	P	**P**	**06 05 11.7**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=343,slow=9.0,SNR=7.1						
MLR	**Muntele Rosu**	**19.13**	**292**	⇓P	**Pn**	**06 05 16.6**	**+0.6**
MLR	**Muntele Rosu**	**19.13**	**292**	⇓P	**Pn**	**06 05 16.6**	**+0.6**
VOIR		**19.76**	**291**	⇑P	**Pn**	**06 05 23.6**	**+0.3**
VOIR		**19.76**	**291**	⇑P	**Pn**	**06 05 23.6**	**+0.3**
BURAR	**Bucovina Array**	**19.87**	**298**	⇑P	**P**	**06 05 23.3**	**+0.4**
BURAR	**Bucovina Array**	**19.87**	**298**	⇑P	**P**	**06 05 23.3**	**+0.4**
PRGR	**Permogore**	**20.77**	**352**	*e*P	**P**	**06 05 33.3**	**+0.9**
PRGR				*e*S	**S**	**06 09 14.9**	**-7.2**
PRGR				pmax	pmax		
	comp=Z,11nm,0.6s						
KURBB	**Kurchatov Arra**	**20.84**	**54**	P	Pn	06 05 37.7	+1.8
	comp=Z,1.7nm,0.6s,baz=256,slow=12,SNR=8.8						
KURK	**Kurchatov**	**20.92**	**54**	P	Pn	06 05 37.7	+0.8
KLMR	**Klimovskoe**	**21.02**	**343**	*e*P	P	06 05 42.6	+7.5
KLMR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLMR	**Klimovskoe**	**21.02**	**343**	*e*P	P	06 05 42.7	+7.6
KLMR				AMP		06 05 52.4	
	comp=Z,10.0nm,0.8s						
GZR	**Gura Zlata**	**21.36**	**291**	⇑P	**P**	**06 05 38.5**	**-0.5**
NACGM	**Naroch**	**21.38**	**318**	*i* P	P	06 05 47.4	+8.4
NACGM				*i* P	P	06 05 47.4	+8.4
NACGM				*i* P	P	06 05 47.4	+8.4
NACGM				*i* PP	PnPn	06 06 12.9	+13
NACGM				*i* S	Sn	06 09 44.0	+1.2
NACGM				*i* SS	SnSn	06 10 18.1	+20
NACGM				*i* LQ	LQ	06 12 45.4	
NACGM				*i* LR	LR	06 13 56.5	
IDI	**Anoyia**	**21.77**	**263**	P	**P**	**06 05 41.3**	**-2.2**
	comp=Z,4.4nm,0.3s,baz=56,slow=7.3,SNR=1.1						
KOLS	**Kolonicke sedl**	**22.02**	**300**	*e*P	**P**	**06 05 47.9**	**+1.9**
KOLS	**Kolonicke sedl**	**22.02**	**300**	*e*P	**P**	**06 05 47.9**	**+1.9**
MK31	**Makanchi Array**	**22.66**	**65***d*	*i*P	**P**	**06 05 56.3**	**+3.4**
MKAR	**Makanchi Array**	**22.66**	**65**	P	**P**	**06 05 56.7**	**+3.8**
	comp=Z,0.8nm,0.4s,baz=257,slow=9.6,SNR=14						
ZALV	**Zalesovo Beam**	**25.49**	**49**	P	**P**	**06 06 23.7**	**+4.1**
	comp=Z,1.8nm,0.4s,baz=264,slow=11,SNR=4.0						
GERES	**GERESS Array B**	**27.64**	**299**	P	**P**	**06 06 39.9**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=90,slow=8.8,SNR=4.3						
HFS	**Hagfors**	**30.00**	**322**	P	**P**	**06 07 01.4**	**+1.6**
	comp=Z,0.9nm,0.4s,baz=99,slow=8.9,SNR=4.6						
NB2	**NORSAR Subarra**	**31.47**	**323**	P	**P**	**06 07 13.6**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=116,slow=8.6						
NOA	**NORSAR Array B**	**31.47**	**323**	P	**P**	**06 07 13.9**	**+1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.4nm,0.9s,baz=116,slow=8.4,SNR=3.3						
NRIK	Noril'sk	33.85	22	iP	P	06 07 34.1	+0.6
NRIK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
EKA	Eskdalemuir Ar	38.08	311	P	P	06 08 10.6	+0.8
	comp=Z,0.4nm,0.4s,baz=96,slow=8.4,SNR=4.9						
ESDC	Sonseca Array	41.72	287	P	P	06 08 40.4	+0.1
	comp=Z,0.4nm,0.3s,baz=58,slow=8.2,SNR=3.9						

IDC 06 06:09:28.7±1.7, **9°.36S**×**125°.90E, h0**km**, mb3.9**/1, **mb1 3.7**/5, **mb1mx3.5**/33, **mbtmp3.6**/5, **ML3.3**/4, **MS2.9**/2, **Ms1 2.9**/2, **ms1mx2.5**/44, **Error ellipse: s-maj=43.0km s-min=26.3km az=68.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	2.36	249	Pn	Pn	06 10 08.8	+0.1
	3.9nm,0.3s,baz=41,slow=22,SNR=3.7						
BATI				Sn	Sn	06 10 35.1	-3.4
	17nm,0.3s,baz=50,slow=20,SNR=7.4						
KAPI	Kappang	7.47	305	LR	LR	06 14 31.8	
	comp=Z,50nm,19.8s,baz=237,slow=41						
FITZ	Fitzroy Crossi	8.70	182	Pn	Pn	06 11 35.9	+0.1
	0.3nm,0.3s,baz=5.6,slow=13,SNR=19						
FITZ				Sn	Sn	06 13 05.7	-8.9
	1.3nm,0.3s,baz=114,slow=14,SNR=7.5						
FITZ				LR	LR	06 15 10.1	
	comp=Z,113nm,20.2s,baz=297,slow=39						
WRA	Warramunga Arr	13.31	143	Pn	Pn	06 12 38.9	-0.3
	0.1nm,0.3s,baz=323,slow=14,SNR=9.2						
WRA				Sn	Sn	06 15 00.1	-7.9
	0.1nm,0.3s,baz=316,slow=24,SNR=3.9						
ASAR	Alice Springs	16.16	153	Pn	Pn	06 13 17.5	+0.2
	0.2nm,0.3s,baz=322,slow=11,SNR=17						
ASAR				Sn	Sn	06 16 08.3	-9.1
	0.1nm,0.3s,baz=313,slow=19,SNR=3.1						
MKAR	Makanchi Array	68.06	329	P	P	06 20 30.1	0.0
	0.8nm,0.6s,baz=132,slow=7.6,SNR=12						

*NEIC **06** 06:20:40.5±1.5, 51°.7N±0°.1×175°.32W±0°.07, h46km±20km, Error ellipse: s-maj=19.2km s-min=4.3km az=167.0*

AEIC 06 06:20:39±1.7, **51°.61N**±0°.06×**175°.27W**±0°.05, **h32**km±7km, **ML3.5**/26, **mb3.6**/14(NEIC), **Error ellipse: s-maj=8.9km s-min=3.9km az=169.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	Great Sitkin M	0.65	312		Pn	06 20 53.1	+1.0
GSTR	Great Sitkin T	0.69	315		Pb	06 20 52.8	+0.1
GSTD	Great Sitkin T	0.70	310		Pb	06 20 53.8	+0.9
GSTD					Sn	06 21 04.2	+1.6
ETKA	Kagalaska Isla	0.75	290		Pb	06 20 54.0	+0.4
ATKA	Atka Island	0.89	48		Pb	06 20 56.0	0.0
ATKA					Sb	06 21 08.3	+0.7
ADK	Adak	0.92	288		Pb	06 20 56.1	-0.4
ADK	Adak	0.92	288		Sb	06 21 08.7	+0.3
KOFP	Korovin Flat P	0.99	47		Pb	06 20 58.0	+0.4
KOFP					Sb	06 21 11.4	+1.1
KOWE	Korovin West	0.99	39		Pb	06 20 58.3	+0.8
KIKV	Kanaga Island	1.21	284		Pb	06 21 00.6	-0.7
KIMD	Kanaga Island	1.23	278		Pb	06 21 00.9	-0.8
KIMD					Sn	06 21 16.2	+0.7
KICM	Kanaga Island	1.23	285		Pb	06 21 01.1	-0.6
TAFP	Tanaga Falls P	1.71	281		Pn	06 21 08.0	+1.4
TAFP					Sb	06 21 29.7	-1.2
TASE	Tanaga Southea	1.73	279		Pn	06 21 08.4	+1.5
TANO	Tanaga North	1.80	281		Pn	06 21 09.3	+1.6
GALAA	Gareloi Lava P	2.18	275		Pn	06 21 14.3	+1.3
CESW	Semis' Southwe	3.22	277		Pn	06 21 28.9	+1.6
AMKA	Amchitka	3.40	268		Pn	06 21 30.4	+0.7
LSPA	Little Sitkin	3.84	278		Pn	06 21 37.2	+1.4
LSPA					Sn	06 22 24.9	+5.1
LSNW	Little Sitkin	3.87	278		Pn	06 21 37.2	+0.9
O22K	Cooper Landing	16.71	48	P	P	06 24 31.7	-0.7
KTH	Kantishna Hill	17.56	38	P	P	06 24 42.1	+0.2
KTH				IAmb	IAmb	06 24 56.2	
	comp=Z,6.5nm,1.2s						
TRF	Thorofare Moun	17.75	38	P	P	06 24 44.2	+0.1
TRF				IAmb	IAmb	06 25 02.5	
	comp=Z,7.3nm,1.4s						
BPAW	Bear Paw Mtn.	17.83	36	P	P	06 24 45.0	+0.2
SCM	Sheep Creek Mo	18.28	45	P	P	06 24 49.2	-0.6
KLU	Klutina	18.79	47	P	P	06 24 54.0	-1.5
KLU				IAmb	IAmb	06 25 15.0	
	comp=Z,5.6nm,1.4s						
CCB	Clear Creek Bu	19.30	37	P	P	06 25 00.4	-0.5
CCB				IAmb	IAmb	06 25 18.1	
	comp=Z,3.8nm,1.4s						
MDM	Murphy Dome	19.30	36	P	P	06 25 00.3	-0.6
PAX	Paxson	19.50	43	P	P	06 25 03.7	+0.4
PAX				IAmb	IAmb	06 25 18.7	
	comp=Z,5.9nm,1.4s						
HDA	Harding Lake	19.51	38	P	P	06 25 02.9	-0.3
HDA				IAmb	IAmb	06 25 21.7	
	comp=Z,3.7nm,1.4s						
DOT	Dot Lake	20.35	42	P	P	06 25 11.0	-1.4
K27K	Chicken	21.30	42	P	P	06 25 22.8	+0.2
K27K				IAmb	IAmb	06 25 46.9	
	comp=Z,2.8nm,1.1s						
EGAK	Eagle	21.94	40	P	P	06 25 28.4	-1.0
DAWY	Dawson	22.44	42	P	P	06 25 34.9	0.0
DAWY				IAmb	IAmb	06 25 59.4	
	comp=Z,4.3nm,1.5s						

*KRSC **06** 06:36:49.4±1.4, 48°.11N×156°.28E, h35km±18km, ML4.2*
*IDC **06** 06:36:54.4±2.7, 48°.89N×153°.50E, h136km±23km, mb3.2/10, mb1 3.4/12, mb1mx3.2/59, mbtmp3.7/12, Error ellipse: s-maj=40.4km s-min=15.3km az=163.0*

ISC 06 06:36:53.9±1.2, **48°.7N**±0°.2×**154°.1E**±0°.1, **h150**km**, n39,** σ**2ˢ.25**/40, **mb3.4**/10, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.36	32	eP	Pn	06 37 31.3	-1.8
SKR				eS	Sn	06 38 01.6	-1.9
PAU	Pauzhetka	3.25	31	eP	Pn	06 37 43.1	-1.3
PAU				eS	Sn	06 38 22.4	-1.1
MIPR	Malaya Ipel'ka	3.94	24	eP	Pn	06 37 55.7	+2.4
KDTR	Khodutka, Kamc	4.00	38	eP	Pn	06 37 51.1	-2.9
KDTR				eS	Sn	06 38 36.1	-4.7
ASAK	Asacha	4.39	32	eP	Pn	06 37 58.8	-0.4
MTVR	Mutnovka	4.58	33	eP	Pn	06 38 00.6	-1.1
MTVR				eS	Sn	06 38 52.4	-2.1
GRL	Gorelyy	4.59	32	eP	Pn	06 38 01.5	-0.4
GRL				eS	Sn	06 38 54.2	-0.7
APC	Apacha	4.64	23	eP	Pn	06 38 05.1	+2.8
RUS	Russkaya	4.66	35	eP	Pn	06 37 59.7	-2.9
RUS				eS	Sn	06 38 51.2	-5.0
KRMR	Karymshinskiy	4.84	30	eP	Pn	06 38 04.2	-0.8
PETK	Petropavlovsk-	4.95	26	P	Pn	06 38 06.1	-0.4
	1.3nm,0.3s,baz=174,slow=11,SNR=20						
DALK	Dalny	5.22	32	eP	Pn	06 38 09.3	-0.8
UGLR	Uglovaya	5.39	32	eP	Pn	06 38 11.5	-0.9
KOK	Koryaka	5.40	30	eP	Pn	06 38 13.0	+0.5
AVH	Avacha	5.41	31	eP	Pn	06 38 13.0	+0.4
SMAR	Somma	5.43	31	eP	Pn	06 38 12.3	-0.7
KRX	Arik	5.46	30	eP	Pn	06 38 13.4	+0.1
SDLR	Sedlovina	5.47	31	eP	Pn	06 38 12.2	-1.3
SPN	Mys Shipunski	5.76	38	eP	Pn	06 38 15.4	-1.8
SPN				eS	Sn	06 39 17.4	-5.0
KZV	Kizimen	7.46	28	eP	Pn	06 38 41.0	+1.0
TUMR	Tumrok	7.55	27	eP	Pn	06 38 42.8	+1.6
KBTR	Krutoberegovo	9.19	32	eP	Pn	06 39 01.6	-1.2
ASAJ	Asahikawa	9.20	244	P	Pn	06 39 00.8	-2.3
	3.0nm,0.3s,baz=67,slow=15,SNR=17						
H11N2	WAKE ISLAND Hy	30.68	156	T	T	07 15 10.3	
	baz=342,slow=76,SNR=26						
H11N1	WAKE ISLAND Hy	30.70	156	T	T	07 15 11.7	
	baz=342,slow=76,SNR=31						
H11N3	WAKE ISLAND Hy	30.70	156	T	T	07 15 11.6	
	baz=342,slow=76,SNR=15						
H11S1	WAKE ISLAND Hy	31.80	157	T	T	07 16 37.1	
	baz=343,slow=76,SNR=85						
H11S3	WAKE ISLAND Hy	31.81	157	T	T	07 16 45.7	
	baz=343,slow=76,SNR=92						
H11S2	WAKE ISLAND Hy	31.82	157	T	T	07 16 45.3	
	baz=343,slow=76,SNR=64						
ILAR	Eielson Array	34.60	40	P	P	06 43 30.9	+2.9
	0.2nm,0.7s,baz=260,slow=5.4,SNR=3.1						
ZALV	Zalesovo Beam	42.05	304	P	P	06 44 27.9	-2.3
	0.4nm,0.4s,baz=87,slow=7.4,SNR=3.5						
MKAR	Makanchi Array	46.67	296	P	P	06 45 06.0	-1.1
	0.3nm,0.5s,baz=53,slow=4.3,SNR=5.6						
KURBB	Kurchatov Arra	46.97	302	P	P	06 45 07.6	-1.7
	0.6nm,0.6s,baz=66,slow=8.3,SNR=6.0						
RES	Resolute Bay	48.76	19	P	P	06 45 25.2	+2.5
	0.5nm,0.4s,baz=297,slow=8.2,SNR=9.1						
YKA	Yellowknife Ar	48.95	38	P	P	06 45 27.4	+3.1
	0.3nm,0.5s,baz=301,slow=6.4,SNR=5.4						
BVAR	Borovoye Array	50.16	309	P	P	06 45 31.6	-2.1
	0.6nm,0.6s,baz=224,slow=8.3,SNR=5.9						
FINES	FINESS Array B	62.56	335	P	P	06 47 01.4	+0.2
	3.2nm,1.1s,baz=32,slow=11,SNR=5.3						
TXAR	Lajitas Array	75.94	62	P	P	06 48 27.2	+3.1
	0.2nm,0.5s,baz=300,slow=5.2,SNR=6.0						
BRTR	Keskin Array B	77.43	317	P	P	06 48 31.1	-1.3
	0.4nm,0.4s,baz=64,slow=3.4,SNR=3.0						

*IDC **06** 06:41:11.1±0.5, 4°.05N×126°.29E, h46km±5km, mb4.4/33, mb1 4.5/34, mb1mx4.3/58, mbtmp4.6/34, MS3.4/12, Ms1 3.4/12, ms1mx3.2/56, Error ellipse: s-maj=18.0km s-min=8.1km az=76.0*
*MAN **06** 06:41:14.8, 4°.06N×126°.46E, h24km, MS4.3*
*DJA **06** 06:41:15.5±0.5, 4°N±4°×12°7E±°, h80km±4km, M5.1/25, mb5.2/25, mB5.5/18, MLv5.4/13, Mw(mB)5.0/18, MwMwp5.3/1, Mwp5.5/1*
*BJI **06** 06:41:15.0±0.0, 3°.75N×126°.56E, h123km, mB5.1/27, mb4.6/45*
*NEIC **06** 06:41:17.4±1.7, 4°.04N±0°.06×126°.44E±0°.09, h105km±7km, mb4.9/56, Error ellipse: s-maj=13.0km s-min=8.1km az=68.0, confirmed*

ISC 06 06:41:16.3±0.6, **4°.06N**±0°.04×**126°.49E**±0°.06, **h94**km±5km, **n193,** σ**1ˢ.75**/214, **mb4.8**/64, **2C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.03	249	P	Pn	06 41 37.0	+0.5
SGSI				S	Sn	06 41 53.0	+1.2
DDMP	Don Marcelino,	2.18	339	eP	Pn	06 41 49.7	-1.3
DDMP				eS	Sn	06 42 15.6	-1.9
MATI	Mati	2.88	355	eP	Pn	06 42 00.2	-0.2
SKMP	Bagumbayan, Su	3.12	322	eP	Pn	06 42 03.5	-0.1
SKMP				eS	Sn	06 42 40.8	+0.8
DAV	Davao City (W)	3.13	343	P	Pn	06 42 04.1	+0.4
	140nm,0.3s,baz=72,slow=2.9,SNR=14						
DAV				LR	LR	06 42 49.6	
	comp=Z,233nm,20.7s,baz=138,slow=32						
DAV				S	Sn	06 42 50.2	+10
	157nm,0.3s,baz=289,slow=22,SNR=3.8						
DAV	Davao City (W)	3.13	343		Pn	06 42 05.5	+1.8
KCP	Kidapawan	3.25	335	⇑iP	Pn	06 42 06.8	+1.4
KCP				i S	Sn	06 42 45.5	+2.4
TNTI	Ternate	3.38	165		Pn	06 42 07.2	+0.2
TNTI	Ternate	3.38	165	P	Pn	06 42 07.5	+0.5
BUKP	Musuan	4.05	340	eP	Pn	06 42 17.0	+0.8
BUKP				eS	Sn	06 43 05.1	+2.4
KMSI	Cibinong	4.27	216	P	Pn	06 42 21.0	+1.9
GTOI	Gorontalo	4.86	226	P	Pn	06 42 28.2	+1.1
	1.6nm5μm413nm,0.8s						
PAGZ	Pagadian	4.87	321	eP	Pn	06 42 26.9	-0.4
PAGZ				eS	Sn	06 43 23.9	+1.4
GLSP	General Luna,	5.70	356	eP	Pn	06 42 39.0	+0.4
GLSP				eS	Sn	06 43 40.5	-2.2
MRSI	Marisa	5.77	232	P	Pn	06 42 41.1	+1.6
	6.5nm18μm2μm,0.5s						
SANI	Sanana	6.08	185	P	Pn	06 42 41.5	-2.3
	1.7nm8μm351nm,1.1s						
MSLP	Maasin	6.25	345	eP	Pn	06 42 46.1	+0.1
LUWI	Luwuk	6.28	216	Pn	Pn	06 42 49.7	+3.3
LUWI	Luwuk	6.28	216	P	Pn	06 42 49.8	+3.3
	4.3nm10μm1μm,0.7s						
TOLI2	Tolitoli	6.41	243	Pn	Pn	06 42 48.3	+0.2
SWI	Sorong	6.83	136	P	Pn	06 42 54.0	+0.1
	0.5nm2μm151nm,0.8s						
SIJI	Sorong	6.83	136	P	Pn	06 42 49.8	-4.2
	14nm,0.3s,baz=47,slow=24,SNR=22						
SIJI				S	Sn	06 44 09.2	-1.2
	baz=217,slow=20,SNR=2.4						
APSI	Ampana	6.91	225	P	Pn	06 42 58.5	+3.5
	1.3nm4μm344nm,0.8s						
NLAI	Namlea	7.27	175	P	Pn	06 42 58.9	-1.0
	2.5nm11μm638nm,0.7s						
MYLDM	Lahad Datu	8.04	278		Pn	06 43 14.8	+4.4
TTSI	Tana Toraja	9.71	223	P	Pn	06 43 35.2	+2.1
	3μm170nm,1.0s						
SPSI	Sidrap Palu	10.42	220	P	Pn	06 43 44.2	+1.4
	8μm912nm56nm,0.7s						
KKM	Kota Kinabalu	10.42	281	Pn	Pn	06 43 44.8	+1.8
BNSI	Bone	10.55	217	P	Pn	06 43 49.0	+4.4
BKB	Balikpapan	10.95	241	Pn	Pn	06 43 49.4	-0.6
LQP	Lukban	11.12	334	⇓eP	Pn	06 43 55.2	+2.7
KAPI	Kappang	11.24	217	P	Pn	06 43 52.6	-1.5
	1.8nm,0.3s,baz=61,slow=8.2,SNR=7.1						
KAPI				LR	LR	06 48 27.5	
	comp=Z,220nm,21.6s,baz=62,slow=39						
KAPI	Kappang	11.24	217	Pn	Pn	06 43 55.1	+1.1
TGY	Tagaytay City	11.39	332	LR	LR	06 48 33.4	
	comp=Z,155nm,21.8s,baz=119,slow=39						
MTKI	Muara Teweh, K	12.60	247	P	P	06 44 16.3	-3.7
KBKI	Kotabaru	12.64	235	P	Pn	06 44 15.2	+2.5
	2μm90nm,1.0s						
BBKI	Banjar Baru	13.83	237	P	P	06 44 31.3	-2.3
	6μm130nm,1.7s						
SOEI	Soe	13.90	189		Pn	06 44 27.7	-1.7
SOEI	Soe	13.90	189	P	P	06 44 37.5	+3.0
SBUM	Sibu	14.34	264	Pn	Pn	06 44 35.2	+0.2
BATI	Baumata	14.45	191	P	Pn	06 44 37.9	+1.5
	3.0nm,0.3s,baz=274,slow=4.0,SNR=5.0						
BATI	Baumata	14.45	191	P	P	06 44 40.5	0.0
PLAI	Plampang	15.47	214	P	P	06 44 51.3	-0.5
	1μm124nm,1.0s						
TWSI	Taliwang, Sumb	15.91	217	P	P	06 44 59.5	+2.7
	520nm41nm,0.7s						
KSM	Kuching	16.36	261		Pn	06 45 01.0	+0.5
KDU	Kakadu	17.66	160	P	P	06 45 13.9	-2.1
	baz=18,SNR=20						
KNRA	Kununurra	19.73	174		Pn	06 45 41.2	+0.1
FITZ	Fitzroy Crossi	22.03	182	P	P	06 46 03.0	-0.3
	33nm,0.8s,baz=16,slow=9.9,SNR=50						
FITZ				pP	pP	06 46 13.8	-7.4
	74nm,0.8s,baz=13,slow=7.8,SNR=27						
FITZ	Fitzroy Crossi	22.03	182	P	P	06 46 02.3	-1.0
	baz=22,SNR=46						
FITZ	Fitzroy Crossi	22.03	182	P	P	06 46 04.2	+0.9
COEN	Coen	24.38	138	P	P	06 46 26.9	+0.9
PMG	Port Moresby	24.56	123	LR	LR	06 58 38.3	
	comp=Z,63nm,18.1s,baz=315,slow=42						
WRAB	Tennant Creek	25.06	162	P	P	06 46 32.9	+0.7
WRA	Warramunga Arr	25.07	162	P	P	06 46 32.6	+0.4
	47nm,0.8s,baz=344,slow=11,SNR=197						
WRA				pP	pP	06 46 43.5	-8.9
	64nm,0.9s,baz=341,slow=11,SNR=27						
WRA				S	S	06 50 45.9	-4.1
	3.8nm,1.1s,baz=321,slow=12,SNR=6.9						
WB2	Warramunga Arr	25.07	162	P	P	06 46 32.5	+0.3
WR0	Warramunga Arr	25.14	162	P	P	06 46 33.8	+0.9
WR0				IAmb	IAmb	06 46 46.2	
	comp=Z,43nm,0.8s						
PSA00	Pilbara Seismi	26.29	194	P	P	06 46 43.5	+0.3
PSA00				IAmb	IAmb	06 46 44.0	
	comp=Z,30nm,0.8s						
MNSI	Mandailing Nat	27.08	264	P	P	06 47 03.5	+13
QIS	Mount Isa	27.64	153	P	P	06 46 55.7	+0.3
	baz=28,SNR=5.1						
MTSU	Mount Surprise	28.20	142	P	P	06 47 01.9	+1.5
	baz=28,SNR=5.2						
AS31	Alice Springs	28.48	166	P	P	06 47 03.0	+0.1
ASAR	Alice Springs	28.49	166	P	P	06 47 03.0	+0.1
	comp=Z,2.6nm,0.7s,baz=346,slow=6.8,SNR=39						
ASAR				pP	pP	06 47 14.4	-8.9
	comp=Z,11nm,0.7s,baz=346,slow=8.4,SNR=19						
ASAR				S	S	06 51 38.9	-5.0
	comp=Z,1.5nm,0.8s,baz=352,slow=20,SNR=4.4						
ASAR	Alice Springs	28.49	166	P	P	06 47 03.4	+0.5
WHN	Wuhan	28.73	338	⇑P	P	06 46 59.6	-5.3
NJ2	Nanjing	28.76	346	eP	P	06 47 06.9	+1.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WRKA	Warakurna	28.97	177	P	P	06 47 07.5	+0.4
	baz=29,SNR=9.8						
JNU	Nakatsue	29.21	8	P	P	06 47 09.9	+0.7
	comp=Z,9.6nm,0.8s,baz=87,slow=1.9,SNR=5.2						
JNU	Nakatsue	29.21	8	IAmb	IAmb	06 47 18.7	
	comp=Z,58nm,1.3s						
CMAR	Chiang Mai Arr	30.50	300	P	P	06 47 20.4	-0.4
	comp=Z,2.6nm,0.4s,baz=123,slow=7.1,SNR=13						
CMAR				LR	LR	07 00 53.8	
	comp=Z,69nm,19.8s,baz=285,slow=39						
CMAR	Chiang Mai Arr	30.50	300	P	P	06 47 20.3	-0.5
CHTO	Chiang Mai	30.65	301	P	P	06 47 21.1	-1.0
JWT	Wachi	32.15	14	P	P	06 47 35.1	0.0
JWT				IAmb	IAmb	06 47 47.2	
	comp=Z,14nm,0.7s						
KSAR	Wonju Array Be	33.25	2	P	P	06 47 45.2	+0.5
KSRS	Korea Array	33.27	2	P	P	06 47 45.2	+0.5
	comp=Z,2.5nm,0.5s,baz=178,slow=10,SNR=11						
KSRS				pP	pP	06 47 56.6	-8.4
	comp=Z,5.0nm,0.7s,baz=171,slow=10,SNR=9.3						
KSRS				PcP	PcP	06 50 26.0	+0.9
	comp=Z,1.3nm,0.6s,baz=171,slow=2.8,SNR=4.1						
KSRS				LR	LR	07 03 24.2	
	comp=Z,14nm,19.1s,baz=175,slow=40						
XAN	Xi'an	34.02	333	P	P	06 47 50.2	-1.2
XAN				S	S	06 53 02.6	-7.5
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
XAN				LR	LR		
	comp=Z,300nm,14.1s						
XAN				LR	LR		
	comp=Z,290nm,16.3s						
XAN				LR	LR		
	comp=Z,260nm,20.6s						
XAN	Xi'an	34.02	333	P	P	06 47 50.6	-0.9
XAN				IAmb	IAmb	06 48 09.3	
	comp=Z,12nm,1.0s						
MJAR	Matsushiro Arr	34.08	17	LR	LR	07 00 26.5	
	comp=Z,39nm,21.4s,baz=295,slow=34						
MORW	Morawa	34.43	196	P	P	06 47 54.4	-0.6
	baz=34,SNR=6.4						
MORW	Morawa	34.43	196	P	P	06 47 54.8	-0.2
MORW				IAmb	IAmb	06 48 07.6	
	comp=Z,10nm,0.8s						
FORT	Forrest	34.67	178	P	P	06 47 57.1	+0.1
	baz=35,SNR=11						
FORT	Forrest	34.67	178	P	P	06 47 57.0	0.0
KMBL	Kambalda	35.50	187	P	P	06 48 04.4	+0.3
	baz=36,SNR=7.1						
BLDU	Ballidu	35.72	195	P	P	06 48 05.7	-0.3
	baz=36,SNR=14						
KLBR	Kellerberrin	36.41	193	P	P	06 48 11.9	0.0
	baz=36,SNR=5.3						
BJT	Baijiatuau	37.00	347	P	P	06 48 17.6	+0.8
BJT				IAmb	IAmb	06 48 18.7	
	comp=Z,26nm,1.1s						
BJI	Beijing	37.02	347	P	P	06 48 17.7	+0.8
BJI				pmax	pmax		
	comp=Z,21nm,1.1s						
MUN	Mundaring	37.15	195	P	P	06 48 18.0	-0.1
	baz=37,SNR=3.7						
EIDS	Eidsvold	37.75	142	P	P	06 48 22.8	-0.6
	baz=38,SNR=3.3						
BBOO	Buckleboo	37.77	167	P	P	06 48 24.0	+0.6
	baz=38,SNR=7.7						
NWAO	Narrogin (SRO)	37.81	193	P	P	06 48 23.9	+0.2
	baz=38,SNR=5.4						
NWAO	Narrogin (SRO)	37.81	193	P	P	06 48 24.1	+0.3
NWAO				IAmb	IAmb	06 48 35.0	
	comp=Z,18nm,1.1s						
LZH	Lanzhou	38.10	330	eP	P	06 48 27.9	+1.5
LZH				pP	sP	06 48 57.2	-0.2
LZH				sP	pwP	06 49 10.3	+19
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH				LR	LR		
	comp=Z,280nm,16.3s						
LZH				LR	LR		
	comp=Z,220nm,15.2s						
STKA	Stephens Creek	38.52	159	P	P	06 48 30.4	+0.7
	comp=Z,2.2nm,0.3s,baz=328,slow=10,SNR=7.4						
STKA				PcP	PcP	06 50 41.4	+0.5
	comp=Z,4.4nm,0.6s,baz=270,slow=6.1,SNR=2.6						
STKA				LR	LR	07 04 50.8	
	comp=Z,53nm,19.0s,baz=208,slow=37						
STKA	Stephens Creek	38.52	159	P	P	06 48 30.7	+1.0
	baz=39,SNR=4.8						
STKA	Stephens Creek	38.52	159	P	P	06 48 30.5	+0.8
HHC	Hu-ho-hao-te	39.02	342	eP	P	06 48 34.0	+0.1
HHC				pP	pwP	06 49 01.8	+2.3
HHC				sP	sP	06 49 16.0	+11
HHC				PP	PnPn	06 50 12.4	+3.9
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,5.2s						
SHL	Shillong	39.49	306	P	P	06 48 37.4	-0.8
CN2	Changchun	39.59	359	eP	P	06 48 41.6	+3.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	Ussuriysk Ar.	40.27	6	P	P	06 48 44.5	+0.4
	comp=Z,13nm,0.9s,baz=196,slow=7.2,SNR=17						
USRK				pP	pP	06 48 56.2	-8.7
	comp=Z,14nm,0.8s,baz=193,slow=7.6,SNR=16						
USRK	Ussuriysk Ar.	40.27	6	P	P	06 48 44.7	+0.6
MDJ	Mudanjiang	40.49	3	P	P	06 48 47.2	+1.3
MDJ				pmax	pmax		
	comp=Z,18nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,53nm,3.7s						
MDJ	Mudanjiang	40.49	3	IAmb	IAmb	06 48 59.1	
	comp=Z,25nm,1.0s						
ARMA	Armidale	41.87	147	P	P	06 48 59.1	+1.5
	baz=42,SNR=8.9						
LSA	Lhasa	42.05	311	P	P	06 49 00.2	+0.7
LSA				IAmb	IAmb	06 49 01.7	
	comp=Z,8.6nm,0.6s						
GTA	Gaotai	42.70	329	P	P	06 49 04.2	0.0
GTA				pP	pwP	06 49 29.2	-0.4
GTA				sP	sP	06 49 44.8	+9.3
GTA				PcP	PcP	06 50 55.9	+1.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,36nm,5.6s						
GTA				LR	LR		
	comp=Z,160nm,17.4s						
GTA				LR	LR		
	comp=Z,150nm,17.5s						
GTA				LR	LR		
	comp=Z,140nm,18.9s						
KLR	Kul'dur	45.23	5	P	P	06 49 24.3	+0.2
	comp=Z,4.5nm,0.6s,baz=214,slow=4.4,SNR=17						
KLR				pP	pP	06 49 35.9	-9.4
	comp=Z,12nm,0.8s,baz=216,slow=4.6,SNR=14						
SONM	Songino Array	46.91	342	P	P	06 49 37.9	+0.4
	comp=Z,2.8nm,0.6s,baz=159,slow=8.3,SNR=9.2						
SONM				PcP	PcP	06 51 08.2	-0.6
	comp=Z,1.0nm,0.5s,baz=167,slow=3.9,SNR=3.6						
SONM				LR	LR	07 10 45.6	
	comp=Z,79nm,19.7s,baz=176,slow=38						
SONM	Songino Array	46.91	342	P	P	06 49 37.1	-0.5
DZM	Mont Dzumac	46.92	125	P	P	06 49 40.1	+2.2
DZM				IAmb	IAmb	06 49 42.0	
	comp=Z,14nm,0.9s						
WMQ	Urumqi	52.32	325	eP	P	06 50 20.3	+1.7
PETK	Petropavlovsk-	55.22	22	P	P	06 50 40.0	+0.5
	comp=Z,8.6nm,1.0s,baz=149,slow=2.6,SNR=5.4						
PETK				pP	pP	06 50 52.6	-10
	comp=Z,12nm,0.7s,baz=194,slow=4.3,SNR=10						
PETK				LR	LR	07 14 05.5	
	comp=Z,30nm,21.7s,baz=59,slow=36						
PETK	Petropavlovsk-	55.22	22	P	P	06 50 40.7	+1.2
MSVF	Nonsavu	55.27	115	P	P	06 50 41.0	+0.5
SHLS	Shalkode	56.94	320	eP	P	06 50 48.7	-3.4
	baz=320						
MK31	Makanchi Array	57.15	325	P	P	06 50 52.5	-0.9
MKAR	Makanchi Array	57.15	325	P	P	06 50 52.0	-1.4
	comp=Z,2.5nm,0.4s,baz=117,slow=7.5,SNR=58						
MKAR				PcP	PcP	06 51 47.3	+0.2
	comp=Z,2.7nm,0.7s,baz=116,slow=5.6,SNR=4.2						
MKAR				ScP	ScP	06 55 41.6	+3.1
	comp=Z,0.9nm,0.7s,baz=116,slow=4.2,SNR=4.8						
MKAR				LR	LR	07 18 32.4	
	comp=Z,175nm,18.6s,baz=313,slow=39						
MAKZ	Makanchi	57.34	325	P	P	06 50 54.3	-0.4
SATY	Saty	57.57	320	eP	P	06 50 55.1	-1.5
	baz=319						
KPKS	Kokpek	57.59	320	eP	P	06 50 56.1	-0.6
	baz=320						
KSH	Kashi	57.65	315	P	P	06 50 58.8	+1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KSH				PcP	PcP	06 51 47.8	-1.5
KSH				pmax	pmax		
	comp=Z,8.0nm,1.5s						
KSH				pmax	pmax		
	comp=Z,420nm,6.1s						
MA2	Magadan	58.45	14	P	P	06 51 03.5	+1.3
	comp=Z,2.4nm,0.3s,baz=167,slow=3.6,SNR=5.1						
MA2	Magadan	58.45	14	P	P	06 51 02.4	+0.2
MA2				IAmb	IAmb	06 51 16.1	
	comp=Z,11nm,0.8s						
MDOK	Medeo	58.50	319	eP	P	06 51 02.0	-1.1
	baz=319						
CHKK	Chushkaly	58.86	320	eP	P	06 51 04.9	-0.5
	baz=320						
KUU	Kurty	59.29	320	eP	P	06 51 06.8	-1.5
	comp=Z,7.1nm,1.0s,baz=320						
ZALV	Zalesovo Beam	60.19	333	P	P	06 51 13.8	-0.5
	comp=Z,2.3nm,0.3s,baz=114,slow=6.8,SNR=4.4						
KBL	Kabul	61.13	307	P	P	06 51 20.2	-1.1
KBL				IAmb	IAmb	06 51 21.4	
	comp=Z,5.7nm,0.8s						
BTLS	Baital	61.27	320	eP	P	06 51 20.9	-1.0
	baz=320						
KURBB	Kurchatov Arra	61.34	327	P	P	06 51 21.2	-0.9
	comp=Z,3.0nm,0.4s,baz=128,slow=6.1,SNR=20						
KURK	Kurchatov	61.34	328	P	P	06 51 21.2	-0.9
SEY	Seymchan	61.77	13	P	P	06 51 26.6	+1.7
	comp=Z,5.2nm,0.8s,baz=211,slow=5.4,SNR=12						
IUG	Iuzhnay	62.82	316	eP	P	06 51 31.2	-1.2
	baz=316						
KK31	Karatay Array	62.83	317	P	P	06 51 32.4	+0.1
KKAR	Karatay Array	62.83	317	P	P	06 51 31.3	-1.0
KKAR	Karatay Array	62.83	317	P	P	06 51 32.2	-0.2
BRZS	Berezniki	64.29	325	eP	P	06 51 40.4	-1.3
	baz=324						
BVAR	Borovoye Array	66.92	327	P	P	06 51 58.6	0.0
	comp=Z,1.2nm,0.4s,baz=220,slow=23,SNR=18						
BRVK	Borovoye	66.99	327	P	P	06 51 58.3	-0.7
BRVK				IAmb	IAmb	06 52 00.6	
	comp=Z,10nm,1.1s						
TIXI	Tiksi	67.52	1	P	P	06 52 01.6	-0.5
	comp=Z,3.0nm,0.3s,baz=116,slow=3.1,SNR=4.3						
TIXI				PcP	PcP	06 52 28.6	-0.1
	comp=Z,2.7nm,0.4s,baz=159,slow=6.2,SNR=3.1						
TIXI	Tiksi	67.52	1	P	P	06 52 01.1	-1.0
NRIK	Noril'sk	70.06	346	P	P	06 52 18.1	+0.2
	comp=Z,6.6nm,0.6s,baz=135,slow=7.0,SNR=11						
NRIK	Noril'sk	70.06	346	P	P	06 52 17.4	-0.4
NRIK				IAmb	IAmb	06 52 19.0	
	comp=Z,21nm,1.2s						
ABKAR	Akbulak array	71.75	321	P	P	06 52 27.9	-0.6
AKTO	Aktyubinsk	73.26	322	P	P	06 52 36.5	-0.9
	comp=Z,2.4nm,0.5s,baz=111,slow=8.7,SNR=11						
AKTO				LR	LR	07 25 32.2	
	comp=Z,147nm,19.2s,baz=324,slow=36						
ARU	Arti	74.53	328	P	P	06 52 43.5	-1.2
	comp=Z,2.7nm,0.3s,baz=116,slow=3.8,SNR=11						
ARU	Arti	74.53	328	P	P	06 52 44.0	-0.7
RDOG	Red Dog Mine	79.07	21	P	P	06 53 10.4	+0.4
RDOG				IAmb	IAmb	06 53 12.4	
	comp=Z,17nm,1.3s						
RDOG	Red Dog Mine	79.07	21	P		06 53 10.8	
	baz=253						
KIRV	Kirov	79.82	329	P	P	06 53 12.8	-1.5
	comp=Z,10.0nm,0.5s,baz=86,slow=4.6,SNR=4.3						
TTA	Tatalina	80.72	27	P	P	06 53 19.6	+0.5
TTA				IAmb	IAmb	06 53 21.5	
	comp=Z,14nm,1.3s						
TTA	Tatalina	80.72	27	P		06 53 19.8	
	baz=261						
OHAK	Old Harbor	81.31	33	P		06 53 23.0	
	baz=264						
KDAK	Kodiak Island	81.75	32	P	P	06 53 25.3	+0.8
	comp=Z,11nm,0.8s,baz=281,slow=7.4,SNR=8.4						
KDAK	Kodiak Island	81.75	32	IAmb	IAmb	06 53 36.4	
	comp=Z,26nm,1.2s						
KDAK	Kodiak Island	81.75	32	P		06 53 25.5	
	baz=264						
A21K	Barrow	81.99	18	P	P	06 53 25.6	0.0
A21K	Barrow	81.99	18	P		06 53 26.0	
	baz=259,SNR=6.5						
IMAR	Indian Mountai	82.14	24	P	P	06 53 26.9	+0.4
PPLA	Purkeypile	82.45	27	P		06 53 28.5	
	baz=264						
CHUM	Lake Minchumin	82.50	26	P		06 53 29.2	
	baz=264,SNR=6.6						
SKT	Skwentna	82.67	28	P	P	06 53 29.1	-0.2
SKT				IAmb	IAmb	06 53 30.9	
	comp=Z,19nm,1.1s						
SKT	Skwentna	82.67	28	P		06 53 29.6	
	baz=265,SNR=6.9						
BRSE	Bradley Lake S	82.87	30	P		06 53 31.2	
	baz=266						
SUA	Susitna One	83.00	29	P	P	06 53 30.9	-0.3
SUA				IAmb	IAmb	06 53 32.3	
	comp=Z,23nm,1.1s						
SUA	Susitna One	83.00	29	P		06 53 30.8	
	baz=266,SNR=12						
KTH	Kantishna Hill	83.08	27	P	P	06 53 31.8	+0.2
KTH				IAmb	IAmb	06 53 33.9	
	comp=Z,25nm,1.2s						
BPAW	Bear Paw Mtn.	83.10	26	P	P	06 53 32.3	+0.8
BPAW				IAmb	IAmb	06 53 34.3	
	comp=Z,36nm,1.5s						
BPAW	Bear Paw Mtn.	83.10	26	P		06 53 31.9	
	baz=265,SNR=10						
MLY	Manley	83.29	25	P		06 53 33.2	
	baz=265,SNR=17						
TRF	Thorofare Moun	83.36	27	P	P	06 53 33.1	+0.1
TRF				IAmb	IAmb	06 53 34.4	
	comp=Z,18nm,1.1s						
TRF	Thorofare Moun	83.36	27	P		06 53 32.7	
	baz=266,SNR=5.2						
O22K	Cooper Landing	83.43	30	P	P	06 53 32.6	-0.6
O22K	Cooper Landing	83.43	30	P		06 53 33.5	
	baz=267						
RC01	Rabbit Creek A	83.46	29	P		06 53 33.6	
	baz=266,SNR=7.5						
SEW	Seward	83.54	30	P	P	06 53 34.1	+0.4
SEW				IAmb	IAmb	06 53 35.4	
	comp=Z,25nm,1.1s						
SEW	Seward	83.54	30	P		06 53 33.7	
	baz=267,SNR=6.0						
COLD	Coldfoot	83.69	23	P	P	06 53 35.0	+0.6
COLD	Coldfoot	83.69	23	P		06 53 35.3	
	baz=265,SNR=27						
PMR	Palmer	83.78	29	P	P	06 53 34.9	-0.1
PMR				IAmb	IAmb	06 53 36.2	
	comp=Z,20nm,1.0s						
PMR	Palmer	83.78	29	P		06 53 35.0	
	baz=267,SNR=12						
VNDA	Vanda	83.78	173	P	P	06 53 35.2	+0.5
	comp=Z,2.7nm,1.0s,baz=313,slow=6.7,SNR=5.6						
I23K	Minto, Yukon-K	83.88	25	P	P	06 53 36.0	+0.6
I23K	Minto, Yukon-K	83.88	25	P		06 53 36.3	
	baz=266,SNR=20						
NEA2	Nenana	83.97	26	P		06 53 36.3	
	baz=267,SNR=5.6						
MCK	McKinley	83.98	26	P		06 53 35.7	
	baz=267,SNR=9.9						
TOLK	Toolik Lake Re	84.03	21	P		06 53 37.0	
	baz=266,SNR=23						
KNK	Knik Glacier	84.09	29	P	P	06 53 36.7	+0.1
KNK	Knik Glacier	84.09	29	P		06 53 36.9	
	baz=268,SNR=13						
WAT2	Susitna Watana	84.10	27	P		06 53 36.5	
	baz=267,SNR=6.3						
SML	Sawmill	84.17	28	P		06 53 37.6	
	baz=268,SNR=10						
WAT6	Susitna Watana	84.47	28	P		06 53 39.0	
	baz=268						
POKR	Poker Plat Res	84.69	25	P		06 53 40.4	
	baz=268						
GLI	Glacier Island	84.73	29	P		06 53 40.2	
	baz=269						
HDA	Harding Lake	84.88	26	P		06 53 40.4	
	baz=269						
HDA				P		06 53 40.4	
	baz=269						
ILAR	Eielson Array	84.91	25	P	P	06 53 39.9	-0.8
	comp=Z,1.5nm,0.8s,baz=237,slow=5.8,SNR=14						
KLMR	Klimovskoe	85.01	331	eP	P	06 53 38.4	-2.8
KLMR				AMP		06 53 41.4	
	comp=Z,28nm,0.7s						
M24K	Tolsona, Glenn	85.19	28	P		06 53 43.3	
	baz=270						
KLU	Klutina	85.31	29	P		06 53 43.8	
	baz=270						
EYAK	Cordova Ski Ar	85.39	30	P	P	06 53 40.7	-2.4
EYAK				IAmb	IAmb	06 53 46.0	
	comp=Z,33nm,1.5s						
EYAK	Cordova Ski Ar	85.39	30	P		06 53 44.0	
	baz=270						
PRP	Porcupine Dome	85.50	25	P		06 53 43.9	
	baz=270						
PAX	Paxson	85.52	27	P	P	06 53 43.1	-0.7
PAX	Paxson	85.52	27	P		06 53 43.7	
	baz=270,SNR=5.6						
BMAR	Burnt Mountain	85.87	23	P	P	06 53 46.4	+1.0
N25K	Chitina, Valde	85.94	29	P		06 53 46.9	
	baz=271						
BMRM	Bremner River	85.95	29	P		06 53 46.5	
	baz=271						
KAIM	Kayak Island	86.06	30	P		06 53 47.2	
	baz=271						
SCRK	Sand Creek	86.18	26	P		06 53 47.8	
	baz=271						
K27K	Chicken	87.02	26	P		06 53 52.3	
	baz=273						
BCAR	Beaver Creek A	87.20	27	P	P	06 53 52.5	+0.5
EGAK	Eagle	87.37	25	P		06 53 53.2	
	baz=274						
CTG	Chitna Glacier	87.54	29	P		06 53 54.7	
	baz=274						
CTGM	Chitina Glacie	87.55	29	P	P	06 53 52.7	-1.1
TABL	Table Mountain	87.67	30	P	P	06 53 52.5	-2.1
BRTR	Keskin Array B	89.63	310	P	P	06 54 03.1	-1.1
	comp=Z,2.4nm,0.9s,baz=131,slow=4.7,SNR=8.4						
BRTR	Keskin Array B	89.63	310	P	P	06 54 02.1	-2.0
INK	Inuvik	89.95	21	P	P	06 54 04.7	-0.1
	comp=Z,6.1nm,0.9s,baz=268,slow=4.5,SNR=15						
ARCES	ARCESS Array B	90.06	340	P	P	06 54 04.2	-1.1
	comp=Z,1.8nm,0.4s,baz=81,slow=6.4,SNR=21						
FINES	FINESS Array B	91.43	332	P	P	06 54 10.7	-1.1
	comp=Z,0.7nm,0.4s,baz=64,slow=3.3,SNR=11						
AKASG	Malin Array Be	91.49	321	P	P	06 54 10.9	-1.4
	comp=Z,3.5nm,0.7s,baz=66,slow=4.8,SNR=7.4						
MNK	Minsk	91.72	325	*i* P	P	06 54 14.8	+1.4
	comp=E,6.0nm,0.9s						
MNK				*i* P	P	06 54 14.8	+1.4
	comp=N,17nm,0.9s						
MNK				*i* P	P	06 54 14.8	+1.4
	comp=Z,17nm,0.9s						
MNK				*i* pP	pP	06 54 34.1	-3.0
MNK				*i* sP	pwP	06 54 42.0	+0.6
MNK				*i* PP	PP	06 57 53.4	+0.5
MNK				*i* PPP	PPP	06 59 52.2	
MNK				*i* S	SKSac	07 04 40.5	+2.9
MNK				*i* sS	ScS	07 05 15.2	+6.6
MNK				*i* SP	SPn	07 06 31.5	+15
MNK				*i* PS	PnS	07 06 39.1	+10
MNK				*i* SS	SS	07 11 16.4	+1.3
MNK				*i* SSS	SSS	07 14 56.5	
MNK				*i* SKKS	SKKSdf	07 18 34.0	+0.9
MNK				*i* LQ	LQ	07 27 04.6	
MNK				*i* LR	LR	07 30 40.1	
MNK				*i* LRM	MLR	07 36 54.5	
	comp=E,16nm,19.2s						
MNK				*i* LRM	MLR	07 36 59.3	
	comp=Z,186nm,19.2s						
MNK				*i* LRM	MLR	07 37 44.9	
	comp=N,218nm,19.2s						
NACGM	Naroch	92.28	325	*i* P	P	06 54 14.5	-1.4
NACGM				*i* P	P	06 54 14.5	-1.4
NACGM				*i* P	P	06 54 14.5	-1.4
NACGM				*i* PP	PP	06 57 39.1	-18
NACGM				*i* PPP	PPP	06 59 47.4	
NACGM				*i* SS	SS	07 11 41.8	+19
NACGM				*i* SSS	SSS	07 15 28.6	
NACGM				*i* LQ	LQ	07 30 39.9	
NACGM				*i* LR	LR	07 38 36.7	
DLBC	Dease Lake	93.59	31	P	P	06 54 22.2	+0.2
	comp=N,0.9nm,0.3s,baz=225,slow=7.1,SNR=3.0						
DLBC	Dease Lake	93.59	31	IAmb	IAmb	06 54 24.1	
	comp=Z,8.8nm,1.4s						
BURAR	Bucovina Array	94.60	318	P	P	06 54 26.4	-0.6
BUR08	Bucovina Ar. S	94.61	318	IAmb	IAmb	06 54 27.6	
	comp=Z,5.2nm,0.9s						
NB2	NORSAR Subarra	98.39	334	P	P	06 54 41.9	-1.8
	comp=Z,1.1nm,0.5s,baz=65,slow=4.8						
NOA	NORSAR Array B	98.39	334	P	P	06 54 42.2	-1.4
	comp=Z,0.8nm,0.6s,baz=66,slow=4.5,SNR=3.8						
YKA	Yellowknife Ar	99.30	24	P	Pdif	06 54 48.5	+0.8
	comp=Z,1.2nm,0.7s,baz=304,slow=4.0,SNR=22						
CLL	Collm	101.24	324	eP	Pdif	06 54 57.0	+0.5
NVAR	Mina Array Bea	106.87	48	Pdiff	Pdif	06 55 24.3	+2.1
	comp=Z,0.1nm,0.3s,baz=296,slow=6.9,SNR=3.7						
TXAR	Lajitas Array	121.59	52	PKP	PKPdf	06 59 59.7	-0.3
	comp=Z,0.6nm,0.7s,baz=258,slow=0.1,SNR=7.1						
MATQ	Matagami	122.48	18	P		07 00 00.6	
	baz=331						
TORD	Torodi Ar. Bea	122.59	288	PKP	PKPdf	07 00 01.6	-0.5
	comp=Z,1.2nm,0.6s,baz=38,slow=1.6,SNR=3.7						
JCT	Junction City	124.03	49	P		07 00 04.9	
	baz=300						
CCM	Cathedral Cave	125.43	36	P		07 00 06.9	
	baz=312						
U40A	Yellville	125.54	39	P		07 00 07.3	
	baz=309						
W39A	Magazine	125.66	41	P		07 00 07.5	
	baz=308						
MIAR	Mount Ida	126.19	41	P		07 00 08.8	
	baz=307						
WVT	Waverly	128.74	36	P		07 00 12.9	
	baz=314						
P59A	Jarrettsville	131.69	24	P		07 00 18.7	
	baz=329						
R58A	Rapidan	132.14	26	P		07 00 19.1	
	baz=326						
Q59A	Harwood	132.24	24	P		07 00 20.0	
	baz=328						
T57A	Hurt	132.63	28	P		07 00 20.7	
	baz=324						
LPAZ	La Paz	161.18	131	PKP	PKPdf	07 01 07.7	0.0
	comp=Z,1.2nm,0.8s,baz=51,slow=6.5,SNR=4.8						

IDC 06 07:06:11.9±4.8**, 29°67S**×**178°26W, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/30**, mbtmp3.8**/3**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.6**/27**, Error ellipse: s-maj=197.7km s-min=74.0km az=159.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	16.80	22	LR	LR	07 15 15.6	
	comp=Z,59nm,19.8s,baz=275,slow=32						
STKA	Stephens Creek	34.43	256	P	P	07 13 01.9	+0.7
	1.9nm,0.8s,baz=79,slow=10,SNR=4.4						
ASAR	Alice Springs	42.92	266	P	P	07 14 12.1	-0.6
	0.3nm,0.5s,baz=103,slow=8.0,SNR=6.7						
WRA	Warramunga Arr	43.85	272	P	P	07 14 19.9	-0.3
	0.7nm,0.3s,baz=112,slow=8.2,SNR=14						
FINES	FINESS Array B	144.39	340	PKP	PKPdf	07 25 48.8	-0.6
	2.9nm,0.9s,baz=64,slow=4.4,SNR=4.4						

*NNC **06** 07:07:48.1±0.7, 49°98N×78°59E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=12.5km s-min=3.6km az=84.0, Suspected Mining explosion.*
*ASRS **06** 07:07:50.2±0.3, 50°N±2°×7°9E±°, h10km, MLh3.4/6, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
ISC 06 07:07:49.8±0.7**, 50°06N**±0°03×**78°66E**±0°04**, h0**km**, n27, σ1°35**/51**, 19C-6D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.53	350	⇑P	Pg	07 08 00.2	+0.3
KUR07				⇓S	Sb	07 08 09.3	-0.9
KUR06	Kurchatov Arra	0.55	351	⇑P	Pg	07 08 00.6	+0.3
KUR06				⇑S	Sb	07 08 09.9	-0.8
KUR14	Kurchatov Arra	0.55	355	⇑P	Pg	07 08 00.4	0.0
KUR14				⇑S	Sb	07 08 09.5	-1.4
KUR15	Kurchatov Arra	0.56	353	⇑P	Pg	07 08 00.7	+0.2
KUR15				⇓S	Sb	07 08 10.5	-0.6
KURBB	Kurchatov Arra	0.57	351	⇑P	Pg	07 08 00.8	+0.1
	24nm,0.4s						
KURBB				⇑S	Sb	07 08 09.9	-1.4
	170nm,0.6s						
KUR16	Kurchatov Arra	0.57	350	⇓P	Pg	07 08 01.1	+0.2
KUR16				⇑S	Sb	07 08 10.2	-1.3
KUR17	Kurchatov Arra	0.58	348	⇑P	Pg	07 08 01.1	+0.1
KUR17				⇓S	Sb	07 08 11.2	-0.5
KUR05	Kurchatov Arra	0.59	352	⇑P	Pg	07 08 01.1	0.0
KUR05				⇑S	Sb	07 08 10.2	-1.6
KUR04	Kurchatov Arra	0.60	353	⇑P	Pg	07 08 01.6	+0.2
KUR04				⇓S	Sb	07 08 10.7	-1.6
BRZS	Berezniki	3.86	271	Pg	Pb	07 09 00.2	+1.4
	5.5nm,0.2s						
BRZS				Lg	Lg	07 09 50.9	
	7.0nm,0.3s						
MAKZ	Makanchi	3.93	145	P	Pn	07 08 51.0	-0.4
MAKZ				Pg	Pb	07 09 00.8	+0.7
MAKZ				S	Sn	07 09 34.4	-3.9
MAKZ				Sg	Sb	07 09 49.4	+1.2
MAKZ	Makanchi	3.93	145	⇑Pg	Pb	07 08 58.3	-1.7
	2.9nm,0.8s						
MAKZ				⇑Lg	Lg	07 09 49.6	
	5.3nm,0.5s						
UKR	Ust'-Kan	4.00	75	P	Pn	07 08 53.1	+0.8
UKR				Pg	Pb	07 09 03.1	+2.0
UKR				S	Sn	07 09 40.9	+1.0
UKR				Sg	Sg	07 09 56.9	-1.3
MK31	Makanchi Array	4.07	142	⇑Pn	Pn	07 08 52.9	-0.3
	0.1nm,0.2s,baz=319,slow=9.9,SNR=28						
MK31				⇑Pg	Pb	07 09 00.7	-1.6
	0.7nm,0.3s,baz=318,slow=14,SNR=16						
MK31				⇑Lg	Lg	07 09 55.0	
	6.8nm,0.5s,baz=314,slow=26,SNR=7.9						
MKAR	Makanchi Array	4.07	142	P	Pn	07 08 52.8	-0.5
MKAR				Pg	Pb	07 09 01.4	-0.9
MKAR				Sg	Sb	07 09 54.5	+2.5
KAPS	Kapalarasan	4.80	174	Pg	Pb	07 09 14.3	-0.6
	1.4nm,0.4s						
KAPS				Lg	Lg	07 10 15.9	
	12nm,0.6s						
DGZ	Jazzator, Alta	5.68	90	P	Pn	07 09 16.2	+0.7
DGZ				S	Sn	07 10 21.7	+0.2
CHBI	Chibit, Altay	5.69	84	P	Pn	07 09 16.8	+1.3
CHBI				S	Sn	07 10 21.9	+0.4
ELT	Eltsovka	5.70	53	P	Pn	07 09 17.2	+1.5
ARTR	Artybash	5.72	69	P	Pn	07 09 16.7	+0.7
ARTR				S	Sn	07 10 23.4	+1.2
ARXS	Arharly	5.88	186	Pg	Pb	07 09 35.5	+2.3
	2.6nm,0.5s						
ARXS				Lg	Lg	07 10 51.8	
	9.8nm,0.5s						
ULGR	Ulagan, Altay	5.98	81	P	Pn	07 09 20.3	+0.6
ULGR				S	Sn	07 10 28.2	-0.6
MNBS	Baschi	5.99	182	Pg	Pb	07 09 36.6	+1.5
	1.8nm,0.3s						
MNBS				Lg	Lg	07 10 54.3	
	10nm,0.5s						
BRVK	Borovoye	6.03	303	P	Pn	07 09 19.9	-0.2
BRVK				S	Sn	07 10 29.9	+0.2
BRVK	Borovoye	6.03	303	⇑Sn	Sn	07 10 29.9	+0.2
	1.7nm,0.5s						
BRVK				⇓Lg	Lg	07 10 59.2	
	2.6nm,0.7s						
CUR	Chagan-Uzun	6.24	86	P	Pn	07 09 23.9	+0.7
CUR				S	Sn	07 10 35.4	+0.2
TEL	Teeli	7.42	78	S	Sn	07 10 59.7	-4.4

WEL 06 07:19:26.3±0.8**, 37°S**±7°×**17°7E**±°**, h12**km**, M3.4**/29**, ML3.5**/27**, MLv3.4**/29**, Error ellipse: s-maj=0.0km s-min=0.0km az=26.8, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	Mayor Island	0.99	228	P	Pg	07 19 44.5	-0.9
KUZ	Kuaotunu	1.16	264	P	Pb	07 19 46.7	-1.6
KUZ				S	Sb	07 20 02.2	-1.2
HAZ	Te Kaha	1.24	156	P	Pn	07 19 47.0	-2.4
OPRZ	Ohinepanea	1.31	201	P	Pn	07 19 49.0	-1.5
MXZ	Matakaoa Point	1.31	136	P	Pn	07 19 48.6	-1.8
TGRZ	Tauranga	1.32	213	P	Pn	07 19 49.4	-1.1
RUGZ	Raukumara Rang	1.40	163	P	Pn	07 19 50.5	-1.4
GRZ	Great Barrier	1.42	285	P	Pn	07 19 52.2	+0.2
GRZ				S	Sn	07 20 09.4	-1.2
PKGZ	Pakihiroa	1.46	150	P	Pn	07 19 50.6	-2.0
WMGZ	Waiomatatini S	1.56	140	P	Pn	07 19 53.9	+0.1
KMRZ	Kaimai	1.56	218	P	Pn	07 19 53.4	-0.5
URZ	Urewera	1.63	181	P	Pn	07 19 53.0	-1.8
WIAZ	Waiheke Island	1.64	263	P	Pn	07 19 54.1	-0.8
MKAZ	Moumakai	1.67	253	P	Pn	07 19 54.4	-1.0
MKAZ				S	Sn	07 20 16.9	+0.1
TWGZ	Tauwhareparae	1.68	157	P	Pn	07 19 56.3	+0.7
PUZ	Puketiti	1.69	149	P	Pn	07 19 56.2	+0.5
TOZ	Tahuroa Road	1.73	230	P	Pn	07 19 55.5	-0.6
MWZ	Matawai	1.73	170	P	Pn	07 19 54.5	-1.8
ETAZ	East Tamaki Re	1.82	259	P	Pn	07 19 57.2	-0.3
ETAZ				S	Sb	07 20 22.1	-0.2
MBAZ	Motutapu North	1.82	265	P	Pn	07 19 57.4	-0.1
ABAZ	Army Bay	1.87	270	P	Pn	07 19 58.5	+0.3
ABAZ				S	Sb	07 20 24.4	+0.6
MUGZ	Murupara	1.88	189	P	Pn	07 19 58.1	-0.2
TKGZ	Te Karaka	1.89	163	P	Pn	07 19 58.5	0.0
EPAZ	Eden Park BICE	1.96	262	P	Pn	07 20 00.2	+0.9
HBAZ	Herne Bay Bore	1.96	263	P	Pn	07 20 00.2	+0.8
CNGZ	Carnagh Statio	2.04	156	P	Pn	07 20 01.5	+1.1
AWAZ	Awhitu Peninsu	2.07	257	P	Pn	07 20 00.9	+0.1
RVAZ	Riverhead Bore	2.08	265	P	Pn	07 20 01.1	+0.2
WTAZ	Waiatarua	2.10	261	P	Pn	07 20 01.2	-0.1
RIGZ	Rimuhau	2.13	167	P	Pn	07 20 02.4	+0.6
TLZ	Tolley Road	2.14	217	P	Pn	07 20 01.8	-0.1
MTHZ	Maungataniwha	2.24	186	P	Pb	07 20 06.1	-0.7
WCZ	Waipu Caves	2.37	286	P	Pn	07 20 05.3	+0.3
KNZ	Kokohu	2.43	171	P	Pn	07 20 07.0	+1.2
WHHZ	Waihua	2.45	179	P	Pb	07 20 08.3	-2.0
NMHZ	Naumai	2.49	186	P	Pn	07 20 08.6	+1.9
BKZ	Black Stump Fm	2.59	192	P	Pn	07 20 10.3	+2.1
HIZ	Hauiti	2.63	223	P	Pn	07 20 08.5	-0.1
WNVZ	Wahianoa	2.97	204	P	Pb	07 20 17.4	-1.8
BHHZ	Black Hill Sta	2.99	196	P	Pn	07 20 16.1	+2.5
MOVZ	Moawhango	2.99	201	P	Pn	07 20 16.5	+2.9
OUZ	Omahuta	3.21	295	P	Pn	07 20 17.2	+0.6
TSZ	Takapari Road	3.56	195	P	Pn	07 20 22.0	+0.6
THZ	Tophouse	6.10	211	P	Pn	07 20 59.3	+2.9
INZ	Inchbonnie	7.52	214	P	Pn	07 21 16.7	+1.0

IDC 06 07:25:26.9±3.0**, 54°20N**×**87°26E, h0**km**, mb1 2.7**/2**, mb1mx2.7**/37**, mbtmp2.7**/2**, ML2.3**/2**, Error ellipse: s-maj=26.9km s-min=18.9km az=52.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.46	261	*i*		07 33 25.9	
	baz=79,slow=325,SNR=15						
ZALV	Zalesovo Beam	1.46	261	Pg	Pn	07 25 53.3	-1.2
	1.8nm,0.3s,baz=81,slow=13,SNR=18						
ZALV				Lg	Lg	07 26 13.6	
	1.1nm,0.3s,baz=79,slow=24,SNR=5.7						
KURBB	Kurchatov Arra	6.43	240	Pn	Pn	07 27 03.1	+0.4
	0.1nm,0.3s,baz=54,slow=14,SNR=4.4						
KURBB				Lg	Lg	07 28 51.8	
	0.0nm,0.3s,baz=76,slow=7.8,SNR=4.4						
MKAR	Makanchi Array	8.06	205	Pn	Pn	07 27 26.6	+1.4
	0.1nm,0.3s,baz=28,slow=14,SNR=6.0						
MKAR				Lg	Lg	07 29 42.2	
	0.1nm,0.3s,baz=22,slow=24,SNR=2.3						

*NOU **06** 07:27:57.9, 23°28S×179°59W, h576km, mb4.2, South of Fiji Islands*
*IDC **06** 07:27:58.3±1.3, 23°40S×179°92W, h540km±14km, mb3.6/9, mb1 3.8/12, mb1mx3.5/28, mbtmp4.5/12, Error ellipse: s-maj=17.7km s-min=13.7km az=158.0*
ISC 06 07:27:57.6±0.6**, 23°46S**±0°06×**179°67W**±0°08**, h550**km**, n43, σ2°66**/58**, mb4.0**/9**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.98	165	S	S	07 30 56.0	-0.5
	90nm,0.3s,baz=254,slow=23,SNR=4.3						
GLKZ	Green Lake	5.99	165	P	P	07 29 36.8	+0.8
GLKZ				S	S	07 30 56.8	+0.2
MSVF	Nonsavu	6.08	339	P	P	07 29 37.0	-0.2
	14nm,0.3s,baz=303,slow=23,SNR=75						
NIUE	Niue	10.08	66	P	P	07 30 16.7	+0.3
MARNC	Mare, Loyalty	11.54	277	P	P	07 30 31.6	+0.2
AFI	Afiamalu	12.08	40	P	P	07 30 33.8	-3.4
	2.2nm,0.3s,baz=25,slow=12,SNR=6.3						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI				S	**S**	**07 32 43.3**	**-5.2**
	1.5nm,0.3s,baz=59,slow=19,SNR=2.1						
YATNC	**Mamie plateau,**	**12.47**	**274**	P	**P**	**07 30 42.3**	**+1.2**
DVP	**Devils Point**	**12.71**	**294**	P	**P**	**07 30 44.4**	**+0.8**
DZM	**Mont Dzumac**	**12.88**	**273**	P	**P**	**07 30 45.5**	**+0.1**
	0.6nm,0.3s,baz=86,slow=15,SNR=10						
DZM	**Mont Dzumac**	**12.88**	**273**	P	**P**	**07 30 47.3**	**+1.9**
OUZ	**Omahuta**	**13.10**	**205**	P	**P**	**07 30 48.6**	**+1.3**
WCZ	**Waipu Caves**	**13.48**	**201**	P	**P**	**07 30 53.1**	**+1.9**
KUZ	**Kuaotunu**	**13.83**	**196**	P	**P**	**07 30 55.7**	**+0.9**
HAZ	**Te Kaha**	**14.42**	**188**	P	**P**	**07 31 01.7**	**+0.8**
HAZ				S	**S**	**07 33 29.3**	**-2.6**
PUZ	**Puketiti**	**14.68**	**186**	P	**P**	**07 31 05.8**	**+2.2**
PUZ				S	**S**	**07 33 30.0**	**-6.8**
TWGZ	**Tauwhareparae**	**14.81**	**187**	P	**P**	**07 31 05.4**	**+0.4**
TWGZ				S	**S**	**07 33 35.2**	**-4.2**
URZ	**Urewera**	**15.01**	**190**	P	**P**	**07 31 07.0**	**+0.1**
	4.3nm,0.3s,baz=322,slow=1.7,SNR=20						
URZ				S	**S**	**07 33 39.6**	**-3.2**
	2.4nm,0.3s,baz=238,slow=22,SNR=9.0						
URZ	**Urewera**	**15.01**	**190**	P	**P**	**07 31 05.1**	**-1.9**
URZ				S	**S**	**07 33 39.1**	**-3.8**
MWZ	**Matawai**	**15.02**	**189**	P	**P**	**07 31 05.3**	**-1.9**
MWZ				S	**S**	**07 33 41.4**	**-1.8**
CNGZ	**Carnagh Statio**	**15.09**	**186**	P	**P**	**07 31 09.9**	**+2.1**
CNGZ				S	**S**	**07 33 45.2**	**+0.9**
RIGZ	**Rimuhau**	**15.36**	**188**	P	**P**	**07 31 08.1**	**-2.5**
RIGZ				S	**S**	**07 33 43.0**	**-6.1**
KUTZ	**Kaahu Road**	**15.47**	**193**	P	**P**	**07 31 16.1**	**+4.3**
KNZ	**Kokohu**	**15.68**	**188**	P	**P**	**07 31 12.9**	**-0.9**
KNZ				S	**S**	**07 33 51.6**	**-2.8**
WATZ	**Wairara**	**15.70**	**193**	P	**P**	**07 31 17.6**	**+3.5**
HIZ	**Hauiti**	**15.72**	**196**	P	**P**	**07 31 20.9**	**+6.7**
RATZ	**Rangitukua**	**15.85**	**193**	P	**P**	**07 31 17.2**	**+1.6**
TWVZ	**Taurewa**	**16.11**	**194**	P	**P**	**07 31 19.5**	**+1.3**
OTVZ	**Oturere**	**16.15**	**193**	P	**P**	**07 31 20.2**	**+1.6**
NGZ	**Ngauruhoe**	**16.18**	**193**	P	**P**	**07 31 21.8**	**+3.0**
WNVZ	**Wahianoa**	**16.32**	**193**	P	**P**	**07 31 21.4**	**+1.2**
BHHZ	**Black Hill Sta**	**16.39**	**192**	P	**P**	**07 31 18.9**	**-1.8**
KRHZ	**Kereru**	**16.48**	**191**	P	**P**	**07 31 22.3**	**+0.8**
TSZ	**Takapari Road**	**16.96**	**192**	P	**P**	**07 31 25.3**	**-0.5**
RPZ	**Rata Peaks**	**21.60**	**199**	P	**P**	**07 32 08.2**	**+0.2**
	18nm,0.6s,baz=354,slow=4.1,SNR=7.7						
STKA	**Stephens Creek**	**35.17**	**248**	P	**P**	**07 34 06.4**	**+0.6**
	1.5nm,0.5s,baz=100,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**42.40**	**260**	P	**P**	**07 35 04.0**	**-0.4**
	7.2nm,0.8s,baz=99,slow=6.8,SNR=71						
ASAR				ScP	**ScP**	**07 39 46.6**	**+3.2**
	0.9nm,0.9s,baz=110,slow=4.7,SNR=4.9						
ASAR				S	**S**	**07 40 44.3**	**-2.4**
	0.4nm,0.7s,baz=101,slow=15,SNR=6.4						
WRA	**Warramunga Arr**	**42.74**	**266**	P	**P**	**07 35 06.0**	**-1.0**
	10nm,0.6s,baz=103,slow=8.2,SNR=119						
WRA				ScP	**ScP**	**07 39 48.0**	**+3.2**
	1.1nm,1.1s,baz=113,slow=4.0,SNR=6.2						
WRA				S	**S**	**07 40 46.1**	**-5.4**
	0.5nm,0.7s,baz=102,slow=13,SNR=3.2						
QSPA	**South Pole Qui**	**66.63**	**180**	P	**P**	**07 37 56.0**	**+2.5**
	2.8nm,1.0s,baz=97,slow=0.6,SNR=16						
NVAR	**Mina Array Bea**	**84.23**	**44**	P	**P**	**07 39 33.2**	**+1.5**
	1.4nm,0.9s,baz=227,slow=7.1,SNR=7.9						
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**07 39 57.9**	**+0.2**
	0.7nm,0.3s,baz=137,slow=2.6,SNR=5.2						
TXAR	**Lajitas Array**	**89.94**	**58**	P	**P**	**07 40 01.4**	**+2.5**
	1.6nm,0.8s,baz=210,slow=6.3,SNR=17						
PDAR	**Pinedale Array**	**92.16**	**44**	P	**P**	**07 40 09.9**	**+1.0**
	0.7nm,0.7s,baz=210,slow=3.2,SNR=8.1						
BRTR	**Keskin Array B**	**147.55**	**308**	PKPbc	**PKPab**	**07 46 45.2**	**+0.5**
	0.8nm,0.6s,baz=118,slow=2.1,SNR=3.8						

*PRU **06** 07:44:59.6±0.0, 50°.26N×18°.82E, h0km*
*VIE **06** 07:45:00.4±3.3, 50°.21N×18°.80E, h0km, mb2.2/1, ml2.5/3, Error ellipse: s-maj=21.8km s-min=13.5km az=94.0 13 km WSW of Katowice Suspected Mining induced.*
*IDC **06** 07:45:01.2±1.0, 50°.76N×18°.33E, h0km, mb1 3.5/3, mb1mx3.2/36, mbtmp3.4/3, ML2.6/3, Error ellipse: s-maj=27.7km s-min=3.5km az=135.0*
ISC 06 07:44:58.4±0.7, **50°.24N**±0°.04×**18°.84E**±0°.02, **h0km, n27, σ1s.08**/47, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.60**	**228**	*e*PG	**Pb**	**07 45 11.5**	**-0.2**
OKC				*e*SG	**Sg**	**07 45 19.1**	**+1.6**
	comp=Z,71nm,0.9s						
OJC	**Ojcow**	**0.62**	**91**	*e*Pg	**Pg**	**07 45 10.9**	**+0.7**
OJC				*e*Sg	**Sg**	**07 45 19.0**	**+0.8**
MORC	**Moravsky Berou**	**0.95**	**242**	*e*PG	**Pb**	**07 45 18.1**	**+0.3**
MORC				*e*SG	**Sb**	**07 45 31.4**	**+0.5**
LANS	**Liptovska Anna**	**1.16**	**159**	*e*SG	**Sb**	**07 45 37.9**	**+1.0**
LANS				*e*LG	Lg	07 45 41.9	
NIE	**Niedzica**	**1.25**	**130**	*e*Pg	**Pb**	**07 45 23.2**	**+0.4**
NIE				*e*Sg	**Sn**	**07 45 41.1**	**+0.4**
KRLC	**Kraliky**	**1.33**	**264**	*e*PG	**Pg**	**07 45 24.3**	**+0.4**
KRLC				*e*SG	**Sb**	**07 45 42.3**	**+0.4**
	comp=Z,46nm,0.5s						
JAVC	**Velka Javorina**	**1.57**	**209**	*e*PN	**Pb**	**07 45 28.8**	**+0.5**
DPC	**Dobruska-Polom**	**1.62**	**275**	*e*PG	**Pb**	**07 45 29.2**	**+0.1**
DPC				*e*SG	**Sg**	**07 45 51.5**	**+1.2**
	comp=Z,35nm,0.6s						
OSTC	**Ostas**	**1.71**	**282**	*e*PG	**Pb**	**07 45 31.0**	**+0.4**
OSTC				*e*SG	**Sg**	**07 45 55.0**	**+1.8**
	comp=Z,60nm,1.2s						
VRAC	**Vranov**	**1.73**	**238**	*e*PN	**Pn**	**07 45 30.7**	**+1.1**
VRAC				*e*SG	**Sb**	**07 45 53.9**	**+0.8**
KSP	**Ksiaz**	**1.73**	**292**	*e*Pg	**Pg**	**07 45 32.8**	**+1.2**
KSP				*e*Sg	**Sg**	**07 45 55.9**	**+1.9**
VYHS	**Vyhne**	**1.74**	**180**	*e*PN	**Pn**	**07 45 30.4**	**+0.5**
VYHS				*e*SN	**Sb**	**07 45 54.6**	**+1.0**
CHVC	**Chvalec**	**1.81**	**282**	*e*PG	**Pn**	**07 45 31.6**	**+0.7**
CHVC				*e*SG	**Sg**	**07 45 58.1**	**+1.5**
	comp=Z,20nm,0.6s						
UPC	**Upice**	**1.83**	**280**	*e*SG	**Sg**	**07 45 57.3**	**+0.2**
	comp=Z,26nm,0.7s						
KRUC	**Moravsky**	**1.97**	**234**	*e*PN	**Pn**	**07 45 33.5**	**+0.5**
KRUC				*e*SG	**Sb**	**07 46 01.7**	**+1.4**
KECS	**Kecovo**	**2.06**	**148**	*e*SN	**Sn**	**07 46 01.2**	**+0.7**
MODS	**Modra-Piesok**	**2.12**	**209**	*e*PG	**Pg**	**07 45 39.7**	**+0.7**
CRVS	**Cervenica-Dubn**	**2.17**	**127**	*e*PN	**Pn**	**07 45 36.4**	**+0.7**
KOLS	**Kolonicke sedl**	**2.59**	**119**	*e*PN	**Pn**	**07 45 41.5**	**0.0**
KOLS				*e*SN	**Sn**	**07 46 14.3**	**+0.7**
PRU	**Pruhonice**	**2.78**	**267**	*e*PG	**Pb**	**07 45 49.1**	**+0.3**
PRU				*e*SG	**Sg**	**07 46 26.6**	**-0.9**
	comp=Z,12nm,0.6s						
CONA	**Conrad Observa**	**3.03**	**221**	*e*Pg	**Pg**	**07 45 56.9**	**+0.6**
	3.5nm,0.4s						
CONA				*e*Sn	**Sn**	**07 46 23.5**	**-1.0**
	4.2nm,0.3s						
BRG	**Berggiesshubel**	**3.19**	**283**	Pg	**Pg**	**07 46 00.3**	**+0.9**
BRG				Sg	**Sg**	**07 46 41.7**	**+1.0**
BRG				Amp		07 46 48.8	
	comp=Z,14nm,0.9s						
KHC	**Kasperske Hory**	**3.59**	**254**	*e*PN	**Pn**	**07 45 56.1**	**+0.8**
KHC				*e*PG	**Pb**	**07 46 02.7**	**0.0**
KHC				*e*SG	**Sg**	**07 46 52.4**	**-1.2**
	comp=Z,16nm,0.5s						
GERES	**GERESS Array B**	**3.62**	**249**	Pn	**Pn**	**07 45 57.2**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=69,slow=14,SNR=5.4						
GERES				Pg	**Pg**	**07 46 06.2**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=66,slow=17,SNR=17						
GERES				Lg	Lg	07 46 54.4	
	comp=Z,2.1nm,0.3s,baz=66,slow=29,SNR=10.0						
MOA	**Molln**	**3.84**	**233**	Pg	**Pg**	**07 46 10.5**	**-1.4**
	comp=Z,1.9nm,0.4s						
MOA				*e*Sg	**Sg**	**07 47 00.4**	**-1.2**
	comp=Z,6.6nm,0.5s						
FINES	**FINESS Array B**	**11.94**	**17**	Pn	**Pn**	**07 47 47.3**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=201,slow=12,SNR=5.2						
ARCES	**ARCESS Array B**	**19.62**	**7**	P	**P**	**07 49 25.5**	**-2.5**
	baz=192,slow=12,SNR=2.8						

*NNC **06** 07:56:34.8±5.8, 53°.84N×87°.00E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=52.6km s-min=25.7km az=31.0, Suspected Mining explosion.*
*IDC **06** 07:56:37.3±2.4, 53°.71N×86°.83E, h0km, mb1 3.1/2, mb1mx2.9/56, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=21.1km s-min=12.7km az=69.0*
ISC 06 07:56:36.1±3.8, **53°.8N**±0°.1×**86°.9E**±0°.2, **h0km, n7, σ1s.63**/11, **3C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**276**	*i*		08 03 33.3	
	baz=100,slow=327,SNR=14						
ZAA0	**Zalesovo Array**	**1.22**	**276**	⇓P	**Pg**	**07 56 59.0**	**-0.4**
	0.7nm,0.7s						
ZAA0				⇓S	**Sn**	**07 57 16.7**	**-0.8**
	6.2nm,1.2s						
ZALV	**Zalesovo Beam**	**1.22**	**276**	Pg	**Pb**	**07 56 59.4**	**-0.5**
	1.3nm,0.3s,baz=103,slow=11,SNR=16						
ZALV				Lg	Lg	07 57 17.3	
	1.2nm,0.3s,baz=102,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.05**	**241**	Pn	**Pn**	**07 58 07.5**	**+0.8**
	0.1nm,0.3s,baz=58,slow=14,SNR=10						
KURBB				Sn	**Sn**	**07 59 15.5**	**-1.2**
	0.0nm,0.3s,baz=65,slow=25,SNR=1.9						
KURBB				Lg	Lg	07 59 46.6	
	0.0nm,0.3s,baz=60,slow=35,SNR=2.9						
KURBB	**Kurchatov Arra**	**6.05**	**241**	⇑Pn	**Pn**	**07 58 07.7**	**+0.9**
	2.9nm,0.8s						
KURBB				⇑Sn	**Sn**	**07 59 19.7**	**+3.0**
	2.9nm,0.7s						
KURBB				⇑Lg	Lg	07 59 47.3	
	5.9nm,0.8s						
MK31	**Makanchi Array**	**7.64**	**204**	Pn	**Pn**	**07 58 29.8**	**+1.3**
	0.6nm,0.6s,baz=26,slow=13,SNR=13						
MK31				Sn	**Sn**	**07 59 55.0**	**-0.8**
	1.4nm,1.1s,baz=25,slow=28,SNR=2.6						
MK31				⇓Lg	Lg	08 00 37.7	
	2.5nm,1.1s,baz=32,slow=27						
MKAR	**Makanchi Array**	**7.64**	**204**	Pn	**Pn**	**07 58 29.5**	**+0.9**
	0.2nm,0.3s,baz=27,slow=14,SNR=10						
MKAR				Sn	**Sn**	**07 59 53.5**	**-2.3**
	0.1nm,0.3s,baz=24,slow=28,SNR=3.7						
MKAR				Lg	Lg	08 00 35.1	
	0.0nm,0.3s,baz=26,slow=27,SNR=3.5						

IDC 06 08:00:19.2±2.5, **53°.71N×86°.77E, h0km, mb1 3.2**/2, **mb1mx3.0**/56, **mbtmp3.2**/2, **ML3.0**/2, **Error ellipse: s-maj=24.2km s-min=13.4km az=64.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.18**	**282**	*i*		08 07 25.0	
	baz=101,slow=328,SNR=14						
ZALV	**Zalesovo Beam**	**1.18**	**282**	Pg	Pg	08 00 41.0	-0.8
	4.5nm,0.3s,baz=102,slow=16,SNR=24						
ZALV				Lg	Lg	08 00 58.1	
	1.5nm,0.3s,baz=101,slow=27,SNR=9.5						
ZALV				Rg	Rg	08 01 02.6	
	3.4nm,0.4s,baz=95,slow=29,SNR=7.2						
KURBB	**Kurchatov Arra**	**5.94**	**242**	Pn	Pn	08 01 48.8	+0.6
	0.2nm,0.3s,baz=57,slow=13,SNR=11						
MKAR	**Makanchi Array**	**7.50**	**204**	Pn	Pn	08 02 11.0	+1.3
	0.5nm,0.3s,baz=25,slow=14,SNR=28						

IDC 06 08:04:46.0±3.5, **54°.30N×87°.18E, h0km, mb1 2.8**/2, **mb1mx2.7**/50, **mbtmp2.8**/2, **ML2.1**/1, **Error ellipse: s-maj=32.4km s-min=20.8km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**257**	*i*		08 12 40.0	
	baz=77,slow=325,SNR=7.2						
ZALV	**Zalesovo Beam**	**1.43**	**257**	Pg	Pn	08 05 11.8	-1.4
	0.7nm,0.3s,baz=72,slow=14,SNR=12						
ZALV				Lg	Lg	08 05 32.0	
	1.1nm,0.3s,baz=74,slow=24,SNR=3.6						
KURBB	**Kurchatov Arra**	**6.44**	**239**	Pn	Pn	08 06 22.2	+0.2
	0.0nm,0.3s,baz=58,slow=14,SNR=2.8						
MKAR	**Makanchi Array**	**8.13**	**204**	Pn	Pn	08 06 46.9	+1.6
	baz=25,slow=14,SNR=1.0						

IDC 06 08:12:05.1±2.8, **54°.16N×86°.43E, h0km, mb1 2.5**/2, **mb1mx2.5**/61, **mbtmp2.5**/2, **ML1.9**/2, **Error ellipse: s-maj=21.1km s-min=12.7km az=63.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**258**	*i*		08 17 20.0	
	baz=76,slow=329,SNR=4.6						
ZALV	**Zalesovo Beam**	**0.98**	**258**	Pg	Pg	08 12 22.1	-1.8
	0.6nm,0.3s,baz=74,slow=17,SNR=9.8						
ZALV				Lg	Lg	08 12 38.1	
	2.1nm,0.3s,baz=79,slow=30,SNR=21						
KURBB	**Kurchatov Arra**	**6.00**	**237**	Pn	Pn	08 13 36.1	+1.1
	0.0nm,0.3s,baz=54,slow=13,SNR=5.7						
KURBB				Lg	Lg	08 15 17.2	
	0.0nm,0.3s,baz=57,slow=35,SNR=3.7						
MKAR	**Makanchi Array**	**7.84**	**201**	Pn	Pn	08 14 01.5	+1.2
	0.0nm,0.3s,baz=24,slow=13,SNR=2.0						
MKAR				Lg	Lg	08 16 12.7	
	0.0nm,0.3s,baz=31,slow=28,SNR=4.4						

*NOU **06** 08:13:13.9, 21°.43S×169°.61E, h0km, MLv4.7, Southeast of Loyalty Islands*
*NEIC **06** 08:13:14.2±1.1, 21°.20S±0°.08×169°.78E±0°.08, h99km±10km, mb4.4/11, Error ellipse: s-maj=13.5km s-min=8.2km az=224.0*
*IDC **06** 08:13:14.3±2.1, 21°.29S×169°.79E, h97km±18km, mb4.0/7, mb1 4.1/10, mb1mx3.7/40, mbtmp4.3/10, MS2.7/3, Ms1 2.7/3, ms1mx2.7/49, Error ellipse: s-maj=26.3km s-min=16.5km az=178.0*
ISC 06 08:13:14.0±0.7, **21°.27S**±0°.08×**169°.82E**±0°.08, **h100km, n42, σ0s.79**/40, **mb4.4**/11, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.68**	**262**	P	**Pn**	**08 13 40.9**	**-1.6**
PINNC	**Pines Island,**	**2.58**	**238**	P	**Pn**	**08 13 53.4**	**-0.8**
PINNC	**Pines Island,**	**2.58**	**238**	P	**Pn**	**08 13 53.4**	**-0.8**
YATNC	**Mamie plateau,**	**2.84**	**253**	P	**Pn**	**08 13 56.4**	**-1.2**
YATNC	**Mamie plateau,**	**2.84**	**253**	P	**Pn**	**08 13 56.2**	**-1.4**
OUENC	**Ouen Island, N**	**3.00**	**247**	P	**Pn**	**08 13 59.6**	**-0.1**
OUENC	**Ouen Island, N**	**3.00**	**247**	P	**Pn**	**08 13 59.6**	**-0.1**
DZM	**Mont Dzumac**	**3.24**	**255**	P	**Pn**	**08 14 02.8**	**-0.2**
	56nm,0.3s,baz=95,slow=7.9,SNR=4053						
DZM				S	**Sn**	**08 14 40.4**	**-0.6**
	131nm,0.3s,baz=112,slow=21,SNR=20						
DZM				LR	LR	08 15 12.8	
	comp=Z,73nm,19.2s,baz=142,slow=37						
ONTNC	**Ouen Toro**	**3.30**	**251**	P	**Pn**	**08 14 03.5**	**-0.2**
ONTNC	**Ouen Toro**	**3.30**	**251**	P	**Pn**	**08 14 03.7**	**0.0**
NOUC	**Port Laguerre**	**3.38**	**255**	P	**Pn**	**08 14 04.8**	**0.0**
NOUC	**Port Laguerre**	**3.38**	**255**	P	**Pn**	**08 14 04.8**	**0.0**
KOUNC	**Koumac, New Ca**	**5.22**	**277**	P	**Pn**	**08 14 31.0**	**+1.2**
SANVU	**Saraoutou**	**6.30**	**336**		**Pn**	**08 14 43.3**	**-1.1**
MSVF	**Nonsavu**	**8.52**	**67**	P	**Pn**	**08 15 15.4**	**+0.7**
	0.3nm,0.3s,baz=224,slow=12,SNR=6.1						
HNR	**Honiara**	**15.13**	**320**	LR	LR	08 21 34.5	
	comp=Z,29nm,19.8s,baz=106,slow=33						
URZ	**Urewera**	**18.07**	**161**	P	**Pn**	**08 17 19.6**	**+1.2**
	1.3nm,0.3s,baz=112,slow=5.9,SNR=7.3						
BKZ	**Black Stump Fm**	**18.74**	**164**	P	**Pn**	**08 17 27.1**	**+0.6**
AFI	**Afiamalu**	**19.00**	**70**	LR	LR	08 24 07.2	
	comp=Z,38nm,18.1s,baz=202,slow=34						
CTA	**Charters Tower**	**22.08**	**269**	P	**P**	**08 18 02.0**	**+1.0**
	4.8nm,0.8s,baz=100,slow=13,SNR=8.3						
PMG	**Port Moresby**	**24.79**	**295**	P	**P**	**08 18 27.7**	**+0.9**
	7.0nm,0.5s,baz=94,slow=14,SNR=1.7						
COEN	**Coen**	**26.39**	**282**	P	**P**	**08 18 41.3**	**0.0**
WR0	**Warramunga Arr**	**33.01**	**266**	P	**P**	**08 19 39.5**	**-0.4**
WR0				IAmb	IAmb	08 19 40.8	
	comp=Z,5.3nm,0.8s						
WB2	**Warramunga Arr**	**33.19**	**266**	P	**P**	**08 19 41.6**	**+0.2**
WB2				IAmb	IAmb	08 19 43.5	
	comp=Z,4.2nm,0.7s						
WRA	**Warramunga Arr**	**33.20**	**266**	P	**P**	**08 19 41.7**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=99,slow=8.0,SNR=62						
AS31	**Alice Springs**	**33.22**	**259**	P	**P**	**08 19 42.8**	**+1.1**
AS31				IAmb	IAmb	08 19 43.2	
	comp=Z,3.2nm,0.5s						
ASAR	**Alice Springs**	**33.23**	**259**	P	**P**	**08 19 42.5**	**+0.8**
	comp=Z,6.5nm,0.6s,baz=86,slow=8.6,SNR=133						
ASAR	**Alice Springs**	**33.23**	**259**	P	**P**	**08 19 42.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**41.62**	**266**	P	**P**	**08 20 54.0**	**+1.4**
FITZ				IAmb	IAmb	08 20 54.4	
	comp=Z,5.4nm,0.8s						
VNDA	**Vanda**	**56.43**	**182**	P	**P**	**08 22 44.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=27,slow=6.8,SNR=2.6						
VNDA	**Vanda**	**56.43**	**182**	P	**P**	**08 22 45.0**	**+0.2**
VNDA				IAmb	IAmb	08 23 00.1	
	comp=Z,7.1nm,1.4s						
QSPA	**South Pole Qui**	**68.80**	**180**	P	**P**	**08 24 07.5**	**+0.3**
BELA	**Belgrano 2**	**80.04**	**175**	P	**P**	**08 25 10.9**	**-1.1**
SNAA	**Sanae**	**87.17**	**182**	P	**P**	**08 25 47.6**	**-1.1**
SNAA	**Sanae**	**87.17**	**182**	P	**P**	**08 25 48.3**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=181,slow=8.3,SNR=2.8						
SNAA	**Sanae**	**87.17**	**182**	P	**P**	**08 25 48.2**	**-0.5**
VNA3	**Neumayer Olymp**	**87.74**	**180**	P	**P**	**08 25 50.4**	**-0.9**
VNA2	**Neumayer--Watz**	**88.04**	**181**	P	**P**	**08 25 52.3**	**-0.4**
	baz=175,slow=3.9						
VNA1	**Neumayer--Stat**	**88.32**	**181**	P	**P**	**08 25 53.1**	**-0.9**
SONM	**Songino Array**	**89.16**	**323**	P	**P**	**08 25 58.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=135,slow=3.5,SNR=4.2						
SONM	**Songino Array**	**89.16**	**323**	IAmb	IAmb	08 25 59.3	
	comp=Z,1.0nm,1.0s						
GERES	**GERESS Array B**	**146.52**	**331**	PKPbc	**PKPbc**	**08 32 43.3**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=26,slow=4.8,SNR=2.5						

*BJI **06** 08:22:17.0±0.0, 41°.30S×80°.60E, h10km, mB5.7/63, mb5.4/74, Ms6.0/81, Ms7 5.9/74*
*MOS **06** 08:22:17.9±0.9, 41°.25S×80°.64E, h12km, mb5.7/39, MS5.6/5, Error ellipse: s-maj=11.9km s-min=6.8km az=92.9*
*NEIC **06** 08:22:18.9, 41°.32S×80°.56E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.41; $M_{\theta\theta}$7.34; $M_{\phi\phi}$-7.76; $M_{r\theta}$2.51; $M_{\theta\phi}$-0.66; $M_{\phi r}$0.56; Fault plane solution: $M_0$8.01000×10^{17} NP1:ϕ_s138.87000°, δ73.95000°, λ9.37000°. NP2:ϕ_s46.26000°, δ81.00000°, λ163.74000°. Principal axes: T 8.1737, Plg18.0000°, Azm2.0000°; N -0.3297, Plg71.0000°, Azm198.0000°; P -7.8440, Plg5.0000°, Azm93.0000°;*
*NEIC **06** 08:22:19.0±1.8, 41°.32S±0°.07×80°.6E±0°.1, h10km±1km, mb5.6/94, Ms_20 5.9/356, Mwb5.9/52, Mww6.0, Mwc6.0(GCMT) Error ellipse: s-maj=13.5km s-min=12.0km az=115.0*
*IDC **06** 08:22:18.3±0.4, 41°.16S×80°.55E, h0km, mb5.0/33, mb1 5.1/33, mb1mx5.1/36, mbtmp5.0/33, MS5.6/36, Ms1 5.6/36, ms1mx5.4/43, Error ellipse: s-maj=13.1km s-min=10.8km az=174.0*
*NEIC **06** 08:22:23, 41°.15S×80°.38E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.01; $M_{\theta\theta}$1.05; $M_{\phi\phi}$-1.06; $M_{r\theta}$-0.39; $M_{\theta\phi}$-0.09; $M_{\phi r}$0.04; Fault plane solution: $M_0$1.13000×10^{18} NP1:ϕ_s226.00000°, δ76.00000°, λ168.00000°. NP2:ϕ_s319.00000°, δ78.00000°, λ14.00000°. Principal axes: T 1.1819, Plg18.0000°, Azm183.0000°; N -0.1215, Plg72.0000°, Azm358.0000°; P -1.0604, Plg1.0000°, Azm92.0000°;*
*GCMT **06** 08:22:24.0±0.1, 41°.23S×80°.64E, h12km, MW6.0/165, Moment Tensor Solution. s156,c312; s165,c526; Duration: 2s.3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.01±.01; $M_{\theta\theta}$1.07±.01; $M_{\phi\phi}$-1.05±.01; $M_{r\theta}$0.11±.02; $M_{\theta\phi}$-0.14±.01; $M_{\phi r}$-0.04±.02; Best double couple: $M_0$1.07500×10^{18} NP1:ϕ_s49.00000°, δ85.00000°, λ177.00000°. NP2:ϕ_s139.00000°, δ87.00000°, λ5.00000°. Principal axes: T 1.0910, Plg6.0000°, Azm4.0000°; N -0.0240, Plg84.0000°, Azm166.0000°; P -1.0600, Plg2.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **06** 08:22:25, 41°.22S×80°.59E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.02; $M_{\theta\theta}$1.11; $M_{\phi\phi}$-1.09; $M_{r\theta}$0.15; $M_{\theta\phi}$-0.15; $M_{\phi r}$-0.06; Fault plane solution: $M_0$1.12000×10^{18} NP1:ϕ_s49.00000°, δ83.00000°, λ177.00000°. NP2:ϕ_s139.00000°, δ87.00000°, λ7.00000°. Principal axes: T 1.1411, Plg8.0000°, Azm4.0000°; N -0.0377, Plg82.0000°, Azm163.0000°; P -1.1034, Plg3.0000°, Azm274.0000°;*
ISC 06 08:22:20.1±0.6, **41°.32S**±0°.04×**80°.62E**±0°.04, **h13km**±3km, **n653, σ2s.08**/574, **mb5.5**/142, **MS5.8**/255, **38C-13D, Fault plane solution: NP1:**ϕ_s138.06964°, δ87.49652°, λ-0.56908°. **NP2:**ϕ_s228.09450°, δ89.43147°, λ-177.49640°. **Principal axes:** T Plg1.3678°, Azm3.0561°; N Plg87.4327°, Azm240.8806°; P Plg2.1722°, Azm93.1080°; **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**4.23**	**325**	Pn	**Pn**	**08 23 23.0**	**-1.2**
PAF	**Port-aux-Franc**	**10.86**	**219**	P	**Pn**	**08 24 51.2**	**-3.9**
PAF	**Port-aux-Franc**	**10.86**	**219**	Pn	**Pn**	**08 24 51.2**	**-3.9**
CRZF	**Crozet Islands**	**21.29**	**246**	P	**P**	**08 27 06.0**	**-0.1**
CRZF				IAmb	IAmb	08 27 16.6	
	comp=Z,366nm,1.2s						
H01W2	**Cape Leeuwin H**	**27.03**	**87**	T	T	08 56 02.4	
	baz=246,slow=74,SNR=289						
H01W3	**Cape Leeuwin H**	**27.04**	**87**	T	T	08 56 03.0	
	baz=246,slow=74,SNR=279						
H01W1	**Cape Leeuwin H**	**27.05**	**87**	T	T	08 56 03.9	
	baz=246,slow=74,SNR=291						
MAW	**Mawson**	**28.06**	**194**	P	**P**	**08 28 10.5**	**-0.3**
	comp=Z,48nm,0.9s,baz=31,slow=11,SNR=5.3						
MAW				LR	LR	08 36 48.0	
	comp=Z,16μm,21.8s,baz=19,slow=31						
MAW	**Mawson**	**28.06**	**194**	P	**P**	**08 28 09.7**	**-1.1**
MUN	**Mundaring**	**29.86**	**83**	P	**P**	**08 28 28.0**	**+0.8**
	baz=30,SNR=6.5						
CASY	**Casey**	**30.05**	**156**	IAMs_20	IAMs_20	08 37 13.9	
	comp=Z,21μm,21.0s						
NWAO	**Narrogin (SRO)**	**30.20**	**86**	LR	LR	08 37 41.8	
	comp=Z,17μm,21.9s,baz=248,slow=30						
NWAO	**Narrogin (SRO)**	**30.20**	**86**	P	**P**	**08 28 30.8**	**+0.6**
	baz=30,SNR=5.0						
NWAO	**Narrogin (SRO)**	**30.20**	**86**	P	**P**	**08 28 29.3**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,76nm,1.3s						
NWAO	**Narrogin (SRO)**	**30.20**	**86**		**P**	**08 28 28.7**	**-1.5**
NWAO				IAmb	IAmb	08 28 37.4	
	comp=Z,94nm,1.2s						
NWAO	**Narrogin (SRO)**	**30.20**	**86**	P	**P**	**08 28 29.3**	**-0.8**
NWAO				IAmb	IAmb	08 28 37.4	
	comp=Z,76nm,1.2s						
NWAO	**Narrogin (SRO)**	**30.20**	**86**	P	**P**	**08 28 30.5**	**+0.3**
NWAO				P	**P**	**08 28 30.5**	**+0.3**
NWAO				S	**S**	**08 33 30.7**	**+1.6**
NWAO				S	**S**	**08 33 30.7**	**+1.6**
BLDU	**Ballidu**	**30.90**	**81**	P	**P**	**08 28 37.0**	**+0.6**
	baz=31,SNR=9.0						
KLBR	**Kellerberrin**	**31.21**	**84**	P	**P**	**08 28 39.4**	**+0.4**
	baz=31,SNR=12						
MORW	**Morawa**	**31.21**	**78**	P	**P**	**08 28 39.9**	**+0.8**
	baz=31,SNR=13						
MORW	**Morawa**	**31.21**	**78**		**P**	**08 28 39.5**	**+0.3**
MORW				IAmb	IAmb	08 28 46.5	
	comp=Z,86nm,1.1s						
GIRL	**Giralia**	**33.77**	**67**	P	**P**	**08 29 00.1**	**-1.5**
H08S2	**Diego Garcia H**	**34.30**	**346**	T	T	09 05 11.0	
	baz=169,slow=76,SNR=18						
H08S1	**Diego Carcia H**	**34.30**	**346**	T	T	09 05 07.6	
	baz=169,slow=76,SNR=9.9						
H08S3	**Diego Garcia H**	**34.32**	**346**	T	T	09 05 12.0	
	baz=169,slow=76,SNR=34						
VOI	**Vohitsoka**	**34.40**	**294**	P	**P**	**08 29 07.7**	**+0.5**
KMBL	**Kambalda**	**34.41**	**87**	P	**P**	**08 29 07.3**	**+0.2**
	baz=35,SNR=32						
DGAR	**Diego Garcia**	**34.53**	**346**	*i* P	**P**	**08 29 07.9**	**-0.3**
DGAR				pmax	pmax		
	comp=Z,381nm,1.7s						
DGAR	**Diego Garcia**	**34.53**	**346**	P	**P**	**08 29 06.8**	**-1.4**
DGAR				IAmb	IAmb	08 29 36.0	
	comp=Z,119nm,1.1s						
SYO	**Syowa Base**	**35.08**	**204**	⇑*i*P	**P**	**08 29 11.8**	**-0.6**
SYO	**Syowa Base**	**35.08**	**204**	⇓*e*pP	pP	08 29 14.4	-1.0
SYO	**Syowa Base**	**35.08**	**204**	⇑*e*sP	sP	08 29 16.7	-0.1
SYO	**Syowa Base**	**35.08**	**204**	⇓*e*PP	PP	08 30 31.4	-0.5
ABPO	**Ambohimpanom**	**36.09**	**298**	P	**P**	**08 29 20.5**	**-1.3**
ABPO				pmax	pmax		
	comp=Z,31nm,1.3s						
ABPO	**Ambohimpanom**	**36.09**	**298**	P	**P**	**08 29 20.5**	**-1.3**
OPO	**Ambohidratompo**	**36.43**	**298**	P	**P**	**08 29 24.0**	**-0.7**
	comp=Z,18nm,1.1s,baz=58,slow=4.5,SNR=5.3						
OPO				LR	LR	08 40 51.9	
	comp=Z,6μm,19.0s,baz=352,slow=31						

XMIS	Christmas Isla	37.80	43	P	P	08 29 35.1	-1.2
XMIS				IAmb	IAmb	08 29 39.3	
	comp=Z,177nm,1.1s						
PSAD3	Pilbara Seismi	38.32	71	IAMs_20	IAMs_20	08 41 58.1	
	comp=Z,12µm,19.0s						
PSAB3	Pilbara Seismi	38.41	71	IAMs_20	IAMs_20	08 42 01.3	
	comp=Z,12µm,19.0s						
PSAC1	Pilbara Seismi	38.41	71	IAMs_20	IAMs_20	08 43 36.5	
	comp=Z,12µm,18.0s						
PSA00	Pilbara Seismi	38.41	71	P	P	08 29 40.9	-0.4
PSA00	Pilbara Seismi	38.41	71	P	P	08 29 40.5	-0.9
PSA00				IAmb	IAmb	08 29 48.5	
	comp=Z,70nm,1.5s						
PSAD1	Pilbara Seismi	38.48	71	IAMs_20	IAMs_20	08 43 37.2	
	comp=Z,12µm,18.0s						
MBWA	Marble Bar	38.60	71	P	P	08 29 42.8	-0.1
MBWA				P	P	08 29 42.8	-0.1
MBWA				S	S	08 35 40.6	+1.8
MBWA				S	S	08 35 40.6	+1.8
FORT	Forrest	39.34	90	P	P	08 29 50.3	+1.3
	baz=40,SNR=25						
FORT	Forrest	39.34	90	P	P	08 29 49.5	+0.4
FORT				IAmb	IAmb	08 29 51.3	
	comp=Z,169nm,0.8s						
FORT				IAMs_20	IAMs_20	08 42 19.8	
	comp=Z,14µm,20.0s						
CISI	Cisompet, Garu	41.40	43	P	P	08 30 05.2	-1.0
CISI				IAmb	IAmb	08 30 08.6	
	comp=Z,120nm,1.1s						
LEM	Lembang	41.92	42	P	P	08 30 10.3	-0.3
	comp=Z,90nm,0.8s,baz=179,slow=9.6,SNR=22						
LEM				LR	LR	08 43 44.9	
	comp=Z,5µm,21.4s,baz=214,slow=31						
LEM	Lembang	41.92	42	P	P	08 30 11.4	+0.8
	comp=Z,2µmcomp=Z,126nm,1.5s						
MDSI	Maura Dua	42.31	36	P	P	08 30 13.9	+0.3
	comp=Z,1µmcomp=Z,40nm,1.4s						
KLSI		42.38	37	P	P	08 30 14.7	+0.5
	comp=Z,578nmcomp=Z,31nm,1.6s						
WRKA	Warakurna	42.54	83	P	P	08 30 15.8	+0.3
	baz=43,SNR=29						
LHSI	Lahat	42.61	35	P	P	08 30 16.9	+0.8
	comp=Z,2µmcomp=Z,96nm,1.8s						
JAGI	Jajag, Banyuwa	44.16	52	P	P	08 30 27.2	-1.4
JAGI				IAmb	IAmb	08 30 29.6	
	comp=Z,86nm,1.3s						
JAGI	Jajag, Banyuwa	44.16	52	P	P	08 30 29.0	+0.4
	comp=Z,88nm,1.8s						
BBOO	Buckleboo	44.40	98	P	P	08 30 30.7	+0.3
	baz=45,SNR=9.0						
BBOO	Buckleboo	44.40	98	P	P	08 30 29.5	-0.9
BBOO				IAmb	IAmb	08 30 31.6	
	comp=Z,80nm,1.1s						
BBOO				IAMs_20	IAMs_20	08 45 03.4	
	comp=Z,17µm,21.0s						
FITZ	Fitzroy Crossi	44.81	73	P	P	08 30 33.9	+0.1
	comp=Z,12nm,1.0s,baz=195,slow=9.8,SNR=8.7						
FITZ	Fitzroy Crossi	44.81	73	P	P	08 30 34.0	+0.3
	baz=45,SNR=7.3						
FITZ	Fitzroy Crossi	44.81	73	P	P	08 30 33.2	-0.5
SRBI	Singaraja	45.10	53	P	P	08 30 35.5	-0.6
	comp=Z,3µmcomp=Z,2µmcomp=Z,125nm,1.5s						
GSI	Gunungsitoli	45.13	24	P	P	08 30 37.5	+1.2
GSI				IAmb	IAmb	08 30 41.8	
	comp=Z,98nm,1.0s						
GSI				IAMs_20	IAMs_20	08 45 26.4	
	comp=Z,17µm,19.0s						
GSI	Gunungsitoli	45.13	24	P	P	08 30 37.6	+1.2
	comp=Z,5µmcomp=Z,3µmcomp=Z,138nm,1.7s						
PPBI	Pangkal Pinang	45.26	37	P	P	08 30 37.4	+0.1
RGRI	Rengat	45.27	31	P	P	08 30 38.8	+1.4
MNSI	Mandailing Nat	45.31	27	P	P	08 30 39.8	+2.1
BKNI	Bangkinang	45.40	29	P	P	08 30 39.1	+0.7
BKNI				IAMs_20	IAMs_20	08 44 32.5	
	comp=Z,12µm,22.0s						
BKNI	Bangkinang	45.40	29	P	P	08 30 40.1	+1.7
	comp=Z,3µmcomp=Z,3µmcomp=Z,201nm,1.4s						
SBSI	Sibolga	45.79	26	P	P	08 30 43.0	+1.5
	comp=Z,1µmcomp=Z,44nm,1.0s						
PLAI	Plampang	46.09	56	P	P	08 30 44.0	+0.1
	comp=Z,2µmcomp=Z,2µmcomp=Z,163nm,0.9s						
HTT	Hallett	46.24	100	P	P	08 30 45.3	+0.2
	baz=46,SNR=21						
BOSA	Boshof	46.38	268	P	P	08 30 46.4	+0.1
	comp=Z,45nm,0.9s,baz=124,slow=7.8,SNR=41						
BOSA				LR	LR	08 46 41.3	
	comp=Z,13µm,18.7s,baz=129,slow=32						
BOSA	Boshof	46.38	268	P	P	08 30 46.4	+0.1
BOSA				IAmb	IAmb	08 30 47.7	
	comp=Z,75nm,1.0s						
RPSI	Rantau Prapat	46.87	25	P	P	08 30 50.8	+0.8
RPSI				IAmb	IAmb	08 30 53.0	
	comp=Z,84nm,1.1s						
RPSI				IAMs_20	IAMs_20	08 45 28.2	
	comp=Z,18µm,22.0s						
ARPS	Mount Arapiles	46.91	105	P	P	08 30 51.2	+1.0
	baz=47,SNR=8.8						
PSI	Prapat	46.97	25	P	P	08 30 50.8	-0.1
PSI				pmax	pmax		
	comp=Z,84nm,1.1s						
TSI	Tuntungan	47.52	25	P	P	08 30 56.5	+1.5
	comp=Z,4µmcomp=Z,110nm,0.5s						
ASAR	Alice Springs	47.52	85	P	P	08 30 54.9	-0.2
	comp=Z,39nm,0.9s,baz=232,slow=7.1,SNR=158						
ASAR				PcP	PcP	08 32 26.9	+1.8
	comp=Z,7.5nm,0.9s,baz=237,slow=2.6,SNR=4.8						
ASAR				LR	LR	08 49 06.0	
	comp=Z,18µm,18.3s,baz=240,slow=34						
AS31	Alice Springs	47.52	85	P	P	08 30 55.0	-0.1
MYKOM	Kota Tinggi	47.82	32	P	P	08 30 56.1	-1.4
MYKOM				IAmb	IAmb	08 30 59.8	
	comp=Z,92nm,1.4s						
SUR	Sutherland	47.85	261	P	P	08 30 58.4	+0.6
	comp=Z,23nm,0.9s,baz=97,slow=7.1,SNR=7.7						
SUR	Sutherland	47.85	261	P	P	08 30 58.1	+0.3
SUR				IAmb	IAmb	08 31 03.4	
	comp=Z,79nm,1.2s						
SUR	Sutherland	47.85	261	IAMs_20	IAMs_20	08 46 59.2	
	comp=Z,10µm,20.0s						
SUR	Sutherland	47.85	261	P	P	08 30 58.5	+0.7
SUR				P	P	08 30 58.5	+0.7
LBTB	Lobatse	48.06	272	P	P	08 30 59.3	-0.1
	comp=Z,32nm,0.9s,baz=124,slow=7.6,SNR=32						
LBTB	Lobatse	48.06	272	P	P	08 30 58.8	-0.6
LBTB				IAmb	IAmb	08 31 00.1	
	comp=Z,57nm,1.1s						
VNDA	Vanda	48.17	163	P	P	08 30 59.7	+0.3
	comp=Z,6.3nm,0.8s,baz=281,slow=7.5,SNR=14						
VNDA				LR	LR	08 49 54.9	
	comp=Z,23µm,18.2s,baz=271,slow=34						
VNDA	Vanda	48.17	163	P	P	08 30 59.2	-0.3
VNDA				IAmb	IAmb	08 31 16.2	
	comp=Z,49nm,1.1s						
PALK	Pallekele	48.35	0	P	P	08 30 59.3	-2.2
	comp=Z,12nm,0.8s,baz=285,slow=8.0,SNR=13						
PALK				LR	LR	08 48 42.8	
	comp=Z,3µm,18.2s,baz=298,slow=33						
PALK	Pallekele	48.35	0	P	P	08 31 01.3	-0.2
PALK				pmax	pmax		
	comp=Z,100nm,1.4s						
PALK	Pallekele	48.35	0	P	P	08 31 01.3	-0.2
PALK				IAmb	IAmb	08 31 05.0	
	comp=Z,100nm,1.4s						
PALK	Pallekele	48.35	0	P	P	08 31 01.9	+0.3
PALK				P	P	08 31 01.9	+0.3
PALK				S	S	08 38 01.0	-0.5
PALK				S	S	08 38 01.0	-0.5
LHMI	Lhok Sumawe	48.67	22	P	P	08 31 05.0	+1.0
LHMI				IAMs_20	IAMs_20	08 46 55.2	
	comp=Z,11µm,20.0s						
QSPA	South Pole Qui	48.84	180	P	P	08 31 04.7	-0.3
	comp=Z,41nm,0.9s,baz=295,slow=3.4,SNR=71						
QSPA	South Pole Qui	48.84	180	P	P	08 31 04.8	-0.1
BATI	Baumata	48.88	63	P	P	08 31 06.2	+0.5
	comp=Z,92nm,0.7s,baz=309,slow=1.6,SNR=12						
BATI				LR	LR	08 48 17.3	
	comp=Z,4µm,21.8s,baz=288,slow=32						
BATI	Baumata	48.88	63	P	P	08 31 06.6	+0.9
	comp=Z,1µmcomp=Z,144nm,1.1s						
STKA	Stephens Creek	48.96	99	P	P	08 31 06.3	+0.1
	comp=Z,42nm,1.0s,baz=263,slow=6.4,SNR=40						
STKA				LR	LR	08 47 46.8	
	comp=Z,14µm,21.4s,baz=247,slow=31						
STKA	Stephens Creek	48.96	99	P	P	08 31 06.3	+0.1
	baz=49,SNR=27						
STKA	Stephens Creek	48.96	99	*d i*P	P	08 31 05.9	-0.3
STKA	Stephens Creek	48.96	99	P	P	08 31 05.8	-0.4
MMRI	Maumere	49.09	60	P	P	08 31 07.4	+0.2
MMRI				IAmb	IAmb	08 31 16.3	
	comp=Z,81nm,0.9s						
MMRI	Maumere	49.09	60	P	P	08 31 13.9	+6.6
SBA	Scott Base	49.19	164	P	P	08 31 07.7	+0.4
SBA				pmax	pmax		
	comp=Z,95nm,1.5s						
SBA	Scott Base	49.19	164	P	P	08 31 07.7	+0.4
SBA				IAmb	IAmb	08 31 25.2	
	comp=Z,96nm,1.4s						
SBA	Scott Base	49.19	164	IAMs_20	IAMs_20	08 49 56.4	
	comp=Z,15µm,20.0s						
TOO	Toolangi	49.20	108	P	P	08 31 08.0	+0.1
	baz=49,SNR=4.2						
TOO	Toolangi	49.20	108	P	P	08 31 09.6	+1.7
TOO				pmax	pmax		
	comp=Z,67nm,1.4s						
IPM	Ipoh	49.24	27	P	P	08 31 08.0	-0.5
IPM				IAMs_20	IAMs_20	08 47 27.5	
	comp=Z,12µm,21.0s						
SNAA	Sanae	49.38	204	P	P	08 31 08.9	+0.1
SNAA	Sanae	49.38	204	P	P	08 31 09.1	+0.2
	comp=Z,6.2nm,0.8s,baz=114,slow=8.2,SNR=10.0						
SNAA				LR	LR	08 49 15.9	
	comp=Z,4µm,20.1s,baz=96,slow=33						
SNAA	Sanae	49.38	204	*c i*P	P	08 31 08.0	-0.9
SNAA				pmax	pmax		
	comp=Z,52nm,1.8s						
SNAA	Sanae	49.38	204	P	P	08 31 08.9	+0.1
SOEI	Soe	49.61	63	P	P	08 31 10.7	-0.7
SOEI	Soe	49.61	63	P	P	08 31 18.4	+7.0
TRD	Trivandrum	49.69	355	*e*P	P	08 31 12.1	+0.3
MNCY	Minicoy	49.83	350	*e*P	P	08 31 13.1	+0.3
MNCI	Minicoy	49.84	350	P	P	08 31 12.5	-0.4
KULM	Kulim	49.87	26	P	P	08 31 11.8	-1.3
KULM				IAmb	IAmb	08 31 15.3	
	comp=Z,77nm,1.2s						
KULM				IAMs_20	IAMs_20	08 47 23.1	
	comp=Z,11µm,21.0s						
KULM	Kulim	49.87	26	P	P	08 31 13.0	-0.2
WRA	Warramunga Arr	50.04	82	P	P	08 31 14.4	-0.1
	comp=Z,33nm,0.9s,baz=228,slow=8.6,SNR=114						
WRA				LR	LR	08 50 13.3	
	comp=Z,5µm,20.1s,baz=240,slow=34						
WB2	Warramunga Arr	50.05	82	P	P	08 31 14.3	-0.3
WRAB	Tennant Creek	50.05	82	*de*P	P	08 31 15.0	+0.4
WRAB				pmax	pmax		
	comp=Z,151nm,2.5s						
WRAB	Tennant Creek	50.05	82	P	P	08 31 14.4	-0.3
BKSI	Bulukumba	50.26	55	P	P	08 31 22.7	+6.5
KSM	Kuching	50.41	40	P	P	08 31 16.8	-0.5
KSM	Kuching	50.41	40	P	P	08 31 18.0	+0.8
VNA2	Neumayer--Watz	50.97	205	P	P	08 31 20.7	-0.2
	baz=100,slow=7.7						
VNA2	Neumayer--Watz	50.97	205	PcP	PcP	08 32 36.5	-0.4
BNSI	Bone	50.97	55	P	P	08 31 24.9	+3.4
SPSI	Sidrap Palu	51.10	54	P	P	08 31 23.1	+0.6
VNA1	Neumayer--Stat	51.32	205	P	P	08 31 23.7	+0.2
VNA1	Neumayer--Stat	51.32	205	PcP	PcP	08 32 38.0	-0.1
BKB	Balikpapan	51.58	49	IAMs_20	IAMs_20	08 51 19.9	
	comp=Z,7µm,18.0s						
VNA3	Neumayer Olymp	51.60	204	P	P	08 31 26.0	+0.4
TTSI	Tana Toraja	51.86	53	P	P	08 31 28.7	+0.5
LSZ	Lusaka	52.01	284	P	P	08 31 29.2	-0.3
LSZ				pmax	pmax		
	comp=Z,86nm,1.2s						
LSZ	Lusaka	52.01	284	P	P	08 31 29.2	-0.3
LSZ				IAmb	IAmb	08 31 33.1	
	comp=Z,86nm,1.2s						
LSZ	Lusaka	52.01	284	IAMs_20	IAMs_20	08 49 11.5	
	comp=Z,8µm,21.0s						
CMSA	Cobar Meteorol	52.17	101	P	P	08 31 31.4	+1.0
	baz=52,SNR=13						
SBUM	Sibu	52.19	42	P	P	08 31 30.6	0.0
SBUM				IAmb	IAmb	08 31 34.2	
	comp=Z,125nm,1.4s						
SBUM	Sibu	52.19	42	P	P	08 31 31.0	+0.4
MTN	Manton Dam	52.24	72	P	P	08 31 31.2	+0.1
YNG	Young	52.79	106	P	P	08 31 36.6	+1.6
	baz=53,SNR=9.5						
ITZ	Itezhi-Tezhi	53.30	282	*e*P	P	08 31 51.4	+12
ITZ				*e*		08 44 44.8	
ITZ				*e*		08 47 04.4	
QIS	Mount Isa	53.61	86	P	P	08 31 41.2	0.0
	baz=54,SNR=36						
QLP	Quilpie	53.67	95	P	P	08 31 42.1	+0.6
	baz=54,SNR=9.3						
PBA	Port Blair	53.88	15	*e*P	P	08 31 41.8	-1.2
PBA				*i* x	x	08 47 31.3	
PBA	Port Blair	53.88	15	P	P	08 31 41.7	-1.3
PBA	Port Blair	53.88	15	P	P	08 31 42.7	-0.3
	SNR=6.2						
MDRS	Chennai	54.11	360	*e*P	P	08 31 43.0	-1.6
MDRS				IAMs_20	IAMs_20	08 50 28.4	
	comp=Z,19µm,18.2s						
KIBK	Kibwezi	54.48	304	P	P	08 31 48.5	+0.9
	SNR=6.2						
BELA	Belgrano 2	54.90	194	P	P	08 31 48.9	-0.9
BELA				IAmb	IAmb	08 31 56.7	
	comp=Z,60nm,0.8s						
LUWI	Luwuk	55.24	55	P	P	08 31 52.5	-0.5
DGPR	DIGLIPUR	55.40	15	*e*P	P	08 31 50.7	-3.3
TOLI2	Tolitoli	55.75	51	P	P	08 31 54.5	-2.1
TOLI2				IAmb	IAmb	08 32 07.4	
	comp=Z,86nm,1.3s						
KMBO	Kilima Mbogo	55.92	304	P	P	08 31 57.5	-0.7
	comp=Z,4.0nm,0.8s,baz=124,slow=9.5,SNR=8.2						
KMBO				LR	LR	08 50 38.9	
	comp=Z,6µm,20.6s,baz=114,slow=30						
KMBO	Kilima Mbogo	55.92	304	*ce*P	P	08 32 00.3	+2.1
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GOA	Goa	56.87	352	*e*P	P	08 32 03.8	-0.7
RMQ	Roma	57.11	98	P	P	08 32 07.6	+1.3
	baz=57,SNR=12						
ARMA	Armidale	57.11	103	P	P	08 32 06.2	-0.2
	baz=57,SNR=12						
ARMA	Armidale	57.11	103	P	P	08 32 05.8	-0.6
ARMA				IAmb	IAmb	08 32 14.3	
	comp=Z,93nm,1.1s						
TSUM	Tsumeb	57.46	272	P	P	08 32 09.1	0.0
TSUM				IAmb	IAmb	08 32 13.4	
	comp=Z,82nm,1.4s						
TSUM	Tsumeb	57.46	272	IAMs_20	IAMs_20	08 52 41.2	
	comp=Z,11µm,22.0s						
MYLDM	Lahad Datu	57.78	46	P	P	08 32 10.6	-0.5
MYLDM				IAmb	IAmb	08 32 14.6	
	comp=Z,61nm,1.2s						
MYLDM				IAMs_20	IAMs_20	08 53 53.8	
	comp=Z,6µm,20.0s						
HYB	Hyderabad	58.46	358	*i* P	P	08 32 14.0	-1.8
HYB				*e*S	S	08 40 18.0	-0.8
HYB	Hyderabad	58.46	358	*e*P	P	08 32 13.5	-2.3
HYB				*i* x	x	08 51 16.7	
MTSU	Mount Surprise	58.61	87	P	P	08 32 17.7	+0.8
	baz=59,SNR=16						
SOCY	Socotra	58.64	329	P	P	08 32 18.0	+0.9
SOCY	Socotra	58.64	329	P	P	08 32 18.6	+1.5
CTA	Charters Tower	58.90	90	P	P	08 32 19.1	+0.1
	comp=Z,26nm,1.0s,baz=240,slow=8.8,SNR=23						
CTA				LR	LR	08 55 35.7	
	comp=Z,4µm,18.7s,baz=231,slow=34						
CTAO	Charters Tower	58.90	90	P	P	08 32 18.1	-0.8
CTAO				pmax	pmax		
	comp=Z,103nm,1.1s						
CTAO	Charters Tower	58.90	90	P	P	08 32 18.1	-0.8
DLV	T Lat	58.91	32	P	P	08 32 18.9	-0.2
DLV				IAmb	IAmb	08 32 21.5	
	comp=Z,99nm,1.4s						
EIDS	Eidsvold	59.46	98	P	P	08 32 23.2	+0.4
	baz=60,SNR=4.1						
EIDS	Eidsvold	59.46	98	P	P	08 32 23.0	+0.2
EIDS				IAmb	IAmb	08 32 29.8	
	comp=Z,46nm,1.0s						
POO	Poona	59.87	353	*e*P	P	08 32 24.4	-1.1
POO				*i* x	x	08 55 03.5	
FAKI	Fak Fak	59.99	65	P	P	08 32 25.9	-0.6
COEN	Coen	60.35	82	P	P	08 32 28.4	-0.6
COEN				IAmb	IAmb	08 32 36.0	
	comp=Z,37nm,1.1s						
MBAR	Mbarara	60.51	299	*i* P	P	08 32 28.8	-1.5
MBAR				pmax	pmax		
	comp=Z,21nm,1.7s						
MBAR	Mbarara	60.51	299	P	P	08 32 30.2	0.0
MBAR	Mbarara	60.51	299	IAMs_20	IAMs_20	08 55 53.5	
	comp=Z,6µm,18.0s						
MBAR	Mbarara	60.51	299	P	P	08 32 29.5	-0.7
MBAR				P	P	08 32 29.5	-0.7
MBAR				S	S	08 41 04.3	+19
MBAR				S	S	08 41 04.3	+19
MBAR	Mbarara	60.51	299	*e*P	P	08 32 34.3	+4.1
MBAR				*e*S	S	08 40 54.5	+8.7
LODK	Lodwar	60.64	306	P	P	08 32 32.6	+1.6
	SNR=12						
SIJI	Sorong	60.83	62	P	P	08 32 32.2	0.0
	comp=Z,18nm,0.8s,baz=359,slow=3.5,SNR=10						
SIJI				LR	LR	08 56 04.1	
	comp=Z,738nm,21.8s,baz=228,slow=33						
SWI	Sorong	60.83	62	P	P	08 32 33.2	+1.0
SWI				pmax	pmax		
	comp=Z,89nm,1.1s						
UBPT	Khong Chiam	60.83	28	P	P	08 32 30.6	-1.4
UBPT				IAmb	IAmb	08 32 38.3	
	comp=Z,49nm,1.4s						
WKZ	Wanaka	61.51	126	P	P	08 32 35.1	-1.4
CM31	Chiang Mai Arr	61.85	20	P	P	08 32 38.6	-0.4
CMAR	Chiang Mai Arr	61.85	20	P	P	08 32 38.0	-0.9
	comp=Z,56nm,0.9s,baz=209,slow=7.0,SNR=26						
CMAR	Chiang Mai Arr	61.85	20	P	P	08 32 38.2	-0.8
CMAR	Chiang Mai Arr	61.85	20	P	P	08 32 38.2	-0.8
LHI	Lord Howe Isla	61.90	108	IAMs_20	IAMs_20	08 53 24.6	
	comp=Z,10µm,21.0s						
CHTO	Chiang Mai	62.19	20	P	P	08 32 40.0	-1.2
CHTO				pmax	pmax		
	comp=Z,71nm,1.2s						
CHTO	Chiang Mai	62.19	20	P	P	08 32 40.0	-1.2
CHTO				IAmb	IAmb	08 32 41.6	
	comp=Z,70nm,1.2s						
CHTO	Chiang Mai	62.19	20	IAMs_20	IAMs_20	08 54 53.4	
	comp=Z,8µm,20.0s						
CHTO	Chiang Mai	62.19	20	P	P	08 32 40.5	-0.8
CHTO				P	P	08 32 40.5	-0.8
CHTO				S	S	08 41 08.5	+2.0
CHTO				S	S	08 41 08.5	+2.0
ATD	Arta Tunnel	63.06	318	P	P	08 32 46.3	-0.9
ATD	Arta Tunnel	63.06	318	*e*P	P	08 32 42.3	-4.9
ATD				*e*S	S	08 41 21.1	+3.4
ATD				⇑*e*S	S	08 41 23.6	+5.8
ANKE	Ethiopia-Afar	63.08	314	*e*P	P	08 33 00.2	+13
FURI	Furi	63.09	312	*e*P	P	08 32 52.3	+4.5
FURI				⇓*e*S	S	08 41 26.0	+7.4
AAE	Adis Abeba	63.15	312	*e*P	P	08 32 54.2	+6.2
AAE				*e*S	S	08 41 22.6	+3.2
RPZ	Rata Peaks	63.34	126	P	P	08 32 53.0	+4.3
	comp=Z,29nm,0.9s,baz=75,slow=5.1,SNR=3.6						
DAV	Davao City (W)	63.35	52	LR	LR	08 58 29.7	
	comp=Z,2µm,19.5s,baz=206,slow=34						
DMTO	DMTO	63.37	332	P	P	08 32 51.5	+2.4
DMTO				S	S	08 41 22.6	+1.3
RBK	Rabkut	63.44	332	P	P	08 32 50.2	+0.6
	SNR=7.2						
RBK				P	P	08 32 50.2	+0.6
	SNR=7.2						
RBK				S	S	08 41 24.7	+2.5
RBK				S	S	08 41 24.7	+2.5
ABTO	Aybut	63.63	331	P	P	08 32 50.8	-0.1
	SNR=8.8						
ABTO				P	P	08 32 50.8	-0.1
	SNR=8.8						
ABTO				S	S	08 41 27.4	+2.8
ABTO				S	S	08 41 27.4	+2.8
WHFO	Wadi Hawf	63.98	331	P	P	08 32 52.9	-0.2
	SNR=5.1						
WHFO				P	P	08 32 52.9	-0.2
	SNR=5.1						
WHFO				S	S	08 41 30.7	+1.8
WHFO				S	S	08 41 30.7	+1.8
TEND	Ethiopian Broa	64.24	316	*e*P	P	08 32 54.2	-0.7
TEND				*e*S	S	08 41 40.5	+8.2
BHPL	Bhopal	64.30	357	*e*P	P	08 32 53.0	-2.1
BHPL				IAMs_20	IAMs_20	09 02 00.9	
	comp=Z,8µm,16.2s						
DESE	Dese	64.40	314	*e*S	S	08 41 45.4	+10
BRDH	Bariadhala	64.48	11	LR	LR	08 56 51.5	
	comp=Z,67nm,19.9s,baz=136,slow=32						
DOK	Doka	64.49	332	P	P	08 32 56.5	+0.1
	SNR=7.2						
DOK				S	S	08 41 36.1	+0.9
SAIH	SAIHA	64.51	13	*e*P	P	08 32 56.5	-0.1
SAIH				*i* x	x	08 52 20.7	
DQM	DQM	64.59	336	P	P	08 32 57.0	-0.1
	SNR=12						
DQM				S	S	08 41 37.7	+1.4
BOK	Bokaro	64.96	5	*e*P	P	08 32 58.0	-1.4
BOK				*i* x	x	08 52 19.4	
BOK				IAMs_20	IAMs_20	08 54 18.3	
	comp=Z,15µm,26.5s						
BELO	BELONIA	65.02	11	*e*P	P	08 32 58.9	-0.8
BHUJ	Bhuj	65.04	349	*e*P	P	08 32 57.1	-2.8
MHTO	MHTO	65.45	337	P	P	08 33 02.0	-0.7
	SNR=18						
MHTO				S	S	08 41 48.8	+1.9
AGT	Agartala	65.61	11	*e*P	P	08 33 03.8	+0.2
AGT				IAmb	IAmb	08 33 06.9	
	comp=Z,125nm,1.0s						
AGT				*i* x	x	08 55 20.8	
AGT				IAMs_20	IAMs_20	09 04 24.2	
	comp=Z,26µm,15.9s						
QIZ	Qiongzhong	65.88	30	P	P	08 33 06.7	+1.3
QIZ				S	S	08 41 55.6	+3.4
QIZ				SS	SS	08 46 11.4	+3.8
QIZ				pmax	pmax		
	comp=Z,560nm,9.4s						
QIZ				LR	LR		
	comp=Z,4µm,18.6s						
QIZ				LR	LR		
	comp=Z,3µm,21.1s						
QIZ				LR	LR		
	comp=Z,6µm,20.6s						
QIZ	Qiongzhong	65.88	30	IAMs_20	IAMs_20	08 58 39.2	
	comp=Z,7µm,20.0s						
SLVN	Son La	65.97	24	P	P	08 33 05.6	-0.5
SLVN				IAmb	IAmb	08 33 13.2	
	comp=Z,46nm,1.2s						
SLVN				IAMs_20	IAMs_20	08 59 05.4	
	comp=Z,8µm,19.0s						
PMG	Port Moresby	66.26	81	LR	LR	09 00 51.2	
	comp=Z,5µm,18.1s,baz=222,slow=35						
PMG	Port Moresby	66.26	81	*e*P	P	08 33 09.4	+1.3
PMG				pmax	pmax		
	comp=Z,330nm,1.3s						
PMG	Port Moresby	66.26	81	P	P	08 33 08.9	+0.8
PMG	Port Moresby	66.26	81	IAMs_20	IAMs_20	08 59 04.9	
	comp=Z,6µm,20.0s						
PMG	Port Moresby	66.26	81	P	P	08 33 09.6	+1.5
TGY	Tagaytay City	66.55	43	LR	LR	08 59 37.2	
	comp=Z,2µm,21.4s,baz=168,slow=34						
SILR	SILCHAR	66.73	12	*e*P	P	08 33 11.2	+0.5
SILR				IAMs_20	IAMs_20	09 08 06.1	
	comp=Z,18µm,16.8s						
IMP	Imphal	66.96	13	*e*P	P	08 33 11.3	-1.1
SHL	Shillong	67.36	11	P	P	08 33 13.7	-1.3
SHL				pmax	pmax		
	comp=Z,159nm,1.1s						
SHL	Shillong	67.36	11	*e*P	P	08 33 13.9	-1.1
SHL	Shillong	67.36	11	P	P	08 33 13.7	-1.3
KOHI	KOHIMA	67.86	13	*e*P	P	08 33 16.9	-1.3
GUWA	GUWAHATI	67.95	11	*e*P	P	08 33 17.4	-1.1
ODAN	Odare	68.12	7	*e*P	P	08 33 18.7	-1.2
	comp=Z,351nm,1.1s						
RAMN	Ramite	68.15	6	*e*P	P	08 33 19.2	-0.8
	comp=Z,293nm,1.2s						
TAPN	Taplejung	68.64	7	*e*P	P	08 33 22.3	-0.8
	comp=Z,581nm,1.2s						
PKI	Pulchoki	68.68	5	*e*P	P	08 33 22.1	-1.4
	comp=Z,367nm,1.2s						
PKIN	Phulchoki	68.69	5	*e*P	P	08 33 22.0	-1.4
	comp=Z,298nm,1.3s						
GTK	Tadong	68.69	8	*e*P	P	08 33 22.5	-0.8
GTK				IAMs_20	IAMs_20	08 57 50.5	
	comp=Z,20µm,22.8s						
DMN	Daman	68.70	4	*e*P	P	08 33 22.3	-1.2
	comp=Z,450nm,1.1s						
JORH	JORHAT	68.89	13	*e*P	P	08 33 22.9	-1.4
GUN	Gumba	69.05	5	*e*P	P	08 33 24.9	-0.9
	comp=Z,1µm,1.6s						
GKN	Gorkha	69.07	4	*e*P	P	08 33 24.4	-1.3
	comp=Z,372nm,1.1s						
ITAN	ITANAGAR	69.19	12	*e*P	P	08 33 25.6	-0.6

KMI	**Kunming**	**69.22**	**21**	⇑P	**P**	**08 33 26.9**	**+0.2**
KMI				pP	pwP	08 33 33.2	-1.1
KMI				sP	sP	08 33 36.0	+4.9
KMI				PcP	**PcP**	**08 33 46.8**	**-3.6**
KMI				PP	**PP**	**08 36 00.7**	**+0.6**
KMI				S	**S**	**08 42 34.5**	**+1.9**
KMI				SKS	**SKSac**	**08 43 22.8**	**-3.7**
KMI				pmax	pmax		
	comp=Z,47nm,1.5s						
KMI				pmax	pmax		
	comp=Z,750nm,4.5s						
KMI				LR	LR		
	comp=Z,5µm,20.0s						
KMI				LR	LR		
	comp=Z,2µm,20.1s						
KMI				LR	LR		
	comp=Z,6µm,18.6s						
KMI	**Kunming**	**69.22**	**21**	IAMs_20	IAMs_20	09 00 30.5	
	comp=Z,7µm,20.0s						
UOSS	**Minazif**	**69.71**	**336**	IAMs_20	IAMs_20	08 57 09.2	
	comp=Z,5µm,22.0s						
URZ	**Urewera**	**70.22**	**124**	P	**P**	**08 33 34.8**	**+2.1**
	comp=Z,27nm,1.0s,baz=75,slow=1.4,SNR=3.8						
URZ	**Urewera**	**70.22**	**124**	P	**P**	**08 33 31.7**	**-0.9**
HOPE	**Hope Point**	**70.64**	**214**	IAMs_20	IAMs_20	08 58 04.6	
	comp=Z,7µm,21.0s						
GZH	**Guangzhou**	**70.91**	**32**	P	P	08 33 42.9	+6.1
GZH				S	S	08 43 01.9	+10
GZH				LR	LR		
	comp=Z,3µm,22.5s						
GZH				LR	LR		
	comp=Z,2µm,22.5s						
LSA	**Lhasa**	**71.33**	**10**	P	**P**	**08 33 39.2**	**-0.7**
LSA				S	**S**	**08 42 56.8**	**-0.8**
LSA				pmax	pmax		
	comp=Z,180nm,1.1s						
LSA				LR	LR		
	comp=Z,2µm,12.1s						
LSA				LR	LR		
	comp=Z,2µm,15.0s						
LSA				LR	LR		
	comp=Z,3µm,16.4s						
LSA	**Lhasa**	**71.33**	**10**	P	**P**	**08 33 38.8**	**-1.1**
LSA				pmax	pmax		
	comp=Z,79nm,1.1s						
LSA	**Lhasa**	**71.33**	**10**	P	**P**	**08 33 38.8**	**-1.1**
LSA				IAmb	IAmb	08 33 41.9	
	comp=Z,79nm,1.1s						
GYA	**Guiyang**	**71.63**	**25**	⇑P	**P**	**08 33 40.9**	**-0.4**
GYA				pP	pwP	08 33 48.2	-0.7
GYA				S	**S**	**08 43 03.3**	**+2.8**
GYA				SS	**SS**	**08 47 39.3**	**+2.7**
GYA				pmax	pmax		
	comp=Z,38nm,1.8s						
GYA				pmax	pmax		
	comp=Z,530nm,3.6s						
GYA				LR	LR		
	comp=Z,2µm,18.9s						
GYA				LR	LR		
	comp=Z,1µm,15.1s						
GYA				LR	LR		
	comp=Z,3µm,18.1s						
SMLA	**Simla**	**72.15**	**357**	*e*P	**P**	**08 33 42.2**	**-1.9**
RAYN	**Ar Rayn**	**72.27**	**326**	P	**P**	**08 33 45.6**	**+0.5**
RAYN				pmax	pmax		
	comp=Z,87nm,1.4s						
RAYN	**Ar Rayn**	**72.27**	**326**	P	**P**	**08 33 45.6**	**+0.5**
RAYN				IAmb	IAmb	08 33 58.2	
	comp=Z,87nm,1.4s						
DZM	**Mont Dzumac**	**72.75**	**104**	P	**P**	**08 33 49.5**	**+1.2**
	comp=Z,17nm,1.0s,baz=193,slow=5.8,SNR=10						
DZM	**Mont Dzumac**	**72.75**	**104**	*e*P	**P**	**08 33 48.5**	**+0.2**
	comp=Z,85nm,1.2s						
DZM				*e*S	**S**	**08 43 13.0**	**-0.9**
	comp=Z,6µm,28.1s						
DZM				*e*SS	**SS**	**08 47 55.5**	**+2.3**
	comp=Z,3µm,26.8s						
DZM				*e*LR	LR	08 56 04.4	
	comp=Z,12µm,22.1s						
DZM	**Mont Dzumac**	**72.75**	**104**	P	**P**	**08 33 49.0**	**+0.7**
DZM				IAmb	IAmb	08 33 56.1	
	comp=Z,45nm,1.2s						
DHRM	**DHARAMSHALA**	**73.31**	**356**	*e*P	**P**	**08 33 48.3**	**-3.1**
DHRM				IAMs_20	IAMs_20	09 02 13.4	
	comp=Z,9µm,16.5s						
QZH	**Quanzhou**	**74.74**	**35**	⇑*i*P	**P**	**08 33 59.6**	**0.0**
QZH				S	**S**	**08 43 39.3**	**+3.7**
QZH				LR	LR		
	comp=Z,2µm,13.7s						
QZH				LR	LR		
	comp=Z,840nm,11.4s						
QZH				LR	LR		
	comp=Z,2µm,15.2s						
NIL	**Nilore**	**74.91**	**354**	P	**P**	**08 33 58.5**	**-1.9**
NIL				pmax	pmax		
	comp=Z,86nm,1.2s						
NIL	**Nilore**	**74.91**	**354**	P	**P**	**08 33 58.5**	**-1.9**
NIL				IAmb	IAmb	08 34 06.4	
	comp=Z,86nm,1.1s						
CD2	**Chengdu**	**74.98**	**20**	⇑*i*P	**P**	**08 34 00.0**	**-0.9**
CD2				PP	**PP**	**08 36 50.6**	**+1.4**
CD2				S	**S**	**08 43 41.9**	**+3.7**
CD2				sS	sS	08 43 48.5	+5.0
CD2				SS	**SS**	**08 48 32.3**	**+4.7**
CD2				pmax	pmax		
	comp=Z,90nm,0.8s						
CD2				pmax	pmax		
	comp=Z,950nm,8.4s						
CD2				LR	LR		
	comp=Z,10µm,22.7s						
CD2				LR	LR		
	comp=Z,5µm,20.0s						
CD2				LR	LR		
	comp=Z,11µm,22.6s						
HNR	**Honiara**	**75.84**	**90**	LR	LR	09 05 07.2	
	comp=Z,3µm,19.3s,baz=242,slow=34						
ENH	**Enshi**	**76.07**	**25**	P	**P**	**08 34 05.8**	**-1.4**
ENH				IAmb	IAmb	08 34 33.8	
	comp=Z,68nm,1.3s						
ENH				IAMs_20	IAMs_20	09 03 56.3	
	comp=Z,5µm,21.0s						
KBL	**Kabul**	**76.23**	**350**	P	**P**	**08 34 07.1**	**-1.1**
KBL				pmax	pmax		
	comp=Z,263nm,1.2s						
KBL	**Kabul**	**76.23**	**350**	P	**P**	**08 34 07.1**	**-1.1**
KBL				IAMs_20	IAMs_20	09 05 46.4	
	comp=Z,6µm,20.0s						
HRA	**Herat**	**77.21**	**344**	P	**P**	**08 34 12.3**	**-1.4**
HRA				IAMs_20	IAMs_20	09 02 44.0	
	comp=Z,5µm,20.0s						
SANVU	**Saraoutou**	**77.45**	**100**	IAMs_20	IAMs_20	09 02 29.0	
	comp=Z,5µm,22.0s						
WHN	**Wuhan**	**78.00**	**29**	⇑P	**P**	**08 34 17.3**	**-0.7**
WHN				S	**S**	**08 44 12.5**	**+1.3**
WHN				pmax	pmax		
	comp=Z,84nm,1.2s						
WHN				LR	LR		
	comp=Z,11µm,18.3s						
WHN				LR	LR		
	comp=Z,7µm,18.4s						
WHN				LR	LR		
	comp=Z,18µm,19.4s						
XAN	**Xi'an**	**79.38**	**24**	P	**P**	**08 34 24.2**	**-1.4**
XAN				pP	sP	08 34 29.0	-1.0
XAN				sP	pwP	08 34 31.0	-2.2
XAN				PcP	**PcP**	**08 34 33.9**	**+0.3**
XAN				PP	**PP**	**08 37 25.9**	**-0.3**
XAN				S	**S**	**08 44 24.3**	**-1.6**
XAN				ScS	**SKKSac**	**08 44 42.7**	**-0.2**
XAN				pmax	pmax		
	comp=Z,58nm,1.2s						
XAN				pmax	pmax		
	comp=Z,640nm,6.9s						
XAN				LR	LR		
	comp=Z,2µm,21.1s						
XAN				LR	LR		
	comp=Z,5µm,20.6s						
XAN				LR	LR		
	comp=Z,6µm,24.9s						
XAN	**Xi'an**	**79.38**	**24**	P	**P**	**08 34 23.4**	**-2.2**
XAN				pmax	pmax		
	comp=Z,52nm,1.1s						
XAN	**Xi'an**	**79.38**	**24**	P	**P**	**08 34 23.4**	**-2.2**
XAN				IAmb	IAmb	08 34 31.8	
	comp=Z,52nm,1.1s						
XAN	**Xi'an**	**79.38**	**24**	IAMs_20	IAMs_20	09 07 25.6	
	comp=Z,4µm,19.0s						
LZH	**Lanzhou**	**79.92**	**19**	⇑P	**P**	**08 34 27.5**	**-1.1**
LZH				pP	sP	08 34 32.7	-0.3
LZH				sP	pwP	08 34 35.0	-1.2
LZH				S	**S**	**08 44 29.9**	**-1.9**
LZH				sS	SKSac	08 44 46.0	+0.7
LZH				pmax	pmax		
	comp=Z,45nm,1.1s						
LZH				pmax	pmax		
	comp=Z,280nm,9.2s						
LZH				LR	LR		
	comp=Z,5µm,20.6s						
LZH				LR	LR		
	comp=Z,2µm,17.3s						
LZH				LR	LR		
	comp=Z,4µm,18.4s						
KSH	**Kashi**	**80.56**	**356**	P	**P**	**08 34 28.4**	**-3.5**
KSH				pP	pP	08 34 34.5	-0.7
KSH				S	**S**	**08 44 30.8**	**-7.5**
KSH				SS	**SS**	**08 49 42.4**	**-9.4**
KSH				pmax	pmax		
	comp=Z,120nm,1.2s						
KSH				pmax	pmax		
	comp=Z,440nm,10.5s						
KSH				LR	LR		
	comp=Z,8µm,18.8s						
KSH				LR	LR		
	comp=Z,4µm,15.3s						
KSH				LR	LR		
	comp=Z,17µm,19.0s						
JOW	**Kunigami**	**80.91**	**42**	LR	LR	09 05 22.3	
	comp=Z,2µm,22.0s,baz=202,slow=32						
NJ2	**Nanjing**	**81.08**	**32**	*e*P	**P**	**08 34 36.6**	**+1.9**
NJ2				pP	**PcP**	**08 34 40.6**	**-0.4**
NJ2				sP	**pwP**	**08 34 45.0**	**+2.7**
NJ2				S	**S**	**08 44 45.7**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,420nm,6.6s						
NJ2				LR	LR		
	comp=Z,4µm,19.0s						
NJ2				LR	LR		
	comp=Z,2µm,18.5s						
NJ2				LR	LR		
	comp=Z,5µm,19.8s						
SSE	**Sheshan**	**81.21**	**34**	P	**P**	**08 34 34.6**	**-0.8**
SSE				S	**S**	**08 44 47.7**	**+2.6**
SSE				pmax	pmax		
	comp=Z,11nm,0.9s						
SSE				pmax	pmax		
	comp=Z,180nm,10.4s						
SSE				LR	LR		
	comp=Z,980nm,18.1s						
SSE				LR	LR		
	comp=Z,470nm,16.1s						
ASHT	**Ashkhabad**	**81.46**	**342**	P	**P**	**08 34 37.2**	**+0.7**
ASHT				pmax	pmax		
	comp=Z,144nm,0.5s						
ASHT	**Ashkhabad**	**81.46**	**342**	P	**P**	**08 34 37.2**	**+0.7**
GEYT	**Alibeck**	**81.50**	**342**	P	**P**	**08 34 36.3**	**-0.6**
	comp=Z,11nm,0.9s,baz=253,slow=1.5,SNR=14						
GEYT				LR	LR	09 06 40.0	
	comp=Z,2µm,18.1s,baz=100,slow=33						
GEYT	**Alibeck**	**81.50**	**342**	P	**P**	**08 34 35.5**	**-1.3**
GYA0B	**ALIBECK ARRAY**	**81.50**	**342**	P	**P**	**08 34 35.9**	**-1.0**
GYA0B				IAmb	IAmb	08 34 44.8	
	comp=Z,84nm,1.4s						
GTA	**Gaotai**	**82.23**	**15**	⇑P	**P**	**08 34 40.2**	**-0.6**
GTA				pP	sP	08 34 44.5	-0.7
GTA				sP	pwP	08 34 46.8	-1.6
GTA				PP	**PP**	**08 37 52.6**	**+2.8**
GTA				SKS	**S**	**08 44 51.8**	**-3.8**
GTA				S	**SKSac**	**08 44 55.8**	**-5.1**
GTA				sS	ScS	08 45 09.3	-2.1
GTA				pmax	pmax		
	comp=Z,110nm,1.0s						
GTA				pmax	pmax		
	comp=Z,470nm,6.5s						
GTA				LR	LR		
	comp=Z,3µm,17.8s						
GTA				LR	LR		
	comp=Z,3µm,17.8s						
GTA				LR	LR		
	comp=Z,4µm,17.5s						
ULHL	**Ulahol**	**83.27**	**357**	P	**P**	**08 34 45.6**	**-0.6**
	SNR=24						
AML	**Almayashu**	**83.30**	**355**	P	**P**	**08 34 45.9**	**-0.7**
	SNR=18						
UCH	**Uchtor**	**83.34**	**355**	P	**P**	**08 34 46.2**	**-0.7**
	SNR=18						
IUG	**Iuzhnay**	**83.63**	**352**	⇑*i*P	**P**	**08 34 47.3**	**-0.7**
	comp=Z,17nm,1.8s,baz=351						
IUG				*e*S	**S**	**08 45 09.0**	**-0.8**
	baz=351						
IUG	**Iuzhnay**	**83.63**	**352**	*c i*P	**P**	**08 34 47.2**	**-0.7**
IUG				*e*S	**S**	**08 45 08.9**	**-0.8**
IUG				pmax	pmax		
	comp=Z,17nm,1.8s						
KBK	**Karagaybulak**	**83.75**	**356**	P	**P**	**08 34 48.3**	**-0.4**
	SNR=13						
AAK	**Ala-Archa**	**83.75**	**355**	LR	LR	09 08 52.0	
	comp=Z,11µm,19.4s,baz=184,slow=33						
AAK	**Ala-Archa**	**83.75**	**355**	P	**P**	**08 34 48.3**	**-0.3**
	SNR=12						
AAK	**Ala-Archa**	**83.75**	**355**	*ce*P	**P**	**08 34 48.0**	**-0.6**
AAK				pmax	pmax		
	comp=Z,290nm,2.5s						
AAK	**Ala-Archa**	**83.75**	**355**	P	**P**	**08 34 47.0**	**-1.6**
AAK				IAmb	IAmb	08 34 55.8	
	comp=Z,72nm,1.5s						
EKS2	**Erkin-Say**	**83.82**	**355**	P	**P**	**08 34 48.5**	**-0.4**
	SNR=12						
TIY	**Taiyuan**	**83.86**	**25**	*e*P	**P**	**08 34 50.8**	**+1.6**
TIY				SKS	**S**	**08 45 09.7**	**-2.4**
TIY				S	**SKSac**	**08 45 12.4**	**+0.8**
TIY				pmax	pmax		
	comp=Z,320nm,6.6s						
TIY				LR	LR		
	comp=Z,6µm,21.5s						
TIY				LR	LR		
	comp=Z,930nm,16.0s						
TIY				LR	LR		
	comp=Z,5µm,20.7s						
MSVF	**Nonsavu**	**83.90**	**108**	P	**P**	**08 34 52.4**	**+2.4**
	comp=Z,27nm,1.1s,baz=189,slow=6.9,SNR=8.4						
MSVF	**Nonsavu**	**83.90**	**108**	*i* P	**P**	**08 34 48.9**	**-1.1**
MSVF				pmax	pmax		
	comp=Z,46nm,1.3s						
TKM2	**Tokmak 2**	**83.98**	**356**	P	**P**	**08 34 48.6**	**-1.2**
	SNR=10						
SATY	**Saty**	**84.02**	**358**	⇑*i*P	**P**	**08 34 48.7**	**-1.3**
	comp=Z,18nm,1.2s,baz=358						
SATY	**Saty**	**84.02**	**358**	*c i*P	**P**	**08 34 48.6**	**-1.3**
SATY				pmax	pmax		
	comp=Z,18nm,1.2s						
TNSS	**Tian-Shan**	**84.04**	**357**	⇑*i*P	**P**	**08 34 48.9**	**-1.5**
	baz=357						
TNSS	**Tian-Shan**	**84.04**	**357**	⇑*i*P	**P**	**08 34 48.8**	**-1.5**
UZB	**Uzynbulak**	**84.09**	**359**	⇑*i*P	**P**	**08 34 48.9**	**-1.5**
	baz=358						
UZB	**Uzynbulak**	**84.09**	**359**	*c i*P	**P**	**08 34 48.8**	**-1.5**
SHLS	**Shalkode**	**84.10**	**359**	*e*P	**P**	**08 34 49.5**	**-0.9**
	comp=Z,87nm,1.6s,baz=359						
SHLS	**Shalkode**	**84.10**	**359**	*e*P	**P**	**08 34 49.4**	**-0.9**
SHLS				pmax	pmax		
	comp=Z,87nm,1.6s						
CHMS	**Chumysh**	**84.10**	**356**	P	**P**	**08 34 49.2**	**-1.0**
	SNR=14						
TIA	**Tai'an**	**84.10**	**29**	P	**P**	**08 34 48.9**	**-1.5**
TIA				SKS	**S**	**08 45 12.1**	**-2.4**
TIA				pmax	pmax		
	comp=Z,21nm,1.3s						
TIA				pmax	pmax		
	comp=Z,320nm,4.1s						
TIA				LR	LR		
	comp=Z,4µm,22.1s						
TIA				LR	LR		
	comp=Z,3µm,20.1s						
TIA				LR	LR		
	comp=Z,5µm,21.0s						
MDOK	**Medeo**	**84.16**	**357**	*e*P	**P**	**08 34 49.6**	**-1.1**
	baz=357						
MDOK				*e*S	**S**	**08 45 12.2**	**-2.9**
	baz=357						
MDOK	**Medeo**	**84.16**	**357**	*e*P	**P**	**08 34 49.5**	**-1.1**
MDOK				*e*S	**S**	**08 45 12.1**	**-2.9**
AAA	**Alma-Ata**	**84.21**	**357**	*e*P	**P**	**08 34 49.1**	**-1.7**
	comp=Z,44nm,1.1s,baz=357						
AAA				*e*S	**S**	**08 45 12.9**	**-2.5**
	baz=357						
AAA	**Alma-Ata**	**84.21**	**357**	*e*P	**P**	**08 34 49.9**	**-0.9**
AAA				*e*S	**S**	**08 45 12.9**	**-2.5**
AAA				pmax	pmax		
	comp=Z,45nm,1.1s						
USP	**Ospenovka**	**84.38**	**356**	P	**P**	**08 34 50.9**	**-0.8**
	SNR=15						
KPKS	**Kokpek**	**84.42**	**359**	*e*P	**P**	**08 34 50.5**	**-1.5**
	comp=Z,16nm,1.3s,baz=358						
KPKS	**Kokpek**	**84.42**	**359**	*e*P	**P**	**08 34 50.4**	**-1.5**
KPKS				pmax	pmax		
	comp=Z,16nm,1.3s						
KK31	**Karatay Array**	**84.53**	**353**	P	**P**	**08 34 51.7**	**-0.7**
KK31				pmax	pmax		
	comp=Z,89nm,1.1s						
KK31	**Karatay Array**	**84.53**	**353**	P	**P**	**08 34 51.7**	**-0.7**
KKAR	**Karatay Array**	**84.53**	**353**	P	**P**	**08 34 51.7**	**-0.7**
KKAR	**Karatay Array**	**84.53**	**353**	P	**P**	**08 34 51.7**	**-0.7**
SGDS	**Sogindy**	**84.56**	**356**	*e*P	**P**	**08 34 51.5**	**-1.2**
	comp=Z,16nm,1.5s,baz=355						
SGDS	**Sogindy**	**84.56**	**356**	*e*P	**P**	**08 34 51.4**	**-1.2**
SGDS				pmax	pmax		
	comp=Z,16nm,1.5s						
LKRN	**Lenkeran, Azer**	**84.78**	**336**	P	**P**	**08 34 53.6**	**-0.1**
GO09	**Cerro Castillo**	**84.82**	**197**	IAMs_20	IAMs_20	09 10 44.5	
	comp=Z,6µm,21.0s						
CHKK	**Chushkaly**	**84.85**	**357**	⇑*i*P	**P**	**08 34 52.2**	**-1.8**
	baz=357						
CHKK	**Chushkaly**	**84.85**	**357**	⇑*i*P	**P**	**08 34 52.1**	**-1.8**
KUU	**Kurty**	**84.91**	**357**	*e*P	**P**	**08 34 52.9**	**-1.4**
	comp=Z,87nm,1.5s,baz=356						
KUU	**Kurty**	**84.91**	**357**	*e*P	**P**	**08 34 52.9**	**-1.4**
KUU				pmax	pmax		
	comp=Z,87nm,1.5s						
WMQ	**Urumqi**	**84.99**	**5**	*e*P	**P**	**08 34 53.7**	**-1.1**
WMQ				pP	pwP	08 35 00.3	-2.1
WMQ				PP	**PP**	**08 38 13.5**	**+1.2**
WMQ				S	**S**	**08 45 20.8**	**-2.4**
WMQ				SS	**SS**	**08 50 53.9**	**-3.4**
WMQ				pmax	pmax		
	comp=Z,52nm,2.3s						
WMQ				pmax	pmax		
	comp=Z,300nm,3.6s						
WMQ				LR	LR		
	comp=Z,6µm,27.3s						
WMQ				LR	LR		
	comp=Z,4µm,17.1s						
WMQ				LR	LR		
	comp=Z,9µm,25.1s						
WMQ	**Urumqi**	**84.99**	**5**	P	**P**	**08 34 54.1**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,57nm,1.1s						
WMQ				MLR	MLR		
	comp=Z,3µm,19.0s						
WMQ	**Urumqi**	**84.99**	**5**	P	**P**	**08 34 54.1**	**-0.7**
WMQ				IAmb	IAmb	08 35 02.4	
	comp=Z,57nm,1.1s						
BTO	**Baotou**	**85.80**	**22**	P	**P**	**08 34 57.7**	**-1.2**
TDK	**Taldyqorghan**	**85.96**	**358**	*e*P	**P**	**08 34 58.1**	**-1.4**
	comp=Z,58nm,1.5s,baz=358						
TDK				*e*S	**S**	**08 45 24.1**	**-8.4**
	baz=358						
TDK	**Taldyqorghan**	**85.96**	**358**	*e*P	**P**	**08 34 58.9**	**-0.6**
TDK				*e*S	**S**	**08 45 24.1**	**-8.4**
TDK				pmax	pmax		
	comp=Z,58nm,1.5s						
BTLS	**Baital**	**86.18**	**355**	⇑*i*P	**P**	**08 34 59.5**	**-1.0**
	comp=Z,16nm,0.9s,baz=355						
BTLS	**Baital**	**86.18**	**355**	*c i*P	**P**	**08 34 59.5**	**-1.0**
BTLS				pmax	pmax		
	comp=Z,16nm,0.9s						
NAX	**Nakhchivan**	**86.27**	**333**	P	**P**	**08 35 01.4**	**+0.2**
GEVA	**Gevas**	**86.35**	**331**	P	**P**	**08 35 01.9**	**+0.1**
GEVA				IAmb	IAmb	08 35 16.0	
	comp=Z,45nm,1.4s						
HHC	**Hu-ho-hao-te**	**86.47**	**23**	*e*P	**P**	**08 35 00.8**	**-1.4**
HHC				PP	**PP**	**08 38 24.8**	**+0.5**
HHC				S	**S**	**08 45 30.1**	**-7.8**
HHC				SS	**SS**	**08 51 16.4**	**-2.8**
HHC				pmax	pmax		
	comp=Z,16nm,1.2s						
HHC				pmax	pmax		
	comp=Z,330nm,6.9s						
HHC				LR	LR		
	comp=Z,5µm,19.1s						
HHC				LR	LR		
	comp=Z,3µm,17.8s						
HHC				LR	LR		
	comp=Z,7µm,17.6s						
BJT	**Baijiatuau**	**87.17**	**27**	P	**P**	**08 35 03.1**	**-2.4**
BJT				pmax	pmax		
	comp=Z,15nm,1.0s						
BJT	**Baijiatuau**	**87.17**	**27**	P	**P**	**08 35 03.1**	**-2.4**
BJT	**Baijiatuau**	**87.17**	**27**	IAMs_20	IAMs_20	09 10 41.0	
	comp=Z,5µm,22.0s						
BJI	**Beijing**	**87.19**	**27**	P	**P**	**08 35 04.0**	**-1.6**
BJI				SKS	**SKSac**	**08 45 34.3**	**+2.0**
BJI				S	**S**	**08 45 44.2**	**-0.4**
BJI				pmax	pmax		
	comp=Z,14nm,1.0s						
BJI				LR	LR		
	comp=Z,2µm,22.2s						
BJI				LR	LR		
	comp=Z,3µm,21.4s						
BJI				LR	LR		
	comp=Z,4µm,23.0s						
JNU	**Nakatsue**	**87.34**	**40**	LR	LR	09 14 40.6	
	comp=Z,696nm,18.1s,baz=214,slow=36						
GNI	**Garni**	**87.40**	**333**	*ce*P	**P**	**08 35 06.4**	**-0.4**
GNI				pmax	pmax		
	comp=Z,81nm,2.5s						
SEKA	**Sheki**	**87.55**	**335**	P	**P**	**08 35 07.2**	**-0.2**
MK31	**Makanchi Array**	**87.74**	**1**	P	**P**	**08 35 06.2**	**-2.0**
MK31	**Makanchi Array**	**87.74**	**1**	P	**P**	**08 35 06.2**	**-2.0**
MK31				IAmb	IAmb	08 35 14.1	
	comp=Z,28nm,1.1s						
MKAR	**Makanchi Array**	**87.74**	**1**	P	**P**	**08 35 06.4**	**-1.7**
	comp=Z,8.1nm,0.8s,baz=157,slow=6.6,SNR=67						
MKAR				PKKPbc	**PKKPbc**	**08 53 01.2**	**+4.4**
	comp=Z,0.4nm,0.7s,baz=325,slow=1.5,SNR=4.2						
MKAR				LR	LR	09 11 53.6	
	comp=Z,7µm,19.5s,baz=178,slow=34						
MKAR	**Makanchi Array**	**87.74**	**1**	P	**P**	**08 35 05.7**	**-2.4**
MAKZ	**Makanchi**	**87.75**	**1**	P	**P**	**08 35 06.1**	**-2.1**
MAKZ				pmax	pmax		
	comp=Z,40nm,1.2s						
MAKZ	**Makanchi**	**87.75**	**1**	P	**P**	**08 35 06.1**	**-2.1**
MAKZ				IAmb	IAmb	08 35 14.3	
	comp=Z,40nm,1.2s						
ZKTA	**Zakatala**	**88.12**	**335**	P	**P**	**08 35 10.6**	**+0.5**
DL2	**Dalian**	**88.16**	**31**	P	**P**	**08 35 12.7**	**+2.4**
DL2				SKS	**SKSac**	**08 45 40.5**	**+2.3**
DL2				S	**ScS**	**08 46 00.2**	**+0.2**
DL2				pmax	pmax		
	comp=Z,38nm,1.1s						
DL2				pmax	pmax		
	comp=Z,460nm,4.9s						
DL2				LR	LR		
	comp=Z,2µm,18.7s						
DL2				LR	LR		
	comp=Z,2µm,18.6s						
DL2				LR	LR		
	comp=Z,3µm,18.2s						
ZSN	**Zaisan**	**88.47**	**3**	*e*P	**P**	**08 35 10.6**	**-0.9**
	comp=Z,8.3nm,1.6s,baz=2.3						
ZSN	**Zaisan**	**88.47**	**3**	*e*P	**P**	**08 35 10.6**	**-0.9**
ZSN				pmax	pmax		
	comp=Z,8.0nm,1.6s						
MAK	**Makhachkala**	**89.05**	**336**	*e*P	**P**	**08 35 10.1**	**-4.2**
MAK				*e*		08 38 39.0	
MAK				*e*		08 45 36.5	
MAK				*e*SS	SS	08 51 50.6	-5.9
MAK				pmax	pmax		
	comp=Z,22nm,0.4s						
KSRS	**Korea Array**	**89.53**	**36**	P	**P**	**08 35 15.8**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=212,slow=4.6,SNR=10						
KSRS				LR	LR	09 14 53.6	
	comp=Z,1µm,18.6s,baz=240,slow=35						
GROC	**Groznyy**	**89.80**	**335**	*e*P	**P**	**08 35 18.6**	**+0.7**
GROC				*e*S	**SKSac**	**08 45 49.9**	**+2.1**
GROC				pmax	pmax		

comp=Z,17nm,0.4s
ZEI Tsey 90.04 334 *e*P **P 08 35 22.1 +2.8**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
TOA0 Torodi Ar. Sit 90.44 287 P **P 08 35 21.1 -0.5**
TORD Torodi Ar. Bea 90.44 287 P **P 08 35 20.8 -0.8**
comp=Z,5.2nm,0.9s,baz=114,slow=4.5,SNR=6.0
TORD PP **PP 08 39 02.5 +6.2**
comp=Z,6.5nm,1.3s,baz=135,slow=5.8,SNR=4.6
TORD LR LR 09 13 21.7
comp=Z,10µm,20.5s,baz=110,slow=34
TORD Torodi Ar. Bea 90.44 287 P **P 08 35 20.6 -1.0**
KIC Kosan Boka 90.67 278 *e*PKP2 **P 08 35 24.2 +1.4**
comp=Z,112nm,1.4s
LIC Lamto 90.80 278 *e*PKP2 **P 08 35 24.6 +1.3**
comp=Z,98nm,1.4s
DGZ Jazzator, Alta 90.83 4 *i* P **P 08 35 21.8 -1.0**
DGZ pmax pmax
comp=Z,36nm,1.6s
NEY Neytrino 90.84 333 *i* P **P 08 35 23.4 +0.4**
NEY pmax pmax
comp=Z,7.0nm,1.5s
DBIC Dimbokro 90.96 278 P **P 08 35 24.6 +0.6**
comp=Z,9.5nm,1.0s,baz=138,slow=5.4,SNR=7.8
DBIC LR LR 09 12 33.2
comp=Z,8µm,19.2s,baz=117,slow=33
DBIC Dimbokro 90.96 278 P **P 08 35 24.5 +0.4**
TIC Toumodi 91.07 278 *e*PKP2 **P 08 35 25.8 +1.2**
KBZ Khabaz 91.21 334 P **P 08 35 23.7 -0.7**
comp=Z,3.9nm,1.1s,baz=187,slow=3.3,SNR=6.3
KBZ LR LR 09 13 45.4
comp=Z,1µm,18.3s,baz=152,slow=34
BR131 Keskin Array S 91.28 326 *i* P **P 08 35 24.5 -0.5**
BRTR Keskin Array B 91.28 326 P **P 08 35 25.1 0.0**
comp=Z,5.7nm,1.0s,baz=168,slow=6.3,SNR=8.1
BRTR LR LR 09 13 03.6
comp=Z,2µm,18.5s,baz=135,slow=33
BRTR Keskin Array B 91.28 326 *ce*P **P 08 35 28.7 +3.6**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 91.28 326 P **P 08 35 24.6 -0.5**
SHA1 Shidzhatmaz 91.30 334 *i* P **P 08 35 24.6 -0.6**
KIV Kislovodsk 91.48 334 *eP* **P 08 35 26.4 +0.6**
KIV pmax pmax
comp=Z,40nm,2.5s
KIV Kislovodsk 91.48 334 P **P 08 35 24.8 -1.0**
SONM Songino Array 91.66 17 P **P 08 35 25.5 -1.1**
comp=Z,4.6nm,0.9s,baz=211,slow=5.0,SNR=28
SONM PP **PP 08 39 08.1 +2.4**
comp=Z,5.0nm,1.1s,baz=199,slow=8.2,SNR=5.3
SONM LR LR 09 16 40.5
comp=Z,3µm,18.1s,baz=198,slow=36
SONM Songino Array 91.66 17 P **P 08 35 24.7 -1.9**
ULN Ulaanbaatar 91.84 17 P **P 08 35 25.5 -2.0**
ULN pmax pmax
comp=Z,28nm,1.3s
ULN MLR MLR
comp=Z,5µm,19.0s
ULN Ulaanbaatar 91.84 17 P **P 08 35 25.5 -2.0**
ULN IAmb IAmb 08 35 27.2
comp=Z,28nm,1.3s
ULN Ulaanbaatar 91.84 17 IAMs_20 IAMs_20 09 16 11.3
comp=Z,5µm,19.0s
ABKAR Akbulak array 92.01 347 P **P 08 35 25.8 -2.2**
ABKAR Akbulak array 92.01 347 P **P 08 35 26.1 -2.0**
ABKAR IAmb IAmb 08 35 39.3
comp=Z,10nm,1.2s
RPOR Krasnaya Polya 92.09 332 *i* P **P 08 35 28.3 -0.3**
SOC Sochi 92.18 332 *eP* **P 08 35 26.4 -2.5**
SOC *e* 08 39 07.4
SOC *e*PPP PPP 08 41 10.8
SOC *e*S **SKSac 08 45 59.1 -2.3**
SOC *e*SS **SS 08 52 44.9 +3.1**
SOC *e*SSS SSS 08 56 16.9
GOF Gofitskoye 92.34 334 *eP* **P 08 35 29.9 +0.2**
GOF pmax pmax
comp=Z,82nm,1.6s
TARA Tarawa 92.62 91 IAMs_20 IAMs_20 09 17 22.3
comp=Z,5µm,22.0s
ZAK Zakamensk 93.45 14 *eP* **P 08 35 32.8 -2.0**
ZAK pmax pmax
comp=Z,13nm,1.2s
AKTO Aktyubinsk 93.49 346 LR LR 09 17 01.4
comp=Z,1µm,18.1s,baz=144,slow=35
KWAJ Kwajalein Atol 93.50 81 IAMs_20 IAMs_20 09 13 48.8
comp=Z,4µm,19.0s
MAT Matsushiro 93.72 43 P **P 08 35 34.4 -1.9**
MAT S **S 08 46 41.0 -3.9**
MJAR Matsushiro Arr 93.72 43 P **P 08 35 34.9 -1.3**
comp=Z,2.3nm,0.8s,baz=203,slow=5.3,SNR=4.2
MJAR LR LR 09 15 39.5
comp=Z,576nm,19.9s,baz=245,slow=34
CN2 Changchun 93.83 31 *eP* **P 08 35 34.9 -1.7**
CN2 *es*P sP 08 35 41.0 0.0
CN2 *eS* **S 08 46 42.5 -3.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,2µm,19.0s
CN2 LR LR
comp=Z,1µm,19.0s
CN2 LR LR
comp=Z,3µm,20.0s
ANN Anapa 94.06 331 *eP* **P 08 35 38.8 +1.2**
ANN *e**PP **pwP 08 35 42.7 -2.5**
ANN *e* 08 39 24.2
ANN *e*PS **PS 08 48 07.5 +3.5**
ANN *e*SS SS 08 53 12.3 +3.6
ANN pmax pmax
comp=Z,59nm,1.2s
ANN MLR MLR
comp=Z,2µm,17.0s
ANN MLR MLR
comp=E,1µm,19.0s
ANN MLR MLR
comp=N,678nm,14.0s
PLCA Paso Flores 94.24 202 P **P 08 35 38.3 -0.7**
comp=N,2.1nm,1.0s,baz=196,slow=7.6,SNR=3.5
PLCA PP **PP 08 39 27.2 +2.5**
comp=N,3.0nm,1.1s,baz=180,slow=8.0,SNR=3.5
PLCA LR LR 09 19 06.9
comp=N,3µm,18.2s,baz=173,slow=36
TAM Tamanrasset 94.27 297 IAMs_20 IAMs_20 09 15 56.6
comp=Z,4µm,20.0s
BRVK Borovoye 94.42 354 *i* P **P 08 35 37.4 -1.7**
BRVK pmax pmax
comp=Z,24nm,2.4s
BRVK Borovoye 94.42 354 P **P 08 35 37.3 -1.7**
BRVK Borovoye 94.42 354 IAMs_20 IAMs_20 09 15 09.1
comp=Z,5µm,20.0s
TLY Talaya 94.77 14 LR LR 09 17 29.2
comp=Z,6µm,20.4s,baz=178,slow=35
TLY Talaya 94.77 14 *eP* **P 08 35 39.8 -0.9**
TLY *e* 08 39 24.1
TLY *e* 08 46 59.3
TLY *e*PS **PS 08 48 19.0 +7.4**
TLY *e*SS SS 08 53 12.5 -6.1
TLY pmax pmax
comp=Z,50nm,2.2s
TLY MLR MLR
comp=Z,3µm,15.0s
ZAA0 Zalesovo Array 94.96 2 P **P 08 35 39.2 -2.2**
ZAA0 IAMs_20 IAMs_20 09 14 55.5
comp=Z,5µm,22.0s
ZALV Zalesovo Beam 94.96 2 P **P 08 35 39.2 -2.2**
comp=Z,2.5nm,0.7s,baz=184,slow=4.2,SNR=5.8
ZALV PP **PP 08 39 33.0 +1.7**
comp=Z,3.9nm,1.0s,baz=195,slow=4.0,SNR=3.6
ZALV LR LR 09 16 52.8
comp=Z,4µm,18.4s,baz=190,slow=34
ZALV Zalesovo Beam 94.96 2 *i* P **P 08 35 41.7 +0.2**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 94.96 2 P **P 08 35 39.0 -2.5**
KOWA Kowa 95.47 284 P **P 08 35 45.4 +0.6**
KOWA IAmb IAmb 08 36 09.1
comp=Z,34nm,1.4s
MDJ Mudanjiang 96.16 33 P **P 08 35 48.3 +1.1**
MDJ PP **PP 08 39 45.7 +4.9**
MDJ S **S 08 47 09.0 +3.2**
MDJ pmax pmax
comp=Z,4.0nm,0.5s
MDJ pmax pmax
comp=Z,230nm,4.6s
MDJ LR LR
comp=Z,3µm,18.6s
MDJ LR LR
comp=Z,2µm,16.2s
MDJ LR LR
comp=Z,4µm,18.2s
MDJ Mudanjiang 96.16 33 IAMs_20 IAMs_20 09 22 23.1
comp=Z,3µm,18.0s
HIA Hailar 96.56 25 *i* P **P 08 35 47.5 -1.4**
HIA pmax pmax
comp=Z,19nm,1.4s
HIA Hailar 96.56 25 P **P 08 35 47.5 -1.4**
HIA Hailar 96.56 25 IAMs_20 IAMs_20 09 18 18.4
comp=Z,3µm,20.0s
USRK Ussuriysk Ar. 96.82 34 PP PKiKP 08 39 50.5 -36
comp=Z,0.9nm,0.7s,baz=235,slow=9.0,SNR=4.9
USRK LR LR 09 19 17.0
comp=Z,1µm,18.8s,baz=213,slow=35
TIRR Tirgusor 97.38 325 IAMs_20 IAMs_20 09 18 39.2
comp=Z,3µm,19.0s
BELG Belogornoye 97.62 340 *i* P **P 08 35 52.0 -1.6**
BELG pmax pmax
comp=Z,2.0nm,0.9s
BI02 San Fabin de 98.23 203 IAMs_20 IAMs_20 09 19 00.6
comp=Z,6µm,22.0s
RAFF Raffo Rosso 98.86 312 IAMs_20 IAMs_20 09 19 46.3
comp=Z,4µm,20.0s
ARU Arti 99.15 348 *i* P **Pdif 08 35 59.1 -1.3**
ARU pmax pmax
comp=Z,4.0nm,1.3s
ARU Arti 99.15 348 IAMs_20 IAMs_20 09 20 14.1
comp=Z,3µm,19.0s
SPB Sao Paulo 99.45 227 IAMs_20 IAMs_20 09 14 07.0
comp=Z,3µm,18.0s
BO02 Sierra Bellavi 99.83 204 IAMs_20 IAMs_20 09 20 08.8
comp=Z,4µm,22.0s
TBI Tubuai 100.67 134 *e*SP SP 08 49 13.9 -0.3
comp=Z,126nm,34.0s
TBI *e*SS **SS 08 54 44.4 +3.8**
comp=Z,526nm,27.8s
TBI Tubuai 100.67 134 *e*LQ LQ 09 04 46.7
comp=Z,2µm,32.0s
TBI *e*LR LR 09 08 54.5
comp=Z,2µm,23.2s,baz=216
KEST Kesra 100.69 308 IAMs_20 IAMs_20 09 24 34.9
comp=Z,4µm,19.0s
KLR Kul'dur 100.77 31 *i* P **Pdif 08 36 09.3 +1.5**
KLR pmax pmax
comp=Z,1.0nm,1.1s
MT05 Renca 101.11 204 IAMs_20 IAMs_20 09 19 49.9
comp=Z,3µm,22.0s
MT02 Curacav 101.36 204 IAMs_20 IAMs_20 09 20 43.4
comp=Z,4µm,21.0s
ZON Zonda 102.15 206 IAMs_20 IAMs_20 09 23 06.6
comp=Z,4µm,21.0s
CO03 El Pedregal 103.46 205 IAMs_20 IAMs_20 09 20 57.2
comp=Z,4µm,22.0s
CO01 Juntas del Tor 104.07 206 IAMs_20 IAMs_20 09 21 19.1
comp=Z,4µm,22.0s
GO04 Tololo Observa 104.12 205 IAMs_20 IAMs_20 09 21 25.4
comp=Z,5µm,22.0s
LCO Las Campanas 105.16 206 IAMs_20 IAMs_20 09 24 59.0
comp=Z,4µm,20.0s
AC05 El Transito 105.18 206 IAMs_20 IAMs_20 09 24 34.6
comp=Z,4µm,22.0s
PPT2 Papeete2 105.22 131 *e*S **Sdif 08 48 20.9 -2.7**
PPT2 comp=Z,527nm,24.8s
PPT2 *e*SP **SP 08 50 01.7 -0.9**
comp=Z,357nm,29.0s
PPT2 *e*SS **SKKPbc 08 55 46.8 +0.6**
comp=Z,2µm,33.2s
PPT2 Papeete2 105.22 131 *e*LQ LQ 09 06 42.6
comp=Z,9µm,33.5s
PPT2 *e*LR LR 09 11 08.9
comp=Z,3µm,26.5s,baz=216
MNK Minsk 105.56 331 *i* PP **PKiKP 08 40 45.5 +3.4**
MNK *i* PP **PKiKP 08 40 45.5 +3.4**
MNK *i* PP **PKiKP 08 40 45.5 +3.4**
MNK *i* PPP PPP 08 42 58.9
MNK *i* SKS SKSdf 08 47 27.9 -25
MNK *i* PS PS 08 50 48.9 +42
MNK *i* SS **SS 08 55 45.0 -4.0**
MNK *i* SKKS **SKKSdf 08 59 22.1 -9.0**
MNK *i* LQ LQ 09 19 09.7
MNK *i* LR LR 09 23 52.1
MNK *i* LRM MLR 09 29 40.7
comp=Z,2µm,19.1s
MNK *i* LRM MLR 09 29 41.3
comp=E,187nm,19.1s
MNK *i* LRM MLR 09 30 07.4
comp=N,2µm,19.1s
RCBR Riachuelo 105.56 248 IAMs_20 IAMs_20 09 14 51.5
comp=Z,3µm,20.0s
ZCCA Zocca 105.67 316 IAMs_20 IAMs_20 09 11 34.6
comp=Z,3µm,22.0s
OKC Ostrava-Krasne 106.01 323 AMS AMS 09 35 10.0
comp=Z,1µm,18.5s
GO03 Coplap 106.31 207 IAMs_20 IAMs_20 09 26 18.6
comp=Z,3µm,20.0s
AC02 Maricunga 106.62 208 IAMs_20 IAMs_20 09 26 07.9
comp=Z,3µm,20.0s
CKRC Cesky Krumlov 107.07 321 AMS AMS 09 32 50.0
comp=Z,2µm,24.0s
KLMR Klimovskoe 107.19 340 *eP* **Pdif 08 36 34.9 -1.1**
KLMR *e* 08 41 03.3
KLMR *e*SS SS 08 56 16.0 +5.0
KLMR *e*SSS SSS 09 00 18.7
KLMR pmax pmax
comp=Z,12nm,1.2s
KLMR Klimovskoe 107.19 340 *e*Pdif **Pdif 08 36 34.9 -1.1**
KLMR AMP 08 36 45.2
comp=Z,12nm,1.2s
KLMR *e*PP **PP 08 41 03.4 -0.2**
KLMR *e*SS **SS 08 56 16.0 +5.0**
KLMR *e*SS **SS 08 56 16.0 +5.0**
KLMR *e*SSS SSS 09 00 18.8
KLMR *e*SSS SSS 09 00 18.8
KLMR LQ LQ 09 15 23.7
KLMR LQ LQ 09 15 23.7
KLMR LR LR 09 19 14.0
DPC Dobruska-Polom 107.20 323 AMS AMS 09 36 30.0
comp=Z,1µm,19.9s
GERES GERESS Array B 107.38 320 PP **PP 08 41 03.1 -2.3**
comp=Z,1.1nm,0.9s,baz=157,slow=7.1,SNR=5.0
OSTC Ostas 107.39 323 AMS AMS 09 35 50.0
comp=Z,2µm,20.0s
UPC Upice 107.45 323 AMS AMS 09 34 10.0
comp=Z,2µm,16.9s
KHC Kasperske Hory 107.63 321 AMS AMS 09 37 00.0
comp=Z,1µm,20.2s
AC01 Pan de Azucar 107.76 207 IAMs_20 IAMs_20 09 27 54.1
comp=Z,4µm,20.0s
PRU Pruhonice 107.77 322 AMS AMS 09 34 30.0
comp=Z,1µm,22.1s
PRA Prague 107.88 322 AMS AMS 09 34 40.0
comp=Z,700nm,19.0s
RKT Rikitea 107.89 146 *e*S **Sdif 08 48 32.9 -13**
comp=Z,328nm,29.8s
RKT *e*SS **SS 08 56 20.4 +1.1**
comp=Z,1µm,30.8s
RKT Rikitea 107.89 146 *e*LR LR 09 12 21.4
comp=Z,2µm,23.8s
TUE Stuetta 107.95 317 IAMs_20 IAMs_20 09 28 52.8
comp=Z,3µm,18.0s
CART Cartagena 108.19 304 IAMs_20 IAMs_20 09 27 46.4
comp=Z,2µm,18.0s
GO02 Mina Guanaco 108.32 208 IAMs_20 IAMs_20 09 28 10.8
comp=Z,3µm,20.0s
NKC Novy Kostel 108.92 321 AMS AMS 09 38 50.0
comp=Z,2µm,20.8s
CLL Collm 109.39 322 *e*Sdif Sdif 08 48 56.0 -0.4
CLL *e*PS PS 08 50 51.0 +4.3
CLL *e*PPS PPS 08 51 44.0
CLL *e*SS **SS 08 56 37.0 -4.0**
CLL *e*SSS SSS 09 00 46.0
CLL *e*SSSS 09 04 13.0
CLL L L 09 27 00.0
comp=Z,1µm,21.2s
PB15 IPOC Station P 110.06 209 IAMs_20 IAMs_20 09 29 20.0
comp=Z,3µm,19.0s
SACV Santiago Islan 110.35 272 IAMs_20 IAMs_20 09 18 45.7
comp=Z,3µm,21.0s
LVC Limon Verde 110.39 210 IAMs_20 IAMs_20 09 29 45.9
comp=Z,3µm,19.0s
NRIK Noril'sk 110.46 3 PP **PP 08 41 31.5 +4.2**
comp=Z,16nm,1.1s,baz=177,slow=6.2,SNR=9.1
PB06 IPOC Station P 110.55 209 IAMs_20 IAMs_20 09 29 43.1
comp=Z,3µm,19.0s
SFS San Fernando 110.83 301 IAMs_20 IAMs_20 09 27 43.1
comp=Z,4µm,21.0s
PB04 IPOC Station P 111.11 209 IAMs_20 IAMs_20 09 27 31.8
comp=Z,2µm,20.0s
ES10 SONSECA Array 111.25 304 IAMs_20 IAMs_20 09 28 14.4
comp=Z,3µm,20.0s
ES11 SONSECA Array 111.26 304 IAMs_20 IAMs_20 09 28 14.6
comp=Z,3µm,19.0s
ES09 SONSECA Array 111.27 304 IAMs_20 IAMs_20 09 28 11.0
comp=Z,3µm,22.0s
ES12 SONSECA Array 111.27 304 IAMs_20 IAMs_20 09 28 19.8
comp=Z,2µm,21.0s
ES19 SONSECA Array 111.28 304 IAMs_20 IAMs_20 09 28 03.0
comp=Z,3µm,20.0s
ES03 SONSECA Array 111.28 304 IAMs_20 IAMs_20 09 28 12.1
comp=Z,3µm,21.0s
ES04 SONSECA Array 111.28 304 IAMs_20 IAMs_20 09 28 13.1
comp=Z,3µm,21.0s
RPN Rapa Nui 111.28 170 IAMs_20 IAMs_20 09 22 23.2
comp=Z,4µm,20.0s
ES02 SONSECA Array 111.29 304 IAMs_20 IAMs_20 09 28 03.3
comp=Z,3µm,20.0s
ES01 SONSECA Array 111.29 304 IAMs_20 IAMs_20 09 28 13.4
comp=Z,3µm,21.0s
ES08 SONSECA Array 111.29 304 IAMs_20 IAMs_20 09 28 11.3
comp=Z,3µm,21.0s
ES13 SONSECA Array 111.29 304 IAMs_20 IAMs_20 09 28 16.4
comp=Z,3µm,20.0s
ES05 SONSECA Array 111.29 304 IAMs_20 IAMs_20 09 28 14.4
comp=Z,3µm,18.0s
ESBB Sonseca Array 111.30 304 IAMs_20 IAMs_20 09 28 13.7
comp=Z,3µm,20.0s
ES07 SONSECA Array 111.30 304 IAMs_20 IAMs_20 09 28 12.7
comp=Z,3µm,20.0s
ES14 SONSECA Array 111.31 304 IAMs_20 IAMs_20 09 28 15.8
comp=Z,3µm,19.0s
ES15 SONSECA Array 111.32 304 IAMs_20 IAMs_20 09 28 16.1
comp=Z,3µm,19.0s
ES17 SONSECA Array 111.32 304 IAMs_20 IAMs_20 09 28 01.3
comp=Z,3µm,19.0s
ES16 SONSECA Array 111.33 304 IAMs_20 IAMs_20 09 28 02.4
comp=Z,3µm,19.0s
PVAQ Vaqueiros 112.36 301 IAMs_20 IAMs_20 09 32 27.6
comp=Z,2µm,18.0s
PB08 IPOC Station P 112.73 211 IAMs_20 IAMs_20 09 27 12.8
comp=Z,2µm,21.0s
SKR Severo-Kuril's 112.80 42 *eP* **Pdif 08 36 50.4 -11**
SKR MLR MLR
comp=Z,800nm,21.0s
PESTR Estremoz 113.12 302 IAMs_20 IAMs_20 09 30 07.8
comp=Z,2µm,20.0s
MTE Manteigas 113.96 303 IAMs_20 IAMs_20 09 27 09.1
comp=Z,3µm,20.0s
APA Apatity 114.27 342 *i* PKIKP **PKiKP 08 41 01.4 +3.3**
APA pmax pmax
comp=Z,4.0nm,1.0s
MA2 Magadan 115.85 32 *c i* PKIKP **PKiKP 08 41 03.7 +2.3**
MA2 pmax pmax
comp=Z,17nm,2.5s
MA2 Magadan 115.85 32 IAMs_20 IAMs_20 09 34 02.9
comp=Z,2µm,19.0s
NOA NORSAR Array B 116.46 329 PKP **PKiKP 08 41 04.1 +1.5**
comp=Z,0.9nm,0.7s,baz=113,slow=3.6,SNR=2.9
KEV Kevo 117.45 342 IAMs_20 IAMs_20 09 28 48.9
comp=Z,3µm,22.0s
TAOE Nuku Hiva Isla 117.60 133 *e*LR LR 09 16 55.9
comp=Z,1µm,21.9s
TIXI Tiksi 117.71 15 *i* PKIKP **PKiKP 08 41 07.8 +3.2**
TIXI Tiksi 117.71 15 IAMs_20 IAMs_20 09 31 06.9
comp=Z,2µm,19.0s
SEY Seymchan 118.49 30 *i* PKIKP **PKiKP 08 41 08.7 +2.3**
EKA Eskdalemuir Ar 119.54 319 PKP **PKiKP 08 41 09.7 +1.1**
comp=Z,3.8nm,0.9s,baz=81,slow=2.2,SNR=2.1
SAML Samuel 119.93 222 IAMs_20 IAMs_20 09 26 03.6
comp=Z,3µm,19.0s
PTGA Pitinga 125.00 231 IAMs_20 IAMs_20 09 29 44.4
comp=Z,2µm,18.0s
ATAH Atahualpa 128.08 207 PKP **PKiKP 08 41 28.5 +1.0**
comp=Z,5.4nm,0.9s,baz=0.0,slow=5.1,SNR=3.3
MACC Macarena, Meta 134.72 217 *eP* **PKPdf 08 41 39.3 +0.3**
GARC Garzon, Huila 135.49 215 *eP* **PKiKP 08 41 48.3 +6.0**
SOTA Rioblanco 135.92 214 *eP* **PKiKP 08 41 44.2 +0.8**
PCON Cinco Dias 136.01 214 *eP* **PKiKP 08 41 46.4 +2.7**
BBAC Balboa, Cauca 136.08 213 *eP* **PKiKP 08 41 42.8 -0.6**
CHIC Chingaza 136.85 219 *eP* **PKiKP 08 41 44.9 -0.3**
ORTC Ortega, Tolima 136.92 217 *eP* **PKPdf 08 41 43.1 0.0**
RDOG Red Dog Mine 137.37 30 IAMs_20 IAMs_20 09 41 14.5
comp=Z,2µm,22.0s
YOTC Yotoco, Valle 137.47 215 *eP* **PKPdf 08 41 42.1 -2.1**
ANIL Santa Ana 137.50 217 *eP* **PKPdf 08 41 43.8 -0.7**
TOLC Tolima 137.55 217 *eP* **PKPdf 08 41 44.2 -0.3**
RUSC La Rusia 137.63 221 *eP* **PKPdf 08 41 42.4 -2.5**
RREF El Recreo 137.84 217 *eP* **PKPdf 08 41 44.6 -0.9**
SPBC San Pablo de B 137.90 219 *eP* **PKPdf 08 41 43.9 -1.0**
GUY2C Guyana, Caldas 138.13 217 *eP* **PKPdf 08 41 44.9 -0.9**
NORC Norcasia 138.20 218 *eP* **PKPdf 08 41 44.9 -0.5**
PLMC San Jos del P 138.26 216 *eP* **PKiKP 08 41 47.9 +0.3**
PTBC PUERTO BERRIO 138.86 220 *eP* **PKPdf 08 41 47.6 +1.0**
BRRC Barranca, Sant 138.99 221 *eP* **PKPdf 08 41 42.8 -4.0**
CBOC Ciudad Bolivar 139.11 217 *eP* **PKPdf 08 41 43.8 -3.3**
HELC Santa Helena 139.06 218 *eP* **PKPdf 08 41 48.4 +1.0**
DBBC Dabeiba 140.10 218 *eP* **PKPdf 08 41 48.0 -0.9**
TTA Tatalina 140.75 37 IAMs_20 IAMs_20 09 48 21.5
comp=Z,2µm,20.0s
SEUS St. Eustatius 140.81 244 IAMs_20 IAMs_20 09 35 17.5
comp=Z,2µm,21.0s
SVW2 Sparrevohn 141.12 40 IAMs_20 IAMs_20 09 49 28.9
comp=Z,2µm,20.0s
TOLK Toolik Lake Re 142.06 27 PKPdf **PKPdf 08 41 49.6 -1.1**
TOLK IAMs_20 IAMs_20 09 47 40.4
comp=Z,3µm,21.0s
TOLK Toolik Lake Re 142.06 27 P 08 41 49.7
baz=290
COLD Coldfoot 142.29 30 IAMs_20 IAMs_20 09 49 50.5
comp=Z,2µm,20.0s
TULEG Thule 142.31 349 IAMs_20 IAMs_20 09 52 22.7
comp=Z,2µm,20.0s
PPLA Purkeypile 142.49 37 IAMs_20 IAMs_20 09 50 05.4
comp=Z,2µm,19.0s
MLY Manley 142.67 33 P 08 41 47.9
baz=284
BPAW Bear Paw Mtn. 142.78 35 P 08 41 49.2
baz=283
BPAW Bear Paw Mtn. 142.78 35 **PKPdf 08 41 51.3 -0.8**
BPAW IAMs_20 IAMs_20 09 48 47.0
comp=Z,2µm,21.0s
KDAK Kodiak Island 142.85 45 IAMs_20 IAMs_20 09 51 43.7
comp=Z,2µm,20.0s
KTH Kantishna Hill 142.93 36 IAMs_20 IAMs_20 09 51 40.9
comp=Z,3µm,20.0s
SKT Skwentna 142.94 38 IAMs_20 IAMs_20 09 50 21.5
comp=Z,2µm,20.0s
I23K Minto, Yukon-K 143.21 33 P 08 41 49.3
baz=286
I23K Minto, Yukon-K 143.21 33 IAMs_20 IAMs_20 09 53 49.1
comp=Z,2µm,19.0s
TRF Thorofare Moun 143.23 36 P 08 41 50.8
baz=282
TRF Thorofare Moun 143.23 36 IAMs_20 IAMs_20 09 51 56.8
comp=Z,2µm,19.0s
SJG San Juan 143.37 241 IAMs_20 IAMs_20 09 38 41.9
comp=Z,2µm,21.0s
SUA Susitna One 143.40 39 IAMs_20 IAMs_20 09 50 39.5
comp=Z,2µm,21.0s
CNPM China Poot 143.42 42 IAMs_20 IAMs_20 09 50 25.4
comp=Z,2µm,21.0s
BRLK Bradley Lake 143.57 42 IAMs_20 IAMs_20 09 51 31.1
comp=Z,2µm,19.0s
BCIP Isla Barro Col 143.61 214 IAMs_20 IAMs_20 09 41 54.4
comp=Z,3µm,21.0s
OBIP Obispado Ponce 143.61 240 IAMs_20 IAMs_20 09 37 24.5
comp=Z,2µm,20.0s
BRSE Bradley Lake S 143.64 42 P 08 41 51.9
baz=277
MDM Murphy Dome 143.72 33 IAMs_20 IAMs_20 09 51 47.6
comp=Z,2µm,20.0s
RND Reindeer 143.87 35 IAMs_20 IAMs_20 09 49 35.6
comp=Z,2µm,22.0s
TCOL CIGO, UAF Yank 143.90 33 IAMs_20 IAMs_20 09 52 02.3
comp=Z,2µm,20.0s
COLA College 143.90 33 IAMs_20 IAMs_20 09 52 02.3
comp=Z,2µm,20.0s
WRH Wood River Hil 143.92 34 IAMs_20 IAMs_20 09 51 39.9
comp=Z,2µm,20.0s
CCB Clear Creek Bu 143.99 33 IAMs_20 IAMs_20 09 56 16.7

comp=Z,2µm,18.0s
POKR Poker Plat Res 144.00 32 IAMs_20 IAMs_20 09 58 11.9
comp=Z,2µm,19.0s
PMR Palmer 144.13 39 IAMs_20 IAMs_20 09 51 45.0
comp=Z,2µm,20.0s
PMR Palmer 144.13 39 P 08 41 51.7
baz=281
GHO Glory Hole Cre 144.20 38 IAMs_20 IAMs_20 09 52 20.6
comp=Z,2µm,20.0s
ILAR Eielson Array 144.33 33 PKP **PKPab 08 41 52.2 -0.6**
comp=Z,1.4nm,0.7s,baz=267,slow=2.8,SNR=17
FYU Fort Yukon 144.36 30 IAMs_20 IAMs_20 09 50 24.2
comp=Z,2µm,20.0s
HDA Harding Lake 144.41 33 P 08 41 51.6
baz=287
HDA P 08 41 51.6
baz=287
HDA Harding Lake 144.41 33 IAMs_20 IAMs_20 09 52 29.9
comp=Z,2µm,20.0s
SML Sawmill 144.47 38 IAMs_20 IAMs_20 09 50 53.7
comp=Z,2µm,19.0s
KNK Knik Glacier 144.49 39 IAMs_20 IAMs_20 09 52 24.3
comp=Z,2µm,19.0s
WAT6 Susitna Watana 144.56 37 P 08 41 53.6
baz=284
PRP Porcupine Dome 144.63 31 IAMs_20 IAMs_20 09 50 40.4
comp=Z,2µm,20.0s
SCM Sheep Creek Mo 144.92 38 PKIKP **PKPab 08 41 54.9 -0.3**
SCM Sheep Creek Mo 144.92 38 **PKPab 08 41 54.9 -0.3**
SCM IAMs_20 IAMs_20 09 53 39.8
comp=Z,2µm,20.0s
GLI Glacier Island 145.24 39 P 08 41 55.8
baz=282
GLI Glacier Island 145.24 39 **PKPbc 08 41 55.4 -0.9**
GLI IAMs_20 IAMs_20 09 51 57.4
comp=Z,2µm,20.0s
M24K Tolsona, Glenn 145.38 37 **PKPbc 08 41 56.3 -0.4**
M24K IAMs_20 IAMs_20 09 49 34.0
comp=Z,2µm,22.0s
M24K Tolsona, Glenn 145.38 37 P 08 41 56.6
baz=285
PAX Paxson 145.46 35 P 08 41 56.4
baz=287
PAX Paxson 145.46 35 PKIKP **PKPdf 08 41 56.6 -0.3**
PAX Paxson 145.46 35 **PKPdf 08 41 56.6 -0.3**
PAX IAMs_20 IAMs_20 09 51 34.9
comp=Z,2µm,19.0s
FID Port Fidalgo 145.57 40 **PKPbc 08 41 57.1 -0.1**
FID IAMs_20 IAMs_20 09 52 33.6
comp=Z,2µm,20.0s
HIN Hinchinbrook I 145.63 40 PKPdf **PKPdf 08 41 56.3 -0.9**
HIN IAMs_20 IAMs_20 09 52 42.7
comp=Z,2µm,20.0s
KLU Klutina 145.66 38 PKPdf **PKPbc 08 41 57.4 -0.2**
KLU IAMs_20 IAMs_20 09 52 00.2
comp=Z,1µm,20.0s
KLU Klutina 145.66 38 P 08 41 57.2
baz=284
SCRK Sand Creek 145.78 33 P 08 41 57.3
baz=290
DOT Dot Lake 145.86 34 IAMs_20 IAMs_20 09 49 32.1
comp=Z,2µm,22.0s
Q23K Middleton Isla 145.90 42 IAMs_20 IAMs_20 09 51 05.9
comp=Z,2µm,20.0s
MID Middleton Isla 145.91 42 IAMs_20 IAMs_20 09 51 06.1
comp=Z,2µm,20.0s
EYAK Cordova Ski Ar 145.96 40 PKPdf **PKPdf 08 41 58.0 +0.3**
EYAK Cordova Ski Ar 145.96 40 P 08 41 58.3
baz=283
HDC Heredia 146.02 208 IAMs_20 IAMs_20 09 43 13.0
comp=Z,2µm,20.0s
N25K Chitina, Valde 146.24 38 IAMs_20 IAMs_20 09 50 10.6
comp=Z,2µm,22.0s
N25K Chitina, Valde 146.24 38 P 08 41 59.6
baz=286
BMRM Bremner River 146.41 39 P 08 41 59.7
baz=285
K27K Chicken 146.54 33 IAMs_20 IAMs_20 09 49 13.0
comp=Z,2µm,21.0s
K27K Chicken 146.54 33 P 08 41 59.9
baz=292
JTS Las Juntas de 146.58 206 PKPbc **PKiKP 08 42 03.9 -0.7**
comp=Z,12nm,0.8s,baz=155,slow=6.2,SNR=7.1
JTS Las Juntas de 146.58 206 IAMs_20 IAMs_20 09 42 14.7
comp=Z,2µm,21.0s
EGAK Eagle 146.61 31 P 08 41 59.3
baz=294
EGAK Eagle 146.62 31 **PKPdf 08 41 59.3 +0.7**
HMT Hamilton 146.73 40 IAMs_20 IAMs_20 09 53 12.7
comp=Z,2µm,19.0s
BCAR Beaver Creek A 147.02 34 **PKPbc 08 42 01.4 -0.2**
MCARA McCarthy VSAT 147.03 38 P 08 42 01.5
baz=287
MCARA McCarthy VSAT 147.03 38 IAMs_20 IAMs_20 09 52 56.4
comp=Z,2µm,19.0s
CRQM Cirque 147.15 39 IAMs_20 IAMs_20 09 51 30.5
comp=Z,2µm,21.0s
CRQE Cirque 147.18 39 P 08 42 01.9
baz=286
SDDR Presa de Saban 147.29 236 IAMs_20 IAMs_20 09 40 49.7
comp=Z,1µm,20.0s
TGL Tana Glacier 147.30 39 **PKPbc 08 42 02.3 -0.2**
TGL IAMs_20 IAMs_20 09 51 40.7
comp=Z,2µm,21.0s
INK Inuvik 147.39 23 PKP2 **PKPbc 08 42 01.3 -1.0**
INK Inuvik 147.39 23 **PKPbc 08 42 01.3 -1.0**
YAH Yahtse 147.93 39 IAMs_20 IAMs_20 09 52 08.3
comp=Z,2µm,20.0s
CTG Chitna Glacier 147.93 38 P 08 42 04.4
baz=288
CTGM Chitina Glacie 147.94 38 IAMs_20 IAMs_20 09 51 37.4
comp=Z,3µm,21.0s
ESPN Las Esperanzas 148.12 209 **PKiKP 08 42 08.0 +0.3**
ESPN IAMs_20 IAMs_20 09 41 53.7
comp=Z,2µm,21.0s
TABL Table Mountain 148.19 39 IAMs_20 IAMs_20 09 53 29.2
comp=Z,2µm,20.0s
PCA Pinnacle 148.72 39 **PKPbc 08 42 06.4 +0.2**
PCA IAMs_20 IAMs_20 09 51 56.2
comp=Z,3µm,22.0s
PINM Pinnacle 148.72 39 P 08 42 06.5
baz=288
BCPM Bancas Point 149.06 39 IAMs_20 IAMs_20 09 52 15.2
comp=Z,2µm,22.0s
C36M Paulatuk 149.06 17 **PKPbc 08 42 05.2 -1.5**
C36M IAMs_20 IAMs_20 10 02 58.8
comp=Z,2µm,21.0s
C36M Paulatuk 149.06 17 P 08 42 05.4
baz=322
MATN Matagalpa 149.37 206 IAMs_20 IAMs_20 09 42 40.7
comp=Z,2µm,21.0s
SNET Serv Nac Est T 151.08 201 IAMs_20 IAMs_20 09 47 06.8
comp=Z,2µm,18.0s
SKAG Skagway 151.27 39 IAMs_20 IAMs_20 09 52 31.7
comp=Z,2µm,22.0s
BESE Bessie Mountai 151.84 40 IAMs_20 IAMs_20 09 54 18.8
comp=Z,2µm,20.0s
SIT Sitka 152.14 43 IAMs_20 IAMs_20 09 52 32.0
comp=Z,2µm,21.0s
HUEH Huehuetenango 153.21 197 IAMs_20 IAMs_20 09 43 13.0
comp=Z,2µm,21.0s
CRAG Craig 153.81 46 IAMs_20 IAMs_20 09 46 11.5
comp=Z,2µm,21.0s
DIB Dawson Inlet, 154.83 51 IAMs_20 IAMs_20 09 57 59.7
comp=Z,2µm,22.0s
GGN Saint George 156.07 290 IAMs_20 IAMs_20 09 50 31.4
comp=Z,2µm,20.0s
YKA Yellowknife Ar 156.93 18 PKP **PKPdf 08 42 15.3 +1.1**
comp=Z,1.1nm,1.0s,baz=338,slow=1.3,SNR=5.9
YKA PKPab **PKPab 08 42 43.4 -0.8**
comp=Z,1.7nm,0.8s,baz=334,slow=3.8,SNR=6.1
YKA PP **PP 08 46 25.8 +3.0**
comp=Z,2.3nm,1.0s,baz=350,slow=4.7,SNR=6.6
BBB Bella Bella 157.66 51 IAMs_20 IAMs_20 10 08 00.8
comp=Z,2µm,21.0s
UNM Universidad Na 158.08 181 IAMs_20 IAMs_20 09 44 28.1
comp=Z,2µm,20.0s
061Z Ochoppi 158.29 231 IAMs_20 IAMs_20 09 56 41.5
comp=Z,2µm,20.0s
BCX Boston College 158.98 282 IAMs_20 IAMs_20 09 57 11.0
comp=Z,2µm,20.0s
L63A North Scituate 159.25 281 IAMs_20 IAMs_20 09 50 44.0
comp=Z,2µm,20.0s
K63A Dunstable 159.28 283 IAMs_20 IAMs_20 09 52 41.0
comp=Z,2µm,20.0s
UCCT U. Connecticut 159.69 280 IAMs_20 IAMs_20 09 47 02.8
comp=Z,2µm,21.0s

E03A Lebam 161.85 65 **PKPab 08 43 04.6 -1.6**
O02D Mt. Diablo Mer 162.24 86 P 08 42 28.8
baz=259
N02D Trinity Center 162.44 83 P 08 42 28.5
baz=261
H04D Lebanon 162.61 72 P 08 42 28.9
baz=272
R58B Mineral 163.10 266 P 08 42 29.4
baz=159
EDW2 Edwards Air Fo 164.02 108 P 08 42 30.9
baz=241
MONP2 Monument Peak 164.04 116 P 08 42 30.4
baz=233
B08A Colville Reser 164.22 57 PKPab **PKPab 08 43 15.9 -0.8**
GSC Goldstone, Bar 165.07 108 P 08 42 32.0
baz=241
NVAR Mina Array Bea 165.19 95 PKP **PKPdf 08 42 26.3 +2.2**
comp=Z,1.1nm,0.8s,baz=86,slow=3.7,SNR=6.8
NVAR PKPab **pPKPab 08 43 23.6 -1.3**
comp=Z,8.3nm,1.1s,baz=230,slow=6.6,SNR=9.8
G08A Pilot Rock 165.21 68 **PKPdf 08 42 22.8 -1.0**
E09A Wood Farm, Sta 165.52 63 **PKPab 08 43 22.2 -0.3**
NEW Newport 165.63 55 PKIKP **PKPdf 08 42 22.9 -1.0**
NEW Newport 165.63 55 **PKPdf 08 42 22.9 -1.0**
F10A Beach Ranch, E 166.27 64 **PKPdf 08 42 24.6 0.0**
F10A PKPab **PKPab 08 43 25.1 -0.9**
FFC Flin Flon 166.47 6 PKP2 **PKPab 08 43 23.6 -2.6**
FFC Flin Flon 166.47 6 PKPab **PKPab 08 43 23.6 -2.6**
TUC Tucson 167.20 131 P 08 42 28.5
baz=222
R11A Troy Canyon, C 167.20 98 P 08 42 28.1
baz=251
TXAR Lajitas Array 167.55 162 PKP **PKPdf 08 42 28.4 +2.3**
comp=Z,2.6nm,1.0s,baz=197,slow=2.6,SNR=8.9
TXAR PP PP 08 47 28.5 +9.0
comp=Z,0.8nm,1.0s,baz=189,slow=7.2,SNR=4.0
TXAR Lajitas Array 167.55 162 PKIKP **PKPdf 08 42 26.6 +0.5**
TXAR Lajitas Array 167.55 162 **PKPdf 08 42 26.6 +0.5**
E46A Sault Ste Mari 168.00 300 PKPab **PKPab 08 43 32.0 -1.4**
HLID Hailey 168.67 74 P 08 42 28.2
baz=276
JCT Junction City 169.18 178 P 08 42 29.2
baz=182
MNTX Cornudas Mount 169.26 151 **PKPdf 08 42 27.3 +0.3**
MNTX Cornudas Mount 169.26 151 P 08 42 28.8
baz=205
BCYI Bear Canyon 169.27 69 **PKPab 08 43 38.4 -1.0**
DLMT Dillon 169.56 63 **PKPab 08 43 40.4 -0.2**
DUG Dugway, Tooele 169.75 92 P 08 42 32.0
baz=259
EGMT Eagleton 170.03 44 P 08 42 32.9
baz=309
QLMT Earthquake Lak 170.51 64 **PKPab 08 43 45.1 +0.2**
YHL Hebgen Lake 170.67 64 **PKPab 08 43 46.1 +0.4**
YHB Horse Butte 170.70 64 **PKPab 08 43 45.4 -0.3**
ULM Lac du Bonnet 170.74 346 PKP **PKPdf 08 42 28.6 +1.4**
comp=Z,4.2nm,1.1s,baz=90,slow=2.0,SNR=4.8
ULM PKPab **PKPab 08 43 43.2 -2.0**
comp=Z,2.1nm,0.8s,baz=15,slow=5.6,SNR=3.3
ULM Lac du Bonnet 170.74 346 PKPab **PKPab 08 43 42.7 -2.5**
YHH Holmes Hill 170.92 64 **PKPdf 08 42 26.4 -1.5**
YNR Norris Junctio 171.06 64 **PKPab 08 43 47.6 +0.3**
H17A Grant Village 171.22 66 **PKPab 08 43 48.4 +0.3**
ABTX Abilene, Hawle 171.32 179 P 08 42 30.6
baz=181
YMP Mirror Lake Pl 171.40 63 **PKPab 08 43 49.4 +0.5**
ANMO Albuquerque 171.55 137 P 08 42 31.1
baz=219
RLMT Red Lodge 171.84 59 P 08 42 30.0
baz=294
DGMT Dagmar 172.07 24 PKPab **PKPab 08 43 49.7 -1.5**
BW06 Boulder Array 172.29 76 **PKPdf 08 42 28.3 -0.2**
BW06 Boulder Array 172.29 76 P 08 42 29.4
baz=277
PDAR Pinedale Array 172.29 76 PKP **PKPdf 08 42 30.2 +1.6**
comp=Z,0.9nm,0.8s,baz=126,slow=2.0,SNR=7.7
PDAR PKPab **PKPab 08 43 53.9 +1.0**
comp=Z,3.2nm,1.0s,baz=260,slow=3.7,SNR=4.5
LAO LASA Array 172.71 40 P 08 42 29.5
baz=315
U40A Yellville 172.89 228 **PKPdf 08 42 28.5 -0.3**
U40A Yellville 172.89 228 P 08 42 29.4
baz=136
O20A White River Ci 173.17 97 P 08 42 30.4
baz=257
S22A WJR Ranch, Cre 173.23 119 P 08 42 31.1
baz=236
WMOK Wichita Mounta 173.41 184 P 08 42 31.2
baz=176
SDCO Great Sand Dun 174.08 125 P 08 42 32.3
baz=231
E28A Huff 174.66 10 **PKPab 08 44 00.9 -1.8**
F33A 5 Mile Ranch, 174.95 335 **PKPab 08 44 02.9 -1.1**
ISCO Idaho Springs 175.02 106 PKIKP **PKPdf 08 42 30.4 +0.6**
ISCO Idaho Springs 175.02 106 **PKPdf 08 42 30.4 +0.6**
N23A Red Feather La 175.03 93 P 08 42 31.1
baz=263
RSSD Black Hills 175.57 49 P 08 42 29.9
baz=308
ECSD EROS Data Cent 176.83 321 P 08 42 29.9
baz=41

*IDC **06** 08:23:05.6±5.9, 6°.21S×151°.83E, h62km±49km, mb4.0/5, mb1 4.2/6, mb1mx3.7/39, mbtmp4.3/6, ML2.4/1, MS3.7/2, Ms1 3.7/2, ms1mx3.2/42 Error ellipse: s-maj=60.3km s-min=29.5km az=124.0*

ISC 06 08:23:04.0±1.4, **6°.3S**±0°.3×**152°.0E**±0°.3, **h50**km, **n10**, σ0**§85**/9, **mb4.1/5, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.73**	**237**	P	**Pn**	**08 24 26.4**	**-0.2**
	6.8nm,0.3s,baz=65,slow=7.8,SNR=9.3						
PMG				S	**Sn**	**08 25 31.4**	**+0.3**
	11nm,0.3s,baz=73,slow=23,SNR=3.5						
PMG	**Port Moresby**	**5.73**	**237**	P	**Pn**	**08 24 27.7**	**+1.1**
DZM	**Mont Dzumac**	**21.02**	**140**	LR	LR	08 34 06.3	
	comp=Z,252nm,18.7s,baz=275,slow=31						
WRA	**Warramunga Arr**	**21.90**	**230**	P		**08 27 51.9**	**-1.3**
	6.1nm,0.8s,baz=53,slow=10.0,SNR=32						
ASAR	**Alice Springs**	**24.55**	**223**	P	**P**	**08 28 18.6**	**-0.7**
	9.0nm,0.9s,baz=56,slow=9.1,SNR=66						
STKA	**Stephens Creek**	**27.29**	**200**	P	**P**	**08 28 44.4**	**+0.5**
	1.7nm,0.6s,baz=14,slow=12,SNR=3.0						
MSVF	**Nonsavu**	**27.87**	**116**	LR	LR	08 38 37.8	
	comp=Z,150nm,20.8s,baz=353,slow=33						
FITZ	**Fitzroy Crossi**	**28.28**	**243**	P	**P**	**08 28 52.3**	**-0.7**
	7.6nm,0.6s,baz=63,slow=6.6,SNR=33						
ILAR	**Eielson Array**	**83.80**	**22**	P	**P**	**08 35 27.9**	**+0.1**
	0.8nm,0.7s,baz=248,slow=4.8,SNR=12						
TORD	**Torodi Ar. Bea**	**149.97**	**285**	PKPbc	**PKPbc**	**08 42 50.3**	**+0.3**
	0.8nm,0.6s,baz=90,slow=2.9,SNR=2.2						

*IDC **06** 08:31:41.6±7.3, 41°.37S×80°.29E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/43, mbtmp4.0/4, Error ellipse: s-maj=196.4km s-min=44.1km az=37.0*
*NEIC **06** 08:31:46.9±1.6, 41°.19S±0°.08×81°.01E±0°.09, h10km±1km, mb4.8/15, Error ellipse: s-maj=16.5km s-min=6.3km az=37.0*

ISC 06 08:31:46.3±0.6, **41°.19S**±0°.09×**81°.06E**±0°.10, **h10**km, **n25**, σ1**§13**/25, **mb4.7**/13, **1C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AIS	**Amsterdam Isla**	**4.33**	**320**	Pn	**Pn**	**08 32 53.2**	**+1.0**
PAF	**Port-aux-Franc**	**11.17**	**219**	Pn	**Pn**	**08 34 25.7**	**-0.3**
CRZF	**Crozet Islands**	**21.64**	**246**	P	**P**	**08 36 37.3**	**+0.7**
CRZF				IAmb	IAmb	08 36 55.9	
	comp=Z,39nm,0.9s						
RER	**Riviere de l'E**	**29.28**	**305**	P	**P**	**08 37 48.9**	**0.0**
NWAO	**Narrogin (SRO)**	**29.86**	**86**	P	**P**	**08 37 53.3**	**-0.5**
NWAO				IAmb	IAmb	08 38 09.8	
	comp=Z,22nm,1.4s						
SYO	**Syowa Base**	**35.34**	**204**	iP	**P**	**08 38 39.4**	**-1.9**
PSA00	**Pilbara Seismi**	**38.06**	**71**	P	**P**	**08 39 04.6**	**-0.5**
PSA00				IAmb	IAmb	08 39 07.5	
	comp=Z,16nm,1.4s						
ASAR	**Alice Springs**	**47.17**	**85**	P	**P**	**08 40 20.4**	**+1.2**
	comp=Z,1.7nm,1.0s,baz=234,slow=7.1,SNR=8.6						
ASAR	**Alice Springs**	**47.17**	**85**	P	**P**	**08 40 20.2**	**+1.0**
AS31	**Alice Springs**	**47.18**	**85**	P	**P**	**08 40 20.8**	**+1.6**
QSPA	**South Pole Qui**	**48.97**	**180**	P	**P**	**08 40 33.6**	**+0.9**
QSPA				IAmb	IAmb	08 40 48.7	
	comp=Z,8.8nm,1.2s						
WRA	**Warramunga Arr**	**49.69**	**81**	P	**P**	**08 40 40.0**	**+1.4**
	comp=Z,3.6nm,1.1s,baz=228,slow=7.5,SNR=6.4						
WRAB	**Tennant Creek**	**49.70**	**81**	P	**P**	**08 40 39.5**	**+0.8**
WRAB				IAmb	IAmb	08 40 58.6	
	comp=Z,18nm,1.1s						
WB0	**Warramunga Arr**	**49.84**	**81**	P	**P**	**08 40 40.3**	**+0.5**
WB0				IAmb	IAmb	08 40 56.3	
	comp=Z,9.9nm,1.2s						
SRIT	**Nakonsritamara**	**52.40**	**23**	P	**P**	**08 40 59.5**	**+0.7**
BELA	**Belgrano 2**	**55.11**	**193**	P	**P**	**08 41 19.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**61.62**	**19**	P	**P**	**08 42 03.4**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=207,slow=6.2,SNR=4.8						
CMAR	**Chiang Mai Arr**	**61.62**	**19**	P	**P**	**08 42 03.5**	**-0.6**
CHTO	**Chiang Mai**	**61.96**	**19**	P	**P**	**08 42 06.3**	**-0.1**
CHTO				IAmb	IAmb	08 42 15.7	
	comp=Z,9.0nm,1.4s						
SHL	**Shillong**	**67.17**	**11**	P	**P**	**08 42 39.9**	**-0.7**
RAYN	**Ar Rayn**	**72.35**	**326**	P	**P**	**08 43 11.6**	**-0.7**
KK31	**Karatay Array**	**84.45**	**352**	P	**P**	**08 44 20.5**	**+1.8**
KK31				IAmb	IAmb	08 44 29.3	
	comp=Z,9.1nm,1.3s						
KKAR	**Karatay Array**	**84.45**	**352**	P	**P**	**08 44 19.5**	**+0.8**
KKAR	**Karatay Array**	**84.45**	**352**	P	**P**	**08 44 19.8**	**+1.0**
KKAR				IAmb	IAmb	08 44 29.3	
	comp=Z,9.1nm,1.3s						
MKAR	**Makanchi Array**	**87.61**	**1**	P	**P**	**08 44 32.1**	**-2.2**
	comp=Z,0.7nm,0.9s,baz=184,slow=5.8,SNR=2.1						

IDC 06 08:32:29.1±1.1, **41°.28S**×**80°.55E**, **h0**km, **mb4.0**/6, **mb1 4.2**/6, **mb1mx3.8**/43, **mbtmp4.0**/6, **Error ellipse: s-maj=33.6km s-min=27.2km az=151.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**46.34**	**268**	P	P	08 40 57.5	+0.5
	2.5nm,0.8s,baz=152,slow=15,SNR=3.0						
ASAR	**Alice Springs**	**47.56**	**85**	P	P	08 41 07.0	+0.4
	1.8nm,0.9s,baz=232,slow=6.8,SNR=9.6						
QSPA	**South Pole Qui**	**48.88**	**180**	P	P	08 41 15.9	-0.4
	2.7nm,0.8s,baz=316,slow=1.7,SNR=9.1						
WRA	**Warramunga Arr**	**50.08**	**82**	P	P	08 41 25.7	-0.2
	2.4nm,0.8s,baz=230,slow=7.5,SNR=8.2						
CMAR	**Chiang Mai Arr**	**61.84**	**20**	P	P	08 42 49.4	-0.5
	0.7nm,0.3s,baz=209,slow=7.2,SNR=1.3						
MKAR	**Makanchi Array**	**87.71**	**1**	P	P	08 45 18.9	-0.3
	0.4nm,0.7s,baz=170,slow=6.1,SNR=2.6						

IDC 06 08:41:32.7±5.1, **30°.63N**×**140°.82E**, **h0**km, **mb3.4**/2, **mb1 3.6**/3, **mb1mx3.3**/59, **mbtmp3.3**/3, **ML2.4**/1, **MS3.7**/1, **Ms1 3.7**/1, **ms1mx2.8**/45, **Error ellipse: s-maj=300.8km s-min=34.0km az=80.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.29**	**340**	Pn	Pn	08 43 06.3	-0.4
	0.1nm,0.3s,baz=160,slow=11,SNR=5.0						
USRK	**Ussuriysk Ar.**	**15.24**	**335**	LR	LR	08 49 46.0	
	comp=Z,294nm,19.1s,baz=259,slow=32						
WRA	**Warramunga Arr**	**50.67**	**188**	P	P	08 50 33.6	-0.3
	0.3nm,0.5s,baz=7.0,slow=8.6,SNR=11						
ASAR	**Alice Springs**	**54.39**	**188**	P	P	08 51 01.7	+0.1
	0.2nm,0.4s,baz=2.4,slow=5.3,SNR=4.9						

*IDC **06** 08:45:51.9±1.6, 41°.23S×80°.69E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/51, mbtmp3.8/5, Error ellipse: s-maj=47.4km s-min=31.9km az=98.0*
*NEIC **06** 08:45:53.6±2.0, 41°.21S±0°.09×80°.6E±0°.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=22.2km s-min=13.9km az=288.0*

ISC 06 08:45:53.4±0.6, **41°.27S**±0°.1×**80°.6E**±0°.1, **h11**km, **n23**, σ0**§90**/22, **mb4.5**/11, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AIS	**Amsterdam Isla**	**4.18**	**325**	Pn	**Pn**	**08 46 56.5**	**-0.6**
PAF	**Port-aux-Franc**	**10.88**	**219**	Pn	**Pn**	**08 48 28.8**	**-0.1**
MAW	**Mawson**	**28.10**	**194**	P	**P**	**08 51 43.6**	**-1.2**
MAW				IAmb	IAmb	08 51 52.8	
	comp=Z,8.0nm,1.0s						
ASAR	**Alice Springs**	**47.53**	**85**	P	**P**	**08 54 27.8**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=238,slow=7.3,SNR=7.2						
ASAR	**Alice Springs**	**47.53**	**85**	P	**P**	**08 54 28.2**	**-0.8**
AS31	**Alice Springs**	**47.54**	**85**	P	**P**	**08 54 28.6**	**-0.3**
QSPA	**South Pole Qui**	**48.89**	**180**	P	**P**	**08 54 39.4**	**+0.4**
	comp=Z,2.2nm,1.0s,baz=269,slow=1.5,SNR=5.6						
QSPA	**South Pole Qui**	**48.89**	**180**	IAmb	IAmb	08 54 49.3	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**50.05**	**82**	P	**P**	**08 54 48.5**	**+0.2**
	comp=Z,2.2nm,1.0s,baz=224,slow=9.3,SNR=4.1						
WR0	**Warramunga Arr**	**50.19**	**82**	P	**P**	**08 54 50.2**	**+0.8**
WR0				IAmb	IAmb	08 54 56.4	
	comp=Z,5.3nm,1.0s						
WB0	**Warramunga Arr**	**50.20**	**82**	P	**P**	**08 54 50.6**	**+1.2**
WB0				IAmb	IAmb	08 54 56.9	
	comp=Z,5.9nm,0.9s						
SBUM	**Sibu**	**52.17**	**42**	P	**P**	**08 55 02.9**	**-1.3**
BELA	**Belgrano 2**	**54.94**	**194**	P	**P**	**08 55 24.5**	**+0.7**
BELA				IAmb	IAmb	08 56 56.4	
	comp=Z,17nm,1.8s						
MYLDM	**Lahad Datu**	**57.77**	**46**	P	**P**	**08 55 45.0**	**+0.3**
CTAO	**Charters Tower**	**58.92**	**90**	P	**P**	**08 55 52.2**	**-0.6**
CTAO				IAmb	IAmb	08 56 18.6	
	comp=Z,9.6nm,1.3s						
CMAR	**Chiang Mai Arr**	**61.82**	**20**	P	**P**	**08 56 12.0**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=211,slow=6.8,SNR=6.3						
PMG	**Port Moresby**	**66.27**	**81**	P	**P**	**08 56 42.2**	**+0.3**
KBL	**Kabul**	**76.19**	**350**	P	**P**	**08 57 42.3**	**+0.7**
KK31	**Karatay Array**	**84.48**	**353**	P	**P**	**08 58 27.0**	**+1.1**
KKAR	**Karatay Array**	**84.48**	**353**	P	**P**	**08 58 27.0**	**+1.1**
KKAR	**Karatay Array**	**84.48**	**353**	P	**P**	**08 58 27.6**	**+1.8**
KKAR				IAmb	IAmb	08 58 34.2	
	comp=Z,2.9nm,1.1s						
MKAR	**Makanchi Array**	**87.70**	**1**	P	**P**	**08 58 41.8**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=182,slow=4.3,SNR=2.5						
PAX	**Paxson**	**145.44**	**35**	PKPbc	**PKPdf**	**09 05 30.9**	**+0.4**

*IDC **06** 08:47:36.4±1.8, 41°.05S×80°.93E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/51, mbtmp3.7/4, Error ellipse: s-maj=66.4km s-min=36.0km az=97.0*
*NEIC **06** 08:47:39.5±1.9, 41°.2S±0°.1×80°.4E±0°.2, h10km±1km, mb4.7/18, Error ellipse: s-maj=20.9km s-min=17.0km az=306.0*

ISC 06 08:47:39.2±0.5, **41°.10S**±0°.09×**80°.4E**±0°.1, **h11**km, **n25**, σ1**§10**/24, **mb4.5**/13, **1D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAF	**Port-aux-Franc**	**10.93**	**218**	Pn	**Pn**	**08 50 15.4**	**0.0**
CRZF	**Crozet Islands**	**21.22**	**246**	P	**P**	**08 52 25.4**	**+0.5**
CRZF				IAmb	IAmb	08 52 48.3	
	comp=Z,36nm,0.8s						
RER	**Riviere de l'E**	**28.82**	**306**	P	**P**	**08 53 37.4**	**-0.2**
CASY	**Casey**	**30.31**	**156**	P	**P**	**08 53 48.0**	**-2.2**
CASY				IAmb	IAmb	08 53 56.1	
	comp=Z,27nm,1.0s						
SYO	**Syowa Base**	**35.21**	**204**	iePP	**P**	**08 54 34.0**	**+1.0**
ASAR	**Alice Springs**	**47.67**	**86**	P	**P**	**08 56 16.7**	**+0.9**
AS31	**Alice Springs**	**47.67**	**86**	P	**P**	**08 56 16.5**	**+0.7**
KNRA	**Kununurra**	**48.74**	**73**	P	**P**	**08 56 24.9**	**+0.9**
QSPA	**South Pole Qui**	**49.06**	**180**	P	**P**	**08 56 25.4**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=310,slow=3.8,SNR=1.5						
QSPA	**South Pole Qui**	**49.06**	**180**	P	**P**	**08 56 25.2**	**-0.9**
QSPA				IAmb	IAmb	08 56 32.2	
	comp=Z,2.9nm,1.1s						
TOO	**Toolangi**	**49.42**	**108**	P	**P**	**08 56 29.2**	**+0.1**
TOO				IAmb	IAmb	08 56 58.1	
	comp=Z,12nm,1.1s						
SNAA	**Sanae**	**49.50**	**204**	P	**P**	**08 56 30.2**	**+0.9**
SNAA				IAmb	IAmb	08 56 47.7	
	comp=Z,4.6nm,1.1s						
KULM	**Kulim**	**49.76**	**27**	P	**P**	**08 56 32.0**	**+0.3**
KULM				IAmb	IAmb	08 56 55.6	
	comp=Z,8.4nm,1.1s						
WRA	**Warramunga Arr**	**50.17**	**82**	P	P	08 56 30.4	-4.6
	comp=Z,0.7nm,1.0s,baz=232,slow=8.2,SNR=1.9						
WB0	**Warramunga Arr**	**50.32**	**82**	P	**P**	**08 56 36.4**	**+0.3**
EIDS	**Eidsvold**	**59.66**	**98**	P	**P**	**08 57 44.1**	**+0.5**
COEN	**Coen**	**60.49**	**83**	P	**P**	**08 57 50.4**	**+1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
COEN				IAmb	IAmb	08 58 15.8	
	comp=Z,3.5nm,1.1s						
CMAR	Chiang Mai Arr	61.71	20	P	P	08 57 56.0	-1.5
	comp=Z,1.1nm,0.4s,baz=210,slow=7.0,SNR=0.9						
MANU	Manus Island	71.42	76	P	P	08 58 59.3	-0.4
MANU				IAmb	IAmb	08 59 18.3	
	comp=Z,11nm,0.9s						
RAYN	Ar Rayn	72.00	326	P	P	08 59 03.2	+0.2
NIL	Nilore	74.68	354	P	P	08 59 19.6	+1.0
NIL				IAmb	IAmb	08 59 45.9	
	comp=Z,5.6nm,1.0s						
NACB	Ninganchiao	75.37	38	P	P	08 59 24.9	+2.2
TATO	Taipei	76.00	38	P	P	08 59 25.3	-1.0
MKAR	Makanchi Array	87.53	1	P	P	09 00 24.4	-2.2
	comp=Z,0.2nm,0.8s,baz=181,slow=5.8,SNR=1.9						
JHS	Saijyo	89.89	41	P	P	09 00 38.0	-0.1
JHS				IAmb	IAmb	09 00 58.0	
	comp=Z,6.0nm,1.0s						

*ANF **06** 08:48:42.4±0.3, 58°.96N×136°.93W, h0km, ML4.1/12, Error ellipse: s-maj=3.9km s-min=3.0km az=34.0, Hypocentre not reviewed by the ISC*

*NEIC **06** 08:48:42.6±1.3, 58°.96N±0°.04×136°.92W±0°.05, h3km±6km, Error ellipse: s-maj=5.3km s-min=3.6km az=180.0*

*IDC **06** 08:48:42.5±1.2, 59°.06N×136°.95W, h0km, mb3.0/2, mb1 3.6/7, mb1mx3.3/58, mbtmp3.4/7, ML3.6/5, Error ellipse: s-maj=20.2km s-min=9.1km az=26.0*

*AEIC **06** 08:48:43±1.5, 59°.01N±0°.04×136°.90W±0°.07, h11km±5km, Error ellipse: s-maj=5.3km s-min=5.1km az=121.0*

*PGC **06** 08:48:43.8, 59°.00N×136°.96W, h1km, ML3.7/7, 99km west of Haines, Ak Southeastern Alaska*

ISC 06 08:48:42.9±0.7**, 58°.91N**±0°.03×**136°.92W**±0°.03**, h10**km**, n118, σ1s.35**/142**, mb3.6**/3**, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLBC	Pleasant Camp	0.62	27	P	Pg	08 48 53.7	-1.1
PLBC				S	Sg	08 49 00.7	-2.3
PLBC	Pleasant Camp	0.62	27		Pg	08 48 53.7	-1.1
SKAG	Skagway	0.98	55		Pg	08 49 01.0	-0.8
SKAG				Sg	Sg	08 49 13.3	-1.4
SKAG				IAML		08 49 13.6	
	comp=N,3μm,0.4s						
SKAG				IAML		08 49 13.8	
	comp=E,3μm,0.7s						
SKAG	Skagway	0.98	55	P		08 49 01.0	
	baz=243,SNR=374						
SKAG				S		08 49 13.1	
	baz=243						
BESE	Bessie Mountai	1.12	106	P	Pb	08 49 04.6	0.0
BESE				S	Sn	08 49 20.6	+0.3
BESE	Bessie Mountai	1.12	106		Pb	08 49 04.5	0.0
JIS	Juneau Island	1.47	115		Pn	08 49 10.1	+0.7
JIS				Sn	Sg	08 49 30.8	+0.6
PNL	Peninsula	1.48	302	P	Pn	08 49 08.4	-1.3
PNL				S	Sn	08 49 27.6	-1.5
PNL	Peninsula	1.48	302		Pn	08 49 08.4	-1.3
YKU2	Yakutat	1.54	294		Pn	08 49 10.6	+0.3
YKU2				Sg	Sg	08 49 31.9	-0.5
BCPM	Bancas Point	1.74	308		Pn	08 49 12.7	-0.4
BCPM				IAML		08 49 39.4	
	comp=E,2μm,0.3s						
WHY	Whitehorse	2.03	30	Pn	Pn	08 49 16.9	-0.5
WHY				Sn	Sn	08 49 43.7	+0.9
WHY	Whitehorse	2.03	30		Pn	08 49 17.1	-0.3
SIT	Sitka	2.04	155		Pb	08 49 20.1	0.0
SIT				IAML		08 49 52.8	
	comp=E,792nm,0.6s						
SIT				IAML		08 49 54.9	
	comp=N,856nm,0.9s						
SIT	Sitka	2.04	155	P		08 49 18.9	
	baz=339,SNR=44						
SIT				Sb		08 49 50.2	
	baz=339						
PINM	Pinnacle	2.08	306	P		08 49 17.5	
	baz=120,SNR=102						
PINM				S		08 49 43.6	
	baz=120						
PCA	Pinnacle	2.08	306	Pn	Pn	08 49 17.5	-0.4
PCA				Sn	Sn	08 49 44.0	+0.2
PCA	Pinnacle	2.08	306		Pn	08 49 17.4	-0.4
SAMH	Samovar Hills	2.32	303	Pn	Pn	08 49 21.1	-0.1
SAMH				Sn	Sn	08 49 50.5	+0.8
SAMH	Samovar Hills	2.32	303		Pn	08 49 21.5	+0.3
CHX	Chaix Hills	2.43	300		Pn	08 49 22.9	+0.1
TABL	Table Mountain	2.64	307	Pn	Pn	08 49 25.7	0.0
TABL				Sn	Sn	08 49 58.0	+0.3
TABL	Table Mountain	2.64	307		Pn	08 49 25.7	0.0
TABL				IAML		08 50 11.1	
	comp=E,430nm,0.7s						
TABL				IAML		08 50 13.8	
	comp=N,545nm,0.8s						
LOGN	Logan Glacier	2.82	315	Pn	Pn	08 49 27.8	-0.3
LOGN				Sn	Sn	08 50 02.2	0.0
LOGN	Logan Glacier	2.82	315		Pn	08 49 28.6	+0.5
YAH	Yahtse	2.85	303		Pn	08 49 28.6	0.0
YAH				IAML		08 50 09.6	
	comp=E,321nm,0.6s						
CTGM	Chitina Glacie	3.03	315	Pn	Pn	08 49 30.9	-0.1
CTGM	Chitina Glacie	3.03	315		Pn	08 49 31.9	+0.9
CTGM				IAML		08 50 19.6	
	comp=N,318nm,0.7s						
CTG	Chitna Glacier	3.03	315	P		08 49 31.2	
	baz=129,SNR=47						
CTG				S		08 50 08.2	
	baz=129						
GRNC	Granite Creek	3.05	309	Pn	Pn	08 49 31.4	+0.1
GRNC				Sn	Sn	08 50 08.2	+0.2
GRNC	Granite Creek	3.05	309		Pn	08 49 31.5	+0.1
CYK	Cape Yakataga	3.07	295		Pn	08 49 31.6	+0.2
KULT	Kultieth River	3.24	297		Pn	08 49 33.5	-0.4
YUK3	Moose Creek	3.37	330	Pn	Pn	08 49 35.7	-0.1
YUK3				Sg	Sb	08 50 25.3	+1.4
YUK3	Moose Creek	3.37	330		Pn	08 49 35.8	0.0
BGLC	Bering Glacier	3.46	293		Pn	08 49 37.1	+0.3
YUK2	White River	3.48	328	Pn	Pn	08 49 37.8	+0.6
YUK2				Sg	Sb	08 50 29.2	+2.2
YUK2	White River	3.48	328		Pn	08 49 37.3	+0.1
WRAK	Wrangell Islan	3.50	134		Pn	08 49 38.4	+1.0
WRAK	Wrangell Islan	3.50	134	P		08 49 38.4	
	baz=319,SNR=8.6						
TGL	Tana Glacier	3.51	304		Pn	08 49 37.6	0.0
GRIN	Grindle Hills	3.53	296		Pn	08 49 38.3	+0.5
KHIT	Khitrov Hills	3.56	298		Pn	08 49 38.3	+0.1
PTPK	Patty Peak	3.60	312	Pn	Pn	08 49 40.3	+1.4
PTPK	Patty Peak	3.60	312		Pn	08 49 40.0	+1.1
CRQE	Cirque	3.62	303	P		08 49 39.1	
	baz=116,SNR=25						
CRQE				S		08 50 23.6	
	baz=116						
DLBC	Dease Lake	3.63	95	Pn	Pn	08 49 40.0	+0.7
	comp=N,7.4nm,0.3s,baz=276,slow=9.2,SNR=117						
DLBC				Pg	Pb	08 49 47.5	+0.4
	comp=N,32nm,0.3s,baz=282,slow=14,SNR=39						
DLBC				Lg	Lg	08 50 37.7	
	comp=N,39nm,0.3s,baz=19,slow=26,SNR=6.2						
DLBC	Dease Lake	3.63	95	Pn	Pn	08 49 39.9	+0.7
DLBC				Pg	Pg	08 49 50.3	-2.1
DLBC				Sg	Sg	08 50 37.1	-2.2
DLBC	Dease Lake	3.63	95		Pn	08 49 40.0	+0.7
DLBC				IAML		08 50 41.4	
	comp=E,208nm,0.5s						
DLBC				IAML		08 50 48.2	
	comp=N,242nm,0.5s						
CRQM	Cirque	3.65	303		Pn	08 49 39.8	+0.3
CRQM				IAML		08 50 38.7	
	comp=E,198nm,0.6s						
CRQM				IAML		08 50 50.0	
	comp=N,247nm,0.8s						
SUCK	Suckling Hills	3.69	291		Pn	08 49 41.0	+1.1
BERG	Berg Lake	3.75	296		Pn	08 49 40.8	0.0
NICHA	Nichawak Mount	3.83	293		Pn	08 49 42.5	+0.7
MCARA	McCarthy VSAT	3.93	312		Pn	08 49 43.7	+0.4
MCARA				IAML		08 50 55.4	
	comp=E,234nm,1.2s						
MCARA				IAML		08 50 55.9	
	comp=N,245nm,1.2s						
MCARA	McCarthy VSAT	3.93	312	P		08 49 43.3	
	baz=125,SNR=25						
KAIM	Kayak Island	3.97	288		Pn	08 49 43.5	-0.2
KAIM	Kayak Island	3.97	288	P		08 49 44.1	
	baz=100						
KAIM				S		08 50 31.7	
	baz=100						
HMT	Hamilton	3.99	294		Pn	08 49 44.1	-0.1
HMT				IAML		08 50 59.8	
	comp=N,247nm,0.7s						
BVCY	Beaver Creek	4.01	333	Pn	Pn	08 49 44.3	-0.1
BVCY				Pg	Pb	08 49 53.9	+0.3
BVCY				Sg	Sb	08 50 45.0	+2.8
BVCY	Beaver Creek	4.01	333		Pn	08 49 44.2	-0.3
CRAG	Craig	4.02	148	Pn	Pn	08 49 47.0	+2.5
CRAG				IAML		08 51 04.1	
	comp=N,149nm,1.1s						
CRAG				IAML		08 51 06.6	
	comp=E,141nm,0.7s						
RAGM	Ragged Mountai	4.21	294		Pn	08 49 46.9	-0.1
GOAT	Goat Mountain	4.29	296		Pn	08 49 48.0	-0.3
BMRM	Bremner River	4.38	301		Pn	08 49 50.1	+0.6
BMRM	Bremner River	4.38	301	P		08 49 50.1	
	baz=113						
BMRM				S		08 50 40.6	
	baz=113						
N25K	Chitina, Valde	4.68	309		Pn	08 49 54.4	+0.8
N25K	Chitina, Valde	4.68	309	P		08 49 54.0	
	baz=120						
N25K				S		08 50 49.4	
	baz=120						
EYAK	Cordova Ski Ar	4.76	294		Pn	08 49 54.3	-0.3
EYAK	Cordova Ski Ar	4.76	294	P		08 49 54.1	
	baz=105						
BC03		4.79	332		Pn	08 49 54.6	-0.5
BCAR	Beaver Creek A	4.79	332	Pn	Pn	08 49 54.4	-0.8
MID	Middleton Isla	4.88	280		Pn	08 49 56.5	+0.3
MID	Middleton Isla	4.88	280	IAML		08 51 22.4	
	comp=E,90nm,1.7s						
MID				IAML		08 51 48.6	
	comp=N,81nm,2.3s						
Q23K	Middleton Isla	4.88	280		Pn	08 49 56.4	+0.2
Q23K	Middleton Isla	4.88	280	IAML		08 51 09.5	
	comp=E,84nm,1.4s						
Q23K				IAML		08 51 22.4	
	comp=N,97nm,1.8s						
DIV	Divide	4.97	300	Pn	Pn	08 49 57.7	+0.1
DIV	Divide	4.97	300		Pn	08 49 57.7	+0.1
HIN	Hinchinbrook I	5.08	291	Pn	Pn	08 49 58.8	-0.3
HIN				IAML		08 51 32.3	
	comp=N,61nm,0.8s						
HIN				IAML		08 51 38.1	
	comp=E,74nm,0.9s						
FID	Port Fidalgo	5.16	295		Pn	08 50 01.6	+1.4
KLU	Klutina	5.18	304	S		08 51 01.9	
	baz=114						
MENT	Mentasta	5.23	323		Pn	08 50 00.7	-0.3
MENT				IAML		08 51 57.4	
	comp=N,66nm,1.2s						
MENT				IAML		08 52 00.2	
	comp=E,61nm,0.9s						
DAWY	Dawson	5.31	348	Pn	Pn	08 50 02.1	-0.1
DAWY				Sn	Sn	08 51 00.4	-3.0
DAWY				Sg	Sb	08 51 25.0	+5.7
DAWY	Dawson	5.31	348		Pn	08 50 01.0	-1.2
DAWY				IAML		08 51 33.6	
	comp=E,90nm,0.8s						
GLI	Glacier Island	5.49	295		Pn	08 50 05.1	+0.4
GLI	Glacier Island	5.49	295	P		08 50 04.8	
	baz=105						
K27K	Chicken	5.70	336		Pn	08 50 06.5	-1.0
K27K	Chicken	5.70	336	P		08 50 07.4	
	baz=151						
K27K				Sb		08 51 35.0	
	baz=151						
DOT	Dot Lake	5.87	327	Pn	Pn	08 50 09.9	0.0
DOT				Sg	Sg	08 51 44.3	-6.8
DOT	Dot Lake	5.87	327		Pn	08 50 10.1	+0.3
RUBB	Prince Rupert	5.89	138	Pn	Pn	08 50 12.2	+2.1
RUBB				Sg	Sg	08 51 49.9	-1.8
PWL	Port Wells	6.07	294		Pn	08 50 12.8	+0.2
SCRK	Sand Creek	6.11	329		Pn	08 50 12.6	-0.6
SCRK	Sand Creek	6.11	329	P		08 50 12.8	
	baz=142						
EGAK	Eagle	6.22	343		Pn	08 50 15.3	+0.6
EGAK	Eagle	6.22	343	P		08 50 14.9	
	baz=159,SNR=85						
DIB	Dawson Inlet,	6.24	155	Pn	Pn	08 50 17.3	+2.4
GRNB	Grenville Isla	6.38	140	Pn	Pn	08 50 19.7	+2.9
GRNB				Sg	Sg	08 52 05.2	-2.2
SEW	Seward	6.49	286	Pn	Pn	08 50 18.1	-0.3
SEW	Seward	6.49	286	P		08 50 17.8	
	baz=94						
GHO	Glory Hole Cre	6.61	301		Pn	08 50 21.5	+1.3
PMR	Palmer	6.65	299		Pn	08 50 22.2	+1.8
KITB	Kitimat	6.67	133	Pn	Pn	08 50 23.6	+2.8
KITB				Sg	Sg	08 52 12.6	-4.1
O22K	Cooper Landing	6.67	289	Pn	Pn	08 50 20.3	-0.6
O22K	Cooper Landing	6.67	289	P		08 50 20.3	
	baz=97						
SLKM	Skilak Lake	6.92	289		Pn	08 50 23.6	-0.7
BRSE	Bradley Lake S	7.12	283		Pn	08 50 27.7	+0.6
BRSE	Bradley Lake S	7.12	283	P		08 50 27.7	
	baz=90						
BRLK	Bradley Lake	7.20	283	Pn	Pn	08 50 29.0	+0.9
RND	Reindeer	7.32	313	Pn	Pn	08 50 30.5	+0.7
SUA	Susitna One	7.35	296	P		08 50 30.9	
	baz=103						
CNPM	China Poot	7.38	281	Pn	Pn	08 50 31.6	+1.1
ILAR	Eielson Array	7.53	326	Pn	Pn	08 50 30.7	-1.9
	comp=E,0.2nm,0.3s,baz=143,slow=13,SNR=8.2						
ILAR				Lg	Lg	08 52 37.6	
	comp=E,0.7nm,0.3s,baz=129,slow=27,SNR=8.0						
NBC5	NorthernBC 5	7.65	94	Pn	Pn	08 50 35.4	+1.0
STLK	Strandline Lak	7.87	296		Pn	08 50 38.0	+0.6
SPCP	Crater Peak Br	7.97	294		Pn	08 50 38.1	-0.7
NBC6	NorthernBC 6	8.11	86	Pn	Pn	08 50 41.9	+1.3
DFR	Drift River	8.14	289		Pn	08 50 41.4	+0.3
RSO	Redoubt South	8.16	288		Pn	08 50 42.1	+0.7
KTH	Kantishna Hill	8.20	311		Pn	08 50 42.8	+1.0
NCT	North Crescent	8.26	288		Pn	08 50 42.7	0.0
IVE	Iliamna Volcan	8.27	285		Pn	08 50 43.0	0.0
KDAK	Kodiak Island	8.32	269	Pn	Pn	08 50 43.0	-0.4
	comp=E,1.8nm,0.3s,baz=62,slow=8.7,SNR=22						
KDAK				Sn	Sn	08 52 14.9	-2.5
	comp=E,0.4nm,0.3s,baz=310,slow=19,SNR=1.4						
KDAK	Kodiak Island	8.32	269		Pn	08 50 43.2	-0.2
OHAK	Old Harbor	8.84	266		Pn	08 50 50.6	0.0
OHAK	Old Harbor	8.84	266	P		08 50 50.0	
	baz=71						
BM03	Burnt Mountain	9.21	341		Pn	08 50 56.1	+0.5
BMAR	Burnt Mountain	9.21	341	Pn	Pn	08 50 56.0	+0.2
INK	Inuvik	9.55	8	Pn	Pn	08 50 59.1	-1.2
	comp=E,0.2nm,0.3s,baz=183,slow=7.6,SNR=10						
INK				Lg	Lg	08 53 37.3	
	comp=E,0.4nm,0.3s,baz=112,slow=27,SNR=3.3						
INK	Inuvik	9.55	8	Pn	Pn	08 50 59.2	-1.0
INK	Inuvik	9.55	8		Pn	08 50 58.8	-1.5
SVW2	Sparrevohn	9.60	291		Pn	08 51 00.9	-0.1
TT01	Tatalina	10.11	301		Pn	08 51 07.2	-0.8
IM03		10.51	319		Pn	08 51 12.1	-1.2
TOLK	Toolik Lake Re	11.22	336	Pn	Pn	08 51 24.9	+1.7
TOLK	Toolik Lake Re	11.22	336	P		08 51 25.4	
	baz=144,SNR=8.1						
YKA	Yellowknife Ar	11.48	62	Pn	Pn	08 51 25.6	-1.0
	comp=E,0.3nm,0.3s,baz=261,slow=11,SNR=8.8						
YKA				Lg	Lg	08 54 41.6	
	comp=E,0.2nm,0.3s,baz=261,slow=30,SNR=12						
RES	Resolute Bay	22.10	28	P	P	08 53 38.4	+0.6
	comp=E,1.3nm,0.7s,baz=244,slow=16,SNR=6.7						
RES	Resolute Bay	22.10	28	P	P	08 53 38.2	+0.5
RES				IAmb	IAmb	08 53 50.8	
	comp=Z,3.3nm,1.1s						
PDAR	Pinedale Array	23.41	122	P	P	08 53 55.5	+3.5
	comp=Z,0.1nm,0.4s,baz=324,slow=10,SNR=2.1						
EUNU	Eureka	25.95	18	P	P	08 54 15.0	0.0
EUNU				IAmb	IAmb	08 54 20.1	
	comp=Z,3.5nm,1.2s						

*IDC **06** 08:50:40.4±1.1, 40°.96S×80°.87E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/51, mbtmp3.9/6, MS4.5/2, Ms1 4.4/2, ms1mx3.8/38, Error ellipse: s-maj=35.5km s-min=33.8km az=175.0*

*NEIC **06** 08:50:41.8±1.9, 41°.18S±0°.06×81°.0E±0°.1, h10km±1km, mb4.6/20, Error ellipse: s-maj=17.4km s-min=6.0km az=124.0*

ISC 06 08:50:42.0±0.5**, 41°.16S**±0°.09×**80°.92E**±0°.09**, h10**km**, n33, σ1s.12**/31**, mb4.5**/15**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AIS	Amsterdam Isla	4.24	321	Pn	Pn	08 51 49.0	+2.4
PAF	Port-aux-Franc	11.13	219	Pn	Pn	08 53 21.1	+0.1
CRZF	Crozet Islands	21.56	246	P	P	08 55 30.3	-1.1
MAW	Mawson	28.28	195	LR	LR	09 04 35.4	
	comp=Z,428nm,20.0s,baz=56,slow=29						
MAW	Mawson	28.28	195	P	P	08 56 35.4	+0.4
NWAO	Narrogin (SRO)	29.96	86	P	P	08 56 53.0	+2.6
FORT	Forrest	39.11	90	P	P	08 58 08.6	-0.9
FORT				IAmb	IAmb	08 58 14.7	
	comp=Z,12nm,1.0s						
CISI	Cisompet, Garu	41.12	43	P	P	08 58 27.0	+0.6
ASAR	Alice Springs	47.27	85	P	P	08 59 16.4	+0.8
	comp=Z,0.8nm,0.9s,baz=231,slow=7.0,SNR=5.8						
ASAR	Alice Springs	47.27	85	P	P	08 59 14.5	-1.1
AS31	Alice Springs	47.27	85	P	P	08 59 15.0	-0.6
QSPA	South Pole Qui	49.00	180	P	P	08 59 29.0	+0.4
	comp=Z,2.7nm,1.1s,baz=252,slow=5.6,SNR=3.0						
KULM	Kulim	49.63	26	P	P	08 59 33.7	0.0
KULM				IAmb	IAmb	09 00 00.7	
	comp=Z,5.1nm,0.8s						
WRA	Warramunga Arr	49.79	82	P	P	08 59 34.8	-0.2
	comp=Z,0.5nm,0.8s,baz=215,slow=8.6,SNR=2.6						
WR0	Warramunga Arr	49.93	82	P	P	08 59 35.6	-0.4
WB0	Warramunga Arr	49.93	81	P	P	08 59 34.8	-1.3
WB0				IAmb	IAmb	08 59 55.6	
	comp=Z,6.0nm,1.1s						
TSUM	Tsumeb	57.69	272	P	P	09 00 32.5	-0.5
CTAO	Charters Tower	58.66	90	P	P	09 00 39.2	-0.5
CTAO				IAmb	IAmb	09 00 46.3	
	comp=Z,6.7nm,1.1s						
UBPT	Khong Chiam	60.58	27	P	P	09 00 52.5	-0.2
UBPT				IAmb	IAmb	09 01 17.2	
	comp=Z,3.9nm,1.0s						
CMAR	Chiang Mai Arr	61.62	19	P	P	09 00 57.8	-2.0
	comp=Z,1.1nm,0.4s,baz=201,slow=6.6,SNR=1.6						
CMAR	Chiang Mai Arr	61.62	19	P	P	09 00 59.4	-0.4
OXZ	Oxford	64.06	126	P	P	09 01 15.8	-0.1
HOPE	Hope Point	70.90	213	P	P	09 01 59.6	+0.7
KBL	Kabul	76.11	350	P	P	09 02 29.2	-0.7
KBL				IAmb	IAmb	09 02 43.2	
	comp=Z,10nm,1.1s						
KK31	Karatay Array	84.40	352	P	P	09 03 14.8	+0.6
KK31				IAmb	IAmb	09 03 21.6	
	comp=Z,3.1nm,1.0s						
KKAR	Karatay Array	84.40	352	P	P	09 03 14.8	+0.6
KKAR				IAmb	IAmb	09 03 21.6	
	comp=Z,3.1nm,1.0s						
MKAR	Makanchi Array	87.58	1	P	P	09 03 26.9	-2.8
	comp=Z,0.3nm,0.6s,baz=179,slow=5.8,SNR=2.4						
MAKZ	Makanchi	87.59	1	P	P	09 03 29.4	-0.4
MAKZ				IAmb	IAmb	09 03 51.6	
	comp=Z,5.1nm,1.1s						
TORD	Torodi Ar. Bea	90.61	287	P	P	09 03 45.1	+0.3
	comp=Z,2.5nm,1.1s,baz=140,slow=7.5,SNR=5.9						
TORD	Torodi Ar. Bea	90.61	287	P	P	09 03 44.6	-0.2
BELG	Belogornoye	97.54	340	LR	LR	09 46 37.3	
	comp=Z,466nm,19.3s,baz=76,slow=34						
RES	Resolute Bay	146.32	358	PKPbc	PKPab	09 10 21.6	-0.8
	comp=Z,1.4nm,0.8s,baz=2.7,slow=8.2,SNR=5.2						
INK	Inuvik	147.15	23	PKPbc	PKPbc	09 10 23.3	-0.7
	comp=Z,0.7nm,0.8s,baz=21,slow=2.5,SNR=1.6						

*IDC **06** 08:58:37.5±1.2, 7°.99S×125°.68E, h0km, mb4.1/4, mb1 4.2/9, mb1mx3.8/51, mbtmp4.1/9, ML4.0/5, MS4.4/1, Ms1 4.4/1, ms1mx3.5/37, Error ellipse: s-maj=32.5km s-min=19.7km az=83.0*

*NEIC **06** 08:58:40.4±2.1, 8°.02S±0°.02×125°.92E±0°.06, h30km±7km, mb4.5/12, Error ellipse: s-maj=9.4km s-min=2.4km az=85.0*

ISC 06 08:58:40.8±0.5**, 8°.07S**±0°.05×**125°.82E**±0°.06**, h35**km**, n41, σ1s.58**/45**, mb4.4**/9**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	2.27	222		Pn	08 59 17.8	+1.9
BATI	Baumata	3.01	225	Pn	Pn	08 59 27.8	+1.8
	13nm,0.3s,baz=90,slow=5.1,SNR=4.5						
BATI				Sn	Sn	09 00 02.8	+1.9
	31nm,0.3s,baz=321,slow=20,SNR=10						
MMRI	Maumere	3.59	261	Pn	Pn	08 59 36.1	+2.1
SAUI	Saumlaki	5.42	89	Pn	Pn	08 59 56.7	-2.5
KAPI	Kappang	6.75	296	Pn	Pn	09 00 16.4	-1.0
	2.0nm,0.3s,baz=304,slow=9.5,SNR=4.7						
KAPI				Sn	Sn	09 01 30.5	-2.7
	1.5nm,0.3s,baz=230,slow=19,SNR=2.2						
KAPI	Kappang	6.75	296		Pn	09 00 16.7	-0.7
LUWI	Luwuk	7.61	336	Pn	Pn	09 00 30.1	+0.9
KNRA	Kununurra	8.09	159	Pn	Pn	09 00 37.3	+1.5
FITZ	Fitzroy Crossi	9.97	181	Pn	Pn	09 01 02.6	+1.0
	1.5nm,0.3s,baz=5.3,slow=12,SNR=26						
FITZ				Sn	Sn	09 02 48.1	-4.3
	3.3nm,0.3s,baz=88,slow=13,SNR=12						
FITZ	Fitzroy Crossi	9.97	181	Pn	Pn	09 01 02.0	+0.4
TOLI2	Tolitoli	10.41	331	Pn	Pn	09 01 08.7	+1.0
WB0	Warramunga Arr	14.29	145	Pn	Pn	09 02 02.5	+1.8
WRAB	Tennant Creek	14.40	146	Pn	Pn	09 02 04.2	+2.0
WRA	Warramunga Arr	14.40	146	Pn	Pn	09 02 03.7	+1.4
	0.7nm,0.3s,baz=320,slow=13,SNR=39						
WRA				Sn	Sn	09 04 39.2	-1.7
	1.3nm,0.3s,baz=325,slow=25,SNR=12						
WB2	Warramunga Arr	14.41	146		Pn	09 02 02.3	0.0
WR0	Warramunga Arr	14.53	145	P	Pn	09 02 05.4	+1.5
PSA00	Pilbara Seismi	14.61	203	Pn	Pn	09 02 06.7	+1.6
AS31	Alice Springs	17.34	154		P	09 02 42.2	+0.9
ASAR	Alice Springs	17.34	154	P	P	09 02 42.8	+1.5
	0.4nm,0.3s,baz=319,slow=11,SNR=35						
ASAR				S	Sn	09 05 49.0	-3.3
	0.3nm,0.3s,baz=312,slow=20,SNR=8.5						
ASAR	Alice Springs	17.34	154	P	P	09 02 41.9	+0.6
CISI	Cisompet, Garu	17.85	270	P	Pn	09 02 45.5	-1.1
CISI				IAmb	IAmb	09 03 12.5	
	comp=Z,87nm,1.5s						
MYKOM	Kota Tinggi	24.00	293	P	P	09 03 50.2	-2.2
MYKOM				IAmb	IAmb	09 03 59.7	
	comp=Z,14nm,1.2s						
GUMO	Guam	28.64	41	P	P	09 04 33.3	-1.0
RPSI	Rantau Prapat	28.88	291	P	P	09 04 36.7	+0.2
RPSI				IAmb	IAmb	09 04 48.7	
	comp=Z,7.8nm,0.9s						
EIDS	Eidsvold	29.59	129	P	P	09 04 42.6	-0.1
EIDS				IAmb	IAmb	09 05 04.8	
	comp=Z,11nm,1.3s						
CMAR	Chiang Mai Arr	37.39	315	P	P	09 05 50.6	0.0
	comp=Z,2.5nm,0.3s,baz=142,slow=7.1,SNR=6.0						
CHTO	Chiang Mai	37.63	315	P	P	09 05 51.7	-0.9
ENH	Enshi	41.22	338	P	P	09 06 22.3	-0.1
ENH				IAmb	IAmb	09 06 38.2	
	comp=Z,22nm,1.5s						
KWAJ	Kwajalein Atol	44.88	69	P	P	09 06 53.0	+0.7
MSVF	Nonsavu	51.66	106	LR	LR	09 26 33.3	
	comp=Z,398nm,20.9s,baz=245,slow=32						
USRK	Ussuriysk Ar.	52.32	6	P	P	09 07 51.7	+2.7
	comp=Z,0.7nm,0.6s,baz=173,slow=3.5,SNR=3.1						
PETK	Petropavlovsk-	66.69	20	P	P	09 09 27.0	-1.0
MK31	Makanchi Array	66.92	329	P	P	09 09 30.0	+0.4
MK31				IAmb	IAmb	09 09 31.6	
	comp=Z,2.1nm,0.8s						
MKAR	Makanchi Array	66.92	329	P	P	09 09 30.9	+1.3
	comp=Z,1.5nm,0.6s,baz=133,slow=7.6,SNR=13						
MKAR	Makanchi Array	66.92	329	P	P	09 09 29.1	-0.6
MAKZ	Makanchi	67.09	329	P	P	09 09 31.5	+0.8
ZAA0	Zalesovo Array	70.78	336	P	P	09 09 53.0	-0.4
ZALV	Zalesovo Beam	70.78	336	P	P	09 09 53.4	0.0
KURBB	Kurchatov Arra	71.32	330	P	P	09 09 57.5	+0.7
	comp=Z,1.1nm,0.6s,baz=138,slow=5.3,SNR=7.3						
KURK	Kurchatov	71.33	331	P	P	09 09 57.5	+0.6
ABKAR	Akbulak array	80.80	323	P	P	09 10 51.2	+0.4

IDC 06 08:59:22.1±3.3**, 54°.64N**×**86°.41E, h0**km**, mb1 2.6**/2**, mb1mx2.6**/63**, mbtmp2.6**/2**, ML2.3**/2**, Error ellipse: s-maj=25.2km s-min=15.2km az=50.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.16	234	*i*		09 05 40.0	
	baz=53,slow=326,SNR=6.4						
ZALV	Zalesovo Beam	1.16	234	Pg	Pg	08 59 42.9	-1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.4nm,0.3s,baz=57,slow=17,SNR=8.6						
ZALV				Lg	Lg	08 59 59.6	
	1.2nm,0.3s,baz=52,slow=28,SNR=12						
KURBB	**Kurchatov Arra**	**6.26**	**233**	Pn	Pn	09 00 56.4	+0.8
	0.0nm,0.3s,baz=51,slow=14,SNR=5.6						
KURBB				Lg	Lg	09 02 42.2	
	0.0nm,0.3s,baz=55,slow=31,SNR=7.6						
MKAR	**Makanchi Array**	**8.28**	**200**	Pn	Pn	09 01 23.9	+0.6
	0.1nm,0.3s,baz=22,slow=13,SNR=4.0						
MKAR				Sn	Sn	09 02 58.6	+1.1
	0.1nm,0.3s,baz=23,slow=30,SNR=5.5						
MKAR				Lg	Lg	09 03 42.9	
	0.1nm,0.3s,baz=18,slow=28,SNR=5.3						

IDC 06 09:20:54.5±2.9**, 53°58N×87°89E, h0**km**, mb1 3.6**/2**, mb1mx3.2**/43**, mbtmp3.6**/2**, ML3.2**/2**, Error ellipse: s-maj=26.5km s-min=16.7km az=57.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**283**	*i*		09 31 27.2	
	baz=98,slow=323,SNR=6.0						
ZALV	**Zalesovo Beam**	**1.86**	**283**	Pn	Pn	09 21 26.8	-0.8
	11nm,0.3s,baz=100,slow=17,SNR=85						
ZALV				Lg	Lg	09 21 53.5	
	17nm,0.3s,baz=103,slow=25,SNR=25						
KURBB	**Kurchatov Arra**	**6.48**	**247**	Pn	Pn	09 22 31.6	+0.6
	0.4nm,0.3s,baz=62,slow=14,SNR=6.6						
KURBB				Lg	Lg	09 24 19.8	
	0.1nm,0.3s,baz=65,slow=32,SNR=6.0						
MKAR	**Makanchi Array**	**7.68**	**210**	Pn	Pn	09 22 48.9	+1.3
	0.5nm,0.3s,baz=25,slow=13,SNR=8.9						
MKAR				Lg	Lg	09 24 58.1	
	0.3nm,0.3s,baz=28,slow=31,SNR=6.4						

*UPA **06** 09:30:51.8±0.9, 8°07N×76°98W, h10km±7km, MW4.0*
*RSNC **06** 09:30:53.4±0.9, 8°10N×76°98W, h40km±12km, ML2.4*
ISC 06 09:30:52.9±1.1**, 8°09N**±0°03×**76°96W**±0°03**, h30**km±12km**, n25, σ1§02**/47**, 1C-2D, Near north coast of Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.67**	**324** ⇑	*i*P	**Pb**	**09 31 05.5**	**-0.6**
CAPC				*e*S	**Sb**	**09 31 15.2**	**+0.1**
CAPC				*i*		09 31 16.4	
	comp=Z,363nm,0.4s						
CAP2	**Capurgana**	**0.68**	**324**	*e*P	**Pn**	**09 31 05.6**	**-1.0**
CAP2				*e*S	**Sb**	**09 31 15.6**	**+0.1**
UPD2	**Meteti**	**1.14**	**293**	*e*P	**Pn**	**09 31 12.3**	**-0.6**
UPD2				*e*S	**Sb**	**09 31 28.4**	**-0.2**
UPD2	**Meteti**	**1.14**	**293**	*e*P	**Pn**	**09 31 12.1**	**-0.8**
UPD2				*e*S	**Sn**	**09 31 27.1**	**-0.4**
UPD2				*i*		09 31 31.3	
	comp=Z,182nm,0.3s						
PTAC	**Punta Ardita,**	**1.26**	**222**	*e*P	**Pn**	**09 31 13.3**	**-1.3**
PTAC				*e*S	**Sn**	**09 31 29.2**	**-1.4**
PTAC	**Punta Ardita,**	**1.26**	**222**	*e*P	**Pn**	**09 31 13.3**	**-1.3**
PTAC				*e*S	**Sn**	**09 31 29.2**	**-1.4**
DBBC	**Dabeiba**	**1.30**	**145**	*e*P	**Pn**	**09 31 15.5**	**+0.4**
DBBC				*e*S	**Sb**	**09 31 32.4**	**-0.7**
DBBC	**Dabeiba**	**1.30**	**145**	*e*P	**Pn**	**09 31 15.5**	**+0.4**
DBBC				*e*S	**Sb**	**09 31 32.4**	**-0.7**
MONA	**Monteria**	**1.45**	**62** ⇓	*i*P	**Pn**	**09 31 17.0**	**-0.1**
MONA				*e*S	**Sn**	**09 31 36.1**	**+0.9**
MOTC	**Monteria, Cord**	**1.45**	**62** ⇓	*e*P	**Pn**	**09 31 17.0**	**-0.1**
MOTC				*e*S	**Sn**	**09 31 34.8**	**-0.3**
UREC	**San Jos de Ur**	**1.45**	**103**	*e*P	**Pn**	**09 31 17.1**	**0.0**
UREC				*e*S	**Sn**	**09 31 34.6**	**-0.6**
UREC				*i*		09 31 36.7	
	comp=Z,29nm,0.2s						
ZARC	**Zaragoza, Cauc**	**2.16**	**106**	*e*P	**Pn**	**09 31 27.2**	**+0.3**
ZARC				*e*S	**Sn**	**09 31 52.3**	**-0.4**
ZARC				*i*		09 31 53.7	
	comp=Z,9.9nm,0.1s						
HELC	**Santa Helena**	**2.36**	**143**	*e*P	**Pn**	**09 31 31.3**	**+1.3**
HELC				*e*S	**Sn**	**09 32 00.2**	**+2.0**
HELC	**Santa Helena**	**2.36**	**143**	*e*P	**Pn**	**09 31 30.0**	**0.0**
HELC				*e*S	**Sn**	**09 31 58.4**	**+0.2**
HELC				*i*		09 32 06.6	
	comp=Z,5.9nm,0.4s						
PTBC	**PUERTO BERRIO,**	**2.92**	**122**	*e*P	**Pn**	**09 31 37.6**	**+0.2**
PTBC				*e*S	**Sn**	**09 32 10.8**	**-0.7**
PTBC				*i*		09 32 13.9	
	comp=Z,6.0nm,0.3s						
SMLC	**San Martn de**	**2.94**	**76**	*e*P	**Pn**	**09 31 37.3**	**-0.3**
SMLC				*e*S	**Sn**	**09 32 11.2**	**-0.8**
SMLC				*i*		09 32 13.4	
	comp=Z,18nm,0.3s						
ZANG	**Zanguenga, Cho**	**3.01**	**287**	*e*P	**Pn**	**09 31 40.8**	**+2.3**
BCIP	**Isla Barro Col**	**3.04**	**291**	*e*P	**Pn**	**09 31 40.2**	**+1.1**
BCIP				*e*S	**Sn**	**09 32 16.9**	**+2.4**
NORC	**Norcasia**	**3.26**	**140**	*e*P	**Pn**	**09 31 41.3**	**-0.7**
GUY2C	**Guyana, Caldas**	**3.26**	**151**	*e*P	**Pb**	**09 31 52.1**	**+1.8**
BRRC	**Barranca, Sant**	**3.36**	**107**	*e*P	**Pn**	**09 31 42.6**	**-0.8**
BRRC				*e*S	**Sn**	**09 32 21.8**	**-0.6**
BRRC				*i*		09 32 26.4	
	comp=Z,10nm,0.2s						
OCAC	**Ocana**	**3.60**	**87**	*e*P	**Pn**	**09 31 46.7**	**-0.2**
OCAC				*e*S	**Sn**	**09 32 27.8**	**-0.8**
OCAC				*i*		09 32 32.3	
	comp=Z,10nm,0.4s						
BARC	**Barichara**	**4.03**	**111**	*e*P	**Pn**	**09 31 52.4**	**-0.4**
BARC				*e*S	**Sn**	**09 32 38.4**	**-0.7**
BARC				*i*		09 32 43.5	
	comp=Z,7.4nm,0.3s						
PAMC	**Pamplona, Colo**	**4.28**	**100**	*e*P	**Pn**	**09 31 56.3**	**-0.2**
PAMC				*e*S	**Sn**	**09 32 45.3**	**-0.5**
PAMC				*i*		09 32 49.9	
	comp=Z,7.3nm,0.3s						
CHIC	**Chingaza**	**4.70**	**137**	*e*P	**Pn**	**09 32 02.9**	**+0.7**
CHIC				*e*S	**Sn**	**09 32 53.6**	**-2.4**
CHIC				*i*		09 33 07.2	
	comp=Z,1.3nm,0.5s						

*DSN **06** 09:42:02.7±2.0, 27°21N×53°73E, h10km, ML3.4/12, Error ellipse: s-maj=28.4km s-min=6.6km az=1.0*
*TEH **06** 09:42:03.6, 27°05N×53°61E, h20km, ML3.6*
*OMAN **06** 09:42:05.3, 26°95N×53°70E, h10km, mb5.2/4, ml3.3/15*
*IDC **06** 09:42:06.1±4.8, 26°78N×53°59E, h62km±53km, mb3.7/7, mb1 3.8/8, mb1mx3.3/39, mbtmp4.0/8, ML3.7/1, Error ellipse: s-maj=32.1km s-min=26.4km az=171.0*
ISC 06 09:42:04.4±1.4**, 27°08N**±0°05×**53°59E**±0°05**, h31**km±11km**, n64, σ1§48**/85**, mb4.0**/7**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.45**	**304**	*e*Pg	**Pb**	**09 42 13.3**	**-0.9**
LAR1	**LAR**	**0.91**	**50**	*e*Pg	**Pb**	**09 42 21.6**	**-0.2**
LAR1				*e*		09 42 47.8	
	comp=Z,99nm,0.4s						
JHRM	**Jahrom**	**1.42**	**360**	*e*Pg	**Pb**	**09 42 30.4**	**+0.1**
JHRM				*e*		09 43 02.2	
	comp=Z,99nm,0.4s						
QIR1	**Qir**	**1.47**	**341**	*e*Pg	**Pb**	**09 42 31.6**	**+0.4**
QIR1				*e*		09 43 01.2	
	comp=Z,99nm,0.4s						
GENO	**Geno**	**2.33**	**82**	*e*Pn	**Pn**	**09 42 41.5**	**+0.8**
GENO				*e*		09 43 27.5	
	comp=Z,99nm,0.3s						
SHME	**Shamm**	**2.51**	**114**	*e*P	**Pn**	**09 42 43.1**	**+0.1**
	SNR=9.8						
SHME				S	**Sn**	**09 43 11.6**	**-1.0**
SHME	**Shamm**	**2.51**	**114**	*e*Pn	**Pn**	**09 42 43.1**	**+0.1**
SHME	**Shamm**	**2.51**	**114**	P	**Pn**	**09 42 43.1**	**+0.1**
	SNR=9.8						
SHME				S	**Sn**	**09 43 14.4**	**+1.8**
BANOM	**Banah**	**2.69**	**115**	*e*P	**Pn**	**09 42 45.7**	**+0.1**
	SNR=8.1						
BANOM				S	**Sn**	**09 43 17.9**	**+0.7**
BANOM	**Banah**	**2.69**	**115**	*e*Pn	**Pn**	**09 42 46.0**	**+0.4**
BANOM	**Banah**	**2.69**	**115**	P	**Pn**	**09 42 46.0**	**+0.4**
	SNR=8.1						
BANOM				S	**Sn**	**09 43 18.6**	**+1.4**
NAZ	**Nazwa, Dubai**	**2.80**	**138**	*e*P	**Pn**	**09 42 49.3**	**+2.2**
	SNR=8.5						
NAZ	**Nazwa, Dubai**	**2.80**	**138**	P	**Pn**	**09 42 49.3**	**+2.2**
	SNR=8.6						
NAZ				S	**Sn**	**09 43 22.5**	**+2.7**
MASF	**Masafi**	**2.87**	**126**	P	**Pn**	**09 42 49.4**	**+1.3**
	SNR=17						
MASF				S	**Sn**	**09 43 22.8**	**+1.1**
MSFE	**Esma-Masafi**	**2.88**	**126**	*e*P	**Pn**	**09 42 49.4**	**+1.2**
	SNR=17						
MSFE	**Esma-Masafi**	**2.88**	**126**	*e*Pn	**Pn**	**09 42 49.4**	**+1.2**
ASUD	**Al Ashush, Dub**	**2.91**	**147**	*e*P	**Pn**	**09 42 50.8**	**+2.2**
	SNR=20						
ASUD	**Al Ashush, Dub**	**2.91**	**147**	P	**Pn**	**09 42 50.8**	**+2.2**
	SNR=20						
ASUD				S	**Sn**	**09 43 24.8**	**+2.4**
FAQ	**Al Faqa, Dubai**	**2.95**	**142**	P	**Pn**	**09 42 50.8**	**+1.7**
FAQ	**Al Faqa, Dubai**	**2.95**	**142**	*e*Pn	**Pn**	**09 42 50.5**	**+1.4**
FAQ	**Al Faqa, Dubai**	**2.95**	**142**	P	**Pn**	**09 42 50.9**	**+1.9**
FAQ				S	**Sn**	**09 43 26.1**	**+2.7**
MDH	**Madha**	**3.02**	**125**	P	**Pn**	**09 42 50.9**	**+0.9**
MDH	**Madha**	**3.02**	**125**	*e*Pn	**Pn**	**09 42 50.8**	**+0.8**
MDH	**Madha**	**3.02**	**125**	P	**Pn**	**09 42 51.0**	**+1.0**
MDH				S	**Sn**	**09 43 26.7**	**+1.5**
UOSS	**Minazif**	**3.18**	**132**	*i* P	**Pn**	**09 42 53.1**	**+0.9**
	SNR=76						
UOSS	**Minazif**	**3.18**	**132**	*e*Pn	**Pn**	**09 42 54.2**	**+2.0**
UOSS	**Minazif**	**3.18**	**132**	P	**Pn**	**09 42 53.2**	**+1.0**
UOSS				S	**Sn**	**09 43 29.4**	**+0.3**
HATD	**Hatta, Dubai**	**3.21**	**134**	*i* P	**Pn**	**09 42 54.1**	**+1.4**
	SNR=8.0						
HATD	**Hatta, Dubai**	**3.21**	**134**	*e*Pn	**Pn**	**09 42 54.2**	**+1.4**
HATD	**Hatta, Dubai**	**3.21**	**134**	P	**Pn**	**09 42 54.1**	**+1.4**
	SNR=8.0						
HATD				S	**Sn**	**09 43 30.9**	**+1.0**
ASHO	**Ashiyiah**	**3.27**	**136**	*i* P	**Pn**	**09 42 54.9**	**+1.4**
	SNR=22						
ASHO	**Ashiyiah**	**3.27**	**136**	*e*Pn	**Pn**	**09 42 54.9**	**+1.4**
ASHO	**Ashiyiah**	**3.27**	**136**	P	**Pn**	**09 42 55.0**	**+1.4**
	SNR=22						
ASHO				S	**Sn**	**09 43 32.1**	**+0.8**
ALNE	**Al Ain**	**3.59**	**147**	*i* P	**Pn**	**09 42 59.6**	**+1.6**
	SNR=5.9						
ALNE	**Al Ain**	**3.59**	**147**	*e*Pn	**Pn**	**09 42 59.6**	**+1.6**
ALNE	**Al Ain**	**3.59**	**147**	P	**Pn**	**09 42 59.7**	**+1.7**
	SNR=6.0						
ALNE				S	**Sn**	**09 43 40.6**	**+1.2**
SOHO	**SOHO**	**3.96**	**137**	*i* P	**Pn**	**09 43 03.9**	**+0.8**
	SNR=27						
SOHO	**SOHO**	**3.96**	**137**	*e*Pn	**Pn**	**09 43 03.9**	**+0.8**
SOHO	**SOHO**	**3.96**	**137**	P	**Pn**	**09 43 04.0**	**+0.9**
SOHO				S	**Sn**	**09 43 49.6**	**+1.1**
KHGB	**Koh Gabri**	**4.15**	**37**	*e*Pn	**Pn**	**09 43 07.8**	**+2.0**
IMEH	**Mehriz**	**4.38**	**12**	*e*Pn	**Pn**	**09 43 11.5**	**+2.4**
UMZA	**Um Al Zommool**	**4.58**	**161**	*e*Pn	**Pn**	**09 43 12.9**	**+1.4**
UMZA	**Um Al Zommool**	**4.58**	**161**	P	**Pn**	**09 43 12.9**	**+1.4**
UMZA				S	**Sn**	**09 44 04.9**	**+1.2**
ARQ	**Araqi**	**4.58**	**144**	P	**Pn**	**09 43 12.6**	**+1.0**
	SNR=21						
ARQ				S	**Sn**	**09 44 04.1**	**+0.3**
KBAM	**BAM**	**4.76**	**63**	*e*Pn	**Pn**	**09 43 16.2**	**+2.1**
KBAM				*e*		09 43 19.7	
	comp=Z,99nm,0.2s						
HOQ	**Hoqain**	**4.85**	**135**	P	**Pn**	**09 43 15.9**	**+0.6**
HOQ				S	**Sn**	**09 44 09.7**	**-0.7**
BSY	**Bisya**	**5.42**	**142**	P	**Pn**	**09 43 24.6**	**+1.4**
	SNR=5.9						
BIDO	**Bidbid**	**5.43**	**130**	P	**Pn**	**09 43 24.0**	**+0.8**
SMDO	**Samad**	**5.70**	**134**	P	**Pn**	**09 43 27.6**	**+0.7**
	SNR=42						
WSAR	**Wadi Sarin**	**5.96**	**129**	P	**Pn**	**09 43 29.6**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=304,slow=10,SNR=30						
WSAR				S	**Sn**	**09 44 34.7**	**-3.1**
	comp=Z,2.0nm,0.3s,baz=352,slow=23,SNR=8.2						
JMDO	**Jabal Madar**	**6.24**	**138**	P	**Pn**	**09 43 34.6**	**+0.3**
JMDO				S	**Sn**	**09 44 41.7**	**-2.8**
WBK	**Wadi Bani Khal**	**6.62**	**131**	P	**Pn**	**09 43 39.8**	**+0.2**
	SNR=5.9						
WBK				S	**Sn**	**09 44 51.1**	**-2.8**
JLN	**Jalan Bani Buh**	**7.22**	**132**	P	**Pn**	**09 43 47.8**	**-0.1**
MHTO	**MHTO**	**7.27**	**146**	P	**Pn**	**09 43 49.2**	**+0.7**
MHTO				S	**Sn**	**09 45 06.1**	**-3.9**
RAYN	**Ar Rayn**	**8.13**	**246**	*i* P	**Pn**	**09 44 00.4**	**+0.1**
	SNR=14						
WHFO	**Wadi Hawf**	**9.12**	**179**	P	**Pn**	**09 44 14.3**	**+0.3**
	SNR=12						
ABTO	**Aybut**	**9.69**	**182**	P	**Pn**	**09 44 21.8**	**+0.1**
MKAR	**Makanchi Array**	**29.96**	**41**	P	**P**	**09 48 11.1**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=232,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**35.32**	**32**	P	**P**	**09 48 57.4**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=247,slow=9.6,SNR=6.9						
FINES	**FINESS Array B**	**39.00**	**339**	P	**P**	**09 49 28.1**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=136,slow=9.4,SNR=10						
ARCES	**ARCESS Array B**	**45.52**	**347**	P	**P**	**09 50 20.9**	**+0.2**
	comp=Z,7.8nm,1.2s,baz=158,slow=9.7,SNR=5.3						
DBIC	**Dimbokro**	**58.95**	**261**	P	**P**	**09 51 59.3**	**-1.9**
	comp=Z,3.6nm,1.0s,baz=75,slow=12,SNR=3.3						
KSRS	**Korea Array**	**62.24**	**60**	P	**P**	**09 52 21.5**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=277,slow=5.3,SNR=4.1						
YKA	**Yellowknife Ar**	**90.23**	**355**	P	**P**	**09 55 01.8**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=18,slow=5.5,SNR=3.6						

*FUNV **06** 10:14:31.4, 9°94N×72°97W, h4km, MW3.8*
*RSNC **06** 10:14:31.7±1.3, 9°86N×72°94W, h11km±8km, ML3.1*
ISC 06 10:14:29.0±2.2**, 9°87N**±0°03×**72°96W**±0°03**, h2**km±17km**, n25, σ1§13**/45**, 1D, Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.45**	**67**	*e*P	**Pb**	**10 14 41.0**	**+1.3**
MCQV				*e*S	**Sb**	**10 14 46.6**	**-0.3**
CRJC	**Cerrejon, Guaj**	**1.14**	**4** ⇓	*e*P	**Pb**	**10 14 52.0**	**+0.5**
CRJC				*e*S	**Sb**	**10 15 07.7**	**+0.7**
ARGC	**Ariguani, Magd**	**1.27**	**270**	*e*P	**Pn**	**10 14 54.4**	**+0.6**
ARGC				*e*S	**Sn**	**10 15 11.3**	**-0.3**
ARGC				*i*		10 15 14.5	
	comp=Z,387nm,0.2s						
SMLC	**San Martn de**	**1.53**	**226**	*e*P	**Pn**	**10 14 57.0**	**-0.4**
SMLC				*e*S	**Sg**	**10 15 17.5**	**-0.7**
SMLC				*i*		10 15 19.6	
	comp=Z,754nm,0.1s						
OCAC	**Ocana**	**1.66**	**193**	*e*P	**Pn**	**10 14 58.9**	**-0.4**
OCAC				*e*S	**Sn**	**10 15 20.9**	**-0.5**
SMRC	**Santa Marta, M**	**1.79**	**316**	*e*P	**Pn**	**10 15 00.1**	**-0.9**
SMRC				*i*		10 15 30.8	
	comp=Z,113nm,0.4s						
URIC	**Uribia, Colomb**	**2.05**	**27**	*e*P	**Pn**	**10 15 05.5**	**+1.0**
URIC				*e*S	**Sn**	**10 15 31.2**	**+0.4**
URIC				*i*		10 15 35.3	
	comp=Z,330nm,0.4s						
CAPV	**Capacho**	**2.09**	**162**	*e*P	**Pb**	**10 15 07.5**	**-0.3**
CAPV				*e*S	**Sb**	**10 15 35.3**	**+0.9**
SDV	**Santo Domingo**	**2.49**	**113**	*e*P	**Pn**	**10 15 11.2**	**+0.4**
SDV				*e*S	**Sn**	**10 15 41.1**	**-0.9**
SDV				*i*		10 16 03.5	
	comp=Z,45nm,0.5s						
SDV	**Santo Domingo**	**2.49**	**113**	*e*P	**Pn**	**10 15 11.7**	**+0.9**
SDV				*e*S	**Sn**	**10 15 43.4**	**+1.5**
DABV	**Dabajuro**	**2.51**	**65**	*e*P	**Pn**	**10 15 11.3**	**+0.4**
DABV				*e*S	**Sn**	**10 15 42.0**	**-0.1**
PAMC	**Pamplona, Colo**	**2.53**	**174**	*e*P	**Pn**	**10 15 11.0**	**-0.6**
PAMC				*e*S	**Sn**	**10 15 43.4**	**+0.1**
PAMC				*i*		10 15 53.2	
	comp=Z,101nm,0.3s						
SOCV	**Socops**	**2.60**	**127**	*e*P	**Pn**	**10 15 13.5**	**+1.2**
SOCV				*e*S	**Sn**	**10 15 46.1**	**+1.6**
BRRC	**Barranca, Sant**	**2.85**	**195**	*e*P	**Pn**	**10 15 16.2**	**+0.7**
BRRC				*e*S	**Sn**	**10 15 50.8**	**+0.4**
BRRC				*i*		10 16 03.1	
	comp=Z,38nm,0.2s						
MOTC	**Monteria, Cord**	**2.89**	**248**	*e*P	**Pn**	**10 15 17.5**	**+1.4**
MOTC				*e*S	**Sn**	**10 15 51.8**	**+0.4**
SIQV	**Siquisique**	**3.19**	**76**	*e*P	**Pn**	**10 15 20.7**	**+0.4**
SIQV				*e*S	**Sn**	**10 15 58.4**	**-0.6**
BARC	**Barichara**	**3.27**	**184**	*e*P	**Pn**	**10 15 22.2**	**+0.7**
BARC				*e*S	**Sn**	**10 16 02.0**	**+0.9**
BARC				*i*		10 16 15.7	
	comp=Z,58nm,0.3s						
MONV	**Montecano**	**3.59**	**54**	*e*P	**Pn**	**10 15 25.7**	**-0.1**
MONV				*e*S	**Sn**	**10 16 06.6**	**-2.2**
PTBC	**PUERTO BERRIO,**	**3.63**	**204**	*e*P	**Pn**	**10 15 26.3**	**0.0**
PTBC				*i*		10 16 28.5	
	comp=Z,22nm,0.3s						
RUSC	**La Rusia**	**3.96**	**182**	*e*	**Pb**	**10 15 38.4**	**-1.4**
JACV	**Jacura**	**4.23**	**73**	*e*P	**Pn**	**10 15 34.9**	**+0.3**
JACV				*e*S	**Sn**	**10 16 21.7**	**-3.1**
MAPV	**Macapo**	**4.43**	**90**	*e*P	**Pn**	**10 15 38.3**	**+0.9**
MAPV				*e*S	**Sn**	**10 16 27.6**	**-2.0**
NORC	**Norcasia**	**4.68**	**204**	*e*P	**Pn**	**10 15 43.1**	**+2.2**
NORC				*i*		10 16 54.3	
	comp=Z,7.7nm,0.3s						
BAUV	**El Baul**	**4.94**	**100**	*e*P	**Pn**	**10 15 44.0**	**-0.3**
BAUV				*e*S	**Sn**	**10 16 39.6**	**-2.4**
BIRV	**Birongo**	**6.61**	**84**	*e*P	**Pn**	**10 16 08.1**	**+0.7**

*NEIC **06** 10:39:35.2±1.1, 17°2S±0°1×174°4W±0°1, h89km±8km, mb4.4/10, Error ellipse: s-maj=15.8km s-min=14.9km az=128.0*
*IDC **06** 10:39:35.8±3.0, 17°23S×174°25W, h100km±31km, mb3.7/7, mb1 3.9/8, mb1mx3.6/38, mbtmp4.1/8, Error ellipse: s-maj=40.6km s-min=18.2km az=139.0*
*NOU **06** 10:40:23.8, 14°06S×172°08W, h62km, MLv2.5, Samoa Islands*
ISC 06 10:39:35.6±0.7**, 17°13S**±0°09×**174°28W**±0°10**, h100**km**, n22, σ1§06**/23**, mb4.2**/13**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.00**	**37**	P	**Pn**	**10 40 36.0**	**+1.0**
	16nm,0.3s,baz=219,slow=4.5,SNR=39						
AFI				S	**Sn**	**10 41 18.2**	**-2.7**
	20nm,0.3s,baz=41,slow=22,SNR=18						
AFI	**Afiamalu**	**4.00**	**37**		**Pn**	**10 40 35.9**	**+1.0**
AFI	**Afiamalu**	**4.00**	**37**	P	**Pn**	**10 40 36.0**	**+1.0**
NIUE	**Niue**	**4.57**	**116**		**Pn**	**10 40 42.4**	**-0.2**
DZM	**Mont Dzumac**	**18.81**	**252**	P	**P**	**10 43 45.5**	**-2.1**
URZ	**Urewera**	**22.37**	**198**	P	**P**	**10 44 24.8**	**-0.7**
	9.0nm,0.5s,baz=238,slow=1.4,SNR=17						
URZ	**Urewera**	**22.37**	**198**	P	**P**	**10 44 25.2**	**-0.3**
BKZ	**Black Stump Fm**	**23.39**	**198**	P	**P**	**10 44 36.7**	**+1.1**
CTA	**Charters Tower**	**37.47**	**259**	P	**P**	**10 46 39.7**	**0.0**
	1.4nm,0.7s,baz=100,slow=12,SNR=1.8						
STKA	**Stephens Creek**	**42.46**	**241**	P	**P**	**10 47 20.7**	**-0.2**
	2.2nm,0.7s,baz=61,slow=10,SNR=3.3						
STKA	**Stephens Creek**	**42.46**	**241**	P	**P**	**10 47 19.6**	**-1.4**
BBOO	**Buckleboo**	**47.23**	**241**	P	**P**	**10 47 59.5**	**+0.7**
BBOO				IAmb	IAmb	10 48 27.3	
	comp=Z,9.1nm,1.1s						
WR0	**Warramunga Arr**	**48.46**	**258**	P	**P**	**10 48 08.3**	**-0.2**
WR0				IAmb	IAmb	10 48 09.4	
	comp=Z,4.4nm,1.1s						
WB0	**Warramunga Arr**	**48.62**	**259**	P	**P**	**10 48 10.1**	**+0.4**
WB0				IAmb	IAmb	10 48 33.2	
	comp=Z,6.7nm,1.4s						
WB2	**Warramunga Arr**	**48.64**	**258**	P	**P**	**10 48 10.2**	**+0.4**
WB2				IAmb	IAmb	10 48 18.9	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**48.65**	**258**	P	**P**	**10 48 09.7**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=97,slow=7.0,SNR=41						
AS31	**Alice Springs**	**48.79**	**253**	P	**P**	**10 48 11.5**	**+0.5**
AS31				IAmb	IAmb	10 48 12.3	
	comp=Z,2.3nm,0.5s						
ASAR	**Alice Springs**	**48.80**	**253**	P	**P**	**10 48 11.3**	**+0.3**
	comp=Z,6.4nm,0.5s,baz=88,slow=8.6,SNR=201						
ASAR	**Alice Springs**	**48.80**	**253**	P	**P**	**10 48 11.0**	**-0.1**
QSPA	**South Pole Qui**	**72.93**	**180**	P	**P**	**10 50 55.4**	**+1.4**
QSPA				IAmb	IAmb	10 50 58.1	
	comp=Z,5.5nm,1.3s						
NVAR	**Mina Array Bea**	**76.17**	**42**	P	**P**	**10 51 13.4**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=235,slow=7.6,SNR=2.8						
PDAR	**Pinedale Array**	**84.10**	**42**	P	**P**	**10 51 56.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=198,slow=3.9,SNR=4.6						

*IDC **06** 10:39:46.6±0.7, 44°55S×78°53W, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.2/29, mbtmp4.3/12, ML4.5/1, MS4.4/17, Ms1 4.4/17, ms1mx4.2/28, Error ellipse: s-maj=26.1km s-min=17.6km az=111.0*
*NEIC **06** 10:39:49±1.8, 44°41S±0°06×78°4W±0°2, h10km±1km, mb5.1/58, Error ellipse: s-maj=18.9km s-min=11.0km az=266.0*
*GCMT **06** 10:39:50.0±0.3, 44°52S±0°01×78°91W±0°02, h14km±1km, MW5.0/105, Moment Tensor Solution. s22,c25; s105,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.17±.15; $M_{\theta\theta}$2.06±.14; $M_{\phi\phi}$-1.89±.14; $M_{r\theta}$-0.30±.29; $M_{\theta\phi}$-3.74±.13; $M_{\phi r}$-1.36±.33; Best double couple: $M_0$4.45200×10^{16} NP1:ϕ_s77.00000°, δ74.00000°, λ-172.00000°. NP2:ϕ_s345.00000°, δ82.00000°, λ-16.00000°. Principal axes: T 4.3600, Plg6.0000°, Azm32.0000°; N 0.1860, Plg72.0000°, Azm141.0000°; P -4.5440, Plg17.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 10:39:49.8±0.4**, 44°32S**±0°06×**78°46W**±0°06**, h10**km**, n200, σ1§63**/197**, mb5.0**/34**, MS4.4**/19**, 1C-2D, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**3.68**	**73**	*e*P	**Pn**	**10 40 45.4**	**-1.3**
GO07				*i* S	**Sn**	**10 41 32.9**	**+2.8**
GO07				IAML		10 41 44.5	
	comp=N,890nm,0.9s						
GO07	**Milladeo Hill,**	**3.68**	**73**	Pn	**Pn**	**10 40 45.4**	**-1.3**
LL01	**San Ignacio de**	**4.82**	**68**	*e*P	**Pn**	**10 41 01.1**	**-1.3**
LL01				*e*S	**Sn**	**10 41 59.1**	**+0.9**
LL01	**San Ignacio de**	**4.82**	**68**		**Pn**	**10 41 01.2**	**-1.1**
LL02	**Futaleuf**	**4.92**	**79**	*e*P	**Pn**	**10 41 03.4**	**-0.4**
LL02				*e*S	**Sn**	**10 42 03.2**	**+2.5**
GO08	**Villa O'Higgin**	**5.82**	**138**	*e*P	**Pn**	**10 41 15.2**	**-0.8**
PLCA	**Paso Flores**	**6.86**	**61**	Pn	**Pn**	**10 41 31.0**	**+0.7**
	comp=N,2.1nm,0.3s,baz=234,slow=11,SNR=119						
PLCA				LR	LR	10 44 09.1	
	comp=N,5µm,18.8s,baz=232,slow=38						
PLCA	**Paso Flores**	**6.86**	**61** ⇑	*i*P	**Pn**	**10 41 29.8**	**-0.6**
PLCA				*i* S	**Sn**	**10 42 45.9**	**-2.6**
PLCA	**Paso Flores**	**6.86**	**61**	Pn	**Pn**	**10 41 30.0**	**-0.3**
PLCA	**Paso Flores**	**6.86**	**61**	*e*P	**Pn**	**10 41 31.1**	**+0.7**
GO09	**Cerro Castillo**	**8.08**	**152**	Pn	**Pn**	**10 41 45.1**	**-2.0**
BI03	**Tigo**	**8.54**	**31**	Pn	**Pn**	**10 41 51.8**	**-1.5**
BI02	**San Fabin de**	**9.40**	**38**	Pn	**Pn**	**10 42 05.6**	**+0.2**
H03S1	**Juan Fernandez**	**10.47**	**358**	T	T	10 53 21.9	
	baz=177,slow=73,SNR=296						
H03S2	**Juan Fernandez**	**10.48**	**358**	T	T	10 53 24.5	
	baz=177,slow=73,SNR=152						
H03S3	**Juan Fernandez**	**10.49**	**358**	T	T	10 53 26.4	
	baz=177,slow=73,SNR=353						
VA04	**Juan Fernndez**	**10.67**	**358**	Pn	**Pn**	**10 42 21.7**	**-0.9**
BO02	**Sierra Bellavi**	**11.21**	**34**	Pn	**Pn**	**10 42 29.3**	**-0.8**
MT02	**Curacav**	**12.43**	**30**		**Pn**	**10 42 44.3**	**-2.4**
MT05	**Renca**	**12.46**	**31**	Pn	**Pn**	**10 42 46.3**	**-0.8**
PEL	**Peldehue**	**12.70**	**31**	Pn	**Pn**	**10 42 49.8**	**-0.6**
ROC1	**El Roble**	**12.73**	**30**	*e*P	**Pn**	**10 42 50.2**	**-0.8**
VA03	**San Esteban**	**13.09**	**31**		**Pn**	**10 42 53.9**	**-1.9**
AUSP	**Uspallata**	**14.01**	**34**	*i* P	**Pn**	**10 43 09.2**	**+0.6**
CO02	**Combarbal**	**14.35**	**27**		**Pn**	**10 43 11.8**	**-1.3**
CO03	**El Pedregal**	**14.79**	**27**		**Pn**	**10 43 17.9**	**-1.1**
ZON	**Zonda**	**14.89**	**34**		**Pn**	**10 43 20.2**	**-0.2**
RTLL	**Cerro Villicun**	**15.16**	**35**	*e*P	**Pn**	**10 43 23.5**	**-0.5**
GO04	**Tololo Observa**	**15.37**	**26**	Pn	**Pn**	**10 43 26.1**	**-0.9**
GO04				IAmb	IAmb	10 43 53.3	
	comp=Z,110nm,1.3s						
MRA	**San Martin**	**15.51**	**44**	*e*P	**Pn**	**10 43 28.9**	**+0.4**
ACCO	**Cerro Coronel**	**15.59**	**32**	*e*P	**Pn**	**10 43 29.7**	**-0.2**
CO01	**Juntas del Tor**	**15.78**	**28**		**Pn**	**10 43 29.4**	**-2.8**
AROD	**Rodeo**	**15.82**	**30**	*i* P	**Pn**	**10 43 34.3**	**+1.4**
ACDV	**Cuesta del Vie**	**15.95**	**31**	*e*P	**Pn**	**10 43 33.8**	**-0.6**
LCO	**Las Campanas**	**16.49**	**25**	Pn	**Pn**	**10 43 38.1**	**-3.3**
AC05	**El Transito**	**16.78**	**26**	Pn	**Pn**	**10 43 41.3**	**-3.7**
AGUA	**GUANDACOL**	**16.80**	**31**	*e*P	**Pn**	**10 43 45.9**	**+0.8**
TCA	**Tanti**	**16.94**	**45**	*i* P	**P**	**10 43 49.8**	**+0.9**
AC04	**Llanos de Chal**	**17.14**	**23**	Pn	**Pn**	**10 43 48.6**	**-0.7**
ACLC	**CERRO LA CRUZ**	**17.46**	**35**	*e*P	**Pn**	**10 43 53.7**	**+0.2**
VCA	**Vinchina**	**17.58**	**31**	*e*P	**P**	**10 43 57.0**	**+0.9**
GO03	**Copiap**	**17.95**	**24**	Pn	**Pn**	**10 43 58.0**	**-1.5**
LPA	**La Plata**	**18.36**	**66**	*e*P	Pn	10 43 56.7	-7.6
LPA				PPP	PPP	10 45 06.8	
LPA				pPP		10 45 40.5	
LPA				S	**Sn**	**10 47 21.5**	**-7.8**
LPA				SSS	SSS	10 49 59.0	
LPA				SCS	**ScS**	**10 55 52.7**	**+1.1**
LPA				PKIKP	**PKiKP**	**10 56 20.9**	**-5.5**
AC02	**Maricunga**	**19.00**	**26**		**P**	**10 44 11.8**	**-0.3**
AC02				IAmb	IAmb	10 44 23.9	
	comp=Z,90nm,1.1s						
GO02	**Mina Guanaco**	**20.43**	**24**		**P**	**10 44 27.9**	**+0.4**
PB14	**IPOC Station P**	**20.72**	**21**	P	**P**	**10 44 30.3**	**-0.3**
PB14				IAmb	IAmb	10 44 43.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,91nm,1.1s						
PB10	**IPOC Station P**	**21.75**	**20**	P	**P**	**10 44 42.4**	**+1.0**
PB15	**IPOC Station P**	**22.32**	**22**	P	**P**	**10 44 48.0**	**+0.2**
ITQB	**Itaqui**	**22.66**	**57**	*e*P	**P**	**10 44 52.1**	**+1.0**
PB06	**IPOC Station P**	**22.77**	**22**	P	**P**	**10 44 52.2**	**-0.3**
PB06				IAmb	IAmb	10 45 03.0	
	comp=Z,64nm,1.2s						
PB04	**IPOC Station P**	**22.98**	**20**	P	**P**	**10 44 54.5**	**-0.1**
LVC	**Limon Verde**	**23.04**	**23**	P	**P**	**10 44 55.5**	**0.0**
	comp=Z,15nm,0.9s,baz=191,slow=8.5,SNR=12						
LVC				LR	LR	10 52 08.7	
	comp=Z,565nm,19.6s,baz=226,slow=32						
LVC	**Limon Verde**	**23.04**	**23**	P	**P**	**10 44 54.9**	**-0.6**
LVC				IAmb	IAmb	10 45 06.0	
	comp=Z,72nm,1.1s						
LVC	**Limon Verde**	**23.04**	**23**	*e*P	**P**	**10 44 56.7**	**+1.2**
PLTB	**Pedras Altas**	**23.14**	**66**	*e*P	**P**	**10 44 57.2**	**+1.0**
PB07	**IPOC Station P**	**23.63**	**20**	P	**P**	**10 45 00.9**	**-0.3**
PB07				IAmb	IAmb	10 45 11.0	
	comp=Z,83nm,1.0s						
PB09	**IPOC Station P**	**23.72**	**22**	P	**P**	**10 45 03.1**	**+1.0**
CPSB	**Cacapava Do Su**	**24.14**	**63**	*e*P	**P**	**10 45 07.3**	**+1.4**
PB01	**IPOC Station P**	**24.38**	**21**	P	**P**	**10 45 08.6**	**+0.4**
TA01	**Diego Aracena**	**24.67**	**19**	P	**P**	**10 45 10.9**	**+0.2**
CPUP	**Villa Florida**	**24.77**	**51**	P	**P**	**10 45 11.6**	**0.0**
	comp=Z,23nm,0.8s,baz=231,slow=8.8,SNR=54						
CPUP				LR	LR	10 55 26.3	
	comp=Z,1µm,18.3s,baz=220,slow=38						
CPUP	**Villa Florida**	**24.77**	**51**	P	**P**	**10 45 11.3**	**-0.3**
CPUP				IAmb	IAmb	10 45 19.0	
	comp=Z,28nm,0.8s						
CPUP	**Villa Florida**	**24.77**	**51**	*e*P	**P**	**10 45 12.6**	**+1.0**
PB08	**IPOC Station P**	**25.33**	**21**	P	**P**	**10 45 16.6**	**-0.5**
PB08				IAmb	IAmb	10 45 28.4	
	comp=Z,46nm,1.1s						
PSGCX	**Pisagua**	**25.62**	**18**	P	**P**	**10 45 19.5**	**0.0**
PSGCX				IAmb	IAmb	10 45 28.4	
	comp=Z,43nm,1.1s						
MNMC	**Minye Minye**	**26.19**	**19**	P	**P**	**10 45 24.2**	**-0.6**
MNMC				IAmb	IAmb	10 45 33.5	
	comp=Z,44nm,1.1s						
ITAB	**Concordia**	**27.16**	**60**	*e*P	**P**	**10 45 33.9**	**+0.6**
PTGB	**Pitanga**	**29.05**	**56**	*e*P	**P**	**10 45 51.2**	**+1.0**
LPAZ	**La Paz**	**29.28**	**21**	P	**P**	**10 45 52.8**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=167,slow=10,SNR=7.2						
LPAZ	**La Paz**	**29.28**	**21**	P	**P**	**10 45 53.5**	**+0.6**
LPAZ	**La Paz**	**29.28**	**21**	*e*P	**P**	**10 45 54.5**	**+1.6**
RPN	**Rapa Nui**	**30.14**	**294**	LR	LR	10 54 44.2	
	comp=Z,2µm,20.8s,baz=98,slow=30						
TRCB	**Terra Rica**	**30.18**	**53**	*e*P	**P**	**10 46 00.8**	**+0.6**
AQDB	**Aquidauana**	**30.38**	**46**	*e*P	**P**	**10 46 02.3**	**+0.4**
FRTB	**Fartura**	**31.58**	**58**	*e*P	**P**	**10 46 14.0**	**+1.4**
SIV	**San Ignacio**	**31.85**	**33**	P	**P**	**10 46 15.2**	**+0.3**
	comp=Z,8.6nm,0.9s,baz=230,slow=9.2,SNR=30						
SIV				LR	LR	10 59 39.0	
	comp=Z,587nm,18.9s,baz=220,slow=37						
PCMB	**Pacaembu**	**31.90**	**54**	*e*P	**P**	**10 46 15.9**	**+0.5**
NNA	**Nana**	**32.25**	**3**	P	**P**	**10 46 18.6**	**+0.1**
PTLB	**Pontes e Lacer**	**33.12**	**36**	*e*P	**P**	**10 46 26.6**	**+0.6**
PP1B	**Ponte de Pedra**	**33.21**	**44**	*e*P	**P**	**10 46 28.1**	**+1.3**
VAO	**Valinhos**	**33.44**	**61**	*e*P	**P**	**10 46 29.8**	**+0.9**
ITRB	**Iturama**	**33.91**	**53**	*e*P	**P**	**10 46 33.4**	**+0.4**
BB19B	**Bebedouro**	**33.93**	**57**	*e*P	**P**	**10 46 34.2**	**+1.2**
VILB	**Vilhena**	**34.96**	**32**	*e*P	**P**	**10 46 42.3**	**+0.3**
ESAR	**Angra dos Reis**	**35.03**	**64**	*e*P	**P**	**10 46 43.1**	**+0.5**
ETMB	**Extrema**	**35.98**	**21**	*e*P	**P**	**10 46 50.8**	**+0.1**
ARAG	**Araguaiana, MT**	**36.37**	**47**	*e*P	**P**	**10 46 54.6**	**+0.4**
CZSB	**Cruzeiro do Su**	**36.80**	**10**	*e*P	**P**	**10 46 58.5**	**+0.8**
ATAH	**Atahualpa**	**37.04**	**0**	P	**P**	**10 47 00.5**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=198,slow=5.7,SNR=2.7						
SAML	**Samuel**	**37.66**	**25**	P	**P**	**10 47 04.9**	**-0.2**
SAML				IAmb	IAmb	10 47 13.1	
	comp=Z,33nm,1.1s						
SAML	**Samuel**	**37.66**	**25**	*e*P	**P**	**10 47 05.2**	**+0.2**
BDFB	**Brasilia**	**38.49**	**52**	P	**P**	**10 47 12.3**	**0.0**
	comp=Z,4.2nm,0.7s,baz=216,slow=12,SNR=6.7						
BDFB				LR	LR	11 03 51.3	
	comp=Z,870nm,18.4s,baz=213,slow=37						
BDFB	**Brasilia**	**38.49**	**52**	P	**P**	**10 47 11.6**	**-0.6**
CLDB	**Colider**	**38.64**	**37**	*e*P	**P**	**10 47 13.9**	**+0.5**
DIAM	**Diamantina, MG**	**38.98**	**59**	*e*P	**P**	**10 47 18.0**	**+1.6**
SNDB	**Serra Nova Dou**	**39.79**	**44**	*e*P	**P**	**10 47 22.8**	**-0.2**
SJMB	**Sao Joao De Ma**	**40.24**	**63**	*e*P	**P**	**10 47 28.3**	**+1.6**
JANB	**Januaria**	**41.09**	**56**	*e*P	**P**	**10 47 35.3**	**+1.4**
PEXB	**Peixe**	**41.23**	**48**	*e*P	**P**	**10 47 36.1**	**+1.2**
NAN01	**Guarapari, ES**	**41.55**	**63**	*e*P	**P**	**10 47 38.4**	**+0.9**
VNA3	**Neumayer Olymp**	**42.03**	**153**	P	**P**	**10 47 44.6**	**+3.7**
NPGB	**Novo Progresso**	**42.26**	**35**	*e*P	**P**	**10 47 43.4**	**0.0**
VNA2	**Neumayer--Watz**	**42.77**	**153**	P	**P**	**10 47 50.4**	**+3.6**
	baz=277,slow=8.3						
SDBA	**SAO DESIDERIO**	**42.86**	**53**	*e*P	**P**	**10 47 49.3**	**+1.0**
MACA	**Manacapuru-AM**	**43.90**	**26**	*e*P	**P**	**10 47 56.9**	**+0.3**
SNAA	**Sanae**	**44.20**	**154**	P	**P**	**10 48 02.1**	**+3.6**
SNAA	**Sanae**	**44.20**	**154**	P	**P**	**10 47 55.5**	**-3.0**
	comp=Z,9.2nm,1.1s,baz=246,slow=4.9,SNR=4.5						
SNAA				LR	LR	11 03 40.8	
	comp=Z,433nm,21.6s,baz=268,slow=33						
SNAA	**Sanae**	**44.20**	**154**	P	**P**	**10 47 56.7**	**-1.8**
SNAA				IAmb	IAmb	10 48 21.9	
	comp=Z,35nm,1.5s						
SMTB	**Santa Maria do**	**44.33**	**47**	*e*P	**P**	**10 48 01.0**	**+0.9**
OTAV	**Otavalo**	**44.37**	**0**	*e*P	**P**	**10 48 00.6**	**-0.2**
ITTB	**Itaituba**	**44.54**	**33**	*e*P	**P**	**10 48 01.8**	**+0.1**
PRPB	**Parauapebas**	**45.52**	**42**	*e*P	**P**	**10 48 10.2**	**+0.6**
QSPA	**South Pole Qui**	**45.92**	**180**	P	**P**	**10 48 09.4**	**-3.0**
	comp=Z,2.0nm,0.9s,baz=145,slow=17,SNR=3.3						
QSPA				LR	LR	11 05 49.7	
	comp=Z,361nm,18.1s,baz=148,slow=34						
QSPA	**South Pole Qui**	**45.92**	**180**	P	**P**	**10 48 10.0**	**-2.4**
QSPA				IAmb	IAmb	10 48 32.4	
	comp=Z,19nm,1.3s						
PTGA	**Pitinga**	**46.41**	**26**	P	**P**	**10 48 15.8**	**-0.7**
PTGA	**Pitinga**	**46.41**	**26**	*e*P	**P**	**10 48 16.5**	**0.0**
NBLA	**Lagarto - SE**	**48.21**	**59**	*e*P	**P**	**10 48 31.0**	**+0.4**
ROSC	**El Rosal**	**49.08**	**5**	LR	LR	11 07 40.4	
	comp=Z,1µm,18.6s,baz=218,slow=34						
ROSC	**El Rosal**	**49.08**	**5**	P	**P**	**10 48 37.7**	**+0.1**
ROSC				IAmb	IAmb	10 48 58.8	
	comp=Z,38nm,1.4s						
BOAV	**Boa Vista**	**49.20**	**24**	*e*P	**P**	**10 48 38.5**	**+0.3**
TMAB	**Tom-Au,PA,Br**	**49.66**	**42**	*e*P	**P**	**10 48 43.3**	**+1.6**
MCPB	**Macapa, AP**	**49.67**	**36**	*e*P	**P**	**10 48 42.9**	**+1.1**
RKT	**Rikitea**	**50.47**	**275**	*e*LR	LR	11 03 02.7	
	comp=Z,511nm,25.8s						
ROSB	**Rosrio**	**51.18**	**46**	*e*P	**P**	**10 48 54.7**	**+1.5**
NBPA	**Parau_RN**	**52.74**	**56**	*e*P	**P**	**10 49 06.6**	**+1.8**
VNDA	**Vanda**	**52.97**	**194**	LR	LR	11 08 31.5	
	comp=Z,277nm,18.0s,baz=126,slow=33						
SDV	**Santo Domingo**	**53.43**	**10**	P	**P**	**10 49 10.1**	**0.0**
SDV				IAmb	IAmb	10 49 18.8	
	comp=Z,28nm,1.1s						
SDV	**Santo Domingo**	**53.43**	**10**	*e*P	**P**	**10 49 09.2**	**-0.9**
SYO	**Syowa Base**	**58.14**	**158**	⇓*i*PcP	**PcP**	**10 50 32.0**	**-2.5**
TBI	**Tubuai**	**60.71**	**265**	*e*LR	LR	11 07 45.7	
	comp=Z,265nm,24.8s						
PPT2	**Papeete2**	**64.49**	**270**	*e*LR	LR	11 09 21.5	
	comp=Z,344nm,25.5s						
PPT	**Papeete**	**64.50**	**270**	LR	LR	11 11 32.7	
	comp=Z,104nm,19.4s,baz=156,slow=30						
MAW	**Mawson**	**64.64**	**165**	LR	LR	11 16 55.8	
	comp=Z,316nm,19.1s,baz=198,slow=35						
HPIG		**75.16**	**335**	P	**P**	**10 51 29.6**	**-2.7**
RAO	**Raoul Island**	**76.38**	**242**	LR	LR	11 17 13.9	
	comp=Z,173nm,18.7s,baz=143,slow=30						
TX32	**Lajitas Array**	**76.84**	**338**	P	**P**	**10 51 42.7**	**+1.0**
TXAR	**Lajitas Array**	**76.84**	**338**	P	**P**	**10 51 41.1**	**-0.6**
	comp=Z,2.1nm,1.2s,baz=148,slow=5.3,SNR=4.3						
TXAR	**Lajitas Array**	**76.84**	**338**	P	**P**	**10 51 42.2**	**+0.4**
TX31	**Lajitas Ar. Si**	**76.84**	**338**	P	**P**	**10 51 43.1**	**+1.4**
JCT	**Junction City**	**76.95**	**341**	P	**P**	**10 51 43.3**	**+1.1**
JCT				IAmb	IAmb	10 52 14.8	
	comp=Z,16nm,1.3s						
BOSA	**Boshof**	**79.51**	**120**	LR	LR	11 22 46.6	
	comp=Z,214nm,20.1s,baz=170,slow=32						
V48A	**Smith Brothers**	**80.05**	**353**	P	**P**	**10 52 00.4**	**+1.2**
V48A				IAmb	IAmb	10 52 38.4	
	comp=Z,27nm,1.4s						
WMOK	**Wichita Mounta**	**80.83**	**343**	P	**P**	**10 52 04.1**	**+0.7**
WMOK				IAmb	IAmb	10 52 30.0	
	comp=Z,23nm,1.7s						
U40A	**Yellville**	**81.36**	**348**	P	**P**	**10 52 06.9**	**+0.7**
U40A				IAmb	IAmb	10 52 53.8	
	comp=Z,35nm,1.8s						
TUL1	**Leonard**	**81.39**	**346**	P	**P**	**10 52 06.9**	**+0.5**
TUL1				IAmb	IAmb	10 52 11.7	
	comp=Z,15nm,1.1s						
LENM	**Lemitar**	**82.31**	**336**	P	**P**	**10 52 11.6**	**+0.1**
CCM	**Cathedral Cave**	**82.81**	**350**	P	**P**	**10 52 12.9**	**-0.8**
CCM				IAmb	IAmb	10 52 20.3	
	comp=Z,16nm,0.9s						
ANMO	**Albuquerque**	**82.90**	**337**		**P**	**10 52 14.1**	**-0.4**
DBIC	**Dimbokro**	**83.06**	**74**	P	**P**	**10 52 14.1**	**-1.5**
	comp=Z,2.7nm,1.1s,baz=184,slow=8.2,SNR=1.9						
DBIC				LR	LR	11 22 45.5	
	comp=Z,102nm,22.0s,baz=198,slow=31						
P40A	**Paris**	**84.37**	**349**	P	**P**	**10 52 20.7**	**-1.0**
T25A	**Trinidad**	**84.42**	**339**	P	**P**	**10 52 22.6**	**+0.2**
T25A				IAmb	IAmb	10 52 30.0	
	comp=Z,13nm,1.1s						
P38A	**Dawn**	**84.66**	**348**	P	**P**	**10 52 22.1**	**-1.1**
SMCO	**Snowmass**	**87.01**	**338**	P	**P**	**10 52 35.2**	**-0.2**
SMCO				IAmb	IAmb	10 52 43.8	
	comp=Z,25nm,1.7s						
SHPR	**Sheep Range**	**87.06**	**331**	P	**P**	**10 52 34.9**	**-0.5**
SZCU	**Shurtz Canyon**	**87.36**	**333**	P	**P**	**10 52 37.0**	**+0.1**
CCUT	**Cedar City**	**87.40**	**333**	P	**P**	**10 52 36.0**	**-1.1**
CCUT				IAmb	IAmb	10 52 50.9	
	comp=Z,28nm,2.0s						
JFWS	**Jewell Farm**	**87.49**	**351**		**P**	**10 52 36.5**	**-0.5**
PRN	**Pahroc Range**	**87.84**	**332**	P	**P**	**10 52 39.3**	**+0.2**
Q16A	**Castle Valley**	**87.97**	**335**	P	**P**	**10 52 39.9**	**+0.2**
Q16A				IAmb	IAmb	10 52 53.5	
	comp=Z,18nm,1.5s						
PSUT	**Pine Spring**	**88.46**	**333**	P	**P**	**10 52 42.9**	**+0.8**
PSUT				IAmb	IAmb	10 53 27.8	
	comp=Z,7.4nm,1.1s						
PHWY	**Pilot Hill**	**88.62**	**340**	P	**P**	**10 52 43.0**	**+0.1**
PHWY				IAmb	IAmb	10 52 49.5	
	comp=Z,17nm,1.4s						
R11A	**Troy Canyon, C**	**88.87**	**332**	P	**P**	**10 52 42.4**	**-1.6**
R11A				IAmb	IAmb	10 52 50.4	
	comp=Z,19nm,1.9s						
SPR3	**Spring Creek 3**	**89.04**	**333**	P	**P**	**10 52 43.0**	**-1.9**
ECSD	**EROS Data Cent**	**89.16**	**347**	P	**P**	**10 52 44.7**	**-0.2**
NLU	**North Lily Min**	**89.19**	**335**	P	**P**	**10 52 46.9**	**+1.4**
NLU				IAmb	IAmb	10 52 50.8	
	comp=Z,18nm,1.7s						
RWWY	**Rawlins**	**89.43**	**339**	P	**P**	**10 52 45.8**	**-0.8**
RWWY				IAmb	IAmb	10 52 51.1	
	comp=Z,12nm,0.8s						
NVAR	**Mina Array Bea**	**89.89**	**330**	P	**P**	**10 52 49.1**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=156,slow=4.9,SNR=1.8						
TORD	**Torodi Ar. Bea**	**92.17**	**74**	LR	LR	11 32 03.7	
	comp=Z,73nm,18.6s,baz=90,slow=34						
STKA	**Stephens Creek**	**95.82**	**213**	LR	LR	11 29 42.6	
	comp=Z,371nm,18.1s,baz=193,slow=31						
MURB	**Monte Urbino**	**118.98**	**57**		**PKiKP**	**10 58 39.2**	**+1.0**
ILAR	**Eielson Array**	**121.06**	**332**	PKP	**PKPdf**	**10 58 40.7**	**-0.7**
	comp=Z,0.3nm,0.9s,baz=193,slow=2.4,SNR=3.0						
GERES	**GERESS Array B**	**122.73**	**52**	PKP	**PKPdf**	**10 58 45.1**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=155,slow=3.2,SNR=2.1						
SEY	**Seymchan**	**145.74**	**321**	PKPbc	**PKPdf**	**10 59 26.8**	**-0.5**
	comp=Z,3.6nm,1.0s,baz=133,slow=4.8,SNR=13						
MA2	**Magadan**	**146.92**	**315**	PKPbc	**PKPdf**	**10 59 30.2**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=92,slow=5.6,SNR=1.9						
MA2	**Magadan**	**146.92**	**315**		**PKPdf**	**10 59 30.5**	**+1.1**
HYB	**Hyderabad**	**146.93**	**137**	*i* PKP	**PKPdf**	**10 59 30.0**	**-0.8**
GEYT	**Alibeck**	**146.98**	**86**	PKPbc	**PKPdf**	**10 59 30.9**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=255,slow=5.7,SNR=2.0						
TIXI	**Tiksi**	**149.59**	**343**	PKPbc	**PKPdf**	**10 59 35.2**	**+1.8**
	comp=Z,0.9nm,0.5s,baz=76,slow=4.0,SNR=2.8						
TIXI	**Tiksi**	**149.59**	**343**		**PKPbc**	**10 59 38.6**	**+0.6**
TIXI				PKPab	**sPKPab**	**10 59 47.7**	**+1.5**
ARU	**Arti**	**150.54**	**50**	PKPbc	**PKPbc**	**10 59 39.6**	**-1.2**
	comp=Z,0.8nm,0.2s,baz=321,slow=5.5,SNR=3.9						
ARU	**Arti**	**150.54**	**50**		**PKPbc**	**10 59 38.8**	**-2.0**
MJAR	**Matsushiro Arr**	**151.21**	**267**	PKPbc	**PKPdf**	**10 59 39.7**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=141,slow=4.1,SNR=1.6						
MJAR	**Matsushiro Arr**	**151.21**	**267**		**PKPdf**	**10 59 37.5**	**+0.4**
ABKAR	**Akbulak array**	**151.37**	**65**	PKPab	**PKPab**	**10 59 52.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**154.12**	**174**	PKPbc	**PKPdf**	**10 59 46.1**	**+4.2**
	comp=Z,0.9nm,0.4s,baz=210,slow=2.9,SNR=6.3						
CMAR	**Chiang Mai Arr**	**154.12**	**174**	PKPdf	**PKPdf**	**10 59 40.5**	**-1.4**
CMAR				PKPbc	**PKPbc**	**10 59 49.4**	**-0.6**
CMAR				PKPab	**PKPab**	**11 00 00.1**	**-3.4**
KSH	**Kashi**	**160.41**	**95**	PKP	**PKPdf**	**10 59 54.3**	**+4.9**
KMI	**Kunming**	**160.82**	**183**	⇓PKP	**PKPdf**	**10 59 51.1**	**+0.7**
KMI				pPKP	sPKPdf	10 59 54.2	+0.8
KMI				sPKP		10 59 55.6	
KMI				LR	LR		
	comp=Z,160nm,23.0s						
NJ2	**Nanjing**	**161.73**	**234**	*e*PKP	**PKPdf**	**10 59 52.3**	**+1.5**
CN2	**Changchun**	**162.82**	**277**	*e*PKP	**PKPdf**	**10 59 49.8**	**-1.7**
ZALV	**Zalesovo Beam**	**165.46**	**43**	PKP	**PKPdf**	**10 59 52.8**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=297,slow=6.5,SNR=5.1						
ZALV	**Zalesovo Beam**	**165.46**	**43**		**PKPdf**	**10 59 50.5**	**-3.0**
MKAR	**Makanchi Array**	**166.29**	**73**	PKPab	**PKPab**	**11 00 54.2**	**-1.7**
	comp=Z,0.6nm,0.9s,baz=222,slow=1.6,SNR=3.7						
XAN	**Xi'an**	**168.25**	**212**	PKP	**PKPdf**	**11 00 01.3**	**+4.9**
WMQ	**Urumqi**	**170.02**	**88**	*e*PKP	**PKPdf**	**10 59 59.5**	**+2.3**
LZH	**Lanzhou**	**171.59**	**193**	*e*PKP	**PKPdf**	**10 59 58.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**171.83**	**248**	*e*PKP	**PKPdf**	**11 00 01.8**	**+3.5**
HHC				PKS	**PKSdf**	**11 03 28.9**	**-1.8**
HHC				PP	**PP**	**11 05 12.4**	**+0.1**
HHC				SKKS		11 12 00.6	
HHC				AMB	AMB		
	comp=Z,310nm,9.2s						
HHC				LR	LR		
	comp=Z,170nm,21.5s						
HHC				LR	LR		
	comp=Z,220nm,22.6s						
HHC				LR	LR		
	comp=Z,170nm,21.2s						
GTA	**Gaotai**	**174.93**	**165**	*e*PKP	**PKPdf**	**11 00 05.2**	**+5.6**
SONM	**Songino Array**	**175.13**	**318**	PKP	**PKPdf**	**10 59 58.5**	**-0.8**
	comp=Z,0.8nm,1.0s,baz=276,slow=1.3,SNR=5.8						
SONM	**Songino Array**	**175.13**	**318**		**PKPdf**	**10 59 58.6**	**-0.8**
SONM				PKPab	**PKPab**	**11 01 32.8**	**-2.4**

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*IDC **06** 11:19:37.5±1.1, 53°.45N×63°.00E, h0km, mb3.2/1, mb1 2.9/4, mb1mx2.8/38, mbtmp2.8/4, ML1.8/3, Error ellipse: s-maj=17.6km s-min=10.8km az=6.0*
*NNC **06** 11:19:49.6±4.6, 53°.83N×62°.54E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=56.1km s-min=14.0km az=154.0, Suspected Mining explosion.*
ISC 06 11:19:36.7±1.0**, 53°.37N**±0°.07×**62°.95E**±0°.04**, h0km, n9, σ2ˢ03**/11**, 6C-3D, Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARU	**Arti**	**3.97**	**322**	Pn	**Pn**	**11 20 39.5**	**+0.7**
	0.0nm,0.3s,baz=316,slow=14,SNR=3.3						
ARU				Lg	Lg	11 21 44.7	
	0.0nm,0.3s,baz=20,slow=22,SNR=7.5						
AKTO	**Aktyubinsk**	**4.24**	**228**	Pn	**Pn**	**11 20 46.0**	**+3.5**
	0.1nm,0.3s,baz=41,slow=17,SNR=1.4						
AKTO				Lg	Lg	11 21 52.5	
	0.5nm,0.3s,baz=337,slow=16,SNR=7.4						
AKTO	**Aktyubinsk**	**4.24**	**228**	⇓Pn	**Pg**	**11 20 56.2**	**-1.7**
	2.3nm,0.8s						
AKTO				⇑Sn	**Sg**	**11 21 53.4**	**+0.6**
	9.9nm,0.8s						
AKTO				⇑Lg	Lg	11 22 12.2	
	5.2nm,0.5s						
I31KZ	**AKTYUBINSK INF**	**4.25**	**228**	*i*		11 48 20.0	
	baz=47,slow=336,SNR=3.6						
BRVK	**Borovoye**	**4.42**	**91**	⇑Pn	**Pg**	**11 21 00.1**	**-1.2**
	2.7nm,1.0s						
BRVK				⇑Sn	**Sg**	**11 21 59.5**	**+0.9**
	5.8nm,0.7s						
BRVK				⇑Lg	Lg	11 22 21.6	
	4.9nm,0.6s						
BVAR	**Borovoye Array**	**4.49**	**91**	Pn	**Pn**	**11 20 47.8**	**+1.9**
	0.4nm,0.3s,baz=221,slow=15,SNR=4.3						
BVAR				Sn	**Sn**	**11 21 36.9**	**-1.9**
	0.3nm,0.3s,baz=255,slow=25,SNR=1.6						
BVAR				Lg	Lg	11 22 01.3	
	1.1nm,0.3s,baz=258,slow=25,SNR=3.3						
AB31	**Akbulak array**	**4.53**	**206**	⇑Pn	**Pg**	**11 21 02.9**	**-0.6**
	0.4nm,0.4s,baz=20,slow=14,SNR=7.3						
AB31				⇓Sn	**Sg**	**11 21 59.6**	**-2.7**
	1.2nm,0.3s,baz=17,slow=27,SNR=7.7						
AB31				⇓Lg	Lg	11 22 25.5	
	2.9nm,0.4s,baz=37,slow=29,SNR=4.5						
I46RU	**ZALESOVO INFRA**	**12.98**	**79**	*i*		12 39 36.9	
	baz=273,slow=326,SNR=1.4						
FINES	**FINESS Array B**	**21.18**	**307**	P	**P**	**11 24 23.3**	**+0.1**
	0.6nm,0.5s,baz=99,slow=8.6,SNR=3.3						

IDC 06 11:21:06.5±3.4**, 54°.50N**×**87°.10E, h0km, mb1 3.1**/2**, mb1mx3.0**/43**, mbtmp3.1**/2**, ML2.9**/2**, Error ellipse: s-maj=31.2km s-min=19.6km az=47.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.45**	**249**	*i*		11 28 05.9	
	baz=67,slow=330,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.45**	**249**	Pg	Pn	11 21 31.2	-2.8
	2.3nm,0.3s,baz=67,slow=16,SNR=15						
ZALV				Lg	Lg	11 21 53.0	
	2.2nm,0.3s,baz=69,slow=25,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.51**	**237**	Pn	Pn	11 22 44.8	+1.3
	0.2nm,0.3s,baz=53,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**8.30**	**204**	Pn	Pn	11 23 09.2	+1.1
	0.2nm,0.3s,baz=25,slow=13,SNR=7.7						

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*NEIC **06** 11:33:57.4±0.5, 51°.50N±0°.04×177°.73W±0°.06, h44km±17km, Error ellipse: s-maj=7.0km s-min=4.6km az=145.0*
AEIC 06 11:33:56±0.5**, 51°.5N**±0°.1×**177°.71W**±0°.04**, h40km**±9km**, ML3.1, mb4.1**/3(NEIC)**, Error ellipse: s-maj=16.4km s-min=2.8km az=172.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.42**	**45**		Pn	11 34 06.6	+0.9
TASE	**Tanaga Southea**	**0.42**	**331**		Pn	11 34 07.1	+1.3
TAFP	**Tanaga Falls P**	**0.47**	**338**		Pn	11 34 07.3	+1.0
TANO	**Tanaga North**	**0.52**	**330**		Pn	11 34 08.2	+1.3
KIKV	**Kanaga Island**	**0.53**	**39**		Pn	11 34 08.2	+1.1
KICM	**Kanaga Island**	**0.55**	**35**		Pn	11 34 08.9	+1.5
KIRH	**Kanaga Island**	**0.58**	**41**		Pn	11 34 09.0	+1.2
GAEA	**Gareloi East**	**0.72**	**296**		Pn	11 34 10.8	+1.1
GALAA	**Gareloi Lava P**	**0.73**	**294**		Pn	11 34 10.9	+1.1
ADK	**Adak**	**0.76**	**56**	Pn	Pn	11 34 11.1	+0.8
GSTD	**Great Sitkin T**	**1.14**	**58**		Pn	11 34 16.7	+1.2
GSMY	**Great Sitkin M**	**1.18**	**60**		Pn	11 34 17.2	+1.3
GSTR	**Great Sitkin T**	**1.20**	**58**		Pn	11 34 17.8	+1.4
CERB	**Semis' Cerberu**	**1.72**	**287**		Pn	11 34 24.5	+1.1
CESW	**Semis' Southwe**	**1.75**	**285**		Pn	11 34 25.0	+1.1
AMKA	**Amchitka**	**1.88**	**268**		Pn	11 34 26.2	+0.7
ATKA	**Atka Island**	**2.30**	**70**		Pn	11 34 32.8	+1.5
KOWE	**Korovin West**	**2.32**	**66**		Pn	11 34 33.8	+2.1
KOKL	**Mount Kliuchef**	**2.33**	**67**		Pn	11 34 34.0	+2.1
LSSE	**Little Sitkin**	**2.36**	**283**		Pn	11 34 33.6	+1.3
LSPA	**Little Sitkin**	**2.37**	**283**		Pn	11 34 33.6	+1.3
KOFP	**Korovin Flat P**	**2.38**	**69**		Pn	11 34 34.5	+2.0
LSNW	**Little Sitkin**	**2.40**	**284**		Pn	11 34 34.0	+1.2
OHAK	**Old Harbor**	**15.31**	**58**	Pn	Pn	11 37 30.1	+1.1
OHAK				IAmb	IAmb	11 37 51.5	
	comp=Z,19nm,1.4s						
KDAK	**Kodiak Island**	**15.80**	**57**	Pn	Pn	11 37 35.8	+0.5
KDAK				IAmb	IAmb	11 37 36.8	
	comp=Z,22nm,1.4s						
BRLK	**Bradley Lake**	**17.17**	**51**		P	11 37 53.8	0.0
BRLK				IAmb	IAmb	11 37 55.5	
	comp=Z,18nm,1.2s						
IMAR	**Indian Mountai**	**18.95**	**31**	P	P	11 38 13.4	+0.1

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*KRNET **06** 11:35:56.3±0.1, 39°.34N×77°.14E, mb3.5*
*SOME **06** 11:35:56.2, 39°.60N×76°.93E, h5km*
*NNC **06** 11:35:58.2±0.7, 39°.65N×76°.95E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=5.0km s-min=3.9km az=169.0*
ISC 06 11:36:04.3±1.9**, 39°.87N**±0°.09×**76°.98E**±0°.04**, h10km, n60, σ1ˢ39**/90**, 28C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**2.27**	**4**	⇑*i*P	**Pn**	**11 36 43.4**	**+1.4**
	baz=1.0						
KDJ				⇑*i*S	**Sg**	**11 37 18.0**	**+0.9**
	baz=1.0						
ULHL	**Ulahol**	**2.44**	**347**	⇑*i*P	**Pn**	**11 36 46.3**	**+1.9**
	baz=47						
ULHL				⇑*i*S	**Sg**	**11 37 22.5**	**-0.3**
	baz=47						
ULHL	**Ulahol**	**2.44**	**347**	P	**Pb**	**11 36 47.8**	**-0.6**
	SNR=12						
BOOM	**Boomskoye usch**	**2.74**	**344**	⇑*e*P	**Pn**	**11 36 50.4**	**+2.0**
	baz=44						
BOOM				⇑*i*S	**Sb**	**11 37 29.5**	**+2.4**
	baz=44						
PRZ	**Przheval'sk**	**2.83**	**22**	⇑*i*P	**Pn**	**11 36 50.6**	**+0.9**
	baz=16						
PRZ				⇑*i*S	**Sb**	**11 37 29.9**	**+0.2**
	baz=16						
ARLS	**Aral**	**2.84**	**316**	⇑*i*P	**Pn**	**11 36 50.8**	**+1.0**
	baz=20						
ARLS				⇑*i*S	**Sb**	**11 37 30.6**	**+0.7**
	baz=20						
ANVS	**Anan'yevo**	**2.96**	**10**	⇑*i*P	**Pn**	**11 36 52.8**	**+1.3**
	baz=6.0						
ANVS				⇑*i*S	**Sb**	**11 37 34.3**	**+0.8**
	baz=6.0						
UCH	**Uchtor**	**3.01**	**322**	⇑*i*P	**Pn**	**11 36 53.8**	**+1.4**
	baz=26						
UCH				⇑*i*S	**Sb**	**11 37 35.5**	**+0.3**
	baz=26						
UCH	**Uchtor**	**3.01**	**322**	P	**Pb**	**11 36 57.3**	**-0.9**
	SNR=11						
TNSS	**Tian-Shan**	**3.17**	**360**	*e*P	**Pb**	**11 37 00.4**	**-0.5**
	9.6nm,0.2s						
TNSS				*e*S	**Sg**	**11 37 46.8**	**+0.7**
	12nm,0.6s						
TNSS	**Tian-Shan**	**3.17**	**360**	Pg	**Pb**	**11 37 00.4**	**-0.5**
	9.6nm,0.2s						
TNSS				Lg	Lg	11 37 46.8	
	12nm,0.6s						
IZV	**Izvestkoviy**	**3.18**	**355**	*e*P	**Pb**	**11 36 60.0**	**-1.0**
	3.3nm,0.5s						
IZV				*e*S	**Sg**	**11 37 46.4**	**0.0**
	19nm,0.6s						
IZV	**Izvestkoviy**	**3.18**	**355**	Pg	**Pb**	**11 36 60.0**	**-1.0**
	3.3nm,0.5s						
IZV				Lg	Lg	11 37 46.4	
	19nm,0.6s						
KBK	**Karagaybulak**	**3.18**	**332**	⇑*i*P	**Pn**	**11 36 56.4**	**+1.9**
	baz=34						
KBK				⇑*i*S	**Sb**	**11 37 40.0**	**+0.1**
	baz=34						
KBK	**Karagaybulak**	**3.18**	**332**	P	**Pb**	**11 37 00.3**	**-0.7**
	SNR=7.3						
TKM2	**Tokmak 2**	**3.23**	**342**	⇑Pg	**Pb**	**11 37 00.2**	**-1.5**
	4.1nm,0.4s						
TKM2				⇓Lg	Lg	11 37 47.6	
	5.2nm,0.6s						
KST	**Kastek**	**3.27**	**347**	*e*P	**Pb**	**11 37 02.1**	**-0.3**
	6.8nm,0.6s						
KST				*e*S	**Sg**	**11 37 49.8**	**+0.6**
	9.3nm,0.4s						
KST	**Kastek**	**3.27**	**347**	Pg	**Pb**	**11 37 02.1**	**-0.3**
	6.8nm,0.6s						
KST				Lg	Lg	11 37 49.8	
	9.3nm,0.4s						
MTBS	**Maitube**	**3.29**	**353**	*e*P	**Pb**	**11 37 01.9**	**-0.8**
	1.8nm,0.2s						
MTBS				*e*S	**Sg**	**11 37 49.5**	**-0.4**
	12nm,0.4s						
MTBS	**Maitube**	**3.29**	**353**	Pg	**Pb**	**11 37 01.9**	**-0.8**
	1.8nm,0.2s						
MTBS				Lg	Lg	11 37 49.5	
	12nm,0.4s						
MDOK	**Medeo**	**3.29**	**1**	*e*P	**Pb**	**11 37 03.0**	**+0.1**
	6.1nm,0.4s						
MDOK				*e*S	**Sg**	**11 37 50.6**	**+0.5**
	23nm,0.6s						
MDOK	**Medeo**	**3.29**	**1**	⇑Pg	**Pb**	**11 37 03.2**	**+0.3**
	3.9nm,0.5s						
MDOK				⇑Lg	Lg	11 37 50.6	
	22nm,0.5s						
MDOK	**Medeo**	**3.29**	**1**	Pg	**Pb**	**11 37 02.6**	**-0.3**
	6.1nm,0.4s						
MDOK				Lg	Lg	11 37 50.6	
	23nm,0.6s						
AAK	**Ala-Archa**	**3.34**	**327**	⇑*e*P	**Pn**	**11 36 58.4**	**+1.6**
	baz=30						
AAK				⇑*i*S	**Sb**	**11 37 43.6**	**-1.0**
	baz=30						
AAK	**Ala-Archa**	**3.34**	**327**	P	**Pb**	**11 37 03.3**	**-0.5**
	SNR=5.1						
AAK	**Ala-Archa**	**3.34**	**327**	⇑Pg	**Pb**	**11 37 02.9**	**-0.8**

8.7nm,0.8s
AAK ⇑Lg Lg 11 37 50.7
14nm,0.8s
AML Almayashu 3.36 313 *i*P **Pn 11 36 58.1 +0.9**
baz=18
AML ⇑*e*S **Sb 11 37 43.2 -2.1**
baz=18
AML Almayashu 3.36 313 P **Pn 11 37 00.3 +3.1**
SNR=5.8
SATY Saty 3.37 18 *e*P **Pb 11 37 02.9 -1.2**
2.2nm,0.2s
SATY *e*S **Sg 11 37 51.4 -1.0**
22nm,0.5s
SATY Saty 3.37 18 Pg **Pb 11 37 02.9 -1.2**
2.2nm,0.2s
SATY Lg Lg 11 37 51.3
22nm,0.5s
KOTS Kotyrbulak 3.37 2 *e*P **Pb 11 37 04.2 +0.1**
16nm,0.3s
KOTS *e*S **Sg 11 37 53.4 +1.0**
53nm,0.4s
KOTS Kotyrbulak 3.37 2 Pg **Pb 11 37 04.3 +0.1**
16nm,0.3s
KOTS Lg Lg 11 37 53.4
53nm,0.4s
DGS Degeres 3.49 345 *e*P **Pb 11 37 06.4 +0.1**
6.5nm,0.6s
DGS *e*S **Sg 11 37 57.1 +0.6**
9.6nm,0.5s
DGS Degeres 3.49 345 Pg **Pb 11 37 06.4 +0.1**
6.5nm,0.6s
DGS Lg Lg 11 37 57.1
9.6nm,0.5s
UZB Uzynbulak 3.62 24 *e*P **Pb 11 37 07.5 -0.9**
4.5nm,0.2s
UZB *e*S **Sg 11 37 59.0 -1.4**
12nm,0.7s
UZB Uzynbulak 3.62 24 Pg **Pb 11 37 07.5 -0.9**
4.5nm,0.2s
UZB Lg Lg 11 37 59.1
12nm,0.7s
SHLS Shalkode 3.78 29 *e*P **Pg 11 37 14.2 -2.4**
SHLS *e*S **Sg 11 38 10.2 +4.6**
SHLS Shalkode 3.78 29 Pg **Pg 11 37 14.3 -2.4**
SHLS Lg Lg 11 38 10.2
KPKS Kokpek 3.82 19 *e*P **Pb 11 37 10.9 -0.8**
4.1nm,0.2s
KPKS *e*S **Sg 11 38 04.9 -1.9**
22nm,0.4s
KTBS Karatobe 3.85 357 *e*P **Pb 11 37 12.1 -0.2**
4.5nm,0.5s
KTBS *e*S **Sg 11 38 06.8 -1.1**
15nm,0.3s
KTBS Karatobe 3.85 357 Pg **Pb 11 37 12.1 -0.2**
4.5nm,0.5s
KTBS Lg Lg 11 38 06.8
15nm,0.3s
PDGK Podgornoye 3.94 28 Pg **Pb 11 37 13.7 -0.2**
1.2nm,0.5s
PDGK Lg Lg 11 38 09.6
9.4nm,0.8s
PDGK Podgornoye 3.94 28 ⇑Pg **Pb 11 37 14.9 +1.1**
1.5nm,0.5s
PDGK ⇓Lg Lg 11 38 09.1
19nm,0.7s
KRBS Karabastau 3.95 346 *e*P **Pb 11 37 13.8 -0.2**
6.0nm,0.4s
KRBS *e*S **Sg 11 38 09.6 -1.5**
9.5nm,0.8s
KRBS Karabastau 3.95 346 Pg **Pb 11 37 13.9 -0.2**
6.0nm,0.4s
KRBS Lg Lg 11 38 09.6
9.5nm,0.8s
CHKK Chushkaly 3.98 0 *e*P **Pb 11 37 15.0 +0.4**
2.8nm,0.4s
CHKK *e*S **Sg 11 38 11.8 -0.4**
14nm,0.5s
CHKK Chushkaly 3.98 0 Pg **Pb 11 37 15.0 +0.4**
2.8nm,0.4s
CHKK Lg Lg 11 38 11.8
14nm,0.5s
MRKS Merke 4.04 317 *e*P **Pb 11 37 13.2 -2.3**
5.6nm,0.4s
MRKS *e*S **Sb 11 38 08.8 +4.5**
8.6nm,0.6s
MRKS Merke 4.04 317 Pg **Pb 11 37 13.2 -2.3**
5.6nm,0.4s
MRKS Lg Lg 11 38 08.8
8.6nm,0.6s
KUU Kurty 4.05 353 *e*P **Pb 11 37 15.6 -0.2**
1.6nm,0.2s
KUU *e*S **Sg 11 38 12.9 -1.5**
6.9nm,0.5s
KUU Kurty 4.05 353 Pg **Pb 11 37 15.6 -0.2**
1.6nm,0.2s
KUU Lg Lg 11 38 12.9
6.9nm,0.5s
MNBS Baschi 4.34 14 *e*P **Pb 11 37 20.8 +0.1**
0.6nm,0.2s
MNBS *e*S **Sg 11 38 21.8 -1.9**
13nm,0.6s
MNBS Baschi 4.34 14 Pg **Pb 11 37 20.8 +0.1**
0.6nm,0.2s
MNBS Lg Lg 11 38 21.8
13nm,0.6s
KTMS Ketmen 4.38 34 *e*P **Pb 11 37 21.3 -0.1**
0.2nm,0.0s
KTMS *e*S **Sg 11 38 22.7 -2.1**
8.6nm,0.3s
KTMS Ketmen 4.38 34 Pg **Pb 11 37 21.3 -0.1**
0.2nm,0.0s
KTMS Lg Lg 11 38 22.7
8.6nm,0.3s
ARXS Arharly 4.39 8 *e*P **Pb 11 37 21.8 +0.3**
5.2nm,0.3s
ARXS *e*S **Sg 11 38 23.5 -1.6**
10.0nm,0.6s
ARXS Arharly 4.39 8 Pg **Pb 11 37 21.8 +0.3**
5.2nm,0.3s
ARXS Lg Lg 11 38 23.5
10.0nm,0.6s
KAPS Kapalarasan 5.69 17 *e*P **Pb 11 37 46.6 +2.9**
0.5nm,0.3s
KAPS *e*S **Sg 11 39 06.1 -0.9**
3.6nm,0.7s
KAPS Kapalarasan 5.69 17 Pg **Pb 11 37 46.6 +2.9**
0.5nm,0.3s
KAPS Lg Lg 11 39 06.1
3.6nm,0.7s
KK31 Karatay Array 5.84 306 ⇑Pg **Pb 11 37 47.0 +0.9**
1.6nm,0.8s,baz=124,slow=15,SNR=4.0
KK31 ⇑Lg Lg 11 39 05.2
0.9nm,0.5s,baz=126,slow=28,SNR=5.1

*IDC **06** 11:38:31.8±2.1,4.˚23S×88.˚45E,h0km,mb3.8/6,mb1 4.0/7, mb1mx3.6/49,mbtmp3.9/7,ML4.9/1,MS4.2/3,Ms1 4.2/3, ms1mx3.3/52,Error ellipse: s-maj=65.3km s-min=27.7km az=51.0*
*NEIC **06** 11:38:35.5±0.7,4.˚0S±0.˚1×88.˚5E±0.˚1,h10km±2km, mb4.1/5,Error ellipse: s-maj=25.9km s-min=16.3km az=239.0*
ISC 06 11:38:33.5±1.5,**4.˚2S**±0.˚2×**88.˚5E**±0.˚1,**h10**km,**n26,** σ1f**00**/17,**mb3.9**/8,**MS4.4**/3,**South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**10.64**	**59**		**Pn**	**11 41 05.8**	**-0.3**
PALK	**Pallekele**	**13.79**	**326**	Pn	**Pn**	**11 41 48.0**	**-1.3**
	5.8nm,0.3s,baz=250,slow=14,SNR=24						
PALK				Sn	Sn	11 44 06.3	-16
	0.6nm,0.3s,baz=4.0,slow=5.9,SNR=1.9						
PALK	**Pallekele**	**13.79**	**326**		**Pn**	**11 41 48.0**	**-1.3**
KULM	**Kulim**	**15.41**	**52**	Pn	**Pn**	**11 42 12.1**	**+0.8**
H08S2	**Diego Garcia H**	**16.23**	**257**	T	T	11 59 05.8	
	baz=79,slow=74,SNR=12						
H08S3	**Diego Garcia H**	**16.24**	**257**	T	T	11 59 07.5	
	baz=79,slow=74,SNR=18						
H08S1	**Diego Garcia H**	**16.25**	**257**	T	T	11 59 08.8	
	baz=79,slow=74,SNR=10						
CMAR	**Chiang Mai Arr**	**24.79**	**24**	P	**P**	**11 43 56.3**	**+0.4**
	0.8nm,0.3s,baz=214,slow=11,SNR=2.0						
H01W3	**Cape Leeuwin H**	**38.69**	**145**	T	T	12 26 51.1	
	baz=319,slow=76,SNR=4.9						
H01W2	**Cape Leeuwin H**	**38.70**	**145**	T	T	12 26 56.1	
	baz=319,slow=76,SNR=5.3						
H01W1	**Cape Leeuwin H**	**38.71**	**145**	T	T	12 26 57.8	
	baz=319,slow=76,SNR=4.0						
WRA	**Warramunga Arr**	**47.32**	**113**	LR	LR	12 05 36.3	
	comp=Z,80nm,19.2s,baz=200,slow=34						
ASAR	**Alice Springs**	**47.88**	**118**	P	**P**	**11 47 11.6**	**-0.7**
	0.2nm,0.7s,baz=296,slow=6.5,SNR=5.3						
KK31	**Karatay Array**	**49.82**	**343**	P	**P**	**11 47 27.1**	**+0.3**
KK31				IAmb	IAmb	11 47 29.2	
	comp=Z,1.8nm,0.9s						
KKAR	**Karatay Array**	**49.82**	**343**	P	**P**	**11 47 27.4**	**+0.7**
GEYT	**Alibeck**	**50.51**	**329**	P	**P**	**11 47 32.0**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=162,slow=10.0,SNR=5.0						
GEYT	**Alibeck**	**50.51**	**329**	P	**P**	**11 47 34.0**	**+1.9**
MKAR	**Makanchi Array**	**51.09**	**355**	P	**P**	**11 47 36.9**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=193,slow=7.5,SNR=4.6						
MKAR	**Makanchi Array**	**51.09**	**355**	P	**P**	**11 47 36.5**	**+0.2**
SONM	**Songino Array**	**54.18**	**15**	P	**P**	**11 47 58.9**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=203,slow=8.0,SNR=5.4						
SONM	**Songino Array**	**54.18**	**15**	P	**P**	**11 47 59.1**	**-0.1**
SONM				IAmb	IAmb	11 48 11.1	
	comp=Z,2.1nm,1.2s						
ZALV	**Zalesovo Beam**	**58.04**	**357**	P	**P**	**11 48 24.7**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=146,slow=8.0,SNR=1.8						
ABKAR	**Akbulak array**	**58.74**	**339**	P	**P**	**11 48 32.3**	**+0.8**
ABKAR				IAmb	IAmb	11 48 46.6	
	comp=Z,1.7nm,0.9s						
DAVOX	**Davos/Dischmat**	**85.26**	**317**	LR	LR	12 34 48.5	
	comp=Z,134nm,18.8s,baz=258,slow=40						
HFS	**Hagfors**	**86.11**	**331**	LR	LR	12 34 05.9	
	comp=Z,345nm,18.6s,baz=349,slow=39						
TXAR	**Lajitas Array**	**152.51**	**23**	PKPbc	**PKiKP**	**11 58 31.9**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=256,slow=3.7,SNR=3.5						

IDC 06 11:45:54.5±2.2,**0.˚84N**×**126.˚50E**,**h0**km,**mb3.1**/3, **mb1 3.3**/3,**mb1mx3.1**/29,**mbtmp3.1**/3,**1C,Error ellipse: s-maj=170.8km s-min=28.3km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.04**	**160**	P	P	11 50 49.2	-1.6
	0.3nm,0.5s,baz=338,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**25.40**	**164**	P	P	11 51 24.9	+1.1
	0.2nm,0.3s,baz=345,slow=12,SNR=9.2						
MKAR	**Makanchi Array**	**59.80**	**326**	P	P	11 56 01.4	-0.2
	0.2nm,0.4s,baz=126,slow=7.4,SNR=2.5						
PLOR	**Plostina**	**96.27**	**316**	⇑S	S	12 10 31.7	-14

*NOU **06** 12:08:47.3,17.˚39S×167.˚89E,h15km,MLv4.9,Vanuatu Islands*
*NEIC **06** 12:08:47.1±2.6,17.˚32S±0.˚05×167.˚7E±0.˚2,h10km±2km, mb4.3/6,Error ellipse: s-maj=32.5km s-min=7.7km az=84.0*
*IDC **06** 12:08:55.4±4.3,17.˚86S×166.˚66E,h0km,mb3.9/5, mb1 4.0/6,mb1mx3.7/34,mbtmp3.8/6,ML3.1/1,MS3.5/1, Ms1 3.5/1,ms1mx2.6/25,Error ellipse: s-maj=82.2km s-min=31.6km az=75.0*
ISC 06 12:08:46.9±1.0,**17.˚39S**±0.˚06×**167.˚77E**±0.˚10,**h10**km,**n22,** σ1f**25**/20,**mb4.0**/8,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.52**	**130**	P	**Pg**	**12 08 56.9**	**-0.2**
SANVU	**Saraoutou**	**2.00**	**344**	Pn	**Pn**	**12 09 19.8**	**-1.1**
MARNC	**Mare, Loyalty**	**4.08**	**177**	P	**Pn**	**12 09 48.9**	**-0.5**
KOUNC	**Koumac, New Ca**	**4.56**	**226**	P	**Pn**	**12 09 56.8**	**+0.8**
YATNC	**Mamie plateau,**	**4.72**	**190**	P	**Pn**	**12 09 57.7**	**-0.6**
DZM	**Mont Dzumac**	**4.83**	**195**	Pn	**Pn**	**12 09 59.5**	**-0.3**
	1.1nm,0.3s,baz=70,slow=10,SNR=66						
DZM				Sn	**Sn**	**12 10 52.0**	**-3.8**
	3.3nm,0.3s,baz=143,slow=21,SNR=18						
DZM	**Mont Dzumac**	**4.83**	**195**		**Pn**	**12 09 59.7**	**-0.1**
OUENC	**Ouen Island, N**	**5.08**	**190**	P	**Pn**	**12 10 03.7**	**+0.5**
PINNC	**Pines Island,**	**5.21**	**183**	P	**Pn**	**12 10 05.6**	**+0.7**
RABL	**Rabaul**	**20.15**	**309**	P	Pn	12 13 23.2	-0.2
PMG	**Port Moresby**	**21.55**	**289**	P	**P**	**12 13 36.9**	**+0.2**
PMG				IAmb	IAmb	12 13 42.9	
	comp=Z,26nm,1.4s						
STKA	**Stephens Creek**	**27.73**	**234**	P	**P**	**12 14 36.3**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=79,slow=10,SNR=3.5						
STKA	**Stephens Creek**	**27.73**	**234**	P	**P**	**12 14 35.7**	**0.0**
WB0	**Warramunga Arr**	**31.70**	**260**	P	**P**	**12 15 11.1**	**0.0**
WB0				IAmb	IAmb	12 15 39.8	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**31.75**	**260**	P	**P**	**12 15 11.0**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=88,slow=8.1,SNR=4.6						
ASAR	**Alice Springs**	**32.27**	**253**	P	**P**	**12 15 15.6**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=78,slow=8.4,SNR=16						
ASAR	**Alice Springs**	**32.27**	**253**	P	**P**	**12 15 14.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**40.07**	**262**	P	**P**	**12 16 23.4**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=115,slow=9.3,SNR=6.1						
FITZ	**Fitzroy Crossi**	**40.07**	**262**	P	**P**	**12 16 23.6**	**+0.7**
FITZ				IAmb	IAmb	12 16 33.6	
	comp=Z,7.8nm,1.4s						
PPT	**Papeete**	**40.62**	**97**	LR	LR	12 29 39.7	
	comp=Z,68nm,21.2s,baz=194,slow=30						
QSPA	**South Pole Qui**	**72.66**	**180**	P	**P**	**12 20 17.1**	**+2.3**
QSPA				IAmb	IAmb	12 20 23.3	
	comp=Z,2.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**76.47**	**294**	P	P	12 20 44.0	+6.4
	comp=Z,0.6nm,0.4s,baz=123,slow=3.3,SNR=4.1						

*IDC **06** 12:12:26.5±0.8,21.˚18N×121.˚47E,h0km,mb3.7/8, mb1 3.9/10,mb1mx3.6/48,mbtmp3.8/10,ML3.2/2,MS3.5/1, Ms1 3.5/1,ms1mx2.8/32,Error ellipse: s-maj=29.2km s-min=16.9km az=70.0*
*NEIC **06** 12:12:27.9±2.0,21.˚11N±0.˚08×121.˚3E±0.˚1,h10km±1km, mb4.1/9,Error ellipse: s-maj=22.8km s-min=12.3km az=99.0*
*TAP **06** 12:12:27.4,21.˚09N×121.˚52E,h55km±1km,ML4.2,D*
*JMA **06** 12:12:29.8±0.6,21.˚33N×121.˚15E,h24km,M4.7*
ISC 06 12:12:30.5±1.5,**21.˚19N**±0.˚05×**121.˚30E**±0.˚04,**h27**km±11km, **n117,**σ1f**38**/147,**mb3.8**/12,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.80**	**333**	*i* P	**Pn**	**12 12 46.2**	**+0.2**
	baz=315						
TSEB				S	**Sn**	**12 13 00.8**	**+3.8**
	baz=315						
TWKBT	**Hengchun**	**0.87**	**329**	*i* P	**Pn**	**12 12 46.9**	**-0.1**
	baz=315						
TWKBT				*i* S	**Sn**	**12 13 01.1**	**+2.2**
	baz=315						
LAY	**Lan-yu**	**0.88**	**16**	P	**Pn**	**12 12 46.6**	**-0.6**
	baz=2.0						
LAY				*i* S	**Sn**	**12 12 57.8**	**-1.3**
	baz=2.0						
TWK1	**Hengchun**	**0.88**	**329**	*i* P	**Pb**	**12 12 46.9**	**-0.3**
	baz=315						
TWK1				*i* S	**Sn**	**12 13 01.1**	**+2.1**
	baz=315						
SNW	**Nanwan**	**0.92**	**327**	*e*P	**Pb**	**12 12 50.4**	**+2.5**
	baz=321						
SNW				*e*S	**Sn**	**12 13 03.5**	**+3.5**
	baz=321						
HEN	**Hengchun**	**0.96**	**328**	P	**Pb**	**12 12 48.6**	**0.0**
	baz=322						
HEN				*e*S	**Sn**	**12 13 03.9**	**+2.8**
	baz=322						
SLIU	**Shizi**	**1.12**	**336**	*i* P	**Pn**	**12 12 49.8**	**-0.7**
	baz=337						
SLIU				*e*S	**Sb**	**12 13 06.0**	**+0.5**
	baz=337						
TAW	**Tawu**	**1.22**	**342**	P	**Pn**	**12 12 50.7**	**-1.1**
	baz=345						
EAST	**Anshuo**	**1.26**	**341**	*i* P	**Pn**	**12 12 51.3**	**-1.1**
	baz=344						
SCZT	**Fangliau**	**1.33**	**332**	*i* P	**Pb**	**12 12 53.8**	**-1.1**
	baz=316						
SCZT				*e*S	**Sb**	**12 13 13.7**	**+2.1**
	baz=316						
ECL	**Taimali**	**1.44**	**347**	*i* P	**Pn**	**12 12 53.0**	**-1.8**
	baz=341						
SSPT	**Xinbi**	**1.45**	**332**	P	**Pb**	**12 12 56.3**	**-0.6**
	baz=328						
SSPT				*e*S	**Sb**	**12 13 13.9**	**-1.1**
	baz=328						
LDUT	**Ludao**	**1.48**	**6**	*e*P	**Pn**	**12 12 54.4**	**-1.1**
	baz=358						
LDUT				*e*S	**Sn**	**12 13 11.8**	**-2.3**
	baz=358						
MASBT	**Mashibuluo**	**1.54**	**337**	*i* P	**Pn**	**12 12 56.2**	**0.0**
	baz=341						
TTN	**Taitung**	**1.56**	**355**	*e*P	**Pn**	**12 12 56.9**	**+0.3**
	baz=349						
TTN				*e*S	**Sn**	**12 13 17.3**	**+1.4**
	baz=349						
TWGBT	**Beinan**	**1.63**	**353**	*i* P	**Pn**	**12 12 55.8**	**-1.8**
	baz=347						
TWG	**Pinlang**	**1.64**	**353**	P	**Pn**	**12 12 55.7**	**-1.8**
	baz=347						
TWG	**Pinlang**	**1.64**	**353**		**Pn**	**12 12 55.8**	**-1.8**
SSD	**Sandimen**	**1.67**	**338**	P	**Pn**	**12 12 58.0**	**0.0**
	baz=341						
LONT	**Longtian**	**1.71**	**355**	*e*P	**Pn**	**12 12 57.0**	**-1.7**
	baz=341						
EDH	**Donghe**	**1.77**	**0**	P	**Pn**	**12 12 58.2**	**-1.3**
	baz=346						
EDH				S	**Sn**	**12 13 18.6**	**-2.5**
	baz=346						
TWM1	**Shoushan**	**1.82**	**334**	*e*P	**Pb**	**12 13 01.8**	**-1.3**
	baz=330						
SCST	**Cishan**	**1.84**	**336**	*e*P	**Pb**	**12 13 01.9**	**-1.7**
	baz=332						
SLGT	**Liugui**	**1.89**	**342**	*e*P	**Pb**	**12 13 03.0**	**-1.4**
	baz=337						
CHKT	**Chengkung**	**1.90**	**2**	*e*P	**Pn**	**12 13 00.8**	**-0.4**
	baz=1.0						
CHKT				S	**Sn**	**12 13 22.1**	**-2.2**
	baz=1.0						
SGST	**Jiashian**	**2.00**	**341**	*e*P	**Pn**	**12 13 03.6**	**+1.0**
	baz=337						
FULB	**Fuli**	**2.00**	**360**	*e*P	**Pn**	**12 13 01.6**	**-1.0**
	baz=344						
FULB				*e*S	**Sn**	**12 13 25.4**	**-1.4**
	baz=344						
ELDTW	**Lidau**	**2.01**	**353**	*e*P	**Pn**	**12 13 01.6**	**-1.2**
	baz=348						
STYT	**Tauyuan**	**2.03**	**346**	*e*P	**Pn**	**12 13 03.0**	**0.0**
	baz=341						
STYH	**Taoyuan**	**2.03**	**346**	*e*P	**Pn**	**12 13 03.2**	**+0.2**
	baz=342						
EYUL	**Yuli**	**2.15**	**1**	*e*P	**Pn**	**12 13 04.2**	**-0.4**
	baz=346						
SNST	**Tainan City**	**2.15**	**340**	*e*P	**Pb**	**12 13 07.0**	**-1.8**
	baz=336						
TWF1	**Yuli**	**2.15**	**0**	*e*P	**Pn**	**12 13 03.1**	**-1.6**
	baz=346						
TPUB	**Ta-pu**	**2.19**	**344**	P	**Pn**	**12 13 06.5**	**+1.3**
	baz=340						
TPUB	**Ta-pu**	**2.19**	**344**		**Pn**	**12 13 06.2**	**+1.0**
YULB	**Yu-li**	**2.19**	**0**	*e*P	**Pn**	**12 13 03.4**	**-1.9**
	baz=347						
YULB	**Yu-li**	**2.19**	**0**		**Pn**	**12 13 04.3**	**-0.9**
TWK	**Hsinying**	**2.20**	**340**	*e*P	**Pn**	**12 13 06.5**	**+1.1**
	baz=337						
CHN4	**Tsaushan**	**2.25**	**343**	*e*P	**Pn**	**12 13 07.3**	**+1.3**
	baz=339						
HGSD	**Ruisui**	**2.29**	**3**	*e*P	**Pn**	**12 13 06.1**	**-0.5**
	baz=5.0						
HGSD				*e*S	**Sn**	**12 13 34.8**	**+0.8**
	baz=5.0						
EHY	**Hungye**	**2.31**	**1**	*e*P	**Pn**	**12 13 04.7**	**-2.1**
	baz=347						
ALS	**Alishan**	**2.35**	**349**	*e*P	**Pn**	**12 13 08.3**	**+0.6**
	baz=345						
ALS				*e*S	**Sn**	**12 13 36.6**	**+0.7**
	baz=345						
ICHU	**Yijhu**	**2.36**	**337**	*e*P	**Pn**	**12 13 08.4**	**+0.9**
	baz=333						
CHN5	**Tsauling**	**2.46**	**347**	*e*P	**Pn**	**12 13 10.4**	**+1.4**
	baz=343						
VWDT	**VWDT**	**2.56**	**357**	*e*P	**Pn**	**12 13 09.8**	**-0.4**
	baz=359						
WDGT	**Dungji**	**2.56**	**324**	P	**Pn**	**12 13 09.9**	**-0.3**
	baz=332						
WDLH	**Douliu**	**2.58**	**344**	*e*P	**Pn**	**12 13 11.3**	**+0.7**
	baz=341						
SSLB	**Suanglung**	**2.60**	**353**	*e*P	**Pn**	**12 13 12.2**	**+1.3**
	baz=337						
SSLB	**Suanglung**	**2.60**	**353**		**Pn**	**12 13 12.3**	**+1.3**
ESL	**Shilin**	**2.62**	**3**	*e*P	**Pn**	**12 13 11.3**	**+0.3**
	baz=350						
WTK	**Tuku**	**2.62**	**342**	*e*P	**Pn**	**12 13 11.6**	**+0.4**
	baz=338						
WTK				*e*S	**Sn**	**12 13 41.3**	**-0.8**
	baz=338						
WJS	**Zhushan**	**2.67**	**349**	*e*P	**Pn**	**12 13 13.8**	**+1.9**
	baz=334						
SMLT	**Sun Moon Lake**	**2.71**	**352**	P	**Pn**	**12 13 13.8**	**+1.4**
	baz=337						
TYC	**Yuchr**	**2.73**	**352**	P	**Pn**	**12 13 13.9**	**+1.3**
	baz=337						
PHUB	**P'eng-hu**	**2.81**	**326**	*i* P	**Pn**	**12 13 13.3**	**-0.4**
	baz=324						
PHUB				*e*S	**Sn**	**12 13 43.8**	**-2.9**
	baz=324						
DPDB	**Guoxing**	**2.85**	**353**	*e*P	**Pn**	**12 13 15.8**	**+1.5**
	baz=338						
CHGB	**Renai**	**2.86**	**358**	*e*P	**Pn**	**12 13 14.8**	**+0.2**
	baz=340						
PNG	**Penghu**	**2.86**	**326**	*e*P	**Pn**	**12 13 14.2**	**-0.3**
	baz=324						
PNG				*e*S	**Sn**	**12 13 45.6**	**-2.4**
	baz=324						
WCS	**Beigang Elemen**	**2.88**	**353**	*e*P	**Pn**	**12 13 15.9**	**+1.3**
	baz=339						
WHF	**Hehuan Shan**	**2.94**	**359**	*e*P	**Pn**	**12 13 16.9**	**+0.9**
	baz=3.0						
NACB	**Ninganchiao**	**2.98**	**5**	*e*P	**Pn**	**12 13 16.6**	**+0.5**
	baz=352						
NACB				*e*S	**Sn**	**12 13 52.1**	**+1.1**
	baz=352						
NACB	**Ninganchiao**	**2.98**	**5**		**Pn**	**12 13 16.6**	**+0.5**
ETLH	**Xiulin Townshi**	**3.01**	**3**	*e*P	**Pn**	**12 13 15.7**	**-0.8**
	baz=359						
FUSS	**Fushou**	**3.04**	**359**	*e*P	**Pn**	**12 13 17.1**	**0.0**
	baz=342						
FUSS				*e*S	**Sn**	**12 13 51.4**	**-1.5**
	baz=342						
WHP	**Taichung City**	**3.09**	**354**	*e*P	**Pn**	**12 13 19.2**	**+1.5**
	baz=340						
WHP				*e*S	**Sn**	**12 13 56.2**	**+2.4**
	baz=340						
NNSB	**Datong**	**3.22**	**1**	*e*P	**Pn**	**12 13 20.1**	**+0.5**
	baz=6.0						
NNSB				*e*S	**Sn**	**12 13 57.0**	**-0.1**
	baz=6.0						
NNSH	**Datong**	**3.22**	**1**	*e*P	**Pn**	**12 13 20.1**	**+0.5**
	baz=6.0						
NNS	**Nan Shan**	**3.24**	**1**	*e*P	**Pn**	**12 13 21.9**	**+2.2**
	baz=6.0						
ENA	**Nanau**	**3.25**	**7**	*e*P	**Pn**	**12 13 20.6**	**+0.8**
	baz=4.0						
ENTT	**Nioudou**	**3.44**	**4**	*e*P	**Pn**	**12 13 23.5**	**+1.0**
	baz=1.0						
YHNB	**Yeheng**	**3.46**	**1**	*e*P	**Pn**	**12 13 23.4**	**+0.6**
	baz=344						
YHNB	**Yeheng**	**3.46**	**1**		**Pn**	**12 13 23.9**	**+1.1**
NSK	**Sanguang**	**3.47**	**1**	*e*P	**Pn**	**12 13 23.7**	**+0.8**
	baz=344						
NWLT	**Wulai**	**3.58**	**3**	*e*P	**Pn**	**12 13 25.3**	**+1.0**
	baz=9.0						
YOJ	**Yonaguni jima**	**3.62**	**26**	P	**Pn**	**12 13 27.4**	**+2.5**
YOJ				*e*S	**Sn**	**12 14 07.1**	**+0.4**
TATO	**Taipei**	**3.77**	**3**	*e*P	**Pn**	**12 13 30.5**	**+3.5**
	baz=9.0						
TATO				*e*S	**Sn**	**12 14 11.1**	**+0.7**
	baz=9.0						
TIPB	**Shuangxi**	**3.80**	**7**	*e*P	**Pn**	**12 13 29.5**	**+2.2**
	baz=350						
TIPB				*e*S	**Sn**	**12 14 11.6**	**+0.5**
	baz=350						
IRIF	**Iriomote-Funau**	**3.85**	**35**	P	**Pn**	**12 13 29.8**	**+1.8**
IRIF				*e*S	**Sn**	**12 14 13.5**	**+1.0**
JKRS	**Kuro-shima**	**3.93**	**39**	P	**Pn**	**12 13 30.8**	**+1.6**
JKRS				S	**Sn**	**12 14 14.3**	**-0.2**
JIJ	**Ishigaki jima**	**4.11**	**39**	P	**Pn**	**12 13 32.9**	**+1.3**
JIJ				*e*S	**Sn**	**12 14 19.0**	**+0.2**
VWUC	**VWUC**	**4.15**	**336**	P	**Pn**	**12 13 32.0**	**-0.1**
	baz=334						
KNM	**Kinmen**	**4.16**	**321**	P	**Pn**	**12 13 33.6**	**+1.4**
	baz=318						
KNMB	**Chin-men Tao**	**4.22**	**321**	P	**Pn**	**12 13 33.2**	**+0.1**
	baz=320						
ZPLA	**Ao Xicun**	**4.26**	**310**	*e*P	**Pn**	**12 13 34.1**	**+0.4**
	baz=309						
VDOS	**Pratas Island**	**4.29**	**264**	*e*P	**Pn**	**12 13 36.1**	**+2.0**
	baz=265						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VDOS				eS	Sn	12 14 21.0	-2.4
	baz=265						
PTMZ	**Houxiangcun**	**4.32**	**333**	P	**Pn**	**12 13 34.6**	**+0.1**
	baz=331						
JISG	**Ishigakijimahi**	**4.38**	**39**	P	**Pn**	**12 13 35.9**	**+0.6**
JTJ	**Tarama**	**4.65**	**42**	P	**Pn**	**12 13 40.1**	**+1.0**
JTJ				S	**Sn**	**12 14 31.9**	**-0.3**
AXDP	**Jialang**	**4.80**	**321**	i P	**Pn**	**12 13 41.2**	**+0.2**
	baz=320						
JMJ2	**Miyako jima3**	**5.13**	**46**	P	**Pn**	**12 13 47.9**	**+2.3**
JMJ2				eS	**Sn**	**12 14 44.7**	**+0.8**
MHZQ	**Yeshan**	**5.31**	**337**	P	**Pn**	**12 13 47.7**	**-0.3**
	baz=336						
LYJJ	**Jianjiangzhen**	**5.52**	**346**	eP	**Pn**	**12 13 50.9**	**0.0**
	baz=344						
XPSS	**Dashiqiu**	**5.80**	**350**	eP	**Pn**	**12 13 55.7**	**+0.9**
	baz=348						
JOW	**Kunigami**	**8.50**	**47**	Pn	**Pn**	**12 14 31.2**	**-0.7**
	0.8nm,0.3s,baz=93,slow=17,SNR=3.4						
QIZ	**Qiongzhong**	**10.97**	**261**	Pn	**Pn**	**12 15 04.0**	**-1.9**
KSRS	**Korea Array**	**17.20**	**18**	P	**Pn**	**12 16 26.8**	**-2.0**
	0.0nm,0.3s,baz=195,slow=13,SNR=2.1						
CMAR	**Chiang Mai Arr**	**21.20**	**267**	P	**P**	**12 17 16.8**	**+2.6**
	0.7nm,0.3s,baz=76,slow=9.9,SNR=6.4						
LUWI	**Luwuk**	**22.14**	**176**	P	**P**	**12 17 23.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**24.60**	**19**	LR	LR	12 28 42.1	
	comp=Z,94nm,18.1s,baz=333,slow=40						
KULM	**Kulim**	**25.51**	**235**	P	**P**	**12 17 56.1**	**-0.9**
KULM				IAmb	IAmb	12 17 59.2	
	comp=Z,5.2nm,1.0s						
SONM	**Songino Array**	**29.17**	**339**	P	**P**	**12 18 29.9**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=148,slow=9.8,SNR=6.2						
SONM	**Songino Array**	**29.17**	**339**	P	**P**	**12 18 29.8**	**+0.1**
MK31	**Makanchi Array**	**40.59**	**318**	P	**P**	**12 20 09.1**	**+1.1**
MKAR	**Makanchi Array**	**40.59**	**318**	P	**P**	**12 20 08.8**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=117,slow=9.9,SNR=13						
MKAR	**Makanchi Array**	**40.59**	**318**	P	**P**	**12 20 09.9**	**+1.9**
WB0	**Warramunga Arr**	**42.67**	**162**	P	**P**	**12 20 24.1**	**-1.1**
WB0				IAmb	IAmb	12 20 29.8	
	comp=Z,6.2nm,1.3s						
WRA	**Warramunga Arr**	**42.83**	**162**	P	**P**	**12 20 25.4**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=344,slow=8.8,SNR=10						
ZALV	**Zalesovo Beam**	**42.83**	**329**	P	**P**	**12 20 26.0**	**0.0**
	comp=Z,1.1nm,0.5s,baz=119,slow=8.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**42.83**	**329**	P	**P**	**12 20 26.2**	**+0.2**
WB2	**Warramunga Arr**	**42.83**	**162**	P	**P**	**12 20 25.0**	**-1.4**
WB2				IAmb	IAmb	12 20 44.3	
	comp=Z,6.9nm,1.2s						
WR0	**Warramunga Arr**	**42.90**	**162**	P	**P**	**12 20 26.5**	**-0.5**
WR0				IAmb	IAmb	12 20 29.9	
	comp=Z,8.7nm,1.5s						
ASAR	**Alice Springs**	**46.25**	**164**	P	**P**	**12 20 53.2**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=345,slow=7.4,SNR=6.6						
BBOO	**Buckleboo**	**55.52**	**165**	P	**P**	**12 22 04.7**	**+1.4**
STKA	**Stephens Creek**	**56.24**	**159**	P	**P**	**12 22 07.9**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=2.7,slow=3.4,SNR=4.4						
STKA	**Stephens Creek**	**56.24**	**159**	IAmb	IAmb	12 22 31.4	
	comp=Z,1.3nm,1.2s						
IMAR	**Indian Mountai**	**68.81**	**26**	P	**P**	**12 23 32.6**	**+0.5**
YKA	**Yellowknife Ar**	**85.68**	**23**	P	**P**	**12 25 06.8**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=320,slow=4.1,SNR=6.4						

IDC 06 12:24:32.2±22.0**, 0°.95S**×**67°.82E, h0km, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/36**, mbtmp3.5**/3**, MS3.8**/5**, Ms1 3.8**/5**, ms1mx3.3**/34**, Error ellipse: s-maj=740.6km s-min=42.8km az=68.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.23**	**57**	LR	LR	12 32 41.1	
	comp=Z,131nm,20.2s,baz=59,slow=32						
CMAR	**Chiang Mai Arr**	**36.17**	**56**	LR	LR	12 45 23.4	
	comp=Z,42nm,19.5s,baz=280,slow=35						
BOSA	**Boshof**	**49.05**	**232**	LR	LR	12 52 15.9	
	comp=Z,113nm,18.7s,baz=140,slow=34						
MKAR	**Makanchi Array**	**49.22**	**13**	P	P	12 33 22.2	-0.2
	0.3nm,0.9s,baz=197,slow=4.4,SNR=2.4						
SONM	**Songino Array**	**59.04**	**29**	LR	LR	12 59 55.0	
	comp=Z,139nm,18.2s,baz=360,slow=36						
WRA	**Warramunga Arr**	**67.65**	**111**	P	P	12 35 32.0	+0.3
	0.6nm,0.8s,baz=282,slow=5.7,SNR=5.3						
ASAR	**Alice Springs**	**67.78**	**115**	P	P	12 35 32.2	-0.3
	0.3nm,0.7s,baz=283,slow=6.8,SNR=5.3						
GERES	**GERESS Array B**	**67.99**	**325**	LR	LR	13 07 04.9	
	comp=Z,218nm,18.5s,baz=352,slow=38						

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*IDC **06** 13:15:04.7±1.9, 9°.38S×112°.93E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/36, mbtmp4.0/9, ML3.7/1, MS3.3/3, Ms1 3.4/3, ms1mx2.9/31, Error ellipse: s-maj=71.7km s-min=18.1km az=51.0*
*DJA **06** 13:15:08.6±0.4, 10°S±4°×11°3E±°, h10km, M4.5/13, mb4.6/4, mB5.2/1, MLv4.4/13, Mw(mB)4.5/1*
ISC 06 13:15:04.6±0.8**, 9°.78S**±0°.07×**112°.82E**±0°.04**, h10km, n22, σ2s35**/24**, mb4.1**/8**, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.85**	**45**	P	**Pb**	**13 15 37.7**	**-0.8**
JAGI				S	**Sn**	**13 16 00.5**	**+0.7**
ABJI	**Asem Bagus**	**2.41**	**35**	P	**Pb**	**13 15 47.7**	**-0.4**
ABJI				S	**Sb**	**13 16 17.0**	**-1.0**
DNP	**Denpasar**	**2.60**	**65**	P	**Pb**	**13 15 50.0**	**-1.3**
SRBI	**Singaraja**	**2.90**	**55**	P	**Pb**	**13 15 53.8**	**-2.6**
SRBI				S	**Sn**	**13 16 26.6**	**+0.8**
UGM	**Wanagama**	**2.93**	**309**	P	**Pb**	**13 15 54.5**	**-2.5**
UGM				S	**Sn**	**13 16 27.3**	**+0.6**
KMMI	**Kalianget**	**2.94**	**23**	P	**Pn**	**13 15 53.8**	**+2.4**
SMRI	**Semarang**	**3.59**	**319**	P	**Pn**	**13 16 04.0**	**+3.6**
TWSI	**Taliwang, Sumb**	**4.14**	**76**	P	**Pn**	**13 16 11.4**	**+3.5**
PLAI	**Plampang**	**4.98**	**79**	P	Pn	13 16 24.5	+5.0
CISI	**Cisompet, Garu**	**5.42**	**294**	P	**Pn**	**13 16 28.5**	**+2.9**
	0.8nm112nm,0.7s						
BBKI	**Banjar Baru**	**6.59**	**18**	P	**Pn**	**13 16 44.2**	**+2.6**
	0.2nm2μm34nm,0.7s						
KAPI	**Kappang**	**8.34**	**56**	LR	LR	13 20 51.6	
	comp=Z,60nm,19.0s,baz=232,slow=43						
FITZ	**Fitzroy Crossi**	**14.93**	**125**	Pn	**Pn**	**13 18 37.4**	**+1.5**
	0.2nm,0.3s,baz=314,slow=8.2,SNR=9.1						
FITZ				Sn	**Sn**	**13 21 16.6**	**-4.9**
	0.1nm,0.3s,baz=246,slow=21,SNR=1.4						
WRA	**Warramunga Arr**	**23.09**	**118**	P	**P**	**13 20 13.7**	**+2.9**
	1.2nm,0.6s,baz=291,slow=11,SNR=15						
ASAR	**Alice Springs**	**24.41**	**127**	P	**P**	**13 20 26.8**	**+3.3**
	3.5nm,0.7s,baz=304,slow=8.9,SNR=71						
CMAR	**Chiang Mai Arr**	**31.22**	**334**	P	**P**	**13 21 24.1**	**-0.4**
	0.5nm,0.3s,baz=166,slow=8.8,SNR=4.6						
CMAR				LR	LR	13 37 00.6	
	comp=Z,76nm,18.4s,baz=205,slow=43						
STKA	**Stephens Creek**	**34.54**	**134**	LR	LR	13 37 46.6	
	comp=Z,85nm,18.8s,baz=207,slow=39						
MJAR	**Matsushiro Arr**	**51.90**	**26**	P	**P**	**13 24 11.9**	**-1.6**
	1.1nm,0.5s,baz=194,slow=7.1,SNR=4.0						
SONM	**Songino Array**	**57.64**	**355**	P	**P**	**13 24 54.5**	**-0.6**
	1.4nm,0.7s,baz=173,slow=7.6,SNR=11						
KLR	**Kul'dur**	**61.07**	**14**	P	**P**	**13 25 17.3**	**-1.3**
	0.5nm,0.5s,baz=151,slow=19,SNR=4.0						
MKAR	**Makanchi Array**	**62.57**	**337**	P	**P**	**13 25 28.0**	**-0.8**
	0.9nm,0.5s,baz=154,slow=7.2,SNR=13						
ZALV	**Zalesovo Beam**	**67.77**	**343**	P	**P**	**13 26 01.2**	**-1.2**
	1.3nm,0.5s,baz=146,slow=6.5,SNR=5.0						

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*IDC **06** 13:15:21.4±4.5, 30°.80N×141°.60E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/37, mbtmp3.2/4, ML2.6/1, Error ellipse: s-maj=178.6km s-min=26.8km az=72.0*
*JMA **06** 13:15:25.0±0.3, 31°.59N×142°.50E, h22km, M3.6*
ISC 06 13:15:23.2±3.3**, 31°.2N**±0°.3×**142°.5E**±0°.8**, h35km, n7, σ1s53**/9**, mb3.3**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**5.33**	**330**	P	**Pn**	**13 16 41.6**	**+1.3**
JHU				eS	**Sn**	**13 17 39.2**	**-1.3**
JRY	**Ryogami san**	**5.63**	**329**	P	**Pn**	**13 16 45.7**	**+1.2**
JAG	**Ashikaga**	**5.76**	**335**	P	**Pn**	**13 16 46.8**	**+0.6**
JAG				eS	**Sn**	**13 17 49.0**	**-2.1**
MJAR	**Matsushiro Arr**	**6.38**	**327**	Pn	**Pn**	**13 16 54.8**	**0.0**
	0.1nm,0.3s,baz=160,slow=12,SNR=9.9						
MKAR	**Makanchi Array**	**48.15**	**307**	P	**P**	**13 24 01.4**	**+1.5**
	0.2nm,0.8s,baz=76,slow=10,SNR=2.4						
WRA	**Warramunga Arr**	**51.49**	**190**	P	**P**	**13 24 24.1**	**-1.3**
	0.2nm,0.3s,baz=6.1,slow=7.7,SNR=9.3						
ASAR	**Alice Springs**	**55.22**	**190**	P	**P**	**13 24 52.1**	**-0.6**
	0.2nm,0.7s,baz=1.4,slow=4.9,SNR=4.2						

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*IDC **06** 13:34:20.4±2.6, 9°.83S×112°.33E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/29, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=124.8km s-min=20.6km az=49.0*
*DJA **06** 13:34:26.6±0.6, 10°S±6°×11°3E±°, h10km, M3.9/12, mb4.0/1, MLv3.9/12*
ISC 06 13:34:23.1±1.0**, 9°.62S**±0°.09×**112°.72E**±0°.05**, h10km, n14, σ1s56**/16**, mb3.7**/5**, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.82**	**51**	P	**Pb**	**13 34 55.7**	**-0.9**
JAGI				S	**Sn**	**13 35 18.1**	**+0.3**
ABJI	**Asem Bagus**	**2.36**	**40**	P	**Pb**	**13 35 04.4**	**-1.3**
ABJI				S	**Sb**	**13 35 34.7**	**-0.2**
DNP	**Denpasar**	**2.64**	**69**	P	**Pb**	**13 35 08.1**	**-2.4**
UGM	**Wanagama**	**2.75**	**308**	P	**Pb**	**13 35 12.5**	**0.0**
KMMI	**Kalianget**	**2.84**	**26**	P	**Pn**	**13 35 10.9**	**+2.3**
SRBI	**Singaraja**	**2.90**	**58**	P	**Pn**	**13 35 11.9**	**+2.5**
SMRI	**Semarang**	**3.41**	**318**	P	**Pb**	**13 35 21.3**	**-2.4**
TWSI	**Taliwang, Sumb**	**4.21**	**78**	P	**Pn**	**13 35 29.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**15.11**	**125**	Pn	**Pn**	**13 37 56.0**	**-0.7**
	0.1nm,0.3s,baz=292,slow=10,SNR=1.2						
WRA	**Warramunga Arr**	**23.26**	**119**	P	**P**	**13 39 32.0**	**+1.0**
	0.6nm,0.8s,baz=290,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**24.59**	**127**	P	**P**	**13 39 44.6**	**+1.0**
	0.7nm,0.7s,baz=303,slow=8.8,SNR=18						
SONM	**Songino Array**	**57.48**	**355**	P	**P**	**13 44 12.0**	**-0.5**
	0.5nm,0.6s,baz=170,slow=9.6,SNR=4.3						
MKAR	**Makanchi Array**	**62.38**	**337**	P	**P**	**13 44 45.3**	**-0.8**
	0.4nm,0.6s,baz=154,slow=6.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**67.59**	**343**	P	**P**	**13 45 19.4**	**-0.4**
	0.5nm,0.4s,baz=153,slow=4.8,SNR=2.1						

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*IDC **06** 13:57:52.7±1.1, 1°.60N×127°.09E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/31, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=79.8km s-min=18.6km az=74.0*
*DJA **06** 13:58:02.3±0.4, 2°N±2°×12°7E±°, h74km±7km, M4.0/13, mb4.0/7, MLv3.9/13*
ISC 06 13:58:03.3±0.9**, 1°.57N**±0°.06×**127°.19E**±0°.07**, h103km, n18, σ1s93**/23**, mb3.8**/5**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.81**	**167**	P	**Pn**	**13 58 21.4**	**-0.6**
TNTI				S	**Sn**	**13 58 34.7**	**-1.4**
SGSI	**Sangihe**	**2.68**	**322**	P	**Pn**	**13 58 42.2**	**-2.6**
SGSI				S	**Sn**	**13 59 11.5**	**-5.3**
KMSI	**Cibinong**	**3.35**	**253**	P	**Pn**	**13 58 54.0**	**+0.2**
KMSI				S	**Sn**	**13 59 31.9**	**-1.0**
SANI	**Sanana**	**3.79**	**198**	P	**Pn**	**13 58 58.6**	**-1.1**
SANI				S	**Sn**	**13 59 38.3**	**-5.0**
GTOI	**Gorontalo**	**4.28**	**258**	P	**Pn**	**13 59 06.8**	**+0.5**
GTOI				S	**Sn**	**13 59 54.6**	**-0.6**
NLAI	**Namlea**	**4.78**	**181**	P	**Pn**	**13 59 11.8**	**-1.2**
LUWI	**Luwuk**	**5.12**	**240**	P	**Pn**	**13 59 18.0**	**+0.3**
	0.5nm16nm,0.6s						
MRSI	**Marisa**	**5.36**	**258**	P	**Pn**	**13 59 20.6**	**-0.3**
	0.1nm12nm,0.5s						
APSI	**Ampana**	**6.06**	**246**	P	**Pn**	**13 59 30.3**	**-0.1**
	0.1nm8.1nm,0.7s						
TTSI	**Tana Toraja**	**8.68**	**238**	P	**Pn**	**14 00 05.3**	**-0.7**
	13nm,0.6s						
SPSI	**Sidrap Palu**	**9.23**	**233**	P	**Pn**	**14 00 13.8**	**+0.3**
	14nm,1.2s						
BNSI	**Bone**	**9.23**	**230**	P	**Pn**	**14 00 13.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.60**	**184**	P	**P**	**14 02 24.2**	**+0.7**
	0.2nm,0.3s,baz=25,slow=7.8,SNR=1.9						
WRA	**Warramunga Arr**	**22.50**	**162**	P	**P**	**14 02 54.6**	**+0.1**
	2.8nm,0.6s,baz=343,slow=12,SNR=38						
ASAR	**Alice Springs**	**25.92**	**166**	P	**P**	**14 03 27.5**	**+1.5**
	0.5nm,0.4s,baz=342,slow=11,SNR=30						
KSRS	**Korea Array**	**35.72**	**1**	P	**P**	**14 04 53.0**	**+1.0**
	0.7nm,0.6s,baz=172,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**35.96**	**159**	P	**P**	**14 04 55.1**	**+1.0**
	2.6nm,0.8s,baz=344,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**59.59**	**326**	P	**P**	**14 07 57.5**	**+1.3**
	0.3nm,0.5s,baz=119,slow=8.3,SNR=11						

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*IDC **06** 14:03:53.2±1.9, 1°.15N×97°.08E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.4/38, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=56.0km s-min=25.2km az=57.0*
*DJA **06** 14:03:54.9±2.4, 1°N±10°×9°7E±1°2, h16km±9km, M3.6/6, mb3.9/2, MLv3.5/6*
ISC 06 14:03:54.4±1.5**, 1°.2N**±0°.1×**96°.98E**±0°.10**, h10km, n12, σ1s10**/10**, mb3.5**/4**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.60**	**83**	P	**Pg**	**14 04 07.4**	**+1.3**
GSI				S	**Sb**	**14 04 15.4**	**-0.2**
TPTI		**2.03**	**6**	P	**Pn**	**14 04 28.0**	**-0.7**
PSI	**Prapat**	**2.49**	**51**	Pn	**Pn**	**14 04 34.1**	**-1.1**
	1.3nm,0.3s,baz=356,slow=0.9,SNR=3.6						
MNSI	**Mandailing Nat**	**2.64**	**99**	P	**Pn**	**14 04 36.6**	**-0.4**
TSI	**Tuntungan**	**2.76**	**35**	P	**Pn**	**14 04 37.6**	**-1.1**
H08S2	**Diego Garcia H**	**25.96**	**250**	T	T	14 36 25.9	
	baz=71,slow=76,SNR=141						
H08S3	**Diego Garcia H**	**25.97**	**250**	T	T	14 36 26.2	
	baz=71,slow=76,SNR=200						
H08S1	**Diego Carcia H**	**25.98**	**250**	T	T	14 36 28.1	
	baz=71,slow=76,SNR=106						
WRA	**Warramunga Arr**	**42.24**	**122**	P	**P**	**14 11 47.1**	**-1.0**
	0.5nm,0.9s,baz=312,slow=10.0,SNR=2.3						
ASAR	**Alice Springs**	**43.59**	**127**	P	**P**	**14 11 58.4**	**-0.7**
	0.3nm,0.9s,baz=296,slow=7.7,SNR=5.2						
MKAR	**Makanchi Array**	**47.16**	**346**	P	**P**	**14 12 28.3**	**+1.2**
	0.3nm,0.5s,baz=167,slow=9.2,SNR=8.8						
ZALV	**Zalesovo Beam**	**53.49**	**351**	P	**P**	**14 13 15.5**	**+0.6**
	0.5nm,0.4s,baz=161,slow=9.2,SNR=2.4						

BER 06 14:17:13.7±1.2**, 58°.29N**×**6°.38E, h0km, ML2.0, Explosion, Southern Norway**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNART	**Snartemo**	**0.44**	**83**	eP	Pg	14 17 21.3	-0.8
SNART				eS	Sg	14 17 26.6	-1.2
SNART	**Snartemo**	**0.44**	**83**	IAML		14 17 32.5	
	comp=Z,20nm,0.4s						
SNART	**Snartemo**	**0.44**	**83**	i S	Pg	14 17 21.2	-0.9
KMY	**Karmoy**	**1.10**	**328**	eP	Pg	14 17 32.9	-1.8
KMY				eS	Sg	14 17 47.4	-1.6
HOMB	**Homborsund**	**1.12**	**90**	eP	Pg	14 17 33.6	-1.6
HOMB				eS	Sg	14 17 49.5	-0.2
HOMB				IAML		14 17 52.0	
	comp=Z,35nm,0.5s						
BLS5	**Blasjo**	**1.14**	**2**	eP	Pg	14 17 33.5	-1.9
BLS5				eS	Sg	14 17 49.1	-1.1
ODD1	**Odda**	**1.63**	**4**	eP	Pn	14 17 42.9	-0.8
ODD1				eS	Sn	14 18 02.8	-2.7
ASK	**Askoy**	**2.28**	**345**	eP	Pn	14 17 50.5	-2.0
ASK				IAML		14 18 31.8	
	comp=Z,23nm,0.6s						
SKAR	**Skarslia**	**2.59**	**21**	eP	Pn	14 17 55.8	-1.1
STRU	**Stroemstad**	**2.62**	**71**	eP	Pn	14 17 55.1	-2.0
HYA	**Hoyanger**	**2.89**	**358**	eP	Pn	14 17 59.2	-1.7
NC602	**NORSAR Array S**	**3.59**	**45**	eP	Pn	14 18 08.3	-2.3
AKN	**Aaknes**	**3.91**	**4**	eP	Pn	14 18 13.3	-1.7
AKN				IAML		14 19 19.6	
	comp=Z,6.7nm,1.0s						

IDC 06 14:46:24.6±7.7**, 16°.78S**×**175°.19W, h0km, mb3.5**/3**, mb1 3.9**/3**, mb1mx3.5**/27**, mbtmp3.5**/3**, Error ellipse: s-maj=335.7km s-min=39.3km az=141.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.87**	**258**	P	P	14 55 05.1	+0.3
	0.8nm,1.1s,baz=93,slow=7.5,SNR=8.8						
ASAR	**Alice Springs**	**48.06**	**253**	P	P	14 55 05.7	-0.6
	0.4nm,0.8s,baz=93,slow=8.4,SNR=6.9						
ILAR	**Eielson Array**	**84.14**	**12**	P	P	14 58 57.1	0.0
	1.0nm,1.1s,baz=206,slow=6.0,SNR=4.1						

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*IDC **06** 15:11:03.1±4.5, 35°.47N×141°.68E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/43, mbtmp3.5/4, ML2.2/1, MS2.6/2, Ms1 2.6/2, ms1mx2.5/38, Error ellipse: s-maj=137.3km s-min=27.2km az=56.0*
*JMA **06** 15:11:08.8±0.1, 35°.30N×141°.23E, h25km±2km, M2.7*
ISC 06 15:11:07.8±1.6**, 35°.31N**±0°.06×**141°.4E**±0°.1**, h25km, n12, σ1s18**/13**, mb3.7**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.57**	**313**	P	**Pb**	**15 11 19.1**	**-0.1**
CHOJ				eS	**Sb**	**15 11 25.6**	**-1.4**
BSO1	**Boso 1**	**0.73**	**206**	P	**Pb**	**15 11 21.4**	**-0.1**
BSO3	**Boso 3**	**0.87**	**235**	P	**Pn**	**15 11 23.1**	**-1.1**
BSO4	**Boso 4**	**0.91**	**250**	P	**Pn**	**15 11 23.9**	**-0.9**
JYT	**Yasato**	**1.32**	**314**	P	**Pb**	**15 11 31.1**	**-0.8**
JHO	**Hitachi**	**1.45**	**334**	P	**Pb**	**15 11 32.9**	**-1.2**
MJAR	**Matsushiro Arr**	**2.85**	**296**	Pn	**Pn**	**15 11 51.6**	**0.0**
	0.3nm,0.3s,baz=100,slow=14,SNR=13						
MJAR				LR	LR	15 13 05.1	
	comp=Z,68nm,19.0s,baz=110,slow=41						
MAT	**Matsushiro**	**2.85**	**296**	P	**Pn**	**15 11 53.6**	**+2.0**
MAT				eS	**Sn**	**15 12 26.9**	**+1.7**
KSRS	**Korea Array**	**11.05**	**285**	LR	LR	15 17 38.8	
	comp=Z,41nm,19.6s,baz=345,slow=35						
MKAR	**Makanchi Array**	**45.02**	**304**	P	**P**	**15 19 21.3**	**+0.1**
	0.4nm,0.6s,baz=88,slow=9.6,SNR=8.0						
WRA	**Warramunga Arr**	**55.35**	**188**	P	**P**	**15 20 39.8**	**+0.2**
	0.9nm,0.5s,baz=5.2,slow=6.8,SNR=9.0						
ASAR	**Alice Springs**	**59.08**	**188**	P	**P**	**15 21 06.8**	**+0.9**
	0.4nm,0.7s,baz=14,slow=11,SNR=3.3						

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*IDC **06** 15:19:29.2±6.0, 6°.32N×94°.47E, h169km±39km, mb2.9/3, mb1 3.1/5, mb1mx2.9/46, mbtmp3.5/5, Error ellipse: s-maj=113.7km s-min=21.1km az=65.0*
ISC 06 15:19:29.2±1.0**, 6°.7N**±0°.1×**94°.9E**±0°.1**, h150km, n9, σ1s50**/6**, mb3.2**/3**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.62**	**134**	P	**Pn**	**15 20 52.5**	**+1.4**
	4.4nm,0.3s,baz=0.1,slow=2.9,SNR=15						
CMAR	**Chiang Mai Arr**	**12.33**	**18**	P	**P**	**15 22 25.8**	**0.0**
	0.2nm,0.3s,baz=212,slow=10,SNR=4.9						
PALK	**Pallekele**	**14.05**	**273**	S	**Sn**	**15 25 17.9**	**+0.1**
	0.6nm,0.3s,baz=154,slow=8.7,SNR=2.1						
H08S3	**Diego Garcia H**	**26.47**	**238**	T	T	15 50 25.0	
	baz=59,slow=75,SNR=6.5						
H08S2	**Diego Garcia H**	**26.47**	**238**	T	T	15 50 24.9	
	baz=59,slow=75,SNR=6.5						
H08S1	**Diego Carcia H**	**26.49**	**238**	T	T	15 50 27.6	
	baz=59,slow=75,SNR=4.7						
MKAR	**Makanchi Array**	**41.36**	**347**	P	**P**	**15 27 00.9**	**+0.5**
	0.1nm,0.3s,baz=161,slow=9.3,SNR=2.4						
WRA	**Warramunga Arr**	**47.02**	**125**	P	**P**	**15 27 44.1**	**-1.7**
	0.2nm,0.3s,baz=309,slow=9.2,SNR=7.9						
ASAR	**Alice Springs**	**48.64**	**130**	P	**P**	**15 27 57.0**	**-1.3**
	0.3nm,0.5s,baz=301,slow=7.7,SNR=5.8						

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*IDC **06** 15:19:40.2±1.7, 13°.78S×169°.97E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/38, mbtmp4.0/10, ML4.0/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/27, Error ellipse: s-maj=56.6km s-min=23.1km az=128.0*
ISC 06 15:19:45.2±1.2**, 13°.9S**±0°.2×**170°.0E**±0°.2**, h35km, n17, σ0s93**/11**, mb3.9**/9**, MS3.5**/5**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.61**	**117**	LR	LR	15 24 34.5	
	comp=Z,574nm,19.3s,baz=263,slow=34						
DZM	**Mont Dzumac**	**8.81**	**202**	Pn	**Pn**	**15 21 49.8**	**-0.3**
	1.5nm,0.3s,baz=52,slow=12,SNR=20						
DZM				LR	LR	15 24 49.8	
	comp=Z,246nm,19.7s,baz=352,slow=35						
DZM	**Mont Dzumac**	**8.81**	**202**	ePn	**Pn**	**15 21 50.0**	**-0.2**
	3.3nm,0.3s						
DZM				eLR	LR	15 22 45.4	
	comp=Z,257nm,24.7s						
HNR	**Honiara**	**10.83**	**293**	LR	LR	15 26 49.8	
	comp=Z,135nm,18.3s,baz=136,slow=40						
CTA	**Charters Tower**	**23.54**	**252**	P	**P**	**15 24 52.3**	**-0.2**
	2.7nm,0.7s,baz=91,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**31.57**	**231**	P	**P**	**15 26 05.8**	**+1.3**
	11nm,0.8s,baz=46,slow=7.5,SNR=18						
WRA	**Warramunga Arr**	**34.62**	**255**	LR	LR	15 40 02.0	
	comp=Z,82nm,18.2s,baz=175,slow=35						
ASAR	**Alice Springs**	**35.46**	**249**	P	**P**	**15 26 37.0**	**-1.6**
	2.9nm,0.8s,baz=76,slow=9.7,SNR=39						
FITZ	**Fitzroy Crossi**	**42.80**	**258**	P	**P**	**15 27 40.5**	**+0.6**
	2.6nm,0.9s,baz=66,slow=20,SNR=2.4						
MJAR	**Matsushiro Arr**	**58.47**	**330**	LR	LR	15 55 57.9	
	comp=Z,34nm,18.0s,baz=325,slow=37						
PETK	**Petropavlovsk-**	**67.58**	**352**	LR	LR	15 54 57.2	
	comp=Z,34nm,19.6s,baz=338,slow=31						
CMAR	**Chiang Mai Arr**	**77.08**	**293**	P	**P**	**15 31 36.2**	**+0.8**
	0.7nm,0.5s,baz=121,slow=2.7,SNR=5.0						
CMAR				LR	LR	16 05 08.8	
	comp=Z,21nm,19.2s,baz=190,slow=35						
SONM	**Songino Array**	**83.45**	**323**	P	**P**	**15 32 08.2**	**-1.1**
	0.3nm,0.6s,baz=111,slow=3.2,SNR=2.2						
ILAR	**Eielson Array**	**84.94**	**17**	P	**P**	**15 32 16.6**	**+0.3**
	0.6nm,0.9s,baz=234,slow=5.5,SNR=3.3						
PDAR	**Pinedale Array**	**92.43**	**47**	LR	LR	16 09 36.3	
	comp=Z,87nm,18.5s,baz=18,slow=32						
YKA	**Yellowknife Ar**	**95.60**	**27**	P	**P**	**15 33 06.3**	**-0.3**
	0.4nm,0.8s,baz=248,slow=4.6,SNR=3.6						
MKAR	**Makanchi Array**	**98.46**	**316**	P	**P**	**15 33 20.2**	**+0.3**
	0.1nm,0.5s,baz=110,slow=6.3,SNR=1.2						

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*IDC **06** 15:25:34.1±1.9, 7°.54S×129°.16E, h106km±24km, mb3.3/1, mb1 3.4/6, mb1mx3.0/44, mbtmp3.7/6, Error ellipse: s-maj=35.7km s-min=16.3km az=103.0*
ISC 06 15:25:34.1±0.9**, 7°.67S**±0°.06×**129°.15E**±0°.10**, h131km, n6, σ3s32**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.98**	**245**	P	**Pn**	**15 27 01.4**	**+1.1**
	10nm,0.3s,baz=102,slow=1.8,SNR=25						
BATI				S	**Sn**	**15 28 04.8**	**-2.9**
	3.9nm,0.3s,baz=282,slow=22,SNR=2.1						
SIJI	**Sorong**	**7.08**	**17**	P	**Pn**	**15 27 15.2**	**0.0**
	0.4nm,0.3s,baz=290,slow=24,SNR=12						
SIJI				S	**Sn**	**15 28 29.7**	**-4.6**
	0.4nm,0.3s,baz=220,slow=22,SNR=1.4						
FITZ	**Fitzroy Crossi**	**10.91**	**198**	P	**Pn**	**15 28 07.8**	**+1.1**
	0.2nm,0.3s,baz=9.2,slow=8.4,SNR=10						
FITZ				S	**Sn**	**15 30 03.1**	**-3.9**
	1.0nm,0.3s,baz=259,slow=7.3,SNR=7.5						
WRA	**Warramunga Arr**	**13.20**	**158**	P	**Pn**	**15 28 38.2**	**+1.6**
	0.3nm,0.3s,baz=335,slow=13,SNR=14						
WRA				S	**Sn**	**15 30 59.7**	**-2.6**
	0.9nm,0.3s,baz=341,slow=22,SNR=10						
ASAR	**Alice Springs**	**16.55**	**165**	P	**P**	**15 29 22.4**	**+3.6**
	0.3nm,0.3s,baz=342,slow=10,SNR=28						
ASAR				S	**Sn**	**15 32 19.2**	**-3.8**
	0.2nm,0.3s,baz=352,slow=26,SNR=6.4						
MKAR	**Makanchi Array**	**68.33**	**327**	P	**P**	**15 36 23.3**	**+2.1**
	0.3nm,0.5s,baz=121,slow=8.2,SNR=8.5						

IDC 06 15:59:53.1±2.6**, 6°.19S**×**130°.35E, h144km**±36km**, mb3.2**/1**, mb1 3.1**/5**, mb1mx2.9**/27**, mbtmp3.5**/5**, Error ellipse: s-maj=80.2km s-min=20.1km az=87.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.36**	**10**	P	Pn	16 01 11.4	+0.1
	0.6nm,0.3s,baz=133,slow=3.3,SNR=23						
SIJI				S	Sn	16 02 08.4	-3.9
	4.0nm,0.3s,baz=242,slow=22,SNR=18						
FITZ	**Fitzroy Crossi**	**12.70**	**201**	P	Pn	16 02 48.1	-0.5
	0.1nm,0.3s,baz=35,slow=9.3,SNR=7.5						
FITZ				S	Sn	16 04 58.1	-11
	0.2nm,0.3s,baz=184,slow=14,SNR=5.9						
WRA	**Warramunga Arr**	**14.21**	**165**	P	Pn	16 03 07.8	-0.2
	0.2nm,0.3s,baz=352,slow=13,SNR=15						
WRA				S	Sn	16 05 34.7	-11
	0.2nm,0.3s,baz=337,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**17.71**	**169**	P	Pn	16 03 50.4	-0.6
	0.1nm,0.3s,baz=344,slow=9.5,SNR=8.1						
MKAR	**Makanchi Array**	**67.75**	**326**	P	P	16 10 35.2	0.0
	0.2nm,0.4s,baz=117,slow=7.3,SNR=9.2						

*JMA **06** 16:06:09.4±0.1, 36°.12N×139°.82E, h49km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕ_s254.00000°, δ39.00000°, λ109.00000°. NP2: ϕ_s49.00000°, δ53.00000°, λ75.00000°. Principal axes: T Plg76.0000°, Azm270.0000°; N Plg12.0000°, Azm59.0000°; P Plg7.0000°, Azm150.0000°;*
JMA Felt I J1.
*IDC **06** 16:06:09.8±3.8, 36°.15N×139°.61E, h55km±32km, mb3.1/4, mb1 3.3/4, mb1mx3.0/30, mbtmp3.3/4 Error ellipse: s-maj=35.8km s-min=30.0km az=71.0*
ISC 06 16:06:09.2±0.9, **36°.16N**±0°.05×**139°.80E**±0°.05, **h53**km±8km, **n13**, σ1^s**16**/20, **mb3.4**/4, **1C-3D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.33**	**78**	⇑P	**Pn**	**16 06 18.6**	**-0.2**
JYT				S	**Sn**	**16 06 25.1**	**-0.6**
JAG	**Ashikaga**	**0.39**	**314**	⇓P	**Pn**	**16 06 19.8**	**+0.4**
JAG				S	**Sn**	**16 06 27.1**	**+0.4**
JRY	**Ryogami san**	**0.74**	**259**	⇓P	**Pn**	**16 06 23.8**	**+0.2**
JRY				S	**Sn**	**16 06 33.9**	**-0.2**
JKT	**Katashina**	**0.75**	**324**	⇓P	**Pn**	**16 06 24.1**	**+0.3**
JKT				S	**Sn**	**16 06 35.4**	**+0.9**
JOD2	**Odawara 2**	**1.06**	**213**	P	**Pn**	**16 06 28.2**	**+0.3**
JOD2				S	**Sn**	**16 06 42.2**	**+0.5**
JYN	**Shimob**	**1.21**	**237**	P	**Pn**	**16 06 31.4**	**+1.5**
JFY	**Yanaizu**	**1.25**	**357**	P	**Pn**	**16 06 31.2**	**+0.8**
MJAR	**Matsushiro Arr**	**1.34**	**287**	P	**Pn**	**16 06 31.2**	**-0.4**
	3.7nm,0.3s,baz=89,slow=9.5,SNR=177						
MJAR				S	**Sn**	**16 06 44.6**	**-3.7**
	1.6nm,0.3s,baz=62,slow=23,SNR=5.8						
MAT	**Matsushiro**	**1.34**	**287**	P	**Pn**	**16 06 31.9**	**+0.3**
MAT				*e*S	**Sn**	**16 06 49.1**	**+0.7**
ZALV	**Zalesovo Beam**	**41.55**	**313**	P	**P**	**16 13 51.1**	**-0.2**
	1.0nm,0.7s,baz=111,slow=6.9,SNR=3.5						
MKAR	**Makanchi Array**	**43.49**	**303**	P	**P**	**16 14 07.4**	**+0.2**
	0.2nm,0.6s,baz=87,slow=9.2,SNR=2.7						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**16 15 05.4**	**+0.7**
	0.3nm,1.0s,baz=263,slow=7.2,SNR=1.8						
WRA	**Warramunga Arr**	**56.03**	**186**	P	**P**	**16 15 41.6**	**-1.0**
	0.6nm,1.0s,baz=0.9,slow=7.5,SNR=2.1						

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*IDC **06** 16:18:20.3±0.6, 16°.09N×146°.12E, h0km, mb4.2/20, mb1 4.4/20, mb1mx4.1/44, mbtmp4.2/20, MS3.4/1, Ms1 3.4/1, ms1mx2.7/52, Error ellipse: s-maj=19.6km s-min=12.0km az=103.0*
*NEIC **06** 16:18:31.8±1.7, 16°.00N±0°.04×146°.1E±0°.1, h93km±5km, mb4.5/43, Error ellipse: s-maj=14.3km s-min=6.1km az=80.0*
ISC 06 16:18:33.0±0.5, **16°.05N**±0°.05×**146°.03E**±0°.08, **h109**km, **n96**, σ1^s**47**/92, **mb4.4**/52, **1D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.42**	**313**		**Pn**	**16 18 47.5**	**-1.9**
ANA2				Sn	**Sn**	**16 18 58.3**	**-3.3**
ANA2	**Anatahan**	**0.42**	**313**	P	**Pn**	**16 18 47.4**	**-1.9**
SARN	**Sarigan**	**0.69**	**339**	P	**Pn**	**16 18 49.7**	**-1.6**
GUMO	**Guam**	**2.69**	**205**		**Pn**	**16 19 13.8**	**-1.2**
PATS	**Pohnpei**	**15.11**	**126**	Pn	**Pn**	**16 21 58.0**	**-2.8**
JMZ	**Minamidaito 2**	**16.89**	**308**	Pn	**Pn**	**16 22 19.6**	**-3.3**
H11S3	**WAKE ISLAND Hy**	**19.87**	**80**	T	T	16 43 41.2	
	baz=266,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy**	**19.89**	**80**	T	T	16 43 42.3	
	baz=266,slow=75,SNR=55						
H11S2	**WAKE ISLAND Hy**	**19.89**	**80**	T	T	16 43 42.9	
	baz=266,slow=75,SNR=84						
H11N1	**WAKE ISLAND Hy**	**20.18**	**76**	T	T	16 44 07.6	
	baz=263,slow=75,SNR=84						
H11N2	**WAKE ISLAND Hy**	**20.19**	**76**	T	T	16 44 06.9	
	baz=263,slow=75,SNR=107						
H11N3	**WAKE ISLAND Hy**	**20.20**	**76**	T	T	16 44 07.9	
	baz=263,slow=75,SNR=118						
JWT	**Wachi**	**21.39**	**336**	P	**P**	**16 23 13.8**	**+2.0**
JWT				IAmb	IAmb	16 23 15.8	
	comp=Z,29nm,1.4s						
SIJI	**Sorong**	**22.25**	**222**	P	**P**	**16 23 21.6**	**+0.4**
	comp=Z,4.2nm,0.4s,baz=12,slow=15,SNR=6.1						
FAKI	**Fak Fak**	**23.26**	**217**	P	**P**	**16 23 31.5**	**+0.4**
FAKI				IAmb	IAmb	16 23 35.8	
	comp=Z,22nm,0.9s						
YHNB	**Yeheng**	**24.62**	**294**	P	**P**	**16 23 44.8**	**+1.3**
YHNB				IAmb	IAmb	16 23 47.0	
	comp=Z,13nm,0.7s						
SSLB	**Suanglung**	**24.78**	**292**	P	**P**	**16 23 46.3**	**+1.5**
SSLB				IAmb	IAmb	16 23 51.4	
	comp=Z,32nm,1.3s						
PMG	**Port Moresby**	**25.32**	**177**	P	**P**	**16 23 48.9**	**-0.8**
PMG				IAmb	IAmb	16 23 52.4	
	comp=Z,14nm,0.9s						
KSRS	**Korea Array**	**26.66**	**327**	P	**P**	**16 24 01.5**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=147,slow=10,SNR=6.8						
MYLDM	**Lahad Datu**	**29.09**	**251**	P	**P**	**16 24 22.9**	**-0.6**
MYLDM				IAmb	IAmb	16 24 30.7	
	comp=Z,9.9nm,1.0s						
COEN	**Coen**	**29.95**	**186**	P	**P**	**16 24 28.9**	**-2.2**
COEN				IAmb	IAmb	16 24 29.6	
	comp=Z,10nm,1.4s						
BATI	**Baumata**	**34.22**	**222**	P	**P**	**16 25 07.6**	**-0.9**
	comp=Z,12nm,0.5s,baz=9.2,slow=1.5,SNR=4.8						
KLR	**Kul'dur**	**35.09**	**344**	P	**P**	**16 25 13.6**	**-1.9**
	comp=Z,1.1nm,0.7s,baz=108,slow=10,SNR=4.0						
CTA	**Charters Tower**	**35.91**	**180**	P	**P**	**16 25 23.3**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=22,slow=7.5,SNR=6.3						
CTAO	**Charters Tower**	**35.91**	**180**	P	**P**	**16 25 22.1**	**-0.8**
CTAO				IAmb	IAmb	16 25 26.0	
	comp=Z,5.6nm,0.9s						
WR0	**Warramunga Arr**	**37.52**	**198**	P	**P**	**16 25 36.4**	**-0.2**
WRAB	**Tennant Creek**	**37.55**	**198**	P	**P**	**16 25 37.5**	**+0.6**
WRAB				IAmb	IAmb	16 25 42.7	
	comp=Z,4.8nm,0.9s						
WB2	**Warramunga Arr**	**37.56**	**198**	P	**P**	**16 25 37.2**	**+0.3**
WB2				IAmb	IAmb	16 25 54.2	
	comp=Z,5.2nm,0.9s						
WRA	**Warramunga Arr**	**37.57**	**198**	P	**P**	**16 25 36.2**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=9.3,slow=8.0,SNR=21						
PETK	**Petropavlovsk-**	**38.10**	**11**	P	**P**	**16 25 41.4**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=175,slow=8.4,SNR=1.9						
HHC	**Hu-ho-hao-te**	**38.71**	**317**	*e*P	**P**	**16 25 44.6**	**-1.9**
HHC				PP	**PnPn**	**16 27 27.4**	**+6.9**
HHC				S	**S**	**16 31 33.5**	**-2.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,160nm,5.0s						
HHC				LR	LR		
	comp=N,190nm,16.5s						
HHC				LR	LR		
	comp=E,220nm,15.5s						
HHC				LR	LR		
	comp=Z,170nm,15.1s						
FITZ	**Fitzroy Crossi**	**39.43**	**211**	P	**P**	**16 25 52.9**	**+0.3**
	comp=Z,4.8nm,1.0s,baz=22,slow=6.9,SNR=13						
FITZ	**Fitzroy Crossi**	**39.43**	**211**	P	**P**	**16 25 53.4**	**+0.8**
FITZ				IAmb	IAmb	16 25 55.2	
	comp=Z,11nm,1.3s						
AS31	**Alice Springs**	**41.21**	**197**	P	**P**	**16 26 07.2**	**-0.1**
ASAR	**Alice Springs**	**41.21**	**197**	P	**P**	**16 26 06.8**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=18,slow=6.5,SNR=20						
ASAR	**Alice Springs**	**41.21**	**197**	P	**P**	**16 26 07.0**	**-0.3**
KMI	**Kunming**	**41.37**	**290**	⇓P	**P**	**16 26 07.7**	**-1.2**
KMI				pP	pP	16 26 34.0	+1.1
KMI				pmax	pmax		
	comp=Z,12nm,0.7s						
LZH	**Lanzhou**	**42.42**	**306**	*e*P	**P**	**16 26 18.2**	**+1.0**
LZH				pP	pP	16 26 41.2	-0.2
LZH				sP	sP	16 26 53.3	-0.2
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
UGM	**Wanagama**	**42.46**	**238**	P	**P**	**16 26 17.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**44.94**	**280**	P	**P**	**16 26 38.5**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=75,slow=6.8,SNR=9.7						
SONM	**Songino Array**	**45.42**	**323**	P	**P**	**16 26 41.6**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=136,slow=7.8,SNR=5.6						
SONM	**Songino Array**	**45.42**	**323**	P	**P**	**16 26 41.8**	**+0.9**
MSVF	**Nonsavu**	**46.07**	**135**	LR	LR	16 41 18.7	
	comp=Z,44nm,21.3s,baz=28,slow=30						
GTA	**Gaotai**	**46.44**	**309**	*e*P	**P**	**16 26 47.9**	**-1.2**
GTA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
ARMA	**Armidale**	**46.51**	**173**	P	**P**	**16 26 50.9**	**+1.3**
ARMA				IAmb	IAmb	16 26 55.8	
	comp=Z,10nm,1.2s						
STKA	**Stephens Creek**	**47.84**	**185**	P	**P**	**16 26 59.9**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=0.8,slow=5.4,SNR=4.5						
STKA	**Stephens Creek**	**47.84**	**185**	P	**P**	**16 27 00.7**	**+0.9**
PSI	**Prapat**	**48.17**	**259**	P	**P**	**16 27 04.0**	**+1.2**
	comp=Z,4.8nm,0.3s,baz=179,slow=1.1,SNR=5.2						
BBOO	**Buckleboo**	**49.51**	**191**	P	**P**	**16 27 12.5**	**-0.1**
GSI	**Gunungsitoli**	**49.93**	**258**	P	**P**	**16 27 16.9**	**+0.7**
CAN	**Canberra**	**51.16**	**177**	P	**P**	**16 27 26.5**	**+1.5**
MORW	**Morawa**	**53.40**	**213**	P	**P**	**16 27 42.4**	**+0.8**
TAPN	**Taplejung**	**54.92**	**292**	*e*P	**P**	**16 27 54.5**	**+1.3**
	comp=Z,4.0nm,0.4s						
ODAN	**Odare**	**55.22**	**292**	*e*P	**P**	**16 27 56.4**	**+1.1**
	comp=Z,4.0nm,0.5s						
RAMN	**Ramite**	**55.92**	**292**	*e*P	**P**	**16 28 02.4**	**+2.1**
	comp=Z,2.4nm,0.4s						
WMQ	**Urumqi**	**56.30**	**312**	*e*P	**P**	**16 28 05.9**	**+3.4**
GUN	**Gumba**	**56.54**	**293**	*e*P	**P**	**16 28 06.0**	**+1.2**
	comp=Z,7.4nm,0.5s						
PKI	**Pulchoki**	**56.96**	**293**	*e*P	**P**	**16 28 10.0**	**+2.2**
PKIN	**Phulchoki**	**56.97**	**293**	*e*P	**P**	**16 28 09.4**	**+1.6**
	comp=Z,3.5nm,0.5s						
DMN	**Daman**	**57.23**	**293**	*e*P	**P**	**16 28 10.4**	**+0.8**
GKN	**Gorkha**	**57.63**	**293**	*e*P	**P**	**16 28 13.4**	**+1.1**
	comp=Z,6.1nm,0.5s						
ZALV	**Zalesovo Beam**	**60.31**	**323**	P	**P**	**16 28 30.6**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=110,slow=5.5,SNR=4.5						
MK31	**Makanchi Array**	**60.53**	**315**	P	**P**	**16 28 32.5**	**+0.6**
MKAR	**Makanchi Array**	**60.53**	**315**	P	**P**	**16 28 33.0**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=91,slow=8.1,SNR=29						
MAKZ	**Makanchi**	**60.75**	**315**	P	**P**	**16 28 34.4**	**+1.1**
RND	**Reindeer**	**64.69**	**27**	P	**P**	**16 28 59.3**	**0.0**
RND				IAmb	IAmb	16 29 01.9	
	comp=Z,5.1nm,0.7s						
I23K	**Minto, Yukon-K**	**64.96**	**25**	P	**P**	**16 29 02.5**	**+1.7**
I23K				IAmb	IAmb	16 29 05.3	
	comp=Z,8.7nm,1.2s						
SCM	**Sheep Creek Mo**	**64.99**	**29**	P	**P**	**16 29 01.6**	**+0.4**
COLD	**Coldfoot**	**65.26**	**23**	P	**P**	**16 29 04.6**	**+1.9**
COLD				IAmb	IAmb	16 29 05.1	
	comp=Z,3.4nm,0.6s						
WRH	**Wood River Hil**	**65.30**	**26**	P	**P**	**16 29 03.0**	**0.0**
WRH				IAmb	IAmb	16 29 04.2	
	comp=Z,4.7nm,0.7s						
MDM	**Murphy Dome**	**65.37**	**25**	P	**P**	**16 29 04.5**	**+1.0**
MDM				IAmb	IAmb	16 29 06.2	
	comp=Z,5.3nm,0.7s						
CCB	**Clear Creek Bu**	**65.46**	**26**	P	**P**	**16 29 04.6**	**+0.6**
HDA	**Harding Lake**	**65.76**	**26**	P	**P**	**16 29 05.9**	**-0.2**
HDA				IAmb	IAmb	16 29 07.1	
	comp=Z,4.5nm,0.8s						
IL31		**65.88**	**26**	P	**P**	**16 29 06.6**	**-0.1**
IL31				IAmb	IAmb	16 29 07.3	
	comp=Z,4.5nm,0.6s						
ILAR	**Eielson Array**	**65.88**	**26**	P	**P**	**16 29 06.5**	**-0.2**
	comp=Z,3.5nm,0.6s,baz=248,slow=6.0,SNR=75						
ILAR	**Eielson Array**	**65.88**	**26**	P	**P**	**16 29 06.7**	**-0.1**
PAX	**Paxson**	**66.08**	**28**	P	**P**	**16 29 09.1**	**+0.9**
PAX				IAmb	IAmb	16 29 10.2	
	comp=Z,4.8nm,0.6s						
TABL	**Table Mountain**	**67.70**	**31**	P	**P**	**16 29 20.1**	**+1.4**
EGAK	**Eagle**	**68.28**	**26**	P	**P**	**16 29 22.8**	**+0.9**
DAWY	**Dawson**	**68.95**	**27**	P	**P**	**16 29 26.2**	**0.0**
DAWY				IAmb	IAmb	16 29 28.6	
	comp=Z,3.2nm,0.7s						
JIS	**Juneau Island**	**71.03**	**33**	P	**P**	**16 29 38.2**	**-0.6**
INK	**Inuvik**	**71.67**	**23**	P	**P**	**16 29 41.9**	**-0.7**
ABKAR	**Akbulak array**	**75.49**	**318**	P	**P**	**16 30 04.0**	**-1.3**
ABKAR	**Akbulak array**	**75.49**	**318**	P	**P**	**16 30 04.2**	**-1.2**
YKA	**Yellowknife Ar**	**80.17**	**28**	P	**P**	**16 30 31.8**	**+0.8**
	comp=Z,2.9nm,0.6s,baz=289,slow=4.7,SNR=40						
PINE	**Pine Mountain**	**81.22**	**47**	P	**P**	**16 30 38.7**	**+1.4**
PINE				IAmb	IAmb	16 30 40.3	
	comp=Z,4.7nm,0.7s						
K05A	**Summer Lake**	**81.50**	**48**	P	**P**	**16 30 40.8**	**+2.0**
K05A				IAmb	IAmb	16 30 43.5	
	comp=Z,4.4nm,1.0s						
NVAR	**Mina Array Bea**	**84.52**	**52**	P	**P**	**16 30 55.9**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=265,slow=5.9,SNR=16						
ARCES	**ARCESS Array B**	**85.10**	**342**	P	**P**	**16 30 55.8**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=83,slow=9.9,SNR=3.9						
FINES	**FINESS Array B**	**89.41**	**335**	P	**P**	**16 31 15.5**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=46,slow=8.2,SNR=4.8						
PDAR	**Pinedale Array**	**89.44**	**46**	P	**P**	**16 31 18.4**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=88,slow=1.7,SNR=5.5						
LCO	**Las Campanas**	**143.85**	**117**	PKPdf	**PKPdf**	**16 37 56.7**	**+0.3**
CO01	**Juntas del Tor**	**144.14**	**119**	PKPdf	**PKPdf**	**16 37 57.9**	**+1.0**
AC05	**El Transito**	**144.26**	**117**	PKPdf	**PKPdf**	**16 37 57.7**	**+0.7**
LVC	**Limon Verde**	**146.44**	**107**	PKPbc	**PKiKP**	**16 38 04.7**	**-0.9**
	comp=Z,3.1nm,0.6s,baz=293,slow=3.4,SNR=2.9						
LPAZ	**La Paz**	**147.21**	**95**	PKPbc	**PKiKP**	**16 38 07.5**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=275,slow=1.6,SNR=9.9						

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*IDC **06** 16:26:23.0±1.9, 7°.36S×129°.64E, h68km±22km, mb3.5/3, mb1 3.9/8, mb1mx3.5/30, mbtmp4.0/8, Error ellipse: s-maj=22.9km s-min=14.5km az=104.0*
ISC 06 16:26:21.6±0.8, **7°.52S**±0°.06×**129°.82E**±0°.10, **h50**km, **n8**, σ2^s**38**/13, **mb3.8**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.64**	**246**	P	**Pn**	**16 27 58.7**	**+2.1**
	5.5nm,0.3s,baz=42,slow=4.6,SNR=9.0						
BATI				S	**Sn**	**16 29 10.8**	**-0.2**
	7.9nm,0.3s,baz=144,slow=17,SNR=2.6						
SIJI	**Sorong**	**6.77**	**12**	P	**Pn**	**16 27 59.4**	**+1.0**
	1.3nm,0.3s,baz=217,slow=20,SNR=2.3						
SIJI				S	**Sn**	**16 29 12.8**	**-1.3**
	2.0nm,0.3s,baz=280,slow=24,SNR=2.7						
FITZ	**Fitzroy Crossi**	**11.27**	**201**	P	**Pn**	**16 29 01.9**	**+1.9**
	0.6nm,0.3s,baz=15,slow=10,SNR=18						
FITZ				S	**Sn**	**16 31 01.0**	**-3.6**
	2.5nm,0.3s,baz=42,slow=21,SNR=11						
WRA	**Warramunga Arr**	**13.10**	**161**	P	**Pn**	**16 29 27.2**	**+2.1**
	1.7nm,0.3s,baz=332,slow=14,SNR=47						
WRA				S	**Sn**	**16 31 47.9**	**-1.5**
	2.4nm,0.3s,baz=336,slow=21,SNR=15						
ASAR	**Alice Springs**	**16.52**	**167**	P	**P**	**16 30 11.0**	**-1.0**
	0.6nm,0.3s,baz=337,slow=9.3,SNR=42						
ASAR				S	**Sn**	**16 33 10.0**	**-2.6**
	0.5nm,0.3s,baz=345,slow=25,SNR=6.9						
STKA	**Stephens Creek**	**26.60**	**157**	P	**P**	**16 31 58.2**	**+2.9**
	1.5nm,0.6s,baz=330,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**68.56**	**327**	P	**P**	**16 37 16.9**	**-2.3**
	0.2nm,0.5s,baz=116,slow=8.0,SNR=7.2						
ZALV	**Zalesovo Beam**	**71.97**	**334**	P	**P**	**16 37 37.5**	**-2.3**
	0.5nm,0.3s,baz=115,slow=6.5,SNR=2.6						

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*SKHL **06** 16:29:59.7±0.1, 43°.90N×146°.00E, h100km±9km, mb4.5/4, msha5.6/4*
*JMA **06** 16:29:59.6±0.2, 43°.81N×146°.22E, h92km±2km, M2.9*
*MOS **06** 16:29:59.6±1.4, 44°.02N×145°.88E, h93km, mb4.4/2, Error ellipse: s-maj=21.4km s-min=14.1km az=83.7*
ISC 06 16:30:00.2±0.8, **43°.84N**±0°.06×**146°.13E**±0°.05, **h87**km±5km, **n35**, σ1^s**26**/53, **mb4.2**/3, **2C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.27**	**315**	*e*PN	**Pn**	**16 30 13.2**	**+0.2**
YUK				*i* S	**Sn**	**16 30 23.4**	**+0.8**
YUK				pmax	pmax		
	comp=Z,433µm,0.1s						
YUK				smax	smax		
	comp=N,2µm,0.2s						
YUK				smax	smax		
	comp=E,2µm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.27**	**315**	*e*P	**Pn**	**16 30 13.3**	**+0.2**
YUK				AMB	AMB	16 30 13.8	
	comp=E,210nm,0.3s						
YUK				*i* S	**Sn**	**16 30 23.5**	**+0.8**
YUK				A	A	16 30 25.9	
	comp=E,2µm,0.5s						
YUK				A	A	16 30 25.9	
	comp=E,2µm,0.5s						
GRPR	**Tuman**	**0.30**	**301**	⇑*e*PN	**Pn**	**16 30 13.5**	**+0.3**
GRPR				*i* S	**Sn**	**16 30 23.5**	**+0.6**
GRPR				pmax	pmax		
	comp=E,73nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,228nm,0.1s						
GRPR				smax	smax		
	comp=N,1µm,0.2s						
GRPR				smax	smax		
	comp=E,945nm,0.2s						
GRPR	**Tuman**	**0.30**	**301**	*e*P	**Pn**	**16 30 13.5**	**+0.3**
GRPR				AMB	AMB	16 30 14.0	
	comp=E,230nm,0.2s						
GRPR				*i* S	**Sn**	**16 30 23.7**	**+0.8**
GRPR				A	A	16 30 24.0	
	comp=E,1µm,0.2s						
GRPR				A	A	16 30 24.0	
	comp=E,950nm,0.2s						
GLVR	**Golovnino**	**0.45**	**257**	*e*PN	**Pn**	**16 30 14.9**	**+0.7**
GLVR				*i* S	**Sn**	**16 30 26.4**	**+1.8**
GLVR				pmax	pmax		
	comp=N,59nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,315nm,0.1s						
GLVR				smax	smax		
	comp=N,4µm,0.3s						
GLVR				smax	smax		
	comp=E,2µm,0.2s						
GLVR	**Golovnino**	**0.45**	**257**	*e*P	**Pn**	**16 30 14.9**	**+0.7**
GLVR				AMB	AMB	16 30 15.0	
	comp=E,320nm,0.3s						
GLVR				*i* S	**Sn**	**16 30 25.5**	**+0.9**
GLVR				A	A	16 30 27.0	
	comp=E,4µm,0.4s						
GLVR				A	A	16 30 27.0	
	comp=E,2µm,0.4s						
NEM2	**Nemuro 2**	**0.55**	**210**	P	**Pn**	**16 30 15.1**	**+0.1**
NEM2				*e*S	**Sn**	**16 30 26.0**	**0.0**
NMR	**Nemuro--Hokkai**	**0.55**	**212**	⇓*i*PN	**Pn**	**16 30 15.1**	**+0.1**
NMR				*i* S	**Sn**	**16 30 26.1**	**0.0**
NMR	**Nemuro--Hokkai**	**0.55**	**212**	*i* P	**Pn**	**16 30 15.2**	**+0.2**
NMR				*i* S	**Sn**	**16 30 26.1**	**0.0**
RUSJ	**Misakicho**	**0.69**	**293**	*e*PN	**Pn**	**16 30 16.7**	**+0.5**
RUSJ				*i* S	**Sn**	**16 30 29.4**	**+1.2**
JRA	**Rausu**	**0.73**	**278**	P	**Pn**	**16 30 17.3**	**+0.6**
JNSB	**Nemuroshibetsu**	**0.81**	**266**	P	**Pn**	**16 30 18.3**	**+0.7**
JNSB				*e*S	**Sn**	**16 30 32.5**	**+1.9**
JKHN	**Kushirohamanak**	**1.03**	**223**	P	**Pn**	**16 30 20.2**	**+0.2**
JKHN				*e*S	**Sn**	**16 30 35.4**	**+0.5**
JNK	**Nakash**	**1.05**	**256**	P	**Pn**	**16 30 20.5**	**+0.3**
JNK				*e*S	**Sn**	**16 30 35.8**	**+0.5**
JAK	**Akkeshi**	**1.34**	**231**	P	**Pn**	**16 30 23.9**	**+0.2**
JAK				*e*S	**Sn**	**16 30 41.8**	**+0.3**
JTKR	**Abashiri--Toko**	**1.61**	**275**	P	**Pn**	**16 30 27.7**	**+0.6**
JTKR				*e*S	**Sn**	**16 30 48.0**	**+0.5**
JAR	**Ashorobuto**	**1.80**	**253**	P	**Pn**	**16 30 30.6**	**+1.0**
JAR				*e*S	**Sn**	**16 30 53.8**	**+1.8**
KUR	**Kuril'sk**	**1.87**	**41**	*e*PN	**Pn**	**16 30 31.8**	**+1.3**
KUR				*e*S	**Sn**	**16 30 56.1**	**+2.6**
KUR				pmax	pmax		
	comp=Z,14nm,0.6s						
KUR				smax	smax		
	comp=N,167nm,0.2s						
KUR				smax	smax		
	comp=E,63nm,0.2s						
KUR	**Kuril'sk**	**1.87**	**41**	*e*P	**Pn**	**16 30 31.3**	**+0.8**
KUR				AMB	AMB	16 30 33.6	
	comp=E,20nm,0.2s						
KUR				*e*S	**Sn**	**16 30 54.1**	**+0.6**
KUR				A	A	16 30 59.0	
	comp=E,150nm,0.2s						
KUR				A	A	16 30 59.0	
	comp=E,130nm,0.2s						
JOB	**Onbets**	**1.92**	**241**	P	**Pn**	**16 30 31.9**	**+0.8**
JOB				*e*S	**Sn**	**16 30 55.4**	**+0.7**
JMP	**Maruseppu**	**2.00**	**276**	P	**Pn**	**16 30 33.1**	**+0.8**
ERM	**Erimo**	**2.84**	**231**	*i* PN	**Pn**	**16 30 45.6**	**+2.1**
HIA	**Hailar**	**18.89**	**296**	*i* P	**P**	**16 34 10.7**	**-2.9**
HIA				pmax	pmax		
	comp=Z,8.0nm,2.0s						
SEY	**Seymchan**	**19.47**	**9**	*i* P	**P**	**16 34 18.8**	**-0.9**
SEY	**Seymchan**	**19.47**	**9**	*e*P	**P**	**16 34 18.8**	**-0.9**
YAK	**Yakutsk**	**20.63**	**338**	*i* P	**P**	**16 34 28.9**	**-3.3**
YAK	**Yakutsk**	**20.63**	**338**	*e*P	**P**	**16 34 28.9**	**-3.3**
WHN	**Wuhan**	**28.39**	**253**	⇑P	P	16 35 38.8	-7.4
TIXI	**Tiksi**	**29.12**	**349**	*i* P	**P**	**16 35 53.0**	**+0.7**
TIXI	**Tiksi**	**29.12**	**349**	*e*P	**P**	**16 35 53.0**	**+0.7**
TLY	**Talaya**	**29.26**	**301**	*i* P	**P**	**16 35 52.9**	**-0.9**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TLY	**Talaya**	**29.26**	**301**	*e*P	**P**	**16 35 52.9**	**-0.9**
XAN	**Xi'an**	**30.33**	**264**	P	**P**	**16 36 06.4**	**+3.0**
XAN				pP	pP	16 36 16.3	-7.0
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARU	**Arti**	**53.77**	**317**	*i* P	**P**	**16 39 13.6**	**+0.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARU	**Arti**	**53.77**	**317**	*e*P	**P**	**16 39 13.6**	**+0.4**

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*IDC **06** 16:38:13.7±1.3, 14°.78S×72°.39W, h100km±16km, mb3.4/3, mb1 3.8/9, mb1mx3.5/35, mbtmp4.0/9, MS2.2/1, Ms1 2.3/1, ms1mx2.2/27, Error ellipse: s-maj=27.5km s-min=10.3km az=31.0*
*NEIC **06** 16:38:14.3±0.9, 14°.8S±0°.1×72°.4W±0°.1, h122km±20km, mb4.1/2, Error ellipse: s-maj=18.4km s-min=10.6km az=218.0*
*VAO **06** 16:38:26.5±2.4, 14°.40S×71°.20W, h151km±9km, mb4.2*
ISC 06 16:38:13.1±0.7, **14°.76S**±0°.08×**72°.38W**±0°.08, **h100**km, **n35**, σ1^s**78**/37, **mb3.7**/3, **Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.36**	**111**	P	**Pn**	**16 39 20.4**	**+2.5**
	8.0nm,0.3s,baz=296,slow=9.1,SNR=79						
LPAZ				S	**Sn**	**16 40 10.2**	**+2.2**
	0.8nm,0.3s,baz=57,slow=25,SNR=8.4						
LPAZ				LR	LR	16 40 49.8	
	comp=Z,30nm,20.4s,baz=272,slow=36						
LPAZ	**La Paz**	**4.36**	**111**	Pn	**Pn**	**16 39 20.7**	**+2.9**
LPAZ	**La Paz**	**4.36**	**111**	*e*P	**Pn**	**16 39 21.0**	**+3.1**
PB16	**IPOC Station P**	**4.50**	**143**		**Pn**	**16 39 23.1**	**+3.5**
MNMC	**Minye Minye**	**5.10**	**149**	Pn	**Pn**	**16 39 29.2**	**+1.7**
NNA	**Nana**	**5.15**	**302**	P	**Pn**	**16 39 28.9**	**+0.9**
	15nm,0.3s,baz=179,slow=8.0,SNR=22						
NNA				S	**Sn**	**16 40 26.7**	**+0.5**
	16nm,0.3s,baz=200,slow=24,SNR=5.8						
PSGCX	**Pisagua**	**5.27**	**156**	Pn	**Pn**	**16 39 30.8**	**+1.1**
PB08	**IPOC Station P**	**6.17**	**151**		**Pn**	**16 39 43.5**	**+1.3**
PB01	**IPOC Station P**	**6.83**	**157**		**Pn**	**16 39 51.1**	**+0.3**
PB07	**IPOC Station P**	**7.32**	**162**		**Pn**	**16 39 57.9**	**+0.3**
PB09	**IPOC Station P**	**7.61**	**157**	Pn	**Pn**	**16 40 02.5**	**+1.1**
ETMB	**Extrema**	**7.77**	**51**	*e*P	**Pn**	**16 40 01.9**	**-1.6**
PB04	**IPOC Station P**	**7.82**	**165**	Pn	**Pn**	**16 40 05.4**	**+0.9**
LVC	**Limon Verde**	**8.47**	**158**	P	**Pn**	**16 40 14.1**	**+0.7**
	1.5nm,0.3s,baz=348,slow=10,SNR=7.9						
LVC				S	**Sn**	**16 41 45.4**	**-2.1**
	1.6nm,0.3s,baz=38,slow=21,SNR=17						
SAML	**Samuel**	**10.69**	**58**	Pn	Pn	16 40 39.3	-4.0
SAML	**Samuel**	**10.69**	**58**	*e*P	**Pn**	**16 40 39.5**	**-3.8**
SIV	**San Ignacio**	**10.97**	**98**	P	**Pn**	**16 40 46.4**	**-0.7**
	0.6nm,0.3s,baz=306,slow=12,SNR=8.4						
SIV				S	Sn	16 42 39.5	-8.5
	0.2nm,0.3s,baz=274,slow=14,SNR=3.3						
PTLB	**Pontes e Lacer**	**12.80**	**95**	*e*P	**Pn**	**16 41 08.5**	**-3.0**
AC04	**Llanos de Chal**	**13.44**	**175**	Pn	**Pn**	**16 41 16.0**	**-3.7**
AQDB	**Aquidauana**	**16.88**	**112**	*e*P	**Pn**	**16 42 04.1**	**+0.8**
CPUP	**Villa Florida**	**18.17**	**132**	P	**P**	**16 42 19.0**	**+1.0**
	0.1nm,0.3s,baz=95,slow=2.1,SNR=5.7						
CPUP	**Villa Florida**	**18.17**	**132**		**Pn**	**16 42 19.6**	**+0.7**
CPUP				IAmb	IAmb	16 42 20.7	
	comp=Z,11nm,0.9s						
PTGA	**Pitinga**	**18.57**	**42**	P	**P**	**16 42 21.5**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=202,slow=14,SNR=7.1						
PTGA	**Pitinga**	**18.57**	**42**	P	**P**	**16 42 22.8**	**+0.4**
PTGA				IAmb	IAmb	16 42 37.9	
	comp=Z,8.0nm,0.8s						
ARAG	**Araguaiana, MT**	**19.86**	**95**	*e*P	**P**	**16 42 35.3**	**-1.2**
TRCB	**Terra Rica**	**20.31**	**116**	*e*P	**P**	**16 42 41.6**	**+0.2**
BOAV	**Boa Vista**	**20.70**	**35**	*e*P	**P**	**16 42 45.9**	**+0.4**
PCMB	**Pacaembu**	**21.17**	**112**	*e*P	**P**	**16 42 50.5**	**0.0**
PTGB	**Pitanga**	**21.50**	**121**	*e*P	**P**	**16 42 54.8**	**+0.6**
ITAB	**Concordia**	**22.57**	**127**	*e*P	**P**	**16 43 06.2**	**+1.0**
IPMB	**Ipameri, GO**	**23.40**	**101**	*e*P	**P**	**16 43 11.8**	**-1.7**
BDFB	**Brasilia**	**23.52**	**95**	P	**P**	**16 43 14.0**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=268,slow=14,SNR=3.2						
TORD	**Torodi Ar. Bea**	**78.38**	**73**	P	**P**	**16 50 02.7**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=241,slow=5.9,SNR=2.1						
YKA	**Yellowknife Ar**	**83.78**	**342**	P	**P**	**16 50 32.3**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=130,slow=5.8,SNR=2.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	147.00	2	PKPbc	PKPab	16 57 46.3	+0.2
	comp=Z,0.4nm,0.8s,baz=341,slow=3.1,SNR=3.8						

*IDC **06** 16:39:02.8±1.1, 18°.39N×145°.02E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/38, mbtmp3.6/9, MS3.4/2, Ms1 3.5/2, ms1mx2.8/42, Error ellipse: s-maj=34.4km s-min=21.4km az=89.0*

*NEIC **06** 16:39:04.2±1.1, 18°.4N±0°.2×145°.0E±0°.3, h10km±9km, mb4.1/7, Error ellipse: s-maj=48.7km s-min=5.2km az=58.0*

ISC 06 16:39:04.3±6.3**, 18°.6N**±0°.5×**145°.2E**±0°.8**, h10**km**, n25, σ0s.99**/11**, mb3.6**/12**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANA2	Anatahan	2.29	166	Pn	Pn	16 39 40.9	-1.3
JMZ	Minamidaito 2	14.76	302	Pn	Pn	16 42 32.2	-1.0
JSU	Suzuyama	18.49	317	P	P	16 43 20.7	+0.2
JSU				IAmb	IAmb	16 43 38.4	
	comp=Z,20nm,1.3s						
JWT	Wachi	18.75	334	P	P	16 43 23.1	-0.2
JWT				IAmb	IAmb	16 43 28.9	
	comp=Z,25nm,1.4s						
H11S3	WAKE ISLAND Hy	20.43	87	T	T	17 05 18.7	
	baz=274,slow=75,SNR=114						
H11S1	WAKE ISLAND Hy	20.44	87	T	T	17 05 20.5	
	baz=274,slow=75,SNR=60						
H11S2	WAKE ISLAND Hy	20.44	87	T	T	17 05 23.5	
	baz=274,slow=75,SNR=80						
KSRS	Korea Array	24.11	325	P	P	16 44 19.2	-0.9
	comp=Z,1.5nm,0.9s,baz=145,slow=10,SNR=5.4						
WRAB	Tennant Creek	39.72	196	P	P	16 46 35.3	-1.8
WRAB				IAmb	IAmb	16 46 46.9	
	comp=Z,12nm,1.5s						
WB2	Warramunga Arr	39.72	196	P	P	16 46 36.6	-0.6
WRA	Warramunga Arr	39.73	196	P	P	16 46 35.6	-1.5
	comp=Z,1.1nm,0.8s,baz=14,slow=7.9,SNR=5.1						
FITZ	Fitzroy Crossi	41.19	209	P	P	16 46 46.9	-2.4
SONM	Songino Array	42.91	322	P	P	16 47 04.9	+1.7
	comp=Z,0.3nm,0.8s,baz=137,slow=7.1,SNR=2.3						
SONM	Songino Array	42.91	322	P	P	16 47 01.4	-1.8
ASAR	Alice Springs	43.40	195	P	P	16 47 04.8	-2.5
	comp=Z,0.4nm,0.8s,baz=14,slow=5.6,SNR=4.6						
ASAR	Alice Springs	43.40	195	P	P	16 47 03.9	-3.4
CMAR	Chiang Mai Arr	43.71	278	P	P	16 47 09.8	-0.1
	comp=Z,0.7nm,0.8s,baz=42,slow=4.5,SNR=4.2						
CMAR				LR	LR	17 06 34.5	
	comp=Z,16nm,18.0s,baz=90,slow=38						
ZALV	Zalesovo Beam	57.79	323	P	P	16 48 56.1	+0.5
	comp=Z,1.7nm,0.7s,baz=98,slow=7.6,SNR=7.2						
MK31	Makanchi Array	58.16	314	P	P	16 48 58.7	+0.3
MK31				IAmb	IAmb	16 48 59.8	
	comp=Z,0.9nm,0.9s						
MKAR	Makanchi Array	58.16	314	P	P	16 48 59.1	+0.7
	comp=Z,1.0nm,0.8s,baz=95,slow=8.9,SNR=13						
MKAR	Makanchi Array	58.16	314	P	P	16 48 58.4	-0.1
MAKZ	Makanchi	58.38	314	P	P	16 49 00.1	+0.2
MAKZ				IAmb	IAmb	16 49 01.4	
	comp=Z,1.4nm,0.8s						
ILAR	Eielson Array	63.98	26	P	P	16 49 40.3	+2.8
	comp=Z,0.5nm,1.1s,baz=260,slow=5.4,SNR=2.4						
DLBC	Dease Lake	71.68	33	LR	LR	17 19 36.2	
	comp=Z,71nm,19.8s,baz=331,slow=34						
YKA	Yellowknife Ar	78.33	28	P	P	16 51 05.3	+0.8
	comp=Z,0.2nm,0.5s,baz=289,slow=5.0,SNR=4.5						

*IDC **06** 16:49:54.2±7.5, 31°.64S×179°.91E, h320km±81km, mb3.0/3, mb1 3.2/4, mb1mx3.0/39, mbtmp3.8/4, Error ellipse: s-maj=83.6km s-min=40.3km az=7.0*

*WEL **06** 16:49:58.6±1.1, 31°S±7°×17°8E±1°3, h33km, M4.6/11, mB4.6/3, ML4.9/11, MLv4.7/11, Mw(mB)3.9/3, Error ellipse: s-maj=0.0km s-min=0.0km az=116.0*

ISC 06 16:49:57.7±2.8**, 31°.6S**±0°.1×**179°.0E**±0°.3**, h300**km**, n27, σ1s.53**/32**, mb3.2**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.52	49	P	Pn	16 50 55.5	-3.2
GLKZ				S	S	16 51 42.5	-5.1
WMGZ	Waiomatatini S	6.22	185	P	Pn	16 51 30.4	+0.8
WMGZ				S	S	16 52 41.6	-2.1
HAZ	Te Kaha	6.23	189	P	Pn	16 51 30.7	+1.1
HAZ				S	S	16 52 42.5	-1.2
PKGZ	Pakihiroa	6.32	187	P	Pn	16 51 30.6	-0.2
PKGZ				S	S	16 52 45.1	-0.8
PUZ	Puketiti	6.49	185	P	Pn	16 51 35.4	+2.7
PUZ				S	S	16 52 47.7	-1.8
TWGZ	Tauwhareparae	6.62	187	P	Pn	16 51 36.5	+2.1
TWGZ				S	S	16 52 52.9	+0.5
URZ	Urewera	6.83	193	P	Pn	16 51 37.4	+0.6
	2.2nm,0.3s,baz=257,slow=4.0,SNR=28						
URZ				S	S	16 52 56.1	-0.9
	2.8nm,0.3s,baz=56,slow=23,SNR=15						
URZ	Urewera	6.83	193	P	Pn	16 51 37.4	+0.6
URZ				S	S	16 52 55.9	-1.1
MWZ	Matawai	6.83	190	P	Pn	16 51 37.7	+0.8
MWZ				S	S	16 52 55.5	-1.6
TKGZ	Te Karaka	6.89	188	P	Pn	16 51 35.3	-2.3
TKGZ				S	S	16 52 56.5	-1.9
CNGZ	Carnagh Statio	6.90	185	P	Pn	16 51 39.7	+1.9
MUGZ	Murupara	7.11	195	P	Pn	16 51 42.8	+2.5
MUGZ				S	S	16 53 02.5	-0.7
RIGZ	Rimuhau	7.17	188	P	Pn	16 51 42.2	+1.2
RTZ	Ruatahuna	7.20	193	P	Pn	16 51 42.0	+0.6
RTZ				S	S	16 53 05.1	-0.3
KNZ	Kokohu	7.49	188	P	Pn	16 51 45.1	+0.2
MRHZ	Matea Rd	7.53	196	P	Pn	16 51 47.0	+1.6
ARHZ	Aropaoanui	7.82	192	P	Pn	16 51 49.5	+0.5
PINNC	Pines Island,	13.65	308	P	Pn	16 53 14.7	+15
MARNC	Mare, Loyalty	14.08	313	P	P	16 52 58.3	-6.4
OUENC	Ouen Island, N	14.19	307	P	Pn	16 53 13.3	+6.7
YATNC	Mamie plateau,	14.40	308	P	P	16 53 06.3	-2.0
DZM	Mont Dzumac	14.70	307	P	P	16 53 07.6	-4.0
NOUC	Port Laguerre	14.77	307	P	P	16 53 10.0	-2.4
CTA	Charters Tower	31.53	283	P	P	16 55 54.7	+2.0
	1.0nm,0.3s,baz=118,slow=4.5,SNR=1.4						
ASAR	Alice Springs	40.53	270	P	P	16 57 09.7	+1.2
	0.2nm,0.4s,baz=108,slow=7.4,SNR=14						
WRA	Warramunga Arr	41.63	275	P	P	16 57 17.3	-0.1
	0.4nm,0.3s,baz=110,slow=8.0,SNR=8.0						
FINES	FINESS Array B	145.33	337	PKPbc	PKPdf	17 08 53.8	-5.2
	1.8nm,0.7s,baz=33,slow=3.3,SNR=6.5						

*NEIC **06** 16:56:38.9±2.2, 50°.54N±0°.08×130°.5W±0°.1, h10km±2km, mb4.0/34, Mwr4.4(OTT), Error ellipse: s-maj=18.2km s-min=10.7km az=232.0*

*NEIC **06** 16:56:38.9, 50°.55N×130°.38W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.05; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$0.40; $M_{r\theta}$-0.15; $M_{\theta\phi}$0.14; $M_{\phi r}$-0.12; Fault plane solution: $M_0$4.50000×10^{15} NP1:ϕ_s54.00000°, δ87.00000°, λ-26.00000°. NP2:ϕ_s146.00000°, δ64.00000°, λ-177.00000°. Principal axes: T 0.4746, Plg16.0000°, Azm103.0000°; N -0.0426, Plg64.0000°, Azm229.0000°; P -0.4320, Plg20.0000°, Azm7.0000°;*

*PGC **06** 16:56:40.2±0.0, 50°.55N×130°.39W, h10km, MLSn3.4/35, Mw4.4, Mw4.1/35, 210km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **06** 16:56:42.3±1.1, 50°.58N×130°.07W, h0km, mb3.7/5, mb1 4.0/9, mb1mx3.7/64, mbtmp3.8/9, ML3.5/4, MS3.5/20, Ms1 3.5/20, ms1mx3.4/42, Error ellipse: s-maj=23.0km s-min=16.3km az=51.0*

ISC 06 16:56:39.1±1.9**, 50°.64N**±0°.05×**130°.25W**±0°.05**, h3**km±12km**, n174, σ1s.74**/163**, mb4.0**/8**, MS3.7**/11**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOLB	Holberg	1.35	89	P	Pg	16 57 04.2	-0.7
HOLB				S	Sg	16 57 21.2	-1.2
HG4B	Hotspring	1.76	341	Pn	Pn	16 57 09.2	-1.2
HG4B				Sn	Sn	16 57 30.9	-2.5
PHC	Port Hardy	1.80	87	Pn	Pn	16 57 10.7	-0.2
PHC				Sn	Sn	16 57 32.1	-2.0
MAYB	Maynard	1.98	96	Pn	Pn	16 57 13.1	-0.5
BBB	Bella Bella	2.05	40	LR	LR	16 58 16.4	
	comp=Z,357nm,18.5s,baz=57,slow=46						
BBB	Bella Bella	2.05	40	Pn	Pn	16 57 14.9	+0.5
BBB				Sn	Sn	16 57 39.3	-1.1
BBB	Bella Bella	2.05	40	Pn	Pn	16 57 14.0	-0.4
FHRB	Fair Harbour	2.09	105	Pn	Pn	16 57 14.3	-0.6
EDB	Eliza Dome	2.15	110	Pn	Pn	16 57 14.8	-1.0
EDB				Sn	Sn	16 57 41.0	-1.9
BNB	Barry Inlet	2.15	335	Pn	Pn	16 57 15.1	-0.8
WOSB	Woss	2.41	100	Pn	Pn	16 57 19.5	+0.1
HG1B	Mitchell Dam	2.58	334	Pn	Pn	16 57 21.6	-0.1
HG1B				Sn	Sn	16 57 51.6	-1.9
NCRB	Newcastle Ridg	2.69	93	Pn	Pn	16 57 23.3	0.0
ETB	Estevan Point	2.71	116	Pn	Pn	16 57 22.6	-0.8
MOBC	Moresby Island	2.73	338	Pn	Pn	16 57 22.8	-0.9
MOBC				Sn	Sn	16 57 56.0	-1.3
GDR	Gold River	2.84	106	Pn	Pn	16 57 24.9	-0.4
BNAB	Bonilla	2.87	355	Pn	Pn	16 57 25.4	-0.2
BNAB				Sn	Sn	16 57 58.5	-2.1
DIB	Dawson Inlet,	2.92	333	Pn	Pn	16 57 25.6	-0.7
DIB	Dawson Inlet,	2.92	333	Pn	Pn	16 57 25.7	-0.6
VIB	Van Inlet	2.98	333	Pn	Pn	16 57 26.4	-0.8
VIB				Sn	Sn	16 58 01.2	-2.3
TOFB	Tofino	3.18	116	Pn	Pn	16 57 29.0	-0.8
CBB	Campbell River	3.19	99	Pn	Pn	16 57 30.5	+0.4
GRNB	Grenville Isla	3.22	3	Pn	Pn	16 57 30.9	+0.4
GRNB				Sn	Sn	16 58 07.9	-1.5
BTB	Buttle Lake	3.27	109	Pn	Pn	16 57 31.0	-0.2
B012	Ucluelet	3.50	117	Pn	Pn	16 57 34.0	-0.3
OZB	Mount Ozzard	3.51	117	Pn	Pn	16 57 33.9	-0.6
MASB	Masset	3.55	343	Pn	Pn	16 57 35.7	+0.7
KITB	Kitimat	3.59	15	Pn	Pn	16 57 36.4	+0.9
KITB				Sn	Sn	16 58 17.6	-0.8
RUBB	Prince Rupert	3.70	0	Pn	Pn	16 57 37.6	+0.6
NDB	Naden	3.71	335	Pn	Pn	16 57 36.9	-0.4
B927	Port Alberni	3.79	110	Pn	Pn	16 57 38.7	+0.4
TXB	Texada	3.86	102	Pn	Pn	16 57 39.7	+0.4
MGB	Mount Grey	3.96	112	Pn	Pn	16 57 40.3	-0.4
SHB	Sechelt	4.24	102	Pn	Pn	16 57 45.1	+0.6
PFB	Port Renfrew	4.31	116	Pn	Pn	16 57 45.4	0.0
OCP	Olym-Cheeka Pk	4.35	120	Pn	Pn	16 57 46.8	+0.7
B926	Mesachie Lake	4.37	112	Pn	Pn	16 57 47.6	+1.3
UBRB	Upper Baezaeko	4.45	57	Pn	Pn	16 57 50.4	+2.9
BIB	Bowen Island	4.65	103	Pn	Pn	16 57 51.1	+1.0
GOBB	Galiano Island	4.68	109	Pn	Pn	16 57 52.7	+2.1
WSLR	Whistler	4.72	93	Pn	Pn	16 57 52.7	+1.5
OBC	Olympics--Boni	4.80	120	Pn	Pn	16 57 54.1	+1.8
B010	North Saanich	4.85	112	Pn	Pn	16 57 54.6	+1.8
PGC	Sidney	4.85	112	Pn	Pn	16 57 54.6	+1.8
PGC	Sidney	4.85	112	Pn	Pn	16 57 51.7	-1.1
B011	North Saanich	4.85	112	Pn	Pn	16 57 54.5	+1.7
STW	Striped Peak	4.97	118	Pn	Pn	16 57 55.7	+1.2
VGZ	Gonzales	5.03	114	Pn	Pn	16 57 57.7	+2.4
CRAG	Craig	5.14	341	Pn	Pn	16 57 56.8	-0.1
MCW	Mount Constitu	5.20	109	Pn	Pn	16 58 00.2	+2.5
FSB	Fort Saint Jam	5.28	41	Pn	Pn	16 58 01.1	+2.3
NLWA	Neilton Lookou	5.31	125	Pn	Pn	16 57 58.5	-0.7
LLLB	Lillooet	5.33	87	Pn	Pn	16 58 00.9	+1.4
BLN	Blyn Mountain	5.44	116	Pn	Pn	16 58 02.5	+1.5
A05A	Maple Falls	5.54	104	Pn	Pn	16 58 04.8	+2.5
A05A	Maple Falls	5.54	104	Pn	Pn	16 58 04.5	+2.2
WISH	Wishkah	5.54	127	Pn	Pn	16 58 04.8	+2.5
HDW	Hoodsport	5.59	120	Pn	Pn	16 58 05.2	+2.1
MBW	Mount Baker	5.73	106	Pn	Pn	16 58 07.6	+2.5
CMW	Cultus Mountai	5.74	110	Pn	Pn	16 58 07.7	+2.5
HOPB	Hope	5.83	99	Pn	Pn	16 58 08.2	+1.9
WRAK	Wrangell Islan	5.93	349	Pn	Pn	16 58 07.3	-0.3
JCW	Jim Creek	5.96	111	Pn	Pn	16 58 10.3	+2.2
B06A	Marblemount	6.08	107	Pn	Pn	16 58 11.9	+2.1
RPW	Rockport	6.10	108	Pn	Pn	16 58 12.2	+2.2
D05A	Enumclaw	6.45	119	Pn	Pn	16 58 13.5	-1.3
GPW	Glacier Peak	6.46	109	Pn	Pn	16 58 17.4	+2.1
FMW	Mount Fremont	6.77	120	Pn	Pn	16 58 21.9	+2.5
LON	Longmire	6.81	122	Pn	Pn	16 58 22.3	+2.5
LON	Longmire	6.81	122	Pn	Pn	16 58 19.8	-0.1
BMBC	Bull Mountain	7.28	39	Pn	Pn	16 58 29.5	+3.3
B08A	Colville Reser	7.47	104	Pn	Pn	16 58 31.1	+2.3
B08A	Colville Reser	7.47	104	Pn	Pn	16 58 30.8	+1.9
DLBC	Dease Lake	7.82	1	LR	LR	17 01 28.1	
	comp=Z,435nm,20.6s,baz=214,slow=36						
E07A	Sunnyside	8.01	117	Pn	Pn	16 58 36.2	0.0
JIS	Juneau Island	8.02	344	Pn	Pn	16 58 37.3	+1.0
H04A	Detroit Lake	8.07	134	Pn	Pn	16 58 37.4	+0.3
NBC5	NorthernBC 5	8.21	30	Pn	Pn	16 58 41.9	+2.9
D08A	Wollman Farm,	8.29	111	Pn	Pn	16 58 41.1	+1.1
C09A	Chrisman Ranch	8.34	105	Pn	Pn	16 58 42.2	+1.4
NEW	Newport	8.88	100	LR	LR	17 02 12.8	
	comp=Z,498nm,18.6s,baz=274,slow=38						
NEW	Newport	8.88	100	Pn	Pn	16 58 48.6	+0.4
E09A	Wood Farm, Sta	9.02	113	Pn	Pn	16 58 50.3	+0.1
HUMO	Hull Mountain	9.47	145	Pn	Pn	16 58 54.8	-1.5
PLBC	Pleasant Camp	9.51	341	Pn	Pn	16 58 58.1	+1.5
I07A	Izee	9.80	128	Pn	Pn	16 58 59.2	-1.7
F10A	Beach Ranch, E	9.85	113	Pn	Pn	16 59 03.0	+1.4
KRMB	Red Mountain	10.12	152	Pn	Pn	16 59 04.9	-0.4
NBC2	NorthernBC 2	10.17	23	Pn	Pn	16 59 10.3	+4.5
YBH	Yreka Blue Hor	10.32	147	LR	LR	17 02 25.5	
	comp=Z,164nm,21.9s,baz=330,slow=34						
YBH	Yreka Blue Hor	10.32	147	Pn	Pn	16 59 05.6	-2.4
WHY	Whitehorse	10.38	347	Pn	Pn	16 59 11.0	+2.3
WHY	Whitehorse	10.38	347	Pn	Pn	16 59 08.3	-0.4
PNL	Peninsula	10.44	334	Pn	Pn	16 59 10.5	+1.0
JTMT	Jette	10.85	99	Pn	Pn	16 59 13.8	-1.4
PCA	Pinnacle	11.04	333		Pn	16 59 14.8	-3.0
TABL	Table Mountain	11.58	332	Pn	Pn	16 59 22.1	-3.2
YAH	Yahtse	11.70	331	Pn	Pn	16 59 26.7	-0.2
TGL	Tana Glacier	12.35	330	Pn	Pn	16 59 35.3	-0.3
CRQM	Cirque	12.45	329	Pn	Pn	16 59 37.5	+0.4
ELK	Elko	14.39	128	LR	LR	17 05 28.9	
	comp=Z,150nm,18.4s,baz=332,slow=37						
YKA	Yellowknife Ar	14.63	30	Pn	Pn	17 00 06.9	+0.3
	0.4nm,0.3s,baz=219,slow=12,SNR=28						
YKA				Sn	Sn	17 02 42.7	-6.4
	0.1nm,0.3s,baz=213,slow=22,SNR=4.2						
YKA				LR	LR	17 06 01.1	
	comp=Z,146nm,19.5s,baz=0.0,slow=38						
H17A	Grant Village	14.67	108	P	P	17 00 11.6	-2.4
LKWY	Lake	14.69	107		Pn	17 00 08.7	+0.9
YNE	Yellowstone No	14.70	105	Pn	Pn	17 00 08.0	0.0
K27K	Chicken	14.83	339	P	P	17 00 15.3	-0.1
KDAK	Kodiak Island	14.85	307	LR	LR	17 04 29.5	
	comp=Z,166nm,19.7s,baz=148,slow=31						
KDAK	Kodiak Island	14.85	307	Pn	Pn	17 00 08.1	-1.5
NVAR	Mina Array Bea	14.86	141	Pn	P	17 00 14.7	-1.5
	0.1nm,0.3s,baz=316,slow=7.6,SNR=2.3						
EGAK	Eagle	15.29	342	P	P	17 00 18.9	-1.6
EGAK				IAmb	IAmb	17 00 28.8	
	comp=Z,7.8nm,0.8s						
SUA	Susitna One	15.69	322	Pn	Pn	17 00 19.9	-0.9
BW06	Boulder Array	16.20	111	P	P	17 00 31.6	+0.7
BW06				IAmb	IAmb	17 00 33.4	
	comp=Z,14nm,1.3s						
PD31	Pinedale Array	16.20	111	P	P	17 00 30.6	-0.4
PD31				IAmb	IAmb	17 00 33.4	
	comp=Z,12nm,1.3s						
PDAR	Pinedale Array	16.20	111	Pn	P	17 00 32.0	+1.1
	comp=Z,0.1nm,0.3s,baz=307,slow=13,SNR=21						
PDAR				LR	LR	17 06 42.6	
	comp=Z,154nm,21.0s,baz=359,slow=37						
PDAR	Pinedale Array	16.20	111	P	P	17 00 31.0	0.0
HDA	Harding Lake	16.38	334	P	Pn	17 00 29.4	-0.3
IL31		16.64	335		Pn	17 00 29.8	-3.2
ILAR	Eielson Array	16.64	335	Pn	P	17 00 39.4	+3.9
	comp=Z,0.1nm,0.3s,baz=163,slow=9.6,SNR=39						
ILAR				LR	LR	17 06 33.7	
	comp=Z,32nm,20.0s,baz=160,slow=35						
ILAR	Eielson Array	16.64	335	Pn	Pn	17 00 31.2	-1.8
WRH	Wood River Hil	16.75	333	Pn	Pn	17 00 33.1	-1.3
PSUT	Pine Spring	16.77	130	Pn	Pn	17 00 33.8	-1.2
CCB	Clear Creek Bu	16.80	333	Pn	Pn	17 00 32.4	-2.6
PRP	Porcupine Dome	16.88	338	Pn	Pn	17 00 33.9	-2.3
TPNV	Topopah Spring	16.97	138	Pn	Pn	17 00 36.0	-1.5
TPNV				IAmb	IAmb	17 00 46.2	
	comp=Z,26nm,1.8s						
COLA	College	16.98	334	Pn	Pn	17 00 34.9	-2.4
COLA				IAmb	IAmb	17 00 48.9	
	comp=Z,7.6nm,0.7s						
TCOL	CIGO, UAF Yank	16.99	334	Pn	Pn	17 00 34.5	-2.8
TCOL				IAmb	IAmb	17 00 48.9	
	comp=Z,7.2nm,0.7s						
DGMT	Dagmar	17.02	87	Pn	Pn	17 00 36.1	-1.8
PRN	Pahroc Range	17.11	135	Pn	Pn	17 00 37.2	-2.0
PRN				IAmb	IAmb	17 00 47.6	
	comp=Z,19nm,1.7s						
FFC	Flin Flon	17.57	66	Pn	Pn	17 00 44.0	-0.6
FFC				IAmb	IAmb	17 00 49.7	
	comp=Z,11nm,1.1s						
INK	Inuvik	17.80	356	Pn	Pn	17 00 45.8	-1.6
KUKN	Kugluktuk,NWT	18.80	18	P	Pn	17 01 02.5	+2.8
C36M	Paulatuk	19.01	7	P	Pn	17 01 04.6	+2.5
C36M	Paulatuk	19.01	7	P	Pn	17 01 04.0	+1.9
C36M				IAmb	IAmb	17 01 12.5	
	comp=Z,9.1nm,1.1s						
COLD	Coldfoot	19.40	336	P	P	17 01 05.2	-0.7
COLD				IAmb	IAmb	17 01 18.2	
	comp=Z,22nm,1.6s						
PV14	Lion Creek, Pa	19.40	121	P	P	17 01 05.5	-0.9
PV14				IAmb	IAmb	17 01 12.9	
	comp=Z,9.3nm,1.1s						
PV22	Blue Mesa, Par	19.41	120	P	P	17 01 06.2	-0.3
IMAR	Indian Mountai	19.52	331	P	P	17 01 07.2	0.0
PV13	Radium Mtn., P	19.67	121	P	P	17 01 08.8	-0.4
PV13				IAmb	IAmb	17 01 15.9	
	comp=Z,15nm,1.3s						
MDND	Maddock	20.13	86	P	Pn	17 01 16.4	+0.5
TOLK	Toolik Lake Re	20.35	340	P	P	17 01 17.2	+0.9
TOLK				IAmb	IAmb	17 01 31.0	
	comp=Z,10nm,0.8s						
ISCO	Idaho Springs	20.36	113	P	P	17 01 16.6	-0.3
ISCO				IAmb	IAmb	17 01 27.1	
	comp=Z,8.3nm,1.4s						
MVCO	Mesa Verde	20.53	122	P	P	17 01 19.7	+1.1
ULM	Lac du Bonnet	21.79	78	P	P	17 01 32.7	+0.8
	comp=Z,4.4nm,0.9s,baz=291,slow=9.8,SNR=5.4						
ULM				LR	LR	17 10 29.7	
	comp=Z,139nm,19.7s,baz=92,slow=38						
ULM	Lac du Bonnet	21.79	78	P	P	17 01 33.6	+1.7
ULM	Lac du Bonnet	21.79	78	P	P	17 01 32.9	+1.1
ULM				IAmb	IAmb	17 01 34.5	
	comp=Z,15nm,1.4s						
FCC	Fort Churchill	22.19	55	P	P	17 01 40.5	+4.5
FCC	Fort Churchill	22.19	55	P	P	17 01 36.1	+0.1
FCC				IAmb	IAmb	17 01 49.2	
	comp=Z,4.9nm,0.9s						
AGMN	Agassiz Nation	22.36	83	P	P	17 01 40.4	+2.4
KSCO	Kaye Shedlock'	22.64	110	P	P	17 01 40.0	-1.3
214A	Organ Pipe Nat	22.70	139	P	P	17 01 41.5	-0.3
F33A	5 Mile Ranch,	22.99	89	P	P	17 01 45.3	+0.6
F33A				IAmb	IAmb	17 01 48.9	
	comp=Z,7.6nm,0.9s						
EPLO	Experimental L	23.28	78	P	P	17 01 48.9	+1.2
B35A	Bob, Littlefor	23.68	81	P	P	17 01 52.5	+0.8
B35A				IAmb	IAmb	17 02 11.5	
	comp=Z,7.7nm,1.1s						
A21K	Barrow	23.97	339	P	P	17 01 54.7	+0.5
SOLO	Sioux Lookout	24.20	77	P	P	17 01 58.1	+1.5
ATKO	Atikokan Iron	24.86	79	P	P	17 02 05.4	+2.8
TXAR	Lajitas Array	29.19	127	P	P	17 02 45.0	+3.3
	comp=Z,0.2nm,0.3s,baz=310,slow=7.0,SNR=3.6						
TXAR				LR	LR	17 14 16.3	
	comp=Z,73nm,21.0s,baz=0.0,slow=36						
SADO	Sadowa	34.32	80	LR	LR	17 17 37.6	
	comp=Z,119nm,19.7s,baz=254,slow=37						
FRB	Frobisher Bay	34.43	44	LR	LR	17 15 56.4	
	comp=Z,130nm,20.1s,baz=212,slow=34						
PETK	Petropavlovsk-	42.82	302	LR	LR	17 20 49.9	
	comp=Z,44nm,20.4s,baz=82,slow=34						
JMIC	Jan Mayen	51.78	21	LR	LR	17 28 43.2	
	comp=Z,148nm,21.1s,baz=83,slow=37						
H11N2	WAKE ISLAND Hy	57.83	262	T	T	18 08 59.1	
	baz=41,slow=76,SNR=2672						
H11N3	WAKE ISLAND Hy	57.83	262	T	T	18 08 59.3	
	baz=41,slow=76,SNR=2125						
H11N1	WAKE ISLAND Hy	57.84	262	T	T	18 09 00.5	
	baz=41,slow=76,SNR=1551						
H11S1	WAKE ISLAND Hy	58.86	261	T	T	18 10 19.9	
	baz=40,slow=74,SNR=92						
H11S2	WAKE ISLAND Hy	58.87	261	T	T	18 10 14.5	
	baz=40,slow=74,SNR=105						
H11S3	WAKE ISLAND Hy	58.88	261	T	T	18 10 17.9	
	baz=40,slow=74,SNR=92						
USRK	Ussuriysk Ar.	61.72	306	P	P	17 07 03.0	+4.7
	comp=Z,1.7nm,0.9s,baz=81,slow=8.9,SNR=4.2						
KSRS	Korea Array	68.71	303	LR	LR	17 38 20.1	
	comp=Z,17nm,18.3s,baz=345,slow=36						
PPT	Papeete	70.01	200	LR	LR	17 30 37.9	
	comp=Z,46nm,18.4s,baz=193,slow=29						
SONM	Songino Array	70.49	323	LR	LR	17 38 07.2	
	comp=Z,80nm,18.1s,baz=3.0,slow=35						
ZALV	Zalesovo Beam	71.71	339	P	P	17 08 06.9	+5.0
	comp=Z,0.4nm,0.4s,baz=60,slow=3.6,SNR=5.0						
MKAR	Makanchi Array	78.97	338	P	P	17 08 46.7	+2.9
	comp=Z,0.6nm,0.8s,baz=31,slow=5.0,SNR=5.5						
MKAR				LR	LR	17 48 31.9	
	comp=Z,68nm,20.6s,baz=319,slow=39						
CMAR	Chiang Mai Arr	98.76	313	LR	LR	17 56 26.0	
	comp=Z,26nm,18.3s,baz=80,slow=36						

*IDC **06** 17:01:38.4±1.9, 43°.85N×105°.38W, h0km, mb1 3.4/2, mb1mx3.2/52, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=51.5km s-min=9.8km az=149.0*

*NEIC **06** 17:01:39.6±1.4, 44°.02N±0°.05×105°.27W±0°.04, h0km±1km, ML3.2/50, Error ellipse: s-maj=9.3km s-min=5.0km az=164.0*

ISC 06 17:01:39.0±1.2**, 44°.01N**±0°.06×**105°.23W**±0°.07**, h0**km**, n40, σ0s.89**/39**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	0.87	82		Pb	17 01 56.3	-0.9
K22A	Casper	1.65	215		Pn	17 02 08.1	-1.3
K22A				IAML		17 02 35.7	
	comp=N,334nm,0.3s						
K22A				IAML		17 02 36.7	
	comp=E,346nm,0.2s						
PHWY	Pilot Hill	2.71	184		Pn	17 02 23.9	-0.2
RWWY	Rawlins	2.74	213		Pn	17 02 25.3	+0.8
RWWY				IAML		17 03 02.7	
	comp=E,138nm,0.8s						
RWWY				IAML		17 03 05.8	
	comp=E,94nm,0.7s						
LAO	LASA Array	2.77	346		Pn	17 02 26.1	+1.4
RLMT	Red Lodge	3.09	293	Pn	Pn	17 02 29.1	-0.2
BW06	Boulder Array	3.39	250		Pn	17 02 34.7	+1.3
BW06				IAML		17 03 24.6	
	comp=E,46nm,0.7s						
BW06				IAML		17 03 25.8	
	comp=E,36nm,0.8s						
PD31	Pinedale Array	3.39	250		Pn	17 02 33.8	+0.3
PDAR	Pinedale Array	3.39	250	Pn	Pn	17 02 33.4	0.0
	comp=E,1.6nm,0.3s,baz=72,slow=19,SNR=39						
PDAR				Lg	Lg	17 03 19.9	
	comp=E,5.1nm,0.3s,baz=70,slow=32,SNR=5.8						
PDAR	Pinedale Array	3.39	250	Pn	Pn	17 02 34.6	+1.2
YNE	Yellowstone No	3.56	288		Pn	17 02 35.7	-0.1
YNE				IAML		17 03 32.4	
	comp=E,39nm,0.7s						
YNE				IAML		17 03 33.3	
	comp=N,52nm,0.7s						
YMP	Mirror Lake Pl	3.61	283	Pn	Pn	17 02 35.7	-0.8
YMP				IAML		17 03 41.3	
	comp=N,70nm,0.7s						
YMP				IAML		17 03 42.4	
	comp=E,57nm,0.5s						
GCMT	Greycliff	3.62	301		Pn	17 02 37.8	+1.3
LKWY	Lake	3.75	280		Pn	17 02 40.2	+1.7
LKWY				IAML		17 03 57.9	
	comp=E,36nm,1.8s						
H17A	Grant Village	3.86	278		Pn	17 02 40.7	+0.8
OGNE	Ogallala	3.87	141	Pn	Pn	17 02 40.7	+0.8
LOHW	Long Hollow	3.91	266		Pn	17 02 40.3	-0.2
FLWY	Flagg Ranch	3.94	273		Pn	17 02 41.3	+0.2
FLWY				IAML		17 03 48.8	
	comp=E,45nm,1.8s						
SNOW	Snow King Moun	4.04	264		Pn	17 02 43.1	+0.7
SNOW				IAML		17 03 51.6	
	comp=E,27nm,1.8s						
SNOW				IAML		17 04 03.9	
	comp=E,28nm,0.8s						
YHH	Holmes Hill	4.10	283		Pn	17 02 42.8	-0.4
REDW	Red Top Meadow	4.13	263		Pn	17 02 43.6	0.0
REDW				IAML		17 04 19.0	
	comp=E,38nm,2.6s						
REDW				IAML		17 04 19.2	
	comp=E,31nm,1.1s						
YMR	Madison River	4.17	281		Pn	17 02 44.6	+0.5
YMR				IAML		17 04 06.2	
	comp=N,30nm,1.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YMR				IAML		17 04 17.2	
	comp=E,41nm,1.0s						
YHL	Hebgen Lake	4.35	283		Pn	17 02 44.8	-1.8
YHL				IAML		17 04 08.7	
	comp=N,21nm,1.4s						
YHL				IAML		17 04 11.9	
	comp=E,22nm,0.9s						
O20A	White River Ci	4.47	211	Pn	Pn	17 02 48.2	-0.1
O20A				IAML		17 04 07.3	
	comp=E,34nm,0.8s						
DGMT	Dagmar	4.52	9		Pn	17 02 49.0	+0.2
ECR	Eagle Creek	4.57	260		Pn	17 02 49.3	-0.2
RDMU	Red Mountain	4.71	225		Pn	17 02 51.3	-0.2
RDMU				IAML		17 04 10.1	
	comp=E,25nm,1.3s						
RDMU				IAML		17 04 17.0	
	comp=N,22nm,1.1s						
BOZ	Bozeman (W)	4.82	291		Pn	17 02 51.0	-2.0
BOZ				IAML		17 04 11.4	
	comp=N,19nm,2.9s						
SMCO	Snowmass	5.00	196	Pn	Pn	17 02 55.6	-0.1
SMCO				IAML		17 04 27.0	
	comp=N,17nm,0.8s						
SMCO				IAML		17 04 45.9	
	comp=N,17nm,4.2s						
EGMT	Eagleton	5.11	323		Pn	17 02 56.6	-0.2
HRY	Holter Researc	5.38	302		Pn	17 03 00.9	+0.2
TCUT	Toone Canyon	5.40	240		Pn	17 03 01.2	+0.1
P17A	Butcher Ranch,	6.12	224		Pn	17 03 10.1	-0.8
ECSD	EROS Data Cent	6.23	90		Pn	17 03 14.0	+1.7
PV12	Saucer Basin,	6.29	207		Pn	17 03 13.9	+0.7
PV11	David Mesa, Pa	6.33	207		Pn	17 03 14.3	+0.5
PV03	Paradox Valley	6.36	207		Pn	17 03 13.6	-0.7
PV13	Radium Mtn., P	6.44	206		Pn	17 03 15.7	+0.3
I10CA	LAC DU BONNET	8.81	42	*i*		17 57 00.0	
	baz=219,slow=328,SNR=1.5						
ULM	Lac du Bonnet	8.92	42	Pn	Pn	17 03 49.3	+0.2
	comp=N,0.6nm,0.3s,baz=229,slow=13,SNR=5.8						
ULM				Lg	Lg	17 06 18.1	
	comp=N,0.1nm,0.3s,baz=331,slow=20,SNR=3.0						

NEIC ***06*** *17:09:29.6±2.0, 1°.73N±0°.08×127°.09E±0°.08, h104km±7km, mb4.5/31, Error ellipse: s-maj=13.2km s-min=9.8km az=222.0*

DJA ***06*** *17:09:30.1±0.4, 2°N±3°×12°7E±°, h79km±7km, M4.2/12, mb4.2/6, mB4.8/4, MLv4.3/12, Mw(mB)4.1/4*

IDC ***06*** *17:09:31.1±2.6, 1°.66N×127°.16E, h113km±23km, mb3.6/7, mb1 3.7/9, mb1mx3.4/40, mbtmp3.9/9, Error ellipse: s-maj=39.5km s-min=12.1km az=73.0*

ISC 06 17:09:29.1±0.4**, 1°.85N**±0°.04×**127°.11E**±0°.07**, h100**km**, n69, σ1s.67**/77**, mb4.4**/23**, 1C, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	1.11	166		Pn	17 09 51.1	+0.3
TNTI	Ternate	1.11	166	P	Pn	17 09 51.2	+0.5
TNTI				S	Sn	17 10 07.7	+0.7
SGSI	Sangihe	2.41	319	P	Pn	17 10 06.8	-0.2
KMSI	Cibinong	3.37	248	P	Pn	17 10 20.1	+0.3
SANI	Sanana	4.04	196	P	Pn	17 10 27.0	-1.8
GTOI	Gorontalo	4.27	254	P	Pn	17 10 33.2	+1.3
DDMP	Don Marcelino,	4.45	342	*e*P	Pn	17 10 32.6	-1.8
DDMP				*e*S	Sn	17 11 21.7	-3.3
SIJI	Sorong	4.96	123	P	Pn	17 10 41.6	+0.3
	2.4nm,0.3s,baz=160,slow=21,SNR=15						
NLAI	Namlea	5.06	180	P	Pn	17 10 42.9	+0.2
	0.5nm3μm15nm,1.0s						
LUWI	Luwuk	5.20	236	Pn	Pn	17 10 45.1	+0.6
LUWI	Luwuk	5.20	236	P	Pn	17 10 45.9	+1.3
SKMP	Bagumbayan, Su	5.29	331	*e*P	Pn	17 10 44.5	-1.3
SKMP				*e*S	Sn	17 11 42.4	-3.2
MRSI	Marisa	5.34	255	P	Pn	17 10 47.5	+1.0
	0.2nm815nm56nm,0.7s						
KCP	Kidapawan	5.50	339	⇑*e*P	Pn	17 10 49.7	+1.0
KCP				*i* S	Sn	17 11 55.8	+5.0
APSI	Ampana	6.11	243	P	Pn	17 10 57.3	+0.4
	0.2nm12nm,0.5s						
BUKP	Musuan	6.32	341	*e*P	Pn	17 10 57.2	-2.7
TOLI2	Tolitoli	6.36	263		Pn	17 10 59.6	-0.8
FAKI	Fak Fak	6.99	133	Pn	Pn	17 11 10.1	+1.2
PAGZ	Pagadian	7.01	328	*e*P	Pn	17 11 07.2	-2.0
PAGZ				*e*S	Sn	17 12 23.4	-4.1
MYLDM	Lahad Datu	9.20	291	Pn	Pn	17 11 42.6	+3.6
BNSI	Bone	9.35	228	P	Pn	17 11 40.9	-0.2
SAUI	Saumlaki	10.63	157	Pn	Pn	17 11 57.1	-1.3
KKM	Kota Kinabalu	11.63	291	Pn	Pn	17 12 15.8	+3.7
SBUM	Sibu	14.89	273	P	P	17 12 58.9	+1.2
FITZ	Fitzroy Crossi	19.88	184	P	P	17 13 51.0	-1.6
	0.2nm,0.3s,baz=4.7,slow=9.4,SNR=16						
FITZ	Fitzroy Crossi	19.88	184	P	P	17 13 51.3	-1.3
YULB	Yu-li	22.14	346	P	P	17 14 16.6	-0.1
YULB				IAmb	IAmb	17 14 39.4	
	comp=Z,25nm,1.3s						
TPUB	Ta-pu	22.23	344	P	P	17 14 16.8	-0.9
TPUB				IAmb	IAmb	17 14 50.9	
	comp=Z,80nm,1.6s						
COEN	Coen	22.37	135	P	P	17 14 18.6	-0.7
COEN				IAmb	IAmb	17 14 57.0	
	comp=Z,27nm,1.6s						
SSLB	Suanglung	22.60	345	P	P	17 14 22.2	+0.6
SSLB				IAmb	IAmb	17 14 47.2	
	comp=Z,51nm,1.5s						
WB0	Warramunga Arr	22.65	162	P	P	17 14 20.2	-1.8
WRA	Warramunga Arr	22.80	162	P	P	17 14 21.7	-1.8
	comp=Z,2.8nm,0.4s,baz=341,slow=12,SNR=79						
WRA				PcP	PcP	17 18 11.6	-0.2
	comp=Z,0.4nm,0.5s,baz=320,slow=1.3,SNR=5.5						
WRA				S	S	17 18 22.4	-2.8
	comp=Z,0.4nm,0.6s,baz=334,slow=15,SNR=5.3						
WB2	Warramunga Arr	22.80	162	P	P	17 14 21.8	-1.7
WR0	Warramunga Arr	22.87	162	P	P	17 14 22.8	-1.5
YHNB	Yeheng	23.35	347	P	P	17 14 29.3	+0.4
YHNB				IAmb	IAmb	17 15 15.0	
	comp=Z,94nm,1.6s						
PSA00	Pilbara Seismi	24.34	197	P	P	17 14 36.9	-0.9
PSA00				IAmb	IAmb	17 14 55.6	
	comp=Z,12nm,1.2s						
BKNI	Bangkinang	26.10	267	P	P	17 14 53.5	-0.4
AS31	Alice Springs	26.21	166	P	P	17 14 53.6	-1.2
ASAR	Alice Springs	26.21	166	P	P	17 14 53.5	-1.3
	comp=Z,0.7nm,0.4s,baz=344,slow=7.7,SNR=23						
ASAR				PcP	PcP	17 18 18.9	-0.4
	comp=Z,0.4nm,0.4s,baz=344,slow=2.5,SNR=6.0						
ASAR	Alice Springs	26.21	166	P	P	17 14 53.2	-1.6
GIRL	Giralia	27.39	207	P	P	17 15 05.6	+0.3
CMAR	Chiang Mai Arr	32.17	303	P	P	17 15 45.8	-1.9
FORT	Forrest	32.46	178	P	P	17 15 48.8	-1.3
FORT				IAmb	IAmb	17 16 10.1	
	comp=Z,17nm,1.1s						
MORW	Morawa	32.52	198	P	P	17 15 49.6	-1.0
MORW				IAmb	IAmb	17 16 16.3	
	comp=Z,11nm,1.1s						
JHS	Saijyo	33.45	9	P	P	17 15 58.2	-0.3
BBOO	Buckleboo	35.50	167	P	P	17 16 15.1	-1.2
BBOO				IAmb	IAmb	17 16 24.5	
	comp=Z,25nm,1.4s						
EIDS	Eidsvold	35.66	141	P	P	17 16 17.5	-0.2
EIDS				IAmb	IAmb	17 16 20.7	
	comp=Z,11nm,1.2s						
NWAO	Narrogin (SRO)	35.83	194	P	P	17 16 18.2	-0.9
NWAO	Narrogin (SRO)	35.83	194	P	P	17 16 18.1	-1.0
NWAO				IAmb	IAmb	17 16 23.4	
	comp=Z,36nm,1.6s						
STKA	Stephens Creek	36.26	159	P	P	17 16 22.5	-0.2
	comp=Z,0.8nm,0.3s,baz=332,slow=7.3,SNR=12						
STKA	Stephens Creek	36.26	159	P	P	17 16 21.9	-0.8
ARMA	Armidale	39.71	146	P	P	17 16 52.4	+0.4
ARMA				IAmb	IAmb	17 17 08.2	
	comp=Z,26nm,1.5s						
SONM	Songino Array	49.18	342	P	P	17 18 09.7	+2.6
	comp=Z,0.2nm,0.4s,baz=128,slow=9.3,SNR=1.9						
SONM	Songino Array	49.18	342	P	P	17 18 07.8	+0.6
PETK	Petropavlovsk-	57.02	21	P	P	17 19 05.5	+1.1
	comp=Z,3.9nm,0.9s,baz=173,slow=4.4,SNR=5.9						
MK31	Makanchi Array	59.30	326	P	P	17 19 21.9	+1.4
MK31				IAmb	IAmb	17 19 22.2	
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	59.30	326	P	P	17 19 22.1	+1.6
	comp=Z,1.0nm,0.5s,baz=121,slow=7.8,SNR=25						
MKAR	Makanchi Array	59.30	326	P	P	17 19 21.5	+1.0
MAKZ	Makanchi	59.49	326	P	P	17 19 23.1	+1.3
MAKZ				IAmb	IAmb	17 19 24.5	
	comp=Z,1.5nm,0.9s						
LBZ	Lake Benmore	59.93	146	P	P	17 19 24.5	-0.3
BKZ	Black Stump Fm	60.95	138	P	P	17 19 30.9	-1.0
KKAR	Karatay Array	64.86	318	P	P	17 19 58.0	+0.3
ABKAR	Akbulak array	73.83	321	P	P	17 20 53.4	+0.5
VNDA	Vanda	81.53	173	P	P	17 21 35.1	0.0
	comp=Z,1.5nm,1.1s,baz=298,slow=2.4,SNR=3.5						
VNDA	Vanda	81.53	173	P	P	17 21 34.3	-0.7
VNDA				IAmb	IAmb	17 21 35.2	
	comp=Z,4.8nm,1.1s						
TTA	Tatalina	82.39	27	P	P	17 21 42.2	+2.2
TTA				IAmb	IAmb	17 22 19.6	
	comp=Z,9.2nm,1.5s						
SBA	Scott Base	82.44	172	P	P	17 21 42.8	+3.0
SBA				IAmb	IAmb	17 22 09.4	
	comp=Z,8.8nm,1.1s						
A21K	Barrow	83.87	18		P	17 21 50.1	+2.8
A21K				IAmb	IAmb	17 21 55.6	
	comp=Z,6.5nm,0.8s						
IMAR	Indian Mountai	83.89	24	P	P	17 21 49.1	+1.6

VAO ***06*** *17:36:26.5±0.6, 21°.85S×68°.51W, h133km±6km, mb4.0*

GUC ***06*** *17:36:27.1±0.7, 21°.86S×68°.44W, h118km±4km, ML3.7*

IDC ***06*** *17:36:27.4±9.3, 21°.87S×67°.69W, h103km±69km, mb4.0/2, mb1 3.8/3, mb1mx3.4/16, mbtmp4.2/3, ML3.9/1, Error ellipse: s-maj=108.1km s-min=63.6km az=64.0*

ISC 06 17:36:26.4±0.7**, 21°.86S**±0°.03×**68°.54W**±0°.08**, h129**km±8km**, n37, σ0s.79**/52**, 9C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.66	276	⇑*i*P	Pn	17 36 46.7	+0.2
PB09				*i* S	Sn	17 37 01.6	-0.1
LVC	Limon Verde	0.82	205	⇓*i*P	Pn	17 36 47.7	-0.3
LVC				*i* S	Sn	17 37 04.0	-0.4
LVC	Limon Verde	0.82	205	*e*P	Pn	17 36 47.9	-0.1
PB01	IPOC Station P	1.21	312	⇑*i*P	Pn	17 36 51.1	-0.1
PB01				*i* S	Sn	17 37 09.9	-0.2
PB01				IAML		17 37 13.4	
	comp=E,1μm,0.2s						
PB07	IPOC Station P	1.26	276	⇑*i*P	Pn	17 36 52.1	+0.2
PB07				*i* S	Sn	17 37 11.8	+0.5
PB07				IAML		17 37 13.7	
	comp=N,1μm,0.2s						
PB06	IPOC Station P	1.28	229	⇑*i*P	Pn	17 36 52.4	+0.3
PB06				*i* S	Sn	17 37 12.3	+0.7
PB06				IAML		17 37 12.8	
	comp=N,814nm,0.5s						
PB04	IPOC Station P	1.57	252	⇑*i*P	Pn	17 36 55.5	+0.2
PB04				*i* S	Sn	17 37 17.9	+0.5
PB04				IAML		17 37 19.2	
	comp=E,711nm,0.2s						
PB15	IPOC Station P	1.59	213	⇑*i*P	Pn	17 36 56.4	+0.7
PB15				*i* S	Sn	17 37 19.2	+1.2
PB08	IPOC Station P	1.81	341	⇑*i*P	Pn	17 36 59.3	+0.9
PB08				*i* S	Sn	17 37 23.1	+0.4
TA01	Diego Aracena	2.00	310	*e*P	Pn	17 37 00.4	+0.1
TA01				*i* S	Sn	17 37 25.9	-0.4
TA01				IAML		17 37 27.3	
	comp=E,2μm,0.2s						
HMBC	Humberstone	2.02	321	⇑*i*P	Pn	17 37 00.3	-0.3
HMBC				*i* S	Sn	17 37 26.6	-0.3
HMBC				IAML		17 37 28.2	
	comp=N,1μm,0.5s						
TA02	Huaiquique	2.17	316	*e*P	Pn	17 37 02.4	0.0
TA02				*i* S	Sn	17 37 29.7	-0.3
PB10	IPOC Station P	2.49	228	*e*P	Pn	17 37 06.9	+0.6
PSGC	Pisagua	2.70	326	*e*P	Pn	17 37 08.1	-1.1
PSGC				*i* S	Sn	17 37 40.8	-1.3
MNMC	Minye Minye	2.89	340	⇑*i*P	Pn	17 37 12.2	+0.3
MNMC				*i* S	Sn	17 37 47.2	+0.4
GO02	Mina Guanaco	3.42	196	*e*P	Pn	17 37 18.3	-0.5
GO02				*e*S	Sn	17 37 58.8	-0.5
LPAZ	La Paz	5.56	4	P	Pn	17 37 48.5	+1.0
	comp=N,1.8nm,0.3s,baz=155,slow=5.1,SNR=14						
LPAZ				S	Sn	17 38 52.2	+1.6
	baz=293,slow=8.0,SNR=1.0						
LPAZ	La Paz	5.56	4	*e*P	Pn	17 37 47.8	+0.2
ITAB	Concordia	15.85	113	*e*P	P	17 40 03.3	-0.2
CPSB	Cacapava Do Su	15.99	125	*e*P	Pn	17 40 04.3	+0.3
CLDB	Colider	16.38	50	*e*P	P	17 40 09.8	+0.4
PLTB	Pedras Altas	16.56	130	*e*P	P	17 40 12.1	+0.7
FRTB	Fartura	17.58	98	*e*P	P	17 40 22.2	-0.5
BB19B	Bebedouro	18.64	91	*e*P	P	17 40 33.6	-0.7
SNDB	Serra Nova Dou	19.18	62	*e*P	P	17 40 38.6	-1.6
IPMB	Ipameri, GO	19.49	82	*e*P	P	17 40 42.6	-1.0
PEXB	Peixe	21.62	67	*e*P	P	17 41 04.7	-1.8
DIAM	Diamantina, MG	23.61	86	*e*P	P	17 41 24.6	-1.3
PRPB	Parauapebas	23.89	52	*e*P	P	17 41 27.1	-1.3
JANB	Januaria	23.93	78	*e*P	P	17 41 27.9	-0.9
SMTB	Santa Maria do	23.94	61	*e*P	P	17 41 28.4	-0.3
MALB	Monte Alegre	24.26	37	*e*P	P	17 41 31.5	-0.2
SDBA	SAO DESIDERIO	24.43	71	*e*P	P	17 41 32.5	-0.8
BOAV	Boa Vista	25.35	19	*e*P	P	17 41 42.0	+0.5
DBIC	Dimbokro	68.50	73	P	P	17 47 14.4	-0.9
	comp=N,1.9nm,0.5s,baz=241,slow=5.9,SNR=5.6						
TORD	Torodi Ar. Bea	77.15	70	P	P	17 48 06.4	+0.1
	comp=N,0.9nm,0.3s,baz=259,slow=5.0,SNR=12						
MKAR	Makanchi Array	145.72	36	PKPbc	PKPbc	17 55 52.0	+1.8
	comp=N,0.4nm,0.6s,baz=321,slow=3.1,SNR=4.9						

KRSC ***06*** *17:42:60.0±1.3, 55°.58N×160°.42E, h198km±11km, ML4.4*

MOS ***06*** *17:43:00.9±0.8, 55°.66N×160°.13E, h195km, mb4.2/6, Error ellipse: s-maj=10.9km s-min=4.3km az=80.7*

NEIC ***06*** *17:43:02.5±1.7, 55°.61N±0°.10×160°.1E±0°.2, h198km±9km, mb4.2/60, Error ellipse: s-maj=14.3km s-min=13.8km az=62.0*

IDC ***06*** *17:43:02.8±1.5, 55°.71N×160°.02E, h196km±15km, mb3.5/24, mb1 3.6/29, mb1mx3.5/51, mbtmp4.0/29, Error ellipse: s-maj=13.1km s-min=8.9km az=173.0*

ISC 06 17:43:01.9±0.5**, 55°.57N**±0°.03×**160°.31E**±0°.03**, h193**km±4km**, n210, σ1s.22**/277**, mb4.0**/52**, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMNR	Kamenistaya	0.19	348	PN	Pn	17 43 27.4	0.0
KMNR				S	Sn	17 43 47.3	0.0
KMNR	Kamenistaya	0.19	348	*e*P	Pn	17 43 27.4	0.0
KMNR				*e*S	Sn	17 43 47.3	0.0
TUMR	Tumrok	0.30	198	PN	Pn	17 43 27.8	+0.1
TUMR	Tumrok	0.30	198	*e*P	Pn	17 43 28.2	+0.5
TUMR				*e*S	Sn	17 43 48.4	+0.8
TUMD	Tumrok D	0.37	172	*i* P	Pn	17 43 27.8	0.0
BZMR	Bezymyannaya	0.38	16	PN	Pn	17 43 27.8	-0.1
BZMR				S	Sn	17 43 48.5	+0.3
BZMR	Bezymyannaya	0.38	16	*e*P	Pn	17 43 27.8	-0.1
BZMR				*e*S	Sn	17 43 48.5	+0.3
KIRR	Kirishev	0.38	3	PN	Pn	17 43 27.4	-0.5
KIRR				S	Sn	17 43 47.7	-0.5
KIRR	Kirishev	0.38	3	*e*P	Pn	17 43 27.4	-0.5
KIRR				*e*S	Sn	17 43 47.7	-0.5
BZWR	Bezymyannyi-We	0.41	15	PN	Pn	17 43 27.6	-0.4
BZWR				S	Sn	17 43 48.2	-0.2
BZWR	Bezymyannyi-We	0.41	15	*e*P	Pn	17 43 27.6	-0.4
BZWR				*e*S	Sn	17 43 48.2	-0.2
BZGR	Bezymyannyi-Gr	0.43	31	PN	Pn	17 43 28.0	0.0
BZGR	Bezymyannyi-Gr	0.43	31	*e*P	Pn	17 43 28.0	0.0
KZV	Kizimen	0.46	181	PN	Pn	17 43 28.5	+0.2
KZV	Kizimen	0.46	181	*i* P	Pn	17 43 28.5	+0.2
KOZ	Kozyrevsk	0.55	334	PN	Pn	17 43 27.9	-0.4
KOZ				S	Sn	17 43 48.2	-0.7
KOZ	Kozyrevsk	0.55	334	*e*P	Pn	17 43 27.9	-0.4
KOZ				*e*S	Sn	17 43 48.2	-0.7
KRSR	Krestovskiy	0.66	13	PN	Pn	17 43 28.7	-0.3
KRSR				S	Sn	17 43 49.5	-0.6
KRSR	Krestovskiy	0.66	13	*e*P	Pn	17 43 28.7	-0.3
KRSR				*e*S	Sn	17 43 49.5	-0.6
KLY	Klyuchi	0.77	14	PN	Pn	17 43 29.2	-0.2
KLY				S	Sn	17 43 50.9	+0.1
KLY	Klyuchi	0.77	14	*i* P	Pn	17 43 29.2	-0.2
KLY				*e*S	Sn	17 43 50.9	+0.1
SRDR	Sredinnyy	0.82	336	PN	Pn	17 43 29.0	-0.8
SRDR				S	Sn	17 43 50.0	-1.5
SRDR	Sredinnyy	0.82	336	*i* P	Pn	17 43 29.0	-0.8
SRDR				*e*S	Sn	17 43 50.0	-1.5
ESO	Esso	0.97	292	PN	Pn	17 43 30.9	+0.2
ESO				S	Sn	17 43 52.7	-0.4
ESO	Esso	0.97	292	*i* P	Pn	17 43 30.9	+0.2
ESO				*e*S	Sn	17 43 52.7	-0.4
BDR	Baidarnaya	1.12	26	PN	Pn	17 43 31.8	0.0
BDR				S	Sn	17 43 55.1	0.0
BDR	Baidarnaya	1.12	26	*e*P	Pn	17 43 31.8	0.0
BDR				*e*S	Sn	17 43 55.1	0.0
SRKR	Sorokina	1.19	24	PN	Pn	17 43 31.9	-0.4
SRKR				S	Sn	17 43 55.0	-1.1
SRKR	Sorokina	1.19	24	*i* P	Pn	17 43 31.9	-0.4
SRKR				*e*S	Sn	17 43 55.0	-1.1
SMKR	Semkarok	1.20	32	PN	Pn	17 43 32.0	-0.5
SMKR				S	Sn	17 43 55.0	-1.3
SMKR	Semkarok	1.20	32	*e*P	Pn	17 43 32.0	-0.5
SMKR				*e*S	Sn	17 43 55.0	-1.3
MKZ	Mys Kozlova	1.31	141	PN	Pn	17 43 32.3	-0.9
MKZ				S	Sn	17 43 55.5	-1.9
MKZ	Mys Kozlova	1.31	141	*e*P	Pn	17 43 32.3	-0.9
MKZ				*e*S	Sn	17 43 55.5	-1.9
KBG	Krutoberegovo	1.51	62	PN	Pn	17 43 34.2	-0.8
KBG				S	Sn	17 43 59.0	-1.7
KBG	Krutoberegovo	1.51	62	*i* P	Pn	17 43 34.2	-0.8
KBG				*e*S	Sn	17 43 59.0	-1.7
KBTR	Krutoberegovo	1.55	65	PN	Pn	17 43 34.5	-0.9
KBTR				S	Sn	17 43 59.2	-2.2
KBTR	Krutoberegovo	1.55	65	*i* P	Pn	17 43 34.5	-0.9
KBTR				*e*S	Sn	17 43 59.2	-2.2
KII	Karymskiy	1.62	198	PN	Pn	17 43 36.6	+0.4
KII	Karymskiy	1.62	198	*i* P	Pn	17 43 36.6	+0.4
GNL	Ganaly	2.33	217	PN	Pn	17 43 44.4	+0.8
GNL				S	Sn	17 44 17.2	+1.3
GNL	Ganaly	2.33	217	*e*P	Pn	17 43 44.4	+0.8
GNL				*e*S	Sn	17 44 17.2	+1.3
KRX	Arik	2.42	204	PN	Pn	17 43 45.6	+1.0
KRX	Arik	2.42	204	*i* P	Pn	17 43 45.6	+1.0
SDLR	Sedlovina	2.44	200	PN	Pn	17 43 45.2	+0.4
SDLR				S	Sn	17 44 18.1	-0.1
SDLR	Sedlovina	2.44	200	*e*P	Pn	17 43 45.2	+0.4
SDLR				*e*S	Sn	17 44 18.1	-0.1
KRER	Koryakskii	2.45	202	PN	Pn	17 43 45.9	+0.9
KRER	Koryakskii	2.45	202	*e*P	Pn	17 43 45.9	+0.9
NLC	Nalytchevo	2.47	194	PN	Pn	17 43 44.5	-0.5
NLC				S	Sn	17 44 17.2	-1.3
NLC	Nalytchevo	2.47	194	*e*P	Pn	17 43 44.5	-0.5
NLC				*e*S	Sn	17 44 17.2	-1.3
SMAR	Somma	2.48	201	PN	Pn	17 43 46.0	+0.7
SMAR	Somma	2.48	201	*e*P	Pn	17 43 46.0	+0.7
KOK	Koryaka	2.48	204	PN	Pn	17 43 46.4	+1.1
KOK	Koryaka	2.48	204	*e*P	Pn	17 43 46.4	+1.1
SPN	Mys Shipunski	2.48	184	PN	Pn	17 43 43.7	-1.5
SPN				S	Sn	17 44 15.3	-3.5
SPN	Mys Shipunski	2.48	184	*i* P	Pn	17 43 43.7	-1.5
SPN				*e*S	Sn	17 44 15.3	-3.5
AVH	Avacha	2.49	202	PN	Pn	17 43 46.4	+1.1
AVH				S	Sn	17 44 20.0	+1.0
AVH	Avacha	2.49	202	*e*P	Pn	17 43 46.4	+1.1
AVH				*e*S	Sn	17 44 20.0	+1.0
UGLR	Uglovaya	2.52	201	PN	Pn	17 43 46.2	+0.5
UGLR				S	Sn	17 44 19.7	-0.1
UGLR	Uglovaya	2.52	201	*e*P	Pn	17 43 46.2	+0.5
UGLR				*e*S	Sn	17 44 19.7	-0.1
DALK	Dalny	2.70	200	PN	Pn	17 43 47.8	+0.2
DALK	Dalny	2.70	200	*e*P	Pn	17 43 47.8	+0.2
PET	Petropavlovsk	2.73	201	*e*PN	Pn	17 43 48.5	+0.5
PET				*e*S	Sn	17 44 23.0	-0.8
PET				pmax	pmax		
	comp=Z,59nm,0.4s						
PET				smax	smax		
	comp=E,256nm,0.5s						
PET				smax	smax		
	comp=N,243nm,0.5s						
PET	Petropavlovsk	2.73	201	*e*P	Pn	17 43 48.4	+0.5
PET				*e*S	Sn	17 44 23.3	-0.5
PET	Petropavlovsk	2.73	201		Pn	17 43 48.5	+0.5
PEA0B	Petropavlovsk-	2.90	213	PN	Pn	17 43 50.8	+0.8
PEA0B	Petropavlovsk-	2.90	213	Pn	Pn	17 43 50.8	+0.8
PETK	Petropavlovsk-	2.90	213	P	Pn	17 43 50.7	+0.7
	comp=N,1.7nm,0.3s,baz=60,slow=15,SNR=47						
PETK				S	Sn	17 44 36.2	+8.7
	comp=N,3.4nm,0.3s,baz=89,slow=20,SNR=6.6						
KRMR	Karymshinskiy	3.03	206	PN	Pn	17 43 52.5	+1.0
KRMR				S	Sn	17 44 31.0	+0.8
KRMR	Karymshinskiy	3.03	206	*e*P	Pn	17 43 52.5	+1.0
KRMR				*e*S	Sn	17 44 31.0	+0.8
APC	Apacha	3.23	216	PN	Pn	17 43 54.7	+0.8
APC	Apacha	3.23	216	*e*P	Pn	17 43 54.7	+0.8
BKI	Bering	3.25	94	PN	Pn	17 43 54.3	+0.2
BKI				S	Sn	17 44 33.1	-1.8
BKI	Bering	3.25	94	*i* P	Pn	17 43 54.3	+0.2
BKI				*e*S	Sn	17 44 33.1	-1.8
GRL	Gorelyy	3.30	204	PN	Pn	17 43 56.1	+1.2
GRL				S	Sn	17 44 36.7	+0.5
GRL	Gorelyy	3.30	204	*e*P	Pn	17 43 56.1	+1.2
GRL				*e*S	Sn	17 44 36.7	+0.5
RUS	Russkaya	3.32	199	PN	Pn	17 43 54.0	-1.0
RUS				S	Sn	17 44 33.8	-2.6
RUS	Russkaya	3.32	199	*e*P	Pn	17 43 54.0	-1.0
RUS				*e*S	Sn	17 44 33.8	-2.6
MTVR	Mutnovka	3.34	203	PN	Pn	17 43 55.9	+0.5
MTVR				S	Sn	17 44 36.3	-0.8
MTVR	Mutnovka	3.34	203	*e*P	Pn	17 43 55.9	+0.5
MTVR				*e*S	Sn	17 44 36.3	-0.8
ASAK	Asacha	3.50	205	PN	Pn	17 43 57.8	+0.6
ASAK				S	Sn	17 44 39.8	-0.7
ASAK	Asacha	3.50	205	*e*P	Pn	17 43 57.8	+0.6
ASAK				*e*S	Sn	17 44 39.8	-0.7
PALN	Palana	3.53	357	PN	Pn	17 43 57.1	-0.4
PALN	Palana	3.53	357	*e*P	Pn	17 43 57.1	-0.4
OSSR	Ossora	3.98	21	PN	Pn	17 44 03.2	+0.2
OSSR	Ossora	3.98	21	*e*P	Pn	17 44 03.2	+0.2
KDTR	Khodutka, Kamc	4.00	200	PN	Pn	17 44 02.5	-0.8
KDTR				S	Sn	17 44 47.0	-4.5
KDTR	Khodutka, Kamc	4.00	200	*e*P	Pn	17 44 02.5	-0.8
KDTR				*e*S	Sn	17 44 47.0	-4.5
SKR	Severo-Kuril's	5.51	209	*e*PN	Pn	17 44 22.5	-0.1
SKR				*e*S	Sn	17 45 23.0	-3.2
SKR				smax	smax		
	comp=E,90nm,0.8s						
SKR				smax	smax		
	comp=N,42nm,0.6s						
SKR				MLR	MLR		
	comp=Z,200nm,14.0s						
SKR	Severo-Kuril's	5.51	209	*e*S	Sn	17 45 22.5	-3.7
TILK	Tilichiki	5.79	30	PN	Pn	17 44 26.5	+0.4
TILK	Tilichiki	5.79	30	*e*P	Pn	17 44 26.5	+0.4
MA2	Magadan	6.51	312	PN	Pn	17 44 34.8	-0.8
MA2	Magadan	6.51	312	Pn	Pn	17 44 34.8	-0.8
SEY	Seymchan	8.42	334	P	Pn	17 45 00.3	-0.1
	comp=Z,0.1nm,0.3s,baz=145,slow=14,SNR=11						
ADK	Adak	14.09	96	P	Pn	17 46 15.5	+2.5
ADK	Adak	14.09	96		Pn	17 46 15.5	+2.5
GSTR	Great Sitkin T	14.36	94		P	17 46 18.9	+1.0
ATKA	Atka Island	15.37	92		Pn	17 46 29.1	+0.4
ASAJ	Asahikawa	16.13	232	P	Pn	17 46 39.0	+1.1
	comp=Z,0.3nm,0.3s,baz=131,slow=23,SNR=1.5						
YAK	Yakutsk	17.01	305	P	P	17 46 46.6	-0.4
	comp=Z,0.1nm,0.3s,baz=170,slow=1.9,SNR=11						
YAK	Yakutsk	17.01	305	*e*P	P	17 46 45.8	-1.2
YAK				pmax	pmax		
	comp=Z,31nm,0.9s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK	Yakutsk	17.01	305	P	P	17 46 46.3	-0.7
ERM	Erimo	17.58	227	P	P	17 46 54.3	+0.8
ERM				pmax	pmax		
	comp=Z,22nm,1.1s						
ERM	Erimo	17.58	227	P	P	17 46 54.3	+0.8
ERM				IAmb	IAmb	17 47 18.1	
	comp=Z,22nm,1.1s						
KLR	Kul'dur	18.46	262	P	P	17 47 03.4	+0.5
	comp=Z,0.1nm,0.3s,baz=72,slow=11,SNR=4.9						
AKUT	Akutan	19.47	80	P	P	17 47 15.7	+1.9
TIXI	Tiksi	20.91	332	P	P	17 47 28.5	-0.4
TIXI	Tiksi	20.91	332	P	P	17 47 28.5	-0.4
TIXI				IAmb	IAmb	17 47 29.2	
	comp=Z,5.1nm,0.9s						
JMM	Marumori	22.06	225	P	P	17 47 39.7	-1.4
JMM				IAmb	IAmb	17 48 13.5	
	comp=Z,32nm,1.4s						
CNBA	Chernabura Isl	22.69	75	P	P	17 47 47.1	+0.4
TTA	Tatalina	23.11	54	P	P	17 47 51.0	+0.5
TTA				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,5.0nm,1.0s						
TTA	Tatalina	23.11	54	P	P	17 47 51.0	+0.5
TTA				IAmb	IAmb	17 47 53.8	
	comp=Z,5.2nm,1.0s						
SVW2	Sparrevohn	23.43	58	P	P	17 47 55.3	+1.9
SVW2				IAmb	IAmb	17 48 05.1	
	comp=Z,23nm,1.6s						
IMAR	Indian Mountai	24.13	46	P	P	17 48 00.1	+0.5
CHIR	Chirikof Islan	24.53	71	P	P	17 48 04.1	+0.7
PPLA	Purkeypile	24.85	53	P	P	17 48 07.2	+0.7
PPLA				IAmb	IAmb	17 48 26.5	
	comp=Z,13nm,1.5s						
SII	Sitkinak Islan	25.07	69	P	P	17 48 10.9	+2.6
SKT	Skwentna	25.26	56	P	P	17 48 11.2	+1.3
SKT				IAmb	IAmb	17 48 30.4	
	comp=Z,5.1nm,1.2s						
BPAW	Bear Paw Mtn.	25.30	51	P	P	17 48 11.7	+1.3
BPAW				IAmb	IAmb	17 48 38.1	
	comp=Z,7.4nm,1.6s						
OHAK	Old Harbor	25.36	67	P	P	17 48 10.7	-0.1
KTH	Kantishna Hill	25.37	52	P	P	17 48 11.3	+0.2
KTH				IAmb	IAmb	17 48 12.6	
	comp=Z,4.8nm,1.0s						
JGF	Kuroka	25.42	228	P	P	17 48 12.9	+1.3
KDAK	Kodiak Island	25.57	65	P	P	17 48 12.2	-0.5
	comp=Z,1.5nm,0.4s,baz=249,slow=2.1,SNR=15						
KDAK	Kodiak Island	25.57	65	P	P	17 48 12.4	-0.3
COLD	Coldfoot	25.61	43	P	P	17 48 13.9	+0.9
TRF	Thorofare Moun	25.66	52	P	P	17 48 13.8	+0.1
TRF				IAmb	IAmb	17 48 19.1	
	comp=Z,6.7nm,1.3s						
SUA	Susitna One	25.70	57	P	P	17 48 14.7	+0.6
SUA				IAmb	IAmb	17 48 16.6	
	comp=Z,14nm,1.6s						
CNPM	China Poot	25.83	61	P	P	17 48 15.3	+0.2
JSG	Sagara	25.87	225	P	P	17 48 13.2	-2.4
TOLK	Toolik Lake Re	25.94	40	P	P	17 48 16.4	+0.4
TOLK				IAmb	IAmb	17 48 34.5	
	comp=Z,6.3nm,1.4s						
BRLK	Bradley Lake	25.95	60	P	P	17 48 16.3	+0.1
BRLK				IAmb	IAmb	17 48 46.6	
	comp=Z,19nm,1.3s						
O22K	Cooper Landing	26.37	59	P	P	17 48 20.1	+0.3
GHO	Glory Hole Cre	26.51	56	P	P	17 48 21.6	+0.3
GHO				IAmb	IAmb	17 48 28.9	
	comp=Z,8.9nm,1.2s						
WRH	Wood River Hil	26.54	49	P	P	17 48 22.3	+0.9
WRH				IAmb	IAmb	17 48 48.6	
	comp=Z,7.7nm,1.5s						
CCB	Clear Creek Bu	26.65	49	P	P	17 48 23.1	+0.8
CCB				IAmb	IAmb	17 48 28.9	
	comp=Z,6.5nm,1.3s						
SML	Sawmill	26.78	55	P	P	17 48 24.2	+0.6
SML				IAmb	IAmb	17 48 25.5	
	comp=Z,5.2nm,0.8s						
KNK	Knik Glacier	26.79	56	P	P	17 48 24.6	+0.9
KNK				IAmb	IAmb	17 48 27.0	
	comp=Z,14nm,1.3s						
IL31		27.03	49	P	P	17 48 26.2	+0.5
ILAR	Eielson Array	27.03	49	P	P	17 48 25.2	-0.5
	comp=Z,0.8nm,0.6s,baz=260,slow=6.9,SNR=14						
ILAR				PP	sP	17 49 24.9	-2.3
	comp=Z,0.3nm,0.4s,baz=264,slow=6.3,SNR=5.1						
ILAR	Eielson Array	27.03	49	P	P	17 48 26.0	+0.2
HDA	Harding Lake	27.04	50	P	P	17 48 26.3	+0.5
SCM	Sheep Creek Mo	27.24	55	P	P	17 48 28.9	+1.1
SCM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SCM	Sheep Creek Mo	27.24	55	P	P	17 48 28.9	+1.1
SCM				IAmb	IAmb	17 48 29.3	
	comp=Z,5.8nm,0.8s						
BMAR	Burnt Mountain	27.79	43	P	P	17 48 33.7	+1.1
N25K	Chitina, Valde	28.56	55	P	P	17 48 40.9	+1.4
N25K				IAmb	IAmb	17 48 42.6	
	comp=Z,3.8nm,0.9s						
K27K	Chicken	29.20	50	P	P	17 48 46.2	+1.2
MCARA	McCarthy VSAT	29.35	55	P	P	17 48 48.0	+1.6
MCARA				IAmb	IAmb	17 49 03.4	
	comp=Z,3.8nm,1.0s						
CRQM	Cirque	29.46	56	P	P	17 48 49.3	+1.8
CRQM				IAmb	IAmb	17 48 50.7	
	comp=Z,12nm,1.3s						
EGAK	Eagle	29.46	48	P	P	17 48 47.8	+0.6
BCAR	Beaver Creek A	29.52	52	P	P	17 48 49.3	+1.4
INK	Inuvik	31.86	40	P	P	17 49 08.9	+0.7
	comp=Z,0.4nm,0.3s,baz=287,slow=7.5,SNR=2.0						
INK	Inuvik	31.86	40	P	P	17 49 09.3	+1.2
INK				IAmb	IAmb	17 49 21.7	
	comp=Z,7.9nm,1.5s						
SONM	Songino Array	33.53	280	P	P	17 49 22.4	-0.7
	comp=Z,0.4nm,0.4s,baz=52,slow=9.0,SNR=4.4						
SONM				PcP	PcP	17 51 58.5	-0.5
	comp=Z,0.3nm,0.5s,baz=18,slow=2.0,SNR=5.7						
EUNU	Eureka	39.51	15	P	P	17 50 13.8	+0.6
YKA	Yellowknife Ar	41.28	45	P	P	17 50 29.6	+1.9
	comp=Z,0.9nm,0.5s,baz=302,slow=7.5,SNR=11						
SPA0	Spitsbergen Ar	44.71	350	P	P	17 50 54.7	-0.4
KURK	Kurchatov	46.56	300	P	P	17 51 09.2	-0.7
KURK						17 52 39.6	
KURK	Kurchatov	46.56	300	P	P	17 51 09.2	-0.7
KURBB	Kurchatov Arra	46.67	300	P	P	17 51 09.2	-1.5
	comp=Z,2.8nm,0.4s,baz=55,slow=7.9,SNR=39						
KURBB				PcP	PcP	17 52 39.6	-1.4
	comp=Z,0.7nm,0.6s,baz=49,slow=3.3,SNR=6.2						
KURBB				PP	PP	17 53 02.2	-0.2
	comp=Z,0.8nm,0.8s,baz=50,slow=12,SNR=5.1						
MK31	Makanchi Array	47.23	294	P	P	17 51 13.6	-1.6
MK31	Makanchi Array	47.23	294	P	P	17 51 13.6	-1.6
MKAR	Makanchi Array	47.23	294	P	P	17 51 13.4	-1.8
	comp=Z,0.7nm,0.4s,baz=50,slow=6.4,SNR=34						
MKAR				PP	PP	17 53 08.2	+0.5
	comp=Z,0.4nm,0.8s,baz=67,slow=9.3,SNR=4.4						
MKAR	Makanchi Array	47.23	294	P	P	17 51 13.6	-1.6
MKAR	Makanchi Array	47.23	294	P	P	17 51 13.6	-1.6
MKAR				PcP	PcP	17 52 42.7	-0.5
MAKZ	Makanchi	47.38	294	P	P	17 51 14.2	-2.2
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.6s						
MAKZ	Makanchi	47.38	294	P	P	17 51 14.2	-2.2
BVAR	Borovoye Array	48.97	307	P	P	17 51 26.8	-1.6
	comp=Z,2.2nm,0.6s,baz=137,slow=11,SNR=15						
BRVK	Borovoye	49.00	307	P	P	17 51 27.8	-0.8
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	Borovoye	49.00	307	P	P	17 51 27.8	-0.8
BRVK				IAmb	IAmb	17 51 28.2	
	comp=Z,3.7nm,0.6s						
YBH	Yreka Blue Hor	50.09	72	P	P	17 51 40.1	+3.0
YBH				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YBH	Yreka Blue Hor	50.09	72	P	P	17 51 40.1	+3.0
K05A	Summer Lake	50.38	70	P	P	17 51 42.0	+2.6
ARCES	ARCESS Array B	50.97	341	P	P	17 51 42.2	-1.0
	comp=Z,3.0nm,0.9s,baz=29,slow=8.2,SNR=1.3						
FCC	Fort Churchill	51.48	40	P	P	17 51 47.6	+0.6
FCC				pmax	pmax		
	comp=Z,4.0nm,1.4s						
FCC	Fort Churchill	51.48	40	P	P	17 51 47.6	+0.6
ARU	Arti	51.67	316	P	P	17 51 47.5	-1.1
	comp=Z,2.4nm,0.5s,baz=37,slow=5.1,SNR=9.5						
ARU	Arti	51.67	316	P	P	17 51 47.2	-1.3
ARU				IAmb	IAmb	17 51 48.2	
	comp=Z,5.3nm,0.6s						
AAK	Ala-Archa	54.12	295	P	P	17 52 06.5	-0.4
	comp=Z,0.4nm,0.4s,baz=55,slow=5.9,SNR=3.9						
KVN	Kaiserville	54.47	71	P	P	17 52 11.9	+2.4
KVN				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KVN	Kaiserville	54.47	71	P	P	17 52 11.9	+2.4
KVN				IAmb	IAmb	17 52 37.8	
	comp=Z,5.8nm,1.4s						
NVAR	Mina Array Bea	54.81	72	P	P	17 52 14.2	+2.3
	comp=Z,0.6nm,0.6s,baz=299,slow=7.8,SNR=6.2						
NVAR	Mina Array Bea	54.81	72	P	P	17 52 14.8	+2.9
KK31	Karatay Array	55.81	298	P	P	17 52 17.4	-1.4
KK31				pmax	pmax		
	comp=Z,4.0nm,1.5s						
KK31	Karatay Array	55.81	298	P	P	17 52 17.4	-1.4
KK31				IAmb	IAmb	17 52 19.9	
	comp=Z,4.5nm,1.4s						
KKAR	Karatay Array	55.81	298	P	P	17 52 18.2	-0.6
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.5s						
KKAR	Karatay Array	55.81	298	P	P	17 52 17.1	-1.7
KKAR				PcP	PcP	17 53 14.0	-1.3
KKAR	Karatay Array	55.81	298	P	P	17 52 18.2	-0.6
KKAR				IAmb	IAmb	17 52 19.9	
	comp=Z,4.5nm,1.4s						
BW06	Boulder Array	56.23	62	P	P	17 52 23.6	+1.6
PD31	Pinedale Array	56.23	62	P	P	17 52 23.8	+1.8
PDAR	Pinedale Array	56.23	62	P	P	17 52 24.0	+2.0
	comp=Z,0.6nm,0.4s,baz=342,slow=2.2,SNR=10						
PDAR	Pinedale Array	56.23	62		P	17 52 23.2	+1.2
AKTO	Aktyubinsk	56.26	311	P	P	17 52 20.6	-1.2
	comp=Z,1.1nm,0.5s,baz=84,slow=3.1,SNR=5.8						
ABKAR	Akbulak array	56.30	309	P	P	17 52 21.3	-0.8
ABKAR				IAmb	IAmb	17 52 22.3	
	comp=Z,5.6nm,1.4s						
ABKAR	Akbulak array	56.30	309	P	P	17 52 21.1	-1.0
FIA1	FINESS Array S	57.90	336	P	P	17 52 32.3	-0.7
FINES	FINESS Array B	57.90	336	P	P	17 52 32.1	-0.9
	comp=Z,1.7nm,0.4s,baz=35,slow=8.2,SNR=36						
FINES	FINESS Array B	57.90	336	P	P	17 52 32.0	-1.1
NC204	NORSAR Array S	61.04	344	P	P	17 52 53.5	-1.1
NC204				IAmb	IAmb	17 52 56.6	
	comp=Z,6.7nm,1.1s						
NC405	NORSAR Array S	61.05	343	P	P	17 52 53.2	-1.4
NB2	NORSAR Subarra	61.20	343	P	P	17 52 54.4	-1.3
	comp=Z,2.2nm,0.8s,baz=21,slow=6.9						
NOA	NORSAR Array B	61.20	343	P	P	17 52 54.3	-1.4
	comp=Z,0.5nm,0.5s,baz=22,slow=6.7,SNR=5.0						
AKASG	Malin Array Be	66.56	329	P	P	17 53 29.9	-0.7
	comp=Z,1.6nm,0.4s,baz=29,slow=6.8,SNR=9.9						
AKASG	Malin Array Be	66.56	329	P	P	17 53 30.0	-0.7
KBZ	Khabaz	67.83	316	P	P	17 53 38.7	-0.1
	comp=Z,2.7nm,0.9s,baz=167,slow=0.5,SNR=8.7						
TXAR	Lajitas Array	69.57	68	P	P	17 53 51.5	+1.6
	comp=Z,0.7nm,0.5s,baz=294,slow=4.6,SNR=12						
GERES	GERESS Array B	72.26	338	P	P	17 54 04.8	-1.0
	comp=Z,0.2nm,0.4s,baz=64,slow=7.8,SNR=2.0						
BRTR	Keskin Array B	74.79	320	P	P	17 54 20.2	-0.5
	comp=Z,0.8nm,0.4s,baz=24,slow=3.0,SNR=8.5						
WRA	Warramunga Arr	78.39	205	P	P	17 54 41.2	+0.4
	comp=Z,1.1nm,0.4s,baz=18,slow=5.5,SNR=6.3						
ASAR	Alice Springs	82.07	204	P	P	17 55 01.6	+1.2
	comp=Z,0.5nm,0.5s,baz=16,slow=4.7,SNR=16						
ESDC	Sonseca Array	84.18	348	P	P	17 55 11.2	-0.1
	comp=Z,1.0nm,0.8s,baz=354,slow=4.3,SNR=5.5						

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*MOS **06** 17:49:13.5±0.8, 49°.14N×155°.21E, h72km, mb4.6/3, Error ellipse: s-maj=17.2km s-min=6.1km az=70.4*
*IDC **06** 17:49:14.8±0.8, 49°.22N×155°.06E, h68km±7km, mb3.5/11, mb1 3.8/15, mb1mx3.4/53, mbtmp3.8/15, Error ellipse: s-maj=26.1km s-min=11.7km az=140.0*
*KRSC **06** 17:49:16.0±1.2, 49°.30N×155°.68E, h70km±13km, ML4.5*
*NEIC **06** 17:49:16.6±1.3, 49°.2N±0°.1×155°.0E±0°.1, h86km±7km, mb4.4/20, Error ellipse: s-maj=16.1km s-min=10.6km az=149.0*
ISC 06 17:49:13.8±0.6**, 49°.15N**±0°.08×**155°.24E**±0°.08**, h55**km**, n87,** σ**1s.30**/93**, mb4.2**/22**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.63	20	ePN	Pn	17 49 40.0	-0.2
SKR				eS	Sn	17 49 58.6	-1.5
SKR				smax	smax		
	comp=N,2μm,0.3s						
SKR				smax	smax		
	comp=E,2μm,0.3s						
SKR	Severo-Kuril's	1.63	20	eP	Pn	17 49 41.4	+1.2
SKR				eS	Sn	17 49 59.9	-0.2
ALID	Alaid	1.73	7	PN	Pn	17 49 42.6	+1.0
ALID				S	Sn	17 50 02.3	-0.3
ALID	Alaid	1.73	7	eP	Pn	17 49 42.6	+1.0
ALID				eS	Sn	17 50 02.3	-0.3
PAU	Pauzhetka	2.53	23	PN	Pn	17 49 53.8	+1.5
PAU				S	Sn	17 50 21.5	-0.4
PAU	Pauzhetka	2.53	23	eP	Pn	17 49 53.8	+1.5
PAU				eS	Sn	17 50 21.5	-0.4
KDTR	Khodutka, Kamc	3.22	33	PN	Pn	17 50 02.8	+1.0
KDTR				S	Sn	17 50 36.7	-2.2
KDTR	Khodutka, Kamc	3.22	33	eP	Pn	17 50 02.8	+1.0
KDTR				eS	Sn	17 50 36.7	-2.2
MIPR	Malaya Ipel'ka	3.27	17	PN	Pn	17 50 04.6	+2.0
MIPR	Malaya Ipel'ka	3.27	17	eP	Pn	17 50 04.6	+2.0
MTVR	Mutnovka	3.82	28	eS	Sn	17 50 53.6	-0.3
GRL	Gorelyy	3.85	27	eS	Sn	17 50 53.3	-1.2
RUS	Russkaya	3.89	31	eS	Sn	17 50 53.6	-1.6
PEA0B	Petropavlovsk-	4.25	20	PN	Pn	17 50 17.7	+1.7
PEA0B	Petropavlovsk-	4.25	20		Pn	17 50 17.7	+1.7
PETK	Petropavlovsk-	4.25	20	PN	Pn	17 50 16.4	+0.4
PETK	Petropavlovsk-	4.25	20		Pn	17 50 16.4	+0.4
PET	Petropavlovsk	4.43	28	PN	Pn	17 50 23.5	+5.1
PET	Petropavlovsk	4.43	28	eS	Sn	17 51 08.6	-0.1
PET	Petropavlovsk	4.43	28		Pn	17 50 23.5	+5.1
DALK	Dalny	4.47	28	eS	Sn	17 51 09.1	-0.5
SPN	Mys Shipunski	4.97	36	PN	Pn	17 50 27.3	+1.5
SPN				S	Sn	17 51 19.7	-2.1
SPN	Mys Shipunski	4.97	36	eP	Pn	17 50 27.3	+1.5
SPN				eS	Sn	17 51 19.7	-2.1
KBTR	Krutoberegovo	8.43	30	PN	Pn	17 51 15.6	+2.5
KBTR	Krutoberegovo	8.43	30	eP	Pn	17 51 15.6	+2.5
YSS	Yuzh-Sakhalins	8.65	260	ePN	Pn	17 51 18.6	+2.4
JKA	Kamikawa-asahi	10.04	245		Pn	17 51 36.9	+1.6
ASAJ	Asahikawa	10.04	245	P	Pn	17 51 36.9	+1.6
	comp=E,0.6nm,0.3s,baz=73,slow=15,SNR=9.7						
MA2	Magadan	10.76	348	PN	Pn	17 51 45.1	+0.1
MA2	Magadan	10.76	348		Pn	17 51 45.0	+0.1
ERM	Erimo	11.06	234	PN	Pn	17 51 49.0	-0.2
ERM	Erimo	11.06	234	Pn	Pn	17 51 49.0	-0.2
SEY	Seymchan	13.90	355	P	Pn	17 52 28.7	+1.0
	comp=E,0.1nm,0.3s,baz=94,slow=20,SNR=6.3						
USRK	Ussuriysk Ar.	16.68	262	P	Pn	17 53 04.4	+0.7
	baz=58,slow=14,SNR=3.1						
MJAR	Matsushiro Arr	17.69	231	P	Pn	17 53 16.2	+0.1
	comp=E,0.1nm,0.3s,baz=53,slow=11,SNR=2.8						
MJAR	Matsushiro Arr	17.69	231	P	Pn	17 53 16.3	+0.1
MJAR				pmax	pmax		
	comp=Z,4.0nm,1.5s						
KSRS	Korea Array	22.93	250	P	P	17 54 12.5	-0.6
	comp=Z,1.0nm,0.7s,baz=46,slow=10,SNR=3.5						
IMAR	Indian Mountai	30.99	38	P	P	17 55 25.1	-0.4
RSO	Redoubt South	31.19	49	P	P	17 55 28.1	+0.5
H11S1	WAKE ISLAND Hy	31.94	159	T	T	18 29 55.8	
	baz=347,slow=76,SNR=50						
H11S3	WAKE ISLAND Hy	31.95	159	T	T	18 29 57.1	
	baz=347,slow=76,SNR=55						
H11S2	WAKE ISLAND Hy	31.96	159	T	T	18 29 31.8	
	baz=347,slow=76,SNR=32						
TOLK	Toolik Lake Re	32.95	34	P	P	17 55 42.2	-0.5
TOLK				IAmb	IAmb	17 56 19.1	
	comp=Z,9.5nm,1.6s						
MDM	Murphy Dome	33.21	40	P	P	17 55 45.6	+0.5
MDM				IAmb	IAmb	17 55 56.0	
	comp=Z,6.9nm,1.6s						
SML	Sawmill	33.26	46	P	P	17 55 45.6	+0.1
SML				IAmb	IAmb	17 55 45.9	
	comp=Z,6.5nm,0.8s						
CCB	Clear Creek Bu	33.39	41	P	P	17 55 46.8	+0.2
CCB				IAmb	IAmb	17 55 58.0	
	comp=Z,11nm,1.6s						
HDA	Harding Lake	33.77	41	P	P	17 55 49.5	-0.3
HDA				IAmb	IAmb	17 56 19.7	
	comp=Z,8.8nm,1.7s						
ILAR	Eielson Array	33.78	41	P	P	17 55 49.4	-0.6
	comp=Z,1.0nm,0.8s,baz=262,slow=7.9,SNR=9.6						
ILAR	Eielson Array	33.78	41	P	P	17 55 50.1	+0.1
ILAR	Eielson Array	33.78	41	P	P	17 55 50.1	+0.1
BMAR	Burnt Mountain	34.73	36	P	P	17 55 58.4	+0.2
DOT	Dot Lake	35.08	43	P	P	17 55 59.5	-1.6
DOT				IAmb	IAmb	17 56 00.3	
	comp=Z,5.3nm,1.0s						
CRQM	Cirque	35.87	47	P	P	17 56 08.9	+0.6
K27K	Chicken	35.92	42	P	P	17 56 08.7	+0.3
BCAR	Beaver Creek A	36.16	43	P	P	17 56 10.7	+0.2
EGAK	Eagle	36.23	40	P	P	17 56 10.5	-0.6
CTGM	Chitina Glacie	36.71	47	P	P	17 56 16.0	+0.7
CTGM				IAmb	IAmb	17 56 48.1	
	comp=Z,6.1nm,1.2s						
INK	Inuvik	38.85	34	P	P	17 56 31.8	-1.3
	comp=Z,2.0nm,0.5s,baz=306,slow=8.5,SNR=7.9						
INK	Inuvik	38.85	34	P	P	17 56 33.2	+0.1
INK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
INK	Inuvik	38.85	34	P	P	17 56 33.2	+0.1
INK				IAmb	IAmb	17 56 39.4	
	comp=Z,5.1nm,1.2s						
WMQ	Urumqi	45.41	290	P	P	17 57 26.5	-0.4
WMQ				pmax	pmax		
	comp=Z,14nm,1.1s						
WMQ	Urumqi	45.41	290	P	P	17 57 26.5	-0.4
EUNU	Eureka	46.48	12	P	P	17 57 33.9	-1.0
MKAR	Makanchi Array	47.13	296	P	P	17 57 37.0	-3.2
	comp=Z,0.4nm,0.8s,baz=57,slow=9.0,SNR=4.0						
MKAR				PcP	PcP	17 59 09.8	-1.4
	comp=Z,0.5nm,0.8s,baz=73,slow=4.1,SNR=4.0						
MKAR	Makanchi Array	47.13	296	P	P	17 57 37.4	-2.9
MKAR	Makanchi Array	47.13	296	P	P	17 57 37.4	-2.9
KURBB	Kurchatov Arra	47.34	303	PcP	PcP	17 59 10.2	-1.6
	comp=Z,0.2nm,0.4s,baz=60,slow=3.4,SNR=6.9						
YKA	Yellowknife Ar	48.15	39	P	P	17 57 48.0	+0.1
	comp=Z,0.9nm,0.7s,baz=301,slow=7.0,SNR=15						
YKA				pP	pP	17 58 04.6	+2.2
	comp=Z,0.4nm,0.7s,baz=299,slow=7.3,SNR=3.1						
CMAR	Chiang Mai Arr	54.32	256	P	P	17 58 34.3	-0.4
	comp=Z,0.8nm,0.4s,baz=27,slow=8.1,SNR=2.2						
K05A	Summer Lake	55.84	62	P	P	17 58 47.4	+1.8
FCC	Fort Churchill	58.47	35	P	P	17 59 02.4	-1.2
FCC				pmax	pmax		
	comp=Z,9.0nm,1.7s						
FCC	Fort Churchill	58.47	35	P	P	17 59 02.4	-1.2
YHB	Horse Butte	59.99	55	P	P	17 59 16.1	+1.4
NVAR	Mina Array Bea	60.08	65	P	P	17 59 16.4	+1.0
	comp=Z,0.5nm,0.5s,baz=291,slow=8.0,SNR=7.1						
NVAR	Mina Array Bea	60.08	65	P	P	17 59 15.9	+0.5
PD31	Pinedale Array	62.20	56	P	P	17 59 29.7	0.0
PDAR	Pinedale Array	62.20	56	P	P	17 59 29.2	-0.5
	comp=Z,1.0nm,0.8s,baz=310,slow=2.3,SNR=8.9						
PDAR	Pinedale Array	62.20	56	P	P	17 59 29.4	-0.3
PV17	East Wray Mesa	65.60	59	P	P	17 59 52.8	+0.7
PV17				IAmb	IAmb	17 59 52.9	
	comp=Z,3.4nm,0.7s						
PV13	Radium Mtn., P	65.76	59	P	P	17 59 53.7	+0.5
PV13				IAmb	IAmb	17 59 54.2	
	comp=Z,2.3nm,0.7s						
WRA	Warramunga Arr	71.26	201	P	P	18 00 25.8	-1.4
	comp=Z,0.5nm,0.5s,baz=17,slow=6.0,SNR=7.2						
ASAR	Alice Springs	74.95	200	P	P	18 00 48.6	-0.3
	comp=Z,0.4nm,0.5s,baz=11,slow=5.2,SNR=16						
ASAR				pP	pP	18 01 06.1	+1.8
	comp=Z,0.3nm,0.5s,baz=15,slow=5.6,SNR=2.5						
TXAR	Lajitas Array	75.09	62	P	P	18 00 50.2	+0.3
	comp=Z,0.8nm,0.6s,baz=295,slow=3.9,SNR=11						
TXAR				pP	pP	18 01 08.6	+3.3
	comp=Z,0.2nm,0.4s,baz=241,slow=2.3,SNR=2.2						
TXAR	Lajitas Array	75.09	62	P	P	18 00 49.5	-0.4
H03N2	Juan Fernandez	137.31	89	T	T	20 40 37.6	
	baz=313,slow=77,SNR=6.2						
H03N1	Juan Fernandez	137.33	89	T	T	20 40 57.8	
	baz=313,slow=77,SNR=8.3						
H03N3	Juan Fernandez	137.33	89	T	T	20 41 01.7	
	baz=313,slow=77,SNR=9.5						

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*IDC **06** 17:53:39.5±0.9, 27°.05N×129°.75E, h0km, mb3.7/9, mb1 3.8/12, mb1mx3.6/46, mbtmp3.7/12, ML3.3/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/36, Error ellipse: s-maj=21.7km s-min=16.2km az=96.0*
*NEIC **06** 17:53:40.6±2.3, 27°.03N±0°.06×129°.86E±0°.04, h10km±1km, mb4.2/5, Error ellipse: s-maj=10.6km s-min=5.8km az=20.0*
*JMA **06** 17:53:41.6, 27°.09N×129°.92E, h59km, M3.7*
ISC 06 17:53:40.9±2.2**, 27°.09N**±0°.04×**129°.90E**±0°.04**, h13**km±14km**, n46,** σ**1s.42**/60**, mb3.8**/11**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	1.09	310	P	Pb	17 54 01.4	-0.2
JTK				eS	Sg	17 54 16.0	-0.1
JOKE	Okinoerabujima	1.21	283	P	Pn	17 54 03.2	-0.3
JOKE				eS	Sb	17 54 18.6	-0.6
JZK	Kikaishima	1.22	3	P	Pn	17 54 03.4	-0.2
JZK				eS	Sb	17 54 19.7	+0.3
JYRO	Yoronjima	1.29	267	P	Pn	17 54 04.1	-0.5
JYRO				S	Sb	17 54 20.4	-1.1
JAMN	Amaminishikomi	1.31	331	P	Pn	17 54 04.2	-0.7
JAMN				S	Sb	17 54 20.3	-1.8
JAM	Amami Oshima	1.34	349	P	Pn	17 54 04.7	-0.5
JAM				S	Sb	17 54 21.1	-1.8
JOW	Kunigami	1.47	260	Pn	Pn	17 54 06.3	-0.8
	111nm,0.3s,baz=96,slow=12,SNR=156						
JOW				Sn	Sn	17 54 23.6	-2.6
	76nm,0.3s,baz=144,slow=18,SNR=14						
JOW	Kunigami	1.47	260	P	Pn	17 54 06.9	-0.1
JOW	Kunigami	1.47	260		Pn	17 54 07.0	-0.1
JOW					Sn	17 54 24.5	-1.7
JKDJ	Kitadaitoujima	1.69	132	P	Pn	17 54 09.1	-1.0
JKDJ				S	Sn	17 54 29.5	-2.0
JIH	Iheya	1.72	269	P	Pn	17 54 10.5	0.0
JMZ	Minamidaito 2	1.73	137	P	Pn	17 54 09.5	-1.1
JMZ				eS	Sn	17 54 30.1	-2.5
JMZ	Minamidaito 2	1.73	137	Pn	Pn	17 54 09.6	-1.0
JMZ				Sn	Sn	17 54 30.1	-2.5
JNTH	Nagotoyohara	1.77	252	P	Pn	17 54 10.7	-0.5
JJT3	Tamagusuku3	2.12	244	P	Pn	17 54 15.8	-0.1
JJT3				S	Sn	17 54 41.4	-0.6
JTAJ	Takarajima	2.14	344	P	Pn	17 54 15.4	-0.9
JTAJ				S	Sn	17 54 39.9	-2.8
JAGN	Aguni-jima	2.43	259	P	Pn	17 54 19.9	-0.3
JAGN				S	Sn	17 54 48.2	-1.5
JNN	Nakanoshima	2.74	360	P	Pn	17 54 24.1	-0.4
JKE	Kume jima 2	2.89	255	P	Pn	17 54 25.7	-0.8
JKE				eS	Sn	17 55 00.2	-0.9
JSU	Suzuyama	4.43	6	Pn	Pn	17 54 46.9	-0.8
JNU	Nakatsue	6.07	8	Pn	Pn	17 55 10.9	+0.6
	2.5nm,0.3s,baz=188,slow=10,SNR=22						
JNU				Sn	Sn	17 56 15.3	-4.3
	0.6nm,0.3s,baz=237,slow=18,SNR=1.8						
JMN	Monobe	7.45	26	Pn	Pn	17 55 29.1	-0.3
YHNB	Yeheng	8.05	254	Pn	Pn	17 55 37.7	+0.2
JHS	Saijyo	8.35	18	Pn	Pn	17 55 41.2	-0.4
YULB	Yu-li	8.61	247	Pn	Pn	17 55 41.2	-4.0
SSLB	Suanglung	8.73	250	Pn	Pn	17 55 46.2	-0.6
JWT	Wachi	9.43	29	Pn	Pn	17 55 59.9	+3.6
JHJ	Hachijo jima 2	10.45	53	LR	LR	17 59 35.0	
	comp=Z,51nm,21.6s,baz=262,slow=34						
KSRS	Korea Array	10.47	351	Pn	Pn	17 56 11.2	+0.6
	0.1nm,0.3s,baz=169,slow=14,SNR=2.4						
USRK	Ussuriysk Ar.	17.16	5	P	P	17 57 41.9	+0.1
	baz=191,slow=13,SNR=2.3						
KLR	Kul'dur	22.15	3	P	P	17 58 35.7	-0.6
	0.8nm,0.5s,baz=193,slow=7.1,SNR=4.9						
SONM	Songino Array	27.68	325	P	P	17 59 28.8	+0.2
	0.3nm,0.4s,baz=148,slow=9.7,SNR=4.2						
SONM	Songino Array	27.68	325	IAmb	IAmb	17 59 32.8	
	comp=Z,0.8nm,0.8s						
JAGI	Jajag, Banyuwa	38.51	206	P	P	18 01 03.1	+0.1
SEY	Seymchan	38.77	16	P	P	18 01 07.3	+2.6
	comp=Z,0.4nm,0.4s,baz=61,slow=23,SNR=4.9						
PMG	Port Moresby	39.96	153	P	P	18 01 15.5	+0.4
PMG				IAmb	IAmb	18 01 42.2	
	comp=Z,15nm,0.9s						
MKAR	Makanchi Array	42.09	311	P	P	18 01 32.4	-0.1
	comp=Z,0.3nm,0.8s,baz=96,slow=9.8,SNR=3.0						
MKAR	Makanchi Array	42.09	311	P	P	18 01 34.0	+1.6
ZALV	Zalesovo Beam	42.48	322	P	P	18 01 35.9	+0.3
	comp=Z,0.6nm,0.4s,baz=111,slow=7.9,SNR=2.6						
WB0	Warramunga Arr	46.78	174	P	P	18 02 10.1	-0.1
WRA	Warramunga Arr	46.95	174	P	P	18 02 11.3	-0.2
	comp=Z,0.6nm,0.5s,baz=354,slow=8.4,SNR=7.9						
KK31	Karatay Array	50.14	305	P	P	18 02 35.5	-0.4
KK31				IAmb	IAmb	18 02 42.3	
	comp=Z,2.0nm,1.5s						
KKAR	Karatay Array	50.14	305	P	P	18 02 36.3	+0.4
ASAR	Alice Springs	50.61	175	P	P	18 02 40.3	+0.7
	comp=Z,0.6nm,0.6s,baz=5.6,slow=14,SNR=13						
KBZ	Khabaz	69.77	310	P	P	18 04 51.5	+0.8
	comp=Z,1.5nm,0.9s,baz=38,slow=6.4,SNR=5.3						
FINES	FINESS Array B	72.85	331	P	P	18 05 09.7	+0.7
	comp=Z,2.1nm,0.8s,baz=70,slow=6.1,SNR=5.1						

TAP 06 17:55:26.7, 23°.87N×121°.82E, h19km±1km**, ML1.2, D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.29	316	P	Pb	17 55 33.7	+0.4
	baz=317						
TWD				S	Sb	17 55 38.6	+0.9
	baz=317						

NACB	Ninganchiao	0.36	326	P	Pb	17 55 35.0	+0.3
	baz=326						
NACB				eS	Sb	17 55 41.2	+1.2
	baz=326						
NACB	Ninganchiao	0.36	326	Pn	Pb	17 55 35.1	+0.4
ETLH	Xiulin Townshi	0.45	318	P	Pb	17 55 36.5	+0.2
	baz=317						
ETLH				S	Sb	17 55 44.1	+1.4
	baz=317						
HGSD	Ruisui	0.52	224	P	Pg	17 55 37.8	+0.5
	baz=223						
HGSD				eS	Sb	17 55 45.7	+1.3
	baz=223						
EHY	Hungye	0.58	231	P	Pg	17 55 38.7	+0.3
	baz=230						
EHY				eS	Sg	17 55 47.4	+1.3
	baz=230						
CHGB	Renai	0.62	288	P	Pg	17 55 39.5	+0.4
	baz=287						
CHGB				eS	Sg	17 55 48.7	+1.2
	baz=287						
VWDT	VWDT	0.63	260	eP	Pn	17 55 40.0	-0.6
	baz=259						
VWDT				S	Sn	17 55 49.0	-1.1
	baz=259						
FUSS	Fushou	0.64	306	eP	Pg	17 55 39.8	+0.2
	baz=305						
FUSS				eS	Sg	17 55 49.1	+0.8
	baz=305						
YULB	Yu-li	0.67	225	P	Pg	17 55 40.3	+0.3
	baz=224						
YULB				eS	Sn	17 55 50.3	-1.0
	baz=224						
NNSB	Datong	0.68	325	eP	Pb	17 55 39.2	-0.8
	baz=324						
NNSB				eS	Sn	17 55 50.7	-1.0
	baz=324						
EYUL	Yuli	0.69	221	eP	Pn	17 55 41.0	-0.5
	baz=221						
EYUL				eS	Sn	17 55 50.8	-0.9
	baz=221						
TWF1	Yuli	0.70	223	eS	Sn	17 55 51.1	-0.9
	baz=222						
SSLB	Suanglung	0.79	264	eP	Pn	17 55 43.4	+0.5
	baz=264						
SSLB				eS	Sn	17 55 53.6	-0.7
	baz=264						
DPDB	Guoxing	0.83	281	eP	Pn	17 55 43.8	+0.3
	baz=281						
WHP	Taichung City	0.89	297	P	Pb	17 55 43.9	+0.2
	baz=297						
WHP				eS	Sn	17 55 56.6	-0.2
	baz=297						
ELDTW	Lidau	1.00	227	eP	Pg	17 55 46.3	+0.1
	baz=226						
ELDTW				eS	Sg	17 55 59.2	-0.1
	baz=226						

*VAO **06** 18:09:47.7±0.5, 8.°84S×75.°91W, h10km, mb4.6*
*ARE **06** 18:09:48±1.6, 8.°54S±0.°06×75.°86W±0.°09, h33km±4km, Error ellipse: s-maj=13.3km s-min=8.3km az=75.0*
*IDC **06** 18:09:49.4±3.1, 8.°46S×75.°81W, h20km±19km, mb4.2/16, mb1 4.4/23, mb1mx4.2/45, mbtmp4.3/23, ML3.7/7, MS3.9/7, Ms1 3.9/7, ms1mx3.6/27, Error ellipse: s-maj=17.8km s-min=12.6km az=56.0*
*NEIC **06** 18:09:51.4±1.5, 8.°48S±0.°07×75.°66W±0.°07, h36km±4km, mb4.8/133, ML4.8(ARE), Error ellipse: s-maj=11.6km s-min=7.8km az=46.0*
*BJI **06** 18:09:55.0±0.0, 8.°50S×75.°80W, h40km, Ms5.1/1, Ms7 5.0/1*

ISC 06 18:09:47.3±0.3**, 8.°62S**±0.°04**×75.°87W**±0.°06**, h10km, n238, σ1.s13**/237**, mb4.8**/77**, MS4.1**/5**, 1C-4D, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.91	300	Pn	Pn	18 10 36.7	+2.7
	6.8nm,0.3s,baz=94,slow=5.8,SNR=26						
ATAH				Pg	Pg	18 10 41.9	-1.2
	94nm,0.3s,baz=128,slow=2.7,SNR=83						
ATAH				Lg	Lg	18 11 19.4	
	242nm,0.3s,baz=288,slow=18,SNR=6.8						
CZSB	Cruzeiro do Su	3.25	74	eP	Pn	18 10 41.0	+2.6
NNA	Nana	3.48	196	Pn	Pb	18 10 46.8	-2.3
	14nm,0.3s,baz=2.2,slow=4.2,SNR=16						
NNA				Sn	Sb	18 11 29.3	-2.1
	60nm,0.3s,baz=272,slow=16,SNR=8.6						
NNA				LR	LR	18 12 22.9	
	comp=Z,959nm,19.3s,baz=346,slow=42						
NNA	Nana	3.48	196	Pn	Pb	18 10 46.4	-2.7
PTLC	Puerto Leguiza	8.80	7	⇓iP	Pn	18 11 50.8	-3.9
OTAV	Otavalo	9.17	344	Pn	Pn	18 12 01.7	+1.5
OTAV	Otavalo	9.17	344	eP	Pn	18 12 03.2	+3.1
OTAV	Otavalo	9.17	344	eP	Pn	18 12 03.5	+3.4
ETMB	Extrema	9.60	98	eP	Pn	18 12 05.9	+0.2
GCUF	Volcan Galeras	9.89	351	eP	Pn	18 12 11.6	+1.4
BBAC	Balboa, Cauca	10.66	353	eP	Pn	18 12 21.9	+1.4
SOTA	Rioblanco	10.71	356	eP	Pn	18 12 21.6	+0.2
LPAZ	La Paz	10.73	136	Pn	Pn	18 12 25.7	+4.1
	0.1nm,0.3s,baz=338,slow=11,SNR=3.7						
LPAZ				LR	LR	18 17 05.7	
	comp=Z,317nm,19.9s,baz=316,slow=40						
LPAZ	La Paz	10.73	136	Pn	Pn	18 12 20.3	-1.3
LPAZ	La Paz	10.73	136	eP	Pn	18 12 27.8	+6.1
LPAZ	La Paz	10.73	136	eP	Pn	18 12 20.4	-1.2
GARC	Garzon, Huila	10.74	2	eP	Pn	18 12 21.2	-0.4
MACC	Macarena, Meta	10.88	11	⇓eP	Pn	18 12 22.4	-0.9
PCON	Cinco Dias	10.89	357	⇓eP	Pn	18 12 24.3	+0.4
POPC	Popayan, Colom	11.12	356	eP	Pn	18 12 28.3	+1.6
BETC	Betania	11.24	2	eP	Pn	18 12 29.1	+1.0
MARP	Paez Belalcaza	11.39	360	eP	Pn	18 12 31.6	+1.2
PB16	IPOC Station P	11.46	148		Pn	18 12 34.1	+2.4
MNMC	Minye Minye	12.09	150	Pn	Pn	18 12 40.9	+0.9
PRAC	Prado	12.29	5	eP	Pn	18 12 43.0	+0.3
ORTC	Ortega, Tolima	12.46	3	eP	Pn	18 12 45.2	+0.2
YOTC	Yotoco, Valle	12.53	358	eP	Pn	18 12 45.7	-0.3
SAML	Samuel	12.54	92	Pn	Pn	18 12 44.0	-2.0
SAML	Samuel	12.54	92	eP	Pn	18 12 44.2	-1.7
ANIL	Santa Ana	13.03	2	eP	P	18 13 03.9	+0.4
TA01	Diego Aracena	13.08	156	Pn	Pn	18 12 56.7	+3.4
TOLC	Tolima	13.13	2	eP	Pn	18 12 56.1	+1.8
PB08	IPOC Station P	13.16	151	Pn	Pn	18 12 54.5	-0.3
PTGC	Puerto Gaitan,	13.27	16	eP	Pn	18 12 55.6	-0.3
CHIC	Chingaza	13.34	9	⇓iP	Pn	18 12 56.6	-0.6
RREF	El Recreo	13.44	2	eP	Pn	18 13 01.3	+2.4
ROSC	El Rosal	13.46	7	Pn	Pn	18 12 58.9	0.0
	3.9nm,0.3s,baz=184,slow=22,SNR=4.8						
ROSC				LR	LR	18 19 07.4	
	comp=Z,550nm,18.7s,baz=240,slow=42						
ROSC	El Rosal	13.46	7	Pn	Pn	18 12 56.2	-2.7
GUY2C	Guyana, Caldas	13.76	2	eP	Pn	18 13 04.3	+1.2
NORC	Norcasia	14.13	4	eP	Pn	18 13 07.0	-0.7
PB07	IPOC Station P	14.25	157		P	18 13 15.4	-1.4
CBOC	Ciudad Bolivar	14.39	359	eP	P	18 13 17.5	-0.9
PB09	IPOC Station P	14.57	155	P	P	18 13 19.6	-0.8
RUSC	La Rusia	14.68	11	eP	Pn	18 13 15.1	-0.6
PTBC	PUERTO BERRIO,	15.13	5	eP	Pn	18 13 20.8	-0.5
LVC	Limon Verde	15.43	155	eP	Pn	18 13 22.0	-3.5
DBBC	Dabeiba	15.54	359	eP	P	18 13 29.7	-1.5
PB15	IPOC Station P	15.75	158	P	P	18 13 34.7	+1.1
MACA	Manacapuru-AM	16.04	71	eP	P	18 13 36.2	-0.4
PAMC	Pamplona, Colo	16.17	11	eP	Pn	18 13 35.2	0.0
SIV	San Ignacio	16.20	118	Pn	Pn	18 13 35.5	+0.3
	0.8nm,0.3s,baz=307,slow=12,SNR=15						
UREC	San Jos de Ur	16.27	1	eP	Pn	18 13 35.6	-0.5
GO02	Mina Guanaco	17.50	161	P	P	18 13 54.0	+1.0
PTGA	Pitinga	17.67	64	P	Pn	18 13 51.9	-1.9
	1.1nm,0.3s,baz=244,slow=17,SNR=6.8						
PTGA	Pitinga	17.67	64		Pn	18 13 51.2	-2.6
PTLB	Pontes e Lacer	17.70	114	eP	Pn	18 13 54.4	+0.2
AC01	Pan de Azucar	18.14	165	P	P	18 14 00.8	+1.0
SDV	Santo Domingo	18.16	17	P	Pn	18 13 59.9	0.0
	3.0nm,0.3s,baz=177,slow=6.7,SNR=12						
SDV	Santo Domingo	18.16	17		Pn	18 13 57.8	-2.2
SDV	Santo Domingo	18.16	17	eP	P	18 14 00.2	-0.1
SDV	Santo Domingo	18.16	17	eP	P	18 14 01.2	+0.9
NPGB	Novo Progresso	20.38	87	eP	P	18 14 24.2	-0.2
ITTB	Itaituba	20.44	79	eP	P	18 14 25.9	+0.8
JTS	Las Juntas de	20.85	334	P	P	18 14 30.7	+1.2
	8.8nm,0.6s,baz=198,slow=14,SNR=3.6						
JTS	Las Juntas de	20.85	334	IAmb	IAmb	18 14 36.2	
	comp=Z,29nm,1.3s						
LCO	Las Campanas	20.86	167		Pn	18 14 31.1	-1.2
PCRV	Puerto La Cruz	21.77	31	P	P	18 14 40.1	+0.7
	comp=Z,17nm,0.6s,baz=265,slow=2.5,SNR=8.5						
CO01	Juntas del Tor	21.92	166	P	P	18 14 43.5	+2.3
GO04	Tololo Observa	21.96	168	P	P	18 14 43.5	+1.9
MALB	Monte Alegre	22.53	74	eP	P	18 14 49.1	+1.5
CO03	El Pedregal	22.63	168	P	P	18 14 50.7	+2.1
CO02	Combarbal	22.92	169	P	P	18 14 54.5	+2.8
SNDB	Serra Nova Dou	24.40	100	eP	P	18 15 06.1	-0.1
VA03	San Esteban	24.52	169	P	P	18 15 07.4	+0.1
ARAG	Araguaiana, MT	24.53	109	eP	P	18 15 07.0	-0.3
CPUP	Villa Florida	24.89	137	P	P	18 15 10.7	+0.2
	comp=Z,1.4nm,0.6s,baz=321,slow=8.7,SNR=3.4						
CPUP				LR	LR	18 27 17.2	
	comp=Z,233nm,19.9s,baz=303,slow=42						
CPUP	Villa Florida	24.89	137	IAmb	IAmb	18 15 12.1	
	comp=Z,8.6nm,1.5s						
GRGR	Grenville	25.00	35	P	P	18 15 11.5	0.0
MCPB	Macapa, AP	25.10	72	eP	P	18 15 13.6	+1.1
MTDJ	Mount Denham	26.73	356	P	P	18 15 28.3	+1.0
PCMB	Pacaembu	26.98	121	eP	P	18 15 29.8	+0.3
PEXB	Peixe	27.33	100	eP	P	18 15 33.2	+0.5
BDFB	Brasilia	28.09	107	LR	LR	18 27 34.3	
	comp=Z,444nm,18.8s,baz=278,slow=38						
PDPR	Patillas Dam,	28.20	20	P	P	18 15 39.9	-0.4
PDPR				IAmb	IAmb	18 16 01.3	
	comp=Z,40nm,1.2s						
AOPR	Arecibo Observ	28.27	19	P	P	18 15 41.5	+0.5
IPMB	Ipameri, GO	28.44	112	eP	P	18 15 43.0	+0.3
PLCA	Paso Flores	32.33	172	P	P	18 16 18.2	+1.4
	comp=Z,2.6nm,0.9s,baz=324,slow=9.1,SNR=5.5						
PLCA	Paso Flores	32.33	172	P	P	18 16 18.3	+1.4
237A	Washetta, Mont	44.66	336	P	P	18 18 01.9	+1.5
T59A	Double "B" Far	45.38	358	P	P	18 18 06.7	+0.7
T59A				IAmb	IAmb	18 18 11.7	
	comp=Z,19nm,1.1s						
T57A	Hurt	45.49	356	P	P	18 18 07.1	+0.2
T57A				IAmb	IAmb	18 18 08.2	
	comp=Z,11nm,0.8s						
TXAR	Lajitas Array	46.27	326	P	P	18 18 14.2	+0.9
	comp=Z,1.9nm,0.7s,baz=148,slow=8.9,SNR=19						
TXAR				PcP	PcP	18 19 48.9	+0.1
	comp=Z,1.0nm,0.7s,baz=148,slow=6.6,SNR=5.9						
TXAR	Lajitas Array	46.27	326	P	P	18 18 13.6	+0.2
TXAR				PcP	PcP	18 19 49.3	+0.5
TX31	Lajitas Ar. Si	46.28	326	P	P	18 18 13.8	+0.4
TX31				PcP	PcP	18 19 49.2	+0.3
TX32	Lajitas Array	46.28	326	P	P	18 18 13.6	+0.3
TX32				IAmb	IAmb	18 18 15.2	
	comp=Z,12nm,1.8s						
WHAR	Wooly Hollow	46.35	341	P	P	18 18 13.4	-0.3
WHAR				IAmb	IAmb	18 18 13.5	
	comp=Z,30nm,1.7s						
R58B	Mineral	46.38	358	P	P	18 18 14.1	+0.3
R58B				IAmb	IAmb	18 18 27.7	
	comp=Z,25nm,1.4s						
FCAR	Ozark Folk Cen	46.85	342	P	P	18 18 17.1	-0.5
FCAR				IAmb	IAmb	18 18 17.6	
	comp=Z,20nm,1.7s						
ABTX	Abilene, Hawle	46.87	332	P	P	18 18 18.0	+0.1
U40A	Yellville	47.51	341	P	P	18 18 22.2	-0.5
U40A				IAmb	IAmb	18 18 23.3	
	comp=Z,7.1nm,1.1s						
Q54A	Coxs Mills	47.59	355	P	P	18 18 22.2	-1.1
Q54A				IAmb	IAmb	18 18 57.8	
	comp=Z,12nm,1.2s						
T42A	Van Buren	47.60	343	P	P	18 18 21.7	-1.7
MGMO	Mountain Grove	48.06	342	P	P	18 18 26.3	-0.8
MNTX	Cornudas Mount	49.03	326	P	P	18 18 34.9	+0.2
KS20	Mayfield South	49.93	337	P	P	18 18 39.9	-1.5
N41A	Harden Midland	50.99	345	P	P	18 18 47.8	-1.6
ANMO	Albuquerque	52.09	328	P	P	18 18 57.6	-0.3
T25A	Trinidad	52.80	331	P	P	18 19 03.9	+0.7
T25A				IAmb	IAmb	18 19 05.2	
	comp=Z,8.5nm,0.9s						
FRNY	Flat Rock	53.25	2	P	P	18 19 06.3	+0.3
FRNY				IAmb	IAmb	18 19 07.7	
	comp=Z,13nm,1.1s						
SDCO	Great Sand Dun	53.80	331	P	P	18 19 10.7	+0.1
SDCO				IAmb	IAmb	18 19 12.5	
	comp=Z,9.8nm,0.8s						
E63A	Oxbow	55.20	6	P	P	18 19 20.8	+0.5
E63A				IAmb	IAmb	18 19 30.8	
	comp=Z,12nm,1.2s						
SMCO	Snowmass	55.64	331	P	P	18 19 23.5	-0.6
PV15	Paradox Valley	55.74	329	P	P	18 19 24.2	-0.4
PV15				IAmb	IAmb	18 19 26.7	
	comp=Z,13nm,1.0s						
PV02	Paradox Valley	55.77	329	P	P	18 19 25.0	+0.1
PV02				IAmb	IAmb	18 19 26.6	
	comp=Z,6.6nm,0.9s						
PV13	Radium Mtn., P	55.77	329	P	P	18 19 25.0	+0.2
PV13				IAmb	IAmb	18 19 26.5	
	comp=Z,11nm,0.9s						
PV05	Paradox Valley	55.86	328	P	P	18 19 25.4	-0.1
PV05				IAmb	IAmb	18 19 26.8	
	comp=Z,7.8nm,0.9s						
PV03	Paradox Valley	55.86	329	P	P	18 19 25.6	+0.2
PV03				IAmb	IAmb	18 19 27.1	
	comp=Z,5.9nm,1.1s						
PV12	Saucer Basin,	55.88	329	P	P	18 19 26.5	+0.9
PV12				IAmb	IAmb	18 19 27.2	
	comp=Z,12nm,1.3s						
PV11	David Mesa, Pa	55.91	329	P	P	18 19 26.4	+0.6
PV11				IAmb	IAmb	18 19 28.7	
	comp=Z,14nm,1.6s						
PV17	East Wray Mesa	55.94	329	P	P	18 19 25.8	-0.2
PV17				IAmb	IAmb	18 19 27.4	
	comp=Z,10nm,1.4s						
W13A	Hualapai Mount	56.39	323	P	P	18 19 29.6	+0.2
KNB	Kanab	57.10	325	P	P	18 19 35.2	+0.9
KNB				IAmb	IAmb	18 19 36.2	
	comp=Z,5.3nm,0.8s						
P17A	Butcher Ranch,	57.75	328	P	P	18 19 38.2	-0.6
P17A				IAmb	IAmb	18 19 40.4	
	comp=Z,7.5nm,0.9s						
MVU	Marysvale	57.82	327	P	P	18 19 39.9	+0.4
MVU				PcP	PcP	18 20 33.1	+1.1
SHPR	Sheep Range	58.10	323	P	P	18 19 41.9	+0.5
PSUT	Pine Spring	58.75	326	P	P	18 19 45.8	-0.1
PSUT				IAmb	IAmb	18 19 48.0	
	comp=Z,5.8nm,1.2s						
JLU	Jordanelle	58.95	329	P	P	18 19 47.6	+0.3
JLU				IAmb	IAmb	18 19 49.0	
	comp=Z,7.0nm,1.0s						
TCUT	Toone Canyon	59.31	329	P	P	18 19 49.1	-0.7
SPR3	Spring Creek 3	59.34	326	P	P	18 19 49.9	-0.2
SPR3				IAmb	IAmb	18 19 51.7	
	comp=Z,19nm,1.7s						
AGMN	Agassiz Nation	59.36	345	P	P	18 19 48.9	-0.7
AGMN				IAmb	IAmb	18 19 50.0	
	comp=Z,7.4nm,0.9s						
DUG	Dugway, Tooele	59.36	328	P	P	18 19 50.1	+0.1
DUG				IAmb	IAmb	18 19 52.1	
	comp=Z,8.5nm,1.0s						
R11A	Troy Canyon, C	59.60	324	P	P	18 19 52.1	+0.4
BW06	Boulder Array	59.66	332	P	P	18 19 51.2	-1.0
PD31	Pinedale Array	59.66	332	P	P	18 19 51.7	-0.4
PDAR	Pinedale Array	59.66	332	P	P	18 19 51.0	-1.2
	comp=Z,2.0nm,0.9s,baz=142,slow=7.5,SNR=9.6						
PDAR	Pinedale Array	59.66	332	P	P	18 19 50.6	-1.5
SPUT	South Promonto	59.98	329	P	P	18 19 54.4	+0.1
SPUT				IAmb	IAmb	18 19 56.4	
	comp=Z,12nm,1.1s						
BGU	Big Grassy Mou	60.00	328	P	P	18 19 54.1	-0.3
BGU				IAmb	IAmb	18 19 55.9	
	comp=Z,5.8nm,1.0s						
HVU	Hansel Valley	60.49	329	P	P	18 19 56.9	-0.8
HVU				IAmb	IAmb	18 19 59.4	
	comp=Z,4.7nm,0.9s						
LOHW	Long Hollow	60.80	332	P	P	18 19 59.8	-0.1
ELK	Elko	61.05	327	P	P	18 20 01.1	-0.7
ULM	Lac du Bonnet	61.16	345	P	P	18 20 00.6	-1.3
	comp=Z,7.5nm,0.9s,baz=153,slow=6.9,SNR=14						
ULM	Lac du Bonnet	61.16	345	P	P	18 20 00.8	-1.1
ULM				IAmb	IAmb	18 20 02.0	
	comp=Z,11nm,1.0s						
FLWY	Flagg Ranch	61.20	332	P	P	18 20 02.8	+0.2
FLWY				IAmb	IAmb	18 20 05.0	
	comp=Z,11nm,1.1s						
NVAR	Mina Array Bea	61.25	323	P	P	18 20 02.8	-0.2
	comp=Z,1.7nm,0.8s,baz=136,slow=7.1,SNR=13						
NVAR	Mina Array Bea	61.25	323	P	P	18 20 03.5	+0.5
YNE	Yellowstone No	61.60	333	P	P	18 20 05.2	-0.2
YNE				IAmb	IAmb	18 20 27.6	
	comp=Z,8.6nm,1.1s						
YMR	Madison River	61.77	332	P	P	18 20 05.0	-1.5
YMR				IAmb	IAmb	18 20 08.6	
	comp=Z,11nm,1.1s						
YHH	Holmes Hill	61.81	332	P	P	18 20 07.0	+0.2
YHH				IAmb	IAmb	18 20 08.9	
	comp=Z,4.9nm,0.9s						
YHB	Horse Butte	61.94	332	P	P	18 20 07.9	+0.3
YHB				IAmb	IAmb	18 20 09.7	
	comp=Z,6.9nm,0.8s						
WAKR	Walker	61.98	322	P	P	18 20 08.3	+0.4
WAKR				IAmb	IAmb	18 20 10.3	
	comp=Z,4.1nm,0.9s						
YHL	Hebgen Lake	62.01	332	P	P	18 20 07.4	-0.8
HLID	Hailey	62.62	329	P	P	18 20 12.7	+0.6
HLID				IAmb	IAmb	18 20 13.9	
	comp=Z,4.2nm,0.8s						
BCYI	Bear Canyon	62.66	331	P	P	18 20 12.6	+0.1
PAHR	Pah Rah Range	62.72	323	P	P	18 20 13.7	+0.9
PAHR				IAmb	IAmb	18 20 15.2	
	comp=Z,7.0nm,1.0s						
MCMT	McKenzie Canyo	62.78	331	P	P	18 20 12.4	-0.8
BOZ	Bozeman (W)	62.79	333	P	P	18 20 12.6	-0.6
BOZ				IAmb	IAmb	18 20 14.6	
	comp=Z,11nm,1.4s						
MFID	Camas Ranch	63.24	328	P	P	18 20 16.7	+0.6
BEKR	Beckworth	63.40	323	P	P	18 20 18.3	+0.9
BEKR				IAmb	IAmb	18 20 19.5	
	comp=Z,5.1nm,0.9s						
ORV	Oroville	63.89	322	P	P	18 20 21.6	+1.2
WVOR	Wild Horse Val	64.07	326	P	P	18 20 21.7	0.0
WVOR				IAmb	IAmb	18 20 23.7	
	comp=Z,7.4nm,1.0s						
MOD	Modoc Plateau	64.66	325	P	P	18 20 25.6	0.0
MOD				IAmb	IAmb	18 20 27.3	
	comp=Z,6.8nm,0.8s						
MSO	Missoula	64.77	332	P	P	18 20 26.2	0.0
MSO				IAmb	IAmb	18 20 27.9	
	comp=Z,10nm,1.1s						
K05A	Summer Lake	65.52	325	P	P	18 20 32.6	+1.3
K05A				IAmb	IAmb	18 20 33.7	
	comp=Z,11nm,0.9s						
JTMT	Jette	65.61	333	P	P	18 20 32.5	+0.9
I07A	Izee	65.64	327	P	P	18 20 32.6	+0.7
KMRM	Mail Ridge	65.64	321	P	P	18 20 32.7	+0.8
F10A	Beach Ranch, E	65.74	330	P	P	18 20 32.5	+0.1
F10A				IAmb	IAmb	18 20 36.8	
	comp=Z,7.4nm,1.1s						
YBH	Yreka Blue Hor	65.95	323	P	P	18 20 32.9	-1.0
KHMM	Horse Mountain	66.05	322	P	P	18 20 35.5	+0.8
KHMM				IAmb	IAmb	18 20 37.2	
	comp=Z,6.0nm,0.8s						
G08A	Pilot Rock	66.16	328	P	P	18 20 35.6	+0.4
JCC	Jacoby Creek,	66.19	322	P	P	18 20 36.5	+1.2
JCC				IAmb	IAmb	18 20 37.8	
	comp=Z,12nm,1.1s						
PINE	Pine Mountain	66.23	326	P	P	18 20 37.0	+1.2
PINE				IAmb	IAmb	18 20 39.4	
	comp=Z,10nm,0.8s						
WALA	Waterton Lakes	66.42	334	P	P	18 20 37.2	+0.4
WALA				IAmb	IAmb	18 20 37.7	
	comp=Z,5.0nm,0.7s						
KRMB	Red Mountain	66.54	323	P	P	18 20 38.3	+0.6
KRMB				IAmb	IAmb	18 20 40.0	
	comp=Z,8.6nm,1.0s						
E09A	Wood Farm, Sta	66.57	330	P	P	18 20 37.3	-0.4
E09A				IAmb	IAmb	18 20 38.9	
	comp=Z,5.3nm,1.0s						
H04A	Detroit Lake	67.49	326	P	P	18 20 43.9	+0.3
H04A				IAmb	IAmb	18 20 44.8	
	comp=Z,6.0nm,0.9s						
LTY	Liberty	68.35	329	P	P	18 20 50.1	+1.1
LTY				IAmb	IAmb	18 20 57.5	
	comp=Z,7.0nm,1.4s						
B08A	Colville Reser	68.43	330	P	P	18 20 49.8	+0.4
FCC	Fort Churchill	68.75	350	P	P	18 20 50.6	-0.5
FCC				IAmb	IAmb	18 20 51.2	
	comp=Z,5.8nm,0.8s						
FRB	Frobisher Bay	72.37	3	P	P	18 21 11.9	-1.3
	comp=Z,5.3nm,0.6s,baz=200,slow=6.5,SNR=14						
DBIC	Dimbokro	72.40	80	P	P	18 21 13.5	-0.8
DBIC				IAmb	IAmb	18 21 23.2	
	comp=Z,12nm,1.4s						
KOWA	Kowa	74.85	72	P	P	18 21 28.6	-0.1
	comp=Z,1.8nm,0.6s,baz=277,slow=8.5,SNR=5.9						
KOWA	Kowa	74.85	72	IAmb	IAmb	18 21 37.5	
	comp=Z,4.7nm,0.8s						
SNAA	Sanae	76.55	162	P	P	18 21 39.4	+1.8
SNAA				IAmb	IAmb	18 21 55.8	
	comp=Z,14nm,1.5s						
YKA	Yellowknife Ar	76.93	343	P	P	18 21 39.3	-0.3
	comp=Z,2.3nm,0.8s,baz=138,slow=6.5,SNR=30						
DLBC	Dease Lake	79.75	334	P	P	18 21 55.8	+0.3
DLBC				IAmb	IAmb	18 22 03.4	
	comp=Z,20nm,1.6s						
TOA0	Torodi Ar. Sit	79.99	75	P	P	18 21 55.6	-1.9
TORD	Torodi Ar. Bea	79.99	75	P	P	18 21 57.5	-0.1
	comp=Z,1.9nm,0.8s,baz=287,slow=6.4,SNR=6.7						
TORD				LR	LR	18 56 21.7	
	comp=Z,82nm,18.8s,baz=345,slow=35						
TORD	Torodi Ar. Bea	79.99	75	P	P	18 21 57.0	-0.6
ESDC	Sonseca Array	81.82	48	P	P	18 22 06.9	0.0
	comp=Z,1.5nm,0.9s,baz=262,slow=5.6,SNR=6.9						
ESDC	Sonseca Array	81.82	48	P	P	18 22 07.6	+0.7
RES	Resolute Bay	83.98	355	P	P	18 22 17.0	-0.3
	comp=Z,2.2nm,0.9s,baz=187,slow=8.2,SNR=7.4						
RES	Resolute Bay	83.98	355	P	P	18 22 17.4	+0.1
RES				IAmb	IAmb	18 22 18.4	
	comp=Z,4.6nm,1.1s						
SUMG	Summit	84.57	11	P	P	18 22 20.5	-0.3
SUMG				IAmb	IAmb	18 22 22.2	
	comp=Z,7.9nm,0.8s						
TULEG	Thule	85.12	2	P	P	18 22 22.6	-0.4
TGL	Tana Glacier	86.55	333	P	P	18 22 29.6	-1.0
INK	Inuvik	86.65	342	P	P	18 22 30.4	-0.3
	comp=Z,5.0nm,0.9s,baz=94,slow=5.1,SNR=14						
INK	Inuvik	86.65	342	P	P	18 22 30.1	-0.6
INK				IAmb	IAmb	18 22 31.9	
	comp=Z,6.6nm,0.9s						
MCARA	McCarthy VSAT	86.89	334	P	P	18 22 32.8	+0.7
EGAK	Eagle	87.56	337	P	P	18 22 35.0	-0.2
K27K	Chicken	87.60	336	P	P	18 22 36.3	+0.8
KLU	Klutina	88.22	333	P	P	18 22 38.2	-0.4
DOT	Dot Lake	88.24	336	P	P	18 22 38.6	0.0
M24K	Tolsona, Glenn	88.55	334	P	P	18 22 39.8	-0.4
PAX	Paxson	88.57	335	P	P	18 22 39.8	-0.4
SML	Sawmill	89.40	333	P	P	18 22 43.8	-0.4
HDA	Harding Lake	89.71	336	P	P	18 22 44.5	-1.0
HDA				IAmb	IAmb	18 22 46.9	
	comp=Z,6.1nm,0.9s						
IL31		89.81	336	P	P	18 22 45.4	-0.5
ILAR	Eielson Array	89.81	336	P	P	18 22 45.7	-0.2
	comp=Z,3.0nm,1.0s,baz=140,slow=3.7,SNR=16						
CCB	Clear Creek Bu	90.14	336	P	P	18 22 46.6	-0.8
CCB				IAmb	IAmb	18 22 48.5	
	comp=Z,6.4nm,1.0s						
RND	Reindeer	90.16	335	P	P	18 22 46.8	-0.9
WRH	Wood River Hil	90.19	336	P	P	18 22 48.0	+0.3
WRH				IAmb	IAmb	18 22 49.4	
	comp=Z,11nm,1.3s						
MDM	Murphy Dome	90.42	336	P	P	18 22 48.9	+0.1
SKT	Skwentna	90.90	333	P	P	18 22 51.0	0.0
I23K	Minto, Yukon-K	90.93	336	P	P	18 22 51.1	+0.1
BPAW	Bear Paw Mtn.	91.28	335	P	P	18 22 52.5	-0.3
COLD	Coldfoot	91.91	338	P	P	18 22 56.0	+0.5
AFI	Afiamalu	93.63	255	LR	LR	18 56 59.8	
	comp=Z,40nm,18.3s,baz=274,slow=30						
ABKAR	Akbulak array	125.25	34	PKPdf	PKPdf	18 28 46.3	-2.1
ABKAR	Akbulak array	125.25	34	PKPdf	PKPdf	18 28 45.9	-2.5
STKA	Stephens Creek	126.12	220	PKP	PKPdf	18 28 50.7	0.0
	comp=Z,3.5nm,0.8s,baz=106,slow=5.1,SNR=5.8						
STKA	Stephens Creek	126.12	220		PKPdf	18 28 50.8	+0.1
ZAA0	Zalesovo Array	132.20	15	PKPdf	PKPdf	18 29 00.6	-0.9
ZALV	Zalesovo Beam	132.20	15	PKP	PKPdf	18 29 01.8	+0.3
	comp=Z,1.9nm,0.6s,baz=258,slow=2.6,SNR=12						
ZALV	Zalesovo Beam	132.20	15	PKPdf	PKPdf	18 29 00.9	-0.6
ASAR	Alice Springs	136.68	222	PKP	PKPdf	18 29 11.3	+0.4
	comp=Z,3.4nm,1.0s,baz=118,slow=2.1,SNR=17						
ASAR	Alice Springs	136.68	222	PKPdf	PKPdf	18 29 10.4	-0.5
MAKZ	Makanchi	137.50	23	PKPdf	PKPdf	18 29 11.2	-0.5
MK31	Makanchi Array	137.63	22	PKPdf	PKPdf	18 29 10.8	-1.2
MKAR	Makanchi Array	137.63	22	PKP	PKPdf	18 29 11.8	-0.1
	comp=Z,1.5nm,0.9s,baz=350,slow=1.5,SNR=7.7						
MKAR	Makanchi Array	137.63	22		PKPdf	18 29 11.3	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**138.89**	**226**	PKP	**PKPdf**	**18 29 15.4**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=138,slow=1.8,SNR=9.0						
WMQ	**Urumqi**	**142.12**	**19**	*e*PKP	**PKPdf**	**18 29 18.8**	**-1.4**
HHC	**Hu-ho-hao-te**	**147.23**	**350**	*e*PKPbc	**PKPbc**	**18 29 31.5**	**+0.1**
GTA	**Gaotai**	**149.10**	**7**	⇑PKPbc	**PKPbc**	**18 29 36.8**	**+0.3**
GTA				pPKP	sPKPab	18 29 45.8	+0.1
GTA				sPKP		18 29 53.6	
GTA				LR	LR		
	comp=Z,160nm,19.3s						
GTA				LR	LR		
	comp=Z,110nm,20.7s						
GTA				LR	LR		
	comp=Z,220nm,20.0s						
NJ2	**Nanjing**	**152.97**	**332**	*e*PKPbc	**PKPdf**	**18 29 37.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**169.00**	**27**	PKP	**PKPdf**	**18 29 55.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=308,slow=2.2,SNR=6.2						

IDC 06 18:12:03.1±8.0**, 3°.03N×128°.93E, h0**^{km}**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.2**/33**, mbtmp3.4**/3**, Error ellipse: s-maj=137.5km s-min=123.3km az=92.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.43**	**167**	P	P	18 17 15.2	+1.0
	0.2nm,0.4s,baz=347,slow=11,SNR=12						
ASAR	**Alice Springs**	**26.97**	**170**	P	P	18 17 47.1	+0.5
	0.3nm,0.8s,baz=352,slow=9.9,SNR=2.0						
STKA	**Stephens Creek**	**36.74**	**162**	P	P	18 19 10.8	-1.5
	0.5nm,0.3s,baz=345,slow=8.5,SNR=3.7						

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*NEIC **06** 18:13:45.6±2.5, 7°.13S±0°.07×105°.28E±0°.07, h49^{km}±7^{km}, mb4.5/28, Error ellipse: s-maj=11.2km s-min=8.5km az=45.0*

*DJA **06** 18:13:46.8±1.1, 7°S±5°×10°5E±°, h16^{km}±12^{km}, M4.3/14, mb4.4/3, MLv4.2/14*

*IDC **06** 18:13:52.5±3.4, 6°.85S×105°.53E, h101^{km}±26^{km}, mb3.6/14, mb1 3.7/16, mb1mx3.7/37, mbtmp4.0/16, MS2.7/1, Ms1 2.7/1, ms1mx2.5/33, Error ellipse: s-maj=35.9km s-min=13.6km az=55.0*

ISC 06 18:13:46.1±1.2**, 7°.18S**±0°.05×**105°.34E**±0°.05**, h53**^{km}±11^{km}**, n82,** σ1s**66**/83**, mb4.3**/27**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBJI	**Dramaga**	**1.54**	**66**	P	**Pn**	**18 14 11.7**	**+0.6**
DBJI				S	**Sn**	**18 14 29.3**	**-0.7**
TNG	**Tangerang**	**1.64**	**53**	P	**Pn**	**18 14 12.8**	**+0.2**
TNG				P	**Pn**	**18 14 10.2**	**-2.4**
CBJI	**Citeko**	**1.68**	**64**	P	**Pn**	**18 14 13.8**	**+0.7**
CBJI				S	**Sn**	**18 14 34.5**	**+0.9**
BLSI	**Bandar Lampung**	**1.80**	**357**	P	**Pn**	**18 14 14.9**	**+0.1**
BLSI				S	**Sn**	**18 14 35.7**	**-0.8**
KASI	**Kota Agung**	**1.84**	**333**	P	**Pn**	**18 14 16.2**	**+0.9**
KASI				S	**Sn**	**18 14 37.9**	**+0.4**
LEM	**Lembang**	**2.29**	**81**	P	**Pn**	**18 14 24.6**	**+3.0**
	64nm,0.3s,baz=155,slow=20,SNR=22						
LEM				S	**Sn**	**18 14 53.0**	**+4.2**
	51nm,0.3s,baz=136,slow=22,SNR=10						
LEM				LR	LR	18 15 31.5	
	comp=Z,195nm,21.7s,baz=344,slow=48						
LEM	**Lembang**	**2.29**	**81**	P	**Pn**	**18 14 23.4**	**+1.8**
CISI	**Cisompet, Garu**	**2.49**	**99**		**Pn**	**18 14 23.9**	**-0.3**
CISI				Sn	**Sn**	**18 14 52.9**	**-0.5**
CISI	**Cisompet, Garu**	**2.49**	**99**	P	**Pn**	**18 14 24.9**	**+0.7**
LWLI	**Liwa**	**2.49**	**329**	P	**Pn**	**18 14 26.4**	**+2.1**
KLSI		**2.54**	**346**	P	**Pn**	**18 14 26.6**	**+1.7**
KLSI				S	**Sn**	**18 14 56.7**	**+2.0**
MDSI	**Maura Dua**	**2.91**	**337**	P	**Pn**	**18 14 31.8**	**+1.9**
XMIS	**Christmas Isla**	**3.30**	**175**	Pn	Pn	18 14 33.9	-1.4
XMIS				Sn	**Sn**	**18 15 10.8**	**-2.4**
MNAI	**Manna**	**3.67**	**320**	Pn	**Pn**	**18 14 41.1**	**+0.8**
MNAI	**Manna**	**3.67**	**320**	P	**Pn**	**18 14 42.7**	**+2.4**
LHSI	**Lahat**	**3.79**	**331**	P	**Pn**	**18 14 43.9**	**+2.0**
TPI	**Tanjungpandan**	**4.96**	**28**	P	**Pn**	**18 14 58.1**	**0.0**
PPBI	**Pangkal Pinang**	**5.05**	**9**	P	**Pn**	**18 15 00.3**	**+1.0**
UGM	**Wanagama**	**5.20**	**98**	Pn	**Pn**	**18 15 02.5**	**+1.2**
UGM	**Wanagama**	**5.20**	**98**	P	**Pn**	**18 15 01.2**	**-0.1**
	0.9nm112nm,1.2s						
JAGI	**Jajag, Banyuwa**	**8.83**	**99**	Pn	**Pn**	**18 15 53.4**	**+2.2**
ABJI	**Asem Bagus**	**8.85**	**95**	P	Pn	18 15 57.4	+6.1
GSI	**Gunungsitoli**	**11.44**	**317**	Pn	**Pn**	**18 16 24.1**	**-2.8**
TOLI2	**Tolitoli**	**17.47**	**62**	P	**Pn**	**18 17 45.6**	**-0.6**
MYLDM	**Lahad Datu**	**17.98**	**47**	P	**Pn**	**18 17 52.4**	**-0.1**
MYLDM				IAmb	IAmb	18 17 54.1	
	comp=Z,35nm,1.6s						
BATI	**Baumata**	**18.36**	**101**	P	**Pn**	**18 17 57.6**	**+0.5**
	comp=Z,4.3nm,0.3s,baz=291,slow=4.7,SNR=8.7						
BATI				S	**Sn**	**18 21 14.1**	**-7.6**
	comp=Z,4.4nm,0.3s,baz=117,slow=22,SNR=11						
SOEI	**Soe**	**18.90**	**99**	P	**P**	**18 18 02.7**	**+0.1**
SOEI				IAmb	IAmb	18 18 19.7	
	comp=Z,20nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.56**	**121**	P	**P**	**18 18 43.8**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=293,slow=7.7,SNR=1.3						
FITZ	**Fitzroy Crossi**	**22.56**	**121**	P	**P**	**18 18 43.8**	**+1.8**
CMAR	**Chiang Mai Arr**	**26.24**	**346**	P	**P**	**18 19 15.8**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=178,slow=9.2,SNR=11						
H01W3	**Cape Leeuwin H**	**28.74**	**165**	T	T	18 50 00.6	
	baz=345,slow=76,SNR=58						
H01W1	**Cape Leeuwin H**	**28.75**	**165**	T	T	18 50 01.6	
	baz=345,slow=76,SNR=56						
H01W2	**Cape Leeuwin H**	**28.75**	**165**	T	T	18 50 01.7	
	baz=345,slow=76,SNR=65						
WRA	**Warramunga Arr**	**30.85**	**117**	P	**P**	**18 19 58.8**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=292,slow=11,SNR=13						
WRAB	**Tennant Creek**	**30.86**	**117**	P	**P**	**18 19 58.9**	**+1.3**
WRAB				IAmb	IAmb	18 20 24.7	
	comp=Z,28nm,1.4s						
WB2	**Warramunga Arr**	**30.86**	**117**	P	**P**	**18 19 57.2**	**-0.5**
WB2				IAmb	IAmb	18 20 35.5	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**31.04**	**117**	P	**P**	**18 20 00.5**	**+1.4**
WR0				IAmb	IAmb	18 20 13.6	
	comp=Z,7.6nm,1.1s						
ASAR	**Alice Springs**	**31.95**	**124**	P	**P**	**18 20 09.0**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=301,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**31.95**	**124**	P	**P**	**18 20 08.2**	**+1.1**
H08S2	**Diego Garcia H**	**32.57**	**267**	T	T	18 54 36.5	
	baz=92,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**32.58**	**267**	T	T	18 54 40.7	
	baz=92,slow=76,SNR=19						
H08S1	**Diego Carcia H**	**32.59**	**267**	T	T	18 54 41.5	
	baz=92,slow=76,SNR=14						
COEN	**Coen**	**37.77**	**103**	P	**P**	**18 20 57.9**	**+0.5**
COEN				IAmb	IAmb	18 21 11.4	
	comp=Z,19nm,1.6s						
LSA	**Lhasa**	**39.12**	**340**	P	**P**	**18 21 07.9**	**-1.2**
LSA				IAmb	IAmb	18 21 10.9	
	comp=Z,3.2nm,0.5s						
NJ2	**Nanjing**	**41.09**	**18**	*e*P	**P**	**18 21 26.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PMG	**Port Moresby**	**41.43**	**96**	P	**P**	**18 21 27.5**	**-0.4**
PMG				IAmb	IAmb	18 21 35.9	
	comp=Z,23nm,1.1s						
STKA	**Stephens Creek**	**41.76**	**131**	P	**P**	**18 21 33.0**	**+2.7**
	comp=Z,1.4nm,0.6s,baz=307,slow=7.3,SNR=5.3						
STKA	**Stephens Creek**	**41.76**	**131**	P	**P**	**18 21 31.1**	**+0.7**
GTA	**Gaotai**	**46.63**	**354**	*e*P	**P**	**18 22 10.8**	**+1.5**
GTA				pP	pP	18 22 26.1	+2.7
GTA				sP	sP	18 22 32.0	+2.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**48.13**	**6**	*e*P	**P**	**18 22 21.4**	**+0.5**
HHC				PP	PP	18 24 22.0	+8.3
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.1s						
KSRS	**Korea Array**	**49.16**	**24**	P	**P**	**18 22 27.0**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=221,slow=7.8,SNR=7.9						
JHS	**Saijyo**	**49.47**	**30**	P	**P**	**18 22 29.6**	**-1.6**
JWT	**Wachi**	**50.86**	**32**	P	**P**	**18 22 39.8**	**-1.9**
WMQ	**Urumqi**	**53.22**	**344**	*e*P	**P**	**18 23 00.6**	**+1.5**
SONM	**Songino Array**	**54.78**	**1**	P	**P**	**18 23 09.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=176,slow=9.8,SNR=3.8						
SONM	**Songino Array**	**54.78**	**1**	IAmb	IAmb	18 23 10.0	
	comp=Z,1.6nm,1.4s						
JMM	**Marumori**	**55.68**	**34**	P	**P**	**18 23 16.1**	**-1.0**
USRK	**Ussuriysk Ar.**	**56.52**	**23**	P	**P**	**18 23 21.7**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=191,slow=2.6,SNR=5.1						
USRK	**Ussuriysk Ar.**	**56.52**	**23**	P	**P**	**18 23 21.1**	**-1.8**
MK31	**Makanchi Array**	**57.51**	**341**	P	**P**	**18 23 29.2**	**-0.7**
MKAR	**Makanchi Array**	**57.51**	**341**	P	**P**	**18 23 29.3**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=151,slow=8.6,SNR=27						
MAKZ	**Makanchi**	**57.62**	**341**	P	**P**	**18 23 30.4**	**-0.3**
KKAR	**Karatay Array**	**59.20**	**331**	P	**P**	**18 23 41.7**	**-0.1**
ZAA0	**Zalesovo Array**	**63.31**	**347**	P	**P**	**18 24 07.4**	**-1.9**
ZAA0				IAmb	IAmb	18 24 09.8	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**63.31**	**347**	P	**P**	**18 24 08.0**	**-1.3**
	comp=Z,2.5nm,0.5s,baz=124,slow=4.2,SNR=13						
ZALV	**Zalesovo Beam**	**63.31**	**347**	P	**P**	**18 24 07.7**	**-1.6**
RAYN	**Ar Rayn**	**65.89**	**300**	P	**P**	**18 24 26.4**	**-0.5**
BRVK	**Borovoye**	**66.96**	**338**	P	**P**	**18 24 33.2**	**+0.2**
BRVK				IAmb	IAmb	18 24 33.8	
	comp=Z,2.1nm,0.5s						
ABKAR	**Akbulak array**	**68.73**	**330**	P	**P**	**18 24 44.7**	**+0.5**
ABKAR	**Akbulak array**	**68.73**	**330**	P	**P**	**18 24 44.7**	**+0.5**
BKZ	**Black Stump Fm**	**70.90**	**129**	P	**P**	**18 24 59.7**	**+1.7**
ARU	**Arti**	**74.08**	**335**	P	**P**	**18 25 16.1**	**-0.2**
ARU				IAmb	IAmb	18 25 17.9	
	comp=Z,5.6nm,1.0s						
PEA0B	**Petropavlovsk-**	**74.56**	**30**	P	**P**	**18 25 18.4**	**-0.9**
PETK	**Petropavlovsk-**	**74.56**	**30**	P	**P**	**18 25 17.8**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=167,slow=8.1,SNR=4.4						
PETK	**Petropavlovsk-**	**74.56**	**30**	P	**P**	**18 25 18.0**	**-1.2**
TIXI	**Tiksi**	**80.19**	**7**	P	**P**	**18 25 48.4**	**-1.9**
TIXI				IAmb	IAmb	18 25 50.0	
	comp=Z,3.0nm,0.7s						
BR131	**Keskin Array S**	**80.72**	**312**	P	**P**	**18 25 54.5**	**+0.5**
BR131				IAmb	IAmb	18 25 56.3	
	comp=Z,3.1nm,0.8s						
BRTR	**Keskin Array B**	**80.72**	**312**	P	**P**	**18 25 55.4**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=146,slow=7.9,SNR=9.2						
BRTR	**Keskin Array B**	**80.72**	**312**	P	**P**	**18 25 54.8**	**+0.7**
FINES	**FINESS Array B**	**91.14**	**332**	P	**P**	**18 26 45.8**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=113,slow=4.4,SNR=4.5						
ARCES	**ARCESS Array B**	**93.13**	**340**	P	**P**	**18 26 54.5**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=98,slow=5.3,SNR=5.7						
TXAR	**Lajitas Array**	**144.91**	**47**	PKP	**PKPdf**	**18 33 19.0**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=323,slow=1.4,SNR=18						

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*IDC **06** 18:33:47.1±1.8, 6°.86S×155°.63E, h0^{km}, mb3.7/3, mb1 3.8/4, mb1mx3.5/24, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=40.5km s-min=37.5km az=177.0*

*NEIC **06** 18:33:54.0±0.8, 7°.2S±0°.2×155°.9E±0°.2, h68^{km}±8^{km}, mb4.0/5, Error ellipse: s-maj=28.5km s-min=17.3km az=215.0*

ISC 06 18:33:53.8±1.3**, 7°.2S**±0°.2×**155°.9E**±0°.1**, h62**^{km}**, n14,** σ1s**42**/13**, mb4.0**/6**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.59**	**120**	Pn	**Pn**	**18 35 03.2**	**+2.5**
	6.4nm,0.3s,baz=123,slow=8.7,SNR=1.9						
HNR				Sn	**Sn**	**18 35 50.0**	**-2.7**
	10nm,0.3s,baz=59,slow=11,SNR=5.1						
HNR	**Honiara**	**4.59**	**120**		**Pn**	**18 35 01.3**	**+0.7**
HNR					**Sn**	**18 35 52.2**	**-0.5**
WR0	**Warramunga Arr**	**24.30**	**236**	P	**P**	**18 39 04.6**	**-1.1**
WB0	**Warramunga Arr**	**24.33**	**237**	P	**P**	**18 39 05.3**	**-0.6**
WB0				IAmb	IAmb	18 39 35.9	
	comp=Z,8.6nm,1.3s						
WB2	**Warramunga Arr**	**24.45**	**237**	P	**P**	**18 39 06.3**	**-0.7**
WB2				IAmb	IAmb	18 39 10.5	
	comp=Z,9.6nm,1.4s						
WRA	**Warramunga Arr**	**24.46**	**237**	P	**P**	**18 39 07.1**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=63,slow=9.4,SNR=8.0						
ASAR	**Alice Springs**	**26.73**	**230**	P	**P**	**18 39 29.6**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=59,slow=9.8,SNR=1.1						
H11S3	**WAKE ISLAND Hy**	**27.64**	**23**	T	T	19 07 55.5	
	baz=202,slow=75,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**27.64**	**23**	T	T	19 07 55.0	
	baz=202,slow=75,SNR=9.0						
H11S1	**WAKE ISLAND Hy**	**27.66**	**23**	T	T	19 07 50.7	
	baz=202,slow=75,SNR=5.3						
STKA	**Stephens Creek**	**27.96**	**207**	P	**P**	**18 39 38.4**	**-0.3**
MK31	**Makanchi Array**	**84.14**	**318**	P	**P**	**18 46 17.8**	**-0.4**
MK31				IAmb	IAmb	18 46 38.8	
	comp=Z,1.7nm,1.2s						
MKAR	**Makanchi Array**	**84.14**	**318**	P	**P**	**18 46 18.0**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=104,slow=5.9,SNR=11						
MKAR	**Makanchi Array**	**84.14**	**318**	P	**P**	**18 46 17.7**	**-0.5**

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*IDC **06** 18:39:23.4±1.2, 8°.91S×109°.76W, h0^{km}, mb3.8/7, mb1 4.1/7, mb1mx3.9/29, mbtmp3.8/7, MS4.0/16, Ms1 4.1/16, ms1mx4.0/22, Error ellipse: s-maj=52.2km s-min=21.8km az=58.0*

*NEIC **06** 18:39:24.8±1.9, 8°.8S±0°.1×109°.5W±0°.2, h10^{km}±2^{km}, mb4.7/13, Error ellipse: s-maj=37.5km s-min=22.2km az=246.0*

*GCMT **06** 18:39:25.8±0.3, 9°.16S±0°.02×109°.73W±0°.02, h24^{km}±1^{km}, MW5.0/98, Moment Tensor Solution. s19,c21; s98,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.12±.14; $M_{\theta\theta}$0.21±.13; $M_{\phi\phi}$-0.33±.13; $M_{r\theta}$0.40±.24; $M_{\theta\phi}$2.96±.10; $M_{\phi r}$-2.63±.35; Best double couple: $M_0$3.96100×10^{16} NP1:ϕ_s271.00000°, δ49.00000°, λ-1.00000°. NP2: ϕ_s1.00000°, δ89.00000°, λ-139.00000°. Principal axes: T 3.6820, Plg27.0000°, Azm128.0000°; N 0.5580, Plg49.0000°, Azm2.0000°; P -4.2400, Plg28.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 18:39:25.1±1.0**, 8°.8S**±0°.2×**109°.6W**±0°.2**, h10**^{km}**, n51,** σ1s**11**/26**, mb4.5**/12**, MS4.0**/18**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**18.23**	**179**	LR	LR	18 48 27.1	
	comp=Z,390nm,18.8s,baz=356,slow=30						
RKT	**Rikitea**	**28.22**	**237**	*e*LR	LR	18 52 04.3	
	comp=Z,572nm,27.2s						
CMIG	**Matias Romero**	**29.53**	**29**	LR	LR	18 54 46.4	
	comp=Z,253nm,19.7s,baz=199,slow=31						
H03N2	**Juan Fernandez**	**37.38**	**135**	T	T	19 26 13.9	
	baz=307,slow=77,SNR=45						
H03N1	**Juan Fernandez**	**37.40**	**135**	T	T	19 26 15.6	
	baz=307,slow=77,SNR=63						
H03N3	**Juan Fernandez**	**37.40**	**135**	T	T	19 26 09.4	
	baz=307,slow=77,SNR=48						
ROSC	**El Rosal**	**37.64**	**70**	LR	LR	18 59 18.0	
	comp=Z,135nm,18.2s,baz=250,slow=32						
TXAR	**Lajitas Array**	**38.33**	**8**	P	**P**	**18 46 48.4**	**+2.1**
	0.2nm,0.6s,baz=191,slow=14,SNR=2.6						
TXAR	**Lajitas Array**	**38.33**	**8**	P	**P**	**18 46 47.2**	**+0.8**
PPT	**Papeete**	**39.87**	**253**	LR	LR	18 59 57.8	
	comp=Z,75nm,18.1s,baz=112,slow=31						
PPT2	**Papeete2**	**39.87**	**253**	*e*LQ	LQ	18 55 44.9	
	648nm,28.2s						
PPT2				*e*LR	LR	18 57 25.7	
	comp=Z,291nm,24.8s,baz=102						
PB16	**IPOC Station P**	**39.98**	**108**	P	**P**	**18 47 00.9**	**0.0**
MNMC	**Minye Minye**	**40.02**	**109**	P	**P**	**18 47 01.5**	**+0.6**
TBI	**Tubuai**	**40.83**	**244**	*e*LQ	LQ	18 56 08.7	
	496nm,27.8s						
TBI				*e*LR	LR	18 57 52.0	
	comp=Z,402nm,28.2s						
LPAZ	**La Paz**	**41.04**	**105**	P	**P**	**18 47 09.2**	**-0.7**
	1.4nm,0.6s,baz=246,slow=7.6,SNR=4.4						
LPAZ				LR	LR	19 00 11.0	
	comp=Z,207nm,21.9s,baz=260,slow=30						
LPAZ	**La Paz**	**41.04**	**105**	P	**P**	**18 47 09.1**	**-0.7**
BO02	**Sierra Bellavi**	**43.90**	**132**	P	**P**	**18 47 31.1**	**-1.1**
BO02				IAmb	IAmb	18 47 40.9	
	comp=Z,23nm,1.6s						
BI02	**San Fabin de**	**44.42**	**135**	P	**P**	**18 47 35.1**	**-1.2**
BI02				IAmb	IAmb	18 47 41.5	
	comp=Z,9.9nm,1.2s						
SAML	**Samuel**	**45.78**	**94**	P	**P**	**18 47 45.3**	**-2.1**
SAML				IAmb	IAmb	18 47 55.5	
	comp=Z,7.6nm,0.9s						
PLCA	**Paso Flores**	**46.96**	**139**	P	**P**	**18 47 57.0**	**+0.7**
	comp=Z,3.8nm,0.9s,baz=318,slow=8.3,SNR=6.2						
PLCA				LR	LR	19 02 13.8	
	comp=Z,504nm,21.4s,baz=320,slow=29						
PLCA	**Paso Flores**	**46.96**	**139**	P	**P**	**18 47 56.6**	**+0.2**
HHAR	**Hobbs**	**47.18**	**17**	P	**P**	**18 47 57.4**	**-0.7**
HHAR				IAmb	IAmb	18 48 08.2	
	comp=Z,13nm,1.4s						
U38A	**Gravette**	**47.20**	**17**	P	**P**	**18 47 56.4**	**-1.7**
NVAR	**Mina Array Bea**	**47.69**	**351**	P	**P**	**18 48 02.9**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=181,slow=7.8,SNR=4.1						
NVAR				LR	LR	19 03 32.6	
	comp=Z,266nm,20.0s,baz=178,slow=30						
NVAR	**Mina Array Bea**	**47.69**	**351**	P	**P**	**18 48 01.2**	**-1.0**
SPR3	**Spring Creek 3**	**47.76**	**355**	P	**P**	**18 48 03.0**	**+0.2**
SPR3				IAmb	IAmb	18 48 28.6	
	comp=Z,10nm,1.7s						
PDAR	**Pinedale Array**	**51.31**	**360**	LR	LR	19 07 12.2	
	comp=Z,164nm,18.5s,baz=206,slow=32						
CPUP	**Villa Florida**	**52.38**	**116**	P	**P**	**18 48 39.7**	**+1.9**
	comp=Z,1.1nm,0.5s,baz=270,slow=10,SNR=3.2						
CPUP				LR	LR	19 06 30.7	
	comp=Z,222nm,21.4s,baz=278,slow=31						
CPUP	**Villa Florida**	**52.38**	**116**	IAmb	IAmb	18 48 42.4	
	comp=Z,7.9nm,1.4s						
NEW	**Newport**	**57.21**	**354**	LR	LR	19 09 43.1	
	comp=Z,107nm,19.7s,baz=154,slow=32						
ULM	**Lac du Bonnet**	**60.00**	**10**	P	**P**	**18 49 32.5**	**+0.8**
	comp=Z,2.5nm,1.0s,baz=186,slow=9.2,SNR=2.9						
ULM	**Lac du Bonnet**	**60.00**	**10**	IAmb	IAmb	18 49 47.2	
	comp=Z,13nm,1.7s						
BBB	**Bella Bella**	**62.80**	**347**	LR	LR	19 11 49.7	
	comp=Z,92nm,19.7s,baz=116,slow=31						
DLBC	**Dease Lake**	**69.04**	**349**	LR	LR	19 16 31.1	
	comp=Z,126nm,18.9s,baz=167,slow=32						
YKA	**Yellowknife Ar**	**71.18**	**358**	P	**P**	**18 50 42.7**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=161,slow=6.0,SNR=5.0						
YKA				LR	LR	19 19 00.1	
	comp=Z,92nm,18.6s,baz=0.0,slow=33						
KDAK	**Kodiak Island**	**75.01**	**338**	LR	LR	19 16 52.6	
	comp=Z,232nm,19.4s,baz=150,slow=30						
ILAR	**Eielson Array**	**78.49**	**345**	LR	LR	19 18 15.5	
	comp=Z,72nm,21.5s,baz=128,slow=30						
H11S2	**WAKE ISLAND Hy**	**86.89**	**289**	T	T	20 27 59.5	
	baz=101,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**86.90**	**289**	T	T	20 28 00.7	
	baz=101,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**86.91**	**289**	T	T	20 28 03.7	
	baz=101,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**86.92**	**290**	T	T	20 28 06.4	
	baz=102,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**86.93**	**290**	T	T	20 28 08.0	
	baz=102,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**86.94**	**290**	T	T	20 28 01.2	
	baz=102,slow=75,SNR=9.4						
PETK	**Petropavlovsk-**	**98.62**	**322**	LR	LR	19 29 10.4	
	comp=Z,102nm,20.9s,baz=112,slow=30						
BRTR	**Keskin Array B**	**134.99**	**41**	PKP	**PKiKP**	**18 58 46.8**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=225,slow=1.8,SNR=2.0						
MKAR	**Makanchi Array**	**140.81**	**347**	PKP	**PKPdf**	**18 58 56.3**	**+0.8**
	comp=Z,0.4nm,1.1s,baz=190,slow=4.1,SNR=1.6						
AAK	**Ala-Archa**	**146.11**	**355**	PKPbc	**PKPab**	**18 59 06.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=269,slow=6.5,SNR=3.9						
AAK	**Ala-Archa**	**146.11**	**355**		**PKPbc**	**18 59 06.3**	**+0.3**
GEYT	**Alibeck**	**148.93**	**19**	PKPbc	**PKPbc**	**18 59 14.3**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=225,slow=1.8,SNR=2.6						
CMAR	**Chiang Mai Arr**	**150.74**	**292**	PKPbc	**PKPbc**	**18 59 16.9**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=102,slow=1.2,SNR=10						
CMAR	**Chiang Mai Arr**	**150.74**	**292**		**PKPdf**	**18 59 12.9**	**-0.2**

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*IDC **06** 18:45:38.4±3.3, 14°.57S×166°.70E, h0^{km}, mb3.7/3, mb1 3.9/4, mb1mx3.6/27, mbtmp3.8/4, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/38, Error ellipse: s-maj=75.0km s-min=31.8km az=87.0*

*NOU **06** 18:45:50.8, 15°.04S×167°.38E, h78^{km}, MLv4.6, Vanuatu Islands*

ISC 06 18:45:47.3±1.6**, 14°.8S**±0°.1×**167°.3E**±0°.2**, h100**^{km}**, n15,** σ1s**19**/15**, mb3.5**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.64**	**190**	P	**Pn**	**18 46 05.2**	**+1.0**
DVP	**Devils Point**	**3.01**	**164**	P	**Pn**	**18 46 33.8**	**+0.7**
LIFNC	**LIFOU**	**5.93**	**181**	P	**Pn**	**18 47 12.3**	**-0.3**
KOUNC	**Koumac, New Ca**	**6.39**	**206**	P	**Pn**	**18 47 19.8**	**+0.9**
MARNC	**Mare, Loyalty**	**6.66**	**174**	P	**Pn**	**18 47 21.5**	**-1.1**
YATNC	**Mamie plateau,**	**7.21**	**183**	P	**Pn**	**18 47 29.4**	**-0.7**
DZM	**Mont Dzumac**	**7.26**	**186**	Pn	**Pn**	**18 47 30.1**	**-0.8**
	1.9nm,0.3s,baz=101,slow=15,SNR=61						
DZM				Sn	**Sn**	**18 48 52.4**	**+0.6**
	3.3nm,0.3s,baz=128,slow=22,SNR=10.0						
DZM	**Mont Dzumac**	**7.26**	**186**	P	**Pn**	**18 47 31.8**	**+1.0**
NOUC	**Port Laguerre**	**7.31**	**187**	P	**Pn**	**18 47 32.5**	**+1.1**
ONTNC	**Ouen Toro**	**7.49**	**186**	P	**Pn**	**18 47 35.9**	**+2.0**
OUENC	**Ouen Island, N**	**7.57**	**183**	P	**Pn**	**18 47 36.5**	**+1.5**
MSVF	**Nonsavu**	**10.70**	**107**	LR	LR	18 52 07.6	
	comp=Z,79nm,18.3s,baz=234,slow=34						
STKA	**Stephens Creek**	**28.98**	**230**	P	**P**	**18 51 36.8**	**-0.8**
	2.0nm,0.7s,baz=48,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**32.69**	**249**	P	**P**	**18 52 08.9**	**-1.4**
	0.3nm,0.4s,baz=76,slow=9.3,SNR=7.3						
SONM	**Songino Array**	**82.60**	**324**	P	**P**	**18 58 00.5**	**+1.0**
	0.2nm,0.4s,baz=133,slow=6.1,SNR=2.3						

IDC 06 18:59:35.1±3.4**, 52°.79N×31°.97W, h0**^{km}**, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.2**/59**, mbtmp3.4**/4**, MS3.8**/1**, Ms1 3.9**/1**, ms1mx3.0**/37**, Error ellipse: s-maj=119.2km s-min=29.3km az=7.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**30.84**	**35**	LR	LR	19 15 39.1	
	comp=Z,180nm,18.6s,baz=255,slow=31						
YKA	**Yellowknife Ar**	**42.29**	**317**	P	P	19 07 29.9	0.0
	0.6nm,1.0s,baz=62,slow=9.2,SNR=3.3						
BRTR	**Keskin Array B**	**45.64**	**79**	P	P	19 07 57.1	-0.1
	1.0nm,0.7s,baz=298,slow=5.6,SNR=4.7						
PDAR	**Pinedale Array**	**50.68**	**292**	P	P	19 08 36.1	-0.2
	0.3nm,0.7s,baz=77,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**66.06**	**43**	P	P	19 10 23.4	0.0
	0.4nm,0.7s,baz=317,slow=5.1,SNR=4.7						

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*NEIC **06** 19:10:03.5±1.9, 25°.08N±0°.08×142°.0E±0°.1, h54^{km}±7^{km}, mb4.5/21, Error ellipse: s-maj=17.0km s-min=11.3km az=105.0*

*IDC **06** 19:10:06.2±1.8, 25°.07N×141°.77E, h81^{km}±16^{km}, mb3.6/13, mb1 3.7/16, mb1mx3.5/43, mbtmp3.9/16, MS3.0/2, Ms1 3.0/2, ms1mx2.8/31, Error ellipse: s-maj=23.6km s-min=13.1km az=93.0*

ISC 06 19:10:08.2±0.5**, 25°.22N**±0°.06×**141°.92E**±0°.09**, h100**^{km}**, n52,** σ1s**52**/51**, mb4.0**/20**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.88**	**7**	P	**Pn**	**19 10 37.8**	**-1.4**
	181nm,0.3s,baz=293,slow=23,SNR=63						
JCJ				S	**Sn**	**19 11 04.5**	**+1.6**
	181nm,0.3s,baz=230,slow=22,SNR=7.3						
JCJ	**Chichijima**	**1.88**	**7**		**Pn**	**19 10 35.3**	**-3.9**
JCJ				Sn	**Sn**	**19 10 59.9**	**-3.0**
JMZ	**Minamidaito 2**	**9.68**	**276**	Pn	**Pn**	**19 12 23.6**	**-0.9**
MJAR	**Matsushiro Arr**	**11.72**	**345**	P	**Pn**	**19 12 52.8**	**+0.6**
	0.1nm,0.3s,baz=164,slow=10,SNR=6.0						
MJAR				LR	LR	19 16 55.1	
	comp=Z,58nm,18.6s,baz=300,slow=35						
MJAR	**Matsushiro Arr**	**11.72**	**345**		**Pn**	**19 12 51.8**	**-0.4**
MAJO	**Matsushiro**	**11.73**	**345**	Pn	**Pn**	**19 12 51.0**	**-1.1**
JMM	**Marumori**	**12.64**	**356**	Pn	**Pn**	**19 13 01.3**	**-3.0**
KSRS	**Korea Array**	**17.05**	**319**	P	**P**	**19 14 00.8**	**+0.2**
	baz=143,slow=12,SNR=2.4						
KSRS				LR	LR	19 19 51.9	
	comp=Z,58nm,19.2s,baz=335,slow=34						
YHNB	**Yeheng**	**18.64**	**273**	P	**P**	**19 14 17.6**	**-0.6**
YHNB				IAmb	IAmb	19 14 25.7	
	comp=Z,70nm,1.5s						
YULB	**Yu-li**	**18.89**	**269**		**Pn**	**19 14 24.5**	**+2.0**
YULB				IAmb	IAmb	19 14 24.8	
	comp=Z,19nm,1.0s						
SSLB	**Suanglung**	**19.13**	**270**	P	**Pn**	**19 14 27.1**	**+1.6**
SSLB				IAmb	IAmb	19 14 31.3	
	comp=Z,13nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**23.92**	**101**	T	T	19 40 52.7	
	baz=290,slow=75,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**23.93**	**101**	T	T	19 40 51.9	
	baz=290,slow=75,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**23.94**	**101**	T	T	19 40 49.0	
	baz=290,slow=75,SNR=5.4						
SONM	**Songino Array**	**35.92**	**318**	P	**P**	**19 16 58.8**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=79,slow=7.5,SNR=2.5						
COEN	**Coen**	**38.96**	**178**	P	**P**	**19 17 23.9**	**-0.8**
COEN				IAmb	IAmb	19 17 51.1	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,15nm,1.6s						
CMAR	**Chiang Mai Arr**	**40.33**	**269**	P	**P**	**19 17 36.8**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=62,slow=7.2,SNR=4.4						
GSTR	**Great Sitkin T**	**41.53**	**39**	P	**P**	**19 17 45.2**	**-0.4**
WR0	**Warramunga Arr**	**45.48**	**190**	P	**P**	**19 18 15.9**	**-1.7**
WR0				IAmb	IAmb	19 18 23.6	
	comp=Z,14nm,1.5s						
WR0				PcP	**PcP**	**19 19 55.9**	**+0.9**
WRAB	**Tennant Creek**	**45.48**	**190**	P	**P**	**19 18 15.7**	**-1.9**
WRAB				IAmb	IAmb	19 18 17.1	
	comp=Z,4.7nm,0.7s						
WB2	**Warramunga Arr**	**45.49**	**190**	P	**P**	**19 18 15.8**	**-1.8**
WB2				IAmb	IAmb	19 18 31.1	
	comp=Z,6.9nm,1.1s						
WRA	**Warramunga Arr**	**45.49**	**190**	P	**P**	**19 18 16.1**	**-1.5**
	comp=Z,2.8nm,0.4s,baz=7.0,slow=8.4,SNR=62						
FITZ	**Fitzroy Crossi**	**45.88**	**202**	P	**P**	**19 18 19.4**	**-1.3**
GSI	**Gunungsitoli**	**48.92**	**248**	P	**P**	**19 18 45.0**	**+0.6**
AS31	**Alice Springs**	**49.21**	**190**	P	**P**	**19 18 44.7**	**-1.8**
ASAR	**Alice Springs**	**49.22**	**190**	P	**P**	**19 18 44.6**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=6.4,slow=5.2,SNR=22						
ASAR	**Alice Springs**	**49.22**	**190**	PcP	**PcP**	**19 20 08.7**	**+0.5**
PSA00	**Pilbara Seismi**	**51.22**	**207**	P	**P**	**19 19 01.2**	**-0.4**
PSA00				IAmb	IAmb	19 19 08.3	
	comp=Z,14nm,1.2s						
MK31	**Makanchi Array**	**51.50**	**311**	P	**P**	**19 19 02.8**	**-0.8**
MK31				IAmb	IAmb	19 19 15.7	
	comp=Z,2.9nm,1.6s						
MKAR	**Makanchi Array**	**51.50**	**311**	P	**P**	**19 19 02.8**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=98,slow=8.6,SNR=6.1						
MKAR	**Makanchi Array**	**51.50**	**311**	P	**P**	**19 19 02.6**	**-0.9**
MAKZ	**Makanchi**	**51.71**	**311**	P	**P**	**19 19 04.4**	**-0.7**
ARMA	**Armidale**	**56.10**	**170**	P	**P**	**19 19 36.6**	**-0.6**
STKA	**Stephens Creek**	**56.78**	**180**	P	**P**	**19 19 41.0**	**-0.8**
	comp=Z,3.6nm,0.7s,baz=349,slow=8.7,SNR=14						
STKA	**Stephens Creek**	**56.78**	**180**	P	**P**	**19 19 41.0**	**-0.8**
IMAR	**Indian Mountai**	**56.82**	**26**	P	**P**	**19 19 44.9**	**+3.1**
FORT	**Forrest**	**57.24**	**194**	P	**P**	**19 19 44.4**	**-0.8**
BBOO	**Buckleboo**	**57.98**	**186**	P	**P**	**19 19 49.3**	**-1.0**
ILAR	**Eielson Array**	**59.47**	**28**	P	**P**	**19 20 01.4**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=257,slow=6.1,SNR=4.2						
KK31	**Karatay Array**	**60.00**	**307**	P	**P**	**19 20 05.2**	**+0.9**
KKAR	**Karatay Array**	**60.00**	**307**	P	**P**	**19 20 05.3**	**+0.9**
KKAR				IAmb	IAmb	19 20 05.4	
	comp=Z,1.1nm,0.9s						
TOO	**Toolangi**	**62.55**	**177**	P	**P**	**19 20 21.7**	**+0.3**
ABKAR	**Akbulak array**	**66.24**	**315**	P	**P**	**19 20 47.2**	**+1.8**
ABKAR	**Akbulak array**	**66.24**	**315**	P	**P**	**19 20 45.2**	**-0.2**
YKA	**Yellowknife Ar**	**73.90**	**28**	P	**P**	**19 21 34.2**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=296,slow=4.9,SNR=7.0						
ARCES	**ARCESS Array B**	**75.23**	**341**	P	**P**	**19 21 41.9**	**+2.3**
	comp=Z,5.1nm,0.9s,baz=60,slow=7.2,SNR=4.3						
ARCES	**ARCESS Array B**	**75.23**	**341**	IAmb	IAmb	19 22 13.4	
	comp=Z,13nm,1.2s						
FINES	**FINESS Array B**	**79.52**	**334**	P	**P**	**19 22 04.2**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=75,slow=4.7,SNR=36						
FINES				pP	pP	19 22 20.0	-8.4
	comp=Z,1.5nm,0.4s,baz=63,slow=4.6,SNR=7.1						
NVAR	**Mina Array Bea**	**81.86**	**51**	P	**P**	**19 22 19.3**	**+2.4**
	comp=Z,0.1nm,0.4s,baz=283,slow=5.1,SNR=2.6						
AKASG	**Malin Array Be**	**83.98**	**324**	P	**P**	**19 22 26.1**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=53,slow=5.4,SNR=7.7						
NB2	**NORSAR Subarra**	**85.26**	**338**	P	**P**	**19 22 33.0**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**85.26**	**338**	P	**P**	**19 22 33.5**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=58,slow=5.8,SNR=7.6						

IDC 06 19:37:21.6±2.3**, 0°.35S**×**128°.08E, h0**km**, mb3.2**/3**, mb1 3.5**/3**, mb1mx3.3**/23**, mbtmp3.3**/3**, Error ellipse: s-maj=158.2km s-min=29.0km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.42**	**163**	P	P	19 42 00.3	-0.2
	0.9nm,0.9s,baz=343,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**23.86**	**167**	P	P	19 42 37.0	+0.2
	1.0nm,0.8s,baz=344,slow=11,SNR=10						
MKAR	**Makanchi Array**	**61.66**	**326**	P	P	19 47 41.3	-0.1
	0.2nm,0.7s,baz=124,slow=9.4,SNR=2.4						

SOME 06 20:24:45.4, 41°.73N×**81°.75E, h10**km**, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.00**	**329**	*e*P	Pg	20 25 23.0	-0.7
	1.0nm,0.0s						
SHLS	**Shalkode**	**2.21**	**311**	*e*P	Pn	20 25 22.1	-0.2
	3.2nm,0.2s						
UZB	**Uzynbulak**	**2.46**	**306**	*e*P	Pg	20 25 31.8	-0.8
	2.6nm,0.2s						
UZB				*e*S	Sg	20 26 05.1	+0.5
	5.2nm,0.2s						
SATY	**Saty**	**2.81**	**299**	*e*P	Pg	20 25 38.7	-0.5
	1.4nm,0.2s						
SATY				*e*S	Sg	20 26 17.1	+1.5
	6.8nm,0.2s						
KPKS	**Kokpek**	**2.85**	**308**	*e*P	Pb	20 25 38.1	+1.7
	4.5nm,0.3s						
KPKS				*e*S	Sg	20 26 16.2	-0.7
	10nm,0.3s						
DJR	**Jarkent**	**2.97**	**332**	*e*P	Pg	20 25 41.1	-1.1
	0.7nm,0.2s						
DJR				*e*S	Sg	20 26 21.3	+0.5
	1.6nm,0.3s						
MNBS	**Baschi**	**3.40**	**315**	*e*P	Pb	20 25 46.6	+0.8
	1.1nm,0.2s						
KOTS	**Kotyrbulak**	**3.74**	**295**	*e*P	Pg	20 25 54.9	-2.2
	0.8nm,0.2s						
KOTS				*e*S	Sg	20 26 44.8	-0.9
	8.8nm,0.6s						
ARXS	**Arharly**	**3.80**	**312**	*e*P	Pb	20 25 53.3	+0.7
	0.6nm,0.3s						
ARXS				*e*S	Sb	20 26 42.2	+3.5
	2.2nm,0.6s						
KAPS	**Kapalarasan**	**3.95**	**335**	*e*P	Pb	20 25 58.1	+2.9
	0.2nm,0.3s						

IDC 06 20:30:35.4±9.3**, 35°.50S**×**78°.80E, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.4**/42**, mbtmp3.8**/3**, MS3.8**/4**, Ms1 3.8**/4**, ms1mx3.3**/41**, Error ellipse: s-maj=493.6km s-min=35.8km az=21.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.32**	**347**	T	T	21 05 31.3	
	baz=169,slow=76,SNR=8.4						
H08S1	**Diego Carcia H**	**28.32**	**347**	T	T	21 05 38.5	
	baz=169,slow=76,SNR=5.5						
H08S3	**Diego Garcia H**	**28.34**	**347**	T	T	21 05 39.3	
	baz=169,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**28.79**	**99**	T	T	21 06 52.4	
	baz=259,slow=74,SNR=4.6						
H01W3	**Cape Leeuwin H**	**28.79**	**99**	T	T	21 06 52.9	
	baz=259,slow=74,SNR=8.4						
H01W1	**Cape Leeuwin H**	**28.81**	**99**	T	T	21 06 45.4	
	baz=259,slow=74,SNR=6.0						
BOSA	**Boshof**	**45.44**	**263**	LR	LR	20 54 35.6	
	comp=Z,95nm,18.2s,baz=186,slow=32						
MATP	**Matopo**	**46.42**	**275**	LR	LR	20 55 18.5	
	comp=Z,118nm,18.7s,baz=144,slow=32						
LBTB	**Lobatse**	**46.64**	**268**	LR	LR	20 54 39.7	
	comp=Z,79nm,18.1s,baz=147,slow=31						
ASAR	**Alice Springs**	**48.80**	**92**	P	P	20 39 22.0	-0.5
	0.9nm,1.0s,baz=236,slow=7.0,SNR=9.4						
WRA	**Warramunga Arr**	**50.92**	**88**	P	P	20 39 38.2	-0.4
	1.6nm,0.7s,baz=234,slow=8.5,SNR=14						
GNI	**Garni**	**81.55**	**334**	LR	LR	21 17 26.6	
	comp=Z,76nm,19.0s,baz=319,slow=34						
BRTR	**Keskin Array B**	**85.66**	**327**	P	P	20 43 14.4	-1.5
	0.5nm,0.8s,baz=156,slow=6.5,SNR=3.8						
YKA	**Yellowknife Ar**	**151.71**	**13**	PKPbc	PKiKP	20 50 32.8	+1.5
	0.3nm,1.0s,baz=351,slow=2.5,SNR=4.7						

*NEIC **06** 20:45:48.6±2.4, 45°.82N±0°.04×106°.57W±0°.07, h0km±2km, ML3.1/48, Error ellipse: s-maj=8.6km s-min=6.4km az=279.0*

*IDC **06** 20:45:49.8±1.3, 45°.30N×106°.04W, h0km, mb1 3.3/2, mb1mx3.1/46, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=67.7km s-min=9.7km az=138.0*

ISC 06 20:45:47.6±1.2**, 45°.99N**±0°.06×**106°.55W**±0°.06**, h0**km**, n35,** σ**1ˢ12**/34**, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAO	**LASA Array**	**0.74**	**18**	Pg	**Pn**	**20 46 05.8**	**+0.4**
RLMT	**Red Lodge**	**2.10**	**247**		**Pn**	**20 46 23.9**	**-0.3**
RLMT				IAML		20 46 52.8	
	169nm,0.4s						
RLMT				IAML		20 46 53.7	
	109nm,0.6s						
GCMT	**Greycliff**	**2.19**	**266**		**Pn**	**20 46 25.3**	**-0.1**
RSSD	**Black Hills**	**2.58**	**135**	Pn	**Pn**	**20 46 31.8**	**+1.0**
YNE	**Yellowstone No**	**2.62**	**249**		**Pn**	**20 46 30.9**	**-0.5**
YNE				IAML		20 47 09.8	
	comp=E,83nm,0.5s						
YMP	**Mirror Lake Pl**	**2.83**	**245**		**Pn**	**20 46 34.5**	**+0.1**
DGMT	**Dagmar**	**2.96**	**32**		**Pb**	**20 46 39.9**	**-1.3**
EGMT	**Eagleton**	**3.00**	**314**		**Pb**	**20 46 40.9**	**-0.9**
LKWY	**Lake**	**3.07**	**244**		**Pn**	**20 46 38.3**	**+0.7**
LKWY				IAML		20 47 22.4	
	comp=E,54nm,0.6s						
LKWY				IAML		20 47 33.5	
	comp=E,48nm,1.1s						
YNR	**Norris Junctio**	**3.18**	**248**		**Pn**	**20 46 40.9**	**+1.8**
YNR				IAML		20 47 29.6	
	comp=N,52nm,0.5s						
YNR				IAML		20 47 33.7	
	comp=E,54nm,1.0s						
YNM	**Yellowstone No**	**3.19**	**248**	Pn	**Pn**	**20 46 40.8**	**+1.5**
YNM				IAML		20 47 49.2	
	comp=N,54nm,0.4s						
YHH	**Holmes Hill**	**3.26**	**250**		**Pn**	**20 46 40.7**	**+0.4**
YHH				IAML		20 47 32.0	
	comp=N,31nm,1.0s						
H17A	**Grant Village**	**3.26**	**242**		**Pn**	**20 46 40.5**	**+0.2**
K22A	**Casper**	**3.34**	**180**		**Pn**	**20 46 40.0**	**-1.2**
K22A				IAML		20 47 26.9	
	comp=E,41nm,0.6s						
K22A				IAML		20 47 39.7	
	comp=N,46nm,1.4s						
YMR	**Madison River**	**3.38**	**249**		**Pn**	**20 46 41.3**	**-0.6**
YHL	**Hebgen Lake**	**3.46**	**252**		**Pn**	**20 46 42.0**	**-1.0**
YHL				IAML		20 47 42.1	
	comp=E,55nm,0.8s						
YPP	**Pitchstone Pla**	**3.47**	**242**		**Pn**	**20 46 42.8**	**-0.4**
YHB	**Horse Butte**	**3.50**	**251**		**Pn**	**20 46 40.9**	**-2.6**
YHB				IAML		20 47 42.4	
	comp=E,32nm,1.2s						
YHB				IAML		20 47 45.1	
	comp=N,26nm,1.1s						
FLWY	**Flagg Ranch**	**3.50**	**239**		**Pn**	**20 46 45.0**	**+1.4**
FLWY				IAML		20 47 50.1	
	comp=N,39nm,1.0s						
FLWY				IAML		20 48 03.5	
	comp=N,39nm,1.2s						
BOZ	**Bozeman (W)**	**3.58**	**266**		**Pn**	**20 46 44.6**	**+0.2**
BOZ				IAML		20 47 44.9	
	comp=N,29nm,0.7s						
BOZ				IAML		20 47 48.0	
	comp=N,35nm,0.7s						
QLMT	**Earthquake Lak**	**3.63**	**253**		**Pn**	**20 46 47.5**	**+2.2**
HRY	**Holter Researc**	**3.73**	**283**		**Pn**	**20 46 45.9**	**-0.6**
LOHW	**Long Hollow**	**3.74**	**232**		**Pn**	**20 46 47.5**	**+0.8**
BW06	**Boulder Array**	**3.88**	**215**		**Pn**	**20 46 47.3**	**-1.4**
BW06				IAML		20 47 47.9	
	comp=N,24nm,0.5s						
PD31	**Pinedale Array**	**3.88**	**215**		**Pn**	**20 46 48.1**	**-0.5**
PDAR	**Pinedale Array**	**3.88**	**215**	Pn	**Pn**	**20 46 48.7**	**+0.1**
	comp=N,0.7nm,0.3s,baz=53,slow=14,SNR=16						
PDAR				Lg	Lg	20 47 42.5	
	comp=N,2.9nm,0.3s,baz=50,slow=33,SNR=5.4						
PDAR	**Pinedale Array**	**3.88**	**215**		**Pn**	**20 46 48.5**	**-0.2**
REDW	**Red Top Meadow**	**4.04**	**231**	Pn	**Pn**	**20 46 49.9**	**-1.0**
REDW				IAML		20 47 58.1	
	comp=N,18nm,3.3s						
REDW				IAML		20 48 38.3	
	comp=N,18nm,2.2s						
LRM	**Limekiln Ridge**	**4.12**	**270**		**Pn**	**20 46 52.5**	**+0.4**
DLMT	**Dillon**	**4.29**	**264**		**Pn**	**20 46 54.1**	**-0.2**
DLMT				IAML		20 48 09.4	
	comp=N,24nm,0.8s						
DLMT				IAML		20 48 16.8	
	comp=N,19nm,1.1s						
MSO	**Missoula**	**5.18**	**282**		**Pn**	**20 47 05.7**	**-0.8**
MSO				IAML		20 48 39.3	
	comp=N,14nm,0.9s						
JTMT	**Jette**	**5.59**	**291**		**Pn**	**20 47 12.3**	**+0.2**
I10CA	**LAC DU BONNET**	**8.21**	**55**	*i*		21 39 50.0	
	baz=235,slow=318,SNR=2.2						
ULM	**Lac du Bonnet**	**8.31**	**55**	Pn	**Pn**	**20 47 51.9**	**+2.5**
	comp=N,0.4nm,0.3s,baz=236,slow=11,SNR=4.2						
ULM				Lg	Lg	20 50 11.4	
	comp=N,0.4nm,0.3s,baz=326,slow=21,SNR=2.6						
ULM	**Lac du Bonnet**	**8.31**	**55**		**Pn**	**20 47 50.4**	**+1.0**

*ANF **06** 21:02:34.0±1.3, 43°.54N×105°.12W, h10km±15km, ML3.6/12, Error ellipse: s-maj=8.3km s-min=3.4km az=97.0, Hypocentre not reviewed by the ISC*

*IDC **06** 21:02:34.5±1.6, 43°.60N×105°.37W, h0km, mb3.8/1, mb1 3.7/6, mb1mx3.4/56, mbtmp3.5/6, ML3.0/4, Error ellipse: s-maj=39.1km s-min=9.1km az=149.0*

*NEIC **06** 21:02:36.8±0.9, 43°.77N±0°.05×105°.28W±0°.03, h0km±2km, ML3.5/69, Error ellipse: s-maj=9.0km s-min=3.0km az=158.0*

ISC 06 21:02:36.2±0.9**, 43°.78N**±0°.07×**105°.31W**±0°.07**, h0**km**, n97,** σ**0ˢ91**/94**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**69**	Pg	**Pg**	**21 02 55.7**	**+0.7**
RSSD	**Black Hills**	**0.98**	**69**	P		21 02 53.1	
	baz=234						
RSSD				S		21 03 06.9	
	baz=234						
K22A	**Casper**	**1.43**	**219**	Pn	**Pn**	**21 03 02.5**	**-1.1**
K22A				IAML		21 03 26.7	
	comp=E,531nm,0.3s						
K22A				IAML		21 03 27.7	
	comp=N,775nm,0.3s						
K22A	**Casper**	**1.43**	**219**	P		21 02 59.8	
	baz=49,SNR=175						
PHWY	**Pilot Hill**	**2.47**	**183**		**Pn**	**21 03 18.3**	**+0.3**
RWWY	**Rawlins**	**2.51**	**215**		**Pn**	**21 03 18.9**	**+0.4**
RWWY				IAML		21 03 55.7	
	comp=N,258nm,0.7s						
RWWY				IAML		21 03 58.9	
	comp=N,285nm,0.9s						
N23A	**Red Feather La**	**2.92**	**190**	Pb		21 03 23.5	
	baz=13,SNR=19						
LAO	**LASA Array**	**2.98**	**348**		**Pn**	**21 03 25.9**	**+1.1**
LAO				IAML		21 04 10.3	
	comp=N,268nm,0.9s						
LAO				IAML		21 04 19.0	
	comp=N,217nm,0.9s						
RLMT	**Red Lodge**	**3.14**	**297**		**Pn**	**21 03 27.8**	**+0.7**
RLMT				IAML		21 04 23.5	
	comp=N,79nm,0.4s						
RLMT	**Red Lodge**	**3.14**	**297**	P		21 03 26.9	
	baz=117,SNR=15						
BW06	**Boulder Array**	**3.27**	**253**		**Pn**	**21 03 29.7**	**+0.9**
BW06	**Boulder Array**	**3.27**	**253**	Sb		21 04 15.9	
	baz=75						
PD31	**Pinedale Array**	**3.27**	**253**		**Pn**	**21 03 29.7**	**+0.9**
PDAR	**Pinedale Array**	**3.27**	**253**	Pn	**Pn**	**21 03 29.4**	**+0.6**
	comp=N,5.5nm,0.3s,baz=78,slow=16,SNR=45						
PDAR				Lg	Lg	21 04 13.0	
	comp=N,20nm,0.3s,baz=79,slow=33,SNR=14						
YNE	**Yellowstone No**	**3.59**	**292**		**Pn**	**21 03 33.7**	**+0.4**
YMP	**Mirror Lake Pl**	**3.62**	**287**		**Pn**	**21 03 34.4**	**+0.7**
GCMT	**Greycliff**	**3.70**	**305**	Pn	**Pn**	**21 03 35.3**	**+0.5**
OGNE	**Ogallala**	**3.73**	**138**		**Pn**	**21 03 35.0**	**0.0**
OGNE				IAML		21 04 40.8	
	comp=N,120nm,1.1s						
OGNE	**Ogallala**	**3.73**	**138**	Pb		21 03 35.9	
	baz=320,SNR=7.0						
LKWY	**Lake**	**3.75**	**284**		**Pn**	**21 03 35.6**	**+0.1**
LKWY				IAML		21 04 50.1	
	comp=N,57nm,1.0s						
LOHW	**Long Hollow**	**3.85**	**269**		**Pn**	**21 03 37.8**	**+0.9**
H17A	**Grant Village**	**3.85**	**281**		**Pn**	**21 03 38.2**	**+1.3**
FLWY	**Flagg Ranch**	**3.91**	**276**		**Pn**	**21 03 38.6**	**+1.0**
FLWY				IAML		21 04 44.4	
	comp=N,46nm,1.8s						
FLWY				IAML		21 04 53.6	
	comp=N,47nm,1.1s						
SNOW	**Snow King Moun**	**3.97**	**267**		**Pn**	**21 03 40.3**	**+1.8**
SNOW				IAML		21 04 44.4	
	comp=N,50nm,1.2s						
SNOW				IAML		21 05 00.5	
	comp=N,56nm,1.1s						
YNR	**Norris Junctio**	**3.97**	**286**		**Pn**	**21 03 39.6**	**+1.0**
ISCO	**Idaho Springs**	**3.98**	**183**	Pn	**Pn**	**21 03 39.3**	**+0.6**
ISCO	**Idaho Springs**	**3.98**	**183**	Pb		21 03 39.9	
	baz=5.5,SNR=5.6						
ISCO				Sg		21 04 38.5	
	baz=5.5						
YPP	**Pitchstone Pla**	**4.00**	**279**		**Pn**	**21 03 39.9**	**+1.0**
REDW	**Red Top Meadow**	**4.05**	**266**		**Pn**	**21 03 41.3**	**+1.6**
REDW				IAML		21 04 53.4	
	comp=N,56nm,0.8s						
YHH	**Holmes Hill**	**4.11**	**286**		**Pn**	**21 03 40.8**	**+0.3**
YMR	**Madison River**	**4.17**	**284**		**Pn**	**21 03 41.4**	**+0.2**
O20A	**White River Ci**	**4.25**	**212**		**Pn**	**21 03 43.0**	**+0.7**
O20A				IAML		21 05 06.2	
	comp=N,57nm,0.9s						
O20A				IAML		21 05 08.0	
	comp=E,52nm,0.9s						
O20A	**White River Ci**	**4.25**	**212**	Sg		21 04 49.5	
	baz=33						
E28A	**Huff**	**4.30**	**48**	Pn	**Pn**	**21 03 43.7**	**+0.8**
E28A				IAML		21 05 04.5	
	comp=E,98nm,0.7s						
YHB	**Horse Butte**	**4.34**	**285**		**Pn**	**21 03 44.3**	**+0.7**
AHID	**Auburn Hatcher**	**4.35**	**259**		**Pn**	**21 03 44.4**	**+0.7**
AHID				IAML		21 05 00.7	
	comp=E,46nm,0.9s						
AHID				IAML		21 05 03.1	
	comp=N,49nm,1.2s						
YHL	**Hebgen Lake**	**4.35**	**286**		**Pn**	**21 03 44.4**	**+0.6**
ECR	**Eagle Creek**	**4.48**	**263**		**Pn**	**21 03 46.5**	**+1.0**
RDMU	**Red Mountain**	**4.50**	**226**		**Pn**	**21 03 47.6**	**+1.8**
QLMT	**Earthquake Lak**	**4.52**	**286**		**Pn**	**21 03 46.7**	**+0.7**
SUSD	**Miller**	**4.62**	**79**	Pn	**Pn**	**21 03 48.5**	**+1.2**
SUSD	**Miller**	**4.62**	**79**	Sg		21 05 03.1	
	baz=261						
DGMT	**Dagmar**	**4.76**	**9**	Pn	**Pn**	**21 03 49.9**	**+0.7**
DGMT	**Dagmar**	**4.76**	**9**	P		21 03 50.0	
	baz=188						
DGMT				Sb		21 05 04.0	
	baz=188						
SMCO	**Snowmass**	**4.76**	**196**		**Pn**	**21 03 50.6**	**+1.0**
SMCO				IAML		21 05 11.1	
	comp=N,26nm,0.9s						
SMCO				IAML		21 05 14.1	
	comp=N,32nm,1.0s						
Q24A	**Divide**	**4.81**	**179**	Sg		21 05 06.1	
	baz=0.3						
BOZ	**Bozeman (W)**	**4.86**	**294**	IAML		21 05 12.4	
	comp=N,19nm,1.1s						
BOZ				IAML		21 05 13.4	
	comp=N,24nm,0.8s						
BOZ	**Bozeman (W)**	**4.86**	**294**	P		21 03 50.5	
	baz=112						
BOZ				Sb		21 05 06.7	
	baz=112						
K31A	**O'Neill**	**4.93**	**101**	Pn	**Pn**	**21 03 53.1**	**+1.7**
HWUT	**Hardware Ranch**	**5.10**	**247**	IAML		21 05 22.4	
	comp=N,43nm,1.0s						
HWUT				IAML		21 05 32.9	
	comp=N,50nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.17**	**156**		**Pn**	**21 03 55.1**	**+0.2**
TCUT	**Toone Canyon**	**5.24**	**242**		**Pn**	**21 03 56.2**	**+0.2**
EGMT	**Eagleton**	**5.26**	**325**		**Pn**	**21 03 56.3**	**+0.2**
EGMT	**Eagleton**	**5.26**	**325**	Sb		21 05 20.1	
	baz=142						
DLMT	**Dillon**	**5.45**	**289**		**Pn**	**21 03 59.1**	**+0.4**
LRM	**Limekiln Ridge**	**5.48**	**294**	Pn	**Pn**	**21 04 01.1**	**+1.8**
MCMT	**McKenzie Canyo**	**5.51**	**284**		**Pn**	**21 04 01.6**	**+1.9**
JLU	**Jordanelle**	**5.56**	**237**	Pn	**Pn**	**21 04 01.0**	**+0.7**
CTU	**Camp Tracy**	**5.69**	**239**	Pn	**Pn**	**21 04 03.6**	**+1.6**
MDND	**Maddock**	**5.70**	**42**	Pn	**Pn**	**21 04 02.8**	**+0.7**
BGNE	**Belgrade**	**5.79**	**112**	Pn	**Pn**	**21 04 05.2**	**+1.9**
SPUT	**South Promonto**	**5.82**	**247**		**Pn**	**21 04 03.8**	**-0.1**
HVU	**Hansel Valley**	**5.85**	**253**		**Pn**	**21 04 05.0**	**+0.8**
PV22	**Blue Mesa, Par**	**5.86**	**208**		**Pn**	**21 04 04.9**	**+0.5**
BCYI	**Bear Canyon**	**5.86**	**278**	Pn	**Pn**	**21 04 05.3**	**+0.8**
PV07	**Paradox Valley**	**5.90**	**206**		**Pn**	**21 04 06.0**	**+1.1**
P17A	**Butcher Ranch,**	**5.92**	**225**		**Pn**	**21 04 05.9**	**+0.7**
PV15	**Paradox Valley**	**5.93**	**205**	Pn	**Pn**	**21 04 06.3**	**+0.8**
SDCO	**Great Sand Dun**	**6.03**	**181**	Pn	**Pn**	**21 04 07.6**	**+0.8**
MPU	**Maple Canyon**	**6.03**	**234**	Pn	**Pn**	**21 04 07.8**	**+1.0**
PV10	**Paradox Valley**	**6.08**	**209**	Pn	**Pn**	**21 04 08.8**	**+1.2**
PV19	**Morning Glory**	**6.13**	**208**	Pn	**Pn**	**21 04 08.6**	**+0.4**
PV03	**Paradox Valley**	**6.13**	**207**		**Pn**	**21 04 08.8**	**+0.6**
PV02	**Paradox Valley**	**6.14**	**206**		**Pn**	**21 04 09.8**	**+1.5**
PV01	**Paradox Valley**	**6.15**	**205**	Pn	**Pn**	**21 04 09.8**	**+1.2**
PV18	**Skein Mesa, Pa**	**6.16**	**207**		**Pn**	**21 04 09.1**	**+0.6**
PV13	**Radium Mtn., P**	**6.21**	**207**		**Pn**	**21 04 10.2**	**+1.0**
TMUT	**Trail Mountain**	**6.29**	**227**		**Pn**	**21 04 11.5**	**+1.0**
ECSD	**EROS Data Cent**	**6.30**	**87**		**Pn**	**21 04 10.1**	**-0.2**
NLU	**North Lily Min**	**6.33**	**235**	Pn	**Pn**	**21 04 11.5**	**+0.5**
PV05	**Paradox Valley**	**6.37**	**208**		**Pn**	**21 04 10.9**	**-0.6**
BGU	**Big Grassy Mou**	**6.39**	**246**	Pn	**Pn**	**21 04 12.8**	**+1.1**
Q16A	**Castle Valley**	**6.56**	**224**		**Pn**	**21 04 14.6**	**+0.5**
HLID	**Hailey**	**6.61**	**271**	Pn	**Pn**	**21 04 15.7**	**+1.0**
T25A	**Trinidad**	**6.66**	**174**	Pn	**Pn**	**21 04 16.1**	**+0.6**
F33A	**5 Mile Ranch,**	**6.74**	**69**	Pn	**Pn**	**21 04 16.7**	**+0.4**
MSO	**Missoula**	**6.81**	**300**	Pn	**Pn**	**21 04 17.9**	**+0.4**
MSO	**Missoula**	**6.81**	**300**	P		21 04 17.3	
	baz=115						
MVCO	**Mesa Verde**	**6.99**	**201**	Pn	**Pn**	**21 04 21.1**	**+1.1**
MSU	**Marysvale**	**7.38**	**227**		**Pn**	**21 04 26.4**	**+1.0**
MVU	**Marysvale**	**7.41**	**227**	Pn	**Pn**	**21 04 26.4**	**+0.6**
MFID	**Camas Ranch**	**7.65**	**271**	Pn	**Pn**	**21 04 28.9**	**-0.1**
MTPU	**Mount Pierson**	**7.74**	**225**	Pn	**Pn**	**21 04 30.9**	**+0.5**
WALA	**Waterton Lakes**	**7.95**	**315**	Pn	**Pn**	**21 04 32.9**	**-0.2**
ELK	**Elko**	**7.96**	**251**	Pn	**Pn**	**21 04 33.1**	**-0.3**
	comp=N,0.6nm,0.3s,baz=47,slow=16,SNR=10						
AGMN	**Agassiz Nation**	**7.97**	**52**	Pn	**Pn**	**21 04 33.6**	**+0.3**
PSUT	**Pine Spring**	**8.30**	**234**	Pn	**Pn**	**21 04 38.8**	**+0.8**
SZCU	**Shurtz Canyon**	**8.54**	**226**	Pn	**Pn**	**21 04 42.0**	**+0.7**
CCUT	**Cedar City**	**8.72**	**227**	Pn	**Pn**	**21 04 44.4**	**+0.6**
KAN13	**South Haven SW**	**9.01**	**136**	Pn	**Pn**	**21 04 47.8**	**+0.2**
I10CA	**LAC DU BONNET**	**9.03**	**41**	*i*		22 03 10.0	
	baz=222,slow=315,SNR=1.4						
LCMT	**Little Creek M**	**9.07**	**225**	Pn	**Pn**	**21 04 49.1**	**+0.7**
U15A	**North Rim**	**9.08**	**218**	Pn	**Pn**	**21 04 48.8**	**+0.1**
ULM	**Lac du Bonnet**	**9.13**	**42**	Pn	**Pn**	**21 04 47.6**	**-1.5**
	comp=N,0.5nm,0.3s,baz=235,slow=13,SNR=3.9						
ULM				Pg		21 05 18.8	
	comp=N,0.3nm,0.3s,baz=217,slow=18,SNR=2.0						
ULM				Lg	Lg	21 07 19.3	
	comp=N,0.5nm,0.3s,baz=118,slow=20,SNR=3.3						
ULM	**Lac du Bonnet**	**9.13**	**42**	Pn	**Pn**	**21 04 48.1**	**-1.0**
CROK	**Carrier**	**9.17**	**140**	Pn	**Pn**	**21 04 48.6**	**-1.1**
K38A	**Parkersburg**	**9.22**	**93**	Pn	**Pn**	**21 04 49.9**	**-0.5**
B35A	**Bob, Littlefor**	**9.26**	**56**	Pn	**Pn**	**21 04 50.8**	**-0.2**
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn	**Pn**	**21 05 15.7**	**-1.4**
	comp=N,0.1nm,0.3s,baz=49,slow=12,SNR=1.6						
YKA	**Yellowknife Ar**	**19.52**	**347**	P	**P**	**21 07 04.5**	**-0.4**
	comp=N,0.1nm,0.3s,baz=157,slow=13,SNR=4.4						
MKAR	**Makanchi Array**	**89.57**	**355**	P	**P**	**21 15 34.5**	**-0.8**
	comp=N,0.3nm,0.6s,baz=6.9,slow=4.7,SNR=5.1						

*NEIC **06** 21:11:12.9±2.0, 26°.50N±0°.10×143°.1E±0°.1, h10km±1km, mb4.7/16, Error ellipse: s-maj=20.0km s-min=10.3km az=223.0*

*IDC **06** 21:11:14.2±3.6, 26°.58N×142°.87E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.3/41, mbtmp3.6/3, Error ellipse: s-maj=107.8km s-min=16.4km az=59.0*

ISC 06 21:11:16.9±0.9**, 26°.57N**±0°.09×**142°.9E**±0°.1**, h35**km**, n24,** σ**1ˢ29**/25**, mb4.5**/12**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.85**	**308**	Pn	**Pn**	**21 11 32.9**	**+0.5**
	26nm,0.3s,baz=283,slow=23,SNR=14						
JCJ				Sn	**Sn**	**21 11 45.9**	**+2.2**
	76nm,0.3s,baz=278,slow=23,SNR=17						
JCJ	**Chichijima**	**0.85**	**308**	Pg	**Pn**	**21 11 32.5**	**+0.1**
MAJO	**Matsushiro**	**10.73**	**339**	Pn	**Pn**	**21 13 48.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**19.69**	**336**	P	**P**	**21 15 42.4**	**-0.6**
YSS	**Yuzh-Sakhalins**	**20.35**	**360**	P	**P**	**21 15 50.4**	**+0.3**
KNMB	**Chin-men Tao**	**22.25**	**270**	P	**P**	**21 16 08.9**	**-1.8**
KNMB				IAmb	IAmb	21 16 17.2	
	comp=Z,37nm,0.8s						
BJT	**Baijiatuau**	**25.97**	**308**	P	**P**	**21 16 45.0**	**-1.3**

BJT IAmb IAmb 21 16 48.8
comp=Z,3.0nm,0.7s
TOLI2 Tolitoli 33.08 224 P **P 21 17 49.0 -0.6**
TOLI2 IAmb IAmb 21 17 50.6
comp=Z,4.2nm,0.8s
ULN Ulaanbaatar 35.16 317 P **P 21 18 06.4 -1.1**
ULN IAmb IAmb 21 18 16.6
comp=Z,1.7nm,0.4s
SONM Songino Array 35.56 316 P **P 21 18 12.7 +1.9**
comp=Z,0.1nm,0.4s,baz=108,slow=9.4,SNR=1.8
SONM Songino Array 35.56 316 P **P 21 18 10.3 -0.6**
WRA Warramunga Arr 46.98 191 P **P 21 19 47.2 +2.5**
comp=Z,2.0nm,0.5s,baz=13,slow=8.4,SNR=35
ASAR Alice Springs 50.70 191 P **P 21 20 15.3 +2.1**
comp=Z,0.3nm,0.6s,baz=8.3,slow=5.9,SNR=6.9
ASAR Alice Springs 50.70 191 P **P 21 20 11.4 -1.8**
HIN Hinchinbrook I 57.72 34 P **P 21 21 05.7 +1.8**
Q23K Middleton Isla 57.75 35 P **P 21 21 03.7 -0.4**
MID Middleton Isla 57.76 35 P **P 21 21 04.2 +0.1**
IL31 57.85 28 P **P 21 21 04.0 -0.7**
BRVK Borovoye 58.94 318 P **P 21 21 11.9 -0.7**
BRVK IAmb IAmb 21 21 15.8
comp=Z,6.5nm,1.0s
SUCK Suckling Hills 59.07 34 P **P 21 21 14.4 +1.1**
SUCK IAmb IAmb 21 21 30.3
comp=Z,16nm,1.0s
CRQM Cirque 59.38 33 P **P 21 21 15.9 +0.1**
CRQM IAmb IAmb 21 21 34.1
comp=Z,11nm,0.7s
YAH Yahtse 60.08 34 P **P 21 21 20.2 -0.3**
YAH IAmb IAmb 21 21 27.0
comp=Z,6.2nm,1.1s
EGAK Eagle 60.30 29 P **P 21 21 20.8 -1.0**
MORW Morawa 61.04 207 P **P 21 21 27.5 +0.4**
MORW IAmb IAmb 21 21 39.4
comp=Z,12nm,1.1s

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*KRNET **06** 21:15:09.4±0.1, 42.18N×71.60E, h11km, mb3.7*
*SOME **06** 21:15:10.9, 42.23N×71.62E, h15km*
*ISU **06** 21:15:10, 42.00N×71.35E, h5km*
*NNC **06** 21:15:11.3±0.7, 42.42N×71.58E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=7.5km s-min=1.8km az=16.0*
*IDC **06** 21:15:11.3±1.5, 42.26N×71.73E, h0km, mb3.0/1, mb1 3.6/8, mb1mx3.3/53, mbtmp3.6/8, ML3.3/7, Error ellipse: s-maj=17.2km s-min=11.2km az=8.0*
*MOS **06** 21:15:15.9±2.0, 42.58N×71.05E, h5km, mb4.1/1, Error ellipse: s-maj=8.7km s-min=6.5km az=167.8*
ISC 06 21:15:09.7±1.1**, 42.22N**±0.02×**71.60E**±0.02**, h6km**±8km**, n134, σ2.51**/205**, 43C-28D, Kyrgyzstan**

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

MNAS Manas 0.72 68⇑*i*P **Pg 21 15 24.0 +0.4**
baz=65
MNAS ⇑*i*S **Sb 21 15 34.5 -0.4**
baz=65
TRKS Terek-Say 0.77 207⇓*i*P **Pg 21 15 24.0 -0.5**
baz=4.0
TRKS ⇓*i*S **Sb 21 15 35.0 -1.3**
baz=4.0
KK31 Karatay Array 1.19 318 ⇓P **Pb 21 15 31.1 -1.6**
77nm,0.3s,baz=137,slow=18,SNR=2079
KK31 S **Sb 21 15 45.5 -2.8**
234nm,0.3s,baz=136,slow=31,SNR=27
KK31 Karatay Array 1.19 318 PG **Pb 21 15 31.1 -1.6**
MRKS Merke 1.31 66⇑*e*P **Pg 21 15 34.7 -0.2**
baz=64
MRKS ⇑*e*S **Sg 21 15 52.1 +0.2**
baz=64
MRKS Merke 1.31 66⇑*e*P **Pg 21 15 34.7 -0.2**
38nm,0.2s
MRKS *e*S **Sg 21 15 52.1 +0.2**
158nm,0.2s
CHRV Charvak 1.36 245 *e*P **Pn 21 15 34.0 -1.2**
CHRV *e*S **Sb 21 15 51.0 -2.1**
CHMG Chimgan 1.36 241 *e*P **Pb 21 15 35.0 -0.6**
CHMG *e*S **Pn 21 15 32.0 -3.3**
ARSB Arslanbob 1.37 130⇓*i*P **Pb 21 15 35.4 -0.3**
baz=29
ARSB ⇓*i*S **Sg 21 15 53.7 0.0**
baz=29
CHM Chimkent 1.48 274 *e*P **Pg 21 15 39.0 +0.9**
5.2nm,0.1s
CHM *e*S **Sg 21 15 58.4 +1.0**
2μm,0.3s
CHM Chimkent 1.48 274 *e*PG **Pg 21 15 39.0 +0.9**
CHM *e*S **Sg 21 15 58.4 +1.0**
FRG Fergana 1.49 175 *e*P Pg 21 15 44.0 +5.8
FRG *e*S Sg 21 16 09.0 +11
BRLS Borolday 1.53 302 *e*P **Pb 21 15 37.8 -0.7**
baz=95
BRLS *e*S **Sn 21 15 57.3 -0.5**
baz=95
BRLS Borolday 1.53 302 *e*P **Pb 21 15 37.8 -0.7**
40nm,0.2s
BRLS *e*S **Sn 21 15 57.2 -0.5**
338nm,0.2s
BRLS Borolday 1.53 302 *e*PG **Pb 21 15 37.8 -0.7**
AML Almayashu 1.56 93⇑*i*P **Pb 21 15 39.0 -0.1**
baz=91
AML ⇑*i*S **Sg 21 16 00.3 +0.5**
baz=91
AML Almayashu 1.56 93 P **Pb 21 15 39.0 -0.1**
SNR=111
EKS2 Erkin-Say 1.67 74⇑*i*P **Pb 21 15 41.0 +0.1**
baz=72
EKS2 ⇑*i*S **Sg 21 16 04.6 +1.2**
baz=72
EKS2 Erkin-Say 1.67 74 P **Pg 21 15 41.3 -0.5**
SNR=60
OHH Osh 1.92 152⇑*i*P **Pb 21 15 44.7 -0.3**
baz=51
OHH ⇑*i*S **Sg 21 16 10.2 -1.0**
baz=51
OHH Osh 1.92 152 *e*P **Pb 21 15 44.0 -1.0**
OHH *e*S **Sb 21 16 09.0 -0.2**
TAS Tashkent 1.94 243⇑*e*P **Pb 21 15 45.0 -0.4**
baz=45
TAS ⇑*i*S **Sg 21 16 11.2 -0.8**
baz=45
ARLS Aral 2.06 99⇓*i*P **Pb 21 15 47.4 -0.1**
baz=98
ARLS ⇓*i*S **Sg 21 16 15.4 -0.5**
baz=98
UCH Uchtor 2.17 89⇑*i*P **Pb 21 15 48.8 -0.7**
baz=88
UCH ⇑*i*S **Sg 21 16 18.2 -1.1**
baz=88
UCH Uchtor 2.17 89 P **Pb 21 15 50.1 +0.6**
SNR=88
AAK Ala-Archa 2.18 78 Pn **Pg 21 15 50.7 -0.8**
35nm,0.3s,baz=246,slow=3.8,SNR=532
AAK Lg Lg 21 16 19.7
32nm,0.3s,baz=23,slow=20,SNR=20
AAK Ala-Archa 2.18 78⇓*i*P **Pb 21 15 48.9 -0.8**
baz=77
AAK ⇓*i*S **Sg 21 16 18.3 -1.5**
baz=77
AAK Ala-Archa 2.18 78 P **Pg 21 15 50.5 -1.0**
SNR=183
AAK Ala-Archa 2.18 78 ⇑Pn **Pg 21 15 50.7 -0.8**
57nm,0.5s
AAK ⇓Lg Lg 21 16 20.5
109nm,0.6s
YNGY Yangiyul 2.21 241 *e*P **Pn 21 15 47.0 +0.1**
YNGY *e*S **Sg 21 16 20.0 -0.8**
BTK Batken 2.24 196⇓*i*P **Pb 21 15 48.7 -1.8**
baz=96
BTK ⇓*i*S **Sb 21 16 17.8 -0.7**
baz=96
BTK Batken 2.24 196 *e*P **Pn 21 15 48.0 +0.7**
BTK *e*S **Sg 21 16 28.0 +6.4**
SHAK Shakhimardan 2.27 177 *e*P **Pg 21 15 53.0 -0.1**
SHAK *e*S **Sb 21 16 18.0 -1.4**
FRU1 Bishkek 2.32 74⇓*i*P **Pb 21 15 50.7 -1.2**
baz=73
FRU1 ⇓*i*S **Sb 21 16 21.5 +0.7**
baz=73
USP Ospenovka 2.38 63⇓*i*P **Pb 21 15 51.6 -1.3**
baz=62
USP ⇓*i*S **Sb 21 16 22.7 +0.2**
baz=62
USP Ospenovka 2.38 63 P **Pb 21 15 51.9 -1.0**
SNR=191

CHMS Chumysh 2.45 70⇑*i*P **Pb 21 15 52.6 -1.6**
baz=69
CHMS ⇑*i*S **Sb 21 16 24.6 -0.1**
baz=69
CHMS Chumysh 2.45 70 P **Pb 21 15 54.3 +0.1**
SNR=46
KBK Karagaybulak 2.52 79⇓*i*P **Pb 21 15 53.6 -1.7**
baz=78
KBK ⇓*i*S **Sb 21 16 26.6 0.0**
baz=78
KBK Karagaybulak 2.52 79 P **Pb 21 15 55.4 +0.1**
SNR=94
SFK Sufi-Kurgan 2.63 146⇑*i*P **Pb 21 15 54.6 -2.7**
baz=46
SFK ⇑*i*S **Sb 21 16 28.2 -1.8**
baz=46
DRK Karamyk 2.74 177⇑*i*P **Pn 21 15 56.1 +1.7**
baz=77
DRK ⇑*i*S **Sb 21 16 30.3 -2.9**
baz=77
TKM2 Tokmak 2 3.04 75⇑*i*P **Pb 21 16 01.0 -3.2**
baz=74
TKM2 ⇑*i*S **Sb 21 16 39.0 -2.5**
baz=74
TKM2 Tokmak 2 3.04 75 P **Pb 21 16 03.1 -1.1**
SNR=33
TKM2 Tokmak 2 3.04 75 ⇑Pg **Pg 21 16 06.3 -1.5**
19nm,0.6s
TKM2 ⇓Lg Lg 21 16 46.2
58nm,0.4s
TKM2 Tokmak 2 3.04 75 PN **Pg 21 16 06.3 -1.5**
BOOM Boomskoye usch 3.23 84⇑*i*P **Pn 21 16 03.6 +2.6**
baz=83
BOOM ⇑*i*S **Sb 21 16 43.8 -3.3**
baz=83
DGS Degeres 3.24 70 *e*P **Pb 21 16 09.2 +1.6**
28nm,0.2s
DGS *e*S **Sg 21 16 50.5 -3.2**
107nm,0.4s
DGS Degeres 3.24 70 Pg **Pb 21 16 09.2 +1.6**
28nm,0.2s
DGS Lg Lg 21 16 50.5
107nm,0.4s
DGS Degeres 3.24 70 *e*PN **Pb 21 16 09.2 +1.6**
KST Kastek 3.32 74 *e*P **Pb 21 16 10.6 +1.6**
14nm,0.3s
KST *e*S **Sg 21 16 53.5 -2.9**
136nm,0.3s
KST Kastek 3.32 74 Pg **Pb 21 16 10.3 +1.2**
14nm,0.3s
KST Lg Lg 21 16 53.5
136nm,0.3s
KST Kastek 3.32 74 *e*PN **Pb 21 16 10.6 +1.6**
KST *e*S **Sg 21 16 53.5 -2.9**
BTLS Baital 3.33 31 *e*P **Pb 21 16 10.7 +1.6**
4.6nm,0.2s
BTLS *e*S **Sb 21 16 53.1 +3.2**
28nm,0.7s
BTLS Baital 3.33 31 Pg **Pn 21 16 05.1 +2.8**
4.6nm,0.2s
BTLS Lg Lg 21 16 44.5
28nm,0.7s
BTLS Baital 3.33 31 *e*PN **Pb 21 16 10.7 +1.6**
BTLS *e*S **Sb 21 16 53.1 +3.2**
KRBS Karabastau 3.34 62 *e*P **Pb 21 16 10.3 +1.1**
9.7nm,0.2s
KRBS *e*S **Sb 21 16 53.1 +3.1**
74nm,0.3s
KRBS Karabastau 3.34 62 Pg **Pb 21 16 10.0 +0.8**
13nm,0.2s
KRBS Lg Lg 21 16 53.4
74nm,0.3s
KRBS Karabastau 3.34 62 *e*PN **Pb 21 16 10.3 +1.1**
KRBS *e*S **Sb 21 16 53.2 +3.1**
ULHL Ulahol 3.45 88⇓*i*P **Pn 21 16 06.5 +2.4**
baz=87
ULHL ⇓*i*S **Sb 21 16 48.7 -4.7**
baz=87
ULHL Ulahol 3.45 88 P **Pb 21 16 12.7 +1.5**
SNR=11
MTBS Maitube 3.68 74 *e*P **Pg 21 16 17.8 -2.3**
13nm,0.3s
MTBS *e*S **Sg 21 17 05.6 -2.1**
59nm,0.3s
MTBS Maitube 3.68 74 Pg **Pg 21 16 17.8 -2.3**
13nm,0.3s
MTBS Lg Lg 21 17 05.6
59nm,0.3s
MTBS Maitube 3.68 74 *e*PN **Pg 21 16 17.8 -2.3**
MTBS *e*S **Sg 21 17 05.6 -2.1**
IZV Izvestkoviy 3.79 76 *e*P **Pb 21 16 19.0 +2.0**
13nm,0.3s
IZV *e*S **Sg 21 17 08.1 -3.3**
55nm,0.6s
IZV Izvestkoviy 3.79 76 Pg **Pb 21 16 18.8 +1.8**
13nm,0.3s
IZV Lg Lg 21 17 08.2
55nm,0.6s
IZV Izvestkoviy 3.79 76 *e*PN **Pb 21 16 19.0 +2.0**
IZV *e*S **Sg 21 17 08.1 -3.3**
KUU Kurty 3.85 63 *e*P **Pb 21 16 19.3 +1.3**
43nm,0.3s
KUU *e*S **Sb 21 17 08.6 +3.6**
50nm,0.5s
KUU Kurty 3.85 63 Pg **Pb 21 16 19.3 +1.3**
43nm,0.3s
KUU Lg Lg 21 17 08.6
50nm,0.5s
KUU Kurty 3.85 63 *e*PN **Pb 21 16 19.3 +1.3**
KUU *e*S **Sb 21 17 08.6 +3.6**
KTBS Karatobe 4.02 67 *e*P **Pb 21 16 23.5 +2.7**
36nm,0.3s
KTBS *e*S **Sg 21 17 14.7 -4.0**
74nm,0.5s
KTBS Karatobe 4.02 67 Pg **Pb 21 16 23.5 +2.7**
36nm,0.3s
KTBS Lg Lg 21 17 14.7
74nm,0.5s
KTBS Karatobe 4.02 67 *e*PN **Pb 21 16 23.5 +2.7**
KTBS *e*S **Sg 21 17 14.7 -4.0**
TNSS Tian-Shan 4.03 77 *e*P **Pg 21 16 24.6 -2.3**
69nm,0.3s
TNSS *e*S **Sg 21 17 17.4 -1.7**
21nm,0.4s
TNSS Tian-Shan 4.03 77 Pg **Pg 21 16 24.6 -2.3**
69nm,0.3s
TNSS Lg Lg 21 17 17.4
21nm,0.4s
TNSS Tian-Shan 4.03 77 *e*PN **Pg 21 16 24.6 -2.3**
TNSS *e*S **Sg 21 17 17.4 -1.7**
KNDC Almaty 4.08 74 ⇓Pg **Pg 21 16 26.6 -1.2**
118nm,0.8s
KNDC ⇑Lg Lg 21 17 19.2
74nm,0.9s
KNDC Almaty 4.08 74 PN **Pg 21 16 26.6 -1.2**
MDOK Medeo 4.13 75 *e*P **Pg 21 16 26.2 -2.5**
59nm,0.5s
MDOK *e*S **Sg 21 17 20.1 -2.1**
30nm,0.5s
MDOK Medeo 4.13 75 ⇑Pg **Pg 21 16 27.4 -1.3**
55nm,0.6s
MDOK ⇓Lg Lg 21 17 20.1
35nm,0.6s
MDOK Medeo 4.13 75 Pg **Pg 21 16 26.2 -2.5**
59nm,0.5s
MDOK Lg Lg 21 17 20.1
30nm,0.5s
MDOK Medeo 4.13 75 *e*PN **Pg 21 16 26.2 -2.5**
MDOK *e*S **Sg 21 17 20.1 -2.1**
KDJ Kajisay 4.15 89⇑*i*P **Pn 21 16 16.9 +3.2**
baz=89
KDJ ⇑*i*S **Sn 21 17 05.8 +3.3**
baz=89
KOTS Kotyrbulak 4.19 74 *e*P **Pg 21 16 28.3 -1.6**
140nm,0.4s
KOTS *e*S **Sg 21 17 22.5 -1.6**
117nm,0.4s
KOTS Kotyrbulak 4.19 74 Pg **Pg 21 16 28.6 -1.2**
140nm,0.4s
KOTS Lg Lg 21 17 22.2
117nm,0.4s
KOTS Kotyrbulak 4.19 74 *e*PN **Pg 21 16 28.3 -1.6**
KOTS *e*S **Sg 21 17 22.5 -1.6**
CHKK Chushkaly 4.28 66 *e*P **Pb 21 16 27.9 +2.7**
13nm,0.3s
CHKK *e*S **Sg 21 17 22.2 -4.7**
30nm,0.3s

CHKK Chushkaly 4.28 66 Pg **Pb 21 16 27.9 +2.7**
13nm,0.3s
CHKK Lg Lg 21 17 22.2
30nm,0.3s
CHKK Chushkaly 4.28 66 *e*PN **Pb 21 16 27.9 +2.7**
CHKK *e*S **Sg 21 17 22.2 -4.7**
ANVS Anan'yevo 4.52 81⇑*i*P **Pn 21 16 21.9 +3.1**
baz=80
ANVS ⇑*i*S **Sn 21 17 14.9 +3.2**
baz=80
ARXS Arharly 4.97 64 *e*P **Pb 21 16 40.6 +3.6**
13nm,0.4s
ARXS *e*S **Sg 21 17 44.2 -5.0**
50nm,0.5s
ARXS Arharly 4.97 64 Pg **Pb 21 16 40.6 +3.6**
13nm,0.4s
ARXS Lg Lg 21 17 44.2
50nm,0.5s
ARXS Arharly 4.97 64 *e*PN **Pb 21 16 40.6 +3.6**
ARXS *e*S **Sg 21 17 44.2 -5.0**
KURS Kuram 4.99 73 *e*P **Pb 21 16 41.1 +3.7**
7.2nm,0.6s
KURS *e*S **Sg 21 17 46.3 -3.7**
14nm,0.5s
KURS Kuram 4.99 73 Pg **Pb 21 16 41.2 +3.7**
7.2nm,0.6s
KURS Lg Lg 21 17 46.3
14nm,0.5s
KURS Kuram 4.99 73 *e*PN **Pb 21 16 41.2 +3.7**
KURS *e*S **Sg 21 17 46.3 -3.7**
SATY Saty 5.09 78 *e*P **Pg 21 16 45.0 -2.1**
14nm,0.8s
SATY *e*S **Sg 21 17 51.8 -1.3**
20nm,0.4s
SATY Saty 5.09 78 Pg **Pg 21 16 45.0 -2.1**
14nm,0.8s
SATY Lg Lg 21 17 51.8
20nm,0.4s
MNBS Baschi 5.31 67 *e*P **Pb 21 16 45.6 +2.7**
14nm,0.4s
MNBS *e*S **Sb 21 17 53.3 +6.3**
38nm,0.3s
MNBS Baschi 5.31 67 Pg **Pb 21 16 45.6 +2.7**
14nm,0.4s
MNBS Lg Lg 21 17 53.3
38nm,0.3s
MNBS Baschi 5.31 67 *e*PN **Pb 21 16 45.6 +2.7**
MNBS *e*S **Sb 21 17 53.3 +6.3**
KPKS Kokpek 5.36 74 *e*P **Pb 21 16 47.6 +3.9**
48nm,0.5s
KPKS *e*S **Sg 21 17 57.0 -4.6**
35nm,0.3s
KPKS Kokpek 5.36 74 *e*PN **Pb 21 16 47.6 +3.9**
UZB Uzynbulak 5.55 78 *e*P **Pg 21 16 52.0 -4.0**
14nm,0.3s
UZB *e*S **Sg 21 18 03.4 -4.5**
13nm,0.4s
UZB Uzynbulak 5.55 78 Pg **Pg 21 16 52.0 -4.0**
14nm,0.3s
UZB Lg Lg 21 18 03.4
13nm,0.4s
TDK Taldyqorghan 5.67 58 *e*P **Pg 21 16 53.9 -4.3**
22nm,0.6s
TDK *e*S **Sg 21 18 06.4 -5.3**
65nm,0.8s
TDK Taldyqorghan 5.67 58 Pg **Pg 21 16 53.9 -4.3**
22nm,0.6s
TDK Lg Lg 21 18 06.4
65nm,0.8s
SHLS Shalkode 5.87 78 *e*P **Pg 21 17 05.5 +3.4**
5.0nm,0.2s
SHLS *e*S Sg 21 18 27.6 +9.4
22nm,0.9s
SHLS Shalkode 5.87 78 Pg **Pg 21 17 05.5 +3.4**
5.0nm,0.2s
SHLS Lg Lg 21 18 27.6
22nm,0.9s
PDGK Podgornoye 5.91 77 ⇑Pg **Pg 21 16 59.5 -3.4**
17nm,0.8s
PDGK ⇑Lg Lg 21 18 16.9
17nm,0.6s
PDGK Podgornoye 5.91 77 PN **Pg 21 16 59.5 -3.4**
KAPS Kapalarasan 6.40 59 *e*P Pb 21 17 06.2 +4.8
1.8nm,0.4s
KAPS *e*S **Sg 21 18 27.8 -7.3**
18nm,0.6s
KAPS Kapalarasan 6.40 59 Pg Pb 21 17 06.5 +5.1
2.0nm,0.2s
KAPS Lg Lg 21 18 27.8
18nm,0.6s
MAKZ Makanchi 8.72 55 ⇓Pn **Pn 21 17 16.9 +0.7**
5.5nm,1.4s
MAKZ ⇓Lg Lg 21 19 46.2
3.8nm,0.7s
MK31 Makanchi Array 8.90 55 Pn **Pn 21 17 20.3 +1.6**
1.6nm,0.6s,baz=241,slow=15,SNR=70
MK31 ⇑Sn **Sn 21 19 01.3 +2.0**
1.9nm,0.6s
MK31 ⇑Lg Lg 21 19 51.3
6.5nm,0.9s
MK31 Makanchi Array 8.90 55*c i*P **Pn 21 17 20.5 +1.8**
MKAR Makanchi Array 8.90 55 Pn **Pn 21 17 20.5 +1.8**
0.8nm,0.3s,baz=240,slow=13,SNR=60
MKAR Lg Lg 21 19 50.3
0.4nm,0.3s,baz=242,slow=28,SNR=2.1
KURBB Kurchatov Arra 9.67 27 Pn **Pn 21 17 28.5 -0.6**
0.1nm,0.3s,baz=212,slow=12,SNR=6.2
KURBB Sn **Sn 21 19 14.4 -3.6**
0.1nm,0.3s,baz=164,slow=24,SNR=1.8
KURBB Lg Lg 21 20 14.5
0.2nm,0.3s,baz=215,slow=30,SNR=13
KURBB Kurchatov Arra 9.67 27 ⇑Lg Lg 21 20 13.3
16nm,0.7s
AB31 Akbulak array 10.76 315 Pn **Pn 21 17 44.6 +0.5**
0.3nm,0.3s,baz=116,slow=14,SNR=13
AB31 ⇓Sn **Sn 21 19 43.0 -1.7**
0.5nm,0.4s
AB31 Akbulak array 10.76 315 P **Pn 21 17 44.6 +0.5**
AB31 S **Sn 21 19 43.0 -1.7**
BVAR Borovoye Array 10.84 356 Pn **Pn 21 17 48.0 +2.7**
0.2nm,0.3s,baz=175,slow=18,SNR=6.7
BVAR Sn **Sn 21 19 45.3 -1.5**
0.4nm,0.3s,baz=171,slow=29,SNR=3.3
BVAR Lg Lg 21 20 49.7
0.3nm,0.3s,baz=164,slow=31,SNR=4.3
BRVK Borovoye 10.88 356 ⇑Pn **Pn 21 17 47.7 +1.9**
2.4nm,1.1s
BRVK ⇓Sn **Sn 21 19 47.8 +0.1**
3.4nm,1.3s
BRVK ⇑Lg Lg 21 20 54.1
6.6nm,0.7s
BRVK Borovoye 10.88 356 *i* P **Pn 21 17 48.2 +2.4**
GEYT Alibeck 11.18 252 Pn Pn 21 17 54.8 +4.8
0.9nm,0.3s,baz=57,slow=17,SNR=5.4
AKTO Aktyubinsk 12.46 316 Pn **Pn 21 18 09.7 +2.3**
0.1nm,0.3s,baz=120,slow=16,SNR=2.0
AKTO Aktyubinsk 12.46 316 ⇑Pn **Pn 21 18 09.0 +1.6**
3.2nm,1.3s
AKTO ⇑Sn **Sn 21 20 24.6 -1.8**
4.2nm,1.4s
DGZ Jazzator, Alta 13.30 50 *i* P **Pn 21 18 22.9 +3.9**
ZALV Zalesovo Beam 14.66 32 Pn **Pn 21 18 37.9 +0.6**
0.2nm,0.3s,baz=221,slow=16,SNR=3.6
ARU Arti 16.52 334*d i*P **P 21 19 04.7 +0.3**
ARU S **S 21 22 11.6 -5.7**
ARU pmax pmax
comp=Z,5.0nm,1.3s
KBZ Khabaz 21.01 284 P **P 21 19 55.4 +1.7**
comp=Z,0.6nm,0.7s,baz=85,slow=11,SNR=1.9
KIV Kislovodsk 21.14 285 *i* P **P 21 19 52.9 -2.4**
OBN Obninsk 26.18 312 *e*P **P 21 20 45.2 +0.6**
OBN pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 33.18 127 *i* P P 21 21 51.4 +4.4

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*IDC **06** 21:34:59.3±1.4, 5.51S×146.52E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.5/29, mbtmp3.7/7, ML3.5/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/28, Error ellipse: s-maj=49.6km s-min=24.7km az=110.0*
*NEIC **06** 21:35:06.9±2.0, 5.80S±0.08×146.6E±0.1, h64km±7km, mb4.0/14, Error ellipse: s-maj=18.9km s-min=11.4km az=86.0*
ISC 06 21:35:04.8±0.8**, 5.72S**±0.08×**146.7E**±0.1**, h50km, n26, σ2.08**/27**, mb3.9**/8**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.69	173	Pn	Pn	21 36 01.1	+1.8
	8.8nm,0.3s,baz=48,slow=4.6,SNR=10						
PMG				Sn	Sn	21 36 42.8	+1.2
	7.2nm,0.3s,baz=92,slow=21,SNR=3.6						
PMG				LR	LR	21 37 51.3	
	comp=Z,162nm,19.4s,baz=85,slow=44						
COEN	Coen	8.90	203	Pn	Pn	21 37 11.5	+0.6
COEN				Sn	Sn	21 38 48.9	-0.9
CTA	Charters Tower	14.29	182	Pn	Pn	21 38 27.2	+2.8
	0.3nm,0.3s,baz=353,slow=14,SNR=5.2						
CTAO	Charters Tower	14.29	182	Pn	P	21 38 27.4	-3.0
SAUI	Saumlaki	15.47	261	Pn	Pn	21 38 40.0	0.0
WB0	Warramunga Arr	18.41	220	P	P	21 39 11.5	-4.5
WB0				IAmb	IAmb	21 39 30.2	
	comp=Z,5.0nm,1.1s						
WR0	Warramunga Arr	18.46	219		Pn	21 39 19.1	+1.9
WRAB	Tennant Creek	18.56	219	P	Pn	21 39 19.6	+1.3
WRAB				IAmb	IAmb	21 39 22.7	
	comp=Z,9.4nm,0.8s						
WB2	Warramunga Arr	18.56	219	P	P	21 39 12.2	-5.6
WB2				IAmb	IAmb	21 39 29.8	
	comp=Z,4.1nm,0.9s						
WRA	Warramunga Arr	18.57	219	P	P	21 39 17.2	-0.6
	comp=Z,0.1nm,0.3s,baz=42,slow=12,SNR=5.2						
EIDS	Eidsvold	19.98	168	P	Pn	21 39 35.3	0.0
EIDS				IAmb	IAmb	21 39 43.2	
	comp=Z,6.1nm,1.1s						
AS31	Alice Springs	21.69	213	P	P	21 39 51.4	-0.3
ASAR	Alice Springs	21.70	213	P	P	21 39 53.2	+1.5
	comp=Z,0.3nm,0.4s,baz=55,slow=8.9,SNR=9.0						
ASAR	Alice Springs	21.70	213	P	P	21 39 53.5	+1.8
FITZ	Fitzroy Crossi	23.98	237	P	P	21 40 15.1	+0.2
	comp=Z,1.5nm,0.8s,baz=56,slow=7.3,SNR=1.9						
STKA	Stephens Creek	26.46	190	P	P	21 40 39.5	+2.1
	comp=Z,1.1nm,0.5s,baz=10,slow=11,SNR=3.6						
FORT	Forrest	30.48	213	P	P	21 41 13.4	+0.3
FORT				IAmb	IAmb	21 41 25.1	
	comp=Z,9.9nm,1.1s						
TOO	Toolangi	31.73	182	P	P	21 41 22.3	-1.8
TOO				IAmb	IAmb	21 41 39.5	
	comp=Z,0.9nm,0.6s						
MNAI	Manna	43.61	270	P	P	21 43 04.2	-0.5
MLZ	Mavora Lakes	43.67	158	P	P	21 43 05.3	+0.6
MLZ				IAmb	IAmb	21 43 22.9	
	comp=Z,3.2nm,0.7s						
PYZ	Puysegur Point	43.85	160	P	P	21 43 03.9	-2.2
KSRS	Korea Array	46.39	339	LR	LR	21 59 29.1	
	comp=Z,18nm,21.2s,baz=340,slow=32						
PEA0B	Petropavlovsk-	59.34	8	P	P	21 45 00.9	-0.7
PEA0B				IAmb	IAmb	21 45 13.5	
	comp=Z,17nm,1.1s						
ILAR	Eielson Array	85.33	23	P	P	21 47 37.9	+1.6
	comp=Z,0.9nm,0.8s,baz=245,slow=4.8,SNR=7.4						
ILAR	Eielson Array	85.33	23	P	P	21 47 37.6	+1.3
TORD	Torodi Ar. Bea	144.75	285	PKP	PKPdf	21 54 37.0	-0.3
	comp=Z,0.9nm,0.7s,baz=60,slow=3.5,SNR=2.8						

KRSC 06 22:16:59.5±1.5, 49°.18N×156°.19E, h31km±20km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.51	358	eP	Pn	22 17 25.5	+1.2
SKR				eS	Sb	22 17 44.6	-0.9
ALID	Alaid	1.74	346	eP	Pn	22 17 27.3	-0.4
PAU	Pauzhetka	2.33	10	eP	Pn	22 17 37.9	+2.3
PAU				eS	Sb	22 18 06.2	-2.8
KDTR	Khodutka, Kamc	2.90	24	eP	Pb	22 17 47.3	-3.1
KDTR				eS	Sb	22 18 21.5	-3.8
MIPR	Malaya Ipel'ka	3.12	6	eP	Pn	22 17 49.2	+2.6
MTVR	Mutnovka	3.54	20	eP	Pn	22 17 56.8	+4.4
MTVR				eS	Sb	22 18 38.7	-5.3
RUS	Russkaya	3.58	23	eP	Pn	22 17 56.2	+3.5
RUS				eS	Sn	22 18 37.6	+3.7
GRL	Gorelyy	3.58	19	eP	Pb	22 17 57.6	-4.5
GRL				eS	Sn	22 18 39.7	+5.4
KRMR	Karymshinskiy	3.86	18	eS	Sn	22 18 46.8	+6.0
DALK	Dalny	4.18	22	eP	Pn	22 18 06.4	+5.3
DALK				eS	Sn	22 18 54.6	+5.8
UGLR	Uglovaya	4.36	21	eP	Pn	22 18 07.7	+4.0
AVH	Avacha	4.39	20	eP	Pn	22 18 09.8	+5.7
KOK	Koryaka	4.40	20	eP	Pn	22 18 09.1	+5.0
SMAR	Somma	4.41	21	eP	Pn	22 18 09.6	+5.2
KRER	Koryakskii	4.43	20	eP	Pn	22 18 09.3	+4.6
SDLR	Sedlovina	4.44	21	eP	Pn	22 18 08.9	+4.2
KRX	Arik	4.46	19	eP	Pn	22 18 09.6	+4.5
SPN	Mys Shipunski	4.61	30	eP	Pn	22 18 11.7	+4.8
SPN				eS	Sn	22 19 03.7	+4.4
GNL	Ganaly	4.65	13	eP	Pn	22 18 11.6	+3.9
MKZ	Mys Kozlova	6.38	30	P	Pn	22 18 35.1	+3.8
KBTR	Krutoberegovo	8.11	27	eP	Pn	22 19 00.7	+5.8

*JMA **06** 22:20:06.5±0.1, 23°.93N×121°.61E, h0km*
*TAP **06** 22:20:07.3, 23°.93N×121°.58E, h9km, ML2.6, C*
ISC 06 22:20:07.6±0.8, 23°.93N±0°.02×121°.59E±0°.02, h11km±5km, n64, σ0s.63/108, 1C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	Hwalien	0.05	16	iP	Pg	22 20 09.7	0.0
	baz=31						
HWA				iS	Sg	22 20 11.7	+0.5
	baz=31						
TWD	Chiawan	0.15	2	⇓iP	Pg	22 20 10.9	-0.1
	baz=7.0						
TWD				iS	Sg	22 20 13.1	-0.2
	baz=7.0						
ESL	Shilin	0.19	231	⇓iP	Pg	22 20 11.2	-0.4
	baz=236						
ESL				iS	Sg	22 20 13.6	-0.8
	baz=236						
NACB	Ninganchiao	0.24	1	⇓iP	Pg	22 20 12.3	-0.2
	baz=1.0						
NACB				S	Sg	22 20 15.7	-0.2
	baz=1.0						
ETLH	Xiulin Townshi	0.29	340	⇓iP	Pg	22 20 13.4	-0.2
	baz=341						
ETLH				eS	Sg	22 20 17.0	-0.5
	baz=341						
EGFH	Guangfu	0.30	210	eP	Pg	22 20 13.5	-0.1
	baz=220						
EGFH				eS	Sg	22 20 17.6	-0.1
	baz=220						
WHF	Hehuan Shan	0.37	305	⇓iP	Pg	22 20 14.7	-0.3
	baz=307						
WHF				eS	Sg	22 20 19.8	-0.2
	baz=307						
CHGB	Renai	0.40	289	⇓iP	Pg	22 20 15.7	+0.1
	baz=291						
CHGB				eS	Sg	22 20 20.6	-0.3
	baz=291						
FUSS	Fushou	0.45	315	⇓P	Pg	22 20 16.5	0.0
	baz=315						
FUSS				eS	Sg	22 20 23.0	+0.6
	baz=315						
VWDT	VWDT	0.45	247	P	Pg	22 20 16.4	0.0
	baz=250						
VWDT				eS	Sg	22 20 22.2	-0.2
	baz=250						
HGSD	Ruisui	0.46	199	eP	Pb	22 20 17.4	-0.4
	baz=211						
HGSD				eS	Sb	22 20 24.6	-0.1
	baz=211						
EHY	Hungye	0.49	210	eP	Pg	22 20 16.7	-0.5
	baz=218						
EHY				eS	Sg	22 20 22.6	-1.0
	baz=218						
TWT	Tachien	0.50	310	P	Pb	22 20 17.8	-0.7
	baz=302						
TWT				eS	Sb	22 20 25.1	-0.7
	baz=302						
ENA	Nanau	0.51	15	⇑P	Pg	22 20 17.5	-0.1
	baz=3.0						
ENA				eS	Sg	22 20 24.6	+0.2
	baz=3.0						
NNSB	Datong	0.53	339	⇓iP	Pb	22 20 18.0	-0.9
	baz=338						
NNSB				eS	Sg	22 20 24.5	-0.5
	baz=338						
NNSH	Datong	0.53	339	⇓iP	Pb	22 20 18.1	-0.9
	baz=332						
NNSH				eS	Sg	22 20 25.0	0.0
	baz=332						
NNS	Nan Shan	0.54	339	iP	Pg	22 20 18.2	0.0
	baz=338						
NNS				eS	Sg	22 20 25.6	+0.2
	baz=338						
WPL	Puli Township	0.58	278	⇓iP	Pb	22 20 19.4	-0.4
	baz=280						
WPL				eS	Sg	22 20 27.0	+0.3
	baz=280						
SSLB	Suanglung	0.60	256	⇓iP	Pg	22 20 19.2	0.0
	baz=268						
SSLB				S	Sg	22 20 26.4	-0.8
	baz=268						
YULB	Yu-li	0.60	207	eP	Pg	22 20 19.0	-0.3
	baz=219						
YULB				eS	Sg	22 20 25.9	-1.3
	baz=219						
DPDB	Guoxing	0.62	280	iP	Pb	22 20 20.2	-0.2
	baz=281						
DPDB				eS	Sb	22 20 28.7	-0.5
	baz=281						
EYUL	Yuli	0.63	203	eP	Pb	22 20 21.4	+0.7
	baz=216						
SMLT	Sun Moon Lake	0.63	266	⇓iP	Pb	22 20 20.0	-0.7
	baz=267						
SMLT				S	Sg	22 20 28.4	+0.1
	baz=267						
WCS	Beigang Elemen	0.63	281	eP	Pb	22 20 20.4	-0.3
	baz=283						
WCS				eS	Sg	22 20 28.5	+0.3
	baz=283						
TWF1	Yuli	0.64	205	eP	Pg	22 20 19.8	-0.2
	baz=216						
TWF1				eS	Sg	22 20 28.4	+0.1
	baz=216						
NDT	Datong Townshi	0.67	354	eP	Pb	22 20 20.6	-0.8
	baz=345						
TYC	Yuchr	0.67	268	⇓iP	Pb	22 20 20.6	-0.8
	baz=279						
TYC				eS	Sg	22 20 29.0	-0.5
	baz=279						
WHP	Taichung City	0.68	300	eP	Pb	22 20 21.3	-0.3
	baz=293						
WHP				eS	Sb	22 20 31.9	+0.8
	baz=293						
ENTT	Nioudou	0.70	358	⇓P	Pb	22 20 21.4	-0.6
	baz=357						
ENTT				eS	Sb	22 20 31.2	-0.4
	baz=357						
NDS	Dongshan	0.71	9	eP	Pb	22 20 21.3	-0.6
	baz=7.0						
TWC	Suao	0.71	19	eP	Pb	22 20 22.2	+0.1
	baz=11						
YUS	Yu-Shan	0.73	233	eP	Pb	22 20 22.1	-0.6
	baz=236						
YUS				eS	Sb	22 20 33.4	+0.5
	baz=236						
YHNB	Yeheng	0.76	345	⇓iP	Pb	22 20 22.6	-0.3
	baz=344						
YHNB				eS	Sg	22 20 31.6	-0.7
	baz=344						
NSK	Sanguang	0.77	344	⇓iP	Pb	22 20 22.8	-0.3
	baz=343						
NSK				eS	Sg	22 20 32.6	0.0
	baz=343						
FULB	Fuli	0.78	201	eP	Pb	22 20 23.7	+0.5
	baz=219						
FULB				eS	Sn	22 20 36.1	-0.2
	baz=219						
TWE	Neicheng	0.79	5	eP	Pb	22 20 23.0	-0.3
	baz=4.0						
TWE				eS	Sb	22 20 34.2	+0.2
	baz=4.0						
WNT	Mingjian	0.83	266	eP	Pb	22 20 24.0	0.0
	baz=268						
ALS	Alishan	0.83	240	eP	Pb	22 20 23.9	-0.3
	baz=243						
ALS				eS	Sb	22 20 34.8	-0.8
	baz=243						
WNT1	Nantou City	0.83	268	eP	Pn	22 20 24.9	-0.4
	baz=263						
NWLT	Wulai	0.84	355	eP	Pg	22 20 23.4	-0.5
	baz=353						
NWLT				eS	Sg	22 20 33.3	-1.6
	baz=353						
TWQ1	Liyutan	0.85	299	eP	Pb	22 20 24.9	+0.4
	baz=300						
TWQ1				eS	Sb	22 20 35.8	-0.1
	baz=300						
NSTT	Nanjuang	0.88	322	eP	Pb	22 20 25.2	+0.3
	baz=321						
LIOB	Emei	0.88	324	P	Pb	22 20 25.4	+0.4
	baz=322						
CHN5	Tsauling	0.90	248	eP	Pn	22 20 25.9	-0.4
	baz=251						
ELDTW	Lidau	0.91	216	eP	Pb	22 20 25.4	-0.1
	baz=210						
ELDTW				eS	Sg	22 20 36.2	-0.8
	baz=210						
NMLH	Miaoli	0.95	310	eP	Pb	22 20 26.0	0.0
	baz=309						
EDH	Donghe	0.99	195	eP	Pg	22 20 26.1	-0.6
	baz=215						
WDLH	Douliu	0.99	256	eP	Pn	22 20 27.8	+0.3
	baz=259						
WDLH				eS	Sn	22 20 43.3	+1.8
	baz=259						
TIPB	Shuangxi	1.06	12	P	Pb	22 20 27.8	-0.2
TIPB				eS	Sg	22 20 40.7	-1.0
STYH	Taoyuan	1.06	225	eP	Pb	22 20 28.0	0.0
	baz=216						
CHN4	Tsaushan	1.08	238	eP	Pn	22 20 29.1	+0.4
	baz=234						
CHN4				eS	Sb	22 20 42.8	+0.3
	baz=234						
STYT	Tauyuan	1.08	225	eP	Pn	22 20 28.6	-0.2
	baz=229						
STYT				eS	Sn	22 20 43.8	0.0
	baz=229						
TPUB	Ta-pu	1.08	235	eP	Pb	22 20 28.5	+0.1
	baz=238						
TPUB				eS	Sn	22 20 44.4	+0.6
	baz=238						
WTK	Tuku	1.13	258	eP	Pn	22 20 30.2	+0.9
	baz=261						
WTK				eS	Sn	22 20 46.0	+1.2
	baz=261						
NWF	Wu-fen Shan	1.15	9	eP	Pn	22 20 29.9	+0.3
	baz=5.0						
WFSB	Wu-fen Shan	1.15	9	eP	Pn	22 20 29.9	+0.3
	baz=5.0						
TWK	Hsinying	1.21	237	eP	Pn	22 20 31.3	+0.8
	baz=240						
CHN1	Nanshi	1.23	233	eP	Pn	22 20 32.2	+1.4
	baz=248						
SGST	Jiashian	1.25	228	eP	Pg	22 20 30.6	-1.1
	baz=219						
SLGT	Liugui	1.27	223	eP	Pn	22 20 32.6	+1.3
	baz=211						
PHUB	P'eng-hu	1.90	258	eP	Pn	22 20 40.2	+0.3
	baz=261						
IRIF	Iriomote-Funau	2.00	78	S	Sn	22 21 07.3	+1.1
JIJ	Ishigaki jima	2.37	79	P	Pn	22 20 47.7	+1.3
JIJ				S	Sn	22 21 15.0	-0.5
JISG	Ishigakijimahi	2.57	75	P	Pn	22 20 50.4	+1.3
JISG				eS	Sn	22 21 18.8	-1.6

IDC 06 22:45:23.5±24.0, 3°.78N×93°.05E, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.5/44, mbtmp4.0/3, ML4.6/1, Error ellipse: s-maj=496.1km s-min=116.0km az=145.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.69	21	Pn	Pn	22 49 06.0	-0.1
	0.9nm,0.3s,baz=218,slow=10,SNR=5.2						
H08S2	Diego Garcia H	23.44	241	T	T	23 16 05.8	
	baz=65,slow=75,SNR=11						
H08S3	Diego Garcia H	23.44	241	T	T	23 15 54.8	
	baz=65,slow=75,SNR=17						
H08S1	Diego Carcia H	23.46	241	T	T	23 15 55.9	
	baz=65,slow=75,SNR=4.6						
MKAR	Makanchi Array	43.85	349	P	P	22 53 32.0	+0.4
	0.6nm,0.4s,baz=168,slow=9.1,SNR=18						
ZALV	Zalesovo Beam	50.46	354	P	P	22 54 22.2	-0.8
	1.3nm,0.4s,baz=180,slow=6.7,SNR=7.2						

*IDC **06** 22:45:45.4±1.9, 43°.10N×105°.11W, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.5/53, mbtmp3.6/7, ML2.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/47, Error ellipse: s-maj=42.8km s-min=7.9km az=155.0*
*NEIC **06** 22:45:50.3±1.4, 43°.73N±0°.04×105°.28W±0°.05, h0km±2km, ML3.6/68, Error ellipse: s-maj=6.4km s-min=5.6km az=140.0*
ISC 06 22:45:49.0±0.7, 43°.74N±0°.05×105°.26W±0°.06, h0km, n101, σ1s.50/101, mb4.0/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	0.96	66	Pg	Pn	22 46 09.1	-0.9
K22A	Casper	1.43	221	Pn	Pn	22 46 14.9	-1.4
K22A				Sg	Sb	22 46 35.9	+0.6
K22A				IAML		22 46 38.2	
	comp=E,698nm,0.4s						
K22A				IAML		22 46 39.6	
	comp=N,650nm,0.3s						
PHWY	Pilot Hill	2.44	183		Pn	22 46 31.0	+0.6
PHWY				Sn	Sb	22 47 03.5	-1.2
RWWY	Rawlins	2.50	216	Pn	Pn	22 46 32.6	+1.5
RWWY				Sn	Sb	22 47 04.8	-1.6
RWWY				IAML		22 47 06.9	
	comp=N,462nm,1.1s						
RWWY				IAML		22 47 09.1	
	comp=N,323nm,0.8s						
LAO	LASA Array	3.03	347		Pb	22 46 42.4	-1.3
LAO				IAML		22 47 27.9	
	comp=N,166nm,0.7s						
LAO				IAML		22 47 33.2	
	comp=N,214nm,0.9s						
RLMT	Red Lodge	3.19	297		Pn	22 46 41.3	+0.8
BW06	Boulder Array	3.29	254		Pn	22 46 42.6	+0.7
BW06				IAML		22 47 33.8	
	comp=N,84nm,0.7s						
PD31	Pinedale Array	3.29	254		Pn	22 46 42.6	+0.7
PDAR	Pinedale Array	3.29	254	Pn	Pn	22 46 42.5	+0.6
	comp=N,4.2nm,0.3s,baz=71,slow=15,SNR=44						
PDAR				Lg	Lg	22 47 27.1	
	comp=N,14nm,0.3s,baz=79,slow=33,SNR=11						
PDAR				LR	LR	22 47 51.0	
	comp=N,99nm,18.1s,baz=29,slow=38						
PDAR	Pinedale Array	3.29	254	Pn	Pn	22 46 41.8	-0.1
YNE	Yellowstone No	3.63	292		Pn	22 46 47.5	+0.8
YMP	Mirror Lake Pl	3.66	288		Pn	22 46 48.0	+0.9
OGNE	Ogallala	3.68	138	Pn	Pn	22 46 48.9	+1.7
GCMT	Greycliff	3.75	305		Pn	22 46 49.6	+1.4
LKWY	Lake	3.79	284		Pn	22 46 51.3	+2.5
LKWY				IAML		22 48 24.5	
	comp=N,76nm,1.1s						
LOHW	Long Hollow	3.88	270		Pn	22 46 51.3	+1.3
H17A	Grant Village	3.89	282		Pn	22 46 51.4	+1.2
FLWY	Flagg Ranch	3.94	277		Pn	22 46 51.5	+0.6
FLWY				IAML		22 48 01.7	
	comp=N,73nm,1.8s						
FLWY				IAML		22 48 07.0	
	comp=N,70nm,2.0s						
ISCO	Idaho Springs	3.95	184	Pn	Pn	22 46 51.9	+0.8
ISCO				IAML		22 47 56.1	
	comp=N,49nm,1.0s						
SNOW	Snow King Moun	4.00	268		Pn	22 46 52.4	+0.7
SNOW				IAML		22 48 08.6	
	comp=N,73nm,1.1s						
SNOW				IAML		22 48 13.5	
	comp=N,87nm,1.2s						
YNR	Norris Junctio	4.01	286		Pn	22 46 52.8	+0.9
YPP	Pitchstone Pla	4.03	279		Pn	22 46 53.4	+1.1
REDW	Red Top Meadow	4.08	267	Pn	Pn	22 46 54.9	+2.1
REDW				IAML		22 48 06.7	
	comp=N,89nm,1.1s						
REDW				IAML		22 48 18.0	
	comp=N,106nm,1.3s						
YHH	Holmes Hill	4.15	287		Pn	22 46 55.1	+1.3
O20A	White River Ci	4.23	213	Pn	Pn	22 46 56.0	+1.1
O20A				IAML		22 48 22.5	
	comp=E,103nm,1.1s						
O20A				IAML		22 48 41.6	
	comp=N,115nm,2.1s						
E28A	Huff	4.30	47		Pn	22 46 58.1	+2.5
E28A				IAML		22 48 13.1	
	comp=E,85nm,0.7s						
E28A				IAML		22 48 15.3	
	comp=N,97nm,0.9s						
AHID	Auburn Hatcher	4.38	259		Pn	22 46 58.2	+1.3
AHID				IAML		22 47 27.4	
	comp=N,114nm,0.3s						
YHB	Horse Butte	4.38	285		Pn	22 46 58.1	+1.2
YHL	Hebgen Lake	4.39	287		Pn	22 46 58.5	+1.3
ECR	Eagle Creek	4.50	263		Pn	22 47 00.0	+1.4
QLMT	Earthquake Lak	4.56	286		Pn	22 47 01.3	+1.9
SUSD	Miller	4.60	79	Pn	Pn	22 47 03.3	+3.6
SMCO	Snowmass	4.74	196		Pn	22 47 03.3	+1.3
SMCO				IAML		22 48 25.1	
	comp=N,41nm,1.1s						
SMCO				IAML		22 48 27.7	
	comp=N,69nm,1.1s						
DGMT	Dagmar	4.79	9		Pn	22 47 05.6	+3.2
K31A	O'Neill	4.89	101		Pn	22 47 05.7	+2.0
BOZ	Bozeman (W)	4.91	294		Pn	22 47 04.2	+0.1
BOZ				IAML		22 48 26.3	
	comp=N,26nm,1.4s						
HWUT	Hardware Ranch	5.11	248	IAML		22 48 27.7	
	comp=N,46nm,1.1s						
HWUT				IAML		22 48 39.9	
	comp=N,42nm,1.5s						
KSCO	Kaye Shedlock'	5.12	156	Pn	Pn	22 47 07.5	+0.4
EGMT	Eagleton	5.31	325	Pn	Pn	22 47 11.4	+1.9
EGMT				IAML		22 48 46.0	
	comp=N,55nm,1.5s						
DLMT	Dillon	5.49	290	Pn	Pn	22 47 12.7	+0.6
HRY	Holter Researc	5.51	305	Pn	Pn	22 47 14.0	+1.7
LRM	Limekiln Ridge	5.53	295	Pn	Pn	22 47 13.7	+1.1
MCMT	McKenzie Canyo	5.55	284		Pn	22 47 13.8	+0.7
JLU	Jordanelle	5.56	238		Pn	22 47 11.8	-1.4
CTU	Camp Tracy	5.70	240		Pn	22 47 14.9	-0.1
MDND	Maddock	5.70	42	Pn	Pn	22 47 17.9	+3.0
BGNE	Belgrade	5.74	111		Pn	22 47 18.4	+3.0
SPUT	South Promonto	5.84	248		Pn	22 47 17.9	+1.0
PV22	Blue Mesa, Par	5.84	208		Pn	22 47 17.9	+0.9
HVU	Hansel Valley	5.87	253		Pn	22 47 18.2	+0.9
PV07	Paradox Valley	5.88	207	Pn	Pn	22 47 19.1	+1.6
BCYI	Bear Canyon	5.90	278		Pn	22 47 15.7	-2.1
PV15	Paradox Valley	5.92	205		Pn	22 47 18.9	+0.8
P17A	Butcher Ranch,	5.92	226		Pn	22 47 19.5	+1.5
SDCO	Great Sand Dun	5.99	182		Pn	22 47 20.8	+1.7
PV04	Paradox Valley	6.01	208		Pn	22 47 19.7	+0.4
MPU	Maple Canyon	6.04	234		Pn	22 47 19.7	0.0
PV12	Saucer Basin,	6.04	207		Pn	22 47 20.4	+0.6
PV10	Paradox Valley	6.07	209	Pn	Pn	22 47 21.3	+1.1
SRU	San Rafael Swe	6.08	222		Pn	22 47 20.4	+0.1
PV19	Morning Glory	6.11	209	Pn	Pn	22 47 22.4	+1.6
PV18	Skein Mesa, Pa	6.14	208	Pn	Pn	22 47 21.8	+0.6
ECSD	EROS Data Cent	6.26	87	Pn	Pn	22 47 24.8	+2.1
NLU	North Lily Min	6.34	236	Pn	Pn	22 47 26.3	+2.4
PV05	Paradox Valley	6.36	208		Pn	22 47 23.9	-0.3
BGU	Big Grassy Mou	6.41	247	Pn	Pn	22 47 25.9	+1.1
CBKS	Cedar Bluff	6.44	138	Pn	Pn	22 47 26.8	+1.6
T25A	Trinidad	6.63	174		Pn	22 47 23.8	-4.0
HLID	Hailey	6.64	272	Pn	Pn	22 47 29.5	+1.5
DUG	Dugway, Tooele	6.65	240	Pn	Pn	22 47 29.2	+1.2
F33A	5 Mile Ranch,	6.72	69	Pn	Pn	22 47 31.0	+2.2
MSO	Missoula	6.86	300	Pn	Pn	22 47 31.7	+0.9
MVCO	Mesa Verde	6.97	202	Pn	Pn	22 47 35.2	+2.7
MSU	Marysvale	7.38	227	Pn	Pn	22 47 39.2	+1.0
MVU	Marysvale	7.41	227		Pn	22 47 39.4	+0.8
TCRU	Three Creeks R	7.46	229	Pn	Pn	22 47 39.2	-0.1
JTMT	Jette	7.47	306	Pn	Pn	22 47 40.9	+1.5
MFID	Camas Ranch	7.68	271	Pn	Pn	22 47 44.2	+2.0
N35A	Tabor	7.69	109	Pn	Pn	22 47 43.6	+1.5
MTPU	Mount Pierson	7.74	225	Pn	Pn	22 47 43.8	+0.6
AGMN	Agassiz Nation	7.97	52	Pn	Pn	22 47 46.4	+0.4
ELK	Elko	7.98	251	Pn	Pn	22 47 42.3	-4.1
	comp=N,0.1nm,0.3s,baz=219,slow=18,SNR=1.5						
ELK				Lg	Lg	22 49 55.1	
	comp=N,0.1nm,0.3s,baz=355,slow=23,SNR=2.0						
ELK	Elko	7.98	251		Pn	22 47 45.4	-1.1
WALA	Waterton Lakes	8.00	315	Pn	Pn	22 47 47.2	+0.7
PKCU	Pink Cliffs	8.26	223	Pn	Pn	22 47 50.1	-0.2
SPR3	Spring Creek 3	8.30	238	Pn	Pn	22 47 51.5	+0.6
PSUT	Pine Spring	8.31	234	Pn	Pn	22 47 52.0	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SZCU	Shurtz Canyon	8.54	227	Pn	Pn	22 47 54.8	+0.7
KAN08	Anthony NE Sta	8.55	137	Pn	Pn	22 47 58.0	+4.0
CCUT	Cedar City	8.72	228	Pn	Pn	22 47 57.8	+1.3
ANMO	Albuquerque	8.83	186	Lg	Lg	22 50 09.2	
	comp=N,0.1nm,0.3s,baz=88,slow=12,SNR=1.5						
I10CA	LAC DU BONNET	9.03	41	*i*		23 44 14.1	
	baz=220,slow=320,SNR=9.9						
ULM	Lac du Bonnet	9.13	41	Pn	Pn	22 48 01.8	-0.2
	comp=N,1.1nm,0.3s,baz=230,slow=11,SNR=10						
ULM				Pg		22 48 34.1	
	comp=N,0.4nm,0.3s,baz=214,slow=22,SNR=1.8						
ULM				Sn	Sn	22 49 45.2	-0.3
	comp=N,0.1nm,0.3s,baz=301,slow=1.6,SNR=3.2						
ULM				Lg	Lg	22 50 33.6	
	comp=N,0.4nm,0.3s,baz=320,slow=20,SNR=1.9						
ULM	Lac du Bonnet	9.13	41	Pn	Pn	22 48 01.9	0.0
B35A	Bob, Littlefor	9.25	56	Pn	Pn	22 48 03.7	+0.1
W18A	Petrified Fore	9.28	203	Pn	Pn	22 48 06.5	+2.4
FFC	Flin Flon	11.20	10	Pn	Pn	22 48 29.3	-0.9
YKA	Yellowknife Ar	19.57	347	P	Pn	22 50 19.8	+0.5
	comp=N,0.2nm,0.6s,baz=150,slow=10.0,SNR=1.9						
ARCES	ARCESS Array B	61.41	18	P	P	22 56 06.2	-0.2
	comp=N,2.9nm,0.9s,baz=322,slow=5.7,SNR=5.6						
ZALV	Zalesovo Beam	82.31	354	P	P	22 58 11.5	-0.6
	comp=N,0.4nm,0.4s,baz=15,slow=6.0,SNR=2.7						
MKAR	Makanchi Array	89.60	355	P	P	22 58 48.6	+0.2
	comp=N,0.3nm,0.7s,baz=5.3,slow=5.4,SNR=3.6						

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*MEX **06** 22:52:52.8±0.8, 14.°03N×93.°59W, h30km±164km, MD4.7*

*NEIC **06** 22:52:54.5±2.9, 14.°16N±0.°05×93.°47W±0.°04, h29km±6km, mb4.4/134, Md4.7/17(MEX), Error ellipse: s-maj=7.8km s-min=4.4km az=146.0*

*GCMT **06** 22:52:55.5±0.3, 14.°41N±0.°01×93.°66W±0.°02, h14km, MW5.0/99, Moment Tensor Solution. s57,c70; s99,c132; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}3.01±.13; $M_{\theta\theta}$-2.19±.09; $M_{\phi\phi}$-0.82±.09; $M_{r\theta}$1.88±.20; $M_{\theta\phi}$1.19±.07; $M_{\phi r}$-1.83±.24; Best double couple: $M_0$3.94100×10¹⁶ NP1:ϕ_s292.00000°,δ25.00000°,λ75.00000°. NP2: ϕ_s129.00000°,δ66.00000°,λ97.00000°. Principal axes: T 4.0430, Plg68.0000°, Azm53.0000°; N -0.2080, Plg6.0000°, Azm306.0000°; P -3.8390, Plg21.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **06** 22:52:57.5±2.3, 14.°42N×93.°31W, h42km±20km, mb4.1/26, mb1 4.2/30, mb1mx4.1/48, mbtmp4.3/30, ML3.9/4, MS4.1/29, Ms1 4.1/29, ms1mx4.1/39 Error ellipse: s-maj=20.8km s-min=9.6km az=56.0*

*GCG **06** 22:52:58.2±0.8, 14.°26N×93.°22W, h30km±999km, MD4.7*

ISC 06 22:52:51.2±2.8, **14.°27N**±0.°05×**93.°50W**±0.°05, **h5**km±17km, **n230**, σ1§**64**/225, **mb4.4**/83, **MS4.2**/30, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.35	62	*e*P	Pn	22 53 16.6	-0.1
THIG				*e*S	Sn	22 53 34.5	-0.6
THIG		1.35	62		Pn	22 53 16.6	-0.1
THIG					Sn	22 53 34.5	-0.6
PCIG		1.45	11	*e*P	Pn	22 53 17.7	-0.4
PCIG				*i* S	Sb	22 53 38.0	+0.5
PCIG		1.45	11		Pn	22 53 17.4	-0.8
RTAL	Retalhuleu	1.77	82		Pn	22 53 22.4	-0.1
HUEH	Huehuetenango	2.19	61		Pn	22 53 30.4	+1.8
CCIG	Comitan	2.39	33	*i* P	Pn	22 53 32.1	+0.9
CCIG				*i* S	Sn	22 54 02.3	+1.2
CCIG	Comitan	2.39	33		Pb	22 53 34.5	-0.4
CCIG	Comitan	2.39	33		Sb	22 54 04.8	0.0
TGIG		2.52	8	*i* P	Pn	22 53 33.6	+0.7
TGIG				*e*S	Sn	22 54 05.4	+1.4
TGIG		2.52	8		Pn	22 53 34.3	+1.4
TGIG					Sn	22 54 05.9	+1.9
FUG	Fuego 3	2.58	86	*e*P	Pn	22 53 34.2	+0.3
FUG				*e*S	Sn	22 54 03.7	-2.0
PCG	Pacaya	2.80	87	*e*P	Pn	22 53 38.4	+1.4
NBG	Las Nubes	3.07	84	*e*P	Pn	22 53 42.9	+2.3
CMIG	Matias Romero	3.10	335	P	Pn	22 53 41.5	+0.6
	8.9nm,0.3s,baz=174,slow=12,SNR=68						
CMIG				S	Sn	22 54 14.9	-3.6
	60nm,0.3s,baz=135,slow=13,SNR=6.3						
CMIG				LR	LR	22 54 34.2	
	comp=Z,1µm,19.4s,baz=229,slow=32						
CMIG	Matias Romero	3.10	335	*e*P	Pn	22 53 41.3	+0.4
CMIG				*i* S	Sn	22 54 18.3	-0.1
CMIG	Matias Romero	3.10	335		Pn	22 53 41.3	+0.4
CMIG					Sn	22 54 16.7	-1.7
MRL	Marmol	3.78	77	*e*P	Pn	22 53 51.9	+1.6
TUIG	Tuzandepetl	3.85	347	*i* P	Pn	22 53 51.8	+0.7
TUIG				*e*S	Sn	22 54 37.7	+1.0
TUIG	Tuzandepetl	3.85	347		Pb	22 53 56.5	-3.1
TUIG					Sn	22 54 37.7	+1.0
MTO3	Montecristo	4.01	88	Pn	Pn	22 53 53.7	+0.1
ESQI	Esquipulas	4.04	85	Pn	Pn	22 53 54.0	+0.2
PETF	Flores	4.38	53		Pn	22 54 00.3	+1.9
TLIG	Tlapa	5.87	305		Pn	22 54 20.4	+1.3
TGUH	Tegucigalpa,Un	6.04	91	Pn	Pn	22 54 22.1	+0.6
CRIN	San Cristobal	6.46	103	Pn	Pn	22 54 28.9	+1.7
TEIG	Tepich	7.74	39	P	Pn	22 54 44.5	-0.1
	7.5nm,0.3s,baz=302,slow=2.5,SNR=34						
TEIG				S	Sn	22 56 09.2	-3.5
	12nm,0.3s,baz=8.0,slow=23,SNR=6.4						
TEIG				LR	LR	22 58 05.4	
	comp=Z,5µm,21.2s,baz=232,slow=41						
TEIG	Tepich	7.74	39	Pn	Pn	22 54 45.1	+0.4
BOAB	BOACO BROADBAN	7.83	102	Pn	Pn	22 54 44.7	-1.3
ORTG	Ortega, Santa	8.76	115	Pn	Pn	22 54 57.4	-1.4
MOIG	Morelia	9.11	307		Pn	22 55 05.0	+1.3
JTS	Las Juntas de	9.24	114	P	Pn	22 55 07.4	+2.1
	0.4nm,0.3s,baz=327,slow=17,SNR=2.7						
JTS	Las Juntas de	9.24	114	Pn	Pn	22 55 03.1	-2.1
SOR	Soroa	13.06	48		Pn	22 55 58.8	+1.3
061Z	Ochoppi	16.50	44	Pn	Pn	22 56 44.5	+0.9
435B	Jarrell	16.86	348	Pn	Pn	22 56 49.3	+1.2
435B				IAmb	IAmb	22 57 08.7	
	comp=Z,15nm,0.7s						
HPIG		16.97	320	Pn	Pn	22 56 49.8	+0.1
342A	Flagon Creek P	17.06	3	Pn	Pn	22 56 50.5	-0.1
342A				IAmb	IAmb	22 57 05.4	
	comp=Z,40nm,1.1s						
JCT	Junction City	17.14	341	P	Pn	22 56 51.4	-0.3
NATX	Nacogdoches	17.44	357		P	22 56 57.5	+0.9
NATX				IAmb	IAmb	22 56 59.7	
	comp=Z,36nm,1.1s						
TXAR	Lajitas Array	17.70	330	P	P	22 57 00.3	+0.7
	comp=Z,0.1nm,0.3s,baz=151,slow=11,SNR=14						
TXAR				LR	LR	23 04 01.9	
	comp=Z,333nm,18.6s,baz=0.0,slow=38						
TXAR	Lajitas Array	17.70	330		P	22 57 01.1	+1.5
TX31	Lajitas Ar. Si	17.70	330	P	Pn	22 56 59.0	+0.3
TX31				IAmb	IAmb	22 57 12.2	
	comp=Z,31nm,1.0s						
TX32	Lajitas Array	17.70	330	P	P	22 57 02.4	+2.7
237A	Washetta, Mont	17.78	354	P	Pn	22 56 59.1	-0.4
237A				IAmb	IAmb	22 57 13.4	
	comp=Z,15nm,0.7s						
WHTX	Lake Whitney,	18.01	349	P	P	22 57 06.4	+3.5
LPIG	La Paz	18.63	304	LR	LR	23 03 18.3	
	comp=Z,273nm,21.7s,baz=108,slow=33						
250A	Grady	18.83	19	P	Pn	22 57 13.8	+1.4
250A				IAmb	IAmb	22 57 21.8	
	comp=Z,30nm,1.0s						
Z47A	Carrollton	19.48	14		Pn	22 57 20.9	+0.6
YOTC	Yotoco, Valle	19.76	120	*e*P	P	22 57 23.1	+0.7
SMLC	San Martn de	19.79	104	*e*P	P	22 57 20.3	-2.3
MIAR	Mount Ida	20.19	360		P	22 57 28.0	+1.2
MIAR				IAmb	IAmb	22 57 39.7	
	comp=Z,21nm,0.8s						
TOLC	Tolima	20.33	116	*e*P	Pn	22 57 31.5	+0.7
MNTX	Cornudas Mount	20.48	330	P	Pn	22 57 33.3	+1.2
SOTA	Rioblanco	20.59	124	*e*P	P	22 57 28.7	-3.1
W39A	Magazine	20.84	359	P	P	22 57 31.7	-2.2
W39A				IAmb	IAmb	22 57 49.2	
	comp=Z,15nm,1.1s						
X48A	Hartselle	20.92	15	P	Pn	22 57 38.1	+0.9
X48A				IAmb	IAmb	22 57 51.1	
	comp=Z,14nm,0.9s						
WMOK	Wichita Mounta	20.93	348	P	P	22 57 36.2	+1.4
SPBC	San Pablo de B	20.95	112	*e*P	P	22 57 34.3	-1.0
WHAR	Wooly Hollow	20.96	3	P	Pn	22 57 37.4	-0.3
ROSC	El Rosal	21.09	115	P	P	22 57 39.6	+2.5
	comp=Z,12nm,0.4s,baz=168,slow=3.1,SNR=10						
ROSC	El Rosal	21.09	115	P	P	22 57 36.4	-0.8
ROSC	El Rosal	21.09	115	*e*P	P	22 57 39.9	+2.8
FNO	Franklin	21.19	351	P	P	22 57 36.8	-0.9
Y52A	Lilburn	21.30	22	P	P	22 57 38.9	0.0
MSTX	Muleshoe	21.34	338	P	P	22 57 38.8	-0.6
MSTX				IAmb	IAmb	22 57 56.3	
	comp=Z,12nm,0.7s						
OK025	Westminster Rd	21.50	351	P	P	22 57 43.1	+2.1
FCAR	Ozark Folk Cen	21.56	3	P	P	22 57 42.7	+1.0
BCOK	Bluff Creek, N	21.61	351	P	P	22 57 45.2	+3.0
RUSC	La Rusia	21.74	110	*e*P	P	22 57 39.9	-4.3
AMTX	Amarillo	21.81	342	P	P	22 57 45.2	+0.8
HHAR	Hobbs	21.92	359	P	P	22 57 46.9	+1.4
HHAR				IAmb	IAmb	22 58 02.3	
	comp=Z,14nm,1.1s						
319A	Douglas	22.34	322	P	P	22 57 52.6	+2.4
319A				IAmb	IAmb	22 57 57.0	
	comp=Z,20nm,1.1s						
121A	Cookes Peak, D	22.37	327	P	P	22 57 53.6	+3.1
TAMC	Tame, Arauca	22.71	108	*e*P	P	22 57 53.9	-0.3
T42A	Van Buren	22.77	5	P	P	22 57 54.8	+0.3
T42A				IAmb	IAmb	22 58 11.2	
	comp=Z,12nm,1.1s						
JSC	Jenkinsville	22.79	27	P	P	22 57 54.7	-0.1
JSC				IAmb	IAmb	22 58 08.7	
	comp=Z,12nm,1.2s						
MGMO	Mountain Grove	22.82	3	P	P	22 57 56.5	+1.4
MGMO				IAmb	IAmb	22 58 09.1	
	comp=Z,8.0nm,0.9s						
TKL	Tuckaleechee C	23.02	21	P	P	22 57 56.8	-0.4
	comp=Z,2.9nm,0.9s,baz=203,slow=20,SNR=1.0						
TKL				LR	LR	23 08 44.8	
	comp=Z,770nm,19.4s,baz=200,slow=42						
SDV	Santo Domingo	23.02	101	P	P	22 57 58.8	+1.3
	comp=Z,12nm,0.7s,baz=297,slow=6.6,SNR=14						
SDV	Santo Domingo	23.02	101	P	P	22 57 58.9	+1.3
SDV				IAmb	IAmb	22 58 00.6	
	comp=Z,12nm,0.7s						
BNM	Barren Site	23.09	331	P	P	22 58 01.3	+3.1
LENM	Lemitar	23.26	331	P	P	22 58 02.6	+2.7
S39A	Bolivar	23.33	0	P	P	22 58 00.8	+0.5
S39A				IAmb	IAmb	22 58 19.5	
	comp=Z,13nm,1.1s						
DR12	Loma Pena Alta	23.54	76	P	P	22 58 03.1	+0.4
S44A	Carbondale	23.63	8	P	P	22 58 03.8	+0.5
S44A				IAmb	IAmb	22 58 20.0	
	comp=Z,12nm,0.8s						
SIUC	Southern Illin	23.66	8	P	P	22 58 03.2	-0.4
SIUC				IAmb	IAmb	22 58 11.2	
	comp=Z,11nm,0.7s						
ANMO	Albuquerque	23.67	333	P	P	22 58 05.4	+1.4
	comp=Z,1.3nm,0.5s,baz=138,slow=9.8,SNR=4.0						
ANMO				LR	LR	23 09 16.4	
	comp=Z,308nm,18.7s,baz=154,slow=41						
ANMO	Albuquerque	23.67	333	P	P	22 58 05.7	+1.7
CCM	Cathedral Cave	23.77	4	P	P	22 58 03.6	-1.1
CCM				IAmb	IAmb	22 58 04.8	
	comp=Z,9.5nm,0.8s						
TUC	Tucson	23.91	322	P	P	22 58 02.7	-3.5
TUC				IAmb	IAmb	22 58 11.9	
	comp=Z,14nm,1.1s						
WCI	Wyandotte Cave	24.70	14	P	P	22 58 13.2	-0.1
WCI				IAmb	IAmb	22 58 18.1	
	comp=Z,10nm,0.8s						
T25A	Trinidad	24.77	339	P	P	22 58 15.4	+1.2
Q44A	Meyer Farm, Va	24.85	8	P	P	22 58 14.7	0.0
KSU1	Kansas State U	24.89	354	P	P	22 58 14.6	-0.4
214A	Organ Pipe Nat	24.93	318	P	P	22 58 12.6	-3.0
X18A	Snowflake	25.05	326	P	P	22 58 13.1	-3.7
P40A	Paris	25.19	3	P	P	22 58 19.9	+2.2
SDCO	Great Sand Dun	25.70	338	P	P	22 58 24.0	+1.3
SDCO				IAmb	IAmb	22 58 25.7	
	comp=Z,8.0nm,1.0s						
ATAH	Atahualpa	26.02	144	P	P	22 58 27.3	+1.4
	comp=Z,4.8nm,0.8s,baz=49,slow=14,SNR=2.6						
ATAH				LR	LR	23 06 31.8	
	comp=Z,370nm,20.4s,baz=305,slow=31						
N38A	Joes South For	26.42	0	P	P	22 58 28.4	-0.5
MVCO	Mesa Verde	26.47	332	P	P	22 58 31.0	+1.4
MVCO				IAmb	IAmb	22 58 32.6	
	comp=Z,7.2nm,1.1s						
SJG	San Juan	26.53	78	LR	LR	23 10 07.3	
	comp=Z,188nm,18.4s,baz=286,slow=39						
WUAZ	Wupatki	26.57	326	P	P	22 58 32.1	+1.7
WUAZ				IAmb	IAmb	22 58 40.7	
	comp=Z,7.7nm,0.9s						
PV01	Paradox Valley	27.27	333	P	P	22 58 38.2	+1.3
PV01				IAmb	IAmb	22 58 57.2	
	comp=Z,9.5nm,1.2s						
PV13	Radium Mtn., P	27.40	333	P	P	22 58 39.5	+1.5
PV13				IAmb	IAmb	22 58 41.0	
	comp=Z,8.1nm,1.1s						
PV02	Paradox Valley	27.40	333	P	P	22 58 39.5	+1.5
PV02				IAmb	IAmb	22 58 48.1	
	comp=Z,10nm,1.0s						
PV15	Paradox Valley	27.40	334	P	P	22 58 39.6	+1.6
PV15				IAmb	IAmb	22 58 56.3	
	comp=Z,7.6nm,1.1s						
PV05	Paradox Valley	27.45	333	P	P	22 58 39.9	+1.4
PV05				IAmb	IAmb	22 58 53.0	
	comp=Z,9.8nm,1.2s						
CCX	Cicese	27.49	314	P	P	22 58 35.8	-2.7
PV03	Paradox Valley	27.49	333	P	P	22 58 40.7	+2.0
PV03				IAmb	IAmb	22 58 41.9	
	comp=Z,6.4nm,1.0s						
SMCO	Snowmass	27.51	337	P	P	22 58 41.2	+2.1
PV18	Skein Mesa, Pa	27.51	333	P	P	22 58 39.5	+0.5
PV18				IAmb	IAmb	22 58 42.0	
	comp=Z,6.4nm,0.9s						
PV12	Saucer Basin,	27.52	333	P	P	22 58 40.7	+1.7
PV12				IAmb	IAmb	22 58 42.4	
	comp=Z,12nm,1.0s						
PV11	David Mesa, Pa	27.54	333	P	P	22 58 41.0	+1.8
PV11				IAmb	IAmb	22 58 58.8	
	comp=Z,8.9nm,1.0s						
PV07	Paradox Valley	27.55	334	P	P	22 58 40.9	+1.5
PV07				IAmb	IAmb	22 58 44.4	
	comp=Z,6.7nm,1.0s						
PV17	East Wray Mesa	27.56	333	P	P	22 58 40.9	+1.5
PV17				IAmb	IAmb	22 58 42.3	
	comp=Z,6.8nm,1.0s						
PV16	Nyswonger Mesa	27.57	333	P	P	22 58 40.7	+1.2
ISCO	Idaho Springs	27.57	340	P	P	22 58 40.4	+0.8
PV19	Morning Glory	27.59	333	P	P	22 58 41.5	+1.8
OGNE	Ogallala	27.60	346	P	P	22 58 37.0	-2.6
PV20	West Nyswonger	27.61	333	P	P	22 58 41.0	+1.1
PV20				IAmb	IAmb	22 58 50.2	
	comp=Z,7.7nm,1.1s						
PV04	Paradox Valley	27.63	333	P	P	22 58 42.0	+2.0
PV14	Lion Creek, Pa	27.66	333	P	P	22 58 40.1	-0.3
PV14				IAmb	IAmb	22 58 44.2	
	comp=Z,6.8nm,1.1s						
PV10	Paradox Valley	27.67	333	P	P	22 58 41.5	+1.0
PV22	Blue Mesa, Par	27.70	334	P	P	22 58 40.6	0.0
PV22				IAmb	IAmb	22 58 43.8	
	comp=Z,6.4nm,1.0s						
W13A	Hualapai Mount	27.70	322	P	P	22 58 40.7	0.0
U15A	North Rim	27.74	326	P	P	22 58 37.7	-3.5
PFO	Pinyon Flats O	28.36	317	LR	LR	23 11 12.0	
	comp=Z,347nm,19.7s,baz=130,slow=39						
KNB	Kanab	28.46	326	P	P	22 58 49.7	+2.2
KNB				IAmb	IAmb	22 58 57.9	
	comp=Z,8.7nm,1.1s						
PCRV	Puerto La Cruz	28.49	95	P	P	22 58 49.6	+1.8
	comp=Z,26nm,0.9s,baz=331,slow=3.5,SNR=3.7						
PKCU	Pink Cliffs	28.51	327	P	P	22 58 50.3	+2.3
PKCU				IAmb	IAmb	22 59 02.7	
	comp=Z,7.8nm,1.1s						
SZCU	Shurtz Canyon	29.03	327	P	P	22 58 54.7	+2.2
Q16A	Castle Valley	29.09	331	P	P	22 58 49.5	-3.5
P17A	Butcher Ranch,	29.33	332	P	P	22 58 56.3	+1.2
P17A				IAmb	IAmb	22 58 58.1	
	comp=Z,4.3nm,0.8s						
TMUT	Trail Mountain	29.40	331	P	P	22 58 57.4	+1.5
SHPR	Sheep Range	29.41	323	P	P	22 58 57.8	+1.9
ECSD	EROS Data Cent	29.48	355	P	P	22 58 57.5	+1.2
ECSD				IAmb	IAmb	22 59 02.8	
	comp=Z,4.8nm,0.8s						
PSUT	Pine Spring	30.13	327	P	P	22 58 59.1	-3.2
PSUT				IAmb	IAmb	22 59 13.5	
	comp=Z,6.1nm,1.0s						
LUPA	Lehigh Univers	30.64	28	P	P	22 59 05.9	-0.6
LUPA				IAmb	IAmb	22 59 18.5	
	comp=Z,5.8nm,1.0s						
SPR3	Spring Creek 3	30.73	327	P	P	22 59 06.9	-0.8
SPR3				IAmb	IAmb	22 59 16.4	
	comp=Z,5.9nm,1.1s						
DUG	Dugway, Tooele	30.87	330	P	P	22 59 10.2	+1.4
ISA	Isabella, Lake	30.92	318	P	P	22 59 05.0	-4.2
TCUT	Toone Canyon	30.96	333	P	P	22 59 10.7	+1.1
RSSD	Black Hills	31.08	345	P	P	22 59 12.1	+1.5
RSSD				IAmb	IAmb	22 59 21.8	
	comp=Z,4.3nm,0.6s						
PD31	Pinedale Array	31.59	337	P	P	22 59 16.1	+1.0
PD31				IAmb	IAmb	22 59 18.4	
	comp=Z,4.3nm,1.1s						
PDAR	Pinedale Array	31.59	337	P	P	22 59 16.9	+1.7
	comp=Z,1.6nm,0.9s,baz=134,slow=8.5,SNR=7.1						
PDAR				LR	LR	23 13 26.3	
	comp=Z,210nm,18.3s,baz=148,slow=39						
TPH	Tonopah	31.69	323	P	P	22 59 17.5	+1.5
HVU	Hansel Valley	32.10	332	P	P	22 59 21.2	+1.6
AHID	Auburn Hatcher	32.19	335	P	P	22 59 21.6	+1.2
NV11	Mina Array Sit	32.47	322	P	P	22 59 20.1	-2.7
NV11				IAmb	IAmb	22 59 26.7	
	comp=Z,5.8nm,0.9s						
ELK	Elko	32.49	328	P	P	22 59 23.8	+0.7
MDPB	Devils Postpil	32.52	320	P	P	22 59 23.6	+0.1
ECR	Eagle Creek	32.54	335	P	P	22 59 25.4	+1.9
NVAR	Mina Array Bea	32.56	322	P	P	22 59 25.9	+2.2
	comp=Z,4.1nm,0.8s,baz=139,slow=8.6,SNR=30						
NVAR				PcP	PcP	23 02 12.1	+1.7
	comp=Z,1.3nm,0.8s,baz=133,slow=3.7,SNR=4.5						
NVAR				LR	LR	23 12 28.1	
	comp=Z,386nm,18.7s,baz=144,slow=36						
NVAR	Mina Array Bea	32.56	322	P	P	22 59 24.2	+0.5
LHV	Little Huntoon	32.56	322	P	P	22 59 23.7	+0.3
LHV				IAmb	IAmb	22 59 27.7	
	comp=Z,5.4nm,1.0s						
REDW	Red Top Meadow	32.59	336	P	P	22 59 24.6	+0.7
SNOW	Snow King Moun	32.64	336	P	P	22 59 22.6	-1.8
LOHW	Long Hollow	32.71	337	P	P	22 59 22.5	-2.5
LOHW				IAmb	IAmb	22 59 27.6	
	comp=Z,6.9nm,1.1s						
SADO	Sadowa	32.76	19	P	P	22 59 23.0	-2.1
	comp=Z,1.3nm,0.5s,baz=241,slow=13,SNR=3.0						
SADO				LR	LR	23 14 18.3	
	comp=Z,662nm,19.4s,baz=216,slow=39						
SADO	Sadowa	32.76	19	P	P	22 59 23.3	-1.8
KVN	Kaiserville	32.85	323	P	P	22 59 22.4	-3.8
KVN				IAmb	IAmb	22 59 29.7	
	comp=Z,3.9nm,1.0s						
H17A	Grant Village	33.37	337	P	P	22 59 33.0	+2.2
H17A				IAmb	IAmb	22 59 44.6	
	comp=Z,3.9nm,1.0s						
LKWY	Lake	33.45	338	P	P	22 59 30.2	-1.2
LKWY				IAmb	IAmb	22 59 45.0	
	comp=Z,4.8nm,1.1s						
YERR	Yerington	33.48	322	P	P	22 59 31.7	0.0
RLMT	Red Lodge	33.53	340	P	P	22 59 32.6	+0.5
RLMT				IAmb	IAmb	22 59 41.7	
	comp=Z,4.5nm,0.8s						
YNR	Norris Junctio	33.68	338	P	P	22 59 35.4	+1.9
YNR				IAmb	IAmb	22 59 46.4	
	comp=Z,2.7nm,0.8s						
YNE	Yellowstone No	33.69	339	P	P	22 59 34.9	+1.4
YNE				IAmb	IAmb	22 59 39.7	
	comp=Z,6.2nm,0.9s						
YMR	Madison River	33.74	337	P	P	22 59 35.8	+1.8
YMR				IAmb	IAmb	22 59 38.3	
	comp=Z,5.5nm,0.9s						
PNTR	Pine Nut	33.76	322	P	P	22 59 35.5	+1.3
PNTR				IAmb	IAmb	22 59 38.0	
	comp=Z,4.9nm,0.9s						
YHH	Holmes Hill	33.80	338	P	P	22 59 36.3	+1.7
YHL	Hebgen Lake	33.98	337	P	P	22 59 37.2	+1.0
YHL				IAmb	IAmb	22 59 43.4	
	comp=Z,2.7nm,0.7s						
HLID	Hailey	34.25	333	P	P	22 59 36.9	-1.4
HLID				IAmb	IAmb	22 59 42.4	
	comp=Z,5.0nm,0.9s						
MCMT	McKenzie Canyo	34.61	335	P	P	22 59 41.8	+0.3
BOZ	Bozeman (W)	34.78	337	P	P	22 59 40.2	-2.7
DLMT	Dillon	34.95	336	P	P	22 59 40.4	-4.0
WVOR	Wild Horse Val	35.47	327	P	P	22 59 45.2	-3.6
WVOR				IAmb	IAmb	22 59 51.7	
	comp=Z,7.0nm,1.1s						
ULM	Lac du Bonnet	35.93	357	P	P	22 59 50.7	-1.8
	comp=Z,2.2nm,0.7s,baz=166,slow=6.4,SNR=5.1						
ULM				PcP	PcP	23 02 19.4	0.0
	comp=Z,1.3nm,0.6s,baz=192,slow=1.8,SNR=3.0						
ULM				LR	LR	23 17 28.9	
	comp=Z,275nm,19.0s,baz=172,slow=41						
MOD	Modoc Plateau	36.00	325	P	P	22 59 55.0	+1.6
MOD				IAmb	IAmb	22 59 55.9	
	comp=Z,4.1nm,1.0s						
J08A	Circle Bar Ran	36.04	328	P	P	22 59 55.4	+1.7
MSO	Missoula	36.69	336	P	P	23 00 00.4	+1.2
MSO				IAmb	IAmb	23 00 01.9	
	comp=Z,4.7nm,0.9s						
I07A	Izee	37.08	328	P	P	23 00 04.4	+1.8
F10A	Beach Ranch, E	37.39	332	P	P	23 00 06.2	+1.0
JTMT	Jette	37.58	337	P	P	23 00 07.8	+1.0
JTMT				IAmb	IAmb	23 00 17.9	
	comp=Z,5.0nm,0.9s						
H04A	Detroit Lake	38.89	327	P	P	23 00 15.1	-2.6
H04A				IAmb	IAmb	23 00 27.4	
	comp=Z,8.6nm,0.9s						
NEW	Newport	39.12	335	P	P	23 00 20.3	+0.6
C09A	Chrisman Ranch	39.25	333	P	P	23 00 17.5	-3.2
LPAZ	La Paz	39.37	140	P	P	23 00 23.4	+0.7
	comp=Z,0.8nm,0.4s,baz=356,slow=9.8,SNR=2.2						
LPAZ				LR	LR	23 15 06.5	
	comp=Z,203nm,21.9s,baz=326,slow=34						
LON	Longmire	40.11	330	P	P	23 00 28.3	+0.4
LON				IAmb	IAmb	23 00 37.2	
	comp=Z,5.5nm,0.9s						
E03A	Lebam	40.85	328	P	P	23 00 30.0	-4.0
NLWA	Neilton Lookou	41.58	329	P	P	23 00 41.2	+1.2
SIV	San Ignacio	43.94	132	P	P	23 00 59.6	+0.1
	comp=Z,5.4nm,0.9s,baz=309,slow=7.4,SNR=15						
SIV				PcP	PcP	23 02 46.3	+0.7
	comp=Z,1.5nm,0.8s,baz=288,slow=3.2,SNR=3.3						
YKA	Yellowknife Ar	50.44	347	P	P	23 01 50.0	+0.5
	comp=Z,6.9nm,0.7s,baz=150,slow=7.7,SNR=86						
YKA				PcP	PcP	23 03 08.0	+0.1
	comp=Z,0.2nm,0.5s,baz=145,slow=3.7,SNR=4.1						
YKA				LR	LR	23 25 21.9	
	comp=Z,179nm,20.6s,baz=0.0,slow=39						
TAOE	Nuku Hiva Isla	51.67	246	*e*LR	LR	23 16 43.7	
	comp=Z,316nm,26.9s						
DLBC	Dease Lake	51.82	337	P	P	23 02 01.5	+1.3
	comp=Z,2.8nm,0.9s,baz=109,slow=6.9,SNR=4.9						
DLBC	Dease Lake	51.82	337	P	P	23 01 56.4	-3.7
FRB	Frobisher Bay	52.39	14	P	P	23 02 03.8	-0.4
	comp=Z,5.8nm,0.7s,baz=224,slow=9.2,SNR=13						
CPUP	Villa Florida	53.53	139	P	P	23 02 12.3	-0.8
	comp=Z,1.3nm,0.7s,baz=310,slow=10,SNR=2.2						
CPUP				LR	LR	23 26 04.9	
	comp=Z,96nm,18.8s,baz=323,slow=37						
BDFB	Brasilia	53.90	122	P	P	23 02 15.7	-0.4
	comp=Z,2.4nm,0.6s,baz=284,slow=5.8,SNR=4.4						
BDFB				LR	LR	23 27 25.5	
	comp=Z,180nm,18.8s,baz=288,slow=38						
RKT	Rikitea	55.03	228	*e*LR	LR	23 18 27.5	
	comp=Z,338nm,27.0s						
PLCA	Paso Flores	58.72	160	P	P	23 02 52.0	+1.9
	comp=Z,4.9nm,1.0s,baz=325,slow=7.6,SNR=4.5						
PLCA				LR	LR	23 21 20.8	
	comp=Z,109nm,21.0s,baz=164,slow=29						
INK	Inuvik	59.77	344	P	P	23 02 56.9	-0.1
	comp=Z,2.4nm,0.7s,baz=117,slow=6.9,SNR=10						
INK	Inuvik	59.77	344	P	P	23 02 57.5	+0.6
DOT	Dot Lake	60.39	337	P	P	23 03 01.1	-0.2
RES	Resolute Bay	60.41	360	P	P	23 03 01.2	-0.1
	comp=Z,4.7nm,0.7s,baz=181,slow=9.3,SNR=22						
RES	Resolute Bay	60.41	360	P	P	23 03 01.1	-0.2
PAX	Paxson	60.61	336	P	P	23 02 60.0	-2.9
PAX				IAmb	IAmb	23 03 04.6	
	comp=Z,2.8nm,0.8s						
ILAR	Eielson Array	62.02	337	P	P	23 03 12.9	+0.6
	comp=Z,2.0nm,0.9s,baz=137,slow=4.8,SNR=17						
PPT	Papeete	63.73	242	LR	LR	23 23 36.2	
	comp=Z,103nm,21.3s,baz=284,slow=29						
PPT2	Papeete2	63.74	242	*e*LR	LR	23 22 23.4	
	comp=Z,221nm,26.0s						
TBI	Tubuai	66.28	236	*e*LR	LR	23 23 33.0	

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	comp=Z,209nm,29.5s						
ESDC	Sonseca Array	80.69	51	P	P	23 05 04.1	-1.6
	comp=Z,0.9nm,0.7s,baz=287,slow=5.8,SNR=8.8						
ESDC				LR	LR	23 35 28.3	
	comp=Z,182nm,21.5s,baz=265,slow=32						
NB2	NORSAR Subarra	84.60	28	P	P	23 05 26.2	+0.6
	comp=Z,1.1nm,0.7s,baz=296,slow=5.3						
NOA	NORSAR Array B	84.60	28	P	P	23 05 26.3	+0.6
	comp=Z,2.2nm,0.9s,baz=292,slow=4.9,SNR=4.4						
NOA				LR	LR	23 43 38.0	
	comp=Z,230nm,18.0s,baz=285,slow=36						
ARCES	ARCESS Array B	86.33	18	P	P	23 05 33.6	-0.5
	comp=Z,5.3nm,0.9s,baz=9.8,slow=7.9,SNR=5.8						
ARCES				LR	LR	23 44 43.3	
	comp=Z,341nm,18.0s,baz=260,slow=36						
DBIC	Dimbokro	87.07	84	LR	LR	23 42 56.9	
	comp=Z,54nm,19.4s,baz=244,slow=34						
TIXI	Tiksi	89.69	348	P	P	23 05 50.1	+0.1
	comp=Z,1.9nm,0.6s,baz=3.2,slow=5.1,SNR=8.0						
GERES	GERESS Array B	90.31	39	LR	LR	23 48 04.0	
	comp=Z,145nm,18.0s,baz=323,slow=37						
FINES	FINESS Array B	90.87	25	P	P	23 05 55.7	0.0
	comp=Z,3.5nm,1.0s,baz=323,slow=4.8,SNR=3.5						
FINES				LR	LR	23 45 22.9	
	comp=Z,171nm,21.6s,baz=304,slow=35						
TORD	Torodi Ar. Bea	91.73	76	LR	LR	23 45 02.2	
	comp=Z,101nm,20.1s,baz=330,slow=34						
KEST	Kesra	91.89	53	LR	LR	23 43 59.8	
	comp=Z,110nm,20.2s,baz=219,slow=33						
RAO	Raoul Island	92.10	240	LR	LR	23 37 22.4	
	comp=Z,110nm,19.4s,baz=353,slow=29						
AKASG	Malin Array Be	98.29	33	LR	LR	23 51 41.1	
	comp=Z,116nm,19.3s,baz=310,slow=36						
DZM	Mont Dzumac	104.39	251	*e*LR	LR	23 41 02.1	
	comp=Z,241nm,22.8s						
KURBB	Kurchatov Arra	115.01	6	PKiKP	PKiKP	23 11 32.7	-0.7
	comp=Z,0.3nm,0.4s,baz=336,slow=2.4,SNR=4.8						
MKAR	Makanchi Array	119.10	3	PKP	PKPdf	23 11 40.4	-1.1
	comp=Z,0.5nm,0.9s,baz=0.0,slow=0.5,SNR=4.4						
WRA	Warramunga Arr	134.05	256	PKP	PKPdf	23 12 10.7	0.0
	comp=Z,0.8nm,0.9s,baz=44,slow=2.8,SNR=2.8						
ASAR	Alice Springs	134.38	251	PKP	PKPdf	23 12 11.3	0.0
	comp=Z,0.6nm,1.1s,baz=95,slow=3.1,SNR=1.8						
CMAR	Chiang Mai Arr	145.24	339	PKPbc	PKPdf	23 12 31.0	-0.1
	comp=Z,6.1nm,0.8s,baz=338,slow=3.8,SNR=35						

*MEX **06** 22:56:11.8±0.7, 14°.31N×93°.48W, h88km±28km, MD4.1*
*IDC **06** 22:56:17.3±4.4, 14°.41N×93°.18W, h60km±32km, mb3.7/7, mb1 4.1/10, mb1mx3.7/40, mbtmp4.0/10, ML3.4/2, Error ellipse: s-maj=41.3km s-min=20.9km az=18.0*
ISC 06 22:56:16.5±1.1**, 14°.5N**±0°.1×**93°.29W**±0°.07**, h50**km**, n16,** σ1ˢ.47/22**, mb4.0**/7**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		1.07	67	*e*P	Pn	22 56 34.2	-1.0
THIG				*e*S	Sn	22 56 50.5	+1.4
PCIG		1.21	3	*e*P	Pn	22 56 35.0	-2.0
PCIG				*i* S	Sn	22 56 53.1	+0.8
CCIG	Comitan	2.10	32	*e*P	Pn	22 56 48.2	-1.2
CCIG				*e*S	Sn	22 57 16.2	+1.8
TGIG		2.28	4	*i* PG	Pn	22 56 49.6	-2.2
TGIG				*i* S	Sn	22 57 18.1	-0.6
CMIG	Matias Romero	3.00	330	P	Pn	22 57 04.1	+2.5
	6.9nm,0.3s,baz=138,slow=12,SNR=2.5						
CMIG				S	Sn	22 57 34.4	-2.0
	12nm,0.3s,baz=116,slow=17,SNR=3.8						
TEIG	Tepich	7.45	39	P	Pn	22 58 04.3	+1.8
	baz=310,slow=20,SNR=0.8						
TEIG				S	Sn	22 59 27.0	+1.3
	2.2nm,0.3s,baz=314,slow=23,SNR=1.2						
TXAR	Lajitas Array	17.61	329	P	P	23 00 18.9	0.0
	0.0nm,0.3s,baz=153,slow=11,SNR=5.8						
SDV	Santo Domingo	22.87	102	P	P	23 01 14.4	-1.7
	4.2nm,0.6s,baz=315,slow=10.0,SNR=2.2						
PDAR	Pinedale Array	31.47	337	P	P	23 02 34.5	+0.8
	1.1nm,0.9s,baz=138,slow=9.0,SNR=4.5						
NVAR	Mina Array Bea	32.51	322	P	P	23 02 44.6	+1.8
	2.0nm,0.8s,baz=136,slow=8.5,SNR=6.1						
YKA	Yellowknife Ar	50.27	347	P	P	23 05 07.4	-0.1
	4.5nm,0.8s,baz=149,slow=7.8,SNR=21						
ILAR	Eielson Array	61.90	337	P	P	23 06 30.5	-0.1
	1.2nm,0.9s,baz=131,slow=3.9,SNR=6.1						
ESDC	Sonseca Array	80.39	52	P	P	23 08 22.1	-1.0
	0.4nm,0.7s,baz=288,slow=4.7,SNR=4.8						
NB2	NORSAR Subarra	84.31	28	P	P	23 08 43.2	+0.2
	comp=Z,0.9nm,0.6s,baz=288,slow=5.1						
NOA	NORSAR Array B	84.31	28	P	P	23 08 43.3	+0.3
	comp=Z,1.4nm,0.8s,baz=291,slow=5.0,SNR=4.7						
CMAR	Chiang Mai Arr	145.11	339	PKPbc	PKPab	23 15 48.6	-0.3
	comp=Z,2.5nm,0.6s,baz=331,slow=3.1,SNR=9.2						

KRSC 06 23:09:38.5±1.4**, 49°.17N**×**156°.19E, h43**km±21km**, ML4.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.52	358	*e*S	Sn	23 10 23.3	+1.6
ALID	Alaid	1.76	347	*e*P	Pn	23 10 06.5	0.0
PAU	Pauzhetka	2.34	10	*e*S	Sn	23 10 45.8	+4.0
KDTR	Khodutka, Kamc	2.91	24	*e*P	Pn	23 10 25.8	+3.6
KDTR				*e*S	Sn	23 11 00.3	+4.4
MIPR	Malaya Ipel'ka	3.14	6	*e*P	Pn	23 10 29.2	+3.9
MTVR	Mutnovka	3.55	20	*e*P	Pn	23 10 34.8	+3.6
MTVR				*e*S	Sn	23 11 16.1	+4.1
RUS	Russkaya	3.59	23	*e*P	Pn	23 10 35.2	+3.7
RUS				*e*S	Sn	23 11 16.6	+4.0
GRL	Gorelyy	3.59	19	*e*P	Pn	23 10 36.2	+4.5
AVH	Avacha	4.41	20	*e*P	Pn	23 10 47.5	+4.7
SMAR	Somma	4.42	21	*e*P	Pn	23 10 48.1	+5.0
SDLR	Sedlovina	4.45	21	*e*P	Pn	23 10 48.0	+4.5
KRX	Arik	4.47	19	*e*P	Pn	23 10 48.6	+4.8
SPN	Mys Shipunski	4.62	30	*e*P	Pn	23 10 49.5	+3.8
SPN				*e*S	Sn	23 11 42.5	+4.5
KBTR	Krutoberegovo	8.12	27	*e*P	Pn	23 11 38.3	+4.7

*IDC **06** 23:33:13.5±1.0, 27°.00S×176°.58W, h0km, mb4.1/8, mb1 4.2/11, mb1mx4.1/24, mbtmp4.1/11, ML4.8/3, MS3.5/7, Ms1 3.5/7, ms1mx3.2/31, Error ellipse: s-maj=33.6km s-min=19.6km az=120.0*
*NEIC **06** 23:33:15.2±1.1, 27°.2S±0°.1×176°.1W±0°.2, h46km±12km, mb4.3/17, Error ellipse: s-maj=22.4km s-min=13.6km az=122.0*
ISC 06 23:33:17.6±0.7**, 27°.32S**±0°.07×**176°.5W**±0°.1**, h35**km**, n55,** σ1ˢ.43/48**, mb4.3**/14**, MS3.5**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.29	213	Pn	Pn	23 33 57.7	+4.8
	366nm,0.3s,baz=83,slow=9.0,SNR=16						
RAO				Sn	Sn	23 34 29.6	+10
	402nm,0.3s,baz=90,slow=22,SNR=9.9						
RAO	Raoul Island	2.29	213		Pn	23 33 57.9	+4.9
NIUE	Niue	10.19	38	Pn	Pn	23 35 33.9	-7.5
MSVF	Nonsavu	10.79	331	Pn	Pn	23 35 46.2	-3.5
	0.5nm,0.3s,baz=155,slow=18,SNR=3.1						
MSVF				LR	LR	23 39 27.9	
	comp=Z,359nm,18.4s,baz=147,slow=36						
MXZ	Matakaoa Point	11.11	202	Pn	Pn	23 35 56.0	+2.0
OUZ	Omahuta	11.56	225	Pn	Pn	23 36 02.9	+2.8
URZ	Urewera	12.15	205	Pn	Pn	23 36 10.8	+2.6
	0.8nm,0.3s,baz=35,slow=17,SNR=1.3						
URZ				Sn	Sn	23 38 19.1	-3.3
	1.7nm,0.3s,baz=77,slow=11,SNR=2.0						
URZ	Urewera	12.15	205	Pn	Pn	23 36 07.3	-0.9
BKZ	Black Stump Fm	13.18	205	Pn	Pn	23 36 24.9	+2.6
BFZ	Birch Farm	14.61	202	Pn	Pn	23 36 43.0	+1.3
BHW	Baring Head	15.74	205	Pn	Pn	23 36 57.4	+0.8
PLWZ	Palliser	15.74	203	Pn	P	23 36 58.9	-1.4
TUWZ	Tuamarina	16.11	207	Pn	Pn	23 37 02.1	+0.7
NNZ	Nelson	16.17	208	Pn	Pn	23 37 01.8	-0.3
DZM	Mont Dzumac	16.35	285	Pn	Pn	23 37 03.9	-0.7
	0.2nm,0.3s,baz=84,slow=18,SNR=2.8						
DZM				LR	LR	23 42 13.6	
	comp=Z,253nm,19.3s,baz=94,slow=33						
DZM	Mont Dzumac	16.35	285	Pn	Pn	23 37 05.8	+1.1
DZM				IAmb	IAmb	23 37 21.5	
	comp=Z,13nm,0.7s						
BSWZ	Blackbirch Sta	16.38	206	Pn	P	23 37 06.0	-1.3
RAR	Rarotonga	16.41	72	LR	LR	23 41 30.8	
	comp=Z,119nm,21.3s,baz=244,slow=30						
KHZ	Kahutara	17.11	206	Pn	Pn	23 37 12.1	-1.8
LTZ	Lake Taylor	17.93	208		Pn	23 37 23.6	-0.5
OXZ	Oxford	18.47	207	P	P	23 37 29.1	-1.4
OXZ				IAmb	IAmb	23 37 31.1	
	comp=Z,18nm,1.0s						
MQZ	McQueen's Vall	18.55	205	P	P	23 37 30.5	-0.7
MQZ				IAmb	IAmb	23 37 46.4	
	comp=Z,14nm,1.0s						
RPZ	Rata Peaks	19.20	208	P	P	23 37 37.2	-1.2
ODZ	Otahua Downs	20.46	207	P	P	23 37 50.9	-1.1
PPT	Papeete	26.66	74	LR	LR	23 46 45.4	
	comp=Z,36nm,19.2s,baz=188,slow=30						
HNR	Honiara	28.48	304	LR	LR	23 48 02.9	
	comp=Z,92nm,21.7s,baz=132,slow=32						
TOO	Toolangi	33.47	243	P	P	23 39 55.4	+2.0
CTAO	Charters Tower	34.76	274	P	P	23 40 07.3	+2.4
CTAO				IAmb	IAmb	23 40 07.7	
	comp=Z,3.4nm,0.6s						
STKA	Stephens Creek	36.55	253	LR	LR	23 54 38.7	
	comp=Z,128nm,18.6s,baz=173,slow=35						
AS31	Alice Springs	44.68	263	P	P	23 41 27.9	+0.5
ASAR	Alice Springs	44.68	263	P	P	23 41 27.4	-0.1
	comp=Z,1.1nm,0.8s,baz=96,slow=7.2,SNR=12						
ASAR				PcP	PcP	23 43 10.2	+0.6
	comp=Z,0.4nm,0.4s,baz=106,slow=4.3,SNR=2.4						
WR0	Warramunga Arr	45.22	268	P	P	23 41 31.1	-0.6
WR0				IAmb	IAmb	23 41 41.1	
	comp=Z,5.1nm,1.1s						
WB2	Warramunga Arr	45.39	268	P	P	23 41 32.6	-0.4
WB2				IAmb	IAmb	23 41 46.6	
	comp=Z,5.3nm,1.1s						
WRA	Warramunga Arr	45.40	268	P	P	23 41 32.7	-0.4
	comp=Z,1.7nm,0.6s,baz=108,slow=6.8,SNR=15						
WRA				PcP	PcP	23 43 13.1	+1.0
	comp=Z,1.4nm,0.9s,baz=112,slow=4.5,SNR=4.0						
WB0	Warramunga Arr	45.41	269	P	P	23 41 32.9	-0.3
WB0				IAmb	IAmb	23 41 45.0	
	comp=Z,4.6nm,0.8s						
FORT	Forrest	48.18	252	P	P	23 41 54.5	-0.2
FITZ	Fitzroy Crossi	53.76	267	P	P	23 42 37.0	+0.2
FITZ				IAmb	IAmb	23 42 56.9	
	comp=Z,3.5nm,1.1s						
NWAO	Narrogin (SRO)	56.76	247	P	P	23 42 56.0	-2.3
BATI	Baumata	58.64	275	LR	LR	00 05 55.7	
	comp=Z,84nm,18.5s,baz=122,slow=34						
QSPA	South Pole Qui	62.78	180	P	P	23 43 38.9	-0.4
QSPA				IAmb	IAmb	23 43 44.4	
	comp=Z,3.9nm,0.8s						
MJAR	Matsushiro Arr	76.50	324	P	P	23 45 02.8	-1.2
	comp=Z,0.9nm,0.3s,baz=158,slow=5.8,SNR=4.6						
H03N3	Juan Fernandez	81.23	123	T	T	01 15 10.8	
	baz=241						
H03N2	Juan Fernandez	81.23	123	T	T	01 15 09.2	
	baz=241						
H03N1	Juan Fernandez	81.25	123	T	T	01 15 10.3	
	baz=241						
KSRS	Korea Array	82.89	319	P	P	23 45 39.3	+0.8
	comp=Z,0.8nm,0.5s,baz=118,slow=6.5,SNR=2.1						
PETK	Petropavlovsk-	83.19	345	P	P	23 45 40.0	+0.3
	comp=Z,3.0nm,0.9s,baz=191,slow=5.9,SNR=2.7						
NVAR	Mina Array Bea	85.09	42	P	P	23 45 49.9	-0.2
	comp=Z,0.9nm,0.9s,baz=209,slow=7.5,SNR=4.9						
USRK	Ussuriysk Ar.	85.35	326	P	P	23 45 51.6	+0.7
	comp=Z,1.5nm,0.7s,baz=160,slow=4.6,SNR=3.7						
ILAR	Eielson Array	94.65	12	P	P	23 46 35.1	+0.8
	comp=Z,0.3nm,1.0s,baz=242,slow=4.7,SNR=1.6						
MKAR	Makanchi Array	116.78	311	PKP	PKPdf	23 51 58.2	0.0
	comp=Z,0.2nm,0.6s,baz=122,slow=0.9,SNR=4.9						
ARCES	ARCESS Array B	135.85	349	PKP	PKPdf	23 52 34.5	+0.7
	comp=Z,3.1nm,0.9s,baz=348,slow=1.7,SNR=6.2						
FINES	FINESS Array B	142.67	342	PKP	PKPdf	23 52 47.1	+0.7
	comp=Z,3.2nm,1.0s,baz=76,slow=5.9,SNR=3.5						
NOA	NORSAR Array B	145.89	353	PKPbc	PKPdf	23 52 52.4	+0.3
	comp=Z,1.2nm,1.0s,baz=14,slow=2.8,SNR=4.3						
AKASG	Malin Array Be	149.55	327	PKPbc	PKPbc	23 53 01.7	-1.2
	comp=Z,0.6nm,0.5s,baz=40,slow=3.4,SNR=2.6						
BRTR	Keskin Array B	152.13	304	PKPbc	PKiKP	23 53 11.4	+1.4
	comp=Z,0.4nm,0.6s,baz=93,slow=1.9,SNR=2.3						
BRTR				PKPab	pPKPbc	23 53 20.4	+0.5
	comp=Z,1.5nm,0.5s,baz=94,slow=1.9,SNR=10						

IDC 07 00:01:50.2±1.9**, 8°.33S**×**119°.76E, h0**km**, mb3.6**/2**, mb1 3.8**/5**, mb1mx3.5**/36**, mbtmp3.6**/5**, ML3.4**/3**, MS3.3**/1**, Ms1 3.5**/1**, ms1mx2.8**/26**, Error ellipse: s-maj=90.0km s-min=22.1km az=62.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	Kappang	3.29	360	Pn	Pn	00 02 42.9	-0.2
	6.2nm,0.3s,baz=179,slow=5.1,SNR=22						
KAPI				Sn	Sn	00 03 19.6	-3.4
	6.6nm,0.3s,baz=78,slow=20,SNR=4.7						
FITZ	Fitzroy Crossi	11.27	150	Pn	Pn	00 04 32.8	+0.2
	0.1nm,0.3s,baz=338,slow=12,SNR=2.2						
FITZ				Sn	Sn	00 06 35.0	-4.4
	0.1nm,0.3s,baz=95,slow=22,SNR=1.1						
WRA	Warramunga Arr	18.23	131	P	Pn	00 06 03.0	-1.9
	0.2nm,0.3s,baz=301,slow=13,SNR=2.8						
WRA				S	Sn	00 09 20.3	-8.9
	0.1nm,0.3s,baz=30,slow=38,SNR=2.8						
ASAR	Alice Springs	20.40	140	P	Pn	00 06 30.1	-0.9
	1.6nm,0.4s,baz=311,slow=9.6,SNR=26						
CMAR	Chiang Mai Arr	33.62	322	LR	LR	00 24 22.4	
	comp=Z,51nm,18.8s,baz=26,slow=40						
MKAR	Makanchi Array	64.21	332	P	P	00 12 26.9	0.0
	0.5nm,0.7s,baz=139,slow=7.9,SNR=5.7						

*IDC **07** 00:16:11.6±1.5, 35°.24N×24°.20E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.4/41, mbtmp3.8/5, MS3.5/1, Ms1 3.5/1, ms1mx2.5/45, Error ellipse: s-maj=31.2km s-min=9.9km az=4.0*
*ATH **07** 00:16:13.5, 35°.11N×24°.32E, h14km±2km, ML3.2/6, Error ellipse: s-maj=2.6km s-min=1.2km az=196.0*
*THE **07** 00:16:13.5, 35°.12N×24°.31E, h9km±3km, ML3.2/8, Error ellipse: s-maj=3.0km s-min=0.8km az=138.0*
ISC 07 00:16:12.7±1.1**, 35°.11N**±0°.03×**24°.30E**±0°.02**, h9**km±8km**, n34,** σ0ˢ.66/47**, mb3.8**/5**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRNS	Prines Rethymn	0.30	32	P	Pg	00 16 17.8	-1.0
PRNS				S	Sg	00 16 22.3	-0.6
VAM	Vamos	0.31	344	P	Pb	00 16 19.9	-0.6
VAM				S	Sb	00 16 24.8	-0.8
VAM				AML	AML	00 16 25.6	
	comp=N,38776μm,0.2s						
VAM				AML	AML	00 16 25.6	
	comp=E,44638μm,0.5s						
VAM	Vamos	0.31	344	P	Pb	00 16 19.9	-0.6
VAM				S	Sb	00 16 25.4	-0.3
	comp=E,21μm,0.3s						
GVDS	Gavdos	0.32	214	P	Pb	00 16 20.3	-0.3
GVDS				S	Sb	00 16 26.0	+0.2
	comp=E,10μm,0.3s						
GVD	Gavdhos	0.32	214	P	Pb	00 16 20.1	-0.6
GVD				S	Sb	00 16 25.3	-0.7
GVD				AML	AML	00 16 26.0	
	comp=N,39138μm,0.4s						
GVD				AML	AML	00 16 28.5	
	comp=E,20841μm,0.3s						
GVD	Gavdhos	0.32	214	P	Pb	00 16 20.1	-0.6
GVD				S	Sb	00 16 25.6	-0.3
	comp=E,15μm,0.4s						
TMBK	Timbaki Herakl	0.38	95	P	Pb	00 16 21.2	-0.4
TMBK				S	Sb	00 16 28.3	+0.7
	comp=E,2μm,0.3s						
SIVA	Sivas	0.42	102	P	Pb	00 16 21.9	-0.5
SIVA				S	Sb	00 16 28.1	-0.8
SIVA				AML	AML	00 16 29.1	
	comp=N,7250μm,0.4s						
SIVA				AML	AML	00 16 33.1	
	comp=E,6460μm,0.5s						
SIVA	Sivas	0.42	102	P	Pb	00 16 21.9	-0.5
IMMV	Iera Moni Meta	0.44	323	P	Pg	00 16 21.8	+0.4
IMMV				S	Sb	00 16 28.6	-0.8
IMMV				AML	AML	00 16 31.3	
	comp=N,8738μm,0.4s						
IMMV				AML	AML	00 16 32.0	
	comp=E,6694μm,0.3s						
IMMV	Iera Moni Meta	0.44	323	P	Pg	00 16 21.8	+0.4
IMMV				S	Sb	00 16 28.9	-0.5
	comp=E,4μm,0.3s						
IDI	Anoyia	0.51	69	Pg	Pg	00 16 22.7	0.0
	comp=E,33nm,0.3s,baz=250,slow=10,SNR=422						
IDI				Lg	Lg	00 16 30.3	
	comp=E,218nm,0.3s,baz=342,slow=22,SNR=44						
IDI	Anoyia	0.51	69	P	Pg	00 16 22.6	-0.1
IDI				S	Sg	00 16 30.3	+0.9
IDI				AML	AML	00 16 31.1	
	comp=E,3558μm,0.5s						
IDI				AML	AML	00 16 31.3	
	comp=N,6798μm,0.5s						
IDI	Anoyia	0.51	69	P	Pg	00 16 22.7	0.0
IDI				S	Sg	00 16 30.5	+1.0
	comp=N,3μm,0.5s						
KNDR	Palaiochora Ch	0.52	284	P	Pb	00 16 23.2	-0.9
KNDR				S	Sb	00 16 32.7	+1.0
	comp=N,575nm,0.3s						
KSTL	Kastelli Herak	0.66	72	P	Pn	00 16 29.2	+1.0
LAST	Lasithi	0.96	87	P	Pg	00 16 30.7	-0.6
LAST	Lasithi	0.96	87	P	Pg	00 16 30.7	-0.6
NPS	Neapolis	1.08	81	P	Pb	00 16 33.7	0.0
NPS				AML	AML	00 16 53.8	
	comp=N,1042μm,0.6s						
NPS				AML	AML	00 16 54.9	
	comp=E,922μm,0.6s						
NPS	Neapolis	1.08	81	P	Pb	00 16 33.8	+0.1
ANKY	Antikythira Is	1.11	313	P	Pb	00 16 34.2	0.0
ANKY	Antikythira Is	1.11	313	P	Pb	00 16 34.2	0.0
ANKY				S	Sn	00 16 50.3	+0.3
	comp=E,505nm,0.8s						
KTHA	Kythira Island	1.53	319	P	Pg	00 16 41.5	-0.6
MHLO	Agia Marina, M	1.58	3	P	Pb	00 16 42.3	+0.1
MHLA	Plaka, Milos I	1.64	3	P	Pb	00 16 42.9	-0.2
VLI	Veliai	1.95	326	P	Pn	00 16 47.2	+1.2
GERES	GERESS Array B	15.81	333	Pn	P	00 19 60.0	+0.6
	comp=E,0.1nm,0.3s,baz=138,slow=9.0,SNR=2.1						
AKASG	Malin Array Be	15.99	11	Pn	P	00 20 01.5	+0.2
	comp=E,0.9nm,0.3s,baz=206,slow=11,SNR=3.3						
HFS	Hagfors	25.97	348	P	P	00 21 44.7	-0.7
	comp=E,3.0nm,0.9s,baz=163,slow=12,SNR=2.4						
FINES	FINESS Array B	26.38	2	P	P	00 21 47.9	-1.1
	comp=E,2.3nm,1.1s,baz=176,slow=11,SNR=1.1						
TORD	Torodi Ar. Bea	29.92	229	P	P	00 22 21.4	+0.3
	comp=E,0.3nm,0.3s,baz=37,slow=8.9,SNR=1.5						
ARCES	ARCESS Array B	34.49	1	P	P	00 22 59.2	-1.5
	comp=E,3.9nm,1.1s,baz=183,slow=9.9,SNR=1.5						
DBIC	Dimbokro	38.99	230	LR	LR	00 40 27.5	
	comp=E,67nm,18.1s,baz=177,slow=37						
MKAR	Makanchi Array	44.39	56	P	P	00 24 23.9	+0.4
	comp=E,0.2nm,0.4s,baz=268,slow=8.5,SNR=9.3						

*DNK **07** 00:25:35.0±2.9, 80°.94N×2°.36W, h33km±91km, ML3.5*
*IDC **07** 00:25:38.7±0.7, 80°.37N×2°.63W, h0km, mb3.8/16, mb1 4.0/17, mb1mx3.9/40, mbtmp3.9/17, ML3.2/1, MS3.5/3, Ms1 3.5/3, ms1mx2.9/42, Error ellipse: s-maj=25.9km s-min=11.7km az=44.0*
*NEIC **07** 00:25:40.0±2.1, 80°.42N±0°.09×2°.4W±0°.4, h10km±1km, mb4.5/48, Error ellipse: s-maj=15.3km s-min=10.9km az=195.0*
*BER **07** 00:25:40.2±3.7, 80°.40N×2°.20W, h15km±38km, ML2.7, ML3.5(DNK), Confirmed Earthquake*
*IEPN **07** 00:25:42.0, 80°.24N×1°.50W, h10km*
ISC 07 00:25:39.0±0.4**, 80°.34N**±0°.05×**2°.39W**±0°.04**, h10**km**, n120,** σ2ˢ.53/131**, mb4.3**/36**, MS3.3**/3**, 4C, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	2.95	112	Pn	Pn	00 26 23.8	-2.0
KBS				Sn	Sn	00 26 54.4	-6.8
KBS	Kingsbay	2.95	112		Pn	00 26 23.8	-2.0
KBS	Kingsbay	2.95	112	⇑*i*P	Pn	00 26 23.7	-2.1
KBS				*e*S	Sn	00 26 55.4	-5.8
KBS				IAML		00 26 56.9	
	comp=Z,34nm,0.3s						
KBS	Kingsbay	2.95	112	⇑*i*P	Pn	00 26 23.2	-2.6
KBS				*e*S	Sn	00 26 54.2	-7.0
KBS	Kingsbay	2.95	112	⇑*i*P	Pn	00 26 23.8	-2.0
BRBA	Barentsburg A	3.86	118	Pn	Pn	00 26 38.3	0.0
BRBA				Sn	Sn	00 27 20.3	-3.3
BRBA	Barentsburg A	3.86	118	Pn	Pn	00 26 38.3	0.0
BRBA				Sn	Sn	00 27 20.3	-3.3
SPA0	Spitsbergen Ar	4.11	112	Pn	Pn	00 26 40.4	-1.3
	baz=325,slow=12						
SPA0				Sn	Sn	00 27 24.5	-5.2
	baz=327,slow=18						
SPA0	Spitsbergen Ar	4.11	112		Pn	00 26 40.4	-1.3
SPA0	Spitsbergen Ar	4.11	112	Pn	Pn	00 26 40.4	-1.3
	baz=325,slow=12						
SPA0				Sn	Sn	00 27 24.5	-5.2
	baz=327,slow=18						
SPA0	Spitsbergen Ar	4.11	112	⇑*i*P	Pn	00 26 40.3	-1.3
SPA0				*e*S	Sn	00 27 23.3	-6.5
DAG	Danmarks Havn	4.81	230	*i* P	Pn	00 26 50.3	-1.0
DAG				*i*		00 27 42.6	
DAG	Danmarks Havn	4.81	230	*e*P	Pn	00 26 50.9	-0.4
DAG				*e*S	Sn	00 27 42.0	-4.9
DAG				IAML		00 27 45.6	
	comp=Z,31nm,0.4s						
DAG	Danmarks Havn	4.81	230	*i* P	Pn	00 26 50.4	-1.0
DAG				*i*		00 27 42.6	
DAG				IAML		00 27 45.6	
	comp=Z,31nm,0.4s						
HSPB	Hornsund (broa	4.84	124	Pn	Pn	00 26 51.4	-0.4
HSPB	Hornsund (broa	4.84	124	*e*P	Pn	00 26 51.4	-0.4
HSPB				*e*S	Sn	00 27 44.8	-3.0
HSPB				IAML		00 27 46.4	
	comp=Z,9.6nm,0.5s						
HSPB	Hornsund (broa	4.84	124	*e*P	Pn	00 26 51.0	-0.8
HSPB				*e*S	Sn	00 27 43.1	-4.7
HOPEN	Hopen	6.64	111	Pn	Pn	00 27 14.3	-2.1
HOPEN	Hopen	6.64	111	*e*P	Pn	00 27 14.4	-2.0
HOPEN				*e*S	Sn	00 28 24.5	-7.5
HOPEN				IAML		00 28 34.7	
	comp=Z,16nm,0.9s						
HOPEN	Hopen	6.64	111	*e*P	Pn	00 27 14.0	-2.4
HOPEN				*e*S	Sn	00 28 23.8	-8.2
DBG	Daneborg	7.17	222	Pn	Pn	00 27 22.2	-1.4
DBG				Sn	Sn	00 28 38.9	-6.1
DBG	Daneborg	7.17	222	Pn	Pn	00 27 22.2	-1.4
DBG				*e*P	Pn	00 27 23.3	-0.4
DBG				*e*S	Sn	00 28 38.6	-6.3
DBG				Sn	Sn	00 28 38.9	-6.1
DBG				IAML		00 28 45.2	
	comp=Z,18nm,0.4s						
DBG	Daneborg	7.17	222	*i* P	Pn	00 27 23.1	-0.6
DBG				*i* S	Sn	00 28 41.1	-3.9
DBG				IAML		00 28 45.2	
	comp=Z,18nm,0.4s						
ZFI	Zemlya Franca-	8.01	62	*e*P	Pn	00 27 32.9	-2.2
ZFI				*e*S	Sn	00 28 55.4	-10
SCO	Scoresbysund	10.95	216	Pn	Pn	00 28 15.3	-0.1
SUMG	Summit	11.20	246	*i* P	Pn	00 28 16.8	-2.3
SUMG				*i*		00 30 16.7	
SUMG	Summit	11.20	246		Pn	00 28 17.3	-1.8
SUMG	Summit	11.20	246	*i* P	Pn	00 28 16.9	-2.3
SUMG				*i*		00 30 16.8	
SUMG				IAML		00 30 23.4	
	comp=Z,10nm,0.4s						
SUMG	Summit	11.20	246	*i* P	Pn	00 28 16.9	-2.3
SUMG				*i*		00 30 16.8	
SUMG				IAML		00 30 23.4	
	comp=Z,10nm,0.4s						
KIF	Kilpisjarvi	12.75	140	Pn	Pn	00 28 40.9	+0.9
KIF	Kilpisjarvi	12.75	140	Pn	Pn	00 28 40.9	+0.9
KEV	Kevo	12.78	129	Pn	Pn	00 28 40.8	+0.4
ARA0	ARCESS Array S	12.80	132	Pn	Pn	00 28 40.0	-0.7
	baz=344,slow=16						
ARA0	ARCESS Array S	12.80	132	Pn	Pn	00 28 40.0	-0.7
	baz=344,slow=16						
ARCES	ARCESS Array B	12.80	132	Pn	Pn	00 28 40.8	+0.1
	baz=329,slow=11,SNR=8.5						
TULEG	Thule	13.09	289	Pn	Pn	00 28 39.0	-5.6
EUNU	Eureka	13.18	311	Pn	Pn	00 28 41.9	-4.0
UPNV	Upernavik	13.91	267	*i* P	Pn	00 28 50.7	-5.2
UPNV	Upernavik	13.91	267	*i* P	Pn	00 28 50.7	-5.2
NUUG	Nuugaatsiaq	14.47	261	*i* P	Pn	00 28 58.7	-4.8
NUUG				IAML		00 31 36.9	
	comp=Z,3.2nm,0.3s						
NUUG	Nuugaatsiaq	14.47	261	*i* P	Pn	00 28 58.7	-4.8
NUUG				IAML		00 31 36.9	
	comp=Z,3.2nm,0.3s						
APA0	Apatity Array	15.60	124	P	Pn	00 29 15.2	-3.4
	baz=338,slow=12						
APA0	Apatity Array	15.60	124	P	Pn	00 29 15.2	-3.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=338,slow=12						
ANGG	Ammassalik, Gr	17.46	233	P	P	00 29 44.0	+0.7
ANGG				IAmb	IAmb	00 29 58.9	
	comp=Z,78nm,1.5s						
SFJD	Kangerlussuaq	18.10	251	P	Pn	00 29 44.7	-5.3
	comp=Z,0.6nm,0.3s,baz=304,slow=11,SNR=1.4						
SFJD	Kangerlussuaq	18.10	251		Pn	00 29 48.4	-1.6
AMDE	Amderma	18.24	88	*i* P	Pn	00 29 51.0	-0.8
	comp=Z,2.8nm,0.7s						
RES	Resolute Bay	18.52	303	P	P	00 29 50.0	-4.9
	comp=Z,0.5nm,0.3s,baz=31,slow=11,SNR=16						
RES	Resolute Bay	18.52	303	P	P	00 29 50.5	-4.4
NC204	NORSAR Array S	19.53	161	P	Pn	00 30 09.3	+1.8
NC303	NORSAR Array S	19.62	160	P	Pn	00 30 10.1	+1.7
NC303				IAmb	IAmb	00 30 26.2	
	comp=Z,13nm,0.9s						
NBO00	NORSAR Array S	19.78	161	P	P	00 30 09.3	+0.5
NAO01	NORSAR Array S	19.97	161	P	P	00 30 10.1	-0.9
LSH	Leshukonskoye	20.04	112	*e*P	P	00 30 11.7	+0.1
	comp=Z,64nm,3.0s						
FIA1	FINESS Array S	20.65	140	P	P	00 30 19.3	+1.0
FIA1				IAmb	IAmb	00 30 22.9	
	comp=Z,34nm,1.4s						
FIA0	FINESS Array S	20.65	140	P	P	00 30 20.1	+1.7
	baz=350,slow=8.6						
FIA0	FINESS Array S	20.65	140	P	P	00 30 20.1	+1.7
	baz=350,slow=8.6						
FINES	FINESS Array B	20.65	140	P	P	00 30 19.6	+1.3
	comp=Z,3.7nm,0.8s,baz=349,slow=10,SNR=11						
FINES				LR	LR	00 40 15.3	
	comp=Z,127nm,18.4s,baz=320,slow=42						
HFS	Hagfors	20.85	157	P	P	00 30 21.9	+1.5
	comp=Z,6.7nm,0.9s,baz=39,slow=8.0,SNR=7.7						
HFS	Hagfors	20.85	157	P	P	00 30 22.1	+1.7
	baz=355,slow=11						
HFS	Hagfors	20.85	157	P	P	00 30 22.1	+1.7
	baz=355,slow=11						
KLMR	Klimovskoe	22.93	123	*e*P	P	00 30 44.3	+1.6
	comp=Z,6.4nm,0.9s						
PRGR	Permogore	23.08	115	P	P	00 30 48.9	+4.7
	comp=Z,9.5nm,0.9s						
FRB	Frobisher Bay	24.05	266	P	P	00 30 54.9	+1.2
	comp=Z,5.3nm,0.7s,baz=24,slow=8.6,SNR=14						
FRB				LR	LR	00 40 41.4	
	comp=Z,81nm,19.1s,baz=160,slow=38						
INK	Inuvik	29.11	325	P	P	00 31 38.2	-1.0
	comp=Z,1.0nm,0.5s,baz=14,slow=8.7,SNR=4.4						
INK	Inuvik	29.11	325	P	P	00 31 38.6	-0.6
ARU	Arti	30.11	104	P	P	00 31 50.1	+2.0
GRFO	Grafenberg	31.12	163	P	P	00 31 57.0	-0.2
GRFO				IAmb	IAmb	00 32 13.3	
	comp=Z,4.2nm,1.0s						
AKASG	Malin Array Be	31.55	140	P	P	00 32 01.3	+0.4
	comp=Z,1.1nm,0.6s,baz=349,slow=9.7,SNR=4.5						
GERES	GERESS Array B	32.10	160	P	P	00 32 08.4	+2.5
	comp=Z,0.6nm,0.8s,baz=349,slow=10,SNR=2.9						
YKA	Yellowknife Ar	32.51	307	P	P	00 32 09.9	+0.7
	comp=Z,0.8nm,0.8s,baz=13,slow=8.5,SNR=12						
YKA				LR	LR	00 44 37.0	
	comp=Z,104nm,18.6s,baz=0.0,slow=35						
FCC	Fort Churchill	33.01	287	P	P	00 32 14.4	+0.8
FCC				IAmb	IAmb	00 32 14.6	
	comp=Z,2.3nm,0.6s						
EGAK	Eagle	33.26	329	P	P	00 32 16.3	+0.5
POKR	Poker Plat Res	33.44	334	P	P	00 32 18.5	+1.2
POKR				IAmb	IAmb	00 32 32.9	
	comp=Z,3.6nm,0.8s						
PSZ	Piszkesteto	33.44	152	P	P	00 32 18.6	+0.9
PSZ				IAmb	IAmb	00 32 19.4	
	comp=Z,3.1nm,0.8s						
I23K	Minto, Yukon-K	33.55	335	P	P	00 32 19.0	+0.8
ILAR	Eielson Array	33.74	333	P	P	00 32 21.2	+1.2
	comp=Z,0.8nm,0.8s,baz=7.5,slow=7.5,SNR=6.4						
DAWY	Dawson	33.81	327	P	P	00 32 21.0	+0.4
CCB	Clear Creek Bu	33.93	334	P	P	00 32 22.5	+0.9
CCB				IAmb	IAmb	00 32 24.2	
	comp=Z,6.8nm,1.4s						
K27K	Chicken	34.08	329	P	P	00 32 23.8	+0.9
K27K				IAmb	IAmb	00 32 32.5	
	comp=Z,8.3nm,1.4s						
BUR08	Bucovina Ar. S	34.17	146	P	P	00 32 25.9	+1.9
BUR08				IAmb	IAmb	00 32 36.0	
	comp=Z,6.5nm,1.2s						
ZOU	Zoufplan	34.34	161	P	P	00 32 27.3	+1.7
ZOU				IAmb	IAmb	00 32 30.7	
	comp=Z,23nm,1.4s						
BPAW	Bear Paw Mtn.	34.70	336	P	P	00 32 29.0	+0.7
BPAW				IAmb	IAmb	00 32 41.3	
	comp=Z,9.7nm,1.5s						
SCM	Sheep Creek Mo	36.68	333	P	P	00 32 46.5	+1.2
SCM				IAmb	IAmb	00 32 59.8	
	comp=Z,13nm,1.4s						
GHO	Glory Hole Cre	36.86	334	P	P	00 32 47.8	+0.9
GHO				IAmb	IAmb	00 32 58.7	
	comp=Z,19nm,1.5s						
ABKAR	Akbulak array	37.25	107	P	P	00 32 51.5	+1.2
SUA	Susitna One	37.30	335	P	P	00 32 52.4	+1.8
SUA				IAmb	IAmb	00 32 53.8	
	comp=Z,5.2nm,0.8s						
BESE	Bessie Mountai	38.76	322	P	P	00 33 01.6	-1.3
BESE				IAmb	IAmb	00 33 02.3	
	comp=Z,6.1nm,1.0s						
Q23K	Middleton Isla	38.98	331	P	P	00 33 04.2	-0.4
KBZ	Khabaz	40.09	127	P	P	00 33 16.5	+2.5
	comp=Z,1.3nm,0.8s,baz=350,slow=7.3,SNR=4.1						
ESDC	Sonseca Array	40.80	182	P	P	00 33 21.2	+1.1
	comp=Z,0.7nm,1.1s,baz=355,slow=7.0,SNR=2.3						
KDAK	Kodiak Island	41.08	336	P	P	00 33 23.0	+0.9
	comp=Z,3.1nm,0.6s,baz=12,slow=14,SNR=4.1						
KDAK	Kodiak Island	41.08	336	IAmb	IAmb	00 33 37.1	
	comp=Z,19nm,1.2s						
TIP	Timpagrande	41.91	158	P	P	00 33 31.3	+2.0
MAKZ	Makanchi	43.30	85	P	P	00 33 42.0	+1.6
MK31	Makanchi Array	43.37	85	P	P	00 33 41.9	+1.0
MKAR	Makanchi Array	43.37	85	P	P	00 33 42.8	+1.8
	comp=Z,0.8nm,0.7s,baz=344,slow=7.1,SNR=13						
J56A	Wolcott	45.07	264	P	P	00 33 55.9	+1.4
J56A				IAmb	IAmb	00 34 07.1	
	comp=Z,9.7nm,1.1s						
ULN	Ulaanbaatar	46.30	61	P	P	00 34 05.3	+0.8
PET	Petropavlovsk	46.45	16	P	P	00 34 04.3	-1.0
MSO	Missoula	47.62	300	P	P	00 34 15.7	+0.9
MSO				IAmb	IAmb	00 34 24.1	
	comp=Z,3.3nm,1.0s						
WUPA	West Chester U	48.11	261	P	P	00 34 18.5	+0.1
WUPA				IAmb	IAmb	00 34 19.7	
	comp=Z,9.4nm,1.3s						
N51A	Ashland	48.29	268	P	P	00 34 21.0	+1.2
L42A	Oliver, Polo	48.46	276	P	P	00 34 22.0	+0.8
YPP	Pitchstone Pla	49.66	297	P	P	00 34 31.1	+0.4
PDAR	Pinedale Array	50.94	295	P	P	00 34 41.1	+0.8
	comp=Z,0.3nm,0.6s,baz=24,slow=6.9,SNR=2.5						
PV16	Nyswonger Mesa	55.20	293	P	P	00 35 12.2	+0.6
PV16				IAmb	IAmb	00 35 19.1	
	comp=Z,6.6nm,0.9s						
SDCO	Great Sand Dun	55.22	290	P	P	00 35 11.1	-0.8
SDCO				IAmb	IAmb	00 35 14.0	
	comp=Z,3.0nm,0.8s						
NVAR	Mina Array Bea	56.49	302	P	P	00 35 22.6	+1.7
	comp=Z,0.6nm,0.9s,baz=38,slow=4.6,SNR=3.5						
KNB	Kanab	57.07	297	P	P	00 35 27.6	+2.6
TIGA	Tifton	57.75	267	P	P	00 35 31.5	+1.9
237A	Washetta, Mont	59.25	279	P	P	00 35 40.9	+0.8
ABTX	Abilene, Hawle	59.28	283	P	P	00 35 41.1	+0.8
ABTX				IAmb	IAmb	00 35 44.3	
	comp=Z,8.7nm,1.4s						
342A	Flagon Creek P	59.28	276	P	P	00 35 42.7	+2.4
KS19	Wonju Array Si	59.29	45	P	P	00 35 41.7	+1.4
TKX	Tecate	61.99	299	P	P	00 35 59.1	+0.2
TX31	Lajitas Ar. Si	63.16	286	P	P	00 36 07.8	+1.0
TX32	Lajitas Array	63.16	286	P	P	00 36 07.8	+1.1
TX32				IAmb	IAmb	00 36 17.6	
	comp=Z,3.8nm,1.4s						
TXAR	Lajitas Array	63.16	286	P	P	00 36 07.5	+0.8
	comp=Z,1.0nm,0.6s,baz=32,slow=5.0,SNR=15						
TORD	Torodi Ar. Bea	67.24	176	P	P	00 36 34.4	+1.2
	comp=Z,0.9nm,0.5s,baz=360,slow=4.8,SNR=2.3						

IDC 07 00:34:21.3±5.2, 2°88S×139°52E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/24, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=203.4km s-min=32.7km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.70	196	P	Pn	00 38 29.3	-0.1
	0.1nm,0.3s,baz=16,slow=12,SNR=7.9						
ASAR	Alice Springs	21.37	194	P	P	00 39 10.2	-0.3
	0.3nm,0.4s,baz=17,slow=10,SNR=5.0						
MKAR	Makanchi Array	70.42	322	P	P	00 45 37.7	+0.3
	0.1nm,0.5s,baz=114,slow=7.9,SNR=2.4						

JMA 07 00:51:26.4, 34°20N×135°20E, h5km±1km, M2.8, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWY	Kouya	0.33	87	P	Pg	00 51 32.6	-0.2
JWM	Minabe	0.37	160	P	Pg	00 51 33.9	+0.3
JWM				S	Sg	00 51 39.1	+0.6
JAWN	Awajishima-nag	0.38	319	P	Pg	00 51 33.9	+0.2
JAWN				*e*S	Sg	00 51 39.2	+0.6
JTNC	Tanabenakahech	0.51	138	P	Pg	00 51 36.7	+0.5
JTNC				S	Sg	00 51 43.6	+0.7
MAT	Matsushiro	3.39	46	P	Pn	00 52 22.9	+2.9
MAT				*e*S	Sn	00 53 03.1	+2.5

HEL 07 00:57:40.1, 67°84N×20°03E, h0km, ML1.3, Explosion
UPP 07 00:57:41.5±0.0, 67°83N×20°20E, h0km, ML2.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	22	P	Pg	00 57 44.3	+0.2
KUA				S	Sg	00 57 46.3	+0.4
RATU	Laukkuluspa	0.23	269	P	Pg	00 57 46.1	+0.2
KOVU	Salmi	0.40	358	P	Pg	00 57 49.1	+0.1
NIKU	Nikkaluokta	0.44	276	P	Pg	00 57 50.0	0.0
LANU	Lannavaara	0.71	71	P	Pg	00 57 54.9	-0.2
LANU	Lannavaara	0.71	71	*e*P	Pg	00 57 54.9	-0.2
LANU				*e*S	Sg	00 58 04.3	-0.1
DUNU	Dundret	0.72	168	P	Pg	00 57 55.0	-0.3
MASU	Masugnsbyn	0.78	118	P	Pg	00 57 56.4	-0.1
KIF	Kilpisjarvi	1.20	10	*e*P	Pg	00 58 04.4	-0.1
KIF	Kilpisjarvi	1.20	10	*e*P	Pg	00 58 04.5	0.0
	baz=187						
KIF				MSG		00 58 17.7	
	comp=Z,3.1nm,0.2s						
KIF				*e*SB	Sb	00 58 21.1	-0.1
PAJU	Pajala	1.39	124	P	Pg	00 58 07.0	-1.0
PAJU	Pajala	1.39	124	*e*PB	Pg	00 58 06.8	-1.2
	baz=305						
PAJU				*e*SB	Sg	00 58 25.3	-0.6
HEF	Hetta	1.42	64	*e*P	Pn	00 58 07.0	-1.5
HEF	Hetta	1.42	64	MSG		00 58 24.4	
	comp=Z,1.5nm,0.2s						

UPP 07 00:57:42.6±0.1, 67°88N×20°12E, h0km, ML1.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.12	46	P	Pg	00 57 45.0	+0.2
KUA				S	Sg	00 57 46.9	+0.6
KUA	Kurravaara	0.12	46	*i* P	Pg	00 57 45.0	+0.2
KUA				*i* S	Sg	00 57 46.9	+0.6
RATU	Laukkuluspa	0.21	256	P	Pg	00 57 46.8	+0.2
RATU	Laukkuluspa	0.21	256	*i* P	Pg	00 57 46.8	+0.2
PAJU	Pajala	1.44	125	P	Pn	00 58 09.2	-0.7

*BJI **07** 00:58:26.9±0.0, 3°57S×129°78E, h30km, mB5.0/33, mb4.6/49, Ms4.4/11, Ms7 4.1/12*
*IDC **07** 00:58:28.1±0.6, 3°00S×129°31E, h0km, mb4.4/17, mb1 4.6/22, mb1mx4.4/37, mbtmp4.4/22, ML4.3/3, MS4.3/15, Ms1 4.3/15, ms1mx4.0/28, Error ellipse: s-maj=20.1km s-min=12.9km az=73.0*
*DJA **07** 00:58:31.5±0.1, 3°S±1°×12°9E±°, h10km, M5.0/55, mb5.0/55, mB5.4/17, MLv5.1/18, Mw(mB)4.9/17, MwMwp5.1/3, Mwp5.3/3*
*GCMT **07** 00:58:34.4±0.2, 2°86S±0°01×129°19E±0°01, h24km±1km, MW5.0/117, Moment Tensor Solution. s47,c56; s117,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.08±.13; $M_{\theta\theta}$-2.94±.11; $M_{\phi\phi}$3.02±.11; $M_{r\theta}$-0.78±.15; $M_{\theta\phi}$-1.92±.10; $M_{\phi r}$0.94±.16; Best double couple: $M_0$3.74100×10^{16} NP1:ϕ_s30.00000°, δ73.00000°, λ5.00000°. NP2:ϕ_s298.00000°, δ85.00000°, λ163.00000°. Principal axes: T 3.9060, Plg16.0000°, Azm253.0000°; N -0.3340, Plg72.0000°, Azm102.0000°; P -3.5760, Plg8.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **07** 00:58:34.4±1.3, 3°00S±0°07×129°28E±0°06, h36km±8km, mb4.7/49 Error ellipse: s-maj=9.9km s-min=8.5km az=213.0*
ISC 07 00:58:31.8±1.2, 2°94S±0°04×129°33E±0°04, h17km±7km, n172, σ1§47/172, mb4.7/56, MS4.3/18, 2C, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSAI	Masohi	0.57	225	P	Pg	00 58 42.9	-0.2
MSAI				S	Sg	00 58 52.5	+1.8
BNDI	Bandanaira	1.67	160	P	Pb	00 59 03.8	+1.7
BNDI				S	Sn	00 59 25.8	+4.4
NLAI	Namlea	2.25	262	P	Pn	00 59 09.0	+0.8
NLAI				S	Sn	00 59 36.5	+0.9
SIJI	Sorong	2.83	43	Pn	Pn	00 59 17.1	+0.9
	310nm,0.3s,baz=262,slow=7.5,SNR=57						
SIJI				Sn	Sn	00 59 47.6	-2.3
	121nm,0.3s,baz=172,slow=8.2,SNR=5.9						
SIJI				LR	LR	01 01 07.6	
	comp=Z,5μm,18.1s,baz=128,slow=55						
SWI	Sorong	2.83	43	P	Pn	00 59 17.0	+0.8
SWI				S	Sn	00 59 50.6	+0.8
FAKI	Fak Fak	2.92	90	Pn	Pn	00 59 18.8	+1.3
FAKI	Fak Fak	2.92	90	P	Pn	00 59 18.7	+1.3
FAKI				S	Sn	00 59 55.2	+3.1
SANI	Sanana	3.46	285	P	Pn	00 59 22.7	-2.1
TNTI	Ternate	4.18	332	Pn	Pn	00 59 34.5	-0.3
TNTI	Ternate	4.18	332	P	Pn	00 59 34.3	-0.5
TNTI				S	Sn	01 00 21.8	-1.5
SAUI	Saumlaki	5.38	159	Pn	Pn	00 59 51.8	+0.5
SAUI	Saumlaki	5.38	159	P	Pn	00 59 53.7	+2.4
	2.2nm14μm643nm,1.2s						
KMSI	Cibinong	6.39	303	P	Pn	01 00 03.9	-1.3
	3.2nm12μm224nm,0.6s						
LUWI	Luwuk	6.82	286	Pn	Pn	01 00 10.8	-0.4
LUWI	Luwuk	6.82	286	P	Pn	01 00 10.4	-0.7
	1.5nm3μm153nm,0.6s						
SRPI	Serui, Papua	6.99	81	P	Pn	01 00 14.0	+0.6
	3.0nm354nm,0.5s						
BAKI	Biak	6.99	76	P	Pn	01 00 14.1	+0.6
	0.8nm3μm144nm,0.9s						
GTOI	Gorontalo	7.25	299	P	Pn	01 00 18.6	+1.6
	0.6nm1μm92nm,0.9s						
APSI	Ampana	7.94	285	P	Pn	01 00 26.4	-0.1
	1.3nm4μm368nm,0.9s						
MRSI	Marisa	8.13	295	P	Pn	01 00 28.6	-0.5
	2μm149nm,0.9s						
SOEI	Soe	8.43	216	Pn	Pn	01 00 33.7	+0.2
SOEI	Soe	8.43	216	P	Pn	01 00 35.9	+2.5
	110nm,1.0s						
MMRI	Maumere	9.04	231	Pn	Pn	01 00 43.2	+1.5
MMRI	Maumere	9.04	231	P	Pn	01 00 44.1	+2.4
	2μm110nm,1.0s						
BATI	Baumata	9.15	218	Pn	Pn	01 00 47.0	+3.8
	7.2nm,0.3s,baz=138,slow=0.5,SNR=7.5						
BATI				LR	LR	01 03 60.0	
	comp=Z,2μm,20.8s,baz=28,slow=36						
BATI	Baumata	9.15	218	P	Pn	01 00 45.5	+2.3
	46nm,0.9s						
BNSI	Bone	9.32	261	P	Pn	01 00 45.3	-0.1
	59nm,1.2s						
BSSI	Bau Bau, Buton	9.37	250	P	Pn	01 00 46.7	+0.6
	106nm,0.8s						
TOLI2	Tolitoli	9.45	295	Pn	Pn	01 00 48.3	+1.1
BKSI	Bulukumba	9.48	255	P	Pn	01 00 48.3	+0.6
	2μm1μm111nm,0.8s						
TTSI	Tana Toraja	9.50	269	P	Pn	01 00 49.3	+1.4
	1μm54nm,0.8s						
SPSI	Sidrap Palu	9.60	264	P	Pn	01 00 48.6	-0.7
	1μm94nm,0.9s						
KAPI	Kappang	9.78	258	Pn	Pn	01 00 50.9	-0.8
	1.3nm,0.3s,baz=95,slow=11,SNR=1.8						
KAPI				LR	LR	01 05 00.8	
	comp=Z,2μm,20.9s,baz=68,slow=40						
KAPI	Kappang	9.78	258	Pn	Pn	01 00 51.9	+0.2
GENI	Genyem	10.83	88	P	Pn	01 01 09.1	+2.9
	9μm196nm,1.1s						
BASI	Baing, Sumba	11.30	230	P	Pn	01 01 13.6	+0.9
	148nm,1.0s						
JAY	Jayapura	11.37	88	P	Pn	01 01 16.3	+2.7
	31nm,1.1s						
BKB	Balikpapan	12.54	277	Pn	Pn	01 01 31.1	+1.6
MYLDM	Lahad Datu	13.50	307	Pn	P	01 01 46.4	-5.4
TWSI	Taliwang, Sumb	13.65	245	P	Pn	01 01 44.1	-0.7
	24nm,0.9s						
BBKI	Banjar Baru	14.48	268	P	Pn	01 01 56.3	+0.2
	27nm,1.1s						
SRBI	Singaraja	14.95	249	P	Pn	01 02 02.3	-0.2
	52nm,0.9s						
DNP	Denpasar	15.15	247	P	Pn	01 02 05.2	0.0
	323nm,0.8s						
FITZ	Fitzroy Crossi	15.49	193	Pn	Pn	01 02 06.8	-2.8
	0.5nm,0.3s,baz=35,slow=9.4,SNR=14						
FITZ	Fitzroy Crossi	15.49	193		Pn	01 02 09.5	-0.1
ABJI	Asem Bagus	15.78	252	P	Pn	01 02 14.2	+0.8
	63nm,1.5s						
KMMI	Kalianget	15.84	254	P	Pn	01 02 15.7	+1.6
	71nm,1.0s						
COEN	Coen	17.52	129	Pn	Pn	01 02 35.5	+0.1
WRAB	Tennant Creek	17.59	164		Pn	01 02 36.3	0.0
WRAB				IAmb	IAmb	01 02 50.8	
	comp=Z,51nm,1.0s						
WRA	Warramunga Arr	17.59	164	P	Pn	01 02 33.8	-2.5
	comp=Z,2.2nm,0.3s,baz=333,slow=13,SNR=31						
WRA				S	Sn	01 05 42.0	-10
	comp=Z,0.5nm,0.3s,baz=336,slow=22,SNR=3.0						
WRA				LR	LR	01 10 07.6	
	comp=Z,2μm,21.2s,baz=350,slow=40						
WB2	Warramunga Arr	17.59	164	P	Pn	01 02 34.4	-2.0
WR0	Warramunga Arr	17.66	164	P	Pn	01 02 37.1	-0.1
SBUM	Sibu	17.92	287		P	01 02 41.0	0.0
PMG	Port Moresby	18.84	111	P	P	01 02 49.0	-2.1
	comp=Z,1.3nm,0.3s,baz=281,slow=12,SNR=2.5						
PMG				LR	LR	01 12 11.5	
	comp=Z,532nm,19.9s,baz=280,slow=44						
PMG	Port Moresby	18.84	111	P	P	01 02 49.0	-2.1
PMG				IAmb	IAmb	01 03 02.2	
	comp=Z,39nm,1.0s						
SMRI	Semarang	19.25	257	P	P	01 02 54.3	-1.4
SMRI	Semarang	19.25	257	P	P	01 02 55.1	-0.5
	comp=Z,142nm,0.9s						
UGM	Wanagama	19.36	254	P	P	01 02 56.6	-0.2
KSM	Kuching	19.52	283	P	P	01 02 58.7	+0.2
MBWA	Marble Bar	20.38	207	P	P	01 03 06.6	-1.2
PSA00	Pilbara Seismi	20.69	206	P	P	01 03 09.2	-2.0
PSA00				IAmb	IAmb	01 03 20.4	
	comp=Z,32nm,0.8s						
PSA00	Pilbara Seismi	20.69	206	P	P	01 03 10.4	-0.8
PSA00				IAmb	IAmb	01 03 20.3	
	comp=Z,17nm,0.9s						
AS31	Alice Springs	21.07	168	P	P	01 03 14.6	-0.8
AS31				IAmb	IAmb	01 03 26.4	
	comp=Z,26nm,0.6s						
ASAR	Alice Springs	21.07	168	P	P	01 03 14.0	-1.4
	comp=Z,18nm,0.5s,baz=347,slow=10,SNR=50						
ASAR				S	S	01 07 04.0	-5.6
	comp=Z,10nm,0.9s,baz=349,slow=21,SNR=7.3						
ASAR				LR	LR	01 12 01.8	
	comp=Z,1μm,19.6s,baz=346,slow=39						
ASAR	Alice Springs	21.07	168	P	P	01 03 15.8	+0.4
LEM	Lembang	21.97	259	LR	LR	01 14 01.0	
	comp=Z,1μm,18.1s,baz=97,slow=42						
PPBI	Pangkal Pinang	23.18	271	P	P	01 03 39.2	+1.3
CTA	Charters Tower	23.73	137	P	P	01 03 41.0	-2.2
	comp=Z,4.9nm,1.0s,baz=270,slow=4.0,SNR=1.3						
MDSI	Maura Dua	25.15	266	P	P	01 03 57.3	+1.0
	comp=Z,20nm,1.0s						
FORT	Forrest	27.71	182	P	P	01 04 19.3	0.0
FORT				IAmb	IAmb	01 04 21.7	
	comp=Z,21nm,0.9s						
QIZ	Qiongzhong	29.06	319	P	P	01 04 32.4	+1.0
QIZ				S	S	01 09 24.3	+1.9
QIZ				sS	sS	01 09 39.2	+8.2
QIZ				LR	LR		
	comp=Z,300nm,16.2s						
QIZ				LR	LR		
	comp=Z,200nm,17.7s						
QIZ				LR	LR		
	comp=Z,160nm,12.3s						
KULM	Kulim	29.79	286	P	P	01 04 38.2	+0.1
KULM				IAmb	IAmb	01 04 39.4	
	comp=Z,8.3nm,0.8s						
MNSI	Mandailing Nat	29.97	277	P	P	01 04 39.2	-0.5
	comp=Z,16nm,0.9s						
BBOO	Buckleboo	30.38	169	P	P	01 04 43.0	0.0
BBOO				IAmb	IAmb	01 04 52.0	
	comp=Z,9.4nm,0.7s						
RPSI	Rantau Prapat	30.91	280	P	P	01 04 46.6	-1.3
RPSI				IAmb	IAmb	01 05 01.7	
	comp=Z,16nm,0.9s						
PSI	Prapat	30.93	280	P	P	01 04 46.3	-1.9
	comp=Z,7.0nm,0.8s,baz=9.8,slow=0.4,SNR=8.7						
STKA	Stephens Creek	31.01	159	P	P	01 04 46.9	-1.8
	comp=Z,2.2nm,0.6s,baz=337,slow=11,SNR=4.4						
STKA				LR	LR	01 18 50.7	
	comp=Z,834nm,19.0s,baz=336,slow=40						
STKA	Stephens Creek	31.01	159	P	P	01 04 47.8	-0.8
NWAO	Narrogin (SRO)	31.91	199	P	P	01 04 54.4	-2.1
NWAO				IAmb	IAmb	01 05 12.7	
	comp=Z,14nm,1.1s						
NWAO	Narrogin (SRO)	31.91	199	P	P	01 04 53.7	-2.8
NWAO				IAmb	IAmb	01 05 12.7	
	comp=Z,12nm,1.1s						
GSI	Gunungsitoli	32.02	277	P	P	01 04 59.0	+1.2
	comp=Z,43nm,0.9s						
JCJ	Chichijima	32.34	22	LR	LR	01 18 07.3	
	comp=Z,161nm,18.1s,baz=169,slow=36						
TPTI		32.72	281	P	P	01 05 02.8	-1.1
	comp=Z,8.9nm,0.9s						
NJ2	Nanjing	36.20	345	*e*P	P	01 05 35.7	+2.0
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WHN	Wuhan	36.24	338	⇑P	P	01 05 35.5	+1.4
GYA	Guiyang	36.53	325	*e*P	P	01 05 42.8	+6.0
GYA				pP	sP	01 05 46.6	+2.4
GYA				sP	pP	01 05 52.1	+10
GYA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CAN	Canberra	37.02	153	P	P	01 05 42.1	+1.3
CAN				IAmb	IAmb	01 05 59.8	
	comp=Z,11nm,0.8s						
JTU	Tsushima	37.27	0	P	P	01 05 43.4	+0.7
TOO	Toolangi	37.52	159	P	P	01 05 45.0	0.0
TOO				IAmb	IAmb	01 05 53.5	
	comp=Z,11nm,1.0s						
KMI	Kunming	38.00	319	⇑P	P	01 05 51.1	+1.7
KMI				pP	sP	01 06 02.4	+5.6
KMI				sP	pP	01 06 08.2	+14
KMI				S	S	01 11 41.2	-0.1
KMI				SS	SS	01 14 31.1	+2.5
KMI				pmax	pmax		
	comp=Z,15nm,0.8s						
KMI				pmax	pmax		
	comp=Z,60nm,3.6s						
KMI				LR	LR		
	comp=Z,190nm,21.7s						
KMI				LR	LR		
	comp=Z,180nm,16.3s						
KMI				LR	LR		
	comp=Z,230nm,20.4s						
MJAR	Matsushiro Arr	40.14	11	P	P	01 06 05.6	-1.4
	comp=Z,2.6nm,0.8s,baz=179,slow=9.3,SNR=4.5						
KSRS	Korea Array	40.21	358	P	P	01 06 06.5	-1.0
	comp=Z,0.5nm,0.3s,baz=175,slow=13,SNR=5.3						
DZM	Mont Dzumac	40.73	121	*e*LR	LR	01 17 29.7	
	comp=Z,549nm,24.2s						
XAN	Xi'an	41.51	334	P	P	01 06 26.4	+8.1
XAN				pP	sP	01 06 39.9	+14
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				LR	LR		
	comp=E,290nm,19.5s						
XAN				LR	LR		
	comp=Z,320nm,17.3s						
CD2	Chengdu	41.56	326	P	P	01 06 19.4	+0.6
CD2				pmax	pmax		

	comp=Z,260nm,7.9s						
LZH	Lanzhou	45.55	331	eP	P	01 06 56.1	+5.1
LZH				pP	sP	01 07 04.2	+5.8
LZH				sP	pP	01 07 09.1	+13
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
SHL	Shillong	46.03	310	P	P	01 06 55.1	+0.1
HHC	Hu-ho-hao-te	46.51	341	eP	P	01 06 57.8	-0.6
USRK	Ussuriysk Ar.	46.99	3	P	P	01 07 00.5	-1.4
	comp=Z,1.7nm,0.5s,baz=180,slow=8.4,SNR=5.7						
USRK	Ussuriysk Ar.	46.99	3	P	P	01 07 02.2	+0.3
LSA	Lhasa	48.86	314	P	P	01 07 19.2	+1.9
LSA				IAmb	IAmb	01 07 33.7	
	comp=Z,9.7nm,0.7s						
GTA	Gaotai	50.13	330	eP	P	01 07 26.3	-0.1
GTA				pP	sP	01 07 37.5	+3.6
GTA				sP	pP	01 07 40.7	+8.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,66nm,6.2s						
GTA				LR	LR		
	comp=Z,150nm,19.6s						
GTA				LR	LR		
	comp=Z,110nm,19.3s						
GTA				LR	LR		
	comp=Z,180nm,20.0s						
ODAN	Odare	50.15	309	eP	P	01 07 26.2	-0.8
	comp=Z,26nm,0.8s						
RAMN	Ramite	50.81	309	eP	P	01 07 31.5	-0.5
	comp=Z,22nm,0.5s						
GUN	Gumba	51.84	309	eP	P	01 07 38.8	-1.0
	comp=Z,15nm,0.5s						
PKI	Pulchoki	52.04	309	eP	P	01 07 40.6	-0.7
PKIN	Phulchoki	52.05	309	eP	P	01 07 40.4	-0.9
	comp=Z,6.6nm,0.4s						
KKN	Kakani	52.24	309	eP	P	01 07 42.2	-0.5
DMN	Daman	52.30	309	eP	P	01 07 42.8	-0.3
GKN	Gorkha	52.85	309	eP	P	01 07 46.2	-0.8
	comp=Z,20nm,0.8s						
HYB	Hyderabad	54.00	294	iP	P	01 07 57.0	+1.5
ULN	Ulaanbaatar	54.23	342	P	P	01 07 56.4	-0.4
ULN				IAmb	IAmb	01 08 09.1	
	comp=Z,6.7nm,0.8s						
WKZ	Wanaka	54.36	146	P	P	01 07 57.8	+0.1
WKZ				IAmb	IAmb	01 08 01.3	
	comp=Z,7.4nm,0.8s						
SONM	Songino Array	54.41	341	P	P	01 07 57.8	-0.3
	comp=Z,1.7nm,0.9s,baz=157,slow=8.2,SNR=6.7						
SONM	Songino Array	54.41	341	P	P	01 07 58.0	-0.1
LBZ	Lake Benmore	54.75	145	P	P	01 08 00.6	+0.1
LTZ	Lake Taylor	55.06	142	P	P	01 08 02.9	0.0
LTZ				IAmb	IAmb	01 08 04.8	
	comp=Z,11nm,0.9s						
TUWZ	Tuamarina	55.37	140	P	P	01 08 04.6	-0.5
KHZ	Kahutara	55.64	141	P	P	01 08 06.6	-0.3
BKZ	Black Stump Fm	55.95	137	P	P	01 08 10.2	+0.8
BKZ				IAmb	IAmb	01 08 25.6	
	comp=Z,13nm,0.9s						
BHW	Baring Head	55.96	140	P	P	01 08 09.8	+0.5
URZ	Urewera	55.96	135	P	P	01 08 10.6	+1.2
PLWZ	Palliser	56.29	140	P	P	01 08 11.6	-0.1
WMQ	Urumqi	59.66	326	eP	P	01 08 36.2	+0.9
WMQ				pP	sP	01 08 46.4	+3.6
WMQ				sP	pP	01 08 52.8	+12
WMQ				PcP	PcP	01 09 22.2	-0.1
WMQ				S	S	01 16 52.1	+6.8
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,190nm,6.7s						
WMQ				LR	LR		
	comp=Z,320nm,7.9s						
WMQ				LR	LR		
	comp=Z,280nm,7.3s						
WMQ				LR	LR		
	comp=Z,90nm,19.7s						
PEA0B	Petropavlovsk-	60.72	19	P	P	01 08 43.4	+1.1
PETK	Petropavlovsk-	60.72	19	P	P	01 08 42.3	0.0
	comp=Z,7.2nm,0.8s,baz=191,slow=7.1,SNR=7.8						
PETK				LR	LR	01 34 27.7	
	comp=Z,87nm,20.5s,baz=191,slow=36						
PETK	Petropavlovsk-	60.72	19	P	P	01 08 42.6	+0.4
NIL	Nilore	64.10	310	P	P	01 09 05.0	-0.4
NIL				IAmb	IAmb	01 09 16.0	
	comp=Z,5.6nm,0.9s						
UZB	Uzynbulak	64.40	321	eP	P	01 09 06.3	-1.0
	comp=Z,2.0nm,0.7s,baz=321						
UZB				eS	S	01 17 46.6	+1.2
	baz=321						
MK31	Makanchi Array	64.50	326	P	P	01 09 07.4	-0.3
MKAR	Makanchi Array	64.50	326	P	P	01 09 07.3	-0.4
	comp=Z,4.4nm,0.8s,baz=110,slow=7.7,SNR=24						
KSH	Kashi	64.61	317	P	P	01 09 10.3	+1.6
KSH				pP	sP	01 09 20.3	+4.0
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,160nm,5.0s						
MAKZ	Makanchi	64.68	326	P	P	01 09 08.6	-0.3
MAKZ				IAmb	IAmb	01 09 12.2	
	comp=Z,4.1nm,0.8s						
SATY	Saty	64.74	321	eP	P	01 09 08.8	-0.7
	comp=Z,3.9nm,1.1s,baz=321						
KPKS	Kokpek	64.78	322	eP	P	01 09 08.6	-1.1
	comp=Z,4.7nm,1.0s,baz=321						
YAK	Yakutsk	64.79	0	P	P	01 09 10.4	+1.2
MDOK	Medeo	65.65	321	eP	P	01 09 15.0	-0.5
	baz=320						
MDOK				eS	S	01 18 02.5	+1.8
	baz=320						
TNSS	Tian-Shan	65.65	320	eP	P	01 09 14.0	-1.7
	baz=320						
TDK	Taldyqorghan	65.75	323	eP	P	01 09 15.2	-0.6
	baz=323						
CHKK	Chushkaly	66.03	321	eP	P	01 09 16.5	-1.2
	baz=321						
KUU	Kurty	66.46	321	eP	P	01 09 20.1	-0.4
	comp=Z,6.7nm,0.8s,baz=321						
AAK	Ala-Archa	67.04	319	P	P	01 09 24.7	+0.3
ZAA0	Zalesovo Array	67.67	333	IAmb	IAmb	01 09 30.7	
	comp=Z,12nm,1.1s						
ZALV	Zalesovo Beam	67.67	333	P	P	01 09 27.3	-0.6
	comp=Z,7.4nm,0.8s,baz=108,slow=4.8,SNR=22						
ZALV				LR	LR	01 40 39.0	
	comp=Z,85nm,19.7s,baz=186,slow=37						
BTLS	Baital	68.45	321	eP	P	01 09 32.7	-0.3
	baz=321						
DZA	Taraz	69.25	318	eP	P	01 09 37.0	-1.0
	baz=318						
IUG	Iuzhnay	69.81	317	eP	P	01 09 40.7	-0.9
	baz=317						
KKAR	Karatay Array	69.88	318	P	P	01 09 41.6	-0.4
BRZS	Berezniki	71.61	325	eP	P	01 09 51.3	-1.1
	baz=325						
BRVK	Borovoye	74.37	327	P	P	01 10 08.9	+0.3
BRVK				IAmb	IAmb	01 10 12.6	
	comp=Z,6.4nm,0.8s						
TIXI	Tiksi	74.46	360	P	P	01 10 09.2	+0.5
VNDA	Vanda	76.53	173	P	P	01 10 20.4	-0.2
	comp=Z,2.0nm,0.8s,baz=312,slow=9.1,SNR=6.5						
VNDA				LR	LR	01 43 01.9	
	comp=Z,263nm,19.6s,baz=310,slow=35						
STCH	Steam Cracks	77.38	70		PcP	01 10 40.5	+3.4
MAW	Mawson	78.47	201	LR	LR	01 42 37.0	
	comp=Z,180nm,18.3s,baz=59,slow=34						
ABKAR	Akbulak array	78.94	321	P	P	01 10 33.5	-1.0
ABKAR	Akbulak array	78.94	321	IAmb	IAmb	01 10 42.2	
	comp=Z,5.4nm,0.8s						
PPT2	Papeete2	80.63	107	eLR	LR	01 36 09.4	
	comp=Z,183nm,26.8s						
TBI	Tubuai	80.77	113	eLR	LR	01 36 11.8	
	comp=Z,195nm,25.2s						
ARU	Arti	81.93	328	P	P	01 10 50.6	+0.2
ARU				IAmb	IAmb	01 11 07.4	
	comp=Z,5.8nm,0.9s						
RAYN	Ar Rayn	85.51	294	P	P	01 11 09.2	-0.4
GEVA	Gevas	88.88	308	P	P	01 11 24.8	-0.9
RND	Reindeer	88.94	26	P	P	01 11 25.1	-0.3
KBZ	Khabaz	89.43	314	P	P	01 11 28.1	+0.2
	comp=Z,2.1nm,0.8s,baz=135,slow=11,SNR=6.4						
ILAR	Eielson Array	89.98	25	P	P	01 11 29.3	-0.8
	comp=Z,1.1nm,0.9s,baz=242,slow=4.6,SNR=7.4						
KMBO	Kilima Mbogo	92.02	269	LR	LR	01 49 34.9	
	comp=Z,208nm,21.1s,baz=98,slow=33						
DAWY	Dawson	93.19	26	P	P	01 11 44.9	-0.1
DAWY				IAmb	IAmb	01 11 51.6	
	comp=Z,3.8nm,1.1s						
BRTR	Keskin Array B	96.25	309	LR	LR	02 03 28.6	
	comp=Z,58nm,18.4s,baz=72,slow=40						
ARCES	ARCESS Array B	97.56	340	P	P	01 12 02.9	-2.0
	comp=Z,3.6nm,1.1s,baz=74,slow=6.7,SNR=1.3						
FINES	FINESS Array B	98.90	332	P	Pdif	01 12 12.1	+1.1
	comp=Z,3.4nm,1.1s,baz=57,slow=5.1,SNR=1.7						
TORD	Torodi Ar. Bea	127.27	284	PKP	PKPdf	01 17 34.8	-1.7
	comp=Z,0.8nm,0.8s,baz=80,slow=2.5,SNR=2.4						
CPUP	Villa Florida	150.20	168	PKPbc	PKPbc	01 18 21.4	-1.2
	comp=Z,2.3nm,0.7s,baz=216,slow=3.1,SNR=5.9						
LPAZ	La Paz	154.25	138	PKPbc	PKPbc	01 18 31.8	-1.1
	comp=Z,1.0nm,0.5s,baz=311,slow=1.4,SNR=2.6						

*DDA **07** 01:14:37.0, 35°.88N×28°.18E, h18km±1km, ML2.6*
*ISK **07** 01:14:37.1, 35°.89N×28°.26E, h6km, ML2.8/13*
*NIC **07** 01:14:38.2±0.0, 36°.08N×28°.19E, h33km±3km, Ml3.6/2*
*ATH **07** 01:14:39.3, 35°.95N×28°.04E, h13km±4km, ML2.4/1, Error ellipse: s-maj=10.6km s-min=1.6km az=120.0*
*THE **07** 01:14:40.0, 36°.07N×27°.93E, h0km±2km, ML2.3/2, Error ellipse: s-maj=44.8km s-min=1.1km az=139.0*
ISC 07 01:14:36.9±1.2**, 35°.85N**±0°.03×**28°.20E**±0°.02**, h9**km±9km**, n43, σ0s.63**/70**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.37	351	P	Pg	01 14 44.6	+0.4
ARG				S	Sg	01 14 48.7	-0.4
ARG				AML	AML	01 14 50.0	
	comp=N,2267μm,0.4s						
ARG				AML	AML	01 14 54.0	
	comp=E,2100μm,0.2s						
ARG	Arkhangelos	0.37	351	P	Pg	01 14 44.5	+0.3
ARG				S	Sg	01 14 49.2	+0.1
	comp=E,1μm,0.4s						
ARG	Arkhangelos	0.37	351	PG	Pg	01 14 44.4	+0.3
ARG				SG	Sg	01 14 49.8	+0.7
ARG	Arkhangelos	0.37	351	P	Pg	01 14 44.5	+0.3
ARG				S	Sg	01 14 49.2	+0.1
KARP	Karpathos	0.90	251	P	Pn	01 14 55.7	-0.1
KARP				S	Sb	01 15 06.6	-0.2
KARP	Karpathos	0.90	251	P	Pn	01 14 55.7	-0.1
KARP				S	Sn	01 15 09.5	+0.6
	comp=E,232nm,0.4s						
KARP	Karpathos	0.90	251	PG	Pn	01 14 55.8	0.0
KARP				SG	Sn	01 15 09.5	+0.6
KARP	Karpathos	0.90	251	P	Pn	01 14 55.7	-0.1
KARP				S	Sn	01 15 09.2	+0.3
TURN	Turunc	0.93	2	PG	Pg	01 14 54.5	-0.2
TURN				SG	Sb	01 15 07.4	-0.2
TURN	Turunc	0.93	2	iP	Pg	01 14 54.3	-0.4
TURN				iS	Sg	01 15 05.8	-0.9
TURN				IAML		01 15 13.0	
	comp=E,136nm,0.3s						
DALY	Dalyan (Mula)	1.03	21	PG	Pb	01 14 56.4	-0.6
DALY				SG	Sb	01 15 10.4	-0.3
DALY	Dalyan (Mula)	1.03	21	iP	Pb	01 14 56.0	-1.0
DALY				iS	Sn	01 15 11.8	-0.5
DALY				IAML		01 15 13.0	
	comp=E,123nm,0.6s						
DALY				IAML		01 15 15.0	
	comp=N,151nm,0.4s						
FETY	Fethiye	1.06	42	PG	Pb	01 14 56.3	-1.2
FETY				SG	Sb	01 15 11.1	-0.5
FETY	Fethiye	1.06	42	iP	Pb	01 14 56.0	-1.5
FETY				iS	Sb	01 15 11.8	+0.2
NISR	Nisiros	1.15	312	P	Pb	01 14 58.5	-0.6
AKAS	Kas	1.20	71	PN	Pn	01 14 59.3	-0.8
AKAS				SN	Sb	01 15 15.9	+0.2
AKAS	Kas	1.20	71	iP	Pn	01 14 59.0	-1.1
YER	Yerkesik	1.28	3	PN	Pb	01 15 01.3	0.0
YER				SN	Sg	01 15 19.1	+0.8
BDRM	Kayabasi	1.36	334	iP	Pb	01 15 02.2	-0.4
BDRM				iP	Pn	01 15 02.3	+0.2
BDRM				iS	Sn	01 15 19.8	-0.5
BDRM				iS	Sg	01 15 20.1	-0.5
BDRM				IAML		01 15 22.0	
	comp=E,96nm,0.9s						
BDRM				IAML		01 15 22.0	
	comp=E,136nm,0.3s						
BDRM				IAML		01 15 22.0	
	comp=N,154nm,0.5s						
BODT	Bodrum	1.41	330	PN	Pb	01 15 03.2	-0.2
MULA	Mugla, Merkez-	1.41	4	iP	Pb	01 15 03.6	+0.1
MULA				iS	Sg	01 15 22.5	+0.3
MLSB	Milas	1.48	347	PN	Pb	01 15 04.9	+0.2
CAEL	Denizli, Camel	1.56	35	iP	Pn	01 15 05.6	+0.6
CAEL				iS	Sg	01 15 27.6	+0.5
CAEL				IAML		01 15 41.0	
	comp=N,64nm,0.8s						
CAEL				IAML		01 15 43.0	
	comp=E,74nm,1.1s						
ELL	Elmali	1.65	57	PN	Pn	01 15 06.5	+0.3
TAVA	DENIZLI_Tavas	1.71	19	iP	Pb	01 15 08.9	+0.3
TAVA				iS	Sb	01 15 30.8	+0.4
GOLH	Golhisar	1.77	38	iP	Pb	01 15 09.7	+0.1
ZKR	Zakros	1.77	246	P	Pb	01 15 10.3	+0.6
ZKR	Zakros	1.77	246	PN	Pb	01 15 10.2	+0.6
DDIM	Aydin, Didim	1.78	335	iP	Pb	01 15 08.7	-1.1
GCAM	G?zelcaml?	2.00	338	PN	Pb	01 15 12.4	-1.1
KORT	Korkueli	2.08	56	iP	Pn	01 15 13.4	+1.2
KORT				iS	Sn	01 15 39.4	+1.0
AYDB	Zeytinkoy-Aydi	2.11	353	PN	Pn	01 15 13.4	+0.9
SMG	Samos	2.15	330	P	Pn	01 15 12.7	-0.4
NPS	Neapolis	2.19	255	P	Pb	01 15 16.4	-0.3
LAST	Lasithi	2.32	254	P	Pb	01 15 18.7	-0.3
KULA	Kula-Manisa	2.69	8	PN	Pn	01 15 21.5	+1.1
IDI	Anoyia	2.75	259	P	Pb	01 15 24.4	-2.0
AKMS	Akamas	3.48	103	P	Pn	01 15 31.5	+0.2
AKMS				S	Sn	01 16 12.6	0.0
AKMS				AML	AML	01 16 13.5	
	comp=E,0.2nm,0.8s						
AKMS				AML	AML	01 16 13.5	
	comp=E,0.2nm,0.8s						
AKMS				AML	AML	01 16 16.4	
	comp=E,0.3nm,1.0s						
AKMS				AML	AML	01 16 16.4	
	comp=E,0.3nm,1.0s						
NATA	Nata	3.73	105	P	Pn	01 15 35.1	+0.4
NATA				S	Sn	01 16 18.7	-0.1
SZAC	Souni	3.98	105	P	Pn	01 15 38.7	+0.5
SZAC				S	Sn	01 16 25.6	+0.5
SZAC				AML	AML	01 16 25.9	
	comp=E,0.2nm,0.6s						
SZAC				AML	AML	01 16 25.9	
	comp=E,0.2nm,0.6s						
SZAC				AML	AML	01 16 28.7	
	comp=E,0.3nm,0.7s						
SZAC				AML	AML	01 16 28.7	
	comp=E,0.3nm,0.7s						
ASGA	Asgata	4.26	103	P	Pn	01 15 42.3	+0.2
CSS	Mathiatis	4.29	100	P	Pn	01 15 42.3	-0.1
CSS				S	Sn	01 16 32.8	+0.3
MVOU	Mavrovouni	4.51	99	P	Pn	01 15 45.4	-0.1

IDC 07 01:37:10.2±10.0**, 7°.66S**×**127°.87E, h174**km±105km**, mb2.6**/1**, mb1 3.4**/5**, mb1mx3.1**/35**, mbtmp3.8**/5**, Error ellipse: s-maj=125.7km s-min=29.3km az=47.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	4.87	238	P	Pn	01 38 23.5	+1.1
	5.8nm,0.3s,baz=92,slow=8.2,SNR=1.8						
BATI				S	Sn	01 39 16.1	-2.8
	6.2nm,0.3s,baz=115,slow=3.4,SNR=2.4						
FITZ	Fitzroy Crossi	10.60	192	P	Pn	01 39 36.4	-1.3
	0.5nm,0.3s,baz=13,slow=12,SNR=26						
FITZ				S	Sn	01 41 27.5	-8.0
	0.6nm,0.3s,baz=44,slow=17,SNR=3.0						
WRA	Warramunga Arr	13.73	153	P	Pn	01 40 17.0	-0.9
	1.0nm,0.3s,baz=327,slow=14,SNR=30						
WRA				S	Sn	01 42 41.8	-8.8
	0.7nm,0.3s,baz=331,slow=22,SNR=8.0						
ASAR	Alice Springs	16.94	161	P	Pn	01 40 58.0	+0.8
	0.5nm,0.3s,baz=335,slow=11,SNR=20						
ASAR				S	S	01 43 58.1	-6.0
	0.1nm,0.3s,baz=320,slow=16,SNR=1.9						
MKAR	Makanchi Array	67.64	328	P	P	01 47 48.2	-0.2
	0.1nm,0.4s,baz=126,slow=7.3,SNR=1.6						

*WEL **07** 01:47:23.9, 39°S±3°×17°5E±°, h271km±4km, M4.6/63, MLv4.6/63, Error ellipse: s-maj=0.0km s-min=0.0km az=51.1*
*NOU **07** 01:47:24.3, 38°.75S×175°.05E, h265km, MLv4.7, North Island, New Zealand*
*NEIC **07** 01:47:25.0±1.2, 38°.76S±0°.07×175°.1E±0°.1, h252km±8km, mb4.3/7, ML4.6(WEL), Error ellipse: s-maj=14.0km s-min=10.7km az=96.0*
*IDC **07** 01:47:25.7±1.3, 38°.64S×175°.29E, h264km±13km, mb3.7/6, mb1 3.8/7, mb1mx3.6/29, mbtmp4.4/7, Error ellipse: s-maj=22.1km s-min=15.9km az=85.0*
ISC 07 01:47:25.3±0.6**, 38°.79S**±0°.05×**175°.07E**±0°.05**, h261**km±5km**, n169, σ1s.58**/189**, mb4.1**/10**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HIZ	Hauiti	0.32	329		Pn	01 47 58.6	-0.4
HIZ	Hauiti	0.32	329	P	Pn	01 47 58.7	-0.4
HIZ				S	S	01 48 24.1	-1.4
VRZ	Vera Road	0.42	215	P	Pn	01 47 58.8	-0.3
KATZ	Kakaramea	0.53	111	P	Pn	01 47 59.4	-0.2
KATZ				S	S	01 48 25.6	-1.1
TLZ	Tolley Road	0.59	39	P	Pn	01 47 59.0	-0.7
FWVZ	Far West T-bar	0.60	141	P	Pn	01 47 59.8	-0.1
FWVZ				S	S	01 48 24.5	-2.8
KUTZ	Kaahu Road	0.66	64	P	Pn	01 47 59.5	-0.5
LREZ	Lake Rotokare	0.85	217	P	Pn	01 48 01.0	+0.4
LREZ				S	S	01 48 28.1	-0.5
PREZ	Palmer Road	0.90	232	P	Pn	01 48 01.4	+0.5
GRRZ	Galatos Road	0.93	62	P	Pn	01 48 00.6	-0.5
KHEZ	Kahui Hut	0.96	238	P	Pn	01 48 01.7	+0.4
WAZ	Wanganui	0.97	184	P	Pn	01 48 01.7	+0.5
WAZ				S	S	01 48 28.0	-1.6
HRRZ	Handcock Road	1.03	68	P	Pn	01 48 01.2	-0.4
HSRZ	Hossack Road	1.04	63	P	Pn	01 48 01.4	-0.3
BHHZ	Black Hill Sta	1.05	133	P	Pn	01 48 01.4	-0.3
BHHZ				S	S	01 48 26.8	-3.7
NBEZ	Newall Road No	1.05	242	P	Pn	01 48 02.1	+0.5
TOZ	Tahuroa Road	1.11	18	P	Pn	01 48 01.2	-0.9
NMEZ	Namu Road	1.12	235	P	Pn	01 48 02.5	+0.5
NMEZ				S	S	01 48 31.0	0.0
HLRZ	Highlands Stat	1.14	63	P	Pn	01 48 02.3	0.0
BKZ	Black Stump Fm	1.18	109		Pn	01 48 02.1	-0.4
BKZ	Black Stump Fm	1.18	109	P	Pn	01 48 02.1	-0.4
BKZ				S	S	01 48 28.4	-3.4
KARZ	Kaharoa	1.20	51	P	Pn	01 48 01.7	-1.0
KWHZ	Kaweka Forest	1.23	122	P	Pn	01 48 03.2	+0.4
KWHZ				S	S	01 48 29.9	-2.6
KRHZ	Kereru	1.33	131	P	Pn	01 48 03.5	+0.1
KRHZ				S	S	01 48 31.0	-2.5
MTHZ	Maungataniwha	1.39	93	P	Pn	01 48 03.4	-0.4
MTHZ				S	S	01 48 30.4	-3.8
NMHZ	Naumai	1.39	103	P	Pn	01 48 04.4	+0.5
MCHZ	McNeill Hill	1.43	118	P	Pn	01 48 04.7	+0.7
MCHZ				S	S	01 48 33.5	-1.2
PNHZ	Pukenui	1.43	142	P	Pn	01 48 04.3	+0.2
PNHZ				S	S	01 48 32.3	-2.5
OHWZ	Ohakea	1.43	172	P	Pn	01 48 04.9	+0.9
OHWZ				S	S	01 48 33.6	-1.1
TSZ	Takapari Road	1.45	152	P	Pn	01 48 04.5	+0.3
TSZ				S	S	01 48 32.4	-2.6
RTZ	Ruatahuna	1.51	84	P	Pn	01 48 04.0	-0.8
ARHZ	Aropaoanui	1.58	108	P	Pn	01 48 05.4	+0.3
ARHZ				S	S	01 48 34.5	-2.1
RAHZ	Arahi	1.58	95	P	Pn	01 48 05.2	0.0
WPHZ	Waipukurau	1.66	141	P	Pn	01 48 06.1	+0.3
WPHZ				S	S	01 48 35.8	-2.0
MKAZ	Moumakai	1.68	3	P	Pn	01 48 05.0	-1.0
URZ	Urewera	1.69	73	P	Pn	01 48 04.5	-1.5
	172nm,0.3s,baz=257,slow=3.6,SNR=1754						
URZ				S	S	01 48 32.3	-5.8
	293nm,0.3s,baz=109,slow=19,SNR=43						
URZ	Urewera	1.69	73	P	Pn	01 48 04.5	-1.5
URZ				S	S	01 48 33.3	-4.9
POWZ	Post Office Ro	1.69	162	P	Pn	01 48 06.1	+0.1
POWZ				S	S	01 48 35.7	-2.5
WHHZ	Waihua	1.72	100	P	Pn	01 48 06.2	0.0
WHHZ				S	S	01 48 36.5	-2.0
KAHZ	Kahuranaki	1.73	126	P	Pn	01 48 06.9	+0.5
DVHZ	Dannevirke	1.73	151	P	Pn	01 48 06.3	0.0
AWAZ	Awhitu Peninsu	1.75	349	P	Pn	01 48 05.8	-0.8
CKHZ	Cape Kidnapper	1.79	120	P	Pn	01 48 07.3	+0.6
CKHZ				S	S	01 48 37.3	-2.3
ETAZ	East Tamaki Re	1.83	357	P	Pn	01 48 06.4	-0.9
PXZ	Pawanui	1.87	132	P	Pn	01 48 07.6	+0.2
PRWZ	Pori Road	1.90	159	P	Pn	01 48 07.9	+0.2
PRHZ	Porangahau	1.91	141	P	Pn	01 48 08.1	+0.3
MRZ	Mangatainoka R	1.91	168	P	Pn	01 48 07.6	-0.2
EPAZ	Eden Park BICE	1.92	352	P	Pn	01 48 07.2	-0.8
HBAZ	Herne Bay Bore	1.95	352	P	Pn	01 48 07.5	-0.7
MWZ	Matawai	1.98	78	P	Pn	01 48 07.5	-1.0
ANWZ	Angora Road	2.00	147	P	Pn	01 48 08.9	+0.4
MBAZ	Motutapu North	2.02	356	P	Pn	01 48 08.0	-0.8
OGWZ	Otaki Gorge	2.03	178	P	Pn	01 48 09.0	+0.2
KNZ	Kokohu	2.05	97	P	Pn	01 48 08.6	-0.3
RVAZ	Riverhead Bore	2.05	349	P	Pn	01 48 08.3	-0.8
KIW	Kapiti Island	2.08	183	P	Pn	01 48 09.1	-0.1
TIWZ	Tintock	2.09	163	P	Pn	01 48 09.5	+0.1
BFZ	Birch Farm	2.10	155	Pn	Pn	01 48 08.8	-0.7
BFZ	Birch Farm	2.10	155	P	Pn	01 48 09.3	-0.1
KUZ	Kuaotunu	2.10	14	P	Pn	01 48 08.3	-1.3
HOWZ	Holdsworth Sta	2.14	171	P	Pn	01 48 09.5	-0.3
ABAZ	Army Bay	2.19	355	P	Pn	01 48 09.9	-0.5
DUWZ	D'Urville Isla	2.20	203	P	Pn	01 48 10.4	0.0
CPWZ	Castlepoint	2.29	158	P	Pn	01 48 11.7	+0.5
CAW	Cannon Point	2.32	180	P	Pn	01 48 11.3	-0.1
HAZ	Te Kaha	2.37	65	P	Pn	01 48 09.8	-2.2
MTW	Mount Morrison	2.39	172	P	Pn	01 48 11.8	-0.3
TMWZ	Te Maipa	2.40	165	P	Pn	01 48 12.1	-0.2
CNGZ	Carnagh Statio	2.48	84	P	Pn	01 48 12.9	-0.1
TCW	Tory Channel	2.50	194	P	Pn	01 48 13.2	+0.1
WEL	Wellington	2.51	185	P	Pn	01 48 13.2	0.0
SNZO	South Karori	2.54	186	Pn	Pn	01 48 12.9	-0.7
GRZ	Great Barrier	2.55	7	P	Pn	01 48 12.7	-1.1
PUZ	Puketiti	2.60	75	P	Pn	01 48 13.1	-1.2
PAWZ	Paruwai Farm	2.61	174	P	Pn	01 48 14.0	-0.3
BHW	Baring Head	2.62	183		Pn	01 48 13.6	-0.8
BHW	Baring Head	2.62	183	P	Pn	01 48 14.0	-0.4
MSWZ	Moikau Station	2.63	177		Pn	01 48 14.0	-0.6
MSWZ	Moikau Station	2.63	177	P	Pn	01 48 14.1	-0.4
TRWZ	Traveller	2.65	170	P	Pn	01 48 14.5	-0.2
NNZ	Nelson	2.75	208	Pn	Pn	01 48 15.2	-0.5
NNZ	Nelson	2.75	208	P	Pn	01 48 15.4	-0.3
TUWZ	Tuamarina	2.78	198		Pn	01 48 15.7	-0.2
TUWZ	Tuamarina	2.78	198	P	Pn	01 48 16.0	0.0
PLWZ	Palliser	2.79	177	Pn	Pn	01 48 15.6	-0.5
PLWZ	Palliser	2.79	177	P	Pn	01 48 15.6	-0.5
QRZ	Quartz Range	2.82	223		Pn	01 48 15.0	-1.5
QRZ	Quartz Range	2.82	223	P	Pn	01 48 15.4	-1.1
MXZ	Matakaoa Point	2.83	65	Pn	Pn	01 48 15.6	-1.0
MXZ	Matakaoa Point	2.83	65	P	Pn	01 48 15.3	-1.3
WCZ	Waipu Caves	2.90	348	P	Pn	01 48 16.5	-0.8
CMWZ	Cape Campbell	3.03	192		Pn	01 48 18.9	+0.3
CMWZ	Cape Campbell	3.03	192	P	Pn	01 48 19.2	+0.5
BSWZ	Blackbirch Sta	3.06	197		Pn	01 48 18.7	-0.3
BSWZ	Blackbirch Sta	3.06	197	P	Pn	01 48 19.0	0.0
THZ	Tophouse	3.40	208	Pn	Pn	01 48 22.1	-0.6
THZ	Tophouse	3.40	208	P	Pn	01 48 22.0	-0.8
OUZ	Omahuta	3.75	341	Pn	Pn	01 48 25.9	-0.8
OUZ	Omahuta	3.75	341	P	Pn	01 48 26.1	-0.6
KHZ	Kahutara	3.81	197	Pn	Pn	01 48 26.9	-0.3
KHZ	Kahutara	3.81	197	P	Pn	01 48 26.8	-0.3
DSZ	Denniston Nort	3.87	219	P	Pn	01 48 26.8	-1.2
GVZ	Greta Valley S	4.45	200	P	Pn	01 48 33.9	-0.9
LTZ	Lake Taylor	4.52	207	Pn	Pn	01 48 34.5	-1.1
LTZ	Lake Taylor	4.52	207	P	Pn	01 48 34.6	-1.0
AMCZ	Amberley	4.75	202	P	Pn	01 48 37.2	-1.1
INZ	Inchbonnie	4.80	214	P	Pn	01 48 37.2	-1.6
OXZ	Oxford	5.08	206		Pn	01 48 40.5	-1.7
OXZ	Oxford	5.08	206	P	Pn	01 48 40.6	-1.7
MQZ	McQueen's Vall	5.24	200	P	Pn	01 48 42.2	-2.0
WVZ	Waitaha Valley	5.39	216	P	Pn	01 48 43.8	-2.2
RACZ	Rakaia	5.41	203	P	Pn	01 48 44.6	-1.5
MHCZ	Mount Hutt	5.43	208	P	Pn	01 48 45.3	-1.2
WACZ	Wakanui South	5.70	204	P	Pn	01 48 48.5	-1.2
GCSZ	Gaunt Creek Bo	5.77	217	P	Pn	01 48 48.5	-2.2
RPZ	Rata Peaks	5.78	210	P	Pn	01 48 48.7	-2.1
	75nm,0.3s,baz=214,slow=2.1,SNR=134						

RPZ				S	**S**	**01 49 53.2**	**-6.1**
	114nm,0.3s,baz=25,slow=6.7,SNR=19						
RPZ	**Rata Peaks**	**5.78**	**210**	P	**Pn**	**01 48 49.1**	**-1.7**
FOZ	**Fox Glacier**	**6.18**	**218**		**Pn**	**01 48 53.3**	**-2.3**
FOZ	**Fox Glacier**	**6.18**	**218**	P	**Pn**	**01 48 53.0**	**-2.7**
TMZ	**Timaru**	**6.37**	**207**	P	**Pn**	**01 48 56.5**	**-1.5**
LBZ	**Lake Benmore**	**6.69**	**212**	P	**Pn**	**01 48 59.7**	**-2.4**
ODZ	**Otahua Downs**	**7.07**	**206**	P	**Pn**	**01 49 05.7**	**-1.1**
JCZ	**Jackson Bay**	**7.08**	**220**	P	**Pn**	**01 49 04.2**	**-2.9**
WKZ	**Wanaka**	**7.54**	**215**	Pn	**Pn**	**01 49 09.7**	**-3.0**
WKZ	**Wanaka**	**7.54**	**215**	P	**Pn**	**01 49 09.3**	**-3.4**
EAZ	**Earnscleugh**	**7.74**	**212**	P	**Pn**	**01 49 11.9**	**-3.2**
HHSZ	**Highcliff Hill**	**7.83**	**204**	P	**Pn**	**01 49 16.4**	**+0.1**
MSZ	**Milford Sound**	**7.94**	**220**	P	**Pn**	**01 49 15.1**	**-2.7**
CTZ	**Chatham Island**	**7.98**	**131**	P	**Pn**	**01 49 19.0**	**+0.8**
TUZ	**Tuapeka**	**8.21**	**208**	P	**Pn**	**01 49 19.7**	**-1.4**
MLZ	**Mavora Lakes**	**8.36**	**216**	P	**Pn**	**01 49 20.0**	**-3.0**
WHZ	**Wether Hill Ro**	**8.84**	**214**	P	**Pn**	**01 49 25.8**	**-3.3**
SYZ	**Scrubby Hill**	**8.89**	**207**	P	**Pn**	**01 49 28.3**	**-1.3**
DCZ	**Deep Cove**	**8.89**	**219**	P	**Pn**	**01 49 26.9**	**-2.8**
APZ	**The Paps**	**9.57**	**211**	P	**Pn**	**01 49 35.7**	**-2.5**
PYZ	**Puysegur Point**	**9.63**	**217**	P	**Pn**	**01 49 34.8**	**-4.1**
DZM	**Mont Dzumac**	**18.23**	**334**	P	**P**	**01 51 19.6**	**-0.3**
	0.1nm,0.3s,baz=99,slow=9.5,SNR=2.1						
MSVF	**Nonsavu**	**21.14**	**8**	P	**P**	**01 51 49.5**	**-1.0**
	42nm,0.5s,baz=222,slow=6.2,SNR=60						
MSVF	**Nonsavu**	**21.14**	**8**	P	**P**	**01 51 49.6**	**-1.0**
AS31	**Alice Springs**	**37.95**	**281**	P	**P**	**01 54 18.8**	**+0.5**
ASAR	**Alice Springs**	**37.96**	**281**	P	**P**	**01 54 19.9**	**+1.6**
	5.2nm,0.9s,baz=119,slow=6.4,SNR=36						
ASAR				pP	**pP**	**01 55 14.2**	**+3.5**
	3.0nm,1.0s,baz=124,slow=8.1,SNR=3.4						
ASAR				PcP	**PcP**	**01 56 27.6**	**-0.6**
	1.1nm,0.8s,baz=112,slow=4.3,SNR=2.9						
ASAR	**Alice Springs**	**37.96**	**281**	P	**P**	**01 54 19.7**	**+1.4**
VNDA	**Vanda**	**39.25**	**185**	P	**P**	**01 54 30.7**	**+2.5**
	2.3nm,0.8s,baz=355,slow=7.2,SNR=8.3						
VNDA	**Vanda**	**39.25**	**185**	P	**P**	**01 54 30.4**	**+2.2**
WB2	**Warramunga Arr**	**39.75**	**286**	P	**P**	**01 54 34.2**	**+1.0**
WB2				IAmb	IAmb	01 54 47.7	
	comp=Z,9.7nm,1.3s						
WRA	**Warramunga Arr**	**39.76**	**286**	P	**P**	**01 54 33.8**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=133,slow=7.6,SNR=9.7						
NWAO	**Narrogin (SRO)**	**46.57**	**259**	P	**P**	**01 55 26.7**	**-0.6**
NWAO				IAmb	IAmb	01 55 26.9	
	comp=Z,30nm,1.4s						
QSPA	**South Pole Qui**	**51.34**	**180**	P	**P**	**01 56 04.5**	**+1.4**
BELA	**Belgrano 2**	**62.21**	**173**	P	**P**	**01 57 19.5**	**+0.8**
BELA				IAmb	IAmb	01 57 21.3	
	comp=Z,7.4nm,0.9s						
SNAA	**Sanae**	**69.84**	**181**	P	**P**	**01 58 08.4**	**+1.1**
SNAA	**Sanae**	**69.84**	**181**	pP	pP	01 59 06.4	-0.6
SNAA	**Sanae**	**69.84**	**181**	P	**P**	**01 58 07.8**	**+0.5**
SNAA				IAmb	IAmb	01 58 09.4	
	comp=Z,6.6nm,1.0s						
VNA3	**Neumayer Olymp**	**70.22**	**178**	P	**P**	**01 58 10.8**	**+1.2**
VNA3	**Neumayer Olymp**	**70.22**	**178**	pP	pP	01 59 07.5	-1.8
VNA2	**Neumayer--Watz**	**70.58**	**179**	P	**P**	**01 58 13.3**	**+1.6**
	baz=169,slow=5.6						
VNA2	**Neumayer--Watz**	**70.58**	**179**	pP	pP	01 59 09.2	-2.4
VNA1	**Neumayer--Stat**	**70.85**	**179**	P	**P**	**01 58 15.0**	**+1.7**
VNA1	**Neumayer--Stat**	**70.85**	**179**	pP	pP	01 59 10.2	-3.0
MJAR	**Matsushiro Arr**	**82.31**	**331**	P	**P**	**01 59 16.8**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=156,slow=6.5,SNR=5.1						
KSRS	**Korea Array**	**87.41**	**324**	P	**P**	**01 59 44.8**	**+1.9**
	comp=Z,2.4nm,0.7s,baz=144,slow=4.8,SNR=10						
KSAR	**Wonju Array Be**	**87.41**	**324**	P	**P**	**01 59 44.9**	**+2.0**
HHC	**Hu-ho-hao-te**	**98.16**	**317**	*e*P	Pdif	02 00 34.2	+1.8
MKAR	**Makanchi Array**	**118.64**	**309**	PKP	**PKPdf**	**02 05 40.4**	**-1.3**
	comp=Z,0.3nm,0.9s,baz=205,slow=2.7,SNR=2.4						
KBZ	**Khabaz**	**144.10**	**294**	PKP	PKPbc	02 06 27.7	-0.5
	comp=Z,3.9nm,0.8s,baz=115,slow=3.4,SNR=13						
ARCES	**ARCESS Array B**	**145.18**	**342**	PKPbc	**PKPab**	**02 06 30.5**	**-0.7**
	comp=Z,3.8nm,0.7s,baz=55,slow=2.6,SNR=18						
BRTR	**Keskin Array B**	**150.27**	**284**	PKPbc	**PKPbc**	**02 06 44.6**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=184,slow=2.2,SNR=3.4						
FINES	**FINESS Array B**	**150.34**	**330**	PKPbc	**PKPbc**	**02 06 43.2**	**-1.4**
	comp=Z,2.8nm,1.0s,baz=37,slow=5.4,SNR=2.1						
TORD	**Torodi Ar. Bea**	**153.80**	**195**	PKPbc	**PKiKP**	**02 06 53.4**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=180,slow=3.0,SNR=1.7						
TORD				PKPab	**PKPab**	**02 07 07.8**	**0.0**
	comp=Z,0.6nm,0.4s,baz=161,slow=3.6,SNR=2.8						

*IDC **07** 01:57:34.2±3.0, 21.27S×173.46W, h86km±28km, mb3.6/2, mb1 4.0/6, mb1mx3.6/31, mbtmp4.3/6, Error ellipse: s-maj=36.1km s-min=27.2km az=3.0*

ISC 07 01:57:34.9±1.1, 21.3S±0.1×173.5W±0.1, h100km, n8, σ0.90/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.74**	**293**	P	**Pn**	**01 59 38.3**	**-0.3**
	0.7nm,0.3s,baz=123,slow=12,SNR=12						
RAO	**Raoul Island**	**8.87**	**206**	P	**Pn**	**01 59 39.1**	**-0.9**
	97nm,0.3s,baz=57,slow=23,SNR=2.3						
RAR	**Rarotonga**	**12.79**	**92**	P	**Pn**	**02 00 32.8**	**-0.2**
	3.4nm,0.3s,baz=270,slow=7.1,SNR=2.6						
DZM	**Mont Dzumac**	**18.67**	**264**	P	**P**	**02 01 45.0**	**-0.3**
	0.1nm,0.3s,baz=116,slow=22,SNR=3.6						
URZ	**Urewera**	**18.74**	**204**	P	**Pn**	**02 01 48.5**	**+1.2**
	0.3nm,0.3s,baz=68,slow=19,SNR=1.8						
ASAR	**Alice Springs**	**48.44**	**257**	P	**P**	**02 06 08.8**	**+1.2**
	2.1nm,0.8s,baz=91,slow=8.2,SNR=22						
WRA	**Warramunga Arr**	**48.67**	**262**	P	**P**	**02 06 09.0**	**-0.3**
	1.0nm,0.8s,baz=97,slow=8.6,SNR=4.6						
ARCES	**ARCESS Array B**	**130.42**	**351**	PKP	**PKiKP**	**02 16 33.9**	**+0.1**
	3.4nm,0.9s,baz=68,slow=5.0,SNR=5.6						

*PDG **07** 02:23:00.4±0.2, 43.22N×20.84E, h18km, MD2.9/1, ML2.8/10, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
*RHSSO **07** 02:23:00.2±0.7, 43.26N×20.85E, h5km±2km, ML2.8/11*
*BEO **07** 02:23:01.3±0.3, 43.25N×20.89E, h12km±2km, ML2.9/12*
*SKO **07** 02:23:02.8, 43.12N×20.80E, h13km*

ISC 07 02:23:00.1±1.0, 43.24N±0.02×20.86E±0.02, h11km±8km, n72, σ0.77/124, 30C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMRK	**Smrekonice**	**0.37**	**171**	⇑*i*Pg	**Pg**	**02 23 07.6**	**+0.1**
SMRK				*i* Sg	**Sg**	**02 23 12.6**	**+0.3**
GRUS	**Gruza**	**0.66**	**351**	*e*Pg	**Pg**	**02 23 12.8**	**-0.2**
GRUS				*e*Sg	**Sg**	**02 23 22.6**	**+0.9**
PEJK	**Peje**	**0.73**	**216**	⇑*i*Pg	**Pg**	**02 23 14.0**	**-0.2**
PEJK				*i* Sg	**Sg**	**02 23 23.5**	**-0.3**
BOVS	**Bovan**	**0.74**	**57**	*e*Pg	**Pg**	**02 23 14.1**	**-0.3**
BOVS				*e*Sg	**Sg**	**02 23 23.6**	**-0.4**
BOVS	**Bovan**	**0.74**	**57**	⇓P	**Pg**	**02 23 14.1**	**-0.3**
BOVS				⇑S	**Sg**	**02 23 23.6**	**-0.4**
BEY	**Berane**	**0.79**	**243**	*i* Pg	**Pg**	**02 23 15.0**	**-0.5**
IVA	**Berane**	**0.79**	**243**	⇑*i*Pg	**Pg**	**02 23 14.8**	**-0.7**
IVA				*i* Sg	**Sb**	**02 23 26.4**	**-0.4**
ZATK	**Zatriq**	**0.81**	**192**	⇓*i*Pg	**Pg**	**02 23 15.3**	**-0.4**
ZATK				*i* Sg	**Sg**	**02 23 25.2**	**-1.0**
GJIK	**Gjilan**	**0.88**	**151**	*i* Pg	**Pb**	**02 23 17.5**	**0.0**
GJIK				*i* Sg	**Sn**	**02 23 29.6**	**-1.7**
PVY	**Plav**	**0.92**	**226**	⇓*i*Pg	**Pg**	**02 23 17.4**	**-0.4**
PRZK	**Prizren**	**1.03**	**184**	*e*Pg	**Pn**	**02 23 19.9**	**-0.6**
TRUS	**Trudelj**	**1.04**	**342**	*e*Pg	**Pb**	**02 23 20.4**	**+0.2**
TRUS				*e*Sg	**Sn**	**02 23 35.5**	**+0.2**
KOME	**Kolasin**	**1.05**	**249**	⇑*i*Pg	**Pb**	**02 23 20.0**	**-0.5**
KOME				*i* Sg	**Sn**	**02 23 35.8**	**+0.1**
SVIS	**Svilajnac**	**1.06**	**14**	*e*Pg	**Pg**	**02 23 21.6**	**+1.0**
SVIS				*e*Sg	**Sb**	**02 23 34.1**	**-0.3**
DIVS	**Divibare**	**1.07**	**324**	*e*Pg	**Pb**	**02 23 20.6**	**-0.1**
DIVS				*e*Sg	**Sb**	**02 23 35.0**	**+0.3**
DIVS	**Divibare**	**1.07**	**324**	⇓*i*Pg	**Pb**	**02 23 18.6**	**-2.1**
DIVS				*e*Sg	**Sb**	**02 23 34.0**	**-0.7**
PLE	**Pljevlja**	**1.08**	**276**	⇑*i*Pg	**Pb**	**02 23 19.9**	**-0.9**
PLE				*i* Sg	**Sg**	**02 23 35.5**	**+0.7**
RUDO	**Rudo**	**1.15**	**290**	⇓*i*Pg	**Pn**	**02 23 20.0**	**-2.2**
RUDO				*e*Sg	**Sb**	**02 23 35.7**	**-1.2**
ZAGS	**Zajecar**	**1.16**	**60**	*e*Pg	**Pb**	**02 23 21.7**	**-0.4**
ZAGS				*e*Sg	**Sg**	**02 23 37.5**	**+0.1**
BBLS	**Lazići**	**1.23**	**301**	*e*Pg	**Pn**	**02 23 23.2**	**-0.1**
BBLS				*e*Sg	**Sg**	**02 23 41.2**	**+1.5**
BBLS	**Lazići**	**1.23**	**301**	*e*Pg	**Pn**	**02 23 22.3**	**-1.0**
BBLS				*e*Sg	**Sb**	**02 23 38.5**	**-0.8**
KUBS	**Kucevo**	**1.32**	**26**	*e*Pg	**Pn**	**02 23 24.5**	**0.0**
KUBS				*e*Sg	**Sb**	**02 23 41.3**	**-0.5**
SKO	**Skopje**	**1.33**	**161**	*i* Pg	**Pg**	**02 23 25.1**	**-0.6**
SKO				*e*Sg	**Sn**	**02 23 41.6**	**-0.8**
SKO				*e*Lg	Lg	02 23 46.3	
	comp=N,3.1nm,0.3s						
BLKB	**Belogradchik**	**1.38**	**73**	⇓S	**Sg**	**02 23 44.8**	**+0.3**
BOSS	**Bosilegrad**	**1.40**	**121**	*e*Pg	**Pg**	**02 23 26.5**	**-0.6**
BOSS				*e*Sg	**Sg**	**02 23 46.4**	**+1.1**
PDG	**Podgorica**	**1.43**	**236**	*e*Pg	**Pb**	**02 23 26.9**	**+0.2**
PDG				*e*Sn	**Sb**	**02 23 45.2**	**+0.3**
PDG	**Podgorica**	**1.43**	**236**	⇑P	**Pb**	**02 23 26.9**	**+0.2**
PDG				⇑S	**Sb**	**02 23 45.1**	**+0.2**
PDG	**Podgorica**	**1.43**	**236**	⇑*i*Pg	**Pb**	**02 23 26.2**	**-0.5**
PDG				*e*Sg	**Sg**	**02 23 45.8**	**-0.2**
PDG	**Podgorica**	**1.43**	**236**	*i* Pg	**Pb**	**02 23 26.9**	**+0.2**
PDG				*i* Sg	**Sg**	**02 23 45.4**	**-0.6**
TTG	**Podgorica**	**1.43**	**236**	⇑*i*Pg	**Pn**	**02 23 26.1**	**+0.2**
TTG				*i* Sg	**Sg**	**02 23 46.8**	**+0.8**
UPM	**Unac-Piva**	**1.43**	**269**	⇑*i*Pg	**Pn**	**02 23 26.1**	**-0.1**
UPM				*i* Sg	**Sg**	**02 23 46.5**	**+0.4**
NKME	**Niksic**	**1.47**	**252**	⇓*i*Pg	**Pn**	**02 23 26.9**	**+0.2**
NKME				*i* Sg	**Sg**	**02 23 47.8**	**+0.3**
CEME	**Cevo**	**1.58**	**245**	⇑*i*Pg	**Pn**	**02 23 28.5**	**+0.3**
CEME				*i* Sg	**Sg**	**02 23 50.6**	**-0.4**
HAPS	**Han Pijesak,Bl**	**1.62**	**302**	*e*Pn	**Pb**	**02 23 30.2**	**0.0**
HAPS				*e*Sn	**Sb**	**02 23 51.7**	**+1.0**
HAPS	**Han Pijesak,Bl**	**1.62**	**302**	*e*Pn	**Pn**	**02 23 28.3**	**-0.5**
HAPS				*e*Sn	**Sn**	**02 23 50.2**	**+0.4**
TEKS	**Tekeris**	**1.63**	**324**	*e*Pn	**Pb**	**02 23 30.7**	**+0.5**
TEKS				*e*Sn	**Sb**	**02 23 51.9**	**+1.2**
TEKS	**Tekeris**	**1.63**	**324**	*e*Pn	**Pn**	**02 23 29.4**	**+0.6**
TEKS				*e*Sn	**Sn**	**02 23 50.3**	**+0.6**
MDVR	**Moldovita**	**1.67**	**21**	⇑P	**Pn**	**02 23 29.2**	**-0.1**
MDVR				⇑S	**Sn**	**02 23 49.9**	**-0.8**
BUM	**Brajici-Budva**	**1.72**	**238**	⇑*i*Pn	**Pn**	**02 23 30.4**	**+0.3**
BUM				*i* Sn	**Sb**	**02 23 53.8**	**+0.4**
ULC	**Ulcinj**	**1.74**	**224**	*i* Pg	**Pg**	**02 23 33.9**	**+0.4**
ULC	**Ulcinj**	**1.74**	**224**	⇓*i*Pn	**Pn**	**02 23 30.6**	**+0.3**
ULC				*i* Sn	**Sb**	**02 23 54.4**	**+0.4**
PUNG	**Punghina**	**1.83**	**55**	⇑P	**Pb**	**02 23 32.5**	**-1.1**
PUNG				⇓S	**Sn**	**02 23 55.2**	**+0.5**
HCY	**Herceg Novi**	**1.91**	**246**	⇑*i*Pn	**Pn**	**02 23 32.9**	**+0.3**
HCY				*i* Sn	**Sb**	**02 23 58.6**	**-0.2**
TREB	**Trebinje**	**1.91**	**255**	*e*Pn	**Pn**	**02 23 33.7**	**+1.1**
TREB				*e*Sn	**Sn**	**02 23 57.6**	**+0.9**
HERR	**Herculane**	**1.99**	**34**	⇑P	**Pn**	**02 23 34.2**	**+0.5**
HERR				⇓S	**Sn**	**02 23 57.9**	**-0.9**
FRGS	**Fruska Gora**	**2.06**	**339**	*e*Pn	**Pn**	**02 23 34.5**	**-0.2**
FRGS	**Fruska Gora**	**2.06**	**339**	⇓P	**Pn**	**02 23 34.6**	**-0.2**
FRGS	**Fruska Gora**	**2.06**	**339**	*e*Pn	**Pn**	**02 23 34.7**	**-0.1**
FRGS				*e*Sn	**Sn**	**02 24 01.1**	**+0.6**
OHR	**Ohrid**	**2.12**	**181**	*i* Pn	**Pn**	**02 23 35.9**	**+0.3**
OHR				*i* Sn	**Sg**	**02 24 08.2**	**-0.2**
OHR				*e*Lg	Lg	02 24 11.7	
	comp=N,24nm,0.9s						
BANR	**Banloc**	**2.16**	**5**	⇑S	**Sn**	**02 24 02.7**	**0.0**
SRE	**Strehaia**	**2.22**	**49**	⇑P	**Pn**	**02 23 38.2**	**+1.3**
SRE				⇓S	**Sn**	**02 24 05.2**	**+1.0**
VAY	**Valandovo**	**2.30**	**146**	*i* Pn	**Pn**	**02 23 38.9**	**+1.0**
VAY				*i* Sn	**Sg**	**02 24 16.7**	**+2.8**
VAY				*e*Lg	Lg	02 24 17.4	
	comp=E,222nm,2.0s						
BZS	**Buzias**	**2.44**	**13**	*e*Pn	**Pn**	**02 23 39.9**	**-0.1**
BZS	**Buzias**	**2.44**	**13**	⇑P	**Pn**	**02 23 39.5**	**-0.4**
BZS				⇓S	**Sn**	**02 24 08.3**	**-1.5**
GZR	**Gura Zlata**	**2.56**	**32**	⇑P	**Pn**	**02 23 42.3**	**+0.7**
GZR				⇑S	**Sn**	**02 24 13.1**	**+0.3**
MGRS	**Mrkonjic Grad**	**2.98**	**295**	*e*Pn	**Pn**	**02 23 48.1**	**+0.8**
MGRS				*e*Sn	**Sn**	**02 24 23.2**	**+0.2**
DEV	**Deva**	**3.02**	**28**	⇓S	**Sn**	**02 24 24.2**	**0.0**
LOT	**Lotru**	**3.04**	**42**	⇑S	**Sn**	**02 24 24.6**	**-0.2**
BLY	**Banja Luka**	**3.05**	**301**	*e*Pn	**Pn**	**02 23 49.4**	**+1.1**
BLY	**Banja Luka**	**3.05**	**301**	*e*Pn	**Pn**	**02 23 48.6**	**+0.3**
BLY				*e*Sn	**Sn**	**02 24 26.0**	**+1.2**
SIRR	**Siria**	**3.09**	**10**	⇑P	**Pn**	**02 23 48.0**	**-0.9**
SIRR				⇓S	**Sn**	**02 24 23.8**	**-1.9**
MORH	**Mrgy, Hungar**	**3.37**	**333**	⇑P	**Pn**	**02 23 52.6**	**-0.2**
MORH	**Mrgy, Hungar**	**3.37**	**333**	*e*Pn	**Pn**	**02 23 52.5**	**-0.2**
MORH				*e*Sn	**Sn**	**02 24 32.6**	**-0.1**
ARR	**Arges**	**3.45**	**51**	⇑P	**Pn**	**02 23 55.0**	**+1.1**
DRGR		**3.79**	**20**	⇑S	**Sn**	**02 24 41.4**	**-1.8**
MORI	**Morici**	**3.80**	**281**	*i* Pn	**Pn**	**02 23 58.2**	**-0.3**
MORI				Sn	**Sn**	**02 24 44.1**	**+0.9**
CJR	**Cluj-Napoca**	**3.98**	**28**	⇓S	**Sn**	**02 24 48.1**	**+0.1**
DOPR	**Dopca**	**4.24**	**48**	⇑P	**Pn**	**02 24 05.8**	**+1.2**
DUGI	**Dugi Otok**	**4.28**	**282**	*e*Pn	**Pn**	**02 24 05.4**	**+0.3**
NVLJ	**Novalja**	**4.53**	**289**	*e*Pn	**Pn**	**02 24 08.5**	**-0.1**
CRES	**Cresnjev**	**4.65**	**306**	*e*Pn	**Pn**	**02 24 10.4**	**+0.1**
CRES				*e*Sn	**Sn**	**02 25 03.1**	**-1.1**
PSZ	**Piszkesteto**	**4.73**	**352**	⇑P	**Pn**	**02 24 11.5**	**0.0**

*MAN **07** 02:23:40.8, 4.73N×125.64E, h14km, MS2.9*
*DJA **07** 02:23:41.0±0.7, 5°N±6°×12°6E±°, h76km±5km, M4.4/12, mb4.5/7, mB5.0/6, MLv4.5/12, Mw(mB)4.3/6*
*NEIC **07** 02:23:42.7±1.1, 4.7N±0.1×125.7E±0.1, h132km±11km, mb4.1/7, Error ellipse: s-maj=21.3km s-min=15.5km az=99.0*
*IDC **07** 02:23:44.2±10.0, 4.63N×125.66E, h149km±111km, mb3.5/8, mb1 3.7/8, mb1mx3.4/27, mbtmp3.9/8, Error ellipse: s-maj=36.8km s-min=17.3km az=79.0*

ISC 07 02:23:41.0±0.8, 4.68N±0.04×125.83E±0.08, h117km±8km, n35, σ2.07/41, mb4.0/11, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.03**	**197**	P	**Pn**	**02 24 03.0**	**-0.2**
SGSI				S	**Sn**	**02 24 18.9**	**-1.0**
DDMP	**Don Marcelino,**	**1.42**	**355**	*e*P	**Pn**	**02 24 04.3**	**-3.0**
DDMP				*e*S	**Sn**	**02 24 24.2**	**-3.1**
SKMP	**Bagumbayan, Su**	**2.23**	**325**	*e*P	**Pn**	**02 24 15.9**	**-1.4**
SKMP				*e*S	**Sn**	**02 24 42.7**	**-2.3**
MATI	**Mati**	**2.29**	**11**	*e*P	**Pn**	**02 24 18.0**	**0.0**
MATI				*e*S	**Sn**	**02 24 52.1**	**+5.8**
KCP	**Kidapawan**	**2.43**	**342**	⇑*i*P	**Pn**	**02 24 22.7**	**+2.8**
KCP				*i* S	**Sn**	**02 24 53.6**	**+4.0**
BUKP	**Musuan**	**3.27**	**346**	*e*P	**Pn**	**02 24 32.5**	**+1.6**
BUKP				*e*S	**Sn**	**02 25 09.3**	**0.0**
PAGZ	**Pagadian**	**3.98**	**322**	*e*P	**Pn**	**02 24 39.6**	**-0.7**
PAGZ				*e*S	**Sn**	**02 25 26.0**	**-0.1**
TNTI	**Ternate**	**4.17**	**158**	P	**Pn**	**02 24 41.3**	**-1.6**
KMSI	**Cibinong**	**4.48**	**204**	P	**Pn**	**02 24 49.2**	**+2.2**
GTOI	**Gorontalo**	**4.91**	**215**	P	**Pn**	**02 24 53.5**	**+0.7**
	0.4nm1µm80nm,0.7s						
GLSP	**General Luna,**	**5.08**	**3**	*e*P	**Pn**	**02 24 57.7**	**+2.6**
GLSP				*e*S	**Sn**	**02 25 48.4**	**-4.2**
MRSI	**Marisa**	**5.71**	**223**	P	**Pn**	**02 25 05.5**	**+2.0**
	0.5nm2µm135nm,0.7s						
TOLI2	**Tolitoli**	**6.17**	**235**		**Pn**	**02 25 10.1**	**+0.3**
LUWI	**Luwuk**	**6.46**	**208**		**Pn**	**02 25 14.2**	**+0.5**
LUWI	**Luwuk**	**6.46**	**208**	P	**Pn**	**02 25 16.9**	**+3.2**
SANI	**Sanana**	**6.69**	**179**	P	**Pn**	**02 25 15.2**	**-1.6**
	0.2nm1µm14nm,0.7s						
APSI	**Ampana**	**6.95**	**217**	P	**Pn**	**02 25 23.7**	**+3.3**
	0.1nm384nm15nm,0.5s						
MYLDM	**Lahad Datu**	**7.32**	**274**	Pn	**Pn**	**02 25 25.7**	**+0.3**
SWI	**Sorong**	**7.73**	**135**	P	**Pn**	**02 25 29.6**	**-1.3**
	0.1nm22nm,0.4s						
NLAI	**Namlea**	**7.97**	**171**	P	**Pn**	**02 25 33.3**	**-0.9**
	0.5nm20nm,0.6s						
TTSI	**Tana Toraja**	**9.75**	**218**	P	Pn	02 26 04.4	+6.2
FITZ	**Fitzroy Crossi**	**22.64**	**180**	P	**P**	**02 28 32.7**	**+0.3**
FITZ				IAmb	IAmb	02 28 38.3	
	comp=Z,8.2nm,1.2s						
WB0	**Warramunga Arr**	**25.71**	**161**	P	**P**	**02 29 01.7**	**+1.0**
WB0				IAmb	IAmb	02 29 14.1	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**25.86**	**161**	P	**P**	**02 29 02.9**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=340,slow=11,SNR=3.8						
WB2	**Warramunga Arr**	**25.86**	**161**	P	**P**	**02 29 02.9**	**+0.8**
ASAR	**Alice Springs**	**29.25**	**165**	P	**P**	**02 29 32.0**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=341,slow=7.0,SNR=7.3						
CMAR	**Chiang Mai Arr**	**29.62**	**300**	P	**P**	**02 29 35.1**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=113,slow=7.0,SNR=1.2						
KSRS	**Korea Array**	**32.67**	**3**	P	**P**	**02 30 02.3**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=179,slow=11,SNR=2.3						
MJAR	**Matsushiro Arr**	**33.69**	**18**	P	**P**	**02 30 11.0**	**0.0**
	comp=Z,0.9nm,0.3s,baz=199,slow=11,SNR=1.7						
MJAR	**Matsushiro Arr**	**33.69**	**18**	IAmb	IAmb	02 30 21.8	
	comp=Z,3.8nm,1.4s						
USRK	**Ussuriysk Ar.**	**39.73**	**7**	P	**P**	**02 31 03.6**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=180,slow=6.1,SNR=6.9						
MK31	**Makanchi Array**	**56.27**	**325**	P	**P**	**02 33 08.7**	**-0.7**
MKAR	**Makanchi Array**	**56.27**	**325**	P	**P**	**02 33 08.3**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=120,slow=8.0,SNR=14						
TIXI	**Tiksi**	**66.91**	**1**	P	**P**	**02 34 20.8**	**+0.4**
TIXI				IAmb	IAmb	02 34 21.7	
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**89.25**	**340**	P	**P**	**02 36 23.1**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=88,slow=5.5,SNR=5.0						

IDC 07 02:31:52.4±4.4, 31.33N×140.90E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/36, mbtmp3.5/5, ML2.8/2, Error ellipse: s-maj=183.2km s-min=19.7km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.02**	**332**	Pn	Pn	02 32 27.0	-0.7
	12nm,0.3s,baz=115,slow=21,SNR=1.1						
JHJ				Sn	Sn	02 32 53.7	0.0
	24nm,0.3s,baz=26,slow=19,SNR=2.1						
MJAR	**Matsushiro Arr**	**5.66**	**337**	Pn	Pn	02 33 18.1	+0.3
	0.2nm,0.3s,baz=145,slow=13,SNR=1.9						
MKAR	**Makanchi Array**	**46.98**	**307**	P	P	02 40 25.2	0.0
	0.2nm,0.4s,baz=82,slow=9.8,SNR=4.7						
WRA	**Warramunga Arr**	**51.37**	**188**	P	P	02 40 58.5	-0.4
	0.9nm,0.8s,baz=7.0,slow=8.6,SNR=7.4						
ASAR	**Alice Springs**	**55.09**	**188**	P	P	02 41 26.5	+0.2
	0.3nm,0.5s,baz=0.9,slow=5.4,SNR=4.5						

*ISK **07** 04:05:25.5, 34.75N×24.86E, h22km, ML3.5/9*
*THE **07** 04:05:27.4, 34.78N×24.78E, h24km±2km, ML3.1/5, Error ellipse: s-maj=2.9km s-min=1.4km az=2.0*
*ATH **07** 04:05:27.6, 34.95N×24.76E, h38km±2km, ML3.1/7, Error ellipse: s-maj=3.9km s-min=1.4km az=172.0*
*HLW **07** 04:05:31.3, 34.34N×25.20E, h10km±14km, Md3.7*

ISC 07 04:05:26.5±1.0, 34.74N±0.04×24.85E±0.03, h27km±8km, n55, σ1.12/73, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.28**	**354**	P	**Pb**	**04 05 33.2**	**-0.2**
SIVA				S	**Sb**	**04 05 38.3**	**+0.1**
SIVA				AML	AML	04 05 38.7	
	comp=E,38585µm,0.2s						
SIVA				AML	AML	04 05 39.1	
	comp=N,19632µm,0.2s						
SIVA	**Sivas**	**0.28**	**354**	P	**Pb**	**04 05 33.2**	**-0.2**
SIVA				S	**Sb**	**04 05 38.2**	**+0.1**
	comp=N,15µm,0.2s						
TMBK	**Timbaki Herakl**	**0.34**	**349**	P	**Pb**	**04 05 33.7**	**-0.6**
TMBK				S	**Sb**	**04 05 39.9**	**+0.4**
	comp=N,5µm,0.3s						
IDI	**Anoyia**	**0.55**	**4**	P	**Pb**	**04 05 36.8**	**-0.9**
IDI				S	**Sb**	**04 05 43.3**	**-2.0**
IDI				AML	AML	04 05 45.9	
	comp=N,8090µm,0.7s						
IDI				AML	AML	04 05 46.1	
	comp=E,5465µm,0.2s						
IDI	**Anoyia**	**0.55**	**4**	P	**Pb**	**04 05 36.8**	**-0.9**
IDI				S	**Sb**	**04 05 45.5**	**+0.2**
	comp=E,3µm,0.4s						
IDI	**Anoyia**	**0.55**	**4**	PG	**Pb**	**04 05 36.7**	**-0.9**
IDI				SG	**Sb**	**04 05 44.7**	**-0.6**
HRKL	**Herakleio**	**0.61**	**20**	P	**Pb**	**04 05 38.5**	**-0.1**
HRKL	**Herakleio**	**0.61**	**20**	PG	**Pb**	**04 05 38.0**	**-0.6**
HRKL				SG	**Sb**	**04 05 47.1**	**+0.2**
GVDS	**Gavdos**	**0.63**	**280**	P	**Pb**	**04 05 39.3**	**+0.4**
GVDS	**Gavdos**	**0.63**	**280**	PG	**Pb**	**04 05 39.1**	**+0.2**
GVDS				SG	**Sn**	**04 05 49.4**	**+0.6**
GVD	**Gavdhos**	**0.63**	**279**	P	**Pb**	**04 05 39.0**	**0.0**
GVD				S	**Sb**	**04 05 48.3**	**+0.9**
GVD				AML	AML	04 05 52.1	
	comp=E,7556µm,0.3s						
GVD				AML	AML	04 05 55.2	
	comp=N,7196µm,0.5s						
GVD	**Gavdhos**	**0.63**	**279**	P	**Pb**	**04 05 39.1**	**+0.1**
GVD	**Gavdhos**	**0.63**	**279**	PG	**Pb**	**04 05 39.0**	**0.0**
GVD				SG	**Sb**	**04 05 48.3**	**+0.9**
LAST	**Lasithi**	**0.67**	**51**	P	**Pb**	**04 05 39.8**	**+0.1**
LAST				S	**Sn**	**04 05 50.1**	**+0.1**
LAST				AML	AML	04 05 52.7	
	comp=N,1918µm,0.4s						
LAST				AML	AML	04 05 55.5	
	comp=E,1738µm,0.6s						
LAST	**Lasithi**	**0.67**	**51**	P	**Pb**	**04 05 39.8**	**+0.1**
LAST				S	**Sn**	**04 05 50.9**	**+0.9**
	comp=E,895nm,0.4s						
PRNS	**Prines Rethymn**	**0.69**	**336**	P	**Pb**	**04 05 37.9**	**-2.0**
PRNS				S	**Sb**	**04 05 49.1**	**+0.1**
NPS	**Neapolis**	**0.82**	**50**	P	**Pn**	**04 05 42.7**	**+0.3**
NPS				S	**Sn**	**04 05 53.9**	**+0.4**
NPS				AML	AML	04 06 00.1	
	comp=N,1661µm,0.5s						
NPS				AML	AML	04 06 03.7	
	comp=E,2458µm,0.4s						
NPS	**Neapolis**	**0.82**	**50**	P	**Pn**	**04 05 42.6**	**+0.3**
VAM	**Vamos**	**0.85**	**322**	P	**Pb**	**04 05 41.1**	**-1.5**
VAM				AML	AML	04 05 56.8	
	comp=N,3021µm,0.5s						
VAM				AML	AML	04 05 57.6	
	comp=E,3337µm,0.3s						
VAM	**Vamos**	**0.85**	**322**	P	**Pb**	**04 05 41.2**	**-1.5**
VAM				S	**Sb**	**04 05 53.4**	**-0.4**
	comp=E,2µm,0.4s						
IMMV	**Iera Moni Meta**	**1.01**	**316**	P	**Pb**	**04 05 43.8**	**-1.6**
IMMV	**Iera Moni Meta**	**1.01**	**316**	P	**Pb**	**04 05 43.8**	**-1.6**
IMMV	**Iera Moni Meta**	**1.01**	**316**	PG	**Pb**	**04 05 44.9**	**-0.5**
IMMV				SG	**Sn**	**04 05 59.1**	**+0.8**
KNDR	**Palaiochora Ch**	**1.07**	**298**	PN	**Pb**	**04 05 46.6**	**+0.2**
KNDR				SN	**Sn**	**04 06 01.7**	**+2.0**
STIA	**Sitia Lasithi**	**1.12**	**65**	P	**Pb**	**04 05 47.6**	**+0.4**
ZKR	**Zakros**	**1.19**	**71**	P	**Pb**	**04 05 50.1**	**+1.7**
ZKR				AML	AML	04 06 15.6	
	comp=N,607µm,0.5s						
ZKR				AML	AML	04 06 24.3	
	comp=E,936µm,0.7s						
ZKR	**Zakros**	**1.19**	**71**	PN	**Pn**	**04 05 46.9**	**-0.4**
ANKY	**Antikythira Is**	**1.69**	**312**	P	**Pn**	**04 05 55.7**	**+1.4**
SANT	**Santorini**	**1.71**	**17**	P	**Pn**	**04 05 54.1**	**-0.4**
SANT	**Santorini**	**1.71**	**17**	PN	**Pn**	**04 05 55.1**	**+0.6**
SNT5	**Nea Kammeni, S**	**1.72**	**15**	P	**Pn**	**04 05 54.9**	**+0.2**
SNT1	**Gialos, Santor**	**1.74**	**16**	P	**Pn**	**04 05 54.4**	**-0.5**
THT2	**Imerovigli**	**1.76**	**15**	P	**Pn**	**04 05 55.8**	**+0.7**
THT2	**Imerovigli**	**1.76**	**15**	PN	**Pn**	**04 05 55.5**	**+0.3**
MHLA	**Plaka, Milos I**	**2.03**	**350**	P	**Pn**	**04 05 59.2**	**+0.3**
KARP	**Karpathos**	**2.06**	**66**	PN	**Pn**	**04 05 59.9**	**+0.5**
KTHA	**Kythira Island**	**2.10**	**317**	P	**Pn**	**04 06 00.3**	**+0.4**
KTHA	**Kythira Island**	**2.10**	**317**	PN	**Pn**	**04 06 00.6**	**+0.7**
APE	**Apeiranthos**	**2.39**	**13**	PN	**Pn**	**04 06 04.2**	**+0.3**
VLI	**Veliai**	**2.51**	**322**	P	**Pn**	**04 06 05.7**	**+0.2**
ARG	**Arkhangelos**	**3.06**	**60**	PN	**Pn**	**04 06 13.7**	**+0.7**
SLUM	**Salum**	**3.25**	**174**	P	**Pn**	**04 06 16.9**	**+1.2**
	baz=179						
TURN	**Turunc**	**3.43**	**53**	PN	**Pn**	**04 06 19.3**	**+1.1**
MLSB	**Milas**	**3.49**	**42**	PN	**Pn**	**04 06 20.0**	**+1.0**
YER	**Yerkesik**	**3.67**	**48**	PN	**Pn**	**04 06 22.7**	**+1.1**
DALY	**Dalyan (Mula)**	**3.73**	**55**	PN	**Pn**	**04 06 23.4**	**+1.2**
FETY	**Fethiye**	**3.94**	**60**	PN	**Pn**	**04 06 25.8**	**+0.7**
AKAS	**Kas**	**4.16**	**68**	PN	**Pn**	**04 06 29.4**	**+1.1**
SWA2		**5.50**	**174**	P	**Pn**	**04 06 47.2**	**+0.6**
	baz=177						
SWA2				S	**Sn**	**04 07 42.8**	**-6.2**
	baz=177						
HMYD	**Mayadein**	**7.05**	**133**	P	**Pn**	**04 07 08.8**	**+0.9**
	baz=132						
HNAT	**Natroun**	**7.06**	**135**	P	**Pn**	**04 07 08.3**	**+0.2**
	baz=134						
RYAN	**Fayoum**	**7.29**	**139**	P	**Pn**	**04 07 11.5**	**+0.3**
	baz=139						
RYAN				S	Sn	04 08 24.2	-8.8
	baz=139						
GLL	**Jalalah**	**7.76**	**130**	P	**Pn**	**04 07 17.0**	**-0.7**
	baz=128						
HFRF	**Wahat Farafira**	**8.13**	**158**	P	**Pn**	**04 07 22.6**	**-0.1**
	baz=158						
NBNS	**Bani Suef**	**8.21**	**136**	P	**Pn**	**04 07 23.9**	**+0.1**
	baz=136						

NOU 07 04:18:38.8, 16.71S×168.48E, h0km, MLv4.7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.05**	**195**	P	Pg	04 18 58.5	-0.4
SANVU	**Saraoutou**	**1.76**	**315**	P	Pn	04 19 10.1	-0.4
LIFNC	**LIFOU**	**4.21**	**196**	P	Pn	04 19 44.8	+0.5
YATNC	**Mamie plateau,**	**5.53**	**195**	P	Pn	04 20 02.2	-0.2
DZM	**Mont Dzumac**	**5.67**	**199**	P	Pn	04 20 04.6	+0.2
OUENC	**Ouen Island, N**	**5.88**	**195**	P	Pn	04 20 06.4	-0.9

WEL 07 04:49:30.4±1.4**, 36˚S**±18˚×**18˚0E**±2˚4**, h249**^{km}±12^{km}**,**
M3.8/12**, mB4.7**/2**, ML4.0**/7**, MLv3.8**/12**, Mw(mB)3.9**/2**,**
Error ellipse: s-maj=0.0km s-min=0.0km az=118.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**2.18**	**222**	P	Pn	04 50 13.5	-0.9
HAZ				S	S	04 50 46.9	-2.2
PUZ	**Puketiti**	**2.21**	**209**	S	S	04 50 51.8	+2.1
RUGZ	**Raukumara Rang**	**2.39**	**220**	P	Pn	04 50 16.1	-0.5
CNGZ	**Carnagh Statio**	**2.59**	**205**	P	Pn	04 50 20.3	+1.8
MWZ	**Matawai**	**2.75**	**217**	P	Pn	04 50 20.1	0.0
MWZ				S	S	04 51 00.4	+0.9
URZ	**Urewera**	**2.91**	**223**	P	Pn	04 50 20.7	-1.1
URZ				S	S	04 51 01.8	-0.6
MYRZ	**Mayor Island**	**2.94**	**246**	P	Pn	04 50 25.5	+3.3
RTZ	**Ruatahuna**	**3.24**	**220**	P	Pn	04 50 24.5	-0.9
KNZ	**Kokohu**	**3.26**	**208**	P	Pn	04 50 26.4	+0.8
BKZ	**Black Stump Fm**	**3.91**	**218**	P	Pn	04 50 32.9	-0.1
KWHZ	**Kaweka Forest**	**4.14**	**217**	P	Pn	04 50 35.8	+0.1
KWHZ				S	S	04 51 29.9	+2.1
KRHZ	**Kereru**	**4.34**	**215**	P	Pn	04 50 37.9	-0.2
BHHZ	**Black Hill Sta**	**4.37**	**219**	P	Pn	04 50 38.0	-0.5
TSZ	**Takapari Road**	**4.86**	**215**	P	Pn	04 50 44.1	-0.3
MRZ	**Mangatainoka R**	**5.51**	**214**	P	Pn	04 50 51.9	-0.5
OGWZ	**Otaki Gorge**	**5.83**	**215**	P	Pn	04 50 55.7	-0.6
CAW	**Cannon Point**	**6.10**	**214**	P	Pn	04 50 59.1	-0.6

*IDC **07** 04:56:48.4±3.1, 4˚.92S×133˚.87E, h0^{km}, mb3.5/1, mb1 3.5/5, mb1mx3.4/33, mbtmp3.3/5, ML3.1/4, Error ellipse: s-maj=116.3km s-min=26.4km az=79.0*
ISC 07 04:56:51.4±1.5**, 5˚.10S**±0˚.07×**133˚.0E**±0˚.3**, h10**^{km}**, n5, σ1**^{s}**72**/7**, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.54**	**338**	Pn	**Pn**	**04 58 01.4**	**+1.2**
	0.6nm,0.3s,baz=192,slow=16,SNR=1.6						
SIJI				Sn	**Sn**	**04 58 50.5**	**-2.6**
	2.5nm,0.3s,baz=76,slow=24,SNR=5.8						
FITZ	**Fitzroy Crossi**	**14.78**	**208**	Pn	**P**	**05 00 26.1**	**-0.6**
	0.3nm,0.3s,baz=30,slow=11,SNR=17						
FITZ				Sn	**Sn**	**05 03 05.3**	**+0.6**
	0.1nm,0.3s,baz=246,slow=22,SNR=1.2						
WRA	**Warramunga Arr**	**14.81**	**175**	Pn	**Pn**	**05 00 19.9**	**-1.2**
	0.0nm,0.3s,baz=0.6,slow=16,SNR=1.3						
WRA				Sn	Sn	05 02 56.2	-9.3
	0.0nm,0.3s,baz=8.7,slow=23,SNR=1.4						
ASAR	**Alice Springs**	**18.48**	**177**	P	**Pn**	**05 01 08.4**	**+0.5**
	0.1nm,0.3s,baz=7.3,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**68.32**	**325**	P	**P**	**05 07 54.0**	**+1.1**
	0.3nm,0.5s,baz=118,slow=7.7,SNR=6.7						

*KRSC **07** 05:06:09.5±0.7, 53˚.63N×160˚.31E, h82^{km}±9^{km}, ML4.3*
*MOS **07** 05:06:10.5±0.6, 53˚.64N×160˚.26E, h86^{km}, mb4.0/5, Error ellipse: s-maj=10.9km s-min=4.8km az=70.4*
*IDC **07** 05:06:13.1±1.3, 53˚.77N×159˚.87E, h96^{km}±14^{km}, mb3.3/12, mb1 3.6/12, mb1mx3.3/44, mbtmp3.7/12, MS3.2/3, Ms1 3.2/3, ms1mx2.8/28, Error ellipse: s-maj=27.3km s-min=15.3km az=143.0*
ISC 07 05:06:11.0±0.7**, 53˚.64N**±0˚.03×**160˚.29E**±0˚.03**, h75**^{km}±6^{km}**, n105, σ1**^{s}**11**/142**, mb3.6**/17**, 2C-1D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.57**	**196**	PN	**Pn**	**05 06 25.3**	**+0.5**
SPN				S	**Sn**	**05 06 35.7**	**+0.6**
SPN	**Mys Shipunski**	**0.57**	**196**	*i* P	**Pn**	**05 06 25.3**	**+0.5**
SPN				*e*S	**Sn**	**05 06 35.7**	**+0.6**
KII	**Karymskiy**	**0.64**	**309**	PN	**Pn**	**05 06 25.6**	**0.0**
KII				S	**Sn**	**05 06 36.4**	**0.0**
KII	**Karymskiy**	**0.64**	**309**	*e*P	**Pn**	**05 06 25.6**	**0.0**
KII				*e*S	**Sn**	**05 06 36.4**	**0.0**
NLC	**Nalytchevo**	**0.74**	**230**	PN	**Pn**	**05 06 26.9**	**+0.3**
NLC				S	**Sn**	**05 06 38.7**	**+0.6**
NLC	**Nalytchevo**	**0.74**	**230**	*e*P	**Pn**	**05 06 26.9**	**+0.3**
NLC				*e*S	**Sn**	**05 06 38.7**	**+0.6**
SMAR	**Somma**	**0.97**	**247**	PN	**Pn**	**05 06 29.8**	**+0.3**
SMAR				S	**Sn**	**05 06 43.9**	**+0.6**
SMAR	**Somma**	**0.97**	**247**	*e*P	**Pn**	**05 06 29.8**	**+0.3**
SMAR				*e*S	**Sn**	**05 06 43.9**	**+0.6**
UGLR	**Uglovaya**	**0.98**	**244**	PN	**Pn**	**05 06 30.1**	**+0.6**
UGLR				S	**Sn**	**05 06 44.2**	**+0.8**
UGLR	**Uglovaya**	**0.98**	**244**	*i* P	**Pn**	**05 06 30.1**	**+0.6**
UGLR				*e*S	**Sn**	**05 06 44.2**	**+0.8**
KRER	**Koryakskii**	**0.98**	**250**	PN	**Pn**	**05 06 30.2**	**+0.5**
KRER	**Koryakskii**	**0.98**	**250**	*e*P	**Pn**	**05 06 30.2**	**+0.5**
AVH	**Avacha**	**1.00**	**248**	PN	**Pn**	**05 06 30.5**	**+0.7**
AVH				S	**Sn**	**05 06 45.0**	**+1.2**
AVH	**Avacha**	**1.00**	**248**	*i* P	**Pn**	**05 06 30.5**	**+0.7**
AVH				*e*S	**Sn**	**05 06 45.0**	**+1.2**
KRX	**Arik**	**1.02**	**254**	PN	**Pn**	**05 06 30.2**	**+0.1**
KRX				S	**Sn**	**05 06 44.5**	**+0.2**
KRX	**Arik**	**1.02**	**254**	*e*P	**Pn**	**05 06 30.2**	**+0.1**
KRX				*e*S	**Sn**	**05 06 44.5**	**+0.2**
KOK	**Koryaka**	**1.05**	**251**	PN	**Pn**	**05 06 30.8**	**+0.4**
KOK	**Koryaka**	**1.05**	**251**	*e*P	**Pn**	**05 06 30.8**	**+0.4**
DALK	**Dalny**	**1.11**	**237**	PN	**Pn**	**05 06 31.3**	**+0.3**
DALK				S	**Sn**	**05 06 46.5**	**+0.6**
DALK	**Dalny**	**1.11**	**237**	*i* P	**Pn**	**05 06 31.3**	**+0.3**
DALK				*e*S	**Sn**	**05 06 46.5**	**+0.6**
PET	**Petropavlovsk**	**1.16**	**238**	⇑*i*PN	**Pn**	**05 06 31.9**	**+0.2**
PET				*i* S	**Sn**	**05 06 47.8**	**+0.7**
PET				pmax	pmax		
	comp=Z,679nm,0.3s						
PET				smax	smax		
	comp=N,2μm,0.6s						
PET				smax	smax		
	comp=E,5μm,0.5s						
PET	**Petropavlovsk**	**1.16**	**238**	*i* P	**Pn**	**05 06 32.2**	**+0.5**
PET				*e*S	**Sn**	**05 06 47.8**	**+0.7**
MKZ	**Mys Kozlova**	**1.25**	**42**	PN	**Pn**	**05 06 33.5**	**+0.7**
MKZ				S	**Sn**	**05 06 50.3**	**+1.2**
MKZ	**Mys Kozlova**	**1.25**	**42**	*i* P	**Pn**	**05 06 33.5**	**+0.7**
MKZ				*e*S	**Sn**	**05 06 50.3**	**+1.2**
GNL	**Ganaly**	**1.40**	**273**	PN	**Pn**	**05 06 34.9**	**+0.1**
GNL				S	**Sn**	**05 06 52.1**	**-0.7**
GNL	**Ganaly**	**1.40**	**273**	*e*P	**Pn**	**05 06 34.9**	**+0.1**
GNL				*e*S	**Sn**	**05 06 52.1**	**-0.7**
KZV	**Kizimen**	**1.47**	**0**	PN	**Pn**	**05 06 36.7**	**+0.8**
KZV				S	**Sn**	**05 06 55.6**	**+1.0**
KZV	**Kizimen**	**1.47**	**0**	*e*P	**Pn**	**05 06 36.7**	**+0.8**
KZV				*e*S	**Sn**	**05 06 55.6**	**+1.0**
KRMR	**Karymshinskiy**	**1.53**	**239**	PN	**Pn**	**05 06 37.4**	**+0.9**
KRMR				S	**Sn**	**05 06 57.1**	**+1.4**
KRMR	**Karymshinskiy**	**1.53**	**239**	*e*P	**Pn**	**05 06 37.4**	**+0.9**
KRMR				*e*S	**Sn**	**05 06 57.1**	**+1.4**
TUMD	**Tumrok D**	**1.56**	**2**	*e*P	**Pn**	**05 06 37.7**	**+0.8**
TUMD				*e*S	**Sn**	**05 06 57.1**	**+0.5**
RUS	**Russkaya**	**1.62**	**222**	PN	**Pn**	**05 06 37.7**	**+0.1**
RUS				S	**Sn**	**05 06 58.0**	**+0.3**
RUS	**Russkaya**	**1.62**	**222**	*i* P	**Pn**	**05 06 37.7**	**+0.1**
RUS				*e*S	**Sn**	**05 06 58.0**	**+0.3**
PEA0B	**Petropavlovsk-**	**1.64**	**252**	*d i*PN	**Pn**	**05 06 38.2**	**+0.3**
PETK	**Petropavlovsk-**	**1.64**	**252**	P	**Pn**	**05 06 38.3**	**+0.4**
	comp=E,19nm,0.3s,baz=80,slow=17,SNR=322						
PETK				S	**Sn**	**05 06 58.0**	**-0.3**
	comp=E,30nm,0.3s,baz=84,slow=18,SNR=5.0						
PETK				LR	LR	05 07 05.0	
	comp=E,45nm,19.2s,baz=267,slow=36						
TUMR	**Tumrok**	**1.65**	**357**	PN	**Pn**	**05 06 39.5**	**+1.4**
TUMR				S	**Sn**	**05 07 00.6**	**+2.0**
TUMR	**Tumrok**	**1.65**	**357**	*e*P	**Pn**	**05 06 39.5**	**+1.4**
TUMR				*e*S	**Sn**	**05 07 00.6**	**+2.0**
MTVR	**Mutnovka**	**1.72**	**228**	PN	**Pn**	**05 06 40.0**	**+0.9**
MTVR				S	**Sn**	**05 07 01.6**	**+1.2**
MTVR	**Mutnovka**	**1.72**	**228**	*e*P	**Pn**	**05 06 40.0**	**+0.9**
MTVR				*e*S	**Sn**	**05 07 01.6**	**+1.2**
GRL	**Gorelyy**	**1.73**	**232**	PN	**Pn**	**05 06 40.4**	**+1.2**
GRL				S	**Sn**	**05 07 01.7**	**+1.2**
GRL	**Gorelyy**	**1.73**	**232**	*e*P	**Pn**	**05 06 40.4**	**+1.2**
GRL				*e*S	**Sn**	**05 07 01.7**	**+1.2**
ASAK	**Asacha**	**1.92**	**230**	PN	**Pn**	**05 06 42.9**	**+1.2**
ASAK				S	**Sn**	**05 07 06.6**	**+1.6**
ASAK	**Asacha**	**1.92**	**230**	*e*P	**Pn**	**05 06 42.9**	**+1.2**
ASAK				*e*S	**Sn**	**05 07 06.6**	**+1.6**
APC	**Apacha**	**2.01**	**250**	PN	**Pn**	**05 06 43.5**	**+0.7**
APC				S	**Sn**	**05 07 07.9**	**+0.8**
APC	**Apacha**	**2.01**	**250**	*e*P	**Pn**	**05 06 43.5**	**+0.7**
APC				*e*S	**Sn**	**05 07 07.9**	**+0.8**
KMNR	**Kamenistaya**	**2.12**	**359**	PN	**Pn**	**05 06 45.9**	**+1.5**
KMNR	**Kamenistaya**	**2.12**	**359**	*e*P	**Pn**	**05 06 45.9**	**+1.5**
KDTR	**Khodutka, Kamc**	**2.28**	**217**	PN	**Pn**	**05 06 46.9**	**+0.5**
KDTR				S	**Sn**	**05 07 13.3**	**-0.1**
KDTR	**Khodutka, Kamc**	**2.28**	**217**	*e*P	**Pn**	**05 06 46.9**	**+0.5**
KDTR				*e*S	**Sn**	**05 07 13.3**	**-0.1**
KOZ	**Kozyrevsk**	**2.43**	**354**	PN	**Pn**	**05 06 49.0**	**+0.5**
KOZ	**Kozyrevsk**	**2.43**	**354**	*e*P	**Pn**	**05 06 49.0**	**+0.5**
ESO	**Esso**	**2.47**	**339**	PN	**Pn**	**05 06 50.4**	**+1.4**
ESO	**Esso**	**2.47**	**339**	*e*P	**Pn**	**05 06 50.4**	**+1.4**
SRDR	**Sredinnyy**	**2.70**	**353**	PN	**Pn**	**05 06 53.1**	**+0.9**
SRDR	**Sredinnyy**	**2.70**	**353**	*e*P	**Pn**	**05 06 53.1**	**+0.9**
KBTR	**Krutoberegovo**	**2.96**	**29**	PN	**Pn**	**05 06 56.7**	**+1.1**
KBTR	**Krutoberegovo**	**2.96**	**29**	*e*P	**Pn**	**05 06 56.7**	**+1.1**
KBG	**Krutoberegovo**	**2.97**	**27**	PN	**Pn**	**05 06 57.1**	**+1.4**
KBG	**Krutoberegovo**	**2.97**	**27**	*e*P	**Pn**	**05 06 57.1**	**+1.4**
BDR	**Baidarnaya**	**2.98**	**10**	PN	**Pn**	**05 06 56.3**	**+0.3**
BDR	**Baidarnaya**	**2.98**	**10**	*e*P	**Pn**	**05 06 56.3**	**+0.3**
SMKR	**Semkarok**	**3.02**	**12**	PN	**Pn**	**05 06 58.4**	**+1.9**
SMKR	**Semkarok**	**3.02**	**12**	*e*P	**Pn**	**05 06 58.4**	**+1.9**
PAU	**Pauzhetka**	**3.04**	**226**	PN	**Pn**	**05 06 58.2**	**+1.5**
PAU	**Pauzhetka**	**3.04**	**226**	*e*P	**Pn**	**05 06 58.2**	**+1.5**
SRKR	**Sorokina**	**3.06**	**9**	PN	**Pn**	**05 06 59.0**	**+1.9**
SRKR	**Sorokina**	**3.06**	**9**	*e*P	**Pn**	**05 06 59.0**	**+1.9**
BKI	**Bering**	**3.67**	**62**	PN	**Pn**	**05 07 05.8**	**+0.6**
BKI				S	**Sn**	**05 07 44.8**	**-2.5**
BKI	**Bering**	**3.67**	**62**	*e*P	**Pn**	**05 07 05.8**	**+0.6**
BKI				*e*S	**Sn**	**05 07 44.8**	**-2.5**
SKR	**Severo-Kuril's**	**3.92**	**223**	*e*PN	**Pn**	**05 07 10.9**	**+2.2**
SKR				*e*S	**Sn**	**05 07 55.4**	**+1.9**
SKR				pmax	pmax		
	comp=Z,66nm,0.7s						
SKR				smax	smax		
	comp=E,108nm,0.5s						
SKR				smax	smax		
	comp=N,190nm,0.4s						
SKR				MLR	MLR		
	comp=Z,2μm,15.0s						
SKR	**Severo-Kuril's**	**3.92**	**223**	*e*P	**Pn**	**05 07 10.1**	**+1.4**
SKR				*e*S	**Sn**	**05 07 53.3**	**-0.2**
ALID	**Alaid**	**4.02**	**228**	PN	**Pn**	**05 07 13.1**	**+2.9**
ALID	**Alaid**	**4.02**	**228**	*e*P	**Pn**	**05 07 13.1**	**+2.9**
ERM	**Erimo**	**16.31**	**231**	*i* P	**Pn**	**05 09 53.2**	**-1.9**
YAK	**Yakutsk**	**18.17**	**310**	*i* P	**Pn**	**05 10 16.4**	**-1.4**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	**Tiksi**	**22.63**	**335**	*i* P	**P**	**05 11 07.4**	**+2.1**
KDAK	**Kodiak Island**	**26.44**	**62**	LR	LR	05 21 38.3	
	comp=Z,42nm,21.5s,baz=71,slow=35						
ILAR	**Eielson Array**	**28.35**	**46**	P	**P**	**05 11 57.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=262,slow=8.2,SNR=8.6						
INK	**Inuvik**	**33.36**	**38**	P	**P**	**05 12 41.9**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=276,slow=9.3,SNR=3.8						
TLY	**Talaya**	**33.64**	**290**	*i* P	**P**	**05 12 43.3**	**-0.8**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**34.23**	**169**	T	T	05 49 23.1	
	baz=353,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**34.24**	**169**	T	T	05 49 29.2	
	baz=353,slow=76,SNR=29						
H11N1	**WAKE ISLAND Hy**	**34.25**	**169**	T	T	05 49 22.7	
	baz=353,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**35.42**	**169**	T	T	05 50 27.1	
	baz=352,slow=76,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**35.43**	**169**	T	T	05 50 21.2	
	baz=352,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**35.44**	**169**	T	T	05 50 27.7	
	baz=352,slow=76,SNR=3.0						
YKA	**Yellowknife Ar**	**42.68**	**43**	P	**P**	**05 14 00.2**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=302,slow=7.5,SNR=7.1						
YKA	**Yellowknife Ar**	**42.68**	**43**	*i* P	**P**	**05 14 00.1**	**+0.3**
DGZ	**Jazzator, Alta**	**43.53**	**296**	*i* P	**P**	**05 14 06.5**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.2s						
MKAR	**Makanchi Array**	**48.02**	**295**	P	**P**	**05 14 39.3**	**-3.0**
	comp=Z,0.2nm,0.5s,baz=58,slow=6.7,SNR=5.5						
TGY	**Tagaytay City**	**50.12**	**233**	LR	LR	05 36 00.5	
	comp=Z,40nm,20.4s,baz=72,slow=36						
BRVK	**Borovoye**	**50.17**	**308**	*i* P	**P**	**05 14 58.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ARU	**Arti**	**53.07**	**317**	*i* P	**P**	**05 15 20.0**	**-0.1**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NVAR	**Mina Array Bea**	**55.45**	**71**	P	**P**	**05 15 39.6**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=291,slow=8.3,SNR=4.5						
PDAR	**Pinedale Array**	**57.15**	**61**	P	**P**	**05 15 51.1**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=338,slow=2.0,SNR=5.4						
ULM	**Lac du Bonnet**	**58.36**	**47**	P	**P**	**05 15 58.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=307,slow=7.4,SNR=2.0						
CMAR	**Chiang Mai Arr**	**58.41**	**258**	LR	LR	05 45 07.4	
	comp=Z,12nm,18.8s,baz=15,slow=40						
FINES	**FINESS Array B**	**59.66**	**336**	P	**P**	**05 16 06.0**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=39,slow=9.0,SNR=3.9						
FINES	**FINESS Array B**	**59.66**	**336**	*i* P	**P**	**05 16 06.5**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	**Obninsk**	**62.12**	**327**	⇑*e*P	**P**	**05 16 20.9**	**-2.6**
OBN						05 17 02.0	
OBN				SSS	SSS	05 31 23.0	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TXAR	**Lajitas Array**	**70.31**	**67**	P	**P**	**05 17 17.4**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=296,slow=4.9,SNR=8.6						
WRA	**Warramunga Arr**	**76.63**	**205**	P	**P**	**05 17 52.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=19,slow=6.2,SNR=6.7						
WRA	**Warramunga Arr**	**76.63**	**205**	*i* P	**P**	**05 17 53.0**	**-0.4**
ASAR	**Alice Springs**	**80.31**	**204**	P	**P**	**05 18 13.7**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=15,slow=5.6,SNR=5.5						
ESDC	**Sonseca Array**	**86.07**	**348**	P	**P**	**05 18 42.5**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=5.4,slow=5.4,SNR=4.3						

*NNC **07** 05:11:19.4±1.4, 42˚.60N×78˚.96E, h0^{km}, mb2.9, mpv2.7, Error ellipse: s-maj=9.7km s-min=5.1km az=160.0*
*SOME **07** 05:11:20.0, 42˚.62N×78˚.92E, h15^{km}*
*KRNET **07** 05:11:20.9±0.1, 42˚.77N×78˚.69E, h11^{km}, mb1.8*
ISC 07 05:11:18.9±1.4**, 42˚.56N**±0˚.05×**78˚.94E**±0˚.04**, h8**^{km}±12^{km}**, n28, σ0**^{s}**90**/53**, 9C-3D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.41**	**259**	⇑*i*P	**Pg**	**05 11 27.8**	**+0.9**
	baz=18						
PRZ				⇑*i*S	**Sg**	**05 11 32.8**	**+0.6**
	baz=18						
UZB	**Uzynbulak**	**0.59**	**6**	*e*P	**Pg**	**05 11 30.6**	**+0.3**
	5.6nm,0.1s						
UZB				*e*S	**Sg**	**05 11 38.5**	**+0.4**
	6.2nm,0.1s						
UZB	**Uzynbulak**	**0.59**	**6**	P	**Pg**	**05 11 30.6**	**+0.3**
	3.5nm,0.1s						
UZB				S	**Sg**	**05 11 38.3**	**+0.3**
	6.2nm,0.1s						
SATY	**Saty**	**0.63**	**322**	*e*P	**Pg**	**05 11 31.4**	**+0.2**
	1.7nm,0.2s						
SATY				*e*S	**Sg**	**05 11 39.6**	**+0.2**
	15nm,0.1s						
SATY	**Saty**	**0.63**	**322**	P	**Pg**	**05 11 31.3**	**+0.2**
	1.7nm,0.2s						
SATY				S	**Sg**	**05 11 39.6**	**+0.2**
	15nm,0.1s						
PDGK	**Podgornoye**	**0.87**	**28**	P	**Pg**	**05 11 35.4**	**-0.2**
	1.3nm,0.1s						
PDGK				S	**Sg**	**05 11 46.6**	**-0.3**
	1.6nm,0.3s						
PDGK	**Podgornoye**	**0.87**	**28**	⇑P	**Pg**	**05 11 35.4**	**-0.2**
	0.5nm,0.2s						
PDGK				⇓S	**Sg**	**05 11 46.7**	**-0.1**
	2.7nm,0.5s						
KPKS	**Kokpek**	**0.92**	**348**	*e*P	**Pg**	**05 11 35.5**	**-1.1**
	4.0nm,0.1s						
KPKS				*e*S	**Sg**	**05 11 47.0**	**-1.7**
	6.8nm,0.2s						
ANVS	**Anan'yevo**	**0.96**	**284**	⇓*i*P	**Pg**	**05 11 35.5**	**-1.9**
	baz=71						
ANVS				⇓*i*S	**Sg**	**05 11 46.4**	**-3.5**
	baz=71						
KTMS	**Ketmen**	**1.36**	**49**	*e*P	**Pn**	**05 11 44.2**	**-0.2**
	2.0nm,0.2s						
KTMS				*e*S	**Sb**	**05 12 01.6**	**-0.8**
	1.9nm,0.1s						
KTMS	**Ketmen**	**1.36**	**49**	P	**Pn**	**05 11 44.2**	**-0.2**
	2.0nm,0.2s						
KTMS				S	**Sb**	**05 12 01.6**	**-0.8**
	1.9nm,0.1s						
KDJ	**Kajisay**	**1.37**	**252**	⇑*i*P	**Pn**	**05 11 45.5**	**+1.0**
	baz=40						
KDJ				⇑*i*S	**Sb**	**05 12 03.4**	**+0.7**
	baz=40						
TNSS	**Tian-Shan**	**1.54**	**289**	*e*P	**Pb**	**05 11 48.1**	**+0.2**
	0.5nm,0.1s						
TNSS				*e*S	**Sg**	**05 12 08.3**	**-0.1**
	1.0nm,0.2s						
TNSS	**Tian-Shan**	**1.54**	**289**	P	**Pb**	**05 11 48.1**	**+0.2**
	0.5nm,0.1s						
TNSS				S	**Sg**	**05 12 08.4**	**-0.1**
	1.0nm,0.2s						
MNBS	**Baschi**	**1.57**	**346**	*e*P	**Pb**	**05 11 48.5**	**+0.3**
	2.3nm,0.2s						
MNBS				*e*S	**Sg**	**05 12 09.2**	**-0.1**
	7.6nm,0.2s						
MNBS	**Baschi**	**1.57**	**346**	P	**Pb**	**05 11 48.5**	**+0.3**
	2.3nm,0.2s						
MNBS				S	**Sg**	**05 12 09.2**	**-0.1**
	7.6nm,0.2s						
IZV	**Izvestkoviy**	**1.78**	**286**	*e*P	**Pb**	**05 11 52.1**	**+0.4**
	1.2nm,0.0s						
IZV				*e*S	**Sg**	**05 12 15.4**	**-0.5**
	3.3nm,0.1s						
IZV	**Izvestkoviy**	**1.78**	**286**	P	**Pb**	**05 11 52.1**	**+0.4**
	1.2nm,0.0s						
IZV				S	**Sg**	**05 12 15.4**	**-0.5**
	3.3nm,0.1s						
DJR	**Jarkent**	**1.88**	**19**	*e*P	**Pb**	**05 11 53.2**	**-0.2**
	2.9nm,0.2s						
DJR				*e*S	**Sb**	**05 12 17.2**	**+0.1**
	2.1nm,0.2s						
DJR	**Jarkent**	**1.88**	**19**	P	**Pb**	**05 11 53.2**	**-0.2**
	2.9nm,0.2s						
DJR				S	**Sb**	**05 12 17.2**	**+0.1**
	2.1nm,0.2s						
KTBS	**Karatobe**	**2.01**	**306**	*e*P	**Pb**	**05 11 56.3**	**+0.5**
	0.9nm,0.3s						
KTBS				*e*S	**Sg**	**05 12 22.7**	**-0.8**
	4.9nm,0.3s						
KTBS	**Karatobe**	**2.01**	**306**	Pg	**Pb**	**05 11 56.3**	**+0.5**
	0.9nm,0.3s						
KTBS				Lg	Lg	05 12 22.7	
	4.9nm,0.3s						
ULHL	**Ulahol**	**2.02**	**262**	⇑*e*P	**Pb**	**05 11 56.2**	**+0.2**
	baz=55						
ULHL				⇑*i*S	**Sb**	**05 12 22.1**	**+0.7**
	baz=55						
BOOM	**Boomskoye usch**	**2.22**	**269**	⇑*e*P	**Pb**	**05 11 58.6**	**-0.7**
	baz=63						
BOOM				⇑*i*S	**Sb**	**05 12 26.4**	**-0.6**
	baz=63						
KRBS	**Karabastau**	**2.64**	**296**	*e*P	**Pb**	**05 12 07.7**	**+1.1**
	0.5nm,0.3s						
KRBS				*e*S	**Sg**	**05 12 41.6**	**-2.2**
	1.8nm,0.2s						
KRBS	**Karabastau**	**2.64**	**296**	Pg	**Pb**	**05 12 07.7**	**+1.1**
	0.5nm,0.3s						
KRBS				Lg	Lg	05 12 41.6	
	1.8nm,0.2s						
KAPS	**Kapalarasan**	**2.74**	**6**	*e*P	**Pb**	**05 12 08.7**	**+0.5**
	0.3nm,0.2s						
KAPS				*e*S	**Sb**	**05 12 43.7**	**+1.8**
	1.4nm,0.2s						
KAPS	**Kapalarasan**	**2.74**	**6**	Pg	**Pb**	**05 12 08.7**	**+0.5**
	0.3nm,0.2s						
KAPS				Lg	Lg	05 12 43.7	
	1.4nm,0.2s						

*IDC **07** 05:38:12.3±1.7, 25˚.09N×109˚.29W, h0^{km}, mb3.5/2, mb1 3.7/5, mb1mx3.6/29, mbtmp3.3/5, ML3.5/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/32, Error ellipse: s-maj=39.3km s-min=12.0km az=128.0*
*MEX **07** 05:38:14.3±0.4, 25˚.25N×109˚.81W, h15^{km}±32^{km}, MD4.5*
ISC 07 05:38:17.9±1.4**, 25˚.48N**±0˚.08×**109˚.47W**±0˚.08**, h10**^{km}**, n16, σ1**^{s}**90**/17**, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.41**	**73**	*e*P	**Pb**	**05 38 26.6**	**-0.6**
TSIG				*i* S	**Sb**	**05 38 36.5**	**+3.0**
LPIG	**La Paz**	**1.57**	**209**	Pg	Pn	05 38 39.5	-6.3
	2.0nm,0.3s,baz=45,slow=1.4,SNR=4.6						
LPIG				Lg	Lg	05 38 53.9	
	7.7nm,0.3s,baz=198,slow=12,SNR=8.1						
LPIG				LR	LR	05 38 56.4	
	comp=Z,53nm,19.8s,baz=12,slow=33						
CSIG	**Choix**	**1.67**	**36**	*e*P	**Pn**	**05 38 45.1**	**-2.1**
CSIG				*e*S	**Sn**	**05 39 08.8**	**+0.2**
SSIG	**Sanalona**	**2.21**	**107**	*i* P	**Pn**	**05 38 53.0**	**-1.7**
SSIG				*i* S	**Sn**	**05 39 23.0**	**+0.9**
GUYB	**Guaymas**	**2.71**	**333**	*e*P	Pn	05 38 51.5	-10
HPIG		**3.71**	**66**	*e*P	**Pn**	**05 39 14.6**	**-0.9**
HPIG				*i* S	**Sn**	**05 40 01.4**	**+1.9**
PDIG	**Papasquiaro**	**3.72**	**96**	*e*P	**Pn**	**05 39 13.4**	**-2.2**
PDIG				*i* S	**Sn**	**05 39 58.7**	**-0.9**
CGIG		**5.04**	**15**	*e*P	**Pn**	**05 39 31.4**	**-2.4**
CGIG				*e*S	**Sn**	**05 40 31.6**	**-0.5**
TXAR	**Lajitas Array**	**6.43**	**52**	Pn	**Pn**	**05 39 49.9**	**-2.8**
	0.2nm,0.3s,baz=227,slow=14,SNR=7.6						
TXAR				Lg	Lg	05 41 37.1	
	1.7nm,0.3s,baz=103,slow=2.9,SNR=11						
ANMO	**Albuquerque**	**9.79**	**15**	Lg	Lg	05 43 21.2	
	0.1nm,0.3s,baz=113,slow=12,SNR=3.8						
ANMO				LR	LR	05 44 48.4	
	comp=Z,107nm,20.8s,baz=173,slow=39						
NVAR	**Mina Array Bea**	**14.91**	**332**	Pn	**Pn**	**05 41 51.8**	**+2.8**
	0.0nm,0.3s,baz=149,slow=13,SNR=2.7						
ELK	**Elko**	**15.96**	**344**	LR	LR	05 48 08.7	
	comp=Z,79nm,18.8s,baz=34,slow=36						
PDAR	**Pinedale Array**	**17.24**	**360**	P	**Pn**	**05 42 17.9**	**-1.1**
	0.0nm,0.3s,baz=182,slow=14,SNR=6.9						
NEW	**Newport**	**23.52**	**347**	LR	LR	05 53 50.8	
	comp=Z,62nm,19.2s,baz=80,slow=39						
YKA	**Yellowknife Ar**	**37.16**	**356**	P	**P**	**05 45 28.9**	**+0.2**
	0.4nm,0.9s,baz=165,slow=8.4,SNR=6.2						
ILAR	**Eielson Array**	**46.03**	**339**	P	**P**	**05 46 41.5**	**+0.2**
	1.0nm,1.1s,baz=147,slow=5.4,SNR=3.8						

*ARE **07** 05:50:20±5.5, 13˚.5S±0˚.1×76˚.8W±0˚.3, h49^{km}±8^{km}, Error ellipse: s-maj=0.0km s-min=0.0km az=164.0*
NEIC 07 05:50:18.8±1.3**, 13˚.56S**±0˚.07×**77˚.3W**±0˚.2**, h57**^{km}±15^{km}**, mb4.1**/2**, ML4.1**(ARE)**, Error ellipse: s-maj=28.7km s-min=9.9km az=95.0, Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**1.62**	**16**		Pn	05 50 45.1	0.0
NNA				Sn	Sn	05 51 03.1	-2.0
PSGCX	**Pisagua**	**9.13**	**132**	Pn	Pn	05 52 28.5	+0.5
MNMC	**Minye Minye**	**9.23**	**128**	Pn	Pn	05 52 29.6	0.0
PB08	**IPOC Station P**	**10.17**	**131**	Pn	Pn	05 52 42.1	-0.5
PB01	**IPOC Station P**	**10.53**	**136**	Pn	Pn	05 52 46.2	-0.9
PB07	**IPOC Station P**	**10.76**	**140**	Pn	Pn	05 52 51.9	+1.5
ESPN	**Las Esperanzas**	**26.51**	**345**	P	P	05 55 51.5	+0.3
ESPN				IAmb	IAmb	05 56 16.6	
	comp=Z,16nm,1.1s						
QSPA	**South Pole Qui**	**76.58**	**180**	P	P	06 02 02.6	-0.4
QSPA				IAmb	IAmb	06 02 27.8	
	comp=Z,1.0nm,0.9s						

*IDC **07** 05:56:55.5±1.6, 13˚.73S×169˚.64E, h0^{km}, mb3.9/5, mb1 4.1/6, mb1mx3.8/28, mbtmp3.9/6, ML3.8/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/28, Error ellipse: s-maj=69.2km s-min=24.3km az=131.0*
ISC 07 05:57:00.6±1.3**, 13˚.8S**±0˚.1×**169˚.7E**±0˚.3**, h35**^{km}**, n8, σ1**^{s}**16**/7**, mb3.8**/5**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.80	200	Pn	Pn	05 59 04.1	-1.4
	1.1nm,0.3s,baz=62,slow=17,SNR=12						
DZM				Sn	Sn	06 00 45.0	+1.4
	0.1nm,0.3s,baz=264,slow=22,SNR=1.1						
DZM				LR	LR	06 02 03.9	
	comp=Z,189nm,18.6s,baz=148,slow=35						
MSVF	Nonsavu	8.98	117	LR	LR	06 01 47.7	
	comp=Z,317nm,18.1s,baz=279,slow=32						
HNR	Honiara	10.45	293	LR	LR	06 03 00.4	
	comp=Z,110nm,20.8s,baz=98,slow=35						
STKA	Stephens Creek	31.38	230	P	P	06 03 19.2	+0.9
	5.4nm,1.0s,baz=44,slow=8.1,SNR=7.6						
WRA	Warramunga Arr	34.31	255	P	P	06 03 43.9	-0.3
	0.6nm,0.8s,baz=89,slow=8.6,SNR=2.5						
WRA				LR	LR	06 16 50.7	
	comp=Z,78nm,18.1s,baz=165,slow=35						
ASAR	Alice Springs	35.18	248	P	P	06 03 51.0	-0.7
	2.0nm,0.8s,baz=78,slow=9.4,SNR=19						
ILAR	Eielson Array	84.92	17	P	P	06 09 31.8	+0.2
	0.6nm,0.8s,baz=232,slow=5.1,SNR=8.1						
YKA	Yellowknife Ar	95.64	27	P	P	06 10 22.4	+0.2
	0.3nm,0.8s,baz=255,slow=4.4,SNR=4.1						

NNC 07 06:28:22.7±9.5, 41°.72N×79°.65E, h0^{km}, mb2.9, mpv2.4, Error ellipse: s-maj=85.6km s-min=64.1km az=82.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDGK	Podgornoye	1.61	356	P	Pn	06 28 51.8	-0.8
	0.3nm,0.1s						
PDGK				S	Sn	06 29 13.7	-0.5
	0.8nm,0.2s						
KURS	Kuram	2.08	329	Pg	Pn	06 28 59.6	+0.7
	2.4nm,0.6s						
KURS				Lg	Lg	06 29 27.1	
	4.0nm,0.2s						
MNBS	Baschi	2.53	339	Pg	Pb	06 29 09.2	0.0
	0.8nm,0.3s						
MNBS				Lg	Lg	06 29 43.4	
	2.5nm,0.3s						

KRNET 07 06:29:17.1±0.1, 41°.26N×77°.70E, h15^{km}, mb1.9, 6C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDJ	Kajisay	0.95	336	⇑iP	Pb	06 29 35.2	-0.2
	baz=36						
KDJ				⇑iS	Sg	06 29 48.1	0.0
	baz=36						
PRZ	Przheval'sk	1.33	23	⇓iP	Pb	06 29 42.2	+0.4
	baz=23						
PRZ				⇓iS	Sg	06 30 00.9	+0.9
	baz=23						
ANVS	Anan'yevo	1.52	359	⇑iP	Pb	06 29 45.7	+0.6
	baz=59						
ANVS				⇑iS	Sg	06 30 06.6	+0.4
	baz=59						
BOOM	Boomskoye usch	1.80	314	⇑iP	Pb	06 29 50.5	+0.6
	baz=14						
BOOM				⇑iS	Sg	06 30 14.8	-0.3
	baz=14						

ISK 07 06:38:29.3, 35°.84N×30°.86E, h9^{km}, ML3.0/15
DDA 07 06:38:30.5, 35°.86N×30°.85E, h35^{km}±1^{km}, ML2.6
NIC 07 06:38:32.7±0.0, 36°.11N×30°.97E, h22^{km}±3^{km}, Ml3.1/2
ISC 07 06:38:30.6±1.2, 35°.90N±0°.03×30°.87E±0°.02, h7^{km}±10^{km}, n32, σ0^{s}73/49, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKUM	Antalya-Kumluc	0.60	315	iP	Pb	06 38 43.5	0.0
AKUM				iS	Sb	06 38 53.0	+0.8
AKUM				IAML		06 38 56.0	
	comp=N,332nm,0.5s						
AKUM				IAML		06 38 59.0	
	comp=E,267nm,0.4s						
DEMR	Demre-Antalya	0.85	294	PG	Pg	06 38 46.2	-0.8
DEMR				SG	Sg	06 38 59.1	+1.1
ANTB	Antalya	1.01	350	PG	Pg	06 38 50.2	+0.1
ANTB				SG	Sn	06 39 05.7	-0.1
KSL	Kastellorizon	1.07	284	P	Pn	06 38 52.6	+0.5
KSL				S	Sn	06 39 08.7	+1.5
AKAS	Kas	1.08	288	PN	Pg	06 38 50.2	-1.1
AKAS	Kas	1.08	288	iP	Pg	06 38 51.0	-0.3
ALAN	Alanya-ANTALYA	1.15	55	PN	Pg	06 38 52.2	-0.4
ALAN				SN	Sn	06 39 08.7	-0.4
ELL	Elmali	1.15	318	PN	Pg	06 38 52.5	-0.2
ELL				SN	Sn	06 39 09.9	+0.6
ELL	Elmali	1.15	318	P	Pg	06 38 52.9	+0.2
ELL				S	Sg	06 39 07.2	-0.4
KEPZ	Antalya-Kepez	1.16	30	iP	Pb	06 38 53.2	+0.2
KEPZ				iS	Sn	06 39 10.0	+0.5
KORT	Korkueli	1.18	339	PN	Pg	06 38 53.0	-0.2
KORT				SN	Sn	06 39 10.3	+0.3
GAZI	Gazipasa	1.22	74	PN	Pb	06 38 53.0	-1.0
GAZI	Gazipasa	1.22	74	iP	Pb	06 38 53.6	-0.4
AKMS	Akamas	1.48	126	P	Pb	06 38 59.1	+0.6
AKMS				S	Sg	06 39 19.0	+0.7
AKMS				AML	AML	06 39 24.6	
	comp=E,0.6nm,0.4s						
AKMS				AML	AML	06 39 24.6	
	comp=E,0.6nm,0.4s						
AKMS				AML	AML	06 39 25.1	
	comp=E,0.7nm,0.8s						
AKMS				AML	AML	06 39 25.1	
	comp=E,0.7nm,0.8s						
BCK	Bucak	1.57	352	PN	Pn	06 38 58.9	-0.2
FETY	Fethiye	1.62	297	PN	Pn	06 38 58.9	-0.7
GOLH	Golhisar	1.70	322	iP	Pb	06 39 02.2	-0.1
SEDI	Konya, Seydise	1.70	24	iP	Pg	06 39 04.2	+0.9
SEDI				iS	Sb	06 39 24.3	+0.3
SEDI				IAML		06 39 25.0	
	comp=E,48nm,0.5s						
TEKE	Tekeli-Mersin	1.83	82	PN	Pn	06 39 02.1	-0.4
TEKE				SN	Sb	06 39 26.9	-0.8
BERE	Bereket-Mersin	1.96	76	PN	Pn	06 39 04.3	-0.1
BERE				SN	Sn	06 39 29.3	0.0
SZAC	Souni	2.00	124	S	Sb	06 39 32.6	+0.1
SZAC				AML	AML	06 39 48.9	
	comp=E,0.4nm,1.1s						
SZAC				AML	AML	06 39 51.4	
	comp=E,0.4nm,1.4s						
DALY	Dalyan (Mula)	2.01	298	PN	Pn	06 39 04.5	-0.5
KKBE	Karaman, Kazim	2.12	51	iP	Pb	06 39 09.3	-0.2
KKBE				iS	Sb	06 39 36.2	+0.1
KKBE				IAML		06 39 42.0	
	comp=E,40nm,0.6s						
KKBE				IAML		06 39 43.0	
	comp=N,31nm,0.5s						
GULN	MERSIN_Gulnar	2.19	82	iP	Pn	06 39 07.0	-0.3
GULN				iS	Sn	06 39 33.8	-0.9
CSS	Mathiatis	2.21	114	P	Pn	06 39 08.2	+0.4
DOGA	KONYA_Doganhis	2.29	16	iP	Pn	06 39 09.9	+0.9
DOGA				iS	Sb	06 39 39.5	-1.6
DOGA				IAML		06 39 42.0	
	comp=N,45nm,0.5s						
KONT	Konya--Tatoy	2.37	30	PN	Pn	06 39 10.3	+0.4
YVAC	Isparta, Yalva	2.39	7	iP	Pn	06 39 10.2	0.0
YVAC				iS	Sn	06 39 40.0	+0.2
OSC1	CSNet OBS 1	2.42	172	S	Sb	06 39 46.0	+1.6
MVOU	Mavrovouni	2.42	111	P	Pn	06 39 09.8	-0.8
LADK	Ladik-KONYA	2.59	27	PN	Pn	06 39 13.3	+0.3
KARP	Karpathos	3.04	264	PN	Pn	06 39 17.1	-2.1

IDC 07 07:09:39.6±0.9, 59°.57S×25°.25W, h0^{km}, mb4.0/5, mb1 4.2/6, mb1mx3.9/28, mbtmp4.1/6, ML4.7/1, Error ellipse: s-maj=38.0km s-min=24.7km az=63.0
NEIC 07 07:09:41.4±1.7, 59°.6S±0°.1×25°.1W±0°.3, h10^{km}±1^{km}, mb4.4/10, Error ellipse: s-maj=27.0km s-min=18.7km az=260.0
ISC 07 07:09:40.8±0.7, 59°.6S±0°.1×25°.1W±0°.2, h10^{km}, n32, σ1^{s}04/32, mb4.2/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.08	155	P	Pn	07 12 45.6	-0.8
VNA3	Neumayer Olymp	13.26	158	P	Pn	07 12 47.4	-1.5
VNA2	Neumayer--Watz	13.48	155	P	Pn	07 12 50.5	-1.3
	baz=317,slow=14						
SNAA	Sanae	15.04	153	P	Pn	07 13 11.5	-1.6
SNAA	Sanae	15.04	153	Pn	Pn	07 13 12.0	-1.2
	2.9nm,0.3s,baz=313,slow=16,SNR=110						
SNAA				Sn	Sn	07 15 47.4	-12
	0.2nm,0.3s,baz=301,slow=17,SNR=1.9						
SNAA	Sanae	15.04	153		Pn	07 13 11.6	-1.6
SNAA				IAmb	IAmb	07 13 29.8	
	comp=Z,10nm,0.5s						
BELA	Belgrano 2	18.64	186	P	Pn	07 13 59.6	+1.1
EFI	East Falkland	20.06	279	P	P	07 14 14.7	+0.8
QSPA	South Pole Qui	30.64	180	P	P	07 15 56.3	+1.3
	comp=Z,1.2nm,0.5s,baz=204,slow=2.8,SNR=16						
QSPA	South Pole Qui	30.64	180	P	P	07 15 56.5	+1.6
PLCA	Paso Flores	33.83	283	P	P	07 16 22.5	-0.6
	comp=Z,1.7nm,0.8s,baz=138,slow=7.1,SNR=4.1						
BO02	Sierra Bellavi	38.61	289	P	P	07 17 04.3	+0.4
BO02				IAmb	IAmb	07 17 05.8	
	comp=Z,3.7nm,0.6s						
CO01	Juntas del Tor	42.27	294	P	P	07 17 34.0	-0.4
CO01				IAmb	IAmb	07 17 36.6	
	comp=Z,6.1nm,0.8s						
AC05	El Transito	43.32	295	P	P	07 17 42.7	-0.2
AC05				IAmb	IAmb	07 17 44.4	
	comp=Z,14nm,0.6s						
LPAZ	La Paz	53.35	305	P	P	07 19 00.1	-0.8
	comp=Z,1.0nm,0.4s,baz=104,slow=7.4,SNR=4.7						
LPAZ	La Paz	53.35	305	P	P	07 19 00.1	-0.8
LPAZ				IAmb	IAmb	07 19 00.6	
	comp=Z,4.7nm,1.3s						
TOA0	Torodi Ar. Sit	75.66	27	P	P	07 21 27.2	+1.3
TOA0				IAmb	IAmb	07 21 38.9	
	comp=Z,2.9nm,0.7s						
TORD	Torodi Ar. Bea	75.66	27	P	P	07 21 26.9	+1.0
	comp=Z,0.8nm,0.6s,baz=197,slow=6.3,SNR=4.5						
MTO3	Montecristo	89.94	299	P	P	07 22 37.6	-2.7
ASAR	Alice Springs	95.26	161	P	P	07 23 04.7	0.0
	comp=Z,0.5nm,1.0s,baz=187,slow=4.5,SNR=5.7						
NVAR	Mina Array Bea	123.74	289	PKP	PKiKP	07 28 39.1	+0.6
	comp=Z,0.3nm,0.6s,baz=111,slow=3.3,SNR=3.5						
YKA	Yellowknife Ar	139.52	314	PKP	PKPdf	07 29 07.6	+0.8
	comp=Z,0.9nm,0.8s,baz=120,slow=3.2,SNR=17						
JIS	Juneau Island	145.07	299	PKPbc	PKPbc	07 29 16.6	+0.3
C36M	Paulatuk	146.43	321	PKPdf	PKPbc	07 29 20.2	-0.1
INK	Inuvik	149.22	316	PKPbc	PKPbc	07 29 28.0	+0.3
CTGM	Chitina Glacie	149.47	301	PKPbc	PKPbc	07 29 29.3	+0.5
SONM	Songino Array	149.68	91	PKPbc	PKPbc	07 29 29.7	0.0
	comp=Z,0.9nm,0.9s,baz=242,slow=3.1,SNR=2.6						
DAWY	Dawson	149.93	307	PKPbc	PKPbc	07 29 29.6	-0.2
K27K	Chicken	151.01	306		PKPbc	07 29 32.8	+0.6
HIN	Hinchinbrook I	151.53	297	PKPbc	PKiKP	07 29 34.2	+0.2
DOT	Dot Lake	151.70	305	PKPbc	PKiKP	07 29 34.9	+0.6
ILAR	Eielson Array	153.23	306	PKPbc	PKPbc	07 29 37.4	+0.2
	comp=Z,1.6nm,0.7s,baz=319,slow=1.1,SNR=20						

NNC 07 07:13:17.6±0.3, 50°.02N×78°.81E, h0^{km}, mb3.6, mpv3.5, Error ellipse: s-maj=6.7km s-min=1.6km az=78.0, Suspected Mining explosion.
IDC 07 07:13:18.7±1.1, 50°.05N×78°.72E, h0^{km}, mb1 2.8/2, mb1mx2.8/45, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=17.8km s-min=6.0km az=68.0
ASRS 07 07:13:21.3±0.5, 50°N±2°×7°9E±°, h10^{km}, MLh3.4/7, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed
ISC 07 07:13:19.9±0.8, 50°.12N±0°.03×78°.78E±0°.04, h0^{km}, n36, σ1^{s}39/56, 18C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.50	340	⇑P	Pg	07 13 29.2	-0.2
KUR07				⇑S	Sb	07 13 38.0	-1.4
KUR14	Kurchatov Arra	0.51	346	⇓P	Pg	07 13 29.5	-0.2
KUR14				⇑S	Sb	07 13 38.4	-1.4
KUR06	Kurchatov Arra	0.51	341	⇑P	Pg	07 13 29.6	-0.2
KUR06				⇑S	Sb	07 13 38.3	-1.5
KUR15	Kurchatov Arra	0.52	344	⇑P	Pg	07 13 29.7	-0.2
KUR15				⇑S	Sb	07 13 38.8	-1.2
KURBB	Kurchatov Arra	0.53	342	Pg	Pg	07 13 30.0	-0.1
	2.3nm,0.3s,baz=166,slow=17,SNR=207						
KURBB				Lg	Lg	07 13 38.7	
	2.1nm,0.3s,baz=160,slow=34,SNR=25						
KURBB	Kurchatov Arra	0.53	342	⇑P	Pg	07 13 29.9	-0.1
	21nm,0.3s						
KURBB				⇑S	Sg	07 13 38.5	+1.5
	49nm,0.5s						
KUR16	Kurchatov Arra	0.54	341	⇓P	Pg	07 13 30.1	-0.1
KUR16				⇑S	Sb	07 13 39.1	-1.6
KUR05	Kurchatov Arra	0.55	343	⇑P	Pg	07 13 30.2	-0.2
KUR05				⇑S	Sb	07 13 39.4	-1.4
KUR17	Kurchatov Arra	0.55	339	⇓P	Pg	07 13 30.4	-0.1
KUR17				⇓S	Sb	07 13 39.8	-1.1
KUR04	Kurchatov Arra	0.57	344	⇑P	Pg	07 13 30.6	-0.1
KUR04				⇑S	Sb	07 13 40.0	-1.4
UKR	Ust'-Kan	3.91	76	P	Pn	07 14 22.4	+1.1
UKR				Sg	Sg	07 15 25.9	+0.5
BRZS	Berezniki	3.94	270	Pg	Pb	07 14 30.8	+0.6
	4.0nm,0.1s						
BRZS				Lg	Lg	07 15 25.0	
	5.2nm,0.1s						
MAKZ	Makanchi	3.94	146	P	Pn	07 14 20.4	-1.1
MAKZ				Pg	Pb	07 14 29.1	-1.1
MAKZ				Sg	Sb	07 15 18.2	-0.1
MAKZ	Makanchi	3.94	146	⇑Pg	Pb	07 14 29.2	-1.0
	0.1nm,0.2s						
MAKZ				⇑Lg	Lg	07 15 18.8	
	4.6nm,0.5s						
MK31	Makanchi Array	4.06	144	⇑Pn	Pn	07 14 22.0	-1.3
	baz=126,slow=16,SNR=37						
MK31				⇓Pg	Pb	07 14 31.0	-1.4
	0.5nm,0.3s,baz=329,slow=16,SNR=7.9						
MK31				⇑Lg	Lg	07 15 23.0	
	4.5nm,0.5s,baz=333,slow=27,SNR=20						
MKAR	Makanchi Array	4.06	144	Pn	Pn	07 14 22.1	-1.2
	0.2nm,0.3s,baz=321,slow=10,SNR=27						
MKAR				Pg	Pb	07 14 29.2	-3.2
	0.5nm,0.3s,baz=329,slow=14,SNR=17						
MKAR				Sn	Sn	07 15 10.0	-1.6
	0.5nm,0.3s,baz=324,slow=15,SNR=5.3						
MKAR				Lg	Lg	07 15 23.6	
	0.9nm,0.3s,baz=325,slow=27,SNR=5.7						
MKAR	Makanchi Array	4.06	144	P	Pn	07 14 22.0	-1.4
MKAR				Pg	Pb	07 14 32.3	0.0
MKAR				Sg	Sb	07 15 24.9	+2.9
KAPS	Kapalarasan	4.85	175	Pg	Pb	07 14 42.4	-3.3
	1.2nm,0.2s						
KAPS				Lg	Lg	07 15 45.4	
	7.3nm,0.3s						
I46RU	ZALESOVO INFRA	5.35	42	i		07 49 20.0	
	baz=224,slow=339,SNR=3.7						
ZALV	Zalesovo Beam	5.35	42	Pn	Pn	07 14 42.3	+1.4
	0.8nm,0.3s,baz=232,slow=14,SNR=8.3						
ZALV				Lg	Lg	07 16 11.6	
	0.4nm,0.3s,baz=227,slow=25,SNR=2.6						
CHBI	Chibit, Altay	5.60	85	P	Pn	07 14 43.8	-0.8
CHBI				S	Sn	07 15 50.4	+0.7
DGZ	Jazzator, Alta	5.61	91	P	Pn	07 14 45.4	+0.7
DGZ				S	Sn	07 15 51.4	+1.6
ARTR	Artybash	5.63	69	P	Pn	07 14 45.4	+0.5
ARTR				S	Sn	07 15 52.1	+2.0
ULGR	Ulagan, Altay	5.90	82	P	Pn	07 14 49.4	+0.9
ULGR				S	Sn	07 15 58.2	+1.4
ARXS	Arharly	5.94	187	Pg	Pb	07 15 03.3	-1.1
	1.9nm,0.4s						
ARXS				Lg	Lg	07 16 21.0	
	5.5nm,0.2s						
BTLS	Baital	6.00	214	Pg	Pb	07 15 06.5	+1.2
	1.5nm,0.4s						
BTLS				Lg	Lg	07 16 26.5	
	1.7nm,0.2s						
MNBS	Baschi	6.05	183	Pg	Pb	07 15 05.1	-1.1
	1.3nm,0.2s						
MNBS				Lg	Lg	07 16 23.6	
	15nm,0.4s						
BRVK	Borovoye	6.06	302	P	Pn	07 14 51.2	+0.5
BRVK				Sg	Sn	07 15 58.5	-2.2
CUR	Chagan-Uzun	6.16	87	P	Pn	07 14 52.1	-0.1
CUR				S	Sn	07 16 04.2	+0.9
KUU	Kurty	6.45	196	Pg	Pb	07 15 13.9	+0.9
	1.5nm,0.1s						
KUU				Lg	Lg	07 16 39.2	
	4.5nm,0.3s						
KTBS	Karatobe	6.57	193	Pg	Pb	07 15 16.0	+1.0
	1.0nm,0.1s						
KTBS				Lg	Lg	07 16 42.7	
	9.5nm,0.6s						
KRBS	Karabastau	6.77	199	Pg	Pb	07 15 20.3	+1.8
	0.7nm,0.2s						
KRBS				Lg	Lg	07 16 50.1	
	3.0nm,0.3s						
IZV	Izvestkoviy	7.24	193	Pg	Pb	07 15 28.8	+2.3
	2.6nm,0.0s						
IZV				Lg	Lg	07 17 05.0	
	3.0nm,0.1s						
KST	Kastek	7.34	196	Pg	Pb	07 15 31.0	+2.8
	1.3nm,0.4s						
KST				Lg	Lg	07 17 08.7	
	4.6nm,0.9s						
AAK	Ala-Archa	8.05	203	Lg	Lg	07 17 31.5	
	0.1nm,0.3s,baz=86,slow=23,SNR=3.7						
AKTO	Aktyubinsk	13.28	279	Lg	Lg	07 20 19.8	
	0.1nm,0.3s,baz=61,slow=13,SNR=2.1						

KRSC 07 07:17:40.1±0.8, 53°.48N×157°.80E, h228^{km}±6^{km}, ML4.0
IDC 07 07:17:40.9±0.5, 53°.65N×157°.42E, h218^{km}±4^{km}, mb3.4/14, mb1 3.6/15, mb1mx3.4/51, mbtmp4.0/15, Error ellipse: s-maj=19.6km s-min=9.3km az=149.0
ISC 07 07:17:41.2±0.6, 53°.49N±0°.06×157°.80E±0°.06, h227^{km}±5^{km}, n52, σ1^{s}08/68, mb3.6/14, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GNL	Ganaly	0.22	22	iP	Pn	07 18 10.9	0.0
GNL				eS	S	07 18 34.1	-0.2
PETK	Petropavlovsk-	0.39	189	P	Pn	07 18 11.1	-0.2
	6.6nm,0.3s,baz=69,slow=6.3,SNR=332						
PETK				S	S	07 18 34.1	-0.5
	2.4nm,0.3s,baz=90,slow=16,SNR=6.6						
KRX	Arik	0.52	104	eP	Pn	07 18 12.1	+0.3
KOK	Koryaka	0.54	111	eP	Pn	07 18 12.1	+0.3
KRER	Koryakskii	0.60	108	eP	Pn	07 18 12.5	+0.4
AVH	Avacha	0.60	112	eP	Pn	07 18 12.2	+0.2
SMAR	Somma	0.64	110	eP	Pn	07 18 12.7	+0.4
UGLR	Uglovaya	0.67	114	eP	Pn	07 18 12.8	+0.5
SDLR	Sedlovina	0.68	108	iP	Pn	07 18 12.5	+0.2
APC	Apacha	0.69	215	eP	Pn	07 18 12.0	-0.2
APC				eS	S	07 18 35.3	-1.1
KRMR	Karymshinskiy	0.69	163	iP	Pn	07 18 12.6	+0.4
KRMR				eS	S	07 18 37.0	+0.6
PET	Petropavlovsk	0.69	132	iP	Pn	07 18 12.3	+0.1
PET				eS	S	07 18 36.9	+0.5
DALK	Dalny	0.73	128	eP	Pn	07 18 12.4	0.0
DALK				eS	S	07 18 37.1	+0.4
GRL	Gorelyy	0.95	170	eP	Pn	07 18 13.9	+0.1
NLC	Nalytchevo	0.98	108	eP	Pn	07 18 13.7	0.0
MTVR	Mutnovka	1.03	167	eP	Pn	07 18 14.8	+0.5
MTVR				eS	S	07 18 40.7	+0.7
ASAK	Asacha	1.11	177	eP	Pn	07 18 15.2	+0.5
ASAK				eS	S	07 18 40.7	0.0
KII	Karymskiy	1.12	60	eP	Pn	07 18 14.9	+0.3
RUS	Russkaya	1.14	158	eP	Pn	07 18 14.2	-0.6
RUS				eS	S	07 18 40.6	-0.2
MIPR	Malaya Ipel'ka	1.37	208	iP	Pn	07 18 16.1	-0.3
MIPR				eS	S	07 18 42.7	-1.1
SPN	Mys Shipunski	1.39	106	iP	Pn	07 18 15.8	-0.7
SPN				eS	S	07 18 42.2	-1.8
KDTR	Khodutka, Kamc	1.69	174	eP	Pn	07 18 18.3	-0.7
KDTR				eS	S	07 18 47.0	-1.4
PAU	Pauzhetka	2.12	197	eP	Pn	07 18 22.9	0.0
KZV	Kizimen	2.19	41	eP	Pn	07 18 24.1	+0.4
TUMR	Tumrok	2.26	36	eP	Pn	07 18 25.2	+0.8
TUMR				eS	S	07 18 58.3	0.0
TUMD	Tumrok D	2.29	40	eP	Pn	07 18 24.9	+0.2
ESO	Esso	2.50	12	eP	Pn	07 18 27.4	+0.7
MKZ	Mys Kozlova	2.55	64	eP	Pn	07 18 26.6	-0.7
MKZ				eS	S	07 19 00.5	-2.9
KMNR	Kamenistaya	2.68	31	eP	Pn	07 18 29.8	+1.0
ALID	Alaid	2.97	209	eP	Pn	07 18 32.0	-0.2
SKR	Severo-Kuril's	3.00	201	eP	Pn	07 18 32.3	0.0
SKR				eS	S	07 19 12.4	+0.1
SRDR	Sredinnyy	3.04	21	eP	Pn	07 18 32.5	-0.3
SRKR	Sorokina	3.71	30	eP	Pn	07 18 40.5	-0.1
SMKR	Semkarok	3.75	33	eP	Pn	07 18 42.0	+1.0
KBTR	Krutoberegovo	3.98	45	eP	Pn	07 18 42.4	-1.2
BKI	Bering	5.08	67	eP	Pn	07 18 56.8	-0.3
BKI				eS	S	07 19 53.0	-4.3
ASAJ	Asahikawa	13.70	233	P	P	07 20 45.9	-2.0
	0.6nm,0.3s,baz=348,slow=18,SNR=2.0						
KLR	Kul'dur	16.78	266	P	Pn	07 21 23.6	+0.3
	0.1nm,0.3s,baz=49,slow=11,SNR=8.0						
MJAR	Matsushiro Arr	21.77	227	P	P	07 22 14.7	-0.1
	2.2nm,0.4s,baz=14,slow=11,SNR=6.8						
KDAK	Kodiak Island	27.81	61	P	P	07 23 09.5	+0.5
	4.0nm,0.8s,baz=315,slow=7.1,SNR=12						
ILAR	Eielson Array	29.52	46	P	P	07 23 24.7	+0.7
	1.7nm,0.7s,baz=270,slow=6.7,SNR=32						
SONM	Songino Array	32.47	281	P	P	07 23 48.5	-1.7
	0.5nm,0.3s,baz=67,slow=11,SNR=2.2						
INK	Inuvik	34.40	38	P	P	07 24 07.1	+0.8
	0.8nm,0.5s,baz=296,slow=7.8,SNR=6.5						
ZALV	Zalesovo Beam	41.40	301	P	P	07 25 02.8	-2.1
	0.3nm,0.3s,baz=52,slow=9.3,SNR=1.9						
YKA	Yellowknife Ar	43.80	42	P	P	07 25 24.9	+0.9
	0.7nm,0.7s,baz=302,slow=7.3,SNR=14						
MKAR	Makanchi Array	46.74	294	P	P	07 25 45.3	-2.1
	0.8nm,0.4s,baz=58,slow=6.7,SNR=28						
NVAR	Mina Array Bea	56.89	69	P	P	07 27 04.7	+2.2
	0.4nm,0.5s,baz=297,slow=7.4,SNR=5.4						
CMAR	Chiang Mai Arr	56.93	256	P	P	07 27 02.9	+0.1
	1.5nm,0.3s,baz=26,slow=9.0,SNR=6.8						
PDAR	Pinedale Array	58.52	60	P	P	07 27 15.6	+1.8
	1.3nm,0.6s,baz=337,slow=1.8,SNR=16						
TXAR	Lajitas Array	71.73	65	P	P	07 28 40.4	+1.7
	0.4nm,0.4s,baz=295,slow=5.1,SNR=10						
WRA	Warramunga Arr	75.89	203	P	P	07 29 02.9	+0.4
	0.5nm,0.5s,baz=17,slow=6.1,SNR=8.0						
ASAR	Alice Springs	79.58	202	P	P	07 29 23.9	+1.0
	0.8nm,0.5s,baz=13,slow=5.4,SNR=16						

SNET 07 07:38:23.2±1.1, 13°.64N×90°.55W, h41^{km}±64^{km}, ML3.1
GCG 07 07:38:25.5±0.3, 13°.71N×90°.58W, h13^{km}±999^{km}, MD3.4
ISC 07 07:38:23.5±2.5, 13°.6N±0°.1×90°.53W±0°.08, h30^{km}±15^{km}, n19, σ0^{s}73/37, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCG	Pacaya	0.82	354	eP	Pn	07 38 39.0	-0.2
PCG				eS	Sn	07 38 49.5	-0.9
RTR	El Retiro	0.91	69	eP	Pn	07 38 39.9	-0.6
RTR				eS	Sb	07 38 53.4	+0.6
FUG	Fuego 3	0.92	341	eP	Pn	07 38 40.3	-0.3
FUG				eS	Sn	07 38 53.4	+0.5
NBG	Las Nubes	1.02	10	eP	Pb	07 38 42.7	-0.1
NBG				eS	Sn	07 38 57.8	+2.3
UNIC	Universidad Ca	1.03	67	eP	Pn	07 38 41.2	-0.7
UNIC				eS	Sn	07 38 55.8	+0.3
JAYA	Jayaque - finc	1.05	85	eP	Pn	07 38 41.2	-1.1
JAYA				eS	Sn	07 38 55.2	-0.8
JAYA				IAML		07 38 58.7	
	comp=Z,994nm,0.2s						
CEDA	San Andres	1.12	78	eP	Pn	07 38 42.5	-0.6
CEDA				eS	Sn	07 38 57.7	+0.1
CEDA				IAML		07 39 05.3	
	comp=Z,679nm,0.3s						
LALI	Alcalda de L	1.17	94	eP	Pn	07 38 43.0	-0.8
LALI				eS	Sn	07 38 59.5	+0.7
LALI				IAML		07 39 04.1	
	comp=Z,97nm,0.3s						
PMON	Piamonte	1.19	83	eP	Pn	07 38 43.5	-0.6
PMON				eS	Sn	07 39 00.3	+1.0
TACO	Tacachico	1.21	71	eP	Pn	07 38 43.8	-0.5
TACO				eS	Sn	07 39 00.0	+0.4
QUEZ	Alcaldia de Qu	1.25	78	eP	Pn	07 38 44.3	-0.5
QUEZ				eS	Sn	07 39 01.3	+0.6
SNET	Serv Nac Est T	1.26	85	eP	Pn	07 38 44.3	-0.8
SNET				eS	Sn	07 39 01.4	+0.2
MTO3	Montecristo	1.40	54	eP	Pn	07 38 46.5	-0.6
MTO3				eS	Sn	07 39 04.3	-0.3
LFRS	El Faro	1.42	88	eP	Pn	07 38 47.6	+0.2
LFRS				eS	Sn	07 39 06.0	+0.8
LBRS	Las Brisas	1.45	83	eP	Pn	07 38 48.2	+0.5
ESQI	Esquipulas	1.51	49	eP	Pn	07 38 48.1	-0.5
ESQI				eS	Sn	07 39 06.6	-0.7

COEG	**Centro de Oper**	**1.60**	**88**	*e*P	**Pn**	**07 38 50.0**	**+0.2**
COEG				*e*S	**Sn**	**07 39 09.5**	**+0.1**
COEG				IAML		07 39 19.1	
	comp=Z,258nm,0.4s						
PQSS	**Presa 15 de Se**	**1.91**	**88**	*e*P	**Pn**	**07 38 53.7**	**-0.3**
PQSS				*e*S	**Sn**	**07 39 17.9**	**+0.9**
COEB	**Comit de Eme**	**1.94**	**92**	*e*P	**Pn**	**07 38 54.3**	**-0.2**
COEB				*e*S	**Sn**	**07 39 18.3**	**+0.3**
COEB				IAML		07 39 25.1	
	comp=Z,81nm,0.3s						

IDC 07 07:44:57.6±51.0**, 22°.47S×175°.06W, h0km, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/34**, mbtmp3.6**/3**, MS3.5**/1**, Ms1 3.4**/1**, ms1mx2.6**/24**, Error ellipse: s-maj=957.2km s-min=175.5km az=86.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.46**	**247**	P	P	07 52 29.1	-0.7
	0.9nm,0.6s,baz=90,slow=12,SNR=3.5						
STKA				LR	LR	08 06 38.1	
	comp=Z,61nm,20.0s,baz=206,slow=33						
ASAR	**Alice Springs**	**46.76**	**258**	P	P	07 53 28.9	-0.2
	0.2nm,0.5s,baz=94,slow=6.7,SNR=7.6						
WRA	**Warramunga Arr**	**47.06**	**263**	P	P	07 53 31.8	+0.3
	0.5nm,0.4s,baz=101,slow=8.3,SNR=18						
H03S2	**Juan Fernandez**	**82.63**	**123**	T	T	09 28 18.5	
	baz=242,slow=74,SNR=10						
H03S1	**Juan Fernandez**	**82.64**	**123**	T	T	09 28 20.2	
	baz=242,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**82.64**	**123**	T	T	09 28 12.6	
	baz=242,slow=74,SNR=16						
H03N2	**Juan Fernandez**	**82.77**	**123**	T	T	09 28 16.9	
	baz=242,slow=74,SNR=7.0						
H03N3	**Juan Fernandez**	**82.77**	**123**	T	T	09 28 18.4	
	baz=242,slow=74,SNR=6.6						
H03N1	**Juan Fernandez**	**82.79**	**123**	T	T	09 28 25.4	
	baz=242,slow=74,SNR=12						

IDC 07 07:50:23.1±10.0**, 3°.11N×92°.21E, h0km, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/36**, mbtmp3.5**/3**, Error ellipse: s-maj=468.3km s-min=32.9km az=57.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W3	**Cape Leeuwin H**	**43.04**	**153**	T	T	08 44 38.9	
	baz=327						
H01W2	**Cape Leeuwin H**	**43.05**	**153**	T	T	08 44 26.0	
	baz=327						
H01W1	**Cape Leeuwin H**	**43.06**	**153**	T	T	08 44 13.4	
	baz=327						
MKAR	**Makanchi Array**	**44.36**	**350**	P	P	07 58 35.1	-0.1
	0.4nm,0.6s,baz=157,slow=7.8,SNR=2.3						
WRA	**Warramunga Arr**	**47.28**	**121**	P	P	07 58 58.6	-0.1
	0.6nm,0.6s,baz=296,slow=8.4,SNR=4.2						
ASAR	**Alice Springs**	**48.54**	**126**	P	P	07 59 08.3	-0.2
	0.4nm,0.6s,baz=297,slow=7.8,SNR=6.8						

IDC 07 07:57:10.4±2.7**, 28°.62N×141°.12E, h0km, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.3**/27**, mbtmp3.5**/4**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.4**/25**, Error ellipse: s-maj=135.4km s-min=26.4km az=78.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**30.80**	**200**	LR	LR	08 13 04.4	
	comp=Z,58nm,19.5s,baz=42,slow=31						
WRA	**Warramunga Arr**	**48.72**	**189**	P	P	08 05 56.9	+0.1
	0.2nm,0.3s,baz=2.6,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**48.79**	**309**	P	P	08 05 58.2	+1.0
	0.1nm,0.4s,baz=83,slow=10.0,SNR=2.0						
ASAR	**Alice Springs**	**52.45**	**188**	P	P	08 06 24.5	-0.4
	0.2nm,0.6s,baz=4.2,slow=6.5,SNR=4.9						
FINES	**FINESS Array B**	**76.17**	**333**	P	P	08 08 59.6	-0.5
	0.6nm,0.3s,baz=56,slow=2.5,SNR=7.5						

*IDC **07** 08:59:33.8±1.1, 37°.05N×105°.18W, h0km, mb3.1/1, mb1 3.4/5, mb1mx3.3/48, mbtmp3.1/5, ML3.1/4, MS2.5/2, Ms1 2.5/2, ms1mx2.3/19, Error ellipse: s-maj=19.3km s-min=9.8km az=85.0*

*ANF **07** 08:59:34.6±0.3, 37°.07N×104°.96W, h3km, ML3.9/19, Error ellipse: s-maj=3.4km s-min=2.8km az=1.0, Hypocentre not reviewed by the ISC*

*NEIC **07** 08:59:35.0±1.9, 37°.07N±0°.01×104°.94W±0°.07, h1km±7km, mb_Lg3.5/122, ML3.5/38, Error ellipse: s-maj=7.9km s-min=1.8km az=83.0*

ISC 07 08:59:35.3±1.0**, 37°.07N**±0°.06×**104°.95W**±0°.04**, h10km, n65,** σ**1s.20**/34**, Colorado**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.43**	**80**	Pg	**Pg**	**08 59 43.0**	**-0.9**
T25A				Sg	**Sg**	**08 59 49.1**	**-0.5**
T25A				IAML		08 59 49.5	
	comp=E,4µm,0.6s						
T25A	**Trinidad**	**0.43**	**80**	P		08 59 43.0	
	baz=276						
T25A				S		08 59 49.0	
	baz=276						
SDCO	**Great Sand Dun**	**0.81**	**327**	Pg	**Pg**	**08 59 49.5**	**-1.5**
SDCO				Sg	**Sg**	**09 00 00.6**	**-1.0**
SDCO	**Great Sand Dun**	**0.81**	**327**	P		08 59 49.5	
	baz=143,SNR=142						
SDCO				S		09 00 00.4	
	baz=143						
S22A	**4UR Ranch, Cre**	**1.65**	**295**	P		09 00 04.6	
	baz=110,SNR=537						
S22A				S		09 00 26.2	
	baz=110						
Q24A	**Divide**	**1.90**	**355**	Pb		09 00 09.6	
	baz=175,SNR=53						
Q24A				Sb		09 00 34.8	
	baz=175						
ANMO	**Albuquerque**	**2.45**	**211**	Pn	**Pn**	**09 00 15.3**	**-0.2**
	comp=E,9.4nm,0.3s,baz=29,slow=13,SNR=87						
ANMO				Lg	Lg	09 00 47.9	
	comp=E,39nm,0.3s,baz=303,slow=23,SNR=3.0						
ANMO				LR	LR	09 00 56.5	
	comp=E,28nm,19.0s,baz=352,slow=35						
ANMO	**Albuquerque**	**2.45**	**211**		**Pn**	**09 00 15.3**	**-0.2**
ANMO	**Albuquerque**	**2.45**	**211**	P		09 00 15.3	
	baz=28						
ANMO				S		09 00 47.0	
	baz=28						
SMCO	**Snowmass**	**2.65**	**323**		**Pn**	**09 00 20.1**	**+1.7**
SMCO				IAML		09 01 02.4	
	comp=E,274nm,0.6s						
KSCO	**Kaye Shedlock'**	**2.67**	**43**		**Pn**	**09 00 20.3**	**+1.9**
KSCO	**Kaye Shedlock'**	**2.67**	**43**	Pn		09 00 20.8	
	baz=226,SNR=214						
KSCO				Pb		09 00 22.6	
	baz=226						
KSCO				Sb		09 00 57.5	
	baz=226						
ISCO	**Idaho Springs**	**2.78**	**349**		**Pn**	**09 00 21.9**	**+1.7**
ISCO	**Idaho Springs**	**2.78**	**349**	P		09 00 22.5	
	baz=169,SNR=44						
ISCO				Sb		09 01 00.8	
	baz=169						
MVCO	**Mesa Verde**	**2.84**	**274**		**Pn**	**09 00 22.9**	**+2.0**
MVCO	**Mesa Verde**	**2.84**	**274**	Pn		09 00 22.5	
	baz=90,SNR=310						
MVCO				Pb		09 00 26.1	
	baz=90						
MVCO				Sb		09 01 02.4	
	baz=90						
PV01	**Paradox Valley**	**3.07**	**291**		**Pn**	**09 00 25.5**	**+1.4**
PV01				IAML		09 01 13.7	
	comp=E,176nm,0.8s						
PV01				IAML		09 01 14.9	
	comp=N,126nm,1.4s						
PV15	**Paradox Valley**	**3.08**	**295**		**Pn**	**09 00 25.4**	**+1.2**
PV15				IAML		09 01 14.2	
	comp=E,211nm,0.7s						
PV15				IAML		09 01 17.7	
	comp=N,144nm,1.0s						
BNM	**Barren Site**	**3.22**	**206**	Pn	**Pn**	**09 00 25.8**	**-0.3**
LENM	**Lemitar**	**3.33**	**210**	Pn	**Pn**	**09 00 29.2**	**+1.5**
Y22D	**IRIS PASSCAL I**	**3.39**	**209**		**Pn**	**09 00 29.5**	**+1.1**
Y22D	**IRIS PASSCAL I**	**3.39**	**209**	Pb		09 00 35.3	
	baz=26,SNR=11						
Y22D				Sb		09 01 17.7	
	baz=26						
AMTX	**Amarillo**	**3.43**	**128**	Pn	**Pn**	**09 00 29.1**	**+0.2**
AMTX				IAmb_Lg		09 01 25.5	
	comp=Z,99nm,0.8s						
AMTX	**Amarillo**	**3.43**	**128**	Pb		09 00 36.4	
	baz=312						
MSTX	**Muleshoe**	**3.56**	**150**		**Pn**	**09 00 32.6**	**+1.9**
MSTX	**Muleshoe**	**3.56**	**150**	Pb		09 00 39.3	
	baz=332,SNR=42						
MSTX				Sb		09 01 22.8	
	baz=332						
N23A	**Red Feather La**	**3.90**	**349**	Pb		09 00 45.9	
	baz=168						
O20A	**White River Ci**	**4.01**	**321**		**Pn**	**09 00 38.5**	**+1.5**
O20A				IAML		09 01 30.3	
	comp=E,31nm,0.7s						
O20A				IAML		09 01 60.0	
	comp=N,49nm,1.0s						
O20A	**White River Ci**	**4.01**	**321**	P		09 00 39.5	
	baz=138,SNR=18						
O20A				S		09 01 28.4	
	baz=138						
PHWY	**Pilot Hill**	**4.25**	**355**	Pn	**Pn**	**09 00 41.2**	**+0.9**
W18A	**Petrified Fore**	**4.34**	**245**	Pn	**Pn**	**09 00 42.5**	**+1.1**
W18A				IAML		09 01 55.6	
	comp=E,87nm,0.9s						
W18A	**Petrified Fore**	**4.34**	**245**	Pb		09 00 52.3	
	baz=60,SNR=82						
CBKS	**Cedar Bluff**	**4.47**	**65**	Pn	**Pn**	**09 00 42.8**	**-0.4**
CBKS	**Cedar Bluff**	**4.47**	**65**	Pn		09 00 44.1	
	baz=250						
CBKS				Pb		09 00 55.0	
	baz=250,SNR=14						
CBKS				Sb		09 01 52.2	
	baz=250						
OGNE	**Ogallala**	**4.49**	**29**	IAmb_Lg		09 02 01.1	
	comp=Z,107nm,0.8s						
OGNE	**Ogallala**	**4.49**	**29**	Pb		09 00 56.3	
	baz=212,SNR=14						
OGNE				Sb		09 01 53.5	
	baz=212						
U32A	**Winter Ranch,**	**4.82**	**96**	IAmb_Lg		09 02 20.5	
	comp=Z,80nm,0.8s						
RDMU	**Red Mountain**	**5.03**	**316**	Pn	**Pn**	**09 00 51.3**	**+0.4**
RDMU				IAML		09 02 21.6	
	comp=N,20nm,1.1s						
RDMU				IAML		09 02 23.7	
	comp=E,17nm,1.0s						
121A	**Cookes Peak, D**	**5.09**	**208**	Pn	**Pn**	**09 00 52.0**	**+0.2**
121A				IAML		09 02 20.9	
	comp=E,40nm,0.7s						
121A				IAML		09 02 21.4	
	comp=N,34nm,1.4s						
121A	**Cookes Peak, D**	**5.09**	**208**	P		09 00 51.7	
	baz=26						
R32A	**Long Quarter,**	**5.12**	**73**	Pn	**Pn**	**09 00 54.0**	**+1.9**
R32A				IAmb_Lg		09 02 27.4	
	comp=Z,78nm,0.8s						
MNTX	**Cornudas Mount**	**5.37**	**184**	Pn	**Pn**	**09 00 57.7**	**+2.3**
MNTX				IAML		09 02 34.1	
	comp=Z,28nm,0.8s						
MNTX				IAML		09 02 34.2	
	comp=Z,31nm,1.0s						
MNTX	**Cornudas Mount**	**5.37**	**184**	Pb		09 01 09.8	
	baz=3.5,SNR=56						
MNTX				Sb		09 02 15.0	
	baz=3.5						
OK032	**Salt Plains WL**	**5.40**	**91**	IAmb_Lg		09 02 31.8	
	comp=Z,50nm,0.8s						
WUAZ	**Wupatki**	**5.42**	**255**	Pn	**Pn**	**09 00 55.7**	**-0.6**
WUAZ	**Wupatki**	**5.42**	**255**	Pn		09 00 57.4	
	baz=70,SNR=9.4						
WUAZ				Pb		09 01 11.0	
	baz=70						
WUAZ				Sb		09 02 20.7	
	baz=70						
KAN10	**Anthony SW Sta**	**5.48**	**87**	IAmb_Lg		09 02 37.9	
	comp=Z,89nm,1.2s						
WMOK	**Wichita Mounta**	**5.52**	**113**	Sb		09 02 23.3	
	baz=298						
KAN12	**Harper NE Stat**	**5.55**	**86**	IAmb_Lg		09 02 34.0	
	comp=Z,54nm,0.8s						
KAN08	**Anthony NE Sta**	**5.57**	**86**	IAmb_Lg		09 02 39.3	
	comp=Z,66nm,1.1s						
CROK	**Carrier**	**5.62**	**94**	IAmb_Lg		09 02 46.4	
	comp=Z,65nm,0.8s						
KAN05	**Bluff City Nor**	**5.65**	**87**	IAmb_Lg		09 02 40.9	
	comp=Z,49nm,0.8s						
KAN01	**Argonia South**	**5.74**	**87**	IAmb_Lg		09 02 40.6	
	comp=Z,92nm,1.2s						
KS21	**Milan North St**	**5.82**	**86**	IAmb_Lg		09 02 47.2	
	comp=Z,70nm,1.0s						
KAN09	**Caldwell North**	**5.86**	**87**	IAmb_Lg		09 02 43.8	
	comp=Z,89nm,1.2s						
KS20	**Mayfield South**	**5.91**	**86**	IAmb_Lg		09 02 44.5	
	comp=Z,84nm,0.9s						
KAN13	**South Haven SW**	**5.97**	**88**	IAmb_Lg		09 02 49.7	
	comp=Z,88nm,1.1s						
BCOK	**Bluff Creek, N**	**6.08**	**101**	IAmb_Lg		09 02 55.0	
	comp=Z,90nm,0.7s						
OK029	**Liberty Lake**	**6.17**	**100**	IAmb_Lg		09 02 53.2	
	comp=Z,53nm,1.1s						
ABTX	**Abilene, Hawle**	**6.22**	**134**	Sb		09 02 43.7	
	baz=318						
OKCFA	**Oklahoma City**	**6.28**	**103**	IAmb_Lg		09 03 02.6	
	comp=Z,48nm,0.8s						
FNO	**Franklin**	**6.36**	**104**	IAmb_Lg		09 03 08.4	
	comp=Z,75nm,0.9s						
QUOK	**Quay**	**6.68**	**95**	IAmb_Lg		09 03 22.4	
	comp=Z,41nm,1.2s						
BW06	**Boulder Array**	**6.71**	**330**	Pn	**Pn**	**09 01 14.6**	**+0.5**
PDAR	**Pinedale Array**	**6.71**	**330**	Pn	**Pn**	**09 01 14.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=139,slow=14,SNR=5.7						
PDAR				Lg	Lg	09 03 02.3	
	comp=Z,0.2nm,0.3s,baz=131,slow=32,SNR=2.1						
T35A	**Sooner Cattle**	**6.75**	**89**	IAmb_Lg		09 03 08.7	
	comp=Z,43nm,0.8s						
TUC	**Tucson**	**6.76**	**227**	IAmb_Lg		09 03 05.0	
	comp=Z,8.4nm,1.2s						
BGNE	**Belgrade**	**6.83**	**48**	P		09 01 17.3	
	baz=234,SNR=6.6						
KSU1	**Kansas State U**	**6.88**	**70**	Pb		09 01 35.8	
	baz=256						
N33A	**J Bar K, Exete**	**6.90**	**56**	IAmb_Lg		09 03 13.9	
	comp=Z,61nm,0.7s						
RSSD	**Black Hills**	**7.08**	**5**	P		09 01 20.3	
	baz=186						
Z35A	**Perchaven, San**	**7.32**	**118**	IAmb_Lg		09 03 34.8	
	comp=Z,50nm,1.1s						
TUL1	**Leonard**	**7.46**	**96**	Sb		09 03 24.7	
	baz=282						
TX31	**Lajitas Ar. Si**	**7.79**	**172**	Pn	**Pn**	**09 01 29.3**	**+0.6**
TX32	**Lajitas Array**	**7.79**	**172**	Pn	**Pn**	**09 01 29.4**	**+0.6**
TXAR	**Lajitas Array**	**7.79**	**172**	Pn	**Pn**	**09 01 29.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=356,slow=12,SNR=5.8						
TXAR				Lg	Lg	09 03 35.6	
	comp=Z,1.2nm,0.3s,baz=358,slow=29,SNR=13						
JCT	**Junction City**	**7.84**	**145**	IAmb_Lg		09 04 05.5	
	comp=Z,39nm,0.8s						
X37A	**Clayton**	**8.16**	**105**	Pn	**Pn**	**09 01 34.4**	**+0.6**
X37A				IAmb_Lg		09 04 15.1	
	comp=Z,58nm,0.9s						
U38A	**Gravette**	**8.50**	**91**	IAmb_Lg		09 04 08.8	
	comp=Z,35nm,0.9s						
SUSD	**Miller**	**8.65**	**30**	IAmb_Lg		09 04 20.6	
	comp=Z,41nm,0.8s						
435B	**Jarrell**	**8.75**	**134**	IAmb_Lg		09 04 29.3	
	comp=Z,47nm,0.8s						
HHAR	**Hobbs**	**8.88**	**92**	IAmb_Lg		09 04 16.0	
	comp=Z,29nm,0.8s						
Z38A	**Mt. Pleasant**	**8.99**	**112**	IAmb_Lg		09 04 40.8	
	comp=Z,26nm,1.1s						
ECSD	**EROS Data Cent**	**9.20**	**41**	P		09 01 49.5	
	baz=227,SNR=10						
W39A	**Magazine**	**9.22**	**98**	IAmb_Lg		09 04 54.1	
	comp=Z,43nm,0.9s						
S39A	**Bolivar**	**9.27**	**83**	IAmb_Lg		09 04 29.0	
	comp=Z,46nm,1.1s						
PFO	**Pinyon Flats O**	**10.02**	**253**	LR	LR	09 05 26.3	
	comp=Z,96nm,18.1s,baz=2.5,slow=36						
NVAR	**Mina Array Bea**	**10.67**	**281**	Pg	Pn	09 02 51.1	+43
	comp=Z,0.1nm,0.3s,baz=77,slow=20,SNR=4.8						
NVAR				Lg	Lg	09 05 04.2	
	comp=Z,0.0nm,0.3s,baz=91,slow=30,SNR=1.3						
ULM	**Lac du Bonnet**	**14.71**	**23**	Pn	**Pn**	**09 03 02.9**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=212,slow=12,SNR=4.2						
ULM				Lg	Lg	09 07 11.6	
	comp=Z,0.0nm,0.3s,baz=352,slow=19,SNR=1.8						
TKL	**Tuckaleechee C**	**17.11**	**88**	Lg	Lg	09 08 29.5	
	comp=Z,0.1nm,0.3s,baz=17,slow=19,SNR=2.9						
YKA	**Yellowknife Ar**	**26.15**	**350**	P	**P**	**09 05 09.7**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=160,slow=9.4,SNR=5.2						

*SOME **07** 09:26:12.0, 40°.78N×73°.33E, h5km*

*KRNET **07** 09:26:13.8±0.1, 40°.78N×73°.27E, h18km, mb3.2*

*NNC **07** 09:26:15.1±1.0, 40°.87N×73°.27E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=8.5km s-min=4.0km az=177.0*

*ISU **07** 09:26:15, 39°.90N×72°.90E, h5km*

ISC 07 09:26:11.8±1.1**, 40°.73N**±0°.02×**73°.42E**±0°.02**, h4km**±10km**, n81,** σ**1s.04**/123**, 27C-22D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.52**	**247**	⇓*i*P	**Pg**	**09 26 22.7**	**+0.9**
	baz=36						
OHH				⇓*i*S	**Sg**	**09 26 28.8**	**+0.3**
	baz=36						
OHH	**Osh**	**0.52**	**247**	*e*P	**Pb**	**09 26 23.0**	**-0.5**
OHH				*e*S	**Sg**	**09 26 29.0**	**+0.5**
ARSB	**Arslanbob**	**0.68**	**331**	⇑*i*P	**Pg**	**09 26 25.3**	**+0.4**
	baz=38						
ARSB				⇑*i*S	**Sg**	**09 26 33.5**	**-0.2**
	baz=38						
SFK	**Sufi-Kurgan**	**0.72**	**175**	⇓*i*P	**Pb**	**09 26 28.3**	**+1.3**
	baz=67						
SFK				⇓*i*S	**Sb**	**09 26 39.4**	**+2.1**
	baz=67						
SFK	**Sufi-Kurgan**	**0.72**	**175**	*e*P	**Pg**	**09 26 25.0**	**-0.5**
SFK				*e*S	**Sg**	**09 26 33.0**	**-1.8**
FRG	**Fergana**	**1.24**	**271**	*e*P	**Pn**	**09 26 37.0**	**+1.1**
FRG				*e*S	**Sn**	**09 26 53.0**	**-0.1**
ARLS	**Aral**	**1.32**	**31**	⇑*i*P	**Pg**	**09 26 38.7**	**+1.5**
	baz=36						
ARLS				⇑*i*S	**Sn**	**09 26 56.7**	**+1.3**
	baz=36						
AML	**Almayashu**	**1.42**	**8**	⇑*i*P	**Pg**	**09 26 39.7**	**+0.7**
	baz=13						
AML				⇑*i*S	**Sn**	**09 26 58.2**	**+0.1**
	baz=13						
AML	**Almayashu**	**1.42**	**8**	P	**Pg**	**09 26 39.9**	**+0.9**
	SNR=57						
UCH	**Uchtor**	**1.71**	**28**	⇑*i*P	**Pg**	**09 26 45.6**	**+1.0**
	baz=32						
UCH				⇑*i*S	**Sg**	**09 27 08.5**	**+1.7**
	baz=32						
UCH	**Uchtor**	**1.71**	**28**	P	**Pg**	**09 26 45.5**	**+0.9**
	SNR=45						
DRK	**Karamyk**	**1.76**	**225**	⇑*i*P	**Pg**	**09 26 45.6**	**+0.2**
	baz=22						
DRK				⇑*i*S	**Sg**	**09 27 08.3**	**+0.1**
	baz=22						
MNAS	**Manas**	**1.89**	**339**	⇓*i*P	**Pb**	**09 26 47.1**	**+0.2**
	baz=42						
MNAS				⇓*i*S	**Sb**	**09 27 10.9**	**0.0**
	baz=42						
TRKS	**Terek-Say**	**1.90**	**296**	⇑*i*P	**Pn**	**09 26 45.5**	**+0.4**
	baz=94						
TRKS				⇑*i*S	**Sn**	**09 27 08.6**	**-0.9**
	baz=94						
EKS2	**Erkin-Say**	**1.95**	**8**	⇑*i*P	**Pb**	**09 26 48.5**	**+0.5**
	baz=11						
EKS2				⇑*i*S	**Sg**	**09 27 13.7**	**-0.8**
	baz=11						
EKS2	**Erkin-Say**	**1.95**	**8**	P	**Pg**	**09 26 49.4**	**+0.2**
	SNR=40						
MRKS	**Merke**	**2.02**	**356**	⇓*i*P	**Pb**	**09 26 49.6**	**+0.5**
	70nm,0.3s						
MRKS				*e*S	**Sg**	**09 27 16.3**	**-0.5**
	114nm,0.2s						
MRKS	**Merke**	**2.02**	**356**	Pg	**Pb**	**09 26 49.6**	**+0.5**
	70nm,0.3s						
MRKS				Lg	Lg	09 27 16.3	
	114nm,0.2s						
AAK	**Ala-Archa**	**2.07**	**23**	⇓*i*P	**Pg**	**09 26 50.9**	**-0.6**
	baz=26						
AAK				⇓*i*S	**Sg**	**09 27 17.8**	**-0.6**
	baz=26						
AAK	**Ala-Archa**	**2.07**	**23**	P	**Pg**	**09 26 51.4**	**-0.2**
	SNR=9.1						
AAK	**Ala-Archa**	**2.07**	**23**	⇓Pg	**Pg**	**09 26 51.6**	**+0.1**
	16nm,0.6s						
AAK				⇓Lg	Lg	09 27 19.5	
	70nm,0.5s						
BTK	**Batken**	**2.09**	**252**	⇑*e*P	**Pb**	**09 26 49.7**	**-0.7**
	baz=50						
BTK				⇑*i*S	**Sb**	**09 27 16.0**	**-0.7**
	baz=50						
BTK	**Batken**	**2.09**	**252**	*e*P	**Pn**	**09 26 48.0**	**+0.3**
BTK				*e*S	**Sn**	**09 27 12.0**	**-2.3**
KBK	**Karagaybulak**	**2.24**	**30**	⇑*i*P	**Pb**	**09 26 53.3**	**+0.3**
	baz=33						
KBK				⇑*i*S	**Sb**	**09 27 22.3**	**+1.1**
	baz=33						
KBK	**Karagaybulak**	**2.24**	**30**	P	**Pg**	**09 26 54.6**	**-0.1**
	SNR=14						
FRU1	**Bishkek**	**2.27**	**23**	⇓*i*P	**Pb**	**09 26 53.6**	**+0.2**
	baz=26						
FRU1				⇓*i*S	**Sb**	**09 27 22.1**	**+0.2**
	baz=26						
CHMS	**Chumysh**	**2.48**	**23**	⇓*i*P	**Pb**	**09 26 56.2**	**-0.7**
	baz=26						
CHMS				⇓*i*S	**Sb**	**09 27 27.3**	**-0.5**
	baz=26						
CHMS	**Chumysh**	**2.48**	**23**	P	**Pb**	**09 26 57.4**	**+0.4**
	SNR=10.0						
BOOM	**Boomskoye usch**	**2.59**	**46**	⇓*i*P	**Pb**	**09 26 58.6**	**-0.2**
	baz=49						
BOOM				⇓*i*S	**Sb**	**09 27 31.1**	**+0.1**
	baz=49						
ULHL	**Ulahol**	**2.61**	**54**	⇓*i*P	**Pb**	**09 26 59.1**	**-0.2**
	baz=56						
ULHL				⇓*i*S	**Sb**	**09 27 32.1**	**+0.3**
	baz=56						
ULHL	**Ulahol**	**2.61**	**54**	P	**Pb**	**09 26 59.3**	**0.0**
	SNR=6.8						
USP	**Ospenovka**	**2.66**	**17**	P	**Pb**	**09 26 59.3**	**-0.7**
	SNR=13						
DZA	**Taraz**	**2.67**	**325**	*e*P	**Pb**	**09 27 00.3**	**+0.2**
	125nm,0.1s						
DZA				*e*S	**Sb**	**09 27 34.1**	**+1.0**
	161nm,0.2s						
DZA	**Taraz**	**2.67**	**325**	Pg	**Pb**	**09 27 00.3**	**+0.2**
	125nm,0.1s						
DZA				Lg	Lg	09 27 34.1	
	161nm,0.2s						
TKM2	**Tokmak 2**	**2.73**	**36**	⇑*e*P	**Pb**	**09 27 00.0**	**-1.3**
	baz=38						
TKM2				⇑*i*S	**Sb**	**09 27 34.3**	**-1.0**
	baz=38						
TKM2	**Tokmak 2**	**2.73**	**36**	P	**Pb**	**09 27 02.6**	**+1.3**
	SNR=12						
TKM2	**Tokmak 2**	**2.73**	**36**	⇑Pg	**Pg**	**09 27 07.0**	**+2.9**
	6.7nm,0.4s						
TKM2				⇑Lg	Lg	09 27 39.9	
	32nm,0.6s						
KST	**Kastek**	**3.00**	**39**	*e*P	**Pg**	**09 27 09.4**	**+0.2**
	8.1nm,0.3s						
KST				⇑*i*S	**Sg**	**09 27 49.4**	**+1.4**
	59nm,0.3s						
KST	**Kastek**	**3.00**	**39**	Pg	**Pg**	**09 27 09.4**	**+0.2**
	8.1nm,0.3s						
KST				Lg	Lg	09 27 49.4	
	59nm,0.3s						
DGS	**Degeres**	**3.07**	**34**	*e*P	**Pg**	**09 27 10.3**	**-0.2**
	17nm,0.3s						
DGS				*e*S	**Sg**	**09 27 51.2**	**+1.0**
	45nm,0.3s						
DGS	**Degeres**	**3.07**	**34**	Pg	**Pg**	**09 27 10.3**	**-0.2**
	17nm,0.3s						
DGS				Lg	Lg	09 27 51.2	
	45nm,0.3s						
KK31	**Karatay Array**	**3.21**	**319**	Pg	**Pb**	**09 27 10.0**	**+0.6**
	2.7nm,0.3s,baz=138,slow=17,SNR=12						
KK31				⇑Lg	Lg	09 27 51.6	
	16nm,0.5s,baz=130,slow=29,SNR=9.4						
MTBS	**Maitube**	**3.29**	**42**	*e*P	**Pg**	**09 27 14.3**	**-0.5**
	19nm,0.3s						
MTBS				*e*S	**Sg**	**09 27 58.0**	**+0.6**
	57nm,0.2s						
MTBS	**Maitube**	**3.29**	**42**	Pg	**Pg**	**09 27 14.3**	**-0.5**
	19nm,0.3s						
MTBS				Lg	Lg	09 27 58.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	57nm,0.2s						
IZV	**Izvestkoviy**	**3.32**	**45**	*e*P	**Pg**	**09 27 15.1**	**-0.3**
	13nm,0.6s						
IZV				*e*S	**Sg**	**09 27 59.6**	**+1.2**
	46nm,0.3s						
IZV	**Izvestkoviy**	**3.32**	**45**	Pg	**Pg**	**09 27 15.1**	**-0.3**
	13nm,0.6s						
IZV				Lg	Lg	09 27 59.6	
	46nm,0.3s						
KRBS	**Karabastau**	**3.41**	**29**	*e*P	**Pg**	**09 27 15.7**	**-1.4**
	7.8nm,0.2s						
KRBS				*e*S	**Sg**	**09 28 00.4**	**-0.9**
	27nm,0.4s						
KRBS	**Karabastau**	**3.41**	**29**	Pg	**Pg**	**09 27 15.6**	**-1.4**
	7.8nm,0.2s						
KRBS				Lg	Lg	09 28 00.4	
	27nm,0.4s						
TNSS	**Tian-Shan**	**3.50**	**48**	*e*P	**Pg**	**09 27 18.9**	**0.0**
	8.4nm,0.2s						
TNSS				*e*S	**Sg**	**09 28 05.7**	**+1.3**
	21nm,0.2s						
TNSS	**Tian-Shan**	**3.50**	**48**	Pg	**Pg**	**09 27 18.9**	**0.0**
	8.4nm,0.2s						
TNSS				Lg	Lg	09 28 05.7	
	21nm,0.2s						
BRLS	**Borolday**	**3.53**	**312**	*e*P	**Pb**	**09 27 15.3**	**+0.5**
	30nm,0.2s						
BRLS				*e*S	**Sb**	**09 27 59.7**	**+1.7**
	36nm,0.3s						
BRLS	**Borolday**	**3.53**	**312**	Pg	**Pb**	**09 27 15.3**	**+0.5**
	30nm,0.2s						
BRLS				Lg	Lg	09 27 59.7	
	36nm,0.3s						
MDOK	**Medeo**	**3.64**	**47**	*e*P	**Pg**	**09 27 21.5**	**-0.1**
	6.5nm,0.4s						
MDOK				*e*S	**Sg**	**09 28 10.1**	**+1.4**
	27nm,0.3s						
MDOK	**Medeo**	**3.64**	**47**	Pg	**Pg**	**09 27 21.4**	**-0.1**
	6.1nm,0.6s						
MDOK				Lg	Lg	09 28 08.4	
	53nm,1.0s						
MDOK	**Medeo**	**3.64**	**47**	Pg	**Pg**	**09 27 21.5**	**-0.1**
	6.5nm,0.4s						
MDOK				Lg	Lg	09 28 10.1	
	27nm,0.3s						
KOTS	**Kotyrbulak**	**3.72**	**47**	*e*P	**Pg**	**09 27 22.3**	**-0.8**
	14nm,0.3s						
KOTS				*e*S	**Sg**	**09 28 11.7**	**+0.3**
	210nm,0.5s						
KOTS	**Kotyrbulak**	**3.72**	**47**	Pg	**Pg**	**09 27 22.3**	**-0.8**
	14nm,0.3s						
KOTS				Lg	Lg	09 28 11.7	
	210nm,0.5s						
KUU	**Kurty**	**3.83**	**33**	*e*P	**Pg**	**09 27 23.7**	**-1.6**
	7.1nm,0.3s						
KUU				*e*S	**Sg**	**09 28 14.5**	**-0.4**
	35nm,0.3s						
KUU	**Kurty**	**3.83**	**33**	Pg	**Pg**	**09 27 23.7**	**-1.6**
	7.1nm,0.3s						
KUU				Lg	Lg	09 28 14.5	
	35nm,0.3s						
KTBS	**Karatobe**	**3.84**	**38**	*e*P	**Pg**	**09 27 23.9**	**-1.5**
	3.2nm,0.4s						
KTBS				*e*S	**Sg**	**09 28 14.4**	**-0.8**
	70nm,0.3s						
KTBS	**Karatobe**	**3.84**	**38**	Pg	**Pg**	**09 27 23.9**	**-1.5**
	3.2nm,0.4s						
KTBS				Lg	Lg	09 28 14.4	
	70nm,0.3s						
CHKK	**Chushkaly**	**4.10**	**39**	*e*P	**Pg**	**09 27 29.4**	**-0.9**
	2.1nm,0.0s						
CHKK				*e*S	**Sg**	**09 28 23.7**	**+0.3**
	40nm,0.4s						
CHKK	**Chushkaly**	**4.10**	**39**	Pg	**Pg**	**09 27 29.4**	**-0.9**
	2.1nm,0.0s						
CHKK				Lg	Lg	09 28 23.7	
	40nm,0.4s						
BTLS	**Baital**	**4.34**	**6**	*e*P	**Pg**	**09 27 32.5**	**-2.3**
	3.8nm,0.3s						
BTLS				*e*S	**Sg**	**09 28 29.4**	**-1.6**
	26nm,0.3s						
BTLS	**Baital**	**4.34**	**6**	Pg	**Pg**	**09 27 32.5**	**-2.3**
	3.8nm,0.3s						
BTLS				Lg	Lg	09 28 29.4	
	26nm,0.3s						
SATY	**Saty**	**4.39**	**56**	*e*P	**Pg**	**09 27 35.2**	**-0.8**
	2.4nm,0.3s						
SATY				*e*S	**Sg**	**09 28 33.8**	**+0.9**
	31nm,0.4s						
SATY	**Saty**	**4.39**	**56**	Pg	**Pg**	**09 27 35.2**	**-0.8**
	2.4nm,0.3s						
SATY				Lg	Lg	09 28 33.8	
	31nm,0.4s						
KURS	**Kuram**	**4.49**	**50**	*e*P	**Pg**	**09 27 36.0**	**-1.7**
	3.8nm,0.3s						
KURS				*e*S	**Sg**	**09 28 35.2**	**-0.6**
	12nm,0.6s						
KURS	**Kuram**	**4.49**	**50**	Pg	**Pg**	**09 27 36.1**	**-1.7**
	3.8nm,0.3s						
KURS				Lg	Lg	09 28 35.2	
	12nm,0.6s						
ARXS	**Arharly**	**4.77**	**42**	*e*P	**Pg**	**09 27 41.9**	**-1.3**
	7.7nm,0.6s						
ARXS				*e*S	**Sg**	**09 28 45.3**	**+0.3**
	35nm,0.3s						
ARXS	**Arharly**	**4.77**	**42**	Pg	**Pg**	**09 27 41.9**	**-1.3**
	7.7nm,0.6s						
ARXS				Lg	Lg	09 28 45.3	
	35nm,0.3s						
KPKS	**Kokpek**	**4.78**	**53**	*e*P	**Pg**	**09 27 41.0**	**-2.4**
	5.3nm,0.3s						
KPKS				*e*S	**Sg**	**09 28 44.0**	**-1.3**
	35nm,0.3s						
UZB	**Uzynbulak**	**4.83**	**58**	⇓*i*P	**Pg**	**09 27 42.4**	**-1.9**
	3.7nm,0.2s						
UZB				⇓*i*S	**Sg**	**09 28 46.1**	**-0.8**
	14nm,0.3s						
UZB	**Uzynbulak**	**4.83**	**58**	Pg	**Pg**	**09 27 42.4**	**-1.9**
	3.7nm,0.2s						
UZB				Lg	Lg	09 28 46.1	
	14nm,0.3s						
MNBS	**Baschi**	**4.98**	**46**	*e*P	**Pg**	**09 27 45.9**	**-1.3**
	6.8nm,0.3s						
MNBS				*e*S	**Sg**	**09 28 52.4**	**+0.5**
	26nm,0.2s						
MNBS	**Baschi**	**4.98**	**46**	Pg	**Pg**	**09 27 45.9**	**-1.3**
	6.8nm,0.3s						
MNBS				Lg	Lg	09 28 52.4	
	26nm,0.2s						
PDGK	**Podgornoye**	**5.22**	**58**	⇑Pg	**Pg**	**09 27 50.7**	**-1.0**
	1.5nm,0.7s						
PDGK				⇑Lg	Lg	09 28 58.3	
	17nm,0.8s						
KTMS	**Ketmen**	**5.83**	**60**	Pg	**Pg**	**09 28 02.5**	**-1.0**
	1.6nm,0.1s						
KTMS				Lg	Lg	09 29 20.8	
	9.8nm,0.3s						
DJR	**Jarkent**	**5.93**	**50**	Pg	**Pg**	**09 28 04.5**	**-0.8**
	2.2nm,0.3s						
DJR				Lg	Lg	09 29 24.5	
	5.8nm,0.3s						
KAPS	**Kapalarasan**	**6.30**	**42**	Pg	**Pg**	**09 28 10.8**	**-1.6**
	1.2nm,0.3s						
KAPS				Lg	Lg	09 29 34.7	
	7.8nm,0.4s						
MK31	**Makanchi Array**	**8.83**	**44**	⇓Pn	Pn	09 28 29.3	+9.1
	0.6nm,0.6s						
MK31				⇑Lg	Lg	09 30 51.5	
	1.1nm,0.6s						

IDC ***07*** *09:27:45.0±2.0, 49.°15N×153.°94E, h0^{km}, mb3.2/2, mb1 3.3/3, mb1mx3.1/28, mbtmp3.2/3, ML2.0/1, Error ellipse: s-maj=57.6km s-min=37.1km az=113.0*
KRSC ***07*** *09:27:54.5±2.4, 49.°28N×156.°10E, h60^{km}±25^{km}, ML3.7*
ISC 07 09:27:51.5±1.6**, 49.°1N**±0.°1×**155.°6E**±0.°1**, h50^{km}, n30,** σ**2^{s}22**/25**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.82**	**358**	*e*P	**Pn**	**09 28 20.4**	**-0.2**
ALID				*e*S	**Sn**	**09 28 41.9**	**-0.6**
PAU	**Pauzhetka**	**2.53**	**17**	*e*S	**Sn**	**09 28 57.4**	**-2.3**
KDTR	**Khodutka, Kamc**	**3.17**	**28**	*e*P	**Pn**	**09 28 39.7**	**+0.8**
KDTR				*e*S	**Sn**	**09 29 13.4**	**-2.0**
MIPR	**Malaya Ipel'ka**	**3.31**	**12**	*e*P	**Pn**	**09 28 42.0**	**+1.2**
ASAK	**Asacha**	**3.63**	**22**	*e*P	**Pn**	**09 28 47.1**	**+1.8**
MTVR	**Mutnovka**	**3.80**	**24**	*e*P	**Pn**	**09 28 49.9**	**+2.3**
MTVR				*e*S	**Sn**	**09 29 31.1**	**+0.1**
GRL	**Gorelyy**	**3.83**	**23**	*e*P	**Pn**	**09 28 50.6**	**+2.6**
RUS	**Russkaya**	**3.85**	**27**	*e*P	**Pn**	**09 28 49.1**	**+1.0**
RUS				*e*S	**Sn**	**09 29 30.7**	**-1.3**
PETK	**Petropavlovsk-**	**4.26**	**17**	Pn	**Pn**	**09 28 56.0**	**+2.1**
	0.3nm,0.3s,baz=187,slow=9.5,SNR=15						
PETK				Sn	Sn	09 29 57.7	+15
	0.0nm,0.3s,baz=167,slow=14,SNR=1.4						
DALK	**Dalny**	**4.44**	**25**	P	**Pn**	**09 28 58.1**	**+1.8**
UGLR	**Uglovaya**	**4.62**	**24**	*e*P	**Pn**	**09 29 01.7**	**+2.8**
KOK	**Koryaka**	**4.65**	**23**	*e*P	**Pn**	**09 29 02.2**	**+3.0**
AVH	**Avacha**	**4.65**	**24**	*e*P	**Pn**	**09 29 02.1**	**+2.9**
SMAR	**Somma**	**4.66**	**24**	*e*P	**Pn**	**09 28 59.8**	**+0.3**
SDLR	**Sedlovina**	**4.70**	**25**	*e*P	**Pn**	**09 29 01.6**	**+1.7**
KRX	**Arik**	**4.71**	**23**	*e*P	**Pn**	**09 29 03.2**	**+3.1**
GNL	**Ganaly**	**4.87**	**16**	*e*P	**Pn**	**09 29 04.5**	**+2.2**
SPN	**Mys Shipunski**	**4.90**	**33**	*e*P	**Pn**	**09 29 02.7**	**+0.1**
SPN				*e*S	**Sn**	**09 29 54.3**	**-3.7**
KBTR	**Krutoberegovo**	**8.39**	**29**	*e*P	**Pn**	**09 29 54.0**	**+3.7**
H11N2	**WAKE ISLAND Hy**	**30.62**	**159**	T	T	10 06 32.0	
	baz=343						
H11N1	**WAKE ISLAND Hy**	**30.64**	**159**	T	T	10 06 46.2	
	baz=343						
H11N3	**WAKE ISLAND Hy**	**30.64**	**159**	T	T	10 06 42.8	
	baz=343						
H11S1	**WAKE ISLAND Hy**	**31.75**	**160**	T	T	10 07 54.3	
	baz=345,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**31.76**	**160**	T	T	10 07 52.7	
	baz=345,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**31.77**	**160**	T	T	10 07 53.8	
	baz=345,slow=76,SNR=18						
MKAR	**Makanchi Array**	**47.41**	**297**	P	P	09 36 12.6	-8.1
	0.2nm,0.8s,baz=71,slow=9.3,SNR=2.5						
ASAR	**Alice Springs**	**74.95**	**201**	P	**P**	**09 39 26.2**	**-1.0**
	0.2nm,0.5s,baz=12,slow=4.7,SNR=2.4						
H03N2	**Juan Fernandez**	**137.05**	**90**	T	T	12 20 20.6	
	baz=308						
H03N1	**Juan Fernandez**	**137.06**	**90**	T	T	12 20 27.2	
	baz=308						
H03N3	**Juan Fernandez**	**137.06**	**90**	T	T	12 20 26.5	
	baz=308						

IDC ***07*** *09:46:39.9±2.1, 48.°82N×154.°33E, h0^{km}, mb3.4/2, mb1 3.7/3, mb1mx3.2/49, mbtmp3.3/3, ML1.9/1, Error ellipse: s-maj=114.0km s-min=33.5km az=119.0*
KRSC ***07*** *09:46:49.5±1.7, 49.°09N×156.°00E, h53^{km}±26^{km}, ML3.9*
ISC 07 09:46:52.3±2.4**, 49.°1N**±0.°1×**155.°8E**±0.°2**, h50^{km}, n23,** σ**0^{s}97**/24**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.60**	**8**	*e*P	**Pn**	**09 47 17.0**	**-1.1**
SKR				*e*S	**Sn**	**09 47 36.5**	**-1.1**
ALID	**Alaid**	**1.78**	**355**	P	**Pn**	**09 47 21.7**	**+1.0**
PAU	**Pauzhetka**	**2.46**	**15**	*e*S	**Sn**	**09 47 58.7**	**0.0**
KDTR	**Khodutka, Kamc**	**3.08**	**27**	*e*P	**Pn**	**09 47 38.3**	**-0.1**
KDTR				*e*S	**Sn**	**09 48 13.1**	**-0.9**
MIPR	**Malaya Ipel'ka**	**3.24**	**11**	*e*P	**Pn**	**09 47 40.0**	**-0.6**
ASAK	**Asacha**	**3.55**	**21**	*e*P	**Pn**	**09 47 46.0**	**+1.1**
MTVR	**Mutnovka**	**3.71**	**23**	*e*P	**Pn**	**09 47 48.5**	**+1.3**
MTVR				*e*S	**Sn**	**09 48 31.3**	**+1.6**
GRL	**Gorelyy**	**3.75**	**22**	*e*P	**Pn**	**09 47 48.8**	**+1.1**
RUS	**Russkaya**	**3.76**	**26**	*e*P	**Pn**	**09 47 47.5**	**-0.2**
RUS				*e*S	**Sn**	**09 48 29.6**	**-1.0**
PETK	**Petropavlovsk-**	**4.19**	**16**	Pn	**Pn**	**09 47 54.5**	**+0.9**
	0.3nm,0.3s,baz=182,slow=11,SNR=22						
PETK				Sn	Sn	09 48 56.4	+15
	0.1nm,0.3s,baz=42,slow=52,SNR=1.1						
DALK	**Dalny**	**4.36**	**24**	*e*S	**Sn**	**09 48 46.5**	**+1.2**
UGLR	**Uglovaya**	**4.54**	**24**	*e*P	**Pn**	**09 47 58.1**	**-0.4**
AVH	**Avacha**	**4.57**	**23**	*e*P	**Pn**	**09 47 59.5**	**+0.7**
SMAR	**Somma**	**4.58**	**23**	*e*P	**Pn**	**09 47 58.5**	**-0.6**
SDLR	**Sedlovina**	**4.62**	**24**	*e*P	**Pn**	**09 47 58.2**	**-1.3**
KRX	**Arik**	**4.63**	**22**	*e*P	**Pn**	**09 47 58.7**	**-1.0**
SPN	**Mys Shipunski**	**4.81**	**32**	*e*P	**Pn**	**09 48 02.1**	**0.0**
SPN				*e*S	**Sn**	**09 48 56.2**	**-0.3**
KBTR	**Krutoberegovo**	**8.30**	**28**	P	**Pn**	**09 48 51.1**	**+1.2**
H11S1	**WAKE ISLAND Hy**	**31.76**	**160**	T	T	10 27 01.2	
	baz=345,slow=76,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**31.77**	**160**	T	T	10 26 50.3	
	baz=345,slow=76,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**31.78**	**160**	T	T	10 26 57.0	
	baz=345,slow=76,SNR=4.1						
WRA	**Warramunga Arr**	**71.34**	**201**	P	P	09 57 58.1	-8.5
	0.4nm,1.1s,baz=13,slow=7.2,SNR=1.1						
TXAR	**Lajitas Array**	**74.80**	**63**	P	**P**	**09 58 27.0**	**-0.2**
	0.4nm,0.8s,baz=305,slow=4.4,SNR=3.6						

KRSC ***07*** *10:03:30.8±1.5, 49.°24N×156.°40E, h16^{km}±21^{km}, ML3.9*
IDC ***07*** *10:03:32.2±2.9, 49.°21N×155.°03E, h93^{km}±27^{km}, mb3.1/8, mb1 3.3/11, mb1mx3.1/68, mbtmp3.4/11, Error ellipse: s-maj=33.7km s-min=16.3km az=138.0*
ISC 07 10:03:27.5±0.9**, 49.°1N**±0.°1×**155.°2E**±0.°1**, h50^{km}, n38,** σ**2^{s}28**/31**, mb3.4**/8**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.72**	**19**	*e*P	**Pn**	**10 03 55.7**	**+0.7**
SKR				*e*S	**Sn**	**10 04 15.0**	**-0.8**
ALID	**Alaid**	**1.82**	**7**	*e*P	Pn	10 04 02.4	+5.9
PAU	**Pauzhetka**	**2.61**	**22**	*e*S	**Sn**	**10 04 36.7**	**-0.9**
KDTR	**Khodutka, Kamc**	**3.30**	**33**	*e*P	**Pn**	**10 04 16.6**	**0.0**
KDTR				*e*S	**Sn**	**10 04 51.4**	**-3.1**
MIPR	**Malaya Ipel'ka**	**3.36**	**16**	*e*P	**Pn**	**10 04 19.5**	**+2.0**
ASAK	**Asacha**	**3.73**	**26**	*e*P	**Pn**	**10 04 24.1**	**+1.5**
MTVR	**Mutnovka**	**3.90**	**28**	*e*P	**Pn**	**10 04 27.4**	**+2.4**
MTVR				*e*S	**Sn**	**10 05 09.7**	**+0.1**
GRL	**Gorelyy**	**3.93**	**26**	*e*P	**Pn**	**10 04 28.2**	**+2.8**
RUS	**Russkaya**	**3.97**	**31**	*e*P	**Pn**	**10 04 26.8**	**+1.1**
RUS				*e*S	**Sn**	**10 05 08.9**	**-2.0**
PETK	**Petropavlovsk-**	**4.34**	**20**	P	**Pn**	**10 04 34.1**	**+3.2**
	0.4nm,0.3s,baz=195,slow=13,SNR=21						
PETK				S	Sn	10 05 33.8	+14
	0.1nm,0.3s,baz=170,slow=9.0,SNR=1.5						
DALK	**Dalny**	**4.55**	**28**	*e*P	**Pn**	**10 04 36.8**	**+3.0**
UGLR	**Uglovaya**	**4.73**	**27**	*e*P	**Pn**	**10 04 39.7**	**+3.4**
KOK	**Koryaka**	**4.75**	**26**	*e*P	**Pn**	**10 04 40.9**	**+4.4**
AVH	**Avacha**	**4.75**	**26**	*e*P	**Pn**	**10 04 39.5**	**+2.9**
SMAR	**Somma**	**4.77**	**27**	*e*P	**Pn**	**10 04 40.7**	**+3.8**
SDLR	**Sedlovina**	**4.81**	**27**	*e*P	**Pn**	**10 04 40.2**	**+2.8**
KRX	**Arik**	**4.81**	**25**	*e*P	**Pn**	**10 04 41.0**	**+3.6**
SPN	**Mys Shipunski**	**5.04**	**35**	*e*S	**Sn**	**10 05 34.9**	**-2.6**
KBTR	**Krutoberegovo**	**8.51**	**30**	*e*P	**Pn**	**10 05 30.1**	**+2.1**
ASAJ	**Asahikawa**	**10.00**	**245**	P	Pn	10 05 52.9	+4.5
	0.6nm,0.3s,baz=61,slow=17,SNR=10						
USRK	**Ussuriysk Ar.**	**16.66**	**262**	P	**P**	**10 07 18.6**	**-0.4**
	baz=82,slow=7.9,SNR=4.3						
KSRS	**Korea Array**	**22.89**	**250**	P	**P**	**10 08 26.9**	**+0.2**
	0.6nm,0.8s,baz=50,slow=9.8,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**30.73**	**158**	T	T	10 42 22.1	
	baz=343						
H11N1	**WAKE ISLAND Hy**	**30.75**	**158**	T	T	10 42 23.4	
	baz=343,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.75**	**158**	T	T	10 42 23.5	
	baz=343,slow=74						
H11S1	**WAKE ISLAND Hy**	**31.86**	**159**	T	T	10 43 42.4	
	baz=345,slow=76						
H11S3	**WAKE ISLAND Hy**	**31.87**	**159**	T	T	10 43 42.0	
	baz=345,slow=76						
H11S2	**WAKE ISLAND Hy**	**31.88**	**159**	T	T	10 43 30.7	
	baz=345,slow=76						
MKAR	**Makanchi Array**	**47.16**	**296**	P	**P**	**10 11 53.2**	**-1.5**
	0.3nm,0.8s,baz=64,slow=9.9,SNR=2.3						
YKA	**Yellowknife Ar**	**48.22**	**39**	P	**P**	**10 12 02.6**	**-0.1**
	0.5nm,1.0s,baz=302,slow=7.6,SNR=4.3						
PDAR	**Pinedale Array**	**62.25**	**56**	P	**P**	**10 13 44.7**	**+0.4**
	0.3nm,0.7s,baz=356,slow=2.7,SNR=3.5						
NOA	**NORSAR Array B**	**66.48**	**342**	P	**P**	**10 14 10.5**	**-0.8**
	0.6nm,0.7s,baz=40,slow=7.1,SNR=2.6						
WRA	**Warramunga Arr**	**71.17**	**201**	P	**P**	**10 14 40.4**	**-0.4**
	0.3nm,0.6s,baz=20,slow=6.6,SNR=1.6						
ASAR	**Alice Springs**	**74.86**	**200**	P	**P**	**10 15 03.5**	**+0.9**
	0.2nm,0.6s,baz=12,slow=5.6,SNR=5.7						
TXAR	**Lajitas Array**	**75.14**	**62**	P	**P**	**10 15 04.4**	**-0.1**
	0.3nm,0.7s,baz=323,slow=5.7,SNR=3.0						
H03N2	**Juan Fernandez**	**137.32**	**89**	T	T	12 55 56.6	
	baz=302						
H03N1	**Juan Fernandez**	**137.34**	**89**	T	T	12 56 01.2	
	baz=302						
H03N3	**Juan Fernandez**	**137.34**	**89**	T	T	12 56 04.7	
	baz=302						

IDC ***07*** *10:08:46.9±1.0, 33.°46N×141.°22E, h0^{km}, mb3.8/5, mb1 3.9/10, mb1mx3.6/74, mbtmp3.9/10, ML3.5/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/49, Error ellipse: s-maj=24.4km s-min=17.3km az=75.0*
JMA ***07*** *10:08:52.3±0.1, 33.°48N×141.°09E, h53^{km}, M3.7*
NIED ***07*** *10:08:52.4, 33.°48N×141.°09E, h53^{km}, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.65; $M_{\theta\theta}$2.83; $M_{\phi\phi}$-7.48; $M_{r\theta}$-2.90; $M_{\theta\phi}$0.77; $M_{\phi r}$-1.71; Fault plane solution: $M_0$7.37000×10^{14} NP1: ϕ_s206.00000°, δ61.00000°, λ131.00000°. NP2: ϕ_s324.00000°, δ49.00000°, λ39.00000°.*
ISC 07 10:08:49.0±1.6**, 33.°42N**±0.°04×**141.°22E**±0.°06**, h17^{km}**±10^{km}**, n33,** σ**1^{s}36**/38**, mb3.8**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.21**	**256**	P	**Pg**	**10 09 12.2**	**-0.2**
JHJ2				S	**Sb**	**10 09 26.5**	**-0.4**
JHCJ	**Hachijojimakas**	**1.24**	**254**	P	**Pg**	**10 09 12.4**	**-0.5**
JHJ	**Hachijo jima 2**	**1.24**	**257**	Pn	**Pb**	**10 09 12.1**	**+0.1**
	911nm,0.3s,baz=61,slow=21,SNR=178						
JHJ				Sn	**Sb**	**10 09 26.3**	**-1.3**
	860nm,0.3s,baz=77,slow=22,SNR=14						
BSO1	**Boso 1**	**1.25**	**351**	P	**Pg**	**10 09 12.8**	**-0.3**
JMKN	**Mikurajimanish**	**1.44**	**290**	P	**Pn**	**10 09 14.8**	**+0.4**
BSO3	**Boso 3**	**1.50**	**337**	P	**Pb**	**10 09 16.3**	**0.0**
JAOM	**Aogashimamukai**	**1.55**	**233**	P	**Pb**	**10 09 17.5**	**+0.2**
JAOM				*e*S	**Sn**	**10 09 35.4**	**-0.2**
BSO4	**Boso 4**	**1.73**	**335**	P	**Pb**	**10 09 19.9**	**-0.4**
JKO	**Kozu shima**	**1.90**	**294**	P	**Pn**	**10 09 21.5**	**+0.9**
JKO				S	**Sn**	**10 09 43.2**	**-1.0**
JTHY	**Toshimahigashi**	**1.95**	**305**	P	**Pn**	**10 09 22.1**	**+0.7**
JIM2	**Oshima 3**	**1.97**	**312**	P	**Pn**	**10 09 22.0**	**+0.3**
JIZS	**Izushimoda**	**2.33**	**304**	P	**Pn**	**10 09 27.7**	**+1.0**
JOD2	**Odawara 2**	**2.55**	**317**	P	**Pn**	**10 09 30.3**	**+0.6**
JOD2				S	**Sn**	**10 09 58.2**	**-2.1**
JFNN	**Fujinakano**	**2.75**	**311**	P	**Pn**	**10 09 33.7**	**+1.4**
TK02	**Tokai 2**	**2.93**	**281**	P	**Pn**	**10 09 36.2**	**+1.5**
TK04	**Tokai 4**	**2.94**	**290**	P	**Pn**	**10 09 36.7**	**+1.7**
MJAR	**Matsushiro Arr**	**3.98**	**322**	Pn	**Pn**	**10 09 50.3**	**+1.0**
	1.8nm,0.3s,baz=279,slow=14,SNR=61						
MJAR				Sn	**Sn**	**10 10 35.0**	**-0.6**
	0.8nm,0.3s,baz=286,slow=13,SNR=5.6						
MAT	**Matsushiro**	**3.98**	**322**	P	**Pn**	**10 09 51.4**	**+2.1**
MAT				S	**Sn**	**10 10 34.7**	**-0.9**
JCJ	**Chichijima**	**6.36**	**172**	Pn	**Pn**	**10 10 23.0**	**+1.0**
	20nm,0.3s,baz=282,slow=21,SNR=14						
JCJ				Sn	**Sn**	**10 11 31.6**	**-2.6**
	6.0nm,0.3s,baz=286,slow=22,SNR=1.3						
JNU	**Nakatsue**	**8.66**	**271**	Pn	**Pn**	**10 10 54.1**	**+0.4**
	0.7nm,0.3s,baz=188,slow=16,SNR=1.7						
ASAJ	**Asahikawa**	**10.74**	**5**	Pn	**Pn**	**10 11 20.7**	**-1.3**
	0.7nm,0.3s,baz=212,slow=15,SNR=8.3						
ASAJ				Sn	Sn	10 13 12.3	-10
	0.2nm,0.3s,baz=180,slow=17,SNR=1.8						
KSRS	**Korea Array**	**11.57**	**294**	Pn	**Pn**	**10 11 38.1**	**+4.8**
	0.1nm,0.3s,baz=105,slow=14,SNR=1.6						
KSRS				LR	LR	10 16 05.8	
	comp=Z,44nm,18.2s,baz=180,slow=38						
KLR	**Kul'dur**	**17.30**	**339**	P	**Pn**	**10 12 50.4**	**+0.7**
	0.1nm,0.3s,baz=174,slow=9.7,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**26.62**	**114**	T	T	10 43 18.7	
	baz=306,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.62**	**114**	T	T	10 43 29.2	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**26.64**	**114**	T	T	10 43 31.9	
	baz=306,slow=74						
MKAR	**Makanchi Array**	**45.98**	**305**	P	**P**	**10 17 10.6**	**-0.8**
	0.7nm,0.7s,baz=91,slow=8.1,SNR=8.1						
KURBB	**Kurchatov Arra**	**48.16**	**311**	P	**P**	**10 17 27.7**	**-0.5**
	0.3nm,0.4s,baz=87,slow=7.7,SNR=2.6						
WRA	**Warramunga Arr**	**53.47**	**188**	P	**P**	**10 18 08.8**	**+0.4**
	6.0nm,0.4s,baz=6.0,slow=7.3,SNR=184						
ASAR	**Alice Springs**	**57.19**	**188**	P	**P**	**10 18 35.9**	**+0.6**
	2.1nm,0.4s,baz=1.8,slow=6.9,SNR=85						
AKASG	**Malin Array Be**	**77.06**	**323**	P	**P**	**10 20 40.5**	**-0.7**
	0.4nm,0.3s,baz=53,slow=5.4,SNR=2.4						
TXAR	**Lajitas Array**	**92.45**	**52**	P	**P**	**10 22 01.3**	**+1.8**
	0.1nm,0.6s,baz=336,slow=4.2,SNR=2.0						
LPAZ	**La Paz**	**148.53**	**64**	PKPbc	**PKPbc**	**10 28 36.8**	**+0.5**
	0.6nm,0.5s,baz=63,slow=2.3,SNR=2.3						

HEL ***07*** *10:12:54.0±0.4, 62.°44N×32.°69E, h0^{km}, ML2.4, Explosion*
NAO ***07*** *10:12:54.7±2.9, 62.°48N×32.°75E, ML2.3*
IDC ***07*** *10:12:54.5±2.7, 62.°50N×32.°92E, h0^{km}, mb1 3.5/4, mb1mx3.1/61, mbtmp3.5/4, ML2.7/4, Error ellipse: s-maj=29.4km s-min=12.5km az=123.0*
ISC 07 10:12:53.5±1.7**, 62.°63N**±0.°05×**32.°56E**±0.°08**, h0^{km}, n30,** σ**2^{s}18**/51**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOF	**Joensuu**	**0.65**	**298**	PG	**Pb**	**10 13 08.7**	**+1.1**
	baz=125						
JOF				SG	**Sb**	**10 13 18.7**	**+1.5**
SUF	**Sumiainen**	**2.96**	**275**	PB	**Pb**	**10 13 46.5**	**-0.5**
SUF				MSG		10 14 23.4	
	comp=Z,14nm,0.2s						
SUF				SB	**Sb**	**10 14 24.7**	**+1.0**
KAF	**Kangasniemi**	**2.96**	**263**	PB	**Pb**	**10 13 45.2**	**-1.8**
	baz=84						
KAF				SB	**Sb**	**10 14 23.5**	**-0.2**
VJF	**Virojoki**	**3.18**	**231**	PN	**Pn**	**10 13 44.8**	**+0.1**
VJF				MSG		10 14 25.5	
	comp=Z,7.2nm,0.2s						
FIA0	**FINESS Array S**	**3.28**	**252**	Pn	**Pn**	**10 13 47.9**	**+1.9**
	baz=86,slow=12						
FIA0				Pg	**Pb**	**10 13 51.1**	**-1.3**
	baz=68,slow=16						
FIA0				Sn	**Sn**	**10 14 28.4**	**+2.8**
	baz=69,slow=22						
FIA0	**FINESS Array S**	**3.28**	**252**	Pn	**Pn**	**10 13 47.9**	**+1.9**
	baz=86,slow=12						
FIA0				Pg	**Pb**	**10 13 51.1**	**-1.3**
	baz=68,slow=16						
FIA0				Sn	**Sn**	**10 14 28.4**	**+2.8**
	baz=69,slow=22						
FIA0	**FINESS Array S**	**3.28**	**252**	SB	**Sn**	**10 14 29.1**	**+3.5**
FINES	**FINESS Array B**	**3.28**	**252**	Pn	**Pn**	**10 13 47.8**	**+1.9**
	comp=Z,5.8nm,0.3s,baz=68,slow=14,SNR=78						
FINES				Sn	**Sn**	**10 14 27.8**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=72,slow=28,SNR=2.7						
FINES				Lg	Lg	10 14 41.9	
	comp=Z,1.6nm,0.3s,baz=67,slow=24,SNR=3.4						
KU6	**Riekki**	**3.61**	**342**	PN	**Pn**	**10 13 52.7**	**+2.1**
	baz=160						
KU6				SN	**Sn**	**10 14 36.5**	**+2.7**
KEF	**Keuruu**	**3.61**	**266**	PB	**Pb**	**10 13 55.6**	**-2.5**
KEF				SB	**Sb**	**10 14 42.6**	**+0.2**
MSF	**Maaselka**	**3.64**	**337**	PN	**Pn**	**10 13 53.5**	**+2.5**
MSF				SN	**Sn**	**10 14 36.2**	**+1.6**
OUL	**Oulu**	**3.85**	**313**	SG	**Sg**	**10 15 00.2**	**+3.3**
OUF	**Merijarvi**	**3.92**	**300**	PN	**Pn**	**10 13 59.0**	**+4.1**
	baz=117						
OUF				SG	**Sg**	**10 14 59.5**	**+0.2**
OLKF	**Oulanka, Finla**	**3.95**	**341**	SN	**Sn**	**10 14 45.5**	**+3.1**
OBF0	**Syolatti, Pyha**	**4.17**	**300**	SG	**Sg**	**10 15 07.7**	**+0.4**
VAF	**Ylistaro**	**4.55**	**280**	PG	**Pb**	**10 14 17.0**	**+2.8**
VAF				SG	**Sg**	**10 15 15.8**	**-3.8**
MEF	**Metsahovi**	**4.61**	**242**	PG	**Pb**	**10 14 15.4**	**+0.3**
MEF				SN	**Sn**	**10 14 57.8**	**-0.6**
APA0	**Apatity Array**	**5.01**	**2**	Pn	**Pn**	**10 14 10.9**	**+1.2**
	baz=180,slow=14						
APA0				Sn	**Sn**	**10 15 09.9**	**+1.6**
	baz=184,slow=28						
APA0	**Apatity Array**	**5.01**	**2**	Pn	**Pn**	**10 14 10.9**	**+1.2**
	baz=180,slow=14						
APA0				Sn	**Sn**	**10 15 09.9**	**+1.6**
	baz=184,slow=28						
ARA0	**ARCESS Array S**	**7.50**	**341**	Pn	**Pn**	**10 14 44.9**	**+0.9**
	baz=143,slow=14						
ARA0				Sn	**Sn**	**10 16 07.9**	**-1.7**
	baz=152,slow=22						
ARA0	**ARCESS Array S**	**7.50**	**341**	Pn	**Pn**	**10 14 44.9**	**+0.9**
	baz=143,slow=14						
ARA0				Sn	**Sn**	**10 16 07.9**	**-1.7**
	baz=152,slow=22						
ARCES	**ARCESS Array B**	**7.50**	**341**	Pn	**Pn**	**10 14 44.5**	**+0.5**
	baz=152,slow=12,SNR=1.1						
ARCES				Sn	**Sn**	**10 16 07.0**	**-2.6**
	baz=155,slow=26,SNR=6.1						
ARCES				Lg	Lg	10 16 44.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=158,slow=33,SNR=1.5						
HFS	**Hagfors**	**9.38**	**263**	Pn	**Pn**	**10 15 09.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=67,slow=11,SNR=7.0						
HFS				Sn	Sn	10 16 40.4	-15
	comp=Z,0.2nm,0.3s,baz=66,slow=25,SNR=1.7						
HFS				Lg	Lg	10 17 45.7	
	comp=Z,0.4nm,0.3s,baz=78,slow=28,SNR=5.0						
HFS	**Hagfors**	**9.38**	**263**	Pn	**Pn**	**10 15 09.9**	**+0.1**
	baz=78,slow=12						
HFS				Sn	**Sn**	**10 16 50.6**	**-5.3**
	baz=71,slow=28						
HFS	**Hagfors**	**9.38**	**263**	Pn	**Pn**	**10 15 09.9**	**+0.1**
	baz=78,slow=12						
HFS				Sn	**Sn**	**10 16 50.6**	**-5.3**
	baz=71,slow=28						
NRA0	**NORESS Array S**	**10.15**	**269**	Pn	**Pn**	**10 15 20.5**	**+0.2**
	baz=62,slow=18						
NRA0	**NORESS Array S**	**10.15**	**269**	Pn	**Pn**	**10 15 20.5**	**+0.2**
	baz=62,slow=18						
NB2	**NORSAR Subarra**	**10.21**	**271**	Pn	**Pn**	**10 15 22.9**	**+1.8**
NB2	**NORSAR Subarra**	**10.21**	**271**	Pn	**Pn**	**10 15 22.9**	**+1.8**
NOA	**NORSAR Array B**	**10.21**	**271**	Pn	**Pn**	**10 15 21.1**	**0.0**
	comp=Z,0.0nm,0.3s,baz=69,slow=11,SNR=1.5						
NOA				Lg	Lg	10 18 09.1	
	comp=Z,0.0nm,0.3s,baz=71,slow=9.3,SNR=1.1						

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*IDC **07** 10:23:51.0±1.6, 5°.07N×127°.63E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/34, mbtmp3.6/5, MS3.2/1, Ms1 3.2/1, ms1mx2.6/34, Error ellipse: s-maj=103.9km s-min=20.4km az=73.0*

ISC 07 10:23:55.5±1.3**, 5°.1N**±0°.2×**128°.0E**±0°.2**, h35**km**, n7,** σ**1**s**.98**/7**, mb3.5**/5**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.44**	**304**	⇑*e*P	**Pn**	**10 24 45.1**	**-1.5**
KCP				*i* S	**Sn**	**10 25 28.5**	**+2.3**
BATI	**Baumata**	**15.78**	**196**	LR	LR	10 34 59.8	
	comp=Z,78nm,18.7s,baz=250,slow=43						
FITZ	**Fitzroy Crossi**	**23.15**	**186**	P	**P**	**10 28 57.4**	**-1.5**
	1.8nm,0.7s,baz=351,slow=9.4,SNR=2.6						
WRA	**Warramunga Arr**	**25.65**	**166**	P	**P**	**10 29 23.5**	**+1.4**
	0.7nm,0.6s,baz=347,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**29.16**	**169**	P	**P**	**10 29 55.1**	**+1.5**
	0.3nm,0.4s,baz=350,slow=7.5,SNR=11						
SONM	**Songino Array**	**46.43**	**340**	P	**P**	**10 32 19.6**	**+0.6**
	0.4nm,0.3s,baz=157,slow=7.8,SNR=2.9						
MKAR	**Makanchi Array**	**57.17**	**324**	P	**P**	**10 33 37.9**	**-1.1**
	0.2nm,0.4s,baz=116,slow=6.8,SNR=6.9						

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*IDC **07** 10:45:43.0±2.1, 5°.55N×126°.23E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/41, mbtmp3.5/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/43, Error ellipse: s-maj=128.2km s-min=23.8km az=69.0*

*MAN **07** 10:45:53.4, 5°.24N×126°.29E, h78km, MS3.4*

ISC 07 10:45:54.9±1.4**, 5°.2N**±0°.1×**126°.0E**±0°.1**, h89**km±15km**, n12,** σ**2**s**.05**/18**, mb3.3**/4**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.96**	**341**	*e*P	**Pn**	**10 46 12.6**	**-1.5**
DDMP				*e*S	**Sn**	**10 46 27.6**	**-0.9**
MATI	**Mati**	**1.76**	**7**	*e*P	**Pn**	**10 46 22.0**	**-2.0**
MATI				*e*S	**Sn**	**10 46 49.5**	**+3.5**
SKMP	**Bagumbayan, Su**	**1.98**	**312**	*e*P	**Pn**	**10 46 27.0**	**+0.1**
SKMP				*e*S	**Sn**	**10 46 53.7**	**+2.5**
KCP	**Kidapawan**	**2.04**	**333**	⇑*e*P	**Pn**	**10 46 28.9**	**+1.3**
KCP				*i* S	**Sn**	**10 46 54.6**	**+2.0**
BUKP	**Musuan**	**2.84**	**340**	*e*P	**Pn**	**10 46 38.8**	**+0.5**
BUKP				*e*S	**Sn**	**10 47 11.8**	**+0.1**
CGP	**Cagayan de Oro**	**3.50**	**338**	⇓*e*P	**Pn**	**10 46 50.3**	**+3.0**
CGP				*e*S	**Sn**	**10 47 26.5**	**-1.2**
PAGZ	**Pagadian**	**3.73**	**315**	*e*P	**Pn**	**10 46 49.9**	**-0.3**
PAGZ				*e*S	**Sn**	**10 47 30.4**	**-2.7**
FITZ	**Fitzroy Crossi**	**23.14**	**181**	P	**P**	**10 50 55.7**	**+2.0**
	1.1nm,0.5s,baz=4.9,slow=7.3,SNR=8.1						
WRA	**Warramunga Arr**	**26.28**	**162**	P	**P**	**10 51 22.9**	**+0.8**
	0.4nm,0.7s,baz=340,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**29.69**	**165**	P	**P**	**10 51 52.5**	**-0.1**
	0.1nm,0.5s,baz=344,slow=7.2,SNR=1.4						
CTA	**Charters Tower**	**32.03**	**142**	LR	LR	11 06 41.4	
	comp=Z,161nm,19.4s,baz=249,slow=39						
MKAR	**Makanchi Array**	**55.97**	**325**	P	**P**	**10 55 21.9**	**-2.1**
	0.5nm,0.3s,baz=119,slow=7.3,SNR=11						

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*IDC **07** 11:25:42.6±1.0, 39°.23N×73°.23E, h0km, mb3.6/11, mb1 3.8/17, mb1mx3.6/61, mbtmp3.6/17, ML3.1/7, Error ellipse: s-maj=18.1km s-min=14.8km az=130.0*

*BJI **07** 11:25:44.3±0.0, 39°.46N×72°.99E, h9km, mb3.9/8, ML3.8/3*

*SOME **07** 11:25:44.2, 39°.50N×73°.17E, h5km*

*KRNET **07** 11:25:47.2±0.1, 39°.51N×73°.09E, h16km, mb4.0*

*NNC **07** 11:25:50.1±1.3, 39°.66N×73°.24E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=10.1km s-min=5.8km az=176.0*

ISC 07 11:25:45.7±1.0**, 39°.50N**±0°.03×**73°.12E**±0°.03**, h3**km±6km**, n87,** σ**2**s**.70**/117**, mb3.7**/11**, 30C-23D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.02**	**269**	⇓*i*P	**Pb**	**11 26 06.3**	**+0.1**
	baz=69						
DRK				⇓*i*S	**Sn**	**11 26 20.2**	**-1.9**
	baz=69						
OHH	**Osh**	**1.05**	**346**	⇓*e*P	**Pn**	**11 26 07.2**	**-0.1**
	baz=47						
OHH				⇓*i*S	**Sn**	**11 26 22.0**	**-0.5**
	baz=47						
ARSB	**Arslanbob**	**1.82**	**357**	⇑*i*P	**Pg**	**11 26 21.3**	**+0.7**
	baz=58						
ARSB				⇑*i*S	**Sg**	**11 26 45.7**	**+1.5**
	baz=58						
BTK	**Batken**	**1.86**	**288**	⇑*i*P	**Pg**	**11 26 21.4**	**+0.1**
	baz=88						
BTK				⇑*i*S	**Sg**	**11 26 46.5**	**+1.1**
	baz=88						
KSH	**Kashi**	**2.21**	**89**	Pn	Pn	11 26 18.7	-4.5
KSH				Sn	**Sn**	**11 26 46.5**	**-4.6**
ARLS	**Aral**	**2.52**	**21**	⇑*i*P	**Pb**	**11 26 31.9**	**+0.2**
	baz=22						
ARLS				⇑*i*S	**Sb**	**11 27 04.6**	**+1.4**
	baz=22						
TRKS	**Terek-Say**	**2.53**	**324**	⇑*i*P	**Pb**	**11 26 30.6**	**-1.1**
	baz=24						
TRKS				⇑*i*S	**Sb**	**11 27 02.1**	**-1.1**
	baz=24						
AML	**Almayashu**	**2.66**	**9**	⇑*i*P	**Pb**	**11 26 33.7**	**-0.4**
	baz=10.0						
AML				⇑*i*S	**Sb**	**11 27 07.9**	**+0.6**
	baz=10.0						
AML	**Almayashu**	**2.66**	**9**	P	**Pb**	**11 26 33.2**	**-0.9**
	SNR=109						
UCH	**Uchtor**	**2.92**	**21**	⇑*e*P	**Pb**	**11 26 37.4**	**-1.2**
	baz=21						
UCH				⇑*i*S	**Sb**	**11 27 14.2**	**-0.6**
	baz=21						
UCH	**Uchtor**	**2.92**	**21**	P	**Pb**	**11 26 37.0**	**-1.6**
	SNR=54						
MNAS	**Manas**	**3.02**	**351**	⇓*i*P	**Pb**	**11 26 38.5**	**-1.6**
	baz=52						
MNAS				⇓*i*S	**Sb**	**11 27 15.7**	**-1.6**
	baz=52						
EKS2	**Erkin-Say**	**3.19**	**9**	⇑*i*P	**Pb**	**11 26 41.0**	**-2.0**
	baz=9.0						
EKS2				⇑*i*S	**Sb**	**11 27 20.3**	**-2.1**
	baz=9.0						
EKS2	**Erkin-Say**	**3.19**	**9**	P	**Pb**	**11 26 41.0**	**-2.0**
	SNR=18						
AAK	**Ala-Archa**	**3.30**	**18**	Pn	**Pb**	**11 26 42.5**	**-2.4**
	5.6nm,0.3s,baz=188,slow=6.4,SNR=72						
AAK				Sn	**Sb**	**11 27 25.5**	**0.0**
	7.3nm,0.3s,baz=350,slow=17,SNR=11						
AAK	**Ala-Archa**	**3.30**	**18**	⇑*i*P	**Pb**	**11 26 42.5**	**-2.4**
	baz=18						
AAK				⇑*i*S	**Sb**	**11 27 23.1**	**-2.3**
	baz=18						
AAK	**Ala-Archa**	**3.30**	**18**	P	**Pb**	**11 26 42.4**	**-2.5**
	SNR=28						
AAK	**Ala-Archa**	**3.30**	**18**	⇑Pn	**Pb**	**11 26 42.2**	**-2.7**
	38nm,0.6s						
AAK				⇓Lg	Lg	11 27 25.3	
	213nm,1.0s						
KBK	**Karagaybulak**	**3.44**	**23**	⇓*i*P	**Pb**	**11 26 44.6**	**-2.7**
	baz=24						
KBK				⇓*i*S	**Sb**	**11 27 26.2**	**-3.3**
	baz=24						
KBK	**Karagaybulak**	**3.44**	**23**	P	**Pb**	**11 26 44.9**	**-2.4**
	SNR=21						
FRU1	**Bishkek**	**3.49**	**19**	⇓*e*P	**Pb**	**11 26 45.1**	**-3.0**
	baz=19						
FRU1				⇓*i*S	**Sb**	**11 27 27.7**	**-3.3**
	baz=19						
ULHL	**Ulahol**	**3.62**	**40**	⇓*i*P	**Pb**	**11 26 47.2**	**-3.2**
	baz=40						
ULHL				⇓*i*S	**Sb**	**11 27 31.0**	**-3.7**
	baz=40						
ULHL	**Ulahol**	**3.62**	**40**	P	**Pn**	**11 26 46.4**	**+3.6**
	SNR=6.3						
BOOM	**Boomskoye usch**	**3.67**	**35**	⇑*e*P	Pn	11 26 47.8	+4.4
	baz=35						
BOOM				⇑*e*S	**Sb**	**11 27 32.1**	**-4.0**
	baz=35						
CHMS	**Chumysh**	**3.70**	**19**	⇑*i*P	Pn	11 26 48.0	+4.3
	baz=19						
CHMS				⇑*i*S	**Sb**	**11 27 32.5**	**-4.4**
	baz=19						
CHMS	**Chumysh**	**3.70**	**19**	P	**Pn**	**11 26 47.8**	**+4.1**
	SNR=15						
TKM2	**Tokmak 2**	**3.89**	**28**	⇑*e*P	Pn	11 26 51.1	+4.6
	baz=28						
TKM2				⇑*i*S	**Sn**	**11 27 37.3**	**+4.5**
	baz=28						
TKM2	**Tokmak 2**	**3.89**	**28**	P	**Pn**	**11 26 50.0**	**+3.5**
	SNR=11						
TKM2	**Tokmak 2**	**3.89**	**28**	⇓Pn	**Pn**	**11 26 49.9**	**+3.5**
	28nm,0.8s						
TKM2				⇓Lg	Lg	11 27 49.1	
	110nm,0.7s						
USP	**Ospenovka**	**3.90**	**15**	⇓*i*P	Pn	11 26 51.0	+4.5
	baz=15						
USP				⇓*e*S	**Sn**	**11 27 37.2**	**+4.5**
	baz=15						
USP	**Ospenovka**	**3.90**	**15**	P	**Pn**	**11 26 50.2**	**+3.8**
	SNR=9.6						
KK31	**Karatay Array**	**4.10**	**332**	⇑Pn	**Pn**	**11 26 53.1**	**+3.9**
	2.4nm,0.3s,baz=134,slow=12,SNR=139						
KK31				⇑Pg	**Pg**	**11 27 02.5**	**-1.7**
	7.9nm,0.3s,baz=145,slow=14,SNR=13						
KK31				⇓Sn	**Sn**	**11 27 41.1**	**+3.5**
	44nm,0.6s,baz=151,slow=23,SNR=4.6						
KK31				⇑Lg	Lg	11 27 57.7	
	32nm,0.4s,baz=160,slow=30,SNR=4.0						
KST	**Kastek**	**4.13**	**30**	*e*P	**Pb**	**11 27 01.4**	**+2.3**
	22nm,0.7s						
KST				*e*S	**Sg**	**11 27 58.3**	**-0.1**
	175nm,0.6s						
KST	**Kastek**	**4.13**	**30**	Pg	**Pb**	**11 27 02.0**	**+2.9**
	23nm,0.6s						
KST				Lg	Lg	11 27 57.1	
	175nm,0.6s						
DGS	**Degeres**	**4.23**	**27**	*e*P	**Pb**	**11 27 02.7**	**+1.9**
DGS				*e*S	**Sg**	**11 28 00.7**	**-0.9**
	147nm,0.8s						
DGS	**Degeres**	**4.23**	**27**	Pg	**Pb**	**11 27 04.5**	**+3.7**
	36nm,0.5s						
DGS				Lg	Lg	11 28 01.5	
	147nm,0.8s						
BRLS	**Borolday**	**4.31**	**326**	*e*P	**Pb**	**11 27 01.4**	**-0.5**
	15nm,0.4s						
BRLS				*e*S	**Sb**	**11 27 58.2**	**+3.9**
	57nm,0.5s						
MTBS	**Maitube**	**4.40**	**33**	Pg	**Pb**	**11 27 07.1**	**+3.6**
	29nm,0.5s						
MTBS				Lg	Lg	11 28 05.3	
	78nm,0.7s						
IZV	**Izvestkoviy**	**4.40**	**36**	*e*P	**Pb**	**11 27 06.0**	**+2.4**
	22nm,0.8s						
IZV				*e*S	**Sg**	**11 28 06.0**	**-1.0**
	182nm,0.6s						
IZV	**Izvestkoviy**	**4.40**	**36**	Pg	**Pb**	**11 27 06.6**	**+2.9**
	22nm,0.8s						
IZV				Lg	Lg	11 28 05.2	
	182nm,0.6s						
TNSS	**Tian-Shan**	**4.56**	**38**	*e*P	**Pb**	**11 27 09.1**	**+2.7**
	18nm,0.4s						
TNSS				*e*S	**Sg**	**11 28 11.5**	**-0.5**
	53nm,0.7s						
TNSS	**Tian-Shan**	**4.56**	**38**	Pg	**Pb**	**11 27 10.4**	**+3.9**
	18nm,0.4s						
TNSS				Lg	Lg	11 28 11.3	
	53nm,0.7s						
KRBS	**Karabastau**	**4.61**	**24**	*e*P	**Pb**	**11 27 09.6**	**+2.5**
	17nm,0.5s						
KRBS				*e*S	**Sg**	**11 28 12.3**	**-1.2**
	87nm,0.7s						
KRBS	**Karabastau**	**4.61**	**24**	Pg	**Pb**	**11 27 10.7**	**+3.6**
	17nm,0.5s						
KRBS				Lg	Lg	11 28 11.6	
	87nm,0.7s						
AAA	**Alma-Ata**	**4.67**	**36**	Pg	**Pg**	**11 27 13.4**	**-1.8**
	14nm,0.1s						
AAA				Lg	Lg	11 28 16.1	
	122nm,0.6s						
MDOK	**Medeo**	**4.70**	**38**	*e*P	**Pb**	**11 27 11.9**	**+3.1**
	19nm,0.6s						
MDOK				*e*S	**Sg**	**11 28 16.2**	**-0.4**
	68nm,0.6s						
MDOK	**Medeo**	**4.70**	**38**	⇑Pg	**Pb**	**11 27 12.2**	**+3.4**
	31nm,0.6s						
MDOK				⇑Lg	Lg	11 28 16.2	
	161nm,0.8s						
MDOK	**Medeo**	**4.70**	**38**	Pg	**Pb**	**11 27 12.4**	**+3.7**
	19nm,0.6s						
MDOK				Lg	Lg	11 28 15.2	
	68nm,0.6s						
KNDC	**Almaty**	**4.70**	**37**	⇑Pg	**Pb**	**11 27 12.8**	**+4.1**
	76nm,0.6s						
KNDC				⇓Lg	Lg	11 28 16.6	
	332nm,1.2s						
KOTS	**Kotyrbulak**	**4.79**	**38**	*e*P	**Pb**	**11 27 13.8**	**+3.6**
	34nm,0.5s						
KOTS				*e*S	**Sg**	**11 28 19.4**	**+0.1**
	130nm,0.5s						
KOTS	**Kotyrbulak**	**4.79**	**38**	Pg	**Pb**	**11 27 13.6**	**+3.4**
	34nm,0.5s						
KOTS				Lg	Lg	11 28 17.1	
	130nm,0.5s						
KTBS	**Karatobe**	**4.98**	**31**	*e*P	**Pb**	**11 27 16.4**	**+3.0**
	11nm,0.7s						
KTBS				*e*S	**Sg**	**11 28 23.8**	**-1.7**
	162nm,0.6s						
KTBS	**Karatobe**	**4.98**	**31**	Pg	**Pb**	**11 27 16.8**	**+3.4**
	11nm,0.7s						
KTBS				Lg	Lg	11 28 22.4	
	162nm,0.6s						
KUU	**Kurty**	**5.00**	**28**	*e*P	**Pb**	**11 27 16.6**	**+2.8**
	18nm,0.5s						
KUU				*e*S	**Sg**	**11 28 24.2**	**-2.1**
	92nm,0.6s						
KUU	**Kurty**	**5.00**	**28**	Pg	**Pb**	**11 27 17.4**	**+3.6**
	18nm,0.5s						
KUU				Lg	Lg	11 28 23.6	
	92nm,0.6s						
CHKK	**Chushkaly**	**5.22**	**32**	*e*P	**Pb**	**11 27 21.2**	**+3.7**
	10nm,0.4s						
CHKK				*e*S	**Sg**	**11 28 32.1**	**-1.2**
	57nm,0.4s						
CHKK	**Chushkaly**	**5.22**	**32**	Pg	**Pb**	**11 27 21.8**	**+4.3**
	10nm,0.4s						
CHKK				Lg	Lg	11 28 31.3	
	57nm,0.4s						
SATY	**Saty**	**5.33**	**47**	Pg	**Pb**	**11 27 22.1**	**+2.6**
	17nm,0.7s						
SATY				Lg	Lg	11 28 32.0	
	85nm,1.0s						
BTLS	**Baital**	**5.58**	**7**	Pg	**Pg**	**11 27 29.6**	**-2.9**
	5.3nm,0.5s						
BTLS				Lg	Lg	11 28 44.8	
	24nm,0.7s						
UZB	**Uzynbulak**	**5.74**	**49**	Pg	**Pb**	**11 27 28.1**	**+1.6**
UZB				Lg	Lg	11 28 41.6	
CEP	**Cherat**	**5.75**	**190**	P	**Pn**	**11 27 14.6**	**+2.6**
ARXS	**Arharly**	**5.87**	**35**	*e*P	**Pb**	**11 27 32.4**	**+3.8**
	10nm,0.6s						
ARXS				*e*S	**Sg**	**11 28 51.6**	**-2.6**
	66nm,0.6s						
ARXS	**Arharly**	**5.87**	**35**	Pg	Pb	11 27 33.7	+5.0
	30nm,0.4s						
ARXS				Lg	Lg	11 28 51.4	
	66nm,0.6s						
PDGK	**Podgornoye**	**6.12**	**49**	⇓Pn	**Pn**	**11 27 18.6**	**+1.5**
	4.3nm,0.6s						
PDGK				⇓Pg	**Pb**	**11 27 36.6**	**+3.6**
	27nm,1.3s						
PDGK				⇓Lg	Lg	11 28 57.0	
	73nm,1.0s						
THW	**Thamme Wali**	**6.79**	**190**	P	**Pn**	**11 27 27.4**	**+1.3**
KAPS	**Kapalarasan**	**7.39**	**37**	Pg	Pb	11 27 60.0	+5.5
	6.4nm,0.5s						
KAPS				Lg	Lg	11 29 36.0	
	17nm,0.8s						
DHRM	**DHARAMSHALA**	**7.68**	**159**	*e*P	**Pn**	**11 27 36.9**	**-1.7**
DHRM				*e*S	**Sn**	**11 29 01.1**	**-5.1**
DHRM				IAML		11 29 07.4	
	comp=E,78nm,0.6s						
DHRM				IAML		11 29 14.5	
	comp=N,63nm,1.2s						
MK31	**Makanchi Array**	**9.89**	**40**	⇓Pn	Pn	11 28 14.5	+5.8
	comp=N,1.2nm,0.8s,baz=221,slow=14,SNR=6.8						
MK31				⇑Lg	Lg	11 30 57.0	
	comp=N,7.8nm,1.0s						
MKAR	**Makanchi Array**	**9.89**	**40**	Pn	**Pn**	**11 28 08.6**	**0.0**
	comp=N,0.1nm,0.3s,baz=224,slow=12,SNR=4.5						
MKAR				Lg	Lg	11 30 54.9	
	comp=N,0.1nm,0.3s,baz=245,slow=24,SNR=2.8						
WMQ	**Urumqi**	**11.72**	**64**	*e*P	**Pn**	**11 28 34.6**	**+0.9**
KURBB	**Kurchatov Arra**	**11.75**	**17**	Pn	**Pn**	**11 28 34.6**	**+0.5**
	comp=N,0.1nm,0.3s,baz=212,slow=11,SNR=1.6						
KURBB				Lg	Lg	11 31 51.4	
	comp=N,0.1nm,0.3s,baz=207,slow=32,SNR=4.5						
GEYT	**Alibeck**	**11.83**	**267**	Pn	**Pn**	**11 28 32.9**	**-2.3**
	comp=N,0.4nm,0.3s,baz=79,slow=10,SNR=2.1						
GEYT				Sn	**Sn**	**11 30 42.0**	**-5.7**
	comp=N,0.3nm,0.3s,baz=114,slow=25,SNR=1.8						
GEYT				Lg	Lg	11 31 58.0	
	comp=N,0.3nm,0.3s,baz=74,slow=23,SNR=1.1						
BVAR	**Borovoye Array**	**13.65**	**353**	Pn	**Pn**	**11 28 59.3**	**-0.7**
	comp=N,0.1nm,0.3s,baz=91,slow=18,SNR=2.0						
AKTO	**Aktyubinsk**	**15.26**	**321**	Pn	**Pn**	**11 29 21.6**	**-0.2**
	comp=N,0.2nm,0.3s,baz=120,slow=14,SNR=5.1						
AKTO				Sn	**Sn**	**11 32 04.7**	**-6.4**
	comp=N,0.1nm,0.3s,baz=91,slow=22,SNR=1.5						
AKTO				Lg	Lg	11 34 04.4	
	comp=N,0.1nm,0.3s,baz=210,slow=23,SNR=2.2						
ZALV	**Zalesovo Beam**	**16.49**	**25**	Pn	**Pn**	**11 29 37.5**	**-0.3**
	comp=N,0.1nm,0.3s,baz=219,slow=11,SNR=2.1						
ZALV				Lg	Lg	11 34 35.6	
	comp=N,0.4nm,0.3s,baz=208,slow=23,SNR=4.7						
GTA	**Gaotai**	**20.59**	**82**	P	**P**	**11 30 25.0**	**-0.8**
GTA				pP	pP	11 30 30.5	+2.8
GTA				sP	sP	11 30 33.7	+5.1
GTA				pmax	pmax		
	comp=N,4.0nm,0.7s						
SONM	**Songino Array**	**25.31**	**60**	P	**P**	**11 31 13.2**	**-0.2**
	comp=N,0.9nm,0.9s,baz=262,slow=11,SNR=2.3						
BRTR	**Keskin Array B**	**30.25**	**283**	P	**P**	**11 31 56.0**	**-1.7**
	comp=N,1.1nm,0.8s,baz=72,slow=9.5,SNR=3.2						
AKASG	**Malin Array Be**	**32.49**	**305**	P	**P**	**11 32 16.3**	**-0.8**
	comp=N,0.2nm,0.3s,baz=79,slow=8.2,SNR=3.3						
FINES	**FINESS Array B**	**36.01**	**323**	P	**P**	**11 32 46.9**	**-0.6**
	comp=N,0.6nm,0.3s,baz=120,slow=5.6,SNR=1.8						
ARCES	**ARCESS Array B**	**39.06**	**336**	P	**P**	**11 33 13.5**	**+0.2**
	comp=N,5.7nm,1.1s,baz=50,slow=3.8,SNR=4.2						
GERES	**GERESS Array B**	**42.64**	**303**	P	**P**	**11 33 42.3**	**-0.9**
	comp=N,0.1nm,0.3s,baz=77,slow=9.2,SNR=1.5						
INK	**Inuvik**	**70.67**	**10**	P	**P**	**11 37 00.5**	**-1.5**
	comp=N,0.3nm,0.4s,baz=332,slow=5.9,SNR=1.8						
ILAR	**Eielson Array**	**71.43**	**17**	P	**P**	**11 37 07.0**	**+0.2**
	comp=N,0.1nm,0.7s,baz=335,slow=4.1,SNR=1.5						
YKA	**Yellowknife Ar**	**78.16**	**4**	P	**P**	**11 37 44.0**	**-1.8**
	comp=N,0.1nm,0.4s,baz=359,slow=5.5,SNR=4.1						
WRA	**Warramunga Arr**	**82.20**	**124**	P	**P**	**11 38 04.4**	**-3.8**
	comp=N,0.8nm,0.9s,baz=313,slow=3.9,SNR=3.5						
ASAR	**Alice Springs**	**84.64**	**127**	P	**P**	**11 38 16.9**	**-3.8**
	comp=N,0.2nm,0.2s,baz=321,slow=7.1,SNR=4.0						

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*NEIC **07** 11:31:45.7±1.5, 11°.40N±0°.06×87°.95W±0°.05, h10km±1km, mb4.5/81, Error ellipse: s-maj=11.3km s-min=7.4km az=216.0*

*INET **07** 11:31:47.8, 11°.40N×88°.12W, h15km, MW4.4*

*SNET **07** 11:31:48.5±0.9, 11°.64N×88°.18W, h30km±16km, ML4.0*

*IDC **07** 11:31:50.1±2.4, 11°.47N×87°.91W, h43km±22km, mb4.0/10, mb1 4.3/12, mb1mx3.9/42, mbtmp4.2/12, ML4.0/2, MS3.6/6, Ms1 3.6/6, ms1mx3.2/31, Error ellipse: s-maj=32.9km s-min=12.1km az=46.0*

*UCR **07** 11:31:51.7±2.0, 11°.10N×87°.86W, h20km±999km, MW3.6, mb4.5(NEIC)*

*UPA **07** 11:31:53.1±0.4, 11°.05N×88°.05W, h46km±16km, MW4.8*

ISC 07 11:31:49.5±0.7**, 11°.42N**±0°.06×**88°.01W**±0°.06**, h37**km±1km**, n156,** σ**1**s**.09**/165**, mb4.4**/49**, MS3.6**/5**, 1C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.58**	**36**		**Pn**	**11 32 13.6**	**-1.4**
CRIN				Sn	**Sn**	**11 32 33.7**	**-0.5**
CNCH	**Conchagua**	**1.85**	**5**	*e*P	**Pn**	**11 32 19.0**	**+0.2**
LCND	**La Caada**	**1.88**	**3**	⇑*e*P	**Pn**	**11 32 18.9**	**-0.2**
LCND				*e*S	**Sn**	**11 32 43.3**	**+1.7**
LCND				IAML		11 32 47.7	
	comp=Z,2µm,0.4s						
ALJI	**Alcalda de J**	**1.97**	**344**	*e*P	**Pn**	**11 32 19.1**	**-1.3**
ALJI				*e*S	**Sn**	**11 32 43.2**	**-0.7**
LCY	**Lacayo**	**2.01**	**352**	*e*P	**Pn**	**11 32 20.8**	**-0.2**
VSM	**San Miguel**	**2.01**	**353**	*e*P	**Pn**	**11 32 21.2**	**0.0**
PACA	**Pacayal**	**2.06**	**351**	*e*P	**Pn**	**11 32 21.9**	**+0.2**
PACA				*e*S	**Sn**	**11 32 47.5**	**+1.3**
TECA	**Tecapa**	**2.12**	**347**	*e*P	**Pn**	**11 32 22.0**	**-0.6**
COEB	**Comit de Eme**	**2.13**	**346**	*e*P	**Pn**	**11 32 22.0**	**-0.6**
COEB				*e*S	**Sn**	**11 32 48.4**	**+0.6**
COEB				IAML		11 32 54.6	
	comp=Z,1µm,0.4s						
PQSS	**Presa 15 de Se**	**2.26**	**346**	*e*P	**Pn**	**11 32 24.0**	**-0.3**
PQSS				IAML		11 32 53.5	
	comp=Z,753nm,0.2s						
COEG	**Centro de Oper**	**2.35**	**339**	*e*P	**Pn**	**11 32 24.7**	**-0.9**
COEG				IAML		11 32 56.3	
	comp=Z,1µm,0.4s						
LFRS	**El Faro**	**2.42**	**335**	*e*P	**Pn**	**11 32 25.7**	**-1.0**
LALI	**Alcalda de L**	**2.42**	**328**	*e*P	**Pn**	**11 32 25.7**	**-0.8**
BOAB	**BOACO BROADBAN**	**2.51**	**66**		**Pn**	**11 32 26.8**	**-0.9**
MATN	**Matagalpa**	**2.53**	**53**		**Pn**	**11 32 28.0**	**-0.1**
SNET	**Serv Nac Est T**	**2.55**	**332**	Pn	**Pn**	**11 32 27.9**	**-0.5**
BOQS	**Boqueron**	**2.62**	**332**	*e*P	**Pn**	**11 32 29.1**	**-0.3**
JAYA	**Jayaque - finc**	**2.63**	**328**	*e*P	**Pn**	**11 32 28.5**	**-1.1**
GUAI	**GUAI**	**2.70**	**115**	*i* P	**Pn**	**11 32 29.5**	**-0.9**
GUAI				*i* S	**Sn**	**11 33 00.2**	**-1.6**
ORTG	**Ortega, Santa**	**2.71**	**113**	Pn	**Pn**	**11 32 29.5**	**-1.1**
TGUH	**Tegucigalpa,Un**	**2.72**	**15**		**Pn**	**11 32 30.2**	**-0.5**
GRZA	**Playa Garza**	**2.77**	**122**	*e*P	**Pn**	**11 32 29.8**	**-1.4**
ACON	**Acoyapa**	**2.83**	**79**		**Pn**	**11 32 31.1**	**-1.0**
CUI	**Cuipilapa**	**2.89**	**105**	*i* P	**Pn**	**11 32 32.5**	**-0.5**
CUI				*i* S	**Sn**	**11 33 07.0**	**+0.4**
INDI	**Punta indio, G**	**2.91**	**122**	*e*P	**Pn**	**11 32 31.9**	**-1.2**
RTR	**El Retiro**	**2.94**	**327**	*e*P	**Pn**	**11 32 33.8**	**0.0**
JTS	**Las Juntas de**	**3.20**	**110**	P	**Pn**	**11 32 37.6**	**+0.3**
	comp=Z,12nm,0.3s,baz=176,slow=23,SNR=26						
JTS				S	**Sn**	**11 33 13.8**	**-0.4**
	comp=Z,36nm,0.3s,baz=63,slow=12,SNR=4.0						
JTS	**Las Juntas de**	**3.20**	**110**	*e*P	**Pn**	**11 32 39.7**	**+2.4**
JTS				*e*S	**Sn**	**11 33 16.4**	**+2.2**
JTS	**Las Juntas de**	**3.20**	**110**	Pn	**Pn**	**11 32 36.4**	**-0.9**
MTO3	**Montecristo**	**3.24**	**336**	*e*P	**Pn**	**11 32 38.2**	**+0.2**
MTO3	**Montecristo**	**3.24**	**336**		**Pn**	**11 32 38.2**	**+0.2**
CAO2	**Cobano, Puntar**	**3.33**	**121**	Pn	**Pn**	**11 32 36.5**	**-2.5**
ARE1	**Arenal 1**	**3.37**	**106**	*e*P	**Pn**	**11 32 40.7**	**+1.1**
ESQI	**Esquipulas**	**3.38**	**338**		**Pn**	**11 32 41.0**	**+1.1**
ESPN	**Las Esperanzas**	**3.71**	**78**	Pn	**Pn**	**11 32 43.1**	**-1.1**
JACO	**JACO, Garabito**	**3.73**	**118**	*e*P	**Pn**	**11 32 45.3**	**+0.8**
HDC	**Heredia**	**4.08**	**110**	*e*P	**Pn**	**11 32 52.8**	**+3.4**
HDC				*e*S	**Sn**	**11 33 36.9**	**+0.9**
CVTR	**Volcan Turrial**	**4.40**	**108**	*e*P	**Pn**	**11 32 57.0**	**+2.9**
CDM	**Cerro de Muert**	**4.56**	**114**	*e*P	**Pn**	**11 32 57.5**	**+1.0**
PEZE	**Perez Zeledon,**	**4.71**	**115**	Pn	**Pn**	**11 32 57.0**	**-1.1**
BATAN	**Batan**	**4.74**	**106**		**Pn**	**11 32 58.6**	**+0.2**
RIOS	**Rincon, Osa**	**5.18**	**121**	Pn	**Pn**	**11 33 05.1**	**+0.6**
LPLA	**Las Palmas La**	**5.46**	**115**	*e*P	**Pn**	**11 33 10.2**	**+1.7**
PIRO	**Carate, Puerto**	**5.49**	**123**	*e*P	**Pn**	**11 33 10.1**	**+1.4**
PIRO				*e*S	**Sn**	**11 34 09.1**	**-1.5**
PETF	**Flores**	**5.75**	**342**		**Pn**	**11 33 11.6**	**-0.8**
CDITO	**Canoas**	**5.79**	**119**	*e*P	**Pn**	**11 33 15.0**	**+2.1**
CDITO				*e*S	**Sn**	**11 34 17.2**	**-0.9**
BRU2	**Volcan**	**5.85**	**116**	*e*P	**Pn**	**11 33 16.4**	**+2.6**

BRU2 eS Sn 11 34 18.8 -0.8
BCO2 Palmira 6.02 116 eP Pn 11 33 18.5 +2.2
BCO2 eS Sn 11 34 23.4 -0.7
CCIG Comitan 6.28 321 Pn 11 33 21.0 +1.2
CMIG Matias Romero 8.73 311 P Pn 11 33 53.1 -0.2
comp=Z,2.3nm,0.3s,baz=136,slow=8.0,SNR=25
CMIG S Sn **11 35 26.4 -4.0**
comp=Z,0.3nm,0.3s,baz=89,slow=21,SNR=1.1
TEIG Tepich 8.76 358 LR LR 11 38 06.3
comp=Z,272nm,18.6s,baz=166,slow=43
TLIG Tlapa 11.91 302 Pn **Pn 11 34 37.1 +0.2**
DR12 Loma Pena Alta 19.41 66 P **P 11 36 12.1 -0.5**
HKT Hockley 19.82 340 **P 11 36 17.4 +0.5**
441A DeRidder 19.83 347 P **P 11 36 16.1 -0.9**
833A Chaparral WMA, 19.91 329 P 11 36 18.6
baz=145,SNR=5.1
344A Westbrook Farm 20.09 353 **P 11 36 20.1 +0.2**
344A IAmb IAmb 11 36 34.2
comp=Z,26nm,0.9s
435B Jarrell 21.22 337 P **P 11 36 32.1 0.0**
435B IAmb IAmb 11 36 47.5
comp=Z,17nm,1.0s
435B Jarrell 21.22 337 P 11 36 34.7
baz=153
152A Waverly Hall 21.36 8 P **P 11 36 33.6 0.0**
152A IAmb IAmb 11 36 39.1
comp=Z,41nm,1.2s
LRAL Lakeview Retre 21.53 2 P 11 36 38.4
baz=183
JCT Junction City 21.90 332 P 11 36 41.1
baz=148
JCT Junction City 21.90 332 P **P 11 36 39.5 0.0**
WHTX Lake Whitney, 22.25 338 P **P 11 36 43.7 +0.5**
WHTX IAmb IAmb 11 37 04.7
comp=Z,9.2nm,0.7s
GOGA Godfrey 22.28 10 P **P 11 36 42.5 -1.0**
GOGA IAmb IAmb 11 36 57.3
comp=Z,29nm,1.4s
GOGA Godfrey 22.28 10 P 11 36 45.9
baz=192
Y49A Blount Mountai 22.38 3 P **P 11 36 44.8 +0.3**
Y49A IAmb IAmb 11 36 52.8
comp=Z,14nm,1.1s
Y52A Lilburn 22.63 9 P **P 11 36 47.4 +0.2**
Y52A IAmb IAmb 11 36 53.3
comp=Z,21nm,0.9s
HPIG 22.68 315 P **P 11 36 48.0 0.0**
TX31 Lajitas Ar. Si 23.04 323 P **P 11 36 52.0 +0.3**
TX31 IAmb IAmb 11 37 11.1
comp=Z,14nm,0.8s
TX32 Lajitas Array 23.04 323 P **P 11 36 51.9 +0.2**
TXAR Lajitas Array 23.04 323 P **P 11 36 51.9 +0.3**
comp=Z,4.1nm,0.9s,baz=138,slow=9.6,SNR=35
TXAR PcP **PcP 11 40 40.3 -0.1**
comp=Z,0.3nm,0.8s,baz=156,slow=4.6,SNR=3.8
X40A Basin Creek Fa 23.38 350 P **P 11 36 55.1 +0.3**
Z35A Perchaven, San 23.40 340 P **P 11 36 55.8 +0.8**
MIAR Mount Ida 23.57 348 P **P 11 36 56.9 +0.2**
MIAR IAmb IAmb 11 36 58.8
comp=Z,17nm,1.1s
MIAR Mount Ida 23.57 348 P 11 36 57.0
baz=166,SNR=10
ABTX Abilene, Hawle 23.66 335 P **P 11 36 56.5 -1.1**
ABTX IAmb IAmb 11 36 58.7
comp=Z,16nm,0.9s
ABTX Abilene, Hawle 23.66 335 P 11 36 58.0
baz=150,SNR=7.0
W41B Gary Mavity, V 23.96 351 P 11 37 00.6
baz=170
X37A Clayton 24.02 345 P **P 11 37 01.2 +0.3**
X37A IAmb IAmb 11 37 15.9
comp=Z,22nm,1.4s
WHAR Wooly Hollow 24.08 351 P **P 11 37 01.5 +0.1**
CPCT Cooper Cave 24.13 7 IAmb IAmb 11 37 08.2
comp=Z,12nm,1.0s
W39A Magazine 24.25 348 P 11 37 04.8
baz=166,SNR=6.2
W39A Magazine 24.25 348 P **P 11 37 03.8 +0.9**
W39A IAmb IAmb 11 37 05.7
comp=Z,9.8nm,0.8s
TKL Tuckaleechee C 24.43 8 P **P 11 37 04.4 -0.3**
comp=Z,20nm,1.1s,baz=192,slow=8.9,SNR=7.0
TKL Tuckaleechee C 24.43 8 P **P 11 37 05.6 +0.9**
FCAR Ozark Folk Cen 24.65 352 P **P 11 37 06.6 0.0**
LCAR Lake Charles 24.71 354 P **P 11 37 04.9 -2.3**
LCAR IAmb IAmb 11 37 19.6
comp=Z,7.8nm,0.8s
V55A Taylorsville 25.09 13 P **P 11 37 11.2 +0.6**
V55A IAmb IAmb 11 37 16.2
comp=Z,7.2nm,0.9s
WMOK Wichita Mounta 25.20 339 P **P 11 37 10.8 -0.9**
WMOK Wichita Mounta 25.20 339 P 11 37 11.6
baz=154,SNR=7.5
U40A Yellville 25.21 351 P **P 11 37 11.1 -0.6**
U40A IAmb IAmb 11 37 18.3
comp=Z,15nm,1.4s
U40A Yellville 25.21 351 P 11 37 11.7
baz=169
FNO Franklin 25.22 342 P **P 11 37 11.7 -0.1**
HHAR Hobbs 25.33 349 P **P 11 37 12.1 -0.7**
HHAR IAmb IAmb 11 37 18.5
comp=Z,8.1nm,1.0s
TZTN Tazewell 25.34 8 P **P 11 37 12.5 -0.4**
OKCFA Oklahoma City 25.38 342 P **P 11 37 13.2 -0.1**
TUL1 Leonard 25.38 345 P 11 37 13.3
baz=162
TUL1 Leonard 25.38 345 P **P 11 37 12.9 -0.4**
TUL1 IAmb IAmb 11 37 15.3
comp=Z,8.7nm,0.8s
OK025 Westminster Rd 25.50 342 P **P 11 37 14.5 +0.2**
U54A Nelsons Funny 25.61 12 P 11 37 18.4
baz=194
BCOK Bluff Creek, N 25.65 342 P **P 11 37 16.1 +0.3**
OK031 S. Brethren Rd 25.70 343 P **P 11 37 15.5 -0.6**
OK031 IAmb IAmb 11 37 16.0
comp=Z,12nm,0.7s
OK029 Liberty Lake 25.73 342 P **P 11 37 16.0 -0.5**
MNTX Cornudas Mount 25.78 324 P **P 11 37 17.0 0.0**
MNTX Cornudas Mount 25.78 324 P 11 37 18.2
baz=138,SNR=7.5
QUOK Quay 25.87 344 P **P 11 37 17.2 -0.5**
MSTX Muleshoe 26.19 331 P **P 11 37 20.5 -0.2**
MSTX IAmb IAmb 11 37 38.3
comp=Z,13nm,0.9s
MSTX Muleshoe 26.19 331 P 11 37 21.1
baz=146
S39A Bolivar 26.59 351 P **P 11 37 23.8 -0.5**
CCM Cathedral Cave 26.68 354 P **P 11 37 25.1 +0.1**
CCM IAmb IAmb 11 37 27.1
comp=Z,7.6nm,0.8s
CCM Cathedral Cave 26.68 354 P 11 37 25.1
baz=173
R40A Maddies Statio 27.03 353 P **P 11 37 27.9 -0.2**
R40A IAmb IAmb 11 37 28.7
comp=Z,12nm,1.4s
121A Cookes Peak, D 27.79 322 P 11 37 37.5
baz=135
P40A Paris 28.23 353 P **P 11 37 38.6 -0.3**
P40A IAmb IAmb 11 37 39.2
comp=Z,5.0nm,0.7s
P38A Dawn 28.52 351 P **P 11 37 40.8 -0.6**
P38A IAmb IAmb 11 37 41.4
comp=Z,6.1nm,0.8s
KSCO Kaye Shedlock' 30.41 337 P 11 37 58.9
baz=151
W18A Petrified Fore 30.76 324 P 11 38 04.9
baz=135
SAML Samuel 31.92 128 P **P 11 38 10.0 -1.8**
SAML IAmb IAmb 11 38 11.8
comp=Z,6.1nm,0.9s
WUAZ Wupatki 32.00 322 P 11 38 14.9
baz=133
K31A O'Neill 32.47 345 P **P 11 38 16.7 +0.4**
GLA Glamis 32.69 315 P **P 11 38 19.6 +1.2**
GLA IAmb IAmb 11 38 23.6
comp=Z,8.7nm,0.9s
ECSD EROS Data Cent 33.05 349 P 11 38 20.6
baz=164
W13A Hualapai Mount 33.29 319 P **P 11 38 24.0 +0.1**
W13A IAmb IAmb 11 38 27.5
comp=Z,6.3nm,1.2s
LPAZ La Paz 33.83 144 LR LR 11 50 24.7
comp=Z,49nm,21.5s,baz=344,slow=33
SPMN Marine on St. 33.94 354 P **P 11 38 27.9 -1.1**
SPMN IAmb IAmb 11 38 36.9
comp=Z,8.5nm,1.0s
SUSD Miller 34.23 346 P **P 11 38 31.0 -0.7**
GMRC Granite Mounta 34.26 317 P 11 38 34.4
baz=126
HEC Hector,Ludlow 34.73 317 P 11 38 38.5
baz=125
F33A 5 Mile Ranch, 35.02 350 P **P 11 38 36.1 -2.3**
F33A IAmb IAmb 11 38 50.5
comp=Z,6.4nm,0.6s
EDW2 Edwards Air Fo 35.89 315 P 11 38 48.3
baz=123
LRMC Laurel Mtn Rad 36.01 317 P 11 38 49.3
baz=124
FURC Furnace Creek, 36.04 319 P 11 38 50.0
baz=126
MPMC Manual Prospec 36.21 318 P 11 38 51.1
baz=125
R11A Troy Canyon, C 36.40 322 P 11 38 53.1
baz=130
PDAR Pinedale Array 36.43 333 P **P 11 38 51.1 +0.2**
comp=Z,0.5nm,0.7s,baz=134,slow=11,SNR=4.9
VES Vestal, Richgr 37.16 316 P 11 38 59.9
baz=123
AGMN Agassiz Nation 37.35 351 P **P 11 38 57.2 -1.1**
AGMN IAmb IAmb 11 39 06.9
comp=Z,6.5nm,0.9s
REDW Red Top Meadow 37.48 332 P **P 11 38 59.8 0.0**
SNOW Snow King Moun 37.51 332 P **P 11 39 00.5 +0.4**
SNOW IAmb IAmb 11 39 14.8
comp=Z,6.1nm,0.8s
LOHW Long Hollow 37.56 333 P **P 11 39 01.4 +1.0**
NV11 Mina Array Sit 38.04 320 P **P 11 39 05.0 +0.5**
NV11 IAmb IAmb 11 39 08.2
comp=Z,13nm,1.0s
SIV San Ignacio 38.11 135 P **P 11 39 04.7 -0.4**
comp=Z,1.4nm,0.8s,baz=323,slow=10.0,SNR=7.7
NVAR Mina Array Bea 38.13 320 P **P 11 39 07.1 +1.8**
comp=Z,8.1nm,0.8s,baz=135,slow=7.0,SNR=71
NVAR PcP **PcP 11 41 20.0 +0.2**
comp=Z,0.7nm,0.7s,baz=144,slow=3.8,SNR=3.5
MDPB Devils Postpil 38.16 318 P **P 11 39 06.3 +0.7**
MDPB IAmb IAmb 11 39 09.0
comp=Z,8.3nm,1.1s
RLMT Red Lodge 38.20 335 P **P 11 39 06.3 +0.4**
RLMT Red Lodge 38.20 335 P 11 39 06.2
baz=145
KVN Kaiserville 38.38 321 P **P 11 39 09.5 +2.1**
KVN IAmb IAmb 11 39 10.5
comp=Z,8.4nm,1.0s
LAO LASA Array 38.39 340 P 11 39 07.5
baz=150
YNE Yellowstone No 38.42 335 P **P 11 39 08.1 +0.4**
LSQQ Lebel-sur-Quev 38.63 12 P 11 39 10.9
baz=197
WAKR Walker 38.89 319 P **P 11 39 12.4 +0.7**
GCMT Greycliff 38.91 336 P **P 11 39 11.9 +0.2**
YERR Yerington 39.05 320 P **P 11 39 14.3 +1.4**
YERR IAmb IAmb 11 39 16.4
comp=Z,12nm,1.1s
MATQ Matagami 39.17 11 P 11 39 13.9
baz=196
ULM Lac du Bonnet 39.26 352 P **P 11 39 12.5 -1.8**
comp=Z,2.2nm,0.5s,baz=167,slow=9.3,SNR=8.0
ULM LR LR 11 56 53.8
comp=Z,95nm,18.5s,baz=93,slow=38
ULM Lac du Bonnet 39.26 352 P **P 11 39 12.2 -2.1**
DGMT Dagmar 39.34 343 P **P 11 39 15.5 +0.5**
HLID Hailey 39.34 329 P 11 39 18.2
baz=137
MCMT McKenzie Canyo 39.53 332 P **P 11 39 18.2 +1.2**
BOZ Bozeman (W) 39.58 334 P **P 11 39 17.6 +0.4**
BOZ Bozeman (W) 39.58 334 P 11 39 18.3
baz=142
BEKR Beckworth 40.27 320 P **P 11 39 24.2 +1.1**
BEKR IAmb IAmb 11 39 26.3
comp=Z,9.3nm,1.0s
HRY Holter Researc 40.54 335 P **P 11 39 25.8 +0.6**
EGMT Eagleton 40.79 338 P 11 39 27.9
baz=146,SNR=5.9
EGMT Eagleton 40.79 338 P **P 11 39 28.1 +0.9**
EGMT IAmb IAmb 11 39 28.7
comp=Z,7.5nm,0.9s
ORV Oroville 40.81 319 P **P 11 39 29.9 +2.6**
ORV IAmb IAmb 11 39 30.9
comp=Z,9.7nm,1.2s
WVOR Wild Horse Val 40.82 325 P **P 11 39 29.4 +1.9**
J08A Circle Bar Ran 41.33 326 P **P 11 39 33.0 +1.3**
MOD Modoc Plateau 41.45 323 P **P 11 39 32.9 +0.1**
MSO Missoula 41.55 333 P **P 11 39 33.9 +0.5**
MSO IAmb IAmb 11 39 36.3
comp=Z,10nm,1.3s
MSO Missoula 41.55 333 P 11 39 34.9
baz=140,SNR=6.4
M04C Madoel 42.30 322 P 11 39 41.0
baz=126
L04D Klamath Falls 42.83 322 P 11 39 45.2
baz=126
J04D Umpqua Nationa 43.32 323 P 11 39 50.0
baz=127
I04A Tendick Farm, 43.83 324 P 11 39 52.4
baz=127
H03N2 Juan Fernandez 45.44 169 T T 12 28 23.5
baz=347
H03N1 Juan Fernandez 45.44 169 T T 12 28 19.3
baz=347
H03N3 Juan Fernandez 45.46 169 T T 12 28 18.0
baz=347
FRB Frobisher Bay 54.03 11 LR LR 12 05 45.0
comp=Z,47nm,18.9s,baz=208,slow=38
PLCA Paso Flores 54.34 164 P **P 11 41 11.9 -0.6**
comp=Z,3.2nm,1.0s,baz=348,slow=12,SNR=3.3
YKA Yellowknife Ar 54.46 345 P **P 11 41 12.6 -0.3**
comp=Z,1.9nm,0.8s,baz=137,slow=8.0,SNR=41
YKA PcP **PcP 11 42 16.7 +0.6**
comp=Z,1.1nm,0.8s,baz=139,slow=4.5,SNR=9.4
DLBC Dease Lake 56.60 335 P **P 11 41 29.6 +1.1**
DLBC IAmb IAmb 11 41 31.1
comp=Z,4.7nm,0.8s
SFJD Kangerlussuaq 60.85 16 LR LR 12 09 02.3
comp=Z,103nm,19.2s,baz=126,slow=37
CRQE Cirque 63.45 333 P 11 42 16.4
baz=116
INK Inuvik 64.02 343 P **P 11 42 19.0 +0.1**
comp=Z,3.7nm,1.0s,baz=134,slow=6.7
INK Inuvik 64.02 343 P **P 11 42 19.1 +0.2**
INK IAmb IAmb 11 42 20.5
comp=Z,4.6nm,1.1s
N25K Chitina, Valde 64.48 334 P 11 42 23.6
baz=115
KLU Klutina 65.01 333 P 11 42 26.9
baz=114
KNK Knik Glacier 66.11 333 P 11 42 33.8
baz=111
WAT6 Susitna Watana 66.23 334 P 11 42 34.0
baz=112
RC01 Rabbit Creek A 66.57 332 P 11 42 36.8
baz=110
HDA Harding Lake 66.62 336 P 11 42 36.5
baz=114,SNR=5.8
HDA P 11 42 36.5
baz=114,SNR=5.8
BRLK Bradley Lake 66.68 331 P **P 11 42 37.2 +0.9**
WAT2 Susitna Watana 66.73 334 P 11 42 37.3
baz=112,SNR=6.1
ILAR Eielson Array 66.74 336 P **P 11 42 36.7 +0.1**
comp=Z,4.3nm,1.0s,baz=127,slow=4.1,SNR=25
RND Reindeer 67.01 335 P **P 11 42 39.9 +1.5**
MCK McKinley 67.16 335 P 11 42 40.1
baz=112,SNR=6.4
NEA2 Nenana 67.53 336 P 11 42 42.3
baz=112
TRF Thorofare Moun 67.63 335 P 11 42 43.3
baz=110
SKT Skwentna 67.68 333 P **P 11 42 43.7 +1.1**
SKT Skwentna 67.68 333 P 11 42 43.2
baz=108
I23K Minto, Yukon-K 67.86 336 P **P 11 42 44.9 +1.3**
I23K Minto, Yukon-K 67.86 336 P 11 42 44.5
baz=112,SNR=6.7
BPAW Bear Paw Mtn. 68.14 335 P **P 11 42 46.3 +0.8**
BPAW Bear Paw Mtn. 68.14 335 P 11 42 46.2
baz=110,SNR=5.0
PPLA Purkeypile 68.26 334 P 11 42 47.0
baz=108
COLD Coldfoot 68.95 338 P 11 42 52.5
baz=112,SNR=5.1
TOLK Toolik Lake Re 69.26 340 P 11 42 53.5
baz=113
TTA Tatalina 69.94 333 P **P 11 42 57.2 +0.4**
TTA Tatalina 69.94 333 P 11 42 56.7
baz=105
TORD Torodi Ar. Bea 87.17 77 LR LR 12 21 57.9
comp=Z,19nm,18.6s,baz=340,slow=34
ASAR Alice Springs 138.38 247 PKP **PKPdf 11 51 11.2 -0.6**
comp=Z,0.6nm,0.7s,baz=120,slow=2.2,SNR=5.8
WRA Warramunga Arr 138.46 253 PKhKP PKPpre 11 51 01.9
comp=Z,0.4nm,0.8s,baz=94,slow=2.7,SNR=1.5
WRA PKP **PKPdf 11 51 10.9 -1.1**
comp=Z,0.6nm,0.8s,baz=124,slow=2.3,SNR=5.4
CMAR Chiang Mai Arr 149.53 347 PKPbc **PKPbc 11 51 34.7 -1.1**
comp=Z,3.3nm,0.8s,baz=339,slow=3.2,SNR=20

*IDC **07** 12:09:13.5±10.0, 20.66S×175.73W, h198km±71km, mb3.3/6, mb1 3.6/8, mb1mx3.4/32, mbtmp3.9/8, Error ellipse: s-maj=129.4km s-min=20.0km az=145.0*
ISC 07 12:09:13.7±1.3, 20.6S±0.3×175.7W±0.2, h200km, n10, σ0.9s57/11, mb3.4/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.55**	**295**	P	**Pn**	**12 10 48.4**	**+0.2**
	0.7nm,0.3s,baz=128,slow=16,SNR=7.3						
DZM	**Mont Dzumac**	**16.69**	**262**	P	**Pn**	**12 12 56.4**	**0.0**
	0.4nm,0.3s,baz=252,slow=20,SNR=1.9						
CTA	**Charters Tower**	**35.61**	**264**	P	**P**	**12 15 52.3**	**-0.2**
	3.3nm,0.5s,baz=97,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**46.58**	**257**	P	**P**	**12 17 21.4**	**-0.5**
	1.1nm,0.6s,baz=98,slow=8.3,SNR=31						
ASAR				PcP	**PcP**	**12 18 53.1**	**+0.5**
	0.6nm,1.1s,baz=105,slow=3.7,SNR=4.5						
WRA	**Warramunga Arr**	**46.70**	**262**	P	**P**	**12 17 21.7**	**-1.2**
	0.4nm,0.3s,baz=94,slow=7.0,SNR=19						
FITZ	**Fitzroy Crossi**	**55.13**	**262**	P	**P**	**12 18 26.3**	**+0.6**
	0.7nm,0.7s,baz=108,slow=3.2,SNR=1.1						
NVAR	**Mina Array Bea**	**79.65**	**42**	P	**P**	**12 20 59.3**	**+0.1**
	0.3nm,0.6s,baz=233,slow=5.5,SNR=5.1						
ILAR	**Eielson Array**	**87.96**	**12**	P	**P**	**12 21 40.0**	**-0.4**
	0.3nm,0.7s,baz=210,slow=5.4,SNR=8.1						
BRTR	**Keskin Array B**	**148.48**	**314**	PKPbc	**PKPbc**	**12 28 37.1**	**+0.1**
	0.8nm,0.4s,baz=142,slow=6.3,SNR=3.9						
GERES	**GERESS Array B**	**150.83**	**347**	PKPbc	**PKiKP**	**12 28 43.0**	**+0.1**
	0.9nm,0.8s,baz=32,slow=5.2,SNR=4.0						

*NNC **07** 12:59:49.4±5.1, 37.07N×70.61E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=53.9km s-min=29.2km az=149.0*
ISC 07 12:59:47.3±3.6, 36.6N±0.2×70.6E±0.1, h35km, n11, σ1.9s54/14, 2C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.98**	**23**	P	**Pn**	**13 01 12.8**	**-0.8**
	SNR=22						
UCH	**Uchtor**	**6.34**	**27**	P	**Pn**	**13 01 17.8**	**-0.9**
	SNR=10						
KK31	**Karatay Array**	**6.45**	**359**	⇓P	**Pn**	**13 01 21.0**	**+1.3**
	2.4nm,0.3s,baz=176,slow=12,SNR=73						
KK31				⇓S	**Sn**	**13 02 33.1**	**+1.0**
	2.0nm,0.4s,baz=186,slow=24,SNR=5.5						
EKS2	**Erkin-Say**	**6.49**	**21**	P	**Pn**	**13 01 21.2**	**+0.9**
	SNR=12						
AAK	**Ala-Archa**	**6.69**	**25**	P	**Pn**	**13 01 23.0**	**-0.2**
	SNR=11						
AAK	**Ala-Archa**	**6.69**	**25**	⇑P	**Pn**	**13 01 23.0**	**-0.2**
	4.2nm,0.5s						
AAK				⇑S	**Sn**	**13 02 36.0**	**-2.3**
	7.1nm,0.8s						
CHMS	**Chumysh**	**7.10**	**25**	P	**Pn**	**13 01 28.2**	**-0.5**
	SNR=5.2						
TKM2	**Tokmak 2**	**7.35**	**30**	P	**Pn**	**13 01 34.9**	**+2.6**
	SNR=6.5						
TKM2	**Tokmak 2**	**7.35**	**30**	⇓P	**Pn**	**13 01 34.8**	**+2.6**
	4.4nm,0.5s						
TKM2				⇓S	**Sn**	**13 02 55.5**	**+0.9**
	1.8nm,0.8s						
AB31	**Akbulak array**	**14.81**	**332**	⇓P	**Pn**	**13 03 13.3**	**-0.7**
	0.3nm,0.5s,baz=161,slow=11,SNR=12						
AKTO	**Aktyubinsk**	**16.50**	**331**	⇓P	**Pn**	**13 03 34.9**	**-1.0**
	2.0nm,0.8s						

*NEIC **07** 13:01:03.3±3.0, 13.0S±0.1×169.80E±0.07, h10km±2km, mb4.3/8, Error ellipse: s-maj=26.6km s-min=4.1km az=336.0*
*IDC **07** 13:01:12.0±1.6, 13.82S×169.71E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/29, mbtmp4.0/8, ML3.9/1, MS3.7/10, Ms1 3.7/10, ms1mx3.6/34, Error ellipse: s-maj=59.8km s-min=22.3km az=132.0*
ISC 07 13:01:03.8±1.2, 13.1S±0.2×169.86E±0.10, h10km, n31, σ1.9s88/12, mb4.1/10, MS3.7/6, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.47**	**228**		**Pn**	**13 01 58.5**	**+0.6**
MSVF	**Nonsavu**	**9.14**	**121**	LR	LR	13 06 03.9	
	comp=Z,954nm,18.0s,baz=284,slow=33						
MSVF	**Nonsavu**	**9.14**	**121**	Pn	**Pn**	**13 03 17.1**	**+1.1**
DZM	**Mont Dzumac**	**9.49**	**200**	Pn	**Pn**	**13 03 20.6**	**-0.2**
	1.4nm,0.3s,baz=290,slow=23,SNR=11						
DZM				LR	LR	13 06 29.8	
	comp=Z,358nm,18.0s,baz=28,slow=36						
DZM	**Mont Dzumac**	**9.49**	**200**		**Pn**	**13 03 20.3**	**-0.5**
HNR	**Honiara**	**10.38**	**290**	LR	LR	13 07 57.7	
	comp=Z,145nm,18.4s,baz=128,slow=39						
AFI	**Afiamalu**	**17.88**	**95**		**P**	**13 05 12.6**	**-0.9**
AFI				IAmb	IAmb	13 05 14.2	
	comp=Z,22nm,1.0s						
RAO	**Raoul Island**	**19.68**	**147**	LR	LR	13 11 03.9	
	comp=Z,380nm,21.9s,baz=320,slow=31						
KNTN	**Kanton**	**20.91**	**62**	P	**P**	**13 05 46.3**	**-0.4**
EIDS	**Eidsvold**	**21.49**	**233**	P	**P**	**13 05 49.5**	**-3.3**
EIDS				IAmb	IAmb	13 06 02.3	
	comp=Z,10nm,1.1s						
PMG	**Port Moresby**	**22.56**	**277**	LR	LR	13 13 58.3	
	comp=Z,188nm,18.0s,baz=60,slow=34						
CTA	**Charters Tower**	**23.64**	**250**	P	P	13 06 22.2	+6.7
	comp=Z,2.7nm,0.8s,baz=107,slow=11,SNR=3.6						
CTAO	**Charters Tower**	**23.64**	**250**	P	**P**	**13 06 17.6**	**+2.0**
ARMA	**Armidale**	**24.09**	**221**	P	**P**	**13 06 18.2**	**-1.6**
ARMA				IAmb	IAmb	13 06 27.9	
	comp=Z,13nm,1.1s						
URZ	**Urewera**	**25.87**	**167**	LR	LR	13 13 57.0	
	comp=Z,219nm,18.6s,baz=211,slow=30						
RAR	**Rarotonga**	**30.08**	**110**	LR	LR	13 17 16.6	
	comp=Z,25nm,18.3s,baz=268,slow=32						
H11S2	**WAKE ISLAND Hy**	**31.55**	**354**	T	T	13 41 40.0	
	baz=173,slow=76,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**31.55**	**354**	T	T	13 41 54.5	
	baz=173,slow=76,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**31.56**	**354**	T	T	13 41 43.1	
	baz=173,slow=76,SNR=7.7						
STKA	**Stephens Creek**	**31.95**	**230**	P	P	13 07 34.5	+4.4
	comp=Z,9.6nm,0.9s,baz=57,slow=9.3,SNR=14						
STKA				LR	LR	13 18 52.4	
	comp=Z,139nm,18.9s,baz=55,slow=34						
STKA	**Stephens Creek**	**31.95**	**230**	P	**P**	**13 07 33.2**	**+3.1**
H11N1	**WAKE ISLAND Hy**	**32.74**	**355**	T	T	13 43 24.9	
	baz=166						
H11N3	**WAKE ISLAND Hy**	**32.74**	**355**	T	T	13 43 17.1	
	baz=166						
H11N2	**WAKE ISLAND Hy**	**32.76**	**355**	T	T	13 43 17.0	
	baz=166						
WRA	**Warramunga Arr**	**34.67**	**254**	P	P	13 08 00.2	+6.2
	comp=Z,0.7nm,0.8s,baz=84,slow=10.0,SNR=4.1						
WRA				LR	LR	13 21 16.8	
	comp=Z,184nm,19.8s,baz=105,slow=35						
ASAR	**Alice Springs**	**35.60**	**248**	P	P	13 08 08.2	+6.2
	comp=Z,6.3nm,1.0s,baz=79,slow=9.2,SNR=36						
ASAR				LR	LR	13 21 02.8	
	comp=Z,202nm,20.0s,baz=89,slow=34						
BBOO	**Buckleboo**	**36.55**	**232**	P	**P**	**13 08 09.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**42.80**	**257**	P	**P**	**13 09 01.0**	**-1.1**
FITZ				IAmb	IAmb	13 09 12.8	
	comp=Z,6.3nm,1.1s						
SONM	**Songino Array**	**82.71**	**323**	P	P	13 13 40.6	+13
	comp=Z,0.4nm,0.7s,baz=100,slow=6.1,SNR=2.1						
ILAR	**Eielson Array**	**84.23**	**17**	P	P	13 13 48.4	+13
	comp=Z,0.9nm,0.8s,baz=232,slow=5.6,SNR=6.3						
YKA	**Yellowknife Ar**	**94.96**	**27**	P	P	13 14 39.5	+13
	comp=Z,0.4nm,0.8s,baz=252,slow=3.6,SNR=6.4						

IDC 07 13:03:34.2±8.1**, 19°.97S**×**177°.34W, h0**km**, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.5**/25**, mbtmp3.5**/3**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.9**/18**, Error ellipse: s-maj=350.3km s-min=42.5km az=144.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**24.31**	**292**	LR	LR	13 17 11.5	
	comp=Z,98nm,18.1s,baz=122,slow=34						
ASAR	**Alice Springs**	**45.25**	**256**	P	P	13 11 53.8	0.0
	0.4nm,0.4s,baz=89,slow=8.0,SNR=9.2						
WRA	**Warramunga Arr**	**45.30**	**261**	P	P	13 11 53.8	-0.3
	0.2nm,0.4s,baz=99,slow=7.7,SNR=6.9						
ILAR	**Eielson Array**	**87.66**	**13**	P	P	13 16 24.1	0.0
	0.3nm,0.8s,baz=216,slow=5.1,SNR=1.8						

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*MOS **07** 13:18:22.6±0.9, 50°.41N×173°.36W, h10km, mb6.0/156, MS5.0/33, Error ellipse: s-maj=6.5km s-min=3.7km az=103.5*

*BJI **07** 13:18:22.5±0.0, 50°.49N×173°.68W, h7km, mB5.7/79, mb5.7/91, Ms5.5/96, Ms7 5.1/88*

*IDC **07** 13:18:22.3±0.4, 50°.38N×173°.34W, h0km, mb5.5/30, mb1 5.6/31, mb1mx5.6/33, mbtmp5.5/31, ML4.0/1, MS4.8/43, Ms1 4.8/43, ms1mx4.7/59, Error ellipse: s-maj=14.4km s-min=9.8km az=178.0*

*NEIC **07** 13:18:24.0±2.1, 50°.51N±0°.06×173°.29W±0°.08, h10km±1km, mb5.8/338, ML5.4/2, Ms_20 5.1/486, Mwb5.6/88, Mww5.6, ML5.2(AEIC), Mwc5.7(GCMT), Error ellipse: s-maj=10.2km s-min=8.6km az=181.0*

*NEIC **07** 13:18:24.1, 50°.54N×173°.30W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.65; $M_{\theta\theta}$2.69; $M_{\phi\phi}$-0.03; $M_{r\theta}$1.50; $M_{\theta\phi}$0.81; $M_{\phi r}$0.02; Fault plane solution: $M_0$3.17000×10^{17} NP1:ϕ_s66.57000°, δ31.76000°, λ-103.28000°. NP2:ϕ_s262.08000°, δ59.18000°, λ-81.91000°. Principal axes: T 3.2648, Plg14.0000°, Azm346.0000°; N -0.2084, Plg7.0000°, Azm78.0000°; P -3.0563, Plg74.0000°, Azm194.0000°;*

*GCMT **07** 13:18:26.0±0.1, 50°.51N×173°.31W, h12km, MW5.7/160, Moment Tensor Solution. s130,c236; s160,c361; Duration: 1^{s}7 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.82±.04; $M_{\theta\theta}$4.35±.04; $M_{\phi\phi}$-0.53±.04; $M_{r\theta}$0.02±.10; $M_{\theta\phi}$1.30±.03; $M_{\phi r}$-0.24±.12; Best double couple: $M_0$4.25700×10^{17} NP1:ϕ_s260.00000°, δ45.00000°, λ-84.00000°. NP2:ϕ_s72.00000°, δ45.00000°, λ-96.00000°. Principal axes: T 4.6750, Plg0.0000°, Azm166.0000°; N -0.8390, Plg5.0000°, Azm76.0000°; P -3.8390, Plg85.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*AEIC **07** 13:18:27±1.8, 50°.57N±0°.02×173°.30W±0°.08, h20km±1km Error ellipse: s-maj=8.9km s-min=3.2km az=251.0*

*NEIC **07** 13:18:27, 50°.49N×173°.35W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-3.97; $M_{\theta\theta}$4.56; $M_{\phi\phi}$-0.59; $M_{r\theta}$-0.28; $M_{\theta\phi}$1.14; $M_{\phi r}$-0.50; Fault plane solution: $M_0$4.48000×10^{17} NP1:ϕ_s266.00000°, δ43.00000°, λ-79.00000°. NP2:ϕ_s71.00000°, δ48.00000°, λ-100.00000°. Principal axes: T 4.8172, Plg2.0000°, Azm168.0000°; N -0.7742, Plg8.0000°, Azm78.0000°; P -4.0430, Plg82.0000°, Azm275.0000°;*

*BGR **07** 13:18:28.2±0.0, 50°.48N×174°.62W, h36km±1km, mb5.8, Ms4.9*

*NEIC **07** 13:18:30, 50°.34N×173°.48W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-3.23; $M_{\theta\theta}$3.18; $M_{\phi\phi}$0.05; $M_{r\theta}$1.46; $M_{\theta\phi}$0.28; $M_{\phi r}$0.49; Fault plane solution: $M_0$3.57000×10^{17} NP1:ϕ_s91.00000°, δ33.00000°, λ-80.00000°. NP2:ϕ_s259.00000°, δ58.00000°, λ-96.00000°. Principal axes: T 3.5402, Plg13.0000°, Azm354.0000°; N 0.0558, Plg5.0000°, Azm262.0000°; P -3.5960, Plg76.0000°, Azm150.0000°;*

ISC 07 13:18:24.7±0.3**, 50°.42N**±0°.03×**173°.27W**±0°.02**, h16**km±1km**, h17**km**:pP-P, n1429, σ1^{s}52**/1296**, mb5.8**/468**, MS5.1**/328**, 60C-120D, Fault plane solution: NP1:**ϕ_s277.85974°**,** δ36.61645°**,** λ-52.60804°. **NP2:**ϕ_s54.26026°**,** δ61.71331°**,** λ-114.28799°. **Principal axes:** T Plg13.4426°**,** Azm161.6604°**;** N Plg21.2357°**,** Azm66.3310°**;** P Plg64.5077°**,** Azm281.7454°**; Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.88**	**342**	Pn	**Pn**	**13 18 54.1**	**-2.0**
ATKA				Sn	**Sn**	**13 19 16.4**	**-3.1**
KOFP	**Korovin Flat P**	**1.93**	**345**		**Pn**	**13 18 55.4**	**-1.5**
KOWE	**Korovin West**	**2.05**	**343**		**Pn**	**13 18 57.4**	**-1.1**
GSMY	**Great Sitkin M**	**2.39**	**314**		**Pn**	**13 19 01.8**	**-1.4**
GSTR	**Great Sitkin T**	**2.43**	**315**	Pn	**Pn**	**13 19 02.5**	**-1.1**
GSTD	**Great Sitkin T**	**2.44**	**313**		**Pn**	**13 19 02.5**	**-1.4**
ETKA	**Kagalaska Isla**	**2.45**	**307**		**Pn**	**13 19 02.8**	**-1.2**
ADK	**Adak**	**2.60**	**306**	P	**Pn**	**13 19 04.8**	**-1.3**
ADK	**Adak**	**2.60**	**306**	Pn	**Pn**	**13 19 04.7**	**-1.3**
ADK				Sn	**Sn**	**13 19 32.5**	**-4.9**
ADK				IAML		13 19 37.6	
	16μm,0.8s						
ADK				IAML		13 19 43.1	
	18μm,0.8s						
ADAG	**Mount Adagdak**	**2.62**	**308**		**Pn**	**13 19 05.7**	**-0.5**
KIMD	**Kanaga Island**	**2.84**	**300**		**Pn**	**13 19 08.3**	**-1.0**
KIKV	**Kanaga Island**	**2.86**	**302**		**Pn**	**13 19 08.9**	**-0.7**
KICM	**Kanaga Island**	**2.89**	**303**		**Pn**	**13 19 09.7**	**-0.3**
TAFP	**Tanaga Falls P**	**3.32**	**298**		**Pn**	**13 19 15.8**	**-0.1**
TASE	**Tanaga Southea**	**3.32**	**297**		**Pn**	**13 19 16.0**	**0.0**
GAEA	**Gareloi East**	**3.71**	**294**		**Pn**	**13 19 21.3**	**0.0**
GALAA	**Gareloi Lava P**	**3.72**	**293**		**Pn**	**13 19 21.4**	**0.0**
NIKH	**Nikolski High**	**3.75**	**45**	Pn	**Pn**	**13 19 20.1**	**-1.7**
NIKH	**Nikolski High**	**3.75**	**45**		**Sn**	**13 20 01.4**	**-4.2**
NIKH	**Nikolski High**	**3.75**	**45**	P		13 19 19.9	
	baz=230,SNR=46						
NIKH				S		13 20 00.6	
	baz=230						
OKSP	**Okmok Steeple**	**4.19**	**45**		**Pn**	**13 19 26.9**	**-1.0**
OKSO	**Okmok South**	**4.32**	**45**		**Pn**	**13 19 28.3**	**-1.4**
OKSO					**Sn**	**13 20 15.0**	**-4.7**
OKWR	**Okmok West Rim**	**4.35**	**44**		**Pn**	**13 19 29.7**	**-0.5**
OKFG	**Magazine Ridge**	**4.47**	**46**		**Pn**	**13 19 30.0**	**-1.7**
OKFG					**Sn**	**13 20 18.3**	**-5.0**
CERAA	**Semis' Rag'd T**	**4.68**	**291**		**Pn**	**13 19 34.4**	**-0.2**
CERB	**Semis' Cerberu**	**4.72**	**291**		**Pn**	**13 19 34.9**	**-0.3**
CESW	**Semis' Southwe**	**4.75**	**291**		**Pn**	**13 19 35.0**	**-0.6**
CEAP	**Semis' Anvil P**	**4.77**	**292**		**Pn**	**13 19 35.6**	**-0.2**
AMKA	**Amchitka**	**4.80**	**284**	Pn	**Pn**	**13 19 35.3**	**-0.9**
AMKA	**Amchitka**	**4.80**	**284**		**Sn**	**13 20 26.8**	**-4.7**
MAPS	**Pakushin South**	**5.17**	**46**		**Pn**	**13 19 40.5**	**-0.8**
MAPS					**Sn**	**13 20 37.3**	**-3.3**
MGOD	**Makushin Gods**	**5.19**	**47**		**Pn**	**13 19 40.8**	**-0.9**
MREP	**Makushin Rep't**	**5.26**	**47**		**Pn**	**13 19 42.0**	**-0.6**
MSW	**Makushin Switc**	**5.31**	**46**		**Pn**	**13 19 42.6**	**-0.6**
MNAT	**Makushin Natee**	**5.34**	**47**		**Pn**	**13 19 42.9**	**-0.7**
MNAT					**Sn**	**13 20 40.2**	**-4.5**
LSPA	**Little Sitkin**	**5.36**	**290**		**Pn**	**13 19 43.7**	**-0.2**
LSPA					**Sn**	**13 20 41.4**	**-3.8**
LSSA	**Little Sitkin**	**5.39**	**290**		**Pn**	**13 19 44.3**	**-0.1**
LSNW	**Little Sitkin**	**5.40**	**290**		**Pn**	**13 19 44.1**	**-0.3**
AKRB	**Akutan Reef Bi**	**5.77**	**47**		**Pn**	**13 19 49.8**	**+0.2**
AKMO	**Akutan Morgan**	**5.78**	**48**		**Pn**	**13 19 49.4**	**-0.3**
AKBBA	**Akutan Broad B**	**5.82**	**48**		**Pn**	**13 19 50.4**	**+0.2**
AKLV	**Akutan Long Va**	**5.85**	**47**		**Pn**	**13 19 50.2**	**-0.4**
AKGG	**Akutan Green G**	**5.85**	**47**		**Pn**	**13 19 49.8**	**-0.9**
AKUT	**Akutan**	**5.92**	**48**	Pn	**Pn**	**13 19 51.2**	**-0.3**
AKSA	**Akutan Strait**	**5.95**	**48**		**Pn**	**13 19 51.6**	**-0.4**
WESP	**Westdahl Peak**	**6.63**	**49**		**Pn**	**13 20 01.2**	**-0.2**
WEBT	**Westdahl Beart**	**6.67**	**48**		**Pn**	**13 20 01.2**	**-0.6**
SPIA	**Saint Paul Isl**	**7.00**	**14**	Pn	**Pn**	**13 20 06.8**	**+0.4**
SSBA	**Shishaldin**	**7.07**	**48**		**Pn**	**13 20 06.8**	**-0.7**
SSLW	**Shishaldin Wes**	**7.07**	**48**		**Pn**	**13 20 07.3**	**-0.2**
SSLN	**Shishaldin Nor**	**7.16**	**48**		**Pn**	**13 20 08.2**	**-0.4**
FALS	**False Pass**	**7.46**	**50**	Pn	**Pn**	**13 20 13.0**	**+0.3**
FALS	**False Pass**	**7.46**	**50**	P		13 20 12.8	
	baz=238,SNR=18						
FALS				S		13 21 33.9	
	baz=238						
DT1	**Dutton Round H**	**8.15**	**51**		**Pn**	**13 20 21.6**	**-0.6**
SMY	**Shemya**	**8.21**	**291**	P	**Pn**	**13 20 22.0**	**-0.9**
SMY	**Shemya**	**8.21**	**291**		**Pn**	**13 20 22.0**	**-0.9**
PS4A	**Pavlof South-4**	**8.48**	**50**		**Pn**	**13 20 26.1**	**-0.6**
SDPT	**Sand Point**	**9.17**	**52**		**Pn**	**13 20 35.6**	**-0.5**
SDPT	**Sand Point**	**9.17**	**52**	P		13 20 35.4	
	baz=244,SNR=28						
CNBA	**Chernabura Isl**	**9.41**	**57**		**Pn**	**13 20 38.4**	**-1.1**
CHNA	**Chernabura Isl**	**9.42**	**57**	P		13 20 38.8	
	baz=248,SNR=8.0						
CHGN	**Chignik**	**10.64**	**51**		**Pn**	**13 20 55.2**	**-1.1**
CHGN	**Chignik**	**10.64**	**51**	P		13 20 55.0	
	baz=243,SNR=19						
SII	**Sitkinak Islan**	**12.90**	**54**	Pn	**Pn**	**13 21 24.6**	**-2.5**
SII	**Sitkinak Islan**	**12.90**	**54**	P		13 21 24.7	
	baz=250,SNR=14						
OHAK	**Old Harbor**	**13.60**	**52**	Pn	**Pn**	**13 21 32.7**	**-3.9**
OHAK	**Old Harbor**	**13.60**	**52**	P		13 21 32.5	
	baz=249						
KDAK	**Kodiak Island**	**14.16**	**51**	Pn	**Pn**	**13 21 39.9**	**-4.3**
	13nm,0.3s,baz=227,slow=3.8,SNR=172						
KDAK				LR	LR	13 28 08.0	
	comp=Z,7μm,20.0s,baz=266,slow=41						
KDAK	**Kodiak Island**	**14.16**	**51**	P	**Pn**	**13 21 40.0**	**-4.3**
KDAK	**Kodiak Island**	**14.16**	**51**		**Pn**	**13 21 40.0**	**-4.3**
KDAK	**Kodiak Island**	**14.16**	**51**	P		13 21 39.9	
	baz=248						
SVW2	**Sparrevohn**	**14.56**	**36**		**Pn**	**13 21 50.6**	**+0.9**
RSO	**Redoubt South**	**15.31**	**41**	Pn	**Pn**	**13 21 57.5**	**-2.6**
HOM	**Homer**	**15.40**	**45**	P		13 22 01.1	
	baz=243,SNR=15						
CNPM	**China Poot**	**15.52**	**46**		**Pn**	**13 21 59.4**	**-3.2**
CNPM				IAmb	IAmb	13 22 10.7	
	comp=Z,745nm,1.0s						
TTA	**Tatalina**	**15.65**	**30**	P	**Pn**	**13 22 02.7**	**-1.6**
TTA				pmax	pmax		
	comp=Z,495nm,1.2s						
TTA	**Tatalina**	**15.65**	**30**	Pn	**Pn**	**13 22 02.7**	**-1.6**
TTA				IAmb	IAmb	13 22 28.5	
	comp=Z,495nm,1.2s						
TTA	**Tatalina**	**15.65**	**30**	P		13 22 02.9	
	baz=225,SNR=180						
TTA				S		13 25 04.3	
	baz=225						
BRLK	**Bradley Lake**	**15.79**	**45**	Pn	**Pn**	**13 22 03.0**	**-3.1**
BRLK				IAmb	IAmb	13 22 12.1	
	comp=Z,726nm,1.0s						
BRSE	**Bradley Lake S**	**15.84**	**45**	P		13 22 03.5	
	baz=244,SNR=24						
BRSE				S		13 25 05.7	
	baz=244						
SPCR	**Spurr Chakacha**	**15.94**	**39**	S		13 25 07.5	
	baz=237						
SEW	**Seward**	**16.59**	**45**		**Pn**	**13 22 12.9**	**-3.4**
SEW	**Seward**	**16.59**	**45**	P		13 22 11.4	
	baz=245,SNR=30						
SEW				S		13 25 19.8	
	baz=245						
O22K	**Cooper Landing**	**16.63**	**44**		**Pn**	**13 22 13.6**	**-3.2**
O22K				IAmb	IAmb	13 22 32.4	
	comp=Z,1μm,1.1s						
O22K	**Cooper Landing**	**16.63**	**44**	P		13 22 13.0	
	baz=244,SNR=64						
O22K				S		13 25 19.7	
	baz=244						
SKT	**Skwentna**	**16.64**	**38**	Pn	**Pn**	**13 22 16.2**	**-0.8**
SKT	**Skwentna**	**16.64**	**38**	P		13 22 16.0	
	baz=236,SNR=123						
SUA	**Susitna One**	**16.67**	**40**	Pn	**Pn**	**13 22 14.5**	**-3.0**
SUA	**Susitna One**	**16.67**	**40**	P		13 22 14.7	
	baz=239,SNR=12						
RC01	**Rabbit Creek A**	**16.91**	**42**	P		13 22 17.0	
	baz=242,SNR=53						
RC01				S		13 25 26.7	
	baz=242						
PPLA	**Purkeypile**	**16.93**	**34**		**Pn**	**13 22 19.6**	**-1.2**
PPLA				IAmb	IAmb	13 22 40.1	
	comp=Z,710nm,1.2s						
PPLA	**Purkeypile**	**16.93**	**34**	P		13 22 20.4	
	baz=232,SNR=102						
PPLA				S		13 25 34.1	
	baz=232						
CUT	**Chulitna**	**17.37**	**38**	P		13 22 24.4	
	baz=237,SNR=21						
PMR	**Palmer**	**17.41**	**41**	P	**Pn**	**13 22 23.6**	**-3.0**
PMR				pmax	pmax		
	comp=Z,139nm,1.1s						
PMR	**Palmer**	**17.41**	**41**	P	**Pn**	**13 22 23.6**	**-3.0**
PMR	**Palmer**	**17.41**	**41**	P		13 22 23.8	
	baz=241,SNR=43						
CHUM	**Lake Minchumin**	**17.52**	**32**	P		13 22 27.4	
	baz=230,SNR=139						
CHUM				S		13 25 46.5	
	baz=230						
PET	**Petropavlovsk**	**17.55**	**289**	*e*P	**Pn**	**13 22 27.3**	**-1.0**
PET				*e*S	**Sn**	**13 25 37.9**	**-5.3**
PET				pmax	pmax		
	comp=Z,369nm,0.8s						
PET				pmax	pmax		
	comp=Z,2μm,7.4s						
PET				pmax	pmax		
	comp=Z,3μm,6.5s						
PET				MLR	MLR		
	comp=Z,4μm,19.0s						
PET	**Petropavlovsk**	**17.55**	**289**	P	**Pn**	**13 22 27.0**	**-1.3**
GHO	**Glory Hole Cre**	**17.58**	**40**	P	**Pn**	**13 22 26.0**	**-2.8**
KNK	**Knik Glacier**	**17.61**	**42**	P	**Pn**	**13 22 24.7**	**-4.4**
KNK	**Knik Glacier**	**17.61**	**42**	P		13 22 24.7	
	baz=243,SNR=95						
KNK				S		13 25 39.0	
	baz=243						
KTH	**Kantishna Hill**	**17.79**	**34**	P	**Pn**	**13 22 30.5**	**-0.8**
KTH				IAmb	IAmb	13 22 36.2	
	comp=Z,774nm,1.0s						
Q23K	**Middleton Isla**	**17.79**	**49**	P	**Pn**	**13 22 29.2**	**-2.1**
Q23K	**Middleton Isla**	**17.79**	**49**	P		13 22 34.1	
	baz=252,SNR=19						
MID	**Middleton Isla**	**17.80**	**49**	P	**Pn**	**13 22 29.3**	**-2.1**
MID				pmax	pmax		
	comp=Z,2μm,1.0s						
MID	**Middleton Isla**	**17.80**	**49**	P	**Pn**	**13 22 29.3**	**-2.1**
SML	**Sawmill**	**17.85**	**41**	P	**Pn**	**13 22 29.2**	**-2.8**
SML	**Sawmill**	**17.85**	**41**	P	**Pn**	**13 22 29.2**	**-2.8**
SML				IAmb	IAmb	13 22 32.9	
	comp=Z,699nm,1.0s						
SML	**Sawmill**	**17.85**	**41**	P		13 22 28.1	
	baz=242,SNR=154						
SML				S		13 25 43.4	
	baz=242						
TRF	**Thorofare Moun**	**17.96**	**35**	P	**Pn**	**13 22 31.7**	**-1.8**
TRF	**Thorofare Moun**	**17.96**	**35**	P		13 22 31.8	
	baz=234,SNR=173						
HIN	**Hinchinbrook I**	**18.05**	**46**	P	**Pn**	**13 22 31.1**	**-3.5**
HIN				IAmb	IAmb	13 22 39.6	
	comp=Z,489nm,1.0s						
BPAW	**Bear Paw Mtn.**	**18.11**	**32**	IAmb	IAmb	13 22 38.0	
	comp=Z,708nm,0.9s						
BPAW	**Bear Paw Mtn.**	**18.11**	**32**	P		13 22 34.2	
	baz=232,SNR=664						
BPAW				S		13 25 54.0	
	baz=232						
PEA0B	**Petropavlovsk-**	**18.12**	**290**	*ce*P	**Pn**	**13 22 35.2**	**-0.2**
PEA0B	**Petropavlovsk-**	**18.12**	**290**		**Pn**	**13 22 34.8**	**-0.6**
PEA0B				IAmb	IAmb	13 22 43.2	
	comp=Z,912nm,1.4s						
PETK	**Petropavlovsk-**	**18.12**	**290**	P	**Pn**	**13 22 35.0**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=88,slow=12,SNR=80						
PETK				S	**Sn**	**13 25 53.3**	**-3.7**
	comp=Z,1.6nm,0.3s,baz=249,slow=25,SNR=6.0						
PETK	**Petropavlovsk-**	**18.12**	**290**	P	**Pn**	**13 22 35.0**	**-0.4**
SCM	**Sheep Creek Mo**	**18.28**	**41**	P	**Pn**	**13 22 34.6**	**-2.8**
SCM				pmax	pmax		
	comp=Z,1μm,1.0s						
SCM	**Sheep Creek Mo**	**18.28**	**41**	P	**Pn**	**13 22 34.6**	**-2.8**
SCM				IAmb	IAmb	13 22 38.3	
	comp=Z,1μm,1.0s						
WAT2	**Susitna Watana**	**18.32**	**37**	P		13 22 34.6	
	baz=238,SNR=103						
RDOG	**Red Dog Mine**	**18.42**	**12**	P		13 22 39.0	
	baz=201,SNR=61						
EYAK	**Cordova Ski Ar**	**18.46**	**46**	P		13 22 36.0	
	baz=249,SNR=36						
EYAK				S		13 25 58.9	
	baz=249						
RND	**Reindeer**	**18.46**	**36**	P	**P**	**13 22 36.6**	**-2.9**
RND				pmax	pmax		
	comp=Z,319nm,0.9s						
RND	**Reindeer**	**18.46**	**36**	P	**P**	**13 22 36.6**	**-2.9**
WAT6	**Susitna Watana**	**18.46**	**39**	P		13 22 36.9	
	baz=241,SNR=158						
WAT6				S		13 25 57.8	
	baz=241						
MCK	**McKinley**	**18.61**	**35**	P		13 22 38.6	
	baz=236,SNR=258						
KLU	**Klutina**	**18.74**	**43**	P		13 22 38.5	
	baz=246,SNR=116						
KAIM	**Kayak Island**	**18.88**	**49**		**Pn**	**13 22 45.0**	**+0.4**
KAIM				IAmb	IAmb	13 22 50.0	
	comp=Z,931nm,1.0s						
KAIM	**Kayak Island**	**18.88**	**49**	P		13 22 43.7	
	baz=253,SNR=42						
M24K	**Tolsona, Glenn**	**18.89**	**41**	P	**P**	**13 22 42.3**	**-1.9**
M24K	**Tolsona, Glenn**	**18.89**	**41**	P		13 22 42.0	
	baz=244,SNR=163						
M24K				S		13 26 10.4	
	baz=244						
RAGM	**Ragged Mountai**	**18.90**	**47**	P	**P**	**13 22 42.8**	**-1.5**
NEA2	**Nenana**	**19.07**	**33**	P		13 22 43.6	
	baz=234,SNR=236						
NEA2				S		13 26 13.8	
	baz=234						
HMT	**Hamilton**	**19.08**	**48**	P	**P**	**13 22 44.5**	**-1.7**
HMT				IAmb	IAmb	13 22 52.2	
	comp=Z,847nm,1.0s						
BMRM	**Bremner River**	**19.13**	**46**	P		13 22 44.1	
	baz=250,SNR=174						
SUCK	**Suckling Hills**	**19.23**	**49**	P	**Pn**	**13 22 48.3**	**-0.5**
I23K	**Minto, Yukon-K**	**19.31**	**31**	P	**P**	**13 22 48.6**	**0.0**
I23K				IAmb	IAmb	13 22 52.4	
	comp=Z,869nm,1.4s						
I23K	**Minto, Yukon-K**	**19.31**	**31**	P		13 22 47.6	
	baz=232,SNR=414						
I23K				S		13 26 20.3	
	baz=232						
WRH	**Wood River Hil**	**19.34**	**34**	P	**P**	**13 22 46.5**	**-2.5**
N25K	**Chitina, Valde**	**19.37**	**44**	P	**P**	**13 22 47.7**	**-1.7**
N25K	**Chitina, Valde**	**19.37**	**44**	P		13 22 46.8	
	baz=248,SNR=95						
N25K				S		13 26 19.2	
	baz=248						
SKR	**Severo-Kuril's**	**19.39**	**283**	*e*P	**P**	**13 22 49.7**	**0.0**
SKR				*e*S	**Sn**	**13 26 21.6**	**-6.2**
SKR				pmax	pmax		
	comp=Z,3μm,5.9s						
SKR				pmax	pmax		
	comp=Z,2μm,7.5s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
BGLC	**Bering Glacier**	**19.48**	**49**	P		13 22 54.8	
	baz=254,SNR=10						
CCB	**Clear Creek Bu**	**19.54**	**34**	P	**P**	**13 22 48.7**	**-2.5**
PAX	**Paxson**	**19.57**	**40**	P	**P**	**13 22 50.4**	**-1.2**
PAX				pmax	pmax		
	comp=Z,92nm,0.9s						
PAX	**Paxson**	**19.57**	**40**	P	**P**	**13 22 50.4**	**-1.2**
PAX	**Paxson**	**19.57**	**40**	P		13 22 50.2	
	baz=243,SNR=33						
MDM	**Murphy Dome**	**19.58**	**33**	P	**P**	**13 22 49.0**	**-2.6**
TCOL	**CIGO, UAF Yank**	**19.65**	**33**	P		13 22 50.5	
	baz=235,SNR=108						
TCOL				S		13 26 23.0	
	baz=235						
COLA	**College**	**19.66**	**33**	*i* P	**P**	**13 22 51.2**	**-1.2**
COLA				MLR	MLR		
	comp=Z,7μm,15.0s						
COLA	**College**	**19.66**	**33**	P	**P**	**13 22 50.5**	**-1.9**
COLA	**College**	**19.66**	**33**	P		13 22 50.8	
	baz=235						
COLA				S		13 26 23.4	
	baz=235						
HDA	**Harding Lake**	**19.72**	**35**	P	**P**	**13 22 51.3**	**-1.8**
HDA				IAmb	IAmb	13 22 56.1	
	comp=Z,483nm,1.1s						
HDA	**Harding Lake**	**19.72**	**35**	P		13 22 51.4	
	baz=237,SNR=250						
HDA				P		13 22 51.4	
	baz=237,SNR=250						
HDA				S		13 26 23.8	
	baz=237						
HDA				S		13 26 23.8	
	baz=237						
CRQM	**Cirque**	**19.74**	**47**	P	**P**	**13 22 53.7**	**+0.1**
CRQE	**Cirque**	**19.76**	**47**	P		13 22 52.7	
	baz=252,SNR=456						
IL31		**19.94**	**34**	P	**P**	**13 22 53.3**	**-2.2**
ILAR	**Eielson Array**	**19.94**	**34**	P	**P**	**13 22 52.7**	**-2.9**
	comp=Z,4.2nm,0.3s,baz=238,slow=9.9,SNR=181						
ILAR				S	**S**	**13 26 33.0**	**-6.0**
	comp=Z,0.4nm,0.3s,baz=222,slow=12,SNR=3.0						
ILAR				ScP	**ScP**	**13 30 45.5**	**-1.2**
	baz=270,slow=3.7,SNR=5.1						
ILAR				LR	LR	13 31 20.7	
	comp=Z,4μm,18.2s,baz=251,slow=39						
ILAR				PKiKP	**PKiKP**	**13 34 57.6**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=247,slow=4.2,SNR=4.3						
ILAR				P3KPbc		13 57 12.8	
	comp=Z,0.0nm,0.3s,baz=32,slow=4.7,SNR=9.0						
POKR	**Poker Plat Res**	**19.94**	**33**	P		13 22 53.4	
	baz=235,SNR=76						
POKR				S		13 26 28.7	
	baz=235						
MCARA	**McCarthy VSAT**	**19.99**	**45**	IAmb	IAmb	13 23 00.9	
	comp=Z,586nm,1.0s						
MCARA	**McCarthy VSAT**	**19.99**	**45**	P		13 22 55.5	
	baz=251,SNR=151						
MENT	**Mentasta**	**20.27**	**41**		**P**	**13 23 00.1**	**+0.8**
YAH	**Yahtse**	**20.29**	**49**	P	Pn	13 23 01.2	-0.4
YAH				IAmb	IAmb	13 23 04.0	
	comp=Z,855nm,1.0s						
YAH				IAMs_20	IAMs_20	13 31 07.1	
	comp=Z,7μm,20.0s						
COLD	**Coldfoot**	**20.43**	**26**	P	**P**	**13 23 00.8**	**-0.1**
COLD				IAmb	IAmb	13 23 06.0	
	comp=Z,634nm,1.0s						
COLD	**Coldfoot**	**20.43**	**26**	P		13 23 00.7	
	baz=226,SNR=920						
COLD				S		13 26 46.9	
	baz=226						
DOT	**Dot Lake**	**20.44**	**39**	IAmb	IAmb	13 23 08.0	
	comp=Z,421nm,0.9s						
DOT				IAMs_20	IAMs_20	13 31 15.8	
	comp=Z,6μm,20.0s						
TABL	**Table Mountain**	**20.59**	**49**	IAMs_20	IAMs_20	13 31 48.3	
	comp=Z,7μm,19.0s						
SCRK	**Sand Creek**	**20.62**	**38**	P		13 23 01.0	
	baz=243,SNR=517						
SCRK				S		13 26 55.4	
	baz=243						
CTG	**Chitna Glacier**	**20.64**	**47**	P		13 23 03.6	
	baz=254,SNR=540						
CTG				S		13 26 52.1	
	baz=254						
PRP	**Porcupine Dome**	**20.83**	**33**	P		13 23 03.5	
	baz=237,SNR=33						
PRP				S		13 26 45.5	
	baz=237						
PINM	**Pinnacle**	**20.94**	**50**	P		13 23 08.2	
	baz=258,SNR=145						
PINM				S		13 27 01.2	
	baz=258						
K27K	**Chicken**	**21.40**	**39**	P	**P**	**13 23 11.7**	**+0.3**
K27K				IAmb	IAmb	13 23 17.8	
	comp=Z,675nm,1.0s						
K27K	**Chicken**	**21.40**	**39**	P		13 23 09.5	
	baz=246						
K27K				S		13 27 08.6	
	baz=246						
FYU	**Fort Yukon**	**21.52**	**31**	P	**P**	**13 23 11.8**	**-0.8**
FYU				IAMs_20	IAMs_20	13 32 26.9	
	comp=Z,5μm,18.0s						
TOLK	**Toolik Lake Re**	**21.60**	**24**	P	**P**	**13 23 12.6**	**-0.9**
TOLK				IAMs_20	IAMs_20	13 32 48.7	
	comp=Z,7μm,18.0s						
TOLK	**Toolik Lake Re**	**21.60**	**24**	P		13 23 12.9	
	baz=224,SNR=775						
TOLK				S		13 27 13.3	
	baz=224						
EGAK	**Eagle**	**22.08**	**37**	P	**P**	**13 23 17.4**	**-1.3**
EGAK				IAmb	IAmb	13 23 25.1	
	comp=Z,412nm,0.8s						
EGAK				IAMs_20	IAMs_20	13 32 49.1	
	comp=Z,8μm,18.0s						
EGAK	**Eagle**	**22.08**	**37**	P		13 23 17.4	
	baz=245,SNR=335						
EGAK				S		13 27 19.8	
	baz=245						
MA2	**Magadan**	**22.31**	**308**	P	**P**	**13 23 21.9**	**+0.7**
	comp=Z,124nm,0.9s,baz=95,slow=9.5,SNR=59						

MA2 LR LR 13 33 08.7
comp=Z,2µm,18.5s,baz=105,slow=40
MA2 Magadan 22.31 308 *ce*P **P 13 23 20.4 -0.8**
MA2 pmax pmax
comp=Z,145nm,1.0s
MA2 MLR MLR
comp=Z,3µm,15.0s
MA2 Magadan 22.31 308 P **P 13 23 21.4 +0.2**
MA2 IAmb IAmb 13 23 30.3
comp=Z,361nm,1.0s
A21K Barrow 22.32 14 P **P 13 23 19.6 -1.5**
A21K Barrow 22.32 14 P 13 23 19.3
baz=209,SNR=154
A21K S 13 27 21.2
baz=209
SEY Seymchan 22.32 317 P **P 13 23 21.1 -0.1**
comp=Z,132nm,0.8s,baz=116,slow=9.0,SNR=422
SEY LR LR 13 33 18.0
comp=Z,4µm,18.2s,baz=104,slow=40
SEY Seymchan 22.32 317 ǁ *i*P **P 13 23 21.3 +0.1**
MIDW Midway 22.39 190 IAMs_20 IAMs_20 13 29 27.8
comp=Z,7µm,21.0s
DAWY Dawson 22.50 40 P **P 13 23 22.1 -1.1**
DAWY IAmb IAmb 13 23 27.7
comp=Z,451nm,1.1s
SIT Sitka 23.16 59 P **P 13 23 31.3 +1.2**
SIT pmax pmax
comp=Z,230nm,1.0s
SIT Sitka 23.16 59 P **P 13 23 31.3 +1.2**
SIT IAmb IAmb 13 23 55.3
comp=Z,230nm,1.0s
SIT Sitka 23.16 59 P 13 23 31.1
baz=270,SNR=29
SIT S 13 27 45.0
baz=270
SKAG Skagway 23.30 53 P **P 13 23 33.0 +1.6**
SKAG IAmb IAmb 13 23 42.7
comp=Z,242nm,0.9s
SKAG Skagway 23.30 53 P 13 23 33.0
baz=264,SNR=18
SKAG S 13 27 47.1
baz=264
BESE Bessie Mountai 23.47 55 P **P 13 23 34.8 +1.5**
BESE IAmb IAmb 13 23 45.5
comp=Z,315nm,1.0s
WHY Whitehorse 23.67 50 P **P 13 23 36.6 +1.4**
JIS Juneau Island 23.70 56 P **P 13 23 36.9 +1.6**
CRAG Craig 24.46 62 P 13 23 44.9
baz=275,SNR=41
CRAG S 13 28 11.4
baz=275
WRAK Wrangell Islan 24.82 60 P 13 23 48.1
baz=274,SNR=157
WRAK S 13 28 12.9
baz=274
H02N1 VAN INLET T-PH 25.08 68 P **P 13 23 49.4 +1.1**
H02N1 T T 13 49 10.7
SNR=150
DIB Dawson Inlet, 25.13 68 P **P 13 23 49.5 +0.9**
H02S1 DAWSON INLET T 25.13 68 P **P 13 23 50.0 +1.4**
H02S1 T T 13 49 15.9
SNR=105
DLBC Dease Lake 26.00 55 P **P 13 23 59.0 +2.5**
comp=Z,78nm,0.9s,baz=267,slow=10,SNR=84
DLBC LR LR 13 34 51.6
comp=Z,2µm,19.3s,baz=293,slow=38
INK Inuvik 26.31 32 P **P 13 23 59.2 0.0**
comp=Z,304nm,1.1s,baz=226,slow=10,SNR=159
INK PcP **PcP 13 27 24.2 -0.4**
comp=Z,34nm,0.9s,baz=218,slow=3.5,SNR=3.6
INK LR LR 13 33 53.4
comp=Z,2µm,21.8s,baz=242,slow=35
INK P3KPbc 13 56 44.3
comp=Z,2.3nm,1.0s,baz=39,slow=4.7,SNR=5.8
INK Inuvik 26.31 32 P **P 13 23 59.4 +0.3**
INK pmax pmax
comp=Z,317nm,0.9s
INK MLR MLR
comp=Z,3µm,20.0s
INK Inuvik 26.31 32 P **P 13 23 59.4 +0.3**
INK IAmb IAmb 13 24 05.2
comp=Z,317nm,0.9s
KUR Kuril'sk 26.39 274 *d i*P **P 13 24 00.3 +0.3**
KUR *e*SS 13 29 37.0
KUR pmax pmax
comp=Z,2µm,7.2s
KUR pmax pmax
comp=Z,701nm,1.0s
KUR pmax pmax
comp=E,344nm,0.8s
KUR pmax pmax
comp=N,129nm,0.9s
KUR MLR MLR
comp=Z,1µm,11.0s
KUR MLR MLR
comp=N,696nm,12.0s
KUR MLR MLR
comp=E,923nm,12.0s
TYV Tymovskoe 27.65 288 *e*P **P 13 24 12.0 +0.7**
TYV *e*S **S 13 28 56.1 +3.8**
TYV pmax pmax
comp=Z,31nm,1.2s
TYV pmax pmax
comp=Z,800nm,4.4s
TYV smax smax
comp=E,3µm,5.9s
TYV smax smax
comp=N,17nm,1.8s
BBB Bella Bella 27.94 69 P **P 13 24 14.6 +0.6**
comp=N,17nm,0.9s,baz=282,slow=8.8,SNR=11
BBB PcP **PcP 13 27 29.5 +0.7**
comp=N,24nm,0.9s,baz=264,slow=1.4,SNR=4.9
BBB Bella Bella 27.94 69 P **P 13 24 14.1 +0.1**
BBB PcP **PcP 13 27 29.8 +1.0**
YUK Yuzh-Kuril'sk 28.20 273 *e*P **P 13 24 15.5 -0.8**
YUK *e*S **S 13 29 01.1 0.0**
YUK MLR MLR
comp=N,1µm,12.0s
YUK MLR MLR
comp=Z,1µm,12.0s
NKL Nikolayevsk 28.24 294 *e*P **P 13 24 15.5 -1.1**
NKL *e*S **S 13 28 59.0 -2.6**
NKL pmax pmax
comp=E,67nm,1.0s
NKL pmax pmax
comp=N,7.0nm,0.5s
NKL pmax pmax
comp=Z,203nm,1.8s
NKL smax smax
comp=E,161nm,0.9s
NKL smax smax
comp=N,20nm,1.0s
NKL MLR MLR
comp=E,3µm,21.0s
NKL MLR MLR
comp=N,183nm,13.0s
NKL MLR MLR
comp=Z,989nm,14.0s
YSS Yuzh-Sakhalins 28.92 280 K *i*P **P 13 24 23.8 +1.1**
YSS *e**SP **sP 13 24 28.0 +0.7**
YSS *e*S **S 13 29 13.3 +0.9**
YSS *e* 13 31 04.0
YSS pmax pmax
comp=Z,170nm,0.8s
YSS MLR MLR
comp=E,800nm,15.0s
YSS MLR MLR
comp=Z,2µm,15.0s
YSS Yuzh-Sakhalins 28.92 280 P **P 13 24 23.4 +0.7**
YSS IAmb IAmb 13 24 24.9
comp=Z,143nm,0.8s
C36M Paulatuk 29.90 33 P 13 24 31.3
baz=256,SNR=104
C36M S 13 29 25.9
baz=256
JKA Kamikawa-asahi 30.24 275 P **P 13 24 35.3 +0.8**
JKA IAmb IAmb 13 24 46.4
comp=Z,165nm,0.9s
ASAJ Asahikawa 30.25 275 P **P 13 24 35.3 +0.8**
ASAJ pmax pmax
comp=Z,165nm,0.9s
ERM Erimo 30.92 271 *ce*P **P 13 24 41.7 +1.3**
ERM pmax pmax
comp=Z,208nm,1.7s
ERM MLR MLR
comp=Z,816nm,15.0s

ERM Erimo 30.92 271 P **P 13 24 41.8 +1.4**
ERM IAmb IAmb 13 24 54.1
comp=Z,123nm,0.9s
KIP Kipapa 31.33 152 *ce*P **P 13 24 46.9 +2.7**
KIP pmax pmax
comp=Z,235nm,1.7s
GRNR Gornyy 31.44 290 ǁ *i*P **P 13 24 45.4 +0.4**
GRNR *e*S **S 13 29 55.4 +3.5**
GRNR pmax pmax
comp=N,10.0nm,0.8s
GRNR pmax pmax
comp=E,30nm,0.8s
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR smax smax
comp=N,8.0nm,1.0s
GRNR MLR MLR
comp=N,380nm,14.0s
A04D Lummi Island 32.33 73 P 13 24 54.6
baz=293,SNR=31
D03D Eldon 32.56 75 P 13 24 57.2
baz=294,SNR=301
YAK Yakutsk 32.66 313 *e*P **P 13 24 54.6 -0.9**
YAK *e**PP **pwP 13 25 03.6 -2.5**
YAK *e* 13 26 04.8
YAK *e* 13 27 40.5
YAK *e*S **S 13 30 07.1 -3.5**
YAK *e**SS **pS 13 30 14.3 +0.4**
YAK *e*SSS SSS 13 32 04.6
YAK pmax pmax
comp=Z,97nm,0.8s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,38nm,1.0s
YAK pmax pmax
comp=Z,360nm,2.6s
YAK pmax pmax
comp=N,90nm,2.6s
YAK pmax pmax
comp=E,228nm,2.5s
YAK smax smax
comp=N,1µm,2.0s
YAK smax smax
comp=E,1µm,2.0s
YAK MLR MLR
comp=Z,3µm,15.0s
YAK MLR MLR
comp=E,2µm,13.0s
YAK Yakutsk 32.66 313 P **P 13 24 54.9 -0.6**
YAK IAmb IAmb 13 24 59.4
comp=Z,160nm,0.8s
YAK IAMs_20 IAMs_20 13 36 58.2
comp=Z,3µm,21.0s
B05A Bryant 32.88 74 P 13 24 59.4
baz=294,SNR=116
JTM Tenmabayashi 32.90 271 P **P 13 24 57.8 -0.1**
JTM IAmb IAmb 13 25 16.6
comp=Z,110nm,1.0s
D04E Lakebay 32.90 76 P 13 25 00.6
baz=295,SNR=59
TIXI Tiksi 33.20 331 *ce*P **P 13 24 59.4 -0.7**
TIXI Tiksi 33.20 331 P **P 13 25 00.1 0.0**
TIXI PcP **PcP 13 27 42.4 +0.2**
F04D Rainier, OR 33.22 78 P 13 25 02.6
baz=296,SNR=17
E04D Cinebar 33.29 77 P 13 25 03.8
baz=296,SNR=177
YKA Yellowknife Ar 33.36 46 P **P 13 25 03.4 +1.8**
comp=Z,117nm,0.9s,baz=276,slow=8.1,SNR=422
YKA PcP **PcP 13 27 43.3 +0.4**
comp=Z,16nm,0.8s,baz=281,slow=2.1,SNR=8.0
YKA PKiKP **PKiKP 13 35 05.5 -2.3**
comp=Z,1.5nm,0.9s,baz=267,slow=0.6,SNR=6.2
YKA LR LR 13 39 49.9
comp=Z,3µm,20.1s,baz=0.0,slow=38
YKA P3KPbc 13 56 13.2
comp=Z,1.6nm,0.8s,baz=97,slow=5.8,SNR=26
YKA P3KP 13 57 35.0
comp=Z,0.1nm,0.6s,baz=139,slow=3.2,SNR=3.9
YKA PKPPKP **P'P'df 13 58 30.3 -6.6**
comp=Z,0.7nm,1.1s,baz=125,slow=3.9,SNR=1.8
YKA Yellowknife Ar 33.36 46 *i* P **P 13 25 02.7 +1.1**
YKA pmax pmax
comp=Z,113nm,0.9s
G03D McMinnville, O 33.46 79 P 13 25 04.8
baz=298,SNR=44
I02D Swisshome 33.61 81 P 13 25 06.3
baz=299,SNR=7.5
TEY Ternei 33.62 281 ⇑ *e*P **P 13 25 02.9 -1.1**
TEY *e* 13 25 03.9
TEY pmax pmax
comp=Z,10.0nm,0.9s
TEY pmax pmax
comp=N,40nm,1.0s
TEY pmax pmax
comp=E,90nm,1.0s
TEY pmax pmax
comp=Z,20nm,1.0s
LON Longmire 33.68 76 P **P 13 25 06.4 +1.8**
LON IAmb IAmb 13 25 13.2
comp=Z,134nm,1.1s
LON PcP **PcP 13 27 44.8 +0.6**
KHLU Kahalu`u 33.71 150 IAMs_20 IAMs_20 13 34 51.6
comp=Z,4µm,21.0s
COR Corvallis 33.72 80 P **P 13 25 05.6 +0.6**
COR pmax pmax
comp=Z,204nm,1.1s
COR Corvallis 33.72 80 P **P 13 25 05.6 +0.6**
COR IAmb IAmb 13 25 08.9
comp=Z,204nm,1.1s
COR Corvallis 33.72 80 IAMs_20 IAMs_20 13 36 39.1
comp=Z,2µm,18.0s
C06D Leavenworth 33.75 74 P 13 25 06.7
baz=295,SNR=7.3
KEBM Edson Butte 33.90 84 IAMs_20 IAMs_20 13 38 50.1
comp=Z,3µm,19.0s
J01E Myrtle Point 34.01 83 P 13 25 09.7
baz=300,SNR=6.6
H04D Lebanon 34.11 80 P 13 25 10.6
baz=299,SNR=43
I03D Drain, OR 34.12 82 P 13 25 10.7
baz=300,SNR=26
LTY Liberty 34.17 74 IAmb IAmb 13 25 34.9
comp=Z,166nm,1.4s
LTY PcP **PcP 13 27 46.4 +0.9**
LTY IAMs_20 IAMs_20 13 37 29.6
comp=Z,2µm,18.0s
F05D White Salmon 34.28 77 P 13 25 11.8
baz=297,SNR=48
H04A Detroit Lake 34.38 79 PcP **PcP 13 27 46.7 +0.6**
K02D Willamette Mer 34.42 83 P 13 25 13.2
baz=301,SNR=17
H11N2 WAKE ISLAND Hy 34.43 214 T T 14 02 15.0
baz=19
H11N3 WAKE ISLAND Hy 34.44 214 T T 14 02 05.0
baz=19
H11N1 WAKE ISLAND Hy 34.45 214 T T 14 02 13.4
baz=19
B08A Colville Reser 34.53 72 IAmb IAmb 13 25 17.5
comp=Z,115nm,0.9s
G05D Wamic, OR 34.66 78 P 13 25 15.4
baz=298,SNR=116
I04A Tendick Farm, 34.66 81 P 13 25 15.2
baz=300,SNR=81
JMM Marumori 34.73 267 IAmb IAmb 13 25 15.3
comp=Z,229nm,1.2s
L02E Cave Junction 34.73 84 P 13 25 16.0
baz=302,SNR=22
KLR Kul'dur 34.81 290 *ce*P **P 13 25 14.1 -0.3**
KLR pmax pmax
comp=Z,263nm,1.6s
WAKE Wake Island 34.93 214 IAMs_20 IAMs_20 13 34 55.1
comp=Z,3µm,22.0s
I05D Terrebonne, OR 35.08 79 P 13 25 18.9
baz=299,SNR=65
J04D Umpqua Nationa 35.13 82 P 13 25 19.7
baz=300,SNR=25
F07A Phinny Hill Vi 35.23 76 IAMs_20 IAMs_20 13 38 12.7
comp=Z,2µm,18.0s
HAWA Hanford 35.25 75 IAmb IAmb 13 25 24.1
comp=Z,223nm,1.1s
HAWA IAMs_20 IAMs_20 13 38 22.2
comp=Z,2µm,19.0s
KHMM Horse Mountain 35.33 86 IAMs_20 IAMs_20 13 39 08.0
comp=Z,3µm,19.0s
D08A Wollman Farm, 35.33 74 IAmb IAmb 13 25 23.6

comp=Z,124nm,1.1s
E08A Dider Farm, El 35.50 75 IAmb IAmb 13 25 24.0
comp=Z,263nm,1.4s
YBH Yreka Blue Hor 35.52 84 P **P 13 25 21.5 +0.8**
YBH pmax pmax
comp=Z,73nm,1.2s
YBH MLR MLR
comp=Z,2µm,18.0s
YBH Yreka Blue Hor 35.52 84 P **P 13 25 21.5 +0.8**
L04D Klamath Falls 35.52 83 P 13 25 22.8
baz=302,SNR=29
PINE Pine Mountain 35.59 80 IAmb IAmb 13 25 25.2
comp=Z,278nm,1.1s
PINE PcP **PcP 13 27 51.1 +1.2**
M02C Callahan 35.61 85 P 13 25 24.2
baz=302,SNR=35
H11S1 WAKE ISLAND Hy 35.62 214 P **P 13 25 20.7 -0.7**
H11S1 T T 14 03 07.9
baz=305
H11S2 WAKE ISLAND Hy 35.64 214 P **P 13 25 20.9 -0.7**
H11S2 T T 14 03 10.3
baz=25
H11S3 WAKE ISLAND Hy 35.64 214 P **P 13 25 20.9 -0.7**
H11S3 T T 14 03 09.2
J05D Fort Rock, OR 35.66 81 P 13 25 24.3
baz=300,SNR=95
K04D Chiloquin, OR 35.67 82 P 13 25 24.0
baz=301,SNR=7.2
ZEA Zeya 35.78 299 *d i*P **P 13 25 22.2 -0.5**
ZEA *e* 13 26 37.2
ZEA *e* 13 27 51.4
ZEA *e*S **S 13 30 53.6 -5.4**
ZEA *e*SS **SS 13 33 47.0 +12**
ZEA pmax pmax
comp=E,30nm,1.0s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,80nm,1.1s
ZEA pmax pmax
comp=E,300nm,6.8s
ZEA pmax pmax
comp=Z,600nm,7.0s
ZEA pmax pmax
comp=Z,400nm,12.1s
ZEA smax smax
comp=E,1µm,7.0s
ZEA smax smax
comp=N,2µm,7.1s
ZEA MLR MLR
comp=E,1µm,16.0s
ZEA MLR MLR
comp=Z,1µm,14.0s
NEW Newport 35.91 71 P **P 13 25 24.8 +0.9**
NEW pmax pmax
comp=Z,140nm,1.1s
NEW Newport 35.91 71 IAmb IAmb 13 25 28.9
comp=Z,114nm,1.0s
NEW Newport 35.91 71 P 13 25 24.7
baz=295,SNR=126
N02D Trinity Center 35.93 85 P 13 25 26.8
baz=303,SNR=36
M04C Macdoel 36.05 84 P 13 25 27.5
baz=302,SNR=50
E09A Wood Farm, Sta 36.05 74 IAmb IAmb 13 25 30.4
comp=Z,135nm,1.1s
JYT Yasato 36.09 265 IAmb IAmb 13 25 27.3
comp=Z,210nm,1.0s
G08A Pilot Rock 36.11 77 IAmb IAmb 13 25 31.4
comp=Z,175nm,1.4s
K05A Summer Lake 36.16 82 IAmb IAmb 13 25 30.1
comp=Z,252nm,1.1s
K05A PcP **PcP 13 27 53.1 +1.5**
K05A IAMs_20 IAMs_20 13 38 16.7
comp=Z,2µm,18.0s
JSD Sado 36.24 269 P **P 13 25 27.4 +0.6**
JSD PcP **PcP 13 27 52.3 +0.6**
WDC Whiskeytown Da 36.25 86 IAmb IAmb 13 25 33.3
comp=Z,135nm,1.2s
O02D Mt. Diablo Mer 36.31 86 P 13 25 29.9
baz=304,SNR=54
HOPS Hopland Field 36.79 88 IAMs_20 IAMs_20 13 38 27.0
comp=Z,3µm,18.0s
F10A Beach Ranch, E 36.86 75 P **P 13 25 33.1 +0.9**
O03E Paynes Creek 36.87 86 P 13 25 33.7
baz=304,SNR=91
USA0B Ussuriysk Arra 36.91 282 *d i*P **P 13 25 32.3 -0.1**
USA0B Ussuriysk Arra 36.91 282 P **P 13 25 32.7 +0.3**
USA0B PcP **PcP 13 27 54.7 +1.1**
USRK Ussuriysk Ar. 36.91 282 P **P 13 25 32.1 -0.3**
comp=Z,28nm,0.8s,baz=55,slow=8.8,SNR=44
USRK PcP **PcP 13 27 53.8 +0.2**
comp=Z,35nm,0.9s,baz=70,slow=2.1,SNR=9.1
USRK LR LR 13 40 57.5
comp=Z,1µm,20.9s,baz=56,slow=37
MOD Modoc Plateau 36.96 82 IAMs_20 IAMs_20 13 41 07.0
comp=Z,2µm,18.0s
MAJO Matsushiro 37.17 267 *d i*P **P 13 25 35.5 +0.8**
MAJO pmax pmax
comp=Z,174nm,1.4s
MAJO Matsushiro 37.17 267 P **P 13 25 35.8 +1.1**
MAJO IAmb IAmb 13 25 50.8
comp=Z,202nm,0.9s
MAJO PcP **PcP 13 27 55.3 +0.8**
MAT Matsushiro 37.17 267 P **P 13 25 34.4 -0.3**
MAT S **S 13 31 23.4 +2.8**
MJAR Matsushiro Arr 37.17 267 P **P 13 25 35.7 +1.0**
comp=Z,26nm,0.8s,baz=47,slow=7.2,SNR=79
MJAR PcP **PcP 13 27 54.9 +0.3**
comp=Z,54nm,0.9s,baz=74,slow=1.8,SNR=23
MJAR LR LR 13 39 00.0
comp=Z,932nm,21.8s,baz=85,slow=33
BMO Blue Mountains 37.35 76 PcP **PcP 13 27 55.4 +0.3**
J08A Circle Bar Ran 37.36 79 IAmb IAmb 13 25 39.5
comp=Z,268nm,1.2s
MCCM Marconi Confer 37.41 89 IAMs_20 IAMs_20 13 38 22.3
comp=Z,3µm,18.0s
WALA Waterton Lakes 37.50 68 IAMs_20 IAMs_20 13 43 43.2
comp=Z,3µm,19.0s
WVOR Wild Horse Val 37.73 81 P **P 13 25 41.2 +1.6**
WVOR pmax pmax
comp=Z,263nm,1.6s
WVOR Wild Horse Val 37.73 81 IAmb IAmb 13 25 42.7
comp=Z,212nm,1.1s
JTMT Jette 37.85 71 IAMs_20 IAMs_20 13 43 37.7
comp=Z,2µm,18.0s
AFDM Forest Hills D 38.16 87 IAMs_20 IAMs_20 13 37 29.2
comp=Z,2µm,19.0s
MDJ Mudanjiang 38.20 284 P **P 13 25 42.6 -0.7**
MDJ pP pP 13 25 45.8 -0.8
MDJ PcP **PcP 13 27 56.6 -0.9**
MDJ S **S 13 31 35.1 -0.9**
MDJ sS sS 13 31 42.4 +1.0
MDJ pmax pmax
comp=Z,50nm,0.9s
MDJ pmax pmax
comp=Z,890nm,7.1s
MDJ LR LR
comp=Z,1µm,15.7s
MDJ LR LR
comp=Z,2µm,17.3s
MDJ LR LR
comp=Z,3µm,18.3s
MDJ Mudanjiang 38.20 284 IAMs_20 IAMs_20 13 41 48.3
comp=Z,2µm,19.0s
MSHR Mys Shultsa 38.26 280 *ce*P **P 13 25 44.8 +1.0**
MSHR pmax pmax
comp=Z,229nm,1.1s
JGF Kuroka 38.29 267 IAmb IAmb 13 25 46.6
comp=Z,134nm,1.0s
MSO Missoula 38.48 72 P 13 25 46.3
baz=298,SNR=87
PAHR Pah Rah Range 38.74 85 IAmb IAmb 13 25 51.2
comp=Z,208nm,1.1s
PAHR PcP **PcP 13 28 00.2 +0.7**
VCNR Virginia City 38.81 85 IAmb IAmb 13 25 52.1
comp=Z,170nm,1.1s
PNTR Pine Nut 38.96 86 IAmb IAmb 13 25 53.4
comp=Z,142nm,0.9s
CMB Columbia Colle 39.06 88 IAMs_20 IAMs_20 13 39 32.1
comp=Z,2µm,18.0s
SAO San Andreas Ge 39.14 90 IAMs_20 IAMs_20 13 39 15.3
comp=Z,2µm,18.0s
RES Resolute Bay 39.17 24 P **P 13 25 50.7 -0.4**
RES pmax pmax
comp=Z,31nm,1.8s

RES **Resolute Bay** **39.17** **24** IAMs_20 IAMs_20 13 41 42.9
comp=Z,2µm,21.0s
YERR **Yerington** **39.24** **86** IAmb IAmb 13 25 55.6
comp=Z,190nm,1.3s
WAKR **Walker** **39.40** **86** IAMs_20 IAMs_20 13 38 04.7
comp=Z,2µm,19.0s
JWT **Wachi** **39.74** **268** IAmb IAmb 13 26 11.6
comp=Z,147nm,0.9s
HLID **Hailey** **39.80** **76** P 13 25 58.2
baz=302,SNR=240
MDPB **Devils Postpil** **40.14** **87** IAmb IAmb 13 26 03.3
comp=Z,145nm,1.0s
MDPB IAMs_20 IAMs_20 13 38 52.4
comp=Z,2µm,20.0s
LHV **Little Huntoon** **40.14** **86** IAmb IAmb 13 26 03.4
comp=Z,272nm,1.5s
LHV IAMs_20 IAMs_20 13 40 52.4
comp=Z,3µm,18.0s
NVAR **Mina Array Bea** **40.16** **86** P **P** **13 26 01.8 +1.7**
comp=Z,59nm,1.0s,baz=293,slow=8.3,SNR=237
NVAR PcP **PcP** **13 28 04.9 +0.7**
comp=Z,42nm,0.9s,baz=283,slow=3.2,SNR=14
NVAR PKiKP **PKiKP** **13 35 14.3 0.0**
comp=Z,1.1nm,0.8s,baz=212,slow=1.7,SNR=4.7
NVAR LR LR 13 39 21.2
comp=Z,1µm,18.8s,baz=300,slow=31
MLAC **Mammoth, Mammo** **40.29** **87** P 13 26 03.7
baz=307,SNR=26
EGMT **Eagleton** **40.43** **68** IAmb IAmb 13 26 06.6
comp=Z,418nm,1.5s
EGMT **Eagleton** **40.43** **68** P 13 26 02.3
baz=298,SNR=84
BOZ **Bozeman (W)** **40.48** **72** P 13 26 03.0
baz=300,SNR=87
VOG **Valley Oaks Go** **40.73** **89** P 13 26 06.0
baz=308
ELK **Elko** **40.79** **81** P **P** **13 26 06.7 +1.4**
ELK 13 28 07.2
ELK pmax pmax
comp=Z,87nm,1.1s
ELK **Elko** **40.79** **81** P **P** **13 26 06.7 +1.4**
ELK PcP **PcP** **13 28 07.2 +1.0**
ELK IAMs_20 IAMs_20 13 41 18.2
comp=Z,2µm,19.0s
SMMC **Simmler** **40.96** **91** P 13 26 08.6
baz=309,SNR=20
JCJ **Chichijima** **41.01** **252** P **P** **13 26 07.5 +0.6**
JCJ IAmb IAmb 13 26 08.5
comp=Z,238nm,0.7s
TIN **Tinemaha, Big** **41.02** **87** P 13 26 09.3
baz=307,SNR=21
CN2 **Changchun** **41.18** **285** *e*P **P** **13 26 07.9 -0.2**
CN2 PP **PP** **13 27 45.9 +2.9**
CN2 *e*S **S** **13 32 19.6 -1.0**
CN2 SS **SS** **13 35 16.9 -6.4**
CN2 pmax pmax
comp=Z,170nm,0.8s
CN2 pmax pmax
comp=Z,1µm,6.0s
CN2 LR LR
comp=Z,1µm,16.0s
CN2 LR LR
comp=Z,2µm,16.0s
CN2 LR LR
comp=Z,2µm,17.0s
VES **Vestal, Richgr** **41.22** **89** P 13 26 09.7
baz=308,SNR=26
BOD **Bodaibo** **41.33** **309** *e*P **P** **13 26 08.2 -1.0**
BOD *e* 13 32 30.2
BOD pmax pmax
comp=Z,156nm,1.5s
PKM **Mcpherson Peak** **41.34** **91** P 13 26 11.7
baz=309,SNR=32
CWC **Cottonwood Cre** **41.49** **88** P 13 26 12.7
baz=308
GRAC **Grapevine Rang** **41.61** **87** P 13 26 13.8
baz=307,SNR=52
SBC **Santa Barbara** **41.69** **91** P 13 26 14.3
baz=310
ISA **Isabella, Lake** **41.72** **89** IAMs_20 IAMs_20 13 40 54.4
comp=Z,2µm,20.0s
ISA **Isabella, Lake** **41.72** **89** P 13 26 13.8
baz=309,SNR=95
H17A **Grant Village** **41.73** **73** P 13 26 15.0
baz=302,SNR=19
YNE **Yellowstone No** **41.76** **72** PcP **PcP** **13 28 08.5 -0.8**
ARVC **Arvin** **41.82** **90** P 13 26 14.6
baz=309,SNR=14
FFC **Flin Flon** **41.83** **55** P **P** **13 26 13.5 +0.1**
FFC pmax pmax
comp=Z,46nm,0.9s
FFC MLR MLR
comp=Z,2µm,20.0s
FFC **Flin Flon** **41.83** **55** P **P** **13 26 13.5 +0.1**
FFC **Flin Flon** **41.83** **55** IAMs_20 IAMs_20 13 43 58.9
comp=Z,2µm,20.0s
HIA **Hailar** **41.88** **295** IAmb IAmb 13 26 15.1
comp=Z,169nm,0.8s
R11A **Troy Canyon, C** **41.94** **84** IAmb IAmb 13 26 17.2
comp=Z,159nm,1.2s
R11A **Troy Canyon, C** **41.94** **84** P 13 26 15.9
baz=306,SNR=197
MPMC **Manual Prospec** **42.10** **88** P 13 26 17.6
baz=308,SNR=65
REDW **Red Top Meadow** **42.11** **75** IAmb IAmb 13 26 22.0
comp=Z,217nm,1.4s
RLMT **Red Lodge** **42.15** **71** IAmb IAmb 13 26 18.6
comp=Z,170nm,1.2s
RLMT **Red Lodge** **42.15** **71** P 13 26 17.2
baz=301,SNR=112
OSI **Osito Audit: C** **42.21** **91** P 13 26 18.3
baz=310,SNR=6.0
FURC **Furnace Creek,** **42.25** **87** P 13 26 18.8
baz=308,SNR=108
AHID **Auburn Hatcher** **42.27** **75** IAMs_20 IAMs_20 13 42 21.1
comp=Z,2µm,18.0s
LRMC **Laurel Mtn Rad** **42.34** **89** P 13 26 18.9
baz=309,SNR=21
TPNV **Topopah Spring** **42.35** **86** IAmb IAmb 13 26 20.7
comp=Z,172nm,0.9s
TPNV IAMs_20 IAMs_20 13 42 04.0
comp=Z,3µm,18.0s
TPNV **Topopah Spring** **42.35** **86** P 13 26 19.5
baz=308,SNR=164
SPR3 **Spring Creek 3** **42.36** **82** IAMs_20 IAMs_20 13 42 16.9
comp=Z,2µm,19.0s
EDW2 **Edwards Air Fo** **42.51** **90** P 13 26 20.4
baz=309,SNR=51
SNCC **San Nicolas Is** **42.57** **93** P 13 26 21.2
baz=311,SNR=6.3
DUG **Dugway, Tooele** **42.63** **80** P **P** **13 26 21.3 +1.1**
DUG pmax pmax
comp=Z,234nm,1.2s
DUG **Dugway, Tooele** **42.63** **80** IAmb IAmb 13 26 23.0
comp=Z,258nm,1.2s
DUG IAMs_20 IAMs_20 13 42 35.8
comp=Z,2µm,18.0s
DUG **Dugway, Tooele** **42.63** **80** P 13 26 21.6
baz=305,SNR=183
DECC **Green Verdugo** **42.69** **91** P 13 26 22.0
baz=310,SNR=8.1
PASC **Pasadena Art C** **42.83** **91** IAMs_20 IAMs_20 13 40 56.1
comp=Z,2µm,19.0s
PRN **Pahroc Range** **42.84** **85** IAMs_20 IAMs_20 13 42 00.8
comp=Z,2µm,19.0s
MWC **Mount Wilson** **42.88** **90** P **P** **13 26 22.3 -0.1**
MWC pmax pmax
comp=Z,248nm,1.4s
MWC **Mount Wilson** **42.88** **90** P **P** **13 26 22.3 -0.1**
MWC IAmb IAmb 13 26 28.1
comp=Z,248nm,1.4s
SHOC **Shoshone, Teco** **42.98** **87** P 13 26 24.4
baz=308,SNR=109
GSC **Goldstone, Bar** **43.01** **88** IAmb IAmb 13 26 26.0
comp=Z,314nm,1.1s
GSC IAMs_20 IAMs_20 13 42 05.5
comp=Z,2µm,18.0s
GSC **Goldstone, Bar** **43.01** **88** P 13 26 24.9
baz=309,SNR=219
CTU **Camp Tracy** **43.02** **78** IAmb IAmb 13 26 25.7
comp=Z,198nm,1.1s
FMP **Fort Macarthur** **43.06** **91** P 13 26 24.8
baz=310,SNR=6.0
BFSC **Mount Baldy Ra** **43.13** **90** P 13 26 25.6
baz=310,SNR=81
RRX **Edison Barstow** **43.15** **89** P 13 26 26.0
baz=309,SNR=6.9

LAO **LASA Array** **43.18** **68** P 13 26 25.1
baz=301,SNR=10
CIS **Catalina Islan** **43.18** **92** P 13 26 25.6
baz=310,SNR=18
KSRS **Korea Array** **43.19** **276** P **P** **13 26 25.4 +0.8**
comp=Z,39nm,0.8s,baz=58,slow=7.9,SNR=169
KSRS PcP **PcP** **13 28 14.4 +0.6**
comp=Z,34nm,0.9s,baz=58,slow=3.9,SNR=11
KSRS LR LR 13 42 56.3
comp=Z,419nm,20.5s,baz=62,slow=34
KS19 **Wonju Array Si** **43.20** **276** P **P** **13 26 25.4 +0.7**
BW06 **Boulder Array** **43.23** **75** IAmb IAmb 13 26 27.1
comp=Z,179nm,1.1s
BW06 **Boulder Array** **43.23** **75** P 13 26 25.8
baz=303,SNR=156
PD31 **Pinedale Array** **43.23** **75** IAmb IAmb 13 26 27.1
comp=Z,162nm,1.1s
PDAR **Pinedale Array** **43.23** **75** P **P** **13 26 25.8 +0.7**
comp=Z,65nm,0.8s,baz=304,slow=4.5,SNR=377
PDAR LR LR 13 43 41.0
comp=Z,1µm,18.2s,baz=338,slow=35
PDAR PKPPKP 13 58 13.4
comp=Z,0.4nm,0.7s,baz=146,slow=2.9,SNR=3.6
NLU **North Lily Min** **43.23** **80** P **P** **13 26 26.2 +1.0**
NLU IAmb IAmb 13 26 30.6
comp=Z,188nm,1.1s
JLU **Jonanelle** **43.26** **78** IAmb IAmb 13 26 28.0
comp=Z,293nm,1.2s
SHPR **Sheep Range** **43.32** **86** P **P** **13 26 26.7 +0.9**
SHPR IAMs_20 IAMs_20 13 41 13.5
comp=Z,2µm,19.0s
SCI2 **San Clemente I** **43.37** **92** P 13 26 27.4
baz=311,SNR=9.1
SNY **Shenyang** **43.40** **284** ⇓P **P** **13 26 27.2 +1.0**
SNY S **S** **13 32 55.3 +1.9**
SNY pmax pmax
comp=Z,120nm,1.2s
SNY pmax pmax
comp=Z,1µm,6.8s
SNY LR LR
comp=Z,2µm,20.6s
SNY LR LR
comp=Z,830nm,20.6s
SNY LR LR
comp=Z,1µm,19.4s
DGMT **Dagmar** **43.47** **65** IAMs_20 IAMs_20 13 44 44.7
comp=Z,2µm,21.0s
BBRC **Big Bear Solar** **43.59** **90** P 13 26 29.7
baz=310,SNR=65
HEC **Hector,Ludlow** **43.60** **88** P 13 26 29.4
baz=309,SNR=113
CCUT **Cedar City** **43.83** **83** IAmb IAmb 13 26 32.9
comp=Z,219nm,1.3s
MURC **Murrieta** **43.83** **90** P 13 26 31.1
baz=310,SNR=38
INCN **Inchon** **43.99** **277** P **P** **13 26 31.6 +0.5**
INCN P **P** **13 26 31.6 +0.5**
JNU **Nakatsue** **44.00** **269** IAmb IAmb 13 26 35.9
comp=Z,150nm,0.9s
CIT **Chita** **44.05** **302** *e*P **P** **13 26 31.3 -0.2**
CIT pmax pmax
comp=Z,128nm,1.9s
GMRC **Granite Mounta** **44.06** **88** P 13 26 33.1
baz=309,SNR=132
TMUT **Trail Mountain** **44.16** **80** IAmb IAmb 13 26 38.3
comp=Z,122nm,0.9s
TJN **Taejon** **44.20** **275** *ce*P **P** **13 26 33.2 +0.5**
LCMT **Little Creek M** **44.23** **84** IAmb IAmb 13 26 36.1
comp=Z,202nm,1.1s
MTPU **Mount Pierson** **44.28** **82** IAmb IAmb 13 26 36.8
comp=Z,171nm,1.2s
PFO **Pinyon Flats O** **44.30** **90** *d* P **P** **13 26 34.8 +1.1**
PFO pmax pmax
comp=Z,211nm,1.2s
PFO **Pinyon Flats O** **44.30** **90** P **P** **13 26 34.9 +1.2**
PFO IAmb IAmb 13 26 36.2
comp=Z,122nm,1.1s
PFO **Pinyon Flats O** **44.30** **90** P 13 26 34.8
baz=310,SNR=62
XPFO **Pion Flat** **44.30** **90** P **P** **13 26 34.8 +1.1**
XPFO IAmb IAmb 13 26 36.2
comp=Z,154nm,1.2s
TPFO **Pinon Flats** **44.30** **90** P 13 26 35.0
baz=310,SNR=63
BELC **Belle Mtn. Jos** **44.34** **89** P 13 26 34.9
baz=310,SNR=69
109C **Camp Elliot, M** **44.35** **91** P 13 26 35.4
baz=311,SNR=25
KNB **Kanab** **44.49** **83** IAmb IAmb 13 26 38.4
comp=Z,269nm,1.2s
TJX **Tijuana** **44.63** **92** IAMs_20 IAMs_20 13 41 20.6
comp=Z,2µm,18.0s
NEE2 **Needles Airpor** **44.74** **87** P 13 26 38.3
baz=309
TULEG **Thule** **44.78** **19** *i* P **P** **13 26 37.2 +0.4**
TULEG IAmb IAmb 13 26 40.0
comp=Z,29nm,1.0s
MONP2 **Monument Peak** **44.78** **91** P 13 26 39.0
baz=311,SNR=71
MONP2 S 13 33 18.3
baz=311
IRM **Iron Mountain** **44.79** **88** P 13 26 38.5
baz=310,SNR=66
BC3 **Big Chuckawall** **44.91** **89** P 13 26 39.3
baz=310,SNR=28
W13A **Hualapai Mount** **45.00** **86** IAmb IAmb 13 26 41.8
comp=Z,145nm,1.1s
IKP **In-Ko-Pah, Jac** **45.14** **91** P 13 26 41.8
baz=311,SNR=50
SWSC **Sam W. Stewart** **45.15** **90** P 13 26 41.3
baz=311,SNR=28
K22A **Casper** **45.15** **73** P 13 26 40.4
baz=304,SNR=35
U15A **North Rim** **45.19** **84** IAMs_20 IAMs_20 13 42 50.0
comp=Z,2µm,18.0s
JSU **Sunnyvale** **45.33** **267** IAmb IAmb 13 26 43.5
comp=Z,130nm,1.0s
PDMCI **Parker Dam,Lak** **45.34** **87** P 13 26 42.9
baz=310,SNR=50
O20A **White River Ci** **45.53** **77** P 13 26 44.1
baz=306,SNR=180
ESJX **Sierra Juarez** **45.66** **91** IAmb IAmb 13 26 47.4
comp=Z,97nm,1.1s
GLA **Glamis** **45.70** **89** IAMs_20 IAMs_20 13 43 34.9
comp=Z,2µm,18.0s
GLA **Glamis** **45.70** **89** P 13 26 46.0
baz=311,SNR=20
RSSD **Black Hills** **45.84** **70** P **P** **13 26 46.1 +0.1**
RSSD pmax pmax
comp=Z,22nm,0.8s
RSSD **Black Hills** **45.84** **70** P **P** **13 26 46.1 +0.1**
RSSD **Black Hills** **45.85** **70** P 13 26 45.5
baz=304
PV14 **Lion Creek, Pa** **46.08** **79** IAmb IAmb 13 26 49.8
comp=Z,193nm,1.2s
PV22 **Blue Mesa, Par** **46.13** **79** IAmb IAmb 13 26 53.0
comp=Z,163nm,1.1s
PV20 **West Nyswonger** **46.13** **79** IAmb IAmb 13 26 50.1
comp=Z,148nm,1.0s
PV04 **Paradox Valley** **46.14** **79** IAmb IAmb 13 26 50.3
comp=Z,168nm,0.9s
PV19 **Morning Glory** **46.14** **79** IAmb IAmb 13 26 53.2
comp=Z,169nm,1.0s
PV05 **Paradox Valley** **46.21** **80** IAmb IAmb 13 26 55.0
comp=Z,156nm,1.0s
PV07 **Paradox Valley** **46.28** **79** IAmb IAmb 13 26 54.1
comp=Z,101nm,0.8s
DL2 **Dalian** **46.30** **282** ⇓*i*P **P** **13 26 49.4 0.0**
DL2 sP **pwP** **13 26 57.9 -2.1**
DL2 PcP **PcP** **13 28 24.1 -0.3**
DL2 PP **PP** **13 28 38.6 +0.7**
DL2 S **S** **13 33 34.8 -0.7**
DL2 sS **sS** **13 33 43.0 +2.0**
DL2 pmax pmax
comp=Z,140nm,1.0s
DL2 pmax pmax
comp=Z,750nm,3.6s
DL2 LR LR
comp=Z,850nm,18.8s
DL2 LR LR
comp=Z,860nm,17.3s
DL2 LR LR
comp=Z,820nm,16.7s
WUAZ **Wupatki** **46.34** **84** IAMs_20 IAMs_20 13 43 52.4
comp=Z,2µm,19.0s
WUAZ **Wupatki** **46.34** **84** P 13 26 51.3
baz=309,SNR=108

MDND **Maddock** **46.43** **63** IAMs_20 IAMs_20 13 47 34.0
comp=Z,2µm,18.0s
MDND **Maddock** **46.43** **63** P 13 26 50.3
baz=302,SNR=14
PV15 **Paradox Valley** **46.44** **79** IAmb IAmb 13 26 52.5
comp=Z,158nm,1.0s
E28A **Huff** **46.48** **65** IAMs_20 IAMs_20 13 48 14.6
comp=Z,2µm,18.0s
N23A **Red Feather La** **46.51** **75** P 13 26 52.0
baz=306,SNR=72
MVCO **Mesa Verde** **47.12** **80** P 13 26 56.8
baz=308,SNR=157
ULM **Lac du Bonnet** **47.24** **59** P **P** **13 26 56.1 -0.5**
comp=Z,113nm,1.1s,baz=300,slow=9.0,SNR=68
ULM LR LR 13 48 29.5
comp=Z,1µm,18.2s,baz=322,slow=38
ULM **Lac du Bonnet** **47.24** **59** IAmb IAmb 13 27 00.5
comp=Z,150nm,1.1s
ULM IAMs_20 IAMs_20 13 46 38.2
comp=Z,2µm,19.0s
ISCO **Idaho Springs** **47.36** **76** P **P** **13 26 58.8 +0.8**
ISCO pmax pmax
comp=Z,64nm,1.5s
ISCO **Idaho Springs** **47.36** **76** IAMs_20 IAMs_20 13 45 30.7
comp=Z,2µm,18.0s
ISCO **Idaho Springs** **47.36** **76** P 13 26 58.8
baz=307,SNR=46
W18A **Petrified Fore** **47.63** **83** IAMs_20 IAMs_20 13 45 07.5
comp=Z,2µm,19.0s
W18A **Petrified Fore** **47.63** **83** P 13 27 01.2
baz=310,SNR=54
214A **Organ Pipe Nat** **47.70** **89** P 13 27 01.4
baz=312,SNR=57
S22A **4UR Ranch, Cre** **47.84** **79** P 13 27 03.1
baz=308,SNR=149
X18A **Snowflake** **47.87** **84** IAMs_20 IAMs_20 13 44 39.7
comp=Z,2µm,19.0s
Q24A **Divide** **48.15** **76** P 13 27 04.9
baz=308,SNR=20
KULLO **Kullorsuaq** **48.29** **19** *i* P **P** **13 27 05.2 +0.9**
comp=Z,43nm,0.9s
KULLO **Kullorsuaq** **48.29** **19** *i* P **P** **13 27 05.2 +0.9**
KULLO pmax pmax
comp=Z,43nm,0.9s
KULLO **Kullorsuaq** **48.29** **19** *i* P **P** **13 27 05.2 +0.9**
KULLO IAmb IAmb 13 27 07.2
comp=Z,43nm,0.9s
D32A **Dogwood Acres,** **48.29** **63** IAMs_20 IAMs_20 13 47 01.2
comp=Z,2µm,19.0s
AGMN **Agassiz Nation** **48.30** **61** IAMs_20 IAMs_20 13 47 10.3
comp=Z,2µm,19.0s
AGMN **Agassiz Nation** **48.30** **61** P 13 27 04.1
baz=304,SNR=111
SDCO **Great Sand Dun** **48.67** **78** P **P** **13 27 08.3 +0.1**
SDCO IAmb IAmb 13 27 10.6
comp=Z,142nm,1.2s
SDCO **Great Sand Dun** **48.67** **78** P 13 27 09.0
baz=308,SNR=114
SUSD **Miller** **48.68** **67** IAMs_20 IAMs_20 13 49 14.0
comp=Z,2µm,20.0s
SUSD **Miller** **48.68** **67** P 13 27 07.3
baz=305,SNR=9.6
TUC **Tucson** **48.77** **87** P **P** **13 27 10.0 +1.3**
TUC pmax pmax
comp=Z,124nm,1.5s
TUC **Tucson** **48.77** **87** P **P** **13 27 08.9 +0.2**
TUC IAmb IAmb 13 27 11.2
comp=Z,154nm,1.1s
TUC PcP **PcP** **13 28 34.7 +1.2**
TUC **Tucson** **48.77** **87** P 13 27 09.7
baz=311
IRK **Irkutsk** **48.87** **306** *e*P **P** **13 27 08.6 -0.6**
IRK *e*S **S** **13 34 10.2 -1.6**
IRK pmax pmax
comp=Z,202nm,2.3s
OGNE **Ogallala** **48.88** **72** P 13 27 09.9
baz=307,SNR=13
BJI **Beijing** **49.01** **286** P **P** **13 27 10.8 +0.5**
BJI PcP **PcP** **13 28 34.3 +0.2**
BJI S **S** **13 34 12.1 -1.8**
BJI sS **sS** **13 34 18.8 -0.6**
BJI pmax pmax
comp=Z,77nm,0.9s
BJI pmax pmax
comp=Z,760nm,8.8s
BJI LR LR
comp=Z,2µm,19.4s
BJI LR LR
comp=Z,1µm,22.6s
BJT **Baijiatuan** **49.02** **286** P **P** **13 27 11.1 +0.6**
BJT pmax pmax
comp=Z,102nm,1.2s
F33A **5 Mile Ranch,** **49.43** **64** IAMs_20 IAMs_20 13 47 34.5
comp=Z,2µm,18.0s
B35A **Bob, Littlefor** **49.45** **60** IAmb IAmb 13 27 17.1
comp=Z,98nm,0.9s
TLY **Talaya** **49.51** **306** *d* P **P** **13 27 14.5 +0.4**
TLY *e* 13 29 10.3
TLY *e*S **S** **13 34 22.8 +2.1**
TLY *e*SS **SS** **13 37 52.0 -0.1**
TLY pmax pmax
comp=Z,292nm,1.3s
TLY MLR MLR
comp=Z,3µm,15.0s
TLY **Talaya** **49.51** **306** P **P** **13 27 15.1 +1.0**
TLY IAmb IAmb 13 27 33.9
comp=Z,112nm,1.0s
TLY IAMs_20 IAMs_20 13 49 55.9
comp=Z,2µm,18.0s
TLY **Talaya** **49.51** **306** P **P** **13 27 14.8 +0.7**
KSCO **Kaye Shedlock'** **49.68** **75** IAMs_20 IAMs_20 13 47 21.0
comp=Z,1µm,18.0s
KSCO **Kaye Shedlock'** **49.68** **75** P 13 27 16.5
baz=308,SNR=30
UPNV **Upernavik** **49.70** **20** ⇑*i* P **P** **13 27 15.8 +0.6**
UPNV IAmb IAmb 13 27 17.5
comp=Z,155nm,0.9s
T25A **Trinidad** **49.73** **78** P 13 27 17.2
baz=309,SNR=205
ULN **Ulaanbaatar** **49.80** **300** *ce*P **P** **13 27 16.9 +0.3**
ULN pmax pmax
comp=Z,74nm,1.1s
ULN **Ulaanbaatar** **49.80** **300** P **P** **13 27 17.1 +0.5**
ULN IAmb IAmb 13 27 35.2
comp=Z,99nm,1.0s
ULN **Ulaanbaatar** **49.80** **300** IAMs_20 IAMs_20 13 48 36.2
comp=Z,2µm,19.0s
ULN **Ulaanbaatar** **49.80** **300** P **P** **13 27 17.0 +0.5**
ANMO **Albuquerque** **49.82** **81** LR LR 13 47 20.2
comp=Z,1µm,18.1s,baz=318,slow=35
ANMO **Albuquerque** **49.82** **81** *d* P **P** **13 27 17.4 +0.5**
ANMO pmax pmax
comp=Z,172nm,1.3s
ANMO **Albuquerque** **49.82** **81** P **P** **13 27 16.7 -0.1**
ANMO IAmb IAmb 13 27 22.2
comp=Z,167nm,1.2s
ANMO **Albuquerque** **49.82** **81** IAMs_20 IAMs_20 13 47 01.3
comp=Z,1µm,18.0s
ANMO **Albuquerque** **49.82** **81** P 13 27 17.7
baz=310
GUMO **Guam** **50.01** **238** P **P** **13 27 16.3 -1.9**
GUMO pmax pmax
comp=Z,413nm,1.0s
GUMO **Guam** **50.01** **238** P **P** **13 27 16.3 -1.9**
Y22D **IRIS PASSCAL I** **50.08** **82** P 13 27 20.5
baz=310,SNR=8.0
SONM **Songino Array** **50.19** **300** P **P** **13 27 20.0 +0.6**
comp=Z,49nm,1.0s,baz=54,slow=8.3,SNR=182
BNM **Barren Site** **50.22** **82** PcP **PcP** **13 28 40.2 +1.2**
319A **Douglas** **50.34** **87** IAMs_20 IAMs_20 13 46 54.5
comp=Z,2µm,18.0s
ZAK **Zakamensk** **50.42** **304** *e*P **P** **13 27 21.4 +0.3**
ZAK *e* 13 34 31.6
ZAK pmax pmax
comp=Z,137nm,1.3s
ECSD **EROS Data Cent** **50.47** **66** IAMs_20 IAMs_20 13 47 23.2
comp=Z,1µm,19.0s
ECSD **EROS Data Cent** **50.47** **66** P 13 27 20.3
baz=306,SNR=23
121A **Cookes Peak, D** **50.53** **85** IAmb IAmb 13 27 24.6
comp=Z,124nm,1.1s
121A **Cookes Peak, D** **50.53** **85** P 13 27 23.3
baz=311,SNR=84
TIA **Tai'an** **50.78** **282** P **P** **13 27 23.9 0.0**
TIA PP **PP** **13 29 23.6 +3.8**
TIA S **S** **13 34 38.8 0.0**

TIA pmax pmax
comp=Z,160nm,1.1s
TIA pmax pmax
comp=Z,630nm,8.1s
TIA LR LR
comp=Z,650nm,20.0s
TIA LR LR
comp=Z,1μm,18.0s
TIA LR LR
comp=Z,800nm,23.0s
MOY Mondy 50.88 307 *e*P **P 13 27 24.9 +0.3**
MOY pmax pmax
comp=Z,31nm,1.3s
KBS Kingsbay 50.88 359 *ce*P **P 13 27 25.4 +1.4**
KBS pmax pmax
comp=Z,161nm,1.0s
KBS Kingsbay 50.88 359 IAMs_20 IAMs_20 13 43 08.8
comp=Z,1μm,20.0s
KBS Kingsbay 50.88 359 *e*P **P 13 27 25.5 +1.4**
KBS Kingsbay 50.88 359 *i* P **P 13 27 25.4 +1.4**
KBS IAmb IAmb 13 27 26.4
comp=Z,225nm,0.9s
EYMN Ely 50.91 59 IAmb IAmb 13 27 28.4
comp=Z,146nm,1.1s
EYMN Ely 50.91 59 P 13 27 24.1
baz=306,SNR=40
BGNE Belgrade 50.95 69 P 13 27 24.8
baz=308
F36A Milaca 50.99 62 IAMs_20 IAMs_20 13 48 43.8
comp=Z,2μm,19.0s
NUUG Nuugaatsiaq 51.21 21 ⇓*i* P **P 13 27 27.6 +1.0**
NUUG IAmb IAmb 13 27 28.8
comp=Z,103nm,1.0s
HHC Hu-ho-hao-te 51.32 290 *e*P **P 13 27 28.6 +0.6**
HHC PP **PP 13 29 26.7 +1.9**
HHC S **S 13 34 44.8 -1.6**
HHC SS **SS 13 38 14.8 -6.7**
HHC pmax pmax
comp=Z,82nm,1.3s
HHC pmax pmax
comp=Z,990nm,5.3s
HHC LR LR
comp=Z,3μm,18.7s
HHC LR LR
comp=Z,2μm,16.2s
HHC LR LR
comp=Z,1μm,20.4s
SSE Sheshan 51.52 274 P **P 13 27 28.4 -1.1**
SSE S **S 13 34 45.9 -3.3**
SSE pmax pmax
comp=Z,54nm,1.4s
SSE pmax pmax
comp=Z,570nm,4.8s
SSE LR LR
comp=Z,180nm,15.1s
SSE LR LR
comp=Z,270nm,14.8s
SPB5 Spitsbergen Ar 51.53 357 P **P 13 27 28.6 -0.4**
SPB5 IAmb IAmb 13 27 30.9
comp=Z,181nm,0.9s
SPB1 Spitsbergen Ar 51.53 357 P **P 13 27 28.9 -0.2**
SPB1 IAmb IAmb 13 27 30.9
comp=Z,189nm,0.9s
SPA0 Spitsbergen Ar 51.54 357 P **P 13 27 29.3 +0.3**
SPA0 IAmb IAmb 13 27 31.0
comp=Z,181nm,0.9s
SPA0 Spitsbergen Ar 51.54 357 *e*P **P 13 27 28.9 -0.1**
CBKS Cedar Bluff 51.58 73 P 13 27 30.2
baz=309,SNR=24
L34A Svendsen Farm, 51.66 68 IAMs_20 IAMs_20 13 51 33.0
comp=Z,1μm,21.0s
SPMN Marine on St. 51.78 63 IAMs_20 IAMs_20 13 49 17.6
comp=Z,2μm,18.0s
SPMN Marine on St. 51.78 63 P 13 27 30.7
baz=307,SNR=14
FRB Frobisher Bay 51.97 33 P **P 13 27 33.4 +1.0**
FRB pmax pmax
comp=Z,116nm,1.3s
DAG Danmarks Havn 52.06 7 *i* P **P 13 27 32.1 -0.8**
comp=Z,46nm,1.0s
DAG Danmarks Havn 52.06 7 *i* P **P 13 27 32.1 -0.8**
DAG pmax pmax
comp=Z,46nm,1.0s
DAG Danmarks Havn 52.06 7 *i* P **P 13 27 32.1 -0.8**
DAG IAmb IAmb 13 27 33.7
comp=Z,46nm,1.0s
NJ2 Nanjing 52.38 277 ⇓*i* P **P 13 27 35.6 -0.2**
NJ2 pP **pP 13 27 37.8 -1.4**
NJ2 sP **sP 13 27 39.1 -1.4**
NJ2 S **S 13 35 02.4 +1.6**
NJ2 sS **sS 13 35 09.2 +2.8**
NJ2 pmax pmax
comp=Z,74nm,0.8s
NJ2 pmax pmax
comp=Z,680nm,6.4s
NJ2 LR LR
comp=Z,750nm,16.2s
NJ2 LR LR
comp=Z,1μm,15.7s
NJ2 LR LR
comp=Z,720nm,16.7s
BTO Baotou 52.39 291 P **P 13 27 36.7 +0.7**
BTO S S 13 34 49.0 -12
BTO pmax pmax
comp=Z,330nm,1.7s
BTO LR LR
comp=Z,9μm,20.1s
BTO LR LR
comp=Z,4μm,16.7s
MNTX Cornudas Mount 52.61 84 IAmb IAmb 13 27 39.4
comp=Z,83nm,1.0s
MNTX Cornudas Mount 52.61 84 P 13 27 38.6
baz=312,SNR=90
HSPB Hornsund (broa 52.73 358 *e*P **P 13 27 38.4 +0.5**
TIY Taiyuan 52.74 286 *e*P **P 13 27 39.7 +1.1**
TIY S **S 13 35 07.1 +1.3**
TIY pmax pmax
comp=Z,170nm,1.1s
TIY pmax pmax
comp=Z,790nm,4.9s
TIY LR LR
comp=Z,2μm,18.1s
TIY LR LR
comp=Z,290nm,11.5s
TIY LR LR
comp=Z,940nm,15.7s
MSTX Muleshoe 52.77 80 IAMs_20 IAMs_20 13 49 14.2
comp=Z,1μm,19.0s
MSTX Muleshoe 52.77 80 P 13 27 39.3
baz=311,SNR=78
N35A Tabor 52.78 68 IAMs_20 IAMs_20 13 51 58.4
comp=Z,2μm,20.0s
AMTX Amarillo 52.86 78 P 13 27 39.9
baz=311
KNTN Kanton 53.00 178 P **P 13 27 40.3 -0.2**
KNTN IAmb IAmb 13 27 42.8
comp=Z,226nm,1.1s
KSU1 Kansas State U 53.30 71 IAMs_20 IAMs_20 13 53 17.4
comp=Z,1μm,21.0s
KSU1 Kansas State U 53.30 71 P 13 27 41.9
baz=309,SNR=11
SUMG Summit 53.34 15 *i* P **P 13 27 43.9 +1.0**
comp=Z,334nm,1.1s
SUMG Summit 53.34 15 *i* P **P 13 27 43.9 +1.0**
SUMG pmax pmax
comp=Z,330nm,1.1s
SUMG Summit 53.34 15 P **P 13 27 43.5 +0.6**
SUMG Summit 53.34 15 *i* P **P 13 27 43.9 +1.0**
SUMG IAmb IAmb 13 27 46.6
comp=Z,334nm,1.1s
K38A Parkersburg 53.36 65 IAMs_20 IAMs_20 13 49 47.7
comp=Z,2μm,19.0s
ILULI Ilulissat 53.39 22 *i* P **P 13 27 43.6 +0.8**
comp=Z,75nm,0.9s
ILULI Ilulissat 53.39 22 *i* P **P 13 27 43.6 +0.8**
ILULI pmax pmax
comp=Z,75nm,0.9s
ILULI Ilulissat 53.39 22 P **P 13 27 42.9 +0.1**
ILULI IAmb IAmb 13 27 44.9
comp=Z,144nm,1.0s
ILULI Ilulissat 53.39 22 *i* P **P 13 27 43.7 +0.8**
ILULI IAmb IAmb 13 27 44.8
comp=Z,75nm,0.9s
SCIA State Center 53.56 66 IAMs_20 IAMs_20 13 51 53.1
comp=Z,1μm,18.0s
SCIA State Center 53.56 66 P 13 27 44.1
baz=309
OK032 Salt Plains WL 53.78 74 IAMs_20 IAMs_20 13 49 38.5
comp=Z,1μm,21.0s
I40A Norwalk 53.83 63 IAMs_20 IAMs_20 13 50 13.9
comp=Z,2μm,20.0s
DBG Daneborg 54.24 9 *i* P **P 13 27 48.7 -0.3**
DBG IAmb IAmb 13 27 49.6
comp=Z,57nm,0.9s
N38A Joes South For 54.25 67 IAMs_20 IAMs_20 13 51 56.3
comp=Z,1μm,18.0s
E43A Lone Tree Farm 54.31 58 P **P 13 27 49.7 -0.2**
E43A IAmb IAmb 13 27 53.8
comp=Z,107nm,1.0s
L40A Anamosa 54.62 65 IAMs_20 IAMs_20 13 50 35.1
comp=Z,2μm,20.0s
JFWS Jewell Farm 54.65 63 IAMs_20 IAMs_20 13 50 56.6
comp=Z,2μm,18.0s
JFWS Jewell Farm 54.65 63 P 13 27 50.9
baz=309,SNR=11
LPIG La Paz 54.70 94 LR LR 13 45 28.2
comp=Z,620nm,20.6s,baz=314,slow=30
WMOK Wichita Mounta 54.77 76 P **P 13 27 53.9 +0.5**
WMOK pmax pmax
comp=Z,128nm,1.1s
WMOK Wichita Mounta 54.77 76 P **P 13 27 53.9 +0.5**
WMOK IAmb IAmb 13 27 55.0
comp=Z,128nm,1.1s
WMOK Wichita Mounta 54.77 76 IAMs_20 IAMs_20 13 50 36.8
comp=Z,2μm,19.0s
WMOK Wichita Mounta 54.77 76 P 13 27 53.7
baz=311,SNR=119
I42A Draeger Farm, 54.80 62 IAmb IAmb 13 27 54.0
comp=Z,92nm,1.1s
I42A IAMs_20 IAMs_20 13 51 01.3
comp=Z,2μm,19.0s
OK025 Westminster Rd 55.11 75 IAMs_20 IAMs_20 13 52 49.7
comp=Z,1μm,18.0s
SFJD Kangerlussuaq 55.17 24 LR LR 13 56 09.2
comp=Z,1μm,18.5s,baz=324,slow=41
SFJD Kangerlussuaq 55.17 24 *i* P **P 13 27 57.1 +1.3**
comp=Z,8.2nm,0.9s
SFJD Kangerlussuaq 55.17 24 *i* P **P 13 27 57.1 +1.3**
SFJD pmax pmax
comp=Z,8.0nm,0.9s
SFJD Kangerlussuaq 55.17 24 P **P 13 27 56.5 +0.7**
SFJD Kangerlussuaq 55.17 24 *i* P **P 13 27 57.1 +1.3**
SFJD IAmb IAmb 13 27 58.5
comp=Z,8.2nm,0.9s
OK031 S. Brethren Rd 55.17 74 IAMs_20 IAMs_20 13 50 27.4
comp=Z,1μm,18.0s
SLBS Sierra La Lagu 55.23 94 P **P 13 27 57.1 +0.1**
SLBS IAmb IAmb 13 27 59.1
comp=Z,125nm,1.1s
SLBS Sierra La Lagu 55.23 94 IAMs_20 IAMs_20 13 45 10.4
comp=Z,1μm,18.0s
TXAR Lajitas Array 55.30 85 P **P 13 27 57.9 +0.4**
comp=Z,78nm,0.9s,baz=296,slow=5.0,SNR=464
TXAR PcP **PcP 13 28 58.8 +0.8**
comp=Z,29nm,0.9s,baz=304,slow=3.4,SNR=4.4
TXAR PKPPKP P'P'df 13 57 56.2 -9.4
comp=Z,1.2nm,0.9s,baz=163,slow=6.1,SNR=7.6
TXAR P4KPbc 14 05 16.4
comp=Z,0.6nm,0.8s,baz=296,slow=4.0,SNR=5.6
TATO Taipei 55.54 268 P **P 13 27 57.4 -1.6**
L42A Oliver, Polo 55.56 64 IAMs_20 IAMs_20 13 53 38.7
comp=Z,1μm,19.0s
ABTX Abilene, Hawle 55.62 79 IAMs_20 IAMs_20 13 51 05.7
comp=Z,2μm,19.0s
ABTX Abilene, Hawle 55.63 79 P 13 27 59.9
baz=312,SNR=48
N41A Harden Midland 55.70 66 IAMs_20 IAMs_20 13 53 23.5
comp=Z,1μm,18.0s
P40A Paris 55.75 68 IAmb IAmb 13 28 03.4
comp=Z,79nm,0.9s
P40A IAMs_20 IAMs_20 13 52 29.1
comp=Z,1μm,20.0s
E46A Sault Ste Mari 55.77 57 IAmb IAmb 13 28 04.5
comp=Z,141nm,1.0s
E46A IAMs_20 IAMs_20 13 51 47.7
comp=Z,2μm,20.0s
TUL1 Leonard 55.84 73 IAMs_20 IAMs_20 13 52 32.1
comp=Z,1μm,19.0s
TUL1 Leonard 55.85 73 P 13 28 00.6
baz=311,SNR=10
K43A Burlington 55.87 62 IAMs_20 IAMs_20 13 51 34.9
comp=Z,2μm,20.0s
ICESG Greenland Ices 56.02 18 ⇓*i* P **P 13 28 02.9 +0.6**
ICESG IAmb IAmb 13 28 04.1
comp=Z,183nm,1.0s
S39A Bolivar 56.18 70 P **P 13 28 01.3 -2.2**
S39A IAMs_20 IAMs_20 13 53 39.7
comp=Z,2μm,19.0s
WHN Wuhan 56.24 278 ⇓P **P 13 28 03.9 -0.1**
WHN pP **pwP 13 28 13.9 -0.9**
WHN S **S 13 35 52.7 -0.3**
WHN LR LR
comp=Z,6μm,27.6s
WHN LR LR
comp=Z,2μm,15.3s
WHN LR LR
comp=Z,2μm,17.4s
U38A Gravette 56.36 72 IAMs_20 IAMs_20 13 55 06.5
comp=Z,2μm,19.0s
R40A Maddies Statio 56.42 69 IAMs_20 IAMs_20 13 54 02.0
comp=Z,1μm,19.0s
L44A Lake County Fo 56.45 63 P 13 28 04.4
baz=310,SNR=6.6
GLMI Grayling 56.59 58 P 13 28 06.1
baz=310
Z35A Perchaven, San 56.65 77 IAMs_20 IAMs_20 13 49 40.6
comp=Z,2μm,21.0s
HDIL Hopedale 56.70 65 IAMs_20 IAMs_20 13 55 34.1
comp=Z,2μm,18.0s
HDIL Hopedale 56.70 65 P 13 28 06.2
baz=311
HQIL Hanson Quary C 56.73 63 IAMs_20 IAMs_20 13 52 02.6
comp=Z,2μm,19.0s
M44A Midewin, Midew 56.88 64 IAMs_20 IAMs_20 13 52 07.8
comp=Z,1μm,20.0s
JCT Junction City 56.97 81 IAMs_20 IAMs_20 13 51 38.5
comp=Z,2μm,18.0s
JCT Junction City 56.97 81 P 13 28 08.8
baz=313,SNR=60
X37A Clayton 56.98 74 IAmb IAmb 13 28 13.7
comp=Z,117nm,1.4s
X37A IAMs_20 IAMs_20 13 57 17.1
comp=Z,2μm,18.0s
NUUK Nuuk 57.01 26 *i* P **P 13 28 10.5 +1.5**
NUUK IAmb IAmb 13 28 12.0
comp=Z,32nm,1.0s
MATQ Matagami 57.02 50 P 13 28 08.6
baz=311,SNR=31
P43A Skaggs, Pawnee 57.17 66 IAmb IAmb 13 28 13.6
comp=Z,94nm,0.9s
P43A IAMs_20 IAMs_20 13 54 20.4
comp=Z,1μm,18.0s
CCM Cathedral Cave 57.19 68 P **P 13 28 10.0 -0.6**
CCM pmax pmax
comp=Z,71nm,1.5s
CCM Cathedral Cave 57.19 68 P **P 13 28 10.0 -0.6**
CCM Cathedral Cave 57.19 68 P 13 28 08.7
baz=311
ZAA0 Zalesovo Array 57.19 317 P **P 13 28 10.7 +0.3**
ZAA0 IAMs_20 IAMs_20 13 54 37.6
comp=Z,2μm,18.0s
ZALV Zalesovo Beam 57.19 317 P **P 13 28 10.2 -0.3**
comp=Z,10nm,0.7s,baz=42,slow=7.2,SNR=43
ZALV PcP **PcP 13 29 04.8 0.0**
comp=Z,12nm,0.8s,baz=36,slow=5.5,SNR=5.2
ZALV S **S 13 36 05.7 +0.7**
comp=Z,0.5nm,0.5s,baz=66,slow=8.7,SNR=3.9
XAN Xi'an 57.29 285 P **P 13 28 11.3 -0.2**
XAN PP **PP 13 30 14.8 -3.6**
XAN PcS **PcS 13 33 05.0 -1.8**
XAN S **S 13 36 08.2 +1.3**
XAN sS sS 13 36 14.8 +2.3
XAN pmax pmax
comp=Z,190nm,1.4s
XAN pmax pmax
comp=Z,1μm,6.1s
XAN LR LR
comp=Z,920nm,18.4s
XAN LR LR
comp=Z,1μm,15.2s
XAN LR LR
comp=Z,2μm,18.4s
XAN Xi'an 57.29 285 P **P 13 28 10.8 -0.7**
XAN pmax pmax
comp=Z,191nm,1.1s
XAN Xi'an 57.29 285 P **P 13 28 10.8 -0.7**
XAN IAmb IAmb 13 28 12.7
comp=Z,191nm,1.1s
U40A Yellville 57.34 71 P 13 28 10.3
baz=312,SNR=32
QZH Quanzhou 57.41 271 ⇓*i* P **P 13 28 12.9 +0.5**
QZH S **S 13 36 10.5 +1.9**
QZH pmax pmax
comp=Z,120nm,0.9s
QZH pmax pmax
comp=Z,630nm,4.6s
QZH LR LR
comp=Z,440nm,12.8s
QZH LR LR
comp=Z,500nm,14.7s
WHTX Lake Whitney, 57.42 78 IAMs_20 IAMs_20 13 51 14.2
comp=Z,1μm,19.0s
WHTX Lake Whitney, 57.42 78 P 13 28 12.8
baz=313,SNR=51
O44A Mansfield 57.45 65 IAMs_20 IAMs_20 13 52 22.7
comp=Z,1μm,20.0s
L46A Eue Claire 57.47 62 IAMs_20 IAMs_20 13 52 45.2
comp=Z,2μm,19.0s
J47A Sunmer 57.50 60 IAMs_20 IAMs_20 13 53 00.7
comp=Z,1μm,21.0s
W39A Magazine 57.54 73 IAMs_20 IAMs_20 13 54 49.0
comp=Z,1μm,19.0s
W39A Magazine 57.55 73 P 13 28 12.7
baz=312,SNR=27
SCO Scoresbysund 57.64 11 ⇓*i* P **P 13 28 13.5 +0.2**
comp=Z,58nm,1.0s
SCO Scoresbysund 57.64 11 ⇓*i* P **P 13 28 13.5 +0.2**
SCO pmax pmax
comp=Z,58nm,1.0s
SCO Scoresbysund 57.64 11 IAmb IAmb 13 28 14.9
comp=Z,77nm,0.9s
SCO Scoresbysund 57.64 11 ⇓*i* P **P 13 28 13.5 +0.2**
SCO IAmb IAmb 13 28 15.5
comp=Z,58nm,1.0s
LSQQ Lebel-sur-Quev 57.80 51 P 13 28 14.1
baz=312
Q44A Meyer Farm, Va 57.95 66 IAMs_20 IAMs_20 13 54 35.1
comp=Z,1μm,18.0s
T42A Van Buren 57.95 69 IAMs_20 IAMs_20 13 53 25.6
comp=Z,1μm,19.0s
SFIN Lafayette 58.09 64 IAMs_20 IAMs_20 13 52 41.6
comp=Z,2μm,19.0s
SFIN Lafayette 58.09 64 P 13 28 16.3
baz=312,SNR=15
FCAR Ozark Folk Cen 58.09 71 IAmb IAmb 13 28 16.8
comp=Z,88nm,1.2s
Z38A Mt. Pleasant 58.10 75 IAMs_20 IAMs_20 13 53 48.0
comp=Z,1μm,19.0s
MIAR Mount Ida 58.10 73 P **P 13 28 16.9 -0.3**
MIAR pmax pmax
comp=Z,106nm,1.2s
MIAR Mount Ida 58.10 73 IAmb IAmb 13 28 18.3
comp=Z,123nm,1.2s
MIAR IAMs_20 IAMs_20 13 55 46.9
comp=Z,1μm,19.0s
MIAR Mount Ida 58.11 73 P 13 28 16.9
baz=312,SNR=36
435B Jarrell 58.16 79 P 13 28 17.9
baz=314,SNR=9.7
H06S1 SOCORRO T 58.19 99 P **P 13 28 19.2 +1.3**
WHAR Wooly Hollow 58.39 72 IAmb IAmb 13 28 19.3
comp=Z,72nm,1.2s
WHAR IAMs_20 IAMs_20 13 54 54.4
comp=Z,1μm,20.0s
237A Washetta, Mont 58.44 77 IAMs_20 IAMs_20 13 50 46.1
comp=Z,2μm,21.0s
BBP Basco 58.49 264 *e*P **P 13 28 18.6 -1.4**
W41B Gary Mavity, V 58.49 72 P 13 28 18.8
baz=312,SNR=27
P46A Rosedale 58.53 65 IAMs_20 IAMs_20 13 55 44.3
comp=Z,1μm,18.0s
LCAR Lake Charles 58.56 70 IAMs_20 IAMs_20 13 55 12.6
comp=Z,1μm,18.0s
N47A Urbana 58.56 63 IAMs_20 IAMs_20 13 53 08.0
comp=Z,2μm,20.0s
OLIL Olney 58.59 66 IAMs_20 IAMs_20 13 52 37.2
comp=Z,1μm,19.0s
X40A Basin Creek Fa 58.60 73 IAMs_20 IAMs_20 13 56 28.9
comp=Z,2μm,19.0s
X40A Basin Creek Fa 58.60 73 P 13 28 19.9
baz=313,SNR=17
HAMF Hammerfest 58.63 353 *e*P **P 13 28 19.3 -1.0**
833A Chaparral WMA, 58.71 82 P 13 28 21.7
baz=314,SNR=38
AAM Ann Arbor 58.76 60 IAMs_20 IAMs_20 13 53 42.1
comp=Z,1μm,19.0s
DGZ Jazzator, Alta 58.84 312 *d i* P **P 13 28 22.7 +0.4**
DGZ pmax pmax
comp=Z,148nm,1.9s
WLAR White Oak Lake 58.97 73 IAMs_20 IAMs_20 13 55 49.0
comp=Z,1μm,20.0s
PARMO Parma 59.00 69 IAMs_20 IAMs_20 13 55 59.2
comp=Z,1μm,18.0s
LZH Lanzhou 59.01 290 *e*P **P 13 28 24.7 +1.0**
LZH pP sP 13 28 28.6 +0.1
LZH sP pwP 13 28 31.6 -2.9
LZH *e*S **S 13 36 29.8 +0.2**
LZH sS sS 13 36 38.0 +2.8
LZH SS **SS 13 40 21.9 -1.0**
LZH pmax pmax
comp=Z,140nm,1.1s
LZH pmax pmax
comp=Z,970nm,4.6s
LZH LR LR
comp=Z,2μm,12.2s
LZH LR LR
comp=Z,2μm,15.2s
LZH LR LR
comp=Z,1μm,16.8s
K50A Casco 59.02 59 IAMs_20 IAMs_20 13 56 54.8
comp=Z,2μm,18.0s
HENM Henderson Moun 59.13 69 IAMs_20 IAMs_20 13 53 07.7
comp=Z,1μm,21.0s
ISOG Isortoq, Green 59.14 20 *i* P **P 13 28 24.6 +0.7**
ISOG IAmb IAmb 13 28 25.8
comp=Z,113nm,0.9s
GTA Gaotai 59.16 296 ⇓P **P 13 28 24.8 +0.2**
GTA pP pwP 13 28 32.6 -2.8
GTA sP sP 13 28 35.9 +6.5
GTA S **S 13 36 29.4 -2.0**
GTA sS sS 13 36 36.2 -0.8
GTA SS **SS 13 40 28.4 +3.3**
GTA pmax pmax
comp=Z,110nm,1.0s
GTA pmax pmax
comp=Z,700nm,5.8s
GTA LR LR
comp=Z,2μm,20.4s
GTA LR LR
comp=Z,2μm,18.9s
GTA LR LR
comp=Z,2μm,18.5s
I51A Listowel 59.20 57 P 13 28 25.0
baz=312,SNR=36
PENMO Penman 59.22 69 IAMs_20 IAMs_20 13 54 39.9
comp=Z,1μm,20.0s
BLO Bloomington 59.22 65 IAMs_20 IAMs_20 13 57 53.6
comp=Z,1μm,18.0s
KEV Kevo 59.23 352 P **P 13 28 24.2 -0.2**
KEV pmax pmax
comp=Z,76nm,0.8s
KEV Kevo 59.23 352 P **P 13 28 24.2 -0.2**
KEV IAmb IAmb 13 28 25.4
comp=Z,76nm,0.8s
GNAR Gosnell 59.31 70 IAMs_20 IAMs_20 13 54 16.5
comp=Z,1μm,18.0s
NATX Nacogdoches 59.32 76 IAMs_20 IAMs_20 13 51 26.3
comp=Z,2μm,21.0s
NATX Nacogdoches 59.32 76 P 13 28 26.0
baz=314,SNR=9.4
ALGO Algonquin Park 59.33 54 P 13 28 25.3
baz=312,SNR=49
ANGG Ammassalik, Gr 59.38 20 *i* P **P 13 28 25.9 +0.4**
ANGG IAmb IAmb 13 28 27.2
comp=Z,102nm,0.9s
LPAR Lepanto 59.38 70 IAMs_20 IAMs_20 13 54 20.5
comp=Z,1μm,19.0s
N49A Columbus Grove 59.38 62 IAMs_20 IAMs_20 13 53 43.8
comp=Z,2μm,20.0s
T45A Paducah 59.42 68 IAMs_20 IAMs_20 13 52 41.2

comp=Z,1µm,19.0s
Z41A Richland Creek 59.45 74 P 13 28 26.3
baz=313
SADO Sadowa 59.56 55 LR LR 13 57 09.3
comp=Z,942nm,18.2s,baz=345,slow=39
ARA0 ARCESS Array S 59.57 352 *e*P **P** **13 28 26.7 -0.2**
ARCES ARCESS Array B 59.57 352 P **P** **13 28 26.7 -0.1**
comp=Z,44nm,0.8s,baz=17,slow=7.8,SNR=42
ARCES PcP **PcP** **13 29 14.4 +0.4**
comp=Z,15nm,0.8s,baz=354,slow=7.4,SNR=4.6
ARCES LR LR 13 53 41.9
comp=Z,2µm,21.8s,baz=5.0,slow=36
ARCES PKPPKP 13 57 59.6
comp=Z,10nm,1.0s,baz=321,slow=1.7,SNR=4.9
G54A Lake Saint Pet 59.69 54 P 13 28 28.0
baz=313,SNR=32
M50A Fremont 59.70 61 IAms_20 IAms_20 13 54 10.1
comp=Z,2µm,20.0s
X43A Marvell 59.77 71 P 13 28 28.0
baz=313
HKT Hockley 59.83 78 *d i*P **P** **13 28 29.3 +0.2**
HKT pmax pmax
comp=Z,191nm,1.6s
HKT Hockley 59.83 78 P **P** **13 28 29.1 +0.1**
HKT IAmb IAmb 13 28 31.9
comp=Z,156nm,1.4s
HKT Hockley 59.83 78 IAMs_20 IAMs_20 13 55 30.7
comp=Z,1µm,18.0s
JETT Jettan, Norway 59.92 354 *e*P **P** **13 28 29.3 0.0**
D55A Sainte-Anne-du 59.92 52 P 13 28 29.1
baz=313,SNR=46
TRO Tromso 59.93 355 *e*P **P** **13 28 29.7 +0.4**
WCI Wyandotte Cave 59.98 65 P **P** **13 28 28.7 -1.4**
WCI pmax pmax
comp=Z,44nm,1.0s
WCI MLR MLR
comp=Z,1µm,19.0s
WCI Wyandotte Cave 59.98 65 P **P** **13 28 28.7 -1.4**
WCI IAMs_20 IAMs_20 13 59 07.0
comp=Z,1µm,19.0s
H53A Bobcaygeon 59.98 55 P 13 28 30.0
baz=313,SNR=17
WCI Wyandotte Cave 59.98 65 P 13 28 29.1
baz=313
E55A Montcerf-Lytto 60.01 52 P 13 28 29.8
baz=313,SNR=14
P49A Miami Univ. Ec 60.01 63 P 13 28 28.9
baz=313,SNR=5.3
SGCP Mt. Cagua 60.06 262 *e*P **P** **13 28 30.1 -0.7**
LVZ Lovozero 60.16 348 *ce*P **P** **13 28 31.3 +0.3**
LVZ pmax pmax
comp=Z,145nm,0.7s
LVZ Lovozero 60.16 348 P **P** **13 28 31.2 +0.3**
D56A ZEC Mazanza, M 60.26 51 P 13 28 31.2
baz=314,SNR=25
KTK1 Kautokeino 60.27 353 *e*P **P** **13 28 31.7 +0.1**
T47A Sharon Grove 60.35 67 P **P** **13 28 31.7 -0.9**
T47A IAmb IAmb 13 28 33.2
comp=Z,102nm,1.3s
T47A IAMs_20 IAMs_20 13 53 32.7
comp=Z,1µm,21.0s
W45A Hickory Valley 60.35 70 IAMs_20 IAMs_20 13 54 48.1
comp=Z,1µm,18.0s
N51A Ashland 60.40 61 P **P** **13 28 32.5 -0.4**
N51A IAMs_20 IAMs_20 13 54 31.6
comp=Z,2µm,19.0s
PLVO Plevna 60.45 54 IAMs_20 IAMs_20 13 56 35.5
comp=Z,2µm,18.0s
E56A St. Veronique 60.47 52 P 13 28 32.7
baz=314,SNR=31
WVT Waverly 60.50 68 P **P** **13 28 33.1 -0.6**
WVT pmax pmax
comp=Z,38nm,0.9s
WVT Waverly 60.50 68 P **P** **13 28 33.1 -0.6**
WVT Waverly 60.50 68 P 13 28 32.9
baz=313
ACSO Alum Creek Sta 60.53 62 P 13 28 33.1
baz=313,SNR=7.3
DELO Deloro Mine 60.53 55 IAMs_20 IAMs_20 13 58 38.5
comp=Z,2µm,18.0s
M52A Chesterland 60.54 60 IAMs_20 IAMs_20 13 57 43.3
comp=Z,2µm,18.0s
R49A Shelbyville 60.59 65 IAMs_20 IAMs_20 13 57 04.0
comp=Z,1µm,18.0s
ZAIG Zacatecas 60.60 89 IAMs_20 IAMs_20 13 51 33.3
comp=Z,1µm,18.0s
APA Apatity 60.64 349 ⇓ *i*P **P** **13 28 33.5 -0.6**
APA *i* 13 30 56.2
APA *i* PPP PPP 13 32 18.0
APA *i* S **S** **13 36 49.0 -0.3**
APA *i* PS **PnS** **13 37 01.0 -1.9**
APA *i* SS **SS** **13 40 52.0 +5.3**
APA pmax pmax
comp=Z,25nm,1.0s
143A Socs Landing, 60.68 73 IAMs_20 IAMs_20 13 54 25.2
comp=Z,1µm,20.0s
APYP Conner 60.85 263 *e*P **P** **13 28 35.5 -0.8**
L53A Girard 60.87 59 P 13 28 35.8
baz=313,SNR=18
ERPA Erie 60.90 58 IAMs_20 IAMs_20 13 55 15.6
comp=Z,2µm,20.0s
ERPA Erie 60.90 58 P 13 28 36.3
baz=313,SNR=15
M53A WI Miller and 60.99 59 P **P** **13 28 37.0 0.0**
M53A IAMs_20 IAMs_20 13 58 50.3
comp=Z,2µm,18.0s
M53A WI Miller and 60.99 59 P 13 28 36.6
baz=313,SNR=30
P51A Williamsport 60.99 62 IAMs_20 IAMs_20 13 54 43.3
comp=Z,2µm,18.0s
MEDO Medina 61.01 56 IAMs_20 IAMs_20 13 54 18.4
comp=Z,1µm,20.0s
Y45A Yeager Farm, C 61.02 71 IAMs_20 IAMs_20 13 55 33.9
comp=Z,1µm,19.0s
342A Flagon Creek P 61.03 75 IAMs_20 IAMs_20 13 55 51.5
comp=Z,1µm,18.0s
R50A Paris 61.09 64 IAMs_20 IAMs_20 13 54 27.0
comp=Z,1µm,20.0s
PLAL Pickwick Lake 61.14 69 IAmb IAmb 13 28 37.6
comp=Z,48nm,0.9s
Q51A Peebles 61.14 63 IAMs_20 IAMs_20 13 54 47.3
comp=Z,2µm,18.0s
F57A Harrington 61.15 52 P 13 28 37.0
baz=314
D58A Chemin du LacG 61.16 50 P 13 28 37.2
baz=314,SNR=30
CAUP Cauayan 61.17 262 *e*P **P** **13 28 39.8 +1.4**
NRS Narsarsuaq 61.19 26 *i*P **P** **13 28 38.7 +0.7**
comp=Z,22nm,0.9s
NRS Narsarsuaq 61.19 26 *i*P **P** **13 28 38.7 +0.7**
NRS pmax pmax
comp=Z,23nm,0.9s
NRS Narsarsuaq 61.19 26 *i*P **P** **13 28 38.8 +0.7**
NRS IAmb IAmb 13 28 42.0
comp=Z,22nm,0.9s
O52A Adamsville 61.25 61 IAMs_20 IAMs_20 13 57 19.0
comp=Z,2µm,18.0s
N53A Lisbon 61.33 60 IAMs_20 IAMs_20 13 58 08.1
comp=Z,1µm,20.0s
V48A Smith Brothers 61.37 68 IAmb IAmb 13 28 39.8
comp=Z,87nm,1.4s
V48A IAMs_20 IAMs_20 13 54 33.7
comp=Z,1µm,19.0s
P52A Corning 61.41 62 IAMs_20 IAMs_20 13 55 05.4
comp=Z,2µm,19.0s
P52A Corning 61.41 62 P 13 28 38.7
baz=314,SNR=10
CLTN Cedars of Leba 61.41 67 IAMs_20 IAMs_20 13 54 05.0
comp=Z,1µm,21.0s
U49A Red Boiling Sp 61.45 66 IAMs_20 IAMs_20 13 56 35.9
comp=Z,2µm,19.0s
E58A La Victoria 61.47 51 P 13 28 39.2
baz=314,SNR=11
G57A Newington 61.49 53 P 13 28 39.7
baz=314,SNR=22
M54A Oil Creek Stat 61.49 59 IAMs_20 IAMs_20 13 55 34.3
comp=Z,2µm,20.0s
M54A Oil Creek Stat 61.49 59 P 13 28 40.1
baz=314,SNR=29
O53A New Philadelph 61.50 60 IAMs_20 IAMs_20 13 55 25.8
comp=Z,1µm,20.0s
O53A New Philadelph 61.50 60 P 13 28 39.8
baz=314,SNR=22
SGF Sodankyl 61.52 351 P **P** **13 28 41.0 +0.9**
SGF pmax pmax
comp=Z,91nm,1.2s
VBMS Vicksburg 61.56 73 P 13 28 40.8
baz=314,SNR=6.5
MMNY Mt. Morris Dam 61.60 57 IAMs_20 IAMs_20 13 54 47.0
comp=Z,1µm,18.0s
ZSN Zaisan 61.63 311 ⇓ *e*P **P** **13 28 41.5 +0.3**
comp=Z,157nm,2.1s,baz=311
ZSN *e*S **S** **13 37 04.0 +1.4**
baz=311
ZSN Zaisan 61.63 311 *de*P **P** **13 28 41.5 +0.3**
ZSN *e*S **S** **13 37 03.9 +1.4**
ZSN pmax pmax
comp=Z,157nm,2.1s
T50A Nancy 61.65 65 IAMs_20 IAMs_20 13 57 25.1
comp=Z,2µm,18.0s
LOF Lofoten 61.66 357 *e*P **P** **13 28 40.0 -1.0**
N54A Moraine State 61.69 59 IAMs_20 IAMs_20 13 57 19.6
comp=Z,1µm,18.0s
N54A Moraine State 61.69 59 P 13 28 41.3
baz=314,SNR=32
H57A Richville 61.72 54 P 13 28 41.8
baz=314,SNR=55
D59A Saint-Raymond 61.73 50 P 13 28 41.3
baz=315
N2IH Innhavet 61.74 356 *e*P **P** **13 28 41.7 +0.2**
J56A Wolcott 61.78 55 P 13 28 42.2
baz=314,SNR=15
J56A S 13 37 05.3
baz=314
Q52A Bidwell 61.80 62 IAMs_20 IAMs_20 13 55 07.6
comp=Z,2µm,20.0s
STEI Steigen 61.80 356 *e*P **P** **13 28 42.3 +0.3**
N2SV S rvϓgen 61.92 357 *e*P **P** **13 28 42.6 -0.1**
G58A Ormstown 61.93 52 P 13 28 42.5
baz=314,SNR=24
K56A Middlesex 61.94 56 P 13 28 43.6
baz=314,SNR=48
LONY Lake Ozonia 62.03 53 IAMs_20 IAMs_20 13 55 08.0
comp=Z,1µm,21.0s
LONY Lake Ozonia 62.03 53 P 13 28 43.5
baz=314
F59A Saint Guilaume 62.08 51 P 13 28 43.6
baz=315,SNR=16
X48A Hartselle 62.12 69 IAMs_20 IAMs_20 13 58 42.8
comp=Z,929nm,18.0s
MANU Manus Island 62.16 226 P **P** **13 28 45.4 +0.3**
MANU IAmb IAmb 13 28 45.8
comp=Z,76nm,1.0s
N2VA Vr,y 62.16 357 *e*P **P** **13 28 45.2 +0.9**
146A Union 62.16 72 IAMs_20 IAMs_20 13 57 31.2
comp=Z,1µm,19.0s
L56A Greenwood 62.20 57 IAMs_20 IAMs_20 13 58 49.8
comp=Z,2µm,22.0s
L56A Greenwood 62.20 57 P 13 28 45.3
baz=314,SNR=59
BALP Baler 62.22 261 *e*P **P** **13 28 44.8 -0.7**
D60A Saint Jean D'O 62.24 49 P 13 28 44.8
baz=315,SNR=25
SWET Sewanee 62.25 68 IAMs_20 IAMs_20 13 54 09.2
comp=Z,1µm,20.0s
Q53A Leroy 62.29 62 P 13 28 45.3
baz=314,SNR=26
M56A Emporium 62.31 58 P **P** **13 28 45.8 -0.1**
M56A Emporium 62.32 58 P 13 28 45.7
baz=314,SNR=30
N2RO R,st 62.32 358 *e*P **P** **13 28 46.4 +0.9**
K57A Scipio Center 62.34 56 P 13 28 45.9
baz=314,SNR=20
FAUS Fauske 62.35 356 *e*P **P** **13 28 45.7 +0.1**
E60A Ste Agathe de 62.37 50 P 13 28 45.6
baz=315,SNR=20
Z47A Carrollton 62.37 71 IAMs_20 IAMs_20 13 57 28.6
comp=Z,1µm,18.0s
N2ST Straumen 62.37 356 *e*P **P** **13 28 46.4 +0.6**
H58A Gabriels 62.38 53 P 13 28 45.8
baz=315,SNR=16
FRNY Flat Rock 62.38 52 IAMs_20 IAMs_20 13 55 49.3
comp=Z,1µm,20.0s
D61A St Aubert, Com 62.39 49 P 13 28 45.9
baz=316,SNR=20
F60A Warwick 62.40 51 P 13 28 45.4
baz=315,SNR=13
H59A Cadyville 62.47 53 P 13 28 46.3
baz=315,SNR=30
I58A Old Forge 62.48 54 P 13 28 46.9
baz=315,SNR=36
NBB28 Valnes 62.57 357 *e*P **P** **13 28 47.9 +0.7**
CD2 Chengdu 62.61 286 ⇓ *i*P **P** **13 28 48.3 +0.2**
CD2 sP sP 13 28 53.5 +0.6
CD2 PcP **PcP** **13 29 28.7 +1.8**
CD2 PP **PP** **13 31 05.6 +0.1**
CD2 S **S** **13 37 14.8 -0.6**
CD2 sS sS 13 37 22.0 +1.0
CD2 pmax pmax
comp=Z,200nm,1.0s
CD2 pmax pmax
comp=Z,910nm,4.6s
CD2 LR LR
comp=Z,2µm,25.0s
CD2 LR LR
comp=Z,2µm,17.2s
CD2 LR LR
comp=Z,1µm,22.1s
JCNP Jose Panganiba 62.61 259 *e*P **P** **13 28 48.5 +0.3**
N56A West Decatur 62.65 58 P 13 28 47.9
baz=314,SNR=20
NCB Newcomb 62.67 53 IAMs_20 IAMs_20 13 57 49.9
comp=Z,1µm,18.0s
MCWV Mont Chateau 62.67 60 P 13 28 48.1
baz=314,SNR=16
L57A Andrews Acres 62.67 56 P 13 28 48.5
baz=315,SNR=43
NBB05 Inndyr 62.74 357 *e*P **P** **13 28 48.8 +0.5**
MSF Maaselka 62.74 350 P **P** **13 28 49.2 +0.8**
MSF pmax pmax
comp=Z,176nm,1.2s
WMQ Urumqi 62.77 306 *e*P **P** **13 28 49.6 +0.6**
WMQ pP pP 13 28 52.7 +0.2
WMQ sP pwP 13 28 59.6 -0.1
WMQ PcP **PcP** **13 29 27.8 +0.4**
WMQ S **S** **13 37 16.3 -0.8**
WMQ sS sS 13 37 28.9 +6.0
WMQ pmax pmax
comp=Z,950nm,4.7s
WMQ LR LR
comp=Z,2µm,20.5s
WMQ LR LR
comp=Z,1µm,19.3s
WMQ LR LR
comp=Z,1µm,27.9s
K58A Earlville 62.78 55 P 13 28 49.2
baz=315,SNR=20
E61A Lac Etchemin 62.79 49 P 13 28 48.6
baz=316,SNR=7.4
BOLP Bolinao 62.80 263 *e*P **P** **13 28 48.2 -1.2**
NBB30 Finnes 62.82 357 *e*P **P** **13 28 49.4 +0.6**
G60A Masonville 62.83 51 P 13 28 48.7
baz=315,SNR=7.8
F61A St Evariste 62.87 50 P 13 28 49.4
baz=316,SNR=24
J59A Piesco 62.88 54 IAmb IAmb 13 28 53.9
comp=Z,123nm,1.2s
J59A Piesco 62.88 54 P 13 28 49.5
baz=315,SNR=22
Y49A Blount Mountai 62.91 69 IAMs_20 IAMs_20 13 58 18.7
comp=Z,1µm,18.0s
FPAL Fort Paine 62.91 68 IAmb IAmb 13 28 49.5
comp=Z,56nm,0.9s
FPAL IAMs_20 IAMs_20 13 55 32.6
comp=Z,1µm,20.0s
CPCT Cooper Cave 62.92 66 IAMs_20 IAMs_20 13 59 21.8
comp=Z,2µm,18.0s
O56A Blue Knob Stat 62.95 59 IAMs_20 IAMs_20 13 57 59.0
comp=Z,2µm,19.0s
O56A Blue Knob Stat 62.95 59 P 13 28 49.6
baz=315,SNR=21
NBB17 Glomfjord BϓrI 62.97 357 ⇑ *e*P **P** **13 28 50.7 +0.9**
I59A Olmsteadville 62.97 53 P 13 28 50.1
baz=315
M57A Sunshine Farm, 62.99 57 P 13 28 50.4
baz=315,SNR=23
M57A S 13 37 19.2
baz=315
BINY Binghamton 62.99 56 P 13 28 50.7
baz=315,SNR=32
BINY S 13 37 30.1
baz=315
H60A Morristown 63.03 52 P 13 28 50.1
baz=315,SNR=14
R54A Victor 63.06 62 P 13 28 50.6
baz=314,SNR=15
R54A S 13 37 29.2
baz=314
G61A St-Isidore-de- 63.10 51 P 13 28 50.6
baz=316,SNR=16
LRAL Lakeview Retre 63.13 70 P 13 28 50.1
baz=315,SNR=5.6
S54A Dingess, Beckl 63.14 63 IAmb IAmb 13 29 13.8
comp=Z,64nm,0.9s
S54A Dingess, Beckl 63.14 63 P 13 28 51.2
baz=314,SNR=13
VT1 Waterbury 63.16 52 IAMs_20 IAMs_20 13 56 14.2
comp=Z,2µm,20.0s
N57A Milroy 63.17 58 P 13 28 51.4
baz=315,SNR=32
TMCR Tamitsa 63.17 345 *e*P **P** **13 28 49.7 -1.5**
TMCR pmax pmax
comp=Z,166nm,1.0s
L58A Harry Jones Me 63.17 56 P 13 28 51.9
baz=315,SNR=36
L58A S 13 37 30.2
baz=315
K59A Cooperstown 63.18 55 P 13 28 51.9
baz=315,SNR=29
K59A S 13 37 22.7
baz=315
V52A Sevierville 63.19 66 IAmb IAmb 13 28 52.5
comp=Z,121nm,1.5s
V52A IAMs_20 IAMs_20 14 01 16.8
comp=Z,1µm,18.0s
TKL Tuckaleechee C 63.21 66 LR LR 13 56 31.2
comp=Z,639nm,18.8s,baz=335,slow=36
TKL Tuckaleechee C 63.21 66 P **P** **13 28 51.8 -0.2**
TKL pmax pmax
comp=Z,70nm,1.3s
TKL MLR MLR
comp=Z,2µm,19.0s
TKL Tuckaleechee C 63.21 66 P **P** **13 28 51.8 -0.2**
TKL IAmb IAmb 13 28 52.3
comp=Z,70nm,1.3s
TKL IAMs_20 IAMs_20 13 58 23.5
comp=Z,2µm,19.0s
I60A Shoreham 63.23 53 P 13 28 51.5
baz=315,SNR=18
KONS Konsvik 63.31 357 *e*P **P** **13 28 52.2 +0.1**
M58A Price's Panora 63.32 57 P 13 28 52.5
baz=315,SNR=31
MK31 Makanchi Array 63.33 312 *i*P **P** **13 28 52.3 -0.3**
MK31 pmax pmax
comp=Z,45nm,0.7s
MK31 Makanchi Array 63.33 312 P **P** **13 28 52.5 -0.2**
MK31 IAmb IAmb 13 29 10.5
comp=Z,45nm,0.8s
MKAR Makanchi Array 63.33 312 P **P** **13 28 52.7 0.0**
comp=Z,41nm,0.7s,baz=53,slow=6.2,SNR=398
MKAR S **S** **13 37 26.5 +2.5**
comp=Z,1.8nm,0.9s,baz=72,slow=9.0,SNR=4.5
P56A Dayton Farm, R 63.34 60 P 13 28 52.6
baz=315,SNR=32
QVP Quezon City--P 63.42 261 *e*P **P** **13 28 55.6 +2.1**
H61A Lyndonville 63.44 52 P 13 28 53.0
baz=316,SNR=15
Q56A Snyder Ridge, 63.47 60 IAmb IAmb 13 28 54.1
comp=Z,47nm,1.1s
Q56A IAMs_20 IAMs_20 13 59 26.7
comp=Z,1µm,19.0s
Q56A Snyder Ridge, 63.47 60 P 13 28 53.4
baz=315,SNR=7.8
MAKZ Makanchi 63.47 312 P **P** **13 28 53.1 -0.4**
MAKZ pmax pmax
comp=Z,60nm,1.0s
MAKZ MLR MLR
comp=Z,1µm,20.0s
MAKZ Makanchi 63.47 312 P **P** **13 28 53.1 -0.4**
MAKZ IAmb IAmb 13 29 11.4
comp=Z,60nm,1.0s
MAKZ IAMs_20 IAMs_20 13 56 30.1
comp=Z,1µm,20.0s
LQP Lukban 63.47 260 ⇓ *i*P **P** **13 28 54.8 +0.7**
STOK Stokkvaagen 63.48 357 *e*P **P** **13 28 54.3 +1.1**
D63A Stockholm 63.50 48 P 13 28 53.5
baz=317,SNR=19
L59A Walton 63.50 55 P 13 28 54.1
baz=315,SNR=27
O57A Amberson 63.50 58 P 13 28 53.7
baz=315,SNR=33
W52A Murphy 63.52 66 IAMs_20 IAMs_20 13 57 47.6
comp=Z,1µm,20.0s
N58A Sunbury 63.56 57 P 13 28 54.1
baz=315,SNR=25
MOR8 Moi Rana 63.59 357 *e*P **P** **13 28 52.7 -1.3**
J60A Lant Hill Farm 63.59 54 P 13 28 54.6
baz=316,SNR=52
G62A West of Eustis 63.64 50 IAmb IAmb 13 28 59.0
comp=Z,116nm,1.1s
G62A West of Eustis 63.64 50 P 13 28 54.6
baz=316,SNR=21
G62A S 13 37 34.9
baz=316
LBNH Lisbon 63.64 52 IAMs_20 IAMs_20 13 56 03.7
comp=Z,2µm,21.0s
LBNH Lisbon 63.65 52 P 13 28 54.5
baz=316,SNR=13
U54A Nelsons Funny 63.74 64 IAmb IAmb 13 28 56.6
comp=Z,102nm,1.1s
U54A IAMs_20 IAMs_20 13 56 10.3
comp=Z,2µm,20.0s
U54A Nelsons Funny 63.74 64 P 13 28 55.3
baz=315,SNR=17
M59A Waymart 63.75 56 P 13 28 55.5
baz=315,SNR=20
V53A Saluda 63.77 65 IAMs_20 IAMs_20 13 59 21.0
comp=Z,1µm,18.0s
BOAC Boac 63.78 259 *e*P **P** **13 28 54.9 -1.0**
H62A Milan 63.79 51 P **P** **13 28 55.6 0.0**
H62A Milan 63.79 51 P 13 28 55.6
baz=316,SNR=22
E63A Oxbow 63.79 48 P **P** **13 28 55.4 -0.3**
E63A IAmb IAmb 13 28 56.3
comp=Z,129nm,1.3s
E63A Oxbow 63.79 48 P 13 28 55.0
baz=317,SNR=14
P57A Homestead Farm 63.81 59 P 13 28 55.7
baz=315,SNR=14
BRVK Borovoye 63.84 323 *i*P **P** **13 28 56.6 +0.7**
BRVK pmax pmax
comp=Z,244nm,1.2s
BRVK Borovoye 63.84 323 P **P** **13 28 56.8 +0.9**
BRVK Borovoye 63.84 323 P **P** **13 28 56.8 +0.9**
TGY Tagaytay City 63.86 260 LR LR 13 52 48.0
comp=Z,234nm,21.5s,baz=124,slow=32
MACP Maragondon, Ca 63.88 261 *e*P **P** **13 28 55.8 -0.8**
OUL Oulu 63.88 351 P **P** **13 28 56.5 +0.6**
OUL pmax pmax
comp=Z,197nm,1.4s
OCLP Ormoc 63.90 255 *e*P **P** **13 28 56.6 -0.1**
Q57A Strasburg 63.90 60 P 13 28 56.2
baz=315,SNR=12
GYA Guiyang 63.93 281 ⇓ P **P** **13 28 56.8 -0.2**
GYA pP sP 13 29 01.0 -0.8
GYA PP **PP** **13 31 18.8 +1.5**
GYA S **S** **13 37 31.2 -0.9**
GYA sS sS 13 37 37.7 -0.1
GYA SS **SS** **13 41 39.6 -0.6**
GYA pmax pmax
comp=Z,260nm,1.1s
GYA pmax pmax
comp=Z,990nm,4.0s
GYA LR LR
comp=Z,640nm,17.4s
GYA LR LR
comp=Z,500nm,19.5s
GYA LR LR
comp=Z,560nm,20.9s
O58A Lewisberry 63.95 58 P 13 28 56.5
baz=315,SNR=20
J61A Chester 63.97 53 P 13 28 57.1
baz=316,SNR=26
F63A Nahmakanta, Br 63.99 49 P 13 28 56.7
baz=317,SNR=13
N59A State Game Lan 64.01 57 P 13 28 57.3
baz=315,SNR=29
Z51A Franklin 64.02 69 IAMs_20 IAMs_20 13 58 48.2
comp=Z,1µm,19.0s
PRGR Permogore 64.05 341 ⇓ *i*P **P** **13 28 57.6 +0.5**
PRGR *e*S **S** **13 37 31.6 -0.8**

PRGR pmax pmax
comp=Z,257nm,1.1s
BLA Blacksburg 64.06 62 IAmb IAmb 13 29 01.8
comp=Z,101nm,0.9s
BLA Blacksburg 64.06 62 P 13 28 57.4
baz=315,SNR=22
AFI Afiamalu 64.06 178 LR LR 13 52 36.3
comp=Z,554nm,18.8s,baz=2.0,slow=32
L60A Shokan 64.07 55 P 13 28 57.7
baz=316,SNR=18
E64A Bridgewater 64.08 48 P 13 28 57.0
baz=317,SNR=18
K61A Williamstown 64.08 54 P 13 28 57.9
baz=316,SNR=18
G63A Kingsbury 64.16 50 P 13 28 58.0
baz=316,SNR=10
BG3 Lake Jocassee 64.17 66 IAMs_20 IAMs_20 13 59 02.8
comp=Z,1µm,18.0s
I62A Tamworth 64.20 52 P 13 28 58.0
baz=316
PKME Peaks-Kenny Pk 64.21 50 P 13 28 58.0
baz=317,SNR=9.2
S56A Natural Bridge 64.21 62 P 13 28 58.6
baz=315,SNR=16
O59A Robesonia 64.22 57 P 13 28 58.4
baz=315,SNR=29
SVE Sverdlovsk 64.22 330*c* iP **P 13 28 59.5 +1.2**
SVE *eS* **S 13 37 38.7 +4.0**
SVE pmax pmax
comp=Z,281nm,1.4s
SVE MLR MLR
comp=Z,3µm,24.0s
F64A Sherman 64.23 49 IAmb IAmb 13 28 59.6
comp=Z,159nm,1.4s
F64A Sherman 64.23 49 P 13 28 58.2
baz=317,SNR=18
L61A Hillsdale 1, H 64.27 54 P 13 28 59.3
baz=316,SNR=22
BATG Bathurst New B 64.28 46 IAmb IAmb 13 29 03.5
comp=Z,124nm,1.1s
H63A New Sharon 64.28 50 P 13 28 58.7
baz=316,SNR=10
Y52A Lilburn 64.30 67 IAMs_20 IAMs_20 14 00 17.4
comp=Z,1µm,19.0s
PGP Puerto Galera 64.30 260*e* eP **P 13 28 59.8 +0.4**
250A Grady 64.31 70 IAMs_20 IAMs_20 13 58 07.9
comp=Z,953nm,18.0s
M60A Port Jervis 64.33 56 P 13 28 59.4
baz=316,SNR=40
M60A S 13 37 37.3
baz=316
R57A Stanardsville 64.36 60 P 13 28 59.5
baz=315,SNR=24
Q58A Fox Den Farm, 64.37 59 P 13 28 59.3
baz=315,SNR=25
N60A Cedar Hill Far 64.40 56 P 13 28 59.7
baz=316,SNR=18
N60A S 13 37 47.9
baz=316
BRAL Brewton 64.41 72 P 13 28 59.6
baz=315
T56A Rocky Mt 64.41 62 P 13 28 59.4
baz=315,SNR=11
J62A Henniker 64.43 53 P 13 29 00.0
baz=316,SNR=15
LUPA Lehigh Univers 64.45 57 IAMs_20 IAMs_20 14 00 15.4
comp=Z,2µm,19.0s
MSLP Maasin 64.45 254 eP **P 13 29 00.6 +0.3**
I63A Otisfield 64.45 51 P 13 29 00.2
baz=316,SNR=15
G64A Maxfield 64.48 49 P 13 28 60.0
baz=317,SNR=6.0
S57A Dark Hollow, R 64.50 61 P 13 29 00.4
baz=315,SNR=14
SDMD Soldier's Deli 64.50 59 IAMs_20 IAMs_20 13 57 40.9
comp=Z,909nm,19.0s
ODNJ Ogdensburg 64.51 56 IAMs_20 IAMs_20 14 00 57.0
comp=Z,1µm,19.0s
L61B Northampton 64.54 54 P 13 29 00.5
baz=316,SNR=7.6
V55A Taylorsville 64.56 64 IAmb IAmb 13 29 01.7
comp=Z,74nm,1.1s
LUBP Lubang 64.57 261 eP **P 13 28 59.2 -1.9**
P59A Jarrettsville 64.58 58 P 13 29 00.7
baz=316,SNR=24
K62A Royalston 64.61 53 IAMs_20 IAMs_20 14 02 04.5
comp=Z,1µm,19.0s
K62A Royalston 64.62 53 P 13 29 01.2
baz=316,SNR=14
O60A Telford 64.63 57 P 13 29 01.2
baz=316,SNR=16
R58A Rapidan 64.65 60 P 13 29 01.3
baz=315,SNR=16
TRNY Table Rock, Ra 64.67 56 IAMs_20 IAMs_20 14 01 41.1
comp=Z,2µm,18.0s
U56A King 64.69 63 P 13 29 01.3
baz=315,SNR=11
H64A Troy 64.70 50 P 13 29 00.9
baz=317,SNR=6.4
152A Waverly Hall 64.75 69 IAMs_20 IAMs_20 13 56 31.5
comp=Z,1µm,21.0s
J63A Strafford 64.76 52 P 13 29 01.8
baz=316
M61A Granite Spring 64.79 55 P 13 29 02.4
baz=316,SNR=13
WUPA West Chester U 64.80 57 IAMs_20 IAMs_20 14 01 19.7
comp=Z,1µm,18.0s
BRNJ Basking Ridge 64.82 56 IAMs_20 IAMs_20 14 02 34.1
comp=Z,1µm,18.0s
T57A Hurt 64.87 62 IAmb IAmb 13 29 06.1
comp=Z,87nm,1.3s
P60A Greenville 64.87 57 P 13 29 02.4
baz=316,SNR=6.5
T57A Hurt 64.87 62 P 13 29 02.4
baz=316,SNR=13
BUTP Butuan 64.89 253 eP **P 13 29 03.0 -0.2**
N61A South Mountain 64.91 56 P 13 29 03.4
baz=316,SNR=9.5
PAL Palisades 64.94 56 IAMs_20 IAMs_20 13 55 50.2
comp=Z,1µm,20.0s
PAL Palisades 64.94 56 P 13 29 03.4
baz=316,SNR=17
PAULI Pauline 64.94 65 IAMs_20 IAMs_20 13 58 20.2
comp=Z,983nm,18.0s
R58B Mineral 64.95 60 P 13 29 03.3
baz=316,SNR=13
K63A Dunstable 64.96 53 IAMs_20 IAMs_20 13 56 10.5
comp=Z,2µm,22.0s
K63A Dunstable 64.96 53 P 13 29 03.5
baz=316,SNR=9.7
GOGA Godfrey 64.97 67 P **P 13 29 02.3 -1.2**
GOGA pmax pmax
comp=Z,76nm,1.1s
GOGA Godfrey 64.97 67 IAmb IAmb 13 29 03.4
comp=Z,46nm,1.0s
GOGA Godfrey 64.97 67 IAMs_20 IAMs_20 13 58 24.1
comp=Z,903nm,20.0s
GOGA Godfrey 64.97 67 P 13 29 02.1
baz=315,SNR=11
Q59A Harwood 64.99 59 P 13 29 03.4
baz=316,SNR=7.2
SJMP San Jose 64.99 259 eP **P 13 29 04.7 +0.8**
KMSC Kings Mountain 64.99 65 P 13 29 03.2
baz=315,SNR=30
V56A Mocksville 65.00 64 P 13 29 03.3
baz=316,SNR=18
I64A Boothbay 65.02 51 P 13 29 03.4
baz=317,SNR=5.6
CBN Corbin Frederi 65.06 60 IAMs_20 IAMs_20 13 58 23.9
comp=Z,1µm,18.0s
CBN Corbin Frederi 65.06 60 P 13 29 04.0
baz=316
HRV Adam Dziewonsk 65.08 53 P **P 13 29 04.3 +0.2**
HRV pmax pmax
comp=Z,88nm,1.7s
HRV Adam Dziewonsk 65.08 53 IAMs_20 IAMs_20 14 00 50.6
comp=Z,1µm,20.0s
HRV Adam Dziewonsk 65.08 53 P 13 29 04.0
baz=317
G65A Princeton 65.09 49 P 13 29 04.0
baz=318,SNR=8.6
S58A Poland Farm, P 65.11 61 P 13 29 04.3
baz=316,SNR=9.8
H65A Eastbrook 65.14 49 P 13 29 04.3
baz=317,SNR=7.1
M62A Hamden 65.16 55 P 13 29 04.5
baz=316,SNR=7.8
ARU Arti 65.20 331*d* iP **P 13 29 05.3 +0.6**
ARU pmax pmax
comp=Z,422nm,1.7s
ARU Arti 65.20 331 P **P 13 29 05.5 +0.9**
R59A King George, V 65.21 60 P 13 29 05.0
baz=316,SNR=8.7
N62A Caumsett State 65.22 55 P 13 29 05.2
baz=316
U57A Blanch 65.22 62 P 13 29 04.8
baz=316,SNR=20
O61A Allentown 65.25 57 P 13 29 05.3
baz=316
BRZS Berezniki 65.25 320⇓*e* P **P 13 29 05.4 +0.3**
comp=Z,82nm,1.4s,baz=320
BRZS *eS* **S 13 37 49.0 +1.4**
baz=320
BRZS Berezniki 65.25 320*de* P **P 13 29 05.3 +0.2**
BRZS *eS* **S 13 37 49.0 +1.4**
BRZS pmax pmax
comp=Z,82nm,1.4s
WES Weston 65.28 53 IAMs_20 IAMs_20 13 58 21.2
comp=Z,1µm,18.0s
T58A Grand View Acr 65.31 61 P 13 29 05.2
baz=316,SNR=14
NSS Namsos 65.32 358 *e* P **P 13 29 06.1 +0.9**
JOF Joensuu 65.35 348 P **P 13 29 06.1 +0.6**
JOF pmax pmax
comp=Z,120nm,1.1s
V57A Coltrane Farms 65.36 63 P 13 29 05.4
baz=316,SNR=6.7
S59A Mechanicsville 65.42 60 P 13 29 06.3
baz=316
W56A Indian Trail 65.43 64 P 13 29 05.8
baz=316,SNR=12
R60A Leonardtown, M 65.45 59 P 13 29 06.9
baz=316
GUIM Jordan 65.48 257 *e* P **P 13 29 06.5 -0.5**
L63A North Scituate 65.52 53 P 13 29 06.9
baz=317
H66A Whiting 65.52 49 P 13 29 06.6
baz=318
M63A Gales Ferry 65.62 54 P 13 29 07.6
baz=317,SNR=13
JSC Jenkinsville 65.64 65 IAMs_20 IAMs_20 14 00 28.8
comp=Z,841nm,18.0s
TAOE Nuku Hiva Isla 65.67 144 *e* LR LR 13 48 51.8
comp=Z,2µm,27.1s
154A Montrose 65.75 68 IAMs_20 IAMs_20 13 58 52.8
comp=Z,985nm,20.0s
W57A Gilead 65.76 64 P **P 13 29 08.0 -0.6**
S60A Water View 65.82 60 P 13 29 09.0
baz=316,SNR=8.0
T59A Double "B" Far 65.84 61 P **P 13 29 08.8 -0.2**
T59A IAmb IAmb 13 29 10.5
comp=Z,122nm,1.1s
BIRD Birdtown, Kers 65.85 64 IAMs_20 IAMs_20 13 57 04.2
comp=Z,2µm,21.0s
L64A Middleborough 65.86 53 IAMs_20 IAMs_20 14 02 13.3
comp=Z,1µm,19.0s
CGP Cagayan de Oro 65.86 253⇓*e* P **P 13 29 09.4 0.0**
L64A Middleborough 65.86 53 P 13 29 08.9
baz=317
KIRV Kirov 65.90 337 LR LR 14 02 54.6
comp=Z,879nm,18.4s,baz=26,slow=40
KIRV Kirov 65.90 337*ce* P **P 13 29 10.0 +0.9**
BUSP Coron 65.92 259 *e* P **P 13 29 10.5 +0.6**
M64A Tiverton 65.95 53 IAMs_20 IAMs_20 14 01 07.8
comp=Z,2µm,21.0s
M64A Tiverton 65.95 53 P 13 29 09.7
baz=316,SNR=7.8
KLMR Klimovskoe 65.99 343*d* iP **P 13 29 09.6 -0.1**
KLMR *eS* **S 13 37 58.6 +2.4**
KLMR pmax pmax
comp=Z,254nm,1.4s
KLMR Klimovskoe 65.99 343⇓*i* P **P 13 29 09.6 -0.1**
KLMR ⇑*i* P **P 13 29 09.6 -0.1**
KLMR *i* P **P 13 29 09.6 -0.1**
KLMR AMP 13 29 11.7
comp=Z,254nm,1.4s
KLMR *eS* **S 13 37 58.7 +2.5**
KLMR *eS* **S 13 37 58.7 +2.5**
KLMR LQ LQ 13 52 51.2
KLMR LQ LQ 13 52 51.2
KLMR LR LR 13 54 29.1
CNOP Candoni, Negro 66.06 256 *e* P **P 13 29 08.5 -2.2**
BUKP Musuan 66.08 253 *e* P **P 13 29 11.2 +0.2**
MATI Mati 66.09 251 *e* P **P 13 29 08.5 -2.4**
U59A Littleton 66.15 61 IAMs_20 IAMs_20 13 58 01.9
comp=Z,1µm,19.0s
SUF Sumiainen 66.16 350 P **P 13 29 11.6 +0.8**
SUF pmax pmax
comp=Z,194nm,1.0s
T60A Surry 66.18 60 IAMs_20 IAMs_20 13 56 55.4
comp=Z,1µm,21.0s
T60A Surry 66.18 60 P 13 29 11.2
baz=316,SNR=6.4
VAF Ylistaro 66.19 352 P **P 13 29 11.6 +0.7**
VAF pmax pmax
comp=Z,205nm,1.0s
M65A Busby, Falmout 66.23 53 IAMs_20 IAMs_20 13 59 49.2
comp=Z,2µm,19.0s
CUYO Cuyo Island 66.28 258 *e* P **P 13 29 12.1 -0.1**
V59A Middlesex 66.32 62 P 13 29 12.1
baz=316,SNR=15
Y57A Sumter 66.34 65 IAMs_20 IAMs_20 14 00 50.1
comp=Z,1µm,18.0s
U60A Pendleton 66.42 61 P 13 29 12.9
baz=316
TDK Taldyqorghan 66.49 313 *i* P **P 13 29 13.8 +0.5**
comp=Z,336nm,2.0s,baz=313
TDK *eS* **S 13 38 04.7 +1.9**
baz=313
TDK LR LR 13 58 39.3
comp=Z,1µm,18.1s,baz=313
TDK Taldyqorghan 66.49 313 *i* P **P 13 29 13.7 +0.5**
TDK *eS* **S 13 38 04.7 +1.9**
TDK pmax pmax
comp=Z,336nm,2.0s
TDK MLR MLR
comp=Z,1µm,18.0s
DRLN Deer Lake 66.52 40 IAmb IAmb 13 29 17.9
comp=Z,109nm,0.9s
255A Hazlehurst 66.61 68 IAMs_20 IAMs_20 13 59 28.6
comp=Z,1µm,18.0s
Y58A Scranton 66.84 65 IAMs_20 IAMs_20 13 58 35.3
comp=Z,1µm,19.0s
V60A Jim Taylor Roa 66.87 62 P 13 29 15.6
baz=316
U61A Possum Corner 66.92 61 P 13 29 16.2
baz=317,SNR=8.1
ENPP El Nido 67.01 260 *e* P **P 13 29 16.5 -0.4**
DDMP Don Marcelino, 67.08 251 *e* P **P 13 29 15.3 -2.0**
NHSC New Hope 67.11 65 P 13 29 17.5
baz=316,SNR=6.9
PAGZ Pagadian 67.14 254 *e* P **P 13 29 15.9 -1.7**
PDGK Podgornoye 67.22 311 *i* P **P 13 29 18.5 +0.5**
PDGK pmax pmax
comp=Z,270nm,1.3s
V61A Roper 67.24 61 IAMs_20 IAMs_20 13 58 34.6
comp=Z,2µm,20.0s
QIZ Qiongzhong 67.27 273 P **P 13 29 19.1 +0.6**
QIZ S **S 13 38 14.4 +1.5**
QIZ sS **sS 13 38 23.0 +4.3**
QIZ SS **SS 13 42 35.5 +3.3**
QIZ pmax pmax
comp=Z,73nm,1.4s
QIZ pmax pmax
comp=Z,750nm,5.7s
QIZ LR LR
comp=Z,410nm,15.7s
QIZ LR LR
comp=Z,580nm,13.7s
QIZ LR LR
comp=Z,500nm,16.5s
QIZ Qiongzhong 67.27 273 P **P 13 29 19.5 +1.0**
QIZ IAmb IAmb 13 29 20.3
comp=Z,79nm,1.0s
X60A Albert Glenn T 67.32 63 P 13 29 18.3
baz=317
KMI Kunming 67.34 282⇓ P **P 13 29 19.3 +0.1**
KMI pP pwP 13 29 29.3 -0.7
KMI PcP **PcP 13 29 46.8 0.0**
KMI PP **PP 13 31 43.3 -4.0**
KMI S **S 13 38 13.2 -0.9**
KMI SKS **SKSac 13 39 09.8 -6.5**
KMI SS **SS 13 42 31.9 -1.6**
KMI pmax pmax
comp=Z,190nm,1.0s
KMI pmax pmax
comp=Z,950nm,4.3s
KMI LR LR
comp=Z,670nm,17.1s
KMI LR LR
comp=Z,450nm,16.8s
KMI LR LR
comp=Z,620nm,20.5s
KMI Kunming 67.34 282 P **P 13 29 19.6 +0.4**
KMI pmax pmax
comp=Z,231nm,1.1s
KMI Kunming 67.34 282 P **P 13 29 19.4 +0.3**
MOL Molde 67.36 360 *e* P **P 13 29 17.7 -0.6**
HAL Halifax 67.39 47 P **P 13 29 19.8 +0.9**
HAL pmax pmax
comp=Z,89nm,1.2s
HAL MLR MLR
comp=Z,3µm,20.0s
HAL Halifax 67.39 47 P **P 13 29 19.8 +0.9**
HAL IAmb IAmb 13 29 20.3
comp=Z,89nm,1.2s
FIA1 FINESS Array S 67.42 350 P **P 13 29 19.1 +0.3**
FINES FINESS Array B 67.42 350 P **P 13 29 18.9 +0.2**
comp=Z,72nm,0.9s,baz=35,slow=7.0,SNR=67
FINES PKPPKP 13 57 42.0
comp=Z,16nm,1.0s,baz=253,slow=2.0,SNR=9.2
FINES LR LR 13 58 54.0
comp=Z,962nm,21.8s,baz=24,slow=36
FINES FINESS Array B 67.42 350 P **P 13 29 19.0 +0.2**
SKMP Bagumbayan, Su 67.47 252 *e* P **P 13 29 18.9 -0.8**
KPKS Kokpek 67.51 311⇓*i* P **P 13 29 20.5 +0.7**
comp=Z,218nm,1.6s,baz=312
KPKS *eS* **S 13 38 17.4 +2.0**
baz=312
KPKS Kokpek 67.51 311*d i* P **P 13 29 20.5 +0.7**
KPKS *eS* **S 13 38 17.3 +2.0**
KPKS pmax pmax
comp=Z,218nm,1.6s
SRPI Serui, Papua 67.55 237 P **P 13 29 23.6 +3.4**
UZB Uzynkulak 67.59 311⇓*e* P **P 13 29 21.2 +0.8**
comp=Z,104nm,1.5s,baz=311
UZB *eS* **S 13 38 18.4 +2.0**
baz=311
UZB Uzynbulak 67.59 311*de* P **P 13 29 21.2 +0.8**
UZB *eS* **S 13 38 18.4 +2.0**
UZB pmax pmax
comp=Z,104nm,1.5s
V62A Hyde County Ai 67.75 61 P 13 29 21.7
baz=317
DOMB Dombas 67.87 359 *e* P **P 13 29 22.6 +0.9**
SATY Saty 67.95 311⇓*i* P **P 13 29 23.6 +0.9**
comp=Z,133nm,1.5s,baz=312
SATY *eS* **S 13 38 22.8 +2.1**
baz=312
SATY Saty 67.95 311*d i* P **P 13 29 23.5 +0.9**
SATY *eS* **S 13 38 22.8 +2.1**
SATY pmax pmax
comp=Z,133nm,1.5s
CHKK Chushkaly 68.02 313⇓*e* P **P 13 29 22.7 -0.3**
baz=313
CHKK Chushkaly 68.02 313*de* P **P 13 29 22.6 -0.3**
MSVF Nonsavu 68.28 189 P **P 13 29 26.2 +1.5**
MSVF pmax pmax
comp=Z,99nm,1.1s
MSVF Nonsavu 68.28 189 P **P 13 29 26.2 +1.5**
MSVF IAmb IAmb 13 29 27.5
comp=Z,99nm,1.1s
MSVF Nonsavu 68.28 189 P **P 13 29 26.5 +1.8**
KUU Kurty 68.29 313⇓*e* P **P 13 29 24.6 -0.1**
comp=Z,141nm,1.4s,baz=313
KUU *eS* **S 13 38 25.8 +1.1**
baz=313
KUU Kurty 68.29 313*de* P **P 13 29 24.5 -0.1**
KUU *eS* **S 13 38 25.7 +1.1**
KUU pmax pmax
comp=Z,141nm,1.4s
BTLS Baital 68.46 315⇓*i* P **P 13 29 26.2 +0.5**
comp=Z,58nm,1.0s,baz=315
BTLS *eS* **S 13 38 28.3 +1.8**
baz=315
BTLS Baital 68.46 315*d* iP **P 13 29 26.1 +0.5**
BTLS *eS* **S 13 38 28.3 +1.8**
BTLS pmax pmax
comp=Z,58nm,1.0s
PUL Pulkovo 68.51 347*ce* P **P 13 29 27.4 +1.8**
PUL pmax pmax
comp=Z,125nm,0.4s
MDOK Medeo 68.52 312 *i* P **P 13 29 26.9 +0.6**
baz=312
MDOK *eS* **S 13 38 29.4 +1.8**
baz=312
MDOK LR LR 13 59 50.2
comp=Z,720nm,16.4s,baz=312
MDOK Medeo 68.52 312 *i* P **P 13 29 26.8 +0.6**
MDOK *eS* **S 13 38 29.3 +1.8**
MDOK MLR MLR
comp=Z,720nm,16.0s
AAA Alma-Ata 68.55 312⇓*i* P **P 13 29 27.2 +0.8**
comp=Z,127nm,1.6s,baz=312
AAA *eS* **S 13 38 29.8 +2.0**
baz=312
AAA LR LR 13 59 54.4
comp=Z,581nm,17.4s,baz=312
AAA Alma-Ata 68.55 312*d* iP **P 13 29 27.1 +0.8**
AAA *eS* **S 13 38 29.7 +2.0**
AAA pmax pmax
comp=Z,127nm,1.6s
AAA MLR MLR
comp=Z,581nm,17.0s
NC204 NORSAR Array S 68.61 358 P **P 13 29 27.1 +0.8**
TNSS Tian-Shan 68.66 312⇓*i* P **P 13 29 28.0 +0.6**
baz=312
TNSS Tian-Shan 68.66 312⇓*i* P **P 13 29 28.0 +0.6**
PMG Port Moresby 68.79 222 LR LR 13 54 05.2
comp=Z,852nm,21.2s,baz=37,slow=31
PMG Port Moresby 68.79 222*ce* P **P 13 29 28.1 +0.2**
PMG pmax pmax
comp=Z,100nm,1.0s
PMG Port Moresby 68.79 222 P **P 13 29 27.4 -0.5**
PMG IAmb IAmb 13 29 29.3
comp=Z,82nm,0.9s
PMG Port Moresby 68.79 222 P **P 13 29 28.7 +0.8**
NB2 NORSAR Subarra 68.84 358 P **P 13 29 28.2 +0.4**
comp=Z,22nm,0.8s,baz=1.2,slow=6.5
NB2 NORSAR Subarra 68.84 358 P **P 13 29 28.2 +0.4**
baz=1.2,slow=6.5
NOA NORSAR Array B 68.84 358 P **P 13 29 28.6 +0.8**
comp=Z,64nm,0.9s,baz=1.2,slow=6.3,SNR=78
NOA PKP2bc 13 57 33.9
comp=Z,3.2nm,1.0s,baz=157,slow=2.6,SNR=4.2
SUE Sulen 68.87 1 *e* P **P 13 29 29.2 +1.3**
NC602 NORSAR Array S 69.13 357 *e* P **P 13 29 30.7 +1.1**
NORES NORESS Array B 69.13 357 P **P 13 29 30.3 +0.8**
NORES pmax pmax
comp=Z,48nm,0.9s
VAH Vaihoa 69.14 153 *e* P **P 13 29 30.8 +0.8**
comp=Z,153nm,1.0s
AAL Aland 69.24 353 *e* P **P 13 29 30.8 +0.6**
SKAR Skarslia 69.25 359 *e* P **P 13 29 31.7 +1.3**
TKM2 Tokmak 2 69.39 313 P **P 13 29 32.6 +0.9**
SNR=87
TKM2 Tokmak 2 69.39 313 *i* P **P 13 29 32.3 +0.6**
TKM2 pmax pmax
comp=Z,137nm,1.1s
SGDS Sogindy 69.43 314⇓*e* P **P 13 29 32.8 +1.0**
comp=Z,119nm,1.5s,baz=314
SGDS *eS* **S 13 38 40.3 +2.1**
baz=314
SGDS Sogindy 69.43 314*de* P **P 13 29 32.7 +1.0**
SGDS *eS* **S 13 38 40.2 +2.1**
SGDS pmax pmax
comp=Z,119nm,1.5s
ASK Askoy 69.45 1 *e* P **P 13 29 32.6 +1.2**
SWI Sorong 69.45 242 P **P 13 29 32.2 +0.1**
SWI pmax pmax
comp=Z,393nm,0.8s
SWI Sorong 69.45 242 P **P 13 29 32.0 -0.1**
comp=Z,3µmcomp=Z,388nm,0.8s
BER Bergen 69.55 1 *e* P **P 13 29 33.1 +1.1**
ULHL Ulahol 69.60 312 P **P 13 29 34.1 +1.0**
SNR=42
USP Ospenovka 69.63 314 P **P 13 29 34.1 +1.1**
SNR=134
HFS Hagfors 69.66 356 LR LR 13 59 21.8
comp=Z,678nm,21.9s,baz=6.5,slow=35

CHMS	Chumysh	69.72 314	P	P	13 29 34.6	+1.1
	SNR=50					
UPP	Uppsala	69.73 354	eP	P	13 29 34.3	+1.1
BATP	Bataraza	69.88 259	eP	P	13 29 35.6	+0.9
KBK	Karagaybulak	69.89 313	P	P	13 29 35.9	+1.1
	SNR=91					
OSL	Oslo	69.95 358	eP	P	13 29 36.5	+1.9
AAK	Ala-Archa	70.12 313	P	P	13 29 37.0	+0.8
	SNR=150					
AAK	Ala-Archa	70.12 313	i P	P	13 29 37.3	+1.2
	SNR=188					
AAK	Ala-Archa	70.12 313	i P	P	13 29 36.7	+0.5
AAK			pmax	pmax		
	comp=Z,490nm,0.9s					
AAK	Ala-Archa	70.12 313	P	P	13 29 37.1	+1.0
AAK			IAMs_20	IAMs_20	13 59 36.9	
	comp=Z,1µm,22.0s					
AAK	Ala-Archa	70.12 313	P	P	13 29 37.2	+1.0
VSU	Vasula	70.25 349	eP	P	13 29 37.2	+0.8
VSU	Vasula	70.25 349	i P	P	13 29 37.0	+0.6
VSU			pmax	pmax		
	comp=Z,608nm,1.0s					
KONO	Kongsberg	70.27 358	ceP	P	13 29 38.3	+1.8
KONO			pmax	pmax		
	comp=Z,275nm,1.7s					
KONO	Kongsberg	70.27 358	P	P	13 29 38.0	+1.5
KONO	Kongsberg	70.27 358	eP	P	13 29 37.2	+0.7
MTSE	Matsula	70.33 351	eP	P	13 29 37.7	+0.8
TNTI	Ternate	70.35 246	P	P	13 29 36.8	-0.9
	comp=Z,1µmcomp=Z,89nm,1.1s					
UCH	Uchtor	70.43 313	P	P	13 29 39.4	+1.0
	SNR=81					
EKS2	Erkin-Say	70.43 314	P	P	13 29 39.3	+1.3
	SNR=135					
DIBR	DIBRUGARH	70.45 290	eP	P	13 29 39.0	+0.8
DIBR			IAmb	IAmb	13 29 40.3	
	comp=Z,174nm,1.0s					
FAKI	Fak Fak	70.59 240	P	P	13 29 39.3	+0.2
	comp=Z,1µmcomp=Z,3µmcomp=Z,184nm,1.3s					
AB31	Akbulak array	70.75 326	i P	P	13 29 40.2	+0.5
AB31			pmax	pmax		
	comp=Z,144nm,1.0s					
PPT	Papeete	70.84 156	LR	LR	13 53 40.8	
	comp=Z,1µm,21.7s,baz=346,slow=30					
PPT2	Papeete2	70.86 156	eS	S	13 38 54.7	-0.4
	comp=Z,5µm,26.0s					
PPT2	Papeete2	70.86 156	eLR	LR	13 51 14.7	
	comp=Z,4µm,25.2s,baz=339					
AML	Almayashu	70.89 314	P	P	13 29 42.3	+1.2
	SNR=168					
ZIRO	ZIRO	71.05 290	eP	P	13 29 43.0	+0.9
LSA	Lhasa	71.05 294	P	P	13 29 43.9	+1.5
LSA			pmax	pmax		
	comp=Z,260nm,1.0s					
LSA	Lhasa	71.05 294	i P	P	13 29 44.0	+1.5
	SNR=13					
LSA	Lhasa	71.05 294	P	P	13 29 43.9	+1.5
LSA			pmax	pmax		
	comp=Z,83nm,1.2s					
MOS	Moscow	71.13 342	eP	P	13 29 39.6	-2.2
MOS			e		13 30 04.1	
MOS			eS	S	13 38 54.7	-2.7
MOS			pmax	pmax		
	comp=Z,160nm,1.1s					
MOS			pmax	pmax		
	comp=Z,400nm,2.0s					
MOS			MLR	MLR		
	comp=Z,2µm,21.0s					
MNI	Manado	71.31 249	P	P	13 29 43.7	+0.2
MNI			pmax	pmax		
	comp=Z,186nm,1.0s					
ITAN	ITANAGAR	71.41 290	eP	P	13 29 45.0	+1.0
ITAN			IAmb	IAmb	13 30 07.2	
	comp=Z,337nm,1.3s					
MOKO	MOKOCHONG	71.53 289	eP	P	13 29 44.7	-0.3
MOKO			IAmb	IAmb	13 29 48.2	
	comp=Z,69nm,1.1s					
SLIT	Slitere, Latvi	71.56 351	eP	P	13 29 45.0	+0.7
KK31	Karatay Array	71.56 316	i P	P	13 29 44.8	+0.1
KK31			pmax	pmax		
	comp=Z,67nm,0.8s					
KK31	Karatay Array	71.56 316	IAmb	IAmb	13 29 46.5	
	comp=Z,96nm,1.0s					
KKAR	Karatay Array	71.56 316	IAmb	IAmb	13 29 46.5	
	comp=Z,96nm,1.0s					
SNART	Snartemo	71.61 360	eP	P	13 29 46.3	+1.7
HOMB	Homborsund	71.67 359	eP	P	13 29 46.0	+1.0
HOMB	Homborsund	71.67 359	i P	P	13 29 46.5	+1.5
KSH	Kashi	71.84 310	P	P	13 29 50.6	+4.0
KSH			pP	pwP	13 29 54.7	-2.6
KSH			PcP	PcP	13 30 08.7	+3.3
KSH			S	S	13 39 09.4	+2.9
KSH			sS	SKiKP	13 39 18.9	-4.6
KSH			pmax	pmax		
	comp=Z,1µm,5.7s					
KSH			LR	LR		
	comp=Z,1µm,17.4s					
KSH			LR	LR		
	comp=Z,4µm,21.8s					
KSH			LR	LR		
	comp=Z,3µm,24.1s					
BELG	Belogornoye	71.88 335d	iP	P	13 29 47.0	+0.6
BELG			pmax	pmax		
	comp=Z,50nm,1.0s					
BRLS	Borolday	71.92 317	eS	S	13 39 11.9	+4.8
	baz=317					
OBN	Obninsk	71.93 343d	iP	P	13 29 46.9	+0.3
OBN			e*PP	pP	13 29 49.5	-0.7
OBN			e*SP	sP	13 29 51.1	-0.4
OBN			e		13 30 05.5	
OBN			i S	S	13 39 05.3	-1.3
OBN			SS	SS	13 43 52.0	+10
OBN			SSS	SSS	13 47 00.0	
OBN			pmax	pmax		
	comp=Z,45nm,0.6s					
OBN			MLR	MLR		
	comp=Z,918nm,19.0s					
KOHI	KOHIMA	72.22 289	eP	P	13 29 49.4	+0.2
KOHI			IAmb	IAmb	13 29 52.3	
	comp=Z,200nm,1.3s					
MYLDM	Lahad Datu	72.23 256	P	P	13 29 49.8	+0.7
RAR	Rarotonga	72.30 167	P	P	13 29 50.2	+1.0
RAR			pmax	pmax		
	comp=Z,105nm,1.3s					
RAR	Rarotonga	72.30 167	P	P	13 29 50.2	+1.0
KMSI	Cibinong	72.51 249	P	P	13 29 51.1	+0.4
	comp=Z,242nm,0.8s					
IUG	Iuzhnay	72.54 316	eP	P	13 29 51.7	+0.9
	comp=Z,45nm,0.9s,baz=316					
IUG			eS	S	13 39 16.3	+1.9
	baz=316					
IUG	Iuzhnay	72.54 316	eP	P	13 29 51.6	+0.9
IUG			eS	S	13 39 16.2	+1.9
IUG			pmax	pmax		
	comp=Z,45nm,0.9s					
UBPT	Khong Chiam	72.84 273	P	P	13 29 53.2	+0.6
UBPT			IAmb	IAmb	13 29 54.2	
	comp=Z,137nm,1.0s					
GTOI	Gorontalo	73.04 250	P	P	13 29 53.2	-0.7
	comp=Z,731nmcomp=Z,63nm,1.0s					
ISAL	Salakas	73.15 349	eP	P	13 29 55.6	+1.6
PBUR	Paburge	73.18 351	eP	P	13 29 55.3	+1.2
IDID	Didziasalis	73.32 348	eP	P	13 29 55.8	+0.9
GUWA	GUWAHATI	73.33 291	eP	P	13 29 54.9	-0.6
GUWA			IAmb	IAmb	13 30 07.4	
IIGN	Ignalina	73.35 349	eP	P	13 29 56.1	+0.9
KOUNC	Koumac, New Ca	73.39 202	P	P	13 29 56.8	+1.2
SANI	Sanana	73.43 245	P	P	13 29 55.2	-1.0
	comp=Z,2µmcomp=Z,165nm,1.0s					
PABE	Paberze	73.47 350	eP	P	13 29 56.4	+0.6
MUD	Monsted U'grnd	73.48 359	i P	P	13 29 57.8	+2.0
MUD	Monsted U'grnd	73.48 359	i P	P	13 29 57.8	+2.0
MUD	Monsted U'grnd	73.48 359	i P	P	13 29 57.8	+2.0
SHL	Shillong	73.68 290	eP	P	13 29 56.9	-0.9
SHL			IAmb	IAmb	13 29 58.3	
	comp=Z,76nm,0.9s					
SHL	Shillong	73.68 290	P	P	13 29 57.1	-0.7
	SNR=53					
NACGM	Naroch	73.72 348	i P	P	13 29 57.0	-0.3
NACGM			i P	P	13 29 57.0	-0.3
NACGM			i P	P	13 29 57.0	-0.3
NACGM			i PcP	PcP	13 30 18.2	+5.2
NACGM			i PP	PP	13 32 41.1	+0.2
NACGM			i PPP	PPP	13 34 22.6	
NACGM			i S	SKiKP	13 39 25.5	-0.2
NACGM			i SS	SS	13 44 31.9	+23
NACGM			i SSS	SSS	13 47 59.9	
NACGM			i LQ	LQ	13 57 08.4	
NACGM			i LR	LR	14 00 28.8	
LPSR	Galich'ya Gora	73.81 340	eP	P	13 29 58.1	+0.3
LPSR			e		13 30 08.0	
LPSR			pmax	pmax		
	comp=Z,230nm,1.0s					
MRSI	Marisa	73.81 250	P	P	13 29 58.1	-0.3
	comp=Z,3µmcomp=Z,302nm,1.2s					
MNK	Minsk	73.96 347⇓	eP	P	13 30 00.0	+1.3
MNK			eS	S	13 39 30.0	+0.2
MNK			pmax	pmax		
	comp=Z,450nm,1.0s					
MNK	Minsk	73.96 347	i P	P	13 29 59.9	+1.2
	comp=E,9.0nm,1.5s					
MNK			i P	P	13 29 59.9	+1.2
	comp=N,111nm,1.9s					
MNK			i P	P	13 29 59.9	+1.2
	comp=Z,92nm,0.9s					
MNK			i PP	PP	13 33 04.0	+21
MNK			i PPP	PPP	13 34 38.1	
MNK			i S	S	13 39 33.3	+3.5
MNK			i SS	SS	13 44 19.3	+6.4
MNK			i SSS	SSS	13 47 49.9	
MNK			i LQ	LQ	13 57 33.2	
MNK			i LR	LR	14 01 23.3	
MNK			i LRM	MLR	14 02 00.6	
	comp=E,81nm,20.8s					
MNK			i LRM	MLR	14 02 13.5	
	comp=Z,1µm,29.6s					
MNK			i LRM	MLR	14 02 15.5	
	comp=N,1µm,23.2s					
TOLI2	Tolitoli	74.01 252	IAmb	IAmb	13 30 00.3	
	comp=Z,125nm,1.0s					
LAMP	Lampang	74.13 280	P	P	13 30 00.6	+0.3
	comp=Z,1µmcomp=Z,129nm,1.0s					
COP	Copenhagen	74.16 357	i P	P	13 30 10.5	+11
COP	Copenhagen	74.16 357	eP	P	13 30 10.5	+11
COP	Copenhagen	74.16 357	i P	P	13 30 02.2	+2.3
COP			eP	P	13 30 10.6	+11
CM34	Chiang Mai Arr	74.19 280	P	P	13 30 00.0	-0.7
EKA	Eskdalemuir Ar	74.30 6	LR	LR	14 02 54.1	
	comp=Z,201nm,19.0s,baz=355,slow=36					
EKA	Eskdalemuir Ar	74.30 6	P	P	13 30 01.7	+1.0
ESK	Eskdalemuir	74.31 6	P	P	13 30 02.6	+1.9
ESK			pmax	pmax		
	comp=Z,78nm,1.2s					
GTK	Tadong	74.31 294	eP	P	13 30 02.0	+0.6
GTK			IAmb	IAmb	13 30 05.3	
	comp=Z,53nm,1.1s					
CM35	Chiang Mai Arr	74.32 280	P	P	13 30 01.0	-0.4
CM33	Chiang Mai Arr	74.35 281	P	P	13 30 01.0	-0.6
CHTO	Chiang Mai	74.35 281	P	P	13 30 01.6	0.0
CHTO			pmax	pmax		
	comp=Z,106nm,1.2s					
CHTO			MLR	MLR		
	comp=Z,500nm,19.0s					
CHTO	Chiang Mai	74.35 281	P	P	13 30 01.6	0.0
CHTO			IAmb	IAmb	13 30 02.8	
	comp=Z,106nm,1.1s					
CHTO	Chiang Mai	74.35 281	P	P	13 30 01.3	-0.3
DZM	Mont Dzumac	74.37 200	eP	P	13 30 02.7	+1.2
	comp=Z,226nm,1.2s					
DZM			eS	S	13 39 36.8	+1.7
	comp=Z,3µm,26.9s					
DZM			eLQ	LQ	13 49 14.7	
	comp=Z,3µm,35.5s					
DZM			eLR	LR	13 52 50.7	
	comp=Z,3µm,31.2s					
DZM	Mont Dzumac	74.37 200	P	P	13 30 02.7	+1.2
DZM			IAmb	IAmb	13 30 03.9	
	comp=Z,96nm,1.0s					
DZM	Mont Dzumac	74.37 200	P	P	13 30 03.0	+1.5
NOUC	Port Laguerre	74.43 200	P	P	13 30 03.0	+1.3
VRH	Novokhopyorsk	74.47 338	eP	P	13 30 01.3	-0.4
VRH			e		13 30 11.1	
VRH			pmax	pmax		
	comp=Z,110nm,1.0s					
LUWI	Luwuk	74.52 249	P	P	13 30 01.9	-0.6
LUWI	Luwuk	74.52 249	P	P	13 30 01.6	-0.9
	comp=Z,6µmcomp=Z,723nm,0.9s					
CM32	Chiang Mai Arr	74.53 281	P	P	13 30 02.0	-0.6
CM09	Chiang Mai Arr	74.60 280	P	P	13 30 03.0	0.0
	comp=Z,1µmcomp=Z,127nm,0.9s					
CM31	Chiang Mai Arr	74.62 280	P	P	13 30 03.5	+0.3
	comp=Z,23µmcomp=Z,3µm,0.8s					
CMAR	Chiang Mai Arr	74.62 280	P	P	13 30 03.6	+0.5
	comp=Z,84nm,0.8s,baz=28,slow=6.7,SNR=350					
CMAR			PKPPKP		13 57 32.2	
	comp=Z,1.3nm,1.1s,baz=254,slow=3.4,SNR=2.1					
CMAR			LR	LR	14 03 09.9	
	comp=Z,402nm,21.7s,baz=78,slow=36					
CMAR	Chiang Mai Arr	74.62 280	i P	P	13 30 03.4	+0.3
CMAR			pmax	pmax		
	comp=Z,84nm,0.8s					
VORR	Voronezh	74.62 340	eP	P	13 30 00.0	-2.6
VORR			pmax	pmax		
	comp=Z,750nm,2.0s					
CM02	Chiang Mai Arr	74.63 280	P	P	13 30 03.0	-0.2
	comp=Z,1µmcomp=Z,163nm,0.9s					
CM15	Chiang Mai Arr	74.63 280	P	P	13 30 03.5	+0.2
	comp=Z,977nmcomp=Z,128nm,0.9s					
CM01	Chiang Mai Arr	74.63 280	P	P	13 30 03.5	+0.3
	comp=Z,1µmcomp=Z,160nm,0.9s					
CM04	Chiang Mai Arr	74.64 280	P	P	13 30 03.0	-0.2
	comp=Z,1µmcomp=Z,175nm,0.9s					
CM05	Chiang Mai Arr	74.66 280	P	P	13 30 03.0	-0.4
	comp=Z,1µmcomp=Z,135nm,1.0s					
CM13	Chiang Mai Arr	74.67 280	P	P	13 30 03.6	+0.2
	comp=Z,1µmcomp=Z,144nm,0.9s					
TAPN	Taplejung	74.81 294	eP	P	13 30 04.7	+0.2
	comp=Z,283nm,1.1s					
SUW	Suwalki	75.03 350	eP	P	13 30 04.8	-0.1
SUW	Suwalki	75.03 350	eP	P	13 30 05.0	+0.1
SUW	Suwalki	75.03 350	P	P	13 30 04.9	-0.1
SUW			pmax	pmax		
	comp=Z,179nm,1.0s					
VSR	Storozhevoye	75.05 340	eP	P	13 30 05.3	+0.2
VSR			e		13 30 15.8	
VSR			pmax	pmax		
	comp=Z,200nm,1.0s					
APSI	Ampana	75.09 250	P	P	13 30 05.9	+0.1
	comp=Z,1µmcomp=Z,110nm,1.4s					
SKMB	Sankelmark Bun	75.21 358	eP	P	13 30 07.8	+1.9
	comp=Z,580nm,1.7s,baz=3.8,slow=5.5					
VORD	Divnogorie	75.26 339	eP	P	13 30 06.9	+0.6
VORD			e		13 30 17.2	
VORD			pmax	pmax		
	comp=Z,130nm,0.9s					
SAIH	SAIHA	75.31 287	eP	P	13 30 07.1	-0.1
SAIH			IAmb	IAmb	13 30 11.9	
	comp=Z,266nm,1.3s					
AGT	Agartala	75.32 290	eP	P	13 30 08.5	+1.4
AGT			IAmb	IAmb	13 30 11.8	
	comp=Z,94nm,0.8s					
SAUI	Saumlaki	75.32 237	P	P	13 30 08.7	+1.6
	comp=Z,9µmcomp=Z,511nm,1.1s					
ODAN	Odare	75.37 294	eP	P	13 30 07.7	0.0
	comp=Z,242nm,1.4s					
GUN	Gumba	75.45 296	eP	P	13 30 08.8	+0.6
	comp=Z,411nm,0.9s					
MHMT	Maesarieng	75.46 281	P	P	13 30 07.0	-1.0
	comp=Z,3µmcomp=Z,355nm,1.1s					
BELO	BELONIA	75.67 289	eP	P	13 30 09.3	+0.1
RAMN	Ramite	75.76 295	eP	P	13 30 10.1	+0.2
	comp=Z,254nm,0.9s					
HLG	Helgoland	75.77 359	eP	P	13 30 10.7	+1.5
	comp=Z,418nm,1.2s,baz=3.8,slow=5.5					
HLG			epP	PcP	13 30 21.5	-0.3
KKN	Kakani	75.88 296	eP	P	13 30 10.9	+0.3
	comp=Z,235nm,1.1s					
PKI	Pulchoki	75.97 296	eP	P	13 30 11.2	0.0
	comp=Z,360nm,1.2s					
BSEG	Bad Segeberg	75.98 358	P	P	13 30 12.1	+1.8
BSEG			pmax	pmax		
	comp=Z,73nm,2.0s					
BSEG	Bad Segeberg	75.98 358	eP	P	13 30 11.8	+1.4
	comp=Z,142nm,1.2s,baz=3.8,slow=5.5					
BSEG			epP	PcP	13 30 22.3	-0.3
PKIN	Phulchoki	75.98 296	eP	P	13 30 11.2	0.0
	comp=Z,518nm,1.5s					
GKN	Gorkha	76.09 297	eP	P	13 30 11.8	+0.1
	comp=Z,379nm,1.1s					
DMN	Daman	76.12 296	eP	P	13 30 12.4	+0.4
BBSR	BB Station	76.28 56	P	P	13 30 11.8	-0.7
BBSR			IAmb	IAmb	13 30 18.7	
	comp=Z,79nm,0.9s					
GKP	Gorka Klasztor	76.31 354	eP	P	13 30 13.3	+1.0
GKP	Gorka Klasztor	76.31 354	eP	P	13 30 12.8	+0.6
GKP	Gorka Klasztor	76.31 354	P	P	13 30 12.9	+0.6
GKP			pmax	pmax		
	comp=Z,158nm,0.8s					
TBI	Tubuai	76.41 158	eLR	LR	13 53 34.8	
	comp=Z,3µm,25.0s,baz=339					
RUE	Ruedersdorf	77.31 356	eP	P	13 30 18.8	+1.0
	comp=Z,313nm,1.5s,baz=3.8,slow=5.5					
DHRM	DHARAMSHALA	77.36 306	eP	P	13 30 17.8	-1.0
DHRM			IAmb	IAmb	13 30 25.0	
	comp=Z,60nm,0.8s					
NRDL	Niedersach Rie	77.42 358	eP	P	13 30 19.6	+1.1
	comp=Z,168nm,1.4s,baz=3.8,slow=5.5					
NRDL			epP	pwP	13 30 30.0	+0.7
BEL	Belsk	77.43 351	eP	P	13 30 19.5	+0.9
AKASG	Malin Array Be	77.45 346	P	P	13 30 18.7	0.0
	comp=Z,36nm,0.7s,baz=18,slow=6.0,SNR=122					
AKASG			S	S	13 40 07.0	-1.4
	comp=Z,0.2nm,0.3s,baz=13,slow=11,SNR=7.1					
AKASG			LR	LR	14 08 46.0	
	comp=Z,668nm,20.9s,baz=355,slow=39					
AKBB	Malin Array Si	77.45 346	ceP	P	13 30 18.7	0.0
AKBB	Malin Array Si	77.45 346	IAmb	IAmb	13 30 20.0	
	comp=Z,89nm,1.0s					
KIEV	Kiev	77.46 346	P	P	13 30 16.0	-2.8
FLTG	Flechtingen	77.56 357	eP	P	13 30 19.9	+0.6
	comp=Z,301nm,1.7s,baz=3.8,slow=5.5					
IBBN	Ibbenburen	77.65 359	eP	P	13 30 21.1	+1.3
	comp=Z,302nm,1.4s,baz=3.8,slow=5.5					
ASSE	Asse, Remlinge	77.77 358	eP	P	13 30 21.6	+1.2
	comp=Z,142nm,1.2s,baz=3.8,slow=5.5					
SMLA	Simla	77.78 304	eP	P	13 30 20.7	-0.2
SMLA			IAmb	IAmb	13 30 22.7	
	comp=Z,73nm,0.9s					
NIL	Nilore	77.80 308	P	P	13 30 22.0	+0.9
NIL			pmax	pmax		
	comp=Z,281nm,0.9s					
NIL			MLR	MLR		
	comp=Z,1µm,19.0s					
NIL	Nilore	77.80 308	P	P	13 30 22.0	+0.9
NIL	Nilore	77.80 308	IAMs_20	IAMs_20	14 07 57.1	
	comp=Z,1µm,19.0s					
NIL	Nilore	77.80 308	P	P	13 30 21.7	+0.6
TTSI	Tana Toraja	77.88 250	P	P	13 30 21.9	+0.3
TTSI	Tana Toraja	77.88 250	P	P	13 30 21.9	+0.3
	comp=Z,2µmcomp=Z,202nm,1.2s					
DDI	Dehra Dun	77.94 303	eP	P	13 30 21.6	-0.3
DDI			IAmb	IAmb	13 30 23.7	
	comp=Z,74nm,0.9s					
CLZ	Clausthal	78.07 358	eP	P	13 30 23.6	+1.4
	comp=Z,288nm,1.5s,baz=3.8,slow=5.5					
CLZ			epP	pwP	13 30 34.1	+1.1
SBUM	Sibu	78.27 260	P	P	13 30 25.0	+1.2
GTTG	Gottingen	78.38 358	eP	P	13 30 25.2	+1.3
	comp=Z,256nm,1.3s,baz=3.8,slow=5.5					
CLL	Collm	78.51 356⇓	iP	P	13 30 25.3	+0.7
	comp=Z,229nm,1.8s					
CLL			i PcP	pwP	13 30 35.5	+0.1
CLL			i S	S	13 40 19.5	-0.4
CLL			eSKSac	SKKSac	13 40 40.0	+0.3
CLL			ePS	PnS	13 41 12.0	+11
CLL			eSS	SS	13 45 42.0	+20
CLL			eSSS	SSS	13 48 54.0	
CLL			L	L	14 07 00.0	
	comp=Z,500nm,21.0s					
CLL	Collm	78.51 356⇓	iP	P	13 30 25.3	+0.7
CLL			i S	S	13 40 19.5	-0.4
CLL			pmax	pmax		
	comp=Z,229nm,1.8s					
CLL	Collm	78.51 356	eP	P	13 30 25.2	+0.5
	comp=Z,86nm,1.1s,baz=3.8,slow=5.5					
BUG	Bochum--Univer	78.52 360	P	P	13 30 25.8	+1.2
BUG			pmax	pmax		
	comp=Z,105nm,1.4s					
BUG	Bochum--Univer	78.52 360	eP	P	13 30 25.5	+0.8
	comp=Z,125nm,1.2s,baz=3.8,slow=5.5					
BOK	Bokaro	78.58 293	eP	P	13 30 25.4	0.0
BOK			IAmb	IAmb	13 30 28.5	
	comp=Z,34nm,0.8s					
SPSI	Sidrap Palu	78.64 249	P	P	13 30 25.5	-0.3
SPSI	Sidrap Palu	78.64 249	P	P	13 30 25.5	-0.3
	comp=Z,1µmcomp=Z,77nm,1.0s					
NEUB	Neuenburg	78.66 357	eP	P	13 30 26.4	+1.0
	comp=Z,165nm,1.1s,baz=3.8,slow=5.5					
KASTN	Kahler Asten	78.75 359	eP	P	13 30 27.1	+1.1
	comp=Z,88nm,1.2s,baz=3.8,slow=5.5					
CTAO	Charters Tower	78.76 218	P	P	13 30 26.3	0.0
CTAO			pmax	pmax		
	comp=Z,64nm,1.0s					
CTAO	Charters Tower	78.76 218	P	P	13 30 26.3	0.0
CTAO			IAmb	IAmb	13 30 27.4	
	comp=Z,64nm,0.9s					
BNSI	Bone	78.79 249	P	P	13 30 27.0	+0.4
BNSI	Bone	78.79 249	P	P	13 30 27.0	+0.4
	comp=Z,2µmcomp=Z,121nm,1.1s					
KSP	Ksiaz	78.79 354	eP	P	13 30 26.6	+0.5
KSP	Ksiaz	78.79 354	P	P	13 30 27.1	+0.9
KSP			pmax	pmax		
	comp=Z,41nm,1.0s					
FBE	Freiberg	78.88 356	eP	P	13 30 27.8	+1.1
	comp=Z,143nm,1.2s,baz=3.8,slow=5.5					
BRG	Berggiesshubel	78.90 355	P	P	13 30 27.8	+1.0
BRG			pmax	pmax		
	comp=Z,105nm,1.4s					
BRG	Berggiesshubel	78.90 355	i P	P	13 30 27.6	+0.8
BRG			Amp		13 30 29.1	
	comp=Z,183nm,1.5s					
BRG			i x	x	13 30 38.3	
BRG			S	S	13 40 26.1	+2.0
BRG			SS	SS	13 45 54.0	+26
BRG			Amp		13 59 40.0	
	comp=Z,2.6nm,27.5s					
BRG			Amp		13 59 47.0	
	comp=N,1.8nm,23.8s					
BRG			Amp		13 59 52.0	
	comp=E,0.8nm,22.5s					
BRG	Berggiesshubel	78.90 355	eP	P	13 30 27.4	+0.6
	comp=E,90nm,1.1s,baz=3.8,slow=5.5					
LVV	L'vov	79.05 349	eP	P	13 30 27.9	+0.3
LVV			eS	S	13 40 23.1	-2.6
LVV			pmax	pmax		
	comp=Z,110nm,1.2s					
CHVC	Chvalec	79.06 354⇓	iP	P	13 30 28.6	+0.9
OSTC	Ostas	79.08 354⇓	eP	P	13 30 28.8	+1.0
UBBA	Unterbreizbach	79.10 358	eP	P	13 30 28.9	+1.1
	comp=Z,111nm,1.5s,baz=3.8,slow=5.5					
OJC	Ojcow	79.12 351	eP	P	13 30 28.7	+0.6
KBL	Kabul	79.14 312	P	P	13 30 27.5	-1.2
KBL			pmax	pmax		
	comp=Z,226nm,1.0s					
KBL			MLR	MLR		
	comp=Z,900nm,19.0s					
KBL	Kabul	79.14 312	P	P	13 30 27.4	-1.2
KBL			IAMs_20	IAMs_20	14 08 34.8	
	comp=Z,926nm,19.0s					
KBL	Kabul	79.14 312	P	P	13 30 28.0	-0.6
	SNR=109					
UPC	Upice	79.14 354	eP	P	13 30 29.1	+1.0
UPC	Upice	79.14 354⇓	eP	P	13 30 29.1	+1.0
BEBN	Eben Emael	79.16 1	dP	P	13 30 29.0	+0.8
PVCC	Panska Ves	79.21 355	eP	P	13 30 29.5	+1.0
PVCC	Panska Ves	79.21 355⇓	eP	P	13 30 29.5	+1.0
MOX	Moxa	79.23 357	P	P	13 30 29.9	+1.3
MOX			pmax	pmax		
	comp=Z,81nm,1.5s					
MOX	Moxa	79.23 357	eP	P	13 30 29.6	+0.9
	comp=Z,81nm,1.2s,baz=3.8,slow=5.5					
MOX			epP	pwP	13 30 40.0	+0.6
MTKI	Muara Teweh, K	79.23 255	P	P	13 30 29.1	0.0
	comp=Z,189nm,1.1s					
DPC	Dobruska-Polom	79.28 354⇓	iP	P	13 30 30.1	+1.2
DPC			MLR	MLR		
	comp=Z,2µm,24.1s					
DPC	Dobruska-Polom	79.28 354⇓	iP	P	13 30 30.1	+1.2
DPC			AMS	AMS	14 01 30.0	
	comp=Z,2µm,24.1s					
MEM	Membach	79.35 0	dP	P	13 30 30.5	+1.3
	comp=Z,72nm,1.5s					
MEM	Membach	79.35 0	P	P	13 30 30.6	+1.3
MEM			pmax	pmax		
	comp=Z,110nm,1.5s					

PLN **Plauen** 79.37 356 *e*P P 13 30 30.3 +0.9
comp=Z,58nm,1.2s,baz=3.8,slow=5.5
BSTI **Sart Tilman** 79.37 1 *d*P P 13 30 30.8 +1.4
BTNL **Ternell** 79.37 0 *d*P P 13 30 30.4 +1.0
KWP **Kalwaria Pacla** 79.40 350 *e*P P 13 30 30.5 +0.9
KWP **Kalwaria Pacla** 79.40 350 P P 13 30 30.8 +1.2
KWP pmax pmax
comp=Z,144nm,1.5s
WERD **Werda** 79.40 356 *e*P P 13 30 30.3 +0.7
comp=Z,41nm,1.4s,baz=3.8,slow=5.5
AHRW **Bad Neuenahr-A** 79.42 360 *e*P P 13 30 31.0 +1.4
comp=Z,140nm,1.1s,baz=3.8,slow=5.5
TANN **Tannenbergstha** 79.43 356 *e*P P 13 30 30.8 +1.1
comp=Z,100nm,1.4s,baz=3.8,slow=5.5
SNF **Seneffe** 79.43 2 κP P 13 30 30.9 +1.3
SNF *d*PcP **pwP** 13 30 41.1 +0.6
GUNZ **Gunzen** 79.48 356 *e*P P 13 30 31.1 +1.1
comp=Z,74nm,1.3s,baz=3.8,slow=5.5
KAPI **Kappang** 79.49 249 P P 13 30 31.0 +0.5
BKSI **Bulukumba** 79.51 248 P P 13 30 30.6 0.0
comp=Z,3μmcomp=Z,315nm,1.0s
KRLC **Kraliky** 79.52 353 ⇓*i*P P 13 30 31.1 +0.8
KRLC **Kraliky** 79.52 353 ⇓*i*P P 13 30 31.1 +0.8
BCLA **Clavier** 79.53 1 *d*P P 13 30 31.4 +1.2
comp=Z,88nm,1.6s
BCLA *d*pP **pP** 13 30 33.8 0.0
BCLA *d*sP **sP** 13 30 35.1 0.0
BCLA *d*PcP **pwP** 13 30 41.6 +0.6
WERN **Wernitzgruen** 79.56 356 *e*P P 13 30 31.6 +1.1
comp=Z,99nm,1.2s,baz=3.8,slow=5.5
BGES **Gesves** 79.57 1 *d*P P 13 30 31.4 +0.9
comp=Z,74nm,1.5s
BHOU **Houvegnez** 79.61 0 *d*P P 13 30 31.9 +1.2
NKC **Novy Kostel** 79.61 356 ⇓*i*P P 13 30 31.8 +1.1
NKC **Novy Kostel** 79.61 356 ⇓*i*P P 13 30 31.8 +1.1
BMRD **Maredsous** 79.64 1 κP P 13 30 32.1 +1.3
comp=Z,130nm,1.6s
BMRD *d*pP **pP** 13 30 34.5 +0.1
BMRD *d*PcP **pwP** 13 30 42.5 +0.9
PRA **Prague** 79.67 355 *e*P P 13 30 32.3 +1.3
PRA **Prague** 79.67 355⇓*e*P P 13 30 32.3 +1.3
TNS **Taunus Mts** 79.73 359 P P 13 30 32.7 +1.3
TNS pmax pmax
comp=Z,110nm,1.7s
TNS **Taunus Mts** 79.73 359 *e*P P 13 30 32.4 +1.0
comp=Z,110nm,1.1s,baz=3.8,slow=5.5
PRU **Pruhonice** 79.75 355 *e*P P 13 30 32.3 +0.8
PRU MLR MLR
comp=Z,3μm,23.1s
PRU **Pruhonice** 79.75 355⇓*e*P P 13 30 32.3 +0.8
PRU AMS AMS 14 00 00.0
comp=Z,3μm,23.1s
MORC **Moravsky Berou** 79.76 353 ⇑P P 13 30 33.0 +1.4
MORC **Moravsky Berou** 79.76 353 *e*P P 13 30 32.4 +0.8
GOF **Gofitskoye** 79.82 335 ⇓*i*P P 13 30 32.4 +0.5
GOF *e*S S 13 40 36.2 +2.2
GOF pmax pmax
comp=Z,349nm,1.1s
GOF smax smax
comp=N,297nm,2.5s
GOF smax smax
comp=E,160nm,2.1s
GIVF **Givet** 79.85 1 *e*P P 13 30 32.2 +0.2
GIVF pmax pmax
comp=Z,213nm,1.5s
DOU **Dourbes** 79.85 1 *d*P P 13 30 33.0 +1.0
comp=Z,70nm,1.9s
DOU *d*PcP **pwP** 13 30 43.6 +0.9
DOU **Dourbes** 79.85 1 P P 13 30 33.2 +1.2
DOU pmax pmax
comp=Z,94nm,1.4s
NIE **Niedzica** 79.87 351 *e*P P 13 30 33.2 +1.1
NIE **Niedzica** 79.87 351 P P 13 30 33.5 +1.4
NIE pmax pmax
comp=Z,17nm,1.5s
MANZ **Manzenberg** 79.87 356 *e*P P 13 30 33.1 +0.9
comp=Z,52nm,1.2s,baz=3.8,slow=5.5
BAIF **Baives** 79.88 2 *e*P P 13 30 32.6 +0.5
BAIF pmax pmax
comp=Z,139nm,1.2s
BSSI **Bau Bau, Buton** 79.95 248 P P 13 30 33.3 +0.3
comp=Z,84nm,0.9s
KMPD **K-Podol'skiy** 79.95 347 P P 13 30 33.0 +0.5
SORM **Soroca** 80.08 345 ⇑P P 13 30 34.1 +0.8
SORM **Soroca** 80.08 345 P P 13 30 34.0 +0.8
PBCC **Pribram** 80.08 355⇓*e*P P 13 30 34.4 +1.1
ROTZ **Rotzenmuhle** 80.08 356 *e*P P 13 30 34.4 +1.1
comp=Z,70nm,1.3s,baz=3.8,slow=5.5
KOLS **Kolonicke sedl** 80.13 350 *e*P P 13 30 34.6 +1.0
KOLS pmax pmax
comp=Z,46nm,1.3s
KOLS **Kolonicke sedl** 80.13 350 *e*P P 13 30 34.6 +1.0
GRF **Grafenberg Arr** 80.20 357 P P 13 30 35.6 +1.7
GRF pmax pmax
comp=Z,145nm,1.4s
GRF **Grafenberg Arr** 80.20 357 *e*P P 13 30 35.3 +1.4
comp=Z,153nm,1.2s,baz=3.8,slow=5.5
GRF *e*pP **pwP** 13 30 45.3 +0.7
GRF *e*L L 14 03 37.4
comp=Z,619nm,20.1s
LANS **Liptovska Anna** 80.21 352 *e*P P 13 30 35.9 +1.9
LANS pmax pmax
comp=Z,56nm,1.4s
LANS **Liptovska Anna** 80.21 352 *e*P P 13 30 35.9 +1.9
KSM **Kuching** 80.23 260 IAmb IAmb 13 30 36.4
comp=Z,162nm,1.0s
CRVS **Cervenica-Dubn** 80.26 350 *e*P P 13 30 35.5 +1.3
CRVS pmax pmax
comp=Z,188nm,1.8s
CRVS **Cervenica-Dubn** 80.26 350 *e*P P 13 30 35.5 +1.3
VRAC **Vranov** 80.30 353 LR LR 14 10 42.0
comp=Z,342nm,20.1s,baz=12,slow=39
VRAC **Vranov** 80.30 353 ⇓P P 13 30 35.9 +1.5
VRAC **Vranov** 80.30 353 *e*P P 13 30 35.5 +1.1
KBKI **Kotabaru** 80.30 253 P P 13 30 34.1 -0.7
comp=Z,887nmcomp=Z,105nm,0.9s
WLF **Walferdange** 80.30 0 *d*P P 13 30 36.0 +1.6
WLF **Walferdange** 80.30 0 *e*P P 13 30 35.9 +1.5
comp=Z,103nm,1.1s,baz=3.8,slow=5.5
TREC **Trest** 80.39 354 ⇓AMS AMS 14 00 50.0
comp=Z,2μm,23.1s
MAK **Makhachkala** 80.43 331 *e*P P 13 30 33.8 -1.4
MAK *e* 13 33 34.2
MAK *e*S S 13 40 41.1 +0.6
MAK *e*SS SS 13 45 49.8 -1.1
MAK *e*SSS SSS 13 49 17.2
MAK pmax pmax
comp=Z,396nm,1.7s
UZH **Uzhgorod** 80.43 350*c* *i*P P 13 30 35.5 +0.4
KRUC **Moravsky** 80.56 354 *e*P P 13 30 36.6 +0.8
KTD **Kalmit** 80.64 359 P P 13 30 37.7 +1.4
KHC **Kasperske Hory** 80.66 355 ⇓*i*P P 13 30 37.4 +1.0
KHC **Kasperske Hory** 80.66 355 ⇓*i*P P 13 30 37.4 +1.0
KHC *ex* x 13 30 47.0
JAVC **Velka Javorina** 80.66 353 *e*P P 13 30 38.4 +1.9
RKT **Rikitea** 80.67 145 *e*LR LR 13 55 40.3
comp=Z,3μm,31.8s
SOEI **Soe** 80.67 242 IAmb IAmb 13 30 46.5
comp=Z,118nm,0.9s
WET **Wettzell** 80.68 356 P P 13 30 37.6 +1.1
WET pmax pmax
comp=Z,37nm,1.7s
WET **Wettzell** 80.68 356 *e*P P 13 30 37.6 +1.1
comp=Z,63nm,1.4s,baz=3.8,slow=5.5
GROC **Groznyy** 80.73 332 *e*P P 13 30 36.3 -0.6
GROC *e* 13 30 43.4
GROC *e*S S 13 40 42.5 -1.2
GROC pmax pmax
comp=Z,91nm,1.5s
KECS **Kecovo** 80.77 351 *e*P P 13 30 38.1 +1.1
KECS pmax pmax
comp=Z,25nm,1.1s
KECS **Kecovo** 80.77 351 *e*P P 13 30 38.1 +1.1
GRC1 **Grafenberg Arr** 80.88 357 P P 13 30 38.7 +1.1
MMRI **Maumere** 80.92 245 P P 13 30 38.0 -0.2
comp=Z,1μmcomp=Z,2μmcomp=Z,143nm,1.6s
CKRC **Cesky Krumlov** 80.93 355 ⇓*i*P P 13 30 38.5 +0.6
KVAR **Kislovodsk Arr** 80.93 335 LR LR 14 10 25.7
comp=Z,600nm,21.0s,baz=262,slow=39
KIV **Kislovodsk** 80.93 335 ⇑P P 13 30 39.0 +1.0
KIV **Kislovodsk** 80.93 335 *i* P P 13 30 38.6 +0.5
SNR=11
KIV **Kislovodsk** 80.93 335*d* *i*P P 13 30 38.5 +0.5
KIV *e**PP **pP** 13 30 41.3 -0.3
KIV *i* 13 30 44.4
KIV *i*S S 13 40 47.3 +1.3
KIV *e*PS PnS 13 41 40.6 +8.3
KIV SS SS 13 45 58.0 -0.6
KIV pmax pmax
comp=Z,111nm,1.7s
KIV MLR MLR
comp=Z,801nm,23.0s
KIV **Kislovodsk** 80.93 335 IAMs_20 IAMs_20 14 08 03.9
comp=Z,665nm,21.0s
KIV **Kislovodsk** 80.93 335 P P 13 30 38.5 +0.5
GEC2 **GERESS Array S** 80.94 355 *e*P P 13 30 38.7 +0.7
comp=Z,69nm,1.3s,baz=3.8,slow=5.5
GERES **GERESS Array B** 80.94 355 P P 13 30 38.4 +0.4
comp=Z,12nm,0.8s,baz=20,slow=4.3,SNR=68
GERES PKKPbc **PKKPbc** 13 49 13.3 -0.3
comp=Z,1.3nm,0.9s,baz=129,slow=1.9,SNR=5.8
GERES PKPPKP 13 57 14.8
comp=Z,1.0nm,0.9s,baz=160,slow=3.1,SNR=4.1
FLN **La Foliniere** 81.01 5 *e*P P 13 30 38.1 -0.1
FLN pmax pmax
comp=Z,171nm,1.2s
SMOL **Smolenice** 81.02 353 *e*P P 13 30 40.0 +1.7
SMOL pmax pmax
comp=Z,58nm,1.5s
SMOL **Smolenice** 81.02 353 *e*P P 13 30 40.0 +1.7
BURAR **Bucovina Array** 81.06 347 ⇑P P 13 30 39.3 +0.7
BURAR **Bucovina Array** 81.06 347 P P 13 30 39.3 +0.7
KBZ **Khabaz** 81.08 334 P P 13 30 39.6 +0.9
comp=Z,24nm,0.9s,baz=19,slow=3.3,SNR=27
KBZ LR LR 14 11 55.9
comp=Z,734nm,19.7s,baz=15,slow=40
KBZ **Khabaz** 81.08 334*c* *e*P P 13 30 39.3 +0.6
KBZ pmax pmax
comp=Z,55nm,1.3s
GEYT **Alibeck** 81.10 321 P P 13 30 39.7 +0.7
comp=Z,106nm,0.9s,baz=323,slow=3.7,SNR=136
GEYT LR LR 14 11 36.0
comp=Z,1μm,18.7s,baz=50,slow=39
IAS **Iasi** 81.12 346 ⇑P P 13 30 39.9 +1.1
IAS **Iasi** 81.12 346 P P 13 30 40.0 +1.1
IAS pmax pmax
comp=Z,452nm,1.1s
STU **Stuttgart** 81.17 358 P P 13 30 40.5 +1.4
STU pmax pmax
comp=Z,99nm,1.4s
STU **Stuttgart** 81.17 358 *e*P P 13 30 40.0 +0.9
comp=Z,103nm,1.2s,baz=3.8,slow=5.5
MODS **Modra-Piesok** 81.17 353 *e*P P 13 30 39.9 +0.7
MODS pmax pmax
comp=Z,174nm,1.5s
MODS **Modra-Piesok** 81.17 353 *e*P P 13 30 39.9 +0.7
BMR **Baia Mare** 81.23 349 P P 13 30 40.7 +1.3
BMR pmax pmax
comp=Z,54nm,1.0s
BBKI **Banjar Baru** 81.24 254 P P 13 30 40.1 +0.2
comp=Z,37nm,1.0s
ROSF **Rostrenen** 81.25 7 P P 13 30 40.6 +1.1
ROSF pmax pmax
comp=Z,60nm,1.9s
GRR **Gorron** 81.36 5 *e*P P 13 30 40.1 0.0
GRR pmax pmax
comp=Z,116nm,1.1s
ZST **Bratislava** 81.36 353 *e*P P 13 30 41.7 +1.6
ZST pmax pmax
comp=Z,382nm,1.5s
ZST **Bratislava** 81.36 353 *e*P P 13 30 41.7 +1.6
BATI **Baumata** 81.38 243 LR LR 14 03 12.2
comp=Z,140nm,19.2s,baz=38,slow=33
PSZ **Piszkesteto** 81.39 351 ⇑P P 13 30 42.1 +1.7
ANN **Anapa** 81.48 338 *e*P P 13 30 40.2 -0.6
ANN *e*S S 13 40 49.9 -1.5
ANN pmax pmax
comp=Z,107nm,1.2s
ANN MLR MLR
comp=Z,2μm,20.0s
CDF **Champ du Feu** 81.55 360 *e*P P 13 30 41.3 +0.1
CDF pmax pmax
comp=Z,126nm,1.4s
BIZ **Bicaz** 81.59 347 ⇑P P 13 30 42.8 +1.5
VASR **Vaslui** 81.62 346 ⇑P P 13 30 42.9 +1.4
BFO **Black Forest** 81.62 359 P P 13 30 40.6 -0.9
BFO pmax pmax
comp=Z,105nm,1.3s
BFO **Black Forest** 81.62 359 P P 13 30 40.6 -0.9
BFO IAmb IAmb 13 30 44.0
comp=Z,105nm,1.3s
BFO **Black Forest** 81.62 359 *e*P P 13 30 42.5 +1.0
comp=Z,89nm,1.3s,baz=3.8,slow=5.5
SRO **Srobarova** 81.64 352 *e*P P 13 30 43.2 +1.6
SRO pmax pmax
comp=Z,65nm,1.0s
SRO **Srobarova** 81.64 352 *e*P P 13 30 43.2 +1.6
ZEI **Tsey** 81.67 333 *e*P P 13 30 40.1 -2.0
ZEI pmax pmax
comp=Z,46nm,1.0s
QUIF **Quistinic** 81.68 7 *e*P P 13 30 42.0 +0.2
QUIF pmax pmax
comp=Z,109nm,1.5s
ARCR **ARCALIA** 81.69 348 ⇑P P 13 30 43.3 +1.4
CONA **Conrad Observa** 81.72 354 *i*P P 13 30 43.4 +1.3
comp=Z,93nm,1.4s,SNR=23
FUR **Furstenfeldbru** 81.72 357 P P 13 30 43.5 +1.4
FUR pmax pmax
comp=Z,72nm,2.2s
FUR **Furstenfeldbru** 81.72 357 *e*P P 13 30 43.1 +1.1
comp=Z,84nm,1.2s,baz=3.8,slow=5.5
GUDG **Gudauri** 81.80 333 P P 13 30 44.9 +2.1
LGD **Lagodekhi** 81.84 331 P P 13 30 43.3 +0.5
MOA **Molln** 81.90 355 *i*P P 13 30 44.0 +1.0
comp=Z,30nm,1.2s,SNR=9.1
BUD **Budapest** 81.91 352 P P 13 30 45.1 +2.1
BUD pmax pmax
comp=Z,73nm,1.5s
SOP **Sopron** 81.91 353 P P 13 30 44.6 +1.6
SOP pmax pmax
comp=Z,60nm,1.6s
TESR **Tescani** 81.93 346 ⇓P P 13 30 44.0 +0.9
HAU **Haudompre** 81.96 0 *e*P P 13 30 43.5 +0.2
HAU pmax pmax
comp=Z,108nm,1.2s
ONI **Oni** 81.98 334 P P 13 30 45.2 +1.6
SOC **Sochi** 82.06 336 *e*P P 13 30 43.0 -0.9
SOC *e* 13 33 49.8
SOC *e*PPP PPP 13 35 41.2
SOC *e*S S 13 40 58.0 +0.5
SOC *e*SS SS 13 46 17.0 +1.8
SOC *e*SSS SSS 13 49 44.1
SOC pmax pmax
comp=Z,47nm,0.9s
SOC MLR MLR
comp=Z,1μm,21.0s
RJOB **Jochberg** 82.09 356 *e*P P 13 30 45.0 +1.0
comp=Z,115nm,1.1s,baz=3.8,slow=5.5
CJR **Cluj-Napoca** 82.16 348 ⇓P P 13 30 45.8 +1.4
SLE **Schleitheim** 82.19 359 P P 13 30 45.4 +0.9
SLE pmax pmax
comp=Z,60nm,1.2s
DRGR 82.19 349 ⇑P P 13 30 45.6 +1.0
DRGR 82.19 349 P P 13 30 45.1 +0.5
DRGR pmax pmax
comp=Z,44nm,1.2s
UBR **Ueberruh** 82.24 358 *e*P P 13 30 46.0 +1.1
comp=Z,86nm,1.5s,baz=3.8,slow=5.5
CHVG **Ch'k'valeri** 82.24 335 ⇑P P 13 30 45.9 +1.0
VARL **Varlezi** 82.33 345 ⇑P P 13 30 47.3 +2.0
DGPR **DIGLIPUR** 82.37 281 *e*P P 13 30 45.5 -0.4
DGPR IAmb IAmb 13 30 48.8
comp=Z,155nm,0.7s
RETA **Reutte** 82.42 357 *i*P P 13 30 46.9 +1.1
comp=Z,35nm,1.1s,SNR=12
ARSA **Arzberg** 82.42 354 *i*P P 13 30 46.9 +1.2
comp=Z,68nm,1.5s,SNR=14
WATA **Walderalm** 82.54 357 *i*P P 13 30 47.7 +1.2
comp=Z,81nm,1.3s,SNR=17
VRI **Vrincioaia** 82.54 346 ⇑P P 13 30 47.9 +1.5
VRI **Vrincioaia** 82.54 346 P P 13 30 47.7 +1.3
VRI pmax pmax
comp=Z,62nm,1.8s
MOTA **Moosalm** 82.55 357 *i*P P 13 30 47.5 +0.9
comp=Z,81nm,1.2s,SNR=15
PLOR **Plostina** 82.57 346 ⇑P P 13 30 48.2 +1.6
PLOR **Plostina** 82.57 346 P P 13 30 48.2 +1.6
ODBI **Odobesti** 82.59 346 ⇑P P 13 30 48.7 +2.1
PBKI **Pangkalan Bun** 82.61 257 P P 13 30 48.2 +1.1
comp=Z,3μmcomp=Z,280nm,1.0s
WTTA **Wattenberg** 82.61 357 *i*P P 13 30 48.2 +1.3
comp=Z,61nm,1.2s,SNR=15
WTTA **Wattenberg** 82.61 357 P P 13 30 48.3 +1.3
WTTA pmax pmax
comp=Z,75nm,1.7s
DAVA **Damuels** 82.64 358 *i*P P 13 30 48.3 +1.2
comp=Z,40nm,1.1s,SNR=8.0
DOPR **Dopca** 82.64 347 ⇓P P 13 30 48.6 +1.6
SQTA **Sankt Quirin** 82.67 357 *i*P P 13 30 48.5 +1.3
comp=Z,55nm,1.1s,SNR=13
KBA **Koelnbreinsper** 82.72 355 *i*P P 13 30 49.0 +1.5
comp=Z,108nm,1.1s,SNR=28
KBA **Koelnbreinsper** 82.72 355 P P 13 30 49.1 +1.6
KBA pmax pmax
comp=Z,136nm,1.3s
SCHL **Schela** 82.72 345 ⇑P P 13 30 49.1 +1.8
SIRR **Siria** 82.83 350 ⇑P P 13 30 49.3 +1.4
TLCR 82.87 344 ⇓P P 13 30 49.3 +1.3
TLCR 82.87 344 P P 13 30 49.3 +1.3
FETA **Feichten** 82.88 357 *i*P P 13 30 49.6 +1.2
comp=Z,47nm,1.1s,SNR=14
GRER 82.98 346 ⇓P P 13 30 50.4 +1.8
CFR **Carcaliu** 82.99 345 ⇓P P 13 30 49.8 +1.2
SOKA **Soboth** 83.02 354 *i*P P 13 30 50.0 +1.1
comp=Z,111nm,1.3s,SNR=26
MLR **Muntele Rosu** 83.03 347 LR LR 14 11 38.0
comp=Z,816nm,20.9s,baz=2.5,slow=38
MLR **Muntele Rosu** 83.03 347 ⇓P P 13 30 50.8 +1.7
NEHR **Nehoiu** 83.04 346 ⇓P P 13 30 50.4 +1.4
AKH **Akhalkalaki** 83.05 333 ⇑P P 13 30 51.0 +1.6
AKH **Akhalkalaki** 83.05 333 P P 13 30 50.9 +1.6
PERS **Pernice** 83.06 354 *i*P P 13 30 50.1 +1.0
DEV **Deva** 83.06 349 ⇑P P 13 30 50.2 +1.1
DEV **Deva** 83.06 349 P P 13 30 49.9 +0.8
DEV pmax pmax
comp=Z,25nm,1.3s
ABTA **Abfaltersbach** 83.09 356 *i*P P 13 30 50.3 +0.9
comp=Z,40nm,1.1s,SNR=9.8
BEHE **Becsehely** 83.10 353 *e*P P 13 30 53.3 +4.0
DAVOX **Davos/Dischmat** 83.15 358 PKKPbc PKKPbc 13 49 08.8 0.0
comp=Z,2.1nm,0.7s,baz=195,slow=4.1,SNR=4.4
DAVOX PKPPKP **P'P'df** 13 57 17.1 -5.6
comp=Z,3.4nm,0.9s,baz=201,slow=6.8,SNR=3.9
DAVOX LR LR 14 06 38.0
comp=Z,400nm,21.9s,baz=50,slow=35
MYKA **Terra Mystica** 83.15 355 *i*P P 13 30 50.0 +0.4
comp=Z,46nm,1.7s,SNR=7.8
BGD **Bogdanovka** 83.16 333 P P 13 30 51.6 +1.7
BASI **Baing, Sumba** 83.16 245 P P 13 30 49.8 -0.1
comp=Z,2μmcomp=Z,191nm,1.2s
MORH **Mrgy, Hungar** 83.20 352 ⇑P P 13 30 50.4 +0.7
MORH **Mrgy, Hungar** 83.20 352 *e*P P 13 30 49.7 0.0
VOIR 83.21 347 ⇑P P 13 30 51.7 +1.7
OBKA **Obir** 83.22 355 *i*P P 13 30 50.9 +0.9
comp=Z,83nm,2.2s,SNR=6.5
TPGR **Topolog** 83.25 345 ⇑P P 13 30 51.2 +1.1
JURR **Jurilovca** 83.26 344 ⇓P P 13 30 52.2 +2.1
ARR **Arges** 83.34 347 ⇓P P 13 30 52.2 +1.6
LOT **Lotru** 83.38 348 ⇓P P 13 30 51.7 +0.8
MTUR **Matau** 83.42 347 ⇑P P 13 30 52.8 +1.8
KULM **Kulim** 83.46 270 IAmb IAmb 13 30 53.1
comp=Z,142nm,1.4s
KULM **Kulim** 83.46 270 P P 13 30 52.0 +0.4
TUE **Stuetta** 83.47 358 IAmb IAmb 13 30 57.4
comp=Z,120nm,1.2s
BZS **Buzias** 83.48 350 ⇓P P 13 30 52.1 +0.9
GZR **Gura Zlata** 83.56 349 ⇓P P 13 30 52.7 +0.9
TLBR **Topalu** 83.62 345 ⇑P P 13 30 53.2 +1.3
TIRR **Tirgusor** 83.64 345 ⇑P P 13 30 53.5 +1.5
PBA **Port Blair** 83.65 280 *e*P P 13 30 50.5 -2.0
PBA IAmb IAmb 13 30 51.7
comp=Z,62nm,0.9s
PBA **Port Blair** 83.65 280 P P 13 30 51.1 -1.4
PLAI **Plampang** 83.69 248 P P 13 30 51.2 -1.5
comp=Z,2μmcomp=Z,88nm,0.9s
STFAR **Stefanesti-Arg** 83.79 347 ⇑P P 13 30 54.6 +1.8
WR9 **Warramunga Arr** 83.81 228 IAMs_20 IAMs_20 14 10 07.5
comp=Z,995nm,19.0s
IPM **Ipoh** 83.84 270 IAmb IAmb 13 30 54.5
comp=Z,73nm,0.9s
CRES **Cresnjev** 83.84 354 *e*P P 13 30 52.0 -1.1
GNI **Garni** 83.84 332 LR LR 14 15 48.2
comp=Z,503nm,18.3s,baz=42,slow=41
GNI **Garni** 83.84 332 P P 13 30 54.2 +0.8
GNI **Garni** 83.84 332*d* *i*P P 13 30 54.8 +1.4
GNI pmax pmax
comp=Z,250nm,1.7s
GNI **Garni** 83.84 332 IAMs_20 IAMs_20 14 13 31.9
comp=Z,657nm,20.0s
GNI **Garni** 83.84 332 P P 13 30 54.5 +1.1
WR4 **Warramunga Arr** 83.85 228 IAMs_20 IAMs_20 14 04 34.7
comp=Z,691nm,20.0s
BHPL **Bhopal** 83.86 299 *e*P P 13 30 51.4 -2.2
BHPL IAmb IAmb 13 31 02.6
comp=Z,49nm,1.0s
WC1 **Warramunga Arr** 83.86 229 IAMs_20 IAMs_20 14 02 44.0
comp=Z,889nm,22.0s
WRAB **Tennant Creek** 83.86 229 P P 13 30 52.3 -1.1
WRAB pmax pmax
comp=Z,45nm,1.0s
WRAB **Tennant Creek** 83.86 229 P P 13 30 52.3 -1.1
WRAB IAmb IAmb 13 30 53.6
comp=Z,45nm,1.0s
WB2 **Warramunga Arr** 83.87 229 IAmb IAmb 13 30 53.6
comp=Z,51nm,1.0s
WRA **Warramunga Arr** 83.88 229 P P 13 30 52.4 -1.0
comp=Z,28nm,0.9s,baz=39,slow=6.2,SNR=137
WRA PP **PP** 13 34 07.6 +0.3
comp=Z,4.2nm,0.9s,baz=38,slow=7.8,SNR=4.9
WRA LR LR 14 09 28.3
comp=Z,240nm,18.4s,baz=40,slow=37
KARS **Kars** 83.90 333 P P 13 30 55.6 +1.9
CEY **Cerknica** 83.99 355 ⇓*i*P P 13 30 53.3 -0.6
HERR **Herculane** 84.11 349 ⇑P P 13 30 55.3 +0.8
HUMR **Humele** 84.11 347 ⇑P P 13 30 55.3 +0.8
FRGS **Fruska Gora** 84.13 351 ⇑P P 13 30 55.6 +1.0
FRGS **Fruska Gora** 84.13 351 ⇓*i*P P 13 30 55.1 +0.5
TWSI **Taliwang, Sumb** 84.16 249 P P 13 30 54.2 -0.8
comp=Z,591nmcomp=Z,31nm,1.0s
BOJS **Bojanci** 84.17 354 *i*P P 13 30 55.3 +0.6
SRE **Strehaia** 84.22 348 ⇑P P 13 30 56.3 +1.2
SRE **Strehaia** 84.22 348 P P 13 30 56.3 +1.2
SGRR **Singureni** 84.26 346 ⇑P P 13 30 56.0 +0.8
MDVR **Moldovita** 84.29 349 ⇑P P 13 30 56.4 +0.9
LPL **La Plagne** 84.45 0 *e*P P 13 30 57.6 +1.1
LPL pmax pmax
comp=Z,219nm,1.6s
COPA **Copaceanca** 84.46 347 ⇑P P 13 30 56.9 +0.6
LPG **La Plagne** 84.47 360 *e*P P 13 30 59.0 +2.3
LPG pmax pmax
comp=Z,239nm,1.4s
KMMI **Kalianget** 84.58 252 P P 13 30 58.8 +1.6
comp=Z,2μmcomp=Z,106nm,1.7s
PUNG **Punghina** 84.64 348 ⇑P P 13 30 58.0 +0.8
SRBI **Singaraja** 84.64 251 P P 13 30 56.1 -1.4
comp=Z,2μmcomp=Z,145nm,1.0s
TEKS **Tekeris** 84.76 351 *e*P P 13 30 58.7 +0.9
BLY **Banja Luka** 84.78 353 *e*P P 13 30 58.2 +0.3
BNI **Bardonecchia** 84.91 0 P P 13 31 01.1 +2.4
BNI pmax pmax
comp=Z,240nm,1.1s
DIKM **Dikmen** 84.97 339 ⇑P P 13 31 00.8 +1.9
ABJI **Asem Bagus** 85.00 252 P P 13 30 58.5 -0.8
comp=Z,2μmcomp=Z,95nm,1.1s
VIVF **Saint-Julien-l** 85.09 1 *e*P P 13 30 59.9 +0.4
VIVF pmax pmax
comp=Z,118nm,1.3s
DIVS **Divibare** 85.16 350 *e*P P 13 31 00.3 +0.4
DIVS **Divibare** 85.16 350 P P 13 31 00.1 +0.2
DIVS IAmb IAmb 13 31 02.0
comp=Z,115nm,1.3s
TPI **Tanjungpandan** 85.16 260 P P 13 31 00.2 0.0
comp=Z,1μmcomp=Z,103nm,1.2s
BCIP **Isla Barro Col** 85.19 82 *e*P P 13 30 59.8 -0.5
HAPS **Han Pijesak,BI** 85.28 351 *e*P P 13 31 00.0 -0.5
PLVB **Pleven** 85.28 347 ⇑P P 13 31 01.8 +1.4
KVT **Kavak** 85.33 338 P P 13 31 02.2 +1.4
BOVS **Bovan** 85.42 349 ⇓P P 13 31 01.5 +0.4
BBLS **Lazići** 85.45 351 *e*P P 13 31 01.0 -0.3
MSSA **Maissana** 85.62 358 P P 13 31 02.2 0.0
MSSA IAmb IAmb 13 31 03.5
comp=Z,87nm,1.1s
PPBI **Pangkal Pinang** 85.66 261 P P 13 31 03.0 +0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,11µmcomp=Z,80nm,1.6s						
LHMI	Lhok Sumawe	85.87	273	P	P	13 31 05.8	+2.1
	comp=Z,3µmcomp=Z,184nm,1.0s						
TSI	Tuntungan	86.16	271	P	P	13 31 05.2	+0.1
	comp=Z,144nm,0.9s						
CMBY	CAMPBELL BAY	86.44	277	eP	P	13 31 03.9	-2.7
CMBY				IAmb	IAmb	13 31 08.4	
	comp=Z,158nm,1.1s						
PSI	Prapat	86.46	270	P	P	13 31 06.8	0.0
PSI				pmax	pmax		
	comp=Z,226nm,1.4s						
BRY	Bratogost	86.49	351	eP	P	13 31 05.7	-0.9
PLD	Plovdiv	86.53	347	P	P	13 31 07.9	+1.3
RPSI	Rantau Prapat	86.54	270	P	P	13 31 06.8	-0.2
SJG	San Juan	86.65	66	IAMs_20	IAMs_20	14 14 50.3	
	comp=Z,827nm,20.0s						
FITZ	Fitzroy Crossi	86.74	237	LR	LR	14 05 22.3	
	comp=Z,196nm,20.7s,baz=43,slow=32						
FITZ	Fitzroy Crossi	86.74	237	P	P	13 31 08.0	+0.2
PDG	Podgorica	86.89	351	⇓iP	P	13 31 08.1	-0.2
HCY	Herceg Novi	86.95	351	eP	P	13 31 08.2	-0.5
BKNI	Bangkinang	87.00	267	P	P	13 31 09.9	+0.6
	comp=Z,4µmcomp=Z,244nm,1.1s						
PGAV	Gavieira, Arco	87.07	11	eP	P	13 31 09.5	+0.1
	comp=Z,43nm,1.4s						
PGAV	Gavieira, Arco	87.07	11	eLR	LR	14 00 49.1	
	comp=Z,628nm,22.0s						
SKO	Skopje	87.09	349	P	P	13 31 11.1	+1.7
SKO				pmax	pmax		
	comp=Z,199nm,1.4s						
SKO	Skopje	87.09	349	iP	P	13 31 10.9	+1.5
BRTR	Keskin Array B	87.17	340	P	P	13 31 09.7	-0.3
	comp=Z,16nm,0.9s,baz=39,slow=2.4,SNR=23						
BRTR				PKPPKP	P'P'df	13 57 02.5	-12
	comp=Z,1.7nm,0.9s,baz=162,slow=5.3,SNR=4.0						
BRTR				LR	LR	14 16 03.8	
	comp=Z,377nm,18.8s,baz=47,slow=40						
BRTR	Keskin Array B	87.17	340	iP	P	13 31 10.3	+0.3
BRTR				pmax	pmax		
	comp=Z,17nm,0.9s						
TPTI		87.23	272	P	P	13 31 15.9	+5.5
AS31	Alice Springs	87.27	227	P	P	13 31 09.4	-0.9
ASAR	Alice Springs	87.27	227	P	P	13 31 09.8	-0.5
	comp=Z,40nm,0.9s,baz=34,slow=4.7,SNR=224						
ASAR				PKKPbc	PKKPbc	13 49 00.3	+0.4
	comp=Z,0.7nm,0.9s,baz=189,slow=2.4,SNR=5.7						
ASAR				PKPPKP	P'P'df	13 57 07.2	+2.8
	comp=Z,0.8nm,1.0s,baz=125,slow=1.3,SNR=4.5						
ASAR				LR	LR	14 11 40.0	
	comp=Z,316nm,18.1s,baz=34,slow=37						
MALT	Malatya	87.34	336	P	P	13 31 11.9	+1.1
PCAB	Cabril	87.35	11	eP	P	13 31 10.9	+0.2
	comp=Z,52nm,1.4s						
PBRG	Braganca	87.40	10	eP	P	13 31 11.0	+0.1
	comp=Z,51nm,1.3s						
VAY	Valandovo	87.59	348	P	P	13 31 16.0	+4.2
VAY				pmax	pmax		
	comp=Z,80nm,2.1s						
VAY	Valandovo	87.59	348	iP	P	13 31 13.0	+1.2
POLO	Lamas de Olo	87.71	11	eP	P	13 31 12.6	+0.1
	comp=Z,30nm,1.3s						
PVRL	Vila Real	87.81	11	eP	P	13 31 13.3	+0.4
	comp=Z,71nm,1.6s						
HYB	Hyderabad	87.82	295	iP	P	13 31 12.0	-1.3
HYB	Hyderabad	87.82	295	eP	P	13 31 11.1	-2.1
HYB				IAmb	IAmb	13 31 13.7	
	comp=Z,25nm,0.8s						
PTO	Porto	87.84	12	eP	P	13 31 12.9	0.0
	comp=Z,50nm,1.2s						
GRG	Griva	87.97	348	P	P	13 31 14.4	+0.7
GRG				pmax	pmax		
	comp=Z,82nm,1.8s						
MVO	Moncorvo	88.00	10	eP	P	13 31 14.0	+0.1
	comp=Z,79nm,1.3s						
MVO	Moncorvo	88.00	10	eLR	LR	14 00 45.6	
	comp=Z,1µm,24.0s						
OHR	Ohrid	88.02	349	iP	P	13 31 14.2	+0.2
BHUJ	Bhuj	88.06	305	eP	P	13 31 13.5	-0.8
BHUJ				IAmb	IAmb	13 31 16.9	
	comp=Z,66nm,1.3s						
MOTC	Monteria, Cord	88.12	79	eP	P	13 31 14.5	-0.2
FNA	Florina	88.28	349	P	P	13 31 15.5	+0.4
FNA				pmax	pmax		
	comp=Z,36nm,0.8s						
FNA				MLR	MLR		
	comp=Z,1µm,20.0s						
FNA	Florina	88.28	349	P	P	13 31 15.5	+0.4
FNA				IAmb	IAmb	13 31 30.8	
	comp=Z,36nm,0.8s						
LEM	Lembang	88.33	257	LR	LR	14 04 47.5	
	comp=Z,182nm,21.3s,baz=38,slow=32						
PVIS	Viseu	88.34	11	eP	P	13 31 15.7	+0.2
	comp=Z,58nm,1.3s						
GSI	Gunungsitoli	88.47	270	P	P	13 31 16.2	-0.1
GSI	Gunungsitoli	88.47	270	P	P	13 31 16.6	+0.3
	comp=Z,2µmcomp=Z,181nm,1.5s						
MTE	Manteigas	88.70	11	eP	P	13 31 17.3	+0.1
	comp=Z,34nm,1.1s						
MTE	Manteigas	88.70	11	eLR	LR	14 01 05.2	
	comp=Z,640nm,22.0s						
GAZ	Gaziantep	88.74	336	IAMs_20	IAMs_20	14 16 41.8	
	comp=Z,670nm,20.0s						
COI	Coimbra	88.78	12	eP	P	13 31 18.3	+0.9
	comp=Z,55nm,1.9s						
LIT	Litokhoron	88.81	348	P	P	13 31 17.2	-0.4
LIT				pmax	pmax		
	comp=Z,36nm,1.1s						
LIT	Litokhoron	88.81	348	IAMs_20	IAMs_20	14 10 28.1	
	comp=Z,1µm,22.0s						
UREC	San Jos de Ur	88.99	79	eP	P	13 31 18.5	-0.3
SMLC	San Martn de	89.10	77	eP	P	13 31 19.0	-0.3
DBBC	Dabeiba	89.12	80	eP	P	13 31 19.9	+0.4
PCBR	Castelo Branco	89.26	11	eP	P	13 31 19.1	-0.6
	comp=Z,40nm,1.5s						
PSBE	So Bento	89.41	12	eP	P	13 31 20.3	-0.2
	comp=Z,71nm,2.3s						
ZARC	Zaragoza, Cauc	89.61	79	eP	P	13 31 21.6	-0.2
POO	Poona	89.61	299	eP	P	13 31 20.7	-1.1
POO				IAmb	IAmb	13 31 23.4	
	comp=Z,40nm,0.7s						
ISP	Isparta	89.67	341	IAMs_20	IAMs_20	14 13 52.7	
	comp=Z,674nm,20.0s						
PMRV	Marv??o	89.67	11	eP	P	13 31 22.1	+0.4
	comp=Z,38nm,1.8s						
PMRV	Marv??o	89.67	11	eLR	LR	14 01 34.4	
	comp=Z,578nm,20.0s						
ESBB	Sonseca Array	89.79	8	P	P	13 31 21.8	-0.5
ESDC	Sonseca Array	89.80	8	P	P	13 31 22.4	+0.1
	comp=Z,17nm,1.0s,baz=349,slow=4.5,SNR=76						
ESDC				PKKPbc	PKKPbc	13 48 52.2	-0.6
	comp=Z,1.9nm,1.1s,baz=180,slow=0.9,SNR=8.8						
ESDC				PKPPKP	P'P'df	13 56 57.2	-13
	comp=Z,1.4nm,0.9s,baz=186,slow=1.0,SNR=7.3						
PMAFR	Mafra	89.90	12	eP	P	13 31 23.0	+0.3
	comp=Z,103nm,1.2s						
PMTG	Montargil	89.92	12	eP	P	13 31 22.4	-0.4
	comp=Z,30nm,1.9s						
PIZC	Pizarro, Choco	89.97	82	eP	P	13 31 24.1	+0.7
CBOC	Ciudad Bolivar	90.14	81	eP	P	13 31 24.3	-0.1
HELC	Santa Helena	90.19	80	eP	P	13 31 25.2	+0.4
TIP	Timpagrande	90.35	352	IAMs_20	IAMs_20	14 19 36.8	
	comp=Z,842nm,19.0s						
PTBC	PUERTO BERRIO,	90.60	79	eP	P	13 31 26.0	-0.3
BRRC	Barranca, Sant	90.63	78	eP	P	13 31 26.4	0.0
PLMC	San Jos del P	90.70	82	eP	P	13 31 26.2	-0.7
PBAR	Barrancos	90.95	11	eP	P	13 31 27.6	0.0
	comp=Z,45nm,1.7s						
GUY2C	Guyana, Caldas	91.04	81	eP	P	13 31 29.3	+0.4
PAMC	Pamplona, Colo	91.08	77	eP	P	13 31 29.3	+0.2
NORC	Norcasia	91.09	80	eP	P	13 31 28.7	0.0
STKA	Stephens Creek	91.15	217	P	P	13 31 28.4	0.0
	comp=Z,41nm,0.9s,baz=357,slow=6.0,SNR=72						
STKA				LR	LR	14 12 29.5	
	comp=Z,595nm,18.1s,baz=24,slow=36						
STKA	Stephens Creek	91.15	217	P	P	13 31 28.9	+0.6
STKA				pmax	pmax		
	comp=Z,12nm,1.0s						
STKA	Stephens Creek	91.15	217	P	P	13 31 28.9	+0.6
SDV	Santo Domingo	91.16	75	IAMs_20	IAMs_20	14 19 42.9	
	comp=Z,812nm,19.0s						
SDV	Santo Domingo	91.16	75	eP	P	13 31 28.9	-0.2
SDV	Santo Domingo	91.16	75	eP	P	13 31 28.8	-0.4
RREF	El Recreo	91.30	81	eP	P	13 31 29.8	-0.5
CEL	Celeste	91.33	353	IAMs_20	IAMs_20	14 14 07.9	
	comp=Z,705nm,22.0s						
BARC	Barichara	91.35	78	eP	P	13 31 30.1	0.0
YOTC	Yotoco, Valle	91.37	82	eP	P	13 31 29.9	-0.1
SPBC	San Pablo de B	91.52	79	eP	P	13 31 30.6	-0.1
TOLC	Tolima	91.55	81	eP	P	13 31 32.0	+0.9
ANIL	Santa Ana	91.58	81	eP	P	13 31 30.8	-0.4
PVAQ	Vaqueiros	91.63	11	eLR	LR	14 02 58.8	
	comp=Z,520nm,20.0s						
CAN	Canberra	91.64	210	P	P	13 31 31.7	+1.1
CAN				pmax	pmax		
	comp=Z,50nm,1.6s						
RUSC	La Rusia	91.96	78	eP	P	13 31 32.9	-0.3
ROSC	El Rosal	91.99	80	P	P	13 31 34.3	+1.0
	comp=Z,16nm,0.6s,baz=107,slow=2.8,SNR=6.8						
ROSC	El Rosal	91.99	80	eP	P	13 31 33.7	+0.5
SANT	Santorini	92.02	345	IAMs_20	IAMs_20	14 14 48.2	
	comp=Z,776nm,21.0s						
GOA	Goa	92.07	297	eP	P	13 31 31.7	-1.4
ORTC	Ortega, Tolima	92.12	81	eP	P	13 31 33.0	-0.5
SHME	Shamm	92.22	317	P	P	13 31 32.9	-0.8
SHME	Shamm	92.22	317	P	P	13 31 32.9	-0.8
BANOM	Banah	92.26	317	P	P	13 31 33.2	-0.8
BANOM	Banah	92.26	317	P	P	13 31 31.7	-2.2
POPC	Popayan, Colom	92.27	83	eP	P	13 31 34.0	-0.3
BBAC	Balboa, Cauca	92.30	84	eP	P	13 31 33.4	-1.1
MIB	Mutribah	92.41	326	eP		13 31 33.8	
MBWA	Marble Bar	92.44	239	P	P	13 31 34.1	-0.4
MARP	Paez Belalcaza	92.49	83	eP	P	13 31 35.8	+0.4
PRAC	Prado	92.50	81	eP	P	13 31 34.7	-0.5
UMR	Umm Al-Rimmam	92.50	325	eP		13 31 34.2	
CHIC	Chingaza	92.52	80	eP	P	13 31 33.7	-2.0
PCON	Cinco Dias	92.61	83	eP	P	13 31 37.3	+1.0
SOTA	Rioblanco	92.62	84	eP	P	13 31 36.7	+0.4
PSAD2	Pilbara Seismi	92.68	239	IAMs_20	IAMs_20	14 06 45.2	
	comp=Z,609nm,20.0s						
SFS	San Fernando	92.74	10	IAMs_20	IAMs_20	14 11 13.4	
	comp=Z,888nm,22.0s						
MASF	Masafi	92.80	317	P	P	13 31 34.0	-2.5
MDH	Madha	92.81	316	P	P	13 31 34.7	-1.8
MDH	Madha	92.81	316	P	P	13 31 34.5	-1.9
GCUF	Volcan Galeras	92.85	85	eP	P	13 31 37.3	0.0
OTAV	Otavalo	92.90	86	P	P	13 31 38.2	+0.7
OTAV				pmax	pmax		
	comp=Z,24nm,1.2s						
OTAV	Otavalo	92.90	86	eP	P	13 31 37.3	-0.2
OTAV	Otavalo	92.90	86	eP	P	13 31 38.0	+0.5
BETC	Betania	92.94	82	eP	P	13 31 37.4	+0.2
RDF	Al-Radifah	93.13	325	eP		13 31 37.1	
UOSS	Minazif	93.15	316	P	P	13 31 36.4	-1.6
UOSS	Minazif	93.15	316	IAMs_20	IAMs_20	14 20 40.2	
	comp=Z,668nm,18.0s						
UOSS	Minazif	93.15	316	P	P	13 31 36.5	-1.6
QRN	Al-Qurain	93.16	325	eP		13 31 37.2	
IDI	Anoyia	93.17	345	IAMs_20	IAMs_20	14 08 57.7	
	comp=Z,741nm,18.0s						
GARC	Garzon, Huila	93.29	83	eP	P	13 31 39.5	+0.5
HATD	Hatta, Dubai	93.29	316	iP	P	13 31 37.2	-1.5
	SNR=6.6						
HATD	Hatta, Dubai	93.29	316	P	P	13 31 37.3	-1.5
NAZ	Nazwa, Dubai	93.36	317	P	P	13 31 37.7	-1.3
ASHO	Ashiyiah	93.45	316	iP	P	13 31 37.9	-1.5
	SNR=7.3						
ASHO	Ashiyiah	93.45	316	P	P	13 31 38.2	-1.3
FAQ	Al Faqa, Dubai	93.60	317	P	P	13 31 38.6	-1.5
SOHO	SOHO	93.71	316	iP	P	13 31 39.0	-1.6
	SNR=8.4						
SOHO	SOHO	93.71	316	P	P	13 31 39.7	-0.9
ASUD	Al Ashush, Dub	93.82	317	iP	P	13 31 39.9	-1.1
	SNR=6.8						
ASUD	Al Ashush, Dub	93.82	317	P	P	13 31 40.9	-0.1
HOQ	Hoqain	93.84	315	P	P	13 31 40.6	-0.6
WBK	Wadi Bani Khal	93.91	313	P	P	13 31 41.6	0.0
SMDO	Samad	93.95	314	P	P	13 31 40.9	-1.0
	SNR=5.3						
ALNE	Al Ain	94.13	316	P	P	13 31 41.5	-1.1
	SNR=5.7						
KEST	Kesra	94.19	358	P	P	13 31 43.0	+0.3
	comp=Z,6.3nm,0.8s,baz=140,slow=14,SNR=3.5						
MACC	Macarena, Meta	94.36	81	eP	P	13 31 42.6	-1.1
ARQ	Araqi	94.41	315	P	P	13 31 42.9	-0.9
	SNR=11						
PALK	Pallekele	94.51	287	iP	P	13 31 53.2	+8.8
PALK	Pallekele	94.51	287	P	P	13 31 44.6	+0.1
JMDO	Jabal Madar	94.52	314	P	P	13 31 43.5	-0.9
BSY	Bisya	94.61	314	P	P	13 31 44.0	-0.8
	SNR=5.7						
PTLC	Puerto Leguiza	95.28	83	eP	P	13 31 48.5	+0.6
UMZA	Um Al Zommool	95.56	316	P	P	13 31 47.9	-1.2
MHTO	MHTO	95.78	313	P	P	13 31 49.3	-0.8
	SNR=9.1						
MDT	Midelt	96.53	10	PKKPbc	PKKPbc	13 48 36.7	+1.2
	comp=Z,4.1nm,1.0s,baz=248,slow=5.3,SNR=6.3						
RAYN	Ar Rayn	98.79	324	i Pdiff	P	13 32 03.5	-0.3
	SNR=54						
RAYN	Ar Rayn	98.79	324	P	P	13 32 03.4	-0.3
COCO	West Island	99.22	262	iP	Pdif	13 31 57.7	-7.8
DOK	Doka	99.60	315	P	Pdif	13 32 06.2	-1.1
	SNR=6.5						
WHFO	Wadi Hawf	100.37	315	P	Pdif	13 32 09.3	-1.5
	SNR=5.5						
ABTO	Aybut	101.08	315	P	Pdif	13 32 13.1	-0.9
	SNR=5.9						
CZSB	Cruzeiro do Su	102.64	87	eP	Pdif	13 32 21.1	+0.2
PTGA	Pitinga	105.23	72	IAMs_20	IAMs_20	14 22 52.5	
	comp=Z,468nm,22.0s						
PTGA	Pitinga	105.23	72	eP	Pdif	13 32 32.8	+0.4
TAM	Tamanrasset	107.11	1	IAMs_20	IAMs_20	14 22 26.7	
	comp=Z,551nm,20.0s						
SAML	Samuel	109.62	80	IAMs_20	IAMs_20	14 28 04.7	
	comp=Z,659nm,21.0s						
ATD	Arta Tunnel	110.72	322	IAMs_20	IAMs_20	14 29 02.4	
	comp=Z,652nm,22.0s						
LPAZ	La Paz	112.00	89	PKiKP	PKiKP	13 36 59.8	-0.1
	comp=Z,1.4nm,0.8s,baz=3.0,slow=8.8,SNR=3.7						
TA01	Diego Aracena	113.84	94	IAMs_20	IAMs_20	14 10 38.8	
	comp=Z,518nm,20.0s						
KOWA	Kowa	114.68	11	PKKPbc	PKKPbc	13 47 40.3	+0.2
	comp=Z,3.1nm,0.9s,baz=201,slow=8.1,SNR=3.6						
FURI	Furi	114.73	325	IAMs_20	IAMs_20	14 29 16.1	
	comp=Z,635nm,22.0s						
LVC	Limon Verde	116.13	94	IAMs_20	IAMs_20	14 31 33.6	
	comp=Z,356nm,21.0s						
TOB5	Torodi Ar. Sit	116.55	6	IAMs_20	IAMs_20	14 30 57.9	
	comp=Z,601nm,22.0s						
TORD	Torodi Ar. Bea	116.56	5	PKP	PKPdf	13 37 07.2	-0.8
	comp=Z,6.7nm,0.9s,baz=338,slow=2.9,SNR=17						
TORD				PP	PP	13 38 13.0	-0.9
	comp=Z,4.6nm,1.1s,baz=1.1,slow=6.4,SNR=3.1						
TORD				PKKPbc	PKKPbc	13 47 33.8	+0.1
	comp=Z,6.2nm,0.8s,baz=166,slow=1.7,SNR=17						
AC04	Llanos de Chal	118.72	100	IAMs_20	IAMs_20	14 20 53.4	
	comp=Z,363nm,18.0s						
DBIC	Dimbokro	122.26	14	PKP	PKPdf	13 37 17.8	-1.2
	comp=Z,17nm,1.0s,baz=318,slow=3.3,SNR=12						
DBIC	Dimbokro	122.26	14	PKIKP	PKPdf	13 37 18.5	-0.5
DBIC	Dimbokro	122.26	14	PKPdf	PKPdf	13 37 18.5	-0.5
TIC	Toumodi	122.26	14	ePKIKP	PKPdf	13 37 18.3	-0.7
KIC	Kosan Boka	122.59	14	ePKIKP	PKPdf	13 37 18.9	-0.7
	comp=Z,36nm,0.9s						
LIC	Lamto	122.68	14	ePKIKP	PKPdf	13 37 19.1	-0.7
	comp=Z,58nm,0.9s						
AQDB	Aquidauana	123.02	82	eP	PKPdf	13 37 20.0	-0.2
SDBA	SAO DESIDERIO	123.50	67	eP	PKiKP	13 37 22.7	+1.1
BDFB	Brasilia	124.17	72	PKP	PKPdf	13 37 22.2	-0.4
	comp=Z,11nm,0.9s,baz=28,slow=2.4,SNR=11						
BDFB				PP	PP	13 39 04.6	-2.8
	comp=Z,2.2nm,0.5s,baz=315,slow=4.3,SNR=2.6						
BI02	San Fabin de	124.32	108	PKPdf	PKPdf	13 37 21.8	-0.5
KMBO	Kilima Mbogo	124.47	322	PKP	PKPdf	13 37 22.9	-0.7
	comp=Z,16nm,0.9s,baz=7.1,slow=3.8,SNR=19						
KMBO				PP	PP	13 39 10.6	+1.7
	comp=Z,1.7nm,0.6s,baz=4.6,slow=11,SNR=3.3						
IPMB	Ipameri, GO	125.84	74	eP	PKPdf	13 37 25.5	-0.2
CPUP	Villa Florida	126.17	89	PKP	PKPdf	13 37 25.5	-0.5
	comp=Z,14nm,0.9s,baz=311,slow=1.8,SNR=24						
CPUP	Villa Florida	126.17	89	eP	PKPdf	13 37 24.3	-1.7
MBAR	Mbarara	126.33	330	IAMs_20	IAMs_20	14 42 05.1	
	comp=Z,468nm,18.0s						
TRCB	Terra Rica	126.65	82	eP	PKPdf	13 37 27.3	+0.2
PCMB	Pacaembu	126.65	80	eP	PKPdf	13 37 27.2	0.0
PLCA	Paso Flores	127.34	111	PKP	PKPdf	13 37 28.0	0.0
	comp=Z,27nm,0.9s,baz=298,slow=3.0,SNR=17						
PLCA	Paso Flores	127.34	111	PKIKP	PKiKP	13 37 28.5	0.0
PLCA	Paso Flores	127.34	111	PKPdf	PKiKP	13 37 28.4	0.0
PLCA	Paso Flores	127.34	111	eP	PKPdf	13 37 27.8	-0.2
GDU01	Guandu, BA	127.63	63	eP	PKPdf	13 37 29.4	+0.2
PTGB	Pitanga	128.39	83	eP	PKPdf	13 37 30.7	+0.3
VNDA	Vanda	128.60	187	PKP	PKPdf	13 37 29.2	+0.1
	comp=Z,8.0nm,1.2s,baz=325,slow=7.6,SNR=4.9						
DIAM	Diamantina, MG	128.84	70	eP	PKiKP	13 37 32.1	-0.1
ITQB	Itaqui	128.92	91	eP	PKPdf	13 37 31.3	+0.2
FRTB	Fartura	128.98	80	eP	PKPdf	13 37 31.8	+0.2
ITAB	Concordia	130.12	85	eP	PKPdf	13 37 33.6	0.0
BSCB	Bom Sucesso	130.23	73	eP	PKiKP	13 37 34.8	-0.1
VAO	Valinhos	130.36	77	eP	PKPdf	13 37 32.7	-1.6
NAN01	Guarapari, ES	130.60	66	eP	PKiKP	13 37 35.2	-0.3
SJMB	Sao Joao De Ma	130.65	68	eP	PKPdf	13 37 33.9	-0.9
TIJ01	Guaruva-PR	130.76	81	eP	PKPdf	13 37 33.8	-1.2
BSFB	Barra de Sao F	130.94	68	eP	PKPdf	13 37 35.1	-0.2
PET01	Itanhaem-SP	131.11	78	eP	PKPdf	13 37 35.0	-0.5
PARB	Paraibuna	131.44	76	eP	PKPdf	13 37 36.2	-0.1
CPSB	Cacapava Do Su	131.45	89	eP	PKiKP	13 37 36.5	-0.4
RIB01	Linhares ES	131.59	68	eP	PKPdf	13 37 35.8	-0.8
ESAR	Angra dos Reis	131.94	75	eP	PKPdf	13 37 37.5	+0.4
VAS01	Vassouras-RJ	132.01	73	eP	PKPdf	13 37 37.7	+0.4
MAN01	Angra dos Reis	132.12	74	eP	PKPdf	13 37 37.8	+0.3
PLTB	Pedras Altas	132.25	91	eP	PKPdf	13 37 37.8	+0.4
ALF01	Guarapari-ES	132.39	69	eP	PKPdf	13 37 37.5	-0.5
DUB01	Friburgo-RJ	132.51	72	eP	PKPdf	13 37 37.0	-1.3
CAM01	Campos-RJ	132.75	71	eP	PKPdf	13 37 38.7	+0.1
OPO	Ambohidratompo	134.83	300	PKP	PKPdf	13 37 43.4	+0.5
	comp=Z,8.4nm,0.9s,baz=336,slow=5.0,SNR=3.7						
QSPA	South Pole Qui	140.17	180	PKhKP	PKPpre	13 37 42.6	
	comp=Z,32nm,1.0s,baz=29,slow=1.7,SNR=35						
LSZ	Lusaka	140.88	326	PKhKP	PKPpre	13 37 47.5	
	comp=Z,11nm,0.9s,baz=32,slow=2.8,SNR=19						
LSZ				PP	PP	13 40 53.6	-0.4
	comp=Z,2.1nm,0.6s,baz=18,slow=9.0,SNR=5.2						
PMSA	Palmer Station	141.69	139	PKP	PKPdf	13 37 53.7	-0.1
	comp=Z,53nm,1.0s,baz=309,slow=4.0						
PMSA	Palmer Station	141.69	139	eP	PKPdf	13 37 53.7	-0.1
MATP	Matopo	145.47	322	PKPbc	PKPdf	13 38 01.8	-0.2
	comp=Z,43nm,0.9s,baz=15,slow=3.2,SNR=84						
TSUM	Tsumeb	147.68	341	PKPbc	PKPbc	13 38 08.8	+0.3
	comp=Z,147nm,1.0s,baz=8.4,slow=4.0,SNR=70						
TSUM				PP	PP	13 41 34.2	-0.2
	comp=Z,1.5nm,0.5s,baz=347,slow=8.3,SNR=3.2						
TSUM	Tsumeb	147.68	341		PKPbc	13 38 09.0	+0.5
MAW	Mawson	147.84	217	PKPbc	PKPbc	13 38 07.8	+0.5
	comp=Z,209nm,0.9s,baz=79,slow=3.6,SNR=19						
MAW	Mawson	147.84	217	PKP2	PKPbc	13 38 08.0	+0.7
MAW	Mawson	147.84	217		PKPbc	13 38 08.0	+0.7
LBTB	Lobatse	150.75	323	PKPbc	PKPbc	13 38 16.1	0.0
	comp=Z,142nm,0.8s,baz=38,slow=1.7,SNR=141						
LBTB	Lobatse	150.75	323		PKiKP	13 38 16.6	-0.2
BOSA	Boshof	154.09	320	PKP	PKPdf	13 38 13.9	-1.5
	comp=Z,5.5nm,0.8s,baz=33,slow=3.6,SNR=8.0						
BOSA				PKPbc	PKiKP	13 38 23.6	+0.1
	comp=Z,14nm,0.8s,baz=65,slow=2.6,SNR=15						
BOSA				PKPab	PKPab	13 38 35.4	-1.7
	comp=Z,52nm,0.9s,baz=44,slow=3.4,SNR=20						
BOSA				PP	PP	13 42 11.6	0.0
	comp=Z,7.5nm,1.0s,baz=346,slow=7.9,SNR=3.1						
SYO	Syowa Base	155.59	208	⇑eX	PKPab	13 38 40.0	-2.2
VNA3	Neumayer Olymp	157.79	166	PKPab	PKPab	13 38 50.8	-0.9
VNA3	Neumayer Olymp	157.79	166	PKPdf	PKPdf	13 38 16.6	-2.2
SNAA	Sanae	158.23	172	PKPab	PKPab	13 38 53.3	-0.3
SNAA	Sanae	158.23	172	PKPdf	PKPdf	13 38 16.5	-3.0
SNAA	Sanae	158.23	172	PKP	PKPdf	13 38 17.8	-1.6
	comp=Z,8.3nm,1.1s,baz=186,slow=1.7,SNR=9.8						
SNAA				PKPab	PKPab	13 38 53.3	-0.3
	comp=Z,29nm,0.9s,baz=213,slow=2.1,SNR=24						
VNA2	Neumayer--Watz	158.41	167	PKPab	PKPab	13 38 54.1	-0.3
VNA2	Neumayer--Watz	158.41	167	PKPdf	PKPdf	13 38 18.0	-1.6
	baz=193,slow=0.8						
VNA1	Neumayer--Stat	158.53	166	PKPab	PKPab	13 38 54.2	-0.6
VNA1	Neumayer--Stat	158.53	166	PKPdf	PKPdf	13 38 17.9	-1.8
SUR	Sutherland	159.18	325	PKP	PKPdf	13 38 22.5	+0.5
	comp=Z,4.2nm,0.8s,baz=332,slow=1.9,SNR=1.9						
SUR				PKPab	PKPab	13 38 59.8	+0.9
	comp=Z,6.1nm,0.8s,baz=39,slow=6.8,SNR=5.5						
NVL	N'lazarevskaya	159.44	185	ePKP2	PKPab	13 38 57.5	-1.3
NVL				pmax	pmax		
	comp=Z,24nm,0.9s						

DJA 07 13:29:04.5±0.7, 5˚S±3˚×10˚3E±˚, h86km±9km, M3.4/8, MLv3.4/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.60	329	P	Pn	13 29 20.2	+0.4
LWLI	Liwa	0.80	100	P	Pn	13 29 22.5	+0.7
MDSI	Maura Dua	0.99	67	P	Pn	13 29 24.0	+0.2
MDSI				S	Sn	13 29 38.6	+0.4
LHSI	Lahat	1.08	14	P	Pn	13 29 25.4	+0.6
LHSI				S	Sn	13 29 40.7	+0.6
KASI	Kota Agung	1.38	118	P	Pn	13 29 28.7	+0.2
KASI				S	Sn	13 29 47.0	+0.3
KLSI		1.47	83	P	Pn	13 29 30.1	+0.5
KLSI				S	Sn	13 29 49.1	+0.4

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*IDC **07** 13:47:22.9±1.7, 2˚42N×127˚09E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/49, mbtmp3.7/6, Error ellipse: s-maj=87.0km s-min=19.5km az=63.0*

ISC 07 13:47:30.4±1.7, 2˚3N±0˚3×126˚9E±0˚5, h53km, n6, σ1§40/6, mb3.7/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.31	184	P	P	13 52 01.3	-0.8
	1.9nm,0.9s,baz=21,slow=8.6,SNR=1.8						
WRA	Warramunga Arr	23.28	162	P	P	13 52 33.1	-0.5
	1.9nm,0.6s,baz=341,slow=11,SNR=13						
ASAR	Alice Springs	26.70	166	P	P	13 53 03.8	-1.0
	0.4nm,0.7s,baz=345,slow=8.3,SNR=11						
CMAR	Chiang Mai Arr	31.77	302	P	P	13 53 50.9	+1.0
	0.5nm,0.3s,baz=95,slow=8.2,SNR=1.8						
STKA	Stephens Creek	36.74	159	P	P	13 54 34.1	+1.3
	0.8nm,0.6s,baz=334,slow=13,SNR=2.9						
MKAR	Makanchi Array	58.83	326	P	P	13 57 22.5	-1.1
	0.3nm,0.5s,baz=122,slow=7.0,SNR=7.8						

PGC 07 13:47:53.7±0.0, 50˚73N×130˚54W, h10km, MLSn2.9/19, Mw3.5/19, 220km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.54	92	Pn	Pn	13 48 19.2	-2.0
HOLB				Sn	Sn	13 48 37.1	-4.1
HG4B	Hotspring	1.62	346	Pn	Pn	13 48 20.2	-2.1
HG4B				Sn	Sn	13 48 39.0	-4.2
PHC	Port Hardy	1.98	89	Pn	Pn	13 48 25.5	-1.7
PHC				Sn	Sn	13 48 48.2	-3.8
BNB	Barry Inlet	2.00	338	Pn	Pn	13 48 25.8	-1.8
BNB				Sn	Sn	13 48 48.1	-4.5
BBB	Bella Bella	2.10	45	Pn	Pn	13 48 27.3	-1.6
BBB				Sn	Sn	13 48 50.6	-4.6
MAYB	Maynard	2.17	97	Pn	Pn	13 48 28.3	-1.7
FHRB	Fair Harbour	2.29	106	Pn	Pn	13 48 29.4	-2.1
EDB	Eliza Dome	2.35	110	Pn	Pn	13 48 30.2	-2.2
MOBC	Moresby Island	2.58	340	Pn	Pn	13 48 33.7	-1.8
MOBC				Sn	Sn	13 49 04.0	-2.9
WOSB	Woss	2.60	101	Pn	Pn	13 48 34.6	-1.3
DIB	Dawson Inlet,	2.75	335	Pn	Pn	13 48 36.3	-1.5
DIB				Sn	Sn	13 49 07.8	-3.3
BNAB	Bonilla	2.77	359	Pn	Pn	13 48 36.8	-1.2
BNAB				Sn	Sn	13 49 08.3	-3.2
VIB	Van Inlet	2.81	335	Pn	Pn	13 48 37.2	-1.5
VIB				Sn	Sn	13 49 09.2	-3.6
NCRB	Newcastle Ridg	2.88	95	Pn	Pn	13 48 38.1	-1.6
GDR	Gold River	3.05	106	Pn	Pn	13 48 40.6	-1.3
GRNB	Grenville Isla	3.14	6	Pn	Pn	13 48 42.0	-1.3
GRNB				Sn	Sn	13 49 17.4	-3.4
TOFB	Tofino	3.38	116	Pn	Pn	13 48 45.1	-1.4
CBB	Campbell River	3.39	100	Pn	Pn	13 48 45.8	-0.8
CBB				Sn	Sn	13 49 24.3	-2.5
BTB	Buttle Lake	3.47	109	Pn	Pn	13 48 46.6	-1.3
KITB	Kitimat	3.55	18	Pn	Pn	13 48 48.0	-0.8
KITB				Sn	Sn	13 49 28.1	-2.7
NDB	Naden	3.55	336	Pn	Pn	13 48 48.2	-0.7
RUBB	Prince Rupert	3.61	3	Pn	Pn	13 48 49.1	-0.5
OZB	Mount Ozzard	3.72	117	Pn	Pn	13 48 49.9	-1.2
TXB	Texada	4.05	102	Pn	Pn	13 48 55.5	-0.3
MGB	Mount Grey	4.16	112	Pn	Pn	13 48 56.2	-1.1
SHB	Sechelt	4.43	102	Pn	Pn	13 49 00.8	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
UBRB	**Upper Baezaeko**	**4.55**	**59**	Pn	Pn	13 49 03.3	+0.5
FSB	**Fort Saint Jam**	**5.33**	**43**	Pn	Pn	13 49 13.7	+0.4
MBW	**Mount Baker**	**5.93**	**106**	Pn	Pn	13 49 23.2	+1.5
JCW	**Jim Creek**	**6.16**	**111**	Pn	Pn	13 49 26.5	+1.8
RPW	**Rockport**	**6.30**	**108**	Pn	Pn	13 49 28.3	+1.6
FMW	**Mount Fremont**	**6.98**	**120**	Pn	Pn	13 49 38.5	+2.4
LON	**Longmire**	**7.01**	**121**	Pn	Pn	13 49 38.4	+2.0

*IDC **07** 13:54:00.1±1.4, 2°.43N×126°.92E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.3/59, mbtmp3.5/6, Error ellipse: s-maj=101.6km s-min=18.4km az=71.0*

ISC 07 13:54:07.2±1.6**, 2°.4N**±0°.2×**126°.8E**±0°.8**, h53**km**, n6,** σ**0ˢ71**/6**, mb3.5**/5**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.35**	**183**	P	**P**	**13 58 39.5**	**+0.1**
	2.4nm,1.0s,baz=7.3,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**23.35**	**162**	P	**P**	**13 59 10.3**	**-0.8**
	1.4nm,0.5s,baz=342,slow=11,SNR=12						
ASAR	**Alice Springs**	**26.76**	**165**	P	**P**	**13 59 42.9**	**+0.7**
	0.3nm,0.7s,baz=348,slow=13,SNR=10						
SONM	**Songino Array**	**48.63**	**342**	P	**P**	**14 02 46.1**	**+0.2**
	0.2nm,0.6s,baz=152,slow=6.4,SNR=1.6						
MKAR	**Makanchi Array**	**58.74**	**326**	P	**P**	**14 03 59.2**	**-0.6**
	0.2nm,0.3s,baz=121,slow=7.6,SNR=7.8						
KURBB	**Kurchatov Arra**	**62.95**	**328**	P	**P**	**14 04 28.3**	**+0.1**
	0.2nm,0.5s,baz=128,slow=5.7,SNR=4.2						

*ATH **07** 13:58:50.2, 34°.40N×23°.22E, h63km±11km, ML3.5/4, Error ellipse: s-maj=13.1km s-min=2.9km az=42.0*
*THE **07** 13:58:51.2, 34°.18N×23°.24E, h33km±26km, ML3.4/3, Error ellipse: s-maj=26.1km s-min=1.8km az=90.0*
*IDC **07** 13:58:53.9±2.9, 34°.41N×23°.43E, h38km±27km, mb3.5/7, mb1 3.7/12, mb1mx3.3/71, mbtmp3.7/12, ML3.9/4, Error ellipse: s-maj=25.2km s-min=17.9km az=178.0*

ISC 07 13:58:52.4±1.8**, 34°.34N**±0°.07×**23°.35E**±0°.05**, h28**km±12km**, n34,** σ**1ˢ32**/45**, mb3.6**/7**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.78**	**51**	P	**Pn**	**13 59 07.7**	**+0.1**
GVD				S	**Sn**	**13 59 20.4**	**+2.1**
GVD				AML	AML	13 59 24.2	
	comp=N,7857μm,0.3s						
GVD				AML	AML	13 59 25.0	
	comp=E,4954μm,0.3s						
GVD	**Gavdhos**	**0.78**	**51**	P	**Pn**	**13 59 07.6**	**+0.1**
GVD				S	**Sn**	**13 59 20.5**	**+2.1**
	comp=E,3μm,0.3s						
GVDS	**Gavdos**	**0.79**	**50**	P	**Pb**	**13 59 07.0**	**-0.6**
GVDS				S	**Sn**	**13 59 20.3**	**+1.8**
	comp=E,3μm,0.3s						
KNDR	**Palaiochora Ch**	**0.93**	**17**	P	**Pb**	**13 59 07.6**	**-2.4**
KNDR				S	**Sb**	**13 59 20.8**	**-1.2**
	comp=E,1μm,0.7s						
IMMV	**Iera Moni Meta**	**1.23**	**25**	P	**Pb**	**13 59 14.1**	**-0.9**
IMMV				S	**Sb**	**13 59 31.0**	**+0.5**
IMMV				AML	AML	13 59 39.4	
	comp=N,2855μm,0.7s						
IMMV				AML	AML	13 59 42.6	
	comp=E,2764μm,0.5s						
IMMV	**Iera Moni Meta**	**1.23**	**25**	P	**Pn**	**13 59 13.8**	**+0.1**
IMMV				S	**Sb**	**13 59 31.6**	**+1.1**
VAM	**Vamos**	**1.27**	**33**	P	**Pb**	**13 59 15.0**	**-0.7**
VAM				S	**Sb**	**13 59 33.6**	**+1.9**
VAM				AML	AML	13 59 34.6	
	comp=N,2336μm,0.4s						
VAM				AML	AML	13 59 41.3	
	comp=E,2701μm,0.6s						
VAM	**Vamos**	**1.27**	**33**	P	**Pb**	**13 59 15.0**	**-0.7**
SIVA	**Sivas**	**1.38**	**60**	P	**Pb**	**13 59 17.8**	**+0.3**
SIVA				S	**Sb**	**13 59 35.7**	**+1.0**
SIVA				AML	AML	13 59 54.0	
	comp=N,1952μm,0.8s						
SIVA				AML	AML	13 59 57.0	
	comp=E,4468μm,0.8s						
PRNS	**Prines Rethymn**	**1.39**	**43**	P	**Pn**	**13 59 15.7**	**-0.2**
PRNS				S	**Sb**	**13 59 37.0**	**+1.9**
ANKY	**Antikythira Is**	**1.52**	**358**	P	**Pn**	**13 59 17.3**	**-0.4**
ANKY				S	**Sn**	**13 59 36.6**	**0.0**
ANKY	**Antikythira Is**	**1.52**	**358**	P	**Pn**	**13 59 17.4**	**-0.3**
IDI	**Anoyia**	**1.58**	**53**	Pn	**Pn**	**13 59 18.3**	**-0.3**
	comp=E,5.6nm,0.3s,baz=248,slow=16,SNR=23						
IDI				Sn	**Sn**	**13 59 37.4**	**-0.7**
	comp=E,13nm,0.3s,baz=262,slow=23,SNR=5.2						
IDI	**Anoyia**	**1.58**	**53**	P	**Pn**	**13 59 19.2**	**+0.6**
KTHA	**Kythira Island**	**1.92**	**353**	P	**Pn**	**13 59 23.6**	**+0.3**
KTHA	**Kythira Island**	**1.92**	**353**	P	**Pn**	**13 59 23.5**	**+0.2**
LAST	**Lasithi**	**1.93**	**64**	P	**Pb**	**13 59 26.1**	**-1.0**
KTHR	**Kythira**	**1.93**	**352**	P	**Pn**	**13 59 23.7**	**+0.3**
BRTR	**Keskin Array B**	**9.82**	**54**	Pn	**Pn**	**14 01 12.8**	**+1.0**
	comp=E,0.1nm,0.3s,baz=249,slow=10,SNR=1.8						
MMAI	**Mount Meron Ar**	**10.13**	**94**	Pn	**Pn**	**14 01 17.4**	**+1.4**
	comp=E,0.3nm,0.3s,baz=264,slow=11,SNR=1.6						
MMAI				Sn	**Sn**	**14 03 03.5**	**-5.2**
	comp=E,0.9nm,0.3s,baz=301,slow=26,SNR=1.6						
EIL	**Elat**	**10.89**	**112**	Pn	**Pn**	**14 01 26.2**	**-0.2**
	comp=E,0.2nm,0.3s,baz=135,slow=20,SNR=1.6						
EIL				Sn	Sn	14 03 20.9	-6.4
	comp=E,0.3nm,0.3s,baz=353,slow=9.8,SNR=2.5						
KOLS	**Kolonicke sedl**	**14.60**	**357**	*e*PN	Pn	14 02 07.4	-10
VRAC	**Vranov**	**15.77**	**344**	Pn	**Pn**	**14 02 33.2**	**+0.8**
	comp=E,0.3nm,0.3s,baz=156,slow=8.4,SNR=5.2						
CKRC	**Cesky Krumlov**	**15.95**	**338**	*e*P	**P**	**14 02 38.1**	**0.0**
GERES	**GERESS Array B**	**16.17**	**337**	Pn	**P**	**14 02 40.4**	**-0.1**
	comp=E,0.2nm,0.3s,baz=147,slow=11,SNR=8.5						
KHC	**Kasperske Hory**	**16.45**	**337**	*e*P	**P**	**14 02 43.4**	**-0.3**
DPC	**Dobruska-Polom**	**16.81**	**344**	*e*P	**P**	**14 02 47.0**	**-0.6**
ESDC	**Sonseca Array**	**22.41**	**292**	P	**P**	**14 03 48.5**	**-0.3**
	comp=E,0.3nm,0.6s,baz=95,slow=9.5,SNR=2.2						
HFS	**Hagfors**	**26.57**	**349**	P	**P**	**14 04 27.5**	**-0.2**
	comp=E,4.1nm,0.8s,baz=159,slow=17,SNR=4.2						
EKA	**Eskdalemuir Ar**	**27.88**	**327**	P	**P**	**14 04 40.7**	**+1.2**
	comp=E,0.8nm,0.4s,baz=120,slow=8.5,SNR=2.1						
TORD	**Torodi Ar. Bea**	**28.83**	**228**	P	**P**	**14 04 49.7**	**+1.3**
	comp=E,1.0nm,0.9s,baz=31,slow=9.8,SNR=2.4						
KURBB	**Kurchatov Arra**	**42.79**	**50**	P	**P**	**14 06 46.0**	**-1.4**
	comp=E,0.3nm,0.4s,baz=272,slow=8.7,SNR=5.0						
MKAR	**Makanchi Array**	**45.47**	**56**	P	**P**	**14 07 08.6**	**-0.3**
	comp=E,0.3nm,0.3s,baz=268,slow=7.4,SNR=16						
ZALV	**Zalesovo Beam**	**46.64**	**46**	P	**P**	**14 07 17.1**	**-0.9**
	comp=E,0.3nm,0.3s,baz=276,slow=8.9,SNR=2.3						

*JMA **07** 14:03:47.7±0.2, 28°.22N×139°.93E, h425km, M3.7*
*IDC **07** 14:03:48.7±1.0, 28°.10N×139°.81E, h424km±11km, mb3.4/22, mb1 3.4/27, mb1mx3.2/60, mbtmp4.2/27, Error ellipse: s-maj=18.7km s-min=9.8km az=74.0*

ISC 07 14:03:48.7±0.6**, 28°.27N**±0°.08×**140°.0E**±0°.1**, h421**km**, n39,** σ**1ˢ03**/46**, mb3.8**/22**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.27**	**120**	P	**P**	**14 04 47.9**	**-0.4**
CBIJ				S	**S**	**14 05 35.3**	**-1.2**
JCJ	**Chichijima**	**2.27**	**120**	P	**P**	**14 04 47.9**	**-0.5**
	116nm,0.3s,baz=323,slow=23,SNR=43						
JCJ				S	**S**	**14 05 34.4**	**-2.1**
	70nm,0.3s,baz=284,slow=22,SNR=11						
JHH2	**Haha-jima-NKT2**	**2.54**	**129**	P	**P**	**14 04 50.0**	**-0.1**
JHH2				S	**S**	**14 05 39.2**	**-0.6**
JHJ	**Hachijo jima 2**	**4.84**	**358**	P	P	14 05 11.8	+2.0
	11nm,0.3s,baz=275,slow=15,SNR=1.7						
JHJ				S	**S**	**14 06 15.7**	**-0.5**
	16nm,0.3s,baz=246,slow=20,SNR=1.9						
BSO3	**Boso 3**	**6.53**	**4**	S	**S**	**14 06 47.4**	**-0.5**
BSO4	**Boso 4**	**6.71**	**2**	*e*S	**S**	**14 06 51.7**	**0.0**
JRY	**Ryogami san**	**7.78**	**354**	P	P	14 05 42.3	+0.8
JYT	**Yasato**	**7.94**	**1**	P	**P**	**14 05 43.6**	**+0.5**
JYT				*e*S	**S**	**14 07 15.7**	**-1.0**
JAG	**Ashikaga**	**8.14**	**357**	P	**P**	**14 05 45.3**	**0.0**
JAG				S	**S**	**14 07 18.1**	**-2.9**
JHO	**Hitachi**	**8.33**	**3**	P	P	14 05 48.5	+1.1
JHO				*e*S	**S**	**14 07 23.9**	**-1.0**
MJAR	**Matsushiro Arr**	**8.38**	**350**	P	**P**	**14 05 48.3**	**+0.4**
	0.1nm,0.3s,baz=144,slow=8.4,SNR=2.2						
MJAR				S	**S**	**14 07 24.8**	**-1.2**
	0.0nm,0.3s,baz=169,slow=19,SNR=3.3						
JOW	**Kunigami**	**10.49**	**265**	P	**P**	**14 06 12.5**	**+1.1**
	4.7nm,0.3s,baz=113,slow=22,SNR=12						
KSRS	**Korea Array**	**13.65**	**315**	P	**P**	**14 06 47.1**	**+1.3**
	0.1nm,0.3s,baz=126,slow=11,SNR=2.8						
ASAJ	**Asahikawa**	**15.95**	**7**	P	P	14 07 14.2	+3.7
	0.2nm,0.3s,baz=233,slow=20,SNR=2.1						
USRK	**Ussuriysk Ar.**	**17.14**	**340**	P	**P**	**14 07 24.9**	**+1.7**
	baz=155,slow=10,SNR=13						
KLR	**Kul'dur**	**21.87**	**345**	P	**P**	**14 08 10.0**	**+1.5**
	2.4nm,0.6s,baz=180,slow=5.1,SNR=13						
SONM	**Songino Array**	**32.52**	**316**	P	**P**	**14 09 43.1**	**+0.4**
	0.8nm,0.7s,baz=126,slow=6.9,SNR=6.8						
ZALV	**Zalesovo Beam**	**47.32**	**319**	P	**P**	**14 11 41.7**	**-0.5**
	0.7nm,0.3s,baz=110,slow=8.5,SNR=3.9						
ZALV				PcP	**PcP**	**14 13 04.0**	**-1.3**
	1.1nm,0.5s,baz=105,slow=4.0,SNR=5.6						
MKAR	**Makanchi Array**	**48.22**	**309**	P	**P**	**14 11 48.7**	**-0.5**
	0.5nm,0.5s,baz=86,slow=10,SNR=9.1						
MKAR				PcP	**PcP**	**14 13 08.2**	**-0.5**
	0.8nm,0.7s,baz=85,slow=5.2,SNR=8.6						
MKAR				ScP	**ScP**	**14 16 20.6**	**-1.7**
	0.4nm,0.7s,baz=76,slow=4.2,SNR=4.4						
WRA	**Warramunga Arr**	**48.24**	**187**	P	P	14 11 47.5	-2.1
	0.4nm,0.4s,baz=3.6,slow=7.6,SNR=8.5						
WRA				PcP	**PcP**	**14 13 08.6**	**-0.5**
	0.6nm,0.5s,baz=357,slow=2.9,SNR=8.1						
KURBB	**Kurchatov Arra**	**50.83**	**314**	P	**P**	**14 12 08.1**	**-0.3**
	2.4nm,0.8s,baz=91,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**51.97**	**187**	P	P	14 12 15.5	-1.6
	0.3nm,0.5s,baz=0.6,slow=6.1,SNR=21						
ASAR				PcP	**PcP**	**14 13 22.8**	**-0.1**
	0.7nm,0.8s,baz=8.0,slow=4.2,SNR=7.0						
KDAK	**Kodiak Island**	**54.61**	**37**	P	**P**	**14 12 36.7**	**+1.1**
	4.2nm,0.9s,baz=310,slow=7.9,SNR=5.1						
BVAR	**Borovoye Array**	**55.86**	**317**	P	**P**	**14 12 44.2**	**-0.3**
	2.7nm,0.6s,baz=130,slow=13,SNR=30						
ARU	**Arti**	**62.30**	**322**	P	**P**	**14 13 27.9**	**0.0**
	2.9nm,0.4s,baz=101,slow=5.8,SNR=14						
AKTO	**Aktyubinsk**	**63.83**	**315**	P	**P**	**14 13 37.5**	**-0.5**
	2.6nm,0.6s,baz=78,slow=14,SNR=8.1						
KIRV	**Kirov**	**66.62**	**325**	P	**P**	**14 13 55.9**	**+0.4**
	11nm,0.6s,baz=102,slow=5.1,SNR=3.8						
ARCES	**ARCESS Array B**	**71.79**	**340**	P	**P**	**14 14 27.4**	**+0.7**
	3.0nm,0.6s,baz=72,slow=9.0,SNR=14						
YKA	**Yellowknife Ar**	**72.03**	**28**	P	**P**	**14 14 29.0**	**+0.9**
	0.2nm,0.6s,baz=302,slow=5.2,SNR=4.2						
KBZ	**Khabaz**	**75.78**	**312**	P	**P**	**14 14 50.2**	**+0.4**
	6.0nm,0.8s,baz=88,slow=3.3,SNR=15						
FINES	**FINESS Array B**	**76.03**	**333**	P	**P**	**14 14 51.0**	**0.0**
	2.7nm,0.3s,baz=68,slow=5.2,SNR=38						
AKASG	**Malin Array Be**	**80.51**	**323**	P	**P**	**14 15 14.6**	**-0.8**
	1.2nm,0.4s,baz=54,slow=5.3,SNR=6.4						
NVAR	**Mina Array Bea**	**81.31**	**51**	P	**P**	**14 15 21.9**	**+1.8**
	0.2nm,0.6s,baz=277,slow=7.2,SNR=2.6						
HFS	**Hagfors**	**81.57**	**336**	P	**P**	**14 15 19.9**	**-0.8**
	2.7nm,0.4s,baz=141,slow=2.0,SNR=22						
NB2	**NORSAR Subarra**	**81.79**	**337**	P	**P**	**14 15 21.2**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=47,slow=5.1						
NOA	**NORSAR Array B**	**81.79**	**337**	P	**P**	**14 15 21.4**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=47,slow=4.9,SNR=2.6						
BRTR	**Keskin Array B**	**83.77**	**312**	P	**P**	**14 15 31.9**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=111,slow=3.1,SNR=4.2						
GERES	**GERESS Array B**	**89.49**	**328**	P	**P**	**14 15 58.8**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=49,slow=6.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**122.34**	**310**	PKP	**PKPdf**	**14 21 54.1**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=16,slow=2.6,SNR=2.4						

*IDC **07** 14:04:14.6±0.9, 59°.60S×24°.89W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/26, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=65.2km s-min=30.0km az=83.0*
*NEIC **07** 14:04:17.1±2.0, 60°.2S±0°.1×24°.9W±0°.3, h33km±6km, mb4.6/13, Error ellipse: s-maj=22.6km s-min=15.6km az=140.0*

ISC 07 14:04:16.3±0.8**, 59°.8S**±0°.1×**25°.1W**±0°.2**, h10**km**, n28,** σ**1ˢ13**/26**, mb4.5**/8**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.94**	**154**	P	**Pn**	**14 07 20.5**	**+0.6**
VNA3	**Neumayer Olymp**	**13.11**	**158**	P	**Pn**	**14 07 21.8**	**-0.5**
VNA2	**Neumayer--Watz**	**13.33**	**154**	P	**Pn**	**14 07 25.9**	**+0.6**
	baz=313,slow=15						
SNAA	**Sanae**	**14.90**	**152**	P	**Pn**	**14 07 45.9**	**-0.8**
SNAA	**Sanae**	**14.90**	**152**	Pn	**Pn**	**14 07 45.7**	**-1.0**
	1.2nm,0.3s,baz=314,slow=14,SNR=64						
SNAA				Sn	Sn	14 10 18.3	-13
	0.0nm,0.3s,baz=4.0,slow=20,SNR=1.6						
SNAA	**Sanae**	**14.90**	**152**	P	**Pn**	**14 07 45.5**	**-1.3**
BELA	**Belgrano 2**	**18.47**	**186**	P	P	14 08 25.0	-6.7
PMSA	**Palmer Station**	**18.57**	**238**	P	**P**	**14 08 30.1**	**-2.8**
PMSA				IAmb	IAmb	14 08 48.2	
	comp=Z,88nm,1.5s						
QSPA	**South Pole Qui**	**30.48**	**180**	P	**P**	**14 10 31.3**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=29,slow=0.6,SNR=5.7						
QSPA	**South Pole Qui**	**30.48**	**180**	P	P	14 10 20.3	-8.7
PLCA	**Paso Flores**	**33.86**	**284**	P	**P**	**14 10 58.9**	**+0.2**
PLCA				IAmb	IAmb	14 11 18.7	
	comp=Z,12nm,1.4s						
MT05	**Renca**	**39.78**	**291**	P	**P**	**14 11 50.1**	**+0.9**
PEL	**Peldehue**	**39.96**	**291**	P	**P**	**14 11 49.5**	**-1.2**
PEL				IAmb	IAmb	14 11 55.0	
	comp=Z,14nm,1.2s						
CO02	**Combarbal**	**41.72**	**292**	P	**P**	**14 12 05.3**	**0.0**
CO02				IAmb	IAmb	14 12 15.4	
	comp=Z,8.7nm,0.8s						
CO01	**Juntas del Tor**	**42.33**	**294**	P	**P**	**14 12 10.2**	**-0.2**
GO04	**Tololo Observa**	**42.49**	**293**	P	**P**	**14 12 11.4**	**-0.3**
AC05	**El Transito**	**43.38**	**295**	P	**P**	**14 12 17.3**	**-1.5**
AC05				IAmb	IAmb	14 12 19.5	
	comp=Z,9.8nm,0.6s						
LCO	**Las Campanas**	**43.43**	**294**	P	**P**	**14 12 18.5**	**-0.8**
LCO				IAmb	IAmb	14 12 32.7	
	comp=Z,13nm,1.4s						
PB04	**IPOC Station P**	**48.94**	**300**	P	**P**	**14 13 03.8**	**+1.2**
TA01	**Diego Aracena**	**50.51**	**301**	P	**P**	**14 13 15.1**	**+0.8**
NNA	**Nana**	**61.02**	**299**	P	**P**	**14 14 31.1**	**+1.2**
TORD	**Torodi Ar. Bea**	**75.81**	**27**	P	**P**	**14 16 01.6**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=196,slow=4.2,SNR=1.7						
ASAR	**Alice Springs**	**95.10**	**161**	P	**P**	**14 17 38.9**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=186,slow=4.3,SNR=1.8						
NVAR	**Mina Array Bea**	**123.79**	**289**	PKP	**PKiKP**	**14 23 14.5**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=123,slow=3.3,SNR=2.6						
YKA	**Yellowknife Ar**	**139.63**	**314**	PKP	**PKPdf**	**14 23 42.7**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=122,slow=3.0,SNR=5.7						
INK	**Inuvik**	**149.33**	**316**	PKPbc	**PKPbc**	**14 24 02.4**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=90,slow=2.5,SNR=19						
SONM	**Songino Array**	**149.68**	**91**	PKPbc	**PKPbc**	**14 24 05.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=198,slow=4.2,SNR=1.9						
ILAR	**Eielson Array**	**153.32**	**306**	PKPbc	**PKPbc**	**14 24 12.2**	**-0.7**
	comp=Z,1.9nm,1.1s,baz=144,slow=4.6,SNR=12						

IDC 07 14:15:52.3±1.9**, 32°.74N**×**94°.60E, h0**km**, mb3.5**/2**, mb1 3.4**/4**, mb1mx3.2**/41**, mbtmp3.3**/4**, ML3.0**/1**, Error ellipse: s-maj=75.2km s-min=28.7km az=62.0, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.90**	**330**	Pn	Pn	14 19 49.8	-0.4
	0.1nm,0.3s,baz=139,slow=14,SNR=3.6						
SONM	**Songino Array**	**17.52**	**27**	P	Pn	14 19 58.2	+0.1
	baz=219,slow=11,SNR=1.8						
KURBB	**Kurchatov Arra**	**21.44**	**331**	P	P	14 20 41.4	-0.6
	2.1nm,0.7s,baz=139,slow=11,SNR=23						
ASAR	**Alice Springs**	**67.47**	**141**	P	P	14 26 50.2	+0.1
	0.3nm,0.8s,baz=329,slow=7.1,SNR=4.1						

IDC 07 14:23:29.8±2.5**, 6°.52S**×**129°.93E, h0**km**, mb3.2**/1**, mb1 3.3**/3**, mb1mx3.1**/30**, mbtmp3.1**/3**, ML3.2**/2**, Error ellipse: s-maj=146.6km s-min=33.3km az=69.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.02**	**163**	Pn	Pn	14 26 48.9	-1.0
	0.1nm,0.3s,baz=346,slow=13,SNR=5.6						
WRA				Sn	Sn	14 29 16.4	-10
	0.1nm,0.3s,baz=343,slow=23,SNR=1.6						
ASAR	**Alice Springs**	**17.48**	**168**	P	Pn	14 27 35.7	+0.6
	0.1nm,0.3s,baz=345,slow=10,SNR=12						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	14 34 29.6	0.0
	0.1nm,0.4s,baz=123,slow=7.7,SNR=2.3						

*JMA **07** 14:31:39.3±0.1, 36°.60N×140°.97E, h48km±1km, M3.8*
JMA Felt II J1.
*IDC **07** 14:31:39.3±2.1, 36°.58N×141°.06E, h45km±20km, mb3.3/7, mb1 3.5/10, mb1mx3.3/51, mbtmp3.6/10, ML3.4/3, Error ellipse: s-maj=19.2km s-min=12.1km az=68.0*

ISC 07 14:31:39.5±0.9**, 36°.61N**±0°.04×**141°.06E**±0°.08**, h47**km±7km**, n24,** σ**1ˢ22**/29**, mb3.6**/7**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.39**	**271**	P	**Pn**	**14 31 48.5**	**-0.8**
JHO				S	**Sn**	**14 31 54.7**	**-1.5**
JHYU	**Hitachinakayam**	**0.47**	**235**	P	**Pn**	**14 31 49.4**	**-0.7**
JHYU				S	**Sn**	**14 31 56.2**	**-1.4**
ONAJ	**Iwakimizuishiy**	**0.54**	**337**	P	**Pn**	**14 31 50.3**	**-0.7**
JFFD	**Fukushimafurud**	**0.63**	**320**	P	**Pn**	**14 31 51.5**	**-0.7**
JFFD				S	**Sn**	**14 31 59.7**	**-1.6**
JFK	**Kawauchi**	**0.77**	**349**	P	**Pn**	**14 31 53.3**	**-0.8**
JYT	**Yasato**	**0.79**	**242**	P	**Pn**	**14 31 53.2**	**-1.1**
JYT				S	**Sn**	**14 32 03.0**	**-2.1**
JFT	**Otama**	**1.08**	**328**	P	**Pn**	**14 31 58.5**	**+0.3**
JFT				S	**Sn**	**14 32 12.0**	**0.0**
MJAR	**Matsushiro Arr**	**2.29**	**269**	P	**Pn**	**14 32 14.4**	**-0.4**
	1.2nm,0.3s,baz=152,slow=15,SNR=125						
MJAR				S	**Sn**	**14 32 41.6**	**-0.3**
	3.6nm,0.3s,baz=74,slow=22,SNR=6.5						
MAT	**Matsushiro**	**2.30**	**269**	P	**Pn**	**14 32 15.4**	**+0.5**
MAT				*e*S	**Sn**	**14 32 43.6**	**+1.7**
JHJ	**Hachijo jima 2**	**3.63**	**197**	P	**Pn**	**14 32 33.2**	**0.0**
	19nm,0.3s,baz=322,slow=20,SNR=10						
JHJ				S	**Sn**	**14 33 14.1**	**-0.8**
	19nm,0.3s,baz=111,slow=19,SNR=1.6						
ASAJ	**Asahikawa**	**7.59**	**8**	P	**Pn**	**14 33 26.3**	**-1.1**
	1.2nm,0.3s,baz=232,slow=8.0,SNR=26						
ASAJ				S	**Sn**	**14 34 49.9**	**-2.2**
	0.4nm,0.3s,baz=239,slow=19,SNR=1.7						
SONM	**Songino Array**	**27.79**	**305**	P	**P**	**14 37 23.2**	**-0.9**
	0.2nm,0.5s,baz=104,slow=8.2,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**28.18**	**120**	T	T	15 07 29.0	
	baz=312,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**28.19**	**120**	T	T	15 07 29.5	
	baz=312,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**28.20**	**120**	T	T	15 07 30.5	
	baz=312,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**28.87**	**122**	T	T	15 08 18.4	
	baz=314,slow=75,SNR=52						
H11S3	**WAKE ISLAND Hy**	**28.87**	**122**	T	T	15 08 17.0	
	baz=314,slow=75,SNR=40						
H11S2	**WAKE ISLAND Hy**	**28.89**	**122**	T	T	15 08 06.2	
	baz=314,slow=75,SNR=31						
ZALV	**Zalesovo Beam**	**41.99**	**313**	P	**P**	**14 39 25.6**	**-0.2**
	0.4nm,0.3s,baz=98,slow=6.4,SNR=2.9						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**14 39 43.8**	**+0.7**
	0.2nm,0.6s,baz=88,slow=9.1,SNR=2.3						
KURBB	**Kurchatov Arra**	**46.04**	**308**	P	**P**	**14 39 58.0**	**-0.3**
	0.4nm,0.4s,baz=82,slow=7.7,SNR=8.8						
ILAR	**Eielson Array**	**50.01**	**32**	P	**P**	**14 40 29.8**	**+1.0**
	0.4nm,0.8s,baz=269,slow=6.0,SNR=4.5						
ILAR				pP	**pP**	**14 40 43.5**	**+2.0**
	0.4nm,0.7s,baz=264,slow=5.6,SNR=3.4						
WRA	**Warramunga Arr**	**56.60**	**188**	P	**P**	**14 41 17.0**	**-0.6**
	0.9nm,0.5s,baz=7.8,slow=7.7,SNR=27						
WRA				pP	**pP**	**14 41 32.6**	**+2.2**
	0.4nm,0.7s,baz=2.0,slow=7.2,SNR=1.9						
ASAR	**Alice Springs**	**60.33**	**188**	P	**P**	**14 41 43.2**	**-0.3**
	0.5nm,0.8s,baz=13,slow=11,SNR=8.4						

*IDC **07** 14:39:16.4±1.7, 25°.58S×179°.59E, h494km±18km, mb3.1/10, mb1 3.4/14, mb1mx3.3/32, mbtmp4.1/14, Error ellipse: s-maj=19.2km s-min=14.9km az=121.0*

ISC 07 14:39:17.3±0.6**, 25°.56S**±0°.08×**179°.6E**±0°.1**, h507**km**, n36,** σ**1ˢ00**/31**, mb3.5**/10**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.92**	**349**	P	**P**	**14 41 13.0**	**-0.2**
	1.7nm,0.3s,baz=120,slow=15,SNR=11						
URZ	**Urewera**	**12.84**	**189**	P	**P**	**14 42 03.9**	**-0.5**
	4.5nm,0.3s,baz=28,slow=1.4,SNR=28						
URZ				S	**S**	**14 44 20.9**	**-1.4**
	0.3nm,0.3s,baz=33,slow=17,SNR=1.7						
BKZ	**Black Stump Fm**	**13.82**	**190**	P	P	14 42 23.9	+9.0
KRVZ	**Karewarewa**	**13.91**	**193**	P	P	14 42 29.5	+14
NGZ	**Ngauruhoe**	**13.99**	**193**	P	P	14 42 27.6	+11
MCHZ	**McNeill Hill**	**14.06**	**189**	P	P	14 42 27.4	+10
KWHZ	**Kaweka Forest**	**14.08**	**190**	P	P	14 42 27.3	+10
AFI	**Afiamalu**	**14.14**	**37**	P	**P**	**14 42 16.9**	**-1.7**
	0.8nm,0.3s,baz=131,slow=18,SNR=2.2						
MOVZ	**Moawhango**	**14.19**	**192**	P	P	14 42 29.7	+11
BFZ	**Birch Farm**	**15.34**	**190**	P	**P**	**14 42 30.2**	**-0.5**
MRZ	**Mangatainoka R**	**15.43**	**192**	P	**P**	**14 42 29.9**	**-1.8**
HOWZ	**Holdsworth Sta**	**15.67**	**192**	P	**P**	**14 42 34.3**	**+0.1**
CAW	**Cannon Point**	**15.96**	**193**	P	**P**	**14 42 37.2**	**+0.1**
BHW	**Baring Head**	**16.29**	**193**	P	**P**	**14 42 41.2**	**+0.7**
QRZ	**Quartz Range**	**16.33**	**199**	P	**P**	**14 42 41.8**	**+0.8**
NNZ	**Nelson**	**16.45**	**197**	P	**P**	**14 42 41.3**	**-0.9**
TUWZ	**Tuamarina**	**16.51**	**195**	P	**P**	**14 42 42.8**	**-0.1**
THZ	**Tophouse**	**17.09**	**197**	P	**P**	**14 42 48.9**	**+0.2**
RPZ	**Rata Peaks**	**19.41**	**199**	P	**P**	**14 43 07.6**	**-2.3**
	0.5nm,0.3s,baz=337,slow=15,SNR=1.4						
ASAR	**Alice Springs**	**41.44**	**263**	P	**P**	**14 46 19.8**	**+0.4**
	0.9nm,0.6s,baz=91,slow=6.8,SNR=29						
ASAR				PcP	**PcP**	**14 48 05.9**	**+0.4**
	0.4nm,0.6s,baz=101,slow=5.2,SNR=3.1						
ASAR				ScP	**ScP**	**14 51 09.1**	**+2.0**
	0.3nm,0.9s,baz=111,slow=3.9,SNR=2.2						
WRA	**Warramunga Arr**	**41.96**	**268**	P	**P**	**14 46 23.2**	**-0.3**
	1.1nm,0.5s,baz=102,slow=7.9,SNR=16						
FITZ	**Fitzroy Crossi**	**50.36**	**267**	P	**P**	**14 47 27.6**	**+0.2**
	1.0nm,0.7s,baz=85,slow=8.5,SNR=6.0						
SIJI	**Sorong**	**52.64**	**290**	P	**P**	**14 47 43.2**	**-0.8**
	3.8nm,0.6s,baz=78,slow=20,SNR=1.7						
VNDA	**Vanda**	**52.71**	**185**	P	**P**	**14 47 44.8**	**+1.3**
	0.6nm,0.5s,baz=9.5,slow=6.1,SNR=1.5						
MJAR	**Matsushiro Arr**	**73.06**	**326**	P	**P**	**14 49 55.5**	**+0.1**
	1.6nm,0.8s,baz=161,slow=5.0,SNR=5.2						
KSRS	**Korea Array**	**79.28**	**321**	P	**P**	**14 50 30.8**	**+1.1**
	0.6nm,0.8s,baz=128,slow=6.1,SNR=4.1						
PETK	**Petropavlovsk-**	**80.62**	**347**	P	**P**	**14 50 36.5**	**+0.2**
	1.9nm,0.8s,baz=104,slow=9.3,SNR=5.0						
NVAR	**Mina Array Bea**	**86.19**	**44**	P	**P**	**14 51 05.7**	**+0.9**
	1.1nm,0.8s,baz=221,slow=8.9,SNR=9.1						
TXAR	**Lajitas Array**	**91.61**	**58**	P	**P**	**14 51 31.4**	**+1.3**
	0.4nm,0.8s,baz=207,slow=5.3,SNR=5.9						
MKAR	**Makanchi Array**	**113.00**	**312**	PKiKP	**PKiKP**	**14 56 55.6**	**-0.7**
	0.3nm,0.7s,baz=132,slow=2.1,SNR=2.7						
ARCES	**ARCESS Array B**	**133.43**	**348**	PKP	**PKPdf**	**14 57 34.1**	**-0.6**
	2.2nm,0.8s,baz=90,slow=0.9,SNR=3.5						
FINES	**FINESS Array B**	**139.89**	**341**	SKPbc	**SKPbc**	**15 00 34.5**	**-0.1**
	3.4nm,1.0s,baz=346,slow=0.8,SNR=3.7						
NB2	**NORSAR Subarra**	**143.65**	**350**	PKP	PKPab	14 57 52.1	-0.2
	comp=Z,1.8nm,0.6s,baz=15,slow=3.2						
NOA	**NORSAR Array B**	**143.65**	**350**	PKP	PKPab	14 57 51.8	-0.4
	comp=Z,2.9nm,0.7s,baz=22,slow=3.8,SNR=8.7						
AKASG	**Malin Array Be**	**146.15**	**326**	PKPbc	**PKPbc**	**14 57 59.4**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=40,slow=3.8,SNR=4.5						
BRTR	**Keskin Array B**	**148.25**	**305**	PKPbc	**PKPbc**	**14 58 06.3**	**0.0**
	comp=Z,0.6nm,0.5s,baz=109,slow=2.9,SNR=2.3						

*NEIC **07** 14:54:43.9±2.7, 8°.70S±0°.07×74°.84W±0°.08, h128km±7km, mb4.7/95, Error ellipse: s-maj=13.0km s-min=9.7km az=58.0*
*IDC **07** 14:54:44.8±0.6, 8°.65S×74°.73W, h134km±4km, mb4.1/23, mb1 4.2/24, mb1mx4.2/34, mbtmp4.4/24, MS3.3/2, Ms1 3.3/2, ms1mx2.8/35, Error ellipse: s-maj=21.3km s-min=9.1km az=49.0*
*VAO **07** 14:54:50.9±0.5, 8°.77S×74°.15W, h139km±2km, mb4.8*

ISC 07 14:54:44.4±0.5**, 8°.70S**±0°.05×**74°.78W**±0°.06**, h133**km±4km**, h133**km**:pP-P, n180,** σ**1ˢ00**/164**, mb4.6**/71**, 1C, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.27**	**65**	*e*P	**Pn**	**14 55 23.8**	**+1.9**
NNA	**Nana**	**3.85**	**212**	Pn	**Pn**	**14 55 41.5**	**-0.9**
NNA				Sn	**Sn**	**14 56 24.5**	**-2.7**
ETMB	**Extrema**	**8.53**	**98**	*e*P	**Pn**	**14 56 43.3**	**-1.8**
PTLC	**Puerto Leguiza**	**8.81**	**360**	*e*P	Pn	14 56 42.3	-6.6
OTAV	**Otavalo**	**9.60**	**337**	Pn	**Pn**	**14 57 00.1**	**+0.2**
OTAV	**Otavalo**	**9.60**	**337**	*e*P	**Pn**	**14 56 59.9**	**+0.1**
LPAZ	**La Paz**	**9.95**	**140**	P	**Pn**	**14 57 05.2**	**+0.6**
	0.4nm,0.3s,baz=328,slow=13,SNR=7.0						
LPAZ	**La Paz**	**9.95**	**140**	Pn	**Pn**	**14 57 03.8**	**-0.9**
LPAZ	**La Paz**	**9.95**	**140**	*e*P	**Pn**	**14 57 04.7**	**0.0**

MACC Macarena, Meta 10.81 5 *e*P P 14 57 13.1 -2.5
GARC Garzon, Huila 10.83 356 *e*P P 14 57 15.3 -0.8
SOTA Rioblanco 10.91 350 *e*P P 14 57 17.9 +0.5
BBAC Balboa, Cauca 10.93 347 *e*P P 14 57 16.2 -1.1
PCON Cinco Dias 11.07 352 *e*P P 14 57 19.9 +0.4
POPC Popayan, Colom 11.32 350 *e*P P 14 57 21.9 -0.7
SAML Samuel 11.46 92 Pn P 14 57 22.2 -2.1
SAML Samuel 11.46 92 *e*P P 14 57 22.0 -2.2
MARP Paez Belalcaza 11.52 354 *e*P P 14 57 23.6 -1.7
PRAC Prado 12.33 360 *e*P P 14 57 37.2 +1.6
ANIL Santa Ana 13.11 357 *e*P P 14 57 50.8 -0.4
TOLC Tolima 13.20 358 *e*P P 14 57 53.7 +1.4
CHIC Chingaza 13.28 5 *e*P P 14 57 46.9 -1.4
RREF El Recreo 13.52 358 *e*P P 14 54.2 -1.9
PLMC San Jos del P 13.59 354 *e*P P 14 57 55.7 -0.7
GUY2C Guyana, Caldas 13.84 358 *e*P P 14 57 59.6 +0.1
NORC Norcasia 14.16 360 *e*P P 14 58 01.3 -1.4
SPBC San Pablo de B 14.27 3 *e*P P 14 58 02.2 -1.7
CBOC Ciudad Bolivar 14.52 355 *e*P P 14 58 07.3 +0.6
RUSC La Rusia 14.59 7 *e*P P 14 58 07.8 -0.1
VILB Vilhena 14.93 108 *e*P P 14 58 07.7 -1.2
LVC Limon Verde 14.94 158 Pn P 14 58 09.0 -0.3
LVC Limon Verde 14.94 158 *e*P P 14 58 12.8 +1.2
MACA Manacapuru-AM 15.06 69 *e*P P 14 58 08.7 -1.7
DBBC Dabeiba 15.67 355 *e*P P 14 58 22.4 +2.9
PAMC Pamplona, Colo 16.06 7 *e*P P 14 58 24.7 +0.5
PTLB Pontes e Lacer 16.70 115 *e*P P 14 58 30.2 -0.5
PTGA Pitinga 16.74 63 LR LR 15 04 58.8
comp=Z,93nm,20.7s,baz=72,slow=37
PTGA Pitinga 16.74 63 P P 14 58 31.9 +0.7
PTGA IAmb IAmb 14 58 43.8
comp=Z,27nm,0.6s
PTGA Pitinga 16.74 63 *e*P P 14 58 32.0 +0.7
MOTC Monteria, Cord 17.38 357 *e*P P 14 58 38.4 -0.5
SMLC San Martn de 17.39 2 *e*P P 14 58 38.5 -0.6
SDV Santo Domingo 17.95 13 *e*P P 14 58 45.8 -0.1
BOAV Boa Vista 17.98 53 *e*P P 14 58 45.3 -0.8
CLDB Colider 18.83 98 *e*P P 14 58 54.5 +0.4
NPGB Novo Progresso 19.31 87 *e*P P 14 58 59.0 -0.3
ITTB Itaituba 19.40 78 *e*P P 14 59 00.5 +0.1
PP1B Ponte de Pedra 21.29 117 *e*P P 14 59 21.0 +0.4
MALB Monte Alegre 21.52 73 *e*P P 14 59 24.2 +1.2
AQDB Aquidauana 21.84 125 *e*P P 14 59 26.2 -0.1
CO03 El Pedregal 22.36 171 P P 14 59 33.3 +1.6
SNDB Serra Nova Dou 23.33 100 *e*P P 14 59 40.9 -0.1
ARAG Araguaiana, MT 23.49 109 *e*P P 14 59 43.9 +1.5
MCPB Macapa, AP 24.10 71 *e*P P 14 59 47.9 0.0
CPUP Villa Florida 24.12 139 P P 14 59 47.5 -0.5
comp=Z,3.3nm,0.6s,baz=322,slow=7.9,SNR=8.5
CPUP pP pP 15 00 14.8 -0.5
comp=Z,2.2nm,0.7s,baz=328,slow=12,SNR=3.0
PRPB Parauapebas 24.88 86 *e*P P 14 59 54.3 -0.8
TRCB Terra Rica 25.46 126 *e*P P 15 00 01.7 +1.4
MDP Montagnes des 25.98 59 LR LR 15 11 18.3
comp=Z,65nm,20.9s,baz=286,slow=38
PCMB Pacaembu 26.03 122 *e*P P 15 00 05.1 -0.2
ITRB Iturama 26.04 117 *e*P P 15 00 05.7 +0.1
PEXB Peixe 26.26 100 *e*P P 15 00 08.0 +0.5
SMTB Santa Maria do 26.87 92 *e*P P 15 00 13.2 +0.2
PTGB Pitanga 26.89 129 *e*P P 15 00 13.7 +0.5
BDFB Brasilia 27.04 107 P P 15 00 15.3 +0.7
comp=Z,7.3nm,0.5s,baz=280,slow=13,SNR=9.9
BDFB Brasilia 27.04 107 P P 15 00 17.3 +2.7
TMAB Tom-Au,PA,Br 27.28 78 *e*P P 15 00 18.5 +1.8
IPMB Ipameri, GO 27.42 112 *e*P P 15 00 17.1 -0.8
CBYP Canovanas 28.21 18 P P 15 00 26.3 +1.5
CUPR Culebra, Puert 28.42 19 P P 15 00 26.8 +0.1
SDBA SAO DESIDERIO 29.59 100 *e*P P 15 00 37.0 -0.2
JANB Januaria 30.46 105 *e*P P 15 00 45.6 +0.7
TEIG Tepich 31.66 335 P P 15 00 55.5 +0.2
comp=Z,11nm,0.7s,baz=142,slow=15,SNR=2.3
TEIG Tepich 31.66 335 P P 15 00 53.8 -1.5
TEIG IAmb IAmb 15 00 56.9
comp=Z,18nm,0.9s
DIAM Diamantina, MG 31.67 111 *e*P P 15 00 55.8 +0.2
DIAM *e*pP pP 15 01 25.4 +1.0
PLCA Paso Flores 32.13 174 P P 15 01 00.1 +0.9
comp=Z,2.3nm,0.9s,baz=353,slow=8.8,SNR=2.9
ESAR Angra dos Reis 32.38 120 *e*P P 15 01 00.9 -0.7
ESAR *e*pP pP 15 01 31.0 +0.5
CMIG Matias Romero 32.43 322 P P 15 01 02.8 +0.8
comp=Z,4.7nm,0.7s,baz=129,slow=5.9,SNR=6.6
GDU01 Guandu, BA 34.87 101 *e*P P 15 01 23.3 0.0
GDU01 *e*pP pP 15 01 53.5 +1.1
NAN01 Guarapari, ES 34.88 109 *e*P P 15 01 24.7 +1.4
NAN01 *e*pP pP 15 01 54.1 +1.7
RIB01 Linhares ES 34.92 111 *e*P P 15 01 23.4 -0.3
RCBR Riachuelo 38.66 88 P P 15 01 54.4 -1.1
V59A Middlesex 44.34 356 P 15 02 42.4
baz=175
NATX Nacogdoches 44.49 336 P 15 02 44.2
baz=152
U58A Oxford 44.99 356 P 15 02 47.7
baz=175
U57A Blanch 45.09 355 P 15 02 48.2
baz=174
T58A Grand View Acr 45.53 356 P 15 02 51.8
baz=175
T57A Hurt 45.64 355 P 15 02 52.7
baz=174,SNR=7.0
T57A Hurt 45.65 355 P P 15 02 52.5 +0.8
T56A Rocky Mt 45.75 354 P 15 02 53.7
baz=173
WHTX Lake Whitney, 45.90 333 P 15 02 54.7
baz=148
BLA Blacksburg 45.97 354 P 15 02 55.4
baz=172
S58A Poland Farm, P 46.16 356 P 15 02 57.0
baz=176
S57A Dark Hollow, R 46.38 355 P 15 02 58.3
baz=174
R58B Mineral 46.50 357 P 15 02 59.7
baz=176
W41B Gary Mavity, V 46.65 340 P 15 02 59.1
baz=156
WHAR Wooly Hollow 46.77 340 P P 15 02 59.1 -1.4
WHAR IAmb IAmb 15 03 01.0
comp=Z,9.8nm,0.8s
TXAR Lajitas Array 46.95 325 P P 15 03 02.5 +0.4
comp=Z,2.5nm,0.7s,baz=149,slow=9.0,SNR=26
TXAR PcP PcP 15 04 33.2 +0.7
comp=Z,1.1nm,0.6s,baz=146,slow=6.6,SNR=5.7
TX31 Lajitas Ar. Si 46.95 325 P P 15 03 02.9 +0.8
TX31 IAmb IAmb 15 03 03.2
comp=Z,8.6nm,0.8s
TX32 Lajitas Array 46.95 325 P P 15 03 02.2 +0.1
SLBS Sierra La Lagu 47.08 314 P P 15 03 03.1 -0.1
SLBS IAmb IAmb 15 03 06.5
comp=Z,17nm,1.1s
W39A Magazine 47.20 339 P 15 03 04.3
baz=154
FCAR Ozark Folk Cen 47.26 341 P P 15 03 03.0 -1.2
FCAR IAmb IAmb 15 03 04.3
comp=Z,7.9nm,0.7s
ABTX Abilene, Hawle 47.44 331 P 15 03 06.8
baz=146,SNR=6.2
Q58A Fox Den Farm, 47.47 357 P 15 03 07.1
baz=176
Q57A Strasburg 47.60 356 P 15 03 07.9
baz=175
Q56A Snyder Ridge, 47.67 355 P 15 03 08.8
baz=174
Q53A Leroy 47.72 353 P 15 03 08.4
baz=171,SNR=6.9
WCI Wyandotte Cave 47.90 348 P 15 03 08.5
baz=165
U40A Yellville 47.93 340 P 15 03 09.3
baz=156,SNR=7.1
U40A Yellville 47.93 340 P P 15 03 08.8 -0.7
U40A IAmb IAmb 15 03 09.9
comp=Z,8.6nm,0.8s
T42A Van Buren 47.99 342 P P 15 03 08.8 -1.1
T42A IAmb IAmb 15 03 09.5
comp=Z,7.5nm,0.7s
HHAR Hobbs 48.23 339 P P 15 03 11.5 -0.3
HHAR IAmb IAmb 15 03 12.4
comp=Z,8.9nm,0.7s
P52A Corning 48.56 352 P 15 03 14.1
baz=170
TUL1 Leonard 48.58 337 P 15 03 14.3
baz=152
O59A Robesonia 48.78 359 P 15 03 17.1
baz=178
WMOK Wichita Mounta 48.80 334 P 15 03 16.6
baz=148
O56A Blue Knob Stat 48.84 356 P 15 03 17.6
baz=175
P49A Miami Univ. Ec 48.86 350 P 15 03 15.6
baz=167
CCM Cathedral Cave 48.98 343 P 15 03 16.7
baz=158
CCM Cathedral Cave 48.98 343 P P 15 03 16.5 -1.0
QUOK Quay 49.17 336 P P 15 03 17.7 -1.2
QUOK IAmb IAmb 15 03 20.1
comp=Z,15nm,0.8s
ACSO Alum Creek Sta 49.27 352 P 15 03 19.4
baz=169
N57A Milroy 49.27 357 P 15 03 20.3
baz=176
S39A Bolivar 49.30 341 IAmb IAmb 15 03 39.3
comp=Z,7.2nm,0.8s
S39A PcP PcP 15 04 40.2 -0.5
N58A Sunbury 49.32 358 P 15 03 21.1
baz=178
N54A Moraine State 49.64 355 P 15 03 23.2
baz=173
MNTX Cornudas Mount 49.70 325 P 15 03 23.8
baz=139
M57A Sunshine Farm, 49.83 358 P 15 03 25.2
baz=177
SFIN Lafayette 50.14 348 P 15 03 25.2
baz=164,SNR=8.2
M54A Oil Creek Stat 50.16 355 P 15 03 26.8
baz=174
AMTX Amarillo 50.26 331 P 15 03 27.5
baz=145
L58A Harry Jones Me 50.50 359 P 15 03 30.3
baz=179
P40A Paris 50.59 343 P P 15 03 28.0 -1.5
P40A IAmb IAmb 15 03 29.8
comp=Z,6.4nm,0.7s
P40A PcP PcP 15 04 45.6 +0.2
L56A Greenwood 50.65 357 P 15 03 30.9
baz=176
L53A Girard 50.65 355 P 15 03 29.9
baz=173
BINY Binghamton 50.66 359 P 15 03 31.3
baz=178
BINY Binghamton 50.66 359 P P 15 03 30.4 +0.3
HDIL Hopedale 50.80 346 P 15 03 30.3
baz=161
P38A Dawn 51.12 341 IAmb IAmb 15 03 33.7
comp=Z,9.1nm,0.7s
K57A Scipio Center 51.20 358 P 15 03 34.9
baz=178
K58A Earlville 51.22 359 P 15 03 35.5
baz=179
121A Cookes Peak, D 51.68 324 P 15 03 39.6
baz=137
J56A Wolcott 51.76 358 P 15 03 38.9
baz=177
J59A Piesco 51.91 0 P 15 03 40.5
baz=180
I58A Old Forge 52.13 360 P 15 03 42.0
baz=180
I51A Listowel 52.55 354 P 15 03 43.6
baz=172
CBKS Cedar Bluff 52.66 336 P 15 03 45.8
baz=148
ANMO Albuquerque 52.73 327 P P 15 03 46.1 +0.2
comp=Z,4.6nm,1.0s,baz=150,slow=8.1,SNR=10
ANMO Albuquerque 52.73 327 P 15 03 46.5
baz=139
H58A Gabriels 52.87 1 P 15 03 47.0
baz=181
H57A Richville 52.91 359 P 15 03 47.3
baz=179
H53A Bobcaygeon 53.13 357 P 15 03 48.4
baz=175
JFWS Jewell Farm 53.26 346 P 15 03 48.3
baz=161
TUC Tucson 53.32 322 P 15 03 50.8
baz=134
T25A Trinidad 53.38 331 P 15 03 51.8
baz=143,SNR=10
T25A Trinidad 53.38 331 P P 15 03 52.0 +1.3
G57A Newington 53.55 360 P 15 03 52.1
baz=180
G54A Lake Saint Pet 53.92 357 P 15 03 54.1
baz=176
L34A Svendsen Farm, 54.16 340 P P 15 03 55.1 -0.9
I40A Norwalk 54.28 346 P P 15 03 56.3 -0.4
BGNE Belgrade 54.29 338 P 15 03 57.6
baz=151
214A Organ Pipe Nat 54.35 320 P P 15 03 58.4 +0.8
214A IAmb IAmb 15 03 59.6
comp=Z,9.5nm,0.8s
214A Organ Pipe Nat 54.35 320 P 15 03 58.5
baz=132
SDCO Great Sand Dun 54.39 330 P 15 03 58.8
baz=142,SNR=28
ALGO Algonquin Park 54.48 357 P 15 03 57.9
baz=176
W18A Petrified Fore 54.67 325 P 15 04 01.1
baz=136,SNR=5.5
E56A St. Veronique 54.99 360 P 15 04 02.3
baz=180
S22A 4UR Ranch, Cre 55.06 329 P 15 04 03.5
baz=140,SNR=5.1
OGNE Ogallala 55.41 335 P 15 04 05.7
baz=147
D55A Sainte-Anne-du 55.47 359 P 15 04 05.5
baz=179
D56A ZEC Mazanza, M 55.49 0 P 15 04 05.7
baz=180
MVCO Mesa Verde 55.52 327 P 15 04 06.7
baz=138
D58A Chemin du LacG 55.57 2 P 15 04 06.7
baz=182,SNR=6.5
D61A St Aubert, Com 55.80 4 P 15 04 08.9
baz=186
ECSD EROS Data Cent 55.82 341 P 15 04 07.1
baz=154,SNR=6.9
ECSD EROS Data Cent 55.82 341 IAmb IAmb 15 04 08.8
comp=Z,5.0nm,0.7s
LATQ La Tuque 55.86 2 P 15 04 08.9
baz=182
WUAZ Wupatki 55.90 324 P 15 04 10.1
baz=135,SNR=6.3
COWI Conover 56.04 348 IAmb IAmb 15 04 09.1
comp=Z,5.0nm,0.7s
ISCO Idaho Springs 56.06 332 P 15 04 10.7
baz=142
SPMN Marine on St. 56.07 345 P 15 04 08.9
baz=158,SNR=8.1
PV01 Paradox Valley 56.25 328 P P 15 04 11.3 0.0
PV01 IAmb IAmb 15 04 13.0
comp=Z,9.3nm,0.8s
N23A Red Feather La 57.09 332 P 15 04 17.9
baz=143
BC3 Big Chuckawall 57.14 320 P 15 04 18.7
baz=130
SUSD Miller 57.23 340 P 15 04 17.6
baz=151
IRM Iron Mountain 57.27 320 P 15 04 19.6
baz=131,SNR=11
LSQQ Lebel-sur-Quev 57.54 358 P 15 04 19.9
baz=178
O20A White River Ci 57.59 330 P 15 04 21.4
baz=140
BELC Belle Mtn. Jos 57.71 320 P 15 04 22.3
baz=130
TPFO Pinon Flats 57.75 319 P 15 04 22.9
baz=129
PFO Pinyon Flats O 57.76 319 P P 15 04 22.1 +0.2
comp=Z,3.8nm,0.8s,baz=104,slow=5.7,SNR=6.6
PFO Pinyon Flats O 57.76 319 P 15 04 22.5
baz=129
KNB Kanab 57.78 324 P P 15 04 22.7 +0.7
KNB IAmb IAmb 15 04 24.3
comp=Z,12nm,1.0s
GMRC Granite Mounta 58.00 321 P 15 04 24.5
baz=130,SNR=6.8
MTPU Mount Pierson 58.13 326 P P 15 04 25.4 +0.7
MATQ Matagami 58.26 358 P 15 04 24.7
baz=177
HEC Hector,Ludlow 58.45 320 P 15 04 28.0
baz=130
K22A Casper 58.74 333 P 15 04 29.1
baz=143,SNR=5.2
K22A Casper 58.74 333 IAmb IAmb 15 04 29.5
comp=Z,6.2nm,0.8s
RSSD Black Hills 58.87 336 P 15 04 30.3
baz=146
GSC Goldstone, Bar 59.05 320 P 15 04 31.9
baz=130
SHOC Shoshone, Teco 59.10 321 P 15 04 32.1
baz=130
B35A Bob, Littlefor 59.22 345 IAmb IAmb 15 04 31.4
comp=Z,7.5nm,0.6s
PSUT Pine Spring 59.42 325 IAmb IAmb 15 04 35.3
comp=Z,8.7nm,0.9s
EDW2 Edwards Air Fo 59.54 319 P 15 04 34.7
baz=128
AGMN Agassiz Nation 59.72 344 P 15 04 34.7
baz=156,SNR=5.9
AGMN Agassiz Nation 59.72 344 IAmb IAmb 15 04 35.4
comp=Z,9.5nm,0.8s
TPNV Topopah Spring 59.76 322 P 15 04 37.1
baz=131,SNR=8.9
FURC Furnace Creek, 59.83 321 P 15 04 37.1
baz=130,SNR=5.6
MPMC Manual Prospec 59.96 321 P 15 04 37.6
baz=129,SNR=6.7
DUG Dugway, Tooele 60.00 327 P 15 04 38.2
baz=135,SNR=12
SPR3 Spring Creek 3 60.01 325 IAmb IAmb 15 04 39.0
comp=Z,5.5nm,0.8s
BW06 Boulder Array 60.24 331 P 15 04 38.8
baz=140,SNR=5.3
PDAR Pinedale Array 60.24 331 P P 15 04 38.6 -0.3
comp=Z,2.9nm,0.8s,baz=126,slow=8.7,SNR=18
R11A Troy Canyon, C 60.29 324 IAmb IAmb 15 04 41.4
comp=Z,5.8nm,0.8s
R11A Troy Canyon, C 60.29 324 P 15 04 40.4
baz=132,SNR=12
ISA Isabella, Lake 60.33 320 P 15 04 40.4
baz=128
MDND Maddock 60.44 341 P 15 04 40.8
baz=152
CWC Cottonwood Cre 60.57 321 P 15 04 42.1
baz=129
PKM Mcpherson Peak 60.73 318 P 15 04 43.4
baz=127
SMMC Simmler 61.11 318 P 15 04 45.6
baz=127
LOHW Long Hollow 61.38 331 P P 15 04 46.3 -0.3
ULM Lac du Bonnet 61.51 345 P P 15 04 46.3 -0.7
comp=Z,12nm,0.8s,baz=155,slow=6.1,SNR=25
ELK Elko 61.71 326 P P 15 04 49.0 +0.1
comp=Z,1.5nm,0.7s,baz=86,slow=6.2,SNR=9.7
RLMT Red Lodge 61.91 333 P 15 04 50.7
baz=141,SNR=5.7
RLMT Red Lodge 61.91 333 P P 15 04 50.1 -0.1
RLMT IAmb IAmb 15 04 51.4
comp=Z,5.3nm,0.8s
MDPB Devils Postpil 61.94 321 IAmb IAmb 15 04 52.2
comp=Z,5.6nm,0.7s
H17A Grant Village 61.95 332 P 15 04 51.8
baz=139
NVAR Mina Array Bea 61.96 322 P P 15 04 51.3 +0.7
comp=Z,3.1nm,0.8s,baz=141,slow=7.7,SNR=28
LHV Little Huntoon 61.97 322 IAmb IAmb 15 04 52.7
comp=Z,6.7nm,0.9s
YNE Yellowstone No 62.16 332 IAmb IAmb 15 04 53.1
comp=Z,1.1nm,0.8s
YMR Madison River 62.34 332 IAmb IAmb 15 04 55.3
comp=Z,12nm,0.9s
YHH Holmes Hill 62.38 332 IAmb IAmb 15 04 55.5
comp=Z,9.0nm,0.8s
BOZ Bozeman (W) 63.35 332 P 15 05 00.2
baz=139,SNR=8.7
EGMT Eagleton 64.37 335 P 15 05 06.5
baz=141,SNR=7.0
EGMT Eagleton 64.37 335 IAmb IAmb 15 05 08.0
comp=Z,6.1nm,0.8s
O03E Paynes Creek 65.24 322 P 15 05 12.2
baz=127
MSO Missoula 65.34 332 P 15 05 13.7
baz=137,SNR=14
MOD Modoc Plateau 65.34 324 IAmb IAmb 15 05 14.2
comp=Z,8.2nm,0.9s
MSO Missoula 65.34 332 IAmb IAmb 15 05 14.4
comp=Z,14nm,0.9s
M04C Macdoel 66.17 323 P 15 05 18.7
baz=128
JTMT Jette 66.17 332 IAmb IAmb 15 05 19.7
comp=Z,7.0nm,0.9s
N02D Trinity Center 66.20 322 P 15 05 17.6
baz=127
I07A Izee 66.29 326 P P 15 05 19.9 +1.2
I07A IAmb IAmb 15 05 20.6
comp=Z,11nm,0.8s
M02C Callahan 66.54 322 P 15 05 20.0
baz=127
YBH Yreka Blue Hor 66.66 323 P P 15 05 20.6 -0.4
comp=Z,3.8nm,0.7s,baz=76,slow=3.3,SNR=11
YBH Yreka Blue Hor 66.66 323 P P 15 05 20.4 -0.6
L04D Klamath Falls 66.71 323 P 15 05 21.8
baz=128
J05D Fort Rock, OR 66.75 325 P 15 05 22.2
baz=129,SNR=6.8
KHMM Horse Mountain 66.77 322 P P 15 05 20.4 -1.4
PINE Pine Mountain 66.90 325 IAmb IAmb 15 05 26.1
comp=Z,10.0nm,0.8s
WALA Waterton Lakes 66.96 333 IAmb IAmb 15 05 23.8
comp=Z,6.0nm,0.7s
J04D Umpqua National 67.22 324 P 15 05 25.5
baz=128,SNR=8.3
L02E Cave Junction 67.44 323 P 15 05 26.6
baz=126
I05D Terrebonne, OR 67.47 326 P 15 05 26.9
baz=129
I04A Tendick Farm, 67.73 325 P 15 05 27.9
baz=128
K02D Willamette Mer 67.80 323 P 15 05 29.4
baz=126
NEW Newport 67.88 331 P 15 05 28.8
baz=134,SNR=5.3
NEW Newport 67.88 331 P P 15 05 28.7 +0.2
comp=Z,3.3nm,0.8s,baz=131,slow=5.5,SNR=8.6
G05D Wamic, OR 68.03 326 P 15 05 31.1
baz=129
H04A Detroit Lake 68.16 326 IAmb IAmb 15 05 31.5
comp=Z,7.3nm,0.9s
I03D Drain, OR 68.22 324 P 15 05 30.8
baz=127
J01E Myrtle Point 68.23 323 P 15 05 32.0
baz=126
B05A Bryant 70.36 329 P 15 05 44.0
baz=130
D03D Eldon 70.42 328 P 15 05 45.0
baz=128,SNR=8.4
NLWA Neilton Lookou 70.75 327 IAmb IAmb 15 05 48.5
comp=Z,10nm,0.8s
A04D Lummi Island 70.96 329 P 15 05 48.9
baz=129,SNR=5.5
LIC Lamto 71.10 80 *e*P P 15 05 49.2 +0.3
comp=Z,20nm,0.5s
TIC Toumodi 71.19 80 *e*P P 15 05 49.8 +0.3
DBIC Dimbokro 71.35 80 P P 15 05 50.5 +0.1
comp=Z,4.4nm,0.4s,baz=241,slow=7.9,SNR=18
KIC Kosan Boka 71.40 80 *e*P P 15 05 51.2 +0.4
comp=Z,24nm,0.6s
VNA3 Neumayer Olymp 73.94 162 P P 15 06 05.4 +0.7
VNA3 Neumayer Olymp 73.94 162 PcP PcP 15 06 19.6 +0.2
VNA1 Neumayer--Stat 74.16 161 P P 15 06 07.5 +1.6
VNA2 Neumayer--Watz 74.53 162 P P 15 06 08.6 +0.5
baz=292,slow=6.3
VNA2 Neumayer--Watz 74.53 162 PcP PcP 15 06 22.4 +0.5
BBB Bella Bella 75.81 329 P P 15 06 16.8 +1.1
comp=Z,3.8nm,0.7s,baz=140,slow=5.8,SNR=6.2
SNAA Sanae 76.15 162 P P 15 06 18.0 +0.6
SNAA Sanae 76.15 162 PcP PcP 15 06 30.6 +1.6
SNAA Sanae 76.15 162 P P 15 06 18.0 +0.6
comp=Z,5.2nm,0.8s,baz=276,slow=8.2,SNR=19
SNAA Sanae 76.15 162 IAmb IAmb 15 06 19.1
comp=Z,5.7nm,0.9s
YKA Yellowknife Ar 77.32 342 P P 15 06 23.8 -0.2
comp=Z,5.5nm,0.7s,baz=136,slow=6.6,SNR=76
YKA pP pP 15 06 58.2 +0.9
comp=Z,2.5nm,0.7s,baz=132,slow=6.9,SNR=5.5
TOA0 Torodi Ar. Sit 78.97 75 P P 15 06 34.3 +0.2
TOA0 PcP PcP 15 06 39.3 -2.9
TOA0 IAmb IAmb 15 06 40.6
comp=Z,12nm,0.6s
TORD Torodi Ar. Bea 78.97 75 P P 15 06 33.9 -0.2
comp=Z,10nm,0.6s,baz=274,slow=5.2,SNR=11
TORD pP pP 15 07 06.5 -1.0
comp=Z,2.2nm,0.7s,baz=296,slow=6.0,SNR=2.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLBC	Dease Lake	80.29	334	P	P	15 06 41.0	+0.7
	comp=Z,2.0nm,0.8s,baz=210,slow=1.9,SNR=6.8						
ESDC	Sonseca Array	81.07	48	P	P	15 06 46.2	+1.2
	comp=Z,1.2nm,1.0s,baz=254,slow=5.8,SNR=5.4						
SUMG	Summit	84.45	10	*i* P	P	15 07 02.7	+0.6
	comp=Z,17nm,0.7s						
SUMG	Summit	84.45	10	P	P	15 07 03.1	+1.0
SUMG	Summit	84.45	10	*i* P	P	15 07 02.7	+0.6
SUMG				IAmb	IAmb	15 07 03.8	
	comp=Z,17nm,0.7s						
CTG	Chitna Glacier	86.52	333	P		15 07 13.5	
	baz=115						
INK	Inuvik	87.06	341	P	P	15 07 14.6	0.0
	comp=Z,6.2nm,0.7s,baz=95,slow=4.0,SNR=19						
INK	Inuvik	87.06	341	IAmb	IAmb	15 07 15.6	
	comp=Z,5.7nm,0.7s						
MCARA	McCarthy VSAT	87.43	333	P		15 07 17.5	
	baz=113						
EGAK	Eagle	88.05	337	IAmb	IAmb	15 07 20.5	
	comp=Z,7.1nm,0.8s						
EGAK	Eagle	88.05	337	P		15 07 19.9	
	baz=115						
K27K	Chicken	88.10	336	P		15 07 20.8	
	baz=114						
KLU	Klutina	88.77	333	P		15 07 23.4	
	baz=111						
SCRK	Sand Creek	88.85	336	P		15 07 23.7	
	baz=112						
M24K	Tolsona, Glenn	89.09	334	P		15 07 25.2	
	baz=110						
WAT6	Susitna Watana	89.94	334	P		15 07 28.8	
	baz=109						
SML	Sawmill	89.95	333	P		15 07 28.9	
	baz=109						
HDA	Harding Lake	90.22	336	P		15 07 29.6	
	baz=110						
HDA				P		15 07 29.6	
	baz=110						
IL31		90.32	336	P	P	15 07 30.4	+0.5
IL31				IAmb	IAmb	15 07 31.3	
	comp=Z,5.5nm,1.1s						
ILAR	Eielson Array	90.32	336	P	P	15 07 29.8	-0.2
	comp=Z,2.2nm,0.9s,baz=128,slow=3.5,SNR=19						
ILAR				pP	pP	15 08 04.8	+0.6
	comp=Z,0.5nm,0.6s,baz=57,slow=4.9,SNR=3.7						
ILAR				PP	PP	15 11 04.3	-1.7
	comp=Z,0.7nm,0.9s,baz=96,slow=7.3,SNR=5.3						
SYO	Syowa Base	90.40	161	⇑*e*P	P	15 07 29.0	-1.4
CCB	Clear Creek Bu	90.65	336	IAmb	IAmb	15 07 32.4	
	comp=Z,4.3nm,0.8s						
POKR	Poker Plat Res	90.65	336	IAmb	IAmb	15 07 32.8	
	comp=Z,7.0nm,0.8s						
POKR	Poker Plat Res	90.65	336	P		15 07 32.3	
	baz=109						
RND	Reindeer	90.69	334	IAmb	IAmb	15 07 34.0	
	comp=Z,9.1nm,1.0s						
WRH	Wood River Hil	90.71	335	IAmb	IAmb	15 07 33.8	
	comp=Z,7.8nm,1.2s						
COLA	College	90.74	336	P		15 07 32.5	
	baz=109						
TCOL	CIGO, UAF Yank	90.74	336	P		15 07 32.5	
	baz=109						
MCK	McKinley	90.82	335	P		15 07 32.6	
	baz=108						
CUT	Chulitna	91.00	333	P		15 07 33.6	
	baz=107						
NEA2	Nenana	91.15	335	P		15 07 33.8	
	baz=108						
TRF	Thorofare Moun	91.32	334	P		15 07 35.0	
	baz=107						
I23K	Minto, Yukon-K	91.43	336	IAmb	IAmb	15 07 36.0	
	comp=Z,5.4nm,0.8s						
I23K	Minto, Yukon-K	91.43	336	P		15 07 35.2	
	baz=108						
SKT	Skwentna	91.45	333	P		15 07 35.7	
	baz=106						
BPAW	Bear Paw Mtn.	91.80	335	P		15 07 36.8	
	baz=106						
COLD	Coldfoot	92.38	338	P		15 07 40.5	
	baz=107						
TOLK	Toolik Lake Re	92.56	339	P		15 07 40.9	
	baz=107						
STKA	Stephens Creek	126.75	219	PKP	PKPdf	15 13 33.3	+0.4
	comp=Z,3.2nm,0.8s,baz=100,slow=3.9,SNR=8.9						
STKA				pPKP	pPKPdf	15 14 09.1	+0.5
	comp=Z,1.5nm,0.8s,baz=121,slow=5.0,SNR=2.7						
ZALV	Zalesovo Beam	131.98	16	PKP	PKPdf	15 13 42.0	-0.1
	comp=Z,2.2nm,0.5s,baz=253,slow=1.5,SNR=15						
ZALV				pPKP	pPKPdf	15 14 17.6	-0.2
	comp=Z,2.1nm,0.8s,baz=270,slow=1.5,SNR=3.0						
MKAR	Makanchi Array	137.28	23	PKP	PKPdf	15 13 52.8	+0.5
	comp=Z,1.3nm,0.8s,baz=327,slow=1.4,SNR=12						
ASAR	Alice Springs	137.33	220	PKhKP	PKPpre	15 13 41.0	
	comp=Z,0.3nm,0.6s,baz=135,slow=2.1,SNR=9.6						
ASAR				PKP	PKPdf	15 13 53.1	0.0
	comp=Z,1.9nm,0.8s,baz=130,slow=1.8,SNR=12						
ASAR				pPKP	pPKPdf	15 14 29.1	+0.3
	comp=Z,2.2nm,0.8s,baz=122,slow=1.9,SNR=6.4						
MJAR	Matsushiro Arr	139.19	318	PKhKP	PKPpre	15 13 50.6	
	comp=Z,1.6nm,0.9s,baz=82,slow=1.4,SNR=5.4						
MJAR				PKP	PKPdf	15 13 56.1	0.0
	comp=Z,1.4nm,0.8s,baz=90,slow=1.3,SNR=4.1						
MJAR				SKPbc	SKPbc	15 17 18.1	-1.1
	comp=Z,1.2nm,0.9s,baz=94,slow=4.0,SNR=5.3						
WRA	Warramunga Arr	139.61	225	PKhKP	PKPpre	15 13 47.5	
	comp=Z,0.6nm,0.5s,baz=136,slow=2.3,SNR=9.9						
WRA				PKP	PKPdf	15 13 57.5	+0.1
	comp=Z,4.6nm,0.8s,baz=130,slow=2.2,SNR=22						
WRA				pPKP	pPKPdf	15 14 33.1	0.0
	comp=Z,2.8nm,0.7s,baz=135,slow=2.0,SNR=6.1						
SONM	Songino Array	140.98	359	PKhKP	PKPpre	15 13 53.4	
	comp=Z,1.0nm,0.7s,baz=323,slow=3.6,SNR=4.5						
KSRS	Korea Array	144.76	328	PKP	PKPab	15 14 04.8	-0.3
	comp=Z,5.0nm,0.8s,baz=46,slow=2.1,SNR=24						
GTA	Gaotai	149.03	8	PKPbc	PKPbc	15 14 17.9	+0.5
GTA				PKPab	PKPab	15 14 31.7	+10
GTA				pPKP	pPKPab	15 14 54.8	-1.7
GTA				sPKP		15 15 20.8	
CMAR	Chiang Mai Arr	168.54	31	PKP	PKPdf	15 14 35.8	-0.6
	comp=Z,0.9nm,0.7s,baz=302,slow=2.0,SNR=6.5						
CMAR				PKPab	PKPab	15 15 46.6	+0.3
	comp=Z,0.8nm,0.8s,baz=323,slow=5.6,SNR=5.5						
CMAR				pPKPab	pPKPab	15 16 20.9	+0.2
	comp=Z,0.8nm,0.7s,baz=313,slow=5.4,SNR=3.9						

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*NEIC **07** 15:00:00.1±3.0, 28°.5S±0°.1×73°.5E±0°.2, h10^{km}±2^{km}, mb4.6/13, Error ellipse: s-maj=26.9km s-min=8.4km az=125.0*

*IDC **07** 15:00:06.6±1.7, 28°.35S×73°.97E, h0^{km}, mb3.7/6, mb1 3.9/6, mb1mx3.6/33, mbtmp3.7/6, Error ellipse: s-maj=57.9km s-min=29.3km az=29.0*

ISC 07 15:00:01.1±1.1**, 28°.4S**±0°.2×**73°.6E**±0°.1**, h10**^{km}**, n23, σ2^s.03**/14**, mb4.3**/13**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	20.67	357	T	T	15 25 51.8	
	baz=176						
H08S1	Diego Carcia H	20.67	357	T	T	15 25 51.9	
	baz=176						
H08S3	Diego Garcia H	20.69	357	T	T	15 26 02.2	
	baz=176						
DGAR	Diego Garcia	20.90	357	P	P	15 04 42.9	-0.9
PALK	Pallekele	36.12	12	P	P	15 07 06.2	+2.6
PALK				IAmb	IAmb	15 07 19.4	
	comp=Z,16nm,1.2s						
MNCI	Minicoy	36.47	359	P	P	15 07 05.2	-1.2
GSI	Gunungsitoli	37.44	42	P	P	15 07 13.1	-1.7
GSI				IAmb	IAmb	15 07 14.1	
	comp=Z,14nm,1.1s						
CISI	Cisompet, Garu	38.38	64	P	P	15 07 20.3	-2.5
IPM	Ipoh	42.03	43	P	P	15 07 52.0	-1.0
IPM				IAmb	IAmb	15 07 56.6	
	comp=Z,7.5nm,1.1s						
KULM	Kulim	42.45	42	P	P	15 08 00.1	+3.7
KULM				IAmb	IAmb	15 08 02.3	
	comp=Z,11nm,1.1s						
LBTB	Lobatse	42.78	263	P	P	15 07 58.8	-0.5
KSM	Kuching	46.07	56	P	P	15 08 26.5	+1.0
KSM				IAmb	IAmb	15 08 32.4	
	comp=Z,14nm,1.2s						
CMAR	Chiang Mai Arr	52.64	31	P	P	15 09 21.0	+5.4
	comp=Z,0.2nm,0.3s,baz=211,slow=6.8,SNR=1.9						
TOLI2	Tolitoli	53.88	65	P	P	15 09 25.1	+0.2
TOLI2				IAmb	IAmb	15 09 40.6	
	comp=Z,5.8nm,1.1s						
ASAR	Alice Springs	53.92	100	P	P	15 09 29.9	+4.6
	comp=Z,1.1nm,0.7s,baz=249,slow=6.7,SNR=24						
AS31	Alice Springs	53.93	100	P	P	15 09 24.5	-0.7
WRA	Warramunga Arr	55.57	96	P	P	15 09 41.7	+4.5
	comp=Z,2.0nm,0.8s,baz=252,slow=7.4,SNR=15						
WRAB	Tennant Creek	55.59	96	P	P	15 09 37.6	+0.4
WRAB				IAmb	IAmb	15 09 44.5	
	comp=Z,4.4nm,1.1s						
MKAR	Makanchi Array	75.25	6	P	P	15 11 49.8	+5.9
	comp=Z,0.3nm,0.8s,baz=189,slow=5.7,SNR=2.9						
TORD	Torodi Ar. Bea	80.81	290	P	P	15 12 23.9	+8.4
	comp=Z,1.0nm,0.9s,baz=120,slow=5.2,SNR=2.8						
BRVK	Borovoye	81.16	358	P	P	15 12 15.8	-0.7
SONM	Songino Array	81.42	22	P	P	15 12 24.9	+6.8
	comp=Z,0.2nm,0.4s,baz=197,slow=4.5,SNR=1.9						
YKA	Yellowknife Ar	145.48	7	PKPbc	PKiKP	15 19 45.9	+3.1
	comp=Z,0.5nm,0.8s,baz=345,slow=3.7,SNR=7.6						

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*IDC **07** 15:28:12.3±3.5, 32°.25N×137°.90E, h390^{km}±116^{km}, mb2.3/2, mb1 2.5/3, mb1mx2.3/48, mbtmp3.0/3, Error ellipse: s-maj=244.5km s-min=30.0km az=62.0*

ISC 07 15:28:11.7±1.5**, 32°.2N**±0°.2×**138°.0E**±0°.2**, h380**^{km}**, n6, σ1^s.16**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWT	Wachi	3.79	326	P	Pn	15 29 21.2	+0.9
JWT				IAML		15 29 30.0	
	comp=Z,6.3nm,2.6s						
JMN	Monobe	3.81	295	P	Pn	15 29 21.6	+0.9
JMN				IAML		15 29 29.7	
	comp=Z,16nm,7.0s						
MJAR	Matsushiro Arr	4.36	2	P	Pn	15 29 26.4	+0.4
	0.1nm,0.3s,baz=176,slow=11,SNR=13						
MAJO	Matsushiro	4.36	2	P	Pn	15 29 26.8	+0.8
MAJO				IAML		15 29 32.6	
	comp=Z,11nm,3.7s						
MKAR	Makanchi Array	44.51	306	P	P	15 35 45.7	-1.3
	0.1nm,0.6s,baz=86,slow=7.7,SNR=1.8						
WRA	Warramunga Arr	51.94	184	P	P	15 36 43.5	+0.1
	0.1nm,0.3s,baz=358,slow=7.5,SNR=6.9						

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*JMA **07** 15:29:03.5±0.1, 36°.26N×141°.09E, h45^{km}±2^{km}, M3.0*

ISC 07 15:29:02.4±1.6**, 36°.30N**±0°.04×**141°.16E**±0°.09**, h26**^{km}±14^{km}**, n14, σ0^s.56**/19**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.46	275	P	Pn	15 29 13.5	+0.1
JHYU				S	Sn	15 29 20.2	-0.5
JHO	Hitachi	0.57	303	P	Pn	15 29 14.7	-0.1
JIHU	Itakohorinouch	0.61	237	P	Pn	15 29 15.7	+0.3
JIHU				S	Sn	15 29 24.3	0.0
CHOJ	Chosi	0.64	202	P	Pn	15 29 15.5	-0.3
CHOJ				S	Sb	15 29 23.7	0.0
JYT	Yasato	0.78	265	P	Pb	15 29 17.4	0.0
JYT	Yasato	0.78	265	P	Pb	15 29 17.2	-0.2
JSMT	Sammumatsuo	0.87	221	P	Pb	15 29 19.1	+0.2
JFK	Kawauchi	1.09	348	P	Pn	15 29 22.4	+0.3
JAG	Ashikaga	1.38	276	P	Pn	15 29 26.0	0.0
JFT	Otama	1.38	332	P	Pb	15 29 27.8	+0.2
JFT				*e*S	Sb	15 29 44.4	-0.5
JMM	Marumori	1.59	350	P	Pb	15 29 30.9	-0.3
JMM				S	Sn	15 29 48.9	+0.3
MJAR	Matsushiro Arr	2.39	277	Pn	Pn	15 29 40.7	+0.8
	0.7nm,0.3s,baz=113,slow=8.9,SNR=37						
MAT	Matsushiro	2.39	277	*e*S	Sn	15 30 07.5	-0.9
MAT	Matsushiro	2.39	277	P	Pn	15 29 41.4	+1.5

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*IDC **07** 15:29:12.1±1.4, 36°.12N×140°.03E, h0^{km}, mb3.4/5, mb1 3.6/5, mb1mx3.3/45, mbtmp3.4/5, Error ellipse: s-maj=34.6km s-min=24.9km az=55.0*

*JMA **07** 15:29:17.3±0.1, 36°.37N×140°.58E, h50^{km}±1^{km}, M3.4*

JMA Felt I J1.

*NIED **07** 15:29:17.3, 36°.37N×140°.58E, h50^{km}, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.58; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$-0.43; $M_{r\theta}$-0.84; $M_{\theta\phi}$0.74; $M_{\phi r}$2.59; Fault plane solution: $M_0$2.86000×10^{14} NP1: ϕ_s342.00000°, δ83.00000°, λ100.00000°. NP2: ϕ_s107.00000°, δ13.00000°, λ35.00000°.*

ISC 07 15:29:16.8±1.0**, 36°.39N**±0°.07×**140°.63E**±0°.07**, h52**^{km}±7^{km}**, n19, σ0^s.58**/18**, mb3.5**/5**, 1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.06	217	P	Pn	15 29 25.0	+0.2
JHYU				S	Sn	15 29 30.3	-0.2
JHO	Hitachi	0.23	347	P	Pn	15 29 25.9	+0.3
JHO				S	Sn	15 29 31.7	-0.2
JYT	Yasato	0.39	246	P	Pn	15 29 26.9	-0.1
JYT				S	Sn	15 29 33.5	-0.7
JIHU	Itakohorinouch	0.43	191	P	Pn	15 29 27.9	+0.5
JIHU				S	Sn	15 29 36.0	+1.0
CHOJ	Chosi	0.71	165	P	Pn	15 29 30.6	-0.1
CHOJ				S	Sn	15 29 40.1	-0.7
JAG	Ashikaga	0.95	273	⇓P	Pn	15 29 34.0	+0.1
JAG				*e*S	Sn	15 29 45.7	-0.8
MAT	Matsushiro	1.96	275	S	Sn	15 30 11.1	0.0
MAT	Matsushiro	1.96	275	P	Pn	15 29 48.4	+0.8
SONM	Songino Array	27.63	305	P	P	15 34 59.5	+0.1
	0.3nm,0.6s,baz=97,slow=7.3,SNR=2.5						
H11N2	WAKE ISLAND Hy	28.37	119	T	T	16 05 00.9	
	baz=312,slow=75,SNR=9.2						
H11N1	WAKE ISLAND Hy	28.38	119	T	T	16 05 03.4	
	baz=312,slow=75,SNR=8.7						
H11N3	WAKE ISLAND Hy	28.39	119	T	T	16 05 01.1	
	baz=312,slow=75,SNR=8.5						
H11S1	WAKE ISLAND Hy	29.05	121	T	T	16 05 05.7	
	baz=314,slow=75,SNR=17						
H11S3	WAKE ISLAND Hy	29.05	121	T	T	16 05 01.8	
	baz=314,slow=75,SNR=12						
H11S2	WAKE ISLAND Hy	29.07	121	T	T	16 05 14.8	
	baz=314,slow=75,SNR=10						
ZALV	Zalesovo Beam	41.89	313	P	P	15 37 01.5	-0.3
	0.7nm,0.6s,baz=96,slow=9.1,SNR=4.2						
ILAR	Eielson Array	50.38	32	P	P	15 38 14.5	+6.3
	0.5nm,1.0s,baz=264,slow=7.0,SNR=2.1						
WRA	Warramunga Arr	56.34	187	P	P	15 38 52.0	-0.5
	0.5nm,1.0s,baz=3.7,slow=7.3,SNR=1.8						
ASAR	Alice Springs	60.07	187	P	P	15 39 19.2	+0.7
	0.3nm,0.9s,baz=11,slow=5.7,SNR=2.4						

IDC 07 15:41:01.1±1.9**, 3°.87N**×**123°.16E, h0**^{km}**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.1**/48**, mbtmp3.3**/3**, Error ellipse: s-maj=237.2km s-min=26.3km az=63.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.09	155	P	P	15 46 36.7	-0.1
	0.4nm,0.4s,baz=334,slow=10.0,SNR=11						
ASAR	Alice Springs	29.30	160	P	P	15 47 05.7	+0.1
	0.1nm,0.4s,baz=336,slow=8.1,SNR=7.1						
MKAR	Makanchi Array	55.45	327	P	P	15 50 37.5	-0.1
	0.1nm,0.4s,baz=124,slow=8.1,SNR=5.3						

IDC 07 15:51:49.6±4.0**, 30°.66N**×**140°.54E, h0**^{km}**, mb3.2**/2**, mb1 3.4**/3**, mb1mx3.1**/35**, mbtmp3.1**/3**, ML2.3**/1**, Error ellipse: s-maj=244.3km s-min=33.2km az=81.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.18	342	Pn	Pn	15 53 22.0	-0.1
	0.1nm,0.3s,baz=157,slow=11,SNR=9.6						
MJAR				Sn	Sn	15 54 31.2	-2.3
	0.0nm,0.3s,baz=151,slow=16,SNR=1.1						
WRA	Warramunga Arr	50.66	188	P	P	16 00 50.5	-0.3
	0.1nm,0.3s,baz=5.3,slow=7.4,SNR=6.1						
ASAR	Alice Springs	54.39	187	P	P	16 01 18.6	+0.1
	0.2nm,0.6s,baz=0.7,slow=5.1,SNR=4.9						

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*NEIC **07** 16:02:17.8±1.3, 56°.1S±0°.1×27°.2W±0°.2, h92^{km}±6^{km}, mb4.6/26, Error ellipse: s-maj=18.1km s-min=12.0km az=203.0*

*IDC **07** 16:02:20.1±0.8, 56°.10S×27°.22W, h113^{km}±6^{km}, mb4.2/9, mb1 4.3/10, mb1mx4.1/20, mbtmp4.6/10, MS3.7/6, Ms1 3.8/6, ms1mx3.4/20, Error ellipse: s-maj=18.1km s-min=16.2km az=78.0*

ISC 07 16:02:18.3±0.4**, 56°.10S**±0°.07×**27°.16W**±0°.08**, h100**^{km}**, n80, σ1^s.11**/82**, mb4.6**/20**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	5.65	285		Pn	16 03 38.5	-1.2
VNA1	Neumayer--Stat	16.74	158	P	P	16 06 07.3	+0.5
VNA1	Neumayer--Stat	16.74	158	ScP	ScP	16 14 13.2	-0.5
VNA3	Neumayer Olymp	16.93	161	P	Pn	16 06 09.4	+0.7
VNA3	Neumayer Olymp	16.93	161	ScP	ScP	16 14 13.5	-0.7
VNA2	Neumayer--Watz	17.14	158	P	Pn	16 06 11.7	+0.5
	baz=313,slow=13						
VNA2	Neumayer--Watz	17.14	158	ScP	ScP	16 14 13.7	-0.8
SNAA	Sanae	18.69	156	P	P	16 06 29.0	+0.7
SNAA	Sanae	18.69	156	ScP	ScP	16 14 17.0	-0.9
SNAA	Sanae	18.69	156	P	P	16 06 29.0	+0.7
	8.9nm,0.3s,baz=302,slow=9.7,SNR=432						
SNAA				S	S	16 09 51.0	-4.5
	0.2nm,0.3s,baz=226,slow=17,SNR=1.7						
SNAA				ScP	ScP	16 14 17.1	-0.9
	0.4nm,0.3s,baz=287,slow=4.9,SNR=13						
SNAA	Sanae	18.69	156	P	P	16 06 28.9	+0.6
SNAA				IAmb	IAmb	16 06 29.9	
	comp=Z,26nm,0.5s						
PMSA	Palmer Station	19.88	229	P	Pn	16 06 46.0	+2.3
	comp=Z,3.1nm,0.3s,baz=72,slow=5.7,SNR=4.7						
PMSA	Palmer Station	19.88	229	P	P	16 06 42.1	+0.9
BELA	Belgrano 2	22.02	184	P	P	16 07 03.9	-0.1
QSPA	South Pole Qui	34.15	180	P	P	16 08 54.4	+1.0
CPUP	Villa Florida	36.86	311	P	P	16 09 16.1	-0.7
	comp=Z,1.5nm,0.6s,baz=173,slow=8.1,SNR=3.4						
MT02	Curacav	37.82	288	P	P	16 09 23.0	-1.8
MT02				IAmb	IAmb	16 09 38.0	
	comp=Z,6.5nm,0.9s						
MAW	Mawson	40.09	143	P	P	16 09 44.6	+1.3
AC05	El Transito	40.86	294	P	P	16 09 50.7	+0.4
LCO	Las Campanas	40.94	293	P	P	16 09 50.7	-0.5
AC04	Llanos de Chal	41.79	293	P	P	16 09 57.0	-0.8
AC04				IAmb	IAmb	16 10 04.7	
	comp=Z,12nm,1.3s						
BDFB	Brasilia	43.42	330	LR	LR	16 27 33.7	
	comp=Z,42nm,19.8s,baz=103,slow=35						
BDFB	Brasilia	43.42	330	P	P	16 10 11.9	+0.7
LVC	Limon Verde	45.34	300	P	P	16 10 26.6	-0.1
LVC				IAmb	IAmb	16 10 29.7	
	comp=Z,9.9nm,1.1s						
PB06	IPOC Station P	45.58	299	P	P	16 10 28.1	-0.3
PB06				IAmb	IAmb	16 10 30.9	
	comp=Z,7.1nm,0.8s						
BOSA	Boshof	45.97	76	P	P	16 10 31.6	+0.3
	comp=Z,3.3nm,0.7s,baz=229,slow=7.2,SNR=9.7						
BOSA	Boshof	45.97	76	P	P	16 10 31.7	+0.3
PB09	IPOC Station P	46.19	300	P	P	16 10 34.0	+0.8
PB09				IAmb	IAmb	16 10 46.0	
	comp=Z,8.9nm,1.0s						
VNDA	Vanda	46.52	183	P	P	16 10 36.0	+1.1
	comp=Z,6.9nm,0.8s,baz=180,slow=6.8,SNR=18						
VNDA				LR	LR	16 27 53.1	
	comp=Z,131nm,20.6s,baz=214,slow=33						
VNDA	Vanda	46.52	183	P	P	16 10 35.7	+0.8
VNDA				IAmb	IAmb	16 10 37.6	
	comp=Z,14nm,1.1s						
PB07	IPOC Station P	46.56	300	P	P	16 10 36.0	-0.1
PB07				IAmb	IAmb	16 10 36.8	
	comp=Z,6.1nm,0.5s						
PB01	IPOC Station P	46.95	301	P	P	16 10 38.9	-0.1
PB08	IPOC Station P	47.56	302	P	P	16 10 44.6	+0.5
PB08				IAmb	IAmb	16 10 46.5	
	comp=Z,4.8nm,0.6s						
PSGCX	Pisagua	48.49	301	P	P	16 10 50.7	-0.2
MNMC	Minye Minye	48.64	302	P	P	16 10 52.2	-0.1
LBTB	Lobatse	49.01	73	P	P	16 10 55.8	+1.0
	comp=Z,2.9nm,0.5s,baz=213,slow=9.4,SNR=8.0						
LBTB				pP	pwP	16 11 21.9	-3.0
	comp=Z,2.6nm,0.7s,baz=205,slow=9.1,SNR=3.0						
LBTB	Lobatse	49.01	73	P	P	16 10 55.1	+0.3
LBTB				IAmb	IAmb	16 11 02.0	
	comp=Z,7.5nm,1.2s						
H10N1	ASCENSION HYDR	49.16	17	T	T	17 03 38.0	
	baz=198,slow=76						
H10N3	ASCENSION HYDR	49.17	17	T	T	17 04 20.4	
	baz=198,slow=76						
H10N2	ASCENSION HYDR	49.18	17	T	T	17 04 02.1	
	baz=198,slow=76						
PB16	IPOC Station P	49.28	302	P	P	16 10 57.6	0.0
TSUM	Tsumeb	49.69	61	P	P	16 11 00.5	+0.4
TSUM				IAmb	IAmb	16 11 15.3	
	comp=Z,8.4nm,1.1s						
LPAZ	La Paz	50.42	305	P	P	16 11 06.5	+0.2
	comp=Z,2.5nm,0.4s,baz=129,slow=7.9,SNR=10						
LPAZ	La Paz	50.42	305	P	P	16 11 07.0	+0.7
LPAZ				IAmb	IAmb	16 11 07.5	
	comp=Z,3.6nm,0.6s						
MDP	Montagnes des	64.49	332	LR	LR	16 40 05.1	
	comp=Z,34nm,19.1s,baz=360,slow=35						
LIC	Lamto	64.74	24	*e*P	P	16 12 46.6	+0.8
	comp=Z,21nm,0.6s						
KIC	Kosan Boka	64.94	25	*e*P	P	16 12 47.8	+0.7
	comp=Z,8.1nm,0.7s						
TIC	Toumodi	65.14	24	*e*P	P	16 12 49.2	+0.7
DBIC	Dimbokro	65.21	25	P	P	16 12 49.4	+0.6
	comp=Z,4.2nm,0.5s,baz=173,slow=7.9,SNR=16						
DBIC	Dimbokro	65.21	25	P	P	16 12 49.6	+0.8
DBIC				IAmb	IAmb	16 12 50.3	
	comp=Z,4.9nm,0.6s						
KOWA	Kowa	72.97	23	LR	LR	16 41 54.8	
	comp=Z,88nm,19.1s,baz=202,slow=32						
TOA0	Torodi Ar. Sit	73.09	29	P	P	16 13 38.5	+1.0
TOA0				IAmb	IAmb	16 13 39.1	
	comp=Z,6.3nm,0.5s						
TORD	Torodi Ar. Bea	73.09	29	P	P	16 13 38.2	+0.7
	comp=Z,6.1nm,0.5s,baz=201,slow=6.5,SNR=31						
TORD				LR	LR	16 40 47.4	
	comp=Z,48nm,18.8s,baz=220,slow=32						
STKA	Stephens Creek	91.84	170	P	P	16 15 15.1	+0.1
	comp=Z,1.1nm,0.4s,baz=203,slow=4.9,SNR=4.0						
ESDC	Sonseca Array	97.43	18	LR	LR	16 56 20.4	
	comp=Z,62nm,18.1s,baz=345,slow=33						
ASAR	Alice Springs	98.93	162	P	P	16 15 46.6	-0.8
	comp=Z,1.2nm,0.7s,baz=185,slow=4.2,SNR=15						
ASAR				pP	pwP	16 16 15.8	+0.3
	comp=Z,0.4nm,0.7s,baz=186,slow=5.5,SNR=2.0						
ASAR				PP	PP	16 19 45.8	-3.5
	comp=Z,0.5nm,0.8s,baz=187,slow=6.7,SNR=5.3						
WRA	Warramunga Arr	102.65	162	P	Pdif	16 16 03.9	0.0
	comp=Z,0.5nm,0.8s,baz=199,slow=4.4,SNR=3.0						
PDAR	Pinedale Array	120.39	302	PKP	PKPdf	16 20 56.4	-0.9
	comp=Z,0.2nm,0.4s,baz=96,slow=4.2,SNR=3.7						
NVAR	Mina Array Bea	121.43	293	PKP	PKiKP	16 21 00.1	+0.5
	comp=Z,0.2nm,0.5s,baz=132,slow=1.3,SNR=2.6						
FINES	FINESS Array B	124.42	28	PKP	PKPdf	16 21 03.7	-0.3
	comp=Z,3.4nm,0.5s,baz=162,slow=2.3,SNR=36						
FIA1	FINESS Array S	124.42	28	PKPdf	PKPdf	16 21 04.0	-0.1
CMAR	Chiang Mai Arr	125.03	111	PKP	PKPdf	16 21 06.7	+0.1
	comp=Z,0.4nm,0.3s,baz=234,slow=3.8,SNR=1.8						
ARCES	ARCESS Array B	130.99	22	PKP	PKPdf	16 21 16.8	+0.4
	comp=Z,2.2nm,0.5s,baz=194,slow=2.1,SNR=19						
YKA	Yellowknife Ar	136.22	318	PKP	PKPdf	16 21 26.2	-0.1
	comp=Z,0.6nm,0.5s,baz=118,slow=3.2,SNR=13						
YKA				SKPbc	SKPbc	16 24 47.7	-1.4
	comp=Z,0.5nm,0.9s,baz=104,slow=3.4,SNR=5.7						
MKAR	Makanchi Array	136.89	71	PKhKP	PKPpre	16 21 17.2	
	comp=Z,0.1nm,0.6s,baz=247,slow=1.6,SNR=1.6						
MKAR				PKP	PKPdf	16 21 27.4	-0.8
	comp=Z,0.3nm,0.6s,baz=220,slow=2.6,SNR=4.2						
MKAR				pPKP	pPKPdf	16 21 59.1	+4.2
	comp=Z,0.2nm,0.5s,baz=225,slow=1.9,SNR=1.9						
MKAR				SKPbc	SKPbc	16 24 49.0	-2.7
	comp=Z,0.2nm,0.5s,baz=233,slow=2.2,SNR=4.1						
ZALV	Zalesovo Beam	142.38	64	PKhKP	PKPpre	16 21 32.9	
	comp=Z,0.9nm,0.5s,baz=242,slow=3.7,SNR=3.5						
ZALV				PKP	PKPdf	16 21 38.9	+1.0
	comp=Z,0.9nm,0.4s,baz=235,slow=3.4,SNR=4.2						
INK	Inuvik	145.86	321	PKPdf	PKPab	16 21 44.9	-0.1
CTGM	Chitina Glacie	146.62	306	PKPdf	PKPbc	16 21 47.3	+0.3
DAWY	Dawson	146.84	312	PKPdf	PKPbc	16 21 47.1	-0.3
EGAK	Eagle	147.79	313	PKPbc	PKPbc	16 21 49.9	0.0
K27K	Chicken	147.96	311	PKPbc	PKPbc	16 21 50.7	+0.3
SML	Sawmill	150.07	305	PKPbc	PKPbc	16 21 56.2	+0.3
IL31		150.16	312	PKPbc	PKPbc	16 21 56.3	+0.5
ILAR	Eielson Array	150.16	312	PKPbc	PKPbc	16 21 55.5	-0.3
	comp=Z,6.5nm,0.7s,baz=137,slow=3.3,SNR=92						
ILAR				pPKP	pPKPbc	16 22 21.9	-0.9
	comp=Z,3.0nm,0.9s,baz=118,slow=1.7,SNR=3.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GHO	Glory Hole Cre	150.34	305	PKPbc	PKiKP	16 21 57.3	+0.1
CCB	Clear Creek Bu	150.53	311	PKPbc	PKPbc	16 21 56.4	-0.3
WRH	Wood River Hil	150.61	311		PKPbc	16 21 57.0	+0.1
RND	Reindeer	150.71	308		PKiKP	16 21 58.0	+0.1
SONM	Songino Array	150.71	87	PKPbc	PKPbc	16 21 57.9	+0.1
	comp=Z,2.5nm,0.6s,baz=217,slow=3.9,SNR=20						
SONM				pPKP	pPKPdf	16 22 22.3	+3.2
	comp=Z,1.0nm,0.7s,baz=224,slow=3.4,SNR=2.9						
OHAK	Old Harbor	151.01	295	PKPbc	PKiKP	16 21 59.4	+0.8

*NOU **07** 16:02:28.9, 35°.90S×178°.92W, h0km, MLv4.9, East of North Island, N.Z.*

WEL 07 16:02:55.5, 37°S±6°×17°9E±°, h50km±17km, M4.1/52, ML4.3/50, MLv4.1/52, Error ellipse: s-maj=0.0km s-min=0.0km az=19.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.05	203	P	Pn	16 03 13.9	0.0
MXZ				S	Sn	16 03 28.8	+1.2
WMGZ	Waiomatatini S	1.27	195	P	Pn	16 03 19.0	+2.1
PKGZ	Pakihiroa	1.43	205	P	Pn	16 03 20.0	+1.0
PKGZ				S	Sn	16 03 45.1	+8.4
HAZ	Te Kaha	1.43	215	P	Pn	16 03 18.8	-0.2
HAZ				S	Sn	16 03 45.6	+8.9
PUZ	Puketiti	1.54	197	P	Pn	16 03 22.0	+1.4
PUZ				S	Sn	16 03 49.8	+10
RUGZ	Raukumara Rang	1.65	214	P	Pn	16 03 24.0	+1.8
TWGZ	Tauwhareparae	1.72	203	P	Pn	16 03 24.9	+1.9
WHRZ	Whale Island	1.94	229	P	Pn	16 03 30.5	+4.5
CNGZ	Carnagh Statio	1.95	195	P	Pn	16 03 27.5	+1.4
TKGZ	Te Karaka	2.00	203	P	Pn	16 03 28.0	+1.2
TKGZ				S	Sn	16 03 54.5	+3.8
MWZ	Matawai	2.02	210	P	Pn	16 03 28.8	+1.6
MWZ				S	Sn	16 03 58.3	+7.0
URZ	Urewera	2.15	219	P	Pn	16 03 29.9	+1.0
MYRZ	Mayor Island	2.19	251	P	Pn	16 03 30.2	+0.8
MYRZ				S	Sn	16 03 55.4	+0.2
OPRZ	Ohinepanea	2.21	235	P	Pn	16 03 30.2	+0.6
RAGZ	Rawiri	2.21	210	P	Pn	16 03 31.3	+1.6
EDRZ	Edgecumbe	2.25	227	P	Pn	16 03 33.4	+3.1
RIGZ	Rimuhau	2.27	202	P	Pn	16 03 31.1	+0.5
TGRZ	Tauranga	2.34	240	P	Pn	16 03 32.2	+0.7
LIRZ	Lichensteins R	2.41	233	P	Pn	16 03 35.2	+2.9
PRGZ	Paritu Road	2.44	198	P	Pn	16 03 33.2	+0.3
PRGZ				S	Sn	16 04 04.5	+2.9
TARZ	Mount Tarawera	2.47	228	P	Pn	16 03 36.6	+3.2
SNGZ	Shannon Statio	2.48	208	P	Pn	16 03 34.6	+1.2
MUGZ	Murupara	2.49	220	P	Pn	16 03 34.8	+1.2
RTZ	Ruatahuna	2.50	215	P	Pn	16 03 35.0	+1.3
KUZ	Kuaotunu	2.50	266	P	Pn	16 03 33.8	+0.1
KUZ				S	Sn	16 04 01.5	-1.5
KARZ	Kaharoa	2.51	235	P	Pn	16 03 35.7	+1.9
RRRZ	Republican Roa	2.54	226	P	Pn	16 03 36.1	+1.9
HLRZ	Highlands Stat	2.58	229	P	Pn	16 03 38.7	+3.9
KNZ	Kokohu	2.59	200	P	Pn	16 03 34.5	-0.4
KNZ				S	Sn	16 04 06.8	+1.6
KMRZ	Kaimai	2.62	241	P	Pn	16 03 36.2	+0.8
MHGZ	Mahia Peninsul	2.66	196	P	Pn	16 03 36.1	+0.3
HSRZ	Hossack Road	2.68	229	P	Pn	16 03 38.3	+2.1
RAHZ	Arahi	2.70	210	P	Pn	16 03 37.9	+1.5
RAHZ				S	Sn	16 04 11.9	+4.0
PRRZ	Plateau Road	2.71	225	P	Pn	16 03 37.9	+1.3
PRRZ				S	Sn	16 04 14.0	+5.7
GRZ	Great Barrier	2.74	276	P	Pn	16 03 37.2	+0.3
GRZ				S	Sn	16 04 08.6	-0.3
MTHZ	Maungataniwha	2.75	214	P	Pn	16 03 38.5	+1.4
WHHZ	Waihua	2.78	207	P	Pn	16 03 38.1	+0.6
GRRZ	Galatos Road	2.79	230	P	Pn	16 03 39.5	+2.0
WPRZ	Whakapapatarin	2.86	227	P	Pn	16 03 41.0	+2.4
TOZ	Tahuroa Road	2.89	246	P	Pn	16 03 40.0	+1.0
TOZ				S	Sn	16 04 12.2	-0.4
MRHZ	Matea Rd	2.94	220	P	Pn	16 03 41.2	+1.4
NMHZ	Naumai	2.97	212	P	Pn	16 03 41.3	+1.1
WIAZ	Waiheke Island	2.98	265	P	Pn	16 03 41.2	+1.0
ARHZ	Aropaoanui	3.04	208	P	Pn	16 03 41.5	+0.5
KUTZ	Kaahu Road	3.05	231	P	Pn	16 03 42.9	+1.7
ETAZ	East Tamaki Re	3.15	262	P	Pn	16 03 43.8	+1.2
ETAZ				S	Sn	16 04 18.9	-0.1
BKZ	Black Stump Fm	3.17	215	P	Pn	16 03 43.4	+0.6
MBAZ	Motutapu North	3.17	266	P	Pn	16 03 43.9	+1.1
ABAZ	Army Bay	3.22	269	P	Pn	16 03 44.8	+1.3
WATZ	Wairara	3.24	228	P	Pn	16 03 47.1	+3.2
EPAZ	Eden Park BICE	3.29	264	P	Pn	16 03 46.3	+1.8
HBAZ	Herne Bay Bore	3.30	264	P	Pn	16 03 46.4	+1.8
HBAZ				S	Sn	16 04 24.2	+1.5
MCHZ	McNeill Hill	3.31	210	P	Pn	16 03 45.1	+0.4
RATZ	Rangitukua	3.32	226	P	Pn	16 03 49.2	+4.2
RITZ	Rihia Road	3.35	224	P	Pn	16 03 47.0	+1.7
CKHZ	Cape Kidnapper	3.36	204	P	Pn	16 03 44.7	-0.7
CKHZ				S	Sn	16 04 24.4	+0.4
AWAZ	Awhitu Peninsu	3.39	261	P	Pn	16 03 47.6	+1.7
AWAZ				S	Sn	16 04 25.1	+0.3
KWHZ	Kaweka Forest	3.41	213	P	Pn	16 03 47.2	+1.1
RVAZ	Riverhead Bore	3.42	266	P	Pn	16 03 48.0	+1.8
WTAZ	Waiatarua	3.44	263	P	Pn	16 03 48.4	+1.9
TMVZ	Te Maari	3.53	224	P	Pn	16 03 49.6	+1.7
KAHZ	Kahuranaki	3.55	205	P	Pn	16 03 47.5	-0.6
KAHZ				S	Sn	16 04 30.6	+1.8
KRVZ	Karewarewa	3.55	224	P	Pn	16 03 52.1	+4.0
OTVZ	Oturere	3.58	223	P	Pn	16 03 49.5	+0.9
WTVZ	West Tongariro	3.59	225	P	Pn	16 03 53.1	+4.3
KRHZ	Kereru	3.61	212	P	Pn	16 03 48.7	-0.2
KRHZ				S	Sn	16 04 31.5	+1.2
BHHZ	Black Hill Sta	3.62	216	P	Pn	16 03 51.2	+2.0
NGZ	Ngauruhoe	3.63	224	P	Pn	16 03 52.6	+3.3
WCZ	Waipu Caves	3.68	279	P	Pn	16 03 50.8	+1.0
HIZ	Hauiti	3.69	238	P	Pn	16 03 52.7	+2.7
MOVZ	Moawhango	3.71	220	P	Pn	16 03 49.9	-0.4
MOVZ				S	Sn	16 04 33.2	+0.3
WNVZ	Wahianoa	3.74	222	P	Pn	16 03 53.9	+3.1
TRVZ	Turoa	3.75	223	P	Pn	16 03 54.4	+3.5
PKVZ	Pokaka	3.85	225	P	Pn	16 03 56.8	+4.6
PNHZ	Pukenui	3.91	211	P	Pn	16 03 51.9	-1.1
PNHZ				S	Sn	16 04 37.8	+0.2
VRZ	Vera Road	4.09	231	P	Pn	16 03 57.8	+2.3
TSZ	Takapari Road	4.13	212	P	Pn	16 03 54.9	-1.1
ANWZ	Angora Road	4.28	205	P	Pn	16 03 56.6	-1.4
ANWZ				S	Sn	16 04 46.5	-0.2
WAZ	Wanganui	4.38	223	P	Pn	16 04 02.5	+3.1
OUZ	Omahuta	4.46	286	P	Pn	16 04 01.0	+0.4
LREZ	Lake Rotokare	4.52	229	P	Pn	16 04 07.6	+6.3
PRWZ	Pori Road	4.55	209	P	Pn	16 04 00.5	-1.2
KHEZ	Kahui Hut	4.67	233	P	Pn	16 04 09.6	+6.2
DUWZ	D'Urville Isla	5.69	221	P	Pn	16 04 20.2	+2.8
NNZ	Nelson	6.28	221	P	Pn	16 04 24.4	-1.0
GVZ	Greta Valley S	7.77	213	P	Pn	16 04 45.3	-0.6
CTZ	Chatham Island	7.94	155	P	Pn	16 04 48.7	+0.5

*MOS **07** 16:24:32.8±1.1, 48°.20N×155°.23E, h18km, mb4.0/1, Error ellipse: s-maj=18.2km s-min=4.1km az=72.5*
*KRSC **07** 16:24:38.5±2.0, 48°.60N×156°.23E, h14km±32km, ML4.3*
*SKHL **07** 16:24:38.5±0.2, 48°.40N×155°.10E, h64km±3km, mb4.1/4*
*IDC **07** 16:24:41.8±2.7, 48°.67N×154°.49E, h84km±24km, mb3.2/11, mb1 3.5/15, mb1mx3.4/36, mbtmp3.6/15, Error ellipse: s-maj=27.2km s-min=13.1km az=142.0*

ISC 07 16:24:37.3±0.7, 48°.42N±0°.09×155°.09E±0°.10, h43km, n85, σ1s.85/92, mb3.5/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.36	16	ePN	Pn	16 25 14.3	+0.8
SKR				pmax	pmax		
	comp=Z,74nm,0.7s						
SKR	Severo-Kuril's	2.36	16	eP	Pn	16 25 13.5	0.0
SKR				eS	Sn	16 25 39.6	-1.6
SKR	Severo-Kuril's	2.36	16	eP	Pn	16 25 13.7	+0.2
SKR				AMB	AMB	16 25 16.1	
	comp=Z,70nm,0.7s						
SKR				eS	Sn	16 25 40.0	-1.2
SKR				A	A	16 25 46.5	
	comp=Z,190nm,0.7s						
SKR				A	A	16 25 46.5	
	comp=Z,220nm,0.7s						
ALID	Alaid	2.47	7	PN	Pn	16 25 15.1	-0.1
ALID	Alaid	2.47	7	eP	Pn	16 25 15.1	-0.1
PAU	Pauzhetka	3.25	19	PN	Pn	16 25 27.3	+1.7
PAU	Pauzhetka	3.25	19	eP	Pn	16 25 27.3	+1.7
PAU				eS	Sn	16 26 02.9	-0.1
PAU	Pauzhetka	3.25	19	eP	Pn	16 25 26.6	+1.0
PAU				AMB	AMB	16 25 29.8	
	comp=Z,20nm,0.4s						
PAU				eS	Sn	16 26 02.8	-0.2
PAU				A	A	16 26 05.2	
	comp=Z,150nm,0.7s						
PAU				A	A	16 26 05.2	
	comp=Z,250nm,0.7s						
KDTR	Khodutka, Kamc	3.90	28	PN	Pn	16 25 34.9	+0.3
KDTR	Khodutka, Kamc	3.90	28	eP	Pn	16 25 34.9	+0.3
KDTR				eS	Sn	16 26 16.7	-2.3
MIPR	Malaya Ipel'ka	4.00	15	PN	Pn	16 25 36.7	+0.6
MIPR	Malaya Ipel'ka	4.00	15	eP	Pn	16 25 36.7	+0.6
ASAK	Asacha	4.36	23	PN	Pn	16 25 42.4	+1.4
ASAK	Asacha	4.36	23	eP	Pn	16 25 42.4	+1.4
ASAK				eS	Sn	16 26 28.7	-1.7
MTVR	Mutnovka	4.52	25	PN	Pn	16 25 44.4	+1.1
MTVR	Mutnovka	4.52	25	eP	Pn	16 25 44.4	+1.1
MTVR				eS	Sn	16 26 32.7	-1.9
GRL	Gorelyy	4.55	24	PN	Pn	16 25 45.5	+1.8
GRL	Gorelyy	4.55	24	eP	Pn	16 25 45.5	+1.8
GRL				eS	Sn	16 26 34.3	-1.1
RUS	Russkaya	4.57	27	PN	Pn	16 25 43.9	0.0
RUS	Russkaya	4.57	27	eP	Pn	16 25 43.9	0.0
RUS				eS	Sn	16 26 32.6	-3.1
APC	Apacha	4.70	15	PN	Pn	16 25 48.3	+2.7
APC	Apacha	4.70	15	P	Pn	16 25 48.3	+2.7
KRMR	Karymshinskiy	4.82	22	PN	Pn	16 25 50.3	+3.1
KRMR	Karymshinskiy	4.82	22	eP	Pn	16 25 50.3	+3.1
PETK	Petropavlovsk-	4.98	18	P	Pn	16 25 51.4	+2.0
	comp=Z,0.6nm,0.3s,baz=180,slow=10.0,SNR=29						
PETK				S	Sn	16 26 46.4	+0.8
	comp=Z,0.3nm,0.3s,baz=240,slow=28,SNR=1.6						
PET	Petropavlovsk	5.13	25	ePN	Pn	16 25 56.6	+5.1
PET	Petropavlovsk	5.13	25	eP	Pn	16 25 53.6	+2.1
PET				eS	Sn	16 26 48.7	-0.7
PET	Petropavlovsk	5.13	25	eP	Pn	16 25 54.3	+2.8
PET				AMB	AMB	16 25 57.0	
	comp=Z,30nm,1.0s						
PET				eS	Sn	16 26 49.4	0.0
PET				A	A	16 27 06.7	
	comp=Z,50nm,0.6s						
PET				A	A	16 27 06.7	
	comp=Z,50nm,0.6s						
DALK	Dalny	5.17	25	PN	Pn	16 25 53.0	+1.0
DALK	Dalny	5.17	25	eP	Pn	16 25 53.0	+1.0
DALK				eS	Sn	16 26 48.5	-1.8
UGLR	Uglovaya	5.35	25	PN	Pn	16 25 56.2	+1.6
UGLR	Uglovaya	5.35	25	eP	Pn	16 25 56.2	+1.6
KOK	Koryaka	5.37	23	PN	Pn	16 25 57.3	+2.4
KOK	Koryaka	5.37	23	eP	Pn	16 25 57.3	+2.4
KOK	Koryaka	5.37	23	eP	Pn	16 25 57.3	+2.4
AVH	Avacha	5.37	24	PN	Pn	16 25 57.5	+2.6
AVH	Avacha	5.37	24	eP	Pn	16 25 57.5	+2.6
SMAR	Somma	5.39	24	PN	Pn	16 25 56.9	+1.7
SMAR	Somma	5.39	24	eP	Pn	16 25 56.9	+1.7
KRER	Koryakskii	5.41	24	PN	Pn	16 25 57.2	+1.7
KRER	Koryakskii	5.41	24	eP	Pn	16 25 57.2	+1.7
SDLR	Sedlovina	5.42	25	PN	Pn	16 25 55.8	+0.1
SDLR	Sedlovina	5.42	25	eP	Pn	16 25 55.8	+0.1
KRX	Arik	5.43	23	PN	Pn	16 25 58.0	+2.2
KRX	Arik	5.43	23	eP	Pn	16 25 58.0	+2.2
GNL	Ganaly	5.58	18	PN	Pn	16 25 59.4	+1.6
GNL	Ganaly	5.58	18	eP	Pn	16 25 59.4	+1.6
SPN	Mys Shipunski	5.63	32	PN	Pn	16 25 59.4	+1.0
SPN	Mys Shipunski	5.63	32	eP	Pn	16 25 59.4	+1.0
SPN				eS	Sn	16 26 58.9	-2.8
KUR	Kuril'sk	5.89	240	ePN	Pn	16 26 04.5	+2.5
KUR				eS	Sn	16 27 11.0	+2.8
KUR				pmax	pmax		
	comp=Z,25nm,0.5s						
KUR				pmax	pmax		
	comp=E,17nm,0.4s						
KUR				pmax	pmax		
	comp=N,18nm,0.2s						
KUR				smax	smax		
	comp=N,34nm,0.4s						
KUR				smax	smax		
	comp=E,18nm,0.3s						
KUR	Kuril'sk	5.89	240	eP	Pn	16 26 04.1	+2.1
KUR				AMB	AMB	16 26 07.1	
	comp=E,10.0nm,0.5s						
KUR				eS	Sn	16 27 09.4	+1.2
MKZ	Mys Kozlova	7.41	31	PN	Pn	16 26 21.8	-0.9
MKZ	Mys Kozlova	7.41	31	eP	Pn	16 26 21.8	-0.9
KZV	Kizimen	7.44	24	PN	Pn	16 26 26.5	+3.2
KZV	Kizimen	7.44	24	eP	Pn	16 26 26.5	+3.2
TUMD	Tumrok D	7.54	24	eP	Pn	16 26 27.6	+3.0
TUMR	Tumrok	7.55	23	PN	Pn	16 26 28.5	+3.7
TUMR	Tumrok	7.55	23	eP	Pn	16 26 28.5	+3.7
NMR	Nemuro--Hokkai	8.25	236	ePN	Pn	16 26 32.4	-2.0
KBTR	Krutoberegovo	9.12	28	PN	Pn	16 26 46.8	+0.7
KBTR	Krutoberegovo	9.12	28	eP	Pn	16 26 46.8	+0.7
JKA	Kamikawa-asahi	9.66	248	eP	Pn	16 26 56.1	+2.5
ASAJ	Asahikawa	9.66	248	P	Pn	16 26 56.1	+2.4
	comp=E,2.2nm,0.3s,baz=63,slow=13,SNR=40						
USRK	Ussuriysk Ar.	16.49	264	P	Pn	16 28 24.3	-1.1
	baz=112,slow=16,SNR=2.4						
MJAR	Matsushiro Arr	17.16	232	P	Pn	16 28 32.7	-1.1
	comp=E,0.0nm,0.3s,baz=50,slow=11,SNR=2.3						
KSRS	Korea Array	22.59	251	P	P	16 29 32.3	-1.7
	comp=E,1.1nm,0.8s,baz=55,slow=9.7,SNR=6.5						
H11N2	WAKE ISLAND Hy	30.17	157	T	T	17 02 36.3	
	baz=345,slow=74						
H11N1	WAKE ISLAND Hy	30.18	157	T	T	17 02 32.8	
	baz=345,slow=74						
H11N3	WAKE ISLAND Hy	30.18	157	T	T	17 02 40.1	
	baz=345						
H11S1	WAKE ISLAND Hy	31.29	158	T	T	17 03 55.5	
	baz=345,slow=76,SNR=442						
H11S3	WAKE ISLAND Hy	31.30	158	T	T	17 03 56.2	
	baz=345,slow=76,SNR=472						
H11S2	WAKE ISLAND Hy	31.31	158	T	T	17 03 56.9	
	baz=345,slow=76,SNR=363						
ILAR	Eielson Array	34.41	40	P	P	16 31 22.8	+2.8
	comp=E,0.3nm,0.9s,baz=251,slow=8.5,SNR=2.7						
MKAR	Makanchi Array	47.37	297	P	P	16 33 02.2	-4.7
	comp=E,0.5nm,0.7s,baz=70,slow=6.9,SNR=7.3						
MKAR				PcP	PcP	16 34 34.9	-2.0
	comp=E,0.3nm,0.8s,baz=66,slow=3.5,SNR=2.6						
YKA	Yellowknife Ar	48.78	38	P	P	16 33 17.6	+0.1
	comp=E,0.1nm,0.4s,baz=295,slow=7.4,SNR=2.4						
YKA				PcP	PcP	16 34 41.8	+0.1
	comp=E,0.1nm,0.3s,baz=300,slow=2.3,SNR=1.4						
CMAR	Chiang Mai Arr	54.06	257	P	P	16 33 56.3	-1.2
	comp=E,1.7nm,0.7s,baz=32,slow=7.2,SNR=13						
NVAR	Mina Array Bea	60.48	64	P	P	16 34 44.7	+1.8
	comp=E,0.2nm,0.5s,baz=287,slow=9.3,SNR=2.5						
PDAR	Pinedale Array	62.69	56	P	P	16 34 58.9	+1.1
	comp=E,0.4nm,0.9s,baz=336,slow=3.3,SNR=3.7						
FINES	FINESS Array B	63.09	335	P	P	16 34 57.0	-2.7
	comp=E,1.4nm,0.8s,baz=46,slow=6.0,SNR=0.9						
WRA	Warramunga Arr	70.54	201	P	P	16 35 47.4	-0.2
	comp=E,0.5nm,0.8s,baz=18,slow=6.1,SNR=6.1						
ASAR	Alice Springs	74.23	200	P	P	16 36 09.9	+0.4
	comp=E,0.2nm,0.6s,baz=14,slow=5.4,SNR=9.3						
TXAR	Lajitas Array	75.52	62	P	P	16 36 18.6	+1.3
	comp=E,0.3nm,0.5s,baz=294,slow=4.8,SNR=5.7						
H03N2	Juan Fernandez	137.41	90	T	T	19 17 07.0	
	baz=310,slow=77,SNR=11						
H03N1	Juan Fernandez	137.43	90	T	T	19 17 11.7	
	baz=310,slow=77,SNR=10						
H03N3	Juan Fernandez	137.43	90	T	T	19 17 13.2	
	baz=310,slow=77,SNR=8.9						

*EAF **07** 16:28:27.1±1.5, 0°.56S×29°.16E, h1km±10km, MD3.3*
*ECGS **07** 16:28:28.1, 0°.78S±0°.02×29°.48E±0°.02, h12km±6km, ML3.5, Error ellipse: s-maj=3.5km s-min=2.8km az=114.6, smi:local/aedccadd-9991-4fc6-9d7b-f9b81eaaf753 Note: Depth/Latitude/Longitude errors are calculated from covariance matrix as 1D marginal (Lon/Lat errors as great circle degrees) while OriginUncertainty min/max horizontal errors are calculated from 2D error ellipsoid and are therefore seemingly higher compared to 1D errors. Error estimates can be reconstructed from the following original NonLinLoc error statistics line:STATISTICS ExpectX 53.5739 Y 79.6062 Z 10.695 CovXX 4.95546 XY -0.674048 XZ -1.63362 YY 3.7918 YZ -2.94962 ZZ 40.3612 EllAz1 25.2401 Dip1 5.17061 Len1 3.34988 Az2 295.272 Dip2 -0.355883 Len2 4.31004 Len3 1.198142e+01*

ISC 07 16:28:26.5±1.1, 0°.72S±0°.05×29°.43E±0°.06, h10km, n15, σ1s.36/19, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGO	Tongo	0.51	198	iP	Pg	16 28 37.0	+0.5
TGO	Tongo	0.51	198	iS	Sg	16 28 43.7	+0.5
RGB	Rumangabo	0.62	186	iS	Sg	16 28 46.3	-0.6
RGB	Rumangabo	0.62	186	iP	Pg	16 28 38.6	0.0
KTSH	Kitshanga	0.64	216	iS	Sb	16 28 47.8	-1.1
KTSH	Kitshanga	0.64	216	iP	Pb	16 28 39.7	-0.2
GOM	Goma	0.97	192	iP	Pg	16 28 44.9	-0.4
GOM	Goma	0.97	192	eS	Sg	16 28 57.4	-0.7
BOBN	Bobandana	1.06	203	iP	Pg	16 28 46.4	-0.6
BOBN	Bobandana	1.06	203	iS	Sg	16 29 00.1	-0.8
KIL	Kilembe	1.08	32	eP	Pb	16 28 47.3	-0.2
KIL				eS	Sb	16 29 02.0	+0.3
MBAR	Mbarara	1.32	85	eP	Pn	16 28 50.2	-0.9
MBAR				eS	Sb	16 29 06.2	-2.3
BUJA	Bujumbura/Buru	2.66	181	eS	Sb	16 29 46.0	-1.1
TEBE	Entebbe	3.14	76	eP	Pb	16 29 23.3	+0.7
TEBE				eS	Sb	16 29 59.4	-1.5
SINGT	Singida	6.68	128	iP	Pn	16 30 08.7	+3.8
SINGT				iS	Sb	16 31 41.8	-1.1

*MAN **07** 16:38:57.0, 5°.10N×125°.85E, h102km, MS4.7*
*KLM **07** 16:38:58, 5°.74N×126°.38E, h95km, mb4.8*
*BJI **07** 16:38:58.0±0.0, 5°.60N×126°.10E, h98km, mB5.0/36, mb4.6/51*
*DJA **07** 16:39:00.0±0.4, 5°N±3°×12°6E±°, h101km±3km, M4.9/69, mB5.3/25, mb4.8/69, MLv5.4/13, Mw(mB)4.7/25*
*IDC **07** 16:39:01.2±0.5, 5°.46N×125°.89E, h113km±4km, mb4.2/24, mb1 4.4/27, mb1mx4.2/39, mbtmp4.6/27, MS3.2/5, Ms1 3.2/5, ms1mx3.0/30, Error ellipse: s-maj=14.4km s-min=6.6km az=80.0*
*NEIC **07** 16:39:02.1±2.3, 5°.45N±0°.06×125°.9E±0°.1, h121km±4km, mb4.7/35, Error ellipse: s-maj=14.4km s-min=8.3km az=87.0*

ISC 07 16:39:00.7±0.5, 5°.39N±0°.03×125°.96E±0°.05, h111km±4km, n190, σ1s.81/224, mb4.6/83, 4C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	0.75	341	eP	Pn	16 39 16.9	-2.7
DDMP				eS	Sn	16 39 31.4	-2.4
MATI	Mati	1.57	11	eP	Pn	16 39 27.3	-1.1
MATI				eS	Sn	16 39 53.1	+3.6
DAV	Davao City (W)	1.71	347	P	Pn	16 39 29.9	-0.2
	74nm,0.3s,baz=111,slow=8.6,SNR=13						
DAV				S	Sn	16 39 51.5	-1.0
	180nm,0.3s,baz=259,slow=23,SNR=5.7						
DAV	Davao City (W)	1.71	347		Pn	16 39 30.4	+0.2
SGSI	Sangihe	1.75	194	P	Pn	16 39 31.4	+0.8
SGSI				S	Sn	16 39 55.0	+1.6
SKMP	Bagumbayan, Su	1.80	309	eP	Pn	16 39 29.4	-1.8
SKMP				eS	Sn	16 39 52.9	-1.6
KCP	Kidapawan	1.82	332	⇓iP	Pn	16 39 32.2	+0.6
KCP				iS	Sn	16 39 56.8	+1.7
BUKP	Musuan	2.63	340	eP	Pn	16 39 41.9	0.0
BUKP				eS	Sn	16 40 15.5	+2.0
CGP	Cagayan de Oro	3.29	338	⇓iP	Pn	16 39 52.2	+1.5
CGP				iS	Sn	16 40 38.4	+9.2
PAGZ	Pagadian	3.54	314	eP	Pn	16 39 52.3	-1.6
PAGZ				eS	Sn	16 40 32.6	-2.5
BUTP	Butuan	3.57	355	eP	Pn	16 39 54.5	+0.1
BUTP				eS	Sn	16 40 42.0	+6.2
ZCP	Zamboanga City	4.16	292	⇑iP	Pn	16 40 01.4	-0.7
ZCP				iS	Sn	16 40 46.7	-3.2
GLSP	General Luna,	4.37	2	eP	Pn	16 40 05.2	+0.1
GLSP				eS	Sn	16 41 00.5	+5.5
TNTI	Ternate	4.80	163	Pn	Pn	16 40 11.5	+0.6
TNTI	Ternate	4.80	163	P	Pn	16 40 11.0	+0.1
TNTI				S	Sn	16 41 05.4	0.0
MSLP	Maasin	4.84	347	eP	Pn	16 40 12.3	+0.9
KMSI	Cibinong	5.18	203	P	Pn	16 40 17.3	+1.3
	3.2nm9μm1μm,0.8s						
LLP	Lapu-Lapu	5.28	338	⇑eP	Pn	16 40 18.9	+1.5
LLP				eS	Sn	16 41 19.4	+2.4
GTOI	Gorontalo	5.57	212	P	Pn	16 40 21.9	+0.7
	3.9nm10μm1μm,0.7s						
OCLP	Ormoc	5.78	347	eP	Pn	16 40 26.3	+2.1
MRSI	Marisa	6.32	220	P	Pn	16 40 32.7	+1.3
	4.5nm11μm1μm,0.8s						
TOLI2	Tolitoli	6.69	231	Pn	Pn	16 40 36.0	-0.5
LUWI	Luwuk	7.14	207	Pn	Pn	16 40 46.3	+3.7
LUWI	Luwuk	7.14	207	P	Pn	16 40 44.7	+2.1
	2.4nm7μm862nm,0.7s						
SANI	Sanana	7.39	180	P	Pn	16 40 43.6	-2.4
	0.8nm4μm167nm,0.8s						
MYLDM	Lahad Datu	7.43	269	Pn	Pn	16 40 48.5	+2.0
APSI	Ampana	7.60	215	P	Pn	16 40 50.5	+1.7
	1.5nm4μm488nm,1.2s						
SWI	Sorong	8.16	139	P	Pn	16 40 56.3	-0.1
	62nm,1.1s						
SIJI	Sorong	8.17	139	P	Pn	16 40 56.7	+0.1
	6.8nm,0.3s,baz=346,slow=12,SNR=36						
SIJI				S	Sn	16 42 22.9	-4.4
	1.9nm,0.3s,baz=233,slow=20,SNR=1.9						
PVCP	Virac	8.35	348	eP	Pn	16 40 59.9	+1.0
NLAI	Namlea	8.65	172	P	Pn	16 41 02.1	-0.9
	5μm82nm,0.7s						
LQP	Lukban	9.70	334	⇓eP	Pn	16 41 21.4	+3.9
KKM	Kota Kinabalu	9.72	274	Pn	Pn	16 41 20.4	+2.7
TTSI	Tana Toraja	10.38	216	P	Pn	16 41 30.0	+3.4
	949nm70nm,0.9s						
SPSI	Sidrap Palu	11.16	214	P	Pn	16 41 39.8	+2.7
	55nm,1.0s						
BKB	Balikpapan	11.21	234	Pn	Pn	16 41 40.1	+2.4
BKB	Balikpapan	11.21	234	P	Pn	16 41 40.1	+2.4
	3μm346nm,0.8s						
BNSI	Bone	11.35	211	P	Pn	16 41 42.5	+2.9
	666nm53nm,1.4s						
KAPI	Kappang	12.05	211	P	Pn	16 41 51.2	+2.3
	1.4nm,0.3s,baz=23,slow=11,SNR=13						
KAPI				LR	LR	16 46 36.5	
	comp=Z,77nm,21.3s,baz=44,slow=38						
BAKI	Biak	12.06	123	P	Pn	16 41 46.1	-3.0
	99nm,0.9s						
MTKI	Muara Teweh, K	12.71	241	P	Pn	16 42 00.1	+2.4
	3μm74nm,0.8s						
KBKI	Kotabaru	13.05	229	P	Pn	16 42 04.4	+2.4
	557nm74nm,0.8s						
SBUM	Sibu	14.02	258		P	16 42 18.8	0.0
BBKI	Banjar Baru	14.17	232	P	Pn	16 42 18.9	+2.4
	1μm134nm,1.1s						
SOEI	Soe	15.14	186		P	16 42 33.4	+1.9
SOEI	Soe	15.14	186	P	Pn	16 42 30.5	+1.5
	1μm129nm,1.0s						
STKI	Sintang	15.40	250	P	Pn	16 42 34.4	+2.3
	21nm,0.8s						
BATI	Baumata	15.66	188	P	P	16 42 38.0	+0.8
	18nm,0.3s,baz=80,slow=6.2,SNR=17						
KSM	Kuching	16.10	257	P	P	16 42 45.0	+3.0
PLAI	Plampang	16.31	210	P	Pn	16 42 44.5	+1.1
	2μm288nm,0.9s						
PBKI	Pangkalan Bun	16.38	241	P	P	16 42 46.8	+1.6
	4μm122nm,1.1s						
TWSI	Taliwang, Sumb	16.70	213	P	P	16 42 50.5	+1.9
	510nm75nm,0.9s						
KMMI	Kalianget	17.20	224	P	Pn	16 42 59.8	+5.5
DNP	Denpasar	17.61	218	P	Pn	16 43 00.8	+1.5
	173nm,0.9s						
JAGI	Jajag, Banyuwa	18.12	221	P	P	16 43 05.2	+0.9
JAGI				IAmb	IAmb	16 43 10.5	
	comp=Z,44nm,1.0s						
TPI	Tanjungpandan	20.00	247	P	P	16 43 26.8	+2.1
	comp=Z,589nmcomp=Z,63nm,1.1s						
QIZ	Qiongzhong	20.75	312	P	P	16 43 33.9	+1.1
QIZ				S	S	16 47 19.4	+0.9
PPBI	Pangkal Pinang	21.18	250	P	P	16 43 38.6	+1.2
	comp=Z,38nm,1.0s						
LEM	Lembang	21.96	237	P	P	16 43 47.9	+2.0
	comp=Z,36nm,0.8s,baz=51,slow=8.8,SNR=8.6						
MYKOM	Kota Tinggi	22.35	262	P	P	16 43 51.0	+1.2
MYKOM				IAmb	IAmb	16 43 56.0	
	comp=Z,28nm,0.9s						
MYKOM	Kota Tinggi	22.35	262	P	P	16 43 51.0	+1.2
UBPT	Khong Chiam	22.40	298	P	P	16 43 53.0	+2.7
	comp=Z,9.6nm,0.8s						
UBPT	Khong Chiam	22.40	298	P	P	16 43 50.6	+0.3
PMBI	Palembang	22.72	249	P	P	16 43 56.4	+2.9

comp=Z,129nm,0.5s
BLSI Bandar Lampung 23.28 243 P **P** **16 44 02.4 +3.5**
comp=Z,66nm,1.0s
FITZ Fitzroy Crossi 23.34 181 P **P** **16 43 59.7 +0.3**
comp=Z,28nm,0.7s,baz=11,slow=9.6,SNR=62
FITZ S **S** **16 48 01.7 -2.0**
comp=Z,4.7nm,0.9s,baz=342,slow=19,SNR=3.5
FITZ Fitzroy Crossi 23.34 181 P **P** **16 43 59.6 +0.3**
FITZ IAmb IAmb 16 44 01.1
comp=Z,29nm,0.9s
JMBI JAMBI 23.36 253 P **P** **16 44 01.6 +2.0**
comp=Z,120nm,0.7s
KLSI 23.45 245 P **P** **16 44 02.2 +1.8**
comp=Z,15nm,0.9s
MDSI Maura Dua 23.86 246 P **P** **16 44 06.2 +2.0**
comp=Z,680nmcomp=Z,82nm,1.1s
KASI Kota Agung 24.02 243 P **P** **16 44 07.6 +2.1**
comp=Z,88nm,0.9s
LWLI Liwa 24.19 245 P **P** **16 44 09.8 +2.5**
comp=Z,4µmcomp=Z,112nm,1.0s
LHSI Lahat 24.21 248 P **P** **16 44 10.4 +3.1**
comp=Z,76nm,1.5s
IPM Ipoh 24.86 269 P **P** **16 44 14.0 +0.7**
IPM IAmb IAmb 16 44 17.1
comp=Z,22nm,0.9s
IPM Ipoh 24.86 269 P **P** **16 44 14.0 +0.7**
SRAK Srakaew 25.06 292 P **P** **16 44 12.0 -3.0**
comp=Z,93nm,1.4s
KULM Kulim 25.20 271 P **P** **16 44 16.0 -0.3**
KULM IAmb IAmb 16 44 19.2
comp=Z,21nm,1.0s
SDSI Sungai Dareh 25.29 256 P **P** **16 44 20.1 +2.9**
comp=Z,52nm,1.1s
NONG Nongkai 25.60 301 P **P** **16 44 22.9 +3.1**
COEN Coen 25.72 139 P **P** **16 44 22.4 +1.4**
COEN IAmb IAmb 16 44 26.9
comp=Z,13nm,0.9s
PMG Port Moresby 25.74 125 P **P** **16 44 22.9 +1.8**
comp=Z,17nm,0.9s,baz=315,slow=11,SNR=2.1
CHAI Chaiyaphum 25.74 296 P **P** **16 44 23.0 +1.8**
comp=Z,20nm,0.9s
PATY Pattaya 25.86 289 P **P** **16 44 25.2 +2.9**
comp=Z,37nm,0.7s
WRAB Tennant Creek 26.48 162 P **P** **16 44 28.2 +0.3**
WRAB IAmb IAmb 16 44 31.6
comp=Z,16nm,1.1s
WRA Warramunga Arr 26.49 162 P **P** **16 44 27.9 +0.1**
comp=Z,6.6nm,0.6s,baz=339,slow=10,SNR=100
WRA pP **pwP** **16 44 52.4 -3.1**
comp=Z,16nm,0.9s,baz=341,slow=9.8,SNR=6.6
WRA S **S** **16 48 48.5 -5.5**
comp=Z,0.4nm,0.6s,baz=331,slow=17,SNR=1.5
WRA ScP **ScP** **16 51 20.2 -0.1**
comp=Z,0.7nm,0.6s,baz=340,slow=2.8,SNR=6.4
WB2 Warramunga Arr 26.49 162 P **P** **16 44 28.9 +1.0**
WB2 IAmb IAmb 16 44 31.6
comp=Z,13nm,0.9s
WR0 Warramunga Arr 26.57 162 P **P** **16 44 29.5 +0.9**
MNSI Mandailing Nat 26.73 261 P **P** **16 44 31.5 +1.4**
comp=Z,17nm,0.7s
PHET Kaeng Krachan 27.03 288 P **P** **16 44 37.0 +4.3**
comp=Z,24nm,0.8s
PSI Prapat 27.09 266 P **P** **16 44 33.4 -0.1**
comp=Z,15nm,0.8s,baz=0.0,slow=5.1,SNR=8.9
NJ2 Nanjing 27.34 347 *e*P **P** **16 44 36.6 +1.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
PSA00 Pilbara Seismi 27.46 192 P **P** **16 44 36.4 -0.1**
PHIT Phitsanulok 27.61 297 P **P** **16 44 40.1 +2.2**
comp=Z,61nm,0.9s
SRDT SRDT 27.87 291 P **P** **16 44 43.0 +2.7**
comp=Z,12nm,1.2s
UTHA Uthaitani 27.93 293 P **P** **16 44 42.0 +1.2**
comp=Z,16nm,1.1s
SUKH Sukhothai 28.42 297 P P 16 44 50.9 +5.8
comp=Z,8.9nm,0.8s
GSI Gunungsitoli 28.62 263 P **P** **16 44 47.0 0.0**
GSI Gunungsitoli 28.62 263 P **P** **16 44 46.4 -0.6**
comp=Z,61nm,1.1s
UMPA Umpang Tak 28.66 294 P **P** **16 44 50.3 +2.9**
comp=Z,20nm,1.1s
CM34 Chiang Mai Arr 29.37 299 P **P** **16 44 54.0 +0.4**
CMAR Chiang Mai Arr 29.39 299 P **P** **16 44 54.0 +0.3**
comp=Z,1.8nm,0.7s,baz=122,slow=6.8,SNR=15
CMAR PcP **PcP** **16 47 57.7 +0.2**
comp=Z,0.7nm,0.7s,baz=135,slow=0.7,SNR=6.4
CMAR ScP **ScP** **16 51 29.2 -0.1**
comp=Z,0.4nm,0.8s,baz=63,slow=1.7,SNR=5.8
CMAR LR LR 16 59 23.0
comp=Z,76nm,18.1s,baz=138,slow=42
CMMT Chiang Mai 29.53 299 P **P** **16 44 55.1 +0.2**
comp=Z,2.9nm,1.3s
CM32 Chiang Mai Arr 29.55 299 P **P** **16 44 57.0 +1.8**
KMI Kunming 29.68 314 ⇑P **P** **16 44 57.2 +0.7**
KMI pmax pmax
comp=Z,7.0nm,0.9s
KMI pmax pmax
comp=Z,180nm,6.1s
AS31 Alice Springs 29.90 165 P **P** **16 44 58.9 +0.6**
ASAR Alice Springs 29.90 165 P **P** **16 44 58.7 +0.4**
comp=Z,5.3nm,0.6s,baz=345,slow=7.3,SNR=121
ASAR PcP **PcP** **16 47 59.0 +0.3**
comp=Z,2.1nm,0.7s,baz=344,slow=3.3,SNR=6.2
ASAR S **S** **16 49 46.5 -1.2**
comp=Z,0.2nm,0.7s,baz=348,slow=18,SNR=2.1
ASAR ScP **ScP** **16 51 30.6 -0.3**
comp=Z,2.1nm,0.7s,baz=344,slow=2.6,SNR=16
MHMT Maesarieng 30.18 297 P **P** **16 45 01.8 +1.0**
KSRS Korea Array 31.96 3 P **P** **16 45 16.8 +0.7**
comp=Z,4.4nm,0.8s,baz=184,slow=10.0,SNR=21
KSRS PcP **PcP** **16 48 04.5 +0.6**
comp=Z,0.2nm,0.5s,baz=177,slow=3.8,SNR=5.5
KSRS ScP **ScP** **16 51 38.1 +0.7**
comp=Z,0.2nm,0.5s,baz=202,slow=3.2,SNR=2.4
KSRS LR LR 16 57 28.6
comp=Z,20nm,21.8s,baz=190,slow=35
CD2 Chengdu 32.86 323 P **P** **16 45 23.5 -0.7**
CD2 pmax pmax
comp=Z,20nm,1.1s
MAT Matsushiro 32.98 18 P **P** **16 45 23.9 -1.2**
MJAR Matsushiro Arr 32.98 18 P **P** **16 45 23.8 -1.3**
comp=Z,2.9nm,0.8s,baz=196,slow=9.0,SNR=9.6
MJAR PcP **PcP** **16 48 07.4 +0.6**
comp=Z,1.3nm,1.0s,baz=148,slow=2.4,SNR=2.3
MJAR LR LR 16 57 20.8
comp=Z,31nm,21.4s,baz=295,slow=33
JMM Marumori 35.04 21 P **P** **16 45 43.6 +0.7**
MORW Morawa 35.56 195 P **P** **16 45 47.6 +0.2**
MORW IAmb IAmb 16 45 52.1
comp=Z,19nm,1.1s
FORT Forrest 36.02 177 P **P** **16 45 52.0 +0.7**
LZH Lanzhou 36.69 329 *e*P **P** **16 45 57.6 +0.4**
LZH pP pP 16 46 20.4 -1.9
LZH sP sP 16 46 35.9 +0.9
LZH pmax pmax
comp=Z,25nm,1.0s
HHC Hu-ho-hao-te 37.59 342 *e*P **P** **16 46 00.8 -3.9**
CN2 Changchun 38.26 359 *e*P **P** **16 46 09.8 -0.3**
NWAO Narrogin (SRO) 39.00 192 P **P** **16 46 17.2 +0.9**
NWAO IAmb IAmb 16 46 19.3
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 39.00 192 P **P** **16 46 17.3 +0.9**
NWAO IAmb IAmb 16 46 19.3
comp=Z,13nm,0.8s
USRK Ussuriysk Ar. 39.01 7 P **P** **16 46 17.1 +0.7**
comp=Z,2.5nm,0.6s,baz=187,slow=9.0,SNR=10
USRK pP **pP** **16 46 42.5 +1.7**
comp=Z,3.3nm,0.7s,baz=182,slow=8.1,SNR=4.8
EIDS Eidsvold 39.13 143 P **P** **16 46 18.2 +0.6**
BBOO Buckleboo 39.18 166 P **P** **16 46 19.1 +1.1**
MDJ Mudanjiang 39.20 4 P **P** **16 46 20.1 +2.2**
MDJ pmax pmax
comp=Z,9.0nm,1.2s
MDJ pmax pmax
comp=Z,120nm,5.2s
STKA Stephens Creek 39.95 159 P **P** **16 46 25.5 +1.2**
comp=Z,25nm,0.8s,baz=335,slow=8.0,SNR=53
STKA pP **pwP** **16 46 50.3 -2.8**
comp=Z,9.2nm,0.8s,baz=344,slow=9.2,SNR=3.1
STKA Stephens Creek 39.95 159 P **P** **16 46 25.7 +1.4**
ASAJ Asahikawa 41.25 18 P **P** **16 46 36.1 +1.2**
comp=Z,7.9nm,0.8s,baz=227,slow=8.9,SNR=13
GTA Gaotai 41.29 329 ⇑P **P** **16 46 34.5 -0.9**
GTA pP pP 16 46 56.0 -4.8
GTA sP sP 16 47 09.6 -3.8
GTA PcP **PcP** **16 48 32.3 +0.2**
GTA ScP **ScP** **16 52 11.7 -0.4**
GTA pmax pmax
comp=Z,5.0nm,1.1s
H11N1 WAKE ISLAND Hy 42.27 67 T T 17 32 49.7
baz=255,slow=75,SNR=5.0
H11N2 WAKE ISLAND Hy 42.28 67 T T 17 32 53.6
baz=255,slow=75,SNR=4.9
H11N3 WAKE ISLAND Hy 42.29 67 T T 17 32 53.1
baz=255,slow=75,SNR=5.2
TAPN Taplejung 42.43 305 *e*P **P** **16 46 44.5 -0.6**
comp=Z,13nm,0.7s
ODAN Odare 42.49 304 *e*P **P** **16 46 45.6 0.0**
comp=Z,17nm,0.8s
RAMN Ramite 43.18 304 *e*P **P** **16 46 51.4 +0.3**
comp=Z,12nm,0.6s
ARMA Armidale 43.27 147 P **P** **16 46 53.2 +1.6**
ARMA IAmb IAmb 16 46 54.6
comp=Z,15nm,0.8s
KLR Kul'dur 43.96 5 P **P** **16 46 56.7 0.0**
comp=Z,3.3nm,0.6s,baz=176,slow=9.5,SNR=8.5
GUN Gumba 44.14 305 *e*P **P** **16 46 58.7 -0.2**
comp=Z,33nm,0.8s
PKI Pulchoki 44.40 304 *e*P **P** **16 47 00.8 -0.2**
comp=Z,7.9nm,0.8s
PKIN Phulchoki 44.41 304 *e*P **P** **16 47 00.3 -0.7**
comp=Z,4.5nm,0.5s
KKN Kakani 44.58 305 *e*P **P** **16 47 01.3 -1.0**
comp=Z,19nm,1.0s
DMN Daman 44.66 304 *e*P **P** **16 47 03.4 +0.4**
GKN Gorkha 45.19 305 *e*P **P** **16 47 06.7 -0.4**
comp=Z,5.0nm,0.5s
SONM Songino Array 45.49 342 P **P** **16 47 07.7 -1.4**
comp=Z,1.5nm,0.8s,baz=142,slow=7.7,SNR=8.4
SONM PcP **PcP** **16 48 46.0 -0.2**
comp=Z,2.5nm,0.8s,baz=161,slow=4.0,SNR=8.5
SONM ScP **ScP** **16 52 28.6 -0.4**
comp=Z,0.1nm,0.3s,baz=151,slow=3.3,SNR=3.0
SONM LR LR 17 06 24.4
comp=Z,43nm,18.3s,baz=202,slow=36
CAN Canberra 45.93 154 P **P** **16 47 15.3 +2.7**
TOO Toolangi 46.46 159 P **P** **16 47 18.9 +2.3**
TOO IAmb IAmb 16 47 20.3
comp=Z,21nm,1.1s
HYB Hyderabad 47.85 289 *i* P **P** **16 47 27.0 -0.8**
WMQ Urumqi 50.93 325 *e*P **P** **16 47 50.4 -0.5**
WMQ pmax pmax
comp=Z,12nm,1.3s
WMQ pmax pmax
comp=Z,170nm,4.5s
WMQ LR LR
comp=Z,550nm,8.3s
WMQ LR LR
comp=Z,380nm,8.3s
PETK Petropavlovsk- 54.20 23 P **P** **16 48 15.4 +0.7**
comp=Z,5.1nm,0.7s,baz=191,slow=2.7,SNR=27
PETK pP **pP** **16 48 41.0 +0.1**
comp=Z,3.7nm,0.7s,baz=229,slow=3.4,SNR=3.5
ZSN Zaisan 54.70 327 *i* P **P** **16 48 16.9 -1.6**
baz=327
ZSN *e*S **S** **16 55 46.8 -3.6**
baz=327
MK31 Makanchi Array 55.76 325 P **P** **16 48 24.8 -1.4**
MK31 IAmb IAmb 16 48 25.8
comp=Z,6.3nm,0.7s
MKAR Makanchi Array 55.76 325 P **P** **16 48 25.0 -1.2**
comp=Z,7.5nm,0.6s,baz=126,slow=8.1,SNR=115
MKAR ScP **ScP** **16 53 10.8 -2.2**
comp=Z,0.2nm,0.7s,baz=123,slow=4.7,SNR=4.4
UZB Uzynbulak 55.87 320 *e*P **P** **16 48 25.8 -1.3**
comp=Z,2.9nm,0.8s,baz=320
MAKZ Makanchi 55.95 325 P **P** **16 48 26.2 -1.3**
MAKZ IAmb IAmb 16 48 27.1
comp=Z,9.4nm,0.8s
SATY Saty 56.22 319 *e*P **P** **16 48 28.5 -1.2**
comp=Z,4.1nm,0.9s,baz=319
KPKS Kokpek 56.23 320 *e*P **P** **16 48 28.2 -1.4**
comp=Z,13nm,1.0s,baz=320
KSH Kashi 56.34 315 P **P** **16 48 30.9 +0.4**
KSH pmax pmax
comp=Z,21nm,1.4s
KSH pmax pmax
comp=Z,340nm,7.6s
TDK Taldygorghan 57.15 321 *e*P **P** **16 48 34.6 -1.4**
comp=Z,8.9nm,0.8s,baz=321
MDOK Medeo 57.15 319 *e*P **P** **16 48 35.0 -1.3**
baz=319
TNSS Tian-Shan 57.16 319 *e*P **P** **16 48 35.6 -1.0**
baz=319
AAA Alma-Ata 57.26 319 *e*P **P** **16 48 35.9 -1.0**
baz=319
CHKK Chushkaly 57.50 320 *e*P **P** **16 48 36.7 -1.8**
baz=320
KUU Kurty 57.94 319 *e*P **P** **16 48 40.0 -1.6**
comp=Z,11nm,0.9s,baz=319
ZALV Zalesovo Beam 58.77 333 P **P** **16 48 44.9 -2.2**
comp=Z,3.8nm,0.6s,baz=125,slow=6.8,SNR=16
SGDS Sogindy 58.87 318 *e*P **P** **16 48 45.9 -2.2**
baz=318
BTLS Baital 59.92 320 *e*P **P** **16 48 53.2 -2.0**
baz=320
DZA Taraz 60.87 317 *e*P **P** **16 49 00.2 -1.6**
baz=316
IUG Iuzhnay 61.50 315 *e*P **P** **16 49 04.8 -1.3**
baz=315
BRZS Berezniki 62.90 324 *e*P **P** **16 49 13.2 -1.9**
baz=324
BRVK Borovoye 65.59 327 P **P** **16 49 31.0 -1.7**
BRVK IAmb IAmb 16 49 32.7
comp=Z,9.0nm,1.1s
ABKAR Akbulak array 70.39 321 P **P** **16 50 01.2 -1.5**
ARU Arti 73.13 328 P **P** **16 50 17.0 -2.1**
ARU IAmb IAmb 16 50 17.8
comp=Z,7.1nm,0.5s
PPLA Purkeypile 81.51 27 P **P** **16 51 07.2 +1.3**
SUA Susitna One 82.08 29 P **P** **16 51 07.3 -1.6**
SUA IAmb IAmb 16 51 19.9
comp=Z,14nm,1.0s
COLD Coldfoot 82.67 23 P **P** **16 51 13.5 +1.9**
I23K Minto, Yukon-K 82.90 25 P **P** **16 51 14.3 +1.4**
I23K IAmb IAmb 16 51 15.4
comp=Z,8.8nm,0.8s
KLMR Klimovskoe 83.59 331 *e*P **P** **16 51 13.8 -2.7**
KLMR AMP 16 51 16.1
comp=Z,9.0nm,0.9s
IL31 83.94 25 P **P** **16 51 17.4 -0.8**
ILAR Eielson Array 83.94 25 P **P** **16 51 17.5 -0.7**
comp=Z,1.5nm,0.8s,baz=243,slow=5.2,SNR=25
ILAR pP **pwP** **16 51 48.1 -1.5**
comp=Z,4.8nm,0.8s,baz=253,slow=4.4,SNR=13
VNDA Vanda 85.16 173 P **P** **16 51 24.2 +0.2**
comp=Z,3.2nm,0.7s,baz=284,slow=4.2,SNR=7.9
ARCES ARCESS Array B 88.63 340 P **P** **16 51 39.1 -2.0**
comp=Z,5.4nm,0.8s,baz=76,slow=5.1,SNR=7.4
INK Inuvik 88.91 21 P **P** **16 51 41.7 -0.6**
comp=Z,1.0nm,0.6s,baz=263,slow=5.4,SNR=4.2
INK pP **pwP** **16 52 11.4 -2.3**
comp=Z,4.9nm,1.1s,baz=303,slow=5.5,SNR=5.8
FINES FINESS Array B 90.02 332 P **P** **16 51 45.8 -1.9**
comp=Z,3.5nm,0.8s,baz=64,slow=3.2,SNR=5.6
CRVS Cervenica-Dubn 95.41 320 *e*P **P** **16 52 13.0 +0.1**
NOA NORSAR Array B 96.97 334 P **P** **16 52 17.3 -2.4**
comp=Z,1.1nm,0.7s,baz=62,slow=4.7,SNR=2.2
YKA Yellowknife Ar 98.31 24 P Pdif 16 52 25.5 -0.2
comp=Z,0.7nm,0.8s,baz=304,slow=4.1,SNR=11
YKA pP pwP 16 52 55.4 -1.8
comp=Z,1.8nm,0.9s,baz=300,slow=3.9,SNR=10.0
YKA PKKPbc **PKKPbc** **17 08 55.6 -3.5**
comp=Z,0.5nm,0.7s,baz=118,slow=3.5,SNR=7.5
GERES GERESS Array B 100.31 322 P **Pdif** **16 52 34.5 -0.6**
comp=Z,0.2nm,0.6s,baz=66,slow=4.7,SNR=4.3
TXAR Lajitas Array 121.17 51 PKP **PKiKP** **16 57 41.7 +0.1**
comp=Z,0.4nm,0.8s,baz=256,slow=0.7,SNR=4.8
TORD Torodi Ar. Bea 121.67 289 PKP **PKPdf** **16 57 42.0 -0.6**
comp=Z,2.0nm,0.7s,baz=89,slow=1.5,SNR=6.9
DBIC Dimbokro 129.47 283 PKP **PKPdf** **16 57 57.8 +0.3**
comp=Z,4.3nm,1.0s,baz=63,slow=2.3,SNR=3.1
CPUP Villa Florida 158.94 172 PKP **PKPdf** **16 58 47.1 +0.7**
comp=Z,1.2nm,0.6s,baz=211,slow=5.9,SNR=3.1
CPUP PKPab **PKPab** **16 59 23.9 +1.1**
comp=Z,1.5nm,0.5s,baz=193,slow=5.3,SNR=7.2
LPAZ La Paz 162.44 129 PKP **PKPdf** **16 58 52.3 +1.1**
comp=Z,1.4nm,0.8s,baz=214,slow=3.6,SNR=5.0
LPAZ PKPab **PKPab** **16 59 42.4 +3.0**
comp=Z,1.6nm,0.8s,baz=171,slow=3.6,SNR=4.3

*IDC **07**17:30:16.7±1.0,41.10N×107.28E,h0km,mb3.4/5,*

mb1 3.6/9,mb1mx3.4/40,mbtmp3.5/9,ML3.3/3,Error ellipse: s-maj=34.2km s-min=15.5km az=74.0
*BJI **07**17:30:17.9±0.0,40.80N×107.44E,h4km,ML3.8/18*
ISC 07 17:30:17.3±0.7,41.09N±0.06×107.71E±0.04,h10km,n16,
σ1s97/22,mb3.5/5,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BTO	**Baotou**	**1.82**	**105**	Pn	**Pn**	**Pn**	**17 30 49.5**	**+0.8**
BTO				Pg	**Pb**	**Pb**	**17 30 50.9**	**+0.2**
BTO				Sg	**Sg**	**Sg**	**17 31 15.6**	**-0.1**
BTO				smax	smax			
	comp=N,10µm,0.3s							
BTO				smax	smax			
	comp=E,5µm,0.4s							
TIY	**Taiyuan**	**4.98**	**131**	Pg	**Pb**	**Pb**	**17 31 47.1**	**+2.5**
TIY				Sg	**Sb**	**Sb**	**17 32 43.9**	**-0.6**
TIY				smax	smax			
	comp=N,160nm,0.7s							
TIY				smax	smax			
	comp=E,74nm,0.6s							
LZH	**Lanzhou**	**5.85**	**212**	*e*Pg	**Pb**	**Pb**	**17 31 58.8**	**-0.6**
LZH				Sn	Sn	Sn	17 32 41.9	-9.4
LZH				Sg	**Sb**	**Sb**	**17 33 06.8**	**-2.7**
LZH				smax	smax			
	comp=N,93nm,0.8s							
LZH				smax	smax			
	comp=E,96nm,0.8s							
GTA	**Gaotai**	**6.27**	**257**	Pn	Pn	Pn	17 31 44.4	-5.6
GTA				Pg	**Pb**	**Pb**	**17 32 08.0**	**+1.4**
GTA				Sg	**Sb**	**Sb**	**17 33 22.3**	**+0.6**
GTA				smax	smax			
	comp=N,70nm,1.2s							
GTA				smax	smax			
	comp=E,50nm,0.9s							
BJI	**Beijing**	**6.53**	**97**	Pg	**Pg**	**Pg**	**17 32 20.7**	**-1.6**
BJI				Sg	**Sg**	**Sg**	**17 33 44.7**	**-2.1**
BJI				smax	smax			
	comp=N,48nm,0.6s							
BJI				smax	smax			
	comp=E,40nm,0.7s							
SONM	**Songino Array**	**6.80**	**352**	Pn	**Pn**	**Pn**	**17 31 59.0**	**+1.7**
	0.9nm,0.3s,baz=173,slow=14,SNR=40							
SONM				Lg	Lg		17 33 53.2	
	6.6nm,0.3s,baz=175,slow=28,SNR=12							
XAN	**Xi'an**	**7.11**	**172**	Pg	Pg	Pg	17 32 27.3	-6.1
XAN				Sn	Sn	Sn	17 33 07.4	-15
XAN				Sg	**Sb**	**Sb**	**17 33 45.8**	**+0.1**
XAN				smax	smax			
	comp=N,83nm,0.9s							
XAN				smax	smax			
	comp=E,43nm,0.7s							
TLY	**Talaya**	**10.95**	**347**	Pn	**Pn**	**Pn**	**17 32 54.7**	**+0.7**
	comp=E,0.0nm,0.3s,baz=337,slow=5.9,SNR=3.6							
TLY				Lg	Lg		17 36 03.4	
	comp=E,0.0nm,0.3s,baz=106,slow=9.3,SNR=4.8							
WMQ	**Urumqi**	**15.02**	**287**	*e*P	**Pn**	**Pn**	**17 33 46.3**	**-3.4**
WMQ				smax	smax			
	comp=N,10.0nm,0.7s							
WMQ				smax	smax			
	comp=E,11nm,0.7s							
MKAR	**Makanchi Array**	**19.13**	**296**	P	**P**		**17 34 36.6**	**-3.8**
	comp=E,0.1nm,0.3s,baz=94,slow=14,SNR=6.3							
ZALV	**Zalesovo Beam**	**20.00**	**318**	P	**P**		**17 34 47.8**	**-2.0**
	baz=146,slow=10,SNR=1.5							
KURBB	**Kurchatov Arra**	**22.32**	**305**	P	**P**		**17 35 13.9**	**-0.9**
	comp=E,1.0nm,0.3s,baz=105,slow=12,SNR=7.6							
CMAR	**Chiang Mai Arr**	**23.78**	**201**	P	**P**		**17 35 29.6**	**-0.5**
	comp=E,0.6nm,0.7s,baz=21,slow=7.7,SNR=2.0							
WRA	**Warramunga Arr**	**65.57**	**152**	P	**P**		**17 41 04.3**	**+3.1**
	comp=E,0.4nm,0.8s,baz=351,slow=9.5,SNR=2.3							
ASAR	**Alice Springs**	**68.87**	**154**	P	**P**		**17 41 24.3**	**+2.2**
	comp=E,0.2nm,0.6s,baz=343,slow=6.2,SNR=5.7							
YKA	**Yellowknife Ar**	**71.31**	**19**	P	**P**		**17 41 36.6**	**0.0**
	comp=E,0.2nm,0.7s,baz=325,slow=6.0,SNR=3.6							

*IDC **07**17:39:58.3±0.6,16.97S×14.11W,h0km,mb4.2/19,*
mb1 4.3/19,mb1mx4.1/53,mbtmp4.2/19,Error ellipse: s-maj=19.4km s-min=15.9km az=148.0
*NEIC **07**17:39:59.2±1.3,16.9S±0.1×14.08W±0.09,h7km±3km,*
mb4.8/13,Error ellipse: s-maj=18.6km s-min=6.7km az=145.0
ISC 07 17:39:59.5±0.5,17.0S±0.1×14.01W±0.09,h10km,n40,
σ1s11/34,mb4.4/22,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**7.99**	**355**	T	T		17 49 52.7	
	baz=176,slow=74,SNR=30							
SHEL	**Horse Pasture**	**8.00**	**84**	Pn	**Pn**		**17 41 52.3**	**-3.6**
H10S3	**ASCENSION HYDR**	**8.00**	**355**	T	T		17 49 56.7	
	baz=44,slow=74,SNR=30							
H10N1	**ASCENSION HYDR**	**9.08**	**357**	T	T		17 51 16.7	
	baz=201,slow=75							
H10N3	**ASCENSION HYDR**	**9.09**	**357**	T	T		17 51 15.3	
	baz=201,slow=75							
H10N2	**ASCENSION HYDR**	**9.10**	**357**	T	T		17 51 13.3	
	baz=201,slow=75							
RCBR	**Riachuelo**	**24.11**	**295**	P	**P**		**17 45 14.0**	**-1.8**
	9.7nm,0.9s,baz=88,slow=11,SNR=2.1							
DBIC	**Dimbokro**	**25.18**	**22**	P	**P**		**17 45 25.8**	**+0.5**
	5.7nm,1.0s,baz=185,slow=11,SNR=3.2							
DBIC	**Dimbokro**	**25.18**	**22**	P	**P**		**17 45 25.2**	**0.0**
DBIC				IAmb	IAmb		17 45 55.5	
	comp=Z,61nm,1.9s							
KOWA	**Kowa**	**32.79**	**18**	P	**P**		**17 46 33.4**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=180,slow=6.8,SNR=12							
KOWA	**Kowa**	**32.79**	**18**	P	**P**		**17 46 33.0**	**-0.1**
TOA0	**Torodi Ar. Sit**	**33.71**	**28**	P	**P**		**17 46 40.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**33.71**	**28**	P	**P**		**17 46 41.3**	**+0.1**
	comp=Z,6.1nm,0.9s,baz=214,slow=8.7,SNR=14							
BOSA	**Boshof**	**37.85**	**115**	P	**P**		**17 47 18.1**	**+1.3**
	comp=Z,4.1nm,1.0s,baz=203,slow=3.9,SNR=4.2							
BOSA	**Boshof**	**37.85**	**115**	IAmb	IAmb		17 48 04.2	
	comp=Z,24nm,1.5s							
MATP	**Matopo**	**40.34**	**102**	P	**P**		**17 47 38.9**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=262,slow=8.4,SNR=5.2							
LSZ	**Lusaka**	**40.52**	**94**	P	**P**		**17 47 39.9**	**+0.6**
	comp=Z,2.4nm,0.9s,baz=195,slow=3.4,SNR=4.4							
CPUP	**Villa Florida**	**41.16**	**249**	P	**P**		**17 47 43.8**	**-0.6**
	comp=Z,3.7nm,0.8s,baz=86,slow=7.7,SNR=9.0							
SIV	**San Ignacio**	**45.05**	**264**	P	**P**		**17 48 16.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=95,slow=9.1,SNR=4.6							
SIV				PcP	**PcP**		**17 49 56.0**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=107,slow=8.1,SNR=3.8							
SAML	**Samuel**	**48.47**	**273**	P	**P**		**17 48 42.4**	**-0.4**
SAML				IAmb	IAmb		17 49 01.9	
	comp=Z,12nm,1.9s							
CO01	**Juntas del Tor**	**52.59**	**245**	P	**P**		**17 49 12.6**	**-1.4**
CO01				IAmb	IAmb		17 49 21.2	
	comp=Z,27nm,1.9s							
AC05	**El Transito**	**52.73**	**246**	P	**P**		**17 49 14.8**	**-0.2**
LCO	**Las Campanas**	**53.11**	**246**	P	**P**		**17 49 17.5**	**-0.4**
LCO				IAmb	IAmb		17 49 44.8	
	comp=Z,36nm,1.8s							
SNAA	**Sanae**	**55.09**	**176**	P	**P**		**17 49 31.3**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=270,slow=1.8,SNR=3.6							
ESDC	**Sonseca Array**	**57.13**	**9**	P	**P**		**17 49 47.1**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=190,slow=6.4,SNR=9.4							
PMSA	**Palmer Station**	**58.30**	**203**	P	**P**		**17 49 55.8**	**+1.6**
ATD	**Arta Tunnel**	**62.93**	**67**	P	**P**		**17 50 27.7**	**+1.0**
	comp=Z,3.2nm,0.3s,baz=230,slow=23,SNR=2.1							
MMAI	**Mount Meron Ar**	**68.55**	**43**	P	**P**		**17 51 03.1**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=206,slow=9.6,SNR=1.7							
GERES	**GERESS Array B**	**70.01**	**19**	P	**P**		**17 51 11.8**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=191,slow=6.4,SNR=4.5							
BRTR	**Keskin Arra B**	**71.79**	**37**	P	**P**		**17 51 24.4**	**+1.9**
	comp=Z,1.3nm,1.0s,baz=177,slow=6.8,SNR=4.1							
MLR	**Muntele Rosu**	**71.95**	**28**	P	**P**		**17 51 25.3**	**+2.0**
	comp=Z,4.6nm,1.0s,baz=121,slow=11,SNR=2.7							
AKASG	**Malin Array Be**	**77.32**	**27**	P	**P**		**17 51 54.3**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=220,slow=4.9,SNR=9.4							
AKBB	**Malin Array Si**	**77.32**	**27**	P	**P**		**17 51 54.3**	**+0.1**
AKBB				IAmb	IAmb		17 52 06.6	
	comp=Z,9.2nm,1.6s							
KBZ	**Khabaz**	**79.69**	**38**	P	**P**		**17 52 08.9**	**+1.5**
	comp=Z,3.1nm,0.9s,baz=60,slow=2.9,SNR=5.6							
RPN	**Rapa Nui**	**86.99**	**243**	P	**P**		**17 52 45.7**	**+0.1**
W45A	**Hickory Valley**	**88.03**	**308**	P	**P**		**17 52 49.7**	**-0.6**
TXAR	**Lajitas Array**	**97.84**	**298**	P	Pdif		17 53 36.4	+0.5
	comp=Z,0.5nm,0.8s,baz=122,slow=4.5,SNR=4.0							
ASAR	**Alice Springs**	**128.88**	**141**	PKP	**PKiKP**		**17 59 08.9**	**0.0**
	comp=Z,0.5nm,0.8s,baz=212,slow=1.7,SNR=5.6							
WRA	**Warramunga Arr**	**131.92**	**138**	PKP	**PKPdf**		**17 59 14.1**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=221,slow=5.3,SNR=2.3							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	148.63	46	PKPbc	PKPbc	17 59 46.9	-0.5
	comp=Z,2.7nm,1.1s,baz=298,slow=4.2,SNR=3.0						

IDC 07 17:42:48.4±0.8, 16°.93S×14°.07W, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.0/54, mbtmp4.1/15, MS3.7/14, Ms1 3.7/14, ms1mx3.6/27, Error ellipse: s-maj=29.7km s-min=16.4km az=147.0
NEIC 07 17:42:49.0±2.0, 17°.0S±0°.1×14°.06W±0°.04, h9km±4km, mb4.8/18, Error ellipse: s-maj=18.1km s-min=5.9km az=177.0
ISC 07 17:42:49.5±0.5, 17°.0S±0°.1×14°.06W±0°.08, h10km, n49, σ0s.98/37, mb4.4/23, MS3.8/14, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	7.98	356	T	T	17 52 45.0	
	baz=44,slow=74,SNR=117						
H10S3	ASCENSION HYDR	7.99	356	T	T	17 52 43.0	
	baz=176,slow=74,SNR=116						
SHEL	Horse Pasture	8.04	84	Pn	Pn	17 44 46.3	-0.2
H10N1	ASCENSION HYDR	9.07	357	T	T	17 54 08.2	
	baz=187						
H10N3	ASCENSION HYDR	9.08	357	T	T	17 54 07.9	
	baz=187						
H10N2	ASCENSION HYDR	9.09	357	T	T	17 54 07.9	
	baz=187						
RCBR	Riachuelo	24.07	295	P	P	17 48 04.4	-0.9
	12nm,0.9s,baz=144,slow=9.8,SNR=2.3						
RCBR				LR	LR	17 55 36.0	
	comp=Z,93nm,18.2s,baz=138,slow=32						
RCBR	Riachuelo	24.07	295	P	P	17 48 03.9	-1.3
RCBR				IAmb	IAmb	17 48 08.7	
	comp=Z,27nm,1.2s						
DBIC	Dimbokro	25.19	22	P	P	17 48 15.9	+0.5
	comp=Z,2.9nm,0.8s,baz=210,slow=7.8,SNR=3.0						
DBIC				LR	LR	17 55 52.8	
	comp=Z,47nm,19.8s,baz=172,slow=31						
TSUM	Tsumeb	30.15	99	P	P	17 48 57.3	-2.7
MBO	M'Bour	31.29	355	P	P	17 49 09.3	-0.5
BDFB	Brasilia	32.59	267	LR	LR	17 59 49.8	
	comp=Z,162nm,22.0s,baz=108,slow=31						
KOWA	Kowa	32.80	18	P	P	17 49 22.8	-0.3
	comp=Z,3.8nm,0.8s,baz=213,slow=6.0,SNR=6.3						
KOWA	Kowa	32.80	18	P	P	17 49 23.0	-0.2
KOWA				IAmb	IAmb	17 49 24.8	
	comp=Z,13nm,1.4s						
SACV	Santiago Islan	33.10	343	P	P	17 49 25.8	0.0
TOA0	Torodi Ar. Sit	33.73	28	P	P	17 49 31.2	-0.1
TORD	Torodi Ar. Bea	33.73	28	P	P	17 49 31.4	+0.1
	comp=Z,5.0nm,1.0s,baz=214,slow=8.7,SNR=7.6						
TORD				LR	LR	18 00 50.0	
	comp=Z,211nm,19.1s,baz=185,slow=32						
BOSA	Boshof	37.90	115	LR	LR	18 02 33.6	
	comp=Z,99nm,20.2s,baz=268,slow=31						
BOSA	Boshof	37.90	115	P	P	17 50 07.7	+0.5
BOSA				IAmb	IAmb	17 50 24.6	
	comp=Z,18nm,1.4s						
MATP	Matopo	40.38	102	P	P	17 50 28.6	+0.5
	comp=Z,0.9nm,0.6s,baz=297,slow=6.8,SNR=2.1						
CPUP	Villa Florida	41.12	249	P	P	17 50 34.7	+0.8
	comp=Z,4.8nm,0.9s,baz=96,slow=8.2,SNR=9.5						
CPUP				LR	LR	18 04 53.7	
	comp=Z,81nm,18.1s,baz=49,slow=32						
CPUP	Villa Florida	41.12	249	P	P	17 50 34.0	+0.1
SIV	San Ignacio	45.01	264	P	P	17 51 06.9	+1.4
	comp=Z,0.7nm,0.5s,baz=131,slow=5.1,SNR=4.8						
SIV				PcP	PcP	17 52 46.3	-0.5
	comp=Z,1.1nm,0.7s,baz=112,slow=4.3,SNR=4.8						
SAML	Samuel	48.42	273	P	P	17 51 32.9	+0.5
SAML				IAmb	IAmb	17 51 34.7	
	comp=Z,15nm,1.6s						
LPAZ	La Paz	51.67	262	P	P	17 51 58.5	+0.7
	comp=Z,1.9nm,1.1s,baz=16,slow=7.5,SNR=2.8						
LPAZ				LR	LR	18 13 07.0	
	comp=Z,101nm,19.2s,baz=111,slow=35						
PB08	IPOC Station P	52.13	257	P	P	17 51 59.0	-1.9
PB08				IAmb	IAmb	17 52 01.8	
	comp=Z,16nm,1.0s						
CO01	Juntas del Tor	52.54	245	P	P	17 52 04.9	+1.2
CO01				IAmb	IAmb	17 52 06.8	
	comp=Z,25nm,1.6s						
AC05	El Transito	52.69	246	P	P	17 52 02.7	-1.9
AC05				IAmb	IAmb	17 52 07.1	
	comp=Z,23nm,1.1s						
KMBO	Kilima Mbogo	52.86	78	LR	LR	18 14 21.1	
	comp=Z,83nm,18.2s,baz=92,slow=36						
PLCA	Paso Flores	53.84	232	LR	LR	18 13 16.3	
	comp=Z,86nm,18.4s,baz=159,slow=34						
SNAA	Sanae	55.10	176	P	P	17 52 22.5	+1.0
SNAA				IAmb	IAmb	17 52 30.5	
	comp=Z,14nm,1.6s						
ESDC	Sonseca Array	57.13	9	P	P	17 52 37.1	+0.9
	comp=Z,0.9nm,0.8s,baz=183,slow=8.0,SNR=7.1						
ESDC				LR	LR	18 14 02.1	
	comp=Z,71nm,18.1s,baz=5.0,slow=33						
NNA	Nana	60.78	266	LR	LR	18 18 26.0	
	comp=Z,61nm,19.0s,baz=144,slow=35						
SDV	Santo Domingo	61.54	290	LR	LR	18 19 10.5	
	comp=Z,40nm,18.9s,baz=202,slow=36						
SDV	Santo Domingo	61.54	290	P	P	17 53 06.8	-0.7
SDV				IAmb	IAmb	17 53 09.6	
	comp=Z,11nm,1.0s						
ROSC	El Rosal	63.33	284	LR	LR	18 19 34.1	
	comp=Z,90nm,18.8s,baz=192,slow=35						
ATAH	Atahualpa	63.44	270	LR	LR	18 20 13.4	
	comp=Z,68nm,18.3s,baz=123,slow=35						
GERES	GERESS Array B	70.02	19	P	P	17 54 01.8	+0.4
	comp=Z,0.7nm,0.7s,baz=195,slow=2.6,SNR=4.2						
BRTR	Keskin Array B	71.81	37	P	P	17 54 13.5	+0.9
	comp=Z,2.5nm,1.1s,baz=195,slow=9.0,SNR=4.6						
EKA	Eskdalemuir Ar	72.61	7	P	P	17 54 17.3	+0.6
	comp=Z,1.2nm,0.5s,baz=150,slow=3.3,SNR=3.9						
GEVA	Gevas	76.72	43	P	P	17 54 42.9	+1.6
AKASG	Malin Array Be	77.34	27	P	P	17 54 44.0	-0.2
	comp=Z,2.6nm,0.8s,baz=222,slow=4.9,SNR=7.0						
KBZ	Khabaz	79.72	38	P	P	17 54 59.0	+1.5
	comp=Z,1.1nm,0.8s,baz=155,slow=17,SNR=2.3						
W45A	Hickory Valley	87.99	308	P	P	17 55 39.5	-0.5
CCM	Cathedral Cave	90.60	310	P	P	17 55 52.1	-0.1
CCM				IAmb	IAmb	17 55 53.1	
	comp=Z,5.5nm,0.8s						
TXAR	Lajitas Array	97.79	298	P	P	17 56 24.8	-0.8
	comp=Z,0.3nm,0.7s,baz=106,slow=7.9,SNR=3.6						
ASAR	Alice Springs	128.91	141	PKP	PKPdf	18 01 58.1	-0.2
	comp=Z,0.9nm,1.0s,baz=202,slow=1.6,SNR=5.1						
WRA	Warramunga Arr	131.95	138	PKP	PKPdf	18 02 04.4	+0.3
	comp=Z,0.4nm,0.7s,baz=244,slow=2.4,SNR=1.8						
MJAR	Matsushiro Arr	148.66	46	PKPbc	PKPbc	18 02 37.3	-0.1
	comp=Z,2.6nm,1.0s,baz=290,slow=6.5,SNR=4.5						

NEIC 07 17:58:42.0±3.0, 20°.6S±0°.1×177°.4W±0°.1, h477km±10km, mb4.5/15, Error ellipse: s-maj=18.2km s-min=15.3km az=137.0
IDC 07 17:58:42.3±1.7, 20°.88S×177°.54W, h467km±18km, mb3.0/7, mb1 3.3/10, mb1mx3.1/41, mbtmp3.9/10, Error ellipse: s-maj=22.0km s-min=14.8km az=123.0
ISC 07 17:58:42.6±0.5, 20°.68S±0°.08×177°.41W±0°.07, h477km, n34, σ1s.65/38, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.19	304	P	P	18 00 10.4	+0.1
	2.5nm,0.3s,baz=121,slow=17,SNR=17						
MSVF	Nonsavu	5.19	304	P	P	18 00 10.8	+0.5
NIUE	Niue	7.22	79	P	P	18 00 30.3	-0.1
NIUE				S	S	18 02 01.0	+2.4
AFI	Afiamalu	8.62	40	P	P	18 00 45.9	+0.8
	4.2nm,0.3s,baz=43,slow=4.3,SNR=8.7						
AFI				S	S	18 02 22.0	-3.8
	4.3nm,0.3s,baz=68,slow=19,SNR=3.0						
AFI	Afiamalu	8.62	40	P	P	18 00 45.3	+0.2
AFI				S	S	18 02 22.5	-3.3
FUNA	Funafuti	12.52	344	P	P	18 01 27.6	+0.8
RAR	Rarotonga	16.49	95	P	P	18 02 08.1	-0.8
URZ	Urewera	18.15	194	P	P	18 02 24.2	-1.1
	1.4nm,0.3s,baz=246,slow=3.7,SNR=6.7						
URZ				S	S	18 05 25.4	-2.0
	0.2nm,0.3s,baz=192,slow=19,SNR=1.2						
BKZ	Black Stump Fm	19.16	195	P	P	18 02 34.6	-0.1
BKZ				IAmb	IAmb	18 03 12.5	
	comp=Z,59nm,1.6s						
QRZ	Quartz Range	21.84	201	P	P	18 02 59.9	+1.0
TUWZ	Tuamarina	21.95	198	P	P	18 03 00.2	+0.2
THZ	Tophouse	22.56	199	P	P	18 03 04.8	-0.8
THZ				IAmb	IAmb	18 03 38.8	
	comp=Z,68nm,1.4s						
WHZ	Wether Hill Ro	27.88	202	P	P	18 03 53.1	+0.5
WHZ				IAmb	IAmb	18 04 20.9	
	comp=Z,58nm,1.4s						
XMAS	Kiritimati	29.88	43	P	P	18 04 07.0	-3.5
CTAO	Charters Tower	34.02	264	P	P	18 04 45.0	-0.9
CTAO				IAmb	IAmb	18 04 57.6	
	comp=Z,14nm,1.4s						
BBOO	Buckleboo	42.96	244	P	P	18 05 57.6	-1.0
BBOO				IAmb	IAmb	18 06 06.1	
	comp=Z,35nm,1.6s						
AS31	Alice Springs	45.01	257	P	P	18 06 13.6	-1.2
ASAR	Alice Springs	45.01	257	P	P	18 06 13.9	-0.9
	comp=Z,1.6nm,0.6s,baz=88,slow=8.1,SNR=44						
ASAR				PcP	PcP	18 07 46.7	+0.7
	comp=Z,0.3nm,0.6s,baz=94,slow=4.2,SNR=6.0						
WB0	Warramunga Arr	45.10	262	P	P	18 06 14.1	-1.3
WB2	Warramunga Arr	45.11	262	P	P	18 06 14.2	-1.4
WRA	Warramunga Arr	45.12	262	P	P	18 06 14.3	-1.3
	comp=Z,0.5nm,0.3s,baz=96,slow=7.1,SNR=25						
FORT	Forrest	49.73	247	P	P	18 06 49.4	-0.8
FORT				IAmb	IAmb	18 06 55.4	
	comp=Z,14nm,1.1s						
FITZ	Fitzroy Crossi	53.55	262	P	P	18 07 17.4	-0.8
	comp=Z,1.1nm,0.7s,baz=96,slow=4.0,SNR=7.5						
FITZ	Fitzroy Crossi	53.55	262	IAmb	IAmb	18 07 51.4	
	comp=Z,18nm,1.6s						
SOEI	Soe	57.05	272	P	P	18 07 43.6	+0.7
SOEI				IAmb	IAmb	18 08 13.9	
	comp=Z,32nm,1.2s						
QSPA	South Pole Qui	69.39	180	P	P	18 09 02.5	+0.9
QSPA				IAmb	IAmb	18 09 28.3	
	comp=Z,6.7nm,1.4s						
KSRS	Korea Array	77.38	318	P	P	18 09 49.5	+2.0
	comp=Z,0.4nm,0.6s,baz=134,slow=6.0,SNR=2.3						
TXAR	Lajitas Array	86.69	57	P	P	18 10 39.0	+3.6
	comp=Z,0.2nm,0.7s,baz=232,slow=4.4,SNR=2.1						
ILAR	Eielson Array	88.36	13	P	P	18 10 44.3	+2.0
	comp=Z,0.6nm,1.1s,baz=223,slow=6.1,SNR=2.0						
YKA	Yellowknife Ar	96.44	25	P	P	18 11 19.4	0.0
	comp=Z,0.1nm,0.6s,baz=218,slow=4.7,SNR=1.7						
MKAR	Makanchi Array	111.72	313	PKiKP	PKiKP	18 16 22.9	+0.6
	comp=Z,0.2nm,0.8s,baz=101,slow=1.5,SNR=2.2						
AKASG	Malin Array Be	143.43	331	PKP	PKPdf	18 17 21.2	-0.7
	comp=Z,0.1nm,0.2s,baz=40,slow=4.5,SNR=4.7						
GERES	GERESS Array B	150.51	345	PKPbc	PKiKP	18 17 41.8	+1.5
	comp=Z,0.3nm,0.5s,baz=45,slow=1.5,SNR=2.2						
TORD	Torodi Ar. Bea	172.47	173	PKPab	PKPab	18 19 22.2	-2.6
	comp=Z,0.7nm,0.8s,baz=169,slow=1.5,SNR=3.0						

IDC 07 18:00:27.0±5.9, 41°.43S×81°.63E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/31, mbtmp3.4/5, MS3.5/3, Ms1 3.6/3, ms1mx3.3/9, Error ellipse: s-maj=163.0km s-min=41.8km az=40.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	26.27	86	T	T	18 34 06.0	
	baz=246,slow=74,SNR=5.8						
H01W3	Cape Leeuwin H	26.28	86	T	T	18 34 06.5	
	baz=246,slow=74,SNR=4.3						
H01W1	Cape Leeuwin H	26.29	86	T	T	18 34 06.0	
	baz=246,slow=74,SNR=4.5						
ASAR	Alice Springs	46.77	85	P	P	18 08 59.7	+1.5
	0.3nm,1.0s,baz=226,slow=6.4,SNR=1.6						
BOSA	Boshof	47.14	267	LR	LR	18 25 02.6	
	comp=Z,64nm,18.9s,baz=208,slow=31						
STKA	Stephens Creek	48.19	99	P	P	18 09 07.5	-1.7
	2.7nm,1.1s,baz=257,slow=5.2,SNR=2.9						
STKA				LR	LR	18 26 41.3	
	comp=Z,69nm,18.4s,baz=207,slow=33						
WRA	Warramunga Arr	49.30	81	P	P	18 09 18.0	+0.2
	0.7nm,0.9s,baz=233,slow=7.9,SNR=2.6						
CMAR	Chiang Mai Arr	61.70	19	P	P	18 10 45.9	-1.0
	0.2nm,0.5s,baz=201,slow=5.4,SNR=1.4						
CMAR				LR	LR	18 33 49.2	
	comp=Z,28nm,19.9s,baz=236,slow=32						
MKAR	Makanchi Array	87.84	0	P	P	18 13 18.4	+0.7
	0.2nm,0.8s,baz=191,slow=2.9,SNR=1.8						

IDC 07 18:08:04.3±15.0, 15°.31N×91°.56W, h119km±63km, mb3.3/2, mb1 3.7/4, mb1mx3.2/34, mbtmp3.7/4, Error ellipse: s-maj=222.0km s-min=109.2km az=167.0
MEX 07 18:08:16.3±0.6, 15°.77N×92°.60W, h188km±5km, MD4.3
ISC 07 18:08:17.2±1.9, 15°.77N±0°.09×92°.69W±0°.08, h172km±13km, n10, σ0s.71/15, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.52	263	*i* P	Pn	18 08 41.2	+0.1
PCIG				*i* S	S	18 09 00.3	+1.0
CCIG	Comitan	0.73	46	*i* P	Pn	18 08 42.0	-0.5
CCIG				*i* S	S	18 09 01.1	-0.8
THIG		0.95	155	*i* P	Pn	18 08 43.3	-0.4
THIG				*i* S	S	18 09 04.2	+0.2
TGIG		1.09	337	*i* P	Pn	18 08 44.7	-0.2
TGIG				*i* S	S	18 09 06.2	0.0
CMIG	Matias Romero	2.48	302	P	Pn	18 08 59.2	0.0
	23nm,0.3s,baz=106,slow=7.6,SNR=149						
CMIG				S	S	18 09 30.8	-1.0
	44nm,0.3s,baz=316,slow=19,SNR=34						
CMIG	Matias Romero	2.48	302	*i* P	Pn	18 08 59.0	-0.3
CMIG				*i* S	S	18 09 32.0	+0.2
HUIG	Huatulco	3.29	270	*i* P	Pn	18 09 08.1	-1.1
HUIG				*i* S	S	18 09 49.4	-0.1
TXAR	Lajitas Array	16.87	325	P	Pn	18 12 04.6	+1.1
	0.1nm,0.3s,baz=155,slow=12,SNR=11						
NVAR	Mina Array Bea	31.89	320	P	P	18 14 27.9	+1.3
	0.6nm,0.6s,baz=125,slow=9.4,SNR=6.9						
YKA	Yellowknife Ar	49.16	347	P	P	18 16 45.0	-2.4
	0.5nm,0.4s,baz=147,slow=7.7,SNR=10						

IDC 07 18:14:58.1±14.0, 7°.13S×117°.31E, h280km±120km, mb2.6/3, mb1 2.8/4, mb1mx2.6/24, mbtmp3.3/4, Error ellipse: s-maj=164.0km s-min=100.7km az=57.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.60	144	P	Pn	18 18 00.5	+0.1
	0.2nm,0.3s,baz=315,slow=11,SNR=1.2						
FITZ				S	S	18 20 31.3	+0.3
	0.1nm,0.3s,baz=7.0,slow=19,SNR=1.7						
WRA	Warramunga Arr	20.86	129	P	P	18 19 19.2	0.0
	0.3nm,0.8s,baz=304,slow=11,SNR=5.2						
ASAR	Alice Springs	22.90	138	P	P	18 19 38.4	+0.4
	0.3nm,0.5s,baz=313,slow=8.2,SNR=15						
STKA	Stephens Creek	33.45	141	P	P	18 21 10.3	-0.9
	1.4nm,0.9s,baz=323,slow=19,SNR=1.9						

NEIC 07 18:42:22±2.2, 4°.0S±0°.1×154°.30E±0°.09, h63km±10km, mb4.2/7, Error ellipse: s-maj=16.6km s-min=12.7km az=159.0
IDC 07 18:42:26.2±6.6, 4°.07S×154°.21E, h93km±52km, mb3.4/6, mb1 3.7/7, mb1mx3.4/35, mbtmp3.8/7, MS3.7/2, Ms1 3.7/2, ms1mx2.8/26, Error ellipse: s-maj=70.7km s-min=28.2km az=115.0
ISC 07 18:42:30.1±1.6, 3°.8S±0°.2×153°.6E±0°.3, h100km, n24, σ1s.43/16, mb3.9/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	1.50	255		Pn	18 42 55.0	-1.4
RABL				Sn	Sn	18 43 20.9	+4.6
HNR	Honiara	8.42	132	Pn	Pn	18 44 14.4	-15
PMG	Port Moresby	8.49	229	P	Pn	18 44 31.1	+0.7
	0.4nm,0.3s,baz=157,slow=10,SNR=2.2						
PMG				S	Sn	18 46 05.8	+1.2
	0.6nm,0.3s,baz=290,slow=13,SNR=2.0						
PMG	Port Moresby	8.49	229	Pn	Pn	18 44 30.6	+0.2
PMG				Sn	Sn	18 46 06.6	+2.0
PATS	Pohnpei	11.56	24	Pn	Pn	18 44 59.7	-12
WB0	Warramunga Arr	24.56	228	P	P	18 47 41.0	+0.1
WB0				IAmb	IAmb	18 47 41.8	
	comp=Z,11nm,1.4s						
WR0	Warramunga Arr	24.57	228	P	P	18 47 41.0	0.0
WR0				IAmb	IAmb	18 48 15.4	
	comp=Z,8.0nm,1.2s						
WB2	Warramunga Arr	24.70	228	P	P	18 47 42.5	+0.3
WB2				IAmb	IAmb	18 48 06.5	
	comp=Z,4.2nm,0.5s						
WRA	Warramunga Arr	24.71	228	P	P	18 47 42.3	+0.1
	comp=Z,3.2nm,0.7s,baz=51,slow=9.8,SNR=14						
H11S3	WAKE ISLAND Hy	25.63	30	T	T	19 13 39.0	
	baz=205,slow=74,SNR=20						
H11S2	WAKE ISLAND Hy	25.63	30	T	T	19 13 37.3	
	baz=205						
H11S1	WAKE ISLAND Hy	25.64	30	T	T	19 13 37.2	
	baz=205,slow=74,SNR=17						
ASAR	Alice Springs	27.43	222	P	P	18 48 05.6	-1.2
	comp=Z,0.6nm,0.5s,baz=56,slow=9.0,SNR=14						
STKA	Stephens Creek	30.13	201	P	P	18 48 26.7	-3.9
FITZ	Fitzroy Crossi	30.85	240	P	P	18 48 36.7	-0.4
	comp=Z,1.5nm,0.7s,baz=46,slow=10,SNR=6.0						
FITZ	Fitzroy Crossi	30.85	240	IAmb	IAmb	18 48 54.5	
	comp=Z,4.8nm,1.0s						
FORT	Forrest	36.07	219	P	P	18 49 20.5	-1.8
FORT				IAmb	IAmb	18 49 54.3	
	comp=Z,15nm,1.1s						
JHJ	Hachijo jima 2	38.99	341	LR	LR	19 02 43.5	
	comp=Z,266nm,21.4s,baz=348,slow=31						
NWAO	Narrogin (SRO)	44.66	225	P	P	18 50 31.3	-1.8
CMAR	Chiang Mai Arr	58.20	294	LR	LR	19 18 10.5	
	comp=Z,21nm,18.7s,baz=226,slow=36						
SONM	Songino Array	65.92	327	P	P	18 53 06.8	+1.2
	comp=Z,0.4nm,0.5s,baz=139,slow=3.8,SNR=3.8						
MKAR	Makanchi Array	80.11	319	P	P	18 54 29.1	-0.1
	comp=Z,0.1nm,0.7s,baz=95,slow=6.4,SNR=1.5						
ILAR	Eielson Array	80.93	22	P	P	18 54 29.6	-3.6
	comp=Z,0.5nm,0.9s,baz=234,slow=5.5,SNR=2.7						
TORD	Torodi Ar. Bea	150.75	290	PKPbc	PKPdf	19 02 09.3	+3.0
	comp=Z,0.7nm,0.9s,baz=77,slow=2.0,SNR=5.2						

IDC 07 18:47:50.4±5.3, 35°.15S×176°.05E, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.8/30, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=111.5km s-min=29.6km az=57.0
WEL 07 18:47:57.7, 36°S±8°×17°8E±1°2, h248km±9km, M3.9/27, MLv3.9/27, Error ellipse: s-maj=0.0km s-min=0.0km az=82.0
ISC 07 18:47:59.5±1.5, 36°.3S±0°.1×178°.2E±0°.1, h244km±9km, n41, σ1s.16/59, mb3.5/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.26	177	P	Pn	18 48 35.5	0.0
MXZ				S	S	18 49 01.9	-2.0
HAZ	Te Kaha	1.50	194	P	Pn	18 48 36.6	-0.6
HAZ				S	S	18 49 04.7	-2.2
WMGZ	Waiomatatini S	1.52	175	P	Pn	18 48 38.0	+0.6
WMGZ				S	S	18 49 06.6	-0.7
PKGZ	Pakihiroa	1.59	184	P	Pn	18 48 38.2	+0.2
PKGZ				S	S	18 49 07.0	-1.3
RUGZ	Raukumara Rang	1.72	195	P	Pn	18 48 38.6	-0.5
PUZ	Puketiti	1.77	179	P	Pn	18 48 39.7	+0.3
PUZ				S	S	18 49 10.3	-0.7
TWGZ	Tauwhareparae	1.89	186	P	Pn	18 48 41.6	+1.2
TWGZ				S	S	18 49 13.0	+0.2
OPRZ	Ohinepanea	2.04	221	P	Pn	18 48 42.7	+0.8
URZ	Urewera	2.15	204	Pn	Pn	18 48 42.5	-0.3
	10nm,0.3s,baz=254,slow=4.6,SNR=118						
URZ				Sn	S	18 49 14.6	-2.5
	18nm,0.3s,baz=28,slow=24,SNR=16						
URZ	Urewera	2.15	204	P	Pn	18 48 42.6	-0.2
URZ				S	S	18 49 15.4	-1.7
CNGZ	Carnagh Statio	2.18	180	P	Pn	18 48 44.5	+1.4
RAGZ	Rawiri	2.29	196	P	Pn	18 48 45.2	+1.0
KMRZ	Kaimai	2.40	229	P	Pn	18 48 49.6	+4.3
RIGZ	Rimuhau	2.43	189	P	Pn	18 48 46.4	+0.8
RIGZ				S	S	18 49 23.0	+0.9
MUGZ	Murupara	2.47	208	P	Pn	18 48 46.3	+0.3
SNGZ	Shannon Statio	2.58	196	P	Pn	18 48 48.3	+1.2
TOZ	Tahuroa Road	2.61	236	P	Pn	18 48 46.5	-0.9
PRGZ	Paritu Road	2.63	186	P	Pn	18 48 48.6	+0.9
PRGZ				S	S	18 49 24.6	-1.2
KNZ	Kokohu	2.75	189	P	Pn	18 48 49.5	+0.6
KNZ				S	S	18 49 28.7	+0.7
RAHZ	Arahi	2.77	199	P	Pn	18 48 49.7	+0.6
RAHZ				S	S	18 49 28.8	+0.5
MHGZ	Mahia Peninsul	2.86	185	P	Pn	18 48 51.3	+1.2
MHGZ				S	S	18 49 30.9	+0.8
WHHZ	Waihua	2.88	196	P	Pn	18 48 51.1	+0.8
WHHZ				S	S	18 49 32.0	+1.5
KUTZ	Kaahu Road	2.91	221	P	Pn	18 48 51.5	+0.9
NMHZ	Naumai	3.01	202	P	Pn	18 48 52.6	+0.8
ARHZ	Aropaoanui	3.12	198	P	Pn	18 48 53.5	+0.6
BKZ	Black Stump Fm	3.18	205	P	Pn	18 48 53.6	0.0
BKZ				S	S	18 49 36.2	-0.2
MCHZ	McNeill Hill	3.37	201	P	Pn	18 48 56.6	+0.9
MCHZ				S	S	18 49 41.4	+1.2
CKHZ	Cape Kidnapper	3.48	195	P	Pn	18 48 57.4	+0.6
CKHZ				S	S	18 49 42.7	+0.3
HIZ	Hauiti	3.48	230	P	Pn	18 48 58.4	+1.5
TWVZ	Taurewa	3.54	218	P	Pn	18 48 58.1	+0.3
KRHZ	Kereru	3.65	203	P	Pn	18 48 58.4	-0.5
KRHZ				S	S	18 49 45.4	-0.6
KAHZ	Kahuranaki	3.65	197	P	Pn	18 48 59.5	+0.5
MOVZ	Moawhango	3.67	212	P	Pn	18 48 58.5	-0.7
WNVZ	Wahianoa	3.67	214	P	Pn	18 48 59.0	-0.3
PXZ	Pawanui	3.88	196	P	Pn	18 49 01.6	+0.1
PNHZ	Pukenui	3.95	203	P	Pn	18 49 01.9	-0.5
TSZ	Takapari Road	4.16	205	P	Pn	18 49 03.9	-1.0
RPZ	Rata Peaks	9.22	214	Pn	Pn	18 50 05.9	-2.4
	1.0nm,0.3s,baz=80,slow=14,SNR=1.2						
RPZ				Sn	S	18 51 44.9	-7.4
	0.6nm,0.3s,baz=106,slow=22,SNR=2.9						
STKA	Stephens Creek	30.54	268	P	P	18 53 50.9	+0.5
	1.0nm,1.0s,baz=95,slow=11,SNR=1.5						
ASAR	Alice Springs	40.08	276	P	P	18 55 11.9	+0.3
	1.1nm,0.5s,baz=120,slow=8.1,SNR=34						
WRA	Warramunga Arr	41.62	281	P	P	18 55 23.9	-0.3
	0.9nm,0.5s,baz=122,slow=7.8,SNR=17						

IDC 07 19:03:54.5±3.5, 15°.55N×146°.78E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/37, mbtmp3.7/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/33, Error ellipse: s-maj=188.7km s-min=28.1km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	12.26	340	LR	LR	19 10 36.6	
	comp=Z,398nm,21.8s,baz=88,slow=33						
H11S3	WAKE ISLAND Hy	19.26	78	T	T	19 29 24.9	
	baz=275						
H11S1	WAKE ISLAND Hy	19.27	78	T	T	19 29 25.6	
	baz=275						
H11S2	WAKE ISLAND Hy	19.27	78	T	T	19 29 25.6	
	baz=275						
H11N1	WAKE ISLAND Hy	19.61	75	T	T	19 29 33.3	
	baz=266						
H11N2	WAKE ISLAND Hy	19.61	75	T	T	19 29 35.5	
	baz=266						
H11N3	WAKE ISLAND Hy	19.62	75	T	T	19 29 34.4	
	baz=266						
KLR	Kul'dur	35.77	343	P	P	19 10 55.3	+0.1
	0.2nm,0.3s,baz=320,slow=11,SNR=1.7						
WRA	Warramunga Arr	37.33	200	P	P	19 11 09.2	+0.5
	1.3nm,0.5s,baz=22,slow=8.6,SNR=31						
ASAR	Alice Springs	40.95	198	P	P	19 11 38.4	-0.7
	0.3nm,0.4s,baz=15,slow=7.7,SNR=10						
STKA	Stephens Creek	47.41	186	P	P	19 12 30.5	-0.3
	0.3nm,0.3s,baz=351,slow=7.5,SNR=1.2						

INET 07 19:41:51.2, 12°.09N×87°.14W, h46km, MW3.6
SNET 07 19:41:51.0±1.1, 12°.12N×87°.38W, h20km±9km, ML3.8
UCR 07 19:41:55.6±1.6, 11°.67N×87°.04W, h35km±482km, MW3.6
ISC 07 19:41:50.7±1.4, 12°.0N±0°.1×87°.3W±0°.1, h48km, n28, σ1s.08/20, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	1.37	339	*e*S	Sn	19 42 30.9	+0.3
LCND	La Caada	1.42	337	*e*S	Sn	19 42 30.7	-1.0
LCY	Lacayo	1.71	326	*e*P	Pn	19 42 18.7	+0.5
PACA	Pacayal	1.76	326	*e*P	Pn	19 42 19.6	+0.7
PACA				*e*S	Sn	19 42 40.6	+0.3
PACA				IAML		19 42 43.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,900nm,0.2s						
ALJI	Alcalda de J	1.80	317	eP	Pn	19 42 18.5	-0.8
ALJI				eS	Sn	19 42 41.0	-0.1
TECA	Tecapa	1.89	322	eP	Pn	19 42 20.3	-0.4
COEB	Comit de Eme	1.91	322	eS	Sn	19 42 44.0	+0.3
COEB				IAML		19 42 47.4	
	comp=Z,1μm,0.3s						
PQSS	Presa 15 de Se	2.02	323	IAML		19 42 50.9	
	comp=Z,382nm,0.2s						
TGUH	Tegucigalpa,Un	2.05	1	eP	Pn	19 42 22.3	-0.6
HZTE	Horizontes, Gu	2.12	127	eP	Pn	19 42 22.6	-1.1
COEG	Centro de Oper	2.22	317	eP	Pn	19 42 24.8	-0.4
COEG				eS	Sn	19 42 51.9	+0.4
COEG				IAML		19 42 58.1	
	comp=Z,1μm,0.2s						
LFRS	El Faro	2.35	314	eP	Pn	19 42 27.5	+0.6
ORTG	Ortega, Santa	2.44	131	eP	Pn	19 42 27.5	-0.7
GUAI	GUAI	2.47	134	i P	Pn	19 42 27.9	-0.6
SAJU	San Juanillo,	2.48	140	eP	Pn	19 42 27.5	-1.2
PLVR	Palo Verde	2.53	130	eP	Pn	19 42 28.1	-1.4
PLVR				eS	Sn	19 42 56.6	-2.7
DUNO	Dulce Nombre,	2.62	137	eP	Pn	19 42 30.1	-0.4
PTEN	Parque Tenorio	2.62	119	i P	Pn	19 42 28.7	-1.9
GRZA	Playa Garza	2.65	141	eP	Pn	19 42 29.9	-1.0
JAYA	Jayaque - finc	2.65	309	eS	Sn	19 43 01.9	-0.4
JTS	Las Juntas de	2.87	126	eP	Pn	19 42 34.2	+0.1
ARE1	Arenal 1	2.97	121	eP	Pn	19 42 35.3	-0.1
LAFE	Finca La Fe, P	3.21	132	eP	Pn	19 42 37.6	-1.1
LCR2	La Lucha 2	3.95	124	eP	Pn	19 42 49.2	+0.1
VTUC	Crater, Volcan	4.00	119	eP	Pn	19 42 52.0	+2.0
CVTR	Volcan Turrial	4.01	119	eP	Pn	19 42 52.1	+2.1
RIMA	Rio Macho	4.05	123	eP	Pn	19 42 49.6	-0.8
CDM	Cerro de Muert	4.25	124	eP	Pn	19 42 53.9	+0.5

IDC 07 19:42:10.3±1.7, 54.°24N×35.°28W, h0km, mb3.2/5, mb1 3.5/5, mb1mx3.2/58, mbtmp3.2/5, Error ellipse: s-maj=69.2km s-min=26.9km az=23.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	25.60	112	P	P	19 47 41.4	+0.4
	0.3nm,0.7s,baz=322,slow=8.1,SNR=1.8						
YKA	Yellowknife Ar	39.87	315	P	P	19 49 44.8	-0.4
	0.3nm,0.7s,baz=65,slow=9.5,SNR=3.8						
PDAR	Pinedale Array	48.33	288	P	P	19 50 52.9	-0.7
	0.1nm,0.4s,baz=54,slow=7.7,SNR=2.0						
ILAR	Eielson Array	50.29	329	P	P	19 51 09.0	+1.1
	0.3nm,0.8s,baz=33,slow=6.9,SNR=2.4						
MKAR	Makanchi Array	66.32	42	P	P	19 52 59.6	-0.7
	0.1nm,0.5s,baz=350,slow=5.7,SNR=1.6						
ASAR	Alice Springs	148.40	19	PKPbc	PKPbc	20 01 58.0	-0.6
	1.1nm,0.6s,baz=351,slow=2.2,SNR=18						

*KRSC **07** 19:44:50.2±1.9, 48.°32N×155.°16E, h88km±30km, ML5.1*
*MOS **07** 19:44:51.4±1.0, 48.°39N×154.°86E, h44km, mb5.0/30, Error ellipse: s-maj=6.4km s-min=2.9km az=77.5*
*BJI **07** 19:44:51.0±0.0, 48.°40N×155.°09E, h62km, mB5.0/36, mb4.7/53, Ms4.2/15, Ms7 4.0/21*
*SKHL **07** 19:44:51.4±0.5, 48.°20N×155.°20E, h59km±1km, mb5.2/13, ms4.1/6*
*NEIC **07** 19:44:52.3±1.0, 48.°35N±0.°09×154.°8E±0.°1, h35km±1km, mb4.7/119, Error ellipse: s-maj=17.7km s-min=11.2km az=137.0*
*IDC **07** 19:44:52.2±0.5, 48.°42N×154.°71E, h35km±4km, mb4.2/38, mb1 4.3/41, mb1mx4.3/56, mbtmp4.4/41, ML4.2/3, MS3.8/21, Ms1 3.9/21, ms1mx3.6/50, Error ellipse: s-maj=12.8km s-min=9.1km az=140.0*
*BGR **07** 19:44:59.5±0.0, 49.°63N×155.°23E, h33km, mb4.9*
ISC 07 19:44:53.5±0.7, 48.°37N±0.°05×154.°97E±0.°04, h49km±5km, n543, σ1.°09/539, mb4.8/169, MS4.0/21, 16C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.44	17	ePN	Pn	19 45 30.0	-0.7
SKR				eS	Sn	19 45 58.5	-0.8
SKR				pmax	pmax		
	comp=Z,172nm,0.6s						
SKR				smax	smax		
	comp=E,2μm,0.4s						
SKR				smax	smax		
	comp=N,2μm,0.6s						
SKR	Severo-Kuril's	2.44	17	eP	Pn	19 45 30.1	-0.7
SKR				eS	Sn	19 45 58.3	-1.0
SKR	Severo-Kuril's	2.44	17	eP	Pn	19 45 30.0	-0.7
SKR				AMB	AMB	19 45 31.4	
	comp=N,170nm,0.6s						
SKR				eS	Sn	19 45 58.5	-0.8
SKR				A	A	19 46 02.9	
	comp=N,2μm,0.5s						
SKR				A	A	19 46 02.9	
	comp=N,2μm,0.5s						
SKR				AMS	AMS	19 46 29.4	
	comp=N,2μm,12.0s						
SKR				AMS	AMS	19 46 29.4	
	comp=N,2μm,12.0s						
SKR				AMS	AMS	19 46 29.4	
	comp=N,1μm,12.0s						
ALID	Alaid	2.53	8	PN	Pn	19 45 32.0	-0.2
ALID	Alaid	2.53	8	eP	Pn	19 45 32.0	-0.2
PAU	Pauzhetka	3.32	20	PN	Pn	19 45 42.6	-0.3
PAU				S	Sn	19 46 21.1	0.0
PAU	Pauzhetka	3.32	20	eP	Pn	19 45 42.6	-0.3
PAU				eS	Sn	19 46 21.1	0.0
PAU	Pauzhetka	3.32	20	eP	Pn	19 45 42.6	-0.3
PAU				AMB	AMB	19 45 45.0	
	comp=N,250nm,0.5s						
PAU				eS	Sn	19 46 21.2	+0.1
PAU				A	A	19 46 29.2	
	comp=N,2μm,0.5s						
PAU				A	A	19 46 29.2	
	comp=N,2μm,0.5s						
PAU				AMS	AMS	19 47 11.0	
	comp=N,2μm,14.0s						
PAU				AMS	AMS	19 47 11.0	
	comp=N,3μm,14.0s						
PAU				AMS	AMS	19 47 11.0	
	comp=N,2μm,14.0s						
KDTR	Khodutka, Kamc	3.98	29	PN	Pn	19 45 51.1	-0.9
KDTR	Khodutka, Kamc	3.98	29	eP	Pn	19 45 51.1	-0.9
KDTR				eS	Sn	19 46 34.6	-2.7
MIPR	Malaya Ipel'ka	4.08	16	PN	Pn	19 45 53.3	0.0
MIPR	Malaya Ipel'ka	4.08	16	eP	Pn	19 45 53.3	0.0
ASAK	Asacha	4.44	24	PN	Pn	19 45 58.6	+0.3
ASAK				S	Sn	19 46 48.3	-0.3
ASAK	Asacha	4.44	24	eP	Pn	19 45 58.6	+0.3
ASAK				eS	Sn	19 46 48.3	-0.3
MTVR	Mutnovka	4.61	25	PN	Pn	19 46 00.8	+0.2
MTVR				S	Sn	19 46 52.6	-0.2
MTVR	Mutnovka	4.61	25	eP	Pn	19 46 00.8	+0.2
MTVR				eS	Sn	19 46 52.6	-0.2
GRL	Gorelyy	4.64	24	PN	Pn	19 46 01.5	+0.5
GRL				S	Sn	19 46 53.6	0.0
GRL	Gorelyy	4.64	24	eP	Pn	19 46 01.5	+0.5
GRL				eS	Sn	19 46 53.6	0.0
RUS	Russkaya	4.66	28	PN	Pn	19 46 00.1	-1.1
RUS	Russkaya	4.66	28	eP	Pn	19 46 00.1	-1.1
RUS				eS	Sn	19 46 51.5	-2.4
APC	Apacha	4.77	16	PN	Pn	19 46 03.8	+1.1
APC				S	Sn	19 46 56.7	0.0
APC	Apacha	4.77	16	eP	Pn	19 46 03.8	+1.1
APC				eS	Sn	19 46 56.7	0.0
KRMR	Karymshinskiy	4.90	23	PN	Pn	19 46 05.6	+1.1
KRMR	Karymshinskiy	4.90	23	eP	Pn	19 46 05.6	+1.1
KRMR				eS	Sn	19 46 59.0	-0.9
PEA0B	Petropavlovsk-	5.05	19c	ePN	Pn	19 46 08.0	+1.3
PEA0B	Petropavlovsk-	5.05	19	Pn	Pn	19 46 07.9	+1.3
PETK	Petropavlovsk-	5.05	19	Pn	Pn	19 46 07.7	+1.1
	comp=N,7.6nm,0.3s,baz=168,slow=12,SNR=395						
PETK				Sn	Sn	19 47 16.9	+13
	comp=N,3.0nm,0.3s,baz=194,slow=36,SNR=1.2						
PETK				LR	LR	19 48 25.5	
	comp=N,971nm,18.3s,baz=178,slow=42						
PET	Petropavlovsk	5.22	25	ePN	Pn	19 46 08.6	-0.3
PET				pmax	pmax		
	comp=Z,129nm,0.6s						
PET	Petropavlovsk	5.22	25	eP	Pn	19 46 07.4	-1.4
PET				eS	Sn	19 47 04.8	-2.8
PET	Petropavlovsk	5.22	25		Pn	19 46 08.6	-0.3
PET	Petropavlovsk	5.22	25	eP	Pn	19 46 08.9	+0.1
PET				AMB	AMB	19 46 22.4	
	comp=Z,130nm,0.6s						
PET				eS	Sn	19 47 07.2	-0.4
PET				A	A	19 47 30.1	
	comp=Z,580nm,0.8s						
PET				A	A	19 47 30.1	
	comp=Z,660nm,0.8s						
PET				AMS	AMS	19 48 07.9	
	comp=Z,600nm,16.0s						
DALK	Dalny	5.25	26	PN	Pn	19 46 08.8	-0.5
DALK	Dalny	5.25	26	eP	Pn	19 46 08.8	-0.5
DALK				eS	Sn	19 47 08.2	-0.3
UGLR	Uglovaya	5.43	25	PN	Pn	19 46 12.7	+0.8
UGLR	Uglovaya	5.43	25	eP	Pn	19 46 12.7	+0.8
KOK	Koryaka	5.45	24	PN	Pn	19 46 13.0	+0.8
KOK	Koryaka	5.45	24	eP	Pn	19 46 13.0	+0.8
KOK	Koryaka	5.45	24	eP	Pn	19 46 13.0	+0.8
AVH	Avacha	5.46	25	PN	Pn	19 46 12.8	+0.6
AVH	Avacha	5.46	25	eP	Pn	19 46 12.8	+0.6
AVH				eS	Sn	19 47 11.9	-1.7
SMAR	Somma	5.47	25	PN	Pn	19 46 12.9	+0.4
SMAR	Somma	5.47	25	eP	Pn	19 46 12.9	+0.4
KRER	Koryakskii	5.49	24	PN	Pn	19 46 13.3	+0.5
KRER	Koryakskii	5.49	24	eP	Pn	19 46 13.3	+0.5
SDLR	Sedlovina	5.51	25	PN	Pn	19 46 12.7	-0.3
SDLR	Sedlovina	5.51	25	eP	Pn	19 46 12.7	-0.3
SDLR				eS	Sn	19 47 13.5	-1.5
KRX	Arik	5.51	24	PN	Pn	19 46 13.5	+0.4
KRX	Arik	5.51	24	eP	Pn	19 46 13.5	+0.4
NLC	Nalytchevo	5.55	28	PN	Pn	19 46 11.7	-1.7
NLC	Nalytchevo	5.55	28	eP	Pn	19 46 11.7	-1.7
NLC				eS	Sn	19 47 12.3	-3.6
GNL	Ganaly	5.66	18	PN	Pn	19 46 15.8	+0.8
GNL	Ganaly	5.66	18	eP	Pn	19 46 15.8	+0.8
SPN	Mys Shipunski	5.72	32	PN	Pn	19 46 14.9	-0.9
SPN	Mys Shipunski	5.72	32	eP	Pn	19 46 14.9	-0.9
SPN				eS	Sn	19 47 17.0	-3.0
KUR	Kuril'sk	5.79	240c	iPN	Pn	19 46 18.1	+1.3
KUR				i S	Sn	19 47 23.8	+1.9
KUR				pmax	pmax		
	comp=E,47nm,0.8s						
KUR				pmax	pmax		
	comp=Z,287nm,0.8s						
KUR				pmax	pmax		
	comp=N,76nm,0.3s						
KUR				smax	smax		
	comp=E,188nm,0.9s						
KUR				smax	smax		
	comp=N,141nm,0.7s						
KUR	Kuril'sk	5.79	240	eP	Pn	19 46 18.2	+1.4
KUR				AMB	AMB	19 46 19.3	
	comp=N,290nm,0.8s						
KUR				eS	Sn	19 47 21.9	0.0
KUR				A	A	19 47 33.7	
	comp=N,200nm,0.5s						
KUR				A	A	19 47 33.7	
	comp=N,350nm,0.5s						
KUR				AMS	AMS	19 48 10.0	
	comp=N,1μm,13.0s						
KUR				AMS	AMS	19 48 10.0	
	comp=N,1μm,13.0s						
KII	Karymskiy	6.34	25	PN	Pn	19 46 24.7	+0.4
KII	Karymskiy	6.34	25	eP	Pn	19 46 24.7	+0.4
MKZ	Mys Kozlova	7.50	32	PN	Pn	19 46 37.7	-2.4
MKZ	Mys Kozlova	7.50	32	eP	Pn	19 46 37.7	-2.4
KZV	Kizimen	7.52	24	PN	Pn	19 46 40.0	-0.5
KZV	Kizimen	7.52	24	eP	Pn	19 46 40.0	-0.5
TUMD	Tumrok D	7.63	24	eP	Pn	19 46 42.3	+0.4
TUMR	Tumrok	7.63	23	PN	Pn	19 46 42.9	+0.9
TUMR	Tumrok	7.63	23	eP	Pn	19 46 42.9	+0.9
YUK	Yuzh-Kuril'sk	7.66	239	ePN	Pn	19 46 40.8	-1.5
YUK				pmax	pmax		
	comp=Z,250nm,0.4s						
YUK	Yuzh-Kuril'sk	7.66	239	eP	Pn	19 46 41.7	-0.6
YUK				AMB	AMB	19 46 42.0	
	comp=Z,250nm,0.4s						
YUK				eS	Sn	19 48 05.8	-1.9
YUK				A	A	19 48 11.8	
	comp=Z,130nm,0.5s						
YUK				A	A	19 48 11.8	
	comp=Z,190nm,0.5s						
YUK				AMS	AMS	19 49 18.0	
	comp=Z,810nm,17.0s						
YUK				AMS	AMS	19 49 18.0	
	comp=Z,770nm,17.0s						
YUK				AMS	AMS	19 49 18.0	
	comp=Z,710nm,17.0s						
GRPR	Tuman	7.74	239	ePN	Pn	19 46 42.6	-0.8
GRPR				pmax	pmax		
	comp=Z,191nm,0.4s						
GRPR	Tuman	7.74	239	eP	Pn	19 46 43.0	-0.4
GRPR				AMB	AMB	19 46 43.0	
	comp=Z,190nm,0.4s						
GRPR				eS	Sn	19 48 06.7	-2.9
ESO	Esso	7.91	15	PN	Pn	19 46 46.2	+0.4
ESO	Esso	7.91	15	P	Pn	19 46 46.2	+0.4
RUSJ	Misakicho	7.97	241	ePN	Pn	19 46 46.4	-0.2
KMNR	Kamenistaya	8.08	22	PN	Pn	19 46 48.7	+0.5
KMNR	Kamenistaya	8.08	22	P	Pn	19 46 48.7	+0.5
JRA	Rausu	8.14	241	P	Pn	19 46 48.9	-0.1
NEM2	Nemuro 2	8.15	236	P	Pn	19 46 46.2	-2.9
NEM2				eS	Sn	19 48 12.2	-7.5
NMR	Nemuro--Hokkai	8.15	236⇓	iPN	Pn	19 46 46.1	-3.0
NMR	Nemuro--Hokkai	8.15	236	i P	Pn	19 46 46.2	-2.9
NMR				i S	Sn	19 48 14.2	-5.6
YSS	Yuzh-Sakhalins	8.37	265	ePN	Pn	19 46 53.3	+1.3
YSS				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS	Yuzh-Sakhalins	8.37	265	Pn	Pn	19 46 51.0	-1.0
YSS	Yuzh-Sakhalins	8.37	265	eP	Pn	19 46 53.3	+1.3
YSS				AMB	AMB	19 46 57.7	
	comp=Z,60nm,0.6s						
YSS				eS	Sn	19 48 24.0	-1.0
YSS				A	A	19 48 30.2	
	comp=Z,30nm,1.0s						
YSS				AMS	AMS	19 50 25.0	
	comp=Z,400nm,18.0s						
TYV	Tymovskoe	8.38	292	ePN	Pn	19 46 54.5	+2.4
TYV				pmax	pmax		
	comp=Z,200nm,4.9s						
TYV				pmax	pmax		
	comp=Z,39nm,1.0s						
TYV	Tymovskoe	8.38	292	eP	Pn	19 46 54.0	+1.9
TYV				AMB	AMB	19 46 57.4	
	comp=Z,40nm,0.8s						
TYV				eS	Sn	19 48 25.2	0.0
TYV				A	A	19 48 25.6	
	comp=Z,10.0nm,2.0s						
TYV				AMS	AMS	19 49 57.7	
	comp=Z,800nm,17.0s						
SRDR	Sredinnyy	8.47	18	PN	Pn	19 46 52.4	-1.1
SRDR	Sredinnyy	8.47	18	eP	Pn	19 46 52.4	-1.1
UGL	Uglegorsk	8.56	280	ePN	Pn	19 46 56.8	+2.1
UGL				pmax	pmax		
	comp=Z,116nm,0.7s						
UGL				MLR	MLR		
	comp=N,600nm,15.0s						
UGL				MLR	MLR		
	comp=E,600nm,15.0s						
UGL	Uglegorsk	8.56	280	eP	Pn	19 46 56.2	+1.5
UGL				AMB	AMB	19 46 57.9	
	comp=E,120nm,0.7s						
UGL				eS	Sn	19 48 29.0	-0.8
UGL				AMS	AMS	19 50 20.1	
	comp=E,600nm,18.0s						
UGL				AMS	AMS	19 50 20.1	
	comp=E,600nm,18.0s						
UGL				AMS	AMS	19 50 20.1	
	comp=E,2μm,18.0s						
JNK	Nakash	8.59	240	P	Pn	19 46 54.2	-0.9
JNK				eS	Sn	19 48 27.2	-3.3
JTKR	Abashiri--Toko	8.84	244	P	Pn	19 46 58.9	+0.4
JAK	Akkeshi	8.97	237	P	Pn	19 46 57.3	-3.0
JAK				eS	Sn	19 48 32.0	-7.8
SRKR	Sorokina	9.12	22	PN	Pn	19 47 01.7	-0.6
SRKR	Sorokina	9.12	22	eP	Pn	19 47 01.7	-0.6
SMKR	Semkarok	9.13	23	PN	Pn	19 47 03.2	+0.7
SMKR	Semkarok	9.13	23	eP	Pn	19 47 03.2	+0.7
JMP	Maruseppu	9.15	246	P	Pn	19 47 03.5	+0.6
JSE	Soyaes	9.17	253	P	Pn	19 47 04.8	+1.8
OKH	Okha	9.19	309	eP	Pn	19 47 07.0	+3.7
OKH				eS	Sn	19 48 48.0	+2.8
OKH				A	A	19 49 07.8	
	comp=E,100nm,17.0s						
OKH				AMS	AMS	19 51 14.5	
	comp=E,300nm,18.0s						
OKH				AMS	AMS	19 51 14.5	
	comp=E,500nm,18.0s						
OKH				AMS	AMS	19 51 14.5	
	comp=E,400nm,18.0s						
KBTR	Krutoberegovo	9.20	29	PN	Pn	19 47 02.6	-0.8
KBTR	Krutoberegovo	9.20	29	eP	Pn	19 47 02.6	-0.8
KBTR				S	Sn	19 48 42.7	-2.8
KBG	Krutoberegovo	9.21	28	PN	Pn	19 47 03.9	+0.5
KBG	Krutoberegovo	9.21	28	P	Pn	19 47 03.9	+0.5
JAR	Ashorobuto	9.31	241	P	Pn	19 47 04.4	-0.6
JAR				eS	Sn	19 48 46.0	-2.3
JWK2	Keihoku	9.46	256	P	Pn	19 47 11.2	+4.2
JOB	Onbets	9.52	239	P	Pn	19 47 06.0	-1.8
ASAJ	Asahikawa	9.56	248	Pn	Pn	19 47 10.5	+2.1
	comp=E,4.7nm,0.3s,baz=66,slow=14,SNR=64						
ASAJ				LR	LR	19 50 34.9	
	comp=E,460nm,18.8s,baz=65,slow=36						
ASAJ	Asahikawa	9.56	248	P	Pn	19 47 10.7	+2.3
JKK2	Kamakawa 2	9.60	247	P	Pn	19 47 10.0	+1.1
BKI	Bering	9.65	41	PN	Pn	19 47 08.6	-1.0
BKI	Bering	9.65	41	eP	Pn	19 47 08.6	-1.0
BKI				eS	Sn	19 48 46.0	-10
JCH	Churui	9.97	239	P	Pn	19 47 11.5	-2.5
JCH				eS	Sn	19 48 56.4	-7.9
JFR	Furan	10.09	244	P	Pn	19 47 15.4	-0.2
JAB	Ashibetsu	10.12	246	P	Pn	19 47 17.2	+1.2
NKL	Nikolayevsk	10.23	303	eP	Pn	19 47 19.2	+1.7
NKL				AMB	AMB	19 47 21.9	
	comp=E,70nm,0.8s						
JBT2	Biratori 2	10.45	242	P	Pn	19 47 18.2	-2.3
ERM	Erimo	10.47	237	i PN	Pn	19 47 19.0	-1.9
ERM	Erimo	10.47	237	Pn	Pn	19 47 18.9	-1.9
JNBK	Urakawa-nobuka	10.53	239	P	Pn	19 47 17.5	-4.1
JNBK				eS	Sn	19 49 06.2	-12
JEW	Eniwo	10.96	245	P	Pn	19 47 26.7	-0.8
PALN	Palana	11.14	13	PN	Pn	19 47 28.8	-1.0
PALN	Palana	11.14	13	P	Pn	19 47 28.8	-1.0
JNB	Noboribetsu	11.42	244	P	Pn	19 47 31.2	-2.6
MA2	Magadan	11.50	349c	ePN	Pn	19 47 35.2	+0.5
MA2				pmax	pmax		
	comp=Z,18nm,1.3s						
MA2	Magadan	11.50	349	Pn	Pn	19 47 34.4	-0.3
MA2	Magadan	11.50	349	eP	Pn	19 47 35.2	+0.5
JKB	Kayabe	11.77	242	P	Pn	19 47 34.9	-3.7
JKB				eS	Sn	19 49 38.2	-10
JSH	Shimam	11.93	247	P	Pn	19 47 40.0	-0.7
JYM2	Yakumo 2	12.03	244	P	Pn	19 47 39.6	-2.5
JSR	Shiriuchi	12.36	242	P	Pn	19 47 42.6	-4.0
JTM	Tenmabayashi	12.46	238	P	Pn	19 47 42.6	-5.4
JTM				eS	Sn	19 49 51.8	-13
JANG	Nango	12.50	235	P	Pn	19 47 42.2	-6.3
JANG				eS	Sn	19 49 51.6	-15
JOSM	Okushiri--Mats	12.59	246	P	Pn	19 47 47.5	-2.2
OFUJ	Ofunato	13.35	231	P	Pn	19 47 54.2	-5.9
JRG	Rokugo	13.66	234	P	Pn	19 47 58.8	-5.7
JRG				eS	Sn	19 50 20.5	-14
SEY	Seymchan	14.67	355	i P	Pn	19 48 17.2	-0.5
SEY	Seymchan	14.67	355	eP	Pn	19 48 17.2	-0.5
EKMR	Ekimchan	14.70	297	eP	Pn	19 48 18.5	+0.3
EKMR				AMB	AMB	19 48 27.9	
	comp=Z,20nm,0.7s						
JYA	Atsumi	14.74	234	P	Pn	19 48 12.9	-5.9
KLR	Kul'dur	15.31	282	Pn	Pn	19 48 28.2	+1.9
	comp=Z,0.2nm,0.3s,baz=82,slow=12,SNR=14						
KLR				LR	LR	19 54 36.2	
	comp=Z,258nm,18.7s,baz=90,slow=39						
KLR	Kul'dur	15.31	282	i P	Pn	19 48 27.9	+1.7
KLR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KLR	Kul'dur	15.31	282	eP	Pn	19 48 26.7	+0.5
USA0B	Ussuriysk Arra	16.40	264	i P	Pn	19 48 41.6	+1.5
USA0B	Ussuriysk Arra	16.40	264	P	Pn	19 48 40.6	+0.5
USRK	Ussuriysk Ar.	16.40	264	Pn	Pn	19 48 40.0	-0.2
	baz=68,slow=14,SNR=17						
USRK				LR	LR	19 54 59.1	
	comp=Z,150nm,18.4s,baz=40,slow=37						
USRK	Ussuriysk Ar.	16.40	264	P	Pn	19 48 40.0	-0.2
MJAR	Matsushiro Arr	17.06	232	Pn	Pn	19 48 45.3	-3.2
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=30						
MJAR				LR	LR	19 55 32.9	
	comp=Z,94nm,20.5s,baz=60,slow=38						
MAJO	Matsushiro	17.06	232	P	Pn	19 48 44.6	-3.8
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s						
MAJO	Matsushiro	17.06	232	Pn	Pn	19 48 44.6	-3.8
MAT	Matsushiro	17.06	232	P	Pn	19 48 44.7	-3.7
MAT				eS	Sn	19 51 53.1	-4.0
BMKR	Bomnak	17.38	301	eP	Pn	19 48 51.0	-1.3
BMKR				AMB	AMB	19 48 58.7	
	comp=Z,10.0nm,0.8s						
MDJ	Mudanjiang	17.84	267	P	P	19 48 56.5	-1.7
MDJ				pP	Pn	19 49 05.0	+7.0
MDJ				S	Sn	19 52 15.9	+0.1
MDJ				pmax	pmax		
	comp=Z,15nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,88nm,6.4s						
MDJ				LR	LR		
	comp=Z,290nm,8.7s						
MDJ	Mudanjiang	17.84	267		P	19 48 56.8	-1.3
ZEA	Zeya	18.17	298	eP	Pn	19 49 05.0	+3.1
ZEA				pmax	pmax		
	comp=E,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,200nm,9.0s						
ZEA	Zeya	18.17	298	eP	Pn	19 49 05.0	+3.1
ZEA				AMB	AMB	19 49 11.5	
JGF	Kuroka	18.22	232	P	P	19 49 00.7	-1.8
KROS	Kirovskiy	18.41	300	eP	P	19 49 06.0	+1.6
KROS				AMB	AMB	19 49 08.0	
	comp=Z,10.0nm,1.0s						
INU	Inuyama	18.59	232	P	P	19 49 05.0	-1.5
JWT	Wachi	19.51	235	P	P	19 49 15.8	-0.7
YAK	Yakutsk	19.70	323	P	P	19 49 17.1	-1.3
	comp=Z,0.1nm,0.3s,baz=99,slow=1.4,SNR=11						
YAK	Yakutsk	19.70	323	eP	P	19 49 20.4	+2.0
YAK				eS	S	19 52 57.1	-0.6
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
YAK				smax	smax		
	comp=N,24nm,2.3s						
YAK	Yakutsk	19.70	323		P	19 49 20.1	+1.7
YAK				IAmb	IAmb	19 49 36.3	
	comp=Z,39nm,0.9s						
YAK	Yakutsk	19.70	323	eP	P	19 49 20.4	+2.0
CN2	Changchun	20.91	268	eP	P	19 49 28.8	-2.8
CN2				epP	pP	19 49 42.6	-0.1
CN2				esP	sP	19 49 50.1	+1.4
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
KSRS	Korea Array	22.50	251	P	P	19 49 48.4	-0.3
	comp=Z,24nm,0.9s,baz=49,slow=9.7,SNR=65						
KSRS				LR	LR	19 58 05.9	
	comp=Z,208nm,18.8s,baz=49,slow=36						
KS19	Wonju Array Si	22.50	251	P	P	19 49 47.9	-0.9
KS19				IAmb	IAmb	19 49 51.1	
	comp=Z,22nm,0.8s						
HIA	Hailar	23.09	286	P	P	19 49 53.3	-1.5
HIA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HIA	Hailar	23.09	286	P	P	19 49 53.3	-1.5
JCJ	Chichijima	23.46	210	P	P	19 49 59.4	+0.9
	comp=Z,122nm,1.0s,baz=327,slow=12,SNR=3.8						
TJN	Taejon	23.52	250c	eP	P	19 49 58.8	-0.1
JNU	Nakatsue	23.63	239	P	P	19 49 58.4	-1.8
	comp=Z,13nm,1.0s,baz=357,slow=12,SNR=5.0						
DL2	Dalian	25.74	261	P	P	19 50 21.7	+2.5
DL2				pmax	pmax		

comp=Z,32nm,0.8s
DL2 LR LR
comp=Z,210nm,15.3s
DL2 LR LR
comp=Z,230nm,14.3s
DL2 LR LR
comp=Z,220nm,18.0s
BOD Bodaibo 25.98 307 *e*P P 19 50 33.4 +12
BOD pmax pmax
comp=Z,7.0nm,1.3s
TIXI Tiksi 26.30 342⇓ *e*P **P** **19 50 24.0 +0.1**
TIXI Tiksi 26.30 342 P **P** **19 50 23.6 -0.4**
TIXI Tiksi 26.30 342 *e*P **P** **19 50 24.0 +0.1**
RDOG Red Dog Mine 28.78 32 P **P** **19 50 47.0 +0.8**
RDOG Red Dog Mine 28.78 32 P 19 50 47.3
baz=248
JOW Kunigami 29.90 234 P P 19 50 54.5 -2.0
comp=Z,14nm,0.7s,baz=77,slow=21,SNR=1.9
H11N2 WAKE ISLAND Hy 30.15 157 T T 20 22 50.2
baz=345,slow=76,SNR=456
H11N1 WAKE ISLAND Hy 30.17 157 T T 20 22 46.2
baz=345,slow=76,SNR=525
H11N3 WAKE ISLAND Hy 30.17 157 T T 20 22 49.6
baz=345,slow=76,SNR=238
H11S1 WAKE ISLAND Hy 31.27 158 T T 20 24 13.6
baz=345,slow=76,SNR=7999
H11S3 WAKE ISLAND Hy 31.28 158 T T 20 24 14.8
baz=345,slow=76,SNR=7621
H11S2 WAKE ISLAND Hy 31.29 158 T T 20 24 13.9
baz=345,slow=76,SNR=5166
ULN Ulaanbaatar 31.58 287⇑ *i*P **P** **19 51 09.6 -1.7**
ULN pmax pmax
comp=Z,1.0nm,0.5s
ULN Ulaanbaatar 31.58 287 P **P** **19 51 09.7 -1.7**
NJ2 Nanjing 31.68 252 *e*P **P** **19 51 10.8 -1.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
A21K Barrow 32.00 27 P **P** **19 51 15.0 +0.5**
SONM Songino Array 32.01 288 P P 19 51 12.3 -2.8
comp=Z,1.5nm,0.9s,baz=70,slow=8.8,SNR=11
SONM PcP **PcP** **19 54 03.0 -0.8**
comp=Z,1.3nm,0.8s,baz=121,slow=1.7,SNR=7.2
SONM LR LR 20 05 27.8
comp=Z,266nm,18.6s,baz=55,slow=39
PPLA Purkeypile 32.12 43 P **P** **19 51 17.2 +1.3**
PPLA IAmb IAmb 19 51 30.8
comp=Z,21nm,1.4s
BPAW Bear Paw Mtn. 32.71 41 P 19 51 20.7
baz=268
TRF Thorofare Moun 33.00 42 P 19 51 24.6
baz=269
COLD Coldfoot 33.29 35 P 19 51 27.1
baz=264
NEA2 Nenana 33.56 40 P 19 51 29.5
baz=269,SNR=5.4
TOLK Toolik Lake Re 33.71 33 P **P** **19 51 30.5 +0.9**
TOLK IAmb IAmb 19 51 31.1
comp=Z,5.2nm,0.7s
TOLK Toolik Lake Re 33.71 33 P 19 51 30.5
baz=262,SNR=5.9
WAT2 Susitna Watana 33.77 43 P 19 51 30.5
baz=271
MDM Murphy Dome 33.93 40 P **P** **19 51 32.3 +0.8**
MDM IAmb IAmb 19 51 33.7
comp=Z,7.0nm,0.9s
SML Sawmill 33.94 45 P **P** **19 51 32.3 +0.7**
SML pmax pmax
comp=Z,16nm,0.7s
SML Sawmill 33.94 45 P **P** **19 51 32.3 +0.7**
SML Sawmill 33.94 45 P 19 51 32.3
baz=273
WRH Wood River Hil 33.98 41 P **P** **19 51 33.0 +1.0**
WRH IAmb IAmb 19 51 36.2
comp=Z,9.2nm,1.2s
TCOL CIGO, UAF Yank 34.09 40 P 19 51 34.1
baz=269
COLA College 34.09 40⇓ *i*P **P** **19 51 33.7 +0.9**
COLA pmax pmax
comp=Z,11nm,0.8s
COLA College 34.09 40 P **P** **19 51 33.6 +0.7**
COLA College 34.09 40 P 19 51 34.2
baz=269
CCB Clear Creek Bu 34.11 40 P **P** **19 51 33.9 +0.9**
CCB IAmb IAmb 19 51 46.3
comp=Z,9.4nm,1.2s
POKR Poker Plat Res 34.27 39 P 19 51 35.6
baz=269,SNR=5.9
HDA Harding Lake 34.48 41 P **P** **19 51 36.9 +0.6**
HDA Harding Lake 34.48 41 P 19 51 36.9
baz=271
HDA P 19 51 36.9
baz=271
IL31 34.50 40 P **P** **19 51 37.0 +0.6**
IL31 IAmb IAmb 19 51 50.0
comp=Z,8.3nm,1.2s
ILAR Eielson Array 34.50 40 P **P** **19 51 37.0 +0.6**
comp=Z,2.4nm,0.7s,baz=254,slow=8.2,SNR=17
ILAR LR LR 20 08 23.1
comp=Z,66nm,18.7s,baz=262,slow=41
PRP Porcupine Dome 35.07 39 P **P** **19 51 42.2 +0.6**
PRP IAmb IAmb 19 51 43.7
comp=Z,7.7nm,0.9s
PRP Porcupine Dome 35.08 39 P 19 51 42.9
baz=270
WHN Wuhan 35.56 255⇑ P **P** **19 51 45.0 -0.9**
SCRK Sand Creek 35.79 41 P 19 51 48.0
baz=274
YULB Yu-li 36.48 239 P **P** **19 51 53.8 0.0**
K27K Chicken 36.62 41 P **P** **19 51 55.4 +0.8**
K27K IAmb IAmb 19 51 57.0
comp=Z,9.4nm,1.0s
K27K Chicken 36.62 41 P 19 51 55.5
baz=276
XAN Xi'an 36.91 264 P **P** **19 51 57.6 +0.1**
XAN sP pP 19 52 15.0 +4.9
XAN pmax pmax
comp=Z,8.0nm,0.6s
XAN LR LR
comp=Z,190nm,18.4s
XAN LR LR
comp=Z,250nm,19.5s
TPUB Ta-pu 36.93 240 P **P** **19 51 57.6 -0.1**
EGAK Eagle 36.95 40 P **P** **19 51 58.0 +0.6**
EGAK IAmb IAmb 19 51 58.8
comp=Z,9.0nm,0.9s
EGAK Eagle 36.95 40 P 19 51 57.9
baz=275,SNR=8.4
TWG Pinlang 37.05 239 P **P** **19 51 57.7 -1.0**
CTG Chitna Glacier 37.38 46 P 19 52 02.9
baz=280
ENH Enshi 38.90 259 P **P** **19 52 13.0 -1.2**
ENH IAmb IAmb 19 52 14.1
comp=Z,15nm,1.1s
INK Inuvik 39.61 34 P **P** **19 52 20.3 +0.6**
comp=Z,4.1nm,0.6s,baz=296,slow=6.4,SNR=18
INK Inuvik 39.61 34 P **P** **19 52 20.9 +1.2**
GTA Gaotai 39.97 278⇓ P **P** **19 52 22.6 -0.6**
GTA PcP **PcP** **19 54 27.8 +0.2**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,100nm,5.3s
GTA LR LR
comp=Z,140nm,15.3s
GTA LR LR
comp=Z,280nm,16.0s
GTA LR LR
comp=Z,250nm,16.7s
CD2 Chengdu 42.27 265 P **P** **19 52 41.9 -0.2**
CD2 pP pP 19 52 53.1 -2.0
CD2 S **S** **19 59 00.0 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,210nm,7.5s
CD2 LR LR
comp=Z,260nm,9.2s
ZALV Zalesovo Beam 42.70 305 P **P** **19 52 44.0 -1.2**
comp=Z,0.6nm,0.4s,baz=66,slow=6.1,SNR=4.7
ZALV PcP **PcP** **19 54 36.1 0.0**
comp=Z,2.0nm,0.7s,baz=88,slow=5.0,SNR=9.4
ZALV LR LR 20 10 37.3
comp=Z,161nm,18.4s,baz=37,slow=36
ZALV Zalesovo Beam 42.70 305 **P** **19 52 43.7 -1.5**
C36M Paulatuk 42.79 31 P **P** **19 52 46.9 +1.2**
C36M IAmb IAmb 19 52 48.1
comp=Z,26nm,1.4s
C36M Paulatuk 42.79 31 P 19 52 47.1
baz=284,SNR=12
DGZ Jazzator, Alta 42.93 298⇓ *e*P **P** **19 52 46.6 -0.8**
DGZ pmax pmax
comp=Z,5.0nm,1.0s
GYA Guiyang 43.29 257 ⇓P **P** **19 52 49.8 -0.7**
GYA pmax pmax
comp=Z,17nm,1.1s
GYA pmax pmax
comp=Z,140nm,4.3s
DLBC Dease Lake 43.57 47 P **P** **19 52 53.9 +1.6**
comp=Z,2.1nm,0.6s,baz=42,slow=11,SNR=5.1
DLBC Dease Lake 43.57 47 P **P** **19 52 54.2 +1.9**
WMQ Urumqi 45.52 291 *e*P **P** **19 53 08.1 +0.1**
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,490nm,7.9s
WMQ LR LR
comp=Z,160nm,18.9s
WMQ Urumqi 45.52 291 P **P** **19 53 07.4 -0.7**
WMQ pmax pmax
comp=Z,11nm,1.3s
WMQ Urumqi 45.52 291 P **P** **19 53 07.3 -0.7**
WMQ IAmb IAmb 19 53 08.3
comp=Z,11nm,1.3s
KMI Kunming 46.77 260⇑ P **P** **19 53 17.9 -0.3**
KMI pP pP 19 53 30.6 -0.8
KMI sP sP 19 53 40.4 +3.4
KMI pmax pmax
comp=Z,14nm,1.0s
KMI Kunming 46.77 260 P **P** **19 53 17.5 -0.7**
KMI pmax pmax
comp=Z,18nm,1.1s
KMI Kunming 46.77 260 P **P** **19 53 17.5 -0.7**
KMI IAmb IAmb 19 53 18.9
comp=Z,18nm,1.1s
EUNU Eureka 47.29 12 P **P** **19 53 22.1 +0.7**
MK31 Makanchi Array 47.32 297 *i* P **P** **19 53 20.7 -1.4**
MK31 Makanchi Array 47.32 297 P **P** **19 53 20.6 -1.5**
MKAR Makanchi Array 47.32 297 P **P** **19 53 20.4 -1.6**
comp=Z,3.1nm,0.7s,baz=64,slow=7.8,SNR=32
MKAR PcP **PcP** **19 54 51.5 -0.7**
comp=Z,1.1nm,0.9s,baz=69,slow=4.8,SNR=1.9
MKAR LR LR 20 14 40.3
comp=Z,159nm,18.1s,baz=8.0,slow=38
MKAR Makanchi Array 47.32 297 *i* P **P** **19 53 20.6 -1.5**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 47.32 297 P **P** **19 53 20.9 -1.2**
MAKZ Makanchi 47.50 297 P **P** **19 53 21.8 -1.7**
MAKZ pmax pmax
comp=Z,7.0nm,1.3s
MAKZ Makanchi 47.50 297 P **P** **19 53 21.8 -1.7**
KURK Kurchatov 47.52 303 P **P** **19 53 22.9 -0.6**
KURK 19 54 52.8
KURK Kurchatov 47.52 303 P **P** **19 53 22.9 -0.6**
KURK Kurchatov 47.52 303 *e*P **P** **19 53 22.9 -0.6**
KURBB Kurchatov Arra 47.62 303 P **P** **19 53 22.9 -1.3**
comp=Z,2.5nm,0.5s,baz=68,slow=8.5,SNR=37
KURBB PcP **PcP** **19 54 52.8 -0.4**
comp=Z,2.3nm,0.8s,baz=62,slow=3.5,SNR=6.4
YKA Yellowknife Ar 48.88 38 P **P** **19 53 35.0 +1.2**
comp=Z,6.1nm,0.9s,baz=298,slow=7.0,SNR=36
YKA LR LR 20 15 34.2
comp=Z,32nm,20.5s,baz=0.0,slow=38
YKA Yellowknife Ar 48.88 38 *i* P **P** **19 53 35.0 +1.2**
YKA pmax pmax
comp=Z,4.0nm,0.7s
RES Resolute Bay 48.90 19 P **P** **19 53 34.9 +1.1**
comp=Z,7.4nm,0.6s,baz=328,slow=11,SNR=30
RES Resolute Bay 48.90 19 P **P** **19 53 34.9 +1.1**
RES IAmb IAmb 19 53 35.7
comp=Z,15nm,1.1s
TDK Taldyqorghan 50.57 297 *e*P **P** **19 53 45.2 -1.7**
comp=Z,6.6nm,0.6s,baz=297
TDK Taldyqorghan 50.57 297 *e*P **P** **19 53 45.2 -1.7**
TDK pmax pmax
comp=Z,7.0nm,0.6s
BVAR Borovoye Array 50.81 309 P **P** **19 53 46.5 -2.1**
comp=Z,0.9nm,0.4s,baz=135,slow=32,SNR=18
BVAR PcP **PcP** **19 55 04.1 -0.7**
comp=Z,1.7nm,0.7s,baz=152,slow=9.8,SNR=6.2
BRVK Borovoye 50.84 309 *i* P **P** **19 53 49.4 +0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 50.84 309 P **P** **19 53 47.2 -1.7**
BRVK Borovoye 50.84 309 *e*P **P** **19 53 49.4 +0.5**
BRZS Berezniki 51.18 305 *e*P **P** **19 53 50.1 -1.3**
baz=305
BRZS Berezniki 51.18 305 *e*P **P** **19 53 50.1 -1.3**
KPKS Kokpek 51.25 295 *e*P **P** **19 53 50.5 -1.7**
baz=295
KPKS Kokpek 51.25 295 *e*P **P** **19 53 50.4 -1.7**
LSA Lhasa 51.44 273 P **P** **19 53 55.0 +0.8**
LSA pmax pmax
comp=Z,36nm,0.6s
LSA Lhasa 51.44 273 P **P** **19 53 54.5 +0.3**
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 51.44 273 P **P** **19 53 54.5 +0.3**
LSA IAmb IAmb 19 53 56.4
comp=Z,9.5nm,0.6s
NONG Nongkai 51.55 253 P **P** **19 53 56.5 +1.9**
comp=Z,14nm,1.2s
SATY Saty 51.64 295 *e*P **P** **19 53 53.2 -2.0**
baz=295
SATY Saty 51.64 295 *e*P **P** **19 53 53.2 -2.0**
CHKK Chushkaly 52.05 296 *e*P **P** **19 53 56.1 -2.0**
baz=296
CHKK Chushkaly 52.05 296 *e*P **P** **19 53 56.0 -2.0**
TULEG Thule 52.29 12 P **P** **19 53 59.0 -0.3**
TULEG IAmb IAmb 19 53 59.6
comp=Z,6.5nm,0.7s
TULEG Thule 52.29 12 *i* P **P** **19 53 59.3 0.0**
TULEG IAmb IAmb 19 53 59.9
comp=Z,6.0nm,0.7s
D03D Eldon 52.31 58 P 19 54 01.5
baz=304
MDOK Medeo 52.41 295 *e*P **P** **19 53 58.9 -2.0**
baz=295
MDOK Medeo 52.41 295 *e*P **P** **19 53 58.8 -2.0**
KUU Kurty 52.42 297 *e*P **P** **19 53 58.5 -2.3**
comp=Z,1.8nm,0.8s,baz=296
KUU Kurty 52.42 297 *e*P **P** **19 53 58.4 -2.3**
KUU pmax pmax
comp=Z,2.0nm,0.8s
UTTA Uttaradit 53.45 255 P **P** **19 54 10.1 +1.5**
comp=Z,9.1nm,0.8s
LAMP Lampang 53.47 256 P **P** **19 54 10.5 +1.7**
comp=Z,19nm,0.8s
SHL Shillong 53.66 269 P **P** **19 54 09.8 -0.6**
SHL pmax pmax
comp=Z,29nm,0.6s
SHL Shillong 53.66 269 P **P** **19 54 09.8 -0.6**
CMMT Chiang Mai 53.71 257 P **P** **19 54 09.9 -0.6**
comp=Z,9.2nm,0.9s
CHTO Chiang Mai 53.71 257 P **P** **19 54 10.6 +0.1**
CHTO pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 53.71 257 P **P** **19 54 10.6 +0.1**
CHTO IAmb IAmb 19 54 11.9
comp=Z,13nm,0.8s
LTY Liberty 53.83 57 P **P** **19 54 12.1 +1.0**
CHAI Chaiyaphum 53.90 252 P **P** **19 54 13.8 +1.9**
comp=Z,13nm,0.8s
CM31 Chiang Mai Arr 53.97 257 P **P** **19 54 13.6 +1.2**
comp=Z,252nm,0.8s
CM31 Chiang Mai Arr 53.97 257 P **P** **19 54 12.9 +0.5**
CM31 IAmb IAmb 19 54 14.1
comp=Z,10nm,0.9s
CMAR Chiang Mai Arr 53.97 257 P **P** **19 54 13.0 +0.6**
comp=Z,6.4nm,0.8s,baz=33,slow=7.2,SNR=45
CMAR PcP **PcP** **19 55 17.9 +0.7**
comp=Z,1.2nm,0.8s,baz=26,slow=2.3,SNR=2.4
CMAR LR LR 20 18 51.0
comp=Z,101nm,18.2s,baz=142,slow=38
CMAR Chiang Mai Arr 53.97 257 *i* P **P** **19 54 13.0 +0.6**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CMAR Chiang Mai Arr 53.97 257 P **P** **19 54 12.6 +0.2**
CM01 Chiang Mai Arr 53.98 257 P **P** **19 54 13.0 +0.5**
comp=Z,79nmcomp=Z,10nm,0.9s
CM04 Chiang Mai Arr 53.99 257 P **P** **19 54 13.8 +1.3**
comp=Z,88nmcomp=Z,9.7nm,0.9s
AAK Ala-Archa 54.24 296*ce*P **P** **19 54 13.4 -0.9**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 54.24 296 P **P** **19 54 13.5 -0.9**
AAK Ala-Archa 54.24 296 *e*P **P** **19 54 13.4 -0.9**
ARU Arti 54.67 317 P **P** **19 54 14.9 -2.1**
comp=Z,1.4nm,0.5s,baz=60,slow=3.4,SNR=6.7
ARU LR LR 20 20 59.6
comp=Z,182nm,19.8s,baz=23,slow=40
ARU Arti 54.67 317*d* *i*P **P** **19 54 17.1 +0.1**
ARU *PP **pP** **19 54 31.9 +1.6**
ARU 19 55 16.4
ARU 19 56 14.5
ARU S **S** **20 01 54.5 +1.3**
ARU SS **SS** **20 05 37.2 +1.4**
ARU pmax pmax
comp=Z,18nm,2.1s
ARU Arti 54.67 317 P **P** **19 54 16.8 -0.3**
ARU IAmb IAmb 19 54 19.2
comp=Z,5.6nm,0.7s
KSH Kashi 55.20 292 P **P** **19 54 24.2 +2.9**
KSH pmax pmax
comp=Z,5.0nm,1.0s
KSH pmax pmax
comp=Z,210nm,5.3s
TAPN Taplejung 55.26 273 *e*P **P** **19 54 22.0 -0.1**
comp=Z,12nm,0.5s
ODAN Odare 55.80 273 *e*P **P** **19 54 25.7 -0.2**
comp=Z,7.5nm,0.3s
J05D Fort Rock, OR 55.83 61 P 19 54 27.6
baz=307
GUN Gumba 56.11 275 *e*P **P** **19 54 27.8 -0.4**
comp=Z,14nm,0.5s
RAMN Ramite 56.26 274 *e*P **P** **19 54 28.8 -0.4**
comp=Z,25nm,0.5s
KKAR Karatay Array 56.32 299 P **P** **19 54 28.0 -1.1**
KKAR Karatay Array 56.32 299 P **P** **19 54 28.4 -0.7**
KKAR Karatay Array 56.32 299 P **P** **19 54 28.0 -1.1**
K05A Summer Lake 56.36 62 P **P** **19 54 31.2 +1.5**
K05A IAmb IAmb 19 54 34.2
comp=Z,16nm,1.5s
WALA Waterton Lakes 56.45 52 P **P** **19 54 31.3 +1.3**
WALA IAmb IAmb 19 54 31.8
comp=Z,4.6nm,0.6s
KKN Kakani 56.59 276 *e*P **P** **19 54 31.4 0.0**
comp=Z,21nm,0.7s
PKI Pulchoki 56.64 275 *e*P **P** **19 54 31.3 -0.7**
comp=Z,16nm,0.6s
PKIN Phulchoki 56.65 275 *e*P **P** **19 54 31.6 -0.4**
comp=Z,15nm,0.6s
ARCES ARCESS Array B 56.73 341 P **P** **19 54 30.9 -0.7**
comp=Z,2.4nm,0.8s,baz=30,slow=8.4,SNR=6.6
ARCES LR LR 20 21 16.4
comp=Z,230nm,18.2s,baz=255,slow=39
DMN Daman 56.82 275 *e*P **P** **19 54 33.2 0.0**
comp=Z,44nm,0.7s
GKN Gorkha 56.87 276 *e*P **P** **19 54 33.1 -0.3**
comp=Z,25nm,0.5s
JTMT Jette 57.04 54 P **P** **19 54 35.5 +1.1**
BMO Blue Mountains 57.14 58 P **P** **19 54 36.6 +1.6**
BMO pmax pmax
comp=Z,5.0nm,1.2s
BMO Blue Mountains 57.14 58 P **P** **19 54 36.6 +1.6**
IUG Iuzhnay 57.18 298 *e*P **P** **19 54 33.7 -1.7**
baz=298
IUG Iuzhnay 57.18 298 *e*P **P** **19 54 33.6 -1.7**
UPNV Upernavik 57.23 11 *i* P **P** **19 54 34.4 -0.6**
UPNV IAmb IAmb 19 54 35.3
comp=Z,7.4nm,0.6s
HNR Honiara 57.71 174 LR LR 20 15 32.5
comp=Z,47nm,21.0s,baz=328,slow=32
MSO Missoula 57.79 54 P **P** **19 54 40.6 +1.1**
MSO IAmb IAmb 19 54 41.9
comp=Z,7.0nm,1.1s
MSO Missoula 57.79 54 P 19 54 40.6
baz=308
PMG Port Moresby 57.93 189 LR LR 20 17 00.5
comp=Z,42nm,18.9s,baz=310,slow=33
ABKAR Akbulak array 58.35 310 P **P** **19 54 41.7 -1.6**
ABKAR Akbulak array 58.35 310 P **P** **19 54 41.7 -1.6**
AKTO Aktyubinsk 58.58 312 P **P** **19 54 43.5 -1.4**
comp=Z,1.1nm,0.6s,baz=204,slow=18,SNR=2.9
AKTO PcP **PcP** **19 55 34.4 -0.3**
comp=Z,1.0nm,0.6s,baz=324,slow=2.9,SNR=6.0
AKTO LR LR 20 22 23.4
comp=Z,164nm,21.6s,baz=332,slow=38
FFC Flin Flon 58.69 41 P **P** **19 54 46.8 +1.2**
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 58.69 41 P **P** **19 54 46.8 +1.2**
FFC IAmb IAmb 19 54 48.0
comp=Z,6.1nm,0.9s
SUMG Summit 58.99 5 *i* P **P** **19 54 48.1 +0.2**
comp=Z,30nm,0.5s
SUMG Summit 58.99 5 *i* P **P** **19 54 48.1 +0.2**
SUMG pmax pmax
comp=Z,30nm,0.5s
SUMG Summit 58.99 5 P **P** **19 54 48.3 +0.4**
SUMG Summit 58.99 5 *i* P **P** **19 54 48.1 +0.2**
SUMG IAmb IAmb 19 54 49.0
comp=Z,30nm,0.5s
HRY Holter Researc 59.00 53 P **P** **19 54 49.1 +1.1**
FCC Fort Churchill 59.22 35 P **P** **19 54 50.0 +0.9**
FCC pmax pmax
comp=Z,19nm,1.4s
FCC Fort Churchill 59.22 35 P **P** **19 54 50.0 +0.9**
EGMT Eagleton 59.26 51 P **P** **19 54 51.1 +1.3**
EGMT Eagleton 59.26 51 P 19 54 50.9
baz=310,SNR=5.8
HLID Hailey 59.57 57 P **P** **19 54 53.1 +1.0**
HLID IAmb IAmb 19 54 54.7
comp=Z,5.6nm,1.3s
HLID Hailey 59.57 57 P 19 54 53.5
baz=310
MCMT McKenzie Canyo 59.64 55 P **P** **19 54 53.4 +0.8**
BOZ Bozeman (W) 59.81 54 P **P** **19 54 54.8 +1.1**
BOZ pmax pmax
comp=Z,13nm,1.2s
BOZ Bozeman (W) 59.81 54 P **P** **19 54 54.8 +1.1**
BOZ IAmb IAmb 19 54 56.4
comp=Z,13nm,1.2s
BOZ Bozeman (W) 59.81 54 P 19 54 55.4
baz=310,SNR=11
KVN Kaiserville 60.31 64 P **P** **19 54 58.1 +0.9**
KVN pmax pmax
comp=Z,2.0nm,0.8s
KVN Kaiserville 60.31 64 P **P** **19 54 58.1 +0.9**
QLMT Earthquake Lak 60.41 55 P **P** **19 54 59.1 +1.3**
YHL Hebgen Lake 60.53 55 P **P** **19 55 00.3 +1.6**
LHV Little Huntoon 60.58 64 P **P** **19 55 00.7 +1.9**
LHV IAmb IAmb 19 55 01.9
comp=Z,9.8nm,1.3s
NIL Nilore 60.58 289 P **P** **19 54 58.4 -0.6**
NIL pmax pmax
comp=Z,8.0nm,0.6s
NIL Nilore 60.58 289 P **P** **19 54 58.4 -0.6**
NVAR Mina Array Bea 60.58 64 P **P** **19 54 58.9 -0.3**
comp=Z,0.8nm,0.6s,baz=295,slow=7.6,SNR=8.5
YHH Holmes Hill 60.75 54 P **P** **19 55 01.9 +1.6**
H17A Grant Village 61.16 55 P 19 55 06.3
baz=311,SNR=6.6
ILULI Ilulissat 61.17 10 *i* P **P** **19 55 00.5 -1.8**
comp=Z,9.8nm,0.4s
ILULI Ilulissat 61.17 10 *i* P **P** **19 55 00.5 -1.8**
ILULI pmax pmax
comp=Z,10.0nm,0.4s
ILULI Ilulissat 61.17 10 *i* P **P** **19 55 00.5 -1.8**
ILULI IAmb IAmb 19 55 01.3
comp=Z,9.8nm,0.4s
RLMT Red Lodge 61.39 53 P **P** **19 55 06.0 +1.5**
RLMT IAmb IAmb 19 55 08.2
comp=Z,7.7nm,0.8s
RLMT Red Lodge 61.39 53 P 19 55 06.6
baz=311,SNR=9.6
REDW Red Top Meadow 61.68 56 P **P** **19 55 08.6 +2.1**
REDW IAmb IAmb 19 55 09.7
comp=Z,9.7nm,1.1s
DGMT Dagmar 61.79 48 P 19 55 08.0
baz=312
LAO LASA Array 61.95 50 P 19 55 10.2
baz=312,SNR=8.0
R11A Troy Canyon, C 62.26 63 P 19 55 11.7
baz=311
ICESG Greenland Ices 62.36 6 *i* P **P** **19 55 11.4 +0.6**
ICESG IAmb IAmb 19 55 13.2
comp=Z,20nm,0.7s

KBL	Kabul	62.63	292	P	P	19 55 11.1	-1.9
KBL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KBL	Kabul	62.63	292	P	P	19 55 11.1	-1.9
DUG	Dugway, Tooele	62.66	60	P	P	19 55 14.0	+1.0
DUG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
DUG	Dugway, Tooele	62.66	60	P	P	19 55 14.0	+1.0
DUG				IAmb	IAmb	19 55 15.7	
	comp=Z,6.1nm,1.1s						
DUG	Dugway, Tooele	62.66	60	P		19 55 14.7	
	baz=312						
TPNV	Topopah Spring	62.78	64	P		19 55 15.3	
	baz=312						
BW06	Boulder Array	62.79	56	P		19 55 15.4	
	baz=312,SNR=10						
PD31	Pinedale Array	62.79	56	P	P	19 55 15.3	+1.4
PD31				IAmb	IAmb	19 55 16.3	
	comp=Z,6.3nm,1.0s						
PDAR	Pinedale Array	62.79	56	P	P	19 55 15.2	+1.4
	comp=Z,5.6nm,1.0s,baz=296,slow=2.1,SNR=28						
EDW2	Edwards Air Fo	63.09	67	P		19 55 17.2	
	baz=312						
FIA1	FINESS Array S	63.10	335	P	P	19 55 15.0	-0.4
FRB	Frobisher Bay	63.10	20	P	P	19 55 15.3	0.0
FRB				pmax	pmax		
	comp=Z,11nm,1.3s						
FINES	FINESS Array B	63.10	335	P	P	19 55 14.7	-0.7
	comp=Z,2.8nm,0.6s,baz=34,slow=8.0,SNR=20						
FINES	FINESS Array B	63.10	335	iP	P	19 55 15.0	-0.4
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	FINESS Array B	63.10	335	P	P	19 55 14.8	-0.5
SFJD	Kangerlussuaq	63.33	11	P	P	19 55 15.9	-0.8
	comp=Z,4.9nm,0.5s,baz=317,slow=6.0,SNR=5.3						
SFJD	Kangerlussuaq	63.33	11	P	P	19 55 16.8	0.0
RDMU	Red Mountain	64.25	57	P	P	19 55 25.2	+1.6
ULM	Lac du Bonnet	64.48	42	P	P	19 55 23.9	-0.8
	comp=Z,3.9nm,0.7s,baz=310,slow=7.0,SNR=10						
K22A	Casper	64.52	54	P		19 55 26.9	
	baz=313						
RSSD	Black Hills	64.83	51	P	P	19 55 28.3	+1.0
RSSD				pmax	pmax		
	comp=Z,15nm,0.9s						
RSSD	Black Hills	64.83	51	P	P	19 55 28.3	+1.0
RSSD	Black Hills	64.83	51	P		19 55 28.6	
	baz=314						
O20A	White River Ci	65.29	57	P		19 55 31.7	
	baz=313						
IRM	Iron Mountain	65.32	66	P		19 55 31.7	
	baz=313						
AGMN	Agassiz Nation	65.89	44	P		19 55 34.6	
	baz=316						
PSI	Prapat	65.91	245	P	P	19 55 34.4	-0.1
PSI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RPSI	Rantau Prapat	65.99	245	P	P	19 55 34.4	-0.4
RPSI				IAmb	IAmb	19 55 35.9	
	comp=Z,8.4nm,0.8s						
N23A	Red Feather La	66.04	55	P		19 55 36.7	
	baz=314						
PV14	Lion Creek, Pa	66.06	59	P	P	19 55 36.5	+1.1
PV14				IAmb	IAmb	19 55 37.0	
	comp=Z,4.3nm,0.6s						
PV22	Blue Mesa, Par	66.08	59	P	P	19 55 36.4	+0.9
PV22				IAmb	IAmb	19 55 37.7	
	comp=Z,5.3nm,0.9s						
D32A	Dogwood Acres,	66.19	45	P	P	19 55 36.8	+1.1
GEYT	Alibeck	66.84	301	P	P	19 55 38.2	-1.9
	comp=Z,1.7nm,0.6s,baz=351,slow=4.7,SNR=3.8						
GEYT	Alibeck	66.84	301	P	P	19 55 40.0	-0.1
NC204	NORSAR Array S	66.97	342	P	P	19 55 41.0	+0.4
ISCO	Idaho Springs	66.98	56	P	P	19 55 42.0	+0.6
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ISCO	Idaho Springs	66.98	56	P	P	19 55 42.0	+0.6
ISCO				IAmb	IAmb	19 55 44.0	
	comp=Z,6.8nm,0.9s						
ISCO	Idaho Springs	66.98	56	P		19 55 43.1	
	baz=315,SNR=7.4						
NB2	NORSAR Subarra	67.09	342	P	P	19 55 40.3	-1.0
	comp=Z,1.4nm,0.7s,baz=25,slow=6.5						
NOA	NORSAR Array B	67.09	342	P	P	19 55 40.1	-1.3
	comp=Z,1.5nm,0.6s,baz=28,slow=6.4,SNR=5.2						
NOA				LR	LR	20 27 57.8	
	comp=Z,105nm,18.2s,baz=290,slow=39						
MVCO	Mesa Verde	67.16	59	P		19 55 43.7	
	baz=314						
S22A	4UR Ranch, Cre	67.74	58	P		19 55 47.9	
	baz=315,SNR=8.0						
GSI	Gunungsitoli	67.91	245	P	P	19 55 47.0	0.0
SDCO	Great Sand Dun	68.49	57	P	P	19 55 52.1	+1.2
SDCO	Great Sand Dun	68.49	57	P		19 55 52.0	
	baz=315						
ECSD	EROS Data Cent	68.86	48	P	P	19 55 53.4	+0.7
ECSD				IAmb	IAmb	19 55 53.7	
	comp=Z,7.6nm,0.8s						
ECSD	EROS Data Cent	68.86	48	P		19 55 53.3	
	baz=318,SNR=9.2						
T25A	Trinidad	69.53	57	P		19 55 58.5	
	baz=316						
ANMO	Albuquerque	69.93	60	ceP	P	19 56 00.3	+0.6
ANMO				pmax	pmax		
	comp=Z,5.0nm,2.5s						
ANMO	Albuquerque	69.93	60	P	P	19 56 00.6	+1.0
ANMO	Albuquerque	69.93	60	P		19 56 01.0	
	baz=316						
WB0	Warramunga Arr	70.28	201	P	P	19 56 01.4	-0.2
WRAB	Tennant Creek	70.45	201	ceP	P	19 56 02.8	+0.2
WRAB				pmax	pmax		
	comp=Z,11nm,1.0s						
WRAB	Tennant Creek	70.45	201	P	P	19 56 02.5	-0.1
WRAB				IAmb	IAmb	19 56 03.4	
	comp=Z,8.8nm,0.8s						
WB2	Warramunga Arr	70.46	201	P	P	19 56 02.5	-0.2
WB2				IAmb	IAmb	19 56 03.5	
	comp=Z,13nm,0.9s						
WRA	Warramunga Arr	70.46	201	P	P	19 56 02.5	-0.1
	comp=Z,9.0nm,0.8s,baz=17,slow=5.7,SNR=35						
WRA				pP	pP	19 56 13.1	-3.3
	comp=Z,1.7nm,0.7s,baz=19,slow=5.9,SNR=4.4						
KBZ	Khabaz	70.63	315	P	P	19 56 03.0	-0.5
	comp=Z,1.7nm,0.7s,baz=85,slow=6.0,SNR=6.5						
319A	Douglas	70.80	64	P	P	19 56 05.9	+1.0
319A				IAmb	IAmb	19 56 07.3	
	comp=Z,11nm,0.9s						
AKASG	Malin Array Be	70.89	327	P	P	19 56 03.9	-1.1
	comp=Z,0.5nm,0.3s,baz=34,slow=6.2,SNR=6.8						
AKASG				LR	LR	20 28 29.7	
	comp=Z,101nm,18.9s,baz=330,slow=37						
AKASG	Malin Array Be	70.89	327	iP	P	19 56 04.4	-0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	70.89	327	P	P	19 56 04.1	-0.9
FITZ	Fitzroy Crossi	71.16	209	P	P	19 56 07.7	+0.8
SCIA	State Center	71.89	47	P		19 56 12.3	
	baz=320						
MATQ	Matagami	72.27	33	P		19 56 13.9	
	baz=326						
AMTX	Amarillo	72.68	57	P		19 56 17.9	
	baz=317						
MSTX	Muleshoe	72.74	58	P		19 56 17.9	
	baz=317						
MNTX	Cornudas Mount	72.88	62	P	P	19 56 18.6	+1.3
MNTX				IAmb	IAmb	19 56 19.6	
	comp=Z,8.9nm,1.4s						
MNTX	Cornudas Mount	72.88	62	P		19 56 18.7	
	baz=317,SNR=5.2						
LSQQ	Lebel-sur-Quev	73.09	33	P		19 56 18.3	
	baz=327						
VLDQ	Val d'Or	73.71	34	P	P	19 56 21.2	-0.6
VLDQ				IAmb	IAmb	19 56 22.0	
	comp=Z,14nm,1.1s						
KWP	Kalwaria Pacla	74.06	330	P	P	19 56 24.6	+0.6
KWP				pmax	pmax		
	comp=Z,21nm,1.1s						
KWP	Kalwaria Pacla	74.06	330	P	P	19 56 24.6	+0.6
AS31	Alice Springs	74.15	200	P	P	19 56 25.2	+0.6
ASAR	Alice Springs	74.15	200	P	P	19 56 25.4	+0.8
	comp=Z,4.2nm,0.9s,baz=12,slow=5.3,SNR=27						
ASAR				pP	PcP	19 56 35.5	-3.9
	comp=Z,1.6nm,0.5s,baz=15,slow=5.3,SNR=5.9						
ASAR	Alice Springs	74.15	200	P	P	19 56 25.3	+0.7
ASAR	Alice Springs	74.15	200	P	P	19 56 25.3	+0.7
PALK	Pallekele	74.15	263	P	P	19 56 24.7	-0.3
PALK				pmax	pmax		
	comp=Z,17nm,1.2s						
PALK	Pallekele	74.15	263	P	P	19 56 24.6	-0.3
PALK				IAmb	IAmb	19 56 27.1	
	comp=Z,17nm,1.1s						
WMOK	Wichita Mounta	74.40	55	P		19 56 26.8	
	baz=318,SNR=5.6						
KOLS	Kolonicke sedl	74.81	330	eP	P	19 56 28.6	+0.3
KOLS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KOLS	Kolonicke sedl	74.81	330	eP	P	19 56 28.6	+0.3
HDIL	Hopedale	74.81	45	P		19 56 29.2	
	baz=322						
BUR08	Bucovina Ar. S	74.90	327	P	P	19 56 29.1	+0.1
BURAR	Bucovina Array	74.92	327	⇑P	P	19 56 28.5	-0.5
BURAR	Bucovina Array	74.92	327	P	P	19 56 28.8	-0.2
BURAR	Bucovina Array	74.92	327	P	P	19 56 28.8	-0.2
EKA	Eskdalemuir Ar	75.05	347	P	P	19 56 29.8	+0.3
	comp=Z,5.3nm,0.6s,baz=22,slow=5.3,SNR=15						
ESK	Eskdalemuir	75.07	347	P	P	19 56 29.6	0.0
ESK				pmax	pmax		
	comp=Z,74nm,1.5s						
ESK	Eskdalemuir	75.07	347	P	P	19 56 29.6	0.0
CRVS	Cervenica-Dubn	75.11	330	eP	P	19 56 30.6	+0.6
CRVS	Cervenica-Dubn	75.11	330	eP	P	19 56 30.5	+0.6
OSTC	Ostas	75.28	334	eP	P	19 56 31.4	+0.4
ALGO	Algonquin Park	75.28	35	P		19 56 30.9	
	baz=327						
CHVC	Chvalec	75.30	334	eP	P	19 56 31.4	+0.3
D55A	Sainte-Anne-du	75.35	33	P		19 56 31.8	
	baz=328						
UPC	Upice	75.38	334	eP	P	19 56 32.2	+0.7
UPC	Upice	75.38	334	eP	P	19 56 32.2	+0.7
DPC	Dobruska-Polom	75.43	334	eP	P	19 56 32.4	+0.5
DPC	Dobruska-Polom	75.43	334	eP	P	19 56 32.4	+0.5
CLL	Collm	75.50	336	iP	P	19 56 32.1	0.0
	comp=Z,13nm,1.3s						
CLL	Collm	75.50	336	P	P	19 56 32.1	0.0
CLL				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CLL	Collm	75.50	336	P	P	19 56 32.1	0.0
CLL				IAmb	IAmb	19 56 32.8	
	comp=Z,7.1nm,0.7s						
LANS	Liptovska Anna	75.54	332	eP	P	19 56 33.5	+1.0
LANS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LANS	Liptovska Anna	75.54	332	eP	P	19 56 33.5	+1.0
KRLC	Kraliky	75.54	334	eP	P	19 56 32.9	+0.4
KRLC	Kraliky	75.54	334	eP	P	19 56 32.9	+0.4
MORC	Moravsky Berou	75.58	333	⇓P	P	19 56 32.7	-0.1
MORC	Moravsky Berou	75.58	333	eP	P	19 56 33.0	+0.3
MORC	Moravsky Berou	75.58	333	P	P	19 56 33.2	+0.5
MORC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MORC	Moravsky Berou	75.58	333	P	P	19 56 33.2	+0.5
MORC				IAmb	IAmb	19 56 34.0	
	comp=Z,7.6nm,0.9s						
D56A	ZEC Mazanza, M	75.59	33	P		19 56 33.1	
	baz=328						
TX31	Lajitas Ar. Si	75.61	62	P	P	19 56 34.4	+1.1
TXAR	Lajitas Array	75.61	62	P	P	19 56 34.5	+1.2
	comp=Z,4.5nm,0.7s,baz=299,slow=4.4,SNR=57						
TXAR				pP	PcP	19 56 45.6	-0.5
	comp=Z,4.4nm,0.7s,baz=299,slow=4.3,SNR=17						
BRG	Berggiesshubel	75.64	336	eP	P	19 56 33.0	+0.1
BRG				Amp		19 56 34.0	
	comp=Z,4.1nm,1.1s						
E56A	St. Veronique	75.92	33	P		19 56 34.8	
	baz=328						
TPGR	Topolog	76.03	324	⇑P	P	19 56 34.5	-0.8
HPIG		76.18	65	P	P	19 56 37.4	+0.6
D58A	Chemin du LacG	76.21	31	P		19 56 36.9	
	baz=330						
H53A	Bobcaygeon	76.23	36	P		19 56 36.7	
	baz=327						
PRU	Pruhonice	76.27	335	eP	P	19 56 37.1	+0.5
PRU	Pruhonice	76.27	335	eP	P	19 56 37.1	+0.5
VRAC	Vranov	76.28	333	P	P	19 56 37.1	+0.4
	comp=Z,5.2nm,0.7s,baz=24,slow=4.6,SNR=7.6						
VRAC	Vranov	76.28	333	⇑P	P	19 56 37.0	+0.4
VRAC	Vranov	76.28	333	eP	P	19 56 37.1	+0.4
VYHS	Vyhne	76.31	332	eP	P	19 56 37.4	+0.5
VYHS	Vyhne	76.31	332	eP	P	19 56 37.4	+0.5
U40A	Yellville	76.31	50	P	P	19 56 37.2	+0.1
U40A				IAmb	IAmb	19 56 38.1	
	comp=Z,13nm,0.9s						
U40A	Yellville	76.31	50	P		19 56 37.4	
	baz=321,SNR=7.2						
JAVC	Velka Javorina	76.35	333	eP	P	19 56 38.3	+1.1
TRQ	Mont Tremblant	76.36	33	P	P	19 56 37.5	+0.3
MLR	Muntele Rosu	76.45	326	P	P	19 56 38.6	+0.7
	comp=Z,6.4nm,0.6s,baz=182,slow=12,SNR=9.1						
MLR	Muntele Rosu	76.45	326	⇑P	P	19 56 37.8	-0.1
MLR	Muntele Rosu	76.45	326	P	P	19 56 38.8	+0.9
MLR				IAmb	IAmb	19 56 39.6	
	comp=Z,8.9nm,0.8s						
DRGR		76.51	328	⇓P	P	19 56 37.5	-0.6
DRGR		76.51	328	P	P	19 56 37.5	-0.6
KRUC	Moravsky	76.56	333	eP	P	19 56 38.6	+0.3
E58A	La Victoria	76.69	32	P		19 56 39.7	
	baz=329,SNR=6.0						
PBCC	Pribram	76.69	335	eP	P	19 56 39.0	0.0
VOIR		76.83	326	⇑P	P	19 56 40.2	+0.2
VOIR		76.83	326	P	P	19 56 40.1	+0.2
MODS	Modra-Piesok	76.91	333	eP	P	19 56 40.5	+0.3
MODS	Modra-Piesok	76.91	333	eP	P	19 56 40.5	+0.3
ARR	Arges	77.04	327	⇓P	P	19 56 40.5	-0.6
G57A	Newington	77.16	34	P		19 56 41.8	
	baz=329						
KHC	Kasperske Hory	77.31	335	eP	P	19 56 43.1	+0.6
KHC	Kasperske Hory	77.31	335	eP	P	19 56 43.1	+0.6
KHC	Kasperske Hory	77.31	335	P	P	19 56 43.3	+0.7
KHC				IAmb	IAmb	19 56 44.0	
	comp=Z,7.2nm,0.7s						
F59A	Saint Guilaume	77.32	32	P		19 56 43.3	
	baz=330						
E60A	Ste Agathe de	77.33	31	P		19 56 43.2	
	baz=330						
MIAR	Mount Ida	77.33	52	P		19 56 43.7	
	baz=321						
CKRC	Cesky Krumlov	77.39	335	eP	P	19 56 43.2	+0.3
GRA1	Grafenberg Arr	77.44	337	P	P	19 56 43.6	+0.4
GRA1				IAmb	IAmb	19 56 44.8	
	comp=Z,11nm,0.9s						
GRF	Grafenberg Arr	77.44	337	P	P	19 56 43.6	+0.4
GRF				pmax	pmax		
	comp=Z,11nm,0.9s						
GRF	Grafenberg Arr	77.44	337	eP	P	19 56 43.8	+0.6
	comp=Z,14nm,1.4s,baz=26,slow=5.1						
GRFO	Grafenberg	77.44	337	P	P	19 56 43.8	+0.6
GRFO				pmax	pmax		
	comp=Z,12nm,1.0s						
GRFO	Grafenberg	77.44	337	P	P	19 56 43.8	+0.6
GRFO				IAmb	IAmb	19 56 44.8	
	comp=Z,12nm,1.0s						
WET	Wettzell	77.50	336	P	P	19 56 44.4	+0.8
GERES	GERESS Array B	77.54	335	P	P	19 56 44.0	0.0
	comp=Z,2.6nm,0.6s,baz=38,slow=5.5,SNR=26						
GERES				LR	LR	20 34 37.5	
	comp=Z,152nm,18.2s,baz=352,slow=39						
GERES	GERESS Array B	77.54	335	P	P	19 56 43.9	0.0
GERES	GERESS Array B	77.54	335	P	P	19 56 43.9	0.0
W41B	Gary Mavity, V	77.54	51	P		19 56 44.8	
	baz=321						
GZR	Gura Zlata	77.69	328	⇓P	P	19 56 44.3	-0.5
L53A	Girard	77.72	39	P		19 56 45.5	
	baz=326						
CONA	Conrad Observa	77.73	333	iP	P	19 56 46.0	+1.0
	comp=Z,17nm,1.5s						
F61A	St Evariste	77.83	31	P		19 56 46.7	
	baz=331						
BZS	Buzias	77.91	329	⇓P	P	19 56 45.8	0.0
BZS	Buzias	77.91	329	P	P	19 56 45.8	0.0
ACSO	Alum Creek Sta	77.97	42	P		19 56 47.1	
	baz=325						
MOQ	Mont Orford	77.97	32	P	P	19 56 47.0	+0.7
M53A	WI Miller and	77.97	39	P		19 56 46.8	
	baz=326						
H58A	Gabriels	78.05	34	P		19 56 46.7	
	baz=329						
BR131	Keskin Array S	78.06	318	P	P	19 56 46.7	-0.3
BR131				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BR131	Keskin Array S	78.06	318	P	P	19 56 46.7	-0.3
BR131				IAmb	IAmb	19 56 48.0	
	comp=Z,9.1nm,1.1s						
BRTR	Keskin Array B	78.06	318	P	P	19 56 46.5	-0.5
	comp=Z,3.9nm,0.9s,baz=51,slow=4.2,SNR=11						
BRTR	Keskin Array B	78.06	318	iP	P	19 56 47.2	+0.2
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR	Keskin Array B	78.06	318	P	P	19 56 47.1	+0.1
WCI	Wyandotte Cave	78.07	45	P		19 56 47.9	
	baz=324						
HERR	Herculane	78.26	328	⇑P	P	19 56 47.1	-0.8
MOA	Molln	78.28	334	iP	P	19 56 48.5	+0.6
	comp=Z,5.3nm,0.9s						
BATG	Bathurst New B	78.28	27	P	P	19 56 48.7	+0.9
BATG				IAmb	IAmb	19 56 49.5	
	comp=Z,7.2nm,1.0s						
MORH	Mrgy, Hungar	78.38	331	⇓P	P	19 56 47.6	-0.8
H06N1	SOCORRO T-PHAS	78.76	74	T	T	21 23 56.9	
	SNR=18						
FRGS	Fruska Gora	78.93	329	⇓P	P	19 56 51.3	-0.2
SOKA	Soboth	79.10	333	iP	P	19 56 53.0	+0.4
	comp=Z,7.2nm,0.8s						
KBA	Koelnbreinsper	79.24	334	iP	P	19 56 54.4	+1.0
	comp=Z,13nm,0.7s						
OBKA	Obir	79.40	333	iP	P	19 56 54.4	+0.2
	comp=Z,7.6nm,0.9s						
BFO	Black Forest	79.44	338	P	P	19 56 54.1	-0.1
BFO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BFO	Black Forest	79.44	338	P	P	19 56 54.1	-0.1
BFO				IAmb	IAmb	19 56 57.2	
	comp=Z,7.7nm,1.1s						
WATA	Walderalm	79.50	336	iP	P	19 56 55.3	+0.5
	comp=Z,25nm,1.8s,SNR=4.6						
WTTA	Wattenberg	79.55	336	iP	P	19 56 55.8	+0.7
	comp=Z,15nm,0.7s,SNR=10.0						
CDF	Champ du Feu	79.62	339	eP	P	19 56 55.1	-0.2
CDF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MOTA	Moosalm	79.62	336	iP	P	19 56 56.1	+0.7
	comp=Z,20nm,1.1s,SNR=11						
SQTA	Sankt Quirin	79.71	336	iP	P	19 56 56.8	+0.9
	comp=Z,11nm,0.9s,SNR=5.7						
Q53A	Leroy	79.74	41	P		19 56 56.6	
	baz=326						
ABTA	Abfaltersbach	79.78	335	iP	P	19 56 56.8	+0.5
	comp=Z,9.2nm,1.4s						
DIVS	Divibare	79.79	329	P	P	19 56 55.7	-0.6
DIVS				IAmb	IAmb	19 56 56.7	
	comp=Z,11nm,1.1s						
ZOU	Zoufplan	79.82	334	P	P	19 56 55.2	-1.4
ZOU				IAmb	IAmb	19 57 03.2	
	comp=Z,10nm,1.2s						
VTS	Vitosha	79.92	326	⇓P	P	19 56 57.6	+0.5
VTS	Vitosha	79.92	326	P	P	19 56 56.9	-0.2
VTS				pmax	pmax		
	comp=Z,16nm,1.0s						
VTS	Vitosha	79.92	326	P	P	19 56 56.9	-0.2
FETA	Feichten	80.02	336	iP	P	19 56 58.4	+0.8
	comp=Z,11nm,1.7s						
HAU	Haudompre	80.22	339	eP	P	19 56 58.1	-0.4
HAU				pmax	pmax		
	comp=Z,14nm,1.3s						
HINF	Hinteralfeld	80.28	339	eP	P	19 56 58.3	-0.5
HINF				pmax	pmax		
	comp=Z,33nm,2.0s						
DAVOX	Davos/Dischmat	80.47	336	P	P	19 57 00.5	+0.4
	comp=Z,6.1nm,0.8s,baz=353,slow=3.9,SNR=11						
PLE	Pljevlja	80.68	329	P	P	19 57 02.2	+1.0
STKA	Stephens Creek	80.77	191	P	P	19 57 01.7	+0.3
	comp=Z,1.1nm,0.5s,baz=354,slow=7.3,SNR=4.2						
TUE	Stuetta	80.90	337	P	P	19 57 02.7	+0.3
LDF	La Druitiere	81.04	344	eP	P	19 57 02.4	-0.4
LDF				pmax	pmax		
	comp=Z,67nm,2.0s						
GRR	Gorron	81.37	344	eP	P	19 57 04.6	0.0
GRR				pmax	pmax		
	comp=Z,81nm,1.8s						
AVF	Avril sur Loir	82.05	341	eP	P	19 57 08.1	-0.1
AVF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SMF	Signal de Mont	82.08	340	eP	P	19 57 08.3	-0.1
SMF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CSS	Mathiatis	82.08	315	P	P	19 57 08.6	0.0
BGF	Bois d'Agland	82.38	341	eP	P	19 57 11.3	+1.3
BGF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FORT	Forrest	82.39	203	P	P	19 57 10.6	+0.6
LPL	La Plagne	82.46	338	eP	P	19 57 11.2	+0.5
LPL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LPG	La Plagne	82.47	338	eP	P	19 57 11.4	+0.6
LPG				pmax	pmax		
	comp=Z,20nm,1.1s						
BNI	Bardonecchia	82.90	338	P	P	19 57 13.5	+0.6
BNI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BNI	Bardonecchia	82.90	338	P	P	19 57 13.5	+0.6
BNI				IAmb	IAmb	19 57 25.8	
	comp=Z,10nm,1.1s						
MBDF	Montbardon	83.19	338	eP	P	19 57 13.4	-1.0
MBDF				pmax	pmax		
	comp=Z,29nm,1.6s						
SSB	Saint Sauveur	83.21	339	P	P	19 57 14.8	+0.5
SSB				pmax	pmax		
	comp=Z,15nm,1.1s						
SSB	Saint Sauveur	83.21	339	P	P	19 57 14.8	+0.5
ORIF	Oris-en-Rattie	83.23	338	eP	P	19 57 15.1	+0.6
ORIF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VIVF	Saint-Julien-l	83.58	339	eP	P	19 57 16.6	+0.4
VIVF				pmax	pmax		
	comp=Z,14nm,1.0s						
RJF	Les Rejaudoux	83.86	342	eP	P	19 57 17.7	+0.1
RJF				pmax	pmax		
	comp=Z,18nm,1.3s						
CAF	Calviac	84.10	341	eP	P	19 57 19.4	+0.5
CAF				pmax	pmax		
	comp=Z,22nm,1.5s						
LFF	La Frestale	84.37	342	eP	P	19 57 20.5	+0.3
LFF				pmax	pmax		
	comp=Z,28nm,1.5s						
LMR	La Mourre	84.56	337	eP	P	19 57 21.1	-0.1
LMR				pmax	pmax		
	comp=Z,21nm,1.3s						
RAYN	Ar Rayn	84.73	300	P	P	19 57 22.6	+0.1
RAYN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
RAYN	Ar Rayn	84.73	300	P	P	19 57 22.6	+0.1
RAYN				IAmb	IAmb	19 57 22.9	
	comp=Z,6.2nm,0.6s						
NWAO	Narrogin (SRO)	87.69	211	P	P	19 57 36.8	+0.4
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NWAO	Narrogin (SRO)	87.69	211	P	P	19 57 36.8	+0.4
ESDC	Sonseca Array	90.37	344	P	P	19 57 48.5	-0.8
	comp=Z,1.6nm,1.1s,baz=25,slow=3.3,SNR=6.5						
ESDC				LR	LR	20 46 55.3	
	comp=Z,80nm,18.4s,baz=5.0,slow=41						
KEST	Kesra	90.83	333	P	P	19 57 51.6	0.0
	comp=Z,2.7nm,0.7s,baz=186,slow=0.9,SNR=4.2						
H03N2	Juan Fernandez	137.50	90	T	T	22 37 14.3	
	baz=309,slow=77,SNR=224						
H03N1	Juan Fernandez	137.51	90	T	T	22 37 15.5	
	baz=309,slow=77,SNR=186						
H03N3	Juan Fernandez	137.51	90	T	T	22 37 15.2	
	baz=309,slow=77,SNR=247						
CPUP	Villa Florida	146.58	61	PKPbc	PKPdf	20 04 28.9	+1.1
	comp=Z,3.7nm,0.8s,baz=330,slow=2.0,SNR=6.9						
CPUP				pPKPbc	pPKPdf	20 04 41.1	-1.3
	comp=Z,2.5nm,0.8s,baz=292,slow=6.4,SNR=2.9						
PLCA	Paso Flores	147.08	94	PKPbc	PKPdf	20 04 29.8	+1.5
	comp=Z,6.4nm,0.9s,baz=26,slow=2.2,SNR=7.0						
PLCA				pPKPbc	pPKPdf	20 04 41.6	-1.4
	comp=Z,5.9nm,1.0s,baz=274,slow=4.6,SNR=4.1						
SNAA	Sanae	154.46	196	PKPab	PKPab	20 05 01.4	-0.3
SNAA	Sanae	154.46	196	PKiKP	PKPbc	20 04 46.2	-0.9
VNA2	Neumayer--Watz	155.88	194	PKPab	PKPab	20 05 07.6	-0.2
VNA2	Neumayer--Watz	155.88	194	PKPdf	PKPdf	20 04 41.0	+0.5
VNA3	Neumayer Olymp	155.94	192	PKPab	PKPab	20 05 07.9	-0.2
VNA3	Neumayer Olymp	155.94	192	PKPdf	PKPdf	20 04 43.2	+2.6

*IDC **07** 19:49:46.1±9.1, 52°.78N×174°.33W, h122km±84km, mb3.4/5, mb1 3.7/7, mb1mx3.1/52, mbtmp3.8/7, ML4.1/2, Error ellipse: s-maj=63.2km s-min=35.1km az=154.0*

*NEIC **07** 19:49:51.6±1.4, 52°.2N±0°.3×173°.8W±0°.1, h190^{km}±9^{km}, Error ellipse: s-maj=38.0km s-min=7.9km az=167.0*
*AEIC **07** 19:49:53±1.0, 52°.5N±0°.2×173°.9W±0°.2, h180^{km}±7^{km}, ML3.5, mb3.9/13(NEIC), Error ellipse: s-maj=36.7km s-min=9.4km az=164.0*
ISC 07 19:49:52.3±0.9**, 52°.6N**±0°.2×**173°.94W**±0°.10**, h180**^{km}**, n59, σ0^{s}.85**/60**, mb3.6**/6**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOKL	Mount Kliuchef	0.33	209		Pn	19 50 17.0	+0.4
KOFP	Korovin Flat P	0.35	196		Pn	19 50 16.9	+0.3
ATKA	Atka Island	0.44	201		Pn	19 50 16.7	-0.2
GSTR	Great Sitkin T	1.40	249		Pn	19 50 23.4	+0.1
GSMY	Great Sitkin M	1.42	247		Pn	19 50 23.2	-0.3
GSTD	Great Sitkin T	1.46	249		Pn	19 50 23.6	-0.4
ADAG	Mount Adagdak	1.75	250		Pn	19 50 26.9	+0.2
ADK	Adak	1.84	248		Pn	19 50 27.4	-0.1
KIKV	Kanaga Island	2.12	251		Pn	19 50 30.9	+0.2
KIMD	Kanaga Island	2.20	249		Pn	19 50 31.6	+0.1
TAFP	Tanaga Falls P	2.59	256		Pn	19 50 36.4	+0.4
TASE	Tanaga Southea	2.64	255		Pn	19 50 37.2	+0.6
TANO	Tanaga North	2.66	257		Pn	19 50 37.8	+0.9
GAEA	Gareloi East	3.07	256		Pn	19 50 42.4	+0.6
NIKH	Nikolski High	3.11	81		Pn	19 50 42.4	+0.3
OKWE	Okmok W'ng Wal	3.55	74		Pn	19 50 48.1	+0.5
CERAA	Semis' Rag'd T	3.98	262		Pn	19 50 53.7	+0.6
CESW	Semis' Southwe	4.06	263		Pn	19 50 54.7	+0.6
AMKA	Amchitka	4.36	256		Pn	19 50 57.6	-0.3
MAPS	Pakushin South	4.38	71		Pn	19 50 58.8	+0.7
MREP	Makushin Rep't	4.49	72		Pn	19 51 00.5	+0.9
MSW	Makushin Switc	4.49	70		Pn	19 51 00.6	+1.0
MNAT	Makushin Natee	4.54	71		Pn	19 51 00.9	+0.7
LSSE	Little Sitkin	4.65	265		Pn	19 51 02.3	+0.6
ZRO	Akutan Zero	5.00	70		Pn	19 51 06.8	+0.7
AKBBA	Akutan Broad B	5.02	70		Pn	19 51 07.1	+0.7
AHB	Akutan Harbor	5.09	70		Pn	19 51 08.4	+1.1
AKUT	Akutan	5.12	69	Pn	Pn	19 51 08.2	+0.6
AKSA	Akutan Strait	5.17	70		Pn	19 51 09.3	+1.0
AKSA	Akutan Strait	5.17	70		Pn	19 51 09.3	+1.0
WESP	Westdahl Peak	5.81	67		Pn	19 51 17.6	+0.9
WTUG	Tugumak	6.10	65		Pn	19 51 21.4	+0.9
SDPT	Sand Point	8.40	66		Pn	19 51 50.0	-0.6
CNBA	Chernabura Isl	8.79	70		Pn	19 51 54.6	-1.3
CHGN	Chignik	9.76	62	Pn	Pn	19 52 08.3	-0.2
KDAK	Kodiak Island	13.22	58	P	Pn	19 52 49.7	-3.3
	1.1nm,0.3s,baz=237,slow=3.2,SNR=15						
KDAK				S	Sn	19 55 17.9	-1.9
	0.2nm,0.3s,baz=280,slow=21,SNR=1.4						
KDAK	Kodiak Island	13.22	58	Pn	Pn	19 52 52.6	-0.4
CNPM	China Poot	14.39	52	Pn	Pn	19 53 08.1	+0.5
BRLK	Bradley Lake	14.64	52	Pn	Pn	19 53 10.6	0.0
SEW	Seward	15.43	51	Pn	Pn	19 53 19.8	-0.6
KTH	Kantishna Hill	16.27	39	P	Pn	19 53 31.8	+1.3
TRF	Thorofare Moun	16.46	40	P	Pn	19 53 33.8	+0.9
TRF				IAmb	IAmb	19 53 37.8	
	comp=Z,10nm,1.4s						
BPAW	Bear Paw Mtn.	16.54	37	P	Pn	19 53 34.6	+0.9
SCM	Sheep Creek Mo	16.99	47	P	P	19 53 38.4	+0.2
RND	Reindeer	17.00	41	P	P	19 53 38.4	+0.2
KLU	Klutina	17.51	48	P	P	19 53 42.5	-1.4
KLU				IAmb	IAmb	19 53 57.2	
	comp=Z,13nm,1.5s						
WRH	Wood River Hil	17.81	38	P	P	19 53 46.3	-0.7
MDM	Murphy Dome	18.01	37	P	P	19 53 48.9	-0.3
HDA	Harding Lake	18.21	39	P	P	19 53 51.5	+0.1
HDA				IAmb	IAmb	19 53 53.2	
	comp=Z,7.9nm,1.1s						
IL31		18.41	38	P	P	19 53 54.0	+0.5
IL31				IAmb	IAmb	19 53 56.0	
	comp=Z,2.2nm,0.6s						
ILAR	Eielson Array	18.41	38	P	P	19 53 53.0	-0.5
	comp=Z,0.6nm,0.3s,baz=226,slow=11,SNR=32						
K27K	Chicken	20.01	43	P	P	19 54 11.8	+1.0
K27K				IAmb	IAmb	19 54 13.3	
	comp=Z,2.9nm,0.9s						
EGAK	Eagle	20.64	41	P	P	19 54 17.5	0.0
EGAK				IAmb	IAmb	19 54 19.3	
	comp=Z,2.8nm,0.7s						
DAWY	Dawson	21.14	44	P	P	19 54 23.3	+0.4
DAWY				IAmb	IAmb	19 54 25.5	
	comp=Z,6.2nm,1.5s						
INK	Inuvik	24.72	35	P	P	19 54 54.9	-1.6
	comp=Z,0.6nm,0.4s,baz=250,slow=7.1,SNR=1.5						
NEW	Newport	35.64	74	P	P	19 56 33.4	+0.7
	comp=Z,1.5nm,0.4s,baz=278,slow=9.4,SNR=6.0						
PDAR	Pinedale Array	43.08	76	P	P	19 57 35.2	+0.7
	comp=Z,0.6nm,0.6s,baz=309,slow=3.6,SNR=4.5						
WRA	Warramunga Arr	85.03	228	P	P	20 02 07.4	0.0
	comp=Z,0.2nm,0.4s,baz=34,slow=5.6,SNR=1.4						
ASAR	Alice Springs	88.47	226	P	P	20 02 24.2	+0.2
	comp=Z,0.5nm,0.7s,baz=22,slow=4.4,SNR=4.7						

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*IDC **07** 20:01:47.4±0.7, 28°.79S×178°.05W, h225^{km}±8^{km}, mb3.1/4, mb1 3.4/5, mb1mx3.2/26, mbtmp3.8/5, Error ellipse: s-maj=41.9km s-min=23.3km az=125.0*
ISC 07 20:01:46.3±1.0**, 28°.1S**±0°.2×**178°.2W**±0°.3**, h200**^{km}**, n10, σ0^{s}.88**/12**, mb3.3**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.20	166	P	Pn	20 02 18.1	+0.7
	224nm,0.3s,baz=68,slow=23,SNR=9.6						
RAO				S	Sn	20 02 41.3	-0.5
	139nm,0.3s,baz=110,slow=21,SNR=2.1						
URZ	Urewera	10.87	200	P	Pn	20 04 09.1	-7.5
	0.3nm,0.3s,baz=155,slow=7.9,SNR=1.7						
URZ				S	Sn	20 06 00.7	-17
	2.2nm,0.3s,baz=104,slow=23,SNR=11						
ASAR	Alice Springs	43.07	265	P	P	20 09 27.3	+0.6
	0.4nm,0.8s,baz=89,slow=8.0,SNR=2.3						
ASAR				PcP	PcP	20 11 12.8	-0.2
	0.2nm,0.4s,baz=107,slow=3.2,SNR=1.9						
WRA	Warramunga Arr	43.84	270	P	P	20 09 32.6	-0.3
	0.7nm,0.6s,baz=114,slow=7.8,SNR=8.3						
WRA				PcP	PcP	20 11 14.6	-1.1
	0.3nm,0.7s,baz=114,slow=6.3,SNR=1.5						
MJAR	Matsushiro Arr	76.22	325	P	P	20 13 13.0	+0.5
	0.4nm,0.6s,baz=158,slow=7.9,SNR=1.3						
PETK	Petropavlovsk-	83.52	346	P	P	20 13 51.4	+0.2
	1.0nm,0.7s,baz=154,slow=8.0,SNR=1.3						
KURBB	Kurchatov Arra	119.32	315	PKP	PKPdf	20 20 09.3	-2.0
	0.3nm,0.6s,baz=114,slow=1.7,SNR=5.1						
NOA	NORSAR Array B	146.43	352	PKPbc	PKPdf	20 21 01.8	+0.3
	1.3nm,0.8s,baz=12,slow=4.6,SNR=2.2						
AKASG	Malin Array Be	149.31	325	PKPbc	PKPbc	20 21 11.0	+0.1
	0.7nm,0.4s,baz=39,slow=3.3,SNR=6.0						
MMAI	Mount Meron Ar	150.69	288	PKPbc	PKiKP	20 21 16.1	+0.5
	1.0nm,0.6s,baz=63,slow=5.7,SNR=3.2						

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*IDC **07** 20:25:36.1±1.3, 30°.54N×142°.03E, h0^{km}, mb3.4/4, mb1 3.6/6, mb1mx3.4/29, mbtmp3.4/6, ML3.1/2, MS4.0/1, Ms1 4.0/1, ms1mx2.5/30, Error ellipse: s-maj=47.8km s-min=19.8km az=81.0*
*JMA **07** 20:25:45.1±0.6, 31°.23N×142°.57E, h98^{km}, M3.4*
ISC 07 20:25:40.0±1.0**, 30°.63N**±0°.07×**142°.2E**±0°.2**, h35**^{km}**, n19, σ1^{s}.96**/19**, mb3.4**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	3.52	181	Pn	Pn	20 26 30.7	-1.4
	2.9nm,0.3s,baz=300,slow=21,SNR=1.4						
JCJ				Sn	Sn	20 27 10.0	-2.6
	5.8nm,0.3s,baz=272,slow=22,SNR=1.3						
BSO1	Boso 1	4.15	345	P	Pn	20 26 40.6	+0.3
BSO3	Boso 3	4.41	341	P	Pn	20 26 44.4	+0.3
BSO4	Boso 4	4.63	340	P	Pn	20 26 49.0	+1.6
JOD2	Odawara 2	5.33	331	P	Pn	20 26 58.1	+1.1
JHU	Hanno	5.77	335	P	Pn	20 27 03.6	+0.5
JYT	Yasato	5.84	344	P	Pn	20 27 04.6	+0.6
JYT				*e*S	Sn	20 28 04.6	-5.1
JRY	Ryogami san	6.06	333	P	Pn	20 27 08.4	+1.4
JHO	Hitachi	6.13	347	P	Pn	20 27 07.7	-0.3
JHO				*e*S	Sn	20 28 13.5	-3.3
JAG	Ashikaga	6.23	339	P	Pn	20 27 09.9	+0.5
MJAR	Matsushiro Arr	6.79	331	Pn	Pn	20 27 18.5	+1.4
	0.2nm,0.3s,baz=150,slow=9.9,SNR=28						
MJAR				Sn	Sn	20 28 33.6	+0.4
	0.1nm,0.3s,baz=151,slow=23,SNR=4.1						
MKAR	Makanchi Array	48.33	307	P	P	20 34 18.2	+0.3
	0.2nm,0.6s,baz=89,slow=8.3,SNR=4.2						
WRA	Warramunga Arr	50.85	190	P	P	20 34 37.6	+0.3
	0.2nm,0.2s,baz=6.3,slow=7.5,SNR=9.5						
ASAR	Alice Springs	54.57	189	P	P	20 35 05.5	+0.7
	0.3nm,0.7s,baz=4.0,slow=5.5,SNR=7.8						
ILAR	Eielson Array	54.62	30	P	P	20 35 07.0	+2.3
	0.2nm,0.5s,baz=272,slow=6.2,SNR=1.6						
MSVF	Nonsavu	59.15	139	LR	LR	20 56 46.3	
	comp=Z,116nm,19.1s,baz=45,slow=32						
H03N2	Juan Fernandez	145.14	106	T	T	23 29 13.8	
	baz=279,slow=72,SNR=19						
H03N3	Juan Fernandez	145.15	106	T	T	23 29 15.0	
	baz=279,slow=72,SNR=12						
H03N1	Juan Fernandez	145.16	106	T	T	23 29 15.5	
	baz=279,slow=72,SNR=22						

IDC 07 20:44:48.7±6.1**, 27°.20S**×**178°.85W, h0**^{km}**, mb3.4**/2**, mb1 3.6**/2**, mb1mx3.4**/24**, mbtmp3.4**/2**, MS3.7**/2**, Ms1 3.7**/2**, ms1mx3.0**/19**, Error ellipse: s-maj=341.4km s-min=57.1km az=158.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.62	264	P	P	20 52 46.9	-0.1
	0.3nm,0.6s,baz=103,slow=7.6,SNR=7.3						
WRA	Warramunga Arr	43.31	269	P	P	20 52 52.4	-0.2
	0.4nm,0.8s,baz=108,slow=7.5,SNR=1.8						
FITZ	Fitzroy Crossi	51.68	268	LR	LR	21 16 31.4	
	comp=Z,40nm,18.2s,baz=211,slow=37						
NWAO	Narrogin (SRO)	54.88	247	LR	LR	21 15 13.7	
	comp=Z,123nm,18.9s,baz=284,slow=33						
AKASG	Malin Array Be	148.28	325	PKPbc	PKPbc	21 04 36.0	-0.5
	0.4nm,0.4s,baz=51,slow=2.1,SNR=2.0						
BRTR	Keskin Array B	150.32	303	PKPbc	PKPbc	21 04 41.8	-0.4
	0.6nm,0.7s,baz=350,slow=2.3,SNR=1.4						

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*NEIC **07** 20:50:37.7±1.7, 24°.48S±0°.07×179°.2E±0°.1, h527^{km}±6^{km}, mb4.6/65, Error ellipse: s-maj=15.3km s-min=10.8km az=93.0*
*IDC **07** 20:50:37.3±1.3, 24°.57S×179°.26E, h522^{km}±14^{km}, mb3.8/19, mb1 4.0/23, mb1mx3.7/50, mbtmp4.7/23, Error ellipse: s-maj=14.9km s-min=12.4km az=130.0*
*NOU **07** 20:50:37.1, 24°.41S×179°.54E, h553^{km}, mb4.5, South of Fiji Islands*
ISC 07 20:50:37.7±0.4**, 24°.50S**±0°.07×**179°.26E**±0°.06**, h531**^{km}**, n165, σ1^{s}.10**/173**, mb4.5**/49**, 9C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	5.37	153	P	P	20 52 08.6	-1.0
	95nm,0.3s,baz=260,slow=23,SNR=3.9						
RAO	Raoul Island	5.37	153	P	P	20 52 09.0	-0.5
MSVF	Nonsavu	6.82	350	P	P	20 52 22.1	-1.4
	5.2nm,0.3s,baz=222,slow=6.3,SNR=25						
MSVF	Nonsavu	6.82	350	P	P	20 52 22.3	-1.2
NIUE	Niue	11.40	64	P	P	20 53 09.1	-0.9
NIUE	Niue	11.40	64	P	P	20 53 07.7	-2.3
YATNC	Mamie plateau,	11.63	280	P	P	20 53 14.4	+2.0
DZM	Mont Dzumac	12.03	279	P	P	20 53 17.0	+0.3
	0.7nm,0.3s,baz=91,slow=16,SNR=8.4						
DZM	Mont Dzumac	12.03	279	P	P	20 53 17.6	+0.9
DZM	Mont Dzumac	12.03	279	P	P	20 53 18.3	+1.6
NOUC	Port Laguerre	12.14	279	P	P	20 53 19.8	+2.0
AFI	Afiamalu	13.50	40	P	P	20 53 27.9	-4.2
	7.7nm,0.3s,baz=46,slow=3.6,SNR=13						
URZ	Urewera	13.84	187	P	P	20 53 32.5	-2.7
	21nm,0.3s,baz=324,slow=1.4,SNR=78						
URZ	Urewera	13.84	187	P	P	20 53 32.9	-2.3
HIZ	Hauiti	14.47	194	P	P	20 53 41.8	0.0
SNZO	South Karori	17.20	192		P	20 54 07.3	-1.6
QRZ	Quartz Range	17.23	197	P	P	20 54 09.1	-0.3
BSWZ	Blackbirch Sta	17.75	193	P	P	20 54 13.5	-0.6
LHI	Lord Howe Isla	19.14	244	P	P	20 54 28.4	+1.5
OXZ	Oxford	19.70	196	P	P	20 54 30.6	-1.2
RPZ	Rata Peaks	20.32	197	P	P	20 54 36.7	-0.8
	20nm,0.4s,baz=21,slow=3.0,SNR=24						
RPZ	Rata Peaks	20.32	197		P	20 54 37.4	0.0
WHZ	Wether Hill Ro	23.22	200	P	P	20 55 03.6	+0.2
KNTN	Kanton	23.28	23	P	P	20 55 03.1	-1.3
ARMA	Armidale	25.18	250	P	P	20 55 22.5	+1.2
ARMA				IAmb	IAmb	20 55 25.2	
	comp=Z,7.0nm,1.0s						
EIDS	Eidsvold	25.55	262	P	P	20 55 24.7	+0.3
CAN	Canberra	28.26	241	P	P	20 55 48.4	+0.2
CAN				IAmb	IAmb	20 56 07.2	
	comp=Z,43nm,1.5s						
CTA	Charters Tower	30.81	272	P	P	20 56 11.1	+0.7
	comp=Z,18nm,0.4s,baz=94,slow=11,SNR=72						
CTAO	Charters Tower	30.81	272	P	P	20 56 10.9	+0.5
CTAO				IAmb	IAmb	20 56 12.0	
	comp=Z,18nm,0.6s						
TOO	Toolangi	31.56	238	P	P	20 56 17.4	+0.8
TOO				IAmb	IAmb	20 56 21.5	
	comp=Z,23nm,1.4s						
TAU	Tasmania Unive	32.04	227	P	P	20 56 21.7	+1.1
TAU				IAmb	IAmb	20 56 27.9	
	comp=Z,27nm,1.2s						
STKA	Stephens Creek	33.88	249	P	P	20 56 36.8	+0.5
	comp=Z,1.5nm,0.3s,baz=99,slow=9.9,SNR=16						
STKA	Stephens Creek	33.88	249	P	P	20 56 36.7	+0.3
PMG	Port Moresby	34.06	291	P	P	20 56 37.4	-0.7
COEN	Coen	35.55	280	P	P	20 56 50.8	+0.3
COEN				IAmb	IAmb	20 56 52.1	
	comp=Z,8.1nm,0.8s						
BBOO	Buckleboo	38.59	248	P	P	20 57 14.9	-0.4
BBOO				IAmb	IAmb	20 57 27.6	
	comp=Z,25nm,1.5s						
AS31	Alice Springs	41.27	261	P	P	20 57 36.9	0.0
ASAR	Alice Springs	41.28	261	P	P	20 57 37.0	0.0
	comp=Z,10nm,0.6s,baz=92,slow=7.3,SNR=270						
ASAR				S	S	21 03 10.2	-2.7
	comp=Z,3.4nm,0.8s,baz=106,slow=15,SNR=6.0						
ASAR	Alice Springs	41.28	261	P	P	20 57 36.6	-0.4
WR0	Warramunga Arr	41.51	267	P	P	20 57 38.4	-0.4
WR0				IAmb	IAmb	20 57 39.0	
	comp=Z,13nm,0.8s						
WB2	Warramunga Arr	41.69	267	P	P	20 57 39.7	-0.5
WB2				IAmb	IAmb	20 57 40.5	
	comp=Z,26nm,0.8s						
WRA	Warramunga Arr	41.70	267	P	P	20 57 39.9	-0.5
	comp=Z,21nm,0.4s,baz=102,slow=8.3,SNR=432						
WRA				S	S	21 03 14.2	-4.8
	comp=Z,4.9nm,0.9s,baz=104,slow=14,SNR=6.9						
FORT	Forrest	45.47	250	P	P	20 58 08.8	-0.7
FITZ	Fitzroy Crossi	50.11	266	P	P	20 58 44.6	+0.3
FITZ				IAmb	IAmb	20 58 45.6	
	comp=Z,14nm,0.8s						
FAKI	Fak Fak	50.12	288	P	P	20 58 43.4	-1.1
GUMO	Guam	50.60	315	P	P	20 58 48.6	+0.7
SOEI	Soe	54.23	276	P	P	20 59 15.1	+1.0
SOEI				IAmb	IAmb	20 59 31.5	
	comp=Z,26nm,0.7s						
NWAO	Narrogin (SRO)	54.38	246	P	P	20 59 14.0	-0.8
PSA00	Pilbara Seismi	54.40	260	P	P	20 59 14.3	-0.8
MORW	Morawa	56.04	250	P	P	20 59 25.9	-0.5
GIRL	Giralia	59.13	257	P	P	20 59 48.0	+0.5
LUWI	Luwuk	59.31	284	P	P	20 59 48.9	0.0
LUWI				IAmb	IAmb	20 59 49.7	
	comp=Z,36nm,1.0s						
TOLI2	Tolitoli	62.08	285	P	P	21 00 06.2	-1.0
TOLI2				IAmb	IAmb	21 00 08.5	
	comp=Z,16nm,0.7s						
JAGI	Jajag, Banyuwa	63.92	272	P	P	21 00 17.8	-1.2
JAGI				IAmb	IAmb	21 00 18.1	
	comp=Z,14nm,0.6s						
QSPA	South Pole Qui	65.59	180	P	P	21 00 30.0	+1.2
UGM	Wanagama	67.44	271	P	P	21 00 40.5	-0.5
KKM	Kota Kinabalu	68.44	288	P	P	21 00 47.0	-0.2
KKM				IAmb	IAmb	21 00 47.6	
	comp=Z,13nm,0.8s						
CISI	Cisompet, Garu	70.05	271	P	P	21 00 55.7	-1.1
CISI				IAmb	IAmb	21 01 07.4	
	comp=Z,32nm,1.0s						
LEM	Lembang	70.51	271	P	P	21 00 59.6	-0.1
	comp=Z,23nm,0.7s,baz=28,slow=9.8						
XMIS	Christmas Isla	70.89	267	P	P	21 01 01.5	-0.2
XMIS				IAmb	IAmb	21 01 17.6	
	comp=Z,36nm,1.4s						
KSM	Kuching	71.55	280	P	P	21 01 05.6	0.0
KSM				IAmb	IAmb	21 01 06.4	
	comp=Z,10nm,0.7s						
JGF	Kuroka	71.72	325	P	P	21 01 06.2	+0.1
JGF				IAmb	IAmb	21 01 14.4	
	comp=Z,23nm,1.4s						
MJAR	Matsushiro Arr	72.01	326	P	P	21 01 07.9	+0.2
	comp=Z,7.5nm,0.8s,baz=157,slow=6.0,SNR=19						
MJAR	Matsushiro Arr	72.01	326	P	P	21 01 08.1	+0.3
MAJO	Matsushiro	72.01	326	P	P	21 01 08.0	+0.3
MAJO				IAmb	IAmb	21 01 08.8	
	comp=Z,12nm,0.9s						
MAT	Matsushiro	72.01	326	P	P	21 01 07.5	-0.3
JMN	Monobe	72.22	321	P	P	21 01 09.8	+0.7
JWT	Wachi	72.52	324	P	P	21 01 11.4	+0.7
JWT				IAmb	IAmb	21 01 11.8	
	comp=Z,23nm,1.1s						
JSD	Sado	73.15	327	P	P	21 01 15.0	+0.8
JSD				IAmb	IAmb	21 01 29.8	
	comp=Z,25nm,1.3s						
JNU	Nakatsue	73.53	319	P	P	21 01 16.9	+0.3
JNU				IAmb	IAmb	21 01 21.3	
	comp=Z,33nm,1.4s						
BELA	Belgrano 2	75.93	173	P	P	21 01 29.7	+0.3
ASAJ	Asahikawa	76.09	334	P	P	21 01 31.4	+0.7
	comp=Z,7.6nm,0.8s,baz=272,slow=9.0,SNR=5.3						
KSRS	Korea Array	78.27	321	P	P	21 01 43.7	+1.0
	comp=Z,2.8nm,0.8s,baz=136,slow=5.3,SNR=15						
KSAR	Wonju Array Be	78.29	321	P	P	21 01 43.6	+0.9
YSS	Yuzh-Sakhalins	78.39	335	P	P	21 01 44.3	+1.3
YSS				IAmb	IAmb	21 01 45.4	
	comp=Z,18nm,0.6s						
PEA0B	Petropavlovsk-	79.52	347	P	P	21 01 49.4	+0.4
PEA0B				IAmb	IAmb	21 01 50.7	
	comp=Z,36nm,1.2s						
PETK	Petropavlovsk-	79.52	347	P	P	21 01 49.8	+0.8
	comp=Z,5.1nm,0.6s,baz=120,slow=5.8,SNR=8.3						
PETK	Petropavlovsk-	79.52	347	P	P	21 01 49.5	+0.6
USRK	Ussuriysk Ar.	80.90	328	P	P	21 01 57.6	+1.3
	comp=Z,3.8nm,0.6s,baz=122,slow=2.5,SNR=8.9						
USRK	Ussuriysk Ar.	80.90	328	P	P	21 01 57.2	+0.9
IPM	Ipoh	81.19	279	P	P	21 01 58.5	-0.1
IPM				IAmb	IAmb	21 01 59.0	
	comp=Z,9.7nm,0.6s						
KULM	Kulim	81.87	280	P	P	21 02 01.9	-0.2
KULM				IAmb	IAmb	21 02 02.1	
	comp=Z,23nm,1.3s						
RPSI	Rantau Prapat	82.33	276	P	P	21 02 04.0	-0.4
PSI	Prapat	82.37	277	P	P	21 02 04.0	-0.8
	comp=Z,3.0nm,0.5s,baz=180,slow=12,SNR=4.7						
MDJ	Mudanjiang	82.39	327	P	P	21 02 05.0	+1.0
MDJ				IAmb	IAmb	21 02 06.6	
	comp=Z,26nm,1.5s						
SPX	San Pedro Mart	83.36	52	P	P	21 02 11.4	+1.8
SLBS	Sierra La Lagu	83.68	61	P	P	21 02 13.0	+2.0
ISA	Isabella, Lake	83.92	46	P	P	21 02 13.8	+1.8
SNAA	Sanae	84.08	179	P	P	21 02 12.0	-0.2
XPFO	Pion Flat	84.10	49	P	P	21 02 14.1	+1.1
KLR	Kul'dur	84.72	331	P	P	21 02 17.3	+1.8
	comp=Z,2.2nm,0.6s,baz=144,slow=5.4,SNR=18						
NVAR	Mina Array Bea	85.65	44	P	P	21 02 22.2	+1.7
	comp=Z,0.8nm,0.6s,baz=223,slow=8.0,SNR=7.8						
NVAR	Mina Array Bea	85.65	44	P	P	21 02 21.9	+1.4
NV11	Mina Array Sit	85.74	44	P	P	21 02 21.9	+1.1
TPNV	Topopah Spring	86.13	46	P	P	21 02 24.1	+1.3
KVN	Kaiserville	86.14	44	P	P	21 02 24.2	+1.4
MA2	Magadan	86.99	346	P	P	21 02 26.6	+0.6
MA2				IAmb	IAmb	21 02 27.2	
	comp=Z,9.1nm,0.9s						
I07A	Izee	88.27	39	P	P	21 02 34.0	+1.4
I07A				IAmb	IAmb	21 02 35.5	
	comp=Z,5.7nm,0.9s						
U15A	North Rim	88.50	49	P	P	21 02 35.7	+1.7
SUA	Susitna One	89.01	14	P	P	21 02 35.9	+0.3
CM35	Chiang Mai Arr	89.02	291	P	P	21 02 38.0	+1.5
CMAR	Chiang Mai Arr	89.10	291	P	P	21 02 38.9	+2.0
	comp=Z,1.9nm,0.8s,baz=134,slow=3.4,SNR=14						
CMAR	Chiang Mai Arr	89.10	291	P	P	21 02 38.1	+1.2
CM15	Chiang Mai Arr	89.11	291	P	P	21 02 39.0	+2.0
	comp=Z,4.7nm,1.0s						
CMMT	Chiang Mai	89.25	291	P	P	21 02 38.0	+0.4
	comp=Z,2.8nm,1.8s						
CM33	Chiang Mai Arr	89.26	291	P	P	21 02 39.0	+1.4
GHO	Glory Hole Cre	89.69	15	P	P	21 02 38.7	0.0
GHO				IAmb	IAmb	21 02 39.9	
	comp=Z,9.5nm,0.8s						
TMUT	Trail Mountain	90.74	47	P	P	21 02 46.4	+2.0
TXAR	Lajitas Array	91.32	58	P	P	21 02 48.9	+1.8
	comp=Z,1.3nm,0.7s,baz=217,slow=6.6,SNR=13						
TXAR	Lajitas Array	91.32	58	P	P	21 02 48.4	+1.4
ILAR	Eielson Array	92.77	14	P	P	21 02 52.6	-0.1
	comp=Z,0.7nm,0.9s,baz=231,slow=5.4,SNR=7.0						
PDAR	Pinedale Array	93.58	44	P	P	21 02 58.1	+0.8
	comp=Z,0.4nm,0.7s,baz=204,slow=3.3,SNR=4.8						
PDAR	Pinedale Array	93.58	44	P	P	21 02 57.5	+0.2
SONM	Songino Array	97.11	320	P	Pdif	21 03 14.0	+1.0
	comp=Z,0.5nm,0.6s,baz=140,slow=2.6,SNR=4.9						
MKAR	Makanchi Array	112.06	313	Pdiff	Pdif	21 04 20.9	+1.6
	comp=Z,0.1nm,0.5s,baz=89,slow=5.9,SNR=4.2						
MKAR				PKiKP	PKiKP	21 08 12.1	-0.5
	comp=Z,0.5nm,0.6s,baz=137,slow=0.4,SNR=9.2						
KURK	Kurchatov	115.16	316		PKPdf	21 08 18.1	-0.3
KURBB	Kurchatov Arra	115.21	316	PKP	PKPdf	21 08 18.1	-0.4
	comp=Z,1.4nm,0.7s,baz=97,slow=1.9,SNR=15						
AAK	Ala-Archa	116.72	307	PKP	PKPdf	21 08 20.7	-1.1
	comp=Z,0.6nm,0.5s,baz=146,slow=3.1,SNR=4.9						
KK31	Karatay Array	119.68	307		PKPdf	21 08 27.3	-0.1
KKAR	Karatay Array	119.68	307		PKPdf	21 08 27.2	-0.2
KKAR	Karatay Array	119.68	307		PKPdf	21 08 27.1	-0.3
BVAR	Borovoye Array	120.44	318	PKP	PKPdf	21 08 27.7	-0.7
	comp=Z,1.3nm,0.6s,baz=65,slow=6.7,SNR=18						
FRB	Frobisher Bay	121.49	29	PKP	PKPdf	21 08 29.8	-0.4
	comp=Z,3.1nm,0.7s,baz=259,slow=3.7,SNR=6.6						
ARU	Arti	126.96	323	PKP	PKiKP	21 08 41.4	0.0
	comp=Z,1.3nm,0.5s,baz=97,slow=2.5,SNR=7.9						
AKTO	Aktyubinsk	128.26	316	PKP	PKPdf	21 08 43.7	+0.2
	comp=Z,2.5nm,0.8s,baz=152,slow=3.8,SNR=6.7						
ARCES	ARCESS Array B	132.33	348	PKP	PKPdf	21 08 50.6	0.0
	comp=Z,2.3nm,0.5s,baz=81,slow=2.5,SNR=14						
FINES	FINESS Array B	138.79	341	PKhKP	PKPpre	21 08 54.7	
	comp=Z,1.3nm,0.5s,baz=58,slow=4.4,SNR=10						
NB2	NORSAR Subarra	142.56	350	PKP	PKPdf	21 09 06.5	-3.2
	comp=Z,1.4nm,0.5s,baz=18,slow=3.1						
NOA	NORSAR Array B	142.56	350	PKhKP	PKPpre	21 09 06.7	
	comp=Z,3.6nm,0.8s,baz=16,slow=5.0,SNR=9.6						
AKASG	Malin Array Be	145.10	326	PKPbc	PKPdf	21 09 14.8	+0.4
	comp=Z,7.5nm,0.5s,baz=43,slow=4.4,SNR=33						
AKASG	Malin Array Be	145.10	326		PKPbc	21 09 15.1	-0.1
AKBB	Malin Array Si	145.10	326	PKPdf	PKPbc	21 09 14.8	-0.4
GAZ	Gaziantep	145.28	300		PKPbc	21 09 16.8	+0.5
SUW	Suwalki	145.52	335		PKPab	21 09 18.1	+0.4
ILGA	Ilgaz	146.92	308		PKiKP	21 09 22.2	-0.6
MMAI	Mount Meron Ar	147.32	293	PKPbc	PKiKP	21 09 23.6	-0.2
	baz=72,slow=5.3						
BR131	Keskin Array S	147.39	306		PKPbc	21 09 22.4	+0.2
BRTR	Keskin Array B	147.39	306	PKPbc	PKPbc	21 09 22.3	+0.2
	comp=Z,5.4nm,0.7s,baz=140,slow=4.5,SNR=24						
BRTR	Keskin Array B	147.39	306		PKPbc	21 09 22.1	0.0
CSS	Mathiatis	148.76	297		PKPbc	21 09 26.1	+0.5
KWP	Kalwaria Pacla	148.95	330		PKiKP	21 09 26.4	-0.1
BUR08	Bucovina Ar. S	149.06	325		PKiKP	21 09 27.1	+0.1
BURAR	Bucovina Array	149.07	325		PKiKP	21 09 27.7	+0.7
OJC	Ojcow	149.77	333		PKiKP	21 09 27.9	-0.3
MLR	Muntele Rosu	149.96	321	PKPbc	PKPbc	21 09 28.4	+0.1
	comp=Z,2.9nm,0.5s,baz=138,slow=15,SNR=2.8						
OSTC	Ostas	150.86	338⇑	*e*PKP	PKiKP	21 09 31.1	+0.7
CHVC	Chvalec	150.88	338⇑	*e*PKP	PKiKP	21 09 30.9	+0.4
UPC	Upice	150.97	338⇑	*e*PKP	PKiKP	21 09 31.1	+0.5
DPC	Dobruska-Polom	150.99	337⇑	*e*PKP	PKiKP	21 09 31.4	+0.7
DPC				*e*PKPAB	PKPab	21 09 41.3	+1.0
MORC	Moravsky Berou	151.01	335		PKiKP	21 09 31.0	+0.1
KRLC	Kraliky	151.06	336⇑	*e*PKP	PKiKP	21 09 30.9	0.0
KRLC				*e*PKPAB	PKPab	21 09 41.3	+0.7
CLL	Collm	151.22	342	*i* PKPbc	PKiKP	21 09 31.6	+0.5
	comp=Z,17nm,0.7s						
CLL				*i* PKPab	PKPab	21 09 41.7	+0.6
	comp=Z,10.0nm,0.7s						
CLL	Collm	151.22	342		PKiKP	21 09 31.0	-0.1
BRG	Berggiesshubel	151.33	340	*i* PKP	PKiKP	21 09 31.8	+0.4
BRG				Amp		21 09 32.6	
	comp=Z,13nm,1.1s						
BRG				*i* x	x	21 09 42.4	
BRG				Amp		21 09 43.1	
	comp=Z,8.3nm,0.9s						
PVCC	Panska Ves	151.43	339⇑	*e*PKP	PKiKP	21 09 32.1	+0.5
VRAC	Vranov	151.75	336	PKPab	PKPab	21 09 43.8	+0.3
	comp=Z,3.5nm,0.8s,baz=39,slow=1.4,SNR=3.7						
PRU	Pruhonice	151.91	339⇑	*e*PKP	PKiKP	21 09 33.0	+0.4
KHC	Kasperske Hory	152.96	339⇑	*e*PKP	PKiKP	21 09 35.3	+0.4
KHC				*e*PKPAB	PKPab	21 09 49.7	+1.0

KHC Kasperske Hory 152.96 339 PKPbc PKiKP 21 09 35.0 +0.2
KHC PKPab 21 09 49.6 +1.0
CKRC Cesky Krumlov 152.99 338⇑ePKP PKiKP 21 09 35.5 +0.6
CKRC epPKP PKPab 21 09 49.8 +1.0
GERES GERESS Array B 153.17 339 PKPbc PKiKP 21 09 35.4 +0.1
comp=Z,1.1nm,0.7s,baz=0.0,slow=2.9,SNR=7.7
GERES PKPab PKPab 21 09 49.9 +0.2
comp=Z,1.0nm,0.6s,baz=42,slow=4.2,SNR=6.9
DAVOX Davos/Dischmat 156.19 342 PKPab PKPab 21 10 03.8 +1.0
comp=Z,3.2nm,0.5s,baz=50,slow=3.6,SNR=8.7
ESDC Sonseca Array 164.62 9 PKPab PKPab 21 10 40.3 +0.7
comp=Z,1.0nm,0.7s,baz=350,slow=3.6,SNR=8.9
TORD Torodi Ar. Bea 168.48 192 PKP PKPdf 21 09 42.5 -1.8
comp=Z,1.3nm,0.9s,baz=243,slow=0.7,SNR=4.0
TORD PKPab PKPab 21 10 57.5 +0.4
comp=Z,2.8nm,0.6s,baz=154,slow=3.7,SNR=8.4
TORD Torodi Ar. Bea 168.48 192 PKPdf 21 09 43.2 -1.1

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*BJI **07** 20:51:41.2±0.0, 24.°24S×179.°70E, h526km, mB5.1/37, mb5.0/58*
*NOU **07** 20:51:41.8, 24.°45S×179.°49E, h520km, mb5.1, South of Fiji Islands*
*IDC **07** 20:51:43.0±0.7, 24.°49S×179.°17E, h522km±7km, mb4.5/40, mb1 4.5/44, mb1mx4.5/53, mbtmp5.3/44, Error ellipse: s-maj=7.9km s-min=6.0km az=172.0*
*NEIC **07** 20:51:43.6±1.8, 24.°45S±0.°08×179.°26E±0.°10, h531km±5km, mb5.1/187, Error ellipse: s-maj=13.0km s-min=11.8km az=115.0*
*GCMT **07** 20:51:44.7±0.3, 24.°40S±0.°03×179.°15E±0.°03, h527km±2km, MW5.2/81, Moment Tensor Solution. s81,c98; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.84±.03; $M_{\theta\theta}$0.51±.05; $M_{\phi\phi}$0.32±.04; $M_{r\theta}$-0.44±.06; $M_{\theta\phi}$-0.36±.04; $M_{\phi r}$-0.16±.06; Best double couple: $M_0$0.92600×10^{17} NP1:ϕ_s325.00000°,δ39.00000°,λ-59.00000°. NP2: ϕ_s107.00000°,δ57.00000°,λ-113.00000°. Principal axes: T 0.8330, Plg9.0000°, Azm213.0000°; N 0.1870, Plg19.0000°, Azm120.0000°; P -1.0200, Plg69.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*BGR **07** 20:51:47.7±0.0, 24.°18S×175.°99E, h542km±2km*
ISC 07 20:51:42.4±0.4**, 24.°46S**±0.°04×**179.°29E**±0.°04**, h523**km±4km**, h524km:pP-P, n895, σ1s43**/1065**, mb5.1**/179**, 63C-42D, South of Fiji Islands**

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

RAO Raoul Island 5.39 153 P P 20 53 14.9 +0.9
247nm,0.3s,baz=170,slow=3.8,SNR=13
RAO S S 20 54 28.4 -0.5
48nm,0.3s,baz=80,slow=23,SNR=1.1
RAO Raoul Island 5.39 153 P P 20 53 14.3 +0.4
RAO Raoul Island 5.39 153 P P 20 53 13.6 -0.4
GLKZ Green Lake 5.39 153 P P 20 53 15.8 +1.8
GLKZ S S 20 54 33.6 +4.6
MSVF Nonsavu 6.79 350 P P 20 53 27.4 -0.1
22nm,0.3s,baz=162,slow=6.6,SNR=27
MSVF S S 20 54 53.6 +0.1
baz=114,slow=21,SNR=0.6
MSVF Nonsavu 6.79 350 P P 20 53 27.1 -0.4
MSVF Nonsavu 6.79 350 P P 20 53 27.5 -0.1
MARNC Mare, Loyalty 10.79 284 P P 20 54 09.3 +1.1
PINNC Pines Island, 11.02 277 P P 20 54 12.6 +1.9
NIUE Niue 11.36 64 P P 20 54 14.2 0.0
baz=11,SNR=55
NIUE Niue 11.36 64 P P 20 54 14.0 -0.3
NIUE Niue 11.36 64 P P 20 54 13.6 -0.6
OUENC Ouen Island, N 11.61 278 P P 20 54 18.6 +1.8
YATNC Mamie plateau, 11.65 279 P P 20 54 19.2 +2.0
OUZ Omahuta 11.81 203 P 20 54 19.1 +0.4
OUZ Omahuta 11.81 203 P P 20 54 21.3 +2.7
DZM Mont Dzumac 12.05 279 P P 20 54 22.8 +1.3
2.6nm,0.3s,baz=89,slow=16,SNR=48
DZM S S 20 56 32.8 +0.2
baz=357,slow=23,SNR=4.3
DZM Mont Dzumac 12.05 279 eP P 20 54 22.9 +1.4
621nm,1.1s
DZM Mont Dzumac 12.05 279 P P 20 54 22.4 +0.8
GRZ Great Barrier 12.21 195 P P 20 54 24.7 +1.9
MYRZ Mayor Island 13.05 191 P P 20 54 34.6 +2.9
MXZ Matakaoa Point 13.09 183 P P 20 54 31.2 -0.9
AFI Afiamalu 13.46 40 P P 20 54 32.8 -3.5
14nm,0.3s,baz=25,slow=5.1,SNR=29
AFI S S 20 56 51.0 -8.7
4.8nm,0.3s,baz=36,slow=22,SNR=5.0
AFI Afiamalu 13.46 40 P P 20 54 33.0 -3.3
TGRZ Tauranga 13.48 190 P P 20 54 37.9 +1.8
WHRZ Whale Island 13.50 188 P P 20 54 38.7 +2.3
OPRZ Ohinepanea 13.55 189 P P 20 54 38.1 +1.2
TOZ Tahuroa Road 13.62 193 P P 20 54 39.0 +1.4
KMRZ Kaimai 13.65 191 P P 20 54 39.8 +1.8
KARZ Kaharoa 13.77 190 P P 20 54 40.4 +1.2
EDRZ Edgecumbe 13.78 188 P P 20 54 39.7 +0.3
EDRZ S S 20 57 07.2 +1.9
OMRZ Omania 13.83 190 P P 20 54 42.1 +2.2
NGRZ Ngongotaha 13.86 190 P P 20 54 41.7 +1.5
URZ Urewera 13.88 187 P P 20 54 38.1 -2.3
80nm,0.3s,baz=24,slow=3.9,SNR=45
URZ S S 20 57 01.9 -5.2
13nm,0.3s,baz=349,slow=20,SNR=9.2
URZ Urewera 13.88 187 P 20 54 38.5 -1.9
URZ Urewera 13.88 187 P P 20 54 38.2 -2.2
URZ S S 20 57 01.9 -5.2
MWZ Matawai 13.91 186 P P 20 54 38.7 -2.1
MWZ S S 20 57 03.1 -4.8
UTU Utuhina 13.93 190 P P 20 54 43.7 +2.8
TARZ Mount Tarawera 13.94 189 P P 20 54 43.3 +2.2
HLRZ Highlands Stat 13.98 190 P P 20 54 42.5 +1.0
TKGZ Te Karaka 13.99 185 P P 20 54 41.4 -0.1
CNGZ Carnagh Statio 14.01 184 P P 20 54 41.5 -0.2
RRRZ Republican Roa 14.04 189 P P 20 54 42.4 +0.4
HSRZ Hossack Road 14.05 190 P P 20 54 44.3 +2.1
RAGZ Rawiri 14.09 186 P P 20 54 41.7 -0.9
RAGZ S S 20 57 07.5 -3.7
GRRZ Galatos Road 14.11 190 P P 20 54 43.4 +0.6
HRRZ Handcock Road 14.12 190 P P 20 54 42.9 0.0
MUGZ Murupara 14.14 188 P P 20 54 41.7 -1.4
MUGZ S S 20 57 09.1 -3.0
TLZ Tolley Road 14.19 192 P P 20 54 44.8 +1.1
PRRZ Plateau Road 14.21 189 P P 20 54 44.1 +0.2
RTZ Ruatahuna 14.25 187 P P 20 54 42.9 -1.4
RIGZ Rimuhau 14.26 185 P P 20 54 44.5 +0.1
RIGZ S S 20 57 09.4 -5.1
WPRZ Whakapapatarin 14.27 190 P P 20 54 45.4 +0.9
KUTZ Kaahu Road 14.30 191 P P 20 54 46.4 +1.6
SNGZ Shannon Statio 14.38 186 P P 20 54 42.8 -2.7
SNGZ S S 20 57 11.4 -5.3
PRGZ Paritu Road 14.47 184 P P 20 54 46.2 -0.3
PRGZ S S 20 57 14.3 -4.2
MTHZ Maungataniwha 14.50 188 P P 20 54 45.3 -1.6
MTHZ S S 20 57 12.5 -6.5
HIZ Hauiti 14.51 194 P P 20 54 48.3 +1.4
WATZ Wairara 14.52 191 P P 20 54 47.1 0.0
RAHZ Arahi 14.54 187 P P 20 54 45.2 -2.0
RAHZ S S 20 57 14.3 -5.4
MRHZ Matea Rd 14.54 189 P P 20 54 46.6 -0.7
KNZ Kokohu 14.59 185 P P 20 54 45.0 -2.7
RATZ Rangitukua 14.67 191 P P 20 54 48.1 -0.6
WHHZ Waihua 14.68 186 P P 20 54 47.5 -1.2
WHHZ S S 20 57 17.4 -5.0
MHGZ Mahia Peninsul 14.70 184 P P 20 54 47.8 -1.1
NMHZ Naumai 14.75 188 P P 20 54 47.1 -2.4
RITZ Rihia Road 14.77 191 P P 20 54 49.2 -0.4
BKZ Black Stump Fm 14.85 189 P 20 54 48.0 -2.6
BKZ Black Stump Fm 14.85 189 P P 20 54 47.8 -2.8
BKZ S S 20 57 19.9 -5.9
ARHZ Aropaoanui 14.89 187 P P 20 54 49.1 -1.8
ARHZ S S 20 57 19.9 -6.4
TMVZ Te Maari 14.93 191 P P 20 54 50.3 -1.1
TWVZ Taurewa 14.93 192 P P 20 54 51.6 +0.2
WTVZ West Tongariro 14.95 191 P P 20 54 50.6 -1.0
NGZ Ngauruhoe 15.00 191 P P 20 54 52.9 +0.6
FWVZ Far West T-bar 15.09 191 P P 20 54 52.4 -0.8
MCHZ McNeill Hill 15.10 188 P P 20 54 50.8 -2.3
WHVZ Whangaehu Hut 15.11 191 P P 20 54 52.3 -1.1
KWHZ Kaweka Forest 15.12 189 P P 20 54 51.2 -2.2
VRZ Vera Road 15.12 194 P P 20 54 54.6 +1.3
TRVZ Turoa 15.13 191 P P 20 54 52.3 -1.4
WNVZ Wahianoa 15.15 191 P P 20 54 52.2 -1.7
PKVZ Pokaka 15.16 192 P P 20 54 52.7 -1.1
MOVZ Moawhango 15.20 191 P P 20 54 51.9 -2.4
BHHZ Black Hill Sta 15.23 190 P P 20 54 51.1 -3.5
CKHZ Cape Kidnapper 15.27 186 P P 20 54 52.8 -2.1
KRHZ Kereru 15.34 189 P P 20 54 52.7 -2.9
PKE Pukeiti 15.36 196 P P 20 54 57.8 +1.9
NEZ North Egmont 15.41 195 P P 20 54 58.2 +1.8
KAHZ Kahuranaki 15.43 187 P P 20 54 54.7 -1.9
KHEZ Kahui Hut 15.45 196 P P 20 55 00.4 +3.6
NBEZ Newall Road No 15.46 196 P P 20 54 58.8 +2.0
LREZ Lake Rotokare 15.52 194 P P 20 55 00.4 +3.0
PNHZ Pukenui 15.63 189 P P 20 54 55.5 -3.1
PXZ Pawanui 15.66 187 P P 20 54 56.5 -2.4
WAZ Wanganui 15.68 192 P P 20 54 58.2 -0.9
ANWZ Angora Road 16.13 188 P P 20 55 02.4 -1.2
POWZ Post Office Ro 16.16 190 P P 20 55 02.0 -2.0
PRWZ Pori Road 16.29 189 P P 20 55 03.2 -2.1
BFZ Birch Farm 16.38 188 P 20 55 03.8 -2.3
BFZ Birch Farm 16.38 188 P P 20 55 03.4 -2.7
MRZ Mangatainoka R 16.45 190 P P 20 55 03.6 -3.2
TIWZ Tintock 16.52 189 P P 20 55 05.7 -1.8
HOWZ Holdsworth Sta 16.70 190 P P 20 55 05.8 -3.5
SNZO South Karori 17.24 192 P 20 55 12.6 -1.7
MSWZ Moikau Station 17.24 190 P P 20 55 11.9 -2.5
BHW Baring Head 17.30 191 P P 20 55 12.3 -2.6
BSWZ Blackbirch Sta 17.79 193 P P 20 55 18.8 -0.7
THZ Tophouse 18.06 196 P 20 55 21.2 -0.7
LHI Lord Howe Isla 19.18 244 P P 20 55 34.4 +2.2
LHI Lord Howe Isla 19.18 244 P P 20 55 34.5 +2.2
RAR Rarotonga 19.56 85 P P 20 55 37.0 +1.1
4.7nm,0.3s,baz=246,slow=6.4,SNR=8.5
RAR Rarotonga 19.56 85 P P 20 55 34.4 -1.5
OXZ Oxford 19.74 196 P P 20 55 36.3 -1.0
RPZ Rata Peaks 20.36 197 P P 20 55 42.8 -0.1
76nm,0.4s,baz=17,slow=3.6,SNR=27
RPZ S S 20 58 53.6 -4.4
26nm,1.0s,baz=190,slow=15,SNR=2.1
RPZ Rata Peaks 20.36 197 P P 20 55 42.1 -0.7
LBZ Lake Benmore 21.22 198 P P 20 55 48.6 -2.0
WKZ Wanaka 21.97 200 P P 20 55 56.0 -1.5
MLZ Mavora Lakes 22.74 201 P P 20 56 03.7 -0.5
KNTN Kanton 23.24 23 P P 20 56 08.9 -0.2
KNTN Kanton 23.24 23 P P 20 56 08.8 -0.2
WHZ Wether Hill Ro 23.26 200 P P 20 56 08.1 -0.8
HNR Honiara 23.73 306 P P 20 56 12.5 -1.0
PYZ Puysegur Point 23.92 202 P P 20 56 16.1 +1.3
ARMA Armidale 25.22 250 P P 20 56 24.5 -2.2
baz=25,SNR=17
ARMA Armidale 25.22 250 P P 20 56 28.0 +1.3
ARMA IAmb IAmb 20 56 29.1
comp=Z,39nm,0.8s
EIDS Eidsvold 25.58 262 P P 20 56 30.2 +0.4
baz=26,SNR=7.8
EIDS Eidsvold 25.58 262 P P 20 56 30.1 +0.3
MGCD Mangrove Creek 26.12 244 P P 20 56 35.7 +1.3
baz=26,SNR=17
TARA Tarawa 26.39 346 P P 20 56 36.7 -0.3
CNB Canberra Magne 28.01 240 P P 20 56 52.7 +1.6
baz=28,SNR=18
CAN Canberra 28.30 240 P P 20 56 54.4 +0.8
YNG Young 28.56 243 P P 20 56 57.6 +1.8
baz=28,SNR=10
PAE Paea 29.78 83 eP P 20 57 07.5 +0.9
comp=Z,12nm,1.0s
PPT Papeete 29.81 83 P P 20 57 06.7 -0.2
comp=Z,38nm,0.9s,baz=23,slow=8.2,SNR=4.1
CMSA Cobar Meteorol 30.41 249 P P 20 57 12.2 +0.4
baz=30,SNR=24
CTA Charters Tower 30.84 271 P P 20 57 16.2 +0.5
comp=Z,35nm,0.4s,baz=95,slow=10,SNR=50
CTA PcP PcP 20 59 57.5 +0.7
comp=Z,16nm,0.7s,baz=77,slow=2.7,SNR=7.4
CTA S S 21 01 41.6 -0.9
comp=Z,22nm,1.2s,baz=319,slow=18,SNR=15
CTAO Charters Tower 30.84 271 P P 20 57 16.2 +0.5
TOO Toolangi 31.60 238 P P 20 57 22.8 +0.8
baz=32,SNR=40
TOO Toolangi 31.60 238 P P 20 57 22.9 +0.8
TOO IAmb IAmb 20 57 23.9
comp=Z,42nm,0.7s
QLP Quilpie 31.65 259 P P 20 57 22.9 +0.3
baz=32,SNR=10
TAU Tasmania Unive 32.08 227 P P 20 57 25.8 -0.2
TAU IAmb IAmb 20 57 27.9
comp=Z,57nm,0.8s
RABL Rabaul 32.98 303 P P 20 57 33.8 -0.3
MTSU Mount Surprise 33.13 274 P P 20 57 36.1 +0.8
baz=33,SNR=44
STKA Stephens Creek 33.92 249 P P 20 57 42.2 +0.4
comp=Z,20nm,0.5s,baz=95,slow=10,SNR=65
STKA PcP PcP 21 00 05.8 +0.6
comp=Z,9.8nm,0.6s,baz=92,slow=7.2,SNR=4.8
STKA S S 21 02 27.6 -1.6
comp=Z,8.4nm,0.8s,baz=244,slow=18,SNR=9.2
STKA PKiKP PKiKP 21 07 27.4 -0.7
comp=Z,1.5nm,0.5s,baz=97,slow=1.3,SNR=3.9
STKA Stephens Creek 33.92 249 P P 20 57 42.2 +0.4
baz=34,SNR=43
STKA Stephens Creek 33.92 249 P P 20 57 42.0 +0.3
PMG Port Moresby 34.07 290 P P 20 57 43.3 +0.1
comp=Z,71nm,0.9s,baz=111,slow=5.1,SNR=9.0
PMG PcP PcP 21 00 06.2 +0.3
comp=Z,29nm,0.8s,baz=146,slow=3.0,SNR=3.2
PMG Port Moresby 34.07 290 P P 20 57 43.7 +0.5
PMG Port Moresby 34.07 290 P P 20 57 43.8 +0.5
ARPS Mount Arapiles 34.28 240 P P 20 57 45.1 +0.4
baz=34,SNR=29
XMAS Kiritimati 34.70 44 P P 20 57 49.9 +1.4
XMAS Kiritimati 34.70 44 P P 20 57 47.0 -1.5
COEN Coen 35.57 280 P P 20 57 56.3 +0.5
COEN IAmb IAmb 20 57 57.7
comp=Z,47nm,1.0s
HTT Hallett 36.26 246 P P 20 58 01.3 0.0
baz=36,SNR=48
QIS Mount Isa 36.78 268 P P 20 58 06.1 +0.3
baz=37,SNR=7.6
PATS Pohnpei 37.23 324 P P 20 58 08.8 -0.6
baz=37,SNR=4.1
BBOO Buckleboo 38.63 248 P P 20 58 20.2 -0.6
baz=39,SNR=62
BBOO Buckleboo 38.63 248 P P 20 58 20.1 -0.6
BBOO IAmb IAmb 20 58 21.6
comp=Z,57nm,0.9s
AS31 Alice Springs 41.31 261 P P 20 58 42.1 -0.2
ASAR Alice Springs 41.31 261 P P 20 58 42.3 -0.1
comp=Z,22nm,0.6s,baz=93,slow=8.3,SNR=56
ASAR PcP PcP 21 00 27.9 -0.7
comp=Z,10nm,0.8s,baz=111,slow=3.9,SNR=11
ASAR ScP ScP 21 03 30.9 +2.2
comp=Z,3.8nm,0.7s,baz=115,slow=2.9,SNR=5.8
ASAR S S 21 04 17.4 -1.6
comp=Z,13nm,0.9s,baz=99,slow=15,SNR=17
ASAR PKiKP PKiKP 21 07 33.5 -0.9
comp=Z,0.6nm,0.5s,baz=110,slow=1.3,SNR=5.2
ASAR P3KPbc 21 28 04.8
comp=Z,0.2nm,0.5s,baz=293,slow=4.1,SNR=6.0
ASAR Alice Springs 41.31 261 P P 20 58 42.0 -0.3
WR0 Warramunga Arr 41.54 267 P P 20 58 43.6 -0.6
WR0 IAmb IAmb 20 58 44.7
comp=Z,40nm,0.8s
TAOE Nuku Hiva Isla 41.66 75 P P 20 58 46.5 +1.3
WB2 Warramunga Arr 41.72 267 P P 20 58 45.2 -0.4
WB2 IAmb IAmb 20 58 46.2
comp=Z,81nm,0.9s
WRA Warramunga Arr 41.73 267 P P 20 58 45.1 -0.6
comp=Z,37nm,0.4s,baz=104,slow=8.2,SNR=54
WRA PcP PcP 21 00 30.9 +0.9
comp=Z,13nm,0.9s,baz=112,slow=4.1,SNR=12
WRA ScP ScP 21 03 32.5 +2.1
comp=Z,9.9nm,0.9s,baz=103,slow=3.7,SNR=9.6
WRA S S 21 04 21.4 -3.5
comp=Z,30nm,0.9s,baz=103,slow=14,SNR=27
WRA PKiKP PKiKP 21 07 33.6 -1.2
comp=Z,0.5nm,0.4s,baz=86,slow=0.5,SNR=4.8
JAY Jayapura 43.15 294 P P 20 58 57.2 +0.3
comp=Z,642nmcomp=Z,65nm,1.2s
GENI Genyem 43.55 294 P P 20 59 00.3 +0.3
comp=Z,2µmcomp=Z,253nm,1.1s
FORT Forrest 45.51 250 P P 20 59 14.2 -0.7
baz=46,SNR=29
FORT Forrest 45.51 250 P P 20 59 14.2 -0.7
KDU Kakadu 45.70 276 P P 20 59 15.9 -0.6
baz=46,SNR=14
WRKA Warakurna 46.09 258 P P 20 59 19.1 -0.4
baz=46,SNR=34
SRPI Serui, Papua 47.24 292 P P 20 59 28.6 +0.3
comp=Z,11µmcomp=Z,293nm,0.9s
BAKI Biak 47.71 292 P P 20 59 32.2 +0.4
comp=Z,221nm,1.0s
KHLU Kahalu`u 50.01 31 P P 20 59 49.1 +0.3
FAKI Fak Fak 50.13 288 P P 20 59 49.6 -0.1
FAKI IAmb IAmb 20 59 49.7
comp=Z,72nm,1.0s
FITZ Fitzroy Crossi 50.14 266 S S 21 06 21.3 -1.3
comp=Z,6.9nm,1.0s,baz=278,slow=21,SNR=13
FITZ Fitzroy Crossi 50.14 266 P P 20 59 50.3 +0.6
baz=50,SNR=26
FITZ Fitzroy Crossi 50.14 266 P P 20 59 49.6 -0.2
FITZ IAmb IAmb 20 59 51.1
comp=Z,66nm,1.1s
HMH Humu'ula Sheep 50.22 32 P P 20 59 52.1 +1.5
KMBL Kambalda 50.72 249 P P 20 59 53.2 -0.6
baz=51,SNR=6.6
SIJI Sorong 52.00 289 P P 21 00 03.2 -0.1
comp=Z,196nm,0.8s
SWI Sorong 52.01 289 P P 21 00 03.3 -0.1
comp=Z,3µmcomp=Z,332nm,0.9s
VNDA Vanda 53.77 185 P P 21 00 16.2 +1.3
comp=Z,1.8nm,0.6s,baz=17,slow=8.1,SNR=9.3
VNDA PcP PcP 21 01 13.7 +1.1
baz=352,slow=4.1,SNR=5.5
VNDA ScP ScP 21 04 19.6 -0.7
comp=Z,1.9nm,0.7s,baz=355,slow=1.8,SNR=3.0
VNDA Vanda 53.77 185 P P 21 00 15.7 +0.7
SBA Scott Base 53.78 183 P P 21 00 17.0 +2.0
KLBR Kellerberrin 54.18 248 P P 21 00 17.9 -0.7
baz=54,SNR=7.8
SOEI Soe 54.25 276 P P 21 00 20.7 +1.2
SOEI IAmb IAmb 21 00 36.7
comp=Z,117nm,0.9s
SOEI Soe 54.25 276 P P 21 00 19.8 +0.3
comp=Z,147nm,0.9s
NWAO Narrogin (SRO) 54.42 246 P P 21 00 20.0 -0.3
baz=54,SNR=4.6
NWAO Narrogin (SRO) 54.42 246 P P 21 00 19.6 -0.6
PSA00 Pilbara Seismi 54.43 260 P P 21 00 19.9 -0.7
PSA00 Pilbara Seismi 54.43 260 P P 21 00 18.9 -1.6
PSA00 IAmb IAmb 21 00 20.2
comp=Z,6.6nm,0.7s
NLAI Namlea 54.49 284 P P 21 00 21.5 +0.5
comp=Z,103nm,1.6s
BATI Baumata 54.62 275 P P 21 00 23.5 +1.5
comp=Z,74nm,0.6s,baz=167,slow=1.0,SNR=6.8
BATI Baumata 54.62 275 P P 21 00 22.5 +0.5
comp=Z,54nm,0.8s
BLDU Ballidu 55.22 249 P P 21 00 25.2 -0.8
baz=55,SNR=16
MUN Mundaring 55.42 247 P P 21 00 26.9 -0.4
baz=55,SNR=4.4
SANI Sanana 56.02 285 P P 21 00 31.4 -0.3
comp=Z,80nm,0.9s
MORW Morawa 56.08 250 P P 21 00 31.3 -0.6
baz=56,SNR=16
MORW Morawa 56.08 250 P P 21 00 31.3 -0.6
TNTI Ternate 56.19 289 P P 21 00 32.2 -0.6
TNTI IAmb IAmb 21 00 33.6
comp=Z,92nm,0.9s
TNTI Ternate 56.19 289 P P 21 00 32.8 -0.1
comp=Z,1µmcomp=Z,112nm,1.1s
MMRI Maumere 56.53 276 P P 21 00 34.7 -0.5
MMRI IAmb IAmb 21 00 35.9
comp=Z,75nm,0.9s
BASI Baing, Sumba 57.42 273 P P 21 00 41.9 +0.6
comp=Z,1µmcomp=Z,89nm,1.1s
WSI Waingapu 57.89 274 P P 21 00 45.0 +0.5
comp=Z,7µmcomp=Z,380nm,1.1s
KMSI Cibinong 59.03 286 P P 21 00 52.7 +0.5
comp=Z,51nm,0.8s
GIRL Giralia 59.16 257 P P 21 00 54.2 +1.2
baz=59,SNR=5.6
GIRL Giralia 59.16 257 P P 21 00 53.6 +0.6
GIRL IAmb IAmb 21 00 54.8
comp=Z,124nm,1.1s
CASY Casey 59.33 206 P P 21 00 53.3 0.0
CASY IAmb IAmb 21 00 54.8
comp=Z,191nm,1.6s
LUWI Luwuk 59.33 284 P P 21 00 54.0 -0.2
LUWI IAmb IAmb 21 00 55.3
comp=Z,123nm,0.9s
LUWI Luwuk 59.33 284 P P 21 00 54.5 +0.3
comp=Z,2µmcomp=Z,158nm,1.0s
GTOI Gorontalo 59.91 286 P P 21 00 58.8 +0.7
comp=Z,570nmcomp=Z,74nm,0.9s
BNSI Bone 60.21 279 P P 21 01 00.2 +0.1
comp=Z,818nmcomp=Z,81nm,1.1s
KAPI Kappang 60.27 279 P P 21 01 00.4 -0.1
comp=Z,8.0nm,0.4s
KAPI Kappang 60.27 279 P P 21 01 00.2 -0.3
KAPI IAmb IAmb 21 01 01.6
comp=Z,95nm,1.6s
DDMP Don Marcelino, 60.36 293 eP P 21 00 56.5 -4.5
APSI Ampana 60.38 284 P P 21 01 01.9 +0.6
comp=Z,784nmcomp=Z,85nm,1.0s
PLAI Plampang 60.51 274 P P 21 01 01.7 -0.4
comp=Z,3µmcomp=Z,268nm,0.9s
SPSI Sidrap Palu 60.70 280 P P 21 01 02.2 -1.1
comp=Z,666nmcomp=Z,55nm,0.8s
MRSI Marisa 60.78 285 P P 21 01 03.0 -0.8
comp=Z,384nmcomp=Z,52nm,0.8s
DAV Davao City (W) 60.99 294 P P 21 01 05.2 0.0
comp=Z,104nm,0.5s,baz=8.4,slow=3.9,SNR=4.1
DAV Davao City (W) 60.99 294 P P 21 01 04.2 -1.1
TTSI Tana Toraja 61.05 281 P P 21 01 05.8 +0.1
comp=Z,31nm,0.9s
TWSI Taliwang, Sumb 61.35 273 P P 21 01 07.5 -0.2
comp=Z,585nmcomp=Z,64nm,1.3s
KCP Kidapawan 61.37 293⇑eP P 21 01 07.3 -0.5
SKMP Bagumbayan, Su 61.56 293 eP P 21 01 07.2 -1.8
BUKP Musuan 61.86 294 eP P 21 01 10.7 -0.3
BUTP Butuan 61.99 296 eP P 21 01 10.9 -0.9
TOLI2 Tolitoli 62.09 285 P P 21 01 11.5 -0.9
TOLI2 IAmb IAmb 21 01 14.1
comp=Z,70nm,0.7s
SRBI Singaraja 63.13 273 P P 21 01 19.5 +0.3
comp=Z,68nm,0.9s
PAGZ Pagadian 63.24 293 eP P 21 01 18.5 -1.4
MSLP Maasin 63.26 296 eP P 21 01 18.7 -1.2
JAGI Jajag, Banyuwa 63.94 272 P P 21 01 23.4 -1.0
JAGI IAmb IAmb 21 01 24.1
comp=Z,86nm,1.1s
JAGI Jajag, Banyuwa 63.94 272 P P 21 01 24.4 0.0
comp=Z,91nm,1.5s
OCLP Ormoc 63.97 297 eP P 21 01 22.6 -1.9
KBKI Kotabaru 64.23 279 P P 21 01 27.2 +1.0
comp=Z,38nm,0.9s
KMMI Kalianget 64.67 274 P P 21 01 31.3 +2.3
comp=Z,2µmcomp=Z,145nm,1.3s
CNOP Candoni, Negro 64.92 295 eP P 21 01 27.3 -3.2
BBKI Banjar Baru 65.35 278 P P 21 01 33.9 +0.6
comp=Z,58nm,1.1s
QSPA South Pole Qui 65.63 180 P P 21 01 35.5 +1.2
QSPA IAmb IAmb 21 01 36.7
comp=Z,40nm,0.8s
PVCP Virac 65.77 299 eP P 21 01 34.3 -1.5
MYLDM Lahad Datu 66.05 288 P P 21 01 38.5 +0.8
MYLDM IAmb IAmb 21 02 05.6
comp=Z,43nm,1.2s
MTKI Muara Teweh, K 66.39 280 P P 21 01 39.7 -0.1
comp=Z,3µmcomp=Z,38nm,0.9s
JCNP Jose Panganiba 67.33 299 eP P 21 01 43.3 -2.1
UGM Wanagama 67.47 271 P P 21 01 46.2 -0.3
BOAC Boac 67.55 297 eP P 21 01 46.8 0.0
SJMP San Jose 67.59 296 eP P 21 01 43.6 -3.5
BUSP Coron 68.10 295 eP P 21 01 47.1 -3.1
LQP Lukban 68.16 298⇓eP P 21 01 49.6 -1.2
BATP Bataraza 68.45 291 eP P 21 01 51.5 -0.9
KKM Kota Kinabalu 68.45 288 P P 21 01 52.4 -0.1
KKM IAmb IAmb 21 01 53.6
comp=Z,39nm,0.8s
TGY Tagaytay City 68.64 298 P P 21 01 53.7 +0.2
comp=Z,54nm,0.3s,baz=318,slow=23,SNR=3.1
MACP Maragondon, Ca 68.91 298 eP P 21 01 53.2 -1.8
BALP Baler 69.04 299 eP P 21 01 54.3 -1.5
CISI Cisompet, Garu 70.07 271 P P 21 02 00.9 -1.3
CISI IAmb IAmb 21 02 02.1
comp=Z,61nm,0.9s
JCJI Jatiwangi 70.08 272 P P 21 02 02.2 0.0
comp=Z,149nm,1.1s
SGCP Mt. Cagua 70.09 302 eP P 21 02 01.2 -0.9
SBUM Sibu 70.29 282 P P 21 02 03.1 -0.4
APYP Conner 70.50 301 eP P 21 02 04.7 +0.2

LEM Lembang 70.54 271 P **P** 21 02 05.4 +0.3
comp=Z,92nm,0.8s,baz=49,slow=4.5,SNR=22
JSG Sagara 70.56 325 P **P** 21 02 05.3 +0.8
JYT Yasato 70.76 327 P **P** 21 02 05.8 +0.2
JYT IAmb IAmb 21 02 07.3
comp=Z,85nm,0.9s
JOW Kunigami 70.89 313 P **P** 21 02 06.5 -0.2
comp=Z,57nm,0.8s,baz=142,slow=13,SNR=8.1
JOW Kunigami 70.89 313 P **P** 21 02 06.4 -0.2
JOW IAmb IAmb 21 02 08.2
comp=Z,54nm,0.8s
XMI Christmas Isla 70.90 267 P **P** 21 02 07.5 +0.4
comp=Z,142nm,0.9s
XMIS Christmas Isla 70.92 267 P **P** 21 02 07.2 0.0
XMIS IAmb IAmb 21 02 08.3
comp=Z,47nm,0.8s
CBJI Citeko 71.40 271 P **P** 21 02 09.2 -0.8
comp=Z,73nm,0.8s
KSM Kuching 71.57 280 P **P** 21 02 10.7 -0.3
KSM IAmb IAmb 21 02 12.0
comp=Z,66nm,0.8s
INU Inuyama 71.69 325 P **P** 21 02 11.6 +0.4
INU IAmb IAmb 21 02 12.8
comp=Z,60nm,1.1s
JGF Kuroka 71.71 325 P **P** 21 02 10.9 -0.4
JGF IAmb IAmb 21 02 13.5
comp=Z,62nm,1.3s
MJAR Matsushiro Arr 71.99 326 P **P** 21 02 12.8 -0.1
comp=Z,44nm,0.9s,baz=159,slow=5.6,SNR=79
MJAR Matsushiro Arr 71.99 326 P **P** 21 02 13.0 +0.1
MAJO Matsushiro 72.00 326 P **P** 21 02 13.1 +0.2
MAJO IAmb IAmb 21 02 14.3
comp=Z,60nm,0.9s
MAT Matsushiro 72.00 326 P **P** 21 02 12.6 -0.4
JSU Suzuyama 72.65 318 P **P** 21 02 17.0 +0.1
JSU IAmb IAmb 21 02 18.2
comp=Z,75nm,0.9s
JSD Sado 73.13 327 P **P** 21 02 20.1 +0.6
JSD IAmb IAmb 21 02 21.2
comp=Z,77nm,1.0s
JNU Nakatsue 73.52 319 P **P** 21 02 21.6 -0.2
comp=Z,27nm,0.8s,baz=95,slow=3.5,SNR=11
JNU Nakatsue 73.52 319 P **P** 21 02 22.1 +0.2
JNU IAmb IAmb 21 02 23.1
comp=Z,41nm,0.9s
JHS Saijyo 73.56 322 P **P** 21 02 22.1 0.0
JHS IAmb IAmb 21 02 23.9
comp=Z,76nm,1.1s
KASI Kota Agung 73.90 271 P **P** 21 02 23.9 -0.5
comp=Z,78nm,0.9s
NACB Ninganchiao 73.91 307 P **P** 21 02 23.3 -0.9
NACB IAmb IAmb 21 02 24.9
comp=Z,47nm,1.0s
TPUB Ta-pu 74.11 305 P **P** 21 02 23.9 -1.4
TPUB IAmb IAmb 21 02 25.2
comp=Z,54nm,0.9s
LWLI Liwa 74.50 272 P **P** 21 02 27.9 -0.1
comp=Z,79nm,0.8s
AMKA Amchitka 75.50 0 P **P** 21 02 32.4 -0.1
BELA Belgrano 2 75.96 173 P **P** 21 02 35.1 +0.2
JKA Kamikawa-asahi 76.07 334 P **P** 21 02 37.9 +2.0
JKA IAmb IAmb 21 02 39.3
comp=Z,78nm,1.0s
ASAJ Asahikawa 76.07 334 P **P** 21 02 37.2 +1.3
comp=Z,46nm,0.9s,baz=219,slow=7.2,SNR=21
ADK Adak 76.09 3 P **P** 21 02 36.1 +0.4
ADK IAmb IAmb 21 02 37.1
comp=Z,73nm,0.8s
ATKA Atka Island 76.54 4 P **P** 21 02 38.5 +0.3
MAW Mawson 77.00 201 P **P** 21 02 41.4 +0.8
comp=Z,38nm,1.0s,baz=102,slow=13,SNR=2.4
MAW Mawson 77.00 201 P **P** 21 02 41.4 +0.8
MYKOM Kota Tinggi 77.51 278 P **P** 21 02 43.7 -0.8
NIKH Nikolski High 77.79 7 P 21 02 45.6
baz=191
NIKH Nikolski High 77.79 7 P **P** 21 02 45.6 +0.6
DLV T Lat 77.96 289 P **P** 21 02 47.2 +0.1
DLV IAmb IAmb 21 02 49.0
comp=Z,44nm,0.9s
KSRS Korea Array 78.26 321 P **P** 21 02 48.9 +1.0
comp=Z,14nm,0.8s,baz=137,slow=5.6,SNR=67
KSAR Wonju Array Be 78.28 321 P **P** 21 02 48.6 +0.6
KS19 Wonju Array Si 78.33 321 P **P** 21 02 49.0 +0.7
YSS Yuzh-Sakhalins 78.37 335 P **P** 21 02 49.8 +1.5
PMSA Palmer Station 78.65 157 P **P** 21 02 50.4 +0.8
comp=Z,15nm,0.6s,baz=217,slow=2.6,SNR=8.0
PMSA Palmer Station 78.65 157 P **P** 21 02 50.9 +1.3
PMSA IAmb IAmb 21 04 48.5
comp=Z,72nm,1.1s
INCN Inchon 79.03 320 P **P** 21 02 52.3 +0.2
PET Petropavlovsk 79.22 347 P **P** 21 02 53.2 +0.6
PET IAmb IAmb 21 02 54.1
comp=Z,87nm,1.4s
AKUT Akutan 79.32 9 P **P** 21 02 53.3 +0.2
PEA0B Petropavlovsk- 79.49 347 P **P** 21 02 55.2 +1.1
PEA0B IAmb IAmb 21 02 56.1
comp=Z,128nm,1.1s
PETK Petropavlovsk- 79.49 347 P **P** 21 02 54.8 +0.7
comp=Z,58nm,0.9s,baz=126,slow=6.6,SNR=42
NJ2 Nanjing 80.54 312 ⇓*i*P **P** 21 03 00.8 +0.7
NJ2 S **S** 21 12 27.3 +3.5
NJ2 pmax pmax
comp=Z,23nm,0.8s
USA0B Ussuriysk Arra 80.88 328 P **P** 21 03 02.7 +1.1
USA0B IAmb IAmb 21 03 04.1
comp=Z,90nm,1.1s
USRK Ussuriysk Ar. 80.88 328 P **P** 21 03 02.8 +1.3
comp=Z,36nm,0.9s,baz=139,slow=3.6,SNR=61
USRK Ussuriysk Ar. 80.88 328 P **P** 21 03 02.4 +0.9
CHNA Chernabura Isl 81.02 12 P 21 03 02.3
baz=199
IPM Ipoh 81.21 279 P **P** 21 03 03.8 -0.3
IPM IAmb IAmb 21 03 04.9
comp=Z,47nm,0.7s
SDPT Sand Point 81.35 12 P 21 03 04.4
baz=199
KULM Kulim 81.89 280 P **P** 21 03 07.7 +0.2
GO09 Cerro Castillo 81.96 143 P **P** 21 03 09.0 +1.9
GO09 IAmb IAmb 21 03 48.4
comp=Z,59nm,1.4s
UBPT Khong Chiam 82.11 291 P **P** 21 03 10.0 +1.5
comp=Z,11nm,1.5s
SCZ2 Santa Cruz Isl 82.12 47 P 21 03 10.7
baz=234
SYO Syowa Base 82.32 194 ⇑*e*P **P** 21 03 08.8 +0.2
SYO Syowa Base 82.32 194 ⇑*e*PcP **PcP** 21 03 11.1 -1.2
RPSI Rantau Prapat 82.35 276 P **P** 21 03 09.0 -0.9
RPSI IAmb IAmb 21 03 09.9
comp=Z,34nm,0.8s
MDJ Mudanjiang 82.37 327 P **P** 21 03 10.4 +1.2
MDJ sP sP 21 05 57.7 +3.4
MDJ S **S** 21 12 45.8 +4.1
MDJ pmax pmax
comp=Z,85nm,0.9s
MDJ pmax pmax
comp=Z,380nm,5.4s
MDJ Mudanjiang 82.37 327 P **P** 21 03 09.8 +0.6
MDJ IAmb IAmb 21 03 11.7
comp=Z,64nm,0.9s
PSI Prapat 82.40 277 P **P** 21 03 09.0 -1.2
comp=Z,30nm,0.8s,baz=360,slow=12,SNR=8.4
PKM Mcpherson Peak 82.53 46 P 21 03 12.7
baz=233
CHGN Chignik 82.64 12 P 21 03 10.8
baz=200
CHGN Chignik 82.64 12 P **P** 21 03 10.6 +0.4
CHGN IAmb IAmb 21 03 11.9
comp=Z,67nm,0.9s
PAGB Antelope Grade 82.75 46 P **P** 21 03 13.5 +2.1
WHN Wuhan 82.83 308 ⇓P **P** 21 03 12.5 +0.7
HOPS Hopland Field 82.98 42 P **P** 21 03 14.4 +2.0
HOPS IAmb IAmb 21 03 15.8
comp=Z,54nm,1.1s
GSI Gunungsitoli 82.99 275 P **P** 21 03 13.6 +0.5
GSI IAmb IAmb 21 03 14.7
comp=Z,46nm,0.6s
CBX Cerro Bola 83.18 50 P **P** 21 03 16.1 +2.4
109C Camp Elliot, M 83.20 49 P 21 03 15.9
baz=235
109C Camp Elliot, M 83.20 49 P **P** 21 03 15.5 +1.9
SPX San Pedro Mart 83.32 52 P **P** 21 03 16.5 +1.8
MURC Murrieta 83.54 49 P 21 03 17.8
baz=235,SNR=7.1
LPIG La Paz 83.56 60 P **P** 21 03 16.7 +1.1
comp=Z,32nm,0.3s,baz=346,slow=2.9,SNR=5.5

VES Vestal, Richgr 83.58 46 P 21 03 17.5
baz=234,SNR=7.5
BFSC Mount Baldy Ra 83.59 48 P 21 03 17.7
baz=235,SNR=6.9
SLBS Sierra La Lagu 83.64 61 P **P** 21 03 18.0 +1.9
SLBS IAmb IAmb 21 03 19.7
comp=Z,27nm,0.8s
MONP2 Monument Peak 83.68 50 P 21 03 18.9
baz=236,SNR=30
SRIG Santa Rosalia 83.71 56 P **P** 21 03 18.1 +1.9
SRIG IAmb IAmb 21 03 19.7
comp=Z,63nm,1.3s
EDW2 Edwards Air Fo 83.74 47 P 21 03 18.3
baz=234,SNR=20
RMX La Rumorosa 83.75 50 P **P** 21 03 18.8 +2.2
RMX IAmb IAmb 21 03 20.1
comp=Z,38nm,0.9s
IKP In-Ko-Pah, Jac 83.76 50 P 21 03 18.8
baz=236,SNR=20
SII Sitkinak Islan 83.77 14 P 21 03 17.0
baz=204
SII Sitkinak Islan 83.77 14 P **P** 21 03 17.3 +1.4
KHMM Horse Mountain 83.79 40 P **P** 21 03 19.1 +2.5
KHMM IAmb IAmb 21 03 20.2
comp=Z,36nm,0.9s
ISA Isabella, Lake 83.87 46 P 21 03 19.0
baz=234,SNR=23
ISA Isabella, Lake 83.87 46 P **P** 21 03 18.8 +1.7
ISA IAmb IAmb 21 03 20.2
comp=Z,42nm,0.9s
O02D Mt. Diablo Mer 83.90 41 P 21 03 19.8
baz=231,SNR=26
CN2 Changchun 83.95 324 ⇓*i*P **P** 21 03 17.9 +0.8
CN2 *ep*P pwP 21 05 16.0 +0.8
CN2 pmax pmax
comp=Z,130nm,1.0s
PFO Pinyon Flats O 84.06 49 P 21 03 19.9
baz=236,SNR=9.4
PFO Pinyon Flats O 84.06 49 P **P** 21 03 20.0 +1.9
comp=Z,12nm,1.0s,baz=281,slow=3.6,SNR=15
PFO Pinyon Flats O 84.06 49 P **P** 21 03 19.7 +1.7
SNAA Sanae 84.12 179 P **P** 21 03 17.2 -0.5
SNAA Sanae 84.12 179 pP pP 21 05 10.2 -0.5
SNAA Sanae 84.12 179 P **P** 21 03 17.5 -0.2
SWSC Sam W. Stewart 84.14 50 P 21 03 20.4
baz=236,SNR=16
TIA Tai'an 84.15 314 P **P** 21 03 19.2 +0.9
TIA pmax pmax
comp=Z,82nm,1.2s
TPTI 84.17 276 P **P** 21 03 19.1 +0.2
comp=Z,22nm,0.8s
AFDM Forest Hills D 84.24 43 P **P** 21 03 20.4 +1.7
ORV Oroville 84.29 42 P **P** 21 03 20.6 +1.7
LRMC Laurel Mtn Rad 84.29 47 P 21 03 20.9
baz=235,SNR=25
WDC Whiskeytown Da 84.30 41 P **P** 21 03 20.8 +1.8
VNA3 Neumayer Olymp 84.35 177 P **P** 21 03 18.3 -0.5
VNA3 Neumayer Olymp 84.35 177 pP pP 21 05 11.7 -0.1
N02D Trinity Center 84.45 40 P 21 03 22.1
baz=231,SNR=12
SRAK Srakaew 84.48 288 P **P** 21 03 19.6 -0.8
comp=Z,2µmcomp=Z,179nm,1.2s
O03E Paves Creek 84.56 41 P 21 03 22.3
baz=232
OHAK Old Harbor 84.58 15 P 21 03 21.1
baz=205
OHAK Old Harbor 84.58 15 P **P** 21 03 20.9 +1.1
OHAK IAmb IAmb 21 03 21.9
comp=Z,47nm,0.9s
CWC Cottonwood Cre 84.58 46 P 21 03 22.5
baz=234
BELC Belle Mtn. Jos 84.59 49 P 21 03 22.8
baz=236,SNR=28
M02C Callahan 84.63 40 P 21 03 23.6
baz=231,SNR=19
MDPB Devils Postpil 84.64 45 P **P** 21 03 22.4 +1.4
L02E Cave Junction 84.68 39 P 21 03 23.6
baz=230
KLR Kul'dur 84.70 331 P **P** 21 03 21.9 +1.2
comp=Z,11nm,0.6s,baz=125,slow=5.7,SNR=41
KEBM Edson Butte 84.73 38 P **P** 21 03 22.9 +1.8
KEBM IAmb IAmb 21 03 24.6
comp=Z,66nm,1.2s
MPMC Manual Prospec 84.75 47 P 21 03 23.5
baz=235,SNR=22
VNA2 Neumayer--Watz 84.76 178 P **P** 21 03 20.4 -0.4
baz=191,slow=4.2
VNA2 Neumayer--Watz 84.76 178 pP pP 21 05 14.3 +0.3
BC3 Big Chuckawall 84.78 50 P 21 03 24.1
baz=236,SNR=14
GSC Goldstone, Bar 84.78 48 P 21 03 23.6
baz=235,SNR=21
GSC Goldstone, Bar 84.78 48 P **P** 21 03 23.1 +1.5
RUBR Rubicon Trail 84.81 43 P **P** 21 03 23.3 +1.6
HEC Hector,Ludlow 84.83 48 P 21 03 23.9
baz=236,SNR=50
GLA Glamis 84.88 50 P **P** 21 03 24.1 +2.0
GLA IAmb IAmb 21 03 25.7
comp=Z,50nm,0.9s
GLA Glamis 84.88 50 P 21 03 24.6
baz=236,SNR=9.4
YBH Yreka Blue Hor 84.93 40 P **P** 21 03 24.1 +2.0
comp=Z,15nm,0.8s,baz=182,slow=2.4,SNR=24
YBH Yreka Blue Hor 84.93 40 P **P** 21 03 24.0 +2.0
WAKR Walker 84.93 44 P **P** 21 03 24.1 +1.8
K02D Willamette Mer 84.99 38 P 21 03 24.7
baz=230,SNR=7.9
VNA1 Neumayer--Stat 85.01 177 P **P** 21 03 21.5 -0.4
VNA1 Neumayer--Stat 85.01 177 pP pP 21 05 15.4 +0.1
PATY Pattaya 85.02 287 P **P** 21 03 25.0 +2.0
PIX Pinacate 85.04 52 P **P** 21 03 24.4 +1.6
J01E Myrtle Point 85.14 38 P 21 03 25.3
baz=230,SNR=6.5
LHMI Lhok Sumawe 85.20 278 P **P** 21 03 23.7 -0.2
LHMI Lhok Sumawe 85.20 278 P **P** 21 03 24.8 +0.8
comp=Z,119nm,0.9s
KDAK Kodiak Island 85.25 15 P 21 03 23.9
baz=206
GMRC Granite Mounta 85.26 48 P 21 03 25.9
baz=236,SNR=15
IRM Iron Mountain 85.27 49 P 21 03 26.3
baz=236,SNR=23
FURC Furnace Creek, 85.40 47 P 21 03 26.4
baz=235
M04C Macdel 85.47 40 P 21 03 26.6
baz=231,SNR=9.1
L04D Klamath Falls 85.47 39 P 21 03 26.9
baz=231,SNR=12
SHOC Shoshone, Teco 85.47 47 P 21 03 26.8
baz=236,SNR=5.3
HSIG 85.56 56 P **P** 21 03 27.2 +1.8
HSIG IAmb IAmb 21 03 28.6
comp=Z,26nm,0.8s
RYN Ryan 85.58 44 P **P** 21 03 26.7 +1.3
NVAR Mina Array Bea 85.60 44 P **P** 21 03 27.2 +1.6
comp=Z,12nm,0.8s,baz=223,slow=8.2,SNR=59
NVAR PKKPbc **PKKPbc** 21 21 26.6 +0.7
comp=Z,0.5nm,0.6s,baz=80,slow=3.8,SNR=4.2
NVAR PKPPKP **P'P'df** 21 29 31.8 +1.3
comp=Z,0.5nm,0.7s,baz=132,slow=2.2,SNR=4.4
NV11 Mina Array Sit 85.70 44 P **P** 21 03 27.0 +1.1
214A Organ Pipe Nat 85.72 52 P 21 03 28.5
baz=238
I03D Drain, OR 85.81 38 P 21 03 28.3
baz=230,SNR=9.7
NEE2 Needles Airpor 85.97 49 P 21 03 29.5
baz=236
K04D Chiloquin, OR 86.04 39 P 21 03 29.7
baz=231
PDMCI Parker Dam,Lak 86.04 50 P 21 03 29.9
baz=237,SNR=6.4
TPNV Topopah Spring 86.08 46 P 21 03 29.7
baz=235,SNR=25
TPNV Topopah Spring 86.08 46 P **P** 21 03 29.1 +1.3
TPNV IAmb IAmb 21 03 30.7
comp=Z,20nm,0.8s
PHET Kaeng Krachan 86.10 286 P **P** 21 03 30.4 +2.2
comp=Z,936nmcomp=Z,110nm,0.9s
J04D Umpqua Nationa 86.22 39 P 21 03 30.8
baz=231,SNR=17
ENH Enshi 86.23 306 P **P** 21 03 28.7 +0.1
ENH IAmb IAmb 21 03 30.3
comp=Z,43nm,1.1s
SLVN Son La 86.25 295 P **P** 21 03 29.3 +0.4
I04A Tendick Farm, 86.39 38 P 21 03 30.7
baz=231,SNR=12

MOD Modoc Plateau 86.44 41 P **P** 21 03 30.8 +1.4
MOD IAmb IAmb 21 03 32.4
comp=Z,26nm,0.9s
GYA Guiyang 86.48 301 ⇓P **P** 21 03 30.1 +0.2
GYA pmax pmax
comp=Z,9.0nm,1.1s
GYA pmax pmax
comp=Z,130nm,6.1s
H04D Lebanon 86.67 37 P 21 03 32.6
baz=231,SNR=11
J05D Fort Rock, OR 86.75 39 P 21 03 33.1
baz=232,SNR=42
G03D McMinnville, O 86.82 37 P 21 03 33.4
baz=230,SNR=5.3
MA2 Magadan 86.96 346 P **P** 21 03 31.5 +0.3
BJT Baijiatuan 86.98 317 P **P** 21 03 32.7 +0.9
BJI Beijing 86.99 317 P **P** 21 03 33.0 +1.2
BJI pmax pmax
comp=Z,23nm,0.8s
H04A Detroit Lake 87.08 38 P **P** 21 03 33.7 +1.5
H04A IAmb IAmb 21 03 34.9
comp=Z,68nm,1.3s
SRDT SRDT 87.17 287 P **P** 21 03 34.6 +1.4
PINE Pine Mountain 87.23 39 P **P** 21 03 35.1 +2.0
R11A Troy Canyon, C 87.30 46 P 21 03 34.9
baz=236,SNR=5.5
I05D Terrebonne, OR 87.34 38 P 21 03 35.8
baz=232,SNR=10
TUC Tucson 87.37 53 P 21 03 36.6
baz=239
TUC Tucson 87.37 53 P **P** 21 03 36.0 +2.1
TUC IAmb IAmb 21 03 37.9
comp=Z,30nm,0.9s
BRSE Bradley Lake S 87.43 15 P 21 03 34.4
baz=207
F04D Rainier, OR 87.52 36 P 21 03 37.1
baz=230
WVOR Wild Horse Val 87.75 41 P **P** 21 03 37.2 +1.6
WVOR IAmb IAmb 21 03 38.6
comp=Z,53nm,1.1s
G05D Wamic, OR 87.91 37 P 21 03 38.0
baz=232
DIB Dawson Inlet, 87.92 27 P **P** 21 03 37.5 +1.6
E04D Cinebar 88.05 36 P 21 03 39.1
baz=231,SNR=11
SEW Seward 88.06 15 P 21 03 37.1
baz=208
TIY Taiyuan 88.09 313 *e*P **P** 21 03 38.4 +1.2
TIY SKS **SKSac** 21 13 10.5 -5.3
TIY S **SKSac** 21 13 27.7 -0.6
TIY pmax pmax
comp=Z,74nm,1.0s
LCMT Little Creek M 88.12 48 P **P** 21 03 39.0 +1.6
CCUT Cedar City 88.33 47 P **P** 21 03 40.7 +2.2
D04E Lakebay 88.34 35 P 21 03 41.1
baz=230,SNR=6.2
PLCA Paso Flores 88.34 134 P **P** 21 03 40.5 +2.0
comp=Z,4.7nm,0.7s,baz=230,slow=5.5,SNR=10
PLCA PKKPbc **PKKPbc** 21 21 19.0 +0.2
comp=Z,1.5nm,0.7s,baz=189,slow=3.0,SNR=3.3
PLCA Paso Flores 88.34 134 P **P** 21 03 40.2 +1.7
D03D Eldon 88.40 35 P 21 03 40.7
baz=230,SNR=23
U15A North Rim 88.46 49 P **P** 21 03 40.9 +1.7
U15A IAmb IAmb 21 03 42.6
comp=Z,30nm,0.9s
LAMP Lampang 88.56 291 P **P** 21 03 41.7 +2.1
comp=Z,0.1nmcomp=Z,437nmcomp=Z,50nm,0.9s
XAN Xi'an 88.58 309 ⇓P **P** 21 03 40.7 +1.2
XAN pmax pmax
comp=Z,57nm,1.2s
XAN pmax pmax
comp=Z,160nm,2.6s
XAN Xi'an 88.58 309 P **P** 21 03 40.6 +1.1
HPIG 88.60 60 P **P** 21 03 41.5 +1.5
HPIG IAmb IAmb 21 03 42.9
comp=Z,23nm,0.8s
WUAZ Wupatki 88.61 50 P 21 03 42.2
baz=238
WUAZ Wupatki 88.61 50 P **P** 21 03 41.5 +1.7
WUAZ IAmb IAmb 21 03 43.1
comp=Z,22nm,1.1s
RC01 Rabbit Creek A 88.86 14 P 21 03 40.5
baz=208
ELK Elko 88.87 44 P **P** 21 03 42.7 +1.7
comp=Z,13nm,0.9s,baz=249,slow=4.5,SNR=32
KMI Kunming 88.95 298 ⇓P **P** 21 03 43.0 +1.3
KMI pP pwP 21 05 43.2 +1.6
KMI pmax pmax
comp=Z,20nm,1.1s
KMI Kunming 88.95 298 P **P** 21 03 42.2 +0.6
KMI IAmb IAmb 21 03 44.1
comp=Z,17nm,0.9s
SUA Susitna One 88.97 14 P 21 03 41.4
baz=207,SNR=5.9
CM36 Chiang Mai Arr 89.01 291 P **P** 21 03 43.0 +1.2
CM35 Chiang Mai Arr 89.03 291 P **P** 21 03 43.0 +1.1
CM04 Chiang Mai Arr 89.06 291 P **P** 21 03 44.4 +2.3
comp=Z,0.1nmcomp=Z,190nmcomp=Z,24nm,1.0s
BBB Bella Bella 89.06 29 P **P** 21 03 43.2 +2.1
comp=Z,19nm,0.8s,baz=245,slow=5.0,SNR=17
BBB Bella Bella 89.06 29 P **P** 21 03 43.3 +2.1
BBB IAmb IAmb 21 03 44.2
comp=Z,29nm,0.9s
CM09 Chiang Mai Arr 89.07 291 P **P** 21 03 44.2 +2.1
comp=Z,0.1nmcomp=Z,171nmcomp=Z,22nm,1.0s
CM01 Chiang Mai Arr 89.08 291 P **P** 21 03 44.3 +2.2
comp=Z,0.1nmcomp=Z,196nmcomp=Z,22nm,1.1s
CM05 Chiang Mai Arr 89.09 291 P **P** 21 03 44.0 +1.8
comp=Z,0.1nmcomp=Z,130nmcomp=Z,16nm,1.0s
CM02 Chiang Mai Arr 89.10 291 P **P** 21 03 44.4 +2.1
comp=Z,0.1nmcomp=Z,175nmcomp=Z,21nm,1.0s
CM34 Chiang Mai Arr 89.11 291 P **P** 21 03 43.0 +0.7
CM31 Chiang Mai Arr 89.11 291 P **P** 21 03 44.4 +2.1
comp=Z,1.7nmcomp=Z,5µmcomp=Z,519nm,1.1s
CM31 Chiang Mai Arr 89.11 291 P **P** 21 03 43.6 +1.3
CM31 IAmb IAmb 21 03 45.1
comp=Z,35nm,1.1s
CMAR Chiang Mai Arr 89.11 291 P **P** 21 03 43.6 +1.3
comp=Z,14nm,0.9s,baz=137,slow=3.3,SNR=59
CMAR PP **PP** 21 07 22.8 +0.6
comp=Z,1.9nm,0.9s,baz=128,slow=6.3,SNR=6.7
CMAR PKiKP **PKiKP** 21 08 37.8 +0.3
comp=Z,0.4nm,0.4s,baz=112,slow=1.0,SNR=2.0
CMAR PKKPbc **PKKPbc** 21 21 17.5 +1.3
comp=Z,1.4nm,0.6s,baz=281,slow=4.4,SNR=8.3
CMAR Chiang Mai Arr 89.11 291 P **P** 21 03 43.2 +0.9
CM15 Chiang Mai Arr 89.13 291 P **P** 21 03 44.0 +1.7
comp=Z,0.1nmcomp=Z,158nmcomp=Z,20nm,1.0s
CM13 Chiang Mai Arr 89.13 291 P **P** 21 03 44.4 +2.0
comp=Z,0.1nmcomp=Z,144nmcomp=Z,19nm,1.1s
ZAIG Zacatecas 89.17 65 P **P** 21 03 44.8 +2.0
SKT Skwentna 89.26 13 P 21 03 41.4
baz=206
CMMT Chiang Mai 89.27 291 P **P** 21 03 43.3 +0.4
comp=Z,0.1nmcomp=Z,264nmcomp=Z,15nm,1.2s
SKT Skwentna 89.27 13 P **P** 21 03 41.9 0.0
SKT IAmb IAmb 21 03 42.3
comp=Z,18nm,1.0s
CM33 Chiang Mai Arr 89.27 291 P **P** 21 03 44.0 +1.0
CHTO Chiang Mai 89.27 291 P **P** 21 03 43.8 +0.8
CHTO IAmb IAmb 21 03 45.5
comp=Z,33nm,1.1s
TTA Tatalina 89.27 11 P 21 03 43.0
baz=202,SNR=14
CM32 Chiang Mai Arr 89.28 291 P **P** 21 03 45.0 +2.0
A04D Lummi Island 89.35 34 P 21 03 45.1
baz=231,SNR=8.2
EYAK Cordova Ski Ar 89.36 16 P 21 03 43.4
baz=212
B05A Bryant 89.38 35 P 21 03 44.9
baz=231,SNR=16
KNK Knik Glacier 89.44 15 P 21 03 43.9
baz=209,SNR=7.5
KNK Knik Glacier 89.44 15 P **P** 21 03 43.5 +0.6
PMR Palmer 89.44 15 P 21 03 43.4
baz=208,SNR=9.1
LTY Liberty 89.51 36 P **P** 21 03 44.9 +1.3
LTY IAmb IAmb 21 03 46.0
comp=Z,32nm,1.1s
E07A Sunnyside 89.53 37 P **P** 21 03 44.7 +1.2
HAWA Hanford 89.60 37 P **P** 21 03 45.3 +1.4
HAWA IAmb IAmb 21 03 46.9
comp=Z,32nm,1.1s
GHO Glory Hole Cre 89.65 15 P **P** 21 03 44.3 +0.5
121A Cookes Peak, D 89.67 54 P 21 03 47.2

baz=240
121A **Cookes Peak, D** 89.67 54 P P 21 03 46.8 +2.0
C06D **Leavenworth** 89.80 36 P 21 03 46.8
baz=232
MHMT **Maesarieng** 89.86 290 P P 21 03 47.6 +1.9
comp=Z,0.1nmcomp=Z,20nm,1.1s
CUT **Chulitna** 89.91 14 P 21 03 45.4
baz=208,SNR=7.9
E08A **Dider Farm, El** 89.92 37 P P 21 03 46.6 +1.3
E08A IAmb IAmb 21 03 48.9
comp=Z,26nm,1.2s
BI02 **San Fabin de** 89.94 131 P P 21 03 47.0 +0.9
BI02 IAmb IAmb 21 03 48.5
comp=Z,20nm,0.8s
BMRM **Bremner River** 90.01 17 P 21 03 46.3
baz=212
SCM **Sheep Creek Mo** 90.08 15 P P 21 03 46.2 +0.4
DUG **Dugway, Tooele** 90.11 45 P 21 03 48.5
baz=238
KLU **Klutina** 90.12 16 P 21 03 46.2
baz=211
CRQE **Cirque** 90.24 17 P 21 03 47.8
baz=214
WRAK **Wrangell Islan** 90.33 25 P 21 03 49.2
baz=223
WRAK **Wrangell Islan** 90.33 25 P P 21 03 48.3 +1.3
WRAK IAmb IAmb 21 03 49.8
comp=Z,25nm,0.8s
D08A **Wollman Farm,** 90.34 37 P P 21 03 48.5 +1.2
D08A IAmb IAmb 21 03 50.2
comp=Z,32nm,1.3s
HHC **Hu-ho-hao-te** 90.36 315 *e*P P 21 03 48.1 +0.4
HHC S S 21 13 54.4 -3.3
HHC pmax pmax
comp=Z,38nm,1.0s
HHC pmax pmax
comp=Z,69nm,5.3s
HIA **Hailar** 90.49 326 P P 21 03 48.0 0.0
HIA IAmb IAmb 21 03 49.5
comp=Z,34nm,1.5s
PINM **Pinnacle** 90.51 19 P 21 03 49.0
baz=216
TABL **Table Mountain** 90.53 18 P P 21 03 49.2 +1.1
TABL IAmb IAmb 21 03 50.1
comp=Z,20nm,0.7s
N25K **Chitina, Valde** 90.56 16 P 21 03 49.3
baz=212,SNR=6.8
WAT6 **Susitna Watana** 90.63 15 P 21 03 49.1
baz=210,SNR=7.0
WAT2 **Susitna Watana** 90.77 14 P 21 03 49.5
baz=209,SNR=5.7
MCARA **McCarthy VSAT** 90.78 17 P P 21 03 50.1 +1.2
KTH **Kantishna Hill** 90.80 13 P P 21 03 48.6 -0.5
KTH IAmb IAmb 21 03 50.0
comp=Z,16nm,0.9s
CHUM **Lake Minchumin** 90.82 12 P 21 03 48.9
baz=206
TRF **Thorofare Moun** 90.84 13 P 21 03 49.4
baz=208,SNR=8.3
TRF **Thorofare Moun** 90.84 13 P P 21 03 49.5 +0.1
TRF IAmb IAmb 21 03 50.2
comp=Z,23nm,0.8s
CD2 **Chengdu** 90.85 304 ⇓*i*P P 21 03 51.8 +1.7
CD2 sP sP 21 06 39.9 +3.1
CD2 PP PP 21 07 38.7 +3.1
CD2 SKS **SKSac** 21 13 34.5 +2.6
CD2 S S 21 14 02.3 0.0
CD2 SS SS 21 20 26.7 +5.2
CD2 pmax pmax
comp=Z,60nm,1.1s
CD2 pmax pmax
comp=Z,160nm,5.7s
CTG **Chitna Glacier** 90.90 18 P 21 03 51.0
baz=215,SNR=9.0
HLID **Hailey** 90.94 42 P 21 03 52.0
baz=236
HLID **Hailey** 90.94 42 P P 21 03 52.2 +1.8
HLID IAmb IAmb 21 03 53.4
comp=Z,20nm,1.4s
MNTX **Cornudas Mount** 91.06 56 P 21 03 53.2
baz=242
MNTX **Cornudas Mount** 91.06 56 P P 21 03 52.8 +1.7
BO02 **Sierra Bellavi** 91.25 129 P P 21 03 53.5 +1.4
TX31 **Lajitas Ar. Si** 91.27 58 P P 21 03 53.8 +1.7
TXAR **Lajitas Array** 91.27 58 P P 21 03 54.0 +1.9
comp=Z,11nm,0.8s,baz=214,slow=6.5,SNR=86
BNM **Barren Site** 91.31 53 P P 21 03 53.6 +1.2
MCK **McKinley** 91.37 14 P 21 03 51.8
baz=209,SNR=7.2
TCUT **Toone Canyon** 91.51 45 P P 21 03 54.9 +1.8
PV17 **East Wray Mesa** 91.68 48 P P 21 03 55.0 +1.0
ANMO **Albuquerque** 91.81 52 P 21 03 56.2
baz=241
ANMO **Albuquerque** 91.81 52 P P 21 03 56.0 +1.4
comp=Z,6.3nm,0.8s,baz=224,slow=5.9,SNR=17
ANMO **Albuquerque** 91.81 52 P P 21 03 55.7 +1.1
BCYI **Bear Canyon** 91.96 42 P P 21 03 56.6 +1.5
NEW **Newport** 92.03 37 P 21 03 55.9
baz=235
NEW **Newport** 92.03 37 P P 21 03 55.9 +0.7
comp=Z,2.4nm,0.6s,baz=237,slow=0.8,SNR=5.3
NEW **Newport** 92.03 37 P P 21 03 55.8 +0.7
NEA2 **Nenana** 92.10 13 P 21 03 54.7
baz=209
HDA **Harding Lake** 92.40 14 P 21 03 56.7
baz=210,SNR=8.9
HDA P 21 03 56.7
baz=210,SNR=8.9
HDA **Harding Lake** 92.40 14 P P 21 03 56.2 -0.1
DOT **Dot Lake** 92.42 15 P P 21 03 57.2 +0.7
DOT IAmb IAmb 21 03 58.0
comp=Z,12nm,0.9s
IMAR **Indian Mountai** 92.48 11 P P 21 03 57.0 +0.3
BCAR **Beaver Creek A** 92.50 17 P P 21 03 57.4 +0.5
I23K **Minto, Yukon-K** 92.53 13 P 21 03 56.8
baz=208
MCMT **McKenzie Canyo** 92.57 41 P P 21 03 58.6 +0.6
MDM **Murphy Dome** 92.60 13 P P 21 03 57.0 -0.3
MDM IAmb IAmb 21 03 58.0
comp=Z,12nm,0.9s
DLBC **Dease Lake** 92.66 24 P P 21 03 58.8 +1.0
comp=Z,2.0nm,0.8s,baz=201,slow=4.6,SNR=4.4
DLBC PKiKP **PKKPbc** 21 21 08.8 -0.3
comp=Z,1.1nm,0.7s,baz=249,slow=18,SNR=3.4
SCRK **Sand Creek** 92.71 15 P 21 03 58.8
baz=213,SNR=7.5
ILAR **Eielson Array** 92.72 14 P P 21 03 57.4 -0.5
comp=Z,4.2nm,0.7s,baz=229,slow=5.0,SNR=26
ILAR PKiKP **PKiKP** 21 08 41.8 -0.4
comp=Z,0.3nm,0.4s,baz=265,slow=2.8,SNR=7.0
S22A **4UR Ranch, Cre** 92.89 50 P 21 04 01.8
baz=241
POKR **Poker Flat Res** 92.91 13 P 21 03 58.0
baz=210
CO02 **Combarbal** 92.93 126 P P 21 04 01.0 +1.1
O20A **White River Ci** 93.09 47 P 21 04 02.0
baz=240
RDOG **Red Dog Mine** 93.17 7 P 21 04 01.1
baz=196
RDOG **Red Dog Mine** 93.17 7 P P 21 04 00.6 +0.8
RDOG IAmb IAmb 21 04 01.8
comp=Z,16nm,0.8s
LZH **Lanzhou** 93.21 308 *e*P P 21 04 02.5 +1.5
LZH pmax pmax
comp=Z,16nm,1.1s
K27K **Chicken** 93.22 16 P 21 04 01.6
baz=215
K27K **Chicken** 93.22 16 P P 21 04 01.4 +1.3
K27K IAmb IAmb 21 04 02.4
comp=Z,13nm,0.8s
SMCO **Snowmass** 93.48 48 P P 21 04 04.0 +1.5
BW06 **Boulder Array** 93.54 44 P 21 04 03.4
baz=240
PD31 **Pinedale Array** 93.54 44 P P 21 04 03.3 +0.9
PDAR **Pinedale Array** 93.54 44 P P 21 04 03.6 +1.2
comp=Z,2.7nm,0.8s,baz=225,slow=3.0,SNR=22
PDAR **Pinedale Array** 93.54 44 P P 21 04 03.3 +0.9
PRP **Porcupine Dome** 93.66 14 P 21 04 03.6
baz=212
BOZ **Bozeman (W)** 93.71 41 P 21 04 04.8
baz=238
BOZ **Bozeman (W)** 93.71 41 P P 21 04 04.2 +1.1
H17A **Grant Village** 93.73 43 P 21 04 06.5
baz=239

SDCO **Great Sand Dun** 93.81 50 P 21 04 05.4
baz=242
SDCO **Great Sand Dun** 93.81 50 P P 21 04 04.8 +0.9
DAWY **Dawson** 93.95 17 P P 21 04 04.4 +0.9
DAWY IAmb IAmb 21 04 05.3
comp=Z,15nm,0.8s
MSTX **Muleshoe** 94.05 55 P 21 04 06.3
baz=243
EGAK **Eagle** 94.07 16 P 21 04 04.9
baz=216
EGAK **Eagle** 94.07 16 P P 21 04 04.6 +0.6
EGAK IAmb IAmb 21 04 05.6
comp=Z,12nm,0.8s
COLD **Coldfoot** 94.22 11 P 21 04 05.8
baz=208
T25A **Trinidad** 94.30 51 P 21 04 07.4
baz=242
ISCO **Idaho Springs** 94.70 48 P 21 04 09.6
baz=242
YAK **Yakutsk** 94.86 339 P P 21 04 07.5 -0.1
YAK IAmb IAmb 21 04 08.4
comp=Z,17nm,0.9s
RLMT **Red Lodge** 94.90 42 P 21 04 10.1
baz=240
N23A **Red Feather La** 94.99 47 P 21 04 10.4
baz=242
BMAR **Burnt Mountain** 95.49 13 P P 21 04 11.2 +0.8
ULN **Ulaanbaatar** 96.73 320 P P 21 04 16.6 0.0
SONM **Songino Array** 97.10 320 P Pdif 21 04 18.4 +0.1
comp=Z,2.4nm,0.7s,baz=140,slow=3.6,SNR=20
SONM PP **PP** 21 08 16.8 -6.6
comp=Z,1.1nm,0.9s,baz=119,slow=7.3,SNR=5.7
SONM PKKPbc **PKKPbc** 21 20 56.3 -0.6
comp=Z,1.1nm,0.6s,baz=283,slow=2.8,SNR=10
SONM PKKPab PKKPdf 21 21 30.2 +32
comp=Z,0.6nm,0.8s,baz=309,slow=6.0,SNR=4.4
SONM Songino Array 97.10 320 P Pdif 21 04 18.4 +0.2
GTA **Gaotai** 97.55 310 ⇓P P 21 04 21.0 +0.5
GTA pP pP 21 06 18.3 +2.8
GTA sP sP 21 07 07.2 -0.5
GTA pmax pmax
comp=Z,9.0nm,1.3s
INK **Inuvik** 98.74 16 P P 21 04 25.3 +0.4
comp=Z,6.0nm,0.9s,baz=211,slow=2.6,SNR=14
INK PKiKP **PKiKP** 21 08 51.4 -1.2
comp=Z,0.7nm,0.6s,baz=187,slow=6.8,SNR=1.9
TLY **Talaya** 100.46 322 P Pdif 21 04 32.8 -0.1
comp=Z,0.9nm,0.4s,baz=137,slow=7.6,SNR=3.0
YKA **Yellowknife Ar** 101.14 26 P Pdif 21 04 36.2 +0.5
comp=Z,0.6nm,0.8s,baz=240,slow=4.0,SNR=6.4
YKA PKiKP **PKiKP** 21 08 57.0 -0.2
comp=Z,0.7nm,0.6s,baz=239,slow=0.8,SNR=9.2
YKA PKKPbc **PKKPbc** 21 20 44.0 -1.9
comp=Z,0.7nm,0.6s,baz=50,slow=3.0,SNR=9.6
YKA PKKPab PKKPdf 21 21 09.3 +18
comp=Z,1.2nm,0.9s,baz=57,slow=5.2,SNR=8.0
TIXI **Tiksi** 101.92 346 P Pdif 21 04 38.1 -0.8
comp=Z,1.3nm,0.3s,baz=118,slow=4.8,SNR=3.3
TAPN **Taplejung** 102.15 295 *e*P PKiKP 21 08 58.0 -2.5
comp=Z,6.1nm,0.6s
ODAN **Odare** 102.24 294 *e*P PKiKP 21 09 00.7 +0.1
comp=Z,16nm,1.1s
RAMN **Ramite** 102.93 294 *e*P PKiKP 21 09 02.6 +0.8
comp=Z,8.9nm,0.9s
GUN **Gumba** 103.87 295 *e*P PKiKP 21 09 02.4 -1.3
PKI **Pulchoki** 104.14 294 *e*P PKiKP 21 09 03.7 -0.5
comp=Z,4.8nm,0.6s
PKIN **Phulchoki** 104.16 294 *e*P PKiKP 21 09 03.7 -0.4
comp=Z,5.6nm,0.8s
KKN **Kakani** 104.33 294 *e*P PKiKP 21 09 04.0 -0.3
comp=Z,8.6nm,0.9s
DMN **Daman** 104.41 294 *e*P PKiKP 21 09 04.8 +0.3
comp=Z,11nm,0.8s
GKN **Gorkha** 104.93 294 *e*P PKiKP 21 09 04.2 -1.2
ULM **Lac du Bonnet** 105.25 42 PKiKP PKiKP 21 09 05.4 +0.3
comp=Z,1.1nm,0.5s,baz=292,slow=2.4,SNR=5.0
TKL **Tuckaleechee C** 109.18 59 PKiKP PKiKP 21 09 12.6 -0.3
comp=Z,4.1nm,1.0s,baz=166,slow=5.6,SNR=3.5
ZSN **Zaisan** 110.49 314 *e*PKiKP PKiKP 21 09 14.1 -0.9
baz=314
ZALV **Zalesovo Beam** 111.97 321 PKiKP PKiKP 21 09 16.4 -1.2
comp=Z,3.2nm,0.7s,baz=135,slow=2.0,SNR=11
MKAR **Makanchi Array** 112.05 313 Pdiff Pdif 21 05 27.0 +2.3
comp=Z,0.6nm,0.7s,baz=93,slow=6.4,SNR=7.9
MKAR PKiKP **PKiKP** 21 09 17.6 -0.3
comp=Z,3.9nm,0.8s,baz=96,slow=0.7,SNR=23
MKAR PKKPbc **PKKPbc** 21 20 12.3 +0.4
comp=Z,2.2nm,0.8s,baz=281,slow=4.1,SNR=17
MKAR PKKPab **PKKPab** 21 20 22.2 +1.6
comp=Z,1.7nm,0.7s,baz=284,slow=4.4,SNR=12
RES **Resolute Bay** 112.28 17 PKiKP PKiKP 21 09 16.8 -0.8
comp=Z,3.9nm,0.7s,baz=123,slow=2.7,SNR=16
RES PKKPab **PKKPab** 21 20 18.2 -0.6
comp=Z,1.1nm,0.8s,baz=78,slow=2.9,SNR=4.8
UZB **Uzynbulak** 113.55 308 *e*PKiKP PKiKP 21 09 20.7 -0.4
baz=308
KPKS **Kokpek** 113.85 309 *e*PKiKP PKiKP 21 09 21.0 -0.6
baz=308
SATY **Saty** 113.97 308 *e*PKiKP PKiKP 21 09 21.3 -0.6
baz=308
TDK **Taldyqorghan** 114.35 310 *e*PKP PKPdf 21 09 21.3 -1.1
baz=310
TDK *e*PP **PP** 21 10 26.2 -2.3
baz=310
SADO **Sadowa** 114.78 50 PKP PKPdf 21 09 22.2 -1.1
comp=Z,2.9nm,0.7s,baz=333,slow=2.5,SNR=5.4
MDOK **Medeo** 114.96 308 *e*PKP PKPdf 21 09 23.1 -0.7
baz=308
TNSS **Tian-Shan** 115.01 308 *e*PKP **PKPdf** 21 09 23.7 -0.6
baz=308
KSH **Kashi** 115.04 304 PKP **PKiKP** 21 09 25.1 +1.0
KSH AMB AMB
comp=Z,370nm,5.9s
CHKK **Chushkaly** 115.13 309 *e*PKP **PKPdf** 21 09 22.8 -1.2
baz=309
H53A **Bobcaygeon** 115.14 51 P 21 09 23.8
baz=260
KURBB **Kurchatov Arra** 115.20 316 PKP **PKPdf** 21 09 23.6 -0.2
comp=Z,9.5nm,0.8s,baz=102,slow=2.0,SNR=81
KURBB PKKPbc **PKKPbc** 21 20 02.1 +0.7
comp=Z,1.7nm,0.7s,baz=278,slow=3.9,SNR=13
KURBB PKKPab **PKKPab** 21 20 08.9 +2.4
comp=Z,1.6nm,0.8s,baz=277,slow=5.3,SNR=11
KUU **Kurty** 115.60 309 *e*PKP **PKPdf** 21 09 23.6 -1.3
baz=309
G54A **Lake Saint Pet** 115.62 50 P 21 09 24.1
baz=260
K56A **Middlesex** 115.70 53 P 21 09 24.8
baz=260
ALGO **Algonquin Park** 115.74 49 P 21 09 23.6
baz=261
L57A **Andrews Acres** 115.92 54 P 21 09 25.5
baz=260
TKM2 **Tomak 2** 115.97 307 P **PKiKP** 21 09 25.9 0.0
SNR=7.8
K57A **Scipio Center** 116.30 53 P 21 09 25.9
baz=260
KBK **Karagaybulak** 116.39 307 P **PKPdf** 21 09 26.6 0.0
SNR=5.1
MATQ **Matagami** 116.56 45 P 21 09 25.2
baz=263
BINY **Binghamton** 116.59 53 P 21 09 26.8
baz=260
CHMS **Chumysh** 116.59 307 P **PKiKP** 21 09 27.0 +0.1
SNR=7.2
UCH **Uchtor** 116.64 307 P **PKiKP** 21 09 27.9 +0.4
SNR=13
L58A **Harry Jones Me** 116.67 54 P 21 09 26.9
baz=260
AAK **Ala-Archa** 116.72 307 PKP **PKPdf** 21 09 27.0 -0.3
comp=Z,4.3nm,0.8s,baz=147,slow=4.0,SNR=20
AAK PKKPbc **PKKPbc** 21 19 57.4 +1.2
comp=Z,3.3nm,0.7s,baz=248,slow=1.9,SNR=15
AAK **Ala-Archa** 116.72 307 P **PKiKP** 21 09 27.6 +0.3
SNR=6.8
AAK **Ala-Archa** 116.72 307 PKPdf **PKPdf** 21 09 26.7 -0.5
SGDS **Sogindy** 116.75 308 *e*PKP **PKPdf** 21 09 26.5 -0.7
baz=308
USP **Ospenovka** 116.82 308 P **PKiKP** 21 09 27.4 +0.1
SNR=13
M59A **Waymart** 116.89 54 P 21 09 27.7
baz=260
LSQQ **Lebel-sur-Quev** 116.90 46 P 21 09 26.6
baz=263
K58A **Earlville** 116.93 53 P 21 09 27.2
baz=261
E55A **Montcerf-Lytto** 117.18 49 P 21 09 27.5
baz=262

AML **Almayashu** 117.22 306 P **PKiKP** 21 09 29.2 +0.6
SNR=18
EKS2 **Erkin-Say** 117.25 307 P **PKiKP** 21 09 28.7 +0.5
SNR=8.9
BTLS **Baital** 117.40 310 *e*PKP **PKPdf** 21 09 27.7 -0.6
baz=310
PTGA **Pitinga** 117.42 104 PKP **PKiKP** 21 09 29.3 0.0
comp=Z,4.8nm,0.5s,baz=242,slow=1.2,SNR=12
M60A **Port Jervis** 117.45 55 P 21 09 28.3
baz=261
D55A **Sainte-Anne-du** 117.65 48 P 21 09 28.2
baz=263
PCRV **Puerto La Cruz** 117.81 91 PKKPbc PKKPbc 21 19 52.4 +0.6
comp=Z,55nm,1.2s,baz=17,slow=20,SNR=3.3
J59A **Piesco** 117.86 52 P 21 09 28.8
baz=262
E56A **St. Veronique** 117.89 49 P 21 09 28.5
baz=263
M61A **Granite Spring** 118.09 55 P 21 09 29.8
baz=261
D56A **ZEC Mazanza, M** 118.14 48 P 21 09 29.2
baz=264
G58A **Ormstown** 118.41 50 P 21 09 29.8
baz=263
TULEG **Thule** 118.68 14 **PKPdf** 21 09 29.8 0.0
TULEG **Thule** 118.68 14 *i* P **PKPdf** 21 09 29.6 -0.2
TULEG IAmb IAmb 21 09 30.5
comp=Z,8.2nm,0.7s
TULEG **Thule** 118.68 14 *i* P **PKPdf** 21 09 29.6 -0.2
TULEG IAmb IAmb 21 09 30.5
comp=Z,8.2nm,0.7s
I60A **Shoreham** 118.79 52 P 21 09 31.2
baz=263
BRZS **Berezniki** 118.86 315 *e*PKP **PKPdf** 21 09 29.9 -1.1
baz=315
BDFB **Brasilia** 119.02 126 PKP **PKPdf** 21 09 32.0 -0.4
comp=Z,5.8nm,0.6s,baz=186,slow=1.1,SNR=8.7
BDFB PKKPbc **PKKPbc** 21 19 48.3 +0.2
comp=Z,3.5nm,0.8s,baz=78,slow=5.2,SNR=6.5
BDFB **Brasilia** 119.02 126 **PKPdf** 21 09 32.0 -0.4
L61B **Northampton** 119.05 54 P 21 09 31.7
baz=262
DZA **Taraz** 119.06 307 *e*PKP **PKPdf** 21 09 31.3 -0.3
baz=307
E58A **La Victoria** 119.08 49 P 21 09 31.3
baz=264
J61A **Chester** 119.26 53 P 21 09 32.4
baz=263
D58A **Chemin du LacG** 119.42 48 P 21 09 31.7
baz=265
KK31 **Karatay Array** 119.68 307 PKPdf **PKiKP** 21 09 32.9 0.0
KKAR **Karatay Array** 119.68 307 PKPdf **PKiKP** 21 09 32.9 0.0
KKAR **Karatay Array** 119.68 307 PKPdf **PKPdf** 21 09 32.8 0.0
IUG **Iuzhnay** 119.92 306 *e*PKP **PKPdf** 21 09 33.2 -0.2
baz=306
F60A **Warwick** 119.96 50 P 21 09 33.1
baz=265
G61A **St-Isidore-de-** 120.20 50 P 21 09 33.8
baz=265
E60A **Ste Agathe de** 120.34 49 P 21 09 33.9
baz=266
BVAR **Borovoye Array** 120.43 318 PKP **PKPdf** 21 09 33.3 -0.6
comp=Z,9.0nm,0.6s,baz=178,slow=15,SNR=61
BRVK **Borovoye** 120.49 319 PKPdf **PKPdf** 21 09 33.6 -0.3
F61A **St Evariste** 120.63 50 P 21 09 34.6
baz=266
I63A **Otisfield** 120.76 52 P 21 09 35.4
baz=265
G62A **West of Eustis** 120.89 51 P 21 09 34.9
baz=265
E61A **Lac Etchemin** 121.01 49 P 21 09 35.8
baz=266
I64A **Boothbay** 121.42 52 P 21 09 36.4
baz=265
FRB **Frobisher Bay** 121.44 29 PKP **PKPdf** 21 09 34.4 -1.0
comp=Z,17nm,0.7s,baz=305,slow=2.4,SNR=36
FRB PKKPbc **PKKPab** 21 19 38.5 -0.2
comp=Z,0.6nm,0.4s,baz=198,slow=6.3,SNR=3.1
G63A **Kingsbury** 121.53 51 P 21 09 36.5
baz=266
BOSA **Boshof** 121.61 207 PKP **PKiKP** 21 09 37.4 0.0
comp=Z,7.4nm,0.8s,baz=139,slow=1.2,SNR=12
BOSA PKKPbc **PKKPbc** 21 19 38.5 -0.7
comp=Z,4.3nm,0.8s,baz=322,slow=4.6,SNR=6.5
BOSA **Boshof** 121.61 207 PKPdf **PKPdf** 21 09 37.2 0.0
PKME **Peaks-Kenny Pk** 121.77 51 P 21 09 37.0
baz=266
H64A **Troy** 121.78 51 P 21 09 36.7
baz=266
F63A **Nahmakanta, Br** 121.93 50 P 21 09 37.2
baz=267
KULLO **Kullorsuaq** 122.09 15 *i* P **PKPdf** 21 09 36.1 -0.3
comp=Z,15nm,0.7s
KULLO **Kullorsuaq** 122.09 15 *i* P **PKPdf** 21 09 36.1 -0.3
KULLO IAmb IAmb 21 09 36.9
comp=Z,15nm,0.7s
KULLO **Kullorsuaq** 122.09 15 *i* P **PKPdf** 21 09 36.1 -0.3
KULLO IAmb IAmb 21 09 36.9
comp=Z,15nm,0.7s
G64A **Maxfield** 122.15 51 P 21 09 37.9
baz=267
E63A **Oxbow** 122.44 49 P 21 09 37.6
baz=268
F64A **Sherman** 122.46 50 P 21 09 38.1
baz=267
D63A **Stockholm** 122.68 49 P 21 09 38.0
baz=268
E64A **Bridgewater** 122.85 49 P 21 09 38.7
baz=268
G65A **Princeton** 122.98 51 P 21 09 39.2
baz=267
UPNV **Upernavik** 123.16 17 *i* P **PKiKP** 21 09 38.8 0.0
UPNV IAmb IAmb 21 09 39.3
comp=Z,30nm,0.7s
UPNV **Upernavik** 123.16 17 *i* P **PKiKP** 21 09 38.8 0.0
UPNV IAmb IAmb 21 09 39.3
comp=Z,30nm,0.7s
BATG **Bathurst New B** 124.08 48 **PKPdf** 21 09 40.8 -0.3
NUUG **Nuugaatsiaq** 124.54 18 *i* P **PKPdf** 21 09 41.1 0.0
NUUG IAmb IAmb 21 09 41.9
comp=Z,18nm,0.8s
NUUG **Nuugaatsiaq** 124.54 18 *i* P **PKPdf** 21 09 41.1 0.0
NUUG IAmb IAmb 21 09 41.9
comp=Z,18nm,0.8s
LBTB **Lobatse** 124.61 209 **PKiKP** 21 09 43.2 -0.2
HRA **Herat** 125.04 296 PKPdf **PKiKP** 21 09 44.1 +0.1
SPAO **Spitsbergen Ar** 125.63 356 *e*PKPdf **PKiKP** 21 09 43.7 0.0
ILULI **Ilulissat** 126.30 20 *i* P **PKPdf** 21 09 44.6 0.0
comp=Z,15nm,0.6s
ILULI **Ilulissat** 126.30 20 **PKPdf** 21 09 44.6 0.0
ILULI **Ilulissat** 126.30 20 *i* P **PKPdf** 21 09 44.6 0.0
ILULI IAmb IAmb 21 09 45.7
comp=Z,15nm,0.6s
ILULI **Ilulissat** 126.30 20 *i* P **PKPdf** 21 09 44.6 0.0
ILULI IAmb IAmb 21 09 45.7
comp=Z,15nm,0.6s
MDP **Montagnes des** 126.59 102 PKP **PKiKP** 21 09 47.6 +0.2
comp=Z,12nm,0.5s,baz=252,slow=2.9,SNR=12
DAG **Danmarks Havn** 126.89 5 *i* P **PKPdf** 21 09 44.3 -1.2
comp=Z,11nm,0.6s
DAG **Danmarks Havn** 126.89 5 *i* P **PKPdf** 21 09 44.4 -1.2
DAG IAmb IAmb 21 09 45.9
comp=Z,11nm,0.6s
DAG **Danmarks Havn** 126.89 5 *i* P **PKPdf** 21 09 44.4 -1.2
DAG IAmb IAmb 21 09 45.9
comp=Z,11nm,0.6s
ARU **Arti** 126.94 323 PKP **PKiKP** 21 09 46.6 -0.2
comp=Z,5.3nm,0.5s,baz=8.3,slow=0.6,SNR=33
ARU **Arti** 126.94 323 PKPdf **PKPdf** 21 09 46.5 +0.3
SOCY **Socotra** 126.96 267 PKPdf **PKiKP** 21 09 48.2 0.0
ABKAR **Akbulak array** 127.13 314 PKPdf **PKiKP** 21 09 47.1 -0.2
ABKAR **Akbulak array** 127.13 314 PKPdf **PKiKP** 21 09 47.5 +0.1
GBN **Guysborough** 127.26 51 PKPdf **PKPdf** 21 09 47.3 +0.2
SUMG **Summit** 127.57 13 *i* P **PKPdf** 21 09 47.5 +0.1
comp=Z,31nm,1.2s
SUMG **Summit** 127.57 13 PKPdf **PKPdf** 21 09 47.7 +0.1
SUMG **Summit** 127.57 13 *i* P **PKPdf** 21 09 47.6 +0.1
SUMG IAmb IAmb 21 09 49.5
comp=Z,31nm,1.2s
SUMG **Summit** 127.57 13 *i* P **PKPdf** 21 09 47.6 +0.1
SUMG IAmb IAmb 21 09 49.5
comp=Z,31nm,1.2s
AKTO **Aktyubinsk** 128.25 316 PKP **PKiKP** 21 09 49.3 -0.3
comp=Z,12nm,0.9s,baz=110,slow=3.3,SNR=25
UOSS **Minazif** 128.63 283 **PKPdf** 21 09 50.2 -0.2
GEYT **Alibeck** 128.69 300 PKP **PKiKP** 21 09 50.9 0.0
comp=Z,9.6nm,0.8s,baz=204,slow=3.3,SNR=14

Sta	Name	Dist	Azi	Phase	ID	Time	Res
GEYT	Alibeck	128.69	300	PKPdf	PKPdf	21 09 50.5	+0.3
GYA0B	ALIBECK ARRAY	128.69	300	PKPdf	PKiKP	21 09 50.8	-0.1
DBG	Daneborg	129.05	7	i P	PKPdf	21 09 49.5	-0.2
DBG				IAmb	IAmb	21 09 50.9	
	comp=Z,9.0nm,0.6s						
DBG	Daneborg	129.05	7	i P	PKPdf	21 09 49.5	-0.2
DBG				IAmb	IAmb	21 09 50.9	
	comp=Z,9.0nm,0.6s						
ICESG	Greenland Ices	129.70	17	i P	PKPdf	21 09 51.5	0.0
ICESG				IAmb	IAmb	21 09 52.5	
	comp=Z,8.5nm,0.5s						
ICESG	Greenland Ices	129.70	17	i P	PKPdf	21 09 51.5	0.0
ICESG				IAmb	IAmb	21 09 52.5	
	comp=Z,8.5nm,0.5s						
KIRV	Kirov	131.05	328	PKP	PKiKP	21 09 54.5	-0.5
	comp=Z,28nm,0.7s,baz=171,slow=0.9,SNR=14						
LSZ	Lusaka	131.47	218		PKiKP	21 09 56.8	-0.5
HAMF	Hammerfest	131.68	349	ePKPdf	PKiKP	21 09 55.6	-0.3
ARCES	ARCESS Array B	132.30	348	PKP	PKPdf	21 09 56.1	+0.1
	comp=Z,13nm,0.6s,baz=44,slow=1.2,SNR=24						
TSUM	Tsumeb	133.09	204	PKPdf	PKiKP	21 10 00.5	0.0
TRO	Tromso	133.33	351	ePKPdf	PKiKP	21 09 58.7	-0.6
KLMR	Klimovskoe	134.40	334	ePKPdf	PKPdf	21 09 57.8	-2.4
KLMR				AMP		21 10 00.8	
	comp=Z,20nm,1.2s						
KMBO	Kilima Mbogo	135.26	241	PKP	PKPdf	21 10 04.2	+0.6
	comp=Z,5.3nm,0.7s,baz=52,slow=4.3,SNR=11						
KMBO				SKPbc	SKPbc	21 12 46.7	+1.3
	comp=Z,3.7nm,0.9s,baz=40,slow=3.6,SNR=5.2						
QRN	Al-Qurain	136.54	287	eP		21 09 53.4	
RDF	Al-Radifah	136.88	287	eP		21 09 54.7	
MIB	Mutribah	137.15	288	eP		21 09 54.7	
RAYN	Ar Rayn	137.92	279	PKPdf	PKPdf	21 10 07.4	-0.5
FINES	FINESS Array B	138.76	341	PKhKP	PKPpre	21 09 59.4	
	comp=Z,5.1nm,0.6s,baz=69,slow=5.4,SNR=13						
FINES				SKPbc	SKPbc	21 12 54.8	+1.1
	comp=Z,6.0nm,0.7s,baz=48,slow=2.8,SNR=6.9						
KBZ	Khabaz	139.64	309	PKhKP	PKPpre	21 10 04.7	
	comp=Z,2.9nm,0.8s,baz=63,slow=2.1,SNR=6.3						
AKH	Akhalkalaki	139.70	306	⇑P	PKPdf	21 10 03.6	-7.2
VSU	Vasula	140.84	337	eP	PKPdf	21 10 07.5	-4.6
KOPT	Kop Dagi	142.21	304	PKPdf	PKPdf	21 10 13.8	-1.7
UPP	Uppsala	142.37	345	eP	PKPdf	21 10 10.6	-4.1
NB2	NORSAR Subarra	142.53	350	PKP	PKPdf	21 10 11.8	-3.3
	comp=Z,37nm,1.1s,baz=16,slow=3.2						
NB2	NORSAR Subarra	142.53	350	PKP	PKPdf	21 10 11.8	-3.3
	baz=16,slow=3.2						
NOA	NORSAR Array B	142.53	350	PKhKP	PKPpre	21 10 12.1	
	comp=Z,33nm,0.9s,baz=16,slow=5.0,SNR=50						
KTUT	Trabzon	142.54	306	⇑P	PKPdf	21 10 13.3	-2.3
NC602	NORSAR Array S	142.77	350	ePKPdf	PKPdf	21 10 13.0	-2.4
HYA	Hoyanger	143.00	354	ePKPbc	PKPbc	21 10 14.2	+0.4
IDID	Didziasalis	143.14	334	eP	PKPbc	21 10 14.2	-0.2
ISAL	Salakas	143.20	335	eP	PKPbc	21 10 14.9	+0.4
MNK	Minsk	143.24	332	i PKP	PKPdf	21 10 15.7	-0.7
	comp=E,16nm,1.7s						
MNK				i PKP	PKPdf	21 10 15.7	-0.7
	comp=N,90nm,1.3s						
MNK				i PKP	PKPdf	21 10 15.7	-0.7
	comp=Z,239nm,0.9s						
MNK				i pPKP	pPKPdf	21 12 14.5	-4.3
MNK				i SKP		21 13 02.1	
MNK				i PP	PP	21 13 33.3	-0.4
MNK				i PKS		21 14 09.4	
MNK				i SKS	SKSdf	21 16 19.6	-17
MNK				i PKKP	PKKPdf	21 19 28.1	-2.4
MNK				i SKKS	SKKSdf	21 25 43.2	-11
MNK				i SS	SS	21 31 22.6	-8.9
MNK				i LR	LR	22 10 55.4	
MNK				i LRM	MLR	22 15 19.0	
	comp=E,20nm,16.1s						
MNK				i LRM	MLR	22 15 20.3	
	comp=N,135nm,8.5s						
MNK				i LRM	MLR	22 15 24.2	
	comp=Z,93nm,7.6s						
SKAR	Skarslia	143.26	353	ePKPab	PKPbc	21 10 15.0	+0.3
IIGN	Ignalina	143.32	334	eP	PKPbc	21 10 15.1	+0.2
NACGM	Naroch	143.42	333	i PKP	PKPbc	21 10 15.6	+0.3
NACGM				i PKP	PKPbc	21 10 15.6	+0.3
NACGM				i PKP	PKPbc	21 10 15.6	+0.3
NACGM				i pPKP	pPKPdf	21 12 16.6	-2.5
NACGM				i PP	sPKPdf	21 13 09.2	-0.5
NACGM				i PPP	PPP	21 16 14.9	
NACGM				i SKKS		21 26 28.1	
NACGM				i SS	SS	21 30 39.4	-54
NACGM				i SSS	SSS	21 36 04.9	
OSL	Oslo	143.65	350	ePKPab	PKPbc	21 10 16.3	+0.5
PABE	Paberze	144.07	336	eP	PKPdf	21 10 17.6	-0.2
KONO	Kongsberg	144.10	351		PKPdf	21 10 17.6	-0.2
KONO	Kongsberg	144.10	351	ePKPbc	PKPdf	21 10 17.6	-0.2
PBUR	Paburge	144.38	338	eP	PKPbc	21 10 18.1	-0.1
AKASG	Malin Array Be	145.08	326	PKPbc	PKPdf	21 10 20.1	+0.4
	comp=Z,59nm,0.7s,baz=41,slow=4.2,SNR=67						
AKASG				SKPbc	SKiKP	21 13 11.3	+1.1
	comp=Z,3.2nm,0.7s,baz=49,slow=2.6,SNR=3.6						
AKASG	Malin Array Be	145.08	326		PKPdf	21 10 19.4	-0.3
AKBB	Malin Array Si	145.08	326	PKPdf	PKPdf	21 10 19.9	+0.2
TOKA	Tokat	145.13	306		PKPab	21 10 21.8	-0.3
GAZ	Gaziantep	145.28	300		PKPbc	21 10 22.2	+0.5
SUW	Suwalki	145.50	335	eP	PKPab	21 10 22.4	-0.6
SUW	Suwalki	145.50	335	PKPdf	PKPbc	21 10 21.3	-0.3
HOMB	Homborsund	145.58	351	ePKPbc	PKPab	21 10 22.5	-0.6
HOMB	Homborsund	145.58	351	i P	PKPbc	21 10 22.0	+0.3
HOMB	Homborsund	145.58	351	i P	PKPab	21 10 22.5	-0.6
SNART	Snartemo	145.68	353	i P	PKPbc	21 10 22.0	0.0
SNART	Snartemo	145.68	353	i P	PKPab	21 10 23.1	-0.4
BZK	Bozkurt	146.41	310	⇑P	PKiKP	21 10 26.0	-0.9
HWQ	Hawqa	146.74	296	eP	PKPbc	21 10 26.5	+0.6
ILGA	Ilgaz	146.92	308		PKiKP	21 10 27.4	-0.9
RCY	Rachaya	146.93	294	eP	PKiKP	21 10 27.5	-0.9
BHL	Bhannes	147.03	295	eP	PKPbc	21 10 27.4	+0.7
SORM	Soroca	147.07	323	⇑P	PKPbc	21 10 26.5	+0.4
DQRL	Deir Qamar	147.12	295	eP	PKPbc	21 10 27.7	+0.7
MUD	Monsted U'grnd	147.23	350	i P	PKPbc	21 10 26.4	+0.1
	comp=Z,34nm,0.7s						
MUD	Monsted U'grnd	147.23	350	i P	PKPbc	21 10 26.5	+0.1
MUD				IAmb	IAmb	21 10 27.4	
	comp=Z,34nm,0.7s						
MUD	Monsted U'grnd	147.23	350	i P	PKPbc	21 10 26.5	+0.1
MUD				IAmb	IAmb	21 10 27.4	
	comp=Z,34nm,0.7s						
BSD	Bornholm Skovb	147.27	343	i P	PKPbc	21 10 26.4	0.0
	comp=Z,41nm,0.9s						
BSD	Bornholm Skovb	147.27	343	eP	PKPbc	21 10 26.9	+0.4
BSD	Bornholm Skovb	147.27	343	i P	PKPbc	21 10 26.5	0.0
BSD				IAmb	IAmb	21 10 27.6	
	comp=Z,41nm,0.9s						
BSD	Bornholm Skovb	147.27	343	i P	PKPbc	21 10 26.5	0.0
BSD				IAmb	IAmb	21 10 27.6	
	comp=Z,41nm,0.9s						
MMAI	Mount Meron Ar	147.34	293	PKPbc	PKiKP	21 10 29.0	-0.2
COP	Copenhagen	147.34	346	i P	PKPdf	21 10 24.7	+1.4
COP	Copenhagen	147.34	346	eP	PKPdf	21 10 24.8	+1.4
COP	Copenhagen	147.34	346	eP	PKPdf	21 10 24.8	+1.4
BR131	Keskin Array S	147.39	306		PKPbc	21 10 27.5	0.0
BRTR	Keskin Array B	147.39	306	PKPbc	PKPbc	21 10 27.6	+0.1
	comp=Z,28nm,0.7s,baz=139,slow=4.3,SNR=56						
BRTR	Keskin Array B	147.39	306	PKPdf	PKPdf	21 10 23.9	-0.3
BRTR				PKPbc	PKPbc	21 10 27.6	+0.1
EIL	Elat	147.91	287	PKPbc	PKiKP	21 10 29.8	-0.6
	comp=Z,81nm,0.8s,baz=343,slow=1.9,SNR=52						
BR231	Keskin MP Arra	147.99	307		PKiKP	21 10 29.7	-0.7
GKP	Gorka Klasztor	148.20	339	eP	PKPbc	21 10 29.5	+0.5
VASR	Vaslui	148.23	321	⇓P	PKPbc	21 10 29.7	+0.4
TLCR		148.42	318	⇑P	PKiKP	21 10 30.5	-0.4
BIR	Birlad	148.54	321	⇓P	PKiKP	21 10 31.7	+0.6
PRAR	RASCA	148.68	324	⇓P	PKiKP	21 10 31.3	-0.1
CSS	Mathiatis	148.77	298		PKPbc	21 10 30.8	-0.2
TPGR	Topolog	148.83	318	⇑P	PKiKP	21 10 31.9	0.0
CFR	Carcaliu	148.83	319	⇑P	PKiKP	21 10 31.6	-0.1
SKMB	Sankelmark Bun	148.85	349	ePKPbc	PKiKP	21 10 31.9	+0.4
	baz=21,slow=2.1						
MDUB	Mudurnu	148.91	309		PKPbc	21 10 30.8	-0.5
KWP	Kalwaria Pacla	148.93	330		PKPbc	21 10 31.3	+0.4
TESR	Tescani	148.95	322	⇑P	PKPbc	21 10 31.1	+0.1
BIZ	Bicaz	149.00	323	⇓P	PKiKP	21 10 32.5	+0.4
TIRR	Tirgusor	149.03	317	⇑P	PKiKP	21 10 32.0	-0.2
BUR08	Bucovina Ar. S	149.05	325		PKiKP	21 10 32.4	+0.1
BURAR	Bucovina Array	149.06	325	⇑P	PKiKP	21 10 32.6	+0.2
BURAR	Bucovina Array	149.06	325	PKPdf	PKPdf	21 10 27.0	+0.4
BURAR				PKPbc	PKiKP	21 10 32.3	-0.1
BURAR				PKPab	PKPab	21 10 39.0	+1.2
LEF	Lefka	149.10	298	⇓P	PKiKP	21 10 32.3	-0.3
ODBI	Odobesti	149.15	321	⇑P	PKiKP	21 10 33.2	+0.8
MFTR	Murfatlar	149.17	317	⇑P	PKiKP	21 10 32.8	+0.3
HARR	Harsova	149.21	318	⇑P	PKiKP	21 10 32.7	+0.2
TLBR	Topalu	149.22	318	⇑P	PKiKP	21 10 32.9	+0.3
VRI	Vrincioaia	149.28	321	⇑P	PKiKP	21 10 32.5	-0.2
PLOR	Plostina	149.33	321	⇑P	PKPbc	21 10 32.2	+0.2
BSEG	Bad Segeberg	149.42	347	ePKPbc	PKiKP	21 10 32.7	+0.1
	baz=21,slow=2.1						
BISRR	Bisoca	149.47	320	⇑P	PKiKP	21 10 33.8	+0.6
ICOR	Ion Corvin	149.59	317	⇑P	PKiKP	21 10 33.5	+0.2
AMRR	Amara	149.61	318	⇑P	PKiKP	21 10 34.0	+0.6
HLG	Helgoland	149.62	350	ePKPbc	PKiKP	21 10 33.6	+0.5
	baz=21,slow=2.1						
KOLS	Kolonicke sedl	149.63	329	ePKP	PKPdf	21 10 27.7	+0.4
KOLS				e		21 10 33.7	
KOLS				e		21 10 40.7	
KOLS				e		21 12 39.4	
OZUR		149.68	322	⇑P	PKiKP	21 10 33.8	+0.3
OJC	Ojcow	149.75	333	PKPdf	PKPdf	21 10 28.0	+0.6
OJC				PKPbc	PKiKP	21 10 33.4	-0.1
NEHR	Nehoiu	149.78	321	⇑P	PKiKP	21 10 33.7	-0.1
ARCR	ARCALIA	149.85	325	⇑P	PKiKP	21 10 34.1	+0.3
BMR	Baia Mare	149.91	326	⇑P	PKPbc	21 10 33.3	0.0
RUE	Ruedersdorf	149.93	342	ePKPbc	PKiKP	21 10 33.9	+0.2
	baz=21,slow=2.1						
RUE				ePKPab	PKPab	21 10 41.8	+0.8
	baz=22,slow=4.3						
MLR	Muntele Rosu	149.95	321	PKPbc	PKPbc	21 10 33.9	+0.2
	comp=Z,16nm,0.6s,baz=326,slow=6.6,SNR=18						
MLR	Muntele Rosu	149.95	321	⇓P	PKiKP	21 10 34.1	-0.1
DOPR	Dopca	149.98	322	⇑P	PKiKP	21 10 34.9	+0.7
LEHL	Lehliu	150.00	319	⇑P	PKiKP	21 10 34.7	+0.5
CRVS	Cervenica-Dubn	150.02	330	ePKP	PKPdf	21 10 28.6	+0.6
CRVS				e		21 10 34.6	
CRVS				e		21 10 42.5	
CRVS				e		21 12 41.7	
SULR		150.22	319	⇑P	PKiKP	21 10 34.7	0.0
ISP	Isparta	150.28	304		PKPbc	21 10 34.5	-0.1
MDB	Medias	150.43	323	⇓P	PKiKP	21 10 36.1	+1.0
CJR	Cluj-Napoca	150.49	325	⇑P	PKiKP	21 10 35.7	+0.5
VOIR		150.49	322	⇓P	PKPbc	21 10 34.9	+0.1
SGRR	Singureni	150.64	319	⇑P	PKPbc	21 10 34.3	-0.7
OKC	Ostrava-Krasne	150.71	335	⇑ePKP	PKiKP	21 10 36.1	+0.6
LANS	Liptovska Anna	150.71	332	ePKP	PKPdf	21 10 30.3	+1.3
LANS				e		21 10 37.0	
LANS				e		21 12 43.9	
FLTG	Flechtingen	150.72	345	ePKPbc	PKiKP	21 10 35.4	0.0
	baz=21,slow=2.1						
FLTG				ePKPab	PKPab	21 10 44.4	+0.1
	baz=22,slow=4.3						
ARR	Arges	150.76	322	⇑P	PKPdf	21 10 29.9	+0.6
NRDL	Niedersach Rie	150.82	346	ePKPdf	PKPdf	21 10 30.9	+2.0
NRDL				ePKPbc	PKiKP	21 10 36.1	+0.6
	baz=21,slow=2.1						
NRDL				ePKPab	PKPab	21 10 45.4	+0.7
	baz=22,slow=4.3						
OSTC	Ostas	150.83	338	ePKPDF	PKPdf	21 10 30.2	+1.0
OSTC				⇑ePKP	PKiKP	21 10 36.6	+0.8
OSTC				ex	x	21 12 37.6	
CHVC	Chvalec	150.86	338	⇑ePKP	PKiKP	21 10 36.5	+0.7
DRGR		150.89	326	⇓P	PKiKP	21 10 36.3	+0.2
LTVH	Ltavrtes, Hu	150.90	328	⇑P	PKiKP	21 10 37.0	+1.0
UPC	Upice	150.94	338	⇑ePKP	PKiKP	21 10 36.8	+0.8
DPC	Dobruska-Polom	150.97	337	ePKPDF	PKPdf	21 10 30.7	+1.3
DPC				⇑ePKP	PKiKP	21 10 36.9	+0.8
MORC	Moravsky Berou	150.99	335	⇑P	PKPdf	21 10 30.3	+0.8
MORC	Moravsky Berou	150.99	335	ePKP	PKPdf	21 10 29.9	+0.4
MORC				e		21 10 36.4	
MORC				e		21 10 46.4	
MORC				e		21 12 39.5	
MORC	Moravsky Berou	150.99	335	PKPdf	PKPdf	21 10 29.6	+0.2
MORC				PKPbc	PKiKP	21 10 36.7	+0.5
MORC				PKPab	PKPab	21 10 46.3	+0.6
KRLC	Kraliky	151.03	336	ePKPDF	PKPdf	21 10 30.3	+0.8
KRLC				⇑ePKP	PKiKP	21 10 37.0	+0.8
ASSE	Asse, Remlinge	151.03	345	ePKPbc	PKiKP	21 10 36.4	+0.4
	baz=21,slow=2.1						
ASSE				ePKPab	PKPab	21 10 46.0	+0.4
	baz=22,slow=4.3						
HUMR	Humele	151.06	320	⇑P	PKPbc	21 10 35.8	-0.3
CLL	Collm	151.19	342	ePKPdf	PKPdf	21 10 30.0	+0.3
	comp=Z,38nm,1.7s						
CLL				i PKPbc	PKiKP	21 10 36.7	+0.2
	comp=Z,118nm,0.8s						
CLL				i PKPab	PKPab	21 10 47.1	+0.8
	comp=Z,60nm,0.8s						
CLL				i pPKPdf	pPKPbc	21 12 37.9	+0.4
CLL				i pPKPbc	pPKPab	21 12 43.6	+0.7
	comp=Z,26nm,1.0s						
CLL				i (SKPdf)		21 13 06.4	
CLL	Collm	151.19	342	PKPdf	PKPdf	21 10 29.9	+0.3
CLL				PKPbc	PKiKP	21 10 36.6	+0.2
CLL				PKPab	PKPab	21 10 47.2	+0.8
CLL	Collm	151.19	342	ePKPdf	PKPdf	21 10 30.2	+0.6
CLL				ePKPbc	PKiKP	21 10 36.9	+0.5
	baz=21,slow=2.1						
CLL				ePKPab	PKPab	21 10 46.8	+0.4
	baz=22,slow=4.3						
CLL				epPKPbc	pPKPab	21 12 43.4	+0.5
LOT	Lotru	151.20	323	⇑P	PKPbc	21 10 36.5	0.0
BRG	Berggiesshubel	151.30	341	ePKPdf	PKPdf	21 10 30.5	+0.7
BRG				ePKPbc	PKiKP	21 10 37.1	+0.4
	baz=21,slow=2.1						
BRG				ePKPab	PKPab	21 10 47.6	+0.8
	baz=22,slow=4.3						
BRG	Berggiesshubel	151.30	341	⇓PKPf		21 10 30.7	
BRG	Berggiesshubel	151.30	341	Amp		21 10 31.6	
	comp=Z,15nm,1.2s						
BRG	Berggiesshubel	151.30	341	⇑i PKP	PKiKP	21 10 37.1	+0.4
BRG	Berggiesshubel	151.30	341	Amp		21 10 38.2	
	comp=Z,71nm,0.9s						
BRG	Berggiesshubel	151.30	341	ePKPab	PKPab	21 10 47.9	+1.0
BRG	Berggiesshubel	151.30	341	Amp		21 10 48.6	
	comp=Z,45nm,0.9s						
BRG	Berggiesshubel	151.30	341	pPKP	pPKPdf	21 12 38.8	+6.3
BRG	Berggiesshubel	151.30	341	Amp		21 12 39.7	
	comp=Z,8.0nm,0.9s						
BRG	Berggiesshubel	151.30	341	ex	x	21 12 44.5	
BRG	Berggiesshubel	151.30	341	Amp		21 12 46.5	
	comp=Z,27nm,1.4s						
ZIMR		151.32	318	⇓P	PKPbc	21 10 36.6	-0.1
CLZ	Clausthal	151.37	346	ePKPdf	PKPdf	21 10 30.5	+0.5
CLZ				ePKPbc	PKiKP	21 10 37.6	+0.7
	baz=21,slow=2.1						
CLZ				ePKPab	PKPab	21 10 48.2	+1.0
	baz=22,slow=4.3						
CLZ				epPKPbc	pPKPab	21 12 43.3	-0.4
DEV	Deva	151.39	324	⇑P	PKiKP	21 10 37.6	+0.5
PVCC	Panska Ves	151.41	339	⇑ePKP	PKiKP	21 10 37.8	+0.9
FBE	Freiberg	151.44	341	ePKPbc	PKiKP	21 10 37.8	+0.9
	baz=21,slow=2.1						
FBE				ePKPab	PKPab	21 10 48.4	+1.0
	baz=22,slow=4.3						
FBE				epPKPbc	pPKPab	21 12 44.0	+0.1
AKAS	Kas	151.44	301		PKPbc	21 10 36.8	-0.6
IBBN	Ibbenburen	151.45	349	ePKPbc	PKiKP	21 10 37.3	+0.3
	baz=21,slow=2.1						
IBBN				ePKPab	PKPab	21 10 48.3	+0.9
	baz=22,slow=4.3						
PSZ	Piszkesteto	151.46	330	⇑P	PKiKP	21 10 37.5	+0.3
PSZ	Piszkesteto	151.46	330		PKiKP	21 10 37.3	0.0
VYHS	Vyhne	151.49	332	ePKP	PKiKP	21 10 37.9	+0.7
NEUB	Neuenburg	151.61	343	ePKPbc	PKiKP	21 10 37.6	+0.3
	baz=21,slow=2.1						
NEUB				ePKPab	PKPab	21 10 48.9	+0.8
	baz=22,slow=4.3						
JAVC	Velka Javorina	151.68	334	ePKP	PKPdf	21 10 32.1	+1.6
JAVC				e		21 10 38.9	
JAVC				e		21 10 50.5	
JAVC				e		21 12 38.8	
VLAD	Vladila	151.71	320	⇓P	PKiKP	21 10 39.4	+1.7
VRAC	Vranov	151.73	336	PKPbc	PKiKP	21 10 37.6	-0.1
	comp=Z,10.0nm,0.9s,baz=13,slow=0.5,SNR=11						
VRAC				PKPab	PKPab	21 10 48.7	0.0
	comp=Z,20nm,0.9s,baz=57,slow=4.1,SNR=16						
VRAC	Vranov	151.73	336	⇑P	PKiKP	21 10 38.3	+0.7
VRAC	Vranov	151.73	336	ePKP	PKPdf	21 10 30.8	+0.3
VRAC				e		21 10 37.9	
VRAC				e		21 10 49.9	
VRAC				e		21 12 40.4	
GTTG	Gottingen	151.74	346	ePKPdf	PKPdf	21 10 31.2	+0.8
GTTG				ePKPbc	PKiKP	21 10 38.1	+0.5
	baz=21,slow=2.1						
GTTG				ePKPab	PKPab	21 10 49.6	+1.0
	baz=22,slow=4.3						
GZR	Gura Zlata	151.77	324	⇑P	PKiKP	21 10 38.0	+0.1
SIRR	Siria	151.78	326	⇑P	PKiKP	21 10 38.8	+0.9
PRU	Pruhonice	151.88	339	⇑ePKP	PKiKP	21 10 38.4	+0.5
PRU				ePKPAB	PKPab	21 10 50.3	+1.0
PRU				epPKP	pPKPab	21 12 44.8	-0.9
PLVB	Pleven	151.92	318	⇑P	PKiKP	21 10 38.6	+0.4
SRE	Strehaia	152.00	322	⇑P	PKiKP	21 10 39.2	+0.8
KRUC	Moravsky	152.01	336	ePKP	PKPdf	21 10 31.3	+0.4
KRUC				e		21 10 38.2	
KRUC				e		21 10 50.8	
KRUC				e		21 12 37.6	
SMOL	Smolenice	152.05	334	ePKP	PKPab	21 10 51.4	+1.3
TANN	Tannenbergstha	152.14	342	ePKPdf	PKPdf	21 10 31.7	+0.5
TANN				ePKPbc	PKiKP	21 10 38.9	+0.3
	baz=21,slow=2.1						
TANN				ePKPab	PKPab	21 10 51.3	+0.8
	baz=22,slow=4.3						
TREC	Trest	152.15	337	⇑ePKP	PKiKP	21 10 39.1	+0.6
WERD	Werda	152.16	342	ePKPbc	PKiKP	21 10 39.1	+0.6
	baz=21,slow=2.1						
WERD				ePKPab	PKPab	21 10 51.5	+1.0
	baz=22,slow=4.3						
WERD				epPKPbc	pPKPab	21 12 45.4	-1.5
PLN	Plauen	152.17	342	ePKPbc	PKiKP	21 10 39.0	+0.5
	baz=21,slow=2.1						
PLN				ePKPab	PKPab	21 10 51.3	+0.8
	baz=22,slow=4.3						
MOX	Moxa	152.17	343	ePKPbc	PKiKP	21 10 39.8	+1.3
	baz=21,slow=2.1						
MOX				ePKPab	PKPab	21 10 52.0	+1.5
	baz=22,slow=4.3						
MODS	Modra-Piesok	152.22	334	ePKP	PKPdf	21 10 31.2	-0.1
MODS				e		21 10 38.9	
MODS				e		21 10 51.4	
MODS				e		21 12 46.0	
GUNZ	Gunzen	152.23	342	ePKPbc	PKiKP	21 10 39.5	+0.8
	baz=21,slow=2.1						
GUNZ				ePKPab	PKPab	21 10 52.0	+1.1
	baz=22,slow=4.3						
GUNZ				epPKPbc	pPKPab	21 12 46.1	-1.1
SRO	Srobarova	152.23	332	ePKP	PKiKP	21 10 39.3	+0.6
SRO				e		21 10 52.2	
SRO2	Moca	152.24	332	ePKP	PKPbc	21 10 38.1	-0.4
BZS	Buzias	152.24	325	⇑P	PKPdf	21 10 31.5	+0.1
WERN	Wernitzgruen	152.28	342	ePKPbc	PKiKP	21 10 39.8	+1.0
	baz=21,slow=2.1						
WERN				ePKPab	PKPab	21 10 52.4	+1.3
	baz=22,slow=4.3						
HERR	Herculane	152.30	323	⇑P	PKiKP	21 10 39.3	+0.3
NKC	Novy Kostel	152.31	342	⇑ePKP	PKiKP	21 10 39.5	+0.7
NKC				ePKPAB	PKPab	21 10 52.2	+1.0
PBCC	Pribram	152.32	339	⇑ePKP	PKiKP	21 10 39.4	+0.6
PBCC				⇑ePKP	PKiKP	21 10 39.5	+0.6
PBCC				ePKPAB	PKPab	21 10 52.1	+0.9
BUG	Bochum--Univer	152.37	349	ePKPdf	PKPdf	21 10 32.0	+0.7
KASTN	Kahler Asten	152.39	348	ePKPdf	PKPdf	21 10 32.0	+0.5
KASTN				ePKPbc	PKiKP	21 10 39.5	+0.5
	baz=21,slow=2.1						
UBBA	Unterbreizbach	152.41	345	ePKPab	PKPab	21 10 51.9	+0.5
	baz=22,slow=4.3						
ZST	Bratislava	152.44	334	ePKP	PKPdf	21 10 33.0	+1.4
ZST				e		21 10 40.0	
MANZ	Manzenberg	152.63	342	ePKPdf	PKPdf	21 10 32.5	+0.6
MANZ				ePKPbc	PKiKP	21 10 40.3	+0.8
	baz=21,slow=2.1						
MANZ				ePKPab	PKPab	21 10 53.6	+1.0
	baz=22,slow=4.3						
ROTZ	Rotzenmuhle	152.80	342	ePKPbc	PKiKP	21 10 40.5	+0.6
	baz=21,slow=2.1						
ROTZ				ePKPab	PKPab	21 10 54.3	+1.1
	baz=22,slow=4.3						
KHC	Kasperske Hory	152.94	339	ePKPDF	PKPdf	21 10 32.7	+0.4
KHC				⇑ePKP	PKiKP	21 10 40.9	+0.7
KHC				ePKPAB	PKPab	21 10 55.0	+1.1
KHC	Kasperske Hory	152.94	339	PKPdf	PKPdf	21 10 32.3	-0.1
KHC					PKiKP	21 10 40.7	+0.5
KHC				PKPab	PKPab	21 10 55.1	+1.2
CKRC	Cesky Krumlov	152.96	338	⇑ePKP	PKiKP	21 10 41.2	+1.0
CKRC				ex	x	21 12 46.9	
GRA1	Grafenberg Arr	153.14	343	PKPab	PKPab	21 10 55.8	+1.1
GRF	Grafenberg Arr	153.14	343	ePKPab	PKPab	21 10 55.6	+0.8
	baz=22,slow=4.3						
CONA	Conrad Observa	153.14	335	eP	PKPdf	21 10 32.9	+0.2
	comp=Z,7.3nm,1.0s,SNR=6.8						
CONA				i P	PKiKP	21 10 41.6	+0.8
	comp=Z,30nm,1.3s						
CONA				eP	PKPab	21 10 56.2	+1.3
	comp=Z,22nm,0.8s						
GRFO	Grafenberg	153.14	343		PKPab	21 10 55.8	+1.1
GEC2	GERESS Array S	153.15	339	PKPdf	PKPdf	21 10 32.8	+0.1
GEC2					PKiKP	21 10 41.2	+0.5
GEC2				PKPab	PKPab	21 10 55.8	+0.9
GEC2	GERESS Array S	153.15	339	ePKPdf	PKPdf	21 10 33.1	+0.3
GEC2				ePKPbc	PKiKP	21 10 41.1	+0.5
	baz=21,slow=2.1						
GEC2				ePKPab	PKPab	21 10 55.4	+0.5
	baz=22,slow=4.3						
GERES	GERESS Array B	153.15	339	PKP	PKPdf	21 10 32.8	+0.1
	comp=Z,2.3nm,0.8s,baz=48,slow=2.0,SNR=11						
GERES				PKPbc	PKiKP	21 10 41.0	+0.3
	comp=Z,7.8nm,0.9s,baz=24,slow=1.0,SNR=24						
GERES				PKPab	PKPab	21 10 55.1	+0.3
	comp=Z,5.9nm,0.7s,baz=36,slow=4.1,SNR=12						
GERES	GERESS Array B	153.15	339	PKPdf	PKPdf	21 10 32.2	-0.5
GERES				PKPbc	PKiKP	21 10 41.2	+0.5
GERES				PKPab	PKPab	21 10 56.0	+1.1
WET	Wettzell	153.15	340	ePKPdf	PKPdf	21 10 33.2	+0.6
WET				ePKPab	PKPab	21 10 55.9	+1.1
	baz=22,slow=4.3						
VTS	Vitosha	153.20	318		PKiKP	21 10 41.3	+0.2
VTS				PKPab	PKPab	21 10 56.5	+1.1
BEBN	Eben Emael	153.25	351	dPKPab	PKPab	21 10 55.5	+0.5
AHRW	Bad Neuenahr-A	153.27	349	ePKPdf	PKPdf	21 10 33.3	+0.6
AHRW				ePKPbc	PKiKP	21 10 41.4	+0.6
	baz=21,slow=2.1						
MORH	Mrgy, Hungar	153.29	329	⇑P	PKPdf	21 10 33.0	+0.2
TNS	Taunus Mts	153.31	347	ePKPdf	PKPdf	21 10 33.0	+0.1
TNS				ePKPbc	PKiKP	21 10 41.6	+0.6
	baz=21,slow=2.1						
TNS				ePKPab	PKPab	21 10 55.7	+0.2
	baz=22,slow=4.3						
MEM	Membach	153.38	350	dPKP	PKiKP	21 10 41.4	+0.4
MEM				dPKPab	PKPab	21 10 55.7	0.0
BTNL	Ternell	153.38	350	dPKP	PKiKP	21 10 41.1	+0.1
BTNL				dPKPab	PKPab	21 10 56.1	+0.3
BSTI	Sart Tilman	153.47	351	dPKPdf	PKPdf	21 10 33.3	+0.3
BSTI				dPKP	PKiKP	21 10 41.9	+0.8
BSTI				dPKPab	PKPab	21 10 56.9	+0.9
BOVS	Bovan	153.48	322	⇑P	PKiKP	21 10 41.6	+0.2
FRGS	Fruska Gora	153.49	326	⇑P	PKiKP	21 10 42.1	+0.7
BHOU	Houvegnez	153.63	350	dPKPab	PKPab	21 10 57.4	+0.7
BCLA	Clavier	153.67	351	dPKPdf	PKPdf	21 10 33.3	+0.1
BCLA				dPKP	PKPbc	21 10 41.4	-0.1
BCLA				dPKPab	PKPab	21 10 56.6	-0.3
SNF	Seneffe	153.71	353	dPKP	PKiKP	21 10 41.8	+0.1
SNF				dPKPab	PKPab	21 10 57.6	+0.6
BGES	Gesves	153.73	352	dPKPab	PKPab	21 10 57.1	0.0
MOA	Molln	153.80	337	eP	PKPdf	21 10 33.3	-0.3
	comp=Z,6.0nm,1.1s						
MOA				eP	PKiKP	21 10 42.5	+0.5
	comp=Z,8.8nm,1.1s						
MOA				i P	PKPab	21 10 58.9	+1.3
	comp=Z,31nm,1.7s						
ARSA	Arzberg	153.83	334	i P	PKPdf	21 10 33.6	0.0
	comp=Z,4.9nm,0.9s						
ARSA				eP	PKPab	21 10 58.5	+0.8
	comp=Z,5.5nm,0.7s						
BMRD	Maredsous	153.85	352	dPKP	PKiKP	21 10 42.5	+0.6
BMRD				dPKPab	PKPab	21 10 57.9	+0.2
DOU	Dourbes	154.07	352	dPKP	PKiKP	21 10 42.7	+0.3
DOU				dPKPab	PKPab	21 10 58.9	+0.3
DIVS	Divibare	154.12	324		PKiKP	21 10 43.3	+0.4
DIVS					PKPab	21 10 59.8	+0.5
WLF	Walferdange	154.27	350	dPKP	PKPbc	21 10 43.9	+1.0
WLF				dPKPab	PKPab	21 10 59.9	+0.4
WLF	Walferdange	154.27	350		PKPbc	21 10 43.5	+0.6
WLF					PKPab	21 11 00.2	+0.7
WLF	Walferdange	154.27	350	ePKPdf	PKPdf	21 10 35.2	+1.1
WLF				ePKPab	PKPab	21 11 00.5	+0.9
	baz=22,slow=4.3						
VAY	Valandovo	154.34	317	i P	PKPab	21 11 01.0	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOKA	Soboth	154.49	334	eP	PKPdf	21 10 34.4	-0.3
	comp=Z,8.5nm,1.1s,SNR=4.8						
SOKA				eP	PKPbc	21 10 43.6	0.0
	comp=Z,12nm,1.0s						
SOKA				iP	PKPab	21 11 01.4	+0.7
	comp=Z,31nm,1.4s						
FUR	Furstenfeldbru	154.51	341	ePKPab	PKPab	21 11 01.8	+1.1
	baz=22,slow=4.3						
STU	Stuttgart	154.51	345	PKPdf	PKPdf	21 10 34.5	0.0
STU				PKPab	PKPab	21 11 01.2	+0.6
STU	Stuttgart	154.51	345	ePKPdf	PKPdf	21 10 34.6	+0.1
STU				ePKPbc	PKPbc	21 10 43.8	+0.4
	baz=21,slow=2.1						
STU				ePKPab	PKPab	21 11 01.2	+0.6
	baz=22,slow=4.3						
SKO	Skopje	154.65	319	iP	PKPab	21 11 03.4	+1.9
KBA	Koelnbreinsper	154.79	337	P	PKPab	21 11 02.4	+0.3
	comp=Z,12nm,0.7s						
OBKA	Obir	154.82	335	eP	PKPdf	21 10 34.5	-0.6
	comp=Z,3.3nm,0.8s						
OBKA				iP	PKPab	21 11 02.0	-0.1
	comp=Z,9.5nm,0.9s						
LIT	Litokhoron	155.05	314	PKPab	PKPab	21 11 03.5	+0.2
MYKA	Terra Mystica	155.06	336	eP	PKPdf	21 10 35.1	-0.4
	comp=Z,5.4nm,1.0s						
MYKA				eP	PKPab	21 11 03.2	+0.1
	comp=Z,19nm,0.8s						
BFO	Black Forest	155.12	346		PKPdf	21 10 35.4	0.0
BFO				PKPab	PKPab	21 11 03.8	+0.6
BFO	Black Forest	155.12	346	ePKPbc	PKPdf	21 10 44.7	+9.3
	baz=21,slow=2.1						
BFO				ePKPab	PKPab	21 11 03.5	+0.2
	baz=22,slow=4.3						
WATA	Walderalm	155.16	340	iP	PKPdf	21 10 35.3	-0.4
	comp=Z,16nm,1.4s						
WATA				eP	PKPab	21 11 04.5	+0.9
	comp=Z,15nm,0.7s						
WTTA	Wattenberg	155.20	340	eP	PKPdf	21 10 35.6	-0.1
	comp=Z,17nm,1.4s						
WTTA				iP	PKPab	21 11 04.9	+1.1
	comp=Z,31nm,0.8s						
RETA	Reutte	155.27	341	eP	PKPdf	21 10 35.6	-0.1
	comp=Z,9.0nm,1.5s						
RETA				eP	PKPab	21 11 05.1	+1.1
	comp=Z,39nm,0.9s,SNR=8.1						
UBR	Ueberruh	155.28	342	ePKPdf	PKPdf	21 10 35.4	-0.2
UBR				ePKPbc	PKPbc	21 10 45.4	
	baz=21,slow=2.1						
UBR				ePKPab	PKPab	21 11 05.4	+1.3
	baz=22,slow=4.3						
MOTA	Moosalm	155.29	341	eP	PKPdf	21 10 35.7	-0.1
	comp=Z,14nm,1.1s,SNR=5.5						
MOTA				eP	PKPab	21 11 05.2	+0.9
	comp=Z,41nm,1.0s,SNR=6.6						
ABTA	Abfaltersbach	155.37	338	eP	PKPdf	21 10 35.4	-0.4
	comp=Z,21nm,1.2s,SNR=7.4						
ABTA				eP	PKPab	21 11 04.6	+0.2
	comp=Z,25nm,0.8s						
ZOU	Zoufplan	155.37	337	PKPab	PKPab	21 11 04.3	-0.4
SQTA	Sankt Quirin	155.37	340	eP	PKPdf	21 10 36.0	+0.1
	comp=Z,7.8nm,0.9s,SNR=5.0						
SQTA				eP	PKPab	21 11 05.6	+1.1
	comp=Z,29nm,0.9s,SNR=5.7						
IDI	Anoyia	155.38	302	PKPbc	PKPbc	21 10 44.6	
	comp=Z,21nm,1.0s,baz=75,slow=6.9,SNR=6.2						
PDG	Podgorica	155.63	322	PKPab	PKPab	21 11 06.4	+0.8
FETA	Feichten	155.70	341	eP	PKPdf	21 10 36.6	+0.2
	comp=Z,19nm,1.0s						
FETA				eP	PKPab	21 11 07.0	+1.1
	comp=Z,26nm,1.1s						
DAVA	Damuels	155.70	342	eP	PKPdf	21 10 35.6	-0.8
	comp=Z,9.6nm,1.0s						
DAVA				eP	PKPab	21 11 07.0	+1.0
	comp=Z,32nm,0.8s,SNR=6.9						
TIR	Tirane	155.97	319		PKPab	21 11 07.8	+0.6
DAVOX	Davos/Dischmat	156.16	342	PKP	PKPdf	21 10 37.6	+0.5
	comp=Z,3.3nm,0.6s,baz=19,slow=3.7,SNR=7.4						
DAVOX				PKPbc	PKPbc	21 10 48.2	
	comp=Z,5.6nm,0.6s,baz=18,slow=5.8,SNR=6.5						
DAVOX				PKPab	PKPab	21 11 09.4	+1.4
	comp=Z,22nm,0.7s,baz=28,slow=1.6,SNR=19						
CTI	Castel Tesino	156.27	338		PKPab	21 11 08.4	+0.1
CLF	Chambon-Foret	156.36	355		PKPdf	21 10 37.8	+0.8
CLF				PKPab	PKPab	21 11 09.5	+0.9
TUE	Stuetta	156.60	342	PKPab	PKPab	21 11 10.8	+0.8
SALO	Salr	157.02	340	PKPab	PKPab	21 11 11.9	+0.4
BNI	Bardonecchia	158.59	346	PKPab	PKPab	21 11 19.5	+0.9
SSB	Saint Sauveur	158.79	350	PKPab	PKPab	21 11 20.0	+0.8
TIP	Timpagrande	159.18	319	PKPab	PKPab	21 11 22.6	+1.3
LIC	Lamto	161.40	166	ePKP1	PKPdf	21 10 42.2	-1.6
	comp=Z,44nm,1.1s						
LIC	Lamto	161.40	166	eP	PKPab	21 11 31.2	-0.1
	comp=Z,39nm,0.8s						
PGAV	Gavieira, Arco	161.44	18	ePKPdf	PKPdf	21 10 44.3	+1.1
KIC	Kosan Boka	161.59	167	ePKP1	PKPdf	21 10 43.0	-1.1
	comp=Z,23nm,1.1s						
KIC	Kosan Boka	161.59	167	eP	PKPab	21 11 32.8	+0.6
	comp=Z,37nm,1.0s						
PCAB	Cabril	161.75	18	ePKPdf	PKPdf	21 10 44.9	+1.5
PCAB	Cabril	161.75	18	ePKPab	PKPab	21 11 33.5	+1.2
TIC	Toumodi	161.81	166	ePKP1	PKPdf	21 10 43.7	-0.6
TIC	Toumodi	161.81	166	eP	PKPab	21 11 33.8	+0.7
DBIC	Dimbokro	161.87	167	PKP	PKPdf	21 10 44.1	-0.2
	comp=Z,9.3nm,0.9s,baz=111,slow=4.9,SNR=6.5						
DBIC				PKPab	PKPab	21 11 34.2	+0.9
	comp=Z,12nm,1.0s,baz=157,slow=4.9,SNR=6.3						
DBIC	Dimbokro	161.87	167		PKPdf	21 10 44.0	-0.3
DBIC				PKPab	PKPab	21 11 34.1	+0.8
PBRG	Braganca	161.99	15	ePKPdf	PKPdf	21 10 44.2	+0.5
PBRG	Braganca	161.99	15	ePKPab	PKPab	21 11 33.9	+0.6
POLO	Lamas de Olo	162.12	18	ePKPdf	PKPdf	21 10 45.3	+1.4
POLO	Lamas de Olo	162.12	18	ePKPab	PKPab	21 11 35.2	+1.2
PVRL	Vila Real	162.24	18	ePKPab	PKPab	21 11 35.4	+0.9
MVO	Moncorvo	162.52	16	ePKPdf	PKPdf	21 10 45.1	+0.8
MVO	Moncorvo	162.52	16	ePKPab	PKPab	21 11 36.9	+1.1
PVIS	Viseu	162.71	19	ePKPdf	PKPdf	21 10 47.4	+3.0
PVIS	Viseu	162.71	19	ePKPab	PKPab	21 11 37.5	+0.9
MTE	Manteigas	163.10	18	ePKPdf	PKPdf	21 10 45.7	+0.9
MTE	Manteigas	163.10	18	ePKPab	PKPab	21 11 39.6	+1.3
MTE	Manteigas	163.10	18		PKPdf	21 10 45.1	+0.3
MTE				PKPab	PKPab	21 11 38.7	+0.4
PSBE	So Bento	163.51	23	ePKPab	PKPab	21 11 41.0	+0.9
PCBR	Castelo Branco	163.64	19	ePKPdf	PKPdf	21 10 46.7	+1.5
PCBR	Castelo Branco	163.64	19	ePKPab	PKPab	21 11 42.0	+1.4
PMAFR	Mafra	163.82	25	ePKPdf	PKPdf	21 10 46.7	+1.2
PMAFR	Mafra	163.82	25	ePKPab	PKPab	21 11 42.2	+0.7
PMRV	Marv??o	164.04	19	ePKPdf	PKPdf	21 10 46.5	+0.8
PMRV	Marv??o	164.04	19	ePKPab	PKPab	21 11 42.7	+0.3
PMTG	Montargil	164.10	22	ePKPdf	PKPdf	21 10 46.4	+0.7
PMTG	Montargil	164.10	22	ePKPab	PKPab	21 11 43.2	+0.5
ESBB	Sonseca Array	164.58	9	PKPab	PKPab	21 11 45.1	+0.3
ESDC	Sonseca Array	164.58	9	PKP	PKPdf	21 10 47.6	+1.4
	comp=Z,1.2nm,1.0s,baz=44,slow=2.0,SNR=5.4						
ESDC				PKPab	PKPab	21 11 45.5	+0.7
	comp=Z,12nm,0.9s,baz=343,slow=4.2,SNR=45						
ESDC	Sonseca Array	164.58	9		PKPdf	21 10 46.8	+0.6
ESDC					PKPab	21 11 45.2	+0.3
PAB	San Pablo	164.65	11		PKPdf	21 10 46.6	+0.3
PAB				PKPab	PKPab	21 11 45.5	+0.3
EVO	Evora	164.66	22	ePKPdf	PKPdf	21 10 47.8	+1.6
EVO	Evora	164.66	22	ePKPab	PKPab	21 11 45.8	+0.6
PNCL	Nicolau / Gran	164.85	24	ePKPdf	PKPdf	21 10 47.9	+1.6
PNCL	Nicolau / Gran	164.85	24	ePKPab	PKPab	21 11 46.5	+0.5
MESJ	Messejana	165.20	24	ePKP	PKPdf	21 10 47.4	+0.8
MESJ	Messejana	165.20	24	ePKPdf	PKPdf	21 10 48.1	+1.4
MESJ	Messejana	165.20	24	ePKPab	PKPab	21 11 47.6	0.0
PBAR	Barrancos	165.30	20	ePKPdf	PKPdf	21 10 48.3	+1.6
PBAR	Barrancos	165.30	20	ePKPab	PKPab	21 11 49.0	+1.0
PCVE	Castro Verde	165.45	24	ePKPdf	PKPdf	21 10 48.6	+1.7
PCVE	Castro Verde	165.45	24	ePKPab	PKPab	21 11 49.6	+0.9
MORF	Marmelete	165.50	26	ePKP	PKPdf	21 10 48.0	+1.0
MORF	Marmelete	165.50	26	ePKPdf	PKPdf	21 10 48.7	+1.7
MORF	Marmelete	165.50	26	ePKPab	PKPab	21 11 50.0	+1.0
PVAQ	Vaqueiros	165.77	23	ePKPdf	PKPdf	21 10 48.7	+1.6
PVAQ	Vaqueiros	165.77	23	ePKPab	PKPab	21 11 51.2	+1.1
KEST	Kesra	165.80	325	PKP	PKPdf	21 10 45.7	-1.6
	comp=Z,12nm,1.2s,baz=32,slow=3.5,SNR=5.1						
KEST				PKPab	PKPab	21 11 51.4	+1.0
	comp=Z,12nm,1.0s,baz=78,slow=0.9,SNR=7.5						
PBDV	Barranco-do-Ve	165.83	24	ePKPdf	PKPdf	21 10 48.9	+1.7
PBDV	Barranco-do-Ve	165.83	24	ePKPab	PKPab	21 11 50.9	+0.5
TOA0	Torodi Ar. Sit	168.52	192		PKPdf	21 10 49.1	-0.6
TOA0				PKPab	PKPab	21 12 02.8	+0.2
TORD	Torodi Ar. Bea	168.52	192	PKP	PKPdf	21 10 49.6	-0.1
	comp=Z,11nm,1.2s,baz=332,slow=0.6,SNR=17						
TORD				PKPab	PKPab	21 12 03.1	+0.5
	comp=Z,16nm,0.7s,baz=166,slow=3.9,SNR=35						
TORD				PP	PP	21 15 52.3	+0.8
	comp=Z,2.9nm,1.0s,baz=157,slow=4.9,SNR=4.8						
TORD	Torodi Ar. Bea	168.52	192		PKPdf	21 10 48.9	-0.9
TORD					PKPab	21 12 02.5	-0.1
KOWA	Kowa	169.61	162	PKP	PKPdf	21 10 49.9	-0.5
	comp=Z,5.7nm,0.9s,baz=206,slow=1.8,SNR=4.6						
KOWA				PKPab	PKPab	21 12 08.1	+0.6
	comp=Z,4.0nm,0.6s,baz=183,slow=4.4,SNR=8.1						
MDT	Midelt	171.00	21	PKP	PKPdf	21 10 51.9	+1.0
	comp=Z,12nm,1.1s,baz=164,slow=0.9,SNR=16						
MDT				PKPab	PKPab	21 12 15.2	+1.7
	comp=Z,17nm,1.0s,baz=352,slow=4.8,SNR=17						
TAM	Tamanrasset	174.05	255		PKPdf	21 10 53.1	+0.6
TAM					PKPab	21 12 27.9	+0.3

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*IDC **07** 20:52:46.3±0.7, 24.°54S×179.°71E, h0^{km}, mb4.5/8, mb1 4.8/9, mb1mx4.2/54, mbtmp4.6/9, ML5.1/1, Error ellipse: s-maj=33.2km s-min=29.1km az=134.0*

ISC 07 20:52:47.5±0.7**, 24.°5S**±0.°1×**179.°7E**±0.°2**, h10^{km}, n14, σ1.^{s}24**/14**, mb4.5**/8**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	13.89	188	Pn	Pn	20 56 04.0	-0.4
	8.3nm,0.3s,baz=219,slow=20,SNR=1.3						
STKA	Stephens Creek	34.22	249	P	P	20 59 35.5	+1.9
	4.3nm,0.8s,baz=76,slow=14,SNR=2.0						
PMSA	Palmer Station	78.48	157	P	P	21 04 47.4	-1.0
	37nm,1.0s,baz=292,slow=2.1,SNR=3.9						
NVAR	Mina Array Bea	85.39	44	P	P	21 05 26.1	+0.6
	3.4nm,1.2s,baz=224,slow=7.6,SNR=2.6						
PLCA	Paso Flores	88.06	134	P	P	21 05 39.2	+0.7
	3.3nm,1.0s,baz=256,slow=2.8,SNR=3.0						
CMAR	Chiang Mai Arr	89.45	290	P	P	21 05 44.1	-1.1
	4.0nm,1.1s,baz=142,slow=3.6,SNR=4.8						
TXAR	Lajitas Array	91.00	58	P	P	21 05 54.3	+1.9
	1.2nm,0.8s,baz=205,slow=5.5,SNR=4.7						
ANMO	Albuquerque	91.56	52	P	P	21 05 55.4	+0.5
	1.7nm,1.0s,baz=122,slow=6.2,SNR=3.3						
ILAR	Eielson Array	92.69	14	P	P	21 05 57.8	-1.3
	3.2nm,1.1s,baz=230,slow=5.8,SNR=5.6						
AKASG	Malin Array Be	145.31	327	PKPbc	PKPab	21 12 25.4	+0.1
	8.4nm,0.8s,baz=40,slow=4.6,SNR=5.8						
MMAI	Mount Meron Ar	147.67	293	PKPbc	PKiKP	21 12 33.5	-1.4
	65nm,1.4s,baz=81,slow=4.5,SNR=5.0						
BRTR	Keskin Array B	147.69	306	PKPbc	PKPbc	21 12 31.8	-1.0
	2.6nm,0.9s,baz=98,slow=1.6,SNR=3.5						
EKA	Eskdalemuir Ar	149.13	3	PKPbc	PKiKP	21 12 36.7	-0.3
	2.8nm,0.8s,baz=4.4,slow=2.3,SNR=3.6						
GERES	GERESS Array B	153.31	339	PKPbc	PKiKP	21 12 47.1	+1.1
	1.9nm,0.8s,baz=0.0,slow=0.5,SNR=5.2						

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*NEIC **07** 20:53:16.0±1.2, 19.°58N±0.°05×66.°07W±0.°05, h14^{km}±8^{km}, Error ellipse: s-maj=8.2km s-min=5.6km az=213.0*
*IDC **07** 20:53:15.3±0.9, 19.°47N×66.°11W, h0^{km}, mb3.7/8, mb1 4.0/9, mb1mx3.7/48, mbtmp3.7/9, ML2.7/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/55, Error ellipse: s-maj=25.5km s-min=15.5km az=74.0*
*RSPR **07** 20:53:18.9, 19.°62N×66.°06W, h48^{km}±17^{km}, MD3.8/15*

ISC 07 20:53:17.0±0.6**, 19.°52N**±0.°04×**66.°07W**±0.°03**, h14^{km}, n96, σ0.^{s}83**/91**, mb3.6**/8**, MS3.6**/3**, 15C-2D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	1.13	203⇑	eP	Pg	20 53 38.4	-0.3
EMPR	Esperanza - Ma	1.13	203	eS	Sg	20 53 54.4	+0.9
EMPR	Esperanza - Ma	1.13	203		Pn	20 53 38.1	-0.3
EMPR	Esperanza - Ma	1.13	203		Sg	20 53 54.4	+0.9
EMPR	Esperanza - Ma	1.13	203	IAML		20 54 02.6	
	comp=E,3μm,0.6s						
EMPR				IAML		20 54 04.5	
	comp=N,2μm,0.8s						
GCPR	Guaynabo City	1.21	181⇑	eP	Pn	20 53 39.1	-0.4
GCPR	Guaynabo City	1.21	181	eS	Sb	20 53 55.8	+0.7
GCPR	Guaynabo City	1.21	181		Pn	20 53 38.6	-0.8
GCPR	Guaynabo City	1.21	181		Sb	20 53 55.8	+0.7
GCPR	Guaynabo City	1.21	181	IAML		20 54 02.6	
	comp=E,1μm,1.2s						
GCPR				IAML		20 54 05.7	
	comp=N,498nm,0.9s						
CBYP	Canovanas	1.26	171⇑	eP	Pn	20 53 39.9	-0.3
CBYP	Canovanas	1.26	171	eS	Sb	20 53 56.9	+0.3
CBYP	Canovanas	1.26	171		Pn	20 53 39.7	-0.6
CBYP	Canovanas	1.26	171		Sb	20 53 56.9	+0.3
CBYP	Canovanas	1.26	171	IAML		20 54 02.9	
	comp=N,2μm,0.2s						
CBYP				IAML		20 54 07.1	
	comp=E,2μm,0.2s						
AOPR	Arecibo Observ	1.34	209⇑	eP	Pn	20 53 41.1	-0.2
AOPR	Arecibo Observ	1.34	209	eS	Sn	20 53 58.9	0.0
AOPR	Arecibo Observ	1.34	209		Sn	20 53 58.9	0.0
AOPR	Arecibo Observ	1.34	209		Pn	20 53 40.6	-0.7
AOPR	Arecibo Observ	1.34	209	IAML		20 54 04.9	
	comp=E,4μm,0.6s						
AOPR				IAML		20 54 09.0	
	comp=N,3μm,0.8s						
HUMP	Col San Antoni	1.39	171⇑	eP	Pn	20 53 41.7	-0.2
HUMP	Col San Antoni	1.39	171	eS	Sn	20 54 00.2	+0.1
HUMP	Col San Antoni	1.39	171		Pn	20 53 41.2	-0.7
HUMP	Col San Antoni	1.39	171		Sn	20 54 00.2	+0.1
HUMP	Col San Antoni	1.39	171	IAML		20 54 08.4	
	comp=N,749nm,0.8s						
HUMP				IAML		20 54 09.6	
	comp=E,710nm,0.7s						
SJG	San Juan	1.41	183	Pn	Pn	20 53 41.9	-0.2
	comp=E,104nm,0.3s,baz=11,slow=9.2,SNR=198						
SJG				Sn	Sn	20 54 00.3	-0.2
	comp=E,304nm,0.3s,baz=344,slow=18,SNR=17						
SJG	San Juan	1.41	183		Pn	20 53 41.8	-0.3
SJG				IAML		20 54 01.5	
	comp=E,965nm,0.5s						
SJG				IAML		20 54 05.1	
	comp=E,1μm,0.6s						
CUPR	Culebra, Puert	1.42	148⇑	eP	Pn	20 53 42.5	+0.2
CUPR	Culebra, Puert	1.42	148		Pn	20 53 42.5	+0.2
AGPR	Aguadilla, PR	1.44	223⇑	eP	Pn	20 53 42.4	-0.3
AGPR	Aguadilla, PR	1.44	223	eS	Sn	20 54 01.4	0.0
AGPR	Aguadilla, PR	1.44	223		Pn	20 53 42.0	-0.7
AGPR				IAML		20 54 34.7	
	comp=N,724nm,1.9s						
AGPR				IAML		20 54 46.0	
	comp=E,690nm,1.1s						
AGPR	Aguadilla, PR	1.44	223		Sn	20 54 01.4	0.0
PDPR	Patillas Dam,	1.50	178⇑	eP	Pn	20 53 43.6	+0.2
PDPR	Patillas Dam,	1.50	178		Pn	20 53 42.8	-0.6
PDPR				IAML		20 54 15.2	
	comp=E,762nm,0.9s						
MTP	Monte Pirata	1.50	161⇑	eP	Pn	20 53 43.5	+0.1
MTP	Monte Pirata	1.50	161	eS	Sn	20 54 03.2	+0.4
MTP	Monte Pirata	1.50	161		Pn	20 53 43.0	-0.4
MTP	Monte Pirata	1.50	161		Sn	20 54 03.2	+0.4
MTP	Monte Pirata	1.50	161	IAML		20 54 12.2	
	comp=E,478nm,0.6s						
MTP				IAML		20 54 18.3	
	comp=N,331nm,0.8s						
CELP	Cerrillos	1.52	199⇓	eP	Pn	20 53 43.6	-0.2
CELP	Cerrillos	1.52	199	eS	Sn	20 54 03.4	0.0
CELP	Cerrillos	1.52	199		Pn	20 53 43.6	-0.2
CELP					Sn	20 54 03.4	0.0
IGPR	InterUniversit	1.55	181⇑	eP	Pn	20 53 44.4	+0.2
IGPR	InterUniversit	1.55	181	Pn	Pn	20 53 43.5	-0.6
IGPR				IAML		20 53 58.2	
	comp=E,1μm,0.2s						
OBIP	Obispado Ponce	1.56	199⇑	eP	Pn	20 53 43.2	-1.1
OBIP				eS	Sn	20 54 05.0	+0.7
OBIP	Obispado Ponce	1.56	199		Pn	20 53 42.8	-1.4
OBIP	Obispado Ponce	1.56	199		Sn	20 54 05.0	+0.7
OBIP	Obispado Ponce	1.56	199	IAML		20 54 08.8	
	comp=E,736nm,0.7s						
OBIP				IAML		20 54 09.4	
	comp=N,1μm,0.9s						
LSP	Las Mesas	1.65	216⇑	eP	Pn	20 53 45.5	-0.1
LSP	Las Mesas	1.65	216	eS	Sn	20 54 06.8	+0.1
LSP	Las Mesas	1.65	216		Pn	20 53 45.5	-0.1
LSP					Sn	20 54 06.8	+0.1
MPR	Mayaguez	1.65	218		Pn	20 53 45.0	-0.6
ICMP	Isla Caja de M	1.69	195⇑	eP	Pb	20 53 46.8	-1.0
ICMP	Isla Caja de M	1.69	195	eS	Sb	20 54 09.8	+1.0
ICMP	Isla Caja de M	1.69	195		Pn	20 53 45.9	-0.1
ICMP	Isla Caja de M	1.69	195		Sb	20 54 09.8	+1.0
ICMP	Isla Caja de M	1.69	195	IAML		20 54 19.0	
	comp=N,700nm,1.6s						
ICMP				IAML		20 54 32.4	
	comp=E,920nm,1.4s						
GBPR	Guanica, Bosqu	1.72	207⇑	eP	Pb	20 53 47.6	-0.8
GBPR	Guanica, Bosqu	1.72	207	eS	Sg	20 54 13.3	+0.9
GBPR	Guanica, Bosqu	1.72	207		Pb	20 53 47.6	-0.8
GBPR					Sg	20 54 13.3	+0.9
TBVI	Tortola	1.76	128⇓	eP	Pb	20 53 48.0	-1.0
TBVI	Tortola	1.76	128	eS	Sb	20 54 12.0	+1.0
TBVI	Tortola	1.76	128		Pb	20 53 48.0	-1.0
TBVI					Sb	20 54 12.0	+1.0
MLPR	Magueyes Islan	1.80	211⇑	eP	Pn	20 53 48.0	+0.4
MLPR	Magueyes Islan	1.80	211	eS	Sn	20 54 10.6	+0.4
MLPR	Magueyes Islan	1.80	211		Pn	20 53 47.4	-0.2
MLPR	Magueyes Islan	1.80	211		Sn	20 54 10.6	+0.4
CDVI	St. Croix	2.15	145		Pb	20 53 55.0	-0.7
DR12	Loma Pena Alta	3.22	257	Pn	Pn	20 54 09.2	+2.0
SDD	Santo Domingo	3.79	254	Pn	Pn	20 54 14.0	-1.0
SKI	Saint Kitts	3.84	124		Pn	20 54 16.7	+1.0
BANI	BANI	4.21	255	Pn	Pn	20 54 24.3	+3.3
BANI					Sn	20 55 08.8	-1.3
SDDR	Presa de Saban	4.96	265		Pn	20 54 32.4	+1.2
GRTK	Grand Turk	5.14	293	Pn	Pn	20 54 33.9	+0.3
GRTK				IAML		20 55 42.9	
	comp=E,89nm,1.8s						
GRTK				IAML		20 56 04.9	
	comp=E,90nm,3.6s						
SDV	Santo Domingo	11.46	203	Pn	Pn	20 55 60.0	-0.5
	comp=E,0.5nm,0.3s,baz=310,slow=20,SNR=1.7						
SDV				LR	LR	21 01 00.9	
	comp=E,92nm,19.0s,baz=54,slow=41						
SDV	Santo Domingo	11.46	203		Pn	20 56 01.8	+1.3
BBSR	BB Station	12.85	5	Pn	Pn	20 56 17.6	-1.6
ROSC	El Rosal	16.66	210	LR	LR	21 04 55.2	
	comp=E,126nm,18.1s,baz=52,slow=42						
ROSC	El Rosal	16.66	210	Pn	Pn	20 57 09.4	-1.3
ROSC				IAmb	IAmb	20 57 27.5	
	comp=Z,21nm,1.1s						
656A	Willston	17.89	306		Pn	20 57 24.3	-1.2
MDP	Montagnes des	19.41	136	LR	LR	21 05 13.6	
	comp=Z,40nm,20.5s,baz=58,slow=37						
PTGA	Pitinga	21.00	163	P	P	20 57 59.6	-0.5
	comp=Z,3.0nm,0.6s,baz=341,slow=13,SNR=7.2						
PTGA				LR	LR	21 06 38.5	
	comp=Z,75nm,18.3s,baz=74,slow=38						
PTGA	Pitinga	21.00	163	P	P	20 57 59.4	-0.8
TXAR	Lajitas Array	35.47	293	P	P	21 00 14.1	+0.7
	comp=Z,0.7nm,0.7s,baz=115,slow=11,SNR=9.0						
TXAR	Lajitas Array	35.47	293	P	P	21 00 11.8	-1.5
TX31	Lajitas Ar. Si	35.47	293	P	P	21 00 12.0	-1.3
TX31				IAmb	IAmb	21 00 27.4	
	comp=Z,6.1nm,0.9s						
PDAR	Pinedale Array	43.23	312	P	P	21 01 18.6	+0.5
	comp=Z,0.2nm,0.5s,baz=85,slow=10,SNR=2.6						
NVAR	Mina Array Bea	48.76	304	P	P	21 02 02.0	+0.2
	comp=Z,0.3nm,0.5s,baz=117,slow=5.2,SNR=5.0						
NEW	Newport	49.96	317	LR	LR	21 24 00.5	
	comp=Z,61nm,20.0s,baz=182,slow=37						
YKA	Yellowknife Ar	54.26	335	P	P	21 02 42.4	+0.2
	comp=Z,0.3nm,0.7s,baz=109,slow=8.0,SNR=4.4						
ESDC	Sonseca Array	56.51	55	P	P	21 02 59.5	+0.6
	comp=Z,0.2nm,0.3s,baz=276,slow=6.7,SNR=3.2						
KOWA	Kowa	59.28	84	LR	LR	21 26 20.2	
	comp=Z,62nm,19.5s,baz=16,slow=34						
DLBC	Dease Lake	59.98	327	P	P	21 03 24.1	+1.2
	comp=Z,2.0nm,0.9s,baz=88,slow=26,SNR=2.5						
DBIC	Dimbokro	60.69	93	P	P	21 03 29.8	+1.4
	comp=Z,5.1nm,1.0s,baz=146,slow=9.7,SNR=3.1						
ASAR	Alice Springs	160.98	254	PKPab	PKPab	21 13 60.0	-0.5
	comp=Z,0.5nm,1.0s,baz=101,slow=4.8,SNR=2.6						

IDC 07 21:01:38.8±1.6**, 20.°21N×144.°62E, h0^{km}, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.3**/80**, mbtmp3.6**/4**, Error ellipse: s-maj=196.0km s-min=27.9km az=113.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.16	195	P	P	21 09 24.8	-0.3
	0.5nm,0.6s,baz=12,slow=8.5,SNR=2.7						
FITZ	Fitzroy Crossi	42.38	207	P	P	21 09 36.2	+1.1
	0.5nm,0.3s,baz=9.6,slow=6.7,SNR=6.2						
ASAR	Alice Springs	44.85	194	P	P	21 09 53.7	-1.3
	0.1nm,0.3s,baz=18,slow=7.3,SNR=4.8						
YKA	Yellowknife Ar	77.13	28	P	P	21 13 34.0	0.0
	0.5nm,0.7s,baz=290,slow=4.7,SNR=5.7						

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*NEIC **07** 21:02:12.5±1.5, 19.°69N±0.°10×65.°95W±0.°08, h67^{km}±44^{km}, Error ellipse: s-maj=15.9km s-min=8.8km az=156.0*
*RSPR **07** 21:02:13.3, 19.°55N×66.°00W, h105^{km}±8^{km}, MD3.1/6*

ISC 07 21:02:15.1±2.7**, 19.°6N**±0.°1×**66.°04W**±0.°08**, h35^{km}, n27, σ1.^{s}26**/29**, 6C-1D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	Guaynabo City	1.29	182	Pn	Pn	21 02 34.7	-2.0
GCPR				IAML		21 03 03.1	
	comp=E,40nm,0.9s						
CBYP	Canovanas	1.34	172⇑	eP	Pn	21 02 37.1	-0.2
CBYP	Canovanas	1.34	172	eS	Sn	21 02 55.3	+1.3
CBYP	Canovanas	1.34	172		Pn	21 02 36.2	-1.1
CBYP				IAML		21 03 06.7	
	comp=E,69nm,0.2s						
CBYP	Canovanas	1.34	172		Sn	21 02 55.3	+1.3
AOPR	Arecibo Observ	1.42	208⇑	eP	Pn	21 02 37.1	-1.4
AOPR	Arecibo Observ	1.42	208	eS	Sn	21 02 57.5	+1.6
AOPR	Arecibo Observ	1.42	208		Pn	21 02 37.1	-1.4
AOPR					Sn	21 02 57.5	+1.6
HUMP	Col San Antoni	1.47	173	Pn	Pn	21 02 37.9	-1.2
HUMP				IAML		21 03 00.9	
	comp=E,30nm,0.8s						
CUPR	Culebra, Puert	1.48	151	Pn	Pn	21 02 39.3	+0.1
SJG	San Juan	1.49	184	Pn	Pn	21 02 36.8	-2.6
SJG				IAML		21 02 58.9	
	comp=E,37nm,0.5s						
SJG				IAML		21 02 59.2	
	comp=E,38nm,0.5s						
MTP	Monte Pirata	1.57	163⇓	eP	Pn	21 02 39.7	-0.8
MTP	Monte Pirata	1.57	163		Pn	21 02 39.7	-0.8
MTP	Monte Pirata	1.57	163	IAML		21 03 11.1	
	comp=E,30nm,1.1s						
CELP	Cerrillos	1.61	198⇑	eP	Pn	21 02 39.9	-1.1
CELP	Cerrillos	1.61	198	eS	Sn	21 03 01.2	+0.7
CELP	Cerrillos	1.61	198		Pn	21 02 39.9	-1.1
CELP					Sn	21 03 01.2	+0.7
IGPR	InterUniversit	1.63	182⇑	eP	Pn	21 02 40.2	-1.1
OBIP	Obispado Ponce	1.64	199	Pn	Pn	21 02 39.4	-2.1
OBIP				IAML		21 03 04.2	
	comp=N,30nm,0.8s						
OBIP				IAML		21 03 06.0	
	comp=E,31nm,0.9s						
LSP	Las Mesas	1.73	215⇑	eP	Pn	21 02 42.1	-0.7
LSP	Las Mesas	1.73	215	eS	Sn	21 03 04.8	+1.1
LSP	Las Mesas	1.73	215		Pn	21 02 42.1	-0.7
LSP					Sn	21 03 04.8	+1.1
MLPR	Magueyes Islan	1.88	210⇑	eP	Pn	21 02 44.4	-0.4
MLPR	Magueyes Islan	1.88	210	eS	Sn	21 03 08.1	+0.8
MLPR	Magueyes Islan	1.88	210		Pn	21 02 44.4	-0.4
MLPR					Sn	21 03 08.1	+0.8
MLPR	Magueyes Islan	1.88	210	IAML		21 03 29.4	
	comp=N,41nm,2.6s						
MLPR				IAML		21 03 33.3	
	comp=E,38nm,2.8s						
SDDR	Presa de Saban	4.99	264	Pn	Pn	21 03 27.1	-0.5

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*IDC **07** 21:11:46.5±0.8, 36.°61N×97.°74W, h0^{km}, mb3.9/4, mb1 4.0/10, mb1mx3.7/60, mbtmp3.8/10, ML3.5/5, MS3.0/3, Ms1 2.9/3, ms1mx2.6/57, Error ellipse: s-maj=11.2km s-min=10.0km az=2.0*
*NEIC **07** 21:11:47.3±1.4, 36.°59N±0.°01×97.°63W±0.°02, h8^{km}±8^{km}, Error ellipse: s-maj=2.5km s-min=1.7km az=69.0*
*NEIC **07** 21:11:47.2, 36.°60N×97.°63W, h4^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.51; $M_{\theta\theta}$0.95; $M_{\phi\phi}$-0.44; $M_{r\theta}$0.67; $M_{\theta\phi}$-4.71; $M_{\phi r}$-0.33; Fault plane solution: $M_0 4.84000\times10^{14}$ NP1:ϕ_s176.02000°, δ82.96000°, λ3.33000°. NP2:ϕ_s85.61000°, δ86.69000°, λ172.95000°. Principal axes: T 5.1116, Plg7.0000°,*

Azm41.0000°; N -0.5974, Plg82.0000°, Azm241.0000°; P -4.5142, Plg3.0000°, Azm131.0000°;
*ANF **07** 21:11:47.5±0.2, 36°.59N×97°.61W, h6km, ML5.1/31 Error ellipse: s-maj=2.9km s-min=2.7km az=174.0*
*TUL **07** 21:11:47.2±1.6, 36°.60N±0°.01×97°.63W±0°.02, h6km±7km, ML4.2, mb3.9/7(NEIC), mb_Lg4.1/153(NEIC), Mwr3.7/41(NEIC), Error ellipse: s-maj=2.3km s-min=1.6km az=73.0*

ISC 07 21:11:47.1±1.0, **36°.59N**±0°.02×**97°.63W**±0°.02, **h7**km±8km, **n210**, σ**0**°**96**/207, **mb4.0**/4, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CROK	**Carrier**	**0.30**	**254**		**Pg**	**21 11 53.3**	**+0.3**
CROK				Sg	**Sg**	**21 11 57.7**	**+0.7**
GC02	**Grant County #**	**0.32**	**324**		**Pg**	**21 11 53.7**	**+0.3**
GC02				Sg	**Sg**	**21 11 58.1**	**+0.4**
KAN13	**South Haven SW**	**0.44**	**16**		**Pg**	**21 11 55.9**	**+0.3**
KAN13				Sg	**Sg**	**21 12 02.1**	**+0.7**
KAN14	**Manchester OK**	**0.46**	**324**		**Pg**	**21 11 56.1**	**+0.2**
KAN14				Sg	**Sg**	**21 12 02.4**	**+0.6**
OK032	**Salt Plains WL**	**0.52**	**295**		**Pg**	**21 11 57.2**	**+0.2**
OK032				Sg	**Sg**	**21 12 04.3**	**+0.5**
KAN09	**Caldwell North**	**0.55**	**1**		**Pg**	**21 11 57.8**	**+0.2**
KAN09				Sg	**Sg**	**21 12 05.3**	**+0.6**
KAN05	**Bluff City Nor**	**0.55**	**339**		**Pg**	**21 11 58.0**	**+0.3**
KAN05				Sg	**Sg**	**21 12 05.6**	**+0.5**
KAN01	**Argonia South**	**0.57**	**349**		**Pg**	**21 11 58.4**	**+0.2**
KAN01				Sg	**Sg**	**21 12 06.2**	**+0.6**
KS20	**Mayfield South**	**0.64**	**5**		**Pg**	**21 11 59.6**	**+0.1**
KS20				Sg	**Sg**	**21 12 08.3**	**+0.5**
KAN10	**Anthony SW Sta**	**0.65**	**325**		**Pg**	**21 11 59.7**	**+0.1**
KAN10				Sg	**Sg**	**21 12 08.6**	**+0.5**
KAN08	**Anthony NE Sta**	**0.69**	**337**		**Pg**	**21 12 00.6**	**+0.1**
KAN08				Sg	**Sg**	**21 12 10.1**	**+0.6**
KS21	**Milan North St**	**0.70**	**358**		**Pg**	**21 12 00.6**	**+0.1**
KS21				Sg	**Sg**	**21 12 10.1**	**+0.6**
KAN12	**Harper NE Stat**	**0.77**	**337**		**Pg**	**21 12 01.9**	**0.0**
KAN12				Sg	**Sg**	**21 12 12.0**	**+0.2**
OK029	**Liberty Lake**	**0.80**	**170**		**Pg**	**21 12 02.7**	**+0.2**
OK029				Sg	**Sg**	**21 12 13.7**	**+0.7**
QUOK	**Quay**	**0.85**	**119**		**Pg**	**21 12 03.5**	**+0.1**
OK031	**S. Brethren Rd**	**0.90**	**135**		**Pg**	**21 12 04.4**	**+0.1**
BCOK	**Bluff Creek, N**	**0.93**	**179**		**Pg**	**21 12 04.9**	**0.0**
BCOK				Sg	**Sg**	**21 12 17.8**	**+0.7**
T35A	**Sooner Cattle**	**0.95**	**70**		**Pg**	**21 12 05.3**	**0.0**
T35A				Sg	**Sg**	**21 12 18.1**	**+0.4**
T35B	**Sooner Cattle** baz=251,SNR=509	**0.95**	**70**	P	**Pg**	**21 12 05.2**	**-0.1**
T35B	baz=251			S	**Sg**	**21 12 18.1**	**+0.4**
T35B	**Sooner Cattle** baz=251,SNR=509	**0.95**	**70**	P		21 12 05.2	
T35B	baz=251			S		21 12 18.1	
OK005	**Luther M Schoo**	**1.00**	**159**	Pg	**Pg**	**21 12 06.5**	**+0.3**
OK009	**Oakdale Elemen**	**1.02**	**171**		**Pg**	**21 12 06.2**	**-0.4**
OK009				Sg	**Sg**	**21 12 20.6**	**+0.8**
OK025	**Westminster Rd**	**1.03**	**167**		**Pg**	**21 12 07.0**	**+0.1**
OK025				Sg	**Sb**	**21 12 21.3**	**+0.3**
U32A	**Winter Ranch,**	**1.13**	**260**		**Pg**	**21 12 08.3**	**-0.4**
U32A				Sg	**Sg**	**21 12 23.8**	**+0.4**
U32A	**Winter Ranch,** baz=78,SNR=224	**1.13**	**260**	P	**Pg**	**21 12 08.3**	**-0.4**
U32A	baz=78			S	**Sg**	**21 12 23.6**	**+0.2**
U32A	**Winter Ranch,** baz=78,SNR=224	**1.13**	**260**	P		21 12 08.3	
U32A	baz=78			S		21 12 23.6	
OKCFA	**Oklahoma City**	**1.18**	**173**		**Pg**	**21 12 09.5**	**-0.2**
OKCFA				Sg	**Sb**	**21 12 25.9**	**+0.6**
OKCSW	**OKLAHOMA CITY**	**1.19**	**173**		**Pg**	**21 12 09.8**	**-0.1**
OKCSW				Sg	**Sb**	**21 12 26.0**	**+0.4**
FNO	**Franklin**	**1.34**	**172**		**Pn**	**21 12 12.7**	**+0.5**
TUL1	**Leonard**	**1.63**	**114**		**Pn**	**21 12 16.9**	**+0.7**
TUL1	comp=Z,1μm,0.9s			IAmb_Lg		21 12 41.8	
TUL1	**Leonard** baz=295,SNR=547	**1.63**	**114**	P	**Pn**	**21 12 16.8**	**+0.7**
TUL1	baz=295			S	**Sb**	**21 12 39.0**	**+0.8**
TUL1	**Leonard** baz=295,SNR=642	**1.63**	**114**	P		21 12 16.8	
TUL1	baz=295			S		21 12 39.1	
TUL1	**Leonard** baz=295,SNR=547	**1.63**	**114**	P		21 12 16.8	
TUL1	baz=295			S		21 12 39.0	
R32A	**Long Quarter,**	**2.02**	**335**		**Pn**	**21 12 22.5**	**+0.9**
R32A	**Long Quarter,** baz=155,SNR=406	**2.02**	**335**	P	**Pn**	**21 12 22.4**	**+0.9**
R32A	baz=155			S	**Sb**	**21 12 49.1**	**-0.5**
R32A	**Long Quarter,** baz=155,SNR=406	**2.02**	**335**	P		21 12 22.4	
R32A	baz=155			S		21 12 49.1	
WMOK	**Wichita Mounta**	**2.07**	**207**	Pn	**Pn**	**21 12 23.2**	**+0.9**
WMOK	comp=Z,1μm,0.9s			IAmb_Lg		21 12 54.0	
WMOK	**Wichita Mounta** baz=26,SNR=1000	**2.07**	**207**	P	**Pn**	**21 12 23.0**	**+0.8**
WMOK	baz=26			S	**Sb**	**21 12 50.4**	**-0.6**
WMOK	**Wichita Mounta** baz=26,SNR=1000	**2.07**	**207**	P		21 12 23.1	
WMOK	baz=26			S		21 12 50.8	
WMOK	**Wichita Mounta** baz=26,SNR=1000	**2.07**	**207**	P		21 12 23.0	
WMOK	baz=26			S		21 12 50.4	
U38A	**Gravette**	**2.61**	**92**	Pn	**Pn**	**21 12 31.0**	**+1.2**
U38A	comp=Z,583nm,0.8s			IAmb_Lg		21 13 13.6	
U38A	**Gravette** baz=274,SNR=96	**2.61**	**92**	P	**Pn**	**21 12 31.0**	**+1.2**
U38A	**Gravette** baz=274,SNR=96	**2.61**	**92**	P		21 12 31.0	
KSU1	**Kansas State U**	**2.63**	**17**		**Pn**	**21 12 31.0**	**+1.1**
KSU1	**Kansas State U** baz=198,SNR=41	**2.63**	**17**	P	**Pn**	**21 12 31.0**	**+1.1**
KSU1	**Kansas State U** baz=198,SNR=257	**2.63**	**17**	Pn		21 12 31.0	
KSU1	baz=198			Pb		21 12 36.2	
KSU1	**Kansas State U** baz=198,SNR=41	**2.63**	**17**	P		21 12 31.0	
X37A	**Clayton**	**2.71**	**137**	Pn	**Pn**	**21 12 32.3**	**+1.2**
X37A	**Clayton** baz=318,SNR=148	**2.71**	**137**	P	**Pn**	**21 12 32.1**	**+1.0**
X37A	**Clayton** baz=318,SNR=148	**2.71**	**137**	P		21 12 32.1	
CBKS	**Cedar Bluff**	**2.78**	**324**		**Pn**	**21 12 33.0**	**+1.0**
CBKS	**Cedar Bluff** baz=142,SNR=27	**2.78**	**324**	P	**Pn**	**21 12 32.9**	**+0.9**
CBKS	baz=142			S	**Sb**	**21 13 13.1**	**+1.7**
CBKS	**Cedar Bluff** baz=142,SNR=162	**2.78**	**324**	Pn		21 12 32.9	
CBKS	baz=142			Pb		21 12 39.0	
CBKS	baz=142			Sb		21 13 13.3	
CBKS	**Cedar Bluff** baz=142,SNR=27	**2.78**	**324**	P		21 12 32.9	
CBKS	baz=142			S		21 13 13.1	
HHAR	**Hobbs**	**2.99**	**95**		**Pn**	**21 12 35.9**	**+1.0**
Z35A	**Perchaven, San**	**3.27**	**175**	Pn	**Pn**	**21 12 39.8**	**+1.1**
Z35A	comp=Z,304nm,0.7s			IAmb_Lg		21 13 37.6	
Z35A	**Perchaven, San** baz=355	**3.27**	**175**	P	**Pn**	**21 12 40.0**	**+1.3**
Z35A	baz=355			S	**Sn**	**21 13 19.7**	**+1.9**
Z35A	**Perchaven, San** baz=355	**3.27**	**175**	P		21 12 40.0	
Z35A	baz=355			S		21 13 19.7	
W39A	**Magazine**	**3.42**	**113**		**Pn**	**21 12 41.1**	**+0.4**
W39A	comp=Z,797nm,0.9s			IAmb_Lg		21 13 43.9	
W39A	**Magazine** baz=295,SNR=59	**3.42**	**113**	P	**Pn**	**21 12 40.9**	**+0.2**
W39A	baz=295			S	**Sn**	**21 13 22.7**	**+1.2**
W39A	**Magazine** baz=295,SNR=43	**3.42**	**113**	Pn		21 12 41.1	
W39A	baz=295			Pb		21 12 49.4	
W39A	baz=295			S		21 13 22.4	
W39A	**Magazine** baz=295,SNR=59	**3.42**	**113**	P		21 12 40.9	
W39A	baz=295			S		21 13 22.7	
S39A	**Bolivar**	**3.61**	**71**	Pn	**Pn**	**21 12 44.0**	**+0.7**
S39A	comp=Z,497nm,0.8s			IAmb_Lg		21 13 47.1	
S39A	**Bolivar** baz=254,SNR=63	**3.61**	**71**	P	**Pn**	**21 12 44.1**	**+0.7**
S39A	**Bolivar** baz=254,SNR=63	**3.61**	**71**	P		21 12 44.1	
AMTX	**Amarillo**	**3.71**	**244**		**Pn**	**21 12 45.6**	**+0.7**
AMTX	comp=Z,520nm,0.7s			IAmb_Lg		21 13 55.3	
AMTX	**Amarillo** baz=61,SNR=49	**3.71**	**244**	P	**Pn**	**21 12 46.1**	**+1.2**
AMTX	**Amarillo** baz=61	**3.71**	**244**	Pn		21 12 45.8	
AMTX	baz=61			Pb		21 12 53.7	
AMTX	baz=61			Sn		21 13 29.9	
AMTX	baz=61			Sb		21 13 43.0	
AMTX	**Amarillo** baz=61,SNR=49	**3.71**	**244**	P		21 12 46.1	
U40A	**Yellville**	**3.85**	**92**	Pn	**Pn**	**21 12 47.0**	**+0.3**
U40A	**Yellville** baz=275,SNR=66	**3.85**	**92**	P	**Pn**	**21 12 47.3**	**+0.5**
U40A	**Yellville** baz=275,SNR=28	**3.85**	**92**	P		21 12 47.4	
U40A	baz=275			S		21 13 32.5	
U40A	**Yellville** baz=275,SNR=66	**3.85**	**92**	P		21 12 47.3	
U40A	baz=275,SNR=66			P		21 12 47.3	
MIAR	**Mount Ida**	**3.88**	**121**	Pn	**Pn**	**21 12 48.0**	**+0.8**
MIAR	comp=Z,491nm,0.9s			IAmb_Lg		21 13 52.1	
MIAR	**Mount Ida** baz=303,SNR=44	**3.88**	**121**	P	**Pn**	**21 12 48.2**	**+1.1**
MIAR	**Mount Ida** baz=303,SNR=19	**3.88**	**121**	Pn		21 12 48.2	
MIAR	baz=303			Pb		21 12 56.7	
MIAR	baz=303			S		21 13 34.6	
MIAR	**Mount Ida** baz=303,SNR=44	**3.88**	**121**	P		21 12 48.2	
Z38A	**Mt. Pleasant**	**3.97**	**146**	Pn	**Pn**	**21 12 48.2**	**-0.1**
Z38A	**Mt. Pleasant** baz=328	**3.97**	**146**	P	**Pn**	**21 12 49.0**	**+0.7**
Z38A	**Mt. Pleasant** baz=328	**3.97**	**146**	P		21 12 49.0	
N33B	**J Bar K, Exete** baz=182,SNR=18	**4.14**	**2**	P	**Pn**	**21 12 50.8**	**+0.1**
N33B	**J Bar K, Exete** baz=182,SNR=18	**4.14**	**2**	P		21 12 50.8	
N33A	**J Bar K, Exete**	**4.14**	**2**		**Pn**	**21 12 50.3**	**-0.4**
N33A	comp=Z,402nm,0.8s			IAmb_Lg		21 14 07.5	
ABTX	**Abilene, Hawle**	**4.29**	**203**	Pn	**Pn**	**21 12 53.0**	**+0.2**
ABTX	comp=Z,322nm,1.1s			IAmb_Lg		21 14 05.8	
ABTX	**Abilene, Hawle** baz=22	**4.29**	**203**	P	**Pn**	**21 12 53.3**	**+0.5**
ABTX	**Abilene, Hawle** baz=22,SNR=9.0	**4.29**	**203**	Pn		21 12 53.4	
ABTX	baz=22			Pb		21 13 01.9	
ABTX	**Abilene, Hawle** baz=22	**4.29**	**203**	P		21 12 53.3	
MGMO	**Mountain Grove**	**4.33**	**81**		**Pn**	**21 12 54.4**	**+1.1**
MGMO	comp=Z,716nm,0.7s			IAmb_Lg		21 14 10.7	
P38A	**Dawn**	**4.43**	**46**	Pn	**Pn**	**21 12 54.4**	**-0.2**
P38A	comp=Z,342nm,0.7s			IAmb_Lg		21 14 08.6	
P38A	**Dawn** baz=228,SNR=68	**4.43**	**46**	P	**Pn**	**21 12 54.6**	**0.0**
P38A	**Dawn** baz=228,SNR=68	**4.43**	**46**	P		21 12 54.6	
X40A	**Basin Creek Fa**	**4.43**	**117**		**Pn**	**21 12 55.4**	**+0.6**
X40A	comp=Z,293nm,0.8s			IAmb_Lg		21 14 13.0	
X40A	**Basin Creek Fa** baz=300,SNR=29	**4.43**	**117**	P	**Pn**	**21 12 55.7**	**+1.0**
X40A	**Basin Creek Fa** baz=300,SNR=14	**4.43**	**117**	P		21 12 55.7	
X40A	baz=300			S		21 13 48.8	
X40A	**Basin Creek Fa** baz=300,SNR=29	**4.43**	**117**	P		21 12 55.7	
X40A	baz=300,SNR=29			P		21 12 55.7	
FCAR	**Ozark Folk Cen**	**4.50**	**97**		**Pn**	**21 12 54.7**	**-1.0**
FCAR	comp=Z,418nm,0.8s			IAmb_Lg		21 14 13.5	
WHAR	**Wooly Hollow**	**4.52**	**105**	Pn	**Pn**	**21 12 55.5**	**-0.4**
N35A	**Tabor**	**4.54**	**19**	Pn	**Pn**	**21 12 56.8**	**+0.6**
N35A	**Tabor** baz=201,SNR=15	**4.54**	**19**	P	**Pn**	**21 12 57.4**	**+1.2**
N35A	**Tabor** baz=201,SNR=15	**4.54**	**19**	P		21 12 57.4	
R40A	**Maddies Statio**	**4.59**	**67**	Pn	**Pn**	**21 12 57.0**	**+0.2**
R40A	comp=Z,324nm,0.7s			IAmb_Lg		21 14 17.8	
R40A	**Maddies Statio** baz=250,SNR=67	**4.59**	**67**	P	**Pn**	**21 12 57.4**	**+0.6**
R40A	**Maddies Statio** baz=250,SNR=67	**4.59**	**67**	P		21 12 57.4	
W41B	**Gary Mavity, V** baz=290,SNR=20	**4.59**	**106**	P	**Pn**	**21 12 56.9**	**+0.1**
WHTX	**Lake Whitney,** baz=358,SNR=11	**4.59**	**178**	P		21 12 57.6	
WHTX	baz=358			Sn		21 13 50.1	
WHTX	baz=358			Sb		21 14 08.2	
WHTX	**Lake Whitney,** baz=358,SNR=19	**4.59**	**178**	P		21 12 57.5	
W41B	**Gary Mavity, V** baz=290,SNR=14	**4.59**	**106**	P		21 12 56.9	
W41B	baz=290			Sn		21 13 50.4	
W41B	baz=290			Sb		21 14 09.6	
W41B	**Gary Mavity, V** baz=290,SNR=20	**4.59**	**106**	P		21 12 56.9	
WHTX	**Lake Whitney,**	**4.59**	**178**		**Pn**	**21 12 57.4**	**+0.5**
WHTX	**Lake Whitney,** baz=358,SNR=19	**4.59**	**178**	P	**Pn**	**21 12 57.5**	**+0.7**
KSCO	**Kaye Shedlock'**	**4.64**	**303**	Pn	**Pn**	**21 12 58.3**	**+0.6**
KSCO	comp=Z,313nm,0.7s			IAmb_Lg		21 14 20.0	
KSCO	**Kaye Shedlock'** baz=120,SNR=23	**4.64**	**303**	P	**Pn**	**21 12 58.5**	**+0.8**
KSCO	**Kaye Shedlock'** baz=120	**4.64**	**303**	Pn		21 12 58.5	
KSCO	baz=120,SNR=21			Pb		21 13 10.4	
KSCO	baz=120			Sb		21 14 12.2	
KSCO	**Kaye Shedlock'** baz=120,SNR=23	**4.64**	**303**	P		21 12 58.5	
WLAR	**White Oak Lake**	**4.70**	**127**	Pn	**Pn**	**21 12 58.8**	**+0.5**
237A	**Washetta, Mont**	**4.82**	**161**	Pn	**Pn**	**21 13 00.4**	**+0.4**
237A	comp=Z,343nm,0.9s			IAmb_Lg		21 14 31.5	
237A	**Washetta, Mont** baz=342,SNR=12	**4.82**	**161**	P	**Pn**	**21 13 00.3**	**+0.4**
237A	**Washetta, Mont** baz=342,SNR=12	**4.82**	**161**	P		21 13 00.3	
BGNE	**Belgrade**	**4.83**	**355**		**Pn**	**21 13 00.6**	**+0.4**
BGNE	**Belgrade**	**4.83**	**355**	P	**Pn**	**21 13 00.4**	**+0.3**
BGNE	**Belgrade** baz=175,SNR=84	**4.83**	**355**	P		21 13 00.5	
BGNE	**Belgrade** baz=175,SNR=26	**4.83**	**355**	P		21 13 00.5	
BGNE	baz=175			Sn		21 13 56.3	
BGNE	baz=175			Sb		21 14 15.8	
BGNE	**Belgrade** baz=175,SNR=84	**4.83**	**355**	P		21 13 00.4	
MSTX	**Muleshoe**	**4.96**	**240**	Pn	**Pn**	**21 12 02.3**	**+0.3**
MSTX	**Muleshoe** baz=56,SNR=19	**4.96**	**240**	P	**Pn**	**21 12 02.4**	**+0.4**
MSTX	**Muleshoe** baz=56,SNR=22	**4.96**	**240**	P		21 12 02.3	
MSTX	**Muleshoe** baz=56,SNR=19	**4.96**	**240**	P		21 12 02.4	
Z41A	**Richland Creek** baz=312,SNR=6.3	**5.17**	**129**	P	**Pn**	**21 13 05.2**	**+0.4**
Z41A	**Richland Creek** baz=312	**5.17**	**129**	P		21 13 05.2	
Z41A	baz=312			S		21 14 03.8	
Z41A	**Richland Creek** baz=312,SNR=6.3	**5.17**	**129**	P		21 13 05.2	
Z41A	baz=312,SNR=6.3			P		21 13 05.2	
LCAR	**Lake Charles**	**5.25**	**94**		**Pn**	**21 13 06.1**	**+0.1**
LCAR	comp=Z,512nm,0.8s			IAmb_Lg		21 14 35.4	
T42A	**Van Buren**	**5.26**	**83**		**Pn**	**21 13 06.6**	**+0.5**
T42A	comp=Z,460nm,0.9s			IAmb_Lg		21 14 39.1	
T42A	**Van Buren** baz=267,SNR=27	**5.26**	**83**	P	**Pn**	**21 13 07.2**	**+1.2**
T42A	**Van Buren** baz=267,SNR=27	**5.26**	**83**	P		21 13 07.2	
P40A	**Paris**	**5.29**	**55**		**Pn**	**21 13 05.9**	**-0.6**
P40A	comp=Z,430nm,0.8s			IAmb_Lg		21 14 39.9	
P40A	**Paris** baz=238,SNR=15	**5.29**	**55**	P	**Pn**	**21 13 06.9**	**+0.4**
P40A	**Paris** baz=238,SNR=15	**5.29**	**55**	P		21 13 06.9	
CCM	**Cathedral Cave**	**5.29**	**72**	Pn	**Pn**	**21 13 06.0**	**-0.5**
CCM	**Cathedral Cave** baz=256,SNR=19	**5.29**	**72**	P	**Pn**	**21 13 07.1**	**+0.6**
CCM	**Cathedral Cave** baz=256	**5.29**	**72**	P		21 13 06.9	
CCM	baz=256			Sb		21 14 29.2	
CCM	**Cathedral Cave** baz=256,SNR=19	**5.29**	**72**	P		21 13 07.1	
NATX	**Nacogdoches** comp=Z,218nm,0.8s	**5.41**	**152**	IAmb_Lg		21 14 47.6	
NATX	**Nacogdoches** baz=334	**5.41**	**152**	S		21 14 08.4	
N38A	**Joes South For** comp=Z,491nm,0.8s	**5.42**	**38**	IAmb_Lg		21 14 54.0	
L34A	**Svendsen Farm,**	**5.46**	**10**		**Pn**	**21 13 07.8**	**-0.9**
T25A	**Trinidad**	**5.47**	**278**	Pn	**Pn**	**21 13 08.8**	**-0.3**
T25A	comp=Z,411nm,0.8s			IAmb_Lg		21 14 51.4	
T25A	**Trinidad** baz=94,SNR=19	**5.47**	**278**	P		21 13 09.6	
T25A	baz=94			Sb		21 14 35.2	
CCAR	**Cane Creek** comp=Z,304nm,0.8s	**5.48**	**117**	IAmb_Lg		21 14 56.8	
OGNE	**Ogallala**	**5.55**	**323**	Pn	**Pn**	**21 13 11.4**	**+1.3**
OGNE	comp=Z,530nm,0.8s			IAmb_Lg		21 14 53.4	
OGNE	**Ogallala** baz=140,SNR=35	**5.55**	**323**	P	**Pn**	**21 13 11.4**	**+1.3**
OGNE	**Ogallala** baz=140,SNR=12	**5.55**	**323**	P		21 13 11.6	
OGNE	**Ogallala** baz=140,SNR=35	**5.55**	**323**	P		21 13 11.4	
HBAR	**Harrisburg**	**5.74**	**98**		**Pn**	**21 13 13.8**	**+1.2**
435B	**Jarrell**	**5.79**	**180**	Pn	**Pn**	**21 13 13.7**	**+0.2**
435B	comp=Z,441nm,0.9s			IAmb_Lg		21 14 55.5	
435B	**Jarrell** baz=360,SNR=7.7	**5.79**	**180**	P	**Pn**	**21 13 13.6**	**+0.2**
435B	**Jarrell** baz=360	**5.79**	**180**	P		21 13 13.6	
435B	baz=360			S		21 14 18.3	
435B	**Jarrell** baz=360,SNR=7.7	**5.79**	**180**	P		21 13 13.6	
FVM	**French Village**	**5.91**	**74**		**Pn**	**21 13 15.4**	**+0.4**
FVM	**French Village** baz=259,SNR=11	**5.91**	**74**	P	**Pn**	**21 13 15.3**	**+0.3**
FVM	**French Village** baz=259,SNR=11	**5.91**	**74**	P		21 13 15.3	
K31A	**O'Neill**	**6.09**	**352**		**Pn**	**21 13 17.7**	**+0.2**
K31A	**O'Neill** baz=172,SNR=12	**6.09**	**352**	P	**Pn**	**21 13 18.1**	**+0.7**
K31A	**O'Neill** baz=172,SNR=12	**6.09**	**352**	P		21 13 18.1	
SLM	**Saint Louis** comp=Z,434nm,0.9s	**6.21**	**69**	IAmb_Lg		21 15 05.4	
PEBM	**Pemiscott Bayo**	**6.28**	**92**	Pn	**Pn**	**21 13 19.3**	**-0.8**
SCIA	**State Center**	**6.32**	**31**		**Pn**	**21 13 21.0**	**+0.4**
SCIA	comp=Z,466nm,0.7s			IAmb_Lg		21 15 18.4	
SCIA	**State Center** baz=214,SNR=5.2	**6.32**	**31**	P	**Pn**	**21 13 21.3**	**+0.7**
SCIA	**State Center** baz=214,SNR=10	**6.32**	**31**	P		21 13 21.6	
SCIA	baz=214			S		21 14 32.8	
SCIA	**State Center** baz=214,SNR=5.2	**6.32**	**31**	P		21 13 21.3	
JCT	**Junction City**	**6.36**	**197**	Pn	**Pn**	**21 13 21.3**	**+0.1**
JCT	comp=Z,464nm,0.9s			IAmb_Lg		21 15 15.2	
JCT	**Junction City** baz=16	**6.36**	**197**	P		21 13 21.6	
SDCO	**Great Sand Dun**	**6.39**	**283**	Pn	**Pn**	**21 13 22.6**	**+0.7**
SDCO	comp=Z,198nm,1.1s			IAmb_Lg		21 15 12.2	
SDCO	**Great Sand Dun** baz=98,SNR=19	**6.39**	**283**	P		21 13 24.0	
Q24A	**Divide** baz=109	**6.41**	**294**	P		21 13 22.9	
MET	**Memphis--Engin** comp=Z,453nm,0.9s	**6.42**	**101**	IAmb_Lg		21 15 21.3	
143A	**Socs Landing,**	**6.43**	**125**		**Pn**	**21 13 22.0**	**-0.1**
143A	comp=Z,213nm,1.1s			IAmb_Lg		21 15 26.7	
N41A	**Harden Midland**	**6.71**	**50**	Pn	**Pn**	**21 13 26.1**	**+0.2**
S44A	**Carbondale**	**6.78**	**78**		**Pn**	**21 13 27.4**	**+0.5**
HKT	**Hockley** comp=Z,36nm,1.1s	**6.79**	**167**	IAmb_Lg		21 15 38.2	
W45A	**Hickory Valley**	**7.00**	**99**	Pn	**Pn**	**21 13 30.0**	**0.0**
W45A	comp=Z,397nm,0.7s			IAmb_Lg		21 15 37.2	
ISCO	**Idaho Springs**	**7.06**	**299**	Pn	**Pn**	**21 13 31.4**	**+0.3**
ISCO	**Idaho Springs** baz=114,SNR=11	**7.06**	**299**	P	**Pn**	**21 13 31.6**	**+0.5**
ISCO	**Idaho Springs** baz=114,SNR=9.8	**7.06**	**299**	P		21 13 31.6	
ISCO	**Idaho Springs** baz=114,SNR=11	**7.06**	**299**	P		21 13 31.6	
P43A	**Skaggs, Pawnee**	**7.08**	**62**		**Pn**	**21 13 31.5**	**+0.5**
P43A	**Skaggs, Pawnee** baz=247,SNR=15	**7.08**	**62**	P	**Pn**	**21 13 31.2**	**+0.2**
P43A	**Skaggs, Pawnee** baz=247,SNR=15	**7.08**	**62**	P		21 13 31.2	
K38A	**Parkersburg** comp=Z,364nm,0.9s	**7.11**	**30**	IAmb_Lg		21 15 42.7	
Y45A	**Yeager Farm, C** comp=Z,351nm,0.9s	**7.15**	**110**	IAmb_Lg		21 15 43.6	
ECSD	**EROS Data Cent**	**7.18**	**6**	Pn	**Pn**	**21 13 31.8**	**-0.6**
ECSD	comp=Z,122nm,0.8s			IAmb_Lg		21 15 34.8	
ECSD	**EROS Data Cent** baz=187,SNR=38	**7.18**	**6**	P	**Pn**	**21 13 31.6**	**-0.8**
ECSD	**EROS Data Cent** baz=187,SNR=20	**7.18**	**6**	P		21 13 31.8	
ECSD	baz=187			S		21 14 52.6	
ECSD	**EROS Data Cent** baz=187,SNR=38	**7.18**	**6**	P		21 13 31.6	
Q44A	**Meyer Farm, Va**	**7.20**	**69**	Pn	**Pn**	**21 13 33.1**	**+0.4**
ANMO	**Albuquerque** comp=Z,0.3nm,0.3s,baz=98,slow=8.5,SNR=6.7	**7.36**	**260**	Pn	**Pn**	**21 13 34.9**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANMO				Pg	Pg	21 14 02.0	-6.1
	comp=Z,3.2nm,0.3s,baz=84,slow=16,SNR=25						
ANMO				Lg	Lg	21 15 34.0	
	comp=Z,11nm,0.3s,baz=351,slow=16,SNR=8.5						
ANMO	Albuquerque	7.36	260	Pn	Pn	21 13 36.0	+0.8
ANMO	Albuquerque	7.36	260	P		21 13 36.2	
	baz=74						
L40A	Anamosa	7.38	40		Pn	21 13 34.6	-0.6
L40A				IAmb_Lg		21 15 39.0	
	comp=Z,189nm,0.8s						
HDIL	Hopedale	7.63	56		Pn	21 13 38.4	-0.2
HDIL	Hopedale	7.63	56	P		21 13 39.1	
	baz=241,SNR=10.0						
344A	Westbrook Farm	7.68	130	Pn	Pn	21 13 39.1	-0.2
PHWY	Pilot Hill	7.70	310		Pn	21 13 39.9	0.0
PHWY				IAmb_Lg		21 16 00.6	
	comp=Z,123nm,0.8s						
735A	Kenedy	7.71	181	IAmb_Lg		21 16 07.0	
	comp=Z,181nm,0.9s						
BNM	Barren Site	7.75	254	Pn	Pn	21 13 40.3	-0.1
N23A	Red Feather La	7.79	306	P		21 13 42.3	
	baz=121,SNR=8.7						
SUSD	Miller	7.91	353	IAmb_Lg		21 16 08.4	
	comp=Z,247nm,0.8s						
SUSD	Miller	7.91	353	P		21 13 42.6	
	baz=172						
SUSD				S		21 15 09.0	
	baz=172						
WVT	Waverly	7.92	90	Pn	Pn	21 13 42.2	-0.3
WVT				IAmb_Lg		21 16 00.1	
	comp=Z,128nm,0.8s						
WVT	Waverly	7.92	90	P		21 13 43.0	
	baz=276						
PLAL	Pickwick Lake	7.92	99	Pn	Pn	21 13 43.4	+0.8
PLAL				IAmb_Lg		21 16 10.9	
	comp=Z,138nm,0.8s						
O44A	Mansfield	8.02	61	IAmb_Lg		21 16 11.9	
	comp=Z,324nm,0.8s						
MNTX	Cornudas Mount	8.07	235	P	Pn	21 13 44.7	0.0
	baz=50,SNR=30						
MNTX	Cornudas Mount	8.07	235	P		21 13 44.7	
	baz=50,SNR=23						
MNTX	Cornudas Mount	8.07	235	P		21 13 44.7	
	baz=50,SNR=30						
I37A	Lemond, Waseca	8.09	22		Pn	21 13 42.8	-2.1
I37A				IAmb_Lg		21 16 06.7	
	comp=Z,166nm,0.8s						
146A	Union	8.09	117	IAmb_Lg		21 16 22.9	
	comp=Z,120nm,0.9s						
L42A	Oliver, Polo	8.20	46		Pn	21 13 45.9	-0.5
L42A				IAmb_Lg		21 16 07.1	
	comp=Z,295nm,0.8s						
L42A	Oliver, Polo	8.20	46	P	Pn	21 13 46.0	-0.5
	baz=231,SNR=12						
L42A	Oliver, Polo	8.20	46	P		21 13 46.0	
	baz=231,SNR=12						
T47A	Sharon Grove	8.45	84	IAmb_Lg		21 16 24.1	
	comp=Z,290nm,1.1s						
JFWS	Jewell Farm	8.49	40	Pn	Pn	21 13 49.5	-0.9
JFWS				IAmb_Lg		21 16 21.4	
	comp=Z,182nm,0.7s						
JFWS	Jewell Farm	8.49	40	P	Pn	21 13 49.8	-0.6
	baz=224,SNR=19						
JFWS	Jewell Farm	8.49	40	P		21 13 50.0	
	baz=224,SNR=12						
JFWS	Jewell Farm	8.49	40	P		21 13 49.8	
	baz=224,SNR=19						
Z47A	Carrollton	8.55	111	IAmb_Lg		21 16 42.2	
	comp=Z,164nm,1.0s						
MVCO	Mesa Verde	8.73	277	IAmb_Lg		21 16 30.8	
	comp=Z,114nm,1.2s						
V48A	Smith Brothers	8.78	92	IAmb_Lg		21 16 29.7	
	comp=Z,153nm,0.8s						
TX31	Lajitas Ar. Si	8.84	217	Pn	Pn	21 13 54.1	-1.1
TX32	Lajitas Array	8.84	217	Pn	Pn	21 13 54.2	-1.1
TXAR	Lajitas Array	8.84	217	Pn	Pn	21 13 54.0	-1.2
	comp=Z,2.1nm,0.3s,baz=39,slow=11,SNR=25						
TXAR				Pg	Pg	21 14 21.5	-15
	comp=Z,2.8nm,0.3s,baz=41,slow=13,SNR=7.2						
TXAR				Lg	Lg	21 16 15.0	
	comp=Z,2.9nm,0.3s,baz=22,slow=28,SNR=4.1						
TXAR				LR	LR	21 16 43.9	
	comp=Z,40nm,20.2s,baz=0.0,slow=34						
M44A	Midewin, Midew	8.86	54	Pn	Pn	21 13 54.3	-1.2
X48A	Hartselle	8.89	101	IAmb_Lg		21 16 41.2	
	comp=Z,102nm,0.8s						
RSSD	Black Hills	8.97	329	Pn	Pn	21 13 57.6	+0.4
RSSD				IAmb_Lg		21 16 38.3	
	comp=Z,117nm,0.8s						
RSSD	Black Hills	8.97	329	P	Pn	21 13 58.0	+0.8
	baz=145,SNR=8.6						
RSSD	Black Hills	8.97	329	P		21 13 58.2	
	baz=145						
RSSD	Black Hills	8.97	329	P		21 13 58.0	
	baz=145,SNR=8.6						
RWWY	Rawlins	9.02	307	IAmb_Lg		21 16 47.7	
	comp=Z,165nm,1.2s						
I40A	Norwalk	9.05	34		Pn	21 13 57.3	-0.7
I40A				IAmb_Lg		21 16 45.6	
	comp=Z,88nm,0.7s						
I40A	Norwalk	9.05	34	P	Pn	21 13 57.4	-0.6
	baz=219,SNR=13						
I40A	Norwalk	9.05	34	P		21 13 57.4	
	baz=219,SNR=13						
PV13	Radium Mtn., P	9.05	283	IAmb_Lg		21 16 50.2	
	comp=Z,100nm,1.2s						
PV12	Saucer Basin,	9.05	284	IAmb_Lg		21 16 44.3	
	comp=Z,93nm,1.0s						
SFIN	Lafayette	9.08	62	IAmb_Lg		21 16 34.5	
	comp=Z,261nm,0.7s						
SFIN	Lafayette	9.08	62	P		21 13 59.7	
	baz=249						
PV11	David Mesa, Pa	9.11	284	IAmb_Lg		21 16 48.4	
	comp=Z,136nm,1.2s						
CLTN	Cedars of Leba	9.13	90	IAmb_Lg		21 16 43.6	
	comp=Z,166nm,0.8s						
BLO	Bloomington	9.15	70	Pn	Pn	21 13 58.9	-0.6
K22A	Casper	9.15	314	Pn	Pn	21 13 59.0	-0.6
K22A				IAmb_Lg		21 16 56.0	
	comp=Z,229nm,1.2s						
K22A	Casper	9.15	314	P		21 13 59.9	
	baz=129						
WCI	Wyandotte Cave	9.16	76	IAmb_Lg		21 16 50.8	
	comp=Z,200nm,0.7s						
WCI	Wyandotte Cave	9.16	76	P		21 14 00.6	
	baz=263						
PV17	East Wray Mesa	9.17	284		Pn	21 13 57.8	-2.1
HQIL	Hanson Quary C	9.20	53	IAmb_Lg		21 16 41.9	
	comp=Z,165nm,0.8s						
PV05	Paradox Valley	9.26	283	Pn	Pn	21 13 58.6	-2.6
F33A	5 Mile Ranch,	9.30	6		Pn	21 13 59.4	-2.0
F33A				IAmb_Lg		21 16 51.0	
	comp=Z,137nm,1.0s						
121A	Cookes Peak, D	9.30	247	IAmb_Lg		21 16 51.7	
	comp=Z,80nm,1.0s						
L44A	Lake County Fo	9.36	50		Pn	21 14 01.8	-0.6
SPMN	Marine on St.	9.36	21		Pn	21 14 00.9	-1.5
SPMN				IAmb_Lg		21 16 55.8	
	comp=Z,101nm,0.8s						
SPMN	Marine on St.	9.36	21	P		21 14 02.1	
	baz=205,SNR=8.7						
K43A	Burlington	9.41	47	IAmb_Lg		21 16 52.3	
	comp=Z,224nm,1.0s						
U49A	Red Boiling Sp	9.53	87	IAmb_Lg		21 16 48.1	
	comp=Z,128nm,0.9s						
Y49A	Blount Mountai	9.57	103	IAmb_Lg		21 16 57.1	
	comp=Z,127nm,0.7s						
SWET	Sewanee	9.59	95	IAmb_Lg		21 17 02.9	
	comp=Z,114nm,0.8s						
F36A	Milaca	9.76	17	Pn	Pn	21 14 05.9	-1.9
I42A	Draeger Farm,	9.87	40	IAmb_Lg		21 17 23.4	
	comp=Z,129nm,1.1s						
PDAR	Pinedale Array	11.07	308	Pn	Pn	21 14 24.6	-1.4
	comp=Z,0.4nm,0.3s,baz=120,slow=15,SNR=11						
PDAR				Pg		21 15 06.8	
	comp=Z,1.0nm,0.3s,baz=104,slow=17,SNR=4.9						
PDAR				Lg	Lg	21 17 27.9	
	comp=Z,1.2nm,0.3s,baz=107,slow=33,SNR=3.0						
PDAR				LR	LR	21 19 34.2	
	comp=Z,57nm,20.4s,baz=98,slow=43						
TKL	Tuckaleechee C	11.24	91	Pn	Pn	21 14 28.2	0.0
	comp=Z,0.7nm,0.3s,baz=239,slow=6.8,SNR=6.4						
TKL				Lg	Lg	21 17 33.6	
	comp=Z,5.7nm,0.3s,baz=354,slow=23,SNR=5.2						
TKL	Tuckaleechee C	11.24	91		Pn	21 14 28.0	-0.1
S51A	Beattyville	11.26	80	Pn	Pn	21 14 29.3	+1.0
V52A	Sevierville	11.36	90	Pn	Pn	21 14 30.2	+0.5
COWI	Conover	11.44	31	Pn	Pn	21 14 29.6	-1.2
Q51A	Peebles	11.56	74	Pn	Pn	21 14 31.9	-0.5
AGMN	Agassiz Nation	11.77	6	Pn	Pn	21 14 34.6	-0.8
AGMN	Agassiz Nation	11.77	6	P		21 14 33.0	
	baz=187						
V53A	Saluda	12.02	90	Pn	Pn	21 14 39.5	+0.7
B35A	Bob, Littlefor	12.11	12	Pn	Pn	21 14 37.5	-2.4
EYMN	Ely	12.22	20	P		21 14 38.3	
	baz=204						
G45A	Suttons Bay	12.38	43	P	Pn	21 14 41.3	-2.3
	baz=231,SNR=6.6						
G45A	Suttons Bay	12.38	43	P		21 14 41.3	
	baz=231,SNR=6.6						
G45A				P		21 14 41.3	
	baz=231,SNR=6.6						
Q52A	Bidwell	12.38	74	Pn	Pn	21 14 42.7	-1.0
P52A	Corning	12.58	71	P		21 14 47.2	
	baz=261						
E43A	Lone Tree Farm	12.60	36	P	Pn	21 14 44.3	-2.4
	baz=223,SNR=11						
E43A	Lone Tree Farm	12.60	36	P		21 14 44.3	
	baz=223,SNR=11						
Q53A	Leroy	12.95	75	P		21 14 50.9	
	baz=265						
V55A	Taylorsville	13.28	88	Pn	Pn	21 14 54.3	-1.6
M52A	Chesterland	13.57	64	Pn	Pn	21 14 57.9	-2.0
ULM	Lac du Bonnet	13.71	5	Pn	Pn	21 14 57.6	-4.2
	comp=Z,0.8nm,0.3s,baz=185,slow=13,SNR=9.6						
ULM				Lg	Lg	21 18 49.1	
	comp=Z,1.4nm,0.3s,baz=263,slow=19,SNR=1.8						
M55A	Ridgway	15.44	66	Pn	Pn	21 15 24.5	-0.8
SADO	Sadowa	16.20	54	Pn	Pn	21 15 35.9	+0.8
	comp=Z,0.4nm,0.3s,baz=263,slow=14,SNR=2.0						
SADO				Lg	Lg	21 20 08.2	
	comp=Z,0.8nm,0.3s,baz=137,slow=20,SNR=2.2						
L56A	Greenwood	16.46	64	Pn	Pn	21 15 36.6	-1.9
L56A				IAmb	IAmb	21 15 43.1	
	comp=Z,12nm,0.8s						
NVAR	Mina Array Bea	16.51	283	Pn	Pn	21 15 40.5	+1.2
	comp=Z,0.1nm,0.3s,baz=78,slow=8.4,SNR=2.2						
J55A	Hilton	16.57	60	Pn	Pn	21 15 38.0	-1.9
J55A				IAmb	IAmb	21 15 49.0	
	comp=Z,11nm,1.1s						
N58A	Sunbury	16.85	69	Pn	Pn	21 15 40.8	-2.6
N58A				IAmb	IAmb	21 15 45.2	
	comp=Z,11nm,1.2s						
MVL	Millersville	17.04	72	Pn	Pn	21 15 42.8	-2.9
MVL				IAmb	IAmb	21 15 55.9	
	comp=Z,12nm,1.2s						
J56A	Wolcott	17.25	61	Pn	Pn	21 15 45.7	-2.7
J56A				IAmb	IAmb	21 15 59.5	
	comp=Z,8.9nm,1.0s						
N59A	State Game Lan	17.57	69	Pn	Pn	21 15 51.8	-0.7
BBB	Bella Bella	26.53	316	LR	LR	21 27 42.2	
	comp=Z,86nm,18.8s,baz=56,slow=36						
YKA	Yellowknife Ar	27.99	343	P	P	21 17 39.1	+1.0
	comp=Z,0.1nm,0.5s,baz=96,slow=37,SNR=2.2						
ILAR	Eielson Array	40.42	330	P	P	21 19 26.6	+1.1
	comp=Z,0.8nm,0.7s,baz=110,slow=6.6,SNR=9.0						
ARCES	ARCESS Array B	66.37	19	P	P	21 22 37.0	+0.9
	comp=Z,2.7nm,0.8s,baz=298,slow=5.7,SNR=1.3						
FINES	FINESS Array B	72.19	25	P	P	21 23 13.2	+1.0
	comp=Z,3.3nm,0.9s,baz=285,slow=7.3,SNR=3.5						

IDC 07 21:35:12.4±2.0, **7°.15S**×**130°.98E**, **h0**km, **mb3.1**/1, **mb1 3.5**/5, **mb1mx3.2**/44, **mbtmp3.3**/5, **ML3.1**/3, **Error ellipse: s-maj=72.9km s-min=26.3km az=86.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.24	3	Pn	Pn	21 36 45.6	-0.3
	baz=235,slow=22,SNR=1.6						
SIJI				Sn	Sn	21 37 47.3	-11
	0.5nm,0.3s,baz=301,slow=22,SNR=2.6						
FITZ	Fitzroy Crossi	12.06	205	Pn	Pn	21 38 06.8	+1.1
	0.1nm,0.3s,baz=319,slow=23,SNR=1.7						
FITZ				Sn	Sn	21 40 14.5	-6.5
	0.1nm,0.3s,baz=224,slow=9.0,SNR=1.8						
WRA	Warramunga Arr	13.13	166	Pn	Pn	21 38 18.7	-1.6
	0.1nm,0.3s,baz=350,slow=13,SNR=2.7						
WRA				Sn	Sn	21 40 38.8	-8.4
	baz=272,slow=7.9,SNR=0.7						
ASAR	Alice Springs	16.66	171	Pn	Pn	21 39 07.8	+0.3
	0.1nm,0.3s,baz=354,slow=14,SNR=6.1						
MKAR	Makanchi Array	68.88	326	P	P	21 46 19.1	+0.1
	0.1nm,0.5s,baz=145,slow=5.3,SNR=1.9						

GUC 07 21:47:32.6±0.7, 24°.27S×67°.46W, h205km±10km, ML3.6
IDC 07 21:47:35.6±1.3, 23°.69S×67°.13W, h193km±15km, mb3.2/1, mb1 3.2/5, mb1mx3.0/20, mbtmp3.7/5, Error ellipse: s-maj=29.4km s-min=21.5km az=8.0
ISC 07 21:47:32.9±0.9, **24°.22S**±0°.06×**67°.5W**±0°.1, **h211**km±11km, **n24**, σ**0s.83**/28, **5C**, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB15	IPOC Station P	2.04	299	⇑iP	Pn	21 48 13.3	+0.4
PB15				eS	S	21 48 43.8	+0.3
PB15				i		21 48 49.7	
LVC	Limon Verde	2.04	322	P	Pn	21 48 12.9	-0.2
	12nm,0.3s,baz=140,slow=6.6,SNR=150						
LVC				S	S	21 48 43.2	-0.7
	24nm,0.3s,baz=307,slow=21,SNR=44						
LVC	Limon Verde	2.04	322	eP	Pn	21 48 12.9	-0.2
LVC				iS	S	21 48 43.2	-0.7
GO02	Mina Guanaco	2.08	243	⇑iP	Pn	21 48 13.3	-0.1
GO02				iS	S	21 48 44.7	+0.1
PB06	IPOC Station P	2.40	309	⇑iP	Pn	21 48 17.0	+0.4
PB06				iS	S	21 48 49.9	-0.4
PB06				IAML		21 48 52.9	
	comp=N,324nm,0.1s						
PB14	IPOC Station P	2.64	261	⇑iP	Pn	21 48 19.6	+0.2
PB14				iS	S	21 48 55.2	+0.1
PB14				IAML		21 48 56.9	
	comp=E,112nm,0.5s						
PB05	IPOC Station P	2.80	299	eP	Pn	21 48 21.4	+0.5
PB05				IAML		21 49 01.1	
	comp=N,108nm,0.3s						
PB10	IPOC Station P	2.85	284	eP	Pn	21 48 22.4	+1.0
PB10				IAML		21 49 04.8	
	comp=N,100nm,0.3s						
PB09	IPOC Station P	2.88	327	iP	Pn	21 48 22.7	+0.7
PB09				IAML		21 49 01.0	
	comp=N,100nm,0.5s						
AC02	Maricunga	2.97	209	⇑iP	Pn	21 48 22.7	-0.6
AC02				IAML		21 49 06.0	
	comp=N,33nm,0.3s						
PB03	IPOC Station P	2.97	316	eP	Pn	21 48 23.2	+0.2
PB04	IPOC Station P	3.05	308	eP	Pn	21 48 24.5	+0.7
PB07	IPOC Station P	3.29	319	eP	Pn	21 48 27.0	+0.2
AC01	Pan de Azucar	3.37	235	eP	Pn	21 48 26.7	-0.7
PB01	IPOC Station P	3.64	330	eP	Pn	21 48 30.4	-0.4
GO03	Copiap	4.14	215	eP	Pn	21 48 35.5	-1.3
LPAZ	La Paz	7.92	356	P	Pn	21 49 25.4	-0.3
	comp=N,0.2nm,0.3s,baz=147,slow=9.5,SNR=2.8						
CPUP	Villa Florida	9.48	105	P	Pn	21 49 46.5	+1.3
	comp=N,0.2nm,0.3s,baz=270,slow=10.0,SNR=4.0						
SIV	San Ignacio	10.20	38	P	Pn	21 49 48.8	-5.8
	comp=N,0.4nm,0.3s,baz=250,slow=8.8,SNR=5.5						
PLCA	Paso Flores	16.66	188	P	Pn	21 51 23.0	+8.5
	comp=N,0.1nm,0.3s,baz=358,slow=13,SNR=3.8						
BDFB	Brasilia	20.23	69	P	P	21 51 50.5	-1.7
	comp=N,0.4nm,0.3s,baz=233,slow=14,SNR=3.9						
TORD	Torodi Ar. Bea	77.11	69	P	P	21 59 04.0	+0.5
	comp=N,0.6nm,0.8s,baz=258,slow=5.7,SNR=1.3						
ZALV	Zalesovo Beam	143.82	28	PKP	PKiKP	22 06 44.2	-1.8
	comp=N,0.5nm,0.5s,baz=316,slow=6.0,SNR=2.5						
MKAR	Makanchi Array	147.01	39	PKPbc	PKiKP	22 06 54.1	+1.2
	comp=N,0.6nm,0.6s,baz=305,slow=3.0,SNR=8.8						

DJA 07 21:49:43.8±0.2, 6°S±4°×11°1E±°, h553km±3km, M4.3/26, mB4.8/19, mb4.4/23, MLv4.9/26, Mw(mB)4.0/19
IDC 07 21:49:43.7±0.6, 5°.77S×110°.88E, h541km±7km, mb3.6/19, mb1 3.7/24, mb1mx3.5/39, mbtmp4.5/24, Error ellipse: s-maj=10.0km s-min=8.0km az=59.0
NEIC 07 21:49:44.6±1.2, 5°.81S±0°.09×110°.89E±0°.10, h552km±6km, mb4.5/62, Error ellipse: s-maj=13.9km s-min=12.5km az=72.0
ISC 07 21:49:44.1±0.3, **5°.86S**±0°.05×**110°.92E**±0°.05, **h550**km, **n205**, σ**1s.12**/212, **mb4.4**/61, **5C**, **Java Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMRI	Semarang	1.27	202	P	P	21 50 51.9	+0.7
SMRI				S	S	21 51 47.5	+1.9
SMRI	Semarang	1.27	202	P	P	21 50 51.2	0.0
SMRI				S	S	21 51 45.8	+0.2
UGM	Wanagama	2.07	191	P	P	21 50 53.9	-0.3
UGM	Wanagama	2.07	191	P	P	21 50 53.9	-0.3
UGM				S	S	21 51 48.8	-2.4
JCJI	Jatiwangi	2.70	257	P	P	21 50 57.1	-0.3
JCJI				S	S	21 51 58.3	+1.3
PBKI	Pangkalan Bun	3.23	14	P	P	21 51 01.2	+0.5
KMMI	Kalianget	3.25	111	P	P	21 51 00.9	+0.1
LEM	Lembang	3.41	254	P	P	21 51 01.8	-0.2
	25nm,0.3s,baz=34,slow=8.1,SNR=51						
LEM				S	S	21 52 03.3	-2.2
	33nm,0.3s,baz=300,slow=18,SNR=12						
LEM	Lembang	3.41	254	P	P	21 51 01.7	-0.4
CISI	Cisompet, Garu	3.51	241	P	P	21 51 01.4	-1.2
CISI	Cisompet, Garu	3.51	241	P	P	21 51 01.0	-1.6
ABJI	Asem Bagus	3.81	120	P	P	21 51 06.2	+1.5
CBJI	Citeko	4.08	262	P	P	21 51 05.7	-0.9
JAGI	Jajag, Banyuwa	4.13	129	P	P	21 51 06.8	-0.2
JAGI	Jajag, Banyuwa	4.13	129	P	P	21 51 07.2	+0.2
DBJI	Dramaga	4.20	260	P	P	21 51 06.6	-1.0
BBKI	Banjar Baru	4.58	59	P	P	21 51 11.1	+0.5
SRBI	Singaraja	4.80	118	P	P	21 51 12.6	+0.2
DNP	Denpasar	5.10	124	P	P	21 51 14.9	+0.1
	8.9nm17µm452nm,0.9s						
KBKI	Kotabaru	5.82	64	P	P	21 51 22.3	+1.1
	2.2nm8µm706nm,0.8s						
MTKI	Muara Teweh, K	6.30	39	P	P	21 51 26.8	+1.2
	0.3nm107nm,1.0s						
TWSI	Taliwang, Sumb	6.57	116	P	P	21 51 27.6	-0.5
	0.5nm3µm130nm,0.7s						
MDSI	Maura Dua	6.85	281	P	P	21 51 30.6	-0.1
	0.1nm654nm17nm,0.8s						
XMI	Christmas Isla	6.89	228	P	P	21 51 31.2	0.0
	410nm,1.3s						
XMIS	Christmas Isla	6.94	228	P	P	21 51 30.8	-0.8
XMIS	Christmas Isla	6.94	228	P	P	21 51 31.5	-0.1
	324nm,0.9s						
KSM	Kuching	7.31	355	P	P	21 51 35.6	+0.4
PLAI	Plampang	7.42	114	P	P	21 51 35.3	-0.9
	0.8nm3µm187nm,0.5s						
BKB	Balikpapan	7.52	53	P	P	21 51 40.4	+3.2
LHSI	Lahat	7.64	285	P	P	21 51 38.3	-0.1
	0.2nm58nm,0.8s						
MNAI	Manna	8.07	280	P	P	21 51 41.8	-0.8
SBUM	Sibu	8.36	9	P	P	21 51 46.8	+1.2
KAPI	Kappang	8.84	85	P	P	21 51 50.4	0.0
	19nm,0.3s,baz=270,slow=8.4,SNR=44						
KAPI				S	S	21 53 29.8	-4.1
	0.5nm,0.3s,baz=169,slow=18,SNR=6.8						
KAPI	Kappang	8.84	85	P	P	21 51 50.8	+0.5
SPSI	Sidrap Palu	9.02	78	P	P	21 51 52.3	+0.1
	723nm82nm,0.9s						
BNSI	Bone	9.27	81	P	P	21 51 55.5	+0.8
	2µm183nm,0.8s						
TTSI	Tana Toraja	9.31	73	P	P	21 51 56.7	+1.6
	682nm56nm,0.9s						
WSI	Waingapu	10.04	113	P	P	21 52 13.5	+11
BASI	Baing, Sumba	10.50	115	P	P	21 52 06.1	-1.2
	1µm116nm,1.2s						
MMRI	Maumere	11.56	104	P	P	21 52 16.9	-1.4
BKNI	Bangkinang	11.62	302	P	P	21 52 18.7	-0.2
BKNI	Bangkinang	11.62	302	P	P	21 52 18.6	-0.2
	925nm93nm,1.0s						
TOLI2	Tolitoli	12.04	55	P	P	21 52 24.6	+1.3
LUWI	Luwuk	12.77	68	P	P	21 52 31.3	+0.6
KKM	Kota Kinabalu	12.96	24	P	P	21 52 32.2	-0.6
MYLDM	Lahad Datu	13.33	35	P	P	21 52 38.7	+2.2
BATI	Baumata	13.34	110	P	P	21 52 35.1	-1.5
	6.0nm,0.3s,baz=282,slow=2.1,SNR=13						
BATI				S	S	21 54 52.7	-5.9
	9.4nm,0.3s,baz=298,slow=20,SNR=7.4						
BATI	Baumata	13.34	110	P	P	21 52 34.9	-1.7
	21nm,0.5s						
SOEI	Soe	13.78	107	P	P	21 52 38.9	-2.4
IPM	Ipoh	14.25	316	P	P	21 52 46.1	+0.1
RPSI	Rantau Prapat	14.69	305	P	P	21 52 50.2	-0.3
PSI	Prapat	14.75	305	P	P	21 52 49.1	-2.2
	2.3nm,0.3s,baz=180,slow=6.2,SNR=9.5						
KULM	Kulim	15.09	317	P	P	21 52 53.8	-0.9
KULM				IAmb	IAmb	21 53 05.0	
	comp=Z,29nm,1.5s						
TSI	Tuntungan	15.45	307	P	P	21 52 58.5	+0.2
	comp=Z,2µmcomp=Z,247nm,0.7s						
TPTI		16.44	303	P	P	21 53 05.8	-2.1
	comp=Z,24nm,0.7s						
GIRL	Giralia	16.99	169	P	P	21 53 14.6	+1.9
TRTT	Trang	17.62	320	P	P	21 53 19.2	+0.5
	comp=Z,22nm,0.9s						
TNTI	Ternate	17.70	69	P	P	21 53 20.5	+1.0
TNTI	Ternate	17.70	69	P	P	21 53 21.2	+1.8
	comp=Z,44nm,1.3s						
LHMI	Lhok Sumawe	17.77	308	P	P	21 53 20.2	+0.2
PSA00	Pilbara Seismi	17.85	152	P	P	21 53 22.3	+1.6
DLV	T Lat	17.86	352	P	P	21 53 22.1	+1.1
FITZ	Fitzroy Crossi	18.83	131	P	P	21 53 30.1	+0.4
	comp=Z,0.3nm,0.3s,baz=325,slow=9.6,SNR=12						
FITZ	Fitzroy Crossi	18.83	131	P	P	21 53 30.7	+1.1
UBPT	Khong Chiam	21.69	346	P	P	21 53 55.5	-0.1
UBPT				IAmb	IAmb	21 53 58.8	
	comp=Z,13nm,1.4s						
UTHA	Uthaitani	24.13	332	P	P	21 54 19.0	+1.7
	comp=Z,14nm,0.9s						
LOEI	Loei	25.11	338	P	P	21 54 26.1	+0.2
	comp=Z,16µmcomp=Z,6.0nm,0.9s						
UTTA	Uttaradit	25.59	337	P	P	21 54 31.4	+1.2
	comp=Z,478nmcomp=Z,34nm,0.6s						
WRA	Warramunga Arr	26.72	124	P	P	21 54 41.4	+1.1
	comp=Z,1.5nm,0.8s,baz=314,slow=9.4,SNR=17						
WRA				PcP	PcP	21 57 45.8	+0.4
	comp=Z,0.8nm,0.5s,baz=318,slow=2.3,SNR=3.4						
WRA				ScP	ScP	22 00 33.6	-0.1
	comp=Z,1.6nm,0.6s,baz=308,slow=2.5,SNR=9.5						
CM04	Chiang Mai Arr	26.83	334	P	P	21 54 42.5	+1.3
	comp=Z,193nmcomp=Z,20nm,0.8s						
CM31	Chiang Mai Arr	26.90	334	P	P	21 54 43.5	+1.7
	comp=Z,4µmcomp=Z,360nm,0.8s						
CM31	Chiang Mai Arr	26.90	334	P	P	21 54 42.6	+0.8
CM31				IAmb	IAmb	21 54 43.7	
	comp=Z,13nm,0.9s						
CMAR	Chiang Mai Arr	26.90	334	P	P	21 54 42.1	+0.3
	comp=Z,7.9nm,0.8s,baz=169,slow=8.2,SNR=51						
CMAR	Chiang Mai Arr	26.90	334	P	P	21 54 42.4	+0.6
CM15	Chiang Mai Arr	26.90	334	P	P	21 54 43.2	+1.5
	comp=Z,118nmcomp=Z,15nm,0.8s						
MHMT	Maesarieng	27.11	332	P	P	21 54 43.7	+0.2
	comp=Z,31nm,1.0s						
CMMT	Chiang Mai	27.21	335	P	P	21 54 44.0	-0.5
	comp=Z,4.6nm,1.5s						
CHTO	Chiang Mai	27.21	335	P	P	21 54 45.0	+0.4
WAMI	Wamena	27.76	87	P	P	21 54 50.9	+1.5
WAMI				pP	pP	21 56 21.0	+2.2
SLVN	Son La	27.89	346	P	P	21 54 51.5	+1.0
SLVN				IAmb	IAmb	21 54 52.9	
	comp=Z,9.0nm,0.9s						
ASAR	Alice Springs	28.33	131	P	P	21 54 55.6	+1.3
	comp=Z,0.7nm,0.6s,baz=313,slow=9.8,SNR=12						
ASAR				PcP	PcP	21 57 49.9	+0.5
	comp=Z,0.8nm,0.7s,baz=2.1,slow=1.9,SNR=5.7						
ASAR				ScP	ScP	22 00 38.9	+0.2
	comp=Z,1.6nm,0.6s,baz=321,slow=2.7,SNR=12						
FORT	Forrest	29.56	149	P	P	21 55 06.5	+1.7
FORT				IAmb	IAmb	21 55 16.1	
	comp=Z,8.5nm,0.9s						
TPUB	Ta-pu	30.50	18	P	P	21 55 13.0	0.0
YULB	Yu-li	30.80	19	P	P	21 55 15.1	-0.4
YULB				IAmb	IAmb	21 55 18.4	
	comp=Z,20nm,0.9s						
SSLB	Suanglung	31.06	18	P	P	21 55 18.2	+0.4
KMI	Kunming	31.81	346	⇑P	P	21 55 26.7	+2.3
KMI				pmax	pmax		
	comp=Z,15nm,1.0s						
KMI	Kunming	31.81	346	P	P	21 55 25.9	+1.5
KMI				IAmb	IAmb	21 55 27.7	
	comp=Z,17nm,1.1s						
TATO	Taipei	32.34	18	P	P	21 55 29.0	+0.4
GYA	Guiyang	32.39	353	⇑P	P	21 55 30.2	+0.9
GYA				pmax	pmax		
	comp=Z,17nm,0.7s						
PALK	Pallekele	32.85	293	P	P	21 55 32.9	-0.3
	comp=Z,6.9nm,0.9s,baz=350,slow=6.1,SNR=2.3						

PALK	Pallekele	32.85	293	P	P	21 55 33.3	0.0
PALK				IAmb	IAmb	21 55 33.8	
	comp=Z,17nm,1.2s						
ENH	Enshi	35.96	358	P	P	21 55 58.5	-0.5
SHL	Shillong	36.31	330	P	P	21 56 01.9	-0.2
SHL				IAmb	IAmb	21 56 02.9	
	comp=Z,16nm,0.7s						
WHN	Wuhan	36.35	5	⇑P	P	21 56 03.1	+1.0
JOW	Kunigami	36.59	27	P	P	21 56 04.8	+0.6
CD2	Chengdu	37.20	350	P	P	21 56 09.6	+0.4
NJ2	Nanjing	38.46	11	eP	P	21 56 20.1	+0.8
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
STKA	Stephens Creek	38.62	136	P	P	21 56 21.9	+1.1
	comp=Z,2.2nm,0.3s,baz=314,slow=8.2,SNR=14						
STKA				ScP	ScP	22 01 15.4	+0.5
	comp=Z,1.5nm,0.7s,baz=301,slow=5.9,SNR=4.0						
STKA	Stephens Creek	38.62	136	P	P	21 56 21.9	+1.1
ODAN	Odare	39.71	326	eP	ScP	22 01 19.1	-0.5
	comp=Z,5.9nm,0.7s						
XAN	Xi'an	39.73	357	⇑P	P	21 56 29.5	-0.2
XAN				pP	pP	21 58 06.7	+0.7
XAN				pmax	pmax		
	comp=Z,44nm,0.6s						
XAN	Xi'an	39.73	357	P	P	21 56 29.4	-0.2
TAPN	Taplejung	39.92	327	eP	ScP	22 01 21.1	+0.6
	comp=Z,7.1nm,0.5s						
LSA	Lhasa	40.13	333	P	P	21 56 34.4	+1.0
LSA				pmax	pmax		
	comp=Z,33nm,0.8s						
LSA	Lhasa	40.13	333	P	P	21 56 33.6	+0.1
LSA				IAmb	IAmb	21 56 35.3	
	comp=Z,6.7nm,0.5s						
RAMN	Ramite	40.23	325	eP	ScP	22 01 21.7	+0.1
	comp=Z,12nm,0.6s						
GUN	Gumba	41.37	325	eP	ScP	22 01 26.8	+0.5
	comp=Z,6.7nm,0.5s						
PKI	Pulchoki	41.38	325	eP	ScP	22 01 26.9	+0.6
	comp=Z,4.3nm,0.5s						
PKIN	Phulchoki	41.39	325	eP	ScP	22 01 26.2	-0.1
	comp=Z,4.7nm,0.6s						
JSU	Suzuyama	41.58	25	P	P	21 56 44.1	-0.2
JSU				IAmb	IAmb	21 56 44.5	
	comp=Z,27nm,1.1s						
DMN	Daman	41.59	324	eP	ScP	22 01 27.6	+0.6
	comp=Z,9.3nm,0.5s						
KKN	Kakani	41.62	325	eP	ScP	22 01 27.4	+0.3
	comp=Z,7.0nm,0.5s						
GKN	Gorkha	42.15	324	eP	ScP	22 01 29.3	+0.1
	comp=Z,6.4nm,0.5s						
LZH	Lanzhou	42.25	351	eP	P	21 56 50.7	+0.9
LZH				pP	pP	21 58 27.8	+0.1
LZH				sP	sP	21 59 20.8	-8.8
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
JNU	Nakatsue	43.16	25	P	P	21 56 55.9	-0.8
JNU				IAmb	IAmb	21 57 12.5	
	comp=Z,41nm,1.5s						
JMN	Monobe	44.98	27	P	P	21 57 10.7	-0.2
JHS	Saijyo	45.72	26	P	P	21 57 16.3	0.0
JHS				IAmb	IAmb	21 57 16.9	
	comp=Z,20nm,0.7s						
KSAR	Wonju Array Be	45.90	19	P	P	21 57 18.3	+0.6
BJT	Baijiatuau	45.91	6	P	P	21 57 17.6	-0.1
BJT				IAmb	IAmb	21 57 18.1	
	comp=Z,11nm,0.5s						
KSRS	Korea Array	45.92	19	P	P	21 57 17.9	0.0
	comp=Z,5.1nm,0.7s,baz=197,slow=8.0,SNR=17						
KSRS				ScP	ScP	22 01 44.0	-0.2
	comp=Z,0.9nm,0.8s,baz=177,slow=2.1,SNR=4.8						
BJI	Beijing	45.93	6	P	P	21 57 17.8	-0.1
BJI				S	S	22 03 25.6	+3.2
BJI				pmax	pmax		
	comp=Z,14nm,0.5s						
BJI				LR	LR		
	comp=N,160nm,6.5s						
BJI				LR	LR		
	comp=E,170nm,5.5s						
KS19	Wonju Array Si	45.95	19	P	P	21 57 18.1	0.0
GTA	Gaotai	46.20	348	⇑P	P	21 57 21.2	+1.1
GTA				pP	PP	21 59 18.1	+1.2
GTA				sP	sP	21 59 52.1	-10
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC	Hu-ho-hao-te	46.49	1	eP	P	21 57 22.0	-0.2
JWT	Wachi	46.97	28	P	P	21 57 25.5	-0.4
JWT				IAmb	IAmb	21 57 26.6	
	comp=Z,18nm,0.9s						
JGF	Kuroka	48.16	29	P	P	21 57 33.4	-1.4
JGF				IAmb	IAmb	21 57 43.0	
	comp=Z,29nm,1.5s						
MAJO	Matsushiro	49.32	29	P	P	21 57 41.8	-1.5
MAJO				IAmb	IAmb	21 57 46.9	
	comp=Z,9.5nm,1.2s						
MAT	Matsushiro	49.32	29	P	P	21 57 41.7	-1.7
MJAR	Matsushiro Arr	49.32	29	P	P	21 57 41.9	-1.5
	comp=Z,6.4nm,0.7s,baz=199,slow=8.1,SNR=20						
MJAR	Matsushiro Arr	49.32	29	P	P	21 57 41.5	-1.9
CN2	Changchun	51.15	13	eP	P	21 57 55.3	-1.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NIL	Nilore	53.06	320	P	P	21 58 09.2	-1.3
USA0B	Ussuriysk Arra	53.33	19	P	P	21 58 11.6	-0.6
USA0B				IAmb	IAmb	21 58 12.8	
	comp=Z,16nm,1.1s						
USRK	Ussuriysk Ar.	53.33	19	P	P	21 58 11.8	-0.4
	comp=Z,10nm,0.8s,baz=200,slow=4.5,SNR=19						
ULN	Ulaanbaatar	53.61	357	P	P	21 58 14.1	-0.1
SONM	Songino Array	53.62	356	P	P	21 58 14.3	+0.1
	comp=Z,4.7nm,0.5s,baz=177,slow=8.2,SNR=57						
SONM				PcP	PcP	21 59 11.9	0.0
	comp=Z,0.8nm,0.5s,baz=171,slow=3.3,SNR=6.4						
SONM				ScP	ScP	22 02 17.2	-0.1
	comp=Z,2.6nm,0.7s,baz=168,slow=4.3,SNR=17						
SONM	Songino Array	53.62	356	P	P	21 58 14.4	+0.1
WMQ	Urumqi	53.72	339	eP	P	21 58 17.2	+2.2
JTM	Tenmabayashi	54.05	28	P	P	21 58 16.3	-1.0
JTM				IAmb	IAmb	21 58 17.4	
	comp=Z,20nm,0.8s						
MK31	Makanchi Array	58.25	337	P	P	21 58 46.0	-0.2
MKAR	Makanchi Array	58.25	337	P	P	21 58 46.0	-0.2
	comp=Z,8.0nm,0.6s,baz=152,slow=7.4,SNR=172						
MKAR				ScP	ScP	22 02 37.4	-0.2
	comp=Z,0.7nm,0.7s,baz=141,slow=6.7,SNR=4.6						
MKAR	Makanchi Array	58.25	337	P	P	21 58 45.7	-0.5
MAKZ	Makanchi	58.38	337	P	P	21 58 46.2	-0.9
AAK	Ala-Archa	58.52	329	P	P	21 58 48.4	+0.1
YSS	Yuzh-Sakhalins	59.67	25	P	P	21 58 55.6	0.0
YSS				IAmb	IAmb	21 58 56.5	
	comp=Z,35nm,1.2s						
KK31	Karatay Array	60.94	327	P	P	21 59 03.2	-0.9
KKAR	Karatay Array	60.94	327	P	P	21 59 03.4	-0.8
KURBB	Kurchatov Arra	62.81	337	P	P	21 59 15.4	-0.7
	baz=154,slow=5.7						
ABPO	Ambohimpanom	63.25	252	P	P	21 59 20.1	+0.2
ABPO				IAmb	IAmb	21 59 27.3	
	comp=Z,33nm,1.5s						
OPO	Ambohidratompo	63.27	252	P	P	21 59 19.6	-0.4
	comp=Z,10nm,0.6s,baz=73,slow=7.4,SNR=7.5						
ZAA0	Zalesovo Array	63.50	343	P	P	21 59 19.8	-0.7
ZAA0				IAmb	IAmb	21 59 20.5	
	comp=Z,7.5nm,0.8s						
ZALV	Zalesovo Beam	63.50	343	P	P	21 59 19.7	-0.8
	comp=Z,7.6nm,0.6s,baz=160,slow=4.9,SNR=45						
BKZ	Black Stump Fm	67.44	130	P	P	21 59 45.8	+0.2
BKZ				IAmb	IAmb	21 59 58.7	
	comp=Z,18nm,1.3s						
YAK	Yakutsk	69.23	9	P	P	21 59 55.2	-0.6
RAYN	Ar Rayn	70.14	297	P	P	22 00 00.9	-1.3
ABKAR	Akbulak array	70.50	327	P	P	22 00 03.3	-0.3
ABKAR	Akbulak array	70.50	327	P	P	22 00 03.2	-0.5
PEA0B	Petropavlovsk-	70.75	28	P	P	22 00 05.2	+0.2
PEA0B				IAmb	IAmb	22 00 20.7	
	comp=Z,21nm,1.2s						
PETK	Petropavlovsk-	70.75	28	P	P	22 00 05.0	0.0
	comp=Z,8.7nm,0.6s,baz=156,slow=1.0,SNR=57						
PET	Petropavlovsk	71.14	28	P	P	22 00 07.4	+0.1
MA2	Magadan	72.46	20	P	P	22 00 15.0	+0.1
MA2				IAmb	IAmb	22 00 16.0	
	comp=Z,8.0nm,0.7s						
KMBO	Kilima Mbogo	73.63	271	P	P	22 00 22.8	-0.1
	comp=Z,0.6nm,0.4s,baz=51,slow=6.4,SNR=6.6						
VNDA	Vanda	76.38	170	P	P	22 00 37.8	+1.1
	comp=Z,2.2nm,0.5s,baz=313,slow=6.8,SNR=18						
VNDA	Vanda	76.38	170	P	P	22 00 37.7	+1.1
TIXI	Tiksi	78.26	6	P	P	22 00 45.8	-1.0
TIXI				IAmb	IAmb	22 00 46.7	
	comp=Z,9.6nm,0.7s						
KBZ	Khabaz	78.46	317	P	P	22 00 48.6	+0.1
	comp=Z,2.1nm,0.9s,baz=14,slow=3.7,SNR=2.9						
MBAR	Mbarara	80.17	270	P	P	22 00 58.8	+0.4
MBAR				IAmb	IAmb	22 00 59.7	
	comp=Z,11nm,0.7s						
LSZ	Lusaka	81.48	255	P	P	22 01 05.3	+0.2
LSZ				IAmb	IAmb	22 01 05.7	
	comp=Z,11nm,0.5s						
LBTB	Lobatse	83.32	246	P	P	22 01 14.2	0.0
LBTB				IAmb	IAmb	22 01 15.2	
	comp=Z,5.3nm,0.7s						
BOSA	Boshof	83.42	242	P	P	22 01 14.7	0.0
	comp=Z,3.7nm,0.6s,baz=102,slow=3.8,SNR=16						
BOSA	Boshof	83.42	242	P	P	22 01 14.7	0.0
BR131	Keskin Array S	84.01	311	P	P	22 01 16.8	-0.6
BR131				IAmb	IAmb	22 01 17.1	
	comp=Z,11nm,1.4s						
BRTR	Keskin Array B	84.01	311	P	P	22 01 16.8	-0.6
	comp=Z,1.5nm,0.8s,baz=124,slow=8.7,SNR=7.5						
BRTR	Keskin Array B	84.01	311	P	P	22 01 16.5	-0.9
QSPA	South Pole Qui	84.11	180	P	P	22 01 18.0	+0.7
QSPA				IAmb	IAmb	22 01 18.4	
	comp=Z,4.9nm,0.6s						
SUR	Sutherland	86.99	238	P	P	22 01 32.3	+0.4
SNAA	Sanae	91.75	197	P	P	22 01 53.5	+0.5
FINES	FINESS Array B	92.64	331	P	P	22 01 55.8	-1.3
	comp=Z,1.4nm,0.9s,baz=118,slow=11,SNR=0.7						
VNA2	Neumayer--Watz	93.40	197	P	P	22 02 01.2	+0.7
	baz=105,slow=3.9						
VNA1	Neumayer--Stat	93.78	197	P	P	22 02 02.7	+0.5
VNA3	Neumayer Olymp	93.88	196	P	P	22 02 02.9	+0.2
ILAR	Eielson Array	100.47	25	PP	PKiKP	22 06 51.5	-3.9
	comp=Z,0.3nm,0.8s,baz=217,slow=6.7,SNR=1.8						
TORD	Torodi Ar. Bea	110.00	282	PKiKP	PKiKP	22 07 14.2	-0.2
	comp=Z,0.4nm,0.6s,baz=93,slow=1.6,SNR=2.0						
YKA	Yellowknife Ar	114.43	21	SKP		22 10 04.2	
	comp=Z,0.6nm,0.7s,baz=327,slow=1.2,SNR=9.1						
NVAR	Mina Array Bea	124.97	47	PKKPbc	PKKPbc	22 17 25.7	-0.6
	comp=Z,0.4nm,0.6s,baz=120,slow=5.3,SNR=3.9						
PDAR	Pinedale Array	128.75	38	SKPbc	SKPbc	22 10 18.6	
	comp=Z,0.7nm,0.8s,baz=238,slow=2.8,SNR=5.0						
ULM	Lac du Bonnet	130.39	22	SKPbc	SKPbc	22 10 24.8	0.0
	comp=Z,18nm,0.7s,baz=325,slow=4.4,SNR=45						
PLCA	Paso Flores	133.61	178	PKP	PKiKP	22 07 59.7	-0.6
	comp=Z,1.6nm,0.8s,baz=225,slow=4.8,SNR=3.0						
TXAR	Lajitas Array	139.88	50	SKPbc	SKPbc	22 10 56.0	+0.8
	comp=Z,1.4nm,0.9s,baz=253,slow=1.4,SNR=9.4						
U40A	Yellville	142.64	32		PKPdf	22 08 12.9	-2.5
FCAR	Ozark Folk Cen	143.38	32		PKPbc	22 08 15.2	0.0
CO03	El Pedregal	143.47	178		PKPbc	22 08 16.3	+0.5
MIAR	Mount Ida	143.57	35		PKPbc	22 08 16.4	+0.5
ACSO	Alum Creek Sta	143.57	18		PKPab	22 08 15.3	-0.3
N54A	Moraine State	143.72	14		PKPbc	22 08 16.4	+0.2
WCI	Wyandotte Cave	144.19	23		PKPbc	22 08 17.8	+0.1
P51A	Williamsport	144.23	19		PKPbc	22 08 17.6	-0.1
CO01	Juntas del Tor	144.35	178		PKPab	22 08 19.6	+0.5
Q51A	Peebles	144.56	19		PKPbc	22 08 18.8	0.0
WVT	Waverly	145.31	27		PKPbc	22 08 21.5	+0.4
Q54A	Coxs Mills	145.36	16		PKPbc	22 08 21.0	-0.2
AC05	El Transito	145.48	178		PKPab	22 08 23.1	-0.2
CPUP	Villa Florida	146.03	199	PKPbc	PKPbc	22 08 23.9	+0.4
	comp=Z,4.1nm,0.5s,baz=160,slow=2.0,SNR=12						
BDFB	Brasilia	150.13	224	PKPbc	PKiKP	22 08 34.8	-0.1
	comp=Z,6.1nm,0.5s,baz=187,slow=1.1,SNR=12						
BDFB	Brasilia	150.13	224		PKiKP	22 08 34.7	-0.2
BDFB				PKPab	PKPab	22 08 43.8	+1.2

*TEH **07** 22:02:10.9, 32°.76N×47°.51E, h8km, ML3.4*
*KISR **07** 22:02:11.9±0.7, 32°.72N×48°.32E, h45km±999km,*
Hypocentre not reviewed by the ISC
*ISN **07** 22:02:11.3±1.1, 32°.70N×47°.54E, h14km±8km, ML3.3*
*THR **07** 22:02:12.2±0.4, 32°.89N×47°.34E, h18km±32km, ML3.1*
ISC 07 22:02:11.2±1.0, **32°.77N**±0°.03×**47°.50E**±0°.03, **h9**km±9km, **n49**, σ1s.**54**/55, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.20	244	ePg	Pg	22 02 15.2	-0.2
DHL1				eSg	Sg	22 02 18.8	+0.5
IKFM	Kafar-mosalman	0.81	21	ePg	Pg	22 02 26.5	-0.2
IKFM				e		22 02 42.3	
	comp=Z,99nm,0.4s						
IKMR	Kamar-syah	1.05	44	ePg	Pg	22 02 30.8	-0.6
IKMR				e		22 02 51.6	
	comp=Z,99nm,0.4s						
IDOB	Doab	1.16	29	ePg	Pn	22 02 33.8	0.0
IBDR	Badra	1.36	285	ePg	Pb	22 02 37.0	+0.2
IBDR				eSg	Sg	22 02 56.0	+1.0
IBDR				AML	AML	22 03 01.4	
	comp=N,512nm,0.5s						
IBDR				AML	AML	22 03 01.5	
	comp=E,509nm,0.9s						
KCHF	Cheshme Sefid,	1.55	346	ePg	Pg	22 02 41.1	+0.2
KER	Kermanshah	1.64	349	ePg	Pg	22 02 42.6	-0.1
HSAM	Samen	1.71	32	ePg	Pb	22 02 43.3	+0.4
HSAM				e		22 02 45.9	
	comp=Z,99nm,0.5s						
IBZA	Bozab	1.72	10	ePg	Pg	22 02 44.2	0.0
AHWZ	Ahwaz	1.73	146	ePg	Pg	22 02 44.5	+0.1
IGHG	Ghaleghazi	1.74	334	ePn	Pg	22 02 44.2	-0.4
NSR	Nassriya	2.10	214	ePn	Pn	22 02 47.0	+0.5
NSR				eSn	Sn	22 03 12.0	-0.7
IDHR	Dehrash	2.14	335	ePn	Pb	22 02 48.9	-1.3
IDHR				e		22 03 25.3	
	comp=Z,99nm,0.4s						
IALM	Almabolaq	2.16	15	ePn	Pb	22 02 50.0	-0.6
ILIN	Lien	2.19	348	ePn	Pb	22 02 50.2	-0.9
ILIN				e		22 03 27.3	
	comp=Z,99nm,0.4s						
KHMZ	Khomeyn	2.27	64	ePn	Pb	22 02 52.3	-0.2
KHMZ	Khomeyn	2.27	64	ePn	Pb	22 02 52.3	-0.2
SNGE	Sanandaj	2.32	357	ePn	Pn	22 02 50.2	+0.5
SNGE				eSg	Sb	22 03 21.4	-0.7
SNGE				IAML		22 03 32.7	
	comp=N,111nm,0.6s						
SNGE	Sanandaj	2.32	357	ePn	Pn	22 02 50.2	+0.5
HAGD	Aghdareh	2.46	33	ePn	Pb	22 02 54.1	-1.6
HAGD				e		22 03 01.4	
	comp=Z,99nm,0.3s						
BHD	Baghdad	2.67	282	ePn	Pn	22 02 56.0	+1.7
BHD				eSn	Sb	22 03 30.0	-1.9
ASAO	Ashtian	2.75	49	ePn	Pb	22 02 58.3	-2.4
ASAO				eSg	Sg	22 03 39.4	-0.3
ASAO	Ashtian	2.75	49	ePn	Pb	22 02 58.3	-2.4
IPIR	Pirpir	2.86	91	ePn	Pn	22 02 59.2	+2.0
IPIR				e		22 03 53.2	
	comp=Z,99nm,0.6s						
SHK1	Shahrekord	2.89	98	ePn	Pn	22 02 59.0	+1.4
SHK1				e		22 03 09.9	
	comp=Z,99nm,0.8s						
MIB	Mutribah	2.96	183	eP		22 02 59.7	
MIB				eS		22 03 35.7	
ABEH	Behbahan	3.19	132	ePn	Pn	22 03 03.1	+1.6
UMR	Umm Al-Rimmam	3.21	177	eP		22 03 01.9	
IRAZ	Razeghan	3.31	37	ePn	Pn	22 03 06.6	+3.2
QABG	Abgarm-Qazvin	3.40	30	ePn	Pn	22 03 05.7	+1.1
QAM	Ghamsar	3.44	72	ePn	Pn	22 03 08.3	+3.1
IKLH	Kolahrood	3.47	80	ePn	Pn	22 03 07.4	+1.8
IQOM	Qom	3.62	54	ePn	Pn	22 03 09.5	+1.9
RDF	Al-Radifah	3.83	179	eP		22 03 11.4	
RDF				eS		22 03 56.5	
IGAR	Gharneh	3.85	94	ePn	Pn	22 03 12.1	+1.3
IGAR				e		22 04 00.3	
	comp=Z,99nm,0.4s						
KLNJ	Kolanjah	3.90	116	ePn	Pn	22 03 12.4	+0.8
QRN	Al-Qurain	4.03	175	eP		22 03 13.4	
QRN				eS		22 03 59.3	
KRSH	Karshahi	4.06	72	ePn	Pn	22 03 15.5	+1.9
IZEF	Zefreh	4.07	87	ePn	Pn	22 03 15.3	+1.5
IVRN	Varamin	4.16	57	ePn	Pn	22 03 16.5	+1.6
IRAM	Ramesheh	4.24	102	ePn	Pn	22 03 16.9	+0.7
IGZV	Ghazvin	4.25	31	ePn	Pn	22 03 18.3	+2.1
MAHB	Mahabad	4.25	340	ePn	Pn	22 03 18.2	+2.0
CHTH	Charan	4.33	43	ePn	Pn	22 03 19.5	+2.0
CHTH	Charan	4.33	43	ePn	Pn	22 03 19.5	+2.0
QALM	Alamut, Qazvin	4.48	35	ePn	Pn	22 03 21.7	+2.2
DAMV	Damavand	4.67	51	ePn	Pn	22 03 24.5	+2.4
DAMV	Damavand	4.67	51	ePn	Pn	22 03 24.5	+2.4
IFIR	Firoozkooh	5.21	55	ePn	Pn	22 03 31.4	+1.9
ANAR	Anarak	5.25	84	ePn	Pn	22 03 30.9	+0.9
IPRN	Peran	5.29	48	ePn	Pn	22 03 33.2	+2.8
ISAD	Sadrabad	5.30	98	ePn	Pn	22 03 31.8	+1.0
ICHK	Chekchek	5.86	93	ePn	Pn	22 03 38.9	+0.5

IDC 07 22:02:19.8±3.3, **5°.26S**×**133°.72E**, **h0**km, **mb3.1**/1, **mb1 3.7**/5, **mb1mx3.4**/30, **mbtmp3.5**/5, **ML3.3**/4, **Error ellipse: s-maj=123.4km s-min=26.4km az=79.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.00	331	Pn	Pn	22 03 36.3	+0.1
	0.6nm,0.3s,baz=214,slow=22,SNR=6.9						
SIJI				Sn	Sn	22 04 27.1	-7.8
	0.5nm,0.3s,baz=207,slow=23,SNR=1.3						
WRA	Warramunga Arr	14.60	178	Pn	Pn	22 05 46.9	-1.0
	0.1nm,0.3s,baz=359,slow=13,SNR=6.6						
WRA				Sn	Sn	22 08 25.4	-5.2
	0.1nm,0.3s,baz=0.4,slow=23,SNR=1.5						
FITZ	Fitzroy Crossi	15.00	211	Pn	Pn	22 05 52.3	-1.0
	0.3nm,0.3s,baz=35,slow=10,SNR=7.1						
FITZ				Sn	Sn	22 08 33.1	-7.1
	0.1nm,0.3s,baz=348,slow=23,SNR=1.9						
ASAR	Alice Springs	18.30	179	P	P	22 06 36.0	+0.5
	0.2nm,0.3s,baz=5.6,slow=10,SNR=12						
MKAR	Makanchi Array	68.88	325	P	P	22 13 26.4	0.0
	0.1nm,0.5s,baz=121,slow=7.9,SNR=1.7						

WEL 07 22:04:57.7, 45°S±3°×**16°7E**±°, **h128**km±3km, **M3.6**/14, **MLv3.6**/14, **Error ellipse: s-maj=0.0km s-min=0.0km az=59.4, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.29	220	P	Pn	22 05 15.4	-0.1
DCZ				S	Sn	22 05 28.2	-0.9
MLZ	Mavora Lakes	0.51	105	P	Pn	22 05 17.1	+0.6
MLZ				S	Sn	22 05 31.6	+0.7
MSZ	Milford Sound	0.67	32	P	Pn	22 05 18.1	+0.5
MSZ				S	Sn	22 05 32.2	-0.4
WHZ	Wether Hill Ro	0.75	151	P	Pn	22 05 18.9	+0.7
WHZ				S	Sn	22 05 34.5	+0.7
WKZ	Wanaka	1.20	71	P	Pn	22 05 23.2	+0.7
WKZ				S	Sn	22 05 41.3	+0.1
EAZ	Earnscleugh	1.33	90	P	Pn	22 05 24.4	+0.6
EAZ				S	Sn	22 05 43.0	-0.6
JCZ	Jackson Bay	1.52	40	P	Pn	22 05 25.6	-0.3
JCZ				S	Sn	22 05 45.8	-1.6
APZ	The Paps	1.64	166	P	Pn	22 05 28.0	+0.8
APZ				S	Sn	22 05 50.5	+0.6
TUZ	Tuapeka	1.71	116	P	Pn	22 05 29.0	+1.0
TUZ				S	Sn	22 05 50.0	-1.1
SYZ	Scrubby Hill	1.77	138	P	Pn	22 05 29.7	+1.1
SYZ				S	Sn	22 05 52.4	+0.1
LBZ	Lake Benmore	2.14	67	P	Pn	22 05 32.4	-0.9
LBZ				S	Sn	22 05 58.2	-2.3
ODZ	Otahua Downs	2.29	86	P	Pn	22 05 34.8	-0.3
ODZ				S	Sn	22 06 01.5	-2.2
FOZ	Fox Glacier	2.42	46	P	Pn	22 05 35.1	-1.6
TMZ	Timaru	2.69	73	P	Pn	22 05 39.1	-1.1
RPZ	Rata Peaks	3.01	61	P	Pn	22 05 42.9	-1.5
RPZ				S	Sn	22 06 17.8	-2.5
OXZ	Oxford	3.83	62	P	Pn	22 05 54.2	-0.9
INZ	Inchbonnie	3.84	51	P	Pn	22 05 53.4	-1.8
LTZ	Lake Taylor	4.27	57	P	Pn	22 05 58.8	-2.2
THZ	Tophouse	5.29	51	P	Pn	22 06 13.3	-1.3

*MOS **07** 22:18:56.0±0.9, 6°.50S×151°.71E, h18km, mb5.9/48, MS5.2/41, Error ellipse: s-maj=6.2km s-min=4.8km az=108.7*

*NEIC **07** 22:18:57.5±1.6, 6°.53S±0°.06×151°.73E±0°.07, h22km±1km, mb6.0/207, Ms_20 5.4/476, Mwb5.5/45, Mww5.6, Mwc5.7(GCMT), Error ellipse: s-maj=11.2km s-min=9.8km az=115.0*

*NEIC **07** 22:19:00.2, 6°.53S×151°.76E, h27km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.08; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-1.76; $M_{r\theta}$-0.75; $M_{\theta\phi}$-0.77; $M_{\phi r}$0.24; Fault plane solution: $M_0$2.23000×10^{17} NP1:ϕ_s5.77000°, δ46.76000°, λ64.03000°. NP2:ϕ_s221.18000°, δ49.08000°, λ114.97000°. Principal axes: T 2.3459, Plg71.0000°, Azm200.0000°; N -0.2508, Plg19.0000°, Azm24.0000°; P -2.0951, Plg1.0000°, Azm294.0000°;*

*BJI **07** 22:19:00.0±0.0, 6°.60S×151°.80E, h40km, mB5.3/66, mb5.1/79, Ms5.4/89, Ms7 5.2/84*

*IDC **07** 22:19:01.2±1.6, 6°.57S×151°.75E, h52km±14km, mb5.2/39, mb1 5.2/42, mb1mx5.2/46, mbtmp5.4/42, ML3.8/2, MS5.1/30, Ms1 5.1/30, ms1mx4.9/46, Error ellipse: s-maj=8.5km s-min=7.6km az=131.0*

*DJA **07** 22:19:02.3±0.3, 7°S±2°×15°2E±°, h60km±3km, M5.8/102, mB6.2/90, mb5.9/102, MLv6.5/3, Mw5.7/8, Mw(mB)5.9/90, MwMwp5.5/33, Mwp5.6/33*

*GCMT **07** 22:19:02.5±0.1, 6°.60S±0°.01×151°.80E±0°.01, h45km, MW5.7/163, Moment Tensor Solution. s150,c276; s163,c335; Duration: 1s.6 Moment tensor: Scale 10^{17} Nm; M_{rr}2.88±.04; $M_{\theta\theta}$-0.75±.03; $M_{\phi\phi}$-2.14±.03; $M_{r\theta}$-1.51±.04; $M_{\theta\phi}$-2.38±.03; $M_{\phi r}$0.50±.03; Best double couple: $M_0$3.85700×10^{17} NP1:ϕ_s11.00000°, δ48.00000°, λ49.00000°. NP2:ϕ_s243.00000°, δ56.00000°, λ126.00000°. Principal axes: T 3.7500, Plg61.0000°, Azm210.0000°; N 0.2070, Plg29.0000°, Azm41.0000°; P -3.9630, Plg5.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 22:19:03, 6°.63S×151°.84E, h45km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.84; $M_{\theta\theta}$-0.75; $M_{\phi\phi}$-2.09; $M_{r\theta}$-1.45; $M_{\theta\phi}$-2.59; $M_{\phi r}$0.49; Fault plane solution: $M_0$3.94000×10^{17} NP1:ϕ_s10.00000°, δ49.00000°, λ48.00000°. NP2:ϕ_s244.00000°, δ56.00000°, λ127.00000°. Principal axes: T 3.7224, Plg59.0000°, Azm212.0000°; N 0.4103, Plg30.0000°, Azm41.0000°; P -4.1327, Plg4.0000°, Azm309.0000°;*

*NEIC **07** 22:19:03, 6°.54S×151°.74E, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.14; $M_{\theta\theta}$-1.06; $M_{\phi\phi}$-2.08; $M_{r\theta}$-1.15; $M_{\theta\phi}$-1.96; $M_{\phi r}$0.42; Fault plane solution: $M_0$3.61000×10^{17} NP1:ϕ_s18.00000°, δ45.00000°, λ61.00000°. NP2:ϕ_s237.00000°, δ52.00000°, λ116.00000°. Principal axes: T 3.5922, Plg69.0000°, Azm210.0000°; N 0.0287, Plg20.0000°, Azm40.0000°; P -3.6209, Plg3.0000°, Azm309.0000°;*

ISC 07 22:18:59.0±0.5, **6°.56S**±0°.03×**151°.76E**±0°.03, **h33**km±1km, **h34**km**:pP-P, n1421**, σ1s.**60**/1327, **mb5.8**/301, **MS5.3**/308, **155C-64D, Fault plane solution: NP1:**ϕ_s3.83954°, δ59.37457°, λ49.17637°. **NP2:**ϕ_s243.31250°, δ49.36979°, λ137.83711°. **Principal axes:** T Plg55.1516°, Azm219.8429°; N Plg34.2322°, Azm27.5933°; P Plg5.7526°, Azm121.5238°; **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	2.38	10		Pn	22 19 37.0	+1.2
RABL	Rabaul	2.38	10	P	Pb	22 19 42.6	+1.3
PMG	Port Moresby	5.37	238	P	Pn	22 20 20.0	+3.3
	68nm,0.3s,baz=50,slow=6.2,SNR=72						
PMG				S	Sn	22 21 18.2	+0.8
	211nm,0.3s,baz=33,slow=20,SNR=16						
PMG				LR	LR	22 22 30.7	
	comp=Z,19μm,20.8s,baz=58,slow=39						
PMG	Port Moresby	5.37	238	ceP	Pn	22 20 20.1	+3.3
PMG				pmax	pmax		
	comp=Z,1μm,1.3s						
PMG	Port Moresby	5.37	238	Pn	Pn	22 20 19.6	+2.9
PMG	Port Moresby	5.37	238	P	Pn	22 20 21.4	+4.6
HNR	Honiara	8.59	110	P	Pn	22 21 03.8	+2.6
	comp=Z,106nm,0.3s,baz=243,slow=2.9,SNR=11						
HNR				LR	LR	22 23 57.9	
	comp=Z,18μm,21.3s,baz=278,slow=34						
HNR	Honiara	8.59	110	P	Pn	22 21 03.2	+2.1
HNR	Honiara	8.59	110		Pn	22 21 03.2	+2.1
HNR	Honiara	8.59	110	P	Pn	22 21 06.1	+5.0
COEN	Coen	11.20	228	Pn	Pn	22 21 38.6	+1.7
JAY	Jayapura	11.73	290	P	Pn	22 21 47.7	+3.5
	comp=Z,1μmcomp=Z,45nm,1.1s						

GENI **Genyem** 12.21 288 P Pn 22 21 55.0 +4.3
comp=Z,12µmcomp=Z,6µmcomp=Z,299nm,1.1s
MTSU **Mount Surprise** 13.61 212 P Pn 22 22 12.5 +2.7
baz=14,SNR=36
CTA **Charters Tower** 14.47 201 P Pn 22 22 23.3 +1.7
comp=Z,0.9nm,0.3s,baz=35,slow=14,SNR=15
CTA LR LR 22 27 47.8
comp=Z,11µm,18.1s,baz=24,slow=36
CTAO **Charters Tower** 14.47 201 P Pn 22 22 22.6 +1.0
CTAO **Charters Tower** 14.47 201 Pn Pn 22 22 22.6 +1.0
PATS **Pohnpei** 14.82 26 Pn Pn 22 22 25.4 -1.0
SRPI **Serui, Papua** 16.16 286 P P 22 22 47.6 +0.9
comp=Z,339nm,1.0s
SANVU **Saraoutou** 17.53 122 P P 22 23 02.2 +0.4
SANVU **Saraoutou** 17.53 122 P P 22 23 05.6 +3.8
QIS **Mount Isa** 18.24 219 P Pn 22 23 10.8 +1.1
baz=18,SNR=362
KOUNC **Koumac, New Ca** 18.47 140 P Pn 22 23 17.7 +5.3
EIDS **Eidsvold** 18.72 182 P Pn 22 23 16.6 +1.1
baz=19,SNR=19
EIDS **Eidsvold** 18.72 182 P Pn 22 23 16.4 +1.0
DVP **Devils Point** 19.50 126 P Pn 22 23 27.7 +2.8
FAKI **Fak Fak** 19.78 280 P P 22 23 27.2 +0.6
FAKI IAmb IAmb 22 23 42.4
comp=Z,1µm,1.1s
FAKI **Fak Fak** 19.78 280 P Pn 22 23 29.9 +1.7
comp=Z,8µmcomp=Z,9µmcomp=Z,911nm,1.1s
KDU **Kakadu** 19.96 251 P Pn 22 23 29.6 -0.8
baz=20,SNR=90
RMQ **Roma** 20.02 188 P Pn 22 23 31.5 +0.4
baz=20,SNR=306
SAUI **Saumlaki** 20.35 265 P Pn 22 23 34.0 -0.9
SAUI **Saumlaki** 20.35 265 P Pn 22 23 35.7 +0.7
comp=Z,23µmcomp=Z,50µmcomp=Z,5µm,1.2s
LIFNC **LIFOU** 20.61 135 P Pn 22 23 41.2 +3.3
NOUC **Port Laguerre** 20.88 139 P Pn 22 23 44.0 +2.9
DZM **Mont Dzumac** 20.95 139 P P 22 23 40.1 +0.8
comp=Z,58nm,1.0s,baz=289,slow=5.3,SNR=9.9
DZM LR LR 22 30 43.0
comp=Z,20µm,19.9s,baz=308,slow=34
DZM **Mont Dzumac** 20.95 139 eP Pn 22 23 41.2 -0.8
comp=Z,803nm,1.4s
DZM eS S 22 27 28.8 -2.4
comp=Z,11µm,25.0s
DZM eLQ LQ 22 27 49.0
comp=Z,9µm,25.9s
DZM eLR LR 22 28 46.2
comp=Z,29µm,23.2s
DZM **Mont Dzumac** 20.95 139 P P 22 23 40.2 +0.8
DZM IAmb IAmb 22 24 06.2
comp=Z,442nm,1.2s
DZM **Mont Dzumac** 20.95 139 P Pn 22 23 42.6 +0.6
ONTNC **Ouen Toro** 21.12 139 P P 22 23 44.7 +3.6
GUMO **Guam** 21.15 341 P P 22 23 41.2 -0.2
GUMO pmax pmax
comp=Z,2µm,1.2s
GUMO **Guam** 21.15 341 P 22 23 41.2 -0.2
GUMO **Guam** 21.15 341 P P 22 23 43.1 +1.7
QLP **Quilpie** 21.17 199 P P 22 23 43.7 +2.2
baz=21,SNR=17
SIJI **Sorong** 21.21 285 P P 22 23 43.2 +1.0
comp=Z,43nm,0.4s,baz=90,slow=12,SNR=16
SWI **Sorong** 21.22 285 P P 22 23 44.2 +2.0
SWI pmax pmax
comp=Z,383nm,1.0s
SWI **Sorong** 21.22 285 P P 22 23 45.2 +3.0
comp=Z,5µmcomp=Z,383nm,1.0s
YATNC **Mamie plateau,** 21.24 138 P P 22 23 45.6 +3.3
WR0 **Warramunga Arr** 21.38 230 P P 22 23 44.4 +0.6
WR0 IAmb IAmb 22 23 59.3
comp=Z,1µm,1.1s
OUENC **Ouen Island, N** 21.45 139 P P 22 23 49.2 +4.6
WRAB **Tennant Creek** 21.51 230 iP P 22 23 46.0 +0.7
WRAB pmax pmax
comp=Z,911nm,0.9s
WRAB MLR MLR
comp=Z,6µm,18.0s
WRAB **Tennant Creek** 21.51 230 P P 22 23 45.6 +0.3
WRAB IAmb IAmb 22 23 50.5
comp=Z,869nm,0.9s
WB2 **Warramunga Arr** 21.51 230 P P 22 23 45.7 +0.4
WB2 IAmb IAmb 22 23 50.7
comp=Z,842nm,0.9s
WRA **Warramunga Arr** 21.52 230 P P 22 23 44.8 -0.7
comp=Z,403nm,0.9s,baz=56,slow=9.3,SNR=192
WRA S S 22 27 39.6 -2.9
comp=Z,84nm,1.3s,baz=51,slow=19,SNR=7.1
WRA LR LR 22 32 16.2
comp=Z,6µm,18.9s,baz=55,slow=37
MARNC **Mare, Loyalty** 21.63 135 P P 22 23 49.7 +3.2
BNDI **Bandanaira** 21.85 274 P P 22 23 51.8 +2.9
comp=Z,55µmcomp=Z,3µm,1.1s
PINNC **Pines Island,** 21.99 138 P P 22 23 52.7 +2.3
TARA **Tarawa** 22.54 70 P P 22 23 57.7 +1.3
TARA IAmb IAmb 22 24 22.6
comp=Z,582nm,1.1s
TARA **Tarawa** 22.54 70 P P 22 24 02.0 +5.6
ANA2 **Anatahan** 23.53 345 P P 22 24 05.4 -1.0
ANA2 IAmb IAmb 22 24 22.2
comp=Z,257nm,0.9s
ARMA **Armidale** 23.74 180 P P 22 24 09.1 +0.7
baz=24,SNR=21
ARMA **Armidale** 23.74 180 P P 22 24 08.8 +0.4
ARMA IAmb IAmb 22 24 10.8
comp=Z,530nm,1.3s
ARMA IAMs_20 IAMs_20 22 32 38.1
comp=Z,14µm,20.0s
AS31 **Alice Springs** 24.17 223 P P 22 24 12.6 +0.2
AS31 IAmb IAmb 22 24 15.7
comp=Z,241nm,0.7s
ASAR **Alice Springs** 24.17 223 P P 22 24 13.0 +0.6
comp=Z,801nm,0.8s,baz=59,slow=8.7,SNR=1122
ASAR S S 22 28 32.2 +3.7
comp=Z,7.1nm,1.0s,baz=168,slow=41,SNR=2.2
ASAR LR LR 22 33 27.6
comp=Z,5µm,20.6s,baz=50,slow=36
ASAR P3KPbc 22 57 28.9
comp=Z,0.6nm,1.0s,baz=190,slow=3.8,SNR=4.1
ASAR **Alice Springs** 24.17 223 P P 22 24 12.3 -0.1
ASAR **Alice Springs** 24.17 223 P P 22 24 12.3 -0.1
KNRA **Kununurra** 24.30 246 P P 22 24 13.6 0.0
KNRA IAmb IAmb 22 25 02.6
comp=Z,244nm,0.9s
NLAI **Namlea** 24.79 276 P P 22 24 18.2 +0.1
comp=Z,4µmcomp=Z,300nm,1.1s
TNTI **Ternate** 25.41 286 P P 22 24 23.5 -0.3
CMSA **Cobar Meteorol** 25.49 192 P P 22 24 24.0 -0.3
baz=26,SNR=172
LHI **Lord Howe Isla** 25.76 166 P P 22 24 27.3 +0.6
baz=26,SNR=3.3
LHI **Lord Howe Isla** 25.76 166 P P 22 24 26.7 0.0
LHI IAmb IAmb 22 24 28.6
comp=Z,575nm,1.0s
LHI **Lord Howe Isla** 25.76 166 P P 22 24 27.3 +0.6
SANI **Sanana** 26.08 279 P P 22 24 32.0 +2.1
comp=Z,4µmcomp=Z,426nm,1.0s
MGCD **Mangrove Creek** 26.53 181 P P 22 24 35.1 +1.5
baz=27,SNR=12
STKA **Stephens Creek** 26.92 199 P P 22 24 36.6 -0.6
comp=Z,392nm,0.9s,baz=5.2,slow=9.0,SNR=93
STKA LR LR 22 35 58.6
comp=Z,5µm,18.1s,baz=17,slow=38
STKA **Stephens Creek** 26.92 199 P P 22 24 36.7 -0.6
baz=27,SNR=432
STKA **Stephens Creek** 26.92 199c iP P 22 24 36.4 -0.8
STKA **Stephens Creek** 26.92 199 P P 22 24 36.9 -0.4
RIV **Riverview** 27.14 181 P P 22 24 40.6 +1.4
baz=27,SNR=5.3
RIV **Riverview** 27.14 181 P P 22 24 39.5 +0.3
RIV pmax pmax
comp=Z,232nm,1.4s
FUNA **Funafuti** 27.27 96 P P 22 24 40.3 -0.2
FUNA IAmb IAmb 22 24 54.8
comp=Z,467nm,1.4s
SOEI **Soe** 27.40 261 P P 22 24 42.5 +0.6
SOEI **Soe** 27.40 261 P P 22 24 43.7 +1.9
comp=Z,9µmcomp=Z,20µmcomp=Z,1µm,1.2s
YNG **Young** 27.78 186 P P 22 24 45.6 +0.7
baz=28,SNR=7.9
FITZ **Fitzroy Crossi** 27.93 243 P P 22 24 46.9 +0.5
comp=Z,436nm,0.9s,baz=59,slow=8.9,SNR=186
FITZ LR LR 22 36 30.8
comp=Z,3µm,19.2s,baz=76,slow=38
FITZ **Fitzroy Crossi** 27.93 243 P P 22 24 46.9 +0.5
baz=28,SNR=158
FITZ **Fitzroy Crossi** 27.93 243 P P 22 24 46.8 +0.3

MSVF **Nonsavu** 27.95 116 P P 22 24 46.7 -0.1
comp=Z,23nm,1.1s,baz=265,slow=9.7,SNR=4.6
MSVF **Nonsavu** 27.95 116 P P 22 24 47.1 +0.3
MSVF pmax pmax
comp=Z,501nm,1.1s
MSVF **Nonsavu** 27.95 116 P P 22 24 47.1 +0.3
MSVF IAmb IAmb 22 25 03.9
comp=Z,501nm,1.1s
MSVF **Nonsavu** 27.95 116 P P 22 24 49.9 +3.2
BATI **Baumata** 28.03 261 P P 22 24 49.3 +2.0
comp=Z,564nm,0.8s,baz=147,slow=1.5,SNR=71
BATI LR LR 22 37 51.2
comp=Z,4µm,20.0s,baz=98,slow=40
BATI **Baumata** 28.03 261 P P 22 24 49.4 +2.0
comp=Z,3µmcomp=Z,6µmcomp=Z,769nm,1.1s
CNB **Canberra Magne** 28.70 184 P P 22 24 53.8 +0.5
baz=29,SNR=8.2
CAN **Canberra** 28.74 185 P P 22 24 53.5 0.0
CAN pmax pmax
comp=Z,121nm,1.4s
CAN MLR MLR
comp=Z,4µm,19.0s
CAN **Canberra** 28.74 185 P P 22 24 53.5 0.0
DDMP **Don Marcelino,** 28.88 295 eP P 22 25 29.8 +35
WRKA **Warakurna** 29.02 228 P P 22 24 55.7 -0.4
baz=29,SNR=35
HTT **Hallett** 29.28 202 P P 22 24 58.2 -0.1
baz=29,SNR=39
MMRI **Maumere** 29.33 264 P P 22 24 58.5 -0.5
MMRI **Maumere** 29.33 264 P P 22 24 59.3 +0.3
comp=Z,4µmcomp=Z,13µmcomp=Z,1µm,1.2s
DAV **Davao City (W)** 29.42 297 LR LR 22 37 25.8
comp=Z,1µm,18.6s,baz=116,slow=38
LUWI **Luwuk** 29.43 280 P P 22 25 00.1 +0.3
LUWI **Luwuk** 29.43 280 P P 22 25 00.7 +0.9
comp=Z,6µmcomp=Z,685nm,1.0s
GTOI **Gorontalo** 29.57 283 P P 22 25 05.1 +4.0
comp=Z,1µmcomp=Z,154nm,1.0s
BBOO **Buckleboo** 29.93 207 P P 22 25 03.6 -0.5
baz=30,SNR=52
BBOO **Buckleboo** 29.93 207 P P 22 25 03.5 -0.5
BBOO IAmb IAmb 22 25 05.2
comp=Z,282nm,1.1s
BBOO IAMs_20 IAMs_20 22 37 07.4
comp=Z,7µm,21.0s
BUKP **Musuan** 30.24 298 eP P 22 25 11.4 +4.3
BUTP **Butuan** 30.28 300 eP P 22 25 11.1 +3.8
APSI **Ampana** 30.55 279 P P 22 25 11.3 +1.5
comp=Z,2µmcomp=Z,108nm,1.2s
MRSI **Marisa** 30.57 282 P P 22 25 10.6 +0.7
comp=Z,1µmcomp=Z,94nm,1.1s
BASI **Baing, Sumba** 31.05 261 P P 22 25 15.3 +1.1
comp=Z,3µmcomp=Z,13µmcomp=Z,1µm,1.3s
WSI **Waingapu** 31.30 262 P P 22 25 17.2 +0.9
comp=Z,30µmcomp=Z,2µm,0.8s
TOO **Toolangi** 31.40 190 P P 22 25 17.5 +0.5
baz=31,SNR=5.6
TOO **Toolangi** 31.40 190 P P 22 25 16.9 -0.1
TOO pmax pmax
comp=Z,71nm,1.2s
TOO MLR MLR
comp=Z,6µm,18.0s
TOO **Toolangi** 31.40 190 P P 22 25 16.9 -0.1
TOO IAMs_20 IAMs_20 22 38 19.4
comp=Z,6µm,18.0s
ARPS **Mount Arapiles** 31.41 195 P P 22 25 17.2 +0.2
baz=32,SNR=68
MSLP **Maasin** 31.51 302 eP P 22 25 17.2 -1.0
BNSI **Bone** 31.58 272 P P 22 25 20.8 +2.0
comp=Z,3µmcomp=Z,205nm,1.4s
PAGZ **Pagadian** 31.71 296 eP P 22 25 24.9 +4.9
TOLI2 **Tolitoli** 31.85 283 P P 22 25 19.7 -1.5
KAPI **Kappang** 31.88 271 P P 22 25 22.6 +1.1
comp=Z,170nm,1.0s,baz=88,slow=5.4,SNR=67
KAPI **Kappang** 31.88 271 P P 22 25 22.1 +0.6
KAPI pmax pmax
comp=Z,334nm,1.2s
KAPI MLR MLR
comp=Z,2µm,22.0s
KAPI **Kappang** 31.88 271 P P 22 25 22.1 +0.6
KAPI IAmb IAmb 22 25 24.0
comp=Z,334nm,1.1s
SPSI **Sidrap Palu** 31.96 273 P P 22 25 22.6 +0.4
comp=Z,3µmcomp=Z,2µmcomp=Z,143nm,1.1s
TTSI **Tana Toraja** 32.02 275 P P 22 25 24.8 +2.1
comp=Z,3µmcomp=Z,185nm,1.2s
OCLP **Ormoc** 32.19 303 eP P 22 25 28.4 +4.2
FORT **Forrest** 32.78 220 P P 22 25 29.3 +0.1
baz=33,SNR=242
FORT **Forrest** 32.78 220 P P 22 25 28.8 -0.4
CNOP **Candoni, Negro** 33.27 299 eP P 22 25 36.0 +2.4
GUIM **Joan** 33.69 300 eP P 22 25 40.5 +3.2
PLAI **Plampang** 33.75 264 P P 22 25 36.8 -1.0
comp=Z,3µmcomp=Z,9µmcomp=Z,1µm,0.9s
PVCP **Virac** 33.95 306 eP P 22 25 43.0 +3.6
PSAD2 **Pilbara Seismi** 34.18 241 IAMs_20 IAMs_20 22 40 21.6
comp=Z,5µm,20.0s
PSAA2 **Pilbara Seismi** 34.26 241 IAMs_20 IAMs_20 22 41 53.8
comp=Z,5µm,20.0s
PSA00 **Pilbara Seismi** 34.27 241 P P 22 25 41.6 -0.6
PSA00 IAmb IAmb 22 25 45.0
comp=Z,145nm,0.9s
PSA00 **Pilbara Seismi** 34.27 241 P P 22 25 42.0 -0.2
PSA00 IAmb IAmb 22 25 44.0
comp=Z,914nm,1.3s
PSA00 IAMs_20 IAMs_20 22 40 11.9
comp=Z,5µm,20.0s
PSAA1 **Pilbara Seismi** 34.27 241 IAMs_20 IAMs_20 22 42 00.1
comp=Z,5µm,18.0s
PSAC1 **Pilbara Seismi** 34.28 241 IAMs_20 IAMs_20 22 40 14.4
comp=Z,5µm,20.0s
PSAC3 **Pilbara Seismi** 34.30 241 IAMs_20 IAMs_20 22 42 09.2
comp=Z,6µm,18.0s
TWSI **Taliwang, Sumb** 34.63 264 P P 22 25 44.8 -0.7
comp=Z,2µmcomp=Z,170nm,1.2s
JCJ **Chichijima** 34.72 345 LR LR 22 38 53.1
comp=Z,3µm,21.3s,baz=164,slow=34
OUZ **Omahuta** 34.89 148 P P 22 25 48.3 +0.8
OUZ IAmb IAmb 22 25 50.3
comp=Z,189nm,1.0s
CUYO **Cuyo Island** 35.15 299 eP P 22 25 53.9 +3.9
BKB **Balikpapan** 35.17 277 P P 22 25 49.2 -0.9
BKB IAmb IAmb 22 26 08.6
comp=Z,174nm,1.1s
MYLDM **Lahad Datu** 35.19 289 P P 22 25 50.8 +0.5
MYLDM IAmb IAmb 22 26 31.0
comp=Z,155nm,1.2s
JCNP **Jose Panganiba** 35.50 306 eP P 22 25 52.4 -0.6
KBKI **Kotabaru** 35.60 273 P P 22 25 54.2 +0.3
comp=Z,1µmcomp=Z,88nm,1.0s
BOAC **Boac** 35.75 304 eP P 22 25 59.6 +4.6
SRBI **Singaraja** 36.27 265 P P 22 25 59.8 +0.2
comp=Z,4µmcomp=Z,224nm,1.2s
DNP **Denpasar** 36.28 264 P P 22 25 59.7 0.0
DNP pmax pmax
comp=Z,1µm,1.2s
DNP **Denpasar** 36.28 264 P P 22 26 00.1 +0.4
comp=Z,20µmcomp=Z,1µm,1.2s
LQP **Lukban** 36.35 305 eP P 22 26 00.9 +0.4
BUSP **Coron** 36.40 300 eP P 22 26 04.9 +4.2
TAU **Tasmania Unive** 36.42 186 P P 22 26 01.0 +0.6
TAU pmax pmax
comp=Z,76nm,1.1s
TAU MLR MLR
comp=Z,6µm,18.0s
TAU **Tasmania Unive** 36.42 186 P P 22 26 01.0 +0.6
TAU **Tasmania Unive** 36.42 186 IAMs_20 IAMs_20 22 39 45.3
comp=Z,6µm,18.0s
RAO **Raoul Island** 36.43 132 IAMs_20 IAMs_20 22 40 28.9
comp=Z,5µm,18.0s
AFI **Afiamalu** 36.58 104 P P 22 26 02.8 +0.5
comp=Z,97nm,1.1s,baz=338,slow=2.4,SNR=11
AFI **Afiamalu** 36.58 104 P P 22 26 03.0 +0.7
AFI pmax pmax
comp=Z,831nm,1.2s
AFI MLR MLR
comp=Z,3µm,21.0s
AFI **Afiamalu** 36.58 104 P P 22 26 03.0 +0.7
AFI **Afiamalu** 36.58 104 P P 22 26 05.2 +2.9
ENPP **El Nido** 36.70 299 eP P 22 26 08.7 +5.5
TGY **Tagaytay City** 36.84 304 P P 22 26 06.5 +2.1
comp=Z,642nm,1.0s,baz=164,slow=2.4,SNR=15
BBKI **Banjar Baru** 36.90 273 P P 22 26 06.4 +1.4
comp=Z,3µmcomp=Z,198nm,1.0s
QVP **Quezon City--P** 37.06 305 eP P 22 26 11.0 +4.8
MACP **Maragondon, Ca** 37.10 304 eP P 22 26 11.5 +4.9

BATP **Bataraza** 37.13 294 eP P 22 26 05.9 -1.0
BALP **Baler** 37.21 307 eP P 22 26 06.9 -0.6
LUBP **Lubang** 37.22 303 eP P 22 26 10.3 +2.7
ABJI **Asem Bagus** 37.25 266 P P 22 26 10.0 +2.1
comp=Z,4µmcomp=Z,434nm,1.2s
KMBL **Kambalda** 37.28 225 P P 22 26 08.0 0.0
baz=37,SNR=43
JAGI **Jajag, Banyuwa** 37.33 265 P P 22 26 07.2 -1.4
JAGI **Jajag, Banyuwa** 37.33 265 P P 22 26 07.2 -1.4
comp=Z,3µmcomp=Z,6µmcomp=Z,703nm,1.1s
KMMI **Kalianget** 37.53 267 P P 22 26 10.2 -0.1
comp=Z,4µmcomp=Z,3µmcomp=Z,216nm,1.6s
KKM **Kota Kinabalu** 37.62 289 P P 22 26 10.0 -1.1
TOZ **Tahuroa Road** 37.79 149 P P 22 26 23.7 +12
CVP **Callao Caves** 38.15 310 eP P 22 26 14.6 -0.9
SMPP **San Manuel, Pa** 38.15 307 eP P 22 26 14.5 -1.0
TLZ **Tolley Road** 38.27 149 P P 22 26 22.4 +6.2
SGCP **Mt. Cagua** 38.30 311 eP P 22 26 17.4 +0.7
WATZ **Wairara** 38.65 149 P P 22 26 24.7 +5.2
APYP **Conner** 38.69 309 eP P 22 26 23.4 +3.4
QRZ **Quartz Range** 38.84 155 IAMs_20 IAMs_20 22 41 25.0
comp=Z,6µm,18.0s
TMVZ **Te Maari** 38.95 150 P P 22 26 23.4 +1.3
FWVZ **Far West T-bar** 38.98 150 P P 22 26 24.3 +1.8
URZ **Urewera** 39.03 148 P P 22 26 23.3 +0.7
comp=Z,30nm,0.5s,baz=267,slow=4.2,SNR=26
URZ **Urewera** 39.03 148 P P 22 26 22.8 +0.2
URZ IAMs_20 IAMs_20 22 40 58.1
comp=Z,5µm,19.0s
URZ **Urewera** 39.03 148 P P 22 26 23.2 +0.6
SZP **Santa** 39.12 308 P P 22 26 24.1 +0.5
MXZ **Matakaoa Point** 39.18 146 IAMs_20 IAMs_20 22 40 53.0
comp=Z,4µm,18.0s
NIUE **Niue** 39.27 112 P P 22 26 24.9 0.0
baz=39,SNR=6.0
NIUE **Niue** 39.27 112 P P 22 26 25.3 +0.4
NIUE IAmb IAmb 22 26 42.6
comp=Z,449nm,1.1s
NIUE **Niue** 39.27 112 P P 22 26 27.5 +2.6
MTHZ **Maungataniwha** 39.33 149 P P 22 26 25.9 +0.8
BKZ **Black Stump Fm** 39.39 149 P P 22 26 25.5 -0.2
BKZ **Black Stump Fm** 39.39 149 P P 22 26 26.1 +0.4
WMGZ **Waiomatatini S** 39.42 146 P P 22 26 27.3 +1.4
PUZ **Puketiti** 39.52 146 P P 22 26 28.0 +1.3
GIRL **Giralia** 39.52 242 P P 22 26 28.2 +1.2
baz=40,SNR=66
GIRL **Giralia** 39.52 242 P P 22 26 28.4 +1.5
NNZ **Nelson** 39.53 154 IAMs_20 IAMs_20 22 39 44.2
comp=Z,5µm,22.0s
SNGZ **Shannon Statio** 39.54 148 P P 22 26 27.8 +0.9
BBP **Basco** 39.72 313 eP P 22 26 28.6 +0.1
THZ **Tophouse** 39.78 155 P P 22 26 28.9 0.0
THZ IAMs_20 IAMs_20 22 43 10.7
comp=Z,5µm,18.0s
PBKI **Pangkalan Bun** 40.13 274 P P 22 26 34.3 +2.1
comp=Z,11µmcomp=Z,1µm,1.1s
BSWZ **Blackbirch Sta** 40.15 154 P P 22 26 31.6 -0.4
JOW **Kunigami** 40.24 327 P P 22 26 33.5 +0.7
comp=Z,53nm,1.0s,baz=96,slow=16,SNR=4.3
JOW **Kunigami** 40.24 327 P P 22 26 32.8 0.0
JOW IAmb IAmb 22 26 50.4
comp=Z,359nm,1.4s
BHW **Baring Head** 40.35 153 P P 22 26 33.3 -0.2
KLBR **Kellerberrin** 40.36 227 P P 22 26 33.3 -0.6
baz=40,SNR=59
LTZ **Lake Taylor** 40.37 157 P P 22 26 33.9 +0.1
LTZ IAmb IAmb 22 26 47.8
comp=Z,207nm,1.2s
LTZ IAMs_20 IAMs_20 22 41 28.4
comp=Z,6µm,20.0s
BFZ **Birch Farm** 40.42 151 IAMs_20 IAMs_20 22 40 37.7
comp=Z,7µm,21.0s
MORW **Morawa** 40.45 232 P P 22 26 34.5 -0.1
baz=40,SNR=95
MORW **Morawa** 40.45 232 P P 22 26 34.3 -0.3
MORW IAmb IAmb 22 26 35.9
comp=Z,527nm,1.1s
MORW IAMs_20 IAMs_20 22 44 17.2
comp=Z,4µm,18.0s
SBUM **Sibu** 40.48 282 P P 22 26 34.7 -0.3
SBUM **Sibu** 40.48 282 P P 22 26 37.0 +2.0
MSWZ **Moikau Station** 40.53 153 P P 22 26 34.5 -0.5
KHZ **Kahutara** 40.58 155 P P 22 26 34.9 -0.5
KHZ IAmb IAmb 22 26 48.5
comp=Z,299nm,1.5s
BLDU **Ballidu** 40.65 229 P P 22 26 35.8 -0.4
baz=41,SNR=38
RPZ **Rata Peaks** 40.70 158 P P 22 26 36.7 +0.2
comp=Z,55nm,0.8s,baz=293,slow=1.9,SNR=10
STKI **Sintang** 40.73 278 P P 22 26 39.7 +2.6
comp=Z,69nm,1.1s
UGM **Wanagama** 40.92 266 P P 22 26 38.4 -0.3
UGM **Wanagama** 40.92 266 P P 22 26 40.4 +1.7
comp=Z,4µmcomp=Z,10µmcomp=Z,326nm,1.1s
LBZ **Lake Benmore** 40.98 160 IAMs_20 IAMs_20 22 44 27.9
comp=Z,6µm,18.0s
DCZ **Deep Cove** 41.00 163 P P 22 26 38.7 -0.1
SMRI **Semarang** 41.02 267 P P 22 26 39.1 -0.4
SMRI IAmb IAmb 22 27 46.1
comp=Z,579nm,1.4s
SMRI **Semarang** 41.02 267 P P 22 26 41.1 +1.6
comp=Z,6µmcomp=Z,5µmcomp=Z,287nm,1.3s
MLZ **Mavora Lakes** 41.19 162 P P 22 26 40.3 -0.2
MLZ IAmb IAmb 22 26 42.2
comp=Z,337nm,1.3s
MQZ **McQueen's Vall** 41.30 157 P P 22 26 41.3 0.0
NWAO **Narrogin (SRO)** 41.43 226 P P 22 26 42.1 -0.6
comp=Z,70nm,0.9s,baz=62,slow=7.6,SNR=21
NWAO **Narrogin (SRO)** 41.43 226 P P 22 26 42.2 -0.4
baz=41,SNR=15
NWAO **Narrogin (SRO)** 41.43 226 P P 22 26 42.0 -0.6
NWAO pmax pmax
comp=Z,220nm,1.3s
NWAO MLR MLR
comp=Z,6µm,19.0s
NWAO **Narrogin (SRO)** 41.43 226 P P 22 26 42.0 -0.7
NWAO IAmb IAmb 22 26 44.4
comp=Z,220nm,1.3s
PYZ **Puysegur Point** 41.52 164 P P 22 26 43.1 0.0
PYZ IAmb IAmb 22 26 44.8
comp=Z,424nm,1.3s
MUN **Mundaring** 41.69 228 P P 22 26 44.6 -0.2
baz=42,SNR=66
YULB **Yu-li** 42.09 316 P P 22 26 48.3 +0.2
YULB IAmb IAmb 22 27 28.4
comp=Z,253nm,1.4s
KSM **Kuching** 42.14 279 P P 22 26 48.5 -0.2
KSM IAmb IAmb 22 26 51.1
comp=Z,196nm,1.0s
KSM **Kuching** 42.14 279 P P 22 26 50.0 +1.3
NACB **Ninganchiao** 42.41 317 P P 22 26 51.5 +0.8
YHNB **Yeheng** 42.89 317 P P 22 26 55.6 +1.0
YHNB IAmb IAmb 22 27 21.6
comp=Z,495nm,1.4s
JSG **Sagara** 42.97 344 IAMs_20 IAMs_20 22 42 12.5
comp=Z,4µm,22.0s
JCJI **Jatiwangi** 43.20 268 P P 22 26 58.5 +1.2
comp=Z,13µmcomp=Z,1µm,1.7s
JMN **Monobe** 43.50 338 P P 22 26 59.8 +0.4
CISI **Cisompet, Garu** 43.61 266 P P 22 27 00.0 -0.7
CISI **Cisompet, Garu** 43.61 266 P P 22 27 00.5 -0.2
comp=Z,4µmcomp=Z,11µmcomp=Z,1µm,1.4s
LEM **Lembang** 43.83 267 P P 22 27 02.6 0.0
comp=Z,70nm,0.7s,baz=66,slow=4.6,SNR=22
LEM **Lembang** 43.83 267 P P 22 27 03.2 +0.6
LEM pmax pmax
comp=Z,284nm,1.0s
JGF **Kuroka** 44.07 343 IAMs_20 IAMs_20 22 42 34.8
comp=Z,4µm,22.0s
TPI **Tanjungpandan** 44.11 273 P P 22 27 06.5 +1.9
comp=Z,3µmcomp=Z,276nm,1.1s
JNU **Nakatsue** 44.17 335 P P 22 27 04.8 0.0
comp=Z,18nm,0.9s,baz=106,slow=2.7,SNR=8.3
JNU **Nakatsue** 44.17 335 P P 22 27 05.1 +0.4
JWT **Wachi** 44.38 341 P P 22 27 07.5 +1.1
CBJI **Citeko** 44.61 268 P P 22 27 08.6 0.0
comp=Z,410nm,0.9s
DBJI **Dramaga** 44.71 267 P P 22 27 09.5 +0.1
comp=Z,142nm,1.2s
MJAR **Matsushiro Arr** 44.72 344 P P 22 27 07.4 -1.6
comp=Z,7.7nm,0.9s,baz=166,slow=8.9,SNR=7.3
MJAR PcP PcP 22 28 50.7 -0.5
comp=Z,14nm,1.0s,baz=171,slow=3.1,SNR=6.1
MJAR LR LR 22 44 47.3
comp=Z,2µm,21.0s,baz=175,slow=35

MJAR Matsushiro Arr 44.72 344 P **P** **22 27 07.6 -1.5**
MJAR pmax pmax
comp=Z,18nm,1.1s
MJAR Matsushiro Arr 44.72 344 P **P** **22 27 07.6 -1.5**
QZH Quanzhou 44.98 315 P **P** **22 27 15.4 +4.1**
QZH S **S** **22 33 47.6 -0.1**
QZH pmax pmax
comp=Z,92nm,1.2s
QZH LR LR
comp=Z,1μm,18.5s
QZH LR LR
comp=Z,930nm,18.0s
QZH LR LR
comp=Z,2μm,20.3s
PPBI Pangkal Pinang 45.69 273 P **P** **22 27 19.4 +2.2**
comp=Z,2μmcomp=Z,136nm,1.1s
XMI Christmas Isla 45.70 262 P **P** **22 27 18.6 +1.3**
comp=Z,625nm,1.2s
XMIS Christmas Isla 45.74 262 P **P** **22 27 18.1 +0.5**
XMIS Christmas Isla 45.74 262 P **P** **22 27 18.7 +1.1**
comp=Z,442nm,1.2s
DLV T Lat 46.80 293 P **P** **22 27 26.7 +0.6**
DLV IAmb IAmb 22 27 29.2
comp=Z,102nm,1.0s
KLSI 46.83 270 P **P** **22 27 27.3 +1.1**
comp=Z,21nm,1.7s
PMBI Palembang 46.95 272 P **P** **22 27 28.5 +1.4**
PMBI Palembang 46.95 272 P **P** **22 27 28.7 +1.6**
comp=Z,3μmcomp=Z,300nm,0.5s
KASI Kota Agung 47.00 269 P **P** **22 27 26.6 -0.9**
comp=Z,2μmcomp=Z,220nm,1.0s
MDSI Maura Dua 47.39 270 P **P** **22 27 30.0 -0.6**
comp=Z,2μmcomp=Z,172nm,1.4s
LWLI Liwa 47.47 269 P **P** **22 27 31.8 +0.5**
comp=Z,4μmcomp=Z,312nm,1.2s
SSE Sheshan 47.51 324 P **P** **22 27 33.2 +2.1**
SSE S **S** **22 34 23.8 -0.1**
SSE pmax pmax
comp=Z,13nm,1.1s
SSE pmax pmax
comp=Z,210nm,7.6s
SSE LR LR
comp=Z,520nm,19.9s
SSE LR LR
comp=Z,560nm,20.6s
LHSI Lahat 48.10 271 P **P** **22 27 36.2 +0.1**
comp=Z,2μmcomp=Z,127nm,1.5s
MCQ Macquarie Isla 48.16 174 P **P** **22 27 37.3 +1.5**
baz=48,SNR=9.5
MCQ Macquarie Isla 48.16 174 P **P** **22 27 36.9 +1.1**
MCQ pmax pmax
comp=Z,534nm,1.1s
MCQ Macquarie Isla 48.16 174 P **P** **22 27 36.9 +1.1**
MCQ Macquarie Isla 48.16 174 P **P** **22 27 37.9 +2.1**
comp=Z,464nm,1.3s
JMBI JAMBI 48.23 274 P **P** **22 27 38.3 +1.3**
comp=Z,3μmcomp=Z,99nm,0.5s
TJN Taejon 48.45 334 *ce*P **P** **22 27 38.6 +0.3**
QIZ Qiongzhong 48.50 302 P **P** **22 27 40.1 +1.1**
QIZ S **S** **22 34 37.0 -1.4**
QIZ LR LR
comp=Z,1μm,22.6s
QIZ LR LR
comp=Z,2μm,25.5s
QIZ LR LR
comp=Z,3μm,23.5s
QIZ Qiongzhong 48.50 302 IAMs_20 IAMs_20 22 44 33.6
comp=Z,3μm,21.0s
MYKOM Kota Tinggi 48.54 278 P **P** **22 27 39.9 +0.5**
MYKOM IAmb IAmb 22 27 41.7
comp=Z,188nm,1.1s
MNAI Manna 48.62 270 P **P** **22 27 40.8 +0.7**
RAR Rarotonga 49.04 112 P **P** **22 27 47.9 +4.7**
KSRS Korea Array 49.12 335 P **P** **22 27 42.9 -0.5**
comp=Z,9.2nm,1.0s,baz=150,slow=7.3,SNR=18
KSRS PcP **PcP** **22 29 04.0 -2.7**
comp=Z,11nm,1.1s,baz=160,slow=3.5,SNR=5.7
KSAR Wonju Array Be 49.12 335 P **P** **22 27 43.3 -0.2**
KSAR Wonju Array Be 49.12 335 P **P** **22 27 43.3 -0.2**
KS19 Wonju Array Si 49.18 335 P **P** **22 27 44.4 +0.5**
NJ2 Nanjing 49.58 323 *eP* **P** **22 27 50.9 +3.9**
NJ2 S **S** **22 34 48.0 -5.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,430nm,3.5s
NJ2 LR LR
comp=Z,2μm,19.6s
NJ2 LR LR
comp=Z,1μm,18.0s
NJ2 LR LR
comp=Z,3μm,25.0s
INCN Inchon 49.70 334 P **P** **22 27 48.1 +0.2**
INCN pmax pmax
comp=Z,113nm,1.1s
INCN MLR MLR
comp=Z,2μm,20.0s
INCN Inchon 49.70 334 P **P** **22 27 48.1 +0.2**
INCN IAmb IAmb 22 28 11.9
comp=Z,112nm,1.1s
YUK Yuzh-Kuril'sk 50.64 354 *i*P **P** **22 27 52.2 -2.6**
YUK *eS* **S** **22 35 05.7 -1.7**
YUK MLR MLR
comp=Z,1μm,17.0s
UBPT Khong Chiam 50.74 296 P **P** **22 27 55.9 -0.2**
BKNI Bangkinang 51.07 276 P **P** **22 27 58.9 +0.2**
BKNI IAmb IAmb 22 28 15.3
comp=Z,403nm,1.3s
BKNI Bangkinang 51.07 276 P **P** **22 27 59.4 +0.7**
comp=Z,3μmcomp=Z,250nm,0.8s
JKA Kamikawa-asahi 51.11 352 P **P** **22 27 58.6 +0.1**
ASAJ Asahikawa 51.11 352 P **P** **22 27 58.5 +0.1**
comp=Z,6.5nm,0.7s,baz=25,slow=7.2,SNR=12
ASAJ LR LR 22 47 36.8
comp=Z,1μm,21.4s,baz=178,slow=34
ASAJ Asahikawa 51.11 352 P **P** **22 27 58.6 +0.1**
ASAJ pmax pmax
comp=Z,33nm,0.9s
ASAJ MLR MLR
comp=Z,1μm,21.0s
XMAS Kiritimati 51.42 82 P **P** **22 28 02.5 +1.2**
XMAS IAmb IAmb 22 28 04.6
comp=Z,222nm,1.4s
WHN Wuhan 51.43 318 ⇓P **P** **22 28 02.5 +1.4**
WHN sP **pwP** **22 28 17.5 +0.6**
WHN PP **PP** **22 30 04.7 +6.1**
WHN S **S** **22 35 18.8 -0.1**
WHN LR LR
comp=Z,1μm,17.0s
WHN LR LR
comp=Z,4μm,20.1s
WHN LR LR
comp=Z,4μm,21.4s
KUR Kuril'sk 51.67 356 *eP* **P** **22 28 05.4 +2.8**
KUR *eS* **S** **22 35 19.8 -1.9**
KUR *eSSS* SSS 22 40 42.1
KUR pmax pmax
comp=Z,157nm,1.3s
KUR pmax pmax
comp=Z,599nm,4.7s
KUR MLR MLR
comp=Z,769nm,18.0s
KUR MLR MLR
comp=N,766nm,17.0s
IPM Ipoh 51.82 281 P **P** **22 28 04.3 0.0**
IPM IAmb IAmb 22 28 06.0
comp=Z,149nm,0.9s
IPM Ipoh 51.82 281 P **P** **22 28 05.0 +0.6**
KULM Kulim 52.36 282 P **P** **22 28 08.3 0.0**
KULM IAmb IAmb 22 28 09.8
comp=Z,138nm,0.9s
MNSI Mandailing Nat 52.59 276 P **P** **22 28 09.4 -0.6**
comp=Z,2μmcomp=Z,194nm,0.8s
DL2 Dalian 53.17 331 P **P** **22 28 12.4 -1.4**
DL2 S **S** **22 35 42.8 +0.4**
DL2 pmax pmax
comp=Z,43nm,1.1s
DL2 pmax pmax
comp=Z,310nm,4.0s
DL2 LR LR
comp=Z,1μm,21.1s
DL2 LR LR
comp=Z,840nm,23.0s
DL2 LR LR
comp=Z,2μm,23.3s
SRAK Srakaew 53.40 293 P **P** **22 28 14.3 -1.7**
comp=Z,2μmcomp=Z,184nm,0.8s
TIA Tai'an 53.53 325 P **P** **22 28 16.8 +0.2**
TIA S **S** **22 35 41.7 -5.8**
TIA pmax pmax
comp=Z,11nm,1.5s
TIA pmax pmax
comp=Z,290nm,7.1s
TIA LR LR
comp=Z,890nm,21.4s
TIA LR LR
comp=Z,870nm,21.2s
TIA LR LR
comp=Z,1μm,28.9s
RPSI Rantau Prapat 53.54 278 P **P** **22 28 16.5 -0.6**
RPSI IAmb IAmb 22 28 18.0
comp=Z,188nm,1.3s
PSI Prapat 53.56 278 P **P** **22 28 16.7 -0.7**
comp=Z,79nm,1.1s,baz=180,slow=3.2,SNR=48
PSI Prapat 53.56 278 P **P** **22 28 16.5 -0.9**
PSI pmax pmax
comp=Z,188nm,1.3s
USRK Ussuriysk Ar. 53.58 342 P **P** **22 28 16.8 0.0**
comp=Z,2.9nm,0.6s,baz=180,slow=8.8,SNR=11
USRK LR LR 22 49 38.9
comp=Z,1μm,20.6s,baz=147,slow=34
USA0B Ussuriysk Arra 53.58 342 *i*P **P** **22 28 16.0 -0.8**
USA0B Ussuriysk Arra 53.58 342 P **P** **22 28 17.1 +0.4**
NONG Nongkai 53.85 298 P **P** **22 28 21.5 +2.3**
comp=Z,96nm,1.3s
TRTT Trang 53.86 285 P **P** **22 28 19.2 -0.2**
comp=Z,1μmcomp=Z,99nm,1.3s
YSS Yuzh-Sakhalins 53.87 352 *eP* **P** **22 28 18.5 -0.3**
YSS *e**SP **pP** **22 28 27.5 +0.3**
YSS *e* 22 29 25.0
YSS *e* 22 30 28.6
YSS *eS* **S** **22 35 49.6 -2.1**
YSS *ePS* **PKiKP** **22 36 01.8 +1.9**
YSS *e* 22 41 31.0
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=E,400nm,16.0s
YSS Yuzh-Sakhalins 53.87 352 P **P** **22 28 18.4 -0.5**
TSI Tuntungan 54.04 279 P **P** **22 28 20.8 +0.1**
comp=E,3μmcomp=E,3μmcomp=E,201nm,1.2s
CHAI Chaiyaphum 54.09 295 P **P** **22 28 22.6 +1.6**
comp=E,915nmcomp=E,97nm,0.7s
PATY Pattaya 54.14 291 P **P** **22 28 24.8 +3.4**
comp=E,4μmcomp=E,62nm,0.9s
COCO West Island 54.41 260 P **P** **22 28 23.8 +0.5**
COCO pmax pmax
comp=Z,261nm,1.1s
COCO West Island 54.41 260 P **P** **22 28 23.8 +0.5**
SLVN Son La 54.52 302 P **P** **22 28 24.7 +0.6**
SNY Shenyang 54.61 334 ⇓P P 22 28 34.9 +11
SNY S **S** **22 36 02.5 +0.7**
SNY pmax pmax
comp=Z,17nm,2.0s
SNY pmax pmax
comp=Z,400nm,4.8s
SNY LR LR
comp=N,1μm,24.0s
SNY LR LR
comp=E,820nm,27.0s
SNY LR LR
comp=Z,2μm,26.1s
ENH Enshi 54.61 314 P **P** **22 28 24.2 -0.4**
ENH IAmb IAmb 22 29 38.9
comp=Z,165nm,1.0s
GSI Gunungsitoli 54.64 276 P **P** **22 28 24.5 -0.6**
GSI Gunungsitoli 54.64 276 P **P** **22 28 25.0 -0.1**
comp=Z,2μmcomp=Z,4μmcomp=Z,348nm,1.5s
GYA Guiyang 54.66 309 ⇑P **P** **22 28 26.7 +1.6**
GYA sP pwP 22 28 41.7 +0.2
GYA PcP **PcP** **22 29 27.9 +0.1**
GYA PP **PP** **22 30 29.1 +1.1**
GYA S **S** **22 36 06.4 +3.1**
GYA SS **SS** **22 39 50.6 +3.9**
GYA pmax pmax
comp=Z,10.0nm,1.5s
GYA pmax pmax
comp=Z,170nm,4.6s
GYA LR LR
comp=Z,540nm,18.4s
GYA LR LR
comp=Z,1μm,18.8s
GYA LR LR
comp=Z,1μm,18.5s
MDJ Mudanjiang 54.71 341 P **P** **22 28 25.5 +0.5**
MDJ S **S** **22 35 58.8 -4.3**
MDJ ScS **ScS** **22 38 08.2 -3.5**
MDJ pmax pmax
comp=Z,18nm,1.8s
MDJ pmax pmax
comp=Z,390nm,13.0s
MDJ LR LR
comp=Z,1μm,25.5s
MDJ LR LR
comp=Z,640nm,19.8s
MDJ LR LR
comp=Z,2μm,26.1s
MDJ Mudanjiang 54.71 341 P **P** **22 28 25.2 +0.2**
SURT Suratani 54.99 286 P **P** **22 28 29.0 +1.4**
comp=Z,2.9nm,1.1s
PKDT Phuket 55.18 284 P **P** **22 28 28.0 -1.0**
comp=Z,6μmcomp=Z,148nm,0.9s
PHET Kaeng Krachan 55.29 291 P **P** **22 28 31.9 +2.2**
comp=Z,645nmcomp=Z,69nm,0.8s
CN2 Changchun 55.49 337 *eP* **P** **22 28 30.9 +0.3**
CN2 PcP **PcP** **22 29 30.2 -0.2**
CN2 ScP **ScP** **22 33 24.3 -2.7**
CN2 *eS* **S** **22 36 12.6 -0.9**
CN2 SS **SS** **22 39 55.2 -3.7**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,800nm,18.0s
CN2 LR LR
comp=Z,800nm,19.0s
PHIT Phitsanulok 55.95 296 P **P** **22 28 37.2 +2.8**
comp=Z,198nm,1.2s
LHMI Lhok Sumawe 55.95 281 P **P** **22 28 34.2 -0.4**
LHMI Lhok Sumawe 55.95 281 P **P** **22 28 35.0 +0.5**
comp=Z,3μmcomp=Z,3μmcomp=Z,282nm,1.2s
UTTA Uttaradit 56.02 296 P **P** **22 28 36.7 +1.7**
comp=Z,707nmcomp=Z,81nm,1.2s
SRDT SRDT 56.19 292 P **P** **22 28 37.7 +1.5**
comp=Z,22μmcomp=Z,61nm,1.0s
NANT Nan 56.28 298 P **P** **22 28 40.1 +3.3**
comp=Z,64μmcomp=Z,799nm,0.8s
UTHA Uthaitani 56.28 294 P **P** **22 28 38.5 +1.7**
comp=Z,1μmcomp=Z,125nm,1.0s
KIP Kipapa 56.56 59 *i*P **P** **22 28 36.8 -1.9**
KIP MLR MLR
comp=Z,915nm,18.0s
OPA Opana 56.67 59 P **P** **22 28 40.5 +1.0**
OPA pmax pmax
comp=Z,280nm,1.0s
OPA Opana 56.67 59 P **P** **22 28 40.5 +1.0**
SUKH Sukhothai 56.76 296 P **P** **22 28 42.4 +2.3**
comp=Z,728nmcomp=Z,74nm,1.1s
BJT Baijiatuau 56.78 328 P **P** **22 28 40.3 +0.3**
BJT pmax pmax
comp=Z,51nm,1.3s
BJT MLR MLR
comp=Z,2μm,21.0s
BJT Baijiatuau 56.78 328 P **P** **22 28 40.3 +0.3**
BJI Beijing 56.80 328 P **P** **22 28 43.0 +3.0**
BJI S **S** **22 36 30.7 -0.3**
BJI SS **SS** **22 40 25.2 +5.5**
BJI pmax pmax
comp=Z,15nm,1.7s
BJI LR LR
comp=Z,810nm,23.6s
BJI LR LR
comp=Z,780nm,21.6s
BJI LR LR
comp=Z,2μm,24.3s
UMPA Umpang Tak 57.02 294 P **P** **22 28 44.0 +1.9**
comp=Z,5μmcomp=Z,118nm,1.0s
LAMP Lampang 57.12 297 P **P** **22 28 45.1 +2.3**
comp=Z,874nmcomp=Z,100nm,1.1s
KMI Kunming 57.13 305 ⇑P **P** **22 28 44.0 +1.0**
KMI pP sP 22 28 53.1 -1.8
KMI PP **PP** **22 30 52.1 +1.9**
KMI S **S** **22 36 31.7 -4.8**
KMI ScS **ScS** **22 38 29.5 -1.1**
KMI pmax pmax
comp=Z,26nm,0.9s
KMI pmax pmax
comp=Z,460nm,7.8s
KMI LR LR
comp=Z,700nm,22.8s
KMI LR LR
comp=Z,780nm,19.5s
KMI LR LR
comp=Z,1μm,27.7s
KMI Kunming 57.13 305 P **P** **22 28 42.9 -0.1**
KMI pmax pmax
comp=Z,43nm,1.2s
KMI MLR MLR
comp=Z,1μm,20.0s
KMI Kunming 57.13 305 P **P** **22 28 42.9 -0.1**
SKR Severo-Kuril's 57.13 3 *ce*P **P** **22 28 43.0 +0.8**
XAN Xi'an 57.20 318 P **P** **22 28 42.8 -0.3**
XAN pP sP 22 28 53.8 -1.2
XAN sP pwP 22 28 57.6 -1.4
XAN PcP **PcP** **22 29 35.4 -2.0**
XAN PP **PP** **22 30 56.2 +5.7**
XAN ScP **ScP** **22 33 37.0 +2.1**
XAN PcS **PcS** **22 33 38.6 +0.1**
XAN S **S** **22 36 33.3 -3.4**
XAN sS sS 22 36 55.0 +4.1
XAN ScS **ScS** **22 38 27.1 -3.2**
XAN SS **SS** **22 40 23.1 -3.3**
XAN pmax pmax
comp=Z,70nm,1.3s
XAN pmax pmax
comp=Z,370nm,6.1s
XAN LR LR
comp=Z,960nm,21.7s
XAN LR LR
comp=Z,910nm,18.4s
XAN LR LR
comp=Z,2μm,20.6s
XAN Xi'an 57.20 318 P **P** **22 28 43.0 -0.1**
XAN pmax pmax
comp=Z,114nm,1.0s
XAN Xi'an 57.20 318 P **P** **22 28 43.0 -0.1**
XAN IAmb IAmb 22 29 00.1
comp=Z,114nm,1.0s
TIY Taiyuan 57.29 323 *eP* **P** **22 28 45.7 +2.0**
TIY PP **PP** **22 30 54.9 +3.7**
TIY S **S** **22 36 38.0 +0.2**
TIY pmax pmax
comp=Z,180nm,5.2s
TIY LR LR
comp=Z,680nm,14.7s
TIY LR LR
comp=Z,270nm,9.4s
TIY LR LR
comp=Z,2μm,22.1s
CM36 Chiang Mai Arr 57.59 297 P **P** **22 28 47.0 +0.9**
CM35 Chiang Mai Arr 57.60 297 P **P** **22 28 47.0 +0.9**
CM04 Chiang Mai Arr 57.66 296 P **P** **22 28 48.5 +2.0**
comp=Z,565nmcomp=Z,73nm,1.1s
CM09 Chiang Mai Arr 57.66 297 P **P** **22 28 49.0 +2.4**
comp=Z,517nmcomp=Z,67nm,1.1s
CM34 Chiang Mai Arr 57.66 297 P **P** **22 28 48.0 +1.4**
CM01 Chiang Mai Arr 57.68 297 P **P** **22 28 48.0 +1.3**
comp=Z,595nmcomp=Z,75nm,1.1s
CM05 Chiang Mai Arr 57.69 296 P **P** **22 28 48.0 +1.2**
comp=Z,441nmcomp=Z,55nm,1.1s
CM02 Chiang Mai Arr 57.70 297 P **P** **22 28 48.9 +2.1**
comp=Z,528nmcomp=Z,62nm,1.1s
CM31 Chiang Mai Arr 57.71 297 P **P** **22 28 49.0 +2.0**
comp=Z,18μmcomp=Z,2μm,1.0s
CM31 Chiang Mai Arr 57.71 297 P **P** **22 28 47.7 +0.8**
CM31 IAmb IAmb 22 28 50.3
comp=Z,91nm,1.0s
CMAR Chiang Mai Arr 57.71 297 P **P** **22 28 47.5 +0.6**
comp=Z,55nm,1.0s,baz=117,slow=5.4,SNR=116
CMAR LR LR 22 51 14.5
comp=Z,623nm,21.8s,baz=170,slow=34
CMAR Chiang Mai Arr 57.71 297 *ce*P **P** **22 28 48.5 +1.6**
CMAR pmax pmax
comp=Z,57nm,1.0s
CM15 Chiang Mai Arr 57.72 297 P **P** **22 28 48.0 +1.0**
comp=Z,527nmcomp=Z,62nm,1.1s
CM13 Chiang Mai Arr 57.73 296 P **P** **22 28 49.0 +1.9**
comp=Z,470nmcomp=Z,59nm,1.1s
TYV Tymovskoe 57.73 353 *eP* **P** **22 28 47.1 +0.7**
TYV pmax pmax
comp=Z,26nm,1.6s
TYV pmax pmax
comp=Z,200nm,5.1s
KHU Kahuku 57.81 63 P **P** **22 28 48.2 +0.3**
KHU pmax pmax
comp=Z,286nm,1.2s
KHU Kahuku 57.81 63 P **P** **22 28 48.2 +0.3**
KHU IAmb IAmb 22 28 50.9
comp=Z,286nm,1.2s
CMMT Chiang Mai 57.83 297 P **P** **22 28 48.0 +0.2**
comp=Z,639nmcomp=Z,43nm,1.5s
CM33 Chiang Mai Arr 57.83 297 P **P** **22 28 49.0 +1.2**
CHTO Chiang Mai 57.83 297 P **P** **22 28 48.1 +0.3**
CHTO pmax pmax
comp=Z,97nm,1.1s
CHTO Chiang Mai 57.83 297 P **P** **22 28 48.1 +0.3**
CHTO IAmb IAmb 22 28 50.9
comp=Z,96nm,1.1s
CM32 Chiang Mai Arr 57.86 297 P **P** **22 28 50.0 +2.0**
PPT Papeete 58.20 107 P **P** **22 28 50.5 +0.1**
comp=Z,34nm,1.0s,baz=95,slow=21,SNR=4.2
PAE Paea 58.20 107 *eP* **P** **22 28 52.2 +1.8**
comp=Z,36nm,1.4s
PPT2 Papeete2 58.20 107 *eP* **P** **22 28 52.6 +2.1**
comp=Z,101nm,1.3s
PPT2 *eS* **S** **22 36 50.4 -0.1**
comp=Z,863nm,25.3s
PPT2 *eLQ* LQ 22 43 28.8
comp=Z,3μm,29.0s
PPT2 *eLR* LR 22 45 58.0
comp=Z,1μm,28.0s
PPTF Pamatai, Papee 58.21 107 P **P** **22 28 50.5 0.0**
PPTF IAmb IAmb 22 29 18.1
comp=Z,170nm,1.4s
KLR Kul'dur 58.24 345 LR LR 22 51 01.6
comp=Z,1μm,21.8s,baz=182,slow=33
KLR Kul'dur 58.24 345 *ce*P **P** **22 28 50.1 0.0**
KLR pmax pmax
comp=Z,29nm,1.4s
MHMT Maesarieng 58.51 296 P **P** **22 28 53.4 +0.9**
comp=Z,1μmcomp=Z,87nm,1.2s
GRNR Gornyy 58.62 349 ⇑*i*P **P** **22 28 53.1 +0.5**
GRNR *eS* **S** **22 36 59.5 +4.9**
GRNR pmax pmax
comp=Z,2.0nm,1.3s
GRNR smax smax
comp=N,2.0nm,0.9s
GRNR MLR MLR
comp=E,120nm,13.0s
TBI Tubuai 58.80 113 *eS* **S** **22 36 57.3 -0.6**
comp=E,2μm,29.8s
TBI *eLQ* LQ 22 43 41.8
comp=E,3μm,32.5s
TBI *eLR* LR 22 46 20.1
comp=E,3μm,34.0s,baz=285
CD2 Chengdu 59.11 312 ⇑*i*P **P** **22 28 57.0 +0.4**
CD2 PP **PP** **22 31 07.1 -0.4**
CD2 S **S** **22 37 04.5 +2.7**
CD2 ScS **ScS** **22 38 45.6 +1.1**
CD2 SS **SS** **22 41 00.5 +3.9**
CD2 pmax pmax
comp=E,40nm,1.4s
CD2 pmax pmax
comp=E,670nm,7.8s
CD2 LR LR
comp=E,2μm,23.0s
CD2 LR LR
comp=E,3μm,24.0s
CD2 LR LR
comp=E,4μm,24.0s
PET Petropavlovsk 59.64 5 *eP* **P** **22 29 00.4 +0.8**
PET *eS* **S** **22 37 08.8 +1.1**
PET *eSS* **SS** **22 41 07.4 +3.5**

PET pmax pmax
comp=Z,55nm,1.5s
PET pmax pmax
comp=Z,300nm,13.8s
PET MLR MLR
comp=Z,1µm,22.0s
PET Petropavlovsk 59.64 5 P **P** 22 28 59.8 +0.1
PEA0B Petropavlovsk- 59.65 4*ce*P **P** 22 29 00.5 +0.7
PEA0B Petropavlovsk- 59.65 4 P **P** 22 29 00.3 +0.6
PEA0B IAmb IAmb 22 29 38.8
comp=Z,81nm,1.1s
PETK Petropavlovsk- 59.65 4 P **P** 22 29 00.7 +0.9
comp=Z,19nm,0.5s,baz=159,slow=6.5,SNR=130
PETK Petropavlovsk- 59.65 4 P **P** 22 29 00.2 +0.4
PETK Petropavlovsk- 59.65 4 P **P** 22 29 00.2 +0.4
HHC Hu-ho-hao-te 59.88 326 *e*P **P** 22 29 01.4 -0.4
HHC S **S** 22 37 10.2 -1.3
HHC SS **SS** 22 41 10.7 +2.2
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,160nm,4.8s
HHC LR LR
comp=Z,1µm,18.7s
HHC LR LR
comp=Z,1µm,20.4s
HHC LR LR
comp=Z,2µm,20.4s
VAH Vaihoa 59.98 104 *e*P **P** 22 29 04.5 +1.8
comp=Z,128nm,1.2s
BTO Baotou 60.60 324 P **P** 22 29 07.7 +1.0
BTO S **S** 22 37 20.7 -0.1
BTO LR LR
comp=Z,6µm,23.5s
BTO LR LR
comp=Z,3µm,20.6s
PBA Port Blair 61.43 287 P P 22 29 11.2 -1.4
PBA IAmb IAmb 22 29 36.4
comp=Z,158nm,1.1s
LZH Lanzhou 61.78 317 *e*P **P** 22 29 16.2 +1.4
LZH *e*S **S** 22 37 36.4 +0.3
LZH SS **SS** 22 41 36.6 -1.9
LZH pmax pmax
comp=Z,30nm,1.0s
LZH pmax pmax
comp=Z,490nm,4.3s
LZH LR LR
comp=Z,900nm,14.4s
LZH LR LR
comp=Z,670nm,15.7s
LZH LR LR
comp=Z,860nm,18.2s
HIA Hailar 62.22 337 P **P** 22 29 18.0 +0.7
HIA pmax pmax
comp=Z,72nm,1.2s
HIA MLR MLR
comp=Z,1µm,20.0s
HIA Hailar 62.22 337 P **P** 22 29 18.0 +0.7
HIA IAmb IAmb 22 29 34.2
comp=Z,72nm,1.2s
ZEA Zeya 63.53 344 *e*P **P** 22 29 27.7 +1.8
ZEA *e*S **S** 22 38 03.5 +6.5
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.7s
ZEA smax smax
comp=N,400nm,14.3s
ADK Adak 64.17 21 P **P** 22 29 30.5 +0.4
ADK pmax pmax
comp=Z,457nm,1.4s
ADK Adak 64.17 21 P **P** 22 29 30.5 +0.4
SAIH SAIHA 64.33 299 *e*P **P** 22 29 32.9 +0.9
SAIH IAmb IAmb 22 29 44.5
comp=Z,163nm,0.4s
MOKO MOKOCHONG 64.38 303 *e*P **P** 22 29 32.6 +0.4
MOKO IAmb IAmb 22 29 45.8
comp=Z,1µm,3.0s
KOHI KOHIMA 64.50 302 *e*P **P** 22 29 32.4 -0.7
JORH JORHAT 64.76 303 *e*P **P** 22 29 34.9 +0.4
SILR SILCHAR 65.27 301 *e*P **P** 22 29 39.0 +1.1
SILR IAmb IAmb 22 29 42.6
comp=Z,250nm,0.5s
ATKA Atka Island 65.34 22 P **P** 22 29 38.5 +0.7
ATKA IAmb IAmb 22 29 47.5
comp=Z,154nm,1.2s
ITAN ITANAGAR 65.34 304 *e*P **P** 22 29 39.1 +0.8
BELO BELONIA 65.92 299 *e*P **P** 22 29 43.1 +1.0
MA2 Magadan 65.92 359*ce*P **P** 22 29 41.9 +0.5
MA2 pmax pmax
comp=Z,40nm,1.0s
MA2 Magadan 65.92 359 P **P** 22 29 41.6 +0.2
CASY Casey 66.04 197 P **P** 22 29 41.8 -0.3
CASY IAmb IAmb 22 29 43.6
comp=Z,198nm,1.2s
GTA Gaotai 66.25 318 ⇑P **P** 22 29 44.9 +0.8
GTA S **S** 22 38 31.9 +0.5
GTA ScS **ScS** 22 39 38.8 +0.3
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,92nm,6.2s
GTA LR LR
comp=Z,520nm,18.9s
GTA LR LR
comp=Z,730nm,20.4s
GTA LR LR
comp=Z,790nm,20.7s
AGT Agartala 66.30 300 *e*P **P** 22 29 45.6 +1.1
AGT IAmb IAmb 22 29 50.5
comp=Z,63nm,0.4s
SHL Shillong 66.32 301 P **P** 22 29 44.5 -0.4
SHL pmax pmax
comp=Z,374nm,1.1s
SHL Shillong 66.32 301 *e*P **P** 22 29 44.9 0.0
SHL IAmb IAmb 22 29 48.7
comp=Z,77nm,0.7s
SHL Shillong 66.32 301 P **P** 22 29 44.5 -0.4
GUWA GUWAHATI 66.70 302 *e*P **P** 22 29 47.0 0.0
GUWA IAmb IAmb 22 29 50.3
comp=Z,153nm,1.2s
CIT Chita 66.84 335 *e*P **P** 22 29 49.5 +2.0
CIT *e* 22 29 56.5
CIT *e* 22 30 15.0
CIT pmax pmax
comp=Z,90nm,1.2s
ULN Ulaanbaatar 66.95 329*ce*P **P** 22 29 49.4 +1.0
ULN pmax pmax
comp=Z,44nm,1.6s
ULN Ulaanbaatar 66.95 329 P **P** 22 29 48.9 +0.5
ULN IAmb IAmb 22 30 27.3
comp=Z,99nm,1.4s
SONM Songino Array 67.27 329 P **P** 22 29 51.9 +1.5
comp=Z,16nm,0.9s,baz=138,slow=5.9,SNR=37
SONM PKP2bc 22 58 18.5
comp=Z,6.8nm,1.0s,baz=304,slow=2.3,SNR=25
SONM LR LR 22 59 04.6
comp=Z,1µm,20.6s,baz=132,slow=36
SONM Songino Array 67.27 329 P **P** 22 29 50.6 +0.2
SONM pmax pmax
comp=Z,40nm,1.1s
SONM Songino Array 67.27 329 P **P** 22 29 50.6 +0.2
TAOE Nuku Hiva Isla 67.44 97 *e*LR LR 22 50 25.6
comp=Z,1µm,22.8s
NIKH Nikolski High 68.03 24 P 22 29 55.9
baz=223
LSA Lhasa 68.39 305 P **P** 22 29 59.2 +0.9
LSA pmax pmax
comp=Z,260nm,1.3s
LSA Lhasa 68.39 305 *i* P **P** 22 29 59.3 +0.9
SNR=50
LSA Lhasa 68.39 305 P **P** 22 29 58.7 +0.4
LSA pmax pmax
comp=Z,90nm,1.2s
LSA MLR MLR
comp=Z,1µm,21.0s
LSA Lhasa 68.39 305 P **P** 22 29 58.7 +0.4
LSA IAmb IAmb 22 30 01.5
comp=Z,90nm,1.2s
SEY Seymchan 69.29 0 *e*P **P** 22 30 03.1 +0.5
GTK Tadong 69.68 302 *e*P **P** 22 30 05.9 0.0
GTK IAmb IAmb 22 30 09.7
comp=Z,47nm,0.7s
AKUT Akutan 70.15 25 P **P** 22 30 08.6 +0.6
TAPN Taplejung 70.44 302 *e*P **P** 22 30 11.2 +0.4
comp=Z,601nm,1.1s
ZAK Zakamensk 70.46 329 *e*P **P** 22 30 10.7 +0.5
ZAK pmax pmax
comp=Z,56nm,1.4s
YAK Yakutsk 70.49 349 *e*P **P** 22 30 10.5 +0.6
YAK *e**PP **pP** 22 30 17.1 -1.4
YAK *e* 22 30 33.1
YAK *e* 22 32 44.4
YAK *e*S **S** 22 39 20.4 -0.2
YAK *e* 22 40 05.6
YAK pmax pmax
comp=Z,76nm,1.0s
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,106nm,3.3s
YAK pmax pmax
comp=N,57nm,3.0s
YAK pmax pmax
comp=E,89nm,3.5s
YAK smax smax
comp=E,214nm,3.3s
YAK smax smax
comp=N,595nm,3.7s
YAK Yakutsk 70.49 349 P **P** 22 30 09.5 -0.4
YAK IAmb IAmb 22 30 39.0
comp=Z,93nm,1.1s
ODAN Odare 70.55 301 *e*P **P** 22 30 11.7 +0.3
comp=Z,728nm,1.1s
BOK Bokaro 70.95 298 *e*P **P** 22 30 14.7 +1.1
BOK IAmb IAmb 22 30 17.6
comp=Z,104nm,0.8s
BOD Bodaibo 71.06 340 *e*P **P** 22 30 13.6 +0.1
BOD pmax pmax
comp=Z,73nm,1.7s
TLY Talaya 71.08 331 P **P** 22 30 14.9 +1.1
comp=Z,4.0nm,0.6s,baz=174,slow=8.4,SNR=6.8
TLY LR LR 22 59 29.2
comp=Z,356nm,21.3s,baz=123,slow=34
TLY Talaya 71.08 331 *e*P **P** 22 30 14.6 +0.7
TLY *e*S **S** 22 39 20.4 -7.6
TLY pmax pmax
comp=Z,57nm,1.1s
TLY MLR MLR
comp=Z,1µm,14.0s
TLY Talaya 71.08 331 P **P** 22 30 14.5 +0.6
VNDA Vanda 71.12 178 P **P** 22 30 14.4 +0.8
comp=Z,174nm,1.0s,baz=334,slow=6.7,SNR=185
VNDA LR LR 22 59 45.8
comp=Z,931nm,18.1s,baz=360,slow=34
VNDA Vanda 71.12 178 P **P** 22 30 14.3 +0.6
VNDA pmax pmax
comp=Z,207nm,1.0s
VNDA Vanda 71.12 178 P **P** 22 30 14.3 +0.6
IRK Irkutsk 71.14 331 *e*P **P** 22 30 14.6 +0.5
IRK pmax pmax
comp=Z,91nm,2.7s
RAMN Ramite 71.25 301 *e*P **P** 22 30 15.9 +0.2
comp=Z,350nm,1.3s
FALS False Pass 71.64 25 P 22 30 18.2
baz=228
FALS False Pass 71.64 25 P **P** 22 30 18.2 +1.1
SBA Scott Base 71.69 177 P **P** 22 30 18.6 +1.5
SBA pmax pmax
comp=Z,251nm,1.2s
SBA Scott Base 71.69 177 P **P** 22 30 18.6 +1.5
SBA IAmb IAmb 22 30 20.4
comp=Z,251nm,1.2s
RKT Rikitea 72.08 112 *e*S **S** 22 39 39.9 -0.7
comp=Z,560nm,28.2s
RKT Rikitea 72.08 112 *e*LR LR 22 52 22.4
comp=Z,2µm,30.8s
GUN Gumba 72.15 302 *e*P **P** 22 30 21.4 +0.2
comp=Z,818nm,1.1s
PALK Pallekele 72.20 280 P **P** 22 30 21.6 +0.2
PALK pmax pmax
comp=Z,113nm,1.1s
PALK Pallekele 72.20 280 P **P** 22 30 21.6 +0.2
PALK IAmb IAmb 22 30 31.6
comp=Z,113nm,1.1s
PKI Pulchoki 72.45 301 *e*P **P** 22 30 22.8 -0.2
comp=Z,695nm,1.3s
PKIN Phulchoki 72.46 301 *e*P **P** 22 30 22.9 -0.1
comp=Z,639nm,1.3s
KKN Kakani 72.62 302 *e*P **P** 22 30 24.0 +0.1
comp=Z,503nm,1.1s
DMN Daman 72.72 301 *e*P **P** 22 30 24.8 +0.3
comp=Z,971nm,1.1s
GKN Gorkha 73.23 302 *e*P **P** 22 30 27.5 +0.1
comp=Z,1µm,1.2s
SDPT Sand Point 73.24 26 P 22 30 27.4
baz=230,SNR=7.5
SDPT Sand Point 73.24 26 P **P** 22 30 27.3 +0.7
CNBA Chernabura Isl 73.30 27 P **P** 22 30 27.9 +1.0
CNBA IAmb IAmb 22 56 57.2
comp=Z,2µm,21.0s
CHNA Chernabura Isl 73.31 27 P 22 30 27.9
baz=231,SNR=8.6
MDRS Chennai 73.65 286 *e*P **P** 22 30 29.0 -0.9
MDRS IAmb IAmb 22 30 38.9
comp=Z,75nm,1.5s
CHGN Chignik 74.75 26 P 22 30 36.2
baz=232,SNR=7.0
CHGN Chignik 74.75 26 P **P** 22 30 35.9 +0.5
CHGN IAmb IAmb 22 30 45.5
comp=Z,228nm,1.0s
TRD Trivandrum 76.06 280 *e*P **P** 22 30 44.6 +0.8
TRD *i* pP **pP** 22 30 53.2 +0.7
HYB Hyderabad 76.10 290 *i* P **P** 22 30 43.0 -1.0
HYB *e* 22 30 52.5
HYB *e* 22 31 00.0
HYB Hyderabad 76.10 290 *e*P **P** 22 30 42.7 -1.4
HYB *i* pP **pP** 22 30 51.1 -1.6
HYB IAmb IAmb 22 30 53.2
comp=Z,315nm,1.8s
WMQ Urumqi 76.34 318 *e*P **P** 22 30 45.6 +0.7
WMQ PcP **pwP** 22 31 01.5 +0.3
WMQ PP **PP** 22 33 39.8 +3.0
WMQ S **S** 22 40 26.4 -1.3
WMQ SKS **SKSac** 22 40 47.7 -6.2
WMQ pmax pmax
comp=Z,50nm,1.7s
WMQ pmax pmax
comp=Z,430nm,3.6s
WMQ LR LR
comp=Z,1µm,9.3s
WMQ LR LR
comp=Z,620nm,8.7s
WMQ LR LR
comp=Z,300nm,22.5s
WMQ Urumqi 76.34 318 P **P** 22 30 46.1 +1.2
WMQ pmax pmax
comp=Z,135nm,1.3s
WMQ Urumqi 76.34 318 P **P** 22 30 46.1 +1.2
WMQ IAmb IAmb 22 31 02.7
comp=Z,135nm,1.3s
SII Sitkinak Islan 76.79 27 IAMs_20 IAMs_20 22 58 05.0
comp=Z,2µm,22.0s
SII Sitkinak Islan 76.79 27 P 22 30 48.9
baz=236,SNR=6.1
OHAK Old Harbor 77.57 27 P 22 30 53.0
baz=236,SNR=10
OHAK Old Harbor 77.57 27 P **P** 22 30 52.5 +1.1
OHAK IAmb IAmb 22 31 02.4
comp=Z,273nm,1.2s
KDAK Kodiak Island 78.20 27 P **P** 22 30 56.3 +1.4
comp=Z,134nm,1.1s,baz=215,slow=4.2,SNR=20
KDAK LR LR 23 00 25.3
comp=Z,1µm,21.7s,baz=257,slow=32
KDAK Kodiak Island 78.20 27 P **P** 22 30 56.0 +1.1
KDAK pmax pmax
comp=Z,204nm,1.2s
KDAK MLR MLR
comp=Z,2µm,21.0s
KDAK Kodiak Island 78.20 27 P **P** 22 30 56.0 +1.1
KDAK IAmb IAmb 22 31 05.9
comp=Z,204nm,1.1s
KDAK Kodiak Island 78.20 27 IAMs_20 IAMs_20 22 59 52.5
comp=Z,2µm,21.0s
KDAK Kodiak Island 78.20 27 P 22 30 56.5
baz=237
BHPL Bhopal 78.33 295 *e*P **P** 22 30 54.7 -1.8
BHPL IAmb IAmb 22 30 58.0
comp=Z,54nm,1.0s
BHPL *i* x x 22 31 04.4
DGAR Diego Garcia 78.62 264*ce*P **P** 22 30 59.5 +1.3
DGAR pmax pmax
comp=Z,570nm,1.7s
DGAR Diego Garcia 78.62 264 P **P** 22 30 58.9 +0.7
SVW2 Sparrevohn 78.83 23 P **P** 22 30 59.2 +0.8
SVW2 IAmb IAmb 22 31 11.4
comp=Z,190nm,1.2s
SVW2 IAMs_20 IAMs_20 23 03 23.0
comp=Z,1µm,20.0s
DGZ Jazzator, Alta 78.86 323*c i*P **P** 22 30 59.8 +0.8
DGZ pmax pmax
comp=Z,60nm,1.5s
DDI Dehra Dun 79.39 302 *e*P **P** 22 31 02.5 +0.2
DDI IAmb IAmb 22 31 07.0
comp=Z,79nm,0.9s
DDI *i* x x 22 31 11.6
TIXI Tiksi 79.50 353*c i*P **P** 22 31 01.3 -0.5
TIXI Tiksi 79.50 353 P **P** 22 31 01.9 +0.2
PAF Port-aux-Franc 79.55 221 P **P** 22 31 02.5 -0.1
PAF pmax pmax
comp=Z,424nm,1.2s
PAF Port-aux-Franc 79.55 221 P **P** 22 31 02.5 -0.1
ZSN Zaisan 79.56 321⇑*i*P **P** 22 31 03.3 +0.6
comp=Z,98nm,2.5s,baz=320
ZSN Zaisan 79.56 321*c i*P **P** 22 31 03.3 +0.6
ZSN pmax pmax
comp=Z,98nm,2.5s
RSO Redoubt South 79.61 25 P **P** 22 31 03.3 +0.4
HOM Homer 79.63 26 P 22 31 04.3
baz=238
NDI New Delhi 79.72 301 *e*P **P** 22 31 03.0 -1.0
NDI *e*S **S** 22 40 59.0 -5.6
CNPM China Poot 79.74 26 IAMs_20 IAMs_20 23 00 26.0
comp=Z,2µm,22.0s
TTA Tatalina 79.77 22 P 22 31 05.2
baz=233,SNR=37
TTA Tatalina 79.77 22 P **P** 22 31 05.0 +1.4
TTA pmax pmax
comp=Z,253nm,1.4s
TTA MLR MLR
comp=Z,2µm,22.0s
TTA Tatalina 79.77 22 P **P** 22 31 05.0 +1.4
TTA IAmb IAmb 22 31 14.9
comp=Z,253nm,1.4s
TTA IAMs_20 IAMs_20 23 02 05.7
comp=Z,1µm,22.0s
MNCI Minicoy 79.84 280 P **P** 22 31 05.2 +0.3
MNCY Minicoy 79.86 280 *e*P **P** 22 31 04.2 -0.8
MNCY *e*P **PcP** 22 31 05.3 -7.3
BRLK Bradley Lake 80.01 26 IAMs_20 IAMs_20 23 00 45.9
comp=Z,2µm,22.0s
BRSE Bradley Lake S 80.06 26 P 22 31 06.4
baz=238,SNR=8.1
GOA Goa 80.21 287 *e*P **P** 22 31 05.9 -0.9
GOA *i* x x 22 31 15.7
SPCR Spurr Chakacha 80.24 24 P 22 31 06.3
baz=237,SNR=6.3
SMLA Simla 80.33 303 *e*P **P** 22 31 06.7 -0.5
SMLA IAmb IAmb 22 31 10.3
comp=Z,102nm,1.1s
POO Poona 80.70 290 *e*P **P** 22 31 09.0 -0.5
POO *i* x x 22 31 17.7
SEW Seward 80.81 26 P **P** 22 31 10.1 +1.0
SEW IAmb IAmb 22 31 19.9
comp=Z,289nm,1.2s
SEW Seward 80.81 26 P 22 31 10.3
baz=239,SNR=18
SKT Skwentna 80.93 24 P 22 31 09.4
baz=237,SNR=11
RDOG Red Dog Mine 80.94 16 P 22 31 11.3
baz=226,SNR=26
RDOG Red Dog Mine 80.94 16 P **P** 22 31 11.2 +1.5
RDOG IAmb IAmb 22 31 29.8
comp=Z,122nm,0.9s
RDOG IAMs_20 IAMs_20 23 02 16.4
comp=Z,1µm,21.0s
MK31 Makanchi Array 80.97 319*c i*P **P** 22 31 10.6 +0.2
MK31 Makanchi Array 80.97 319 P **P** 22 31 10.5 +0.2
MKAR Makanchi Array 80.97 319 P **P** 22 31 10.5 +0.1
comp=Z,40nm,1.0s,baz=99,slow=7.5,SNR=69
MKAR PKKPbc **PKKPbc** 22 49 48.0 -1.9
comp=Z,4.4nm,1.0s,baz=292,slow=2.6,SNR=24
MKAR PKP2bc 22 57 50.8
comp=Z,6.2nm,1.1s,baz=282,slow=2.2,SNR=14
MKAR LR LR 23 04 52.5
comp=Z,538nm,21.3s,baz=102,slow=34
MKAR Makanchi Array 80.97 319*ce*P **P** 22 31 10.8 +0.5
MKAR pmax pmax
comp=Z,39nm,1.0s
SUA Susitna One 80.97 24 P 22 31 10.4
baz=238,SNR=6.0
BHK Bhakra 81.02 303 *ex* x 22 31 09.0
MAKZ Makanchi 81.18 319 P **P** 22 31 11.5 +0.1
MAKZ pmax pmax
comp=Z,134nm,1.3s
MAKZ Makanchi 81.18 319 P **P** 22 31 11.5 +0.1
MAKZ IAmb IAmb 22 31 13.6
comp=Z,134nm,1.2s
PPLA Purkeypile 81.18 23 P 22 31 11.7
baz=236,SNR=15
PPLA Purkeypile 81.18 23 P **P** 22 31 12.1 +0.9
PPLA IAmb IAmb 22 31 33.7
comp=Z,148nm,1.4s
PPLA IAMs_20 IAMs_20 23 04 19.0
comp=Z,1µm,20.0s
RC01 Rabbit Creek A 81.19 25 P 22 31 12.1
baz=239,SNR=14
DHRM DHARAMSHALA 81.31 304 *e*P **P** 22 31 11.3 -1.5
DHRM IAmb IAmb 22 31 22.3
comp=Z,580nm,1.5s
AJM Ajmer 81.48 298⇑*i*P **P** 22 31 13.0 -0.5
CUT Chulitna 81.66 24 P 22 31 13.7
baz=238,SNR=13
CHUM Lake Minchumin 81.68 22 P 22 31 15.1
baz=236,SNR=85
PMR Palmer 81.70 25 P 22 31 14.6
baz=240,SNR=19
PMR Palmer 81.70 25 P **P** 22 31 14.1 +0.3
PMR pmax pmax
comp=Z,141nm,1.1s
PMR MLR MLR
comp=Z,1µm,20.0s
PMR Palmer 81.70 25 P **P** 22 31 14.1 +0.3
PMR IAmb IAmb 22 31 24.2
comp=Z,141nm,1.1s
SHLS Shalkode 81.74 315⇑*i*P **P** 22 31 13.8 -0.9
comp=Z,97nm,1.5s,baz=315
SHLS Shalkode 81.74 315*c i*P **P** 22 31 13.7 -0.9
SHLS pmax pmax
comp=Z,97nm,1.5s
GHO Glory Hole Cre 81.88 24 P **P** 22 31 15.6 +0.7
GHO IAmb IAmb 22 31 25.4
comp=Z,147nm,1.1s
KNK Knik Glacier 81.89 25 IAMs_20 IAMs_20 23 01 49.9
comp=Z,2µm,22.0s
KNK Knik Glacier 81.89 25 P 22 31 16.1
baz=240,SNR=24
KTH Kantishna Hill 82.02 22 IAMs_20 IAMs_20 23 05 26.2
comp=Z,1µm,20.0s
ZAA0 Zalesovo Array 82.04 327 P **P** 22 31 14.9 -0.8
ZALV Zalesovo Beam 82.04 327 P **P** 22 31 15.3 -0.4
comp=Z,16nm,0.6s,baz=109,slow=5.4,SNR=45
ZALV PKKPbc **PKKPbc** 22 49 45.3 -2.4
comp=Z,6.9nm,1.0s,baz=298,slow=3.2,SNR=17
ZALV PKPPKP **P'P'df** 22 57 49.1 +0.1
comp=Z,2.5nm,0.8s,baz=298,slow=3.2,SNR=7.3
ZALV LR LR 23 07 11.9
comp=Z,1µm,20.8s,baz=113,slow=35
ZALV Zalesovo Beam 82.04 327 P **P** 22 31 15.0 -0.7
ZALV Zalesovo Beam 82.04 327 P **P** 22 31 15.0 -0.7
UZB Uzynbulak 82.04 315⇑*e*P **P** 22 31 17.1 +0.9
comp=Z,118nm,1.6s,baz=315
UZB *e*S **S** 22 41 31.6 +3.0
baz=315
UZB Uzynbulak 82.04 315*ce*P **P** 22 31 17.1 +0.9
UZB *e*S **S** 22 41 31.6 +3.0
UZB pmax pmax
comp=Z,118nm,1.6s
SML Sawmill 82.14 25 IAMs_20 IAMs_20 23 02 00.5
comp=Z,1µm,22.0s
SML Sawmill 82.14 25 P 22 31 17.3
baz=240,SNR=33
TRF Thorofare Moun 82.21 23 P 22 31 16.8
baz=238,SNR=29
TRF Thorofare Moun 82.21 23 IAMs_20 IAMs_20 23 05 31.2

comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 82.29 22 P 22 31 17.4
baz=238,SNR=38
KPKS Kokpek 82.37 315 ⇑*i* P **P** **22 31 18.6 +0.7**
comp=Z,128nm,1.6s,baz=315
KPKS Kokpek 82.37 315 *c i* P **P** **22 31 18.5 +0.7**
KPKS pmax pmax
comp=Z,128nm,1.6s
SATY Saty 82.45 315 ⇑*i* P **P** **22 31 19.2 +0.8**
comp=Z,73nm,1.5s,baz=315
SATY Saty 82.45 315 *c i* P **P** **22 31 19.1 +0.8**
SATY pmax pmax
comp=Z,73nm,1.5s
SCM Sheep Creek Mo 82.57 25 IAMs_20 IAMs_20 23 02 21.8
comp=Z,2µm,22.0s
WAT2 Susitna Watana 82.62 23 P 22 31 19.3
baz=240,SNR=26
EYAK Cordova Ski Ar 82.63 26 P 22 31 20.0
baz=243,SNR=6.3
EYAK Cordova Ski Ar 82.64 26 P **P** **22 31 19.6 +0.9**
EYAK IAmb IAmb 22 31 29.7
comp=Z,140nm,1.2s
EYAK IAMs_20 IAMs_20 23 04 25.7
comp=Z,2µm,20.0s
RND Reindeer 82.74 23 P **P** **22 31 19.5 +0.2**
RND pmax pmax
comp=Z,278nm,1.2s
RND MLR MLR
comp=Z,1µm,19.0s
RND Reindeer 82.74 23 P **P** **22 31 19.5 +0.2**
RND IAMs_20 IAMs_20 23 05 17.1
comp=Z,1µm,19.0s
WAT6 Susitna Watana 82.76 24 P 22 31 20.3
baz=241,SNR=50
MCK McKinley 82.87 23 P 22 31 20.3
baz=239,SNR=110
MLY Manley 82.88 21 P 22 31 20.9
baz=238
KAIM Kayak Island 82.95 27 P 22 31 22.3
baz=244
TDK Taldyqorghan 83.00 317 *i* P **P** **22 31 21.9 +0.9**
comp=Z,283nm,1.6s,baz=317
TDK *eS* **S** **22 41 40.8 +2.8**
baz=317
TDK Taldyqorghan 83.00 317 *i* P **P** **22 31 21.9 +0.9**
TDK *eS* **S** **22 41 40.8 +2.8**
TDK pmax pmax
comp=Z,283nm,1.6s
KLU Klutina 83.00 25 P 22 31 22.3
baz=242,SNR=60
KLU Klutina 83.00 25 IAMs_20 IAMs_20 23 02 17.2
comp=Z,2µm,22.0s
RAGM Ragged Mountai 83.04 27 P **P** **22 31 22.6 +1.7**
M24K Tolsona, Glenn 83.18 25 P 22 31 23.3
baz=242,SNR=25
HMT Hamilton 83.20 27 P **P** **22 31 23.1 +1.3**
NEA2 Nenana 83.26 22 P 22 31 22.1
baz=239,SNR=64
KSH Kashi 83.29 311 P **P** **22 31 24.8 +2.0**
KSH S **S** **22 41 41.9 +0.4**
KSH SKS **SKSac** **22 41 43.5 +0.6**
KSH LR LR
comp=Z,1µm,9.0s
KSH LR LR
comp=Z,1µm,12.8s
KSH LR LR
comp=Z,2µm,14.2s
SUCK Suckling Hills 83.30 27 IAMs_20 IAMs_20 23 01 59.2
comp=Z,2µm,22.0s
BMRM Bremner River 83.33 26 P 22 31 23.6
baz=244,SNR=31
QSPA South Pole Qui 83.42 180 P **P** **22 31 23.1 +0.2**
MDOK Medeo 83.43 315 *i* P **P** **22 31 24.6 +1.1**
baz=315
MDOK Medeo 83.43 315 *i* P **P** **22 31 24.5 +1.1**
I23K Minto, Yukon-K 83.44 21 P 22 31 23.4
baz=239,SNR=18
I23K Minto, Yukon-K 83.44 21 P **P** **22 31 23.3 +0.5**
I23K IAmb IAmb 22 31 43.4
comp=Z,94nm,1.4s
TNSS Tian-Shan 83.47 315 ⇑*i* P **P** **22 31 25.4 +1.3**
baz=314
TNSS Tian-Shan 83.47 315 ⇑*i* P **P** **22 31 25.3 +1.3**
AAA Alma-Ata 83.54 315 *e* P **P** **22 31 25.2 +1.2**
comp=Z,109nm,1.4s,baz=315
AAA Alma-Ata 83.54 315 *e* P **P** **22 31 25.1 +1.2**
AAA pmax pmax
comp=Z,109nm,1.4s
MAW Mawson 83.56 203 P **P** **22 31 24.2 +0.8**
comp=Z,64nm,1.0s,baz=68,slow=4.8,SNR=5.9
MAW Mawson 83.56 203 P **P** **22 31 23.8 +0.4**
MAW Mawson 83.56 203 P **P** **22 31 23.8 +0.4**
WRH Wood River Hil 83.56 22 IAMs_20 IAMs_20 23 05 34.8
comp=Z,1µm,20.0s
N25K Chitina, Valde 83.61 26 P 22 31 25.4
baz=244,SNR=30
N25K Chitina, Valde 83.61 26 P **P** **22 31 24.7 +0.8**
N25K IAmb IAmb 22 31 35.1
comp=Z,253nm,1.5s
N25K IAMs_20 IAMs_20 23 01 45.2
comp=Z,1µm,22.0s
CHKK Chushkaly 83.66 315 ⇑*e* P **P** **22 31 24.7 +0.3**
baz=315
CHKK Chushkaly 83.66 315 ⇑*e* P **P** **22 31 24.7 +0.3**
MDM Murphy Dome 83.76 22 P **P** **22 31 24.1 -0.4**
MDM IAmb IAmb 22 31 34.2
comp=Z,171nm,1.3s
MDM IAMs_20 IAMs_20 23 06 09.9
comp=Z,1µm,20.0s
CCB Clear Creek Bu 83.76 22 IAMs_20 IAMs_20 23 06 19.9
comp=Z,1µm,20.0s
ULHL Ulahol 83.77 314 P **P** **22 31 27.2 +1.9**
SNR=6.1
TCOL CIGO, UAF Yank 83.85 22 IAMs_20 IAMs_20 23 06 32.3
comp=Z,1µm,21.0s
TCOL CIGO, UAF Yank 83.85 22 P 22 31 25.1
baz=240,SNR=22
COLA College 83.86 22 P **P** **22 31 24.9 0.0**
COLA pmax pmax
comp=Z,232nm,1.2s
COLA MLR MLR
comp=Z,1µm,20.0s
COLA College 83.86 22 P **P** **22 31 24.9 0.0**
COLA College 83.86 22 IAMs_20 IAMs_20 23 06 43.3
comp=Z,1µm,20.0s
COLA College 83.86 22 P 22 31 25.1
baz=240
PAX Paxson 83.87 24 IAMs_20 IAMs_20 23 03 27.9
comp=Z,1µm,21.0s
PAX Paxson 83.87 24 P 22 31 26.1
baz=243
CRQM Cirque 83.88 27 IAMs_20 IAMs_20 23 02 31.8
comp=Z,2µm,22.0s
CRQE Cirque 83.90 27 P 22 31 26.8
baz=245,SNR=25
HDA Harding Lake 83.97 23 P 22 31 25.6
baz=241,SNR=23
HDA P 22 31 25.6
baz=241,SNR=23
HDA Harding Lake 83.97 23 P **P** **22 31 25.3 -0.2**
HDA IAmb IAmb 22 31 36.9
comp=Z,60nm,1.0s
HDA IAMs_20 IAMs_20 23 05 46.4
comp=Z,1µm,20.0s
TGL Tana Glacier 84.02 27 IAMs_20 IAMs_20 23 02 24.1
comp=Z,2µm,22.0s
NIL Nilore 84.12 305 P **P** **22 31 27.0 -0.1**
NIL pmax pmax
comp=Z,327nm,1.0s
NIL Nilore 84.12 305 P **P** **22 31 27.0 -0.1**
KUU Kurty 84.12 315 ⇑*i* P **P** **22 31 27.5 +0.7**
comp=Z,317nm,1.0s,baz=315
KUU Kurty 84.12 315 *c i* P **P** **22 31 27.5 +0.7**
KUU pmax pmax
comp=Z,317nm,1.0s
POKR Poker Flat Res 84.13 22 P 22 31 26.1
baz=241,SNR=27
IL31 84.17 22 P **P** **22 31 26.2 -0.3**
IL31 IAmb IAmb 22 31 35.9
comp=Z,123nm,1.1s
ILAR Eielson Array 84.17 22 P **P** **22 31 26.1 -0.4**
comp=Z,48nm,0.9s,baz=254,slow=4.6,SNR=184
ILAR PKKPbc **PKKPbc** **22 49 39.5 -3.7**
comp=Z,1.4nm,0.8s,baz=7.2,slow=1.2,SNR=11
ILAR PKPPKP **P'P'df** **22 57 48.3 +3.8**
comp=Z,0.6nm,0.9s,baz=356,slow=3.0,SNR=4.3
ILAR Eielson Array 84.17 22 P **P** **22 31 25.8 -0.7**
ILAR Eielson Array 84.17 22 P **P** **22 31 25.8 -0.7**
MESA MESA 84.18 27 P 22 31 28.0
baz=246
MCARA McCarthy VSAT 84.20 26 P **P** **22 31 28.3 +1.5**
MCARA IAMs_20 IAMs_20 23 03 40.7
comp=Z,1µm,22.0s
MCARA McCarthy VSAT 84.20 26 P 22 31 28.3
baz=245,SNR=17
COLD Coldfoot 84.25 19 P 22 31 28.6
baz=238,SNR=31
COLD Coldfoot 84.25 19 P **P** **22 31 28.0 +1.1**
COLD IAmb IAmb 22 31 46.3
comp=Z,131nm,1.2s
YAH Yahtse 84.35 27 P **P** **22 31 29.1 +1.3**
YAH IAmb IAmb 22 31 39.1
comp=Z,103nm,1.1s
TKM2 Tokmak 2 84.40 314 P **P** **22 31 29.4 +0.9**
SNR=150
KURK Kurchatov 84.51 322 P **P** **22 31 28.9 +0.3**
KURK Kurchatov 84.51 322 P **P** **22 31 28.9 +0.3**
KURBB Kurchatov Arra 84.54 322 P **P** **22 31 28.9 +0.2**
comp=Z,96nm,1.0s,baz=107,slow=3.9,SNR=156
TABL Table Mountain 84.65 27 P **P** **22 31 30.4 +1.0**
TABL IAmb IAmb 22 31 40.5
comp=Z,133nm,1.0s
DOT Dot Lake 84.74 24 IAMs_20 IAMs_20 23 09 16.9
comp=Z,1µm,20.0s
A21K Barrow 84.76 15 P **P** **22 31 29.7 +0.3**
A21K IAmb IAmb 22 31 41.9
comp=Z,169nm,1.4s
A21K IAMs_20 IAMs_20 23 04 38.1
comp=Z,2µm,22.0s
A21K Barrow 84.76 15 P 22 31 30.2
baz=232
CTG Chitna Glacier 84.77 27 P 22 31 31.5
baz=247,SNR=28
KBK Karagaybulak 84.80 314 P **P** **22 31 31.3 +0.8**
SNR=186
SCRK Sand Creek 84.92 24 P 22 31 31.3
baz=244,SNR=59
PCA Pinnacle 84.92 28 IAMs_20 IAMs_20 23 03 49.2
comp=Z,1µm,22.0s
PINM Pinnacle 84.93 28 P 22 31 32.1
baz=248,SNR=12
UCH Uchtor 85.01 313 P **P** **22 31 33.5 +1.6**
SNR=373
CHMS Chumysh 85.02 314 P **P** **22 31 32.4 +1.0**
SNR=249
PRP Porcupine Dome 85.03 22 P **P** **22 31 29.9 -1.2**
PRP IAMs_20 IAMs_20 23 06 50.4
comp=Z,1µm,20.0s
PRP Porcupine Dome 85.03 22 P 22 31 30.2
baz=242,SNR=6.8
AAK Ala-Archa 85.12 314 P **P** **22 31 33.3 +1.2**
comp=Z,149nm,0.9s,baz=119,slow=4.5,SNR=258
AAK LR LR 23 08 57.8
comp=Z,1µm,21.4s,baz=98,slow=35
AAK Ala-Archa 85.12 314 P **P** **22 31 33.1 +1.0**
SNR=236
AAK Ala-Archa 85.12 314 *i* P **P** **22 31 33.1 +1.0**
SNR=314
AAK Ala-Archa 85.12 314 *ce* P **P** **22 31 33.1 +1.0**
AAK Ala-Archa 85.12 314 P **P** **22 31 33.0 +1.0**
BCPM Bancas Point 85.16 28 P **P** **22 31 32.9 +1.3**
BCPM IAMs_20 IAMs_20 23 03 53.9
comp=Z,1µm,20.0s
TOLK Toolik Lake Re 85.20 18 P **P** **22 31 32.9 +1.2**
TOLK IAmb IAmb 22 31 34.7
comp=Z,142nm,1.2s
TOLK IAMs_20 IAMs_20 23 05 13.7
comp=Z,1µm,20.0s
TOLK Toolik Lake Re 85.20 18 P 22 31 33.2
baz=238,SNR=56
SGDS Sogindy 85.22 315 ⇑*i* P **P** **22 31 33.2 +0.7**
comp=Z,167nm,1.3s,baz=314
SGDS Sogindy 85.22 315 *c i* P **P** **22 31 33.1 +0.7**
SGDS pmax pmax
comp=Z,167nm,1.3s
USP Ospenovka 85.27 314 P **P** **22 31 33.7 +1.1**
SNR=455
BHUJ Bhuj 85.36 294 *e* P **P** **22 31 33.0 -0.4**
BHUJ IAmb IAmb 22 31 34.8
BHUJ *i* x x 22 31 42.4
BCAR Beaver Creek A 85.42 25 P **P** **22 31 33.7 +0.7**
AML Almayashu 85.58 313 P **P** **22 31 36.2 +1.5**
SNR=760
FYU Fort Yukon 85.62 21 P **P** **22 31 35.1 +1.4**
EKS2 Erkin-Say 85.64 314 P **P** **22 31 35.5 +0.8**
SNR=470
K27K Chicken 85.70 24 P 22 31 36.2
baz=246
K27K Chicken 85.70 24 IAMs_20 IAMs_20 23 04 01.8
comp=Z,2µm,22.0s
BTLS Baital 85.99 316 ⇑*i* P **P** **22 31 36.9 +0.7**
comp=Z,220nm,1.2s,baz=316
BTLS Baital 85.99 316 *c i* P **P** **22 31 36.8 +0.7**
BTLS pmax pmax
comp=Z,220nm,1.2s
BMAR Burnt Mountain 86.24 20 P **P** **22 31 38.0 +1.1**
SIT Sitka 86.30 32 P **P** **22 31 38.2 +0.9**
SIT pmax pmax
comp=Z,172nm,1.2s
SIT MLR MLR
comp=Z,2µm,20.0s
SIT Sitka 86.30 32 P **P** **22 31 38.2 +0.9**
SIT IAmb IAmb 22 31 49.0
comp=Z,172nm,1.2s
SIT IAMs_20 IAMs_20 23 03 33.8
comp=Z,2µm,20.0s
SIT Sitka 86.30 32 P 22 31 39.4
baz=252,SNR=5.6
EGAK Eagle 86.37 23 P 22 31 39.0
baz=246,SNR=118
EGAK Eagle 86.37 23 P **P** **22 31 38.6 +1.1**
EGAK IAMs_20 IAMs_20 23 06 59.0
comp=Z,1µm,19.0s
DIB Dawson Inlet, 86.77 36 P **P** **22 31 41.0 +1.3**
DIB IAmb IAmb 22 31 51.1
comp=Z,179nm,1.3s
DAWY Dawson 86.80 24 P **P** **22 31 40.7 +1.0**
BESE Bessie Mountai 87.01 30 P **P** **22 31 42.6 +1.7**
CRAG Craig 87.01 33 IAMs_20 IAMs_20 23 03 00.8
comp=Z,1µm,20.0s
CRAG Craig 87.01 33 P 22 31 42.9
baz=254,SNR=5.8
SKAG Skagway 87.04 29 P **P** **22 31 42.3 +1.4**
SKAG IAmb IAmb 22 31 52.6
comp=Z,112nm,1.2s
SKAG Skagway 87.04 29 P 22 31 42.8
baz=252,SNR=5.4
DZA Taraz 87.45 313 *e* P **P** **22 31 44.2 +0.9**
comp=Z,193nm,1.2s,baz=313
DZA Taraz 87.45 313 *e* P **P** **22 31 44.2 +0.9**
DZA pmax pmax
comp=Z,193nm,1.2s
WHY Whitehorse 87.63 28 P **P** **22 31 45.1 +1.2**
WHY IAMs_20 IAMs_20 23 06 31.0
comp=Z,1µm,20.0s
WRAK Wrangell Islan 87.69 33 IAMs_20 IAMs_20 23 04 03.7
comp=Z,1µm,20.0s
WRAK Wrangell Islan 87.69 33 P 22 31 45.9
baz=255,SNR=13
KBL Kabul 87.71 305 P **P** **22 31 43.7 -1.3**
KBL pmax pmax
comp=Z,56nm,1.2s
KBL Kabul 87.71 305 P **P** **22 31 43.7 -1.3**
KBL IAmb IAmb 22 31 47.6
comp=Z,56nm,1.1s
BRZS Berezniki 88.00 321 ⇑*e* P **P** **22 31 45.3 -0.5**
comp=Z,26nm,1.1s,baz=321
BRZS Berezniki 88.00 321 ⇑*e* P **P** **22 31 45.3 -0.5**
BRZS pmax pmax
comp=Z,26nm,1.1s
KK31 Karatay Array 88.08 314 P **P** **22 31 46.6 +0.2**
KK31 pmax pmax
comp=Z,225nm,1.1s
KK31 Karatay Array 88.08 314 P **P** **22 31 46.5 +0.2**
KKAR Karatay Array 88.08 314 P **P** **22 31 46.3 -0.1**
KKAR pmax pmax
comp=Z,225nm,1.1s
KKAR Karatay Array 88.08 314 P **P** **22 31 46.3 -0.1**
KKAR Karatay Array 88.08 314 P **P** **22 31 46.4 +0.1**
KKAR IAmb IAmb 22 31 48.2
comp=Z,224nm,1.1s
IUG luzhnay 88.26 313 *e* P **P** **22 31 48.1 +0.7**
comp=Z,110nm,1.3s,baz=312
IUG *eS* S 22 42 15.0 -15
baz=312
IUG luzhnay 88.26 313 *e* P **P** **22 31 48.0 +0.7**
IUG *eS* S 22 42 15.0 -15
IUG pmax pmax
comp=Z,110nm,1.3s
BRLS Borolday 88.56 313 ⇑*i* P **P** **22 31 49.2 +0.6**
comp=Z,46nm,1.2s,baz=313
BRLS Borolday 88.56 313 *c i* P **P** **22 31 49.2 +0.6**
BRLS pmax pmax
comp=Z,46nm,1.2s
TAS Tashkent 88.65 312 P **P** **22 31 49.5 +0.4**
TAS pmax pmax
comp=Z,148nm,1.2s
TAS Tashkent 88.65 312 P **P** **22 31 49.5 +0.4**
BBB Bella Bella 89.11 37 P **P** **22 31 51.3 +0.4**
comp=Z,7.6nm,1.0s,baz=322,slow=2.8,SNR=3.3
BBB LR LR 23 04 50.3
comp=Z,445nm,21.5s,baz=236,slow=31
BBB Bella Bella 89.11 37 P **P** **22 31 51.5 +0.6**
BBB IAmb IAmb 22 32 03.3
comp=Z,64nm,1.4s
DLBC Dease Lake 89.41 31 P **P** **22 31 52.5 +0.2**
comp=Z,28nm,1.2s,baz=258,slow=3.9,SNR=32
DLBC Dease Lake 89.41 31 P **P** **22 31 53.5 +1.1**
BVAR Borovoye Array 90.02 323 P **P** **22 31 54.0 -1.2**
comp=Z,31nm,1.0s,baz=226,slow=32,SNR=55
KCPM Cahto Peak 90.04 50 IAMs_20 IAMs_20 23 03 52.5
comp=Z,2µm,22.0s
KRMB Red Mountain 90.07 48 IAMs_20 IAMs_20 23 04 00.1
comp=Z,2µm,22.0s
BRVK Borovoye 90.09 323 P **P** **22 31 54.7 -0.8**
BRVK pmax pmax
comp=Z,88nm,1.2s
BRVK Borovoye 90.09 323 P **P** **22 31 54.7 -0.8**
BRVK IAmb IAmb 22 31 56.3
comp=Z,88nm,1.1s
KHMM Horse Mountain 90.11 49 P **P** **22 31 56.5 +0.5**
KHMM IAMs_20 IAMs_20 23 05 46.1
comp=Z,1µm,21.0s
J01E Myrtle Point 90.30 47 P 22 31 58.1
baz=261
HOPS Hopland Field 90.33 51 IAMs_20 IAMs_20 23 03 38.3
comp=Z,2µm,22.0s
MCCM Marconi Confer 90.36 52 IAMs_20 IAMs_20 23 04 43.2
comp=Z,2µm,21.0s
L02E Cave Junction 90.39 48 P 22 31 58.6
baz=262
K02D Willamette Mer 90.42 47 P 22 31 58.6
baz=262,SNR=6.9
INK Inuvik 90.45 21 P **P** **22 31 56.8 -0.1**
comp=Z,69nm,1.1s,baz=240,slow=5.6,SNR=61
INK PKKPbc **PKKPdf** **22 49 24.6 +0.7**
comp=Z,8.5nm,1.0s,baz=91,slow=3.7,SNR=7.2
INK Inuvik 90.45 21 P **P** **22 31 57.1 +0.3**
INK pmax pmax
comp=Z,156nm,1.2s
INK MLR MLR
comp=Z,2µm,22.0s
INK Inuvik 90.45 21 P **P** **22 31 57.1 +0.3**
INK IAmb IAmb 22 32 07.2
comp=Z,156nm,1.2s
INK IAMs_20 IAMs_20 23 07 59.3
comp=Z,2µm,22.0s
I02D Swisshome 90.50 46 P 22 31 59.2
baz=261,SNR=5.3
GDXM Geysers 90.52 51 IAMs_20 IAMs_20 23 03 55.3
comp=Z,2µm,21.0s
O02D Mt. Diablo Mer 90.72 50 P 22 32 00.2
baz=262,SNR=7.6
I03D Drain, OR 90.80 46 P 22 32 00.5
baz=262,SNR=8.1
M02C Callahan 90.83 49 P 22 32 01.0
baz=262,SNR=8.8
N02D Trinity Center 90.89 49 P 22 32 01.1
baz=262,SNR=7.0
HUMO Hull Mountain 90.93 47 P **P** **22 32 00.1 +0.4**
HUMO IAmb IAmb 22 32 11.3
comp=Z,55nm,1.2s
COR Corvallis 90.96 45 P **P** **22 32 00.4 +0.7**
COR pmax pmax
comp=Z,96nm,1.5s
COR MLR MLR
comp=Z,2µm,20.0s
COR Corvallis 90.96 45 P **P** **22 32 00.4 +0.7**
COR IAmb IAmb 22 32 13.1
comp=Z,96nm,1.4s
COR Corvallis 90.96 45 IAMs_20 IAMs_20 23 06 27.8
comp=Z,2µm,20.0s
WDC Whiskeytown Da 90.96 49 P **P** **22 32 01.0 +1.1**
WDC pmax pmax
comp=Z,35nm,1.4s
WDC MLR MLR
comp=Z,1µm,22.0s
WDC Whiskeytown Da 90.96 49 P **P** **22 32 01.0 +1.1**
WDC IAMs_20 IAMs_20 23 04 23.7
comp=Z,1µm,22.0s
NLWA Neilton Lookou 90.97 43 P **P** **22 32 00.5 +0.6**
NLWA IAmb IAmb 22 32 11.0
comp=Z,61nm,1.4s
NLWA IAMs_20 IAMs_20 23 05 38.6
comp=Z,1µm,21.0s
YBH Yreka Blue Hor 90.99 48 LR LR 23 05 15.3
comp=Z,1µm,21.9s,baz=271,slow=30
YBH Yreka Blue Hor 90.99 48 P **P** **22 32 00.6 +0.5**
YBH pmax pmax
comp=Z,46nm,1.4s
YBH MLR MLR
comp=Z,2µm,22.0s
YBH Yreka Blue Hor 90.99 48 P **P** **22 32 00.6 +0.5**
YBH IAMs_20 IAMs_20 23 04 31.4
comp=Z,2µm,22.0s
E03A Lebam 91.06 43 IAMs_20 IAMs_20 23 04 34.8
comp=Z,2µm,22.0s
G03D McMinnville, O 91.07 45 P 22 32 01.5
baz=262
H04D Lebanon 91.35 46 P 22 32 02.6
baz=262,SNR=11
L04D Klamath Falls 91.35 48 P 22 32 02.9
baz=262,SNR=9.8
O03E Paynes Creek 91.48 50 P 22 32 03.3
baz=263,SNR=14
I04A Tendick Farm, 91.48 46 P 22 32 03.0
baz=262,SNR=14
D03D Eldon 91.52 42 P 22 32 03.3
baz=262
ORV Oroville 91.62 51 P **P** **22 32 03.2 +0.2**
ORV pmax pmax
comp=Z,37nm,1.3s
ORV MLR MLR
comp=Z,1µm,22.0s
ORV Oroville 91.62 51 P **P** **22 32 03.2 +0.2**
ORV IAMs_20 IAMs_20 23 04 30.3
comp=Z,1µm,22.0s
J04D Umpqua Nationa 91.63 47 P 22 32 04.3
baz=263,SNR=15
M04C Macdoel 91.64 48 P 22 32 04.4
baz=263,SNR=16
SYO Syowa Base 91.68 200 ⇑*i* P **P** **22 32 02.2 -0.4**
SYO Syowa Base 91.68 200 ⇑*i* PcP **PcP** **22 32 04.0 +0.5**
SYO Syowa Base 91.68 200 ‖*e* pP pP 22 32 09.6 -1.9
SYO Syowa Base 91.68 200 ⇑*e* PP PP 22 35 42.6 +1.6
E04D Cinebar 91.74 44 P 22 32 05.0
baz=262
H04A Detroit Lake 91.76 45 IAMs_20 IAMs_20 23 04 44.6
comp=Z,1µm,22.0s
PMPB Monarch Peak 91.77 54 P **P** **22 32 05.0 +1.2**
PMPB IAmb IAmb 22 32 16.8
comp=Z,115nm,1.5s
K04D Chiloquin, OR 91.81 47 P 22 32 05.0
baz=263
AFDM Forest Hills D 91.95 51 IAMs_20 IAMs_20 23 04 39.2
comp=Z,1µm,22.0s
J05D Fort Rock, OR 92.27 47 P 22 32 07.4
baz=263,SNR=42
LON Longmire 92.28 43 P **P** **22 32 05.9 0.0**
LON pmax pmax
comp=Z,15nm,1.4s
LON MLR MLR
comp=Z,2µm,22.0s
LON Longmire 92.28 43 P **P** **22 32 05.9 0.0**
LON IAMs_20 IAMs_20 23 05 47.2
comp=Z,2µm,22.0s
CMB Columbia Colle 92.30 52 IAMs_20 IAMs_20 23 06 17.5
comp=Z,1µm,21.0s
SMMC Simmler 92.31 55 P 22 32 08.8
baz=264,SNR=8.3

I05D	Terrebonne, OR	92.32	46		P		22 32 07.2	
	baz=263,SNR=11							
PKM	Mcpherson Peak	92.42	55		P		22 32 09.0	
	baz=264,SNR=20							
F05D	White Salmon	92.42	44		P		22 32 07.7	
	baz=263							
G05D	Wamic, OR	92.44	45		P		22 32 07.6	
	baz=263,SNR=7.4							
K05A	Summer Lake	92.45	47		IAMs_20	IAMs_20	23 07 28.1	
	comp=Z,2µm,20.0s							
SCZ2	Santa Cruz Isl	92.47	56		P		22 32 08.8	
	baz=264							
SNCC	San Nicolas Is	92.48	57		P		22 32 09.3	
	baz=264,SNR=6.2							
SNCC	San Nicolas Is	92.48	57		P	P	22 32 08.2	+1.1
BEKR	Beckworth	92.53	50		P	P	22 32 08.0	+0.6
BEKR					IAmb	IAmb	22 32 09.8	
	comp=Z,47nm,1.2s							
BEKR					IAMs_20	IAMs_20	23 04 59.4	
	comp=Z,2µm,22.0s							
PINE	Pine Mountain	92.54	46		P	P	22 32 08.3	+0.9
PINE					IAmb	IAmb	22 32 10.1	
	comp=Z,64nm,1.2s							
PINE					IAMs_20	IAMs_20	23 05 55.3	
	comp=Z,1µm,21.0s							
RUBR	Rubicon Trail	92.60	51		P	P	22 32 08.2	+0.4
RUBR					IAmb	IAmb	22 32 20.0	
	comp=Z,91nm,1.3s							
RUBR					IAMs_20	IAMs_20	23 04 48.2	
	comp=Z,2µm,22.0s							
MOD	Modoc Plateau	92.80	48		IAMs_20	IAMs_20	23 05 28.2	
	comp=Z,2µm,22.0s							
VCNR	Virginia City	93.01	51		IAMs_20	IAMs_20	23 05 24.2	
	comp=Z,1µm,22.0s							
PNTR	Pine Nut	93.03	51		IAMs_20	IAMs_20	23 06 41.7	
	comp=Z,1µm,22.0s							
WAKR	Walker	93.10	52		IAMs_20	IAMs_20	23 06 41.5	
	comp=Z,1µm,21.0s							
VES	Vestal, Richgr	93.11	54		P		22 32 11.1	
	baz=264,SNR=6.8							
LTY	Liberty	93.11	43		IAMs_20	IAMs_20	23 07 08.3	
	comp=Z,1µm,22.0s							
PAHR	Pah Rah Range	93.26	51		IAMs_20	IAMs_20	23 05 31.7	
	comp=Z,2µm,22.0s							
HRA	Herat	93.26	304		P	P	22 32 09.9	-1.1
HRA					IAmb	IAmb	22 32 20.3	
	comp=Z,96nm,1.1s							
SCI2	San Clemente I	93.27	57		P		22 32 13.4	
	baz=264							
OSI	Osito Audit: C	93.28	56		IAMs_20	IAMs_20	23 08 20.6	
	comp=Z,1µm,20.0s							
MDPB	Devils Postpil	93.29	53		IAMs_20	IAMs_20	23 06 26.7	
	comp=Z,1µm,22.0s							
YERR	Yerington	93.30	51		IAMs_20	IAMs_20	23 05 09.8	
	comp=Z,1µm,22.0s							
CIS	Catalina Islan	93.42	57		P		22 32 13.4	
	baz=264,SNR=8.9							
MLAC	Mammoth, Mammo	93.48	53		P		22 32 14.0	
	baz=264							
DECC	Green Verdugo	93.56	56		P		22 32 14.3	
	baz=265							
ISA	Isabella, Lake	93.58	55		P	P	22 32 13.4	+1.2
ISA					pmax	pmax		
	comp=Z,36nm,1.3s							
ISA					MLR	MLR		
	comp=Z,700nm,19.0s							
ISA	Isabella, Lake	93.58	55		P	P	22 32 13.4	+1.2
ISA	Isabella, Lake	93.58	55		P		22 32 13.8	
	baz=265,SNR=14							
E07A	Sunnyside	93.60	44		IAMs_20	IAMs_20	23 07 01.1	
	comp=Z,2µm,20.0s							
I07A	Izee	93.60	46		IAMs_20	IAMs_20	23 07 14.4	
	comp=Z,1µm,19.0s							
LHV	Little Huntoon	93.80	52		IAMs_20	IAMs_20	23 08 29.2	
	comp=Z,1µm,21.0s							
RYN	Ryan	93.82	52		IAMs_20	IAMs_20	23 07 48.7	
	comp=Z,1µm,20.0s							
EDW2	Edwards Air Fo	93.90	55		P		22 32 15.6	
	baz=265,SNR=25							
TIN	Tinemaha, Big	93.91	53		P		22 32 15.9	
	baz=265,SNR=6.1							
CWC	Cottonwood Cre	93.97	54		P		22 32 15.9	
	baz=265							
NVAR	Mina Array Bea	93.97	52		P	P	22 32 14.8	+0.6
	comp=Z,36nm,1.0s,baz=255,slow=5.8,SNR=98							
NVAR					PP	PP	22 36 06.2	+5.7
	comp=Z,1.3nm,0.8s,baz=260,slow=5.2,SNR=4.5							
NVAR					PKPPKP		22 57 32.1	
	comp=Z,0.4nm,0.9s,baz=126,slow=2.6,SNR=3.6							
NVAR					LR	LR	23 08 29.5	
	comp=Z,1µm,21.0s,baz=268,slow=32							
NVAR	Mina Array Bea	93.97	52		P	P	22 32 15.1	+0.9
C36M	Paulatuk	94.03	21		P		22 32 13.8	
	baz=262							
C36M	Paulatuk	94.03	21		P	P	22 32 13.4	0.0
C36M					IAmb	IAmb	22 32 23.3	
	comp=Z,94nm,1.1s							
C36M					IAMs_20	IAMs_20	23 11 28.7	
	comp=Z,1µm,21.0s							
WVOR	Wild Horse Val	94.08	48		P	P	22 32 15.6	+1.2
WVOR					pmax	pmax		
	comp=Z,45nm,1.9s							
WVOR	Wild Horse Val	94.08	48		IAMs_20	IAMs_20	23 07 28.2	
	comp=Z,2µm,20.0s							
NV11	Mina Array Sit	94.09	52		P	P	22 32 15.5	+0.9
NV11					IAmb	IAmb	22 32 26.0	
	comp=Z,98nm,1.4s							
NV11					IAMs_20	IAMs_20	23 05 45.9	
	comp=Z,1µm,21.0s							
B08A	Colville Reser	94.12	42		P	P	22 32 14.4	+0.1
B08A					IAMs_20	IAMs_20	23 09 29.8	
	comp=Z,938nm,19.0s							
BFSC	Mount Baldy Ra	94.12	56		P		22 32 16.2	
	baz=265,SNR=11							
KVN	Kaiserville	94.19	51		IAMs_20	IAMs_20	23 07 29.3	
	comp=Z,1µm,22.0s							
LRMC	Laurel Mtn Rad	94.21	55		P		22 32 17.3	
	baz=265,SNR=43							
J08A	Circle Bar Ran	94.28	47		IAMs_20	IAMs_20	23 05 31.4	
	comp=Z,1µm,22.0s							
D08A	Wollman Farm,	94.28	43		IAMs_20	IAMs_20	23 07 23.2	
	comp=Z,1µm,21.0s							
MPMC	Manual Prospec	94.42	54		P		22 32 17.9	
	baz=265,SNR=36							
MURC	Murrieta	94.45	57		P		22 32 18.0	
	baz=265							
109C	Camp Elliot, M	94.46	58		P	P	22 32 17.4	+1.2
109C					IAmb	IAmb	22 32 19.7	
	comp=Z,47nm,1.1s							
109C	Camp Elliot, M	94.46	58		P		22 32 18.8	
	baz=265,SNR=5.1							
GRAC	Grapevine Rang	94.59	53		P		22 32 18.6	
	baz=265,SNR=16							
C09A	Chrisman Ranch	94.78	43		IAMs_20	IAMs_20	23 07 36.3	
	comp=Z,1µm,21.0s							
GSC	Goldstone, Bar	94.91	55		IAMs_20	IAMs_20	23 09 10.8	
	comp=Z,1µm,21.0s							
GSC	Goldstone, Bar	94.91	55		P		22 32 19.9	
	baz=266,SNR=14							
FURC	Furnace Creek,	94.95	54		P		22 32 20.2	
	baz=266,SNR=16							
MONP2	Monument Peak	95.04	58		P		22 32 21.4	
	baz=266,SNR=25							
PFO	Pinyon Flats O	95.06	57		P	P	22 32 20.3	+1.2
PFO					pmax	pmax		
	comp=Z,34nm,1.3s							
PFO	Pinyon Flats O	95.06	57		P	P	22 32 20.3	+1.2
PFO	Pinyon Flats O	95.06	57		P		22 32 21.0	
	baz=266,SNR=13							
XPFO	Pion Flat	95.06	57		P	P	22 32 20.2	+1.1
BMO	Blue Mountains	95.23	46		P	P	22 32 19.8	+0.2
BMO					pmax	pmax		
	comp=Z,55nm,1.5s							
BMO					MLR	MLR		
	comp=Z,1µm,21.0s							
BMO	Blue Mountains	95.23	46		P	P	22 32 19.8	+0.2
BMO					IAmb	IAmb	22 32 31.1	
	comp=Z,55nm,1.5s							
BMO					IAMs_20	IAMs_20	23 07 51.6	
	comp=Z,1µm,21.0s							
HEC	Hector,Ludlow	95.26	56		P		22 32 21.5	
	baz=266,SNR=7.9							
IKP	In-Ko-Pah, Jac	95.28	58		P		22 32 22.5	
	baz=266,SNR=10							
F10A	Beach Ranch, E	95.37	44		IAMs_20	IAMs_20	23 07 54.0	
	comp=Z,1µm,20.0s							
SHOC	Shoshone, Teco	95.39	55		P		22 32 22.4	
	baz=266,SNR=7.6							
BELC	Belle Mtn. Jos	95.47	57		P		22 32 22.8	
	baz=266,SNR=21							
TPNV	Topopah Spring	95.48	54		P		22 32 22.5	
	baz=266,SNR=32							
SWSC	Sam W. Stewart	95.56	58		P		22 32 23.8	
	baz=266,SNR=9.1							
NEW	Newport	95.58	42		P	P	22 32 21.0	0.0
	comp=Z,7.4nm,1.1s,baz=265,slow=2.8,SNR=13							
NEW					PP	PP	22 36 13.6	+1.1
	comp=Z,5.7nm,1.2s,baz=264,slow=7.5,SNR=4.3							
NEW					LR	LR	23 08 45.0	
	comp=Z,1µm,21.8s,baz=244,slow=31							
NEW	Newport	95.58	42		P	P	22 32 21.1	0.0
NEW					pmax	pmax		
	comp=Z,30nm,1.2s							
NEW					MLR	MLR		
	comp=Z,1µm,21.0s							
NEW	Newport	95.58	42		P	P	22 32 21.1	+0.1
NEW	Newport	95.58	42		IAMs_20	IAMs_20	23 08 22.5	
	comp=Z,1µm,21.0s							
NEW	Newport	95.58	42		P		22 32 21.8	
	baz=266							
BELA	Belgrano 2	95.62	179		P	P	22 32 19.7	-1.0
BELA					IAmb	IAmb	22 32 21.5	
	comp=Z,56nm,1.0s							
GMRC	Granite Mounta	95.81	56		P		22 32 24.3	
	baz=266,SNR=13							
BC3	Big Chuckawall	95.90	57		P		22 32 25.2	
	baz=266,SNR=18							
SVE	Sverdlovsk	96.06	326	*de*	P	P	22 32 21.9	-1.0
SVE					pmax	pmax		
	comp=Z,52nm,1.4s							
SVE					MLR	MLR		
	comp=Z,2µm,21.0s							
R11A	Troy Canyon, C	96.10	52		IAMs_20	IAMs_20	23 09 12.5	
	comp=Z,1µm,20.0s							
R11A	Troy Canyon, C	96.10	52		P		22 32 25.6	
	baz=266,SNR=31							
ABKAR	Akbulak array	96.11	319		P	P	22 32 22.0	-1.3
ABKAR	Akbulak array	96.11	319		P	P	22 32 21.6	-1.7
IRM	Iron Mountain	96.19	56		P		22 32 26.0	
	baz=266,SNR=16							
MFID	Camas Ranch	96.21	47		IAMs_20	IAMs_20	23 08 59.5	
	comp=Z,1µm,21.0s							
SHPR	Sheep Range	96.33	54		P	P	22 32 25.6	+0.7
SHPR					IAmb	IAmb	22 32 28.3	
	comp=Z,56nm,1.4s							
GLA	Glamis	96.39	58		P		22 32 28.0	
	baz=266,SNR=6.5							
ELK	Elko	96.50	50		PKPPKP		22 57 22.9	
	comp=Z,0.3nm,0.4s,baz=197,slow=4.6,SNR=3.9							
ELK					LR	LR	23 08 55.3	
	comp=Z,908nm,21.8s,baz=279,slow=31							
ELK	Elko	96.50	50		IAMs_20	IAMs_20	23 07 48.5	
	comp=Z,1µm,22.0s							
GEYT	Alibeck	96.86	307		P	P	22 32 26.4	-0.7
	comp=Z,25nm,1.1s,baz=177,slow=3.0,SNR=29							
GEYT					LR	LR	23 18 01.6	
	comp=Z,540nm,20.2s,baz=90,slow=37							
GEYT	Alibeck	96.86	307		P	P	22 32 26.1	-1.0
GEYT					IAmb	IAmb	22 32 37.0	
	comp=Z,42nm,1.1s							
GYA0B	ALIBECK ARRAY	96.86	307		P	P	22 32 26.4	-0.7
GYA0B					IAmb	IAmb	22 32 37.0	
	comp=Z,81nm,1.2s							
PDMCI	Parker Dam,Lak	97.03	56		P		22 32 30.4	
	baz=267							
SPR3	Spring Creek 3	97.11	52		IAMs_20	IAMs_20	23 10 37.8	
	comp=Z,1µm,21.0s							
ARU	Arti	97.19	326		PKKPbc	PKKPbc	22 49 06.9	-2.8
	comp=Z,1.2nm,0.6s,baz=234,slow=6.1,SNR=5.4							
ARU					PKPPKP		22 57 21.6	
	comp=Z,0.3nm,0.3s,baz=262,slow=0.9,SNR=5.1							
ARU	Arti	97.19	326	*ce*	P	P	22 32 26.9	-1.2
ARU					pmax	pmax		
	comp=Z,47nm,1.7s							
ARU	Arti	97.19	326		P	P	22 32 26.2	-1.8
ARU					IAmb	IAmb	22 32 27.8	
	comp=Z,35nm,1.0s							
HLID	Hailey	97.24	47		P		22 32 29.7	
	baz=268,SNR=11							
HLID	Hailey	97.24	47		IAMs_20	IAMs_20	23 08 48.3	
	comp=Z,1µm,20.0s							
AKTO	Aktyubinsk	97.39	320		P	P	22 32 27.8	-1.4
	comp=Z,19nm,1.2s,baz=85,slow=5.6,SNR=13							
AKTO					PKKPbc	PKKPbc	22 49 06.6	-2.3
	comp=Z,1.8nm,0.9s,baz=271,slow=4.5,SNR=3.6							
SOHO	SOHO	97.40	293	*i*	P	P	22 32 29.1	-0.7
	SNR=8.2							
YKA	Yellowknife Ar	97.45	28		P	P	22 32 28.9	-0.2
	comp=Z,5.2nm,0.8s,baz=270,slow=4.1,SNR=60							
YKA					PP	PP	22 36 26.1	-0.3
	comp=Z,1.6nm,1.0s,baz=264,slow=6.8,SNR=4.1							
YKA					PKKPbc	PKKPbc	22 49 05.9	-3.3
	comp=Z,4.6nm,0.9s,baz=91,slow=3.5,SNR=35							
YKA					PKPPKP		22 57 18.8	
	comp=Z,0.1nm,0.5s,baz=60,slow=1.5,SNR=5.7							
YKA					LR	LR	23 10 52.6	
	comp=Z,1µm,21.7s,baz=0.0,slow=32							
MSO	Missoula	97.68	44		IAMs_20	IAMs_20	23 10 20.5	
	comp=Z,1µm,21.0s							
BANOM	Banah	97.73	295	*i*	P	P	22 32 31.1	-0.2
	SNR=6.6							
WALA	Waterton Lakes	97.74	41		P	P	22 32 30.9	-0.1
WALA					IAmb	IAmb	22 32 44.8	
	comp=Z,27nm,1.1s							
UOSS	Minazif	97.75	294		P	P	22 32 29.8	-1.6
UOSS	Minazif	97.75	294		P	P	22 32 29.5	-1.9
HATD	Hatta, Dubai	97.81	294	*i*	P	P	22 32 30.9	-0.7
	SNR=5.9							
SHAO	Shalim	97.81	287		P	P	22 32 30.4	-1.4
MSFE	Esma-Masafi	97.82	295	*i*	P	P	22 32 31.0	-0.7
	SNR=7.6							
ASHO	Ashiyiah	97.87	294	*i*	P	P	22 32 31.3	-0.7
	SNR=6.5							
SHME	Shamm	97.88	295		P	P	22 32 31.2	-0.7
ALNE	Al Ain	98.11	293		P	P	22 32 32.7	-0.3
FAQ	Al Faqa, Dubai	98.30	294		P	P	22 32 32.5	-1.3
DUG	Dugway, Tooele	98.33	50		P	Pdif	22 32 35.0	+1.2
DUG					pmax	pmax		
	comp=Z,11nm,1.3s							
DUG	Dugway, Tooele	98.33	50		IAMs_20	IAMs_20	23 08 56.4	
	comp=Z,977nm,22.0s							
DUG	Dugway, Tooele	98.33	50		P		22 32 35.1	
	baz=268,SNR=5.4							
NVL	N'lazarevskaya	98.33	192⇑	*i*	P	P	22 32 31.1	-1.9
NVL					pmax	pmax		
	comp=Z,48nm,1.2s							
ASUD	Al Ashush, Dub	98.53	294		P	P	22 32 33.7	-1.2
DLMT	Dillon	98.59	45		IAMs_20	IAMs_20	23 09 49.7	
	comp=Z,1µm,22.0s							
BOZ	Bozeman (W)	99.27	45		P	Pdif	22 32 37.8	-0.1
BOZ					pmax	pmax		
	comp=Z,11nm,1.2s							
BOZ					MLR	MLR		
	comp=Z,2µm,21.0s							
BOZ	Bozeman (W)	99.27	45		P	Pdif	22 32 37.8	-0.1
BOZ	Bozeman (W)	99.27	45		P		22 32 38.9	
	baz=270,SNR=8.1							
WUAZ	Wupatki	99.35	55		P		22 32 41.0	
	baz=269							
AHID	Auburn Hatcher	99.65	48		IAMs_20	IAMs_20	23 11 29.1	
	comp=Z,1µm,19.0s							
TUC	Tucson	99.76	58		P	Pdif	22 32 43.7	+3.4
TUC	Tucson	99.76	58		P		22 32 43.5	
	baz=268							
FLWY	Flagg Ranch	99.94	46		IAMs_20	IAMs_20	23 12 02.6	
	comp=Z,1µm,21.0s							
H17A	Grant Village	100.02	46		P		22 32 44.0	
	baz=271,SNR=6.5							
EGMT	Eagleton	100.51	42		P		22 32 44.1	
	baz=272,SNR=5.6							
BW06	Boulder Array	100.79	48		IAMs_20	IAMs_20	23 10 17.2	
	comp=Z,1µm,22.0s							
BW06	Boulder Array	100.79	48		P		22 32 45.0	
	baz=271							
PDAR	Pinedale Array	100.79	48		P	Pdif	22 32 44.5	-0.3
	comp=Z,4.4nm,0.9s,baz=252,slow=3.0,SNR=18							
PDAR					PP	PP	22 36 52.8	0.0
	comp=Z,1.1nm,1.0s,baz=234,slow=5.0,SNR=4.1							
PDAR					PKKPbc	PKKPbc	22 48 57.5	-1.9
	comp=Z,0.5nm,0.5s,baz=86,slow=4.8,SNR=5.2							
RLMT	Red Lodge	100.94	45		P		22 32 47.1	
	baz=272							
PV17	East Wray Mesa	101.31	52		IAMs_20	IAMs_20	23 20 27.3	
	comp=Z,1µm,19.0s							
PV11	David Mesa, Pa	101.38	52		IAMs_20	IAMs_20	23 07 58.1	
	comp=Z,1µm,21.0s							
VNA3	Neumayer Olymp	101.38	186		Pdiff	Pdif	22 32 45.5	-1.1
VNA2	Neumayer--Watz	101.43	187		Pdiff	Pdif	22 32 46.4	-0.4
	baz=158,slow=4.4							
PV22	Blue Mesa, Par	101.44	52		IAMs_20	IAMs_20	23 10 04.8	
	comp=Z,1µm,22.0s							
PV15	Paradox Valley	101.68	52		IAMs_20	IAMs_20	23 10 30.3	
	comp=Z,1µm,21.0s							
MVCO	Mesa Verde	101.68	53		P		22 32 51.0	
	baz=271							
VNA1	Neumayer--Stat	101.79	187		Pdiff	Pdif	22 32 47.7	-0.6
O20A	White River Ci	101.83	50		P		22 32 50.8	
	baz=271							
KIRV	Kirov	102.00	328		P	Pdif	22 32 48.0	-1.4
	comp=Z,11nm,0.5s,baz=69,slow=8.9,SNR=7.1							
121A	Cookes Peak, D	102.30	58		P		22 32 54.7	
	baz=270							
RES	Resolute Bay	102.35	14		P	Pdif	22 32 50.0	-0.7
	comp=Z,9.4nm,1.3s,baz=271,slow=1.2,SNR=10							
RES					PKiKP	PKiKP	22 37 11.3	-0.9
	comp=Z,2.4nm,0.8s,baz=272,slow=3.3,SNR=6.7							
RES	Resolute Bay	102.35	14		P	Pdif	22 32 51.6	+0.9
RES					pmax	pmax		
	comp=Z,16nm,1.3s							
SMCO	Snowmass	102.84	51		IAMs_20	IAMs_20	23 11 45.3	
	comp=Z,931nm,21.0s							
LAO	LASA Array	102.98	44		IAMs_20	IAMs_20	23 13 27.9	
	comp=Z,1µm,21.0s							
LAO	LASA Array	102.98	44		P		22 32 54.8	
	baz=274							
S22A	4UR Ranch, Cre	103.00	53		P		22 32 57.1	
	baz=272							
K22A	Casper	103.03	48		P		22 32 55.5	
	baz=273							
ANMO	Albuquerque	103.38	56		P	Pdif	22 32 59.0	+2.5
ANMO					pmax	pmax		
	comp=Z,3.0nm,1.9s							
ANMO	Albuquerque	103.38	56		P		22 32 58.9	
	baz=271							
EPT	El Paso	103.39	59		IAMs_20	IAMs_20	23 19 34.4	
	comp=Z,753nm,19.0s							
N23A	Red Feather La	103.55	50		P		22 32 58.8	
	baz=273							
ISCO	Idaho Springs	103.86	51		IAMs_20	IAMs_20	23 11 07.9	
	comp=Z,1µm,22.0s							
ISCO	Idaho Springs	103.86	51		P		22 33 00.3	
	baz=273							
SDCO	Great Sand Dun	104.05	53		IAMs_20	IAMs_20	23 15 44.9	
	comp=Z,979nm,20.0s							
SDCO	Great Sand Dun	104.05	53		P		22 33 01.4	
	baz=273							
DGMT	Dagmar	104.19	42		IAMs_20	IAMs_20	23 13 45.0	
	comp=Z,874nm,21.0s							
MNTX	Cornudas Mount	104.34	59		IAMs_20	IAMs_20	23 12 26.2	
	comp=Z,797nm,20.0s							
FFC	Flin Flon	104.70	35		IAMs_20	IAMs_20	23 16 16.5	
	comp=Z,764nm,19.0s							
RSSD	Black Hills	104.73	46		P	Pdif	22 33 03.5	+1.2
RSSD					pmax	pmax		
	comp=Z,8.0nm,1.3s							
RSSD	Black Hills	104.73	46		IAMs_20	IAMs_20	23 13 20.3	
	comp=Z,1µm,21.0s							
RSSD	Black Hills	104.73	46		P		22 33 03.3	
	baz=275							
MAK	Makhachkala	104.87	313	*i*	P	Pdif	22 32 59.1	-3.5
MAK					pmax	pmax		
	comp=Z,118nm,0.9s							
T25A	Trinidad	104.95	53		P		22 33 06.7	
	baz=273							
TXAR	Lajitas Array	105.88	61		Pdiff	Pdif	22 33 09.1	+1.5
	comp=Z,0.1nm,0.3s,baz=232,slow=32,SNR=2.1							
TXAR					PKiKP	PKiKP	22 37 20.4	+0.2
	comp=Z,2.9nm,1.0s,baz=264,slow=1.3,SNR=11							
TXAR					PKKP	PKKPab	22 48 57.6	-2.0
	comp=Z,3.3nm,0.9s,baz=101,slow=6.5,SNR=15							
TMCR	Tamitsa	106.09	335	*e*	P	Pdif	22 33 06.0	-1.5
TMCR					pmax	pmax		
	comp=Z,34nm,1.1s							
KSCO	Kaye Shedlock'	106.22	51		IAMs_20	IAMs_20	23 14 32.4	
	comp=Z,1µm,22.0s							
KLMR	Klimovskoe	106.44	332	*e*	P	Pdif	22 33 06.7	-2.5
KLMR					pmax	pmax		
	comp=Z,16nm,1.2s							
KLMR	Klimovskoe	106.44	332	*e*	Pdif	Pdif	22 33 06.7	-2.5
KLMR					AMP		22 33 13.1	
	comp=Z,16nm,1.2s							
KLMR				*e*	PKiKP	PKiKP	22 37 18.9	-1.2
KLMR				*e*	PKKPbc	PKKPbc	22 48 39.5	-3.3
KLMR					LR	LR	23 18 22.2	
APA	Apatity	106.61	339⇓	*i*	P	Pdif	22 33 08.6	-1.2
APA					pmax	pmax		
	comp=Z,5.0nm,1.0s							
GNI	Garni	107.20	310		Pdiff	Pdif	22 33 15.5	+2.2
	comp=Z,2.4nm,0.8s,baz=200,slow=19,SNR=2.1							
GNI					PKKP	PKKPdf	22 48 48.9	-4.0
	comp=Z,4.4nm,0.9s,baz=52,slow=5.0,SNR=3.7							
AMTX	Amarillo	107.30	56		IAMs_20	IAMs_20	23 16 54.7	
	comp=Z,764nm,20.0s							
MDND	Maddock	107.32	42		IAMs_20	IAMs_20	23 16 05.9	
	comp=Z,1µm,20.0s							
GOF	Gofitskoye	107.82	315⇑	*e*	P	Pdif	22 33 15.4	-0.3
ARCES	ARCESS Array B	108.23	343		PKiKP	PKiKP	22 37 22.8	-0.5
	comp=Z,3.7nm,0.9s,baz=349,slow=2.5,SNR=6.0							
SUSD	Miller	108.31	45		IAMs_20	IAMs_20	23 16 11.0	
	comp=Z,866nm,20.0s							
CBKS	Cedar Bluff	108.49	51		IAMs_20	IAMs_20	23 18 36.8	
	comp=Z,976nm,19.0s							
MOS	Moscow	108.86	327	*e*	P	Pdif	22 33 17.0	-3.1
MOS				*e*			22 37 50.9	
MOS					MLR	MLR		
	comp=Z,1µm,19.0s							
D32A	Dogwood Acres,	109.17	42		IAMs_20	IAMs_20	23 17 43.5	
	comp=Z,1µm,20.0s							
JCT	Junction City	109.18	60		IAMs_20	IAMs_20	23 14 35.3	
	comp=Z,1µm,22.0s							
ULM	Lac du Bonnet	109.25	39		Pdiff	Pdif	22 33 21.7	-0.2
	comp=Z,0.4nm,0.3s,baz=196,slow=18,SNR=2.0							
ULM					PKiKP	PKiKP	22 37 23.3	-2.3
	comp=Z,5.3nm,1.1s,baz=330,slow=2.6,SNR=6.9							
ULM					PKKP	PKKPab	22 48 42.2	-1.8
	comp=Z,8.5nm,1.0s,baz=95,slow=4.4,SNR=12							
ULM	Lac du Bonnet	109.25	39		IAMs_20	IAMs_20	23 14 58.1	
	comp=Z,1µm,22.0s							
R32A	Long Quarter,	109.33	52		IAMs_20	IAMs_20	23 17 00.7	
	comp=Z,831nm,20.0s							
DAG	Danmarks Havn	109.63	358	*i*	P	PKiKP	22 37 24.5	-1.1
	comp=Z,3.3nm,1.1s							
DAG	Danmarks Havn	109.63	358	*i*	P	PKiKP	22 37 24.6	-1.1
DAG					IAmb	IAmb	22 37 27.4	
	comp=Z,3.3nm,1.1s							
WMOK	Wichita Mounta	109.69	56		P		22 37 27.2	
	baz=276,SNR=5.8							
AGMN	Agassiz Nation	109.69	41		IAMs_20	IAMs_20	23 19 38.1	
	comp=Z,906nm,20.0s							
OK032	Salt Plains WL	109.92	53		IAMs_20	IAMs_20	23 17 17.2	
	comp=Z,831nm,20.0s							
N33A	J Bar K, Exete	109.98	49		IAMs_20	IAMs_20	23 16 14.6	
	comp=Z,780nm,20.0s							
ECSD	EROS Data Cent	110.09	46		IAMs_20	IAMs_20	23 19 25.2	
	comp=Z,805nm,19.0s							
ECSD	EROS Data Cent	110.09	46		P		22 37 26.9	
	baz=280							
SOC	Sochi	110.42	314	*i*	PKIKP	PKiKP	22 37 24.6	-3.5
SOC				*e*			22 38 01.1	
SOC				*e*	SS	SS	22 53 22.9	-6.4
SOC				*e*	SSS	SSS	22 57 42.4	
SOC					MLR	MLR		
	comp=Z,755nm,20.0s							
OK025	Westminster Rd	110.77	55		IAMs_20	IAMs_20	23 20 11.9	
	comp=Z,803nm,22.0s							
KSU1	Kansas State U	110.87	51		IAMs_20	IAMs_20	23 18 39.7	
	comp=Z,955nm,21.0s							
735A	Kenedy	111.02	62		IAMs_20	IAMs_20	23 22 35.8	
	comp=Z,1µm,21.0s							
435B	Jarrell	111.06	60		IAMs_20	IAMs_20	23 16 48.7	
	comp=Z,1µm,20.0s							
T35A	Sooner Cattle	111.26	53		IAMs_20	IAMs_20	23 18 12.3	
	comp=Z,942nm,20.0s							
N35A	Tabor	111.31	49		IAMs_20	IAMs_20	23 16 40.3	
	comp=Z,992nm,21.0s							
UPNV	Upernavik	111.70	9	*e*	P	PKiKP	22 37 29.3	-0.4
UPNV					IAmb	IAmb	22 37 31.2	
	comp=Z,9.5nm,0.8s							
F36A	Milaca	111.80	43		IAMs_20	IAMs_20	23 17 05.6	
	comp=Z,1µm,21.0s							
FINES	FINESS Array B	112.21	335		Pdiff	Pdif	22 33 34.5	-0.3

comp=Z,2.0nm,0.7s,baz=46,slow=8.2,SNR=5.9
FINES PKiKP **PKiKP** **22 37 29.6 -1.4**
comp=Z,2.9nm,0.7s,baz=211,slow=13,SNR=5.2
I37A Lemond, Waseca 112.31 45 IAMs_20 IAMs_20 23 18 03.5
comp=Z,1μm,22.0s
EYMN Ely 112.62 41 IAMs_20 IAMs_20 23 18 23.8
comp=Z,898nm,21.0s
N38A Joes South For 113.12 48 IAMs_20 IAMs_20 23 20 11.1
comp=Z,1μm,22.0s
P38A Dawn 113.13 50 IAMs_20 IAMs_20 23 19 00.4
comp=Z,1μm,20.0s
W39A Magazine 113.70 55 P 22 37 34.8
baz=279
SUMG Summit 113.75 3 *i* P **PKiKP** **22 37 34.5 +0.4**
comp=Z,13nm,1.2s
SUMG Summit 113.75 3 *i* PKiKP **PKiKP** **22 37 34.5 +0.4**
SUMG pmax pmax
comp=Z,13nm,1.2s
SUMG Summit 113.75 3 *i* P **PKiKP** **22 37 34.5 +0.4**
SUMG IAmb IAmb 22 37 35.7
comp=Z,13nm,1.2s
MIAR Mount Ida 113.97 55 IAMs_20 IAMs_20 23 23 10.3
comp=Z,959nm,20.0s
MIAR Mount Ida 113.97 55 P 22 37 36.2
baz=279
KMBO Kilima Mbogo 114.20 266 PKP **PKiKP** **22 37 36.5 0.0**
comp=Z,8.0nm,1.0s,baz=290,slow=2.1,SNR=9.9
U40A Yellville 114.25 53 P 22 37 35.2
baz=280,SNR=10
P40A Paris 114.27 50 IAMs_20 IAMs_20 23 20 13.6
comp=Z,1μm,19.0s
L40A Anamosa 114.32 47 IAMs_20 IAMs_20 23 18 46.5
comp=Z,976nm,20.0s
R40A Maddies Statio 114.35 51 IAMs_20 IAMs_20 23 17 53.0
comp=Z,867nm,21.0s
MNK Minsk 114.53 328 *e*PKiKP **PKiKP** **22 37 35.0 -0.6**
MNK Minsk 114.53 328 *i* PKP PKPdf 22 37 35.9 +0.3
comp=E,5.0nm,1.4s
MNK *i* PKP PKPdf 22 37 35.9 +0.3
comp=N,27nm,1.5s
MNK *i* PKP PKPdf 22 37 35.9 +0.3
comp=Z,26nm,1.3s
MNK *i* PP **PP** **22 38 32.0 -0.3**
MNK *i* SKS **SKSdf** **22 44 50.8 +5.6**
MNK *i* PS **PKKPab** **22 48 18.8 -1.8**
MNK *i* SS SS 22 54 39.4 +16
MNK *i* LQ LQ 23 19 13.8
MNK *i* LR LR 23 23 03.4
MNK *i* LRM MLR 23 27 02.5
comp=E,64nm,16.8s
MNK *i* LRM MLR 23 27 32.4
comp=Z,625nm,20.4s
MNK *i* LRM MLR 23 28 18.2
comp=N,357nm,15.9s
X40A Basin Creek Fa 114.58 55 IAMs_20 IAMs_20 23 22 08.7
comp=Z,749nm,20.0s
COWI Conover 114.69 42 IAMs_20 IAMs_20 23 18 33.9
comp=Z,1μm,21.0s
NACGM Naroch 114.93 329 *i* PKP PKPdf 22 37 36.4 +0.1
NACGM *i* PKP PKPdf 22 37 36.4 +0.1
NACGM *i* PKP PKPdf 22 37 36.4 +0.1
NACGM *i* PP PP 22 38 22.0 -13
NACGM *i* PPP PPP 22 40 43.0
NACGM *i* SKS **SKSac** **22 44 21.7 -0.2**
NACGM *i* SKKS SKKSac 22 45 11.1 -23
NACGM *i* SS **SS** **22 54 29.2 +1.0**
NACGM *i* SSS SSS 22 58 07.2
NACGM *i* LQ LQ 23 11 59.3
NACGM *i* LR LR 23 20 11.2
W41B Gary Mavity, V 114.94 54 P 22 37 37.0
baz=280
CCM Cathedral Cave 115.19 51 IAMs_20 IAMs_20 23 18 42.2
comp=Z,806nm,21.0s
CCM Cathedral Cave 115.19 51 P 22 37 37.6
baz=282
AKASG Malin Array Be 115.30 324 PKP **PKiKP** **22 37 36.3 -0.9**
comp=Z,2.9nm,0.6s,baz=58,slow=2.3,SNR=15
AKASG PKKPbc **PKKPbc** **22 48 10.2 -3.3**
comp=Z,0.7nm,0.5s,baz=268,slow=4.3,SNR=6.6
AKBB Malin Array Si 115.30 324*c* *i*PKiKP **PKPdf** **22 37 37.9 +0.7**
L42A Oliver, Polo 115.45 46 **PKiKP** **22 37 36.8 -0.9**
L42A IAMs_20 IAMs_20 23 22 48.8
comp=Z,1μm,21.0s
F42A Maple Grove Fa 115.46 42 IAMs_20 IAMs_20 23 20 16.4
comp=Z,962nm,20.0s
T42A Van Buren 115.52 52 **PKiKP** **22 37 37.7 -0.3**
LCAR Lake Charles 115.66 53 **PKiKP** **22 37 37.7 -0.6**
BRTR Keskin Array B 115.68 311 PKP **PKiKP** **22 37 37.0 -1.5**
comp=Z,2.8nm,1.0s,baz=108,slow=2.9,SNR=6.0
BRTR Keskin Array B 115.68 311 PKiKP **PKiKP** **22 37 37.6 -0.9**
BRTR Keskin Array B 115.68 311 **PKiKP** **22 37 37.6 -0.9**
E43A Lone Tree Farm 116.02 41 IAMs_20 IAMs_20 23 23 40.1
comp=Z,914nm,20.0s
HDIL Hopedale 116.09 48 IAMs_20 IAMs_20 23 21 09.9
comp=Z,1μm,20.0s
P43A Skaggs, Pawnee 116.15 49 IAMs_20 IAMs_20 23 21 45.4
comp=Z,934nm,20.0s
EIL Elat 116.48 300 PKP **PKPdf** **22 37 39.7 -0.4**
comp=Z,9.4nm,0.9s,baz=59,slow=1.7,SNR=8.4
PEBM Pemiscott Bayo 116.67 53 IAMs_20 IAMs_20 23 21 40.8
comp=Z,788nm,20.0s
Q44A Meyer Farm, Va 116.70 50 IAMs_20 IAMs_20 23 21 58.3
comp=Z,909nm,20.0s
SORM Soroca 116.79 321 ⇓P **PKPdf** **22 37 39.6 -0.5**
SORM Soroca 116.79 321 ⇓PKiKP **PKPdf** **22 37 39.6 -0.5**
M44A Midewin, Midew 116.79 47 PKPdf **PKiKP** **22 37 40.6 +0.3**
M44A IAMs_20 IAMs_20 23 20 10.2
comp=Z,864nm,21.0s
S44A Carbondale 116.81 51 IAMs_20 IAMs_20 23 20 07.1
comp=Z,1μm,22.0s
HQIL Hanson Quary C 116.81 46 IAMs_20 IAMs_20 23 23 18.7
comp=Z,826nm,20.0s
SIUC Southern Illin 116.83 51 IAMs_20 IAMs_20 23 20 07.3
comp=Z,1μm,22.0s
LNXT Lenox 116.97 53 IAMs_20 IAMs_20 23 22 00.6
comp=Z,996nm,21.0s
ICESG Greenland Ices 117.10 5 *i* P **PKiKP** **22 37 40.9 +0.3**
ICESG IAmb IAmb 22 37 41.4
comp=Z,13nm,1.0s
HALT Halls 117.13 53 IAMs_20 IAMs_20 23 22 06.9
comp=Z,735nm,20.0s
SUW Suwalki 117.21 329 PKiKP **PKiKP** **22 37 40.8 0.0**
SUW Suwalki 117.21 329 PKPdf **PKiKP** **22 37 40.8 0.0**
Y45A Yeager Farm, C 117.38 55 **PKiKP** **22 37 41.9 +0.2**
OLIL Olney 117.44 50 IAMs_20 IAMs_20 23 22 02.1
comp=Z,1μm,21.0s
SFJD Kangerlussuaq 117.73 10 PKP **PKPdf** **22 37 40.6 -0.8**
comp=Z,16nm,0.9s,baz=190,slow=0.9,SNR=5.4
BOSA Boshof 117.75 233 PKP **PKPdf** **22 37 41.9 -0.9**
comp=Z,7.8nm,0.7s,baz=159,slow=2.1,SNR=16
BOSA Boshof 117.75 233 PKiKP **PKPdf** **22 37 42.3 -0.5**
BOSA Boshof 117.75 233 PKPdf **PKPdf** **22 37 42.3 -0.5**
SFIN Lafayette 117.76 48 IAMs_20 IAMs_20 23 21 38.9
comp=Z,1μm,22.0s
L46A Eue Claire 117.86 46 IAMs_20 IAMs_20 23 27 43.5
comp=Z,681nm,20.0s
P46A Rosedale 117.88 48 IAMs_20 IAMs_20 23 21 54.3
comp=Z,1μm,21.0s
HFS Hagfors 117.91 338 PKP **PKPdf** **22 37 40.8 -1.1**
comp=Z,3.5nm,0.8s,baz=128,slow=13,SNR=4.5
CFR Carcaliu 117.99 318 ⇑P **PKPdf** **22 37 41.9 -0.6**
CFR Carcaliu 117.99 318 ⇑PKiKP **PKPdf** **22 37 41.9 -0.6**
146A Union 118.01 57 IAMs_20 IAMs_20 23 30 03.6
comp=Z,611nm,18.0s
GLMI Grayling 118.11 42 IAMs_20 IAMs_20 23 21 22.6
comp=Z,1μm,21.0s
NB2 NORSAR Subarra 118.19 339 PKPdf **PKPdf** **22 37 41.9 -0.6**
comp=Z,9.1nm,1.0s,baz=44,slow=1.9
NB2 NORSAR Subarra 118.19 339 PKPdf **PKPdf** **22 37 41.9 -0.6**
baz=44,slow=1.9
NOA NORSAR Array B 118.19 339 PKP **PKPdf** **22 37 41.8 -0.6**
comp=Z,8.4nm,1.0s,baz=47,slow=2.0,SNR=10
WVT Waverly 118.28 52 PKiKP **PKPdf** **22 37 42.0 -1.4**
WVT MLR MLR
comp=Z,1μm,20.0s
WVT Waverly 118.28 52 PKPdf **PKPdf** **22 37 42.0 -1.4**
WVT Waverly 118.28 52 IAMs_20 IAMs_20 23 23 49.2
comp=Z,963nm,20.0s
WVT Waverly 118.28 52 P 22 37 43.0
baz=283
HARR Harsova 118.30 318 ⇓P **PKPdf** **22 37 42.5 -0.6**
HARR Harsova 118.30 318 ⇓PKiKP **PKPdf** **22 37 42.5 -0.6**
T47A Sharon Grove 118.64 51 IAMs_20 IAMs_20 23 23 03.6
comp=Z,909nm,21.0s
BIZ Bicaz 118.65 321 ⇓P **PKiKP** **22 37 44.0 +0.2**
LVV L'vov 118.70 324 *e*PKiKP **PKPdf** **22 37 43.3 -0.5**

PLOR Plostina 118.72 319 ⇓P **PKPdf** **22 37 43.9 -0.1**
PLOR Plostina 118.72 319 ⇓PKiKP **PKPdf** **22 37 43.9 -0.1**
BURAR Bucovina Array 118.93 322 ⇑P **PKiKP** **22 37 45.0 +0.6**
BURAR Bucovina Array 118.93 322 ⇑PKiKP **PKiKP** **22 37 45.0 +0.6**
BURAR Bucovina Array 118.93 322 PKPdf **PKiKP** **22 37 44.9 +0.5**
WCI Wyandotte Cave 118.94 50 PKiKP **PKPdf** **22 37 43.8 -0.8**
WCI Wyandotte Cave 118.94 50 PKPdf **PKPdf** **22 37 43.8 -0.8**
WCI Wyandotte Cave 118.94 50 P 22 37 44.2
baz=286
LBTB Lobatse 118.96 237 PKiKP **PKPdf** **22 37 44.9 -0.2**
LBTB Lobatse 118.96 237 **PKPdf** **22 37 44.9 -0.2**
PLCA Paso Flores 118.99 144 PKP **PKPdf** **22 37 44.3 -0.5**
comp=Z,17nm,1.0s,baz=230,slow=2.9,SNR=16
PLCA PKKPbc **PKKPab** **22 48 07.5 +5.0**
comp=Z,9.2nm,1.1s,baz=67,slow=4.1,SNR=4.9
PLCA Paso Flores 118.99 144 PKiKP **PKPdf** **22 37 44.5 -0.3**
PLCA Paso Flores 118.99 144 PKPdf **PKPdf** **22 37 44.5 -0.3**
PETF Flores 119.00 74 **PKPdf** **22 37 44.6 -0.7**
V48A Smith Brothers 119.16 53 IAMs_20 IAMs_20 23 23 37.7
comp=Z,1μm,21.0s
P48A Milroy 119.25 48 **PKPdf** **22 37 44.4 -0.8**
MLR Muntele Rosu 119.31 319 PKP **PKPdf** **22 37 44.2 -1.1**
comp=Z,24nm,1.2s,baz=358,slow=3.2,SNR=6.8
MLR Muntele Rosu 119.31 319 ⇑P **PKiKP** **22 37 45.4 0.0**
MLR Muntele Rosu 119.31 319 PKiKP **PKPdf** **22 37 44.5 -0.8**
MLR Muntele Rosu 119.31 319 PKPdf **PKPdf** **22 37 44.5 -0.8**
CLTN Cedars of Leba 119.46 52 IAMs_20 IAMs_20 23 24 44.6
comp=Z,722nm,20.0s
KWP Kalwaria Pacla 119.55 325 PKiKP **PKPdf** **22 37 45.4 0.0**
KWP Kalwaria Pacla 119.55 325 **PKPdf** **22 37 45.4 0.0**
LRAL Lakeview Retre 119.63 56 P 22 37 45.9
baz=282,SNR=6.4
N49A Columbus Grove 119.71 46 IAMs_20 IAMs_20 23 32 49.5
comp=Z,696nm,20.0s
P49A Miami Univ. Ec 119.75 48 P 22 37 45.8
baz=288
U49A Red Boiling Sp 119.79 52 IAMs_20 IAMs_20 23 23 49.1
comp=Z,716nm,20.0s
O49A Covington 119.83 47 IAMs_20 IAMs_20 23 20 03.8
comp=Z,950nm,22.0s
VOIR 119.92 319 ⇑P **PKPdf** **22 37 45.9 -0.5**
VOIR 119.92 319 ⇑PKiKP **PKPdf** **22 37 45.9 -0.5**
BMR Baia Mare 119.96 322 ⇑P **PKiKP** **22 37 46.5 +0.2**
BMR Baia Mare 119.96 322 ⇑PKiKP **PKiKP** **22 37 46.5 +0.2**
LSZ Lusaka 120.04 248 PKiKP **PKPdf** **22 37 47.1 -0.4**
LSZ Lusaka 120.04 248 **PKPdf** **22 37 47.1 -0.4**
KOLS Kolonicke sedl 120.13 324 *e*PKiKP **PKiKP** **22 37 46.8 +0.2**
KOLS Kolonicke sedl 120.13 324 *e*PKP **PKiKP** **22 37 46.8 +0.2**
ARR Arges 120.21 319 ⇓P **PKiKP** **22 37 47.7 +0.7**
UZH Uzhgorod 120.25 324 *e*PKiKP **PKPdf** **22 37 41.1 -5.7**
UZH *i* 22 37 46.0
COPA Copaceanca 120.31 318 ⇑P **PKiKP** **22 37 47.4 +0.3**
MATQ Matagami 120.38 35 P 22 37 46.2
baz=299
T50A Nancy 120.38 51 **PKPdf** **22 37 46.7 -0.7**
R50A Paris 120.41 49 IAMs_20 IAMs_20 23 24 32.4
comp=Z,866nm,20.0s
FPAL Fort Paine 120.41 54 IAMs_20 IAMs_20 23 23 56.9
comp=Z,787nm,22.0s
250A Grady 120.45 57 **PKPdf** **22 37 47.0 -0.6**
250A IAMs_20 IAMs_20 23 26 58.4
comp=Z,731nm,20.0s
CRVS Cervenica-Dubn 120.61 324 *e*PKiKP **PKiKP** **22 37 48.4 +0.8**
CRVS Cervenica-Dubn 120.61 324 *e*PKP **PKiKP** **22 37 48.4 +0.8**
MBAR Mbarara 120.72 265 PKP **PKPdf** **22 37 48.7 -0.3**
comp=Z,11nm,1.0s,baz=94,slow=6.4,SNR=8.2
MBAR Mbarara 120.72 265*c* *i*PKiKP **PKiKP** **22 37 49.6 +0.6**
MBAR pmax pmax
comp=Z,17nm,1.3s
MBAR Mbarara 120.72 265 **PKPdf** **22 37 48.9 0.0**
ACSO Alum Creek Sta 120.80 47 IAMs_20 IAMs_20 23 28 34.3
comp=Z,738nm,22.0s
ACSO Alum Creek Sta 120.80 47 P 22 37 48.1
baz=289,SNR=5.9
DRGR 120.83 322 ⇓P **PKiKP** **22 37 48.1 -0.1**
DRGR 120.83 322 ⇓PKiKP **PKiKP** **22 37 48.1 -0.1**
I51A Listowel 120.89 42 P 22 37 48.1
baz=293,SNR=7.2
OJC Ojcow 120.91 326 PKiKP **PKPdf** **22 37 47.2 -0.8**
OJC Ojcow 120.91 326 PKPdf **PKPdf** **22 37 47.2 -0.8**
P51A Williamsport 120.99 48 IAMs_20 IAMs_20 23 23 26.4
comp=Z,806nm,22.0s
PLVB Pleven 121.00 317 ⇑P **PKiKP** **22 37 49.1 +0.6**
X51A Calhoun 121.01 54 IAMs_20 IAMs_20 23 24 35.7
comp=Z,922nm,21.0s
NIE Niedzica 121.03 325 PKiKP **PKiKP** **22 37 49.1 +0.7**
CPCT Cooper Cave 121.05 52 IAMs_20 IAMs_20 23 25 56.6
comp=Z,824nm,20.0s
Z51A Franklin 121.06 55 **PKPdf** **22 37 48.2 -0.6**
V51A Loudon 121.09 52 IAMs_20 IAMs_20 23 23 16.6
comp=Z,678nm,20.0s
LSQQ Lebel-sur-Quev 121.09 35 P 22 37 48.0
baz=299
BI02 San Fabin de 121.10 140 PKPdf **PKPdf** **22 37 48.7 -0.3**
DEV Deva 121.10 321 ⇓P **PKiKP** **22 37 49.2 +0.6**
DEV Deva 121.10 321 ⇓PKiKP **PKiKP** **22 37 49.2 +0.6**
S51A Beattyville 121.16 50 **PKPdf** **22 37 48.6 -0.2**
VLDQ Val d'Or 121.27 36 PKPdf **PKPdf** **22 37 47.3 -1.4**
GZR Gura Zlata 121.39 320 ⇑P **PKPdf** **22 37 49.2 0.0**
GZR Gura Zlata 121.39 320 ⇑PKiKP **PKPdf** **22 37 49.2 0.0**
SRE Strehaia 121.42 319 ⇓P **PKPdf** **22 37 49.0 -0.1**
SRE Strehaia 121.42 319 ⇓PKiKP **PKPdf** **22 37 49.0 -0.1**
152A Waverly Hall 121.58 56 IAMs_20 IAMs_20 23 22 41.1
comp=Z,708nm,20.0s
TKL Tuckaleechee C 121.58 52 IAMs_20 IAMs_20 23 23 32.6
comp=Z,889nm,21.0s
W52A Murphy 121.61 53 **PKPdf** **22 37 49.4 -0.5**
W52A IAMs_20 IAMs_20 23 25 21.6
comp=Z,994nm,21.0s
P52A Corning 121.61 47 IAMs_20 IAMs_20 23 23 32.9
comp=Z,693nm,20.0s
P52A Corning 121.61 47 P 22 37 49.3
baz=290,SNR=7.9
LANS Liptovska Anna 121.64 325 *e*PKiKP **PKiKP** **22 37 50.8 +1.2**
LANS Liptovska Anna 121.64 325 *e*PKP **PKiKP** **22 37 50.8 +1.2**
V52A Sevierville 121.67 52 IAMs_20 IAMs_20 23 23 57.0
comp=Z,821nm,21.0s
SADO Sadowa 121.73 41 PKKPbc PKKPbc 22 47 47.3 -2.6
comp=Z,3.6nm,0.7s,baz=153,slow=3.0,SNR=6.0
Q52A Bidwell 121.74 48 IAMs_20 IAMs_20 23 24 12.3
comp=Z,950nm,22.0s
HERR Herculane 121.84 320 ⇓P **PKPdf** **22 37 49.9 -0.1**
ALGO Algonquin Park 121.91 39 P 22 37 49.9
baz=297,SNR=12
PSZ Piszkesteto 122.00 324 ⇑P **PKiKP** **22 37 50.8 +0.4**
PSZ Piszkesteto 122.00 324 PKiKP **PKPdf** **22 37 49.8 -0.5**
PSZ Piszkesteto 122.00 324 PKPdf **PKPdf** **22 37 49.8 -0.5**
M53A Wi Miller and 122.02 45 P 22 37 50.2
baz=292,SNR=6.1
BZS Buzias 122.03 321 ⇓P **PKPdf** **22 37 50.1 -0.2**
BZS Buzias 122.03 321 ⇓PKiKP **PKPdf** **22 37 50.1 -0.2**
O53A New Philadelph 122.07 46 P 22 37 50.8
baz=291,SNR=6.1
L53A Girard 122.11 44 P 22 37 50.8
baz=292
G54A Lake Saint Pet 122.13 39 P 22 37 50.3
baz=296,SNR=9.2
N53A Liebon 122.14 45 IAMs_20 IAMs_20 23 24 31.5
comp=Z,989nm,21.0s
H53A Bobcaygeon 122.17 41 P 22 37 51.0
baz=296,SNR=8.1
VTS Vitosha 122.23 317 ⇑P **PKPdf** **22 37 50.6 -0.4**
VTS Vitosha 122.23 317 PKiKP **PKPdf** **22 37 50.6 -0.4**
VTS Vitosha 122.23 317 PKPdf **PKPdf** **22 37 50.6 -0.4**
Q53A Leroy 122.32 48 P 22 37 51.4
baz=290
V53A Saluda 122.33 52 IAMs_20 IAMs_20 23 24 17.4
comp=Z,1μm,22.0s
MDVR Moldovita 122.34 320 ⇑P **PKPdf** **22 37 50.6 -0.3**
MORC Moravsky Berou 122.38 327 ⇓P **PKiKP** **22 37 51.4 +0.3**
MORC Moravsky Berou 122.38 327 *e*PKiKP **PKPdf** **22 37 50.8 -0.1**
MORC *e* 22 38 00.4
MORC Moravsky Berou 122.38 327 PKiKP **PKPdf** **22 37 50.1 -0.8**
MORC Moravsky Berou 122.38 327 PKPdf **PKPdf** **22 37 50.1 -0.8**
GOGA Godfrey 122.42 54 IAMs_20 IAMs_20 23 25 26.1
comp=Z,776nm,20.0s
GOGA Godfrey 122.42 54 P 22 37 51.5
baz=285,SNR=5.6
KSP Ksiaz 122.46 328 PKiKP **PKiKP** **22 37 51.2 0.0**
BO02 Sierra Bellavi 122.55 139 PKPdf **PKPdf** **22 37 51.0 -0.8**
KRLC Kraliky 122.63 327 *e*PKiKP **PKiKP** **22 37 51.6 0.0**
KRLC *e* 22 38 00.8
KRLC Kraliky 122.63 327 *e*PKPdf **PKiKP** **22 37 51.6 0.0**
KRLC *ep*PKP **pPKPdf** **22 38 00.8 +0.3**

OSTC Ostas 122.67 328 *e*PKPdf **PKiKP** **22 37 51.5 -0.1**
OSTC *ep*PKP **pPKPdf** **22 38 01.0 +0.4**
N54A Moraine State 122.68 45 **PKPdf** **22 37 51.3 -0.4**
N54A Moraine State 122.68 45 P 22 37 51.8
baz=292,SNR=7.2
M54A Oil Creek Stat 122.70 44 P 22 37 51.6
baz=293,SNR=9.9
DPC Dobruska-Polom 122.72 328 *e*PKiKP **PKiKP** **22 37 51.7 -0.1**
DPC Dobruska-Polom 122.72 328 *e*PKPdf **PKiKP** **22 37 51.7 -0.1**
CHVC Chvalec 122.73 328 *e*PKPdf **PKPdf** **22 37 51.4 -0.1**
RUE Ruederdorf 122.77 331 *e*PKPdf **PKPdf** **22 37 51.5 +0.1**
baz=51,slow=1.9
JAVC Velka Javorina 122.80 326 *e*PKiKP **PKiKP** **22 37 52.8 +0.8**
JAVC *e* 22 38 02.1
DELO Deloro Mine 122.82 40 IAMs_20 IAMs_20 23 32 35.0
comp=Z,891nm,19.0s
S54A Dingess, Beckl 122.83 49 **PKPdf** **22 37 50.5 -1.6**
S54A IAMs_20 IAMs_20 23 28 55.2
comp=Z,672nm,19.0s
S54A Dingess, Beckl 122.83 49 P 22 37 52.2
baz=289
BOVS Bovan 122.84 319 ⇓P **PKiKP** **22 37 52.5 +0.4**
E55A Montcerf-Lytto 122.90 38 P 22 37 52.0
baz=299,SNR=7.9
154A Montrose 122.91 55 IAMs_20 IAMs_20 23 26 18.3
comp=Z,1μm,22.0s
PLVO Plevna 122.93 39 **PKPdf** **22 37 51.1 -0.9**
PLVO IAMs_20 IAMs_20 23 30 44.9
comp=Z,781nm,20.0s
D55A Sainte-Anne-du 122.98 37 P 22 37 51.8
baz=300,SNR=9.7
SRO Srobarova 122.98 324 *e*PKiKP **PKiKP** **22 37 52.7 +0.5**
SRO Srobarova 122.98 324 *e*PKP **PKiKP** **22 37 52.7 +0.5**
SMOL Smolenice 123.12 325 *e*PKiKP **PKiKP** **22 37 52.7 +0.2**
SMOL Smolenice 123.12 325 *e*PKP **PKiKP** **22 37 52.7 +0.2**
VRAC Vranov 123.16 327 PKP **PKPdf** **22 37 51.2 -1.1**
comp=Z,10nm,1.0s,baz=104,slow=2.8,SNR=9.7
VRAC Vranov 123.16 327 ⇓P **PKiKP** **22 37 52.6 0.0**
VRAC Vranov 123.16 327 *e*PKiKP **PKPdf** **22 37 52.3 -0.1**
VRAC *e* 22 38 01.4
VRAC Vranov 123.16 327 ⇓PKiKP **PKiKP** **22 37 52.6 0.0**
MT02 Curacav 123.22 137 PKPdf **PKPdf** **22 37 52.7 -0.3**
MCWV Mont Chateau 123.26 46 P 22 37 52.8
baz=292
SKMB Sankelmark Bun 123.27 335 *e*PKPdf **PKiKP** **22 37 52.9 +0.3**
baz=51,slow=1.9
MODS Modra-Piesok 123.28 325 *e*PKiKP **PKPdf** **22 37 52.7 +0.1**
MODS Modra-Piesok 123.28 325 *e*PKP **PKPdf** **22 37 52.7 +0.1**
FRGS Fruska Gora 123.37 321 ⇑P **PKiKP** **22 37 53.3 +0.1**
D56A ZEC Mazanza, M 123.39 36 P 22 37 52.5
baz=300,SNR=15
KRUC Moravsky 123.40 326 *e*PKiKP **PKPdf** **22 37 52.8 0.0**
KRUC *e* 22 38 02.5
MT05 Renca 123.42 137 PKPdf **PKPdf** **22 37 53.0 -0.4**
BSEG Bad Segeberg 123.43 334 *e*PKPdf **PKiKP** **22 37 52.9 0.0**
baz=51,slow=1.9
ZST Bratislava 123.47 325 *e*PKiKP **PKiKP** **22 37 53.5 +0.3**
ZST Bratislava 123.47 325 *e*PKP **PKiKP** **22 37 53.5 +0.3**
E56A St. Veronique 123.47 37 P 22 37 53.2
baz=300,SNR=7.4
PVCC Panska Ves 123.54 329 *e*PKiKP **PKPdf** **22 37 53.0 0.0**
PVCC Panska Ves 123.54 329 *e*PKPdf **PKPdf** **22 37 53.0 0.0**
IDI Anoyia 123.57 308 PKP **PKPdf** **22 37 52.7 -1.0**
comp=Z,13nm,0.9s,baz=168,slow=12,SNR=3.5
IDI Anoyia 123.57 308 ⇓P **PKPdf** **22 37 53.0 -0.7**
MORH Mrgy, Hungar 123.58 323 ⇓P **PKPdf** **22 37 53.2 0.0**
PEL Peldehue 123.60 137 PKiKP **PKPdf** **22 37 53.0 -0.8**
PEL Peldehue 123.60 137 **PKPdf** **22 37 53.0 -0.8**
KMSC Kings Mountain 123.64 52 P 22 37 54.0
baz=288,SNR=9.9
BRG Berggiesshubel 123.66 329 PKiKP **PKPdf** **22 37 53.3 0.0**
BRG Berggiesshubel 123.66 329 *i* P **PKPdf** **22 37 53.3 0.0**
BRG Amp 22 37 55.4
comp=Z,52nm,1.2s
BRG *ex* x 22 38 02.9
BRG Amp 22 38 04.5
comp=Z,62nm,1.4s
BRG *ex* x 22 38 10.1
BRG Amp 22 38 11.7
comp=Z,17nm,1.1s
BRG Berggiesshubel 123.66 329 *e*PKPdf **PKPdf** **22 37 53.2 0.0**
baz=51,slow=1.9
BLA Blacksburg 123.69 49 IAMs_20 IAMs_20 23 27 02.1
comp=Z,908nm,21.0s
BLA Blacksburg 123.69 49 P 22 37 53.6
baz=290
M56A Emporium 123.73 44 P 22 37 53.4
baz=294,SNR=5.5
DIVS Divibare 123.75 320 **PKPdf** **22 37 53.0 -0.8**
TREC Trest 123.77 327 *e*PKiKP **PKiKP** **22 37 53.8 0.0**
TREC Trest 123.77 327 *e*PKPdf **PKiKP** **22 37 53.8 0.0**
J56A Wolcott 123.86 41 IAMs_20 IAMs_20 23 26 12.7
comp=Z,886nm,20.0s
J56A Wolcott 123.86 41 P 22 37 53.6
baz=296,SNR=7.2
CLL Collm 123.87 330 *i* PKPdf **PKPdf** **22 37 53.5 -0.1**
comp=Z,33nm,1.1s
CLL *i* sPKPdf **pPKPdf** **22 38 03.0 +0.2**
comp=Z,25nm,1.2s
CLL *i* 22 38 10.5
comp=Z,21nm,1.2s
CLL *e*PSKS 22 49 30.0
CLL *es*SKKPbc 22 51 41.0
comp=Z,35nm,1.7s
CLL *e*SS SS 22 56 30.0 +6.8
CLL Collm 123.87 330 PKiKP **PKPdf** **22 37 52.7 -0.9**
CLL Collm 123.87 330 PKPdf **PKPdf** **22 37 52.7 -0.9**
CLL Collm 123.87 330 *e*PKPdf **PKPdf** **22 37 53.3 -0.3**
baz=51,slow=1.9
PRU Pruhonice 123.87 328 *e*PKiKP **PKPdf** **22 37 53.5 -0.2**
PRU *e* 22 38 02.9
PRU MLR MLR
comp=Z,1μm,18.2s
PRU Pruhonice 123.87 328 *e*PKPdf **PKPdf** **22 37 53.5 -0.2**
PRU *ep*PKP **pPKPdf** **22 38 02.9 0.0**
PRU AMS AMS 23 32 00.0
comp=Z,1μm,18.2s
N56A West Decatur 123.88 44 P 22 37 54.3
baz=294,SNR=6.6
L56A Greenwood 123.88 43 P 22 37 53.7
baz=295
VA03 San Esteban 123.91 137 **PKPdf** **22 37 53.9 -0.6**
VA03 IAMs_20 IAMs_20 23 21 38.6
comp=Z,937nm,22.0s
FBE Freiberg 123.93 330 *e*PKPdf **PKiKP** **22 37 54.0 -0.1**
baz=51,slow=1.9
O56A Blue Knob Stat 123.94 45 IAMs_20 IAMs_20 23 27 38.3
comp=Z,959nm,21.0s
O56A Blue Knob Stat 123.94 45 P 22 37 54.1
baz=293,SNR=6.8
Q56A Snyder Ridge, 123.96 47 IAMs_20 IAMs_20 23 34 59.0
comp=Z,590nm,19.0s
Q56A Snyder Ridge, 123.96 47 P 22 37 54.6
baz=292
P56A Dayton Farm, R 124.04 46 P 22 37 54.2
baz=292,SNR=6.1
T56A Rocky Mt 124.04 49 P 22 37 54.4
baz=290
FLTG Flechtingen 124.07 332 *e*PKPdf **PKPdf** **22 37 53.9 0.0**
baz=51,slow=1.9
V56A Mocksville 124.08 51 P 22 37 54.8
baz=289
S56A Natural Bridge 124.17 48 P 22 37 54.7
baz=290
G57A Newington 124.21 39 P 22 37 54.3
baz=299,SNR=8.5
W56A Indian Trail 124.23 52 P 22 37 54.9
baz=288
H57A Richville 124.26 39 P 22 37 54.7
baz=298,SNR=6.6
CONA Conrad Observa 124.32 325 *e*P **PKiKP** **22 37 55.1 +0.1**
comp=Z,31nm,1.4s,SNR=8.3
CONA *i* S **pPKPdf** **22 38 04.3 +0.4**
comp=Z,31nm,1.4s
K57A Scipio Center 124.33 42 P 22 37 55.1
baz=296,SNR=9.0
PBCC Pribram 124.34 328 *e*PKPdf **PKPdf** **22 37 54.7 +0.1**
PBCC *ep*PKP **pPKPdf** **22 38 03.8 0.0**
LATQ La Tuque 124.36 35 **PKPdf** **22 37 54.4 -0.3**
LATQ La Tuque 124.36 35 P 22 37 54.6
baz=302,SNR=5.5
L57A Andrews Acres 124.42 43 P 22 37 55.5
baz=296,SNR=5.4
D58A Chemin du LacG 124.46 36 P 22 37 54.9
baz=302,SNR=5.8

N57A	Milroy	124.46	44	P		22 37 55.2	
	baz=294,SNR=7.4						
ASSE	Asse, Remlinge	124.46	332	ePKPdf	PKiKP	22 37 54.8	-0.1
	baz=51,slow=1.9						
BIRD	Birdtown, Kers	124.47	52	IAMs_20	IAMs_20	23 25 21.2	
	comp=Z,953nm,21.0s						
ESPN	Las Esperanzas	124.48	80	IAMs_20	IAMs_20	23 18 53.0	
	comp=Z,695nm,21.0s						
NRDL	Niedersach Rie	124.48	333	ePKPdf	PKiKP	22 37 55.1	+0.1
	baz=51,slow=1.9						
CO02	Combarbal	124.51	135		PKPdf	22 37 55.1	-0.6
M57A	Sunshine Farm,	124.51	44	P		22 37 55.6	
	baz=295,SNR=7.1						
Q57A	Strasburg	124.52	47	P		22 37 55.4	
	baz=292						
NEUB	Neuenburg	124.53	331	ePKPdf	PKPdf	22 37 54.8	-0.1
	baz=51,slow=1.9						
S57A	Dark Hollow, R	124.59	48	P		22 37 54.8	
	baz=291						
E58A	La Victoria	124.61	37	P		22 37 55.2	
	baz=302,SNR=10.0						
V57A	Coltrane Farms	124.61	51	P		22 37 55.7	
	baz=289,SNR=5.6						
O57A	Amberson	124.62	45	P		22 37 55.4	
	baz=294,SNR=7.5						
T57A	Hurt	124.64	49	PKPdf	PKPdf	22 37 54.4	-1.2
T57A				IAMs_20	IAMs_20	23 27 49.9	
	comp=Z,925nm,21.0s						
T57A	Hurt	124.64	49	P		22 37 55.2	
	baz=290,SNR=7.7						
P57A	Homestead Farm	124.64	46	PKPdf	PKPdf	22 37 54.9	-0.6
P57A	Homestead Farm	124.64	46	P		22 37 55.2	
	baz=293						
CKRC	Cesky Krumlov	124.67	327	ePKPDF	PKPdf	22 37 55.3	0.0
W57A	Gilead	124.68	51		PKiKP	22 37 56.3	+0.3
TANN	Tannenbergstha	124.69	330	ePKPdf	PKPdf	22 37 55.2	-0.1
	baz=51,slow=1.9						
R57A	Stanardsville	124.72	47	P		22 37 55.8	
	baz=292						
WERD	Werda	124.74	330	ePKPdf	PKPdf	22 37 55.2	-0.2
	baz=51,slow=1.9						
G58A	Ormstown	124.76	38	P		22 37 55.1	
	baz=300						
U57A	Blanch	124.77	50	P		22 37 54.6	
	baz=290						
GUNZ	Gunzen	124.78	330	ePKPdf	PKPdf	22 37 55.5	0.0
	baz=51,slow=1.9						
CLZ	Clausthal	124.79	332	ePKPdf	PKiKP	22 37 55.7	-0.1
	baz=51,slow=1.9						
PLN	Plauen	124.80	330	ePKPdf	PKPdf	22 37 55.4	-0.1
	baz=51,slow=1.9						
NKC	Novy Kostel	124.81	329	ePKIKP	PKiKP	22 37 55.8	0.0
NKC				e		22 38 04.9	
NKC	Novy Kostel	124.81	329	ePKPDF	PKiKP	22 37 55.8	0.0
NKC				epPKP	pPKPdf	22 38 04.9	+0.2
WERN	Wernitzgruen	124.81	329	ePKPdf	PKPdf	22 37 55.6	0.0
	baz=51,slow=1.9						
ARSA	Arzberg	124.88	325	eP	PKPdf	22 37 55.0	-0.7
	comp=Z,14nm,1.6s						
ARSA				iS	pPKPdf	22 38 06.1	+1.2
	comp=Z,13nm,1.4s						
KHC	Kasperske Hory	124.88	328	ePKIKP	PKPdf	22 37 55.8	+0.1
KHC				e		22 38 05.1	
KHC	Kasperske Hory	124.88	328	ePKPDF	PKPdf	22 37 55.8	+0.1
KHC				epPKP	pPKPdf	22 38 05.1	+0.2
KHC	Kasperske Hory	124.88	328	PKPdf	PKPdf	22 37 55.6	-0.1
K58A	Earlville	124.88	41	PKPdf	PKPdf	22 37 55.7	-0.2
K58A				IAMs_20	IAMs_20	23 28 35.7	
	comp=Z,802nm,20.0s						
K58A	Earlville	124.88	41	P		22 37 55.9	
	baz=297,SNR=7.5						
I58A	Old Forge	124.89	40	P		22 37 55.0	
	baz=298,SNR=5.5						
BINY	Binghamton	124.91	42		PKPdf	22 37 56.0	+0.1
BINY	Binghamton	124.91	42	P		22 37 56.7	
	baz=296,SNR=7.2						
CO03	El Pedregal	124.94	135	PKPdf	PKPdf	22 37 56.3	-0.2
M58A	Price's Panora	124.95	43	P		22 37 55.2	
	baz=295						
MOX	Moxa	124.97	330	ePKPdf	PKiKP	22 37 56.7	+0.5
	baz=51,slow=1.9						
PDG	Podgorica	124.98	318	⇑P	PKPdf	22 37 56.2	+0.1
GEC2	GERESS Array S	124.99	327	PKPdf	PKPdf	22 37 55.8	-0.2
GEC2	GERESS Array S	124.99	327	ePKPdf	PKPdf	22 37 55.8	-0.2
	baz=51,slow=1.9						
GERES	GERESS Array B	124.99	327	PKP	PKPdf	22 37 55.2	-0.8
	comp=Z,10nm,1.0s,baz=70,slow=2.0,SNR=42						
GERES				PKKP	PKKPdf	22 48 18.6	-0.7
	comp=Z,0.9nm,0.8s,baz=213,slow=4.4,SNR=5.2						
GERES	GERESS Array B	124.99	327	PKIKP	PKPdf	22 37 55.8	-0.2
GERES	GERESS Array B	124.99	327		PKPdf	22 37 55.8	-0.2
N58A	Sunbury	125.00	44	P		22 37 56.4	
	baz=295,SNR=8.1						
H58A	Gabriels	125.05	39	P		22 37 55.9	
	baz=299,SNR=15						
PEZE	Perez Zeledon,	125.07	83	PKPdf	PKiKP	22 37 57.4	-0.1
L58A	Harry Jones Me	125.07	42	P		22 37 56.6	
	baz=296,SNR=6.4						
Q58A	Fox Den Farm,	125.08	46	P		22 37 55.9	
	baz=293						
R58A	Rapidan	125.10	47	P		22 37 56.1	
	baz=292						
MANZ	Manzenberg	125.13	329	ePKPdf	PKPdf	22 37 56.2	0.0
	baz=51,slow=1.9						
V58A	Windy Hill, Pi	125.15	50	IAMs_20	IAMs_20	23 27 45.0	
	comp=Z,799nm,20.0s						
NHSC	New Hope	125.15	54	P		22 37 57.3	
	baz=287						
O58A	Lewisberry	125.16	45	P		22 37 56.6	
	baz=294,SNR=7.6						
F59A	Saint Guilaume	125.17	37	P		22 37 57.0	
	baz=302						
GTTG	Gottingen	125.18	332	ePKPdf	PKiKP	22 37 56.4	-0.1
	baz=51,slow=1.9						
T58A	Grand View Acr	125.20	49	P		22 37 56.7	
	baz=291						
FRNY	Flat Rock	125.20	38	PKPdf	PKPdf	22 37 56.5	+0.1
ROTZ	Rotzenmuhle	125.21	329	ePKPdf	PKPdf	22 37 56.2	-0.1
	baz=51,slow=1.9						
NCB	Newcomb	125.23	39	IAMs_20	IAMs_20	23 25 42.8	
	comp=Z,758nm,21.0s						
H59A	Cadyville	125.24	39	P		22 37 57.1	
	baz=300						
GO04	Tololo Observa	125.24	134	PKPdf	PKPdf	22 37 56.8	-0.5
WET	Wettzell	125.25	328	PKIKP	PKiKP	22 37 56.9	+0.1
WET	Wettzell	125.25	328	ePKPdf	PKPdf	22 37 56.4	0.0
	baz=51,slow=1.9						
MOA	Molln	125.25	326	eP	PKPdf	22 37 56.3	-0.2
	comp=Z,18nm,1.4s						
MOA				eS	pPKPdf	22 38 06.6	+1.0
	comp=Z,9.1nm,1.4s						
J59A	Piesco	125.30	40	P		22 37 56.7	
	baz=298,SNR=9.7						
R58B	Mineral	125.31	48	P		22 37 56.8	
	baz=292						
S58A	Poland Farm, P	125.31	48	IAMs_20	IAMs_20	23 30 24.0	
	comp=Z,885nm,21.0s						
S58A	Poland Farm, P	125.31	48	P		22 37 56.8	
	baz=292						
Y58A	Scranton	125.32	53		PKiKP	22 37 57.8	+0.5
Y58A				IAMs_20	IAMs_20	23 28 32.9	
	comp=Z,744nm,20.0s						
U58A	Oxford	125.38	50	P		22 37 57.3	
	baz=290,SNR=6.4						
K59A	Cooperstown	125.40	41	P		22 37 57.5	
	baz=298						
SOKA	Soboth	125.48	325	eP	PKPdf	22 37 57.0	0.0
	comp=Z,43nm,1.5s,SNR=8.2						
SOKA				eS	pPKPdf	22 38 07.1	+1.0
	comp=Z,36nm,1.5s						
I59A	Olmsteadville	125.54	40	P		22 37 57.3	
	baz=299,SNR=10						
L59A	Walton	125.54	42	P		22 37 57.9	
	baz=297						
M59A	Waymart	125.57	43	P		22 37 57.6	
	baz=296,SNR=9.1						
O59A	Robesonia	125.59	44	P		22 37 57.6	
	baz=295,SNR=5.6						
CBN	Corbin Frederi	125.59	47	IAMs_20	IAMs_20	23 27 23.2	
	comp=Z,827nm,20.0s						
F60A	Warwick	125.60	36	P		22 37 57.2	
	baz=302,SNR=6.6						
MVL	Millersville	125.61	45	IAMs_20	IAMs_20	23 26 16.6	
	comp=Z,985nm,21.0s						
N59A	State Game Lan	125.62	43	P		22 37 57.9	
	baz=296,SNR=7.1						
UBBA	Unterbreizbach	125.64	331	ePKPdf	PKiKP	22 37 57.1	-0.2
	baz=51,slow=1.9						
IBBN	Ibbenburen	125.67	334	ePKPdf	PKPdf	22 37 57.2	+0.2
	baz=51,slow=1.9						
D60A	Saint Jean D'O	125.68	35	P		22 37 57.6	
	baz=304,SNR=6.0						
E60A	Ste Agathe de	125.68	36	P		22 37 57.4	
	baz=303,SNR=5.1						
P59A	Jarrettsville	125.71	45	P		22 37 57.6	
	baz=294						
GRA1	Grafenberg Arr	125.76	329	PKPdf	PKPdf	22 37 57.5	+0.1
GRF	Grafenberg Arr	125.76	329	PKIKP	PKPdf	22 37 57.5	+0.1
GRF	Grafenberg Arr	125.76	329	ePKPdf	PKPdf	22 37 57.3	0.0
	baz=51,slow=1.9						
GRF				eL	L	23 35 24.2	
	comp=Z,890nm,21.4s						
GRFO	Grafenberg	125.76	329	PKIKP	PKPdf	22 37 57.5	+0.2
GRFO	Grafenberg	125.76	329		PKPdf	22 37 57.5	+0.2
MOQ	Mont Orford	125.77	37		PKPdf	22 37 56.6	-0.9
V59A	Middlesex	125.83	50	P		22 37 58.1	
	baz=290,SNR=5.2						
G60A	Masonville	125.84	37	P		22 37 58.0	
	baz=302						
OBKA	Obir	125.85	325	iP	PKPdf	22 37 57.5	-0.3
	comp=Z,19nm,1.3s						
OBKA				iS	pPKPdf	22 38 08.0	+1.1
	comp=Z,12nm,1.1s						
CO01	Juntas del Tor	125.85	134	PKPdf	PKPdf	22 37 58.4	0.0
I60A	Shoreham	125.89	39	P		22 37 58.4	
	baz=300,SNR=11						
H60A	Morristown	125.89	38	P		22 37 58.1	
	baz=301						
ZON	Zonda	125.91	137	PKIKP	PKPdf	22 37 57.9	-0.4
ZON	Zonda	125.91	137	PKPdf	PKPdf	22 37 57.9	-0.4
Y59A	Loris	125.92	52	IAMs_20	IAMs_20	23 25 52.7	
	comp=Z,793nm,22.0s						
D61A	St Aubert, Com	125.93	34	P		22 37 58.3	
	baz=305,SNR=5.8						
LCO	Las Campanas	125.96	133	PKIKP	PKPdf	22 37 58.9	+0.2
LCO	Las Campanas	125.96	133	PKPdf	PKPdf	22 37 58.9	+0.2
U59A	Littleton	125.96	49	IAMs_20	IAMs_20	23 27 16.4	
	comp=Z,657nm,21.0s						
N60A	Cedar Hill Far	126.10	43	P		22 37 58.5	
	baz=296,SNR=5.7						
J60A	Lant Hill Farm	126.10	40	P		22 37 58.9	
	baz=299,SNR=5.5						
K60A	Five Rivers En	126.10	41	P		22 37 59.4	
	baz=299						
RJOB	Jochberg	126.13	327	ePKPdf	PKPdf	22 37 57.4	-0.8
	baz=51,slow=1.9						
O60A	Telford	126.13	44	P		22 37 58.9	
	baz=296,SNR=8.5						
KASTN	Kahler Asten	126.13	332	ePKPdf	PKPdf	22 37 58.1	+0.1
	baz=51,slow=1.9						
AC04	Llanos de Chal	126.14	132		PKPdf	22 37 58.7	0.0
WUPA	West Chester U	126.15	44	IAMs_20	IAMs_20	23 27 36.5	
	comp=Z,716nm,20.0s						
F61A	St Evariste	126.16	36	P		22 37 58.6	
	baz=304,SNR=6.2						
P60A	Greenville	126.18	45	P		22 37 59.2	
	baz=295						
E61A	Lac Etchemin	126.20	35	P		22 37 59.0	
	baz=304,SNR=20						
KBA	Koelnbreinsper	126.21	326	eP	PKPdf	22 37 57.8	-0.7
	comp=Z,21nm,1.3s						
KBA				iS	pPKPdf	22 38 08.0	+0.4
	comp=Z,30nm,1.2s						
KBA	Koelnbreinsper	126.21	326	PKIKP	PKPdf	22 37 58.5	0.0
M60A	Port Jervis	126.21	43	P		22 37 59.3	
	baz=297,SNR=5.4						
MYKA	Terra Mystica	126.30	325	eP	PKPdf	22 37 58.4	-0.1
	comp=Z,22nm,1.4s						
MYKA				eS	pPKPdf	22 38 08.2	+0.5
	comp=Z,9.9nm,1.1s						
AC05	El Transito	126.37	133		PKiKP	22 37 59.6	-0.1
H61A	Lyndonville	126.38	38	P		22 37 59.1	
	baz=302,SNR=5.9						
X60A	Albert Glenn T	126.44	52	P		22 37 59.8	
	baz=290						
T60A	Surry	126.46	48	IAMs_20	IAMs_20	23 27 08.5	
	comp=Z,1µm,22.0s						
K61A	Williamstown	126.48	40	P		22 37 59.8	
	baz=299,SNR=5.5						
BUG	Bochum--Univer	126.49	333	ePKPdf	PKPdf	22 37 58.7	0.0
	baz=51,slow=1.9						
LBNH	Lisbon	126.53	38	P		22 37 59.9	
	baz=302						
J61A	Chester	126.60	39	P		22 38 00.1	
	baz=300,SNR=6.6						
FUR	Furstenfeldbru	126.68	328	PKIKP	PKiKP	22 37 59.7	0.0
FUR	Furstenfeldbru	126.68	328	ePKPdf	PKPdf	22 37 59.0	-0.2
	baz=51,slow=1.9						
N61A	South Mountain	126.69	43	P		22 38 00.1	
	baz=297						
TNS	Taunus Mts	126.78	331	ePKPdf	PKPdf	22 37 59.3	0.0
	baz=51,slow=1.9						
KSCT	Kent School, K	126.79	42	IAMs_20	IAMs_20	23 27 24.4	
	comp=Z,786nm,20.0s						
M61A	Granite Spring	126.79	42	P		22 37 59.8	
	baz=298,SNR=6.4						
H62A	Milan	126.82	37	PKPdf	PKiKP	22 37 59.8	-0.2
H62A	Milan	126.82	37	P		22 38 00.2	
	baz=302						
PAL	Palisades	126.84	43	P		22 38 00.5	
	baz=298						
G62A	West of Eustis	126.85	36	P		22 37 59.9	
	baz=304						
ABTA	Abfaltersbach	126.86	326	eP	PKPdf	22 37 59.2	-0.5
	comp=Z,44nm,1.3s,SNR=8.3						
ABTA				iS	pPKPdf	22 38 09.5	+0.7
	comp=Z,37nm,1.4s						
L61B	Northampton	126.96	40	P		22 38 00.3	
	baz=300						
U61A	Possum Corner	126.98	49	P		22 38 01.5	
	baz=292						
WATA	Walderalm	127.03	327	eP	PKPdf	22 37 59.9	-0.1
	comp=Z,54nm,1.3s,SNR=12						
WATA				iS	pPKPdf	22 38 10.2	+1.1
	comp=Z,52nm,1.4s						
WTTA	Wattenberg	127.04	327	eP	PKPdf	22 38 00.2	+0.1
	comp=Z,100nm,1.4s,SNR=19						
WTTA				iS	pPKPdf	22 38 10.5	+1.2
	comp=Z,82nm,1.3s						
WTTA	Wattenberg	127.04	327	PKIKP	PKPdf	22 37 59.8	-0.3
V61A	Roper	127.08	50	IAMs_20	IAMs_20	23 28 35.1	
	comp=Z,655nm,21.0s						
I62A	Tamworth	127.08	38	P		22 38 00.7	
	baz=302						
GO03	Copiap	127.09	132	PKPdf	PKiKP	22 38 01.3	+0.1
J62A	Henniker	127.12	39	P		22 38 01.2	
	baz=301						
K62A	Royalston	127.14	40	P		22 38 00.9	
	baz=300						
L62A	Suffield	127.18	41	IAMs_20	IAMs_20	23 30 31.4	
	comp=Z,823nm,20.0s						
D63A	Stockholm	127.18	33	P		22 37 59.9	
	baz=307						
AHRW	Bad Neuenahr-A	127.20	332	ePKPdf	PKPdf	22 38 00.3	+0.2
	baz=51,slow=1.9						
MOTA	Moosalm	127.28	327	eP	PKPdf	22 38 00.6	+0.1
	comp=Z,44nm,1.1s,SNR=9.8						
SQTA	Sankt Quirin	127.30	327	eP	PKPdf	22 38 00.6	+0.1
	comp=Z,58nm,1.5s,SNR=12						
SQTA				iS	pPKPdf	22 38 11.0	+1.3
	comp=Z,52nm,1.4s						
STU	Stuttgart	127.37	330	PKIKP	PKiKP	22 38 00.8	-0.2
STU	Stuttgart	127.37	330	PKPdf	PKiKP	22 38 00.8	-0.2
STU	Stuttgart	127.37	330	ePKPdf	PKPdf	22 38 00.4	-0.1
	baz=51,slow=1.9						
E63A	Oxbow	127.37	34	P		22 38 00.5	
	baz=306						
RETA	Reutte	127.38	328	eP	PKPdf	22 38 00.5	-0.1
	comp=Z,21nm,1.2s,SNR=5.4						
RETA				iS	pPKPdf	22 38 11.0	+1.2
	comp=Z,25nm,1.3s						
EKA	Eskdalemuir Ar	127.39	342	PKP	PKPdf	22 37 59.4	-0.9
	comp=Z,27nm,1.0s,baz=22,slow=2.7,SNR=12						
F63A	Nahmakanta, Br	127.41	35	P		22 38 00.2	
	baz=305						
G63A	Kingsbury	127.44	36	P		22 38 01.4	
	baz=304						
H63A	New Sharon	127.45	37	P		22 38 01.5	
	baz=304						
PQI	Presque Isle	127.45	34		PKPdf	22 38 00.5	-0.2
J63A	Strafford	127.56	39	P		22 38 01.9	
	baz=302						
UCCT	U. Connecticut	127.58	41	IAMs_20	IAMs_20	23 29 14.0	
	comp=Z,927nm,21.0s						
UBR	Ueberruh	127.60	328	ePKPdf	PKPdf	22 38 00.6	-0.4
	baz=51,slow=1.9						
BTNL	Ternell	127.60	333	dPKiKP	PKiKP	22 38 01.5	+0.1
BTNL				dsPKiKP	pPKPdf	22 38 11.0	+1.0
MEM	Membach	127.64	333	dPKiKP	PKPdf	22 38 00.9	0.0
MEM				dsPKiKP	pPKPdf	22 38 10.7	+0.6
FETA	Feichten	127.68	327	eP	PKiKP	22 38 01.6	-0.2
	comp=Z,42nm,1.2s,SNR=13						
FETA				iS	pPKPdf	22 38 11.8	+1.3
	comp=Z,40nm,1.3s						
E64A	Bridgewater	127.70	34	P		22 38 01.5	
	baz=307,SNR=5.5						
F64A	Sherman	127.74	35	P		22 38 01.2	
	baz=306,SNR=5.2						
CTI	Castel Tesino	127.76	326	PKIKP	PKPdf	22 38 01.3	-0.1
CTI	Castel Tesino	127.76	326		PKPdf	22 38 01.3	-0.1
BHOU	Houvegnez	127.82	333	dPKiKP	PKiKP	22 38 02.3	+0.5
BSTI	Sart Tilman	127.86	333	dPKPdf	PKiKP	22 38 01.8	-0.1
DAVA	Damuels	127.97	328	eP	PKPdf	22 38 01.9	+0.1
	comp=Z,34nm,1.2s,SNR=7.2						
DAVA				iS	pPKPdf	22 38 12.3	+1.3
	comp=Z,23nm,1.2s						
BCLA	Clavier	128.09	333	dPKiKP	PKPdf	22 38 01.7	0.0
BFO	Black Forest	128.10	330	PKIKP	PKPdf	22 38 00.9	-1.0
BFO	Black Forest	128.10	330	PKPdf	PKPdf	22 38 00.9	-1.0
BFO	Black Forest	128.10	330	ePKPdf	PKPdf	22 38 01.6	-0.3
	baz=51,slow=1.9						
TSUM	Tsumeb	128.12	239	PKPdf	PKPdf	22 38 02.9	0.0
TIP	Timpagrande	128.13	316	⇓P	PKPdf	22 38 01.2	-1.1
TEOL	Teolo	128.15	325		PKiKP	22 38 02.4	-0.2
BGES	Gesves	128.21	333	dPKiKP	PKPdf	22 38 02.2	+0.2
BGES				dsPKiKP	pPKPdf	22 38 11.6	+0.5
UCC	Uccle	128.23	334	PKIKP	PKiKP	22 38 02.5	-0.1
UCC	Uccle	128.23	334		PKiKP	22 38 02.5	-0.1
WLF	Walferdange	128.24	332	dPKiKP	PKiKP	22 38 03.1	+0.4
WLF				dsPKiKP	pPKPdf	22 38 12.4	+1.2
WLF	Walferdange	128.24	332	PKIKP	PKiKP	22 38 02.9	+0.2
WLF	Walferdange	128.24	332	PKPdf	PKiKP	22 38 02.9	+0.2
WLF	Walferdange	128.24	332	ePKPdf	PKiKP	22 38 02.8	+0.2
	baz=51,slow=1.9						
NNA	Nana	128.28	111c	iPKIKP	PKiKP	22 38 04.1	+0.3
NNA				pmax	pmax		
	comp=Z,154nm,1.3s						
NNA	Nana	128.28	111	PKPdf	PKPdf	22 38 03.4	+0.2
DAVOX	Davos/Dischmat	128.29	327	PKP	PKPdf	22 38 01.8	-0.7
	comp=Z,26nm,1.1s,baz=243,slow=1.9,SNR=19						
CBCY	The Bluff, Cay	128.35	70	PKPdf	PKPdf	22 38 03.0	-0.1
BMRD	Maredsous	128.41	334	dPKiKP	PKiKP	22 38 03.1	+0.1
BMRD				dsPKiKP	pPKPdf	22 38 12.2	+0.7
SNF	Seneffe	128.48	334	dPKiKP	PKiKP	22 38 03.3	+0.3
SNF				dsPKiKP	pPKPdf	22 38 13.0	+1.4
GIVF	Givet	128.53	333	ePKIKP	PKiKP	22 38 03.3	+0.1
GIVF				pmax	pmax		
	comp=Z,91nm,1.4s						
PB14	IPOC Station P	128.55	129	PKPdf	PKiKP	22 38 04.6	+0.1
G65A	Princeton	128.58	35	P		22 38 03.8	
	baz=306						
DOU	Dourbes	128.64	333	dPKiKP	PKiKP	22 38 03.5	+0.1
SALO	Salr	128.65	326	PKPdf	PKPdf	22 38 02.2	-0.8
INTR	Introdacqua	128.66	320	IAMs_20	IAMs_20	23 34 53.5	
	comp=Z,663nm,21.0s						
TUE	Stuetta	128.76	327	PKPdf	PKPdf	22 38 03.1	-0.4
GO02	Mina Guanaco	128.90	130	PKPdf	PKiKP	22 38 04.9	-0.3
HINF	Hinteralfeld	129.18	330	ePKIKP	PKPdf	22 38 03.0	-1.0
HINF				pmax	pmax		
	comp=Z,83nm,1.5s						
PRMA	PARMA	129.28	325		PKiKP	22 38 05.2	+0.3
OTAV	Otavalo	129.51	95	PKIKP	PKiKP	22 38 06.7	-0.2
OTAV	Otavalo	129.51	95	PKPdf	PKiKP	22 38 06.7	-0.2
OTAV	Otavalo	129.51	95	eP	PKPdf	22 38 03.3	-2.8
PB04	IPOC Station P	129.92	126		PKPdf	22 38 06.0	-0.4
SENIN	Lac Senin/Sane	129.92	328	PKPdf	PKPdf	22 38 04.8	-0.9
PB15	IPOC Station P	130.01	128		PKPdf	22 38 06.8	+0.2
PB06	IPOC Station P	130.19	127		PKiKP	22 38 07.5	-0.1
GCUF	Volcan Galeras	130.75	94	eP	PKPdf	22 38 03.5	-5.0
TA01	Diego Aracena	130.76	124		PKPdf	22 38 07.1	-0.6
LVC	Limon Verde	130.77	127	PKP	PKPdf	22 38 08.4	+0.2
	comp=Z,30nm,1.1s,baz=176,slow=2.0,SNR=14						
LVC	Limon Verde	130.77	127	PKIKP	PKiKP	22 38 09.0	0.0
LVC	Limon Verde	130.77	127	PKPdf	PKiKP	22 38 09.0	0.0
LVC	Limon Verde	130.77	127	eP	PKPdf	22 38 04.5	-3.7
LPL	La Plagne	130.78	328	ePKIKP	PKiKP	22 38 07.9	-0.3
LPL				pmax	pmax		
	comp=Z,20nm,1.3s						
LPG	La Plagne	130.78	328	ePKIKP	PKiKP	22 38 08.0	-0.3
LPG				pmax	pmax		
	comp=Z,35nm,1.4s						
PB09	IPOC Station P	130.92	126		PKiKP	22 38 08.8	-0.3
BBAC	Balboa, Cauca	130.94	93	eP	PKPdf	22 38 05.0	-3.5
LOR	Lormes	131.02	331	ePKIKP	PKiKP	22 38 08.2	-0.2
LOR				pmax	pmax		
	comp=Z,41nm,1.4s						
PB01	IPOC Station P	131.09	125		PKPdf	22 38 08.6	+0.1
BNI	Bardonecchia	131.11	327	PKIKP	PKPdf	22 38 08.1	+0.3
BNI	Bardonecchia	131.11	327	PKPdf	PKPdf	22 38 08.1	+0.3
CLF	Chambon-Foret	131.20	333	PKPdf	PKiKP	22 38 08.8	+0.1
POPC	Popayan, Colom	131.57	92	eP	PKPdf	22 38 03.5	-6.2
SOTA	Rioblanco	131.59	93	eP	PKPdf	22 38 09.2	-0.9
AVF	Avril sur Loir	131.60	331	ePKIKP	PKiKP	22 38 09.1	-0.4
AVF				pmax	pmax		
	comp=Z,32nm,1.6s						
ORIF	Oris-en-Rattie	131.62	328	ePKIKP	PKiKP	22 38 09.3	-0.5
ORIF				pmax	pmax		
	comp=Z,27nm,1.4s						
GBN	Guysborough	131.73	31	PKPdf	PKiKP	22 38 10.1	+0.3
PB08	IPOC Station P	131.81	124		PKPdf	22 38 10.6	+0.4
PCON	Cinco Dias	131.82	93	eP	PKPdf	22 38 09.8	-0.8
FLN	La Foliniere	131.82	336	ePKIKP	PKiKP	22 38 09.7	-0.2
FLN				pmax	pmax		
	comp=Z,68nm,1.3s						
MNMC	Minye Minye	131.92	123		PKPdf	22 38 10.4	+0.1
YOTC	Yotoco, Valle	132.04	91	eP	PKiKP	22 38 14.4	+2.9
SSB	Saint Sauveur	132.07	329	PKIKP	PKPdf	22 38 10.0	+0.5
SSB	Saint Sauveur	132.07	329	PKPdf	PKPdf	22 38 10.0	+0.5
GRR	Gorron	132.27	336	ePKIKP	PKiKP	22 38 10.7	-0.1
GRR				pmax	pmax		
	comp=Z,56nm,1.3s						
VIVF	Saint-Julien-l	132.30	329	ePKIKP	PKPdf	22 38 08.1	-1.9
VIVF				pmax	pmax		
	comp=Z,56nm,1.6s						
MARP	Paez Belalcaza	132.32	92	eP	PKPdf	22 38 06.7	-4.6
PB16	IPOC Station P	132.37	122	PKPdf	PKiKP	22 38 12.7	+0.1
DBBC	Dabeiba	132.38	86	eP	PKPdf	22 38 09.8	-1.3
CBOC	Ciudad Bolivar	132.51	88	eP	PKPdf	22 38 09.0	-2.4
MOTC	Monteria, Cord	132.97	84	eP	PKPdf	22 38 06.7	-5.4
HELC	Santa Helena	133.01	88	eP	PKPdf	22 38 00.4	-12
ANIL	Santa Ana	133.02	90	eP	PKPdf	22 38 09.0	-3.6
SGMF	Saint Gilles	133.06	337	ePKIKP	PKiKP	22 38 12.1	-0.3
SGMF				pmax	pmax		
	comp=Z,24nm,1.1s						
UREC	San Jos de Ur	133.08	86	⇑eP	PKiKP	22 38 13.1	-0.4
RREF	El Recreo	133.11	89	eP	PKPdf	22 38 11.8	-1.4
TOLC	Tolima	133.11	90	eP	PKiKP	22 38 14.3	+0.4
GUY2C	Guyana, Caldas	133.12	89	eP	PKPdf	22 38 06.7	-6.3
PTLC	Puerto Leguiza	133.12	96	eP	PKPdf	22 38 09.8	-2.6
ORTC	Ortega, Tolima	133.13	91	eP	PKPdf	22 38 06.7	-5.8
CZSB	Cruzeiro do Su	133.44	107	eP	PKPdf	22 38 11.0	-1.9
PRAC	Prado	133.47	91	eP	PKPdf	22 38 09.8	-3.3
ROSC	El Rosal	134.13	90	PKP	PKPdf	22 38 14.4	-0.3
	comp=Z,25nm,0.7s,baz=78,slow=1.5,SNR=15						
ROSC	El Rosal	134.13	90	eP	PKPdf	22 38 13.1	-1.7
MACC	Macarena, Meta	134.33	93	eP	PKPdf	22 38 09.8	-4.9
SPBC	San Pablo de B	134.43	89	eP	PKiKP	22 38 16.9	+0.6
LPAZ	La Paz	134.47	120	PKhKP	PKPpre	22 38 06.6	
	comp=Z,5.8nm,1.1s,baz=208,slow=2.0,SNR=9.9						
LPAZ				PKP	PKPdf	22 38 15.1	-0.5
	comp=Z,27nm,1.1s,baz=354,slow=2.6,SNR=24						
LPAZ	La Paz	134.47	120	eP	PKPdf	22 38 12.2	-3.3
SMLC	San Martn de	134.54	84	eP	PKPdf	22 38 13.1	-1.9
CHIC	Chingaza	134.69	90	eP	PKPdf	22 38 13.0	-2.9
ITQB	Itaqui	134.82	144	eP	PKPdf	22 38 12.1	-3.0
PLTB	Pedras Altas	134.85	149	eP	PKPdf	22 38 12.6	-2.6
BRRC	Barranca, Sant	134.86	87	eP	PKPdf	22 38 13.0	-2.6
KEST	Kesra	134.95	315	PKP	PKiKP	22 38 16.1	-0.7
	comp=Z,16nm,1.1s,baz=328,slow=0.8,SNR=3.6						
OCAC	Ocana	135.28	85	eP	PKPdf	22 38 12.9	-3.7
RUSC	La Rusia	135.43	88	eP	PKPdf	22 38 15.6	-1.7
PAMC	Pamplona, Colo	135.87	86	eP	PKiKP	22 38 19.2	-0.5
CPSB	Capapava Do Su	136.02	148	eP	PKPdf	22 38 13.4	-3.9
PTGC	Puerto Gaitan,	136.25	91	eP	PKPdf	22 38 12.9	-5.3
ETSF	Etsaut	136.34	330	ePKIKP	PKPdf	22 38 16.2	-1.5
ETSF				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,33nm,1.2s						
SJPF	Ste Jean	136.50	331	ePKIKP	PKiKP	22 38 19.7	+0.1
SJPF				pmax	pmax		
	comp=Z,20nm,1.4s						
SC01	Santiago de lo	136.80	69	IAMs_20	IAMs_20	23 32 52.6	
	comp=Z,725nm,19.0s						
CPUP	Villa Florida	136.81	140	PKP	PKPdf	22 38 18.0	-0.9
	comp=Z,25nm,0.9s,baz=279,slow=1.2,SNR=32						
CPUP	Villa Florida	136.81	140	PKIKP	PKPdf	22 38 18.8	-0.1
CPUP	Villa Florida	136.81	140	PKPdf	PKPdf	22 38 18.8	-0.1
CPUP	Villa Florida	136.81	140	eP	PKPdf	22 38 15.9	-3.0
SDV	Santo Domingo	137.94	84	PKP	PKPdf	22 38 20.5	-1.1
	comp=Z,81nm,1.0s						
SDV	Santo Domingo	137.94	84		PKPdf	22 38 21.0	-0.6
SDV	Santo Domingo	137.94	84	eP	PKPdf	22 38 19.5	-2.1
ETMB	Extrema	138.82	113	eP	PKPdf	22 38 19.6	-3.4
ITAB	Concordia	139.22	146	eP	PKPdf	22 38 20.4	-3.0
TER01	Tubaro-SC	139.72	151	eP	PKPdf	22 38 21.6	-2.6
PBRG	Braganca	140.04	335	ePKPdf	PKPdf	22 38 23.2	-1.3
ESBB	Sonseca Array	140.45	330	PKPdf	PKPdf	22 38 25.0	-0.3
ESDC	Sonseca Array	140.46	330	PKhKP	PKPpre	22 38 17.5	
	comp=Z,1.5nm,0.9s,baz=14,slow=4.0,SNR=8.8						
ESDC				PKP	PKPdf	22 38 25.4	+0.1
	comp=Z,8.9nm,1.2s,baz=4.0,slow=2.2,SNR=13						
ESDC				PP	PP	22 41 23.9	+0.6
	comp=Z,2.1nm,0.9s,baz=34,slow=7.2,SNR=4.5						
ESDC	Sonseca Array	140.46	330		PKPdf	22 38 25.1	-0.1
ES12	SONSECA Array	140.47	330	IAMs_20	IAMs_20	23 44 12.6	
	comp=Z,763nm,20.0s						
MLPR	Magueyes Islan	140.51	70	PKPdf	PKPdf	22 38 25.7	-0.1
SIV	San Ignacio	140.52	125	PKhKP	PKPpre	22 38 17.8	
	comp=Z,9.2nm,1.0s,baz=233,slow=4.2,SNR=21						
SIV				PKP	PKPdf	22 38 25.2	-0.8
	comp=Z,50nm,1.2s,baz=257,slow=2.1,SNR=24						
PGAV	Gavieira, Arco	140.53	336	ePKPdf	PKPdf	22 38 26.0	+0.6
PCAB	Cabril	140.65	336	ePKPdf	PKPdf	22 38 26.6	+1.1
MVO	Moncorvo	140.69	334	ePKPdf	PKPdf	22 38 26.9	+1.2
PAB	San Pablo	140.75	330	PKIKP	PKPdf	22 38 25.9	+0.1
PAB	San Pablo	140.75	330	PKPdf	PKPdf	22 38 25.9	+0.1
POLO	Lamas de Olo	140.84	335	ePKPdf	PKPdf	22 38 20.4	-5.6
PVRL	Vila Real	140.89	335	ePKPdf	PKPdf	22 38 27.1	+1.1
OBIP	Obispado Ponce	140.90	69		PKPdf	22 38 25.8	-0.7
PTGB	Pitanga	141.21	144	eP	PKPdf	22 38 24.4	-2.7
SJG	San Juan	141.31	69	PKIKP	PKPdf	22 38 27.6	+0.3
SJG	San Juan	141.31	69		PKPdf	22 38 27.6	+0.3
PVIS	Viseu	141.43	335	ePKPdf	PKPdf	22 38 23.5	-3.5
MTE	Manteigas	141.54	334	ePKPdf	PKPdf	22 38 23.1	-4.1
MTE	Manteigas	141.54	334	PKPdf	PKPdf	22 38 27.8	+0.5
HUMP	Col San Antoni	141.58	69	PKPdf	PKPdf	22 38 28.0	+0.2
SAML	Samuel	141.91	113	PKIKP	PKPdf	22 38 27.6	-1.0
SAML				MLR	MLR		
	comp=Z,400nm,19.0s						
SAML	Samuel	141.91	113		PKPdf	22 38 27.6	-1.0
SAML	Samuel	141.91	113	eP	PKPdf	22 38 24.0	-4.5
AQDB	Aquidauana	141.92	135	eP	PKPdf	22 38 24.0	-4.3
PCBR	Castelo Branco	141.97	334	ePKPdf	PKPdf	22 38 23.9	-4.0
COI	Coimbra	142.07	335	PKIKP	PKPdf	22 38 27.0	-1.1
COI	Coimbra	142.07	335		PKPdf	22 38 27.0	-1.1
PMRV	Marv??o	142.27	333	ePKPdf	PKPdf	22 38 24.5	-4.0
TRCB	Terra Rica	142.31	141	eP	PKPdf	22 38 25.3	-3.8
PTLB	Pontes e Lacer	142.38	126	eP	PKPdf	22 38 26.1	-3.2
TIJ01	Guaruva-PR	142.42	148	eP	PKPdf	22 38 26.9	-2.4
CDVI	St. Croix	142.68	69	eP	PKPdf	22 38 18.9	-11
CDVI	St. Croix	142.68	69	e	PKPdf	22 38 27.2	-2.5
VILB	Vilhena	142.80	121	eP	PKPdf	22 38 27.3	-2.8
PSBE	So Bento	142.81	335	ePKPdf	PKPdf	22 38 26.4	-3.1
PMTG	Montargil	142.93	334	ePKPdf	PKPdf	22 38 26.9	-2.8
PBAR	Barrancos	143.12	332	ePKPdf	PKPbc	22 38 26.7	-0.2
EVO	Evora	143.28	333	ePKPdf	PKPbc	22 38 27.2	-0.1
PBEJ	Beja	143.62	332	ePKPdf	PKPbc	22 38 29.6	+1.3
TAM	Tamanrasset	143.70	300	PKIKP	PKPbc	22 38 29.7	+0.5
FRTB	Fartura	143.70	146	eP	PKPab	22 38 28.1	-0.1
PCRV	Puerto La Cruz	143.82	82	PKP	PKPab	22 38 29.1	+0.1
	comp=Z,36nm,1.1s,baz=13,slow=7.1,SNR=2.7						
PNCL	Nicolau / Gran	143.85	333	ePKPdf	PKPbc	22 38 29.3	+0.3
MESJ	Messejana	143.94	333	ePKPdf	PKPbc	22 38 30.1	+0.9
MESJ				AMS	AMS	23 44 01.2	
	comp=Z,543nm,17.3s						
MESJ	Messejana	143.94	333	ePKIKP	PKPbc	22 38 30.1	+0.9
MESJ	Messejana	143.94	333	ePKPdf	PKPbc	22 38 30.1	+0.9
PCVE	Castro Verde	144.02	332	ePKPdf	PKPbc	22 38 30.3	+0.8
PVAQ	Vaqueiros	144.06	332	ePKPdf	PKPbc	22 38 30.3	+0.7
PBDV	Barranco-do-Ve	144.29	332	ePKPdf	PKPdf	22 38 31.4	-0.7
PP1B	Ponte de Pedra	144.38	133	eP	PKPab	22 38 28.1	-2.8
PTEO	Sao Teotonio	144.41	333	ePKPdf	PKPbc	22 38 31.4	+0.7
MORF	Marmelete	144.57	333	ePKPdf	PKPbc	22 38 31.2	-0.1
MORF	Marmelete	144.57	333	ePKIKP	PKPab	22 38 31.0	-0.1
MORF	Marmelete	144.57	333	ePKPdf	PKPdf	22 38 32.1	-0.6
SPB	Sao Paulo	144.65	149		PKPbc	22 38 31.9	0.0
SPB				IAMs_20	IAMs_20	23 44 52.5	
	comp=Z,605nm,19.0s						
SPB	Sao Paulo	144.65	149	eP	PKPab	22 38 28.9	-2.8
PFVI	Vila Bisbo	144.79	333	ePKPdf	PKPdf	22 38 33.0	0.0
PFVI	Vila Bisbo	144.79	333	PKPdf	PKPdf	22 38 32.8	-0.2
MLYT	Lee's Yard	145.30	70	e	PKiKP	22 38 47.4	+9.0
VAO	Valinhos	145.38	149	eP	PKPbc	22 38 32.2	-2.2
ANWB	Willy Bob	145.46	68	PKPdf	PKPdf	22 38 34.4	-0.2
RCLB	Rio Claro- Sao	145.56	147	eP	PKPdf	22 38 32.2	-2.6
PARB	Paraibuna	145.77	151	eP	PKPdf	22 38 31.8	-3.4
MDT	Midelt	145.86	323	PKPbc	PKPbc	22 38 35.8	+0.1
	comp=Z,51nm,1.2s,baz=69,slow=3.8,SNR=50						
TBG	Guadaloupe-3	146.00	71	e	PKiKP	22 38 41.3	+1.6
TDBA	Terre de Bas,	146.01	71	e	PKPab	22 38 38.1	+1.1
ITRB	Iturama	146.01	141	eP	PKPdf	22 38 33.4	-2.2
BB19B	Bebedouro	146.08	145	eP	PKPdf	22 38 33.0	-2.7
MACA	Manacapuru-AM	146.20	106	eP	PKPdf	22 38 33.8	-2.2
GRGR	Grenville	146.59	78	PKPdf	PKPdf	22 38 36.1	-0.5
SVB	Belmont	146.83	76	e	PKiKP	22 38 48.5	+7.0
SVB	Belmont	146.83	76		PKPdf	22 38 37.4	+0.4
SLB	Belfond	146.95	75	e	PKPab	22 38 40.3	-0.4
MAN01	Angra dos Reis	146.96	153	eP	PKPdf	22 38 34.2	-2.9
TRN	Trinidad (W)	146.97	81	eP	PKPdf	22 38 38.0	+0.7
SLBI	Saint Lucia, B	146.98	74	e	PKPdf	22 38 32.3	-5.0
SLBI				eS	PKPdf	22 38 35.4	-1.8
SLBI				eS	PKPdf	22 38 35.7	-1.5
H07S1	FLORES T-PHASE	147.21	4	ePKP	PKPab	22 38 40.7	-0.3
PTGA	Pitinga	147.52	102	PKPbc	PKPdf	22 38 38.3	0.0
	comp=Z,82nm,1.0s,baz=255,slow=3.8,SNR=32						
PTGA	Pitinga	147.52	102	eP	PKPdf	22 38 35.9	-2.4
BOAV	Boa Vista	147.56	96	eP	PKPdf	22 38 36.3	-2.1
CLDB	Colider	147.56	122	eP	PKPdf	22 38 35.9	-2.5
PGRA	Graciosa	147.67	360	ePKP	PKiKP	22 38 41.6	-1.0
VAS01	Vassouras-RJ	147.70	153	eP	PKPdf	22 38 35.9	-2.5
ARAG	Araguaiana, MT	147.84	134	eP	PKPdf	22 38 35.9	-2.8
PAGU	Agualva, Azore	147.92	358	ePKP	PKPbc	22 38 41.9	+0.7
PSCM	Serra do Cume	147.98	358	ePKP	PKPbc	22 38 41.9	+0.5
ADH	Angra Heroismo	148.03	359	ePKP	PKiKP	22 38 43.4	+0.1
PMAN	Manadas	148.07	360	ePKP	PKiKP	22 38 43.7	+0.3
CALA	Caldeira	148.12	1	ePKP	PKiKP	22 38 42.8	-0.8
BSCB	Bom Sucesso	148.16	150	eP	PKPdf	22 38 36.7	-2.6
PICO	Pico	148.20	0	ePKP	PKiKP	22 38 43.7	-0.1
DUB01	Friburgo-RJ	148.35	154	eP	PKPdf	22 38 37.1	-2.4
SHEL	Horse Pasture	148.43	225	PKP2	PKiKP	22 38 44.6	-0.2
SHEL	Horse Pasture	148.43	225		PKPbc	22 38 43.2	0.0
IPMB	Ipameri, GO	148.64	141	eP	PKPdf	22 38 36.7	-3.4
BART	Pico Bartolome	148.80	355	ePKP	PKPbc	22 38 43.7	+0.1
CAM01	Campos-RJ	148.88	155	eP	PKPdf	22 38 37.1	-3.2
PSMN	Pico do Norte,	149.56	355	ePKP	PKPdf	22 38 42.8	+1.9
PSMA	Santa Maria	149.57	355	ePKP	PKPdf	22 38 42.2	+1.3
NPGB	Novo Progresso	149.76	116	eP	PKPdf	22 38 39.5	-2.4
ALF01	Guarapari-ES	150.34	156	eP	PKPdf	22 38 39.9	-2.7
ITTB	Itaituba	150.48	111	eP	PKPdf	22 38 40.8	-2.3
BDFB	Brasilia	150.50	139	PKP	PKPdf	22 38 43.0	-0.2
	comp=Z,30nm,1.0s,baz=26,slow=0.4,SNR=32						
BDFB				PKPbc	PKPbc	22 38 48.6	+0.2
	comp=Z,188nm,1.0s,baz=199,slow=1.9,SNR=61						
BDFB	Brasilia	150.50	139	PKIKP	PKPdf	22 38 43.3	+0.2
BDFB				MLR	MLR		
	comp=Z,800nm,18.0s						
BDFB	Brasilia	150.50	139	PKPdf	PKPdf	22 38 43.3	+0.2
SNDB	Serra Nova Dou	150.59	129	eP	PKPdf	22 38 40.3	-2.8
DIAM	Diamantina, MG	150.99	149	eP	PKPdf	22 38 40.8	-3.1
PMPST	Porto Santo, M	151.38	339	ePKPbc	PKiKP	22 38 50.2	-0.2
PMPS	Porto Santo	151.40	339	ePKPbc	PKiKP	22 38 51.0	+0.6
RIB01	Linhares ES	151.64	155	eP	PKPdf	22 38 41.6	-3.1
SJMB	Sao Joao De Ma	151.84	153	eP	PKPdf	22 38 42.4	-2.6
BSFB	Barra de Sao F	151.88	154	eP	PKPdf	22 38 42.4	-2.6
PMAR	Madeira	151.91	339	ePKPbc	PKiKP	22 38 52.4	+0.6
PMOZ	Porto Moniz, M	151.92	340	ePKPbc	PKiKP	22 38 53.1	+1.4
FUL	Funchal	151.97	339	ePKPdf	PKiKP	22 38 51.9	+0.3
MALB	Monte Alegre	152.71	107	eP	PKPdf	22 38 43.0	-3.4
PEXB	Peixe	152.76	133	eP	PKPdf	22 38 43.6	-2.9
NAN01	Guarapari, ES	153.06	154	eP	PKPdf	22 38 44.4	-2.4
JANB	Januaria	153.26	144	eP	PKPdf	22 38 44.6	-2.6
SDBA	SAO DESIDERIO	154.91	139	eP	PKPdf	22 38 46.2	-3.3
KOWA	Kowa	154.93	290	PKP	PKPdf	22 38 49.1	-0.3
	comp=Z,22nm,1.2s,baz=9.0,slow=0.9,SNR=16						
KOWA				PKPbc	PKPbc	22 38 58.1	-0.1
	comp=Z,24nm,0.9s,baz=80,slow=2.4,SNR=23						
KOWA				PKPab	PKPab	22 39 14.0	+0.3
	comp=Z,51nm,1.0s,baz=31,slow=1.3,SNR=11						
KOWA				PP	PP	22 42 47.4	-2.3
	comp=Z,7.4nm,0.8s,baz=79,slow=3.2,SNR=4.7						
KOWA	Kowa	154.93	290	PKPdf	PKPdf	22 38 49.4	-0.1
KOWA				PKPab	PKPab	22 39 13.7	+0.1
PRPB	Parauapebas	155.03	120	eP	PKPdf	22 38 47.1	-2.7
MCPB	Macapa, AP	155.26	105	eP	PKPdf	22 38 47.1	-3.0
SMTB	Santa Maria do	155.37	128	eP	PKPdf	22 38 47.5	-2.7
NBIT	Itapeh - BA	155.94	153	eP	PKPdf	22 38 47.9	-3.0
KIC	Kosan Boka	156.65	271	ePKIKP	PKPdf	22 38 51.2	-0.7
	comp=Z,85nm,1.3s						
KIC	Kosan Boka	156.65	271	eP	PKPab	22 39 20.7	-0.4
	comp=Z,281nm,1.4s						
DBIC	Dimbokro	156.77	272	PKP	PKPdf	22 38 51.8	-0.2
	comp=Z,24nm,1.1s,baz=57,slow=2.5,SNR=9.9						
DBIC				PKPab	PKPab	22 39 22.0	+0.4
	comp=Z,23nm,1.0s,baz=79,slow=4.0,SNR=12						
DBIC				PP	PP	22 43 09.0	+8.8
	comp=Z,22nm,1.2s,baz=82,slow=3.8,SNR=4.3						
DBIC	Dimbokro	156.77	272	PKP2	PKPab	22 39 21.4	-0.2
DBIC						23 38 51.9	
DBIC	Dimbokro	156.77	272	PKPdf	PKPdf	22 38 51.9	-0.1
DBIC				PKPab	PKPab	22 39 21.4	-0.2
GDU01	Guandu, BA	156.92	151	eP	PKPdf	22 38 49.1	-3.1
LIC	Lamto	156.93	270	ePKIKP	PKPdf	22 38 51.4	-0.8
	comp=Z,126nm,1.4s						
LIC	Lamto	156.93	270	eP	PKPab	22 39 22.1	-0.2
	comp=Z,358nm,1.7s						
TIC	Toumodi	156.94	272	ePKIKP	PKPdf	22 38 51.2	-1.0
TIC	Toumodi	156.94	272	eP	PKPab	22 39 22.2	-0.1
TMAB	Tom-Au,PA,Br	158.28	113	eP	PKPdf	22 38 50.7	-3.2
NBPN	Ponto Novo - B	159.01	145	eP	PKPdf	22 38 52.4	-2.4
NBLA	Lagarto - SE	160.14	151	eP	PKPdf	22 38 53.2	-2.9
ROSB	Rosrio	161.57	120	eP	PKPdf	22 38 54.8	-2.8
NBAN	Anadia - AL	162.00	154	eP	PKPdf	22 38 54.8	-3.3
NBPS	Pedro II - PI	162.91	129	eP	PKPdf	22 38 56.0	-3.0
NBRF	Rio Formoso -	163.38	156	eP	PKPdf	22 38 56.0	-3.4
NBPB	Pedra_Branca-C	163.49	136	eP	PKPdf	22 38 56.4	-3.1
NBLI	Livramento-PB	163.67	148	eP	PKPdf	22 38 57.6	-2.1
NBMO	Morrinhos-CE	164.67	129	eP	PKPdf	22 38 58.9	-1.7
NBPA	Parau_RN	164.90	144	eP	PKPdf	22 38 58.1	-2.7
NBPV	Pedro Velho	165.31	151	eP	PKPdf	22 38 58.5	-2.7
NBCL	Cascavel-CE	165.32	137	eP	PKPdf	22 38 58.5	-2.7
RCBR	Riachuelo	165.51	148	PKP	PKPdf	22 39 00.8	-0.6
	comp=Z,42nm,1.0s,baz=94,slow=1.8,SNR=12						
RCBR				PP	PP	22 43 55.6	+10
	comp=Z,12nm,1.1s,baz=331,slow=4.6,SNR=3.7						
RCBR	Riachuelo	165.51	148	PKIKP	PKPdf	22 39 01.2	-0.2
RCBR	Riachuelo	165.51	148		PKPdf	22 39 01.2	-0.2
RCBR	Riachuelo	165.51	148	eP	PKPdf	22 38 58.1	-3.3

*IDC **07** 22:19:00.2±0.8, 2°.11N×126°.62E, h0^{km}, mb4.3/18, mb1 4.3/20, mb1mx4.2/58, mbtmp4.3/20, ML3.5/2, MS4.3/2, Ms1 4.3/2, ms1mx3.5/46 Error ellipse: s-maj=26.0km s-min=16.3km az=93.0*

*DJA **07** 22:19:03.8±0.8, 2°N±2°×12°7E±°, h17^{km}±9^{km}, M4.6/17, mB5.2/7, mb4.7/17, MLv4.5/12, Mw(mB)4.6/7*

*BJI **07** 22:19:04.6±0.0, 1°.83N×126°.96E, h61^{km}, mB5.1/18, mb4.3/34, Ms4.8/3, Ms7 4.5/3*

*NEIC **07** 22:19:04.2±1.7, 2°.03N±0°.07×126°.98E±0°.07, h35^{km}±1^{km}, mb4.6/31, Error ellipse: s-maj=15.2km s-min=5.8km az=43.0*

ISC 07 22:19:04.6±0.5**, 2°.03N**±0°.05×**126°.97E**±0°.07**, h35^{km}, n97, σ1^{s}33**/95**, mb4.6**/38**, 1C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	1.31	162	Pn	Pn	22 19 26.4	-0.1
TNTI				Sn	Sn	22 19 42.4	-0.5
TNTI	Ternate	1.31	162	P	Pn	22 19 26.2	-0.3
SGSI	Sangihe	2.18	319	P	Pn	22 19 38.8	+0.3
KMSI	Cibinong	3.32	244	P	Pn	22 19 56.4	+2.3
SANI	Sanana	4.17	194	P	Pn	22 20 07.4	+1.6
GTOI	Gorontalo	4.19	251	P	Pn	22 20 09.9	+3.8
SIJI	Sorong	5.18	124	Pn	Pn	22 20 25.1	+5.4
	1.0nm,0.3s,baz=337,slow=21,SNR=2.1						
SIJI				LR	LR	22 22 51.5	
	comp=Z,1μm,20.0s,baz=311,slow=42						
LUWI	Luwuk	5.19	234	Pn	Pn	22 20 20.3	+0.5
LUWI	Luwuk	5.19	234	P	Pn	22 20 21.9	+2.1
	1.0nm8μm194nm,1.5s						
NLAI	Namlea	5.24	179	P	Pn	22 20 22.1	+1.6
	0.3nm3μm64nm,0.8s						
MRSI	Marisa	5.25	253	P	Pn	22 20 23.5	+2.8
	0.4nm950nm114nm,1.3s						
APSI	Ampana	6.07	241	P	Pn	22 20 33.3	+1.4
	0.5nm986nm137nm,0.9s						
TOLI2	Tolitoli	6.25	262	Pn	Pn	22 20 35.2	+0.8
FAKI	Fak Fak	7.22	133	Pn	Pn	22 20 49.4	+1.7
TTSI	Tana Toraja	8.74	235	P	Pn	22 21 10.3	+1.6
	38nm,1.0s						
MYLDM	Lahad Datu	9.01	291	Pn	Pn	22 21 14.3	+2.0
SPSI	Sidrap Palu	9.34	230	P	Pn	22 21 18.9	+2.1
	20nm,0.8s						
BNSI	Bone	9.37	227	P	Pn	22 21 19.4	+2.1
	34nm,0.9s						
KAPI	Kappang	10.04	226	Pn	Pn	22 21 24.9	-1.7
	0.7nm,0.3s,baz=40,slow=8.6,SNR=9.0						
KAPI	Kappang	10.04	226	Pn	Pn	22 21 26.6	+0.1
KKM	Kota Kinabalu	11.44	291	Pn	Pn	22 21 47.7	+2.0
SOEI	Soe	12.01	193	Pn	Pn	22 21 54.0	+0.4
SOEI	Soe	12.01	193	P	P	22 22 02.6	-3.5
PLAI	Plampang	14.15	220	P	Pn	22 22 25.0	+2.3
	1μm75nm,1.3s						
TWSI	Taliwang, Sumb	14.68	223	P	Pn	22 22 32.5	+2.6
	28nm,0.8s						
SBUM	Sibu	14.74	272		P	22 22 35.5	-0.8
SRBI	Singaraja	15.44	229	P	Pn	22 22 42.2	+2.2
	79nm,1.2s						
KMMI	Kalianget	15.80	235	P	P	22 22 47.4	-0.7
	160nm,1.0s						
JAGI	Jajag, Banyuwa	16.49	231		P	22 22 55.3	-0.5
JAGI	Jajag, Banyuwa	16.49	231	P	P	22 22 56.2	+0.4
	86nm,1.1s						
KSM	Kuching	16.66	268		P	22 22 57.6	0.0
FITZ	Fitzroy Crossi	20.05	184	P	P	22 23 34.7	-0.2
	8.4nm,1.0s,baz=18,slow=12,SNR=7.9						
FITZ	Fitzroy Crossi	20.05	184		P	22 23 34.0	-0.9
YULB	Yu-li	21.93	346	P	P	22 23 55.7	+0.4
YULB				IAmb	IAmb	22 24 03.0	
	comp=Z,36nm,1.4s						
ANA2	Anatahan	23.30	51	P	P	22 24 09.3	-0.3
MDSI	Maura Dua	23.67	254	P	P	22 24 14.7	+1.4
PSA00	Pilbara Seismi	24.47	196	P	P	22 24 19.3	-1.3
PSA00				IAmb	IAmb	22 24 22.2	
	comp=Z,22nm,1.0s						
NJ2	Nanjing	30.82	346	eP	P	22 25 19.0	+1.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
JNU	Nakatsue	31.15	6	P	P	22 25 20.4	+0.1
	comp=Z,12nm,1.0s,baz=61,slow=10,SNR=3.7						
CM31	Chiang Mai Arr	31.95	303	P	P	22 25 26.1	-1.4
CM31				IAmb	IAmb	22 25 31.0	
	comp=Z,8.9nm,1.0s						
CMAR	Chiang Mai Arr	31.95	303	P	P	22 25 25.8	-1.8
	comp=Z,2.3nm,0.4s,baz=109,slow=6.8,SNR=20						
CMAR	Chiang Mai Arr	31.95	303	P	P	22 25 26.2	-1.3
CHTO	Chiang Mai	32.12	303	P	P	22 25 28.0	-1.0
CHTO				IAmb	IAmb	22 25 31.3	
	comp=Z,6.5nm,0.8s						
MORW	Morawa	32.65	198	P	P	22 25 32.8	-0.7
KMI	Kunming	32.75	317	⇑P	P	22 25 33.9	-0.8
KMI				pP	sP	22 25 48.3	+0.2
KMI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KSAR	Wonju Array Be	35.25	1	P	P	22 25 57.1	+1.1
KSRS	Korea Array	35.26	1	P	P	22 25 56.3	+0.3
	comp=Z,2.2nm,0.8s,baz=177,slow=9.6,SNR=12						
KS19	Wonju Array Si	35.31	1	P	P	22 25 56.8	+0.4
KS19				IAmb	IAmb	22 26 08.8	
	comp=Z,12nm,1.4s						
MJAR	Matsushiro Arr	35.88	16	P	P	22 26 01.9	+0.5
	comp=Z,1.0nm,0.5s,baz=106,slow=8.2,SNR=3.2						
NWAO	Narrogin (SRO)	35.97	194	P	P	22 26 02.5	+0.4
	comp=Z,6.6nm,0.8s,baz=24,slow=8.9,SNR=6.3						
NWAO	Narrogin (SRO)	35.97	194	P	P	22 26 02.1	0.0
BJT	Baijiatuau	39.06	347	P	P	22 26 28.3	0.0
BJI	Beijing	39.08	347	P	P	22 26 28.6	+0.2
BJI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LZH	Lanzhou	40.08	330	eP	P	22 26 42.9	+5.9
LZH				pP	sP	22 26 55.1	+4.6
LZH				sP	pwP	22 27 02.2	+13
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH	Lanzhou	40.08	330	eP	P	22 26 36.8	-0.2
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC	Hu-ho-hao-te	41.08	342	eP	P	22 26 44.4	-0.7
SHL	Shillong	41.08	308	P	P	22 26 44.8	-0.7
SHL				IAmb	IAmb	22 26 48.1	
	comp=Z,10nm,0.7s						
CN2	Changchun	41.61	358	eP	P	22 26 56.4	+7.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USA0B	Ussuriysk Arra	42.23	5	P	P	22 26 54.8	+0.4
USRK	Ussuriysk Ar.	42.23	5	P	P	22 26 54.4	+0.1
	comp=Z,4.4nm,0.8s,baz=196,slow=7.8,SNR=15						
USRK	Ussuriysk Ar.	42.23	5	P	P	22 26 55.0	+0.7
MDJ	Mudanjiang	42.47	3	P	P	22 26 56.5	+0.2
LSA	Lhasa	43.74	313	P	P	22 27 06.6	-0.8
GTA	Gaotai	44.67	330	eP	P	22 27 15.4	+1.1
GTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
HIA	Hailar	47.46	354	P	P	22 27 37.0	+1.0
HIA				IAmb	IAmb	22 27 55.9	
	comp=Z,10nm,1.4s						
ULN	Ulaanbaatar	48.80	342	P	P	22 27 46.3	-0.2
ULN				IAmb	IAmb	22 28 04.6	
	comp=Z,11nm,1.2s						
SONM	Songino Array	48.97	342	P	P	22 27 47.1	-0.7
	comp=Z,2.0nm,1.0s,baz=148,slow=8.4,SNR=10						
SONM				PcP	PcP	22 29 11.6	0.0
	comp=Z,0.9nm,0.8s,baz=158,slow=3.9,SNR=3.9						
SONM	Songino Array	48.97	342	P	P	22 27 47.6	-0.2
TLY	Talaya	53.21	342	P	P	22 28 17.7	-1.7
	comp=Z,1.5nm,0.4s,baz=126,slow=13,SNR=3.7						
TLY	Talaya	53.21	342	P	P	22 28 19.9	+0.5
WMQ	Urumqi	54.25	326	eP	P	22 28 29.5	+2.3
PETK	Petropavlovsk-	56.91	22	P	P	22 28 47.8	+1.7
	comp=Z,1.6nm,0.7s,baz=184,slow=8.4,SNR=1.9						
MK31	Makanchi Array	59.08	326	P	P	22 29 00.9	-0.6
MKAR	Makanchi Array	59.08	326	P	P	22 29 00.9	-0.5
	comp=Z,1.1nm,0.4s,baz=120,slow=8.2,SNR=27						
MKAR	Makanchi Array	59.08	326	P	P	22 29 00.5	-1.0
NIL	Nilore	59.15	308	P	P	22 29 01.5	-0.7
NIL				IAmb	IAmb	22 29 17.5	
	comp=Z,5.4nm,0.9s						
MAKZ	Makanchi	59.26	326	P	P	22 29 01.7	-1.1
MAKZ				IAmb	IAmb	22 29 19.8	
	comp=Z,4.4nm,1.1s						
KSH	Kashi	59.41	316	P	P	22 29 07.9	+3.9
KSH				pP	sP	22 29 19.9	+2.1
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,96nm,3.7s						
YAK	Yakutsk	59.89	1	P	P	22 29 06.7	0.0
AAK	Ala-Archa	61.77	318	P	P	22 29 20.0	-0.2
	comp=Z,0.5nm,0.7s,baz=112,slow=5.4,SNR=2.0						
ZAA0	Zalesovo Array	62.20	333	P	P	22 29 21.5	-1.0
ZAA0				IAmb	IAmb	22 29 37.2	
	comp=Z,6.6nm,1.4s						
ZALV	Zalesovo Beam	62.20	333	P	P	22 29 21.8	-0.8
	comp=Z,1.5nm,0.7s,baz=115,slow=6.7,SNR=7.9						
KBL	Kabul	62.74	308	P	P	22 29 26.0	-0.9
KBL				IAmb	IAmb	22 29 31.2	
	comp=Z,4.2nm,0.8s						
KURBB	Kurchatov Arra	63.29	328	P	P	22 29 28.8	-1.1
	comp=Z,2.5nm,0.6s,baz=126,slow=6.3,SNR=20						
KK31	Karatay Array	64.63	318	P	P	22 29 38.4	-0.5
KKAR	Karatay Array	64.63	318	P	P	22 29 37.9	-1.0
BVAR	Borovoye Array	68.86	327	P	P	22 30 04.8	-0.8
	comp=Z,4.5nm,0.9s,baz=126,slow=7.7,SNR=29						
BRVK	Borovoye	68.94	327	P	P	22 30 05.6	-0.5
TIXI	Tiksi	69.53	1	P	P	22 30 08.7	-0.7
TIXI				IAmb	IAmb	22 30 09.6	
	comp=Z,7.3nm,1.2s						
GEYT	Alibeck	72.14	309	P	P	22 30 24.1	-2.0
	comp=Z,1.6nm,0.7s,baz=72,slow=4.7,SNR=2.0						
GEYT	Alibeck	72.14	309	P	P	22 30 24.7	-1.4
ABKAR	Akbulak array	73.61	321	P	P	22 30 34.0	-0.4
ABKAR	Akbulak array	73.61	321	P	P	22 30 34.0	-0.4
ABKAR				IAmb	IAmb	22 30 35.2	
	comp=Z,7.8nm,0.9s						
AKTO	Aktyubinsk	75.13	322	P	P	22 30 42.8	-0.4
	comp=Z,7.6nm,0.7s,baz=112,slow=6.4,SNR=29						
ARU	Arti	76.49	328	P	P	22 30 50.2	-0.7
FINES	FINESS Array B	93.43	332	P	P	22 32 16.7	+0.5
	comp=Z,2.6nm,0.9s,baz=67,slow=11,SNR=1.4						
RES	Resolute Bay	99.43	10	LR	LR	23 21 39.4	
	comp=Z,303nm,19.8s,baz=282,slow=38						

*NEIC **07** 22:35:58.7±1.5, 19°.55N±0°.09×65°.98W±0°.03, h36^{km}±46^{km}, Error ellipse: s-maj=13.3km s-min=4.2km az=189.0*

*RSPR **07** 22:35:58.8, 19°.53N×66°.00W, h80^{km}±11^{km}, MD3.2/4*

ISC 07 22:35:55.8±2.1**, 19°.52N**±0°.10×**66°.00W**±0°.06**, h14^{km}, n37, σ0^{s}56**/36**, 6C-3D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	1.15	206	Pn	Pg	22 36 18.1	+0.1
EMPR				IAML		22 36 52.8	
	comp=E,183nm,1.0s						
EMPR				IAML		22 36 55.2	
	comp=N,177nm,1.4s						
GCPR	Guaynabo City	1.21	184		Pb	22 36 18.3	-0.2
GCPR				IAML		22 36 43.2	
	comp=E,50nm,0.8s						
CBYP	Canovanas	1.25	174		Pg	22 36 19.4	-0.5
CBYP				IAML		22 36 43.0	
	comp=N,113nm,0.2s						
CBYP				IAML		22 36 46.4	
	comp=E,111nm,0.2s						
AOPR	Arecibo Observ	1.37	211	⇓eP	Pb	22 36 21.1	-0.1
AOPR	Arecibo Observ	1.37	211	eS	Sg	22 36 40.2	+0.2
AOPR	Arecibo Observ	1.37	211		Pb	22 36 21.1	-0.1
AOPR	Arecibo Observ	1.37	211		Sg	22 36 40.2	+0.2
HUMP	Col San Antoni	1.38	174	⇑eP	Pg	22 36 21.9	-0.5
HUMP	Col San Antoni	1.38	174	eS	Sb	22 36 39.8	+0.9
HUMP	Col San Antoni	1.38	174		Pg	22 36 21.9	-0.5
HUMP					Sb	22 36 39.8	+0.9
HUMP	Col San Antoni	1.38	174	IAML		22 36 41.8	
	comp=E,38nm,0.8s						
CUPR	Culebra, Puert	1.39	150	⇑eP	Pg	22 36 22.2	-0.3
CUPR	Culebra, Puert	1.39	150		Pg	22 36 22.2	-0.3
SJG	San Juan	1.41	186		Pb	22 36 22.2	+0.2
SJG				IAML		22 36 43.1	
	comp=E,46nm,0.4s						
SJG				IAML		22 36 45.3	
	comp=E,58nm,0.7s						
MTP	Monte Pirata	1.48	163	⇑eP	Pg	22 36 23.6	-0.7
MTP	Monte Pirata	1.48	163		Pg	22 36 23.6	-0.7
AGPR	Aguadilla, PR	1.48	225	Pn	Pg	22 36 24.2	-0.2
AGPR				IAML		22 36 39.3	
	comp=E,120nm,2.0s						
PDPR	Patillas Dam,	1.50	181		Pb	22 36 23.6	+0.2
PDPR				IAML		22 36 36.1	
	comp=E,47nm,1.4s						
CELP	Cerrillos	1.54	201	⇓eP	Pb	22 36 24.1	0.0
CELP	Cerrillos	1.54	201	eS	Sb	22 36 43.8	+0.3
CELP	Cerrillos	1.54	201		Pb	22 36 24.1	0.0
CELP					Sb	22 36 43.8	+0.3
IGPR	InterUniversit	1.55	184	⇑eP	Pb	22 36 24.1	-0.3
IGPR	InterUniversit	1.55	184	eS	Sb	22 36 44.7	+0.9
IGPR	InterUniversit	1.55	184		Sb	22 36 44.7	+0.9
OBIP	Obispado Ponce	1.58	201	⇑eP	Pb	22 36 24.3	-0.5
OBIP	Obispado Ponce	1.58	201	eS	Sb	22 36 44.7	+0.1
OBIP	Obispado Ponce	1.58	201		Sb	22 36 44.7	+0.1
OBIP	Obispado Ponce	1.58	201		Pn	22 36 23.4	0.0
OBIP	Obispado Ponce	1.58	201	IAML		22 36 47.9	
	comp=N,59nm,1.0s						
OBIP				IAML		22 36 49.4	
	comp=E,49nm,1.1s						
LSP	Las Mesas	1.69	218	⇑eP	Pb	22 36 25.7	-1.0
LSP	Las Mesas	1.69	218		Pb	22 36 25.7	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MPR	**Mayaguez**	**1.69**	**220**	Pn	**Pb**	**22 36 26.2**	**-0.6**
MLPR	**Magueyes Islan**	**1.83**	**213**⇓	*e*P	**Pb**	**22 36 28.5**	**-0.7**
MLPR	**Magueyes Islan**	**1.83**	**213**		**Pb**	**22 36 28.5**	**-0.7**
MLPR	**Magueyes Islan**	**1.83**	**213**	IAML		22 37 04.5	
	comp=E,36nm,2.7s						
MLPR				IAML		22 37 26.2	
	comp=N,44nm,2.2s						
SDDR	**Presa de Saban**	**5.02**	**265**	Pn	**Pn**	**22 37 11.8**	**+0.9**
URIC	**Uribia, Colomb**	**9.68**	**217**	*e*P	**Pn**	**22 38 14.3**	**-0.4**

*IDC **07** 22:38:13.7±1.1, 4.°69S×153.°07E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/45, mbtmp4.0/11, Error ellipse: s-maj=36.4km s-min=18.6km az=113.0*

*NEIC **07** 22:38:22.0±1.6, 4.°7S±0.°1×153.°0E±0.°1, h62km±8km, mb4.2/7, Error ellipse: s-maj=23.6km s-min=11.3km az=220.0*

ISC 07 22:38:21.4±0.7**, 4.°7S**±0.°1×**153.°0E**±0.°1**, h55km, n26, σ0.s76**/27**, mb4.0**/15**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.96**	**299**	Pn	**Pn**	**22 38 39.5**	**+0.7**
RABL				Sn	**Sn**	**22 38 51.5**	**-0.1**
DZM	**Mont Dzumac**	**21.65**	**144**	P	**P**	**22 43 08.8**	**+1.3**
DZM				IAmb	IAmb	22 43 20.2	
	comp=Z,39nm,1.5s						
WB0	**Warramunga Arr**	**23.54**	**229**	P	**P**	**22 43 27.1**	**+0.1**
WB0				IAmb	IAmb	22 43 29.1	
	comp=Z,4.5nm,0.8s						
WB2	**Warramunga Arr**	**23.68**	**229**	P	**P**	**22 43 28.5**	**+0.2**
WB2				IAmb	IAmb	22 43 30.1	
	comp=Z,4.6nm,0.6s						
WRA	**Warramunga Arr**	**23.69**	**229**	P	**P**	**22 43 27.9**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=53,slow=10.0,SNR=37						
ASAR	**Alice Springs**	**26.39**	**222**	P	**P**	**22 43 52.8**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=54,slow=8.5,SNR=5.1						
FITZ	**Fitzroy Crossi**	**29.91**	**241**	P	**P**	**22 44 23.2**	**-1.1**
	comp=Z,3.9nm,0.7s,baz=80,slow=7.2,SNR=8.8						
FITZ	**Fitzroy Crossi**	**29.91**	**241**	P	**P**	**22 44 23.2**	**-1.1**
FITZ				IAmb	IAmb	22 44 31.1	
	comp=Z,11nm,1.4s						
BKZ	**Black Stump Fm**	**40.41**	**151**	P	**P**	**22 45 54.1**	**-0.2**
KSRS	**Korea Array**	**47.97**	**333**	P	**P**	**22 46 54.2**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=144,slow=7.4,SNR=6.4						
USRK	**Ussuriysk Ar.**	**52.19**	**341**	P	**P**	**22 47 27.0**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=156,slow=6.8,SNR=5.5						
USRK	**Ussuriysk Ar.**	**52.19**	**341**	P	**P**	**22 47 26.4**	**-0.1**
KLR	**Kul'dur**	**56.77**	**343**	P	**P**	**22 48 00.3**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=194,slow=1.5,SNR=8.2						
PETK	**Petropavlovsk-**	**57.69**	**3**	P	**P**	**22 48 06.4**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=158,slow=9.3,SNR=4.9						
PETK	**Petropavlovsk-**	**57.69**	**3**	P	**P**	**22 48 04.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**58.01**	**295**	P	**P**	**22 48 09.2**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=121,slow=5.4,SNR=6.6						
SONM	**Songino Array**	**66.32**	**328**	P	**P**	**22 49 06.0**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=138,slow=5.2,SNR=2.7						
MK31	**Makanchi Array**	**80.36**	**319**	P	**P**	**22 50 27.2**	**+0.3**
MK31				IAmb	IAmb	22 50 28.6	
	comp=Z,2.2nm,1.1s						
MKAR	**Makanchi Array**	**80.36**	**319**	P	**P**	**22 50 27.1**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=95,slow=7.0,SNR=9.6						
MKAR	**Makanchi Array**	**80.36**	**319**	P	**P**	**22 50 27.5**	**+0.6**
MAKZ	**Makanchi**	**80.57**	**319**	P	**P**	**22 50 27.2**	**-0.9**
ILAR	**Eielson Array**	**81.96**	**22**	P	**P**	**22 50 33.7**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=235,slow=3.7,SNR=5.1						
QSPA	**South Pole Qui**	**85.30**	**180**	P	**P**	**22 50 52.1**	**-0.2**
GERES	**GERESS Array B**	**124.05**	**329**	PKP	**PKPdf**	**22 57 13.7**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=17,slow=1.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**150.46**	**288**	PKPbc	**PKPbc**	**22 58 07.9**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=76,slow=2.5,SNR=14						
BDFB	**Brasilia**	**151.01**	**135**	PKPbc	**PKiKP**	**22 58 10.5**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=232,slow=2.5,SNR=7.9						

IDC 07 22:46:20.4±1.3**, 17.°45N**×**144.°55E, h0km, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.3**/59**, mbtmp3.5**/4**, MS4.1**/1**, Ms1 4.1**/1**, ms1mx3.3**/34**, Error ellipse: s-maj=64.5km s-min=25.6km az=99.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	**Kappang**	**33.14**	**230**	LR	LR	23 05 06.5	
	comp=Z,304nm,21.1s,baz=57,slow=34						
WRA	**Warramunga Arr**	**38.49**	**196**	P	P	22 53 45.0	+0.4
	1.2nm,0.6s,baz=14,slow=8.5,SNR=11						
ASAR	**Alice Springs**	**42.17**	**195**	P	P	22 54 14.0	-1.1
	0.3nm,0.7s,baz=13,slow=6.7,SNR=4.4						
MKAR	**Makanchi Array**	**58.55**	**315**	P	P	22 56 19.4	+0.5
	0.4nm,1.0s,baz=78,slow=7.9,SNR=2.2						
ILAR	**Eielson Array**	**65.24**	**26**	P	P	22 57 03.4	-0.3
	0.1nm,0.4s,baz=255,slow=5.1,SNR=4.5						

*ANF **07** 22:46:50.8±0.2, 36.°62N×97.°68W, h5km, ML4.2/14, Error ellipse: s-maj=2.6km s-min=1.9km az=172.0*

*NEIC **07** 22:46:50.5, 36.°60N×97.°67W, h2km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}-0.53; $M_{\theta\theta}$2.67; $M_{\phi\phi}$-2.14; $M_{r\theta}$3.51; $M_{\theta\phi}$-4.70; $M_{\phi r}$1.14; Fault plane solution: $M_0$6.46000×10^{13} NP1:ϕ_s165.00000°, δ55.00000°, λ-5.00000°. NP2:ϕ_s258.00000°, δ86.00000°, λ-145.00000°. Principal axes: T 6.4579, Plg21.0000°, Azm26.0000°; N -0.0001, Plg55.0000°, Azm264.0000°; P -6.4578, Plg27.0000°, Azm127.0000°;*

*TUL **07** 22:46:50.5±1.3, 36.°63N±0.°01×97.°67W±0.°03, h5km±7km, ML3.3, mb_Lg3.4/119(NEIC), Mwr3.1/5(SLM) Error ellipse: s-maj=3.3km s-min=1.4km az=112.0*

*NEIC **07** 22:46:50.8±1.0, 36.°61N±0.°01×97.°65W±0.°06, h4km±7km, Error ellipse: s-maj=7.4km s-min=1.2km az=80.0*

ISC 07 22:46:50.7±1.1**, 36.°61N**±0.°02×**97.°66W**±0.°02**, h5km**±11km**, n112, σ0.s51**/81**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.28**	**249**	Pg	**Pg**	**22 46 56.4**	**+0.2**
CROK				Sg	**Sg**	**22 47 00.6**	**+0.8**
GC02	**Grant County #**	**0.29**	**327**	Pg	**Pg**	**22 46 56.4**	**-0.1**
GC02				Sg	**Sg**	**22 47 00.4**	**+0.1**
KAN14	**Manchester OK**	**0.42**	**325**	Pg	**Pg**	**22 46 58.8**	**-0.2**
KAN14				Sg	**Sg**	**22 47 04.6**	**+0.1**
KAN13	**South Haven SW**	**0.43**	**20**	Pg	**Pg**	**22 46 59.0**	**-0.1**
OK032	**Salt Plains WL**	**0.48**	**294**	Pg	**Pg**	**22 46 59.9**	**-0.2**
KAN05	**Bluff City Nor**	**0.53**	**341**		**Pg**	**22 47 00.7**	**-0.2**
KAN09	**Caldwell North**	**0.53**	**4**		**Pg**	**22 47 00.7**	**-0.2**
KAN01	**Argonia South**	**0.55**	**352**		**Pg**	**22 47 01.1**	**-0.2**
KAN10	**Anthony SW Sta**	**0.62**	**326**		**Pg**	**22 47 02.4**	**-0.3**
KS20	**Mayfield South**	**0.63**	**8**		**Pg**	**22 47 02.5**	**-0.3**
KAN08	**Anthony NE Sta**	**0.67**	**338**		**Pg**	**22 47 03.2**	**-0.4**
KAN12	**Harper NE Stat**	**0.74**	**339**		**Pg**	**22 47 04.5**	**-0.5**
OK029	**Liberty Lake**	**0.83**	**168**		**Pg**	**22 47 06.6**	**0.0**
QUOK	**Quay**	**0.88**	**119**		**Pg**	**22 47 07.6**	**0.0**
OK031	**S. Brethren Rd**	**0.93**	**134**		**Pg**	**22 47 08.6**	**0.0**
BCOK	**Bluff Creek, N**	**0.95**	**177**		**Pg**	**22 47 08.9**	**-0.1**
T35A	**Sooner Cattle**	**0.97**	**71**		**Pg**	**22 47 09.0**	**-0.4**
T35B	**Sooner Cattle**	**0.97**	**71**	P	**Pg**	**22 47 09.0**	**-0.4**
	baz=253						
T35B				S	**Sg**	**22 47 21.8**	**-0.2**
	baz=253						
T35B	**Sooner Cattle**	**0.97**	**71**	P		22 47 09.0	
	baz=253						
T35B				S		22 47 21.8	
	baz=253						
OK025	**Westminster Rd**	**1.06**	**166**		**Pg**	**22 47 10.9**	**-0.1**
U32A	**Winter Ranch,**	**1.10**	**259**		**Pg**	**22 47 11.2**	**-0.7**
U32A	**Winter Ranch,**	**1.10**	**259**	P	**Pg**	**22 47 11.2**	**-0.7**
	baz=77,SNR=50						
U32A				S	**Sg**	**22 47 26.3**	**+0.1**
	baz=77						
U32A	**Winter Ranch,**	**1.10**	**259**	P		22 47 11.2	
	baz=77,SNR=50						
U32A				S		22 47 26.3	
	baz=77						
OKCFA	**Oklahoma City**	**1.20**	**172**		**Pg**	**22 47 13.4**	**-0.4**
OKCSW	**OKLAHOMA CITY**	**1.21**	**171**		**Pg**	**22 47 13.6**	**-0.4**
FNO	**Franklin**	**1.36**	**171**		**Pn**	**22 47 15.8**	**-0.7**
TUL1	**Leonard**	**1.66**	**114**		**Pn**	**22 47 20.9**	**+0.2**
TUL1				IAmb_Lg		22 47 47.1	
	comp=Z,449nm,1.1s						
TUL1	**Leonard**	**1.66**	**114**	P	**Pn**	**22 47 20.8**	**+0.2**
	baz=296,SNR=227						
TUL1				S	**Sb**	**22 47 43.2**	**+0.1**
	baz=296						
TUL1	**Leonard**	**1.66**	**114**	P		22 47 20.8	
	baz=296,SNR=153						
TUL1				S		22 47 43.4	
	baz=296						
TUL1	**Leonard**	**1.66**	**114**	P		22 47 20.8	
	baz=296,SNR=227						
TUL1				S		22 47 43.2	
	baz=296						
R32A	**Long Quarter,**	**2.00**	**336**		**Pn**	**22 47 25.8**	**+0.6**
R32A	**Long Quarter,**	**2.00**	**336**	P	**Pn**	**22 47 25.5**	**+0.3**
	baz=155,SNR=61						
R32A				S	**Sn**	**22 47 51.3**	**+0.7**
	baz=155						
R32A	**Long Quarter,**	**2.00**	**336**	P		22 47 25.5	
	baz=155,SNR=61						
R32A				S		22 47 51.3	
	baz=155						
WMOK	**Wichita Mounta**	**2.08**	**206**	Pn	**Pn**	**22 47 26.5**	**+0.2**
WMOK				IAmb_Lg		22 47 57.9	
	comp=Z,259nm,0.8s						
WMOK	**Wichita Mounta**	**2.08**	**206**	S	**Sb**	**22 47 54.1**	**-0.9**
	baz=25						
WMOK	**Wichita Mounta**	**2.08**	**206**	P		22 47 26.6	
	baz=25						
WMOK				S		22 47 54.1	
	baz=25						
WMOK	**Wichita Mounta**	**2.08**	**206**	S		22 47 54.1	
	baz=25						
KSU1	**Kansas State U**	**2.63**	**18**	Pn	**Pn**	**22 47 34.1**	**+0.3**
KSU1	**Kansas State U**	**2.63**	**18**	P	**Pn**	**22 47 34.1**	**+0.3**
	baz=199,SNR=9.4						
KSU1	**Kansas State U**	**2.63**	**18**	Pn		22 47 34.1	
	baz=199,SNR=91						
KSU1				Pb		22 47 39.3	
	baz=199						
KSU1	**Kansas State U**	**2.63**	**18**	P		22 47 34.1	
	baz=199,SNR=9.4						
U38A	**Gravette**	**2.64**	**93**	Pn	**Pn**	**22 47 34.6**	**+0.5**
U38A	**Gravette**	**2.64**	**93**	P	**Pn**	**22 47 34.7**	**+0.6**
	baz=275,SNR=34						
U38A	**Gravette**	**2.64**	**93**	P		22 47 34.7	
	baz=275,SNR=34						
X37A	**Clayton**	**2.75**	**136**	Pn	**Pn**	**22 47 36.2**	**+0.7**
CBKS	**Cedar Bluff**	**2.75**	**324**	Pn	**Pn**	**22 47 36.2**	**+0.6**
CBKS	**Cedar Bluff**	**2.75**	**324**	P		22 47 36.3	
	baz=143						
HHAR	**Hobbs**	**3.02**	**95**		**Pn**	**22 47 39.5**	**+0.2**
HHAR				IAmb_Lg		22 48 32.0	
	comp=Z,93nm,0.8s						
HHAR	**Hobbs**	**3.02**	**95**	P	**Pn**	**22 47 40.2**	**+0.9**
	baz=278,SNR=12						
HHAR	**Hobbs**	**3.02**	**95**	P		22 47 40.2	
	baz=278,SNR=12						
Z35A	**Perchaven, San**	**3.29**	**174**		**Pn**	**22 47 43.5**	**+0.6**
W39A	**Magazine**	**3.45**	**113**		**Pn**	**22 47 46.5**	**+1.3**
W39A				IAmb_Lg		22 48 46.4	
	comp=Z,135nm,0.8s						
W39A	**Magazine**	**3.45**	**113**	Pb		22 47 52.7	
	baz=296,SNR=60						
S39A	**Bolivar**	**3.63**	**71**	Pn	**Pn**	**22 47 47.7**	**0.0**
S39A				IAmb_Lg		22 48 48.1	
	comp=Z,139nm,0.7s						
S39A	**Bolivar**	**3.63**	**71**	P	**Pn**	**22 47 48.0**	**+0.3**
	baz=254,SNR=15						
S39A	**Bolivar**	**3.63**	**71**	P		22 47 48.0	
	baz=254,SNR=15						
AMTX	**Amarillo**	**3.69**	**243**		**Pn**	**22 47 49.5**	**+0.9**
AMTX				IAmb_Lg		22 48 54.5	
	comp=Z,85nm,0.8s						
AMTX	**Amarillo**	**3.69**	**243**	Pb		22 47 57.2	
	baz=61						
AMTX				Sn		22 48 33.5	
	baz=61						
AMTX				Sb		22 48 46.1	
	baz=61						
U40A	**Yellville**	**3.88**	**92**	Pn	**Pn**	**22 47 51.1**	**0.0**
U40A				IAmb_Lg		22 49 05.0	
	comp=Z,71nm,0.7s						
U40A	**Yellville**	**3.88**	**92**	P	**Pn**	**22 47 51.1**	**0.0**
	baz=275,SNR=22						
U40A	**Yellville**	**3.88**	**92**	P		22 47 51.5	
	baz=275,SNR=7.4						
U40A	**Yellville**	**3.88**	**92**	P		22 47 51.1	
	baz=275,SNR=22						
U40A				P		22 47 51.1	
	baz=275,SNR=22						
MIAR	**Mount Ida**	**3.91**	**121**	Pn	**Pn**	**22 47 52.2**	**+0.7**
MIAR				IAmb_Lg		22 48 56.9	
	comp=Z,112nm,1.0s						
MIAR	**Mount Ida**	**3.91**	**121**	Pn		22 47 52.8	
	baz=303						
MIAR				Pb		22 48 01.3	
	baz=303,SNR=15						
Z38A	**Mt. Pleasant**	**4.00**	**146**		**Pn**	**22 47 53.1**	**+0.4**
N33A	**J Bar K, Exete**	**4.13**	**2**		**Pn**	**22 47 54.7**	**+0.2**
N33A				IAmb_Lg		22 49 03.4	
	comp=Z,68nm,0.8s						
ABTX	**Abilene, Hawle**	**4.30**	**203**		**Pn**	**22 47 56.4**	**-0.5**
ABTX	**Abilene, Hawle**	**4.30**	**203**	Pb		22 48 06.0	
	baz=22						
MGMO	**Mountain Grove**	**4.36**	**81**		**Pn**	**22 47 58.7**	**+1.0**
MGMO				IAmb_Lg		22 49 12.7	
	comp=Z,96nm,0.7s						
P38A	**Dawn**	**4.44**	**46**		**Pn**	**22 47 58.2**	**-0.6**
P38A				IAmb_Lg		22 49 14.3	
	comp=Z,84nm,0.8s						
X40A	**Basin Creek Fa**	**4.47**	**117**		**Pn**	**22 47 59.6**	**+0.5**
X40A				IAmb_Lg		22 49 21.0	
	comp=Z,49nm,0.8s						
X40A	**Basin Creek Fa**	**4.47**	**117**	P	**Pn**	**22 47 59.7**	**+0.5**
	baz=300						
X40A	**Basin Creek Fa**	**4.47**	**117**	Pn		22 47 59.7	
	baz=300						
X40A				Pb		22 48 09.8	
	baz=300,SNR=20						
X40A	**Basin Creek Fa**	**4.47**	**117**	P		22 47 59.7	
	baz=300						
X40A				P		22 47 59.7	
	baz=300						
FCAR	**Ozark Folk Cen**	**4.53**	**97**	Pn	**Pn**	**22 48 00.6**	**+0.5**
FCAR				IAmb_Lg		22 49 18.2	
	comp=Z,53nm,0.7s						
N35A	**Tabor**	**4.53**	**20**		**Pn**	**22 48 00.1**	**0.0**
N35A	**Tabor**	**4.53**	**20**	P	**Pn**	**22 48 00.5**	**+0.4**
	baz=201,SNR=7.9						
N35A	**Tabor**	**4.53**	**20**	P		22 48 00.5	
	baz=201,SNR=7.9						
WHAR	**Wooly Hollow**	**4.55**	**105**		**Pn**	**22 47 59.9**	**-0.4**
WHAR				IAmb_Lg		22 49 13.8	
	comp=Z,96nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.61**	**303**		**Pn**	**22 48 00.8**	**-0.4**
KSCO				IAmb_Lg		22 49 27.3	
	comp=Z,70nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.61**	**303**	Pb		22 48 13.4	
	baz=120,SNR=16						
WHTX	**Lake Whitney,**	**4.61**	**178**		**Pn**	**22 48 00.9**	**-0.2**
WHTX	**Lake Whitney,**	**4.61**	**178**	P	**Pn**	**22 48 01.3**	**+0.2**
	baz=358,SNR=9.7						
WHTX	**Lake Whitney,**	**4.61**	**178**	P		22 48 01.2	
	baz=358						
WHTX				Sb		22 49 12.7	
	baz=358						
WHTX	**Lake Whitney,**	**4.61**	**178**	P		22 48 01.3	
	baz=358,SNR=9.7						
R40A	**Maddies Statio**	**4.61**	**67**	IAmb_Lg		22 49 26.4	
	comp=Z,113nm,0.8s						
R40A	**Maddies Statio**	**4.61**	**67**	P	**Pn**	**22 48 01.2**	**+0.1**
	baz=250,SNR=19						
R40A	**Maddies Statio**	**4.61**	**67**	P		22 48 01.2	
	baz=250,SNR=19						
W41B	**Gary Mavity, V**	**4.62**	**106**	Sb		22 49 13.6	
	baz=290						
WLAR	**White Oak Lake**	**4.73**	**127**	Pn	**Pn**	**22 48 02.4**	**-0.4**
WLAR				IAmb_Lg		22 49 32.0	
	comp=Z,52nm,0.8s						
BGNE	**Belgrade**	**4.81**	**356**	Pn	**Pn**	**22 48 03.7**	**-0.2**
BGNE	**Belgrade**	**4.81**	**356**	P	**Pn**	**22 48 03.8**	**-0.1**
	baz=175,SNR=16						
BGNE	**Belgrade**	**4.81**	**356**	P		22 48 03.6	
	baz=175,SNR=6.4						
BGNE				Sb		22 49 19.5	
	baz=175						
BGNE	**Belgrade**	**4.81**	**356**	P		22 48 03.8	
	baz=175,SNR=16						
237A	**Washetta, Mont**	**4.84**	**161**	IAmb_Lg		22 49 36.6	
	comp=Z,62nm,0.9s						
MSTX	**Muleshoe**	**4.94**	**239**	Sb		22 49 23.0	
	baz=56						
Z41A	**Richland Creek**	**5.20**	**129**	S		22 49 07.8	
	baz=312						
LCAR	**Lake Charles**	**5.28**	**94**	Pn	**Pn**	**22 48 10.1**	**-0.2**
LCAR				IAmb_Lg		22 49 40.4	
	comp=Z,62nm,0.8s						
T42A	**Van Buren**	**5.29**	**83**	IAmb_Lg		22 49 46.3	
	comp=Z,63nm,0.7s						
P40A	**Paris**	**5.30**	**55**	IAmb_Lg		22 49 45.7	
	comp=Z,86nm,0.9s						
CCM	**Cathedral Cave**	**5.31**	**72**	Sb		22 49 33.6	
	baz=256						
N38A	**Joes South For**	**5.43**	**38**		**Pn**	**22 48 11.6**	**-0.8**
N38A				IAmb_Lg		22 49 50.6	
	comp=Z,101nm,0.7s						
NATX	**Nacogdoches**	**5.44**	**152**	IAmb_Lg		22 49 51.6	
	comp=Z,44nm,0.8s						
T25A	**Trinidad**	**5.44**	**278**	Pn	**Pn**	**22 48 12.6**	**-0.1**
T25A				IAmb_Lg		22 49 48.5	
	comp=Z,62nm,0.8s						
T25A	**Trinidad**	**5.44**	**278**	P		22 48 12.8	
	baz=93,SNR=9.6						
T25A				Sb		22 49 39.8	
	baz=93						
L34A	**Svendsen Farm,**	**5.45**	**10**	IAmb_Lg		22 49 58.0	
	comp=Z,87nm,0.8s						
OGNE	**Ogallala**	**5.52**	**323**		**Pn**	**22 48 14.3**	**+0.7**
OGNE				IAmb_Lg		22 49 51.9	
	comp=Z,89nm,0.7s						
OGNE	**Ogallala**	**5.52**	**323**	P		22 48 14.3	
	baz=140						
OGNE				Sb		22 49 41.8	
	baz=140						
435B	**Jarrell**	**5.81**	**179**	IAmb_Lg		22 50 08.6	
	comp=Z,57nm,0.9s						
LPAR	**Lepanto**	**6.04**	**97**	IAmb_Lg		22 50 14.8	
	comp=Z,80nm,0.7s						
K31A	**O'Neill**	**6.07**	**352**		**Pn**	**22 48 21.3**	**+0.1**
K31A	**O'Neill**	**6.07**	**352**	P	**Pn**	**22 48 21.4**	**+0.3**
	baz=172,SNR=7.1						
K31A	**O'Neill**	**6.07**	**352**	P		22 48 21.4	
	baz=172,SNR=7.1						
SLM	**Saint Louis**	**6.23**	**69**	IAmb_Lg		22 50 11.3	
	comp=Z,75nm,0.8s						
SCIA	**State Center**	**6.32**	**32**	Pn	**Pn**	**22 48 24.9**	**+0.4**
SCIA				IAmb_Lg		22 50 17.3	
	comp=Z,71nm,0.8s						
PARMO	**Parma**	**6.36**	**87**	IAmb_Lg		22 50 23.4	
	comp=Z,100nm,0.9s						
SDCO	**Great Sand Dun**	**6.36**	**283**	Pn	**Pn**	**22 48 26.4**	**+0.9**
SDCO	**Great Sand Dun**	**6.36**	**283**	P		22 48 26.3	
	baz=98,SNR=6.1						
JCT	**Junction City**	**6.37**	**197**	IAmb_Lg		22 50 19.4	
	comp=Z,95nm,1.1s						
JCT	**Junction City**	**6.37**	**197**	Pb		22 48 44.6	
	baz=16,SNR=9.0						
HALT	**Halls**	**6.76**	**93**	IAmb_Lg		22 50 37.3	
	comp=Z,83nm,0.9s						
ISCO	**Idaho Springs**	**7.03**	**299**	Pn	**Pn**	**22 48 34.0**	**-0.5**
ISCO				IAmb_Lg		22 50 45.9	
	comp=Z,27nm,1.1s						
ISCO	**Idaho Springs**	**7.03**	**299**	P		22 48 34.3	
	baz=114						
W45A	**Hickory Valley**	**7.03**	**99**	IAmb_Lg		22 50 36.3	
	comp=Z,75nm,0.8s						
K38A	**Parkersburg**	**7.12**	**31**	IAmb_Lg		22 50 44.8	
	comp=Z,66nm,0.8s						
ECSD	**EROS Data Cent**	**7.16**	**6**	Pn	**Pn**	**22 48 34.6**	**-1.6**
ECSD	**EROS Data Cent**	**7.16**	**6**	P		22 48 34.5	
	baz=187,SNR=6.4						
Y45A	**Yeager Farm, C**	**7.18**	**110**	IAmb_Lg		22 50 49.5	
	comp=Z,48nm,1.0s						
L40A	**Anamosa**	**7.39**	**41**	IAmb_Lg		22 50 49.0	
	comp=Z,39nm,0.8s						
PHWY	**Pilot Hill**	**7.67**	**310**	IAmb_Lg		22 50 57.7	
	comp=Z,27nm,0.8s						
SUSD	**Miller**	**7.89**	**353**	IAmb_Lg		22 50 60.0	
	comp=Z,40nm,0.8s						
WVT	**Waverly**	**7.95**	**91**	IAmb_Lg		22 51 01.4	
	comp=Z,23nm,0.7s						
Y22D	**IRIS PASSCAL I**	**7.98**	**254**	IAmb_Lg		22 51 19.8	
	comp=Z,75nm,0.8s						
I37A	**Lemond, Waseca**	**8.08**	**22**	IAmb_Lg		22 51 13.2	
	comp=Z,27nm,0.8s						
T47A	**Sharon Grove**	**8.48**	**84**	IAmb_Lg		22 51 24.3	
	comp=Z,46nm,0.9s						
JFWS	**Jewell Farm**	**8.50**	**40**	IAmb_Lg		22 51 24.3	
	comp=Z,35nm,0.8s						
JFWS	**Jewell Farm**	**8.50**	**40**	P		22 48 53.4	
	baz=225						
V48A	**Smith Brothers**	**8.81**	**92**	IAmb_Lg		22 51 29.3	
	comp=Z,21nm,0.8s						
M44A	**Midewin, Midew**	**8.88**	**55**	IAmb_Lg		22 51 39.2	
	comp=Z,46nm,0.9s						
X48A	**Hartselle**	**8.92**	**101**	IAmb_Lg		22 51 31.4	
	comp=Z,20nm,0.9s						
RSSD	**Black Hills**	**8.94**	**329**	IAmb_Lg		22 51 49.8	
	comp=Z,26nm,0.8s						
RWWY	**Rawlins**	**8.98**	**307**	IAmb_Lg		22 51 44.1	
	comp=Z,23nm,0.9s						
I40A	**Norwalk**	**9.05**	**34**	IAmb_Lg		22 51 54.0	
	comp=Z,21nm,0.8s						
SFIN	**Lafayette**	**9.10**	**62**	IAmb_Lg		22 51 37.1	
	comp=Z,55nm,0.8s						
K22A	**Casper**	**9.12**	**314**	IAmb_Lg		22 52 00.0	
	comp=Z,50nm,1.2s						
CLTN	**Cedars of Leba**	**9.16**	**90**	IAmb_Lg		22 51 42.4	
	comp=Z,31nm,0.9s						
WCI	**Wyandotte Cave**	**9.19**	**76**	IAmb_Lg		22 51 44.0	
	comp=Z,50nm,0.9s						
HQIL	**Hanson Quary C**	**9.21**	**53**	IAmb_Lg		22 51 49.4	
	comp=Z,41nm,0.8s						
121A	**Cookes Peak, D**	**9.28**	**247**	IAmb_Lg		22 51 51.3	
	comp=Z,27nm,1.1s						
K43A	**Burlington**	**9.42**	**47**	IAmb_Lg		22 51 49.3	
	comp=Z,56nm,0.9s						
U49A	**Red Boiling Sp**	**9.56**	**87**	IAmb_Lg		22 51 51.3	
	comp=Z,22nm,0.9s						
I42A	**Draeger Farm,**	**9.88**	**40**	IAmb_Lg		22 52 05.1	
	comp=Z,19nm,0.8s						

*MAN **07** 22:53:01.7, 13.°14N×124.°10E, h23km, MS4.7*

MAN INTENSITY IV - LEGASPI CITY.

*IDC **07** 22:53:03.2±3.0, 13.°04N×124.°09E, h25km±19km, mb4.1/33, mb1 4.2/36, mb1mx4.1/58, mbtmp4.3/36, ML4.4/3, MS4.1/8, Ms1 4.1/8, ms1mx3.6/49, Error ellipse: s-maj=16.6km s-min=11.0km az=76.0*

*NEIC **07** 22:53:05.0±1.1, 12.°99N±0.°07×124.°07E±0.°09, h47km±5km, mb4.6/59, Error ellipse: s-maj=14.3km s-min=8.0km az=62.0*

*DJA **07** 22:53:06.2±0.8, 13°N±5°×12°4E±°, h69km±7km, M4.9/21, mB5.2/7, mb4.7/21, MLv5.2/1, Mw(mB)4.5/7*

*BJI **07** 22:53:06.1±0.0, 13.°13N×124.°06E, h47km, mB5.2/14, mb4.4/44, Ms4.3/11, Ms7 4.1/11*

ISC 07 22:53:03.4±1.3**, 13.°04N**±0.°04×**124.°12E**±0.°05**, h28km**±9km**, n220, σ1.s80**/223**, mb4.6**/94**, MS4.1**/9**, 3C-6D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.84**	**216**⇓	*e*P	**Pb**	**22 53 18.2**	**-1.2**
MMPH				*i* S	**Sn**	**22 53 31.3**	**+0.6**
GQP	**Guinayangan**	**1.84**	**298**⇓	*i*P	**Pn**	**22 53 32.6**	**-0.6**
GQP				*i* S	**Sb**	**22 53 58.1**	**-1.1**
JCNP	**Jose Panganiba**	**1.86**	**312**	*e*P	**Pn**	**22 53 29.9**	**-3.5**
JCNP				*e*S	**Sn**	**22 53 53.8**	**-2.2**
OCLP	**Ormoc**	**2.04**	**166**	*e*P	**Pn**	**22 53 37.3**	**+1.4**
BOAC	**Boac**	**2.26**	**281**	*e*P	**Pn**	**22 53 37.6**	**-1.3**
BOAC				*e*S	**Sb**	**22 54 12.4**	**+1.3**
LLP	**Lapu-Lapu**	**2.71**	**183**⇓	*e*P	**Pn**	**22 53 45.8**	**+0.5**
LLP				*e*S	Sb	22 54 34.4	+10
LQP	**Lukban**	**2.73**	**293**⇑	*e*P	**Pn**	**22 53 44.3**	**-1.2**
GUIM	**Jordan**	**2.83**	**212**	*e*P	**Pn**	**22 53 46.8**	**0.0**
GUIM				*e*S	**Sn**	**22 54 22.4**	**+2.3**
MSLP	**Maasin**	**2.98**	**166**	*e*P	**Pn**	**22 53 50.0**	**+1.2**
MSLP				*e*S	**Sn**	**22 54 20.5**	**-3.2**
SJMP	**San Jose**	**2.99**	**259**	*e*P	**Pn**	**22 53 48.8**	**-0.1**
SJMP				*e*S	**Sb**	**22 54 30.6**	**-1.5**
TGY	**Tagaytay City**	**3.27**	**289**	Pn	**Pn**	**22 53 52.9**	**-0.1**
	57nm,0.3s,baz=241,slow=2.3,SNR=2.7						
TGY				Sn	**Sn**	**22 54 32.2**	**+1.2**
	72nm,0.3s,baz=325,slow=20,SNR=1.0						
QVP	**Quezon City--P**	**3.41**	**298**	*e*P	**Pn**	**22 53 53.4**	**-1.4**
CNOP	**Candoni, Negro**	**3.51**	**205**	*e*P	**Pn**	**22 53 56.3**	**+0.1**
CNOP				*e*S	**Sn**	**22 54 36.1**	**-0.7**

MACP	Maragondon, Ca	3.52	290	eP	Pn	22 53 56.0	-0.3
MACP				eS	Sb	22 54 48.0	+0.4
BALP	Baler	3.64	318	eP	Pn	22 53 55.6	-2.4
CUYO	Cuyo Island	3.74	235	eP	Pn	22 53 58.7	-0.6
CGP	Cagayan de Oro	4.59	173	⇓eP	Pb	22 54 18.1	-5.3
ENPP	El Nido	4.95	249	eP	Pn	22 54 14.6	-1.3
CVP	Callao Caves	5.14	335	⇓eP	Pn	22 54 16.9	-1.6
PAGZ	Pagadian	5.21	188	eP	Pn	22 54 20.3	+0.7
SZP	Santa	5.71	322	Pn	Pn	22 54 26.0	-0.4
DAV	Davao City (W)	6.11	166	Pn	Pn	22 54 33.2	+1.4
	27nm,0.3s,baz=11,slow=10,SNR=1.6						
DAV				LR	LR	22 57 32.7	
	comp=Z,1µm,20.7s,baz=32,slow=44						
MYLDM	Lahad Datu	9.58	216	Pn	Pn	22 55 19.0	-0.6
TWG	Pinlang	10.15	344	Pn	Pn	22 55 27.0	-0.3
YULB	Yu-li	10.64	346	Pn	Pn	22 55 33.3	-0.7
SSLB	Suanglung	11.10	345	Pn	Pn	22 55 41.3	+0.9
KMSI	Cibinong	12.39	181	P	Pn	22 55 49.5	-8.5
TNTI	Ternate	12.61	165	Pn	Pn	22 56 00.0	-1.0
SANI	Sanana	15.11	173	P	Pn	22 56 32.4	-2.7
SIJI	Sorong	15.53	152	LR	LR	23 03 26.9	
	comp=Z,343nm,21.0s,baz=3.0,slow=40						
SBUM	Sibu	15.80	229		Pn	22 56 45.3	+1.2
SBUM				IAmb	IAmb	22 56 58.5	
	comp=Z,53nm,1.0s						
TTSI	Tana Toraja	16.55	195	P	P	22 56 58.4	+2.5
	comp=Z,64nm,0.9s						
MTKI	Muara Teweh, K	16.64	214	P	P	22 57 07.5	+10
SPSI	Sidrap Palu	17.44	195	P	P	22 57 07.8	+1.9
	comp=Z,2µmcomp=Z,34nm,0.9s						
BNSI	Bone	17.78	193	P	P	22 57 12.4	+2.7
KSM	Kuching	17.87	231		Pn	22 57 08.6	-1.6
KSM				IAmb	IAmb	22 57 21.2	
	comp=Z,55nm,1.4s						
UBPT	Khong Chiam	18.22	279	P	P	22 57 17.0	+2.5
	comp=Z,608nmcomp=Z,17nm,1.2s						
UBPT	Khong Chiam	18.22	279		Pn	22 57 13.6	-0.9
UBPT				IAmb	IAmb	22 57 17.7	
	comp=Z,36nm,1.1s						
KAPI	Kappang	18.46	194	P	P	22 57 16.7	-0.3
	comp=Z,0.4nm,0.3s,baz=42,slow=14,SNR=2.5						
KAPI	Kappang	18.46	194	P	P	22 57 16.1	-1.0
KAPI				IAmb	IAmb	22 57 28.4	
	comp=Z,61nm,1.4s						
BBKI	Banjar Baru	18.81	210	P	Pn	22 57 37.2	+16
NJ2	Nanjing	19.53	347	eP	Pn	22 57 32.0	+1.9
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WHN	Wuhan	19.62	334	⇓P	Pn	22 57 32.3	+1.1
NONG	Nongkai	20.81	287	P	Pn	22 57 50.0	+4.6
	comp=Z,5µmcomp=Z,25nm,1.4s						
SLVN	Son La	20.98	296	P	P	22 57 45.5	+0.8
GYA	Guiyang	21.13	312	⇑P	P	22 57 50.4	+4.1
GYA				pP	sP	22 57 56.9	-0.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SRAK	Srakaew	21.49	275	P	P	22 57 49.0	-1.1
	comp=Z,118nm,1.2s						
CHAI	Chaiyaphum	21.62	280	P	P	22 57 53.4	+1.9
	comp=Z,416nmcomp=Z,43nm,0.7s						
ENH	Enshi	21.84	324	P	P	22 57 54.1	+0.2
ENH				IAmb	IAmb	22 58 12.0	
	comp=Z,30nm,1.2s						
JMN	Monobe	22.43	22	P	P	22 58 00.8	+0.8
JMN				IAmb	IAmb	22 58 14.3	
	comp=Z,31nm,1.0s						
PLAI	Plampang	22.62	196	P	P	22 58 05.0	+2.7
TPI	Tanjungpandan	22.67	227	P	P	22 58 05.3	+2.6
	comp=Z,46nm,1.1s						
SRBI	Singaraja	22.78	203	P	P	22 58 06.3	+2.4
	comp=Z,79nm,0.9s						
TWSI	Taliwang, Sumb	22.80	199	P	P	22 58 05.3	+1.1
	comp=Z,34nm,0.8s						
MYKOM	Kota Tinggi	22.98	243	P	P	22 58 05.3	-0.6
BATI	Baumata	23.10	181	P	P	22 58 08.2	+1.0
	comp=Z,47nm,0.7s,baz=299,slow=7.8,SNR=5.0						
BATI	Baumata	23.10	181	P	P	22 58 09.0	+1.7
	comp=Z,37nm,0.8s						
UTTA	Uttaradit	23.19	285	P	P	22 58 12.0	+3.8
	comp=Z,208nmcomp=Z,11nm,1.0s						
JHS	Saijyo	23.32	19	P	P	22 58 10.5	+1.1
JHS				IAmb	IAmb	22 58 17.4	
	comp=Z,24nm,1.0s						
KMI	Kunming	23.47	304	⇑P	P	22 58 14.0	+2.9
KMI				pP	sP	22 58 21.3	-1.2
KMI				sP	pP	22 58 25.3	+6.2
KMI				PP	PnPn	22 58 46.4	+8.3
KMI				S	S	23 02 17.1	-6.1
KMI				pmax	pmax		
	comp=Z,8.0nm,1.8s						
KMI				LR	LR		
	comp=Z,440nm,18.6s						
KMI				LR	LR		
	comp=Z,480nm,17.3s						
KMI				LR	LR		
	comp=Z,460nm,16.7s						
KMI	Kunming	23.47	304	P	P	22 58 11.9	+0.8
PHET	Kaeng Krachan	23.87	272	P	P	22 58 19.0	+4.3
	comp=Z,31nm,0.9s						
TIA	Tai'an	23.91	346	P	P	22 58 14.6	-0.4
TIA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SUKH	Sukhothai	24.03	284	P	P	22 58 18.2	+2.0
	comp=Z,229nmcomp=Z,17nm,1.0s						
UTHA	Uthaitani	24.04	279	P	P	22 58 23.8	+7.5
	comp=Z,187nmcomp=Z,10.0nm,1.2s						
LAMP	Lampang	24.18	286	P	P	22 58 23.1	+5.5
	comp=Z,13nm,0.8s						
IPM	Ipoh	24.34	252	P	P	22 58 17.9	-1.3
JWT	Wachi	24.38	23	P	P	22 58 19.7	+0.4
KULM	Kulim	24.40	254	P	P	22 58 19.0	-0.7
KSAR	Wonju Array Be	24.53	7	P	P	22 58 21.4	+0.8
KSRS	Korea Array	24.55	7	P	P	22 58 20.8	0.0
	comp=Z,0.5nm,0.3s,baz=163,slow=42,SNR=4.8						
TRTT	Trang	24.57	260	P	P	22 58 21.0	-0.2
	comp=Z,39nm,1.2s						
KS19	Wonju Array Si	24.59	7	P	P	22 58 22.1	+1.0
UMPA	Umpang Tak	24.64	280	P	P	22 58 25.8	+3.9
CM35	Chiang Mai Arr	24.65	286	P	P	22 58 24.0	+2.1
CM36	Chiang Mai Arr	24.68	286	P	P	22 58 23.0	+0.8
CM09	Chiang Mai Arr	24.77	286	P	P	22 58 24.6	+1.6
	comp=Z,220nmcomp=Z,16nm,0.8s						
CM04	Chiang Mai Arr	24.77	286	P	P	22 58 24.0	+1.0
	comp=Z,247nmcomp=Z,26nm,1.2s						
CM01	Chiang Mai Arr	24.79	286	P	P	22 58 26.1	+2.8
	comp=Z,192nmcomp=Z,14nm,1.0s						
CM05	Chiang Mai Arr	24.80	286	P	P	22 58 25.1	+1.8
	comp=Z,148nmcomp=Z,15nm,1.4s						
CM02	Chiang Mai Arr	24.80	286	P	P	22 58 26.0	+2.7
	comp=Z,182nmcomp=Z,18nm,1.3s						
CM31	Chiang Mai Arr	24.81	286	P	P	22 58 26.5	+3.1
	comp=Z,5µmcomp=Z,386nm,1.4s						
CM31	Chiang Mai Arr	24.81	286	P	P	22 58 22.0	-1.4
CMAR	Chiang Mai Arr	24.81	286	P	P	22 58 23.5	+0.1
	comp=Z,5.0nm,0.8s,baz=98,slow=7.7,SNR=21						
CMAR	Chiang Mai Arr	24.81	286	P	P	22 58 22.9	-0.5
CM15	Chiang Mai Arr	24.83	286	P	P	22 58 25.3	+1.7
	comp=Z,152nmcomp=Z,16nm,0.8s						
CM13	Chiang Mai Arr	24.84	286	P	P	22 58 24.6	+0.9
	comp=Z,194nmcomp=Z,19nm,1.3s						
CMMT	Chiang Mai	24.86	287	P	P	22 58 26.0	+2.1
	comp=Z,9.7nm,1.6s						
CM33	Chiang Mai Arr	24.87	287	P	P	22 58 26.0	+2.1
CHTO	Chiang Mai	24.87	287	P	P	22 58 22.9	-1.0
CM32	Chiang Mai Arr	24.93	286	P	P	22 58 29.0	+4.5
XAN	Xi'an	25.06	329	P	P	22 58 24.7	-0.8
XAN				pP	sP	22 58 36.2	-1.0
XAN				sP	pP	22 58 41.0	+7.2
XAN				pmax	pmax		
	comp=Z,24nm,1.2s						
XAN				LR	LR		
	comp=Z,410nm,16.3s						
XAN				LR	LR		
	comp=Z,340nm,13.0s						
XAN				LR	LR		
	comp=Z,390nm,19.5s						
XAN	Xi'an	25.06	329	P	P	22 58 25.2	-0.3
XAN				IAmb	IAmb	22 58 32.0	
	comp=Z,21nm,1.0s						
INU	Inuyama	25.08	25	P	P	22 58 27.0	+1.4
INU				IAmb	IAmb	22 58 34.1	
	comp=Z,27nm,0.9s						
SURT	Suratani	25.19	263	P	P	22 58 30.2	+3.5
	comp=Z,0.7nm,1.0s						
JGF	Kuroka	25.44	26	P	P	22 58 29.9	+1.0
JGF				IAmb	IAmb	22 58 42.6	
	comp=Z,21nm,1.0s						
LEM	Lembang	25.66	221	LR	LR	23 09 30.4	
	comp=Z,348nm,20.0s,baz=129,slow=38						
MHMT	Maesarieng	25.72	285	P	P	22 58 37.0	+5.3
CD2	Chengdu	25.86	317	P	P	22 58 32.6	-0.2
CD2				sP	sP	22 58 55.1	+11
CD2				pmax	pmax		
	comp=Z,20nm,1.1s						
KLSI		26.11	229	P	P	22 58 36.8	+1.7
	comp=Z,13nm,1.1s						
LHSI	Lahat	26.45	232	P	P	22 58 37.4	-0.8
MJAR	Matsushiro Arr	26.60	26	P	P	22 58 38.3	-1.1
	comp=Z,1.2nm,0.9s,baz=203,slow=8.2,SNR=2.1						
TIY	Taiyuan	26.69	339	eP	P	22 58 46.4	+6.1
TIY				pmax	pmax		
	comp=Z,41nm,0.9s						
PSI	Prapat	26.92	250	P	P	22 58 42.1	-0.6
	comp=Z,2.8nm,0.5s,baz=180,slow=13,SNR=1.8						
PSI				LR	LR	23 09 14.5	
	comp=Z,537nm,20.3s,baz=90,slow=36						
RPSI	Rantau Prapat	26.96	250	P	P	22 58 41.1	-1.8
RPSI				IAmb	IAmb	22 58 48.5	
	comp=Z,14nm,1.0s						
BJT	Baijiatuau	27.77	347	P	P	22 58 45.7	-4.2
BJT				IAmb	IAmb	22 58 55.7	
	comp=Z,18nm,1.2s						
BJI	Beijing	27.79	347	P	P	22 58 45.7	-4.3
BJI				pmax	pmax		
	comp=Z,13nm,1.2s						
LZH	Lanzhou	29.31	325	eP	P	22 59 08.2	+4.3
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC	Hu-ho-hao-te	29.81	341	eP	P	22 59 09.6	+1.5
USA0B	Ussuriysk Arra	31.77	11	P	P	22 59 25.3	+0.1
USRK	Ussuriysk Ar.	31.77	11	P	P	22 59 25.5	+0.3
	comp=Z,14nm,0.8s,baz=191,slow=7.6,SNR=24						
USRK	Ussuriysk Ar.	31.77	11	P	P	22 59 26.5	+1.2
MDJ	Mudanjiang	31.81	7	P	P	22 59 31.0	+5.4
MDJ				S	S	23 04 36.9	+2.7
MDJ				pmax	pmax		
	comp=Z,19nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,400nm,12.1s						
MDJ	Mudanjiang	31.81	7	P	P	22 59 26.3	+0.7
MDJ				IAmb	IAmb	22 59 33.3	
	comp=Z,14nm,0.9s						
COEN	Coen	32.80	144	P	P	22 59 31.7	-2.9
COEN				IAmb	IAmb	22 59 39.4	
	comp=Z,8.8nm,1.1s						
WRA	Warramunga Arr	34.29	163	P	P	22 59 46.8	-0.7
	comp=Z,1.4nm,0.7s,baz=341,slow=9.2,SNR=4.4						
WB2	Warramunga Arr	34.29	163	P	P	22 59 46.0	-1.5
WB2				IAmb	IAmb	22 59 58.1	
	comp=Z,4.7nm,0.7s						
KLR	Kul'dur	36.63	8	P	P	23 00 07.3	+0.1
	comp=Z,2.4nm,0.6s,baz=164,slow=9.9,SNR=7.5						
KLR				PcP	PcP	23 02 31.9	+1.9
	comp=Z,1.0nm,0.8s,baz=321,slow=5.4,SNR=2.7						
TAPN	Taplejung	36.86	298	eP	P	23 00 08.3	-1.7
	comp=Z,16nm,1.0s						
ODAN	Odare	37.01	297	eP	P	23 00 10.2	-1.0
	comp=Z,17nm,0.7s						
ULN	Ulaanbaatar	37.52	341	P	P	23 00 14.8	-0.3
ULN				IAmb	IAmb	23 00 30.9	
	comp=Z,12nm,1.0s						
SONM	Songino Array	37.71	340	P	P	23 00 16.3	-0.4
	comp=Z,2.3nm,0.8s,baz=158,slow=9.6,SNR=7.6						
SONM				PcP	PcP	23 02 33.9	+0.4
	comp=Z,0.8nm,0.5s,baz=173,slow=3.2,SNR=2.9						
SONM				LR	LR	23 16 00.0	
	comp=Z,310nm,20.2s,baz=165,slow=36						
SONM	Songino Array	37.71	340	P	P	23 00 16.7	+0.1
AS31	Alice Springs	37.72	165	P	P	23 00 15.8	-1.1
ASAR	Alice Springs	37.72	165	P	P	23 00 16.4	-0.5
	comp=Z,3.8nm,0.9s,baz=345,slow=7.5,SNR=22						
ASAR				ScP	ScP	23 06 18.4	-0.9
	comp=Z,1.1nm,1.0s,baz=340,slow=3.9,SNR=5.4						
ASAR				LR	LR	23 16 18.0	
	comp=Z,234nm,18.7s,baz=22,slow=37						
ASAR	Alice Springs	37.72	165	P	P	23 00 15.7	-1.1
RAMN	Ramite	37.72	297	eP	P	23 00 17.5	+0.3
	comp=Z,18nm,0.9s						
GUN	Gumba	38.58	299	eP	P	23 00 25.2	+0.7
	comp=Z,40nm,1.0s						
PKI	Pulchoki	38.90	298	eP	P	23 00 29.0	+1.8
PKIN	Phulchoki	38.91	298	eP	P	23 00 28.9	+1.7
DMN	Daman	39.17	298	eP	P	23 00 31.0	+1.6
GKN	Gorkha	39.66	298	eP	P	23 00 35.5	+2.1
H11S3	WAKE ISLAND Hy	41.25	77	T	T	23 44 44.1	
	baz=269,slow=75,SNR=349						
H11S1	WAKE ISLAND Hy	41.26	77	T	T	23 44 41.8	
	baz=269,slow=75,SNR=166						
H11S2	WAKE ISLAND Hy	41.27	77	T	T	23 44 40.7	
	baz=269,slow=75,SNR=232						
H11N1	WAKE ISLAND Hy	41.48	75	T	T	23 44 59.9	
	baz=267,slow=74,SNR=646						
H11N2	WAKE ISLAND Hy	41.48	75	T	T	23 44 58.6	
	baz=267,slow=74,SNR=389						
H11N3	WAKE ISLAND Hy	41.50	75	T	T	23 45 01.2	
	baz=267,slow=74,SNR=647						
TLY	Talaya	41.94	341	P	P	23 00 50.1	-1.5
MORW	Morawa	42.59	190	P	P	23 00 55.9	-1.2
MORW				IAmb	IAmb	23 01 01.7	
	comp=Z,19nm,1.2s						
WMQ	Urumqi	43.76	322	eP	P	23 01 08.7	+2.1
WMQ				pP	sP	23 01 25.7	+7.3
WMQ				pmax	pmax		
	comp=Z,12nm,2.3s						
WMQ				pmax	pmax		
	comp=Z,350nm,6.7s						
WMQ				LR	LR		
	comp=Z,220nm,20.7s						
WMQ				LR	LR		
	comp=Z,600nm,10.3s						
WMQ				LR	LR		
	comp=Z,440nm,24.1s						
BBOO	Buckleboo	47.00	166	P	P	23 01 31.5	-0.7
ZSN	Zaisan	47.40	324	eP	P	23 01 35.6	+0.4
	baz=324						
STKA	Stephens Creek	47.70	160	P	P	23 01 37.1	-0.6
	comp=Z,1.4nm,0.3s,baz=347,slow=15,SNR=3.7						
STKA	Stephens Creek	47.70	160	P	P	23 01 36.6	-1.1
PETK	Petropavlovsk-	48.05	27	P	P	23 01 40.7	+0.5
	comp=Z,7.7nm,0.8s,baz=216,slow=4.3,SNR=6.9						
PETK	Petropavlovsk-	48.05	27	P	P	23 01 39.6	-0.6
MK31	Makanchi Array	48.56	322	P	P	23 01 43.2	-1.1
MKAR	Makanchi Array	48.56	322	P	P	23 01 44.3	+0.1
	comp=Z,8.7nm,1.0s,baz=118,slow=8.8,SNR=23						
MKAR				PcP	PcP	23 03 11.2	+1.5
	comp=Z,2.2nm,0.8s,baz=104,slow=4.2,SNR=4.8						
MKAR				ScP	ScP	23 07 03.2	+0.4
	comp=Z,0.4nm,0.9s,baz=180,slow=1.4,SNR=3.2						
MKAR	Makanchi Array	48.56	322	P	P	23 01 44.1	-0.2
SHLS	Shalkode	48.69	317	eP	P	23 01 43.8	-1.7
	baz=317						
MAKZ	Makanchi	48.75	322	P	P	23 01 45.4	-0.4
MAKZ				IAmb	IAmb	23 01 51.7	
	comp=Z,10nm,1.1s						
UZB	Uzynbulak	48.98	317	eP	P	23 01 47.4	-0.4
	baz=316						
YAK	Yakutsk	49.08	3	P	P	23 01 47.6	-0.3
KPKS	Kokpek	49.34	317	eP	P	23 01 49.9	-0.5
	baz=317						
KSH	Kashi	49.83	311	P	P	23 01 57.7	+3.5
KSH				PcP	PcP	23 03 18.3	+3.6
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TDK	Taldyqorghan	50.15	319	eP	P	23 01 57.2	+0.7
	comp=Z,8.0nm,0.9s,baz=318						
MDOK	Medeo	50.32	316	eP	P	23 01 58.5	+0.6
	baz=316						
TNSS	Tian-Shan	50.34	316	eP	P	23 01 58.5	+0.1
	baz=316						
AAA	Alma-Ata	50.43	316	eP	P	23 01 58.1	-0.6
	baz=316						
NIL	Nilore	50.45	303	P	P	23 01 58.5	-0.5
NIL				IAmb	IAmb	23 02 04.3	
	comp=Z,8.9nm,1.1s						
KUU	Kurty	51.07	317	eP	P	23 02 03.1	-0.3
	baz=316						
ZAA0	Zalesovo Array	51.20	331	P	P	23 02 03.6	-0.5
ZAA0				IAmb	IAmb	23 02 09.3	
	comp=Z,4.0nm,0.9s						
ZALV	Zalesovo Beam	51.20	331	P	P	23 02 03.7	-0.4
	comp=Z,2.3nm,0.8s,baz=121,slow=5.7,SNR=11						
ZALV				PcP	PcP	23 03 18.4	-0.8
	comp=Z,1.2nm,0.6s,baz=64,slow=3.4,SNR=1.8						
AAK	Ala-Archa	51.89	314	P	P	23 02 10.7	+0.9
	comp=Z,0.6nm,0.5s,baz=149,slow=5.3,SNR=5.5						
AAK	Ala-Archa	51.89	314	P	P	23 02 08.8	-1.0
KURK	Kurchatov	52.60	325	P	P	23 02 14.9	+0.3
KURBB	Kurchatov Arra	52.61	325	P	P	23 02 14.9	+0.2
	comp=Z,12nm,0.8s,baz=121,slow=7.9,SNR=34						
BTLS	Baital	53.02	317	eP	P	23 02 17.6	-0.3
	baz=317						
KBL	Kabul	54.05	303	P	P	23 02 25.0	-0.9
KBL				IAmb	IAmb	23 02 38.0	
	comp=Z,3.6nm,0.8s						
DZA	Taraz	54.19	314	eP	P	23 02 27.6	+1.1
	baz=314						
KK31	Karatay Array	54.82	314	P	P	23 02 30.7	-0.4
KKAR	Karatay Array	54.82	314	P	P	23 02 30.3	-0.8
KKAR				IAmb	IAmb	23 02 45.3	
	comp=Z,3.3nm,0.8s						
KKAR	Karatay Array	54.82	314	P	P	23 02 30.1	-1.0
IUG	Iuzhnay	54.90	313	eP	P	23 02 32.5	+0.7
	baz=312						
BRZS	Berezniki	55.71	322	eP	P	23 02 38.6	+1.2
	comp=Z,2.2nm,0.8s,baz=322						
BVAR	Borovoye Array	58.20	325	P	P	23 02 55.3	+0.3
	comp=Z,2.0nm,0.5s,baz=216,slow=15,SNR=17						
BRVK	Borovoye	58.27	325	P	P	23 02 55.4	-0.1
TIXI	Tiksi	58.65	2	P	P	23 02 57.1	-0.6
TIXI				IAmb	IAmb	23 03 15.8	
	comp=Z,4.9nm,0.9s						
HRA	Herat	59.61	302	P	P	23 03 04.4	-1.0
GEYT	Alibeck	63.22	306	P	P	23 03 30.0	+0.6
	comp=Z,2.8nm,0.8s,baz=201,slow=7.9,SNR=4.7						
GEYT	Alibeck	63.22	306	P	P	23 03 28.4	-1.0
GEYT				IAmb	IAmb	23 03 40.9	
	comp=Z,3.0nm,0.8s						
ABKAR	Akbulak array	63.41	319	P	P	23 03 30.6	+0.1
ABKAR	Akbulak array	63.41	319	P	P	23 03 29.8	-0.7
ABKAR				IAmb	IAmb	23 03 35.7	
	comp=Z,4.2nm,0.9s						
AKTO	Aktyubinsk	64.86	320	P	P	23 03 39.6	-0.3
	comp=Z,2.6nm,0.6s,baz=86,slow=7.4,SNR=8.8						
ARU	Arti	65.77	326	P	P	23 03 44.8	-0.9
	comp=Z,4.8nm,0.5s,baz=115,slow=5.1,SNR=14						
ARU	Arti	65.77	326	P	P	23 03 44.3	-1.4
KIRV	Kirov	70.99	328	P	P	23 04 17.9	-0.5
	comp=Z,11nm,0.6s,baz=84,slow=5.8,SNR=4.9						
RAYN	Ar Rayn	74.60	291	P	P	23 04 39.3	-1.3
RAYN				IAmb	IAmb	23 04 58.0	
	comp=Z,6.4nm,1.1s						
KBZ	Khabaz	74.80	312	P	P	23 04 40.6	-0.6
	comp=Z,5.9nm,1.1s,baz=222,slow=24,SNR=2.4						
KIV	Kislovodsk	74.94	312	P	P	23 04 41.1	-1.1
KIV				IAmb	IAmb	23 04 48.1	
	comp=Z,9.7nm,0.9s						
IMAR	Indian Mountai	74.97	25	P	P	23 04 41.2	-0.7
KLMR	Klimovskoe	76.09	330	eP	P	23 04 45.7	-2.6
KLMR				AMP		23 04 53.2	
	comp=Z,19nm,1.0s						
BPAW	Bear Paw Mtn.	76.14	27	P	P	23 04 49.4	+0.9
RND	Reindeer	77.11	27	P	P	23 04 54.9	+0.8
ILAR	Eielson Array	77.88	26	P	P	23 04 59.8	+1.5
	comp=Z,0.7nm,0.8s,baz=260,slow=5.6,SNR=5.7						
BMAR	Burnt Mountain	78.56	23	P	P	23 05 02.6	+0.5
K27K	Chicken	80.04	26	P	P	23 05 09.7	-0.5
K27K				IAmb	IAmb	23 05 21.8	
	comp=Z,9.9nm,1.2s						
BCAR	Beaver Creek A	80.33	27	P	P	23 05 11.6	-0.2
ARCES	ARCESS Array B	80.88	339	P	P	23 05 14.8	+0.2
	comp=Z,3.2nm,0.6s,baz=50,slow=1.8,SNR=7.9						
ARCES	ARCESS Array B	80.88	339	P	P	23 05 14.3	-0.3
ARCES				IAmb	IAmb	23 05 25.7	
	comp=Z,15nm,1.2s						
SPITS	Spitsbergen Ar	80.90	349	P	P	23 05 15.0	+0.4
	comp=Z,7.8nm,1.0s,baz=87,slow=5.3,SNR=1.2						
BRTR	Keskin Array B	82.16	309	P	P	23 05 21.6	-0.5
	comp=Z,0.9nm,0.8s,baz=86,slow=4.0,SNR=2.1						
FINES	FINESS Array B	82.47	331	P	P	23 05 22.4	-0.7
	comp=Z,3.1nm,0.8s,baz=53,slow=5.3,SNR=11						
INK	Inuvik	82.49	21	P	P	23 05 22.9	-0.1
	comp=Z,7.8nm,1.2s,baz=335,slow=5.5,SNR=3.8						
INK	Inuvik	82.49	21	P	P	23 05 22.6	-0.4
AKASG	Malin Array Be	83.10	320	P	P	23 05 27.5	+0.9
	comp=Z,0.5nm,0.5s,baz=63,slow=4.7,SNR=3.4						
AKASG	Malin Array Be	83.10	320	P	P	23 05 25.1	-1.5
C36M	Paulatuk	85.34	19	P	P	23 05 35.7	-1.9
BURAR	Bucovina Array	86.39	318	P	P	23 05 42.6	-0.8
BUR08	Bucovina Ar. S	86.39	318	P	P	23 05 43.4	0.0
BUR08				IAmb	IAmb	23 05 53.6	
	comp=Z,5.0nm,0.9s						
HFS	Hagfors	88.63	332	P	P	23 05 54.2	+0.4
	comp=Z,2.9nm,0.7s,baz=57,slow=11,SNR=4.5						
HFS				LR	LR	23 48 14.2	
	comp=Z,307nm,18.1s,baz=348,slow=37						
RES	Resolute Bay	89.14	10	P	P	23 05 56.4	+0.5
	comp=Z,0.9nm,0.6s,baz=285,slow=7.8,SNR=7.0						
RES	Resolute Bay	89.14	10	P	P	23 05 55.4	-0.5
NOA	NORSAR Array B	89.35	333	P	P	23 05 57.7	+0.5
	comp=Z,1.9nm,1.0s,baz=70,slow=4.4,SNR=2.4						
PPT	Papeete	90.42	108	LR	LR	23 43 37.6	
	comp=Z,59nm,18.5s,baz=278,slow=34						
YKA	Yellowknife Ar	92.08	23	P	P	23 06 10.7	+0.9
	comp=Z,0.6nm,0.6s,baz=306,slow=3.9,SNR=7.0						
H06N1	SOCORRO T-PHAS	117.12	61	T	T	01 19 35.1	
	SNR=4.6						
TORD	Torodi Ar. Bea	117.28	292	PKP	PKiKP	23 11 48.9	+1.7
	comp=Z,0.4nm,0.7s,baz=71,slow=3.3,SNR=1.9						
PLCA	Paso Flores	149.56	158	PKPbc	PKPbc	23 12 50.5	-0.1
	comp=Z,1.8nm,0.9s,baz=302,slow=4.3,SNR=1.8						

IDC ***07*** *23:03:54.9±0.8, 43.58N×105.25W, h0km, mb4.0/5, mb1 3.9/13, mb1mx3.6/56, mbtmp3.7/13, ML3.3/7, Error ellipse: s-maj=16.8km s-min=7.1km az=151.0*

ANF ***07*** *23:03:57.8±0.6, 43.72N×105.21W, h1km, ML3.8/15, Error ellipse: s-maj=8.6km s-min=6.5km az=119.0, Hypocentre not reviewed by the ISC*

NEIC ***07*** *23:03:57.5±1.4, 43.83N±0.03×105.24W±0.08, h0km±2km, ML3.5/62, Error ellipse: s-maj=10.1km s-min=3.1km az=109.0*

ISC 07 23:03:56.5±0.7**, 43.82N**±0.07×**105.24W**±0.05**, h0km, n72,** σ1**.17**/71**, mb4.0**/5**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.92	70	Pg	Pb	23 04 15.5	0.0
RSSD	Black Hills	0.92	70	P		23 04 15.1	
	baz=245						
K22A	Casper	1.50	219	Pn	Pn	23 04 23.9	-1.0
K22A				IAML		23 04 46.8	
	comp=N,846nm,0.3s						
K22A	Casper	1.50	219	P		23 04 24.0	
	baz=41,SNR=207						
K22A				S		23 04 45.1	
	baz=41						
PHWY	Pilot Hill	2.52	184		Pn	23 04 39.5	+0.5
RWWY	Rawlins	2.58	215	Pn	Pn	23 04 41.3	+1.5
LAO	LASA Array	2.95	347	Pn	Pn	23 04 45.6	+0.8
LAO	LASA Array	2.95	347	P		23 04 45.7	
	baz=166						
LAO				S		23 05 28.8	
	baz=166						
N23A	Red Feather La	2.97	190	P		23 04 46.3	
	baz=11,SNR=42						
RLMT	Red Lodge	3.17	296	Pn	Pn	23 04 48.9	+1.1
RLMT				IAML		23 05 43.9	
	comp=N,86nm,0.5s						
RLMT				IAML		23 05 45.4	
	comp=N,152nm,0.4s						
RLMT	Red Lodge	3.17	296	P		23 04 49.0	
	baz=114,SNR=26						
BW06	Boulder Array	3.33	253	P		23 04 51.0	
	baz=72,SNR=31						
PD31	Pinedale Array	3.33	253	Pn	Pn	23 04 50.7	+0.7
PDAR	Pinedale Array	3.33	253	Pn	Pn	23 04 51.0	+1.0
	comp=N,16nm,0.3s,baz=66,slow=16,SNR=28						
PDAR				Pg	Pb	23 04 56.1	-0.4
	comp=N,44nm,0.3s,baz=68,slow=18,SNR=50						
PDAR				Lg	Lg	23 05 37.3	
	comp=N,23nm,0.3s,baz=75,slow=36,SNR=2.3						
PDAR	Pinedale Array	3.33	253		Pn	23 04 50.7	+0.7
YNE	Yellowstone No	3.62	291		Pn	23 04 54.6	+0.5
YNE				IAML		23 05 51.9	
	comp=N,105nm,0.8s						
YMP	Mirror Lake Pl	3.65	286		Pn	23 04 55.6	+1.1

GCMT	Greycliff	3.72	304		Pn	23 04 56.5	+1.1
OGNE	Ogallala	3.73	139	Pn	Pn	23 04 55.9	+0.5
OGNE	Ogallala	3.73	139	P		23 04 56.3	
	baz=321,SNR=8.5						
LKWY	Lake	3.79	283		Pn	23 04 58.2	+1.8
LKWY				IAML		23 05 26.2	
	comp=N,72nm,0.6s						
H17A	Grant Village	3.89	280		Pn	23 04 59.5	+1.7
H17A				IAML		23 06 04.5	
	comp=N,49nm,0.4s						
H17A	Grant Village	3.89	280	P		23 05 00.3	
	baz=98,SNR=9.8						
LOHW	Long Hollow	3.90	269		Pn	23 04 59.2	+1.3
FLWY	Flagg Ranch	3.95	276		Pn	23 04 59.6	+0.9
FLWY				IAML		23 06 12.0	
	comp=N,43nm,1.0s						
FLWY				IAML		23 06 38.5	
	comp=N,53nm,1.1s						
YNR	Norris Junctio	4.01	285		Pn	23 05 00.6	+1.1
SNOW	Snow King Moun	4.02	267		Pn	23 05 01.1	+1.5
SNOW				IAML		23 06 07.2	
	comp=N,57nm,1.0s						
SNOW				IAML		23 06 15.8	
	comp=N,49nm,0.9s						
ISCO	Idaho Springs	4.03	184	Pn	Pn	23 05 00.8	+1.1
ISCO	Idaho Springs	4.03	184	P		23 05 00.8	
	baz=4.2,SNR=18						
YPP	Pitchstone Pla	4.04	278		Pn	23 05 01.0	+1.0
REDW	Red Top Meadow	4.11	266		Pn	23 05 02.1	+1.4
REDW				IAML		23 06 21.6	
	comp=N,73nm,0.8s						
REDW				IAML		23 06 23.3	
	comp=N,84nm,0.8s						
E28A	Huff	4.23	48		Pn	23 05 04.0	+1.7
O20A	White River Ci	4.31	212	Pn	Pn	23 05 04.5	+1.0
O20A				IAML		23 06 13.5	
	comp=E,77nm,0.8s						
O20A	White River Ci	4.31	212	P		23 05 04.7	
	baz=31,SNR=14						
YHL	Hebgen Lake	4.39	286	Pn	Pn	23 05 05.3	+0.6
YHL				IAML		23 06 26.0	
	comp=N,39nm,0.8s						
YHL				IAML		23 06 26.8	
	comp=E,49nm,0.8s						
AHID	Auburn Hatcher	4.41	258		Pn	23 05 06.4	+1.5
AHID				IAML		23 06 29.2	
	comp=N,70nm,0.8s						
AHID				IAML		23 06 32.9	
	comp=E,53nm,0.8s						
QLMT	Earthquake Lak	4.56	285		Pn	23 05 08.2	+1.3
SUSD	Miller	4.56	80		Pn	23 05 10.6	+3.8
SUSD	Miller	4.56	80	Pb		23 05 18.9	
	baz=263						
RDMU	Red Mountain	4.57	226		Pn	23 05 08.6	+1.5
RDMU				IAML		23 06 21.8	
	comp=N,48nm,0.8s						
RDMU				IAML		23 06 30.1	
	comp=E,45nm,0.8s						
DGMT	Dagmar	4.71	8		Pn	23 05 11.2	+2.3
DGMT	Dagmar	4.71	8	Pn		23 05 11.3	
	baz=189						
DGMT				Pb		23 05 22.4	
	baz=189						
DGMT				Sb		23 06 23.8	
	baz=189						
SMCO	Snowmass	4.82	196		Pn	23 05 11.1	+0.4
SMCO				IAML		23 06 37.7	
	comp=E,27nm,0.9s						
SMCO				IAML		23 06 44.4	
	comp=E,34nm,1.0s						
K31A	O'Neill	4.88	102		Pn	23 05 13.9	+2.6
BOZ	Bozeman (W)	4.89	294		Pn	23 05 11.8	+0.3
BOZ				IAML		23 06 29.1	
	comp=E,23nm,0.8s						
BOZ				IAML		23 06 30.4	
	comp=E,29nm,0.8s						
BOZ	Bozeman (W)	4.89	294	Pn		23 05 12.1	
	baz=110						
BOZ				Sb		23 06 27.4	
	baz=110						
HWUT	Hardware Ranch	5.16	247		Pn	23 05 16.1	+0.9
HWUT				IAML		23 06 57.3	
	comp=E,40nm,0.8s						
KSCO	Kaye Shedlock'	5.19	157	Pn	Pn	23 05 15.5	-0.1
KSCO	Kaye Shedlock'	5.19	157	P		23 05 16.0	
	baz=338,SNR=12						
EGMT	Eagleton	5.25	325		Pn	23 05 16.6	+0.3
EGMT	Eagleton	5.25	325	P		23 05 17.1	
	baz=142						
HRY	Holter Researc	5.48	304		Pn	23 05 20.2	+0.7
JLU	Jordanelle	5.62	237		Pn	23 05 22.4	+0.8
MDND	Maddock	5.63	42		Pn	23 05 22.0	+0.5
MDND	Maddock	5.63	42	Sb		23 06 51.5	
	baz=226						
CTU	Camp Tracy	5.75	239	Pn	Pn	23 05 24.1	+0.7
BGNE	Belgrade	5.76	112		Pn	23 05 24.1	+0.9
BGNE	Belgrade	5.76	112	P		23 05 24.0	
	baz=296						
BCYI	Bear Canyon	5.91	278		Pn	23 05 27.7	+2.2
PV07	Paradox Valley	5.96	207	Pn	Pn	23 05 27.7	+1.5
SDCO	Great Sand Dun	6.07	182	Pn	Pn	23 05 28.1	+0.3
MPU	Maple Canyon	6.10	234		Pn	23 05 29.3	+1.2
ECSD	EROS Data Cent	6.24	88	Pn	Pn	23 05 30.3	+0.4
ECSD	EROS Data Cent	6.24	88	P		23 05 31.0	
	baz=273						
CBKS	Cedar Bluff	6.49	139	Pn	Pn	23 05 33.6	+0.3
CBKS	Cedar Bluff	6.49	139	P		23 05 33.9	
	baz=322						
Q16A	Castle Valley	6.63	224		Pn	23 05 35.8	+0.5
HLID	Hailey	6.66	271	Pn	Pn	23 05 37.4	+1.6
HLID	Hailey	6.66	271	P		23 05 38.0	
	baz=86,SNR=6.2						
F33A	5 Mile Ranch,	6.67	69	Pn	Pn	23 05 34.7	-1.0
T25A	Trinidad	6.70	174		Pn	23 05 36.6	+0.2
T25A	Trinidad	6.70	174	P		23 05 37.0	
	baz=355						
DUG	Dugway, Tooele	6.71	240	Pn	Pn	23 05 36.4	0.0
DUG	Dugway, Tooele	6.71	240	P		23 05 36.8	
	baz=56,SNR=7.5						
MSO	Missoula	6.83	299	Pn	Pn	23 05 38.6	+0.6
MSO	Missoula	6.83	299	P		23 05 38.9	
	baz=114						
MVCO	Mesa Verde	7.05	202	Pn	Pn	23 05 42.9	+1.7
R32A	Long Quarter,	7.30	135	Pn	Pn	23 05 44.9	+0.4
JTMT	Jette	7.44	305	Pn	Pn	23 05 47.4	+0.9
AGMN	Agassiz Nation	7.91	52	Pn	Pn	23 05 52.6	-0.1
AGMN	Agassiz Nation	7.91	52	P		23 05 53.2	
	baz=238						
WALA	Waterton Lakes	7.96	314	Pn	Pn	23 05 53.3	-0.2
ELK	Elko	8.03	251	Pn	Pn	23 05 54.3	-0.3
	comp=E,0.7nm,0.3s,baz=54,slow=8.3,SNR=9.7						
F36A	Milaca	8.57	72	Pn	Pn	23 06 02.1	+0.3
I10CA	LAC DU BONNET	8.96	41	*i*		23 57 30.0	
	baz=220,slow=332,SNR=1.1						
ULM	Lac du Bonnet	9.06	42	Pn	Pn	23 06 07.6	-0.9
	comp=E,2.6nm,0.3s,baz=235,slow=12,SNR=28						
ULM				Lg	Lg	23 08 39.8	
	comp=E,0.9nm,0.3s,baz=150,slow=22,SNR=2.2						
NEW	Newport	9.38	302	Pn	Pn	23 06 13.1	+0.1
	comp=E,0.2nm,0.3s,baz=104,slow=12,SNR=2.8						
NEW				Lg	Lg	23 08 48.0	
	comp=E,0.1nm,0.3s,baz=51,slow=8.9,SNR=3.9						
NVAR	Mina Array Bea	11.23	246	Pn	Pn	23 06 38.7	+0.3
	comp=E,0.2nm,0.3s,baz=46,slow=12,SNR=5.9						
YBH	Yreka Blue Hor	13.01	267	Pn	Pn	23 07 04.7	+2.0
	comp=E,0.2nm,0.3s,baz=72,slow=23,SNR=2.4						
TXAR	Lajitas Array	14.51	175	Pn	Pn	23 07 18.9	-4.4
	comp=E,0.0nm,0.3s,baz=352,slow=12,SNR=1.4						
TXAR				Pg	P	23 08 14.4	+44
	comp=E,0.1nm,0.3s,baz=19,slow=14,SNR=2.8						
YKA	Yellowknife Ar	19.49	347	P	P	23 08 24.1	-0.7
	comp=E,0.1nm,0.3s,baz=153,slow=13,SNR=8.9						
ARCES	ARCESS Array B	61.33	18	P	P	23 14 11.8	-1.6
	comp=E,2.4nm,0.8s,baz=329,slow=4.5,SNR=4.9						
FINES	FINESS Array B	67.95	23	P	P	23 14 56.2	-0.5
	comp=E,4.0nm,1.0s,baz=354,slow=5.6,SNR=1.7						
GERES	GERESS Array B	73.34	37	P	P	23 15 30.5	+0.6
	comp=E,0.1nm,0.3s,baz=316,slow=4.1,SNR=1.6						
ZALV	Zalesovo Beam	82.23	354	P	P	23 16 18.6	-0.6
	comp=E,0.5nm,0.5s,baz=2.3,slow=7.2,SNR=3.1						
MKAR	Makanchi Array	89.53	355	P	P	23 16 55.4	-0.1
	comp=E,0.6nm,0.7s,baz=21,slow=4.6,SNR=7.1						

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*JMA **07** 23:16:43.4±0.1, 40°.59N×142°.51E, h30km±2km, M4.3*

JMA Felt II J1.

*NIED **07** 23:16:43.5, 40°.60N×142°.51E, h30km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.42; $M_{\theta\theta}$1.96; $M_{\phi\phi}$0.46; $M_{r\theta}$-1.59; $M_{\theta\phi}$0.83; $M_{\phi r}$0.48; Fault plane solution: $M_0$2.88000×10^{15} NP1:ϕ_s86.00000°, δ62.00000°, λ-72.00000°. NP2:ϕ_s231.00000°, δ33.00000°, λ-121.00000°.*

*MOS **07** 23:16:43.3±1.0, 40°.71N×142°.35E, h44km, mb4.5/11 Error ellipse: s-maj=7.5km s-min=5.2km az=89.0*

*IDC **07** 23:16:45.5±2.0, 40°.63N×142°.40E, h55km±16km, mb3.9/24, mb1 4.1/29, mb1mx4.0/49, mbtmp4.1/29, ML3.6/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/63, Error ellipse: s-maj=15.2km s-min=10.8km az=125.0*

*NEIC **07** 23:16:46.0±1.6, 40°.69N±0°.06×142°.16E±0°.06, h52km±6km, mb4.4/56, Error ellipse: s-maj=9.1km s-min=5.7km az=143.0*

ISC 07 23:16:44.4±0.8**, 40°.60N**±0°.03**×142°.50E**±0°.04**, h44**km±7km**, n207,** σ1§**07**/226**, mb4.3**/65**, 12C-7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKEN	Kujiedanarisaw	0.72	237	⇓P	Pn	23 16 57.1	-1.0
JKEN				S	Sn	23 17 06.7	-1.4
JANG	Nango	0.78	254	⇓P	Pn	23 16 58.2	-0.8
JANG				*e*S	Sn	23 17 08.6	-1.0
JTH	Tanohata	0.82	217	⇓P	Pn	23 16 58.6	-0.9
JTH				*e*S	Sn	23 17 08.4	-2.1
JARK	Aomorirokkasho	0.95	296	⇑P	Pn	23 17 00.6	-0.7
JARK				*e*S	Sn	23 17 12.5	-1.2
JKZ	Kuzumaki	1.08	236	⇓P	Pn	23 17 02.8	-0.4
JKZ				S	Sn	23 17 17.1	+0.1
JTM	Tenmabayashi	1.10	280	⇓P	Pn	23 17 03.0	-0.4
JTM				*e*S	Sn	23 17 16.7	-0.7
JTM	Tenmabayashi	1.10	280	Pn	Pn	23 17 03.0	-0.4
JTM				Sn	Sn	23 17 16.4	-1.1
JOT	Ohata	1.35	306	⇑P	Pn	23 17 06.1	-0.6
JOT				*e*S	Sn	23 17 22.7	-0.7
JOM	Ohasama	1.46	220	⇓P	Pn	23 17 08.5	+0.3
JOM				*e*S	Sn	23 17 27.4	+1.3
JAH	Hinai	1.48	255	P	Pn	23 17 09.1	+0.6
JAH				S	Sn	23 17 27.6	+1.0
ERM	Erimo	1.50	19	*ce*P	Pn	23 17 09.1	+0.3
ERM				pmax	pmax		
	comp=Z,723nm,0.6s						
ERM	Erimo	1.50	19		Pn	23 17 09.0	+0.3
ERM				Sn	Sn	23 17 26.8	-0.3
JEM	Erimo	1.50	19	P	Pn	23 17 09.1	+0.3
JNBK	Urakawa-nobuka	1.69	6	P	Pn	23 17 12.1	+0.7
JKB	Kayabe	1.70	320	⇑P	Pn	23 17 11.1	-0.4
JKB				*e*S	Sn	23 17 31.9	-0.1
JEW	Eniwo	2.37	341	Pn	Pn	23 17 21.9	+1.2
JMM	Marumori	3.03	206		Pn	23 17 30.6	+0.8
JKA	Kamikawa-asahi	3.52	1	Pn	Pn	23 17 36.9	+0.5
ASAJ	Asahikawa	3.52	1	P	Pn	23 17 37.5	+1.0
	comp=Z,12nm,0.3s,baz=217,slow=7.1,SNR=56						
ASAJ				S	Sn	23 18 17.7	+0.9
	comp=Z,11nm,0.3s,baz=280,slow=26,SNR=4.1						
ASAJ				LR	LR	23 18 42.2	
	comp=Z,180nm,18.4s,baz=165,slow=33						
NMR	Nemuro--Hokkai	3.67	40	*e*P	Pn	23 17 37.1	-1.4
NMR				*e*S	Sn	23 18 16.5	-4.0
GLVR	Golovnino	3.86	35	*e*P	Pn	23 17 40.7	-0.4
GLVR				*e*S	Sn	23 18 23.3	-1.8
GLVR				pmax	pmax		
	comp=Z,188nm,0.6s						
GLVR				smax	smax		
	comp=E,85nm,0.2s						
GLVR				smax	smax		
	comp=N,576nm,0.4s						
RUSJ	Misakicho	4.05	29	*e*P	Pn	23 17 44.2	+0.4
RUSJ				*e*S	Sn	23 18 31.0	+1.1
JSD	Sado	4.17	233	Pn	Pn	23 17 47.0	+1.6
GRPR	Tuman	4.17	35	*e*P	Pn	23 17 44.6	-0.8
GRPR				*e*S	Sn	23 18 29.8	-3.1
GRPR				pmax	pmax		
	comp=Z,113nm,0.4s						
GRPR				smax	smax		
	comp=N,367nm,0.2s						
GRPR				smax	smax		
	comp=E,573nm,0.4s						
YUK	Yuzh-Kuril'sk	4.24	35	*e*P	Pn	23 17 45.9	-0.5
YUK				*e*S	Sn	23 18 31.5	-3.1
YUK				pmax	pmax		
	comp=N,61nm,0.3s						
YUK				pmax	pmax		
	comp=Z,182nm,0.3s						
YUK				smax	smax		
	comp=N,467nm,0.6s						
YUK				smax	smax		
	comp=E,147nm,0.3s						
JYT	Yasato	4.72	203		Pn	23 17 53.3	+0.2
MAJO	Matsushiro	5.26	221	*d i*P	Pn	23 18 03.5	+3.0
MAJO	Matsushiro	5.26	221	Pn	Pn	23 18 02.4	+1.9
MAT	Matsushiro	5.26	221	P	Pn	23 18 02.9	+2.4
MAT				*e*S	Sn	23 18 59.9	0.0
MJAR	Matsushiro Arr	5.26	221	P	Pn	23 18 01.8	+1.3
	comp=E,0.8nm,0.3s,baz=32,slow=13,SNR=102						
MJAR				LR	LR	23 19 59.4	
	comp=E,262nm,19.6s,baz=60,slow=37						
MJAR	Matsushiro Arr	5.26	221	P	Pn	23 18 02.4	+1.9
MJAR	Matsushiro Arr	5.26	221		Pn	23 18 02.4	+1.9
KUR	Kuril'sk	6.08	39	⇑*i*P	Pn	23 18 11.7	+0.1
KUR				*e*S	Sn	23 19 17.7	-2.1
KUR				pmax	pmax		
	comp=Z,85nm,0.5s						
KUR				smax	smax		
	comp=N,75nm,0.6s						
KUR				smax	smax		
	comp=E,33nm,0.4s						
YSS	Yuzh-Sakhalins	6.36	2	*e*P	Pn	23 18 16.5	+1.1
YSS				*e*S	Sn	23 19 28.2	+1.6
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				MLR	MLR		
	comp=E,300nm,15.0s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS	Yuzh-Sakhalins	6.36	2	Pn	Pn	23 18 15.9	+0.5
JGF	Kuroka	6.43	221		Pn	23 18 18.6	+2.1
INU	Inuyama	6.80	221		Pn	23 18 24.0	+2.5
JWT	Wachi	7.72	229		Pn	23 18 36.4	+2.2
USA0B	Ussuriysk Arra	8.57	298	P	Pn	23 18 44.7	-1.0
USA0B	Ussuriysk Arra	8.57	298	Pn	Pn	23 18 44.6	-1.0
USRK	Ussuriysk Ar.	8.57	298	P	Pn	23 18 45.6	-0.1
	baz=147,slow=40,SNR=1.1						
USRK	Ussuriysk Ar.	8.57	298	Pn	Pn	23 18 43.4	-2.4
KLR	Kul'dur	11.50	322	*i* P	Pn	23 19 23.7	-2.1
KLR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KSRS	Korea Array	11.76	259	P	Pn	23 19 30.6	+1.2
	comp=Z,0.1nm,0.3s,baz=108,slow=21,SNR=1.9						
KSRS				LR	LR	23 23 30.0	
	comp=Z,159nm,20.4s,baz=60,slow=34						
HIA	Hailar	18.24	306	P	P	23 20 52.6	-1.2
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HIA	Hailar	18.24	306	P	P	23 20 52.6	-1.2
MA2	Magadan	19.70	13	P	P	23 21 09.3	-0.3
	comp=Z,0.5nm,0.3s,baz=187,slow=17,SNR=3.6						
MA2	Magadan	19.70	13	P	P	23 21 09.4	-0.2
MA2				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MA2	Magadan	19.70	13	P	P	23 21 09.4	-0.2
BJT	Baijiatuau	20.07	277	P	P	23 21 12.1	-1.7
BJT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BJT	Baijiatuau	20.07	277	P	P	23 21 12.1	-1.7
YAK	Yakutsk	22.82	344	*i* P	P	23 21 41.8	-1.4
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
YAK	Yakutsk	22.82	344	P	P	23 21 41.6	-1.6
YAK				IAmb	IAmb	23 21 45.9	
	comp=Z,12nm,0.5s						
SEY	Seymchan	23.13	12	*i* P	P	23 21 45.7	-0.6
HHC	Hu-ho-hao-te	23.39	281	*e*P	P	23 21 48.6	-0.6
BOD	Bodaibo	25.08	323	*e*P	P	23 22 03.1	-1.3
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TPUB	Ta-pu	25.22	233	P	P	23 22 05.4	-0.7
SONM	Songino Array	26.68	298	P	P	23 22 18.3	-0.9
	comp=Z,0.7nm,0.5s,baz=85,slow=9.1,SNR=9.3						
SONM	Songino Array	26.68	298	P	P	23 22 18.0	-1.2
XAN	Xi'an	27.38	267	P	P	23 22 26.1	+0.6
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
H11N2	WAKE ISLAND Hy	29.45	128	T	T	23 53 37.4	
	baz=318,slow=75,SNR=159						
H11N1	WAKE ISLAND Hy	29.46	128	T	T	23 53 42.9	
	baz=318,slow=75,SNR=82						
H11N3	WAKE ISLAND Hy	29.47	128	T	T	23 53 39.0	
	baz=318,slow=75,SNR=85						
H11S1	WAKE ISLAND Hy	30.28	130	T	T	23 54 50.9	
	baz=321,slow=76,SNR=53						
H11S3	WAKE ISLAND Hy	30.28	130	T	T	23 54 50.9	
	baz=321,slow=76,SNR=39						
H11S2	WAKE ISLAND Hy	30.30	130	T	T	23 54 50.9	
	baz=321,slow=76,SNR=31						
DGZ	Jazzator, Alta	39.09	302	*i* P	P	23 24 07.1	-0.1
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WMQ	Urumqi	40.10	293	*e*P	P	23 24 16.7	+1.2
WMQ	Urumqi	40.10	293	P	P	23 24 14.7	-0.8
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WMQ	Urumqi	40.10	293	P	P	23 24 14.7	-0.8
WMQ				IAmb	IAmb	23 24 31.9	
	comp=Z,4.3nm,0.5s						
ZAA0	Zalesovo Array	40.23	309	P	P	23 24 15.7	-0.7
ZAA0				IAmb	IAmb	23 24 16.6	
	comp=Z,2.8nm,0.6s						
ZALV	Zalesovo Beam	40.23	309	P	P	23 24 15.6	-0.8
	comp=Z,2.6nm,0.6s,baz=91,slow=8.4,SNR=14						
ZALV				PcP	PcP	23 26 19.8	+0.3
	comp=Z,1.4nm,0.5s,baz=105,slow=2.8,SNR=5.1						
TNTI	Ternate	41.96	203	P	P	23 24 30.7	-0.3
LSA	Lhasa	42.83	272	P	P	23 24 38.3	-0.3
LSA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
LSA	Lhasa	42.83	272	P	P	23 24 38.2	-0.3
MK31	Makanchi Array	43.03	299	P	P	23 24 38.9	-0.6
MK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MK31	Makanchi Array	43.03	299	P	P	23 24 38.9	-0.6
MKAR	Makanchi Array	43.03	299	P	P	23 24 39.1	-0.4
	comp=Z,2.0nm,0.5s,baz=85,slow=11,SNR=50						
MKAR	Makanchi Array	43.03	299	P	P	23 24 38.7	-0.8
IMAR	Indian Mountai	43.17	32	P	P	23 24 41.5	+1.2
MAKZ	Makanchi	43.24	299	P	P	23 24 40.7	-0.5
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAKZ	Makanchi	43.24	299	P	P	23 24 40.7	-0.5
MAKZ				IAmb	IAmb	23 24 43.5	
	comp=Z,2.9nm,0.6s						
CMAR	Chiang Mai Arr	43.30	252	P	P	23 24 41.4	-0.5
	comp=Z,0.5nm,0.3s,baz=71,slow=13,SNR=1.1						
BPAW	Bear Paw Mtn.	44.30	35	P	P	23 24 50.8	+1.3
KURK	Kurchatov	44.48	305	P	P	23 24 51.3	+0.3
KURK						23 26 33.5	
KURK	Kurchatov	44.48	305	P	P	23 24 51.3	+0.3
KURBB	Kurchatov Arra	44.55	305	P	P	23 24 51.3	-0.3
	comp=Z,4.4nm,0.6s,baz=79,slow=8.7,SNR=18						
KURBB				PcP	PcP	23 26 33.5	-0.5
	comp=Z,0.8nm,0.2s,baz=82,slow=3.9,SNR=5.4						
I23K	Minto, Yukon-K	44.98	34	P	P	23 24 56.0	+1.2
IL31		46.05	34	P	P	23 25 03.9	+0.7
IL31				IAmb	IAmb	23 25 23.5	
	comp=Z,5.6nm,1.1s						
ILAR	Eielson Array	46.05	34	P	P	23 25 03.5	+0.2
	comp=Z,1.3nm,0.8s,baz=269,slow=6.1,SNR=16						
ILAR	Eielson Array	46.05	34	P	P	23 25 03.9	+0.6
ILAR	Eielson Array	46.05	34	P	P	23 25 03.9	+0.6
FYU	Fort Yukon	46.62	32	P	P	23 25 09.4	+1.8
BMAR	Burnt Mountain	46.82	30	P	P	23 25 10.9	+1.6
K27K	Chicken	48.21	35	P	P	23 25 21.3	+1.2
K27K				IAmb	IAmb	23 25 22.4	
	comp=Z,6.9nm,1.4s						
EGAK	Eagle	48.49	34	P	P	23 25 24.3	+2.1
EGAK				IAmb	IAmb	23 25 43.2	
	comp=Z,5.8nm,1.3s						
BCAR	Beaver Creek A	48.50	36	P	P	23 25 23.8	+1.4
BRVK	Borovoye	48.91	310	*ce*P	P	23 25 25.4	-0.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BRVK	Borovoye	48.91	310	P	P	23 25 25.5	-0.1
BRVK				IAmb	IAmb	23 25 26.6	
	comp=Z,3.9nm,1.1s						
AAK	Ala-Archa	49.61	296	P	P	23 25 30.8	-0.5
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	Ala-Archa	49.61	296	P	P	23 25 30.8	-0.5
INK	Inuvik	50.84	28	P	P	23 25 41.0	+1.0
	comp=Z,2.7nm,0.5s,baz=303,slow=6.8,SNR=17						
INK	Inuvik	50.84	28	P	P	23 25 40.9	+1.0
INK				IAmb	IAmb	23 25 42.1	
	comp=Z,9.4nm,1.4s						
KK31	Karatay Array	52.13	298	P	P	23 25 49.2	-0.9
KK31				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KK31	Karatay Array	52.13	298	P	P	23 25 49.2	-0.9
KK31				IAmb	IAmb	23 25 50.2	
	comp=Z,2.9nm,1.1s						
KKAR	Karatay Array	52.13	298	P	P	23 25 49.4	-0.7
KKAR	Karatay Array	52.13	298	P	P	23 25 49.4	-0.7
SVE	Sverdlovsk	53.08	317	*e*P	P	23 25 57.4	+0.6
SVE				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ARU	Arti	54.29	317	*c i*P	P	23 26 06.1	+0.4
ARU				*PP	pP	23 26 20.3	+2.3
ARU				S	S	23 33 41.2	+1.2
ARU				SS	SS	23 37 23.2	+1.4
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARU	Arti	54.29	317	P	P	23 26 05.5	-0.2
ARU				IAmb	IAmb	23 26 16.4	
	comp=Z,6.0nm,1.1s						
NIL	Nilore	54.37	286	P	P	23 26 06.4	-0.3
NIL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NIL	Nilore	54.37	286	P	P	23 26 06.4	-0.3
ABKAR	Akbulak array	56.33	309	P	P	23 26 20.1	-0.5
ABKAR	Akbulak array	56.33	309	P	P	23 26 20.3	-0.2
ABKAR				IAmb	IAmb	23 26 21.0	
	comp=Z,3.5nm,0.7s						
KBL	Kabul	56.98	289	P	P	23 26 24.5	-1.2
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBL	Kabul	56.98	289	P	P	23 26 24.5	-1.2
KBL				IAmb	IAmb	23 26 25.6	
	comp=Z,3.9nm,0.8s						
KIRV	Kirov	57.94	322	*ce*P	P	23 26 32.3	+0.6
RES	Resolute Bay	58.94	15	P	P	23 26 37.9	-0.6
	comp=Z,5.5nm,0.8s,baz=306,slow=7.5,SNR=23						
RES	Resolute Bay	58.94	15	P	P	23 26 38.5	0.0
RES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RES	Resolute Bay	58.94	15	P	P	23 26 38.5	0.0
YKA	Yellowknife Ar	60.31	31	P	P	23 26 48.0	-0.1
	comp=Z,0.8nm,0.6s,baz=302,slow=5.8,SNR=13						
FITZ	Fitzroy Crossi	60.47	198	P	P	23 26 49.8	+0.3
FITZ				IAmb	IAmb	23 27 05.4	
	comp=Z,4.5nm,0.9s						
WB0	Warramunga Arr	60.53	189	P	P	23 26 49.6	-0.3
WRA	Warramunga Arr	60.71	189	P	P	23 26 50.5	-0.7
	comp=Z,1.3nm,0.7s,baz=8.9,slow=6.2,SNR=10						
ARCES	ARCESS Array B	60.97	339	P	P	23 26 51.8	-0.7
	comp=Z,5.6nm,1.0s,baz=19,slow=7.7,SNR=4.0						
HRA	Herat	61.90	292	P	P	23 26 58.8	-0.8
HRA				IAmb	IAmb	23 26 60.0	
	comp=Z,1.5nm,0.7s						
GEYT	Alibeck	62.89	298	P	P	23 27 05.3	-0.5
	comp=Z,2.6nm,0.8s,baz=222,slow=2.0,SNR=5.0						
GEYT	Alibeck	62.89	298	P	P	23 27 05.4	-0.5
GEYT				IAmb	IAmb	23 27 06.3	
	comp=Z,2.3nm,0.8s						
AS31	Alice Springs	64.43	189	P	P	23 27 17.2	+1.2
ASAR	Alice Springs	64.43	189	P	P	23 27 16.1	0.0
	comp=Z,1.3nm,0.9s,baz=8.7,slow=6.0,SNR=9.6						
ASAR	Alice Springs	64.43	189	P	P	23 27 16.4	+0.4
ASAR	Alice Springs	64.43	189	P	P	23 27 16.4	+0.4
FIA1	FINESS Array S	66.06	332	P	P	23 27 26.1	-0.1
FINES	FINESS Array B	66.06	332	P	P	23 27 25.6	-0.6
	comp=Z,5.1nm,0.6s,baz=44,slow=8.4,SNR=34						
FINES	FINESS Array B	66.06	332	⇑*e*P	P	23 27 26.0	-0.2
FINES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FINES	FINESS Array B	66.06	332	P	P	23 27 26.0	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
H04A	Detroit Lake	66.17	51	P	P	23 27 28.0	+0.7
SUMG	Summit	67.12	0	*i* P	P	23 27 34.1	+0.8
	comp=Z,13nm,0.8s						
SUMG	Summit	67.12	0	P	P	23 27 34.1	+0.8
SUMG	Summit	67.12	0	P	P	23 27 34.1	+0.8
SUMG	Summit	67.12	0	*i* P	P	23 27 34.2	+0.8
SUMG				IAmb	IAmb	23 27 35.0	
	comp=Z,13nm,0.8s						
PINE	Pine Mountain	67.42	51	P	P	23 27 37.2	+1.8
PINE				IAmb	IAmb	23 27 38.1	
	comp=Z,5.1nm,0.8s						
YBH	Yreka Blue Hor	67.53	54	P	P	23 27 37.6	+1.6
YBH				pmax	pmax		
	comp=Z,8.0nm,1.5s						
YBH	Yreka Blue Hor	67.53	54	P	P	23 27 37.6	+1.6
YBH				IAmb	IAmb	23 27 38.3	
	comp=Z,7.8nm,1.5s						
K05A	Summer Lake	68.06	52	P	P	23 27 40.9	+1.5
K05A				IAmb	IAmb	23 27 44.1	
	comp=Z,4.5nm,1.0s						
KBZ	Khabaz	69.24	310	P	P	23 27 46.6	+0.1
	comp=Z,2.9nm,0.8s,baz=86,slow=5.3,SNR=5.6						
BEKR	Beckworth	70.06	54	P	P	23 27 53.1	+1.2
BEKR				IAmb	IAmb	23 27 53.9	
	comp=Z,3.4nm,1.0s						
PAHR	Pah Rah Range	70.76	54	P	P	23 27 57.2	+1.1
HRY	Holter Researc	70.80	45	P	P	23 27 57.4	+1.2
NC204	NORSAR Array S	71.17	338	P	P	23 27 58.0	-0.1
NB2	NORSAR Subarra	71.23	337	P	P	23 27 57.8	-0.6
	comp=Z,2.4nm,0.7s,baz=36,slow=6.2						
NOA	NORSAR Array B	71.23	337	P	P	23 27 57.7	-0.8
	comp=Z,2.7nm,0.8s,baz=37,slow=6.1,SNR=6.8						
BOZ	Bozeman (W)	71.62	45	P	P	23 28 02.4	+1.2
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOZ	Bozeman (W)	71.62	45	P	P	23 28 02.4	+1.2
BOZ				IAmb	IAmb	23 28 03.1	
	comp=Z,3.9nm,0.7s						
KVN	Kaiserville	71.95	54	P	P	23 28 04.8	+1.5
KVN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KVN	Kaiserville	71.95	54	P	P	23 28 04.8	+1.5
KVN				IAmb	IAmb	23 28 05.7	
	comp=Z,2.7nm,0.8s						
AKASG	Malin Array Be	72.00	322	P	P	23 28 02.8	-0.4
	comp=Z,1.5nm,0.5s,baz=45,slow=6.0,SNR=10						
AKBB	Malin Array Si	72.00	322	*ce*P	P	23 28 03.5	+0.3
NVAR	Mina Array Bea	72.20	55	P	P	23 28 05.7	+0.7
	comp=Z,1.6nm,0.9s,baz=289,slow=4.7,SNR=10						
NVAR	Mina Array Bea	72.20	55	P	P	23 28 05.5	+0.6
YHL	Hebgen Lake	72.33	46	P	P	23 28 06.8	+1.1
YHL				IAmb	IAmb	23 28 08.0	
	comp=Z,3.1nm,0.8s						
ANGG	Ammassalik, Gr	74.12	0	P	P	23 28 16.6	+1.2
PDAR	Pinedale Array	74.58	47	P	P	23 28 19.1	+0.2
	comp=Z,0.7nm,0.6s,baz=280,slow=3.1,SNR=7.9						
PDAR	Pinedale Array	74.58	47	P	P	23 28 19.3	+0.4
BUR08	Bucovina Ar. S	76.03	322	P	P	23 28 26.8	-0.1
BURAR	Bucovina Array	76.04	322	P	P	23 28 27.0	0.0
BURAR				IAmb	IAmb	23 28 27.9	
	comp=Z,2.5nm,0.7s						
ULM	Lac du Bonnet	76.07	34	P	P	23 28 26.4	-0.6
	comp=Z,1.6nm,0.6s,baz=329,slow=6.7,SNR=4.6						
OJC	Ojcow	76.55	326	P	P	23 28 29.6	-0.1
OJC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OJC	Ojcow	76.55	326	P	P	23 28 29.6	-0.1
OJC				IAmb	IAmb	23 28 31.1	
	comp=Z,5.5nm,1.0s						
BR131	Keskin Array S	77.12	312	P	P	23 28 33.7	+0.4
BR131				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BR131	Keskin Array S	77.12	312	P	P	23 28 33.7	+0.4
BR131				IAmb	IAmb	23 28 53.4	
	comp=Z,6.5nm,1.1s						
BRTR	Keskin Array B	77.12	312	P	P	23 28 32.9	-0.4
	comp=Z,0.9nm,0.6s,baz=92,slow=2.7,SNR=7.1						
BRTR	Keskin Array B	77.12	312	⇑*e*P	P	23 28 33.6	+0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	77.12	312	P	P	23 28 33.5	+0.1
DPC	Dobruska-Polom	77.89	328	*e*P	P	23 28 37.9	+0.6
DPC	Dobruska-Polom	77.89	328	*e*P	P	23 28 37.9	+0.6
KRLC	Kraliky	77.92	328	*e*P	P	23 28 38.1	+0.7
KRLC	Kraliky	77.92	328	*e*P	P	23 28 38.1	+0.7
CLL	Collm	78.42	330	*i* P	P	23 28 40.2	+0.1
	comp=Z,5.0nm,1.0s						
CLL	Collm	78.42	330	*i* P	P	23 28 40.2	+0.1
CLL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PRU	Pruhonice	78.88	329	*e*P	P	23 28 43.3	+0.6
PRU	Pruhonice	78.88	329	*e*P	P	23 28 43.3	+0.6
CKRC	Cesky Krumlov	79.90	328	*e*P	P	23 28 48.7	+0.4
KHC	Kasperske Hory	79.95	329	*e*P	P	23 28 49.0	+0.5
KHC	Kasperske Hory	79.95	329	*e*P	P	23 28 49.0	+0.5
KHC	Kasperske Hory	79.95	329	P	P	23 28 48.7	+0.1
KHC				IAmb	IAmb	23 28 50.0	
	comp=Z,5.0nm,1.0s						
RAYN	Ar Rayn	80.09	292	P	P	23 28 49.1	-0.7
RAYN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
RAYN	Ar Rayn	80.09	292	P	P	23 28 49.0	-0.7
GERES	GERESS Array B	80.12	328	P	P	23 28 49.4	-0.2
	comp=Z,1.2nm,0.8s,baz=47,slow=5.9,SNR=7.6						
GERES	GERESS Array B	80.12	328	P	P	23 28 49.2	-0.3
CSS	Mathiatis	80.53	308	P	P	23 28 51.7	-0.2
VTS	Vitosha	80.64	319	P	P	23 28 53.0	+0.4
VTS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VTS	Vitosha	80.64	319	P	P	23 28 53.0	+0.4
VTS				IAmb	IAmb	23 28 54.1	
	comp=Z,5.3nm,0.7s						
ELL	Elmali	81.30	311	P	P	23 28 55.0	-1.2
ELL				pmax	pmax		
	comp=Z,31nm,1.1s						
ELL	Elmali	81.30	311	P	P	23 28 55.0	-1.2
SOKA	Soboth	81.30	326	*e*P	P	23 28 56.5	+0.6
	comp=Z,4.7nm,0.7s						
ANMO	Albuquerque	81.66	51	*ce*P	P	23 29 00.6	+2.4
ANMO				pmax	pmax		
	comp=Z,7.0nm,2.5s						
KBA	Koelnbreinsper	81.68	328	*i* P	P	23 28 58.9	+0.8
	comp=Z,5.3nm,0.8s						
MOTA	Moosalm	82.36	329	*i* P	P	23 29 02.0	+0.4
	comp=Z,6.3nm,1.0s						
RETA	Reutte	82.38	329	*i* P	P	23 29 02.2	+0.7
	comp=Z,6.6nm,0.9s						
IDI	Anoyia	85.17	313	P	P	23 29 14.9	-1.1
ITM	Ithomi	85.37	316	P	P	23 29 16.3	-0.6
TXAR	Lajitas Array	87.29	53	P	P	23 29 27.1	+0.5
	comp=Z,0.6nm,0.7s,baz=287,slow=2.9,SNR=6.8						
TXAR	Lajitas Array	87.29	53	P	P	23 29 27.6	+1.0
TXAR	Lajitas Array	87.29	53	P	P	23 29 27.6	+1.0
KEST	Kesra	92.68	324	LR	LR	00 18 00.8	
	comp=Z,359nm,18.2s,baz=192,slow=40						
ESDC	Sonseca Array	94.45	335	P	P	23 29 59.2	-0.5
	comp=Z,0.3nm,0.6s,baz=14,slow=4.2,SNR=5.6						

TRN ***07*** *23:24:52.5, 15°.10N×61°.02W, h125^{km}, MD3.9*
NEIC ***07*** *23:24:53.5±1.6, 15°.03N±0°.06×61°.19W±0°.07, h128^{km}±4^{km}, mb4.4/9, Error ellipse: s-maj=11.3km s-min=7.3km az=53.0*
ISC 07 23:24:53.7±0.7**, 15°.07N**±0°.03×**61°.15W**±0°.06**, h129**^{km}±5^{km}**, n68,** σ0^{s}**88**/97**, mb4.3**/4**, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	Savane Anatole	0.23	184	*e*P	Pn	23 25 11.6	0.0
BAMF	Morne Balai	0.25	179	*e*P	Pn	23 25 11.6	-0.1
CXM	Morne La Croix	0.26	183	*e*P	Pn	23 25 11.9	+0.1
PCM	Pelee Case Pet	0.26	192	*e*P	Pn	23 25 11.3	-0.4
PCM	Pelee Case Pet	0.26	192	*e*P	Pn	23 25 11.8	+0.2
DLPL	La Plaine	0.28	341	*e*P	Pn	23 25 11.6	0.0
DLPL				*e*S	Sn	23 25 24.7	-0.6
DLPL	La Plaine	0.28	341		Pn	23 25 11.2	-0.4
DLPL				Sn	Sn	23 25 24.9	-0.4
PML	Morne Lenard	0.29	186	*e*P	Pn	23 25 11.5	-0.2
FDF	Fort de France	0.34	180	*i* P	Pn	23 25 11.7	-0.2
FDF				*e*S	Sn	23 25 25.6	-0.1
FDF	Fort de France	0.34	180		Pn	23 25 11.5	-0.4
FDF				Sn	Sn	23 25 25.5	-0.1
ILAM	Ilet Lapin Mar	0.40	137	*e*P	Pn	23 25 11.6	-0.5
ILAM				*e*S	Sn	23 25 24.9	-1.1
DSLB	Salisbury	0.45	325	*e*P	Pn	23 25 12.5	+0.1
DSLB				*e*S	Sn	23 25 26.3	-0.2
ZAM	Aeronautique	0.51	166	*e*P	Pn	23 25 12.2	-0.5
LPMF	Morne Lapointe	0.53	160	*e*P	Pn	23 25 12.0	-0.8
TRMF	Trois Ilets	0.54	170	*e*P	Pn	23 25 12.5	-0.4
BIM	Bigot	0.56	172	*i* P	Pn	23 25 12.6	-0.4
BIM				*e*S	Sn	23 25 27.3	-0.3
MVM	Montagne Vaucl	0.57	154	*e*P	Pn	23 25 12.6	-0.5
MDPV	Dominica, Penn	0.61	335	*e*P	Pn	23 25 13.5	+0.2
MDPV				*e*S	Sn	23 25 28.2	-0.1
MPOM	Morne Pois Mar	0.68	155	*e*P	Pn	23 25 13.2	-0.7
MPOM				*e*S	Sn	23 25 28.2	-0.9
MAGL	Barre de l'ile	0.88	352	*i* P	Pn	23 25 15.1	-0.4
MAGL				*e*S	Sn	23 25 31.5	-0.5
TDBA	Terre de Bas,	0.90	329	*i* P	Pn	23 25 15.7	0.0
TDBA				*e*S	Sn	23 25 32.4	+0.1
TBG	Guadaloupe-3	0.91	329	*i* P	Pn	23 25 15.5	-0.2
TBG				*e*S	Sn	23 25 34.5	+2.1
SLBI	Saint Lucia, B	1.05	171	*e*P	Pn	23 25 16.2	-0.9
SLBI				*e*S	Sn	23 25 33.3	-1.4
SLW	Petit Monier	1.06	169	*e*P	Pn	23 25 16.5	-0.7
SLW				*e*S	Sn	23 25 33.8	-1.2
SLPA	Patience	1.23	169	*e*P	Pn	23 25 18.4	-0.4
SLPA				*e*S	Sn	23 25 37.3	-0.6
DEG	La Desirade	1.24	4	*e*P	Pn	23 25 18.7	-0.3
DEG				*e*S	Sn	23 25 38.0	-0.2
SLB	Belfond	1.24	175	*e*P	Pn	23 25 18.4	-0.6
SLB				*e*S	Sn	23 25 38.9	+0.7
SLDE	Delcer	1.26	176	*e*P	Pn	23 25 19.5	+0.3
SLDE				*e*S	Sn	23 25 38.2	-0.3
MCLT	Moule a Chique	1.37	171	*e*P	Pn	23 25 19.9	-0.4
MCLT				*e*S	Sn	23 25 40.2	-0.3
MCLT	Moule a Chique	1.37	171	Pn	Pn	23 25 19.7	-0.6
MCLT					Sn	23 25 40.2	-0.3
ABD	La Joyeuse, An	1.43	347	*i* P	Pn	23 25 20.6	-0.4
ABD				*e*S	Sn	23 25 40.9	-0.9
SVV	Soufriere Volc	1.74	182	*i* P	Pn	23 25 24.0	-0.6
SVV				*e*S	Sn	23 25 49.7	+1.5
SVB	Belmont	1.79	183	*i* P	Pn	23 25 24.6	-0.5
SVB				*e*S	Sn	23 25 48.3	-0.9
SVB	Belmont	1.79	183		Pn	23 25 24.7	-0.4
MLYT	Lee's Yard	1.92	329	*e*P	Pn	23 25 28.0	+1.3
MLYT				*e*S	Sn	23 25 53.7	+1.8
ANBD	Bethesda, Anti	2.05	343	*i* P	Pn	23 25 27.4	-0.8
ANBD				*e*S	Sn	23 25 53.4	-1.3
BBGH	Gun Hill	2.46	141	*e*P	Pn	23 25 34.3	+0.9
BBGH				*e*S	Sn	23 26 02.2	-1.6
BBGH	Gun Hill	2.46	141	Pn	Pn	23 25 34.2	+0.8
BBSP	Saint Philip	2.55	140	*e*P	Pn	23 25 34.9	+0.4
BBSP				*e*S	Sn	23 26 04.9	-1.1
ANWB	Willy Bob	2.65	347	*e*P	Pn	23 25 34.1	-1.7
ANWB				*e*S	Sn	23 26 06.1	-2.2
ANWB	Willy Bob	2.65	347	Pn	Pn	23 25 34.4	-1.4
GRGR	Grenville	2.96	190	*i* P	Pn	23 25 39.3	-0.6
GRGR				*e*S	Sn	23 26 16.6	+1.2
GRGR	Grenville	2.96	190		Pn	23 25 39.3	-0.6
SEUS	St. Eustatius	2.98	324	Pn	Pn	23 25 40.4	+0.3
TRN	Trinidad (W)	4.40	183	*e*P	Pn	23 25 58.3	-0.6
TRN	Trinidad (W)	4.40	183	*e*S	Sn	23 26 48.0	-1.4
CUPR	Culebra, Puert	5.10	310	Pn	Pn	23 26 08.7	+0.6
MTP	Monte Pirata	5.18	306	Pn	Pn	23 26 09.1	-0.1
HUMP	Col San Antoni	5.44	305	Pn	Pn	23 26 12.1	-0.6
CBYP	Canovanas	5.52	306	Pn	Pn	23 26 13.6	-0.2
SJG	San Juan	5.67	303	Pn	Pn	23 26 14.7	-1.0
GCPR	Guaynabo City	5.72	305	Pn	Pn	23 26 15.2	-1.2
OBIP	Obispado Ponce	6.01	300	Pn	Pn	23 26 18.9	-1.4
AOPR	Arecibo Observ	6.28	302	*e*P	Pn	23 26 26.1	+2.1
AOPR	Arecibo Observ	6.28	302	*e*S	Sn	23 27 33.7	-0.8
AOPR	Arecibo Observ	6.28	302	Pn	Pn	23 26 24.2	+0.2
MLPR	Magueyes Islan	6.34	298	Pn	Pn	23 26 24.0	-0.8
SDDR	Presa de Saban	10.45	293	Pn	Pn	23 27 20.8	+0.7
PTGA	Pitinga	15.74	176	Pn	Pn	23 28 26.9	-1.6
ROSC	El Rosal	16.46	233	P	P	23 28 39.0	+0.9
ROSC				IAmb	IAmb	23 28 43.0	
	comp=Z,20nm,0.6s						
SAML	Samuel	23.95	185	P	P	23 29 55.4	-0.8
SAML				IAmb	IAmb	23 29 57.9	
	comp=Z,6.2nm,0.8s						
344A	Westbrook Farm	31.55	306	P	P	23 31 02.4	-1.5
KOWA	Kowa	55.11	83	P	P	23 34 13.1	+0.1
KOWA				IAmb	IAmb	23 34 14.4	
	comp=Z,3.6nm,0.8s						
DBIC	Dimbokro	55.79	92	P	P	23 34 17.9	+0.1
DBIC				IAmb	IAmb	23 34 21.7	
	comp=Z,16nm,1.4s						
TOA0	Torodi Ar. Sit	60.80	83	P	P	23 34 52.6	-0.1
TOA0				IAmb	IAmb	23 35 07.6	
	comp=Z,4.1nm,1.3s						
KEST	Kesra	65.63	57	P	P	23 35 25.6	+1.2
BUR08	Bucovina Ar. S	76.59	44	P	P	23 36 31.7	+1.5
BURAR	Bucovina Array	76.61	44	P	P	23 36 31.6	+1.4

IDC 07 23:27:29.7±6.2**, 1°.28N**×**100°.65E, h0**^{km}**, mb3.3**/3**, mb1 3.4**/3**, mb1mx3.1**/43**, mbtmp3.3**/3**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.9**/24**, Error ellipse: s-maj=347.6km s-min=30.3km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	25.59	117	LR	LR	23 44 22.3	
	comp=Z,132nm,20.1s,baz=130,slow=40						
WRA	Warramunga Arr	39.19	124	P	P	23 35 00.2	+0.3
	0.3nm,0.6s,baz=304,slow=9.0,SNR=1.7						
ASAR	Alice Springs	40.74	130	P	P	23 35 12.2	-0.5
	0.2nm,0.6s,baz=299,slow=7.6,SNR=4.6						
MKAR	Makanchi Array	48.08	343	P	P	23 36 11.0	-0.1
	0.2nm,0.5s,baz=157,slow=8.6,SNR=4.3						

PRU 07 23:30:26.7±0.0**, 51°.50N**×**16°.11E, h0**^{km}**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	170	*e*Pg	Pg	23 30 39.4	-0.1
KSP				*e*Sg	Sg	23 30 48.5	+0.4
CHVC	Chvalec	0.91	182	*e*PG	Pg	23 30 44.1	-0.1
CHVC				*e*SG	Sg	23 30 56.4	+0.4
OSTC	Ostas	0.95	176	*e*PG	Pg	23 30 44.9	+0.1
OSTC				*e*SG	Sg	23 30 57.1	0.0
UPC	Upice	1.00	184	*e*PG	Pb	23 30 46.3	-0.5
UPC				*e*SG	Sg	23 30 59.2	+0.6
DPC	Dobruska-Polom	1.16	173	*e*PG	Pg	23 30 48.1	-0.8
DPC				*e*SG	Sg	23 31 02.9	-1.0
PVCC	Panska Ves	1.38	226	*e*PG	Pg	23 30 52.3	-0.8
PVCC				*e*SG	Sg	23 31 10.3	-0.6
	comp=Z,8.7nm,0.2s						
KRLC	Kraliky	1.49	163	*e*PG	Pn	23 30 53.7	-1.0
KRLC				*e*SG	Sg	23 31 13.7	-0.8
BRG	Berggiesshubel	1.50	246	Pg	Pn	23 30 54.9	+0.1
BRG				Sg	Sg	23 31 14.9	0.0
BRG				Amp		23 31 15.4	
	comp=Z,4.7nm,0.4s						
PRU	Pruhonice	1.81	214	*e*SG	Sg	23 31 24.9	0.0
CLL	Collm	1.96	266	*e*Sg	Sg	23 31 29.0	-0.5
NKC	Novy Kostel	2.64	243	*e*SG	Sg	23 31 52.5	+0.9
KHC	Kasperske Hory	2.87	215	*e*PG	Pb	23 31 18.8	0.0
KHC				*e*SG	Sg	23 31 57.1	-1.9

IDC ***07*** *23:42:44.6±2.1, 43°.15N×105°.20W, h0^{km}, mb4.6/2, mb1 4.5/3, mb1mx3.5/63, mbtmp4.5/3, ML3.4/2, MS3.9/1, Ms1 3.9/1, ms1mx2.7/50, Error ellipse: s-maj=48.7km s-min=8.2km az=158.0*
NEIC ***07*** *23:42:49.9±1.3, 43°.61N±0°.02×105°.33W±0°.08, h0^{km}±2^{km}, ML3.4/52, Error ellipse: s-maj=9.8km s-min=3.0km az=81.0*
ISC 07 23:42:48.1±0.9**, 43°.62N**±0°.06×**105°.29W**±0°.07**, h0**^{km}**, n57,** σ1^{s}**58**/55**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	Casper	1.32	223	Pn	Pg	23 43 12.5	-1.1
K22A				IAML		23 43 39.8	
	comp=E,442nm,0.4s						
PHWY	Pilot Hill	2.32	183		Pn	23 43 28.8	+1.0
RWWY	Rawlins	2.40	217	Pn	Pn	23 43 30.3	+1.4
RWWY				IAML		23 44 05.6	
	comp=E,285nm,0.8s						
RWWY				IAML		23 44 08.1	
	comp=E,206nm,0.8s						
LAO	LASA Array	3.14	348	Pn	Pn	23 43 40.8	+1.9
RLMT	Red Lodge	3.22	299	Pn	Pn	23 43 41.3	+1.1
RLMT				IAML		23 44 37.7	
	comp=E,82nm,0.5s						
RLMT				IAML		23 44 39.5	
	comp=E,66nm,0.5s						
BW06	Boulder Array	3.24	256		Pn	23 43 40.9	+0.5
PD31	Pinedale Array	3.24	256		Pn	23 43 40.8	+0.4
PDAR	Pinedale Array	3.24	256	Pn	Pn	23 43 40.4	0.0
	comp=E,2.1nm,0.3s,baz=79,slow=16,SNR=33						
PDAR				Pg	Pb	23 43 45.9	-0.7
	comp=E,3.5nm,0.3s,baz=74,slow=20,SNR=23						
PDAR				Lg	Lg	23 44 25.0	
	comp=E,7.9nm,0.3s,baz=82,slow=32,SNR=12						
OGNE	Ogallala	3.60	137	Pn	Pn	23 43 46.7	+1.4
YMP	Mirror Lake Pl	3.67	289		Pn	23 43 47.7	+1.2
LKWY	Lake	3.80	286		Pn	23 43 50.2	+2.0
LKWY				IAML		23 45 03.3	
	comp=E,68nm,1.8s						
LKWY				IAML		23 45 03.4	
	comp=E,66nm,1.6s						
GCMT	Greycliff	3.80	306	Pn	Pn	23 43 49.8	+1.7
ISCO	Idaho Springs	3.83	184	Pn	Pn	23 43 50.2	+1.7
LOHW	Long Hollow	3.86	272		Pn	23 43 50.2	+1.3
H17A	Grant Village	3.89	283		Pn	23 43 51.7	+2.3
H17A				IAML		23 44 54.4	
	comp=E,48nm,1.9s						
H17A				IAML		23 44 59.2	
	comp=N,57nm,1.6s						
FLWY	Flagg Ranch	3.94	279		Pn	23 43 51.9	+1.8
FLWY				IAML		23 44 57.3	
	comp=N,80nm,2.7s						
FLWY				IAML		23 45 07.3	
	comp=N,63nm,1.8s						
YPP	Pitchstone Pla	4.04	281		Pn	23 43 52.5	+1.0
YPP				IAML		23 45 11.6	
	comp=N,39nm,1.8s						
REDW	Red Top Meadow	4.05	268		Pn	23 43 53.2	+1.6
REDW				IAML		23 45 13.3	
	comp=N,69nm,0.8s						
O20A	White River Ci	4.12	213	Pn	Pn	23 43 54.0	+1.5
O20A				IAML		23 46 08.1	
	comp=E,68nm,1.9s						
E28A	Huff	4.39	46		Pn	23 43 57.3	+1.1
YHB	Horse Butte	4.39	287		Pn	23 43 58.0	+1.7
YHB				IAML		23 45 17.6	
	comp=N,28nm,1.8s						
RDMU	Red Mountain	4.41	228		Pn	23 43 58.4	+1.9
RDMU				IAML		23 45 11.7	
	comp=E,47nm,1.4s						
RDMU				IAML		23 45 47.2	
	comp=N,35nm,1.4s						
YHL	Hebgen Lake	4.41	288		Pn	23 43 58.1	+1.5
YHL				IAML		23 45 18.3	
	comp=N,41nm,1.6s						
YHL				IAML		23 45 40.0	
	comp=E,34nm,1.4s						
ECR	Eagle Creek	4.47	265		Pn	23 43 58.7	+1.3
QLMT	Earthquake Lak	4.58	287		Pn	23 44 00.1	+1.3
DGMT	Dagmar	4.91	9		Pn	23 44 05.8	+2.6
BOZ	Bozeman (W)	4.94	296		Pn	23 44 04.2	+0.4
BOZ				IAML		23 45 29.0	
	comp=E,20nm,1.8s						
KSCO	Kaye Shedlock'	5.02	156		Pn	23 44 05.6	+0.7
HWUT	Hardware Ranch	5.05	249		Pn	23 44 05.9	+0.6
HWUT				IAML		23 45 39.5	
	comp=E,30nm,1.6s						
HWUT				IAML		23 45 53.9	
	comp=E,27nm,0.9s						
TCUT	Toone Canyon	5.18	243		Pn	23 44 08.6	+1.5
EGMT	Eagleton	5.40	326		Pn	23 44 11.2	+1.2
JLU	Jordanelle	5.49	239		Pn	23 44 12.4	+1.1
HRY	Holter Researc	5.56	306		Pn	23 44 13.1	+0.9
PV22	Blue Mesa, Par	5.73	209		Pn	23 44 15.9	+1.3
PV07	Paradox Valley	5.77	207		Pn	23 44 17.1	+1.9
HVU	Hansel Valley	5.81	254	Pn	Pn	23 44 18.0	+2.2
P17A	Butcher Ranch,	5.82	226		Pn	23 44 17.3	+1.4
PV04	Paradox Valley	5.89	209		Pn	23 44 18.3	+1.4
PV12	Saucer Basin,	5.93	208		Pn	23 44 18.4	+1.0
MPU	Maple Canyon	5.95	235	Pn	Pn	23 44 20.4	+2.7
PV16	Nyswonger Mesa	5.97	209		Pn	23 44 19.6	+1.6
PV13	Radium Mtn., P	6.08	207		Pn	23 44 20.6	+1.1
TMUT	Trail Mountain	6.20	228		Pn	23 44 22.6	+1.4
ECSD	EROS Data Cent	6.29	86		Pn	23 44 23.4	+1.2
CBKS	Cedar Bluff	6.37	137	Pn	Pn	23 44 25.9	+2.6
DUG	Dugway, Tooele	6.57	241	Pn	Pn	23 44 26.5	+0.3
MVCO	Mesa Verde	6.86	202		Pn	23 44 32.7	+2.6
R32A	Long Quarter,	7.19	134	Pn	Pn	23 44 35.9	+1.3
JTMT	Jette	7.53	306	Pn	Pn	23 44 42.0	+2.8
WALA	Waterton Lakes	8.07	315	Pn	Pn	23 44 46.3	-0.3
I10CA	LAC DU BONNET	9.13	41	*i*		00 37 51.8	
	baz=219,slow=331,SNR=6.1						
ULM	Lac du Bonnet	9.24	41	Pn	Pn	23 45 01.4	-1.1
	comp=E,1.6nm,0.3s,baz=237,slow=12,SNR=12						
ULM				Pg		23 45 38.4	
	comp=E,0.5nm,0.3s,baz=211,slow=7.8,SNR=1.9						
ULM				Lg	Lg	23 47 31.2	
	comp=E,0.3nm,0.3s,baz=145,slow=19,SNR=3.1						
NEW	Newport	9.46	304	Lg	Lg	23 47 44.3	
	comp=E,0.1nm,0.3s,baz=42,slow=23,SNR=1.6						
YKA	Yellowknife Ar	19.68	347	P	P	23 47 19.9	+1.4
	comp=E,0.2nm,0.7s,baz=152,slow=12,SNR=3.8						
FRB	Frobisher Bay	29.01	33	LR	LR	23 59 47.0	
	comp=E,232nm,21.2s,baz=343,slow=35						
ARCES	ARCESS Array B	61.53	18	P	P	23 53 05.8	-0.6
	comp=E,2.9nm,0.8s,baz=326,slow=7.9,SNR=3.6						
FINES	FINESS Array B	68.14	23	P	P	23 53 46.8	-2.8
	comp=E,2.8nm,0.9s,baz=29,slow=4.4,SNR=3.5						

SJA ***07*** *23:45:27.1±0.6, 24°.34S×67°.22W, h196^{km}±5^{km}, ML4.4, MW4.0*
NEIC ***07*** *23:45:27.9±1.8, 24°.30S±0°.07×67°.2W±0°.1, h181^{km}±8^{km}, Error ellipse: s-maj=15.7km s-min=9.7km az=98.0*
VAO ***07*** *23:45:28.9±0.6, 24°.29S×67°.30W, h204^{km}±4^{km}, mb4.2*
IDC ***07*** *23:45:28.7±1.3, 24°.16S×67°.06W, h174^{km}±11^{km}, mb3.4/6, mb1 3.7/12, mb1mx3.5/39, mbtmp4.0/12, Error ellipse: s-maj=19.1km s-min=15.2km az=15.0*
GUC ***07*** *23:45:29.3±0.5, 24°.29S×67°.38W, h196^{km}±12^{km}, ML4.5*
ISC 07 23:45:28.2±0.6**, 24°.26S**±0°.04×**67°.26W**±0°.04**, h184**^{km}±6^{km}**, n132,** σ1^{s}**27**/163**, mb3.9**/9**, 9C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.66	106	*e*P	Pn	23 46 02.4	+0.2
SLA				*e*S	Sn	23 46 28.2	-0.4
FSA	Cafayete	2.18	148	*e*P	Pn	23 46 07.2	-0.4
LVC	Limon Verde	2.23	317	P	Pn	23 46 09.9	+1.4
	36nm,0.3s,baz=147,slow=7.6,SNR=589						
LVC				S	Sn	23 46 40.3	+0.5
	194nm,0.3s,baz=12,slow=21,SNR=91						
LVC	Limon Verde	2.23	317	*e*P	Pn	23 46 10.0	+1.5
LVC				*e*S	Sn	23 46 40.3	+0.5
LVC	Limon Verde	2.23	317		Pn	23 46 09.7	+1.1
LVC	Limon Verde	2.23	317	*e*P	Pn	23 46 09.8	+1.3
LVC	Limon Verde	2.23	317	*e*P	Pn	23 46 09.9	+1.4
LVC				*e*S	Sn	23 46 41.1	+1.3
PB15	IPOC Station P	2.28	297	⇑*i*P	Pn	23 46 10.2	+1.4
PB15				*e*S	Sn	23 46 40.9	+0.5
PB15	IPOC Station P	2.28	297		Pn	23 46 10.2	+1.4
PB15	IPOC Station P	2.28	297	*e*P	Pn	23 46 10.2	+1.4
PB15				*e*S	Sn	23 46 41.3	+0.9
GO02	Mina Guanaco	2.30	247	⇑*i*P	Pn	23 46 10.0	+0.7
GO02				*e*S	Sn	23 46 41.1	+0.1
GO02				IAML		23 46 45.2	
	comp=E,1µm,0.4s						
GO02	Mina Guanaco	2.30	247		Pn	23 46 09.9	+0.7
YJA	Yavi	2.62	38	*e*P	Pn	23 46 13.8	+0.8
YJA				*e*S	Sn	23 46 47.8	0.0
PB06	IPOC Station P	2.63	306	⇑*i*P	Pn	23 46 14.0	+1.2
PB06				*i* S	Sn	23 46 47.0	-0.5
PB06				IAML		23 46 49.4	
	comp=N,2µm,0.1s						
PB06	IPOC Station P	2.63	306		Pn	23 46 13.7	+0.9
PB06	IPOC Station P	2.63	306	*e*P	Pn	23 46 14.0	+1.2
PB06				*e*S	Sn	23 46 46.9	-0.5
PB06				IAML		23 46 51.0	
	comp=Z,992nm,0.1s						
PB14	IPOC Station P	2.89	262		Pn	23 46 16.2	+0.3
PB14	IPOC Station P	2.89	262	*e*P	Pn	23 46 16.3	+0.3
PB14				*e*S	Sn	23 46 53.1	-0.1
PB05	IPOC Station P	3.04	297	⇑*i*P	Pn	23 46 18.4	+0.8

PB05 eS Sn 23 46 54.7 -1.6
PB05 IPOC Station P 3.04 297 eP Pn 23 46 18.5 +0.8
PB05 eS Sn 23 46 54.9 -1.3
PB05 IAML 23 47 00.1
comp=Z,628nm,0.2s
PB09 IPOC Station P 3.06 323⇑eP Pn 23 46 19.6 +1.6
PB09 eS Sn 23 46 57.3 +0.6
PB09 IPOC Station P 3.06 323 Pn 23 46 19.1 +1.2
PB09 IPOC Station P 3.06 323 eP Pn 23 46 19.5 +1.6
PB09 eS Sn 23 46 57.9 +1.2
PB09 IAML 23 47 03.4
comp=Z,583nm,0.3s
AHML Horco Molle 3.06 146 eP Pn 23 46 17.8 +0.1
AHML eS Sn 23 46 54.6 -2.0
AC02 Maricunga 3.07 213⇑iP Pn 23 46 19.0 +0.6
AC02 Maricunga 3.07 213 Pn 23 46 18.8 +0.4
PB10 IPOC Station P 3.11 283⇑iP Pn 23 46 19.3 +1.0
PB10 IAML 23 47 01.8
comp=E,507nm,0.2s
PB10 IPOC Station P 3.11 283 Pn 23 46 18.4 +0.1
PB10 IPOC Station P 3.11 283 eP Pn 23 46 19.4 +1.0
PB10 eS Sn 23 46 57.3 -0.1
PB10 IAML 23 46 59.1
comp=Z,523nm,0.3s
PB04 IPOC Station P 3.28 305⇑eP Pn 23 46 21.3 +0.7
PB04 eS Sn 23 46 60.0 -1.5
PB04 IPOC Station P 3.28 305 Pn 23 46 21.2 +0.7
PB04 IPOC Station P 3.28 305 eP Pn 23 46 21.3 +0.7
PB04 eS Sn 23 47 01.0 -0.5
PB04 IAML 23 47 07.1
comp=Z,775nm,0.2s
PB07 IPOC Station P 3.49 316 eP Pn 23 46 24.1 +0.8
PB07 IPOC Station P 3.49 316 Pn 23 46 23.7 +0.4
PB07 IPOC Station P 3.49 316 eP Pn 23 46 24.0 +0.7
PB07 eS Sn 23 47 05.1 -1.2
PB07 IAML 23 47 06.5
comp=Z,1µm,0.4s
AC01 Pan de Azucar 3.56 237⇑iP Pn 23 46 23.3 -0.6
AC01 IAML 23 47 06.2
comp=E,466nm,0.4s
AC01 Pan de Azucar 3.56 237 Pn 23 46 23.1 -0.8
TINO Tinogasta 3.80 184 eP Pn 23 46 29.2 +2.2
PB01 IPOC Station P 3.81 327 eP Pn 23 46 27.6 +0.5
PB01 eS Sn 23 47 11.6 -1.6
PB01 IPOC Station P 3.81 327 Pn 23 46 27.7 +0.5
PB01 IPOC Station P 3.81 327 eP Pn 23 46 27.4 +0.3
PB01 eS Sn 23 47 12.0 -1.2
PB01 IAML 23 47 17.1
comp=Z,500nm,0.1s
GO03 Copiap 4.27 218 eP Pn 23 46 31.7 -1.2
GO03 eS Sn 23 47 21.0 -2.6
GO03 Copiap 4.27 218 Pn 23 46 31.7 -1.2
GO03 Copiap 4.27 218 eP Pn 23 46 31.8 -1.1
GO03 eS Sn 23 47 21.6 -2.0
PB08 IPOC Station P 4.46 336 eP Pn 23 46 36.9 +1.2
PB08 IPOC Station P 4.46 336 Pn 23 46 37.0 +1.3
PB08 IPOC Station P 4.46 336 eP Pn 23 46 36.7 +1.0
PB08 eS Sn 23 47 28.0 -0.6
PB08 IAML 23 47 34.7
comp=Z,129nm,0.4s
VCA Vinchina 4.54 191 eP Pn 23 46 37.8 +1.3
TA01 Diego Aracena 4.56 323 eP Pn 23 46 36.3 -0.4
TA01 Diego Aracena 4.56 323 Pn 23 46 37.4 +0.8
HMBC Humberstone 4.65 328 eP Pn 23 46 37.4 -0.5
HMBC eS Sn 23 47 28.1 -4.4
AC04 Llanos de Chal 5.21 220 eP Pn 23 46 43.0 -2.0
AC04 Llanos de Chal 5.21 220 Pn 23 46 43.2 -1.7
AC05 El Transito 5.30 210 eP Pn 23 46 45.1 -1.1
AC05 El Transito 5.30 210 Pn 23 46 45.0 -1.3
PSGC Pisagua 5.35 330 eP Pn 23 46 45.8 -1.1
PSGCX Pisagua 5.35 330 Pn Pn 23 46 46.3 -0.7
PSGCX Pisagua 5.35 330 eP Pn 23 46 45.6 -1.3
PSGCX eS Sn 23 47 45.2 -3.6
MNMC Minye Minye 5.55 336 Pn Pn 23 46 49.7 0.0
MNMCX Minye Minye 5.55 336 eP Pn 23 46 49.7 0.0
MNMCX eS Sn 23 47 52.4 -1.3
LCO Las Campanas 5.65 212 Pn Pn 23 46 48.8 -2.1
CO01 Juntas del Tor 6.23 203 Pn 23 46 57.8 -0.7
PB16 IPOC Station P 6.26 340 Pn Pn 23 46 59.9 +0.6
GO04 Tololo Observa 6.68 207 Pn 23 47 01.6 -2.8
TCA Tanti 7.43 162 eP Pn 23 47 12.4 -1.7
TCA eS Sn 23 48 34.7 -3.3
LPAZ La Paz 7.97 354 P Pn 23 47 22.6 +0.8
comp=Z,2.0nm,0.3s,baz=156,slow=7.0,SNR=39
LPAZ S Sn 23 48 47.8 -4.0
comp=Z,0.2nm,0.3s,baz=171,slow=19,SNR=1.5
LPAZ La Paz 7.97 354 Pn 23 47 23.1 +1.3
LPAZ La Paz 7.97 354 eP Pn 23 47 22.9 +1.1
LPAZ La Paz 7.97 354 eP Pn 23 47 23.3 +1.5
LPAZ eS Sn 23 48 53.1 +1.4
VA03 San Esteban 8.95 198 Pn Pn 23 47 34.0 0.0
CPUP Villa Florida 9.22 105 P Pn 23 47 34.8 -2.8
comp=Z,0.1nm,0.3s,baz=275,slow=15,SNR=8.3
CPUP Villa Florida 9.22 105 Pn 23 47 36.2 -1.3
SIV San Ignacio 10.07 36 P Pn 23 47 46.2 -2.5
comp=Z,1.6nm,0.3s,baz=225,slow=12,SNR=48
SIV S Sn 23 49 27.1 -14
comp=Z,0.1nm,0.3s,baz=228,slow=15,SNR=4.8
BO02 Sierra Bellavi 10.94 195 Pn Pn 23 47 57.9 -1.9
AQDB Aquidauana 11.34 73 eP Pn 23 48 05.9 +0.8
PTLB Pontes e Lacer 11.62 43 eP Pn 23 48 10.4 +1.6
BI02 San Fabin de 12.84 195 Pn Pn 23 48 24.2 -0.1
VILB Vilhena 13.08 32 eP Pn 23 48 28.4 +1.0
TRCB Terra Rica 13.50 87 eP Pn 23 48 32.9 +0.3
CPSB Cacapava Do Su 13.72 120 eP P 23 48 37.6 -0.4
PTGB Pitanga 13.84 95 eP P 23 48 39.6 +0.1
ITAB Concordia 13.95 105 eP Pn 23 48 38.1 -0.1
SAML Samuel 15.71 15 Pn 23 48 59.2 -0.8
SAML IAmb IAmb 23 49 00.6
comp=Z,12nm,1.4s
ITRB Iturama 16.31 77 eP P 23 49 06.8 0.0
PLCA Paso Flores 16.66 189 P Pn 23 49 13.1 +1.8
comp=Z,0.3nm,0.3s,baz=302,slow=7.0,SNR=3.8
PLCA Paso Flores 16.66 189 P 23 49 10.7 +0.2
PLCA IAmb IAmb 23 49 20.2
comp=Z,6.2nm,0.6s
ARAG Araguaiana, MT 16.82 62 eP P 23 49 12.7 +0.4
CLDB Colider 17.21 41 eP P 23 49 15.7 -0.9
BB19B Bebedouro 17.58 83 eP P 23 49 21.2 +0.6
VAO Valinhos 18.64 90 eP P 23 49 31.6 -0.7
IPMB Ipameri, GO 18.82 74 eP P 23 49 33.5 -0.7
SNDB Serra Nova Dou 19.45 54 eP P 23 49 40.2 -0.8
PARB Paraibuna 19.82 92 eP P 23 49 44.6 -0.3
BDFB Brasilia 20.00 68 P P 23 49 46.4 -0.6
comp=Z,2.7nm,0.3s,baz=243,slow=11,SNR=30
BDFB Brasilia 20.00 68 P P 23 49 46.9 -0.1
NPGB Novo Progresso 20.57 36 eP P 23 49 51.0 -2.0
PEXB Peixe 21.66 59 eP P 23 50 02.8 -1.7
ITTB Itaituba 22.68 31 eP P 23 50 13.5 -0.7
JANB Januaria 23.44 71 eP P 23 50 20.3 -0.9
SDBA SAO DESIDERIO 24.23 65 eP P 23 50 27.7 -0.7
SMTB Santa Maria do 24.23 54 eP P 23 50 27.5 -0.9
PTGA Pitinga 24.43 18 P P 23 50 30.4 +0.3
comp=Z,1.0nm,0.3s,baz=40,slow=23,SNR=7.1
PTGA Pitinga 24.43 18 P P 23 50 29.9 -0.2
ALF01 Guarapari-ES 24.78 87 eP P 23 50 32.8 -0.5
RIB01 Linhares ES 25.41 84 eP P 23 50 37.5 -1.5
MALB Monte Alegre 25.57 31 eP P 23 50 41.5 +1.0
NAN01 Guarapari, ES 26.09 81 eP P 23 50 43.7 -1.4
BOAV Boa Vista 27.29 15 eP P 23 50 54.2 -1.7
NBIT Itapeh - BA 27.76 76 eP P 23 50 59.7 -0.3
GDU01 Guandu, BA 28.14 73 eP P 23 51 02.4 -1.1
NBPN Ponto Novo - B 28.97 67 eP P 23 51 10.2 -0.7
NBLA Lagarto - SE 30.95 70 eP P 23 51 26.0 -2.2
NBPS Pedro II - PI 31.75 56 eP P 23 51 34.5 -0.8
NBPB Pedra_Branca-C 32.46 59 eP P 23 51 41.4 -0.1
NBAN Anadia - AL 32.89 69 eP P 23 51 44.4 -0.8
SDV Santo Domingo 33.11 354 eP P 23 51 45.6 -1.6
NBPA Parau_RN 34.31 62 eP P 23 51 57.0 -0.4
NBRF Rio Formoso - 34.37 69 eP P 23 51 57.6 -0.3
RCBR Riachuelo 35.25 64 P P 23 52 05.8 +0.2
QSPA South Pole Qui 65.95 180 P P 23 55 56.3 +1.9
QSPA IAmb IAmb 23 56 05.4
comp=Z,7.1nm,1.5s
DBIC Dimbokro 68.11 72 P P 23 56 08.1 -0.6
DBIC IAmb IAmb 23 56 20.0
comp=Z,13nm,1.4s
KOWA Kowa 72.76 65 P P 23 56 36.2 -0.7
KOWA IAmb IAmb 23 56 42.9
comp=Z,6.2nm,1.4s
TOA0 Torodi Ar. Sit 76.88 69 P P 23 57 00.9 +0.3
TORD Torodi Ar. Bea 76.88 69 P P 23 57 00.6 +0.1
comp=Z,1.1nm,0.4s,baz=260,slow=4.9,SNR=12
PDAR Pinedale Array 77.25 329 P P 23 57 04.2 +1.9
comp=Z,0.2nm,0.4s,baz=113,slow=2.1,SNR=1.9
BOSA Boshof 80.83 117 P P 23 57 23.4 +1.3
comp=Z,1.2nm,0.7s,baz=233,slow=5.1,SNR=1.4
ESDC Sonseca Array 86.75 44 P P 23 57 53.6 +2.0
comp=Z,0.2nm,0.8s,baz=224,slow=39,SNR=1.6
YKA Yellowknife Ar 94.28 340 P P 23 58 26.9 +0.8
comp=Z,0.3nm,0.6s,baz=127,slow=5.3,SNR=6.3
ASAR Alice Springs 128.12 205 PKP PKiKP 00 04 15.0 +1.2
comp=Z,0.6nm,0.8s,baz=123,slow=1.6,SNR=7.3
WRA Warramunga Arr 131.29 207 PKP PKiKP 00 04 20.2 0.0
comp=Z,0.4nm,0.5s,baz=132,slow=1.4,SNR=6.8
MKAR Makanchi Array 146.87 40 PKPbc PKPbc 00 04 49.2 +0.4
comp=Z,0.8nm,0.8s,baz=302,slow=3.5,SNR=9.0
KLR Kul'dur 150.95 334 PKPbc PKPbc 00 04 59.3 +0.3
comp=Z,1.5nm,0.9s,baz=150,slow=2.0,SNR=4.5

*IDC **08** 00:02:15.8±0.8, 27.°05N×143.°42E, h0km, mb3.8/10, mb1 3.9/13, mb1mx3.8/33, mbtmp3.7/13, ML3.0/3, Error ellipse: s-maj=23.5km s-min=16.2km az=76.0*
*NEIC **08** 00:02:16.6±1.7, 27.°2N±0.°1×143.°40E±0.°08, h10km±1km, mb4.3/15, Error ellipse: s-maj=17.4km s-min=11.5km az=4.0*
*JMA **08** 00:02:21.5±0.2, 27.°31N×142.°83E, h101km, M3.7*
ISC 08 00:02:21.0±0.7, 27.°23N±0.°07×143.°29E±0.°08, h35km, n35, σ1s40/42, mb4.1/17, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.00**	**263**	P		**Pn**	**00 02 38.4**	**-0.1**
CBIJ					eS	**Sn**	**00 02 50.5**	**-0.9**
JCJ	**Chichijima**	**1.00**	**263**	Pn		**Pn**	**00 02 38.5**	**0.0**
	114nm,0.3s,baz=101,slow=23,SNR=46							
JCJ				Sn		**Sn**	**00 02 52.3**	**+0.9**
	188nm,0.3s,baz=292,slow=22,SNR=18							
JCJ	**Chichijima**	**1.00**	**263**			**Pn**	**00 02 38.4**	**-0.1**
JCJ				Sn		**Sn**	**00 02 52.4**	**+1.0**
JHH2	**Haha-jima-NKT2**	**1.16**	**239**	P		**Pn**	**00 02 40.8**	**0.0**
JHH2					eS	**Sn**	**00 02 56.2**	**+0.8**
JRY	**Ryogami san**	**9.52**	**338**	P		**Pn**	**00 04 36.2**	**+0.5**
JRY				S		**Sn**	**00 06 20.0**	**-1.5**
JAG	**Ashikaga**	**9.73**	**341**	P		**Pn**	**00 04 37.3**	**-1.1**
JAG					eS	**Sn**	**00 06 21.7**	**-4.8**
MJAR	**Matsushiro Arr**	**10.24**	**336**	Pn		**Pn**	**00 04 44.9**	**-0.5**
	0.1nm,0.3s,baz=160,slow=12,SNR=5.6							
JMM	**Marumori**	**10.81**	**349**	Pn		**Pn**	**00 04 52.0**	**-1.2**
KSRS	**Korea Array**	**16.49**	**312**	Pn		**P**	**00 06 12.1**	**+0.2**
	0.2nm,0.3s,baz=130,slow=11,SNR=4.1							
USRK	**Ussuriysk Ar.**	**19.23**	**335**	P		**Pn**	**00 06 44.0**	**+0.8**
	baz=101,slow=15,SNR=2.7							
NACB	**Ninganchiao**	**19.79**	**266**	P		**P**	**00 06 47.8**	**-0.6**
NACB					IAmb	IAmb	00 06 49.2	
	comp=Z,25nm,1.0s							
KLR	**Kul'dur**	**23.71**	**341**	P		**P**	**00 07 31.1**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=160,slow=8.0,SNR=4.3							
HIA	**Hailar**	**28.53**	**327**	P		**P**	**00 08 11.7**	**-1.5**
HIA					IAmb	IAmb	00 08 17.0	
	comp=Z,4.2nm,1.0s							
XAN	**Xi'an**	**30.25**	**291**			**P**	**00 08 27.2**	**-1.4**
XAN					IAmb	IAmb	00 08 30.3	
	comp=Z,4.0nm,0.9s							
SONM	**Songino Array**	**35.30**	**316**	P		**P**	**00 09 13.8**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=122,slow=9.0,SNR=6.2							
SONM					PcP	**PcP**	**00 11 43.4**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=122,slow=1.9,SNR=2.4							
KNRA	**Kununurra**	**44.92**	**200**	P		**P**	**00 10 31.8**	**-0.7**
WB0	**Warramunga Arr**	**47.51**	**191**	P		**P**	**00 10 51.7**	**-1.2**
WR0	**Warramunga Arr**	**47.67**	**191**	P		**P**	**00 10 52.6**	**-1.5**
WR0					IAmb	IAmb	00 10 53.6	
	comp=Z,4.4nm,1.0s							
WRA	**Warramunga Arr**	**47.69**	**191**	P		**P**	**00 10 53.3**	**-1.0**
	comp=Z,3.9nm,0.5s,baz=12,slow=8.7,SNR=35							
FITZ	**Fitzroy Crossi**	**48.20**	**203**	P		**P**	**00 10 57.2**	**-1.1**
ZALV	**Zalesovo Beam**	**50.03**	**319**	P		**P**	**00 11 13.1**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=64,slow=6.6,SNR=2.6							
MK31	**Makanchi Array**	**51.15**	**310**	P		**P**	**00 11 21.0**	**+0.5**
MKAR	**Makanchi Array**	**51.15**	**310**	P		**P**	**00 11 21.4**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=85,slow=10,SNR=7.5							
MAKZ	**Makanchi**	**51.37**	**310**	P		**P**	**00 11 22.5**	**+0.4**
AS31	**Alice Springs**	**51.40**	**191**	P		**P**	**00 11 21.2**	**-1.3**
ASAR	**Alice Springs**	**51.41**	**191**	P		**P**	**00 11 20.9**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=7.8,slow=5.9,SNR=10							
BRVK	**Borovoye**	**58.67**	**317**	P		**P**	**00 12 15.6**	**+0.8**
BRVK					IAmb	IAmb	00 12 17.9	
	comp=Z,2.2nm,0.8s							
STKA	**Stephens Creek**	**58.80**	**182**	P		**P**	**00 12 14.1**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=2.0,slow=6.7,SNR=2.9							
STKA	**Stephens Creek**	**58.80**	**182**	P		**P**	**00 12 13.8**	**-2.0**
STKA					IAmb	IAmb	00 12 30.3	
	comp=Z,0.9nm,1.2s							
KK31	**Karatay Array**	**59.81**	**306**	P		**P**	**00 12 24.3**	**+1.5**
KK31					IAmb	IAmb	00 12 25.4	
	comp=Z,2.7nm,0.8s							
KKAR	**Karatay Array**	**59.81**	**306**	P		**P**	**00 12 24.0**	**+1.2**
KKAR					IAmb	IAmb	00 12 25.4	
	comp=Z,2.7nm,0.8s							
ABKAR	**Akbulak array**	**65.71**	**314**	P		**P**	**00 13 02.7**	**+0.8**
ABKAR					IAmb	IAmb	00 13 03.7	
	comp=Z,1.8nm,0.7s							
YKA	**Yellowknife Ar**	**71.55**	**29**	P		**P**	**00 13 38.5**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=299,slow=5.7,SNR=5.2							
FINES	**FINESS Array B**	**78.26**	**334**	P		**P**	**00 14 20.1**	**+3.2**
	comp=Z,5.6nm,1.0s,baz=100,slow=4.9,SNR=9.4							
NVAR	**Mina Array Bea**	**79.66**	**52**	P		**P**	**00 14 25.9**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=311,slow=7.0,SNR=2.6							

*IDC **08** 00:26:07.2±0.7, 6.°76N×73.°00W, h162km±8km, mb3.2/6, mb1 3.6/8, mb1mx3.3/29, mbtmp3.8/8, Error ellipse: s-maj=22.2km s-min=7.5km az=129.0*
*RSNC **08** 00:26:08.5±1.0, 6.°80N×73.°14W, h151km±4km, ML3.7, Mw4.0, Fault plane solution: NP1:ϕs7.00000°, δ29.00000°, λ-2.00000°.*
ISC 08 00:26:07.1±0.7, 6.°82N±0.°03×73.°12W±0.°04, h158km±5km, n51, σ1s70/92, mb3.5/6, 5C-9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**196**⇓	eP		**Pn**	**00 26 28.7**	**-0.1**
BARC					eS	**Sn**	**00 26 44.0**	**-1.4**
BARC					*i*		00 26 45.1	
	comp=Z,2µm,0.2s							
BRRC	**Barranca, Sant**	**0.66**	**295**⇑	iP		**Pn**	**00 26 30.6**	**+0.3**
BRRC					eS	**Sn**	**00 26 47.8**	**-0.1**
BRRC					*i*		00 26 51.8	
	comp=Z,1µm,0.4s							
PAMC	**Pamplona, Colo**	**0.66**	**39**⇑	iP		**Pn**	**00 26 31.5**	**+0.6**
PAMC					eS	**Sn**	**00 26 48.9**	**-0.1**
PAMC					*i*		00 26 51.1	
	comp=Z,610nm,0.3s							
RUSC	**La Rusia**	**0.93**	**178**⇓	iP		**Pn**	**00 26 32.6**	**-0.2**
RUSC					eS	**Sn**	**00 26 51.0**	**-1.3**
RUSC					*i*		00 26 52.7	
	comp=Z,900nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.36**	**258**⇓	eP		**Pn**	**00 26 35.1**	**-0.9**
PTBC					eS	**Sn**	**00 26 56.5**	**-1.6**
PTBC					*i*		00 27 02.3	
	comp=Z,593nm,0.3s							
TAMC	**Tame, Arauca**	**1.37**	**106**⇓	eP		**Pn**	**00 26 37.1**	**+1.0**
TAMC					*i*		00 26 58.1	
	comp=Z,328nm,0.3s							
TAMC					eS	**Sn**	**00 26 58.8**	**+0.5**
OCAC	**Ocana**	**1.42**	**352**⇑	eP		**Pn**	**00 26 36.7**	**0.0**
OCAC					eS	**Sn**	**00 26 59.9**	**+0.3**
OCAC					*i*		00 27 05.8	
	comp=Z,547nm,0.5s							
SPBC	**San Pablo de B**	**1.50**	**219**	eP		**Pn**	**00 26 37.4**	**-0.1**
SPBC					eS	**Sn**	**00 27 00.1**	**-0.8**
SPBC					*i*		00 27 04.4	
	comp=Z,930nm,0.5s							
NORC	**Norcasia**	**2.15**	**234**	eP		**Pn**	**00 26 44.5**	**-0.1**
NORC					eS	**Sn**	**00 27 12.9**	**-0.5**
NORC					*i*		00 27 17.1	
	comp=Z,489nm,0.4s							
SMLC	**San Martn de**	**2.18**	**334**	eP		**Pn**	**00 26 44.7**	**-0.2**
SMLC					eS	**Sn**	**00 27 14.0**	**-0.1**
SMLC					*i*		00 27 18.4	
	comp=Z,409nm,0.2s							
CHIC	**Chingaza**	**2.27**	**196**⇓	iP		**Pn**	**00 26 46.4**	**0.0**
CHIC					eS	**Sn**	**00 27 16.2**	**-0.3**
CHIC					*i*		00 27 19.7	
	comp=Z,370nm,0.5s							
ROSC El Rosal 2.31 211 P Pn 00 26 48.2 +1.4
comp=Z,114nm,0.3s,baz=171,slow=1.8,SNR=211
ROSC S Sn 00 27 18.1 +0.8
comp=Z,156nm,0.3s,baz=302,slow=20,SNR=15
ROSC El Rosal 2.31 211⇓eP Pn 00 26 48.2 +1.4
ROSC eS Sn 00 27 19.1 +1.8
ROSC *i* 00 27 26.4
comp=Z,1µm,0.4s
HELC Santa Helena 2.48 255 eP Pn 00 26 49.5 +0.8
HELC eS Sn 00 27 20.8 -0.1
HELC *i* 00 27 27.7
comp=Z,252nm,0.3s
UREC San Jos de Ur 2.57 291 eP Pn 00 26 48.5 -1.0
GUY2C Guyana, Caldas 2.74 235 eP Pn 00 26 53.1 +0.9
GUY2C eS Sn 00 27 27.1 +0.3
GUY2C *i* 00 27 41.0
comp=Z,382nm,0.5s
PTGC Puerto Gaitan, 2.79 159⇓eP Pn 00 26 51.7 -0.6
PTGC eS Sn 00 27 25.0 -2.2
PTGC *i* 00 27 27.7
comp=Z,121nm,0.5s
RREF El Recreo 2.93 229 eP Pn 00 26 55.5 +0.9
RREF eS Sn 00 27 32.8 +1.6
RREF *i* 00 27 35.9
comp=Z,326nm,0.3s
CBOC Ciudad Bolivar 3.03 252 eP Pn 00 26 56.2 +0.8
CBOC eS Sn 00 27 31.8 -1.0
CBOC *i* 00 27 48.5
comp=Z,85nm,0.5s
DBBC Dabeiba 3.08 274 eP Pn 00 26 56.1 +0.2
DBBC eS Sn 00 27 32.4 -1.3
DBBC *i* 00 27 36.5
comp=Z,548nm,0.4s
TOLC Tolima 3.12 225 eP Pn 00 26 58.3 +1.6
TOLC eS Sn 00 27 35.9 +0.8
TOLC *i* 00 27 43.6
comp=Z,283nm,0.5s
MOTC Monteria, Cord 3.19 308⇓eP Pn 00 26 55.6 -1.6
MOTC eS Sn 00 27 34.3 -1.7
MOTC *i* 00 27 51.2
comp=Z,195nm,0.7s
SDV Santo Domingo 3.20 50 P Pn 00 26 58.1 +0.5
comp=Z,57nm,0.3s,baz=211,slow=4.4,SNR=220
SDV S Sn 00 27 36.0 -0.7
comp=Z,22nm,0.3s,baz=238,slow=23,SNR=14
SDV Santo Domingo 3.20 50⇑eP Pn 00 26 58.0 +0.5
SDV eS Sn 00 27 35.0 -1.7
SDV *i* 00 27 40.8
comp=Z,59nm,0.5s
ARGC Ariguani, Magd 3.21 340 eP Pn 00 26 58.8 +1.2
ARGC eS Sn 00 27 37.1 +0.4
ARGC *i* 00 27 46.8
comp=Z,229nm,0.4s
ANIL Santa Ana 3.25 225 eP Pn 00 26 59.5 +1.2
ANIL eS Sn 00 27 38.9 +1.0
ANIL *i* 00 27 42.5
comp=Z,104nm,0.4s
PRAC Prado 3.56 210 eP Pn 00 27 01.6 -0.4
PRAC eS Sn 00 27 44.0 -0.6
PRAC *i* 00 27 50.9
comp=Z,418nm,0.4s
ORTC Ortega, Tolima 3.59 216 eP Pn 00 27 02.9 +0.4
ORTC eS Sn 00 27 45.7 +0.3
ORTC *i* 00 27 52.1
comp=Z,280nm,0.6s
PLMC San Jos del P 3.68 239⇑eP Pn 00 27 04.1 +0.5
PLMC eS Sn 00 27 47.1 -0.4
PLMC *i* 00 27 59.3
comp=Z,89nm,0.3s
LCBC Los crdobas, 3.80 302 eS Sn 00 27 49.3 -0.8
LCBC *i* 00 27 53.6
comp=Z,123nm,0.4s
YOTC Yotoco, Valle 4.28 229 eP Pn 00 27 11.1 -0.3
YOTC eS Sn 00 28 03.3 +1.9
GUVC San Jose del G 4.28 173 eP Pn 00 27 11.1 -0.2
GUVC eS Sn 00 28 00.5 -0.8
GUVC *i* 00 28 05.5
comp=Z,132nm,0.4s
SMRC Santa Marta, M 4.45 346 eP Pn 00 27 13.6 +0.1
SMRC eS Sn 00 28 01.4 -3.9
SMRC *i* 00 28 07.3
comp=Z,72nm,0.4s
CAPC Capurgana 4.57 293 eS Sn 00 28 04.7 -3.3
CAPC *i* 00 28 08.2
comp=Z,35nm,0.2s
MACC Macarena, Meta 4.71 189⇓eP Pn 00 27 15.4 -1.5
MACC eS Sn 00 28 05.4 -6.0
MACC *i* 00 28 12.9
comp=Z,116nm,0.8s
BETC Betania 4.72 209 eP Pn 00 27 16.4 -0.7
BETC eS Sn 00 28 03.9 -7.9
MARP Paez Belalcaza 4.86 216 eP Pn 00 27 19.5 +0.3
MARP eS Sn 00 28 12.7 -2.7
URIC Uribia, Colomb 4.97 13 eP Pn 00 27 19.0 -1.4
URIC eS Sn 00 28 13.4 -4.2
URIC *i* 00 28 20.6
comp=Z,31nm,0.6s
MALC Bahia Malaga 5.04 237 eP Pn 00 27 22.7 +1.4
MALC eS Sn 00 28 21.9 +2.7
MALC *i* 00 28 25.6
comp=Z,28nm,0.6s
GARC Garzon, Huila 5.18 207 eP Pn 00 27 22.6 -0.7
GARC eS Sn 00 28 19.3 -3.6
GARC *i* 00 28 24.9
comp=Z,84nm,0.3s
PCON Cinco Dias 5.54 216 eP Pn 00 27 29.7 +1.4
POPC Popayan, Colom 5.54 220 eP Pn 00 27 27.9 -0.2
POPC eS Sn 00 28 28.9 -2.5
BBAC Balboa, Cauca 6.30 221 eP Pn 00 27 38.3 +0.1
BBAC eS Sn 00 28 46.7 -2.9
BBAC *i* 00 28 53.7
comp=Z,16nm,0.1s
LPAZ La Paz 23.49 168 P P 00 31 02.4 -1.1
comp=Z,0.6nm,0.6s,baz=4.4,slow=13,SNR=2.5
LPAZ pP pP 00 31 35.5 +1.3
comp=Z,1.3nm,0.7s,baz=335,slow=13,SNR=5.9
TXAR Lajitas Array 36.46 312 P P 00 32 58.4 +1.2
comp=Z,0.3nm,0.4s,baz=124,slow=9.2,SNR=7.2
ULM Lac du Bonnet 47.28 340 P P 00 34 23.9 -0.5
comp=Z,1.7nm,0.4s,baz=131,slow=6.6,SNR=7.5
PDAR Pinedale Array 48.08 324 P P 00 34 31.3 +0.3
comp=Z,0.3nm,0.5s,baz=129,slow=11,SNR=4.0
NVAR Mina Array Bea 51.48 315 P P 00 34 57.7 +0.9
comp=Z,0.2nm,0.5s,baz=113,slow=6.9,SNR=2.9
YKA Yellowknife Ar 63.26 340 P P 00 36 18.9 +0.4
comp=Z,1.0nm,0.6s,baz=129,slow=7.4,SNR=21
YKA pP pP 00 36 57.0 +0.9
comp=Z,0.1nm,0.5s,baz=124,slow=7.4,SNR=4.4
ASAR Alice Springs 149.12 234 PKPbc PKPbc 00 45 37.0 -0.7
comp=Z,0.8nm,0.7s,baz=119,slow=3.3,SNR=13
WRA Warramunga Arr 150.34 241 PKPbc PKPbc 00 45 40.2 -0.5
comp=Z,0.4nm,0.4s,baz=118,slow=2.8,SNR=10

IDC 08 00:36:53.5±6.0, 1.°21N×100.°52E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/29, mbtmp3.3/3, Error ellipse: s-maj=335.6km s-min=28.6km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.26**	**124**	P		P	00 44 24.8	+0.5
	0.2nm,0.5s,baz=304,slow=9.1,SNR=1.3							
ASAR	**Alice Springs**	**40.80**	**129**	P		P	00 44 36.4	-0.6
	0.2nm,0.4s,baz=298,slow=7.8,SNR=6.0							
MKAR	**Makanchi Array**	**48.11**	**343**	P		P	00 45 35.1	-0.1
	0.3nm,0.5s,baz=162,slow=8.1,SNR=6.6							

IDC 08 00:51:12.0±1.2, 0.°78N×123.°20E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/33, mbtmp3.4/4, Error ellipse: s-maj=185.6km s-min=21.3km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.31**	**153**	P		P	00 56 21.2	-0.6
	0.7nm,0.4s,baz=334,slow=9.9,SNR=31							
ASAR	**Alice Springs**	**26.44**	**158**	P		P	00 56 51.0	+0.2
	0.2nm,0.4s,baz=346,slow=16,SNR=8.5							
SONM	**Songino Array**	**49.08**	**345**	P		P	01 00 02.4	+1.2
	0.3nm,0.5s,baz=160,slow=4.6,SNR=2.2							
MKAR	**Makanchi Array**	**58.06**	**328**	P		P	01 01 06.3	-0.7
	0.2nm,0.3s,baz=124,slow=8.1,SNR=7.1							

IDC 08 01:02:58.2±336.0, 54°14N×160°77E, h0km, Error ellipse: s-maj=126.5km s-min=48.7km az=63.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I44RU	PETROPAVLOVSK-	2.10	242	*i*		01 16 10.0	
	baz=59,slow=330,SNR=23						
I53US	FAIRBANKS INFR	27.37	46	*i*		03 50 25.0	
	baz=274,slow=320,SNR=10						
I59US	HAWAII INFRASO	47.70	119	*i*		06 05 50.0	
	baz=328,slow=324,SNR=0.2						

IDC 08 01:03:42.3±7.8, 4°69S×153°00E, h102km±76km, mb3.5/12, mb1 3.7/12, mb1mx3.6/37, mbtmp3.9/12, Error ellipse: s-maj=28.0km s-min=21.9km az=121.0

ISC 08 01:03:42.1±0.9, 4°7S±0°1×153°0E±0°2, h100km, n19, σ0s59/13, mb3.7/12, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	21.64	144	P	P	01 08 25.0	+0.4
	5.4nm,0.5s,baz=261,slow=7.0,SNR=9.3						
WRA	Warramunga Arr	23.67	229	P	P	01 08 44.9	+0.1
	2.0nm,0.5s,baz=52,slow=9.8,SNR=30						
ASAR	Alice Springs	26.37	222	P	P	01 09 08.8	-0.4
	0.3nm,0.3s,baz=54,slow=8.7,SNR=8.1						
H11S3	WAKE ISLAND Hy	26.69	30	T	T	01 36 58.1	
	baz=207,slow=73,SNR=7.3						
H11S2	WAKE ISLAND Hy	26.70	30	T	T	01 37 04.1	
	baz=207,slow=73,SNR=6.4						
H11S1	WAKE ISLAND Hy	26.71	30	T	T	01 37 03.2	
	baz=207,slow=73,SNR=4.3						
H11N1	WAKE ISLAND Hy	27.83	29	T	T	01 38 17.5	
	baz=218						
H11N3	WAKE ISLAND Hy	27.84	29	T	T	01 38 27.5	
	baz=218						
H11N2	WAKE ISLAND Hy	27.84	29	T	T	01 38 36.0	
	baz=218						
FITZ	Fitzroy Crossi	29.89	241	P	P	01 09 40.3	-0.2
	2.4nm,0.5s,baz=53,slow=6.2,SNR=15						
KSRS	Korea Array	47.98	333	P	P	01 12 10.3	-0.6
	0.5nm,0.7s,baz=146,slow=8.2,SNR=4.3						
USRK	Ussuriysk Ar.	52.20	341	P	P	01 12 42.3	-0.3
	1.2nm,0.8s,baz=170,slow=8.8,SNR=3.1						
KLR	Kul'dur	56.79	344	P	P	01 13 16.1	+0.3
	1.2nm,0.7s,baz=188,slow=4.5,SNR=6.7						
CMAR	Chiang Mai Arr	58.01	295	P	P	01 13 25.4	+0.5
	1.4nm,0.3s,baz=105,slow=6.0,SNR=4.8						
SONM	Songino Array	66.33	328	P	P	01 14 21.2	+1.1
	0.4nm,0.6s,baz=151,slow=6.6,SNR=3.0						
MKAR	Makanchi Array	80.37	319	P	P	01 15 42.6	+0.1
	0.3nm,0.4s,baz=101,slow=6.6,SNR=9.9						
ZALV	Zalesovo Beam	81.17	326	P	P	01 15 45.5	-1.0
	0.4nm,0.4s,baz=117,slow=10,SNR=2.4						
ILAR	Eielson Array	81.97	22	P	P	01 15 50.2	-0.4
	0.2nm,0.6s,baz=248,slow=4.8,SNR=1.6						
TORD	Torodi Ar. Bea	150.46	288	PKPbc	PKPbc	01 23 22.9	-0.2
	0.5nm,0.3s,baz=76,slow=2.0,SNR=7.8						

IDC 08 01:24:52.3±0.5, 3°49S×131°26E, h0km, mb4.4/16, mb1 4.5/17, mb1mx4.3/39, mbtmp4.4/17, ML4.4/2, MS3.8/15, Ms1 3.8/15, ms1mx3.5/41, Error ellipse: s-maj=22.1km s-min=12.5km az=76.0
BJI 08 01:24:53.2±0.0, 3°91S×131°41E, h40km, mB5.0/37, mb4.7/48, Ms4.7/10, Ms7 4.7/2
DJA 08 01:24:57.8±0.2, 3°S±2°×13°1E±°, h40km±4km, M4.6/23, mB5.2/12, mb4.7/23, MLv4.5/11, Mw(mB)4.6/12
NEIC 08 01:24:57.7±2.1, 3°46S±0°06×131°11E±0°06, h37km±4km, mb4.6/47, Error ellipse: s-maj=9.3km s-min=8.7km az=102.0

ISC 08 01:24:57.2±0.3, 3°56S±0°04×131°18E±0°05, h35km, n176, σ1s48/171, mb4.6/61, MS3.7/12, 2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.24	59		Pn	01 25 18.6	+0.5
FAKI	Fak Fak	1.24	59	P	Pn	01 25 18.8	+0.7
FAKI				S	Sn	01 25 34.9	+1.3
BNDI	Bandanaira	1.59	233	P	Pn	01 25 24.8	+2.0
BNDI				S	Sn	01 25 44.3	+2.1
MSAI	Masohi	2.26	275	P	Pn	01 25 32.2	+0.2
SIJI	Sorong	2.68	2	Pn	Pn	01 25 35.1	-2.7
	15nm,0.3s,baz=96,slow=3.8,SNR=46						
SIJI				Sn	Sn	01 26 06.5	-2.5
	64nm,0.3s,baz=145,slow=24,SNR=16						
SIJI				LR	LR	01 26 56.1	
	comp=Z,2μm,20.2s,baz=306,slow=48						
SWI	Sorong	2.68	2	P	Pn	01 25 36.1	-1.8
SWI				S	Sn	01 26 07.1	-2.1
RKPI	Ransiki, Papua	3.62	56	P	Pn	01 25 51.5	+0.7
NLAI	Namlea	4.09	274	P	Pn	01 25 56.9	-0.3
SAUI	Saumlaki	4.39	178	Pn	Pn	01 26 02.0	+0.6
SANI	Sanana	5.40	286	P	Pn	01 26 14.0	-1.3
	0.4nm873nm87nm,0.6s						
BAKI	Biak	5.46	65	P	Pn	01 26 17.2	+1.1
	0.7nm3μm177nm,1.2s						
TNTI	Ternate	5.75	318	Pn	Pn	01 26 18.4	-1.7
LUWI	Luwuk	8.77	286		Pn	01 27 00.3	-1.2
LUWI	Luwuk	8.77	286	P	Pn	01 27 00.4	-1.1
	1μm69nm,0.9s						
SOEI	Soe	9.22	228	Pn	Pn	01 27 08.3	+0.4
SOEI	Soe	9.22	228	P	Pn	01 27 10.0	+2.2
	2μm198nm,1.1s						
APSI	Ampana	9.88	285	P	Pn	01 27 16.6	-0.2
	586nm41nm,0.5s						
BATI	Baumata	9.96	228	Pn	Pn	01 27 20.4	+2.5
	14nm,0.3s,baz=142,slow=2.4,SNR=13						
BATI				LR	LR	01 31 40.1	
	comp=Z,995nm,20.1s,baz=39,slow=40						
BATI	Baumata	9.96	228	P	Pn	01 27 20.1	+2.2
	1μm132nm,0.9s						
MRSI	Marisa	10.07	293	P	Pn	01 27 17.6	-1.8
	22nm,0.4s						
MMRI	Maumere	10.22	240	Pn	Pn	01 27 20.2	-1.3
BNSI	Bone	11.08	265	P	Pn	01 27 33.9	+0.7
	575nm27nm,0.8s						
TOLI2	Tolitoli	11.38	294		Pn	01 27 38.0	+0.6
SPSI	Sidrap Palu	11.39	268	P	Pn	01 27 39.1	+1.6
	20nm,1.9s						
KAPI	Kappang	11.49	262	Pn	Pn	01 27 42.6	+3.8
	0.8nm,0.3s,baz=98,slow=7.6,SNR=4.7						
KAPI				LR	LR	01 33 32.1	
	comp=Z,493nm,18.5s,baz=82,slow=45						
KAPI	Kappang	11.49	262	Pn	Pn	01 27 40.8	+2.0
KAPI	Kappang	11.49	262	P	Pn	01 27 42.3	+3.5
KAPI				P	Pn	01 27 42.3	+3.5
PLAI	Plampang	14.31	248	P	Pn	01 28 17.4	0.0
	614nm50nm,1.2s						
FITZ	Fitzroy Crossi	15.43	200	Pn	Pn	01 28 26.2	-6.1
	2.2nm,0.3s,baz=35,slow=12,SNR=57						
FITZ				Sn	Sn	01 31 09.7	-13
	0.4nm,0.3s,baz=139,slow=16,SNR=1.4						
FITZ				LR	LR	01 36 07.5	
	comp=Z,334nm,19.5s,baz=26,slow=44						
COEN	Coen	15.71	132	Pn	Pn	01 28 33.6	-2.4
BBKI	Banjar Baru	16.31	270	P	Pn	01 28 44.7	+1.0
	4μm40nm,0.5s						
MTKI	Muara Teweh, K	16.48	279	P	P	01 28 50.5	+2.3
WRA	Warramunga Arr	16.57	170	Pn	Pn	01 28 40.7	-6.3
	1.7nm,0.3s,baz=348,slow=13,SNR=79						
WRA				Sn	Sn	01 31 37.6	-12
	1.6nm,0.3s,baz=341,slow=21,SNR=6.3						
WB2	Warramunga Arr	16.57	169	Pn	Pn	01 28 44.1	-2.9
PMG	Port Moresby	16.90	111	LR	LR	01 37 09.6	
	comp=Z,260nm,19.7s,baz=277,slow=44						
JAGI	Jajag, Banyuwa	17.62	253	Pn	Pn	01 28 58.9	-1.2
KKM	Kota Kinabalu	17.73	303		Pn	01 29 01.1	-0.5
SBUM	Sibu	19.87	287	P	P	01 29 26.6	+1.0
SBUM				IAmb	IAmb	01 29 44.8	
	comp=Z,33nm,1.3s						
AS31	Alice Springs	20.16	173	P	P	01 29 28.7	+0.1
AS31				IAmb	IAmb	01 29 40.3	
	comp=Z,20nm,0.5s						
ASAR	Alice Springs	20.16	173	P	P	01 29 25.1	-3.6
	comp=Z,17nm,0.5s,baz=350,slow=11,SNR=206						
ASAR				S	S	01 33 12.1	-1.2
	comp=Z,2.2nm,0.5s,baz=358,slow=28,SNR=4.1						
ASAR	Alice Springs	20.16	173	P	P	01 29 29.1	+0.4
MBWA	Marble Bar	20.74	212	P	P	01 29 31.6	-3.3
UGM	Wanagama	21.00	257	P	P	01 29 37.5	-0.4
PSA00	Pilbara Seismi	21.02	211	P	P	01 29 36.0	-1.9
PSA00				IAmb	IAmb	01 29 37.5	
	comp=Z,35nm,1.1s						
KSM	Kuching	21.45	283	P	P	01 29 43.2	+0.6
KSM				IAmb	IAmb	01 29 44.8	
	comp=Z,25nm,0.8s						
CTA	Charters Tower	22.04	139	P	P	01 29 49.6	+0.6
	comp=Z,13nm,0.9s,baz=318,slow=11,SNR=11						
CTAO	Charters Tower	22.04	139	P	P	01 29 48.5	-0.5
LEM	Lembang	23.69	261	LR	LR	01 40 59.2	
	comp=Z,351nm,18.2s,baz=66,slow=41						
FORT	Forrest	27.23	186	P	P	01 30 37.9	-0.1
MYKOM	Kota Tinggi	27.83	281	P	P	01 30 44.3	+0.8
EIDS	Eidsvold	28.92	140	P	P	01 30 52.6	-0.5
MORW	Morawa	29.16	208	P	P	01 30 53.9	-1.4
MORW				IAmb	IAmb	01 31 05.5	
	comp=Z,17nm,1.4s						
BBOO	Buckleboo	29.45	172	P	P	01 30 57.1	-0.7
KRJI	Kerinci	29.72	272	P	P	01 30 58.7	-1.8
STKA	Stephens Creek	29.82	162	P	P	01 31 01.2	+0.2
	comp=Z,4.1nm,0.7s,baz=335,slow=8.6,SNR=14						
STKA	Stephens Creek	29.82	162	P	P	01 31 01.3	+0.2
JOW	Kunigami	30.35	355	LR	LR	01 42 45.4	
	comp=Z,138nm,19.6s,baz=310,slow=35						
NWAO	Narrogin (SRO)	32.00	202	P	P	01 31 20.1	-0.1
	comp=Z,4.1nm,0.4s,baz=43,slow=8.6,SNR=9.3						
NWAO	Narrogin (SRO)	32.00	202	P	P	01 31 19.5	-0.8
NWAO	Narrogin (SRO)	32.00	202	IAmb	IAmb	01 31 39.3	
	comp=Z,9.4nm,0.9s						
JCJ	Chichijima	32.28	19	LR	LR	01 41 46.3	
	comp=Z,88nm,19.9s,baz=182,slow=32						
RPSI	Rantau Prapat	32.83	280	P	P	01 31 27.0	-0.8
RPSI				IAmb	IAmb	01 31 28.4	
	comp=Z,7.7nm,0.8s						
PSI	Prapat	32.85	281	P	P	01 31 27.5	-0.7
	comp=Z,5.4nm,0.6s,baz=180,slow=5.7,SNR=5.3						
ARMA	Armidale	32.97	146	P	P	01 31 28.4	-0.5
CHAI	Chaiyaphum	34.76	305	P	P	01 31 46.0	+1.5
	comp=Z,17nm,0.9s						
NONG	Nongkai	35.01	309	P	P	01 31 47.0	+0.4
	comp=Z,31nm,0.9s						
CAN	Canberra	35.65	155	P	P	01 31 53.2	+1.2
UTHA	Uthaitani	36.71	302	P	P	01 32 02.9	+1.7
	comp=Z,478nmcomp=Z,10nm,0.8s						
PHIT	Phitsanulok	36.71	305	P	P	01 32 03.4	+2.1
	comp=Z,68nm,0.9s						
UTTA	Uttaradit	36.89	306	P	P	01 32 04.5	+1.7
	comp=Z,9.5nm,0.8s						
NJ2	Nanjing	37.30	343	*e*P	P	01 32 08.6	+2.5
NJ2				pmax	pmax		
	comp=Z,13nm,0.7s						
SUKH	Sukhothai	37.50	305	P	P	01 32 10.1	+2.2
	comp=Z,8.3nm,1.0s						
WHN	Wuhan	37.53	336	⇓P	P	01 32 20.3	+12
CM04	Chiang Mai Arr	38.50	306	P	P	01 32 18.0	+1.6
	comp=Z,7.0nm,1.0s						
CM35	Chiang Mai Arr	38.51	306	P	P	01 32 17.0	+0.5
CM01	Chiang Mai Arr	38.53	306	P	P	01 32 19.9	+3.2
	comp=Z,7.6nm,0.9s						
CM31	Chiang Mai Arr	38.56	306	P	P	01 32 16.0	-0.9
CM31				IAmb	IAmb	01 32 19.0	
	comp=Z,16nm,1.1s						
CMAR	Chiang Mai Arr	38.56	306	P	P	01 32 18.1	+1.2
	comp=Z,2.6nm,0.5s,baz=133,slow=7.0,SNR=24						
CMAR	Chiang Mai Arr	38.56	306	P	P	01 32 17.1	+0.2
CMMT	Chiang Mai	38.74	306	P	P	01 32 18.5	0.0
	comp=Z,252nmcomp=Z,7.1nm,1.0s						
CM33	Chiang Mai Arr	38.75	306	P	P	01 32 19.0	+0.5
CHTO	Chiang Mai	38.75	306	P	P	01 32 18.8	+0.3
CHTO				IAmb	IAmb	01 32 20.2	
	comp=Z,14nm,1.1s						
ENH	Enshi	39.52	330	P	P	01 32 24.4	-0.5
ENH				IAmb	IAmb	01 32 25.6	
	comp=Z,8.4nm,0.8s						
KMI	Kunming	39.69	317	⇓P	P	01 32 27.9	+1.4
KMI				pP	pP	01 32 33.4	-3.2
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI				pmax	pmax		
	comp=Z,66nm,4.5s						
MJAR	Matsushiro Arr	40.43	9	P	P	01 32 31.6	-0.7
	comp=Z,2.6nm,0.8s,baz=184,slow=8.9,SNR=6.4						
MJAR				LR	LR	01 48 49.8	
	comp=Z,106nm,19.9s,baz=200,slow=36						
MJAR	Matsushiro Arr	40.43	9	IAmb	IAmb	01 32 35.1	
	comp=Z,1.4nm,0.8s						
KSRS	Korea Array	40.92	356	P	P	01 32 35.2	-0.9
	comp=Z,0.5nm,0.4s,baz=183,slow=9.7,SNR=4.7						
KSRS				LR	LR	01 49 05.4	
	comp=Z,89nm,18.9s,baz=152,slow=36						
XAN	Xi'an	42.89	332	P	P	01 32 51.8	-0.7
XAN				pP	pP	01 33 00.6	-2.0
XAN				sP	sP	01 33 06.2	-0.5
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
XAN				LR	LR		
	comp=Z,280nm,16.3s						
XAN	Xi'an	42.89	332	P	P	01 32 51.8	-0.7
XAN				IAmb	IAmb	01 32 52.8	
	comp=Z,12nm,1.1s						
BJI	Beijing	45.53	344	P	P	01 33 13.3	-0.1
BJI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BJI				pmax	pmax		
	comp=Z,64nm,6.1s						
LZH	Lanzhou	47.00	329	*e*P	P	01 33 26.2	+0.9
LZH				pP	pP	01 33 35.5	0.0
LZH				sP	sP	01 33 39.3	-0.3
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
USRK	Ussuriysk Ar.	47.55	1	P	P	01 33 29.6	+0.4
	comp=Z,1.6nm,0.5s,baz=180,slow=7.9,SNR=7.6						
USRK	Ussuriysk Ar.	47.55	1	P	P	01 33 28.9	-0.3
HHC	Hu-ho-hao-te	47.70	340	*e*P	P	01 33 33.2	+2.6
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,5.8s						
SHL	Shillong	47.84	309	P	P	01 33 31.2	-0.9
SHL				IAmb	IAmb	01 33 32.5	
	comp=Z,8.7nm,0.8s						
ASAJ	Asahikawa	48.56	11	LR	LR	01 51 34.6	
	comp=Z,61nm,18.9s,baz=214,slow=33						
LSA	Lhasa	50.62	314	P	P	01 33 53.1	-0.4
LSA				IAmb	IAmb	01 33 55.4	
	comp=Z,6.6nm,0.9s						
GTA	Gaotai	51.60	329	P	P	01 34 00.5	+0.2
GTA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,87nm,5.8s						
GTA				LR	LR		
	comp=Z,200nm,17.8s						
GTA				LR	LR		
	comp=Z,200nm,18.2s						
ULN	Ulaanbaatar	55.41	340	P	P	01 34 28.8	+0.6
ULN				IAmb	IAmb	01 34 30.2	
	comp=Z,9.2nm,1.1s						
SONM	Songino Array	55.60	340	P	P	01 34 30.7	+1.2
	comp=Z,4.6nm,1.1s,baz=160,slow=7.2,SNR=19						
SONM				LR	LR	02 02 56.1	
	comp=Z,37nm,18.3s,baz=8.5,slow=41						
SONM	Songino Array	55.60	340	P	P	01 34 29.8	+0.2
SONM				IAmb	IAmb	01 34 32.2	
	comp=Z,5.9nm,1.2s						
PETK	Petropavlovsk-	60.71	18	LR	LR	01 58 10.6	
	comp=Z,39nm,21.7s,baz=167,slow=33						
WMQ	Urumqi	61.21	325	*e*P	P	01 35 09.6	+0.9
WMQ				pP	pP	01 35 20.1	+0.9
WMQ				sP	sP	01 35 26.0	+2.8
WMQ				pmax	pmax		
	comp=Z,26nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,540nm,5.7s						
ZSN	Zaisan	65.00	327	*e*P	P	01 35 33.8	0.0
	baz=327						
YAK	Yakutsk	65.42	359	P	P	01 35 36.1	+0.1
SHLS	Shalkode	65.77	321	*e*P	P	01 35 37.6	-1.3
	comp=Z,4.5nm,0.9s,baz=321						
NIL	Nilore	65.92	309	P	P	01 35 39.1	-0.9
NIL				IAmb	IAmb	01 35 40.9	
	comp=Z,6.8nm,1.2s						
UZB	Uzynbulak	66.04	321	*e*P	P	01 35 41.2	+0.5
	comp=Z,4.5nm,0.9s,baz=321						
MK31	Makanchi Array	66.04	325	IAmb	IAmb	01 35 42.2	
	comp=Z,7.2nm,1.0s						
MKAR	Makanchi Array	66.04	325	P	P	01 35 41.1	+0.6
	comp=Z,7.0nm,0.9s,baz=124,slow=7.9,SNR=60						
MKAR	Makanchi Array	66.04	325	P	P	01 35 41.0	+0.5
MAKZ	Makanchi	66.23	325	P	P	01 35 41.7	0.0
KSH	Kashi	66.33	316	P	P	01 35 44.3	+1.7
KSH				pP	sP	01 35 56.4	-0.7
KSH				pmax	pmax		
	comp=Z,13nm,0.9s						
KSH				pmax	pmax		
	comp=Z,600nm,8.1s						
SATY	Saty	66.39	320	*e*P	P	01 35 43.3	+0.4
	comp=Z,5.5nm,1.0s,baz=320						
KPKS	Kokpek	66.41	321	*e*P	P	01 35 43.2	+0.2
	comp=Z,6.9nm,1.1s,baz=321						
MDOK	Medeo	67.30	320	*e*P	P	01 35 49.0	+0.2
	baz=320						
TNSS	Tian-Shan	67.31	320	*e*P	P	01 35 49.2	+0.1
	baz=320						
TDK	Taldyqorghan	67.36	322	*e*P	P	01 35 49.4	+0.5
	comp=Z,6.7nm,0.8s,baz=322						
AAA	Alma-Ata	67.41	320	*e*P	P	01 35 49.6	+0.2
	comp=Z,5.6nm,0.5s,baz=320						
CHKK	Chushkaly	67.68	321	*e*P	P	01 35 50.9	0.0
	baz=321						
KUU	Kurty	68.11	320	*e*P	P	01 35 53.9	+0.2
	comp=Z,12nm,0.9s,baz=320						
AAK	Ala-Archa	68.72	319	P	P	01 35 58.2	+0.5
AAK				IAmb	IAmb	01 36 05.4	
	comp=Z,11nm,1.4s						
ZAA0	Zalesovo Array	69.06	333	P	P	01 35 59.0	-0.3
ZAA0				IAmb	IAmb	01 36 00.1	
	comp=Z,8.9nm,1.1s						
ZALV	Zalesovo Beam	69.06	333	P	P	01 35 59.1	-0.2
	comp=Z,2.8nm,0.6s,baz=108,slow=4.8,SNR=21						
ZALV	Zalesovo Beam	69.06	333	P	P	01 35 58.9	-0.4
BTLS	Baital	70.09	321	*e*P	P	01 36 06.0	+0.1
	baz=321						
DZA	Taraz	70.94	318	*e*P	P	01 36 11.2	+0.1
	baz=318						
IUG	Iuzhnay	71.52	317	*e*P	P	01 36 15.0	+0.2
	comp=Z,3.6nm,1.2s,baz=317						
KK31	Karatay Array	71.57	318	P	P	01 36 15.4	+0.4
KK31				IAmb	IAmb	01 36 16.7	
	comp=Z,6.0nm,1.0s						
KKAR	Karatay Array	71.57	318	P	P	01 36 14.9	-0.1
BRZS	Berezniki	73.17	325	*e*P	P	01 36 24.2	-0.2
	comp=Z,3.1nm,0.9s,baz=325						
HRA	Herat	74.81	307	IAmb	IAmb	01 36 36.1	
	comp=Z,6.2nm,1.1s						
TIXI	Tiksi	75.09	359	P	P	01 36 34.6	-0.4
MHTO	MHTO	75.67	293	P	P	01 36 39.1	-0.4
VNDA	Vanda	75.70	173	P	P	01 36 39.0	+0.5
	comp=Z,2.6nm,0.6s,baz=315,slow=7.8,SNR=8.6						
VNDA				LR	LR	02 11 31.7	
	comp=Z,105nm,18.2s,baz=312,slow=37						
BRVK	Borovoye	75.89	327	P	P	01 36 40.1	0.0
SMDO	Samad	75.95	295	P	P	01 36 41.8	+0.6
BSY	Bisya	76.67	294	P	P	01 36 44.4	-0.8
HOQ	Hoqain	76.71	295	P	P	01 36 46.9	+1.5
SOHO	SOHO	77.50	296	P	P	01 36 50.5	+0.7
UOSS	Minazif	77.94	296	P	P	01 36 53.0	+0.8
HATD	Hatta, Dubai	77.98	296	P	P	01 36 53.9	+1.4
DMTO	DMTO	78.01	289	P	P	01 36 53.0	+0.3
BANOM	Banah	78.02	297	P	P	01 36 54.1	+1.4
ASHO	Ashiyiah	78.02	296	P	P	01 36 54.0	+1.2
MASF	Masafi	78.05	297	P	P	01 36 54.6	+1.7
SHME	Shamm	78.18	297	P	P	01 36 55.4	+1.9
SOCY	Socotra	78.27	283	P	P	01 36 54.1	-0.3
SOCY	Socotra	78.27	283	P	P	01 36 54.0	-0.3
	SNR=17						
FAQ	Al Faqa, Dubai	78.45	296	P	P	01 36 55.2	+0.2
ASUD	Al Ashush, Dub	78.67	296	P	P	01 36 57.8	+1.6
DOK	Doka	78.90	290	P	P	01 36 54.3	-3.3
	SNR=10						
GEYT	Alibeck	78.92	310	P	P	01 36 58.7	+1.3
	comp=Z,3.3nm,0.6s,baz=133,slow=6.5,SNR=8.2						
GYA0B	ALIBECK ARRAY	78.92	310	P	P	01 36 58.4	+0.9
GYA0B				IAmb	IAmb	01 36 59.8	
	comp=Z,7.6nm,0.8s						
WHFO	Wadi Hawf	79.15	289	P	P	01 36 59.1	+0.1
	SNR=5.8						
ABTO	Aybut	79.53	288	P	P	01 37 01.8	+0.7
MZWR	Madinat Zayed	79.84	295	P	P	01 37 03.6	+1.0
ABKAR	Akbulak array	80.58	321	P	P	01 37 06.0	-0.1
TTA	Tatalina	85.41	26	P	P	01 37 30.9	0.0
TTA				IAmb	IAmb	01 37 33.2	
	comp=Z,6.9nm,1.0s						
RAYN	Ar Rayn	87.45	294	P	P	01 37 41.8	0.0
ILAR	Eielson Array	89.75	25	P	P	01 37 50.5	-1.1
	comp=Z,0.8nm,0.9s,baz=252,slow=4.9,SNR=6.8						
ILAR				LR	LR	02 11 19.5	
	comp=Z,52nm,21.1s,baz=312,slow=31						
GEVA	Gevas	90.71	308	P	P	01 37 56.7	-0.2
BMAR	Burnt Mountain	91.05	23	P	P	01 37 58.0	+0.3
K27K	Chicken	91.75	26	P	P	01 38 03.1	+2.2
BCAR	Beaver Creek A	91.80	27	P	P	01 38 00.8	-0.5
KMBO	Kilima Mbogo	93.85	269	P	P	01 38 12.7	+0.6
	comp=Z,2.7nm,1.1s,baz=16,slow=4.4,SNR=3.8						
INK	Inuvik	95.25	22	P	P	01 38 16.4	-0.6
	comp=Z,3.8nm,1.2s,baz=341,slow=2.4,SNR=4.9						
TXAR	Lajitas Array	122.13	57	PKP	PKPdf	01 43 48.8	-0.3
	comp=Z,0.3nm,0.9s,baz=184,slow=1.4,SNR=3.1						
TORD	Torodi Ar. Bea	129.21	284	PKP	PKPdf	01 44 03.1	+0.3
	comp=Z,1.0nm,0.7s,baz=66,slow=1.9,SNR=4.6						
TORD	Torodi Ar. Bea	129.21	284		PKiKP	01 44 04.1	+0.6
LVC	Limon Verde	147.41	144	PKPbc	PKPbc	01 44 40.0	+1.2
	comp=Z,3.4nm,0.5s,baz=126,slow=1.2,SNR=6.1						
CPUP	Villa Florida	149.16	165	PKPbc	PKPbc	01 44 43.0	+0.3
	comp=Z,2.5nm,0.9s,baz=67,slow=1.2,SNR=2.9						
CPUP	Villa Florida	149.16	165		PKPdf	01 44 40.4	+1.8
LPAZ	La Paz	152.55	136	PKPbc	PKiKP	01 44 53.5	+1.4
	comp=Z,1.6nm,0.4s,baz=303,slow=1.4,SNR=9.4						
LPAZ	La Paz	152.55	136		PKiKP	01 44 53.9	+1.9
SIV	San Ignacio	157.10	148	PKPab	PKPab	01 45 22.1	+1.5
	comp=Z,1.7nm,0.9s,baz=191,slow=7.3,SNR=5.9						

IDC 08 01:25:08.1±2.3, 23°96S×67°08W, h182km±16km, mb3.2/3, mb1 3.3/7, mb1mx3.2/26, mbtmp3.7/7, Error ellipse: s-maj=33.8km s-min=21.7km az=178.0
GUC 08 01:25:08.2±0.4, 24°12S×67°40W, h205km±7km, ML4.2

ISC 08 01:25:07.6±1.2, 24°08S±0°06×67°2W±0°1, h185km±12km, n21, σ1s60/34, mb3.3/3, 11C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.12	313	P	Pn	01 25 47.7	+1.0
	35nm,0.3s,baz=163,slow=8.3,SNR=339						
LVC				S	Sn	01 26 17.8	+0.7
	18nm,0.3s,baz=22,slow=20,SNR=12						
LVC	Limon Verde	2.12	313	⇓*i*P	Pn	01 25 47.7	+1.0
LVC				*i* S	Sn	01 26 17.7	+0.7
PB15	IPOC Station P	2.22	293	⇑*i*P	Pn	01 25 48.7	+1.0
PB15				*i* S	Sn	01 26 19.8	+1.0
GO02	Mina Guanaco	2.39	243	⇑*i*P	Pn	01 25 50.0	+0.4
GO02				*i* S	Sn	01 26 22.3	-0.1
GO02				IAML		01 26 23.5	
	comp=N,730nm,0.4s						
PB06	IPOC Station P	2.54	302	⇑*i*P	Pn	01 25 52.1	+0.9
PB06				*i* S	Sn	01 26 25.2	0.0
PB09	IPOC Station P	2.93	321	⇑*i*P	Pn	01 25 56.9	+1.1
PB09				*i* S	Sn	01 26 34.4	+0.9
PB09				IAML		01 26 35.9	
	comp=N,187nm,0.6s						
PB05	IPOC Station P	2.98	294	⇑*i*P	Pn	01 25 56.7	+0.3
PB05				*i* S	Sn	01 26 32.7	-1.7
PB10	IPOC Station P	3.09	280	⇑*i*P	Pn	01 25 58.1	+0.6
PB10				*i* S	Sn	01 26 35.3	-1.1
PB04	IPOC Station P	3.19	302	⇑*i*P	Pn	01 25 59.4	+0.4
PB04				*e*S	Sn	01 26 38.2	-0.9
PB04				IAML		01 26 44.2	
	comp=N,191nm,0.3s						
PB07	IPOC Station P	3.38	313	⇑*i*P	Pn	01 26 01.6	+0.2
PB07				*i* S	Sn	01 26 42.0	-1.4
PB07				IAML		01 26 44.0	
	comp=E,247nm,0.6s						
PB01	IPOC Station P	3.67	325	⇑*i*P	Pn	01 26 04.6	-0.2
PB08	IPOC Station P	4.31	335	⇑*i*P	Pn	01 26 13.8	+0.7
PB08				*i* S	Sn	01 27 03.8	-0.7
PB08				IAML		01 27 06.0	
	comp=E,141nm,0.3s						
GO03	Copiap	4.42	217	*i* S	Sn	01 27 01.0	-5.5
GO03				IAML		01 27 05.5	
	comp=E,50nm,0.3s						

HMBC	**Humberstone**	**4.51**	**327**	⇑iP	**Pn**	**01 26 14.0**	**-1.5**
HMBC				iS	**Sn**	**01 27 05.6**	**-3.2**
HMBC				IAML		01 27 09.9	
	comp=N,149nm,0.2s						
LPAZ	**La Paz**	**7.80**	**354**	P	**Pn**	**01 26 59.2**	**+0.3**
	comp=N,0.8nm,0.3s,baz=158,slow=9.3,SNR=15						
LPAZ				S	**Sn**	**01 28 25.7**	**-1.3**
	comp=N,0.2nm,0.3s,baz=326,slow=21,SNR=6.5						
SIV	**San Ignacio**	**9.92**	**37**	P	**Pn**	**01 27 23.4**	**-2.8**
	comp=N,0.2nm,0.3s,baz=232,slow=15,SNR=2.7						
BDFB	**Brasilia**	**19.92**	**69**	P	**P**	**01 29 23.4**	**-2.1**
	comp=N,0.4nm,0.3s,baz=226,slow=10,SNR=6.5						
TORD	**Torodi Ar. Bea**	**76.81**	**69**	P	**P**	**01 36 41.1**	**+1.8**
	comp=N,0.7nm,1.0s,baz=266,slow=5.8,SNR=2.0						
PDAR	**Pinedale Array**	**77.11**	**329**	P	**P**	**01 36 41.2**	**+0.6**
	comp=N,0.1nm,0.4s,baz=134,slow=6.4,SNR=4.1						
ULM	**Lac du Bonnet**	**78.24**	**342**	P	**P**	**01 36 47.0**	**+0.5**
	comp=N,0.9nm,0.5s,baz=143,slow=5.1,SNR=2.1						
MKAR	**Makanchi Array**	**146.73**	**39**	PKPbc	**PKPdf**	**01 44 26.1**	**+0.5**
	comp=N,0.3nm,0.6s,baz=311,slow=3.1,SNR=5.0						

IDC 08 01:54:50.5±10.0**, 22°.74S**×**179°.14W, h470**km±115km**, mb3.2**/4**, mb1 3.3**/5**, mb1mx3.0**/31**, mbtmp4.1**/5**, Error ellipse: s-maj=99.2km s-min=55.6km az=52.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.80**	**191**	P	P	01 58 09.5	+0.1
	0.5nm,0.3s,baz=13,slow=10,SNR=1.5						
URZ				S	S	02 00 53.8	0.0
	0.7nm,0.3s,baz=130,slow=19,SNR=1.5						
CTA	**Charters Tower**	**32.28**	**268**	P	P	02 00 40.1	+0.6
	3.0nm,0.4s,baz=85,slow=10,SNR=6.0						
STKA	**Stephens Creek**	**35.89**	**247**	P	P	02 01 09.3	-0.5
	0.8nm,0.5s,baz=78,slow=9.8,SNR=4.0						
ASAR	**Alice Springs**	**43.01**	**259**	P	P	02 02 07.4	-0.2
	0.7nm,0.4s,baz=99,slow=6.9,SNR=19						
WRA	**Warramunga Arr**	**43.28**	**265**	P	P	02 02 09.4	-0.3
	1.0nm,0.5s,baz=94,slow=8.4,SNR=19						
HFS	**Hagfors**	**141.56**	**350**	PKP	PKPdf	02 13 27.0	0.0
	3.1nm,0.9s,baz=56,slow=2.7,SNR=7.5						

*NOU **08** 02:10:44.0, 36°.52S×177°.32E, h0km, MLv4.4, Off E. Coast of N. Island, N.Z.*
*WEL **08** 02:10:44.8±1.0, 36°S±8°×17°7E±°, h12km, M3.6/29, ML3.9/29, MLv3.6/29, Error ellipse: s-maj=0.0km s-min=0.0km az=30.7*
*IDC **08** 02:10:46.6±4.1, 36°.80S×176°.84E, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/29, mbtmp4.1/4, MS3.5/2, Ms1 3.5/2, ms1mx3.0/23, Error ellipse: s-maj=101.7km s-min=20.7km az=62.0*
ISC 08 02:10:44.6±3.5**, 36°.51S**±0°.06×**177°.29E**±0°.05**, h7**km±23km**, n59,** σ1^{s}**24**/60**, mb3.9**/4**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**1.02**	**185**	P	**Pb**	**02 11 03.9**	**-0.7**
KUZ	**Kuaotunu**	**1.29**	**259**	P	**Pn**	**02 11 07.3**	**-1.7**
MXZ	**Matakaoa Point**	**1.33**	**143**	P	**Pn**	**02 11 07.5**	**-2.1**
MXZ				S	**Sn**	**02 11 24.6**	**-3.0**
OPRZ	**Ohinepanea**	**1.46**	**204**	P	**Pn**	**02 11 12.3**	**+0.9**
TGRZ	**Tauranga**	**1.47**	**214**	P	**Pn**	**02 11 12.3**	**+0.7**
GRZ	**Great Barrier**	**1.50**	**279**	P	**Pn**	**02 11 11.8**	**-0.2**
GRZ				S	**Sn**	**02 11 31.1**	**-0.7**
WMGZ	**Waiomatatini S**	**1.59**	**146**	P	**Pn**	**02 11 13.1**	**0.0**
WMGZ				S	**Sb**	**02 11 35.5**	**+0.9**
EDRZ	**Edgecumbe**	**1.66**	**195**	P	**Pn**	**02 11 13.6**	**-0.6**
KMRZ	**Kaimai**	**1.72**	**219**	P	**Pn**	**02 11 14.7**	**-0.2**
KARZ	**Kaharoa**	**1.73**	**209**	P	**Pn**	**02 11 14.5**	**-0.5**
PUZ	**Puketiti**	**1.74**	**154**	P	**Pn**	**02 11 15.7**	**+0.4**
TWGZ	**Tauwhareparae**	**1.75**	**162**	P	**Pn**	**02 11 16.2**	**+0.7**
URZ	**Urewera**	**1.75**	**185**	Pn	**Pn**	**02 11 14.4**	**-1.1**
	17nm,0.3s,baz=328,slow=4.4,SNR=58						
URZ				Sn	**Sn**	**02 11 35.1**	**-2.9**
	45nm,0.3s,baz=62,slow=23,SNR=16						
URZ	**Urewera**	**1.75**	**185**	P	**Pn**	**02 11 14.4**	**-1.1**
OMRZ	**Omania**	**1.76**	**204**	P	**Pn**	**02 11 16.9**	**+1.4**
WIAZ	**Waiheke Island**	**1.76**	**260**	P	**Pn**	**02 11 15.2**	**-0.3**
MKAZ	**Moumakai**	**1.81**	**250**	P	**Pn**	**02 11 15.1**	**-1.1**
MKAZ				S	**Sb**	**02 11 41.6**	**+0.6**
MWZ	**Matawai**	**1.83**	**174**	P	**Pn**	**02 11 15.2**	**-1.4**
TOZ	**Tahuroa Road**	**1.88**	**229**	P	**Pn**	**02 11 16.4**	**-0.8**
ETAZ	**East Tamaki Re**	**1.95**	**256**	P	**Pn**	**02 11 16.1**	**-2.0**
TKGZ	**Te Karaka**	**1.98**	**167**	P	**Pn**	**02 11 18.5**	**-0.1**
RAGZ	**Rawiri**	**1.99**	**177**	P	**Pn**	**02 11 17.9**	**-0.8**
RAGZ				S	**Sn**	**02 11 42.2**	**-1.7**
MUGZ	**Murupara**	**2.01**	**192**	P	**Pn**	**02 11 18.8**	**-0.2**
CNGZ	**Carnagh Statio**	**2.10**	**160**	P	**Pn**	**02 11 21.6**	**+1.3**
AWAZ	**Awhitu Peninsu**	**2.20**	**255**	P	**Pn**	**02 11 21.1**	**-0.4**
RIGZ	**Rimuhau**	**2.23**	**170**	P	**Pn**	**02 11 23.7**	**+1.7**
SNGZ	**Shannon Statio**	**2.27**	**179**	P	**Pn**	**02 11 21.8**	**-0.7**
TLZ	**Tolley Road**	**2.29**	**217**	P	**Pn**	**02 11 22.4**	**-0.5**
MTHZ	**Maungataniwha**	**2.37**	**189**	P	**Pn**	**02 11 24.5**	**+0.6**
RAHZ	**Arahi**	**2.41**	**184**	P	**Pn**	**02 11 26.3**	**+1.8**
MRHZ	**Matea Rd**	**2.42**	**196**	P	**Pb**	**02 11 28.1**	**-0.5**
WCZ	**Waipu Caves**	**2.45**	**283**	P	**Pn**	**02 11 24.7**	**-0.3**
PRGZ	**Paritu Road**	**2.46**	**169**	P	**Pb**	**02 11 28.3**	**-0.8**
KNZ	**Kokohu**	**2.53**	**173**	P	**Pn**	**02 11 26.7**	**+0.7**
WHHZ	**Waihua**	**2.56**	**181**	P	**Pn**	**02 11 29.1**	**+2.5**
NMHZ	**Naumai**	**2.61**	**188**	P	**Pn**	**02 11 29.5**	**+2.1**
MHGZ	**Mahia Peninsul**	**2.68**	**170**	P	**Pn**	**02 11 28.9**	**+0.6**
BKZ	**Black Stump Fm**	**2.73**	**193**	P	**Pn**	**02 11 29.1**	**+0.2**
ARHZ	**Aropaoanui**	**2.76**	**185**	P	**Pn**	**02 11 31.1**	**+1.8**
HIZ	**Hauiti**	**2.79**	**223**	P	**Pn**	**02 11 29.7**	**+0.1**
KRHZ	**Kereru**	**3.21**	**193**	P	**Pn**	**02 11 36.7**	**+1.2**
OUZ	**Omahuta**	**3.27**	**292**	P	**Pn**	**02 11 36.3**	**+0.1**
VRZ	**Vera Road**	**3.29**	**217**	P	**Pn**	**02 11 38.4**	**+1.8**
KAHZ	**Kahuranaki**	**3.30**	**186**	P	**Pn**	**02 11 38.3**	**+1.5**
PNHZ	**Pukenui**	**3.51**	**194**	P	**Pn**	**02 11 40.9**	**+1.3**
BFZ	**Birch Farm**	**4.25**	**191**	P	**Pn**	**02 11 50.3**	**+0.6**
MRZ	**Mangatainoka R**	**4.36**	**197**	P	**Pn**	**02 11 51.4**	**+0.2**
OGWZ	**Otaki Gorge**	**4.61**	**200**	P	**Pn**	**02 11 55.2**	**+0.5**
TMWZ	**Te Maipa**	**4.72**	**193**	P	**Pn**	**02 11 55.5**	**-0.7**
THZ	**Tophouse**	**6.26**	**212**	P	**Pn**	**02 12 18.3**	**+0.9**
DZM	**Mont Dzumac**	**17.20**	**324**	LR	LR	02 19 43.6	
	comp=Z,198nm,18.1s,baz=108,slow=31						
HNR	**Honiara**	**31.22**	**325**	LR	LR	02 29 14.5	
	comp=Z,49nm,18.4s,baz=136,slow=36						
ASAR	**Alice Springs**	**39.35**	**277**	P	**P**	**02 18 15.5**	**+0.7**
	1.6nm,0.8s,baz=119,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**40.92**	**282**	P	**P**	**02 18 28.0**	**+0.2**
	1.1nm,0.8s,baz=124,slow=7.9,SNR=8.5						
FITZ	**Fitzroy Crossi**	**48.83**	**278**	P	**P**	**02 19 30.6**	**-0.2**
	1.6nm,0.8s,baz=163,slow=12,SNR=2.1						
H03N3	**Juan Fernandez**	**80.53**	**125**	T	T	03 51 38.1	
	baz=235,slow=72,SNR=16						
H03N2	**Juan Fernandez**	**80.53**	**125**	T	T	03 51 36.8	
	baz=235,slow=72,SNR=12						
H03N1	**Juan Fernandez**	**80.55**	**125**	T	T	03 51 37.9	
	baz=235,slow=72,SNR=14						
CMAR	**Chiang Mai Arr**	**91.83**	**292**	P	**P**	**02 23 55.7**	**+2.1**
	1.8nm,0.4s,baz=131,slow=3.7,SNR=6.3						

*SNET **08** 02:18:03.3±1.1, 12°.36N×89°.94W, h31km±72km, ML3.1*
*IDC **08** 02:18:07.7±2.7, 12°.54N×89°.82W, h49km±29km, mb3.1/4, mb1 3.6/7, mb1mx3.3/47, mbtmp3.5/7, ML3.4/3, MS3.0/2, Ms1 3.0/2, ms1mx2.7/17, Error ellipse: s-maj=55.4km s-min=17.9km az=36.0*
ISC 08 02:18:00.3±2.3**, 12°.37N**±0°.07×**90°.00W**±0°.06**, h2**km±13km**, n24,** σ1^{s}**52**/34**, mb3.1**/4**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.30**	**31**	eP	**Pg**	**02 18 24.6**	**-0.6**
LALI				eS	**Sg**	**02 18 42.3**	**+0.2**
JAYA	**Jayaque - finc**	**1.39**	**23**	eP	**Pn**	**02 18 26.5**	**-0.3**
JAYA				eS	**Sg**	**02 18 44.6**	**-0.4**
JAYA				IAML		02 18 46.3	
	comp=Z,692nm,0.2s						
PMON	**Piamonte**	**1.50**	**26**	eP	**Pn**	**02 18 27.8**	**-0.5**
SBLS	**San Blas**	**1.51**	**14**	eP	**Pn**	**02 18 28.5**	**0.0**
SBLS				eS	**Sn**	**02 18 48.6**	**-0.3**
BOQS	**Boqueron**	**1.53**	**27**	eP	**Pn**	**02 18 28.5**	**-0.3**
BOQS				eS	**Sn**	**02 18 48.8**	**-0.6**
SNJE	**San Jose**	**1.54**	**14**	eP	**Pn**	**02 18 29.9**	**+1.0**
SNJE				eS	**Sn**	**02 18 49.8**	**+0.2**
RTR	**El Retiro**	**1.56**	**13**	eP	**Pn**	**02 18 29.2**	**0.0**
RTR				eS	**Sn**	**02 18 49.2**	**-0.9**
LBRS	**Las Brisas**	**1.65**	**34**	eP	**Pn**	**02 18 30.3**	**-0.1**
COEG	**Centro de Oper**	**1.66**	**41**	eP	**Pn**	**02 18 29.5**	**-0.9**
COEG				eS	**Sn**	**02 18 50.3**	**-2.0**
COEG				IAML		02 18 53.9	
	comp=Z,238nm,0.3s						
ALJI	**Alcalda de J**	**1.69**	**55**	eP	**Pn**	**02 18 30.8**	**0.0**
TACO	**Tacachico**	**1.71**	**21**	eP	**Pn**	**02 18 30.9**	**-0.2**
TACO				eS	**Sn**	**02 18 52.9**	**-0.8**
TACO				IAML		02 19 01.9	
	comp=Z,147nm,0.6s						
COEB	**Comit de Eme**	**1.82**	**52**	eP	**Pn**	**02 18 32.3**	**-0.4**
MTO3	**Montecristo**	**2.12**	**17**	eP	**Pn**	**02 18 37.4**	**+0.5**
MTO3				IAML		02 18 38.4	
	comp=Z,60nm,0.2s						
LCND	**La Caada**	**2.26**	**65**	eP	**Pn**	**02 18 37.7**	**-1.0**
ESQI	**Esquipulas**	**2.27**	**16**	eP	**Pn**	**02 18 39.8**	**+0.8**
ESQI				eS	**Sn**	**02 19 07.1**	**-0.5**
TGUH	**Tegucigalpa,Un**	**3.14**	**57**	eP	**Pn**	**02 18 50.5**	**-0.4**
JTS	**Las Juntas de**	**5.36**	**112**	P	**Pn**	**02 19 23.8**	**+2.4**
	comp=Z,1.2nm,0.3s,baz=9.0,slow=22,SNR=1.7						
JTS				S	**Sn**	**02 20 24.1**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=6.4,slow=20,SNR=4.1						
CMIG	**Matias Romero**	**6.66**	**315**	P	**Pn**	**02 19 41.4**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=138,slow=8.9,SNR=11						
CMIG				S	**Sn**	**02 20 50.3**	**-5.4**
	comp=Z,0.7nm,0.3s,baz=269,slow=22,SNR=4.9						
TEIG	**Tepich**	**7.99**	**12**	P	**Pn**	**02 19 59.7**	**+2.3**
	comp=Z,1.0nm,0.3s,baz=25,slow=16,SNR=5.6						
TEIG				LR	LR	02 23 24.3	
	comp=Z,89nm,18.7s,baz=138,slow=41						
TXAR	**Lajitas Array**	**21.14**	**325**	P	**P**	**02 22 48.9**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=147,slow=12,SNR=7.6						
ATAH	**Atahualpa**	**22.55**	**149**	LR	LR	02 29 21.7	
	comp=Z,52nm,21.5s,baz=123,slow=30						
TKL	**Tuckaleechee C**	**23.86**	**13**	P	**P**	**02 23 14.5**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=175,slow=10,SNR=2.5						
NVAR	**Mina Array Bea**	**36.16**	**321**	P	**P**	**02 25 06.9**	**+2.5**
	comp=Z,0.1nm,0.4s,baz=143,slow=7.6,SNR=2.8						
YKA	**Yellowknife Ar**	**53.06**	**346**	P	**P**	**02 27 17.4**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=140,slow=7.3,SNR=4.5						

*NEIC **08** 02:24:09.8±1.0, 60°.72N±0°.02×151°.58W±0°.05, h75km±5km, Error ellipse: s-maj=4.3km s-min=1.4km az=124.0*
*AEIC **08** 02:24:10±1.1, 60°.72N±0°.03×151°.59W±0°.06, h74km±5km, ML3.6, ML3.8/88(NEIC), Error ellipse: s-maj=4.2km s-min=3.7km az=147.0*
*IDC **08** 02:24:10.3±2.0, 60°.74N×151°.77W, h70km±18km, mb3.4/7, mb1 3.6/11, mb1mx3.3/47, mbtmp3.6/11, Error ellipse: s-maj=20.8km s-min=17.7km az=53.0*
ISC 08 02:24:10.7±0.7**, 60°.70N**±0°.03×**151°.57W**±0°.03**, h77**km±6km**, n155,** σ1^{s}**21**/150**, mb3.6**/7**, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.21**	**72**		**Pn**	**02 24 22.7**	**+0.6**
RDT	**Redoubt**	**0.43**	**253**		**Pn**	**02 24 22.4**	**-1.3**
RDT					**Sn**	**02 24 32.2**	**-1.1**
DFR	**Drift River**	**0.56**	**259**		**Pn**	**02 24 23.7**	**-1.1**
DFR					**Sn**	**02 24 34.5**	**-0.8**
REF	**Redoubt East F**	**0.60**	**250**		**Pn**	**02 24 24.3**	**-1.0**
REF					**Sn**	**02 24 35.2**	**-0.9**
SPCN	**Chakachatna No**	**0.60**	**330**		**Pn**	**02 24 24.0**	**-1.2**
SPCN					**Sn**	**02 24 36.1**	**+0.2**
RSO	**Redoubt South**	**0.63**	**248**		**Pn**	**02 24 24.8**	**-0.8**
SPCP	**Crater Peak Br**	**0.63**	**333**		**Pn**	**02 24 24.4**	**-1.2**
SPCP					**Sn**	**02 24 36.0**	**-0.6**
RED	**Redoubt Volcan**	**0.66**	**245**		**Pn**	**02 24 24.8**	**-1.0**
RED					**Sn**	**02 24 36.5**	**-0.5**
NCT	**North Crescent**	**0.69**	**259**		**Pn**	**02 24 25.0**	**-1.1**
NCT					**Sn**	**02 24 36.4**	**-1.1**
SLKM	**Skilak Lake**	**0.69**	**106**		**Pn**	**02 24 25.2**	**-0.8**
SLKM					**Sn**	**02 24 37.1**	**-0.4**
FIS	**Fire Island**	**0.79**	**55**		**Pn**	**02 24 27.3**	**+0.2**
STLK	**Strandline Lak**	**0.81**	**351**		**Pn**	**02 24 26.2**	**-1.2**
SUA	**Susitna One**	**0.86**	**27**		**Pn**	**02 24 27.1**	**-0.9**
SUA					**Sn**	**02 24 40.4**	**-0.5**
O22K	**Cooper Landing**	**0.94**	**103**		**Pn**	**02 24 28.0**	**-0.8**
O22K					**Sn**	**02 24 43.0**	**+0.8**
RC01	**Rabbit Creek A**	**0.97**	**66**		**Pn**	**02 24 28.4**	**-0.9**
RC01					**Sn**	**02 24 42.7**	**-0.3**
IVE	**Iliamna Volcan**	**1.00**	**227**		**Pn**	**02 24 28.2**	**-1.4**
IVE					**Sn**	**02 24 43.5**	**-0.2**
BRLK	**Bradley Lake**	**1.00**	**160**		**Pn**	**02 24 29.0**	**-0.5**
BRLK	**Bradley Lake**	**1.00**	**160**	IAML		02 24 44.9	
	comp=E,3μm,0.8s						
BRSE	**Bradley Lake S**	**1.05**	**157**		**Pn**	**02 24 29.6**	**-0.6**
BRSE					**Sn**	**02 24 44.8**	**+0.1**
ILS	**Iliamna Low So**	**1.06**	**226**		**Pn**	**02 24 29.7**	**-0.6**
CNPM	**China Poot**	**1.19**	**172**		**Pn**	**02 24 31.5**	**-0.4**
CNPM					**Sn**	**02 24 47.7**	**-0.2**
CNPM	**China Poot**	**1.19**	**172**	IAML		02 24 48.9	
	comp=N,1μm,0.3s						
SEW	**Seward**	**1.21**	**119**		**Pn**	**02 24 30.8**	**-1.3**
SKT	**Skwentna**	**1.28**	**1**		**Pn**	**02 24 32.1**	**-1.0**
SKT	**Skwentna**	**1.28**	**1**	IAML		02 24 50.3	
	comp=E,2μm,0.6s						
SKT				IAML		02 24 50.6	
	comp=N,1μm,0.3s						
OPT	**Oil Point**	**1.34**	**219**		**Pn**	**02 24 33.8**	**0.0**
PMR	**Palmer**	**1.48**	**52**		**Pn**	**02 24 34.4**	**-1.1**
PMR					**Sn**	**02 24 53.4**	**-1.0**
PMR	**Palmer**	**1.48**	**52**	IAML		02 24 54.8	
	comp=N,861nm,0.5s						
PMR				IAML		02 24 58.6	
	comp=E,853nm,0.6s						
PWL	**Port Wells**	**1.59**	**83**		**Pn**	**02 24 35.9**	**-1.2**
AU22	**Augustine Moun**	**1.61**	**215**		**Pn**	**02 24 37.2**	**-0.1**
AUL	**Augustine Lava**	**1.62**	**216**		**Pn**	**02 24 37.3**	**-0.2**
AUCH	**Augustine Cone**	**1.64**	**216**		**Pn**	**02 24 37.7**	**-0.1**
GHO	**Glory Hole Cre**	**1.67**	**49**		**Pn**	**02 24 37.1**	**-1.0**
GHO					**Sn**	**02 24 57.8**	**-1.1**
GHO	**Glory Hole Cre**	**1.67**	**49**	IAML		02 24 58.8	
	comp=E,1μm,0.4s						
GHO				IAML		02 25 02.4	
	comp=N,1μm,0.7s						
KNK	**Knik Glacier**	**1.67**	**63**		**Pn**	**02 24 37.1**	**-1.0**
KNK					**Sn**	**02 24 58.0**	**-0.9**
KNK	**Knik Glacier**	**1.67**	**63**	IAML		02 24 59.4	
	comp=E,1μm,0.5s						
CUT	**Chulitna**	**1.82**	**19**		**Pn**	**02 24 39.5**	**-0.4**
SML	**Sawmill**	**1.92**	**53**		**Pn**	**02 24 40.2**	**-1.1**
SML					**Sn**	**02 25 03.2**	**-1.5**
SML	**Sawmill**	**1.92**	**53**	IAML		02 25 10.0	
	comp=N,940nm,0.7s						
SML				IAML		02 25 10.8	
	comp=E,997nm,0.8s						
SVW2	**Sparrevohn**	**2.00**	**283**		**Pn**	**02 24 40.6**	**-1.9**
SVW2	**Sparrevohn**	**2.00**	**283**	IAML		02 25 04.5	
	comp=E,510nm,0.7s						
PPLA	**Purkeypile**	**2.22**	**353**		**Pn**	**02 24 44.9**	**-0.6**
SCM	**Sheep Creek Mo**	**2.34**	**59**		**Pn**	**02 24 46.0**	**-1.1**
SCM	**Sheep Creek Mo**	**2.34**	**59**	IAML		02 25 23.5	
	comp=E,693nm,1.0s						
VMT	**TAPS TI Valdez**	**2.57**	**79**		**Pn**	**02 24 48.5**	**-1.5**
WAT1	**Susitna Watana**	**2.57**	**33**		**Pn**	**02 24 49.3**	**-0.8**
WAT6	**Susitna Watana**	**2.62**	**42**		**Pn**	**02 24 49.9**	**-1.1**
WAT2	**Susitna Watana**	**2.67**	**31**		**Pn**	**02 24 50.8**	**-0.7**
TRF	**Thorofare Moun**	**2.82**	**12**		**Pn**	**02 24 53.4**	**-0.2**
TRF	**Thorofare Moun**	**2.82**	**12**	IAML		02 25 32.9	
	comp=N,441nm,0.3s						
TRF				IAML		02 25 33.0	
	comp=E,341nm,0.6s						
KLU	**Klutina**	**2.85**	**71**		**Pn**	**02 24 52.5**	**-1.5**
KLU	**Klutina**	**2.85**	**71**	IAML		02 25 27.2	
	comp=N,413nm,0.5s						
KLU				IAML		02 25 28.3	
	comp=E,238nm,0.4s						
DIV	**Divide**	**2.86**	**79**		**Pn**	**02 24 52.3**	**-1.8**
EYAK	**Cordova Ski Ar**	**2.87**	**91**		**Pn**	**02 24 51.9**	**-2.2**
KTH	**Kantishna Hill**	**2.88**	**6**		**Pn**	**02 24 54.0**	**-0.3**
KTH	**Kantishna Hill**	**2.88**	**6**	IAML		02 25 32.4	
	comp=N,306nm,0.6s						
KTH				IAML		02 25 50.5	
	comp=E,223nm,0.8s						
Q23K	**Middleton Isla**	**2.91**	**114**		**Pn**	**02 24 53.3**	**-1.3**
Q23K	**Middleton Isla**	**2.91**	**114**	IAML		02 25 28.3	
	comp=E,238nm,1.9s						
Q23K				IAML		02 25 45.0	
	comp=N,232nm,1.0s						
MID	**Middleton Isla**	**2.92**	**114**		**Pn**	**02 24 53.3**	**-1.4**
MID	**Middleton Isla**	**2.92**	**114**	IAML		02 25 31.8	
	comp=E,265nm,1.3s						
MID				IAML		02 26 36.6	
	comp=N,216nm,1.5s						
M24K	**Tolsona, Glenn**	**2.95**	**59**		**Pn**	**02 24 54.7**	**-0.6**
M24K	**Tolsona, Glenn**	**2.95**	**59**	IAML		02 25 42.4	
	comp=N,404nm,0.6s						
KDAK	**Kodiak Island**	**2.98**	**191**	P	**Pn**	**02 24 54.0**	**-1.5**
	comp=N,10nm,0.3s,baz=60,slow=15,SNR=386						
KDAK				S	**Sn**	**02 25 28.5**	**-1.7**
	comp=N,14nm,0.3s,baz=26,slow=22,SNR=9.0						
KDAK	**Kodiak Island**	**2.98**	**191**		**Pn**	**02 24 54.1**	**-1.4**
RND	**Reindeer**	**3.00**	**24**		**Pn**	**02 24 55.5**	**-0.4**
RND	**Reindeer**	**3.00**	**24**	IAML		02 25 46.1	
	comp=E,209nm,0.6s						
TT01	**Tatalina**	**3.06**	**318**		**Pn**	**02 24 55.9**	**-0.8**
TTA	**Tatalina**	**3.07**	**319**		**Pn**	**02 24 55.9**	**-1.0**
KELA	**Mount Kelaz**	**3.11**	**225**		**Pn**	**02 24 57.3**	**-0.2**
KABR	**Katmai Barrier**	**3.11**	**215**		**Pn**	**02 24 57.5**	**0.0**
CHUM	**Lake Minchumin**	**3.21**	**354**		**Pn**	**02 24 58.1**	**-0.6**
PS12	**TAPS Pump St12**	**3.21**	**73**		**Pn**	**02 24 57.1**	**-1.7**
MCK	**McKinley**	**3.28**	**21**		**Pn**	**02 24 59.2**	**-0.5**
GOAT	**Goat Mountain**	**3.37**	**89**		**Pn**	**02 24 58.6**	**-2.4**
BMRM	**Bremner River**	**3.42**	**83**		**Pn**	**02 24 59.3**	**-2.3**
RAGM	**Ragged Mountai**	**3.42**	**92**		**Pn**	**02 24 59.0**	**-2.6**
BPAW	**Bear Paw Mtn.**	**3.42**	**4**		**Pn**	**02 25 00.6**	**-1.0**
BPAW	**Bear Paw Mtn.**	**3.42**	**4**	IAML		02 25 43.4	
	comp=N,146nm,0.5s						
N25K	**Chitina, Valde**	**3.50**	**72**		**Pn**	**02 25 01.2**	**-1.5**
N25K	**Chitina, Valde**	**3.50**	**72**	IAML		02 25 43.2	
	comp=N,203nm,0.7s						
OHAK	**Old Harbor**	**3.60**	**195**		**Pn**	**02 25 02.3**	**-1.7**
HMT	**Hamilton**	**3.63**	**93**	Pn	**Pn**	**02 25 02.4**	**-2.0**
HMT				IAML		02 25 51.6	
	comp=N,230nm,0.4s						
KAIM	**Kayak Island**	**3.64**	**99**		**Pn**	**02 25 04.2**	**-0.3**
KAIM	**Kayak Island**	**3.64**	**99**	IAML		02 25 53.7	
	comp=N,148nm,1.6s						
KAIM				IAML		02 25 58.0	
	comp=E,164nm,2.0s						
PAX	**Paxson**	**3.68**	**49**		**Pn**	**02 25 04.9**	**-0.3**
BERG	**Berg Lake**	**3.90**	**91**		**Pn**	**02 25 07.5**	**-0.6**
SUCK	**Suckling Hills**	**3.92**	**96**		**Pn**	**02 25 07.8**	**-0.6**
SUCK	**Suckling Hills**	**3.92**	**96**	IAML		02 26 02.8	
	comp=N,129nm,2.4s						
SUCK				IAML		02 26 26.2	
	comp=E,156nm,2.4s						
NEA2	**Nenana**	**4.07**	**15**		**Pn**	**02 25 09.5**	**-0.9**
GRIN	**Grindle Hills**	**4.10**	**92**		**Pn**	**02 25 10.3**	**-0.6**
WRH	**Wood River Hil**	**4.11**	**22**		**Pn**	**02 25 09.8**	**-1.1**
KHIT	**Khitrov Hills**	**4.11**	**90**		**Pn**	**02 25 10.1**	**-1.0**
CRQM	**Cirque**	**4.14**	**86**		**Pn**	**02 25 09.3**	**-2.2**
CRQM	**Cirque**	**4.14**	**86**	IAML		02 25 57.8	
	comp=N,127nm,0.4s						
CRQM				IAML		02 26 12.0	
	comp=E,104nm,0.9s						
MCARA	**McCarthy VSAT**	**4.21**	**77**		**Pn**	**02 25 10.8**	**-1.6**
MCARA	**McCarthy VSAT**	**4.21**	**77**	IAML		02 26 23.3	
	comp=N,143nm,0.7s						
MCARA				IAML		02 26 40.6	
	comp=E,120nm,1.2s						
HDA	**Harding Lake**	**4.29**	**28**		**Pn**	**02 25 12.6**	**-0.8**
HDA	**Harding Lake**	**4.29**	**28**	IAML		02 26 22.4	
	comp=E,73nm,0.7s						
HDA				IAML		02 26 28.4	
	comp=N,79nm,0.5s						
TGL	**Tana Glacier**	**4.29**	**85**		**Pn**	**02 25 11.1**	**-2.4**
TGL	**Tana Glacier**	**4.29**	**85**	IAML		02 26 00.5	
	comp=E,86nm,0.5s						
TGL				IAML		02 26 26.2	
	comp=N,77nm,0.7s						
CCB	**Clear Creek Bu**	**4.32**	**22**		**Pn**	**02 25 12.6**	**-1.2**
MENT	**Mentasta**	**4.34**	**56**	Pn	**Pn**	**02 25 13.2**	**-0.9**
MLY	**Manley**	**4.36**	**5**		**Pn**	**02 25 13.6**	**-0.8**
SII	**Sitkinak Islan**	**4.38**	**199**	Pn	**Pn**	**02 25 13.6**	**-1.0**
KULT	**Kultieth River**	**4.40**	**92**		**Pn**	**02 25 14.3**	**-0.7**
PS08	**TAPS Pump Stn8**	**4.43**	**28**		**Pn**	**02 25 14.5**	**-0.9**
PTPK	**Patty Peak**	**4.47**	**80**		**Pn**	**02 25 14.5**	**-1.5**
TCOL	**CIGO, UAF Yank**	**4.52**	**20**		**Pn**	**02 25 15.5**	**-1.0**
COLA	**College**	**4.52**	**21**		**Pn**	**02 25 15.2**	**-1.3**
MDM	**Murphy Dome**	**4.54**	**18**		**Pn**	**02 25 16.2**	**-0.6**
I23K	**Minto, Yukon-K**	**4.58**	**12**		**Pn**	**02 25 16.3**	**-0.9**
DOT	**Dot Lake**	**4.59**	**47**		**Pn**	**02 25 16.9**	**-0.6**
IL31		**4.62**	**26**		**Pn**	**02 25 16.9**	**-0.9**
ILAR	**Eielson Array**	**4.62**	**26**	P	**Pn**	**02 25 16.9**	**-0.9**
	comp=N,3.9nm,0.3s,baz=211,slow=14,SNR=99						
ILAR				S	**Sn**	**02 26 07.5**	**-2.6**
	comp=N,3.2nm,0.3s,baz=226,slow=18,SNR=5.9						
MESA	**MESA**	**4.79**	**92**	Pn	**Pn**	**02 25 19.9**	**-0.6**
POKR	**Poker Plat Res**	**4.82**	**21**		**Pn**	**02 25 20.0**	**-0.6**
GRNC	**Granite Creek**	**4.82**	**85**		**Pn**	**02 25 18.8**	**-2.0**
SCRK	**Sand Creek**	**4.82**	**44**		**Pn**	**02 25 19.8**	**-1.0**
YAH	**Yahtse**	**4.86**	**90**		**Pn**	**02 25 20.6**	**-0.8**
YAH	**Yahtse**	**4.86**	**90**	IAML		02 26 14.9	
	comp=E,62nm,2.4s						
YAH				IAML		02 26 18.6	
	comp=N,59nm,0.9s						
CTGM	**Chitina Glacie**	**5.01**	**83**		**Pn**	**02 25 22.7**	**-0.7**
CTGM	**Chitina Glacie**	**5.01**	**83**	IAML		02 26 19.8	
	comp=N,52nm,0.4s						
TABL	**Table Mountain**	**5.15**	**88**		**Pn**	**02 25 24.4**	**-1.0**
TABL	**Table Mountain**	**5.15**	**88**	IAML		02 26 25.7	
	comp=N,43nm,0.8s						
LOGN	**Logan Glacier**	**5.18**	**84**		**Pn**	**02 25 24.6**	**-1.1**
BC03		**5.20**	**59**		**Pn**	**02 25 24.8**	**-0.9**
BCAR	**Beaver Creek A**	**5.20**	**59**		**Pn**	**02 25 23.8**	**-2.0**
CHX	**Chaix Hills**	**5.22**	**92**		**Pn**	**02 25 25.4**	**-0.9**
YUK2	**White River**	**5.29**	**73**		**Pn**	**02 25 25.9**	**-1.3**
IM03		**5.39**	**350**		**Pn**	**02 25 26.7**	**-1.6**
IMAR	**Indian Mountai**	**5.39**	**350**		**Pn**	**02 25 27.1**	**-1.3**
BVCY	**Beaver Creek**	**5.40**	**67**		**Pn**	**02 25 27.7**	**-0.8**
YUK3	**Moose Creek**	**5.47**	**74**		**Pn**	**02 25 28.3**	**-1.4**
K27K	**Chicken**	**5.54**	**49**		**Pn**	**02 25 29.3**	**-1.0**
PRP	**Porcupine Dome**	**5.55**	**27**		**Pn**	**02 25 30.1**	**-0.7**
PCA	**Pinnacle**	**5.64**	**91**		**Pn**	**02 25 30.9**	**-1.0**
BCPM	**Bancas Point**	**5.97**	**92**		**Pn**	**02 25 34.9**	**-1.5**
PNL	**Peninsula**	**6.16**	**94**		**Pn**	**02 25 37.7**	**-1.2**
EGAK	**Eagle**	**6.29**	**45**		**Pn**	**02 25 39.6**	**-1.0**
COLD	**Coldfoot**	**6.58**	**5**		**Pn**	**02 25 43.2**	**-1.4**
DAWY	**Dawson**	**6.59**	**54**		**Pn**	**02 25 43.6**	**-1.1**
BM03	**Burnt Mountain**	**7.40**	**21**		**Pn**	**02 25 54.0**	**-1.8**
BMAR	**Burnt Mountain**	**7.41**	**21**		**Pn**	**02 25 54.9**	**-1.1**
TOLK	**Toolik Lake Re**	**8.02**	**5**	Pn	**Pn**	**02 26 03.6**	**-0.6**
WHY	**Whitehorse**	**8.19**	**83**		**Pn**	**02 26 04.5**	**-2.1**
INK	**Inuvik**	**10.84**	**38**	P	**Pn**	**02 26 42.2**	**-0.5**
	comp=N,0.1nm,0.3s,baz=211,slow=15,SNR=8.5						
INK				S	**Sn**	**02 28 46.0**	**+4.0**
	comp=N,0.1nm,0.3s,baz=230,slow=8.3,SNR=1.8						
YKA	**Yellowknife Ar**	**17.52**	**68**	P	**Pn**	**02 28 08.4**	**-1.0**
	comp=N,0.1nm,0.3s,baz=275,slow=9.7,SNR=9.7						
YKA				ScP	**ScP**	**02 36 11.1**	**-1.6**
	comp=N,0.0nm,0.3s,baz=289,slow=1.9,SNR=3.6						
ELK	**Elko**	**29.87**	**115**	P	**P**	**02 30 12.9**	**+2.1**
	comp=N,1.1nm,0.8s,baz=306,slow=11,SNR=6.5						
NVAR	**Mina Array Bea**	**30.46**	**122**	P	**P**	**02 30 18.1**	**+2.1**
	comp=N,0.6nm,0.6s,baz=320,slow=9.1,SNR=8.1						
NVAR	**Mina Array Bea**	**30.46**	**122**	P	**P**	**02 30 16.1**	**0.0**
PDAR	**Pinedale Array**	**30.89**	**106**	P	**P**	**02 30 20.8**	**+1.1**
	comp=N,0.2nm,0.6s,baz=338,slow=6.8,SNR=2.5						
ULM	**Lac du Bonnet**	**32.27**	**83**	P	**P**	**02 30 31.8**	**+0.3**
	comp=N,1.5nm,0.8s,baz=343,slow=3.4,SNR=3.2						
TXAR	**Lajitas Array**	**44.58**	**113**	P	**P**	**02 32 16.1**	**+1.3**
	comp=N,0.3nm,0.4s,baz=320,slow=7.6,SNR=5.9						
SONM	**Songino Array**	**54.95**	**306**	P	**P**	**02 33 33.7**	**+0.3**
	comp=N,0.9nm,0.7s,baz=42,slow=6.6,SNR=5.6						
ZALV	**Zalesovo Beam**	**57.23**	**324**	P	**P**	**02 33 48.9**	**-0.4**
	comp=N,0.2nm,0.3s,baz=40,slow=7.6,SNR=1.6						

*IDC **08** 02:27:39.8±1.0, 11°.86N×43°.78W, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.7/42, mbtmp3.9/11, ML4.2/1, MS3.6/10, Ms1 3.7/10, ms1mx3.4/36, Error ellipse: s-maj=32.4km s-min=17.8km az=180.0*
*NEIC **08** 02:27:41.8±0.6, 11°.7N±0°.2×43°.8W±0°.1, h10km±1km, mb4.5/15, Error ellipse: s-maj=28.2km s-min=18.3km az=163.0*
ISC 08 02:27:41.6±0.7**, 11°.8N**±0°.1×**43°.8W**±0°.1**, h10**km**, n40,** σ0^{s}**98**/28**, mb4.1**/14**, MS3.6**/8**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**10.98**	**234**	Pn	**Pn**	**02 30 18.6**	**-0.3**
	1.7nm,0.3s,baz=48,slow=16,SNR=51						
MDP				Sn	Sn	02 32 08.9	-13

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.2nm,0.3s,baz=80,slow=12,SNR=1.2						
MDP				LR	LR	02 34 05.0	
	comp=Z,160nm,19.4s,baz=58,slow=35						
H05S1	Guadeloupe/Mar	16.82	281	T	T	02 48 50.0	
	SNR=5.9						
RCBR	Riachuelo	19.15	155	LR	LR	02 37 27.0	
	comp=Z,129nm,19.3s,baz=318,slow=30						
PTGA	Pitinga	20.31	233	P	P	02 32 19.5	+1.5
	1.3nm,0.3s,baz=54,slow=14,SNR=4.2						
PTGA				LR	LR	02 39 19.9	
	comp=Z,142nm,20.9s,baz=54,slow=34						
ROSC	El Rosal	30.97	260	LR	LR	02 47 00.4	
	comp=Z,129nm,19.4s,baz=83,slow=37						
H10N3	ASCENSION HYDR	35.03	122	T	T	03 11 51.8	
	baz=303,slow=75,SNR=3.1						
H10N2	ASCENSION HYDR	35.04	122	T	T	03 11 53.2	
	baz=303,slow=75,SNR=4.5						
H10N1	ASCENSION HYDR	35.05	122	T	T	03 11 53.5	
	baz=303,slow=75,SNR=5.0						
H10S3	ASCENSION HYDR	35.52	124	T	T	03 12 23.9	
	baz=276						
H10S2	ASCENSION HYDR	35.54	124	T	T	03 12 36.8	
	baz=304						
LPAZ	La Paz	36.84	221	LR	LR	02 50 29.5	
	comp=Z,74nm,19.0s,baz=38,slow=37						
LPAZ	La Paz	36.84	221	P	P	02 34 50.4	-0.6
DBIC	Dimbokro	38.73	94	P	P	02 35 04.7	-1.6
	4.1nm,0.9s,baz=270,slow=6.1,SNR=2.7						
DBIC				LR	LR	02 47 12.1	
	comp=Z,71nm,21.9s,baz=224,slow=30						
KOWA	Kowa	38.79	81	P	P	02 35 06.9	+0.1
	4.3nm,0.9s,baz=278,slow=7.4,SNR=8.9						
KOWA	Kowa	38.79	81	P	P	02 35 07.0	+0.2
TOA0	Torodi Ar. Sit	44.38	83	P	P	02 35 52.8	+0.1
TORD	Torodi Ar. Bea	44.38	83	P	P	02 35 51.7	-1.0
	3.9nm,0.9s,baz=281,slow=7.6,SNR=10.0						
TORD	Torodi Ar. Bea	44.38	83	P	P	02 35 52.9	+0.1
ESDC	Sonseca Array	44.82	45	P	P	02 35 56.4	+0.5
	0.8nm,0.9s,baz=246,slow=7.3,SNR=5.5						
ESDC				LR	LR	02 51 23.3	
	comp=Z,129nm,19.2s,baz=355,slow=32						
ESDC	Sonseca Array	44.82	45	IAmb	IAmb	02 35 57.0	
	comp=Z,7.2nm,1.5s						
W39A	Magazine	50.82	306	P	P	02 36 43.6	+1.0
W39A				IAmb	IAmb	02 36 44.6	
	comp=Z,7.0nm,1.1s						
L34A	Svendsen Farm,	54.65	313	P	P	02 37 11.4	+0.7
K31A	O'Neill	56.53	314	P	P	02 37 24.3	0.0
ULM	Lac du Bonnet	57.21	323	P	P	02 37 27.1	-1.9
	comp=Z,1.5nm,0.8s,baz=108,slow=5.4,SNR=3.5						
MSTX	Muleshoe	57.87	303	P	P	02 37 34.9	+0.8
MSTX				IAmb	IAmb	02 37 37.9	
	comp=Z,4.8nm,0.9s						
TXAR	Lajitas Array	58.15	297	P	P	02 37 35.8	-0.3
	comp=Z,0.1nm,0.7s,baz=99,slow=9.2,SNR=1.8						
GDL2	Guadalupe Moun	58.99	300	P	P	02 37 42.2	+0.3
CLL	Collm	60.37	37	eP	P	02 37 52.0	+1.1
SDCO	Great Sand Dun	60.58	307		P	02 37 53.7	+0.7
SDCO				IAmb	IAmb	02 37 54.8	
	comp=Z,3.5nm,1.1s						
ISCO	Idaho Springs	60.97	309		P	02 37 56.6	+0.9
ISCO				IAmb	IAmb	02 37 57.8	
	comp=Z,3.8nm,0.9s						
PV01	Paradox Valley	63.03	307	P	P	02 38 10.7	+1.3
PV13	Radium Mtn., P	63.23	307	P	P	02 38 12.3	+1.6
PDAR	Pinedale Array	64.35	312	P	P	02 38 17.3	-0.7
	comp=Z,0.4nm,0.8s,baz=87,slow=7.5,SNR=3.6						
PDAR				LR	LR	03 03 15.6	
	comp=Z,49nm,21.0s,baz=42,slow=33						
YHL	Hebgen Lake	65.79	314	P	P	02 38 28.2	+0.7
YHL				IAmb	IAmb	02 38 29.9	
	comp=Z,4.9nm,1.3s						
SPUT	South Promonto	66.32	310	P	P	02 38 31.9	+1.1
BGU	Big Grassy Mou	66.73	310	P	P	02 38 34.1	+0.7
NVAR	Mina Array Bea	70.69	307	LR	LR	03 07 54.9	
	comp=Z,60nm,19.9s,baz=192,slow=34						
YKA	Yellowknife Ar	70.81	332	P	P	02 38 56.7	-1.4
	comp=Z,0.4nm,0.8s,baz=103,slow=6.7,SNR=4.5						
BOSA	Boshof	77.79	123	LR	LR	03 07 42.8	
	comp=Z,88nm,18.6s,baz=196,slow=31						
ILAR	Eielson Array	84.96	335	P	P	02 40 17.1	+0.3
	comp=Z,0.5nm,0.9s,baz=72,slow=4.7,SNR=4.7						

*NEIC **08** 02:54:55.7±1.1, 19°.52N±0°.02×66°.07W±0°.05, h1km±5km, Error ellipse: s-maj=7.2km s-min=2.2km az=93.0*
*RSPR **08** 02:54:57.0, 19°.62N×66°.02W, h92km±11km, MD3.7/10*
*IDC **08** 02:54:56.0±0.8, 19°.45N×66°.09W, h0km, mb3.5/8, mb1 3.9/10, mb1mx3.6/40, mbtmp3.6/10, ML2.6/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/32, Error ellipse: s-maj=23.9km s-min=15.3km az=79.0*
ISC 08 02:54:58.0±0.7**, 19°.51N**±0°.05×**66°.08W**±0°.05**, h14**km**, n78,** σ1s05/74**, mb3.5**/7**, 14C-1D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	1.11	203	⇑eP	Pb	02 55 18.6	-0.5
EMPR	Esperanza - Ma	1.11	203	eS	Sn	02 55 36.4	+2.1
EMPR	Esperanza - Ma	1.11	203		Pb	02 55 18.6	-0.5
EMPR				IAML		02 55 41.6	
	comp=E,2µm,1.1s						
EMPR	Esperanza - Ma	1.11	203		Sn	02 55 36.4	+2.1
EMPR	Esperanza - Ma	1.11	203	IAML		02 55 35.1	
	comp=N,1µm,0.9s						
GCPR	Guaynabo City	1.19	180	⇑eP	Pn	02 55 19.1	-1.3
GCPR	Guaynabo City	1.19	180	eS	Sg	02 55 37.8	+1.1
GCPR	Guaynabo City	1.19	180		Pn	02 55 19.1	-1.3
GCPR					Sg	02 55 37.8	+1.1
GCPR	Guaynabo City	1.19	180	IAML		02 55 43.0	
	comp=E,756nm,0.8s						
CBYP	Canovanas	1.25	170	⇑eP	Pn	02 55 20.2	-0.9
CBYP	Canovanas	1.25	170		Pn	02 55 20.2	-0.9
CBYP	Canovanas	1.25	170	IAML		02 55 43.1	
	comp=N,1µm,0.2s						
CBYP				IAML		02 55 46.6	
	comp=E,1µm,0.2s						
AOPR	Arecibo Observ	1.32	209	⇑eP	Pn	02 55 21.3	-0.8
AOPR	Arecibo Observ	1.32	209	eS	Sg	02 55 41.8	+1.1
AOPR	Arecibo Observ	1.32	209		Pn	02 55 21.3	-0.8
AOPR					Sg	02 55 41.8	+1.1
HUMP	Col San Antoni	1.38	171	⇑eP	Pn	02 55 21.9	-0.9
HUMP	Col San Antoni	1.38	171		Pn	02 55 21.9	-0.9
HUMP	Col San Antoni	1.38	171	IAML		02 55 42.7	
	comp=E,470nm,0.7s						
SJG	San Juan	1.39	183	Pn	Pn	02 55 22.2	-0.9
	comp=E,37nm,0.3s,baz=12,slow=8.7,SNR=120						
SJG				Sn	Sn	02 55 40.5	-0.7
	comp=E,158nm,0.3s,baz=260,slow=12,SNR=17						
SJG	San Juan	1.39	183		Pn	02 55 22.1	-0.9
SJG				IAML		02 55 42.0	
	comp=E,526nm,0.8s						
SJG				IAML		02 55 45.2	
	comp=E,727nm,0.7s						
SJG	San Juan	1.39	183	⇓eP	Pn	02 55 22.0	-1.0
CUPR	Culebra, Puert	1.41	148	⇑eP	Pn	02 55 22.7	-0.6
CUPR	Culebra, Puert	1.41	148		Pn	02 55 22.7	-0.6
AGPR	Aguadilla, PR	1.43	224	⇑eP	Pn	02 55 22.6	-0.9
AGPR	Aguadilla, PR	1.43	224		Pn	02 55 22.6	-0.9
AGPR	Aguadilla, PR	1.43	224	IAML		02 56 08.6	
	comp=N,563nm,1.1s						
AGPR				IAML		02 56 26.1	
	comp=E,529nm,1.0s						
PDPR	Patillas Dam,	1.48	178		Pn	02 55 23.4	-0.9
PDPR				IAML		02 55 47.8	
	comp=E,434nm,0.7s						
MTP	Monte Pirata	1.49	160	⇑eP	Pn	02 55 23.8	-0.6
MTP	Monte Pirata	1.49	160		Pn	02 55 23.8	-0.6
CELP	Cerrillos	1.50	199	⇑eP	Pn	02 55 24.1	-0.5
CELP	Cerrillos	1.50	199		Pn	02 55 24.1	-0.5
IGPR	InterUniversit	1.54	181	⇑eP	Pn	02 55 24.4	-0.6
OBIP	Obispado Ponce	1.54	199	⇑eP	Pn	02 55 23.7	-1.5
OBIP	Obispado Ponce	1.54	199	eS	Sn	02 55 45.2	+0.3
OBIP	Obispado Ponce	1.54	199		Pn	02 55 23.7	-1.5
OBIP					Sn	02 55 45.2	+0.3
OBIP	Obispado Ponce	1.54	199	IAML		02 55 48.5	
	comp=N,661nm,0.8s						
OBIP				IAML		02 56 16.4	
	comp=E,488nm,1.1s						
LSP	Las Mesas	1.64	216	⇑eP	Pn	02 55 25.7	-0.7
LSP	Las Mesas	1.64	216		Pn	02 55 25.7	-0.7
MPR	Mayaguez	1.64	218		Pn	02 55 25.6	-0.8
ICMP	Isla Caja de M	1.67	195		Pn	02 55 26.6	-0.3
ICMP				IAML		02 56 01.8	
	comp=N,440nm,0.8s						
ICMP				IAML		02 56 09.5	
	comp=E,743nm,0.9s						
GBPR	Guanica, Bosqu	1.71	207	⇑eP	Pn	02 55 27.5	+0.2
GBPR	Guanica, Bosqu	1.71	207		Pn	02 55 27.5	+0.2
MLPR	Magueyes Islan	1.79	211	⇑eP	Pn	02 55 28.0	-0.4
MLPR	Magueyes Islan	1.79	211	eS	Sn	02 55 51.4	+0.4
MLPR	Magueyes Islan	1.79	211		Pn	02 55 28.0	-0.4
MLPR					Sn	02 55 51.4	+0.4
MLPR	Magueyes Islan	1.79	211	IAML		02 56 16.6	
	comp=N,252nm,1.1s						
CDVI	St. Croix	2.15	144		Pn	02 55 32.6	-0.8
DR12	Loma Pena Alta	3.20	258		Pn	02 55 47.1	-0.9
BANI	BANI	4.20	255	Pn	Pn	02 56 00.5	-1.3
SC01	Santiago de lo	4.39	270	Pn	Pn	02 56 02.6	-1.6
SDDR	Presa de Saban	4.95	265		Pn	02 56 11.7	-0.4
SDDR				IAML		02 58 48.1	
	comp=N,86nm,1.2s						
SDDR	Presa de Saban	4.95	265	eP	Pn	02 56 12.7	+0.6
SDV	Santo Domingo	11.45	203	Pn	Pn	02 57 40.8	-0.6
	comp=N,0.2nm,0.3s,baz=10.0,slow=17,SNR=2.0						
SDV				LR	LR	03 02 21.9	
	comp=N,53nm,19.9s,baz=97,slow=39						
PAMC	Pamplona, Colo	13.70	209	eP	P	02 58 19.6	-1.6
UREC	San Jos de Ur	14.86	219	eP	Pn	02 58 27.3	-0.6
RUSC	La Rusia	15.16	208	eP	Pn	02 58 33.1	+0.9
SPBC	San Pablo de B	15.82	211	eP	P	02 58 43.3	-1.1
NORC	Norcasia	16.29	213	eP	Pn	02 58 46.3	-0.3
CHIC	Chingaza	16.57	208	eP	P	02 58 54.8	+1.8
ROSC	El Rosal	16.65	210	Pn	Pn	02 58 52.3	+0.8
	comp=N,0.8nm,0.3s,baz=51,slow=22,SNR=1.6						
CBOC	Ciudad Bolivar	16.66	217	eP	Pn	02 58 51.2	-0.1
GUY2C	Guyana, Caldas	16.84	214	eP	Pn	02 58 54.1	+0.1
RREF	El Recreo	17.10	213	eP	Pn	02 58 57.8	+0.4
TOLC	Tolima	17.36	212	eP	Pn	02 58 57.9	-2.4
YOTC	Yotoco, Valle	18.40	214	eP	Pn	02 59 13.5	+0.5
POPC	Popayan, Colom	19.80	213	eP	P	02 59 26.0	-2.4
SOTA	Rioblanco	20.11	212	eP	Pn	02 59 34.5	+0.6
BBAC	Balboa, Cauca	20.53	214	eP	P	02 59 35.8	-0.6
TEIG	Tepich	20.89	276	LR	LR	03 09 20.6	
	comp=N,69nm,18.0s,baz=108,slow=41						
PTGA	Pitinga	20.99	163	P	P	02 59 39.9	-1.2
	comp=N,1.7nm,0.6s,baz=354,slow=15,SNR=6.1						
PTGA				LR	LR	03 07 30.6	
	comp=N,65nm,21.1s,baz=120,slow=36						
TXAR	Lajitas Array	35.47	293	P	P	03 01 54.6	+0.2
	comp=N,0.7nm,0.7s,baz=113,slow=10,SNR=12						
PDAR	Pinedale Array	43.23	312	P	P	03 02 59.2	0.0
	comp=N,0.2nm,0.5s,baz=108,slow=5.8,SNR=2.7						
NVAR	Mina Array Bea	48.75	304	P	P	03 03 43.6	+0.8
	comp=N,0.4nm,0.8s,baz=92,slow=14,SNR=4.1						
YKA	Yellowknife Ar	54.26	335	P	P	03 04 21.9	-1.4
	comp=N,0.5nm,1.0s,baz=108,slow=8.0,SNR=4.1						
ESDC	Sonseca Array	56.52	55	P	P	03 04 40.9	+0.8
	comp=N,0.2nm,0.5s,baz=268,slow=7.5,SNR=4.9						
TORD	Torodi Ar. Bea	65.00	84	P	P	03 05 38.6	+0.5
	comp=N,1.0nm,0.8s,baz=282,slow=7.2,SNR=2.4						
ILAR	Eielson Array	68.62	333	P	P	03 06 03.0	+2.5
	comp=N,0.3nm,0.9s,baz=113,slow=4.2,SNR=2.5						
ASAR	Alice Springs	160.97	254	PKPab	PKPab	03 15 40.2	-1.3
	comp=N,0.5nm,0.9s,baz=113,slow=4.7,SNR=4.8						

*SKO **08** 03:05:24.3, 40°.84N×22°.29E, h15km*
*ATH **08** 03:05:25.1, 40°.89N×22°.28E, h13km±1km, ML2.6/1, Error ellipse: s-maj=2.7km s-min=1.1km az=340.0*
ISC 08 03:05:25.2±0.9**, 40°.85N**±0°.03×**22°.28E**±0°.03**, h10**km±7km**, n20,** σ0s49/27**, 1C-3D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRG	Griva	0.14	40	P	Pg	03 05 28.2	-0.2
GRG				S	Sg	03 05 30.6	0.0
GRG				AML	AML	03 05 30.8	
	comp=N,8474µm,0.1s						
GRG				AML	AML	03 05 31.0	
	comp=E,5724µm,0.1s						
GRG	Griva	0.14	40	⇓iPg	Pg	03 05 28.2	-0.2
GRG				i Sg	Sg	03 05 30.6	0.0
VAY	Valandovo	0.52	25	⇓iPg	Pg	03 05 34.9	-0.3
VAY				i Sg	Sg	03 05 42.3	+0.3
VAY				eLg	Lg	03 05 42.6	
	comp=E,179nm,0.3s						
THE	Thessaloniki	0.56	113	P	Pg	03 05 36.1	+0.1
THE	Thessaloniki	0.56	113	⇓iPg	Pg	03 05 36.2	+0.1
HORT	Hortiatis	0.67	112	P	Pg	03 05 38.1	0.0
KZN	Kozani	0.67	216	P	Pg	03 05 38.0	-0.2
KZN				S	Sb	03 05 48.3	-0.1
LIT	Litokhoron	0.77	168	P	Pb	03 05 40.3	-0.3
LIT	Litokhoron	0.77	168	i Pg	Pb	03 05 41.0	+0.4
SOH	Sokhos	0.81	92	P	Pg	03 05 40.4	-0.4
SOH	Sokhos	0.81	92	i Pg	Pg	03 05 40.8	-0.1
SOH				i Sg	Sb	03 05 53.1	+0.6
PLG	Polygyros	1.00	118	P	Pg	03 05 44.1	-0.4
SRS	Serrai	1.03	75	P	Pg	03 05 43.8	-1.1
SRS	Serrai	1.03	75	⇑iPg	Pg	03 05 44.2	-0.6
SRS				i Sg	Sn	03 05 59.4	-0.7
NEST	Nestorio	1.04	245	P	Pg	03 05 44.6	-0.5
KPRO	Kipourio	1.14	218	P	Pb	03 05 46.7	-0.3
OHR	Ohrid	1.15	283	i Pg	Pn	03 05 47.8	+0.4
OHR				i Sg	Sg	03 06 03.2	+0.8
OHR				eLg	Lg	03 06 04.1	
	comp=N,37nm,0.8s						
THL	Klokotos Trika	1.30	189	P	Pn	03 05 49.4	0.0
PRZK	Prizren	1.78	320	i Pn	Pb	03 05 57.6	-0.3
VTS	Vitosha	1.90	22	i Pn	Pn	03 05 58.8	+0.9

*IASPEI **08** 03:22:29.9±0.8, 44°.97N±0°.02×6°.68E±0°.02, h9km±5km, Error ellipse: s-maj=2.7km s-min=2.2km az=65.7, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*ROM **08** 03:22:29.8±0.1, 44°.964N±0°.006×6°.66E±0°.01, h10km, ML2.2/13, Error ellipse: s-maj=0.9km s-min=0.6km az=254.0*
*LDG **08** 03:22:30.7±0.0, 44°.96N×6°.68E, h2km, Md2.7/1, Ml2.5/25, Error ellipse: s-maj=1.1km s-min=0.8km az=67.0*
*STR **08** 03:22:30.2±0.2, 45°N±1°×°±°, h1km, MLv2.2/14, MLv2.5/1, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*GEN **08** 03:22:30.3, 44°.97N×6°.67E, h6km±1km, Ml2.2*
ISC 08 03:22:29.8±0.8**, 44°.97N**±0°.01×**6°.66E**±0°.01**, h12**km±4km**, n102,** σ1s18/176**, 2C-1D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNI	Bardonecchia	0.08	10	⇓P	Pg	03 22 32.6	0.0
BNI				S	Sg	03 22 34.0	-0.6
BNI				AML	AML		
	comp=N,1000µm,0.6s						
BNI				AML	AML		
	comp=N,1000µm,0.6s						
BNI				AML	AML		
	comp=E,1210µm,0.4s						
BNI				AML	AML		
	comp=E,932µm,0.4s						
BNI				AML	AML		
	comp=N,1260µm,0.6s						
RRL	Rocca Remolon	0.11	119	P	Pg	03 22 32.8	-0.1
RRL				S	Sg	03 22 34.7	-0.6
RRL	Rocca Remolon	0.11	119	⇑P	Pg	03 22 32.8	-0.1
RRL				S	Sg	03 22 34.6	-0.6
RRL				AML	AML		
	comp=E,4275µm,0.6s						
RRL				AML	AML		
	comp=N,2760µm,0.2s						
OGMO	Fort Saint-Gob	0.24	5	Pg	Pg	03 22 35.3	+0.5
OGMO				Sg	Sg	03 22 38.4	+0.2
MBDF	Montbardon	0.26	162	ePg	Pg	03 22 35.0	-0.2
MBDF				eSg	Sg	03 22 38.6	-0.3
	comp=N,132nm,0.2s						
GDM	Grand'Maison	0.45	301	Pg	Pb	03 22 39.3	-0.5
GDM				Sg	Sg	03 22 45.2	+0.6
BHB	Bricherasio	0.45	107	P	Pg	03 22 38.9	+0.3
BHB				S	Sg	03 22 45.0	+0.4
BHB	Bricherasio	0.45	107	P	Pg	03 22 39.0	+0.3
BHB				S	Sg	03 22 45.0	+0.4
BHB				AML	AML		
	comp=E,391µm,0.3s						
BHB				AML	AML		
	comp=N,421µm,1.0s						
RSP	Reno Superiore	0.47	68	P	Pg	03 22 39.4	+0.4
RSP				S	Sg	03 22 45.7	+0.5
RSP	Reno Superiore	0.47	68	P	Pg	03 22 39.4	+0.4
RSP				S	Sg	03 22 45.6	+0.5
RSP				AML	AML		
	comp=N,356µm,0.4s						
RSP				AML	AML		
	comp=E,554µm,0.2s						
SURF	Saint Ours	0.50	167	Pg	Pb	03 22 39.9	-0.8
OGAG	Argentiere	0.52	189	Pg	Pg	03 22 34.4	-5.7
OGAG				Sg	Sg	03 22 37.1	-10
LPG	La Plagne	0.53	7	ePg	Pg	03 22 40.7	+0.5
LPG				eSg	Sg	03 22 47.9	+0.6
LPL	La Plagne	0.55	5	ePg	Pg	03 22 41.0	+0.5
LPL				eSg	Sg	03 22 48.8	+1.0
LPL				eSn	Sn	03 22 53.1	+0.2
ORIF	Oris-en-Rattie	0.56	265	ePg	Pb	03 22 41.0	-0.5
ORIF				eSg	Sg	03 22 48.1	+0.1
ORIF	Oris-en-Rattie	0.56	265	P	Pb	03 22 41.1	-0.5
ORIF				S	Sg	03 22 48.1	+0.1
ORIF				AML	AML		
	comp=E,214µm,0.2s						
ORIF				AML	AML		
	comp=N,158µm,1.5s						
LSD	Lago del Serru	0.59	34	P	Pg	03 22 41.9	+0.5
LSD				S	Sg	03 22 49.8	+0.5
LSD	Lago del Serru	0.59	34	P	Pg	03 22 41.8	+0.5
LSD				S	Sg	03 22 49.5	+0.2
LSD				AML	AML		
	comp=E,642µm,0.3s						
LSD				AML	AML		
	comp=N,367µm,0.1s						
GRN	Grenoble	0.70	293	Pg	Pb	03 22 44.5	+0.4
GRN				Sg	Sb	03 22 54.4	+0.7
RSL	Roselend	0.72	358	Pg	Pg	03 22 44.3	+0.6
ISO	Isola	0.84	160	Pg	Pb	03 22 45.9	-0.4
ISO				Sg	Sb	03 22 57.3	-0.3
MRGE	Morge	0.85	19	P	Pg	03 22 46.5	+0.3
MRGE				AML	AML		
	comp=E,65µm,1.0s						
MRGE				AML	AML		
	comp=N,65µm,1.5s						
MRGE				AML	AML		
	comp=E,66µm,1.0s						
MRGE				AML	AML		
	comp=N,65µm,1.5s						
STV	Sant Anna di V	0.87	146	P	Pb	03 22 46.5	-0.4
STV				S	Sb	03 22 58.0	-0.5
STV	Sant Anna di V	0.87	146	P	Pg	03 22 46.2	-0.3
STV				S	Sg	03 22 57.6	-0.3
STV				AML	AML		
	comp=E,149µm,0.2s						
STV				AML	AML		
	comp=N,104µm,0.2s						
STV				AML	AML		
	comp=N,104µm,0.2s						
STV				AML	AML		
	comp=E,148µm,0.2s						
OGDI	Digne	0.90	197	Pg	Pn	03 22 48.8	+0.5
CIRO	Champorcher	0.90	45	P	Pg	03 22 47.3	0.0
CIRO				S	Sb	03 22 59.9	+0.3
CIRO	Champorcher	0.90	45	P	Pg	03 22 47.2	0.0
CIRO				S	Sg	03 22 58.8	-0.2
CIRO				AML	AML		
	comp=E,106µm,0.2s						
CIRO				AML	AML		
	comp=N,76µm,0.4s						
MONC	Moncucco Torin	0.91	83	P	Pb	03 22 48.0	+0.6
MONC				AML	AML		
	comp=E,234µm,1.2s						
MONC				AML	AML		
	comp=N,188µm,1.0s						
ENR	Entracque	0.92	144	P	Pb	03 22 47.4	-0.4
ENR				S	Sb	03 22 59.9	-0.2
ENR	Entracque	0.92	144	P	Pg	03 22 47.2	-0.4
ENR				S	Sb	03 22 59.8	-0.2
OGSM	Saint Maurice	0.93	314	Pg	Pb	03 22 48.7	+0.8
OGSM				Sg	Sb	03 23 01.1	+0.9
TRAV	Traversella	0.94	55	P	Pg	03 22 48.2	+0.2
TRAV				S	Sg	03 23 00.8	+0.5
TRAV	Traversella	0.94	55	P	Pg	03 22 48.0	+0.1
TRAV				S	Sg	03 23 00.4	+0.2
TRAV				AML	AML		
	comp=N,191µm,1.4s						
TRAV				AML	AML		
	comp=E,202µm,0.2s						
BLAF	les Blancs	1.11	203	Pg	Pn	03 22 52.1	+0.9
BLAF				Sg	Sn	03 23 07.0	+0.6
BLAF				Sn	Sb	03 23 09.5	+4.1
GBOS	Grotte di Boss	1.12	130	P	Pg	03 22 50.6	-0.6
GBOS				S	Sg	03 23 05.3	-0.5
GBOS	Grotte di Boss	1.12	130	P	Pg	03 22 50.6	-0.6
GBOS				S	Sg	03 23 04.8	-1.0
GBOS				AML	AML		
	comp=N,100µm,0.6s						
GBOS				AML	AML		
	comp=E,77µm,0.4s						
TURF	col de Turini	1.13	152	Pg	Pn	03 22 51.6	0.0
TURF				Sg	Sb	03 23 06.3	+0.3
MLYF	Mely	1.17	213	Pn	Pn	03 22 54.3	+2.2
MLYF				Sn	Sn	03 23 11.4	+3.3
SAOF	Saorge	1.18	147	Pg	Pb	03 22 52.1	0.0
SAOF				Sg	Sn	03 23 08.0	-0.1
ESCA	l'Escarene	1.25	156	Pg	Pn	03 22 54.0	+0.8
ESCA				Sg	Sn	03 23 11.1	+1.1
BSTF	la Bastide-des	1.31	214	Pg	Pg	03 22 57.1	+2.1
BSTF				Sg	Sn	03 23 14.9	+3.4
OG35	Corcelles	1.32	325	Pg	Pg	03 22 55.9	+0.8
OG35				Sg	Sn	03 23 14.1	+2.5
RORO	Rocca Rossa	1.32	130	⇑P	Pn	03 22 54.4	+0.3
RORO				S	Sb	03 23 10.7	-0.8
RORO				AML	AML		
	comp=E,67µm,0.2s						
RORO				AML	AML		
	comp=N,96µm,1.5s						
RUSF	Rustrel	1.33	220	Pg	Pg	03 22 56.5	+1.1
QLNO	Quiliano	1.37	118	P	Pb	03 22 55.3	-0.1
QLNO				S	Sb	03 23 12.5	-0.3
IMI	Imperia	1.38	140	P	Pb	03 22 55.5	-0.1
IMI				S	Sg	03 23 13.4	-0.8
IMI				AML	AML		
	comp=E,196µm,0.5s						
IMI				AML	AML		
	comp=N,216µm,0.9s						
FRF	La Foret Royal	1.41	180	ePg	Pg	03 22 57.0	+0.1
FRF				eS	Sg	03 23 16.3	+1.1
	comp=N,36nm,0.2s						
VIVF	Saint-Julien-l	1.42	266	ePg	Pg	03 22 57.2	+0.2
VIVF				eSg	Sg	03 23 16.0	+0.7
	comp=N,27nm,0.3s						
MMK	Mattmark	1.42	40	P	Pn	03 22 56.3	+0.7
MMK				S	Sn	03 23 15.6	+1.2
ARTF	Artigues	1.51	204	Pg	Pg	03 22 58.5	-0.4
LMR	La Mourre	1.64	184	ePg	Pg	03 23 00.7	-0.6
LMR				eSg	Sg	03 23 21.9	-0.7
	comp=N,15nm,0.2s						
CABF	La Chapelle	1.69	347	ePg	Pg	03 23 03.0	+0.8
CABF				eSn	Sn	03 23 21.3	+0.5
CABF				eSg	Sg	03 23 24.8	+0.7
	comp=N,12nm,0.4s						
LASF	Ste Croix	2.19	247	ePn	Pn	03 23 06.7	+0.6
LASF	Ste Croix	2.19	247	ePg	Pg	03 23 11.6	-0.3
LASF				eSn	Sn	03 23 32.5	-0.7
	comp=N,4.2nm,0.3s						
CHMF	Charmoille	2.28	360	Pn	Pn	03 23 09.3	+2.0
SMF	Signal de Mont	2.58	311	ePn	Pn	03 23 12.1	+0.6
SMF	Signal de Mont	2.58	311	ePg	Pg	03 23 18.6	-0.7
SMF				eSn	Sn	03 23 42.6	-0.2
SMF				eSg	Sg	03 23 52.1	-0.7
	comp=N,7.6nm,0.2s						
PYM	Petit Puy Mans	2.69	288	Pn	Pn	03 23 14.8	+1.8
PYM	Petit Puy Mans	2.69	288	Pg	Pg	03 23 21.0	-0.3
PYM	Petit Puy Mans	2.69	288	Pn	Pn	03 23 14.8	+1.8
AGO	Saint Agoulin	2.71	295	Pn	Pn	03 23 15.8	+2.7
HINF	Hinteralfeld	2.85	3	ePn	Pn	03 23 15.6	+0.5
HINF	Hinteralfeld	2.85	3	ePg	Pg	03 23 24.1	-0.3
HINF				eSn	Sn	03 23 48.2	-1.2
HINF				eSg	Sg	03 24 01.0	-0.3
	comp=N,3.6nm,0.4s						
AVF	Avril sur Loir	2.94	309	ePn	Pn	03 23 16.7	+0.4
AVF	Avril sur Loir	2.94	309	ePg	Pg	03 23 25.7	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AVF				eSg	Sg	03 24 03.7	-0.5
	comp=N,5.3nm,0.4s						
PGF	**Pioggiola**	**2.96**	**144**	ePn	**Pn**	**03 23 18.0**	**+1.3**
PGF				eSn	**Sn**	**03 23 49.6**	**-2.6**
	comp=N,5.6nm,0.5s						
LOR	**Lormes**	**3.01**	**321**	ePn	**Pn**	**03 23 18.0**	**+0.7**
	baz=136						
LOR	**Lormes**	**3.01**	**321**	ePg	**Pg**	**03 23 27.0**	**-0.5**
	baz=144						
LOR				eSn	**Sn**	**03 23 51.7**	**-1.6**
LOR				eSg	**Sg**	**03 24 04.6**	**-1.9**
	comp=N,2.9nm,0.3s						
SSF	**Saint Saulge**	**3.03**	**315**	ePn	**Pn**	**03 23 18.4**	**+0.8**
SSF	**Saint Saulge**	**3.03**	**315**	ePg	**Pg**	**03 23 26.5**	**-1.4**
SSF				eS	**Sn**	**03 23 57.9**	**+4.1**
SSF				eSg	**Sg**	**03 24 05.2**	**-1.9**
	comp=N,5.2nm,0.4s						
HAU	**Haudompre**	**3.04**	**356**	ePn	**Pn**	**03 23 18.9**	**+1.1**
HAU	**Haudompre**	**3.04**	**356**	ePg	**Pg**	**03 23 26.9**	**-1.2**
HAU				eSn	**Sn**	**03 23 52.8**	**-1.3**
HAU				eSg	**Sg**	**03 24 06.4**	**-1.1**
	comp=N,5.8nm,0.3s						
BGF	**Bois d'Agland**	**3.10**	**302**	ePn	**Pn**	**03 23 19.4**	**+0.8**
BGF	**Bois d'Agland**	**3.10**	**302**	ePg	**Pg**	**03 23 28.1**	**-1.1**
BGF				eSg	**Sg**	**03 24 08.8**	**-0.6**
	comp=N,9.2nm,0.4s						
KIZ	**Kirchzarten**	**3.11**	**16**	Pn	**Pn**	**03 23 20.0**	**+1.3**
CAF	**Calviac**	**3.26**	**271**	ePn	**Pn**	**03 23 21.4**	**+0.6**
CAF	**Calviac**	**3.26**	**271**	ePg	**Pg**	**03 23 31.7**	**-0.6**
CAF				eSg	**Sg**	**03 24 12.3**	**-2.2**
	comp=N,1.5nm,0.3s						
TCF	**Toulx Ste Croi**	**3.39**	**294**	ePn	**Pn**	**03 23 23.7**	**+1.2**
TCF	**Toulx Ste Croi**	**3.39**	**294**	ePg	**Pg**	**03 23 33.3**	**-1.4**
TCF				eSn	**Sn**	**03 24 00.7**	**-1.9**
TCF				eSg	**Sg**	**03 24 16.6**	**-1.9**
	comp=N,1.2nm,0.3s						
SFTF	**Sexfontaines**	**3.42**	**342**	ePn	**Pn**	**03 23 23.4**	**+0.4**
SFTF				eSn	**Sn**	**03 24 00.8**	**-2.6**
SFTF				eSg	**Sg**	**03 24 18.7**	**-0.9**
	comp=N,4.6nm,0.4s						
CDF	**Champ du Feu**	**3.47**	**7**	ePn	**Pn**	**03 23 23.7**	**0.0**
CDF				eSn	**Sn**	**03 24 03.2**	**-1.5**
WLS	**Welschbruch**	**3.48**	**8**	Pn	**Pn**	**03 23 25.1**	**+1.4**
MTLF	**Montolieu**	**3.59**	**245**	ePn	**Pn**	**03 23 25.6**	**+0.4**
MTLF				eSn	**Sn**	**03 24 05.7**	**-1.8**
	comp=N,1.2nm,0.3s						
MTLF				eSg	**Sg**	**03 24 23.9**	**-1.1**
	comp=N,1.3nm,0.3s						
HYF	**Humbligny**	**3.62**	**311**	ePn	**Pn**	**03 23 26.4**	**+0.8**
HYF	**Humbligny**	**3.62**	**311**	ePg	**Pg**	**03 23 37.9**	**-1.2**
PAGF	**Fort de Pagny**	**3.64**	**350**	ePn	**Pn**	**03 23 25.7**	**-0.3**
PAGF	**Fort de Pagny**	**3.64**	**350**	ePg	**Pg**	**03 23 38.9**	**-0.6**
PAGF				eSn	**Sn**	**03 24 06.7**	**-2.2**
PAGF				eSg	**Sg**	**03 24 25.8**	**-0.9**
RJF	**Les Rejaudoux**	**3.65**	**277**	ePn	**Pn**	**03 23 26.6**	**+0.4**
RJF	**Les Rejaudoux**	**3.65**	**277**	ePg	**Pg**	**03 23 38.9**	**-0.9**
RJF				eSg	**Sg**	**03 24 27.0**	**-0.1**
	comp=N,2.8nm,0.4s						
MEZF	**Maizieres J'vi**	**3.70**	**343**	ePn	**Pn**	**03 23 27.3**	**+0.5**
	baz=162						
MEZF	**Maizieres J'vi**	**3.70**	**343**	ePg	**Pg**	**03 23 39.1**	**-1.5**
	baz=163						
MEZF				eSg	**Sg**	**03 24 27.0**	**-1.5**
	comp=N,4.3nm,0.4s						
SAVF	**Savonnieres en**	**3.79**	**344**	ePn	**Pn**	**03 23 30.0**	**+1.9**
	baz=164						
SAVF	**Savonnieres en**	**3.79**	**344**	ePg	**Pg**	**03 23 40.9**	**-1.5**
SAVF				eSg	**Sg**	**03 24 30.5**	**-1.1**
	comp=N,7.2nm,0.5s						
FNEB	**Nbias**	**3.88**	**239**	Pn	**Pn**	**03 23 31.3**	**+2.0**
LFF	**La Frestale**	**4.20**	**272**	ePn	**Pn**	**03 23 32.9**	**-0.7**
LFF	**La Frestale**	**4.20**	**272**	ePg	**Pg**	**03 23 49.2**	**-1.0**
LFF				eSg	**Sg**	**03 24 41.0**	**-3.6**
	comp=N,2.1nm,0.3s						
MFF	**Saint Martin d**	**5.03**	**291**	ePn	**Pn**	**03 23 46.9**	**+1.9**
GIVF	**Givet**	**5.28**	**347**	ePn	**Pn**	**03 23 47.2**	**-1.3**
DOU	**Dourbes**	**5.31**	**346**	Pn	**Pn**	**03 23 51.5**	**+2.6**
BAIF	**Baives**	**5.35**	**343**	ePn	**Pn**	**03 23 50.1**	**+0.6**
LDF	**La Druitiere**	**5.90**	**310**	ePn	**Pn**	**03 23 57.7**	**+0.7**
GRR	**Gorron**	**6.20**	**306**	ePn	**Pn**	**03 24 02.2**	**+1.1**

*IDC **08** 03:25:32.6±1.6, 7.°04S×155.°56E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/25, mbtmp3.7/6, MS3.2/4, Ms1 3.2/4, ms1mx2.9/29, Error ellipse: s-maj=64.7km s-min=26.3km az=131.0*
*NEIC **08** 03:25:37.6±0.7, 7.°3S±0.°1×155.°7E±0.°1, h35km±2km, mb4.1/6, Error ellipse: s-maj=25.3km s-min=21.5km az=136.0*
ISC 08 03:25:39.6±1.2**, 7.°2S**±0.°2×**155.°6E**±0.°2**, h50**km**, n17, σ0.76**/14**, mb3.9**/10**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.49**	**311**	Pn	**Pn**	**03 26 45.3**	**+0.1**
HNR	**Honiara**	**4.88**	**118**	LR	LR	03 29 00.7	
	comp=Z,165nm,19.4s,baz=288,slow=42						
PMG	**Port Moresby**	**8.63**	**254**	LR	LR	03 30 46.2	
	comp=Z,62nm,21.2s,baz=134,slow=36						
WR0	**Warramunga Arr**	**24.05**	**236**	P	**P**	**03 30 50.4**	**0.0**
WB0	**Warramunga Arr**	**24.08**	**237**	P	**P**	**03 30 50.9**	**+0.3**
WB0				IAmb	IAmb	03 31 02.8	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**24.20**	**236**	P	**P**	**03 30 51.5**	**-0.2**
WB2				IAmb	IAmb	03 30 53.2	
	comp=Z,6.5nm,1.3s						
WRA	**Warramunga Arr**	**24.21**	**236**	P	**P**	**03 30 51.5**	**-0.3**
	comp=Z,1.9nm,1.0s,baz=58,slow=9.1,SNR=9.3						
WRA				PcP	**PcP**	**03 34 32.6**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=63,slow=3.1,SNR=2.1						
ASAR	**Alice Springs**	**26.51**	**229**	P	**P**	**03 31 12.3**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=58,slow=10,SNR=5.2						
KAPI	**Kappang**	**35.68**	**271**	LR	LR	03 46 37.1	
	comp=Z,33nm,20.5s,baz=93,slow=36						
RAR	**Rarotonga**	**45.31**	**113**	LR	LR	03 50 28.1	
	comp=Z,82nm,18.2s,baz=360,slow=33						
INCN	**Inchon**	**51.99**	**331**	P	**P**	**03 34 44.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**61.38**	**295**	P	**P**	**03 35 51.4**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=130,slow=5.2,SNR=4.5						
IL31		**83.31**	**21**	P	**P**	**03 38 00.7**	**0.0**
IL31				IAmb	IAmb	03 38 01.9	
	comp=Z,4.7nm,1.4s						
ILAR	**Eielson Array**	**83.31**	**21**	P	**P**	**03 38 00.2**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=256,slow=4.9,SNR=8.2						
MK31	**Makanchi Array**	**83.90**	**319**	P	**P**	**03 38 02.9**	**-1.4**
MK31				IAmb	IAmb	03 38 11.4	
	comp=Z,1.7nm,1.3s						
MKAR	**Makanchi Array**	**83.90**	**319**	P	**P**	**03 38 02.9**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=97,slow=6.7,SNR=4.7						
YKA	**Yellowknife Ar**	**96.20**	**28**	P	**P**	**03 39 02.5**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=263,slow=3.7,SNR=4.1						

*NEIC **08** 03:37:45.2±1.2, 19.°53N±0.°04×66.°03W±0.°05, h29km±12km, Error ellipse: s-maj=7.2km s-min=4.4km az=117.0*
*RSPR **08** 03:37:45.9, 19.°56N×66.°03W, h60km±16km, MD3.6/9*
ISC 08 03:37:42.3±2.2**, 19.°6N**±0.°1×**65.°96W**±0.°06**, h14**km**, n39, σ0.42**/38**, 11C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.22**	**206**	eS	**Sb**	**03 38 21.1**	**+0.3**
EMPR	**Esperanza - Ma**	**1.22**	**206**		**Sb**	**03 38 21.1**	**+0.3**
EMPR	**Esperanza - Ma**	**1.22**	**206**	Pn	**Pg**	**03 38 06.2**	**+0.3**
EMPR				IAML		03 38 22.6	
	comp=E,314nm,0.7s						
EMPR				IAML		03 38 33.1	
	comp=N,254nm,0.8s						
GCPR	**Guaynabo City**	**1.27**	**186**	⇑eP	**Pn**	**03 38 05.7**	**+0.1**
GCPR	**Guaynabo City**	**1.27**	**186**	eS	**Sb**	**03 38 22.1**	**-0.1**
GCPR	**Guaynabo City**	**1.27**	**186**		**Pn**	**03 38 05.7**	**+0.1**
GCPR					**Sb**	**03 38 22.1**	**-0.1**
GCPR	**Guaynabo City**	**1.27**	**186**	IAML		03 38 22.6	
	comp=E,121nm,0.3s						
CBYP	**Canovanas**	**1.30**	**176**	⇑eP	**Pb**	**03 38 06.8**	**+0.2**
CBYP	**Canovanas**	**1.30**	**176**		**Pb**	**03 38 06.8**	**+0.2**
CUPR	**Culebra, Puert**	**1.42**	**153**	⇑eP	**Pg**	**03 38 09.4**	**-0.1**
CUPR	**Culebra, Puert**	**1.42**	**153**	eS	**Sb**	**03 38 26.6**	**+0.2**
CUPR	**Culebra, Puert**	**1.42**	**153**		**Pg**	**03 38 09.4**	**-0.1**
CUPR					**Sb**	**03 38 26.6**	**+0.2**
HUMP	**Col San Antoni**	**1.43**	**176**	⇑eP	**Pb**	**03 38 08.7**	**-0.1**
HUMP	**Col San Antoni**	**1.43**	**176**	eS	**Sb**	**03 38 27.0**	**+0.1**
HUMP	**Col San Antoni**	**1.43**	**176**		**Pb**	**03 38 08.7**	**-0.1**
HUMP					**Sb**	**03 38 27.0**	**+0.1**
HUMP	**Col San Antoni**	**1.43**	**176**	IAML		03 38 39.3	
	comp=E,79nm,0.6s						
AOPR	**Arecibo Observ**	**1.44**	**212**	⇑eP	**Pn**	**03 38 07.7**	**-0.2**
AOPR	**Arecibo Observ**	**1.44**	**212**		**Pn**	**03 38 07.7**	**-0.2**
SJG	**San Juan**	**1.47**	**187**		**Pn**	**03 38 09.0**	**+0.6**
SJG				IAML		03 38 29.1	
	comp=E,131nm,0.6s						
SJG				IAML		03 38 38.3	
	comp=E,86nm,0.6s						
MTP	**Monte Pirata**	**1.52**	**165**	⇑eP	**Pb**	**03 38 10.8**	**+0.5**
MTP	**Monte Pirata**	**1.52**	**165**		**Pb**	**03 38 10.8**	**+0.5**
MTP	**Monte Pirata**	**1.52**	**165**	IAML		03 38 38.2	
	comp=E,66nm,0.3s						
PDPR	**Patillas Dam,**	**1.55**	**182**		**Pn**	**03 38 09.8**	**+0.3**
PDPR				IAML		03 38 34.7	
	comp=E,64nm,0.9s						
AGPR	**Aguadilla, PR**	**1.56**	**225**	Pn	**Pb**	**03 38 10.7**	**-0.1**
AGPR				IAML		03 38 29.0	
	comp=E,134nm,2.2s						
AGPR				IAML		03 38 36.6	
	comp=N,96nm,2.0s						
CELP	**Cerrillos**	**1.61**	**202**	⇑eP	**Pn**	**03 38 10.6**	**+0.3**
CELP	**Cerrillos**	**1.61**	**202**		**Pn**	**03 38 10.6**	**+0.3**
IGPR	**InterUniversit**	**1.61**	**185**	⇑eP	**Pn**	**03 38 11.1**	**+0.8**
IGPR	**InterUniversit**	**1.61**	**185**	eS	**Sn**	**03 38 29.9**	**-1.0**
OBIP	**Obispado Ponce**	**1.65**	**202**	⇑eP	**Pn**	**03 38 10.3**	**-0.5**
OBIP	**Obispado Ponce**	**1.65**	**202**		**Pn**	**03 38 10.3**	**-0.5**
OBIP	**Obispado Ponce**	**1.65**	**202**	IAML		03 38 34.8	
	comp=E,89nm,0.4s						
OBIP				IAML		03 38 41.4	
	comp=N,86nm,0.8s						
LSP	**Las Mesas**	**1.76**	**218**	⇑eP	**Pn**	**03 38 12.8**	**+0.4**
LSP	**Las Mesas**	**1.76**	**218**		**Pn**	**03 38 12.8**	**+0.4**
MLPR	**Magueyes Islan**	**1.91**	**213**	⇑eP	**Pn**	**03 38 15.2**	**+0.8**
MLPR	**Magueyes Islan**	**1.91**	**213**	eS	**Sn**	**03 38 37.6**	**-0.6**
MLPR	**Magueyes Islan**	**1.91**	**213**		**Pn**	**03 38 15.2**	**+0.8**
MLPR					**Sn**	**03 38 37.6**	**-0.6**
MLPR	**Magueyes Islan**	**1.91**	**213**	IAML		03 38 44.5	
	comp=N,49nm,0.7s						
CDVI	**St. Croix**	**2.14**	**148**	Pn	**Pb**	**03 38 20.5**	**-0.3**
DR12	**Loma Pena Alta**	**3.33**	**257**	Pn	**Pn**	**03 38 34.2**	**+0.1**

*IDC **08** 03:42:38.8±1.2, 34.°99N×24.°97E, h0km, mb3.9/7, mb1 4.0/12, mb1mx3.7/54, mbtmp3.9/12, ML3.8/5, MS3.9/2, Ms1 4.0/2, ms1mx3.0/39, Error ellipse: s-maj=20.8km s-min=7.2km az=65.0*
*ATH **08** 03:42:39.8, 35.°05N×24.°92E, h14km±1km, ML3.6/12, Error ellipse: s-maj=1.7km s-min=0.9km az=176.0*
*THE **08** 03:42:39.6, 35.°00N×24.°94E, h0km±1km, ML3.6/6, Error ellipse: s-maj=1.7km s-min=0.7km az=178.0*
*ISK **08** 03:42:40.2, 35.°01N×24.°84E, h25km, ML3.8/25*
*DDA **08** 03:42:41.2, 35.°16N×24.°98E, h7km±3km, MW4.1*
*NEIC **08** 03:42:43.8±1.5, 34.°93N±0.°05×24.°96E±0.°06, h35km±11km, Error ellipse: s-maj=9.5km s-min=3.0km az=139.0*
ISC 08 03:42:40.6±0.7**, 35.°07N**±0.°03×**24.°91E**±0.°02**, h12**km±4km**, n178, σ1.60**/212**, mb4.0**/11**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.10**	**236**	P	**Pg**	**03 42 42.4**	**-1.0**
SIVA				AML	AML	03 42 44.5	
SIVA				AML	AML	03 42 46.5	
SIVA	**Sivas**	**0.10**	**236**	P	**Pg**	**03 42 42.2**	**-1.2**
TMBK	**Timbaki Herakl**	**0.12**	**269**	P	**Pg**	**03 42 43.3**	**-0.4**
TMBK				S	**Sg**	**03 42 46.0**	**+0.1**
	45μm,0.4s						
IDI	**Anoyia**	**0.21**	**355**	Pg	**Pg**	**03 42 44.7**	**-0.5**
	1μm,0.3s,baz=176,slow=9.4,SNR=9232						
IDI				Lg	Lg	03 42 48.9	
	2μm,0.3s,baz=210,slow=20,SNR=38						
IDI	**Anoyia**	**0.21**	**355**	P	**Pg**	**03 42 44.8**	**-0.5**
IDI				S	**Sb**	**03 42 48.8**	**+0.3**
IDI				AML	AML	03 42 53.5	
	comp=N,28873μm,0.7s						
IDI				AML	AML	03 42 54.2	
	comp=E,23613μm,0.4s						
IDI	**Anoyia**	**0.21**	**355**	P	**Pg**	**03 42 44.8**	**-0.5**
IDI	**Anoyia**	**0.21**	**355**		**Pg**	**03 42 44.3**	**-1.0**
KSTL	**Kastelli Herak**	**0.26**	**30**	P	**Pb**	**03 42 47.3**	**0.0**
KSTL				S	**Sb**	**03 42 54.2**	**+2.4**
IACM	**Heraklion**	**0.27**	**29**	P	**Pg**	**03 42 45.8**	**-0.3**
IACM				S	**Sb**	**03 42 50.3**	**-1.5**
IACM	**Heraklion**	**0.27**	**29**	P	**Pg**	**03 42 45.8**	**-0.3**
HRKL	**Herakleio**	**0.28**	**33**	P	**Pg**	**03 42 46.1**	**-0.3**
HRKL				S	**Sb**	**03 42 51.0**	**-1.3**
	comp=E,44μm,0.7s						
PRNS	**Prines Rethymn**	**0.44**	**311**	P	**Pn**	**03 42 52.2**	**-0.5**
LAST	**Lasithi**	**0.47**	**79**	P	**Pg**	**03 42 48.6**	**-1.3**
LAST				S	**Sg**	**03 42 56.0**	**-0.3**
LAST				AML	AML	03 42 56.6	
	comp=N,19403μm,0.5s						
LAST				AML	AML	03 42 59.9	
	comp=E,17807μm,0.5s						
LAST	**Lasithi**	**0.47**	**79**	P	**Pg**	**03 42 48.6**	**-1.3**
NPS	**Neapolis**	**0.60**	**72**	P	**Pg**	**03 42 51.4**	**-1.0**
NPS				S	**Sg**	**03 43 00.5**	**+0.1**
NPS				AML	AML	03 43 01.7	
	comp=E,17877μm,0.3s						
NPS				AML	AML	03 43 08.1	
	comp=N,14878μm,0.5s						
NPS	**Neapolis**	**0.60**	**72**	P	**Pg**	**03 42 51.3**	**-1.1**
VAM	**Vamos**	**0.67**	**300**	P	**Pg**	**03 42 52.7**	**-0.9**
VAM				S	**Sg**	**03 43 02.8**	**+0.3**
VAM				AML	AML	03 43 07.5	
	comp=E,15789μm,0.7s						
VAM				AML	AML	03 43 09.4	
	comp=N,14700μm,0.3s						
VAM	**Vamos**	**0.67**	**300**	P	**Pg**	**03 42 52.7**	**-0.9**
FRMA	**Ierapetra Chan**	**0.68**	**95**	P	**Pg**	**03 42 53.6**	**-0.1**
FRMA				S	**Sn**	**03 43 06.1**	**-0.3**
	comp=N,2μm,0.7s						
GVDS	**Gavdos**	**0.71**	**251**	P	**Pg**	**03 42 53.9**	**-0.5**
GVDS				S	**Sg**	**03 43 06.0**	**+2.3**
	comp=N,5μm,0.3s						
GVDS	**Gavdos**	**0.71**	**251**	PG	**Pg**	**03 42 53.9**	**-0.5**
GVDS				SG	**Sg**	**03 43 04.6**	**+0.9**
GVD	**Gavdhos**	**0.72**	**251**	P	**Pg**	**03 42 53.5**	**-1.0**
GVD				S	**Sg**	**03 43 03.6**	**-0.2**
GVD				AML	AML	03 43 06.8	
	comp=N,16864μm,0.3s						
GVD				AML	AML	03 43 12.2	
	comp=E,16416μm,0.4s						
GVD	**Gavdhos**	**0.72**	**251**	P	**Pg**	**03 42 53.6**	**-0.9**
GVD	**Gavdhos**	**0.72**	**251**	PG	**Pg**	**03 42 53.9**	**-0.6**
GVD				SG	**Sg**	**03 43 04.1**	**+0.2**
IMMV	**Iera Moni Meta**	**0.85**	**297**	P	**Pb**	**03 42 55.7**	**-1.7**
IMMV				S	**Sb**	**03 43 08.4**	**-0.3**
IMMV				AML	AML	03 43 11.3	
	comp=E,9775μm,0.3s						
IMMV				AML	AML	03 43 12.9	
	comp=N,8097μm,0.4s						
IMMV	**Iera Moni Meta**	**0.85**	**297**	P	**Pb**	**03 42 55.6**	**-1.7**
IMMV	**Iera Moni Meta**	**0.85**	**297**	PG	**Pb**	**03 42 56.2**	**-1.1**
IMMV				SG	**Sb**	**03 43 08.6**	**-0.1**
STIA	**Sitia Lasithi**	**0.97**	**82**	P	**Pb**	**03 42 57.8**	**-1.6**
STIA				S	**Sb**	**03 43 12.5**	**+0.3**
KNDR	**Palaiochora Ch**	**1.02**	**279**	PG	**Pb**	**03 42 58.8**	**-1.3**
KNDR				SG	**Sb**	**03 43 12.8**	**-0.6**
ZKR	**Zakros**	**1.07**	**87**	P	**Pb**	**03 42 59.1**	**-2.0**
ZKR				S	**Sb**	**03 43 14.1**	**-0.9**
ZKR				AML	AML	03 43 24.0	
	comp=E,9446μm,0.8s						
ZKR				AML	AML	03 43 25.4	
	comp=N,2835μm,0.5s						
ZKR	**Zakros**	**1.07**	**87**	P	**Pb**	**03 42 59.6**	**-1.4**
ZKR	**Zakros**	**1.07**	**87**	PN	**Pb**	**03 43 00.6**	**-0.4**
THR9	**Santorini-Faro**	**1.33**	**16**	P	**Pn**	**03 43 04.5**	**-0.5**
THR9	**Santorini-Faro**	**1.33**	**16**	P	**Pb**	**03 43 05.1**	**-0.4**
THR6	**Thira Island,**	**1.34**	**17**	P	**Pb**	**03 43 05.2**	**-0.4**
THR6	**Thira Island,**	**1.34**	**17**	P	**Pn**	**03 43 04.8**	**-0.3**
SANT	**Santorini**	**1.37**	**19**	P	**Pn**	**03 43 04.8**	**-0.7**
SANT				AML	AML	03 43 27.6	
	comp=E,12746μm,0.4s						
SANT				AML	AML	03 43 30.1	
	comp=N,1825μm,0.4s						
SANT	**Santorini**	**1.37**	**19**	P	**Pn**	**03 43 05.3**	**-0.3**
SANT	**Santorini**	**1.37**	**19**	PN	**Pb**	**03 43 05.6**	**-0.5**
SANT				SN	**Sg**	**03 43 23.9**	**-0.8**
SANT	**Santorini**	**1.37**	**19**	iP	**Pn**	**03 43 05.2**	**-0.3**
SANT				iS	**Sg**	**03 43 23.8**	**-0.9**
SANT	**Santorini**	**1.37**	**19**	Pn	**Pb**	**03 43 06.1**	**0.0**
SNT5	**Nea Kammeni, S**	**1.38**	**16**	P	**Pb**	**03 43 06.0**	**-0.4**
THR5	**Thira Island,**	**1.39**	**15**	P	**Pn**	**03 43 05.4**	**-0.4**
THR5	**Thira Island,**	**1.39**	**15**	P	**Pb**	**03 43 06.3**	**-0.1**
THR3	**Thira Island,**	**1.39**	**17**	P	**Pn**	**03 43 05.2**	**-0.6**
THR3	**Thira Island,**	**1.39**	**17**	P	**Pn**	**03 43 05.4**	**-0.4**
SAP3	**Santorini-Thir**	**1.40**	**14**	P	**Pn**	**03 43 05.9**	**-0.1**
SAP3	**Santorini-Thir**	**1.40**	**14**	P	**Pn**	**03 43 06.0**	**0.0**
SNT1	**Gialos, Santor**	**1.40**	**17**	P	**Pn**	**03 43 05.7**	**-0.2**
SNT1				S	**Sg**	**03 43 26.7**	**+0.9**
	comp=N,2μm,0.5s						
THR8	**Santorini-Mono**	**1.41**	**19**	P	**Pn**	**03 43 04.8**	**-1.2**
THR8	**Santorini-Mono**	**1.41**	**19**	P	**Pn**	**03 43 05.5**	**-0.5**
SFIR	**Foira Santorin**	**1.41**	**17**	P	**Pb**	**03 43 06.3**	**-0.5**
THR7	**Fira-Santorini**	**1.41**	**17**	P	**Pn**	**03 43 05.2**	**-0.8**
THR7	**Fira-Santorini**	**1.41**	**17**	P	**Pb**	**03 43 06.3**	**-0.5**
THT2	**Imerovigli**	**1.42**	**17**	P	**Pb**	**03 43 06.4**	**-0.7**
THT2	**Imerovigli**	**1.42**	**17**	P	**Pb**	**03 43 06.3**	**-0.7**
THT2				S	**Sg**	**03 43 28.1**	**+1.8**
	comp=N,2μm,0.6s						
THT2	**Imerovigli**	**1.42**	**17**	PN	**Pn**	**03 43 06.1**	**-0.1**
THR2	**Thira island,**	**1.44**	**17**	P	**Pn**	**03 43 05.7**	**-0.7**
THR2	**Thira island,**	**1.44**	**17**	P	**Pn**	**03 43 06.4**	**0.0**
SAP4	**Santorini-Oia**	**1.45**	**15**	P	**Pb**	**03 43 07.2**	**-0.3**
ANKY	**Antikythira Is**	**1.53**	**302**	P	**Pn**	**03 43 08.6**	**+0.9**
ANKY				AML	AML	03 43 42.6	
	comp=E,2010μm,0.8s						
ANKY				AML	AML	03 43 43.3	
	comp=N,2636μm,1.2s						
MHLO	**Agia Marina, M**	**1.67**	**346**	P	**Pn**	**03 43 09.6**	**0.0**
MHLO	**Agia Marina, M**	**1.67**	**346**	P	**Pn**	**03 43 09.8**	**+0.2**
MHLA	**Plaka, Milos I**	**1.71**	**347**	P	**Pn**	**03 43 10.4**	**+0.1**
KARP	**Karpathos**	**1.90**	**75**	P	**Pn**	**03 43 14.0**	**+1.1**
KARP				AML	AML	03 43 49.9	
	comp=N,3598μm,0.6s						
KARP				AML	AML	03 43 56.7	
	comp=E,2870μm,0.7s						
KARP	**Karpathos**	**1.90**	**75**	PN	**Pn**	**03 43 13.3**	**+0.5**
KARP	**Karpathos**	**1.90**	**75**	Pn	**Pb**	**03 43 14.7**	**-0.5**
KTHA	**Kythira Island**	**1.91**	**309**	P	**Pn**	**03 43 13.6**	**+0.7**
KTHA	**Kythira Island**	**1.91**	**309**	P	**Pn**	**03 43 13.5**	**+0.5**
KTHA	**Kythira Island**	**1.91**	**309**	PN	**Pn**	**03 43 11.4**	**-1.6**
KTHR	**Kythira**	**1.95**	**308**	P	**Pn**	**03 43 14.3**	**+0.8**
APE	**Apeiranthos**	**2.05**	**14**	P	**Pn**	**03 43 14.9**	**0.0**
APE				AML	AML	03 43 51.3	
	comp=N,822μm,0.4s						
APE				AML	AML	03 43 51.7	
	comp=E,1070μm,0.5s						
APE	**Apeiranthos**	**2.05**	**14**	P	**Pn**	**03 43 14.6**	**-0.3**
APE	**Apeiranthos**	**2.05**	**14**	PN	**Pn**	**03 43 15.1**	**+0.2**
APE	**Apeiranthos**	**2.05**	**14**	iP	**Pn**	**03 43 14.3**	**-0.6**
VLI	**Veliai**	**2.29**	**316**	P	**Pn**	**03 43 18.0**	**-0.2**
VLI	**Veliai**	**2.29**	**316**	P	**Pn**	**03 43 18.0**	**-0.2**
KOSK	**Kos Island**	**2.37**	**44**	PN	**Pn**	**03 43 19.8**	**+0.6**
BODT	**Bodrum**	**2.78**	**44**	PN	**Pn**	**03 43 25.3**	**+0.4**
ARG	**Arkhangelos**	**2.86**	**66**	PN	**Pn**	**03 43 26.7**	**+0.8**
BDRM	**Kayabasi**	**2.86**	**45**	iP	**Pn**	**03 43 25.9**	**0.0**
BDRM				iS	**Sn**	**03 43 55.3**	**-5.0**
DDIM	**Aydin, Didim**	**3.03**	**38**	iP	**Pb**	**03 43 31.6**	**-2.9**
DDIM				iS	**Sn**	**03 44 03.0**	**-1.6**
TURN	**Turunc**	**3.19**	**57**	PN	**Pn**	**03 43 31.2**	**+0.6**
TURN	**Turunc**	**3.19**	**57**	iP	**Pn**	**03 43 31.5**	**+1.0**
TURN				iS	**Sn**	**03 44 06.8**	**-1.7**
ITM	**Ithomi**	**3.20**	**312**		**Pn**	**03 43 33.5**	**+2.8**
MLSB	**Milas**	**3.21**	**45**	PN	**Pn**	**03 43 31.6**	**+0.8**
GCAM	**G?zelcaml?**	**3.22**	**35**	iP	**Pn**	**03 43 31.8**	**+0.9**
GCAM				iS	**Sn**	**03 44 03.0**	**-6.2**
YER	**Yerkesik**	**3.42**	**52**	PN	**Pn**	**03 43 35.3**	**+1.6**
CHOS	**Chios island**	**3.43**	**15**	PN	**Pn**	**03 43 34.7**	**+0.8**
DALY	**Dalyan (Mula)**	**3.50**	**59**	PN	**Pn**	**03 43 36.1**	**+1.4**
MULA	**Mugla, Merkez-**	**3.52**	**51**	iP	**Pn**	**03 43 35.2**	**+0.1**
MULA				iS	**Sn**	**03 44 15.5**	**-1.1**
URLA	**Izmir**	**3.55**	**22**	PN	**Pn**	**03 43 36.5**	**+1.0**
URLA	**Izmir**	**3.55**	**22**	iP	**Pn**	**03 43 33.9**	**-1.6**
URLA				iS	**Sn**	**03 44 17.5**	**+0.2**
BLCB	**Balcova**	**3.72**	**27**	PN	**Pn**	**03 43 39.4**	**+1.6**
FETY	**Fethiye**	**3.73**	**64**	PN	**Pn**	**03 43 39.1**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**3.74**	**39**	PN	**Pn**	**03 43 39.9**	**+1.7**
AKAS	**Kas**	**3.99**	**72**	PN	**Pn**	**03 43 43.2**	**+1.5**
AKAS	**Kas**	**3.99**	**72**	iP	**Pn**	**03 43 39.8**	**-1.9**
AKAS				iS	**Sn**	**03 44 27.1**	**-1.4**
AKAS	**Kas**	**3.99**	**72**	Pn	**Pn**	**03 43 42.5**	**+0.8**
TAVA	**DENIZLI_Tavas**	**4.02**	**52**	iP	**Pn**	**03 43 44.3**	**+2.3**
CAEL	**Denizli, Camel**	**4.11**	**59**	iP	**Pn**	**03 43 45.0**	**+1.6**
CAEL				iS	**Sn**	**03 44 30.1**	**-1.3**
ZEDA	**zmir-Bergama**	**4.25**	**23**	iP	**Pn**	**03 43 47.2**	**+2.0**
GOLH	**Golhisar**	**4.34**	**59**	iP	**Pn**	**03 43 48.9**	**+2.5**
GOLH				iS	**Sn**	**03 44 32.2**	**-4.7**
ELL	**Elmali**	**4.39**	**66**	PN	**Pn**	**03 43 48.7**	**+1.6**
ELL	**Elmali**	**4.39**	**66**	Pn	**Pn**	**03 43 48.9**	**+1.8**
AGG	**Agios Georgios**	**4.45**	**333**	iP	**Pn**	**03 43 50.1**	**+2.3**
AGG	**Agios Georgios**	**4.45**	**333**		**Pn**	**03 43 51.3**	**+3.4**
MANT	**Manisa**	**4.49**	**40**	iP	**Pn**	**03 43 50.1**	**+1.5**
MANT	**Manisa**	**4.49**	**40**	Pn	**Pn**	**03 43 51.8**	**+3.1**
KULA	**Kula-Manisa**	**4.57**	**40**	PN	**Pn**	**03 43 51.5**	**+2.0**
AKUM	**Antalya-Kumluc**	**4.59**	**73**	iP	**Pn**	**03 43 51.0**	**+1.3**
KORT	**Korkueli**	**4.81**	**65**	PN	**Pn**	**03 43 54.2**	**+1.3**
KORT	**Korkueli**	**4.81**	**65**	iP	**Pn**	**03 43 53.7**	**+0.8**
KORT				iS	**Sn**	**03 44 51.1**	**+2.5**
STEP	**BALIKESIR_Sava**	**4.84**	**27**	iP	**Pn**	**03 43 56.3**	**+3.0**
USAK	**Uak-Merkez**	**4.90**	**41**	iP	**Pn**	**03 43 53.7**	**-0.4**
BRDR	**BURDUR-Merkez**	**4.91**	**56**	iP	**Pn**	**03 43 56.4**	**+2.1**
KHAL	**Karahalli**	**4.94**	**47**	iP	**Pn**	**03 43 57.1**	**+2.5**
BASM	**Basmaki-Afyon**	**5.02**	**54**	PN	**Pn**	**03 43 57.1**	**+1.4**
BUCA	**Burdur, Bucak-**	**5.09**	**62**	iP	**Pn**	**03 43 59.0**	**+2.2**
BUCA				iS	**Sn**	**03 44 52.4**	**-3.1**
BALY	**Balya**	**5.13**	**24**	iP	**Pn**	**03 44 00.2**	**+2.9**
SIMA	**Simav-Kutahya**	**5.16**	**38**	PN	**Pn**	**03 43 58.7**	**+1.0**
BCK	**Bucak**	**5.17**	**61**	PN	**Pn**	**03 43 58.7**	**+0.9**
KZIL	**AFYON_Kizioren**	**5.27**	**51**	iP	**Pn**	**03 44 01.1**	**+1.9**
GDZ	**Gediz**	**5.42**	**41**	iP	**Pn**	**03 44 02.2**	**+0.8**
TVSB	**Tavsanli**	**5.68**	**38**	PN	**Pn**	**03 44 06.1**	**+1.3**
SHUT	**Suhut-Afyon**	**5.70**	**51**	PN	**Pn**	**03 44 06.5**	**+1.3**
SEDI	**Konya, Seydise**	**6.02**	**65**	iP	**Pn**	**03 44 10.9**	**+1.5**
SEDI				iS	**Sn**	**03 45 20.5**	**+2.1**
GAZI	**Gazipasa**	**6.14**	**77**	PN	**Pn**	**03 44 12.9**	**+1.8**
LEF	**Lefka**	**6.54**	**87**	PN	**Pn**	**03 44 17.4**	**+0.8**
KONT	**Konya--Tatoy**	**6.65**	**62**	PN	**Pn**	**03 44 20.2**	**+2.1**
TEKE	**Tekeli-Mersin**	**6.77**	**79**	PN	**Pn**	**03 44 20.5**	**+0.8**
BERE	**Bereket-Mersin**	**6.88**	**77**	PN	**Pn**	**03 44 23.1**	**+1.7**
CSS	**Mathiatis**	**6.91**	**89**	Pn	**Pn**	**03 44 21.7**	**+0.1**
KEBE	**Keben-Mersin**	**7.29**	**77**	PN	**Pn**	**03 44 28.1**	**+1.2**
BR131	**Keskin Array S**	**8.35**	**54**	Pn	**Pn**	**03 44 44.1**	**+2.5**
BRTR	**Keskin Array B**	**8.35**	**54**	Pn	**Pn**	**03 44 43.0**	**+1.5**
	comp=E,0.2nm,0.3s,baz=226,slow=14,SNR=13						
BRTR	**Keskin Array B**	**8.35**	**54**	Pn	**Pn**	**03 44 43.6**	**+2.0**
MMAI	**Mount Meron Ar**	**8.95**	**100**	Pn	**Pn**	**03 44 48.5**	**-1.2**
	comp=E,1.7nm,0.3s,baz=292,slow=11,SNR=8.6						
MMAI				Sn	**Sn**	**03 46 28.4**	**-2.0**
	comp=E,1.4nm,0.3s,baz=303,slow=28,SNR=3.2						
STON	**Ston**	**9.60**	**326**	ePn	**Pn**	**03 44 56.6**	**-1.9**
EIL	**Elat**	**10.05**	**120**	Pn	**Pn**	**03 45 03.3**	**-1.5**
	comp=E,0.6nm,0.3s,baz=332,slow=8.4,SNR=7.0						
EIL				Sn	**Sn**	**03 46 53.0**	**-4.5**
	comp=E,0.6nm,0.3s,baz=196,slow=19,SNR=2.2						
EIL				LR	LR	03 49 07.6	
	comp=E,25nm,19.0s,baz=290,slow=39						
RICI	**Ricice**	**10.34**	**327**	ePn	**Pn**	**03 45 08.6**	**-0.1**
RICI				Sn	**Sn**	**03 47 00.9**	**-3.5**
HVAR	**Hvar**	**10.42**	**323**	iPn	**Pn**	**03 45 09.9**	**+0.2**
ZIRJ	**Zirje**	**11.17**	**323**	iPn	**Pn**	**03 45 18.8**	**-1.1**
DUGI	**Dugi Otok**	**11.70**	**322**	ePn	**Pn**	**03 45 24.5**	**-2.8**
GEVA	**Gevas**	**14.91**	**72**		**Pn**	**03 46 11.6**	**+0.2**
ABTA	**Abfaltersbach**	**14.94**	**325**	eP	**P**	**03 46 20.0**	**+2.8**
	comp=E,1.1nm,0.6s						
WTTA	**Wattenberg**	**15.73**	**325**	eP	**P**	**03 46 30.7**	**+4.7**
	comp=E,1.4nm,0.5s						
WATA	**Walderalm**	**15.81**	**325**	eP	**P**	**03 46 30.5**	**+3.6**
	comp=E,1.5nm,0.5s						
AKASG	**Malin Array Be**	**15.93**	**10**	Pn	**Pn**	**03 46 25.4**	**+1.0**
	comp=E,2.7nm,0.3s,baz=202,slow=11,SNR=13						
AKASG	**Malin Array Be**	**15.93**	**10**	Pn	**P**	**03 46 26.5**	**-1.5**
AKBB	**Malin Array Si**	**15.93**	**10**		**P**	**03 46 26.5**	**-1.5**
AKBB				IAmb	IAmb	03 46 29.1	
	comp=Z,8.7nm,0.8s						
FETA	**Feichten**	**16.00**	**323**	eP	**P**	**03 46 32.6**	**+3.6**
	comp=Z,1.0nm,0.5s						
MOTA	**Moosalm**	**16.04**	**324**	eP	**P**	**03 46 33.7**	**+4.3**
	comp=Z,0.8nm,0.4s						
GERES	**GERESS Array B**	**16.06**	**332**	Pn	**P**	**03 46 28.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=144,slow=12,SNR=11						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GERES	GERESS Array B	16.06	332	Pn	P	03 46 29.5	-0.1
KRLC	Kraliky	16.13	341	eP	P	03 46 30.3	0.0
DAVOX	Davos/Dischmat	16.27	320	Pn	P	03 46 34.0	+2.0
	comp=Z,0.2nm,0.3s,baz=144,slow=19,SNR=2.0						
KHC	Kasperske Hory	16.34	333	eP	P	03 46 34.9	+2.2
KBZ	Khabaz	16.34	53	Pn	P	03 46 35.2	+2.5
	comp=Z,0.1nm,0.3s,baz=246,slow=9.5,SNR=15						
DPC	Dobruska-Polom	16.50	340	eP	P	03 46 36.6	+2.2
TAM	Tamanrasset	20.88	239	P	P	03 47 24.9	+2.2
ESDC	Sonseca Array	23.35	290	P	P	03 47 49.6	+0.7
	comp=Z,1.0nm,0.9s,baz=77,slow=8.8,SNR=9.1						
ESDC	Sonseca Array	23.35	290	IAmb	IAmb	03 47 50.1	
	comp=Z,22nm,2.0s						
FINES	FINESS Array B	26.40	1	P	P	03 48 14.6	-2.0
	comp=Z,8.4nm,1.1s,baz=188,slow=9.3,SNR=6.4						
GEYT	Alibeck	26.77	74	P	P	03 48 22.7	+2.4
	comp=Z,1.2nm,0.4s,baz=277,slow=11,SNR=2.9						
GEYT	Alibeck	26.77	74	P	P	03 48 20.6	+0.4
GEYT				IAmb	IAmb	03 48 24.1	
	comp=Z,1.3nm,0.7s						
NOA	NORSAR Array B	27.43	346	LR	LR	04 02 17.9	
	comp=Z,110nm,18.3s,baz=320,slow=43						
EKA	Eskdalemuir Ar	27.99	325	P	P	03 48 32.3	+1.3
	comp=Z,2.3nm,0.7s,baz=99,slow=8.8,SNR=2.1						
AKTO	Aktyubinsk	28.46	47	P	P	03 48 34.7	-0.5
	comp=Z,1.4nm,0.5s,baz=265,slow=11,SNR=3.1						
ARCES	ARCESS Array B	34.52	0	LR	LR	04 04 05.3	
	comp=Z,381nm,19.5s,baz=250,slow=37						
KK31	Karatay Array	35.92	63	P	P	03 49 41.5	+0.7
KK31				IAmb	IAmb	03 49 43.6	
	comp=Z,1.8nm,0.8s						
KKAR	Karatay Array	35.92	63	P	P	03 49 41.2	+0.5
MK31	Makanchi Array	43.99	56	P	P	03 50 48.0	+0.3
MK31				IAmb	IAmb	03 50 50.3	
	comp=Z,2.0nm,0.9s						
MKAR	Makanchi Array	43.99	56	P	P	03 50 47.9	+0.2
	comp=Z,2.7nm,0.8s,baz=277,slow=6.6,SNR=27						
MKAR	Makanchi Array	43.99	56	P	P	03 50 48.0	+0.3
ZALV	Zalesovo Beam	45.21	46	P	P	03 50 57.5	+0.3
	comp=Z,1.5nm,0.4s,baz=270,slow=8.0,SNR=8.9						
SONM	Songino Array	59.70	51	P	P	03 52 46.1	+1.1
	comp=Z,0.4nm,0.5s,baz=294,slow=8.8,SNR=2.6						
YKA	Yellowknife Ar	77.47	342	P	P	03 54 35.5	0.0
	comp=Z,0.2nm,0.4s,baz=42,slow=5.7,SNR=5.7						

*SOME **08** 03:48:50.7, 40°.05N×75°.78E, h0km*
*KRNET **08** 03:48:55.3±0.1, 39°.92N×75°.75E, mb3.1*
*NNC **08** 03:48:58.4±0.9, 40°.24N×75°.77E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=6.8km s-min=5.6km az=142.0*
ISC 08 03:48:57.4±1.5**, 39°.99N**±0°.07×**75°.66E**±0°.05**, h10km, n52, σ1s.63**/79**, 32C-12D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.66	272	⇑iP	Pn	03 49 26.6	-0.1
	baz=74						
SFK				⇑iS	Sb	03 49 49.4	+0.3
	baz=74						
OHH	Osh	2.26	285	⇑eP	Pn	03 49 34.9	0.0
	baz=86						
OHH				⇑iS	Sn	03 50 04.0	+1.1
	baz=86						
ULHL	Ulahol	2.30	11	⇑iP	Pn	03 49 35.1	-0.5
	baz=9.0						
ULHL				⇑iS	Sn	03 50 04.6	+0.5
	baz=9.0						
ULHL	Ulahol	2.30	11	P	Pn	03 49 34.9	-0.6
	SNR=44						
UCH	Uchtor	2.40	339	⇑eP	Pn	03 49 37.2	0.0
	baz=38						
UCH				⇑iS	Sn	03 50 08.2	+1.3
	baz=38						
UCH	Uchtor	2.40	339	P	Pn	03 49 37.1	-0.1
	SNR=52						
KDJ	Kajisay	2.43	28	⇑eP	Pn	03 49 36.7	-0.6
	baz=26						
KDJ				⇑iS	Sn	03 50 06.9	-0.4
	baz=26						
ARSB	Arslanbob	2.44	304	⇓iP	Pn	03 49 37.4	0.0
	baz=5.0						
ARSB				⇓iS	Sn	03 50 08.9	+1.6
	baz=5.0						
BOOM	Boomskoye usch	2.51	5	⇑iP	Pn	03 49 38.3	-0.1
	baz=3.0						
BOOM				⇑iS	Sn	03 50 09.8	+0.6
	baz=3.0						
AML	Almayashu	2.61	326	⇑iP	Pn	03 49 40.1	+0.1
	baz=26						
AML				⇑iS	Sn	03 50 13.2	+1.3
	baz=26						
AML	Almayashu	2.61	326	P	Pn	03 49 40.3	+0.3
	SNR=19						
KBK	Karagaybulak	2.72	349	⇓iP	Pn	03 49 41.6	+0.3
	baz=48						
KBK				⇓iS	Sn	03 50 15.6	+1.2
	baz=48						
KBK	Karagaybulak	2.72	349	P	Pb	03 49 44.1	-2.2
	SNR=25						
AAK	Ala-Archa	2.79	342	⇑iP	Pn	03 49 42.5	+0.2
	baz=41						
AAK				⇑iS	Sn	03 50 17.4	+1.3
	baz=41						
AAK	Ala-Archa	2.79	342	P	Pn	03 49 42.5	+0.2
	SNR=9.7						
AAK	Ala-Archa	2.79	342	⇓Pn	Pn	03 49 41.8	-0.5
	6.1nm,0.3s						
AAK				⇑Lg	Lg	03 50 20.7	
	35nm,0.5s						
FRU1	Bishkek	2.93	345	⇓iP	Pn	03 49 44.3	+0.3
	baz=44						
FRU1				⇓iS	Sn	03 50 20.5	+1.2
	baz=44						
TKM2	Tokmak 2	2.93	359	⇓iP	Pn	03 49 44.3	+0.1
	baz=58						
TKM2				⇓iS	Sn	03 50 20.5	+0.8
	baz=58						
TKM2	Tokmak 2	2.93	359	P	Pn	03 49 44.3	+0.1
	SNR=7.5						
TKM2	Tokmak 2	2.93	359	⇑Pn	Pn	03 49 43.6	-0.7
	5.7nm,0.5s						
TKM2				⇑Lg	Lg	03 50 25.4	
	34nm,0.5s						
DRK	Karamyk	3.02	262	⇑iP	Pn	03 49 45.6	+0.1
	baz=63						
DRK				⇑iS	Sn	03 50 22.1	+0.3
	baz=63						
EKS2	Erkin-Say	3.03	333	⇑iP	Pn	03 49 45.8	+0.3
	baz=32						
EKS2				⇑iS	Sn	03 50 22.9	+1.1
	baz=32						
EKS2	Erkin-Say	3.03	333	P	Pn	03 49 46.5	+1.1
	SNR=6.0						
KST	Kastek	3.06	4	eP	Pn	03 49 46.0	0.0
	12nm,0.5s						
KST				eS	Sb	03 50 27.5	-2.1
	22nm,0.4s						
KST	Kastek	3.06	4	Pg	Pb	03 49 49.6	-2.5
	12nm,0.5s						
KST				Lg	Lg	03 50 28.3	
	22nm,0.4s						
CHMS	Chumysh	3.09	348	⇓iP	Pn	03 49 46.3	+0.1
	baz=47						
CHMS				⇓iS	Sn	03 50 24.1	+0.9
	baz=47						
CHMS	Chumysh	3.09	348	P	Pn	03 49 46.3	+0.1
	SNR=5.4						
IZV	Izvestkoviy	3.13	13	eP	Pn	03 49 47.8	+0.8
	6.8nm,0.4s						
IZV				eS	Sb	03 50 29.7	-1.8
	13nm,0.6s						
IZV	Izvestkoviy	3.13	13	Pg	Pb	03 49 50.6	-2.6
	6.8nm,0.4s						
IZV				Lg	Lg	03 50 30.0	
	13nm,0.6s						
DGS	Degeres	3.25	1	eP	Pn	03 49 48.7	+0.1
	15nm,0.7s						
DGS				eS	Sb	03 50 32.0	-3.1
	17nm,0.5s						
DGS	Degeres	3.25	1	Pg	Pb	03 49 53.5	-1.8
	8.0nm,0.5s						
DGS				Lg	Lg	03 50 34.4	
	17nm,0.5s						
MDOK	Medeo	3.34	18	⇑Pn	Pn	03 49 49.1	-0.7
	4.6nm,0.5s						
MDOK				⇓Lg	Lg	03 50 35.9	
	12nm,0.5s						
USP	Ospenovka	3.39	346	⇑iP	Pn	03 49 50.7	+0.3
	baz=45						
USP				⇑iS	Sn	03 50 31.7	+1.0
	baz=45						
USP	Ospenovka	3.39	346	P	Pn	03 49 50.6	+0.3
	SNR=7.3						
KOTS	Kotyrbulak	3.42	18	eP	Pn	03 49 50.5	-0.5
	8.1nm,0.6s						
KOTS				eS	Sn	03 50 35.6	+3.9
	56nm,0.6s						
KOTS	Kotyrbulak	3.42	18	Pg	Pb	03 49 56.5	-1.7
	10nm,0.4s						
KOTS				Lg	Lg	03 50 39.3	
	56nm,0.6s						
MNAS	Manas	3.45	317	⇑iP	Pn	03 49 51.7	+0.4
	baz=17						
MNAS				⇑iS	Sn	03 50 33.4	+1.1
	baz=17						
KRBS	Karabastau	3.71	0	eP	Pb	03 49 59.0	-4.0
	4.2nm,0.4s						
KRBS				eS	Sb	03 50 49.2	+1.1
	20nm,0.4s						
KRBS	Karabastau	3.71	0	Pg	Pb	03 50 01.9	-1.1
	4.1nm,0.3s						
KRBS				Lg	Lg	03 50 48.6	
	20nm,0.4s						
TRKS	Terek-Say	3.76	296	⇑iP	Pn	03 49 55.0	-0.6
	baz=95						
TRKS				⇑iS	Sn	03 50 38.9	-1.1
	baz=95						
KTBS	Karatobe	3.80	11	eP	Pn	03 49 59.6	+3.6
	3.7nm,0.2s						
KTBS				eS	Sb	03 50 50.8	+0.1
	53nm,0.6s						
CHKK	Chushkaly	3.99	14	eP	Pb	03 50 03.2	-4.6
	1.3nm,0.1s						
CHKK				eS	Sb	03 50 56.7	+0.6
	14nm,0.4s						
CHKK	Chushkaly	3.99	14	Pg	Pb	03 50 06.2	-1.6
	2.6nm,0.4s						
CHKK				Lg	Lg	03 50 56.7	
	14nm,0.4s						
KPKS	Kokpek	4.15	32	eP	Pn	03 50 04.6	+3.8
	2.4nm,0.1s						
KPKS				eS	Sb	03 50 59.5	-1.2
	28nm,0.6s						
PDGK	Podgornoye	4.40	39	⇑Lg	Lg	03 51 09.7	
	12nm,0.9s						
ARXS	Arharly	4.52	20	eP	Pb	03 50 13.8	-3.1
	3.8nm,0.6s						
ARXS				eS	Sb	03 51 14.4	+3.0
	7.9nm,0.6s						
ARXS	Arharly	4.52	20	Pg	Pb	03 50 15.5	-1.3
	9.5nm,0.6s						
ARXS				Lg	Lg	03 51 12.1	
	7.9nm,0.6s						
KK31	Karatay Array	4.96	311	⇑Pg	Pb	03 50 25.1	+0.7
	0.4nm,0.4s,baz=124,slow=16,SNR=4.7						
KK31				Lg	Lg	03 51 30.6	
	1.8nm,0.5s,baz=122,slow=28,SNR=7.0						
BTLS	Baital	5.19	347	eP	Pb	03 50 24.7	-3.5
	1.8nm,0.5s						
BTLS				eS	Sb	03 51 34.5	+3.9
	3.9nm,0.4s						
BTLS	Baital	5.19	347	Pg	Pb	03 50 28.6	+0.4
	1.5nm,0.3s						
BTLS				Lg	Lg	03 51 34.5	
	3.9nm,0.4s						
DJR	Jarkent	5.32	34	Pg	Pb	03 50 30.5	0.0
	4.4nm,0.9s						
DJR				Lg	Lg	03 51 37.4	
	1.4nm,0.4s						
KAPS	Kapalarasan	5.96	26	Pg	Pb	03 50 40.9	-0.4
	1.0nm,0.6s						
KAPS				Lg	Lg	03 51 55.5	
	2.2nm,0.6s						

IDC 08 03:58:12.6±3.3**, 24°.64N**×**141°.52E, h0km, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.4**/25**, mbtmp3.7**/3**, MS3.5**/1**, Ms1 3.7**/1**, ms1mx2.8**/26**, Error ellipse: s-maj=145.8km s-min=31.1km az=77.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	39.95	270	LR	LR	04 23 47.2	
	comp=Z,54nm,18.2s,baz=323,slow=38						
WRA	Warramunga Arr	44.87	190	P	P	04 06 28.7	-0.2
	0.2nm,0.2s,baz=8.0,slow=8.3,SNR=12						
MKAR	Makanchi Array	51.60	311	P	P	04 07 21.2	+0.4
	0.2nm,0.4s,baz=89,slow=9.0,SNR=6.2						
FINES	FINESS Array B	79.87	334	P	P	04 10 22.4	-0.5
	1.2nm,0.8s,baz=76,slow=5.9,SNR=1.2						

*RSPR **08** 03:58:13.3, 19°.89N×66°.03W, h61km±15km, MD3.6/6*
*NEIC **08** 03:58:14.5±1.6, 19°.68N±0°.02×66°.07W±0°.07, h23km±12km, Error ellipse: s-maj=9.2km s-min=2.1km az=101.0*
ISC 08 03:58:15.4±2.6**, 19°.8N**±0°.1×**66°.07W**±0°.07**, h35km, n43, σ0s.98**/42**, 12C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	1.34	199	⇑eP	Pn	03 58 36.9	-0.7
EMPR	Esperanza - Ma	1.34	199		Pn	03 58 36.9	-0.7
EMPR	Esperanza - Ma	1.34	199	IAML		03 59 13.7	
	comp=N,656nm,0.8s						
GCPR	Guaynabo City	1.43	180	⇑eP	Pn	03 58 37.8	-1.1
GCPR	Guaynabo City	1.43	180		Pn	03 58 37.8	-1.1
GCPR	Guaynabo City	1.43	180	IAML		03 59 00.8	
	comp=E,327nm,1.4s						
CBYP	Canovanas	1.48	172	⇑eP	Pn	03 58 38.4	-1.3
CBYP	Canovanas	1.48	172	eS	Sn	03 58 58.8	+0.9
CBYP	Canovanas	1.48	172		Pn	03 58 38.4	-1.3
CBYP				IAML		03 59 01.2	
	comp=N,394nm,0.2s						
CBYP	Canovanas	1.48	172		Sn	03 58 58.8	+0.9
CBYP	Canovanas	1.48	172	IAML		03 58 58.8	
	comp=E,466nm,0.2s						
AOPR	Arecibo Observ	1.54	205	⇑eP	Pn	03 58 39.3	-1.1
AOPR	Arecibo Observ	1.54	205		Pn	03 58 39.3	-1.1
AGPR	Aguadilla, PR	1.61	218	Pn	Pn	03 58 41.3	0.0
AGPR				IAML		03 59 27.8	
	comp=E,236nm,1.3s						
AGPR				IAML		03 59 50.5	
	comp=N,240nm,1.6s						
HUMP	Col San Antoni	1.61	172	⇑eP	Pn	03 58 40.2	-1.2
HUMP	Col San Antoni	1.61	172	eS	Sn	03 59 02.1	+1.2
HUMP	Col San Antoni	1.61	172		Pn	03 58 40.2	-1.2
HUMP					Sn	03 59 02.1	+1.2
HUMP	Col San Antoni	1.61	172	IAML		03 59 08.9	
	comp=E,183nm,0.8s						
CUPR	Culebra, Puert	1.62	152	⇑eP	Pn	03 58 40.8	-0.7
CUPR	Culebra, Puert	1.62	152		Pn	03 58 40.8	-0.7
SJG	San Juan	1.63	183		Pn	03 58 40.1	-1.5
SJG				IAML		03 59 03.0	
	comp=E,242nm,0.7s						
SJG				IAML		03 59 03.1	
	comp=E,239nm,0.8s						
MTP	Monte Pirata	1.72	163	⇑eP	Pn	03 58 42.0	-0.9
MTP	Monte Pirata	1.72	163	eS	Sn	03 59 03.7	+0.2
MTP	Monte Pirata	1.72	163		Pn	03 58 42.0	-0.9
MTP					Sn	03 59 03.7	+0.2
PDPR	Patillas Dam,	1.72	178		Pn	03 58 41.3	-1.6
PDPR				IAML		03 59 11.1	
	comp=E,172nm,1.1s						
CELP	Cerrillos	1.73	196	⇑eP	Pn	03 58 42.4	-0.7
CELP	Cerrillos	1.73	196		Pn	03 58 42.4	-0.7
OBIP	Obispado Ponce	1.77	197	⇑eP	Pn	03 58 42.9	-0.7
OBIP	Obispado Ponce	1.77	197		Pn	03 58 41.7	-1.9
OBIP				IAML		03 59 34.2	
	comp=E,330nm,0.9s						
OBIP				IAML		03 59 37.1	
	comp=N,337nm,0.8s						
IGPR	InterUniversit	1.77	181	⇑eP	Pn	03 58 42.8	-0.8
IGPR	InterUniversit	1.77	181	eS	Sn	03 59 05.7	+0.7
IGPR	InterUniversit	1.77	181		Sn	03 59 05.7	+0.7
MPR	Mayaguez	1.83	214		Pn	03 58 43.7	-0.7
LSP	Las Mesas	1.83	212	⇑eP	Pn	03 58 44.0	-0.5
LSP	Las Mesas	1.83	212	eS	Sn	03 59 07.4	+0.9
LSP	Las Mesas	1.83	212		Pn	03 58 44.0	-0.5
LSP					Sn	03 59 07.4	+0.9
ICMP	Isla Caja de M	1.90	193	Pn	Pn	03 58 44.9	-0.5
ICMP				IAML		03 59 22.7	
	comp=N,234nm,0.8s						
ICMP				IAML		03 59 27.3	
	comp=E,322nm,0.9s						
MLPR	Magueyes Islan	2.00	208	⇑eP	Pn	03 58 46.1	-0.6
MLPR	Magueyes Islan	2.00	208	eS	Sn	03 59 11.5	+1.1
MLPR	Magueyes Islan	2.00	208		Pn	03 58 46.1	-0.6
MLPR					Sn	03 59 11.5	+1.1
MLPR	Magueyes Islan	2.00	208	IAML		03 59 34.3	
	comp=N,130nm,1.1s						
CDVI	St. Croix	2.34	148		Pn	03 58 52.4	+1.0
SDDR	Presa de Saban	4.98	262		Pn	03 59 27.2	-0.6

*ARE **08** 04:16:03±2.4, 16°.82S±0°.09×70°.5W±0°.1, h13km±3km, Error ellipse: s-maj=17.7km s-min=8.3km az=124.0*
*IDC **08** 04:16:03.5±0.9, 16°.72S×70°.77W, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.8/29, mbtmp3.8/8, ML3.7/3, MS3.0/5, Ms1 3.0/5, ms1mx2.9/32, Error ellipse: s-maj=26.7km s-min=21.0km az=44.0*
*NEIC **08** 04:16:04.7±1.6, 16°.82S±0°.07×70°.87W±0°.10, h12km±5km, mb4.2/3, ML4.0(ARE), Error ellipse: s-maj=14.7km s-min=8.6km az=117.0*
ISC 08 04:16:04.5±0.7**, 16°.80S**±0°.07×**70°.83W**±0°.09**, h10km, n33, σ0s.86**/30**, mb4.0**/6**, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AP01	Chacalluta	1.63	163		Pn	04 16 32.6	-0.7
MNMC	Minye Minye	2.60	153		Pn	04 16 47.5	+0.6
LPAZ	La Paz	2.64	79	Pn	Pn	04 16 48.1	+0.4
	21nm,0.3s,baz=257,slow=13,SNR=204						
LPAZ				Sn	Sn	04 17 20.8	+0.6
	5.7nm,0.3s,baz=120,slow=20,SNR=1.5						
PSGCX	Pisagua	2.86	166		Pn	04 16 50.8	+0.4
PB08	IPOC Station P	3.68	155		Pn	04 17 02.9	+1.0
TA01	Diego Aracena	3.79	171		Pn	04 17 03.3	+0.2
PB01	IPOC Station P	4.41	163		Pn	04 17 11.1	-0.5
PB07	IPOC Station P	4.98	170		Pn	04 17 19.6	0.0
PB09	IPOC Station P	5.19	163		Pn	04 17 23.3	+0.8
PB04	IPOC Station P	5.54	173		Pn	04 17 26.9	-0.3
PB06	IPOC Station P	5.99	169	Pn	Pn	04 17 32.7	-0.8
LVC	Limon Verde	6.05	163	Pn	Pn	04 17 35.8	+1.3
	1.8nm,0.3s,baz=0.6,slow=7.6,SNR=18						
LVC				Sn	Sn	04 18 44.1	0.0
	baz=197,slow=19,SNR=1.5						
LVC				Lg	Lg	04 19 08.3	
	2.5nm,0.3s,baz=159,slow=14,SNR=7.0						
LVC				LR	LR	04 20 01.5	
	comp=Z,137nm,19.7s,baz=316,slow=39						
LVC	Limon Verde	6.05	163		Pn	04 17 34.9	+0.4
PB15	IPOC Station P	6.50	169		Pn	04 17 40.1	-0.3
PB10	IPOC Station P	6.68	178	Pn	Pn	04 17 41.6	-1.1
NNA	Nana	7.54	309	LR	LR	04 21 11.4	
	comp=Z,78nm,19.7s,baz=112,slow=41						
GO02	Mina Guanaco	8.40	172		Pn	04 18 05.9	-0.8
SIV	San Ignacio	9.40	86	Pn	Pn	04 18 18.0	-2.2
	0.5nm,0.3s,baz=278,slow=12,SNR=11						
SIV				LR	LR	04 22 02.0	
	comp=Z,68nm,21.8s,baz=201,slow=38						
ATAH	Atahualpa	12.12	322	LR	LR	04 24 13.5	
	comp=Z,107nm,19.6s,baz=185,slow=40						
PTGA	Pitinga	19.22	35	LR	LR	04 27 02.0	
	comp=Z,50nm,18.1s,baz=231,slow=34						
PLCA	Paso Flores	23.85	179	P	P	04 21 18.3	+0.3
	2.9nm,0.9s,baz=329,slow=8.3,SNR=4.8						
PLCA	Paso Flores	23.85	179	IAmb	IAmb	04 21 20.9	
	comp=Z,7.0nm,1.1s						
TXAR	Lajitas Array	55.76	325	P	P	04 25 43.8	+2.0
	comp=Z,0.3nm,0.8s,baz=144,slow=6.7,SNR=2.8						
PDAR	Pinedale Array	69.15	330	P	P	04 27 10.8	-0.6
	comp=Z,0.2nm,0.5s,baz=123,slow=6.6,SNR=3.1						
ULM	Lac du Bonnet	70.31	343	P	P	04 27 17.0	-1.1
	comp=Z,2.1nm,0.8s,baz=162,slow=8.3,SNR=5.4						
ULM	Lac du Bonnet	70.31	343	IAmb	IAmb	04 27 18.7	
	comp=Z,5.0nm,1.4s						
YNE	Yellowstone No	71.08	332	P	P	04 27 23.8	+0.6
YNE				IAmb	IAmb	04 27 26.6	
	comp=Z,2.2nm,0.8s						
YKA	Yellowknife Ar	86.18	341	P	P	04 28 45.3	-0.3
	comp=Z,0.6nm,0.6s,baz=129,slow=5.5,SNR=14						
WRA	Warramunga Arr	135.90	215	PKP	PKiKP	04 35 28.4	+0.2
	comp=Z,0.2nm,0.5s,baz=146,slow=2.0,SNR=1.1						
ZAA0	Zalesovo Array	138.38	22	PKPdf	PKPdf	04 35 30.1	0.0
ZALV	Zalesovo Beam	138.38	22	PKP	PKiKP	04 35 31.6	-0.6
	comp=Z,0.4nm,0.3s,baz=290,slow=4.2,SNR=3.8						
ZALV	Zalesovo Beam	138.38	22		PKPdf	04 35 30.7	+0.6
MJAR	Matsushiro Arr	147.64	313	PKPbc	PKiKP	04 35 51.1	-0.7
	comp=Z,1.8nm,0.9s,baz=93,slow=3.2,SNR=4.9						

TRN 08 04:18:48.9, 11°.01N×61°.16W, h10km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.43	213	eP	Pg	04 18 57.7	+0.3
TRN				eS	Sg	04 19 03.6	+0.5
TBH	Brigand Hill	0.53	170	eP	Pg	04 18 59.4	+0.1
TBH				eS	Sg	04 19 07.1	+0.8
TPP	Pointe-a-Pierr	0.75	203	eS	Sb	04 19 14.4	+0.1
GRGR	Grenville	1.21	337	eP	Pg	04 19 12.2	0.0
GRGR				eS	Sn	04 19 28.9	+0.4
SVB	Belmont	2.25	358	eP	Pn	04 19 27.0	+0.8
SVB				eS	Sn	04 19 55.2	+1.2
MCLT	Moule a Chique	2.69	5	eP	Pn	04 19 32.9	+0.6
MCLT				eS	Sn	04 20 05.2	+0.2
SLBI	Saint Lucia, B	3.00	3	eP	Pn	04 19 36.5	0.0
SLBI				eS	Sn	04 20 11.7	-0.8

*IDC **08** 04:41:43.6±1.8, 50°.54N×173°.44W, h0km, mb3.7/8, mb1 4.0/10, mb1mx3.7/44, mbtmp3.7/10, ML3.4/2, Error ellipse: s-maj=46.1km s-min=20.3km az=13.0*
*NEIC **08** 04:41:48.0±1.0, 50°.69N±0°.03×173°.31W±0°.07, h24km±7km, Error ellipse: s-maj=7.2km s-min=3.8km az=68.0*
*AEIC **08** 04:41:49±1.1, 50°.72N±0°.03×173°.32W±0°.04, h20km±2km, ML3.5/25, Error ellipse: s-maj=5.8km s-min=3.9km az=170.0*
ISC 08 04:41:49.0±0.9**, 50°.7N**±0°.1×**173°.32W**±0°.04**, h35km, n29, σ1s.09**/35**, mb3.6**/8**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	1.64	341		Pn	04 42 15.1	-0.2
ATKA					Sn	04 42 36.8	+1.8
KOFP	Korovin Flat P	1.69	343		Pn	04 42 16.4	+0.3
KOKL	Mount Kliuchef	1.75	342		Pn	04 42 17.2	+0.2
GSMY	Great Sitkin M	2.20	310		Pn	04 42 22.6	-0.5
GSTR	Great Sitkin T	2.24	311		Pn	04 42 23.6	0.0
GSTD	Great Sitkin T	2.25	309		Pn	04 42 23.4	-0.5
GSTD					Sn	04 42 49.7	-0.8
ADK	Adak	2.44	301		Pn	04 42 25.6	-0.7
ADK					Sn	04 42 53.5	-1.5
ADAG	Mount Adagdak	2.45	304		Pn	04 42 26.6	+0.2
KIRH	Kanaga Island	2.67	299		Pn	04 42 29.5	0.0
TAFP	Tanaga Falls P	3.18	295		Pn	04 42 36.7	+0.2
TAFP					Sn	04 43 13.4	+0.2
NIKH	Nikolski High	3.61	48		Pn	04 42 41.5	-0.8
NIKH					Sn	04 43 22.6	-1.1
OKSP	Okmok Steeple	4.05	48		Pn	04 42 48.0	-0.4
OKTU	Okmok Mt. Tuli	4.25	48		Pn	04 42 51.4	+0.2
AMKA	Amchitka	4.71	282	Pn	Pn	04 42 57.7	+0.2
MAPS	Pakushin South	5.03	49		Pn	04 43 01.6	-0.3
MGOD	Makushin Gods	5.05	49		Pn	04 43 02.0	-0.3
MSW	Makushin Switc	5.17	48		Pn	04 43 03.2	-0.6
MNAT	Makushin Natee	5.19	49		Pn	04 43 04.0	-0.2
KDAK	Kodiak Island	14.03	51	Pn	Pn	04 45 00.6	-4.4
	0.4nm,0.3s,baz=240,slow=7.6,SNR=1.7						
PETK	Petropavlovsk-	18.00	289	P	Pn	04 45 55.1	-1.1
	0.1nm,0.3s,baz=328,slow=6.8,SNR=2.2						
ILAR	Eielson Array	19.75	34	P	P	04 46 15.3	-0.2
	0.5nm,0.3s,baz=230,slow=9.6,SNR=36						
SEY	Seymchan	22.12	317	P	P	04 46 40.5	-0.5
	0.8nm,0.5s,baz=17,slow=19,SNR=1.7						
INK	Inuvik	26.12	33	P	P	04 47 20.2	+1.0
	2.2nm,0.7s,baz=232,slow=8.3,SNR=2.8						
YKA	Yellowknife Ar	33.22	46	P	P	04 48 23.9	+1.7
	0.7nm,0.9s,baz=274,slow=8.2,SNR=9.9						
YKA				PcP	PcP	04 51 04.3	+0.5
	0.1nm,0.4s,baz=274,slow=2.0,SNR=2.0						
NVAR	Mina Array Bea	40.18	86	P	P	04 49 23.4	+1.5
	0.6nm,0.9s,baz=354,slow=6.8,SNR=3.7						
PDAR	Pinedale Array	43.19	75	P	P	04 49 46.7	+0.1
	0.6nm,0.6s,baz=347,slow=3.7,SNR=6.1						
TXAR	Lajitas Array	55.31	85	P	P	04 51 18.6	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.5nm,0.7s,baz=303,slow=6.9,SNR=7.5						
ARCES	ARCESS Array B	59.32	352	P	P	04 51 47.4	+0.7
	6.1nm,0.9s,baz=20,slow=8.0,SNR=4.1						
MKAR	Makanchi Array	63.14	312	P	P	04 52 13.0	+0.1
	0.4nm,0.7s,baz=48,slow=5.6,SNR=4.7						

*IDC **08** 04:53:17.2±2.3, 0°.89N×126°.30E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/28, mbtmp3.7/3, Error ellipse: s-maj=215.7km s-min=27.0km az=65.0*
*DJA **08** 04:53:23.2±0.4, 1°N±7°×12°6E±°, h10km, M3.3/6, MLv3.3/6*
ISC 08 04:53:19.0±1.1, **0°.9N**±0°.2×**126°.38E**±0°.08, **h10**km, **n5**, σ**0s.83**/6, **mb3.8**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.00	98	P	Pn	04 53 40.1	+0.9
TNTI				S	Sn	04 53 52.7	-0.6
GTOI	Gorontalo	3.38	265	P	Pb	04 54 19.3	+0.3
WRA	Warramunga Arr	22.14	160	P	P	04 58 14.5	-0.6
	2.2nm,0.5s,baz=342,slow=12,SNR=43						
ASAR	Alice Springs	25.50	164	P	P	04 58 47.6	-0.1
	0.7nm,0.3s,baz=341,slow=7.9,SNR=16						
MKAR	Makanchi Array	59.68	326	P	P	05 03 23.2	-0.5
	0.2nm,0.5s,baz=121,slow=8.9,SNR=3.5						

*NOU **08** 05:15:03.1, 30°.50S×138°.43E, h0km, MLv3.4, South Australia*
IDC 08 05:15:01.9±3.6, **30°.37S**×**138°.51E**, **h0**km, **mb1 3.1**/3, **mb1mx3.1**/28, **mbtmp2.9**/3, **ML2.8**/3, **Error ellipse: s-maj=91.0km s-min=17.6km az=42.0, South Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.04	120	Pn	Pn	05 15 51.7	+0.4
	0.3nm,0.3s,baz=304,slow=13,SNR=11						
STKA				Sn	Sn	05 16 26.6	-1.9
	2.0nm,0.3s,baz=278,slow=15,SNR=5.9						
STKA				Lg	Lg	05 16 37.8	
	1.2nm,0.3s,baz=189,slow=20,SNR=3.7						
ASAR	Alice Springs	7.84	327	Pn	Pn	05 16 57.9	+0.7
	0.2nm,0.3s,baz=148,slow=12,SNR=21						
ASAR				Sn	Sn	05 18 25.3	-1.4
	0.1nm,0.3s,baz=155,slow=21,SNR=3.4						
WRA	Warramunga Arr	11.05	339	Pn	Pn	05 17 41.2	0.0
	0.1nm,0.3s,baz=160,slow=15,SNR=7.4						

ASRS 08 05:18:34.7±0.3, **51°N**±2°×**9°8E**±°, **h5**km, **MLh3.5**/5, **smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNGR	Kungurtug, Tuv	1.02	216	Pg	Pb	05 18 55.0	0.0
KNGR				Sg	Sg	05 19 07.8	+0.3
TDJR	Todzha	1.75	304	Pg	Pg	05 19 11.9	+3.8
TDJR				Sg	Sg	05 19 36.2	+5.4
KZLR	Kyzyl	2.51	278	Pg	Pg	05 19 23.8	+1.1
KZLR				Sg	Sg	05 19 57.0	+1.8
ZAK	Zakamensk	3.23	107	Pg	Pg	05 19 36.4	-0.3
ZAK				Sg	Sg	05 20 20.9	+2.4
TLY	Talaya	3.25	84	Sg	Sg	05 20 21.5	+2.5
ARDR	Aradan	3.31	292	Pg	Pg	05 19 38.2	+0.2
ARDR				Sg	Sg	05 20 22.6	+1.8
BLRR	Bol'shaya Rech	4.03	296	Pg	Pg	05 19 52.8	+0.9
BLRR				Sg	Sg	05 20 44.7	+0.5
ORY	Orie	4.10	332	Pg	Pg	05 19 54.7	+1.5
ORY				Sg	Sg	05 20 48.6	+2.4
KTRR	Kuturchin	4.33	326	Pg	Pg	05 19 58.2	+0.6
KTRR				Sg	Sg	05 20 57.1	+3.4
DJOS	Djoyskaya Sosn	4.55	290	Sg	Sg	05 21 04.8	+3.9
CERR	Cheremushki	4.56	291	Sg	Sg	05 21 03.5	+2.5
DJO	Djoy, Khakassi	4.66	290	Sg	Sg	05 21 04.5	+0.3
ABNR	Abakan	4.85	301	Sg	Sg	05 21 12.5	+2.1
TRG	Tyrgan	5.04	72	Pg	Pg	05 20 11.7	+0.5
TRG				Sg	Sg	05 21 16.2	-0.4
TEL	Teeli	5.20	269	Pg	Pg	05 20 12.9	-1.4
TEL				Sg	Sg	05 21 25.6	+4.0
SHTK	Zheleznogorsk-	5.68	332	P	Pn	05 20 00.2	+0.6
SHTK				Pg	Pg	05 20 19.1	-4.3
SHTK				Sg	Sg	05 21 33.3	-3.5
SHRR	Shira	5.87	305	Sg	Sg	05 21 42.5	-0.4
LUZB	Luzhba, Kemero	6.24	295	Pg	Pg	05 20 31.0	-3.0
LUZB				Sg	Sg	05 21 52.1	-2.7
CUR	Chagan-Uzun	6.55	262	Pg	Pg	05 20 39.0	-1.0
CUR				Sg	Sg	05 21 59.4	-5.4
ULN	Ulaanbaatar	6.63	119	Pg	Pg	05 20 38.9	-2.8
ULN				Sg	Sg	05 22 07.0	-0.5
TASR	Tashtagol	6.65	286	Pg	Pg	05 20 39.6	-2.3
TASR				Sg	Sg	05 22 05.1	-2.9
ULGR	Ulagan, Altay	6.67	267	Sg	Sg	05 22 05.6	-3.0
ARTR	Artybash	6.97	277	Sg	Sg	05 22 16.6	-1.6
CHBI	Chibit, Altay	7.02	265	Sg	Sg	05 22 19.5	-0.4

*BJI **08** 05:45:12.0±0.0, 22°.36N×95°.77E, h10km, mB4.6/17, mb4.4/29, ML4.1/5, Ms4.1/10, Ms7 3.8/10*
*NEIC **08** 05:45:15.9±1.3, 22°.59N±0°.08×95°.83E±0°.08, h10km±1km, mb4.4/18, Error ellipse: s-maj=14.5km s-min=10.3km az=42.0*
*IDC **08** 05:45:15.8±0.8, 22°.74N×95°.92E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.8/42, mbtmp4.0/13, ML4.2/1, MS3.2/3, Ms1 3.3/3, ms1mx2.9/49, Error ellipse: s-maj=33.0km s-min=12.7km az=60.0*
*NDI **08** 05:45:20.7±2.2, 22°.79N×95°.82E, h10km, ML3.5, mb4.4(NEIC)*
ISC 08 05:45:16.5±0.4, **22°.65N**±0°.04×**95°.91E**±0°.04, **h10**km, **n81**, σ**1s.77**/94, **mb4.2**/18, **1D, Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAIH	SAIHA	2.70	267	eP	Pb	05 46 05.0	-0.1
SAIH				eS	Sb	05 46 39.5	+1.2
IMP	Imphal	2.82	321	eP	Pn	05 46 03.7	+2.0
IMP				IAML		05 46 45.3	
	comp=N,181nm,0.9s						
IMP				IAML		05 46 50.5	
	comp=E,161nm,0.6s						
KOHI	KOHIMA	3.47	332	eP	Pn	05 46 12.3	+1.5
KOHI				eS	Sn	05 46 53.0	+0.9
KOHI				IAML		05 47 04.9	
	comp=N,210nm,1.0s						
KOHI				IAML		05 47 07.8	
	comp=E,382nm,0.8s						
MOKO	MOKOCHONG	3.87	341	eP	Pn	05 46 18.5	+2.3
SHL	Shillong	4.69	309	eP	Pn	05 46 28.8	+1.3
SHL				eS	Sn	05 47 19.8	-2.3
SHL				IAML		05 47 25.9	
	comp=E,91nm,0.7s						
SHL	Shillong	4.69	309	Pn	Pn	05 46 28.1	+0.6
CHTO	Chiang Mai	4.75	143	Pn	Pn	05 46 27.5	-0.8
CMMT	Chiang Mai	4.76	143	P	Pn	05 46 29.2	+0.8
CMMT				S	Sg	05 47 43.5	-5.9
CRAI	Chiangrai	4.81	119	P	Pn	05 46 26.6	-2.4
CRAI				S	Sg	05 47 49.0	-1.9
MHMT	Maesarieng	4.83	156	P	Pg	05 46 47.1	-2.0
MHMT				S	Sg	05 47 57.4	+5.6
CM31	Chiang Mai Arr	5.04	145	Pn	Pn	05 46 31.4	-0.9
CMAR	Chiang Mai Arr	5.04	145	Pn	Pn	05 46 34.2	+1.9
	comp=E,2.2nm,0.3s,baz=325,slow=13,SNR=26						
CMAR				Lg	Lg	05 47 59.1	
	comp=E,9.1nm,0.3s,baz=321,slow=30,SNR=8.7						
CMAR				LR	LR	05 48 34.1	
	comp=E,158nm,20.8s,baz=12,slow=39						
CM05	Chiang Mai Arr	5.09	145	P	Pg	05 46 52.4	-1.7
CM05				S	Sg	05 48 00.3	+0.2
GUWA	GUWAHATI	5.22	313	eP	Pn	05 46 35.7	+1.1
GUWA				eS	Sn	05 47 31.4	-3.5
GUWA				IAML		05 47 38.7	
	comp=E,44nm,0.9s						
GUWA				IAML		05 47 39.3	
	comp=N,58nm,0.6s						
SUKH	Sukhothai	6.22	145	P	Pn	05 46 50.4	+2.1
SUKH				S	Sg	05 48 31.1	-5.0
UTTA	Uttaradit	6.54	137	P	Pn	05 46 54.2	+1.3
UTTA				S	Sg	05 48 45.4	-1.2
KMI	Kunming	6.72	67	⇓Pn	Pn	05 46 56.7	+1.2
KMI				Sg	Sg	05 48 50.4	-2.0
KMI				smax	smax		
	comp=N,170nm,1.3s						
KMI				smax	smax		
	comp=N,90nm,1.1s						
KMI				LR	LR		
	comp=N,1µm,5.9s						
KMI				LR	LR		
	comp=N,530nm,5.5s						
KMI				LR	LR		
	comp=N,630nm,9.4s						
PHIT	Phitsanulok	6.89	141	P	Pn	05 46 59.6	+2.0
PHIT				S	Sg	05 48 59.4	+1.7
UMPA	Umpang Tak	6.99	156	P	Pg	05 47 34.1	+3.8
SLVN	Son La	7.54	98		Pn	05 47 06.9	+0.3
UTHA	Uthaitani	7.80	154	P	Pg	05 47 43.8	-2.2
LSA	Lhasa	8.22	330	P	Pn	05 47 17.6	+1.3
LSA				S	Sn	05 48 47.2	-2.3
LSA				smax	smax		
	comp=N,58nm,0.9s						
LSA				smax	smax		
	comp=N,27nm,0.7s						
LSA	Lhasa	8.22	330	Pn	Pn	05 47 15.2	-1.2
TAPN	Taplejung	8.79	304	eP	Pn	05 47 25.1	+1.2
ODAN	Odare	8.80	300	eP	Pn	05 47 26.3	+2.2
CHAI	Chaiyaphum	8.83	138	P	Pg	05 48 08.8	+3.2
RAMN	Ramite	9.48	299	eP	Pn	05 47 34.1	+0.8
GUN	Gumba	10.48	302	eP	Pn	05 47 48.2	+1.1
	comp=N,15nm,0.3s						
PKI	Pulchoki	10.70	299	eP	Pn	05 47 51.4	+1.2
	comp=N,18nm,0.6s						
PKIN	Phulchoki	10.71	299	eP	Pn	05 47 51.9	+1.6
	comp=N,21nm,0.5s						
CD2	Chengdu	10.81	39	eP	Pn	05 47 55.5	+4.1
CD2				pmax	pmax		
	comp=N,10.0nm,0.8s						
CD2				LR	LR		
	comp=N,630nm,9.6s						
CD2				LR	LR		
	comp=N,590nm,8.8s						
CD2				LR	LR		
	comp=N,630nm,11.8s						
DMN	Daman	10.96	299	eP	Pn	05 47 54.2	+0.5
GKN	Gorkha	11.50	300	eP	Pn	05 48 01.7	+0.7
	comp=N,35nm,0.5s						
UBPT	Khong Chiam	11.64	127	Pn	Pn	05 48 00.1	-2.7
QIZ	Qiongzhong	13.52	103	P	Pn	05 48 27.1	-1.3
QIZ				S	Sn	05 50 58.7	-0.1
QIZ				LR	LR		
	comp=N,500nm,7.0s						
QIZ				LR	LR		
	comp=N,300nm,8.0s						
QIZ				LR	LR		
	comp=N,190nm,7.6s						
LZH	Lanzhou	15.07	25	eP	P	05 48 57.5	+2.5
LZH				pP	sP	05 49 00.4	+1.2
LZH				sP	pP	05 49 02.1	+4.2
LZH				pmax	pmax		
	comp=Z,52nm,1.0s						
DLV	T Lat	16.04	129	Pn	Pn	05 49 00.5	-1.9
DLV				IAmb	IAmb	05 49 55.0	
	comp=Z,69nm,1.8s						
XAN	Xi'an	16.11	42	P	P	05 49 07.1	+0.6
XAN				pmax	pmax		
	comp=Z,15nm,1.4s						
XAN				LR	LR		
	comp=Z,340nm,11.9s						
XAN				LR	LR		
	comp=Z,300nm,13.0s						
XAN				LR	LR		
	comp=Z,420nm,15.2s						
XAN	Xi'an	16.11	42		Pn	05 49 02.2	-0.9
PSI	Prapat	19.94	171	P	Pn	05 49 53.1	+2.6
	comp=Z,9.5nm,0.9s,baz=360,slow=9.0,SNR=8.6						
RPSI	Rantau Prapat	20.05	171		P	05 49 49.1	-0.7
RPSI				IAmb	IAmb	05 49 55.9	
	comp=Z,12nm,0.9s						
RPSI	Rantau Prapat	20.05	171	P	Pn	05 49 53.1	+1.5
PALK	Pallekele	21.16	226	LR	LR	05 57 24.8	
	comp=Z,54nm,21.2s,baz=147,slow=34						
PALK	Pallekele	21.16	226	P	P	05 49 59.9	-2.1
PALK				IAmb	IAmb	05 50 08.0	
	comp=Z,26nm,1.4s						
WMQ	Urumqi	22.18	344	eP	P	05 50 12.6	-0.3
WMQ				pP	pP	05 50 16.0	+0.2
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,260nm,5.7s						
WMQ	Urumqi	22.18	344	P	P	05 50 12.1	-0.8
WMQ				IAmb	IAmb	05 50 26.1	
	comp=Z,10.0nm,0.8s						
HHC	Hu-ho-hao-te	22.45	32	eP	P	05 50 15.4	-0.4
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,5.4s						
NIL	Nilore	22.74	304	P	P	05 50 16.8	-2.0
TIA	Tai'an	22.83	49	P	P	05 50 21.2	+1.4
TIA				pmax	pmax		
	comp=Z,12nm,1.0s						
KSH	Kashi	23.88	319	P	P	05 50 30.6	+0.2
KSH				pP	pP	05 50 33.9	+0.5
KSH				pmax	pmax		
	comp=Z,29nm,0.7s						
KSH				pmax	pmax		
	comp=Z,400nm,6.5s						
BJT	Baijiatuau	24.39	40	P	P	05 50 35.0	+0.1
KBL	Kabul	26.31	303	P	P	05 50 51.1	-1.6
KBL				IAmb	IAmb	05 51 01.7	
	comp=Z,5.1nm,0.8s						
MK31	Makanchi Array	26.49	339	P	P	05 50 53.5	-0.5
MKAR	Makanchi Array	26.49	339	P	P	05 50 53.6	-0.3
	comp=Z,2.8nm,0.5s,baz=148,slow=10,SNR=24						
MKAR				PcP	PcP	05 54 20.0	+1.2
	comp=Z,0.2nm,0.6s,baz=144,slow=1.5,SNR=2.3						
SONM	Songino Array	26.50	16	P	P	05 50 54.4	+0.2
	comp=Z,0.8nm,0.8s,baz=195,slow=9.6,SNR=5.0						
MAKZ	Makanchi	26.60	338	P	P	05 50 55.0	0.0
AAK	Ala-Archa	26.75	323	P	P	05 50 56.7	+0.3
	comp=Z,4.3nm,0.6s,baz=109,slow=3.0,SNR=14						
AAK	Ala-Archa	26.75	323	P	P	05 50 56.7	+0.3
AAK				IAmb	IAmb	05 50 59.0	
	comp=Z,12nm,1.3s						
KK07	Karatay Array	29.32	320	P	P	05 51 18.3	-1.1
KK05	Karatay Array	29.32	320	P	P	05 51 18.7	-0.6
KK04	Karatay Array	29.33	320	P	P	05 51 18.8	-0.6
KURBB	Kurchatov Arra	31.05	338	P	P	05 51 33.9	-0.6
	comp=Z,0.9nm,0.4s,baz=146,slow=9.7,SNR=5.9						
KURK	Kurchatov	31.10	339	P	P	05 51 33.9	-1.0
KSRS	Korea Array	31.22	54	LR	LR	06 05 21.6	
	comp=Z,80nm,18.2s,baz=358,slow=39						
ZALV	Zalesovo Beam	32.36	348	P	P	05 51 47.6	+1.6
	comp=Z,0.5nm,0.3s,baz=178,slow=8.5,SNR=2.2						
BVAR	Borovoye Array	36.03	334	P	P	05 52 17.5	-0.3
	comp=Z,1.1nm,0.7s,baz=185,slow=13,SNR=6.4						
BRVK	Borovoye	36.10	334	P	P	05 52 18.0	-0.4
BRVK				IAmb	IAmb	05 52 56.2	
	comp=Z,11nm,1.6s						
INU	Inuyama	37.86	61	P	P	05 52 33.6	0.0
AB02	Akbulak array	38.82	322	P	P	05 52 41.7	+0.2
ABKAR	Akbulak array	38.82	322	P	P	05 52 41.3	-0.2
AB09	Akbulak array	38.84	322	P	P	05 52 41.3	-0.4
MAT	Matsushiro	38.99	59	P	P	05 52 43.6	+0.4
MAT				eS	S	05 58 43.2	+1.0
MJAR	Matsushiro Arr	39.00	59	P	P	05 52 43.8	+0.6
	comp=Z,5.4nm,0.9s,baz=270,slow=11,SNR=11						
AKTO	Aktyubinsk	40.49	323	P	P	05 52 55.4	0.0
	comp=Z,1.0nm,0.4s,baz=125,slow=8.9,SNR=3.0						
MA2	Magadan	53.12	31	P	P	05 54 34.3	+0.1
WRA	Warramunga Arr	56.56	136	P	P	05 55 00.1	+0.5
	comp=Z,1.9nm,0.9s,baz=327,slow=7.6,SNR=8.1						
ASAR	Alice Springs	59.02	139	P	P	05 55 17.7	+0.8
	comp=Z,0.6nm,0.8s,baz=326,slow=7.0,SNR=6.3						
SUW	Suwalki	61.90	320	P	P	05 55 35.5	-0.6
LIT	Litokhoron	63.39	305	P	P	05 55 44.9	-1.5
VYHS	Vyhne	64.95	314	eP	P	05 55 54.1	-2.3
ILAR	Eielson Array	80.51	23	P	P	05 57 29.5	+0.9
	comp=Z,0.4nm,0.7s,baz=284,slow=5.3,SNR=5.9						

*NEIC **08** 05:48:06.4±2.4, 19°.9N±0°.1×66°.27W±0°.05, h53km±56km, Error ellipse: s-maj=18.2km s-min=7.0km az=174.0*
*RSPR **08** 05:48:07.2, 19°.59N×66°.26W, h139km±5km, MD3.5/5*
ISC 08 05:48:07.4±4.3, **19°.9N**±0°.2×**66°.2W**±0°.1, **h35**km, **n22**, σ**0s.88**/23, **5C-2D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GCPR	Guaynabo City	1.60	175	Pn	Pn	05 48 31.7	-1.5
GCPR				IAML		05 48 55.5	
	comp=E,27nm,1.1s						
AOPR	Arecibo Observ	1.63	197	⇑eP	Pn	05 48 33.8	+0.2
AOPR	Arecibo Observ	1.63	197	eS	Sn	05 48 54.8	+1.4
AOPR	Arecibo Observ	1.63	197		Pn	05 48 33.5	-0.1
CBYP	Canovanas	1.67	167	⇓eP	Pn	05 48 34.1	-0.1
CBYP	Canovanas	1.67	167	eS	Sn	05 48 55.6	+1.2
CBYP	Canovanas	1.67	167		Pn	05 48 32.3	-1.9
CBYP					Sn	05 48 55.1	+0.7
CBYP				IAML		05 48 55.2	
	comp=N,40nm,0.2s						
CBYP				IAML		05 48 57.5	
	comp=E,48nm,0.2s						
SJG	San Juan	1.79	177	Pn	Pn	05 48 35.2	-0.6
SJG				IAML		05 48 55.1	
	comp=E,30nm,0.6s						
SJG				IAML		05 49 01.4	
	comp=E,26nm,0.6s						
HUMP	Col San Antoni	1.80	168	⇑eP	Pn	05 48 35.4	-0.5
HUMP	Col San Antoni	1.80	168		Pn	05 48 34.7	-1.2
CUPR	Culebra, Puert	1.83	150	⇑eP	Pn	05 48 36.8	+0.4
CUPR	Culebra, Puert	1.83	150	Pn	Pn	05 48 36.0	-0.4
OBIP	Obispado Ponce	1.89	191	⇑eP	Pn	05 48 36.6	-0.6
OBIP	Obispado Ponce	1.89	191	eS	Sn	05 48 59.3	-0.4
OBIP	Obispado Ponce	1.89	191		Pn	05 48 35.8	-1.4
OBIP				IAML		05 48 58.8	
	comp=E,26nm,1.1s						
OBIP				IAML		05 49 22.8	
	comp=N,27nm,3.6s						
PDPR	Patillas Dam,	1.89	174	Pn	Pn	05 48 37.6	+0.3
PDPR				IAML		05 49 11.4	
	comp=E,42nm,1.8s						
MTP	Monte Pirata	1.92	160	⇑eP	Pn	05 48 37.5	0.0
MTP	Monte Pirata	1.92	160	eS	Sn	05 49 00.5	+0.1
MTP	Monte Pirata	1.92	160	Pn	Pn	05 48 38.3	+0.7
MTP				IAML		05 49 36.0	
	comp=N,19nm,3.2s						
MTP				IAML		05 49 36.9	
	comp=E,23nm,2.7s						
IGPR	InterUniversit	1.94	176	⇓eP	Pn	05 48 37.4	-0.5
IGPR	InterUniversit	1.94	176	eS	Sn	05 49 00.7	-0.2
MLPR	Magueyes Islan	2.08	202	Pn	Pn	05 48 40.0	+0.3
MLPR				IAML		05 49 09.5	
	comp=E,28nm,2.5s						

*MDD **08** 06:02:14.1±1.1, 37°.47N×16°.15W, h0km, mb4.8/21, Error ellipse: s-maj=15.2km s-min=7.5km az=133.0, PRXIMO*
*IGIL **08** 06:02:17.5, 37°.38N×16°.35W, h31km, ML3.8*
*INMG **08** 06:02:18.5±2.5, 37°.41N×16°.35W, h10km, ML3.7, Error ellipse: s-maj=9.5km s-min=3.6km az=118.0*
*NEIC **08** 06:02:23.5±3.0, 37°.89N±0°.09×15°.3W±0°.1, h10km±2km, mb4.4/4, Error ellipse: s-maj=17.2km s-min=15.6km az=299.0*
*CNRM **08** 06:02:24.4, 37°.52N×15°.34W, h17km, Hypocentre not reviewed by the ISC*
ISC 08 06:02:12.4±0.6, **37°.44N**±0°.02×**15°.98W**±0°.03, **h10**km, **n144**, σ**3s.49**/205, **Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMPST	Porto Santo, M	4.36	184	ePn	Pn	06 03 19.7	+1.0
PMPST				eSn	Sn	06 04 02.9	-6.7
PMPST				A	A	06 04 04.3	
	112nm,0.6s						
PMPS	Porto Santo	4.38	184	P	Pn	06 03 19.7	+0.7
PMPS				S	Sn	06 04 02.9	-7.2
	56nm,0.6s						
PMPS	Porto Santo	4.38	184	ePn	Pn	06 03 20.3	+1.3
PMPS				eSn	Sn	06 04 03.5	-6.6
PMPS				A	A	06 04 05.6	
	80nm,0.3s						
PMOZ	Porto Moniz, M	4.71	193	P	Pn	06 03 24.9	+1.2
	36nm,0.3s,SNR=7.9						
PMOZ				S	Sn	06 04 10.0	-8.4
	205nm,0.4s,SNR=7.9						
PMOZ	Porto Moniz, M	4.71	193	ePn	Pn	06 03 24.8	+1.2
PMOZ				eSn	Sn	06 04 10.9	-7.5
PMOZ				A	A	06 04 13.0	
	219nm,0.6s						
PMAR	Madeira	4.77	189	P	Pn	06 03 25.1	+0.7
PMAR				S	Sn	06 04 11.8	-8.1
	75nm,0.2s						
PMAR	Madeira	4.77	189	ePn	Pn	06 03 25.1	+0.7
PMAR				eSn	Sn	06 04 11.8	-8.1
PMAR				A	A	06 04 17.2	
	151nm,0.2s						
FUL	Funchal	4.84	189	P	Pn	06 03 26.4	+1.1
FUL				S	Sn	06 04 13.1	-8.3
	90nm,0.2s						
FUL	Funchal	4.84	189	ePn	Pn	06 03 26.4	+1.1
FUL				eSn	Sn	06 04 13.1	-8.3
FUL				A	A	06 04 14.6	
	180nm,0.2s						
PMAFR	Mafra	5.49	72	P	Pn	06 03 38.7	+4.5
	34nm,0.1s,SNR=70						
PMAFR				S	Sn	06 04 37.1	-0.3
	144nm,0.2s,SNR=10						
PMAFR	Mafra	5.49	72	ePn	Pn	06 03 39.1	+4.9
PMAFR				eSn	Sn	06 04 37.9	+0.5
PMAFR				A	A	06 04 41.4	
	115nm,0.2s						
PMAFR	Mafra	5.49	72		Pn	06 03 38.7	+4.5
LIS	Lisbon	5.54	75	eP	Pn	06 03 39.2	+4.3
LIS				eS	Sn	06 04 38.9	+0.3
LIS				AML	AML	06 04 42.7	
	comp=N,162nm,0.2s						
LIS	Lisbon	5.54	75	P	Pn	06 03 39.2	+4.3
LIS				S	Sn	06 04 38.9	+0.3
	comp=N,162nm,0.2s						
LIS	Lisbon	5.54	75	ePn	Pn	06 03 39.7	+4.8
LIS				eSn	Sn	06 04 39.3	+0.7
LIS				A	A	06 04 44.2	
	comp=N,108nm,0.2s						
INMG	Instituto de M	5.57	74	S	Sn	06 04 42.4	+3.1
INMG	Instituto de M	5.57	74	eSn	Sn	06 04 42.4	+3.1
PFVI	Vila Bisbo	5.71	91	P	Pn	06 03 41.5	+4.3
	comp=N,10nm,0.1s,SNR=19						
PFVI				S	Sn	06 04 41.8	-1.1
	comp=N,52nm,0.2s,SNR=5.9						
PFVI	Vila Bisbo	5.71	91	ePn	Pn	06 03 41.6	+4.3
PFVI				eSn	Sn	06 04 42.0	-0.9
PFVI				A	A	06 04 48.4	
	comp=N,21nm,0.2s						
PFVI	Vila Bisbo	5.71	91		Pn	06 03 41.3	+4.1
PFVI	Vila Bisbo	5.71	91	P		06 03 41.7	
PTEO	Sao Teotonio	5.77	87	P	Pn	06 03 42.2	+4.1
PTEO				S	Sn	06 04 43.1	-1.3
	comp=N,21nm,0.3s						
PTEO	Sao Teotonio	5.77	87	ePn	Pn	06 03 42.2	+4.1
PTEO				eSn	Sn	06 04 43.1	-1.3
PTEO				A	A	06 04 48.5	
	comp=N,41nm,0.3s						
MORF	Marmelete	5.84	89	eP	Pn	06 03 43.1	+4.1
MORF				eS	Sn	06 04 45.8	-0.4
MORF				AML	AML	06 04 50.0	
	comp=N,92nm,0.1s						
MORF	Marmelete	5.84	89	P	Pn	06 03 43.1	+4.1
MORF				S	Sn	06 04 45.8	-0.4
	comp=N,92nm,0.1s						
MORF	Marmelete	5.84	89	ePn	Pn	06 03 43.2	+4.1
MORF				eSn	Sn	06 04 46.7	+0.6
MORF				A	A	06 04 51.8	
	comp=N,57nm,0.2s						
PNCL	Nicolau / Gran	5.94	81	P	Pn	06 03 44.5	+4.1
PNCL				S	Sn	06 04 47.2	-1.3
	comp=N,42nm,0.3s						
PNCL	Nicolau / Gran	5.94	81	ePn	Pn	06 03 44.5	+4.1
PNCL				eSn	Sn	06 04 47.2	-1.3
PNCL				A	A	06 04 51.5	
	comp=N,42nm,0.3s						
PSBE	So Bento	6.01	68	ePn	Pn	06 03 45.9	+4.6
PSBE				eSn	Sn	06 04 50.9	+0.7
PSBE				A	A	06 05 02.0	
	comp=N,17nm,0.3s						
MESJ	Messejana	6.17	84	eP	Pn	06 03 47.6	+4.1
MESJ				eS	Sn	06 04 53.3	-0.9
MESJ				AML	AML	06 04 57.8	
	comp=N,84nm,0.3s						
MESJ	Messejana	6.17	84	P	Pn	06 03 47.6	+4.1

MESJ				S	Sn	06 04 53.3	-0.9
	comp=N,84nm,0.3s						
MESJ	Messejana	6.17	84	ePn	Pn	06 03 47.7	+4.1
MESJ				eSn	Sn	06 04 54.6	+0.4
MESJ				A	A	06 04 58.8	
	comp=N,38nm,0.2s						
PCVE	Castro Verde	6.32	86	P	Pn	06 03 49.3	+3.8
PCVE				S	Sn	06 04 57.1	-0.6
	comp=N,18nm,0.1s						
PCVE	Castro Verde	6.32	86	ePn	Pn	06 03 49.3	+3.8
PCVE				eSn	Sn	06 04 57.1	-0.6
PCVE				A	A	06 05 02.3	
	comp=N,18nm,0.1s						
PMTG	Montargil	6.32	73	P	Pn	06 03 49.6	+4.0
PMTG				S	Sn	06 04 56.8	-1.0
	comp=N,20nm,0.4s						
PMTG	Montargil	6.32	73	ePn	Pn	06 03 49.6	+4.0
PMTG				eSn	Sn	06 04 56.8	-1.0
PMTG				A	A	06 05 01.1	
	comp=N,20nm,0.4s						
EVO	Evora	6.39	78	P	Pn	06 03 50.6	+4.1
EVO				S	Sn	06 04 59.7	+0.2
	comp=N,36nm,0.1s						
EVO	Evora	6.39	78	eP	Pn	06 03 50.4	+3.9
EVO				eS	Sn	06 04 59.1	-0.4
EVO	Evora	6.39	78	ePn	Pn	06 03 50.6	+4.1
EVO				eSn	Sn	06 04 59.7	+0.2
EVO				A	A	06 05 01.0	
	comp=N,36nm,0.1s						
PBDV	Barranco-do-Ve	6.42	89	P	Pn	06 03 51.4	+4.4
PBDV				S	Sn	06 05 00.5	+0.2
	comp=N,28nm,0.2s						
PBDV	Barranco-do-Ve	6.42	89	ePn	Pn	06 03 51.4	+4.4
PBDV				eSn	Sn	06 05 00.5	+0.2
PBDV				A	A	06 05 08.0	
	comp=N,28nm,0.2s						
PBEJ	Beja	6.46	82	P	Pn	06 03 52.1	+4.6
PBEJ				S	Sn	06 05 00.6	-0.7
	comp=N,12nm,0.2s						
PBEJ	Beja	6.46	82	ePn	Pn	06 03 52.1	+4.6
PBEJ				eSn	Sn	06 05 00.6	-0.7
PBEJ				A	A	06 05 05.7	
	comp=N,24nm,0.2s						
COI	Coimbra	6.53	63	P	Pn	06 03 52.4	+4.0
COI				S	Sn	06 05 01.6	-1.2
	comp=N,16nm,0.2s						
COI	Coimbra	6.53	63	ePn	Pn	06 03 52.4	+4.0
COI				eSn	Sn	06 05 01.6	-1.2
COI				A	A	06 05 05.3	
	comp=N,32nm,0.2s						
COI	Coimbra	6.53	63	Pn	Pn	06 03 51.9	+3.6
PVAQ	Vaqueiros	6.58	88	P	Pn	06 03 53.2	+4.1
PVAQ				S	Sn	06 05 03.3	-0.9
	comp=N,36nm,0.3s						
PVAQ	Vaqueiros	6.58	88	ePn	Pn	06 03 53.2	+4.1
PVAQ				eSn	Sn	06 05 03.3	-0.9
PVAQ				A	A	06 05 10.2	
	comp=N,36nm,0.3s						
PVAQ	Vaqueiros	6.58	88	Pn	Pn	06 03 53.2	+4.1
PVAQ	Vaqueiros	6.58	88	P		06 03 53.0	
EGRO	El Granado	6.76	87	P	Pn	06 03 55.1	+3.4
	comp=N,3.7nm,0.1s,SNR=31						
EGRO				S	Sn	06 05 05.8	-2.8
	comp=N,29nm,0.2s						
EGRO	El Granado	6.76	87		Pn	06 03 55.1	+3.4
EGRO					Sn	06 05 05.8	-2.8
PESTR	Estremoz	6.77	75	ePn	Pn	06 03 55.8	+4.1
PESTR				eSn	Sn	06 05 07.5	-1.3
PESTR				A	A	06 05 12.8	
	comp=N,16nm,0.3s						
PESTR	Estremoz	6.77	75	Pn	Pn	06 03 55.0	+3.3
PESTR	Estremoz	6.77	75	P		06 03 55.6	
PESTR				S		06 05 07.5	
PTO	Porto	6.81	55	P	Pn	06 03 55.5	+3.2
PTO				S	Sn	06 05 06.8	-3.1
	comp=N,18nm,0.1s						
PTO	Porto	6.81	55	ePn	Pn	06 03 55.5	+3.2
PTO				eSn	Sn	06 05 06.8	-3.1
PTO				A	A	06 05 13.9	
	comp=N,36nm,0.1s						
PMRV	Marv??o	7.03	71	P	Pn	06 03 59.5	+4.1
PMRV				S	Sn	06 05 13.7	-1.6
PMRV	Marv??o	7.03	71	ePn	Pn	06 03 59.5	+4.1
PMRV				eSn	Sn	06 05 13.7	-1.6
PCBR	Castelo Branco	7.08	68	P	Pn	06 03 59.7	+3.8
PCBR				S	Sn	06 05 13.9	-2.5
PCBR	Castelo Branco	7.08	68	ePn	Pn	06 03 59.7	+3.8
PCBR				eSn	Sn	06 05 13.9	-2.5
PVIS	Viseu	7.09	60	P	Pn	06 03 59.7	+3.5
PVIS				S	Sn	06 05 14.4	-2.5
PVIS	Viseu	7.09	60	ePn	Pn	06 03 59.7	+3.5
PVIS				eSn	Sn	06 05 14.4	-2.5
PBAR	Barrancos	7.12	81	P	Pn	06 04 01.5	+4.9
PBAR				S	Sn	06 05 17.6	+0.1
PBAR	Barrancos	7.12	81	ePn	Pn	06 04 01.5	+4.9
PBAR				eSn	Sn	06 05 17.6	+0.1
MTE	Manteigas	7.21	63	P	Pn	06 04 01.9	+4.0
MTE				S	Sn	06 05 17.5	-2.4
MTE	Manteigas	7.21	63	ePn	Pn	06 04 01.9	+4.0
MTE				eSn	Sn	06 05 17.5	-2.4
MTE	Manteigas	7.21	63	Pn	Pn	06 04 00.0	+2.1
EZAM	Zamans	7.32	48	P	Pn	06 03 59.5	+0.2
	comp=N,1.8nm,0.1s,SNR=7.9						
EZAM				S	Sn	06 05 16.1	-6.3
	comp=N,6.4nm,0.1s,SNR=7.9						
EZAM	Zamans	7.32	48		Pn	06 03 59.5	+0.2
EZAM					Sn	06 05 16.1	-6.3
EMIN	Mina Concepcio	7.40	85	P	Pn	06 04 04.0	+3.6
	comp=N,4.7nm,0.2s,SNR=32						
EMIN				S	Sn	06 05 21.1	-3.3
	comp=N,13nm,0.2s,SNR=9.3						
EMIN	Mina Concepcio	7.40	85		Pn	06 04 04.0	+3.6
EMIN					Sn	06 05 21.1	-3.3
POLO	Lamas de Olo	7.46	56	P	Pn	06 04 04.8	+3.5
POLO				S	Sn	06 05 21.7	-4.2
POLO	Lamas de Olo	7.46	56	ePn	Pn	06 04 04.8	+3.5
POLO				eSn	Sn	06 05 21.7	-4.2
PVRL	Vila Real	7.46	57	P	Pn	06 04 04.7	+3.4
PVRL				S	Sn	06 05 23.9	-2.1
PVRL	Vila Real	7.46	57	ePn	Pn	06 04 04.7	+3.4
PVRL				eSn	Sn	06 05 23.9	-2.1
PGAV	Gavieira, Arco	7.47	50	P	Pn	06 04 03.9	+2.5
PGAV				S	Sn	06 05 23.0	-3.2
PGAV	Gavieira, Arco	7.47	50	ePn	Pn	06 04 03.9	+2.5
PGAV				eSn	Sn	06 05 23.0	-3.2
PCAB	Cabril	7.48	53	P	Pn	06 04 04.1	+2.6
PCAB				S	Sn	06 05 23.1	-3.3
PCAB	Cabril	7.48	53	ePn	Pn	06 04 04.1	+2.6
PCAB				eSn	Sn	06 05 23.1	-3.3
ELOB	Lobios	7.54	52	P	Pn	06 04 04.4	+2.0
	comp=N,4.3nm,0.2s,SNR=23						
ELOB				S	Sn	06 05 23.9	-4.1
	comp=N,9.6nm,0.1s,SNR=5.8						
ELOB	Lobios	7.54	52		Pn	06 04 04.4	+2.0
ELOB					Sn	06 05 23.9	-4.1
EMAZ	Mazaricos	7.68	42	P	Pn	06 04 04.9	+0.6
	comp=N,6.4nm,0.2s,SNR=7.9						
EMAZ				S	Sn	06 05 23.3	-8.0
	comp=N,5.3nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	7.68	42		Pn	06 04 04.8	+0.6
EMAZ					Sn	06 05 23.3	-8.0
MVO	Moncorvo	7.88	59	P	Pn	06 04 10.1	+3.2
	comp=N,2.3nm,0.1s,SNR=14						
MVO				S	Sn	06 05 30.6	-5.6
	comp=N,12nm,0.2s,SNR=7.3						
MVO	Moncorvo	7.88	59	ePn	Pn	06 04 10.4	+3.4
MVO				eSn	Sn	06 05 32.2	-4.0
MVO	Moncorvo	7.88	59		Pn	06 04 10.2	+3.2
MVO					Sn	06 05 30.6	-5.6
EAGO	Agolada(Pontev	8.08	46	P	Pn	06 04 10.5	+0.8
	comp=N,3.8nm,0.1s,SNR=7.9						
EAGO				S	Sn	06 05 34.0	-7.0
	comp=N,6.0nm,0.1s,SNR=7.9						
EAGO	Agolada(Pontev	8.08	46		Pn	06 04 10.5	+0.8
EAGO					Sn	06 05 34.0	-7.0
ESPR	Espera	8.11	91	P	Pn	06 04 14.3	+4.2
	comp=N,4.0nm,0.2s,SNR=16						
ESPR				S	Sn	06 05 41.4	-0.4
	comp=N,16nm,0.2s,SNR=17						
ESPR	Espera	8.11	91		Pn	06 04 14.3	+4.2
ESPR					Sn	06 05 41.4	-0.4
EPLA	Plasencia	8.17	68	P	Pn	06 04 14.2	+3.2
	comp=N,1.3nm,0.1s,SNR=15						
EPLA				S	Sn	06 05 39.5	-3.9
	comp=N,11nm,0.2s,SNR=7.3						
EPLA	Plasencia	8.17	68		Pn	06 04 14.2	+3.2
EPLA					Sn	06 05 39.5	-3.9
PBRG	Braganca	8.36	56	P	Pn	06 04 17.9	+4.3
PBRG				S	Sn	06 05 45.2	-2.8
PBRG	Braganca	8.36	56	ePn	Pn	06 04 17.9	+4.3
PBRG				eSn	Sn	06 05 45.2	-2.8
ECAB	El Cabril	8.39	82	P	Pn	06 04 17.3	+3.2
	comp=N,3.1nm,0.1s,SNR=35						
ECAB				S	Sn	06 05 44.3	-4.6
	comp=N,40nm,0.2s,SNR=6.1						
ECAB	El Cabril	8.39	82		Pn	06 04 17.3	+3.2
ECAB					Sn	06 05 44.3	-4.6
ECAL	Calabor	8.43	55	P	Pn	06 04 17.4	+2.8
	comp=N,5.3nm,0.2s,SNR=19						
ECAL				S	Sn	06 05 45.4	-4.4
	comp=N,15nm,0.3s,SNR=7.9						
ECAL	Calabor	8.43	55		Pn	06 04 17.4	+2.8
ECAL					Sn	06 05 45.4	-4.4
EJIF	Jimena Fronter	8.48	94	P	Pn	06 04 20.2	+5.0
	comp=N,6µm,0.2s,SNR=4.0						
EJIF				S	Sn	06 05 50.0	-1.0
	comp=N,7µm,0.3s,SNR=4.0						
EJIF	Jimena Fronter	8.48	94		Pn	06 04 20.2	+5.0
EJIF					Sn	06 05 50.0	-1.0
HORN	Hornachuelos	8.52	84	P		06 04 19.8	
ZHG	ZHG	8.60	115	P		06 04 22.0	
TBT	Taburiente	8.89	191	S	Sn	06 05 46.1	-15
	comp=N,4.6nm,0.2s,SNR=7.9						
CFUE	Fuerteventura	8.94	168	P	Pn	06 04 23.4	+1.8
	comp=N,3.0nm,0.2s,SNR=7.9						
CFUE				S	Sn	06 05 52.3	-10
	comp=N,7.1nm,0.2s,SNR=7.9						
EPON	Pontenova	8.94	46	P	Pn	06 04 22.7	+1.1
	comp=N,0.8nm,0.1s,SNR=4.6						
EPON				S	Sn	06 05 55.4	-6.9
	comp=N,8.8nm,0.2s,SNR=7.9						
EPON	Pontenova	8.94	46		Pn	06 04 22.7	+1.1
EPON					Sn	06 05 55.5	-6.9
EADA	Adamuz	9.06	82	P	Pn	06 04 26.5	+3.3
	comp=N,5.3nm,0.2s,SNR=43						
EADA				S	Sn	06 06 01.1	-4.2
	comp=N,7.3nm,0.2s,SNR=7.4						
EADA	Adamuz	9.06	82		Pn	06 04 26.6	+3.3
EADA					Sn	06 06 01.1	-4.2
CGUI	Guimar, Teneri	9.10	183	S	Sn	06 05 56.0	-10
	comp=N,11nm,0.3s,SNR=4.0						
OUK	Oukaimeden	9.15	130	P		06 04 31.0	
CGIN	Giniginamar, F	9.35	170	S	Sn	06 06 01.0	-11
	comp=N,3.3nm,0.3s,SNR=7.9						
PAB	San Pablo	9.36	73	P	Pn	06 04 30.2	+2.8
	comp=N,1.0nm,0.1s,SNR=7.9						
PAB				S	Sn	06 06 06.9	-5.9
	comp=N,4.6nm,0.2s,SNR=7.9						
PAB	San Pablo	9.36	73		Pn	06 04 30.7	+3.3
PAB	San Pablo	9.36	73	P		06 04 30.9	
ESDC	Sonseca Array	9.68	73	P	Pn	06 04 34.6	+2.9
	comp=N,1.9nm,0.1s,baz=259,slow=13,SNR=45						
ESDC				S	Sn	06 06 15.6	-4.8
	comp=N,1.2nm,0.3s,baz=263,slow=24,SNR=10						
ESDC	Sonseca Array	9.68	73		Pn	06 04 34.6	+2.9
ESDC					Sn	06 06 15.6	-4.8
ESBB	Sonseca Array	9.68	73		Pn	06 04 34.1	+2.4
GUD	Guadarrama	9.74	67	P	Pn	06 04 35.1	+2.4
	comp=N,0.7nm,0.2s,SNR=7.7						
GUD				S	Sn	06 06 14.2	-8.0
	comp=N,3.2nm,0.4s,SNR=7.0						
GUD	Guadarrama	9.74	67		Pn	06 04 35.1	+2.4
GUD					Sn	06 06 14.2	-8.0
ELGU	Los Guajares,	9.88	90	P	Pn	06 04 39.7	+5.2
	comp=N,0.7nm,0.2s,SNR=7.9						
ELGU				S	Sn	06 06 26.2	+0.7
	comp=N,2.9nm,0.2s,SNR=7.9						
ELGU	Los Guajares,	9.88	90		Pn	06 04 39.7	+5.2
ELGU					Sn	06 06 26.2	+0.7
EQUE	Quentar	9.99	88	S	Sn	06 06 26.5	-1.8
	comp=N,3.8nm,0.3s,SNR=7.9						
EARI	Arriondas	10.09	51	P	Pn	06 04 40.4	+3.1
	comp=N,1.4nm,0.2s,SNR=10						
EARI				S	Sn	06 06 26.3	-4.2
	comp=N,1.3nm,0.3s,SNR=7.9						
EARI	Arriondas	10.09	51		Pn	06 04 40.4	+3.1
EARI					Sn	06 06 26.3	-4.2
EQES	Quesada	10.25	84	S	Sn	06 06 32.0	-2.7
	comp=N,3.4nm,0.2s,SNR=5.9						
EQES	Quesada	10.25	84		Sn	06 06 32.0	-2.7
UCM	Universidad Co	10.34	70	P	Pn	06 04 44.5	+3.7
UCM				S	Sn	06 06 32.9	-3.8
UCM	Universidad Co	10.34	70	eP	Pn	06 04 44.5	+3.7
UCM				eS	Sn	06 06 32.9	-3.8
MDT	Midelt	10.39	113	P		06 04 46.5	
EBER	Berja	10.46	89	P	Pn	06 04 49.2	+6.6
	comp=N,0.4nm,0.2s,SNR=4.0						
EBER				S	Sn	06 06 37.5	-2.5
	comp=N,1.8nm,0.4s,SNR=4.5						
EBER	Berja	10.46	89		Pn	06 04 49.2	+6.6
EBER					Sn	06 06 37.5	-2.5
SESP	Santiago Espad	10.66	82	P	Pn	06 04 48.8	+3.6
	comp=N,1.3nm,0.2s,SNR=7.9						
SESP				S	Sn	06 06 40.8	-3.9
	comp=N,3.3nm,0.2s,SNR=7.9						
ELAN	Lanestosa	11.18	55	P	Pn	06 04 55.5	+3.2
	comp=N,0.6nm,0.2s,SNR=4.0						
ELAN				S	Sn	06 06 50.4	-7.0
	comp=N,1.7nm,0.2s,SNR=7.9						
ELAN	Lanestosa	11.18	55		Pn	06 04 55.5	+3.2
ELAN					Sn	06 06 50.4	-7.0
ETOR	Torete	11.33	68	P	Pn	06 04 58.1	+3.7
	comp=N,5.0nm,0.1s,SNR=11						
ETOR				S	Sn	06 06 55.4	-5.7
	comp=N,6.0nm,0.3s,SNR=7.9						
ETOB	Tobarra	11.45	80	P	Pn	06 04 59.2	+3.2
	comp=N,0.4nm,0.1s,SNR=10						
ETOB				S	Sn	06 06 57.9	-6.1
	comp=N,2.0nm,0.3s,SNR=4.9						
ETOB	Tobarra	11.45	80		Pn	06 04 59.2	+3.2
ETOB					Sn	06 06 57.9	-6.1
EMUR	La Murta	11.70	84	P	Pn	06 05 04.2	+4.9
	comp=N,0.5nm,0.2s,SNR=4.0						
EMUR				S	Sn	06 07 08.8	-1.2
	comp=N,1.0nm,0.3s,SNR=7.9						
EMUR	La Murta	11.70	84		Pn	06 05 04.2	+4.9
EMUR					Sn	06 07 08.8	-1.2
ECHE	Chera	11.96	75	P	Pn	06 05 06.1	+3.2
	comp=N,0.4nm,0.2s,SNR=7.9						
ECHE				S	Sn	06 07 10.2	-6.2
	comp=N,0.7nm,0.2s,SNR=7.9						
ECHE	Chera	11.96	75		Pn	06 05 06.1	+3.2
ECHE					Sn	06 07 10.2	-6.2
EMOS	Mosqueruela	12.43	72	P	Pn	06 05 14.1	+4.6
	comp=N,0.9nm,0.4s,SNR=5.8						
EMOS				S	Sn	06 07 23.0	-5.2
	comp=N,0.6nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	12.43	72		Pn	06 05 14.1	+4.6
EMOS					Sn	06 07 23.0	-5.2
ATE	Arette	12.96	59	P	Pn	06 05 20.1	+3.6
	comp=N,1.3nm,0.3s,SNR=7.9						
ATE				S	Sn	06 07 35.0	-5.7
	comp=N,1.0nm,0.3s,SNR=7.9						
ATE	Arette	12.96	59		Pn	06 05 20.1	+3.6
ATE					Sn	06 07 35.0	-5.7
CFON	Fontmartina	14.84	67	P	P	06 05 46.3	-1.8
	comp=N,0.4nm,0.2s,SNR=4.0						
CFON	Fontmartina	14.84	67		P	06 05 46.3	-1.8
WLF	Walferdange	20.08	45	P	Pn	06 06 49.9	+2.2
WLF				IAmb	IAmb	06 06 58.5	
	comp=Z,19nm,1.3s						
VLC	Villacollemand	21.01	63	P	P	06 06 59.2	+3.3
VLC				IAmb	IAmb	06 07 26.1	
	comp=Z,51nm,1.4s						
SACV	Santiago Islan	23.38	199	P	P	06 07 36.9	+16
BORG	Borgarnes	27.53	355	P	P	06 08 06.6	+7.8

*IDC **08** 06:05:37.4±2.5, 15.°13S×177.°80W, h376km±39km, mb3.2/5, mb1 3.5/6, mb1mx3.1/28, mbtmp4.0/6, Error ellipse: s-maj=107.5km s-min=17.6km az=155.0*

ISC 08 06:05:37.5±1.1**, 15.°2S**±0.°5×**177.°8W**±0.°2**, h379km, n6, σ0.s47**/6**, mb3.4**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.94	79	P	Pn	06 07 08.6	-0.2
	3.8nm,0.3s,baz=135,slow=3.2,SNR=6.4						
CTA	Charters Tower	34.59	257	P	P	06 11 52.9	+0.4
	1.4nm,0.6s,baz=85,slow=12,SNR=2.7						
WRA	Warramunga Arr	45.79	257	P	P	06 13 23.0	-0.4
	0.3nm,0.4s,baz=93,slow=6.7,SNR=19						
ASAR	Alice Springs	46.17	252	P	P	06 13 26.1	-0.3
	4.4nm,0.5s,baz=85,slow=8.0,SNR=70						
ILAR	Eielson Array	83.08	13	P	P	06 17 21.0	-0.2
	0.6nm,0.9s,baz=224,slow=5.6,SNR=5.7						
TXAR	Lajitas Array	84.01	58	P	P	06 17 27.4	+0.5
	0.5nm,0.8s,baz=227,slow=7.3,SNR=6.4						

IDC 08 06:13:20.8±2.2**, 1.°90N×124.°92E, h0km, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.5**/32**, mbtmp3.6**/3**, Error ellipse: s-maj=276.5km s-min=24.2km az=64.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.60	157	P	P	06 18 33.8	+0.2
	1.6nm,0.4s,baz=336,slow=9.9,SNR=20						
ASAR	Alice Springs	26.88	162	P	P	06 19 02.8	-0.8
	0.5nm,0.6s,baz=335,slow=7.7,SNR=7.5						
MKAR	Makanchi Array	58.05	327	P	P	06 23 16.2	+0.4
	0.2nm,0.3s,baz=119,slow=7.9,SNR=7.4						

IDC 08 06:14:11.8±6.5**, 7.°24S×129.°11E, h192km**±69km**, mb3.1**/1**, mb1 2.8**/3**, mb1mx2.7**/28**, mbtmp3.3**/3**, Error ellipse: s-maj=101.6km s-min=27.6km az=70.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.61	159	P	Pn	06 17 16.2	-1.1
	0.2nm,0.3s,baz=335,slow=12,SNR=12						
WRA				S	Sn	06 19 41.1	-8.0
	0.3nm,0.3s,baz=338,slow=21,SNR=5.8						
ASAR	Alice Springs	16.97	165	P	Pn	06 17 58.6	+0.4
	0.1nm,0.3s,baz=346,slow=9.6,SNR=7.7						
ASAR				S	S	06 21 04.1	-0.1
	0.1nm,0.3s,baz=355,slow=27,SNR=2.2						
MKAR	Makanchi Array	67.94	327	P	P	06 24 49.8	-0.1
	0.3nm,0.4s,baz=124,slow=7.9,SNR=5.7						

*IDC **08** 06:29:55.3±0.6, 11.°89N×143.°84E, h0km, mb4.5/26, mb1 4.6/26, mb1mx4.4/54, mbtmp4.5/26, MS3.7/17, Ms1 3.8/17, ms1mx3.6/41, Error ellipse: s-maj=20.7km s-min=13.7km az=84.0*

*BJI **08** 06:29:55.8±0.0, 11.°85N×143.°89E, h19km, mB5.1/23, mb4.6/47, Ms4.5/8, Ms7 4.2/6*

*NEIC **08** 06:30:01.3±1.2, 11.°86N±0.°09×143.°71E±0.°07, h37km±7km, mb4.8/96, Error ellipse: s-maj=12.4km s-min=9.2km az=191.0*

ISC 08 06:29:59.8±0.4**, 11.°88N**±0.°06×**143.°78E**±0.°09**, h26km, n162, σ0.s92**/152**, mb4.8**/84**, MS3.7**/20**, 1C-1D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.01	32	Pn	Pb	06 30 33.4	-2.2
ANA2	Anatahan	4.82	23	Pn	Pn	06 31 12.6	+1.9
JCJ	Chichijima	15.21	355	Pn	Pn	06 33 31.2	-1.8
JOW	Kunigami	20.83	318	P	P	06 34 39.3	-0.2
	28nm,0.6s,baz=173,slow=8.9,SNR=6.8						
JOW				LR	LR	06 41 26.9	
	comp=Z,100nm,19.2s,baz=102,slow=33						
JOW	Kunigami	20.83	318	P	P	06 34 40.4	+0.8
PMG	Port Moresby	21.41	171	LR	LR	06 42 19.6	
	comp=Z,148nm,18.4s,baz=234,slow=35						
H11S3	WAKE ISLAND Hy	23.05	71	T	T	06 59 14.8	
	baz=253						
H11S1	WAKE ISLAND Hy	23.07	71	T	T	06 59 21.5	
	baz=253						
H11S2	WAKE ISLAND Hy	23.07	71	T	T	06 59 20.4	
	baz=253,SNR=2.3						
JSU	Suzuyama	23.08	330	P	P	06 35 02.7	-0.9
H11N1	WAKE ISLAND Hy	23.55	68	T	T	06 59 53.9	
	baz=255,slow=74,SNR=4.5						
H11N2	WAKE ISLAND Hy	23.56	68	T	T	06 59 56.2	
	baz=255,slow=74,SNR=4.8						
JMN	Monobe	23.56	339	P	P	06 35 06.5	-1.7
JMN				IAmb	IAmb	06 35 27.0	
	comp=Z,36nm,1.2s						
H11N3	WAKE ISLAND Hy	23.57	68	T	T	06 59 55.0	
	baz=255,slow=74,SNR=3.4						
JNU	Nakatsue	24.23	333	P	P	06 35 13.5	-1.1
	comp=Z,12nm,0.7s,baz=153,slow=2.2,SNR=10.0						
JNU				LR	LR	06 43 32.8	
	comp=Z,108nm,19.4s,baz=199,slow=34						
JNU	Nakatsue	24.23	333	P	P	06 35 13.0	-1.6
JWT	Wachi	24.51	343	P	P	06 35 15.9	-1.2
JWT				IAmb	IAmb	06 35 27.0	
	comp=Z,44nm,1.5s						
MJAR	Matsushiro Arr	25.07	349	P	P	06 35 20.2	-1.9
	comp=Z,3.1nm,0.6s,baz=182,slow=7.6,SNR=9.2						
MJAR				LR	LR	06 44 24.9	
	comp=Z,209nm,18.1s,baz=170,slow=35						
MAT	Matsushiro	25.07	349	P	P	06 35 21.4	-0.8
MAT				eS	S	06 39 48.4	+3.3
COEN	Coen	25.67	181	P	P	06 35 27.5	-0.3
JMM	Marumori	26.02	355	P	P	06 35 31.3	+0.6
JMM				IAmb	IAmb	06 35 32.4	
	comp=Z,56nm,1.3s						
JSD	Sado	26.51	350	P	P	06 35 33.2	-2.1
JSD				IAmb	IAmb	06 35 35.8	
	comp=Z,22nm,1.0s						
HNR	Honiara	26.58	142	LR	LR	06 46 56.6	
	comp=Z,91nm,18.1s,baz=352,slow=38						
KSRS	Korea Array	29.17	334	P	P	06 35 58.4	-0.6
	comp=Z,1.3nm,0.6s,baz=151,slow=8.4,SNR=5.4						
KSRS				LR	LR	06 47 20.4	
	comp=Z,62nm,18.0s,baz=150,slow=36						
BATI	Baumata	29.68	223	LR	LR	06 47 36.0	
	comp=Z,103nm,20.2s,baz=73,slow=36						
NJ2	Nanjing	30.48	315	eP	P	06 36 11.9	+1.2
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CTA	Charters Tower	31.86	176	P	P	06 36 22.3	-0.6
	comp=Z,2.5nm,0.9s,baz=356,slow=15,SNR=2.6						
ASAJ	Asahikawa	32.14	358	LR	LR	06 47 20.0	
	comp=Z,68nm,20.5s,baz=135,slow=32						
WR0	Warramunga Arr	32.92	196	P	P	06 36 31.8	-0.4
WB2	Warramunga Arr	32.95	196	P	P	06 36 31.9	-0.6
WRA	Warramunga Arr	32.96	196	P	P	06 36 31.9	-0.7
	comp=Z,4.7nm,0.6s,baz=18,slow=10,SNR=52						
WRA				LR	LR	06 50 15.5	
	comp=Z,193nm,18.3s,baz=70,slow=37						
USRK	Ussuriysk Ar.	33.77	345	P	P	06 36 39.2	-0.1
	comp=Z,1.1nm,0.6s,baz=166,slow=9.4,SNR=4.2						
USRK				LR	LR	06 48 13.7	
	comp=Z,126nm,19.1s,baz=138,slow=32						
FITZ	Fitzroy Crossi	34.75	211	P	P	06 36 48.7	+0.6
AS31	Alice Springs	36.62	195	P	P	06 37 04.5	+0.3
ASAR	Alice Springs	36.62	195	P	P	06 37 03.9	-0.3
	comp=Z,1.3nm,0.7s,baz=16,slow=11,SNR=18						
ASAR				LR	LR	06 52 21.4	
	comp=Z,144nm,19.5s,baz=335,slow=37						
BJT	Baijiatuau	37.15	324	P	P	06 37 08.2	-0.2
BJI	Beijing	37.16	324	P	P	06 37 08.4	-0.1
BJI				S	S	06 42 45.5	-8.1
BJI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BJI				pmax	pmax		
	comp=Z,100nm,8.1s						
BJI				LR	LR		
	comp=Z,220nm,12.7s						
BJI				LR	LR		
	comp=Z,130nm,9.4s						
XAN	Xi'an	38.65	311	P	P	06 37 20.1	-1.3
XAN				pP	pP	06 37 29.3	+1.8
XAN				pmax	pmax		
	comp=Z,5.0nm,1.5s						
HHC	Hu-ho-hao-te	40.40	321	eP	P	06 37 36.3	+0.4
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,96nm,7.0s						
DZM	Mont Dzumac	40.41	147	P	P	06 37 36.6	+0.5
DZM				IAmb	IAmb	06 37 38.6	
	comp=Z,37nm,1.3s						
KMI	Kunming	40.92	295	⇓P	P	06 37 32.9	-7.7
KMI				pP	pP	06 37 49.0	+2.2
KMI				sP	pwP	06 38 02.3	+8.6
KMI				pmax	pmax		

comp=Z,100nm,4.9s
KMI LR LR
comp=N,140nm,6.9s
KMI LR LR
comp=E,86nm,6.2s
KMI LR LR
comp=Z,140nm,13.9s
CD2 Chengdu 41.51 303 P **P** **06 37 44.3 -0.8**
CD2 pmax pmax
comp=Z,20nm,0.8s
PEA0B Petropavlovsk- 42.61 12 P **P** **06 37 55.2 +1.5**
PEA0B IAmb IAmb 06 38 17.1
comp=Z,32nm,1.4s
PETK Petropavlovsk- 42.61 12 P **P** **06 37 52.8 -1.0**
comp=Z,1.2nm,0.7s,baz=207,slow=11,SNR=2.7
PETK LR LR 06 54 06.7
comp=Z,60nm,20.0s,baz=208,slow=34
LZH Lanzhou 43.29 311 *e*P **P** **06 37 59.8 +0.1**
LZH pP sP 06 38 08.4 -0.2
LZH sP pwP 06 38 12.6 -0.3
LZH pmax pmax
comp=Z,14nm,1.1s
CMAR Chiang Mai Arr 43.68 284 P **P** **06 38 03.2 +0.3**
comp=Z,3.3nm,0.7s,baz=78,slow=6.4,SNR=9.5
CMAR LR LR 06 54 39.5
comp=Z,68nm,20.6s,baz=205,slow=34
BBOO Buckleboo 45.04 189 P **P** **06 38 13.1 -0.3**
ULN Ulaanbaatar 47.20 327 P **P** **06 38 30.9 +0.4**
SONM Songino Array 47.53 326 P **P** **06 38 33.4 +0.3**
comp=Z,2.2nm,0.5s,baz=147,slow=7.5,SNR=14
SONM LR LR 06 59 41.6
comp=Z,192nm,18.6s,baz=4.5,slow=38
GTA Gaotai 47.53 313 ⇑P **P** **06 38 33.4 +0.1**
GTA pP pP 06 38 37.1 -2.5
GTA sP sP 06 38 40.5 -1.8
GTA pmax pmax
comp=Z,6.0nm,0.7s
GTA pmax pmax
comp=Z,190nm,6.0s
GTA LR LR
comp=Z,150nm,18.2s
GTA LR LR
comp=Z,240nm,18.5s
GTA LR LR
comp=Z,210nm,17.8s
MORW Morawa 48.73 213 P **P** **06 38 41.6 -0.8**
MORW IAmb IAmb 06 38 55.0
comp=Z,9.4nm,1.1s
TOO Toolangi 49.21 178 P **P** **06 38 46.8 +0.8**
WMQ Urumqi 57.56 315 *e*P **P** **06 39 48.1 +0.7**
WMQ pP pP 06 39 56.0 +2.1
WMQ sP sP 06 39 59.0 +2.4
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,270nm,5.1s
MK31 Makanchi Array 61.99 317 P **P** **06 40 18.0 +0.3**
MKAR Makanchi Array 61.99 317 P **P** **06 40 18.0 +0.2**
comp=Z,2.1nm,0.6s,baz=92,slow=8.7,SNR=28
MAKZ Makanchi 62.20 317 P **P** **06 40 19.7 +0.5**
MAKZ IAmb IAmb 06 40 20.6
comp=Z,6.6nm,0.8s
ZAA0 Zalesovo Array 62.40 325 P **P** **06 40 19.9 -0.4**
ZALV Zalesovo Beam 62.40 325 P **P** **06 40 19.8 -0.5**
comp=Z,3.2nm,0.6s,baz=108,slow=7.2,SNR=12
SHLS Shalkode 63.27 312 *e*P **P** **06 40 24.3 -2.2**
baz=312
KPKS Kokpek 63.88 313 *e*P **P** **06 40 29.8 -0.7**
baz=313
SATY Saty 64.02 312 *e*P **P** **06 40 31.5 0.0**
baz=312
TDK Taldygorghan 64.31 314 *e*P **P** **06 40 33.2 0.0**
comp=Z,7.0nm,0.5s,baz=314
MDOK Medeo 65.02 312 *e*P **P** **06 40 37.9 -0.1**
baz=312
TNSS Tian-Shan 65.07 312 *e*P **P** **06 40 38.7 0.0**
baz=312
KURK Kurchatov 65.21 321 P **P** **06 40 39.0 +0.1**
KURBB Kurchatov Arra 65.25 320 P **P** **06 40 39.0 -0.2**
comp=Z,9.5nm,0.7s,baz=106,slow=6.4,SNR=105
KSH Kashi 65.44 308 P **P** **06 40 43.8 +3.0**
KSH sP pwP 06 40 54.8 +1.1
KSH pmax pmax
comp=Z,17nm,0.7s
KSH pmax pmax
comp=Z,470nm,7.6s
KUU Kurty 65.62 313 *e*P **P** **06 40 41.4 -0.3**
comp=Z,5.6nm,0.8s,baz=313
SVW2 Sparrevohn 65.68 28 P **P** **06 40 42.9 +1.1**
SVW2 IAmb IAmb 06 40 44.8
comp=Z,11nm,1.1s
RDOG Red Dog Mine 65.84 19 P **P** **06 40 43.0 +0.3**
RDOG IAmb IAmb 06 40 44.0
comp=Z,12nm,1.0s
RDOG Red Dog Mine 65.84 19 P 06 40 43.3
baz=239
NIL Nilore 67.36 302 P **P** **06 40 53.3 +0.2**
BTLS Baital 67.38 314 *e*P **P** **06 40 52.6 -0.4**
baz=314
PPLA Purkeypile 67.78 26 P 06 40 56.4
baz=252
O22K Cooper Landing 68.23 29 P 06 40 58.6
baz=255
TRF Thorofare Moun 68.77 26 P 06 41 01.3
baz=254
PMR Palmer 68.79 28 P **P** **06 41 01.2 -0.2**
PMR IAmb IAmb 06 41 13.4
comp=Z,14nm,1.1s
PMR Palmer 68.79 28 P 06 41 01.8
baz=255
MLY Manley 69.05 24 P 06 41 03.4
baz=252
KNK Knik Glacier 69.06 28 P 06 41 03.9
baz=256
SML Sawmill 69.21 28 P **P** **06 41 04.4 +0.2**
SML Sawmill 69.21 28 P 06 41 04.4
baz=256
A21K Barrow 69.32 17 P 06 41 05.4
baz=245
WAT2 Susitna Watana 69.39 27 P 06 41 06.8
baz=255
MCK McKinley 69.43 26 P 06 41 05.9
baz=255
I23K Minto, Yukon-K 69.64 24 P **P** **06 41 06.6 -0.1**
I23K IAmb IAmb 06 41 08.9
comp=Z,17nm,1.3s
I23K Minto, Yukon-K 69.64 24 P 06 41 07.0
baz=254
WAT6 Susitna Watana 69.67 27 P 06 41 07.4
baz=256
KK31 Karatay Array 69.78 312 P **P** **06 41 07.8 -0.2**
KK31 IAmb IAmb 06 41 09.2
comp=Z,8.8nm,0.9s
KKAR Karatay Array 69.78 312 P **P** **06 41 08.0 0.0**
KKAR IAmb IAmb 06 41 09.2
comp=Z,8.8nm,0.9s
KK03 Karatay Array 69.78 312 P **P** **06 41 08.4 +0.3**
COLD Coldfoot 69.93 22 P **P** **06 41 09.1 +0.7**
COLD IAmb IAmb 06 41 10.3
comp=Z,16nm,1.2s
COLD Coldfoot 69.93 22 P 06 41 09.1
baz=252
WRH Wood River Hil 69.98 25 P **P** **06 41 08.3 -0.5**
WRH IAmb IAmb 06 41 12.9
comp=Z,13nm,1.2s
IUG Iuzhnay 70.09 311 *e*P **P** **06 41 10.1 0.0**
baz=311
TCOL CIGO, UAF Yank 70.18 25 P 06 41 11.7
baz=255
KLU Klutina 70.26 29 P 06 41 11.9
baz=258
POKR Poker Plat Res 70.42 25 P **P** **06 41 11.2 -0.3**
HDA Harding Lake 70.45 26 P 06 41 12.1
baz=256
HDA P 06 41 12.1
baz=256
IL31 70.56 25 P **P** **06 41 11.1 -1.2**
IL31 IAmb IAmb 06 41 12.9
comp=Z,12nm,1.4s
ILAR Eielson Array 70.56 25 P **P** **06 41 10.8 -1.5**
comp=Z,3.1nm,0.7s,baz=248,slow=5.0,SNR=25
TOLK Toolik Lake Re 70.59 21 P **P** **06 41 13.1 +0.6**
TOLK Toolik Lake Re 70.59 21 P 06 41 13.6
baz=252,SNR=11
IL18 Eielson Array 70.60 25 P **P** **06 41 11.8 -0.8**
BVAR Borovoye Array 70.61 322 P **P** **06 41 12.5 -0.3**
comp=Z,6.4nm,0.6s,baz=156,slow=23,SNR=45
BRVK Borovoye 70.68 322 P **P** **06 41 11.8 -1.4**
KBL Kabul 70.84 303 P **P** **06 41 14.5 -0.4**
KBL IAmb IAmb 06 41 17.5
comp=Z,14nm,1.2s
DOT Dot Lake 71.53 27 P **P** **06 41 17.5 -0.8**
DOT IAmb IAmb 06 41 26.0
comp=Z,6.2nm,0.7s
SCRK Sand Creek 71.62 26 P 06 41 18.9
baz=259
FYU Fort Yukon 71.64 23 P **P** **06 41 19.4 +0.6**
CTG Chitna Glacier 72.36 30 P 06 41 24.3
baz=263
CTGM Chitina Glacie 72.36 30 P **P** **06 41 24.6 +1.2**
K27K Chicken 72.46 26 P 06 41 25.3
baz=261
EGAK Eagle 72.97 26 P **P** **06 41 27.0 +0.2**
EGAK Eagle 72.97 26 P 06 41 27.8
baz=262
DAWY Dawson 73.64 27 P **P** **06 41 31.2 +0.3**
WHY Whitehorse 75.49 30 P **P** **06 41 42.3 +0.6**
INK Inuvik 76.34 22 P **P** **06 41 46.2 -0.1**
comp=Z,11nm,1.0s,baz=267,slow=6.2,SNR=21
INK Inuvik 76.34 22 P **P** **06 41 45.7 -0.6**
HRA Herat 76.46 303 P **P** **06 41 48.4 +0.4**
HRA IAmb IAmb 06 41 49.3
comp=Z,9.8nm,0.8s
ABKAR Akbulak array 77.09 318 P **P** **06 41 50.6 -0.3**
ABKAR IAmb IAmb 06 41 51.5
comp=Z,8.2nm,0.7s
ARU Arti 77.56 325 P **P** **06 41 53.1 -0.3**
comp=Z,2.6nm,0.6s,baz=126,slow=3.9,SNR=14
ARU Arti 77.56 325 P **P** **06 41 52.9 -0.5**
ARU IAmb IAmb 06 41 53.6
comp=Z,6.9nm,0.7s
DLBC Dease Lake 77.99 32 P **P** **06 41 56.2 +0.3**
DLBC IAmb IAmb 06 41 59.7
comp=Z,17nm,1.5s
AKTO Aktyubinsk 78.26 319 P **P** **06 41 57.2 -0.2**
comp=Z,3.4nm,0.6s,baz=85,slow=8.1,SNR=15
AKTO LR LR 07 18 26.8
comp=Z,133nm,18.2s,baz=340,slow=37
GEYT Alibeck 79.41 307 P **P** **06 42 03.5 -0.6**
comp=Z,4.3nm,0.7s,baz=226,slow=6.0,SNR=6.5
GEYT LR LR 07 20 35.0
comp=Z,115nm,19.2s,baz=0.0,slow=38
C36M Paulatuk 79.74 21 P **P** **06 42 05.1 0.0**
C36M IAmb IAmb 06 42 06.2
comp=Z,8.2nm,0.8s
C36M Paulatuk 79.74 21 P 06 42 05.0
baz=276,SNR=13
PGC Sidney 83.01 42 P **P** **06 42 23.4 +0.5**
PGC IAmb IAmb 06 42 27.5
comp=Z,14nm,1.1s
E03A Lebam 83.30 44 P **P** **06 42 24.6 +0.2**
D03D Eldon 83.45 43 P 06 42 26.2
baz=280
A04D Lummi Island 83.49 42 P 06 42 26.8
baz=280
I02D Swisshome 83.54 46 P 06 42 28.7
baz=280
KRMB Red Mountain 83.95 49 P **P** **06 42 27.5 -0.5**
I03D Drain, OR 83.96 47 P 06 42 30.9
baz=281
B05A Bryant 83.97 42 P 06 42 29.5
baz=281
B06A Marblemount 84.32 42 P **P** **06 42 30.2 +0.6**
B06A IAmb IAmb 06 42 33.7
comp=Z,7.2nm,0.9s
HUMO Hull Mountain 84.45 48 P **P** **06 42 32.7 +2.3**
HUMO IAmb IAmb 06 42 35.7
comp=Z,5.3nm,0.7s
H04A Detroit Lake 84.60 46 P **P** **06 42 31.9 +0.7**
H04A IAmb IAmb 06 42 35.0
comp=Z,6.6nm,0.8s
I04A Tendick Farm, 84.61 47 P 06 42 32.1
baz=281
EUNU Eureka 84.70 8 P **P** **06 42 31.2 +0.2**
M02C Callahan 84.76 49 P 06 42 34.2
baz=281
YBH Yreka Blue Hor 84.80 49 P **P** **06 42 33.6 +1.3**
YBH IAmb IAmb 06 42 40.0
comp=Z,7.0nm,0.7s
YKA Yellowknife Ar 84.86 27 P **P** **06 42 32.4 +0.4**
comp=Z,3.2nm,0.5s,baz=288,slow=4.3,SNR=41
J04D Umpqua Nationa 84.94 47 P 06 42 34.1
baz=282
N02D Trinity Center 84.95 49 P 06 42 34.8
baz=281
L04D Klamath Falls 85.00 48 P 06 42 34.5
baz=282
O02D Mt. Diablo Mer 85.04 50 P 06 42 36.6
baz=281
G05D Wamic, OR 85.09 45 P 06 42 37.1
baz=282
LTY Liberty 85.11 43 P **P** **06 42 34.6 +0.8**
LTY IAmb IAmb 06 42 37.4
comp=Z,6.1nm,1.0s
M04C Macdoel 85.42 48 P 06 42 36.5
baz=282
J05D Fort Rock, OR 85.55 47 P 06 42 37.5
baz=282
PINE Pine Mountain 85.66 46 P **P** **06 42 37.5 +0.8**
B08A Colville Reser 85.75 42 P **P** **06 42 37.6 +0.7**
O03E Paynes Creek 85.76 50 P 06 42 38.7
baz=282
K05A Summer Lake 85.92 47 P **P** **06 42 38.0 0.0**
K05A IAmb IAmb 06 42 42.6
comp=Z,8.6nm,0.9s
HAWA Hanford 86.06 44 P **P** **06 42 38.8 +0.4**
HAWA IAmb IAmb 06 42 43.0
comp=Z,9.1nm,1.1s
ORV Oroville 86.14 51 P **P** **06 42 39.4 +0.4**
ORV IAmb IAmb 06 42 45.4
comp=Z,3.2nm,0.6s
D08A Wollman Farm, 86.32 43 P **P** **06 42 40.3 +0.7**
D08A IAmb IAmb 06 42 43.7
comp=Z,6.1nm,0.8s
E08A Dider Farm, El 86.36 43 P **P** **06 42 40.0 +0.1**
E08A IAmb IAmb 06 42 44.0
comp=Z,8.8nm,1.1s
RES Resolute Bay 86.45 13 P **P** **06 42 39.9 +0.2**
RES IAmb IAmb 06 42 42.9
comp=Z,5.0nm,0.7s
MOD Modoc Plateau 86.52 48 P **P** **06 42 40.6 -0.3**
C09A Chrisman Ranch 86.57 42 P **P** **06 42 41.2 +0.3**
I07A Izee 86.61 46 P **P** **06 42 41.2 -0.1**
G08A Pilot Rock 86.70 45 P **P** **06 42 41.7 -0.1**
G08A IAmb IAmb 06 42 45.8
comp=Z,8.2nm,1.3s
BEKR Beckworth 86.93 50 P **P** **06 42 43.0 0.0**
BEKR IAmb IAmb 06 42 47.4
comp=Z,6.3nm,0.8s
E09A Wood Farm, Sta 86.97 43 P **P** **06 42 43.2 +0.4**
NEW Newport 87.21 41 P **P** **06 42 44.5 +0.5**
NEW Newport 87.21 41 P 06 42 44.9
baz=285
J08A Circle Bar Ran 87.50 46 P **P** **06 42 46.8 +1.2**
J08A IAmb IAmb 06 42 50.5
comp=Z,9.4nm,1.1s
WVOR Wild Horse Val 87.60 47 P **P** **06 42 47.2 +1.0**
PAHR Pah Rah Range 87.70 50 P **P** **06 42 46.7 0.0**
PAHR IAmb IAmb 06 42 55.9
comp=Z,8.8nm,1.4s
F10A Beach Ranch, E 87.72 44 P **P** **06 42 46.1 -0.5**
F10A IAmb IAmb 06 42 56.5
comp=Z,7.2nm,1.0s
BMO Blue Mountains 87.95 45 P **P** **06 42 48.5 +0.8**
YERR Yerington 87.97 51 P **P** **06 42 49.1 +1.0**
YERR IAmb IAmb 06 43 03.9
comp=Z,4.2nm,0.8s
ARCES ARCESS Array B 88.38 342 P **P** **06 42 49.0 -0.1**
comp=Z,4.8nm,0.8s,baz=57,slow=4.5,SNR=11
ARCES LR LR 07 27 59.7
comp=Z,252nm,18.1s,baz=315,slow=39
PKM Mcpherson Peak 88.48 55 P 06 42 52.6
baz=283
RYN Ryan 88.60 51 P **P** **06 42 51.4 +0.3**
RYN IAmb IAmb 06 42 56.5
comp=Z,4.0nm,0.8s
NVAR Mina Array Bea 88.82 51 P **P** **06 42 52.9 +0.8**
comp=Z,4.7nm,0.6s,baz=266,slow=5.4,SNR=38
NV11 Mina Array Sit 88.93 51 P **P** **06 42 52.1 -0.4**
NV11 IAmb IAmb 06 42 59.3
comp=Z,4.5nm,0.8s
WALA Waterton Lakes 89.04 40 P **P** **06 42 52.9 +0.1**
WALA IAmb IAmb 06 43 03.3
comp=Z,5.2nm,0.9s
MFID Camas Ranch 89.35 46 P **P** **06 42 53.9 -0.6**
ISA Isabella, Lake 89.36 54 P 06 42 56.2
baz=284
CWC Cottonwood Cre 89.48 53 P 06 42 56.3
baz=284
KBZ Khabaz 89.60 315 P **P** **06 42 56.4 +1.1**
comp=Z,1.3nm,0.9s,baz=69,slow=14,SNR=2.2
LRMC Laurel Mtn Rad 90.03 54 P 06 43 00.4
baz=285,SNR=11
MPMC Manual Prospec 90.03 53 P 06 42 59.3
baz=285,SNR=6.9
FURC Furnace Creek, 90.42 53 P 06 43 02.2
baz=285,SNR=6.1
ELK Elko 90.50 48 P **P** **06 42 60.0 0.0**
ELK IAmb IAmb 06 43 04.8
comp=Z,3.8nm,0.8s
GSC Goldstone, Bar 90.77 54 P **P** **06 43 00.9 -0.3**
GSC IAmb IAmb 06 43 11.1
comp=Z,5.2nm,0.8s
GSC Goldstone, Bar 90.77 54 P 06 43 04.3
baz=285,SNR=6.0
TPNV Topopah Spring 90.77 52 P **P** **06 43 01.6 +0.3**
TPNV Topopah Spring 90.77 52 P 06 43 04.7
baz=286,SNR=13
BCYI Bear Canyon 90.78 44 P **P** **06 43 00.9 -0.3**
MCMT McKenzie Canyo 91.00 44 P **P** **06 43 02.1 -0.2**
HRY Holter Researc 91.09 42 P **P** **06 43 03.9 +1.4**
109C Camp Elliot, M 91.15 56 P 06 43 07.6
baz=285
HEC Hector,Ludlow 91.26 54 P 06 43 07.9
baz=285
PFO Pinyon Flats O 91.48 55 P 06 43 09.7
baz=285
TPFO Pinon Flats 91.49 55 P 06 43 09.2
baz=285
BOZ Bozeman (W) 91.58 43 P 06 43 05.9
baz=289
MONP2 Monument Peak 91.70 56 P 06 43 10.6
baz=285
BELC Belle Mtn. Jos 91.75 55 P 06 43 08.1
baz=286
GMRC Granite Mounta 91.81 54 P 06 43 10.9
baz=286,SNR=6.8
QLMT Earthquake Lak 91.96 44 P **P** **06 43 07.2 +0.6**
EGMT Eagleton 91.99 40 P 06 43 08.0
baz=290
IKP In-Ko-Pah, Jac 92.02 56 P 06 43 11.1
baz=286
FINES FINESS Array B 92.25 335 P **P** **06 43 06.0 -1.3**
comp=Z,3.0nm,0.7s,baz=73,slow=5.0,SNR=14
BC3 Big Chuckawall 92.28 55 P 06 43 12.1
baz=286
IRM Iron Mountain 92.39 55 P 06 43 13.4
baz=286
YNR Norris Junctio 92.50 43 P **P** **06 43 09.8 +0.7**
H17A Grant Village 92.68 44 P **P** **06 43 09.6 -0.5**
H17A Grant Village 92.68 44 P 06 43 14.0
baz=289,SNR=6.7
FLWY Flagg Ranch 92.70 44 P **P** **06 43 11.7 +1.7**
YMP Mirror Lake Pl 92.84 43 P **P** **06 43 11.2 +0.3**
YNE Yellowstone No 92.85 43 P **P** **06 43 11.9 +1.1**
HWUT Hardware Ranch 92.89 47 P **P** **06 43 11.1 +0.1**
HWUT IAmb IAmb 06 43 15.2
comp=Z,3.4nm,0.8s
GLA Glamis 92.95 56 P 06 43 16.6
baz=286
PDMCI Parker Dam,Lak 93.15 54 P 06 43 17.0
baz=287
RLMT Red Lodge 93.31 43 P **P** **06 43 11.9 -0.9**
RLMT Red Lodge 93.31 43 P 06 43 15.5
baz=290,SNR=8.4
PDAR Pinedale Array 93.92 45 P **P** **06 43 18.9 +3.1**
comp=Z,0.7nm,0.6s,baz=245,slow=3.5,SNR=8.8
LAO LASA Array 94.71 40 P **P** **06 43 19.9 +0.8**
LAO LASA Array 94.71 40 P 06 43 20.2
baz=293,SNR=7.2
NOA NORSAR Array B 98.26 339 P **P** **06 43 32.9 -1.9**
comp=Z,0.7nm,0.8s,baz=47,slow=5.5,SNR=2.7
LPAZ La Paz 148.76 102 PKPbc **PKPdf** **06 49 44.3 +1.4**
comp=Z,1.6nm,0.6s,baz=261,slow=2.6,SNR=3.5

*NEIC **08** 06:33:07.2±0.8,50.4N±0.2×173.3W±0.1,h22km±24km,*
Error ellipse: s-maj=29.1km s-min=11.2km az=178.0
*AEIC **08** 06:33:09.0±0.8,50.53N±0.03×173.4W±0.1,h20km±2km,*
ML3.3,Error ellipse: s-maj=12.4km s-min=5.5km az=99.0
*IDC **08** 06:33:19.5±7.0,51.02N×170.95W,h0km,mb3.3/4,*
mb1 3.8/6,mb1mx3.4/66,mbtmpg3.5/6,ML3.4/2,Error
ellipse: s-maj=126.9km s-min=46.3km az=90.0

ISC 08 06:33:11.6±1.4,50.7N±0.2×173.36W±0.06,h35km,n20,
σ1§25/20,mb3.3/4,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.64**	**342**			**Pn**	**06 33 38.1**	**+0.3**
KOFP	**Korovin Flat P**	**1.69**	**344**			**Pn**	**06 33 39.1**	**+0.5**
KOKL	**Mount Kliuchef**	**1.75**	**343**			**Pn**	**06 33 39.9**	**+0.3**
GSMY	**Great Sitkin M**	**2.19**	**310**			**Pn**	**06 33 44.7**	**-0.8**
GSTR	**Great Sitkin T**	**2.22**	**311**		Pn	**Pn**	**06 33 45.9**	**-0.1**
GSTD	**Great Sitkin T**	**2.24**	**310**			**Pn**	**06 33 45.8**	**-0.5**
ADK	**Adak**	**2.43**	**302**			**Pn**	**06 33 48.3**	**-0.5**
ADAG	**Mount Adagdak**	**2.43**	**304**			**Pn**	**06 33 48.1**	**-0.7**
NIKH	**Nikolski High**	**3.63**	**49**			**Pn**	**06 34 04.8**	**-0.5**
OKFG	**Magazine Ridge**	**4.35**	**49**			**Pn**	**06 34 14.2**	**-1.0**
MAPS	**Pakushin South**	**5.05**	**49**			**Pn**	**06 34 24.3**	**-0.5**
MGOD	**Makushin Gods**	**5.08**	**49**			**Pn**	**06 34 24.7**	**-0.5**
MSW	**Makushin Switc**	**5.19**	**48**			**Pn**	**06 34 26.2**	**-0.5**
MNAT	**Makushin Natee**	**5.22**	**49**			**Pn**	**06 34 26.7**	**-0.4**
KDAK	**Kodiak Island**	**14.05**	**51**		Pn	**Pn**	**06 36 24.1**	**-3.8**
	0.2nm,0.3s,baz=275,slow=12,SNR=3.5							
ILAR	**Eielson Array**	**19.77**	**34**	P		**P**	**06 37 37.2**	**-1.2**
	0.2nm,0.3s,baz=230,slow=9.8,SNR=10							
YKA	**Yellowknife Ar**	**33.24**	**46**	P		**P**	**06 39 47.2**	**+2.2**
	0.3nm,0.4s,baz=266,slow=7.1,SNR=5.5							
NVAR	**Mina Array Bea**	**40.20**	**86**	P		**P**	**06 40 45.7**	**+1.0**
	0.2nm,0.5s,baz=312,slow=9.6,SNR=2.4							
PDAR	**Pinedale Array**	**43.22**	**75**	P		**P**	**06 41 09.8**	**+0.4**
	0.2nm,0.5s,baz=311,slow=3.4,SNR=3.6							
TXAR	**Lajitas Array**	**55.33**	**85**	P		**P**	**06 42 41.9**	**0.0**
	0.3nm,0.6s,baz=303,slow=6.3,SNR=5.3							

*SOME **08** 06:42:59.7,40.03N×75.32E,h10km*
*KRNET **08** 06:42:59.3±0.1,39.75N×75.44E,mb3.2*
*NNC **08** 06:43:04.1±1.1,40.16N×75.50E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=7.7km s-min=6.4km az=152.0

ISC 08 06:43:02.2±2.1,39.9N±0.1×75.36E±0.04,h10km,n61,
σ1§82/89,26C-9D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**2.31**	**309**	⇑*i*P		**Pn**	**06 43 40.8**	**+0.4**
	baz=11							
ARSB				⇑*i*S		**Sb**	**06 44 11.3**	**-1.4**
	baz=11							
UCH	**Uchtor**	**2.42**	**345**	⇑*i*P		**Pn**	**06 43 43.0**	**+0.7**
	baz=44							
UCH				⇑*i*S		**Sn**	**06 44 14.5**	**+2.3**
	baz=44							
UCH	**Uchtor**	**2.42**	**345**	P		**Pn**	**06 43 43.3**	**+1.0**
	SNR=11							
ULHL	**Ulahol**	**2.45**	**15**	⇑*i*P		**Pn**	**06 43 42.5**	**+0.1**
	baz=13							
ULHL				⇑*i*S		**Sn**	**06 44 13.9**	**+1.4**
	baz=13							
ULHL	**Ulahol**	**2.45**	**15**	P		**Pb**	**06 43 43.6**	**-2.8**
	SNR=27							
AML	**Almayashu**	**2.57**	**331**	⇑*i*P		**Pn**	**06 43 45.0**	**+0.7**
	baz=31							
AML				⇑*i*S		**Sn**	**06 44 18.2**	**+2.4**
	baz=31							
AML	**Almayashu**	**2.57**	**331**	P		**Pb**	**06 43 45.7**	**-2.9**
	SNR=6.6							
KDJ	**Kajisay**	**2.63**	**31**	⇓*i*P		**Pn**	**06 43 45.2**	**+0.3**
	baz=29							
KDJ				⇓*i*S		**Sn**	**06 44 18.4**	**+1.5**
	baz=29							
BOOM	**Boomskoye usch**	**2.64**	**9**	⇑*e*P		**Pn**	**06 43 45.3**	**+0.4**
	baz=8.0							
BOOM				⇑*i*S		**Sn**	**06 44 18.6**	**+1.5**
	baz=8.0							
KBK	**Karagaybulak**	**2.78**	**354**	⇑*i*P		**Pn**	**06 43 47.6**	**+0.6**
	baz=53							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBK				⇑iS	Sn	06 44 23.0	+2.3
	baz=53						
KBK	Karagaybulak	2.78	354	P	Pb	06 43 50.0	-2.1
	SNR=10						
AAK	Ala-Archa	2.83	347	⇑iP	Pn	06 43 48.3	+0.8
	baz=46						
AAK				⇑iS	Sn	06 44 23.8	+2.1
	baz=46						
AAK	Ala-Archa	2.83	347	P	Pb	06 43 50.0	-2.7
	SNR=7.9						
AAK	Ala-Archa	2.83	347	⇓Pn	Pn	06 43 48.9	+1.4
	5.1nm,0.5s						
AAK				⇑Lg	Lg	06 44 24.6	
	46nm,0.7s						
EKS2	Erkin-Say	3.02	337	⇑iP	Pn	06 43 51.0	+0.9
	baz=37						
EKS2				⇑iS	Sn	06 44 28.7	+2.3
	baz=37						
EKS2	Erkin-Say	3.02	337	P	Sg	06 44 31.3	-7.8
	SNR=16						
TKM2	Tokmak 2	3.04	3	⇓iP	Pn	06 43 50.9	+0.4
	baz=2.0						
TKM2				⇓iS	Sn	06 44 28.5	+1.5
	baz=2.0						
TKM2	Tokmak 2	3.04	3	P	Pb	06 43 54.3	-2.2
	SNR=6.3						
TKM2	Tokmak 2	3.04	3	⇑Pn	Pn	06 43 50.3	-0.1
	4.1nm,0.6s						
TKM2				⇓Lg	Lg	06 44 30.5	
	10nm,0.5s						
CHMS	Chumysh	3.14	352	⇑iP	Pn	06 43 52.5	+0.7
	baz=51						
CHMS				⇑iS	Sn	06 44 31.2	+1.9
	baz=51						
KST	Kastek	3.19	8	eP	Pb	06 43 56.8	-2.2
	12nm,0.3s						
KST				eS	Sb	06 44 37.4	-0.5
	16nm,0.5s						
KST	Kastek	3.19	8	Pg	Pb	06 43 56.8	-2.2
	12nm,0.3s						
KST				Lg	Lg	06 44 37.4	
	16nm,0.5s						
IZV	Izvestkoviy	3.28	16	eP	Pb	06 43 58.6	-2.0
	7.9nm,0.7s						
IZV				eS	Sb	06 44 41.2	+0.5
	25nm,0.5s						
IZV	Izvestkoviy	3.28	16	Pg	Pb	06 43 58.6	-2.0
	7.9nm,0.7s						
IZV				Lg	Lg	06 44 41.3	
	25nm,0.5s						
MTBS	Maitube	3.34	14	eP	Pb	06 44 00.0	-1.5
	1.7nm,0.2s						
MTBS				eS	Sb	06 44 42.9	+0.7
	8.1nm,0.2s						
MTBS	Maitube	3.34	14	Pg	Pb	06 44 00.0	-1.5
	1.7nm,0.2s						
MTBS				Lg	Lg	06 44 42.9	
	8.1nm,0.2s						
TNSS	Tian-Shan	3.37	20	eP	Pb	06 44 00.2	-1.9
	10nm,0.4s						
TNSS				eS	Sb	06 44 43.3	0.0
	8.4nm,0.4s						
TNSS	Tian-Shan	3.37	20	Pg	Pb	06 44 00.2	-1.9
	10nm,0.4s						
TNSS				Lg	Lg	06 44 43.3	
	8.4nm,0.4s						
DGS	Degeres	3.37	5	eP	Pb	06 43 59.6	-2.4
	6.6nm,0.6s						
DGS				eS	Sb	06 44 42.6	-0.4
	14nm,0.5s						
DGS	Degeres	3.37	5	Pg	Pb	06 43 59.6	-2.4
	6.6nm,0.6s						
DGS				Lg	Lg	06 44 42.6	
	14nm,0.5s						
ANVS	Anan'yevo	3.37	30	⇑iP	Pn	06 43 55.1	0.0
	baz=28						
ANVS				⇑iS	Sn	06 44 35.6	+0.3
	baz=28						
MNAS	Manas	3.38	321	⇑iP	Pn	06 43 56.0	+0.9
	baz=22						
MNAS				⇑iS	Sn	06 44 37.1	+1.8
	baz=22						
USP	Ospenovka	3.44	349	⇓eP	Pn	06 43 56.6	+0.8
	baz=49						
USP				⇓iS	Sn	06 44 38.5	+1.8
	baz=49						
MDOK	Medeo	3.51	21	eP	Pb	06 44 02.4	-2.0
	4.0nm,0.4s						
MDOK				eS	Sb	06 44 47.0	-0.1
	15nm,0.5s						
MDOK	Medeo	3.51	21	Pg	Pb	06 44 02.5	-2.0
	3.8nm,0.7s						
MDOK				⇓Lg	Lg	06 44 45.1	
	20nm,0.8s						
MDOK	Medeo	3.51	21	Pg	Pb	06 44 02.4	-2.0
	4.0nm,0.4s						
MDOK				Lg	Lg	06 44 47.0	
	15nm,0.5s						
KOTS	Kotyrbulak	3.59	21	eP	Pb	06 44 04.3	-1.6
	7.7nm,0.4s						
KOTS				eS	Sb	06 44 50.8	+1.2
	75nm,0.5s						
KOTS	Kotyrbulak	3.59	21	Pg	Pb	06 44 04.3	-1.6
	7.7nm,0.4s						
KOTS				Lg	Lg	06 44 50.8	
	75nm,0.5s						
SGDS	Sogindy	3.60	352	Pg	Pb	06 44 04.2	-1.8
	2.6nm,0.4s						
SGDS				Lg	Lg	06 44 50.2	
	5.9nm,0.4s						
SATY	Saty	3.91	35	eP	Pb	06 44 10.6	-0.6
	3.8nm,0.6s						
SATY				eS	Sb	06 45 01.1	+2.5
	15nm,0.5s						
SATY	Saty	3.91	35	Pg	Pb	06 44 10.6	-0.6
	3.8nm,0.6s						
SATY				Lg	Lg	06 45 01.1	
	15nm,0.5s						
KTBS	Karatobe	3.95	14	eP	Pb	06 44 10.1	-1.8
	3.8nm,0.3s						
KTBS				eS	Sb	06 45 00.2	+0.5
	19nm,0.4s						
KTBS	Karatobe	3.95	14	Pg	Pb	06 44 10.1	-1.8
	3.8nm,0.3s						
KTBS				Lg	Lg	06 45 00.2	
	19nm,0.4s						
CHKK	Chushkaly	4.15	17	eP	Pb	06 44 13.9	-1.3
	1.9nm,0.0s						
CHKK				eS	Sb	06 45 07.1	+1.7
	10nm,0.3s						
CHKK	Chushkaly	4.15	17	Pg	Pb	06 44 13.9	-1.3
	1.9nm,0.0s						
CHKK				Lg	Lg	06 45 07.1	
	10nm,0.3s						
KURS	Kuram	4.17	29	eP	Pb	06 44 14.6	-1.0
	3.1nm,0.6s						
KURS				eS	Sb	06 45 07.9	+1.9
	6.2nm,0.3s						
KURS	Kuram	4.17	29	Pg	Pb	06 44 14.6	-1.0
	3.1nm,0.6s						
KURS				Lg	Lg	06 45 07.9	
	6.2nm,0.3s						
KPKS	Kokpek	4.36	34	eP	Pb	06 44 17.8	-1.1
	3.2nm,0.1s						
KPKS				eS	Sb	06 45 13.4	+1.9
	20nm,0.5s						
PDGK	Podgornoye	4.63	41	Pg	Pb	06 44 23.0	-0.5
	1.2nm,0.8s						
PDGK				Lg	Lg	06 45 22.3	
	4.9nm,0.7s						
PDGK	Podgornoye	4.63	41	⇑Lg	Lg	06 45 22.2	
	11nm,0.7s						
ARXS	Arharly	4.70	22	eP	Pb	06 44 23.7	-0.9
	5.1nm,0.6s						
ARXS				eS	Sb	06 45 23.8	+2.6
	4.5nm,0.5s						
ARXS	Arharly	4.70	22	Pg	Pb	06 44 23.7	-0.9
	5.1nm,0.6s						
ARXS				Lg	Lg	06 45 23.8	
	4.5nm,0.5s						
MNBS	Baschi	4.76	27	eP	Pb	06 44 25.6	-0.2
	3.3nm,0.4s						
MNBS				eS	Sb	06 45 26.8	+3.6
	11nm,0.6s						
MNBS	Baschi	4.76	27	Pg	Pb	06 44 25.6	-0.2
	3.3nm,0.4s						
MNBS				Lg	Lg	06 45 26.8	
	11nm,0.6s						
KK31	Karatay Array	4.86	313	⇑Lg	Lg	06 45 34.4	
	1.3nm,0.6s,baz=128,slow=28,SNR=4.7						
KTMS	Ketmen	5.16	45	eP	Pb	06 44 30.6	-1.9
	2.2nm,0.4s						
KTMS				eS	Sb	06 45 35.4	+0.8
	1.5nm,0.2s						
KTMS	Ketmen	5.16	45	Pg	Pb	06 44 30.6	-1.9
	2.2nm,0.4s						
KTMS				Lg	Lg	06 45 35.4	
	1.5nm,0.2s						
BTLS	Baital	5.24	350	eP	Pb	06 44 34.0	+0.1
	1.3nm,0.4s						
BTLS				eS	Sb	06 45 41.4	+4.6
	2.9nm,0.6s						
BTLS	Baital	5.24	350	Pg	Pb	06 44 34.0	+0.1
	1.3nm,0.4s						
BTLS				Lg	Lg	06 45 41.4	
	2.9nm,0.6s						
DJR	Jarkent	5.53	35	eP	Pb	06 44 40.9	+2.1
	2.2nm,0.5s						
DJR				eS	Sg	06 45 53.1	-6.5
	2.1nm,0.5s						
DJR	Jarkent	5.53	35	Pg	Pb	06 44 40.9	+2.1
	2.2nm,0.5s						
DJR				Lg	Lg	06 45 53.1	
	2.1nm,0.5s						

*NNC **08** 07:19:02.0±0.3, 50°.02N×78°.67E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=7.1km s-min=2.0km az=79.0, Suspected Mining explosion.*
*IDC **08** 07:19:02.1±1.1, 50°.07N×78°.70E, h0km, mb1 3.2/2, mb1mx3.0/42, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=19.2km s-min=6.4km az=69.0*
ISC 08 07:19:01.5±1.0**, 50°.42N**±0°.08×**79°.47E**±0°.05**, h0km, n26, σ1^{s}58**/36**, 20C-7D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR14	Kurchatov Arra	0.59	289	⇓P	Pg	07 19 13.5	+0.7
KUR14				⇑S	Sg	07 19 22.1	+1.7
KUR15	Kurchatov Arra	0.61	289	⇑P	Pg	07 19 13.6	+0.4
KUR15				⇓S	Sg	07 19 22.1	+1.0
KUR07	Kurchatov Arra	0.63	285	⇑P	Pg	07 19 13.2	-0.3
KUR07				⇑S	Sg	07 19 22.1	+0.5
KUR06	Kurchatov Arra	0.63	287	⇑P	Pg	07 19 13.5	-0.1
KUR06				⇑S	Sg	07 19 22.4	+0.7
KURBB	Kurchatov Arra	0.63	289	Pg	Pg	07 19 12.3	-1.2
	4.7nm,0.3s,baz=168,slow=18,SNR=341						
KURBB				Lg	Lg	07 19 22.1	
	7.1nm,0.3s,baz=135,slow=54,SNR=54						
KURBB	Kurchatov Arra	0.63	289	⇑P	Pg	07 19 13.8	+0.2
	30nm,0.3s						
KURBB				⇑S	Sg	07 19 23.0	+1.3
	186nm,0.5s						
KUR05	Kurchatov Arra	0.63	291	⇑P	Pg	07 19 14.0	+0.4
KUR05				⇑S	Sg	07 19 22.9	+1.1
KUR04	Kurchatov Arra	0.64	293	⇓P	Pg	07 19 14.4	+0.7
KUR04				⇑S	Sg	07 19 23.1	+1.1
KUR16	Kurchatov Arra	0.65	289	⇑P	Pg	07 19 13.8	-0.1
KUR16				⇑S	Sg	07 19 22.8	+0.4
KUR17	Kurchatov Arra	0.67	289	⇑P	Pg	07 19 13.9	-0.5
KUR17				⇓S	Sg	07 19 23.2	+0.1
MAKZ	Makanchi	3.98	154	⇑Pn	Pn	07 20 03.9	+0.1
	1.1nm,0.9s						
MAKZ				⇑Pg	Pb	07 20 11.8	-0.7
	3.3nm,0.8s						
MAKZ				⇑Lg	Lg	07 21 05.1	
	7.2nm,0.5s						
MK31	Makanchi Array	4.08	152	Pn	Pn	07 20 05.3	+0.1
	0.1nm,0.2s,baz=73,slow=6.3,SNR=63						
MK31				⇓Pg	Pb	07 20 14.3	0.0
	1.3nm,0.4s,baz=322,slow=12,SNR=24						
MK31				⇑Lg	Lg	07 21 09.0	
	7.6nm,0.5s,baz=325,slow=26,SNR=11						
MKAR	Makanchi Array	4.08	152	Pn	Pn	07 20 06.1	+0.9
	0.6nm,0.3s,baz=321,slow=10,SNR=47						
MKAR				Pg	Pb	07 20 13.1	-1.2
	1.1nm,0.3s,baz=324,slow=15,SNR=18						
MKAR				Lg	Lg	07 21 07.6	
	2.7nm,0.3s,baz=327,slow=22,SNR=12						
BRZS	Berezniki	4.38	267	Pg	Pn	07 20 13.6	+4.3
	6.1nm,0.3s						
BRZS				Lg	Lg	07 21 04.2	
	8.6nm,0.5s						
ZSN	Zaisan	4.64	128	Pg	Pg	07 20 32.0	+1.7
	2.0nm,0.3s						
ZSN				Lg	Lg	07 21 34.8	
	8.6nm,0.4s						
ZAA0	Zalesovo Array	4.83	41	⇑Pn	Pb	07 20 26.4	-0.5
	0.3nm,0.5s						
ZALV	Zalesovo Beam	4.83	41	Pn	Pb	07 20 26.0	-0.9
	1.7nm,0.3s,baz=233,slow=14,SNR=15						
ZALV				Lg	Lg	07 21 53.0	
	0.6nm,0.3s,baz=50,slow=18,SNR=3.5						
I46RU	ZALESOVO INFRA	4.83	41	i		07 49 40.0	
	baz=227,slow=340,SNR=7.6						
KAPS	Kapalarasan	5.14	181	Pg	Pb	07 20 30.1	-2.2
	1.7nm,0.4s						
KAPS				Lg	Lg	07 21 31.7	
	15nm,0.5s						
DJR	Jarkent	6.10	178	Pg	Pb	07 20 47.9	-0.6
	2.8nm,0.4s						
DJR				Lg	Lg	07 22 02.1	
	2.3nm,0.3s						
BRVK	Borovoye	6.29	298	⇓Sn	Sn	07 21 42.2	-5.6
	3.9nm,0.7s						
BRVK				⇓Lg	Lg	07 22 10.9	
	3.3nm,0.6s						
ARXS	Arharly	6.31	191	Pg	Pb	07 20 49.7	-2.6
	3.9nm,0.4s						
ARXS				Lg	Lg	07 22 05.2	
	9.7nm,0.4s						
MNBS	Baschi	6.39	187	Pg	Pb	07 20 54.5	+1.0
	2.0nm,0.3s						
MNBS				Lg	Lg	07 22 14.3	
	22nm,0.6s						
KUU	Kurty	6.87	199	Pg	Pb	07 21 00.4	-1.4
	1.0nm,0.2s						
KUU				Lg	Lg	07 22 23.2	
	4.0nm,0.5s						
KTBS	Karatobe	6.98	197	Pg	Pb	07 21 03.5	0.0
	0.8nm,0.4s						
KTBS				Lg	Lg	07 22 28.8	
	9.0nm,0.4s						
PDGK	Podgornoye	7.09	180	⇑Lg	Lg	07 22 35.1	
	5.5nm,0.9s						

*IDC **08** 07:25:49.6±18.0, 13°.40N×90°.02W, h122km±60km, mb3.2/5, mb1 3.5/7, mb1mx3.3/33, mbtmp3.7/7, Error ellipse: s-maj=222.9km s-min=34.3km az=163.0*
*SNET **08** 07:25:56.3±1.4, 13°.87N×90°.64W, h157km±19km, ML3.5*
*GCG **08** 07:26:00.5±0.7, 14°.45N×90°.55W, h143km±6km, MD3.7*
ISC 08 07:25:58.7±1.0**, 14°.15N**±0°.09×**90°.47W**±0°.07**, h154**km±7km**, n22, σ1^{s}24**/26**, mb3.6**/4**, 2C-1D, Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.28	331	⇑eP	Pn	07 26 20.2	+0.2
NBG	Las Nubes	0.46	15	⇓iP	Pn	07 26 21.2	+0.6
NBG				eS	Sn	07 26 37.4	-0.1
FUG	Fuego 3	0.47	310	eP	Pn	07 26 20.7	+0.1
FUG				eS	Sn	07 26 36.7	-0.6
RTR	El Retiro	0.83	107	eP	Pn	07 26 22.1	-0.7
SNJE	San Jose	0.88	108	eP	Pn	07 26 22.6	-0.6
TACO	Tacachico	1.09	99	eP	Pn	07 26 23.5	-1.2
JAYA	Jayaque - finc	1.10	116	eP	Pn	07 26 24.0	-0.9
JAYA				eS	Sn	07 26 43.8	-1.1
JAYA				IAML		07 26 49.6	
	comp=Z,840nm,0.2s						
PMON	Piamonte	1.20	111	eP	Pn	07 26 25.1	-0.7
PMON				eS	Sn	07 26 48.4	+2.1
MRL	Marmol	1.20	39	⇑iP	Pn	07 26 26.5	+0.6
MRL				eS	Sn	07 26 45.7	-1.0
LBRS	Las Brisas	1.44	106	eP	Pn	07 26 27.3	-0.7
HUEH	Huehuetenango	1.54	319	eP	Pn	07 26 29.5	+0.3
COEG	Centro de Oper	1.63	109	eP	Pn	07 26 29.8	-0.2
COEG				IAML		07 27 07.1	
	comp=Z,189nm,0.3s						
PQSS	Presa 15 de Se	1.92	105	eP	Pn	07 26 32.7	-0.5
COEB	Comit de Eme	1.99	109	IAML		07 27 06.7	
	comp=Z,212nm,0.3s						
LCND	La Caada	2.64	108	IAML		07 27 21.6	
	comp=Z,140nm,0.2s						
CMIG	Matias Romero	5.17	305	P	Pn	07 27 14.6	+0.3
	comp=Z,0.3nm,0.3s,baz=139,slow=8.7,SNR=18						
CMIG				S	Sn	07 28 10.1	-3.5
	comp=Z,1.7nm,0.3s,baz=274,slow=20,SNR=9.5						
TEIG	Tepich	6.40	19	P	Pn	07 27 30.1	-0.6
	comp=Z,5.4nm,0.3s,baz=65,slow=0.8,SNR=37						
TXAR	Lajitas Array	19.43	323	P	Pn	07 30 16.1	-0.2
	comp=Z,0.2nm,0.3s,baz=147,slow=11,SNR=8.8						
TKL	Tuckaleechee C	22.25	15	P	P	07 30 43.7	+0.7
	comp=Z,2.3nm,0.5s,baz=176,slow=11,SNR=11						
NVAR	Mina Array Bea	34.51	320	P	P	07 32 35.1	+2.7
	comp=Z,0.5nm,0.7s,baz=142,slow=7.9,SNR=5.3						
ULM	Lac du Bonnet	36.27	354	P	P	07 32 45.8	-1.3
	comp=Z,1.2nm,0.4s,baz=163,slow=8.6,SNR=5.8						
YKA	Yellowknife Ar	51.24	346	P	P	07 34 45.9	-0.3
	comp=Z,0.1nm,0.3s,baz=140,slow=8.7,SNR=5.5						

*IDC **08** 07:46:48.4±1.7, 8°.44S×124°.70E, h0km, mb3.3/1, mb1 3.5/5, mb1mx3.4/35, mbtmp3.3/5, ML3.2/4, Error ellipse: s-maj=52.5km s-min=24.5km az=77.0*
ISC 08 07:47:01.4±2.9**, 9°.6S**±0°.2×**124°.73E**±0°.08**, h10km, n5, σ1^{s}45**/8**, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	1.22	239	Pn	Pb	07 47 24.3	-0.2
	3.9nm,0.3s,baz=90,slow=7.1,SNR=4.2						
BATI				Sn	Sb	07 47 39.5	-0.9
	17nm,0.3s,baz=92,slow=9.1,SNR=6.9						
FITZ	Fitzroy Crossi	8.51	174	Pn	Pn	07 49 07.1	+2.4
	0.3nm,0.3s,baz=359,slow=9.2,SNR=10.0						
FITZ				Sn	Sn	07 50 40.0	-0.9
	2.1nm,0.3s,baz=218,slow=21,SNR=19						
WRA	Warramunga Arr	13.86	139	Pn	Pn	07 50 18.6	+0.5
	0.1nm,0.3s,baz=320,slow=14,SNR=8.5						
WRA				Sn	Sn	07 52 50.7	-1.5
	0.4nm,0.3s,baz=317,slow=24,SNR=13						
ASAR	Alice Springs	16.52	149	P	P	07 50 55.3	-0.7
	0.1nm,0.3s,baz=324,slow=12,SNR=6.9						
ASAR				S	Sn	07 53 57.3	+0.3
	0.1nm,0.3s,baz=326,slow=25,SNR=6.5						
MKAR	Makanchi Array	67.67	330	P	P	07 57 41.1	-18
	0.2nm,0.6s,baz=131,slow=4.4,SNR=2.7						

*IDC **08** 07:52:00.5±0.7, 4°.12S×83°.32W, h0km, mb4.0/16, mb1 4.2/21, mb1mx4.2/43, mbtmp4.1/21, ML3.8/5, MS3.5/13, Ms1 3.5/13, ms1mx3.4/38, Error ellipse: s-maj=26.3km s-min=11.9km az=51.0*
*NEIC **08** 07:52:02.2±1.2, 4°.10S±0°.09×83°.15W±0°.09, h10km±1km, mb4.5/75, Error ellipse: s-maj=17.6km s-min=12.0km az=224.0*
*IGQ **08** 07:52:06±0.8, 4°S±6°×8°3W±°, h10km*
*VAO **08** 07:52:09.9±0.9, 4°.07S×82°.43W, h10km, mb4.6*
ISC 08 07:52:02.5±0.5**, 4°.02S**±0°.06×**83°.13W**±0°.06**, h10km, n220, σ1^{s}41**/215**, mb4.5**/49**, MS3.5**/8**, Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SALI	Salinas	2.81	50	P	Pn	07 52 45.0	-2.5
SALI				S	Sn	07 53 18.0	-3.4
ARNL	Arenillas	3.09	81	P	Pn	07 52 49.0	-2.4
ARNL				S	Sn	07 53 25.0	-3.4
MORR	Playas El Morr	3.10	64	P	Pn	07 52 48.0	-3.6
MORR				S	Sn	07 53 25.0	-3.8
ISPG	Isla Puna-Puer	3.13	71	P	Pn	07 52 50.0	-2.0
MCRA	Macar, Loja	3.18	96	P	Pn	07 52 49.0	-3.7
GONZ	Gonzanam	3.73	93	P	Pn	07 52 58.0	-2.5
MILO	Milagro-Astudi	3.96	64	P	Pn	07 53 02.0	-1.4
COHC	Cochancay	4.17	68	P	Pn	07 53 03.0	-3.2
CAB1	Cabo Pasado-Ma	4.51	37	P	Pn	07 53 09.0	-1.9
CHSH	Refugio Sur-Vo	4.94	60	P	Pn	07 53 17.0	-0.3
TAMH	Tambohuasha Ch	4.99	61	P	Pn	07 53 16.0	-2.0
MAG1	Magdalena	5.16	41	P	Pn	07 53 19.0	-0.9
BMAS	Trigal station	5.28	62	P	Pn	07 53 21.0	-0.8
ARRY	Arrayan	5.29	62	P	Pn	07 53 21.0	-1.0
JUI6	Juive	5.32	61	P	Pn	07 53 21.0	-1.4
RUN5	Runtun	5.37	61	P	Pn	07 53 24.0	+1.0
BULB	Ulba Tungurahu	5.37	62	P	Pn	07 53 25.0	+2.0
BRUN	Tungurahua Vol	5.37	61	P	Pn	07 53 24.0	+0.9
ATAH	Atahualpa	5.63	123	Pn	Pn	07 53 27.6	+0.8
	4.0nm,0.3s,baz=1.0,slow=8.5,SNR=128						
ATAH				Sn	Sn	07 54 28.9	-2.9
	12nm,0.3s,baz=356,slow=21,SNR=7.5						
ATAH				LR	LR	07 55 37.1	
	comp=Z,573nm,21.7s,baz=299,slow=38						
PTGL	Punta Galera	5.69	33	P	Pn	07 53 25.0	-2.1
CAMI	Rancho Maria	5.69	54	P	Pn	07 53 28.0	+0.4
BV15	Puerto Quito-O	5.70	43	P	Pn	07 53 26.0	-1.3
BNAS	Cotopaxi Volca	5.71	54	P	Pn	07 53 28.0	+0.1
BREF	Cotopaxi Volca	5.75	55	P	Pn	07 53 30.0	+1.5
BTAM	Cotopaxi Volca	5.78	55	P	Pn	07 53 30.0	+1.1
VC1	Cotopaxi 1	5.79	55	P	Pn	07 53 31.0	+2.0
GGPT	Toaza - Volcan	5.88	50	P	Pn	07 53 30.0	-0.1
TERV	Terraza Guagua	5.92	50	P	Pn	07 53 31.0	+0.2
GGPC	Guagua Pichinc	5.92	50	P	Pn	07 53 31.0	+0.1
GGP	Refugio Guagua	5.93	50	P	Pn	07 53 31.0	+0.1
PINO	Pino	5.93	50	P	Pn	07 53 31.0	0.0
YANA	Yana	5.98	50	P	Pn	07 53 32.0	+0.4
ANTM	Antisana-La Mi	6.00	55	P	Pn	07 53 33.0	+1.1
PAC1	Pacto, Paraso	6.08	46	P	Pn	07 53 31.0	-1.6
PULU	Pululahua	6.12	49	P	Pn	07 53 34.0	+0.5
OTAV	Otavalo	6.30	48	Pn	Pn	07 53 36.5	+0.5
OTAV	Otavalo	6.30	48	eP	Pn	07 53 36.5	+0.5
OTAV	Otavalo	6.30	48	P	Pn	07 53 36.0	0.0
OTAV	Otavalo	6.30	48	eP	Pn	07 53 36.3	+0.3
CUSE	Cuicocha Este	6.39	48	P	Pn	07 53 38.0	+0.9
CUSW	Cuicocha Oeste	6.41	48	P	Pn	07 53 38.0	+0.6
CUIC	Cuicocha-Domo	6.42	48	P	Pn	07 53 38.0	+0.5
CAYR	Refugio Cayamb	6.50	52	P	Pn	07 53 42.0	+3.1
IMBA	Imbabura, San	6.52	49	P	Pn	07 53 41.0	+2.1
URCU	Urcuqui	6.58	48	P	Pn	07 53 42.0	+2.2
YAHU	Yahuarcocha	6.68	49	P	Pn	07 53 43.0	+1.9
CHMA	Chilma	7.01	46	P	Pn	07 53 44.0	-1.6
CHL1	Volc¡n Chiles	7.05	47	P	Pn	07 53 48.0	+1.7
ECEN	Cerro Negro	7.05	47	P	Pn	07 53 48.0	+1.6
CHL2	Volc¡n Chiles	7.08	47	P	Pn	07 53 48.0	+1.3
GCUF	Volcan Galeras	7.78	48	eP	Pn	07 53 59.3	+2.9
PAYG	Puerto Ayora	7.89	295	Pn	Pn	07 53 56.3	-1.1
BBAC	Balboa, Cauca	8.40	44	eP	Pn	07 54 03.7	-0.9
SOTA	Rioblanco	8.94	47	eP	Pn	07 54 13.0	+0.8
POPC	Popayan, Colom	9.17	45	eP	Pn	07 54 13.4	-1.8
PCON	Cinco Dias	9.22	47	eP	Pn	07 54 16.5	+0.4
PTLC	Puerto Leguiza	9.31	64	eP	Pn	07 54 16.9	0.0
MARP	Paez Belalcaza	9.89	47	eP	Pn	07 54 26.1	+1.0
NNA	Nana	10.06	142	Pn	Pn	07 54 26.4	-0.9
	3.4nm,0.3s,baz=320,slow=13,SNR=8.0						
NNA				Sn	Sn	07 56 07.8	-13
	3.2nm,0.3s,baz=202,slow=19,SNR=2.4						
NNA				LR	LR	07 57 34.7	
	comp=Z,65nm,21.2s,baz=308,slow=33						
NNA	Nana	10.06	142		Pn	07 54 25.4	-1.9
NNA	Nana	10.06	142	P	Pn	07 54 26.0	-1.3
YOTC	Yotoco, Valle	10.45	41	eP	Pn	07 54 27.8	-4.8
CZSB	Cruzeiro do Su	11.00	110	eP	Pn	07 54 38.1	-2.0
MACC	Macarena, Meta	11.12	57	eP	Pn	07 54 40.2	-1.4
ORTC	Ortega, Tolima	11.14	45	eP	Pn	07 54 40.8	-1.3
PLMC	San Jos del P	11.20	38	eP	Pn	07 54 39.1	-3.7
PRAC	Prado	11.26	47	eP	Pn	07 54 42.8	-0.9
TOLC	Tolima	11.57	42	eP	Pn	07 54 46.1	-2.1
RREF	El Recreo	11.79	41	eP	Pn	07 54 49.2	-2.3
GUY2C	Guyana, Caldas	12.02	40	eP	Pn	07 54 53.7	-0.7
CBOC	Ciudad Bolivar	12.12	36	eP	Pn	07 54 48.1	-7.5
ROSC	El Rosal	12.45	45	Pn	Pn	07 55 00.1	-0.1
CHIC	Chingaza	12.73	48	eP	Pn	07 55 01.3	-2.7
DBBC	Dabeiba	12.96	32	eP	Pn	07 55 11.1	+4.2
SPBC	San Pablo de B	13.20	43	eP	Pn	07 55 09.3	-0.9
PTBC	PUERTO BERRIO,	13.60	40	eP	Pn	07 55 16.0	+0.4
UREC	San Jos de Ur	13.94	33	eP	Pn	07 55 19.0	-1.2
RUSC	La Rusia	14.06	46	eP	Pn	07 55 24.9	+2.6
JTS	Las Juntas de	14.34	353	Pn	Pn	07 55 27.3	+1.6
	0.4nm,0.3s,baz=201,slow=4.5,SNR=7.8						
JTS				LR	LR	07 59 13.6	
	comp=Z,230nm,20.7s,baz=180,slow=30						
JTS	Las Juntas de	14.34	353	Pn	Pn	07 55 26.4	+0.6
SMLC	San Martn de	15.62	35	eP	Pn	07 55 43.6	+0.8
ARGC	Ariguani, Magd	16.38	33	eP	P	07 55 58.2	+2.6
SDV	Santo Domingo	17.88	44	P	P	07 56 13.0	+0.7
	0.4nm,0.3s,baz=243,slow=11,SNR=7.9						
SDV				LR	LR	08 02 58.6	
	comp=Z,149nm,19.8s,baz=238,slow=36						

SDV Santo Domingo 17.88 44 P Pn 07 56 12.1 +0.4
SDV Santo Domingo 17.88 44 eP P 07 56 12.4 0.0
SDV Santo Domingo 17.88 44 eP P 07 56 14.0 +1.6
LPAZ La Paz 19.12 131 P Pn 07 56 28.2 +1.0
0.2nm,0.3s,baz=305,slow=8.6,SNR=8.7
LPAZ LR LR 08 04 04.2
comp=Z,132nm,20.9s,baz=317,slow=38
LPAZ La Paz 19.12 131 P 07 56 25.1 -1.4
LPAZ La Paz 19.12 131 eP Pn 07 56 27.9 +0.7
PSGCX Pisagua 20.02 142 P P 07 56 34.5 -1.2
PSGCX IAmb IAmb 07 56 53.0
comp=Z,23nm,1.3s
SAML Samuel 20.41 105 P P 07 56 39.7 -0.2
PB08 IPOC Station P 21.03 141 P P 07 56 45.2 -1.8
PB09 IPOC Station P 22.22 144 P P 07 56 59.1 -0.5
PB09 IAmb IAmb 07 57 09.7
comp=Z,23nm,0.9s
MACA Manacapuru-AM 22.42 89 eP P 07 57 02.5 +0.9
LVC Limon Verde 23.04 145 P P 07 57 09.4 +0.9
comp=Z,2.1nm,0.5s,baz=291,slow=13,SNR=3.5
LVC Limon Verde 23.04 145 eP P 07 57 10.6 +2.1
PCRV Puerto La Cruz 23.20 52 P P 07 57 11.6 +1.8
comp=Z,13nm,0.9s,baz=275,slow=12,SNR=1.6
PTGA Pitinga 23.37 83 P P 07 57 13.6 +2.1
comp=Z,2.5nm,0.3s,baz=310,slow=11,SNR=4.4
PTGA LR LR 08 06 51.5
comp=Z,70nm,18.7s,baz=266,slow=38
PTGA Pitinga 23.37 83 P P 07 57 12.3 +0.7
PTGA IAmb IAmb 07 57 21.1
comp=Z,17nm,1.2s
PTGA Pitinga 23.37 83 eP P 07 57 12.2 +0.7
CMIG Matias Romero 23.98 331 LR LR 08 04 29.6
comp=Z,109nm,21.1s,baz=122,slow=31
TEIG Tepich 24.62 348 P P 07 57 21.7 -1.5
comp=Z,14nm,1.0s,baz=174,slow=14,SNR=3.5
TEIG LR LR 08 05 39.7
comp=Z,146nm,19.1s,baz=158,slow=33
SIV San Ignacio 24.73 120 P P 07 57 24.4 +0.1
comp=Z,1.3nm,0.5s,baz=319,slow=11,SNR=7.1
SIV LR LR 08 07 43.3
comp=Z,231nm,18.2s,baz=282,slow=38
PTLB Pontes e Lacer 26.19 117 eP P 07 57 39.8 +2.2
ITTB Itaituba 27.32 92 eP P 07 57 49.3 +1.5
NPGB Novo Progresso 27.80 97 eP P 07 57 52.9 +0.7
CLDB Colider 27.93 106 eP P 07 57 54.8 +1.5
MALB Monte Alegre 28.90 87 eP P 07 58 03.9 +1.9
H03N2 Juan Fernandez 29.53 173 T T 08 28 52.4
baz=354,slow=74,SNR=25
H03N1 Juan Fernandez 29.53 173 T T 08 28 54.7
baz=354,SNR=27
H03N3 Juan Fernandez 29.55 173 T T 08 28 51.4
baz=354,slow=74,SNR=25
MDP Montagnes des 31.77 74 LR LR 08 12 42.5
comp=Z,92nm,18.2s,baz=300,slow=39
SNDB Serra Nova Dou 32.47 106 eP P 07 58 34.8 +1.3
CPUP Villa Florida 33.20 134 P P 07 58 38.4 -1.3
comp=Z,2.1nm,1.0s,baz=338,slow=11,SNR=3.1
CPUP LR LR 08 12 33.6
comp=Z,91nm,19.5s,baz=312,slow=37
CPUP Villa Florida 33.20 134 P P 07 58 38.9 -0.8
CPUP IAmb IAmb 07 58 47.0
comp=Z,7.7nm,1.2s
PEXB Peixe 35.37 105 eP P 07 58 58.9 +0.2
BDFB Brasilia 36.40 111 P P 07 59 09.2 +1.6
comp=Z,3.0nm,0.7s,baz=225,slow=11,SNR=4.1
BDFB LR LR 08 14 53.4
comp=Z,103nm,18.1s,baz=99,slow=38
BDFB Brasilia 36.40 111 P P 07 59 07.3 -0.4
BDFB IAmb IAmb 07 59 15.2
comp=Z,8.9nm,1.0s
435B Jarrell 37.26 339 P P 07 59 15.9 +1.3
435B IAmb IAmb 07 59 25.3
comp=Z,8.1nm,1.1s
FRTB Fartura 37.68 124 eP P 07 59 21.2 +2.9
JCT Junction City 37.83 336 P P 07 59 20.5 +1.0
SLBS Sierra La Lagu 37.97 318 P P 07 59 21.0 +0.2
SLBS IAmb IAmb 07 59 22.7
comp=Z,8.9nm,0.9s
Y45A Yeager Farm, C 38.17 351 P P 07 59 22.4 +0.1
PLCA Paso Flores 38.26 165 P P 07 59 22.0 -1.0
comp=Z,3.3nm,1.2s,baz=335,slow=11,SNR=2.6
PLCA Paso Flores 38.26 165 eP P 07 59 28.4 +5.3
TXAR Lajitas Array 38.58 331 P P 07 59 26.4 +0.4
comp=Z,0.7nm,0.8s,baz=163,slow=9.2,SNR=6.7
TXAR PcP PcP 08 01 38.5 0.0
comp=Z,0.5nm,0.5s,baz=167,slow=7.3,SNR=6.0
CCAR Cane Creek 38.61 348 P P 07 59 26.6 +0.6
SDBA SAO DESIDERIO 38.70 105 eP P 07 59 26.1 -0.9
ROSB Rosrio 38.95 90 eP P 07 59 29.1 0.0
PLTB Pedras Altas 39.11 138 eP P 07 59 32.0 +1.7
ABTX Abilene, Hawle 39.67 338 P P 07 59 35.0 +0.1
ABTX IAmb IAmb 07 59 44.5
comp=Z,15nm,1.5s
VAO Valinhos 39.72 122 eP P 07 59 38.1 +2.5
JANB Januaria 39.74 109 eP P 07 59 38.1 +2.3
X37A Clayton 40.10 344 P P 07 59 39.6 +1.2
X37A IAmb IAmb 07 59 59.8
comp=Z,20nm,1.5s
LCAR Lake Charles 40.59 350 P P 07 59 43.0 +0.7
LCAR IAmb IAmb 07 59 46.3
comp=Z,7.8nm,0.8s
T45A Paducah 41.15 353 P P 07 59 48.1 +1.1
U40A Yellville 41.19 348 P P 07 59 48.4 +1.0
FNO Franklin 41.31 342 P P 07 59 49.7 +1.3
HHAR Hobbs 41.35 347 P P 07 59 49.7 +1.0
HHAR IAmb IAmb 07 59 58.3
comp=Z,9.2nm,1.1s
MNTX Cornudas Mount 41.36 331 P P 07 59 49.0 +0.1
T42A Van Buren 41.51 350 P P 07 59 50.4 +0.4
T42A IAmb IAmb 07 59 59.6
comp=Z,9.6nm,1.2s
NBPS Pedro II - PI 41.57 92 eP P 07 59 52.1 +1.2
U38A Gravette 41.60 346 P P 07 59 51.8 +1.0
OK031 S. Brethren Rd 41.79 343 P P 07 59 52.5 +0.2
OK031 IAmb IAmb 07 59 54.3
comp=Z,8.1nm,0.7s
OK029 Liberty Lake 41.83 342 P P 07 59 53.2 +0.6
MGMO Mountain Grove 41.84 349 P P 07 59 53.5 +0.8
S44A Carbondale 41.89 353 P P 07 59 53.4 +0.3
S44A IAmb IAmb 08 00 07.9
comp=Z,8.2nm,0.8s
SIUC Southern Illin 41.91 353 P P 07 59 53.7 +0.5
SIUC IAmb IAmb 07 59 56.5
comp=Z,7.4nm,0.7s
MSTX Muleshoe 42.09 335 P P 07 59 55.0 0.0
MSTX IAmb IAmb 07 59 57.3
comp=Z,11nm,1.3s
CCM Cathedral Cave 42.54 351 P P 07 59 58.8 +0.4
S39A Bolivar 42.57 348 P P 07 59 59.6 +1.0
S39A IAmb IAmb 08 00 08.7
comp=Z,7.8nm,0.9s
KAN14 Manchester OK 43.05 343 P P 08 00 02.3 -0.3
KAN09 Caldwell North 43.12 343 P P 08 00 04.2 +1.1
KAN09 IAmb IAmb 08 00 12.8
comp=Z,9.3nm,1.1s
319A Douglas 43.13 327 P P 08 00 03.9 +0.4
319A IAmb IAmb 08 00 05.9
comp=Z,10.0nm,1.0s
121A Cookes Peak, D 43.24 329 P P 08 00 05.0 +0.6
BNM Barren Site 43.97 332 P P 08 00 11.7 +1.4
GDU01 Guandu, BA 44.02 106 eP P 08 00 14.6 +3.8
P40A Paris 44.11 350 P P 08 00 11.3 +0.3
LENM Lemitar 44.14 331 P P 08 00 13.0 +1.3
NBIT Itapeh - BA 44.35 107 eP P 08 00 14.8 +1.4
ANMO Albuquerque 44.54 332 P P 08 00 15.0 +0.2
TUC Tucson 44.67 326 P P 08 00 16.0 +0.2
KSU1 Kansas State U 44.68 345 P P 08 00 16.6 +1.0
KSU1 IAmb IAmb 08 00 17.1
comp=Z,7.6nm,0.8s
N38A Joes South For 45.55 349 P P 08 00 22.8 +0.3
214A Organ Pipe Nat 45.57 324 P P 08 00 23.3 +0.4
214A IAmb IAmb 08 00 25.1
comp=Z,7.9nm,1.4s
PIX Pinacate 45.68 323 P P 08 00 24.4 +0.7
SFX San Felipe 46.16 321 P P 08 00 26.7 -0.8
L40A Anamosa 46.45 352 P P 08 00 29.6 0.0
SDCO Great Sand Dun 46.47 335 P P 08 00 29.7 -0.5
WUAZ Wupatki 47.42 328 P P 08 00 37.9 +0.4
WUAZ IAmb IAmb 08 00 39.7
comp=Z,4.0nm,0.9s
PV18 Skein Mesa, Pa 48.37 333 P P 08 00 44.9 0.0
HWUT Hardware Ranch 52.28 333 P P 08 01 14.5 +0.1
HWUT IAmb IAmb 08 01 15.8
comp=Z,6.0nm,0.8s

PD31 Pinedale Array 52.36 336 P P 08 01 14.8 -0.2
PDAR Pinedale Array 52.36 336 P P 08 01 15.2 +0.1
comp=Z,1.2nm,0.8s,baz=133,slow=8.4,SNR=12
PDAR Pinedale Array 52.36 336 P P 08 01 14.7 -0.4
BW06 Boulder Array 52.36 336 P P 08 01 14.7 -0.4
BGU Big Grassy Mou 52.42 332 P P 08 01 15.8 +0.4
AGMN Agassiz Nation 53.28 349 P P 08 01 21.5 +0.1
AGMN IAmb IAmb 08 01 22.5
comp=Z,4.7nm,0.7s
NVAR Mina Array Bea 53.32 326 P P 08 01 22.8 +0.5
comp=Z,1.2nm,0.9s,baz=148,slow=7.3,SNR=9.2
NVAR PcP PcP 08 02 29.1 -0.7
comp=Z,0.8nm,0.7s,baz=144,slow=5.1,SNR=6.9
NVAR Mina Array Bea 53.32 326 P P 08 01 22.4 +0.1
REDW Red Top Meadow 53.39 335 P P 08 01 22.4 -0.2
REDW IAmb IAmb 08 01 24.6
comp=Z,5.7nm,1.2s
YNE Yellowstone No 54.40 337 P P 08 01 30.2 +0.2
VCNR Virginia City 54.68 326 P P 08 01 31.4 -0.7
VCNR IAmb IAmb 08 01 33.8
comp=Z,4.6nm,1.1s
YHL Hebgen Lake 54.74 336 P P 08 01 31.7 -0.9
ULM Lac du Bonnet 55.17 350 P P 08 01 34.8 -0.4
comp=Z,2.8nm,0.6s,baz=176,slow=6.5,SNR=9.1
ULM LR LR 08 24 25.8
comp=Z,65nm,18.6s,baz=2.5,slow=35
ULM Lac du Bonnet 55.17 350 P P 08 01 35.1 -0.1
ULM IAmb IAmb 08 01 35.7
comp=Z,4.8nm,0.8s
BCYI Bear Canyon 55.25 334 P P 08 01 36.9 +0.7
MCMT McKenzie Canyo 55.42 335 P P 08 01 38.0 +0.6
BOZ Bozeman (W) 55.54 336 P P 08 01 38.4 +0.3
BOZ IAmb IAmb 08 01 39.7
comp=Z,5.8nm,1.3s
MFID Camas Ranch 55.67 332 P P 08 01 39.0 -0.1
MFID IAmb IAmb 08 01 40.9
comp=Z,2.8nm,0.8s
ORV Oroville 55.91 325 P P 08 01 40.2 -0.6
ORV IAmb IAmb 08 01 42.6
comp=Z,6.7nm,1.3s
HRY Holter Researc 56.53 337 P P 08 01 45.2 +0.1
MOD Modoc Plateau 56.84 327 P P 08 01 47.8 +0.2
MOD IAmb IAmb 08 01 48.7
comp=Z,4.2nm,0.9s
J08A Circle Bar Ran 56.92 330 P P 08 01 47.9 -0.1
J08A IAmb IAmb 08 01 58.7
comp=Z,5.6nm,1.5s
MSO Missoula 57.48 335 P P 08 01 52.4 +0.5
MSO IAmb IAmb 08 01 53.0
comp=Z,3.6nm,0.8s
I07A Izee 57.96 330 P P 08 01 56.5 +1.1
F10A Beach Ranch, E 58.25 333 P P 08 01 57.3 -0.1
F10A IAmb IAmb 08 01 59.9
comp=Z,5.6nm,0.8s
PINE Pine Mountain 58.49 329 P P 08 01 58.7 -0.5
G08A Pilot Rock 58.56 331 P P 08 01 59.7 +0.2
E09A Wood Farm, Sta 59.08 332 P P 08 02 02.5 -0.5
WALA Waterton Lakes 59.25 337 P P 08 02 03.9 -0.4
WALA IAmb IAmb 08 02 19.0
comp=Z,4.4nm,1.1s
FCC Fort Churchill 63.20 354 P P 08 02 30.8 +0.2
FCC IAmb IAmb 08 02 44.4
comp=Z,2.1nm,0.8s
YKA Yellowknife Ar 70.53 345 P P 08 03 16.6 -0.7
comp=Z,0.8nm,0.8s,baz=133,slow=6.5,SNR=12
DLBC Dease Lake 72.59 336 P P 08 03 31.1 +1.2
DLBC IAmb IAmb 08 03 31.9
comp=Z,5.7nm,0.9s
BCAR Beaver Creek A 79.96 337 P P 08 04 11.2 -0.5
EGAK Eagle 80.60 338 P P 08 04 15.8 +0.8
EGAK IAmb IAmb 08 04 16.5
comp=Z,5.8nm,1.0s
ILAR Eielson Array 82.76 337 P P 08 04 26.3 -0.1
comp=Z,0.9nm,0.9s,baz=139,slow=3.4,SNR=4.8
ESDC Sonseca Array 84.24 50 P P 08 04 35.4 +0.7
comp=Z,0.3nm,0.7s,baz=258,slow=5.9,SNR=2.6
TORD Torodi Ar. Bea 85.88 77 P P 08 04 44.1 +0.8
comp=Z,1.1nm,0.7s,baz=275,slow=3.5,SNR=4.4
TORD Torodi Ar. Bea 85.88 77 P P 08 04 42.6 -0.8
TORD IAmb IAmb 08 04 50.9
comp=Z,2.7nm,0.8s
H11S2 WAKE ISLAND Hyl 10.39 288 T T 10 09 57.9
baz=97,slow=71,SNR=4.2
H11S1 WAKE ISLAND Hyl 10.39 288 T T 10 10 01.7
baz=97,slow=71,SNR=3.5
H11S3 WAKE ISLAND Hyl 10.40 288 T T 10 09 59.4
baz=97,slow=71,SNR=4.8
KURK Kurchatov 131.00 15 PKPdf 08 11 13.3 -1.2
KURBB Kurchatov Arra 131.06 15 PKP PKPdf 08 11 13.3 -1.3
comp=Z,0.2nm,0.3s,baz=330,slow=2.2,SNR=4.1
ASAR Alice Springs 134.62 231 PKP PKPdf 08 11 19.9 -2.4
comp=Z,0.4nm,0.7s,baz=140,slow=2.1,SNR=5.5
ASAR Alice Springs 134.62 231 PKPdf 08 11 20.8 -1.4
MKAR Makanchi Array 135.56 14 PKhKP PKPpre 08 11 20.0
comp=Z,0.2nm,0.7s,baz=343,slow=4.5,SNR=2.3
WRA Warramunga Arr 136.16 236 PKP PKPdf 08 11 23.1 -2.0
comp=Z,0.6nm,0.7s,baz=100,slow=2.1,SNR=3.5
QIZ Qiongzhong 160.43 321 PKP PKPdf 08 12 01.2 -2.3
QIZ PP PP 08 16 25.6 -0.1

*IDC **08** 07:56:43.7±0.6,28°.24S×119°.53W,h0km,mb4.3/14, mb1 4.5/14,mb1mx4.3/43,mbtmp4.2/14,MS3.8/4, Ms1 3.9/4,ms1mx3.4/25,Error ellipse: s-maj=23.3km s-min=19.9km az=133.0*
*NEIC **08** 07:56:45.8±1.3,28°.28S±0°.09×119°.4W±0°.1,h10km±1km, mb4.8/140,Error ellipse: s-maj=23.2km s-min=5.3km az=230.0*
ISC 08 07:56:45.4±0.5,**28°.24S**±0°.10×**119°.5W**±0°.1,**h10**km,**n220,** σ0**86**/200,**mb4.8**/80,**MS3.8**/6,**1C-4D,Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	9.07	85	LR	LR		08 01 32.0	
	comp=Z,557nm,20.5s,baz=246,slow=32							
RKT	Rikitea	14.86	287	eLR	LR		08 03 21.2	
	comp=Z,387nm,26.8s							
TBI	Tubuai	27.38	273	eLR	LR		08 09 05.0	
	comp=Z,368nm,28.2s							
TAOE	Nuku Hiva Isla	27.39	311	eLR	LR		08 09 20.7	
	comp=Z,320nm,29.0s							
MEH	Mehetia	28.18	285	eT	T		08 31 28.9	
	16nm,0.3s							
PPT2	Papeete2	29.59	284	eLR	LR		08 10 11.0	
	comp=Z,371nm,27.5s							
PPT	Papeete	29.60	285	LR	LR		08 10 53.1	
	comp=Z,211nm,21.8s,baz=150,slow=29							
H03N2	Juan Fernandez	35.05	109	T	T		08 40 31.9	
	baz=271,slow=74,SNR=67							
H03N3	Juan Fernandez	35.06	109	T	T		08 40 35.6	
	baz=271,slow=74,SNR=50							
H03N1	Juan Fernandez	35.07	109	T	T		08 40 34.2	
	baz=271,slow=74,SNR=126							
PLCA	Paso Flores	41.73	121	LR	LR		08 17 29.8	
	comp=Z,134nm,18.8s,baz=244,slow=30							
ZON	Zonda	43.86	107	P	P		08 04 52.9	+0.8
PB10	IPOC Station P	44.05	95	P	P		08 04 54.1	+0.4
PB10				IAmb	IAmb		08 05 06.1	
	comp=Z,27nm,1.1s							
GO02	Mina Guanaco	44.44	98	P	P		08 04 57.6	+0.5
LVC	Limon Verde	45.77	95	P	P		08 05 08.3	+0.5
OTAV	Otavalo	48.43	61	P	P		08 05 29.2	+0.5
OTAV	Otavalo	48.43	61	eP	P		08 05 29.2	+0.5
LPAZ	La Paz	48.68	87	P	P		08 05 32.1	+1.3
	comp=Z,1.9nm,0.7s,baz=226,slow=5.4,SNR=6.7							
LPAZ				LR	LR		08 21 19.7	
	comp=Z,115nm,21.2s,baz=251,slow=30							
LPAZ	La Paz	48.68	87	P	P		08 05 30.3	-0.5
TLIG	Tlapa	49.83	26	P	P		08 05 38.9	0.0
GCUF	Volcan Galeras	49.91	61	eP	P		08 05 41.2	+1.1
BBAC	Balboa, Cauca	50.49	61	eP	P		08 05 43.4	-0.8
MOIG	Morelia	50.82	22	P	P		08 05 47.6	+1.1
SOTA	Rioblanco	51.05	61	eP	P		08 05 47.5	-1.3
POPC	Popayan, Colom	51.26	61	eP	P		08 05 49.3	-0.7
MARP	Paez Belalcaza	52.00	61	eP	P		08 05 56.3	+0.7
YOTC	Yotoco, Valle	52.43	59	eP	P		08 05 59.0	+0.4
PLMC	San Jos del P	53.07	59	eP	P		08 06 02.4	-0.9
MACC	Macarena, Meta	53.21	63	eP	P		08 06 03.9	-0.3
ORTC	Ortega, Tolima	53.22	60	eP	P		08 06 03.7	-0.7
ZAIG	Zacatecas	53.27	20	P	P		08 06 05.9	+1.1
PRAC	Prado	53.38	61	eP	P		08 06 05.0	-0.5
TOLC	Tolima	53.60	60	eP	P		08 06 08.0	+0.5
CBOC	Ciudad Bolivar	53.90	58	eP	P		08 06 09.7	+0.2

GUY2C Guyana, Caldas 53.97 59 eP P 08 06 14.4 +4.0
HELC Santa Helena 54.48 58 eP P 08 06 14.1 +0.2
NORC Norcasia 54.57 59 eP P 08 06 14.3 +0.1
CHIC Chingaza 54.84 61 eP P 08 06 17.4 +0.8
SIV San Ignacio 55.02 90 P P 08 06 17.8 +0.2
comp=Z,3.9nm,0.8s,baz=254,slow=12,SNR=13
SPBC San Pablo de B 55.23 60 eP P 08 06 19.1 0.0
PTBC PUERTO BERRIO, 55.51 59 eP P 08 06 20.8 -0.2
MOTC Monteria, Cord 56.10 56 eP P 08 06 25.7 +0.5
RUSC La Rusia 56.14 60 eP P 08 06 24.6 -1.4
BRRC Barranca, Sant 56.44 59 eP P 08 06 27.9 +0.3
BARC Barichara 56.51 59 eP P 08 06 27.9 -0.4
SMLC San Martn de 57.28 57 eP P 08 06 32.5 -1.1
PAMC Pamplona, Colo 57.35 59 eP P 08 06 34.1 -0.6
OCAC Ocana 57.47 58 eP P 08 06 35.1 0.0
HSIG 57.52 9 P P 08 06 35.9 +1.0
HSIG IAmb IAmb 08 06 37.3
comp=Z,9.4nm,1.1s
SPX San Pedro Mart 59.07 4 P P 08 06 47.8 +1.6
TX31 Lajitas Ar. Si 59.22 16 P P 08 06 47.6 +0.7
TX31 IAmb IAmb 08 06 57.7
comp=Z,13nm,1.2s
TX32 Lajitas Array 59.22 16 P P 08 06 47.9 +1.0
TXAR Lajitas Array 59.22 16 P P 08 06 48.1 +1.2
comp=Z,1.4nm,0.9s,baz=191,slow=10,SNR=12
TXAR PcP PcP 08 07 36.0 +0.8
comp=Z,0.6nm,0.8s,baz=188,slow=7.6,SNR=3.6
TXAR Lajitas Array 59.22 16 P P 08 06 47.2 +0.3
PIX Pinacate 59.74 6 P P 08 06 51.4 +1.1
PIX IAmb IAmb 08 06 52.7
comp=Z,7.8nm,1.2s
SDV Santo Domingo 59.91 59 P P 08 06 51.6 -0.4
comp=Z,5.0nm,0.7s,baz=315,slow=2.2,SNR=5.5
SDV Santo Domingo 59.91 59 P P 08 06 51.7 -0.4
SDV IAmb IAmb 08 06 54.5
comp=Z,6.7nm,0.8s
SDV Santo Domingo 59.91 59 eP P 08 06 50.5 -1.6
ESJX Sierra Juarez 60.00 3 P P 08 06 52.8 +0.4
319A Douglas 60.08 10 P P 08 06 54.2 +1.4
319A IAmb IAmb 08 06 55.5
comp=Z,10nm,1.0s
VNDA Vanda 60.19 194 P P 08 06 53.7 +0.8
comp=Z,3.5nm,1.2s,baz=112,slow=5.4,SNR=3.7
214A Organ Pipe Nat 60.20 7 P P 08 06 54.9 +1.4
TUC Tucson 60.78 8 P P 08 06 58.6 +1.1
TUC IAmb IAmb 08 07 00.1
comp=Z,6.7nm,1.1s
109C Camp Elliot, M 60.83 2 P P 08 06 58.7 +0.9
109C IAmb IAmb 08 07 07.5
comp=Z,10nm,1.2s
MNTX Cornudas Mount 61.10 14 P P 08 07 00.3 +0.6
JCT Junction City 61.34 19 P P 08 07 01.9 +0.5
121A Cookes Peak, D 61.45 11 P P 08 07 03.8 +1.5
BELA Belgrano 2 61.53 166 P P 08 07 02.4 +0.3
BELA IAmb IAmb 08 07 05.0
comp=Z,6.4nm,0.9s
XPFO Pion Flat 61.58 3 P P 08 07 03.7 +0.7
XPFO IAmb IAmb 08 07 08.3
comp=Z,9.9nm,1.5s
QSPA South Pole Qui 61.93 180 P P 08 07 05.8 +0.7
HKT Hockley 62.12 23 P P 08 07 07.5 +1.0
MWC Mount Wilson 62.14 1 P P 08 07 08.0 +1.2
MWC IAmb IAmb 08 07 08.8
comp=Z,5.3nm,0.7s
435B Jarrell 62.30 21 P P 08 07 08.5 +0.7
X18A Snowflake 63.08 9 P P 08 07 12.9 -0.2
X18A IAmb IAmb 08 07 15.8
comp=Z,7.6nm,0.9s
LENM Lemitar 63.19 12 P P 08 07 14.2 +0.3
W13A Hualapai Mount 63.22 5 IAmb IAmb 08 07 16.8
comp=Z,4.8nm,0.8s
BNM Barren Site 63.23 12 P P 08 07 14.3 +0.1
GSC Goldstone, Bar 63.25 2 P P 08 07 14.9 +0.8
GSC IAmb IAmb 08 07 16.7
comp=Z,7.6nm,1.0s
ABTX Abilene, Hawle 63.40 19 P P 08 07 15.2 +0.1
ABTX IAmb IAmb 08 07 16.0
comp=Z,4.0nm,0.6s
WHTX Lake Whitney, 63.46 21 P P 08 07 15.3 -0.2
WHTX IAmb IAmb 08 07 19.0
comp=Z,7.3nm,0.8s
ISA Isabella, Lake 63.56 1 P P 08 07 17.1 +0.9
ISA IAmb IAmb 08 07 18.9
comp=Z,6.5nm,1.1s
WUAZ Wupatki 63.87 7 P P 08 07 19.7 +1.3
WUAZ IAmb IAmb 08 07 21.1
comp=Z,7.1nm,0.9s
237A Washetta, Mont 64.01 22 P P 08 07 19.8 +0.8
ANMO Albuquerque 64.04 12 P P 08 07 19.9 +0.5
NATX Nacogdoches 64.18 23 P P 08 07 21.2 +1.0
SHPR Sheep Range 64.53 4 P P 08 07 24.1 +1.5
U15A North Rim 64.68 6 IAmb IAmb 08 07 26.6
comp=Z,9.4nm,0.8s
Z35A Perchaven, San 64.77 21 P P 08 07 24.5 +0.5
TPNV Topopah Spring 64.91 3 P P 08 07 26.4 +1.2
TPNV IAmb IAmb 08 07 28.2
comp=Z,10.0nm,1.2s
AMTX Amarillo 65.00 16 P P 08 07 26.1 +0.4
LCMT Little Creek M 65.17 6 P P 08 07 27.8 +1.0
LCMT IAmb IAmb 08 07 29.4
comp=Z,7.3nm,1.0s
KNB Kanab 65.21 6 P P 08 07 28.6 +1.5
KNB IAmb IAmb 08 07 29.7
comp=Z,9.9nm,1.0s
PRN Pahroc Range 65.43 4 IAmb IAmb 08 07 31.7
comp=Z,9.6nm,1.0s
MDPB Devils Postpil 65.53 0 P P 08 07 29.8 +0.6
PKCU Pink Cliffs 65.68 6 P P 08 07 30.4 +0.1
CCUT Cedar City 65.69 5 P P 08 07 31.9 +1.7
SZCU Shurtz Canyon 65.76 6 P P 08 07 31.2 +0.5
346A Big Creek Wild 65.83 28 P P 08 07 28.8 -2.2
MVCO Mesa Verde 65.92 10 P P 08 07 32.4 +0.7
CMB Columbia Colle 65.93 359 P P 08 07 33.0 +1.4
CMB IAmb IAmb 08 07 34.2
comp=Z,6.6nm,1.1s
TPH Tonopah 66.00 2 P P 08 07 33.7 +1.5
LHV Little Huntoon 66.15 1 P P 08 07 34.8 +1.9
143A Socs Landing, 66.22 26 P P 08 07 33.7 +0.2
143A IAmb IAmb 08 07 35.4
comp=Z,10.0nm,0.9s
MTPU Mount Pierson 66.29 6 P P 08 07 34.8 +0.6
MTPU IAmb IAmb 08 07 36.6
comp=Z,4.7nm,0.9s
NVAR Mina Array Bea 66.33 1 P P 08 07 36.0 +1.7
comp=Z,5.4nm,0.8s,baz=194,slow=10.0,SNR=44
NVAR Mina Array Bea 66.33 1 P P 08 07 35.8 +1.5
R11A Troy Canyon, C 66.34 3 P P 08 07 35.6 +1.2
R11A IAmb IAmb 08 07 36.8
comp=Z,5.4nm,1.1s
WLAR White Oak Lake 66.47 24 P P 08 07 35.8 +0.8
FNO Franklin 66.51 20 P P 08 07 36.4 +1.1
X37A Clayton 66.52 22 P P 08 07 35.3 0.0
X37A IAmb IAmb 08 07 36.4
comp=Z,8.7nm,0.9s
RYN Ryan 66.52 1 P P 08 07 36.8 +1.3
T25A Trinidad 66.56 13 P P 08 07 36.0 +0.2
T25A IAmb IAmb 08 07 37.1
comp=Z,13nm,1.4s
PSUT Pine Spring 66.63 5 P P 08 07 37.2 +0.9
PSUT IAmb IAmb 08 07 41.8
comp=Z,7.1nm,0.9s
BDFB Brasilia 66.66 96 P P 08 07 35.8 -1.1
comp=Z,3.5nm,0.8s,baz=252,slow=4.8,SNR=5.1
BDFB Brasilia 66.66 96 IAmb IAmb 08 07 39.9
comp=Z,5.5nm,1.1s
MSU Marysvale 66.75 6 P P 08 07 38.1 +1.0
KVN Kaiserville 66.95 1 P P 08 07 38.4 +0.1
KVN IAmb IAmb 08 07 40.9
comp=Z,8.1nm,0.9s
PNTR Pine Nut 66.98 360 P P 08 07 38.7 +0.2
PV14 Lion Creek, Pa 66.98 9 P P 08 07 39.1 +0.6
PV14 IAmb IAmb 08 07 40.4
comp=Z,9.3nm,0.9s
MIAR Mount Ida 67.08 23 P P 08 07 38.7 -0.3
MIAR IAmb IAmb 08 07 40.9
comp=Z,5.8nm,1.0s
146A Union 67.09 28 P P 08 07 38.8 -0.2
146A IAmb IAmb 08 07 42.3
comp=Z,10.0nm,0.9s
PV22 Blue Mesa, Par 67.17 9 P P 08 07 39.4 -0.3
PV22 IAmb IAmb 08 07 41.5
comp=Z,6.3nm,0.9s
VCNR Virginia City 67.18 360 P P 08 07 39.8 +0.1
Q16A Castle Valley 67.26 7 P P 08 07 40.8 +0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**67.32**	**20**	P	**P**	**08 07 41.1**	**+0.7**
OK031				IAmb	IAmb	08 07 41.7	
	comp=Z,8.5nm,1.1s						
SRU	**San Rafael Swe**	**67.52**	**8**	P	**P**	**08 07 41.8**	**0.0**
SRU				IAmb	IAmb	08 07 43.6	
	comp=Z,9.6nm,0.9s						
Z47A	**Carrollton**	**67.99**	**28**	P	**P**	**08 07 45.0**	**+0.3**
SMCO	**Snowmass**	**68.08**	**10**	P	**P**	**08 07 45.9**	**+0.3**
SMCO				IAmb	IAmb	08 07 47.2	
	comp=Z,5.3nm,1.0s						
KAN01	**Argonia South**	**68.17**	**19**	P	**P**	**08 07 46.8**	**+1.0**
WHAR	**Wooly Hollow**	**68.21**	**24**	P	**P**	**08 07 46.4**	**+0.4**
WHAR				IAmb	IAmb	08 07 51.8	
	comp=Z,6.4nm,0.9s						
LRAL	**Lakeview Retre**	**68.30**	**29**	P	**P**	**08 07 47.0**	**+0.3**
LRAL				IAmb	IAmb	08 07 48.0	
	comp=Z,11nm,1.3s						
WDC	**Whiskeytown Da**	**68.53**	**358**	P	**P**	**08 07 48.9**	**+1.0**
U38A	**Gravette**	**68.54**	**22**	P	**P**	**08 07 48.2**	**+0.1**
U38A				IAmb	IAmb	08 07 49.4	
	comp=Z,8.4nm,1.1s						
HHAR	**Hobbs**	**68.54**	**22**	P	**P**	**08 07 47.6**	**-0.4**
HHAR				IAmb	IAmb	08 07 49.4	
	comp=Z,7.0nm,1.0s						
FCAR	**Ozark Folk Cen**	**68.80**	**24**	P	**P**	**08 07 49.7**	**0.0**
FCAR				IAmb	IAmb	08 07 51.2	
	comp=Z,8.4nm,1.3s						
JLU	**Jordanelle**	**68.89**	**7**	P	**P**	**08 07 51.8**	**+1.3**
U40A	**Yellville**	**68.97**	**23**	IAmb	IAmb	08 07 52.4	
	comp=Z,9.0nm,1.1s						
TCUT	**Toone Canyon**	**69.41**	**7**	P	**P**	**08 07 54.1**	**+0.3**
TCUT				IAmb	IAmb	08 07 55.8	
	comp=Z,11nm,1.0s						
RWWY	**Rawlins**	**70.50**	**10**	P	**P**	**08 08 00.2**	**-0.2**
RWWY				IAmb	IAmb	08 08 01.5	
	comp=Z,5.9nm,0.9s						
HUMO	**Hull Mountain**	**70.56**	**357**	P	**P**	**08 08 01.2**	**+0.7**
HUMO				IAmb	IAmb	08 08 03.0	
	comp=Z,10nm,1.1s						
WVT	**Waverly**	**70.63**	**27**	P	**P**	**08 08 00.8**	**-0.2**
BW06	**Boulder Array**	**71.24**	**8**	P	**P**	**08 08 04.6**	**-0.3**
BW06				IAmb	IAmb	08 08 06.1	
	comp=Z,9.7nm,1.3s						
PD31	**Pinedale Array**	**71.24**	**8**	IAmb	IAmb	08 08 06.1	
	comp=Z,7.3nm,1.2s						
PDAR	**Pinedale Array**	**71.24**	**8**	P	**P**	**08 08 04.3**	**-0.5**
	comp=Z,4.4nm,1.1s,baz=186,slow=4.5,SNR=16						
PDAR	**Pinedale Array**	**71.24**	**8**	P	**P**	**08 08 04.5**	**-0.4**
SNAA	**Sanae**	**71.26**	**163**	IAmb	IAmb	08 08 07.1	
	comp=Z,5.5nm,0.9s						
K22A	**Casper**	**71.54**	**10**	P	**P**	**08 08 06.9**	**+0.3**
T47A	**Sharon Grove**	**71.66**	**27**	P	**P**	**08 08 06.9**	**-0.3**
PINE	**Pine Mountain**	**71.69**	**359**	P	**P**	**08 08 08.3**	**+0.8**
REDW	**Red Top Meadow**	**71.69**	**7**	IAmb	IAmb	08 08 09.1	
	comp=Z,9.1nm,1.2s						
P38A	**Dawn**	**71.72**	**21**	P	**P**	**08 08 07.2**	**-0.3**
P38A				IAmb	IAmb	08 08 09.9	
	comp=Z,7.2nm,0.9s						
SNOW	**Snow King Moun**	**71.80**	**7**	P	**P**	**08 08 08.5**	**+0.3**
TKL	**Tuckaleechee C**	**71.93**	**30**	P	**P**	**08 08 08.7**	**-0.2**
LOHW	**Long Hollow**	**71.96**	**7**	P	**P**	**08 08 09.5**	**+0.3**
LOHW				IAmb	IAmb	08 08 10.7	
	comp=Z,9.1nm,1.2s						
I07A	**Izee**	**71.97**	**360**	IAmb	IAmb	08 08 11.7	
	comp=Z,9.0nm,1.1s						
BCYI	**Bear Canyon**	**72.41**	**5**	P	**P**	**08 08 11.8**	**-0.1**
FLWY	**Flagg Ranch**	**72.42**	**7**	P	**P**	**08 08 12.5**	**+0.6**
FLWY				IAmb	IAmb	08 08 13.8	
	comp=Z,6.2nm,0.9s						
BMO	**Blue Mountains**	**72.76**	**2**	P	**P**	**08 08 14.4**	**+0.6**
MCMT	**McKenzie Canyo**	**72.97**	**5**	P	**P**	**08 08 16.1**	**+1.0**
L34A	**Svendsen Farm,**	**73.05**	**18**	P	**P**	**08 08 15.9**	**+0.5**
QLMT	**Earthquake Lak**	**73.09**	**6**	P	**P**	**08 08 17.3**	**+1.4**
YHH	**Holmes Hill**	**73.10**	**6**	P	**P**	**08 08 17.1**	**+1.0**
YHH				IAmb	IAmb	08 08 18.4	
	comp=Z,8.4nm,1.0s						
YHL	**Hebgen Lake**	**73.13**	**6**	IAmb	IAmb	08 08 18.8	
	comp=Z,9.0nm,1.2s						
G08A	**Pilot Rock**	**73.18**	**0**	IAmb	IAmb	08 08 18.9	
	comp=Z,6.9nm,0.9s						
DLMT	**Dillon**	**73.52**	**5**	P	**P**	**08 08 19.0**	**+0.7**
DLMT				IAmb	IAmb	08 08 20.6	
	comp=Z,9.4nm,1.2s						
E08A	**Dider Farm, El**	**74.38**	**0**	P	**P**	**08 08 24.4**	**+1.4**
E03A	**Lebam**	**74.52**	**357**	P	**P**	**08 08 25.3**	**+1.4**
ECSD	**EROS Data Cent**	**74.63**	**17**	P	**P**	**08 08 24.5**	**-0.1**
LON	**Longmire**	**74.66**	**358**	P	**P**	**08 08 25.7**	**+0.9**
MSO	**Missoula**	**74.88**	**4**	P	**P**	**08 08 26.8**	**+0.7**
MSO				IAmb	IAmb	08 08 28.3	
	comp=Z,11nm,1.2s						
HRY	**Holter Researc**	**74.92**	**5**	P	**P**	**08 08 26.8**	**+0.4**
D08A	**Wollman Farm,**	**74.94**	**0**	P	**P**	**08 08 26.9**	**+0.5**
LTY	**Liberty**	**75.15**	**359**	P	**P**	**08 08 27.5**	**-0.1**
NLWA	**Neilton Lookou**	**75.38**	**357**	IAmb	IAmb	08 08 31.5	
	comp=Z,11nm,1.0s						
LAO	**LASA Array**	**75.53**	**9**	P	**P**	**08 08 30.4**	**+0.6**
LAO				IAmb	IAmb	08 08 31.6	
	comp=Z,9.2nm,1.1s						
C09A	**Chrisman Ranch**	**75.69**	**1**	P	**P**	**08 08 30.4**	**-0.3**
I37A	**Lemond, Waseca**	**75.77**	**19**	P	**P**	**08 08 31.9**	**+0.7**
JTMT	**Jette**	**75.78**	**4**	P	**P**	**08 08 31.4**	**+0.1**
JTMT				IAmb	IAmb	08 08 33.2	
	comp=Z,10nm,1.1s						
NEW	**Newport**	**76.18**	**2**	P	**P**	**08 08 34.0**	**+0.5**
B08A	**Colville Reser**	**76.24**	**0**	P	**P**	**08 08 34.1**	**+0.2**
E28A	**Huff**	**76.38**	**13**	P	**P**	**08 08 34.8**	**+0.1**
E28A				IAmb	IAmb	08 08 35.9	
	comp=Z,13nm,0.9s						
WALA	**Waterton Lakes**	**77.11**	**4**	P	**P**	**08 08 39.6**	**+0.8**
F36A	**Milaca**	**77.43**	**18**	P	**P**	**08 08 40.7**	**+0.2**
F36A				IAmb	IAmb	08 08 42.1	
	comp=Z,11nm,1.1s						
DGMT	**Dagmar**	**77.58**	**10**	P	**P**	**08 08 41.3**	**-0.1**
G40A	**Rib Lake**	**77.87**	**21**	P	**P**	**08 08 42.4**	**-0.6**
COWI	**Conover**	**78.95**	**21**	P	**P**	**08 08 49.2**	**+0.2**
COWI				IAmb	IAmb	08 08 50.0	
	comp=Z,5.6nm,0.8s						
EYMN	**Ely**	**79.90**	**19**	P	**P**	**08 08 54.4**	**+0.3**
D41A	**Chassel**	**79.98**	**21**	P	**P**	**08 08 55.1**	**+0.5**
D41A				IAmb	IAmb	08 08 56.0	
	comp=Z,10.0nm,1.1s						
ULM	**Lac du Bonnet**	**80.90**	**15**	P	**P**	**08 08 57.8**	**-1.6**
	comp=Z,1.9nm,0.9s,baz=207,slow=6.5,SNR=5.5						
STKA	**Stephens Creek**	**82.47**	**238**	P	**P**	**08 09 08.2**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=120,slow=20,SNR=3.8						
TRQ	**Mont Tremblant**	**84.55**	**30**	P	**P**	**08 09 18.8**	**+0.2**
MOQ	**Mont Orford**	**84.88**	**31**	P	**P**	**08 09 19.0**	**-1.3**
LATQ	**La Tuque**	**86.22**	**30**	P	**P**	**08 09 27.1**	**+0.2**
FCC	**Fort Churchill**	**89.22**	**13**	P	**P**	**08 09 40.6**	**-0.2**
BATG	**Bathurst New B**	**89.24**	**33**	P	**P**	**08 09 41.4**	**0.0**
BATG				IAmb	IAmb	08 09 42.5	
	comp=Z,5.3nm,1.0s						
YKA	**Yellowknife Ar**	**90.50**	**2**	P	**P**	**08 09 46.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=164,slow=5.0,SNR=11						
ASAR	**Alice Springs**	**92.48**	**242**	P	**P**	**08 09 57.0**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=116,slow=4.1,SNR=8.4						
ASAR	**Alice Springs**	**92.48**	**242**	P	**P**	**08 09 57.5**	**+0.3**
WRA	**Warramunga Arr**	**94.10**	**245**	P	**P**	**08 10 04.6**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=126,slow=4.1,SNR=6.4						
INK	**Inuvik**	**96.82**	**355**	P	**P**	**08 10 13.6**	**-2.1**
	comp=Z,0.9nm,0.9s,baz=225,slow=3.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**123.47**	**93**	PKP	**PKPdf**	**08 15 43.1**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=273,slow=1.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**123.47**	**93**	PKPdf	**PKPdf**	**08 15 42.0**	**-1.7**
ESDC	**Sonseca Array**	**126.35**	**60**	PKP	**PKiKP**	**08 15 48.9**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=284,slow=1.8,SNR=10						
GERES	**GERESS Array B**	**138.79**	**47**	PKP	**PKPdf**	**08 16 12.1**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=156,slow=1.3,SNR=7.5						
SONM	**Songino Array**	**139.60**	**312**	PKhKP	PKPpre	08 16 08.4	
	comp=Z,2.1nm,0.9s,baz=64,slow=3.4,SNR=6.8						
CMAR	**Chiang Mai Arr**	**143.53**	**263**	PKP	**PKPdf**	**08 16 19.6**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=163,slow=3.1,SNR=12						
CMAR	**Chiang Mai Arr**	**143.53**	**263**		PKPbc	08 16 19.4	+1.1
SIRR	**Siria**	**144.66**	**49**	⇓P	**PKPdf**	**08 16 21.8**	**-0.4**
BZS	**Buzias**	**144.81**	**50**	⇑P	**PKPdf**	**08 16 22.1**	**-0.3**
DRGR		**145.19**	**48**	⇓P	**PKPdf**	**08 16 23.6**	**+0.5**
GZR	**Gura Zlata**	**145.66**	**50**	⇓P	**PKPab**	**08 16 25.1**	**+0.5**
ARR	**Arges**	**146.91**	**49**	⇓P	**PKPab**	**08 16 28.8**	**-0.6**
AKASG	**Malin Array Be**	**147.43**	**38**	PKPbc	**PKPbc**	**08 16 28.4**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=287,slow=3.6,SNR=12						
ZALV	**Zalesovo Beam**	**148.75**	**332**	PKPbc	**PKPbc**	**08 16 32.6**	**0.0**
	comp=Z,10nm,0.7s,baz=21,slow=3.4,SNR=27						
ZALV	**Zalesovo Beam**	**148.75**	**332**	PKPdf	**PKPdf**	**08 16 29.1**	**+0.3**
ZALV					**PKPbc**	**08 16 32.9**	**+0.3**
ARU	**Arti**	**151.79**	**2**	PKPbc	**PKPbc**	**08 16 39.0**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=292,slow=3.1,SNR=5.7						
ARU	**Arti**	**151.79**	**2**	PKPdf	**PKPdf**	**08 16 33.5**	**+0.1**
ARU					**PKPab**	**08 16 49.4**	**+0.7**
MKAR	**Makanchi Array**	**154.81**	**323**	PKPbc	**PKPbc**	**08 16 45.9**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=32,slow=1.0,SNR=6.5						
MKAR	**Makanchi Array**	**154.81**	**323**	PKPdf	**PKPdf**	**08 16 38.4**	**+0.2**
MKAR					**PKiKP**	**08 16 47.0**	**+0.2**
MKAR					**PKPab**	**08 17 02.6**	**+0.7**
BRTR	**Keskin Array B**	**155.04**	**56**	PKP	**PKPdf**	**08 16 39.0**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=293,slow=0.9,SNR=6.5						

IDC 08 07:57:20.0±1.6**, 21°.63S**×**176°.45W, h0**km**, mb4.0**/4**, mb1 4.4**/5**, mb1mx3.9**/36**, mbtmp4.2**/5**, ML4.1**/1**, Error ellipse: s-maj=61.8km s-min=32.0km az=153.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.48**	**197**	P	Pn	08 01 25.0	-0.1
	0.6nm,0.3s,baz=279,slow=3.7,SNR=7.1						
STKA	**Stephens Creek**	**38.62**	**246**	P	P	08 04 45.2	0.0
	3.3nm,1.0s,baz=96,slow=8.0,SNR=6.2						
ASAR	**Alice Springs**	**45.68**	**258**	P	P	08 05 43.8	+0.9
	2.6nm,0.8s,baz=90,slow=8.3,SNR=29						
ASAR				PcP	PcP	08 07 19.1	-2.0
	0.3nm,0.6s,baz=112,slow=3.5,SNR=5.3						
WRA	**Warramunga Arr**	**45.89**	**263**	P	P	08 05 44.1	-0.5
	1.0nm,0.4s,baz=88,slow=8.0,SNR=29						
TXAR	**Lajitas Array**	**86.45**	**57**	P	P	08 10 05.5	+0.6
	0.6nm,0.9s,baz=224,slow=6.9,SNR=3.7						

IDC ***08*** *08:03:44.0±0.7, 28°.03N×140°.32E, h489km±25km, mb2.8/5, mb1 2.9/5, mb1mx2.6/44, mbtmp3.7/5, Error ellipse: s-maj=86.4km s-min=16.2km az=74.0*
ISC 08 08:03:44.3±1.0**, 28°.1N**±0°.2×**140°.5E**±0°.3**, h500**km**, n6,** σ**0**s**.65**/7**, mb3.3**/5**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.78**	**123**	P	**P**	**08 04 49.1**	**+0.7**
	12nm,0.3s,baz=92,slow=23,SNR=8.5						
JCJ				S	**S**	**08 05 39.4**	**-1.1**
	23nm,0.3s,baz=283,slow=23,SNR=8.1						
WRA	**Warramunga Arr**	**48.10**	**188**	P	**P**	**08 11 38.0**	**-0.1**
	0.4nm,0.3s,baz=2.6,slow=7.3,SNR=14						
MKAR	**Makanchi Array**	**48.71**	**309**	P	**P**	**08 11 42.1**	**-0.3**
	0.2nm,0.5s,baz=89,slow=9.5,SNR=5.7						
KURBB	**Kurchatov Arra**	**51.29**	**314**	P	**P**	**08 12 01.2**	**-0.1**
	0.9nm,0.5s,baz=91,slow=7.7,SNR=7.4						
ASAR	**Alice Springs**	**51.82**	**188**	P	**P**	**08 12 05.7**	**+0.1**
	0.2nm,0.5s,baz=0.9,slow=4.1,SNR=6.7						
FINES	**FINESS Array B**	**76.42**	**333**	P	**P**	**08 14 41.7**	**+0.1**
	1.7nm,0.9s,baz=86,slow=7.2,SNR=4.5						

INET ***08*** *08:13:24.8, 8°.78N×83°.13W, h25km, MW3.2*
UPA 08 08:13:25.6±1.2**, 8°.73N**×**83°.20W, h19**km±8km**, MW3.5, 4D, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.36**	**115**	⇓*i*P	Pb	08 13 33.8	+0.3
CDITO				*e*S	Sb	08 13 39.9	+1.1
SBAR3	**San Bartolo, C**	**0.52**	**142**	*e*P	Pb	08 13 35.8	-0.2
SBAR3				*e*S	Sb	08 13 43.7	+0.6
DRK0	**Durika**	**0.53**	**356**	⇓*i*P	Pb	08 13 36.0	-0.4
DRK0				⇓*e*S	Sb	08 13 44.7	+1.0
BCO2	**Palmira**	**0.67**	**91**	*e*S	Sg	08 13 48.2	+0.4
BAGA3	**Bagala, Chiriq**	**0.72**	**111**	*e*S	Sb	08 13 49.1	+0.1
DVD	**David**	**0.80**	**111**	*e*P	Pb	08 13 39.6	-1.3
DVD				*e*S	Sg	08 13 51.6	-0.3
PSOM3	**Paja de Sombre**	**0.87**	**93**	*e*P	Pb	08 13 41.0	-1.2
PSOM3				*e*S	Sb	08 13 52.4	-1.1
CNI2	**El Empalme, Bo**	**1.00**	**46**	*e*P	Pb	08 13 42.3	-2.0
CNI2				*e*S	Sb	08 13 56.0	-1.1
CNI2				⇓*e*S	Sn	08 13 57.2	-1.0
HDC	**Heredia**	**1.55**	**325**	*e*P	Pn	08 13 52.1	-0.2
HDC				*e*S	Sn	08 14 11.4	-0.6

KRNET 08 08:28:58.5±0.1**, 41°.75N**×**74°.22E, h14**km**, mb2.4, 7C, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.02**	**246**	⇑*i*P	Pg	08 29 18.3	0.0
	baz=46						
ARSB				⇑*e*S	Sn	08 29 32.5	-0.3
	baz=46						
BOOM	**Boomskoye usch**	**1.48**	**59**	⇑*e*P	Pg	08 29 26.8	-0.2
	baz=59						
BOOM				⇑*i*S	Sg	08 29 47.4	+1.2
	baz=59						
TKM2	**Tokmak 2**	**1.55**	**40**	⇑*i*P	Pb	08 29 27.6	+0.4
	baz=40						
ULHL	**Ulahol**	**1.58**	**71**	⇑*i*P	Pb	08 29 28.1	+0.3
	baz=71						
ULHL				⇑*i*S	Sg	08 29 49.9	+0.3
	baz=71						

IDC ***08*** *08:32:28.7±2.7, 33°.12S×178°.93W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/25, mbtmp4.0/3, ML4.1/1, MS3.9/3, Ms1 3.9/3, ms1mx3.1/37, Error ellipse: s-maj=64.7km s-min=34.8km az=116.0*
WEL ***08*** *08:32:31.9±0.9, 33°S±9°×17°9W±2°3, h33km, M4.3/13, mB4.8/6, ML4.6/13, MLv4.5/13, Mw(mB)4.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=110.5*
ISC 08 08:32:30.3±1.5**, 33°.24S**±0°.09×**178°.4W**±0°.2**, h35**km**, n37,** σ**1**s**.67**/62**, MS3.9**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.99**	**5**	P	**Pn**	**08 33 30.9**	**+2.0**
GLKZ				S	**Sn**	**08 34 14.4**	**0.0**
MXZ	**Matakaoa Point**	**5.10**	**211**	P	**Pn**	**08 33 43.3**	**-0.9**
MXZ				S	**Sn**	**08 34 39.6**	**-2.2**
WMGZ	**Waiomatatini S**	**5.27**	**209**	P	**Pn**	**08 33 49.2**	**+2.7**
WMGZ				S	**Sn**	**08 34 49.4**	**+3.4**
PKGZ	**Pakihiroa**	**5.47**	**211**	P	**Pn**	**08 33 50.1**	**+0.7**
PKGZ				S	**Sn**	**08 34 48.5**	**-2.5**
HAZ	**Te Kaha**	**5.50**	**214**	P	**Pn**	**08 33 51.0**	**+1.4**
HAZ				S	**Sn**	**08 34 54.5**	**+3.0**
PUZ	**Puketiti**	**5.55**	**209**	P	**Pn**	**08 33 50.5**	**+0.1**
PUZ				S	**Sn**	**08 34 51.5**	**-1.5**
RUGZ	**Raukumara Rang**	**5.71**	**213**	P	**Pn**	**08 33 54.0**	**+1.3**
RUGZ				S	**Sn**	**08 34 55.0**	**-2.1**
CNGZ	**Carnagh Statio**	**5.93**	**207**	P	**Pn**	**08 33 56.5**	**+1.0**
CNGZ				S	**Sn**	**08 35 02.2**	**0.0**
KUZ	**Kuaotunu**	**5.99**	**233**	P	**Pn**	**08 33 59.0**	**+2.7**
TKGZ	**Te Karaka**	**6.03**	**210**	P	**Pn**	**08 33 58.2**	**+1.2**
TKGZ				S	**Sn**	**08 35 03.9**	**-0.9**
MWZ	**Matawai**	**6.08**	**212**	P	**Pn**	**08 33 57.3**	**-0.5**
MWZ				S	**Sn**	**08 35 06.4**	**+0.3**
URZ	**Urewera**	**6.21**	**215**	Pn	**Pn**	**08 33 60.0**	**+0.5**
	5.1nm,0.3s,baz=322,slow=2.2,SNR=40						
URZ				Sn	**Sn**	**08 35 09.1**	**-0.2**
	3.9nm,0.3s,baz=229,slow=20,SNR=4.4						
URZ	**Urewera**	**6.21**	**215**	P	**Pn**	**08 33 59.9**	**+0.5**
URZ				S	**Sn**	**08 35 06.0**	**-3.2**
RAGZ	**Rawiri**	**6.26**	**212**	P	**Pn**	**08 34 00.5**	**+0.3**
RAGZ				S	**Sn**	**08 35 10.1**	**-0.6**
TGRZ	**Tauranga**	**6.27**	**223**	P	**Pn**	**08 34 02.9**	**+2.7**
RIGZ	**Rimuhau**	**6.29**	**209**	P	**Pn**	**08 34 03.0**	**+2.4**
RIGZ				S	**Sn**	**08 35 11.7**	**+0.4**
PRGZ	**Paritu Road**	**6.43**	**207**	P	**Pn**	**08 34 05.6**	**+3.1**
PRGZ				S	**Sn**	**08 35 13.4**	**-1.3**
SNGZ	**Shannon Statio**	**6.53**	**211**	P	**Pn**	**08 34 04.9**	**+1.0**
SNGZ				S	**Sn**	**08 35 15.7**	**-1.5**
MUGZ	**Murupara**	**6.55**	**216**	P	**Pn**	**08 34 05.8**	**+1.7**
MUGZ				S	**Sn**	**08 35 15.8**	**-1.8**
RTZ	**Ruatahuna**	**6.56**	**214**	P	**Pn**	**08 34 05.5**	**+1.2**
RTZ				S	**Sn**	**08 35 16.4**	**-1.6**
KNZ	**Kokohu**	**6.60**	**208**	P	**Pn**	**08 34 05.6**	**+0.8**
KNZ				S	**Sn**	**08 35 14.3**	**-4.4**
MHGZ	**Mahia Peninsul**	**6.62**	**206**	P	**Pn**	**08 34 05.8**	**+0.6**
MHGZ				S	**Sn**	**08 35 20.9**	**+1.5**
RAHZ	**Arahi**	**6.76**	**212**	P	**Pn**	**08 34 09.1**	**+2.1**
RAHZ				S	**Sn**	**08 35 22.9**	**+0.2**
MTHZ	**Maungataniwha**	**6.81**	**213**	P	**Pn**	**08 34 09.5**	**+1.7**
MTHZ				S	**Sn**	**08 35 22.9**	**-1.3**
WHHZ	**Waihua**	**6.83**	**210**	P	**Pn**	**08 34 08.8**	**+0.9**
WHHZ				S	**Sn**	**08 35 23.5**	**-0.9**
MRHZ	**Matea Rd**	**7.00**	**216**	P	**Pn**	**08 34 11.0**	**+0.7**
MRHZ				S	**Sn**	**08 35 26.5**	**-2.2**
NMHZ	**Naumai**	**7.03**	**212**	P	**Pn**	**08 34 12.2**	**+1.4**
NMHZ				S	**Sn**	**08 35 29.4**	**0.0**
ARHZ	**Aropaoanui**	**7.08**	**211**	P	**Pn**	**08 34 13.1**	**+1.7**
ARHZ				S	**Sn**	**08 35 30.4**	**-0.3**
BKZ	**Black Stump Fm**	**7.23**	**214**	P	**Pn**	**08 34 13.2**	**-0.3**
BKZ				S	**Sn**	**08 35 32.1**	**-2.2**
MCHZ	**McNeill Hill**	**7.36**	**211**	P	**Pn**	**08 34 16.1**	**+0.9**
MCHZ				S	**Sn**	**08 35 37.2**	**-0.3**
KRHZ	**Kereru**	**7.67**	**212**	P	**Pn**	**08 34 18.9**	**-0.7**
ASAR	**Alice Springs**	**42.73**	**270**	P	**P**	**08 40 24.2**	**-0.1**
	0.9nm,0.7s,baz=109,slow=7.2,SNR=14						
WRA	**Warramunga Arr**	**43.98**	**275**	P	**P**	**08 40 33.5**	**-0.9**
	1.0nm,0.5s,baz=116,slow=7.6,SNR=9.3						
BATI	**Baumata**	**57.76**	**279**	LR	LR	09 06 26.5	
	comp=Z,156nm,18.7s,baz=301,slow=36						
KSRS	**Korea Array**	**86.32**	**320**	LR	LR	09 20 25.2	
	comp=Z,42nm,18.9s,baz=336,slow=34						
LVC	**Limon Verde**	**92.82**	**119**	LR	LR	09 16 34.4	
	comp=Z,44nm,20.4s,baz=14,slow=28						
FINES	**FINESS Array B**	**147.68**	**338**	PKPbc	**PKPab**	**08 52 12.8**	**+0.1**
	2.4nm,0.5s,baz=40,slow=4.5,SNR=23						

IDC 08 08:35:16.6±48.0**, 15°.35S**×**173°.49W, h0**km**, mb4.0**/3**, mb1 4.1**/3**, mb1mx3.6**/27**, mbtmp4.0**/3**, Error ellipse: s-maj=933.3km s-min=179.0km az=78.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.99**	**240**	P	P	08 43 25.7	-0.3
	1.5nm,0.9s,baz=63,slow=4.5,SNR=3.3						
WRA	**Warramunga Arr**	**49.78**	**257**	P	P	08 44 11.5	+0.1
	0.3nm,0.4s,baz=91,slow=7.0,SNR=6.3						
ASAR	**Alice Springs**	**50.05**	**252**	P	P	08 44 13.3	-0.2
	2.8nm,0.5s,baz=88,slow=8.3,SNR=30						

IDC 08 08:53:12.1±3.4**, 3°.63S**×**139°.67E, h0**km**, mb4.0**/2**, mb1 4.2**/4**, mb1mx3.7**/22**, mbtmp4.0**/4**, ML3.8**/2**, MS3.2**/2**, Ms1 3.2**/2**, ms1mx2.7**/32**, Error ellipse: s-maj=107.7km s-min=28.2km az=92.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.03**	**197**	P	Pn	08 57 10.0	-1.9
	0.3nm,0.3s,baz=16,slow=13,SNR=16						
FITZ	**Fitzroy Crossi**	**19.89**	**223**	P	P	08 57 45.9	+0.6
	0.4nm,0.3s,baz=32,slow=12,SNR=9.0						
FITZ				LR	LR	09 05 45.8	
	comp=Z,28nm,20.7s,baz=130,slow=38						
ASAR	**Alice Springs**	**20.69**	**195**	P	P	08 57 54.3	+0.3
	9.4nm,0.7s,baz=26,slow=9.7,SNR=57						
MKAR	**Makanchi Array**	**71.10**	**322**	P	P	09 04 32.4	0.0
	0.5nm,0.5s,baz=102,slow=8.4,SNR=8.8						
BBB	**Bella Bella**	**94.20**	**38**	LR	LR	09 46 52.5	
	comp=Z,28nm,18.1s,baz=9.5,slow=34						

IDC ***08*** *09:11:51.0±2.5, 39°.03N×142°.31E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/35, mbtmp3.4/5, ML2.7/1, Error ellipse: s-maj=67.7km s-min=26.4km az=62.0*
JMA ***08*** *09:12:23.3±0.2, 37°.74N×139°.05E, h187km±2km, M3.0*
ISC 08 09:12:23.4±0.9**, 37°.71N**±0°.07×**139°.07E**±0°.08**, h189**km±7km**, n20,** σ**0**s**.48**/26**, mb3.2**/4**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.34**	**238**	P	**Pn**	**09 12 49.0**	**+0.3**
JIZZ				*e*S	**Sn**	**09 13 07.8**	**-0.2**
JFY	**Yanaizu**	**0.59**	**121**	P	**Pn**	**09 12 50.0**	**+0.4**
JSD	**Sado**	**0.72**	**297**	P	**Pn**	**09 12 49.4**	**-0.8**
JFT	**Otama**	**1.02**	**100**	P	**Pn**	**09 12 52.5**	**+0.3**
JAG	**Ashikaga**	**1.32**	**167**	P	**Pn**	**09 12 54.7**	**+0.2**
MAT	**Matsushiro**	**1.35**	**211**	P	**Pn**	**09 12 55.1**	**+0.2**
MAT				S	**Sn**	**09 13 19.0**	**-0.2**
MAT	**Matsushiro**	**1.35**	**211**	P	**Pn**	**09 12 55.1**	**+0.2**
MAT				*e*S	**Sn**	**09 13 18.8**	**-0.4**
MJAR	**Matsushiro Arr**	**1.35**	**211**	Pn	**Pn**	**09 12 55.4**	**+0.5**
	0.5nm,0.3s,baz=29,slow=9.4,SNR=25						
JMM	**Marumori**	**1.37**	**83**	P	**Pn**	**09 12 55.0**	**+0.1**
JFK	**Kawauchi**	**1.47**	**103**	P	**Pn**	**09 12 55.7**	**-0.2**
JNG	**Nsakai**	**1.52**	**211**	P	**Pn**	**09 12 56.7**	**+0.3**
JNG				S	**Sn**	**09 13 22.6**	**+0.7**
JYK	**Kaneyama**	**1.57**	**40**	P	**Pn**	**09 12 56.6**	**-0.2**
JRY	**Ryogami san**	**1.70**	**185**	P	**Pn**	**09 12 58.3**	**+0.2**
JYN	**Shimob**	**2.25**	**191**	P	**Pn**	**09 13 03.9**	**0.0**
JYN				*e*S	**Sn**	**09 13 35.5**	**+0.1**
JOD2	**Odawara 2**	**2.44**	**180**	P	**Pn**	**09 13 05.3**	**-0.7**
JOD2				*e*S	**Sn**	**09 13 38.0**	**-1.1**
JOM	**Ohasama**	**2.48**	**44**	P	**Pn**	**09 13 06.5**	**+0.2**
SONM	**Songino Array**	**25.86**	**303**	P	**P**	**09 17 38.1**	**+0.5**
	0.9nm,0.7s,baz=109,slow=9.6,SNR=4.7						
MKAR	**Makanchi Array**	**42.18**	**301**	P	**P**	**09 19 57.0**	**-0.4**
	0.1nm,0.5s,baz=81,slow=10.0,SNR=2.4						
WRA	**Warramunga Arr**	**57.52**	**185**	P	**P**	**09 21 53.6**	**+0.6**
	0.3nm,0.5s,baz=0.1,slow=7.5,SNR=6.1						
ASAR	**Alice Springs**	**61.24**	**185**	P	**P**	**09 22 18.2**	**-0.3**
	0.2nm,0.7s,baz=12,slow=6.7,SNR=3.9						

VAO ***08*** *09:15:28.7±1.0, 21°.69S×68°.98W, h164km±9km, mb4.2*
IDC ***08*** *09:15:30.8±0.9, 21°.80S×68°.01W, h104km±14km, mb4.2/2, mb1 3.7/5, mb1mx3.3/39, mbtmp4.1/5, MS3.7/2, Ms1 3.8/2, ms1mx2.9/22, Error ellipse: s-maj=41.8km s-min=16.4km az=130.0*
GUC ***08*** *09:15:31.5±0.6, 21°.71S×68°.49W, h134km±4km, ML4.0*
ISC 08 09:15:30.6±0.7**, 21°.67S**±0°.04×**68°.44W**±0°.07**, h132**km±8km**, n46,** σ**1**s**.46**/62**, 9C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.76**	**260**	⇑*i*P	**Pn**	**09 15 52.3**	**+0.4**
PB09				*i* S	**Sn**	**09 16 08.7**	**+0.8**
LVC	**Limon Verde**	**1.04**	**205**	P	**Pn**	**09 15 54.4**	**-0.1**
	38nm,0.3s,baz=24,slow=6.7,SNR=201						
LVC				S	**Sn**	**09 16 10.6**	**-2.0**
	130nm,0.3s,baz=275,slow=19,SNR=64						
LVC	**Limon Verde**	**1.04**	**205**	⇓*i*P	**Pn**	**09 15 54.4**	**-0.1**
LVC				*e*S	**Sn**	**09 16 11.4**	**-1.2**
LVC	**Limon Verde**	**1.04**	**205**	*e*P	**Pn**	**09 15 54.4**	**-0.1**
PB01	**IPOC Station P**	**1.16**	**302**	⇑*i*P	**Pn**	**09 15 55.6**	**+0.2**
PB01				*e*S	**Sn**	**09 16 14.1**	**-0.1**
PB01				IAML		09 16 16.0	
	comp=E,4µm,0.3s						
PB07	**IPOC Station P**	**1.35**	**267**	⇑*i*P	**Pn**	**09 15 57.4**	**0.0**
PB07				*i* S	**Sn**	**09 16 17.2**	**-0.5**
PB07				IAML		09 16 17.8	
	comp=N,4µm,0.2s						
PB06	**IPOC Station P**	**1.48**	**225**	⇑*i*P	**Pn**	**09 15 58.9**	**+0.1**
PB06				*e*S	**Sn**	**09 16 19.5**	**-0.8**
PB06				IAML		09 16 22.5	
	comp=E,1µm,0.2s						
PB08	**IPOC Station P**	**1.66**	**336**	⇑*i*P	**Pn**	**09 16 02.6**	**+1.5**
PB08				*e*S	**Sn**	**09 16 25.4**	**+1.1**
PB08				IAML		09 16 27.9	
	comp=N,1µm,0.2s						
PB04	**IPOC Station P**	**1.72**	**247**	⇑*i*P	**Pn**	**09 16 01.4**	**-0.2**
PB04				*e*S	**Sn**	**09 16 23.7**	**-1.5**
PB04				IAML		09 16 25.8	
	comp=E,1µm,0.2s						
PB15	**IPOC Station P**	**1.81**	**212**	⇑*i*P	**Pn**	**09 16 02.8**	**+0.2**
PB15				*i* S	**Sn**	**09 16 26.7**	**-0.4**
HMBC	**Humberstone**	**1.94**	**315**	⇓*i*P	**Pn**	**09 16 04.0**	**-0.1**
HMBC				*i* S	**Sn**	**09 16 29.3**	**-0.4**
HMBC				IAML		09 16 30.9	
	comp=E,2µm,0.2s						
TA01	**Diego Aracena**	**1.96**	**304**	⇑*i*P	**Pn**	**09 16 04.1**	**-0.1**
TA01				*i* S	**Sn**	**09 16 29.2**	**-0.8**
TA01				IAML		09 16 30.8	
	comp=E,1µm,0.2s						
PB05	**IPOC Station P**	**2.02**	**234**	⇑*i*P	**Pn**	**09 16 04.8**	**-0.3**
PB05				*i* S	**Sn**	**09 16 29.7**	**-1.7**
PB05				IAML		09 16 31.6	
	comp=E,489nm,0.2s						
TA02	**Huaiquique**	**2.11**	**311**	*e*P	**Pn**	**09 16 05.8**	**-0.3**
TA02				*i* S	**Sn**	**09 16 32.7**	**-0.5**
PSGC	**Pisagua**	**2.60**	**322**	*e*P	**Pn**	**09 16 11.5**	**-0.8**
PSGC				*i* S	**Sn**	**09 16 42.7**	**-1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PB10	IPOC Station P	2.69	226	eP	Pn	09 16 12.6	-0.7
PB10				i S	Sn	09 16 41.9	-4.2
MNMC	Minye Minye	2.75	336	eP	Pn	09 16 15.2	+0.9
MNMC				i S	Sn	09 16 47.2	-0.8
LPAZ	La Paz	5.36	3	P	Pn	09 16 51.1	+1.9
	comp=E,0.5nm,0.3s,baz=186,slow=9.6,SNR=12						
LPAZ				S	Sn	09 17 48.1	-2.1
	comp=E,0.2nm,0.3s,baz=206,slow=14,SNR=4.3						
SIV	San Ignacio	8.97	52	P	Pn	09 17 35.5	-1.7
	comp=E,1.5nm,0.3s,baz=247,slow=10.0,SNR=25						
SIV				S	Sn	09 19 09.4	-7.3
	comp=E,0.5nm,0.3s,baz=169,slow=19,SNR=2.8						
TRCB	Terra Rica	14.68	97	eP	P	09 18 56.0	+1.4
PTGB	Pitanga	15.36	105	eP	P	09 19 04.0	+1.9
ITAB	Concordia	15.84	114	eP	P	09 19 08.6	+1.2
PCMB	Pacaembu	15.97	93	eP	P	09 19 10.0	+1.1
CPSB	Cacapava Do Su	16.03	126	eP	Pn	09 19 08.7	+0.1
CLDB	Colider	16.19	50	eP	Pn	09 19 11.5	+0.8
PLTB	Pedras Altas	16.62	130	eP	P	09 19 16.2	+0.2
ARAG	Araguaiana, MT	16.82	72	eP	Pn	09 19 20.1	+1.6
BB19B	Bebedouro	18.55	92	eP	P	09 19 38.0	+0.7
SNDB	Serra Nova Dou	19.01	62	eP	P	09 19 42.3	-0.1
NPGB	Novo Progresso	19.26	43	eP	P	09 19 44.6	-0.4
IPMB	Ipameri, GO	19.37	83	eP	P	09 19 46.4	+0.1
SPB	Sao Paulo	19.48	100	eP	P	09 19 48.1	+0.7
PET01	Itanhaem-SP	19.66	102	eP	P	09 19 50.4	+1.1
VAO	Valinhos	19.91	98	eP	P	09 19 51.8	-0.3
BDFB	Brasilia	20.25	76	P	P	09 19 54.8	-1.0
	comp=E,0.2nm,0.3s,baz=239,slow=13,SNR=4.2						
ITTB	Itaituba	21.16	37	eP	P	09 20 05.2	-0.3
PEXB	Peixe	21.46	67	eP	P	09 20 08.5	-0.2
JANB	Januaria	23.80	78	eP	P	09 20 31.0	-0.5
SDBA	SAO DESIDERIO	24.28	72	eP	P	09 20 36.7	+0.8
SJMB	Sao Joao De Ma	25.73	88	eP	P	09 20 48.6	-0.4
NAN01	Guarapari, ES	26.90	87	eP	P	09 21 00.0	+0.6
ROSC	El Rosal	26.97	347	LR	LR	09 32 20.9	
	comp=E,64nm,18.4s,baz=70,slow=37						
DBIC	Dimbokro	68.36	73	P	P	09 26 19.3	+1.0
	comp=E,5.1nm,0.8s,baz=235,slow=6.0,SNR=5.0						
NVAR	Mina Array Bea	75.90	322	LR	LR	10 01 53.5	
	comp=E,93nm,18.7s,baz=345,slow=36						
TORD	Torodi Ar. Bea	77.00	70	P	P	09 27 10.3	+1.0
	comp=E,3.1nm,0.8s,baz=251,slow=4.8,SNR=5.7						
MKAR	Makanchi Array	145.51	36	PKPbc	PKiKP	09 34 56.0	-1.1
	comp=E,0.3nm,0.8s,baz=317,slow=5.1,SNR=4.5						

IDC 08 09:38:01.3±1.9, 35°.76N×107°.71E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.2/42, mbtmp3.5/4, Error ellipse: s-maj=180.8km s-min=25.9km az=51.0, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	21.95	308	P	P	09 42 55.0	-1.5
	0.3nm,0.6s,baz=108,slow=11,SNR=6.5						
KURBB	Kurchatov Arra	25.73	314	P	P	09 43 34.7	+1.5
	0.3nm,0.6s,baz=115,slow=8.7,SNR=3.1						
FINES	FINESS Array B	55.45	325	P	P	09 47 36.7	-0.6
	2.2nm,0.8s,baz=46,slow=9.9,SNR=5.8						
WRA	Warramunga Arr	60.88	151	P	P	09 48 15.7	-0.1
	0.6nm,1.0s,baz=342,slow=7.2,SNR=4.7						

IDC 08 09:54:03.4±23.0, 45°.28N×152°.52E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/27, mbtmp3.4/3, Error ellipse: s-maj=672.4km s-min=36.1km az=167.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	37.96	37	P	P	10 01 23.0	+0.7
	0.3nm,0.6s,baz=251,slow=5.6,SNR=3.5						
MKAR	Makanchi Array	47.26	298	P	P	10 02 38.2	0.0
	0.3nm,0.6s,baz=65,slow=7.5,SNR=5.3						
YKA	Yellowknife Ar	52.35	36	P	P	10 03 15.6	-1.0
	0.3nm,0.6s,baz=305,slow=7.1,SNR=7.4						

*SKHL **08** 10:30:10.0±0.7, 45°.10N×152°.50E, h47km±6km, mb4.0/1*
*IDC **08** 10:30:10.0±4.2, 47°.07N×150°.85E, h170km±40km, mb3.1/6, mb1 3.3/7, mb1mx3.0/44, mbtmp3.5/7, Error ellipse: s-maj=30.5km s-min=21.6km az=111.0*
ISC 08 10:30:08.7±0.9, 47°.0N±0°.2×151°.2E±0°.2, h150km, n17, σ2s75/14, mb3.2/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.91	234	eP	Pn	10 30 58.6	+3.7
KUR				AMB	AMB	10 31 00.2	
	20nm,0.4s						
KUR				eS	Sn	10 31 35.5	+5.0
KUR				A	A	10 31 40.8	
	50nm,0.2s						
KUR				A	A	10 31 40.8	
	30nm,0.2s						
YUK	Yuzh-Kuril'sk	4.78	233	eS	Sn	10 32 14.5	+0.5
YUK				A	A	10 32 25.8	
	80nm,0.6s						
YUK				A	A	10 32 25.8	
	50nm,0.6s						
GRPR	Tuman	4.85	234	eP	Pn	10 31 22.5	+2.4
GRPR				eS	Sn	10 32 16.3	+0.5
NMR	Nemuro--Hokkai	5.30	229	eP	Pn	10 31 25.3	-0.7
NMR				eS	Sn	10 32 22.0	-4.4
PETK	Petropavlovsk-	7.40	32	P	Pn	10 31 56.3	+2.3
	0.2nm,0.3s,baz=179,slow=8.3,SNR=8.6						
H11N2	WAKE ISLAND Hy	30.09	149	T	T	11 07 58.2	
	baz=340,slow=76,SNR=9.0						
H11N1	WAKE ISLAND Hy	30.10	149	T	T	11 07 56.9	
	baz=340,slow=76,SNR=5.8						
H11N3	WAKE ISLAND Hy	30.10	149	T	T	11 07 52.9	
	baz=340,slow=76,SNR=6.2						
H11S1	WAKE ISLAND Hy	31.15	151	T	T	11 09 16.0	
	baz=340,slow=76,SNR=6.1						
H11S3	WAKE ISLAND Hy	31.16	151	T	T	11 09 15.5	
	baz=340,slow=76,SNR=5.0						
H11S2	WAKE ISLAND Hy	31.17	151	T	T	11 09 15.7	
	baz=340,slow=76,SNR=4.6						
ILAR	Eielson Array	37.17	39	P	P	10 37 04.2	-0.5
	0.2nm,0.5s,baz=284,slow=7.0,SNR=4.6						
MKAR	Makanchi Array	45.64	296	P	P	10 38 12.1	-1.9
	0.4nm,0.5s,baz=67,slow=6.1,SNR=4.2						
YKA	Yellowknife Ar	51.50	36	P	P	10 38 59.1	+0.7
	0.2nm,0.6s,baz=303,slow=6.5,SNR=5.5						
FINES	FINESS Array B	63.23	334	P	P	10 40 18.0	-2.5
	2.6nm,0.8s,baz=17,slow=8.0,SNR=7.4						
WRA	Warramunga Arr	68.35	197	P	P	10 40 52.3	-1.5
	0.4nm,0.8s,baz=16,slow=6.7,SNR=2.0						
ASAR	Alice Springs	72.06	197	P	P	10 41 15.7	-0.6
	0.4nm,0.8s,baz=8.5,slow=6.1,SNR=6.3						

IDC 08 10:31:25.2±3.2, 23°.91N×142°.07E, h153km±42km, mb3.0/4, mb1 3.1/6, mb1mx2.8/42, mbtmp3.5/6, Error ellipse: s-maj=75.2km s-min=21.2km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	3.18	2	P	Pn	10 32 14.4	-0.6
	7.3nm,0.3s,baz=276,slow=19,SNR=1.8						
KSRS	Korea Array	18.14	321	P	Pn	10 35 27.8	+0.3
	0.1nm,0.3s,baz=131,slow=11,SNR=5.6						
ASAJ	Asahikawa	20.17	1	P	P	10 35 48.0	+0.4
	4.4nm,0.9s,baz=203,slow=7.5,SNR=4.2						
WRA	Warramunga Arr	44.23	190	P	P	10 39 19.5	+0.1
	0.8nm,0.6s,baz=7.1,slow=8.6,SNR=17						
ASAR	Alice Springs	47.95	190	P	P	10 39 48.0	-0.4
	0.2nm,0.6s,baz=8.3,slow=6.0,SNR=2.1						
MKAR	Makanchi Array	52.46	312	P	P	10 40 21.0	-1.2
	0.3nm,0.9s,baz=83,slow=8.9,SNR=1.9						

*NNC **08** 10:32:46.8±5.5, 38°.00N×72°.02E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=45.7km s-min=41.1km az=1.0*
ISC 08 10:32:42.7±1.2, 37°.46N±0°.08×72°.2E±0°.1, h100km, n11, σ2s19/14, 5C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.45	18	⇑P	Pn	10 34 03.7	+2.1
	2.8nm,0.4s						
AAK				⇑S	Sn	10 35 03.1	0.0
	11nm,0.7s						
THN	Thein Dam	5.77	149	eP	Pn	10 34 08.0	+2.1
THN				eS	Sn	10 35 12.0	+1.3
KK31	Karatay Array	5.79	347	⇑P	Pn	10 34 07.7	+1.7
	1.0nm,0.3s,baz=158,slow=11,SNR=28						
KK31				S	Sn	10 35 08.2	-2.8
	19nm,0.6s,baz=149,slow=15,SNR=34						
TKM2	Tokmak 2	6.03	24	⇑P	Pn	10 34 11.0	+1.5
	2.3nm,0.5s						
GKN	Gorkha	14.05	129	eP	Pn	10 35 55.3	-2.2
AB31	Akbulak array	14.77	327	⇑P	Pn	10 36 06.3	0.0
	1.3nm,0.6s,baz=258,slow=39,SNR=32						
PKIN	Phulchoki	14.83	128	eP	Pn	10 36 05.2	-2.3
PKI	Pulchoki	14.84	128	eP	Pn	10 36 05.8	-1.9
GUN	Gumba	14.91	126	eP	Pn	10 36 06.3	-2.3
RAMN	Ramite	16.03	127	eP	Pn	10 36 20.9	-1.7
TAPN	Taplejung	16.48	123	eP	Pn	10 36 25.4	-2.8

*BJI **08** 10:35:21.9±0.0, 39°.88N×143°.51E, h15km, mB5.0/39, mb4.7/62, Ms4.3/35, Ms7 4.1/38*
*MOS **08** 10:35:22.5±1.0, 39°.90N×143°.55E, h16km, mb4.7/36, Error ellipse: s-maj=6.7km s-min=4.6km az=105.2*
*JMA **08** 10:35:24.7±0.2, 39°.95N×143°.53E, h30km±5km, M4.5*
*NIED **08** 10:35:24.7, 39°.95N×143°.53E, h30km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.80; $M_{\theta\theta}$0.51; $M_{\phi\phi}$-3.31; $M_{r\theta}$1.49; $M_{\theta\phi}$-1.46; $M_{\phi r}$2.22; Fault plane solution: $M_0$4.27000×10^{15} NP1:ϕ_s31.00000°, δ65.00000°, λ103.00000°. NP2:ϕ_s182.00000°, δ28.00000°, λ64.00000°.*
*NEIC **08** 10:35:26.0±1.3, 39°.90N±0°.05×143°.4E±0°.1, h22km±5km, mb4.6/35 Error ellipse: s-maj=12.6km s-min=5.6km az=113.0*
*IDC **08** 10:35:27.2±3.9, 39°.84N×143°.51E, h33km±29km, mb4.1/24, mb1 4.3/31, mb1mx4.2/45, mbtmp4.3/31, ML3.7/6, MS3.8/15, Ms1 3.8/15, ms1mx3.5/49, Error ellipse: s-maj=15.4km s-min=11.5km az=114.0*
ISC 08 10:35:24.3±1.1, 39°.91N±0°.04×143°.60E±0°.04, h16km±6km, n256, σ1s54/276, mb4.6/81, MS4.2/17, 17C-15D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.33	272	P	Pn	10 35 47.0	-1.2
JTH				eS	Sb	10 36 03.4	-2.3
MIYJ	Miyakonagasawa	1.41	257	P	Pn	10 35 48.6	-0.7
MIYJ				eS	Sn	10 36 05.0	-2.5
JKEN	Kujiedanarisaw	1.48	282	P	Pn	10 35 48.8	-1.4
JKEN				eS	Sn	10 36 07.1	-2.1
JANG	Nango	1.66	287	P	Pn	10 35 51.9	-0.9
JANG				eS	Sn	10 36 11.8	-1.9
JOM	Ohasama	1.83	257	P	Pn	10 35 54.8	-0.2
JOM				eS	Sn	10 36 16.8	-1.0
JMK	Ichinoseki	2.07	243	P	Pn	10 35 57.9	-0.5
JMK				eS	Sn	10 36 22.3	-1.5
JTM	Tenmabayashi	2.12	295	P	Pn	10 35 59.0	-0.1
JTM	Tenmabayashi	2.12	295	Pn	Pn	10 35 59.1	0.0
ERM	Erimo	2.13	351	ceP	Pn	10 35 58.8	-0.4
ERM	Erimo	2.13	351	Pn	Pn	10 36 00.3	+1.1
JEM	Erimo	2.13	351	P	Pn	10 35 58.7	-0.5
JOT	Ohata	2.44	308	P	Pn	10 36 03.1	-0.3
JNBK	Urakawa-nobuka	2.46	345	P	Pn	10 36 03.8	+0.1
JYK	Kaneyama	2.69	250	P	Pn	10 36 07.1	+0.2
JYK				eS	Sn	10 36 38.6	-0.6
JCH	Churui	2.71	356	P	Pn	10 36 06.7	-0.5
JCH				S	Sn	10 36 38.0	-1.6
JKB	Kayabe	2.77	316	P	Pn	10 36 07.9	-0.1
JKB				eS	Sn	10 36 39.7	-1.4
JMM	Marumori	2.99	228		Pn	10 36 09.8	-1.2
JOMM	Oshimamatsumae	3.17	302	P	Pn	10 36 13.7	+0.2
JAK	Akkeshi	3.20	15	P	Pn	10 36 13.2	-0.6
JAK				eS	Sn	10 36 48.7	-2.8
JEW	Eniwo	3.35	332	Pn	Pn	10 36 15.8	-0.1
NMR	Nemuro--Hokkai	3.81	24	⇑iP	Pn	10 36 21.2	-1.1
NMR				i S	Sn	10 37 03.0	-3.7
GLVR	Golovnino	4.09	20	eP	Pn	10 36 24.9	-1.2
GLVR				eS	Sn	10 37 10.5	-3.1
GLVR				pmax	pmax		
	comp=Z,237nm,0.5s						
GLVR				pmax	pmax		
	comp=N,90nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,419nm,1.7s						
GLVR				smax	smax		
	comp=N,1μm,0.4s						
GLVR				smax	smax		
	comp=E,654nm,0.2s						
GLVR				smax	smax		
	comp=N,1μm,1.3s						
GLVR				smax	smax		
	comp=E,909nm,1.1s						
JKA	Kamikawa-asahi	4.27	350	Pn	Pn	10 36 29.0	+0.4
ASAJ	Asahikawa	4.27	350	Pn	Pn	10 36 29.5	+0.9
	comp=E,8.5nm,0.3s,baz=203,slow=10,SNR=83						
ASAJ				Sn	Sn	10 37 18.6	+0.5
	comp=E,8.2nm,0.3s,baz=319,slow=20,SNR=4.3						
ASAJ				LR	LR	10 38 34.4	
	comp=E,391nm,18.9s,baz=160,slow=43						
RUSJ	Misakicho	4.37	16	eP	Pn	10 36 29.4	-0.6
RUSJ				eS	Sn	10 37 18.4	-2.1
GRPR	Tuman	4.39	21	eP	Pn	10 36 28.9	-1.4
GRPR				eS	Sn	10 37 16.9	-4.2
GRPR				pmax	pmax		
	comp=Z,194nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
GRPR				smax	smax		
	comp=E,1μm,0.4s						
YUK	Yuzh-Kuril'sk	4.46	22	deP	Pn	10 36 30.0	-1.1
JYT	Yasato	4.55	217		Pn	10 36 31.8	-0.6
JSD	Sado	4.56	248	Pn	Pn	10 36 32.6	+0.1
MJAR	Matsushiro Arr	5.41	233	Pn	Pn	10 36 45.0	+0.7
	comp=E,1.6nm,0.3s,baz=44,slow=12,SNR=121						
MJAR				LR	LR	10 38 50.7	
	comp=E,324nm,19.4s,baz=5.0,slow=38						
MJAR	Matsushiro Arr	5.41	233	P	Pn	10 36 42.8	-1.5
MJAR	Matsushiro Arr	5.41	233		Pn	10 36 42.8	-1.5
MAJO	Matsushiro	5.41	233	c iP	Pn	10 36 45.0	+0.7
MAJO				pmax	pmax		
	comp=Z,48nm,0.5s						
MAJO	Matsushiro	5.41	233	Pn	Pn	10 36 44.3	0.0
MAT	Matsushiro	5.41	233	P	Pn	10 36 45.0	+0.7
MAT				eS	Sn	10 37 53.7	+7.5
KUR	Kuril'sk	6.19	29	eP	Pn	10 36 55.0	+0.1
KUR				i S	Sn	10 38 02.1	-3.1
KUR				pmax	pmax		
	comp=Z,101nm,0.5s						
KUR				pmax	pmax		
	comp=N,29nm,0.3s						
KUR				pmax	pmax		
	comp=E,32nm,0.3s						
KUR				smax	smax		
	comp=E,246nm,0.5s						
KUR				smax	smax		
	comp=N,140nm,0.4s						
JGF	Kuroka	6.55	231		Pn	10 37 00.3	+0.4
INU	Inuyama	6.92	231		Pn	10 37 04.9	-0.2
YSS	Yuzh-Sakhalins	7.07	355	⇑eP	Pn	10 37 08.7	+1.7
YSS				eS	Sn	10 38 25.8	-1.2
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	Yuzh-Sakhalins	7.07	355	Pn	Pn	10 37 08.2	+1.2
TEY	Ternei	7.28	317	⇑eP	Pn	10 37 12.4	+2.5
TEY				pmax	pmax		
	comp=N,20nm,0.6s						
TEY				pmax	pmax		
	comp=E,30nm,0.6s						
TEY				pmax	pmax		
	comp=Z,30nm,0.6s						
JWT	Wachi	7.97	237	Pn	Pn	10 37 19.1	-0.4
USA0B	Ussuriysk Arra	9.64	300	ceP	Pn	10 37 44.4	+2.1
USA0B	Ussuriysk Arra	9.64	300	Pn	Pn	10 37 42.2	0.0
USRK	Ussuriysk Ar.	9.64	300	Pn	Pn	10 37 44.1	+1.8
	baz=101,slow=12,SNR=61						
USRK				LR	LR	10 41 18.3	
	comp=Z,282nm,19.6s,baz=100,slow=36						
USRK	Ussuriysk Ar.	9.64	300	P	Pn	10 37 42.2	-0.1
USRK	Ussuriysk Ar.	9.64	300		Pn	10 37 42.1	-0.1
JHS	Saijyo	9.66	243	Pn	Pn	10 37 40.8	-1.9
MSHR	Mys Shultsa	9.74	290	⇑eP	Pn	10 37 45.0	+1.3
MSHR				pmax	pmax		
	comp=Z,36nm,1.1s						
MDJ	Mudanjiang	11.39	299	P	Pn	10 38 07.8	+1.5
MDJ				pmax	pmax		
	comp=Z,21nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,250nm,5.9s						
MDJ				LR	LR		
	comp=Z,480nm,10.7s						
MDJ				LR	LR		
	comp=Z,680nm,14.2s						
MDJ				LR	LR		
	comp=Z,820nm,16.4s						
MDJ	Mudanjiang	11.39	299	Pn	Pn	10 38 05.4	-0.9
GRNR	Gornyy	11.97	338	⇓iP	Pn	10 38 15.6	+1.4
GRNR				pmax	pmax		
	comp=N,7.0nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,190nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,220nm,15.0s						
JNU	Nakatsue	12.26	240	Pn	Pn	10 38 17.1	-1.1
	comp=Z,0.5nm,0.3s,baz=79,slow=5.2,SNR=5.0						
JNU				LR	LR	10 43 19.0	
	comp=Z,562nm,19.1s,baz=50,slow=39						
KSRS	Korea Array	12.49	264	Pn	Pn	10 38 23.4	+2.0
	comp=Z,0.3nm,0.3s,baz=80,slow=13,SNR=12						
KSRS				LR	LR	10 42 51.8	
	comp=Z,403nm,18.2s,baz=76,slow=36						
KSAR	Wonju Array Be	12.52	264	P	Pn	10 38 21.5	-0.2
KSAR	Wonju Array Be	12.52	264		Pn	10 38 21.5	-0.2
KLR	Kul'dur	12.56	322	Pn	Pn	10 38 22.9	+0.6
	comp=Z,0.2nm,0.3s,baz=126,slow=12,SNR=13						
KLR				LR	LR	10 43 35.5	
	comp=Z,358nm,18.4s,baz=130,slow=39						
KLR	Kul'dur	12.56	322	⇓iP	Pn	10 38 22.6	+0.3
KLR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TJN	Taejon	13.25	260	⇑eP	Pn	10 38 32.6	+0.9
CN2	Changchun	14.07	292	eP	P	10 38 51.5	+0.9
CN2				eS	Sn	10 41 20.6	+2.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,70nm,4.0s						
CN2				LR	LR		
	comp=N,450nm,16.0s						
CN2				LR	LR		
	comp=E,800nm,16.0s						
CN2				LR	LR		
	comp=Z,370nm,18.0s						
PETK	Petropavlovsk-	16.35	31	Pn	P	10 39 16.9	+1.1
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=2.0						
PETK				LR	LR	10 45 03.4	
	comp=Z,109nm,19.6s,baz=201,slow=35						
DL2	Dalian	17.01	274	P	P	10 39 23.0	-0.1
DL2				S	Sn	10 42 29.1	-0.9
DL2				pmax	pmax		
	comp=Z,24nm,0.9s						
DL2				LR	LR		
	comp=Z,430nm,16.9s						
DL2				LR	LR		
	comp=Z,370nm,15.9s						
DL2				LR	LR		
	comp=Z,390nm,14.8s						
ZEA	Zeya	17.73	327	eP	Pn	10 39 28.0	-2.3
ZEA				pmax	pmax		
	comp=E,10.0nm,1.1s						
ZEA				pmax	pmax		
	comp=N,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,300nm,16.0s						
JOW	Kunigami	18.23	229	LR	LR	10 47 11.6	
	comp=Z,278nm,20.4s,baz=97,slow=39						
HIA	Hailar	19.33	307	P	P	10 39 46.5	-2.2
HIA				pmax	pmax		
	comp=Z,11nm,0.8s						
HIA	Hailar	19.33	307	P	P	10 39 46.5	-2.2
MA2	Magadan	20.20	11	P	Pn	10 39 59.2	-0.9
	comp=Z,16nm,0.7s,baz=190,slow=12,SNR=15						
MA2	Magadan	20.20	11	d iP	Pn	10 39 59.9	-0.2
MA2				pmax	pmax		
	comp=Z,15nm,0.8s						
MA2	Magadan	20.20	11	P	Pn	10 39 59.5	-0.6
MA2				IAmb	IAmb	10 40 00.8	
	comp=Z,16nm,0.7s						
BJI	Beijing	20.99	279	P	P	10 40 05.5	-1.3
BJI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TIA	Tai'an	21.14	268	P	P	10 40 07.0	-1.5
TIA				pmax	pmax		
	comp=Z,20nm,0.9s						
TIA				LR	LR		
	comp=Z,110nm,9.0s						
TIA				LR	LR		
	comp=Z,470nm,16.7s						
TIA				LR	LR		
	comp=Z,650nm,14.2s						
NJ2	Nanjing	21.46	256	eP	P	10 40 12.0	+0.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SEY	Seymchan	23.66	10	⇑iP	P	10 40 33.7	-0.9
YAK	Yakutsk	23.72	344	eP	P	10 40 33.8	-1.4
YAK				e*PP	pwP	10 40 43.5	+1.4
YAK				e		10 41 03.1	
YAK				ePPP	PPP	10 41 14.0	
YAK				eS	S	10 44 47.6	-1.8
YAK				eSS	SnSn	10 45 28.4	+0.9
YAK				eSSS	SSS	10 45 44.8	
YAK				e		10 51 39.1	
YAK				pmax	pmax		
	comp=Z,32nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,34nm,2.3s						
YAK				pmax	pmax		
	comp=N,42nm,2.2s						
YAK				pmax	pmax		
	comp=E,14nm,2.0s						
YAK				smax	smax		
	comp=N,21nm,1.6s						
YAK				smax	smax		
	comp=E,13nm,1.9s						
YAK	Yakutsk	23.72	344	P	P	10 40 34.9	-0.3
HHC	Hu-ho-hao-te	24.35	283	eP	P	10 40 39.8	-1.7
HHC				S	S	10 44 55.9	-4.3
HHC				pmax	pmax		
	comp=E,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=E,110nm,8.1s						
HHC				LR	LR		
	comp=E,290nm,10.8s						
HHC				LR	LR		
	comp=E,340nm,13.4s						
HHC				LR	LR		
	comp=E,450nm,15.2s						
WHN	Wuhan	25.56	258	⇓P	P	10 40 52.4	+0.1
WHN				pmax	pmax		
	comp=E,80nm,0.7s						
WHN				LR	LR		
	comp=E,1μm,14.1s						
WHN				LR	LR		
	comp=E,700nm,14.4s						
ULN	Ulaanbaatar	27.31	299	⇓iP	P	10 41 08.3	+0.1
ULN				pmax	pmax		
	comp=Z,19nm,1.3s						
ULN	Ulaanbaatar	27.31	299	P	P	10 41 08.5	+0.3
ULN				IAmb	IAmb	10 41 09.9	
	comp=Z,12nm,0.8s						
SONM	Songino Array	27.75	299	P	P	10 41 12.9	+0.7
	comp=Z,7.2nm,0.6s,baz=90,slow=8.7,SNR=48						
SONM				LR	LR	10 52 54.2	
	comp=Z,184nm,19.5s,baz=144,slow=38						
SONM	Songino Array	27.75	299	P	P	10 41 12.3	+0.1
SONM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	Songino Array	27.75	299	P	P	10 41 12.3	+0.1
XAN	Xi'an	28.20	269	P	P	10 41 15.1	-1.1
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				LR	LR		
	comp=Z,390nm,16.3s						

XAN LR LR
comp=Z,420nm,16.3s
XAN LR LR
comp=Z,410nm,17.4s
XAN Xi'an 28.20 269 P **P** **10 41 14.5 -1.7**
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN Xi'an 28.20 269 P **P** **10 41 14.4 -1.7**
XAN IAmb IAmb 10 41 16.9
comp=Z,7.9nm,0.7s
H11N2 WAKE ISLAND Hy 28.36 128 T T 11 10 55.1
baz=318,slow=75,SNR=70
H11N1 WAKE ISLAND Hy 28.37 128 T T 11 10 57.3
baz=318,slow=75,SNR=75
H11N3 WAKE ISLAND Hy 28.38 128 T T 11 10 54.5
baz=318,slow=75,SNR=80
H11S1 WAKE ISLAND Hy 29.19 130 T T 11 11 55.7
baz=322,SNR=14
H11S3 WAKE ISLAND Hy 29.19 130 T T 11 11 55.7
baz=322,SNR=8.5
H11S2 WAKE ISLAND Hy 29.21 130 T T 11 11 58.6
baz=322,SNR=0.9
ENH Enshi 29.37 262 P **P** **10 41 25.8 -0.8**
TLY Talaya 29.87 307 P **P** **10 41 30.9 +0.1**
comp=Z,1.5nm,0.3s,baz=328,slow=2.8,SNR=7.7
TLY Talaya 29.87 307 *eP* **P** **10 41 31.6 +0.8**
TLY pmax pmax
comp=Z,8.0nm,0.8s
TLY MLR MLR
comp=Z,576nm,12.0s
TLY Talaya 29.87 307 P **P** **10 41 31.7 +0.8**
ZAK Zakamensk 29.96 304 *eP* **P** **10 41 31.7 0.0**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
LZH Lanzhou 31.38 276 *eP* **P** **10 41 44.7 +0.2**
LZH pP pwP 10 41 54.8 +3.3
LZH pmax pmax
comp=Z,13nm,1.1s
TIXI Tiksi 32.68 351⇑ *eP* **P** **10 41 55.9 +0.7**
GYA Guiyang 33.45 258 ⇓P **P** **10 42 02.1 -0.6**
GYA pP sP 10 42 07.3 -1.5
GYA sP pwP 10 42 16.7 +6.7
GYA pmax pmax
comp=Z,8.0nm,1.0s
GYA LR LR
comp=Z,200nm,21.2s
GTA Gaotai 33.46 284 ⇑P **P** **10 42 03.5 +0.9**
GTA pP pwP 10 42 10.0 +0.2
GTA sP sP 10 42 13.2 +4.3
GTA pmax pmax
comp=Z,18nm,0.9s
GTA pmax pmax
comp=Z,86nm,5.5s
GTA LR LR
comp=Z,190nm,17.1s
GTA LR LR
comp=Z,330nm,16.4s
GTA LR LR
comp=Z,370nm,17.5s
CD2 Chengdu 33.46 267 *eP* **P** **10 42 02.0 -0.6**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 LR LR
comp=Z,470nm,12.6s
CD2 LR LR
comp=Z,280nm,15.6s
CD2 LR LR
comp=Z,520nm,12.8s
QIZ Qiongzhong 35.70 244 P **P** **10 42 20.7 -1.3**
QIZ S **S** **10 47 55.2 -2.9**
QIZ LR LR
comp=Z,210nm,15.0s
QIZ LR LR
comp=Z,180nm,12.7s
QIZ LR LR
comp=Z,180nm,17.0s
KMI Kunming 37.14 259 ⇓P **P** **10 42 35.3 +0.8**
KMI sP pwP 10 42 46.8 +4.9
KMI S **S** **10 48 18.3 -2.2**
KMI sS ScP 10 48 33.8 -7.1
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI pmax pmax
comp=Z,130nm,4.7s
KMI LR LR
comp=Z,290nm,12.7s
KMI LR LR
comp=Z,210nm,13.0s
KMI LR LR
comp=Z,250nm,16.1s
WMQ Urumqi 41.15 294 *eP* **P** **10 43 08.9 +1.2**
WMQ pP pwP 10 43 17.8 +2.9
WMQ sP sP 10 43 21.4 +7.4
WMQ pmax pmax
comp=Z,31nm,0.7s
WMQ pmax pmax
comp=Z,270nm,4.7s
WMQ Urumqi 41.15 294 P **P** **10 43 07.5 -0.2**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ Urumqi 41.15 294 P **P** **10 43 07.5 -0.2**
WMQ IAmb IAmb 10 43 10.5
comp=Z,12nm,0.7s
ZAA0 Zalesovo Array 41.31 310 P **P** **10 43 08.9 0.0**
ZAA0 IAmb IAmb 10 43 18.0
comp=Z,6.7nm,0.7s
ZALV Zalesovo Beam 41.31 310 P **P** **10 43 09.4 +0.6**
comp=Z,4.1nm,0.5s,baz=88,slow=7.9,SNR=25
ZALV PcP **PcP** **10 45 06.5 -0.5**
comp=Z,3.0nm,0.7s,baz=60,slow=4.1,SNR=5.2
ZALV LR LR 11 01 05.5
comp=Z,144nm,18.5s,baz=32,slow=37
ZALV Zalesovo Beam 41.31 310 P **P** **10 43 08.2 -0.6**
ZSN Zaisan 42.24 300 *eP* **P** **10 43 16.9 +0.3**
baz=300
ZSN Zaisan 42.24 300 *eP* **P** **10 43 16.9 +0.3**
IMAR Indian Mountai 43.31 32 P **P** **10 43 26.3 +1.3**
CHTO Chiang Mai 43.68 255 P **P** **10 43 29.2 +0.7**
CHTO pmax pmax
comp=Z,3.0nm,1.4s
CMAR Chiang Mai Arr 43.91 254 P **P** **10 43 30.4 +0.2**
comp=Z,1.0nm,0.3s,baz=43,slow=7.6,SNR=5.4
CMAR LR LR 11 03 40.9
comp=Z,71nm,18.4s,baz=270,slow=39
CMAR Chiang Mai Arr 43.91 254 *i P* **P** **10 43 31.0 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 43.91 254 P **P** **10 43 29.5 -0.8**
MK31 Makanchi Array 44.11 300*c iP* **P** **10 43 31.8 +0.1**
MK31 Makanchi Array 44.11 300 P **P** **10 43 31.3 -0.3**
MKAR Makanchi Array 44.11 300 P **P** **10 43 31.9 +0.2**
comp=Z,4.4nm,0.8s,baz=83,slow=9.5,SNR=49
MKAR LR LR 11 02 58.8
comp=Z,171nm,18.8s,baz=30,slow=38
MKAR Makanchi Array 44.11 300 *i P* **P** **10 43 31.8 +0.2**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 44.11 300 P **P** **10 43 31.2 -0.4**
MAKZ Makanchi 44.31 300 P **P** **10 43 33.1 -0.2**
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
MAKZ Makanchi 44.31 300 P **P** **10 43 33.1 -0.2**
TOLK Toolik Lake Re 45.14 28 P **P** **10 43 41.8 +2.2**
TOLK IAmb IAmb 10 45 04.0
comp=Z,27nm,2.0s
SHL Shillong 45.19 268 P **P** **10 43 38.8 -1.9**
SHL pmax pmax
comp=Z,6.0nm,0.9s
SHL Shillong 45.19 268 P **P** **10 43 38.8 -1.9**
SHL IAmb IAmb 10 44 01.1
comp=Z,6.4nm,0.9s
COLA College 45.74 34⇓ *eP* **P** **10 43 46.4 +2.1**
COLA pmax pmax
comp=Z,13nm,2.6s
ILAR Eielson Array 46.16 34 P **P** **10 43 48.7 +1.1**
comp=Z,1.3nm,0.8s,baz=262,slow=6.4,SNR=15
ILAR Eielson Array 46.16 34 P **P** **10 43 48.4 +0.8**
BMAR Burnt Mountain 46.99 30 P **P** **10 43 55.7 +1.4**
SHLS Shalkode 47.07 296 *eP* **P** **10 43 52.6 -2.7**
baz=296
SHLS Shalkode 47.07 296 *eP* **P** **10 43 52.5 -2.7**
TDK Taldyqorghan 47.21 299 *eP* **P** **10 43 55.7 -0.6**
comp=Z,9.3nm,0.9s,baz=299
TDK Taldyqorghan 47.21 299 *eP* **P** **10 43 55.6 -0.6**
TDK pmax pmax
comp=Z,9.0nm,0.9s

TAPN Taplejung 47.49 273 *eP* **P** **10 43 59.5 +0.6**
comp=Z,18nm,0.8s
ODAN Odare 47.98 272 *eP* **P** **10 44 03.3 +0.6**
comp=Z,20nm,0.7s
CHKK Chushkaly 48.54 298 *eP* **P** **10 44 06.3 -0.3**
baz=298
CHKK Chushkaly 48.54 298 *eP* **P** **10 44 06.2 -0.3**
RAMN Ramite 48.54 273 *eP* **P** **10 44 07.1 +0.1**
comp=Z,40nm,0.8s
BCAR Beaver Creek A 48.56 36 P **P** **10 44 07.4 +1.0**
GUN Gumba 48.61 274 *eP* **P** **10 44 08.1 +0.4**
comp=Z,49nm,0.6s
MDOK Medeo 48.73 297 *eP* **P** **10 44 07.4 -0.8**
baz=297
MDOK Medeo 48.73 297 *eP* **P** **10 44 07.4 -0.8**
KUU Kurty 48.97 298 *eP* **P** **10 44 09.0 -0.8**
comp=Z,19nm,0.8s,baz=298
KUU Kurty 48.97 298 *eP* **P** **10 44 09.0 -0.8**
KUU pmax pmax
comp=Z,19nm,0.8s
PKI Pulchoki 49.15 274 *eP* **P** **10 44 11.8 +0.1**
BRZS Berezniki 49.43 307 *eP* **P** **10 44 12.8 -0.4**
baz=307
BRZS Berezniki 49.43 307 *eP* **P** **10 44 12.8 -0.4**
GKN Gorkha 49.52 275 *eP* **P** **10 44 14.9 +0.5**
BRVK Borovoye 50.00 311⇑ *iP* **P** **10 44 18.1 +0.6**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 50.00 311 P **P** **10 44 17.2 -0.3**
BRVK IAmb IAmb 10 44 30.8
comp=Z,8.3nm,1.1s
BTLS Baital 50.12 300 *eP* **P** **10 44 17.7 -0.8**
baz=300
BTLS Baital 50.12 300 *eP* **P** **10 44 17.6 -0.9**
SGDS Sogindy 50.28 298 *eP* **P** **10 44 19.6 -0.3**
comp=Z,3.5nm,0.9s,baz=298
SGDS Sogindy 50.28 298 *eP* **P** **10 44 19.6 -0.3**
SGDS pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 50.67 297⇑ *eP* **P** **10 44 23.3 +0.3**
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 50.67 297 P **P** **10 44 23.1 +0.1**
INK Inuvik 51.05 28 P **P** **10 44 26.7 +1.5**
comp=Z,2.0nm,0.7s,baz=294,slow=5.2,SNR=10
INK Inuvik 51.05 28 P **P** **10 44 26.7 +1.5**
INK IAmb IAmb 10 44 43.2
comp=Z,24nm,2.0s
KK31 Karatay Array 53.20 299 P **P** **10 44 41.6 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KK31 Karatay Array 53.20 299 P **P** **10 44 41.6 0.0**
KKAR Karatay Array 53.20 299 P **P** **10 44 41.6 0.0**
KKAR pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 53.20 299 P **P** **10 44 41.6 0.0**
KKAR Karatay Array 53.20 299 P **P** **10 44 41.0 -0.7**
IUG luzhnay 53.91 298 *eP* **P** **10 44 46.2 -0.7**
baz=298
IUG luzhnay 53.91 298 *eP* **P** **10 44 46.2 -0.7**
C36M Paulatuk 54.10 26 P **P** **10 44 48.9 +1.2**
C36M IAmb IAmb 10 44 57.9
comp=Z,9.8nm,1.4s
SVE Sverdlovsk 54.16 318 *eP* **P** **10 44 49.3 +0.9**
SVE pmax pmax
comp=Z,14nm,0.8s
ARU Arti 55.37 318*c iP* **P** **10 44 57.6 +0.5**
ARU S **S** **10 52 44.1 +3.5**
ARU SS **SS** **10 56 19.3 -5.2**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 55.37 318 P **P** **10 44 57.5 +0.3**
NIL Nilore 55.37 287 P **P** **10 44 57.1 -0.5**
NIL pmax pmax
comp=Z,38nm,1.3s
NIL Nilore 55.37 287 P **P** **10 44 57.1 -0.5**
AB31 Akbulak array 57.42 309 *i P* **P** **10 45 11.9 0.0**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 57.42 309 P **P** **10 45 12.2 +0.3**
ABKAR IAmb IAmb 10 45 13.1
comp=Z,6.3nm,0.6s
ABKAR Akbulak array 57.42 309 P **P** **10 45 12.6 +0.7**
KBL Kabul 58.01 290 P **P** **10 45 15.7 -0.8**
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 58.01 290 P **P** **10 45 15.7 -0.8**
KBL IAmb IAmb 10 45 56.5
comp=Z,4.9nm,0.8s
RES Resolute Bay 59.39 15 P **P** **10 45 25.4 +0.2**
comp=Z,2.4nm,0.7s,baz=300,slow=5.6,SNR=15
RES Resolute Bay 59.39 15 P **P** **10 45 25.9 +0.7**
RES pmax pmax
comp=Z,3.0nm,0.7s
RES Resolute Bay 59.39 15 P **P** **10 45 25.9 +0.7**
RES IAmb IAmb 10 45 37.7
comp=Z,3.1nm,0.7s
FITZ Fitzroy Crossi 60.09 200 P **P** **10 45 29.8 -0.8**
comp=Z,2.4nm,0.8s,baz=22,slow=5.4,SNR=2.6
WRAB Tennant Creek 60.15 190⇓ *iP* **P** **10 45 29.4 -1.7**
WRAB pmax pmax
comp=Z,11nm,1.4s
WRAB Tennant Creek 60.15 190 P **P** **10 45 30.8 -0.3**
WR0 Warramunga Arr 60.15 190 P **P** **10 45 30.2 -0.9**
WB2 Warramunga Arr 60.16 190 P **P** **10 45 30.5 -0.6**
WB2 IAmb IAmb 10 45 42.0
comp=Z,13nm,1.4s
WRA Warramunga Arr 60.16 190 P **P** **10 45 30.5 -0.6**
comp=Z,2.3nm,0.6s,baz=9.4,slow=5.9,SNR=32
WRA Warramunga Arr 60.16 190 *i P* **P** **10 45 30.3 -0.9**
WRA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 60.47 31 P **P** **10 45 33.6 +0.8**
comp=Z,0.7nm,0.7s,baz=302,slow=5.9,SNR=20
TMCR Tamitsa 61.05 331 *eP* **P** **10 45 33.8 -3.0**
TMCR pmax pmax
comp=Z,15nm,0.8s
ARCES ARCESS Array B 61.91 339 P **P** **10 45 43.0 +0.4**
comp=Z,20nm,1.2s,baz=23,slow=6.6,SNR=3.7
ARCES LR LR 11 15 03.1
comp=Z,270nm,18.0s,baz=275,slow=38
ARCES ARCESS Array B 61.91 339 P **P** **10 45 43.0 +0.4**
BELG Belogornoye 62.88 317⇑ *eP* **P** **10 45 49.7 +0.5**
BELG pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 63.88 190 P **P** **10 45 55.9 -0.3**
comp=Z,1.2nm,0.6s,baz=9.1,slow=5.6,SNR=34
ASAR Alice Springs 63.88 190 P **P** **10 45 56.1 -0.1**
ASAR Alice Springs 63.88 190 P **P** **10 45 56.1 -0.1**
GEYT Ailbeck 63.95 299 P **P** **10 45 56.4 -0.2**
comp=Z,2.9nm,0.8s,baz=234,slow=5.1,SNR=4.2
FINES FINESS Array B 67.07 332 P **P** **10 46 16.6 +0.2**
comp=Z,5.1nm,0.7s,baz=55,slow=7.3,SNR=23
PINE Pine Mountain 67.19 51 P **P** **10 46 19.3 +1.5**
PINE IAmb IAmb 10 46 32.8
comp=Z,4.1nm,0.8s
BEKR Beckworth 69.78 55 P **P** **10 46 34.9 +1.0**
ZEI Tsey 70.30 310 *eP* **P** **10 46 36.5 -0.6**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 70.32 311*d iP* **P** **10 46 38.6 +1.6**
KIV *e* 10 46 59.4
KIV pmax pmax
comp=Z,21nm,1.0s
KIV Kislovodsk 70.32 311 P **P** **10 46 37.3 +0.3**
KBZ Khabaz 70.33 311 P **P** **10 46 38.7 +1.8**
comp=Z,7.3nm,0.8s,baz=61,slow=3.7,SNR=14
KBZ Khabaz 70.33 311*d iP* **P** **10 46 38.1 +1.2**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
NEY Neytrino 70.72 311⇓ *eP* **P** **10 46 39.7 +0.1**
NEY pmax pmax
comp=Z,2.0nm,0.9s
NACGM Naroch 71.26 327 *i P* **P** **10 46 43.5 +1.1**
NACGM *i P* **P** **10 46 43.5 +1.1**
NACGM *i P* **P** **10 46 43.5 +1.1**
NACGM *i* PcP **PcP** **10 46 58.6 -3.6**
NACGM *i* PP PP 10 49 01.5 -18
NACGM *i* PPP PPP 10 51 10.1
NACGM *i* S **S** **10 56 02.5 +3.6**
NACGM *i* ScS ScS 10 57 29.0 +43
NACGM *i* SS **SS** **11 00 42.5 +11**
NACGM *i* SSS SSS 11 04 00.6
NACGM *i* LQ LQ 11 13 37.4
NACGM *i* LR LR 11 18 25.7

GNI Garni 71.36 307⇑ *eP* **P** **10 46 46.3 +2.8**
GNI pmax pmax
comp=Z,18nm,1.6s
STKA Stephens Creek 71.44 182 P **P** **10 46 43.9 +0.2**
comp=Z,1.2nm,0.7s,baz=169,slow=19,SNR=3.2
BOZ Bozeman (W) 71.50 46 P **P** **10 46 45.7 +1.4**
BOZ pmax pmax
comp=Z,14nm,1.8s
BOZ Bozeman (W) 71.50 46 P **P** **10 46 45.6 +1.4**
BOZ IAmb IAmb 10 47 39.9
comp=Z,14nm,1.8s
KVN Kaiserville 71.67 54 P **P** **10 46 47.1 +1.6**
KVN pmax pmax
comp=Z,14nm,1.9s
KVN Kaiserville 71.67 54 P **P** **10 46 47.1 +1.6**
KVN IAmb IAmb 10 48 48.3
comp=Z,14nm,1.9s
NVAR Mina Array Bea 71.92 55 P **P** **10 46 48.6 +1.7**
comp=Z,1.4nm,0.8s,baz=283,slow=6.6,SNR=13
NVAR Mina Array Bea 71.92 55 P **P** **10 46 48.4 +1.4**
NB2 NORSAR Subarra 72.19 338 P **P** **10 46 48.6 +0.6**
comp=Z,1.2nm,0.6s,baz=36,slow=6.2
NOA NORSAR Array B 72.19 338 P **P** **10 46 48.5 +0.5**
comp=Z,3.3nm,0.8s,baz=36,slow=6.1,SNR=8.4
AKASG Malin Array Be 73.06 323 P **P** **10 46 53.6 +0.3**
comp=Z,3.0nm,0.7s,baz=45,slow=6.1,SNR=10
FRB Frobisher Bay 73.58 14 P **P** **10 46 53.5 -2.6**
FRB pmax pmax
comp=Z,7.0nm,2.0s
TPNV Topopah Spring 74.11 55 P **P** **10 47 01.9 +1.9**
TPNV pmax pmax
comp=Z,7.0nm,1.3s
TPNV Topopah Spring 74.11 55 P **P** **10 47 01.9 +1.9**
TPNV IAmb IAmb 10 47 13.4
comp=Z,7.3nm,1.3s
PDAR Pinedale Array 74.45 47 P **P** **10 47 03.0 +1.1**
comp=Z,0.4nm,0.6s,baz=270,slow=1.5,SNR=4.6
MARD Mardin 75.54 307 P **P** **10 47 08.4 +0.2**
BUR08 Bucovina Ar. S 77.09 322 P **P** **10 47 17.9 +1.1**
BURAR Bucovina Array 77.11 322 P **P** **10 47 17.8 +1.0**
BURAR Bucovina Array 77.11 322 P **P** **10 47 17.8 +1.0**
KOLS Kolonicke sedl 77.49 325 *eP* **P** **10 47 19.9 +1.1**
KOLS Kolonicke sedl 77.49 325 *eP* **P** **10 47 19.9 +1.1**
UZH Uzhgorod 77.70 325 *eP* **P** **10 47 22.6 +2.6**
UZH *e* 10 47 31.3
MLR Muntele Rosu 78.28 320 LR LR 11 25 19.6
comp=Z,205nm,21.2s,baz=343,slow=38
LANS Liptovska Anna 78.55 326 *eP* **P** **10 47 26.8 +2.1**
LANS Liptovska Anna 78.55 326 *eP* **P** **10 47 26.8 +2.1**
MORC Moravsky Berou 78.87 328 *eP* **P** **10 47 27.6 +1.1**
DPC Dobruska-Polom 78.92 329 *eP* **P** **10 47 33.0 +6.2**
DPC Dobruska-Polom 78.92 329 *epP* pP 10 47 33.0 +1.4
CLL Collm 79.44 331 *i P* **P** **10 47 29.9 +0.4**
comp=Z,6.0nm,0.9s
CLL Collm 79.44 331 *i P* **P** **10 47 29.9 +0.4**
CLL pmax pmax
comp=Z,6.0nm,0.9s
VRAC Vranov 79.62 328 *eP* **P** **10 47 31.8 +1.2**
KRUC Moravsky 79.90 328 *eP* **P** **10 47 33.1 +1.0**
PRU Pruhonice 79.91 329 *eP* **P** **10 47 33.3 +1.2**
PRU Pruhonice 79.91 329 *eP* **P** **10 47 33.3 +1.2**
CKRC Cesky Krumlov 80.93 329 *eP* **P** **10 47 38.7 +1.0**
KHC Kasperske Hory 80.97 329⇓ *eP* **P** **10 47 39.1 +1.2**
KHC pmax pmax
comp=Z,12nm,0.9s
KHC Kasperske Hory 80.97 329 *eP* **P** **10 47 38.7 +0.8**
KHC *ex* x 10 48 00.3
CONA Conrad Observa 81.01 327 *eP* **P** **10 47 39.6 +1.4**
comp=Z,2.4nm,0.9s
GERES GERESS Array B 81.15 329 P **P** **10 47 39.6 +0.7**
comp=Z,0.9nm,0.6s,baz=39,slow=5.1,SNR=6.3
ANMO Albuquerque 81.44 51⇓ *eP* **P** **10 47 39.2 -1.7**
ANMO pmax pmax
comp=Z,8.0nm,3.0s
OBKA Obir 82.68 327 *eP* **P** **10 47 47.8 +0.7**
comp=Z,2.7nm,0.6s
KBA Koelnbreinsper 82.72 328 *eP* **P** **10 47 49.4 +2.1**
comp=Z,2.4nm,0.7s
ABTA Abfaltersbach 83.32 329 *eP* **P** **10 47 51.0 +0.7**
comp=Z,2.3nm,0.9s
MOTA Moosalm 83.39 330 *eP* **P** **10 47 51.9 +1.2**
comp=Z,4.4nm,1.0s
FETA Feichten 83.80 330 *eP* **P** **10 47 53.8 +0.9**
comp=Z,1.7nm,0.6s
DAVA Damuels 83.91 330 *eP* **P** **10 47 54.8 +1.4**
comp=Z,5.3nm,0.7s
TXAR Lajitas Array 87.03 54 P **P** **10 48 10.7 +1.5**
comp=Z,0.9nm,0.9s,baz=300,slow=2.4,SNR=7.5
TXAR Lajitas Array 87.03 54 P **P** **10 48 10.1 +0.9**
TXAR Lajitas Array 87.03 54 P **P** **10 48 10.1 +0.9**
ESDC Sonseca Array 95.44 335 LR LR 11 37 41.4
comp=Z,146nm,18.5s,baz=30,slow=39

*IDC **08** 10:43:58.8±3.5,9.7°N×123.2°E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.2/36,mbtmp3.4/3,MS2.9/2,Ms1 2.9/2, ms1mx2.8/23,Error ellipse: s-maj=361.4km s-min=28.1km az=64.0*
*MAN **08** 10:44:01.4,8.7°N×121.4°E,h68km,mb5.1,ML4.0,MS4.1*
ISC 08 10:44:03.6±2.3,**8.71N**±0.04×**121.47E**±0.06,**h27**km±19km, **n19**,σ**2**s**33**/19,**mb3.5/3,3C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CNOP	**Candoni, Negro**	**1.60**	**46**	*eP*		Pn	10 44 27.5	-2.6
CNOP				*eS*		**Sn**	**10 44 46.0**	**-3.9**
ZCP	**Zamboanga City**	**1.86**	**161**	⇓*iP*		**Pn**	**10 44 33.1**	**-0.7**
ZCP				*i S*		**Sn**	**10 44 54.4**	**-2.1**
PAGZ	**Pagadian**	**2.07**	**114**	*eP*		Pn	10 44 35.2	-1.5
PAGZ				*eS*		**Sn**	**10 45 00.2**	**-1.4**
JAP	**San Jose, Anti**	**2.08**	**13**⇑	*eP*		**Pn**	**10 44 39.1**	**+2.4**
CUYO	**Cuyo Island**	**2.17**	**348**	*eP*		**Pn**	**10 44 37.5**	**-0.5**
CUYO				*eS*		**Sn**	**10 45 02.1**	**-2.1**
GUIM	**Jordan**	**2.20**	**30**	*eP*		Pn	10 44 37.0	-1.4
GUIM				*eS*		**Sn**	**10 45 01.2**	**-3.5**
LLP	**Lapu-Lapu**	**2.93**	**57**⇑	*eP*		**Pn**	**10 44 48.5**	**+0.1**
LLP				*eS*		**Sn**	**10 45 22.0**	**-0.8**
ENPP	**El Nido**	**3.20**	**321**	*eP*		Pn	10 44 50.5	-1.7
ENPP				*eS*		**Sn**	**10 45 26.3**	**-3.1**
BUSP	**Coron**	**3.50**	**339**	*eP*		**Pn**	**10 44 55.2**	**-1.2**
BUSP				*eS*		Sn	10 45 29.8	-7.1
MSLP	**Maasin**	**3.63**	**67**	*eP*		**Pn**	**10 44 58.6**	**+0.5**
SKMP	**Bagumbayan, Su**	**3.74**	**125**	*eP*		Pn	10 44 58.8	-0.9
SKMP				*eS*		**Sn**	**10 45 39.0**	**-3.8**
SJMP	**San Jose**	**3.74**	**355**	*eP*		**Pn**	**10 44 59.0**	**-0.6**
KCP	**Kidapawan**	**3.96**	**115**⇑	*iP*		**Pb**	**10 45 12.9**	**+0.1**
LUBP	**Lubang**	**5.13**	**347**	*eP*		Pn	10 45 17.4	-1.4
SIJI	**Sorong**	**13.63**	**134**	LR		LR	10 52 35.7	
	comp=Z,32nm,18.5s,baz=289,slow=40							
WRA	**Warramunga Arr**	**31.16**	**156**	P		**P**	**10 50 20.8**	**+0.2**
	0.6nm,0.8s,baz=338,slow=9.7,SNR=4.8							
MJAR	**Matsushiro Arr**	**31.61**	**26**	LR		LR	11 01 53.7	
	comp=Z,36nm,18.2s,baz=305,slow=36							
ASAR	**Alice Springs**	**34.40**	**160**	P		**P**	**10 50 50.1**	**+1.3**
	0.5nm,0.8s,baz=349,slow=6.7,SNR=5.4							
MKAR	**Makanchi Array**	**50.52**	**326**	P		**P**	**10 53 02.4**	**+2.8**
	0.3nm,0.7s,baz=121,slow=8.4,SNR=4.7							

*IDC **08** 11:03:03.7±5.0,19.02°N×66.01°W,h0km,mb3.5/5, mb1 3.9/5,mb1mx3.6/33,mbtmp3.5/5,MS3.1/1,Ms1 3.1/1, ms1mx2.8/23,Error ellipse: s-maj=145.4km s-min=32.0km az=180.0*
*RSPR **08** 11:03:07.3,19.65N×66.01W,h78km±12km,MD3.7/12*
*NEIC **08** 11:03:08.0±1.8,19.62N±0.07°×66.00W±0.06,h35km±2km, Error ellipse: s-maj=12.1km s-min=8.8km az=21.0*
ISC 08 11:03:07.6±0.8,**19.54N**±0.05°×**66.03W**±0.05,**h14**km,**n62**, σ**1**s**07**/58,**mb3.7/5,14C-1D,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**1.16**	**204**⇑	*eP*		**Pn**	**11 03 28.4**	**-0.9**
EMPR	**Esperanza - Ma**	**1.16**	**204**	*eS*		**Sg**	**11 03 46.4**	**+1.5**
EMPR	**Esperanza - Ma**	**1.16**	**204**			**Pn**	**11 03 27.4**	**-2.0**
EMPR				IAML			11 03 50.6	
	comp=N,1μm,1.0s							
EMPR				IAML			11 03 51.8	
	comp=E,2μm,1.3s							
EMPR	**Esperanza - Ma**	**1.16**	**204**			**Sg**	**11 03 46.4**	**+1.5**
GCPR	**Guaynabo City**	**1.22**	**182**⇑	*eP*		**Pn**	**11 03 29.4**	**-0.9**
GCPR	**Guaynabo City**	**1.22**	**182**	*eS*		**Sn**	**11 03 46.7**	**+0.1**
GCPR	**Guaynabo City**	**1.22**	**182**			**Sn**	**11 03 46.7**	**+0.1**
GCPR	**Guaynabo City**	**1.22**	**182**			**Pn**	**11 03 29.2**	**-1.1**

GCPR	**Guaynabo City**	**1.22**	**182**	IAML		11 03 52.3	
	comp=N,348nm,0.8s						
GCPR				IAML		11 03 53.1	
	comp=E,644nm,1.5s						
CBYP	**Canovanas**	**1.27**	**173**	⇑*e*P	**Pn**	**11 03 30.0**	**-1.0**
CBYP	**Canovanas**	**1.27**	**173**		**Pn**	**11 03 29.8**	**-1.2**
CBYP				IAML		11 03 57.1	
	comp=N,1µm,0.2s						
CBYP				IAML		11 04 01.7	
	comp=E,825nm,0.2s						
AOPR	**Arecibo Observ**	**1.37**	**210**	⇑*e*P	**Pn**	**11 03 31.2**	**-1.2**
AOPR	**Arecibo Observ**	**1.37**	**210**	*e*S	**Sb**	**11 03 51.5**	**+1.1**
AOPR	**Arecibo Observ**	**1.37**	**210**		**Pn**	**11 03 31.0**	**-1.4**
AOPR	**Arecibo Observ**	**1.37**	**210**		**Sb**	**11 03 51.5**	**+1.1**
AOPR	**Arecibo Observ**	**1.37**	**210**	IAML		11 04 01.8	
	comp=N,2µm,0.6s						
HUMP	**Col San Antoni**	**1.40**	**173**	⇑*e*P	**Pn**	**11 03 31.9**	**-0.8**
HUMP	**Col San Antoni**	**1.40**	**173**		**Pb**	**11 03 32.4**	**-1.1**
CUPR	**Culebra, Puert**	**1.41**	**150**	⇑*e*P	**Pb**	**11 03 32.7**	**-1.0**
CUPR	**Culebra, Puert**	**1.41**	**150**		**Pb**	**11 03 33.0**	**-0.7**
SJG	**San Juan**	**1.42**	**185**		**Pn**	**11 03 32.1**	**-0.9**
SJG				IAML		11 03 59.4	
	comp=N,566nm,0.7s						
SJG				IAML		11 04 05.9	
	comp=N,536nm,1.1s						
AGPR	**Aguadilla, PR**	**1.48**	**224**	⇑*e*P	**Pn**	**11 03 32.4**	**-1.4**
AGPR	**Aguadilla, PR**	**1.48**	**224**		**Pb**	**11 03 33.6**	**-1.2**
AGPR				IAML		11 04 25.6	
	comp=N,466nm,1.6s						
AGPR				IAML		11 04 28.1	
	comp=E,500nm,1.4s						
MTP	**Monte Pirata**	**1.50**	**162**	⇑*e*P	**Pn**	**11 03 33.5**	**-0.6**
MTP	**Monte Pirata**	**1.50**	**162**		**Pb**	**11 03 34.0**	**-1.2**
PDPR	**Patillas Dam,**	**1.51**	**180**		**Pn**	**11 03 33.7**	**-0.6**
PDPR				IAML		11 04 08.2	
	comp=E,377nm,1.1s						
CELP	**Cerrillos**	**1.54**	**200**	⇑*e*P	**Pn**	**11 03 34.0**	**-0.7**
CELP	**Cerrillos**	**1.54**	**200**	*e*S	**Sn**	**11 03 54.6**	**0.0**
CELP	**Cerrillos**	**1.54**	**200**		**Pn**	**11 03 34.0**	**-0.7**
CELP					**Sn**	**11 03 54.6**	**0.0**
IGPR	**InterUniversit**	**1.56**	**183**	⇑*e*P	**Pn**	**11 03 34.6**	**-0.4**
OBIP	**Obispado Ponce**	**1.58**	**200**	⇓*e*P	**Pn**	**11 03 33.4**	**-1.9**
OBIP	**Obispado Ponce**	**1.58**	**200**	*e*S	**Sn**	**11 03 55.2**	**-0.3**
OBIP	**Obispado Ponce**	**1.58**	**200**		**Pn**	**11 03 33.3**	**-1.9**
OBIP				IAML		11 04 26.4	
	comp=E,706nm,1.0s						
OBIP				IAML		11 04 29.2	
	comp=N,681nm,0.8s						
OBIP	**Obispado Ponce**	**1.58**	**200**		**Sn**	**11 03 55.2**	**-0.3**
LSP	**Las Mesas**	**1.68**	**217**	⇑*e*P	**Pn**	**11 03 35.5**	**-1.2**
LSP	**Las Mesas**	**1.68**	**217**		**Pn**	**11 03 35.5**	**-1.2**
MPR	**Mayaguez**	**1.69**	**219**		**Pn**	**11 03 35.2**	**-1.5**
ICMP	**Isla Caja de M**	**1.71**	**196**	⇑*e*P	**Pn**	**11 03 37.0**	**0.0**
ICMP	**Isla Caja de M**	**1.71**	**196**	*e*S	**Sn**	**11 03 58.8**	**+0.1**
ICMP	**Isla Caja de M**	**1.71**	**196**		**Pn**	**11 03 36.4**	**-0.5**
ICMP	**Isla Caja de M**	**1.71**	**196**		**Sn**	**11 03 58.8**	**+0.1**
ICMP	**Isla Caja de M**	**1.71**	**196**	IAML		11 04 16.8	
	comp=N,470nm,1.2s						
ICMP				IAML		11 04 19.5	
	comp=E,579nm,1.1s						
GBPR	**Guanica, Bosqu**	**1.75**	**208**	⇑*e*P	**Pn**	**11 03 37.5**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.75**	**208**		**Pn**	**11 03 37.5**	**-0.1**
MLPR	**Magueyes Islan**	**1.83**	**212**	⇑*e*P	**Pn**	**11 03 38.0**	**-0.7**
MLPR	**Magueyes Islan**	**1.83**	**212**	*e*S	**Sn**	**11 04 01.6**	**0.0**
MLPR	**Magueyes Islan**	**1.83**	**212**		**Pn**	**11 03 38.2**	**-0.5**
MLPR	**Magueyes Islan**	**1.83**	**212**		**Sn**	**11 04 01.6**	**0.0**
MLPR	**Magueyes Islan**	**1.83**	**212**	IAML		11 04 18.4	
	comp=E,246nm,0.9s						
MLPR				IAML		11 04 26.6	
	comp=N,308nm,1.1s						
CDVI	**St. Croix**	**2.14**	**146**	Pn	**Pn**	**11 03 41.9**	**-1.0**
DR12	**Loma Pena Alta**	**3.25**	**257**		**Pn**	**11 03 57.7**	**-0.6**
SKI	**Saint Kitts**	**3.81**	**125**		**Pn**	**11 04 04.4**	**-1.5**
BANI	**BANI**	**4.25**	**255**	Pn	**Pn**	**11 04 10.5**	**-1.6**
SC01	**Santiago de lo**	**4.43**	**269**	Pn	**Pn**	**11 04 12.8**	**-1.7**
SDDR	**Presa de Saban**	**5.00**	**265**		**Pn**	**11 04 21.1**	**-1.2**
ROSC	**El Rosal**	**16.70**	**210**	LR	LR	11 13 36.0	
	comp=N,69nm,20.4s,baz=44,slow=39						
ROSC	**El Rosal**	**16.70**	**210**	P	**Pn**	**11 06 59.4**	**-2.2**
TXAR	**Lajitas Array**	**35.50**	**293**	P	**P**	**11 10 04.3**	**+0.2**
	comp=N,1.2nm,0.9s,baz=108,slow=8.6,SNR=9.0						
PDAR	**Pinedale Array**	**43.24**	**312**	P	**P**	**11 11 09.5**	**+0.6**
	comp=N,0.3nm,0.6s,baz=111,slow=4.9,SNR=3.2						
NVAR	**Mina Array Bea**	**48.78**	**304**	P	**P**	**11 11 53.4**	**+0.8**
	comp=N,0.6nm,0.8s,baz=107,slow=6.0,SNR=6.3						
YKA	**Yellowknife Ar**	**54.26**	**335**	P	**P**	**11 12 34.7**	**+1.9**
	comp=N,0.2nm,0.7s,baz=110,slow=8.3,SNR=3.8						
ESDC	**Sonseca Array**	**56.47**	**55**	P	**P**	**11 12 49.6**	**+0.3**
	comp=N,0.5nm,0.6s,baz=251,slow=6.3,SNR=4.5						

*TEH **08** 11:14:04.4, 37°.05N×56°.14E, h5^{km}, ML3.5*
*IDC **08** 11:14:04.5±2.1, 36°.95N×55°.88E, h0^{km}, mb3.1/3, mb1 3.5/7, mb1mx3.3/34, mbtmp3.4/7, ML3.6/4, Error ellipse: s-maj=28.4km s-min=17.3km az=26.0*
*THR **08** 11:14:06.5±0.5, 37°.03N×56°.02E, h18^{km}±4^{km}, ML3.5*
*NNC **08** 11:14:06.5±0.8, 37°.30N×55°.87E, h0^{km}, mb3.7, Error ellipse: s-maj=8.7km s-min=4.7km az=11.0*
ISC 08 11:14:06.6±0.7**, 37°.08N**±0°.04×**56°.10E**±0°.04**, h10**^{km}**, n50,** σ1^s**24**/55**, 4C-3D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.59**	**288**	*e*Pg	**Pg**	**11 14 16.4**	**-1.6**
SHRO	**Shahrood**	**1.09**	**184**	*e*Pg	**Pg**	**11 14 25.7**	**-1.8**
SHRO	**Shahrood**	**1.09**	**184**	*e*Pg	**Pg**	**11 14 25.7**	**-1.8**
BJRD	**Bojnurd**	**1.21**	**59**	*e*Pg	**Pb**	**11 14 30.3**	**+0.6**
BJRD				*e*S	**Sn**	**11 14 47.5**	**+1.2**
BJRD	**Bojnurd**	**1.21**	**59**	*e*Pg	**Pb**	**11 14 30.3**	**+0.6**
SBZV	**Sabzevar**	**1.39**	**119**	*e*Pg	**Pn**	**11 14 31.3**	**-1.0**
ISFR	**Sfrayin**	**1.52**	**90**	*e*Pg	**Pn**	**11 14 34.8**	**+0.7**
ISFR				*e*		11 15 03.9	
	comp=Z,99nm,0.6s						
GEYT	**Alibeck**	**1.81**	**61**	Pn	**Pb**	**11 14 40.5**	**+0.6**
	comp=Z,50nm,0.3s,baz=239,slow=18,SNR=174						
GEYT				Sn	**Sg**	**11 15 05.3**	**+0.4**
	comp=Z,14nm,0.3s,baz=243,slow=14,SNR=2.0						
GYA0B	**ALIBECK ARRAY**	**1.81**	**61**	⇑Pn	**Pb**	**11 14 40.2**	**+0.2**
GYA0B				⇑Sn	**Sg**	**11 15 05.7**	**+0.8**
IGLO	**Ghaloghah**	**1.91**	**253**	*e*Pn	**Pn**	**11 14 39.9**	**+0.5**
IGLO				*e*		11 15 12.1	
	comp=Z,99nm,0.7s						
IAKL	**Akhelmad**	**2.18**	**102**	*e*Pn	**Pn**	**11 14 43.7**	**+0.5**
IANJ	**Anjilo**	**2.39**	**228**	*e*Pn	**Pn**	**11 14 47.7**	**+1.7**
IANJ				*e*		11 15 26.1	
	comp=Z,99nm,0.5s						
IPAY	**Payeh**	**2.41**	**104**	*e*Pn	**Pn**	**11 14 47.3**	**+1.1**
IPAY				*e*		11 15 35.6	
	comp=Z,99nm,0.4s						
IKRD	**Kardeh**	**2.75**	**95**	*e*Pn	**Pn**	**11 14 52.6**	**+1.6**
IKRD				*e*		11 15 41.7	
	comp=Z,99nm,0.6s						
ILAS	**Lasjerd**	**3.05**	**237**	*e*Pn	**Pn**	**11 14 55.9**	**+0.7**
IFIR	**Firoozkooh**	**3.06**	**243**	*e*Pn	**Pn**	**11 14 56.8**	**+1.5**
TNSJ	**Nastanj**	**3.13**	**172**	*e*Pn	**Pn**	**11 14 56.9**	**+0.8**
IPRN	**Peran**	**3.14**	**256**	*e*Pn	**Pn**	**11 14 57.4**	**+1.1**
TKDS	**Koohdasht(Taba**	**3.55**	**166**	*e*Pn	**Pn**	**11 15 03.1**	**+1.2**
TKDS				*e*		11 16 14.2	
	comp=Z,99nm,0.4s						
TPRV	**Parvadeh(Tabas**	**4.07**	**173**	*e*Pn	**Pn**	**11 15 09.6**	**+0.6**
TPRV				*e*		11 16 33.9	
	comp=Z,99nm,0.8s						
IVRN	**Varamin**	**4.11**	**241**	*e*Pn	**Pn**	**11 15 11.0**	**+1.5**
ANAR	**Anarak**	**4.34**	**207**	*e*Pn	**Pn**	**11 15 13.2**	**+0.5**
QALM	**Alamut, Qazvin**	**4.43**	**263**	*e*Pn	**Pn**	**11 15 14.7**	**+0.6**
KRSH	**Karshahi**	**4.48**	**227**	*e*Pn	**Pn**	**11 15 15.9**	**+1.2**
ITEG	**Tejag**	**4.70**	**152**	*e*Pn	**Pn**	**11 15 18.6**	**+0.8**
YZKH	**Yazd**	**4.84**	**195**	*e*Pn	**Pn**	**11 15 20.2**	**+0.6**
YZKH				IAML		11 16 51.6	
	comp=N,28nm,0.8s						
YZKH	**Yazd**	**4.84**	**195**	*e*Pn	**Pn**	**11 15 20.2**	**+0.6**
SHRT	**Shahrakht**	**4.84**	**134**	*e*Pn	**Pn**	**11 15 20.7**	**+1.1**
SHRT	**Shahrakht**	**4.84**	**134**	*e*Pn	**Pn**	**11 15 20.7**	**+1.1**
IMON	**Monand**	**4.85**	**142**	*e*Pn	**Pn**	**11 15 20.5**	**+0.6**
IZEF	**Zefreh**	**5.20**	**218**	*e*Pn	**Pn**	**11 15 25.7**	**+1.1**
IRAZ	**Razeghan**	**5.26**	**253**	*e*Pn	**Pn**	**11 15 27.7**	**+2.2**
IDAH	**Dahanechah**	**5.32**	**143**	*e*Pn	**Pn**	**11 15 26.6**	**+0.3**
ISAD	**Sadrabad**	**5.52**	**202**	*e*Pn	**Pn**	**11 15 29.9**	**+0.7**
BSRN	**Basiran**	**5.67**	**153**	*e*Pn	**Pn**	**11 15 32.0**	**+0.9**
BSRN	**Basiran**	**5.67**	**153**	*e*Pn	**Pn**	**11 15 32.0**	**+0.9**
ZNJK	**Zanjan**	**5.96**	**268**	*e*Pn	**Pn**	**11 15 35.3**	**+0.2**
ZNJK				IAML		11 16 48.4	
	comp=N,13nm,0.5s						
ZNJK	**Zanjan**	**5.96**	**268**	*e*Pn	**Pn**	**11 15 35.3**	**+0.2**
IRAM	**Ramesheh**	**6.09**	**211**	*e*Pn	**Pn**	**11 15 38.0**	**+1.1**
ISRB	**Sarab**	**6.75**	**279**	*e*Pn	**Pn**	**11 15 47.0**	**+1.0**
IHRS	**Heris**	**7.29**	**283**	*e*Pn	**Pn**	**11 15 55.8**	**+2.4**
KBZ	**Khabaz**	**12.05**	**308**	Pn	**Pn**	**11 16 56.4**	**-2.0**
	comp=N,0.2nm,0.3s,baz=191,slow=5.2,SNR=2.3						
AB31	**Akbulak array**	**12.49**	**12**	⇑Pn	**Pn**	**11 17 03.3**	**-1.0**
	comp=N,0.8nm,0.7s,baz=193,slow=13,SNR=6.8						
AB31				⇑Sn	**Sn**	**11 19 21.8**	**-1.6**
	comp=N,2.2nm,0.9s						
KK31	**Karatay Array**	**12.56**	**57**	⇓Pn	**Pn**	**11 17 06.5**	**+1.1**
	comp=N,0.4nm,0.4s,baz=263,slow=15,SNR=4.1						
AKTO	**Aktyubinsk**	**13.43**	**5**	Pn	**Pn**	**11 17 15.1**	**-2.0**
	comp=N,0.4nm,0.3s,baz=171,slow=9.2,SNR=6.3						
AKTO	**Aktyubinsk**	**13.43**	**5**	⇓Pn	**Pn**	**11 17 15.0**	**-2.0**
	comp=N,1.1nm,0.5s						
AKTO				⇓Sn	**Sn**	**11 19 45.0**	**-1.3**
	comp=N,1.7nm,0.8s						
BVAR	**Borovoye Array**	**18.81**	**28**	P	**P**	**11 18 26.6**	**+0.4**
	comp=N,0.1nm,0.3s,baz=198,slow=23,SNR=5.3						
KURBB	**Kurchatov Arra**	**20.99**	**43**	P	**P**	**11 18 51.7**	**+1.8**
	comp=N,0.1nm,0.3s,baz=240,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**21.68**	**55**	P	**P**	**11 18 59.6**	**+2.2**
	comp=N,0.3nm,0.5s,baz=239,slow=8.3,SNR=6.4						
AKASG	**Malin Array Be**	**23.52**	**314**	P	**P**	**11 19 17.4**	**+0.8**
	comp=N,0.5nm,0.4s,baz=111,slow=10.0,SNR=3.5						

*IASPEI **08** 11:21:53.8±0.8, 44°.31N±0°.02×7°.33E±0°.02, h17^{km}±4^{km}, Error ellipse: s-maj=3.3km s-min=2.5km az=47.7, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*ROM **08** 11:21:54.1±0.2, 44°.27N±0°.01×7°.33E±0°.02, h15^{km}±1^{km}, ML2.6/9, Error ellipse: s-maj=1.3km s-min=0.9km az=206.0*
*GEN **08** 11:21:54.3, 44°.32N×7°.35E, h13^{km}±2^{km}, Ml2.5*
*STR **08** 11:21:54.5±0.4, 44°N±3°×°±°, h1^{km}, MLv2.4/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*LDG **08** 11:21:54.2±0.1, 44°.33N×7°.35E, h10^{km}, Md2.6/2, Ml2.7/44, Error ellipse: s-maj=1.3km s-min=0.9km az=63.0*
ISC 08 11:21:53.9±0.8**, 44°.30N**±0°.02×**7°.32E**±0°.02**, h18**^{km}±3^{km}**, n82,** σ2^s**03**/139**, 5C-1D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sant Anna di V**	**0.06**	**174**	P	**Pg**	**11 21 57.3**	**0.0**
STV				S	**Sg**	**11 21 59.0**	**-0.6**
STV	**Sant Anna di V**	**0.06**	**174**	P	**Pg**	**11 21 57.3**	**0.0**
STV				S	**Sg**	**11 21 59.0**	**-0.6**
STV				AML	AML		
	comp=E,9815µm,0.2s						
STV				AML	AML		
	comp=N,6600µm,0.1s						
ENR	**Entracque**	**0.11**	**137**	P	**Pg**	**11 21 57.6**	**-0.1**
ENR				S	**Sg**	**11 21 59.6**	**-0.8**
ENR	**Entracque**	**0.11**	**137**	P	**Pg**	**11 21 57.6**	**-0.1**
ENR				S	**Sg**	**11 21 59.6**	**-0.8**
ENR				AML	AML		
	comp=E,22450µm,0.1s						
ENR				AML	AML		
	comp=N,35850µm,0.1s						
ENR				AML	AML		
	comp=E,22450µm,0.1s						
ENR				AML	AML		
	comp=N,35850µm,0.1s						
ISO	**Isola**	**0.23**	**238**	Pg	**Pg**	**11 21 59.9**	**+0.6**
TURF	**col de Turini**	**0.33**	**171**	Pg	**Pg**	**11 22 01.4**	**+0.3**
TURF				Sg	**Sg**	**11 22 04.2**	**-1.8**
SAOF	**Saorge**	**0.36**	**152**	Pg	**Pg**	**11 22 01.6**	**+0.1**
SAOF				Sg	**Sg**	**11 22 05.8**	**-0.8**
SAOF	**Saorge**	**0.36**	**152**	⇑P	**Pg**	**11 22 01.6**	**+0.1**
SAOF				S	**Sg**	**11 22 06.4**	**-0.2**
SAOF	**Saorge**	**0.36**	**152**	AML	AML		
	comp=N,1045µm,0.2s						
SAOF				AML	AML		
	comp=E,1450µm,0.3s						
GBOS	**Grotte di Boss**	**0.38**	**99**	P	**Pg**	**11 22 01.7**	**-0.1**
GBOS				S	**Sg**	**11 22 06.8**	**-0.5**
GBOS	**Grotte di Boss**	**0.38**	**99**	P	**Pg**	**11 22 01.7**	**-0.1**
GBOS				S	**Sg**	**11 22 06.6**	**-0.6**
GBOS				AML	AML		
	comp=N,1975µm,0.4s						
GBOS				AML	AML		
	comp=E,3735µm,0.5s						
SURF	**Saint Ours**	**0.40**	**296**	Pg	**Pg**	**11 22 02.9**	**+0.6**
ESCA	**l'Escarene**	**0.47**	**175**	Pg	**Pg**	**11 22 03.9**	**+0.4**
ESCA				Sg	**Sg**	**11 22 10.3**	**+0.4**
BHB	**Bricherasio**	**0.54**	**356**	P	**Pg**	**11 22 03.6**	**-1.1**
BHB	**Bricherasio**	**0.54**	**356**	AML	AML		
	comp=E,866µm,0.6s						
BHB				AML	AML		
	comp=N,940µm,0.1s						
RORO	**Rocca Rossa**	**0.57**	**109**	P	**Pg**	**11 22 04.9**	**-0.4**
RORO				S	**Sg**	**11 22 12.6**	**-0.4**
RORO	**Rocca Rossa**	**0.57**	**109**	P	**Pg**	**11 22 04.9**	**-0.4**
RORO				S	**Sg**	**11 22 12.3**	**-0.6**
RORO				AML	AML		
	comp=N,1150µm,1.1s						
RORO				AML	AML		
	comp=E,1210µm,0.8s						
IMI	**Imperia**	**0.57**	**133**	P	**Pg**	**11 22 05.2**	**-0.1**
IMI				S	**Sg**	**11 22 12.8**	**-0.2**
IMI	**Imperia**	**0.57**	**133**	⇑P	**Pg**	**11 22 05.2**	**-0.1**
IMI				S	**Sg**	**11 22 12.7**	**-0.2**
IMI				AML	AML		
	comp=E,1145µm,0.4s						
IMI				AML	AML		
	comp=N,1765µm,1.1s						
MBDF	**Montbardon**	**0.58**	**317**	*e*Pg	**Pg**	**11 22 05.5**	**+0.1**
MBDF	**Montbardon**	**0.58**	**317**	*e*Pn	**Pb**	**11 22 07.5**	**+2.0**
MBDF				*e*Sg	**Sg**	**11 22 13.3**	**+0.1**
	comp=N,121nm,0.2s						
RRL	**Rocca Remolon**	**0.72**	**329**	P	**Pg**	**11 22 07.9**	**-0.3**
RRL				S	**Sg**	**11 22 17.9**	**+0.1**
RRL	**Rocca Remolon**	**0.72**	**329**	P	**Pg**	**11 22 07.7**	**-0.4**
RRL				AML	AML		
	comp=N,176µm,0.3s						
RRL				AML	AML		
	comp=E,161µm,0.7s						
FINB	**Finale Ligure**	**0.73**	**100**	⇑P	**Pg**	**11 22 08.0**	**-0.3**
FINB				S	**Sg**	**11 22 17.3**	**-0.8**
FINB				AML	AML		
	comp=E,243µm,1.2s						
FINB				AML	AML		
	comp=N,380µm,0.4s						
FINB				AML	AML		
	comp=N,380µm,0.4s						
FINB				AML	AML		
	comp=E,244µm,1.2s						
RSP	**Reno Superiore**	**0.84**	**357**	AML	AML		
	comp=E,166µm,0.3s						
RSP				AML	AML		
	comp=N,222µm,0.7s						
BNI	**Bardonecchia**	**0.88**	**329**	P	**Pg**	**11 22 10.4**	**-0.6**
BNI				S	**Sg**	**11 22 22.6**	**-0.1**
MONC	**Moncucco Torin**	**0.88**	**29**	P	**Pn**	**11 22 11.8**	**+0.3**
MONC				S	**Sn**	**11 22 23.9**	**0.0**
MONC				AML	AML		
	comp=N,322µm,0.6s						
MONC				AML	AML		
	comp=E,330µm,1.2s						
FRF	**La Foret Royal**	**0.89**	**213**	*e*Pg	**Pg**	**11 22 11.2**	**0.0**
FRF				*e*Sg	**Sg**	**11 22 22.8**	**-0.1**
	comp=E,116nm,0.2s						
ROTM	**Rocchetta Tana**	**0.92**	**53**	P	**Pn**	**11 22 12.2**	**+0.3**
ROTM				S	**Sn**	**11 22 25.0**	**+0.4**
ROTM				AML	AML		
	comp=N,1190µm,1.5s						
ROTM				AML	AML		
	comp=E,838µm,1.4s						
LMR	**La Mourre**	**1.13**	**211**	*e*Pn	**Pb**	**11 22 15.4**	**+0.5**
LMR				*e*Sn	**Sb**	**11 22 29.9**	**+0.6**
LMR				*e*Sg	**Sg**	**11 22 31.4**	**+0.8**
	comp=E,308nm,0.2s						
LSD	**Lago del Serru**	**1.16**	**354**	AML	AML		
	comp=E,194µm,0.8s						
LSD				AML	AML		
	comp=N,136µm,1.6s						
ORIF	**Oris-en-Rattie**	**1.20**	**301**	*e*Pg	**Pn**	**11 22 16.8**	**+1.0**
ORIF				*e*Sg	**Sb**	**11 22 32.6**	**+1.4**
	comp=N,67nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.20**	**301**	P	**Pn**	**11 22 17.0**	**+1.2**
ORIF				AML	AML		
	comp=N,91µm,1.4s						
ORIF				AML	AML		
	comp=E,116µm,1.0s						
GDM	**Grand'Maison**	**1.24**	**317**	Pn	**Pb**	**11 22 18.0**	**+1.1**
GDM				Sg	**Sb**	**11 22 34.2**	**+1.6**
LPG	**La Plagne**	**1.26**	**342**	*e*Pg	**Pn**	**11 22 18.0**	**+1.1**
LPG				*e*Sg	**Sb**	**11 22 34.2**	**+0.9**
	comp=E,22nm,0.2s						
LPL	**La Plagne**	**1.28**	**341**	*e*Pg	**Pn**	**11 22 17.9**	**+0.8**
LPL				*e*Sg	**Sb**	**11 22 34.7**	**+0.9**
	comp=E,18nm,0.2s						
SMRF	**Simiane la Rot**	**1.30**	**256**	*e*Pg	**Pb**	**11 22 19.2**	**+1.4**
SMRF				*e*Sg	**Sn**	**11 22 36.3**	**+2.3**
	comp=E,80nm,0.4s						
ARTF	**Artigues**	**1.31**	**237**	Pg	**Pn**	**11 22 18.6**	**+1.4**
GRN	**Grenoble**	**1.46**	**310**	Pg	**Pg**	**11 22 22.6**	**+0.6**
RSL	**Roselend**	**1.47**	**341**	Pn	**Pg**	**11 22 22.8**	**+0.6**
MRGE	**Morge**	**1.48**	**353**	AML	AML		
	comp=N,50µm,1.6s						
MRGE				AML	AML		
	comp=E,43µm,1.0s						
MSSA	**Maissana**	**1.58**	**89**	⇑P	**Pg**	**11 22 24.6**	**+0.3**
OGSM	**Saint Maurice**	**1.74**	**319**	Pn	**Pb**	**11 22 26.1**	**+0.8**
OGSM				Sn	**Sb**	**11 22 49.0**	**+2.1**
VIVF	**Saint-Julien-l**	**1.97**	**287**	*e*P	**Pn**	**11 22 28.1**	**+1.7**
VIVF				*e*Sn	**Sn**	**11 22 49.6**	**-1.0**
	comp=E,14nm,0.3s						
VIVF				*e*Sg	**Sg**	**11 22 56.8**	**-0.5**
	comp=E,37nm,0.3s						
PGF	**Pioggiola**	**2.14**	**145**	*e*Pn	**Pn**	**11 22 28.3**	**-0.5**
PGF				*e*Sn	**Sn**	**11 22 52.7**	**-2.2**
	comp=E,8.8nm,0.2s						
PGF	**Pioggiola**	**2.14**	**145**	P	**Pn**	**11 22 28.9**	**+0.1**
MAIM	**Mastiano**	**2.32**	**99**	P	**Pg**	**11 22 37.6**	**-0.7**
CABF	**La Chapelle**	**2.46**	**340**	*e*P	**Pn**	**11 22 35.2**	**+2.0**
CABF	**La Chapelle**	**2.46**	**340**	*e*Pg	**Pb**	**11 22 40.0**	**+2.3**
CABF				*e*Sn	**Sn**	**11 23 00.8**	**-2.1**
	comp=E,2.0nm,0.3s						
CABF				*e*Sg	**Sg**	**11 23 11.4**	**-1.7**
	comp=E,2.5nm,0.4s						
LASF	**Ste Croix**	**2.50**	**266**	*e*Pn	**Pn**	**11 22 34.3**	**+0.6**
LASF				*e*Sn	**Sn**	**11 23 02.5**	**-1.2**
	comp=E,14nm,0.4s						
TREG	**Tregnago**	**2.99**	**65**	S	**Sg**	**11 23 32.0**	**+2.1**
SMF	**Signal de Mont**	**3.38**	**315**	*e*P	**Pn**	**11 22 47.9**	**+2.1**
SMF				*e*Sn	**Sn**	**11 23 23.2**	**-2.3**
	comp=E,4.4nm,0.2s						
AGO	**Saint Agoulin**	**3.44**	**302**	Pn	**Pn**	**11 22 49.1**	**+2.6**
MCIV	**Monte Civitell**	**3.52**	**114**	⇓P	**Pb**	**11 22 53.5**	**-2.1**
HINF	**Hinteralfeld**	**3.53**	**355**	*e*P	**Pn**	**11 22 50.2**	**+2.4**
HINF				*e*Sn	**Sn**	**11 23 25.9**	**-3.2**
	comp=E,1.4nm,0.3s						
AVF	**Avril sur Loir**	**3.73**	**313**	*e*P	**Pn**	**11 22 52.9**	**+2.3**
AVF				*e*Sn	**Sn**	**11 23 31.4**	**-2.7**
	comp=E,1.7nm,0.2s						
MGAB	**Montegabbione**	**3.75**	**110**	S	**Sn**	**11 23 35.0**	**+0.5**
HAU	**Haudompre**	**3.76**	**350**	*e*Pn	**Pn**	**11 22 50.4**	**-0.6**
HAU	**Haudompre**	**3.76**	**350**	*e*P	**Pn**	**11 22 53.9**	**+2.9**
HAU				*e*Sn	**Sn**	**11 23 31.7**	**-3.1**
	comp=E,4.5nm,0.4s						
CAF	**Calviac**	**3.80**	**281**	*e*P	**Pn**	**11 22 53.8**	**+2.2**
CAF				*e*Sn	**Sn**	**11 23 33.3**	**-2.5**
	comp=E,3.9nm,0.4s						
MTLF	**Montolieu**	**3.81**	**257**	*e*Pn	**Pn**	**11 22 53.0**	**+1.3**
MTLF	**Montolieu**	**3.81**	**257**	*e*Pg	**Pg**	**11 23 05.4**	**-1.5**
MTLF				*e*Sn	**Sn**	**11 23 33.7**	**-2.4**
	comp=E,6.5nm,0.4s						
MTLF				*e*Sg	**Sg**	**11 23 54.8**	**-1.5**
	comp=E,1.9nm,0.3s						
LOR	**Lormes**	**3.83**	**322**	*e*P	**Pn**	**11 22 54.1**	**+2.2**
	baz=141						
LOR				*e*Sn	**Sn**	**11 23 33.6**	**-2.8**
	comp=E,3.2nm,0.3s,baz=140						
SSF	**Saint Saulge**	**3.84**	**317**	*e*P	**Pn**	**11 22 54.2**	**+2.2**
SSF	**Saint Saulge**	**3.84**	**317**	*e*Pg	**Pg**	**11 23 06.4**	**-1.0**
SSF				*e*Sn	**Sn**	**11 23 33.9**	**-2.8**
	comp=E,7.3nm,0.6s						
SSF				*e*Sg	**Sg**	**11 23 54.6**	**-2.5**
	comp=E,1.6nm,0.3s						
BGF	**Bois d'Agland**	**3.87**	**307**	*e*P	**Pn**	**11 22 54.7**	**+2.2**
BGF				*e*Sn	**Sn**	**11 23 34.7**	**-2.8**
	comp=E,4.1nm,0.2s						
BGF				*e*Sg	**Sg**	**11 23 55.7**	**-2.4**
	comp=E,9.8nm,0.6s						
CDF	**Champ du Feu**	**4.11**	**360**	*e*P	**Pn**	**11 22 57.9**	**+2.1**
CDF				*e*Sn	**Sn**	**11 23 39.9**	**-3.6**
	comp=E,1.6nm,0.3s						
TCF	**Toulx Ste Croi**	**4.11**	**301**	*e*P	**Pn**	**11 22 58.3**	**+2.5**
TCF				*e*Sn	**Sn**	**11 23 40.4**	**-3.1**
	comp=E,3.8nm,0.4s						
SFTF	**Sexfontaines**	**4.21**	**339**	*e*P	**Pn**	**11 22 59.9**	**+2.8**
	baz=157						
SFTF				*e*Sn	**Sn**	**11 23 42.6**	**-3.2**
	comp=E,5.5nm,0.4s						
RJF	**Les Rejaudoux**	**4.25**	**286**	*e*P	**Pn**	**11 23 00.5**	**+2.8**
RJF				*e*Sn	**Sn**	**11 23 44.2**	**-2.6**
	comp=E,2.7nm,0.4s						
PAGF	**Fort de Pagny**	**4.39**	**346**	*e*P	**Pn**	**11 23 02.6**	**+3.0**
PAGF				*e*Sn	**Sn**	**11 23 46.8**	**-3.5**
	comp=E,2.0nm,0.3s						
MEZF	**Maizieres J'vi**	**4.48**	**340**	*e*P	**Pn**	**11 23 04.0**	**+3.2**
	baz=160						
MEZF				*e*Sn	**Sn**	**11 23 48.8**	**-3.7**
	comp=E,3.4nm,0.3s						
SAVF	**Savonnieres en**	**4.57**	**341**	*e*P	**Pn**	**11 23 05.3**	**+3.2**
SAVF				*e*Sn	**Sn**	**11 23 50.9**	**-3.8**
	comp=E,2.7nm,0.4s						
PP3	**Marolino**	**4.64**	**99**	⇑P	**Pb**	**11 23 15.8**	**+1.0**
LFF	**La Frestale**	**4.74**	**280**	*e*P	**Pn**	**11 23 07.7**	**+3.3**
LFF				*e*Sn	**Sn**	**11 23 55.9**	**-2.9**
	comp=E,1.5nm,0.3s						
EPF	**Esparros**	**5.22**	**258**	*e*Pn	**Pn**	**11 23 10.9**	**-0.2**
EPF				*e*Sn	**Sn**	**11 24 07.4**	**-3.4**
EPF				*e*Sg	**Sg**	**11 24 38.7**	**-2.7**
	comp=E,0.9nm,0.2s						
MFF	**Saint Martin d**	**5.73**	**296**	*e*P	**Pn**	**11 23 21.1**	**+3.1**
MFF				*e*Sn	**Sn**	**11 24 19.3**	**-4.0**
	comp=E,0.7nm,0.3s						
GIVF	**Givet**	**6.04**	**345**	*e*P	**Pn**	**11 23 25.8**	**+3.5**
BAIF	**Baives**	**6.13**	**341**	*e*P	**Pn**	**11 23 26.9**	**+3.4**
BAIF				*e*Sn	**Sn**	**11 24 28.3**	**-4.9**
	comp=E,1.9nm,0.5s						
LDF	**La Druitiere**	**6.69**	**312**	*e*P	**Pn**	**11 23 33.3**	**+2.1**
LDF				*e*Sn	**Sn**	**11 24 42.2**	**-4.8**
	comp=E,1.1nm,0.4s						
GRR	**Gorron**	**6.98**	**309**	*e*P	**Pn**	**11 23 37.7**	**+2.6**
GRR				*e*Sn	**Sn**	**11 24 49.1**	**-4.8**
	comp=E,0.5nm,0.2s						
FLN	**La Foliniere**	**6.99**	**312**	*e*P	**Pn**	**11 23 38.3**	**+3.1**
FLN				*e*Sn	**Sn**	**11 24 49.1**	**-5.0**
	comp=E,2.0nm,0.4s						

IDC 08 12:10:50.5±1.3**, 15°.40S**×**173°.24W, h0**^{km}**, mb3.8**/4**, mb1 4.0**/5**, mb1mx3.7**/26**, mbtmp3.8**/5**, ML4.0**/1**, MS3.5**/2**, Ms1 3.5**/2**, ms1mx2.9**/31**, Error ellipse: s-maj=61.3km s-min=21.3km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.05**	**44**	Pn	Pn	12 11 27.2	+0.9
	53nm,0.3s,baz=201,slow=3.3,SNR=176						
AFI				Sn	Sn	12 11 47.5	-5.2
	194nm,0.3s,baz=41,slow=22,SNR=51						
AFI				LR	LR	12 12 06.8	
	comp=Z,134nm,18.3s,baz=168,slow=37						
URZ	**Urewera**	**24.31**	**199**	P	P	12 16 10.3	+0.4
	9.1nm,0.9s,baz=90,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**49.99**	**257**	P	P	12 19 47.5	+0.5
	0.4nm,0.9s,baz=87,slow=5.9,SNR=8.9						
ASAR	**Alice Springs**	**50.26**	**252**	P	P	12 19 48.4	-0.6
	0.6nm,0.5s,baz=90,slow=7.7,SNR=19						
NVAR	**Mina Array Bea**	**74.22**	**42**	P	P	12 22 29.2	-0.5
	0.6nm,0.8s,baz=218,slow=5.7,SNR=5.2						
MAW	**Mawson**	**87.84**	**199**	LR	LR	13 00 46.4	
	comp=Z,140nm,18.5s,baz=62,slow=34						

*IDC **08** 12:15:16.5±1.7, 23°.36S×179°.75E, h526^{km}±18^{km}, mb3.0/9, mb1 3.3/11, mb1mx3.2/22, mbtmp3.9/11, Error ellipse: s-maj=24.3km s-min=16.9km az=120.0*

ISC 08 12:15:18.0±0.7**, 23°.42S**±0°.07×**179°.8E**±0°.2**, h550**km**, n51, σ1^s.78**/62**, mb3.3**/9**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.88**	**344**	P	**P**	**12 16 53.4**	**-2.4**
	2.1nm,0.3s,baz=248,slow=23,SNR=11						
OUZ	**Omahuta**	**12.92**	**203**	P	**P**	**12 18 06.7**	**+0.9**
MXZ	**Matakaoa Point**	**14.15**	**185**	P	**P**	**12 18 19.8**	**+1.3**
HAZ	**Te Kaha**	**14.39**	**186**	P	**P**	**12 18 21.3**	**+0.4**
HAZ				S	**S**	**12 20 52.5**	**+0.8**
PKGZ	**Pakihiroa**	**14.49**	**185**	P	**P**	**12 18 24.4**	**+2.3**
RUGZ	**Raukumara Rang**	**14.61**	**187**	S	**S**	**12 20 56.5**	**+0.4**
PUZ	**Puketiti**	**14.66**	**185**	P	**P**	**12 18 25.1**	**+1.3**
PUZ				S	**S**	**12 20 56.3**	**-0.6**
TOZ	**Tahuroa Road**	**14.72**	**193**	P	**P**	**12 18 26.5**	**+2.1**
KMRZ	**Kaimai**	**14.74**	**192**	P	**P**	**12 18 25.2**	**+0.5**
TWGZ	**Tauwhareparae**	**14.79**	**185**	P	**P**	**12 18 25.6**	**+0.5**
URZ	**Urewera**	**14.96**	**188**	P	**P**	**12 18 26.3**	**-0.6**
	2.7nm,0.3s,baz=267,slow=2.4,SNR=17						
URZ	**Urewera**	**14.96**	**188**	P	**P**	**12 18 24.5**	**-2.3**
URZ				S	**S**	**12 20 58.3**	**-4.1**
MWZ	**Matawai**	**14.99**	**187**	P	**P**	**12 18 26.0**	**-1.2**
MWZ				S	**S**	**12 20 59.8**	**-3.2**
TKGZ	**Te Karaka**	**15.06**	**186**	P	**P**	**12 18 28.3**	**+0.5**
CNGZ	**Carnagh Statio**	**15.07**	**185**	P	**P**	**12 18 28.2**	**+0.2**
MUGZ	**Murupara**	**15.22**	**189**	P	**P**	**12 18 27.3**	**-2.2**
SNGZ	**Shannon Statio**	**15.45**	**187**	P	**P**	**12 18 31.7**	**-0.2**
MTHZ	**Maungataniwha**	**15.58**	**188**	P	**P**	**12 18 32.4**	**-0.9**
MTHZ				S	**S**	**12 21 11.3**	**-1.9**
RAHZ	**Arahi**	**15.61**	**188**	P	**P**	**12 18 32.6**	**-1.0**
RAHZ				S	**S**	**12 21 12.4**	**-1.3**
HATZ	**Hinemaiaia**	**15.73**	**191**	P	**P**	**12 18 32.6**	**-2.1**
NMHZ	**Naumai**	**15.83**	**188**	P	**P**	**12 18 34.6**	**-1.2**
BKZ	**Black Stump Fm**	**15.94**	**189**	P	**P**	**12 18 34.7**	**-2.1**
BKZ				S	**S**	**12 21 18.9**	**-0.4**
TWVZ	**Taurewa**	**16.03**	**192**	P	**P**	**12 18 37.8**	**0.0**
OTVZ	**Oturere**	**16.07**	**192**	P	**P**	**12 18 36.3**	**-2.0**
NGZ	**Ngauruhoe**	**16.10**	**192**	P	**P**	**12 18 37.7**	**-0.7**
TUVZ	**Tukino**	**16.18**	**191**	P	**P**	**12 18 38.2**	**-1.0**
MCHZ	**McNeill Hill**	**16.18**	**189**	P	**P**	**12 18 36.7**	**-2.3**
MCHZ				S	**S**	**12 21 24.7**	**+1.6**
KWHZ	**Kaweka Forest**	**16.20**	**189**	P	**P**	**12 18 37.5**	**-1.8**
VRZ	**Vera Road**	**16.22**	**194**	P	**P**	**12 18 42.1**	**+2.7**
WNVZ	**Wahianoa**	**16.25**	**192**	P	**P**	**12 18 37.5**	**-2.4**
MOVZ	**Moawhango**	**16.29**	**191**	P	**P**	**12 18 39.5**	**-0.7**
BHHZ	**Black Hill Sta**	**16.32**	**190**	P	**P**	**12 18 36.6**	**-3.9**
BHHZ				S	**S**	**12 21 25.0**	**-0.6**
KRHZ	**Kereru**	**16.43**	**189**	P	**P**	**12 18 39.0**	**-2.3**
KAHZ	**Kahuranaki**	**16.50**	**188**	P	**P**	**12 18 40.8**	**-1.3**
PNHZ	**Pukenui**	**16.71**	**190**	P	**P**	**12 18 42.5**	**-1.4**
PXZ	**Pawanui**	**16.74**	**188**	P	**P**	**12 18 43.5**	**-0.7**
PXZ				S	**S**	**12 21 31.9**	**-0.4**
TSZ	**Takapari Road**	**16.89**	**190**	P	**P**	**12 18 44.8**	**-0.8**
BFZ	**Birch Farm**	**17.46**	**189**	P	**P**	**12 18 45.5**	**-5.2**
RPZ	**Rata Peaks**	**21.47**	**197**	P	**P**	**12 19 27.4**	**+0.2**
	20nm,0.9s,baz=102,slow=2.0,SNR=5.9						
ASAR	**Alice Springs**	**41.89**	**260**	P	**P**	**12 22 21.4**	**+0.6**
	0.2nm,0.5s,baz=96,slow=6.8,SNR=5.5						
ASAR				ScP	**ScP**	**12 27 06.3**	**+4.5**
	0.3nm,0.8s,baz=113,slow=4.2,SNR=4.7						
WRA	**Warramunga Arr**	**42.22**	**266**	P	**P**	**12 22 22.6**	**-0.8**
	0.3nm,0.4s,baz=94,slow=8.4,SNR=8.7						
KSRS	**Korea Array**	**77.74**	**320**	P	**P**	**12 26 19.5**	**+1.1**
	0.5nm,0.4s,baz=133,slow=5.9,SNR=4.1						
PETK	**Petropavlovsk-**	**78.58**	**347**	P	**P**	**12 26 22.5**	**-0.1**
	1.7nm,0.6s,baz=105,slow=7.9,SNR=8.8						
NVAR	**Mina Array Bea**	**84.57**	**44**	P	**P**	**12 26 54.8**	**+0.9**
	0.2nm,0.5s,baz=224,slow=8.8,SNR=3.7						
TXAR	**Lajitas Array**	**90.37**	**58**	P	**P**	**12 27 22.2**	**+1.0**
	0.4nm,0.8s,baz=206,slow=5.4,SNR=5.9						
ILAR	**Eielson Array**	**91.62**	**14**	P	**P**	**12 27 25.2**	**-0.8**
	0.2nm,0.6s,baz=230,slow=7.0,SNR=1.5						
PDAR	**Pinedale Array**	**92.50**	**44**	P	**P**	**12 27 30.9**	**0.0**
	0.2nm,0.6s,baz=232,slow=3.0,SNR=2.7						
MKAR	**Makanchi Array**	**111.67**	**313**	PKiKP	**PKiKP**	**12 32 50.3**	**0.0**
	0.1nm,0.5s,baz=46,slow=4.2,SNR=1.4						
FINES	**FINESS Array B**	**137.92**	**341**	PKP	**PKPdf**	**12 33 40.4**	**+0.8**
	1.8nm,0.8s,baz=147,slow=3.9,SNR=4.0						
AKASG	**Malin Array Be**	**144.45**	**327**	PKP	**PKPdf**	**12 33 51.4**	**-0.3**
	1.2nm,0.3s,baz=44,slow=3.9,SNR=7.5						
GERES	**GERESS Array B**	**152.33**	**340**	PKPbc	**PKiKP**	**12 34 12.2**	**+0.2**
	0.7nm,0.8s,baz=352,slow=2.7,SNR=4.2						

*IDC **08** 12:38:41.5±1.1, 39°.70N×142°.94E, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.3/29, mbtmp3.3/6, ML2.9/2, MS4.1/1, Ms1 4.1/1, ms1mx2.6/21, Error ellipse: s-maj=61.6km s-min=21.2km az=111.0*

*JMA **08** 12:38:44.4±0.1, 39°.90N×142°.32E, h28km±1km, M3.2*

ISC 08 12:38:45.5±1.3**, 39°.90N**±0°.03×**142°.23E**±0°.08**, h28**km±9km**, n24, σ1^s.34**/27**, mb3.4**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.28**	**279**	P	**Pb**	**12 38 52.4**	**-0.1**
JTH				*e*S	**Sb**	**12 38 57.9**	**+0.6**
MIYJ	**Miyakonagasawa**	**0.45**	**225**	P	**Pb**	**12 38 54.4**	**-0.6**
MIYJ				S	**Sb**	**12 39 01.3**	**-0.1**
JKEN	**Kujiedanarisaw**	**0.50**	**308**	P	**Pb**	**12 38 55.1**	**-0.8**
JKEN				S	**Sb**	**12 39 02.7**	**-0.2**
JKZ	**Kuzumaki**	**0.69**	**278**	P	**Pb**	**12 38 58.9**	**-0.2**
JKZ				S	**Sb**	**12 39 08.9**	**+0.5**
JANG	**Nango**	**0.72**	**311**	P	**Pb**	**12 38 58.3**	**-1.3**
JANG				S	**Sb**	**12 39 08.2**	**-1.0**
JOM	**Ohasama**	**0.84**	**240**	P	**Pn**	**12 39 01.1**	**-0.3**
JOM				S	**Sb**	**12 39 13.1**	**+0.8**
OFUJ	**Ofunato**	**0.92**	**208**	P	**Pn**	**12 39 01.7**	**-0.9**
OFUJ				S	**Sn**	**12 39 14.3**	**-0.6**
JMK	**Ichinoseki**	**1.22**	**220**	P	**Pn**	**12 39 06.8**	**0.0**
JMK				S	**Sn**	**12 39 22.8**	**+0.4**
JAH	**Hinai**	**1.25**	**284**	P	**Pn**	**12 39 07.8**	**+0.6**
JTM	**Tenmabayashi**	**1.25**	**316**	P	**Pn**	**12 39 06.9**	**-0.3**
JTM				S	**Sn**	**12 39 22.8**	**-0.4**
JRG	**Rokugo**	**1.33**	**248**	P	**Pb**	**12 39 09.8**	**0.0**
ASAJ	**Asahikawa**	**4.23**	**4**	Pn	**Pn**	**12 39 48.8**	**+0.8**
	1.0nm,0.3s,baz=188,slow=20,SNR=12						
ASAJ				Sn	**Sn**	**12 40 40.4**	**+4.0**
	1.0nm,0.3s,baz=298,slow=29,SNR=5.6						
MJAR	**Matsushiro Arr**	**4.61**	**225**	Pn	**Pn**	**12 39 57.4**	**+4.1**
	0.1nm,0.3s,baz=34,slow=13,SNR=12						
H11N2	**WAKE ISLAND Hy**	**29.20**	**126**	T	T	13 15 16.8	
	baz=319,slow=76,SNR=101						
H11N1	**WAKE ISLAND Hy**	**29.20**	**126**	T	T	13 15 17.6	
	baz=319,slow=76,SNR=92						
H11N3	**WAKE ISLAND Hy**	**29.21**	**126**	T	T	13 15 18.2	
	baz=319,slow=76,SNR=73						
H11S1	**WAKE ISLAND Hy**	**30.00**	**128**	T	T	13 16 29.5	
	baz=320,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**30.00**	**128**	T	T	13 16 21.3	
	baz=320,slow=76,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**30.02**	**128**	T	T	13 16 30.2	
	baz=320,slow=76,SNR=6.6						
ILAR	**Eielson Array**	**46.75**	**34**	P	**P**	**12 47 11.2**	**-0.6**
	0.2nm,0.5s,baz=266,slow=5.9,SNR=2.3						
CTA	**Charters Tower**	**59.79**	**176**	LR	LR	13 13 37.5	
	comp=Z,190nm,21.8s,baz=310,slow=35						
WRA	**Warramunga Arr**	**59.98**	**189**	P	**P**	**12 48 48.5**	**-0.9**
	0.4nm,0.6s,baz=5.3,slow=6.8,SNR=8.5						
YKA	**Yellowknife Ar**	**61.02**	**31**	P	**P**	**12 48 55.8**	**-0.3**
	0.1nm,0.6s,baz=303,slow=5.8,SNR=2.9						
ASAR	**Alice Springs**	**63.71**	**189**	P	**P**	**12 49 14.0**	**-0.4**
	0.2nm,0.5s,baz=7.0,slow=8.4,SNR=2.4						

*IDC **08** 12:52:31.4±2.8, 8°.54N×123°.44E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/31, mbtmp3.3/3, Error ellipse: s-maj=294.3km s-min=28.5km az=63.0*

*MAN **08** 12:52:31.1, 9°.88N×126°.49E, h16km, mb4.7, ML3.6, MS3.5*

ISC 08 12:52:30.4±2.3**, 10°.09N**±0°.09×**126°.4E**±0°.1**, h25**km±13km**, n8, σ2^s.02**/13**, mb3.3**/3**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.42**	**225**	*e*P	**Pb**	**12 52 39.4**	**0.0**
GLSP				*e*S	**Sb**	**12 52 45.3**	**-0.1**
BUTP	**Butuan**	**1.37**	**216**	*e*P	**Pn**	**12 52 51.6**	**-2.4**
BUTP				*e*S	**Sn**	**12 53 10.4**	**-0.8**
MSLP	**Maasin**	**1.55**	**272**	*e*P	**Pn**	**12 52 58.0**	**+1.6**
MSLP				*e*S	**Sn**	**12 53 11.9**	**-3.7**
CGP	**Cagayan de Oro**	**2.36**	**227**	⇓*e*P	**Pn**	**12 53 08.8**	**+1.2**
CGP				*e*S	**Sn**	**12 53 37.0**	**+1.2**
BUKP	**Musuan**	**2.58**	**212**	*e*P	**Pn**	**12 53 11.5**	**+0.9**
BUKP				*e*S	**Sn**	**12 53 43.8**	**+2.6**
WRA	**Warramunga Arr**	**30.84**	**165**	P	**P**	**12 58 43.3**	**-1.4**
	0.3nm,0.9s,baz=338,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**34.33**	**168**	P	**P**	**12 59 14.8**	**-0.5**
	0.2nm,0.5s,baz=337,slow=7.0,SNR=1.6						
MKAR	**Makanchi Array**	**52.27**	**323**	P	**P**	**13 01 40.8**	**+1.1**
	0.3nm,0.6s,baz=123,slow=7.5,SNR=5.5						

*NEIC **08** 13:03:41.1±1.2, 5°.7S±0°.1×154°.3E±0°.1, h156km±10km, mb4.3/15, Error ellipse: s-maj=22.2km s-min=15.8km az=48.0*

*IDC **08** 13:03:41.4±9.4, 5°.72S×154°.40E, h154km±93km, mb3.5/7, mb1 3.7/8, mb1mx3.4/42, mbtmp4.0/8, Error ellipse: s-maj=28.5km s-min=22.5km az=124.0*

ISC 08 13:03:40.7±0.8**, 5°.7S**±0°.1×**154°.3E**±0°.1**, h150**km**, n26, σ0^s.70**/24**, mb4.1**/15**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.64**	**305**	Pn	**Pn**	**13 04 24.2**	**+0.6**
DZM	**Mont Dzumac**	**20.04**	**145**	P	**P**	**13 08 02.1**	**-0.1**
	1.0nm,0.3s,baz=283,slow=4.7,SNR=6.2						
DZM	**Mont Dzumac**	**20.04**	**145**	IAmb	IAmb	13 08 11.4	
	comp=Z,59nm,1.5s						
WR0	**Warramunga Arr**	**23.89**	**232**	P	**P**	**13 08 41.6**	**+0.8**
WR0				IAmb	IAmb	13 08 41.9	
	comp=Z,7.6nm,1.1s						
WB0	**Warramunga Arr**	**23.90**	**232**	P	**P**	**13 08 41.6**	**+0.7**
WRAB	**Tennant Creek**	**24.02**	**232**	P	**P**	**13 08 42.5**	**+0.5**
WRAB				IAmb	IAmb	13 08 53.4	
	comp=Z,10nm,1.5s						
WB2	**Warramunga Arr**	**24.03**	**232**	P	**P**	**13 08 42.7**	**+0.7**
WB2				IAmb	IAmb	13 08 44.1	
	comp=Z,4.7nm,1.1s						
WRA	**Warramunga Arr**	**24.04**	**232**	P	**P**	**13 08 42.9**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=69,slow=8.4,SNR=25						
AS31	**Alice Springs**	**26.55**	**226**	P	**P**	**13 09 04.2**	**-0.6**
ASAR	**Alice Springs**	**26.55**	**226**	P	**P**	**13 09 05.0**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=56,slow=9.1,SNR=26						
ASAR	**Alice Springs**	**26.55**	**226**	P	**P**	**13 09 04.4**	**-0.5**
STKA	**Stephens Creek**	**28.62**	**203**	P	**P**	**13 09 24.2**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=10,slow=11,SNR=1.6						
STKA	**Stephens Creek**	**28.62**	**203**	IAmb	IAmb	13 09 28.1	
	comp=Z,0.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.59**	**244**	P	**P**	**13 09 40.2**	**-0.5**
FITZ				IAmb	IAmb	13 09 52.4	
	comp=Z,6.2nm,1.2s						
FORT	**Forrest**	**35.08**	**222**	P	**P**	**13 10 18.4**	**-1.1**
FORT				IAmb	IAmb	13 10 38.1	
	comp=Z,15nm,1.1s						
BKZ	**Black Stump Fm**	**38.86**	**152**	P	**P**	**13 10 51.2**	**-0.2**
BKZ				IAmb	IAmb	13 11 10.3	
	comp=Z,17nm,1.3s						
TUWZ	**Tuamarina**	**39.63**	**157**	P	**P**	**13 10 57.5**	**-0.2**
LTZ	**Lake Taylor**	**40.18**	**159**	P	**P**	**13 11 02.6**	**+0.3**
JWT	**Wachi**	**44.51**	**338**	P	**P**	**13 11 36.7**	**-0.6**
KSM	**Kuching**	**44.54**	**278**	P	**P**	**13 11 38.4**	**+0.4**
KSM				IAmb	IAmb	13 11 53.6	
	comp=Z,8.9nm,1.0s						
XMIS	**Christmas Isla**	**48.39**	**261**	P	**P**	**13 12 06.7**	**-1.3**
KULM	**Kulim**	**54.70**	**281**	P	**P**	**13 12 54.4**	**-0.5**
KULM				IAmb	IAmb	13 13 09.5	
	comp=Z,24nm,1.5s						
PETK	**Petropavlovsk-**	**58.67**	**2**	P	**P**	**13 13 22.4**	**+0.2**
	comp=Z,4.8nm,1.1s,baz=154,slow=7.5,SNR=11						
CMAR	**Chiang Mai Arr**	**59.65**	**295**	P	**P**	**13 13 30.6**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=120,slow=5.4,SNR=7.0						
VNDA	**Vanda**	**71.86**	**178**	P	**P**	**13 14 47.0**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=349,slow=5.4,SNR=1.8						
MKAR	**Makanchi Array**	**82.02**	**319**	P	**P**	**13 15 43.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=100,slow=5.8,SNR=4.5						

*DJA **08** 13:11:56.6±0.3, 2°N±2°×12°7E±°, h53km±4km, M4.4/14, mB5.1/5, mb4.5/14, MLv4.3/12, Mw(mB)4.4/5*

*NEIC **08** 13:11:57.8±1.6, 2°.00N±0°.07×127°.01E±0°.07, h50km±8km, mb4.6/31, Error ellipse: s-maj=12.3km s-min=8.8km az=46.0*

*BJI **08** 13:11:58.8±0.0, 2°.30N×126°.94E, h41km, mB5.0/13, mb4.5/21, Ms4.1/2, Ms7 3.8/2*

*IDC **08** 13:11:58.2±2.8, 1°.93N×126°.95E, h49km±30km, mb3.9/10, mb1 4.0/13, mb1mx3.8/39, mbtmp4.1/13, ML3.9/3, MS3.7/6, Ms1 3.7/6, ms1mx3.1/38, Error ellipse: s-maj=26.7km s-min=13.7km az=74.0*

ISC 08 13:11:59.0±0.4**, 1°.98N**±0°.05×**127°.08E**±0°.06**, h63**km**, n89, σ1^s.15**/90**, mb4.5**/28**, 2D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.23**	**167**	Pn	**Pn**	**13 12 18.9**	**-1.3**
TNTI	**Ternate**	**1.23**	**167**	P	**Pn**	**13 12 19.2**	**-1.1**
TNTI				S	**Sn**	**13 12 36.4**	**+0.3**
SGSI	**Sangihe**	**2.30**	**317**	P	Pn	13 12 29.2	-5.4
SGSI				S	**Sn**	**13 12 59.7**	**-2.1**
KMSI	**Cibinong**	**3.40**	**246**	P	**Pn**	**13 12 48.7**	**-1.0**
KMSI				S	**Sn**	**13 13 29.5**	**+0.7**
SANI	**Sanana**	**4.15**	**195**	P	**Pn**	**13 12 57.5**	**-2.4**
SANI				S	**Sn**	**13 13 48.0**	**+0.8**
GTOI	**Gorontalo**	**4.29**	**252**	P	**Pn**	**13 13 01.9**	**+0.2**
GTOI				S	**Sn**	**13 13 52.6**	**+2.1**
SIJI	**Sorong**	**5.05**	**124**	P	**Pn**	**13 13 12.6**	**+0.4**
	1.4nm,0.3s,baz=189,slow=18,SNR=4.4						
SIJI				LR	LR	13 15 44.0	
	comp=Z,623nm,19.7s,baz=356,slow=44						
NLAI	**Namlea**	**5.19**	**180**	P	**Pn**	**13 13 12.6**	**-1.5**
	0.6nm36nm,0.5s						
NLAI				S	**Sn**	**13 14 11.1**	**-1.5**
	0.6nm36nm,0.5s						
LUWI	**Luwuk**	**5.25**	**235**	Pn	**Pn**	**13 13 13.4**	**-1.7**
LUWI	**Luwuk**	**5.25**	**235**	P	**Pn**	**13 13 15.6**	**+0.6**
	0.4nm92nm,0.6s						
MRSI	**Marisa**	**5.36**	**254**	P	**Pn**	**13 13 17.2**	**+0.8**
	0.2nm789nm60nm,0.7s						
KCP	**Kidapawan**	**5.37**	**338**	⇓*e*P	Pn	13 13 22.1	+5.4
APSI	**Ampana**	**6.15**	**242**	P	**Pn**	**13 13 26.9**	**-0.4**
	0.3nm662nm78nm,0.8s						
TOLI2	**Tolitoli**	**6.36**	**262**	Pn	**Pn**	**13 13 28.1**	**-2.1**
FAKI	**Fak Fak**	**7.10**	**133**	Pn	**Pn**	**13 13 39.0**	**-1.2**
TTSI	**Tana Toraja**	**8.81**	**236**	P	**Pn**	**13 14 03.3**	**-0.5**
	658nm20nm,1.1s						
MYLDM	**Lahad Datu**	**9.14**	**291**	Pn	**Pn**	**13 14 07.2**	**-0.9**
SPSI	**Sidrap Palu**	**9.40**	**231**	P	**Pn**	**13 14 11.0**	**-0.8**
	12nm,0.6s						
BNSI	**Bone**	**9.42**	**228**	P	**Pn**	**13 14 11.1**	**-1.0**
	18nm,0.8s						
KAPI	**Kappang**	**10.10**	**226**	P	**Pn**	**13 14 19.5**	**-1.8**
	1.7nm,0.3s,baz=4.5,slow=5.8,SNR=4.0						
KAPI	**Kappang**	**10.10**	**226**	Pn	**Pn**	**13 14 21.1**	**-0.3**
SBUM	**Sibu**	**14.86**	**272**	P	**P**	**13 15 29.2**	**-0.7**
JAGI	**Jajag, Banyuwa**	**16.55**	**231**	Pn	**Pn**	**13 15 45.0**	**-2.2**
JAGI				IAmb	IAmb	13 15 52.7	
	comp=Z,33nm,0.8s						
SZP	**Santa**	**16.79**	**338**	Pn	**Pn**	**13 15 47.4**	**-2.6**
FITZ	**Fitzroy Crossi**	**20.00**	**184**	P	**P**	**13 16 26.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=16,slow=10,SNR=14						
FITZ	**Fitzroy Crossi**	**20.00**	**184**	P	**P**	**13 16 26.0**	**-0.7**
YOJ	**Yonaguni jima**	**22.69**	**350**	P	**P**	**13 16 55.5**	**+0.1**
WB0	**Warramunga Arr**	**22.77**	**162**	P	**P**	**13 16 56.4**	**0.0**
WB0				IAmb	IAmb	13 16 58.5	
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**22.92**	**162**	P	**P**	**13 16 57.6**	**-0.2**
WRAB				IAmb	IAmb	13 17 00.0	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**22.92**	**162**	P	**P**	**13 16 57.7**	**-0.2**
	comp=Z,15nm,0.7s,baz=339,slow=11,SNR=110						
WB2	**Warramunga Arr**	**22.93**	**162**	P	**P**	**13 16 57.6**	**-0.4**
WB2				IAmb	IAmb	13 17 00.1	
	comp=Z,17nm,0.6s						
PMG	**Port Moresby**	**22.98**	**120**	LR	LR	13 27 59.9	
	comp=Z,135nm,18.3s,baz=298,slow=42						
WR0	**Warramunga Arr**	**23.00**	**162**	P	**P**	**13 16 58.5**	**-0.3**
WR0				IAmb	IAmb	13 17 00.8	
	comp=Z,11nm,0.8s						
QIZ	**Qiongzhong**	**23.92**	**316**	P	**P**	**13 17 06.3**	**-1.0**
QIZ				S	**S**	**13 21 20.8**	**+1.3**
QIZ				LR	LR		
	comp=Z,120nm,13.7s						
QIZ				LR	LR		
	comp=Z,100nm,10.6s						
QIZ				LR	LR		
	comp=Z,140nm,11.9s						
PSA00	**Pilbara Seismi**	**24.46**	**196**	P	**P**	**13 17 12.0**	**-0.1**
PSA00	**Pilbara Seismi**	**24.46**	**196**	P	**P**	**13 17 12.4**	**+0.2**
PSA00				IAmb	IAmb	13 17 27.3	
	comp=Z,17nm,1.2s						
AS31	**Alice Springs**	**26.34**	**166**	P	**P**	**13 17 29.0**	**-0.3**
ASAR	**Alice Springs**	**26.34**	**166**	P	**P**	**13 17 29.6**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=347,slow=7.0,SNR=30						
ASAR				PcP	**PcP**	**13 20 55.5**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=350,slow=2.6,SNR=5.8						
ASAR	**Alice Springs**	**26.34**	**166**	P	**P**	**13 17 28.9**	**-0.4**
GIRL	**Giralia**	**27.50**	**206**	P	**P**	**13 17 40.8**	**+1.1**
SRIT	**Nakonsritamara**	**28.13**	**285**	P	**P**	**13 17 45.2**	**-0.2**
PSI	**Prapat**	**28.15**	**272**	LR	LR	13 30 33.1	
	comp=Z,136nm,18.0s,baz=94,slow=40						
NJ2	**Nanjing**	**30.90**	**346**	*e*P	**P**	**13 18 09.5**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
CM36	**Chiang Mai Arr**	**31.98**	**303**	P	**P**	**13 18 21.0**	**+1.6**
CM35	**Chiang Mai Arr**	**32.01**	**303**	P	**P**	**13 18 21.0**	**+1.4**
CM04	**Chiang Mai Arr**	**32.02**	**302**	P	P	13 18 23.6	+3.8
CM09	**Chiang Mai Arr**	**32.03**	**303**	P	**P**	**13 18 23.0**	**+3.1**
CMAR	**Chiang Mai Arr**	**32.08**	**303**	P	**P**	**13 18 20.4**	**0.0**
	comp=Z,1.5nm,0.8s,baz=110,slow=6.4,SNR=11						
CMAR				LR	LR	13 32 29.2	
	comp=Z,40nm,18.7s,baz=176,slow=38						
CMAR	**Chiang Mai Arr**	**32.08**	**303**	P	**P**	**13 18 18.3**	**-2.0**
CM34	**Chiang Mai Arr**	**32.09**	**303**	P	**P**	**13 18 21.0**	**+0.6**
CMMT	**Chiang Mai**	**32.24**	**303**	P	**P**	**13 18 21.9**	**+0.2**
CM33	**Chiang Mai Arr**	**32.24**	**303**	P	**P**	**13 18 22.0**	**+0.3**
CHTO	**Chiang Mai**	**32.24**	**303**	P	**P**	**13 18 20.0**	**-1.7**
CHTO				IAmb	IAmb	13 18 24.6	
	comp=Z,7.9nm,1.3s						
FORT	**Forrest**	**32.59**	**178**	P	**P**	**13 18 24.5**	**-0.1**
FORT				IAmb	IAmb	13 18 50.9	
	comp=Z,16nm,0.9s						
MORW	**Morawa**	**32.64**	**198**	P	**P**	**13 18 25.2**	**+0.2**
MORW				IAmb	IAmb	13 18 32.0	
	comp=Z,9.4nm,1.1s						
ENH	**Enshi**	**32.71**	**331**	P	**P**	**13 18 25.8**	**0.0**
KMI	**Kunming**	**32.87**	**316**	⇓P	**P**	**13 18 30.0**	**+2.6**
KMI				pP	pP	13 18 39.5	-2.7
KMI				sP	pwP	13 18 45.3	+0.1
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,100nm,6.8s						
KSAR	**Wonju Array Be**	**35.30**	**1**	P	**P**	**13 18 48.2**	**+0.3**
KSRS	**Korea Array**	**35.31**	**1**	P	**P**	**13 18 49.0**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=182,slow=9.7,SNR=6.9						
BBOO	**Buckleboo**	**35.63**	**167**	P	**P**	**13 18 51.1**	**+0.2**
BBOO				IAmb	IAmb	13 19 03.6	
	comp=Z,16nm,1.3s						
NWAO	**Narrogin (SRO)**	**35.95**	**194**	P	**P**	**13 18 54.6**	**+1.0**
STKA	**Stephens Creek**	**36.38**	**159**	P	**P**	**13 18 57.0**	**-0.3**
	comp=Z,4.1nm,0.7s,baz=332,slow=5.9,SNR=7.0						
STKA	**Stephens Creek**	**36.38**	**159**	P	**P**	**13 18 58.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**41.16**	**342**	*e*P	**P**	**13 19 38.1**	**+0.8**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,6.5s						
SHL	**Shillong**	**41.20**	**308**	P	**P**	**13 19 36.4**	**-1.6**
SHL				IAmb	IAmb	13 19 41.5	
	comp=Z,6.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**42.26**	**5**	P	**P**	**13 19 46.8**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=187,slow=6.2,SNR=6.9						
USRK	**Ussuriysk Ar.**	**42.26**	**5**	P	**P**	**13 19 46.6**	**+0.5**
CAN	**Canberra**	**42.40**	**153**	P	**P**	**13 19 47.0**	**-0.5**
CAN				IAmb	IAmb	13 20 06.8	
	comp=Z,22nm,1.3s						
GTA	**Gaotai**	**44.77**	**330**	*e*P	P	13 20 11.4	+4.8
GTA				pP	pP	13 20 21.2	-0.7
GTA				sP	pwP	13 20 25.1	+0.1
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	**Ulaanbaatar**	**48.88**	**342**	P	**P**	**13 20 37.6**	**-1.0**
SONM	**Songino Array**	**49.06**	**342**	P	**P**	**13 20 41.0**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=147,slow=8.3,SNR=7.3						
SONM				LR	LR	13 42 52.9	
	comp=Z,150nm,19.8s,baz=161,slow=38						
SONM	**Songino Array**	**49.06**	**342**	P	**P**	**13 20 39.0**	**-0.9**
WMQ	**Urumqi**	**54.35**	**326**	*e*P	**P**	**13 21 21.4**	**+2.0**
PEA0B	**Petropavlovsk-**	**56.91**	**21**	P	**P**	**13 21 39.0**	**+1.5**
PETK	**Petropavlovsk-**	**56.91**	**21**	P	**P**	**13 21 39.4**	**+1.9**
	comp=Z,1.8nm,0.7s,baz=143,slow=3.2,SNR=7.3						
PETK	**Petropavlovsk-**	**56.91**	**21**	P	**P**	**13 21 39.1**	**+1.6**
MK31	**Makanchi Array**	**59.19**	**326**	P	**P**	**13 21 52.8**	**-0.8**
MKAR	**Makanchi Array**	**59.19**	**326**	P	**P**	**13 21 53.5**	**0.0**
	comp=Z,0.8nm,0.5s,baz=117,slow=7.8,SNR=17						
MKAR	**Makanchi Array**	**59.19**	**326**	P	**P**	**13 21 52.9**	**-0.7**
MAKZ	**Makanchi**	**59.37**	**326**	P	**P**	**13 21 54.9**	**+0.1**
MAKZ				IAmb	IAmb	13 22 11.8	
	comp=Z,3.4nm,1.2s						
YAK	**Yakutsk**	**59.93**	**1**	P	**P**	**13 21 58.7**	**+0.4**
BKZ	**Black Stump Fm**	**61.06**	**138**	P	**P**	**13 22 07.1**	**+0.6**
ZALV	**Zalesovo Beam**	**62.30**	**333**	P	**P**	**13 22 14.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=98,slow=11,SNR=3.9						
KKAR	**Karatay Array**	**64.75**	**317**	P	**P**	**13 22 30.1**	**-0.8**
BRVK	**Borovoye**	**69.04**	**327**	P	**P**	**13 22 58.5**	**+0.5**
BRVK				IAmb	IAmb	13 22 59.6	
	comp=Z,4.4nm,0.8s						
ABKAR	**Akbulak array**	**73.72**	**321**	P	**P**	**13 23 26.1**	**-0.1**
GEVA	**Gevas**	**84.08**	**308**	P	**P**	**13 24 24.8**	**+1.3**
GEVA				IAmb	IAmb	13 24 25.9	
	comp=Z,7.4nm,0.8s						
BRTR	**Keskin Array B**	**91.40**	**310**	LR	LR	14 11 44.3	
	comp=Z,65nm,18.6s,baz=338,slow=39						
PLCA	**Paso Flores**	**138.25**	**160**	PKP	**PKiKP**	**13 31 19.8**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=241,slow=3.1,SNR=3.3						

*IDC **08** 13:12:17.3±1.6, 61°.27N×146°.74W, h56km±16km, mb3.5/5, mb1 3.7/10, mb1mx3.3/60, mbtmp3.7/10, ML3.3/5, MS3.5/1, Ms1 3.5/1, ms1mx2.6/43, Error ellipse: s-maj=23.7km s-min=11.0km az=110.0*

*NEIC **08** 13:12:18.0±1.2, 61°.43N±0°.02×146°.71W±0°.03, h37km±8km, Error ellipse: s-maj=3.2km s-min=0.6km az=136.0*

*AEIC **08** 13:12:18±1.3, 61°.42N±0°.02×146°.71W±0°.04, h30km±5km, ML3.6, ML3.8/97(NEIC), Error ellipse: s-maj=3.3km s-min=2.7km az=158.0*

ISC 08 13:12:16.7±0.6**, 61°.41N**±0°.03×**146°.71W**±0°.03**, h31**km**, n153, σ1^s.17**/139**, mb3.8**/5**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VMT	**TAPS TI Valdez**	**0.36**	**153**		**Pn**	**13 12 26.4**	**+0.6**
VMT					**Sn**	**13 12 33.3**	**+1.4**
KLU	**Klutina**	**0.39**	**77**		**Pn**	**13 12 26.7**	**+0.4**
KLU					**Sn**	**13 12 33.6**	**+1.0**
KLU	**Klutina**	**0.39**	**77**	IAML		13 12 34.0	
	comp=E,10µm,0.2s						
KLU				IAML		13 12 34.1	
	comp=N,8µm,0.3s						
SCM	**Sheep Creek Mo**	**0.52**	**326**		**Pb**	**13 12 28.1**	**+0.6**
SCM					**Sn**	**13 12 36.2**	**+0.3**
SCM	**Sheep Creek Mo**	**0.52**	**326**	IAML		13 12 36.4	
	comp=N,6µm,0.6s						
SCM				IAML		13 12 36.4	
	comp=E,7µm,0.4s						
DIV	**Divide**	**0.53**	**121**		**Pb**	**13 12 28.3**	**+0.6**
DIV					**Sn**	**13 12 36.7**	**+0.6**
M24K	**Tolsona, Glenn**	**0.75**	**20**		**Pn**	**13 12 31.6**	**+0.4**
M24K					**Sn**	**13 12 42.8**	**+1.3**
PS12	**TAPS Pump St12**	**0.76**	**84**		**Pn**	**13 12 31.4**	**+0.1**
PS12					**Sb**	**13 12 42.1**	**+0.7**
KNK	**Knik Glacier**	**0.84**	**271**		**Pn**	**13 12 33.1**	**+0.7**
KNK					**Sb**	**13 12 44.7**	**+0.9**
SML	**Sawmill**	**0.87**	**298**		**Pn**	**13 12 32.9**	**0.0**
SML	**Sawmill**	**0.87**	**298**	IAML		13 12 47.9	
	comp=E,3µm,0.4s						
SML				IAML		13 12 48.0	
	comp=N,3µm,0.2s						
PS11	**TAPS Pump St11**	**0.90**	**41**		**Pb**	**13 12 34.1**	**+0.4**
PS11					**Sb**	**13 12 47.5**	**+2.2**
PWL	**Port Wells**	**0.96**	**236**		**Pn**	**13 12 34.9**	**+0.9**
EYAK	**Cordova Ski Ar**	**0.98**	**151**		**Pb**	**13 12 35.9**	**+0.8**
HIN	**Hinchinbrook I**	**1.02**	**174**		**Pb**	**13 12 36.2**	**+0.5**
HIN					**Sb**	**13 12 50.9**	**+2.0**
HIN	**Hinchinbrook I**	**1.02**	**174**	IAML		13 12 53.2	
	comp=E,2µm,0.5s						
HIN				IAML		13 12 54.0	
	comp=N,2µm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
N25K	**Chitina, Valde**	**1.03**	**78**		**Pn**	**13 12 35.5**	**+0.4**
N25K	**Chitina, Valde**	**1.03**	**78**	IAML		13 12 50.5	
	comp=N,2μm,0.2s						
N25K				IAML		13 12 52.8	
	comp=E,2μm,0.3s						
BMRM	**Bremner River**	**1.11**	**112**		**Pn**	**13 12 36.8**	**+0.7**
BMRM					**Sb**	**13 12 51.8**	**+0.4**
GHO	**Glory Hole Cre**	**1.12**	**290**		**Pn**	**13 12 36.9**	**+0.6**
GHO	**Glory Hole Cre**	**1.12**	**290**	IAML		13 12 55.0	
	comp=E,3μm,0.2s						
PMR	**Palmer**	**1.18**	**280**		**Pn**	**13 12 37.8**	**+0.9**
PMR	**Palmer**	**1.18**	**280**	IAML		13 12 53.8	
	comp=E,2μm,0.6s						
PMR				IAML		13 12 54.4	
	comp=N,2μm,0.6s						
GOAT	**Goat Mountain**	**1.27**	**130**		**Pn**	**13 12 39.8**	**+1.4**
WAT6	**Susitna Watana**	**1.27**	**338**		**Pn**	**13 12 38.5**	**0.0**
RAGM	**Ragged Mountai**	**1.43**	**135**		**Pn**	**13 12 41.9**	**+1.4**
RC01	**Rabbit Creek A**	**1.50**	**259**		**Pn**	**13 12 43.1**	**+1.7**
HMT	**Hamilton**	**1.61**	**131**		**Pn**	**13 12 44.1**	**+1.2**
WAT1	**Susitna Watana**	**1.67**	**330**		**Pn**	**13 12 44.8**	**+1.0**
PAX	**Paxson**	**1.67**	**20**		**Pn**	**13 12 44.7**	**+0.8**
O22K	**Cooper Landing**	**1.74**	**239**		**Pn**	**13 12 46.8**	**+2.1**
MCARA	**McCarthy VSAT**	**1.77**	**89**		**Pn**	**13 12 46.5**	**+1.3**
NICHA	**Nichawak Mount**	**1.79**	**130**		**Pn**	**13 12 46.9**	**+1.6**
BERG	**Berg Lake**	**1.79**	**123**		**Pn**	**13 12 46.2**	**+0.8**
WAT2	**Susitna Watana**	**1.79**	**331**		**Pn**	**13 12 46.8**	**+1.2**
CRQM	**Cirque**	**1.85**	**109**		**Pn**	**13 12 47.5**	**+1.1**
CRQM	**Cirque**	**1.85**	**109**	IAML		13 13 19.1	
	comp=E,855nm,0.5s						
KAIM	**Kayak Island**	**1.86**	**142**		**Pn**	**13 12 47.2**	**+0.8**
KAIM	**Kayak Island**	**1.86**	**142**	IAML		13 13 21.1	
	comp=E,627nm,0.5s						
SEW	**Seward**	**1.88**	**227**		**Pn**	**13 12 48.3**	**+1.8**
SLKM	**Skilak Lake**	**1.94**	**244**		**Pn**	**13 12 49.2**	**+1.8**
SUA	**Susitna One**	**1.94**	**273**		**Pn**	**13 12 49.0**	**+1.4**
SUA	**Susitna One**	**1.94**	**273**	IAML		13 13 16.5	
	comp=E,941nm,1.0s						
KHIT	**Khitrov Hills**	**1.95**	**118**		**Pn**	**13 12 48.7**	**+1.1**
CUT	**Chulitna**	**1.96**	**302**		**Pn**	**13 12 49.5**	**+1.8**
SUCK	**Suckling Hills**	**1.97**	**132**		**Pn**	**13 12 49.0**	**+1.2**
SUCK	**Suckling Hills**	**1.97**	**132**	IAML		13 13 23.0	
	comp=N,760nm,0.5s						
Q23K	**Middleton Isla**	**1.99**	**175**	Pn	**Pn**	**13 12 49.7**	**+1.6**
Q23K				IAML		13 13 22.9	
	comp=N,495nm,0.8s						
Q23K				IAML		13 13 24.8	
	comp=E,497nm,0.5s						
MID	**Middleton Isla**	**2.00**	**175**		**Pn**	**13 12 49.9**	**+1.7**
MID	**Middleton Isla**	**2.00**	**175**	IAML		13 13 24.1	
	comp=N,531nm,1.0s						
MID				IAML		13 13 24.3	
	comp=E,503nm,0.8s						
TGL	**Tana Glacier**	**2.00**	**107**		**Pn**	**13 12 49.2**	**+0.9**
GRIN	**Grindle Hills**	**2.01**	**123**		**Pn**	**13 12 49.6**	**+1.2**
PTPK	**Patty Peak**	**2.06**	**94**		**Pn**	**13 12 50.7**	**+1.4**
MENT	**Mentasta**	**2.08**	**41**	Pn	**Pn**	**13 12 50.2**	**+0.8**
MENT				IAML		13 13 28.6	
	comp=E,543nm,0.5s						
HUR	**Hurricane**	**2.09**	**320**		**Pn**	**13 12 50.9**	**+1.4**
RND	**Reindeer**	**2.24**	**335**		**Pn**	**13 12 53.0**	**+1.4**
KULT	**Kultieth River**	**2.27**	**119**		**Pn**	**13 12 53.1**	**+1.0**
SKT	**Skwentna**	**2.37**	**286**		**Pn**	**13 12 54.9**	**+1.5**
SKT	**Skwentna**	**2.37**	**286**	IAML		13 13 27.7	
	comp=N,673nm,0.4s						
SKT				IAML		13 13 27.7	
	comp=E,726nm,0.7s						
STLK	**Strandline Lak**	**2.46**	**274**		**Pn**	**13 12 55.9**	**+1.2**
GRNC	**Granite Creek**	**2.50**	**104**		**Pn**	**13 12 56.5**	**+1.1**
MCK	**McKinley**	**2.55**	**337**		**Pn**	**13 12 57.8**	**+1.9**
DOT	**Dot Lake**	**2.56**	**27**		**Pn**	**13 12 57.7**	**+1.7**
BRSE	**Bradley Lake S**	**2.60**	**232**		**Pn**	**13 12 57.9**	**+1.3**
SPCP	**Crater Peak Br**	**2.63**	**269**		**Pn**	**13 12 58.6**	**+1.6**
BRLK	**Bradley Lake**	**2.64**	**233**		**Pn**	**13 12 58.6**	**+1.5**
TRF	**Thorofare Moun**	**2.64**	**323**		**Pn**	**13 12 58.6**	**+1.4**
TRF	**Thorofare Moun**	**2.64**	**323**	IAML		13 13 32.4	
	comp=E,399nm,0.4s						
TRF				IAML		13 13 33.4	
	comp=N,488nm,0.7s						
CTGM	**Chitina Glacie**	**2.64**	**97**		**Pn**	**13 12 58.5**	**+1.2**
CTGM	**Chitina Glacie**	**2.64**	**97**	IAML		13 13 39.7	
	comp=N,353nm,0.5s						
YAH	**Yahtse**	**2.64**	**111**		**Pn**	**13 12 58.3**	**+0.9**
YAH	**Yahtse**	**2.64**	**111**	IAML		13 13 42.0	
	comp=N,330nm,0.5s						
SPCR	**Spurr Chakacha**	**2.66**	**268**		**Pn**	**13 12 58.4**	**+1.0**
LOGN	**Logan Glacier**	**2.83**	**99**		**Pn**	**13 13 01.0**	**+1.1**
YUK2	**White River**	**2.83**	**80**		**Pn**	**13 13 01.1**	**+1.4**
BC03		**2.84**	**52**		**Pn**	**13 13 01.4**	**+1.6**
BCAR	**Beaver Creek A**	**2.84**	**52**		**Pn**	**13 13 00.8**	**+0.9**
SCRK	**Sand Creek**	**2.87**	**25**		**Pn**	**13 13 01.4**	**+1.1**
TABL	**Table Mountain**	**2.89**	**107**		**Pn**	**13 13 01.6**	**+0.9**
KTH	**Kantishna Hill**	**2.91**	**320**		**Pn**	**13 13 02.3**	**+1.5**
KTH	**Kantishna Hill**	**2.91**	**320**	IAML		13 13 39.8	
	comp=E,325nm,0.6s						
KTH				IAML		13 13 55.2	
	comp=N,431nm,0.9s						
CNPM	**China Poot**	**2.93**	**232**		**Pn**	**13 13 02.4**	**+1.3**
BVCY	**Beaver Creek**	**2.95**	**67**		**Pn**	**13 13 03.3**	**+2.0**
PPLA	**Purkeypile**	**2.97**	**303**		**Pn**	**13 13 02.7**	**+0.9**
YUK3	**Moose Creek**	**3.01**	**80**		**Pn**	**13 13 03.7**	**+1.4**
HDA	**Harding Lake**	**3.02**	**358**		**Pn**	**13 13 03.2**	**+1.0**
DFR	**Drift River**	**3.02**	**257**		**Pn**	**13 13 03.3**	**+0.8**
CHX	**Chaix Hills**	**3.06**	**114**		**Pn**	**13 13 04.5**	**+1.5**
RSO	**Redoubt South**	**3.10**	**255**		**Pn**	**13 13 04.4**	**+0.8**
RED	**Redoubt Volcan**	**3.12**	**254**		**Pn**	**13 13 04.6**	**+0.8**
WRH	**Wood River Hil**	**3.14**	**349**		**Pn**	**13 13 04.6**	**+0.7**
WRH				IAML		13 13 56.4	
	comp=E,273nm,0.9s						
NCT	**North Crescent**	**3.15**	**257**		**Pn**	**13 13 04.9**	**+0.7**
PS08	**TAPS Pump Stn8**	**3.15**	**359**		**Pn**	**13 13 04.6**	**+0.5**
SAMH	**Samovar Hills**	**3.18**	**111**		**Pn**	**13 13 06.4**	**+1.8**
CCB	**Clear Creek Bu**	**3.29**	**352**		**Pn**	**13 13 06.5**	**+0.5**
CCB	**Clear Creek Bu**	**3.29**	**352**	IAML		13 13 51.7	
	comp=E,202nm,0.6s						
BPAW	**Bear Paw Mtn.**	**3.34**	**326**		**Pn**	**13 13 07.6**	**+0.9**
BPAW	**Bear Paw Mtn.**	**3.34**	**326**	IAML		13 14 02.7	
	comp=E,198nm,0.9s						
BPAW				IAML		13 14 03.1	
	comp=N,306nm,0.7s						
NEA2	**Nenana**	**3.37**	**342**		**Pn**	**13 13 08.0**	**+0.8**
IL31		**3.38**	**359**		**Pn**	**13 13 07.3**	**+0.1**
ILAR	**Eielson Array**	**3.38**	**359**	P	**Pn**	**13 13 07.4**	**+0.2**
	comp=N,7.1nm,0.3s,baz=178,slow=13,SNR=199						
ILAR				S	**Sn**	**13 13 50.8**	**+4.6**
	comp=N,27nm,0.3s,baz=180,slow=22,SNR=14						
ILAR	**Eielson Array**	**3.38**	**359**		**Pn**	**13 13 06.9**	**-0.3**
K27K	**Chicken**	**3.39**	**37**		**Pn**	**13 13 08.5**	**+1.2**
IVE	**Iliamna Volcan**	**3.40**	**249**		**Pn**	**13 13 08.3**	**+0.7**
PCA	**Pinnacle**	**3.43**	**110**		**Pn**	**13 13 09.3**	**+1.3**
COLA	**College**	**3.52**	**352**		**Pn**	**13 13 09.5**	**+0.4**
TCOL	**CIGO, UAF Yank**	**3.52**	**352**		**Pn**	**13 13 09.3**	**+0.2**
CHUM	**Lake Minchumin**	**3.59**	**316**		**Pn**	**13 13 11.0**	**+1.0**
MDM	**Murphy Dome**	**3.63**	**350**		**Pn**	**13 13 11.5**	**+0.8**
MDM	**Murphy Dome**	**3.63**	**350**	IAML		13 14 00.4	
	comp=N,127nm,0.7s						
MDM				IAML		13 14 13.8	
	comp=E,158nm,0.7s						
POKR	**Poker Plat Res**	**3.74**	**355**		**Pn**	**13 13 12.5**	**+0.3**
POKR	**Poker Plat Res**	**3.74**	**355**	IAML		13 14 01.5	
	comp=E,158nm,0.9s						
POKR				IAML		13 14 03.5	
	comp=N,136nm,0.7s						
BCPM	**Bancas Point**	**3.77**	**110**		**Pn**	**13 13 13.2**	**+0.5**
BCPM	**Bancas Point**	**3.77**	**110**	IAML		13 14 12.8	
	comp=N,149nm,0.4s						
BCPM				IAML		13 14 19.2	
	comp=E,179nm,0.9s						
I23K	**Minto, Yukon-K**	**3.94**	**343**		**Pn**	**13 13 15.6**	**+0.7**
I23K	**Minto, Yukon-K**	**3.94**	**343**	IAML		13 14 19.2	
	comp=N,137nm,0.8s						
I23K				IAML		13 14 19.5	
	comp=E,119nm,1.4s						
PNL	**Peninsula**	**4.01**	**113**		**Pn**	**13 13 16.3**	**+0.4**
PRP	**Porcupine Dome**	**4.16**	**7**	Pn	**Pn**	**13 13 18.2**	**+0.1**
PRP				IAML		13 14 13.9	
	comp=N,138nm,0.5s						
PRP				IAML		13 14 14.5	
	comp=E,87nm,0.5s						
EGAK	**Eagle**	**4.22**	**34**		**Pn**	**13 13 19.8**	**+1.0**
DAWY	**Dawson**	**4.29**	**48**		**Pn**	**13 13 21.1**	**+1.2**
SVW2	**Sparrevohn**	**4.30**	**270**		**Pn**	**13 13 19.8**	**-0.1**
TT01	**Tatalina**	**4.62**	**293**		**Pn**	**13 13 24.4**	**+0.2**
TTA	**Tatalina**	**4.62**	**293**		**Pn**	**13 13 24.3**	**0.0**
TTA	**Tatalina**	**4.62**	**293**	IAML		13 14 46.1	
	comp=N,76nm,0.9s						
TTA				IAML		13 14 53.5	
	comp=E,60nm,0.7s						
KDAK	**Kodiak Island**	**4.70**	**222**	P	**Pn**	**13 13 25.4**	**0.0**
	comp=E,0.9nm,0.3s,baz=72,slow=16,SNR=18						
KDAK				S	**Sn**	**13 14 16.3**	**-2.5**
	comp=E,2.2nm,0.3s,baz=162,slow=23,SNR=1.7						
FYU	**Fort Yukon**	**5.22**	**7**	Pn	**Pn**	**13 13 33.1**	**+0.6**
FYU				IAML		13 15 05.0	
	comp=N,65nm,1.8s						
OHAK	**Old Harbor**	**5.38**	**222**		**Pn**	**13 13 34.8**	**+0.2**
OHAK	**Old Harbor**	**5.38**	**222**	IAML		13 14 27.6	
	comp=E,39nm,3.1s						
OHAK				IAML		13 16 26.2	
	comp=N,39nm,3.1s						
PLBC	**Pleasant Camp**	**5.48**	**106**		**Pn**	**13 13 36.5**	**+0.3**
IM03		**5.56**	**329**		**Pn**	**13 13 37.9**	**+0.9**
IMAR	**Indian Mountai**	**5.56**	**329**		**Pn**	**13 13 37.2**	**+0.1**
WHY	**Whitehorse**	**5.80**	**92**		**Pn**	**13 13 40.6**	**+0.1**
SKAG	**Skagway**	**5.96**	**104**	Pn	**Pn**	**13 13 44.4**	**+1.7**
COLD	**Coldfoot**	**6.04**	**347**		**Pn**	**13 13 45.2**	**+1.5**
BM03	**Burnt Mountain**	**6.11**	**8**		**Pn**	**13 13 44.9**	**+0.3**
BMAR	**Burnt Mountain**	**6.12**	**8**		**Pn**	**13 13 45.1**	**+0.3**
BESE	**Bessie Mountai**	**6.59**	**110**		**Pn**	**13 13 51.7**	**+0.3**
JIS	**Juneau Island**	**6.96**	**111**		**Pn**	**13 13 56.8**	**+0.5**
SIT	**Sitka**	**7.29**	**122**		**Pn**	**13 14 01.5**	**+0.7**
TOLK	**Toolik Lake Re**	**7.36**	**352**		**Pn**	**13 14 01.8**	**-0.1**
CHGN	**Chignik**	**7.93**	**235**		**Pn**	**13 14 10.3**	**+0.7**
DLBC	**Dease Lake**	**8.89**	**102**	P	**Pn**	**13 14 23.4**	**+0.6**
	comp=N,0.8nm,0.3s,baz=331,slow=13,SNR=21						
INK	**Inuvik**	**8.89**	**33**	P	**Pn**	**13 14 24.5**	**+1.7**
	comp=N,0.1nm,0.3s,baz=238,slow=19,SNR=11						
CRAG	**Craig**	**9.27**	**124**	Pn	**Pn**	**13 14 29.3**	**+1.3**
DIB	**Dawson Inlet,**	**11.24**	**131**	Pn	**Pn**	**13 14 56.3**	**+1.4**
C36M	**Paulatuk**	**12.27**	**40**		**Pn**	**13 15 07.8**	**-1.1**
YKA	**Yellowknife Ar**	**15.06**	**72**	P	**Pn**	**13 15 46.5**	**-0.4**
	comp=N,0.0nm,0.3s,baz=276,slow=13,SNR=4.5						
RES	**Resolute Bay**	**22.45**	**33**	P	**P**	**13 17 11.7**	**-0.8**
	comp=N,0.4nm,0.3s,baz=244,slow=13,SNR=5.9						
PDAR	**Pinedale Array**	**28.90**	**113**	LR	LR	13 31 31.8	
	comp=N,93nm,18.8s,baz=33,slow=40						
FINES	**FINESS Array B**	**57.35**	**4**	P	**P**	**13 21 59.8**	**-1.3**
	comp=N,2.9nm,0.8s,baz=1.2,slow=7.1,SNR=13						
AKASG	**Malin Array Be**	**68.19**	**3**	P	**P**	**13 23 11.9**	**-1.5**
	comp=N,0.9nm,0.5s,baz=0.1,slow=6.3,SNR=5.7						
GERES	**GERESS Array B**	**68.98**	**14**	P	**P**	**13 23 17.4**	**-1.1**
	comp=N,0.3nm,0.8s,baz=15,slow=5.5,SNR=3.5						
ESDC	**Sonseca Array**	**74.81**	**29**	P	**P**	**13 23 52.7**	**-0.9**
	comp=N,0.6nm,0.6s,baz=337,slow=6.1,SNR=6.0						

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*IDC **08** 13:29:17.7±0.8, 30°.86N×141°.39E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.8/39, mbtmp3.7/12, ML3.3/2, MS3.2/3, Ms1 3.3/3, ms1mx2.8/45, Error ellipse: s-maj=27.2km s-min=18.1km az=76.0*

*NEIC **08** 13:29:19.4±1.6, 30°.9N±0°.1×141°.4E±0°.2, h11km±6km, mb4.3/6, Error ellipse: s-maj=19.6km s-min=16.0km az=67.0*

*JMA **08** 13:29:19.7±0.5, 31°.59N×142°.48E, h0km, M3.9*

ISC 08 13:29:19.1±0.8**, 30°.94N**±0°.09**×141°.6E**±0°.1**, h10**km**, n41, σ1s.16**/40**, mb3.9**/14**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.62**	**326**	Pn	**Pn**	**13 30 00.7**	**-0.8**
JOD2	**Odawara 2**	**4.79**	**335**	P	**Pn**	**13 30 33.4**	**+2.2**
JOD2				*e*S	**Sn**	**13 31 28.3**	**+1.5**
JHU	**Hanno**	**5.26**	**339**	P	**Pn**	**13 30 38.9**	**+1.2**
JHU				*e*S	**Sn**	**13 31 37.6**	**-0.8**
JYT	**Yasato**	**5.40**	**348**	Pn	**Pn**	**13 30 40.4**	**+0.8**
JRY	**Ryogami san**	**5.53**	**337**	P	**Pn**	**13 30 42.5**	**+1.0**
JRY				*e*S	**Sn**	**13 31 44.9**	**-0.2**
JHO	**Hitachi**	**5.72**	**352**	P	**Pn**	**13 30 41.8**	**-2.2**
JAG	**Ashikaga**	**5.75**	**343**	P	**Pn**	**13 30 43.8**	**-0.6**
JGF	**Kuroka**	**5.83**	**324**	Pn	**Pn**	**13 30 45.2**	**-0.4**
MJAR	**Matsushiro Arr**	**6.25**	**334**	Pn	**Pn**	**13 30 51.4**	**0.0**
	0.2nm,0.3s,baz=159,slow=11,SNR=34						
MAJO	**Matsushiro**	**6.25**	**334**		**Pn**	**13 30 52.4**	**+1.0**
JMM	**Marumori**	**6.94**	**355**	Pn	**Pn**	**13 30 58.7**	**-2.1**
JSD	**Sado**	**7.59**	**340**	Pn	**Pn**	**13 31 09.1**	**-0.6**
JNU	**Nakatsue**	**9.33**	**286**	LR	LR	13 35 12.0	
	comp=Z,65nm,18.2s,baz=92,slow=38						
ERM	**Erimo**	**11.13**	**6**	Pn	**Pn**	**13 31 55.1**	**-3.1**
JCH	**Churui**	**11.74**	**7**	P	Pn	13 32 01.5	-5.1
KSRS	**Korea Array**	**13.02**	**304**	LR	LR	13 37 26.0	
	comp=Z,84nm,18.5s,baz=120,slow=38						
ASAJ	**Asahikawa**	**13.18**	**3**	Pn	**Pn**	**13 32 25.1**	**-1.2**
	0.3nm,0.3s,baz=224,slow=24,SNR=8.6						
JKA	**Kamikawa-asahi**	**13.18**	**3**		**Pn**	**13 32 25.1**	**-1.1**
SONM	**Songino Array**	**31.65**	**312**	P	**P**	**13 35 42.0**	**-0.5**
	0.6nm,0.7s,baz=125,slow=7.8,SNR=5.5						
SONM	**Songino Array**	**31.65**	**312**	IAmb	IAmb	13 35 44.4	
	comp=Z,1.4nm,1.1s						
ZALV	**Zalesovo Beam**	**46.28**	**317**	P	**P**	**13 37 45.1**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=72,slow=4.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**46.28**	**317**	P	**P**	**13 37 44.3**	**-0.3**
MK31	**Makanchi Array**	**47.67**	**307**	P	**P**	**13 37 55.7**	**0.0**
MK31				IAmb	IAmb	13 38 11.4	
	comp=Z,1.6nm,1.3s						
MKAR	**Makanchi Array**	**47.67**	**307**	P	**P**	**13 37 56.1**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=90,slow=9.7,SNR=8.2						
MKAR	**Makanchi Array**	**47.67**	**307**	P	**P**	**13 37 55.7**	**0.0**
KURK	**Kurchatov**	**49.95**	**312**	P	**P**	**13 38 12.4**	**-0.6**
KURBB	**Kurchatov Arra**	**50.02**	**312**	P	**P**	**13 38 12.4**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=88,slow=7.3,SNR=13						
WB0	**Warramunga Arr**	**50.88**	**189**	P	**P**	**13 38 19.6**	**-0.7**
WB0				IAmb	IAmb	13 38 37.3	
	comp=Z,4.6nm,1.1s						
WRAB	**Tennant Creek**	**51.05**	**189**	P	**P**	**13 38 20.7**	**-0.9**
WR0	**Warramunga Arr**	**51.05**	**189**	P	**P**	**13 38 20.8**	**-0.8**
WR0				IAmb	IAmb	13 38 23.2	
	comp=Z,7.4nm,1.4s						
WB2	**Warramunga Arr**	**51.06**	**189**	P	**P**	**13 38 20.8**	**-0.9**
WB2				IAmb	IAmb	13 38 39.9	
	comp=Z,6.1nm,1.4s						
WRA	**Warramunga Arr**	**51.06**	**189**	P	**P**	**13 38 20.8**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=5.9,slow=7.1,SNR=35						
ASAR	**Alice Springs**	**54.79**	**189**	P	**P**	**13 38 48.5**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=354,slow=5.2,SNR=15						
ASAR	**Alice Springs**	**54.79**	**189**	P	**P**	**13 38 48.4**	**-0.9**
KKAR	**Karatay Array**	**56.45**	**304**	P	**P**	**13 39 00.4**	**-0.7**
ABKAR	**Akbulak array**	**62.06**	**313**	P	**P**	**13 39 39.2**	**-0.5**
RES	**Resolute Bay**	**68.47**	**14**	P	**P**	**13 40 21.8**	**+0.9**
YKA	**Yellowknife Ar**	**69.04**	**29**	P	**P**	**13 40 25.4**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=290,slow=4.5,SNR=5.3						
NVAR	**Mina Array Bea**	**78.58**	**52**	P	**P**	**13 41 22.9**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=291,slow=4.9,SNR=5.7						
NVAR				LR	LR	14 11 00.7	
	comp=Z,39nm,20.5s,baz=316,slow=32						
AKASG	**Malin Array Be**	**79.21**	**323**	P	**P**	**13 41 23.4**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=47,slow=5.8,SNR=2.2						
TXAR	**Lajitas Array**	**93.73**	**53**	P	**P**	**13 42 38.4**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=264,slow=1.3,SNR=5.2						

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*IDC **08** 15:07:15.4±0.8, 38°.61N×141°.77E, h61km±8km, mb3.4/10, mb1 3.7/15, mb1mx3.5/32, mbtmp3.7/15, MS2.6/1, Ms1 2.6/1, ms1mx2.1/35, Error ellipse: s-maj=17.9km s-min=13.4km az=99.0*

*NIED **08** 15:07:16.0, 38°.65N×141°.65E, h66km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.58; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-0.53; $M_{r\theta}$-0.92; $M_{\theta\phi}$-0.36; $M_{\phi r}$-0.54; Fault plane solution: $M_0$1.25000×10^{15} NP1: ϕ_s234.00000°, δ76.00000°, λ106.00000°. NP2: ϕ_s4.00000°, δ22.00000°, λ42.00000°.*

*JMA **08** 15:07:16.0, 38°.65N×141°.65E, h66km±1km, M3.8*

JMA Felt I J1.

ISC 08 15:07:15.8±0.7**, 38°.64N**±0°.04**×141°.73E**±0°.06**, h63**km±5km**, n37, σ0s.74**/46**, mb3.7**/10**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.26**	**310**	P	**Pn**	**15 07 26.3**	**+0.3**
JKMT				S	**Sn**	**15 07 33.5**	**+0.2**
JIO	**Ouri**	**0.35**	**238**	P	**Pn**	**15 07 26.8**	**+0.2**
JIO				S	**Sn**	**15 07 34.5**	**0.0**
JIKH	**Ishinomakikobu**	**0.39**	**212**	P	**Pn**	**15 07 27.4**	**+0.4**
JIKH				S	**Sn**	**15 07 35.4**	**+0.3**
OFUJ	**Ofunato**	**0.44**	**354**	P	**Pn**	**15 07 27.8**	**+0.4**
OFUJ				S	**Sn**	**15 07 36.2**	**+0.3**
JMK	**Ichinoseki**	**0.50**	**308**	P	**Pn**	**15 07 28.1**	**+0.1**
JMK				S	**Sn**	**15 07 36.7**	**-0.3**
JOU	**Okura**	**0.88**	**252**	P	**Pn**	**15 07 32.3**	**-0.2**
JOU				S	**Sn**	**15 07 44.4**	**-0.3**
JOM	**Ohasama**	**0.90**	**338**	P	**Pn**	**15 07 32.8**	**+0.2**
JOM				S	**Sn**	**15 07 45.0**	**-0.1**
JMM	**Marumori**	**1.07**	**224**	P	**Pn**	**15 07 34.4**	**-0.5**
JMM				S	**Sn**	**15 07 48.2**	**-0.8**
JYK	**Kaneyama**	**1.10**	**285**	P	**Pn**	**15 07 35.0**	**-0.3**
JYK				S	**Sn**	**15 07 49.1**	**-0.7**
JRG	**Rokugo**	**1.14**	**312**	P	**Pn**	**15 07 35.5**	**-0.2**
JRG				S	**Sn**	**15 07 50.7**	**+0.1**
JYS	**Shirataka**	**1.37**	**253**	P	**Pn**	**15 07 38.8**	**0.0**
JYS				S	**Sn**	**15 07 56.4**	**+0.3**
JFK	**Kawauchi**	**1.44**	**208**	P	**Pn**	**15 07 39.9**	**+0.1**
JFK				S	**Sn**	**15 07 57.5**	**-0.4**
JFT	**Otama**	**1.57**	**225**	P	**Pn**	**15 07 42.0**	**+0.5**
JYA	**Atsumi**	**1.58**	**269**	P	**Pn**	**15 07 41.3**	**-0.3**
MJAR	**Matsushiro Arr**	**3.49**	**234**	P	**Pn**	**15 08 08.7**	**+1.0**
	0.6nm,0.3s,baz=40,slow=12,SNR=69						
MAT	**Matsushiro**	**3.50**	**234**	P	**Pn**	**15 08 09.4**	**+1.7**
MAT				S	Sn	15 08 59.5	+12
ASAJ	**Asahikawa**	**5.51**	**7**	P	**Pn**	**15 08 34.0**	**-1.2**
	1.8nm,0.3s,baz=230,slow=9.1,SNR=26						
JHJ	**Hachijo jima 2**	**5.73**	**197**	P	**Pn**	**15 08 39.6**	**+1.3**
	73nm,0.3s,baz=73,slow=19,SNR=2.1						
USRK	**Ussuriysk Ar.**	**9.18**	**310**	P	**Pn**	**15 09 26.1**	**+0.7**
	baz=123,slow=14,SNR=17						
KSRS	**Korea Array**	**10.95**	**268**	P	**Pn**	**15 09 51.6**	**+2.0**
	0.3nm,0.3s,baz=75,slow=14,SNR=12						
KSRS				LR	LR	15 13 36.2	
	comp=Z,31nm,19.1s,baz=340,slow=35						
PETK	**Petropavlovsk-**	**18.18**	**32**	P	**P**	**15 11 22.4**	**-0.7**
	0.1nm,0.3s,baz=225,slow=18,SNR=2.3						
SONM	**Songino Array**	**27.13**	**301**	P	**P**	**15 12 54.4**	**+1.5**
	0.3nm,0.5s,baz=110,slow=8.8,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	15 43 27.9	
	baz=316,slow=75,SNR=430						
H11N1	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	15 43 32.2	
	baz=316,slow=75,SNR=183						
H11N3	**WAKE ISLAND Hy**	**28.81**	**124**	T	T	15 43 29.3	
	baz=316,slow=75,SNR=224						
H11S1	**WAKE ISLAND Hy**	**29.56**	**126**	T	T	15 44 23.3	
	baz=318,slow=76,SNR=79						
H11S3	**WAKE ISLAND Hy**	**29.56**	**126**	T	T	15 44 26.0	
	baz=318,slow=76,SNR=114						
H11S2	**WAKE ISLAND Hy**	**29.58**	**126**	T	T	15 44 25.4	
	baz=318,slow=76,SNR=84						
ZALV	**Zalesovo Beam**	**41.03**	**311**	P	**P**	**15 14 52.2**	**-0.4**
	1.0nm,0.5s,baz=109,slow=7.9,SNR=5.6						
MKAR	**Makanchi Array**	**43.49**	**301**	P	**P**	**15 15 11.8**	**-0.9**
	1.4nm,0.7s,baz=85,slow=9.7,SNR=12						
MKAR				pP	**pP**	**15 15 28.1**	**-0.7**
	0.7nm,0.7s,baz=87,slow=10,SNR=4.9						
ILAR	**Eielson Array**	**48.01**	**33**	P	**P**	**15 15 48.5**	**+0.5**
	0.4nm,0.6s,baz=262,slow=6.5,SNR=7.8						
INK	**Inuvik**	**52.84**	**28**	P	**P**	**15 16 24.6**	**+0.2**
	0.3nm,0.4s,baz=304,slow=9.7,SNR=4.0						
WRA	**Warramunga Arr**	**58.69**	**188**	P	**P**	**15 17 05.8**	**-1.0**
	0.8nm,0.4s,baz=7.8,slow=7.7,SNR=22						
WRA				pP	**pP**	**15 17 22.0**	**-1.5**
	0.8nm,0.8s,baz=8.5,slow=7.3,SNR=3.1						
YKA	**Yellowknife Ar**	**62.30**	**31**	P	**P**	**15 17 30.7**	**-0.2**
	0.3nm,0.6s,baz=306,slow=6.3,SNR=5.2						
ASAR	**Alice Springs**	**62.41**	**188**	P	**P**	**15 17 31.4**	**-0.7**
	0.3nm,0.4s,baz=358,slow=4.8,SNR=25						
ASAR				pP	**pP**	**15 17 48.5**	**-0.4**
	0.2nm,0.6s,baz=7.5,slow=5.2,SNR=2.2						
PDAR	**Pinedale Array**	**76.37**	**46**	P	**P**	**15 18 59.0**	**+0.5**
	0.6nm,0.7s,baz=272,slow=0.6,SNR=4.5						
TXAR	**Lajitas Array**	**88.94**	**53**	P	**P**	**15 20 04.1**	**+0.3**
	0.3nm,0.7s,baz=346,slow=2.6,SNR=3.6						

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*TIF **08** 15:10:36.8, 42°.36N×41°.02E, h12km±1km*

*DDA **08** 15:10:36.2, 42°.30N×40°.99E, h7km±2km, ML2.3*

*MOS **08** 15:10:37.6±0.0, 42°.44N×41°.02E, h4km, ML2.9/8, MPVA3.7*

*ISK **08** 15:10:38.7, 42°.21N×41°.11E, h5km, ML2.9/5*

*NORS **08** 15:10:38.4±0.0, 42°.51N×41°.35E, h3km, MPVA3.6*

ISC 08 15:10:36.1±1.0**, 42°.40N**±0°.02**×41°.03E**±0°.02**, h13**km±11km**, n40, σ0s.96**/75**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHVG	**Ch'k'valeri**	**0.84**	**67**	P	**Pn**	**15 10 53.6**	**-0.1**
CHVG				S	**Sn**	**15 11 06.5**	**+0.5**
DBOC	**Borcka**	**1.15**	**156**	*i* P	**Pg**	**15 10 59.0**	**+0.7**
DBOC				*i* S	**Sg**	**15 11 14.8**	**+1.6**
ARXR	**Arkhyz**	**1.18**	**9**	*i* Pg	**Pg**	**15 10 59.4**	**+0.5**
	126nm,0.5s						
ARXR				*i* Sg	**Sg**	**15 11 14.8**	**+0.6**
	381nm,0.3s						
ARXR				*i* AML	AML	15 11 21.4	
	407nm,0.6s						
VSLR	**Vesyoloye**	**1.29**	**326**	*i* Pg	**Pg**	**15 11 01.1**	**+0.1**
VSLR				*i* Sg	**Sg**	**15 11 19.2**	**+1.3**
CHOM	**Cayeli-Rize**	**1.31**	**189**	PN	**Pg**	**15 11 01.1**	**-0.3**
CHOM				SN	**Sg**	**15 11 18.8**	**+0.3**
CHAY	**Cayeli-Rize**	**1.33**	**190**	PN	**Pg**	**15 11 02.1**	**+0.4**
CHAY				SN	**Sg**	**15 11 18.8**	**-0.1**
RPOR	**Krasnaya Polya**	**1.42**	**337**	*i* Pg	**Pg**	**15 11 03.3**	**-0.1**
	51nm,0.4s						
RPOR				*i* Sg	**Sg**	**15 11 22.6**	**+0.7**
RPOR				*i* AML	AML	15 11 25.4	
	155nm,0.2s						
ABS	**Abastumani**	**1.47**	**115**	P	**Pg**	**15 11 04.3**	**-0.1**
ABS				S	**Sg**	**15 11 24.8**	**+1.3**
NEY	**Neytrino**	**1.51**	**55**	*i* Pg	**Pg**	**15 11 05.0**	**0.0**
NEY				*e*Sg	**Sb**	**15 11 23.8**	**+0.7**
NEY				*i* AML	AML	15 11 27.2	
	112nm,0.4s						
SOC	**Sochi**	**1.53**	**321**	*i* Pg	**Pg**	**15 11 05.2**	**-0.3**
	73nm,0.3s						
SOC				*i* Sg	**Sg**	**15 11 25.9**	**+0.5**
SOC				*i* AML	AML	15 11 27.8	
	213nm,0.2s						
EPOS	**Posof**	**1.55**	**125**	*i* P	**Pb**	**15 11 04.8**	**+0.1**
EPOS				*i* S	**Sg**	**15 11 26.1**	**+0.2**
EPOS				IAML		15 11 29.0	
	comp=E,38nm,0.4s						
EPOS				IAML		15 11 30.0	
	comp=N,54nm,0.6s						
DDEM	**Demirkent**	**1.60**	**160**	*i* P	**Pg**	**15 11 05.8**	**-1.0**
DDEM				*i* S	**Sg**	**15 11 26.8**	**-0.7**
DDEM				IAML		15 11 29.0	
	comp=E,172nm,0.3s						
DDEM				IAML		15 11 32.0	
	comp=N,183nm,0.4s						
KTUT	**Trabzon**	**1.70**	**214**	PN	**Pg**	**15 11 08.8**	**+0.1**
KTUT				SN	**Sg**	**15 11 31.2**	**+0.5**
GUZR	**Guzeripl'**	**1.73**	**338**	*i* Pg	**Pb**	**15 11 08.5**	**+0.7**
	comp=N,34nm,0.4s						
GUZR				*i* Sg	**Sg**	**15 11 31.7**	**-0.3**
	comp=N,49nm,0.4s						
GUZR				*i* AML	AML	15 11 35.2	
	comp=N,46nm,0.4s						
AHMR	**Akhmetovskaya**	**1.76**	**0**	*e*Pg	**Pg**	**15 11 09.7**	**-0.3**
AHMR				*e*Sg	**Sg**	**15 11 33.3**	**+0.5**
SHA1	**Shidzhatmaz**	**1.79**	**41**	*i* Pg	**Pg**	**15 11 10.5**	**-0.1**
SHA1				*i* Sg	**Sg**	**15 11 33.4**	**-0.4**
SHA1				*i* AML	AML	15 11 34.4	
	comp=N,60nm,0.4s						
ONI	**Oni**	**1.80**	**83**	P	**Pb**	**15 11 09.8**	**+0.8**
ONI				S	**Sg**	**15 11 33.9**	**-0.1**
ONI	**Oni**	**1.80**	**83**	*i* Pg	**Pb**	**15 11 09.7**	**+0.8**
ONI				*i* Sg	**Sg**	**15 11 34.0**	**-0.1**
KBZ	**Khabaz**	**1.91**	**45**	*i* Pg	**Pg**	**15 11 12.1**	**-0.6**
KBZ				*i* Sg	**Sg**	**15 11 37.1**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.94**	**74**	*e*Pg	**Pg**	**15 11 12.6**	**-0.8**
DIGR				*e*Sg	**Sb**	**15 11 37.2**	**+1.4**
LZRR	**Lazarevskoye**	**1.96**	**322**	*e*Pg	**Pb**	**15 11 11.3**	**-0.3**
	comp=N,22nm,0.8s						
LZRR				*e*Sg	**Sg**	**15 11 37.9**	**-1.2**
	comp=N,176nm,0.4s						
LZRR				*i* AML	AML	15 11 43.4	
	comp=N,151nm,0.5s						
BKRG	**Bakuriani**	**1.96**	**108**	P	**Pb**	**15 11 12.4**	**+0.7**
BKRG				S	**Sg**	**15 11 39.2**	**+0.1**
KIV	**Kislovodsk**	**1.97**	**37**	*e*Pg	**Pg**	**15 11 13.5**	**-0.5**
KIV				*e*Sg	**Sg**	**15 11 38.6**	**-0.9**
KIV0	**Kislovodsk Arr**	**1.98**	**37**	*e*Pg	**Pg**	**15 11 13.6**	**-0.5**
KIV0				*e*Sg	**Sg**	**15 11 38.9**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRIK	Erzurum-spir	2.06	182	*i* P	Pb	15 11 13.1	-0.4
KRIK				*i* S	Sg	15 11 39.8	-2.5
BEYR	Belyy Ugol+	2.08	38	*e*Pg	Pb	15 11 14.2	+0.6
BEYR				*e*Sg	Sb	15 11 41.6	+2.2
AKH	Akhalkalaki	2.08	117	P	Pg	15 11 14.9	-1.2
AKH				S	Sg	15 11 43.5	+0.4
AKH	Akhalkalaki	2.08	117	PN	Pb	15 11 14.2	+0.3
SENK	Senkaya-Erzuru	2.08	151	PN	Pb	15 11 13.5	-0.4
ZEI	Tsey	2.15	79	*e*Pg	Pb	15 11 15.8	+0.7
ZEI				*e*Sg	Sb	15 11 43.5	+1.7
TPSR	Tuapse	2.20	321	*i* AML	AML	15 11 56.2	
	comp=N,78nm,0.3s						
TPSR	Tuapse	2.20	321	*e*Pg	Pb	15 11 15.9	+0.2
TPSR				*e*Sg	Sb	15 11 42.7	-0.2
BGD	Bogdanovka	2.23	120	P	Pb	15 11 16.5	+0.2
BGD				S	Sg	15 11 46.8	-0.8
LSNR	Lesken	2.23	66	*e*Pg	Pb	15 11 17.5	+1.1
LSNR				*e*Sg	Sb	15 11 45.8	+1.8
PYA1	Pyatigorsk	2.25	41	*e*Pg	Pb	15 11 16.4	-0.2
PYA1				*e*Sg	Sb	15 11 44.1	-0.2
TRLG	Trialeti	2.44	109	P	Pg	15 11 21.5	-1.4
TRLG				S	Sg	15 11 53.6	-1.0
LACR	Lac	2.45	79	*e*Pn	Pb	15 11 19.9	-0.1
LACR				*e*Sn	Sb	15 11 51.0	+0.8
DMNI	Dmanisi	2.59	113	P	Pb	15 11 21.9	-0.5
DMNI				S	Sg	15 11 58.0	-1.3
PNSH	Pansheti	2.66	84	P	Pb	15 11 24.6	+0.8
GOF	Gofitskoye	3.03	28	*e*Pn	Pb	15 11 27.0	-3.0
GOF				*e*Sn	Sb	15 12 03.9	-3.0

NOU 08 15:14:47.7, 21.°81S×170.°85E, h82km, MLv4.2, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.64	277	P	Pn	15 15 28.5	+0.2
PINNC	Pines Island,	3.25	255	P	Pn	15 15 36.9	+0.4
LIFNC	LIFOU	3.52	286	P	Pn	15 15 39.9	-0.2
YATNC	Mamie plateau,	3.68	265	P	Pn	15 15 41.7	-0.7
OUENC	Ouen Island, N	3.77	260	P	Pn	15 15 43.7	+0.2
DZM	Mont Dzumac	4.10	266	P	Pn	15 15 48.3	+0.2
ONTNC	Ouen Toro	4.11	262	P	Pn	15 15 47.3	-0.8
NOUC	Port Laguerre	4.23	265	P	Pn	15 15 49.9	+0.1
DVP	Devils Point	4.78	328	P	Pn	15 15 57.2	0.0
KOUNC	Koumac, New Ca	6.25	280	P	Pn	15 16 17.7	+0.3

*IDC **08** 15:24:06.6±0.7, 6.°34S×154.°90E, h54km±5km, mb4.2/21, mb1 4.3/25, mb1mx4.1/55, mbtmp4.5/25, MS3.4/3, Ms1 3.4/3, ms1mx3.0/43, Error ellipse: s-maj=14.3km s-min=11.5km az=88.0*

*NEIC **08** 15:24:10.0±1.4, 6.°42S±0.°09×154.°86E±0.°08, h85km±7km, mb4.8/41, Error ellipse: s-maj=13.7km s-min=10.6km az=221.0*

ISC 08 15:24:06.9±0.4**, 6.°37S**±0.°06×**154.°92E**±0.°06**, h56km, n110,** σ**1s12**/109**, mb4.8**/48**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	3.49	308		Pn	15 25 01.9	+3.2
RABL	Rabaul	3.49	308	P	Pn	15 25 05.4	+6.7
HNR	Honiara	5.84	122	P	Pn	15 25 32.6	+1.7
	15nm,0.3s,baz=219,slow=3.4,SNR=8.7						
HNR				LR	LR	15 27 35.9	
	comp=Z,237nm,21.4s,baz=294,slow=36						
HNR	Honiara	5.84	122	Pn	Pn	15 25 33.9	+2.9
HNR	Honiara	5.84	122	P	Pn	15 25 34.9	+4.0
PMG	Port Moresby	8.26	248	P	Pn	15 26 05.5	+1.4
	13nm,0.3s,baz=59,slow=5.8,SNR=22						
PMG				S	Sn	15 27 39.3	+3.4
	2.6nm,0.3s,baz=196,slow=18,SNR=5.1						
PMG				LR	LR	15 29 18.8	
	comp=Z,241nm,18.2s,baz=66,slow=38						
PMG	Port Moresby	8.26	248	P	Pn	15 26 06.3	+2.3
PATS	Pohnpei	13.54	15	Pn	Pn	15 27 16.3	-0.1
COEN	Coen	13.79	236	Pn	Pn	15 27 21.3	+1.6
CTA	Charters Tower	16.03	211	P	P	15 27 50.0	-1.3
	0.2nm,0.3s,baz=14,slow=11,SNR=3.2						
CTAO	Charters Tower	16.03	211	Pn	P	15 27 49.9	-1.4
DZM	Mont Dzumac	19.18	146	P	Pn	15 28 27.1	-0.4
	1.7nm,0.3s,baz=292,slow=9.6,SNR=11						
DZM	Mont Dzumac	19.18	146	P	Pn	15 28 27.3	-0.2
DZM				IAmb	IAmb	15 28 42.2	
	comp=Z,26nm,1.1s						
DZM	Mont Dzumac	19.18	146	P	Pn	15 28 27.6	+0.1
EIDS	Eidsvold	19.25	191	P	Pn	15 28 27.2	-1.0
WR0	Warramunga Arr	23.96	234	P	P	15 29 16.9	+0.7
WB0	Warramunga Arr	23.98	234	P	P	15 29 16.7	+0.3
WRAB	Tennant Creek	24.10	234	P	P	15 29 17.8	+0.3
WB2	Warramunga Arr	24.10	234	P	P	15 29 17.9	+0.4
WRA	Warramunga Arr	24.11	234	P	P	15 29 18.2	+0.6
	comp=Z,3.8nm,0.4s,baz=57,slow=10,SNR=74						
ARMA	Armidale	24.13	187	P	P	15 29 18.1	+0.4
MSVF	Nonsavu	25.25	119	P	P	15 29 28.5	+0.4
AS31	Alice Springs	26.53	227	P	P	15 29 39.3	-0.3
ASAR	Alice Springs	26.53	227	P	P	15 29 39.2	-0.3
	comp=Z,1.3nm,0.5s,baz=57,slow=9.3,SNR=110						
STKA	Stephens Creek	28.27	204	P	P	15 29 54.0	-1.0
	comp=Z,0.5nm,0.2s,baz=27,slow=8.3,SNR=4.5						
FITZ	Fitzroy Crossi	30.84	245	P	P	15 30 17.3	-0.6
	comp=Z,3.5nm,0.6s,baz=105,slow=8.8,SNR=12						
BBOO	Buckleboo	31.63	211	P	P	15 30 23.7	-1.0
BBOO				IAmb	IAmb	15 30 30.9	
	comp=Z,15nm,1.4s						
DAV	Davao City (W)	32.17	294	LR	LR	15 42 14.3	
	comp=Z,78nm,20.7s,baz=329,slow=34						
TOO	Toolangi	32.23	194	P	P	15 30 29.2	-0.7
TOO				IAmb	IAmb	15 30 55.3	
	comp=Z,16nm,1.4s						
MMRI	Maumere	32.47	264	P	P	15 30 30.9	-1.4
FORT	Forrest	34.99	223	P	P	15 30 53.9	-0.1
FORT				IAmb	IAmb	15 30 53.9	
	comp=Z,13nm,0.8s						
KMRZ	Kaimai	36.70	152	P	P	15 31 21.9	+13
TAU	Tasmania Unive	37.01	189	P	P	15 31 11.8	+0.8
URZ	Urewera	37.59	151	P	P	15 31 15.7	-0.3
	comp=Z,4.6nm,0.4s,baz=251,slow=4.2,SNR=10						
URZ	Urewera	37.59	151	P	P	15 31 16.4	+0.4
URZ				IAmb	IAmb	15 31 22.7	
	comp=Z,31nm,1.4s						
URZ	Urewera	37.59	151	P	P	15 31 16.5	+0.4
RUGZ	Raukumara Rang	37.64	150	P	P	15 31 17.1	+0.4
PKGZ	Pakihiroa	37.78	149	P	P	15 31 18.6	+0.8
RTZ	Ruatahuna	37.81	151	P	P	15 31 18.5	+0.5
MTHZ	Maungataniwha	37.93	152	P	P	15 31 19.3	+0.3
TWGZ	Tauwhareparae	37.95	150	P	P	15 31 20.3	+1.1
BKZ	Black Stump Fm	38.02	152	P	P	15 31 19.6	-0.2
BKZ				IAmb	IAmb	15 31 23.3	
	comp=Z,22nm,1.2s						
BKZ	Black Stump Fm	38.02	152	P	P	15 31 19.6	-0.2
TKGZ	Te Karaka	38.09	150	P	P	15 31 20.6	+0.3
RIGZ	Rimuhau	38.26	151	P	P	15 31 22.0	+0.3
CNGZ	Carnagh Statio	38.30	150	P	P	15 31 22.7	+0.6
THZ	Tophouse	38.71	158	P	P	15 31 25.1	-0.5
THZ				IAmb	IAmb	15 31 26.6	
	comp=Z,21nm,1.0s						
TUWZ	Tuamarina	38.82	157	P	P	15 31 26.3	0.0
SNZO	South Karori	39.02	156	P	P	15 31 28.1	+0.1
BFZ	Birch Farm	39.14	154	P	P	15 31 28.6	-0.5
LTZ	Lake Taylor	39.38	160	P	P	15 31 30.7	-0.4
LTZ				IAmb	IAmb	15 31 33.0	
	comp=Z,11nm,1.0s						
RPZ	Rata Peaks	39.81	162	P	P	15 31 34.1	-0.5
	comp=Z,6.5nm,0.6s,baz=271,slow=6.3,SNR=6.5						
MLZ	Mavora Lakes	40.51	166	P	P	15 31 39.9	-0.5
MLZ				IAmb	IAmb	15 31 55.1	
	comp=Z,12nm,1.1s						
KKM	Kota Kinabalu	40.54	287	P	P	15 31 41.6	+0.4
KSM	Kuching	45.20	278	P	P	15 32 18.2	-0.7
KSM				IAmb	IAmb	15 32 20.1	
	comp=Z,26nm,1.3s						
JNU	Nakatsue	45.42	331	P	P	15 32 19.3	-1.0
	comp=Z,8.2nm,1.0s,baz=2.8,slow=13,SNR=2.4						
JNU	Nakatsue	45.42	331	P	P	15 32 20.2	-0.2
JNU				IAmb	IAmb	15 32 40.6	
	comp=Z,36nm,1.5s						
CISI	Cisompet, Garu	46.75	266	P	P	15 32 30.1	-1.0
KSRS	Korea Array	50.35	332	P	P	15 32 58.0	-0.3
	comp=Z,1.5nm,0.7s,baz=157,slow=9.1,SNR=7.2						
JKA	Kamikawa-asahi	51.46	349	P	P	15 33 07.0	+0.5
JKA	Kamikawa-asahi	51.46	349	IAmb	IAmb	15 33 20.6	
	comp=Z,7.7nm,1.0s						
ASAJ	Asahikawa	51.47	349	P	P	15 33 07.0	+0.5
	comp=Z,2.5nm,0.7s,baz=206,slow=13,SNR=5.6						
USRK	Ussuriysk Ar.	54.42	340	P	P	15 33 27.9	-0.4
	comp=Z,0.5nm,0.3s,baz=127,slow=5.3,SNR=5.7						
IPM	Ipoh	54.87	280	P	P	15 33 31.4	-0.8
IPM				IAmb	IAmb	15 33 33.0	
	comp=Z,6.4nm,0.8s						
KULM	Kulim	55.39	281	P	P	15 33 35.1	-0.8
KULM				IAmb	IAmb	15 33 37.6	
	comp=Z,21nm,1.3s						
GSI	Gunungsitoli	57.74	276	P	P	15 33 51.0	-1.7
GSI				IAmb	IAmb	15 33 52.0	
	comp=Z,13nm,0.9s						
UTTA	Uttaradit	58.76	295	P	P	15 34 01.3	+1.7
	comp=Z,0.1nmcomp=Z,30nm,0.8s						
PET	Petropavlovsk	59.25	3	P	P	15 34 02.2	-0.1
PET				IAmb	IAmb	15 34 06.4	
	comp=Z,18nm,1.1s						
PEA0B	Petropavlovsk-	59.29	2	P	P	15 34 02.9	+0.2
PETK	Petropavlovsk-	59.29	2	P	P	15 34 03.2	+0.5
	comp=Z,5.5nm,0.7s,baz=141,slow=7.2,SNR=35						
PETK	Petropavlovsk-	59.29	2	P	P	15 34 03.4	+0.7
SUKH	Sukhothai	59.51	294	P	P	15 34 06.7	+1.9
LAMP	Lampang	59.85	296	P	P	15 34 08.0	+0.8
	comp=Z,0.1nmcomp=Z,374nmcomp=Z,43nm,0.7s						
CM35	Chiang Mai Arr	60.33	296	P	P	15 34 11.0	+0.5
CM36	Chiang Mai Arr	60.33	295	P	P	15 34 11.0	+0.5
CM04	Chiang Mai Arr	60.39	295	P	P	15 34 12.6	+1.7
	comp=Z,0.0nmcomp=Z,170nmcomp=Z,17nm,0.9s						
CM09	Chiang Mai Arr	60.40	295	P	P	15 34 12.7	+1.7
	comp=Z,0.1nmcomp=Z,137nmcomp=Z,20nm,0.8s						
CM01	Chiang Mai Arr	60.42	295	P	P	15 34 12.8	+1.7
	comp=Z,0.0nmcomp=Z,145nmcomp=Z,17nm,0.8s						
CM05	Chiang Mai Arr	60.42	295	P	P	15 34 12.0	+0.9
	comp=Z,0.0nmcomp=Z,123nmcomp=Z,13nm,0.8s						
CM02	Chiang Mai Arr	60.43	295	P	P	15 34 12.0	+0.8
	comp=Z,0.0nmcomp=Z,105nmcomp=Z,15nm,0.8s						
CM31	Chiang Mai Arr	60.44	295	P	P	15 34 12.8	+1.5
	comp=Z,1.4nmcomp=Z,4µmcomp=Z,512nm,0.8s						
CM31	Chiang Mai Arr	60.44	295	P	P	15 34 12.3	+1.0
CMAR	Chiang Mai Arr	60.44	295	P	P	15 34 12.3	+1.1
	comp=Z,11nm,0.7s,baz=125,slow=5.6,SNR=17						
CMAR				pP	pP	15 34 26.8	+0.6
	comp=Z,6.8nm,0.8s,baz=117,slow=4.5,SNR=8.9						
CMAR	Chiang Mai Arr	60.44	295	P	P	15 34 12.0	+0.8
CM15	Chiang Mai Arr	60.46	295	P	P	15 34 12.0	+0.6
	comp=Z,0.1nmcomp=Z,131nmcomp=Z,18nm,0.8s						
CM13	Chiang Mai Arr	60.47	295	P	P	15 34 13.0	+1.6
	comp=Z,0.0nmcomp=Z,107nmcomp=Z,13nm,0.8s						
CHTO	Chiang Mai	60.56	296	P	P	15 34 12.8	+0.7
CHTO				IAmb	IAmb	15 34 13.6	
	comp=Z,11nm,1.1s						
SMY	Shemya	61.09	13	P	P	15 34 16.1	+1.1
MA2	Magadan	65.81	358	P	P	15 34 45.8	-0.2
MA2				IAmb	IAmb	15 34 49.6	
	comp=Z,6.6nm,0.7s						
SONM	Songino Array	68.77	327	P	P	15 35 05.4	+0.2
	comp=Z,22nm,0.8s,baz=133,slow=5.6,SNR=83						
SONM	Songino Array	68.77	327	IAmb	IAmb	15 35 09.4	
	comp=Z,22nm,0.8s						
SONM	Songino Array	68.77	327	P	P	15 35 04.9	-0.2
ILAR	Eielson Array	82.82	22	P	P	15 36 24.1	-0.8
	comp=Z,0.7nm,0.5s,baz=226,slow=5.7,SNR=11						
ILAR				pP	pP	15 36 39.1	-1.6
	comp=Z,0.3nm,0.4s,baz=236,slow=4.7,SNR=2.2						
MKAR	Makanchi Array	82.88	319	P	P	15 36 23.6	-2.0
	comp=Z,3.9nm,0.6s,baz=119,slow=7.5,SNR=8.7						
QSPA	South Pole Qui	83.61	180	P	P	15 36 28.6	-0.5
QSPA				IAmb	IAmb	15 36 30.4	
	comp=Z,4.5nm,0.8s						
ZALV	Zalesovo Beam	83.62	326	P	P	15 36 27.7	-1.4
	comp=Z,2.1nm,0.6s,baz=102,slow=5.1,SNR=11						
KURK	Kurchatov	86.29	322	P	P	15 36 41.4	-1.3
KURBB	Kurchatov Arra	86.32	322	P	P	15 36 41.4	-1.5
	comp=Z,9.7nm,1.1s,baz=130,slow=6.0,SNR=58						
DLBC	Dease Lake	87.64	31	P	P	15 36 50.0	+0.8
	comp=Z,1.4nm,0.9s,baz=230,slow=9.0,SNR=3.4						
DLBC	Dease Lake	87.64	31	IAmb	IAmb	15 37 12.8	
	comp=Z,10.0nm,1.4s						
INK	Inuvik	89.16	21	P	P	15 36 55.7	-0.2
	comp=Z,0.4nm,0.4s,baz=279,slow=4.6,SNR=3.4						
NVAR	Mina Array Bea	91.39	52	P	P	15 37 08.3	+0.9
	comp=Z,1.8nm,0.9s,baz=259,slow=7.0,SNR=11						
NVAR				pP	pP	15 37 22.4	-1.1
	comp=Z,1.7nm,1.0s,baz=258,slow=7.4,SNR=5.2						
NVAR	Mina Array Bea	91.39	52	P	P	15 37 08.0	+0.6
NV11	Mina Array Sit	91.51	52	P	P	15 37 08.5	+0.7
NV11				IAmb	IAmb	15 37 09.9	
	comp=Z,2.2nm,0.9s						
YKA	Yellowknife Ar	95.82	28	P	P	15 37 26.9	0.0
	comp=Z,1.0nm,0.6s,baz=264,slow=3.8,SNR=14						
YKA				pP	pP	15 37 41.4	-1.6
	comp=Z,1.3nm,0.9s,baz=268,slow=3.9,SNR=6.5						
PLCA	Paso Flores	117.27	142	PKP	PKPdf	15 42 45.6	-0.9
	comp=Z,3.0nm,1.1s,baz=208,slow=4.1,SNR=2.8						
GERES	GERESS Array B	126.47	329	PKP	PKiKP	15 43 04.1	-0.2
	comp=Z,0.3nm,0.5s,baz=132,slow=2.0,SNR=4.0						
SDV	Santo Domingo	134.81	84	PKP	PKPdf	15 43 20.9	+0.1
	comp=Z,5.1nm,0.7s,baz=274,slow=5.3,SNR=8.0						
BDFB	Brasilia	148.47	134	PKPbc	PKiKP	15 43 49.5	-0.5
	comp=Z,1.0nm,0.3s,baz=173,slow=4.1,SNR=3.6						
TORD	Torodi Ar. Bea	152.78	286	PKPbc	PKPbc	15 43 57.3	-1.3
	comp=Z,2.2nm,0.6s,baz=33,slow=2.3,SNR=7.0						

*BJI **08** 15:26:23.3±0.0, 0.°10S×123.°10E, h106km, mB5.0/41, mb4.9/66*

*IDC **08** 15:26:29.3±0.6, 0.°41N×122.°65E, h108km±5km, mb4.3/29, mb1 4.5/35, mb1mx4.3/55, mbtmp4.8/35, MS3.4/13, Ms1 3.4/13, ms1mx3.2/63, Error ellipse: s-maj=11.9km s-min=7.7km az=74.0*

*GCMT **08** 15:26:29.3±0.3, 0.°44N±0.°02×122.°65E±0.°03, h108km±6km, MW4.8/67, Moment Tensor Solution. s14,c16; s67,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.33±.12; $M_{\theta\theta}$-0.71±.13; $M_{\phi\phi}$0.38±.14; $M_{r\theta}$-1.32±.06; $M_{\theta\phi}$-0.17±.10; $M_{\phi r}$1.00±.07; Best double couple: $M_0$1.77200×10^{16} NP1: ϕ_s47.00000°, δ20.00000°, λ15.00000°. NP2: ϕ_s303.00000°, δ85.00000°, λ109.00000°. Principal axes: T 1.8340, Plg47.0000°, Azm233.0000°; N -0.1230, Plg19.0000°, Azm122.0000°; P -1.7100, Plg37.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 15:26:29.3±1.7, 0.°44N±0.°05×122.°64E±0.°05, h110km±3km, mb4.9/96 Error ellipse: s-maj=7.8km s-min=6.8km az=144.0*

*DJA **08** 15:26:29.1±0.1, 0°N±1°×12°3E±°, h103km±2km, M4.8/80, mB5.3/32, mb5.1/80, MLv5.2/24, Mw(mB)4.7/32, MwMwp4.4/1, Mwp4.8/1*

*KLM **08** 15:26:31, 0.°31N×122.°68E, h117km, mb5.0*

ISC 08 15:26:29.1±0.4**, 0.°40N**±0.°03×**122.°64E**±0.°03**, h109km**±3km**, h110km:pP-P, n362,** σ**1s59**/394**, mb4.9**/130**, 4C-5D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.44	57	P	Pn	15 26 45.0	-0.5
GTOI				S	Sn	15 26 56.9	-0.9
MRSI	Marisa	0.70	277	P	Pn	15 26 46.0	-1.4
MRSI				S	Sn	15 26 58.1	-3.1
KMSI	Cibinong	1.35	82	P	Pn	15 26 55.2	+1.1
KMSI				S	Sn	15 27 14.7	+1.6
LUWI	Luwuk	1.43	175		Pn	15 26 55.6	+0.5
LUWI	Luwuk	1.43	175	P	Pn	15 26 55.6	+0.5
LUWI				S	Sn	15 27 15.8	+1.0
APSI	Ampana	1.63	217	P	Pn	15 26 57.8	+0.3
APSI				S	Sn	15 27 19.8	+0.7
TOLI2	Tolitoli	1.99	291		Pn	15 27 01.4	-0.6
SANI	Sanana	4.14	126	P	Pn	15 27 29.2	-1.1
SANI				S	Sn	15 28 13.3	-4.5
SGSI	Sangihe	4.36	41	P	Pn	15 27 33.6	+0.3
SGSI				S	Sn	15 28 19.8	-3.4
TTSI	Tana Toraja	4.43	219	P	Pn	15 27 35.1	+0.8
TTSI				S	Sn	15 28 23.4	-1.5
TNTI	Ternate	4.74	85	Pn	Pn	15 27 38.5	0.0
TNTI	Ternate	4.74	85	P	Pn	15 27 38.0	-0.5
TNTI				S	Sn	15 28 30.3	-2.1
SGKI	Sangatta, Kali	5.12	260	P	Pn	15 27 42.2	-1.4
	3.6nm271nm,0.7s						
SGKI				S	Sn	15 28 38.8	-2.7
	3.6nm271nm,0.7s						
SPSI	Sidrap Palu	5.20	213	P	Pn	15 27 45.2	+0.6
	1.4nm2µm4µm288nm,0.5s						
BNSI	Bone	5.39	208	P	Pn	15 27 48.4	+1.1
	2.0nm5µm603nm,0.6s						
NLAI	Namlea	5.74	129	P	Pn	15 27 53.1	+1.2
	4.1nm207nm,0.9s						
BKB	Balikpapan	5.97	254		Pn	15 27 55.0	-0.1
BKB	Balikpapan	5.97	254	P	Pn	15 27 55.3	+0.2
	1.8nm323nm,0.5s						
KAPI	Kappang	6.10	208	P	Pn	15 27 56.9	+0.1
	92nm,0.3s,baz=31,slow=5.4,SNR=87						
KAPI				S	Sn	15 29 04.1	-1.2
	19nm,0.3s,baz=336,slow=5.0,SNR=8.2						
KAPI	Kappang	6.10	208	Pn	Pn	15 27 57.1	+0.3
BKSI	Bulukumba	6.21	204	P	Pn	15 27 58.9	+0.5
	1.3nm2µm188nm,0.7s						
MYLDM	Lahad Datu	6.30	319	Pn	Pn	15 27 59.3	-0.2
SKMP	Bagumbayan, Su	6.37	17	*e*P	Pn	15 27 58.8	-1.7
SKMP				*e*S	Sn	15 29 05.5	-6.5
DDMP	Don Marcelino,	6.45	28	*e*P	Pn	15 28 01.9	+0.3
DDMP				*e*S	Sn	15 29 06.8	-7.0
BSSI	Bau Bau, Buton	6.84	198	P	Pn	15 28 07.7	+0.8
	0.8nm2µm190nm,0.7s						
KCP	Kidapawan	7.01	20⇓	*i*P	Pn	15 28 11.6	+2.4
KCP				*i* S	Sn	15 29 29.8	+2.3
DAV	Davao City (W)	7.25	24	P	Pn	15 28 13.5	+1.0
	35nm,0.3s,baz=179,slow=1.4,SNR=10.0						
DAV				S	Sn	15 29 41.3	+8.1
	48nm,0.3s,baz=57,slow=23,SNR=5.6						
DAV				LR	LR	15 31 30.7	
	comp=Z,162nm,19.6s,baz=155,slow=42						
KBKI	Kotabaru	7.44	240	P	Pn	15 28 15.0	0.0
	1.4nm3µm430nm,0.7s						
PAGZ	Pagadian	7.44	6	*e*P	Pn	15 28 14.4	-0.6
MATI	Mati	7.44	29	*e*P	Pn	15 28 14.2	-0.8
MATI				*e*S	Sn	15 29 33.8	-4.1
SPMM	Sapulut	7.51	305	P	Pn	15 28 19.0	+3.0
BUKP	Musuan	7.82	18	*e*P	Pn	15 28 20.9	+0.7
BUKP				*e*S	Sn	15 29 46.2	-0.9
MTKI	Muara Teweh, K	7.86	260	P	Pn	15 28 21.4	+0.7
	0.4nm2µm50nm,0.8s						
CGP	Cagayan de Oro	8.26	14⇓	*e*P	Pn	15 28 28.0	+1.8
KKM	Kota Kinabalu	8.52	311	Pn	Pn	15 28 31.2	+1.4
BBKI	Banjar Baru	8.69	244	P	Pn	15 28 33.7	+1.7
	90nm,0.7s						
SWI	Sorong	8.71	98	P	Pn	15 28 33.2	+0.9
	62nm,0.8s						
SIJI	Sorong	8.72	98	P	Pn	15 28 33.0	+0.5
	1.6nm,0.3s,baz=296,slow=9.2,SNR=10						
BNDI	Bandanaira	8.75	124	P	Pn	15 28 29.7	-3.1
	11µm214nm,0.6s						
MMRI	Maumere	8.98	183	Pn	Pn	15 28 38.3	+2.3
MMRI	Maumere	8.98	183	P	Pn	15 28 38.0	+2.0
	1µm80nm,0.6s						
CNOP	Candoni, Negro	9.37	0	*e*P	Pn	15 28 42.3	+1.1
GLSP	General Luna,	9.95	20	*e*P	Pn	15 28 51.4	+2.3
FAKI	Fak Fak	10.15	109	Pn	Pn	15 28 51.4	-0.5
FAKI	Fak Fak	10.15	109	P	Pn	15 28 51.2	-0.7
	24nm,0.9s						
SOEI	Soe	10.21	171	Pn	Pn	15 28 53.6	+0.8
SOEI	Soe	10.21	171	P	Pn	15 28 51.7	-1.1
	1µm82nm,0.8s						
PLAI	Plampang	10.36	208	P	Pn	15 28 56.6	+1.9
	768nm65nm,0.9s						
BATI	Baumata	10.58	175	P	Pn	15 28 59.9	+2.2
	12nm,0.3s,baz=317,slow=2.3,SNR=30						
BATI				LR	LR	15 33 38.8	
	comp=Z,245nm,19.4s,baz=266,slow=41						
BATI	Baumata	10.58	175	P	Pn	15 29 00.8	+3.1
	642nm72nm,0.9s						
SBUM	Sibu	10.61	281	Pn	Pn	15 28 57.2	-0.9
SBUM	Sibu	10.61	281	P	Pn	15 29 00.0	+1.9
TWSI	Taliwang, Sumb	10.73	212	P	Pn	15 29 01.5	+1.8
	422nm52nm,0.8s						
STKI	Sintang	11.17	268	P	Pn	15 29 06.7	+1.1
ENPP	El Nido	11.20	344	*e*P	Pn	15 29 06.2	+0.2
SRBI	Singaraja	11.21	221	P	Pn	15 29 06.9	+0.7
	71nm,1.1s						
KMMI	Kalianget	11.38	229	P	Pn	15 29 07.5	-1.0
	78nm,1.8s						
PBKI	Pangkalan Bun	11.39	254	P	Pn	15 29 09.1	+0.5
	115nm,0.7s						
JAGI	Jajag, Banyuwa	12.21	224		Pn	15 29 21.5	+2.1
JAGI	Jajag, Banyuwa	12.21	224	P	Pn	15 29 18.3	-1.1
	5µm589nm,0.7s						
KSM	Kuching	12.38	275	P	P	15 29 31.0	+1.9
BOAC	Boac	13.00	357	*e*P	P	15 29 33.8	-2.2
LQP	Lukban	13.67	355⇑	*e*P	P	15 29 42.9	-0.8
SMRI	Semarang	14.24	238	P	P	15 29 49.1	-0.8
	139nm,1.4s						
UGM	Wanagama	14.63	235	Pn	Pn	15 29 50.8	0.0
BALP	Baler	15.28	356	*e*P	P	15 30 01.8	+0.4
TPI	Tanjungpandan	15.30	258	P	Pn	15 29 58.6	-0.8
	23nm,0.9s						
JCJI	Jatiwangi	15.89	244	P	P	15 30 10.0	+1.9
	374nm,1.2s						
KDU	Kakadu	16.25	143	P	P	15 30 11.8	-0.3
	baz=16,SNR=6.2						
CAUP	Cauayan	16.46	357	*e*P	P	15 30 16.7	+2.2
LEM	Lembang	16.62	244	P	P	15 30 17.9	+1.5
	2.8nm,0.3s,baz=15,slow=9.6,SNR=23						
LEM				LR	LR	15 38 17.5	
	comp=Z,63nm,20.8s,baz=302,slow=43						
LEM	Lembang	16.62	244	P	P	15 30 17.9	+1.5
	1µm98nm,0.9s						
PPBI	Pangkal Pinang	16.69	261	P	Pn	15 30 16.1	-0.5
CISI	Cisompet, Garu	16.76	242	P	P	15 30 17.8	-0.1
CISI	Cisompet, Garu	16.76	242	P	P	15 30 18.0	+0.1
	5µm522nm,1.1s						
CBJI	Citeko	17.15	246	P	Pn	15 30 23.4	+1.2
	352nm,0.8s						
DBJI	Dramaga	17.29	246	P	Pn	15 30 25.1	+1.2
	82nm,1.0s						
APYP	Conner	17.41	356	*e*P	Pn	15 30 26.9	+1.7
DLV	T Lat	18.14	310	P	P	15 30 31.6	-1.5
BLSI	Bandar Lampung	18.29	252	P	Pn	15 30 36.2	+0.3
	188nm,0.7s						
KLSI		18.59	254	P	Pn	15 30 39.4	-0.1
	536nm66nm,1.0s						
FITZ	Fitzroy Crossi	18.61	171	P	Pn	15 30 39.1	-0.5
	11nm,0.3s,baz=7.3,slow=8.8,SNR=90						
FITZ	Fitzroy Crossi	18.61	171	P	Pn	15 30 39.2	-0.5
	baz=19,SNR=33						
FITZ	Fitzroy Crossi	18.61	171	P	P	15 30 38.5	+0.4
FITZ				IAmb	IAmb	15 30 40.3	
	comp=Z,94nm,0.8s						
MYKOM	Kota Tinggi	18.84	274	P	P	15 30 39.9	-0.7
MYKOM	Kota Tinggi	18.84	274	P	Pn	15 30 42.0	-0.4
KASI	Kota Agung	19.05	252	P	Pn	15 30 44.4	-0.5
	comp=Z,1µmcomp=Z,208nm,1.1s						
MDSI	Maura Dua	19.07	255	P	P	15 30 44.0	+0.8
	comp=Z,2µmcomp=Z,343nm,0.9s						
JMBI	JAMBI	19.10	264	P	P	15 30 44.1	+0.6
	comp=Z,135nm,0.7s						
LWLI	Liwa	19.32	254	P	Pn	15 30 48.5	+0.3
	comp=Z,131nm,0.9s						
LHSI	Lahat	19.56	257	P	Pn	15 30 50.5	-0.3
	comp=Z,1µmcomp=Z,145nm,1.1s						
XMI	Christmas Isla	20.01	237	P	P	15 30 53.1	-0.3
XMIS	Christmas Isla	20.06	237	P	P	15 30 51.0	-2.9
XMIS	Christmas Isla	20.06	237	P	P	15 30 53.7	-0.2
MNAI	Manna	20.23	256	P	P	15 30 56.9	+1.2
MNAI	Manna	20.23	256	P	P	15 30 57.1	+1.4
	comp=Z,225nm,1.2s						
SDSI	Sungai Dareh	21.25	266	P	P	15 31 07.7	+1.0
	comp=Z,51nm,1.2s						
IPM	Ipoh	21.97	281	P	P	15 31 14.3	-0.1
IPM				IAmb	IAmb	15 31 22.0	
	comp=Z,26nm,0.7s						
IPM	Ipoh	21.97	281	P	P	15 31 15.0	+0.6
PSA00	Pilbara Seismi	22.00	187	P	P	15 31 13.8	-0.8
PSA00				IAmb	IAmb	15 31 15.1	
	comp=Z,71nm,0.8s						
PSA00	Pilbara Seismi	22.00	187	P	P	15 31 13.4	-1.2
PSA00				IAmb	IAmb	15 31 15.4	
	comp=Z,36nm,0.8s						
QIZ	Qiongzhong	22.37	327	P	P	15 31 18.4	-0.1
QIZ				S	S	15 35 18.0	+1.1
QIZ	Qiongzhong	22.37	327	P	P	15 31 18.3	-0.2
KULM	Kulim	22.49	283	P	P	15 31 19.7	0.0
KULM	Kulim	22.49	283	P	P	15 31 20.0	+0.3
UBPT	Khong Chiam	22.50	312	P	P	15 31 22.0	+2.2
	comp=Z,12nm,1.1s						
UBPT	Khong Chiam	22.50	312	P	P	15 31 20.4	+0.6

MNSI Mandailing Nat 23.06 271 P **P** **15 31 26.1 +0.7**
comp=Z,33nm,1.2s
WRAB Tennant Creek 23.24 151 P **P** **15 31 26.4 -0.5**
WRAB IAmb IAmb 15 31 28.8
comp=Z,76nm,1.1s
WRA Warramunga Arr 23.24 151 P **P** **15 31 27.0 0.0**
comp=Z,32nm,0.5s,baz=336,slow=9.2,SNR=93
WRA ScP **ScP** **15 38 38.6 -1.2**
comp=Z,2.5nm,0.8s,baz=313,slow=1.7,SNR=8.0
WB2 Warramunga Arr 23.24 151 P **P** **15 31 27.2 +0.2**
baz=23
WB2 Warramunga Arr 23.24 151 P **P** **15 31 26.4 -0.6**
WB2 IAmb IAmb 15 31 28.8
comp=Z,103nm,1.2s
WR0 Warramunga Arr 23.35 151 P **P** **15 31 27.2 -0.8**
WR0 IAmb IAmb 15 31 29.8
comp=Z,94nm,0.8s
RPSI Rantau Prapat 23.82 276 P **P** **15 31 31.3 -0.9**
RPSI Rantau Prapat 23.82 276 P **P** **15 31 33.1 +0.9**
PSI Prapat 23.82 276 P **P** **15 31 33.1 +0.6**
comp=Z,10.0nm,0.6s,baz=177,slow=1.2,SNR=11
PSI LR LR 15 41 49.6
comp=Z,162nm,18.7s,baz=162,slow=39
TRTT Trang 24.04 288 P **P** **15 31 35.4 +1.2**
comp=Z,49nm,0.9s
TSI Tuntungan 24.25 278 P **P** **15 31 35.0 -1.2**
comp=Z,68nm,0.9s
GIRL Giralia 24.32 199 P **P** **15 31 37.7 +1.1**
baz=24,SNR=23
GIRL Giralia 24.32 199 P **P** **15 31 37.5 +0.9**
SRAK Srakaew 24.46 304 P **P** **15 31 37.1 -1.0**
comp=Z,3µmcomp=Z,157nm,0.8s
COEN Coen 24.84 126 P **P** **15 31 41.8 +0.2**
GSI Gunungsitoli 25.08 272 P **P** **15 31 43.8 +0.1**
GSI IAmb IAmb 15 31 45.2
comp=Z,30nm,0.7s
GSI Gunungsitoli 25.08 272 P **P** **15 31 42.8 -0.9**
comp=Z,48nm,0.7s
KHON Khomkaen 25.15 310 P **P** **15 31 47.0 +2.6**
comp=Z,85nm,0.8s
SURT Suratani 25.22 290 P **P** **15 31 49.8 +4.8**
comp=Z,0.7nm,1.2s
PKDT Phuket 25.34 288 P **P** **15 31 47.2 +1.1**
comp=Z,32nm,1.1s
CHAI Chaiyaphum 25.55 308 P **P** **15 31 50.9 +2.9**
comp=Z,520nmcomp=Z,47nm,1.0s
TPTI 25.60 277 P **P** **15 31 47.8 -0.7**
comp=Z,15nm,0.6s
RNTT Ranong 25.66 291 P **P** **15 31 46.1 -2.8**
comp=Z,270nmcomp=Z,9.2nm,0.9s
WRKA Warakurna 25.87 168 P **P** **15 31 51.0 +0.2**
baz=26,SNR=68
PHET Kaeng Krachan 25.98 300 P **P** **15 31 54.0 +2.2**
comp=Z,1µmcomp=Z,136nm,0.6s
NONG Nongkai 25.99 314 P **P** **15 31 54.6 +2.7**
comp=Z,38nm,1.0s
ASPA Alice Springs 26.30 156 P **P** **15 31 55.0 +0.3**
baz=26
AS31 Alice Springs 26.30 156 P **P** **15 31 54.2 -0.5**
ASAR Alice Springs 26.30 156 P **P** **15 31 55.9 +1.1**
comp=Z,10nm,0.5s,baz=341,slow=14,SNR=112
ASAR PcP **PcP** **15 35 18.6 +0.1**
comp=Z,4.1nm,0.4s,baz=346,slow=2.1,SNR=11
ASAR S **S** **15 36 18.5 -1.2**
comp=Z,2.4nm,1.0s,baz=347,slow=22,SNR=4.4
ASAR ScP **ScP** **15 38 47.3 -1.1**
comp=Z,2.2nm,0.5s,baz=339,slow=2.8,SNR=21
ASAR LR LR 15 42 57.6
comp=Z,93nm,19.7s,baz=354,slow=38
ASAR Alice Springs 26.30 156 P **P** **15 31 54.4 -0.3**
ASAR **PcP** **15 35 18.5 +0.1**
QIS Mount Isa 26.63 142 P **P** **15 31 58.3 +0.6**
baz=27,SNR=36
JOW Kunigami 26.84 11 LR LR 15 42 56.9
comp=Z,67nm,20.1s,baz=204,slow=37
LOEI Loei 27.05 310 P **P** **15 32 01.0 -0.4**
comp=Z,23nm,0.8s
UTHA Uthaitani 27.41 304 P **P** **15 32 07.2 +2.5**
comp=Z,312nmcomp=Z,34nm,0.6s
PHIT Phitsanulok 27.52 309 P **P** **15 32 10.2 +4.6**
comp=Z,57nm,0.8s
SLVN Son La 27.70 320 P **P** **15 32 09.2 +1.9**
UTTA Uttaradit 27.73 310 P **P** **15 32 11.9 +4.4**
comp=Z,17nm,1.1s
MTSU Mount Surprise 28.17 132 P **P** **15 32 11.4 -0.1**
baz=28,SNR=6.5
UMPA Umpang Tak 28.23 305 P **P** **15 32 16.8 +4.8**
comp=Z,2µmcomp=Z,15nm,0.8s
SUKH Sukhothai 28.30 308 P **P** **15 32 15.6 +3.1**
comp=Z,250nmcomp=Z,27nm,0.8s
LAMP Lampang 28.89 310 P P 15 32 22.7 +4.8
comp=Z,19nm,0.7s
CM36 Chiang Mai Arr 29.31 309 P **P** **15 32 24.0 +2.5**
CM04 Chiang Mai Arr 29.33 309 P **P** **15 32 25.2 +3.5**
comp=Z,66nmcomp=Z,9.4nm,1.1s
CM09 Chiang Mai Arr 29.34 309 P **P** **15 32 25.0 +3.1**
comp=Z,69nmcomp=Z,8.6nm,0.8s
CM35 Chiang Mai Arr 29.35 310 P **P** **15 32 24.0 +2.1**
CM01 Chiang Mai Arr 29.36 309 P **P** **15 32 25.2 +3.2**
comp=Z,77nmcomp=Z,10nm,0.8s
CM05 Chiang Mai Arr 29.36 309 P **P** **15 32 25.0 +3.0**
comp=Z,60nmcomp=Z,7.3nm,0.8s
CM02 Chiang Mai Arr 29.37 309 P **P** **15 32 25.4 +3.2**
comp=Z,63nmcomp=Z,8.5nm,0.7s
CM31 Chiang Mai Arr 29.39 309 P **P** **15 32 26.7 +4.5**
comp=Z,166nm,0.8s
CM31 Chiang Mai Arr 29.39 309 P **P** **15 32 23.6 +1.4**
CMAR Chiang Mai Arr 29.39 309 P **P** **15 32 24.4 +2.1**
comp=Z,4.2nm,0.7s,baz=134,slow=7.3,SNR=35
CMAR ScP **ScP** **15 38 57.5 -0.5**
comp=Z,2.8nm,1.0s,baz=169,slow=2.4,SNR=16
CMAR LR LR 15 46 35.7
comp=Z,28nm,18.8s,baz=110,slow=41
CMAR Chiang Mai Arr 29.39 309 P **P** **15 32 22.4 +0.1**
CM13 Chiang Mai Arr 29.40 309 P **P** **15 32 25.0 +2.7**
comp=Z,78nmcomp=Z,9.2nm,1.3s
CM15 Chiang Mai Arr 29.40 309 P **P** **15 32 25.0 +2.6**
comp=Z,10nm,0.8s
CM34 Chiang Mai Arr 29.46 310 P **P** **15 32 25.0 +2.1**
CM32 Chiang Mai Arr 29.58 309 P **P** **15 32 27.0 +3.1**
CMMT Chiang Mai 29.59 310 P **P** **15 32 25.0 +0.9**
comp=Z,8.7nm,1.1s
CHTO Chiang Mai 29.59 310 P **P** **15 32 24.1 +0.1**
CHTO IAmb IAmb 15 32 28.0
comp=Z,16nm,0.9s
CM33 Chiang Mai Arr 29.59 310 P **P** **15 32 26.0 +1.9**
MORW Morawa 29.97 192 P **P** **15 32 27.1 -0.2**
baz=30,SNR=12
MORW Morawa 29.97 192 P **P** **15 32 26.7 -0.6**
MORW IAmb IAmb 15 32 28.0
comp=Z,52nm,0.9s
MHMT Maesarieng 30.03 307 P **P** **15 32 30.3 +2.4**
GYA Guiyang 30.14 331 ⇑P **P** **15 32 31.5 +2.6**
GYA sP sP 15 33 05.8 0.0
GYA pmax pmax
comp=Z,12nm,0.6s
CTA Charters Tower 30.81 133 P **P** **15 32 36.1 +1.3**
comp=Z,3.1nm,0.7s,baz=320,slow=14,SNR=8.2
CTAO Charters Tower 30.81 133 P **P** **15 32 36.2 +1.3**
WHN Wuhan 31.00 346 ⇑P **P** **15 32 39.2 +2.9**
KMI Kunming 31.21 323 ⇓P **P** **15 32 42.4 +3.9**
KMI pP pP 15 33 00.6 -2.2
KMI pmax pmax
comp=Z,9.0nm,1.0s
KMI pmax pmax
comp=Z,100nm,6.8s
KMI LR LR
comp=Z,140nm,6.1s
KMI LR LR
comp=Z,130nm,10.2s
KMI LR LR
comp=Z,110nm,5.7s
BLDU Ballidu 31.35 190 P **P** **15 32 38.9 -0.5**
baz=32,SNR=38
FORT Forrest 31.43 171 P **P** **15 32 40.2 +0.2**
baz=32,SNR=40
FORT Forrest 31.43 171 P **P** **15 32 40.0 -0.1**
KMBL Kambalda 31.60 181 P **P** **15 32 41.3 -0.3**
baz=32,SNR=16
NJ2 Nanjing 31.69 354 *e*P **P** **15 32 43.7 +1.4**
NJ2 pmax pmax
comp=Z,15nm,0.7s
PBA Port Blair 31.72 292 P P 15 32 41.6 -1.2
KLBR Kellerberrin 32.15 188 P **P** **15 32 46.0 -0.4**
baz=32,SNR=14
JCJ Chichijima 32.52 34 P **P** **15 32 49.5 -0.3**
comp=Z,64nm,0.5s,baz=131,slow=20,SNR=2.4
JCJ Chichijima 32.52 34 P **P** **15 32 49.4 -0.3**
MUN Mundaring 32.77 190 P **P** **15 32 51.3 -0.5**
baz=33,SNR=4.1
JNU Nakatsue 33.46 13 LR LR 15 50 00.6
comp=Z,46nm,18.0s,baz=182,slow=42
NWAO Narrogin (SRO) 33.53 188 P **P** **15 32 58.4 0.0**
comp=Z,38nm,0.8s,baz=23,slow=8.0,SNR=18
NWAO Narrogin (SRO) 33.53 188 P **P** **15 32 58.5 0.0**
baz=34,SNR=14
NWAO Narrogin (SRO) 33.53 188 P **P** **15 32 58.1 -0.4**
QLP Quilpie 33.95 144 P **P** **15 33 02.2 +0.1**
baz=34,SNR=8.5
JMN Monobe 34.80 17 P **P** **15 33 09.4 0.0**
JMN IAmb IAmb 15 33 11.4
comp=Z,26nm,0.9s
CD2 Chengdu 35.24 331 ⇑P **P** **15 33 15.1 +1.8**
CD2 S **S** **15 38 40.3 +1.3**
CD2 sS sS 15 39 24.1 +3.1
CD2 pmax pmax
comp=Z,70nm,0.6s
CD2 pmax pmax
comp=Z,270nm,9.7s
BBOO Buckleboo 35.37 160 P **P** **15 33 14.4 +0.1**
baz=36,SNR=57
BBOO Buckleboo 35.37 160 P **P** **15 33 14.2 -0.1**
BBOO IAmb IAmb 15 33 15.5
comp=Z,28nm,0.7s
JHS Saijyo 35.79 15 P **P** **15 33 17.7 -0.2**
JHS IAmb IAmb 15 33 21.7
comp=Z,41nm,1.4s
XAN Xi'an 35.85 340 P **P** **15 33 19.8 +1.3**
XAN pP pP 15 33 44.5 +1.4
XAN sP sP 15 33 55.6 -0.1
XAN ScP **ScP** **15 39 19.3 -0.7**
XAN pmax pmax
comp=Z,11nm,1.1s
JWT Wachi 36.69 18 P **P** **15 33 25.8 +0.2**
JWT IAmb IAmb 15 33 48.1
comp=Z,29nm,1.4s
STKA Stephens Creek 36.77 153 P **P** **15 33 26.9 +0.7**
comp=Z,12nm,0.5s,baz=325,slow=8.9,SNR=47
STKA ScP **ScP** **15 39 22.3 -1.1**
comp=Z,1.6nm,0.6s,baz=298,slow=1.1,SNR=4.2
STKA Stephens Creek 36.77 153 P **P** **15 33 26.9 +0.7**
baz=37,SNR=24
STKA Stephens Creek 36.77 153 P **P** **15 33 27.0 +0.7**
HTT Hallett 36.97 157 P **P** **15 33 29.0 +1.0**
baz=37,SNR=56
KSAR Wonju Array Be 37.18 7 P **P** **15 33 30.1 +0.5**
KSRS Korea Array 37.20 7 P **P** **15 33 30.0 +0.3**
comp=Z,1.8nm,0.8s,baz=183,slow=10,SNR=6.5
KSRS ScP **ScP** **15 39 23.8 -1.0**
comp=Z,1.5nm,0.8s,baz=182,slow=3.3,SNR=5.4
KSRS LR LR 15 47 44.2
comp=Z,24nm,21.1s,baz=185,slow=34
INU Inuyama 37.27 20 P **P** **15 33 30.1 -0.3**
INU IAmb IAmb 15 33 31.7
comp=Z,12nm,0.9s
EIDS Eidsvold 37.58 135 P **P** **15 33 32.9 -0.3**
JGF Kuroka 37.61 20 P **P** **15 33 33.0 -0.4**
JGF IAmb IAmb 15 33 36.4
comp=Z,15nm,1.0s
CMSA Cobar Meteorol 38.55 148 P **P** **15 33 42.6 +1.4**
baz=39,SNR=24
MJAR Matsushiro Arr 38.76 20 P **P** **15 33 42.7 -0.2**
comp=Z,22nm,0.9s,baz=193,slow=8.9,SNR=50
MJAR pP **pP** **15 34 05.9 -1.8**
comp=Z,16nm,0.9s,baz=189,slow=9.1,SNR=6.7
MJAR LR LR 15 52 22.5
comp=Z,26nm,18.1s,baz=190,slow=40
MJAR Matsushiro Arr 38.76 20 P **P** **15 33 42.3 -0.6**
MAJO Matsushiro 38.76 20 P **P** **15 33 42.3 -0.6**
MAJO IAmb IAmb 15 33 43.4
comp=Z,23nm,0.9s
SHL Shillong 38.82 313 P **P** **15 33 44.7 +0.8**
SHL IAmb IAmb 15 33 49.0
comp=Z,18nm,0.6s
LZH Lanzhou 39.57 336 *e*P **P** **15 33 51.3 +1.4**
LZH pP pP 15 34 17.2 +2.4
LZH sP sP 15 34 29.0 +1.7
LZH pmax pmax
comp=Z,14nm,1.0s
BJT Baijiatuau 39.88 352 P **P** **15 33 52.4 +0.3**
BJT IAmb IAmb 15 33 53.9
comp=Z,10nm,0.7s
BJI Beijing 39.90 352 P **P** **15 33 53.3 +1.0**
BJI ScP **ScP** **15 39 34.9 -0.1**
BJI pmax pmax
comp=Z,13nm,0.7s
BJI pmax pmax
comp=Z,120nm,7.0s
JMM Marumori 40.87 22 P **P** **15 34 00.7 +0.4**
ARPS Mount Arapiles 41.04 156 P **P** **15 34 03.0 +1.2**
baz=41,SNR=38
ARMA Armidale 41.23 141 P **P** **15 34 05.4 +1.9**
baz=41,SNR=11
ARMA Armidale 41.23 141 P **P** **15 34 04.8 +1.2**
ARMA IAmb IAmb 15 34 09.4
comp=Z,14nm,1.0s
HHC Hu-ho-hao-te 41.50 347 *e*P **P** **15 34 06.6 +1.0**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,240nm,5.1s
LSA Lhasa 41.81 317 P **P** **15 34 12.0 +3.2**
LSA pmax pmax
comp=Z,57nm,0.7s
LSA Lhasa 41.81 317 P **P** **15 34 11.3 +2.5**
LSA IAmb IAmb 15 34 16.8
comp=Z,19nm,0.6s
YNG Young 42.12 148 P **P** **15 34 12.7 +2.0**
baz=42,SNR=8.3
PALK Pallekele 42.37 280 P **P** **15 34 13.6 +0.6**
comp=Z,3.5nm,0.6s,baz=186,slow=3.7,SNR=6.1
PALK LR LR 15 51 23.2
comp=Z,132nm,19.9s,baz=200,slow=35
PALK Pallekele 42.37 280 P **P** **15 34 13.6 +0.6**
ODAN Odare 42.90 311 *e*P **P** **15 34 19.7 +2.4**
comp=Z,46nm,0.7s
ODAN Odare 42.90 311 *e*P **ScP** **15 39 46.2 -1.4**
comp=Z,7.9nm,0.8s
TAPN Taplejung 42.91 312 *e*P **P** **15 34 19.7 +2.1**
comp=Z,51nm,0.6s
CAN Canberra 43.22 148 P **P** **15 34 21.3 +1.8**
CAN IAmb IAmb 15 34 23.4
comp=Z,28nm,0.7s
TOO Toolangi 43.28 153 P **P** **15 34 22.1 +2.1**
baz=43,SNR=26
TOO Toolangi 43.28 153 P **P** **15 34 21.9 +1.9**
TOO IAmb IAmb 15 34 23.2
comp=Z,19nm,0.8s
CNB Canberra Magne 43.41 148 P **P** **15 34 22.2 +1.1**
baz=44,SNR=17
RAMN Ramite 43.54 310 *e*P **P** **15 34 25.2 +2.6**
comp=Z,103nm,0.6s
RAMN Ramite 43.54 310 *e*P **ScP** **15 39 49.0 -1.2**
comp=Z,6.6nm,0.7s
JTM Tenmabayashi 43.55 20 P **P** **15 34 22.8 +0.7**
GTA Gaotai 44.08 334 ⇓P **P** **15 34 28.6 +2.1**
GTA pP pP 15 34 53.2 +1.1
GTA sP sP 15 35 03.5 -1.0
GTA ScP **ScP** **15 39 51.3 -0.7**
GTA pmax pmax
comp=Z,18nm,0.9s
GTA pmax pmax
comp=Z,110nm,6.5s
GTA LR LR
comp=Z,130nm,18.5s
GTA LR LR
comp=Z,150nm,18.5s
GTA LR LR
comp=Z,210nm,18.2s
USRK Ussuriysk Ar. 44.40 10 P **P** **15 34 29.2 +0.4**
comp=Z,7.3nm,0.7s,baz=194,slow=6.3,SNR=39
USRK Ussuriysk Ar. 44.40 10 P **P** **15 34 29.4 +0.6**
USA0B Ussuriysk Arra 44.40 10 P **P** **15 34 29.4 +0.6**
USA0B IAmb IAmb 15 34 30.3
comp=Z,10nm,0.8s
MDJ Mudanjiang 44.46 7 P **P** **15 34 30.2 +0.9**
MDJ pP pP 15 34 56.1 +1.5
MDJ sP sP 15 35 09.1 +2.1
MDJ pmax pmax
comp=Z,18nm,0.8s
MDJ pmax pmax
comp=Z,160nm,4.5s
MDJ Mudanjiang 44.46 7 P **P** **15 34 30.1 +0.9**
MDJ IAmb IAmb 15 34 30.9
comp=Z,14nm,0.9s
GUN Gumba 44.59 311 *e*P **P** **15 34 33.0 +2.0**
comp=Z,115nm,0.6s
GUN Gumba 44.59 311 *e*P **ScP** **15 39 53.0 -1.6**
comp=Z,13nm,1.0s
PKI Pulchoki 44.77 310 *e*P **P** **15 34 34.0 +1.6**
comp=Z,32nm,0.6s
PKI Pulchoki 44.77 310 *e*P **ScP** **15 39 53.7 -1.7**
comp=Z,14nm,0.9s
PKIN Phulchoki 44.78 310 *e*P **P** **15 34 34.2 +1.7**
comp=Z,34nm,0.5s
PKIN Phulchoki 44.78 310 *e*P **ScP** **15 39 53.8 -1.5**
comp=Z,8.7nm,0.8s
KKN Kakani 44.98 310 *e*P **P** **15 34 36.1 +2.1**
comp=Z,39nm,0.6s
KKN Kakani 44.98 310 *e*P **ScP** **15 39 54.9 -1.2**
comp=Z,17nm,0.8s
DMN Daman 45.02 310 *e*P **P** **15 34 36.5 +2.2**
comp=Z,50nm,0.7s
DMN Daman 45.02 310 *e*P **ScP** **15 39 54.8 -1.5**
comp=Z,22nm,1.1s
ERM Erimo 45.37 22 P **P** **15 34 36.7 +0.2**
ERM IAmb IAmb 15 34 38.8
comp=Z,15nm,0.8s
KWAJ Kwajalein Atol 45.55 78 P **P** **15 34 37.6 -0.8**
GKN Gorkha 45.58 310 *e*P **P** **15 34 40.5 +1.9**
comp=Z,77nm,0.6s
GKN Gorkha 45.58 310 *e*P **ScP** **15 39 56.7 -1.8**
comp=Z,12nm,0.8s
HYB Hyderabad 46.54 294 *i* P **P** **15 34 45.0 -1.2**
comp=Z,120nm,1.0s
ASAJ Asahikawa 47.02 20 P **P** **15 34 49.9 +0.5**
comp=Z,24nm,0.8s,baz=235,slow=11,SNR=26
JKA Kamikawa-asahi 47.02 20 P **P** **15 34 49.4 -0.1**
JKA IAmb IAmb 15 34 51.4
comp=Z,33nm,0.9s
DZM Mont Dzumac 48.17 120 P **P** **15 35 00.0 +1.2**
comp=Z,5.2nm,0.6s,baz=326,slow=10.0,SNR=6.6
ULN Ulaanbaatar 49.18 346 P **P** **15 35 03.8 -2.4**
ULN IAmb IAmb 15 35 08.4
comp=Z,24nm,0.8s
SONM Songino Array 49.31 346 P **P** **15 35 08.3 +1.1**
comp=Z,24nm,0.8s,baz=161,slow=8.5,SNR=69
SONM pP **pP** **15 35 31.8 -1.5**
comp=Z,6.3nm,0.8s,baz=161,slow=9.2,SNR=2.7
SONM ScP **ScP** **15 40 12.1 -1.6**
comp=Z,0.7nm,0.7s,baz=164,slow=3.7,SNR=5.2
SONM LR LR 15 58 49.3
comp=Z,89nm,18.1s,baz=191,slow=39
YSS Yuzh-Sakhalins 49.59 18 P **P** **15 35 09.3 +0.2**
YSS IAmb IAmb 15 35 11.0
comp=Z,17nm,1.0s
WMQ Urumqi 53.27 329 *e*P **P** **15 35 38.6 +1.9**
WMQ pP pP 15 36 03.6 +0.6
WMQ sP sP 15 36 14.2 -1.1
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,84nm,5.7s
WMQ Urumqi 53.27 329 P **P** **15 35 37.4 +0.7**
WMQ IAmb IAmb 15 35 42.2
comp=Z,11nm,0.8s
TLY Talaya 53.55 345 P **P** **15 35 40.2 +1.7**
comp=Z,6.6nm,0.6s,baz=174,slow=5.5,SNR=8.1
TLY Talaya 53.55 345 P **P** **15 35 38.9 +0.3**
TLY IAmb IAmb 15 35 41.1
comp=Z,15nm,1.0s
NIL Nilore 56.86 311 P **P** **15 36 02.1 -0.6**
ZSN Zaisan 57.22 330 *e*P **P** **15 36 05.7 +0.7**
comp=Z,4.6nm,1.0s,baz=330
SHLS Shalkode 57.43 324 *e*P **P** **15 36 06.8 +0.1**
comp=Z,9.5nm,0.8s,baz=324
KSH Kashi 57.65 318 P **P** **15 36 09.3 +1.1**
KSH pP pP 15 36 35.3 +0.5
KSH pmax pmax
comp=Z,19nm,0.6s
KSH pmax pmax
comp=Z,330nm,5.6s
UZB Uzynbulak 57.69 323 *e*P **P** **15 36 09.1 +0.6**
baz=323
SATY Saty 58.01 323 *e*P **P** **15 36 12.6 +1.9**
comp=Z,12nm,0.7s,baz=323
KPKS Kokpek 58.07 323 *e*P **P** **15 36 12.7 +1.6**
comp=Z,12nm,0.7s,baz=323
MK31 Makanchi Array 58.09 328 P **P** **15 36 11.9 +0.8**
MK31 IAmb IAmb 15 36 13.3
comp=Z,12nm,0.9s
MKAR Makanchi Array 58.09 328 P **P** **15 36 12.3 +1.3**
comp=Z,6.7nm,0.5s,baz=125,slow=8.5,SNR=160
MKAR pP **pP** **15 36 37.4 -0.4**
comp=Z,4.9nm,0.8s,baz=127,slow=7.0,SNR=3.2
MKAR PcP **PcP** **15 37 01.4 -0.3**
comp=Z,3.4nm,0.5s,baz=145,slow=4.3,SNR=7.6
MKAR ScP **ScP** **15 40 50.6 -1.4**
comp=Z,1.6nm,0.8s,baz=116,slow=5.5,SNR=6.4
MKAR Makanchi Array 58.09 328 P **P** **15 36 11.9 +0.8**
MAKZ Makanchi 58.26 328 P **P** **15 36 13.3 +1.1**
MAKZ IAmb IAmb 15 36 14.4
comp=Z,11nm,0.9s
TNSS Tian-Shan 58.88 322 *e*P **P** **15 36 18.9 +1.8**
baz=322
MDOK Medeo 58.89 322 *e*P **P** **15 36 18.6 +1.7**
baz=322
AAA Alma-Ata 59.00 322 *e*P **P** **15 36 19.1 +1.6**
comp=Z,6.8nm,0.6s,baz=322
TDK Taldyorghan 59.13 325 *e*P **P** **15 36 19.7 +1.4**
comp=Z,17nm,0.7s,baz=325
CHKK Chushkaly 59.31 323 *e*P **P** **15 36 20.5 +0.9**
baz=323
TKM2 Tokmak 2 59.65 321 P **P** **15 36 23.9 +1.6**
SNR=9.2
KUU Kurty 59.72 323 *e*P **P** **15 36 23.7 +1.3**
comp=Z,21nm,0.7s,baz=323
KBK Karagaybulak 59.92 321 P **P** **15 36 25.4 +1.4**
SNR=10
UCH Uchtor 59.98 320 P **P** **15 36 27.0 +2.3**
SNR=6.1
PEA0B Petropavlovsk- 60.07 24 P **P** **15 36 25.7 +1.1**
PETK Petropavlovsk- 60.07 24 P **P** **15 36 25.7 +1.2**
comp=Z,17nm,0.8s,baz=214,slow=2.6,SNR=45
PETK Petropavlovsk- 60.07 24 P **P** **15 36 25.0 +0.5**
AAK Ala-Archa 60.20 321 P **P** **15 36 28.0 +2.1**
comp=Z,3.5nm,0.5s,baz=148,slow=7.0,SNR=23
AAK Ala-Archa 60.20 321 P **P** **15 36 28.0 +2.1**
SNR=7.2
AAK Ala-Archa 60.20 321 P **P** **15 36 27.4 +1.5**
PET Petropavlovsk 60.39 24 P **P** **15 36 27.5 +0.8**
KBL Kabul 60.41 310 P **P** **15 36 27.7 +0.1**
AML Almayashu 60.45 320 P **P** **15 36 29.9 +2.0**
SNR=14
USP Ospenovka 60.52 321 P **P** **15 36 29.6 +1.7**
SNR=12
FOZ Fox Glacier 60.68 142 P **P** **15 36 29.8 +0.9**
MLZ Mavora Lakes 60.70 145 P **P** **15 36 29.6 +0.6**
MLZ IAmb IAmb 15 36 30.5
comp=Z,11nm,0.9s
WHZ Wether Hill Ro 60.90 145 P **P** **15 36 30.8 +0.4**
RPZ Reta Peaks 61.54 142 P **P** **15 36 34.7 -0.1**
YAK Yakutsk 61.71 4 P **P** **15 36 33.6 -1.8**
BTLS Baital 61.72 323 *e*P **P** **15 36 36.6 +0.7**
baz=323
THZ Tophouse 61.73 139 P **P** **15 36 36.8 +0.7**
THZ IAmb IAmb 15 36 46.9
comp=Z,17nm,1.0s
NNZ Nelson 61.78 138 P **P** **15 36 36.6 +0.3**
ZALV Zalesovo Beam 61.81 336 P **P** **15 36 36.4 +0.1**
comp=Z,4.9nm,0.8s,baz=117,slow=5.6,SNR=17
ZALV pP **pP** **15 37 02.0 -1.3**
comp=Z,4.6nm,0.7s,baz=116,slow=6.9,SNR=4.5
KURBB Kurchatov Arra 62.44 330 pP pP 15 37 07.2 -0.6
comp=Z,4.7nm,0.8s,baz=132,slow=5.9,SNR=4.1
KURK Kurchatov 62.46 330 pP 15 37 07.2 -0.6
KHZ Kahutara 62.46 140 P **P** **15 36 41.3 +0.4**
MQZ McQueen's Vall 62.53 141 P **P** **15 36 41.9 +0.6**
SNZO South Karori 62.70 138 P **P** **15 36 42.4 -0.1**
IUG Iuzhnay 62.86 318 *e*P **P** **15 36 44.5 +0.8**
comp=Z,3.1nm,0.6s,baz=318
MA2 Magadan 62.95 16 P **P** **15 36 44.6 +0.8**
MA2 IAmb IAmb 15 36 46.1
comp=Z,33nm,0.9s
MA2 pP **pP** **15 37 10.7 0.0**
KK31 Karatay Array 62.98 320 P **P** **15 36 45.0 +0.6**
KKAR Karatay Array 62.98 320 P **P** **15 36 44.8 +0.4**
BKZ Black Stump Fm 62.98 135 P **P** **15 36 45.1 +0.6**
BKZ IAmb IAmb 15 36 47.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,20nm,1.1s						
PLWZ	**Palliser**	**63.19**	**138**	P	**P**	**15 36 45.9**	**+0.1**
BRZS	**Berezniki**	**65.13**	**327**	*e*P	**P**	**15 36 58.7**	**+0.4**
	baz=327						
WSAR	**Wadi Sarin**	**66.06**	**295**	P	**P**	**15 37 03.5**	**-1.2**
	comp=Z,2.9nm,0.6s,baz=123,slow=5.6,SNR=6.5						
CASY	**Casey**	**67.09**	**185**	P	**P**	**15 37 10.7**	**+0.2**
CASY				IAmb	IAmb	15 37 22.2	
	comp=Z,23nm,1.1s						
BRVK	**Borovoye**	**68.03**	**329**	P	**P**	**15 37 16.8**	**+0.1**
SOCY	**Socotra**	**69.06**	**283**	P	**P**	**15 37 21.9**	**-2.0**
SOCY				IAmb	IAmb	15 37 43.5	
	comp=Z,17nm,1.1s						
GEYT	**Alibeck**	**69.86**	**311**	P	**P**	**15 37 28.7**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=137,slow=11,SNR=4.6						
GEYT	**Alibeck**	**69.86**	**311**	IAmb	IAmb	15 37 30.8	
	comp=Z,6.9nm,1.4s						
TIXI	**Tiksi**	**71.25**	**2**	P	**P**	**15 37 35.1**	**-0.9**
	comp=Z,6.2nm,0.6s,baz=160,slow=5.1,SNR=14						
TIXI	**Tiksi**	**71.25**	**2**	P	**P**	**15 37 35.4**	**-0.7**
TIXI				IAmb	IAmb	15 38 02.1	
	comp=Z,17nm,1.2s						
ABKAR	**Akbulak array**	**72.20**	**322**	P	**P**	**15 37 41.2**	**-1.0**
GSTR	**Great Sitkin T**	**72.44**	**35**	P	**P**	**15 37 43.1**	**-0.5**
QRN	**Al-Qurain**	**76.43**	**299**	*e*P		15 38 05.9	
UMR	**Umm Al-Rimmam**	**76.70**	**300**	*e*P		15 38 07.3	
RDF	**Al-Radifah**	**76.77**	**300**	*e*P		15 38 07.5	
MIB	**Mutribah**	**77.06**	**300**	*e*P		15 38 09.1	
RAYN	**Ar Rayn**	**78.05**	**294**	P	**P**	**15 38 14.2**	**-2.2**
AKUT	**Akutan**	**78.97**	**35**	P	**P**	**15 38 20.3**	**-0.4**
VNDA	**Vanda**	**80.69**	**172**	P	**P**	**15 38 28.6**	**-0.9**
	comp=Z,5.5nm,0.7s,baz=316,slow=7.3,SNR=12						
VNDA	**Vanda**	**80.69**	**172**	P	**P**	**15 38 28.4**	**-1.1**
KBZ	**Khabaz**	**82.31**	**314**	P	**P**	**15 38 39.1**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=242,slow=4.7,SNR=4.7						
MARD	**Mardin**	**83.28**	**307**	P	**P**	**15 38 42.6**	**-1.6**
RDOG	**Red Dog Mine**	**83.85**	**21**	P	**P**	**15 38 45.7**	**-0.6**
RDOG				IAmb	IAmb	15 38 48.8	
	comp=Z,14nm,1.0s						
MMAI	**Mount Meron Ar**	**87.47**	**303**	P	**P**	**15 39 04.6**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=90,slow=6.5,SNR=4.6						
SYO	**Syowa Base**	**87.87**	**201⇓**	*e*P	**P**	**15 39 07.4**	**+1.5**
I23K	**Minto, Yukon-K**	**88.80**	**25**	P	**P**	**15 39 10.6**	**+0.2**
I23K					**pP**	**15 39 37.8**	**-1.2**
I23K				IAmb	IAmb	15 39 38.7	
	comp=Z,7.1nm,0.9s						
TOLK	**Toolik Lake Re**	**88.82**	**21**	P	**P**	**15 39 11.1**	**+0.5**
BRTR	**Keskin Array B**	**88.98**	**310**	P	**P**	**15 39 10.9**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=128,slow=5.7,SNR=5.3						
CCB	**Clear Creek Bu**	**89.45**	**26**	P	**P**	**15 39 12.1**	**-1.4**
HDA	**Harding Lake**	**89.83**	**26**	P	**P**	**15 39 15.0**	**-0.3**
ILAR	**Eielson Array**	**89.85**	**25**	P	**P**	**15 39 13.9**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=240,slow=4.2,SNR=5.0						
AKASG	**Malin Array Be**	**91.87**	**321**	P	**P**	**15 39 23.7**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=68,slow=4.7,SNR=5.5						
EGAK	**Eagle**	**92.30**	**25**	P	**P**	**15 39 26.6**	**-0.1**
EGAK				IAmb	IAmb	15 39 54.8	
	comp=Z,8.1nm,1.2s						
DAWY	**Dawson**	**93.14**	**26**	P	**P**	**15 39 31.4**	**+0.7**
DAWY				IAmb	IAmb	15 39 32.3	
	comp=Z,4.6nm,0.9s						
INK	**Inuvik**	**94.73**	**21**	P	**P**	**15 39 37.1**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=309,slow=3.7,SNR=6.7						
INK	**Inuvik**	**94.73**	**21**	P	**P**	**15 39 37.5**	**-0.4**
INK				IAmb	IAmb	15 39 38.2	
	comp=Z,2.3nm,0.8s						
WHY	**Whitehorse**	**95.77**	**29**	P	**P**	**15 39 43.8**	**+0.9**
WHY				IAmb	IAmb	15 40 12.2	
	comp=Z,9.0nm,1.1s						
LBTB	**Lobatse**	**96.55**	**245**	LR	LR	16 18 26.5	
	comp=Z,27nm,18.5s,baz=88,slow=32						
ULM	**Lac du Bonnet**	**119.81**	**27**	PKP	**PKPdf**	**15 45 05.6**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=269,slow=3.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**119.96**	**285**	PKP	**PKPdf**	**15 45 06.8**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=49,slow=1.5,SNR=3.9						
TXAR	**Lajitas Array**	**126.86**	**52**	PKP	**PKiKP**	**15 45 21.6**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=304,slow=0.5,SNR=4.7						
DBIC	**Dimbokro**	**127.14**	**279**	PKP	**PKPdf**	**15 45 21.4**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=67,slow=7.5,SNR=3.0						
PLCA	**Paso Flores**	**138.10**	**165**	PKP	**PKiKP**	**15 45 43.2**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=30,slow=6.7,SNR=7.1						
AUSP	**Uspallata**	**146.37**	**161**	*i* P	**PKPab**	**15 45 59.3**	**+0.1**
RTLS	**Leoncito**	**146.79**	**161**	*i* P	**PKPab**	**15 46 00.5**	**-0.4**
RTCV	**Cerro Valdivia**	**146.97**	**162**	*i* P	**PKPbc**	**15 46 00.1**	**+0.4**
ACCO	**Cerro Coronel**	**147.98**	**161**	*i* P	**PKPbc**	**15 46 03.6**	**+0.7**
AROD	**Rodeo**	**148.23**	**160**	*i* P	**PKiKP**	**15 46 04.7**	**-0.5**
AVFE	**Valle Fertil**	**148.41**	**163**	*i* P	**PKPbc**	**15 46 04.2**	**+0.6**
TCA	**Tanti**	**148.47**	**168**	*i* P	**PKPbc**	**15 46 04.6**	**+0.8**
ACLC	**CERRO LA CRUZ**	**149.72**	**163**	*i* P	**PKPbc**	**15 46 07.4**	**+0.3**
VCA	**Vinchina**	**149.97**	**161**	*i* P	**PKiKP**	**15 46 08.7**	**+0.1**
CPUP	**Villa Florida**	**154.22**	**180**	PKP	**PKPdf**	**15 46 09.2**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=51,slow=6.5,SNR=2.9						
CPUP				PKPab	**PKPab**	**15 46 31.3**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=222,slow=3.8,SNR=4.6						

*NIC **08** 15:32:37.0±0.0, 35.°69N×30.°79E, h51km±22km, Ml3.4/5*
*DDA **08** 15:32:38.7, 35.°65N×31.°13E, h7km±2km, ML2.5*
*ISK **08** 15:32:39.2, 35.°58N×31.°28E, h6km, ML2.8/9*
ISC 08 15:32:38.8±1.3**, 35.°60N**±0.°03×**31.°15E**±0.°03**, h9**km±11km**, n25,** σ1.s**22**/37**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKMS	**Akamas**	**1.13**	**121**	P	**Pg**	**15 33 00.4**	**-0.1**
AKMS				S	**Sn**	**15 33 18.8**	**+2.3**
AKMS				AML	AML	15 33 21.3	
	1.2nm,0.3s						
AKMS				AML	AML	15 33 21.3	
	1.2nm,0.3s						
AKMS				AML	AML	15 33 22.7	
	2.6nm,0.4s						
AKMS				AML	AML	15 33 22.7	
	2.6nm,0.4s						
GAZI	**Gazipasa**	**1.14**	**56**	PG	**Pg**	**15 33 00.1**	**-0.6**
GAZI				SG	**Sg**	**15 33 15.1**	**-0.3**
GAZI	**Gazipasa**	**1.14**	**56**	*i* P	**Pg**	**15 33 00.0**	**-0.6**
GAZI				*i* S	**Sn**	**15 33 16.1**	**-0.6**
GAZI				IAML		15 33 18.0	
	comp=E,123nm,0.4s						
GAZI				IAML		15 33 18.0	
	comp=N,195nm,0.5s						
ALAN	**Alanya-ANTALYA**	**1.19**	**37**	PN	**Pn**	**15 33 01.4**	**-0.2**
ALAN				SN	**Sn**	**15 33 17.9**	**0.0**
ALFC	**Alefka**	**1.27**	**110**	P	**Pn**	**15 33 02.3**	**-0.4**
ALFC				S	**Sn**	**15 33 23.2**	**+3.4**
ALFC				AML	AML	15 33 24.3	
	comp=N,1.0nm,0.2s						
ALFC				AML	AML	15 33 24.3	
	comp=N,1.0nm,0.2s						
ALFC				AML	AML	15 33 25.3	
	comp=N,1.0nm,0.4s						
ALFC				AML	AML	15 33 25.3	
	comp=N,1.0nm,0.4s						
KEPZ	**Antalya-Kepez**	**1.35**	**16**	*i* P	**Pg**	**15 33 04.0**	**-0.6**
KEPZ				*i* S	**Sn**	**15 33 22.0**	**+0.1**
KEPZ				IAML		15 33 29.0	
	comp=E,67nm,0.7s						
KEPZ				IAML		15 33 30.0	
	comp=N,93nm,0.4s						
ANTB	**Antalya**	**1.35**	**343**	PN	**Pg**	**15 33 06.0**	**+1.3**
AKAS	**Kas**	**1.40**	**297**	PN	**Pg**	**15 33 07.5**	**+1.9**
NATA	**Nata**	**1.43**	**125**	P	**Pn**	**15 33 05.1**	**+0.3**
NATA				S	**Sg**	**15 33 26.3**	**+1.7**
NATA				AML	AML	15 33 35.0	
	comp=N,2.9nm,0.7s						
NATA				AML	AML	15 33 35.0	
	comp=N,2.9nm,0.7s						
NATA				AML	AML	15 33 35.5	
	comp=N,4.7nm,0.8s						
NATA				AML	AML	15 33 35.5	
	comp=N,4.7nm,0.8s						
ELL	**Elmali**	**1.52**	**319**	PN	**Pg**	**15 33 08.9**	**+1.0**
KORT	**Korkueli**	**1.54**	**335**	PN	**Pg**	**15 33 08.8**	**+0.6**
SZAC	**Souni**	**1.65**	**120**	P	**Pn**	**15 33 08.3**	**+0.3**
SZAC				AML	AML	15 33 37.5	
	comp=N,0.6nm,0.4s						
SZAC				AML	AML	15 33 38.9	
	comp=N,0.7nm,0.7s						
TEKE	**Tekeli-Mersin**	**1.69**	**71**	PN	**Pn**	**15 33 08.6**	**+0.2**
TEKE				SN	**Sn**	**15 33 30.1**	**0.0**
ERMK	**Ermenek**	**1.77**	**54**	*i* P	**Pb**	**15 33 11.3**	**-0.2**
BERE	**Bereket-Mersin**	**1.84**	**66**	PN	**Pn**	**15 33 10.8**	**+0.1**
CSS	**Mathiatis**	**1.90**	**109**	P	**Pn**	**15 33 12.0**	**+0.7**
ASGA	**Asgata**	**1.90**	**115**	P	**Pn**	**15 33 11.4**	**+0.1**
ASGA				S	**Sb**	**15 33 38.2**	**+0.7**
ASGA				AML	AML	15 33 48.1	
	comp=N,0.8nm,0.7s						
ASGA				AML	AML	15 33 48.1	
	comp=N,0.8nm,0.7s						
ASGA				AML	AML	15 33 50.6	
	comp=N,1.0nm,0.7s						
ASGA				AML	AML	15 33 50.6	
	comp=N,1.0nm,0.7s						
GULN	**MERSIN_Gulnar**	**2.03**	**73**	*i* P	**Pn**	**15 33 14.2**	**+1.1**
GULN				*i* S	**Sn**	**15 33 39.7**	**+1.1**
GULN				IAML		15 33 46.0	
	comp=N,31nm,0.4s						
GULN				IAML		15 33 47.0	
	comp=E,41nm,0.5s						
OSC1	**CSNet OBS 1**	**2.10**	**177**	P	**Pn**	**15 33 11.9**	**-2.2**
OSC1				S	**Sn**	**15 33 39.0**	**-1.3**
MVOU	**Mavrovouni**	**2.12**	**105**	P	**Pn**	**15 33 14.1**	**-0.2**
KKBE	**Karaman, Kazim**	**2.17**	**41**	*i* P	**Pb**	**15 33 17.4**	**-0.8**
KKBE				*i* S	**Sg**	**15 33 48.4**	**0.0**
KKBE				IAML		15 33 52.0	
	comp=N,39nm,0.4s						
KKBE				IAML		15 33 52.0	
	comp=E,48nm,0.5s						
ISP	**Isparta**	**2.27**	**347**	PN	**Pb**	**15 33 19.0**	**-1.0**
KONT	**Konya--Tatoy**	**2.53**	**22**	PN	**Pb**	**15 33 21.9**	**-2.5**
OSC2	**CSNet OBS 4**	**2.69**	**160**	P	**Pn**	**15 33 20.3**	**-1.9**
KARP	**Karpathos**	**3.25**	**270**	P	**Pn**	**15 33 29.6**	**-0.3**

*NEIC **08** 15:36:52.3±2.2, 12.°62N±0.°05×88.°01W±0.°05, h35km±2km, mb3.8/4, Md4.0(SNET), Error ellipse: s-maj=11.7km s-min=3.1km az=221.0*
*INET **08** 15:36:52.6, 12.°55N×87.°95W, h25km, MW3.4*
*SNET **08** 15:36:53.3±1.1, 12.°62N×88.°04W, h33km±3km, ML4.0*
ISC 08 15:36:51.5±1.4**, 12.°54N**±0.°05×**88.°02W**±0.°04**, h33**km±6km**, n37,** σ1.s**00**/51**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.76**	**14**	*e*P	**Pb**	**15 37 06.7**	**+0.3**
CNCH				*e*P	**Pb**	**15 37 06.8**	**+0.3**
CNCH				*e*S	**Sn**	**15 37 17.2**	**+0.8**
CNCH				*e*S	**Sb**	**15 37 18.3**	**+1.8**
LCND	**La Caada**	**0.78**	**9**	*e*P	**Pb**	**15 37 07.0**	**+0.3**
LCND				*e*S	**Sb**	**15 37 18.1**	**+1.1**
LCND				IAML		15 37 21.8	
	comp=Z,12μm,0.3s						
VSM	**San Miguel**	**0.92**	**344**	*e*P	**Pb**	**15 37 09.5**	**+0.3**
LCY	**Lacayo**	**0.92**	**343**	*e*P	**Pb**	**15 37 09.1**	**0.0**
LCY				*e*S	**Sb**	**15 37 21.4**	**+0.2**
ALJI	**Alcalda de J**	**0.95**	**326**	*e*P	**Pb**	**15 37 09.5**	**0.0**
ALJI				*e*S	**Sb**	**15 37 21.9**	**0.0**
CRIN	**San Cristobal**	**0.96**	**80**	Pn	**Pn**	**15 37 09.4**	**+0.6**
CRIN				Sn	**Sn**	**15 37 21.4**	**0.0**
PACA	**Pacayal**	**0.97**	**342**	*e*P	**Pb**	**15 37 10.0**	**0.0**
PACA				*e*S	**Sb**	**15 37 23.3**	**+0.7**
TECA	**Tecapa**	**1.06**	**334**	*e*P	**Pb**	**15 37 11.0**	**-0.5**
TECA				*e*S	**Sb**	**15 37 25.4**	**+0.2**
COEB	**Comit de Eme**	**1.08**	**333**	*e*P	**Pn**	**15 37 11.2**	**+0.8**
COEB				IAML		15 37 31.4	
	comp=Z,2μm,0.3s						
PQSS	**Presa 15 de Se**	**1.20**	**334**	*e*P	**Pb**	**15 37 13.2**	**-0.5**
PQSS				*e*S	**Sn**	**15 37 27.2**	**0.0**
COEG	**Centro de Oper**	**1.36**	**322**	*e*P	**Pn**	**15 37 15.3**	**+0.9**
COEG				*e*S	**Sn**	**15 37 31.6**	**+0.3**
COEG				IAML		15 37 36.6	
	comp=Z,3μm,0.2s						
LFRS	**El Faro**	**1.48**	**317**	*e*P	**Pn**	**15 37 16.6**	**+0.6**
LFRS				*e*S	**Sb**	**15 37 36.0**	**-1.1**
LBRS	**Las Brisas**	**1.55**	**320**	*e*P	**Pn**	**15 37 18.5**	**+1.5**
LBRS				*e*S	**Sn**	**15 37 36.9**	**+0.8**
SNET	**Serv Nac Est T**	**1.64**	**314**	*e*P	**Pn**	**15 37 19.9**	**+1.7**
SNET				IAML		15 37 41.0	
	comp=Z,967nm,0.2s						
SNET	**Serv Nac Est T**	**1.64**	**314**	Pn	**Pn**	**15 37 19.1**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.68**	**26**	*e*P	**Pn**	**15 37 19.1**	**+0.3**
TGUH				*e*S	**Sn**	**15 37 39.5**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.68**	**26**	Pn	**Pn**	**15 37 19.0**	**+0.3**
BOQS	**Boqueron**	**1.71**	**314**	*e*P	**Pn**	**15 37 20.6**	**+1.4**
BOQS				*e*S	**Sb**	**15 37 42.4**	**-1.3**
JAYA	**Jayaque - finc**	**1.78**	**309**	*e*P	**Pn**	**15 37 21.1**	**+0.9**
JAYA				IAML		15 37 46.0	
	comp=Z,2μm,0.2s						
TACO	**Tacachico**	**1.93**	**318**	*e*P	**Pn**	**15 37 23.4**	**+1.3**
CEVE	**Cerro Verde**	**2.02**	**310**	IAML		15 37 53.6	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**2.03**	**310**	*e*P	**Pn**	**15 37 25.3**	**+1.6**
RTR	**El Retiro**	**2.08**	**311**	*e*P	**Pn**	**15 37 25.8**	**+1.5**
MTO3	**Montecristo**	**2.26**	**325**	*e*P	**Pn**	**15 37 27.6**	**+0.7**
MTO3	**Montecristo**	**2.26**	**325**	Pn	**Pn**	**15 37 27.1**	**+0.3**
BOAB	**BOACO BROADBAN**	**2.30**	**92**	Pn	**Pn**	**15 37 26.2**	**-1.0**
ACON	**Acoyapa**	**2.84**	**101**	Pn	**Pn**	**15 37 33.4**	**-1.2**
ORTG	**Ortega, Santa**	**3.31**	**130**	Pn	**Pn**	**15 37 41.8**	**+0.6**
JTS	**Las Juntas de**	**3.75**	**126**	Pn	**Pn**	**15 37 48.3**	**+1.2**
CAO2	**Cobano, Puntar**	**4.03**	**134**	Pn	**Pn**	**15 37 52.5**	**+1.6**
RIOS	**Rincon, Osa**	**5.84**	**130**	Pn	**Pn**	**15 38 18.2**	**+2.3**
MOIG	**Morelia**	**14.50**	**301**	P	**P**	**15 40 20.2**	**-0.8**
GOGA	**Godfrey**	**21.19**	**11**	P	**P**	**15 41 34.8**	**+0.5**
GOGA				IAmb	IAmb	15 41 35.7	
	comp=Z,3.2nm,0.8s						
TXAR	**Lajitas Array**	**22.16**	**321**	P	**P**	**15 41 43.6**	**-1.2**
TX31	**Lajitas Ar. Si**	**22.16**	**321**	P	**P**	**15 41 44.1**	**-0.7**
TX31				IAmb	IAmb	15 41 45.3	
	comp=Z,3.6nm,0.9s						
TX32	**Lajitas Array**	**22.16**	**321**	P	**P**	**15 41 43.6**	**-1.3**
W50A	**Signal Mountai**	**22.70**	**6**	P	**P**	**15 41 49.5**	**-0.9**

*IDC **08** 15:43:45.3±0.9, 13.°30N×92.°63E, h24km±5km, mb3.8/11, mb1 3.9/12, mb1mx3.6/54, mbtmp3.9/12, ML3.8/1, Error ellipse: s-maj=30.5km s-min=13.7km az=58.0*
*NEIC **08** 15:43:47.2±1.7, 13.°46N±0.°08×92.°8E±0.°1, h40km±7km, mb4.6/18, Error ellipse: s-maj=17.2km s-min=11.3km az=104.0*
ISC 08 15:43:45.2±0.5**, 13.°39N**±0.°06×**92.°59E**±0.°07**, h29**km**, n53,** σ1.s**85**/49**, mb4.2**/21**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.40**	**122**	*e*P	**Pn**	**15 43 56.3**	**+1.3**
DGPR				*e*S	**Sn**	**15 44 03.9**	**+2.4**
DGPR				IAML		15 44 10.3	
	comp=N,14μm,0.3s						
PBA	**Port Blair**	**1.73**	**175**	*e*P	Pb	15 44 17.4	+1.1
PBA				*e*S	Sb	15 44 42.0	+4.4
PBA				IAML		15 44 44.2	
	comp=E,690nm,0.2s						
PBA	**Port Blair**	**1.73**	**175**		Pb	15 44 16.7	+0.4
SRDT	**SRDT**	**6.42**	**81**	P	Pb	15 45 28.0	-8.2
UMPA	**Umpang Tak**	**6.69**	**64**	P	**Pn**	**15 45 20.0**	**-1.5**
PHET	**Kaeng Krachan**	**6.88**	**93**	P	**Pn**	**15 45 26.4**	**+2.2**
UTHA	**Uthaitani**	**6.99**	**71**	P	**Pn**	**15 45 26.5**	**+0.9**
MHMT	**Maesarieng**	**7.01**	**47**	P	Pn	15 45 33.8	+7.8
CM05	**Chiang Mai Arr**	**7.89**	**50**	P	Pn	15 45 46.0	+7.9
	comp=E,0.0nmcomp=E,53nmcomp=E,5.7nm,0.8s						
CM02	**Chiang Mai Arr**	**7.91**	**50**	P	Pn	15 45 43.8	+5.3
	comp=E,0.0nmcomp=E,39nmcomp=E,3.6nm,0.6s						
CM04	**Chiang Mai Arr**	**7.92**	**50**	P	Pn	15 45 47.4	+8.9
	comp=E,0.1nmcomp=E,63nmcomp=E,5.4nm,1.1s						
SUKH	**Sukhothai**	**7.92**	**58**	P	**Pn**	**15 45 41.0**	**+2.5**
	comp=E,0.0nmcomp=E,13nm,0.7s						
CMAR	**Chiang Mai Arr**	**7.92**	**50**	Pn	**Pn**	**15 45 37.5**	**-1.0**
	comp=E,0.3nm,0.3s,baz=233,slow=16,SNR=4.9						
CMAR				Sn	**Sn**	**15 47 00.8**	**-6.5**
	comp=E,0.5nm,0.3s,baz=237,slow=26,SNR=9.7						
CM32	**Chiang Mai Arr**	**7.98**	**48**	P	Pb	15 45 51.0	-12
CHTO	**Chiang Mai**	**8.15**	**48**	Pn	**Pn**	**15 45 40.6**	**-1.0**
CMMT	**Chiang Mai**	**8.15**	**48**	P	Pn	15 45 47.9	+6.2
SRAK	**Srakaew**	**9.21**	**85**	P	Pn	15 46 07.0	+11
	comp=E,2μmcomp=E,113nm,0.5s						
SRAK	**Srakaew**	**9.21**	**85**	P	Pn	15 46 07.0	+11
RPSI	**Rantau Prapat**	**12.33**	**149**	Pn	**Pn**	**15 46 35.9**	**-3.1**
PALK	**Pallekele**	**13.17**	**244**	Sn	**Sn**	**15 49 10.8**	**-5.3**
	comp=E,0.8nm,0.3s,baz=78,slow=22,SNR=5.0						
MK31	**Makanchi Array**	**34.41**	**347**	P	**P**	**15 50 31.0**	**+1.1**
MK31				IAmb	IAmb	15 50 32.3	
	comp=Z,2.1nm,0.9s						
MKAR	**Makanchi Array**	**34.41**	**347**	P	**P**	**15 50 31.6**	**+1.6**
	comp=Z,1.9nm,0.7s,baz=162,slow=9.3,SNR=27						
MKAR	**Makanchi Array**	**34.41**	**347**	P	**P**	**15 50 31.1**	**+1.1**
MAKZ	**Makanchi**	**34.49**	**347**	P	**P**	**15 50 31.7**	**+1.0**
SONM	**Songino Array**	**36.22**	**16**	P	**P**	**15 50 47.7**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=202,slow=7.3,SNR=2.4						
KSRS	**Korea Array**	**39.55**	**46**	P	**P**	**15 51 15.4**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=246,slow=9.2,SNR=3.1						
ZAA0	**Zalesovo Array**	**40.93**	**353**	P	**P**	**15 51 25.9**	**+0.9**
ZALV	**Zalesovo Beam**	**40.93**	**353**	P	**P**	**15 51 26.0**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=174,slow=7.6,SNR=15						
ZALV				pP	**pP**	**15 51 34.1**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=178,slow=7.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**40.93**	**353**	P	**P**	**15 51 25.4**	**+0.5**
ABKAR	**Akbulak array**	**44.71**	**330**	P	**P**	**15 51 57.1**	**+1.5**
ABKAR	**Akbulak array**	**44.71**	**330**	P	**P**	**15 51 57.2**	**+1.5**
ABKAR				IAmb	IAmb	15 51 58.5	
	comp=Z,1.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**45.19**	**133**	P	**P**	**15 51 59.0**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=342,slow=9.3,SNR=2.5						
WB0	**Warramunga Arr**	**52.71**	**128**	P	**P**	**15 52 57.2**	**-0.4**
WB0				IAmb	IAmb	15 53 11.8	
	comp=Z,6.6nm,1.2s						
WRA	**Warramunga Arr**	**52.77**	**128**	P	**P**	**15 52 57.6**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=306,slow=8.0,SNR=49						
WRA				pP	**pP**	**15 53 05.3**	**-1.6**
	comp=Z,1.8nm,0.8s,baz=306,slow=8.0,SNR=7.7						
WRA				PcP	**PcP**	**15 54 08.7**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=321,slow=2.8,SNR=2.0						
WRA				pPcP		15 54 16.6	
	comp=Z,0.8nm,0.5s,baz=325,slow=3.1,SNR=8.7						
WRAB	**Tennant Creek**	**52.77**	**128**	P	**P**	**15 52 58.0**	**-0.1**
WRAB				IAmb	IAmb	15 52 58.9	
	comp=Z,3.9nm,0.6s						
WB2	**Warramunga Arr**	**52.78**	**128**	P	**P**	**15 52 58.0**	**-0.2**
WB2				IAmb	IAmb	15 53 15.1	
	comp=Z,9.7nm,1.4s						
WR0	**Warramunga Arr**	**52.94**	**128**	P	**P**	**15 52 59.0**	**-0.2**
WR0				IAmb	IAmb	15 53 00.1	
	comp=Z,2.8nm,0.6s						
AS31	**Alice Springs**	**54.67**	**132**	P	**P**	**15 53 12.0**	**+0.1**
ASAR	**Alice Springs**	**54.67**	**132**	P	**P**	**15 53 12.2**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=307,slow=6.8,SNR=53						
ASAR				pP	**pP**	**15 53 19.7**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=305,slow=6.6,SNR=7.0						
ASAR				PcP	**PcP**	**15 54 15.8**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=304,slow=4.5,SNR=2.1						
ASAR				pPcP		15 54 23.9	
	comp=Z,0.4nm,0.6s,baz=315,slow=4.1,SNR=5.3						
ASAR	**Alice Springs**	**54.67**	**132**	P	**P**	**15 53 12.4**	**+0.5**
COEN	**Coen**	**57.00**	**117**	P	**P**	**15 53 27.1**	**-1.6**
COEN				IAmb	IAmb	15 53 33.3	
	comp=Z,8.0nm,1.4s						
CSS	**Mathiatis**	**57.33**	**303**	P	**P**	**15 53 30.1**	**-0.8**
CSS				IAmb	IAmb	15 53 30.6	
	comp=Z,9.2nm,1.0s						
PMG	**Port Moresby**	**58.72**	**110**	P	**P**	**15 53 37.9**	**-3.0**
FINES	**FINESS Array B**	**67.16**	**331**	P	**P**	**15 54 37.1**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=104,slow=4.7,SNR=5.4						
ARCES	**ARCESS Array B**	**69.59**	**340**	P	**P**	**15 54 52.4**	**+1.0**
GERES	**GERESS Array B**	**72.74**	**317**	P	**P**	**15 55 11.6**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=94,slow=5.9,SNR=8.4						
NC602	**NORSAR Array S**	**74.05**	**330**	P	**P**	**15 55 19.0**	**+0.8**
NC602				IAmb	IAmb	15 55 47.5	
	comp=Z,32nm,1.3s						
NC303	**NORSAR Array S**	**74.14**	**330**	P	**P**	**15 55 18.9**	**+0.1**
SPA0	**Spitsbergen Ar**	**74.16**	**348**	P	**P**	**15 55 17.1**	**-1.6**
NOA	**NORSAR Array B**	**74.21**	**330**	P	**P**	**15 55 19.9**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=113,slow=5.9,SNR=2.0						
GRA1	**Grafenberg Arr**	**74.34**	**318**	P	**P**	**15 55 21.1**	**+0.9**
GRA1				IAmb	IAmb	15 55 41.3	
	comp=Z,12nm,1.2s						
GRFO	**Grafenberg**	**74.35**	**318**	P	**P**	**15 55 20.6**	**+0.4**
GRFO				IAmb	IAmb	15 55 41.2	
	comp=Z,12nm,1.2s						
TORD	**Torodi Ar. Bea**	**87.86**	**283**	P	**P**	**15 56 35.2**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=70,slow=3.9,SNR=1.6						

NOU 08 15:52:16.0, 20.°98S×168.°90E, h3km, MLv3.7, Loyalty Islands, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.95**	**238**	P	Pg	15 52 34.7	+0.4
LIFNC	**LIFOU**	**1.56**	**277**	P	Pn	15 52 42.8	-1.9
PINNC	**Pines Island,**	**2.11**	**219**	P	Pn	15 52 51.1	-1.2
YATNC	**Mamie plateau,**	**2.16**	**240**	P	Pn	15 52 52.2	-0.7
OUENC	**Ouen Island, N**	**2.39**	**233**	P	Pn	15 52 56.3	+0.2
DZM	**Mont Dzumac**	**2.53**	**244**	P	Pn	15 52 58.1	0.0
ONTNC	**Ouen Toro**	**2.63**	**239**	P	Pn	15 53 00.0	+0.6
NOUC	**Port Laguerre**	**2.66**	**245**	P	Pn	15 53 00.6	+0.8
DVP	**Devils Point**	**3.31**	**348**	P	Pn	15 53 08.8	+0.1
KOUNC	**Koumac, New Ca**	**4.34**	**275**	P	Pn	15 53 23.3	+0.4

*MOS **08** 15:52:21.5±0.8, 20.°01S×177.°93W, h549km, mb5.2/57, Error ellipse: s-maj=7.3km s-min=6.6km az=54.2*
*BGR **08** 15:52:22.1±0.0, 20.°44S×176.°73W, h557km±6km*
*BJI **08** 15:52:22.5±0.0, 19.°51S×177.°54W, h558km, mB5.3/45, mb5.3/66*
*NOU **08** 15:52:22.3, 20.°07S×177.°72W, h548km, ML5.1, Fiji Islands Region*
*NEIC **08** 15:52:23.5±1.7, 20.°00S±0.°09×177.°85W±0.°09, h565km±4km, mb5.1/375, Error ellipse: s-maj=12.7km s-min=11.9km az=141.0*
*IDC **08** 15:52:23.4±0.4, 20.°05S×177.°91W, h558km±4km, mb4.7/30, mb1 4.8/34, mb1mx4.6/49, mbtmp5.5/34, Error ellipse: s-maj=8.9km s-min=7.4km az=157.0*
*GCMT **08** 15:52:25.5±0.2, 19.°84S±0.°02×177.°95W±0.°02, h566km±1km, MW5.5/123, Moment Tensor Solution. s123,c202; Duration: 1.s4 Moment tensor: Scale 10^17 Nm; Mrr-1.90±.04; Mθθ1.81±.07; Mφφ0.09±.07; Mrθ-0.64±.07; Mθφ0.37±.07; Mφr-1.84±.07; Best double couple: M0 2.62700×10^17 NP1:φs276.00000°, δ33.00000°, λ-44.00000°. NP2:φs45.00000°, δ67.00000°, λ-115.00000°. Principal axes: T 2.2310, Plg19.0000°, Azm154.0000°; N 0.7930, Plg23.0000°, Azm55.0000°; P -3.0240, Plg60.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 08 15:52:22.5±0.2**, 20.°06S**±0.°04×**177.°80W**±0.°04**, h558**km±2km**, h559**km**:pP-P, n1521,** σ1.s**26**/1724**, mb5.2**/334**, 136C-185D, Fault plane solution: NP1:**φs278.85727°**,** δ58.21759°**,** λ-49.88812°. **NP2:**φs40.87117°**,** δ49.45001°**,** λ-136.11873°. **Principal axes:** T Plg5.0065°**,** Azm341.6429°**;** N Plg33.2077°**,** Azm74.9302°**;** P Plg56.3179°**,** Azm244.0898°**; Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.56**	**300**	P	**P**	**15 53 50.0**	**+0.5**
	134nm,0.3s,baz=254,slow=23,SNR=667						
MSVF	**Nonsavu**	**4.56**	**300***c*	*i*P	**P**	**15 53 49.6**	**+0.1**
MSVF	**Nonsavu**	**4.56**	**300**	P	**P**	**15 53 49.4**	**-0.1**
MSVF	**Nonsavu**	**4.56**	**300**	P	**P**	**15 53 50.5**	**+1.0**
NIUE	**Niue**	**7.49**	**84**	P	**P**	**15 54 15.1**	**-0.4**
	baz=7.4,SNR=109						
NIUE				S	**S**	**15 55 52.2**	**+4.1**
	baz=7.4						
NIUE	**Niue**	**7.49**	**84**	P	**P**	**15 54 14.9**	**-0.6**
NIUE	**Niue**	**7.49**	**84**	P	**P**	**15 54 15.3**	**-0.2**
	3μm,0.7s						
AFI	**Afiamalu**	**8.40**	**44**	P	**P**	**15 54 22.0**	**-2.6**
	65nm,0.3s,baz=189,slow=1.0,SNR=79						
AFI				S	**S**	**15 55 57.3**	**-7.4**
	121nm,0.3s,baz=354,slow=21,SNR=17						
AFI	**Afiamalu**	**8.40**	**44**	P	**P**	**15 54 21.9**	**-2.8**
AFI	**Afiamalu**	**8.40**	**44**	P	**P**	**15 54 22.3**	**-2.4**
	492nm,0.8s						
AFI	**Afiamalu**	**8.40**	**44**	P	**S**	**15 55 57.1**	**-7.6**
RIZ	**Raoul Island**	**9.14**	**181**	P	**P**	**15 54 30.5**	**-1.3**
RAO	**Raoul Island**	**9.15**	**181**	S	**S**	**15 56 16.2**	**-1.8**
	115nm,0.3s,baz=101,slow=18,SNR=4.4						
RAO	**Raoul Island**	**9.15**	**181**	P	**P**	**15 54 31.1**	**-0.7**
RAO	**Raoul Island**	**9.15**	**181**	P	**P**	**15 54 31.1**	**-0.7**
RAO	**Raoul Island**	**9.15**	**181**	P	**P**	**15 54 31.5**	**-0.3**
	813nm,0.9s						
GLKZ	**Green Lake**	**9.16**	**181**	P	**P**	**15 54 30.5**	**-1.4**
GLKZ				S	**S**	**15 56 17.0**	**-1.2**
FUNA	**Funafuti**	**11.83**	**345**	P	**P**	**15 54 56.9**	**-2.6**
DVP	**Devils Point**	**13.47**	**278**	P	**P**	**15 55 18.6**	**+2.3**
	386μm,0.7s						
DZM	**Mont Dzumac**	**14.85**	**259**	P	**P**	**15 55 30.3**	**-0.1**
	11nm,0.3s,baz=152,slow=23,SNR=8.4						
DZM				S	**S**	**15 58 06.8**	**+1.8**

baz=351,slow=15,SNR=4.4
DZM Mont Dzumac 14.85 259 *e*P **P 15 55 26.8 -3.6**
175nm,1.3s
DZM Mont Dzumac 14.85 259 P **P 15 55 32.0 +1.6**
SANVU Saraoutou 15.01 285 P **P 15 55 30.9 -1.0**
NFK Norfolk Island 15.75 233 P **P 15 55 40.1 +0.8**
365nm,1.5s
KOUNC Koumac, New Ca 16.82 265 P **P 15 55 51.1 +1.8**
OUZ Omahuta 16.90 205 P **P 15 55 51.1 +1.3**
RAR Rarotonga 16.91 97 P **P 15 55 51.6 +1.4**
5.3nm,0.3s,baz=243,slow=7.7,SNR=33
RAR Rarotonga 16.91 97 P **P 15 55 50.4 +0.3**
RAR Rarotonga 16.91 97 P **P 15 55 49.9 -0.2**
GRZ Great Barrier 17.18 199 P **P 15 55 50.8 -1.5**
KUZ Kuaotunu 17.56 197 P **P 15 55 57.8 +2.0**
MXZ Matakaoa Point 17.76 190 P **P 15 55 56.1 -1.5**
MXZ Matakaoa Point 17.76 190 P **P 15 55 55.1 -2.6**
WMGZ Waiomatatini S 18.00 190 P **P 15 55 59.0 -0.8**
WMGZ S **S 15 58 55.3 -1.3**
HAZ Te Kaha 18.05 191 P **P 15 55 59.9 -0.3**
PKGZ Pakihiroa 18.12 191 P **P 15 56 00.6 -0.4**
KNTN Kanton 18.18 20 P **P 15 55 59.7 -2.1**
KNTN Kanton 18.18 20 P **P 15 56 00.9 -0.9**
456nm,0.8s
RUGZ Raukumara Rang 18.27 191 P **P 15 56 01.8 -0.7**
PUZ Puketiti 18.27 190 P **P 15 56 01.5 -0.8**
PUZ S **S 15 58 57.2 -4.0**
WHRZ Whale Island 18.30 193 P **P 15 56 01.8 -0.9**
TGRZ Tauranga 18.35 195 P **P 15 56 04.4 +1.4**
OPRZ Ohinepanea 18.39 194 P **P 15 56 04.1 +0.7**
TWGZ Tauwhareparae 18.42 191 P **P 15 56 03.1 -0.6**
TWGZ S **S 15 58 58.8 -4.8**
KMRZ Kaimai 18.54 196 P **P 15 56 07.1 +2.3**
EDRZ Edgecumbe 18.60 194 P **P 15 56 05.1 -0.3**
KARZ Kaharoa 18.63 195 P **P 15 56 06.6 +0.9**
MWZ Matawai 18.65 192 P **P 15 56 04.2 -1.6**
MWZ S **S 15 59 04.8 -2.6**
URZ Urewera 18.66 193 P **P 15 56 04.8 -1.0**
68nm,0.3s,baz=277,slow=2.5,SNR=198
URZ S **S 15 59 02.6 -4.8**
1.4nm,0.3s,baz=204,slow=20,SNR=9.1
URZ Urewera 18.66 193 P **P 15 56 03.3 -2.6**
URZ Urewera 18.66 193 P **P 15 56 03.8 -2.1**
URZ S **S 15 59 00.7 -6.7**
OMRZ Omania 18.68 194 P **P 15 56 07.0 +0.9**
TKGZ Te Karaka 18.70 191 P **P 15 56 05.7 -0.5**
TKGZ S **S 15 59 05.1 -2.9**
TARZ Mount Tarawera 18.77 194 P **P 15 56 07.8 +0.8**
RAGZ Rawiri 18.83 192 P **P 15 56 07.4 -0.1**
RAGZ S **S 15 59 09.2 -1.1**
HSRZ Hossack Road 18.91 195 P **P 15 56 09.2 +1.1**
MUGZ Murupara 18.94 193 P **P 15 56 06.8 -1.7**
RIGZ Rimuhau 18.97 191 P **P 15 56 07.9 -0.9**
RIGZ S **S 15 59 09.1 -3.4**
RTZ Ruatahuna 19.03 193 P **P 15 56 07.2 -2.2**
RTZ S **S 15 59 06.5 -7.1**
TLZ Tolley Road 19.10 196 P **P 15 56 11.9 +2.0**
WPRZ Whakapapaterin 19.12 195 P **P 15 56 10.7 +0.6**
KUTZ Kaahu Road 19.18 195 P **P 15 56 12.4 +1.8**
KNZ Kokohu 19.30 191 P **P 15 56 11.8 +0.1**
KNZ S **S 15 59 15.4 -2.1**
RAHZ Arahi 19.30 192 P **P 15 56 10.1 -1.7**
RAHZ S **S 15 59 13.1 -4.7**
WHTZ Whakaora 19.31 195 P **P 15 56 13.4 +1.5**
MRHZ Matea Rd 19.36 194 P **P 15 56 11.2 -1.1**
WATZ Wairara 19.41 195 P **P 15 56 13.0 +0.3**
WHHZ Waihua 19.43 192 P **P 15 56 13.2 +0.4**
WHHZ S **S 15 59 16.3 -3.5**
HIZ Hauiti 19.46 198 P **P 15 56 14.4 +1.3**
RATZ Rangitukua 19.55 195 P **P 15 56 13.6 -0.4**
ARHZ Aropaoanui 19.66 192 P **P 15 56 14.7 -0.2**
BKZ Black Stump Fm 19.66 193 P **P 15 56 12.6 -2.5**
BKZ IAmb IAmb 15 56 17.1
comp=Z,43nm,0.6s
BKZ Black Stump Fm 19.66 193 P **P 15 56 12.8 -2.3**
BKZ S **S 15 59 18.9 -4.7**
KRVZ Karewarewa 19.79 195 P **P 15 56 16.1 -0.3**
TMVZ Te Maari 19.80 195 P **P 15 56 15.9 -0.5**
ETVZ East Tongariro 19.82 195 P **P 15 56 15.8 -0.8**
TWVZ Taurewa 19.82 196 P **P 15 56 16.2 -0.3**
WTVZ West Tongariro 19.83 195 P **P 15 56 15.8 -0.9**
OTVZ Oturere 19.85 195 P **P 15 56 15.8 -1.1**
NGZ Ngauruhoe 19.88 195 P **P 15 56 16.8 -0.3**
MCHZ McNeill Hill 19.89 193 P **P 15 56 15.8 -1.2**
KWHZ Kaweka Forest 19.93 193 P **P 15 56 16.7 -0.8**
TUVZ Tukino 19.95 195 P **P 15 56 16.8 -1.0**
FWVZ Far West T-bar 19.97 195 P **P 15 56 18.0 0.0**
WHVZ Whangaehu Hut 19.98 195 P **P 15 56 17.3 -0.9**
TRVZ Turoa 20.01 195 P **P 15 56 18.2 -0.2**
CKHZ Cape Kidnapper 20.02 192 P **P 15 56 18.6 +0.4**
WNVZ Wahianoa 20.02 195 P **P 15 56 17.2 -1.2**
MOVZ Moawhango 20.06 195 P **P 15 56 17.9 -0.9**
BHHZ Black Hill Sta 20.07 194 P **P 15 56 16.5 -2.3**
MTVZ Mangateitei 20.11 195 P **P 15 56 18.6 -0.6**
KRHZ Kereru 20.15 193 P **P 15 56 18.6 -0.9**
KAHZ Kahuranaki 20.19 192 P **P 15 56 19.1 -0.7**
WPHZ Waipukurau 20.54 193 P **P 15 56 22.7 -0.3**
TSZ Takapari Road 20.64 194 P **P 15 56 22.1 -1.8**
PRHZ Porangahau 20.70 192 P **P 15 56 24.2 -0.1**
BFZ Birch Farm 21.17 193 P **P 15 56 26.9 -1.7**
MSWZ Moikau Station 22.09 194 P **P 15 56 35.0 -1.9**
SNZO South Karori 22.12 195 P **P 15 56 35.8 -1.3**
BHW Baring Head 22.17 195 P **P 15 56 36.0 -1.5**
PLWZ Palliser 22.24 194 P **P 15 56 36.2 -2.0**
QRZ Quartz Range 22.28 200 P **P 15 56 38.4 -0.2**
NNZ Nelson 22.39 198 P **P 15 56 39.2 -0.3**
NNZ IAmb IAmb 15 56 41.1
comp=Z,46nm,0.8s
TUWZ Tuamarina 22.43 196 P **P 15 56 38.3 -1.6**
CMWZ Cape Campbell 22.66 196 P **P 15 56 40.5 -1.4**
BSWZ Blackbirch Sta 22.71 196 P **P 15 56 41.2 -1.2**
THZ Tophouse 23.03 198 P **P 15 56 44.4 -0.8**
THZ IAmb IAmb 15 56 47.0
comp=Z,52nm,0.7s
KHZ Kahutara 23.46 196 P **P 15 56 47.7 -1.2**
KHZ IAmb IAmb 15 56 49.2
comp=Z,70nm,0.8s
LHI Lord Howe Isla 23.70 237 P **P 15 56 52.1 +0.8**
LHI IAmb IAmb 15 56 53.6
comp=Z,93nm,0.9s
LHI Lord Howe Isla 23.70 237 P **P 15 56 52.3 +1.0**
comp=Z,107nm,1.4s
LTZ Lake Taylor 24.15 198 P **P 15 56 53.2 -1.9**
LTZ IAmb IAmb 15 56 57.7
comp=Z,78nm,0.9s
OXZ Oxford 24.71 198 P **P 15 56 58.4 -1.7**
MQZ McQueen's Vall 24.89 197 P **P 15 57 00.4 -1.2**
RPZ Rata Peaks 25.36 199 P **P 15 57 05.4 -0.4**
comp=Z,32nm,0.7s,baz=6.3,slow=1.7,SNR=28
RPZ Rata Peaks 25.36 199 P **P 15 57 04.6 -1.3**
RPZ IAmb IAmb 15 57 10.5
comp=Z,27nm,0.7s
FOZ Fox Glacier 25.60 201 P **P 15 57 06.7 -1.2**
FOZ IAmb IAmb 15 57 10.3
comp=Z,57nm,0.7s
LBZ Lake Benmore 26.24 200 P **P 15 57 12.1 -1.5**
LBZ IAmb IAmb 15 57 12.3
comp=Z,48nm,1.5s
TBI Tubuai 26.51 102 *e*P **P 15 57 17.8 +1.5**
comp=Z,282nm,1.0s
ODZ Otahua Downs 26.69 198 P **P 15 57 16.6 -1.0**
PPT2 Papeete2 26.81 89 *e*P **P 15 57 20.3 +1.2**
comp=Z,148nm,1.0s
PPT Papeete 26.82 89 P **P 15 57 20.4 +1.4**
comp=Z,151nm,0.8s,baz=78,slow=4.4,SNR=25
PPTF Pamatai, Papee 26.82 89 P **P 15 57 19.9 +0.8**
WKZ Wanaka 27.01 201 P **P 15 57 18.5 -1.9**
MLZ Mavora Lakes 27.79 202 P **P 15 57 26.8 -0.5**
MLZ IAmb IAmb 15 57 30.9
comp=Z,42nm,0.7s
MEH Mehetia 28.18 91 *e*P **P 15 57 32.3 +1.3**
comp=Z,40nm,0.9s
DCZ Deep Cove 28.22 203 P **P 15 57 30.3 -0.6**
DCZ IAmb IAmb 15 57 32.8
comp=Z,65nm,0.9s
WHZ Wether Hill Ro 28.31 201 P **P 15 57 31.3 -0.4**
VAH Vaihoa 29.12 85 *e*P **P 15 57 39.9 +0.8**
comp=Z,176nm,1.1s
EIDS Eidsvold 29.15 254 P **P 15 57 39.0 -0.3**
baz=29,SNR=23
EIDS Eidsvold 29.15 254 P **P 15 57 38.5 -0.7**
EIDS IAmb IAmb 15 57 40.4
comp=Z,68nm,0.9s
ARMA Armidale 29.43 243 P **P 15 57 42.6 +0.9**
baz=30,SNR=18
ARMA Armidale 29.43 243 P **P 15 57 42.2 +0.4**
ARMA IAmb IAmb 15 57 43.9
comp=Z,67nm,1.0s
XMAS Kiritimati 29.69 45 P **P 15 57 44.0 -0.1**
XMAS Kiritimati 29.69 45 P **P 15 57 45.1 +1.1**
MGCD Mangrove Creek 30.60 238 P **P 15 57 53.2 +1.5**
baz=31,SNR=6.2
RMQ Roma 31.32 252 P **P 15 57 58.6 +0.7**
baz=31,SNR=27
CNB Canberra Magne 32.63 235 P **P 15 58 09.5 +0.4**
baz=33,SNR=29
CAN Canberra 32.91 236 P **P 15 58 11.6 +0.2**
CAN pmax pmax
comp=Z,87nm,1.2s
CAN Canberra 32.91 236 P **P 15 58 11.6 +0.2**
CAN IAmb IAmb 15 58 13.2
comp=Z,87nm,1.2s
RABL Rabaul 33.24 294 P **P 15 58 13.7 -0.7**
CTA Charters Tower 33.72 264 P **P 15 58 18.4 0.0**
comp=Z,51nm,0.3s,baz=91,slow=9.6,SNR=233
CTAO Charters Tower 33.72 264 P **P 15 58 18.3 -0.1**
CTAO pmax pmax
comp=Z,188nm,0.9s
CTAO Charters Tower 33.72 264 P **P 15 58 18.3 -0.1**
CMSA Cobar Meteorol 34.65 243 P **P 15 58 26.1 +0.1**
baz=35,SNR=65
QLP Quilpie 35.37 252 P **P 15 58 31.9 -0.2**
baz=35,SNR=68
PMG Port Moresby 35.43 282 P **P 15 58 32.7 0.0**
comp=Z,155nm,0.8s,baz=92,slow=5.7,SNR=24
PMG Port Moresby 35.43 282 *d*iP **P 15 58 32.4 -0.3**
PMG pmax pmax
comp=Z,263nm,1.0s
PMG Port Moresby 35.43 282 P **P 15 58 32.1 -0.5**
PMG Port Moresby 35.43 282 P **P 15 58 33.6 +0.9**
PATS Pohnpei 35.59 316 P **P 15 58 34.1 +0.1**
MTSU Mount Surprise 35.80 267 P **P 15 58 35.6 -0.2**
baz=36,SNR=176
TOO Toolangi 36.31 233 P **P 15 58 40.0 +0.4**
baz=36,SNR=32
TOO Toolangi 36.31 233 P **P 15 58 39.2 -0.5**
TOO pmax pmax
comp=Z,60nm,0.9s
TOO Toolangi 36.31 233 P **P 15 58 39.2 -0.5**
TOO IAmb IAmb 15 58 41.3
comp=Z,60nm,0.9s
TAU Tasmania Unive 37.07 224 P **P 15 58 46.0 +0.2**
TAU pmax pmax
comp=Z,52nm,1.3s
TAU Tasmania Unive 37.07 224 P **P 15 58 46.0 +0.2**
TAU IAmb IAmb 15 58 50.9
comp=Z,52nm,1.3s
COEN Coen 37.75 273 P **P 15 58 52.0 +0.3**
baz=38
COEN Coen 37.75 273 P **P 15 58 51.6 -0.1**
TAOE Nuku Hiva Isla 38.03 78 P **P 15 58 55.0 +0.9**
STKA Stephens Creek 38.15 244 P **P 15 58 55.2 +0.5**
comp=Z,107nm,1.0s,baz=87,slow=9.0,SNR=84
STKA PcP **PcP 16 00 56.0 +1.1**
comp=Z,18nm,0.8s,baz=77,slow=4.4,SNR=6.0
STKA ScP **ScP 16 03 52.0 +2.0**
comp=Z,6.4nm,0.8s,baz=67,slow=5.2,SNR=3.8
STKA Stephens Creek 38.15 244 P **P 15 58 55.3 +0.5**
baz=38,SNR=26
STKA Stephens Creek 38.15 244 *d*iP **P 15 58 55.0 +0.2**
STKA Stephens Creek 38.15 244 P **P 15 58 55.2 +0.5**
ARPS Mount Arapiles 38.89 236 P **P 15 59 00.6 0.0**
baz=39,SNR=14
QIS Mount Isa 39.87 262 P **P 15 59 08.1 -0.7**
baz=40,SNR=52
HTT Hallett 40.60 242 P **P 15 59 14.7 +0.2**
baz=41,SNR=55
BBOO Buckleboo 42.91 243 P **P 15 59 32.5 -0.2**
baz=43,SNR=206
BBOO Buckleboo 42.91 243 P **P 15 59 32.4 -0.2**
JAY Jayapura 44.09 288 P **P 15 59 42.6 +0.5**
JAY pmax pmax
comp=Z,354nm,1.3s
JAY Jayapura 44.09 288 P **P 15 59 42.3 +0.2**
comp=Z,μmcomp=Z,226nm,1.3s
GENI Genyem 44.53 287 P **P 15 59 45.8 +0.3**
comp=Z,6μmcomp=Z,392nm,1.8s
WR0 Warramunga Arr 44.66 262 P **P 15 59 45.3 -1.0**
AS31 Alice Springs 44.80 256 P **P 15 59 47.0 -0.4**
AS31 IAmb IAmb 15 59 49.0
comp=Z,83nm,1.0s
ASAR Alice Springs 44.80 256 P **P 15 59 47.0 -0.4**
comp=Z,235nm,0.8s,baz=88,slow=8.4,SNR=609
ASAR PcP **PcP 16 01 17.8 +0.4**
comp=Z,30nm,0.7s,baz=101,slow=4.0,SNR=14
ASAR S **S 16 05 43.0 -1.8**
comp=Z,9.8nm,0.9s,baz=89,slow=15,SNR=12
ASAR PKiKP **PKiKP 16 08 13.2 -1.2**
comp=Z,1.0nm,0.7s,baz=108,slow=1.3,SNR=5.1
ASAR P4KPbc 16 37 31.3
comp=Z,0.2nm,0.9s,baz=99,slow=5.4,SNR=6.1
ASAR Alice Springs 44.80 256 P **P 15 59 46.6 -0.9**
ASPA Alice Springs 44.81 256 P **P 15 59 47.3 -0.2**
baz=45
WB2 Warramunga Arr 44.84 262 P **P 15 59 47.3 -0.5**
baz=45
WB2 Warramunga Arr 44.84 262 P **P 15 59 46.9 -0.9**
WRAB Tennant Creek 44.84 262 *d*iP **P 15 59 46.8 -1.0**
WRAB pmax pmax
comp=Z,461nm,1.7s
WRAB Tennant Creek 44.84 262 P **P 15 59 46.7 -1.1**
WRA Warramunga Arr 44.85 262 P **P 15 59 46.6 -1.2**
comp=Z,59nm,0.3s,baz=98,slow=7.6,SNR=717
WRA PcP **PcP 16 01 18.3 +0.7**
comp=Z,24nm,0.9s,baz=102,slow=4.1,SNR=9.0
WRA S **S 16 05 42.8 -2.6**
comp=Z,13nm,0.9s,baz=102,slow=14,SNR=11
WRA PKiKP **PKiKP 16 08 13.2 -1.3**
comp=Z,2.3nm,0.9s,baz=24,slow=1.7,SNR=4.6
KDU Kakadu 48.13 271 P **P 16 00 11.9 -0.7**
baz=48,SNR=74
SRPI Serui, Papua 48.38 286 P **P 16 00 14.9 +0.4**
comp=Z,160nm,1.5s
FORT Forest 49.64 246 P **P 16 00 23.0 -0.6**
baz=50,SNR=27
FORT Forrest 49.64 246 P **P 16 00 22.9 -0.8**
WRKA Warakurna 49.77 254 P **P 16 00 24.1 -0.6**
baz=50,SNR=386
SAUI Saumlaki 50.64 276 P **P 16 00 31.1 -0.1**
FAKI Fak Fak 51.59 283 P **P 16 00 36.5 -1.6**
FAKI Fak Fak 51.59 283 P **P 16 00 37.2 -0.8**
comp=Z,2μmcomp=Z,130nm,1.4s
FITZ Fitzroy Crossi 53.27 262 P **P 16 00 49.8 -0.2**
comp=Z,32nm,0.6s,baz=115,slow=4.8,SNR=78
FITZ Fitzroy Crossi 53.27 262 P **P 16 00 50.0 0.0**
baz=53,SNR=52
FITZ Fitzroy Crossi 53.27 262 P **P 16 00 49.4 -0.6**
SWI Sorong 53.32 284 P **P 16 00 50.4 0.0**
SWI pmax pmax
comp=Z,370nm,1.1s
SWI Sorong 53.32 284 P **P 16 00 50.0 -0.4**
comp=Z,4μmcomp=Z,369nm,1.1s
KMBL Kambalda 54.91 245 P **P 16 01 00.8 -0.6**
baz=55,SNR=10
NLAI Namlea 56.21 280 P **P 16 01 10.1 -0.5**
comp=Z,129nm,1.5s
SOEI Soe 56.68 271 P **P 16 01 14.0 +0.1**
SOEI Soe 56.68 271 P **P 16 01 15.2 +1.2**
comp=Z,5μmcomp=Z,626nm,1.0s
BATI Baumata 57.11 271 P **P 16 01 17.9 +1.1**
comp=Z,1μmcomp=Z,116nm,1.3s
TNTI Ternate 57.53 284 P **P 16 01 19.0 -0.6**
TNTI Ternate 57.53 284 P **P 16 01 19.8 +0.1**
comp=Z,3μmcomp=Z,234nm,1.2s
SANI Sanana 57.69 281 P **P 16 01 19.9 -0.8**
comp=Z,2μmcomp=Z,150nm,1.4s
PSA00 Pilbara Seismi 57.95 257 P **P 16 01 21.3 -1.1**
PSA00 IAmb IAmb 16 01 23.1
comp=Z,176nm,0.8s
PSA00 Pilbara Seismi 57.95 257 P **P 16 01 20.6 -1.8**
PSA00 IAmb IAmb 16 01 22.3
comp=Z,93nm,0.8s
PSA00 **PcP 16 02 05.6 -1.4**
MBWA Marble Bar 58.13 257 P **P 16 01 23.3 -0.4**
SBA Scott Base 58.32 184 P **P 16 01 26.8 +2.9**
SBA pmax pmax
comp=Z,45nm,1.4s
SBA Scott Base 58.32 184 P **P 16 01 26.8 +2.9**
VNDA Vanda 58.36 185 P **P 16 01 25.6 +1.5**
comp=Z,2.2nm,0.6s,baz=1.7,slow=7.6,SNR=12
VNDA ScP **ScP 16 05 17.3 +2.9**
comp=Z,7.9nm,0.9s,baz=345,slow=3.2,SNR=8.3
VNDA Vanda 58.36 185 P **P 16 01 26.1 +1.9**
VNDA pmax pmax
comp=Z,20nm,1.5s
VNDA Vanda 58.36 185 P **P 16 01 26.1 +1.9**
KLBR Kellerberrin 58.41 245 P **P 16 01 25.0 -0.4**
baz=58,SNR=28
NWAO Narrogin (SRO) 58.73 243 P **P 16 01 28.0 +0.5**
baz=59,SNR=13
NWAO Narrogin (SRO) 58.73 243 P **P 16 01 27.2 -0.3**
NWAO pmax pmax
comp=Z,160nm,1.3s
NWAO Narrogin (SRO) 58.73 243 P **P 16 01 27.2 -0.3**
NWAO IAmb IAmb 16 01 28.7
comp=Z,160nm,1.2s
MMRI Maumere 58.93 272 P **P 16 01 28.0 -1.1**
MMRI IAmb IAmb 16 01 29.8
comp=Z,236nm,1.1s
MMRI Maumere 58.93 272 P **P 16 01 27.7 -1.4**
comp=Z,3μmcomp=Z,220nm,0.9s
BLDU Ballidu 59.41 246 P **P 16 01 31.4 -0.6**
baz=59,SNR=53
MUN Mundaring 59.69 244 P **P 16 01 34.0 +0.1**
baz=60,SNR=26
BASI Baing, Sumba 60.01 270 P **P 16 01 37.2 +0.9**
comp=Z,3μmcomp=Z,243nm,1.8s
MNI Manado 60.11 284 P **P 16 01 37.0 0.0**
MNI pmax pmax
comp=Z,126nm,1.0s
MORW Morawa 60.17 247 P **P 16 01 36.7 -0.5**
baz=60,SNR=21
MORW Morawa 60.17 247 P **P 16 01 36.6 -0.5**
MORW IAmb IAmb 16 01 38.1
comp=Z,146nm,1.1s
WSI Waingapu 60.44 270 P **P 16 01 39.3 +0.2**
comp=Z,8μmcomp=Z,629nm,1.3s
KMSI Cibinong 60.55 283 P **P 16 01 39.8 0.0**
comp=Z,151nm,1.3s
JCJ Chichijima 60.84 319 P **P 16 01 41.5 +0.1**
JCJ IAmb IAmb 16 01 53.2
comp=Z,163nm,1.1s
LUWI Luwuk 61.04 280 P **P 16 01 43.0 0.0**
LUWI Luwuk 61.04 280 P **P 16 01 43.8 +0.7**
comp=Z,4μmcomp=Z,326nm,1.2s
H01W1 Cape Leeuwin H 61.11 241 P **P 16 01 44.9 +1.9**
baz=122,slow=7.5,SNR=6.8
H01W2 Cape Leeuwin H 61.13 241 P **P 16 01 45.1 +2.0**
baz=122,slow=7.5,SNR=4.6
H01W3 Cape Leeuwin H 61.13 241 P **P 16 01 44.6 +1.6**
baz=122,slow=7.5,SNR=5.7
BSSI Bau Bau, Buton 61.37 274 P **P 16 01 44.2 -1.0**
comp=Z,985nmcomp=Z,81nm,1.6s
GTOI Gorontalo 61.47 282 P **P 16 01 46.7 +0.9**
comp=Z,938nmcomp=Z,61nm,1.5s
BKSI Bulukumba 61.98 275 P **P 16 01 48.8 -0.4**
comp=Z,1μmcomp=Z,65nm,1.6s
APSI Ampana 62.13 280 P **P 16 01 50.9 +0.7**
comp=Z,2μmcomp=Z,160nm,1.4s
BNSI Bone 62.31 276 P **P 16 01 51.5 +0.1**
comp=Z,2μmcomp=Z,145nm,1.3s
MRSI Marisa 62.39 282 P **P 16 01 51.3 -0.5**
comp=Z,1μmcomp=Z,71nm,1.6s
KAPI Kappang 62.44 275 P **P 16 01 51.4 -0.8**
KAPI pmax pmax
comp=Z,64nm,1.2s
KAPI Kappang 62.44 275 P **P 16 01 51.4 -0.8**
KAPI IAmb IAmb 16 02 14.2
comp=Z,64nm,1.1s
SPSI Sidrap Palu 62.78 276 P **P 16 01 53.7 -0.7**
comp=Z,817nmcomp=Z,58nm,1.0s
GIRL Giralia 62.85 254 P **P 16 01 55.6 +0.9**
baz=63,SNR=16
GIRL Giralia 62.85 254 P **P 16 01 55.1 +0.4**
TTSI Tana Toraja 63.05 277 P **P 16 01 56.1 0.0**
comp=Z,639nmcomp=Z,38nm,1.6s
PLAI Plampang 63.06 270 P **P 16 01 55.9 -0.3**
comp=Z,4μmcomp=Z,364nm,0.9s
TOLI2 Tolitoli 63.70 282 P **P 16 01 59.3 -0.9**
TOLI2 IAmb IAmb 16 02 01.3
comp=Z,151nm,1.1s
TWSI Taliwang, Sumb 63.93 270 P **P 16 02 01.1 -0.6**
comp=Z,2μmcomp=Z,187nm,1.2s
CASY Casey 64.44 205 P **P 16 02 04.8 +0.8**
CASY IAmb IAmb 16 02 05.9
comp=Z,73nm,0.9s
SRBI Singaraja 65.70 270 P **P 16 02 12.9 0.0**
comp=Z,2μmcomp=Z,214nm,1.4s
KBKI Kotabaru 66.38 275 P **P 16 02 17.2 +0.1**
comp=Z,944nmcomp=Z,96nm,1.3s
JAGI Jajag, Banyuwa 66.58 269 P **P 16 02 16.8 -1.5**
JAGI Jajag, Banyuwa 66.58 269 P **P 16 02 17.4 -0.9**
comp=Z,2μmcomp=Z,196nm,1.3s
ABJI Asem Bagus 66.71 270 P **P 16 02 19.5 +0.4**
comp=Z,2μmcomp=Z,219nm,1.6s
KMMI Kalianget 67.20 271 P **P 16 02 22.3 +0.2**
comp=Z,2μmcomp=Z,163nm,1.3s
JMZ Minamidaito 2 67.31 311 P **P 16 02 21.1 -1.4**
MYLDM Lahad Datu 67.41 285 P **P 16 02 24.9 +1.5**
MYLDM IAmb IAmb 16 02 43.7
comp=Z,96nm,1.0s
BBKI Banjar Baru 67.56 275 P **P 16 02 23.7 -0.7**
comp=Z,2μmcomp=Z,118nm,1.8s
MTKI Muara Teweh, K 68.40 277 P **P 16 02 29.6 +0.1**
comp=Z,79nm,0.9s
JYT Yasato 68.65 324 P **P 16 02 30.5 +0.1**
JSG Sagara 68.65 322 P **P 16 02 30.6 +0.1**
JMM Marumori 69.54 326 P **P 16 02 35.1 -0.6**
JMM IAmb IAmb 16 02 37.1
comp=Z,103nm,1.0s
JGF Kuroka 69.79 322 P **P 16 02 36.8 -0.5**
JGF IAmb IAmb 16 02 38.5
comp=Z,46nm,0.8s
INU Inuyama 69.81 322 P **P 16 02 37.2 -0.2**
INU IAmb IAmb 16 02 38.8
comp=Z,41nm,1.0s
KKM Kota Kinabalu 69.83 285 P **P 16 02 38.0 -0.2**
MJAR Matsushiro Arr 69.97 323 P **P 16 02 38.5 +0.1**
comp=Z,56nm,0.8s,baz=161,slow=5.9,SNR=213
MJAR Matsushiro Arr 69.97 323 P **P 16 02 38.2 -0.2**
MJAR IAmb IAmb 16 02 39.4
comp=Z,54nm,1.4s
MAJO Matsushiro 69.97 323 *de*P **P 16 02 38.5 +0.1**
MAJO pmax pmax
comp=Z,57nm,0.6s
MAJO Matsushiro 69.97 323 P **P 16 02 38.2 -0.2**
MAJO IAmb IAmb 16 02 39.5
comp=Z,68nm,0.7s
MAT Matsushiro 69.97 323 P **P 16 02 38.4 0.0**
MAT *e*S **S 16 11 06.4 +1.6**
MJB9 Matsu-Tunnel 69.98 323 P **P 16 02 38.3 -0.1**
MJB9 IAmb IAmb 16 02 39.5
comp=Z,76nm,0.7s
JOW Kunigami 70.03 310 P **P 16 02 39.8 +0.8**
comp=Z,97nm,0.9s,baz=145,slow=4.5,SNR=12
JOW Kunigami 70.03 310 P **P 16 02 38.7 -0.3**
JOW IAmb IAmb 16 02 41.0
comp=Z,115nm,1.0s
UGM Wanagama 70.16 269 P **P 16 02 39.3 -0.8**
UGM Wanagama 70.16 269 P **P 16 02 39.7 -0.4**
comp=Z,4μmcomp=Z,336nm,1.5s
JMN Monobe 70.58 319 P **P 16 02 43.2 +1.1**
JMN IAmb IAmb 16 02 44.2
comp=Z,78nm,1.0s
JWT Wachi 70.71 321 P **P 16 02 43.0 +0.2**
JWT IAmb IAmb 16 02 44.3
comp=Z,75nm,0.9s
PBKI Pangkalan Bun 70.80 274 P **P 16 02 44.7 +0.9**
comp=Z,23μmcomp=Z,437nm,1.1s
JSD Sado 71.02 325 P **P 16 02 45.2 +0.7**
JSD IAmb IAmb 16 02 46.2
comp=Z,117nm,1.0s
JSU Suzuyama 71.35 315 P **P 16 02 46.6 0.0**
JSU IAmb IAmb 16 02 48.2
comp=Z,93nm,0.8s
ERM Erimo 71.54 330 ↑ *e*P **P 16 02 50.4 +3.0**
ERM pmax pmax
comp=Z,45nm,1.3s
ERM Erimo 71.54 330 P **P 16 02 48.7 +1.3**
ERM IAmb IAmb 16 03 06.7
comp=Z,44nm,1.1s
JTM Tenmabayashi 71.60 328 P **P 16 02 48.5 +0.7**
JTM IAmb IAmb 16 02 49.5
comp=Z,73nm,0.8s

ADK Adak 71.64 1 P **P** **16 02 47.3 -0.5**
ADK pmax pmax
comp=Z,100nm,0.9s
ADK Adak 71.64 1 P **P** **16 02 47.3 -0.5**
ADK IAmb IAmb 16 02 48.1
comp=Z,100nm,0.8s
JHS Saijyo 71.90 319 P **P** **16 02 50.2 +0.5**
STKI Sintang 71.95 277 P **P** **16 02 51.4 +0.9**
YUK Yuzh-Kuril'sk 71.95 333 *i*P **P** **16 02 50.5 +0.8**
ATKA Atka Island 72.02 2 P **P** **16 02 48.9 -1.1**
ATKA IAmb IAmb 16 02 50.6
comp=Z,108nm,0.9s
JNU Nakatsue 72.09 316 P **P** **16 02 50.9 -0.1**
comp=Z,48nm,0.9s,baz=90,slow=3.9,SNR=17
JNU Nakatsue 72.09 316 P **P** **16 02 50.8 -0.1**
JNU IAmb IAmb 16 02 52.2
comp=Z,106nm,1.1s
KUR Kuril'sk 72.11 335 *de*P **P** **16 02 51.1 +0.4**
KUR *e*S **S** **16 11 33.5 +5.2**
KUR pmax pmax
comp=N,51nm,1.2s
KUR pmax pmax
comp=Z,283nm,1.2s
KUR pmax pmax
comp=E,27nm,0.9s
SBUM Sibu 72.12 279 P **P** **16 02 51.2 -0.2**
SBUM IAmb IAmb 16 02 53.1
comp=Z,50nm,1.0s
YOJ Yonaguni jima 72.64 305 P **P** **16 02 53.3 -0.9**
YOJ pmax pmax
comp=Z,108nm,0.7s
YOJ Yonaguni jima 72.64 305 P **P** **16 02 53.3 -0.9**
JCJI Jatiwangi 72.73 269 P **P** **16 02 54.5 -0.5**
comp=Z,7µmcomp=Z,455nm,1.1s
CISI Cisompet, Garu 72.82 268 P **P** **16 02 54.3 -1.3**
CISI Cisompet, Garu 72.82 268 P **P** **16 02 54.6 -1.0**
comp=Z,3µmcomp=Z,271nm,1.6s
JEW Eniwo 72.98 330 P **P** **16 02 56.6 +0.9**
NIKH Nikolski High 73.14 6 P 16 02 56.6
baz=189,SNR=5.8
NIKH Nikolski High 73.14 6 P **P** **16 02 56.0 -0.4**
LEM Lembang 73.24 269 P **P** **16 02 58.6 +0.5**
LEM pmax pmax
comp=Z,487nm,1.3s
JKA Kamikawa-asahi 73.43 331 P **P** **16 02 57.8 -0.5**
ASAJ Asahikawa 73.44 331 P **P** **16 03 00.2 +1.9**
comp=Z,152nm,0.9s,baz=211,slow=6.6,SNR=146
KSM Kuching 73.54 278 P **P** **16 02 59.4 -0.3**
XMI Christmas Isla 73.91 265 P **P** **16 03 02.7 +0.9**
comp=Z,288nm,1.4s
JTU Tsushima 73.93 317 P **P** **16 03 01.3 -0.1**
JTU IAmb IAmb 16 03 09.1
comp=Z,50nm,1.2s
XMIS Christmas Isla 73.94 265 P **P** **16 03 02.1 +0.2**
XMIS Christmas Isla 73.94 265 P **P** **16 03 02.7 +0.8**
comp=Z,244nm,1.2s
TATO Taipei 74.09 305 P **P** **16 03 02.4 -0.1**
TATO Taipei 74.09 305 P **P** **16 03 02.7 +0.3**
CBJI Citeko 74.09 269 P **P** **16 03 01.7 -1.0**
comp=Z,4µmcomp=Z,336nm,0.8s
DBJI Dramaga 74.14 269 P **P** **16 03 02.6 -0.5**
comp=Z,243nm,1.2s
TPI Tanjungpandan 74.55 273 P **P** **16 03 04.7 -0.6**
comp=Z,2µmcomp=Z,160nm,1.2s
YSS Yuzh-Sakhalins 75.59 333 ⇓*i*P **P** **16 03 11.6 +1.3**
YSS *e* 16 03 25.4
YSS *e**SP **sP** **16 06 02.9 -1.6**
YSS *e*S **S** **16 12 08.6 +2.3**
YSS *e* 16 12 27.7
YSS pmax pmax
comp=Z,700nm,2.8s
YSS pmax pmax
comp=Z,190nm,1.0s
YSS Yuzh-Sakhalins 75.59 333 P **P** **16 03 11.0 +0.7**
PET Petropavlovsk 75.59 346 *e*P **P** **16 03 08.5 -1.7**
PET *e**PP **pP** **16 05 07.2 +0.3**
PET *e**SP **sP** **16 06 03.8 -0.3**
PET *e*S **S** **16 12 05.0 -1.1**
PET *e*SP **SPn** **16 12 48.0 +1.0**
PET *e*SS **SS** **16 17 21.3 +7.6**
PET *e*SSS SSS 16 20 42.9
PET pmax pmax
comp=Z,70nm,1.0s
PET pmax pmax
comp=Z,300nm,5.5s
PET pmax pmax
comp=Z,200nm,12.2s
PET MLR MLR
comp=Z,200nm,19.0s
PET Petropavlovsk 75.59 346 P **P** **16 03 09.5 -0.7**
PET IAmb IAmb 16 03 10.6
comp=Z,47nm,1.0s
FALS False Pass 75.62 9 P 16 03 09.8
baz=194
FALS False Pass 75.62 9 P **P** **16 03 09.3 -1.0**
FALS IAmb IAmb 16 03 10.2
comp=Z,124nm,1.1s
PEA0B Petropavlovsk- 75.90 345 *d*/P **P** **16 03 11.6 -0.3**
PEA0B Petropavlovsk- 75.90 345 P **P** **16 03 11.7 -0.2**
PETK Petropavlovsk- 75.90 345 P **P** **16 03 11.7 -0.2**
comp=Z,72nm,0.9s,baz=102,slow=4.4,SNR=71
PETK PKiKP **PKiKP** **16 08 51.3 -0.8**
comp=Z,2.2nm,0.7s,baz=85,slow=4.9,SNR=5.4
BLSI Bandar Lampung 75.94 269 P **P** **16 03 12.0 -1.1**
comp=Z,3µmcomp=Z,297nm,1.1s
PPBI Pangkal Pinang 76.17 273 P **P** **16 03 14.3 -0.1**
comp=Z,13µmcomp=Z,189nm,1.3s
QZH Quanzhou 76.33 303 ⇑*i*P **P** **16 03 15.8 +0.9**
QZH S **S** **16 12 15.0 -0.2**
QZH pmax pmax
comp=Z,67nm,0.9s
TJN Taejon 76.38 317 *de*P **P** **16 03 14.6 -0.3**
SDPT Sand Point 76.55 10 P 16 03 15.4
baz=197
SDPT Sand Point 76.55 10 P **P** **16 03 14.9 -0.5**
SDPT IAmb IAmb 16 03 16.1
comp=Z,94nm,0.8s
KASI Kota Agung 76.59 269 P **P** **16 03 15.3 -1.4**
comp=Z,3µmcomp=Z,4µmcomp=Z,468nm,1.0s
KLSI 76.65 270 P **P** **16 03 13.0 -4.0**
KSRS Korea Array 76.69 318 P **P** **16 03 17.3 +0.7**
comp=Z,31nm,1.0s,baz=142,slow=6.5,SNR=72
KSAR Wonju Array Be 76.70 318 P **P** **16 03 16.1 -0.6**
KSAR Wonju Array Be 76.70 318 P **P** **16 03 16.1 -0.6**
KS19 Wonju Array Si 76.75 318 P **P** **16 03 16.3 -0.7**
KS19 IAmb IAmb 16 03 19.0
comp=Z,85nm,1.4s
TEY Ternei 76.95 329 ⇓*e*P **P** **16 03 18.8 +1.0**
TEY *e* 16 03 24.1
TEY pmax pmax
comp=Z,30nm,1.1s
SCZ2 Santa Cruz Isl 77.16 46 P 16 03 20.6
baz=235
LWLI Liwa 77.17 269 P **P** **16 03 18.8 -1.2**
comp=Z,303nm,1.2s
PMBI Palembang 77.20 272 P **P** **16 03 20.8 +0.8**
comp=Z,461nm,1.2s
MDSI Maura Dua 77.23 270 P **P** **16 03 18.6 -1.6**
comp=Z,1µmcomp=Z,160nm,1.2s
SCI2 San Clemente I 77.33 48 P 16 03 22.5
baz=236
INCN Inchon 77.52 318 P **P** **16 03 20.5 -0.7**
INCN pmax pmax
comp=Z,106nm,1.2s
INCN Inchon 77.52 318 P **P** **16 03 20.5 -0.7**
INCN IAmb IAmb 16 03 23.3
comp=Z,106nm,1.1s
PKM Mcpherson Peak 77.55 46 P 16 03 23.7
baz=235,SNR=9.3
SAO San Andreas Ge 77.58 43 P **P** **16 03 22.9 +1.4**
SAO pmax pmax
comp=Z,45nm,0.9s
SAO San Andreas Ge 77.58 43 P **P** **16 03 22.9 +1.4**
SAO IAmb IAmb 16 03 24.6
comp=Z,45nm,0.8s
CIS Catalina Islan 77.66 47 P 16 03 24.0
baz=236
PMPB Monarch Peak 77.67 44 P **P** **16 03 23.4 +1.3**
SMMC Simmler 77.68 45 P 16 03 24.6
baz=234
PAGB Antelope Grade 77.75 45 P **P** **16 03 23.6 +1.1**
CHGN Chignik 77.81 11 P 16 03 22.2
baz=199
CHGN Chignik 77.81 11 P **P** **16 03 22.1 -0.1**
CHGN IAmb IAmb 16 03 23.2
comp=Z,72nm,0.9s
CHIR Chirikof Islan 77.89 13 P 16 03 23.2
baz=201
CHIR Chirikof Islan 77.89 13 P **P** **16 03 23.4 +0.7**
HOPS Hopland Field 77.92 41 P **P** **16 03 25.2 +2.0**
HOPS IAmb IAmb 16 03 26.4
comp=Z,52nm,0.9s
GDXM Geysers 77.97 41 P **P** **16 03 25.9 +2.2**
KCPM Cahto Peak 78.04 40 P **P** **16 03 25.9 +1.9**
KCPM IAmb IAmb 16 03 27.4
comp=Z,59nm,1.2s
LHSI Lahat 78.07 270 P **P** **16 03 23.9 -0.8**
comp=Z,2µmcomp=Z,173nm,1.1s
MSHR Mys Shultsa 78.08 324 *d*/P **P** **16 03 25.2 +1.2**
MSHR pmax pmax
comp=Z,244nm,1.3s
OSI Osito Audit: C 78.13 46 P 16 03 27.2
baz=236
OSI Osito Audit: C 78.13 46 P **P** **16 03 26.5 +1.9**
DECC Green Verdugo 78.19 47 P 16 03 26.8
baz=236
PASC Pasadena Art C 78.25 47 P **P** **16 03 26.1 +0.9**
109C Camp Elliot, M 78.30 49 P **P** **16 03 27.0 +1.6**
109C Camp Elliot, M 78.30 49 P 16 03 27.7
baz=237
CBX Cerro Bola 78.30 49 P **P** **16 03 27.4 +1.8**
KMRM Mail Ridge 78.30 39 P **P** **16 03 27.0 +1.6**
KMRM IAmb IAmb 16 03 28.9
comp=Z,113nm,0.9s
MWC Mount Wilson 78.37 47 P **P** **16 03 27.5 +1.5**
MWC pmax pmax
comp=Z,42nm,0.9s
MWC Mount Wilson 78.37 47 P **P** **16 03 27.5 +1.5**
MWC IAmb IAmb 16 03 28.7
comp=Z,42nm,0.8s
MNAI Manna 78.42 270 P **P** **16 03 26.5 -0.1**
TKX Tecate 78.47 49 P **P** **16 03 27.9 +1.5**
SPX San Pedro Mart 78.48 51 P **P** **16 03 28.6 +1.8**
VES Vestal, Richgr 78.59 45 P 16 03 28.5
baz=235,SNR=7.0
MURC Murrieta 78.62 48 P 16 03 29.2
baz=237,SNR=11
ESJX Sierra Juarez 78.64 50 P **P** **16 03 29.1 +1.5**
BFSC Mount Baldy Ra 78.65 47 P 16 03 29.1
baz=236,SNR=11
KHMM Horse Mountain 78.69 39 P **P** **16 03 29.5 +1.9**
JMBI JAMBI 78.70 272 P **P** **16 03 29.8 +1.8**
comp=Z,332nm,1.2s
USA0B Ussuriysk Arra 78.71 326 *d*/P **P** **16 03 28.2 +0.8**
USA0B Ussuriysk Arra 78.71 326 P **P** **16 03 28.4 +1.1**
USA0B IAmb IAmb 16 03 29.9
comp=Z,123nm,0.9s
USRK Ussuriysk Ar. 78.71 326 P **P** **16 03 28.8 +1.4**
comp=Z,89nm,0.9s,baz=128,slow=3.3,SNR=243
USRK Ussuriysk Ar. 78.71 326 P **P** **16 03 28.4 +1.1**
TYV Tymovskoe 78.72 336 *e*P **P** **16 03 28.4 +1.1**
TYV pmax pmax
comp=Z,600nm,2.1s
TYV pmax pmax
comp=Z,108nm,1.2s
MONP2 Monument Peak 78.78 49 P 16 03 30.5
baz=237,SNR=34
EDW2 Edwards Air Fo 78.78 46 P 16 03 29.9
baz=236,SNR=4.3
O02D Mt. Diablo Mer 78.82 40 P 16 03 30.5
baz=232,SNR=23
RMX La Rumorosa 78.87 49 P **P** **16 03 30.4 +1.7**
IKP In-Ko-Pah, Jac 78.87 49 P 16 03 30.6
baz=238,SNR=20
SII Sitkinak Islan 78.88 13 P 16 03 28.3
baz=203
SII Sitkinak Islan 78.88 13 P **P** **16 03 28.2 +0.2**
ISA Isabella, Lake 78.89 46 P 16 03 30.2
baz=236,SNR=22
ISA Isabella, Lake 78.89 46 P **P** **16 03 29.8 +1.1**
ISA pmax pmax
comp=Z,25nm,0.9s
ISA Isabella, Lake 78.89 46 P **P** **16 03 29.8 +1.1**
SFX San Felipe 78.93 51 P **P** **16 03 30.2 +1.4**
KRMB Red Mountain 79.00 38 P **P** **16 03 30.9 +1.8**
CMB Columbia Colle 79.01 43 P **P** **16 03 29.9 +0.7**
CMB pmax pmax
comp=Z,35nm,1.0s
CMB Columbia Colle 79.01 43 P **P** **16 03 29.9 +0.7**
SRIG Santa Rosalia 79.02 56 P **P** **16 03 30.9 +1.5**
SLBS Sierra La Lago 79.12 60 P **P** **16 03 31.1 +1.0**
PFO Pinyon Flats O 79.14 48 P 16 03 32.0
baz=237,SNR=15
TPFO Pinon Flats 79.14 48 P 16 03 31.8
baz=237,SNR=15
PFO Pinyon Flats O 79.14 48 P **P** **16 03 32.0 +1.9**
comp=Z,13nm,0.9s,baz=280,slow=4.3,SNR=19
PFO pP **pwP** **16 05 29.6 -1.2**
comp=Z,5.7nm,1.1s,baz=255,slow=1.9,SNR=4.2
PFO Pinyon Flats O 79.14 48 *d*/P **P** **16 03 31.6 +1.5**
PFO pmax pmax
comp=Z,41nm,1.1s
PFO Pinyon Flats O 79.14 48 P **P** **16 03 31.5 +1.5**
XPFO Pion Flat 79.14 48 P **P** **16 03 31.6 +1.5**
DLV T Lat 79.17 287 P **P** **16 03 31.3 +0.5**
DLV IAmb IAmb 16 03 33.0
comp=Z,123nm,1.0s
AFDM Forest Hills D 79.19 42 P **P** **16 03 30.3 +0.2**
WDC Whiskeytown Da 79.22 40 P **P** **16 03 31.0 +0.9**
WDC pmax pmax
comp=Z,37nm,1.0s
WDC Whiskeytown Da 79.22 40 P **P** **16 03 31.0 +0.9**
ORV Oroville 79.22 41 P **P** **16 03 31.3 +1.1**
ORV pmax pmax
comp=Z,33nm,0.9s
ORV Oroville 79.22 41 P **P** **16 03 31.3 +1.1**
SWSC Sam W. Stewart 79.25 49 P 16 03 32.6
baz=238,SNR=7.9
KBO Bosley Butte 79.26 37 P **P** **16 03 32.2 +1.8**
LRMC Laurel Mtn Rad 79.33 46 P 16 03 32.7
baz=236,SNR=9.5
N02D Trinity Center 79.36 39 P 16 03 33.4
baz=232,SNR=23
O03E Paynes Creek 79.49 40 P 16 03 33.3
baz=232,SNR=22
M02C Callahan 79.53 39 P 16 03 34.2
baz=232,SNR=26
L02E Cave Junction 79.58 38 P 16 03 33.9
baz=231
CWC Cottonwood Cre 79.60 45 P 16 03 34.2
baz=236
MDPB Devils Postpil 79.62 44 P **P** **16 03 33.9 +1.2**
BELC Belle Mtn. Jos 79.67 48 P 16 03 34.7
baz=237,SNR=20
OHAK Old Harbor 79.68 13 P 16 03 32.7
baz=203
MYKOM Kota Tinggi 79.68 276 P **P** **16 03 32.9 -0.3**
OHAK Old Harbor 79.68 13 P **P** **16 03 32.3 +0.2**
OHAK IAmb IAmb 16 03 33.9
comp=Z,90nm,1.1s
NJ2 Nanjing 79.75 310 ⇓*i*P **P** **16 03 34.0 +0.9**
NJ2 pmax pmax
comp=Z,66nm,1.1s
RUBR Rubicon Trail 79.76 42 P **P** **16 03 34.5 +1.1**
MLAC Mammoth, Mammo 79.78 44 P 16 03 35.7
baz=235
MPMC Manual Prospec 79.78 46 P 16 03 35.4
baz=236,SNR=30
GSC Goldstone, Bar 79.82 47 P 16 03 35.2
baz=237,SNR=12
GSC Goldstone, Bar 79.82 47 P **P** **16 03 34.9 +1.3**
GSC pmax pmax
comp=Z,35nm,1.3s
GSC Goldstone, Bar 79.82 47 P **P** **16 03 34.9 +1.3**
YBH Yreka Blue Hor 79.83 39 P **P** **16 03 35.1 +1.6**
YBH pmax pmax
comp=Z,47nm,0.9s
YBH Yreka Blue Hor 79.83 39 P **P** **16 03 35.1 +1.6**
YBH IAmb IAmb 16 03 36.8
comp=Z,47nm,0.9s
TIN Tinemaha, Big 79.84 44 P 16 03 35.5
baz=235
BC3 Big Chuckawall 79.87 49 P 16 03 36.0
baz=238,SNR=14
K02D Willamette Mer 79.88 37 P 16 03 35.9
baz=231,SNR=5.4
HEC Hector,Ludlow 79.89 47 P 16 03 35.6
baz=237,SNR=21
WAKR Walker 79.89 43 P **P** **16 03 35.6 +1.6**
WAKR IAmb IAmb 16 03 37.3
comp=Z,63nm,1.1s
BELA Belgrano 2 79.97 173 P **P** **16 03 34.1 +0.5**
GLA Glamis 80.00 49 P 16 03 37.1
baz=238,SNR=12
GLA Glamis 80.00 49 P **P** **16 03 35.7 +1.2**
GLA pmax pmax
comp=Z,62nm,1.2s
GLA Glamis 80.00 49 P **P** **16 03 35.7 +1.2**
GLA IAmb IAmb 16 03 38.2
comp=Z,62nm,1.1s
J01E Myrtle Point 80.03 37 P 16 03 36.2
baz=230
BEKR Beckworth 80.11 41 P **P** **16 03 36.1 +1.0**
BEKR IAmb IAmb 16 03 38.0
comp=Z,61nm,1.3s
PNTR Pine Nut 80.13 42 P **P** **16 03 36.4 +1.1**
PNTR IAmb IAmb 16 03 38.4
comp=Z,89nm,0.9s
PIX Pinacate 80.22 51 P **P** **16 03 36.8 +1.2**
VCNR Virginia City 80.22 42 P **P** **16 03 37.0 +1.3**
HUMO Hull Mountain 80.23 38 P **P** **16 03 37.2 +1.8**
HUMO IAmb IAmb 16 03 39.0
comp=Z,62nm,1.2s
MDJ Mudanjiang 80.27 325 P **P** **16 03 36.6 +1.0**
MDJ PcP **PcP** **16 03 41.0 +0.3**
MDJ pP pwP 16 05 35.3 -0.9
MDJ sP sP 16 06 34.5 +3.9
MDJ S **S** **16 12 56.2 +0.8**
MDJ SS **SS** **16 18 26.4 +2.9**
MDJ pmax pmax
comp=Z,180nm,1.0s
MDJ pmax pmax
comp=Z,820nm,5.2s
MDJ Mudanjiang 80.27 325 P **P** **16 03 35.9 +0.3**
MDJ IAmb IAmb 16 03 38.1
comp=Z,137nm,0.9s
YERR Yerington 80.30 42 P **P** **16 03 36.9 +0.8**
YERR IAmb IAmb 16 03 39.0
comp=Z,49nm,0.9s
GMRC Granite Mounta 80.33 48 P 16 03 38.2
baz=238,SNR=16
LHV Little Huntoon 80.35 43 P **P** **16 03 37.7 +1.6**
LHV IAmb IAmb 16 03 39.5
comp=Z,65nm,1.1s
KDAK Kodiak Island 80.35 13 P 16 03 36.6
baz=204
KDAK Kodiak Island 80.35 13 P **P** **16 03 36.2 +0.6**
comp=Z,45nm,0.8s,baz=250,slow=4.9,SNR=14
KDAK Kodiak Island 80.35 13 *de*P **P** **16 03 36.4 +0.8**
KDAK pmax pmax
comp=Z,198nm,1.6s
KDAK Kodiak Island 80.35 13 P **P** **16 03 36.2 +0.6**
KDAK IAmb IAmb 16 03 38.3
comp=Z,42nm,0.8s
IRM Iron Mountain 80.36 48 P 16 03 38.3
baz=238,SNR=28
L04D Klamath Falls 80.37 38 P 16 03 38.0
baz=232,SNR=27
M04C Macdoel 80.37 39 P 16 03 38.0
baz=232,SNR=22
GRAC Grapevine Rang 80.38 45 P 16 03 38.6
baz=236,SNR=9.4
FURC Furnace Creek, 80.42 46 P 16 03 38.6
baz=236,SNR=5.5
SHOC Shoshone, Teco 80.51 46 P 16 03 38.9
baz=237,SNR=7.2
RYN Ryan 80.55 43 P **P** **16 03 38.1 +0.7**
NVAR Mina Array Bea 80.58 43 P **P** **16 03 39.4 +1.7**
comp=Z,27nm,0.9s,baz=225,slow=8.9,SNR=157
NVAR pP **pwP** **16 05 38.5 -0.8**
comp=Z,6.1nm,0.9s,baz=222,slow=7.9,SNR=6.7
NVAR PKKPbc **PKKPbc** **16 22 15.5 +1.0**
comp=Z,1.1nm,0.7s,baz=81,slow=4.0,SNR=11
NVAR PKPPKP P'P'df 16 30 24.4 +7.9
comp=Z,1.6nm,0.9s,baz=98,slow=2.3,SNR=9.5
NVAR Mina Array Bea 80.58 43 P **P** **16 03 38.8 +1.2**
PAHR Pah Rah Range 80.63 42 P **P** **16 03 38.8 +1.0**
PAHR IAmb IAmb 16 03 40.6
comp=Z,40nm,1.0s
NV11 Mina Array Sit 80.67 43 P **P** **16 03 39.2 +1.1**
NV11 IAmb IAmb 16 03 41.0
comp=Z,48nm,0.9s
I02D Swisshome 80.68 36 P 16 03 40.1
baz=230
I03D Drain, OR 80.69 37 P 16 03 39.5
baz=231,SNR=9.0
HSIG 80.84 55 P **P** **16 03 40.1 +1.2**
QIZ Qiongzhong 80.85 294 P **P** **16 03 39.9 +0.8**
214A Organ Pipe Nat 80.89 51 P **P** **16 03 41.1 +1.9**
214A Organ Pipe Nat 80.89 51 P 16 03 41.3
baz=240,SNR=16
K04D Chiloquin, OR 80.94 38 P 16 03 41.2
baz=232,SNR=9.0
SDSI Sungai Dareh 81.01 272 P **P** **16 03 39.3 -0.9**
comp=Z,63nm,1.4s
NEE2 Needles Airpor 81.05 48 P 16 03 41.9
baz=238
KVN Kaiserville 81.06 43 P **P** **16 03 41.0 +0.9**
KVN Kaiserville 81.06 43 P **P** **16 03 41.0 +0.9**
KVN IAmb IAmb 16 03 42.8
comp=Z,43nm,0.9s
TPH Tonopah 81.08 44 P **P** **16 03 41.3 +1.1**
TPH pmax pmax
comp=Z,229nm,0.9s
TPH Tonopah 81.08 44 P **P** **16 03 41.2 +1.1**
TPNV Topopah Spring 81.10 45 P 16 03 42.0
baz=237,SNR=44
TPNV Topopah Spring 81.10 45 P **P** **16 03 41.3 +1.0**
TPNV pmax pmax
comp=Z,42nm,1.1s
TPNV Topopah Spring 81.10 45 P **P** **16 03 41.3 +1.0**
TPNV IAmb IAmb 16 03 43.3
comp=Z,42nm,1.1s
J04D Umpqua Nationa 81.11 38 P 16 03 42.1
baz=232,SNR=41
PDMCI Parker Dam,Lak 81.14 49 P 16 03 42.2
baz=238,SNR=29
GRNR Gornyy 81.21 333 ⇓*i*P **P** **16 03 41.5 +1.2**
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=E,20nm,1.2s
GRNR pmax pmax
comp=Z,70nm,1.2s
GRNR MLR MLR
comp=E,50nm,12.0s
GRNR MLR MLR
comp=N,70nm,14.0s
GRNR MLR MLR
comp=Z,80nm,16.0s
COR Corvallis 81.28 36 P **P** **16 03 42.1 +1.3**
COR pmax pmax
comp=Z,35nm,0.9s
COR Corvallis 81.28 36 P **P** **16 03 42.0 +1.3**
COR IAmb IAmb 16 03 44.0
comp=Z,35nm,0.8s
I04A Tendick Farm, 81.28 37 P 16 03 42.4
baz=232,SNR=22
MOD Modoc Plateau 81.36 40 P **P** **16 03 42.4 +0.9**
MOD IAmb IAmb 16 03 44.4
comp=Z,58nm,0.9s
K05A Summer Lake 81.51 39 P **P** **16 03 43.6 +1.4**
DL2 Dalian 81.55 317 ⇑*i*P **P** **16 03 43.4 +1.1**
DL2 sP **sP** **16 06 41.3 +4.1**
DL2 S **S** **16 13 11.3 +2.8**
DL2 pmax pmax
comp=Z,70nm,1.0s
DL2 pmax pmax
comp=Z,340nm,4.5s
H04D Lebanon 81.56 36 P 16 03 44.2
baz=231,SNR=14
SHPR Sheep Range 81.60 46 P **P** **16 03 43.9 +1.0**
J05D Fort Rock, OR 81.64 38 P 16 03 44.8
baz=232,SNR=122
G03D McMinnville, O 81.70 36 P 16 03 45.0
baz=231,SNR=5.4
W13A Hualapai Mount 81.73 48 P **P** **16 03 44.9 +1.2**
BKNI Bangkinang 81.81 273 P **P** **16 03 44.0 -0.2**
BKNI Bangkinang 81.81 273 P **P** **16 03 44.1 -0.2**
comp=Z,2µmcomp=Z,182nm,1.4s
H04A Detroit Lake 81.97 36 P **P** **16 03 45.1 +0.8**
H04A IAmb IAmb 16 03 46.8
comp=Z,114nm,1.4s
MAW Mawson 82.04 200 P **P** **16 03 45.4 +1.1**
comp=Z,25nm,1.0s,baz=225,slow=6.4,SNR=5.6
CN2 Changchun 82.07 322 *e*P **P** **16 03 45.0 +0.1**
CN2 pP pwP 16 05 47.6 +1.6

CN2 S S 16 13 13.8 +0.2
CN2 pmax pmax
comp=Z,100nm,1.2s
CN2 pmax pmax
comp=Z,370nm,4.0s
PINE Pine Mountain 82.12 38 P **P** **16 03 46.9 +1.5**
PRN Pahroc Range 82.15 46 P **P** **16 03 47.2 +1.5**
PRN lAmb lAmb 16 03 48.9
comp=Z,60nm,1.0s
I05D Terrebonne, OR 82.23 37 P 16 03 47.6
baz=232,SNR=17
CNPM China Poot 82.23 13 P **P** **16 03 45.4 +0.1**
CNPM lAmb lAmb 16 03 46.9
comp=Z,80nm,0.9s
KLR Kul'dur 82.25 329 P **P** **16 03 46.0 +0.4**
comp=Z,35nm,1.0s,baz=102,slow=3.7,SNR=60
KLR Kul'dur 82.25 329*d* iP **P** **16 03 46.3 +0.7**
KLR pmax pmax
comp=Z,71nm,1.1s
R11A Troy Canyon, C 82.31 45 P **P** **16 03 47.1 +0.7**
R11A Troy Canyon, C 82.31 45 P 16 03 47.8
baz=237
WHN Wuhan 82.34 306 ⇑P **P** **16 03 47.7 +1.2**
WHN pmax pmax
comp=Z,130nm,0.9s
E03A Lebam 82.39 34 P **P** **16 03 47.8 +1.4**
E03A lAmb lAmb 16 03 49.3
comp=Z,99nm,0.9s
F04D Rainier, OR 82.39 35 P 16 03 48.6
baz=231,SNR=5.1
BRLK Bradley Lake 82.52 13 P **P** **16 03 46.7 -0.1**
BRLK lAmb lAmb 16 03 48.2
comp=Z,88nm,0.9s
BRSE Bradley Lake S 82.53 13 P 16 03 47.5
baz=206,SNR=13
TUC Tucson 82.56 52 P 16 03 50.3
baz=241
TUC Tucson 82.56 52 P **P** **16 03 49.8 +2.1**
TUC pmax pmax
comp=Z,55nm,1.1s
TUC Tucson 82.56 52 P **P** **16 03 49.8 +2.1**
TUC lAmb lAmb 16 03 51.6
comp=Z,55nm,1.1s
WVOR Wild Horse Val 82.67 40 P **P** **16 03 49.1 +1.0**
WVOR pmax pmax
comp=Z,70nm,1.1s
WVOR Wild Horse Val 82.67 40 P **P** **16 03 49.0 +1.0**
WVOR lAmb lAmb 16 03 51.1
comp=Z,70nm,1.1s
NLWA Neilton Lookou 82.77 34 P **P** **16 03 49.6 +1.2**
NLWA lAmb lAmb 16 03 51.4
comp=Z,57nm,1.0s
RSO Redoubt South 82.77 12 P **P** **16 03 47.7 -0.6**
G05D Wamic, OR 82.80 36 P 16 03 50.2
baz=232,SNR=8.7
DIB Dawson Inlet, 82.81 26 P **P** **16 03 49.4 +1.1**
SVW2 Sparrevohn 82.84 11 P **P** **16 03 48.3 0.0**
E04D Cinebar 82.93 35 P 16 03 51.2
baz=231,SNR=11
F05D White Salmon 83.11 36 P 16 03 51.7
baz=232,SNR=7.1
TIA Tai'an 83.12 312 P **P** **16 03 50.8 +0.5**
TIA pmax pmax
comp=Z,51nm,1.1s
I07A Izee 83.13 38 P **P** **16 03 51.6 +1.3**
I07A lAmb lAmb 16 03 53.4
comp=Z,62nm,0.9s
SEW Seward 83.15 14 P 16 03 50.3
baz=207,SNR=8.6
SEW Seward 83.15 14 P **P** **16 03 50.0 +0.2**
SEW lAmb lAmb 16 03 51.0
comp=Z,61nm,0.9s
LCMT Little Creek M 83.17 47 P **P** **16 03 51.9 +1.2**
LCMT lAmb lAmb 16 03 53.8
comp=Z,37nm,0.9s
UBPT Khong Chiam 83.17 289 P **P** **16 03 51.9 +0.9**
UBPT lAmb lAmb 16 03 53.1
comp=Z,76nm,1.0s
D04E Lakebay 83.21 34 P 16 03 53.0
baz=231,SNR=6.7
319A Douglas 83.24 53 P **P** **16 03 52.9 +1.7**
319A lAmb lAmb 16 03 55.1
comp=Z,78nm,0.9s
IPM Ipoh 83.26 277 P **P** **16 03 51.5 0.0**
D03D Éldon 83.27 34 P 16 03 52.7
baz=231,SNR=25
J08A Circle Bar Ran 83.31 39 P **P** **16 03 52.2 +0.9**
J08A lAmb lAmb 16 03 54.2
comp=Z,77nm,1.2s
MNSI Mandailing Nat 83.34 273 P **P** **16 03 50.6 -1.3**
comp=Z,95nm,0.9s
CCUT Cedar City 83.37 46 P **P** **16 03 53.2 +1.3**
CCUT lAmb lAmb 16 03 55.1
comp=Z,34nm,1.0s
MA2 Magadan 83.42 345 P **P** **16 03 50.7 -0.5**
MA2 pmax pmax
comp=Z,68nm,1.0s
MA2 Magadan 83.42 345 P **P** **16 03 50.7 -0.5**
MA2 lAmb lAmb 16 03 52.2
comp=Z,68nm,1.0s
O22K Cooper Landing 83.43 14 P **P** **16 03 51.1 -0.1**
O22K lAmb lAmb 16 04 03.9
comp=Z,100nm,0.9s
LON Longmire 83.45 35 P **P** **16 03 52.4 +0.6**
LON pmax pmax
comp=Z,12nm,0.8s
LON Longmire 83.45 35 P **P** **16 03 52.4 +0.6**
KNB Kanab 83.46 47 P **P** **16 03 53.7 +1.5**
KNB pmax pmax
comp=Z,42nm,1.0s
KNB Kanab 83.46 47 P **P** **16 03 53.7 +1.5**
KNB lAmb lAmb 16 03 55.5
comp=Z,42nm,1.0s
SPR3 Spring Creek 3 83.48 45 P **P** **16 03 52.9 +0.4**
U15A North Rim 83.53 48 P **P** **16 03 54.2 +1.5**
U15A lAmb lAmb 16 03 56.1
comp=Z,65nm,0.9s
PSUT Pine Spring 83.55 45 P **P** **16 03 53.8 +1.0**
SZCU Shurtz Canyon 83.58 46 P **P** **16 03 54.4 +1.6**
D05A Enumclaw 83.63 35 P **P** **16 03 54.6 +2.0**
D05A lAmb lAmb 16 03 55.9
comp=Z,135nm,1.3s
WUAZ Wupatki 83.71 49 P **P** **16 03 55.0 +1.4**
WUAZ lAmb lAmb 16 03 56.8
comp=Z,40nm,1.1s
WUAZ Wupatki 83.71 49 P 16 03 55.7
baz=240
PGC Sidney 83.79 33 P **P** **16 03 54.3 +1.0**
PGC lAmb lAmb 16 03 55.9
comp=Z,51nm,0.9s
ELK Elko 83.83 43 P **P** **16 03 54.8 +0.7**
ELK pmax pmax
comp=Z,36nm,1.3s
ELK Elko 83.83 43 P **P** **16 03 54.8 +0.7**
KULM Kulim 83.90 278 P **P** **16 03 55.0 +0.3**
BBB Bella Bella 83.93 28 P **P** **16 03 54.6 +0.7**
BBB lAmb lAmb 16 03 56.4
comp=Z,73nm,1.4s
F07A Phinny Hill Vi 83.97 36 P **P** **16 03 55.6 +1.4**
RC01 Rabbit Creek A 83.97 13 P 16 03 54.5
baz=206,SNR=5.2
PKCU Pink Cliffs 84.03 47 P **P** **16 03 57.4 +2.1**
PKCU lAmb lAmb 16 03 59.1
comp=Z,68nm,1.0s
SUA Susitna One 84.09 13 P 16 03 54.7
baz=206,SNR=19
SUA Susitna One 84.09 13 P **P** **16 03 54.3 -0.4**
G08A Pilot Rock 84.16 37 P **P** **16 03 56.5 +1.1**
G08A lAmb lAmb 16 03 58.2
comp=Z,56nm,1.0s
A04D Lummi Island 84.22 33 P 16 03 57.3
baz=231,SNR=46
CRAG Craig 84.24 24 P 16 03 57.6
baz=222
B05A Bryant 84.25 34 P 16 03 57.1
baz=231,SNR=17
X18A Snowflake 84.25 50 P **P** **16 03 57.6 +1.4**
LTY Liberty 84.38 35 P **P** **16 03 57.0 +0.5**
E07A Sunnyside 84.41 36 P **P** **16 03 57.5 +1.1**
E07A lAmb lAmb 16 03 59.4
comp=Z,46nm,1.1s
EYAK Cordova Ski Ar 84.42 15 P 16 03 56.8
baz=210
EYAK Cordova Ski Ar 84.42 15 P **P** **16 03 56.2 +0.1**
EYAK lAmb lAmb 16 04 19.5

comp=Z,71nm,1.2s
MTPU Mount Pierson 84.42 46 P **P** **16 03 59.0 +1.8**
MTPU lAmb lAmb 16 04 00.8
comp=Z,31nm,0.8s
TTA Tatalina 84.48 10 P 16 03 57.4
baz=201,SNR=33
TTA Tatalina 84.48 10 P **P** **16 03 56.8 +0.3**
TTA pmax pmax
comp=Z,63nm,1.0s
TTA Tatalina 84.48 10 P **P** **16 03 56.8 +0.3**
TTA lAmb lAmb 16 03 58.5
comp=Z,62nm,1.0s
HAWA Hanford 84.48 36 P **P** **16 03 57.9 +1.0**
HAWA lAmb lAmb 16 03 59.8
comp=Z,64nm,1.1s
TCRU Three Creeks R 84.53 46 P **P** **16 03 58.7 +1.1**
KNK Knik Glacier 84.54 14 P 16 03 57.2
baz=208,SNR=14
KNK Knik Glacier 84.54 14 P **P** **16 03 56.6 -0.1**
KNK lAmb lAmb 16 03 58.2
comp=Z,63nm,0.8s
PMR Palmer 84.55 13 P 16 03 56.7
baz=207,SNR=20
PMR Palmer 84.55 13 P **P** **16 03 56.5 -0.2**
PMR pmax pmax
comp=Z,138nm,1.4s
PMR Palmer 84.55 13 P **P** **16 03 56.5 -0.2**
PMR lAmb lAmb 16 03 58.0
comp=Z,138nm,1.4s
RPSI Rantau Prapat 84.61 275 P **P** **16 03 57.7 -0.5**
MVU Marysvale 84.64 46 P **P** **16 03 59.4 +1.3**
MVU lAmb lAmb 16 04 01.4
comp=Z,60nm,1.0s
PSI Prapat 84.64 275 P **P** **16 03 57.8 -0.8**
comp=Z,85nm,0.9s,baz=180,slow=3.9,SNR=68
MSU Marysvale 84.67 46 P **P** **16 03 59.8 +1.6**
MSU Marysvale 84.67 46 P **P** **16 03 59.8 +1.6**
C06D Leavenworth 84.67 34 P 16 03 59.2
baz=232
W18A Petrified Fore 84.69 50 P 16 04 00.4
baz=241
A05A Maple Falls 84.71 33 P **P** **16 03 58.4 +0.5**
B06A Marblemount 84.72 34 P **P** **16 03 58.8 +0.9**
B06A lAmb lAmb 16 04 00.0
comp=Z,26nm,0.9s
GHO Glory Hole Cre 84.76 13 P **P** **16 03 57.8 -0.1**
E08A Dider Farm, El 84.81 36 P **P** **16 03 59.4 +1.0**
E08A lAmb lAmb 16 04 01.2
comp=Z,35nm,0.9s
ZAIG Zacatecas 84.84 64 P **P** **16 04 00.4 +0.9**
BMO Blue Mountains 84.86 38 P **P** **16 03 59.2 +0.4**
BMO pmax pmax
comp=Z,26nm,0.9s
BMO Blue Mountains 84.86 38 P **P** **16 03 59.2 +0.4**
121A Cookes Peak, D 84.90 53 P 16 04 02.0
baz=242,SNR=26
121A Cookes Peak, D 84.90 53 P **P** **16 04 01.2 +1.8**
121A lAmb lAmb 16 04 03.1
comp=Z,40nm,0.9s
SML Sawmill 84.92 14 P 16 03 58.8
baz=208,SNR=6.8
SML Sawmill 84.92 14 P **P** **16 03 58.0 -0.6**
MFID Camas Ranch 84.93 40 P **P** **16 04 00.3 +1.1**
MFID lAmb lAmb 16 04 02.0
comp=Z,35nm,1.1s
CUT Chulitna 85.04 12 P 16 03 59.6
baz=206,SNR=10
BMRM Bremner River 85.06 16 P 16 03 60.0
baz=211,SNR=15
DUG Dugway, Tooele 85.11 44 P 16 04 01.5
baz=239
DUG Dugway, Tooele 85.11 44 P **P** **16 04 00.9 +0.7**
DUG pmax pmax
comp=Z,5.0nm,0.9s
DUG Dugway, Tooele 85.11 44 P **P** **16 04 00.9 +0.7**
PPLA Purkeypile 85.11 11 P 16 03 58.8
baz=204
PPLA Purkeypile 85.12 11 P **P** **16 03 58.8 -0.9**
PPLA lAmb lAmb 16 03 59.6
comp=Z,55nm,1.5s
SCM Sheep Creek Mo 85.17 14 P **P** **16 03 59.9 0.0**
SCM pmax pmax
comp=Z,124nm,0.8s
SCM Sheep Creek Mo 85.17 14 P **P** **16 03 59.9 0.0**
KLU Klutina 85.19 15 P 16 04 00.7
baz=210,SNR=9.5
KLU Klutina 85.19 15 P **P** **16 04 00.5 +0.5**
KLU lAmb lAmb 16 04 01.6
comp=Z,41nm,1.0s
D08A Wollman Farm, 85.22 36 P **P** **16 04 01.5 +1.1**
D08A lAmb lAmb 16 04 03.2
comp=Z,44nm,1.0s
TSI Tuntungan 85.22 275 P **P** **16 03 59.5 -1.7**
comp=Z,120nm,1.2s
WRAK Wrangell Islan 85.24 23 P 16 04 01.7
baz=222,SNR=6.8
WRAK Wrangell Islan 85.24 23 P **P** **16 04 01.4 +1.2**
WRAK lAmb lAmb 16 04 02.8
comp=Z,55nm,0.8s
CRQM Cirque 85.26 16 P **P** **16 04 00.7 +0.2**
CRQM lAmb lAmb 16 04 02.3
comp=Z,84nm,1.1s
CRQE Cirque 85.27 16 P 16 04 01.5
baz=213
YAH Yahtse 85.31 17 P **P** **16 04 01.2 +0.4**
YAH lAmb lAmb 16 04 02.9
comp=Z,81nm,1.0s
TGL Tana Glacier 85.34 16 P **P** **16 04 00.9 +0.1**
TGL lAmb lAmb 16 04 02.6
comp=Z,91nm,1.2s
BGU Big Grassy Mou 85.35 43 P **P** **16 04 01.2 -0.1**
GSI Gunungsitoli 85.39 273 P **P** **16 04 02.7 +0.7**
GSI Gunungsitoli 85.39 273 P **P** **16 04 02.8 +0.7**
comp=Z,3µmcomp=Z,284nm,1.3s
NLU North Lily Min 85.47 45 P **P** **16 04 02.3 +0.2**
PINM Pinnacle 85.50 18 P 16 04 02.1
baz=215
PCA Pinnacle 85.51 18 P **P** **16 04 01.5 -0.1**
PCA lAmb lAmb 16 04 03.4
comp=Z,49nm,1.0s
TABL Table Mountain 85.54 17 P **P** **16 04 02.2 +0.3**
TABL lAmb lAmb 16 04 03.8
comp=Z,66nm,0.9s
F10A Beach Ranch, E 85.54 38 P **P** **16 04 02.4 +0.3**
Q16A Castle Valley 85.55 46 P **P** **16 04 03.5 +1.1**
BCPM Bancas Point 85.57 18 P **P** **16 04 02.4 +0.6**
BCPM lAmb lAmb 16 04 03.7
comp=Z,57nm,1.1s
N25K Chitina, Valde 85.61 15 P 16 04 02.6
baz=211,SNR=21
N25K Chitina, Valde 85.61 15 P **P** **16 04 02.2 +0.2**
N25K lAmb lAmb 16 04 03.8
comp=Z,65nm,0.9s
M24K Tolsona, Glenn 85.67 14 P 16 04 03.6
baz=210,SNR=12
M24K Tolsona, Glenn 85.67 14 P **P** **16 04 03.4 +1.1**
TRTT Trang 85.69 280 P **P** **16 04 04.3 +0.9**
comp=Z,3µmcomp=Z,266nm,1.3s
BJT Baijiatuau 85.71 315 P **P** **16 04 02.7 -0.2**
BJT pmax pmax
comp=Z,63nm,1.2s
BJT Baijiatuau 85.71 315 P **P** **16 04 02.7 -0.2**
BJT lAmb lAmb 16 04 04.3
comp=Z,63nm,1.2s
TMUT Trail Mountain 85.72 46 P **P** **16 04 03.3 -0.1**
TMUT lAmb lAmb 16 04 06.5
comp=Z,24nm,0.8s
BJI Beijing 85.72 315 P **P** **16 04 03.6 +0.7**
BJI pP **pP** **16 06 02.4 -0.5**
BJI sP **sP** **16 07 02.2 +3.3**
BJI S S **16 13 49.4 +0.2**
BJI pmax pmax
comp=Z,56nm,1.0s
BJI pmax pmax
comp=Z,470nm,4.1s
WAT6 Susitna Watana 85.73 13 P 16 04 03.0
baz=208,SNR=31
SRAK Srakaew 85.76 286 P **P** **16 04 02.0 -1.7**
comp=Z,7µmcomp=Z,660nm,1.3s
B08A Colville Reser 85.77 35 P **P** **16 04 03.0 0.0**
B08A lAmb lAmb 16 04 05.0
comp=Z,34nm,0.8s
MPU Maple Canyon 85.79 45 P **P** **16 04 05.0 +1.4**
MCARA McCarthy VSAT 85.82 16 P 16 04 04.0
baz=213,SNR=12

MCARA McCarthy VSAT 85.82 16 P **P** **16 04 03.4 +0.5**
MCARA lAmb lAmb 16 04 04.9
comp=Z,65nm,1.2s
WAT2 Susitna Watana 85.89 13 P 16 04 03.5
baz=208,SNR=22
CTG Chitna Glacier 85.92 17 P 16 04 04.5
baz=214,SNR=15
CTGM Chitina Glacie 85.92 17 P **P** **16 04 03.8 +0.2**
CTGM lAmb lAmb 16 04 05.5
comp=Z,56nm,0.9s
SPUT South Promonto 85.92 43 P **P** **16 04 04.3 +0.2**
HVU Hansel Valley 85.95 43 P **P** **16 04 05.0 +0.7**
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 85.95 43 P **P** **16 04 05.0 +0.7**
KTH Kantishna Hill 85.95 12 P **P** **16 04 01.9 -1.7**
KTH lAmb lAmb 16 04 04.0
comp=Z,70nm,1.0s
TRF Thorofare Moun 85.98 12 P 16 04 03.7
baz=206
SEY Seymchan 86.00 347*de* P **P** **16 04 04.0 +0.3**
CHUM Lake Minchumin 86.00 11 P 16 04 03.3
baz=204,SNR=30
C09A Chrisman Ranch 86.01 36 P **P** **16 04 05.2 +1.1**
C09A lAmb lAmb 16 04 06.6
comp=Z,48nm,1.1s
CTU Camp Tracy 86.06 44 P **P** **16 04 06.3 +1.5**
SRU San Rafael Swe 86.08 46 P **P** **16 04 04.7 -0.2**
SRU pmax pmax
comp=Z,35nm,0.9s
SRU San Rafael Swe 86.08 46 P **P** **16 04 04.7 -0.2**
SRU lAmb lAmb 16 04 07.6
comp=Z,34nm,0.9s
P17A Butcher Ranch, 86.12 46 pP 16 06 06.7 +1.5
JLU Jordanelle 86.21 44 P **P** **16 04 06.4 +0.8**
RND Reindeer 86.23 13 P **P** **16 04 04.7 -0.2**
RND pmax pmax
comp=Z,178nm,0.9s
RND Reindeer 86.23 13 P **P** **16 04 04.7 -0.2**
LENM Lemitar 86.25 52 P **P** **16 04 06.9 +1.1**
MNTX Cornudas Mount 86.34 55 P 16 04 08.2
baz=244,SNR=62
MNTX Cornudas Mount 86.34 55 P **P** **16 04 07.7 +1.6**
MNTX lAmb lAmb 16 04 09.5
comp=Z,45nm,1.1s
PATY Pattaya 86.43 285 P **P** **16 04 09.5 +2.6**
comp=Z,205nm,1.0s
TPTI 86.44 275 P **P** **16 04 07.0 +0.1**
comp=Z,664nmcomp=Z,49nm,1.1s
BPAW Bear Paw Mtn. 86.44 11 P 16 04 05.2
baz=205,SNR=10
BPAW Bear Paw Mtn. 86.44 11 P **P** **16 04 04.8 -1.1**
BNM Barren Site 86.50 52 P **P** **16 04 08.6 +1.5**
TCUT Toone Canyon 86.50 44 P **P** **16 04 08.4 +1.4**
TCUT lAmb lAmb 16 04 09.6
comp=Z,29nm,0.8s
MCK McKinley 86.51 12 P 16 04 06.2
baz=207,SNR=57
CHAI Chaiyaphum 86.51 288 P **P** **16 04 09.0 +1.8**
PV05 Paradox Valley 86.56 47 P **P** **16 04 09.0 +1.7**
PV05 lAmb lAmb 16 04 10.3
comp=Z,36nm,1.1s
MVCO Mesa Verde 86.56 48 P 16 04 08.6
baz=242
MVCO Mesa Verde 86.56 48 P **P** **16 04 08.4 +1.1**
PAX Paxson 86.58 14 P 16 04 06.7
baz=210,SNR=7.8
GYA Guiyang 86.60 300 ⇑P **P** **16 04 08.8 +1.2**
GYA pmax pmax
comp=Z,38nm,0.9s
GYA pmax pmax
comp=Z,300nm,3.9s
HWUT Hardware Ranch 86.64 43 P **P** **16 04 07.8 +0.3**
TX31 Lajitas Ar. Si 86.66 57 P **P** **16 04 09.3 +1.6**
TX32 Lajitas Array 86.66 57 P **P** **16 04 09.3 +1.6**
TX32 lAmb lAmb 16 04 11.3
comp=Z,35nm,1.0s
TXAR Lajitas Array 86.66 57 P **P** **16 04 09.9 +2.1**
comp=Z,21nm,0.7s,baz=219,slow=6.6,SNR=220
TXAR pP **pwP** **16 06 10.6 -0.7**
comp=Z,4.0nm,0.9s,baz=205,slow=5.5,SNR=5.6
TXAR PKKPbc **PKKPbc** **16 21 59.7 0.0**
comp=Z,1.6nm,0.9s,baz=92,slow=3.1,SNR=9.2
TXAR PKPPKP **P'P'df** **16 30 12.0 +5.8**
comp=Z,0.4nm,0.8s,baz=64,slow=2.9,SNR=4.9
TXAR Lajitas Array 86.66 57 P **P** **16 04 09.8 +2.0**
PV10 Paradox Valley 86.74 47 P **P** **16 04 08.9 +0.8**
PV19 Morning Glory 86.75 47 P **P** **16 04 09.3 +1.1**
PV14 Lion Creek, Pa 86.75 47 P **P** **16 04 08.9 +0.7**
PV14 lAmb lAmb 16 04 10.6
comp=Z,26nm,0.9s
PV14 **pP** **16 06 09.5 +1.1**
PV17 East Wray Mesa 86.75 47 P **P** **16 04 08.9 +0.7**
PV17 lAmb lAmb 16 04 10.6
comp=Z,50nm,1.5s
PV17 **pP** **16 06 09.3 +0.9**
PV18 Skein Mesa, Pa 86.77 47 P **P** **16 04 08.3 +0.1**
PV18 **pP** **16 06 09.8 +1.3**
PV20 West Nyswonger 86.77 47 P **P** **16 04 08.6 +0.3**
PV13 Radium Mtn., P 86.79 47 P **P** **16 04 08.6 +0.2**
PV16 Nyswonger Mesa 86.80 47 P **P** **16 04 08.4 0.0**
PV03 Paradox Valley 86.81 47 P **P** **16 04 08.3 -0.2**
PV11 David Mesa, Pa 86.82 47 P **P** **16 04 08.4 -0.1**
PV04 Paradox Valley 86.84 47 P **P** **16 04 08.1 -0.4**
PV02 Paradox Valley 86.87 47 P **P** **16 04 09.2 +0.4**
PV12 Saucer Basin, 86.88 47 P **P** **16 04 09.5 +0.7**
PV12 lAmb lAmb 16 04 12.0
comp=Z,21nm,0.8s
SLVN Son La 86.88 294 P **P** **16 04 09.8 +0.9**
SLVN lAmb lAmb 16 04 12.8
comp=Z,43nm,1.2s
BCYI Bear Canyon 86.89 40 P **P** **16 04 09.4 +0.7**
NEW Newport 86.91 36 P 16 04 09.3
baz=235,SNR=16
NEW Newport 86.91 36 P **P** **16 04 08.8 +0.3**
NEW pmax pmax
comp=Z,17nm,1.1s
NEW Newport 86.91 36 P **P** **16 04 08.8 +0.3**
SURT Suratani 86.91 281 P **P** **16 04 12.0 +2.8**
comp=Z,2.9nm,1.1s
PV01 Paradox Valley 86.95 48 P **P** **16 04 09.2 +0.1**
PKDT Phuket 86.96 279 P **P** **16 04 10.0 +0.6**
comp=Z,1µmcomp=Z,92nm,1.3s
MENT Mentasta 86.97 15 P **P** **16 04 08.7 +0.3**
MENT lAmb lAmb 16 04 10.3
comp=Z,44nm,1.1s
ANMO Albuquerque 86.98 51 pP pP 16 06 11.6 +1.8
comp=Z,3.9nm,1.1s,baz=214,slow=3.4,SNR=4.0
ANMO Albuquerque 86.98 51*d* iP **P** **16 04 10.7 +1.4**
ANMO pmax pmax
comp=Z,29nm,1.1s
ANMO Albuquerque 86.98 51 P **P** **16 04 10.0 +0.7**
ANMO lAmb lAmb 16 04 12.0
comp=Z,24nm,1.0s
ANMO Albuquerque 86.98 51 P 16 04 10.6
baz=243
PV22 Blue Mesa, Par 86.99 47 P **P** **16 04 09.6 +0.3**
PV07 Paradox Valley 87.04 47 P **P** **16 04 10.1 +0.6**
PV15 Paradox Valley 87.11 47 P **P** **16 04 10.1 +0.2**
TIY Taiyuan 87.13 312 *eP* **P** **16 04 10.5 +0.7**
TIY pmax pmax
comp=Z,71nm,0.9s
SYO Syowa Base 87.19 193⇑*eP* **P** **16 04 08.8 -0.6**
SYO Syowa Base 87.19 193⇑*i*PcP **P** **16 04 10.0 +0.6**
SYO Syowa Base 87.19 193⇓*ep*P pP 16 06 11.0 +0.8
NEA2 Nenana 87.25 12 P 16 04 09.1
baz=207,SNR=26
MLY Manley 87.33 11 P 16 04 09.6
baz=205
LHMI Lhok Sumawe 87.33 277 P **P** **16 04 10.2 -0.9**
comp=Z,3µmcomp=Z,348nm,1.1s
WRH Wood River Hil 87.34 12 P **P** **16 04 09.5 -0.5**
ZEA Zeya 87.34 331 *eP* **P** **16 04 11.3 +1.1**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,40nm,0.9s
RDMU Red Mountain 87.44 45 P **P** **16 04 11.8 +0.5**
RDMU pP **pP** **16 06 12.8 +0.8**
DOT Dot Lake 87.50 14 P **P** **16 04 09.5 -1.3**
DOT lAmb lAmb 16 04 12.4
comp=Z,52nm,1.0s
HDA Harding Lake 87.52 13 P 16 04 10.7

baz=209,SNR=71
HDA P 16 04 10.7
baz=209,SNR=71
HDA Harding Lake 87.52 13 P P 16 04 10.1 -0.8
AHID Auburn Hatcher 87.53 43 P P 16 04 11.0 -0.7
AHID IAmb IAmb 16 04 14.5
comp=Z,54nm,1.4s
PHET Kaeng Krachan 87.55 285 P P 16 04 14.0 +1.9
comp=Z,3µmcomp=Z,336nm,0.9s
CCB Clear Creek Bu 87.55 12 P P 16 04 10.1 -0.8
DLBC Dease Lake 87.58 23 P P 16 04 11.4 0.0
DLBC IAmb IAmb 16 04 14.0
comp=Z,28nm,0.9s
WHY Whitehorse 87.58 20 P P 16 04 11.8 +0.4
WHY IAmb IAmb 16 04 13.6
comp=Z,36nm,0.9s
I23K Minto, Yukon-K 87.69 12 P 16 04 11.1
baz=207,SNR=29
I23K Minto, Yukon-K 87.69 12 P P 16 04 10.8 -0.8
I23K IAmb IAmb 16 04 12.5
comp=Z,24nm,0.7s
I23K **pP 16 06 13.3 +0.8**
TCOL CIGO, UAF Yank 87.74 12 P 16 04 11.5
baz=208,SNR=44
CLNB Carlsbad 87.74 55 P P 16 04 13.2 +0.4
TCOL CIGO, UAF Yank 87.74 12 P P 16 04 11.0 -0.8
COLA College 87.74 12 P 16 04 11.5
baz=208
COLA College 87.74 12 *d* iP **P 16 04 11.7 -0.1**
COLA pmax pmax
comp=Z,125nm,0.8s
COLA College 87.74 12 P P 16 04 11.1 -0.8
MDM Murphy Dome 87.74 12 P P 16 04 11.0 -0.9
SCRK Sand Creek 87.79 14 P 16 04 12.9
baz=212,SNR=22
IL31 87.85 13 P P 16 04 11.6 -0.7
IL31 IAmb IAmb 16 04 13.3
comp=Z,65nm,1.1s
ILAR Eielson Array 87.85 13 P P 16 04 11.8 -0.6
comp=Z,32nm,0.9s,baz=223,slow=5.1,SNR=155
ILAR pP **pP 16 06 13.5 +0.2**
comp=Z,6.5nm,1.0s,baz=221,slow=5.4,SNR=8.9
ILAR PKKPbc **PKKPbc 16 21 56.1 -2.2**
comp=Z,0.7nm,0.8s,baz=0.8,slow=2.6,SNR=6.5
ILAR Eielson Array 87.85 13 P P 16 04 11.3 -1.0
MSO Missoula 87.91 38 P 16 04 14.0
baz=238,SNR=17
MSO Missoula 87.91 38 P P 16 04 13.2 0.0
DLMT Dillon 87.93 40 P P 16 04 14.5 +1.1
DLMT IAmb IAmb 16 04 16.4
comp=Z,57nm,1.1s
REDW Red Top Meadow 87.98 42 P P 16 04 14.6 +0.8
REDW IAmb IAmb 16 04 16.7
comp=Z,70nm,1.1s
S22A 4UR Ranch, Cre 87.99 49 P 16 04 15.7
baz=243,SNR=42
XAN Xi'an 88.02 307 P P 16 04 14.7 +0.7
XAN S **S 16 14 10.5 -0.7**
XAN pmax pmax
comp=Z,220nm,1.1s
XAN pmax pmax
comp=Z,550nm,3.1s
XAN Xi'an 88.02 307 P P 16 04 14.5 +0.5
XAN pmax pmax
comp=Z,161nm,0.9s
XAN Xi'an 88.02 307 P P 16 04 14.5 +0.5
POKR Poker Plat Res 88.04 12 P 16 04 12.9
baz=208
POKR Poker Plat Res 88.04 12 P P 16 04 12.5 -0.8
O20A White River Ci 88.12 46 P P 16 04 15.3 +0.8
O20A IAmb IAmb 16 04 17.8
comp=Z,17nm,0.8s
O20A White River Ci 88.12 46 P 16 04 16.0
baz=242,SNR=15
LOHW Long Hollow 88.27 42 P P 16 04 15.8 +0.6
LOHW IAmb IAmb 16 04 17.3
comp=Z,19nm,0.8s
K27K Chicken 88.29 15 P 16 04 15.7
baz=213
K27K Chicken 88.29 15 P P 16 04 15.1 +0.7
PHIT Phitsanulok 88.38 289 P P 16 04 18.1 +2.1
comp=Z,3µmcomp=Z,352nm,1.1s
SNAA Sanae 88.44 178 P P 16 04 15.9 +0.6
SNAA Sanae 88.44 178 PKKP 16 21 53.9
SNAA Sanae 88.44 178 pP pP 16 06 16.5 +0.4
SNAA Sanae 88.44 178 PKKPbc PKKPbc 16 21 53.4 -3.4
comp=Z,2.8nm,0.8s,baz=32,slow=2.6,SNR=6.1
SNAA Sanae 88.44 178 *de* P **P 16 04 15.4 +0.1**
SNAA pmax pmax
comp=Z,19nm,1.1s
SNAA Sanae 88.44 178 P P 16 04 15.2 -0.1
SNAA IAmb IAmb 16 04 16.8
comp=Z,20nm,1.1s
FLWY Flagg Ranch 88.44 42 P P 16 04 17.1 +1.2
HIA Hailar 88.45 324 *d* iP **P 16 04 15.7 +0.1**
HIA pmax pmax
comp=Z,41nm,1.2s
HIA Hailar 88.45 324 P P 16 04 15.5 -0.1
HIA IAmb IAmb 16 04 17.2
comp=Z,33nm,1.1s
UTTA Uttaradit 88.46 289 P P 16 04 18.2 +1.9
comp=Z,811nmcomp=Z,74nm,1.2s
YHB Horse Butte 88.47 41 P P 16 04 17.4 +1.4
YPP Pitchstone Pla 88.47 41 P P 16 04 17.6 +1.5
YPP IAmb IAmb 16 04 20.4
comp=Z,23nm,1.4s
BW06 Boulder Array 88.51 43 P 16 04 17.3
baz=241,SNR=42
BW06 Boulder Array 88.52 43 P P 16 04 16.6 +0.3
BW06 IAmb IAmb 16 04 18.5
comp=Z,27nm,0.8s
PD31 Pinedale Array 88.52 43 P P 16 04 16.8 +0.4
PD31 IAmb IAmb 16 04 18.5
comp=Z,24nm,0.8s
PDAR Pinedale Array 88.52 43 P P 16 04 17.1 +0.8
comp=Z,25nm,0.9s,baz=212,slow=3.0,SNR=165
PDAR pP **pP 16 06 18.8 +1.5**
comp=Z,1.2nm,0.8s,baz=211,slow=1.7,SNR=4.9
PDAR PKKPbc **PKKPbc 16 21 54.5 -1.5**
comp=Z,2.1nm,0.8s,baz=85,slow=3.8,SNR=16
PDAR PKPPKP **P'P'df 16 30 05.8 +3.8**
comp=Z,1.1nm,1.0s,baz=64,slow=3.4,SNR=4.4
PDAR Pinedale Array 88.52 43 P P 16 04 16.7 +0.4
SRDT SRDT 88.52 286 P P 16 04 18.0 +1.4
comp=Z,70nm,1.4s
YHL Hebgen Lake 88.53 41 P P 16 04 18.1 +1.6
RDOG Red Dog Mine 88.54 6 P 16 04 16.2
baz=194
RDOG Red Dog Mine 88.54 6 P P 16 04 15.4 -0.2
RDOG IAmb IAmb 16 04 17.3
comp=Z,32nm,1.1s
SMCO Snowmass 88.54 47 P P 16 04 17.7 +0.9
SMCO IAmb IAmb 16 04 20.0
comp=Z,21nm,1.0s
VNA3 Neumayer Olymp 88.56 176 P P 16 04 16.7 +0.8
VNA3 Neumayer Olymp 88.56 176 PKKP 16 21 53.3
YMR Madison River 88.57 41 P P 16 04 17.9 +1.4
BOZ Bozeman (W) 88.63 40 P P 16 04 17.6 +0.9
BOZ pmax pmax
comp=Z,51nm,1.0s
BOZ Bozeman (W) 88.63 40 P P 16 04 17.6 +0.9
BOZ IAmb IAmb 16 04 19.6
comp=Z,51nm,0.9s
BOZ Bozeman (W) 88.63 40 P 16 04 18.4
baz=239,SNR=86
UTHA Uthaitani 88.66 287 P P 16 04 19.3 +2.0
comp=Z,1µmcomp=Z,168nm,0.9s
H17A Grant Village 88.67 41 P 16 04 20.0
baz=240,SNR=47
H17A Grant Village 88.67 41 P P 16 04 19.3 +2.3
H17A IAmb IAmb 16 04 21.0
comp=Z,42nm,0.9s
YHH Holmes Hill 88.70 41 P P 16 04 18.5 +1.3
YHH IAmb IAmb 16 04 21.5
comp=Z,42nm,1.2s
YHH **pP 16 06 19.8 +1.5**
NANT Nan 88.72 290 P P 16 04 19.5 +2.0
comp=Z,25µmcomp=Z,909nm,1.1s
PRP Porcupine Dome 88.78 13 P 16 04 17.7
baz=210,SNR=6.4
PRP Porcupine Dome 88.78 13 P P 16 04 16.9 0.0
PRP IAmb IAmb 16 04 18.8
comp=Z,32nm,0.8s
LKWY Lake 88.87 41 P P 16 04 19.3 +1.4
LKWY pmax pmax
comp=Z,46nm,1.0s
LKWY Lake 88.87 41 P P 16 04 19.3 +1.4
LKWY IAmb IAmb 16 04 22.1
comp=Z,46nm,0.9s
SDCO Great Sand Dun 88.93 49 P 16 04 19.7
baz=244,SNR=20
SDCO Great Sand Dun 88.93 49 P P 16 04 19.0 +0.6
DAWY Dawson 88.99 16 P P 16 04 18.2 +0.4
VNA2 Neumayer--Watz 89.01 177 P P 16 04 19.0 +1.1
baz=182,slow=3.5
VNA2 Neumayer--Watz 89.01 177 PKKP 16 21 52.3
VNA2 Neumayer--Watz 89.01 177 PcP PcP 16 04 31.1 +12
baz=192,slow=3.2
VNA2 Neumayer--Watz 89.01 177 pP pP 16 06 22.8 +3.9
baz=194,slow=2.9
WALA Waterton Lakes 89.12 36 P P 16 04 19.2 +0.4
WALA IAmb IAmb 16 04 21.2
comp=Z,32nm,0.9s
EGAK Eagle 89.14 15 P 16 04 19.1
baz=214,SNR=86
EGAK Eagle 89.14 15 P P 16 04 18.7 +0.3
NVL N'lazarevskaya 89.16 183 ⇑ *i*P **P 16 04 18.0 -0.6**
NVL *e**PP **pP 16 06 19.2 -0.3**
NVL *e*S **SKSac 16 13 51.8 -3.2**
NVL pmax pmax
comp=Z,64nm,0.8s
HHC Hu-ho-hao-te 89.19 314 *e*P **P 16 04 20.8 +1.5**
HHC S **S 16 14 25.9 +4.2**
HHC pmax pmax
comp=Z,66nm,0.9s
HHC pmax pmax
comp=Z,130nm,8.0s
SUKH Sukhothai 89.19 289 P P 16 04 21.7 +2.0
comp=Z,1µmcomp=Z,149nm,1.0s
VNA1 Neumayer--Stat 89.23 177 P P 16 04 20.0 +1.1
VNA1 Neumayer--Stat 89.23 177 PcP PcP 16 04 32.0 +12
VNA1 Neumayer--Stat 89.23 177 pP pP 16 06 19.9 -0.1
MSTX Muleshoe 89.30 53 P 16 04 21.3
baz=245
MSTX Muleshoe 89.30 53 P P 16 04 20.6 +0.5
MSTX IAmb IAmb 16 04 22.4
comp=Z,39nm,0.9s
KMI Kunming 89.32 297 ⇓ P **P 16 04 22.2 +1.7**
KMI pP pwP 16 06 25.5 +0.3
KMI sP sP 16 07 20.9 +3.1
KMI PP **PP 16 08 01.0 -0.9**
KMI S **S 16 14 23.1 -0.8**
KMI pmax pmax
comp=Z,120nm,1.1s
KMI pmax pmax
comp=Z,350nm,5.7s
KMI Kunming 89.32 297 P P 16 04 21.6 +1.1
KMI pmax pmax
comp=Z,99nm,0.9s
KMI Kunming 89.32 297 P P 16 04 21.6 +1.1
YNE Yellowstone No 89.33 41 P P 16 04 20.8 +0.8
YNE pP **pP 16 06 22.8 +1.6**
CMIG Matias Romero 89.35 72 P P 16 04 22.1 +1.7
comp=Z,11nm,0.8s,baz=286,slow=4.6,SNR=8.7
COLD Coldfoot 89.42 10 P 16 04 20.6
baz=206
COLD Coldfoot 89.42 10 P P 16 04 20.4 +0.8
UMPA Umpang Tak 89.42 287 P P 16 04 22.6 +1.8
comp=Z,894nmcomp=Z,111nm,1.1s
PLCA Paso Flores 89.43 133 P P 16 04 22.4 +1.8
comp=Z,2.4nm,0.9s,baz=232,slow=6.0,SNR=5.8
PLCA PKKPbc **PKKPbc 16 21 52.5 -0.7**
comp=Z,2.5nm,0.9s,baz=9.6,slow=4.9,SNR=5.6
T25A Trinidad 89.44 50 P 16 04 21.9
baz=244,SNR=14
T25A Trinidad 89.44 50 P P 16 04 20.5 -0.2
T25A IAmb IAmb 16 04 23.7
comp=Z,14nm,0.9s
RWWY Rawlins 89.54 45 P P 16 04 21.5 +0.3
RWWY IAmb IAmb 16 04 23.4
comp=Z,45nm,1.0s
833A Chaparral WMA, 89.68 60 P 16 04 23.6
baz=247
Q24A Divide 89.71 48 P 16 04 24.4
baz=244
ISCO Idaho Springs 89.76 47 P 16 04 23.7
baz=244,SNR=7.2
ISCO Idaho Springs 89.76 47 P P 16 04 22.5 +0.2
ISCO pmax pmax
comp=Z,8.0nm,1.3s
ISCO Idaho Springs 89.76 47 P P 16 04 22.5 +0.2
RLMT Red Lodge 89.84 41 P P 16 04 23.3 +0.8
RLMT IAmb IAmb 16 04 25.5
comp=Z,33nm,1.0s
RLMT Red Lodge 89.84 41 P 16 04 24.3
baz=241,SNR=33
N23A Red Feather La 90.03 46 P 16 04 25.4
baz=243,SNR=20
CM35 Chiang Mai Arr 90.04 290 P P 16 04 25.0 +1.4
CM01 Chiang Mai Arr 90.12 289 P P 16 04 25.0 +1.0
comp=Z,869nmcomp=Z,106nm,1.0s
CMAR Chiang Mai Arr 90.15 290 P P 16 04 25.9 +1.8
comp=Z,66nm,0.9s,baz=117,slow=2.9,SNR=329
CMAR PKKPbc **PKKPbc 16 21 51.6 +0.9**
comp=Z,2.4nm,0.7s,baz=285,slow=4.2,SNR=19
CMAR PKPPKP **P'P'df 16 30 01.3 +0.8**
comp=Z,0.5nm,0.4s,baz=293,slow=3.8,SNR=6.5
CMAR Chiang Mai Arr 90.15 290 *ce* P **P 16 04 26.0 +1.8**
CMAR pmax pmax
comp=Z,66nm,0.9s
CMAR Chiang Mai Arr 90.15 290 P P 16 04 24.7 +0.5
JCT Junction City 90.19 58 P 16 04 25.4
baz=247
JCT Junction City 90.19 58 P P 16 04 24.4 +0.3
JCT pmax pmax
comp=Z,20nm,0.8s
JCT Junction City 90.19 58 P P 16 04 24.4 +0.3
JCT IAmb IAmb 16 04 26.2
comp=Z,20nm,0.8s
CMMT Chiang Mai 90.27 290 P P 16 04 25.0 +0.3
comp=Z,539nmcomp=Z,60nm,1.2s
CHTO Chiang Mai 90.28 290 P P 16 04 24.3 -0.4
CHTO pmax pmax
comp=Z,91nm,0.9s
CHTO Chiang Mai 90.28 290 P P 16 04 24.3 -0.4
CHTO Chiang Mai 90.28 290 P P 16 04 26.5 +1.8
K22A Casper 90.43 44 P P 16 04 25.5 +0.3
K22A IAmb IAmb 16 04 27.5
comp=Z,35nm,1.0s
K22A Casper 90.43 44 P 16 04 26.5
baz=243,SNR=13
AMTX Amarillo 90.50 53 P P 16 04 25.7 +0.1
AMTX IAmb IAmb 16 04 27.7
comp=Z,17nm,0.8s
AMTX Amarillo 90.50 53 P 16 04 26.7
baz=246
PHWY Pilot Hill 90.54 46 P P 16 04 26.5 +0.7
PHWY IAmb IAmb 16 04 28.0
comp=Z,16nm,0.8s
BI02 San Fabin de 90.70 130 P P 16 04 26.8 +0.2
CD2 Chengdu 90.71 303 P P 16 04 28.0 +1.4
CD2 S **S 16 14 35.7 -0.1**
CD2 SS **SS 16 20 58.5 +3.0**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,200nm,10.6s
TOLK Toolik Lake Re 90.79 10 P 16 04 26.7
baz=206
TOLK Toolik Lake Re 90.80 10 P P 16 04 26.3 +0.3
TOLK IAmb IAmb 16 04 27.8
comp=Z,37nm,1.1s
MHMT Maesarieng 90.95 289 P P 16 04 28.0 +0.2
comp=Z,1µmcomp=Z,84nm,1.3s
EGMT Eagleton 90.96 39 P P 16 04 27.5 +0.2
EGMT IAmb IAmb 16 04 29.7
comp=Z,24nm,1.1s
EGMT Eagleton 90.96 39 P 16 04 28.7
baz=241
ABTX Abilene, Hawle 91.15 56 P 16 04 29.8
baz=247
ABTX Abilene, Hawle 91.15 56 P P 16 04 28.7 +0.1
ABTX IAmb IAmb 16 04 31.5
comp=Z,41nm,1.1s
KSCO Kaye Shedlock' 91.51 49 P 16 04 32.6
baz=245,SNR=6.7
YAK Yakutsk 91.78 338 *d* iP **P 16 04 30.0 -0.6**
YAK *e**PP **pP 16 06 35.4 +2.6**
YAK *e* 16 08 19.5
YAK *e*PPP PPP 16 10 21.8
YAK *e*S **SKSac 16 14 08.6 -1.0**
YAK *e* 16 14 40.7
YAK *e*SS **SS 16 21 06.1 -3.1**
YAK *e*SSS SSS 16 24 59.5
YAK pmax pmax
comp=Z,64nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,15nm,1.2s
YAK pmax pmax
comp=Z,38nm,3.1s
YAK pmax pmax
comp=N,39nm,2.8s
YAK pmax pmax
comp=E,30nm,2.4s
YAK smax smax
comp=N,37nm,3.9s
YAK smax smax
comp=E,50nm,3.8s
YAK Yakutsk 91.78 338 P P 16 04 30.1 -0.5
435B Jarrell 92.07 58 P 16 04 34.2
baz=248
435B Jarrell 92.07 58 P P 16 04 33.2 +0.4
435B IAmb IAmb 16 04 35.2
comp=Z,24nm,0.9s
LAO LASA Array 92.45 41 P 16 04 36.2
baz=243
WHTX Lake Whitney, 92.62 57 P 16 04 36.3
baz=248
WHTX Lake Whitney, 92.62 57 P P 16 04 35.7 +0.4
WHTX IAmb IAmb 16 04 37.3
comp=Z,12nm,0.8s
WMOK Wichita Mounta 92.63 54 P 16 04 36.4
baz=248
WMOK Wichita Mounta 92.63 54 P P 16 04 36.1 +0.8
WMOK pmax pmax
comp=Z,5.0nm,1.5s
LZH Lanzhou 92.66 307 *e*P **P 16 04 36.8 +1.3**
LZH pP pwP 16 06 38.9 -0.7
LZH sP sP 16 07 37.1 +4.2
LZH pmax pmax
comp=Z,73nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.3s
RSSD Black Hills 92.71 44 P 16 04 36.5
baz=245
RSSD Black Hills 92.71 44 P P 16 04 36.0 +0.3
RSSD pmax pmax
comp=Z,35nm,1.2s
RSSD Black Hills 92.71 44 P P 16 04 36.0 +0.3
RSSD IAmb IAmb 16 04 38.3
comp=Z,35nm,1.1s
HKT Hockley 93.17 59 ⇑ *i*P **P 16 04 39.7 +2.0**
HKT pmax pmax
comp=Z,17nm,1.6s
HKT Hockley 93.17 59 P P 16 04 38.6 +0.9
Z35A Perchaven, San 93.28 56 P P 16 04 38.5 +0.3
Z35A IAmb IAmb 16 04 40.3
comp=Z,29nm,1.1s
CBKS Cedar Bluff 93.49 50 P 16 04 40.4
baz=247
CBKS Cedar Bluff 93.49 50 P P 16 04 39.4 +0.3
CBKS pmax pmax
comp=Z,25nm,0.9s
CBKS Cedar Bluff 93.49 50 P P 16 04 39.4 +0.3
CBKS IAmb IAmb 16 04 41.4
comp=Z,25nm,0.9s
INK Inuvik 93.80 15 P P 16 04 39.7 0.0
comp=Z,24nm,0.9s,baz=224,slow=4.5,SNR=76
INK pP **pwP 16 06 43.0 -1.5**
comp=Z,4.3nm,1.0s,baz=201,slow=5.5,SNR=4.2
INK Inuvik 93.80 15 P P 16 04 39.3 -0.4
FNO Franklin 93.88 54 P P 16 04 41.8 +0.8
R32A Long Quarter, 94.09 51 P P 16 04 42.5 +0.7
T35A Sooner Cattle 95.15 53 P P 16 04 47.2 +0.5
T35A IAmb IAmb 16 04 48.8
comp=Z,15nm,1.3s
ULN Ulaanbaatar 95.16 319 *d* iP **P 16 04 46.3 -0.3**
ULN pmax pmax
comp=Z,17nm,1.1s
ULN Ulaanbaatar 95.16 319 P P 16 04 45.9 -0.8
ULN IAmb IAmb 16 04 47.8
comp=Z,16nm,1.1s
ULN Ulaanbaatar 95.16 319 P P 16 04 46.9 +0.3
X37A Clayton 95.19 55 P P 16 04 47.4 +0.5
SONM Songino Array 95.55 319 P P 16 04 47.5 -0.8
comp=Z,2.4nm,0.7s,baz=122,slow=4.8,SNR=24
SONM pP **pwP 16 06 52.3 -0.2**
comp=Z,0.3nm,0.7s,baz=169,slow=1.5,SNR=1.6
SONM PKiKP **PKiKP 16 09 24.7 +0.1**
comp=Z,0.8nm,0.7s,baz=90,slow=3.0,SNR=2.3
SONM PKKPbc **PKKPbc 16 21 37.7 -0.4**
comp=Z,1.2nm,0.8s,baz=272,slow=4.0,SNR=6.3
SONM Songino Array 95.55 319 P P 16 04 47.2 -1.2
SONM IAmb IAmb 16 04 49.3
comp=Z,14nm,1.4s
BGNE Belgrade 95.60 48 P 16 04 49.7
baz=248
BGNE Belgrade 95.60 48 P P 16 04 49.6 +1.0
K31A O'Neill 95.64 47 P P 16 04 49.0 +0.3
BOD Bodaibo 95.81 330 *eP* **P 16 04 48.1 -1.0**
BOD pmax pmax
comp=Z,13nm,1.5s
KSU1 Kansas State U 95.86 51 P 16 04 51.7
baz=249
KSU1 Kansas State U 95.86 51 P P 16 04 50.9 +1.1
YKA Yellowknife Ar 96.04 25 P P 16 04 50.2 +0.2
comp=Z,5.2nm,0.8s,baz=239,slow=3.9,SNR=64
YKA pP **pwP 16 06 53.7 -1.4**
comp=Z,0.7nm,0.7s,baz=235,slow=3.6,SNR=4.4
YKA PKiKP **PKiKP 16 09 24.7 -0.1**
comp=Z,0.7nm,0.7s,baz=220,slow=1.0,SNR=6.6
YKA PKKPbc **PKKPbc 16 21 34.8 -2.4**
comp=Z,0.9nm,0.7s,baz=52,slow=2.9,SNR=5.1
YKA PKPPKP **P'P'df 16 29 49.8 +3.5**
comp=Z,0.8nm,0.9s,baz=68,slow=3.4,SNR=6.9
GTA Gaotai 96.84 309 ⇓ P **P 16 04 54.3 -0.1**
GTA pP pwP 16 07 00.0 +1.3
GTA PP **PP 16 09 00.9 +1.5**
GTA pmax pmax
comp=Z,16nm,1.4s
GTA pmax pmax
comp=Z,150nm,4.5s
C36M Paulatuk 96.98 17 P 16 04 54.2
baz=230
C36M Paulatuk 96.98 17 P P 16 04 53.9 -0.2
C36M IAmb IAmb 16 04 55.8
comp=Z,9.0nm,0.9s
ECSD EROS Data Cent 97.50 46 P Pdif 16 04 56.9 -0.2
ECSD IAmb IAmb 16 04 58.7
comp=Z,5.4nm,0.8s
ECSD EROS Data Cent 97.50 46 P 16 04 57.6
baz=250
TIXI Tiksi 98.38 345 ⇓ *e*P Pdif 16 04 59.6 -0.6
TIXI pmax pmax
comp=Z,42nm,1.3s
ZAK Zakamensk 98.42 321 *e*P Pdif 16 04 59.9 -1.2
ZAK pmax pmax
comp=Z,4.0nm,1.5s
MGMO Mountain Grove 98.43 54 Pdif **P 16 05 01.6 +0.2**
MGMO IAmb IAmb 16 05 03.1
comp=Z,5.7nm,1.0s
MGMO **pP 16 07 04.3 +0.9**
F33A 5 Mile Ranch, 98.44 44 Pdif **P 16 05 01.3 +0.1**
F33A IAmb IAmb 16 05 03.7
comp=Z,7.9nm,0.9s
TLY Talaya 98.67 322 ⇑ *e*P **P 16 05 03.3 +1.2**
TLY pmax pmax
comp=Z,6.0nm,0.9s
ULM Lac du Bonnet 100.18 40 P Pdif **16 05 08.6 -0.2**
comp=Z,1.4nm,0.8s,baz=262,slow=4.6,SNR=3.1
ULM Lac du Bonnet 100.18 40 ⇑ *e*P **Pdif 16 05 09.2 +0.5**
F36A Milaca 100.28 45 Pdif **Pdif 16 05 09.7 +0.4**
LSA Lhasa 100.55 298 P **Pdif 16 05 13.1 +1.6**
LSA pmax pmax
comp=Z,3.0nm,1.3s
LPAZ La Paz 102.05 112 PKKPbc PKKPbc 16 21 19.6 -0.3
comp=Z,1.8nm,0.7s,baz=28,slow=1.6,SNR=5.9
TAPN Taplejung 102.79 295 *eP* **PKiKP 16 09 38.7 +0.3**
ODAN Odare 102.93 294 *eP* **PKiKP 16 09 38.8 +0.2**
comp=Z,41nm,1.0s
RAMN Ramite 103.63 294 *eP* **PKiKP 16 09 39.5 -0.4**
comp=Z,20nm,0.8s
GUN Gumba 104.50 295 *eP* **PKiKP 16 09 41.1 -0.5**
comp=Z,125nm,1.6s
PKI Pulchoki 104.82 294 *eP* **PKiKP 16 09 41.2 -1.0**

comp=Z,25nm,0.9s
PKIN Phulchoki 104.83 294 *e*P **PKiKP 16 09 41.1 -1.0**
comp=Z,18nm,0.7s
KKN Kakani 104.98 294 *e*P **PKiKP 16 09 41.8 -0.5**
comp=Z,25nm,0.9s
DMN Daman 105.09 294 *e*P **PKiKP 16 09 42.2 -0.4**
GKN Gorkha 105.59 294 *e*P **PKiKP 16 09 42.2 -1.2**
comp=Z,11nm,0.6s
DANN Dangsing 106.42 295 *e*P **PKiKP 16 09 44.0 -1.1**
SIV San Ignacio 108.25 115 PKKPbc PKKPbc 16 21 00.9 +0.2
comp=Z,3.2nm,0.8s,baz=109,slow=4.4,SNR=14
ZSN Zaisan 109.39 314 *e*PKiKP **PKiKP 16 09 48.4 -1.3**
baz=314
ZALV Zalesovo Beam 110.27 321 Pdiff **Pdif 16 05 56.6 +3.0**
comp=Z,0.5nm,0.6s,baz=72,slow=4.7,SNR=4.5
ZALV PKiKP **PKiKP 16 09 50.2 -0.9**
comp=Z,9.4nm,0.6s,baz=145,slow=1.1,SNR=49
ZALV PKKPbc **PKKPbc 16 20 54.3 -0.7**
comp=Z,0.7nm,0.4s,baz=286,slow=3.9,SNR=4.2
ALGO Algonquin Park 110.81 47 P 16 09 51.9
baz=262
MK31 Makanchi Array 111.04 314*d i*PKiKP **PKiKP 16 09 51.6 -1.3**
MKAR Makanchi Array 111.04 314 Pdiff **Pdif 16 05 59.7 +2.5**
comp=Z,1.5nm,0.8s,baz=94,slow=6.1,SNR=15
MKAR PKiKP **PKiKP 16 09 51.9 -1.0**
comp=Z,11nm,0.7s,baz=74,slow=1.0,SNR=83
MKAR PKKPbc **PKKPbc 16 20 52.4 0.0**
comp=Z,1.5nm,0.8s,baz=277,slow=4.0,SNR=10
MKAR Makanchi Array 111.04 314 **Pdif 16 05 57.0 -0.2**
MKAR PKKPbc **PKKPbc 16 20 51.7 -0.7**
BINY Binghamton 111.79 52 P 16 09 54.6
baz=262
LSQQ Lebel-sur-Quev 111.89 44 P 16 09 53.7
baz=264
H57A Richville 112.50 49 P 16 09 55.2
baz=264
D55A Sainte-Anne-du 112.70 46 P 16 09 55.6
baz=265
E56A St. Veronique 112.96 47 P 16 09 55.8
baz=265
PAL Palisades 113.18 53 P 16 09 57.3
baz=263
KPKS Kokpek 113.19 310 *e*PKiKP **PKiKP 16 09 56.4 -0.8**
baz=310
KPKS Kokpek 113.19 310 *i*PKIKP **PKiKP 16 09 56.3 -0.8**
D56A ZEC Mazanza, M 113.19 46 P 16 09 56.6
baz=265
SATY Saty 113.35 309 *e*PKiKP **PKiKP 16 09 56.9 -0.7**
baz=309
SATY Saty 113.35 309 *i*PKIKP **PKiKP 16 09 56.8 -0.7**
G58A Ormstown 113.52 49 P 16 09 57.2
baz=265
TDK Taldyqorghan 113.54 311 *e*PKiKP **PKiKP 16 09 56.9 -0.9**
baz=311
TDK Taldyqorghan 113.54 311 *i*PKIKP **PKiKP 16 09 56.8 -0.9**
TULEG Thule 113.78 14 *i*P **PKiKP 16 09 56.9 -0.3**
TULEG IAmb IAmb 16 09 58.0
comp=Z,7.8nm,0.8s
KURK Kurchatov 113.80 318 *i*PKIKP **PKiKP 16 09 57.3 -0.7**
KURK Kurchatov 113.80 318 **PKiKP 16 09 57.2 -0.7**
KURBB Kurchatov Arra 113.86 317 PKiKP **PKiKP 16 09 57.2 -0.8**
comp=Z,16nm,0.7s,baz=97,slow=1.9,SNR=163
I60A Shoreham 113.94 50 P 16 09 58.5
baz=265
M62A Hamden 113.99 53 P 16 09 58.6
baz=264
E58A La Victoria 114.16 47 P 16 09 58.4
baz=266
L61B Northampton 114.25 52 P 16 09 59.2
baz=265
MDOK Medeo 114.35 309 *e*PKP PKPdf 16 09 57.7 -1.7
baz=309
MDOK Medeo 114.35 309 *e*PKIKP PKPdf 16 09 57.7 -1.8
TNSS Tian-Shan 114.41 309 *e*PKP PKPdf 16 09 59.2 -0.7
baz=309
TNSS *e*PP **PP 16 11 05.3 -1.7**
baz=309
TNSS Tian-Shan 114.41 309 *e*PKIKP PKPdf 16 09 59.2 -0.7
TNSS *e* 16 11 05.3
J61A Chester 114.43 51 P 16 09 59.9
baz=265
AAA Alma-Ata 114.45 309 *e*PKP PKPdf 16 09 59.2 -0.4
baz=309
AAA Alma-Ata 114.45 309 *e*PKIKP PKPdf 16 09 59.2 -0.4
CHKK Chushkaly 114.45 310 *e*PKP PKPdf 16 09 58.2 -1.3
baz=310
CHKK *e*PP **PP 16 11 04.5 -2.3**
baz=310
CHKK Chushkaly 114.45 310 *e*PKIKP PKPdf 16 09 58.1 -1.4
CHKK *e* 16 11 04.5
D58A Chemin du LacG 114.48 47 P 16 09 58.6
baz=267
KSH Kashi 114.79 305 PKP **PKiKP 16 10 01.6 +1.2**
KUU Kurty 114.92 310 *e*PKP PKPdf 16 09 59.0 -1.3
baz=310
KUU Kurty 114.92 310 *e*PKIKP PKPdf 16 09 59.0 -1.4
F60A Warwick 115.05 48 P 16 10 00.6
baz=267
TKM2 Tokmak 2 115.39 309 P **PKPdf 16 10 00.9 -0.7**
SNR=15
E60A Ste Agathe de 115.42 47 P 16 10 00.9
baz=267
PTGA Pitinga 115.75 101 PKP **PKPdf 16 10 02.9 0.0**
comp=Z,1.5nm,0.3s,baz=235,slow=1.1,SNR=5.8
PTGA PKKPbc **PKKPbc 16 20 37.3 +1.3**
comp=Z,1.3nm,0.3s,baz=18,slow=3.2,SNR=6.2
KBK Karagaybulak 115.84 308 P **PKPdf 16 10 02.2 -0.2**
SNR=8.5
G62A West of Eustis 116.00 49 P 16 10 02.6
baz=267
CHMS Chumysh 116.01 309 P **PKPdf 16 10 02.0 -0.5**
SNR=13
E61A Lac Etchemin 116.09 47 P 16 10 02.5
baz=268
SGDS Sogindy 116.13 309 *e*PKP **PKPdf 16 10 01.9 -0.9**
baz=309
SGDS Sogindy 116.13 309 *e*PKIKP **PKPdf 16 10 01.8 -0.9**
UCH Uchtor 116.14 308 P **PKiKP 16 10 03.5 +0.1**
SNR=18
AAK Ala-Archa 116.18 308 P **PKPdf 16 10 02.7 -0.3**
SNR=11
AAK Ala-Archa 116.18 308 *i*PKiKP **PKPdf 16 10 02.8 -0.3**
SNR=14
AAK Ala-Archa 116.18 308⇓*i*PKIKP **PKPdf 16 10 02.7 -0.3**
AAK Ala-Archa 116.18 308 PKPdf **PKPdf 16 10 02.1 -0.9**
AAK Ala-Archa 116.18 308 P **PKiKP 16 10 03.2 +0.1**
USP Ospenovka 116.21 309 P **PKPdf 16 10 02.5 -0.5**
SNR=21
NIL Nilore 116.28 298 PKIKP **PKPdf 16 10 02.4 -0.9**
NIL Nilore 116.28 298 PKPdf **PKPdf 16 10 02.4 -0.9**
D61A St Aubert, Com 116.32 46 P 16 10 02.9
baz=269
I64A Boothbay 116.58 50 P 16 10 03.6
baz=267
BTLS Baital 116.63 311 *e*PKP **PKPdf 16 10 02.9 -0.7**
baz=311
BTLS *e*PP **PP 16 11 20.0 -1.8**
baz=311
BTLS Baital 116.63 311 *e*PKIKP **PKPdf 16 10 02.9 -0.7**
BTLS *e* 16 11 19.9
EKS2 Erkin-Say 116.71 308 P **PKPdf 16 10 03.7 -0.3**
SNR=12
AML Almayashu 116.74 308 P **PKPdf 16 10 04.2 -0.3**
SNR=20
PKME Peaks-Kenny Pk 116.88 49 P 16 10 04.1
baz=268
H64A Troy 116.91 49 P 16 10 04.0
baz=268
F63A Nahmakanta, Br 117.03 48 P 16 10 04.3
baz=269
D62A Allapoint, All 117.09 47 P 16 10 03.9
baz=269
G64A Maxfield 117.26 49 P 16 10 04.8
baz=269
E63A Oxbow 117.52 47 P 16 10 05.2
baz=269
F64A Sherman 117.56 48 P 16 10 05.4
baz=269
BRZS Berezniki 117.60 317 *e*PKP **PKPdf 16 10 04.0 -1.4**
baz=317
BRZS Berezniki 117.60 317 *e*PKIKP **PKPdf 16 10 03.9 -1.4**
D63A Stockholm 117.74 47 P 16 10 04.9
baz=270
PQI Presque Isle 117.80 47 PKPdf **PKPdf 16 10 04.8 -0.9**
E64A Bridgewater 117.93 47 P 16 10 05.4
baz=270
G65A Princeton 118.10 49 P 16 10 06.4
baz=269
UPNV Upernavik 118.20 17 *i*P **PKPdf 16 10 05.4 -0.3**
UPNV IAmb IAmb 16 10 06.2
comp=Z,26nm,0.7s
BVAR Borovoye Array 118.87 320 PKP **PKPdf 16 10 06.6 -1.1**
comp=Z,19nm,0.7s,baz=171,slow=10,SNR=153
BRVK Borovoye 118.93 320*d i*PKIKP **PKPdf 16 10 07.2 -0.6**
BRVK pmax pmax
comp=Z,46nm,1.0s
BRVK Borovoye 118.93 320 PKPdf **PKPdf 16 10 06.9 -0.8**
BRVK Borovoye 118.93 320 P **PKPdf 16 10 07.5 -0.2**
KK31 Karatay Array 119.12 309 PKIKP **PKPdf 16 10 08.5 0.0**
KK31 Karatay Array 119.12 309 PKPdf **PKPdf 16 10 07.5 -1.0**
KKAR Karatay Array 119.12 309 PKIKP **PKPdf 16 10 07.5 -1.0**
KKAR Karatay Array 119.12 309 PKPdf **PKPdf 16 10 07.5 -1.0**
KKAR Karatay Array 119.12 309 PKPdf **PKPdf 16 10 07.6 -1.0**
BATG Bathurst New B 119.13 46 PKPdf **PKPdf 16 10 07.6 -0.7**
BDFB Brasilia 119.22 122 PKP **PKiKP 16 10 09.8 +0.1**
comp=Z,7.8nm,0.8s,baz=299,slow=6.2,SNR=13
BDFB PKKPbc **PKKPbc 16 20 24.0 -0.4**
comp=Z,6.3nm,0.8s,baz=150,slow=3.2,SNR=8.1
BDFB Brasilia 119.22 122 PKPdf **PKPdf 16 10 08.5 -1.1**
BDFB **PKKPbc 16 20 25.1 +0.6**
IUG Iuzhnay 119.46 308 *e*PKP **PKPdf 16 10 09.1 -0.3**
baz=308
IUG Iuzhnay 119.46 308 *e*PKIKP **PKPdf 16 10 09.0 -0.3**
NUUG Nuugaatsiaq 119.56 18 *i*P **PKPdf 16 10 08.4 0.0**
NUUG IAmb IAmb 16 10 08.8
comp=Z,24nm,0.8s
BRLS Borolday 119.62 309 *e*PKP **PKPdf 16 10 09.3 -0.1**
baz=308
BRLS Borolday 119.62 309 *e*PKIKP **PKPdf 16 10 09.3 -0.1**
KBL Kabul 119.85 299 PKIKP **PKPdf 16 10 09.8 -0.6**
KBL Kabul 119.85 299 PKPdf **PKPdf 16 10 09.8 -0.6**
KBL Kabul 119.85 299 P **PKiKP 16 10 10.5 0.0**
SNR=20
LMN Caledonia Moun 120.03 48 **PKPdf 16 10 09.4 -0.7**
ILULI Ilulissat 121.27 20 *i*P **PKPdf 16 10 11.5 -0.3**
comp=Z,37nm,0.7s
ILULI Ilulissat 121.27 20 *i*PKIKP **PKPdf 16 10 11.5 -0.3**
ILULI pmax pmax
comp=Z,37nm,0.7s
ILULI Ilulissat 121.27 20 **PKPdf 16 10 11.3 -0.5**
ILULI Ilulissat 121.27 20 *i*P **PKPdf 16 10 11.5 -0.3**
ILULI IAmb IAmb 16 10 12.1
comp=Z,37nm,0.7s
SPA0 Spitsbergen Ar 121.44 357 PKPdf **PKPdf 16 10 11.9 -0.1**
OPO Ambohidratompo 121.52 232 PKP **PKiKP 16 10 14.6 +0.4**
comp=Z,17nm,0.9s,baz=126,slow=1.3,SNR=6.0
DAG Danmarks Havn 122.29 6 *i*P **PKPdf 16 10 12.4 -1.1**
comp=Z,18nm,0.8s
DAG Danmarks Havn 122.29 6 *i*PKIKP **PKPdf 16 10 12.4 -1.1**
DAG pmax pmax
comp=Z,18nm,0.8s
DAG Danmarks Havn 122.29 6 *i*P **PKPdf 16 10 12.5 -1.1**
DAG IAmb IAmb 16 10 13.8
comp=Z,18nm,0.8s
GBN Guysborough 122.36 48 PKPdf **PKPdf 16 10 14.5 -0.1**
SFJD Kangerlussuaq 122.47 22 *i*P **PKPdf 16 10 13.6 -0.5**
SFJD Kangerlussuaq 122.47 22 *i*PKIKP **PKPdf 16 10 13.6 -0.5**
SFJD Kangerlussuaq 122.47 22 PKPdf **PKPdf 16 10 13.5 -0.6**
SFJD Kangerlussuaq 122.47 22 *i*P **PKPdf 16 10 13.6 -0.5**
SUMG Summit 122.69 13 *i*P **PKiKP 16 10 15.4 +0.2**
comp=Z,100nm,1.1s
SUMG Summit 122.69 13 *i*PKIKP **PKiKP 16 10 15.4 +0.2**
SUMG pmax pmax
comp=Z,100nm,1.1s
SUMG Summit 122.69 13 PKPdf **PKPdf 16 10 15.0 0.0**
SUMG Summit 122.69 13 *i*P **PKiKP 16 10 15.4 +0.2**
SUMG IAmb IAmb 16 10 16.7
comp=Z,100nm,1.1s
NUUK Nuuk 123.30 25 *i*P **PKiKP 16 10 16.1 0.0**
NUUK IAmb IAmb 16 10 16.8
comp=Z,32nm,0.8s
SVE Sverdlovsk 123.74 326 *e*PKIKP **PKiKP 16 10 17.3 +0.1**
SVE pmax pmax
comp=Z,54nm,0.9s
DBG Daneborg 124.38 7 *i*P **PKPdf 16 10 17.4 -0.2**
DBG IAmb IAmb 16 10 18.2
comp=Z,22nm,0.8s
DRLN Deer Lake 124.63 43 PKPdf **PKPdf 16 10 18.1 -0.8**
MDP Montagnes des 124.70 98 PKP **PKPdf 16 10 19.8 -0.2**
comp=Z,24nm,1.2s,baz=267,slow=2.0,SNR=4.0
ICESG Greenland Ices 124.73 17 *i*P **PKPdf 16 10 18.7 -0.2**
ICESG IAmb IAmb 16 10 19.7
comp=Z,38nm,1.0s
SUR Sutherland 124.89 199 PKPdf **PKPdf 16 10 20.5 +0.2**
SUR Sutherland 124.89 199 P **PKiKP 16 10 21.9 +1.3**
ARU Arti 124.95 326 *i*PKIKP **PKPdf 16 10 19.2 0.0**
ARU 16 12 18.7
ARU 16 16 37.3
ARU Arti 124.95 326 PKPdf **PKPdf 16 10 18.6 -0.6**
HRA Herat 125.45 298 PKPdf **PKPdf 16 10 20.9 -0.3**
ABKAR Akbulak array 125.90 317 PKPdf **PKPdf 16 10 20.9 -0.3**
ABKAR Akbulak array 125.90 317 PKPdf **PKPdf 16 10 20.7 -0.5**
BOSA Boshof 126.73 205 PKP **PKiKP 16 10 24.8 +0.5**
comp=Z,21nm,1.0s,baz=153,slow=2.2,SNR=20
BOSA Boshof 126.73 205 PKPdf **PKPdf 16 10 23.8 0.0**
JLN Jalan Bani Buh 126.86 283 P **PKiKP 16 10 24.5 +0.1**
ISOG Isortoq, Green 127.20 20 *i*P **PKPdf 16 10 23.3 +0.1**
NRS Narsarsuaq 127.26 27 *i*P **PKPdf 16 10 23.4 0.0**
comp=Z,71nm,1.0s
NRS Narsarsuaq 127.26 27 *i*PKIKP **PKPdf 16 10 23.4 0.0**
NRS pmax pmax
comp=Z,71nm,1.0s
NRS Narsarsuaq 127.26 27 *i*P **PKPdf 16 10 23.4 0.0**
NRS IAmb IAmb 16 10 24.7
comp=Z,71nm,1.0s
SCO Scoresbysund 127.55 10 *i*P **PKiKP 16 10 24.5 +0.1**
comp=Z,23nm,1.0s
SCO Scoresbysund 127.55 10 *i*PKIKP **PKiKP 16 10 24.5 +0.1**
SCO pmax pmax
comp=Z,23nm,1.0s
SCO Scoresbysund 127.55 10 PKPdf **PKiKP 16 10 24.4 0.0**
SCO Scoresbysund 127.55 10 *i*P **PKiKP 16 10 24.6 +0.1**
SCO IAmb IAmb 16 10 25.8
comp=Z,23nm,1.0s
MHTO MHTO 128.00 281 P **PKPdf 16 10 26.2 +0.2**
SNR=5.1
JMDO Jabal Madar 128.09 283 P **PKPdf 16 10 26.5 +0.2**
DQM DQM 128.21 280 P **PKPdf 16 10 26.6 +0.1**
BIDO Bidbid 128.23 285 P **PKiKP 16 10 27.1 -0.1**
SNR=5.4
SMDO Samad 128.24 284 P **PKiKP 16 10 27.2 -0.1**
SNR=7.6
ARCES ARCESS Array B 128.53 350 PKhKP PKPpre 16 10 13.4
comp=Z,8.9nm,1.1s,baz=330,slow=1.7,SNR=3.7
ARCES PKP **PKPdf 16 10 25.7 0.0**
comp=Z,27nm,0.8s,baz=35,slow=1.4,SNR=31
KIRV Kirov 128.68 331⇑*e*PKIKP **PKPdf 16 10 26.6 +0.4**
GEYT Alibeck 128.71 303 PKhKP PKPpre 16 10 16.2
comp=Z,1.6nm,0.6s,baz=231,slow=10,SNR=3.9
GEYT PKP **PKPdf 16 10 27.4 +0.3**
comp=Z,14nm,0.7s,baz=240,slow=2.9,SNR=23
GEYT SKPbc SKPbc 16 12 57.9
comp=Z,6.1nm,0.8s,baz=44,slow=4.5,SNR=6.9
GEYT Alibeck 128.71 303 PKPdf **PKPdf 16 10 26.5 -0.5**
GYA0B ALIBECK ARRAY 128.71 303 PKPdf **PKPdf 16 10 26.5 -0.5**
PRGR Permogore 128.73 335 *e*PKIKP **PKPdf 16 10 25.5 -0.7**
PRGR pmax pmax
comp=Z,22nm,0.8s
BSY Bisya 128.97 283 P **PKPdf 16 10 28.0 +0.1**
SNR=5.4
SHAO Shalim 129.64 277 P **PKiKP 16 10 30.5 +0.3**
ARQ Araqi 129.67 284 P **PKPdf 16 10 29.6 +0.3**
SNR=5.3
LBTB Lobatse 129.75 208 PKIKP **PKPdf 16 10 29.3 -0.3**
LBTB Lobatse 129.75 208 PKPdf **PKPdf 16 10 29.3 -0.3**
SOHO SOHO 129.75 285 *i*PKPdf **PKPdf 16 10 28.9 -0.4**
SNR=9.3
SOHO SOHO 129.75 285 P **PKPdf 16 10 29.4 0.0**
SOCY Socotra 129.80 269 P **PKiKP 16 10 30.5 -0.1**
TMCR Tamitsa 129.83 340 *e*PKIKP **PKPdf 16 10 28.7 +0.5**
TMCR pmax pmax
comp=Z,16nm,0.8s
MDH Madha 130.09 287 *i*PKiKP **PKPdf 16 10 29.8 -0.2**
SNR=5.7
MDH Madha 130.09 287 P **PKPdf 16 10 29.7 -0.2**
UOSS Minazif 130.14 286 *i*PKPdf **PKPdf 16 10 29.8 -0.2**
SNR=10.0
UOSS Minazif 130.14 286 PKPdf **PKPdf 16 10 29.0 -1.1**
UOSS Minazif 130.14 286 P **PKPdf 16 10 29.9 -0.2**
BANOM Banah 130.14 287 PKiKP **PKPdf 16 10 30.1 -0.1**
BANOM Banah 130.14 287 P **PKPdf 16 10 30.3 +0.2**
HATD Hatta, Dubai 130.19 286 *i*PKiKP **PKPdf 16 10 30.2 0.0**
SNR=21
HATD Hatta, Dubai 130.19 286 P **PKPdf 16 10 30.4 +0.2**
SNR=11
DMTO DMTO 130.21 277 P **PKiKP 16 10 30.9 -0.4**
MSFE Esma-Masafi 130.22 287 *i*PKiKP **PKPdf 16 10 30.4 +0.1**
SNR=14
MASF Masafi 130.22 287 P **PKPdf 16 10 30.5 +0.2**
SNR=7.2
ASHO Ashiyiah 130.24 286 *i*PKiKP **PKPdf 16 10 30.1 -0.2**
SNR=15
ASHO Ashiyiah 130.24 286 P **PKPdf 16 10 30.4 0.0**
SNR=8.9
SHME Shamm 130.30 288 PKiKP **PKiKP 16 10 31.0 -0.3**
SHME Shamm 130.30 288 P **PKiKP 16 10 31.1 -0.2**
ALNE Al Ain 130.45 285 PKiKP **PKiKP 16 10 31.3 -0.4**
ALNE Al Ain 130.45 285 P **PKiKP 16 10 31.9 +0.2**
SNR=8.0
NAZ Nazwa, Dubai 130.63 286 *i*PKiKP **PKiKP 16 10 32.0 0.0**
SNR=6.7
NAZ Nazwa, Dubai 130.63 286 P **PKiKP 16 10 32.1 0.0**
FAQ Al Faqa, Dubai 130.67 286 PKPdf **PKPdf 16 10 30.8 -0.3**
FAQ Al Faqa, Dubai 130.67 286 P **PKiKP 16 10 31.8 -0.3**
UMZA Um Al Zommool 130.83 283 P **PKiKP 16 10 32.0 -0.4**
RBK Rabkut 130.86 276 P **PKiKP 16 10 32.5 -0.2**
SNR=5.2
ASUD Al Ashush, Dub 130.90 286 PKiKP **PKPdf 16 10 31.4 -0.1**
ASUD Al Ashush, Dub 130.90 286 P **PKiKP 16 10 33.1 +0.6**
DOK Doka 131.15 278 P **PKPdf 16 10 32.6 +0.5**
WHFO Wadi Hawf 131.35 277 P **PKPdf 16 10 33.1 +0.5**
KLMR Klimovskoe 131.56 337 *e*PKIKP **PKPdf 16 10 29.6 -2.0**
KLMR pmax pmax
comp=Z,23nm,0.8s
KLMR Klimovskoe 131.56 337 *e*PKPdf **PKPdf 16 10 29.7 -1.9**
KLMR AMP 16 10 32.9
comp=Z,23nm,0.8s
KLMR *e*PP **PP 16 12 52.4 -7.0**
ABTO Aybut 131.68 276 P **PKiKP 16 10 34.0 -0.3**
ABTO P **PKiKP 16 10 34.0 -0.3**
MZWR Madinat Zayed 132.12 284 P **PKiKP 16 10 35.2 +0.2**
BELG Belogornoye 132.36 324*c i*PKIKP **PKPdf 16 10 33.4 0.0**
VALR Valaam 134.12 341 *e*PKIKP **PKPdf 16 10 36.2 -0.2**
RCBR Riachuelo 134.55 121 PKP **PKiKP 16 10 39.7 -0.6**
comp=Z,7.4nm,0.9s,baz=49,slow=18,SNR=3.6
RCBR SKPbc **SKPbc 16 13 18.5 +1.6**
comp=Z,17nm,0.8s,baz=204,slow=6.6,SNR=9.3
FIA1 FINESS Array S 135.41 344 PKPdf **PKPdf 16 10 38.7 -0.1**
FINES FINESS Array B 135.41 344 PKhKP PKPpre 16 10 25.1
comp=Z,1.6nm,0.6s,baz=46,slow=3.7,SNR=11
FINES PKP **PKPdf 16 10 39.2 +0.3**
comp=Z,20nm,0.8s,baz=90,slow=5.7,SNR=18
FINES SKKPbc SKKPbc 16 22 21.5 -3.1
comp=Z,1.8nm,0.8s,baz=107,slow=1.5,SNR=3.7
FINES FINESS Array B 135.41 344*c i*PKIKP **PKiKP 16 10 40.5 0.0**
FINES pmax pmax
comp=Z,20nm,0.8s
FINES FINESS Array B 135.41 344 PKPdf **PKPdf 16 10 38.6 -0.2**
PUL Pulkovo 135.53 340⇓*e*PKIKP **PKiKP 16 10 40.4 -0.4**
VRH Novokhopyorsk 136.16 325 *e*PKIKP **PKPdf 16 10 40.3 -0.2**
VRH pmax pmax
comp=Z,30nm,0.8s
OBN Obninsk 136.46 332 *e*PKIKP **PKPdf 16 10 40.7 -0.2**
OBN *e* 16 12 49.0
OBN pmax pmax
comp=Z,38nm,0.9s
LSZ Lusaka 136.57 218 PKhKP PKPpre 16 10 34.8
comp=Z,2.0nm,0.6s,baz=74,slow=2.4,SNR=5.3
LSZ PKP **PKiKP 16 10 43.9 -0.5**
comp=Z,15nm,0.7s,baz=143,slow=1.2,SNR=25
LPSR Galich'ya Gora 136.87 328 *e*PKIKP **PKPdf 16 10 41.9 +0.1**
LPSR pmax pmax
comp=Z,30nm,1.0s
GROC Groznyy 136.93 312 *e*PKIKP **PKPdf 16 10 42.6 +0.4**
GROC pmax pmax
comp=Z,30nm,0.7s
VSR Storozhevoye 137.52 326 *e*PKIKP **PKPdf 16 10 42.9 -0.2**
VSR pmax pmax
comp=Z,40nm,1.1s
VORD Divnogorie 137.59 326 *e*PKIKP **PKPdf 16 10 43.0 -0.2**
VORD pmax pmax
comp=Z,30nm,1.0s
VSU Vasula 137.70 341 *e*P PKPpre 16 10 35.5
GOF Gofitskoye 138.13 316⇑*e*PKIKP **PKPdf 16 10 42.4 -2.0**
GOF pmax pmax
comp=Z,36nm,1.0s
TSUM Tsumeb 138.17 202 PKhKP PKPpre 16 10 39.5
comp=Z,5.5nm,0.9s,baz=296,slow=7.0,SNR=3.1
TSUM PKP **PKiKP 16 10 46.8 -0.8**
comp=Z,10nm,0.7s,baz=177,slow=1.6,SNR=9.4
MTSE Matsula 138.33 343 *e*P **PKPdf 16 10 37.9 -6.4**
NC303 NORSAR Array S 138.37 353 PKPdf **PKPdf 16 10 45.4 +1.1**
ZEI Tsey 138.38 313 *i*PKIKP **PKPdf 16 10 44.9 -0.3**
ZEI pmax pmax
comp=Z,19nm,1.0s
NC405 NORSAR Array S 138.44 353 PKPdf **PKPdf 16 10 45.5 +1.0**
NB2 NORSAR Subarra 138.57 353 PKP PKPpre 16 10 35.0
comp=Z,17nm,0.9s,baz=20,slow=4.0
NOA NORSAR Array B 138.57 353 PKhKP PKPpre 16 10 36.0
comp=Z,9.5nm,0.8s,baz=21,slow=3.9,SNR=19
NOA PKP **PKiKP 16 10 46.6 -0.4**
comp=Z,4.6nm,0.7s,baz=18,slow=4.2,SNR=8.1
GNI Garni 138.59 308 PKPdf **PKPdf 16 10 45.7 +0.1**
GNI Garni 138.59 308⇑*i*PKIKP **PKPdf 16 10 46.7 +1.1**
GNI Garni 138.59 308 PKPdf **PKPdf 16 10 45.6 0.0**
GNI Garni 138.59 308 P **PKiKP 16 10 47.4 -0.6**
KBZ Khabaz 138.73 314 PKhKP PKPpre 16 10 38.4
comp=Z,1.0nm,0.4s,baz=317,slow=16,SNR=4.1
KBZ PKP **PKiKP 16 10 47.9 +0.1**
comp=Z,7.6nm,0.8s,baz=126,slow=7.0,SNR=13
KBZ Khabaz 138.73 314*c i*PKIKP **PKiKP 16 10 47.5 -0.3**
UPP Upsala 138.74 348 *e*P PKPpre 16 10 37.4
KIV Kislovodsk 138.79 315 PKPdf **PKPdf 16 10 45.2 -0.5**
KIV Kislovodsk 138.79 315 *i*PKIKP **PKPdf 16 10 46.2 +0.4**
KIV *e* 16 13 41.7
KIV pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 138.79 315 PKPdf **PKPdf 16 10 45.2 -0.5**
KIV Kislovodsk 138.79 315 P **PKPdf 16 10 46.0 +0.2**
NEY Neytrino 139.02 314⇑*e*PKIKP **PKPdf 16 10 43.7 -2.6**
AKH Akhalkalaki 139.11 311⇓P **PKiKP 16 10 48.2 -0.8**
CLDR Caldiran 139.47 307 *e*P PKPpre 16 10 40.1
KMBO Kilima Mbogo 139.71 243 PKhKP PKPpre 16 10 42.8
comp=Z,2.4nm,0.6s,baz=64,slow=4.1,SNR=7.5
KMBO Kilima Mbogo 139.71 243*c i*PKHKP PKPpre 16 10 42.7
KMBO pmax pmax
comp=Z,2.0nm,0.6s
RAYN Ar Rayn 139.76 283 *i*PKPdf **PKPdf 16 10 48.1 0.0**
SNR=5.9
RAYN Ar Rayn 139.76 283 PKIKP **PKPdf 16 10 47.6 -0.5**
RAYN Ar Rayn 139.76 283 PKPdf **PKPdf 16 10 47.6 -0.5**
AGRB Hanur-Agry 140.04 308 *e*P **PKPdf 16 10 48.7 +0.4**
ATD Arta Tunnel 140.07 264 *e*P **PKPdf 16 10 41.9 -7.0**
CUKT Cukurca 140.19 304 *e*P **PKPdf 16 10 41.7 -6.9**
IDID Didziasalis 140.23 338 *e*P **PKPdf 16 10 42.7 -5.2**
ISAL Salakas 140.24 339 *e*P **PKPdf 16 10 43.0 -4.8**
IIGN Ignalina 140.38 339 *e*P **PKPdf 16 10 43.4 -4.7**
AKDM Akdamar-Van 140.40 306 *e*P **PKPdf 16 10 43.8 -5.2**
MNK Minsk 140.46 337 *e*PKHKP PKPpre 16 10 41.0
MNK Minsk 140.46 337 *i*PKP **PKPdf 16 10 43.6 -4.7**
comp=E,1.0nm,1.1s
MNK *i*PKP **PKPdf 16 10 43.6 -4.7**
comp=N,12nm,0.7s
MNK *i*PKP **PKPdf 16 10 43.6 -4.7**
comp=Z,54nm,0.9s
MNK *i*pPKP **pPKPdf 16 12 57.5 -0.9**
MNK *i*PP **sPKPdf 16 13 48.5 -3.7**
MNK *i*SKS **SKSdf 16 17 00.7 -5.0**
MNK *i*PPP PPP 16 17 01.3
MNK *i*SKKS **SKKSdf 16 26 23.7 -10**
MNK *i*SS **SS 16 31 31.1 -3.4**
MNK *i*SSS SSS 16 36 56.3
NACGM Naroch 140.54 338 *i*PKP **PKPdf 16 10 43.0 -5.5**
NACGM *i*PKP **PKPdf 16 10 43.0 -5.5**
NACGM *i*PKP **PKPdf 16 10 43.0 -5.5**
NACGM *i*pPKP pPKPdf 16 12 41.1 -18
NACGM *i*SKP 16 13 12.4
NACGM *i*PP sPKPdf 16 13 38.4 -14
NACGM *i*sPKP 16 13 57.6
NACGM *i*PKS **PKSdf 16 14 24.3 +0.3**
NACGM *i*PPP PPP 16 17 01.5
NACGM *i*SKKS 16 19 52.1
NACGM *i*SP SKKPbc 16 22 32.0 +27
NACGM *i*PS 16 23 38.5
NACGM *i*PPS PPS 16 25 59.7

NACGM				i SS	SS	16 31 17.9	-18
NACGM				i SSS	SSS	16 37 13.2	
PABE	Paberze	141.00	340	eP	PKPdf	16 10 44.9	-4.3
GURO	Guroymak-BITLI	141.05	307	eP	PKPdf	16 10 46.0	-4.1
PBUR	Paburge	141.17	342	eP	PKPdf	16 10 45.6	-3.9
VRTB	Varto-Mus	141.30	308	eP	PKPdf	16 10 47.0	-3.5
HOMB	Homborsund	141.56	355	i P	PKPdf	16 10 46.2	-3.9
SVAN	Silvan-Diyarba	141.79	307	eP	PKPdf	16 10 48.2	-3.1
TEND	Ethiopian Broa	141.87	264	eP	PKPdf	16 10 48.5	-3.6
YEDI	Yedisu-Bingol	141.88	309	eP	PKPdf	16 10 46.5	-5.1
BNGB	Bingl	141.93	308	eP	PKPdf	16 10 47.9	-3.7
ANKE	Ethiopia-Afar	142.34	260	eP	PKPdf	16 10 52.7	-0.7
SUW	Suwalki	142.50	340	eP	PKPdf	16 10 49.3	-2.7
DYBB	Diyarbakir	142.65	307	eP	PKPdf	16 10 50.5	-2.4
GOET	G??ttrup	142.71	354	i P	PKPdf	16 10 50.9	-1.3
GOET	G??ttrup	142.71	354	eP	PKPdf	16 10 50.9	-1.3
AKASG	Malin Array Be	142.72	332	PKhKP	PKPpre	16 10 48.9	
	comp=Z,100nm,0.7s,baz=42,slow=4.6,SNR=278						
AKASG	Malin Array Be	142.72	332		PKPpre	16 10 48.6	
AKBB	Malin Array Si	142.72	332c	i PKHKP	PKPpre	16 10 49.4	
AKBB	Malin Array Si	142.72	332		PKPpre	16 10 48.5	
AAE	Adis Abeba	143.03	258	eP	PKPbc	16 10 52.6	-0.1
DRUM	Mains of Drumt	143.04	4	eP	PKPab	16 10 50.5	0.0
FURI	Furi	143.07	258		PKPdf	16 10 54.1	-0.5
FURI	Furi	143.07	258	eP	PKPbc	16 10 53.2	+0.4
MUD	Monsted U'grnd	143.29	354	i P	PKPbc	16 10 52.0	+0.3
	comp=Z,241nm,1.0s						
MUD	Monsted U'grnd	143.29	354	i PKIKP	PKPbc	16 10 52.0	+0.3
MUD				pmax	pmax		
	comp=Z,240nm,1.0s						
MUD	Monsted U'grnd	143.29	354	i P	PKPbc	16 10 52.1	+0.4
MUD				IAmb	IAmb	16 10 52.6	
	comp=Z,241nm,1.0s						
ILIC	ilic-Erzincan	143.31	310	eP	PKPdf	16 10 53.5	-0.5
SHEL	Horse Pasture	143.36	167	PKIKP	PKPdf	16 10 54.8	+0.1
SHEL	Horse Pasture	143.36	167	PKPdf	PKPdf	16 10 54.8	+0.1
COP	Copenhagen	143.61	350	i P	PKPbc	16 10 52.8	+0.1
	comp=Z,165nm,0.9s						
COP	Copenhagen	143.61	350	i PKIKP	PKPbc	16 10 52.8	+0.1
COP				pmax	pmax		
	comp=Z,170nm,0.9s						
COP	Copenhagen	143.61	350	i P	PKPbc	16 10 52.9	+0.2
COP				i P	PKPab	16 10 52.9	+0.3
COP				IAmb	IAmb	16 10 53.5	
	comp=Z,166nm,0.9s						
LODK	Lodwar	143.69	247	P	PKPdf	16 10 55.3	-0.1
	SNR=76						
BSD	Bornholm Skovb	143.70	348	⇓i P	PKPab	16 10 52.7	-0.3
	comp=Z,151nm,0.9s						
BSD	Bornholm Skovb	143.70	348	eP	PKPab	16 10 52.8	-0.2
BSD	Bornholm Skovb	143.70	348	⇓i PKIKP	PKPab	16 10 52.7	-0.3
BSD				pmax	pmax		
	comp=Z,150nm,0.9s						
BSD	Bornholm Skovb	143.70	348	⇓i P	PKPab	16 10 52.8	-0.2
BSD				IAmb	IAmb	16 10 53.6	
	comp=Z,151nm,0.9s						
URFA	Urfa	143.80	306	eP	PKPbc	16 10 53.7	-0.4
MALT	Malatya	143.81	308	eP	PKPdf	16 10 54.7	-0.2
RSDY	Resadiye-TOKAT	143.84	312	eP	PKPdf	16 10 55.0	+0.2
LLD	Lille Linde	143.98	350	i P	PKPdf	16 10 54.5	0.0
LLD	Lille Linde	143.98	350	i PKIKP	PKPdf	16 10 54.5	0.0
LLD	Lille Linde	143.98	350	i P	PKPab	16 10 54.1	+0.1
LLD				i P	PKPdf	16 10 54.5	0.0
TOKT	Tokat	144.41	312	eP	PKPbc	16 10 55.6	-0.2
DARE	Darende-Malaty	144.42	309	eP	PKPab	16 10 57.0	+0.5
KVT	Kavak	144.44	314	eP	PKPdf	16 10 55.4	-0.4
CLGH	Cloghs, Cushen	144.47	8	eP	PKPab	16 10 55.9	-0.1
ESK	Eskdalemuir	144.57	5	eP	PKPdf	16 10 55.1	-0.4
ESK	Eskdalemuir	144.57	5	PKIKP	PKPdf	16 10 55.5	0.0
ESK	Eskdalemuir	144.57	5	PKPdf	PKPdf	16 10 55.5	0.0
NEWG	New Galloway	144.66	6	eP	PKPdf	16 10 55.6	-0.1
DIKM	Dikmen	144.71	315	⇑P	PKPab	16 10 57.7	+0.3
GKP	Gorka Klasztor	144.88	344	eP	PKPab	16 10 57.7	+0.2
SORM	Soroca	144.93	329	⇓P	PKPdf	16 10 56.5	+0.2
SORM	Soroca	144.93	329	⇓PKIKP	PKPdf	16 10 56.5	+0.2
SKMB	Sankelmark Bun	144.97	353	ePKPbc	PKPab	16 10 58.1	+0.3
	baz=15,slow=2.4						
GAZ	Gaziantep	145.10	307	eP	PKPbc	16 10 58.1	0.0
GAZ	Gaziantep	145.10	307	PKPdf	PKPdf	16 10 56.8	-0.4
EDMD	Edmundbyers	145.15	4	eP	PKPbc	16 10 57.3	-0.2
KMRS	Kahramanmaras	145.22	307	eP	PKPbc	16 10 58.5	+0.1
SARI	SarD1z-Kayseri	145.26	309	eP	PKPdf	16 10 57.4	-0.1
MBAR	Mbarara	145.31	237	PKPbc	PKPab	16 11 00.6	0.0
	comp=Z,158nm,1.1s,baz=101,slow=1.1,SNR=122						
MBAR	Mbarara	145.31	237	PKPbc	PKPbc	16 10 59.8	+0.4
MBAR	Mbarara	145.31	237	P	PKPab	16 11 00.9	+0.2
MBAR	Mbarara	145.31	237	eP	PKPbc	16 10 59.0	-0.4
BZK	Bozkurt	145.39	316	eP	PKPbc	16 10 58.8	+0.2
ILTH	Belurgan, Co L	145.47	9	eP	PKPbc	16 10 58.2	-0.2
KIS	Kishinev	145.47	327	⇓i PKP	PKPdf	16 10 58.0	+0.7
	comp=Z,270nm,1.5s						
KIS	Kishinev	145.47	327	i PKIKP	PKPdf	16 10 58.0	+0.7
KIS				e		16 11 00.0	
KIS				pmax	pmax		
	comp=Z,270nm,1.5s						
BNN	Bunyan	145.50	310	eP	PKPdf	16 10 57.6	-0.2
LVV	L'vov	145.59	335	ePKP2	PKPbc	16 10 59.5	+0.5
BSEG	Bad Segeberg	145.62	352	ePKPbc	PKPbc	16 10 59.6	+0.8
	baz=15,slow=2.4						
GDLE	Glaisdale, N Y	145.62	3	eP	PKPbc	16 10 58.8	0.0
CORM	Corum	145.80	313	eP	PKPdf	16 10 58.8	+0.5
IAS	Iasi	145.97	329	⇑P	PKPbc	16 11 00.8	+0.7
IAS	Iasi	145.97	329	⇑PKP2	PKPbc	16 11 00.8	+0.7
ILGA	Ilgaz	146.02	315	PKPbc	PKPdf	16 10 59.4	+0.6
KOZT	Kozan	146.03	308	eP	PKPbc	16 11 00.1	-0.5
TAHT	Tahtakopru-Hat	146.15	306	eP	PKPbc	16 11 00.5	-0.5
DSB	Dublin	146.22	9	PKPbc	PKPbc	16 11 00.1	-0.5
VASR	Vaslui	146.24	328	⇑P	PKPbc	16 11 01.4	+0.5
CEYT	Ceyhan	146.26	307	eP	PKPdf	16 10 59.5	+0.5
KWP	Kalwaria Pacla	146.26	336	PKIKP	PKPbc	16 11 00.6	-0.3
KWP	Kalwaria Pacla	146.26	336		PKPbc	16 11 00.6	-0.3
CANT	Cankiri	146.29	314	eP	PKPbc	16 11 02.0	+0.7
RUE	Ruedersdorf	146.41	347	ePKPbc	PKPbc	16 11 01.9	+0.8
	baz=15,slow=2.4						
RUE				epPKPbc	pPKPab	16 13 09.8	+1.1
PRAR	RASCA	146.49	330	⇑P	PKPbc	16 11 02.1	+0.5
BIR	Birlad	146.57	327	⇓P	PKiKP	16 11 03.4	-0.5
BIR	Birlad	146.57	327	⇓PKP2	PKiKP	16 11 03.4	-0.5
LMK	Market Rasen	146.61	3	eP	PKPbc	16 11 01.6	-0.1
TLCR		146.66	325	⇓P	PKPbc	16 11 02.4	+0.4
TLCR		146.66	325	⇓PKP2	PKPbc	16 11 02.4	+0.4
BR131	Keskin Array S	146.69	313	PKIKP	PKPbc	16 11 02.0	-0.5
BR131						17 10 58.8	
BR131	Keskin Array S	146.69	313	PKPdf	PKPdf	16 10 58.8	-1.1
BR131				PKPbc	PKPbc	16 11 02.0	-0.5
BRTR	Keskin Array B	146.69	313	PKPbc	PKPbc	16 11 02.6	+0.1
	comp=Z,47nm,0.7s,baz=132,slow=3.5,SNR=112						
BRTR				pPKPbc	pPKPbc	16 13 11.5	+0.9
	comp=Z,8.6nm,1.1s,baz=86,slow=5.9,SNR=3.4						
BRTR				SKKPbc	SKKPbc	16 21 39.5	+0.5
	comp=Z,4.3nm,0.9s,baz=217,slow=3.9,SNR=10						
BRTR	Keskin Array B	146.69	313	PKIKP	PKPbc	16 11 02.3	-0.2
BRTR						17 10 58.9	
BRTR	Keskin Array B	146.69	313	PKPdf	PKPdf	16 10 58.9	-0.9
BRTR				PKPbc	PKPbc	16 11 02.3	-0.2
KARA	Karaisali	146.69	308	eP	PKPdf	16 11 00.5	+0.8
KRTS	Karatas	146.69	307	eP	PKPbc	16 11 03.4	+1.0
VARL	Varlezi	146.71	327	⇑P	PKPbc	16 11 03.2	+1.0
BUR08	Bucovina Ar. S	146.76	331		PKPbc	16 11 01.6	-0.8
BURAR	Bucovina Array	146.77	331	⇑P	PKiKP	16 11 03.6	-0.9
BURAR	Bucovina Array	146.77	331	PKIKP	PKPdf	16 10 59.9	+0.2
BURAR	Bucovina Array	146.77	331	PKPdf	PKPdf	16 10 59.3	-0.3
BURAR					PKPbc	16 11 03.0	+0.5
KAMT	Kaman	146.79	312	eP	PKPbc	16 11 02.3	-0.5
OJC	Ojcow	146.82	339	PKIKP	PKPbc	16 11 02.3	0.0
OJC	Ojcow	146.82	339	PKPdf	PKPdf	16 10 59.7	+0.2
OJC				PKPbc	PKPbc	16 11 02.3	0.0
BIZ	Bicaz	146.85	329	⇓P	PKPdf	16 11 01.1	+1.4
TESR	Tescani	146.89	328	⇑P	PKPbc	16 11 03.3	+0.6
JURR	Jurilovca	146.90	324	⇑P	PKPbc	16 11 03.5	+0.8
YAYX	Yaylak	146.91	312	eP	PKPbc	16 11 01.7	-1.4
HWQ	Hawqa	146.98	302	eP	PKPbc	16 11 03.8	+0.4
SCHL	Schela	146.99	326	⇑P	PKiKP	16 11 04.0	-0.7
KOLS	Kolonicke sedl	147.00	335	ePKIKP	PKPdf	16 11 00.6	+0.7
KOLS				e		16 11 03.7	
KOLS	Kolonicke sedl	147.00	335	ePKP	PKPdf	16 11 00.6	+0.7
KOLS				e		16 11 03.7	
IWEX	Carrickbyrne,	147.00	10	eP	PKPbc	16 11 02.4	-0.3
FLTG	Flechtingen	147.03	350	ePKPdf	PKPdf	16 11 00.2	+0.5
	baz=15,slow=1.5						
FLTG				ePKPbc	PKPbc	16 11 03.3	+0.5
	baz=15,slow=2.4						
FLTG				epPKPbc	pPKPab	16 13 11.6	+0.7
CFR	Carcaliu	147.04	325	⇑P	PKPbc	16 11 03.7	+0.7
CFR	Carcaliu	147.04	325	⇑PKP2	PKPbc	16 11 03.7	+0.7
NRDL	Niedersach Rie	147.05	351	ePKPdf	PKPdf	16 11 00.1	+0.4
	baz=15,slow=1.5						
NRDL				ePKPbc	PKPbc	16 11 03.6	+0.9
	baz=15,slow=2.4						
SERE	Sereflikochisa	147.08	312	eP	PKPbc	16 11 03.4	-0.2
TPGR	Topolog	147.09	325	⇑P	PKiKP	16 11 04.3	-0.7
PETR	Petresti	147.15	327	⇓P	PKiKP	16 11 05.0	-0.1
AFSR	Afar-Bala (An	147.20	313	eP	PKPbc	16 11 02.5	-1.3
LOD	Lodumlu	147.21	314	eP	PKPbc	16 11 02.9	-0.9
ODBI	Odobesti	147.21	327	⇑P	PKiKP	16 11 05.0	-0.2
UZH	Uzhgorod	147.23	335	ePKIKP	PKPdf	16 11 01.2	+1.0
UZH				i		16 11 04.4	
CWF	Charnwood Fore	147.27	4	eP	PKPbc	16 11 02.2	-1.2
RCY	Rachaya	147.28	301	eP	PKPbc	16 11 05.1	+0.8
VRI	Vrincioaia	147.30	328	⇓P	PKPbc	16 11 04.1	+0.3
VRI	Vrincioaia	147.30	328	⇓PKP2	PKPbc	16 11 04.1	+0.3
BHL	Bhannes	147.32	302	eP	PKPbc	16 11 04.7	+0.4
ASSE	Asse, Remlinge	147.32	350	ePKPdf	PKPdf	16 11 01.3	+1.2
	baz=15,slow=1.5						
KSP	Ksiaz	147.33	343	PKIKP	PKPdf	16 11 01.1	+0.8
CRVS	Cervenica-Dubn	147.33	336	ePKIKP	PKPdf	16 11 01.2	+0.8
CRVS				e		16 11 04.9	
CRVS	Cervenica-Dubn	147.33	336	ePKP	PKPdf	16 11 01.2	+0.8
CRVS				e		16 11 04.9	
TIRR	Tirgusor	147.35	324	⇑P	PKPbc	16 11 04.6	+0.8
TIRR	Tirgusor	147.35	324	PKP2	PKPbc	16 11 03.8	-0.1
TIRR	Tirgusor	147.35	324		PKPbc	16 11 03.8	-0.1
PLOR	Plostina	147.35	328	⇑P	PKPbc	16 11 04.3	+0.3
PLOR				⇑P	PKPbc	16 11 04.4	+0.4
PLOR	Plostina	147.35	328	⇑PKP2	PKPbc	16 11 04.3	+0.4
WACR	West Acre	147.38	2	eP	PKPbc	16 11 03.0	-0.6
SULT	Sultanhani-AKS	147.44	310	eP	PKPbc	16 11 03.8	-0.7
BMR	Baia Mare	147.49	333	⇑P	PKPbc	16 11 05.0	+0.8
BMR	Baia Mare	147.49	333	⇑PKP2	PKPbc	16 11 05.0	+0.8
TLBR	Topalu	147.50	325	⇑P	PKPbc	16 11 04.6	+0.4
IBBN	Ibbenburen	147.53	354	ePKPdf	PKPdf	16 11 01.4	+0.8
	baz=15,slow=1.5						
IBBN				ePKPbc	PKPbc	16 11 04.8	+0.7
	baz=15,slow=2.4						
IBBN				ePKPab	PKPab	16 11 08.6	+0.5
	baz=14,slow=4.2						
PCED	Cedros	147.54	49	ePKP	PKiKP	16 11 06.2	+0.1
ARCR	ARCALIA	147.56	331	⇑P	PKiKP	16 11 05.5	-0.4
OSTC	Ostas	147.61	343	ePKPDF	PKPdf	16 11 02.1	+1.3
OSTC				⇑ePKP	PKPbc	16 11 05.0	+0.6
OZUR		147.61	329	⇑P	PKPbc	16 11 05.0	+0.4
CHVC	Chvalec	147.62	343	ePKPDF	PKPdf	16 11 01.5	+0.6
CHVC				⇑ePKP	PKPbc	16 11 04.8	+0.3
CLZ	Clausthal	147.65	351	ePKPdf	PKPdf	16 11 01.7	+0.9
	baz=15,slow=1.5						
CLZ				ePKPbc	PKiKP	16 11 05.6	-0.4
	baz=15,slow=2.4						
CLZ				ePKPab	PKPab	16 11 08.9	+0.2
	baz=14,slow=4.2						
MANR	Mangalia	147.66	323	⇑P	PKPbc	16 11 05.3	+0.6
CLL	Collm	147.68	347	i PKPdf	PKPdf	16 11 01.4	+0.5
	comp=Z,52nm,1.4s						
CLL				i PKPbc	PKPbc	16 11 05.3	+0.8
	comp=Z,324nm,0.9s						
CLL				i PKPab	PKPab	16 11 09.2	+0.4
	comp=Z,99nm,0.9s						
CLL				i pPKPbc	pPKPbc	16 13 12.4	-0.3
	comp=Z,35nm,1.2s						
CLL	Collm	147.68	347	i PKIKP	PKPdf	16 11 01.4	+0.5
CLL				i		16 11 09.2	
CLL				pmax	pmax		
	comp=Z,52nm,1.4s						
CLL				pmax	pmax		
	comp=Z,324nm,0.9s						
CLL				pmax	pmax		
	comp=Z,991nm,0.9s						
CLL	Collm	147.68	347	PKPbc	PKPbc	16 11 04.6	0.0
CLL	Collm	147.68	347	ePKPdf	PKPdf	16 11 01.8	+0.9
	baz=15,slow=1.5						
CLL				ePKPbc	PKPbc	16 11 05.3	+0.8
	baz=15,slow=2.4						
CLL				epPKPbc	pPKPab	16 13 13.9	+0.3
OKC	Ostrava-Krasne	147.69	341	ePKP2	PKiKP	16 11 05.6	-0.5
OKC	Ostrava-Krasne	147.69	341	⇑ePKP	PKiKP	16 11 05.6	-0.5
OKC				ePKPAB	PKPab	16 11 09.5	+0.6
UPC	Upice	147.71	343	ePKIKP	PKPdf	16 11 01.9	+0.9
UPC	Upice	147.71	343	ePKPDF	PKPdf	16 11 01.9	+0.9
UPC				⇑ePKP	PKPbc	16 11 04.7	0.0
ASCN	Ascension	147.76	148		PKPbc	16 11 05.4	-0.5
MMAI	Mount Meron Ar	147.76	300	pPKPbc	pPKPbc	16 13 14.7	+1.2
	comp=Z,22nm,1.1s,baz=73,slow=3.1,SNR=5.5						
PCAN	Candelaria	147.77	49	ePKP	PKPbc	16 11 05.6	+0.4
DPC	Dobruska-Polom	147.77	343	ePKIKP	PKPdf	16 11 02.0	+0.9
DPC	Dobruska-Polom	147.77	343	ePKPDF	PKPdf	16 11 02.0	+0.9
DPC				ePKPAB	PKiKP	16 11 05.7	-0.6
PICO	Pico	147.79	49	ePKP	PKiKP	16 11 06.5	-0.3
ROSA	Rosais	147.82	48	ePKP	PKPbc	16 11 04.7	-0.6
ROSA	Rosais	147.82	48		PKiKP	16 11 06.2	-0.6
AMRR	Amara	147.84	325	⇑P	PKiKP	16 11 06.4	-0.1
AMRR	Amara	147.84	325	⇑PKP2	PKiKP	16 11 06.4	-0.1
LANS	Liptovska Anna	147.85	339	ePKIKP	PKPdf	16 11 02.5	+1.2
LANS	Liptovska Anna	147.85	339	ePKP	PKPdf	16 11 02.5	+1.2
LANS				e		16 11 06.5	
BRG	Berggiesshubel	147.88	346	PKIKP	PKPdf	16 11 01.8	+0.6
BRG	Berggiesshubel	147.88	346	⇓ePKPf		16 11 02.2	
BRG				Amp		16 11 03.1	
	comp=Z,44nm,1.2s						
BRG				⇑i PKP	PKiKP	16 11 05.9	-0.6
BRG				Amp		16 11 07.0	
	comp=Z,192nm,1.0s						
BRG				pPKP	pPKPab	16 13 15.0	+0.7
BRG				Amp		16 13 16.9	
	comp=Z,28nm,1.4s						
BRG				ex	x	16 13 33.7	
BRG				Amp		16 13 34.7	
	comp=Z,18nm,1.0s						
BRG	Berggiesshubel	147.88	346	ePKPdf	PKPdf	16 11 02.2	+0.9
	baz=15,slow=1.5						
BRG				ePKPbc	PKiKP	16 11 05.8	-0.6
	baz=15,slow=2.4						
KRLC	Kraliky	147.89	342	ePKIKP	PKPdf	16 11 01.5	+0.2
KRLC	Kraliky	147.89	342	ePKPDF	PKPdf	16 11 01.5	+0.2
KRLC				⇑ePKP	PKPbc	16 11 05.2	0.0
DOPR	Dopca	147.90	329	⇑P	PKPdf	16 11 03.3	+1.8
ISR	Istrita	147.91	327	⇑P	PKPbc	16 11 05.1	-0.3
ISR	Istrita	147.91	327	⇑PKIKP	PKPbc	16 11 05.1	-0.3
MORC	Moravsky Berou	147.93	341	⇑P	PKPdf	16 11 02.1	+0.7
MORC	Moravsky Berou	147.93	341	ePKP	PKPdf	16 11 01.9	+0.5
MORC				e		16 11 05.6	
MORC	Moravsky Berou	147.93	341	⇑PKHKP	PKPpre	16 11 02.1	
MORC	Moravsky Berou	147.93	341	PKPdf	PKPdf	16 11 01.5	+0.1
MORC				PKPbc	PKPbc	16 11 05.4	+0.1
MLR	Muntele Rosu	147.96	328	⇑P	PKPbc	16 11 05.9	+0.3
MLR	Muntele Rosu	147.96	328	PKIKP	PKPbc	16 11 05.4	-0.3
MLR	Muntele Rosu	147.96	328	PKPbc	PKPbc	16 11 05.3	-0.3
MDUB	Mudurnu	147.97	316	eP	PKPbc	16 11 04.5	-1.3
MDUB	Mudurnu	147.97	316	PKPbc	PKPbc	16 11 05.1	-0.7
PMAN	Manadas	147.97	48	ePKP	PKPbc	16 11 05.6	-0.1
EREN	Erenkoy	147.97	305	eP	PKPbc	16 11 06.2	+0.4
FBE	Freiberg	147.97	347	ePKPdf	PKPdf	16 11 02.4	+1.0
	baz=15,slow=1.5						
FBE				ePKPbc	PKiKP	16 11 06.3	-0.3
	baz=15,slow=2.4						
FBE				ePKPab	PKPab	16 11 10.7	+0.7
	baz=14,slow=4.2						
GTTG	Gottingen	148.00	351	ePKPdf	PKPdf	16 11 02.2	+0.8
	baz=15,slow=1.5						
GTTG				ePKPbc	PKiKP	16 11 06.3	-0.3
	baz=15,slow=2.4						
GTTG				ePKPab	PKPab	16 11 10.2	+0.1
	baz=14,slow=4.2						
GTTG				epPKPbc	pPKPab	16 13 14.9	+0.2
NEUB	Neuenburg	148.02	349	ePKPdf	PKPdf	16 11 02.6	+1.2
	baz=15,slow=1.5						
NEUB				ePKPbc	PKiKP	16 11 06.3	-0.3
	baz=15,slow=2.4						
KECS	Kecovo	148.04	337	ePKP2	PKiKP	16 11 06.4	-0.5
KECS	Kecovo	148.04	337	ePKP	PKiKP	16 11 06.3	-0.6
KECS				e		16 11 11.8	
PVCC	Panska Ves	148.06	345	ePKHKP	PKPpre	16 11 02.2	
PVCC	Panska Ves	148.06	345	ePKPDF	PKPdf	16 11 02.2	+0.7
PVCC				⇑ePKP	PKiKP	16 11 06.3	-0.5
CJR	Cluj-Napoca	148.18	332	⇑P	PKiKP	16 11 07.1	-0.2
CJR	Cluj-Napoca	148.18	332	⇑PKP2	PKiKP	16 11 07.1	-0.2
TEVE	Tevekalti-Mers	148.19	307	eP	PKPbc	16 11 06.5	+0.1
LEHL	Lehliu	148.20	326	⇑P	PKiKP	16 11 07.2	-0.1
LADK	Ladik-KONYA	148.25	311	eP	PKPbc	16 11 05.3	-1.3
SVRH	Sivrihisar-ESK	148.26	314	eP	PKPbc	16 11 06.5	0.0
SULR		148.36	326	⇓P	PKPbc	16 11 06.1	-0.3
KONT	Konya--Tatoy	148.37	311	eP	PKPbc	16 11 06.3	-0.5
BERE	Bereket-Mersin	148.39	307	eP	PKPbc	16 11 07.3	+0.3
SAUV	Serdivan-Sakar	148.39	317	eP	PKPbc	16 11 06.8	+0.1
GULT	Gulveren	148.43	316	eP	PKPbc	16 11 06.6	-0.3
SPNC	Sapanca-Adapaz	148.43	317	eP	PKPbc	16 11 06.9	+0.1
BUG	Bochum--Univer	148.43	354	ePKPdf	PKPdf	16 11 02.8	+0.7
	baz=15,slow=1.5						
BUG				ePKPbc	PKPbc	16 11 06.9	+0.5
	baz=15,slow=2.4						
VOIR		148.44	329	⇑P	PKPdf	16 11 04.1	+1.6
VOIR		148.44	329	⇑PKHKP	PKPpre	16 11 04.1	
DRGR		148.51	333	⇑P	PKPdf	16 11 02.5	0.0
DRGR		148.51	333	⇑PKIKP	PKPdf	16 11 02.5	0.0
PRA	Prague	148.52	345	ePKHKP	PKPpre	16 11 06.7	
PRA	Prague	148.52	345	⇑ePKP	PKPbc	16 11 06.7	0.0
PAGU	Agualva, Azore	148.54	47	ePKP	PKiKP	16 11 08.5	+0.3
KASTN	Kahler Asten	148.54	353	ePKPdf	PKPdf	16 11 02.8	+0.4
	baz=15,slow=1.5						
KASTN				ePKPbc	PKiKP	16 11 07.6	-0.3
	baz=15,slow=2.4						
KASTN				ePKPab	PKPab	16 11 12.4	0.0
	baz=14,slow=4.2						
KASTN				epPKPbc	pPKPab	16 13 16.3	-0.3
TEKE	Tekeli-Mersin	148.55	307	eP	PKPbc	16 11 07.1	-0.1
ADH	Angra Heroismo	148.56	48	ePKP	PKPbc	16 11 06.5	-0.6
SRCK	Saricakaya, Es	148.56	316	eP	PKPbc	16 11 06.2	-0.9
PRU	Pruhonice	148.56	345	ePKIKP	PKPdf	16 11 02.4	0.0
PRU	Pruhonice	148.56	345	ePKPDF	PKPdf	16 11 02.4	0.0
PRU				⇑ePKP	PKPbc	16 11 07.1	+0.3
MOX	Moxa	148.59	348	ePKPdf	PKPdf	16 11 02.9	+0.5
	baz=15,slow=1.5						
MOX				ePKPbc	PKiKP	16 11 07.5	-0.4
	baz=15,slow=2.4						
MTUR	Matau	148.59	328	⇑P	PKiKP	16 11 08.0	-0.2
MTUR	Matau	148.59	328	⇑PKP2	PKiKP	16 11 08.0	-0.2
CIFT	Cifteler, Eski	148.61	314	eP	PKPbc	16 11 07.5	+0.1
VYHS	Vyhne	148.63	339	ePKP2	PKiKP	16 11 08.0	-0.1
VYHS	Vyhne	148.63	339	ePKP	PKiKP	16 11 08.0	-0.1
VRAC	Vranov	148.63	342	⇓P	PKPdf	16 11 03.6	+1.1
VRAC	Vranov	148.63	342	ePKP	PKPdf	16 11 02.9	+0.4
VRAC				e		16 11 07.2	
VRAC	Vranov	148.63	342	⇓PKHKP	PKPpre	16 11 03.6	
PLN	Plauen	148.63	348	ePKPdf	PKPdf	16 11 03.1	+0.6
	baz=15,slow=1.5						
PLN				ePKPbc	PKiKP	16 11 07.8	-0.2
	baz=15,slow=2.4						
PLN				ePKPab	PKPab	16 11 13.1	+0.3
	baz=14,slow=4.2						
TANN	Tannenbergstha	148.64	347	ePKPdf	PKPdf	16 11 03.2	+0.6
	baz=15,slow=1.5						
TANN				ePKPbc	PKiKP	16 11 08.0	-0.1
	baz=15,slow=2.4						
TANN				ePKPab	PKPab	16 11 14.0	+1.1
	baz=14,slow=4.2						
TANN				epPKPbc	pPKPab	16 13 16.8	-0.8
WERD	Werda	148.64	348	ePKPdf	PKPdf	16 11 03.3	+0.7
	baz=15,slow=1.5						
WERD				ePKPbc	PKiKP	16 11 07.9	-0.2
	baz=15,slow=2.4						
JAVC	Velka Javorina	148.69	340	ePKP	PKPdf	16 11 04.2	+1.5
JAVC				e		16 11 08.7	
UBBA	Unterbreizbach	148.69	350	ePKPdf	PKPdf	16 11 03.1	+0.7
	baz=15,slow=1.5						
UBBA				ePKPbc	PKiKP	16 11 07.6	-0.4
	baz=15,slow=2.4						
ARR	Arges	148.70	329	⇑P	PKPdf	16 11 04.1	+1.3
GUNZ	Gunzen	148.71	347	ePKPdf	PKPdf	16 11 03.5	+0.8
	baz=15,slow=1.5						
GUNZ				ePKPbc	PKiKP	16 11 08.1	-0.1
	baz=15,slow=2.4						
GUNZ				epPKPbc	pPKPab	16 13 17.0	-0.8
PSZ	Piszkesteto	148.74	337	PKIKP	PKPdf	16 11 02.8	0.0
PSZ	Piszkesteto	148.74	337	PKPdf	PKPdf	16 11 02.8	0.0
PSZ					PKPbc	16 11 06.6	-0.8
WERN	Wernitzgruen	148.78	347	ePKPdf	PKPdf	16 11 03.6	+0.9
	baz=15,slow=1.5						
WERN				ePKPbc	PKiKP	16 11 08.4	0.0
	baz=15,slow=2.4						
WERN				ePKPab	PKPab	16 11 14.3	+0.9
	baz=14,slow=4.2						
CSS	Mathiatis	148.81	305	PKPbc	PKPbc	16 11 07.1	-0.8
NKC	Novy Kostel	148.81	347	ePKIKP	PKPdf	16 11 03.2	+0.4
NKC	Novy Kostel	148.81	347	ePKPDF	PKPdf	16 11 03.2	+0.4
NKC				⇑ePKP	PKiKP	16 11 08.2	-0.2
BDSL	Dessel	148.83	357	dPKP	PKiKP	16 11 08.4	0.0
KRUC	Moravsky	148.91	342	ePKP	PKPdf	16 11 03.3	+0.4
KRUC				e		16 11 07.9	
ADVT	Abdulvahap	148.94	317	eP	PKPbc	16 11 07.8	-0.2
TREC	Trest	148.95	343	ePKHKP	PKPpre	16 11 03.9	
TREC	Trest	148.95	343	ePKPDF	PKPdf	16 11 03.9	+0.8
TREC				⇑ePKP	PKPbc	16 11 08.3	+0.5
RAZG	Razgrad	148.98	325	⇑P	PKPbc	16 11 06.1	-1.9
PBCC	Pribram	148.98	345	ePKPDF	PKPdf	16 11 02.4	-0.7
PBCC				⇑ePKP	PKPbc	16 11 08.2	+0.4
PBCC				ePKPAB	PKPab	16 11 14.2	0.0
CAVI	Cavuskoy	148.99	316	eP	PKPbc	16 11 08.3	+0.1
LOT	Lotru	149.05	330	⇓P	PKPdf	16 11 03.5	+0.1
SMOL	Smolenice	149.07	340	ePKP2	PKiKP	16 11 09.6	+0.6
SMOL	Smolenice	149.07	340	ePKP	PKiKP	16 11 09.6	+0.6
SMOL				e		16 11 16.2	
LEF	Lefka	149.09	305	⇓P	PKPbc	16 11 08.5	-0.1
LEF	Lefka	149.09	305	eP	PKPbc	16 11 08.5	-0.1
YLV	Yalova	149.10	317	eP	PKPbc	16 11 06.9	-1.6
GAZI	Gazipasa	149.11	308	eP	PKPbc	16 11 07.9	-0.7
MANZ	Manzenberg	149.12	348	ePKPdf	PKPdf	16 11 03.8	+0.5
	baz=15,slow=1.5						
MANZ				ePKPbc	PKiKP	16 11 08.8	-0.3
	baz=15,slow=2.4						
HUMR	Humele	149.12	327	⇑P	PKPdf	16 11 04.3	+0.8
DEV	Deva	149.12	331	⇓P	PKPdf	16 11 04.1	+0.7
DEV	Deva	149.12	331	⇓PKHKP	PKPpre	16 11 04.1	
BEBN	Eben Emael	149.21	356	dPKP	PKiKP	16 11 08.9	-0.3
BEBN				dPKPab	PKPab	16 11 15.3	+0.2
UCC	Uccle	149.28	357	dPKP	PKiKP	16 11 09.1	-0.2
UCC	Uccle	149.28	357	PKHKP	PKPpre	16 11 08.7	
UCC	Uccle	149.28	357		PKPbc	16 11 08.7	+0.2
GEMT	Gemlik	149.29	317	eP	PKPbc	16 11 08.7	-0.2
ROTZ	Rotzenmuhle	149.31	347	ePKPdf	PKPdf	16 11 04.0	+0.5
	baz=15,slow=1.5						
ROTZ				ePKPbc	PKiKP	16 11 09.5	+0.1
	baz=15,slow=2.4						
AHRW	Bad Neuenahr-A	149.34	354	ePKPdf	PKPdf	16 11 04.1	+0.6
	baz=15,slow=1.5						
AHRW				ePKPbc	PKiKP	16 11 09.2	-0.2
	baz=15,slow=2.4						
AHRW				epPKPbc	pPKPab	16 13 18.6	-0.8
SHUT	Suhut-Afyon	149.35	313	eP	PKPbc	16 11 09.4	+0.1
CCA1	Carnmenellis	149.37	9	eP	PKPbc	16 11 07.1	-1.6
BLCH	La Chartreuse	149.37	356	dPKP	PKiKP	16 11 09.3	-0.1
MEM	Membach	149.37	355	dPKPdf	PKPdf	16 11 04.2	+0.6
MEM				dPKP	PKPbc	16 11 09.0	+0.3
MEM				dPKPab	PKPab	16 11 16.0	+0.3
SIRR	Siria	149.37	333	⇓P	PKPdf	16 11 04.6	+0.8
BTNL	Ternell	149.38	355	dPKPdf	PKPdf	16 11 04.3	+0.7
BTNL				dPKP	PKPbc	16 11 09.2	+0.4
SRO	Srobarova	149.39	338	ePKHKP	PKPpre	16 11 10.1	
SRO				e		16 11 17.5	
SRO	Srobarova	149.39	338	ePKP	PKiKP	16 11 10.1	+0.5
SRO				e		16 11 17.4	
SRO2	Moca	149.41	338	ePKHKP	PKPpre	16 11 08.7	
SRO2	Moca	149.41	338	ePKP	PKPbc	16 11 08.7	-0.2
BSTI	Sart Tilman	149.43	356	dPKPdf	PKPdf	16 11 04.5	+0.8
BSTI				dPKP	PKPbc	16 11 09.2	+0.4
ZST	Bratislava	149.46	340	ePKHKP	PKPpre	16 11 05.3	
ZST				e		16 11 18.0	
ZST	Bratislava	149.46	340	ePKP	PKPdf	16 11 05.3	+1.5
ZST				e		16 11 10.0	
ZST				e		16 11 18.0	
TNS	Taunus Mts	149.50	352	ePKPdf	PKPdf	16 11 04.5	+0.6
	baz=15,slow=1.5						
TNS				ePKPbc	PKiKP	16 11 09.8	-0.1
	baz=15,slow=2.4						
TNS				ePKPab	PKPab	16 11 17.0	+0.6
	baz=14,slow=4.2						
TNS				epPKPbc	pPKPbc	16 13 18.5	+0.9
GZR	Gura Zlata	149.56	331	⇑P	PKPdf	16 11 04.1	-0.1
GZR	Gura Zlata	149.56	331	⇑PKIKP	PKPdf	16 11 04.1	-0.1
GRA1	Grafenberg Arr	149.57	348	PKPdf	PKPdf	16 11 03.8	-0.2
GRA1				PKPbc	PKiKP	16 11 09.8	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GRF	**Grafenberg Arr**	**149.57**	**348**	PKIKP	**PKPdf**	**16 11 03.8**	**-0.2**
GRF	**Grafenberg Arr**	**149.57**	**348**	*e*PKPdf	**PKPdf**	**16 11 04.3**	**+0.3**
	baz=15,slow=1.5						
GRF				*e*PKPbc	**PKiKP**	**16 11 10.0**	**0.0**
	baz=15,slow=2.4						
GRF				*e*PKPab	**PKPab**	**16 11 17.8**	**+1.1**
	baz=14,slow=4.2						
GRF				*e*pPKPbc	**pPKPbc**	**16 13 18.5**	**+0.6**
GRFO	**Grafenberg**	**149.57**	**348**	PKIKP	**PKPdf**	**16 11 03.9**	**-0.1**
GRFO	**Grafenberg**	**149.57**	**348**		**PKPdf**	**16 11 03.9**	**-0.1**
GRFO				PKPbc	**PKiKP**	**16 11 09.8**	**-0.2**
SNF	**Seneffe**	**149.57**	**357**	*d*PKP	**PKPbc**	**16 11 09.5**	**+0.3**
SNF				*d*PKPab	**PKPab**	**16 11 16.7**	**+0.1**
KHC	**Kasperske Hory**	**149.60**	**345**	⇑*e*PKIKP	**PKPdf**	**16 11 05.0**	**+0.9**
KHC	**Kasperske Hory**	**149.60**	**345**	*e*PKPDF	**PKPdf**	**16 11 04.0**	**-0.1**
KHC				⇑*e*PKP	**PKPbc**	**16 11 09.8**	**+0.4**
KHC				*e*PKPAB	**PKPab**	**16 11 17.5**	**+0.7**
KHC	**Kasperske Hory**	**149.60**	**345**	PKPdf	**PKPdf**	**16 11 04.0**	**-0.1**
KHC				PKPbc	**PKPbc**	**16 11 09.6**	**+0.2**
BCLA	**Clavier**	**149.61**	**356**	*d*PKP	**PKPbc**	**16 11 09.7**	**+0.4**
BCLA				*d*PKPab	**PKPab**	**16 11 16.5**	**-0.2**
BHOU	**Houvegnez**	**149.62**	**355**	*d*PKPdf	**PKPdf**	**16 11 05.0**	**+0.9**
BHOU				*d*PKP	**PKiKP**	**16 11 10.0**	**-0.1**
BHOU				*d*PKPab	**PKPab**	**16 11 17.4**	**+0.5**
TVSB	**Tavsanli**	**149.64**	**315**	*e*P	**PKPbc**	**16 11 09.1**	**-0.8**
BGES	**Gesves**	**149.66**	**356**	*d*PKP	**PKPbc**	**16 11 09.4**	**0.0**
BGES				*d*PKPab	**PKPab**	**16 11 16.2**	**-0.8**
AMBH	**Ambrzfalva**	**149.70**	**334**	⇑P	**PKPbc**	**16 11 07.4**	**-2.2**
CKRC	**Cesky Krumlov**	**149.70**	**344**	*e*PKPDF	**PKPdf**	**16 11 04.5**	**+0.3**
CKRC				⇑*e*PKP	**PKPbc**	**16 11 09.2**	**-0.4**
BBOU	**Bougnies**	**149.71**	**358**	*d*PKP	**PKiKP**	**16 11 10.6**	**+0.4**
BBOU				*d*PKPab	**PKPab**	**16 11 17.8**	**+0.7**
ISP	**Isparta**	**149.72**	**312**	PKIKP	**PKPdf**	**16 11 03.7**	**-1.0**
ISP	**Isparta**	**149.72**	**312**	PKPdf	**PKPdf**	**16 11 03.7**	**-1.0**
ISP				PKPbc	**PKPbc**	**16 11 09.0**	**-1.1**
WET	**Wettzell**	**149.75**	**346**	PKIKP	**PKPdf**	**16 11 05.0**	**+0.6**
WET	**Wettzell**	**149.75**	**346**	*e*PKPdf	**PKPdf**	**16 11 04.9**	**+0.6**
	baz=15,slow=1.5						
WET				*e*PKPbc	**PKiKP**	**16 11 10.4**	**0.0**
	baz=15,slow=2.4						
WET				*e*PKPab	**PKPab**	**16 11 18.2**	**+0.8**
	baz=14,slow=4.2						
BMRD	**Maredsous**	**149.76**	**357**	*d*PKPdf	**PKPdf**	**16 11 04.7**	**+0.5**
BMRD				*d*PKP	**PKPbc**	**16 11 10.0**	**+0.4**
BMRD				*d*PKPab	**PKPab**	**16 11 17.1**	**-0.3**
VLAD	**Vladila**	**149.79**	**327**	⇑P	**PKiKP**	**16 11 10.5**	**-0.1**
GEC2	**GERESS Array S**	**149.83**	**345**	PKPdf	**PKPdf**	**16 11 04.5**	**0.0**
GEC2				PKPbc	**PKPbc**	**16 11 10.0**	**0.0**
GEC2	**GERESS Array S**	**149.83**	**345**	*e*PKPdf	**PKPdf**	**16 11 04.9**	**+0.3**
	baz=15,slow=1.5						
GEC2				*e*PKPbc	**PKPbc**	**16 11 10.3**	**+0.3**
	baz=15,slow=2.4						
GEC2				*e*pPKPbc	**pPKPbc**	**16 13 19.9**	**+0.9**
GERES	**GERESS Array B**	**149.83**	**345**	PKP	**PKPdf**	**16 11 04.9**	**+0.3**
	comp=Z,8.4nm,1.0s,baz=90,slow=1.3,SNR=39						
GERES				PKPbc	**PKiKP**	**16 11 10.8**	**+0.1**
	comp=Z,81nm,0.8s,baz=43,slow=2.4,SNR=216						
GERES				pPKPbc	**pPKPab**	**16 13 20.8**	**-1.6**
	comp=Z,2.6nm,0.8s,baz=48,slow=2.0,SNR=3.8						
GERES	**GERESS Array B**	**149.83**	**345**		**PKPdf**	**16 11 04.4**	**-0.1**
GERES				PKPbc	**PKPbc**	**16 11 09.8**	**-0.2**
RCHB	**Rochefort**	**149.88**	**356**	*d*PKP	**PKiKP**	**16 11 10.4**	**-0.2**
GEDZ	**Gediz**	**149.88**	**315**	*e*P	**PKPbc**	**16 11 10.8**	**+0.4**
SRE	**Strehaia**	**149.90**	**329**	⇑P	**PKPdf**	**16 11 07.3**	**+2.6**
SRE	**Strehaia**	**149.90**	**329**	⇑PKHKP	PKPpre	16 11 07.3	
BZS	**Buzias**	**149.90**	**332**	⇑P	**PKPdf**	**16 11 04.9**	**+0.3**
BZS	**Buzias**	**149.90**	**332**	⇑PKIKP	**PKPdf**	**16 11 04.9**	**+0.3**
KCTX	**Karacabey (Bur**	**149.91**	**318**	*e*P	**PKPbc**	**16 11 07.8**	**-2.6**
GIVF	**Givet**	**149.95**	**357**	*e*PKIKP	**PKPdf**	**16 11 05.9**	**+1.3**
GIVF				pmax	pmax		
	comp=Z,251nm,0.9s						
DOU	**Dourbes**	**149.97**	**357**	*d*PKP	**PKPbc**	**16 11 10.4**	**+0.3**
PSET	**Sete Cidades**	**150.00**	**48**	*e*PKP	**PKiKP**	**16 11 11.3**	**0.0**
BAIF	**Baives**	**150.03**	**357**	*e*PKIKP	**PKPdf**	**16 11 06.1**	**+1.4**
BAIF				pmax	pmax		
	comp=Z,172nm,0.9s						
CONA	**Conrad Observa**	**150.08**	**341**	*i* P	**PKPdf**	**16 11 05.1**	**+0.1**
	comp=Z,20nm,1.4s,SNR=39						
CONA				*e*P	**PKiKP**	**16 11 11.4**	**+0.2**
	comp=Z,99nm,0.8s						
PLVB	**Pleven**	**150.11**	**326**	⇑P	**PKiKP**	**16 11 11.1**	**-0.2**
HERR	**Herculane**	**150.11**	**330**	⇑P	**PKPbc**	**16 11 10.8**	**+0.1**
GRON	**Grota Negra**	**150.15**	**48**	*e*PKP	**PKiKP**	**16 11 11.9**	**+0.3**
CMLA	**Cha da Macela**	**150.16**	**48**	*e*PKP	**PKiKP**	**16 11 12.8**	**+1.2**
KORT	**Korkueli**	**150.22**	**311**	*e*P	**PKPbc**	**16 11 11.1**	**-0.3**
WLF	**Walferdange**	**150.30**	**355**	*d*PKPdf	**PKPdf**	**16 11 06.2**	**+1.1**
WLF				*d*PKP	**PKiKP**	**16 11 12.1**	**+0.7**
WLF				*d*PKPab	**PKPab**	**16 11 20.1**	**+0.5**
WLF	**Walferdange**	**150.30**	**355**	PKIKP	**PKiKP**	**16 11 11.6**	**+0.1**
WLF	**Walferdange**	**150.30**	**355**	PKPdf	**PKPdf**	**16 11 05.6**	**+0.5**
WLF					**PKiKP**	**16 11 11.6**	**+0.1**
WLF	**Walferdange**	**150.30**	**355**	*e*PKPdf	**PKPdf**	**16 11 06.1**	**+1.0**
	baz=15,slow=1.5						
WLF				*e*PKPbc	**PKiKP**	**16 11 12.2**	**+0.7**
	baz=15,slow=2.4						
WLF				*e*PKPab	**PKPab**	**16 11 20.4**	**+0.7**
	baz=14,slow=4.2						
BANR	**Banloc**	**150.30**	**333**	⇑P	**PKPbc**	**16 11 10.5**	**-0.6**
MDVR	**Moldovita**	**150.51**	**331**	⇑P	**PKPdf**	**16 11 05.8**	**+0.1**
MOA	**Molln**	**150.60**	**343**	*i* P	**PKPdf**	**16 11 05.8**	**+0.1**
	comp=Z,5.8nm,0.8s						
MOA				*e*P	**PKPbc**	**16 11 12.0**	**+0.2**
	comp=Z,30nm,0.7s,SNR=8.1						
MORH	**Mrgy, Hungar**	**150.63**	**336**	⇑P	**PKPdf**	**16 11 06.0**	**+0.3**
MORH	**Mrgy, Hungar**	**150.63**	**336**	⇓*i*P	**PKPbc**	**16 11 11.7**	**-0.1**
ELL	**Elmali**	**150.65**	**310**	*e*P	**PKPbc**	**16 11 12.3**	**0.0**
ELL	**Elmali**	**150.65**	**310**	PKIKP	**PKPbc**	**16 11 11.8**	**-0.5**
ELL	**Elmali**	**150.65**	**310**		**PKPbc**	**16 11 11.8**	**-0.5**
KULA	**Kula-Manisa**	**150.66**	**314**	*e*P	**PKPbc**	**16 11 12.5**	**+0.2**
JSA	**Saint Aubin**	**150.73**	**6**	*e*P	**PKPbc**	**16 11 11.2**	**-0.7**
MANT	**Manisa**	**150.74**	**315**	PKPbc	**PKPbc**	**16 11 12.2**	**-0.4**
ARSA	**Arzberg**	**150.79**	**341**	*i* P	**PKPdf**	**16 11 06.1**	**+0.1**
	comp=Z,14nm,1.7s						
ARSA				*e*P	**PKPbc**	**16 11 12.2**	**0.0**
	comp=Z,36nm,1.4s,SNR=6.9						
PSMA	**Santa Maria**	**150.80**	**49**	*e*PKP	**PKPbc**	**16 11 11.9**	**-0.6**
STU	**Stuttgart**	**150.81**	**350**	PKIKP	**PKiKP**	**16 11 12.8**	**+0.2**
STU	**Stuttgart**	**150.81**	**350**		**PKPdf**	**16 11 06.2**	**+0.2**
STU				PKPbc	**PKiKP**	**16 11 12.8**	**+0.2**
STU	**Stuttgart**	**150.81**	**350**	*e*PKPdf	**PKPdf**	**16 11 06.4**	**+0.5**
	baz=15,slow=1.5						
STU				*e*PKPbc	**PKiKP**	**16 11 12.7**	**+0.2**
	baz=15,slow=2.4						
STU				*e*PKPab	**PKPab**	**16 11 21.8**	**-0.1**
	baz=14,slow=4.2						
PSMN	**Pico do Norte,**	**150.84**	**49**	*e*PKP	**PKPbc**	**16 11 12.5**	**-0.1**
ALN	**Alexandroupoli**	**150.95**	**321**	PKIKP	**PKPbc**	**16 11 11.2**	**-1.5**
ALN	**Alexandroupoli**	**150.95**	**321**		**PKPbc**	**16 11 11.2**	**-1.5**
GELI	**Tayfur-Gelibol**	**151.00**	**320**	*e*P	**PKPbc**	**16 11 11.9**	**-0.9**
FUR	**Furstenfeldbru**	**151.02**	**347**	*e*PKPdf	**PKPdf**	**16 11 06.3**	**+0.1**
	baz=15,slow=1.5						
FUR				*e*PKPbc	**PKiKP**	**16 11 13.0**	**0.0**
	baz=15,slow=2.4						
FUR				*e*PKPab	**PKPab**	**16 11 23.3**	**+0.5**
	baz=14,slow=4.2						
FRGS	**Fruska Gora**	**151.04**	**334**	⇑P	**PKPdf**	**16 11 06.7**	**+0.3**
FRGS	**Fruska Gora**	**151.04**	**334**	⇓*i*P	**PKPbc**	**16 11 12.9**	**+0.1**
BEHE	**Becsehely**	**151.08**	**339**	⇓*i*P	**PKiKP**	**16 11 15.7**	**+2.5**
RJOB	**Jochberg**	**151.09**	**345**	*e*PKPdf	**PKPdf**	**16 11 06.5**	**0.0**
	baz=15,slow=1.5						
RJOB				*e*PKPbc	**PKPbc**	**16 11 13.0**	**+0.1**
	baz=15,slow=2.4						
RJOB				*e*PKPab	**PKPab**	**16 11 23.7**	**+0.5**
	baz=14,slow=4.2						
AKAS	**Kas**	**151.10**	**310**	*e*P	**PKPbc**	**16 11 11.9**	**-1.5**
AKAS	**Kas**	**151.10**	**310**		**PKPbc**	**16 11 11.5**	**-1.9**
BFO	**Black Forest**	**151.37**	**351**	PKIKP	**PKPbc**	**16 11 13.5**	**0.0**
BFO	**Black Forest**	**151.37**	**351**	PKPdf	**PKPdf**	**16 11 06.4**	**-0.4**
BFO				PKPbc	**PKPbc**	**16 11 13.4**	**0.0**
BFO	**Black Forest**	**151.37**	**351**	*e*PKPdf	**PKPdf**	**16 11 07.0**	**+0.2**
	baz=15,slow=1.5						
BFO				*e*PKPbc	**PKPbc**	**16 11 13.5**	**0.0**
	baz=15,slow=2.4						
BFO				*e*PKPab	**PKPab**	**16 11 24.3**	**+0.1**
	baz=14,slow=4.2						
VTS	**Vitosha**	**151.37**	**326**	⇑P	**PKPdf**	**16 11 07.3**	**+0.1**
VTS	**Vitosha**	**151.37**	**326**	PKIKP	**PKPdf**	**16 11 07.3**	**+0.1**
VTS	**Vitosha**	**151.37**	**326**		**PKPdf**	**16 11 06.6**	**-0.6**
VTS					**PKPbc**	**16 11 13.6**	**-0.3**
SOKA	**Soboth**	**151.45**	**341**	*e*P	**PKPdf**	**16 11 07.1**	**0.0**
	comp=Z,12nm,1.0s						
SOKA				*e*P	**PKPbc**	**16 11 13.6**	**-0.2**
	comp=Z,47nm,0.9s,SNR=10.0						
AYDB	**Zeytinkoy-Aydi**	**151.47**	**314**	*e*P	**PKiKP**	**16 11 14.6**	**+0.2**
KALN	**Kalnik**	**151.48**	**339**	*i* P	**PKPbc**	**16 11 13.5**	**-0.3**
KBA	**Koelnbreinsper**	**151.56**	**344**	*i* P	**PKPdf**	**16 11 06.6**	**-0.7**
	comp=Z,21nm,1.4s						
KBA				*e*P	**PKPbc**	**16 11 13.5**	**-0.6**
	comp=Z,53nm,1.1s,SNR=8.3						
KBA	**Koelnbreinsper**	**151.56**	**344**	PKIKP	**PKPdf**	**16 11 07.0**	**-0.3**
YER	**Yerkesik**	**151.61**	**312**	*e*P	**PKPbc**	**16 11 13.1**	**-1.3**
GRR	**Gorron**	**151.63**	**4**	*e*PKIKP	**PKPdf**	**16 11 07.1**	**-0.1**
GRR				pmax	pmax		
	comp=Z,76nm,0.7s						
TEKS	**Tekeris**	**151.65**	**333**	*e*P	**PKPbc**	**16 11 14.0**	**-0.2**
UBR	**Ueberruh**	**151.71**	**349**	*e*PKPdf	**PKPdf**	**16 11 07.5**	**+0.1**
	baz=15,slow=1.5						
UBR				*e*PKPbc	**PKPbc**	**16 11 14.3**	**0.0**
	baz=15,slow=2.4						
UBR				*e*pPKPbc	**pPKPbc**	**16 13 24.5**	**+1.1**
WATA	**Walderalm**	**151.74**	**346**	*i* P	**PKPdf**	**16 11 07.2**	**-0.3**
	comp=Z,19nm,1.0s,SNR=7.0						
WATA				*e*P	**PKPbc**	**16 11 14.5**	**0.0**
	comp=Z,26nm,0.8s						
OBKA	**Obir**	**151.75**	**342**	*e*P	**PKPdf**	**16 11 07.2**	**-0.3**
	comp=Z,26nm,1.8s						
OBKA				*i* P	**PKPbc**	**16 11 14.1**	**-0.4**
	comp=Z,24nm,0.8s,SNR=5.4						
RETA	**Reutte**	**151.77**	**348**	*i* P	**PKPdf**	**16 11 07.8**	**+0.3**
	comp=Z,12nm,1.1s						
RETA				*e*P	**PKPbc**	**16 11 14.5**	**0.0**
	comp=Z,43nm,1.3s						
WTTA	**Wattenberg**	**151.80**	**346**	*i* P	**PKPdf**	**16 11 07.2**	**-0.5**
	comp=Z,21nm,0.9s,SNR=8.7						
WTTA				*e*P	**PKPbc**	**16 11 14.5**	**-0.2**
	comp=Z,88nm,0.9s						
WTTA				*e*P	**pPKPbc**	**16 13 26.2**	**+2.6**
	comp=Z,17nm,1.2s						
WTTA	**Wattenberg**	**151.80**	**346**	PKIKP	**PKPdf**	**16 11 07.7**	**0.0**
DIVS	**Divibare**	**151.81**	**332**	⇓*i*P	**PKPbc**	**16 11 14.5**	**-0.2**
DIVS	**Divibare**	**151.81**	**332**		**PKPdf**	**16 11 07.3**	**-0.4**
DIVS				PKPbc	**PKiKP**	**16 11 14.9**	**0.0**
MOTA	**Moosalm**	**151.84**	**347**	*e*P	**PKPdf**	**16 11 07.9**	**+0.2**
	comp=Z,21nm,0.9s,SNR=8.8						
MOTA				*i* P	**PKPbc**	**16 11 14.8**	**+0.1**
	comp=Z,41nm,0.9s						
MOTA				*e*P	**pPKPbc**	**16 13 26.4**	**+2.7**
	comp=Z,12nm,1.0s						
PTJ	**Puntijarka**	**151.84**	**339**	P	**PKPbc**	**16 11 14.5**	**-0.2**
MLSB	**Milas**	**151.88**	**313**	*e*P	**PKiKP**	**16 11 17.6**	**+2.4**
MYKA	**Terra Mystica**	**151.89**	**343**	*i* P	**PKPdf**	**16 11 07.4**	**-0.3**
	comp=Z,7.9nm,0.7s						
MYKA				*i* P	**PKPbc**	**16 11 14.1**	**-0.6**
	comp=Z,25nm,0.8s,SNR=9.1						
HAU	**Haudompre**	**151.92**	**354**	*e*PKIKP	**PKPdf**	**16 11 07.7**	**0.0**
HAU				pmax	pmax		
	comp=Z,71nm,1.1s						
SQTA	**Sankt Quirin**	**151.93**	**347**	*e*P	**PKPdf**	**16 11 08.1**	**+0.3**
	comp=Z,17nm,0.8s,SNR=9.0						
SQTA				*i* P	**PKPbc**	**16 11 14.9**	**0.0**
	comp=Z,48nm,0.8s						
SQTA				*e*P	**pPKPbc**	**16 13 26.8**	**+2.9**
	comp=Z,9.0nm,0.9s						
GCIS	**Gornji Cirnik**	**151.99**	**340**	*e*PKPbc	**PKPbc**	**16 11 15.0**	**+0.1**
GCAM	**G?zelcaml?**	**152.04**	**314**	*e*P	**PKPbc**	**16 11 15.3**	**+0.1**
HINF	**Hinteralfeld**	**152.06**	**353**	*e*PKIKP	**PKPdf**	**16 11 07.8**	**-0.1**
HINF				pmax	pmax		
	comp=Z,27nm,0.8s						
ABTA	**Abfaltersbach**	**152.08**	**345**	*e*P	**PKPdf**	**16 11 07.4**	**-0.6**
	comp=Z,29nm,0.8s,SNR=13						
ABTA				*i* P	**PKPbc**	**16 11 14.9**	**-0.3**
	comp=Z,66nm,0.7s						
CRES	**Cresnjev**	**152.08**	**340**	⇓*i*P	**PKPbc**	**16 11 15.1**	**0.0**
CLF	**Chambon-Foret**	**152.10**	**360**		**PKPdf**	**16 11 08.3**	**+0.5**
CLF				PKPbc	**PKiKP**	**16 11 15.7**	**+0.4**
CLF				PKPab	**PKPab**	**16 11 27.5**	**+0.2**
DAVA	**Damuels**	**152.13**	**349**	*i* P	**PKPdf**	**16 11 08.2**	**+0.1**
	comp=Z,9.8nm,0.9s						
DAVA				*e*P	**PKPbc**	**16 11 15.4**	**0.0**
	comp=Z,91nm,1.2s						
ZOU	**Zoufplan**	**152.14**	**344**	PKPdf	**PKPdf**	**16 11 07.5**	**-0.7**
LJU	**Ljubljana**	**152.18**	**341**	*e*PKPdf	**PKPdf**	**16 11 08.6**	**+0.6**
LJU				*e*PKPbc	**PKPbc**	**16 11 15.4**	**+0.1**
LJU	**Ljubljana**	**152.18**	**341**	⇓*i*P	**PKPbc**	**16 11 15.4**	**+0.1**
CRNS	**Crni Vrh**	**152.22**	**342**	*e*PKPdf	**PKPdf**	**16 11 08.3**	**+0.1**
FETA	**Feichten**	**152.22**	**347**	*e*P	**PKPdf**	**16 11 08.4**	**0.0**
	comp=Z,29nm,0.8s,SNR=17						
FETA				*i* P	**PKiKP**	**16 11 15.9**	**+0.1**
	comp=Z,42nm,0.9s						
FETA				*e*P	**pPKPbc**	**16 13 27.3**	**+2.6**
	comp=Z,7.3nm,1.0s						
BBLS	**Lazići**	**152.25**	**333**	⇓*i*P	**PKPbc**	**16 11 15.7**	**+0.1**
HAPS	**Han Pijesak,Bl**	**152.27**	**333**	*e*P	**PKPbc**	**16 11 15.1**	**-0.6**
VISS	**Visnje**	**152.30**	**341**	*i* PKPab	**PKPab**	**16 11 28.4**	**+0.1**
VISS	**Visnje**	**152.30**	**341**	*e*PKPbc	**PKiKP**	**16 11 15.9**	**+0.2**
BODT	**Bodrum**	**152.32**	**313**	*e*P	**PKPbc**	**16 11 14.7**	**-1.2**
BLY	**Banja Luka**	**152.42**	**337**	⇓*i*P	**PKPbc**	**16 11 15.0**	**-0.9**
CEY	**Cerknica**	**152.48**	**341**	⇓*i*P	**PKPbc**	**16 11 15.4**	**-0.6**
VAY	**Valandovo**	**152.64**	**325**	*i* P	**PKPbc**	**16 11 16.1**	**-0.3**
TRI	**Trieste**	**152.70**	**342**	PKIKP	**PKPbc**	**16 11 16.0**	**-0.4**
TRI						16 11 29.2	
TRI	**Trieste**	**152.70**	**342**	PKPbc	**PKPbc**	**16 11 16.0**	**-0.4**
TRI					**PKPab**	**16 11 29.2**	**-0.7**
MGRS	**Mrkonjic Grad**	**152.74**	**336**	*e*P	**PKPbc**	**16 11 16.6**	**0.0**
SKO	**Skopje**	**152.76**	**328**	*i* P	**PKiKP**	**16 11 17.2**	**+0.4**
LOR	**Lormes**	**152.83**	**358**	*e*PKIKP	**PKPdf**	**16 11 09.2**	**+0.2**
LOR				pmax	pmax		
	comp=Z,43nm,0.9s						
RIY	**Rijeka**	**152.84**	**341**	P	**PKPbc**	**16 11 16.5**	**-0.3**
CTI	**Castel Tesino**	**152.94**	**345**		**PKPdf**	**16 11 08.8**	**-0.5**
CTI				PKPbc	**PKPbc**	**16 11 16.9**	**-0.2**
CTI				PKPab	**PKPab**	**16 11 30.1**	**-1.1**
UPM	**Unac-Piva**	**153.00**	**332**	*e*P	**PKPbc**	**16 11 16.9**	**-0.5**
TUE	**Stuetta**	**153.01**	**349**	PKPdf	**PKPdf**	**16 11 08.8**	**-0.7**
TUE				PKPbc	**PKiKP**	**16 11 17.6**	**+0.1**
SSF	**Saint Saulge**	**153.05**	**358**	*e*PKIKP	**PKPdf**	**16 11 09.5**	**+0.2**
SSF				pmax	pmax		
	comp=Z,51nm,1.0s						
UDBI	**Udbina**	**153.12**	**338**	*i* P	**PKPbc**	**16 11 17.2**	**-0.3**
KARP	**Karpathos**	**153.18**	**310**		**PKPbc**	**16 11 16.8**	**-1.1**
KARP				PKPab	**PKPab**	**16 11 31.6**	**-0.9**
AVF	**Avril sur Loir**	**153.32**	**358**	*e*PKIKP	**PKPdf**	**16 11 09.6**	**-0.1**
AVF				pmax	pmax		
	comp=Z,14nm,0.9s						
CABF	**La Chapelle**	**153.33**	**354**	*e*PKIKP	**PKPdf**	**16 11 10.4**	**+0.6**
CABF				pmax	pmax		
	comp=Z,54nm,1.1s						
NVLJ	**Novalja**	**153.39**	**340**	*i* P	**PKPbc**	**16 11 16.8**	**-1.1**
BRY	**Bratogost**	**153.40**	**333**	*e*P	**PKPbc**	**16 11 17.9**	**-0.4**
SENIN	**Lac Senin/Sane**	**153.44**	**352**	PKPdf	**PKPdf**	**16 11 10.2**	**0.0**
SENIN				PKPbc	**PKPbc**	**16 11 18.1**	**-0.2**
SENIN				PKPab	**PKPab**	**16 11 33.0**	**-0.4**
PDG	**Podgorica**	**153.46**	**331**	⇓*i*P	**PKPbc**	**16 11 17.9**	**-0.3**
PDG	**Podgorica**	**153.46**	**331**	PKPbc	**PKPbc**	**16 11 17.8**	**-0.4**
RICI	**Ricice**	**153.50**	**335**	P	**PKPbc**	**16 11 17.7**	**-0.6**
BGF	**Bois d'Agland**	**153.57**	**359**	*e*PKIKP	**PKPdf**	**16 11 10.2**	**+0.2**
BGF				pmax	pmax		
	comp=Z,27nm,0.9s						
TEOL	**Teolo**	**153.58**	**345**		**PKPdf**	**16 11 09.9**	**-0.2**
TEOL					**PKPbc**	**16 11 18.3**	**-0.1**
TEOL					**PKPab**	**16 11 33.7**	**-0.1**
SALO	**Salr**	**153.60**	**347**		**PKPdf**	**16 11 09.6**	**-0.6**
SALO				PKPab	**PKPab**	**16 11 33.4**	**-0.4**
TREB	**Trebinje**	**153.63**	**333**	*e*P	**PKPbc**	**16 11 17.9**	**-0.7**
MAKA	**Makarska**	**153.72**	**335**	*i* P	**PKPbc**	**16 11 18.2**	**-0.5**
OHR	**Ohrid**	**153.72**	**327**	*i* P	**PKiKP**	**16 11 19.7**	**+0.8**
MORI	**Morici**	**153.72**	**338**	*i* P	**PKPbc**	**16 11 18.2**	**-0.5**
HCY	**Herceg Novi**	**153.79**	**332**	*e*P	**PKPbc**	**16 11 17.5**	**-1.4**
TCF	**Toulx Ste Croi**	**153.84**	**360**	*e*PKIKP	**PKPdf**	**16 11 10.5**	**0.0**
TCF				pmax	pmax		
	comp=Z,40nm,1.2s						
ZIRJ	**Zirje**	**153.92**	**337**	*i* P	**PKPbc**	**16 11 18.2**	**-0.9**
SANT	**Santorini**	**153.95**	**313**	PKPbc	**PKPbc**	**16 11 18.3**	**-1.2**
SANT				PKPab	**PKPab**	**16 11 34.5**	**-1.2**
LPL	**La Plagne**	**154.34**	**353**	*e*PKIKP	**PKPdf**	**16 11 11.8**	**+0.4**
LPL				pmax	pmax		
	comp=Z,31nm,1.6s						
LPG	**La Plagne**	**154.36**	**353**	*e*PKIKP	**PKPdf**	**16 11 11.9**	**+0.3**
LPG				pmax	pmax		
	comp=Z,23nm,1.2s						
ZCCA	**Zocca**	**154.70**	**345**		**PKPbc**	**16 11 21.7**	**+0.8**
SSB	**Saint Sauveur**	**154.78**	**356**	PKIKP	**PKPdf**	**16 11 11.4**	**-0.4**
SSB	**Saint Sauveur**	**154.78**	**356**	PKPdf	**PKPdf**	**16 11 11.4**	**-0.4**
BNI	**Bardonecchia**	**154.80**	**353**	PKIKP	**PKPdf**	**16 11 12.4**	**+0.4**
BNI						16 11 39.7	
BNI	**Bardonecchia**	**154.80**	**353**	PKPdf	**PKPdf**	**16 11 12.4**	**+0.4**
BNI				PKPab	**PKPab**	**16 11 39.7**	**+0.6**
RJF	**Les Rejaudoux**	**154.82**	**1**	*e*PKIKP	**PKPdf**	**16 11 11.9**	**+0.1**
RJF				pmax	pmax		
	comp=Z,34nm,1.1s						
VLC	**Villacollemand**	**155.02**	**346**	PKPdf	**PKPdf**	**16 11 11.2**	**-0.9**
VLC					**PKPab**	**16 11 39.6**	**-0.3**
ORIF	**Oris-en-Rattie**	**155.03**	**354**	*e*PKIKP	**PKPdf**	**16 11 12.4**	**+0.2**
ORIF				pmax	pmax		
	comp=Z,16nm,1.1s						
MBDF	**Montbardon**	**155.11**	**352**	*e*PKIKP	**PKPdf**	**16 11 12.5**	**+0.1**
MBDF				pmax	pmax		
	comp=Z,15nm,1.0s						
VIVF	**Saint-Julien-l**	**155.19**	**356**	*e*PKIKP	**PKPdf**	**16 11 13.8**	**+1.4**
VIVF				pmax	pmax		
	comp=Z,26nm,1.3s						
CAF	**Calviac**	**155.21**	**0**	*e*PKIKP	**PKPdf**	**16 11 12.7**	**+0.3**
CAF				pmax	pmax		
	comp=Z,25nm,1.2s						
OSSC	**Osservatorio P**	**155.41**	**344**	PKPab	**PKPab**	**16 11 40.9**	**-0.7**
NRCA	**Norcia**	**155.51**	**340**		**PKPab**	**16 11 41.6**	**-0.6**
INTR	**Introdacqua**	**155.98**	**338**	PKPdf	**PKPdf**	**16 11 13.3**	**-0.2**
FRF	**La Foret Royal**	**156.28**	**352**	*e*PKIKP	**PKPdf**	**16 11 13.5**	**-0.3**
FRF				pmax	pmax		
	comp=Z,23nm,1.1s						
PGAV	**Gavieira, Arco**	**156.43**	**20**	*e*PKPdf	**PKPdf**	**16 11 15.2**	**+1.0**
MTLF	**Montolieu**	**156.79**	**360**	*e*PKIKP	**PKPdf**	**16 11 14.7**	**+0.3**
MTLF				pmax	pmax		
	comp=Z,24nm,1.2s						
SJPF	**Ste Jean**	**156.84**	**6**	*e*PKIKP	**PKPdf**	**16 11 14.0**	**-0.5**
SJPF				pmax	pmax		
	comp=Z,25nm,1.4s						
PGF	**Pioggiola**	**156.86**	**347**	*e*PKIKP	**PKPdf**	**16 11 15.4**	**+0.7**
PGF				pmax	pmax		
	comp=Z,28nm,1.0s						
PBRG	**Braganca**	**157.04**	**17**	*e*PKPdf	**PKPdf**	**16 11 15.8**	**+0.9**
PBRG	**Braganca**	**157.04**	**17**	*e*PKPab	**PKPab**	**16 11 49.4**	**+0.6**
ETSF	**Etsaut**	**157.11**	**5**	*e*PKIKP	**PKPdf**	**16 11 15.5**	**+0.5**
ETSF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
POLO	**Lamas de Olo**	**157.12**	**20**	*e*PKPdf	**PKPdf**	**16 11 16.0**	**+1.0**
POLO				*i* LQ	LQ	16 11 26.6	
POLO	**Lamas de Olo**	**157.12**	**20**	*e*PKPab	**PKPab**	**16 11 49.5**	**+0.3**
TIP	**Timpagrande**	**157.19**	**330**	PKPdf	**PKPdf**	**16 11 15.3**	**+0.2**
PVRL	**Vila Real**	**157.23**	**20**	*e*PKPdf	**PKPdf**	**16 11 16.0**	**+0.9**
PVRL	**Vila Real**	**157.23**	**20**	*e*PKPab	**PKPab**	**16 11 50.5**	**+0.9**
MVO	**Moncorvo**	**157.54**	**18**	*e*PKPdf	**PKPdf**	**16 11 16.6**	**+1.1**
MVO				*i* LQ	LQ	16 11 27.9	
MVO	**Moncorvo**	**157.54**	**18**	*e*PKPab	**PKPab**	**16 11 52.0**	**+1.0**
PVIS	**Viseu**	**157.68**	**21**	*e*PKPdf	**PKPdf**	**16 11 16.9**	**+1.2**
PVIS	**Viseu**	**157.68**	**21**	*e*PKPab	**PKPab**	**16 11 52.0**	**+0.4**
MTE	**Manteigas**	**158.08**	**20**	*e*PKPdf	**PKPdf**	**16 11 17.2**	**+1.0**
MTE	**Manteigas**	**158.08**	**20**	*e*PKPab	**PKPab**	**16 11 53.7**	**+0.3**
MTE	**Manteigas**	**158.08**	**20**	PKPdf	**PKPdf**	**16 11 16.4**	**+0.2**
PSBE	**So Bento**	**158.43**	**24**	*e*PKPab	**PKPab**	**16 11 55.6**	**+0.7**
PCBR	**Castelo Branco**	**158.61**	**21**	*e*PKPdf	**PKPdf**	**16 11 17.9**	**+1.2**
PCBR	**Castelo Branco**	**158.61**	**21**	*e*PKPab	**PKPab**	**16 11 56.2**	**+0.6**
PMAFR	**Mafra**	**158.72**	**25**	*e*PKPdf	PKPdf	16 11 28.4	+11
PMAFR	**Mafra**	**158.72**	**25**	*e*PKPab	**PKPab**	**16 11 57.2**	**+1.1**
PMRV	**Marv??o**	**159.00**	**21**	*e*PKPdf	**PKPdf**	**16 11 18.2**	**+0.9**
PMRV	**Marv??o**	**159.00**	**21**	*e*PKPab	**PKPab**	**16 11 57.7**	**+0.3**
PMTG	**Montargil**	**159.03**	**23**	*e*PKPdf	**PKPdf**	**16 11 17.6**	**+0.3**
PMTG	**Montargil**	**159.03**	**23**	*e*PKPab	**PKPab**	**16 11 57.5**	**0.0**
PESTR	**Estremoz**	**159.44**	**22**	*e*PKPdf	**PKPdf**	**16 11 18.7**	**+0.9**
PESTR	**Estremoz**	**159.44**	**22**	*e*PKPab	**PKPab**	**16 11 59.5**	**+0.2**
PESTR	**Estremoz**	**159.44**	**22**	PKPdf	**PKPdf**	**16 11 18.3**	**+0.5**
EVO	**Evora**	**159.58**	**23**	*e*PKPdf	**PKPdf**	**16 11 19.1**	**+1.2**
EVO	**Evora**	**159.58**	**23**	*e*PKPab	**PKPab**	**16 12 00.4**	**+0.5**
PNCL	**Nicolau / Gran**	**159.75**	**25**	*e*PKPdf	**PKPdf**	**16 11 19.3**	**+1.2**
PNCL	**Nicolau / Gran**	**159.75**	**25**	*e*PKPab	**PKPab**	**16 12 01.1**	**+0.5**
ESBB	**Sonseca Array**	**159.75**	**14**		**PKPdf**	**16 11 17.9**	**-0.2**
ESBB				PKPab	**PKPab**	**16 12 00.6**	**0.0**
ESDC	**Sonseca Array**	**159.75**	**14**	PKP	**PKPdf**	**16 11 18.2**	**0.0**
	comp=Z,4.2nm,0.9s,baz=344,slow=2.6,SNR=26						
ESDC				PKPab	**PKPab**	**16 12 00.9**	**+0.3**
	comp=Z,15nm,1.1s,baz=341,slow=4.2,SNR=21						
ESDC	**Sonseca Array**	**159.75**	**14**		**PKPdf**	**16 11 18.1**	**0.0**
ESDC					**PKPab**	**16 12 00.4**	**-0.2**
PAB	**San Pablo**	**159.78**	**15**	PKIKP	**PKPdf**	**16 11 17.8**	**-0.4**
PAB	**San Pablo**	**159.78**	**15**	PKPdf	**PKPdf**	**16 11 17.8**	**-0.4**
PBEJ	**Beja**	**160.08**	**24**	*e*PKPdf	**PKPdf**	**16 11 20.4**	**+1.9**
PBEJ	**Beja**	**160.08**	**24**	*e*PKPab	**PKPab**	**16 12 02.7**	**+0.6**
MESJ	**Messejana**	**160.10**	**25**	*e*PKP	**PKPdf**	**16 11 19.6**	**+1.1**
MESJ	**Messejana**	**160.10**	**25**	*e*PKPdf	**PKPdf**	**16 11 20.1**	**+1.6**
MESJ	**Messejana**	**160.10**	**25**	*e*PKPab	**PKPab**	**16 12 02.7**	**+0.5**
PTEO	**Sao Teotonio**	**160.15**	**26**	*e*PKPdf	**PKPdf**	**16 11 20.3**	**+1.7**
PBAR	**Barrancos**	**160.25**	**22**	*e*PKPdf	**PKPdf**	**16 11 19.9**	**+1.2**
PBAR				*i* LQ	LQ	16 11 42.6	
PBAR	**Barrancos**	**160.25**	**22**	*e*PKPab	**PKPab**	**16 12 03.5**	**+0.7**
PCVE	**Castro Verde**	**160.35**	**25**	*e*PKPdf	**PKPdf**	**16 11 20.2**	**+1.4**
PCVE				*i* LQ	LQ	16 11 44.5	
PCVE	**Castro Verde**	**160.35**	**25**	*e*PKPab	**PKPab**	**16 12 03.9**	**+0.6**
MORF	**Marmelete**	**160.38**	**27**	*e*PKP	**PKPdf**	**16 11 20.1**	**+1.1**
MORF	**Marmelete**	**160.38**	**27**	*e*PKPdf	**PKPdf**	**16 11 20.4**	**+1.5**
MORF	**Marmelete**	**160.38**	**27**	*e*PKPab	**PKPab**	**16 12 03.2**	**-0.3**
PFVI	**Vila Bisbo**	**160.46**	**27**	*e*PKPdf	**PKPdf**	**16 11 20.6**	**+1.7**
PVAQ	**Vaqueiros**	**160.68**	**24**	*e*PKPdf	**PKPdf**	**16 11 20.6**	**+1.5**
PVAQ	**Vaqueiros**	**160.68**	**24**	*e*PKPab	**PKPab**	**16 12 05.8**	**+1.1**
PBDV	**Barranco-do-Ve**	**160.73**	**25**	*e*PKPdf	**PKPdf**	**16 11 21.0**	**+1.7**
PBDV	**Barranco-do-Ve**	**160.73**	**25**	*e*PKPab	**PKPab**	**16 12 05.8**	**+0.8**
KEST	**Kesra**	**163.17**	**340**	PKP	**PKPdf**	**16 11 21.6**	**-0.2**
	comp=Z,9.0nm,1.0s,baz=345,slow=5.7,SNR=5.3						
KEST				PKPab	**PKPab**	**16 12 16.5**	**+0.7**
	comp=Z,12nm,0.8s,baz=16,slow=4.0,SNR=6.3						
KEST	**Kesra**	**163.17**	**340**	PKPdf	**PKPdf**	**16 11 20.9**	**-0.9**
KEST				PKPab	**PKPab**	**16 12 15.8**	**-0.1**
LIC	**Lamto**	**164.56**	**152**	*e*PKIKP	**PKPdf**	**16 11 23.7**	**+0.1**
	comp=Z,147nm,1.1s						
LIC	**Lamto**	**164.56**	**152**	*e*P	**PKPab**	**16 12 23.4**	**+1.1**
	comp=Z,41nm,1.3s						
KIC	**Kosan Boka**	**164.80**	**153**	*e*PKIKP	**PKPdf**	**16 11 23.9**	**+0.1**
	comp=Z,91nm,1.0s						
KIC	**Kosan Boka**	**164.80**	**153**	*e*P	**PKPab**	**16 12 24.8**	**+1.4**
	comp=Z,40nm,1.1s						
TIC	**Toumodi**	**164.93**	**151**	*e*PKIKP	**PKPdf**	**16 11 24.0**	**+0.1**
TIC	**Toumodi**	**164.93**	**151**	*e*P	**PKPab**	**16 12 25.2**	**+1.2**
DBIC	**Dimbokro**	**165.03**	**152**	PKP	**PKPdf**	**16 11 23.8**	**-0.1**
	comp=Z,25nm,0.9s,baz=246,slow=0.7,SNR=16						
DBIC				PKPab	**PKPab**	**16 12 26.1**	**+1.8**
	comp=Z,4.0nm,0.5s,baz=191,slow=3.2,SNR=6.1						
DBIC	**Dimbokro**	**165.03**	**152**		**PKPdf**	**16 11 23.2**	**-0.8**
KOWA	**Kowa**	**171.88**	**132**	PKP	**PKPdf**	**16 11 27.5**	**-0.8**
	comp=Z,20nm,0.9s,baz=101,slow=1.1						
TOA0	**Torodi Ar. Sit**	**173.11**	**176**		**PKPdf**	**16 11 27.8**	**-1.1**
TOA0					**PKPab**	**16 13 00.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**173.11**	**176**	PKP	**PKPdf**	**16 11 28.4**	**-0.5**
	comp=Z,24nm,0.9s,baz=315,slow=1.2,SNR=54						
TORD				PKPab	**PKPab**	**16 13 00.8**	**+0.8**
	comp=Z,5.5nm,0.9s,baz=170,slow=4.1,SNR=7.2						
TORD				PP	**PP**	**16 16 53.9**	**+2.9**
	comp=Z,3.7nm,0.9s,baz=171,slow=4.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**173.11**	**176**		**PKPdf**	**16 11 27.8**	**-1.1**
TAM	**Tamanrasset**	**175.88**	**312**	PKIKP	**PKPdf**	**16 11 29.9**	**+0.2**
TAM						16 13 13.2	
TAM	**Tamanrasset**	**175.88**	**312**		**PKPdf**	**16 11 29.9**	**+0.2**
TAM					**PKPab**	**16 13 13.2**	**+0.5**

DJA 08 15:57:46.6±0.2**, 0˚S**±2˚×**12˚7E**±˚**, h42**km±41km**, M4.1**/13**, mb4.4**/4**, mB4.8**/2**, MLv4.0**/13**, Mw(mB)4.0**/2**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**31**	P	Pn	15 58 07.0	-0.1
TNTI				S	Sn	15 58 22.0	-0.4
SANI	**Sanana**	**1.92**	**203**	P	Pn	15 58 16.0	-0.8
SANI				S	Sn	15 58 36.4	-3.3
KMSI	**Cibinong**	**2.90**	**287**	P	Pn	15 58 30.9	+0.7
KMSI				S	Sn	15 59 04.3	+0.4
NLAI	**Namlea**	**2.96**	**173**	P	Pn	15 58 31.4	+0.3
NLAI				S	Sn	15 59 02.8	-2.6
GTOI	**Gorontalo**	**3.85**	**284**	P	Pn	15 58 47.0	+3.7
GTOI				S	Sn	15 59 32.2	+4.9
SWI	**Sorong**	**4.55**	**97**	P	Pn	15 58 54.6	+1.7
APSI	**Ampana**	**5.14**	**263**	P	Pn	15 59 00.6	-0.5
	0.6nm906nm44nm,0.4s						
TTSI	**Tana Toraja**	**7.45**	**248**	P	Pn	15 59 33.3	+0.4
	0.2nm620nm23nm,0.8s						
BNSI	**Bone**	**7.80**	**238**	P	Pn	15 59 35.7	-1.9
SPSI	**Sidrap Palu**	**7.88**	**242**	P	Pn	15 59 40.4	+1.7

*DDA **08** 15:59:11.4, 39°.55N×28°.87E, h7km±2km, ML1.8*
*ISK **08** 15:59:11.5, 39°.53N×28°.83E, h5km, ML2.5/15*
ISC 08 15:59:11.6±1.0**, 39°.55N**±0°.03×**28°.87E**±0°.04**, h11**km±11km**,**
n20, σ0ˢ.42/26**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DST	Dursunbey	0.20	287	PG	Pg	15 59 15.7	-0.2
DST				SG	Sg	15 59 18.5	-0.3
DURS	Dursunbey	0.31	280	*i* P	Pg	15 59 18.0	+0.1
DURS				IAML		15 59 22.0	
	comp=E,98nm,0.2s						
DURS				*i* S	Sg	15 59 22.6	+0.6
DURS				IAML		15 59 23.0	
	comp=N,92nm,0.1s						
TVSB	Tavsanli	0.47	102	PG	Pg	15 59 20.6	-0.3
SIMA	Simav-Kutahya	0.47	169	PG	Pg	15 59 20.8	-0.1
SIMA				SG	Sg	15 59 27.4	+0.3
DEMI	Demirci	0.52	193	*i* P	Pb	15 59 22.5	-0.2
DEMI				*i* S	Sb	15 59 29.5	-0.8
DEMI				IAML		15 59 31.0	
	comp=E,72nm,0.4s						
DEMI				IAML		15 59 36.0	
	comp=N,47nm,0.3s						
SHAP	Saphane-Kutahy	0.59	152	PG	Pg	15 59 23.5	+0.4
SHAP				SG	Sb	15 59 31.7	-0.8
ULDT	Uludag	0.63	19	*i* P	Pg	15 59 23.5	-0.4
ULDT				IAML		15 59 32.0	
	comp=N,43nm,0.3s						
ULDT				IAML		15 59 32.0	
	comp=E,56nm,0.2s						
ULDT				*i* S	Sg	15 59 32.0	-0.2
IGD	Bursa	0.76	20	*i* P	Pg	15 59 25.9	-0.4
IGD				IAML		15 59 40.0	
	comp=E,37nm,0.2s						
IGD				IAML		15 59 41.0	
	comp=N,54nm,0.2s						
KCTX	Karacabey (Bur	0.82	332	PG	Pb	15 59 28.0	+0.1
GEMT	Gemlik	0.92	15	PG	Pb	15 59 30.5	+0.8
CAVI	Cavuskoy	1.00	49	PG	Pn	15 59 31.9	+0.2
KULA	Kula-Manisa	1.04	189	PG	Pb	15 59 32.0	+0.2
TRML	Termal-Yalova	1.09	12	PN	Pn	15 59 33.1	+0.2
YLV	Yalova	1.09	21	PN	Pg	15 59 32.5	-0.1
ADVT	Abdulvahap	1.11	37	PN	Pn	15 59 33.7	+0.5
SRCK	Saricakaya, Es	1.44	69	PN	Pg	15 59 39.2	-0.1
KAVV	Kandilli-Istan	1.52	6	PN	Pb	15 59 39.9	0.0
ISK	Istanbul-Kandi	1.52	5	PN	Pb	15 59 40.3	+0.3
GULT	Gulveren	1.54	55	PN	Pb	15 59 40.7	+0.3
SAUV	Serdivan-Sakar	1.64	43	PN	Pb	15 59 41.9	+0.1

IDC 08 16:04:43.4±1.4**, 15°.07S**×**177°.89W, h0**km**, mb3.8**/6**,**
mb1 4.1/7**, mb1mx3.7**/52**, mbtmp3.8**/7**, ML4.5**/1**, MS3.8**/11**,**
Ms1 3.8/11**, ms1mx3.6**/34**, Error ellipse: s-maj=109.4km**
s-min=21.0km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.71	235	Pn	Pn	16 05 57.6	+1.8
	0.8nm,0.3s,baz=80,slow=23,SNR=6.2						
MSVF				LR	LR	16 07 28.0	
	comp=Z,390nm,19.4s,baz=52,slow=35						
AFI	Afiamalu	6.03	80	LR	LR	16 07 42.3	
	comp=Z,604nm,19.1s,baz=250,slow=30						
RAO	Raoul Island	14.11	180	LR	LR	16 12 22.6	
	comp=Z,372nm,20.3s,baz=36,slow=32						
DZM	Mont Dzumac	16.40	243	LR	LR	16 13 52.3	
	comp=Z,340nm,18.5s,baz=56,slow=34						
DZM	Mont Dzumac	16.40	243	*e*LR	LR	16 12 47.0	
	comp=Z,346nm,23.9s						
HNR	Honiara	22.37	282	LR	LR	16 17 12.9	
	comp=Z,976nm,21.2s,baz=123,slow=34						
URZ	Urewera	23.52	190	LR	LR	16 17 15.2	
	comp=Z,282nm,18.2s,baz=31,slow=32						
PPT	Papeete	27.27	99	LR	LR	16 18 01.5	
	comp=Z,165nm,20.1s,baz=252,slow=29						
PPT2	Papeete2	27.27	99	*e*LR	LR	16 16 55.5	
	comp=Z,509nm,25.8s						
TBI	Tubuai	28.04	111	*e*LR	LR	16 17 10.0	
	comp=Z,381nm,26.0s						
STKA	Stephens Creek	40.48	238	P	P	16 12 23.5	-0.6
	4.3nm,1.0s,baz=84,slow=9.2,SNR=4.9						
RKT	Rikitea	41.21	108	*e*LR	LR	16 23 16.8	
	comp=Z,423nm,31.2s						
ASAR	Alice Springs	46.10	252	P	P	16 13 09.2	-0.5
	1.9nm,0.7s,baz=84,slow=8.4,SNR=38						
ASAR				LR	LR	16 31 01.6	
	comp=Z,149nm,19.3s,baz=100,slow=34						
KSRS	Korea Array	72.94	318	LR	LR	16 43 34.9	
	comp=Z,34nm,20.0s,baz=120,slow=32						
NVAR	Mina Array Bea	77.04	44	P	P	16 16 38.6	-0.1
	0.6nm,0.8s,baz=231,slow=7.4,SNR=3.6						
ILAR	Eielson Array	83.03	13	P	P	16 17 09.2	-1.0
	0.4nm,0.9s,baz=224,slow=5.0,SNR=2.7						
ILAR				LR	LR	16 47 06.2	
	comp=Z,55nm,19.5s,baz=252,slow=31						
TXAR	Lajitas Array	84.06	58	P	P	16 17 16.2	-0.2
	0.6nm,0.9s,baz=216,slow=7.5,SNR=4.1						
PDAR	Pinedale Array	84.96	43	P	P	16 17 21.6	+0.7
	0.4nm,0.9s,baz=228,slow=3.5,SNR=2.8						
YKA	Yellowknife Ar	91.56	25	LR	LR	16 52 03.5	
	comp=Z,99nm,21.0s,baz=0.0,slow=31						
GERES	GERESS Array B	145.00	347	PKPbc	PKPdf	16 24 22.7	-0.1
	0.7nm,0.9s,baz=354,slow=1.0,SNR=2.6						

ATH 08 16:08:30.6, 38°.42N×**20°.56E, h8**km±1km**, ML1.6**/2**, Error**
ellipse: s-maj=2.8km s-min=0.7km az=294.0, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FSK	Fiskardo	0.04	4	P	Pg	16 08 31.9	-0.3
FSK				S	Sg	16 08 33.2	-0.2
FSK				AML	AML	16 08 33.3	
	comp=N,1408μm,0.2s						
FSK				AML	AML	16 08 33.5	
	comp=E,2855μm,0.2s						
KEF5	Kardakata, Kep	0.16	207	P	Pg	16 08 33.8	-0.1
KEF5				S	Sg	16 08 36.7	+0.6
KEF4	Livadi, Kephal	0.19	214	P	Pg	16 08 34.6	+0.1
KEF4				S	Sg	16 08 37.7	+0.6
EVGI	Lefkada island	0.22	21	P	Pg	16 08 35.2	+0.2
EVGI				S	Sg	16 08 38.5	+0.5
DMLN	Damoulianata-K	0.23	219	P	Pg	16 08 35.0	-0.3
DMLN				S	Sg	16 08 39.0	+0.6
VLS	Valsamata	0.24	174	P	Pg	16 08 35.3	-0.1
VLS				S	Sg	16 08 39.4	+0.7
VLS				AML	AML	16 08 39.9	
	comp=N,306μm,0.2s						
VLS				AML	AML	16 08 41.0	
	comp=E,434μm,0.1s						
KEF3	Kipouria, Keph	0.27	218	P	Pg	16 08 35.2	-0.8
KEF3				S	Sg	16 08 39.1	-0.5
PSDA	Pessada-Kefalo	0.30	176	P	Pg	16 08 36.0	-0.6
NYDR	Nydri-Lefkada	0.32	20	P	Pg	16 08 36.6	-0.2
LKD2	Lefkada island	0.38	12	P	Pg	16 08 37.6	-0.4
TSLK	Tsoukalades, L	0.41	11	P	Pg	16 08 38.4	-0.3
PDO	Prodromos	0.52	70	P	Pg	16 08 40.3	-0.4
VLMS	Volimes, Zakyn	0.55	171	P	Pg	16 08 40.8	-0.4

*ATH **08** 16:10:31.1, 38°.30N×22°.21E, h11km±2km, ML2.4/2, Error ellipse: s-maj=2.6km s-min=0.8km az=322.0*
*THE **08** 16:10:32.9, 38°.13N×22°.19E, h10km±13km, ML3.1/3, Error ellipse: s-maj=13.9km s-min=2.0km az=10.0*
ISC 08 16:10:31.3±1.1**, 38°.28N**±0°.03×**22°.22E**±0°.02**, h4**km±9km**,**
n26, σ0ˢ.85/36**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KALE	Kalithea	0.13	330	P	Pg	16 10 33.7	-0.2
KALE				S	Sg	16 10 36.2	+0.5
KALE				AML	AML	16 10 36.4	
	comp=E,8765μm,0.2s						
KALE				AML	AML	16 10 37.8	
	comp=N,9645μm,0.4s						
TRIZ	Trizonia	0.14	306	P	Pg	16 10 34.0	-0.2
TRIZ				S	Sg	16 10 36.5	+0.5
LAKA	Lakka	0.19	258	P	Pg	16 10 35.0	-0.1
LAKA				S	Sg	16 10 38.5	+0.8
DSF	Desfina	0.27	62	P	Pg	16 10 36.5	-0.2
DSF				S	Pn	16 10 41.3	-0.8
DSF	Desfina	0.27	62	P	Pn	16 10 41.4	-0.8
DSF				S	Sb	16 10 45.8	+1.9
	comp=N,2μm,0.3s						
EFP	Efpalio	0.29	301	P	Pg	16 10 36.6	-0.3
EFP				S	Sg	16 10 40.8	+0.2
EFP				AML	AML	16 10 42.0	
	comp=N,1645μm,0.3s						
EFP				AML	AML	16 10 42.7	
	comp=E,1220μm,0.6s						
EFP	Efpalio	0.29	301	P	Pn	16 10 41.1	-1.2
EFP				S	Sb	16 10 46.0	+1.9
	comp=E,4μm,0.4s						
DLFA	Delphi	0.29	48	P	Pg	16 10 36.8	-0.2
DLFA				S	Sg	16 10 41.5	+0.6
UPR	University Cam	0.34	270	P	Pb	16 10 38.8	-1.1
ANX	Ano Chora	0.39	323	P	Pg	16 10 38.5	-0.4
THAL	Thalero	0.43	125	P	Pg	16 10 39.5	0.0
DRO	Drossia	0.52	231	P	Pg	16 10 40.9	-0.4
AXAR	Agios Charalam	0.59	35	P	Pg	16 10 42.2	-0.5
RLS	Riolos of Patr	0.63	250	P	Pg	16 10 43.1	-0.4
EVR	Evrytania	0.71	333	P	Pg	16 10 43.9	-1.1
EVR	Evrytania	0.71	333	P	Pn	16 10 48.8	+0.6
EVR				S	Sn	16 11 01.1	+1.4
	comp=E,2μm,0.7s						
LKR	Lokris	0.71	59	P	Pg	16 10 44.4	-0.6
LKR	Lokris	0.71	59	P	Pg	16 10 44.4	-0.6
LKR				S	Sn	16 10 58.5	-1.1
MAKR	Makrakomi, Fth	0.73	355	P	Pg	16 10 45.2	-0.3
AGG	Agios Georgios	0.74	7	P	Pg	16 10 44.5	-1.2
AGG	Agios Georgios	0.74	7	P	Pn	16 10 49.3	+0.7
ATAL	Atalanti	0.75	57	P	Pg	16 10 45.2	-0.5
PDO	Prodromos	0.87	292	P	Pg	16 10 47.7	-0.4
PDO	Prodromos	0.87	292	P	Pb	16 10 48.0	-1.0
EPID	Epidavros	0.97	133	P	Pg	16 10 49.9	-0.1
DION	Dionisos Attik	1.36	98	P	Pb	16 10 56.8	-0.6

JMA 08 16:32:34.4±0.1**, 39°.55N**×**140°.55E, h150**km±1km**, M2.3,**
Eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JRG	Rokugo	0.17	157	P	Pn	16 32 54.9	+0.3
JRG				S	Sn	16 33 10.4	+0.4
JYW	Yuwa	0.26	268	P	Pn	16 32 55.3	+0.5
JYW				S	Sn	16 33 11.1	+0.8
JOM	Ohasama	0.58	97	P	Pn	16 32 56.5	+0.4
JOM				*e*S	Sn	16 33 13.1	+0.4
JAH	Hinai	0.64	6	P	Pn	16 32 56.8	+0.3
JAH				S	Sn	16 33 13.8	+0.4
JYK	Kaneyama	0.65	193	P	Pn	16 32 56.7	+0.1
JYK				S	Sn	16 33 13.6	+0.1
JMK	Ichinoseki	0.79	139	P	Pn	16 32 57.7	+0.2
JMK				S	Sn	16 33 14.7	-0.4
JANG	Nango	1.11	42	P	Pn	16 33 00.1	0.0
JANG				S	Sn	16 33 19.3	-0.5
JIW	Iwasaki	1.12	338	P	Pn	16 33 00.4	+0.2
JYA	Atsumi	1.16	215	P	Pn	16 33 00.6	0.0
JYA				*e*S	Sn	16 33 20.6	+0.1

IDC 08 16:33:52.9±4.3**, 30°.60N**×**141°.01E, h0**km**, mb3.2**/2**,**
mb1 3.4/3**, mb1mx3.1**/49**, mbtmp3.2**/3**, ML2.3**/1**, Error**
ellipse: s-maj=238.0km s-min=34.2km az=79.0,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.37	339	Pn	Pn	16 35 27.8	-0.2
	0.1nm,0.3s,baz=157,slow=11,SNR=4.4						
WRA	Warramunga Arr	50.66	188	P	P	16 42 53.6	-0.4
	0.3nm,0.5s,baz=6.6,slow=7.5,SNR=10						
ASAR	Alice Springs	54.38	188	P	P	16 43 21.8	+0.2
	0.1nm,0.5s,baz=2.3,slow=5.7,SNR=8.9						

*IDC **08** 16:40:32.4±0.9, 35°.63N×27°.40E, h0km, mb3.7/12, mb1 3.8/18, mb1mx3.7/52, mbtmp3.7/18, ML3.5/6, MS3.4/3, Ms1 3.4/3, ms1mx2.8/49, Error ellipse: s-maj=22.3km s-min=13.8km az=174.0*
*NEIC **08** 16:40:36.5±1.5, 35°.36N±0°.07×27°.42E±0°.05, h27km±6km, mb4.1/20, ML4.0(CSEM), Error ellipse: s-maj=9.9km s-min=5.0km az=169.0*
*NIC **08** 16:40:36.2±0.0, 35°.37N×27°.49E, h21km±1km, Ml4.3/5*
*DDA **08** 16:40:37.9, 35°.66N×27°.28E, h28km±2km, MW4.0*
*ATH **08** 16:40:38.6, 35°.68N×27°.17E, h26km±4km, ML3.7/8, Error ellipse: s-maj=5.4km s-min=1.5km az=150.0*
*ISK **08** 16:40:38.5, 35°.61N×27°.29E, h26km, ML3.8/16*
*THE **08** 16:40:39.0, 35°.55N×27°.38E, h15km±1km, ML3.8/6, Error ellipse: s-maj=2.4km s-min=0.9km az=318.0*
*HLW **08** 16:40:39.6, 35°.20N×27°.64E, h17km±11km, Md3.9*
ISC 08 16:40:37.3±0.7**, 35°.47N**±0°.03×**27°.42E**±0°.03**, h31**km±4km**,**
n179, σ1ˢ.53/208**, mb3.9**/17**, 6C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.23	291	P	Pb	16 40 43.4	-0.6
KARP				S	Sb	16 40 47.4	-1.1
KARP				AML	AML	16 40 49.3	
	comp=N,82310μm,0.2s						
KARP				AML	AML	16 40 49.8	
	comp=E,78497μm,0.3s						
KARP	Karpathos	0.23	291	P	Pb	16 40 43.5	-0.5
KARP				S	Sb	16 40 47.7	-0.8
	comp=E,39μm,0.2s						
KARP	Karpathos	0.23	291	PG	Pb	16 40 43.7	-0.3
KARP				SG	Sb	16 40 47.5	-1.0
KARP	Karpathos	0.23	291	Pg	Pb	16 40 43.2	-0.8
KARP				Sg	Sb	16 40 47.7	-0.8
KARP	Karpathos	0.23	291	P	Pb	16 40 43.5	-0.5
KARP				S	Sb	16 40 48.6	+0.1
KARP				AML	AML	16 40 48.8	
	comp=E,82nm,0.2s						
KARP				AML	AML	16 40 48.8	
	comp=E,82nm,0.2s						
KARP				AML	AML	16 40 49.2	
	comp=E,78nm,0.3s						
KARP				AML	AML	16 40 49.2	
	comp=E,78nm,0.3s						
ARG	Arkhangelos	0.94	37	P	Pn	16 40 55.9	+1.5
ARG				S	Sn	16 41 08.6	+1.7
ARG				AML	AML	16 41 11.7	
	comp=E,22291μm,0.6s						
ARG				AML	AML	16 41 13.3	
	comp=N,13645μm,0.6s						
ARG	Arkhangelos	0.94	37	P	Pn	16 40 55.9	+1.5
ARG				S	Sn	16 41 08.9	+2.0
	comp=N,10μm,0.7s						
ARG	Arkhangelos	0.94	37	PG	Pn	16 40 55.9	+1.5
ARG				SG	Sn	16 41 08.7	+1.9
ARG	Arkhangelos	0.94	37	⇑P	Pn	16 40 55.6	+1.2
ARG				S	Sn	16 41 08.8	+2.0
ZKR	Zakros	1.04	251	P	Pn	16 40 55.9	+0.2
ZKR				AML	AML	16 41 18.0	
	comp=E,16691μm,0.7s						
ZKR				AML	AML	16 41 18.4	
	comp=N,6822μm,0.6s						
ZKR	Zakros	1.04	251	P	Pn	16 40 56.3	+0.5
ZKR				S	Sb	16 41 13.2	+3.1
	comp=N,6μm,0.6s						
ZKR	Zakros	1.04	251	PG	Pn	16 40 56.5	+0.7
ZKR	Zakros	1.04	251	P	Pn	16 40 55.9	+0.2
ZKR				AML	AML	16 41 16.4	
	comp=N,16nm,0.7s						
ZKR				AML	AML	16 41 16.9	
	comp=N,6.6nm,0.6s						
STIA	Sitia Lasithi	1.12	257	P	Pn	16 40 57.6	+0.8
STIA				S	Sn	16 41 13.1	+2.0
NISR	Nisiros	1.17	348	P	Pn	16 40 55.9	-1.5
NISR	Nisiros	1.17	348	P	Pb	16 40 57.6	-1.3
NISR				S	Sn	16 41 12.8	+0.4
	comp=N,5μm,0.8s						
DATC	Datca-Mugla	1.31	9	PN	Pb	16 40 59.9	-1.3
KOSK	Kos Island	1.33	345	P	Pb	16 41 00.1	-1.6
KOSK	Kos Island	1.33	345	PN	Pn	16 40 58.9	-0.8
MRSB	Marmaris-Mugla	1.40	27	PN	Pb	16 41 02.1	-0.7
FRMA	Ierapetra Chan	1.45	252	P	Pn	16 41 01.9	+0.6
TURN	Turunc	1.47	27	PN	Pb	16 41 03.2	-0.8
TURN	Turunc	1.47	27	*i* P	Pb	16 41 03.7	-0.2
TURN				*i* S	Sb	16 41 20.9	-1.4
TURN				IAML		16 41 26.0	
	comp=N,1μm,0.6s						
TURN				IAML		16 41 28.0	
	comp=E,1μm,0.4s						
NPS	Neapolis	1.49	263	P	Pn	16 41 03.0	+1.1
NPS				AML	AML	16 41 29.3	
	comp=E,6818μm,0.5s						
NPS				AML	AML	16 41 32.2	
	comp=N,6433μm,0.6s						
NPS	Neapolis	1.49	263	P	Pn	16 41 04.0	+2.1
BODT	Bodrum	1.60	357	P	Pn	16 41 02.6	-0.8
BODT				S	Sb	16 41 24.1	-1.8
BODT	Bodrum	1.60	357	PN	Pn	16 41 02.9	-0.5
BDRM	Kayabasi	1.60	1	*i* P	Pn	16 41 03.8	+0.4
BDRM				*i* S	Sb	16 41 23.0	-2.9
BDRM				IAML		16 41 31.0	
	comp=E,538nm,0.7s						
BDRM				IAML		16 41 32.0	
	comp=N,549nm,0.4s						
LAST	Lasithi	1.62	260	P	Pn	16 41 05.4	+1.7
LAST				AML	AML	16 41 35.5	
	comp=E,3496μm,0.7s						
LAST				AML	AML	16 41 45.1	
	comp=N,3805μm,0.8s						
LAST	Lasithi	1.62	260	P	Pn	16 41 05.7	+2.0
LAST				S	Sn	16 41 26.6	+3.1
	comp=N,2μm,0.6s						
DALY	Dalyan (Mula)	1.68	36	PN	Pb	16 41 06.7	-0.8
DALY	Dalyan (Mula)	1.68	36	*i* P	Pb	16 41 07.0	-0.6
DALY				*i* S	Sb	16 41 30.2	+2.0
DALY				IAML		16 41 35.0	
	comp=N,1μm,0.4s						
DALY				IAML		16 41 35.0	
	comp=E,840nm,0.6s						
FETY	Fethiye	1.78	49	P	Pn	16 41 06.6	+0.6
FETY	Fethiye	1.78	49	PN	Pb	16 41 07.9	-1.4
YER	Yerkesik	1.81	22	P	Pb	16 41 08.0	-1.8
YER	Yerkesik	1.81	22	PN	Pb	16 41 07.9	-1.8
SANT	Santorini	1.83	300	P	Pn	16 41 06.5	-0.1
SANT				AML	AML	16 41 36.1	
	comp=E,3682μm,0.3s						
SANT				AML	AML	16 41 38.4	
	comp=N,1657μm,0.5s						
SANT	Santorini	1.83	300	P	Pn	16 41 07.1	+0.5
SANT	Santorini	1.83	300	PN	Pn	16 41 07.3	+0.7
SANT	Santorini	1.83	300	Pn	Pn	16 41 06.7	+0.1
THR8	Santorini-Mono	1.83	301	P	Pn	16 41 06.9	+0.3
MLSB	Milas	1.85	9	PN	Pb	16 41 08.1	-2.4
THR6	Thira Island,	1.87	299	P	Pn	16 41 07.7	+0.6
SNT1	Gialos, Santor	1.87	301	P	Pn	16 41 07.5	+0.3
SNT1	Gialos, Santor	1.87	301	P	Pn	16 41 07.6	+0.4
THR7	Fira-Santorini	1.88	301	P	Pn	16 41 07.8	+0.6
THR2	Thira island,	1.88	302	P	Pn	16 41 07.8	+0.5
KSL	Kastellorizon	1.89	68	⇑P	Pn	16 41 08.2	+0.8
THT2	Imerovigli	1.89	301	P	Pn	16 41 08.0	+0.6
THT2	Imerovigli	1.89	301	PN	Pn	16 41 07.9	+0.6
THR3	Thira Island,	1.89	300	P	Pn	16 41 07.8	+0.4
SNT5	Nea Kammeni, S	1.89	300	P	Pn	16 41 07.7	+0.2
SNT5	Nea Kammeni, S	1.89	300	P	Pn	16 41 07.8	+0.4
THR9	Santorini-Faro	1.90	299	P	Pn	16 41 07.8	+0.3
HRKL	Herakleio	1.90	266	PN	Pn	16 41 09.4	+1.9
MULA	Mugla, Merkez-	1.93	22	*i* P	Pb	16 41 10.1	-1.7
MULA				IAML		16 41 42.0	
	comp=N,594nm,0.8s						
MULA				IAML		16 41 44.0	
	comp=E,935nm,0.5s						
THR5	Thira Island,	1.93	300	P	Pn	16 41 08.6	+0.6
AKAS	Kas	1.93	66	Pn	Pn	16 41 08.3	+0.2
SAP3	Santorini-Thir	1.94	301	P	Pn	16 41 08.5	+0.4
DDIM	Aydin, Didim	1.99	356	*i* P	Pb	16 41 10.2	-2.7
DDIM				*i* S	Sb	16 41 33.6	-3.6
DDIM				IAML		16 41 44.0	
	comp=N,539nm,1.2s						
DDIM				IAML		16 41 44.0	
	comp=E,426nm,0.8s						
IDI	Anoyia	2.07	266	Pn	Pn	16 41 10.6	+0.6
	comp=E,36nm,0.3s,baz=67,slow=14,SNR=53						
IDI				Sn	Sn	16 41 35.9	+1.1
	comp=E,63nm,0.3s,baz=254,slow=16,SNR=7.6						
IDI				LR	LR	16 42 15.3	
	comp=E,302nm,19.4s,baz=55,slow=50						
IDI	Anoyia	2.07	266	P	Pn	16 41 11.4	+1.4
IDI				AML	AML	16 41 44.1	
	comp=N,2420μm,0.5s						
IDI				AML	AML	16 41 46.6	
	comp=E,1704μm,0.6s						
IDI	Anoyia	2.07	266	P	Pn	16 41 11.9	+1.9
IDI	Anoyia	2.07	266	PN	Pn	16 41 11.7	+1.7
SIVA	Sivas	2.18	259	P	Pn	16 41 14.5	+3.1
APE	Apeiranthos	2.21	317	P	Pn	16 41 11.6	-0.3
APE				AML	AML	16 41 41.5	
	comp=E,1581μm,0.3s						
APE				AML	AML	16 41 41.9	
	comp=N,1224μm,0.2s						
APE	Apeiranthos	2.21	317	P	Pn	16 41 11.9	0.0
APE	Apeiranthos	2.21	317	PN	Pn	16 41 11.4	-0.5
GCAM	G?zelcaml?	2.24	356	PN	Pn	16 41 13.3	+1.2
GCAM	G?zelcaml?	2.24	356	*i* P	Pn	16 41 12.9	+0.8
GCAM				IAML		16 41 43.0	
	comp=N,219nm,0.7s						
GCAM				IAML		16 42 01.0	
	comp=E,230nm,0.7s						
CAEL	Denizli, Camel	2.26	42	*i* P	Pn	16 41 15.0	+2.4
CAEL				*i* S	Sb	16 41 51.5	+6.5
SMG	Samos	2.29	348	P	Pn	16 41 13.3	+0.3
SMG	Samos	2.29	348	P	Pn	16 41 13.2	+0.3
TAVA	DENIZLI_Tavas	2.33	31	*i* P	Pn	16 41 15.7	+2.1
TAVA				*i* S	Sb	16 41 44.8	-2.3
TAVA				IAML		16 41 51.0	
	comp=N,721nm,0.7s						
TAVA				IAML		16 41 52.0	
	comp=E,711nm,0.6s						
ELL	Elmali	2.39	57		Pn	16 41 15.3	+0.9
GOLH	Golhisar	2.47	44	*i* P	Pn	16 41 18.3	+2.8
GOLH				*i* S	Sb	16 41 54.7	+3.5
GOLH				IAML		16 41 59.0	
	comp=E,333nm,1.0s						
GOLH				IAML		16 42 14.0	
	comp=N,645nm,0.9s						
AYDB	Zeytinkoy-Aydi	2.51	9	PN	Pn	16 41 17.0	+1.0
AKUM	Antalya-Kumluc	2.52	69	*i* P	Pn	16 41 17.8	+1.7
AKUM				IAML		16 42 25.0	
	comp=E,127nm,0.7s						
AKUM				IAML		16 42 40.0	
	comp=N,97nm,1.2s						
DGB	zmir	2.62	351	*i* P	Pn	16 41 17.9	+0.6
DGB				IAML		16 42 06.0	
	comp=E,115nm,0.9s						
DGB				IAML		16 42 09.0	
	comp=N,82nm,0.8s						
VAM	Vamos	2.63	270	P	Pn	16 41 20.5	+2.9
GVDS	Gavdos	2.80	258	PN	Pn	16 41 22.4	+2.5
IMMV	Iera Moni Meta	2.81	271	PN	Pn	16 41 21.8	+1.8
BLCB	Balcova	2.93	354	PN	Pn	16 41 22.3	+0.6
URLA	Izmir	2.96	347	PN	Pn	16 41 22.6	+0.4
KNDR	Palaiochora Ch	3.06	267	PN	Pn	16 41 26.1	+2.6
CHOS	Chios island	3.11	340	PN	Pn	16 41 24.6	+0.3
MANT	Manisa	3.15	16	Pn	Pn	16 41 26.3	+1.3
KULA	Kula-Manisa	3.20	18	P	Pn	16 41 26.9	+1.4
KULA				S	Sn	16 42 03.0	+0.3
KHAL	Karahalli	3.34	29	*i* P	Pn	16 41 28.3	+0.8
KHAL				IAML		16 42 30.0	
	comp=E,147nm,0.9s						
KHAL				IAML		16 42 36.0	
	comp=N,75nm,0.8s						
ISP	Isparta	3.43	46	Pn	Pn	16 41 29.8	+1.1
KTHA	Kythira Island	3.63	284	PN	Pn	16 41 32.9	+1.6
KEPZ	Antalya-Kepez	3.68	66	*i* P	Pn	16 41 34.2	+2.2
KEPZ				IAML		16 42 23.0	
	comp=E,60nm,0.5s						
KEPZ				IAML		16 42 41.0	
	comp=N,65nm,0.9s						
DEMI	Demirci	3.72	16	*i* P	Pn	16 41 34.3	+1.7
DEMI				IAML		16 42 20.0	
	comp=E,97nm,0.8s						
OSC1	CSNet OBS 1	3.74	120	P	Pn	16 41 31.9	-0.9
OSC1				S	Sn	16 42 14.7	-1.1
VLI	Veliai	3.84	290	P	Pn	16 41 35.4	+1.2
VLI				S	Sn	16 42 18.4	+0.1
	comp=E,202nm,0.7s						
SEDI	Konya, Seydise	4.02	59	*i* P	Pn	16 41 39.5	+2.8
SEDI				IAML		16 42 32.0	
	comp=E,99nm,0.5s						
SEDI				IAML		16 42 33.0	
	comp=N,97nm,0.4s						
AKMS	Akamas	4.05	95	P	Pn	16 41 36.6	-0.5
AKMS				S	Sn	16 42 23.6	+0.2
AKMS				AML	AML	16 42 25.1	
	comp=N,1.2nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKMS				AML	AML	16 42 25.1	
	comp=N,1.2nm,0.7s						
AKMS				AML	AML	16 42 27.5	
	comp=N,1.5nm,0.5s						
AKMS				AML	AML	16 42 27.5	
	comp=N,1.5nm,0.5s						
GAZI	Gazipasa	4.05	78	*i* P	Pn	16 41 37.5	+0.3
GAZI				IAML		16 42 33.0	
	comp=E,92nm,0.7s						
GAZI				IAML		16 42 42.0	
	comp=N,96nm,0.6s						
ALFC	Alefka	4.25	93	⇑P	Pn	16 41 39.6	-0.2
ALFC				AML	AML	16 42 30.1	
	comp=N,1.7nm,0.5s						
ALFC				AML	AML	16 42 30.6	
	comp=N,1.3nm,0.6s						
NATA	Nata	4.28	98	P	Pn	16 41 40.2	0.0
SLUM	Salum	4.37	206	P	Pn	16 41 42.4	+0.9
	baz=210						
SLUM				S	Sn	16 42 29.0	-2.4
	baz=210						
ANDZ	Kutahya, Merke	4.49	25	*i* P	Pn	16 41 44.8	+1.5
ANDZ				IAML		16 43 14.0	
	comp=E,24nm,1.8s						
SZAC	Souni	4.53	97	⇑P	Pn	16 41 43.3	-0.5
SZAC				AML	AML	16 42 36.2	
	comp=E,1.0nm,1.0s						
SZAC				AML	AML	16 42 36.8	
	comp=E,1.3nm,0.6s						
ERMK	Ermenek	4.60	74	*i* P	Pn	16 41 46.9	+2.0
ERMK				IAML		16 42 45.0	
	comp=E,138nm,0.7s						
ERMK				IAML		16 42 57.0	
	comp=N,97nm,0.7s						
OSC2	CSNet OBS 4	4.67	119	P	Pn	16 41 43.9	-1.7
ITM	Ithomi	4.75	293	PN	Pn	16 41 48.6	+1.8
ITM	Ithomi	4.75	293	Pn	Pn	16 41 49.5	+2.7
ASGA	Asgata	4.83	96	P	Pn	16 41 47.4	-0.4
CSS	Mathiatis	4.87	94	Pn	Pn	16 41 47.6	-0.7
CSS	Mathiatis	4.87	94	⇑P	Pn	16 41 48.2	-0.2
MVOU	Mavrovouni	5.10	93	⇑P	Pn	16 41 51.5	-0.1
AGG	Agios Georgios	5.39	313	PN	Pn	16 41 57.3	+1.7
AGG	Agios Georgios	5.39	313	Pn	Pn	16 41 57.9	+2.3
ALN	Alexandroupoli	5.53	349	Pn	Pn	16 41 59.1	+1.7
MDUB	Mudurnu	5.82	30	Pn	Pn	16 42 02.3	+0.8
LIT	Litokhoron	6.05	321	Pn	Pn	16 42 05.7	+1.0
BR231	Keskin MP Arra	6.09	43	Pn	Pn	16 42 05.0	-0.3
SWA2		6.42	196	P	Pn	16 42 10.8	+1.1
	baz=198						
BR131	Keskin Array S	6.52	47		Pn	16 42 12.8	+1.7
BRTR	Keskin Array B	6.52	47	Pn	Pn	16 42 10.8	-0.4
	comp=N,0.6nm,0.3s,baz=216,slow=14,SNR=17						
BRTR				LR	LR	16 45 32.2	
	comp=N,182nm,20.8s,baz=204,slow=47						
BRTR	Keskin Array B	6.52	47	Pn	Pn	16 42 12.8	+1.7
HSAF	As Saff	6.79	148	P	Pn	16 42 15.1	+0.3
	baz=148						
GLL	Jalalah	6.90	147	P	Pn	16 42 16.1	-0.2
	baz=147						
MMAI	Mount Meron Ar	7.05	108	Pn	Pn	16 42 16.9	-1.5
	comp=N,3.7nm,0.3s,baz=307,slow=13,SNR=22						
MMAI				Sn	Sn	16 43 34.0	-3.5
	comp=N,7.6nm,0.3s,baz=302,slow=27,SNR=8.9						
VTS	Vitosha	7.85	337	Pn	Pn	16 42 32.1	+2.7
HFRF	Wahat Farafira	8.33	175	P	Pn	16 42 35.6	-0.2
	baz=175						
EIL	Elat	8.59	130	Pn	Pn	16 42 38.5	-0.9
	comp=N,0.8nm,0.3s,baz=350,slow=5.6,SNR=9.7						
EIL				Sn	Sn	16 44 11.3	-4.0
	comp=N,2.6nm,0.3s,baz=55,slow=21,SNR=8.7						
HBST	Basata	8.78	133	P	Pn	16 42 42.1	0.0
	baz=132						
TIP	Timpagrande	9.26	297	Pn	Pn	16 42 48.1	-0.6
TR1	Tor 1	9.28	141	P	Pn	16 42 48.1	-0.8
	baz=141						
MLR	Muntele Rosu	10.08	354	Pn	Pn	16 43 01.9	+2.0
RAFF	Raffo Rosso	10.68	283	Pn	Pn	16 43 07.1	-0.9
BURAR	Bucovina Array	12.25	353	Pn	Pn	16 43 33.3	+3.7
BUR08	Bucovina Ar. S	12.28	353	Pn	Pn	16 43 33.5	+3.5
KOLS	Kolonicke sedl	13.98	346	*e*PN	P	16 44 02.3	+1.5
KBZ	Khabaz	14.49	51	Pn	Pn	16 44 01.0	+0.9
	comp=N,0.0nm,0.3s,baz=218,slow=12,SNR=1.7						
KEST	Kesra	14.71	276	Pn	Pn	16 44 06.3	+3.1
	comp=N,0.5nm,0.3s,baz=57,slow=4.2,SNR=6.8						
KEST	Kesra	14.71	276	P	P	16 44 08.8	-0.2
VSL	Villasalto	14.88	291	P	P	16 44 11.4	+0.7
AKASG	Malin Array Be	15.29	4	Pn	Pn	16 44 11.8	+1.1
	comp=N,1.4nm,0.3s,baz=194,slow=11,SNR=5.8						
ZOU	Zoufplan	15.52	320	P	P	16 44 18.6	+0.6
ZOU				IAmb	IAmb	16 44 41.7	
	comp=Z,18nm,1.5s						
VLC	Villacollemand	15.68	309	P	P	16 44 20.4	+0.7
VLC				IAmb	IAmb	16 44 41.2	
	comp=Z,34nm,1.5s						
OJC	Ojcow	15.76	342	P	P	16 44 21.4	+1.0
CTI	Castel Tesino	15.92	316	P	P	16 44 23.6	+1.1
CTI				IAmb	IAmb	16 44 24.6	
	comp=Z,14nm,1.3s						
GERES	GERESS Array B	16.76	327	Pn	Pn	16 44 29.2	-0.5
	comp=Z,0.1nm,0.3s,baz=144,slow=9.3,SNR=8.0						
DPC	Dobruska-Polom	16.92	335	*e*P	P	16 44 35.6	+2.2
KHC	Kasperske Hory	17.03	328	*e*P	Pn	16 44 33.4	+0.4
KHC				*e*pP	pP	16 44 42.4	0.0
KHC	Kasperske Hory	17.03	328	Pn	Pn	16 44 33.7	+0.7
TUE	Stuetta	17.48	314		P	16 44 40.3	+0.5
TUE				IAmb	IAmb	16 45 07.4	
	comp=Z,12nm,1.4s						
SENIN	Lac Senin/Sane	18.65	312	P	P	16 44 51.8	-0.8
SENIN				IAmb	IAmb	16 44 53.0	
	comp=Z,7.8nm,1.2s						
ESBB	Sonseca Array	25.16	289	P	P	16 45 59.7	0.0
ESBB				IAmb	IAmb	16 46 02.3	
	comp=Z,2.4nm,1.1s						
ESDC	Sonseca Array	25.16	289	P	P	16 45 58.5	-1.3
	comp=Z,1.3nm,0.6s,baz=82,slow=9.6,SNR=24						
ESDC	Sonseca Array	25.16	289	P	P	16 45 59.5	-0.2
ESDC				IAmb	IAmb	16 46 10.2	
	comp=Z,6.8nm,1.4s						
PAB	San Pablo	25.46	289	P	P	16 46 01.5	-1.0
PAB				IAmb	IAmb	16 46 15.6	
	comp=Z,9.5nm,1.5s						
FINES	FINESS Array B	26.01	359	P	P	16 46 04.8	-2.4
	comp=Z,5.0nm,1.0s,baz=169,slow=9.6,SNR=4.7						
FINES	FINESS Array B	26.01	359	P	P	16 46 05.3	-1.9
FIA1	FINESS Array S	26.01	359	P	P	16 46 06.0	-1.1
HFS	Hagfors	26.24	344	P	P	16 46 06.8	-2.5
	comp=Z,2.8nm,0.8s,baz=149,slow=10,SNR=7.8						
NAO01	NORSAR Array S	27.52	342	P	P	16 46 20.6	-0.3
TOA0	Torodi Ar. Sit	32.12	233	P	P	16 47 01.1	-0.8
TOA0				IAmb	IAmb	16 47 06.0	
	comp=Z,7.5nm,1.4s						
TORD	Torodi Ar. Bea	32.12	233	P	P	16 47 02.0	0.0
	comp=Z,0.8nm,0.5s,baz=38,slow=8.3,SNR=2.5						
TORD	Torodi Ar. Bea	32.12	233	P	P	16 47 01.6	-0.3
ARCES	ARCESS Array B	34.14	359	P	P	16 47 21.1	+2.1
MK31	Makanchi Array	42.06	57	P	P	16 48 25.6	-0.5
MKAR	Makanchi Array	42.06	57	P	P	16 48 26.1	+0.1
	comp=Z,0.5nm,0.5s,baz=274,slow=7.4,SNR=9.6						
MKAR	Makanchi Array	42.06	57	P	P	16 48 26.0	-0.1
ZALV	Zalesovo Beam	43.46	46	P	P	16 48 36.0	-1.2
	comp=Z,0.4nm,0.5s,baz=255,slow=11,SNR=2.3						
WMQ	Urumqi	46.25	60	*e*P	P	16 49 00.9	+1.2
SONM	Songino Array	57.86	51	P	P	16 50 26.6	+0.5
	comp=Z,0.1nm,0.4s,baz=278,slow=9.6,SNR=2.3						
FRB	Frobisher Bay	61.34	330	LR	LR	17 16 59.5	
	comp=Z,104nm,18.2s,baz=322,slow=36						
HHC	Hu-ho-hao-te	63.93	57	*e*P	P	16 51 08.2	+0.8
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,7.1s						
CMAR	Chiang Mai Arr	64.70	85	P	P	16 51 12.4	-0.2
	comp=Z,0.3nm,0.5s,baz=316,slow=6.0,SNR=5.1						
G65A	Princeton	69.00	311	P	P	16 51 39.7	+0.1
C36M	Paulatuk	73.41	350	P	P	16 52 03.9	-1.9
C36M				IAmb	IAmb	16 52 26.9	
	comp=Z,6.7nm,1.5s						
USA0B	Ussuriysk Arra	75.31	46	P	P	16 52 16.9	-0.5
USRK	Ussuriysk Ar.	75.31	46	P	P	16 52 17.1	-0.3
	comp=Z,0.9nm,0.4s,baz=282,slow=4.5,SNR=11						
KSRS	Korea Array	76.62	54	P	P	16 52 24.9	-0.1
	comp=Z,0.5nm,0.4s,baz=312,slow=3.8,SNR=4.6						
YKA	Yellowknife Ar	77.71	343	P	P	16 52 28.7	-1.9
	comp=Z,0.1nm,0.4s,baz=44,slow=5.5,SNR=1.8						
ILAR	Eielson Array	79.99	358	P	P	16 52 41.2	-2.0
	comp=Z,0.3nm,0.7s,baz=352,slow=3.4,SNR=1.8						

TUL ***08*** *16:48:08.4±1.1, 35.˚64N±0.˚02×97.˚27W±0.˚03, h6km±6km, ML3.6, mb_Lg3.5/117(NEIC), Mwr3.3/9(SLM), Error ellipse: s-maj=3.3km s-min=3.2km az=67.0*

NEIC ***08*** *16:48:08.4, 35.˚65N×97.˚26W, h4km, Moment Tensor Solution. Moment tensor: Scale 10[14]Nm; Mrr0.10; Mθθ0.77; Mφφ-0.87; Mrθ0.28; Mθφ-0.63; Mφr-0.16; Fault plane solution: M₀1.08000×10[14] NP1:φs62.00000°, δ75.00000°, λ170.00000°. NP2:φs155.00000°, δ80.00000°, λ15.00000°. Principal axes: T 1.0840, Plg18.0000°, Azm19.0000°; N 0.0002, Plg72.0000°, Azm188.0000°; P -1.0842, Plg3.0000°, Azm288.0000°;*

ANF ***08*** *16:48:08.5±0.2, 35.˚66N×97.˚26W, h6km, ML4.2/19 Error ellipse: s-maj=3.1km s-min=2.5km az=160.0*

NEIC ***08*** *16:48:08.4±1.0, 35.˚65N±0.˚01×97.˚27W±0.˚04, h8km±5km, Error ellipse: s-maj=5.0km s-min=1.9km az=75.0*

IASPEI ***08*** *16:48:08.2±1.0, 35.˚64N±0.˚03×97.˚27W±0.˚03, h10km±6km, Error ellipse: s-maj=4.8km s-min=3.7km az=138.7, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

IDC ***08*** *16:48:10.2±1.2, 35.˚77N×97.˚49W, h0km, mb1 3.7/4, mb1mx3.3/49, mbtmp3.3/4, ML3.8/3, Error ellipse: s-maj=17.5km s-min=12.5km az=174.0*

ISC 08 16:48:08.6±0.8**, 35.˚64N**±0.˚03×**97.˚25W**±0.˚02**, h9**km±5km**, n128, σ0.S74**/117**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK005	Luther M Schoo	0.05	72	Pg	Pg	16 48 10.7	+0.1
OK005				Sg	Sg	16 48 12.1	+0.1
OK001	Jones High Sch	0.08	203	Pg	Pg	16 48 10.4	-0.6
OK001				Sg	Sg	16 48 11.8	-0.8
OK025	Westminster Rd	0.09	231	Pg	Pg	16 48 10.3	-0.7
OK025				Sg	Sg	16 48 11.7	-1.1
OK009	Oakdale Elemen	0.15	248	Pg	Pg	16 48 11.5	-0.5
OK029	Liberty Lake	0.23	313		Pg	16 48 13.0	-0.4
OK029				Sg	Sg	16 48 16.3	-0.2
OKCFA	Oklahoma City	0.28	216		Pg	16 48 13.8	-0.4
OKCFA				Sg	Sg	16 48 17.8	-0.2
OKCSW	OKLAHOMA CITY	0.28	213		Pg	16 48 13.8	-0.5
OKCSW				Sg	Sg	16 48 17.8	-0.3
BCOK	Bluff Creek, N	0.29	274		Pg	16 48 13.9	-0.6
FNO	Franklin	0.40	198		Pg	16 48 16.6	+0.1
OK031	S. Brethren Rd	0.46	47		Pg	16 48 17.8	+0.2
OK031				Sg	Sg	16 48 24.3	+0.6
QUOK	Quay	0.69	39		Pg	16 48 21.7	-0.3
QUOK				Sg	Sg	16 48 31.4	+0.4
CROK	Carrier	1.05	326	Pg	Pg	16 48 27.9	-0.9
CROK				Sg	Sg	16 48 41.4	-1.1
TUL1	Leonard	1.22	77	Pg	Pg	16 48 30.7	-1.3
TUL1				Sg	Sg	16 48 47.5	-0.3
TUL1	Leonard	1.22	77	P	Pg	16 48 30.7	-1.3
	baz=258						
TUL1				S	Sg	16 48 47.7	-0.1
	baz=258						
TUL1	Leonard	1.22	77	P		16 48 30.7	
	baz=258,SNR=67						
TUL1				S		16 48 47.8	
	baz=258						
TUL1	Leonard	1.22	77	P		16 48 30.7	
	baz=258						
TUL1				S		16 48 47.7	
	baz=258						
GC02	Grant County #	1.31	338		Pn	16 48 32.7	-0.3
KAN13	South Haven SW	1.38	352		Pn	16 48 34.0	-0.1
OK032	Salt Plains WL	1.40	327		Pn	16 48 33.9	-0.4
T35A	Sooner Cattle	1.41	25	Pn	Pn	16 48 34.1	-0.3
T35B	Sooner Cattle	1.41	25	P	Pn	16 48 34.4	-0.1
	baz=206						
T35B				S	Sg	16 48 53.7	-0.3
	baz=206						
T35B	Sooner Cattle	1.41	25	P		16 48 34.4	
	baz=206						
T35B				S		16 48 53.7	
	baz=206						
KAN09	Caldwell North	1.52	349		Pn	16 48 36.2	+0.1
WMOK	Wichita Mounta	1.54	235	Pn	Pn	16 48 35.7	-0.6
WMOK	Wichita Mounta	1.54	235	P	Pn	16 48 35.7	-0.6
	baz=54						
WMOK				S	Sn	16 48 56.3	-0.2
	baz=54						
WMOK	Wichita Mounta	1.54	235	P		16 48 35.7	
	baz=54						
WMOK				S		16 48 56.3	
	baz=54						
WMOK	Wichita Mounta	1.54	235	P		16 48 35.7	
	baz=54						
WMOK				S		16 48 56.3	
	baz=54						
KAN05	Bluff City Nor	1.55	341		Pn	16 48 36.6	+0.2
KAN01	Argonia South	1.57	345		Pn	16 48 36.8	+0.2
U32A	Winter Ranch,	1.60	298		Pn	16 48 37.0	-0.1
U32A	Winter Ranch,	1.60	298	P	Pn	16 48 37.2	0.0
	baz=118						
U32A				Sb	Sg	16 48 59.5	-0.7
	baz=118						
U32A	Winter Ranch,	1.60	298	P		16 48 37.2	
	baz=118						
U32A				Sb		16 48 59.5	
	baz=118						
KS20	Mayfield South	1.61	351		Pn	16 48 37.2	0.0
KS20				IAmb_Lg		16 49 02.5	
	comp=Z,223nm,0.7s						
KAN10	Anthony SW Sta	1.63	336		Pn	16 48 37.6	0.0
KAN08	Anthony NE Sta	1.69	340	Pn	Pn	16 48 38.1	-0.2
X37A	Clayton	1.86	124		Pn	16 48 41.4	+0.8
X37A	Clayton	1.86	124	P	Pn	16 48 41.5	+0.8
	baz=304,SNR=189						
X37A	Clayton	1.86	124	P		16 48 41.5	
	baz=304,SNR=189						
Z35A	Perchaven, San	2.30	180	Pn	Pn	16 48 47.3	+0.6
Z35A				IAmb_Lg		16 49 22.2	
	comp=Z,112nm,0.7s						
Z35A	Perchaven, San	2.30	180	P	Pn	16 48 47.8	+1.1
	baz=360,SNR=41						
Z35A				S	Sb	16 49 18.4	-0.5
	baz=360						
Z35A	Perchaven, San	2.30	180	P		16 48 47.8	
	baz=360,SNR=41						
Z35A				S		16 49 18.4	
	baz=360						
U38A	Gravette	2.46	70	Pn	Pn	16 48 50.0	+1.1
U38A	Gravette	2.46	70	P	Pn	16 48 50.0	+1.1
	baz=252,SNR=98						
U38A	Gravette	2.46	70	P		16 48 50.0	
	baz=252,SNR=98						
HHAR	Hobbs	2.76	76		Pn	16 48 53.3	+0.3
HHAR				IAmb_Lg		16 49 42.6	
	comp=Z,176nm,1.0s						
W39A	Magazine	2.87	98		Pn	16 48 54.9	+0.4
W39A				IAmb_Lg		16 49 47.6	
	comp=Z,106nm,0.7s						
W39A	Magazine	2.87	98	P	Pn	16 48 55.1	+0.6
	baz=280,SNR=30						
W39A	Magazine	2.87	98	P		16 48 55.1	
	baz=280,SNR=21						
W39A				S		16 49 29.7	
	baz=280						
W39A	Magazine	2.87	98	P		16 48 55.1	
	baz=280,SNR=30						
R32A	Long Quarter,	3.01	338	Pn	Pn	16 48 56.7	+0.2
Z38A	Mt. Pleasant	3.02	141	Pn	Pn	16 48 56.6	-0.1
MIAR	Mount Ida	3.20	109		Pn	16 49 00.2	+1.0
MIAR	Mount Ida	3.20	109	P	Pn	16 49 00.1	+1.0
	baz=291,SNR=40						
MIAR	Mount Ida	3.20	109	P		16 49 00.6	
	baz=291,SNR=13						
MIAR				S		16 49 39.2	
	baz=291						
MIAR	Mount Ida	3.20	109	P		16 49 00.1	
	baz=291,SNR=40						
KSU1	Kansas State U	3.49	8		Pn	16 49 03.5	+0.4
KSU1				IAmb_Lg		16 50 02.2	
	comp=Z,142nm,0.9s						
KSU1	Kansas State U	3.49	8	P	Pn	16 49 03.6	+0.4
	baz=189						
KSU1	Kansas State U	3.49	8	P		16 49 03.8	
	baz=189,SNR=18						
KSU1				Sb		16 49 58.0	
	baz=189						
KSU1	Kansas State U	3.49	8	P		16 49 03.6	
	baz=189						
ABTX	Abilene, Hawle	3.60	214	Pn	Pn	16 49 04.5	-0.2
ABTX	Abilene, Hawle	3.60	214	P	Pn	16 49 04.7	0.0
	baz=32						
ABTX	Abilene, Hawle	3.60	214	S		16 49 48.7	
	baz=32						
ABTX	Abilene, Hawle	3.60	214	P		16 49 04.7	
	baz=32						
U40A	Yellville	3.64	77		Pn	16 49 05.2	+0.1
U40A				IAmb_Lg		16 50 11.0	
	comp=Z,81nm,0.8s						
U40A	Yellville	3.64	77	P	Pn	16 49 05.3	+0.2
	baz=260,SNR=12						
U40A	Yellville	3.64	77	P		16 49 05.5	
	baz=260,SNR=14						
U40A	Yellville	3.64	77	P		16 49 05.3	
	baz=260,SNR=12						
U40A				P		16 49 05.3	
	baz=260,SNR=12						
WHTX	Lake Whitney,	3.64	183		Pn	16 49 05.0	-0.1
WHTX	Lake Whitney,	3.64	183	P	Pn	16 49 05.6	+0.4
	baz=2.3,SNR=38						
WHTX	Lake Whitney,	3.64	183	Pn		16 49 05.8	
	baz=2.3						
WHTX				Pb		16 49 12.2	
	baz=2.3,SNR=22						
WHTX				Sb		16 49 59.7	
	baz=2.3						
WHTX	Lake Whitney,	3.64	183	P		16 49 05.6	
	baz=2.3,SNR=38						
AMTX	Amarillo	3.70	260	Pn	Pn	16 49 06.3	+0.2
AMTX	Amarillo	3.70	260	P	Pn	16 49 07.2	+1.1
	baz=77,SNR=18						
AMTX	Amarillo	3.70	260	Pn		16 49 07.2	
	baz=77						
AMTX				Pb		16 49 14.0	
	baz=77						
AMTX				S		16 49 51.6	
	baz=77						
AMTX	Amarillo	3.70	260	P		16 49 07.2	
	baz=77,SNR=18						
CBKS	Cedar Bluff	3.74	329	Pn	Pn	16 49 06.7	+0.2
CBKS				IAmb_Lg		16 50 15.3	
	comp=Z,147nm,0.8s						
CBKS	Cedar Bluff	3.74	329	P	Pn	16 49 07.1	+0.6
	baz=148						
CBKS	Cedar Bluff	3.74	329	Pn		16 49 07.1	
	baz=148,SNR=11						
CBKS				Pb		16 49 15.9	
	baz=148						
CBKS				Sn		16 49 51.1	
	baz=148						
CBKS				Sb		16 50 05.3	
	baz=148						
CBKS	Cedar Bluff	3.74	329	P		16 49 07.1	
	baz=148						
S39A	Bolivar	3.76	56		Pn	16 49 07.0	+0.1
S39A				IAmb_Lg		16 50 11.9	
	comp=Z,112nm,0.7s						
X40A	Basin Creek Fa	3.80	106		Pn	16 49 08.2	+0.9
X40A				IAmb_Lg		16 50 10.4	
	comp=Z,88nm,0.8s						
237A	Washetta, Mont	3.82	161	Pn	Pn	16 49 07.5	-0.1
237A				IAmb_Lg		16 50 15.4	
	comp=Z,79nm,0.8s						
237A	Washetta, Mont	3.82	161	P	Pn	16 49 07.7	+0.1
	baz=342						
237A	Washetta, Mont	3.82	161	P		16 49 07.7	
	baz=342						
WLAR	White Oak Lake	3.93	119	Pn	Pn	16 49 09.1	+0.1
WHAR	Wooly Hollow	4.06	93		Pn	16 49 11.1	+0.2
WHAR				IAmb_Lg		16 50 23.0	
	comp=Z,69nm,0.8s						
W41B	Gary Mavity, V	4.11	95	P	Pn	16 49 12.2	+0.6
	baz=278,SNR=22						
W41B	Gary Mavity, V	4.11	95	Pn		16 49 12.2	
	baz=278,SNR=14						
W41B				Pb		16 49 21.3	
	baz=278						
W41B				Sn		16 50 00.4	
	baz=278						
W41B				Sb		16 50 16.6	
	baz=278						
W41B	Gary Mavity, V	4.11	95	P		16 49 12.2	
	baz=278,SNR=22						
FCAR	Ozark Folk Cen	4.17	85		Pn	16 49 12.6	+0.1
FCAR				IAmb_Lg		16 50 24.7	
	comp=Z,106nm,0.7s						
MGMO	Mountain Grove	4.29	68		Pn	16 49 14.2	+0.1
MGMO				IAmb_Lg		16 50 29.3	
	comp=Z,134nm,0.8s						
Z41A	Richland Creek	4.38	122	P	Pn	16 49 15.4	+0.2
	baz=304						
Z41A	Richland Creek	4.38	122	P		16 49 15.2	
	baz=304						
Z41A				S		16 50 07.1	
	baz=304						
Z41A	Richland Creek	4.38	122	P		16 49 15.4	
	baz=304						
Z41A				P		16 49 15.4	
	baz=304						
R40A	Maddies Statio	4.79	55	IAmb_Lg		16 50 40.9	
	comp=Z,55nm,0.8s						
R40A	Maddies Statio	4.79	55	P	Pn	16 49 21.0	+0.1
	baz=238,SNR=12						
R40A	Maddies Statio	4.79	55	P		16 49 21.0	
	baz=238,SNR=12						
CCAR	Cane Creek	4.83	109	IAmb_Lg		16 50 50.3	
	comp=Z,55nm,1.0s						
MSTX	Muleshoe	4.84	251		Pn	16 49 21.1	-0.6
MSTX				IAmb_Lg		16 50 44.5	
	comp=Z,68nm,0.9s						
MSTX	Muleshoe	4.84	251	P		16 49 22.6	
	baz=68						
MSTX				Sb		16 50 35.4	
	baz=68						
435B	Jarrell	4.85	183	Pn	Pn	16 49 21.5	-0.3
435B				IAmb_Lg		16 50 47.3	
	comp=Z,110nm,0.9s						
435B	Jarrell	4.85	183	Sb		16 50 37.9	
	baz=3.0						
P38A	Dawn	4.95	35		Pn	16 49 23.5	+0.3
P38A				IAmb_Lg		16 50 51.0	
	comp=Z,65nm,0.7s						
N33A	J Bar K, Exete	5.09	358	IAmb_Lg		16 51 00.6	
	comp=Z,55nm,0.8s						
T42A	Van Buren	5.16	73	Pn	Pn	16 49 26.1	+0.1
T42A				IAmb_Lg		16 50 57.2	
	comp=Z,122nm,0.9s						
N35A	Tabor	5.37	13	Pn	Pn	16 49 28.5	-0.3
N35A				IAmb_Lg		16 51 09.6	
	comp=Z,113nm,0.8s						
KSCO	Kaye Shedlock’	5.45	310	IAmb_Lg		16 51 08.6	
	comp=Z,55nm,0.8s						
JCT	Junction City	5.57	203	Pn	Pn	16 49 31.5	-0.2
JCT				IAmb_Lg		16 51 09.5	
	comp=Z,97nm,0.8s						
JCT	Junction City	5.57	203	P		16 49 31.8	
	baz=22,SNR=18						
JCT				S		16 50 35.6	
	baz=22						
LPAR	Lepanto	5.66	88	IAmb_Lg		16 51 16.4	
	comp=Z,117nm,0.8s						
P40A	Paris	5.67	45	Pn	Pn	16 49 32.4	-0.6
P40A				IAmb_Lg		16 51 13.1	
	comp=Z,101nm,0.8s						
342A	Flagon Creek P	5.92	135	IAmb_Lg		16 51 15.7	
	comp=Z,46nm,1.3s						
FVM	French Village	5.95	65	Pn	Pn	16 49 36.5	-0.5
FVM				IAmb_Lg		16 51 28.8	
	comp=Z,59nm,0.8s						
T25A	Trinidad	5.97	287		Pn	16 49 36.6	-0.7
T25A				IAmb_Lg		16 51 29.6	
	comp=Z,53nm,0.8s						
T25A	Trinidad	5.97	287	P		16 49 37.3	
	baz=102,SNR=8.8						
N38A	Joes South For	6.04	30	Pn	Pn	16 49 37.9	-0.2
N38A				IAmb_Lg		16 51 27.4	
	comp=Z,95nm,0.8s						
L34A	Svendsen Farm,	6.36	6	Pn	Pn	16 49 42.5	+0.1
OGNE	Ogallala	6.50	326	Pn	Pn	16 49 44.4	-0.1
OGNE				IAmb_Lg		16 51 36.9	
	comp=Z,80nm,0.8s						

OGNE	Ogallala	6.50	326	P		16 49 45.0	
	baz=143,SNR=6.4						
Y45A	Yeager Farm, C	6.59	103	Pn	Pn	16 49 45.6	0.0
Y45A				IAmb_Lg		16 51 44.5	
	comp=Z,35nm,0.8s						
W45A	Hickory Valley	6.60	92	Pn	Pn	16 49 45.4	-0.4
W45A				IAmb_Lg		16 51 44.5	
	comp=Z,82nm,0.7s						
735A	Kenedy	6.78	184	IAmb_Lg		16 51 56.8	
	comp=Z,42nm,0.8s						
SDCO	Great Sand Dun	6.96	290	Pn	Pn	16 49 51.7	+0.7
SDCO	Great Sand Dun	6.96	290	P	Pn	16 49 52.0	+1.0
	baz=105,SNR=8.9						
SDCO	Great Sand Dun	6.96	290	P		16 49 51.8	
	baz=105						
SDCO	Great Sand Dun	6.96	290	P		16 49 52.0	
	baz=105,SNR=8.9						
SCIA	State Center	7.01	26		Pn	16 49 51.7	+0.3
SCIA				IAmb_Lg		16 52 08.1	
	comp=Z,52nm,0.7s						
SCIA	State Center	7.01	26	P		16 49 51.9	
	baz=208						
K31A	O'Neill	7.07	351	IAmb_Lg		16 52 05.2	
	comp=Z,90nm,0.7s						
N41A	Harden Midland	7.14	43	Pn	Pn	16 49 54.0	+0.8
P43A	Skaggs, Pawnee	7.32	55	Pn	Pn	16 49 55.3	-0.3
ANMO	Albuquerque	7.56	267	Pg	Pb	16 50 24.2	+4.2
	comp=Z,0.9nm,0.3s,baz=79,slow=16,SNR=10						
ANMO				Lg	Lg	16 52 01.6	
	comp=Z,1.5nm,0.3s,baz=47,slow=15,SNR=3.2						
K38A	Parkersburg	7.81	25	Pn	Pn	16 50 01.7	-0.8
K38A				IAmb_Lg		16 52 31.4	
	comp=Z,52nm,0.9s						
ISCO	Idaho Springs	7.82	305	Pn	Pn	16 50 02.4	-0.4
ISCO	Idaho Springs	7.82	305	P		16 50 02.8	
	baz=120						
MNTX	Cornudas Mount	7.83	242	Pn	Pn	16 50 02.6	-0.1
MNTX				IAmb_Lg		16 52 20.3	
	comp=Z,26nm,0.7s						
BNM	Barren Site	7.85	262	Pn	Pn	16 50 01.5	-1.7
L40A	Anamosa	7.95	34	Pn	Pn	16 50 03.6	-0.7
L40A				IAmb_Lg		16 52 28.9	
	comp=Z,36nm,0.8s						
HDIL	Hopedale	7.96	50	Pn	Pn	16 50 04.2	-0.3
545A	Edgard	7.97	133	Pn	Pn	16 50 03.1	-1.5
ECSD	EROS Data Cent	8.10	3		Pn	16 50 04.7	-1.7
ECSD	EROS Data Cent	8.10	3	P		16 50 05.0	
	baz=184						
Y22D	IRIS PASSCAL I	8.10	262	IAmb_Lg		16 52 44.5	
	comp=Z,64nm,0.9s						
O44A	Mansfield	8.28	54	IAmb_Lg		16 52 42.7	
	comp=Z,58nm,0.7s						
T47A	Sharon Grove	8.30	78	IAmb_Lg		16 52 39.0	
	comp=Z,68nm,0.8s						
TX32	Lajitas Array	8.30	223	Pn	Pn	16 50 09.3	+0.1
TXAR	Lajitas Array	8.30	223	Pn	Pn	16 50 09.8	+0.6
	comp=Z,0.3nm,0.3s,baz=49,slow=12,SNR=7.9						
TXAR				Pg	Pb	16 50 37.9	+5.3
	comp=Z,2.2nm,0.3s,baz=42,slow=15,SNR=13						
TXAR				Lg	Lg	16 52 25.9	
	comp=Z,1.7nm,0.3s,baz=36,slow=31,SNR=4.3						
V48A	Smith Brothers	8.48	86	IAmb_Lg		16 52 39.5	
	comp=Z,34nm,0.9s						
PHWY	Pilot Hill	8.56	314	Pn	Pn	16 50 12.5	-0.6
PHWY				IAmb_Lg		16 52 45.6	
	comp=Z,42nm,1.2s						
N23A	Red Feather La	8.62	310	P		16 50 14.6	
	baz=125						
L42A	Oliver, Polo	8.68	41		Pn	16 50 14.2	-0.1
L42A				IAmb_Lg		16 52 52.0	
	comp=Z,69nm,0.8s						
I37A	Lemond, Waseca	8.87	18	IAmb_Lg		16 53 06.8	
	comp=Z,36nm,0.9s						
CLTN	Cedars of Leba	8.88	84	IAmb_Lg		16 52 50.2	
	comp=Z,35nm,1.1s						
SUSD	Miller	8.89	352	IAmb_Lg		16 53 10.1	
	comp=Z,59nm,1.0s						
JFWS	Jewell Farm	9.07	35	Pn	Pn	16 50 18.8	-0.8
JFWS				IAmb_Lg		16 53 19.0	
	comp=Z,30nm,0.7s						
Y49A	Blount Mountai	9.10	98	Pn	Pn	16 50 19.2	-0.8
WCI	Wyandotte Cave	9.14	70	IAmb_Lg		16 53 01.6	
	comp=Z,49nm,0.7s						
BLO	Bloomington	9.23	64	IAmb_Lg		16 53 12.6	
	comp=Z,50nm,0.8s						
SWET	Sewanee	9.25	89	IAmb_Lg		16 53 04.6	
	comp=Z,21nm,0.8s						
121A	Cookes Peak, D	9.27	253	IAmb_Lg		16 53 04.3	
	comp=Z,24nm,1.1s						
SFIN	Lafayette	9.30	56	IAmb_Lg		16 53 02.8	
	comp=Z,43nm,0.7s						
U49A	Red Boiling Sp	9.33	81	IAmb_Lg		16 53 12.6	
	comp=Z,38nm,1.2s						
I40A	Norwalk	9.69	30	Pn	Pn	16 50 26.0	-2.2
I40A				IAmb_Lg		16 53 22.4	
	comp=Z,35nm,1.3s						
W50A	Signal Mountai	9.75	89	IAmb_Lg		16 53 21.9	
	comp=Z,37nm,0.8s						
RWWY	Rawlins	9.85	311	IAmb_Lg		16 53 39.7	
	comp=Z,29nm,1.2s						
K43A	Burlington	9.88	42	IAmb_Lg		16 53 33.2	
	comp=Z,52nm,0.9s						
RSSD	Black Hills	9.94	330	IAmb_Lg		16 53 27.6	
	comp=Z,22nm,0.8s						
TKL	Tuckaleechee C	10.97	86	Pn	Pn	16 50 51.3	+5.6
	comp=Z,0.0nm,0.3s,baz=287,slow=17,SNR=2.0						
TKL				Lg	Lg	16 53 50.6	
	comp=Z,1.4nm,0.3s,baz=154,slow=21,SNR=11						
PDAR	Pinedale Array	11.90	310	Pn	Pn	16 50 57.7	-1.0
	comp=Z,0.1nm,0.3s,baz=126,slow=15,SNR=4.2						
PDAR				Lg	Lg	16 54 17.0	
	comp=Z,0.2nm,0.3s,baz=121,slow=22,SNR=3.9						
NVAR	Mina Array Bea	17.04	286	Pn	P	16 52 09.4	+0.3
	comp=Z,0.2nm,0.3s,baz=96,slow=16,SNR=1.8						

*IDC **08** 16:51:19.1±1.1, 29°.81S×178°.21W, h220km±10km, mb3.2/2, mb1 3.4/3, mb1mx3.1/36, mbtmp3.8/3, Error ellipse: s-maj=40.2km s-min=21.9km az=120.0*

ISC 08 16:51:17.1±1.0**, 29°.77S**±0°.08×**178°.4W**±0°.2**, h200km, n56,** σ**2.74**/92**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	0.65	38	P	Pn	16 51 44.1	-0.7
RIZ	Raoul Island	0.65	37	P	Pn	16 51 47.0	+2.1
RAO	Raoul Island	0.66	38	P	Pn	16 51 49.3	+4.4
	269nm,0.3s,baz=66,slow=22,SNR=16						
RAO				S	Sn	16 52 03.7	-2.6
	48nm,0.3s,baz=91,slow=22,SNR=1.0						
MXZ	Matakaoa Point	8.25	199	P	Pn	16 53 16.2	+2.8
MXZ				S	Sn	16 54 49.8	+3.5
WMGZ	Waiomatatini S	8.46	198	P	Pn	16 53 19.5	+3.2
WMGZ				S	Sn	16 54 53.0	+1.7
HAZ	Te Kaha	8.58	201	P	Pn	16 53 19.5	+1.7
HAZ				S	Sn	16 55 01.3	+7.1
PKGZ	Pakihiroa	8.62	199	P	Pn	16 53 20.6	+2.3
PKGZ				S	Sn	16 54 57.8	+2.7
PUZ	Puketiti	8.74	198	P	Pn	16 53 20.4	+0.5
PUZ				S	Sn	16 55 00.3	+2.3
RUGZ	Raukumara Rang	8.80	201	P	Pn	16 53 22.5	+1.7
RUGZ				S	Sn	16 55 00.7	+0.9
TWGZ	Tauwhareparae	8.91	199	P	Pn	16 53 24.4	+2.2
TWGZ				S	Sn	16 55 06.2	+4.0
CNGZ	Carnagh Statio	9.14	197	P	Pn	16 53 26.6	+1.5
MWZ	Matawai	9.19	201	P	Pn	16 53 26.1	+0.3
MWZ				S	Sn	16 55 12.5	+3.7
URZ	Urewera	9.26	203	P	Pn	16 53 27.7	+1.2
	0.6nm,0.3s,baz=274,slow=3.4,SNR=12						
URZ				S	Sn	16 55 13.2	+3.0
	3.6nm,0.3s,baz=105,slow=16,SNR=13						
URZ	Urewera	9.26	203	P	Pn	16 53 27.8	+1.2
URZ				S	Sn	16 55 16.9	+6.7
RAGZ	Rawiri	9.37	201	P	Pn	16 53 26.1	-2.1
RAGZ				S	Sn	16 55 18.9	+5.7
RIGZ	Rimuhau	9.47	199	P	Pn	16 53 29.6	+0.2
RIGZ				S	Sn	16 55 10.5	-4.8
RTZ	Ruatahuna	9.62	202	P	Pn	16 53 32.0	+0.6
PRGZ	Paritu Road	9.64	198	S	Sn	16 55 20.8	+1.4
SNGZ	Shannon Statio	9.66	200	P	Pn	16 53 32.3	+0.5
SNGZ				S	Sn	16 55 23.3	+3.4
KNZ	Kokohu	9.79	198	P	Pn	16 53 32.5	-0.9
KNZ				S	Sn	16 55 18.9	-3.9
MHGZ	Mahia Peninsul	9.85	197	P	Pn	16 53 35.2	+1.0
MHGZ				S	Sn	16 55 23.4	-0.9
RAHZ	Arahi	9.86	201	P	Pn	16 53 39.3	+4.8
RAHZ				S	Sn	16 55 25.6	+1.0
MTHZ	Maungataniwha	9.88	202	P	Pn	16 53 36.4	+1.6
MTHZ				S	Sn	16 55 22.8	-2.4
WHHZ	Waihua	9.96	200	P	Pn	16 53 36.1	+0.3
WHHZ				S	Sn	16 55 31.6	+4.6
MRHZ	Matea Rd	10.01	204	S	S	16 55 31.4	+2.6
ARHZ	Aropaoanui	10.21	201	P	Pn	16 53 40.6	+1.7
ARHZ				S	S	16 55 37.0	+3.7
BKZ	Black Stump Fm	10.28	203	P	Pn	16 53 39.7	-0.2
BKZ				S	S	16 55 37.1	+2.0
HIZ	Hauiti	10.36	211	P	P	16 53 48.3	-0.1
MCHZ	McNeill Hill	10.47	201	S	S	16 55 40.9	+1.5
KWHZ	Kaweka Forest	10.54	203	S	S	16 55 42.2	+1.0
CKHZ	Cape Kidnapper	10.55	200	S	S	16 55 42.5	+1.2
TUVZ	Tukino	10.67	206	P	P	16 53 48.8	-3.2
TUVZ				S	S	16 55 45.2	+0.7
BHHZ	Black Hill Sta	10.72	204	P	Pn	16 53 47.2	+1.6
BHHZ				S	S	16 55 48.3	+2.8
KAHZ	Kahuranaki	10.73	200	P	Pn	16 53 42.6	-3.1
KAHZ				S	Sn	16 55 40.0	-5.4
WNVZ	Wahianoa	10.74	206	S	S	16 55 47.8	+1.5
KRHZ	Kereru	10.75	202	P	Pn	16 53 44.9	-1.0
KRHZ				S	Sn	16 55 44.2	-1.7
MOVZ	Moawhango	10.76	205	S	Sn	16 55 45.7	-0.4
PXZ	Pawanui	10.95	200	P	Pn	16 53 51.0	+2.5
PXZ				S	S	16 55 51.2	+0.2
PNHZ	Pukenui	11.05	202	P	Pn	16 53 51.6	+1.7
PNHZ				S	S	16 55 53.5	+0.2
WPHZ	Waipukurau	11.11	201	S	S	16 55 54.4	-0.3
PRHZ	Porangahau	11.24	200	P	Pn	16 53 52.2	0.0
PRHZ				S	S	16 55 57.8	+0.2
DVHZ	Dannevirke	11.41	202	P	Pn	16 53 56.6	+2.2
DVHZ				P	S	16 55 58.6	-3.2
BFZ	Birch Farm	11.74	201	P	Pn	16 53 55.1	-3.4
BFZ				P	S	16 56 06.3	-3.2
MRZ	Mangatainoka R	11.93	203	P	Pn	16 53 59.3	-1.7
MRZ				S	Sn	16 56 09.5	-4.4
TIWZ	Tintock	11.94	202	P	Pn	16 54 01.6	+0.5
TIWZ				P	S	16 56 08.1	-6.1
HOWZ	Holdsworth Sta	12.16	202	P	Pn	16 54 02.5	-1.5
HOWZ				S	Sn	16 56 15.5	-4.1
TMWZ	Te Maipa	12.23	201	P	Pn	16 54 03.6	-1.3
TMWZ				P	S	16 56 15.6	-5.7
KIW	Kapiti Island	12.34	204	P	Pn	16 54 02.5	-3.7
KIW				P	S	16 56 19.2	-4.7
DUWZ	D'Urville Isla	12.67	208	P	P	16 54 12.8	-1.2
TCW	Tory Channel	12.88	206	P	Pn	16 54 11.8	-1.2
TUWZ	Tuamarina	13.20	206	P	Pn	16 54 16.0	-0.9
NNZ	Nelson	13.24	208	P	Pn	16 54 17.0	-0.5
NNZ				P	S	16 56 41.9	-3.1
ASAR	Alice Springs	42.82	266	P	P	16 58 56.7	+1.2
	0.4nm,0.5s,baz=100,slow=7.0,SNR=17						
ASAR				PcP	PcP	17 00 44.1	+1.2
	0.3nm,0.5s,baz=125,slow=4.1,SNR=7.3						
WRA	Warramunga Arr	43.75	272	P	P	16 59 03.8	+0.8
	0.7nm,0.3s,baz=109,slow=7.7,SNR=31						
FINES	FINESS Array B	144.44	340	PKP	PKPab	17 10 26.9	-0.7
	3.5nm,0.9s,baz=58,slow=3.6,SNR=5.9						
AKASG	Malin Array Be	150.60	323	PKPbc	PKPbc	17 10 44.0	-0.9
	0.4nm,0.4s,baz=47,slow=3.5,SNR=4.6						

*IDC **08** 17:11:44.7±1.4, 3°.17S×128°.37E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.4/36, mbtmp3.7/4, ML3.4/2, MS3.8/1, Ms1 3.8/1, ms1mx2.7/38, Error ellipse: s-maj=34.8km s-min=16.2km az=81.0*

*DJA **08** 17:11:48.3±0.5, 3°S±4°×12°8E±°, h11km±5km, M4.0/11, mb4.3/7, mB4.7/1, MLv3.8/11, Mw(mB)3.9/1*

ISC 08 17:11:51.1±0.9**, 2°.94S**±0°.07×**128°.37E**±0°.05**, h51km, n15,** σ**1.86**/20**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	1.30	257	P	Pn	17 12 13.9	+1.0
NLAI				S	Sn	17 12 33.1	+3.8
SANI	Sanana	2.54	290	P	Pn	17 12 28.9	-0.9
SANI				S	Sn	17 12 58.1	-1.5
SWI	Sorong	3.55	55	P	Pn	17 12 42.7	-1.0
SWI				S	Sn	17 13 25.0	+0.6
SIJI	Sorong	3.55	55	Pn	Pn	17 12 44.2	+0.5
	5.3nm,0.3s,baz=228,slow=10.0,SNR=28						
SIJI				Sn	Sn	17 13 26.6	+2.2
	2.4nm,0.3s,baz=223,slow=24,SNR=20						
FAKI	Fak Fak	3.87	90	P	Pn	17 12 47.2	-0.9
KMSI	Cibinong	5.61	308	P	Pn	17 13 13.0	+1.1
	0.2nm40nm,0.9s						
KMSI				S	Sn	17 14 13.1	-2.0
	0.2nm40nm,0.9s						
LUWI	Luwuk	5.91	288	P	Pn	17 13 15.7	-0.3
	0.2nm57nm,0.8s						
GTOI	Gorontalo	6.43	303	P	Pn	17 13 26.4	+3.2
	0.1nm12nm,1.1s						
APSI	Ampana	7.01	287	P	Pn	17 13 32.1	+0.9
	0.1nm468nm23nm,0.4s						
MRSI	Marisa	7.27	298	P	Pn	17 13 32.4	-2.3
BNSI	Bone	8.38	260	P	Pn	17 13 51.3	+1.4
	7.7nm,0.7s						
WRA	Warramunga Arr	17.88	161	P	Pn	17 15 54.3	-1.9
	0.1nm,0.3s,baz=344,slow=13,SNR=8.7						
ASAR	Alice Springs	21.29	166	P	P	17 16 32.0	-1.5
	5.4nm,1.1s,baz=349,slow=12,SNR=34						
ASAR				S	S	17 20 26.4	-1.0
	0.4nm,0.9s,baz=353,slow=22,SNR=4.2						
CTA	Charters Tower	24.39	136	LR	LR	17 28 35.2	
	comp=Z,214nm,21.0s,baz=253,slow=42						
MKAR	Makanchi Array	63.96	327	P	P	17 22 20.6	+1.6
	0.6nm,0.7s,baz=127,slow=7.7,SNR=8.5						

*IDC **08** 17:37:53.0±1.0, 15°.82S×179°.64W, h0km, mb4.2/14, mb1 4.5/15, mb1mx4.3/30, mbtmp4.2/15, ML6.4/1, MS4.4/29, Ms1 4.4/29, ms1mx4.4/36, Error ellipse: s-maj=37.4km s-min=16.6km az=145.0*

*GCMT **08** 17:37:58.9±0.1, 15°.73S±0°.01×179°.54W±0°.01, h12km, MW5.1/125, Moment Tensor Solution. s51,c76; s125,c199; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.04±.09; $M_{\theta\theta}$2.78±.09; $M_{\phi\phi}$-2.82±.08; $M_{r\theta}$-1.11±.24; $M_{\theta\phi}$3.90±.07; $M_{\phi r}$-0.64±.22; Best double couple: $M_0$4.96300×10^{16} NP1:ϕ_s289.00000°, δ80.00000°, λ10.00000°. NP2:ϕ_s197.00000°, δ81.00000°, λ169.00000°. Principal axes: T 5.1040, Plg14.0000°, Azm153.0000°; N -0.2860, Plg76.0000°, Azm336.0000°; P -4.8220, Plg1.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 17:38:01.9±2.3, 16°.1S±0°.1×180°.0E±0°.1, h73km±8km, mb4.7/16 Error ellipse: s-maj=25.6km s-min=7.2km az=132.0*

ISC 08 17:37:57.9±0.5**, 16°.0S**±0°.1×**179°.8W**±0°.1**, h35km, n84,** σ**1.85**/62**, mb4.5**/24**, MS4.4**/28**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.68	229	Pn	Pn	17 38 40.3	+1.7
	230nm,0.3s,baz=85,slow=6.6,SNR=718						
MSVF				Sn	Sn	17 39 17.8	+7.8
	92nm,0.3s,baz=297,slow=22,SNR=7.7						
MSVF				LR	LR	17 39 49.2	
	comp=Z,14µm,19.7s,baz=59,slow=40						
AFI	Afiamalu	8.04	76	LR	LR	17 42 18.1	
	comp=Z,4µm,20.7s,baz=234,slow=34						
RAO	Raoul Island	13.32	173	LR	LR	17 45 25.5	
	comp=Z,4µm,22.0s,baz=354,slow=34						
DZM	Mont Dzumac	14.33	243	LR	LR	17 46 02.0	
	comp=Z,3µm,21.3s,baz=75,slow=34						
DZM	Mont Dzumac	14.33	243	eP	P	17 41 32.8	+7.7
	139nm,1.4s						
DZM				eS	S	17 44 08.7	-6.9
	747nm,27.1s						
DZM				eLR	LR	17 44 42.0	
	comp=Z,4µm,25.2s						
RAR	Rarotonga	19.69	108	LR	LR	17 48 05.4	
	comp=Z,360nm,19.3s,baz=278,slow=31						
URZ	Urewera	22.36	186	LR	LR	17 49 59.4	
	comp=Z,894nm,21.7s,baz=31,slow=32						
LTZ	Lake Taylor	27.55	193	P	P	17 43 40.4	-1.1
LTZ				IAmb	IAmb	17 43 44.4	
	comp=Z,21nm,0.9s						
OXZ	Oxford	28.12	193	P	P	17 43 46.4	-0.2
PPT2	Papeete2	28.98	98	eLQ	LQ	17 49 58.2	
	comp=Z,2µm,27.0s						
PPT2				eLR	LR	17 51 11.4	
	comp=Z,563nm,24.0s						
PPT	Papeete	28.98	97	LR	LR	17 52 18.4	
	comp=Z,292nm,21.9s,baz=266,slow=30						
TBI	Tubuai	29.47	109	eLQ	LQ	17 49 56.5	
	comp=Z,2µm,27.8s						
TBI				eLR	LR	17 51 08.4	
	comp=Z,860nm,30.8s						
ARMA	Armidale	29.81	236	P	P	17 43 56.9	-5.0
CTAO	Charters Tower	32.48	258	P	P	17 44 22.3	-3.1
COEN	Coen	35.78	268	P	P	17 44 49.9	-4.1
COEN				IAmb	IAmb	17 45 03.4	
	comp=Z,9.2nm,1.1s						
TOO	Toolangi	37.39	228	P	P	17 45 04.5	-3.1
TOO				IAmb	IAmb	17 45 19.6	
	comp=Z,17nm,1.1s						
STKA	Stephens Creek	38.42	239	P	P	17 45 19.7	+3.4
	comp=Z,14nm,1.1s,baz=74,slow=6.7,SNR=13						
STKA				LR	LR	17 59 31.5	
	comp=Z,1µm,21.4s,baz=71,slow=34						
STKA	Stephens Creek	38.42	239	P	P	17 45 14.6	-1.7
TAU	Tasmania Unive	38.81	220	P	P	17 45 17.1	-2.3
TAOE	Nuku Hiva Isla	39.33	84	eLR	LR	17 56 13.9	
	comp=Z,1µm,24.9s						
RKT	Rikitea	42.72	107	eLQ	LQ	17 55 34.7	
	comp=Z,1µm,34.8s						
RKT				eLR	LR	17 57 19.2	
	comp=Z,583nm,27.0s						
BBOO	Buckleboo	43.20	239	P	P	17 45 54.0	-1.7
WB0	Warramunga Arr	43.65	258	P	P	17 45 58.8	-0.7
WB0				IAmb	IAmb	17 46 07.6	
	comp=Z,13nm,0.9s						
WB2	Warramunga Arr	43.68	258	P	P	17 45 59.0	-0.7
WB2				IAmb	IAmb	17 46 08.5	
	comp=Z,14nm,1.1s						
WRA	Warramunga Arr	43.69	258	P	P	17 46 00.8	+1.0
	comp=Z,3.5nm,1.0s,baz=93,slow=8.2,SNR=7.5						
WRA				LR	LR	18 03 14.7	
	comp=Z,318nm,18.9s,baz=90,slow=35						
AS31	Alice Springs	44.05	252	P	P	17 46 04.2	+1.5
AS31				IAmb	IAmb	17 46 11.5	
	comp=Z,6.6nm,0.7s						
ASAR	Alice Springs	44.05	252	P	P	17 46 03.9	+1.2
	comp=Z,7.9nm,0.7s,baz=84,slow=8.8,SNR=98						
ASAR				LR	LR	18 02 51.0	
	comp=Z,762nm,21.7s,baz=94,slow=34						
ASAR	Alice Springs	44.05	252	P	P	17 46 04.1	+1.4
FORT	Forrest	49.64	243	P	P	17 46 44.9	-1.4
FITZ	Fitzroy Crossi	52.03	259	LR	LR	18 07 23.9	
	comp=Z,679nm,21.0s,baz=104,slow=34						
BATI	Baumata	55.22	269	LR	LR	18 10 10.6	
	comp=Z,412nm,21.1s,baz=118,slow=35						
NWAO	Narrogin (SRO)	58.94	241	LR	LR	18 11 49.0	
	comp=Z,764nm,21.9s,baz=102,slow=34						
VNDA	Vanda	62.24	184	LR	LR	18 11 02.4	
	comp=Z,186nm,19.6s,baz=0.0,slow=32						
MJAR	Matsushiro Arr	65.57	324	P	P	17 48 37.5	-0.7
	comp=Z,3.4nm,0.9s,baz=151,slow=7.1,SNR=7.3						
MJAR				LR	LR	18 12 00.1	
	comp=Z,286nm,21.9s,baz=120,slow=31						
MJAR	Matsushiro Arr	65.57	324	P	P	17 48 38.4	+0.3
LEM	Lembang	71.43	268	LR	LR	18 23 23.9	
	comp=Z,146nm,18.3s,baz=106,slow=38						
PETK	Petropavlovsk-	71.49	346	P	P	17 49 15.7	+0.9
	comp=Z,3.9nm,0.8s,baz=179,slow=6.8,SNR=4.0						
PETK				LR	LR	18 14 08.7	
	comp=Z,283nm,21.8s,baz=153,slow=30						
KSRS	Korea Array	72.38	319	P	P	17 49 21.1	+0.7
	comp=Z,0.4nm,0.6s,baz=142,slow=6.8,SNR=1.2						
KSRS				LR	LR	18 18 26.0	
	comp=Z,189nm,18.5s,baz=124,slow=34						
QSPA	South Pole Qui	74.06	180	P	P	17 49 30.9	+0.7
QSPA				IAmb	IAmb	17 49 38.0	
	comp=Z,8.9nm,0.9s						
USRK	Ussuriysk Ar.	74.28	326	P	P	17 49 32.8	+1.3
	comp=Z,1.9nm,0.9s,baz=152,slow=9.6,SNR=6.3						
USRK				LR	LR	18 19 57.2	
	comp=Z,216nm,18.3s,baz=133,slow=34						
NVAR	Mina Array Bea	78.99	45	P	P	17 49 57.6	-1.0
	comp=Z,1.9nm,0.9s,baz=231,slow=8.9,SNR=12						
NVAR				LR	LR	18 16 52.6	
	comp=Z,300nm,21.9s,baz=221,slow=30						
IMAR	Indian Mountai	84.03	10	P	P	17 50 23.7	-0.7
BCAR	Beaver Creek A	84.18	16	P	P	17 50 25.0	-0.3
BELA	Belgrano 2	84.23	173	P	P	17 50 24.9	-0.5
BELA				IAmb	IAmb	17 50 26.9	
	comp=Z,11nm,0.9s						
ILAR	Eielson Array	84.33	14	P	P	17 50 24.1	-1.9
	comp=Z,3.2nm,1.0s,baz=233,slow=5.8,SNR=15						
ILAR				LR	LR	18 22 38.9	
	comp=Z,89nm,20.4s,baz=250,slow=32						
MAW	Mawson	85.20	200	LR	LR	18 25 33.3	
	comp=Z,230nm,18.0s,baz=82,slow=34						
TXAR	Lajitas Array	86.12	58	P	P	17 50 36.1	+0.4
	comp=Z,1.2nm,0.9s,baz=235,slow=3.1,SNR=12						
TXAR				LR	LR	18 22 38.9	
	comp=Z,399nm,18.6s,baz=0.0,slow=31						
CD2	Chengdu	86.90	303	P	P	17 50 46.9	+7.4
CD2				pmax	pmax		
	comp=Z,20nm,1.6s						
PDAR	Pinedale Array	86.90	44	P	P	17 50 37.6	-1.9
	comp=Z,1.2nm,0.9s,baz=222,slow=2.0,SNR=8.1						
PDAR				LR	LR	18 21 52.3	
	comp=Z,198nm,20.9s,baz=264,slow=30						
CMAR	Chiang Mai Arr	86.97	290	P	P	17 50 41.5	+1.5
	comp=Z,1.2nm,0.9s,baz=106,slow=3.6,SNR=9.5						
CMAR				LR	LR	18 26 21.4	
	comp=Z,75nm,20.0s,baz=174,slow=33						
BMAR	Burnt Mountain	87.09	13	P	P	17 50 40.0	+0.5
LZH	Lanzhou	88.65	308	eP	P	17 50 56.0	+8.1
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
SONM	Songino Array	91.22	320	P	P	17 51 00.8	+1.2
	comp=Z,0.4nm,0.8s,baz=116,slow=3.4,SNR=3.3						
SONM				LR	LR	18 28 24.5	
	comp=Z,74nm,19.6s,baz=115,slow=33						
SNAA	Sanae	92.54	179	P	P	17 51 04.8	-0.5
VNA3	Neumayer Olymp	92.73	177	P	P	17 51 05.8	-0.4
VNA2	Neumayer--Watz	93.15	178	P	P	17 51 09.1	+1.1
YKA	Yellowknife Ar	93.16	25	P	P	17 51 09.4	+1.4
	comp=Z,0.5nm,0.9s,baz=231,slow=3.6,SNR=5.0						
VNA1	Neumayer--Stat	93.39	177	P	P	17 51 10.3	+1.2
PLCA	Paso Flores	93.63	134	LR	LR	18 23 09.7	
	comp=Z,130nm,21.7s,baz=226,slow=29						
TLY	Talaya	94.29	323	LR	LR	18 30 17.1	
	comp=Z,196nm,19.8s,baz=106,slow=33						
ULM	Lac du Bonnet	98.32	40	LR	LR	18 29 56.0	
	comp=Z,128nm,20.1s,baz=260,slow=32						
AKASG	Malin Array Be	138.24	332	PKP	PKPdf	17 57 19.4	+0.1
	comp=Z,0.1nm,0.3s,baz=60,slow=2.2,SNR=1.7						
KOLS	Kolonicke sedl	142.51	336	ePKP	PKiKP	17 57 29.0	-1.2
DPC	Dobruska-Polom	143.32	343	ePKP	PKPdf	17 57 28.2	-0.4
VYHS	Vyhne	144.15	339	ePKP	PKiKP	17 57 32.4	-1.2
SMOL	Smolenice	144.61	340	ePKP	PKPdf	17 57 31.8	+1.0
MODS	Modra-Piesok	144.78	340	ePKP	PKPdf	17 57 31.5	+0.4
SRO	Srobarova	144.91	339	ePKP	PKiKP	17 57 36.0	+0.9
KHC	Kasperske Hory	145.18	345	ePKP	PKPdf	17 57 32.0	+0.2
KHC				ex	x	17 57 36.9	
GRF	Grafenberg Arr	145.20	347	ePKP	PKPdf	17 57 32.0	+0.2
	baz=18,slow=3.1						
CKRC	Cesky Krumlov	145.27	344	ePKP	PKPab	17 57 32.0	+0.2
GERES	GERESS Array B	145.41	344	PKPbc	PKPab	17 57 32.5	+0.1
	comp=Z,4.0nm,1.0s,baz=49,slow=4.1,SNR=11						
CONA	Conrad Observa	145.62	341	eP	PKPab	17 57 34.0	+0.8
	comp=Z,14nm,1.4s						
MOA	Molln	146.16	343	eP	PKPbc	17 57 35.0	+0.5
	comp=Z,8.2nm,1.1s						
ARSA	Arzberg	146.33	341	eP	PKPab	17 57 36.9	+1.0
	comp=Z,10nm,1.8s						
KBA	Koelnbreinsper	147.12	343	eP	PKPbc	17 57 37.4	-0.2
	comp=Z,9.3nm,1.3s						
WATA	Walderalm	147.34	346	eP	PKPbc	17 57 37.7	-0.4
	comp=Z,17nm,1.4s						
RETA	Reutte	147.39	347	eP	PKPab	17 57 40.2	+0.2
	comp=Z,9.3nm,0.9s						
WTTA	Wattenberg	147.40	345	eP	PKPbc	17 57 38.0	-0.3
	comp=Z,9.0nm,1.0s						
MOTA	Moosalm	147.44	346	eP	PKPbc	17 57 38.0	-0.4
	comp=Z,9.2nm,1.2s						
SQTA	Sankt Quirin	147.54	346	eP	PKPab	17 57 41.7	+1.0
	comp=Z,9.5nm,1.1s						
ABTA	Abfaltersbach	147.66	344	eP	PKPdf	17 57 36.2	0.0
	comp=Z,4.2nm,1.2s						
DAVA	Damuels	147.77	348	eP	PKPab	17 57 44.6	+3.0
	comp=Z,9.3nm,1.2s						
FETA	Feichten	147.84	346	eP	PKiKP	17 57 41.8	+0.4

comp=Z,6.9nm,1.1s

KRSC 08 17:44:36.6±1.6**, 49°.11N**×**156°.63E, h40**^{km}±24^{km}**, ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.61	348	eP	Pn	17 45 03.5	+1.0
SKR				eS	Sn	17 45 22.9	+0.8
PAU	Pauzhetka	2.37	3	eP	Pn	17 45 15.6	+2.7
PAU				eS	Sn	17 45 43.7	+3.1
KDTR	Khodutka, Kamc	2.86	18	eP	Pn	17 45 23.6	+4.0
KDTR				eS	Sn	17 45 58.0	+5.3
MIPR	Malaya Ipel'ka	3.17	1	eP	Pn	17 45 27.2	+3.2
ASAK	Asacha	3.38	13	eP	Pn	17 45 31.2	+4.4
ASAK				eS	Sn	17 46 11.9	+6.2
MTVR	Mutnovka	3.52	16	eP	Pn	17 45 33.0	+4.1
MTVR				eS	Sn	17 46 14.3	+5.0
RUS	Russkaya	3.54	19	eP	Pn	17 45 32.6	+3.7
RUS				eS	Sn	17 46 14.3	+4.8
GRL	Gorelyy	3.57	14	eP	Pn	17 45 34.2	+4.7
GRL				eS	Sn	17 46 16.4	+5.9
KRMR	Karymshinskiy	3.85	14	P	Pn	17 45 36.5	+3.3
DALK	Dalny	4.15	18	eP	Pn	17 45 41.2	+3.9
DALK				eS	Sn	17 46 29.0	+4.4
UGLR	Uglovaya	4.33	18	eP	Pn	17 45 44.8	+4.8
AVH	Avacha	4.37	17	eP	Pn	17 45 45.7	+5.3
KOK	Koryaka	4.38	16	P	Pn	17 45 45.9	+5.3
SMAR	Somma	4.38	17	eP	Pn	17 45 45.0	+4.3
SDLR	Sedlovina	4.41	18	eP	Pn	17 45 44.5	+3.5
KRX	Arik	4.44	16	eP	Pn	17 45 46.5	+5.0
SPN	Mys Shipunski	4.53	27	eP	Pn	17 45 47.1	+4.5
SPN				eS	Sn	17 46 38.2	+4.3
MKZ	Mys Kozlova	6.30	28	eP	Pn	17 46 11.4	+4.5

IDC 08 17:54:06.1±3.0**, 32°.17S**×**179°.54W, h0**^{km}**, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.6**/23**, mbtmp3.6**/3**, Error ellipse: s-maj=65.4km s-min=47.5km az=110.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.66	203	Pn	Pn	17 55 45.8	+0.6
	baz=189,slow=4.3,SNR=1.3						
URZ				Sn	Sn	17 56 52.0	-10
	4.0nm,0.3s,baz=194,slow=21,SNR=11						
ASAR	Alice Springs	41.74	270	P	P	18 01 56.9	-0.3
	0.3nm,0.4s,baz=110,slow=7.7,SNR=16						
WRA	Warramunga Arr	42.89	275	P	P	18 02 06.6	0.0
	0.6nm,0.4s,baz=117,slow=7.7,SNR=18						
FINES	FINESS Array B	146.32	338	PKPbc	PKPdf	18 13 47.0	+0.2
	1.0nm,0.6s,baz=36,slow=4.7,SNR=4.8						

WEL 08 17:54:55.4, 38°S±5°×**17°8E**±°**, h53**^{km}±7^{km}**, M2.6**/16**, ML2.8**/15**, MLv2.6**/16**, Error ellipse: s-maj=0.0km s-min=0.0km az=95.1, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUGZ	Raukumara Rang	0.04	87	P	Pn	17 55 03.6	0.0
HAZ	Te Kaha	0.25	31	P	Pn	17 55 03.7	-0.7
TWGZ	Tauwhareparae	0.35	127	P	Pn	17 55 07.3	+1.9
PKGZ	Pakihiroa	0.37	78	P	Pn	17 55 06.1	+0.6
MWZ	Matawai	0.37	192	P	Pn	17 55 05.8	+0.2
URZ	Urewera	0.50	234	P	Pn	17 55 03.3	-3.5
RAGZ	Rawiri	0.55	197	P	Pn	17 55 07.0	-0.6
WMGZ	Waiomatatini S	0.64	77	P	Pn	17 55 08.0	-0.5
RIGZ	Rimuhau	0.75	172	P	Pn	17 55 10.1	+0.1
MUGZ	Murupara	0.84	233	P	Pn	17 55 07.2	-4.0
WATZ	Wairara	1.66	243	P	Pn	17 55 26.6	+4.4
RATZ	Rangitukua	1.71	238	P	Pn	17 55 24.0	+1.1
RITZ	Rihia Road	1.71	233	P	Pn	17 55 24.9	+1.9
TMVZ	Te Maari	1.89	232	P	Pn	17 55 25.6	+0.2
ETVZ	East Tongariro	1.90	232	P	Pn	17 55 26.0	+0.4
KRVZ	Karewarewa	1.92	233	P	Pn	17 55 25.1	-0.7
OTVZ	Oturere	1.94	232	P	Pn	17 55 26.6	+0.4
BHHZ	Black Hill Sta	1.95	218	P	Pn	17 55 26.5	+0.3
WTVZ	West Tongariro	1.96	234	P	Pn	17 55 25.8	-0.6
NGZ	Ngauruhoe	1.99	232	P	Pn	17 55 26.8	0.0
TUVZ	Tukino	2.02	229	P	Pn	17 55 28.7	+1.6
FWVZ	Far West T-bar	2.07	231	P	Pn	17 55 29.1	+1.2
WNVZ	Wahianoa	2.09	229	P	Pn	17 55 29.8	+1.6
PXZ	Pawanui	2.14	196	P	Pn	17 55 22.7	-6.1
MTVZ	Mangateitei	2.20	229	P	Pn	17 55 31.0	+1.4
HIZ	Hauiti	2.25	255	P	Pn	17 55 36.6	+6.5

*IDC **08** 18:07:55.0±5.0, 8°.92S×124°.42E, h114^{km}±57^{km}, mb2.8/1, mb1 3.2/4, mb1mx3.0/34, mbtmp3.4/4, Error ellipse: s-maj=78.6km s-min=28.9km az=42.0*
*DJA **08** 18:07:55.7±0.8, 9°S±5°×12°4E±°, h86^{km}±10^{km}, M3.7/6, mb3.7/2, MLv3.6/6*
ISC 08 18:07:54.6±1.2**, 9°.13S**±0°.10×**124°.27E**±0°.08**, h150**^{km}**, n12,** σ**2^s.80**/20**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	0.62	180	P	Pn	18 08 16.0	-0.9
SOEI				S	Sn	18 08 30.6	-3.2
BATI	Baumata	1.23	209	P	Pn	18 08 22.6	+1.1
	23nm,0.3s,baz=66,slow=3.6,SNR=61						
BATI				S	Sn	18 08 42.1	0.0
	68nm,0.3s,baz=46,slow=5.8,SNR=42						
BATI	Baumata	1.23	209	P	Pn	18 08 21.9	+0.4
BATI				S	Sn	18 08 42.2	0.0
MMRI	Maumere	2.07	283	P	Pn	18 08 29.0	-1.6
MMRI				S	Sn	18 08 52.2	-5.9
BASI	Baing, Sumba	3.80	253	P	Pn	18 08 52.4	+0.1
BASI				S	Sn	18 09 36.0	-1.0
WSI	Waingapu	3.96	262	P	Pn	18 08 54.2	-0.1
PLAI	Plampang	6.42	272	P	Pn	18 09 27.5	+0.5
	0.1nm11nm,0.8s						
TWSI	Taliwang, Sumb	7.31	272	P	Pn	18 09 38.3	-0.6
FITZ	Fitzroy Crossi	9.02	172	P	Pn	18 10 03.5	+1.8
	0.3nm,0.3s,baz=360,slow=12,SNR=14						
FITZ				S	Sn	18 11 40.0	-1.7
	1.7nm,0.3s,baz=69,slow=14,SNR=16						
WRA	Warramunga Arr	14.51	139	P	P	18 11 15.2	-0.2
	0.2nm,0.3s,baz=319,slow=14,SNR=14						
WRA				S	Sn	18 13 48.4	-5.6
	0.7nm,0.3s,baz=316,slow=24,SNR=13						
ASAR	Alice Springs	17.15	149	P	Pn	18 11 50.2	+4.9
	0.0nm,0.3s,baz=326,slow=12,SNR=6.2						
ASAR				S	S	18 14 52.9	-3.0
	0.3nm,0.3s,baz=315,slow=21,SNR=9.5						
MKAR	Makanchi Array	67.05	330	P	P	18 18 35.0	+3.3
	0.1nm,0.4s,baz=129,slow=8.2,SNR=4.2						

*IDC **08** 18:12:03.2±1.1, 13°.71N×144°.99E, h0^{km}, mb3.4/8, mb1 3.7/8, mb1mx3.5/42, mbtmp3.4/8, Error ellipse: s-maj=37.2km s-min=19.6km az=100.0*
*NEIC **08** 18:12:19.7±1.2, 13°.6N±0°.1×144°.7E±0°.2, h139^{km}±6^{km}, mb4.0/11, Error ellipse: s-maj=30.0km s-min=12.1km az=117.0*
ISC 08 18:12:20.2±0.8**, 13°.6N**±0°.1×**144°.8E**±0°.2**, h150**^{km}**, n22,** σ**1^s.24**/22**, mb3.6**/14**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	0.07	74		Pn	18 12 38.2	-2.0
MYLDM	Lahad Datu	27.23	255	P	P	18 17 48.1	-2.3
SOEI	Soe	30.86	222	P	P	18 18 22.4	-0.2
USA0B	Ussuriysk Arra	32.44	343	P	P	18 18 35.1	-0.9
USA0B				IAmb	IAmb	18 18 48.1	
	comp=Z,5.9nm,1.1s						
WB0	Warramunga Arr	34.68	197	P	P	18 18 56.4	+0.7
WB0				IAmb	IAmb	18 19 14.5	
	comp=Z,2.4nm,1.1s						
WR0	Warramunga Arr	34.82	197	P	P	18 18 58.0	+1.1
WR0				IAmb	IAmb	18 19 11.9	
	comp=Z,2.5nm,1.1s						
WRAB	Tennant Creek	34.85	197	P	P	18 18 56.0	-1.2
WRAB				IAmb	IAmb	18 19 02.6	
	comp=Z,3.6nm,0.9s						
WB2	Warramunga Arr	34.86	197	P	P	18 18 58.2	+1.0
WB2				IAmb	IAmb	18 18 58.9	
	comp=Z,3.9nm,1.1s						
WRA	Warramunga Arr	34.86	197	P	P	18 18 58.0	+0.8
	comp=Z,0.2nm,0.3s,baz=18,slow=9.4,SNR=6.4						
FITZ	Fitzroy Crossi	36.71	211	P	P	18 19 13.8	+0.8
	comp=Z,0.9nm,0.5s,baz=25,slow=7.2,SNR=9.9						
FITZ	Fitzroy Crossi	36.71	211	P	P	18 19 13.9	+0.9
FITZ				IAmb	IAmb	18 19 31.3	
	comp=Z,1.5nm,1.0s						
AS31	Alice Springs	38.51	196	P	P	18 19 29.0	+0.8
ASAR	Alice Springs	38.51	196	P	P	18 19 28.9	+0.8
	comp=Z,0.3nm,0.6s,baz=23,slow=13,SNR=6.7						
ASAR	Alice Springs	38.51	196	P	P	18 19 28.8	+0.7
CMAR	Chiang Mai Arr	44.26	283	P	P	18 20 15.9	+0.8
	comp=Z,0.5nm,0.7s,baz=88,slow=6.1,SNR=6.2						
CMAR	Chiang Mai Arr	44.26	283	P	P	18 20 16.1	+0.9
STKA	Stephens Creek	45.29	184	P	P	18 20 22.3	-0.8
SONM	Songino Array	46.71	325	P	P	18 20 34.8	+0.7
	comp=Z,0.1nm,0.5s,baz=111,slow=9.3,SNR=1.9						
BBOO	Buckleboo	46.87	190	P	P	18 20 36.0	+0.7
BBOO				IAmb	IAmb	18 20 52.0	
	comp=Z,5.1nm,1.1s						
MKAR	Makanchi Array	61.46	316	P	P	18 22 21.4	+0.4
	comp=Z,0.2nm,0.3s,baz=88,slow=8.5,SNR=6.8						
ILAR	Eielson Array	68.61	25	P	P	18 23 05.4	-1.3
	comp=Z,0.1nm,0.4s,baz=249,slow=5.7,SNR=5.7						
YKA	Yellowknife Ar	82.90	27	P	P	18 24 30.5	+2.6
	comp=Z,0.1nm,0.6s,baz=299,slow=4.6,SNR=2.5						

*IDC **08** 18:26:01.6±1.1, 11°.55S×165°.40E, h0^{km}, mb3.8/7, mb1 4.1/8, mb1mx3.8/38, mbtmp3.8/8, ML4.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/34, Error ellipse: s-maj=40.2km s-min=24.4km az=136.0*
ISC 08 18:26:05.5±0.9**, 11°.6S**±0°.1×**165°.4E**±0°.2**, h24**^{km}**, n11,** σ**1^s.02**/9**, mb3.8**/7**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.76	291	LR	LR	18 29 33.5	
	comp=Z,82nm,20.5s,baz=105,slow=37						
DZM	Mont Dzumac	10.51	175	Pn	Pn	18 28 35.3	+0.5
	1.5nm,0.3s,baz=316,slow=13,SNR=9.1						
STKA	Stephens Creek	29.84	224	LR	LR	18 43 34.8	
	comp=Z,142nm,18.1s,baz=201,slow=35						
WRA	Warramunga Arr	30.99	250	P	P	18 32 20.6	-0.7
	1.3nm,0.6s,baz=81,slow=8.9,SNR=11						
ASAR	Alice Springs	32.26	244	P	P	18 32 31.6	-0.9
	0.6nm,0.8s,baz=63,slow=10,SNR=10						
CMAR	Chiang Mai Arr	72.00	294	P	P	18 37 28.2	+0.4
	0.4nm,0.3s,baz=133,slow=5.3,SNR=4.7						
SONM	Songino Array	78.87	324	P	P	18 38 08.7	+1.9
	0.3nm,0.7s,baz=131,slow=5.6,SNR=2.4						
ILAR	Eielson Array	84.10	19	P	P	18 38 33.3	-0.7
	0.6nm,0.6s,baz=239,slow=5.2,SNR=14						
NVAR	Mina Array Bea	86.61	50	P	P	18 38 47.1	-0.3
	0.4nm,0.7s,baz=235,slow=10,SNR=4.9						
MKAR	Makanchi Array	93.65	317	P	P	18 39 19.6	-0.4
	0.2nm,0.7s,baz=93,slow=5.6,SNR=2.5						
ESDC	Sonseca Array	150.44	343	PKPbc	PKiKP	18 45 55.7	-0.5
	0.5nm,1.0s,baz=9.5,slow=1.6,SNR=4.2						

*IDC **08** 18:30:25.9±5.5, 21°.28S×169°.53E, h0^{km}, mb3.8/6, mb1 4.0/7, mb1mx3.8/33, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=211.4km s-min=30.0km az=149.0*
ISC 08 18:30:28.8±3.7**, 21°.1S**±0°.8×**169°.3E**±0°.5**, h10**^{km}**, n8,** σ**1^s.46**/9**, mb3.8**/6**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.80	248	Pn	Pn	18 31 13.9	0.0
	8.0nm,0.3s,baz=114,slow=18,SNR=73						
DZM				Sn	Sn	18 31 45.9	-1.9
	23nm,0.3s,baz=65,slow=22,SNR=10						
WRA	Warramunga Arr	32.68	266	P	P	18 37 00.9	-0.7
	0.4nm,0.7s,baz=90,slow=8.7,SNR=2.7						
ASAR	Alice Springs	32.74	259	P	P	18 37 02.2	+0.1
	0.9nm,0.8s,baz=83,slow=9.4,SNR=9.1						
FITZ	Fitzroy Crossi	41.10	266	P	P	18 38 15.3	+2.0
	2.4nm,0.8s,baz=108,slow=6.4,SNR=2.9						
CMAR	Chiang Mai Arr	79.26	295	P	P	18 42 36.1	+1.2
	0.4nm,0.3s,baz=123,slow=4.1,SNR=4.6						
SONM	Songino Array	88.67	323	P	P	18 43 22.1	-0.3
	0.2nm,0.6s,baz=123,slow=5.3,SNR=3.0						
ILAR	Eielson Array	91.94	17	P	P	18 43 35.4	-1.7
	0.3nm,0.6s,baz=225,slow=5.8,SNR=1.4						
GERES	GERESS Array B	146.07	331	PKPbc	PKPbc	18 50 08.9	-0.2
	0.8nm,0.5s,baz=34,slow=3.7,SNR=10						

*IDC **08** 18:36:06.2±2.3, 5°.32N×126°.42E, h0^{km}, mb3.3/3, mb1 3.4/3, mb1mx3.1/49, mbtmp3.3/3, Error ellipse: s-maj=179.7km s-min=27.4km az=65.0*
ISC 08 18:35:56.3±3.6**, 5°.7N**±0°.3×**123°.4E**±0°.3**, h10**^{km}**, n5,** σ**1^s.17**/5**, mb3.2**/3**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	2.37	79	eP	Pg	18 36 42.9	+1.1
DDMP				eS	Sn	18 37 03.2	-1.2
MATI	Mati	3.14	66	eP	Pn	18 36 45.5	-0.3
WRA	Warramunga Arr	27.65	157	P	P	18 41 44.2	-0.2
	0.3nm,0.6s,baz=343,slow=11,SNR=10						
ASAR	Alice Springs	30.92	161	P	P	18 42 13.5	0.0
	0.2nm,0.7s,baz=349,slow=7.6,SNR=1.7						
MKAR	Makanchi Array	54.07	326	P	P	18 45 47.2	+26
	0.2nm,0.4s,baz=112,slow=8.3,SNR=5.2						

*IDC **08** 18:42:02.4±1.2, 35°.23N×141°.44E, h0^{km}, mb3.7/5, mb1 3.8/6, mb1mx3.4/54, mbtmp3.6/6, ML2.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/45, Error ellipse: s-maj=38.8km s-min=22.2km az=69.0*
*JMA **08** 18:42:05.8±0.1, 35°.29N×141°.28E, h24^{km}±2^{km}, M2.9*
*NEIC **08** 18:42:06.3±1.8, 35°.30N±0°.05×141°.5E±0°.1, h29^{km}±6^{km}, mb4.1/6, Error ellipse: s-maj=13.0km s-min=7.0km az=81.0*
ISC 08 18:42:06.1±0.9**, 35°.27N**±0°.04×**141°.35E**±0°.06**, h25**^{km}**, n42,** σ**1^s.29**/35**, mb3.8**/9**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.59	318	P	Pb	18 42 16.5	-1.3
CHOJ				eS	Sb	18 42 23.7	-2.1
BSO1	Boso 1	0.68	206	P	Pb	18 42 18.7	-0.3
JSMT	Sammumatsuo	0.82	297	P	Pb	18 42 20.8	-0.9
BSO3	Boso 3	0.83	236	P	Pb	18 42 20.6	-1.0
BSO3				eX		18 42 33.6	
KTR	Katsuura	0.85	262	P	Pb	18 42 20.8	-1.4
KTR				S	Sb	18 42 31.6	-1.6
BSO4	Boso 4	0.87	252	P	Pn	18 42 21.5	-1.1
JKUC	kamogawauchiur	0.94	264	P	Pn	18 42 22.1	-1.6
JCN	Nagara	0.95	280	P	Pn	18 42 23.1	-0.7
JYT	Yasato	1.34	316	P	Pn	18 42 28.6	-0.6
JYT	Yasato	1.34	316		Pn	18 42 28.9	-0.3
JHO	Hitachi	1.48	335	P	Pn	18 42 30.2	-1.0
JHJ2	Mitsune	2.50	211	Pn	Pn	18 42 44.8	-0.3
JMM	Marumori	2.63	350		Pn	18 42 46.6	-0.3
MJAR	Matsushiro Arr	2.85	297	Pn	Pn	18 42 50.5	+0.5
	0.4nm,0.3s,baz=99,slow=15,SNR=24						
MAJO	Matsushiro	2.85	297		Pn	18 42 51.3	+1.3
MAT	Matsushiro	2.85	297	P	Pn	18 42 51.1	+1.1
MAT				S	Sn	18 43 26.3	+2.8
JGF	Kuroka	3.27	277		Pn	18 42 58.0	+2.1
INU	Inuyama	3.54	273	Pn	Pn	18 43 00.7	+1.2
JSD	Sado	3.72	319	Pn	Pn	18 43 03.1	+1.3
JTM	Tenmabayashi	5.52	358	Pn	Pn	18 43 26.5	-0.1
H11N2	WAKE ISLAND Hy	27.33	118	T	T	19 16 49.6	
	baz=310,slow=75,SNR=24						
H11N1	WAKE ISLAND Hy	27.34	118	T	T	19 16 49.6	
	baz=310,slow=75,SNR=21						
H11N3	WAKE ISLAND Hy	27.35	118	T	T	19 16 50.9	
	baz=310,slow=75,SNR=22						
H11S3	WAKE ISLAND Hy	27.98	120	T	T	19 17 23.1	
	baz=312,slow=75,SNR=70						
H11S1	WAKE ISLAND Hy	27.98	120	T	T	19 17 23.1	
	baz=312,slow=75,SNR=84						
H11S2	WAKE ISLAND Hy	28.00	120	T	T	19 17 25.2	
	baz=312,slow=75,SNR=71						
ZAA0	Zalesovo Array	43.08	314	P	P	18 50 04.6	+0.9
ZAA0				IAmb	IAmb	18 50 05.9	
	comp=Z,2.3nm,1.2s						
MK31	Makanchi Array	45.03	304	P	P	18 50 18.8	-0.8
MKAR	Makanchi Array	45.03	304	P	P	18 50 18.7	-0.9
	comp=Z,0.4nm,0.6s,baz=85,slow=9.6,SNR=6.8						
KURK	Kurchatov	46.99	309	P	P	18 50 37.8	+2.8
KURBB	Kurchatov Arra	47.06	309	P	P	18 50 37.8	+2.3
	comp=Z,0.5nm,0.3s,baz=84,slow=8.1,SNR=4.3						
ILAR	Eielson Array	51.02	32	P	P	18 51 05.5	0.0
	comp=Z,0.3nm,0.6s,baz=278,slow=6.9,SNR=2.3						
FITZ	Fitzroy Crossi	55.12	198	LR	LR	19 14 49.8	
	comp=Z,44nm,18.1s,baz=359,slow=36						
WB0	Warramunga Arr	55.13	188	P	P	18 51 36.2	0.0
WB0				IAmb	IAmb	18 51 52.8	
	comp=Z,5.9nm,1.4s						
CTAO	Charters Tower	55.25	174	P	P	18 51 37.1	-0.1
WB2	Warramunga Arr	55.30	188	P	P	18 51 38.0	+0.4
WB2				IAmb	IAmb	18 51 41.1	
	comp=Z,6.4nm,1.3s						
WRA	Warramunga Arr	55.31	188	P	P	18 51 37.5	-0.1
	comp=Z,0.7nm,0.4s,baz=5.1,slow=7.6,SNR=27						
AS31	Alice Springs	59.03	188	P	P	18 52 03.4	-0.5
AS31				IAmb	IAmb	18 52 20.4	
	comp=Z,1.0nm,1.2s						
ASAR	Alice Springs	59.03	188	P	P	18 52 04.1	+0.2
	comp=Z,0.5nm,0.7s,baz=9.3,slow=8.7,SNR=11						
H03N2	Juan Fernandez	146.85	99	T	T	21 46 01.0	
	baz=289,slow=76,SNR=8.7						
H03N3	Juan Fernandez	146.86	99	T	T	21 45 59.6	
	baz=289,slow=76,SNR=9.2						
H03N1	Juan Fernandez	146.87	99	T	T	21 46 02.4	
	baz=289,slow=76,SNR=11						

*TEH **08** 18:43:32.8, 30°.03N×56°.53E, h12^{km}, ML4.3*
*THR **08** 18:43:33.1±0.5, 30°.06N×56°.52E, h14^{km}±3^{km}, ML4.3*
*NEIC **08** 18:43:35.1±2.3, 30°.1N±0°.1×56°.2E±0°.1, h24^{km}±4^{km}, Error ellipse: s-maj=19.7km s-min=13.1km az=133.0*
*OMAN **08** 18:43:35.0, 29°.90N×57°.14E, h10^{km}, mb5.2/5, ml4.0/9*
*DSN **08** 18:43:35.9±0.9, 29°.86N×56°.99E, h10^{km}, ML4.3/11, Error ellipse: s-maj=40.1km s-min=8.6km az=102.0*
*IDC **08** 18:43:37.7±2.6, 29°.93N×56°.50E, h54^{km}±32^{km}, mb3.3/6, mb1 3.5/9, mb1mx3.2/57, mbtmp3.7/9, ML3.8/4, Error ellipse: s-maj=21.8km s-min=18.1km az=97.0*
ISC 08 18:43:33.8±0.6**, 30°.03N**±0°.04×**56°.49E**±0°.04**, h10**^{km}**, n101,** σ**1^s.60**/113**, mb3.8**/11**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBR	Kerman	0.24	100	ePg	Pg	18 43 38.2	-0.7
KRBR				IAML		18 43 42.4	
	comp=N,109μm,0.2s						
KRBR				IAML		18 43 42.4	
	comp=E,80μm,0.2s						
KRBR	Kerman	0.24	100	ePg	Pg	18 43 38.2	-0.7
TVBK	TV Kerman	0.24	99	ePg	Pg	18 43 38.2	-0.7
KHGB	Koh Gabri	0.35	359	ePg	Pg	18 43 40.0	-0.9
NGRK	Negar Kerman	0.43	151	ePg	Pg	18 43 41.3	-1.1
CHMN	Cheshme madani	0.93	100	ePg	Pg	18 43 50.0	-1.8
CHMN				e		18 44 02.8	
	comp=Z,99nm,0.2s						
IBAF	Bafgh	1.75	333	e		18 44 30.3	
	comp=Z,99nm,0.3s						
IBAF				ePn	Pn	18 44 04.6	+0.2
KBAM	BAM	1.93	117	e		18 44 34.7	
	comp=Z,99nm,0.4s						
KBAM				ePn	Pn	18 44 06.6	-0.2
IMEH	Mehriz	2.11	311	ePn	Pn	18 44 10.0	+0.6
IMEH				e		18 44 43.1	
	comp=Z,99nm,0.3s						
KHNJ	Kahnooj	2.33	152	ePn	Pn	18 44 12.1	-0.1
GENO	Geno	2.63	186	ePn	Pn	18 44 17.8	+1.3
BNDS	Bandar-Abbas	2.63	186	ePn	Pn	18 44 17.8	+1.3
BNDS	Bandar-Abbas	2.63	186	ePn	Pn	18 44 17.8	+1.3
ICHK	Chekchek	2.84	322	ePn	Pn	18 44 20.4	+1.0
ICHK				e		18 45 08.8	
	comp=Z,99nm,0.4s						
YZKH	Yazd	2.86	326	ePn	Pn	18 44 20.2	+0.6
YZKH				eSg	Sb	18 45 02.4	+2.2
YZKH				IAML		18 45 08.1	
	comp=E,468nm,0.4s						
YZKH				IAML		18 45 09.1	
	comp=N,680nm,0.7s						
YZKH	Yazd	2.86	326	ePn	Pn	18 44 20.2	+0.6
JHRM	Jahrom	2.96	240	ePn	Pn	18 44 22.3	+1.4
JHRM				e		18 45 23.9	
	comp=Z,99nm,0.4s						
LAR1	LAR	2.99	219	ePn	Pn	18 44 23.1	+1.8
LAR1				e		18 45 14.9	
	comp=Z,99nm,0.7s						
TPRV	Parvadeh(Tabas	3.00	3	ePn	Pn	18 44 22.4	+0.9
ISAD	Sadrabad	3.05	309	ePn	Pn	18 44 23.6	+1.2
ISAD				e		18 45 14.6	
	comp=Z,99nm,0.6s						
IKOO	Kooshah	3.22	41	ePn	Pn	18 44 25.3	+0.6
IKOO				e		18 45 21.9	
	comp=Z,99nm,0.3s						
NHDN	Nehbandan	3.36	65	ePn	Pn	18 44 27.2	+0.7
NHDN				e		18 45 27.1	
	comp=Z,99nm,0.5s						
QIR1	Qir	3.38	244	ePn	Pn	18 44 26.5	-0.2
ITEG	Tejag	3.45	33	ePn	Pn	18 44 28.3	+0.5
ITEG				e		18 45 26.2	
	comp=Z,99nm,0.7s						
SHI	Shiraz	3.47	265	ePn	Pn	18 44 29.3	+1.2
TKDS	Koohdasht(Taba	3.62	8	ePn	Pn	18 44 30.9	+0.9
TKDS				e		18 45 45.4	
	comp=Z,99nm,0.6s						
ZHSF	Zahedan	3.75	95	ePn	Pn	18 44 32.7	+0.8
ZHSF	Zahedan	3.75	95	ePn	Pn	18 44 32.7	+0.8
TNSJ	Nastanj	3.93	1	ePn	Pn	18 44 34.8	+0.5
ANAR	Anarak	3.94	324	ePn	Pn	18 44 34.9	+0.5
IRAM	Ramesheh	3.95	298	ePn	Pn	18 44 35.8	+1.1
IDAH	Dahanechah	3.96	46	ePn	Pn	18 44 36.5	+1.6
SHME	Shamm	3.97	184	i P	Pn	18 44 35.4	+0.6
	SNR=12						
SHME				S	Sn	18 45 22.2	+0.8
SHME	Shamm	3.97	184	P	Pn	18 44 35.4	+0.6
	SNR=12						
SHME				S	Sn	18 45 22.8	+1.3
AFRZ	Afriz	4.02	32	ePn	Pn	18 44 35.9	+0.4
BANOM	Banah	4.09	182	i P	Pn	18 44 38.0	+1.5
	SNR=20						
BANOM	Banah	4.09	182	P	Pn	18 44 37.2	+0.7
	SNR=20						
BANOM				S	Sn	18 45 27.7	+3.3
IMON	Monand	4.16	40	ePn	Pn	18 44 38.8	+1.2
IMON				e		18 44 59.7	
	comp=Z,99nm,0.2s						
NASN	Na'in	4.19	312	ePn	Pn	18 44 38.8	+0.7
NASN	Na'in	4.19	312	ePn	Pn	18 44 38.8	+0.7
KLNJ	Kolanjah	4.33	284	ePn	Pn	18 44 42.0	+1.9
JSK1	Jask	4.52	165	ePn	Pn	18 44 44.0	+1.7
UMQ	Umm Al-Quwin	4.54	189	P	Pn	18 44 44.8	+2.2
IZEF	Zefreh	4.56	310	ePn	Pn	18 44 44.2	+1.1
MASF	Masafi	4.64	184	P	Pn	18 44 45.2	+1.1
	SNR=47						
MASF				S	Sn	18 45 40.2	+2.1
MSFE	Esma-Masafi	4.66	184	i P	Pn	18 44 45.2	+1.0
	SNR=47						
MDH	Madha	4.71	182	i P	Pn	18 44 45.4	+0.4
	SNR=13						
MDH	Madha	4.71	182	P	Pn	18 44 44.8	-0.1
MDH				S	Sn	18 45 39.5	-0.1
UOSS	Minazif	5.07	183	i P	Pn	18 44 50.1	+0.3
	SNR=14						
UOSS	Minazif	5.07	183		Pn	18 44 50.7	+0.9
UOSS	Minazif	5.07	183	P	Pn	18 44 50.1	+0.3
UOSS				S	Sn	18 45 49.3	+0.8
NAZ	Nazwa, Dubai	5.07	188	i P	Pn	18 44 51.4	+1.5
	SNR=14						
NAZ	Nazwa, Dubai	5.07	188	P	Pn	18 44 51.7	+1.8
	SNR=14						
HATD	Hatta, Dubai	5.19	184	i P	Pn	18 44 52.4	+0.9
	SNR=18						
HATD	Hatta, Dubai	5.19	184	P	Pn	18 44 52.5	+1.0
	SNR=18						
HATD				S	Sn	18 45 53.1	+1.6
FAQ	Al Faqa, Dubai	5.32	189	i P	Pn	18 44 54.4	+1.1
	SNR=8.3						
FAQ	Al Faqa, Dubai	5.32	189	P	Pn	18 44 54.8	+1.5
	SNR=8.3						
FAQ				S	Sn	18 45 56.3	+1.6
ASHO	Ashiyiah	5.33	184	i P	Pn	18 44 54.3	+0.7
	SNR=18						
ASHO	Ashiyiah	5.33	184	P	Pn	18 44 54.8	+1.2
	SNR=18						
ASHO				S	Sn	18 45 56.0	+0.9
KRSH	Karshahi	5.40	318	ePn	Pn	18 44 55.2	+0.7
ASUD	Al Ashush, Dub	5.48	191	i P	Pn	18 44 57.6	+2.1
	SNR=46						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASUD	Al Ashush, Dub	5.48	191	P	Pn	18 44 57.6	+2.1
	SNR=46						
ASUD				S	Sn	18 46 00.5	+2.0
QAM	Ghamsar	5.68	312	ePn	Pn	18 45 00.0	+1.5
IANJ	Anjilo	5.84	339	ePn	Pn	18 45 02.0	+1.3
SOHO	SOHO	5.87	180	P	Pn	18 45 00.9	0.0
ALNE	Al Ain	5.98	186	i P	Pn	18 45 03.6	+1.1
	SNR=13						
ALNE	Al Ain	5.98	186	P	Pn	18 45 03.8	+1.4
	SNR=12						
ALNE				S	Sn	18 46 13.1	+2.1
IVRN	Varamin	6.38	322	ePn	Pn	18 45 09.2	+1.3
HOQ	Hoqain	6.46	173	P	Pn	18 45 08.7	-0.3
HRA	Herat	6.54	47		Pn	18 45 11.5	+1.3
BIDO	Bidbid	6.64	167	P	Pn	18 45 11.1	-0.4
	SNR=6.0						
ARQ	Araqi	6.66	180	P	Pn	18 45 12.9	+1.1
	SNR=10						
ARQ				S	Sn	18 46 31.0	+3.2
IPAY	Payeh	6.74	18	ePn	Pn	18 45 14.3	+1.2
IAKL	Akhelmad	6.83	16	ePn	Pn	18 45 16.2	+1.9
IGLO	Ghaloghah	6.83	342	ePn	Pn	18 45 15.5	+1.2
WSAR	Wadi Sarin	7.03	164	P	Pn	18 45 17.0	+0.2
	comp=Z,9.6nm,0.3s,baz=6.4,slow=13,SNR=122						
WSAR				S	Sn	18 46 34.6	-2.1
	comp=Z,2.9nm,0.3s,baz=251,slow=21,SNR=6.8						
IKRD	Kardeh	7.19	20	ePn	Pn	18 45 20.9	+1.6
QRN	Al-Qurain	7.58	262	eP		18 45 23.5	
UMR	Umm Al-Rimmam	7.64	269	eP		18 45 25.0	
RDF	Al-Radifah	7.87	264	eP		18 45 27.9	
MIB	Mutribah	7.94	271	eP		18 45 28.9	
GEYT	Alibeck	8.00	9	P	Pn	18 45 32.9	+2.7
	comp=Z,0.3nm,0.3s,baz=190,slow=13,SNR=2.1						
GYA0B	ALIBECK ARRAY	8.00	9		Pn	18 45 30.2	0.0
QALM	Alamut, Qazvin	8.04	324	ePn	Pn	18 45 33.3	+2.3
RAYN	Ar Rayn	11.75	239		Pn	18 46 18.9	-2.7
GEVA	Gevas	13.84	310	Pn	Pn	18 46 43.4	-6.8
GNI	Garni	13.93	320	Pn	Pn	18 46 50.2	-1.3
MMAI	Mount Meron Ar	18.22	285	P	P	18 47 48.4	+1.3
	comp=Z,0.4nm,0.3s,baz=97,slow=12,SNR=3.1						
EIL	Elat	18.68	274	P	P	18 47 51.1	-1.1
	comp=Z,0.2nm,0.3s,baz=76,slow=12,SNR=5.1						
ABKAR	Akbulak array	19.39	7	Pn	P	18 47 58.9	-0.9
AKTO	Aktyubinsk	20.42	3	P	P	18 48 10.9	-0.1
	comp=Z,3.9nm,0.8s,baz=188,slow=12,SNR=14						
BR131	Keskin Array S	21.05	304	P	P	18 48 16.9	-1.1
BR131				IAmb	IAmb	18 48 24.8	
	comp=Z,5.4nm,0.9s						
BRTR	Keskin Array B	21.05	304	P	P	18 48 17.9	-0.1
	comp=Z,3.3nm,0.8s,baz=114,slow=13,SNR=19						
ELL	Elmali	23.14	294	P	P	18 48 33.5	-6.8
GKN	Gorkha	24.68	88	eP	P	18 48 58.6	+3.4
BVAR	Borovoye Array	25.14	20	P	P	18 48 57.8	-1.1
	comp=Z,0.6nm,0.6s,baz=201,slow=7.7,SNR=6.2						
KKN	Kakani	25.28	88	eP	P	18 49 05.1	+4.4
	comp=Z,9.9nm,0.9s						
PKIN	Phulchoki	25.42	88	eP	P	18 49 05.8	+3.8
	comp=Z,19nm,1.0s						
PKI	Pulchoki	25.44	88	eP	P	18 49 05.8	+3.6
	comp=Z,23nm,1.1s						
GUN	Gumba	25.77	87	eP	P	18 49 10.0	+4.7
	comp=Z,23nm,1.0s						
MK31	Makanchi Array	26.08	43	P	P	18 49 05.9	-1.6
MK31				IAmb	IAmb	18 49 10.6	
	comp=Z,4.0nm,1.6s						
MKAR	Makanchi Array	26.08	43	P	P	18 49 07.0	-0.6
	comp=Z,0.3nm,0.6s,baz=232,slow=9.1,SNR=5.8						
RAMN	Ramite	26.61	89	eP	P	18 49 16.9	+4.1
	comp=Z,9.5nm,1.1s						
TORD	Torodi Ar. Bea	53.16	264	P	P	18 52 49.9	-2.3
	comp=Z,0.9nm,0.7s,baz=66,slow=8.1,SNR=2.3						
YKA	Yellowknife Ar	87.53	356	P	P	18 56 20.5	-1.1
	comp=Z,0.2nm,0.7s,baz=356,slow=4.9,SNR=4.2						

*ATH **08** 18:49:56.1, 37°.24N×23°.36E, h147km±4km, ML3.6/26, Error ellipse: s-maj=4.9km s-min=1.2km az=147.0*
*ISK **08** 18:50:02.9, 37°.24N×23°.41E, h104km±1km, ML3.3/15*
*IDC **08** 18:50:02.9±1.1, 37°.03N×23°.32E, h132km±18km, mb3.4/8, mb1 3.4/16, mb1mx3.2/60, mbtmp3.7/16, MS2.8/1, Ms1 2.8/1, ms1mx2.6/32, Error ellipse: s-maj=23.4km s-min=13.2km az=23.0*
*THE **08** 18:50:03.9, 37°.24N×23°.34E, h105km±1km, ML3.6/13, Error ellipse: s-maj=1.8km s-min=0.8km az=277.0*
*HLW **08** 18:50:05.0, 36°.78N×24°.08E, h10km±28km, Md4.2*
ISC 08 18:50:01.6±0.6**, 37°.20N**±0°.04×**23°.38E**±0°.03**, h114**km±6km**, n162, σ1s.86**/156**, mb3.7**/8**, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YDRA	Hydra	0.17	26	P	Pn	18 50 18.5	+1.1
KRND	KRANIDI	0.26	315	P	Pn	18 50 18.7	+1.1
KRND				AML	AML	18 50 30.8	
	comp=N,10743µm,0.5s						
KRND				AML	AML	18 50 31.0	
	comp=E,6122µm,0.4s						
KRND	KRANIDI	0.26	315	P	Pn	18 50 18.8	+1.1
KRND				S	Sn	18 50 30.4	+0.7
	comp=E,5µm,0.6s						
EPID	Epidavros	0.46	334	P	Pn	18 50 19.7	+1.0
MNVA	Monemvasia	0.58	208	P	Pn	18 50 20.9	+1.5
MNVA				AML	AML	18 50 33.8	
	comp=N,13088µm,0.2s						
MNVA				AML	AML	18 50 34.1	
	comp=E,8739µm,0.3s						
VLI	Veliai	0.60	216	P	Pn	18 50 20.8	+1.3
VLI				AML	AML	18 50 33.9	
	comp=N,6321µm,0.3s						
VLI				AML	AML	18 50 34.5	
	comp=E,5216µm,0.3s						
VLI	Veliai	0.60	216	P	Pn	18 50 20.9	+1.3
VLI				S	Sn	18 50 33.5	+0.5
	comp=E,3µm,0.4s						
VLY	Voula,Athens	0.73	27	P	Pn	18 50 21.4	+0.8
VLY	Voula,Athens	0.73	27	P	Pn	18 50 21.6	+1.0
VLY				S	Sn	18 50 34.6	-0.3
	comp=E,270nm,0.6s						
VLX	Vlachokerasia	0.81	282	P	Pn	18 50 22.7	+1.3
VLX				AML	AML	18 50 37.2	
	comp=N,5328µm,0.4s						
VLX				AML	AML	18 50 37.2	
	comp=E,4941µm,0.5s						
ATH	Athens Observa	0.82	19	P	Pn	18 50 22.4	+1.1
ATH	Athens Observa	0.82	19	P	Pn	18 50 22.7	+1.4
ATHU	Athens Univers	0.83	23	P	Pn	18 50 22.2	+0.7
ATHU				AML	AML	18 50 36.5	
	comp=N,296µm,0.5s						
ATHU				AML	AML	18 50 36.7	
	comp=E,307µm,0.4s						
LOUT	Loutraki	0.85	338	P	Pn	18 50 22.6	+1.0
LTK	Loutraki	0.88	339	P	Pn	18 50 22.8	+0.8
LTK				AML	AML	18 50 37.9	
	comp=E,2179µm,0.3s						
LTK				AML	AML	18 50 38.7	
	comp=N,1758µm,0.3s						
PTL	Penteli	0.93	25	P	Pn	18 50 23.7	+1.3
PTL				AML	AML	18 50 38.6	
	comp=E,1514µm,0.5s						
PTL				AML	AML	18 50 41.4	
	comp=N,632µm,0.7s						
PTL	Penteli	0.93	25	P	Pn	18 50 23.9	+1.4
PTL				S	Sn	18 50 38.1	-0.1
	comp=N,538nm,0.6s						
MHLA	Plaka, Milos I	0.95	118	P	Pn	18 50 24.8	+2.2
MHLO	Agia Marina, M	0.97	121	P	Pn	18 50 24.8	+2.1
MHLO	Agia Marina, M	0.97	121	P	Pn	18 50 24.8	+2.1
KTHA	Kythira Island	0.97	195	P	Pn	18 50 24.9	+2.0
KTHA				AML	AML	18 50 40.8	
	comp=N,6002µm,0.3s						
KTHA				AML	AML	18 50 40.8	
	comp=E,9228µm,0.3s						
KTHA	Kythira Island	0.97	195	P	Pn	18 50 25.0	+2.1
KTHA				S	Sn	18 50 40.5	+1.6
	comp=E,4µm,0.3s						
KTHA	Kythira Island	0.97	195	PG	Pn	18 50 24.9	+2.0
KTHA				SG	Sn	18 50 40.1	+1.2
DION	Dionisos Attik	0.98	27	P	Pn	18 50 24.2	+1.3
DION	Dionisos Attik	0.98	27	P	Pn	18 50 24.4	+1.5
THAL	Thalero	1.01	326	P	Pn	18 50 24.1	+1.0
THAL				AML	AML	18 50 41.1	
	comp=N,5738µm,0.3s						
THAL				AML	AML	18 50 51.3	
	comp=E,7152µm,0.3s						
VIL2	Platees	1.01	355	P	Pn	18 50 23.8	+0.5
VIL2				AML	AML	18 50 40.6	
	comp=N,1581µm,0.4s						
VIL2				AML	AML	18 50 41.5	
	comp=E,1534µm,0.4s						
ITM	Ithomi	1.16	269	P	Pn	18 50 26.7	+2.0
ITM				AML	AML	18 50 45.1	
	comp=N,2323µm,0.3s						
ITM				AML	AML	18 50 45.8	
	comp=E,2517µm,0.6s						
ITM	Ithomi	1.16	269	P	Pn	18 50 26.8	+2.0
ITM				S	Sn	18 50 43.9	+1.6
	comp=E,1µm,0.4s						
ITM	Ithomi	1.16	269	PN	Pn	18 50 26.7	+2.0
ITM				SN	Sn	18 50 43.6	+1.3
KARY	Karystos	1.18	45	P	Pn	18 50 26.5	+1.4
EREA	Eretria	1.29	20	P	Pn	18 50 27.7	+1.5
EREA				AML	AML	18 50 45.7	
	comp=N,1138µm,0.4s						
EREA				AML	AML	18 50 45.8	
	comp=E,1335µm,0.7s						
ANKY	Antikythira Is	1.33	183	P	Pn	18 50 28.5	+1.8
ANKY				AML	AML	18 50 49.3	
	comp=N,2025µm,0.4s						
ANKY				AML	AML	18 50 51.6	
	comp=E,2137µm,0.3s						
ANKY	Antikythira Is	1.33	183	P	Pn	18 50 28.6	+1.9
ANKY				S	Sn	18 50 47.0	+1.3
	comp=E,1µm,0.5s						
PYL	PYLOS	1.34	257	P	Pn	18 50 28.0	+1.2
PYL				AML	AML	18 50 47.9	
	comp=N,1930µm,0.2s						
PYL				AML	AML	18 50 48.1	
	comp=E,2057µm,0.4s						
DSF	Desfina	1.38	331	P	Pn	18 50 28.1	+0.8
DSF				AML	AML	18 50 49.8	
	comp=N,2808µm,0.2s						
DSF				AML	AML	18 50 49.9	
	comp=E,2173µm,0.2s						
DSF	Desfina	1.38	331	P	Pn	18 50 28.2	+0.9
DSF				S	Sn	18 50 47.0	+0.2
	comp=E,1µm,0.2s						
DLFA	Delphi	1.45	332	P	Pn	18 50 28.9	+0.8
LKR	Lokris	1.48	349	P	Pn	18 50 29.3	+0.9
LKR				AML	AML	18 50 54.0	
	comp=N,1710µm,0.5s						
LKR				AML	AML	18 50 54.2	
	comp=E,1572µm,0.3s						
LKR	Lokris	1.48	349	P	Pn	18 50 29.3	+0.9
ATAL	Atalanti	1.52	349	P	Pn	18 50 29.7	+0.9
ATAL				AML	AML	18 50 52.4	
	comp=N,843µm,0.4s						
ATAL				AML	AML	18 50 53.0	
	comp=E,622µm,0.3s						
LAKA	Lakka	1.52	314	P	Pn	18 50 30.1	+1.3
LAKA				AML	AML	18 50 50.7	
	comp=E,7613µm,0.3s						
LAKA				AML	AML	18 50 51.2	
	comp=N,7465µm,0.3s						
DRO	Drossia	1.52	300	P	Pn	18 50 30.7	+1.8
DRO				AML	AML	18 50 53.9	
	comp=E,4861µm,0.3s						
DRO				AML	AML	18 50 54.4	
	comp=N,3350µm,0.4s						
KALE	Kalithea	1.54	321	P	Pn	18 50 30.1	+1.0
KALE				AML	AML	18 50 51.5	
	comp=E,1528µm,0.2s						
KALE				AML	AML	18 50 52.7	
	comp=N,1618µm,0.2s						
KYMI	Kymi, Euboea I	1.54	22	P	Pn	18 50 29.8	+0.7
TRIZ	Trizonia	1.56	319	P	Pn	18 50 30.4	+1.1
AXAR	Agios Charalam	1.66	340	P	Pn	18 50 31.5	+0.9
AXAR				AML	AML	18 50 55.0	
	comp=E,3299µm,0.4s						
AXAR				AML	AML	18 50 58.4	
	comp=N,2897µm,0.5s						
SMIA	Simia	1.68	356	P	Pn	18 50 32.2	+1.3
EFP	Efpalio	1.69	317	P	Pn	18 50 32.3	+1.5
EFP				AML	AML	18 50 55.1	
	comp=E,1702µm,0.4s						
EFP				AML	AML	18 50 55.5	
	comp=N,1709µm,0.3s						
EFP	Efpalio	1.69	317	P	Pn	18 50 32.4	+1.5
EFP				S	Sn	18 50 53.9	+0.7
	comp=N,912nm,0.4s						
APE	Apeiranthos	1.73	94	P	Pn	18 50 33.4	+2.0
APE				AML	AML	18 50 55.7	
	comp=N,439µm,0.7s						
APE				AML	AML	18 50 57.0	
	comp=E,502µm,0.6s						
APE	Apeiranthos	1.73	94	P	Pn	18 50 33.6	+2.2
APE	Apeiranthos	1.73	94	PN	Pn	18 50 32.8	+1.4
APE				SN	Sn	18 50 54.4	+0.3
SAP3	Santorini-Thir	1.76	115	P	Pn	18 50 34.3	+2.6
THR5	Thira Island,	1.77	116	P	Pn	18 50 34.4	+2.6
THR9	Santorini-Faro	1.80	117	P	Pn	18 50 34.9	+2.7
ANX	Ano Chora	1.80	321	P	Pn	18 50 33.8	+1.4
ANX				AML	AML	18 50 58.2	
	comp=N,1934µm,0.3s						
ANX				AML	AML	18 51 00.7	
	comp=E,1550µm,0.4s						
IMMV	Iera Moni Meta	1.80	164	P	Pn	18 50 34.4	+2.0
IMMV				AML	AML	18 51 01.2	
	comp=N,3251µm,0.3s						
IMMV				AML	AML	18 51 01.8	
	comp=E,2586µm,0.4s						
IMMV	Iera Moni Meta	1.80	164	P	Pn	18 50 34.4	+2.0
IMMV				S	Sn	18 50 58.0	+2.3
	comp=E,1µm,0.3s						
IMMV	Iera Moni Meta	1.80	164	PN	Pn	18 50 34.5	+2.2
IMMV				SN	Sn	18 50 57.2	+1.5
SNT5	Nea Kammeni, S	1.81	116	P	Pn	18 50 34.9	+2.6
SNT5	Nea Kammeni, S	1.81	116	P	Pn	18 50 35.0	+2.6
THR3	Thira Island,	1.81	115	P	Pn	18 50 35.1	+2.8
THT2	Imerovigli	1.81	114	PN	Pn	18 50 34.4	+2.0
THR2	Thira island,	1.82	114	P	Pn	18 50 34.6	+2.1
THR6	Thira Island,	1.83	117	P	Pn	18 50 35.4	+2.8
THR8	Santorini-Mono	1.86	115	P	Pn	18 50 35.5	+2.5
SANT	Santorini	1.87	116	PN	Pn	18 50 34.9	+1.8
VAM	Vamos	1.91	159	P	Pn	18 50 35.3	+1.6
VAM	Vamos	1.91	159	P	Pn	18 50 35.5	+1.8
KNDR	Palaiochora Ch	1.98	173	PN	Pn	18 50 36.7	+2.2
AGG	Agios Georgios	2.00	336	P	Pn	18 50 36.0	+1.3
AGG				AML	AML	18 51 03.4	
	comp=E,737µm,0.8s						
AGG				AML	AML	18 51 09.4	
	comp=N,490µm,0.4s						
AGG	Agios Georgios	2.00	336	P	Pn	18 50 36.0	+1.3
AGG	Agios Georgios	2.00	336	PN	Pn	18 50 36.1	+1.4
MAKR	Makrakomi, Fth	2.06	332	P	Pn	18 50 37.0	+1.5
LTHK	Lithakia	2.08	285	P	Pn	18 50 36.4	+0.6
LTHK				S	Sn	18 51 01.5	-0.4
	comp=N,825nm,0.1s						
EVR	Evrytania	2.11	325	P	Pn	18 50 37.9	+1.6
EVR	Evrytania	2.11	325	P	Pn	18 50 37.9	+1.6
PDO	Prodromos	2.23	309	P	Pn	18 50 39.2	+1.6
VLMS	Volimes, Zakyn	2.26	288	P	Pn	18 50 38.7	+0.6
IDI	Anoyia	2.27	147	P	Pn	18 50 39.2	+1.0
	comp=N,23nm,0.3s,baz=292,slow=5.8,SNR=162						
IDI				S	Sn	18 51 06.9	+0.6
	comp=N,42nm,0.3s,baz=272,slow=18,SNR=9.8						
IDI				LR	LR	18 51 49.1	
	comp=N,229nm,21.9s,baz=239,slow=49						
IDI	Anoyia	2.27	147	P	Pn	18 50 39.2	+1.0
IDI	Anoyia	2.27	147	PN	Pn	18 50 39.3	+1.0
HRKL	Herakleio	2.35	143	PN	Pn	18 50 41.0	+1.8
VLS	Valsamata	2.42	295	P	Pn	18 50 40.8	+0.7
GVDS	Gavdos	2.42	166	PN	Pn	18 50 42.1	+1.9
GVD	Gavdhos	2.43	166	PN	Pn	18 50 42.6	+2.4
CHOS	Chios island	2.43	60	PN	Pn	18 50 41.7	+1.4
SIVA	Sivas	2.47	152	P	Pn	18 50 44.4	+3.6
NPS	Neapolis	2.65	136	P	Pn	18 50 44.7	+1.6
SIGR	SIGRI	2.80	43	PN	Pn	18 50 46.7	+1.7
URLA	Izmir	2.80	65	PN	Pn	18 50 46.4	+1.3
KOSK	Kos Island	2.92	98	PN	Pn	18 50 48.0	+1.4
ZKR	Zakros	3.10	131	P	Pn	18 50 51.3	+2.2
ZKR	Zakros	3.10	131	PN	Pn	18 50 51.2	+2.2
GCAM	G?zelcaml?	3.11	80	PN	Pn	18 50 50.8	+1.7
BODT	Bodrum	3.15	91	PN	Pn	18 50 51.5	+1.8
OUR	Ouranopolis	3.17	8	PN	Pn	18 50 50.9	+1.1
DKL	Dikili	3.35	55	PN	Pn	18 50 54.0	+1.7
KARP	Karpathos	3.47	117	P	Pn	18 50 55.9	+1.9
KARP				S	Sn	18 51 35.4	+0.9
	comp=N,150nm,0.2s						
KARP	Karpathos	3.47	117	PN	Pn	18 50 56.2	+2.2
AYDB	Zeytinkoy-Aydi	3.66	77	PN	Pn	18 50 58.3	+1.7
ARG	Arkhangelos	3.94	103	PN	Pn	18 51 02.2	+2.0
VAY	Valandovo	4.16	352	i Pn	Pn	18 51 03.6	+0.5
OHR	Ohrid	4.39	334	i Pn	Pn	18 51 05.9	-0.3
STIP	Stip	4.58	349	i Pn	Pn	18 51 09.3	+0.5
SLUM	Salum	5.89	165	S	Sn	18 52 23.6	-9.2
	baz=169						
PDG	Podgorica	6.11	330	ePn	Pn	18 51 27.5	-1.9
HCY	Herceg Novi	6.45	326	ePn	Pn	18 51 31.4	-2.6
TREB	Trebinje	6.73	327	ePn	Pn	18 51 35.0	-2.7
BRY	Bratogost	6.79	328	ePn	Pn	18 51 36.7	-2.1
UPM	Unac-Piva	6.90	332	ePn	Pn	18 51 39.1	-1.2
RUDO	Rudo	7.10	336	ePn	Pn	18 51 40.0	-2.8
STON	Ston	7.14	324	ePn	Pn	18 51 39.4	-3.9
BBLS	Lazići	7.31	337	ePn	Pn	18 51 43.7	-2.0
DIVS	Divibare	7.35	341	ePn	Pn	18 51 42.9	-3.4
HAPS	Han Pijesak,Bl	7.66	335	ePn	Pn	18 51 47.2	-3.2
MAKA	Makarska	7.78	323	i Pn	Pn	18 51 49.3	-2.7
MAKA				Sn	Sn	18 53 11.6	-6.8
RICI	Ricice	7.89	325	i Pn	Pn	18 51 50.9	-2.5
HVAR	Hvar	7.98	321	ePn	Pn	18 51 51.6	-3.1
SWA2		8.12	167	P	Pn	18 51 56.0	-0.7
	baz=170						
SWA2				S	Sn	18 53 16.6	-10
	baz=170						
FRGS	Fruska Gora	8.39	342	ePn	Pn	18 51 55.3	-5.0
BRTR	Keskin Array B	8.44	69	P	Pn	18 52 04.9	+3.9
	comp=N,0.1nm,0.3s,baz=251,slow=15,SNR=3.1						
MLR	Muntele Rosu	8.51	12	P	Pn	18 52 06.5	+4.5
	comp=N,0.2nm,0.3s,baz=183,slow=17,SNR=2.1						
ZIRJ	Zirje	8.73	320	ePn	Pn	18 52 02.4	-2.5
ZIRJ				Sn	Sn	18 53 33.0	-8.4
MORI	Morici	8.85	321	i Pn	Pn	18 52 04.6	-1.9
BLY	Banja Luka	8.87	330	ePn	Pn	18 52 03.7	-3.1
DUGI	Dugi Otok	9.27	320	ePn	Pn	18 52 10.2	-2.0
UDBI	Udbina	9.31	324	i Pn	Pn	18 52 11.2	-1.6
HNAT	Natroun	9.67	139	P	Pn	18 52 16.0	-1.7
	baz=140						
MORH	Mrgy, Hungar	9.67	340	ePn	Pn	18 52 15.8	-1.8
NVLJ	Novalja	9.77	321	i Pn	Pn	18 52 16.4	-2.6
GLL	Jalalah	10.31	135	P	Pn	18 52 24.4	-1.9
	baz=136						
KALN	Kalnik	10.31	332	ePn	Pn	18 52 22.7	-3.6
PTJ	Puntijarka	10.31	330	ePn	Pn	18 52 22.9	-3.5
CRES	Cresnjev	10.46	328	ePn	Pn	18 52 25.0	-3.3
MMAI	Mount Meron Ar	10.70	109	P	Pn	18 52 29.3	-2.4
	comp=N,1.1nm,0.3s,baz=295,slow=12,SNR=11						
MMAI				S	Sn	18 54 23.3	-6.2
	comp=N,2.7nm,0.3s,baz=309,slow=22,SNR=9.6						
SUZ	Suez	10.77	130	P	Pn	18 52 31.2	-1.5
	baz=131						
NBNS	Bani Suef	10.83	140	P	Pn	18 52 31.9	-1.5
	baz=141						
CEY	Cerknica	10.85	325	ePn	Pn	18 52 30.2	-3.3
HFRF	Wahat Farafira	10.86	156	P	Pn	18 52 32.9	-0.9
	baz=158						
SOKA	Soboth	11.32	329	ePn	Pn	18 52 35.5	-4.4
	comp=N,0.7nm,0.3s						
OBKA	Obir	11.38	328	ePn	Pn	18 52 37.5	-3.3
	comp=N,0.6nm,0.2s						
KEST	Kesra	11.39	267	P	Pn	18 52 40.9	0.0
	comp=N,0.1nm,0.3s,baz=300,slow=22,SNR=2.0						
KEST				S	Sn	18 54 41.8	-4.5
	comp=N,0.2nm,0.3s,baz=168,slow=8.1,SNR=1.6						
ARSA	Arzberg	11.60	332	ePn	Pn	18 52 39.7	-3.9
	comp=N,1.6nm,0.4s						
EIL	Elat	12.24	125	P	Pn	18 52 50.9	-1.2
	comp=N,0.5nm,0.3s,baz=314,slow=4.0,SNR=17						
EIL				S	Sn	18 54 58.2	-8.5
	comp=N,1.8nm,0.3s,baz=208,slow=6.4,SNR=10						
HKAT	Jabal Katrina	12.42	131	P	Pn	18 52 52.9	-1.8
	baz=131						
ABTA	Abfaltersbach	12.49	323	ePn	Pn	18 52 51.7	-3.6
	comp=N,0.5nm,0.2s						
MOA	Molln	12.57	331	ePn	Pn	18 52 54.9	-1.5
	comp=N,0.6nm,0.4s						
MOTA	Moosalm	13.60	322	ePn	Pn	18 53 09.3	-0.5
	comp=N,0.7nm,0.3s						
GERES	GERESS Array B	13.61	332	P	Pn	18 53 10.3	+0.4
	comp=N,0.2nm,0.3s,baz=154,slow=14,SNR=2.7						
DAVOX	Davos/Dischmat	13.85	318	P	Pn	18 53 14.8	+1.7
	comp=N,0.3nm,0.3s,baz=147,slow=18,SNR=2.1						
KHC	Kasperske Hory	13.89	332	eP	P	18 53 19.0	+1.1
KBZ	Khabaz	16.21	60	P	P	18 53 44.9	+1.3
	comp=N,0.1nm,0.3s,baz=211,slow=4.6,SNR=4.9						
ESDC	Sonseca Array	21.53	285	P	P	18 54 42.1	+0.5
	comp=N,0.7nm,0.8s,baz=77,slow=9.5,SNR=5.9						
HFS	Hagfors	23.77	348	P	P	18 55 03.7	+0.3
	comp=N,2.3nm,0.8s,baz=157,slow=7.8,SNR=1.5						
FINES	FINESS Array B	24.33	3	P	P	18 55 08.5	+0.1
	comp=N,3.7nm,0.9s,baz=177,slow=9.7,SNR=1.9						
EKA	Eskdalemuir Ar	25.54	324	P	P	18 55 20.6	+1.1
	comp=N,1.1nm,0.5s,baz=122,slow=7.4,SNR=8.2						
AKTO	Aktyubinsk	28.00	51	P	P	18 55 42.0	+0.4
	comp=N,0.3nm,0.4s,baz=240,slow=16,SNR=1.5						
MKAR	Makanchi Array	43.89	58	P	P	18 57 57.3	+0.6
	comp=N,0.4nm,0.3s,baz=274,slow=7.9,SNR=21						
ZALV	Zalesovo Beam	44.67	48	P	P	18 58 03.0	+0.3
	comp=N,0.9nm,0.3s,baz=274,slow=8.2,SNR=7.2						
SONM	Songino Array	59.32	51	P	P	18 59 52.3	+0.7
	comp=N,0.5nm,0.6s,baz=274,slow=5.9,SNR=5.5						

IDC 08 18:53:32.6±1.1**, 20°.47S**×**66°.73W, h230**km±20km**, mb3.3**/2**, mb1 3.3**/5**, mb1mx3.1**/34**, mbtmp3.8**/5**, Error ellipse: s-maj=36.3km s-min=10.6km az=104.0, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.94	223	P	Pn	18 54 24.9	+1.3
	2.0nm,0.3s,baz=38,slow=8.8,SNR=18						
LVC				S	S	18 55 03.0	-0.6
	4.2nm,0.3s,baz=280,slow=21,SNR=7.6						
LPAZ	La Paz	4.37	342	P	Pn	18 54 42.6	+1.9
	1.4nm,0.3s,baz=176,slow=11,SNR=25						
LPAZ				S	S	18 55 34.7	+0.2
	0.3nm,0.3s,baz=354,slow=16,SNR=9.1						
SIV	San Ignacio	6.98	51	P	Pn	18 55 13.1	+0.1
	2.9nm,0.3s,baz=239,slow=12,SNR=59						
PLCA	Paso Flores	20.46	188	P	P	18 57 54.1	+1.3
	1.0nm,0.7s,baz=359,slow=12,SNR=5.0						
TORD	Torodi Ar. Bea	75.09	70	P	P	19 04 48.9	-1.0
	1.3nm,0.4s,baz=254,slow=5.0,SNR=5.8						

*IDC **08** 18:53:46.9±1.3, 37°.58N×143°.66E, h0km, mb3.2/4, mb1 3.4/5, mb1mx3.2/47, mbtmp3.2/5, ML2.6/1, Error ellipse: s-maj=34.3km s-min=28.3km az=134.0*
*JMA **08** 18:53:48.5±0.1, 37°.92N×143°.80E, h44km, M3.6*
ISC 08 18:53:49.0±1.3**, 37°.90N**±0°.05×**143°.88E**±0°.08**, h35**km**, n27, σ1s.37**/32**, mb3.4**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.95	283	P	Pn	18 54 19.1	-0.5
JIKH				eS	Sn	18 54 41.8	-1.0
JIO	Ouri	2.07	286	P	Pn	18 54 20.9	-0.4
JIO				eS	Sn	18 54 44.7	-1.1
OFUJ	Ofunato	2.10	305	P	Pn	18 54 21.4	-0.3
OFUJ				eS	Sn	18 54 45.6	-1.0
JKMT	Kesennumamotoy	2.10	296	P	Pn	18 54 21.3	-0.4
JKMT				S	Sn	18 54 45.6	-1.0
JMK	Ichinoseki	2.34	298	P	Pn	18 54 24.9	-0.1
JMK				S	Sn	18 54 51.8	-0.7
JOM	Ohasama	2.56	309	P	Pn	18 54 28.5	+0.4
JOM				S	Sn	18 54 57.9	-0.1
JFT	Otama	2.84	263	P	Pn	18 54 32.4	+0.6
JFT				eS	Sn	18 55 04.8	0.0
JYK	Kaneyama	2.95	291	P	Pn	18 54 34.2	+0.9
JYK				S	Sn	18 55 08.0	+0.5
JAG	Ashikaga	3.83	249	P	Pn	18 54 45.4	-0.1
JAG				eS	Sn	18 55 28.1	-1.2
JOT	Ohata	4.11	329	eS	Sn	18 55 34.5	-1.6
JRY	Ryogami san	4.41	246	P	Pn	18 54 53.2	-0.2
JRY				eS	Sn	18 55 40.2	-3.4
JKB	Kayabe	4.55	332	eS	Sn	18 55 44.7	-2.2
JOD2	Odawara 2	4.67	237	eS	Sn	18 55 46.5	-3.5
MJAR	Matsushiro Arr	4.73	255	Pn	Pn	18 54 57.5	-0.2
	0.3nm,0.3s,baz=80,slow=15,SNR=22						
MJAR				Sn	Sn	18 55 50.1	-1.3
	0.1nm,0.3s,baz=298,slow=29,SNR=1.6						
JCH	Churui	4.73	355	P	Pn	18 54 57.1	-0.7
JCH				S	Sn	18 55 48.5	-2.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	5.64	14	P	Pn	18 55 07.7	-2.6
NEM2				eS	Sn	18 56 07.9	-5.9
ASAJ	Asahikawa	6.29	352	Pn	Pn	18 55 19.4	+0.2
	1.1nm,0.3s,baz=199,slow=13,SNR=23						
ASAJ				Sn	Sn	18 56 28.7	-1.0
	0.4nm,0.3s,baz=7.7,slow=21,SNR=1.9						
H11N2	WAKE ISLAND Hy	26.98	126	T	T	19 27 36.6	
	baz=317,slow=75,SNR=5.2						
H11N1	WAKE ISLAND Hy	26.99	126	T	T	19 27 40.6	
	baz=317,slow=75,SNR=4.3						
H11N3	WAKE ISLAND Hy	27.00	126	T	T	19 27 35.9	
	baz=317,slow=75,SNR=5.0						
H11S1	WAKE ISLAND Hy	27.76	128	T	T	19 28 40.9	
	baz=319						
H11S3	WAKE ISLAND Hy	27.76	128	T	T	19 28 38.8	
	baz=319						
H11S2	WAKE ISLAND Hy	27.77	128	T	T	19 28 37.9	
	baz=319						
MKAR	Makanchi Array	45.33	302	P	P	19 02 05.2	+1.7
	0.2nm,0.6s,baz=89,slow=7.8,SNR=3.0						
WRA	Warramunga Arr	58.23	191	P	P	19 03 40.0	+0.1
	0.5nm,0.9s,baz=8.1,slow=7.0,SNR=2.1						
ASAR	Alice Springs	61.95	190	P	P	19 04 06.4	+1.1
	0.2nm,0.7s,baz=7.8,slow=7.5,SNR=1.8						
YKA	Yellowknife Ar	62.07	31	P	P	19 04 12.0	+6.3
	0.2nm,0.7s,baz=287,slow=7.1,SNR=4.2						

*IDC **08** 19:01:47.7±0.9, 67°.27N×21°.09E, h0km, mb1 3.6/4, mb1mx3.1/48, mbtmp3.6/4, ML2.5/4, Error ellipse: s-maj=15.2km s-min=6.3km az=109.0*
*NAO **08** 19:01:48.6±0.8, 67°.16N×20°.89E, ML2.7*
*HEL **08** 19:01:49.6±0.1, 67°.18N×20°.64E, h1km, ML2.4, ML3.0(UPP), Confirmed Induced event*
*BER **08** 19:01:50.9±3.7, 67°.13N×20°.80E, h0km, ML2.4, ML2.7(NAO), Suspected explosion*
ISC 08 19:01:47.0±0.7, **67°.11N**±0°.02×**20°.60E**±0°.03, **h0km, n40,** σ**1s.57**/79, **Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.64	57	iP	Pb	19 02 00.4	-0.8
MASU				iS	Sg	19 02 08.0	+0.4
RATU	Laukkuluspa	0.81	332	iP	Pg	19 02 03.1	+0.6
RATU				iS	Sg	19 02 13.4	+0.3
KUA	Kurravaara	0.85	353	iP	Pg	19 02 03.3	0.0
KUA				iS	Sg	19 02 13.8	-0.5
HARU	Harads	0.96	171	eP	Pn	19 02 07.9	+0.1
NIKU	Nikkaluokta	0.97	322	eP	Pg	19 02 06.2	+0.6
PAJU	Pajala	0.99	94	eP	Pb	19 02 06.8	-0.2
PAJU				eS	Sb	19 02 20.4	-0.1
LANU	Lannavaara	1.08	29	eP	Pg	19 02 07.3	-0.4
LANU				eS	Sg	19 02 21.0	-0.7
KOVU	Salmi	1.13	352	eP	Pg	19 02 08.3	-0.3
KOVU				eS	Sg	19 02 22.7	-0.5
HEF	Hetta	1.75	40	eP	Pb	19 02 19.1	-0.8
HEF				eSG	Sb	19 02 41.6	-0.7
HEF				MSG		19 02 44.9	
	comp=Z,24nm,0.2s						
TOF	Tornio	1.81	123	ePN	Pg	19 02 22.3	+0.6
TOF				eSG	Sg	19 02 46.7	+1.6
TOF				MSG		19 02 48.8	
	comp=Z,32nm,0.2s						
LILU	Lilltraesk	1.86	190	eP	Pg	19 02 23.3	+0.7
KIF	Kilpisjarvi	1.90	2	Pn	Pb	19 02 22.4	-0.1
KIF				Sn	Sg	19 02 48.5	+0.4
KIF	Kilpisjarvi	1.90	2	Pn	Pb	19 02 22.4	-0.1
KIF				Sn	Sg	19 02 48.5	+0.4
KIF	Kilpisjarvi	1.90	2	eP	Pb	19 02 22.0	-0.6
KIF				eS	Sb	19 02 45.8	-1.0
KIF				eSG	Sg	19 02 47.7	-0.3
KIF				MSG		19 02 49.5	
	comp=Z,75nm,0.2s						
KTK1	Kautokeino	2.15	26	Pn	Pb	19 02 26.4	-0.4
KTK1				Sn	Sb	19 02 53.6	-0.4
KTK1	Kautokeino	2.15	26	eP	Pb	19 02 26.3	-0.4
KTK1				eS	Sb	19 02 52.4	-1.5
KTK1				IAML		19 02 55.5	
	comp=Z,54nm,0.4s						
KTK1	Kautokeino	2.15	26	eP	Pb	19 02 25.8	-1.0
KTK1				eSG	Sb	19 02 53.7	-0.3
RNF	Rovaniemi	2.20	101	eP	Pb	19 02 27.2	-0.4
STEI	Steigen	2.22	294	ePB	Pb	19 02 28.4	+0.5
STEI				eSB	Sb	19 02 56.6	+0.8
SGF	Sodankyl	2.33	79	eP	Pn	19 02 27.9	+1.5
SGF				eSB	Sb	19 02 58.7	-0.2
SGF				MSG		19 03 02.0	
	comp=Z,18nm,0.2s						
JETT	Jettan, Norway	2.46	358	Pn	Pn	19 02 29.8	+1.5
JETT				Sn	Sn	19 02 59.4	+0.4
JETT				Sg	Sb	19 03 03.5	+0.8
BURU	Burvik	2.56	172	eP	Pb	19 02 33.3	-0.4
BURU				eS	Sb	19 03 05.2	-0.4
TRO	Tromso	2.61	347	ePB	Pb	19 02 34.1	-0.4
ARA0	ARCESS Array S	3.04	35	Pn	Pn	19 02 37.5	+1.2
	baz=209,slow=16						
ARA0				Sn	Sn	19 03 13.6	+0.3
	baz=210,slow=28						
ARA0				Lg	Lg	19 03 17.7	
	baz=213,slow=28						
ARA0	ARCESS Array S	3.04	35	Pn	Pn	19 02 37.5	+1.2
	baz=209,slow=16						
ARA0				Sn	Sn	19 03 13.6	+0.3
	baz=210,slow=28						
ARCES	ARCESS Array B	3.04	35	Pg	Pn	19 02 37.0	+0.8
	baz=215,slow=16,SNR=56						
ARCES				Lg	Lg	19 03 15.1	
	baz=215,slow=27,SNR=11						
APA0	Apatity Array	4.81	78	Pn	Pn	19 03 00.6	-0.1
	baz=281,slow=12						
APA0				Sn	Sn	19 03 55.3	-1.7
	baz=273,slow=28						
APA0				Lg	Lg	19 04 14.6	
	baz=270,slow=28						
APA0	Apatity Array	4.81	78	Pn	Pn	19 03 00.6	-0.1
	baz=281,slow=12						
APA0				Sn	Sn	19 03 55.3	-1.7
	baz=273,slow=28						
APA0				Sg	Sb	19 04 14.6	+4.1
	baz=270,slow=28						
FIA0	FINESS Array S	6.17	155	Pn	Pn	19 03 22.6	+3.4
	baz=344,slow=14						
FIA0				Sn	Sn	19 04 31.5	+1.1
	baz=349,slow=22						
FIA0				Lg	Lg	19 05 01.2	
	baz=346,slow=37						
FIA0	FINESS Array S	6.17	155	Pn	Pn	19 03 22.6	+3.4
	baz=344,slow=14						
FIA0				Sn	Sn	19 04 31.5	+1.1
	baz=349,slow=22						
FIA0				Sg	Sg	19 05 01.2	-3.7
	baz=346,slow=37						
FINES	FINESS Array B	6.17	155	Pn	Pn	19 03 22.6	+3.4
	comp=Z,0.5nm,0.3s,baz=348,slow=12,SNR=22						
FINES				Sn	Sn	19 04 30.5	+0.2
	comp=Z,0.6nm,0.3s,baz=345,slow=23,SNR=8.0						
FINES				Lg	Lg	19 05 02.8	
	comp=Z,1.7nm,0.3s,baz=347,slow=28,SNR=8.7						
NB2	NORSAR Subarra	7.35	218	Pn	Pn	19 03 38.6	+3.2
	baz=30,slow=12						
NB2				Sn	Sn	19 04 58.2	-1.2
NB2				Lg	Lg	19 05 40.0	
NB2	NORSAR Subarra	7.35	218	Pn	Pn	19 03 38.6	+3.2
	baz=30,slow=12						
NB2				Sn	Sn	19 04 58.2	-1.2
NB2				Sg	Sg	19 05 40.0	-2.6
NOA	NORSAR Array B	7.35	218	Pn	Pn	19 03 38.2	+2.8
	comp=Z,0.0nm,0.3s,baz=24,slow=11,SNR=1.3						
NOA				Sn	Sn	19 04 57.9	-1.5
	comp=Z,0.0nm,0.3s,baz=342,slow=13,SNR=4.6						
NOA				Lg	Lg	19 05 37.9	
	comp=Z,0.1nm,0.3s,baz=109,slow=20,SNR=4.6						
NRA0	NORESS Array S	7.54	216	Pn	Pn	19 03 41.0	+3.0
	baz=29,slow=12						
NRA0				Sn	Sn	19 05 03.5	-0.5
	baz=24,slow=22						
NRA0				Lg	Lg	19 05 48.8	
	baz=31,slow=28						
NRA0	NORESS Array S	7.54	216	Pn	Pn	19 03 41.0	+3.0
	baz=29,slow=12						
NRA0				Sn	Sn	19 05 03.5	-0.5
	baz=24,slow=22						
NRA0				Sg	Sg	19 05 48.8	+0.1
	baz=31,slow=28						
HFS	Hagfors	7.65	207	Pn	Pn	19 03 41.1	+1.6
	comp=Z,0.2nm,0.3s,baz=19,slow=14,SNR=5.9						
HFS				Sn	Sn	19 05 05.7	-1.0
	comp=Z,0.3nm,0.3s,baz=26,slow=20,SNR=1.7						
HFS				Lg	Lg	19 05 45.5	
	comp=Z,0.4nm,0.3s,baz=34,slow=26,SNR=1.6						
HFS	Hagfors	7.65	207	Pn	Pn	19 03 40.6	+1.2
	baz=15,slow=14						
HFS				Sn	Sn	19 05 04.0	-2.7
	baz=11,slow=28						
HFS	Hagfors	7.65	207	Pn	Pn	19 03 40.6	+1.2
	baz=15,slow=14						
HFS				Sn	Sn	19 05 04.0	-2.7
	baz=11,slow=28						
SPITS	Spitsbergen Ar	11.19	356	Pn	Pn	19 04 24.4	-3.5
	baz=166,slow=18,SNR=1.8						

*IDC **08** 19:04:03.4±1.9, 2°.37S×134°.86E, h0km, mb3.6/4, mb1 4.1/6, mb1mx3.7/28, mbtmp3.8/6, ML4.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.4/26, Error ellipse: s-maj=61.0km s-min=23.6km az=73.0*
*DJA **08** 19:04:06.5±0.5, 3°S±5°×13°5E±°, h84km±16km, M4.1/6, mb4.4/3, MLv4.0/6*
ISC 08 19:04:07.5±0.9, **2°.5S**±0°.1×**134°.61E**±0°.05, **h30km, n12,** σ**1s.17**/16, **mb3.6**/4, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	1.76	68	P	Pn	19 04 36.2	+0.3
SRPI				S	Sn	19 04 57.3	0.0
BAKI	Biak	2.00	48	P	Pn	19 04 40.4	+1.1
FAKI	Fak Fak	2.39	261	P	Pn	19 04 44.6	0.0
FAKI				S	Sn	19 05 11.5	-1.4
SIJI	Sorong	3.73	296	Pn	Pn	19 05 03.2	+0.2
	15nm,0.3s,baz=88,slow=14,SNR=61						
SIJI				Sn	Sn	19 05 45.4	-0.7
	12nm,0.3s,baz=160,slow=23,SNR=8.1						
SIJI				LR	LR	19 07 09.3	
	comp=Z,84nm,20.0s,baz=75,slow=48						
SWI	Sorong	3.74	296	P	Pn	19 05 02.8	-0.3
SWI				S	Sn	19 05 44.9	-1.3
GENI	Genyem	5.55	91	P	Pn	19 05 26.2	-1.9
	0.3nm38nm,1.1s						
SANI	Sanana	8.63	273	P	Pn	19 06 08.7	-1.7
WRA	Warramunga Arr	17.30	181	P	P	19 08 09.1	+0.9
	0.5nm,0.3s,baz=4.0,slow=12,SNR=14						
ASAR	Alice Springs	21.02	182	P	P	19 08 50.5	+1.7
	11nm,0.7s,baz=7.1,slow=12,SNR=37						
CMAR	Chiang Mai Arr	40.84	302	P	P	19 11 47.9	+1.1
	0.5nm,0.9s,baz=122,slow=6.7,SNR=2.7						
SONM	Songino Array	55.90	337	P	P	19 13 43.1	+0.5
	0.1nm,0.5s,baz=152,slow=6.5,SNR=1.3						
MKAR	Makanchi Array	67.19	324	P	P	19 14 59.7	+0.9
	0.6nm,0.6s,baz=110,slow=8.2,SNR=13						

*IDC **08** 19:04:18.5±1.7, 5°.07S×133°.63E, h0km, mb3.8/2, mb1 3.9/6, mb1mx3.5/27, mbtmp3.8/6, ML3.7/4, Error ellipse: s-maj=66.5km s-min=25.4km az=70.0*
ISC 08 19:04:22.7±1.5, **5°.2S**±0°.1×**133°.5E**±0°.2, **h25km, n6,** σ**1s.20**/8, **Aru Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.66	177	Pn	Pn	19 07 47.9	-0.8
	0.2nm,0.3s,baz=356,slow=14,SNR=9.9						
WRA				Sn	Sn	19 10 30.4	-0.1
	0.1nm,0.3s,baz=354,slow=23,SNR=2.0						
FITZ	Fitzroy Crossi	14.95	210	Pn	Pn	19 07 54.2	+1.7
	0.5nm,0.3s,baz=27,slow=10,SNR=26						
FITZ				Sn	Sn	19 10 36.0	-1.6
	0.2nm,0.3s,baz=180,slow=11,SNR=2.3						
ASAR	Alice Springs	18.35	179	P	P	19 08 36.5	+0.9
	0.2nm,0.3s,baz=5.8,slow=11,SNR=23						
CTA	Charters Tower	19.28	141	P	P	19 08 46.1	+0.3
	0.2nm,0.3s,baz=326,slow=14,SNR=2.3						
STKA	Stephens Creek	27.58	165	P	P	19 10 08.2	+0.2
	1.3nm,1.0s,baz=324,slow=8.7,SNR=1.7						
MKAR	Makanchi Array	68.73	325	P	P	19 15 23.8	-0.6
	0.5nm,0.5s,baz=118,slow=7.7,SNR=5.3						

*PGC **08** 19:09:53.9, 50°.10N×114°.79W, h0km, ML3.1/5, 96km Ene of Cranbrook, Bc Alberta, Canada Mining explosion.*
*IDC **08** 19:09:56.0±1.4, 50°.38N×114°.08W, h0km, mb2.6/2, mb1 3.3/4, mb1mx3.1/52, mbtmp2.9/4, ML3.7/2, Error ellipse: s-maj=53.8km s-min=12.2km az=77.0*
ISC 08 19:09:53.3±0.9, **50°.16N**±0°.05×**114°.82W**±0°.05, **h0km, n23,** σ**1s.57**/26, **Alberta**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WALA	Waterton Lakes	1.25	151	P	Pg	19 10 15.7	-1.7
BSMT	Bassoo Peak	2.31	179	Pn	Pn	19 10 31.4	-1.5
SLEB	Sale Mountain	2.33	297	Pn	Pn	19 10 34.0	+0.8
SLEB				Sg	Sb	19 11 06.6	+0.8
YBMT	Yellow Bay	2.36	167	Pn	Pn	19 10 33.3	-0.2
YBMT				Sg	Sn	19 11 04.6	+1.4
I56US	NEWPORT INFRAS	2.43	219	i		19 28 45.0	
	baz=43,slow=312,SNR=3.4						
JTMT	Jette	2.44	171	Pn	Pn	19 10 33.8	-0.8
BHMT	Big Hole Peak	2.59	183	Pn	Pn	19 10 36.1	-0.5
SWMT	Swartz Lake	2.71	168	Pn	Pn	19 10 37.6	-0.6
FBMT	Ferry Basin	2.77	174	Pn	Pn	19 10 38.6	-0.5
MNB	Mounoet Dainar	3.03	314	Pn	Pn	19 10 44.2	+1.5
SLMT	Seeley Lake	3.05	163	Pn	Pn	19 10 42.7	-0.3
EDM	Edmonton	3.20	16	Pn	Pn	19 10 45.3	+0.5
EDM				Sn	Sn	19 11 23.7	0.0
PNT	Penticton	3.22	257	Pn	Pn	19 10 44.2	-1.0
PNT				Sn	Sn	19 11 23.9	-0.4
OVMT	Ovando	3.33	158	Pn	Pn	19 10 46.8	+0.1
BLBC	Blue River	3.36	306	Pn	Pn	19 10 48.5	+1.2
B08A	Colville Reser	3.46	240	Pn	Pn	19 10 47.3	-1.2
LLLB	Lillooet	4.54	278	Pn	Pn	19 11 03.3	0.0
WPB	Watts Point	5.44	268	Pn	Pn	19 11 16.3	+0.7
BIB	Bowen Island	5.55	265	Pn	Pn	19 11 17.0	0.0
PDAR	Pinedale Array	8.24	152	Pn	Pn	19 11 57.8	+3.5
	0.1nm,0.3s,baz=7.1,slow=11,SNR=4.1						
YKA	Yellowknife Ar	12.36	0	Pn	Pn	19 12 47.0	-3.4
	0.4nm,0.3s,baz=177,slow=13,SNR=20						
YKA				Sn	Sn	19 14 55.0	-14
	0.1nm,0.3s,baz=173,slow=22,SNR=2.6						
YKA				Lg	Lg	19 16 13.3	
	0.0nm,0.3s,baz=180,slow=28,SNR=2.1						
ILAR	Eielson Array	22.27	323	P	P	19 14 54.8	+3.2
	0.2nm,0.6s,baz=114,slow=9.2,SNR=2.4						
TXAR	Lajitas Array	22.45	154	P	P	19 14 56.3	+2.4
	0.1nm,0.4s,baz=350,slow=10,SNR=1.9						

*SOME **08** 19:15:43.4, 39°.07N×76°.23E, h0km*
*NNC **08** 19:15:47.6±0.8, 39°.21N×76°.15E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=5.9km s-min=4.3km az=151.0*
*KRNET **08** 19:15:55.0±0.1, 39°.20N×75°.58E, mb3.3*
ISC 08 19:15:53.6±1.4, **39°.42N**±0°.06×**75°.79E**±0°.04, **h10km, n67,** σ**1s.91**/106, **29C-27D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.86	289	⇓iP	Pb	19 16 28.2	+0.3
	baz=98						
SFK				⇓iS	Sb	19 16 52.6	+1.3
	baz=98						
OHH	Osh	2.56	296	⇓iP	Pb	19 16 38.9	-0.8
	baz=2.0						
OHH				⇓iS	Sb	19 17 09.9	-1.4
	baz=2.0						
ULHL	Ulahol	2.84	7	⇑eP	Pg	19 16 45.9	-2.2
	baz=9.0						
ULHL				⇑iS	Sg	19 17 24.1	-0.9
	baz=9.0						
ULHL	Ulahol	2.84	7	P	Pn	19 16 40.8	+1.5
	SNR=7.7						
ARSB	Arslanbob	2.87	312	⇓eP	Pb	19 16 44.2	-0.8
	baz=18						
ARSB				⇓iS	Sb	19 17 19.9	-0.3
	baz=18						
KDJ	Kajisay	2.91	21	⇓iP	Pg	19 16 47.9	-1.4
	baz=22						
KDJ				⇓iS	Sg	19 17 26.0	-1.0
	baz=22						
UCH	Uchtor	2.97	341	⇓iP	Pb	19 16 47.2	+0.3
	baz=45						
UCH				⇓iS	Sb	19 17 25.2	+1.8
	baz=45						
UCH	Uchtor	2.97	341	P	Pn	19 16 43.3	+2.1
	SNR=8.4						
BOOM	Boomskoye usch	3.07	2	⇓eP	Pb	19 16 49.4	+1.0
	baz=5.0						
BOOM				⇓iS	Sb	19 17 29.3	+3.3
	baz=5.0						
DRK	Karamyk	3.09	272	⇑iP	Pn	19 16 44.6	+1.8
	baz=77						
DRK				⇑iS	Sn	19 17 20.6	+0.7
	baz=77						
AML	Almayashu	3.14	330	⇑iP	Pb	19 16 49.0	-0.8
	baz=35						
AML				⇑iS	Sb	19 17 28.2	-0.1
	baz=35						
AML	Almayashu	3.14	330	P	Pn	19 16 45.5	+1.9
	SNR=6.2						
KBK	Karagaybulak	3.30	349	⇑iP	Pb	19 16 52.0	-0.3
	baz=52						
KBK				⇑iS	Sb	19 17 33.7	+1.2
	baz=52						
KBK	Karagaybulak	3.30	349	P	Pg	19 16 54.4	-2.3
	SNR=12						
AAK	Ala-Archa	3.36	343	⇓eP	Pb	19 16 52.7	-0.7
	baz=47						
AAK				⇓iS	Sb	19 17 34.8	+0.4
	baz=47						
AAK	Ala-Archa	3.36	343	P	Pn	19 16 48.9	+2.6
	SNR=11						
AAK	Ala-Archa	3.36	343	⇑Pn	Pn	19 16 46.4	0.0
AAK				⇑Pg	Pb	19 16 55.1	+1.7
	18nm,0.8s						
AAK				⇓Lg	Lg	19 17 42.6	
	28nm,0.6s						
FRU1	Bishkek	3.50	346	⇑iP	Pb	19 16 54.9	-0.8
	baz=49						
FRU1				⇑iS	Sb	19 17 38.2	-0.1
	baz=49						
TKM2	Tokmak 2	3.50	358	⇑eP	Pb	19 16 55.2	-0.6
	baz=0.0						
TKM2				⇑iS	Sb	19 17 39.1	+0.6
	baz=0.0						
TKM2	Tokmak 2	3.50	358	⇑Pn	Pn	19 16 47.2	-1.1
	1.7nm,0.5s						
TKM2				⇑Pg	Pb	19 16 56.5	+0.7
	16nm,0.9s						
TKM2				⇓Lg	Lg	19 17 46.8	
	23nm,0.7s						
EKS2	Erkin-Say	3.58	335	⇑eP	Pb	19 16 55.4	-1.7
	baz=39						
EKS2				⇑iS	Sb	19 17 39.7	-0.9
	baz=39						
KST	Kastek	3.62	2	eP	Pb	19 16 56.3	-1.5
	9.7nm,0.4s						
KST				eS	Sg	19 17 49.1	-0.9
	30nm,0.5s						
KST	Kastek	3.62	2	Pg	Pb	19 16 56.3	-1.5
	14nm,0.5s						
KST				Lg	Lg	19 17 49.3	
	30nm,0.6s						
PRZ	Przheval'sk	3.64	32	⇓eP	Pb	19 16 58.3	+0.1
	baz=32						
PRZ				⇓iS	Sb	19 17 44.7	+2.2
	baz=32						
ANVS	Anan'yevo	3.65	22	⇓iP	Pb	19 16 57.9	-0.4
	baz=23						
ANVS				⇓iS	Sb	19 17 44.1	+1.5
	baz=23						
CHMS	Chumysh	3.66	348	⇑iP	Pb	19 16 56.7	-1.7
	baz=51						
CHMS				⇑iS	Sb	19 17 42.4	-0.5
	baz=51						
IZV	Izvestkoviy	3.67	9	eP	Pb	19 16 56.6	-2.0
	8.6nm,0.5s						
IZV				eS	Sg	19 17 50.2	-1.2
	27nm,0.6s						
IZV	Izvestkoviy	3.67	9	Pg	Pb	19 16 56.6	-2.0
	11nm,0.6s						
IZV				Lg	Lg	19 17 50.2	
	27nm,0.6s						
TNSS	Tian-Shan	3.72	13	eP	Pb	19 16 57.2	-2.4
	5.2nm,0.5s						
TNSS				eS	Sg	19 17 50.9	-2.2
	16nm,0.5s						
TNSS	Tian-Shan	3.72	13	Pg	Pb	19 16 57.2	-2.4
	12nm,0.5s						
TNSS				Lg	Lg	19 17 50.9	
	16nm,0.5s						
DGS	Degeres	3.82	360	eP	Pb	19 17 00.6	-0.6
	22nm,0.7s						
DGS				eS	Sg	19 17 56.7	+0.4
	17nm,0.6s						
DGS	Degeres	3.82	360	Pg	Pb	19 17 00.6	-0.6
	22nm,0.7s						
DGS				Lg	Lg	19 17 56.7	
	17nm,0.6s						
MDOK	Medeo	3.86	14	eP	Pb	19 16 59.4	-2.5
	4.0nm,0.5s						
MDOK				eS	Sg	19 17 54.7	-2.8
	32nm,0.7s						
MDOK	Medeo	3.86	14	⇓Pg	Pb	19 17 01.3	-0.6
	8.4nm,0.6s						
MDOK				⇑Lg	Lg	19 17 56.1	
	34nm,0.7s						
MDOK	Medeo	3.86	14	Pg	Pb	19 17 00.2	-1.7
	8.3nm,0.5s						
MDOK				Lg	Lg	19 17 55.0	
	35nm,0.5s						
AAA	Alma-Ata	3.88	12	eP	Pb	19 17 00.9	-1.2
	11nm,0.1s						
AAA				eS	Sg	19 17 56.9	-1.3
	20nm,0.2s						
AAA	Alma-Ata	3.88	12	Pg	Pb	19 17 01.0	-1.2
	12nm,0.1s						
AAA				Lg	Lg	19 17 57.0	
	26nm,0.6s						
BTK	Batken	3.89	281	⇑iP	Pn	19 16 55.7	+2.2
	baz=85						
BTK				⇑iS	Sn	19 17 40.7	+1.4
	baz=85						
KNDC	Almaty	3.90	13	⇑Pg	Pb	19 17 02.4	0.0
	12nm,0.5s						
KNDC				⇓Lg	Lg	19 17 57.0	
	57nm,0.5s						
KOTS	Kotyrbulak	3.94	14	eP	Pb	19 17 01.6	-1.6
	10nm,0.4s						
KOTS				eS	Sg	19 17 58.2	-1.9
	111nm,0.5s						
KOTS	Kotyrbulak	3.94	14	Pg	Pb	19 17 01.6	-1.6
	21nm,0.4s						
KOTS				Lg	Lg	19 17 58.2	
	111nm,0.5s						
MNAS	Manas	3.95	322	⇑eP	Pb	19 16 59.7	-3.7
	baz=26						
MNAS				⇑iS	Sn	19 17 46.6	+5.8
	baz=26						
USP	Ospenovka	3.96	346	P	Pn	19 16 56.9	+2.4
	SNR=8.0						
SGDS	Sogindy	4.12	348	Pg	Pb	19 17 06.0	-0.3
	8.0nm,0.5s						
SGDS				Lg	Lg	19 18 06.0	
	16nm,0.6s						
TRKS	Terek-Say	4.13	302	⇑iP	Pn	19 17 00.1	+3.2
	baz=5.0						
TRKS				⇑iS	Sn	19 17 47.2	+1.9
	baz=5.0						
SATY	Saty	4.14	28	eP	Pb	19 17 04.2	-2.4
	2.6nm,0.3s						
SATY				eS	Sg	19 18 02.6	-3.8
	18nm,0.4s						
SATY	Saty	4.14	28	Pg	Pb	19 17 04.9	-1.7
	7.5nm,0.6s						
SATY				Lg	Lg	19 18 03.0	
	15nm,0.6s						
KRBS	Karabastau	4.27	359	eP	Pb	19 17 09.6	+0.7
	8.7nm,0.6s						
KRBS				eS	Sg	19 18 11.8	+1.0
	13nm,0.6s						
KRBS	Karabastau	4.27	359	Pg	Pb	19 17 10.0	+1.1
	8.7nm,0.6s						
KRBS				Lg	Lg	19 18 11.8	
	13nm,0.6s						
KTBS	Karatobe	4.34	9	eP	Pb	19 17 08.9	-1.1
	4.0nm,0.4s						
KTBS				eS	Sg	19 18 11.0	-1.9
	28nm,0.5s						
KTBS	Karatobe	4.34	9	Pg	Pb	19 17 09.4	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	6.0nm,0.6s						
KTBS				Lg	Lg	19 18 11.0	
	28nm,0.5s						
KURS	Kuram	4.44	23	eP	Pb	19 17 10.3	-1.4
	5.4nm,0.6s						
KURS				eS	Sg	19 18 12.5	-3.7
	13nm,0.9s						
KURS	Kuram	4.44	23	Pg	Pb	19 17 10.3	-1.4
	5.4nm,0.6s						
KURS				Lg	Lg	19 18 12.5	
	13nm,0.9s						
KUU	Kurty	4.49	5	eP	Pb	19 17 11.9	-0.6
	5.7nm,0.5s						
KUU				eS	Sg	19 18 15.5	-2.2
	40nm,0.7s						
KUU	Kurty	4.49	5	Pg	Pb	19 17 11.9	-0.6
	5.7nm,0.5s						
KUU				Lg	Lg	19 18 15.5	
	40nm,0.7s						
CHKK	Chushkaly	4.52	11	eP	Pb	19 17 12.2	-0.9
	3.8nm,0.5s						
CHKK				eS	Sg	19 18 16.3	-2.5
	13nm,0.6s						
CHKK	Chushkaly	4.52	11	Pg	Pb	19 17 12.1	-0.9
	3.8nm,0.5s						
CHKK				Lg	Lg	19 18 16.3	
	13nm,0.6s						
KPKS	Kokpek	4.59	27	eP	Pb	19 17 10.9	-3.4
	5.8nm,0.3s						
KPKS				eS	Sb	19 18 14.2	+4.5
	25nm,0.4s						
SHLS	Shalkode	4.65	35	eP	Pb	19 17 16.1	+0.8
	6.6nm,0.7s						
SHLS				eS	Sg	19 18 23.6	+0.8
	21nm,0.6s						
SHLS	Shalkode	4.65	35	Pg	Pb	19 17 16.1	+0.8
	6.6nm,0.7s						
SHLS				Lg	Lg	19 18 23.6	
	21nm,0.6s						
PDGK	Podgornoye	4.79	34	Pg	Pb	19 17 15.1	-2.7
	2.2nm,0.4s						
PDGK				Lg	Lg	19 18 20.7	
	5.0nm,0.6s						
PDGK	Podgornoye	4.79	34	⇓Pg	Pb	19 17 16.5	-1.3
	3.6nm,0.5s						
PDGK				⇓Lg	Lg	19 18 21.4	
	33nm,0.8s						
MNBS	Baschi	5.05	22	Pg	Pb	19 17 21.4	-0.7
	6.4nm,0.7s						
MNBS				Lg	Lg	19 18 31.4	
	11nm,0.3s						
KTMS	Ketmen	5.28	39	Pg	Pb	19 17 23.7	-2.5
	2.9nm,0.3s						
KTMS				Lg	Lg	19 18 36.0	
	8.3nm,0.8s						
KK31	Karatay Array	5.42	314	⇓Pn	Pn	19 17 14.9	+0.4
	0.3nm,0.3s,baz=123,slow=13,SNR=9.3						
KK31				⇓Pg	Pg	19 17 33.1	-4.3
	0.7nm,0.5s,baz=139,slow=16,SNR=4.3						
KK31				⇑Sn	Sn	19 18 22.3	+5.3
	2.0nm,0.5s						
KK31				⇓Lg	Lg	19 18 49.8	
	7.4nm,0.8s						
DJR	Jarkent	5.74	30	Pg	Pb	19 17 32.6	-1.4
	1.5nm,0.4s						
DJR				Lg	Lg	19 18 51.5	
	4.0nm,0.6s						
KAPS	Kapalarasan	6.43	23	Pg	Pb	19 17 45.6	0.0
	2.0nm,0.6s						
KAPS				Lg	Lg	19 19 13.2	
	5.1nm,0.9s						

*IDC **08** 19:43:04.3±0.5, 63°.71N×148°.96W, h0^{km}, mb3.9/17, mb1 4.1/21, mb1mx4.1/32, mbtmp4.0/21, ML3.8/4, Error ellipse: s-maj=11.3km s-min=10.6km az=104.0*

*NEIC **08** 19:43:05.2±1.8, 63°.48N±0°.02×148°.84W±0°.04, h11^{km}±2^{km}, Error ellipse: s-maj=3.3km s-min=3.0km az=245.0*

*AEIC **08** 19:43:05±2.5, 63°.48N±0°.01×148°.92W±0°.08, h8^{km}±6^{km}, ML4.0, ML4.2/85(NEIC), Mwr3.8/53(NEIC), Error ellipse: s-maj=5.5km s-min=1.8km az=94.0*

*NEIC **08** 19:43:05.1, 63°.52N×148°.90W, h11^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}7.24; $M_{\theta\theta}$-3.66; $M_{\phi\phi}$-3.57; $M_{r\theta}$1.81; $M_{\theta\phi}$-3.24; $M_{\phi r}$0.83; Fault plane solution: $M_0$7.33000×10^{14} NP1:ϕ_s220.64000°, δ37.75000°, λ82.25000°. NP2:ϕ_s50.40000°, δ52.65000°, λ95.96000°. Principal axes: T 7.5411, Plg81.0000°, Azm349.0000°; N -0.4380, Plg5.0000°, Azm227.0000°; P -7.1031, Plg7.0000°, Azm136.0000°;*

ISC 08 19:43:05.2±0.8, **63°.50N**±0°.02×**148°.83W**±0°.03, **h10**^{km}±5^{km}, **n155**, σ**1^{s}38**/160, **mb4.2**/27, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RND	Reindeer	0.09	186		Pg	19 43 07.5	-0.4
RND				Sg	Sg	19 43 09.1	-0.7
RND				IAML		19 43 09.2	
	comp=E,143µm,0.2s						
MCK	McKinley	0.24	349		Pg	19 43 10.7	+0.5
MCK					Sg	19 43 14.6	+1.1
WAT2	Susitna Watana	0.55	168		Pg	19 43 15.1	-0.8
WAT2					Sg	19 43 22.2	-1.0
HUR	Hurricane	0.64	215		Pg	19 43 17.1	-0.5
HUR					Sg	19 43 25.4	-0.6
TRF	Thorofare Moun	0.66	266	Pg	Pg	19 43 17.5	-0.5
TRF				IAML		19 43 27.2	
	comp=E,10µm,0.5s						
WAT1	Susitna Watana	0.68	169		Pg	19 43 17.4	-1.0
WAT1					Sg	19 43 26.3	-1.1
KTH	Kantishna Hill	0.94	274		Pg	19 43 22.5	-0.8
WRH	Wood River Hil	1.03	18		Pg	19 43 24.6	-0.5
WRH	Wood River Hil	1.03	18		Sn	19 43 40.1	0.0
WRH	Wood River Hil	1.03	18	IAML		19 43 40.6	
	comp=E,6µm,0.7s						
WRH				IAML		19 43 41.3	
	comp=N,5µm,0.6s						
WAT6	Susitna Watana	1.05	151		Pg	19 43 23.9	-1.5
NEA2	Nenana	1.10	355		Pb	19 43 26.1	-0.3
NEA2					Sn	19 43 41.9	-0.1
BPAW	Bear Paw Mtn.	1.13	303		Pg	19 43 26.2	-0.8
BPAW	Bear Paw Mtn.	1.13	303		Sn	19 43 42.5	-0.2
BPAW	Bear Paw Mtn.	1.13	303	IAML		19 43 43.2	
	comp=E,2µm,0.4s						
BPAW				IAML		19 43 44.4	
	comp=N,3µm,0.6s						
HDA	Harding Lake	1.23	41		Pg	19 43 28.4	-0.5
HDA	Harding Lake	1.23	41		Sb	19 43 45.5	+0.9
HDA	Harding Lake	1.23	41	IAML		19 43 46.3	
	comp=N,7µm,0.5s						
HDA				IAML		19 43 46.5	
	comp=E,6µm,0.3s						
CCB	Clear Creek Bu	1.24	21		Pg	19 43 28.1	-0.9
CCB				IAML		19 43 46.0	
	comp=E,3µm,0.6s						
CUT	Chulitna	1.28	212		Pg	19 43 28.5	-1.2
CUT					Sg	19 43 46.1	-0.3
PS08	TAPS Pump Stn8	1.37	39		Pg	19 43 30.2	-1.3
PS09	TAPS Pump Stn9	1.43	71		Pn	19 43 31.9	+0.6
TCOL	CIGO, UAF Yank	1.44	17		Pn	19 43 31.2	-0.1
COLA	College	1.45	17		Pn	19 43 31.2	-0.1
MDM	Murphy Dome	1.49	10		Pn	19 43 32.0	-0.1
MDM				IAML		19 43 53.3	
	comp=E,2µm,0.7s						
MDM				IAML		19 43 53.6	
	comp=N,2µm,0.6s						
IL31		1.54	33		Pn	19 43 32.4	-0.2
ILAR	Eielson Array	1.54	33	Pg	Pn	19 43 32.2	-0.5
	comp=N,93nm,0.3s,baz=216,slow=14,SNR=2573						
ILAR				Lg	Lg	19 43 53.1	
	comp=N,549nm,0.3s,baz=216,slow=29,SNR=16						
ILAR	Eielson Array	1.54	33		Pn	19 43 31.8	-0.9
CHUM	Lake Minchumin	1.60	285		Pn	19 43 33.3	-0.2
PAX	Paxson	1.61	108		Pn	19 43 33.7	-0.1
PPLA	Purkeypile	1.64	250	Pn	Pn	19 43 35.2	+1.0
I23K	Minto, Yukon-K	1.67	352		Pn	19 43 34.6	+0.2
I23K				IAML		19 43 59.9	
	comp=E,4µm,0.7s						
SML	Sawmill	1.71	172		Pn	19 43 34.4	-0.7
SML				IAML		19 44 01.0	
	comp=N,4µm,0.8s						
GHO	Glory Hole Cre	1.73	181		Pn	19 43 35.0	-0.4
GHO				IAML		19 44 01.0	
	comp=N,3µm,0.5s						
GHO				IAML		19 44 03.3	
	comp=E,4µm,0.8s						
POKR	Poker Plat Res	1.73	20		Pn	19 43 35.4	0.0
MLY	Manley	1.75	332		Pn	19 43 35.9	+0.2
SCM	Sheep Creek Mo	1.81	157		Pn	19 43 36.2	-0.3
SCM				IAML		19 44 01.7	
	comp=E,2µm,0.7s						
SCM				IAML		19 44 06.8	
	comp=N,3µm,0.5s						
M24K	Tolsona, Glenn	1.85	138		Pn	19 43 38.0	+0.9
M24K				IAML		19 44 10.3	
	comp=E,3µm,0.7s						
PMR	Palmer	1.92	184	Pn	Pn	19 43 37.6	-0.3
PMR				IAML		19 44 04.0	
	comp=E,3µm,0.5s						
SKT	Skwentna	1.97	220		Pn	19 43 39.1	+0.5
SKT				IAML		19 44 10.1	
	comp=N,1µm,0.8s						
SKT				IAML		19 44 12.5	
	comp=E,2µm,0.8s						
KNK	Knik Glacier	2.10	175		Pn	19 43 40.7	+0.2
KNK				IAML		19 44 12.6	
	comp=N,2µm,0.5s						
PS11	TAPS Pump St11	2.10	131		Pn	19 43 42.3	+1.9
DOT	Dot Lake	2.14	84	Pn	Pn	19 43 41.3	+0.3
SCRK	Sand Creek	2.21	75		Pn	19 43 42.2	+0.2
SUA	Susitna One	2.23	204		Pn	19 43 43.2	+1.0
SUA				IAML		19 44 17.2	
	comp=E,1µm,0.8s						
SUA				IAML		19 44 17.7	
	comp=N,1µm,0.7s						
MENT	Mentasta	2.38	101	Pn	Pn	19 43 46.4	+2.1
PS06	TAPS Pump Stn6	2.40	351		Pn	19 43 45.2	+0.7
KLU	Klutina	2.42	145		Pn	19 43 46.4	+1.4
KLU				IAML		19 44 21.1	
	comp=N,1µm,0.5s						
KLU				IAML		19 44 21.3	
	comp=E,949nm,0.6s						
STLK	Strandline Lak	2.44	216		Pn	19 43 46.2	+1.0
RC01	Rabbit Creek A	2.46	190		Pn	19 43 46.8	+1.6
PRP	Porcupine Dome	2.48	34		Pn	19 43 46.1	+0.4
PRP				IAML		19 44 22.6	
	comp=N,1µm,0.5s						
PRP				IAML		19 44 25.3	
	comp=E,960nm,0.6s						
PS12	TAPS Pump St12	2.66	138		Pn	19 43 49.8	+1.7
PWL	Port Wells	2.66	175		Pn	19 43 49.9	+1.8
SPCP	Crater Peak Br	2.72	216		Pn	19 43 49.0	-0.1
N25K	Chitina, Valde	2.73	132		Pn	19 43 50.7	+1.6
SPCN	Chakachatna No	2.77	216		Pn	19 43 50.4	+0.8
DIV	Divide	2.77	148		Pn	19 43 51.1	+1.4
SPWE	Spurr West	2.83	220		Pn	19 43 51.7	+1.2
K27K	Chicken	3.05	77	Pn	Pn	19 43 53.6	+0.2
K27K				IAML		19 44 42.4	
	comp=N,650nm,0.5s						
O22K	Cooper Landing	3.06	188		Pn	19 43 55.9	+2.4
SLKM	Skilak Lake	3.07	193		Pn	19 43 55.5	+1.7
BC03		3.21	95		Pn	19 43 56.0	+0.4
BCAR	Beaver Creek A	3.21	95	Pn	Pn	19 43 55.8	+0.1
BMRM	Bremner River	3.22	140		Pn	19 43 57.5	+1.7
IM03		3.27	322		Pn	19 43 56.9	+0.6
IMAR	Indian Mountai	3.27	322	Pn	Pn	19 43 57.1	+0.7
EYAK	Cordova Ski Ar	3.30	153	Pn	Pn	19 43 58.6	+1.8
TTA	Tatalina	3.30	263	Pn	Pn	19 43 56.3	-0.7
TTA				IAML		19 44 53.7	
	comp=N,413nm,0.6s						
HIN	Hinchinbrook I	3.30	159		Pn	19 43 58.6	+1.6
HIN				IAML		19 44 49.1	
	comp=E,672nm,1.1s						
HIN				IAML		19 44 55.4	
	comp=N,785nm,0.7s						
TT01	Tatalina	3.31	263		Pn	19 43 56.8	-0.2
PS05	TAPS Pump Stn5	3.42	348		Pn	19 43 59.4	+0.9
SEW	Seward	3.42	185	Pn	Pn	19 44 00.3	+1.8
MCARA	McCarthy VSAT	3.43	126		Pn	19 44 01.9	+3.2
MCARA				IAML		19 45 02.7	
	comp=E,528nm,0.6s						
MCARA				IAML		19 45 03.7	
	comp=N,500nm,1.1s						
DFR	Drift River	3.44	214		Pn	19 44 00.4	+1.5
FYU	Fort Yukon	3.44	25		Pn	19 43 59.3	+0.6
FYU				IAML		19 44 58.2	
	comp=N,619nm,1.2s						
FYU				IAML		19 45 04.1	
	comp=E,448nm,1.7s						
GOAT	Goat Mountain	3.51	145		Pn	19 44 01.5	+1.7
NCT	North Crescent	3.52	215		Pn	19 44 01.2	+1.2
RSO	Redoubt South	3.57	213		Pn	19 44 02.8	+2.1
RED	Redoubt Volcan	3.61	213		Pn	19 44 02.6	+1.4
RAGM	Ragged Mountai	3.69	146		Pn	19 44 04.5	+2.2
PTPK	Patty Peak	3.77	125		Pn	19 44 06.5	+3.0
COLD	Coldfoot	3.79	352		Pn	19 44 04.4	+0.9
BVCY	Beaver Creek	3.80	103		Pn	19 44 05.0	+1.2
CRQM	Cirque	3.84	133		Pn	19 44 05.8	+1.4
CRQM				IAML		19 45 07.1	
	comp=E,591nm,0.8s						
CRQM				IAML		19 45 15.5	
	comp=N,451nm,1.2s						
HMT	Hamilton	3.84	144	Pn	Pn	19 44 06.3	+2.0
BRLK	Bradley Lake	3.88	196		Pn	19 44 07.2	+2.5
BRSE	Bradley Lake S	3.88	194		Pn	19 44 06.7	+1.8
TGL	Tana Glacier	3.94	132	Pn	Pn	19 44 07.0	+1.2
TGL				IAML		19 45 09.8	
	comp=E,311nm,0.6s						
TGL				IAML		19 45 10.6	
	comp=N,350nm,1.0s						
BERG	Berg Lake	3.95	140		Pn	19 44 07.2	+1.4
SVW2	Sparrevohn	3.97	236		Pn	19 44 06.8	+0.8
SVW2				IAML		19 45 12.8	
	comp=N,268nm,0.7s						
SVW2				IAML		19 45 18.3	
	comp=E,300nm,0.8s						
NICHA	Nichawak Mount	4.00	143		Pn	19 44 09.0	+2.4
IVE	Iliamna Volcan	4.02	212		Pn	19 44 09.4	+2.6
KHIT	Khitrov Hills	4.04	137		Pn	19 44 08.7	+1.6
YUK2	White River	4.07	111		Pn	19 44 09.7	+2.2
HOM	Homer	4.08	200		Pn	19 44 09.9	+2.3
GRIN	Grindle Hills	4.15	139		Pn	19 44 10.7	+2.1
CNPM	China Poot	4.15	197		Pn	19 44 11.1	+2.5
CNPM				IAML		19 45 19.8	
	comp=E,185nm,0.8s						
KAIM	Kayak Island	4.15	148	Pn	Pn	19 44 09.9	+1.3
SUCK	Suckling Hills	4.19	143		Pn	19 44 11.1	+1.9
SUCK	Suckling Hills	4.19	143	IAML		19 45 17.6	
	comp=N,374nm,0.7s						
SUCK				IAML		19 45 32.5	
	comp=E,253nm,1.2s						
DAWY	Dawson	4.23	78		Pn	19 44 09.9	+0.3
DAWY				IAML		19 45 25.2	
	comp=E,318nm,0.7s						
YUK3	Moose Creek	4.23	110		Pn	19 44 12.2	+2.3
BM03	Burnt Mountain	4.31	22		Pn	19 44 11.2	+0.3
BMAR	Burnt Mountain	4.33	22	Pn	Pn	19 44 10.8	-0.2
GRNC	Granite Creek	4.33	127		Pn	19 44 12.8	+1.6
KULT	Kultieth River	4.36	136		Pn	19 44 12.9	+1.4
OPT	Oil Point	4.39	211		Pn	19 44 14.6	+2.6
LOGN	Logan Glacier	4.55	123		Pn	19 44 17.2	+3.1
YAH	Yahtse	4.59	130		Pn	19 44 16.5	+1.6
MESA	MESA	4.66	133		Pn	19 44 17.1	+1.4
AUCH	Augustine Cone	4.70	210		Pn	19 44 18.7	+2.5
TABL	Table Mountain	4.75	127		Pn	19 44 18.6	+1.6
PS04	TAPS Pump Stn4	4.95	358		Pn	19 44 21.1	+1.6
CHX	Chaix Hills	5.03	130		Pn	19 44 22.4	+1.7
SAMH	Samovar Hills	5.10	128		Pn	19 44 24.4	+2.8
TOLK	Toolik Lake Re	5.17	357		Pn	19 44 24.5	+1.9
BCPM	Bancas Point	5.63	125		Pn	19 44 30.8	+1.9
KAHC	Katmai Hardscr	5.71	214		Pn	19 44 31.8	+1.7
PNL	Peninsula	5.92	126		Pn	19 44 35.0	+2.2
KDAK	Kodiak Island	6.03	200	Pn	Pn	19 44 34.3	+0.1
	comp=E,1.5nm,0.3s,baz=64,slow=7.6,SNR=26						
KDAK				Sn	Sn	19 45 42.0	-1.2
	comp=E,2.9nm,0.3s,baz=133,slow=22,SNR=6.0						
KDAK	Kodiak Island	6.03	200		Pn	19 44 35.2	+0.9
PS01	TAPS Pump Stn	6.79	1		Pn	19 44 46.2	+1.5
INK	Inuvik	7.89	46	Pn	Pn	19 44 59.7	-0.1
	comp=E,3.0nm,0.3s,baz=242,slow=17,SNR=59						
INK				Sn	Sn	19 46 26.4	-2.5
	comp=E,1.3nm,0.3s,baz=357,slow=22,SNR=3.9						
INK				Lg	Lg	19 47 12.1	
	comp=E,0.2nm,0.3s,baz=144,slow=18,SNR=2.0						
INK	Inuvik	7.89	46	Pn	Pn	19 45 00.0	+0.3
DLBC	Dease Lake	10.43	111	Pn	Pn	19 45 36.8	+2.1
	comp=E,0.2nm,0.3s,baz=137,slow=27,SNR=2.5						
DLBC				Lg	Lg	19 48 36.6	
	comp=E,0.5nm,0.3s,baz=65,slow=17,SNR=6.8						
YKA	Yellowknife Ar	15.47	78	Pn	Pn	19 46 42.1	-1.0
	comp=E,0.3nm,0.3s,baz=292,slow=12,SNR=16						
RES	Resolute Bay	21.29	36	P	P	19 47 49.5	-1.8
	comp=E,1.0nm,0.3s,baz=242,slow=11,SNR=15						
NEW	Newport	23.08	116	P	P	19 48 12.4	+1.7
	comp=E,1.8nm,0.6s,baz=329,slow=9.3,SNR=5.3						
YBH	Yreka Blue Hor	26.60	133	P	P	19 48 44.4	+1.0
	comp=E,0.9nm,0.5s,baz=304,slow=3.6,SNR=2.3						
PDAR	Pinedale Array	30.64	114	P	P	19 49 21.6	+2.0
	comp=E,2.8nm,0.8s,baz=329,slow=5.5,SNR=25						
ULM	Lac du Bonnet	30.82	90	P	P	19 49 21.8	+0.9
	comp=E,0.7nm,0.4s,baz=342,slow=8.6,SNR=3.3						
NVAR	Mina Array Bea	31.05	129	P	P	19 49 25.3	+2.0
	comp=E,1.0nm,0.7s,baz=328,slow=8.3,SNR=8.7						
TXAR	Lajitas Array	44.62	118	P	P	19 51 19.8	+2.2
	comp=E,1.2nm,0.6s,baz=329,slow=7.1,SNR=16						
SONM	Songino Array	54.31	307	P	P	19 52 32.1	+0.7
	comp=E,0.4nm,0.7s,baz=20,slow=4.7,SNR=5.0						
KSRS	Korea Array	54.33	283	P	P	19 52 31.7	+0.3
	comp=E,1.7nm,0.7s,baz=29,slow=6.9,SNR=6.8						
NOA	NORSAR Array B	54.87	12	P	P	19 52 34.8	-0.3
	comp=E,0.7nm,0.8s,baz=347,slow=7.4,SNR=1.9						
FINES	FINESS Array B	55.31	3	P	P	19 52 37.6	-0.6
	comp=E,1.8nm,0.7s,baz=15,slow=8.1,SNR=7.8						
ZALV	Zalesovo Beam	55.69	325	P	P	19 52 39.9	-1.1
	comp=E,0.9nm,0.4s,baz=11,slow=8.0,SNR=5.9						
HHC	Hu-ho-hao-te	58.30	298	eP	P	19 53 00.8	+0.9
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,85nm,8.2s						
MKAR	Makanchi Array	62.88	323	P	P	19 53 29.2	-1.7
	comp=Z,0.9nm,0.4s,baz=38,slow=6.7,SNR=26						
WMQ	Urumqi	64.05	318	eP	P	19 53 41.9	+3.1
AKASG	Malin Array Be	66.13	1	P	P	19 53 51.3	-0.7
	comp=Z,4.2nm,0.5s,baz=2.4,slow=6.4,SNR=24						
GERES	GERESS Array B	67.15	12	P	P	19 53 58.3	-0.4
	comp=Z,0.2nm,0.5s,baz=359,slow=6.9,SNR=3.6						
ESDC	Sonseca Array	73.43	28	P	P	19 54 36.8	-0.5
	comp=Z,1.9nm,0.8s,baz=344,slow=6.1,SNR=13						
TAPN	Taplejung	79.14	311	eP	P	19 55 09.7	-0.5
	comp=Z,9.9nm,0.6s						
GUN	Gumba	79.23	313	eP	P	19 55 10.5	-0.2
	comp=Z,9.9nm,0.9s						
KKN	Kakani	79.54	313	eP	P	19 55 11.8	-0.5
	comp=Z,6.9nm,0.6s						
GKN	Gorkha	79.56	314	eP	P	19 55 11.5	-0.8
	comp=Z,9.5nm,0.6s						
ODAN	Odare	79.70	311	eP	P	19 55 12.8	-0.3
	comp=Z,7.2nm,0.8s						
PKIN	Phulchoki	79.70	313	eP	P	19 55 12.4	-0.8
	comp=Z,3.7nm,0.5s						
PKI	Pulchoki	79.70	313	eP	P	19 55 12.6	-0.7
	comp=Z,3.5nm,0.6s						
DMN	Daman	79.77	313	eP	P	19 55 13.0	-0.5
	comp=Z,10nm,0.8s						
RAMN	Ramite	79.88	312	eP	P	19 55 13.4	-0.7
	comp=Z,5.5nm,0.5s						
CMAR	Chiang Mai Arr	83.10	298	P	P	19 55 30.0	-1.0
	comp=Z,1.0nm,0.6s,baz=9.5,slow=5.8,SNR=13						
BOSA	Boshof	144.90	9	PKP	PKPab	20 02 40.0	-1.2
	comp=Z,3.3nm,0.7s,baz=340,slow=2.8,SNR=8.5						

*IDC **08** 20:00:27.4±0.9, 50°.14N×115°.00W, h0^{km}, mb2.9/2, mb1 3.5/6, mb1mx3.3/41, mbtmp3.2/6, ML3.7/3, Error ellipse: s-maj=15.5km s-min=7.4km az=122.0*

*PGC **08** 20:00:28.1±0.7, 50°.18N×114°.75W, h0^{km}, ML3.0/6, 105km northeast of Cranbrook, Bc Alberta, Canada Mining explosion.*

ISC 08 20:00:26.6±0.8, **50°.21N**±0°.04×**114°.77W**±0°.05, **h0**^{km}, **n23**, σ**1^{s}25**/26, **Alberta**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WALA	Waterton Lakes	1.28	154	P	Pg	20 00 51.1	-0.1
SLEB	Sale Mountain	2.34	295	Pn	Pn	20 01 08.2	+1.6
SLEB				Sg	Sg	20 01 41.9	+0.1
BSMT	Bassoo Peak	2.36	180	Pn	Pn	20 01 07.2	+0.4
BSMT				Sg	Sb	20 01 40.1	+0.2
YBMT	Yellow Bay	2.40	168	Pn	Pn	20 01 08.3	+0.9
NEW	Newport	2.49	219	Pn	Pn	20 01 08.9	+0.5
	4.9nm,0.3s,baz=38,slow=15,SNR=67						
NEW				Lg	Lg	20 01 39.7	
	7.3nm,0.3s,baz=97,slow=23,SNR=7.5						
I56US	NEWPORT INFRAS	2.49	219	*i*		20 19 30.0	
	baz=42,slow=320,SNR=26						
JTMT	Jette	2.49	172	Pn	Pn	20 01 09.2	+0.6
BHMT	Big Hole Peak	2.64	184	Pn	Pn	20 01 11.5	+0.9
SWMT	Swartz Lake	2.75	169	Pn	Pn	20 01 12.7	+0.6
FBMT	Ferry Basin	2.82	175	Pn	Pn	20 01 13.9	+0.8
MNB	Mounoet Dainar	3.02	313	Pn	Pn	20 01 18.1	+2.2
SLMT	Seeley Lake	3.09	164	Pn	Pn	20 01 17.7	+0.9
EDM	Edmonton	3.14	16	Pn	Pn	20 01 17.9	+0.5
EDM				Sn	Sn	20 01 56.6	+1.0
PNT	Penticton	3.27	256	Pn	Pn	20 01 19.3	+0.2
PNT				Sn	Sn	20 01 58.4	-0.3
BLBC	Blue River	3.36	305	Pn	Pn	20 01 22.2	+1.6
B08A	Colville Reser	3.52	240	Pn	Pn	20 01 22.3	-0.3
B08A				Sn	Sn	20 02 03.9	-1.0
WSLR	Whistler	5.24	272	Pn	Pn	20 01 47.6	+1.3
PDAR	Pinedale Array	8.27	152	Pn	Pn	20 02 30.1	+2.2
	0.1nm,0.3s,baz=354,slow=14,SNR=4.7						
I10CA	LAC DU BONNET	12.01	83	*i*		21 12 00.0	
	baz=275,slow=312,SNR=3.7						
ULM	Lac du Bonnet	12.10	83	Pn	Pn	20 03 19.9	-0.3
	0.2nm,0.3s,baz=305,slow=12,SNR=1.7						
ULM				Lg	Lg	20 06 41.6	
	0.2nm,0.3s,baz=228,slow=16,SNR=2.4						
YKA	Yellowknife Ar	12.31	0	Pn	Pn	20 03 20.1	-2.9
	0.4nm,0.3s,baz=179,slow=13,SNR=20						
YKA				Sn	Sn	20 05 28.7	-12
	0.2nm,0.3s,baz=137,slow=30,SNR=5.8						
YKA				Lg	Lg	20 06 47.2	
	0.0nm,0.3s,baz=328,slow=22,SNR=1.2						
INK	Inuvik	20.36	340	P	P	20 05 06.0	+1.7
	0.5nm,0.4s,baz=163,slow=16,SNR=2.1						
ILAR	Eielson Array	22.25	323	P	P	20 05 25.8	+1.2
	0.3nm,0.8s,baz=124,slow=11,SNR=3.0						

*IDC **08** 20:23:43.8±0.8, 64°.03N×166°.19W, h0^{km}, mb3.9/17, mb1 4.1/21, mb1mx3.9/42, mbtmp4.0/21, ML3.4/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/62, Error ellipse: s-maj=21.1km s-min=10.1km az=14.0*

*NEIC **08** 20:23:44.0±1.7, 63°.93N±0°.07×165°.8W±0°.2, h8^{km}±5^{km}, Error ellipse: s-maj=13.4km s-min=8.6km az=66.0*

*AEIC **08** 20:23:48±2.6, 64°.06N±0°.05×165°.3W±0°.2, h19^{km}±5^{km}, ML4.3, mb4.3/9(NEIC), ML4.1/6(NEIC), Error ellipse: s-maj=13.3km s-min=6.9km az=69.0*

ISC 08 20:23:44.4±0.5, **63°.95N**±0°.06×**165°.74W**±0°.06, **h10**^{km}, **n120**, σ**1^{s}10**/122, **mb4.2**/24, **Bering Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RDOG	Red Dog Mine	4.28	14		Pn	20 24 50.2	+0.6
RDOG	Red Dog Mine	4.28	14		Sn	20 25 38.4	-1.1
RDOG	Red Dog Mine	4.28	14	IAML		20 26 20.9	
	comp=N,231nm,1.2s						
TTA	Tatalina	4.49	99	Pn	Pn	20 24 53.1	+0.7
TTA				IAML		20 26 29.6	
	comp=E,148nm,1.0s						
TTA	Tatalina	4.49	99		Sn	20 25 43.2	-1.5
TT01	Tatalina	4.49	99		Pn	20 24 53.3	+0.9
IM03		5.48	63		Pn	20 25 06.0	-0.1
IMAR	Indian Mountai	5.48	63		Pn	20 25 06.0	-0.1
SVW2	Sparrevohn	5.50	117		Pn	20 25 06.4	+0.1
SVW2				IAML		20 27 01.0	
	comp=E,89nm,1.1s						
SVW2				IAML		20 27 04.2	
	comp=N,95nm,1.3s						
SVW2	Sparrevohn	5.50	117		Sn	20 26 09.1	-0.5
CHUM	Lake Minchumin	5.92	85		Pn	20 25 12.8	+0.7
CHUM					Sn	20 26 18.1	-1.8
PPLA	Purkeypile	6.17	94	Pn	Pn	20 25 16.5	+0.8
BPAW	Bear Paw Mtn.	6.48	82	Pn	Pn	20 25 19.5	-0.3
MLY	Manley	6.57	74		Pn	20 25 20.3	-0.6
KTH	Kantishna Hill	6.58	87		Pn	20 25 21.5	+0.3
SKT	Skwentna	6.77	101	Pn	Pn	20 25 24.2	+0.5
SPCN	Chakachatna No	6.83	107		Pn	20 25 25.7	+1.2
STLK	Strandline Lak	6.84	105		Pn	20 25 26.2	+1.4
TRF	Thorofare Moun	6.88	87		Pn	20 25 25.7	+0.3
DFR	Drift River	6.95	113		Pn	20 25 26.9	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSO	Redoubt South	7.00	114		Pn	20 25 27.4	+0.3
I23K	Minto, Yukon-K	7.16	73		Pn	20 25 28.6	-0.4
IVE	Iliamna Volcan	7.17	118		Pn	20 25 30.0	+0.7
ILS	Iliamna Low So	7.18	118		Pn	20 25 30.0	+0.5
COLD	Coldfoot	7.22	56	Pn	Pn	20 25 30.6	+0.7
NEA2	Nenana	7.28	77		Pn	20 25 31.2	+0.5
OPT	Oil Point	7.32	120		Pn	20 25 32.4	+1.1
SUA	Susitna One	7.33	103	Pn	Pn	20 25 33.0	+1.5
KAHC	Katmai Hardscr	7.41	131		Pn	20 25 32.8	+0.2
MCK	McKinley	7.43	84		Pn	20 25 33.2	+0.4
AUH	Augustine H	7.43	123		Pn	20 25 34.0	+1.1
KVTA	Katmai Vly 10	7.52	133		Pn	20 25 34.3	+0.3
RND	Reindeer	7.52	87	Pn	Pn	20 25 35.0	+0.9
PLK1	Peulik 1	7.60	140		Pn	20 25 35.3	+0.2
KARR	Katmai Rainbow	7.62	131		Pn	20 25 35.7	+0.3
MDM	Murphy Dome	7.63	75		Pn	20 25 35.7	+0.2
ACHA	Angle Creek He	7.65	134		Pn	20 25 36.0	+0.2
KJL	Kejulik	7.70	136		Pn	20 25 36.6	+0.2
WRH	Wood River Hil	7.71	78	Pn	Pn	20 25 36.5	-0.1
PLK2	Peulik 2	7.71	139		Pn	20 25 36.8	+0.2
WAT2	Susitna Watana	7.75	90		Pn	20 25 38.1	+0.9
CAHL	Cahill	7.78	135		Pn	20 25 37.8	+0.2
TCOL	CIGO, UAF Yank	7.79	75		Pn	20 25 38.5	+0.8
COLA	College	7.79	75		Pn	20 25 38.4	+0.7
WAT1	Susitna Watana	7.79	91		Pn	20 25 39.1	+1.2
CCB	Clear Creek Bu	7.82	77	Pn	Pn	20 25 38.0	-0.1
KABR	Katmai Barrier	7.83	133		Pn	20 25 39.4	+1.1
PMR	Palmer	7.97	100	Pn	Pn	20 25 42.2	+2.1
POKR	Poker Plat Res	7.97	73	Pn	Pn	20 25 40.5	+0.4
SLKM	Skilak Lake	8.02	108		Pn	20 25 41.9	+1.1
BRLK	Bradley Lake	8.17	114	Pn	Pn	20 25 43.7	+0.7
CNPM	China Poot	8.18	116	Pn	Pn	20 25 43.8	+0.8
IL31		8.21	76	Pn	Pn	20 25 43.3	-0.1
ILAR	Eielson Array	8.21	76	Pn	Pn	20 25 42.9	-0.6
	comp=N,0.4nm,0.3s,baz=267,slow=13,SNR=26						
ILAR				Sn	Sn	20 27 11.8	-4.3
	comp=N,1.5nm,0.3s,baz=246,slow=11,SNR=5.9						
ILAR				Lg	Lg	20 28 02.9	
	baz=258,slow=29,SNR=2.0						
ILAR				LR	LR	20 29 12.0	
	comp=N,118nm,19.7s,baz=248,slow=39						
ILAR	Eielson Array	8.21	76	Pn	Pn	20 25 43.2	-0.3
WAT6	Susitna Watana	8.22	91		Pn	20 25 43.5	-0.3
SML	Sawmill	8.23	97	Pn	Pn	20 25 45.5	+1.7
BRSE	Bradley Lake S	8.24	114		Pn	20 25 45.1	+1.2
O22K	Cooper Landing	8.24	108	Pn	Pn	20 25 45.7	+1.9
KNK	Knik Glacier	8.34	100		Pn	20 25 47.3	+2.0
CHGN	Chignik	8.49	151	Pn	Pn	20 25 46.6	-0.7
SEW	Seward	8.56	109		Pn	20 25 50.0	+1.7
PWL	Port Wells	8.64	103		Pn	20 25 50.6	+1.2
SCM	Sheep Creek Mo	8.66	96	Pn	Pn	20 25 51.5	+1.8
KDAK	Kodiak Island	8.90	128	Pn	Pn	20 25 54.4	+1.6
	comp=N,11nm,0.3s,baz=19,slow=8.5,SNR=80						
KDAK				Sn	Sn	20 27 30.7	-2.3
	baz=330,slow=22,SNR=1.0						
KDAK				LR	LR	20 30 05.5	
	comp=N,110nm,19.0s,baz=350,slow=42						
KDAK	Kodiak Island	8.90	128	Pn	Pn	20 25 55.1	+2.3
SDPT	Sand Point	9.02	161	Pn	Pn	20 25 53.8	-0.8
OHAK	Old Harbor	9.10	132	Pn	Pn	20 25 56.9	+1.3
PAX	Paxson	9.12	87	Pn	Pn	20 25 58.4	+2.4
BM03	Burnt Mountain	9.36	59		Pn	20 25 59.4	+0.2
SII	Sitkinak Islan	9.36	137	Pn	Pn	20 26 00.4	+1.2
BMAR	Burnt Mountain	9.37	59		Pn	20 26 00.3	+1.0
KLU	Klutina	9.41	96	Pn	Pn	20 26 02.2	+2.2
CNBA	Chernabura Isl	9.67	158	Pn	Pn	20 26 02.4	-1.1
K27K	Chicken	10.37	79		Pn	20 26 13.9	+0.9
BCAR	Beaver Creek A	10.71	84		Pn	20 26 17.8	0.0
KAIM	Kayak Island	10.79	102	Pn	Pn	20 26 18.1	-0.7
CTGM	Chitina Glacie	11.65	94	Pn	Pn	20 26 31.1	+0.4
YAH	Yahtse	11.74	97	Pn	Pn	20 26 32.4	+0.4
INK	Inuvik	13.63	57	Pn	Pn	20 26 58.8	+1.3
	comp=N,0.1nm,0.3s,baz=256,slow=13,SNR=5.6						
INK				LR	LR	20 32 25.9	
	comp=N,63nm,20.3s,baz=337,slow=38						
SEY	Seymchan	18.52	286	P	P	20 27 58.9	-1.6
	baz=14,slow=23,SNR=3.7						
YKA	Yellowknife Ar	22.58	70	P	P	20 28 46.2	+1.7
	comp=N,2.5nm,0.8s,baz=294,slow=8.4,SNR=29						
RES	Resolute Bay	25.38	36	P	P	20 29 11.7	+0.5
	comp=N,1.4nm,1.0s,baz=264,slow=11,SNR=3.5						
EUNU	Eureka	26.13	23	P	P	20 29 18.4	+0.3
PGC	Sidney	27.35	104	P	P	20 29 29.0	-0.2
PGC				IAmb	IAmb	20 29 46.8	
	comp=Z,9.4nm,1.4s						
WALA	Waterton Lakes	31.20	94	P	P	20 30 01.7	-1.9
WALA				IAmb	IAmb	20 30 10.3	
	comp=Z,5.6nm,1.5s						
HUMO	Hull Mountain	32.39	111	P	P	20 30 13.7	-0.2
JCC	Jacoby Creek,	33.45	114	P	P	20 30 22.5	-0.7
NVAR	Mina Array Bea	37.82	109	P	P	20 31 03.5	+2.5
	comp=Z,0.1nm,0.4s,baz=307,slow=6.6,SNR=1.9						
PDAR	Pinedale Array	38.00	96	P	P	20 31 04.3	+1.8
	comp=Z,0.1nm,0.4s,baz=104,slow=41,SNR=2.8						
ULM	Lac du Bonnet	38.23	77	P	P	20 31 04.8	+0.7
	comp=Z,2.3nm,0.8s,baz=305,slow=9.6,SNR=5.8						
ARCES	ARCESS Array B	46.56	355	P	P	20 32 11.8	+0.3
	comp=Z,2.8nm,0.8s,baz=5.5,slow=10,SNR=1.2						
ARCES				PcP	PcP	20 33 44.6	-0.8
	comp=Z,8.0nm,1.0s,baz=0.0,slow=2.4,SNR=4.0						
SONM	Songino Array	47.62	294	P	P	20 32 20.8	+0.6
	comp=Z,0.8nm,0.7s,baz=35,slow=7.7,SNR=7.7						
SONM	Songino Array	47.62	294	P	P	20 32 20.6	+0.3
SONM				IAmb	IAmb	20 32 29.9	
	comp=Z,1.9nm,0.8s						
ZALV	Zalesovo Beam	50.45	314	P	P	20 32 41.3	-0.3
	comp=Z,2.6nm,0.6s,baz=32,slow=7.2,SNR=13						
ZALV	Zalesovo Beam	50.45	314	P	P	20 32 41.0	-0.7
HHC	Hu-ho-hao-te	51.16	285	eP	P	20 32 47.0	-0.4
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,210nm,7.8s						
FINES	FINESS Array B	54.61	353	P	P	20 33 12.8	+0.4
	comp=Z,3.0nm,0.4s,baz=15,slow=7.4,SNR=33						
NB2	NORSAR Subarra	55.30	2	P	P	20 33 17.5	0.0
	comp=Z,1.4nm,0.6s,baz=357,slow=7.4						
NOA	NORSAR Array B	55.30	2	P	P	20 33 17.9	+0.4
	comp=Z,1.3nm,0.6s,baz=357,slow=7.3,SNR=4.7						
NJ2	Nanjing	55.37	273	eP	P	20 33 17.7	-0.6
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GTA	Gaotai	57.26	293	eP	P	20 33 40.5	+8.6
GTA				pP	sP	20 33 44.5	+8.2
GTA				sP	pP	20 33 47.5	+12
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	Makanchi Array	57.42	311	P	P	20 33 32.1	-0.6
	comp=Z,0.5nm,0.6s,baz=41,slow=7.6,SNR=8.5						
MKAR	Makanchi Array	57.42	311	P	P	20 33 31.7	-1.1
WMQ	Urumqi	58.13	305	eP	P	20 33 40.3	+2.4
ABKAR	Akbulak array	61.60	328	P	P	20 34 01.1	-0.3
ABKAR				IAmb	IAmb	20 34 02.0	
	comp=Z,3.4nm,0.8s						
ABKAR	Akbulak array	61.60	328	P	P	20 34 00.6	-0.8
AAK	Ala-Archa	63.66	314	P	P	20 34 16.1	+0.5
AAK				IAmb	IAmb	20 34 17.0	
	comp=Z,3.9nm,1.1s						
KKAR	Karatay Array	64.45	318	P	P	20 34 20.2	-0.4
AKASG	Malin Array Be	65.09	350	P	P	20 34 24.2	-0.3
	comp=Z,3.0nm,0.4s,baz=11,slow=6.3,SNR=12						
AKASG	Malin Array Be	65.09	350	P	P	20 34 24.2	-0.3
LANS	Liptovska Anna	67.17	356	eP	P	20 34 39.6	+1.6
KOLS	Kolonicke sedl	67.28	354	eP	P	20 34 39.5	+0.8
GERES	GERESS Array B	67.55	0	P	P	20 34 40.9	+0.4
	comp=Z,0.8nm,0.7s,baz=4.6,slow=6.7,SNR=6.6						
VYHS	Vyhne	67.84	357	eP	P	20 34 43.3	+1.1
KBZ	Khabaz	70.30	338	P	P	20 34 58.2	+0.7
	comp=Z,1.2nm,0.8s,baz=52,slow=2.4,SNR=4.4						
BRTR	Keskin Array B	75.53	345	P	P	20 35 28.2	-0.6
	comp=Z,1.3nm,0.9s,baz=32,slow=1.2,SNR=4.1						
ESDC	Sonseca Array	75.71	14	P	P	20 35 30.1	+0.4
	comp=Z,2.5nm,0.7s,baz=353,slow=6.3,SNR=25						
ESDC	Sonseca Array	75.71	14	P	P	20 35 30.4	+0.7
CMAR	Chiang Mai Arr	75.91	283	P	P	20 35 30.6	-0.5
	comp=Z,0.8nm,0.5s,baz=7.3,slow=6.9,SNR=9.7						

*IDC **08** 20:40:51.9±1.6, 20°.92N×122°.49E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.3/56, mbtmp3.5/6, MS3.0/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=50.9km s-min=25.5km az=66.0*

ISC 08 20:40:57.2±1.5**, 20°.9N**±0°.2×**122°.5E**±0°.3**, h35**km**, n7, σ1s27**/6**, mb3.4**/6**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	19.06	67	LR	LR	20 51 03.4	
	comp=Z,41nm,19.8s,baz=22,slow=32						
CMAR	Chiang Mai Arr	22.26	268	P	P	20 45 51.5	+0.2
	0.9nm,0.7s,baz=77,slow=8.4,SNR=8.3						
SONM	Songino Array	29.86	338	P	P	20 47 02.5	+1.2
	0.2nm,0.4s,baz=164,slow=9.7,SNR=2.3						
MKAR	Makanchi Array	41.54	318	P	P	20 48 41.3	0.0
	0.4nm,0.5s,baz=106,slow=9.3,SNR=9.9						
WRA	Warramunga Arr	42.20	163	P	P	20 48 47.0	0.0
	0.3nm,0.7s,baz=344,slow=9.1,SNR=4.6						
ZALV	Zalesovo Beam	43.65	328	P	P	20 48 56.9	-1.4
	0.3nm,0.3s,baz=127,slow=9.8,SNR=2.4						
KURBB	Kurchatov Arra	45.40	322	P	P	20 49 11.0	-1.3
	0.7nm,0.6s,baz=114,slow=7.7,SNR=9.4						

*IDC **08** 20:42:09.2±0.8, 48°.75N×129°.22W, h0km, mb4.0/11, mb1 4.2/21, mb1mx4.0/62, mbtmp4.1/21, ML4.0/8, MS4.1/37, Ms1 4.1/37, ms1mx4.0/55, Error ellipse: s-maj=19.2km s-min=9.9km az=48.0*

*PGC **08** 20:42:09.9±0.3, 48°.79N×129°.23W, h10km, mb4.8, MLSn3.7/39, Mw4.9, Mw4.3/39, 245km west of Tofino, Bc Vancouver Island, Canada Region*

*BJI **08** 20:42:10.0±0.0, 49°.10N×128°.80W, h10km, mB5.2/10, mb4.7/21, Ms4.9/2, Ms7 4.5/2*

*GCMT **08** 20:42:13.7±0.2, 48°.77N±0°.01×129°.22W±0°.02, h25km±1km, MW5.1/115, Moment Tensor Solution. s34,c37; s115,c173; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.32±.20; $M_{\theta\theta}$-4.87±.15; $M_{\phi\phi}$4.56±.14; $M_{r\theta}$-0.71±.35; $M_{\theta\phi}$-1.00±.14; $M_{\phi r}$0.28±.30; Best double couple: $M_0$4.87600×10^{16} NP1:ϕ_s39.00000°,δ82.00000°, λ-2.00000°. NP2:ϕ_s129.00000°,δ88.00000°, λ-172.00000°. Principal axes: T 4.6940, Plg5.0000°, Azm264.0000°; N 0.3750, Plg81.0000°, Azm141.0000°; P -5.0590, Plg7.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 20:42:15.7, 49°.05N×128°.86W, h28km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.54; $M_{\theta\theta}$-0.80; $M_{\phi\phi}$1.34; $M_{r\theta}$-1.58; $M_{\theta\phi}$-0.12; $M_{\phi r}$-0.81; Fault plane solution: $M_0$2.13000×10^{16} NP1:ϕ_s43.34000°, δ81.26000°,λ-56.09000°. NP2:ϕ_s146.08000°,δ34.89000°, λ-164.60000°. Principal axes: T 1.7564, Plg28.0000°, Azm107.0000°; N 0.6115, Plg33.0000°, Azm218.0000°; P -2.3678, Plg43.0000°, Azm346.0000°;*

*NEIC **08** 20:42:15.7±2.2, 49°.05N±0°.07×128°.9W±0°.1, h28km±5km, mb4.7/25, Mwr4.8/41, Mwr4.9(OTT) Error ellipse: s-maj=13.3km s-min=7.5km az=53.0*

*NEIC **08** 20:42:15.7, 48°.79N×129°.23W, h7km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.06; $M_{\theta\theta}$0.20; $M_{\phi\phi}$1.44; $M_{r\theta}$-1.22; $M_{\theta\phi}$0.75; $M_{\phi r}$-2.26; Fault plane solution: $M_0$3.00000×10^{16} NP1:ϕ_s28.00000°, δ76.00000°,λ-88.00000°. NP2:ϕ_s200.00000°,δ15.00000°, λ-97.00000°. Principal axes: T 3.1118, Plg31.0000°, Azm117.0000°; N -0.3430, Plg2.0000°, Azm208.0000°; P -2.7689, Plg59.0000°, Azm301.0000°;*

ISC 08 20:42:13.8±0.5**, 49°.06N**±0°.03×**128°.78W**±0°.04**, h10**km**, n243, σ1s82**/249**, mb4.6**/24**, MS4.2**/31**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEMF	NEPTUNE Canada	1.13	191	P	Pb	20 42 24.8	-10
KEMF				S	Sb	20 42 35.3	-15
NC89	ODP889	1.33	106	Pn	Pn	20 42 36.5	-1.8
EDB	Eliza Dome	1.35	52	Pn	Pn	20 42 38.2	-0.5
EDB				Sn	Sg	20 42 58.1	+0.8
NC27	ODP1027	1.47	152	Pn	Pn	20 42 33.4	-6.5
NC27				Sn	Sn	20 42 49.9	-9.1
FHRB	Fair Harbour	1.47	47	Pn	Pn	20 42 40.1	-0.2
FHRB				Sn	Sg	20 43 01.0	0.0
ETB	Estevan Point	1.50	77	Pn	Pn	20 42 40.4	-0.3
ETB				Sn	Sb	20 43 01.0	+0.2
HOLB	Holberg	1.64	15	Pn	Pn	20 42 41.5	-1.2
HOLB				Sn	Sb	20 43 04.3	-0.4
MAYB	Maynard	1.70	37	Pn	Pn	20 42 43.1	-0.5
WOSB	Woss	1.81	52	Pn	Pn	20 42 45.5	+0.4
WOSB				Sn	Sg	20 43 11.2	-0.8
PHC	Port Hardy	1.86	27	Pn	Pn	20 42 45.5	-0.2
PHC				Sn	Sb	20 43 10.9	-0.3
TOFB	Tofino	1.89	86	Pn	Pn	20 42 45.0	-1.1
TOFB				Sn	Sn	20 43 10.2	+0.3
GDR	Gold River	1.93	67	Pn	Pn	20 42 46.3	-0.3
B012	Ucluelet	2.14	92	Pn	Pn	20 42 48.0	-1.4
B012				Sn	Sn	20 43 15.7	-0.3
OZB	Mount Ozzard	2.17	91	Pn	Pn	20 42 48.5	-1.5
OZB				Sn	Sn	20 43 16.2	-0.6
BTB	Buttle Lake	2.17	78	Pn	Pn	20 42 50.0	-0.2
BTB				Sn	Sb	20 43 19.1	-1.2
NCRB	Newcastle Ridg	2.22	52	Pn	Pn	20 42 51.8	+1.0
NCRB				Sn	Sb	20 43 21.8	+0.2
BFSB	Bamfield	2.41	94	Sn	Sn	20 43 22.0	-0.9
CBB	Campbell River	2.43	65	Pn	Pn	20 42 54.1	+0.6
CBB				Sn	Sb	20 43 26.2	-1.3
B927	Port Alberni	2.61	85	Pn	Pn	20 42 55.2	-0.8
B927				Sn	Sn	20 43 28.9	+1.2
MGB	Mount Grey	2.69	90	Pn	Pn	20 42 56.0	-1.2
MGB				Sn	Sn	20 43 30.5	+0.6
OCP	Olym-Cheeka Pk	2.86	104	Pn	Pn	20 42 58.2	-1.2
PFB	Port Renfrew	2.91	98	Pn	Pn	20 42 58.5	-1.6
PFB				Sn	Sn	20 43 33.9	-1.3
TXB	Texada	2.91	76	Pn	Pn	20 43 00.8	+0.7
GHNB	Nanoose	2.99	84	Pn	Pn	20 43 01.4	+0.2
GHNB				Sn	Sn	20 43 39.2	+2.2
B926	Mesachie Lake	3.08	93	Pn	Pn	20 43 01.3	-1.1
B926				Sn	Sn	20 43 39.6	+0.4
NLLB	Nanaimo Lost L	3.15	85	Pn	Pn	20 43 03.5	+0.1
NLLB				Sn	Sn	20 43 42.7	+1.6
BBB	Bella Bella	3.16	7	Pn	Pn	20 43 03.2	-0.2
	175nm,0.3s,baz=221,slow=4.5,SNR=1544						
BBB				Sn	Sn	20 43 40.3	-0.8
	70nm,0.3s,baz=64,slow=21,SNR=11						
BBB				LR	LR	20 44 20.5	
	comp=Z,2µm,21.4s,baz=276,slow=37						
BBB	Bella Bella	3.16	7	Pn	Pn	20 43 03.5	0.0
BBB				Sn	Sn	20 43 40.6	-0.5
BBB	Bella Bella	3.16	7		Pn	20 43 03.3	-0.2
BBB				Sn	Sn	20 43 41.1	0.0
SHB	Sechelt	3.25	79	Pn	Pn	20 43 05.3	+0.4
SHB				Sn	Sn	20 43 45.6	+1.9
OBC	Olympics--Boni	3.29	106	Pn	Pn	20 43 04.2	-1.2
GOBB	Galiano Island	3.47	90	Pn	Pn	20 43 07.1	-0.7
GOBB				Sn	Sn	20 43 49.6	+0.7
STW	Striped Peak	3.51	103	Pn	Pn	20 43 07.3	-1.1
B010	North Saanich	3.54	95	Pn	Pn	20 43 08.0	-0.7
B010				Sn	Sn	20 43 51.0	+0.4
B009	North Saanich	3.54	95	Pn	Pn	20 43 08.4	-0.3
B009				Sn	Sn	20 43 51.0	+0.3
PGC	Sidney	3.54	95	Pn	Pn	20 43 08.0	-0.8
PGC				Sn	Sn	20 43 50.9	+0.3
PGC	Sidney	3.54	95		Pn	20 43 08.1	-0.8
PGC				Sn	Sn	20 43 51.9	+1.2
B011	North Saanich	3.54	95	Pn	Pn	20 43 08.1	-0.7
B011				Sn	Sn	20 43 51.1	+0.4
PA02	PA02 Ocean	3.54	95	Pn	Pn	20 43 08.3	-0.4
PA12	PA12 Sannich	3.54	95	Pn	Pn	20 43 08.2	-0.5
PA01	PA01 North	3.55	95	Pn	Pn	20 43 08.1	-0.7
PA01				Sn	Sn	20 43 51.6	+0.9
HG4B	Hotspring	3.58	336	Pn	Pn	20 43 07.0	-2.3
BIB	Bowen Island	3.60	82	Pn	Pn	20 43 09.7	+0.1
VGZ	Gonzales	3.67	98	Pn	Pn	20 43 09.4	-1.1
VGZ				Sn	Sn	20 43 53.0	-0.8
NLWA	Neilton Lookou	3.68	115		Pn	20 43 09.6	-1.2
NLWA				Sn	Sn	20 43 53.6	-0.6
WPB	Watts Point	3.69	79	Pn	Pn	20 43 11.8	+0.9
SNB	Saturna Island	3.71	92	Pn	Pn	20 43 11.0	-0.1
WISH	Wishkah	3.88	118	Pn	Pn	20 43 11.2	-2.2
MCW	Mount Constitu	3.94	93	Pn	Pn	20 43 14.6	+0.2
WSLR	Whistler	3.96	72	Pn	Pn	20 43 15.7	+1.1
WSLR				Sn	Sn	20 44 03.5	+2.5
BLN	Blyn Mountain	4.00	103	Pn	Pn	20 43 14.8	-0.3
A04D	Lummi Island	4.02	93	P		20 43 16.0	
	baz=277,SNR=23						
HDW	Hoodsport	4.07	108	Pn	Pn	20 43 15.9	-0.3
D03D	Eldon	4.09	110	P		20 43 15.8	
	baz=294,SNR=77						
D03D				S		20 44 03.4	
	baz=294						
J28D	J28D	4.18	164	S	Sn	20 44 03.8	-2.1
J28D				P	Pn	20 43 14.9	-2.3
GNW	Green Mountain	4.25	108	Pn	Pn	20 43 17.6	-0.9
GNW				Sn	Sn	20 44 07.2	-0.9
E03A	Lebam	4.32	124	Pn	Pn	20 43 18.0	-1.5
E03A				Sn	Sn	20 44 06.1	-3.8
E03A	Lebam	4.32	124		Pn	20 43 18.5	-1.0
VDB	Vedder Mountai	4.39	88	Pn	Pn	20 43 20.9	+0.4
A05A	Maple Falls	4.41	88	Pn	Pn	20 43 21.3	+0.7
A05A	Maple Falls	4.41	88		Pn	20 43 21.1	+0.5
D04E	Lakebay	4.44	113	S		20 44 14.0	
	baz=297						
CMW	Cultus Mountai	4.45	96	Pn	Pn	20 43 21.9	+0.5
B05A	Bryant	4.50	98	P		20 43 22.3	
	baz=283,SNR=23						
B05A				S		20 44 16.0	
	baz=283						
J27D	J27D	4.54	157	P	Pn	20 43 25.6	+3.4
J27D				S	Sn	20 44 19.7	+5.0
MBW	Mount Baker	4.55	91	Pn	Pn	20 43 23.2	+0.5
JCW	Jim Creek	4.63	98	Pn	Pn	20 43 23.7	0.0
LLLB	Lillooet	4.73	68	Pn	Pn	20 43 27.1	+2.0
DIB	Dawson Inlet,	4.75	332	Pn	Pn	20 43 22.4	-3.0
VIB	Van Inlet	4.82	332	Pn	Pn	20 43 23.7	-2.7
HOPB	Hope	4.83	83	Pn	Pn	20 43 27.7	+1.2
J20D	J20D	4.84	166	P	Pn	20 43 28.4	+2.1
J20D				S	Sn	20 44 26.0	+3.9
RPW	Rockport	4.85	95	Pn	Pn	20 43 26.8	0.0
GRNB	Grenville Isla	4.85	352	Pn	Pn	20 43 26.6	-0.1
UBRB	Upper Baezaeko	4.85	36	Pn	Pn	20 43 29.3	+2.5
B06A	Marblemount	4.85	94	Pn	Pn	20 43 27.0	+0.3
B06A				Sn	Sn	20 44 24.8	+1.8
B06A	Marblemount	4.85	94		Pn	20 43 27.5	+0.7
E04D	Cinebar	4.88	119	P		20 43 27.3	
	baz=303,SNR=20						
E04D				S		20 44 23.4	
	baz=303						
D05A	Enumclaw	4.92	110	Pn	Pn	20 43 28.1	+0.4
D05A	Enumclaw	4.92	110		Pn	20 43 27.9	+0.2
C05A	Tolt Reservoir	4.92	103	Pn	Pn	20 43 27.9	+0.1
KITB	Kitimat	5.03	1	Pn	Pn	20 43 29.7	+0.6
GPW	Glacier Peak	5.16	98	Pn	Pn	20 43 31.4	+0.2
J19D	J19D	5.18	160	P	Pn	20 43 32.1	+1.2
J19D				S	Sb	20 44 40.2	-6.1
FMW	Mount Fremont	5.23	111	Pn	Pn	20 43 32.5	+0.4
LON	Longmire	5.23	114	Pn	Pn	20 43 32.7	+0.8
LON				Sn	Sn	20 44 31.6	-0.7
LON	Longmire	5.23	114		Pn	20 43 32.8	+0.8
C06D	Leavenworth	5.37	99	P		20 43 35.0	
	baz=285,SNR=17						
C06D				S		20 44 36.4	
	baz=285						
G03D	McMinnville, O	5.38	134	P		20 43 35.0	
	baz=318						
LTY	Liberty	5.72	105	Pn	Pn	20 43 39.8	+1.1
LTY				Sn	Sn	20 44 43.8	-0.6
J11D	J11D	5.77	162	S	Sn	20 44 53.9	+8.9
J11D				P	Pn	20 43 36.8	-2.1
COR	Corvallis	5.84	138	Pn	Pn	20 43 39.4	-1.0
PNT	Penticton	6.01	84	Pn	Pn	20 43 43.2	+0.5
PNT				Sn	Sn	20 44 54.2	+2.5
FSB	Fort Saint Jam	6.09	25	Pn	Pn	20 43 45.8	+2.0
H04D	Lebanon	6.15	135	P		20 43 46.2	
	baz=320,SNR=46						
H04D				S		20 44 51.7	
	baz=320						
H04A	Detroit Lake	6.29	132		Pn	20 43 46.6	0.0
B08A	Colville Reser	6.29	93	Pn	Pn	20 43 46.3	-0.3
B08A	Colville Reser	6.29	93	Pn	Pn	20 43 46.5	-0.1
G05D	Wamic, OR	6.36	124	P		20 43 49.2	
	baz=310,SNR=12						
E07A	Sunnyside	6.51	109	Pn	Pn	20 43 50.4	+0.8
G37D	G37D	6.52	170	S	Sn	20 45 09.2	+5.8
G37D				P	Pn	20 43 47.5	-1.8
I03D	Drain, OR	6.55	143	P		20 43 50.7	
	baz=327,SNR=13						
G35D	G35D	6.71	165	S	Sn	20 45 13.9	+5.6
G35D				P	Pn	20 43 55.0	+3.0
G36D	G36D	6.73	168	S	Sn	20 45 15.0	+6.5
G36D				P	Pn	20 43 51.2	-0.9
BLBC	Blue River	6.77	60	Pn	Pn	20 43 55.3	+2.0
F07A	Phinny Hill Vi	6.78	115		Pn	20 43 54.8	+1.5
HAWA	Hanford	6.79	110		Pn	20 43 54.2	+0.9
G29D	G29D	6.89	173	S	Sb	20 45 29.6	-5.9
G29D				P	Pn	20 43 59.7	+5.3
D08A	Wollman Farm,	6.91	103		Pn	20 43 54.4	-0.6
I05D	Terrebonne, OR	6.96	130	P		20 43 56.7	
	baz=316						
I05D				S		20 45 11.5	
	baz=316						
SLEB	Sale Mountain	7.17	69	Pn	Pn	20 44 00.6	+1.8
K02D	Willamette Mer	7.30	149	P		20 44 02.1	
	baz=333						
MNB	Mounoet Dainar	7.32	61	Pn	Pn	20 44 02.8	+1.9
KBO	Bosley Butte	7.55	153	Pn	Pn	20 44 03.6	-0.3
HUMO	Hull Mountain	7.63	146	Pn	Pn	20 44 06.1	+1.2
G22D	G22D	7.65	176	S	Sn	20 45 37.7	+6.5
G22D				P	Pn	20 44 06.0	+1.2
G08A	Pilot Rock	7.68	116		Pn	20 44 06.2	+0.4
G20D	G20D	7.73	169	S	Sn	20 45 39.3	+6.0
NEW	Newport	7.76	91	Pn	Pn	20 44 06.9	+0.2
	2.1nm,0.3s,baz=282,slow=14,SNR=27						
NEW				LR	LR	20 47 16.3	
	comp=Z,3µm,19.4s,baz=270,slow=38						
NEW	Newport	7.76	91	Pn	Pn	20 44 07.2	+0.4
NEW	Newport	7.76	91	P		20 44 07.1	
	baz=280						
J05D	Fort Rock, OR	7.79	135	P		20 44 09.0	
	baz=321,SNR=13						
L02E	Cave Junction	7.80	150	P		20 44 08.8	
	baz=334,SNR=15						
G21D	G21D	7.99	173	P	Pn	20 44 11.6	+2.1
G21D				sP	Pg	20 44 39.8	-6.9
G21D				S	Sn	20 45 44.0	+4.3
BMBC	Bull Mountain	8.08	28	Pn	Pn	20 44 14.4	+3.2
I07A	Izee	8.10	124		Pn	20 44 12.3	+0.8
L04D	Klamath Falls	8.21	144	P		20 44 15.4	
	baz=329,SNR=14						
KRMB	Red Mountain	8.28	154	Pn	Pn	20 44 15.0	+1.0
G13D	G13D	8.33	176	S	Sn	20 45 59.6	+12
G13D				P	Pn	20 44 19.1	+4.9
YBH	Yreka Blue Hor	8.48	148	Pn	Pn	20 44 17.5	+0.9
	0.3nm,0.3s,baz=333,slow=13,SNR=20						
YBH				LR	LR	20 47 12.7	
	comp=Z,2µm,18.4s,baz=331,slow=36						
YBH	Yreka Blue Hor	8.48	148		Pn	20 44 18.8	+2.2
G10D	G10D	8.58	163	S	Sn	20 46 03.4	+9.2
G10D				P	Pn	20 44 19.7	+2.2
M02C	Callahan	8.73	149	P		20 44 22.6	
	baz=334,SNR=35						
M04C	Macdoel	8.76	144	P		20 44 23.0	
	baz=329,SNR=15						
JCC	Jacoby Creek,	8.90	156	Pn	Pn	20 44 22.8	+0.4
BMO	Blue Mountains	8.90	114		Pn	20 44 23.7	+1.2
KHMM	Horse Mountain	8.93	155		Pn	20 44 23.4	+0.4
G04D	G04D	9.02	170	S	Sn	20 46 28.1	+24
FS13D	FS13D	9.02	160	S	Sn	20 46 41.9	+37
N02D	Trinity Center	9.16	150	P		20 44 28.3	
	baz=334,SNR=31						
G03D7	G03D7	9.19	167	S	Sn	20 46 22.5	+14
NBC5	NorthernBC 5	9.23	21	Pn	Pn	20 44 29.5	+2.6
DLBC	Dease Lake	9.42	356	Pn	Pn	20 44 32.2	+2.7
	0.5nm,0.3s,baz=183,slow=11,SNR=15						
DLBC	Dease Lake	9.42	356	Pn	Pn	20 44 30.3	+0.8
DLBC	Dease Lake	9.42	356		Pn	20 44 32.2	+2.7
FBMT	Ferry Basin	9.73	94	Pn	Pn	20 44 33.9	+0.1
JTMT	Jette	9.73	92	Pn	Pn	20 44 33.4	-0.5
JTMT	Jette	9.73	92	Pn	Pn	20 44 34.2	+0.3
WALA	Waterton Lakes	9.77	84	Pn	Pn	20 44 35.7	+1.4
O02D	Mt. Diablo Mer	9.85	152	P		20 44 37.1	
	baz=336,SNR=23						
O03E	Paynes Creek	10.07	148	P		20 44 40.1	
	baz=333						
FNBB	Fort Nelson	10.41	17	Pn	Pn	20 44 44.9	+1.9
EDM	Edmonton	10.55	61	Pn	Pn	20 44 46.7	+1.8
ORV	Oroville	10.84	149		Pn	20 44 49.9	+1.1
PLBC	Pleasant Camp	11.31	340	Pn	Pn	20 44 54.3	-0.9
BCYI	Bear Canyon	11.58	108		Pn	20 44 59.8	+0.6

DLMT Dillon 11.61 102 Pn 20 44 57.2 -2.3
MCMT McKenzie Canyo 11.68 105 Pn 20 45 00.6 0.0
PNTR Pine Nut 11.95 143 Pn 20 45 05.0 +0.7
WHY Whitehorse 12.13 346 Pn Pn 20 45 09.9 +3.3
BOZ Bozeman (W) 12.14 100 Pn 20 45 07.1 +0.2
BOZ Bozeman (W) 12.14 100 P 20 45 07.2
baz=293
KVN Kaiserville 12.60 139 Pn 20 45 15.3 +2.1
EGMT Eagleton 12.65 88 Pn 20 45 15.0 +1.2
EGMT Eagleton 12.65 88 P 20 45 15.3
baz=282
ELK Elko 12.69 126 Pn Pn 20 45 13.5 -0.9
0.1nm,0.3s,baz=282,slow=7.9,SNR=3.3
YHL Hebgen Lake 12.73 103 Pn 20 45 16.3 +1.2
NVAR Mina Array Bea 13.04 141 Pn Pn 20 45 18.6 -0.5
0.3nm,0.3s,baz=318,slow=12,SNR=26
NVAR LR LR 20 50 10.6
comp=Z,658nm,20.3s,baz=324,slow=37
BGU Big Grassy Mou 13.78 120 Pn 20 45 31.8 +2.5
RLMT Red Lodge 13.86 99 P 20 45 32.3
baz=294
CTGM Chitina Glacie 13.90 334 Pn 20 45 30.5 -0.2
CTG Chitina Glacier 13.90 334 P 20 45 32.3
baz=143
R11A Troy Canyon, C 14.32 133 P 20 45 38.1
baz=323
YUK3 Moose Creek 14.33 337 Pn Pn 20 45 37.2 +0.5
DUG Dugway, Tooele 14.39 122 P 20 45 39.7
baz=313
MCARA McCarthy VSAT 14.73 332 P 20 45 49.8
baz=140
BW06 Boulder Array 14.77 108 P 20 45 46.2
baz=302
PDAR Pinedale Array 14.77 108 Pn Pn 20 45 45.9 +3.0
0.3nm,0.3s,baz=308,slow=13,SNR=43
PDAR LR LR 20 51 53.6
comp=Z,1μm,18.0s,baz=304,slow=39
PDAR Pinedale Array 14.77 108 P Pn 20 45 44.3 +1.5
TPNV Topopah Spring 15.16 138 P 20 45 50.0
baz=327
SMMC Simmler 15.19 152 P 20 45 54.9
baz=338
LAO LASA Array 15.31 90 P 20 45 52.6
baz=287
MPMC Manual Prospec 15.40 143 P 20 45 52.9
baz=331
YKA Yellowknife Ar 15.59 25 Pn Pn 20 45 53.5 +0.1
0.6nm,0.3s,baz=215,slow=12,SNR=28
YKA LR LR 20 52 12.0
comp=Z,597nm,20.6s,baz=0.0,slow=38
PKM Mcpherson Peak 15.63 152 P 20 45 57.1
baz=338
KLU Klutina 15.76 329 P 20 46 00.6
baz=134
LRMC Laurel Mtn Rad 15.84 145 P 20 46 01.5
baz=332
SHOC Shoshone, Teco 16.04 140 P 20 46 04.4
baz=329
EDW2 Edwards Air Fo 16.26 147 P 20 46 05.8
baz=334
GSC Goldstone, Bar 16.34 143 P 20 46 05.6
baz=331
KDAK Kodiak Island 16.58 311 LR LR 20 50 53.7
comp=Z,415nm,19.8s,baz=143,slow=32
K27K Chicken 16.64 339 P 20 46 09.3
baz=148
K22A Casper 16.75 104 P 20 46 10.1 -0.7
K22A IAmb IAmb 20 46 14.8
comp=Z,84nm,1.1s
K22A Casper 16.75 104 P 20 46 10.5
baz=300
SCRK Sand Creek 17.07 337 P 20 46 14.4
baz=144
O20A White River Ci 17.09 114 P 20 46 16.1
baz=308
WAT6 Susitna Watana 17.13 329 P 20 46 14.4
baz=134
FFC Flin Flon 17.43 61 Pn 20 46 17.2 +0.5
U15A North Rim 17.45 130 P 20 46 18.7 +0.1
U15A IAmb IAmb 20 46 32.8
comp=Z,38nm,1.1s
RSSD Black Hills 17.68 97 P 20 46 23.8
baz=295
PV14 Lion Creek, Pa 17.78 120 P P 20 46 22.0 -0.3
BELC Belle Mtn. Jos 17.79 143 P 20 46 26.1
baz=332
PFO Pinyon Flats O 17.96 145 P Pn 20 46 20.9 -2.6
comp=Z,0.1nm,0.3s,baz=7.6,slow=18,SNR=2.7
PFO Pinyon Flats O 17.96 145 P Pn 20 46 23.5 -0.1
PFO Pinyon Flats O 17.96 145 P 20 46 24.9
baz=333
IRM Iron Mountain 18.00 141 P 20 46 28.0
baz=330
N23A Red Feather La 18.05 108 P 20 46 28.0
baz=305
PV15 Paradox Valley 18.11 119 P P 20 46 26.9 +1.0
PV15 IAmb IAmb 20 46 29.9
comp=Z,72nm,1.1s
HDA Harding Lake 18.21 334 P 20 46 29.0
baz=139
HDA P 20 46 29.0
baz=139
BC3 Big Chuckawall 18.31 142 P 20 46 30.6
baz=331
MCK McKinley 18.32 331 P 20 46 29.2
baz=134
ILAR Eielson Array 18.47 335 P P 20 46 28.5 -0.9
comp=Z,0.2nm,0.3s,baz=148,slow=10,SNR=29
ILAR LR LR 20 52 51.7
comp=Z,576nm,21.7s,baz=150,slow=34
ILAR Eielson Array 18.47 335 P P 20 46 28.2 -1.3
TRF Thorofare Moun 18.58 329 P 20 46 32.1
baz=131
MONP2 Monument Peak 18.61 146 P 20 46 34.3
baz=334
WUAZ Wupatki 18.62 130 P 20 46 35.2
baz=322
DHRN Dharma Camp 18.64 11 P Pn 20 46 32.3 +0.7
POKR Poker Flat Res 18.89 335 P 20 46 36.9
baz=139
MVCO Mesa Verde 18.89 121 P Pn 20 46 35.7 +0.7
MVCO IAmb IAmb 20 46 42.9
comp=Z,56nm,0.9s
MVCO Mesa Verde 18.89 121 P 20 46 36.1
baz=315
ISCO Idaho Springs 18.90 111 Pn 20 46 36.7 +1.5
ISCO Idaho Springs 18.90 111 P 20 46 37.3
baz=307
IKP In-Ko-Pah, Jac 18.95 145 P 20 46 35.7
baz=334
MDND Maddock 19.34 83 P 20 46 42.8
baz=284
INK Inuvik 19.45 355 P P 20 46 39.5 -0.6
comp=Z,0.1nm,0.3s,baz=161,slow=11,SNR=14
INK LR LR 20 54 29.1
comp=Z,981nm,20.2s,baz=160,slow=38
INK Inuvik 19.45 355 P P 20 46 39.9 -0.2
I23K Minto, Yukon-K 19.46 334 P P 20 46 40.5 +0.3
I23K Minto, Yukon-K 19.46 334 P 20 46 40.9
baz=136
S22A 4UR Ranch, Cre 19.48 117 P 20 46 43.4
baz=313
MLY Manley 19.79 332 P 20 46 44.3
baz=133
KUKN Kugluktuk,NWT 20.04 15 P Pn 20 46 48.4 +0.1
SDCO Great Sand Dun 20.26 115 P 20 46 52.1
baz=312
TTA Tatalina 20.39 323 P P 20 46 50.0 -0.5
TTA Tatalina 20.39 323 P 20 46 50.4
baz=120
OGNE Ogallala 20.50 103 P 20 46 54.5
baz=302
KSCO Kaye Shedlock' 21.22 108 P 20 47 03.0
baz=307
COLD Coldfoot 21.22 337 P 20 47 00.5
baz=138
ULM Lac du Bonnet 21.25 74 P P 20 47 00.0 +0.2
comp=Z,12nm,0.5s,baz=286,slow=10,SNR=32
ULM LR LR 20 55 32.2
comp=Z,1μm,20.4s,baz=278,slow=37
ULM Lac du Bonnet 21.25 74 P P 20 47 00.5 +0.8
ULM Lac du Bonnet 21.25 74 P P 20 47 00.4 +0.6
T25A Trinidad 21.31 115 P 20 47 03.0
baz=312
TUC Tucson 21.50 134 P P 20 47 03.3 +0.5
TUC Tucson 21.50 134 P 20 47 03.7
baz=326

AGMN Agassiz Nation 21.66 79 P P 20 47 05.8 +1.6
AGMN Agassiz Nation 21.66 79 P 20 47 06.3
baz=284
ANMO Albuquerque 21.67 122 P P 20 47 04.1 -0.5
comp=Z,10nm,1.0s,baz=312,slow=9.8,SNR=12
ANMO LR LR 20 55 34.1
comp=Z,201nm,19.0s,baz=312,slow=37
ANMO Albuquerque 21.67 122 P 20 47 06.1
baz=318
TOLK Toolik Lake Re 22.16 340 P P 20 47 09.9 +0.4
TOLK IAmb IAmb 20 47 13.9
comp=Z,28nm,1.1s
TOLK Toolik Lake Re 22.16 340 P 20 47 11.4
baz=142
FCC Fort Churchill 22.38 51 P P 20 47 13.2 +1.4
FCC Fort Churchill 22.38 51 IAmb IAmb 20 47 20.5
comp=Z,33nm,0.8s
ECSD EROS Data Cent 22.71 91 IAmb IAmb 20 47 23.3
comp=Z,29nm,0.8s
ECSD EROS Data Cent 22.71 91 P 20 47 16.6
baz=295
EPLO Experimental L 22.72 75 P P 20 47 16.0 +0.5
BGNE Belgrade 22.77 98 P 20 47 17.5
baz=300
121A Cookes Peak, D 22.80 129 P 20 47 18.3
baz=323
CBKS Cedar Bluff 23.16 105 P 20 47 22.0
baz=306
SOLO Sioux Lookout 23.69 74 P P 20 47 25.7 +0.3
F36A Milaca 23.92 84 IAmb IAmb 20 47 32.5
comp=Z,39nm,0.9s
AMTX Amarillo 24.46 115 P 20 47 34.0
baz=314
MSTX Muleshoe 24.47 118 P 20 47 34.2
baz=316
PKLO Pickle Lake 24.49 70 P P 20 47 33.1 +0.3
EYMN Ely 24.57 78 P P 20 47 35.7 +2.0
EYMN Ely 24.57 78 P 20 47 36.0
baz=287
SPMN Marine on St. 24.62 85 P 20 47 36.6
baz=292
MNTX Cornudas Mount 24.71 126 P 20 47 35.4
baz=322
KSU1 Kansas State U 24.99 101 P 20 47 40.7
baz=304
TBO Thunder Bay 25.71 76 P P 20 47 44.5 +0.6
A21K Barrow 25.78 340 P 20 47 46.0
baz=135
WMOK Wichita Mounta 26.31 112 P P 20 47 50.5 +1.0
WMOK IAmb IAmb 20 47 51.6
comp=Z,13nm,0.8s
WMOK Wichita Mounta 26.31 112 P 20 47 51.0
baz=312
GTO Geraldton 26.97 72 P P 20 47 57.0 +1.7
JFWS Jewell Farm 27.25 88 P 20 48 05.2
baz=297
ABTX Abilene, Hawle 27.26 116 P 20 47 58.6
baz=316
SILO Sutton Inlier 27.33 62 P P 20 47 57.5 -0.9
TUL1 Leonard 27.41 106 P 20 48 00.4
baz=309
TXAR Lajitas Array 27.48 127 P P 20 47 57.7 -2.5
comp=Z,0.9nm,0.8s,baz=326,slow=7.7,SNR=11
TXAR LR LR 20 59 02.1
comp=Z,346nm,19.1s,baz=0.0,slow=37
PNPO Pukaskwa Natio 27.72 75 P P 20 48 03.0 +1.0
JCT Junction City 28.73 120 P P 20 48 09.7 -1.6
JCT IAmb IAmb 20 48 22.5
comp=Z,16nm,0.8s
JCT Junction City 28.73 120 P 20 48 11.5
baz=319
LPIG La Paz 28.84 143 LR LR 20 59 34.0
comp=Z,194nm,18.1s,baz=345,slow=36
U40A Yellville 29.01 102 P 20 48 14.7
baz=307
CCM Cathedral Cave 29.06 98 P P 20 48 13.9 -0.2
CCM IAmb IAmb 20 48 30.6
comp=Z,9.3nm,0.9s
W39A Magazine 29.13 105 P 20 48 16.0
baz=309
RES Resolute Bay 29.39 18 P P 20 48 16.5 -0.1
comp=Z,1.3nm,0.8s,baz=220,slow=9.2,SNR=8.5
RES LR LR 20 59 40.4
comp=Z,220nm,18.5s,baz=232,slow=35
RES Resolute Bay 29.39 18 P P 20 48 17.1 +0.5
MIAR Mount Ida 29.68 106 P 20 48 21.0
baz=310
W41B Gary Mavity, V 30.13 104 P 20 48 24.8
baz=309
WVT Waverly 32.40 98 P 20 48 44.4
baz=306
I51A Listowel 32.89 81 P 20 48 49.6
baz=296
ACSO Alum Creek Sta 33.32 88 P 20 48 52.5
baz=301
LSQQ Lebel-sur-Quev 33.40 70 P 20 48 54.0
baz=290
SADO Sadowa 33.69 78 LR LR 21 03 04.6
comp=Z,1μm,19.3s,baz=314,slow=37
LG4Q La Grande 4 33.74 61 P P 20 48 55.8 +0.7
ALGO Algonquin Park 33.89 76 P 20 48 57.8
baz=294
G54A Lake Saint Pet 34.10 77 P 20 48 59.5
baz=295
H53A Bobcaygeon 34.13 78 P 20 48 59.4
baz=296
M53A Wl Miller and 34.22 84 P 20 49 00.4
baz=300
L53A Girard 34.24 83 P 20 49 00.6
baz=299
O53A New Philadelph 34.47 87 P 20 49 02.3
baz=301
LRAL Lakeview Retre 34.85 102 P 20 49 05.6
baz=310
M54A Oil Creek Stat 34.85 84 P P 20 49 04.6 -0.2
M54A IAmb IAmb 20 49 12.7
comp=Z,17nm,0.8s
M54A Oil Creek Stat 34.85 84 P 20 49 05.6
baz=300
N54A Moraine State 34.91 85 P 20 49 05.9
baz=300
D55A Sainte-Anne-du 35.09 73 P 20 49 08.3
baz=294
TKL Tuckaleechee C 35.33 95 LR LR 21 04 04.1
comp=Z,839nm,19.2s,baz=307,slow=37
D56A ZEC Mazanza, M 35.53 72 P 20 49 11.8
baz=294
E56A St. Veronique 35.56 73 P 20 49 12.0
baz=294
M56A Emporium 35.83 83 P 20 49 13.8
baz=300
N56A West Decatur 36.04 84 P 20 49 15.4
baz=300
O56A Blue Knob Stat 36.20 85 P 20 49 16.7
baz=301
H57A Richville 36.23 77 P 20 49 17.9
baz=297
P56A Dayton Farm, R 36.42 86 P 20 49 19.1
baz=302
Q56A Snyder Ridge, 36.43 87 P 20 49 19.4
baz=303
N57A Milroy 36.61 83 P 20 49 20.3
baz=301
D58A Chemin du LacG 36.68 71 P 20 49 21.6
baz=294
E58A La Victoria 36.74 73 P 20 49 22.2
baz=295
O57A Amberson 36.83 84 P 20 49 22.4
baz=301
I58A Old Forge 36.85 77 P 20 49 22.8
baz=298
GOGA Godfrey 36.90 98 P 20 49 23.3
baz=309
Q57A Strasburg 36.95 86 P 20 49 23.7
baz=303
P57A Homestead Farm 36.97 85 P 20 49 23.8
baz=302
T56A Rocky Mt 36.99 90 P 20 49 24.2
baz=305
H58A Gabriels 37.02 76 P 20 49 24.9
baz=297
N58A Sunbury 37.11 83 P 20 49 24.7
baz=301
KMSC Kings Mountain 37.23 94 P 20 49 25.8
baz=307
J59A Piesco 37.26 78 P 20 49 26.2
baz=298

R57A Stanardsville 37.27 87 P 20 49 26.6
baz=304
O58A Lewisberry 37.35 84 P 20 49 26.7
baz=302
K59A Cooperstown 37.36 79 P 20 49 27.2
baz=299
M59A Waymart 37.59 81 P 20 49 28.5
baz=300
R58A Rapidan 37.61 87 P 20 49 29.5
baz=304
N59A State Game Lan 37.69 82 P 20 49 29.5
baz=301
F60A Warwick 37.74 73 P 20 49 30.5
baz=296
J60A Lant Hill Farm 38.06 77 P 20 49 33.4
baz=299
N60A Cedar Hill Far 38.15 82 P 20 49 33.4
baz=301
D63A Stockholm 39.66 69 P 20 49 47.1
baz=296
E64A Bridgewater 40.11 70 P 20 49 50.0
baz=297
CMIG Matias Romero 42.08 127 LR LR 21 07 55.6
comp=Z,114nm,19.9s,baz=312,slow=37
TEIG Tepich 43.24 117 LR LR 21 11 47.4
comp=Z,57nm,21.8s,baz=325,slow=41
SUMG Summit 44.19 26 iP P 20 50 35.8 +13
SUMG Summit 44.19 26 eP P 20 50 35.8 +13
PETK Petropavlovsk- 44.48 304 LR LR 21 06 30.8
comp=Z,96nm,18.9s,baz=76,slow=33
ASAJ Asahikawa 57.73 302 LR LR 21 13 05.5
comp=Z,80nm,21.6s,baz=16,slow=32
TAOE Nuku Hiva Isla 58.53 193 eLR LR 21 09 12.2
comp=Z,430nm,24.0s
H11N2 WAKE ISLAND Hy 58.58 264 T T 21 55 19.7
baz=43,slow=75
H11N3 WAKE ISLAND Hy 58.58 264 T T 21 55 16.4
baz=43,slow=75
H11N1 WAKE ISLAND Hy 58.60 264 T T 21 55 16.0
baz=43,slow=75
ARCES ARCESS Array B 60.22 10 LR LR 21 19 14.8
comp=Z,238nm,18.8s,baz=265,slow=37
USRK Ussuriysk Ar. 63.42 307 P P 20 52 40.2 -3.1
comp=Z,1.4nm,0.7s,baz=55,slow=6.4,SNR=6.3
USRK Ussuriysk Ar. 63.42 307 P P 20 52 40.2 -3.1
ROSC El Rosal 63.53 115 LR LR 21 24 41.1
comp=Z,52nm,18.4s,baz=54,slow=40
MJAR Matsushiro Arr 65.25 298 LR LR 21 20 14.2
comp=Z,28nm,21.0s,baz=345,slow=35
NOA NORSAR Array B 65.62 20 LR LR 21 20 58.7
comp=Z,162nm,18.3s,baz=330,slow=35
FINES FINESS Array B 68.01 13 LR LR 21 23 44.0
comp=Z,276nm,18.7s,baz=309,slow=36
PPT Papeete 68.86 201 LR LR 21 15 38.3
comp=Z,92nm,21.7s,baz=5.5,slow=29
PPT2 Papeete2 68.88 201 eLR LR 21 14 07.2
comp=Z,202nm,27.0s
JCJ Chichijima 69.44 288 LR LR 21 16 23.5
comp=Z,78nm,21.9s,baz=54,slow=30
SONM Songino Array 72.33 325 P P 20 53 37.6 -1.9
comp=Z,0.9nm,1.0s,baz=97,slow=6.1,SNR=5.3
ZALV Zalesovo Beam 73.52 340 P P 20 53 43.9 -2.4
comp=Z,0.8nm,0.6s,baz=17,slow=6.2,SNR=5.9
ZALV LR LR 21 28 04.7
comp=Z,121nm,18.9s,baz=10,slow=37
ZALV Zalesovo Beam 73.52 340 P P 20 53 44.2 -2.0
TBI Tubuai 74.41 200 eLR LR 21 16 48.2
comp=Z,232nm,29.2s
HHC Hu-ho-hao-te 75.88 317 eP P 20 54 01.9 +1.5
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.6s
BVAR Borovoye Array 77.00 348 P P 20 54 04.9 -1.4
comp=Z,0.8nm,0.7s,baz=0.0,slow=5.9,SNR=4.2
GERES GERESS Array B 77.24 24 LR LR 21 30 14.8
comp=Z,98nm,18.3s,baz=336,slow=37
KURBB Kurchatov Arra 77.97 343 P P 20 54 09.4 -2.4
comp=Z,1.5nm,0.6s,baz=17,slow=5.4,SNR=13
AKASG Malin Array Be 78.84 14 LR LR 21 28 12.9
comp=Z,224nm,19.2s,baz=330,slow=35
ESDC Sonseca Array 79.10 40 P P 20 54 17.4 -0.9
comp=Z,0.3nm,0.8s,baz=342,slow=8.1,SNR=2.6
NJ2 Nanjing 79.32 307 eP P 20 54 20.0 +0.5
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
MK31 Makanchi Array 80.78 339 P P 20 54 25.6 -1.6
MKAR Makanchi Array 80.78 339 P P 20 54 25.0 -2.3
comp=Z,1.3nm,0.8s,baz=28,slow=4.2,SNR=12
MKAR LR LR 21 31 53.1
comp=Z,162nm,21.0s,baz=358,slow=37
MKAR Makanchi Array 80.78 339 P P 20 54 25.0 -2.3
MAKZ Makanchi 80.84 339 P P 20 54 25.3 -2.3
MAKZ IAmb IAmb 20 54 27.1
comp=Z,11nm,1.1s
MSVF Nonsavu 81.50 230 LR LR 21 25 29.5
comp=Z,121nm,18.3s,baz=80,slow=32
WMQ Urumqi 82.13 334 eP P 20 54 37.2 +2.7
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,54nm,4.5s
HNR Honiara 85.08 250 LR LR 21 26 27.6
comp=Z,128nm,19.2s,baz=52,slow=31
KBZ Khabaz 87.31 6 LR LR 21 37 20.5
comp=Z,152nm,19.5s,baz=338,slow=38
KSH Kashi 89.12 341 P P 20 55 10.8 +1.4
KSH sP pwP 20 55 21.8 +6.6
KSH pmax pmax
comp=Z,8.0nm,1.2s
BRTR Keskin Array B 90.24 13 LR LR 21 38 49.0
comp=Z,116nm,18.6s,baz=335,slow=38
DZM Mont Dzumac 91.22 237 LR LR 21 27 34.7
comp=Z,101nm,21.0s,baz=66,slow=30
DZM Mont Dzumac 91.22 237 eLR LR 21 24 35.7
comp=Z,215nm,23.0s
BDFB Brasilia 95.75 107 LR LR 21 43 00.3
comp=Z,72nm,18.7s,baz=117,slow=38

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*MOS **08** 20:47:25.6±0.8, 44°.12N×19°.85E, h10km, mb4.5/11, Error ellipse: s-maj=3.5km s-min=2.4km az=101.6*

*LDG **08** 20:47:25.4±0.1, 44°.15N×19°.90E, h3km, Ml3.7/28, Error ellipse: s-maj=2.7km s-min=1.9km az=29.0*

*PDG **08** 20:47:26.1±0.4, 44°.10N×19°.91E, h11km, MD4.0/11, ML4.1/12, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*

*MED_RC **08** 20:47:26.0±0.3, 44°.08N×19°.89E, h18km±1km, MW4.5/26, Moment Tensor Solution. Mantle waves: s26,c40; Duration: ts0 Moment tensor: Scale 10^15^Nm; Mrr-0.58±.44; Mθθ-0.72±.39; Mϕϕ1.29±.42; Mrθ-1.61±.55; Mθϕ7.63±.34; Mϕr-0.49±.62; Best double couple: M07.87000×10^15^ NP1:ϕs176.00000°, δ78.00000°, λ179.00000°. NP2:ϕs266.00000°, δ89.00000°, λ12.00000°. Principal axes: T 8.2100, Plg9.0000°, Azm132.0000°; N -0.6900, Plg78.0000°, Azm272.0000°; P -7.5300, Plg7.0000°, Azm41.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*KRSZO **08** 20:47:26.3±0.4, 44°.08N×19°.89E, h7km±2km, ML4.8/50 Error ellipse: s-maj=2.3km s-min=1.9km az=136.0*

*IDC **08** 20:47:26.2±0.5, 44°.10N×19°.86E, h0km, mb3.9/17, mb1 4.1/30, mb1mx3.9/62, mbtmp3.9/30, ML3.8/12, MS3.7/27, Ms1 3.7/27, ms1mx3.6/56, Error ellipse: s-maj=10.4km s-min=6.8km az=13.0*

*NEIC **08** 20:47:27.4±1.6, 44°.13N±0°.03×19°.94E±0°.04, h9km±5km, mb3.9/5, Mwr4.4/15, Error ellipse: s-maj=4.5km s-min=4.2km az=157.0*

*RHSSO **08** 20:47:27.1±0.2, 44°.06N×19°.88E, h2km±1km, ML4.5/13*

*BEO **08** 20:47:27.0±0.2, 44°.06N×19°.88E, h5km±1km, ML4.5/17*

*NEIC **08** 20:47:28.2, 44°.14N×19°.91E, h8km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr-1.10; Mθθ-0.46; Mϕϕ1.56; Mrθ-0.59; Mθϕ4.11; Mϕr-0.61; Fault plane solution: M04.42000×10^15^ NP1:ϕs263.30000°, δ85.76000°, λ7.04000°. NP2:ϕs172.78000°, δ82.98000°, λ175.73000°. Principal axes: T 4.9019, Plg8.0000°, Azm128.0000°; N -1.2170, Plg82.0000°, Azm294.0000°; P -3.6849, Plg2.0000°, Azm38.0000°;*

*PRU **08** 20:47:28.2±0.0, 44°.24N×20°.00E, h1km, M4.5*

*BGR **08** 20:47:29.8±0.5, 44°.14N×19°.99E, h10km, ML4.6, Error ellipse: s-maj=8.9km s-min=5.6km az=7.0*

ISC 08 20:47:26.6±0.8, **44°.12N**±0°.01×**19°.85E**±0°.01, **h5**km±5km,

n952,σ1§82/1195,mb4.0/24,MS3.7/15,67C-60D,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	Divibare	0.10	101	ePg	Pg	20 47 28.7	-0.1
DIVS				eSg	Sg	20 47 29.8	-0.6
DIVS	Divibare	0.10	101	⇓iPg	Pg	20 47 28.6	-0.2
DIVS				eSg	Sg	20 47 30.1	-0.3
DIVS	Divibare	0.10	101		Pg	20 47 28.8	-0.1
DIVS	Divibare	0.10	101	Pg	Pg	20 47 28.6	-0.2
DIVS				Pb	Pg	20 47 28.7	-0.1
DIVS				x	x	20 47 28.9	
	comp=Z,1μm,SNR=1000						
DIVS				Sg	Sg	20 47 29.7	-0.6
DIVS				Lg	Lg	20 47 30.1	
BBLS	Lazići	0.41	232	ePg	Pg	20 47 34.7	+0.2
BBLS				eSg	Sg	20 47 40.5	+0.6
BBLS	Lazići	0.41	232	⇓iPg	Pg	20 47 34.7	+0.2
BBLS				eSg	Sg	20 47 40.3	+0.4
BBLS	Lazići	0.41	232	Pb	Pg	20 47 34.7	+0.2
BBLS				Pg	Pg	20 47 35.0	+0.5
	comp=Z,367nm,SNR=1000						
BBLS				Sg	Sg	20 47 40.3	+0.4
BBLS				Lg	Lg	20 47 40.4	
TRUS	Trudelj	0.41	75	ePg	Pg	20 47 34.5	-0.1
TRUS				eSg	Sg	20 47 40.3	+0.3
TRUS	Trudelj	0.41	75	Pg	Pg	20 47 34.5	-0.1
TRUS				Lg	Lg	20 47 40.3	
TEKS	Tekeris	0.49	332	ePg	Pb	20 47 37.5	-0.2
TEKS				eSg	Sb	20 47 44.3	-0.9
TEKS	Tekeris	0.49	332	ePg	Pb	20 47 37.2	-0.5
TEKS				eSg	Sb	20 47 44.6	-0.6
TEKS	Tekeris	0.49	332	Pg	Pb	20 47 37.2	-0.5
TEKS				Pb	Pb	20 47 37.5	-0.2
TEKS				Lg	Lg	20 47 44.3	
TEKS				Sg	Sb	20 47 44.6	-0.6
IVAS	Ivanjica	0.58	158	ePg	Pg	20 47 36.3	-1.5
IVAS				eSg	Sg	20 47 43.5	-1.9
IVAS	Ivanjica	0.58	158	Pg	Pg	20 47 36.3	-1.5
IVAS				Lg	Lg	20 47 43.5	
RUDO	Rudo	0.61	215	⇑iPg	Pg	20 47 37.3	-1.0
RUDO				eSg	Sg	20 47 45.2	-1.0
RUDO	Rudo	0.61	215	Pg	Pg	20 47 37.3	-1.0
RUDO				Lg	Lg	20 47 45.2	
HAPS	Han Pijesak,BI	0.65	268	ePg	Pg	20 47 38.7	-0.4
HAPS				eSg	Sg	20 47 48.1	+0.5
HAPS	Han Pijesak,BI	0.65	268	⇓iPg	Pg	20 47 38.6	-0.5
HAPS				eSg	Sg	20 47 48.2	+0.6
HAPS	Han Pijesak,BI	0.65	268	Pg	Pg	20 47 38.6	-0.5
HAPS				Pb	Pg	20 47 38.7	-0.4
HAPS				Lg	Lg	20 47 48.1	
HAPS				Sg	Sg	20 47 48.2	+0.6
GRUS	Gruza	0.66	110	ePg	Pg	20 47 38.7	-0.6
GRUS				eSg	Sg	20 47 48.4	+0.4
GRUS	Gruza	0.66	110	Pg	Pg	20 47 38.7	-0.6
GRUS				Lg	Lg	20 47 48.4	
BEO	Beograd	0.82	32	P	Pg	20 47 41.1	-1.3
BEO	Beograd	0.82	32	Pg	Pg	20 47 41.1	-1.3
BEO				Pb	Pb	20 47 42.0	-1.3
	comp=Z,83nm,SNR=722						
BEO				Lg	Lg	20 47 53.8	
PLE	Pljevlja	0.86	203	P	Pg	20 47 42.2	-0.8
PLE				S	Sb	20 47 55.0	-0.8
PLE	Pljevlja	0.86	203	⇑iPg	Pg	20 47 42.4	-0.6
PLE				i Sg	Sb	20 47 55.8	0.0
PLE	Pljevlja	0.86	203	Pg	Pg	20 47 42.2	-0.8
PLE				Lg	Lg	20 47 55.0	
SVIS	Svilajnac	0.99	81	ePg	Pb	20 47 46.4	+0.2
SVIS				eSg	Sb	20 47 59.8	+0.3
SVIS	Svilajnac	0.99	81	Pn	Pb	20 47 46.4	+0.2
SVIS				Sn	Sb	20 47 59.8	+0.3
FRGS	Fruska Gora	1.04	358	ePg	Pn	20 47 47.5	-0.3
FRGS				eSg	Sn	20 48 02.1	-0.6
FRGS	Fruska Gora	1.04	358	⇓P	Pn	20 47 47.6	-0.2
FRGS				⇑S	Sn	20 48 02.2	-0.6
FRGS	Fruska Gora	1.04	358	⇓iPg	Pb	20 47 47.3	+0.2
FRGS				eSg	Sn	20 48 02.2	-0.6
FRGS	Fruska Gora	1.04	358		Pn	20 47 47.6	-0.2
FRGS					Sn	20 48 02.2	-0.6
FRGS	Fruska Gora	1.04	358	Pg	Pb	20 47 47.3	+0.2
FRGS				Pb	Pn	20 47 47.5	-0.3
FRGS				Pn	Pg	20 47 48.2	+1.7
	comp=Z,122nm,SNR=1000						
FRGS				Lg	Lg	20 48 01.8	
FRGS				Sg	Sn	20 48 02.1	-0.6
FRGS				Sb	Sn	20 48 02.2	-0.6
UPM	Unac-Piva	1.14	217	⇓iPg	Pg	20 47 47.8	-0.7
UPM				eSg	Sg	20 48 02.6	-0.8
UPM	Unac-Piva	1.14	217	⇓iPg	Pg	20 47 47.6	-0.9
UPM				i Sg	Sn	20 48 06.1	+0.6
UPM	Unac-Piva	1.14	217	Pg	Pg	20 47 47.8	-0.7
UPM				Lg	Lg	20 48 02.6	
IVA	Berane	1.25	179	⇓iPg	Pg	20 47 49.2	-1.3
IVA				i Sg	Sn	20 48 07.9	0.0
KOME	Kolasin	1.29	191	⇓iPg	Pn	20 47 50.1	-1.2
KOME				i Sg	Sn	20 48 09.8	+0.8
KUBS	Kucevo	1.34	77	ePg	Pn	20 47 51.3	-0.6
KUBS				eSg	Sn	20 48 10.0	-0.1
KUBS	Kucevo	1.34	77	Pn	Pn	20 47 51.3	-0.6
KUBS				Lg	Lg	20 48 10.0	
BOVS	Bovan	1.43	109	ePg	Pn	20 47 51.6	-1.5
BOVS				eSg	Sb	20 48 10.8	-1.2
BOVS	Bovan	1.43	109	⇑P	Pn	20 47 51.8	-1.3
BOVS				⇑S	Sb	20 48 11.0	-1.1
BOVS	Bovan	1.43	109		Pn	20 47 51.8	-1.3
BOVS					Sb	20 48 10.9	-1.1
BOVS	Bovan	1.43	109	Pn	Pn	20 47 51.6	-1.5
BOVS				Pg	Pn	20 47 51.8	-1.3
BOVS				Sn	Sb	20 48 10.8	-1.2
BOVS				Lg	Lg	20 48 11.0	
NKY	Niksic	1.45	206	P	Pn	20 47 52.7	-0.8
NKY				S	Sg	20 48 14.0	+0.9
NKY	Niksic	1.45	206	⇓iPg	Pn	20 47 53.0	-0.5
NKY				i Sg	Sg	20 48 15.1	+2.0
NKY	Niksic	1.45	206	Pn	Pn	20 47 52.7	-0.8
NKY				Lg	Lg	20 48 14.0	
MDVR	Moldovita	1.49	63	⇓P	Pn	20 47 53.5	-0.5
MDVR				⇑S	Sn	20 48 13.5	-0.3
MDVR	Moldovita	1.49	63		Pn	20 47 53.5	-0.5
MDVR					Sn	20 48 13.5	-0.3
MDVR	Moldovita	1.49	63	Pn	Pn	20 47 53.5	-0.5
MDVR				Sn	Sn	20 48 13.5	-0.3
NKME	Niksic	1.50	206	⇓iPg	Pn	20 47 53.8	-0.4
NKME				i Sg	Sg	20 48 16.5	+1.7
PVY	Plav	1.52	177	⇑iPg	Pn	20 47 54.0	-0.6
PVY				i Sg	Sg	20 48 16.3	+0.7
BRY	Bratogost	1.55	219	P	Pn	20 47 54.7	-0.2
BRY				S	Sg	20 48 17.0	+0.7
BRY	Bratogost	1.55	219	ePn	Pn	20 47 54.7	-0.2
BRY				eSn	Sn	20 48 15.3	0.0
BRY	Bratogost	1.55	219	⇓iPg	Pn	20 47 54.7	-0.2
BRY				i Sg	Sg	20 48 18.0	+1.7
BRY	Bratogost	1.55	219	Pn	Pn	20 47 54.7	-0.2
BRY				Sn	Sn	20 48 15.3	0.0
BRY				Lg	Lg	20 48 17.0	
BANR	Banloc	1.56	35	⇓P	Pn	20 47 54.7	-0.2
BANR	Banloc	1.56	35		Pn	20 47 54.7	-0.2
BANR	Banloc	1.56	35	Pn	Pn	20 47 54.5	-0.4
	comp=Z,16nm,SNR=118						
BANR				Sn	Sn	20 48 15.6	+0.1
CEME	Cevo	1.71	204	⇓iPn	Pn	20 47 56.9	-0.2
CEME				i Sn	Sg	20 48 21.0	-0.6
PDG	Podgorica	1.74	195	ePn	Pn	20 47 57.9	+0.5
PDG	Podgorica	1.74	195	⇓P	Pn	20 47 57.8	+0.5
PDG	Podgorica	1.74	195	⇑iPn	Pn	20 47 57.5	+0.1
PDG				eSn	Sn	20 48 19.6	-0.3
PDG	Podgorica	1.74	195		Pn	20 47 57.7	+0.3
PDG	Podgorica	1.74	195	Pn	Pn	20 47 57.5	+0.1
PDG				Pg	Pn	20 47 57.8	+0.5
PDG				Pg	Pn	20 47 57.9	+0.5
PDG				Sn	Sn	20 48 19.6	-0.3
TTG	Podgorica	1.74	195	P	Pn	20 47 57.7	+0.3
TTG				S	Sb	20 48 21.0	-0.1
TTG	Podgorica	1.74	195	⇑iPn	Pn	20 47 57.4	+0.1
TTG				i Sn	Sg	20 48 22.2	-0.3
TTG	Podgorica	1.74	195	Pn	Pn	20 47 57.7	+0.3
TTG				Lg	Lg	20 48 21.0	
ZAGS	Zajecar	1.75	99	ePn	Pn	20 47 56.4	-1.1
ZAGS				eSn	Sn	20 48 20.0	-0.1
ZAGS	Zajecar	1.75	99	Pn	Pn	20 47 56.4	-1.1
ZAGS				Sn	Sn	20 48 20.0	-0.1
TREB	Trebinje	1.78	219	ePn	Pb	20 47 59.0	-0.6
TREB	Trebinje	1.78	219	⇑iPn	Pn	20 47 58.4	+0.5
TREB				eSn	Sb	20 48 21.7	-0.5
TREB	Trebinje	1.78	219	Pn	Pn	20 47 58.4	+0.5
TREB				Pg	Pb	20 47 59.0	-0.6
TREB				Sn	Sb	20 48 21.7	-0.5
TIM	Timisoara	1.89	31	⇑P	Pn	20 47 59.2	-0.3
TIM	Timisoara	1.89	31	P	Pn	20 47 59.1	-0.3
TIM	Timisoara	1.89	31		Pn	20 47 59.2	-0.3
TIM	Timisoara	1.89	31	Pn	Pn	20 47 59.1	-0.3
BARS	Barje	1.93	132	ePn	Pn	20 47 54.3	-5.8
BARS	Barje	1.93	132	ePn	Pn	20 47 59.2	-0.9
BARS				eSn	Sn	20 48 14.6	-10
BARS				eSn	Sb	20 48 23.7	-2.9
BARS	Barje	1.93	132	Pn	Pn	20 47 54.3	-5.8
BARS				Pg	Pn	20 47 59.2	-0.9
BARS				Sn	Sn	20 48 14.6	-10
BARS				Lg	Lg	20 48 23.7	
HCY	Herceg Novi	1.94	211	P	Pn	20 48 00.6	+0.4
HCY				S	Sb	20 48 27.0	0.0
HCY	Herceg Novi	1.94	211	⇓iPn	Pn	20 48 00.8	+0.6
HCY				eSn	Sn	20 48 25.5	+0.6
HCY	Herceg Novi	1.94	211	⇓iPn	Pn	20 48 00.4	+0.2
HCY				i Sn	Sb	20 48 26.9	0.0
HCY	Herceg Novi	1.94	211	Pn	Pn	20 48 00.6	+0.4
HCY				Pg	Pn	20 48 00.8	+0.6
HCY				Sn	Sn	20 48 25.5	+0.6
HCY				Lg	Lg	20 48 27.0	
BUM	Brajici-Budva	1.95	201	⇓iPn	Pn	20 48 01.1	+0.8
BUM				eSn	Sb	20 48 27.1	0.0
BZS	Buzias	1.95	39	ePn	Pn	20 47 59.9	-0.4
BZS				eSn	Sb	20 48 26.5	-0.8
BZS	Buzias	1.95	39	⇓P	Pn	20 47 59.7	-0.6
BZS				⇓S	Sn	20 48 25.7	+0.5
BZS	Buzias	1.95	39	P	Pn	20 47 59.8	-0.5
BZS				S	Sn	20 48 25.7	+0.5
BZS	Buzias	1.95	39		Pn	20 47 59.7	-0.6
BZS					Sn	20 48 25.7	+0.5
BZS	Buzias	1.95	39	Pn	Pn	20 47 59.8	-0.5
BZS				Pg	Pn	20 47 59.9	-0.4
BZS				Pb	Pg	20 48 00.1	-3.9
	comp=Z,8.0nm,SNR=276						
BZS				Sn	Sn	20 48 25.7	+0.5
BZS				Lg	Lg	20 48 26.5	
HERR	Herculane	1.99	67	⇓P	Pn	20 48 00.6	-0.2
HERR				⇓S	Sn	20 48 26.5	+0.5
HERR	Herculane	1.99	67		Pn	20 48 00.6	-0.2
HERR					Sn	20 48 26.5	+0.5
DJES	Djerdap	1.99	73	ePn	Pn	20 48 00.8	0.0
DJES				eSn	Sn	20 48 25.9	-0.2
DJES	Djerdap	1.99	73	⇓P	Pn	20 48 01.1	+0.2
DJES				⇑S	Sn	20 48 26.8	+0.7
DJES	Djerdap	1.99	73		Pn	20 48 01.1	+0.2
DJES					Sn	20 48 26.8	+0.7
DJES	Djerdap	1.99	73	Pn	Pn	20 48 00.6	-0.2
	comp=Z,14nm,SNR=64						
DJES				Pg	Pn	20 48 00.8	0.0
DJES				Sn	Sn	20 48 25.1	-1.0
DJES				Lg	Lg	20 48 25.9	
STON	Ston	2.00	232	i Pn	Pn	20 48 01.1	+0.2
STON				Sn	Sn	20 48 27.0	+0.7
STON	Ston	2.00	232	Pn	Pn	20 48 01.1	+0.2
STON				Sn	Sn	20 48 27.0	+0.7
MGRS	Mrkonjic Grad	2.01	280	⇑iPn	Pn	20 48 01.9	+0.7
MGRS				eSn	Sb	20 48 28.5	-0.4
MGRS	Mrkonjic Grad	2.01	280	Pn	Pn	20 48 01.9	+0.7
MGRS				Sn	Sb	20 48 28.5	-0.4
BLY	Banja Luka	2.01	289	ePn	Pn	20 48 02.1	+1.0
BLY				eSn	Sb	20 48 29.1	+0.2
BLY	Banja Luka	2.01	289	⇑iPn	Pn	20 48 01.7	+0.6
BLY				eSn	Sb	20 48 28.2	-0.7
BLY	Banja Luka	2.01	289	Pn	Pn	20 48 01.7	+0.6
BLY				Pg	Pn	20 48 02.1	+1.0
BLY				Pn	Pg	20 48 03.0	-2.2
	comp=Z,9.8nm,SNR=199						
BLY				Sn	Sb	20 48 28.2	-0.7
BLY				Lg	Lg	20 48 29.1	
BLY				Sn	Sg	20 48 29.4	-1.9
RICI	Ricice	2.06	253	ePn	Pn	20 48 02.7	+0.8
RICI	Ricice	2.06	253	Pn	Pn	20 48 02.7	+0.8
BLKB	Belogradchik	2.10	103	⇑S	Sn	20 48 27.8	-1.1
BLKB	Belogradchik	2.10	103		Sn	20 48 27.8	-1.1
BLKB	Belogradchik	2.10	103	Sn	Sn	20 48 27.8	-1.1
RMGR	Halanga-Turnu	2.11	74	⇑P	Pn	20 48 03.0	+0.6
RMGR	Halanga-Turnu	2.11	74		Pn	20 48 03.0	+0.6
ULC	Ulcinj	2.20	192	P	Pn	20 48 03.9	+0.2
ULC				S	Sb	20 48 33.0	-1.4
ULC	Ulcinj	2.20	192	⇓iPn	Pn	20 48 04.0	+0.2
ULC				i Sn	Sb	20 48 32.9	-1.4
ULC	Ulcinj	2.20	192	Pn	Pn	20 48 03.9	+0.2
ULC				Sn	Sb	20 48 33.0	-1.4
MAKA	Makarska	2.21	249	i Pn	Pb	20 48 05.5	-1.5
MAKA				Sn	Sn	20 48 32.5	+0.9
PUNG	Punghina	2.22	85	⇑P	Pn	20 48 04.0	0.0
PUNG	Punghina	2.22	85		Pn	20 48 04.0	0.0
MORH	Mrgy, Hungar	2.26	338	⇑P	Pn	20 48 04.7	+0.1
MORH	Mrgy, Hungar	2.26	338		Pn	20 48 04.7	+0.1
MORH	Mrgy, Hungar	2.26	338	Pg	Pn	20 48 04.9	+0.3
	comp=Z,7.3nm,SNR=150						
MORH				Pn	Pb	20 48 06.8	-1.1
MORH				Sn	Sb	20 48 35.6	-0.6
MRAK	Mrakovica	2.29	294	ePn	Pb	20 48 06.8	-1.6
MRAK				eSn	Sb	20 48 35.9	-1.1
MRAK	Mrakovica	2.29	294	Pn	Pb	20 48 06.8	-1.6
MRAK				Sn	Sb	20 48 35.9	-1.1
AMBH	Ambrzfalva	2.32	15	⇑P	Pn	20 48 05.1	-0.2
AMBH				⇑S	Sn	20 48 34.6	+0.5
AMBH	Ambrzfalva	2.32	15		Pn	20 48 05.1	-0.2
AMBH					Sn	20 48 34.6	+0.5
AMBH	Ambrzfalva	2.32	15	Pn	Pn	20 48 05.5	+0.2
	comp=Z,12nm,SNR=89						
KOVH	Kovagotottos	2.33	328	Pn	Pn	20 48 05.8	+0.3
	comp=Z,11nm,SNR=124						
PRIJ	Prijedor	2.40	292	ePn	Pb	20 48 08.5	-1.7
PRIJ				eSn	Sb	20 48 38.6	-1.5
PRIJ	Prijedor	2.40	292	Pn	Pb	20 48 08.5	-1.7
PRIJ				Sn	Sb	20 48 38.6	-1.5
SKO	Skopje	2.44	151	ePn	Pn	20 48 06.6	-0.4
SKO	Skopje	2.44	151	P	Pn	20 48 07.2	+0.2
SKO	Skopje	2.44	151	i Pn	Pn	20 48 06.6	-0.4
SKO	Skopje	2.44	151	Pn	Pn	20 48 06.6	-0.4
SKO				Pg	Pn	20 48 07.2	+0.2
GZR	Gura Zlata	2.44	58	⇑P	Pn	20 48 06.8	-0.3
GZR	Gura Zlata	2.44	58		Pn	20 48 06.8	-0.3
GZR	Gura Zlata	2.44	58	Pn	Pn	20 48 06.9	-0.3
	comp=Z,11nm,SNR=174						
SRE	Strehaia	2.46	76	⇑P	Pn	20 48 08.0	+0.6
SRE	Strehaia	2.46	76	P	Pn	20 48 08.0	+0.6
SRE	Strehaia	2.46	76	Pn	Pn	20 48 08.0	+0.6
SIRR	Siria	2.50	30	⇑P	Pn	20 48 07.3	-0.6
SIRR	Siria	2.50	30		Pn	20 48 07.3	-0.6
SIRR	Siria	2.50	30	Pn	Pn	20 48 07.1	-0.7
	comp=Z,4.5nm,SNR=138						
SIRR				Sn	Sn	20 48 37.9	-0.8
BAIL	Bailesti	2.52	91	⇑P	Pn	20 48 07.8	-0.3
BAIL	Bailesti	2.52	91		Pn	20 48 07.8	-0.3
HVAR	Hvar	2.64	250	i Pn	Pn	20 48 11.9	+2.1
HVAR				Sn	Sn	20 48 44.1	+1.9
TIR	Tirane	2.77	180	ePn	Pn	20 48 11.7	+0.2
TIR	Tirane	2.77	180	P	Pn	20 48 13.0	+1.5
TIR	Tirane	2.77	180		Pn	20 48 13.0	+1.5
TIR	Tirane	2.77	180	Pn	Pn	20 48 11.7	+0.2
TIR				Pg	Pn	20 48 13.0	+1.5
TIR				Pb	Pn	20 48 14.2	+2.7
DEV	Deva	2.79	50	⇑P	Pn	20 48 12.0	+0.1
DEV	Deva	2.79	50	P	Pn	20 48 12.0	+0.1
DEV	Deva	2.79	50		Pn	20 48 12.0	+0.1
DEV	Deva	2.79	50	Pg	Pn	20 48 12.0	+0.1
DEV				Pn	Pn	20 48 12.2	+0.4
	comp=Z,7.9nm,SNR=108						
VTS	Vitosha	2.89	120	⇑P	Pn	20 48 12.6	-0.7
VTS	Vitosha	2.89	120	P	Pn	20 48 12.2	-1.1
VTS	Vitosha	2.89	120		Pn	20 48 12.2	-1.1
VTS	Vitosha	2.89	120	Pg	Pn	20 48 12.2	-1.1
VTS				Pn	Pn	20 48 12.3	-1.0
	comp=Z,1.6nm,SNR=36						
VTS				Pb	Pn	20 48 12.6	-0.7
UDBI	Udbina	2.96	279	ePn	Pn	20 48 14.9	+0.7
UDBI	Udbina	2.96	279	Pn	Pn	20 48 14.9	+0.7
STIP	Stip	2.97	144	i Pn	Pn	20 48 10.9	-3.4
MORI	Morici	3.00	267	ePn	Pn	20 48 16.4	+1.6
MORI				Sn	Sn	20 48 52.8	+1.8
ZIRJ	Zirje	3.08	263	ePn	Pn	20 48 17.8	+2.0
ZIRJ				Sn	Sn	20 48 56.0	+3.1
OHR	Ohrid	3.08	167	P	Pn	20 48 17.6	+1.7
OHR	Ohrid	3.08	167	i Pn	Pn	20 48 16.9	+0.9
OHR	Ohrid	3.08	167	Pn	Pn	20 48 17.6	+1.7
LOT	Lotru	3.09	63	⇓P	Pn	20 48 16.8	+0.8
LOT	Lotru	3.09	63		Pn	20 48 16.8	+0.8
LOT	Lotru	3.09	63	Pn	Pn	20 48 16.9	+0.9
	comp=Z,6.0nm,SNR=113						
TIH	Tihany	3.10	334	Pn	Pn	20 48 16.9	+0.8
	comp=Z,21nm,SNR=241						
KALN	Kalnik	3.13	311	i Pn	Pn	20 48 16.6	0.0
KALN	Kalnik	3.13	311	Pn	Pn	20 48 16.6	0.0
BSZH	Besenyszg	3.19	5	⇑P	Pn	20 48 18.5	+1.1
BSZH				⇑S	Sn	20 48 57.0	+1.2
BSZH	Besenyszg	3.19	5		Pn	20 48 18.5	+1.1
BSZH					Sn	20 48 57.0	+1.2
BSZH	Besenyszg	3.19	5	Pn	Pn	20 48 18.3	+0.9
	comp=Z,2.1nm,SNR=48						
BEHE	Becsehely	3.20	318	ePn	Pn	20 48 19.1	+1.6
BEHE				eSn	Sn	20 48 57.8	+1.8
BEHE	Becsehely	3.20	318	Pn	Pn	20 48 19.1	+1.6
BEHE				Pg	Pb	20 48 21.4	-2.5
BEHE				Sn	Sn	20 48 57.8	+1.8
ZAG	Zagreb	3.23	303	ePn	Pn	20 48 18.9	+1.0
ZAG				Sn	Sn	20 48 56.5	-0.2
KKB	Krupnik	3.27	132	P	Pn	20 48 17.0	-1.4
KKB	Krupnik	3.27	132	Pn	Pn	20 48 17.0	-1.4
VLAD	Vladila	3.28	91	⇑P	Pn	20 48 17.8	-0.8
VLAD	Vladila	3.28	91		Pn	20 48 17.8	-0.8
VLAD	Vladila	3.28	91	Pn	Pn	20 48 17.8	-0.8
PTJ	Puntijarka	3.28	304	ePn	Pn	20 48 18.9	+0.2
PTJ	Puntijarka	3.28	304	Pn	Pn	20 48 18.9	+0.2
DRGR		3.35	36	⇓P	Pn	20 48 19.0	-0.6
DRGR		3.35	36	P	Pn	20 48 19.0	-0.6
DRGR		3.35	36		Pn	20 48 19.0	-0.6
DRGR		3.35	36	Pn	Pn	20 48 18.9	-0.6
	comp=Z,2.9nm,SNR=45						
BUD	Budapest	3.42	351	P	Pn	20 48 20.8	+0.4
BUD	Budapest	3.42	351	Pn	Pn	20 48 20.6	+0.2
	comp=Z,2.0nm,SNR=40						
BUD				Pg	Pn	20 48 20.8	+0.4
BUD	Budapest	3.42	351	ePn	Pn	20 48 21.0	+0.6
BUD	Budapest	3.42	351	ePn	Pn	20 48 21.0	+0.6
CSKK	Cskako	3.43	342	Pn	Pn	20 48 21.6	+0.9
	comp=Z,2.4nm,SNR=313						
VAY	Valandovo	3.44	143	ePn	Pn	20 48 20.3	-0.4
VAY	Valandovo	3.44	143	P	Pn	20 48 20.0	-0.7
VAY	Valandovo	3.44	143	i Pn	Pn	20 48 20.0	-0.7
VAY	Valandovo	3.44	143	Pn	Pn	20 48 20.0	-0.7
VAY				Pg	Pn	20 48 20.3	-0.4
KOGS	Kog	3.45	314	⇑iPn	Pn	20 48 21.3	+0.4
MPLH	Magyarpolny	3.46	333	Pn	Pn	20 48 22.0	+1.0
	comp=Z,6.8nm,SNR=182						
DUGI	Dugi Otok	3.46	270	ePn	Pn	20 48 22.1	+1.0
DUGI	Dugi Otok	3.46	270	Pn	Pn	20 48 22.1	+1.0
GCIS	Gornji Cirnik	3.47	302	⇑iPn	Pn	20 48 21.8	+0.6
PLVB	Pleven	3.53	100	⇑P	Pn	20 48 21.8	-0.2
PLVB	Pleven	3.53	100		Pn	20 48 21.8	-0.2
BOJS	Bojanci	3.56	295	i Pn	Pn	20 48 23.8	+1.5
BOJS				i Pg	Pg	20 48 33.8	-0.9
BOJS				i Sn	Sn	20 49 05.9	+1.2
BOJS				eSg	Sg	20 49 23.8	+3.1
BOJS				IAML		20 49 32.8	
	comp=Z,748nm,1.1s						
CRES	Cresnjev	3.56	300	⇑iPn	Pn	20 48 22.9	+0.5
CRES				eSn	Sn	20 49 06.1	+1.4
CRES	Cresnjev	3.56	300	Pg	Pn	20 48 22.9	+0.5
CRES				Sn	Sn	20 49 06.1	+1.4
LTVH	Ltavrtes, Hu	3.57	23	⇓P	Pn	20 48 24.6	+2.1
LTVH	Ltavrtes, Hu	3.57	23		Pn	20 48 24.6	+2.1
LTVH	Ltavrtes, Hu	3.57	23	Pn	Pn	20 48 24.2	+1.7
	comp=Z,2.6nm,SNR=26						
NVLJ	Novalja	3.60	279	ePn	Pn	20 48 24.0	+1.1
ARR	Arges	3.63	68	⇓P	Pn	20 48 24.5	+1.1
ARR	Arges	3.63	68		Pn	20 48 24.5	+1.1
GRG	Griva	3.68	148	P	Pn	20 48 24.0	-0.1
GRG	Griva	3.68	148	Pn	Pn	20 48 24.0	-0.1
CJR	Cluj-Napoca	3.70	44	⇑P	Pn	20 48 24.4	0.0
CJR	Cluj-Napoca	3.70	44	P	Pn	20 48 24.4	0.0
CJR	Cluj-Napoca	3.70	44		Pn	20 48 24.4	0.0
CJR	Cluj-Napoca	3.70	44	Pn	Pn	20 48 24.4	0.0
	comp=Z,8.1nm,SNR=155						
HUMR	Humele	3.70	82	⇓P	Pn	20 48 24.4	+0.1
HUMR				⇓S	Sn	20 49 07.4	-0.9
HUMR	Humele	3.70	82		Pn	20 48 24.4	+0.1
HUMR					Sn	20 49 07.4	-0.9
STFAR	Stefanesti-Arg	3.73	77	⇑P	Pn	20 48 23.6	-1.1
STFAR	Stefanesti-Arg	3.73	77		Pn	20 48 23.6	-1.1
STFAR	Stefanesti-Arg	3.73	77	Pn	Pn	20 48 23.6	-1.1
EGYH	Egyhazaskeszo	3.74	333	Pn	Pn	20 48 22.3	-2.6
SRO2	Moca	3.79	345	eP	Pn	20 48 25.4	-0.1
SRO2				e		20 49 11.2	
SRO2	Moca	3.79	345	ePN	Pn	20 48 25.4	-0.1
SRO2				eSN	Sn	20 49 11.2	+0.9
SRO2	Moca	3.79	345	Pn	Pn	20 48 25.4	-0.1
MDB	Medias	3.79	56	⇑P	Pn	20 48 26.7	+1.1
MDB	Medias	3.79	56	P	Pn	20 48 26.7	+1.1
MDB	Medias	3.79	56		Pn	20 48 26.7	+1.1
MDB	Medias	3.79	56	Pn	Pn	20 48 26.7	+1.1
PSZ	Piszkesteto	3.80	0	⇓P	Pn	20 48 25.8	0.0
PSZ	Piszkesteto	3.80	0	P	Pn	20 48 25.6	-0.2
PSZ	Piszkesteto	3.80	0	Pn	Pn	20 48 25.6	-0.2
PSZ	Piszkesteto	3.80	0		Pn	20 48 25.8	0.0
PSZ	Piszkesteto	3.80	0	Pn	Pn	20 48 25.5	-0.2
	comp=Z,3.7nm,SNR=51						
PSZ	Piszkesteto	3.80	0	ePn	Pn	20 48 25.9	0.0
PSZ				eSn	Sn	20 49 07.9	-3.0
PSZ	Piszkesteto	3.80	0	ePn	Pn	20 48 25.9	0.0
PSZ				eSn	Sn	20 49 07.9	-3.0
MMB	Musomiste	3.81	130	P	Pn	20 48 25.7	-0.2
MMB	Musomiste	3.81	130	Pn	Pn	20 48 25.7	-0.2
SGRT	San Giovanni R	3.83	233		Pn	20 48 27.0	+0.7
SRO	Srobarova	3.85	344	eP	Pn	20 48 27.6	+1.2
SRO				e		20 49 14.4	
SRO	Srobarova	3.85	344	ePN	Pn	20 48 27.6	+1.2
SRO				eSN	Sn	20 49 14.4	+2.5
SRO	Srobarova	3.85	344	Pn	Pn	20 48 27.5	+1.1
	comp=Z,13nm,SNR=147						
SRO				Pg	Pb	20 48 27.6	-7.3
GROS	Grobnik	3.86	309	i Pn	Pn	20 48 26.9	+0.3
GROS	Grobnik	3.86	309	Pn	Pn	20 48 26.9	+0.3
COPA	Copaceanca	3.86	88	⇓P	Pn	20 48 26.3	-0.2
COPA	Copaceanca	3.86	88		Pn	20 48 26.3	-0.2
MTUR	Matau	3.88	72	⇑P	Pn	20 48 27.9	+1.0
MTUR	Matau	3.88	72	P	Pn	20 48 27.9	+1.0
MTUR	Matau	3.88	72		Pn	20 48 27.9	+1.0
MTUR	Matau	3.88	72	Pn	Pn	20 48 27.9	+1.0
VOIR		3.93	69	⇓P	Pn	20 48 29.0	+1.4
VOIR		3.93	69	P	Pn	20 48 29.0	+1.4
VOIR		3.93	69		Pn	20 48 29.0	+1.4
VOIR		3.93	69	Pn	Pn	20 48 29.0	+1.4
PDKS	Podkum	3.95	301	⇑iPn	Pn	20 48 28.6	+0.8
RIY	Rijeka	4.01	289	ePn	Pn	20 48 30.5	+1.8
ZIMR		4.01	95	⇑P	Pn	20 48 28.3	-0.3
ZIMR		4.01	95	P	Pn	20 48 28.3	-0.3
ZIMR		4.01	95		Pn	20 48 28.3	-0.3
ZIMR		4.01	95	Pn	Pn	20 48 28.3	-0.3
SRS	Serrai	4.08	136	P	Pn	20 48 29.0	-0.5
SRS	Serrai	4.08	136	Pn	Pn	20 48 29.0	-0.5
PLD	Plovdiv	4.08	118	P	Pn	20 48 29.7	+0.1
PLD	Plovdiv	4.08	118	Pn	Pn	20 48 29.7	+0.1
MATE	Matera	4.18	215	Pn	Pn	20 48 31.2	+0.4
	comp=Z,1.0nm,SNR=5.7						
THE	Thessaloniki	4.18	145	P	Pn	20 48 30.7	-0.2
THE	Thessaloniki	4.18	145	Pn	Pn	20 48 30.7	-0.2
CEY	Cerknica	4.18	295	⇑iPn	Pn	20 48 32.1	+1.1
CEY				eSn	Sn	20 49 20.8	+0.6
CEY	Cerknica	4.18	295	Pn	Pn	20 48 32.1	+1.1
CEY				Sn	Sn	20 49 20.8	+0.6
PERS	Pernice	4.18	309	i Pn	Pn	20 48 31.4	+0.4
SOH	Sokhos	4.19	141	P	Pn	20 48 30.8	-0.3
SOH	Sokhos	4.19	141	Pn	Pn	20 48 30.8	-0.3
LJU	Ljubljana	4.23	299	ePn	Pn	20 48 33.1	+1.4
LJU				eSn	Sn	20 49 21.9	+0.4
LJU	Ljubljana	4.23	299	Pn	Pn	20 48 33.1	+1.4
LJU				Sn	Sn	20 49 21.9	+0.4

SOP	Sopron	4.24	328	P	Pn	20 48 32.2	+0.4
SOP	Sopron	4.24	328	Pn	Pn	20 48 32.0	+0.2
	comp=Z,0.9nm,SNR=17						
SOP				Pg	Pn	20 48 32.2	+0.4
SOP	Sopron	4.24	328	*e*Pn	Pn	20 48 32.1	+0.4
SOP				*e*Sn	Sn	20 49 20.5	-1.2
SOP	Sopron	4.24	328	*e*Pn	Pn	20 48 32.1	+0.4
SOP				*e*Sn	Sn	20 49 20.5	-1.2
SOKA	Soboth	4.25	309	*i* Pn	Pn	20 48 32.2	+0.3
	comp=Z,24nm,0.4s,SNR=22						
SOKA	Soboth	4.25	309	Pn	Pn	20 48 32.2	+0.3
	comp=Z,24nm,0.4s,SNR=22						
ARCR	ARCALIA	4.33	45	⇑P	Pn	20 48 33.1	+0.1
ARCR	ARCALIA	4.33	45		Pn	20 48 33.1	+0.1
ARCR	ARCALIA	4.33	45	Pn	Pn	20 48 33.0	-0.1
	comp=Z,2.3nm,SNR=32						
DOPR	Dopca	4.34	63	⇓P	Pn	20 48 34.0	+0.9
DOPR	Dopca	4.34	63		Pn	20 48 34.0	+0.9
ARSA	Arzberg	4.36	317	*i* Pn	Pn	20 48 34.0	+0.6
	comp=Z,150nm,0.3s,SNR=155						
ARSA	Arzberg	4.36	317	Pg	Pn	20 48 34.0	+0.6
	comp=Z,150nm,0.3s,SNR=155						
ARSA				Pn	Pn	20 48 34.2	+0.7
	comp=Z,1.3nm,SNR=32						
ARSA	Arzberg	4.36	317	*e*Pn	Pn	20 48 33.9	+0.4
ARSA	Arzberg	4.36	317	*e*Pn	Pn	20 48 33.9	+0.4
BMR	Baia Mare	4.37	34	⇑P	Pn	20 48 33.3	-0.2
BMR	Baia Mare	4.37	34	P	Pn	20 48 33.3	-0.2
BMR	Baia Mare	4.37	34		Pn	20 48 33.3	-0.2
BMR	Baia Mare	4.37	34	Pg	Pn	20 48 33.3	-0.2
BMR				Pn	Pn	20 48 34.2	+0.6
	comp=Z,1.9nm,SNR=40						
KECS	Kecovo	4.39	6	*e*P	Pn	20 48 34.8	+1.0
KECS				*e*		20 49 23.0	
KECS	Kecovo	4.39	6	*e*PN	Pn	20 48 34.8	+1.0
KECS				*e*SN	Sn	20 49 23.0	-2.2
KECS	Kecovo	4.39	6	Pn	Pn	20 48 34.9	+1.0
	comp=Z,8.1nm,SNR=74						
SGRR	Singureni	4.41	87	⇑P	Pn	20 48 33.7	-0.3
SGRR	Singureni	4.41	87		Pn	20 48 33.7	-0.3
CRNS	Crni Vrh	4.42	298	*e*Pn	Pn	20 48 35.8	+1.5
VYHS	Vyhne	4.43	351	*e*P	Pn	20 48 34.9	+0.5
VYHS				*e*		20 49 23.8	
VYHS	Vyhne	4.43	351	*e*PN	Pn	20 48 34.9	+0.5
VYHS				*e*SN	Sn	20 49 23.8	-2.6
VYHS	Vyhne	4.43	351	Pn	Pn	20 48 34.9	+0.5
VYHS				Pg	Pn	20 48 35.0	+0.6
	SNR=1.9						
OBKA	Obir	4.44	304	*e*Pn	Pn	20 48 35.5	+0.9
	comp=Z,17nm,0.3s,SNR=11						
OBKA	Obir	4.44	304	Pn	Pn	20 48 35.5	+0.9
	comp=Z,17nm,0.3s,SNR=11						
OBKA				Pg	Pn	20 48 35.8	+1.3
	comp=Z,1.0nm,SNR=21						
OBKA	Obir	4.44	304	*e*Pn	Pn	20 48 35.7	+1.1
OBKA	Obir	4.44	304	*e*Pn	Pn	20 48 35.7	+1.1
BUC1	Bucharest	4.44	85	⇑P	Pn	20 48 34.8	+0.3
BUC1	Bucharest	4.44	85	P	Pn	20 48 34.8	+0.3
BUC1	Bucharest	4.44	85		Pn	20 48 34.8	+0.3
BUC1	Bucharest	4.44	85	Pn	Pn	20 48 34.8	+0.3
LIT	Litokhoron	4.47	153	P	Pn	20 48 34.3	-0.6
LIT	Litokhoron	4.47	153	Pn	Pn	20 48 34.3	-0.6
LIT	Litokhoron	4.47	153	Pn	Pn	20 48 34.3	-0.6
LIT				Pn	Pn	20 48 34.3	-0.6
PLAR	PLOIESTI	4.49	78	⇓P	Pn	20 48 36.0	+0.8
PLAR	PLOIESTI	4.49	78		Pn	20 48 36.0	+0.8
ZST	Bratislava	4.50	336	*e*P	Pn	20 48 35.5	+0.2
ZST				*e*		20 49 24.8	
ZST	Bratislava	4.50	336	*e*PN	Pn	20 48 35.5	+0.2
ZST				*e*SN	Sn	20 49 24.8	-3.3
ZST	Bratislava	4.50	336	Pn	Pn	20 48 35.6	+0.2
	comp=Z,8.1nm,SNR=12						
MLR	Muntele Rosu	4.55	70	Pn	Pn	20 48 37.4	+1.3
	comp=Z,5.2nm,0.3s,baz=302,slow=3.6,SNR=62						
MLR				Pg	Pb	20 48 48.0	+1.1
	comp=Z,5.9nm,0.3s,baz=290,slow=13,SNR=13						
MLR				Sn	Sn	20 49 28.5	-0.9
	comp=Z,6.9nm,0.3s,baz=168,slow=20,SNR=3.7						
MLR				Lg	Lg	20 49 52.1	
	comp=Z,12nm,0.3s,baz=142,slow=14,SNR=5.6						
MLR				LR	LR	20 50 53.1	
	comp=Z,2µm,20.5s,baz=279,slow=46						
MLR	Muntele Rosu	4.55	70	⇓P	Pn	20 48 37.3	+1.3
MLR	Muntele Rosu	4.55	70		Pn	20 48 36.9	+0.7
MLR	Muntele Rosu	4.55	70	Pn	Pn	20 48 37.4	+1.3
	comp=Z,5.2nm,0.3s,SNR=62						
MLR				Pn	Pn	20 48 37.4	+1.3
MLR				Pb	Pn	20 48 37.6	+1.5
	comp=Z,2.1nm,SNR=24						
MLR				Pg	Pb	20 48 48.0	+1.1
	comp=Z,5.9nm,0.3s,SNR=13						
MLR				Sn	Sn	20 49 28.5	-0.9
	comp=Z,6.9nm,0.3s,SNR=3.7						
MLR				Lg	Lg	20 49 52.1	
	comp=Z,12nm,0.3s,SNR=5.6						
MLR				LR	LR	20 50 53.1	
	comp=Z,2µm,20.5s						
MLR	Muntele Rosu	4.55	70	*e*Pn	Pn	20 48 37.5	+1.3
IGT	Igoumenitsa	4.60	175	P	Pn	20 48 38.7	+2.0
IGT	Igoumenitsa	4.60	175	Pn	Pn	20 48 38.7	+2.0
TRI	Trieste	4.61	292	P	Pn	20 48 38.2	+1.4
TRI	Trieste	4.61	292	Pn	Pn	20 48 38.2	+1.4
TRI	Trieste	4.61	292	Pg	Pn	20 48 38.2	+1.4
TRI				Pb	Pn	20 48 38.2	+1.4
TRI				Pn	Pn	20 48 38.7	+2.0
	comp=Z,1.1nm,SNR=9.8						
TRI				Sn	Sn	20 49 30.9	+0.2
MODS	Modra-Piesok	4.62	338	*e*P	Pn	20 48 36.1	-0.8
MODS				*e*		20 49 26.9	
MODS				pmax	pmax		
	comp=N,1µm,1.5s						
MODS	Modra-Piesok	4.62	338	*e*PN	Pn	20 48 36.1	-0.8
MODS				*e*SN	Sn	20 49 26.9	-4.0
MODS				*e*LG	Lg	20 50 10.7	
MODS	Modra-Piesok	4.62	338	Pn	Pn	20 48 36.1	-0.8
MODS				Pn	Pn	20 48 36.1	-0.8
MODS				Sn	Sn	20 49 26.9	-4.0
MODS				Lg	Lg	20 50 10.7	
MODS				pmax	pmax	23 59 59.6	
	comp=N,1µm,1.5s						
SULR		4.62	81	⇑P	Pn	20 48 37.5	+0.5
SULR		4.62	81		Pn	20 48 37.5	+0.5
OZUR		4.64	63	⇓P	Pn	20 48 38.1	+0.7
OZUR		4.64	63		Pn	20 48 38.1	+0.7
DIM	Dimitrovgrad	4.65	114	P	Pn	20 48 38.8	+1.5
DIM	Dimitrovgrad	4.65	114	Pn	Pn	20 48 38.8	+1.5
SMOL	Smolenice	4.71	340	*e*P	Pn	20 48 38.5	+0.3
SMOL				*e*		20 49 30.3	
SMOL	Smolenice	4.71	340	*e*PN	Pn	20 48 38.5	+0.3
SMOL				*e*SN	Sn	20 49 30.3	-2.8
SMOL	Smolenice	4.71	340	Pn	Pn	20 48 38.5	+0.3
CONA	Conrad Observa	4.72	325	*i* Pn	Pn	20 48 38.6	+0.2
	comp=N,44nm,0.3s,SNR=52						
CONA	Conrad Observa	4.72	325	Pn	Pn	20 48 38.6	+0.2
	comp=N,44nm,0.3s,SNR=52						
NEHR	Nehoiu	4.77	72	⇑P	Pn	20 48 40.0	+0.9
NEHR	Nehoiu	4.77	72		Pn	20 48 40.0	+0.9
UZH	Uzhgorod	4.82	20	*e*P	Pn	20 48 41.5	+1.8
UZH				*e*S	Sn	20 49 38.7	+2.9
UZH				MLR	MLR		
	comp=Z,150nm,10.0s						
UZH	Uzhgorod	4.82	20	Pn	Pn	20 48 41.5	+1.8
UZH				Sn	Sn	20 49 38.7	+2.9
UZH				MLR	MLR	23 59 59.6	
	comp=Z,150nm,10.0s						
INTR	Introdacqua	4.84	246	Pn	Pn	20 48 41.8	+1.8
INTR	Introdacqua	4.84	246	Pn	Pn	20 48 41.8	+1.8
RAZG	Razgrad	4.85	94	⇑P	Pn	20 48 39.1	-1.0
RAZG	Razgrad	4.85	94		Pn	20 48 39.1	-1.0
RAZG	Razgrad	4.85	94	Pn	Pn	20 48 39.1	-1.0
ISR	Istrita	4.88	76	⇑P	Pn	20 48 40.9	+0.3
ISR	Istrita	4.88	76	P	Pn	20 48 40.9	+0.3
ISR	Istrita	4.88	76		Pn	20 48 40.9	+0.3
ISR	Istrita	4.88	76	Pn	Pn	20 48 40.9	+0.3
CRVS	Cervenica-Dubn	4.91	12	*e*P	Pn	20 48 41.4	+0.4
CRVS				*e*		20 49 37.5	
CRVS				pmax	pmax		
	comp=N,558nm,1.2s						
CRVS	Cervenica-Dubn	4.91	12	*e*PN	Pn	20 48 41.4	+0.4
CRVS				*e*SN	Sn	20 49 37.5	-0.7
CRVS				*e*LG	Lg	20 50 33.6	
CRVS	Cervenica-Dubn	4.91	12	Pn	Pn	20 48 41.4	+0.4
CRVS				Pg	Pn	20 48 41.8	+0.8
	comp=Z,0.3nm,SNR=12						
CRVS				pmax	pmax	23 59 59.6	
	comp=Z,558nm,1.2s						
PAOL	Paolisi	4.97	233		Pn	20 48 43.3	+1.4
JAVC	Velka Javorina	4.98	343	*e*PN	Pn	20 48 42.4	+0.5
JAVC	Velka Javorina	4.98	343	x	x	20 48 42.4	
	comp=Z,105nm,0.8s						
JAVC				Pn	Pn	20 48 43.0	+1.0
JAVC	Velka Javorina	4.98	343	*e*Pn	Pn	20 48 42.6	+0.6
JAVC	Velka Javorina	4.98	343	*e*Pn	Pn	20 48 42.6	+0.6
LEHL	Lehliu	5.01	84	⇑P	Pn	20 48 41.3	-1.1
LEHL	Lehliu	5.01	84		Pn	20 48 41.3	-1.1
LEHL	Lehliu	5.01	84	Pn	Pn	20 48 41.3	-1.1
LANS	Liptovska Anna	5.04	357	*e*P	Pn	20 48 44.3	+1.5
LANS				pmax	pmax		
	comp=N,113nm,1.0s						
LANS	Liptovska Anna	5.04	357	*e*PN	Pn	20 48 44.3	+1.5
LANS				*e*LG	Lg	20 50 34.6	
LANS	Liptovska Anna	5.04	357	Pg	Pn	20 48 44.3	+1.5
LANS				pmax	pmax	23 59 59.6	
	comp=N,113nm,1.0s						
MYKA	Terra Mystica	5.04	302	*e*Pn	Pn	20 48 44.2	+1.4
	comp=N,36nm,0.7s,SNR=12						
MYKA				Pg	Pg	20 49 02.5	-0.7
	comp=N,67nm,0.8s						
MYKA	Terra Mystica	5.04	302	Pn	Pn	20 48 44.2	+1.4
	comp=N,36nm,0.7s,SNR=12						
MYKA				Pg	Pg	20 49 02.5	-0.7
	comp=N,67nm,0.8s						
PAIG	Paliouri	5.07	144	x	x	20 48 43.2	
	comp=N,138nm,0.8s						
NRCA	Norcia	5.07	258	Pn	Pn	20 48 44.7	+1.5
NRCA	Norcia	5.07	258	Pn	Pn	20 48 44.7	+1.5
BISRR	Bisoca	5.08	71	⇑P	Pn	20 48 44.0	+0.6
BISRR	Bisoca	5.08	71		Pn	20 48 44.0	+0.6
BISRR	Bisoca	5.08	71	Pn	Pn	20 48 45.0	+1.6
	comp=Z,325nm,0.7s,SNR=6.3						
KOLS	Kolonicke sedl	5.10	18	*e*P	Pn	20 48 44.2	+0.6
KOLS				pmax	pmax		
	comp=N,399nm,0.9s						
KOLS	Kolonicke sedl	5.10	18	*e*PN	Pn	20 48 44.2	+0.6
KOLS				*e*PG	Pg	20 49 05.4	+1.2
KOLS				*e*SG	Sg	20 50 10.2	0.0
KOLS				*e*LG	Lg	20 50 35.1	
KOLS	Kolonicke sedl	5.10	18	Pn	Pn	20 48 44.2	+0.6
KOLS				x	x	20 48 44.6	
	comp=N,142nm,1.1s						
KOLS				Pg	Pn	20 48 44.9	+1.3
	comp=Z,535nm,1.1s,SNR=25						
KOLS				pmax	pmax	23 59 59.6	
	comp=Z,399nm,0.9s						
CUC	Castrocucco	5.10	217	x	x	20 48 45.4	
	comp=Z,69nm,1.1s						
CUC				x	x	20 48 46.1	
	comp=Z,69nm,1.1s						
BURAR	Bucovina Array	5.12	45	⇑P	Pn	20 48 45.0	+1.0
BURAR	Bucovina Array	5.12	45	P	Pn	20 48 44.6	+0.6
BURAR	Bucovina Array	5.12	45		Pn	20 48 45.0	+1.0
BURAR	Bucovina Array	5.12	45	Pn	Pn	20 48 44.6	+0.6
BURAR	Bucovina Array	5.12	45	Pn	Pn	20 48 44.6	+0.6
BURAR				Pn	Pn	20 48 44.6	+0.6
PLOR	Plostina	5.12	68	⇓P	Pn	20 48 44.5	+0.6
PLOR				⇓P	Pn	20 48 44.6	+0.6
PLOR	Plostina	5.12	68	P	Pn	20 48 44.6	+0.6
PLOR	Plostina	5.12	68		Pn	20 48 44.5	+0.6
PLOR	Plostina	5.12	68	Pn	Pn	20 48 44.6	+0.6
BUR08	Bucovina Ar. S	5.13	45	Pn	Pn	20 48 44.6	+0.5
BUR08	Bucovina Ar. S	5.13	45	Pn	Pn	20 48 44.6	+0.5
PGOR	Pogoanele	5.16	79	⇓P	Pn	20 48 45.2	+0.8
PGOR	Pogoanele	5.16	79		Pn	20 48 45.2	+0.8
VRI	Vrincioaia	5.18	68	⇓P	Pn	20 48 45.2	+0.6
VRI	Vrincioaia	5.18	68	P	Pn	20 48 45.3	+0.6
VRI	Vrincioaia	5.18	68		Pn	20 48 45.2	+0.6
VRI	Vrincioaia	5.18	68	Pn	Pn	20 48 45.4	+0.7
	comp=Z,76nm,0.9s,SNR=6.6						
VRI				x	x	20 48 45.5	
	comp=Z,76nm,0.9s						
JMB	Yambol	5.18	106	P	Pn	20 48 44.7	0.0
JMB	Yambol	5.18	106	Pn	Pn	20 48 44.7	0.0
BIZ	Bicaz	5.22	55	⇓P	Pn	20 48 44.7	-0.5
BIZ	Bicaz	5.22	55		Pn	20 48 44.7	-0.5
GRER		5.23	74	⇑P	Pn	20 48 45.7	+0.4
GRER		5.23	74		Pn	20 48 45.7	+0.4
RASA	Rasa	5.25	86	⇓P	Pn	20 48 45.4	-0.2
RASA	Rasa	5.25	86		Pn	20 48 45.4	-0.2
NIE	Niedzica	5.31	3	*e*Pn	Pn	20 48 48.4	+1.9
NIE				*e*Sn	Sn	20 49 49.1	+1.1
NIE	Niedzica	5.31	3	Pn	Pn	20 48 48.3	+1.9
	comp=Z,38nm,0.8s,SNR=10.0						
TESR	Tescani	5.36	61	⇑P	Pn	20 48 48.1	+1.0
TESR	Tescani	5.36	61		Pn	20 48 48.1	+1.0
TESR	Tescani	5.36	61	x	x	20 48 48.6	
	comp=Z,76nm,1.0s						
ODBI	Odobesti	5.37	70	⇑P	Pn	20 48 47.3	0.0
ODBI	Odobesti	5.37	70		Pn	20 48 47.3	0.0
AMRR	Amara	5.39	82	⇑P	Pn	20 48 46.6	-0.9
AMRR	Amara	5.39	82	P	Pn	20 48 46.6	-0.9
AMRR	Amara	5.39	82		Pn	20 48 46.6	-0.9
AMRR	Amara	5.39	82	Pn	Pn	20 48 46.6	-0.9
AMRR				Pg	Pn	20 48 46.6	-0.9
MOA	Molln	5.39	316	*i* Pn	Pn	20 48 48.9	+1.3
	comp=Z,57nm,0.9s,SNR=42						
MOA				*e*Sn	Sn	20 49 53.0	+3.0
	comp=Z,167nm,0.5s						
MOA	Molln	5.39	316	Pn	Pn	20 48 48.9	+1.3
	comp=Z,57nm,0.9s,SNR=42						
MOA				x	x	20 48 49.0	
	comp=Z,161nm,0.8s						
MOA				Sn	Sn	20 49 53.0	+3.0
	comp=Z,167nm,0.5s						
MOA	Molln	5.39	316	*e*Pn	Pn	20 48 48.9	+1.3
MOA	Molln	5.39	316	*e*Pn	Pn	20 48 48.9	+1.3
AGG	Agios Georgios	5.42	159	P	Pn	20 48 48.0	0.0
AGG	Agios Georgios	5.42	159	Pn	Pn	20 48 48.0	0.0
AGG	Agios Georgios	5.42	159	Pn	Pn	20 48 48.0	0.0
AGG				Pn	Pn	20 48 48.0	0.0
AGG				x	x	20 48 49.2	
	comp=Z,76nm,0.9s						
ZOU	Zoufplan	5.43	299	Pn	Pn	20 48 49.6	+1.4
ZOU	Zoufplan	5.43	299	Pn	Pn	20 48 49.6	+1.4
KBA	Koelnbreinsper	5.44	305	*e*Pn	Pn	20 48 49.5	+1.1
	comp=Z,7.9nm,0.6s,SNR=11						
KBA	Koelnbreinsper	5.44	305	P	Pn	20 48 49.8	+1.4
KBA				pmax	pmax		
	comp=Z,93nm,0.9s						
KBA	Koelnbreinsper	5.44	305	Pn	Pn	20 48 49.5	+1.1
	comp=Z,7.9nm,0.6s,SNR=11						
KBA				x	x	20 48 49.8	
	comp=Z,93nm,0.9s						
KBA				pmax	pmax	23 59 59.6	
	comp=Z,93nm,0.9s						
KBA	Koelnbreinsper	5.44	305	*e*Pn	Pn	20 48 49.6	+1.1
KBA				*e*Sn	Sn	20 49 49.8	-1.7
KBA	Koelnbreinsper	5.44	305	*e*Pn	Pn	20 48 49.6	+1.1
KBA				*e*Sn	Sn	20 49 49.8	-1.7
TIP	Timpagrande	5.45	206	⇓P	Pn	20 48 48.3	-0.2
TIP	Timpagrande	5.45	206		Pn	20 48 48.3	-0.2
TIP	Timpagrande	5.45	206	x	x	20 48 48.3	
	comp=Z,51nm,0.6s						
TIP				Pn	Pn	20 48 48.3	-0.2
TIP				x	x	20 48 49.5	
	comp=Z,51nm,0.6s						
PETR	Petresti	5.48	70	⇓P	Pn	20 48 49.3	+0.5
PETR	Petresti	5.48	70		Pn	20 48 49.3	+0.5
KRUC	Moravsky	5.49	336	*e*PN	Pn	20 48 48.4	-0.5
KRUC				*e*SN	Sn	20 49 51.2	-1.1
KRUC	Moravsky	5.49	336	Pn	Pn	20 48 48.4	-0.5
KRUC				Sn	Sn	20 49 51.2	-1.1
PRAR	RASCA	5.52	52	⇑P	Pn	20 48 49.9	+0.6
PRAR	RASCA	5.52	52		Pn	20 48 49.9	+0.6
EDRB	Edirne	5.54	112	*e*P	Pn	20 48 49.3	-0.3
EDRB	Edirne	5.54	112	Pn	Pn	20 48 49.3	-0.3
PRD	Provadia	5.55	97	P	Pn	20 48 49.6	-0.2
PRD	Provadia	5.55	97	Pn	Pn	20 48 49.6	-0.2
ALN	Alexandroupoli	5.59	123	P	Pn	20 48 51.4	+1.0
ALN				pmax	pmax		
	comp=Z,136nm,1.0s						
ALN	Alexandroupoli	5.59	123	x	x	20 48 51.4	
	comp=Z,136nm,1.0s						
ALN				pmax	pmax	23 59 59.6	
	comp=Z,136nm,1.0s						
VRAC	Vranov	5.65	338	Pn	Pn	20 48 51.7	+0.5
	comp=Z,2.8nm,0.3s,baz=152,slow=12,SNR=25						
VRAC				Sn	Sn	20 49 52.6	-3.8
	comp=Z,13nm,0.3s,baz=321,slow=15,SNR=6.4						
VRAC				LR	LR	20 51 37.8	
	comp=Z,282nm,18.6s,baz=206,slow=44						
VRAC	Vranov	5.65	338	⇓P	Pn	20 48 52.3	+1.1
VRAC	Vranov	5.65	338	*e*PN	Pn	20 48 51.4	+0.2
VRAC				*e*SN	Sn	20 49 54.3	-2.1
VRAC	Vranov	5.65	338	P	Pn	20 48 52.3	+1.1
VRAC	Vranov	5.65	338		Pn	20 48 52.3	+1.1
VRAC	Vranov	5.65	338	Pn	Pn	20 48 51.7	+0.5
	comp=Z,2.8nm,0.3s,SNR=25						
VRAC				x	x	20 48 52.2	
	comp=Z,68nm,0.8s						
VRAC				Pg	Pn	20 48 52.3	+1.1
VRAC				Sn	Sn	20 49 52.6	-3.8
	comp=Z,13nm,0.3s,SNR=6.4						
VRAC				LR	LR	20 51 37.8	
	comp=Z,282nm,18.6s						
ICOR	Ion Corvin	5.72	87	⇓P	Pn	20 48 51.8	-0.3
ICOR	Ion Corvin	5.72	87		Pn	20 48 51.8	-0.3
AVR	AVREN	5.76	97	P	Pn	20 48 52.4	-0.3
AVR	AVREN	5.76	97	Pn	Pn	20 48 52.4	-0.3
ABTA	Abfaltersbach	5.79	300	*e*Pn	Pn	20 48 55.2	+2.0
	comp=Z,28nm,0.5s,SNR=12						
ABTA	Abfaltersbach	5.79	300	Pn	Pn	20 48 55.2	+2.0
	comp=Z,28nm,0.5s,SNR=12						
OKC	Ostrava-Krasne	5.84	349	*e*P	Pn	20 48 53.1	-0.6
OKC				*e*		20 49 57.6	
OKC	Ostrava-Krasne	5.84	349	*e*PN	Pn	20 48 53.1	-0.6
OKC				*e*SN	Sn	20 49 57.6	-3.4
OKC	Ostrava-Krasne	5.84	349	Pn	Pn	20 48 53.1	-0.6
OKC				Pg	Pn	20 48 53.9	+0.1
	comp=Z,29nm,0.7s,SNR=4.3						
OKC				x	x	20 48 54.8	
	comp=Z,29nm,0.7s						
KWP	Kalwaria Pacla	5.85	19	*e*Pn	Pn	20 48 56.9	+3.0
KWP	Kalwaria Pacla	5.85	19	P	Pn	20 48 56.4	+2.5
KWP	Kalwaria Pacla	5.85	19	Pn	Pn	20 48 56.4	+2.5
KWP	Kalwaria Pacla	5.85	19	Pg	Pn	20 48 56.4	+2.5
KWP				x	x	20 48 56.4	
	comp=Z,48nm,0.6s						
KWP				Pn	Pn	20 48 56.8	+2.9
	comp=Z,5.2nm,SNR=3.5						
MORC	Moravsky Berou	5.88	345	⇓P	Pn	20 48 54.9	+0.6
MORC	Moravsky Berou	5.88	345	*e*PN	Pn	20 48 54.6	+0.3
MORC				*e*SN	Sn	20 49 58.9	-3.1
MORC	Moravsky Berou	5.88	345	P	Pn	20 48 54.9	+0.6
MORC	Moravsky Berou	5.88	345		Pn	20 48 54.9	+0.6
MORC	Moravsky Berou	5.88	345	Pn	Pn	20 48 54.3	+0.1
MORC	Moravsky Berou	5.88	345	Pg	Pn	20 48 54.3	+0.1
MORC				x	x	20 48 54.6	
	comp=Z,42nm,0.9s						
MORC				Pb	Pn	20 48 54.9	+0.6
MORC				Pn	Pn	20 48 55.2	+0.9
TLBR	Topalu	5.89	83	⇑P	Pn	20 48 53.6	-0.9
TLBR	Topalu	5.89	83		Pn	20 48 53.6	-0.9
TLBR	Topalu	5.89	83	Pn	Pn	20 48 53.6	-0.9
TEOL	Teolo	5.96	285		Pn	20 48 56.0	+0.7
GADA	Gvkgeada	5.96	129	*e*P	Pn	20 48 54.3	-1.1
GADA	Gvkgeada	5.96	129	Pn	Pn	20 48 54.3	-1.1
TREC	Trest	5.98	331	*e*P	Pn	20 48 55.9	+0.2
TREC				*e*		20 50 02.4	
TREC	Trest	5.98	331	*e*PN	Pn	20 48 55.9	+0.2
TREC				*e*SN	Sn	20 50 02.4	-2.2
TREC	Trest	5.98	331	Pn	Pn	20 48 55.7	-0.1
TREC				Pg	Pn	20 48 55.9	+0.2
TREC				x	x	20 48 56.1	
	comp=Z,17nm,0.7s						
CFR	Carcaliu	6.00	77	⇑P	Pn	20 48 55.2	-0.7
CFR	Carcaliu	6.00	77	P	Pn	20 48 55.2	-0.7
CFR	Carcaliu	6.00	77		Pn	20 48 55.2	-0.7
CFR	Carcaliu	6.00	77	Pn	Pn	20 48 55.2	-0.7
CFR				Pg	Pn	20 48 55.2	-0.7
CFR				x	x	20 48 55.3	
	comp=Z,30nm,0.5s						
CFR				x	x	20 48 57.8	
	comp=Z,30nm,0.5s						
ERIK	Erikli-Kesan	6.01	123	*e*P	Pn	20 48 59.7	+3.6
PSN	Preselentsi	6.04	91	P	Pn	20 48 56.6	+0.2
PSN	Preselentsi	6.04	91	Pn	Pn	20 48 56.6	+0.2
CKRC	Cesky Krumlov	6.06	323	*e*PN	Pn	20 48 57.5	+0.7
CKRC				*e*SN	Sn	20 50 04.4	-2.1
OJC	Ojcow	6.11	360	*e*Pn	Pn	20 48 59.0	+1.6
OJC				*e*Sn	Sn	20 50 04.3	-3.2
OJC	Ojcow	6.11	360	P	Pn	20 48 58.3	+0.9
OJC	Ojcow	6.11	360	Pn	Pn	20 48 58.3	+0.9
OJC	Ojcow	6.11	360	Pn	Pn	20 48 58.3	+0.9
OJC				Pg	Pn	20 48 58.3	+0.9
OJC				Pb	Pn	20 48 59.1	+1.7
	comp=Z,29nm,0.8s,SNR=4.4						
OJC				x	x	20 48 59.3	
	comp=Z,29nm,0.8s						
OJC				x	x	20 49 00.7	
	comp=Z,30nm,0.7s						
RJOB	Jochberg	6.11	309	x	x	20 48 59.2	
	comp=Z,74nm,0.7s						
RJOB	Jochberg	6.11	309	*e*Pn	Pn	20 48 59.0	+1.5
RJOB	Jochberg	6.11	309	*e*Pn	Pn	20 48 59.0	+1.5
CTI	Castel Tesino	6.12	291	P	Pn	20 48 58.9	+1.2
CTI	Castel Tesino	6.12	291		Pn	20 48 58.9	+1.2
CTI	Castel Tesino	6.12	291	Pn	Pn	20 48 58.9	+1.2
VASR	Vaslui	6.13	63	⇑P	Pn	20 48 57.4	-0.4
VASR	Vaslui	6.13	63		Pn	20 48 57.4	-0.4
TIRR	Tirgusor	6.16	84	⇑P	Pn	20 48 57.5	-0.5
TIRR	Tirgusor	6.16	84	P	Pn	20 48 57.7	-0.4
TIRR	Tirgusor	6.16	84		Pn	20 48 57.5	-0.5
TIRR	Tirgusor	6.16	84	Pn	Pn	20 48 57.7	-0.4
TIRR	Tirgusor	6.16	84	Pn	Pn	20 48 57.5	-0.5
	comp=Z,97nm,1.7s,SNR=1.1						
TIRR				Pg	Pn	20 48 57.7	-0.4
TIRR				Pb	Pn	20 48 57.7	-0.4
TIRR	Tirgusor	6.16	84	*e*Pn	Pn	20 48 57.3	-0.8
TIRR	Tirgusor	6.16	84	*e*Pn	Pn	20 48 57.3	-0.8
GELI	Tayfur-Gelibol	6.16	125	*e*P	Pn	20 48 57.1	-1.0
GELI	Tayfur-Gelibol	6.16	125	Pn	Pn	20 48 57.1	-1.0
MFTR	Murfatlar	6.17	86	⇓P	Pn	20 48 58.6	+0.4
MFTR	Murfatlar	6.17	86		Pn	20 48 58.6	+0.4
TPGR	Topolog	6.17	80	⇑P	Pn	20 48 57.5	-0.8
TPGR	Topolog	6.17	80		Pn	20 48 57.5	-0.8
TPGR	Topolog	6.17	80	Pn	Pn	20 48 57.5	-0.8
KRLC	Kraliky	6.32	342	*e*P	Pn	20 49 01.4	+1.1
KRLC				*e*		20 50 10.5	
KRLC	Kraliky	6.32	342	*e*PN	Pn	20 49 01.4	+1.1
KRLC				*e*SN	Sn	20 50 10.5	-2.3
KRLC	Kraliky	6.32	342	Pn	Pn	20 49 01.4	+1.1
GEC2	GERESS Array S	6.35	320	Pn	Pn	20 49 01.9	+1.1
GEC2	GERESS Array S	6.35	320	Pn	Pn	20 49 01.9	+1.1
GEC2	GERESS Array S	6.35	320	*e*Pn	Pn	20 49 01.6	+0.7
GEC2	GERESS Array S	6.35	320	*e*Pn	Pn	20 49 01.6	+0.7
GERES	GERESS Array B	6.35	320	Pn	Pn	20 49 02.0	+1.1
	comp=Z,5.4nm,0.3s,baz=134,slow=14,SNR=75						
GERES				Sn	Sn	20 50 12.4	-1.4
	comp=Z,2.4nm,0.3s,baz=132,slow=22,SNR=1.4						
GERES				Lg	Lg	20 50 50.3	
	baz=298,slow=34,SNR=1.2						
GERES				LR	LR	20 51 42.4	
	comp=Z,655nm,21.3s,baz=134,slow=40						
GERES	GERESS Array B	6.35	320		Pn	20 49 01.6	+0.7
GERES	GERESS Array B	6.35	320	Pn	Pn	20 49 02.0	+1.1
GERES				Pg	Pn	20 49 02.0	+1.1
	comp=Z,5.4nm,0.3s,SNR=75						
GERES				Sn	Sn	20 50 12.4	-1.4
	comp=Z,2.4nm,0.3s,SNR=1.4						
GERES				Lg	Lg	20 50 50.3	
GERES				LR	LR	20 51 42.4	
	comp=Z,655nm,21.3s						
LVV	L'vov	6.38	25	*e*P	Pn	20 49 02.1	+1.0
LVV				*e*S	Sn	20 50 12.5	-1.8
LVV				MLR	MLR		
	comp=E,2µm,6.4s						
LVV				MLR	MLR		
	comp=N,1µm,7.2s						
LVV				MLR	MLR		
	comp=Z,1µm,6.8s						
LVV	L'vov	6.38	25	Pn	Pn	20 49 02.1	+1.0
LVV				Sn	Sn	20 50 12.5	-1.8
LVV				MLR	MLR	23 59 59.6	
	comp=Z,2µm,6.4s						
LVV				MLR	MLR	23 59 59.6	
	comp=Z,1µm,7.2s						
LVV				MLR	MLR	23 59 59.6	
	comp=Z,1µm,6.8s						
ZCCA	Zocca	6.38	275	Pn	Pn	20 49 04.2	+3.0

ZCCA	Zocca	6.38 275	Pn	Pn	20 49 04.2	+3.0
KW1	Garching a.d.	6.44 311	ePn	Pn	20 49 03.4	+1.5
KW1	Garching a.d.	6.44 311	ePn	Pn	20 49 03.4	+1.5
TLCR		6.48 77	⇑P	Pn	20 49 02.1	-0.4
TLCR		6.48 77	P	Pn	20 49 02.1	-0.4
TLCR		6.48 77		Pn	20 49 02.1	-0.4
TLCR		6.48 77	Pn	Pn	20 49 02.1	-0.4
JURR	Jurilovca	6.49 81	⇑P	Pn	20 49 01.4	-1.3
JURR	Jurilovca	6.49 81		Pn	20 49 01.4	-1.3
JURR	Jurilovca	6.49 81	Pn	Pn	20 49 01.4	-1.3
WTTA	Wattenberg	6.56 302	ePn	Pn	20 49 06.3	+2.6
	comp=Z,26nm,0.7s,SNR=19					
WTTA	Wattenberg	6.56 302	P	Pn	20 49 06.7	+3.0
WTTA			pmax	pmax		
	comp=Z,72nm,0.8s					
WTTA	Wattenberg	6.56 302	Pn	Pn	20 49 06.3	+2.6
	comp=Z,26nm,0.7s,SNR=19					
WTTA			x	x	20 49 06.7	
	comp=Z,72nm,0.8s					
WTTA			pmax	pmax	23 59 59.6	
	comp=Z,72nm,0.8s					
WTTA	Wattenberg	6.56 302	ePn	Pn	20 49 06.3	+2.6
WTTA	Wattenberg	6.56 302	ePn	Pn	20 49 06.3	+2.6
KHC	Kasperske Hory	6.62 321	deP	Pn	20 49 04.4	0.0
KHC	Kasperske Hory	6.62 321	ePN	Pn	20 49 05.4	+1.0
KHC			eSN	Sn	20 50 18.7	-1.5
KHC	Kasperske Hory	6.62 321	Pn	Pn	20 49 05.4	+1.0
KHC	Kasperske Hory	6.62 321	Pn	Pn	20 49 04.4	0.0
KHC			Pg	Pn	20 49 05.4	+1.0
KHC			x	x	20 49 05.7	
	comp=Z,20nm,0.8s					
WATA	Walderalm	6.62 302	ePn	Pn	20 49 06.5	+1.8
	comp=Z,86nm,1.0s,SNR=22					
WATA	Walderalm	6.62 302	Pn	Pn	20 49 06.5	+1.8
	comp=Z,86nm,1.0s,SNR=22					
DPC	Dobruska-Polom	6.68 340	eP	Pn	20 49 05.5	+0.2
DPC			e		20 50 19.1	
DPC	Dobruska-Polom	6.68 340	ePN	Pn	20 49 05.5	+0.2
DPC			eSN	Sn	20 50 19.1	-2.7
DPC	Dobruska-Polom	6.68 340	Pn	Pn	20 49 05.5	+0.2
DPC			x	x	20 49 05.8	
	comp=Z,208nm,0.9s					
DPC			x	x	20 49 08.0	
	comp=Z,265nm,0.8s					
SALO	Salr	6.80 286	Pn	Pn	20 49 08.0	+1.1
SALO	Salr	6.80 286	Pn	Pn	20 49 08.0	+1.1
SLVT	Silivri	6.80 112	eP	Pn	20 49 06.3	-0.6
SLVT	Silivri	6.80 112	Pn	Pn	20 49 06.3	-0.6
SQTA	Sankt Quirin	6.80 300	ePn	Pn	20 49 09.7	+2.6
	comp=Z,31nm,0.4s,SNR=21					
SQTA	Sankt Quirin	6.80 300	Pn	Pn	20 49 09.7	+2.6
	comp=Z,31nm,0.4s,SNR=21					
PBCC	Pribram	6.86 326	ePN	Pn	20 49 08.0	+0.2
OSTC	Ostas	6.90 340	ePN	Pn	20 49 08.8	+0.5
OSTC			eSN	Sn	20 50 24.0	-3.1
PRU	Pruhonice	6.90 330	eP	Pn	20 49 08.2	-0.1
PRU			e		20 50 25.6	
PRU	Pruhonice	6.90 330	ePN	Pn	20 49 08.2	-0.1
PRU			eSN	Sn	20 50 25.6	-1.5
PRU	Pruhonice	6.90 330	Pn	Pn	20 49 08.2	-0.1
PRU			Pg	Pn	20 49 08.6	+0.4
UPC	Upice	6.90 339	eP	Pn	20 49 08.3	0.0
UPC	Upice	6.90 339	ePN	Pn	20 49 08.3	0.0
UPC	Upice	6.90 339	Pn	Pn	20 49 08.3	0.0
MOTA	Moosalm	6.92 301	ePn	Pn	20 49 10.8	+2.1
	comp=Z,18nm,0.5s,SNR=12					
MOTA	Moosalm	6.92 301	Pn	Pn	20 49 10.8	+2.1
	comp=Z,18nm,0.5s,SNR=12					
WET	Wettzell	6.95 319	P	Pn	20 49 09.9	+0.9
WET			pmax	pmax		
	comp=Z,39nm,1.0s					
WET	Wettzell	6.95 319	x	x	20 49 09.9	
	comp=Z,39nm,1.0s					
WET			pmax	pmax	23 59 59.6	
	comp=Z,39nm,1.0s					
WET	Wettzell	6.95 319	ePn	Pn	20 49 09.8	+0.9
WET	Wettzell	6.95 319	ePn	Pn	20 49 09.8	+0.9
CHVC	Chvalec	6.97 340	ePN	Pn	20 49 09.8	+0.6
PART	Garmisch-Parte	6.98 302	ePn	Pn	20 49 10.8	+1.4
PART	Garmisch-Parte	6.98 302	ePn	Pn	20 49 10.8	+1.4
CTKS	Kestanelik-??a	7.00 111	eP	Pn	20 49 10.6	+1.0
PRA	Prague	7.01 330	eP	Pn	20 49 10.8	+1.1
PRA	Prague	7.01 330	ePN	Pn	20 49 10.8	+1.1
PRA	Prague	7.01 330	Pn	Pn	20 49 10.8	+1.1
FETA	Feichten	7.03 298	i Pn	Pn	20 49 12.6	+2.4
	comp=Z,110nm,0.9s,SNR=46					
FETA	Feichten	7.03 298	Pn	Pn	20 49 12.6	+2.4
	comp=Z,110nm,0.9s,SNR=46					
BE1	Monatshausen	7.11 305	ePn	Pn	20 49 12.3	+1.2
BE1	Monatshausen	7.11 305	ePn	Pn	20 49 12.3	+1.2
ITM	Ithomi	7.11 166	Pn	Pn	20 49 10.9	-0.2
ITM	Ithomi	7.11 166	Pn	Pn	20 49 10.9	-0.2
ITM			x	x	20 49 11.0	
	comp=Z,45nm,0.9s					
KSP	Ksiaz	7.15 342	ePn	Pn	20 49 12.6	+1.0
KSP			eSn	Sn	20 50 32.5	-0.6
KSP	Ksiaz	7.15 342	P	Pn	20 49 13.4	+1.8
KSP			pmax	pmax		
	comp=Z,16nm,0.8s					
KSP	Ksiaz	7.15 342	Pn	Pn	20 49 12.7	+1.1
	comp=Z,16nm,0.8s,SNR=2.3					
KSP			x	x	20 49 13.4	
	comp=Z,16nm,0.8s					
KSP			pmax	pmax	23 59 59.6	
	comp=Z,16nm,0.8s					
KSP			Pn			
RETA	Reutte	7.19 301	ePn	Pn	20 49 13.8	+1.4
	comp=Z,9.8nm,0.6s					
RETA			Sn	Sg	20 51 24.7	+7.4
	comp=Z,116nm,1.2s					
RETA	Reutte	7.19 301	Pn	Pn	20 49 13.8	+1.4
	comp=Z,9.8nm,0.6s					
RETA			Lg	Lg	20 51 24.7	
	comp=Z,116nm,1.2s					
FUR	Furstenfeldbru	7.20 307	P	Pn	20 49 13.8	+1.4
FUR			pmax	pmax		
	comp=Z,68nm,0.9s					
FUR	Furstenfeldbru	7.20 307	x	x	20 49 13.8	
	comp=Z,68nm,0.9s					
FUR			pmax	pmax	23 59 59.6	
	comp=Z,68nm,0.9s					
FUR	Furstenfeldbru	7.20 307	ePn	Pn	20 49 13.4	+1.0
FUR	Furstenfeldbru	7.20 307	ePn	Pn	20 49 13.4	+1.0
BALY	Balya	7.26 124	x	x	20 49 11.3	
	comp=Z,84nm,0.7s					
DKL	Dikili	7.30 131	eP	Pn	20 49 12.1	-1.7
DKL	Dikili	7.30 131	Pn	Pn	20 49 12.1	-1.7
PVCC	Panska Ves	7.35 333	x	x	20 49 14.7	
	comp=Z,18nm,0.9s					
PVCC			x	x	20 49 18.3	
	comp=Z,16nm,0.8s					
CHOS	Chios island	7.39 139	x	x	20 49 15.0	
	comp=Z,59nm,2.6s					
MSSA	Maissana	7.43 275	Pn	Pn	20 49 16.4	+0.8
MSSA	Maissana	7.43 275	Pn	Pn	20 49 16.4	+0.8
OBER	Oberstdorf	7.45 300	ePn	Pn	20 49 17.6	+1.7
OBER	Oberstdorf	7.45 300	ePn	Pn	20 49 17.6	+1.7
DAVOX	Davos/Dischmat	7.50 294	Pn	Pn	20 49 18.6	+1.9
	comp=Z,2.4nm,0.3s,baz=116,slow=12,SNR=64					
DAVOX			Sn	Sn	20 50 42.4	+0.2
	baz=72,slow=20,SNR=1.6					
DAVOX			Lg	Lg	20 51 25.8	
	baz=101,slow=23,SNR=1.7					
DAVOX	Davos/Dischmat	7.50 294	Pn	Pn	20 49 18.6	+1.9
DAVOX			Pn	Pn	20 49 18.6	+1.9
	comp=Z,2.4nm,0.3s,SNR=64					
DAVOX			Sn	Sn	20 50 42.4	+0.2
DAVOX			Lg	Lg	20 51 25.8	
DAVA	Damuels	7.67 298	ePn	Pn	20 49 20.6	+1.7
	comp=Z,43nm,1.0s,SNR=18					
DAVA	Damuels	7.67 298	Pn	Pn	20 49 20.6	+1.7
	comp=Z,43nm,1.0s,SNR=18					
DAVA			x	x	20 49 21.4	
	comp=Z,34nm,1.1s					
DAVA	Damuels	7.67 298	ePn	Pn	20 49 20.9	+2.0
DAVA	Damuels	7.67 298	ePn	Pn	20 49 20.9	+2.0
UBR	Ueberruh	7.67 301	x	x	20 49 20.3	
	comp=Z,38nm,0.8s					
UBR	Ueberruh	7.67 301	ePn	Pn	20 49 20.3	+1.4
UBR	Ueberruh	7.67 301	ePn	Pn	20 49 20.3	+1.4
ROTZ	Rotzenmuhle	7.70 320	x	x	20 49 19.7	
	comp=Z,22nm,0.8s					
ROTZ	Rotzenmuhle	7.70 320	ePn	Pn	20 49 19.5	+0.2
ROTZ	Rotzenmuhle	7.70 320	ePn	Pn	20 49 19.5	+0.2
VDL	Val di Lei	7.71 292	P	Pn	20 49 21.5	+2.0
VDL			pmax	pmax		
	comp=Z,48nm,0.9s					
VDL	Val di Lei	7.71 292	Pn	Pn	20 49 21.5	+2.0
VDL			pmax	pmax	23 59 59.6	
	comp=Z,48nm,0.9s					
BEL	Belsk	7.75 4	ePn	Pn	20 49 23.6	+3.7
BEL	Belsk	7.75 4	P	Pn	20 49 23.5	+3.7
BEL			pmax	pmax		
	comp=Z,93nm,0.8s					
BEL	Belsk	7.75 4	Pn	Pn	20 49 21.3	+1.4
	comp=Z,93nm,0.8s,SNR=3.4					
BEL			x	x	20 49 23.5	
	comp=Z,93nm,0.8s					
BEL			pmax	pmax	23 59 59.6	
	comp=Z,93nm,0.8s					
BEL			Pn			
TUE	Stuetta	7.77 291	Pn	Pn	20 49 21.9	+1.5
TUE	Stuetta	7.77 291	Pn	Pn	20 49 21.9	+1.5
TUE			x	x	20 49 22.8	
	comp=Z,98nm,1.0s					
BRG	Berggiesshubel	7.85 331	P	Pn	20 49 21.5	+0.2
BRG			pmax	pmax		
	comp=Z,12nm,0.7s					
BRG	Berggiesshubel	7.85 331	Pn	Pn	20 49 21.4	+0.1
BRG			Amp		20 49 24.1	
	comp=Z,5.1nm,0.5s					
BRG			ex	x	20 49 59.2	
BRG			ex	x	20 50 31.7	
BRG			Amp		20 51 42.5	
	comp=Z,22nm,0.9s					
BRG			Amp		20 52 05.0	
	comp=E,1.2nm,9.2s					
BRG			Amp		20 52 09.0	
	comp=Z,1.6nm,7.4s					
BRG			Amp		20 52 16.0	
	comp=N,1.0nm,9.5s					
BRG	Berggiesshubel	7.85 331	x	x	20 49 21.5	
	comp=N,12nm,0.7s					
BRG			pmax	pmax	23 59 59.6	
	comp=N,12nm,0.7s					
NORI	Noerdlinger Ri	7.86 309	ePn	Pn	20 49 21.7	+0.2
NORI	Noerdlinger Ri	7.86 309	ePn	Pn	20 49 21.7	+0.2
MUGIO	Muggio	7.87 287	x	x	20 49 21.9	
	comp=N,17nm,0.8s					
YLV	Yalova	7.89 113	eP	Pn	20 49 21.5	-0.5
YLV	Yalova	7.89 113	Pn	Pn	20 49 21.5	-0.5
MANZ	Manzenberg	7.90 321	x	x	20 49 23.1	
	comp=N,48nm,0.8s					
MANZ	Manzenberg	7.90 321	ePn	Pn	20 49 22.8	+0.8
MANZ	Manzenberg	7.90 321	ePn	Pn	20 49 22.8	+0.8
NKC	Novy Kostel	7.93 323	eP	Pn	20 49 23.1	+0.7
NKC	Novy Kostel	7.93 323	ePN	Pn	20 49 23.1	+0.7
NKC	Novy Kostel	7.93 323	Pn	Pn	20 49 23.1	+0.7
NKC			x	x	20 49 23.4	
	comp=N,10.0nm,0.9s					
HRT	Hereke	7.97 111	eP	Pn	20 49 21.9	-1.1
HRT	Hereke	7.97 111	Pn	Pn	20 49 21.9	-1.1
RAFF	Raffo Rosso	8.05 213	Pn	Pn	20 49 24.1	0.0
RAFF	Raffo Rosso	8.05 213	Pn	Pn	20 49 24.1	0.0
TANN	Tannenbergstha	8.05 324	x	x	20 49 24.2	
	comp=N,76nm,1.0s					
PGF	Pioggiola	8.07 263	eP	Pn	20 49 25.9	+1.5
PGF	Pioggiola	8.07 263	Pn	Pn	20 49 25.9	+1.5
PGF			x	x	20 49 26.1	
	comp=N,27nm,2.3s					
GRF	Grafenberg Arr	8.12 316	P	Pn	20 49 26.6	+1.6
GRF			pmax	pmax		
	comp=Z,58nm,0.7s					
GRF	Grafenberg Arr	8.12 316	Pn	Pn	20 49 26.6	+1.6
GRF			pmax	pmax	23 59 59.6	
	comp=Z,58nm,0.7s					
GRF	Grafenberg Arr	8.12 316	ePn	Pn	20 49 25.6	+0.6
GRF	Grafenberg Arr	8.12 316	ePn	Pn	20 49 25.6	+0.6
GRFO	Grafenberg	8.12 316	P	Pn	20 49 25.7	+0.7
GRFO	Grafenberg	8.12 316		Pn	20 49 25.7	+0.7
GRFO	Grafenberg	8.12 316	Pn	Pn	20 49 25.7	+0.7
ADVT	Abdulvahap	8.20 113	eP	Pn	20 49 22.5	-3.6
ADVT	Abdulvahap	8.20 113	Pn	Pn	20 49 22.5	-3.6
APE	Apeiranthos	8.26 147	⇓eP	Pn	20 49 27.1	+0.1
APE	Apeiranthos	8.26 147	Pn	Pn	20 49 27.1	+0.1
BNALP	Bannalp	8.49 293	x	x	20 49 32.7	
	comp=Z,32nm,1.0s					
ZUR	Degenried	8.53 296	P	Pn	20 49 32.2	+1.6
ZUR			pmax	pmax		
	comp=Z,91nm,1.0s					
ZUR	Degenried	8.53 296	Pn	Pn	20 49 32.2	+1.6
ZUR			pmax	pmax	23 59 59.6	
	comp=Z,91nm,1.0s					
CLL	Collm	8.54 330	i Pn	Pn	20 49 31.0	+0.2
	comp=Z,8.0nm,0.6s					
CLL			ePg	Pg	20 50 12.0	+1.9
CLL			eSn	Sn	20 50 55.0	-12
CLL			e		20 51 02.0	
CLL			e		20 51 14.0	
CLL			eSb	Sg	20 51 31.0	-30
CLL			eSg	Sg	20 51 58.0	-2.7
	comp=Z,78nm,1.0s					
CLL	Collm	8.54 330	P	Pn	20 49 31.0	+0.2
CLL	Collm	8.54 330	Pn	Pn	20 49 31.0	+0.2
CLL	Collm	8.54 330	Pn	Pn	20 49 31.0	+0.2
CLL			Pg	Pn	20 49 31.0	+0.2
CLL			x	x	20 49 31.3	
	comp=Z,18nm,1.5s					
MOX	Moxa	8.59 322	P	Pn	20 49 32.7	+1.2
MOX			pmax	pmax		
	comp=Z,43nm,0.9s					
MOX	Moxa	8.59 322	x	x	20 49 32.7	
	comp=Z,43nm,0.9s					
MOX			x	x	20 49 34.2	
	comp=Z,43nm,0.9s					
MOX			pmax	pmax	23 59 59.6	
	comp=Z,43nm,0.9s					
AYDB	Zeytinkoy-Aydi	8.65 133	eP	Pn	20 49 32.6	+0.1
AYDB	Zeytinkoy-Aydi	8.65 133	Pn	Pn	20 49 32.6	+0.1
KULA	Kula-Manisa	8.67 127	x	x	20 49 33.4	
	comp=Z,9.8nm,1.7s					
STU	Stuttgart	8.70 306	P	Pn	20 49 34.2	+1.2
STU			pmax	pmax		
	comp=Z,67nm,0.8s					
STU	Stuttgart	8.70 306	Pn	Pn	20 49 34.0	+0.9
	comp=Z,64nm,0.8s,SNR=6.9					
STU			x	x	20 49 34.2	
	comp=Z,67nm,0.8s					
STU			pmax	pmax	23 59 59.6	
	comp=Z,67nm,0.8s					
SLE	Schleitheim	8.71 299	P	Pn	20 49 34.2	+1.0
SLE			pmax	pmax		
	comp=Z,71nm,0.9s					
SLE	Schleitheim	8.71 299	x	x	20 49 34.2	
	comp=Z,71nm,0.9s					
SLE			pmax	pmax	23 59 59.6	
	comp=Z,71nm,0.9s					
GULT	Gulveren	8.72 111	eP	Pn	20 49 33.2	-0.1
GULT	Gulveren	8.72 111	Pn	Pn	20 49 33.2	-0.1
SAOF	Saorge	8.86 273	P	Pn	20 49 35.1	-0.1
SAOF			pmax	pmax		
	comp=Z,26nm,0.8s					
SAOF	Saorge	8.86 273	x	x	20 49 35.1	
	comp=Z,26nm,0.8s					
SAOF			pmax	pmax	23 59 59.6	
	comp=Z,26nm,0.8s					
SRCK	Saricakaya, Es	8.99 113	eP	Pn	20 49 34.8	-2.1
SRCK	Saricakaya, Es	8.99 113	Pn	Pn	20 49 34.8	-2.1
ESCA	l'Escarene	9.01 273	x	x	20 49 36.8	
	comp=Z,220nm,2.1s					
BFO	Black Forest	9.03 302	P	Pn	20 49 37.9	+0.4
BFO	Black Forest	9.03 302	Pn	Pn	20 49 37.9	+0.4
BFO	Black Forest	9.03 302	Pn	Pn	20 49 37.9	+0.4
BFO			Pg		20 49 37.9	
BFO			x	x	20 49 38.1	
	comp=Z,21nm,0.9s					
BFO	Black Forest	9.03 302	ePn	Pn	20 49 37.3	-0.2
BFO	Black Forest	9.03 302	ePn	Pn	20 49 37.3	-0.2
BODT	Bodrum	9.04 139	eP	Pn	20 49 36.2	-1.5
BODT	Bodrum	9.04 139	Pn	Pn	20 49 36.2	-1.5
SENIN	Lac Senin/Sane	9.14 289	Pn	Pn	20 49 38.5	-0.6
SENIN	Lac Senin/Sane	9.14 289	Pn	Pn	20 49 38.5	-0.6
AKASG	Malin Array Be	9.15 41	Pn	Pn	20 49 38.5	-0.5
	comp=Z,0.8nm,0.3s,baz=234,slow=13,SNR=6.3					
AKASG			Lg	Lg	20 52 11.2	
	baz=209,slow=12,SNR=1.8					
AKASG			LR	LR	20 53 30.8	
	comp=Z,582nm,18.0s,baz=245,slow=40					
AKASG	Malin Array Be	9.15 41	i P	Pn	20 49 40.0	+1.0
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.6s					
AKASG	Malin Array Be	9.15 41	Pn	Pn	20 49 38.5	-0.5
	comp=Z,0.8nm,0.3s,SNR=6.3					
AKASG			Pg		20 49 40.0	
AKASG			Lg	Lg	20 52 11.2	
AKASG			LR	LR	20 53 30.8	
	comp=Z,582nm,18.0s					
AKBB	Malin Array Si	9.15 41	⇓eP	Pn	20 49 40.5	+1.5
AKBB			pmax	pmax		
	comp=Z,17nm,3.0s					
AKBB	Malin Array Si	9.15 41	Pn	Pn	20 49 40.5	+1.5
AKBB			pmax	pmax	23 59 59.6	
	comp=Z,17nm,3.0s					
MDUB	Mudurnu	9.16 110	eP	Pn	20 49 38.7	-0.7
MDUB	Mudurnu	9.16 110	Pn	Pn	20 49 38.7	-0.7
GKP	Gorka Klasztor	9.32 350	eP	Pn	20 49 55.2	+14
MBDF	Montbardon	9.38 278	ePn	Pn	20 49 39.7	-2.8
MBDF	Montbardon	9.38 278	eP	Pn	20 49 46.2	+3.7
MBDF			eSn	Sn	20 51 20.3	-8.1
	comp=Z,14nm,0.7s					
MBDF	Montbardon	9.38 278	Pn	Pn	20 49 39.7	-2.8
MBDF			Pg		20 49 46.2	
MBDF			Sn	Sn	20 51 20.3	-8.1
	comp=Z,7.0nm,0.7s					
BOURR	Bourrignon	9.41 295	x	x	20 49 44.0	
	comp=Z,60nm,1.0s					
LPG	La Plagne	9.42 283	eP	Pn	20 49 46.1	+3.0
LPG			eSn	Sn	20 51 21.0	-8.4
	comp=Z,39nm,1.1s					
LPG	La Plagne	9.42 283	eP	Pn	20 49 45.6	+2.5
LPG			pmax	pmax		
	comp=Z,18nm,0.5s					
LPG	La Plagne	9.42 283	Pn	Pn	20 49 45.6	+2.5
LPG			Pg		20 49 46.1	
LPG			Sn	Sn	20 51 21.0	-8.4
	comp=Z,20nm,1.1s					
LPG			pmax	pmax	23 59 59.6	
	comp=Z,18nm,0.5s					
LPL	La Plagne	9.43 283	eP	Pn	20 49 45.6	+2.4
LPL			eSn	Sn	20 51 21.0	-8.7
	comp=Z,15nm,0.6s					
LPL	La Plagne	9.43 283	eP	Pn	20 49 45.3	+2.1
LPL			pmax	pmax		
	comp=Z,14nm,0.6s					
LPL	La Plagne	9.43 283	Pn	Pn	20 49 45.3	+2.1
LPL			Pg		20 49 45.6	
LPL			Sn	Sn	20 51 21.0	-8.7
	comp=Z,7.7nm,0.6s					
LPL			pmax	pmax	23 59 59.6	
	comp=Z,14nm,0.6s					
BNI	Bardonecchia	9.45 280	P	Pn	20 49 44.0	+0.6
BNI	Bardonecchia	9.45 280	Pn	Pn	20 49 44.0	+0.6
BNI	Bardonecchia	9.45 280	Pn	Pn	20 49 44.0	+0.6
BNI			Pg		20 49 44.0	
BNI			x	x	20 49 44.2	
	comp=Z,17nm,1.1s					
OGAG	Argentiere	9.55 277	x	x	20 49 45.3	
	comp=Z,26nm,0.9s					
OGAG			x	x	20 49 51.0	
	comp=Z,25nm,0.9s					
FRF	La Foret Royal	9.56 271	ePn	Pn	20 49 43.5	-1.3
FRF			eSn	Sn	20 51 23.9	-8.6
	comp=Z,10nm,0.8s					
FRF	La Foret Royal	9.56 271	eP	Pn	20 49 44.3	-0.5
FRF			pmax	pmax		
	comp=Z,8.0nm,0.6s					
FRF	La Foret Royal	9.56 271	Pn	Pn	20 49 43.5	-1.3
FRF			Pg		20 49 44.3	
FRF			Sn	Sn	20 51 23.9	-8.6
	comp=Z,5.0nm,0.8s					
FRF			pmax	pmax	23 59 59.6	
	comp=Z,8.0nm,0.6s					
IDI	Anoyia	9.63 155	Pn	Pn	20 49 44.5	-1.4
	comp=Z,0.7nm,0.3s,baz=320,slow=18,SNR=6.0					
IDI			LR	LR	20 54 29.4	
	comp=Z,305nm,18.8s,baz=326,slow=44					
IDI	Anoyia	9.63 155	Pn	Pn	20 49 44.5	-1.4
	comp=Z,0.7nm,0.3s,SNR=6.0					
IDI			LR	LR	20 54 29.4	
	comp=Z,305nm,18.8s					
LMR	La Mourre	9.69 270	ePn	Pn	20 49 46.4	-0.2
LMR			eSn	Sn	20 51 27.9	-7.9
	comp=Z,6.2nm,0.9s					
LMR	La Mourre	9.69 270	Pn	Pn	20 49 46.4	-0.2
LMR			Sn	Sn	20 51 27.9	-7.9
	comp=Z,3.1nm,0.9s					
CDF	Champ du Feu	9.71 301	eP	Pn	20 49 47.2	+0.3
CDF			eSn	Sn	20 51 28.2	-8.1
	comp=Z,6.4nm,0.6s					
CDF			eSg		20 52 32.8	
CDF	Champ du Feu	9.71 301	eP	Pn	20 49 46.4	-0.5
CDF			pmax	pmax		
	comp=Z,6.0nm,0.7s					
CDF	Champ du Feu	9.71 301	Pn	Pn	20 49 46.4	-0.5
CDF			Pg		20 49 47.2	
CDF			Sn	Sn	20 51 28.2	-8.1
	comp=Z,3.2nm,0.6s					
CDF			Lg	Lg	20 52 32.8	
CDF			pmax	pmax	23 59 59.6	
	comp=Z,6.0nm,0.7s					
SHUT	Suhut-Afyon	9.78 121	eP	Pn	20 49 50.9	+3.0
HINF	Hinteralfeld	9.78 297	eP	Pn	20 49 48.0	+0.2
HINF			eSn	Sn	20 51 30.5	-7.4
	comp=Z,12nm,0.6s					
HINF	Hinteralfeld	9.78 297	eP	Pn	20 49 47.5	-0.3
HINF			pmax	pmax		
	comp=Z,18nm,0.8s					
HINF	Hinteralfeld	9.78 297	Pn	Pn	20 49 47.5	-0.3
HINF			Pg		20 49 48.0	
HINF			Sn	Sn	20 51 30.5	-7.4
	comp=Z,6.0nm,0.6s					
HINF			pmax	pmax	23 59 59.6	
	comp=Z,18nm,0.8s					
GVD	Gavdhos	9.83 159	x	x	20 49 47.1	
	comp=Z,29nm,2.9s					
TNS	Taunus Mts	9.87 312	P	Pn	20 49 50.1	+1.0
TNS			pmax	pmax		
	comp=Z,105nm,0.8s					
TNS	Taunus Mts	9.87 312	x	x	20 49 50.1	
	comp=Z,105nm,0.8s					
TNS			pmax	pmax	23 59 59.6	
	comp=Z,105nm,0.8s					
TNS	Taunus Mts	9.87 312	ePn	Pn	20 49 49.7	+0.6
TNS	Taunus Mts	9.87 312	ePn	Pn	20 49 49.7	+0.6
CABF	La Chapelle	10.01 289	eP	Pn	20 49 51.7	+0.8
CABF			eSn	Sn	20 51 35.8	-7.7
	comp=Z,5.1nm,0.5s					
CABF	La Chapelle	10.01 289	eP	Pn	20 49 53.5	+2.6
CABF			pmax	pmax		
	comp=Z,15nm,0.8s					
CABF	La Chapelle	10.01 289	Pn	Pn	20 49 51.7	+0.8
CABF			Pg		20 49 53.5	
CABF			Sn	Sn	20 51 35.8	-7.7
	comp=Z,2.5nm,0.5s					
CABF			pmax	pmax	23 59 59.6	
	comp=Z,15nm,0.8s					
ORIF	Oris-en-Rattie	10.02 279	ePn	Pn	20 49 51.2	+0.1
ORIF			eSn	Sn	20 51 34.3	-10
	comp=Z,25nm,0.9s					
ORIF	Oris-en-Rattie	10.02 279	P	Pn	20 49 51.5	+0.4
ORIF			pmax	pmax		
	comp=Z,15nm,0.8s					
ORIF	Oris-en-Rattie	10.02 279	Pn	Pn	20 49 51.2	+0.1
ORIF			x	x	20 49 51.5	
	comp=Z,15nm,0.8s					
ORIF			x	x	20 49 56.5	
	comp=Z,15nm,0.8s					
ORIF			Sn	Sn	20 51 34.3	-10
	comp=Z,12nm,0.9s					
ORIF			pmax	pmax	23 59 59.6	
	comp=Z,15nm,0.8s					
SUW	Suwalki	10.14 11	eP	Pn	20 49 59.2	+6.6
HAU	Haudompre	10.16 297	eP	Pn	20 49 53.9	+0.9
HAU			eSn	Sn	20 51 39.0	-8.2
	comp=Z,8.6nm,0.4s					
HAU	Haudompre	10.16 297	eP	Pn	20 49 53.8	+0.8
HAU			pmax	pmax		
	comp=Z,19nm,0.6s					
HAU	Haudompre	10.16 297	Pn	Pn	20 49 53.8	+0.8
HAU			Pg		20 49 53.9	
HAU			Sn	Sn	20 51 39.0	-8.2
	comp=Z,4.3nm,0.4s					
HAU			pmax	pmax	23 59 59.6	

comp=Z,19nm,0.6s
SMRF Simiane la Rot 10.28 274 *e*Pn **Pn 20 49 54.1 -0.6**
SMRF *e*Sn **Sn 20 51 42.6 -7.7**
comp=Z,2.6nm,0.5s
SMRF Simiane la Rot 10.28 274 Pn **Pn 20 49 54.1 -0.6**
SMRF Sn **Sn 20 51 42.6 -7.7**
comp=Z,1.3nm,0.5s
PAGF Fort de Pagny 10.73 299 *e*P **Pn 20 50 02.6 +1.9**
baz=121
PAGF Fort de Pagny 10.73 299 Pn **Pn 20 50 02.6 +1.9**
AHRW Bad Neuenahr-A 10.78 311 x x 20 50 02.8
comp=Z,20nm,0.9s
VIVF Saint-Julien-l 10.87 279 *e*Pn **Pn 20 50 00.5 -2.3**
VIVF *e*Sn **Sn 20 51 56.2 -8.6**
comp=Z,2.5nm,0.5s
VIVF Saint-Julien-l 10.87 279 *e*P **Pn 20 50 01.8 -1.0**
VIVF pmax pmax
comp=Z,7.0nm,0.8s
VIVF Saint-Julien-l 10.87 279 Pn **Pn 20 50 00.5 -2.3**
VIVF Pg 20 50 01.8
VIVF Sn **Sn 20 51 56.2 -8.6**
comp=Z,1.2nm,0.5s
VIVF pmax pmax 23 59 59.6
comp=Z,7.0nm,0.8s
WLF Walferdange 10.89 305 x x 20 50 03.8
comp=Z,21nm,2.9s
SFTF Sexfontaines 11.06 297 *e*P **Pn 20 50 07.0 +1.8**
SFTF *e*Sn **Sn 20 52 01.8 -7.4**
comp=Z,2.4nm,0.3s
SFTF Sexfontaines 11.06 297 Pn **Pn 20 50 07.0 +1.8**
SFTF Sn **Sn 20 52 01.8 -7.4**
comp=Z,1.2nm,0.3s
SAVF Savonnieres en 11.12 299 *e*P **Pn 20 50 10.1 +4.0**
baz=117
SAVF *e*Sn **Sn 20 52 02.8 -8.0**
comp=Z,1.1nm,0.3s
SAVF Savonnieres en 11.12 299 Pn **Pn 20 50 10.1 +4.0**
SAVF Sn **Sn 20 52 02.8 -8.0**
comp=Z,0.6nm,0.3s
MEZF Maizieres J'vi 11.13 298 *e*P **Pn 20 50 07.8 +1.5**
MEZF *e*Sn Sn 20 52 02.0 -9.0
comp=Z,3.3nm,0.7s
MEZF Maizieres J'vi 11.13 298 Pn **Pn 20 50 07.8 +1.5**
MEZF Sn Sn 20 52 02.0 -9.0
comp=Z,1.6nm,0.7s
BR131 Keskin Array S 11.17 108‖ *e*P **Pn 20 50 07.8 +0.9**
BR131 Keskin Array S 11.17 108 Pn **Pn 20 50 07.5 +0.6**
BR131 Keskin Array S 11.17 108 Pn **Pn 20 50 07.5 +0.6**
BR131 Pg 20 50 07.8
BRTR Keskin Array B 11.17 108 Pn **Pn 20 50 07.1 +0.2**
comp=Z,0.4nm,0.3s,baz=289,slow=14,SNR=14
BRTR LR LR 20 54 46.3
comp=Z,523nm,19.5s,baz=300,slow=39
BRTR Keskin Array B 11.17 108 *i* P **Pn 20 50 07.5 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 11.17 108 Pn **Pn 20 50 07.3 +0.4**
BRTR Keskin Array B 11.17 108 Pn **Pn 20 50 07.1 +0.2**
comp=Z,0.4nm,0.3s,SNR=14
BRTR Pg 20 50 07.3
BRTR Pb 20 50 07.5
BRTR LR LR 20 54 46.3
comp=Z,523nm,19.5s
MEM Membach 11.41 310 P **Pn 20 50 12.5 +2.5**
MEM pmax pmax
comp=Z,22nm,0.6s
MEM Membach 11.41 310 x x 20 50 12.5
comp=Z,22nm,0.6s
MEM pmax pmax 23 59 59.6
comp=Z,22nm,0.6s
LASF Ste Croix 11.51 275 *e*Pn **Pn 20 50 09.0 -2.4**
LASF *e*Sn Sn 20 52 10.8 -9.5
comp=Z,0.8nm,0.3s
LASF Ste Croix 11.51 275 Pn **Pn 20 50 09.0 -2.4**
LASF Sn Sn 20 52 10.8 -9.5
comp=Z,0.4nm,0.3s
SMF Signal de Mont 11.54 288 *e*P **Pn 20 50 13.2 +1.3**
SMF *e*Sn Sn 20 52 11.5 -10
comp=Z,0.8nm,0.3s
SMF Signal de Mont 11.54 288 Pn **Pn 20 50 13.2 +1.3**
SMF Sn Sn 20 52 11.5 -10
comp=Z,0.4nm,0.3s
KEST Kesra 11.62 227 Pn **Pn 20 50 12.7 -0.4**
comp=Z,0.1nm,0.3s,baz=72,slow=11,SNR=2.4
KEST LR LR 20 54 46.0
comp=Z,233nm,19.6s,baz=352,slow=38
KEST Kesra 11.62 227 Pn **Pn 20 50 12.7 -0.4**
comp=Z,0.1nm,0.3s,SNR=2.4
KEST LR LR 20 54 46.0
comp=Z,233nm,19.6s
LOR Lormes 11.62 291 *e*P **Pn 20 50 14.6 +1.6**
baz=106
LOR *e*Sn **Sn 20 52 14.3 -8.7**
comp=Z,9.7nm,0.9s
LOR Lormes 11.62 291 *e*P **Pn 20 50 13.6 +0.6**
LOR pmax pmax
comp=Z,4.0nm,0.4s
LOR Lormes 11.62 291 Pn **Pn 20 50 13.6 +0.6**
LOR Pg 20 50 14.6
LOR Sn **Sn 20 52 14.3 -8.7**
comp=Z,4.8nm,0.9s
LOR pmax pmax 23 59 59.6
comp=Z,4.0nm,0.4s
MNK Minsk 11.63 24 Pn **Pn 20 50 11.6 -1.5**
comp=Z,5.0nm,1.6s
MNK Pn **Pn 20 50 11.6 -1.5**
comp=Z,32nm,1.6s
MNK Pn **Pn 20 50 11.6 -1.5**
comp=Z,7.0nm,0.8s
MNK PnPn **PnPn 20 50 19.3 -1.4**
MNK Sn **Sn 20 52 22.2 -0.9**
MNK SnSn **SnSn 20 52 36.3 +1.4**
MNK MLR MLR 20 55 03.8
comp=Z,184nm,11.2s
MNK MLR MLR 20 55 06.6
comp=Z,62nm,16.5s
MNK MLR MLR 20 55 10.0
comp=Z,242nm,10.6s
MNK Minsk 11.63 24 *i* P **Pn 20 50 11.6 -1.5**
comp=E,5.0nm,1.6s
MNK *i* P **Pn 20 50 11.6 -1.5**
comp=N,32nm,1.6s
MNK *i* P **Pn 20 50 11.6 -1.5**
comp=Z,7.0nm,0.8s
MNK *i* PP **PnPn 20 50 19.3 -1.4**
MNK *i* S **Sn 20 52 22.2 -0.9**
MNK *i* SS **SnSn 20 52 36.3 +1.4**
MNK *i* LQ LQ 20 53 34.1
MNK *i* LR LR 20 54 14.6
MNK *i* LRM MLR 20 55 03.8
comp=Z,184nm,11.2s
MNK *i* LRM MLR 20 55 06.6
comp=E,62nm,16.5s
MNK *i* LRM MLR 20 55 10.0
comp=N,242nm,10.6s
PABE Paberze 11.70 12 *e*P **Pn 20 50 14.9 +0.9**
SSF Saint Saulge 11.82 290 *e*Pn **Pn 20 50 12.7 -3.1**
SSF Saint Saulge 11.82 290 *e*P **Pn 20 50 18.3 +2.5**
SSF *e*Sn Sn 20 52 19.0 -9.0
comp=N,0.5nm,0.3s
SSF Saint Saulge 11.82 290 Pn **Pn 20 50 12.7 -3.1**
SSF Pg 20 50 18.3
SSF Sn Sn 20 52 19.0 -9.0
comp=N,0.2nm,0.3s
GIVF Givet 11.85 306 *e*P **Pn 20 50 19.8 +3.7**
GIVF *e*Sn **Sn 20 52 19.9 -8.7**
comp=N,7.4nm,0.4s
GIVF Givet 11.85 306 Pn **Pn 20 50 19.8 +3.7**
GIVF Sn **Sn 20 52 19.9 -8.7**
comp=N,3.7nm,0.4s
AVF Avril sur Loir 11.89 289 *e*Pn **Pn 20 50 14.3 -2.4**
AVF *e*Sn Sn 20 52 20.2 -9.4
comp=N,1.7nm,0.6s
AVF Avril sur Loir 11.89 289 *e*P **Pn 20 50 17.0 +0.3**
AVF pmax pmax
comp=Z,53nm,1.6s
AVF Avril sur Loir 11.89 289 Pn **Pn 20 50 14.3 -2.4**
AVF Pg 20 50 17.0
AVF Sn Sn 20 52 20.2 -9.4
comp=Z,0.8nm,0.6s
AVF pmax pmax 23 59 59.6
comp=Z,53nm,1.6s
IIGN Ignalina 11.97 18 *e*P **Pn 20 50 19.2 +1.6**
IDID Didziasalis 12.05 19 *e*P **Pn 20 50 19.0 +0.2**
ISAL Salakas 12.15 17 *e*P **Pn 20 50 20.4 +0.2**
BAIF Baives 12.20 305 *e*P **Pn 20 50 23.5 +2.7**
BAIF *e*Sn Sn 20 52 27.9 -9.1
comp=Z,1.7nm,0.4s
BAIF Baives 12.20 305 Pn **Pn 20 50 23.5 +2.7**
BAIF Sn Sn 20 52 27.9 -9.1
comp=Z,0.8nm,0.4s
BGF Bois d'Agland 12.21 287 *e*Pn **Pn 20 50 19.5 -1.6**
BGF *e*Sn Sn 20 52 28.4 -9.1
comp=Z,7.1nm,0.5s
BGF Bois d'Agland 12.21 287 Pn **Pn 20 50 19.5 -1.6**
BGF Sn Sn 20 52 28.4 -9.1
comp=Z,3.5nm,0.5s
HYF Humbligny 12.44 291 *e*P **Pn 20 50 27.1 +2.9**
HYF Humbligny 12.44 291 Pn **Pn 20 50 27.1 +2.9**
TCF Toulx Ste Croi 12.63 286 *e*Pn **Pn 20 50 24.0 -2.8**
TCF Toulx Ste Croi 12.63 286 *e*P **Pn 20 50 28.8 +2.0**
TCF *e*Sn Sn 20 52 37.5 -10
comp=Z,5.4nm,0.7s
TCF Toulx Ste Croi 12.63 286 Pn **Pn 20 50 24.0 -2.8**
TCF Pg 20 50 28.8
TCF Sn Sn 20 52 37.5 -10
comp=Z,2.7nm,0.7s
CAF Calviac 12.72 280 *e*Pn **Pn 20 50 29.2 +1.1**
CAF Calviac 12.72 280 Pn **Pn 20 50 29.2 +1.1**
MTLF Montolieu 12.78 273 *e*P **Pn 20 50 30.5 +1.6**
MTLF Montolieu 12.78 273 Pn **Pn 20 50 30.5 +1.6**
CLF Chambon-Foret 12.82 294 x x 20 50 30.1
comp=Z,30nm,1.7s
CLF Pn **Pn 20 50 32.0 +2.7**
RJF Les Rejaudoux 13.10 282 *e*P **Pn 20 50 35.2 +2.0**
RJF Les Rejaudoux 13.10 282 Pn **Pn 20 50 35.2 +2.0**
LFF La Frestale 13.66 280 *e*Pn **Pn 20 50 38.9 -1.9**
LFF La Frestale 13.66 280 Pn **Pn 20 50 38.9 -1.9**
MFF Saint Martin d 14.28 287 *e*Pn **Pn 20 50 47.0 -2.2**
MFF Saint Martin d 14.28 287 Pn **Pn 20 50 47.0 -2.2**
LDF La Druitiere 14.49 295 *e*P **Pn 20 50 54.1 +1.9**
LDF La Druitiere 14.49 295 Pn **Pn 20 50 54.1 +1.9**
FLN La Foliniere 14.76 295 *e*P **Pn 20 50 57.1 +1.3**
baz=97
FLN La Foliniere 14.76 295 *e*P **P 20 51 03.5 +1.6**
FLN pmax pmax
comp=Z,19nm,1.0s
FLN La Foliniere 14.76 295 Pn **Pn 20 50 57.1 +1.3**
FLN P **P 20 51 03.5 +1.6**
FLN pmax pmax 23 59 59.6
comp=Z,19nm,1.0s
VORD Divnogorie 14.79 56 *e*P **Pn 20 50 55.5 -0.6**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 14.79 56 Pn **Pn 20 50 55.5 -0.6**
VORD pmax pmax 23 59 59.6
comp=Z,10.0nm,1.0s
VSR Storozhevoye 14.80 55 *e*P **Pn 20 50 56.3 0.0**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 14.80 55 Pn **Pn 20 50 56.3 0.0**
VSR pmax pmax 23 59 59.6
comp=Z,10.0nm,1.1s
GRR Gorron 14.94 294 *e*P **Pn 20 50 59.8 +1.6**
GRR *e*Sn Sn 20 53 33.4 -11
comp=Z,0.2nm,0.2s
GRR Gorron 14.94 294 *e*P **P 20 51 05.4 +1.4**
GRR pmax pmax
comp=Z,100nm,2.0s
GRR Gorron 14.94 294 Pn **Pn 20 50 59.8 +1.6**
GRR P **P 20 51 05.4 +1.4**
GRR Sn Sn 20 53 33.4 -11
comp=Z,0.1nm,0.2s
GRR pmax pmax 23 59 59.6
comp=Z,100nm,2.0s
LPSR Galich'ya Gora 15.22 49 *e*P **Pn 20 50 58.2 -3.8**
LPSR pmax pmax
comp=Z,1.0nm,0.8s
LPSR Galich'ya Gora 15.22 49 Pn **Pn 20 50 58.2 -3.8**
LPSR pmax pmax 23 59 59.6
comp=Z,10.0nm,0.8s
OBN Obninsk 15.40 38 *e*P **Pn 20 51 05.0 +0.8**
OBN pmax pmax
comp=Z,42nm,1.4s
OBN MLR MLR
comp=Z,473nm,20.0s
OBN Obninsk 15.40 38 x x 20 51 03.5
comp=Z,27nm,1.1s
OBN Pn **Pn 20 51 05.0 +0.8**
OBN pmax pmax 23 59 59.6
comp=Z,42nm,1.4s
OBN MLR MLR 23 59 59.6
comp=Z,473nm,20.0s
SGMF Saint Gilles 16.05 293 *e*P **P 20 51 15.4 -0.8**
SGMF Saint Gilles 16.05 293 P **P 20 51 15.4 -0.8**
MOS Moscow 16.26 38 *e*P **P 20 51 20.2 +1.7**
MOS pmax pmax
comp=Z,60nm,1.6s
MOS Moscow 16.26 38 P **P 20 51 20.2 +1.7**
MOS pmax pmax 23 59 59.6
comp=Z,60nm,1.6s
VRH Novokhopyorsk 16.31 57 *e*P **Pn 20 51 14.6 -1.5**
VRH pmax pmax
comp=Z,20nm,0.8s
VRH Novokhopyorsk 16.31 57 Pn **Pn 20 51 14.6 -1.5**
VRH pmax pmax 23 59 59.6
comp=Z,20nm,0.8s
KIV Kislovodsk 16.42 83 *e*P **Pn 20 51 18.2 +0.6**
KIV pmax pmax
comp=Z,6.0nm,1.6s
KIV MLR MLR
comp=Z,166nm,22.0s
KIV Kislovodsk 16.42 83 Pn **Pn 20 51 18.2 +0.6**
KIV pmax pmax 23 59 59.6
comp=Z,6.0nm,1.6s
KIV MLR MLR 23 59 59.6
comp=Z,166nm,22.0s
QUIF Quistinic 16.42 291 *e*P **P 20 51 20.0 -0.3**
QUIF Quistinic 16.42 291 P **P 20 51 20.0 -0.3**
MMAI Mount Meron Ar 16.43 127 Pn **Pn 20 51 18.7 +1.0**
comp=Z,0.2nm,0.3s,baz=326,slow=13,SNR=15
MMAI LR LR 20 58 31.2
comp=Z,149nm,18.9s,baz=330,slow=40
MMAI Mount Meron Ar 16.43 127 Pn **Pn 20 51 18.7 +1.0**
comp=Z,0.2nm,0.3s,SNR=15
MMAI LR LR 20 58 31.2
comp=Z,149nm,18.9s
HFS Hagfors 16.47 349 Pn **Pn 20 51 18.3 +0.2**
comp=Z,0.1nm,0.3s,baz=157,slow=19,SNR=1.8
HFS LR LR 20 57 26.7
comp=Z,257nm,19.6s,baz=348,slow=36
HFS Hagfors 16.47 349 Pn **Pn 20 51 18.3 +0.2**
comp=Z,0.1nm,0.3s,SNR=1.8
HFS LR LR 20 57 26.7
comp=Z,257nm,19.6s
ROSF Rostrenen 16.53 293 *e*P **P 20 51 21.3 -0.3**
ROSF Rostrenen 16.53 293 P **P 20 51 21.3 -0.3**
KBZ Khabaz 16.60 83 Pn **P 20 51 22.5 +0.1**
comp=Z,0.1nm,0.3s,baz=320,slow=8.9,SNR=5.0
KBZ LR LR 20 58 07.0
comp=Z,195nm,19.7s,baz=292,slow=39
KBZ Khabaz 16.60 83‖ *e*P **P 20 51 22.3 -0.1**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 16.60 83 P **P 20 51 22.3 -0.1**
KBZ pP **P 20 51 22.5 +0.1**
comp=Z,0.1nm,0.3s,SNR=5.0
KBZ LR LR 20 58 07.0
comp=Z,195nm,19.7s
KBZ pmax pmax 23 59 59.6
comp=Z,3.0nm,0.8s
MMLI Mount Malkishu 16.86 129 x x 20 51 26.9
comp=Z,25nm,1.8s
KZIT Kziot 17.49 134 x x 20 51 31.0
comp=Z,9.6nm,0.9s
ZEI Tsey 17.50 86 *e*P **P 20 51 33.4 +0.8**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
ZEI Tsey 17.50 86 P **P 20 51 33.4 +0.8**
ZEI pmax pmax 23 59 59.6
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 17.71 346 P **Pn 20 51 32.4 -1.4**
comp=Z,0.0nm,0.3s,baz=143,slow=15,SNR=1.5
NOA LR LR 20 59 10.5
comp=Z,146nm,20.7s,baz=175,slow=40
NOA NORSAR Array B 17.71 346 Pn **Pn 20 51 32.4 -1.4**
SNR=1.5
NOA Pn **Pn 20 51 32.4 -1.4**
NOA LR LR 20 59 10.5
comp=Z,146nm,20.7s
FINES FINESS Array B 17.74 10 P **Pn 20 51 32.3 -1.7**
comp=Z,0.4nm,0.3s,baz=220,slow=14,SNR=13
FINES FINESS Array B 17.74 10 P **Pn 20 51 32.4 -1.6**
FINES FINESS Array B 17.74 10 Pn **Pn 20 51 32.4 -1.6**
FINES FINESS Array B 17.74 10 Pn **Pn 20 51 32.3 -1.7**
comp=Z,0.4nm,0.3s,SNR=13
FINES P **Pn 20 51 32.4 -1.6**
FINES P **Pn 20 51 32.4 -1.6**
FIA1 FINESS Array S 17.75 10 Pn **Pn 20 51 32.6 -1.5**
FIA1 lAmb lAmb 20 51 50.7
comp=Z,10nm,1.1s
FIA1 FINESS Array S 17.75 10 Pn **Pn 20 51 32.6 -1.5**
FIA1 *i* Amb 20 51 50.7
comp=Z,10nm,1.1s
GHAJ Ghor Haditha 17.80 131 x x 20 51 35.6
comp=Z,12nm,1.4s
ESDC Sonseca Array 18.26 264 P **P 20 51 41.2 +0.4**
comp=Z,0.0nm,0.3s,baz=66,slow=11,SNR=8.2
ESDC Sonseca Array 18.26 264 P **P 20 51 43.4 +2.5**
ESDC Sonseca Array 18.26 264 P **P 20 51 41.2 +0.4**
SNR=8.2
ESDC sP **P 20 51 43.4 +2.5**
HRFI Mount Harif 18.51 134 x x 20 51 43.3
comp=Z,20nm,0.9s
EKA Eskdalemuir Ar 18.54 315 P **Pn 20 51 44.9 +1.1**
baz=116,slow=10,SNR=6.4
EKA Eskdalemuir Ar 18.54 315 Pn **Pn 20 51 44.9 +1.1**
EKA Pn **Pn 20 51 44.9 +1.1**
EIL Elat 18.76 135 LR LR 21 01 09.0
comp=Z,89nm,18.9s,baz=297,slow=44
EIL Elat 18.76 135 LR LR
comp=Z,89nm,18.9s
GNI Garni 18.86 94 LR LR 21 01 21.3
comp=Z,157nm,18.7s,baz=316,slow=44
GNI Garni 18.86 94‖ *e*P **Pn 20 51 50.6 +2.6**
GNI pmax pmax
comp=Z,11nm,1.1s
GNI Garni 18.86 94 Pn **Pn 20 51 50.6 +2.6**
GNI x x 20 51 51.7
comp=Z,10nm,0.9s
GNI LR LR 21 01 21.3
comp=Z,157nm,18.7s
MAK Makhachkala 20.05 84 *e*P **P 20 51 55.9 -4.4**
MAK *e*S **S 20 55 40.6 -5.3**
MAK pmax pmax
comp=Z,212nm,1.3s
MAK MLR MLR
comp=Z,270nm,16.0s
MAK Makhachkala 20.05 84 P **P 20 51 55.9 -4.4**
MAK S **S 20 55 40.6 -5.3**
MAK pmax pmax 23 59 59.6
comp=Z,212nm,1.3s
MAK MLR MLR 23 59 59.6
comp=Z,270nm,16.0s
BELG Belogornoye 20.16 56↑ *e*P **P 20 52 01.5 0.0**
BELG pmax pmax
comp=Z,3.0nm,0.9s
BELG Belogornoye 20.16 56 P **P 20 52 01.5 0.0**
BELG pmax pmax 23 59 59.6
comp=Z,3.0nm,0.9s
KLMR Klimovskoe 20.46 28 *e*P **P 20 52 04.6 0.0**
KLMR pmax pmax
comp=Z,53nm,1.4s
KLMR Klimovskoe 20.46 28 *e*P **P 20 52 04.6 0.0**
KLMR AMP 20 52 15.4
comp=Z,53nm,1.4s
KLMR Klimovskoe 20.46 28 P **P 20 52 04.6 0.0**
KLMR pmax pmax 23 59 59.6
comp=Z,53nm,1.4s
MDT Midelt 22.14 248 P **P 20 52 22.0 -1.2**
comp=Z,0.9nm,0.8s,baz=307,slow=4.5,SNR=2.2
MDT LR LR 21 00 31.6
comp=Z,191nm,18.4s,baz=46,slow=36
MDT Midelt 22.14 248 P **P 20 52 22.0 -1.2**
comp=Z,0.9nm,0.8s,SNR=2.2
MDT LR LR 21 00 31.6
comp=Z,191nm,18.4s
PRGR Permogore 23.18 32 *e*P **P 20 52 33.7 -0.1**
PRGR pmax pmax
comp=Z,25nm,0.9s
PRGR Permogore 23.18 32 P **P 20 52 33.7 -0.1**
PRGR pmax pmax 23 59 59.6
comp=Z,25nm,0.9s
KIRV Kirov 23.21 41 LR LR 21 02 10.4
comp=Z,298nm,21.9s,baz=273,slow=38
KIRV Kirov 23.21 41‖ *e*P **P 20 52 34.3 +0.3**
KIRV Kirov 23.21 41 P **P 20 52 34.3 +0.3**
KIRV LR LR 21 02 10.4
comp=Z,298nm,21.9s
ARCES ARCESS Array B 25.65 5 P **P 20 52 55.9 -0.8**
comp=Z,2.4nm,0.7s,baz=203,slow=7.9,SNR=5.0
ARCES ARCESS Array B 25.65 5 P **P 20 52 55.9 -0.8**
ARCES P **P 20 52 55.9 -0.8**
comp=Z,2.4nm,0.7s,SNR=5.0
AKTO Aktyubinsk 26.43 63 P **P 20 53 04.3 +0.3**
comp=Z,0.9nm,0.7s,baz=277,slow=15,SNR=2.2
AKTO LR LR 21 05 35.9
comp=Z,86nm,18.9s,baz=291,slow=41
AKTO Aktyubinsk 26.43 63 P **P 20 53 04.3 +0.3**
AKTO P **P 20 53 04.3 +0.3**
comp=Z,0.9nm,0.7s,SNR=2.2
AKTO LR LR 21 05 35.9
comp=Z,86nm,18.9s
ARU Arti 27.25 49 P **P 20 53 11.5 +0.2**
comp=Z,0.5nm,0.4s,baz=234,slow=7.3,SNR=4.2
ARU LR LR 21 04 01.0
comp=Z,129nm,20.8s,baz=286,slow=36
ARU Arti 27.25 49 P **P 20 53 11.1 -0.2**
ARU 20 53 54.1
ARU S **S 20 57 53.4 +2.8**
ARU SS **SnSn 20 58 58.1 +0.2**
ARU Arti 27.25 49 P **P 20 53 11.1 -0.2**
ARU pP **P 20 53 11.5 +0.2**
comp=Z,0.5nm,0.4s,SNR=4.2
ARU S **S 20 57 53.4 +2.8**
ARU SnSn **SnSn 20 58 58.1 +0.2**
ARU LR LR 21 04 01.0
comp=Z,129nm,20.8s
GEYT Alibeck 29.33 89 P **P 20 53 29.8 -0.3**
comp=Z,1.5nm,0.6s,baz=248,slow=10,SNR=3.6
GEYT Alibeck 29.33 89 P **P 20 53 29.8 -0.3**
comp=Z,1.5nm,0.6s,SNR=3.6
JMIC Jan Mayen 30.33 342 LR LR 21 04 36.8
comp=Z,140nm,21.2s,baz=82,slow=34
JMIC Jan Mayen 30.33 342 LR LR 21 04 36.8
comp=Z,140nm,21.2s
BORG Borgarnes 30.77 326 LR LR 21 07 53.5
comp=Z,300nm,19.5s,baz=108,slow=40
BORG Borgarnes 30.77 326 LR LR 21 07 53.5
comp=Z,300nm,19.5s
BRVK Borovoye 33.90 57‖ *e*P **P 20 54 09.3 -0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 33.90 57 P **P 20 54 09.3 -0.7**
BRVK pmax pmax 23 59 59.6
comp=Z,4.0nm,0.7s
TORD Torodi Ar. Bea 34.57 212 P **P 20 54 17.4 +1.3**
comp=Z,2.4nm,0.7s,baz=5.7,slow=6.7,SNR=6.5
TORD LR LR 21 10 13.4
comp=Z,77nm,21.2s,baz=25,slow=40
TORD Torodi Ar. Bea 34.57 212 P **P 20 54 17.4 +1.3**
comp=Z,2.4nm,0.7s,SNR=6.5
TORD LR LR 21 10 13.4
comp=Z,77nm,21.2s
KKAR Karatay Array 36.22 73 P **P 20 54 32.9 +2.7**
KKAR Karatay Array 36.22 73 P **P 20 54 32.9 +2.7**
KKAR Karatay Array 36.22 73 P **P 20 54 32.9 +2.7**
KKAR P **P 20 54 32.9 +2.7**
AAK Ala-Archa 39.13 72‖ *e*P **P 20 54 54.4 -0.6**
AAK pmax pmax
comp=Z,11nm,1.2s
AAK Ala-Archa 39.13 72 P **P 20 54 55.2 +0.3**
AAK lAmb lAmb 20 54 59.7
comp=Z,2.3nm,0.8s
AAK Ala-Archa 39.13 72 P **P 20 54 54.4 -0.6**
AAK x x 20 54 55.1
comp=Z,11nm,1.1s
AAK pP **P 20 54 55.2 +0.3**
AAK *i* Amb 20 54 59.7
comp=Z,2.3nm,0.8s
AAK pmax pmax 23 59 59.6
comp=Z,11nm,1.2s
KURBB Kurchatov Arra 39.35 59 P **P 20 54 56.6 +0.1**
comp=Z,0.9nm,0.5s,baz=287,slow=9.3,SNR=12
KURBB Kurchatov Arra 39.35 59 P **P 20 54 56.6 +0.1**
comp=Z,0.9nm,0.5s,SNR=12
KURK Kurchatov 39.38 59 P **P 20 54 56.7 -0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	39.38	59	P	P	20 54 56.7	-0.1
ZALV	Zalesovo Beam	42.29	53	P	P	20 55 21.2	+0.5
	comp=Z,2.4nm,0.8s,baz=284,slow=8.2,SNR=7.5						
ZALV	Zalesovo Beam	42.29	53	*i* P	P	20 55 24.1	+3.3
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV	Zalesovo Beam	42.29	53	P	P	20 55 23.6	+2.9
ZALV	Zalesovo Beam	42.29	53	P	P	20 55 21.2	+0.5
	comp=Z,2.4nm,0.8s,SNR=7.5						
ZALV				sP	P	20 55 23.6	+2.9
ZALV				pP	P	20 55 24.1	+3.3
ZALV				pmax	pmax	23 59 59.6	
	comp=Z,2.0nm,0.8s						
MK31	Makanchi Array	42.86	64⇓	*e*P	P	20 55 26.5	+1.0
MK31	Makanchi Array	42.86	64	P	P	20 55 26.3	+0.8
MK31				IAmb	IAmb	20 55 31.3	
	comp=Z,3.3nm,1.4s						
MK31	Makanchi Array	42.86	64	P	P	20 55 26.3	+0.8
MK31				pP	P	20 55 26.5	+1.0
MK31				*i* Amb		20 55 31.3	
	comp=Z,3.3nm,1.4s						
MKAR	Makanchi Array	42.86	64	P	P	20 55 26.2	+0.7
	comp=Z,1.5nm,0.6s,baz=278,slow=7.5,SNR=12						
MKAR	Makanchi Array	42.86	64	P	P	20 55 27.1	+1.6
MKAR	Makanchi Array	42.86	64	x	x	20 55 25.9	
	comp=Z,14nm,1.0s						
MKAR				P	P	20 55 26.2	+0.7
	comp=Z,1.5nm,0.6s,SNR=12						
MKAR				P	P	20 55 26.2	+0.7
MKAR				sP	P	20 55 27.1	+1.6
DBIC	Dimbokro	43.12	217	P	P	20 55 27.9	+0.1
	comp=Z,1.7nm,0.4s,baz=22,slow=9.7,SNR=6.3						
DBIC				LR	LR	21 17 03.7	
	comp=Z,89nm,18.1s,baz=58,slow=41						
DBIC	Dimbokro	43.12	217	P	P	20 55 27.9	+0.1
	comp=Z,1.7nm,0.4s,SNR=6.3						
DBIC				P	P	20 55 27.9	+0.1
DBIC				LR	LR	21 17 03.7	
	comp=Z,89nm,18.1s						
DGZ	Jazzator, Alta	45.09	58⇑	*e*P	P	20 55 44.8	+1.2
DGZ				pmax	pmax		
	comp=Z,6.0nm,1.9s						
DGZ	Jazzator, Alta	45.09	58	P	P	20 55 44.8	+1.2
DGZ				pmax	pmax	23 59 59.6	
	comp=Z,6.0nm,1.9s						
TLY	Talaya	53.75	50	LR	LR	21 20 53.1	
	comp=Z,153nm,18.6s,baz=302,slow=37						
TLY	Talaya	53.75	50	LR	LR	21 20 53.1	
	comp=Z,153nm,18.6s						
SONM	Songino Array	57.19	53	P	P	20 57 14.9	+0.5
	comp=Z,0.7nm,0.7s,baz=297,slow=7.8,SNR=7.3						
SONM	Songino Array	57.19	53	P	P	20 57 15.2	+0.8
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	Songino Array	57.19	53	P	P	20 57 15.2	+0.8
SONM	Songino Array	57.19	53	P	P	20 57 14.9	+0.5
	comp=Z,0.7nm,0.7s,SNR=7.3						
SONM				pP	P	20 57 15.2	+0.8
SONM				pP	P	20 57 15.2	+0.8
ULN	Ulaanbaatar	57.55	53⇑	*e*P	P	20 57 17.8	+0.8
ULN				pmax	pmax		
	comp=Z,10.0nm,3.1s						
ULN	Ulaanbaatar	57.55	53	P	P	20 57 17.8	+0.8
ULN				pmax	pmax	23 59 59.6	
	comp=Z,10.0nm,3.1s						
YKA	Yellowknife Ar	67.65	339	P	P	20 58 24.7	+0.7
	comp=Z,0.9nm,0.9s,baz=38,slow=6.3,SNR=11						
YKA	Yellowknife Ar	67.65	339	*i* P	P	20 58 26.1	+2.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	67.65	339	P	P	20 58 24.7	+0.7
	comp=Z,0.9nm,0.9s,SNR=11						
YKA				pP	P	20 58 26.1	+2.1
CMAR	Chiang Mai Arr	69.65	84	P	P	20 58 37.0	-0.2
	comp=Z,1.2nm,0.8s,baz=304,slow=8.0,SNR=14						
CMAR	Chiang Mai Arr	69.65	84	*ce*P	P	20 58 37.4	+0.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	Chiang Mai Arr	69.65	84	P	P	20 58 37.0	-0.2
	comp=Z,1.2nm,0.8s,SNR=14						
CMAR				pP	P	20 58 37.4	+0.2
ULM	Lac du Bonnet	70.66	322	P	P	20 58 43.3	+0.5
	comp=Z,1.3nm,0.6s,baz=182,slow=10,SNR=2.4						
ULM	Lac du Bonnet	70.66	322	P	P	20 58 43.3	+0.5
ULM				P	P	20 58 43.3	+0.5
	comp=Z,1.3nm,0.6s,SNR=2.4						
BOSA	Boshof	72.55	175	P	P	20 58 54.4	0.0
	comp=Z,3.0nm,1.0s,baz=342,slow=6.6,SNR=1.9						
BOSA	Boshof	72.55	175	P	P	20 58 54.4	0.0
	comp=Z,3.0nm,1.0s,SNR=1.9						
PETK	Petropavlovsk-	76.61	25	LR	LR	21 37 11.2	
	comp=Z,89nm,18.1s,baz=321,slow=39						
PETK	Petropavlovsk-	76.61	25	LR	LR	21 37 11.2	
	comp=Z,89nm,18.1s						
MIAR	Mount Ida	81.07	310	P	P	20 59 44.1	+1.5
MIAR				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MIAR	Mount Ida	81.07	310	x	x	20 59 44.1	
	comp=Z,7.9nm,1.4s						
MIAR				pmax	pmax	23 59 59.6	
	comp=Z,8.0nm,1.4s						
PDAR	Pinedale Array	82.38	325	P	P	20 59 49.9	+0.2
	comp=Z,0.6nm,0.9s,baz=92,slow=4.5,SNR=5.1						
PDAR				LR	LR	21 37 06.7	
	comp=Z,40nm,18.3s,baz=59,slow=36						
PDAR	Pinedale Array	82.38	325	P	P	20 59 49.9	+0.2
	comp=Z,0.6nm,0.9s,SNR=5.1						
PDAR				LR	LR	21 37 06.7	
	comp=Z,40nm,18.3s						
SDV	Santo Domingo	84.24	277	LR	LR	21 33 41.5	
	comp=Z,53nm,20.1s,baz=56,slow=33						
SDV	Santo Domingo	84.24	277	LR	LR	21 33 41.5	
	comp=Z,53nm,20.1s						
ANMO	Albuquerque	87.41	318	LR	LR	21 39 47.8	
	comp=Z,64nm,18.0s,baz=54,slow=36						
ANMO	Albuquerque	87.41	318	LR	LR	21 39 47.8	
	comp=Z,64nm,18.0s						
NVAR	Mina Array Bea	89.54	328	P	P	21 00 27.1	+2.0
	comp=Z,0.4nm,0.8s,baz=298,slow=3.2,SNR=3.8						
NVAR	Mina Array Bea	89.54	328	P	P	21 00 27.1	+2.0
	comp=Z,0.4nm,0.8s,SNR=3.8						
TXAR	Lajitas Array	90.53	313	P	P	21 00 27.3	-2.4
	comp=Z,0.8nm,1.0s,baz=46,slow=3.9,SNR=2.3						
TXAR				LR	LR	21 39 32.6	
	comp=Z,42nm,18.5s,baz=0.0,slow=34						
TXAR	Lajitas Array	90.53	313	P	P	21 00 27.3	-2.4
	comp=Z,0.8nm,1.0s,SNR=2.3						
TXAR				LR	LR	21 39 32.6	
	comp=Z,42nm,18.5s						
ASAR	Alice Springs	123.10	92	PKP	PKiKP	21 06 26.3	+1.8
	comp=Z,0.6nm,1.0s,baz=357,slow=1.4,SNR=2.3						
ASAR	Alice Springs	123.10	92	PKPdf	PKiKP	21 06 26.3	+1.8
	comp=Z,0.6nm,1.0s,SNR=2.3						
ASAR				PKPdf	PKiKP	21 06 26.3	+1.8

*DDA **08** 20:55:11.5, 40.°36N×27.°61E, h7km±2km, ML1.8*
*ISK **08** 20:55:11.3, 40.°36N×27.°64E, h10km, ML2.5/17*
ISC 08 20:55:11.5±0.9**, 40.°36N**±0.°03×**27.°63E**±0.°02**, h14**km±7km**,**
n27, σ0.°34/32**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EDC	Edincik	0.18	94	PG	Pg	20 55 15.6	-0.1
EDC				SG	Sg	20 55 18.2	-0.3
MRMT	Marmara Adasi	0.24	353	PG	Pb	20 55 17.4	-0.4
MRMT				SG	Sg	20 55 20.8	+0.3
KRBG	Karabiga-Canak	0.26	278	PG	Pg	20 55 17.1	+0.1
GZKV	Gazikoy-Tekird	0.45	329	PG	Pg	20 55 20.8	+0.3
BALY	Balya	0.62	181	*i* P	Pg	20 55 23.5	-0.1
BALY				IAML		20 55 37.0	
	comp=N,38nm,0.3s						
BALY				IAML		20 55 37.0	
	comp=E,23nm,0.5s						
LPK	Lapseki	0.67	271	PG	Pg	20 55 24.5	0.0
KESN	Edirne-Kesan	0.86	303	*i* P	Pn	20 55 29.3	-0.3
KESN				*i* S	Sg	20 55 39.8	+0.2
GELI	Tayfur-Gelibol	0.89	273	PG	Pn	20 55 29.5	-0.1
ERIK	Erikli-Kesan	0.91	290	PG	Pb	20 55 28.5	-0.5
MDNY	Mudanya-Bursa	0.96	89	PG	Pb	20 55 29.5	-0.4
BUHA	Balikesir, Bur	0.96	207	*i* P	Pb	20 55 29.9	0.0
BUHA				*i* S	Sn	20 55 43.8	-0.2
BUHA				IAML		20 55 46.0	
	comp=N,53nm,0.8s						
BUHA				IAML		20 55 46.0	
	comp=E,93nm,0.4s						
SLVT	Silivri	0.97	27	PG	Pb	20 55 30.3	+0.1
DURS	Dursunbey	1.00	139	*i* P	Pb	20 55 30.7	+0.1
DURS				*i* S	Sn	20 55 44.9	-0.2
DURS				IAML		20 55 46.0	
	comp=E,21nm,0.4s						
DURS				IAML		20 55 47.0	
	comp=N,21nm,0.4s						
CTKS	Kestanelik-??a	1.10	37	PN	Pb	20 55 31.9	-0.4
ENEZ	Enez	1.19	289	PN	Pb	20 55 34.2	+0.4
GEMT	Gemlik	1.19	86	PN	Pg	20 55 35.0	+0.6
BGKT	Bogazkoy	1.19	46	PN	Pn	20 55 33.6	-0.2
TRML	Termal-Yalova	1.20	78	PN	Pb	20 55 34.2	+0.2
ISK	Istanbul-Kandi	1.29	57	PN	Pn	20 55 35.1	-0.1
KAVV	Kandilli-Istan	1.29	57	PN	Pn	20 55 34.6	-0.6
BOZC	Bozcaada	1.32	247	PN	Pn	20 55 35.4	-0.1
ALN	Alexandroupoli	1.32	294	PN	Pn	20 55 35.9	+0.3
GADA	Gvkgeada	1.34	263	PN	Pb	20 55 36.9	+0.5
YLV	Yalova	1.34	81	PN	Pb	20 55 36.5	0.0
HRT	Hereke	1.62	73	PN	Pn	20 55 40.3	+0.6
EDRB	Edirne	1.63	336	PN	Pb	20 55 41.5	+0.1
RDO	Rodhopi	1.77	297	PN	Pb	20 55 43.3	-0.5

*RHSSO **08** 20:56:36.9±0.3, 44.°03N×19.°91E, h2km±1km, ML2.1/8*
*BEO **08** 20:56:37.4±0.2, 44.°06N×19.°88E, h2km±1km, ML2.0/12*
ISC 08 20:56:36.9±0.9**, 44.°05N**±0.°02×**19.°89E**±0.°02**, h6**km±6km**,**
n35, σ1.°17/65**, 12C-6D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DIVS	Divibare	0.09	56	*e*Pg	Pg	20 56 39.0	-0.1
DIVS				*e*Sg	Sg	20 56 40.0	-0.6
DIVS	Divibare	0.09	56⇓	*i*Pg	Pg	20 56 38.9	-0.1
DIVS				*e*Sg	Sg	20 56 39.9	-0.6
BBLS	Lazići	0.39	243	*e*Pg	Pg	20 56 44.9	+0.3
BBLS				*e*Sg	Sg	20 56 50.6	+0.8
BBLS	Lazići	0.39	243⇓	*i*Pg	Pg	20 56 44.6	0.0
BBLS				*e*Sg	Sg	20 56 50.5	+0.8
TRUS	Trudelj	0.41	65	*e*Pg	Pg	20 56 44.9	0.0
TRUS				*e*Sg	Sg	20 56 51.1	+0.8
IVAS	Ivanjica	0.51	158	*e*Pg	Pg	20 56 46.5	-0.2
IVAS				*e*Sg	Sg	20 56 53.7	+0.3
TEKS	Tekeris	0.56	333	*e*Pg	Pg	20 56 47.6	-0.2
TEKS				*e*Sg	Sg	20 56 55.1	-0.1
TEKS	Tekeris	0.56	333	*e*Pg	Pg	20 56 47.7	-0.1
TEKS				*e*Sg	Sg	20 56 55.3	+0.1
RUDO	Rudo	0.57	221	*e*Pg	Pg	20 56 47.0	-0.9
RUDO				*e*Sg	Sg	20 56 54.9	-0.4
GRUS	Gruza	0.62	105	*e*Pg	Pg	20 56 49.9	+1.1
GRUS				*e*Sg	Sg	20 56 58.3	+1.4
HAPS	Han Pijesak,Bl	0.68	274	*e*Pg	Pg	20 56 48.9	-1.1
HAPS				*e*Sg	Sg	20 56 58.1	-0.7
HAPS	Han Pijesak,Bl	0.68	274⇑	*i*Pg	Pg	20 56 48.8	-1.2
HAPS				*e*Sg	Sg	20 56 58.4	-0.4
SVIS	Svilajnac	0.98	77	*e*Pg	Pg	20 56 55.5	-0.2
SVIS				*e*Sg	Sg	20 57 08.7	+0.3
UPM	Unac-Piva	1.11	221	*e*Pg	Pg	20 56 56.8	-1.4
UPM				*e*Sg	Sg	20 57 12.3	-0.2
FRGS	Fruska Gora	1.11	357	*e*Pg	Pg	20 56 58.0	-0.3
FRGS				*e*Sg	Sg	20 57 12.5	-0.2
FRGS	Fruska Gora	1.11	357	⇑P	Pg	20 56 58.0	-0.3
FRGS				⇑S	Sg	20 57 12.1	-0.6
FRGS	Fruska Gora	1.11	357⇓	*i*Pg	Pg	20 56 57.7	-0.6
FRGS				*e*Sg	Sg	20 57 12.3	-0.4
KUBS	Kucevo	1.33	74	*e*Pg	Pg	20 57 01.5	-1.0
KUBS				*e*Sg	Sg	20 57 19.9	+0.1
MDVR	Moldovita	1.50	60	⇑P	Pn	20 57 04.0	-0.4
MDVR				⇓S	Sb	20 57 23.8	-0.7
BRY	Bratogost	1.51	221	*e*Pn	Pn	20 57 04.7	+0.1
BRY				*e*Sn	Sb	20 57 25.1	+0.3
PDG	Podgorica	1.68	196	⇑P	Pn	20 57 08.1	+1.3
PDG	Podgorica	1.68	196	*e*Pn	Pn	20 57 06.8	0.0
PDG				*e*Sn	Sn	20 57 29.0	+0.3
ZAGS	Zajecar	1.71	97	*e*Pn	Pb	20 57 09.8	+1.1
ZAGS				*e*Sn	Sn	20 57 30.9	+1.5
TREB	Trebinje	1.74	221	*e*Pn	Pn	20 57 07.8	+0.1
TREB				*e*Sn	Sn	20 57 30.9	+0.8
BARS	Barje	1.87	131	*e*Pg	Pn	20 57 03.7	-5.7
BARS	Barje	1.87	131	*e*Pn	Pn	20 57 10.7	+1.3
BARS				*e*Sg	Sn	20 57 26.0	-7.3
BARS				*e*Sn	Sb	20 57 34.5	-0.5
HERR	Herculane	1.99	64	⇑P	Pn	20 57 11.0	-0.1
HERR				⇑S	Sn	20 57 36.0	-0.4
BZS	Buzias	1.99	37	*e*Pn	Pn	20 57 11.8	+0.7
BZS				*e*Sn	Sn	20 57 36.4	0.0
BZS	Buzias	1.99	37	⇑S	Sn	20 57 36.0	-0.4
BZS	Buzias	1.99	37	⇑P	Pn	20 57 10.2	-0.9
BLKB	Belogradchik	2.06	101	⇑S	Sn	20 57 37.8	-0.3
BLY	Banja Luka	2.06	291	*e*Pn	Pn	20 57 12.6	+0.5
BLY				*e*Sn	Sn	20 57 39.2	+1.1
MORH	Mrgy, Hungar	2.34	338	⇓P	Pn	20 57 16.0	+0.1
MORH				⇑S	Sn	20 57 44.3	-0.6
MORH	Mrgy, Hungar	2.34	338	*e*Pn	Pn	20 57 17.1	+1.2
MORH				*e*Sn	Sn	20 57 46.3	+1.4
GZR	Gura Zlata	2.46	56	⇑P	Pn	20 57 17.2	-0.5
GZR				⇓S	Sn	20 57 47.5	-0.5

IDC 08 21:03:12.7±2.6**, 10.°65N**×**127.°19E, h0**km**, mb3.8**/4**,**
mb1 3.9/4**, mb1mx3.4**/37**, mbtmp3.8**/4**, MS3.0**/1**, Ms1 3.0**/1**,**
ms1mx2.6/37**, Error ellipse: s-maj=231.3km**
s-min=24.0km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	26.70	1	LR	LR	21 19 41.5	
	comp=Z,34nm,19.7s,baz=40,slow=37						
WRA	Warramunga Arr	31.20	167	P	P	21 09 33.6	-0.3
	0.6nm,1.0s,baz=344,slow=9.6,SNR=1.9						
ASAR	Alice Springs	34.73	169	P	P	21 10 05.0	+0.2
	0.3nm,0.4s,baz=350,slow=6.9,SNR=5.4						
MKAR	Makanchi Array	52.28	322	P	P	21 12 26.3	+0.3
	1.0nm,0.6s,baz=116,slow=7.9,SNR=21						
FINES	FINESS Array B	85.99	332	P	P	21 15 54.2	-0.6
	3.2nm,0.9s,baz=85,slow=2.1,SNR=7.5						

*IDC **08** 21:26:21.3±1.8, 17.°85N×60.°89W, h0km, mb3.4/5,*
mb1 3.9/7, mb1mx3.6/36, mbtmp3.5/7, ML3.1/2, MS3.6/2,
Ms1 3.6/2, ms1mx2.9/30, Error ellipse: s-maj=47.1km
s-min=20.1km az=82.0
*TRN **08** 21:26:27.0, 17.°66N×61.°05W, h52km, MD4.0*
ISC 08 21:26:25.3±2.6**, 17.°78N**±0.°07×**60.°94W**±0.°08**, h27**km±17km**,**
n36, σ1.°16/50**, mb3.5**/5**, 1C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.81	263	*e*P	Pn	21 26 41.5	+0.4
ANWB				*e*S	Sn	21 26 54.1	+1.9
ANBD	Bethesda, Anti	1.07	228⇑	*i*P	Pn	21 26 44.3	-0.2
ANBD				*e*S	Sb	21 26 58.9	+0.1
ABD	La Joyeuse, An	1.40	202	*e*P	Pn	21 26 49.2	+0.2
ABD				*e*S	Sn	21 27 06.1	-0.6
H05N1	Guadeloupe/Mar	1.46	184	Pn	Pn	21 26 49.5	-0.4
H05N1				Sn	Sn	21 27 08.1	-0.1
MLYT	Lee's Yard	1.59	229	*e*P	Pb	21 26 53.0	-1.1
SKI	Saint Kitts	1.77	256	*e*P	Pn	21 26 55.2	+0.9
SKI				*e*S	Sn	21 27 15.4	-0.6
MAGL	Barre de l'ile	1.84	190	*e*P	Pn	21 26 56.0	+0.8
MAGL				*e*S	Sn	21 27 16.8	-1.0
SEUS	St. Eustatius	1.97	262	*e*S	Sn	21 27 19.5	-1.2
TBG	Guadaloupe-3	2.03	200	*e*P	Pn	21 26 58.9	+1.1
TDBA	Terre de Bas,	2.03	199	*e*P	Pn	21 26 58.9	+1.0
TDBA				*e*S	Sn	21 27 21.6	-0.7
DSLB	Salisbury	2.37	191	*e*P	Pn	21 27 03.3	+0.7
DSLB				*e*S	Sn	21 27 30.0	-0.7
SVN	Savane Anatole	2.92	184	*e*P	Pn	21 27 10.8	+0.6
BAMF	Morne Balai	2.95	184	*e*P	Pn	21 27 12.8	+2.2
PCM	Pelee Case Pet	2.95	185	*e*P	Pn	21 27 11.4	+0.8
ILAM	Ilet Lapin Mar	2.98	179	*e*S	Sn	21 27 44.5	-1.4
PML	Morne Lenard	2.99	185	*e*P	Pn	21 27 12.8	+1.7
FDF	Fort de France	3.03	184	*e*P	Pn	21 27 13.1	+1.4
FDF				*e*S	Sn	21 27 46.7	-0.4
LPMF	Morne Lapointe	3.18	180	*e*P	Pn	21 27 14.7	+1.0
ZAM	Aeronautique	3.19	182	*e*P	Pn	21 27 15.3	+1.5
TRMF	Trois Ilets	3.22	182	*e*P	Pn	21 27 16.7	+2.4
BIM	Bigot	3.24	182	*e*P	Pn	21 27 15.4	+0.9
BIM				*e*S	Sn	21 27 51.9	-0.4
MPOM	Morne Pois Mar	3.31	179	*e*P	Pn	21 27 16.5	+1.0
MPOM				*e*S	Sn	21 27 53.4	-0.6
H05S1	Guadeloupe/Mar	3.33	178	Pn	Pn	21 27 15.8	+0.1
H05S1				Sn	Sn	21 27 53.7	-0.8
SLBI	Saint Lucia, B	3.73	180	*e*P	Pn	21 27 21.9	+0.7
SLBI				*e*S	Sn	21 28 02.3	-2.0
SLB	Belfond	3.93	181	*e*P	Pn	21 27 24.5	+0.5
SLB				*e*S	Sn	21 28 08.3	-1.0
MCLT	Moule a Chique	4.04	180	*e*P	Pn	21 27 26.9	+1.3
MCLT				*e*S	Sn	21 28 09.8	-2.2
SVB	Belmont	4.49	184	*e*P	Pn	21 27 33.0	+1.3
SJG	San Juan	4.97	275	Pn	Pn	21 27 38.3	0.0
	3.6nm,0.3s,baz=117,slow=20,SNR=7.9						
SJG				Sn	Sn	21 28 33.5	-1.4
	baz=23,slow=17,SNR=1.2						
SDV	Santo Domingo	12.92	228	Pn	Pn	21 29 29.7	+2.2
	0.2nm,0.3s,baz=42,slow=14,SNR=2.0						
JTS	Las Juntas de	24.43	255	LR	LR	21 41 09.3	
	comp=Z,187nm,21.7s,baz=170,slow=36						
ATAH	Atahualpa	30.16	216	LR	LR	21 46 33.6	
	comp=Z,84nm,18.6s,baz=55,slow=40						
TXAR	Lajitas Array	40.62	294	P	P	21 34 02.2	-1.1
	0.1nm,0.6s,baz=72,slow=9.7,SNR=1.5						
PDAR	Pinedale Array	48.00	312	P	P	21 35 02.5	+0.1
	0.5nm,0.8s,baz=116,slow=10,SNR=4.3						
NVAR	Mina Array Bea	53.74	305	P	P	21 35 45.1	-0.6
	0.3nm,0.7s,baz=90,slow=4.7,SNR=2.7						
YKA	Yellowknife Ar	57.94	334	P	P	21 36 15.0	-0.1
	0.4nm,0.6s,baz=103,slow=7.9,SNR=4.8						
ILAR	Eielson Array	72.36	333	P	P	21 37 49.1	+0.4
	0.4nm,0.8s,baz=92,slow=5.1,SNR=4.5						

*NOU **08** 21:33:24.4, 23.°61S×179.°85W, h502km, mb4.3, South of Fiji Islands*
*IDC **08** 21:33:28.4±2.5, 23.°58S×179.°88E, h578km±26km,*
mb3.3/13, mb1 3.5/13, mb1mx3.4/30, mbtmp4.1/13, Error
ellipse: s-maj=36.1km s-min=12.4km az=156.0
ISC 08 21:33:23.5±0.7**, 23.°7S**±0.°1×**179.°9W**±0.°1**, h532**km**, n31,**
σ1.°52/32**, mb3.7**/13**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.21	342	P	P	21 35 02.6	-0.9
	1.9nm,0.3s,baz=262,slow=23,SNR=11						
MSVF	Nonsavu	6.21	342	P	P	21 35 02.8	-0.7
MARNC	Mare, Loyalty	11.35	279	P	P	21 35 56.8	+1.6
	1.1nm,0.6s						
SANVU	Saraoutou	14.63	302	P	P	21 36 31.4	+1.9
	69nm,1.2s						
URZ	Urewera	14.75	189	P	P	21 36 30.5	0.0
	4.8nm,0.3s,baz=24,slow=0.9,SNR=19						
CTA	Charters Tower	31.55	270	P	P	21 39 03.1	+0.7
	4.7nm,0.5s,baz=96,slow=11,SNR=12						
STKA	Stephens Creek	34.87	248	P	P	21 39 31.6	+1.3
	0.9nm,0.4s,baz=114,slow=16,SNR=3.5						
ASAR	Alice Springs	42.14	260	P	P	21 40 29.9	+0.5
	3.1nm,0.8s,baz=97,slow=7.8,SNR=28						
ASAR				S	S	21 46 09.0	-2.0
	0.6nm,0.7s,baz=97,slow=14,SNR=6.6						
WRA	Warramunga Arr	42.49	266	P	P	21 40 31.9	-0.3
	4.2nm,0.5s,baz=95,slow=8.4,SNR=108						
WRA				S	S	21 46 12.1	-4.0
	1.3nm,0.8s,baz=99,slow=12,SNR=6.4						
MJAR	Matsushiro Arr	71.76	326	P	P	21 43 51.2	-0.7
	2.7nm,0.8s,baz=159,slow=7.0,SNR=6.3						
KSRS	Korea Array	78.12	320	P	P	21 44 28.0	+0.5
	1.1nm,0.7s,baz=135,slow=5.5,SNR=4.1						
PETK	Petropavlovsk-	78.90	346	P	P	21 44 31.5	+0.1
	4.3nm,0.7s,baz=115,slow=7.5,SNR=11						
USRK	Ussuriysk Ar.	80.62	327	P	P	21 44 41.2	+0.6
	1.3nm,0.6s,baz=152,slow=4.7,SNR=6.2						
NVAR	Mina Array Bea	84.55	44	P	P	21 45 01.9	+1.1
	1.0nm,0.9s,baz=224,slow=7.3,SNR=2.9						
CMAR	Chiang Mai Arr	89.52	290	P	P	21 45 26.1	+1.7
	0.7nm,0.4s,baz=126,slow=3.6,SNR=8.6						
TXAR	Lajitas Array	90.25	58	P	P	21 45 29.2	+1.4
	0.6nm,0.9s,baz=207,slow=6.9,SNR=4.5						
ILAR	Eielson Array	91.80	14	P	P	21 45 33.3	-0.7
	0.4nm,0.7s,baz=222,slow=5.8,SNR=5.8						
SONM	Songino Array	96.98	319	P	P	21 45 59.0	+1.0
	0.1nm,0.4s,baz=130,slow=2.3,SNR=1.9						
MKAR	Makanchi Array	112.06	313	PKiKP	PKiKP	21 50 57.5	-0.7
	0.5nm,0.6s,baz=219,slow=0.8,SNR=6.5						
KURBB	Kurchatov Arra	115.14	316	PKiKP	PKPdf	21 51 02.1	-1.8
	0.6nm,0.6s,baz=109,slow=1.6,SNR=4.2						
BVAR	Borovoye Array	120.32	319	PKP	PKPdf	21 51 12.9	-1.0
	0.9nm,0.5s,baz=77,slow=4.1,SNR=9.3						
ARU	Arti	126.75	324	PKP	PKPdf	21 51 26.0	-0.1
	0.8nm,0.4s,baz=109,slow=4.2,SNR=7.5						
ARCES	ARCESS Array B	131.69	348	PKP	PKPdf	21 51 34.7	-0.5
	4.1nm,0.9s,baz=305,slow=7.2,SNR=4.5						
FINES	FINESS Array B	138.26	342	PKhKP	PKPpre	21 51 39.1	
	4.9nm,1.1s,baz=61,slow=4.8,SNR=5.0						
FINES				PKP	PKPdf	21 51 47.4	-0.2
	0.8nm,0.3s,baz=109,slow=2.6,SNR=8.5						
NB2	NORSAR Subarra	141.88	351	PKP	PKPdf	21 51 49.5	-4.7
	comp=Z,0.8nm,0.5s,baz=15,slow=3.2						
NOA	NORSAR Array B	141.88	351	PKhKP	PKPpre	21 51 49.4	
	comp=Z,0.2nm,0.4s,baz=359,slow=2.2,SNR=4.7						
AKASG	Malin Array Be	144.83	327	PKP	PKPdf	21 51 59.4	-0.2
	comp=Z,3.7nm,0.6s,baz=44,slow=4.1,SNR=29						
BRTR	Keskin Array B	147.50	307	PKPbc	PKPbc	21 52 08.1	-0.1
	comp=Z,1.0nm,0.5s,baz=143,slow=5.6,SNR=9.9						
CLL	Collm	150.67	343	*i* PKP	PKiKP	21 52 15.6	0.0
	comp=Z,8.0nm,0.7s						
GERES	GERESS Array B	152.68	340	PKPbc	PKPbc	21 52 19.1	-0.8
	comp=Z,0.4nm,0.4s,baz=7.6,slow=2.0,SNR=5.0						
ESDC	Sonseca Array	163.69	11	PKPab	PKPab	21 53 20.4	-0.9
	comp=Z,0.6nm,0.8s,baz=292,slow=27,SNR=4.1						

*IDC **08** 21:43:51.2±0.8, 15.°01S×173.°90W, h0km, mb4.0/8,*
mb1 4.3/9, mb1mx4.0/31, mbtmp4.0/9, ML4.4/1, MS3.2/1,
Ms1 3.2/1, ms1mx2.8/25, Error ellipse: s-maj=41.6km
s-min=17.8km az=147.0
*NEIC **08** 21:44:00.3±0.7, 14.°8S±0.°1×172.°2W±0.°2, h198km±13km,*
mb4.0/6, Error ellipse: s-maj=27.8km s-min=10.9km
az=66.0
ISC 08 21:43:55.5±0.6**, 15.°16S**±0.°07×**173.°60W**±0.°09**, h35**km**, n36,**
σ1.°61/31**, mb4.2**/12**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.16	55	Pn	Pn	21 44 29.8	+0.7
	105nm,0.3s,baz=114,slow=0.7,SNR=38						
AFI				Sn	Sn	21 44 50.9	-3.8
	182nm,0.3s,baz=167,slow=22,SNR=5.1						
AFI	Afiamalu	2.16	55	Pn	Pn	21 44 29.5	+0.4
AFI				Sn	Sn	21 44 52.2	-2.4
NIUE	Niue	5.25	138	Pn	Pn	21 45 12.8	+1.4
NIUE				Sn	Sn	21 46 07.3	-3.4
KNTN	Kanton	12.44	9	Pn	Pn	21 46 46.0	-4.1
PPT	Papeete	23.18	99	LR	LR	21 57 38.2	
	comp=Z,56nm,18.3s,baz=228,slow=35						
H11S2	WAKE ISLAND Hy	38.65	329	T	T	22 32 06.0	
	baz=147,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy	38.67	329	T	T	22 31 50.0	
	baz=147,slow=76,SNR=5.1						
H11S1	WAKE ISLAND Hy	38.67	329	T	T	22 32 20.6	
	baz=147,slow=76,SNR=6.5						
H11N3	WAKE ISLAND Hy	39.60	330	T	T	22 33 26.4	
	baz=148,slow=76,SNR=4.2						
H11N1	WAKE ISLAND Hy	39.61	330	T	T	22 33 26.4	
	baz=148,slow=76,SNR=3.2						
H11N2	WAKE ISLAND Hy	39.62	330	T	T	22 33 02.1	
	baz=148,slow=76,SNR=4.0						
BBOO	Buckleboo	48.76	240	P	P	21 52 35.3	-1.8
BBOO				IAmb	IAmb	21 52 42.1	
	comp=Z,7.4nm,1.1s						
WR0	Warramunga Arr	49.52	257	P	P	21 52 41.9	-1.2
WB0	Warramunga Arr	49.67	257	P	P	21 52 42.9	-1.3
WB0				IAmb	IAmb	21 52 44.2	
	comp=Z,3.3nm,0.6s						
WB2	Warramunga Arr	49.70	257	P	P	21 52 43.1	-1.4
WB2				IAmb	IAmb	21 53 03.0	
	comp=Z,3.7nm,0.9s						
WRA	Warramunga Arr	49.71	257	P	P	21 52 43.5	-1.1
	comp=Z,1.8nm,0.4s,baz=91,slow=7.8,SNR=66						
AS31	Alice Springs	50.00	252	P	P	21 52 45.8	-1.0
AS31				IAmb	IAmb	21 52 47.2	
	comp=Z,2.4nm,0.7s						
ASAR	Alice Springs	50.00	252	P	P	21 52 45.6	-1.2
	comp=Z,9.9nm,0.7s,baz=85,slow=8.5,SNR=87						
ASAR	Alice Springs	50.00	252	P	P	21 52 45.7	-1.1
FORT	Forrest	55.35	243	P	P	21 53 24.1	-2.1
FITZ	Fitzroy Crossi	58.07	258	P	P	21 53 44.3	-1.3
	comp=Z,2.0nm,1.0s,baz=100,slow=17,SNR=1.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	63.60	186	P	P	21 54 24.3	+2.0
	comp=Z,1.0nm,0.5s,baz=4.7,slow=6.9,SNR=5.2						
NVAR	Mina Array Bea	74.28	42	P	P	21 55 32.2	+2.7
	comp=Z,0.6nm,0.7s,baz=220,slow=9.2,SNR=5.0						
TXAR	Lajitas Array	80.64	56	P	P	21 56 07.2	+2.1
	comp=Z,0.2nm,0.7s,baz=219,slow=9.7,SNR=3.8						
PDAR	Pinedale Array	82.22	42	P	P	21 56 14.5	+1.1
	comp=Z,0.4nm,0.5s,baz=206,slow=2.4,SNR=3.7						
ILAR	Eielson Array	82.25	11	P	P	21 56 13.1	+0.3
	comp=Z,0.3nm,0.4s,baz=225,slow=5.6,SNR=9.4						
ARCES	ARCESS Array B	124.34	352	PKP	PKiKP	22 02 51.0	+0.6
	comp=Z,14nm,1.1s,baz=320,slow=2.4,SNR=2.6						
FINES	FINESS Array B	131.66	347	PKP	PKiKP	22 03 05.3	0.0
	comp=Z,5.5nm,1.0s,baz=160,slow=28,SNR=4.8						
BRTR	Keskin Array B	145.84	321	PKPbc	PKPab	22 03 32.1	+0.1
	comp=Z,1.4nm,0.7s,baz=76,slow=3.0,SNR=7.2						
GERES	GERESS Array B	145.87	351	PKPbc	PKPab	22 03 31.7	-0.1
	comp=Z,0.9nm,0.6s,baz=17,slow=3.7,SNR=9.2						
CONA	Conrad Observa	146.40	348	*i* P	PKPab	22 03 34.0	+0.2
	comp=Z,0.7nm,0.4s						
MOA	Molln	146.76	350	*i* P	PKPab	22 03 34.6	-0.4
	comp=Z,1.4nm,0.5s						
WTTA	Wattenberg	147.69	353	*e*P	PKiKP	22 03 37.7	-1.0
	comp=Z,3.4nm,0.5s						
DAVA	Damuels	147.83	356	*e*P	PKiKP	22 03 38.4	-0.6
	comp=Z,0.3nm,0.1s						
OBKA	Obir	148.01	349	*e*P	PKPbc	22 03 37.8	+0.4
	comp=Z,0.8nm,0.3s						
ABTA	Abfaltersbach	148.09	352	*e*P	PKPbc	22 03 37.7	0.0
	comp=Z,2.0nm,0.7s						

IDC 08 21:50:45.1±2.1, 23°.25S×179°.67W, h0km, mb4.1/5, mb1 4.4/5, mb1mx3.9/31, mbtmp4.1/5, Error ellipse: s-maj=144.8km s-min=30.1km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.25	247	P	P	21 57 41.4	-0.2
	0.6nm,0.3s,baz=115,slow=10,SNR=4.4						
ASAR	Alice Springs	42.45	260	P	P	21 58 42.0	-0.1
	0.9nm,0.4s,baz=96,slow=7.7,SNR=18						
WRA	Warramunga Arr	42.76	265	P	P	21 58 44.9	+0.2
	3.3nm,0.3s,baz=102,slow=8.2,SNR=105						
FITZ	Fitzroy Crossi	51.19	265	P	P	21 59 50.0	-0.5
	2.2nm,0.6s,baz=130,slow=13,SNR=5.4						
TXAR	Lajitas Array	89.83	58	P	P	22 03 46.3	+0.1
	0.4nm,0.7s,baz=224,slow=5.0,SNR=3.7						
GERES	GERESS Array B	152.35	341	PKPbc	PKPbc	22 10 42.9	-0.2
	0.2nm,0.3s,baz=106,slow=2.1,SNR=1.4						

IDC 08 22:00:46.6±1.9, 7°.49S×128°.03E, h165km±18km, mb3.5/7, mb1 3.8/10, mb1mx3.6/30, mbtmp4.2/10, Error ellipse: s-maj=20.7km s-min=15.5km az=96.0
DJA 08 22:00:46.5±0.3, 8°S±2°×12°8E±°, h176km±7km, M4.5/13, mb4.5/9, mB5.2/3, MLv4.6/13, Mw(mB)4.5/3
ISC 08 22:00:44.6±0.5, 7°.63S±0°.05×128°.19E±0°.05, h150km, n32, σ2s.56/40, mb3.8/7, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	3.10	97	P	Pn	22 01 36.6	+3.3
SAUI				S	Sn	22 02 16.9	+6.0
SOEI	Soe	4.42	241	P	Pn	22 01 53.6	+3.1
SOEI				S	Sn	22 02 44.0	+2.2
NLAI	Namlea	4.49	346	P	Pn	22 01 56.1	+4.7
BATI	Baumata	5.16	240	P	Pn	22 02 03.0	+2.9
	46nm,0.3s,baz=105,slow=1.0,SNR=49						
BATI				S	Sn	22 02 59.5	+0.4
	63nm,0.3s,baz=199,slow=5.0,SNR=11						
BATI	Baumata	5.16	240	P	Pn	22 02 02.9	+2.7
	0.7nm2μm100nm,0.8s						
BATI				S	Sn	22 03 00.5	+1.4
	0.7nm2μm100nm,0.8s						
SANI	Sanana	5.96	338	P	Pn	22 02 14.5	+3.6
	0.1nm20nm,0.8s						
MMRI	Maumere	5.98	260	P	Pn	22 02 12.0	+0.9
	0.2nm6μm28nm,0.6s						
MMRI				S	Sn	22 03 19.9	+1.2
	0.2nm6μm28nm,0.6s						
FAKI	Fak Fak	6.18	41	P	Pn	22 02 11.5	-2.3
KDU	Kakadu	6.56	140	S	Sn	22 03 31.3	-1.4
	baz=7.1						
SIJI	Sorong	7.38	25	P	Pn	22 02 31.0	+1.2
	6.9nm,0.3s,baz=306,slow=8.0,SNR=19						
SIJI				S	Sn	22 03 48.8	-3.7
	0.0nm,0.3s,baz=269,slow=22,SNR=2.2						
SWI	Sorong	7.38	25	P	Pn	22 02 31.4	+1.5
	0.2nm58nm,0.7s						
BASI	Baing, Sumba	7.95	251	P	Pn	22 02 39.0	+1.6
	0.3nm38nm,0.7s						
WSI	Waingapu	8.06	255	P	Pn	22 02 38.6	-0.3
	1.3nm140nm,0.4s						
FITZ	Fitzroy Crossi	10.70	193	P	Pn	22 03 13.6	-0.3
	4.9nm,0.3s,baz=21,slow=9.7,SNR=45						
FITZ				S	Sn	22 05 07.5	-4.8
	2.3nm,0.3s,baz=312,slow=17,SNR=2.7						
FITZ	Fitzroy Crossi	10.70	193	S	Sn	22 05 07.1	-5.2
	baz=11						
WRA	Warramunga Arr	13.62	155	P	Pn	22 03 53.0	+1.2
	0.9nm,0.3s,baz=330,slow=13,SNR=35						
WRA				S	Sn	22 06 16.7	-5.9
	3.7nm,0.3s,baz=332,slow=22,SNR=10						
ASAR	Alice Springs	16.86	162	P	Pn	22 04 34.5	+2.5
	1.2nm,0.3s,baz=347,slow=13,SNR=114						
ASAR				S	S	22 07 37.6	-2.0
	1.1nm,0.3s,baz=342,slow=26,SNR=5.8						
QIS	Mount Isa	16.95	140	P	Pn	22 04 34.4	+1.4
	baz=18,SNR=3.7						
PBKI	Pangkalan Bun	17.16	286	P	Pn	22 04 37.3	+1.7
WRKA	Warakurna	17.31	180	P	Pn	22 04 39.9	+2.6
	baz=18,SNR=35						
MTSU	Mount Surprise	18.85	125	P	Pn	22 04 56.8	+1.2
	baz=19,SNR=6.8						
STKA	Stephens Creek	27.17	154	P	P	22 06 16.3	+2.2
	1.3nm,0.7s,baz=319,slow=9.3,SNR=1.6						
CMSA	Cobar Meteorol	28.85	148	P	P	22 06 30.1	+1.0
	baz=30,SNR=8.6						
CMAR	Chiang Mai Arr	38.79	312	P	P	22 07 54.4	-0.6
	0.6nm,0.3s,baz=137,slow=7.4,SNR=4.4						
USRK	Ussuriysk Ar.	51.70	3	P	P	22 09 35.5	-0.8
	0.5nm,0.5s,baz=195,slow=7.5,SNR=4.6						
SONM	Songino Array	58.49	343	P	P	22 10 24.7	-0.4
	0.6nm,0.8s,baz=170,slow=6.4,SNR=4.4						
MKAR	Makanchi Array	67.78	328	P	P	22 11 25.5	-0.8
	0.6nm,0.3s,baz=115,slow=8.7,SNR=26						
ZALV	Zalesovo Beam	71.36	335	P	P	22 11 46.6	-1.4
	1.6nm,0.5s,baz=143,slow=4.4,SNR=8.3						
ILAR	Eielson Array	94.68	25	P	P	22 13 47.7	-0.7
	0.6nm,0.6s,baz=270,slow=5.4,SNR=1.5						
TORD	Torodi Ar. Bea	127.17	281	PKP	PKPdf	22 19 31.5	-0.7
	0.8nm,0.7s,baz=67,slow=1.9,SNR=3.8						
CPUP	Villa Florida	145.82	171	PKPbc	PKPdf	22 20 07.1	+0.8
	0.8nm,0.4s,baz=158,slow=5.4,SNR=2.4						
LPAZ	La Paz	151.27	146	PKPbc	PKiKP	22 20 23.2	+0.6
	1.0nm,0.5s,baz=53,slow=5.1,SNR=3.3						

IDC 08 22:01:06.0±8.1, 3°.96S×143°.11E, h0km, mb3.7/2, mb1 4.2/3, mb1mx3.7/32, mbtmp4.0/3, ML4.4/1, Error ellipse: s-maj=285.1km s-min=33.8km az=94.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.04	208	P	Pn	22 05 17.6	-0.7
	1.4nm,0.3s,baz=28,slow=12,SNR=6.6						
ASAR	Alice Springs	21.51	204	P	P	22 05 57.1	+0.4
	4.0nm,0.7s,baz=34,slow=10,SNR=10						
MKAR	Makanchi Array	73.48	321	P	P	22 12 40.6	0.0
	0.4nm,0.7s,baz=115,slow=6.8,SNR=3.6						

ISK 08 22:06:47.9, 36°.53N×34°.74E, h23km, ML3.4/35
DDA 08 22:06:48.0, 36°.49N×34°.80E, h7km±6km, ML2.9
NIC 08 22:06:48.8±0.0, 36°.26N×34°.89E, h29km±4km, Ml3.4/6
ISC 08 22:06:48.0±1.0, 36°.45N±0°.03×34°.79E±0°.03, h29km±10km, n59, σ1s.01/74, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRTS	Karatas	0.49	76	PG	Pn	22 06 59.6	+0.6
DED	Mersin	0.51	1	*i* P	Pb	22 06 57.5	-1.1
DED				IAML		22 07 04.0	
	comp=N,1μm,0.2s						
DED				*i* S	Sb	22 07 04.7	-1.1
DED				IAML		22 07 05.0	
	comp=E,1μm,0.2s						
KIZK	Mersin	0.52	273	PG	Pb	22 06 58.6	-0.1
KIZK				SG	Sb	22 07 06.1	+0.1
KIZK	Mersin	0.52	273	*i* P	Pb	22 06 58.7	0.0
KIZK				*i* S	Sb	22 07 06.9	+0.9
KIZK				IAML		22 07 07.0	
	comp=E,1μm,0.2s						
KIZK				IAML		22 07 07.0	
	comp=N,2μm,0.2s						
KRTD	Karatas-Adana	0.53	74	PG	Pn	22 06 59.4	-0.1
SLFK	Silifke-Mersin	0.68	265	PG	Pb	22 07 00.8	-0.5
SILI	Silifke-Mersin	0.70	263	PG	Pb	22 07 01.7	0.0
SILI				SG	Sn	22 07 12.1	+0.4
YURE	YUREGIR	0.78	61	PG	Pn	22 07 03.6	+0.6
KARA	Karaisali	0.83	15	PG	Pb	22 07 03.2	-0.8
KARA				SG	Sn	22 07 14.7	-0.4
KEBE	Keben-Mersin	0.87	270	PG	Pb	22 07 04.6	+0.1
KARG	Kargicak-Mersi	0.91	254	PG	Pn	22 07 05.7	+1.0
IKL	Isikli	0.92	257	PG	Pn	22 07 05.6	+0.8
TISA	Tisan-Mersin	0.94	252	PG	Pb	22 07 05.9	+0.2
CEYT	Ceyhan	0.95	54	PG	Pb	22 07 05.4	-0.5
YESI	Yesilovacik-Me	0.96	255	PG	Pb	22 07 05.9	-0.1
TEPK	Tepekoy-MERSIN	1.03	258	PG	Pn	22 07 07.2	+0.8
GULN	MERSIN_Gulnar	1.04	255	*i* P	Pn	22 07 07.4	+0.8
GULN				*i* S	Sb	22 07 21.1	+0.5
GULN				IAML		22 07 22.0	
	comp=E,392nm,0.4s						
GULN				IAML		22 07 22.0	
	comp=N,416nm,0.3s						
AKKU	Akkuyu-Mersin	1.04	254	PG	Pn	22 07 07.5	+0.9
AKK2	Akkuyu-Mersin	1.05	253	PG	Pn	22 07 07.3	+0.6
AKK1	Akkuyu-Mersin	1.05	253	PG	Pb	22 07 07.7	+0.1
TEVE	Tevekalti-Mers	1.08	270	PG	Pn	22 07 07.9	+0.7
KERG	Konya-Eregli	1.10	331	*i* P	Pn	22 07 07.3	-0.2
KERG				*i* S	Sn	22 07 21.9	+0.2
KERG				IAML		22 07 23.0	
	comp=E,899nm,0.3s						
KERG				IAML		22 07 25.0	
	comp=N,873nm,0.3s						
OREN	Orenkoy-Mersin	1.10	258	PN	Pb	22 07 08.4	0.0
TAHT	Tahtakopru-Hat	1.13	93	PN	Pb	22 07 09.5	+0.6
AKO	Adana	1.14	27	*i* P	Pn	22 07 07.5	-0.4
AKO				IAML		22 07 26.0	
	comp=E,141nm,0.3s						
YORU	Yoruktepe-Mers	1.16	255	PN	Pb	22 07 09.3	-0.1
CMRD	Camardi-Nigde	1.22	8	PN	Pn	22 07 09.3	+0.1
BERE	Bereket-Mersin	1.27	266	PN	Pn	22 07 10.7	+0.9
KOZT	Kozan	1.32	39	PN	Pn	22 07 09.4	-1.1
TEKE	Tekeli-Mersin	1.39	258	PN	Pn	22 07 12.5	+1.2
KRMN	Karaman	1.42	301	PN	Pn	22 07 12.5	+0.6
BOZY	Bozyazi-Mersin	1.50	257	PN	Pn	22 07 14.1	+1.2
NIG	Nigde	1.66	355	PN	Pn	22 07 15.4	0.0
KKBE	Karaman, Kazim	1.67	298	*i* P	Pn	22 07 16.8	+1.4
KKBE				*i* S	Sb	22 07 39.2	+0.4
KKBE				IAML		22 07 40.0	
	comp=N,119nm,0.3s						
KKBE				IAML		22 07 40.0	
	comp=E,155nm,0.6s						
YAHY	KAYSERI_Yahyal	1.70	15	*i* P	Pn	22 07 16.3	+0.5
YAHY				IAML		22 07 43.0	
	comp=N,78nm,0.5s						
YAHY				IAML		22 07 45.0	
	comp=E,95nm,0.7s						
MVOU	Mavrovouni	1.71	214	P	Pn	22 07 14.3	-1.5
MVOU				S	Sn	22 07 34.6	-2.1
MVOU				AML	AML	22 07 45.8	
	comp=E,0.4nm,0.3s						
MVOU				AML	AML	22 07 45.8	
	comp=E,0.4nm,0.3s						
ATHAL	Athalassa	1.73	221	P	Pn	22 07 16.2	+0.2
ATHAL				S	Sn	22 07 36.5	-0.6
ATHAL				AML	AML	22 08 14.7	
	comp=E,1.5nm,1.1s						
ATHAL				AML	AML	22 08 14.7	
	comp=E,1.5nm,1.1s						
ATHAL				AML	AML	22 08 20.0	
	comp=E,1.4nm,0.9s						
ATHAL				AML	AML	22 08 20.0	
	comp=E,1.4nm,0.9s						
CSS	Mathiatis	1.90	219	P	Pn	22 07 16.5	-2.0
CSS				S	Sn	22 07 37.8	-3.6
CSS				AML	AML	22 07 47.2	
	comp=E,0.1nm,0.3s						
CSS				AML	AML	22 07 47.2	
	comp=E,0.1nm,0.3s						
HCB	Kahramanmara	1.92	62	*i* P	Pn	22 07 19.0	+0.4
HCB				*i* S	Sn	22 07 41.9	+0.1
HCB				IAML		22 07 42.0	
	comp=N,80nm,0.3s						
HCB				IAML		22 07 43.0	
	comp=E,122nm,0.3s						
KMRS	Kahramanmaras	1.99	58	PN	Pn	22 07 20.0	+0.3
SULT	Sultanhani-AKS	2.02	330	PN	Pn	22 07 20.4	+0.3
GAZ	Gaziantep	2.07	69	PN	Pn	22 07 21.6	+0.8
GAZ	Gaziantep	2.07	69	P	Pn	22 07 21.6	+0.8
GAZ				S	Sn	22 07 46.2	+0.5
ASGA	Asgata	2.08	217	P	Pn	22 07 23.5	+2.6
ASGA				AML	AML	22 07 56.5	
	comp=E,0.3nm,0.4s						
ASGA				AML	AML	22 08 07.8	
	comp=E,0.4nm,0.6s						
ALFC	Alefka	2.20	235	P	Pn	22 07 22.3	-0.3
ALFC				S	Sn	22 07 47.9	-0.9
ALFC				AML	AML	22 07 52.1	
	comp=E,0.9nm,0.1s						
ALFC				AML	AML	22 07 52.1	
	comp=E,0.9nm,0.1s						
ALFC				AML	AML	22 07 52.2	
	comp=E,0.9nm,0.2s						
ALFC				AML	AML	22 07 52.2	
	comp=E,0.9nm,0.2s						
SZAC	Souni	2.30	223	P	Pb	22 07 27.3	-1.4
SZAC				S	Sb	22 07 58.3	+1.5
SZAC				AML	AML	22 08 00.3	
	comp=E,0.5nm,0.4s						
SZAC				AML	AML	22 08 00.3	
	comp=E,0.5nm,0.4s						
SZAC				AML	AML	22 08 01.8	
	comp=E,0.7nm,0.3s						
SZAC				AML	AML	22 08 01.8	
	comp=E,0.7nm,0.3s						
SARI	SarD1z-Kayseri	2.34	33	PN	Pn	22 07 25.7	+1.0
KONT	Konya--Tatoy	2.44	308	PN	Pn	22 07 26.6	+0.7
AKMS	Akamas	2.46	235	P	Pn	22 07 27.1	+1.1
NATA	Nata	2.46	228	P	Pb	22 07 29.9	-1.6
BNN	Bunyan	2.54	19	PN	Pn	22 07 28.2	+0.9
YAYX	Yaylak	2.60	343	PN	Pn	22 07 28.6	+0.5
LADK	Ladik-KONYA	2.60	313	PN	Pn	22 07 28.7	+0.5
BHL	Bhannes	2.64	164	*e*P	Pn	22 07 29.5	+0.8
KOZK	Kozakli-Nevseh	2.75	1	PN	Pn	22 07 31.0	+0.8
DQRL	Deir Qamar	2.81	167	*e*P	Pn	22 07 32.1	+1.0
DARE	Darende-Malaty	3.01	45	PN	Pn	22 07 35.4	+1.6
KAMT	Kaman	3.03	344	PN	Pn	22 07 34.9	+0.8
RCY	Rachaya	3.07	163	*e*P	Pn	22 07 36.4	+1.8

ISK 08 22:08:04.6, 40°.38N×26°.05E, h10km, ML3.2/17
DDA 08 22:08:05.3, 40°.37N×26°.07E, h7km±2km, ML2.9
ATH 08 22:08:05.5, 40°.43N×25°.95E, h29km±4km, ML3.1/5, Error ellipse: s-maj=4.6km s-min=1.0km az=319.0
THE 08 22:08:06.0, 40°.42N×25°.97E, h15km±1km, ML3.0/7, Error ellipse: s-maj=1.4km s-min=0.6km az=338.0
ISC 08 22:08:04.7±0.9, 40°.41N±0°.02×26°.04E±0°.02, h14km±7km, n65, σ0s.72/96, 6C-4D, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOKA	anakkale-Gk	0.24	205	*i* P	Pb	22 08 10.5	-0.4
GOKA				*i* S	Sg	22 08 14.0	+0.5
GOKA				IAML		22 08 16.0	
	comp=E,7μm,0.3s						
GADA	Gvkgeada	0.25	206	PG	Pg	22 08 10.3	+0.3
CAVK	Edirne/Enez-Ca	0.29	19	*i* P	Pb	22 08 11.9	+0.1
CAVK				*i* S	Sb	22 08 16.7	+0.1
CAVK				IAML		22 08 17.0	
	comp=E,877nm,0.2s						
CAVK				IAML		22 08 17.0	
	comp=N,647nm,0.2s						
GELI	Tayfur-Gelibol	0.33	92	PG	Pb	22 08 12.1	-0.3
GELI				SG	Sb	22 08 16.9	-0.6
ENEZ	Enez	0.33	15	PG	Pb	22 08 12.4	0.0
ENEZ				SG	Sb	22 08 18.0	+0.3
ECEA	Canakkale, Ece	0.38	164	*i* P	Pb	22 08 13.0	-0.2
ECEA				*i* S	Sb	22 08 18.8	-0.2
ECEA				IAML		22 08 20.0	
	comp=N,2μm,0.2s						
ECEA				IAML		22 08 20.0	
	comp=E,1μm,0.1s						
SMTH	Samothraki Isl	0.39	279	P	Pg	22 08 12.8	+0.2
SMTH				S	Sg	22 08 18.4	+0.4
SMTH				AML	AML	22 08 19.0	
	comp=E,9373μm,0.2s						
SMTH				AML	AML	22 08 19.3	
	comp=N,8654μm,0.2s						
SMTH	Samothraki Isl	0.39	279	P	Pg	22 08 12.8	+0.2
SMTH				S	Sg	22 08 18.4	+0.4
	comp=N,5μm,0.2s						
ERIK	Erikli-Kesan	0.44	54	PG	Pb	22 08 13.9	-0.4
ERIK				SG	Sb	22 08 20.5	-0.2
ALN	Alexandroupoli	0.48	0	P	Pb	22 08 15.0	0.0
ALN				S	Sb	22 08 22.0	0.0
ALN				AML	AML	22 08 22.7	
	comp=E,2703μm,0.3s						
ALN				AML	AML	22 08 22.9	
	comp=N,1928μm,0.4s						
ALN	Alexandroupoli	0.48	0	P	Pb	22 08 15.0	0.0
ALN				S	Sb	22 08 22.3	+0.3
	comp=N,2μm,0.3s						
ALN	Alexandroupoli	0.48	0	PG	Pb	22 08 14.9	0.0
ALN				SG	Sb	22 08 22.2	+0.3
LPK	Lapseki	0.55	94	PG	Pb	22 08 15.1	-1.0
LPK				SG	Sb	22 08 23.1	-0.8
BOZC	Bozcaada	0.57	179	PG	Pg	22 08 15.9	0.0
BOZC				SG	Sg	22 08 23.2	-0.3
BOZC	Bozcaada	0.57	179	*i* P	Pg	22 08 15.9	0.0
BOZC				*i* S	Sg	22 08 23.5	+0.1
BOZC				IAML		22 08 24.0	
	comp=N,732nm,0.3s						
BOZC				IAML		22 08 25.0	
	comp=E,992nm,0.2s						
KESN	Edirne-Kesan	0.64	49	*i* P	Pb	22 08 17.5	-0.4
KESN				IAML		22 08 29.0	
	comp=E,1μm,0.4s						
KESN				IAML		22 08 29.0	
	comp=N,721nm,0.3s						
BAYC	CANAKKALE_Bayr	0.78	150	*i* P	Pb	22 08 19.9	-0.1
BAYC				*i* S	Sb	22 08 29.6	-0.7
BAYC				IAML		22 08 31.0	
	comp=N,561nm,0.6s						
BAYC				IAML		22 08 31.0	
	comp=E,376nm,0.2s						
RDO	Rodhopi	0.83	333	P	Pg	22 08 20.3	-0.4
RDO				S	Sg	22 08 31.0	-0.6
RDO	Rodhopi	0.83	333	P	Pb	22 08 21.0	+0.1
RDO				S	Sb	22 08 32.5	+0.7
	comp=E,945nm,0.3s						
RDO	Rodhopi	0.83	333	PG	Pb	22 08 20.9	+0.1
LIA	Limnos Island	0.83	232	P	Pg	22 08 20.6	-0.3
LIA				S	Sg	22 08 31.7	-0.1
LIA				AML	AML	22 08 35.4	
	comp=N,1460μm,0.2s						
LIA				AML	AML	22 08 35.6	
	comp=E,1991μm,0.3s						
LIA	Limnos Island	0.83	232	P	Pg	22 08 20.6	-0.3
LIA				S	Sb	22 08 32.5	+0.5
	comp=E,802nm,0.2s						
RKY	Sarkoy-Tekirda	0.91	72	PG	Pb	22 08 22.4	+0.1
KOCA	Canakkale, Ayv	0.91	175	*i* P	Pg	22 08 21.9	-0.5
KOCA				*i* S	Sb	22 08 34.5	+0.2
KOCA				IAML		22 08 37.0	
	comp=N,574nm,0.3s						
KOCA				IAML		22 08 37.0	
	comp=E,450nm,0.4s						
KRBG	Karabiga-Canak	0.96	91	PG	Pb	22 08 22.9	-0.2
THAS	Thassos island	1.03	281	P	Pg	22 08 22.7	-1.8
THAS				S	Sg	22 08 36.1	-1.8
THAS	Thassos island	1.03	281	P	Pg	22 08 24.0	-0.5
THAS				S	Sg	22 08 38.1	+0.2
	comp=E,882nm,0.4s						
GZKV	Gazikoy-Tekird	1.03	71	PG	Pn	22 08 25.0	+0.2
PRK	Paraskevi	1.18	171	P	Pn	22 08 27.9	+1.1
PRK				S	Sn	22 08 43.7	+1.2
PRK				AML	AML	22 08 45.0	
	comp=E,4430μm,0.4s						
PRK				AML	AML	22 08 46.7	
	comp=N,3861μm,0.4s						
PRK	Paraskevi	1.18	171	P	Pn	22 08 28.1	+1.4
PRK				S	Sn	22 08 43.9	+1.3
	comp=N,2μm,0.5s						
MRMT	Marmara Adasi	1.20	80	PN	Pn	22 08 27.7	+0.6
SIGR	SIGRI	1.21	187	P	Pb	22 08 26.9	-0.4
SIGR				S	Sb	22 08 43.2	+0.4
SIGR				AML	AML	22 08 44.4	
	comp=N,2376μm,0.6s						
SIGR				AML	AML	22 08 44.9	
	comp=E,1293μm,0.3s						
SIGR	SIGRI	1.21	187	P	Pb	22 08 27.0	-0.4
SIGR				S	Sb	22 08 43.2	+0.4
	comp=E,935nm,0.5s						
SIGR	SIGRI	1.21	187	PN	Pb	22 08 27.0	-0.4
BUHA	Balikesir, Bur	1.21	139	*i* P	Pg	22 08 27.9	-0.1
BUHA				*i* S	Sn	22 08 44.3	+1.0
BUHA				IAML		22 08 45.0	
	comp=E,290nm,0.2s						
BUHA				IAML		22 08 46.0	
	comp=N,566nm,0.4s						
AYVA	Ayvalik	1.21	155	*i* P	Pg	22 08 28.0	0.0
AYVA				*i* S	Sn	22 08 43.6	+0.2
AYVA				IAML		22 08 44.0	
	comp=E,156nm,0.3s						
AYVA				IAML		22 08 47.0	
	comp=N,524nm,0.4s						
TKR	Tekirdag	1.27	63	PN	Pg	22 08 29.1	-0.1
KAVA	Kavala	1.30	297	P	Pn	22 08 27.9	-0.5
KAVA	Kavala	1.30	297	P	Pn	22 08 28.1	-0.3
KDZ	Kurdzhali	1.32	339	PN	Pg	22 08 30.3	+0.1
BALY	Balya	1.39	119	*i* P	Pb	22 08 29.9	-0.5
BALY				IAML		22 08 50.0	
	comp=E,138nm,0.2s						
BALY				IAML		22 08 50.0	
	comp=N,217nm,0.6s						
EDC	Edincik	1.39	92	PN	Pg	22 08 30.4	-1.1
DKL	Dikili	1.50	153	PN	Pb	22 08 32.2	0.0
EDRB	Edirne	1.53	20	PN	Pb	22 08 32.2	-0.6
OUR	Ouranopolis	1.57	268	P	Pn	22 08 31.6	-0.7
OUR	Ouranopolis	1.57	268	P	Pn	22 08 31.5	-0.7
ZEDA	zmir-Bergama	1.65	151	*i* P	Pb	22 08 34.0	-0.8
ZEDA				IAML		22 08 58.0	
	comp=N,387nm,0.3s						
ZEDA				IAML		22 08 58.0	
	comp=E,117nm,0.5s						
KCTX	Karacabey (Bur	1.78	94	PN	Pb	22 08 36.0	-1.0
SLVT	Silivri	1.84	63	PN	Pn	22 08 36.5	+0.7
PLD	Plovdiv	1.97	330	PN	Pn	22 08 39.3	+1.7
PLG	Polygyros	1.98	270	P	Pn	22 08 37.4	-0.5
SRS	Serrai	1.99	292	P	Pn	22 08 37.7	-0.2
CHOS	Chios island	2.02	180	PN	Pn	22 08 38.5	+0.1
CTKS	Kestanelik-??a	2.04	65	PN	Pb	22 08 40.4	-1.2
SOH	Sokhos	2.09	282	P	Pn	22 08 39.1	-0.2
URLA	Izmir	2.09	168	PN	Pn	22 08 39.2	-0.2
VAY	Valandovo	2.78	290	*i* Pn	Pg	22 08 56.9	-1.2
VTS	Vitosha	3.05	317	⇑P	Pn	22 08 53.8	+1.2
VTS				⇑S	Sb	22 09 37.2	+1.2
PLVB	Pleven	3.15	341	⇑P	Pn	22 08 56.1	+2.2
PLVB				⇓S	Sb	22 09 38.3	-0.5
RAZG	Razgrad	3.17	6	⇑P	Pn	22 08 54.2	0.0
STIP	Stip	3.18	295	*i* Pn	Pn	22 08 52.9	-1.5
VLAD	Vladila	3.78	342	⇓P	Pn	22 09 03.9	+1.3
VLAD				⇑S	Sb	22 09 55.4	-1.5
VOIR		5.07	352	⇑P	Pn	22 09 21.1	+0.7
VRI	Vrincioaia	5.47	5	⇓P	Pn	22 09 26.5	+0.7
SIRR	Siria	6.67	333	⇓P	Pn	22 09 42.6	+0.4

IDC 08 22:08:09.4±0.9, 64°.03N×166°.27W, h0km, mb3.7/10, mb1 3.9/13, mb1mx3.7/36, mbtmp3.7/13, ML3.5/3, MS3.6/3, Ms1 3.6/3, ms1mx3.0/38, Error ellipse: s-maj=24.2km s-min=11.3km az=11.0
NEIC 08 22:08:10.8±1.6, 63°.99N±0°.08×165°.6W±0°.2, h10km±5km, Error ellipse: s-maj=14.5km s-min=9.6km az=59.0
AEIC 08 22:08:14.7±2.0, 64°.03N±0°.06×165°.3W±0°.2, h25km±6km, ML3.7, Error ellipse: s-maj=14.8km s-min=6.8km az=68.0
ISC 08 22:08:10.5±0.7, 64°.02N±0°.07×165°.59W±0°.06, h10km, n53,

σ1s21/55, mb3.9/10, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RDOG	Red Dog Mine	4.20	14		Pn	22 09 16.4	+1.9
RDOG	Red Dog Mine	4.20	14	Sn	Sn	22 10 03.1	-0.4
TTA	Tatalina	4.43	100		Pn	22 09 19.0	+1.2
TT01	Tatalina	4.44	100		Pn	22 09 19.1	+1.3
IM03		5.39	63		Pn	22 09 32.2	+1.3
IMAR	Indian Mountai	5.39	63		Pn	22 09 31.6	+0.6
SVW2	Sparrevohn	5.48	118		Pn	22 09 33.4	+1.3
SVW2	Sparrevohn	5.48	118	Sn	Sn	22 10 34.0	-1.1
CHUM	Lake Minchumin	5.85	85		Pn	22 09 38.6	+1.4
PPLA	Purkeypile	6.11	95		Pn	22 09 41.5	+0.6
BPAW	Bear Paw Mtn.	6.41	83		Pn	22 09 46.0	+1.1
KTH	Kantishna Hill	6.51	88		Pn	22 09 47.4	+1.0
BGL	Barrier Glacie	6.68	108		Pn	22 09 50.5	+1.8
TRF	Thorofare Moun	6.81	88		Pn	22 09 50.5	-0.1
NCT	North Crescent	6.84	115		Pn	22 09 51.3	+0.4
DFR	Drift River	6.92	114		Pn	22 09 52.0	0.0
RSO	Redoubt South	6.97	115		Pn	22 09 53.0	+0.2
I23K	Minto, Yukon-K	7.07	74		Pn	22 09 54.0	+0.1
COLD	Coldfoot	7.13	56	Pn	Pn	22 09 55.1	+0.4
IVE	Iliamna Volcan	7.14	118		Pn	22 09 55.2	+0.2
NEA2	Nenana	7.20	78		Pn	22 09 57.0	+1.3
MCK	McKinley	7.36	85		Pn	22 09 58.6	+0.7
RND	Reindeer	7.46	87		Pn	22 10 00.5	+1.2
KVTA	Katmai Vly 10	7.52	134		Pn	22 10 00.0	-0.1
WRH	Wood River Hil	7.63	79		Pn	22 10 01.6	0.0
WRH				Sn	Sn	22 11 25.4	-2.7
KBM	Katmai Bkd Mtn	7.64	134		Pn	22 10 01.6	-0.2
KCE	Katmai Mt Cerb	7.67	134		Pn	22 10 02.3	+0.1
CCB	Clear Creek Bu	7.74	77	Pn	Pn	22 10 02.9	-0.3
CAHL	Cahill	7.79	136		Pn	22 10 03.6	-0.2
A21K	Barrow	8.08	21		Pn	22 10 08.7	+1.0
IL31		8.13	76		Pn	22 10 08.8	+0.4
ILAR	Eielson Array	8.13	76	Pn	Pn	22 10 09.1	+0.6
	0.2nm,0.3s,baz=268,slow=13,SNR=9.8						
ILAR				Sn	Sn	22 11 38.2	-2.1
	0.5nm,0.3s,baz=305,slow=29,SNR=4.9						
ILAR				Lg	Lg	22 12 34.3	
	0.0nm,0.3s,baz=277,slow=29,SNR=1.8						
ILAR	Eielson Array	8.13	76		Pn	22 10 08.0	-0.5
ILAR				Sn	Sn	22 11 36.5	-3.8
SML	Sawmill	8.18	98		Pn	22 10 09.2	+0.1
KDAK	Kodiak Island	8.89	129	Pn	Pn	22 10 19.9	+1.0
	4.1nm,0.3s,baz=40,slow=4.2,SNR=38						
KDAK				LR	LR	22 14 07.9	
	comp=Z,115nm,20.6s,baz=10,slow=39						
KDAK	Kodiak Island	8.89	129		Pn	22 10 19.6	+0.7
PAX	Paxson	9.05	88		Pn	22 10 21.1	0.0
BMAR	Burnt Mountain	9.28	59		Pn	22 10 25.6	+1.4
INK	Inuvik	13.54	57	Pn	Pn	22 11 24.1	+1.8
	0.1nm,0.3s,baz=290,slow=16,SNR=2.0						
YKA	Yellowknife Ar	22.50	71	P	P	22 13 11.8	+2.1
	1.3nm,0.8s,baz=294,slow=8.4,SNR=14						
PDAR	Pinedale Array	37.94	97	P	P	22 15 30.8	+2.7
	0.1nm,0.5s,baz=316,slow=7.5,SNR=1.4						
KSAR	Wonju Array Be	46.91	269	P	P	22 16 41.1	+0.3
SONM	Songino Array	47.65	294	P	P	22 16 46.3	-0.3
	0.5nm,0.6s,baz=40,slow=6.9,SNR=4.2						
SONM	Songino Array	47.65	294	P	P	22 16 46.6	0.0
ZALV	Zalesovo Beam	50.44	314	P	P	22 17 06.8	-0.9
	1.4nm,0.7s,baz=33,slow=7.0,SNR=6.5						
ZALV				LR	LR	22 40 35.7	
	comp=Z,97nm,18.2s,baz=321,slow=39						
ZALV	Zalesovo Beam	50.44	314	P	P	22 17 07.3	-0.4
FINES	FINESS Array B	54.54	353	P	P	22 17 38.0	0.0
	1.9nm,0.5s,baz=16,slow=7.3,SNR=15						
MKAR	Makanchi Array	57.43	311	P	P	22 17 57.2	-1.7
	0.3nm,0.7s,baz=42,slow=7.7,SNR=4.4						
AKASG	Malin Array Be	65.03	350	P	P	22 18 49.6	-0.7
	1.5nm,0.4s,baz=11,slow=6.3,SNR=8.1						
GERES	GERESS Array B	67.48	1	P	P	22 19 06.2	+0.1
	0.4nm,0.7s,baz=12,slow=5.0,SNR=2.5						
ESDC	Sonseca Array	75.62	15	P	P	22 19 55.5	+0.2
	0.9nm,0.7s,baz=353,slow=6.3,SNR=10.0						
CMAR	Chiang Mai Arr	75.95	283	P	P	22 19 56.1	-1.3
	0.8nm,0.3s,baz=15,slow=7.5,SNR=4.7						
WSAR	Wadi Sarin	86.45	320	LR	LR	23 06 23.1	
	comp=Z,59nm,18.3s,baz=246,slow=40						

SOME 08 22:13:02.9, 44°.90N×80°.28E, h15km
NNC 08 22:13:03.2±0.7, 44°.91N×80°.26E, h0km, mb2.6, mpv2.4, Error ellipse: s-maj=7.8km s-min=4.4km az=129.0
ISC 08 22:13:01.4±1.4, 44°.93N±0°.03×80°.34E±0°.04, h4km±17km, n12, σ0s72/23, 3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPS	Kapalarasan	0.78	297	eP	Pb	22 13 16.9	-0.7
	0.8nm,0.1s						
KAPS				eS	Sg	22 13 27.0	+0.5
	1.0nm,0.1s						
KAPS	Kapalarasan	0.78	297	P	Pb	22 13 17.0	-0.5
	0.8nm,0.1s						
KAPS				S	Sb	22 13 27.2	-1.3
	1.0nm,0.1s						
MNBS	Baschi	1.63	239	eP	Pg	22 13 32.5	0.0
	0.5nm,0.1s						
MNBS				eS	Sg	22 13 53.9	+0.2
	2.3nm,0.3s						
MNBS	Baschi	1.63	239	P	Pg	22 13 32.5	0.0
	0.5nm,0.1s						
MNBS				S	Sg	22 13 53.9	+0.2
	2.3nm,0.3s						
PDGK	Podgornoye	1.71	201	P	Pb	22 13 33.5	0.0
	0.3nm,0.2s						
PDGK				S	Sb	22 13 55.4	-0.1
	0.3nm,0.2s						
KPKS	Kokpek	1.89	220	eP	Pg	22 13 37.0	-0.5
	1.1nm,0.1s						
KPKS				eS	Sg	22 14 01.4	-0.6
	4.4nm,0.2s						
ARXS	Arharly	1.93	249	eP	Pg	22 13 39.0	+0.5
	0.8nm,0.2s						
ARXS				eS	Sg	22 14 04.7	+1.2
	1.3nm,0.3s						
ARXS	Arharly	1.93	249	Pg	Pg	22 13 38.9	+0.5
	0.8nm,0.2s						
ARXS				Lg	Lg	22 14 04.7	
	1.3nm,0.3s						
UZB	Uzynbulak	2.02	208	eP	Pg	22 13 39.3	-0.8
	3.0nm,0.4s						
UZB				eS	Sg	22 14 05.2	-1.0
	4.0nm,0.3s						
MAKZ	Makanchi	2.20	31	⇓Pn	Pb	22 13 41.9	+0.2
MAKZ				⇓Sn	Sg	22 14 12.3	+0.3
	0.9nm,1.1s						
MK31	Makanchi Array	2.31	36	⇓Pn	Pb	22 13 42.9	-0.6
	0.2nm,0.2s,baz=211,slow=16,SNR=5.3						
MK31				Sn	Sb	22 14 13.2	+0.8
	0.1nm,0.2s,baz=214,slow=28,SNR=7.5						
SATY	Saty	2.33	217	eP	Pb	22 13 44.7	+0.6
	2.1nm,0.5s						
SATY				eS	Sb	22 14 14.4	+1.1
	5.4nm,0.2s						

TUL 08 22:14:48.5±0.5, 36°.27N±0°.01×97°.29W±0°.02, h6km±7km, ML3.3, mb_Lg3.2/118(NEIC), Error ellipse: s-maj=2.5km s-min=1.7km az=78.0
NEIC 08 22:14:48.5±0.4, 36°.28N±0°.01×97°.31W±0°.02, h7km±7km, Error ellipse: s-maj=2.6km s-min=1.7km az=82.0
ANF 08 22:14:49.1±0.9, 36°.29N×97°.28W, h10km±6km, ML3.9/19, Error ellipse: s-maj=4.0km s-min=2.7km az=39.0
ISC 08 22:14:48.1±1.1, 36°.29N±0°.02×97°.32W±0°.02, h5km±10km, n117, σ0s53/98, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.51	193		Pg	22 14 58.0	+0.2
OK029				Sg	Sg	22 15 05.0	+0.6
QUOK	Quay	0.51	103		Pg	22 14 57.7	-0.2
QUOK				Sg	Sg	22 15 04.9	+0.5
OK031	S. Brethren Rd	0.51	131		Pg	22 14 57.8	-0.2
OK031				Sg	Sg	22 15 04.8	+0.2
CROK	Carrier	0.58	292	Pg	Pb	22 15 00.0	-0.8
CROK				Sg	Sb	22 15 08.6	-0.8
BCOK	Bluff Creek, N	0.68	201		Pg	22 15 01.1	0.0
BCOK				Sg	Sg	22 15 10.5	+0.6
OK025	Westminster Rd	0.71	181		Pg	22 15 01.8	+0.1
OK025				Sg	Sg	22 15 11.4	+0.5
GC02	Grant County #	0.71	322		Pb	22 15 02.4	-0.7
GC02				Sg	Sb	22 15 12.7	-0.5
KAN13	South Haven SW	0.73	350		Pb	22 15 03.0	-0.4
KAN13				Sg	Sb	22 15 13.6	-0.2
KAN14	Manchester OK	0.84	322		Pb	22 15 05.1	-0.2
KAN14				Sg	Sb	22 15 16.4	-0.6
KAN09	Caldwell North	0.88	344		Pb	22 15 05.6	-0.3
KAN09				Sg	Sb	22 15 17.9	-0.1
OKCFA	Oklahoma City	0.88	187		Pg	22 15 04.9	-0.1
OKCFA				Sg	Sg	22 15 16.7	+0.3
OK032	Salt Plains WL	0.88	306		Pb	22 15 05.5	-0.4
OK032				Sg	Sb	22 15 17.7	-0.4
OKCSW	OKLAHOMA CITY	0.89	186		Pg	22 15 05.0	-0.2
OKCSW				Sg	Sg	22 15 16.8	+0.1
T35A	Sooner Cattle	0.90	46		Pg	22 15 05.7	+0.3
T35A				Sg	Sg	22 15 17.5	+0.4
T35B	Sooner Cattle	0.90	46	P	Pg	22 15 05.7	+0.2
	baz=224,SNR=229						
T35B				S	Sg	22 15 17.8	+0.7
	baz=224						
T35B	Sooner Cattle	0.90	46	P		22 15 05.7	
	baz=224,SNR=229						
T35B				S		22 15 17.8	
	baz=224						
KAN05	Bluff City Nor	0.93	332		Pb	22 15 06.5	-0.3
KAN05				Sg	Sb	22 15 18.8	-0.7
KAN01	Argonia South	0.93	338		Pb	22 15 06.7	-0.2
KAN01				Sg	Sb	22 15 19.1	-0.4
KS20	Mayfield South	0.96	349		Pb	22 15 07.1	-0.2
KS20				Sg	Sb	22 15 19.9	-0.4
FNO	Franklin	1.03	184		Pg	22 15 07.2	-0.8
FNO				Sg	Sg	22 15 21.9	+0.6
KAN10	Anthony SW Sta	1.04	323		Pb	22 15 08.7	+0.1
KAN08	Anthony NE Sta	1.07	331		Pb	22 15 09.3	0.0
TUL1	Leonard	1.29	107		Pn	22 15 11.7	-1.1
TUL1	Leonard	1.29	107	P	Pn	22 15 11.7	-1.1
	baz=287						
TUL1				S	Sg	22 15 28.9	-0.8
	baz=287						
TUL1	Leonard	1.29	107	P		22 15 11.6	
	baz=287						
TUL1				S		22 15 29.0	
	baz=287						
TUL1	Leonard	1.29	107	P		22 15 11.7	
	baz=287						
TUL1				S		22 15 28.9	
	baz=287						
U32A	Winter Ranch,	1.36	274	Pn	Pn	22 15 13.8	0.0
U32A	Winter Ranch,	1.36	274	P	Pn	22 15 13.9	0.0
	baz=94,SNR=30						
U32A				S	Sn	22 15 33.0	+0.6
	baz=94						
U32A	Winter Ranch,	1.36	274	P		22 15 13.9	
	baz=94,SNR=30						
U32A				S		22 15 33.0	
	baz=94						
WMOK	Wichita Mounta	1.96	218		Pn	22 15 22.1	+0.1
WMOK				IAmb_Lg		22 15 53.1	
	comp=Z,134nm,0.9s						
WMOK	Wichita Mounta	1.96	218	P	Pn	22 15 22.9	+0.9
	baz=38,SNR=120						
WMOK				S	Sb	22 15 49.3	+0.3
	baz=38						
WMOK	Wichita Mounta	1.96	218	P		22 15 22.8	
	baz=38						
WMOK				S		22 15 49.3	
	baz=38						
WMOK	Wichita Mounta	1.96	218	P		22 15 22.9	
	baz=38,SNR=120						
WMOK				S		22 15 49.3	
	baz=38						
X37A	Clayton	2.32	136	Pn	Pn	22 15 26.9	-0.1
X37A				IAmb_Lg		22 16 01.5	
	comp=Z,64nm,0.7s						
X37A	Clayton	2.32	136	P	Pn	22 15 27.7	+0.7
	baz=318,SNR=52						
X37A				Sb	Sb	22 16 00.3	+0.8
	baz=318						
X37A	Clayton	2.32	136	P		22 15 27.7	
	baz=318,SNR=52						
X37A				Sb		22 16 00.3	
	baz=318						
U38A	Gravette	2.37	86	Pn	Pn	22 15 27.7	0.0
U38A	Gravette	2.37	86	P	Pn	22 15 28.6	+0.9
	baz=267,SNR=142						
U38A	Gravette	2.37	86	P		22 15 28.6	
	baz=267,SNR=142						
R32A	Long Quarter,	2.40	333		Pn	22 15 28.7	+0.6
R32A				IAmb_Lg		22 16 07.2	
	comp=Z,74nm,0.8s						
R32A	Long Quarter,	2.40	333	P	Pn	22 15 29.5	+1.3
	baz=152,SNR=45						
R32A				Sb	Sg	22 16 03.9	-1.4
	baz=152						
R32A	Long Quarter,	2.40	333	P		22 15 29.5	
	baz=152,SNR=45						
R32A				Sb		22 16 03.9	
	baz=152						
HHAR	Hobbs	2.73	89		Pn	22 15 32.5	-0.1
HHAR	Hobbs	2.73	89	P	Pn	22 15 33.9	+1.3
	baz=271						
HHAR	Hobbs	2.73	89	P		22 15 33.9	
	baz=271						
KSU1	Kansas State U	2.86	11	Pn	Pn	22 15 34.9	+0.4
KSU1	Kansas State U	2.86	11	Sb		22 16 18.0	
	baz=191						
Z35A	Perchaven, San	2.95	179	Pn	Pn	22 15 35.6	-0.1
W39A	Magazine	3.07	110	Pn	Pn	22 15 37.2	-0.1
CBKS	Cedar Bluff	3.17	323	Pn	Pn	22 15 39.3	+0.6
CBKS	Cedar Bluff	3.17	323	P	Pn	22 15 39.3	+0.6
	baz=142						
CBKS	Cedar Bluff	3.17	323	P		22 15 39.8	
	baz=142						
CBKS	Cedar Bluff	3.17	323	P		22 15 39.3	
	baz=142						
S39A	Bolivar	3.49	65	Pn	Pn	22 15 43.1	0.0
S39A	Bolivar	3.49	65	P	Pn	22 15 43.8	+0.7
	baz=247,SNR=29						
S39A	Bolivar	3.49	65	P		22 15 43.8	
	baz=247,SNR=29						
MIAR	Mount Ida	3.52	119	Pn	Pn	22 15 43.2	-0.2
MIAR				IAmb_Lg		22 16 45.3	
	comp=Z,56nm,0.8s						
MIAR	Mount Ida	3.52	119	P	Pn	22 15 44.4	+1.0
	baz=301,SNR=28						
MIAR	Mount Ida	3.52	119	P		22 15 44.6	
	baz=301						
MIAR				S		22 16 26.5	
	baz=301						
MIAR	Mount Ida	3.52	119	P		22 15 44.4	
	baz=301,SNR=28						
Z38A	Mt. Pleasant	3.58	147	Pn	Pn	22 15 44.1	-0.2
Z38A				IAmb_Lg		22 16 48.3	
	comp=Z,64nm,0.8s						
U40A	Yellville	3.60	88	Pn	Pn	22 15 44.5	-0.1
U40A	Yellville	3.60	88	P	Pn	22 15 45.5	+0.8
	baz=270,SNR=20						
U40A	Yellville	3.60	88	P		22 15 45.9	
	baz=270						
U40A	Yellville	3.60	88	P		22 15 45.5	
	baz=270,SNR=20						
U40A				P		22 15 45.5	
	baz=270,SNR=20						
AMTX	Amarillo	3.82	250	Pn	Pn	22 15 48.1	+0.3
AMTX				IAmb_Lg		22 16 53.8	
	comp=Z,47nm,0.8s						
X40A	Basin Creek Fa	4.08	115		Pn	22 15 51.0	-0.2
X40A	Basin Creek Fa	4.08	115	P	Pn	22 15 52.2	+1.0
	baz=297,SNR=9.7						
X40A	Basin Creek Fa	4.08	115	P		22 15 52.4	
	baz=297						
X40A	Basin Creek Fa	4.08	115	P		22 15 52.2	
	baz=297,SNR=9.7						
X40A				P		22 15 52.2	
	baz=297,SNR=9.7						
ABTX	Abilene, Hawle	4.13	208		Pn	22 15 51.8	-0.1
ABTX				IAmb_Lg		22 17 00.9	
	comp=Z,46nm,1.0s						
ABTX	Abilene, Hawle	4.13	208	Pb		22 16 01.4	
	baz=27						
MGMO	Mountain Grove	4.15	76		Pn	22 15 51.9	-0.2
MGMO				IAmb_Lg		22 17 09.0	
	comp=Z,48nm,0.7s						
WHAR	Wooly Hollow	4.21	102		Pn	22 15 52.8	-0.2
FCAR	Ozark Folk Cen	4.22	94	Pn	Pn	22 15 53.0	-0.1
FCAR				IAmb_Lg		22 17 01.4	
	comp=Z,73nm,0.8s						
W41B	Gary Mavity, V	4.27	104	S	Sn	22 16 43.7	-0.3
	baz=286						
W41B	Gary Mavity, V	4.27	104	S		22 16 43.7	
	baz=286						
W41B	Gary Mavity, V	4.27	104	S		22 16 43.7	
	baz=286						
WHTX	Lake Whitney,	4.29	182	Pn	Pn	22 15 54.1	+0.1
WHTX	Lake Whitney,	4.29	182	S	Sn	22 16 45.0	+0.5
	baz=1.8						
WHTX	Lake Whitney,	4.29	182	Sb		22 16 59.6	
	baz=1.8						
WHTX	Lake Whitney,	4.29	182	S		22 16 45.0	
	baz=1.8						
WLAR	White Oak Lake	4.32	126	Pn	Pn	22 15 54.3	-0.1
WLAR				IAmb_Lg		22 17 09.7	
	comp=Z,54nm,0.9s						
N33B	J Bar K, Exete	4.44	359	S	Sn	22 16 48.8	+0.5
	baz=178						
N33B	J Bar K, Exete	4.44	359	S		22 16 48.8	
	baz=178						
N33A	J Bar K, Exete	4.44	359	IAmb_Lg		22 17 18.5	
	comp=Z,33nm,0.8s						
237A	Washetta, Mont	4.46	163	Pn	Pn	22 15 56.2	-0.1
237A	Washetta, Mont	4.46	163	P	Pn	22 15 56.3	-0.1
	baz=344						
237A				S	Sn	22 16 48.7	+0.1
	baz=344						
237A	Washetta, Mont	4.46	163	P		22 15 56.3	
	baz=344						
237A				S		22 16 48.7	
	baz=344						
P38A	Dawn	4.47	41	Pn	Pn	22 15 56.7	+0.1
P38A				IAmb_Lg		22 17 08.8	
	comp=Z,36nm,0.8s						
R40A	Maddies Statio	4.49	62	P	Pn	22 15 57.5	+0.7
	baz=245,SNR=14						
R40A	Maddies Statio	4.49	62	P		22 15 57.5	
	baz=245,SNR=14						
Z41A	Richland Creek	4.79	128	S		22 16 55.8	
	baz=310						
LCAR	Lake Charles	4.99	91	Pn	Pn	22 16 03.7	0.0
LCAR				IAmb_Lg		22 17 25.9	
	comp=Z,60nm,0.8s						
KSCO	Kaye Shedlock'	5.01	304	Pn	Pn	22 16 04.5	+0.4
KSCO				IAmb_Lg		22 17 40.9	
	comp=Z,26nm,0.8s						
MSTX	Muleshoe	5.03	244	Pn	Pn	22 16 04.8	+0.4
T42A	Van Buren	5.06	80	Pn	Pn	22 16 05.0	+0.4
T42A				IAmb_Lg		22 17 27.1	
	comp=Z,40nm,0.7s						
T42A	Van Buren	5.06	80	P	Pn	22 16 05.0	+0.4
	baz=263,SNR=8.3						
T42A	Van Buren	5.06	80	P		22 16 05.0	
	baz=263,SNR=8.3						
CCAR	Cane Creek	5.12	116	Pn	Pn	22 16 04.8	-0.7
BGNE	Belgrade	5.15	353	Pn	Pn	22 16 06.4	+0.4
BGNE				IAmb_Lg		22 17 31.2	
	comp=Z,56nm,0.7s						
BGNE	Belgrade	5.15	353	P	Pn	22 16 06.3	+0.4
	baz=172,SNR=10						
BGNE	Belgrade	5.15	353	P		22 16 06.4	
	baz=172						
BGNE	Belgrade	5.15	353	P		22 16 06.3	
	baz=172,SNR=10						
CCM	Cathedral Cave	5.16	68	Pn	Pn	22 16 06.0	-0.1
CCM				IAmb_Lg		22 17 38.9	
	comp=Z,27nm,0.8s						
P40A	Paris	5.27	51	IAmb_Lg		22 17 36.7	
	comp=Z,38nm,0.7s						
435B	Jarrell	5.50	182	IAmb_Lg		22 17 45.9	
	comp=Z,30nm,0.8s						
FVM	French Village	5.76	71	IAmb_Lg		22 17 51.3	
	comp=Z,37nm,0.8s						
T25A	Trinidad	5.76	281	IAmb_Lg		22 18 01.1	
	comp=Z,42nm,0.7s						
OGNE	Ogallala	5.94	323	IAmb_Lg		22 18 11.8	
	comp=Z,30nm,0.9s						
143A	Socs Landing,	6.05	125	IAmb_Lg		22 18 09.8	
	comp=Z,26nm,0.7s						
SLM	Saint Louis	6.10	65	IAmb_Lg		22 18 02.3	
	comp=Z,33nm,0.8s						
K31A	O'Neill	6.42	350	IAmb_Lg		22 18 14.2	
	comp=Z,29nm,0.7s						
SCIA	State Center	6.45	28	IAmb_Lg		22 18 14.6	
	comp=Z,47nm,0.7s						
SIUC	Southern Illin	6.64	75	IAmb_Lg		22 18 34.7	
	comp=Z,41nm,0.8s						
SDCO	Great Sand Dun	6.71	285	IAmb_Lg		22 18 23.1	
	comp=Z,31nm,1.1s						
Y45A	Yeager Farm, C	6.82	109	IAmb_Lg		22 18 36.2	
	comp=Z,39nm,0.9s						
P43A	Skaggs, Pawnee	7.01	59	IAmb_Lg		22 18 45.3	
	comp=Z,37nm,0.8s						
Q44A	Meyer Farm, Va	7.09	66	IAmb_Lg		22 18 51.4	
	comp=Z,33nm,0.9s						
K38A	Parkersburg	7.26	28	IAmb_Lg		22 18 54.1	
	comp=Z,39nm,0.7s						
ECSD	EROS Data Cent	7.46	4	Pn	Pn	22 16 37.3	-0.2
PLAL	Pickwick Lake	7.64	97	IAmb_Lg		22 18 53.6	
	comp=Z,24nm,0.8s						
WVT	Waverly	7.67	88	IAmb_Lg		22 18 55.3	
	comp=Z,16nm,0.8s						
146A	Union	7.73	116	IAmb_Lg		22 19 12.8	
	comp=Z,17nm,0.9s						
USIN	University of	7.89	75	IAmb_Lg		22 18 57.8	
	comp=Z,33nm,1.0s						
O44A	Mansfield	7.96	58	IAmb_Lg		22 19 06.7	
	comp=Z,32nm,0.8s						
L42A	Oliver, Polo	8.24	44	IAmb_Lg		22 19 15.6	
	comp=Z,29nm,0.8s						
SUSD	Miller	8.24	352	IAmb_Lg		22 19 24.9	
	comp=Z,21nm,0.8s						
T47A	Sharon Grove	8.24	82	IAmb_Lg		22 19 13.6	
	comp=Z,31nm,0.9s						
I37A	Lemond, Waseca	8.28	20	IAmb_Lg		22 19 18.3	
	comp=Z,26nm,0.8s						
JFWS	Jewell Farm	8.57	37	IAmb_Lg		22 19 22.0	
	comp=Z,22nm,0.7s						
X48A	Hartselle	8.59	99	IAmb_Lg		22 19 23.0	
	comp=Z,17nm,0.8s						
P46A	Rosedale	8.65	64	IAmb_Lg		22 19 19.9	
	comp=Z,18nm,0.8s						
M44A	Midewin, Midew	8.84	52	IAmb_Lg		22 19 28.8	
	comp=Z,19nm,0.8s						
CLTN	Cedars of Leba	8.88	88	IAmb_Lg		22 19 39.8	
	comp=Z,12nm,0.8s						
WCI	Wyandotte Cave	9.00	74	IAmb_Lg		22 19 33.8	
	comp=Z,29nm,0.8s						
SFIN	Lafayette	9.01	60	IAmb_Lg		22 19 36.2	
	comp=Z,18nm,0.9s						
I40A	Norwalk	9.16	32	IAmb_Lg		22 19 53.2	
	comp=Z,13nm,0.8s						
HQIL	Hanson Quary C	9.19	50	IAmb_Lg		22 19 51.4	
	comp=Z,19nm,0.8s						
Y49A	Blount Mountai	9.26	102	IAmb_Lg		22 19 50.1	
	comp=Z,14nm,0.8s						
SWET	Sewanee	9.32	93	IAmb_Lg		22 19 39.5	
	comp=Z,24nm,0.9s						
L44A	Lake County Fo	9.37	48	IAmb_Lg		22 19 52.2	
	comp=Z,28nm,0.9s						
K43A	Burlington	9.44	45	IAmb_Lg		22 20 03.6	
	comp=Z,19nm,0.8s						
SPMN	Marine on St.	9.56	20	IAmb_Lg		22 19 56.3	
	comp=Z,16nm,0.9s						
F33A	5 Mile Ranch,	9.57	4	IAmb_Lg		22 19 51.9	
	comp=Z,14nm,0.9s						
FPAL	Fort Paine	9.71	97	IAmb_Lg		22 20 00.8	
	comp=Z,12nm,0.7s						
P48A	Milroy	9.92	68	IAmb_Lg		22 20 31.9	
	comp=Z,14nm,0.7s						
I42A	Draeger Farm,	9.95	38	IAmb_Lg		22 20 02.6	
	comp=Z,14nm,0.7s						
F36A	Milaca	9.98	15	IAmb_Lg		22 20 06.2	
	comp=Z,16nm,1.1s						

IDC 08 22:18:06.2±2.3, 6°.91S×130°.70E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.3/19, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=136.4km s-min=32.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.43	165	Pn	Pn	22 21 18.4	+0.2
	0.1nm,0.3s,baz=348,slow=13,SNR=9.0						
WRA				Sn	Sn	22 23 40.1	-8.3
	0.4nm,0.3s,baz=219,slow=11,SNR=2.5						
ASAR	Alice Springs	16.94	170	Pn	Pn	22 22 04.6	-0.3

	0.1nm,0.3s,baz=349,slow=13,SNR=2.5						
ASAR				Sn	Sn	22 25 03.5	-10
	0.0nm,0.3s,baz=350,slow=26,SNR=2.8						
MKAR	**Makanchi Array**	**68.53**	**326**	P	P	22 29 10.7	0.0
	0.2nm,0.5s,baz=109,slow=6.2,SNR=8.4						

*IDC **08** 22:48:06.1±1.1, 4°.15S×129°.47E, h0km, mb3.8/7, mb1 3.7/11, mb1mx3.6/44, mbtmp3.7/11, ML3.3/4, Error ellipse: s-maj=48.2km s-min=21.5km az=83.0*

ISC 08 22:48:10.7±0.8**, 4°.21S**±0°.09×**129°.8E**±0°.2**, h35km, n11, σ0s.64**/12**, mb3.8**/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.64**	**24**	Pn	**Pn**	**22 49 05.3**	**+0.7**
	4.7nm,0.3s,baz=50,slow=22,SNR=29						
SIJI				Sn	**Sn**	**22 49 45.7**	**-0.6**
	8.1nm,0.3s,baz=242,slow=23,SNR=10						
FITZ	**Fitzroy Crossi**	**14.38**	**196**	Pn	**Pn**	**22 51 32.1**	**+0.2**
	0.0nm,0.3s,baz=358,slow=7.1,SNR=1.0						
WRA	**Warramunga Arr**	**16.27**	**164**	Pn	**Pn**	**22 51 56.3**	**-0.3**
	0.1nm,0.3s,baz=347,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**19.76**	**169**	P	**Pn**	**22 52 39.4**	**0.0**
	0.2nm,0.3s,baz=346,slow=9.9,SNR=9.9						
USRK	**Ussuriysk Ar.**	**48.23**	**2**	P	**P**	**22 56 48.1**	**+0.2**
	0.6nm,0.5s,baz=183,slow=7.9,SNR=4.2						
SONM	**Songino Array**	**55.74**	**341**	P	**P**	**22 57 44.3**	**+0.3**
	0.1nm,0.3s,baz=124,slow=7.2,SNR=1.6						
MKAR	**Makanchi Array**	**65.78**	**326**	P	**P**	**22 58 51.9**	**-0.4**
	1.0nm,0.5s,baz=115,slow=8.2,SNR=21						
ZALV	**Zalesovo Beam**	**68.99**	**333**	P	**P**	**22 59 12.2**	**-0.2**
	0.3nm,0.4s,baz=108,slow=3.2,SNR=1.9						
KURBB	**Kurchatov Arra**	**70.02**	**328**	P	**P**	**22 59 18.6**	**-0.2**
	1.8nm,0.7s,baz=131,slow=5.7,SNR=20						
BVAR	**Borovoye Array**	**75.59**	**328**	P	**P**	**22 59 50.3**	**-1.5**
	0.6nm,0.8s,baz=116,slow=6.8,SNR=3.6						
AKTO	**Aktyubinsk**	**81.73**	**322**	P	**P**	**23 00 25.8**	**+0.1**
	0.6nm,0.5s,baz=98,slow=7.1,SNR=2.1						

*IDC **08** 22:50:10.2±0.9, 19°.06N×145°.32E, h0km, mb3.7/13, mb1 3.9/13, mb1mx3.7/48, mbtmp3.7/13, Error ellipse: s-maj=30.9km s-min=17.7km az=96.0*
*NEIC **08** 22:50:15.1±1.1, 19°.1N±0°.1×145°.31E±0°.10, h35km±2km, mb4.5/11, Error ellipse: s-maj=20.1km s-min=15.0km az=193.0*

ISC 08 22:50:15.0±0.6**, 19°.00N**±0°.10×**145°.3E**±0°.1**, h35km, n36, σ0s.79**/30**, mb4.1**/20**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**20.23**	**88**	T	T	23 15 55.2	
	baz=275,slow=75,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**20.24**	**88**	T	T	23 15 55.6	
	baz=275,slow=75,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**20.25**	**88**	T	T	23 15 56.8	
	baz=275,slow=75,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**20.36**	**84**	T	T	23 16 25.2	
	baz=263						
H11N2	**WAKE ISLAND Hy**	**20.36**	**84**	T	T	23 16 21.9	
	baz=263						
H11N3	**WAKE ISLAND Hy**	**20.37**	**84**	T	T	23 16 24.1	
	baz=263						
COEN	**Coen**	**32.82**	**184**	P	**P**	**22 56 45.9**	**+0.6**
COEN				IAmb	IAmb	22 56 52.3	
	comp=Z,4.5nm,1.1s						
WB0	**Warramunga Arr**	**39.99**	**196**	P	**P**	**22 57 47.5**	**+0.9**
WB0				IAmb	IAmb	22 57 49.5	
	comp=Z,3.8nm,0.6s						
WR0	**Warramunga Arr**	**40.14**	**196**	P	**P**	**22 57 48.4**	**+0.7**
WB2	**Warramunga Arr**	**40.17**	**196**	P	**P**	**22 57 49.0**	**+1.0**
WB2				IAmb	IAmb	22 57 50.5	
	comp=Z,6.3nm,0.8s						
WRA	**Warramunga Arr**	**40.17**	**196**	P	**P**	**22 57 49.0**	**+1.0**
	comp=Z,1.8nm,0.4s,baz=13,slow=8.5,SNR=31						
SANVU	**Saraoutou**	**40.44**	**146**	P	**P**	**22 57 48.7**	**-1.5**
FITZ	**Fitzroy Crossi**	**41.63**	**209**	P	**P**	**22 58 00.2**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=354,slow=9.6,SNR=7.6						
FITZ	**Fitzroy Crossi**	**41.63**	**209**	P	**P**	**22 58 00.1**	**+0.1**
SONM	**Songino Array**	**42.69**	**321**	P	**P**	**22 58 08.6**	**0.0**
	comp=Z,0.1nm,0.5s,baz=125,slow=7.4,SNR=2.3						
SONM	**Songino Array**	**42.69**	**321**	P	**P**	**22 58 08.2**	**-0.4**
SMRI	**Semarang**	**43.04**	**236**	P	**P**	**22 58 10.1**	**-1.5**
SMRI				IAmb	IAmb	22 58 26.1	
	comp=Z,36nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.84**	**277**	P	**P**	**22 58 18.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=92,slow=9.1,SNR=2.1						
CMAR	**Chiang Mai Arr**	**43.84**	**277**	P	**P**	**22 58 17.6**	**-0.4**
ASAR	**Alice Springs**	**43.85**	**195**	P	**P**	**22 58 18.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=14,slow=7.3,SNR=8.7						
ASAR	**Alice Springs**	**43.85**	**195**	P	**P**	**22 58 17.9**	**-0.1**
FORT	**Forrest**	**52.21**	**199**	P	**P**	**22 59 23.2**	**+0.8**
FORT				IAmb	IAmb	22 59 35.6	
	comp=Z,9.6nm,0.9s						
BBOO	**Buckleboo**	**52.28**	**190**	P	**P**	**22 59 24.0**	**+1.1**
BBOO				IAmb	IAmb	22 59 39.4	
	comp=Z,6.3nm,1.1s						
OPA	**Opana**	**52.95**	**77**	P	**P**	**22 59 27.3**	**-1.0**
MKAR	**Makanchi Array**	**58.00**	**314**	P	**P**	**23 00 05.9**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=88,slow=8.3,SNR=2.1						
MKAR	**Makanchi Array**	**58.00**	**314**	P	**P**	**23 00 04.1**	**-0.2**
KURK	**Kurchatov**	**60.81**	**318**	P	**P**	**23 00 23.5**	**0.0**
KURBB	**Kurchatov Arra**	**60.86**	**318**	P	**P**	**23 00 23.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=92,slow=7.6,SNR=8.4						
MDM	**Murphy Dome**	**63.01**	**26**	P	**P**	**23 00 38.0**	**-0.1**
MDM				IAmb	IAmb	23 00 46.0	
	comp=Z,2.9nm,1.2s						
ILAR	**Eielson Array**	**63.53**	**26**	P	**P**	**23 00 41.6**	**0.0**
	comp=Z,0.2nm,0.8s,baz=247,slow=4.7,SNR=1.8						
ILAR	**Eielson Array**	**63.53**	**26**	P	**P**	**23 00 41.4**	**-0.1**
BVAR	**Borovoye Array**	**66.02**	**320**	P	**P**	**23 00 58.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=143,slow=15,SNR=3.8						
YKA	**Yellowknife Ar**	**77.89**	**28**	P	**P**	**23 02 09.6**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=291,slow=5.0,SNR=2.3						
NVAR	**Mina Array Bea**	**83.23**	**52**	P	**P**	**23 02 39.4**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=274,slow=5.3,SNR=2.7						
FINES	**FINESS Array B**	**86.47**	**335**	P	**P**	**23 02 54.0**	**+0.1**
	comp=Z,4.7nm,1.1s,baz=99,slow=7.2,SNR=2.1						
NOA	**NORSAR Array B**	**92.17**	**340**	P	**P**	**23 03 20.4**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=61,slow=16,SNR=2.2						

*NNC **08** 22:51:10.9±4.5, 42°.11N×82°.92E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=33.5km s-min=17.1km az=146.0*
*SOME **08** 22:51:11.7, 42°.43N×83°.00E, h10km*

ISC 08 22:51:11.3±2.9**, 42°.2N**±0°.1×**83°.0E**±0°.1**, h10km, n10, σ2s.23**/16**, 3C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.31**	**304**	*e*P	**Pb**	**22 51 54.0**	**+0.9**
	1.3nm,0.1s						
KTMS				*e*S	**Sb**	**22 52 24.5**	**+2.7**
	13nm,0.4s						
SHLS	**Shalkode**	**2.77**	**291**	*e*P	**Pn**	**22 51 57.4**	**+1.5**
	29nm,0.5s						
SHLS				*e*S	**Sn**	**22 52 30.5**	**+1.0**
	23nm,0.7s						
PDGK	**Podgornoye**	**2.82**	**295**	⇑Pg	**Pb**	**22 52 01.7**	**0.0**
	0.8nm,0.3s						
PDGK				⇑Lg	Lg	22 52 41.0	
	5.4nm,0.6s						
UZB	**Uzynbulak**	**3.08**	**289**	*e*P	**Pb**	**22 52 06.7**	**+0.4**
	1.0nm,0.2s						
UZB				*e*S	**Sb**	**22 52 46.0**	**+2.1**
	6.5nm,0.6s						
KPKS	**Kokpek**	**3.41**	**293**	*e*P	**Pg**	**22 52 14.1**	**-2.6**
	3.4nm,0.5s						
KPKS				*e*S	**Sg**	**22 52 59.3**	**-1.6**
	6.6nm,0.4s						
SATY	**Saty**	**3.49**	**286**	*e*P	**Pg**	**22 52 16.1**	**-2.2**
	1.4nm,0.3s						
SATY				*e*S	**Sg**	**22 53 02.1**	**-1.3**
	3.2nm,0.4s						
MNBS	**Baschi**	**3.85**	**301**	*e*P	**Pb**	**22 52 20.1**	**+0.7**
	0.6nm,0.3s						
MNBS				*e*S	**Sb**	**22 53 09.7**	**+3.5**
	3.5nm,0.6s						
ARXS	**Arharly**	**4.28**	**300**	*e*P	**Pg**	**22 52 30.2**	**-3.1**
	2.7nm,0.5s						
ARXS				*e*S	**Sg**	**22 53 26.3**	**-2.4**
	3.1nm,0.8s						
MK31	**Makanchi Array**	**4.62**	**354**	Pg	**Pg**	**22 52 37.8**	**-2.0**
	0.3nm,0.5s,baz=169,slow=16,SNR=6.7						
MK31				⇑Lg	Lg	22 53 39.5	
	0.9nm,0.5s,baz=172,slow=27,SNR=4.9						
MAKZ	**Makanchi**	**4.67**	**351**	⇓Lg	Lg	22 53 40.7	
	1.9nm,1.1s						

IDC 08 23:09:35.5±2.1**, 1°.97N**×**126°.62E, h0km, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/38**, mbtmp3.4**/3**, Error ellipse: s-maj=181.5km s-min=24.5km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.06**	**161**	P	P	23 14 42.4	-0.3
	0.5nm,0.5s,baz=340,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**26.45**	**165**	P	P	23 15 15.0	+0.6
	0.2nm,0.3s,baz=342,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**58.93**	**326**	P	P	23 19 36.4	-0.2
	0.2nm,0.4s,baz=119,slow=8.1,SNR=11						

*IDC **08** 23:41:30.9±1.8, 25°.91S×137°.36E, h0km, mb3.2/1, mb1 3.3/5, mb1mx3.3/23, mbtmp3.2/5, ML3.1/4, Error ellipse: s-maj=34.5km s-min=15.6km az=51.0*
*NOU **08** 23:41:32.9, 25°.83S×137°.43E, h0km, MLv4.1, Northern Territory, Australia*
*AUST **08** 23:41:34.3±0.6, 25°.89S×137°.52E, h130km±22km, Error ellipse: s-maj=6.5km s-min=5.2km az=69.0*

ISC 08 23:41:31.1±0.8**, 25°.89S**±0°.05×**137°.53E**±0°.05**, h8km, n16, σ2s.24**/30**, Northern Territory**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OOD	**Oodnadatta**	**2.51**	**221**	P	**Pn**	**23 42 14.0**	**+1.9**
	baz=2.5						
OOD				S	**Sn**	**23 42 44.6**	**+1.7**
	baz=2.5						
INKA	**Innaminka**	**3.42**	**123**	P	**Pn**	**23 42 27.7**	**+3.1**
	baz=3.5						
INKA				S	**Sn**	**23 43 09.1**	**+3.7**
	baz=3.5						
ASAR	**Alice Springs**	**3.97**	**303**	Pn	**Pn**	**23 42 33.6**	**+1.3**
	0.5nm,0.3s,baz=132,slow=14,SNR=9.6						
ASAR				Pg	**Pb**	**23 42 43.1**	**+1.8**
	1.4nm,0.3s,baz=126,slow=15,SNR=17						
ASAR				Sn	**Sn**	**23 43 19.1**	**0.0**
	1.6nm,0.3s,baz=124,slow=17,SNR=8.5						
ASAR				Lg	Lg	23 43 33.0	
	2.6nm,0.3s,baz=127,slow=26,SNR=9.7						
LCRK	**Leigh Creek**	**4.58**	**173**	P	**Pn**	**23 42 42.8**	**+2.2**
	baz=4.6						
LCRK				S	**Sn**	**23 43 36.2**	**+2.2**
	baz=4.6						
MULG	**Mulgathing**	**5.34**	**214**	P	**Pn**	**23 42 52.1**	**+1.0**
	baz=5.3						
MULG				S	**Sn**	**23 43 52.0**	**-0.8**
	baz=5.3						
QIS	**Mount Isa**	**5.64**	**20**	P	**Pn**	**23 42 56.7**	**+1.3**
	baz=5.7						
QIS				S	**Sn**	**23 44 00.1**	**-0.2**
	baz=5.7						
QLP	**Quilpie**	**6.06**	**98**	P	**Pn**	**23 43 03.2**	**+2.1**
	baz=6.1						
QLP				S	**Sn**	**23 44 09.4**	**-1.3**
	baz=6.1						
WRA	**Warramunga Arr**	**6.61**	**333**	Pn	**Pn**	**23 43 08.1**	**-0.5**
	0.2nm,0.3s,baz=151,slow=12,SNR=14						
WRA				Sn	**Sn**	**23 44 21.9**	**-2.3**
	0.5nm,0.3s,baz=168,slow=18,SNR=1.5						
WRA				Lg	Lg	23 44 57.1	
	1.2nm,0.3s,baz=160,slow=28,SNR=9.7						
STKA	**Stephens Creek**	**6.95**	**150**	Pn	**Pn**	**23 43 14.5**	**+1.3**
	0.4nm,0.3s,baz=321,slow=14,SNR=5.5						
STKA				Sn	**Sn**	**23 44 27.9**	**-4.5**
	1.6nm,0.3s,baz=208,slow=4.1,SNR=7.3						
STKA				Lg	Lg	23 45 14.2	
	0.5nm,0.3s,baz=48,slow=18,SNR=1.5						
STKA	**Stephens Creek**	**6.95**	**150**	P	**Pn**	**23 43 14.7**	**+1.6**
	baz=7.0						
STKA				S	**Sn**	**23 44 29.3**	**-3.1**
	baz=7.0						
BBOO	**Buckleboo**	**7.01**	**190**	P	**Pn**	**23 43 15.0**	**+1.0**
	baz=7.0						
BBOO				S	**Sn**	**23 44 31.0**	**-3.0**
	baz=7.0						
HTT	**Hallett**	**7.61**	**171**	P	**Pn**	**23 43 24.7**	**+2.3**
	baz=7.7						
HTT				S	**Sn**	**23 44 46.7**	**-2.1**
	baz=7.7						
CMSA	**Cobar Meteorol**	**9.11**	**130**	P	**Pn**	**23 43 43.5**	**+0.6**
	baz=9.2						
CMSA				S	**Sn**	**23 45 21.2**	**-4.4**
	baz=9.2						
FORT	**Forrest**	**9.66**	**238**	P	**Pn**	**23 43 49.7**	**-0.7**
	baz=9.6						
FORT				S	Sn	23 45 31.9	-7.1
	baz=9.6						
FITZ	**Fitzroy Crossi**	**13.47**	**303**	Pn	**Pn**	**23 44 41.9**	**-0.7**
	0.1nm,0.3s,baz=130,slow=16,SNR=8.2						
FITZ				Sn	Sn	23 47 03.8	-8.9
	0.1nm,0.3s,baz=346,slow=16,SNR=1.7						
MKAR	**Makanchi Array**	**87.86**	**326**	P	**P**	**23 54 21.0**	**+0.1**
	0.1nm,0.6s,baz=132,slow=6.0,SNR=1.2						

*NOU **08** 23:53:23.9, 20°.39S×167°.98E, h0km, MLv3.9, Loyalty Islands*
*IDC **08** 23:53:23.5±1.5, 20°.25S×167°.77E, h0km, mb3.9/8, mb1 4.1/9, mb1mx4.0/23, mbtmp3.9/9, ML3.2/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/32, Error ellipse: s-maj=48.3km s-min=22.1km az=136.0*
*NEIC **08** 23:53:24.1±1.2, 20°.25S±0°.08×167°.90E±0°.10, h10km±1km, mb4.3/14, Error ellipse: s-maj=16.2km s-min=11.6km az=120.0*

ISC 08 23:53:24.2±0.6**, 20°.39S**±0°.06×**167°.89E**±0°.07**, h10km, n36, σ1s.60**/35**, mb4.2**/14**, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.10**	**173**	P	**Pb**	**23 53 44.3**	**-1.1**
YATNC	**Mamie plateau,**	**1.91**	**209**	P	**Pn**	**23 53 57.2**	**+0.3**
DZM	**Mont Dzumac**	**2.15**	**218**	Pn	**Pn**	**23 54 01.0**	**+0.7**
	6.4nm,0.3s,baz=69,slow=12,SNR=113						
DZM				Sn	**Sn**	**23 54 20.8**	**-6.3**
	48nm,0.3s,baz=8.5,slow=21,SNR=13						
DZM	**Mont Dzumac**	**2.15**	**218**	Pn	**Pn**	**23 54 01.8**	**+1.5**
DZM	**Mont Dzumac**	**2.15**	**218**	P	**Pn**	**23 54 01.8**	**+1.5**
OUENC	**Ouen Island, N**	**2.25**	**205**	P	**Pn**	**23 54 02.8**	**+1.3**
PINNC	**Pines Island,**	**2.25**	**190**	P	**Pn**	**23 54 02.9**	**+1.3**
NOUC	**Port Laguerre**	**2.26**	**221**	P	**Pn**	**23 54 03.8**	**+2.1**
ONTNC	**Ouen Toro**	**2.33**	**215**	P	**Pn**	**23 54 04.3**	**+1.6**
KOUNC	**Koumac, New Ca**	**3.38**	**267**	P	**Pn**	**23 54 18.9**	**+1.8**
SANVU	**Saraoutou**	**4.95**	**352**	Pn	**Pn**	**23 54 38.0**	**-0.8**
MSVF	**Nonsavu**	**9.97**	**76**	LR	LR	23 59 05.7	
	comp=Z,170nm,18.7s,baz=210,slow=34						
MSVF	**Nonsavu**	**9.97**	**76**	Pn	**Pn**	**23 55 47.2**	**-0.5**
BKZ	**Black Stump Fm**	**20.13**	**160**	P	**P**	**23 57 59.4**	**+0.8**
CTA	**Charters Tower**	**20.30**	**267**	P	**P**	**23 58 01.0**	**+0.5**
	4.2nm,1.0s,baz=94,slow=8.6,SNR=2.1						
NNZ	**Nelson**	**21.29**	**169**	P	**P**	**23 58 13.5**	**+2.6**
NNZ				IAmb	IAmb	23 58 24.4	
	comp=Z,24nm,1.1s						
BFZ	**Birch Farm**	**21.45**	**162**	P	**P**	**23 58 13.3**	**+0.5**
KHZ	**Kahutara**	**22.48**	**169**	P	**P**	**23 58 24.0**	**+0.3**
KHZ				IAmb	IAmb	23 58 28.6	
	comp=Z,5.8nm,0.8s						
ODZ	**Otahua Downs**	**24.70**	**175**	P	**P**	**23 58 46.9**	**+1.4**
DCZ	**Deep Cove**	**25.02**	**181**	P	**P**	**23 58 48.5**	**+0.2**
DCZ				IAmb	IAmb	23 58 54.5	
	comp=Z,5.9nm,0.8s						
TOO	**Toolangi**	**25.91**	**224**	P	**P**	**23 58 57.3**	**+0.7**
TOO				IAmb	IAmb	23 59 03.6	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**26.16**	**239**	P	**P**	**23 58 59.9**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=45,slow=8.6,SNR=2.9						
RAR	**Rarotonga**	**30.22**	**97**	P	**P**	**23 59 34.7**	**-0.6**
WR0	**Warramunga Arr**	**31.27**	**265**	P	**P**	**23 59 43.9**	**-0.7**
WR0				IAmb	IAmb	23 59 51.7	
	comp=Z,3.2nm,1.1s						
WB0	**Warramunga Arr**	**31.43**	**265**	P	**P**	**23 59 46.4**	**+0.4**
WB0				IAmb	IAmb	23 59 55.4	
	comp=Z,3.2nm,0.9s						
WB2	**Warramunga Arr**	**31.45**	**265**	P	**P**	**23 59 45.3**	**-0.9**
WRA	**Warramunga Arr**	**31.46**	**265**	P	**P**	**23 59 45.8**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=88,slow=8.5,SNR=13						
AS31	**Alice Springs**	**31.63**	**258**	P	**P**	**23 59 48.4**	**+0.6**
AS31				IAmb	IAmb	23 59 57.8	
	comp=Z,2.6nm,0.7s						
ASAR	**Alice Springs**	**31.63**	**258**	P	**P**	**23 59 48.2**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=83,slow=9.0,SNR=30						
FORT	**Forrest**	**37.21**	**246**	P	**P**	**00 00 34.6**	**-1.4**
USRK	**Ussuriysk Ar.**	**72.18**	**334**	P	**P**	**00 04 48.8**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=177,slow=11,SNR=5.8						
SONM	**Songino Array**	**87.37**	**324**	P	**P**	**00 06 11.1**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=154,slow=7.0,SNR=4.4						
SONM				LR	LR	00 46 00.6	
	comp=Z,43nm,18.8s,baz=324,slow=36						
SONM	**Songino Array**	**87.37**	**324**	IAmb	IAmb	00 06 12.1	
	comp=Z,0.4nm,0.8s						
NVAR	**Mina Array Bea**	**90.51**	**49**	P	**P**	**00 06 27.3**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=236,slow=6.1,SNR=2.2						
ILAR	**Eielson Array**	**91.70**	**18**	P	**P**	**00 06 33.6**	**+2.1**
	comp=Z,0.3nm,0.9s,baz=223,slow=6.2,SNR=2.1						
GERES	**GERESS Array B**	**144.87**	**330**	PKP	**PKPab**	**00 13 00.7**	**0.0**
	comp=Z,0.4nm,0.7s,baz=352,slow=5.8,SNR=4.1						

*IDC **09** 00:02:52.5±4.3, 20°.83S×178°.59W, h532km±34km, mb2.9/6, mb1 3.3/7, mb1mx3.1/31, mbtmp3.7/7, Error ellipse: s-maj=84.4km s-min=21.1km az=151.0*

ISC 09 00:02:54.2±1.2**, 20°.6S**±0°.3×**178°.8W**±0°.2**, h550km, n10, σ1s.00**/11**, mb3.4**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.13**	**313**	P	**P**	**00 04 15.8**	**-1.4**
	4.1nm,0.3s,baz=140,slow=3.3,SNR=40						
MSVF				S	**S**	**00 05 26.0**	**+1.2**
	baz=293,slow=16,SNR=1.2						
ASAR	**Alice Springs**	**43.79**	**257**	P	**P**	**00 10 12.5**	**+0.6**
	0.4nm,0.6s,baz=88,slow=8.6,SNR=4.5						
WRA	**Warramunga Arr**	**43.87**	**262**	P	**P**	**00 10 12.7**	**+0.1**
	0.3nm,0.3s,baz=94,slow=7.6,SNR=5.6						
NVAR	**Mina Array Bea**	**81.58**	**44**	P	**P**	**00 14 15.7**	**+0.5**
	0.4nm,0.6s,baz=210,slow=5.1,SNR=4.4						
TXAR	**Lajitas Array**	**87.71**	**58**	P	**P**	**00 14 45.3**	**+0.2**
	0.7nm,1.0s,baz=208,slow=6.9,SNR=4.6						
ILAR	**Eielson Array**	**88.56**	**13**	P	**P**	**00 14 48.3**	**+0.2**
	0.4nm,0.5s,baz=217,slow=5.1,SNR=7.0						
PDAR	**Pinedale Array**	**89.52**	**44**	P	**P**	**00 14 53.4**	**-0.1**
	0.4nm,0.6s,baz=204,slow=3.3,SNR=4.7						
AKASG	**Malin Array Be**	**142.73**	**330**	PKP	**PKPdf**	**00 21 23.2**	**-1.7**
	0.8nm,0.5s,baz=43,slow=4.3,SNR=11						
BRTR	**Keskin Array B**	**146.35**	**312**	PKPbc	**PKPbc**	**00 21 35.0**	**+0.9**
	0.5nm,0.6s,baz=140,slow=4.9,SNR=2.4						
GERES	**GERESS Array B**	**150.08**	**343**	PKPbc	**PKiKP**	**00 21 43.9**	**+0.2**
	0.6nm,0.8s,baz=70,slow=1.6,SNR=4.2						

*MAN **09** 00:07:30.9, 8°.12N×126°.34E, h20km, mb5.1, ML4.0, MS4.1*
*NEIC **09** 00:07:31.7±0.6, 8°.2N±0°.1×126°.5E±0°.1, h119km±6km, mb4.3/16, Error ellipse: s-maj=18.5km s-min=15.4km az=84.0*
*IDC **09** 00:07:32.8±1.3, 8°.11N×126°.42E, h127km±14km, mb3.6/13, mb1 3.8/14, mb1mx3.7/34, mbtmp4.1/14, MS3.6/1, Ms1 3.6/1, ms1mx2.7/36, Error ellipse: s-maj=25.0km s-min=13.1km az=72.0*

ISC 09 00:07:31.3±0.8**, 8°.16N**±0°.04×**126°.50E**±0°.08**, h114km**±8km**, n49, σ1s.21**/53**, mb4.1**/21**, 1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.18**	**313**	*e*P	**Pn**	**00 07 55.5**	**+0.8**
BUTP				*e*S	**Sn**	**00 08 14.3**	**+1.9**
DAV	**Davao City (W)**	**1.41**	**220**	P	**Pn**	**00 07 58.5**	**+1.2**
	210nm,0.3s,baz=79,slow=10,SNR=6.5						
DAV				S	**Sn**	**00 08 18.5**	**+1.4**
	234nm,0.3s,baz=287,slow=19,SNR=4.9						
BUKP	**Musuan**	**1.45**	**259**	*e*P	**Pn**	**00 07 57.0**	**-0.8**
BUKP				*e*S	**Sn**	**00 08 17.5**	**-0.3**
GLSP	**General Luna,**	**1.66**	**347**	*e*P	**Pn**	**00 08 00.6**	**+0.4**
GLSP				*e*S	**Sn**	**00 08 20.3**	**-2.0**
KCP	**Kidapawan**	**1.80**	**231**	⇓*e*P	**Pn**	**00 08 03.7**	**+1.6**
KCP				*i* S	**Sn**	**00 08 27.6**	**+2.1**
CGP	**Cagayan de Oro**	**1.81**	**280**	⇓*e*P	**Pn**	**00 08 01.9**	**-0.2**
CGP				*e*S	**Sn**	**00 08 21.2**	**-4.3**
DDMP	**Don Marcelino,**	**2.18**	**201**	*e*P	**Pn**	**00 08 06.5**	**-0.3**
DDMP				*e*S	**Sn**	**00 08 33.3**	**-0.7**
SKMP	**Bagumbayan, Su**	**2.53**	**230**	*e*P	**Pn**	**00 08 10.3**	**-1.0**
MSLP	**Maasin**	**2.54**	**321**	*e*P	**Pn**	**00 08 12.6**	**+1.2**
MSLP				*e*S	**Sn**	**00 08 42.6**	**+0.3**
LLP	**Lapu-Lapu**	**3.29**	**311**	⇑*e*P	**Pn**	**00 08 22.1**	**+0.9**
LLP				*i* S	**Sn**	**00 08 59.3**	**-0.6**
SIJI	**Sorong**	**10.15**	**152**	P	**Pn**	**00 09 54.8**	**+0.8**
	4.5nm,0.3s,baz=346,slow=17,SNR=10						
SIJI				S	**Sn**	**00 11 42.1**	**-3.9**
	2.9nm,0.3s,baz=24,slow=23,SNR=4.1						
UBPT	**Khong Chiam**	**21.76**	**291**	P	**P**	**00 12 14.5**	**+0.6**
UBPT				IAmb	IAmb	00 12 15.1	
	comp=Z,8.4nm,0.8s						
PSI	**Prapat**	**27.95**	**261**	LR	LR	00 27 23.0	
	comp=Z,102nm,18.3s,baz=185,slow=43						
CMAR	**Chiang Mai Arr**	**28.66**	**294**	P	**P**	**00 13 18.2**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=98,slow=9.2,SNR=1.5						
WB0	**Warramunga Arr**	**28.82**	**164**	P	**P**	**00 13 18.7**	**-0.2**
WB0				IAmb	IAmb	00 13 19.0	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**28.97**	**165**	P	**P**	**00 13 20.2**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=349,slow=9.6,SNR=5.8						
WB2	**Warramunga Arr**	**28.98**	**165**	P	**P**	**00 13 20.1**	**-0.2**
WR0	**Warramunga Arr**	**29.04**	**164**	P	**P**	**00 13 20.7**	**-0.2**
MJAR	**Matsushiro Arr**	**30.20**	**19**	P	**P**	**00 13 30.5**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=203,slow=9.2,SNR=4.2						
MJAR	**Matsushiro Arr**	**30.20**	**19**	IAmb	IAmb	00 13 31.0	
	comp=Z,1.6nm,1.1s						
ASAR	**Alice Springs**	**32.45**	**167**	P	**P**	**00 13 50.7**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=352,slow=6.6,SNR=8.5						
USA0B	**Ussuriysk Arra**	**36.22**	**7**	P	**P**	**00 14 24.1**	**+1.0**
USA0B				IAmb	IAmb	00 14 34.8	
	comp=Z,3.6nm,0.9s						
USRK	**Ussuriysk Ar.**	**36.22**	**7**	P	**P**	**00 14 24.1**	**+1.0**
	comp=Z,5.2nm,0.8s,baz=193,slow=7.8,SNR=15						
MORW	**Morawa**	**38.36**	**195**	P	**P**	**00 14 41.2**	**-0.2**
MORW				IAmb	IAmb	00 14 49.5	
	comp=Z,6.0nm,1.1s						
JKA	**Kamikawa-asahi**	**38.47**	**19**	P	**P**	**00 14 43.3**	**+1.2**
FORT	**Forrest**	**38.74**	**178**	P	**P**	**00 14 45.9**	**+1.4**
H11N1	**WAKE ISLAND Hy**	**40.75**	**69**	T	T	00 58 47.3	
	baz=264,slow=75,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**40.75**	**69**	T	T	00 59 06.6	
	baz=264,slow=75,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**40.76**	**69**	T	T	00 58 55.7	
	baz=264,slow=75,SNR=9.0						
BBOO	**Buckleboo**	**41.75**	**168**	P	**P**	**00 15 10.2**	**+0.9**
BBOO				IAmb	IAmb	00 15 13.5	
	comp=Z,7.1nm,1.1s						
STKA	**Stephens Creek**	**42.34**	**161**	P	**P**	**00 15 14.2**	**0.0**
	comp=Z,1.2nm,0.6s,baz=331,slow=10,SNR=3.9						
SONM	**Songino Array**	**43.07**	**340**	P	**P**	**00 15 20.0**	**0.0**
	comp=Z,0.8nm,1.0s,baz=155,slow=8.2,SNR=4.4						
SONM	**Songino Array**	**43.07**	**340**	IAmb	IAmb	00 15 21.8	
	comp=Z,0.5nm,0.9s						
PETK	**Petropavlovsk-**	**51.47**	**24**	P	**P**	**00 16 26.5**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=219,slow=0.9,SNR=6.8						
PETK	**Petropavlovsk-**	**51.47**	**24**	P	**P**	**00 16 24.6**	**-0.3**
PET	**Petropavlovsk**	**51.78**	**24**	P	**P**	**00 16 27.3**	**+0.1**
PET				IAmb	IAmb	00 16 29.4	
	comp=Z,5.1nm,1.0s						
MK31	**Makanchi Array**	**53.84**	**324**	P	**P**	**00 16 42.6**	**+0.1**
MK31				IAmb	IAmb	00 16 43.3	
	comp=Z,2.3nm,0.7s						
MKAR	**Makanchi Array**	**53.84**	**324**	P	**P**	**00 16 42.5**	**0.0**
	comp=Z,2.7nm,0.5s,baz=122,slow=7.9,SNR=67						
MKAR	**Makanchi Array**	**53.84**	**324**	P	**P**	**00 16 42.3**	**-0.2**
MAKZ	**Makanchi**	**54.03**	**323**	P	**P**	**00 16 44.0**	**+0.1**
MAKZ				IAmb	IAmb	00 16 44.6	
	comp=Z,2.4nm,0.6s						
NIL	**Nilore**	**55.12**	**305**	P	**P**	**00 16 51.8**	**-0.1**
ZALV	**Zalesovo Beam**	**56.58**	**332**	P	**P**	**00 17 01.5**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=116,slow=6.8,SNR=5.6						
ZALV	**Zalesovo Beam**	**56.58**	**332**	P	**P**	**00 17 00.8**	**-1.2**
KKAR	**Karatay Array**	**59.89**	**315**	P	**P**	**00 17 24.3**	**-1.0**
BRVK	**Borovoye**	**63.60**	**326**	P	**P**	**00 17 49.7**	**-0.2**
ILAR	**Eielson Array**	**81.23**	**26**	P	**P**	**00 19 34.6**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=259,slow=4.2,SNR=5.4						
ILAR	**Eielson Array**	**81.23**	**26**	P	**P**	**00 19 33.6**	**-0.7**
FINES	**FINESS Array B**	**87.84**	**332**	P	**P**	**00 20 07.0**	**-0.7**
	comp=Z,5.0nm,1.0s,baz=144,slow=4.5,SNR=7.8						
YKA	**Yellowknife Ar**	**95.58**	**24**	P	**P**	**00 20 43.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=303,slow=3.9,SNR=7.3						

*IDC **09** 00:24:25.1±20.0, 23°.32S×174°.89W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/30, mbtmp4.0/5, Error ellipse: s-maj=373.5km s-min=148.0km az=83.0*
*NEIC **09** 00:24:30.6±1.8, 23°.1S±0°.1×174°.9W±0°.1, h45km±15km, mb4.5/13, Error ellipse: s-maj=20.5km s-min=16.2km az=192.0*

ISC 09 00:24:29.3±1.0, **23°.1S**±0°.1×**174°.9W**±0°.1, **h30**km, **n22, σ0s79/22, mb4.3/8, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.14**	**50**	Pn	**Pn**	**00 25 58.1**	**+0.1**
AFI	**Afiamalu**	**9.60**	**19**	Pn	**Pn**	**00 26 45.5**	**-0.1**
SANVU	**Saraoutou**	**18.48**	**291**	P	**P**	**00 28 43.0**	**0.0**
SANVU	comp=Z,54nm,1.1s			IAmb	IAmb	00 28 54.1	
BFZ	**Birch Farm**	**19.06**	**201**	P	**Pn**	**00 28 50.0**	**0.0**
BFZ	comp=Z,18nm,1.0s			IAmb	IAmb	00 28 52.6	
SNZO	**South Karori**	**20.15**	**203**	P	**P**	**00 29 02.0**	**+1.0**
SNZO	comp=Z,40nm,1.1s			IAmb	IAmb	00 29 03.0	
TUWZ	**Tuamarina**	**20.54**	**204**	P	**P**	**00 29 04.3**	**-0.9**
CMWZ	**Cape Campbell**	**20.71**	**203**	P	**P**	**00 29 07.3**	**+0.2**
CTA	**Charters Tower**	**36.14**	**267**	P	**P**	**00 31 30.3**	**+1.2**
	comp=Z,5.1nm,0.5s,baz=88,slow=11,SNR=6.0						
CTAO	**Charters Tower**	**36.14**	**267**	P	**P**	**00 31 30.0**	**+0.9**
CTAO	comp=Z,4.8nm,0.6s			IAmb	IAmb	00 31 30.5	
STKA	**Stephens Creek**	**39.34**	**247**	P	**P**	**00 31 55.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=91,slow=10,SNR=7.1						
BBOO	**Buckleboo**	**44.03**	**246**	P	**P**	**00 32 33.6**	**-0.8**
BBOO	comp=Z,9.2nm,1.1s			IAmb	IAmb	00 32 52.4	
ASAR	**Alice Springs**	**46.76**	**259**	P	**P**	**00 32 55.7**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=93,slow=8.8,SNR=6.3						
ASAR	**Alice Springs**	**46.76**	**259**	P	**P**	**00 32 56.5**	**+0.3**
WR0	**Warramunga Arr**	**46.92**	**264**	P	**P**	**00 32 56.3**	**-1.2**
WR0	comp=Z,4.7nm,1.1s			IAmb	IAmb	00 33 08.6	
WB2	**Warramunga Arr**	**47.10**	**264**	P	**P**	**00 32 58.6**	**-0.3**
WB0	**Warramunga Arr**	**47.10**	**264**	P	**P**	**00 32 58.5**	**-0.4**
WB0	comp=Z,5.1nm,1.1s			IAmb	IAmb	00 33 09.5	
WRA	**Warramunga Arr**	**47.11**	**264**	P	**P**	**00 32 58.6**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=103,slow=8.1,SNR=19						
FORT	**Forrest**	**50.94**	**248**	P	**P**	**00 33 27.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**55.53**	**263**	P	**P**	**00 34 03.4**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=107,slow=11,SNR=0.9						
FITZ	**Fitzroy Crossi**	**55.53**	**263**	P	**P**	**00 34 02.6**	**+0.5**
SOEI	**Soe**	**59.44**	**272**	P	**P**	**00 34 28.3**	**-1.5**
MORW	**Morawa**	**61.51**	**248**	P	**P**	**00 34 44.1**	**+0.4**

*TAP **09** 00:31:19.6, 24°.69N×122°.69E, h115km, ML3.2, C*
*JMA **09** 00:31:20.3±0.1, 24°.65N×122°.64E, h111km±2km, M2.1*

ISC 09 00:31:21.2±1.6, **24°.65N**±0°.05×**122°.66E**±0°.03, **h104**km±11km, **n51, σ0s62/82, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.37**	**120**	P	**Pn**	**00 31 36.4**	**-0.3**
YOJ	baz=134			S	**Sn**	**00 31 48.9**	**+0.7**
YOJ	**Yonaguni jima**	**0.37**	**120**	P	**Pn**	**00 31 36.7**	**+0.1**
YOJ				S	**Sn**	**00 31 48.9**	**+0.7**
TWB1	**Santiao Chiao**	**0.70**	**301**	*i* P	**Pn**	**00 31 38.9**	**-0.1**
TWC	baz=292 **Suao**	**0.73**	**267**	P	**Pn**	**00 31 38.7**	**-0.6**
TWC	baz=260			*i* S	**Sn**	**00 31 52.6**	**-0.3**
NTC	**Toucheng**	**0.78**	**286**	P	**Pn**	**00 31 39.7**	**0.0**
NTC	baz=279			*e*S	**Sn**	**00 31 53.7**	**+0.1**
TIPB	**Shuangxi**	**0.82**	**293**	S	**Sn**	**00 31 54.4**	**0.0**
NDS	baz=285 **Dongshan**	**0.85**	**269**	*e*P	**Pn**	**00 31 40.4**	**-0.1**
NDS	baz=267			*e*S	**Sn**	**00 31 55.0**	**0.0**
ENA	**Nanau**	**0.86**	**256**	S	**Sn**	**00 31 55.7**	**+0.7**
TWE	baz=253 **Neicheng**	**0.90**	**275**	*e*P	**Pn**	**00 31 40.8**	**-0.2**
TWE	baz=272			*e*S	**Sn**	**00 31 56.0**	**+0.3**
ENTT	**Nioudou**	**0.99**	**270**	*e*P	**Pn**	**00 31 42.2**	**+0.3**
ENTT	baz=272			*e*S	**Sn**	**00 31 58.2**	**+0.8**
IRIF	**Iriomote-Funau**	**1.03**	**107**	P	**Pn**	**00 31 42.2**	**0.0**
IRIF				S	**Sn**	**00 31 58.5**	**+0.4**
NDT	**Datong Townshi**	**1.04**	**268**	*e*P	**Pn**	**00 31 42.5**	**+0.1**
NDT	baz=264			*e*S	**Sn**	**00 31 59.0**	**+0.6**
NWLT	**Wulai**	**1.06**	**277**	P	**Pn**	**00 31 42.2**	**-0.4**
NWLT	baz=280			*e*S	**Sn**	**00 31 58.7**	**0.0**
NACB	**Ninganchiao**	**1.07**	**244**	*e*P	**Pn**	**00 31 42.2**	**-0.6**
NACB	baz=242			*e*S	**Sn**	**00 31 58.4**	**-0.6**
YM08	**YM08**	**1.11**	**299**	*e*P	**Pn**	**00 31 42.7**	**-0.5**
YM08	baz=289			*e*S	**Sn**	**00 31 59.2**	**-0.5**
YM11	**YM11**	**1.11**	**298**	*e*P	**Pn**	**00 31 43.0**	**-0.2**
YM10	baz=287 **YM10**	**1.12**	**297**	*e*S	**Sn**	**00 31 59.6**	**-0.3**
TWD	baz=287 **Chiawan**	**1.12**	**240**	*e*S	**Sn**	**00 31 59.5**	**-0.3**
YM04	baz=234 **YM04**	**1.14**	**297**	*e*S	**Sn**	**00 31 59.8**	**-0.5**
ETLH	baz=285 **Xiulin Townshi**	**1.16**	**248**	*e*P	**Pn**	**00 31 43.5**	**-0.3**
ETLH	baz=246			*e*S	**Sn**	**00 32 00.3**	**-0.5**
YHNB	**Yeheng**	**1.17**	**271**	*e*P	**Pn**	**00 31 43.8**	**0.0**
YHNB	baz=274			S	**Sn**	**00 32 00.9**	**0.0**
NNSB	**Datong**	**1.18**	**260**	P	**Pn**	**00 31 44.0**	**0.0**
NNSB	baz=252			*e*S	**Sn**	**00 32 01.6**	**+0.3**
NNSH	**Datong**	**1.18**	**260**	*e*P	**Pn**	**00 31 43.6**	**-0.4**
NNSH	baz=253			*e*S	**Sn**	**00 32 01.6**	**+0.3**
NSK	baz=253 **Sanguang**	**1.18**	**272**	*e*P	**Pn**	**00 31 43.4**	**-0.7**
NSK	baz=274			*e*S	**Sn**	**00 32 01.1**	**-0.2**
NNS	baz=274 **Nan Shan**	**1.19**	**260**	*e*S	**Sn**	**00 32 01.6**	**+0.1**
HATJ	baz=254 **Hateruma jima**	**1.20**	**119**	P	**Pn**	**00 31 44.5**	**+0.3**
HATJ				*e*S	**Sn**	**00 32 02.0**	**+0.5**
JKRS	**Kuro-shima**	**1.30**	**108**	P	**Pn**	**00 31 45.6**	**+0.3**
JKRS				S	**Sn**	**00 32 04.2**	**+0.7**
FUSS	**Fushou**	**1.35**	**253**	*e*P	**Pn**	**00 31 46.1**	**-0.1**
FUSS	baz=248			*e*S	**Sn**	**00 32 05.1**	**+0.1**
WHF	baz=248 **Hehuan Shan**	**1.36**	**249**	*e*P	**Pn**	**00 31 46.0**	**-0.5**
WHF	baz=247			*e*S	**Sn**	**00 32 04.9**	**-0.6**
JIJ	**Ishigaki jima**	**1.38**	**101**	P	**Pn**	**00 31 46.1**	**-0.2**
JIJ				S	**Sn**	**00 32 04.7**	**-0.6**
LIOB	**Emei**	**1.49**	**270**	*e*P	**Pn**	**00 31 47.5**	**-0.2**
LIOB	baz=269			*e*S	**Sn**	**00 32 07.5**	**-0.2**
NSTT	baz=269 **Nanjuang**	**1.51**	**270**	*e*P	**Pn**	**00 31 47.9**	**+0.1**
NSTT	baz=268			*e*S	**Sn**	**00 32 07.7**	**-0.2**
JISG	**Ishigakijimahi**	**1.51**	**92**	P	**Pn**	**00 31 47.5**	**-0.3**
JISG				*e*S	**Sn**	**00 32 07.2**	**-0.7**
WHP	**Taichung City**	**1.60**	**257**	*e*P	**Pn**	**00 31 49.7**	**+0.6**
WHP	baz=251			*e*S	**Sn**	**00 32 10.8**	**+0.6**
HGSD	baz=251 **Ruisui**	**1.61**	**225**	*e*S	**Sn**	**00 32 09.2**	**-0.9**
VWDT	baz=229 **VWDT**	**1.64**	**238**	P	**Pn**	**00 31 49.5**	**0.0**
VWDT	baz=232			S	**Sn**	**00 32 10.5**	**-0.4**
DPDB	baz=232 **Guoxing**	**1.69**	**249**	*e*S	**Sn**	**00 32 13.1**	**+1.0**
NSY	baz=252 **Sanyi**	**1.74**	**263**	*e*S	**Sn**	**00 32 13.8**	**+0.6**
YULB	baz=262 **Yu-li**	**1.76**	**225**	*e*S	**Sn**	**00 32 11.9**	**-1.7**
SMLT	baz=230 **Sun Moon Lake**	**1.77**	**245**	*e*S	**Sn**	**00 32 16.1**	**+2.1**
SSLB	baz=239 **Suanglung**	**1.77**	**242**	*e*P	**Pn**	**00 31 51.9**	**+0.8**
SSLB	baz=238			*e*S	**Sn**	**00 32 14.7**	**+0.8**
EYUL	**Yuli**	**1.78**	**224**	*e*S	**Sn**	**00 32 14.6**	**+0.6**
TYC	baz=229 **Yuchr**	**1.80**	**246**	*e*S	**Sn**	**00 32 15.8**	**+1.4**
JTJ	baz=241 **Tarama**	**1.86**	**90**	P	**Pn**	**00 31 52.1**	**-0.1**
JTJ				*e*S	**Sn**	**00 32 16.0**	**+0.2**
FULB	**Fuli**	**1.91**	**221**	*e*S	**Sn**	**00 32 16.9**	**0.0**
ALS	baz=214 **Alishan**	**2.04**	**237**	*e*P	**Pn**	**00 31 55.4**	**+0.6**
ALS	baz=235			*e*S	**Sn**	**00 32 20.5**	**+0.3**
EDH	**Donghe**	**2.08**	**217**	*e*P	**Pn**	**00 31 54.0**	**-1.0**
EDH	baz=210			*e*S	**Sn**	**00 32 19.4**	**-1.4**
CHN5	**Tsauling**	**2.09**	**240**	*e*S	**Sn**	**00 32 22.7**	**+1.6**
LONT	baz=232 **Longtian**	**2.23**	**219**	*e*P	**Pn**	**00 31 57.2**	**+0.3**
LDUT	baz=218 **Ludao**	**2.25**	**209**	*e*P	**Pn**	**00 31 56.2**	**-0.9**
STYH	baz=213 **Taoyuan**	**2.26**	**230**	*e*S	**Sn**	**00 32 25.3**	**+0.2**
	baz=228						

TAP 09 00:31:37.4, 25°.03N×121°.77E, h15km±1km, ML2.2, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWF	**Wu-fen Shan**	**0.04**	**19**	*i* P	Pg	00 31 40.0	-0.2
NWF	baz=19			*e*S	Sg	00 31 41.9	-0.2
WFSB	**Wu-fen Shan**	**0.04**	**19**	*i* P	Pg	00 31 40.0	-0.1
WFSB	baz=18			*e*S	Sg	00 31 41.9	-0.1
TIPB	**Shuangxi**	**0.08**	**139**	*i* P	Pg	00 31 40.1	-0.4
TIPB	baz=139			*e*S	Sg	00 31 43.2	+0.7
TIPB	**Shuangxi**	**0.08**	**139**	*i* P	Pg	00 31 40.1	-0.4
YM01	baz=285 **YM01**	**0.21**	**302**	⇑*i* P	Pg	00 31 42.0	-0.2
YM01	baz=302			*e*S	Sg	00 31 44.2	-1.3
YM11	**YM11**	**0.22**	**307**	*e*P	Pg	00 31 42.3	-0.1
YM11	baz=306			*e*S	Sg	00 31 45.7	0.0
YM10	baz=306 **YM10**	**0.22**	**303**	*e*P	Pb	00 31 43.0	-0.1
YM10	baz=302			*e*S	Sg	00 31 45.8	-0.1
YM10	baz=302 **YM10**	**0.22**	**303**	P	Pb	00 31 43.0	-0.2
YM05	baz=287 **YM05**	**0.22**	**305**	*e*P	Pb	00 31 43.1	-0.1
YM05	baz=287 **YM05**	**0.22**	**305**	*e*P	Pg	00 31 42.8	+0.4
YM05	baz=305			*e*S	Sg	00 31 45.8	-0.1
TAP	baz=305 **Taipei**	**0.24**	**271**	*e*P	Pg	00 31 42.3	-0.3
TAP	baz=270			*e*S	Sg	00 31 45.8	-0.3
YM04	baz=270 **YM04**	**0.24**	**300**	*e*P	Pg	00 31 43.0	+0.3
YM04	baz=299			*e*S	Sg	00 31 46.4	+0.1
YM04	baz=299 **YM04**	**0.24**	**300**	P	Pg	00 31 42.9	+0.2
	baz=285						

TAP 09 00:31:46.4, 23°.50N×121°.37E, h8km, ML0.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHY	**Hungye**	**0.05**	**272**	*e*P	Pg	00 31 48.5	+0.5
EHY	baz=233 **Hungye**	**0.05**	**272**	*i* P	Pg	00 31 48.4	+0.4
EHY	baz=269			*e*S	Sg	00 31 49.8	+0.6
HGSD	baz=269 **Ruisui**	**0.05**	**104**	*i* P	Pg	00 31 48.5	+0.5
HGSD	baz=104			*e*S	Sg	00 31 49.9	+0.7
HGSD	**Ruisui**	**0.05**	**104**	*e*P	Pg	00 31 48.6	+0.6
YULB	baz=229 **Yu-li**	**0.13**	**212**	P	Pg	00 31 50.0	+0.7
YULB	baz=212			*e*S	Sg	00 31 52.8	+1.6
YULB	baz=212 **Yu-li**	**0.13**	**212**	P	Pg	00 31 49.9	+0.6
TWF1	baz=230 **Yuli**	**0.17**	**205**	*e*P	Pg	00 31 50.5	+0.7
TWF1	baz=230 **Yuli**	**0.17**	**205**	*e*P	Pg	00 31 50.5	+0.7
TWF1	baz=202			*e*S	Sg	00 31 53.8	+1.6
	baz=202						

UPP 09 00:35:44.5±0.1, **67°.82N×20°.20E, h0**km, **ML2.3, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**21**	P	Pg	00 35 47.5	+0.2
KUA				S	Sg	00 35 49.4	+0.4
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	00 35 49.1	+0.2
RATU				S	Sg	00 35 52.5	+0.5
KOVU	**Salmi**	**0.40**	**358**	P	Pg	00 35 52.2	0.0
KOVU				S	Sg	00 35 57.7	+0.3
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pg	00 35 53.1	+0.1
NIKU				S	Sg	00 35 59.3	+0.6
LANU	**Lannavaara**	**0.71**	**70**	P	Pg	00 35 58.0	-0.2
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 35 58.0	-0.2
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 36 09.8	-1.1

*HEL **09** 00:36:39.8, 67°.79N×20°.12E, h0km, ML1.8, Explosion*
*UPP **09** 00:36:40.5±0.2, 67°.84N×20°.22E, h1km, ML3.1, Explosion*

ISC 09 00:36:38.9±0.9, **67°.79N**±0°.04×**20°.10E**±0°.03, **h0**km, **n29, σ0s94/28, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKU	**Nikkaluokta**	**0.41**	**281**	P	**Pb**	**00 36 49.0**	**0.0**
NIKU				S	**Sb**	**00 36 55.1**	**-0.7**
NIKU	**Nikkaluokta**	**0.41**	**281**	*i* P	**Pb**	**00 36 49.0**	**0.0**
NIKU	**Nikkaluokta**	**0.41**	**281**	*i* S	**Sb**	**00 36 55.1**	**-0.7**
KOVU	**Salmi**	**0.43**	**3**	P	**Pg**	**00 36 47.8**	**+0.6**
KOVU				S	**Sg**	**00 36 52.8**	**0.0**
KOVU	**Salmi**	**0.43**	**3**	*i* P	**Pg**	**00 36 47.8**	**+0.6**
KOVU	**Salmi**	**0.43**	**3**	*i* S	**Sg**	**00 36 52.8**	**0.0**
LANU	**Lannavaara**	**0.76**	**69**	*e*PB	**Pg**	**00 36 53.7**	**+0.3**
LANU	**Lannavaara**	**0.76**	**69**	*e*S	**Sg**	**00 37 03.0**	**-0.1**
KIF	**Kilpisjarvi**	**1.25**	**12**	*e*P	**Pb**	**00 37 03.0**	**-0.2**
KIF	**Kilpisjarvi**	**1.25**	**12**	*e*PB	**Pb**	**00 37 03.1**	**-0.1**
KIF	**Kilpisjarvi**	**1.25**	**12**	MSG		00 37 18.4	
	comp=Z,12nm,0.2s						
KIF	**Kilpisjarvi**	**1.25**	**12**	*e*S	**Sg**	**00 37 18.8**	**0.0**
PAJU	**Pajala**	**1.40**	**122**	P	**Pb**	**00 37 06.0**	**+0.2**
PAJU	**Pajala**	**1.40**	**122**	*e*SN	**Sn**	**00 37 25.1**	**+0.4**
PAJU	**Pajala**	**1.40**	**122**	*e*PN	**Pb**	**00 37 06.0**	**+0.2**
HEF	baz=309 **Hetta**	**1.47**	**63**	*e*P	**Pn**	**00 37 05.6**	**-1.1**
HEF	**Hetta**	**1.47**	**63**	MSG		00 37 23.9	
HEF	comp=Z,7.0nm,0.2s **Hetta**	**1.47**	**63**	*e*SN	**Sn**	**00 37 29.0**	**+2.5**
HEF	**Hetta**	**1.47**	**63**	*e*PN	**Pn**	**00 37 06.4**	**-0.2**
TOF	**Tornio**	**2.39**	**134**	*e*SG	**Sg**	**00 37 54.5**	**-1.1**
TOF	**Tornio**	**2.39**	**134**	MSG		00 37 50.5	
TOF	comp=Z,3.3nm,0.2s **Tornio**	**2.39**	**134**	*e*PG	**Pb**	**00 37 22.6**	**-0.2**
SGF	**Sodankyl**	**2.48**	**95**	*e*SG	**Sg**	**00 37 57.0**	**-1.5**
SGF	**Sodankyl**	**2.48**	**95**	*e*PG	**Pb**	**00 37 23.7**	**-0.6**
RNF	**Rovaniemi**	**2.59**	**115**	*e*SG	**Sb**	**00 37 58.5**	**+0.1**
RNF	**Rovaniemi**	**2.59**	**115**	*e*PG	**Pb**	**00 37 25.7**	**-0.4**
ARA0	**ARCESS Array S**	**2.64**	**46**	*e*PB	**Pb**	**00 37 24.7**	**-2.3**
ARA0	**ARCESS Array S**	**2.64**	**46**	*e*SG	**Sb**	**00 38 00.2**	**+0.3**
KU6	**Riekki**	**4.24**	**110**	*e*PG	**Pb**	**00 37 56.1**	**+1.8**

*KRNET **09** 00:40:25.0±0.1, 43°.02N×72°.85E, h18km, mb2.2*
*NNC **09** 00:40:25.1±2.1, 42°.95N×72°.86E, h5km±19km, mb2.5, mpv2.3, Error ellipse: s-maj=17.7km s-min=6.9km az=10.0*
*SOME **09** 00:40:27.9, 42°.83N×73°.02E, h5km*

ISC 09 00:40:25.2±1.2, **42°.95N**±0°.03×**72°.89E**±0°.02, **h3**km±11km, **n28, σ1s03/52, 26C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**0.54**	**212**	⇓*i* P	**Pb**	**00 40 36.6**	**-0.8**
MNAS	baz=6.0			⇓*i* S	**Sb**	**00 40 44.5**	**-1.2**
EKS2	**Erkin-Say**	**0.71**	**113**	⇑*i* P	**Pb**	**00 40 39.8**	**-0.5**
EKS2	baz=17			⇑*i* S	**Sb**	**00 40 50.3**	**-0.3**
AML	**Almayashu**	**1.01**	**144**	⇑*i* P	**Pb**	**00 40 45.3**	**-0.2**
AML	baz=45			⇑*i* S	**Sb**	**00 40 59.8**	**+0.5**
AAK	**Ala-Archa**	**1.22**	**104**	⇑*i* P	**Pg**	**00 40 48.6**	**+0.1**
AAK	baz=7.0			⇑*i* S	**Sb**	**00 41 05.6**	**+0.3**
AAK	**Ala-Archa**	**1.22**	**104**	⇓P	**Pg**	**00 40 48.9**	**+0.3**
AAK	0.8nm,0.3s			⇑S	**Sb**	**00 41 05.5**	**+0.3**
USP	1.2nm,0.3s **Ospenovka**	**1.22**	**74**	⇑*i* P	**Pg**	**00 40 47.8**	**-0.8**
USP	baz=78			⇑*i* S	**Sg**	**00 41 04.2**	**-0.2**
CHMS	baz=78 **Chumysh**	**1.37**	**87**	⇓*i* P	**Pn**	**00 40 50.7**	**-0.5**
CHMS	baz=90			⇓*i* S	**Sb**	**00 41 09.1**	**-0.2**
SGDS	baz=90 **Sogindy**	**1.37**	**68**	P	**Pg**	**00 40 51.9**	**+0.5**
SGDS	1.5nm,0.3s			S	**Sn**	**00 41 11.2**	**+1.3**
UCH	5.2nm,0.2s **Uchtor**	**1.40**	**120**	⇑*e*P	**Pn**	**00 40 52.0**	**0.0**
UCH	baz=22			⇑*i* S	**Sn**	**00 41 11.8**	**+0.6**
KBK	baz=22 **Karagaybulak**	**1.54**	**100**	⇑*i* P	**Pb**	**00 40 54.1**	**-0.4**
KBK	baz=2.0			⇑*i* S	**Sg**	**00 41 15.3**	**+0.6**
ARSB	baz=2.0 **Arslanbob**	**1.62**	**178**	⇑*i* P	**Pb**	**00 40 55.8**	**-0.1**
ARSB	baz=77			⇑*i* S	**Sg**	**00 41 18.4**	**+1.1**
KK31	baz=77 **Karatay Array**	**1.75**	**276**	⇑P	**Pb**	**00 40 56.9**	**-1.1**
KK31	0.2nm,0.2s,baz=94,slow=15,SNR=22			⇓S	**Sn**	**00 41 18.4**	**-1.0**
TRKS	0.5nm,0.2s,baz=94,slow=31,SNR=16 **Terek-Say**	**1.92**	**223**	⇑*e*P	**Pb**	**00 41 00.1**	**-0.9**
TRKS	baz=19			⇑*e*S	**Sg**	**00 41 26.0**	**-0.9**
TKM2	baz=19 **Tokmak 2**	**1.99**	**90**	⇑*i* P	**Pb**	**00 41 01.0**	**-1.1**
TKM2	baz=92			⇑*i* S	**Sb**	**00 41 27.2**	**-0.2**
TKM2	baz=92 **Tokmak 2**	**1.99**	**90**	⇑Pn	**Pn**	**00 40 57.6**	**-2.3**
TKM2	0.9nm,0.5s			⇑Lg	Lg	00 41 28.2	
DGS	0.5nm,0.2s **Degeres**	**2.13**	**81**	*e*P	**Pg**	**00 41 06.2**	**+0.2**
DGS	2.1nm,0.4s			*e*S	**Sb**	**00 41 32.1**	**+0.7**
DGS	3.5nm,0.2s **Degeres**	**2.13**	**81**	Pg	**Pb**	**00 41 03.2**	**-1.3**
DGS	2.1nm,0.4s			Lg	Lg	00 41 32.1	
KRBS	3.5nm,0.2s **Karabastau**	**2.17**	**69**	*e*P	**Pb**	**00 41 05.8**	**+0.7**
KRBS	1.6nm,0.3s			*e*S	**Sb**	**00 41 31.1**	**-1.3**
KRBS	3.3nm,0.4s **Karabastau**	**2.17**	**69**	Pg	**Pb**	**00 41 03.8**	**-1.3**
KRBS	1.6nm,0.3s			Lg	Lg	00 41 32.3	
BTLS	3.3nm,0.4s **Baital**	**2.25**	**21**	*e*P	**Pg**	**00 41 10.2**	**+1.8**
BTLS	0.7nm,0.2s			*e*S	**Sg**	**00 41 38.2**	**+0.6**
KST	2.4nm,0.4s **Kastek**	**2.25**	**87**	*e*P	**Pg**	**00 41 09.3**	**+0.9**
KST	1.4nm,0.1s			*e*S	**Sg**	**00 41 36.8**	**-0.8**
IUG	1.4nm,0.4s **Iuzhnay**	**2.26**	**250**	*e*P	**Pg**	**00 41 09.7**	**+1.2**
IUG	0.7nm,0.2s			*e*S	**Sg**	**00 41 38.0**	**+0.3**
OHH	5.2nm,0.5s **Osh**	**2.42**	**182**	⇑*i* P	**Pn**	**00 41 06.6**	**+0.8**
OHH	baz=81			⇑*i* S	**Sb**	**00 41 37.8**	**-1.9**
KUU	baz=81 **Kurty**	**2.68**	**68**	*e*P	**Pg**	**00 41 16.6**	**0.0**
KUU	0.4nm,0.4s			*e*S	**Sb**	**00 41 49.3**	**+2.0**
KUU	2.1nm,0.4s **Kurty**	**2.68**	**68**	Pg	**Pb**	**00 41 13.4**	**-0.5**
KUU	0.3nm,0.3s			Lg	Lg	00 41 49.3	
SFK	2.1nm,0.4s **Sufi-Kurgan**	**2.97**	**171**	⇑*i* P	**Pn**	**00 41 14.3**	**+0.9**
SFK	baz=70			⇑*i* S	**Sn**	**00 41 50.9**	**+1.3**
TNSS	baz=70 **Tian-Shan**	**2.98**	**87**	*e*P	**Pg**	**00 41 22.0**	**-0.2**
TNSS	0.4nm,0.1s			*e*S	**Sb**	**00 41 58.6**	**+2.6**
MDOK	1.0nm,0.6s **Medeo**	**3.05**	**85**	*e*P	**Pg**	**00 41 23.8**	**+0.1**
MDOK	0.5nm,0.4s			*e*S	**Sg**	**00 42 01.7**	**-1.5**
	2.8nm,0.8s						

IDC 09 00:50:07.9±4.7, **1°.89S×138°.84E, h0**km, **mb3.2/2, mb1 3.6/3, mb1mx3.3/26, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=186.9km s-min=30.9km az=86.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.48**	**193**	P	Pn	00 54 26.4	+0.7
ASAR	0.2nm,0.3s,baz=18,slow=12,SNR=11 **Alice Springs**	**22.17**	**192**	P	P	00 55 05.8	+0.1
H11S3	0.6nm,0.7s,baz=23,slow=9.7,SNR=7.2 **WAKE ISLAND Hy 34.07**	**52**		T	T	01 32 30.7	
H11S2	baz=236,slow=76,SNR=12 **WAKE ISLAND Hy 34.08**	**52**		T	T	01 32 31.8	
H11S1	baz=236,slow=76,SNR=8.2 **WAKE ISLAND Hy 34.09**	**52**		T	T	01 32 32.3	
MKAR	baz=236,slow=76,SNR=8.4 **Makanchi Array**	**69.22**	**322**	P	P	01 01 16.3	-0.4
	0.1nm,0.6s,baz=111,slow=7.9,SNR=1.9						

*TAP **09** 01:48:49.8, 21°.28N×122°.30E, h31km±1km, ML3.2, D*
*JMA **09** 01:48:49.7±0.4, 21°.48N×122°.29E, h4km, M3.9*
ISC 09 01:48:48.8±2.0**, 21°.43N**±0°.09×**122°.25E**±0°.04**, h1**km±13km**,**
n62, σ1.23/112**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.89**	**313**	P	**Pn**	**01 49 08.3**	**-0.2**
	baz=318						
LAY				S	**Sn**	**01 49 21.7**	**-0.3**
	baz=318						
TSEB	**Hengchuen, Pin**	**1.34**	**291**	*e*P	**Pg**	**01 49 15.7**	**+1.1**
	baz=295						
TSEB				*e*S	**Sn**	**01 49 33.8**	**+0.6**
	baz=295						
TWKBT	**Hengchun**	**1.43**	**291**	*e*P	**Pg**	**01 49 16.3**	**0.0**
	baz=296						
TWKBT				*e*S	**Sn**	**01 49 34.0**	**-1.4**
	baz=296						
LDUT	**Ludao**	**1.43**	**330**	P	**Pb**	**01 49 15.8**	**-0.6**
	baz=332						
LDUT				*e*S	**Sb**	**01 49 35.3**	**+0.2**
	baz=332						
TWK1	**Hengchun**	**1.44**	**291**	*e*P	**Pg**	**01 49 16.8**	**+0.3**
	baz=296						
TWK1				*e*S	**Sg**	**01 49 35.5**	**+0.4**
	baz=296						
SLIU	**Shizi**	**1.56**	**300**	*e*P	**Pb**	**01 49 18.1**	**-0.4**
	baz=304						
SLIU				*e*S	**Sb**	**01 49 38.6**	**-0.1**
	baz=304						
EAST	**Anshuo**	**1.61**	**306**	*e*P	**Pb**	**01 49 18.9**	**-0.5**
	baz=310						
EAST				*e*S	**Sn**	**01 49 39.5**	**-0.4**
	baz=310						
ECL	**Taimali**	**1.67**	**314**	*e*P	**Pn**	**01 49 19.2**	**0.0**
	baz=317						
ECL				*e*S	**Sb**	**01 49 42.0**	**0.0**
	baz=317						
TWGBT	**Beinan**	**1.76**	**322**	*e*P	**Pb**	**01 49 21.1**	**-0.8**
	baz=310						
TWGBT				*e*S	**Sb**	**01 49 44.3**	**-0.1**
	baz=310						
TWG	**Pinlang**	**1.76**	**322**	*e*P	**Pb**	**01 49 21.5**	**-0.5**
	baz=310						
TWG				*e*S	**Sb**	**01 49 44.8**	**+0.2**
	baz=310						
EDH	**Donghe**	**1.77**	**330**	*e*P	**Pn**	**01 49 20.7**	**+0.2**
	baz=342						
EDH				*e*S	**Sn**	**01 49 43.5**	**-0.2**
	baz=342						
SCZT	**Fangliau**	**1.78**	**302**	*e*P	**Pb**	**01 49 21.7**	**-0.6**
	baz=317						
SCZT				*e*S	**Sb**	**01 49 44.2**	**-0.9**
	baz=317						
LONT	**Longtian**	**1.80**	**325**	*e*P	**Pb**	**01 49 21.7**	**-0.9**
	baz=313						
LONT				*e*S	**Sb**	**01 49 46.4**	**+0.8**
	baz=313						
CHKT	**Chengkung**	**1.85**	**334**	*e*P	**Pn**	**01 49 22.0**	**+0.3**
	baz=335						
CHKT				*e*S	**Sn**	**01 49 45.1**	**-0.7**
	baz=335						
MASBT	**Mashibuluo**	**1.91**	**308**	*e*P	**Pb**	**01 49 23.1**	**-1.4**
	baz=320						
MASBT				*e*S	**Sn**	**01 49 47.1**	**-0.1**
	baz=320						
FULB	**Fuli**	**1.97**	**333**	*e*P	**Pn**	**01 49 23.7**	**+0.3**
	baz=347						
FULB				*e*S	**Sn**	**01 49 48.4**	**-0.4**
	baz=347						
SSD	**Sandimen**	**1.99**	**311**	*e*P	**Pn**	**01 49 24.0**	**+0.4**
	baz=314						
ELDTW	**Lidau**	**2.09**	**327**	*e*P	**Pn**	**01 49 25.0**	**-0.1**
	baz=317						
ELDTW				*e*S	**Sn**	**01 49 51.9**	**+0.1**
	baz=317						
EYUL	**Yuli**	**2.09**	**336**	*e*P	**Pn**	**01 49 25.8**	**+0.8**
	baz=346						
EYUL				*e*S	**Sn**	**01 49 52.0**	**+0.2**
	baz=346						
TWF1	**Yuli**	**2.11**	**335**	*e*P	**Pn**	**01 49 26.0**	**+0.7**
	baz=346						
TWF1				*e*S	**Sb**	**01 49 53.5**	**-1.0**
	baz=346						
YULB	**Yu-li**	**2.14**	**336**	*e*P	**Pn**	**01 49 26.4**	**+0.6**
	baz=346						
YULB				S	**Sn**	**01 49 53.8**	**+0.8**
	baz=346						
HGSD	**Ruisui**	**2.19**	**340**	*e*P	**Pn**	**01 49 26.3**	**-0.1**
	baz=348						
HGSD				*e*S	**Sn**	**01 49 54.0**	**-0.2**
	baz=348						
STYH	**Taoyuan**	**2.21**	**322**	*e*P	**Pb**	**01 49 28.1**	**-1.5**
	baz=324						
EHY	**Hungye**	**2.24**	**338**	*e*P	**Pn**	**01 49 28.1**	**+1.0**
	baz=347						
EHY				*e*S	**Sn**	**01 49 56.0**	**+0.7**
	baz=347						
CHN1	**Nanshi**	**2.37**	**318**	*e*P	**Pb**	**01 49 31.9**	**-0.4**
	baz=320						
CHN1				*e*S	**Sb**	**01 50 01.7**	**-0.3**
	baz=320						
TWK	**Hsinying**	**2.45**	**319**	*e*P	**Pb**	**01 49 31.9**	**-1.8**
	baz=321						
TWK				*e*S	**Sb**	**01 50 04.5**	**0.0**
	baz=321						
CHN4	**Tsaushan**	**2.45**	**322**	*e*P	**Pb**	**01 49 32.8**	**-0.9**
	baz=323						
CHN4				*e*S	**Sb**	**01 50 04.5**	**+0.1**
	baz=323						
ALS	**Alishan**	**2.46**	**327**	*e*P	**Pb**	**01 49 32.8**	**-1.3**
	baz=340						
ALS				*e*S	**Sb**	**01 50 05.0**	**-0.1**
	baz=340						
ESL	**Shilin**	**2.49**	**342**	*e*P	**Pn**	**01 49 31.4**	**+0.9**
	baz=351						
ESL				*e*S	**Sn**	**01 50 02.2**	**+0.7**
	baz=351						
VWDT	**VWDT**	**2.53**	**336**	*e*P	**Pn**	**01 49 32.5**	**+1.4**
	baz=337						
VWDT				*e*S	**Sn**	**01 50 03.8**	**+1.3**
	baz=337						
CHN5	**Tsauling**	**2.60**	**326**	*e*P	**Pb**	**01 49 35.4**	**-0.9**
	baz=312						
CHN5				*e*S	**Sb**	**01 50 09.3**	**+0.5**
	baz=312						
SSLB	**Suanglung**	**2.63**	**333**	*e*P	**Pb**	**01 49 34.5**	**-2.3**
	baz=344						
SSLB				*e*S	**Sn**	**01 50 07.1**	**+1.9**
	baz=344						
CHY	**Chiayi**	**2.66**	**321**	*e*P	**Pb**	**01 49 35.1**	**-2.2**
	baz=308						
TWD	**Chiawan**	**2.71**	**347**	*e*P	**Pn**	**01 49 35.1**	**+1.6**
	baz=347						
TWD				*e*S	**Sn**	**01 50 06.3**	**-0.5**
	baz=347						
SMLT	**Sun Moon Lake**	**2.74**	**333**	*e*P	**Pb**	**01 49 37.3**	**-1.4**
	baz=344						
SMLT				*e*S	**Sb**	**01 50 12.6**	**-0.3**
	baz=344						
TYC	**Yuchr**	**2.78**	**333**	*e*P	**Pb**	**01 49 37.9**	**-1.4**
	baz=345						
TYC				*e*S	**Sb**	**01 50 12.5**	**-1.4**
	baz=345						
NACB	**Ninganchiao**	**2.80**	**348**	*e*P	**Pn**	**01 49 35.3**	**+0.5**
	baz=357						
NACB				*e*S	**Sn**	**01 50 08.7**	**-0.4**
	baz=357						
CHGB	**Renai**	**2.80**	**339**	*e*P	**Pn**	**01 49 37.0**	**+2.0**
	baz=350						
CHGB				*e*S	**Sn**	**01 50 10.4**	**+0.9**
	baz=350						
WNT	**Mingjian**	**2.83**	**330**	*e*P	**Pb**	**01 49 38.9**	**-1.3**
	baz=318						
WNT				*e*S	**Sb**	**01 50 13.1**	**-2.3**
	baz=318						
WHF	**Hehuan Shan**	**2.85**	**342**	*e*P	**Pn**	**01 49 37.1**	**+1.2**
	baz=354						
WHF				*e*S	**Sn**	**01 50 12.1**	**+1.0**
	baz=354						
DPDB	**Guoxing**	**2.86**	**335**	*e*P	**Pb**	**01 49 39.1**	**-1.7**
	baz=348						
DPDB				*e*S	**Sb**	**01 50 15.8**	**-0.7**
	baz=348						
FUSS	**Fushou**	**2.95**	**342**	*e*P	**Pn**	**01 49 39.0**	**+1.9**
	baz=353						
FUSS				*e*S	**Sn**	**01 50 14.5**	**+1.1**
	baz=353						
HATJ	**Hateruma jima**	**2.98**	**28**	P	**Pn**	**01 49 38.6**	**+1.4**
HATJ				*e*S	**Sn**	**01 50 14.0**	**+0.4**
WHP	**Taichung City**	**3.08**	**337**	*e*P	**Pb**	**01 49 42.3**	**-2.2**
	baz=347						
WHP				*e*S	**Sb**	**01 50 20.3**	**-2.3**
	baz=347						
NNSB	**Datong**	**3.09**	**345**	*e*P	**Pn**	**01 49 40.8**	**+1.9**
	baz=346						
NNSB				*e*S	**Sn**	**01 50 16.9**	**+0.4**
	baz=346						
NNSH	**Datong**	**3.09**	**345**	*e*P	**Pn**	**01 49 40.9**	**+2.1**
	baz=345						
NNSH				*e*S	**Sn**	**01 50 17.2**	**+0.7**
	baz=345						
NNS	**Nan Shan**	**3.10**	**345**	*e*S	**Sn**	**01 50 17.9**	**+1.1**
	baz=346						
TWC	**Suao**	**3.19**	**353**	*e*S	**Sn**	**01 50 19.2**	**+0.5**
	baz=4.0						
IRIF	**Iriomote-Funau**	**3.19**	**25**	*e*S	**Sn**	**01 50 19.4**	**+0.5**
TWQ1	**Liyutan**	**3.21**	**335**	*e*S	**Sb**	**01 50 24.1**	**-2.2**
	baz=323						
NDS	**Dongshan**	**3.23**	**351**	*e*S	**Sn**	**01 50 20.3**	**+0.6**
	baz=351						
JKRS	**Kuro-shima**	**3.23**	**30**	S	**Sn**	**01 50 20.2**	**+0.4**
NDT	**Datong Townshi**	**3.23**	**348**	*e*P	**Pn**	**01 49 42.8**	**+2.1**
	baz=356						
NDT				*e*S	**Sn**	**01 50 20.5**	**+0.7**
	baz=356						
ENTT	**Nioudou**	**3.26**	**349**	*e*P	**Pn**	**01 49 43.9**	**+2.8**
	baz=358						
ENTT				*e*S	**Sn**	**01 50 21.2**	**+0.7**
	baz=358						
YHNB	**Yeheng**	**3.32**	**346**	*e*P	**Pn**	**01 49 44.7**	**+2.7**
	baz=347						
YHNB				*e*S	**Sn**	**01 50 23.8**	**+1.6**
	baz=347						
NSK	**Sanguang**	**3.33**	**346**	*e*P	**Pn**	**01 49 44.7**	**+2.6**
	baz=357						
NSK				*e*S	**Sn**	**01 50 24.1**	**+1.7**
	baz=357						
NSTT	**Nanjuang**	**3.39**	**340**	*e*S	**Sb**	**01 50 27.9**	**-3.5**
	baz=324						
JIJ	**Ishigaki jima**	**3.40**	**30**	P	**Pn**	**01 49 43.7**	**+0.7**
JIJ				*e*S	**Sn**	**01 50 23.3**	**-0.7**
NWLT	**Wulai**	**3.40**	**348**	*e*P	**Pn**	**01 49 45.9**	**+2.9**
	baz=349						
NWLT				*e*S	**Sn**	**01 50 25.3**	**+1.2**
	baz=349						
TIPB	**Shuangxi**	**3.55**	**354**	*e*P	**Pn**	**01 49 47.3**	**+2.2**
	baz=3.0						
TIPB				*e*S	**Sn**	**01 50 28.3**	**+0.6**
	baz=3.0						
JISG	**Ishigakijimahi**	**3.67**	**31**	*e*S	**Sn**	**01 50 29.8**	**-0.8**
JTJ	**Tarama**	**3.91**	**35**	*e*S	**Sn**	**01 50 36.0**	**-0.6**

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*BJI **09** 01:52:20.5±0.0, 35°.32N×141°.76E, h14km, mB4.8/16, mb4.5/26, Ms4.3/8, Ms7 4.0/9*
*IDC **09** 01:52:23.9±0.5, 35°.14N×141°.25E, h0km, mb4.4/25, mb1 4.5/30, mb1mx4.4/42, mbtmp4.4/30, ML3.7/4, MS3.6/12, Ms1 3.6/12, ms1mx3.4/41, Error ellipse: s-maj=14.5km s-min=11.5km az=117.0*
*JMA **09** 01:52:26.6±0.2, 35°.15N×141°.33E, h24km±4km, M3.7*
*NIED **09** 01:52:26.7, 35°.15N×141°.33E, h24km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.89; $M_{\theta\theta}$-3.07; $M_{\phi\phi}$2.18; $M_{r\theta}$2.54; $M_{\theta\phi}$2.29; $M_{\phi r}$1.86; Fault plane solution: $M_0$4.74000×10^{15} NP1:ϕ_s69.00000°, δ81.00000°, λ42.00000°. NP2:ϕ_s331.00000°, δ49.00000°, λ168.00000°.*
*NEIC **09** 01:52:27.6±2.6, 35°.12N±0°.05×141°.58E±0°.09, h30km±4km, mb4.6/44 Error ellipse: s-maj=10.9km s-min=7.2km az=95.0*
*MOS **09** 01:52:31.5±1.0, 35°.61N×141°.18E, h50km, mb4.8/44, MS4.1/4, Error ellipse: s-maj=8.8km s-min=4.9km az=118.2*
*BGR **09** 01:52:35.7±0.0, 36°.03N×140°.61E, h33km, mb4.9*
ISC 09 01:52:24.3±1.2**, 35°.20N**±0°.04×**141°.42E**±0°.05**, h5**km±7km**,**
n263, σ1.59/280**, mb4.6**/79**, MS3.7**/13**, 14C-16D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.66**	**214**	P	**Pg**	**01 52 37.7**	**+0.8**
BSO1				X		01 52 45.1	
CHOJ	**Chosi**	**0.68**	**317**	P	**Pb**	**01 52 39.4**	**+0.8**
BSO3	**Boso 3**	**0.85**	**242**	P	**Pg**	**01 52 41.1**	**+0.5**
JSMT	**Sammumatsuo**	**0.91**	**299**	P	**Pn**	**01 52 44.0**	**+0.2**
KTR	**Katsuura**	**0.91**	**267**	*e*S	**Sg**	**01 52 52.7**	**-0.8**
BSO4	**Boso 4**	**0.92**	**257**	P	**Pb**	**01 52 42.7**	**+0.1**
JKUC	**kamogawauchiur**	**1.00**	**268**	P	**Pg**	**01 52 43.5**	**0.0**
JKUC				*e*S	**Sg**	**01 52 54.9**	**-1.6**
JYT	**Yasato**	**1.43**	**316**	P	**Pg**	**01 52 51.7**	**0.0**
JYT	**Yasato**	**1.43**	**316**		**Pb**	**01 52 51.4**	**0.0**
JHO	**Hitachi**	**1.56**	**334**	P	**Pn**	**01 52 53.1**	**+0.3**
JHJ2	**Mitsune**	**2.48**	**213**	Pn	**Pn**	**01 53 04.5**	**-0.8**
JHJ	**Hachijo jima 2**	**2.48**	**214**	Pn	**Pn**	**01 53 04.3**	**-1.1**
	150nm,0.3s,baz=334,slow=22,SNR=12						
JHJ				Sn	**Sn**	**01 53 33.6**	**-2.5**
	285nm,0.3s,baz=248,slow=23,SNR=9.2						
JMM	**Marumori**	**2.70**	**349**	Pn	**Pn**	**01 53 09.2**	**+0.7**
JSG	**Sagara**	**2.71**	**260**		**Pn**	**01 53 10.1**	**+1.6**
MJAR	**Matsushiro Arr**	**2.93**	**298**	Pn	**Pn**	**01 53 13.1**	**+1.4**
	2.6nm,0.3s,baz=96,slow=12,SNR=68						
MJAR				LR	LR	01 54 21.7	
	comp=Z,446nm,20.3s,baz=135,slow=42						
MJAR	**Matsushiro Arr**	**2.93**	**298**	P	**Pn**	**01 53 12.0**	**+0.4**
MJAR	**Matsushiro Arr**	**2.93**	**298**	Pn	**Pn**	**01 53 12.0**	**+0.4**
MAJO	**Matsushiro**	**2.93**	**298**	*c i*P	**Pn**	**01 53 13.0**	**+1.4**
MAJO	**Matsushiro**	**2.93**	**298**	Pn	**Pn**	**01 53 13.8**	**+2.2**
MAT	**Matsushiro**	**2.93**	**298**	P	**Pn**	**01 53 13.0**	**+1.4**
MAT				*e*S	**Sn**	**01 53 45.8**	**-1.5**
JGF	**Kuroka**	**3.34**	**278**		**Pn**	**01 53 18.9**	**+1.6**
INU	**Inuyama**	**3.61**	**274**		**Pn**	**01 53 22.9**	**+2.0**
JSD	**Sado**	**3.80**	**319**	Pn	**Pn**	**01 53 25.1**	**+1.6**
JWT	**Wachi**	**4.93**	**273**	Pn	**Pn**	**01 53 40.9**	**+1.8**
JTM	**Tenmabayashi**	**5.58**	**357**	Pn	**Pn**	**01 53 49.6**	**+1.6**
JHS	**Saijyo**	**6.81**	**271**	Pn	**Pn**	**01 54 08.4**	**+3.4**
ERM	**Erimo**	**6.93**	**11**	*ce*P	**Pn**	**01 54 06.4**	**-0.2**
ERM	**Erimo**	**6.93**	**11**	Pn	**Pn**	**01 54 05.8**	**-0.8**
JEW	**Eniwo**	**7.62**	**0**	Pn	**Pn**	**01 54 17.2**	**+1.1**
JCJ	**Chichijima**	**8.11**	**175**	Pn	**Pn**	**01 54 20.8**	**-2.0**
	15nm,0.3s,baz=85,slow=21,SNR=6.5						
JCJ				Sn	Sn	01 55 45.2	-10
	11nm,0.3s,baz=287,slow=19,SNR=1.9						
JCJ	**Chichijima**	**8.11**	**175**	Pn	**Pn**	**01 54 20.1**	**-2.7**
NMR	**Nemuro--Hokkai**	**8.81**	**21**	*e*P	**Pn**	**01 54 29.6**	**-2.7**
NMR				*e*S	Sn	01 56 02.0	-10
JKA	**Kamikawa-asahi**	**8.95**	**5**	Pn	**Pn**	**01 54 33.0**	**-1.2**
ASAJ	**Asahikawa**	**8.95**	**5**	Pn	**Pn**	**01 54 33.4**	**-0.8**
	6.4nm,0.3s,baz=221,slow=9.5,SNR=25						
ASAJ				Sn	**Sn**	**01 56 15.4**	**+0.1**
	0.8nm,0.3s,baz=18,slow=20,SNR=1.6						
ASAJ				LR	LR	01 58 55.6	
	comp=Z,427nm,20.8s,baz=140,slow=43						
JNU	**Nakatsue**	**8.98**	**260**	Pn	**Pn**	**01 54 33.1**	**-1.6**
	0.1nm,0.3s,baz=344,slow=15,SNR=2.0						
JNU				LR	LR	01 57 38.0	
	comp=Z,63nm,18.4s,baz=86,slow=36						
RUSJ	**Misakicho**	**9.36**	**17**	*e*P	**Pn**	**01 54 38.3**	**-1.6**
RUSJ				*e*S	**Sn**	**01 56 16.6**	**-9.0**
GRPR	**Tuman**	**9.39**	**20**	P	**Pn**	**01 54 39.2**	**-1.1**
GRPR				S	**Sn**	**01 56 19.1**	**-7.2**
GRPR				pmax	pmax		
	comp=Z,79nm,0.4s						
GRPR				pmax	pmax		
	comp=E,41nm,0.5s						
GRPR				pmax	pmax		
	comp=N,42nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**9.46**	**20**	*e*P	**Pn**	**01 54 43.3**	**+2.1**
YUK				S	**Sn**	**01 56 19.2**	**-8.7**
YUK				pmax	pmax		
	comp=N,200nm,0.3s						
YUK				pmax	pmax		
	comp=Z,203nm,0.3s						
MSHR	**Mys Shultsa**	**10.87**	**316**	⇓*e*P	**Pn**	**01 55 00.0**	**-0.5**
MSHR				pmax	pmax		
	comp=Z,111nm,1.3s						
KSRS	**Korea Array**	**11.12**	**286**	Pn	**Pn**	**01 55 05.7**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=99,slow=14,SNR=11						
KSRS				LR	LR	01 59 33.1	
	comp=Z,523nm,19.3s,baz=84,slow=39						
USA0B	**Ussuriysk Arra**	**11.55**	**324**	*d i*P	**Pn**	**01 55 11.5**	**+1.7**
USA0B	**Ussuriysk Arra**	**11.55**	**324**	Pn	**Pn**	**01 55 11.9**	**+2.1**
USRK	**Ussuriysk Ar.**	**11.55**	**324**	Pn	**Pn**	**01 55 11.7**	**+1.9**
	baz=138,slow=12,SNR=23						
USRK				LR	LR	01 59 38.1	
	comp=Z,412nm,18.2s,baz=142,slow=38						
USRK	**Ussuriysk Ar.**	**11.55**	**324**	P	**Pn**	**01 55 12.1**	**+2.3**
USRK	**Ussuriysk Ar.**	**11.55**	**324**	Pn	**Pn**	**01 55 12.1**	**+2.3**
YSS	**Yuzh-Sakhalins**	**11.78**	**4**	*de*P	**Pn**	**01 55 12.0**	**-1.0**
YSS				pmax	pmax		
	comp=Z,14nm,0.6s						
YSS	**Yuzh-Sakhalins**	**11.78**	**4**	Pn	**Pn**	**01 55 13.1**	**+0.1**
TYV	**Tymovskoe**	**15.68**	**3**	*e*P	**Pn**	**01 56 04.2**	**-1.6**
TYV				pmax	pmax		
	comp=Z,23nm,0.7s						
KLR	**Kul'dur**	**15.72**	**336**	⇓*e*P	**Pn**	**01 56 07.5**	**+1.1**
KLR				pmax	pmax		
	comp=Z,10.0nm,2.5s						
SKR	**Severo-Kuril's**	**18.79**	**30**	⇓*e*P	**P**	**01 56 44.6**	**+0.3**
ZEA	**Zeya**	**21.04**	**336**	*e*P	**P**	**01 57 07.3**	**-1.6**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
ZEA				MLR	MLR		
	comp=Z,200nm,13.0s						
PETK	**Petropavlovsk-**	**21.28**	**28**	LR	LR	02 06 13.4	
	comp=Z,116nm,20.4s,baz=212,slow=39						
MA2	**Magadan**	**25.14**	**11**	⇑*i*P	**P**	**01 57 51.4**	**+1.3**
MA2				pmax	pmax		
	comp=Z,24nm,1.3s						
MA2	**Magadan**	**25.14**	**11**	P	**P**	**01 57 51.6**	**+1.5**
MA2				IAmb	IAmb	01 57 53.3	
	comp=Z,16nm,0.7s						
XAN	**Xi'an**	**26.71**	**277**	P	**P**	**01 58 05.5**	**+0.8**
XAN				pP	pwP	01 58 11.3	+3.1
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
XAN				LR	LR		
	comp=Z,390nm,17.3s						
XAN				LR	LR		
	comp=Z,400nm,20.6s						
H11N2	**WAKE ISLAND Hy**	**27.25**	**118**	T	T	02 26 46.1	
	baz=310,slow=75,SNR=84						
H11N1	**WAKE ISLAND Hy**	**27.25**	**118**	T	T	02 26 45.1	
	baz=310,slow=75,SNR=73						
H11N3	**WAKE ISLAND Hy**	**27.27**	**118**	T	T	02 26 47.5	
	baz=310,slow=75,SNR=60						
YAK	**Yakutsk**	**27.86**	**348**	*e*P	**P**	**01 58 13.9**	**-0.6**
YAK				*e*		01 59 00.3	
YAK				*e*		02 01 28.4	
YAK				*e*S	**S**	**02 02 57.6**	**-0.5**
YAK				*e*SS	**SnSn**	**02 04 13.7**	**+3.0**
YAK				*e*		02 09 02.2	
YAK				pmax	pmax		
	comp=Z,33nm,1.1s						
YAK				pmax	pmax		
	comp=N,18nm,1.4s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,161nm,4.0s						
YAK				pmax	pmax		
	comp=E,97nm,4.1s						
YAK				pmax	pmax		
	comp=N,62nm,3.8s						
YAK				smax	smax		
	comp=N,84nm,3.8s						
YAK				smax	smax		
	comp=E,39nm,4.0s						
YAK				MLR	MLR		
	comp=Z,286nm,21.0s						
YAK				MLR	MLR		
	comp=N,129nm,21.0s						
YAK				MLR	MLR		
	comp=E,93nm,17.0s						
YAK	**Yakutsk**	**27.86**	**348**	P	**P**	**01 58 14.7**	**+0.2**
H11S1	**WAKE ISLAND Hy**	**27.90**	**120**	T	T	02 27 30.2	
	baz=312,slow=75,SNR=273						
H11S3	**WAKE ISLAND Hy**	**27.90**	**120**	T	T	02 27 30.1	
	baz=312,slow=75,SNR=180						
H11S2	**WAKE ISLAND Hy**	**27.91**	**120**	T	T	02 27 32.0	
	baz=312,slow=75,SNR=143						
ULN	**Ulaanbaatar**	**28.42**	**307**	⇓*e*P	**P**	**01 58 21.6**	**+1.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ULN	**Ulaanbaatar**	**28.42**	**307**	P	**P**	**01 58 21.4**	**+1.4**
SEY	**Seymchan**	**28.58**	**10**	⇓*e*P	**P**	**01 58 23.1**	**+2.1**
SONM	**Songino Array**	**28.85**	**307**	P	**P**	**01 58 23.4**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=108,slow=9.2,SNR=10						
SONM				PcP	**PcP**	**02 01 33.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=105,slow=2.5,SNR=2.6						
SONM				LR	LR	02 09 50.0	
	comp=Z,212nm,20.9s,baz=113,slow=36						
SONM	**Songino Array**	**28.85**	**307**	P	**P**	**01 58 22.0**	**-1.7**
TLY	**Talaya**	**31.56**	**313**	*e*P	**P**	**01 58 48.4**	**+0.8**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,696nm,19.0s						
GTA	**Gaotai**	**33.15**	**290**	*e*P	**P**	**01 59 01.0**	**-0.8**
GTA				pP	pwP	01 59 05.8	+0.4
GTA				sP	sP	01 59 08.2	+5.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TIXI	**Tiksi**	**37.10**	**353**	⇓*i*P	**P**	**01 59 36.1**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,14nm,0.8s						
TIXI	**Tiksi**	**37.10**	**353**	P	**P**	**01 59 35.1**	**-0.1**
FAKI	**Fak Fak**	**38.89**	**195**	P	**P**	**01 59 50.2**	**-0.7**
FAKI				IAmb	IAmb	02 00 05.2	
	comp=Z,16nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.07**	**257**	P	**P**	**02 00 08.6**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=49,slow=7.5,SNR=5.0						
CMAR				PcP	**PcP**	**02 02 09.6**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=344,slow=1.7,SNR=4.4						
CMAR				LR	LR	02 17 32.6	
	comp=Z,63nm,18.1s,baz=331,slow=37						
CMAR	**Chiang Mai Arr**	**41.07**	**257**	*ce*P	**P**	**02 00 09.8**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
DGZ	**Jazzator, Alta**	**41.49**	**308**	*c i*P	**P**	**02 00 13.0**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,35nm,0.8s						
WMQ	**Urumqi**	**41.70**	**299**	P	**P**	**02 00 15.4**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
WMQ	**Urumqi**	**41.70**	**299**	P	**P**	**02 00 15.4**	**+1.3**
WMQ				IAmb	IAmb	02 00 17.8	
	comp=Z,12nm,0.9s						
ZAA0	**Zalesovo Array**	**43.17**	**314**	P	**P**	**02 00 25.4**	**-0.4**
ZAA0				IAmb	IAmb	02 00 27.0	
	comp=Z,8.7nm,0.8s						
ZALV	**Zalesovo Beam**	**43.17**	**314**	P	**P**	**02 00 25.7**	**-0.1**
	comp=Z,8.9nm,0.7s,baz=90,slow=6.6,SNR=43						
ZALV				PcP	**PcP**	**02 02 15.0**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=99,slow=2.9,SNR=8.1						
MK31	**Makanchi Array**	**45.12**	**304**	P	**P**	**02 00 41.1**	**-0.5**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MK31	**Makanchi Array**	**45.12**	**304**	P	**P**	**02 00 41.1**	**-0.5**
MK31				IAmb	IAmb	02 00 42.2	
	comp=Z,5.9nm,0.8s						
MKAR	**Makanchi Array**	**45.12**	**304**	P	**P**	**02 00 41.4**	**-0.2**
	comp=Z,5.4nm,0.7s,baz=91,slow=10.0,SNR=85						
MKAR				PcP	**PcP**	**02 02 21.9**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=80,slow=4.5,SNR=3.9						
MKAR				LR	LR	02 19 02.2	
	comp=Z,156nm,18.6s,baz=68,slow=36						
MKAR	**Makanchi Array**	**45.12**	**304**	*ce*P	**P**	**02 00 41.2**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**45.12**	**304**	P	**P**	**02 00 41.0**	**-0.6**
MAKZ	**Makanchi**	**45.33**	**304**	P	**P**	**02 00 43.0**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAKZ	**Makanchi**	**45.33**	**304**	P	**P**	**02 00 43.0**	**-0.2**
MAKZ				IAmb	IAmb	02 00 43.9	
	comp=Z,7.2nm,0.8s						
KURK	**Kurchatov**	**47.08**	**309**	P	**P**	**02 00 57.2**	**+0.2**
KURK	**Kurchatov**	**47.08**	**309**	P	**P**	**02 00 57.1**	**+0.2**
KURK					**PcP**	**02 02 28.5**	**-0.3**
KURBB	**Kurchatov Arra**	**47.15**	**309**	P	**P**	**02 00 57.1**	**-0.3**
	comp=Z,15nm,0.8s,baz=85,slow=8.0,SNR=138						
KURBB				PcP	**PcP**	**02 02 28.5**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=89,slow=3.9,SNR=4.0						
UZB	**Uzynbulak**	**48.03**	**299**	*e*P	**P**	**02 01 04.1**	**-0.6**

comp=Z,3.5nm,0.7s,baz=299
UZB Uzynbulak 48.03 299 *e*P **P** **02 01 04.0 -0.6**
UZB pmax pmax
comp=Z,3.0nm,0.7s
KPKS Kokpek 48.20 300 *e*P **P** **02 01 04.8 -1.2**
comp=Z,2.8nm,0.7s,baz=300
KPKS Kokpek 48.20 300 *e*P **P** **02 01 04.7 -1.2**
KPKS pmax pmax
comp=Z,3.0nm,0.7s
KDAK Kodiak Island 48.46 41 P **P** **02 01 09.0 +1.4**
comp=Z,8.2nm,0.7s,baz=196,slow=1.5,SNR=4.5
KDAK LR LR 02 20 06.2
comp=Z,38nm,20.8s,baz=230,slow=34
KDAK Kodiak Island 48.46 41 P **P** **02 01 08.1 +0.6**
KDAK pmax pmax
comp=Z,23nm,1.2s
KDAK Kodiak Island 48.46 41 P **P** **02 01 08.1 +0.6**
CHKK Chushkaly 49.32 301 *e*P **P** **02 01 13.8 -0.6**
baz=301
CHKK Chushkaly 49.32 301 *e*P **P** **02 01 13.7 -0.6**
MDOK Medeo 49.43 300 *e*P **P** **02 01 15.1 -0.3**
baz=300
MDOK Medeo 49.43 300 *e*P **P** **02 01 15.1 -0.3**
AAA Alma-Ata 49.52 300 *e*P **P** **02 01 16.2 +0.1**
baz=300
AAA Alma-Ata 49.52 300 *e*P **P** **02 01 16.1 +0.1**
TNSS Tian-Shan 49.53 300 *e*P **P** **02 01 16.2 -0.4**
baz=300
TNSS Tian-Shan 49.53 300 *e*P **P** **02 01 16.1 -0.4**
KUU Kurty 49.76 301 *e*P **P** **02 01 16.7 -1.1**
comp=Z,10nm,1.0s,baz=301
KUU Kurty 49.76 301 *e*P **P** **02 01 16.7 -1.1**
KUU pmax pmax
comp=Z,10.0nm,1.0s
BRZS Berezniki 50.95 309 *e*P **P** **02 01 25.6 -1.1**
baz=309
BRZS Berezniki 50.95 309 *e*P **P** **02 01 25.6 -1.1**
HDA Harding Lake 51.02 32 P **P** **02 01 28.9 +1.9**
IL31 51.04 32 P **P** **02 01 28.3 +1.3**
ILAR Eielson Array 51.04 32 P **P** **02 01 28.4 +1.3**
comp=Z,3.0nm,0.7s,baz=263,slow=5.8,SNR=32
ILAR Eielson Array 51.04 32 P **P** **02 01 28.9 +1.8**
SGDS Sogindy 51.07 301 *e*P **P** **02 01 27.4 -0.4**
baz=301
SGDS Sogindy 51.07 301 *e*P **P** **02 01 27.4 -0.4**
BTLS Baital 51.09 303 *e*P **P** **02 01 26.1 -1.7**
baz=303
BTLS Baital 51.09 303 *e*P **P** **02 01 26.9 -0.9**
AAK Ala-Archa 51.38 300⇑ *e*P **P** **02 01 29.8 -0.4**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 51.38 300 P **P** **02 01 30.4 +0.1**
AAK IAmb IAmb 02 01 36.6
comp=Z,11nm,1.4s
BRVK Borovoye 51.88 313⇑ *e*P **P** **02 01 33.1 -0.5**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 51.88 313 P **P** **02 01 33.0 -0.5**
BRVK IAmb IAmb 02 01 34.8
comp=Z,6.8nm,1.1s
BMAR Burnt Mountain 51.93 28 P **P** **02 01 37.1 +3.3**
BCAR Beaver Creek A 53.41 34 P **P** **02 01 47.4 +2.6**
EGAK Eagle 53.49 31 P **P** **02 01 46.9 +1.6**
KK31 Karatay Array 54.06 301 P **P** **02 01 50.5 +0.6**
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KK31 Karatay Array 54.06 301 P **P** **02 01 50.5 +0.6**
KK31 IAmb IAmb 02 01 50.7
comp=Z,8.6nm,0.9s
KKAR Karatay Array 54.06 301 P **P** **02 01 49.6 -0.3**
KKAR Karatay Array 54.06 301 P **P** **02 01 49.6 -0.3**
IUG luzhnay 54.69 300 *e*P **P** **02 01 54.3 -0.3**
comp=Z,5.6nm,0.9s,baz=300
IUG luzhnay 54.69 300 *e*P **P** **02 01 54.2 -0.3**
IUG pmax pmax
comp=Z,6.0nm,0.9s
WB0 Warramunga Arr 55.07 188 P **P** **02 01 56.5 -0.8**
FITZ Fitzroy Crossi 55.09 198 P **P** **02 01 57.2 -0.1**
FITZ IAmb IAmb 02 01 59.6
comp=Z,4.5nm,0.8s
NIL Nilore 55.21 289 P **P** **02 01 58.8 +0.4**
NIL pmax pmax
comp=Z,9.0nm,0.8s
NIL Nilore 55.21 289 P **P** **02 01 58.8 +0.4**
NIL IAmb IAmb 02 01 59.6
comp=Z,9.1nm,0.8s
WRAB Tennant Creek 55.24 188⇑ *i*P **P** **02 01 57.3 -1.2**
WRAB pmax pmax
comp=Z,16nm,1.0s
WR0 Warramunga Arr 55.25 188 P **P** **02 01 57.7 -0.8**
WB2 Warramunga Arr 55.25 188 P **P** **02 01 57.5 -1.1**
WRA Warramunga Arr 55.25 188 P **P** **02 01 57.7 -0.9**
comp=Z,9.4nm,0.5s,baz=5.8,slow=7.7,SNR=102
WRA LR LR 02 24 04.1
comp=Z,55nm,21.1s,baz=175,slow=34
INK Inuvik 56.01 27 P **P** **02 02 04.7 +1.2**
comp=Z,2.4nm,0.8s,baz=284,slow=5.8,SNR=8.5
INK Inuvik 56.01 27 P **P** **02 02 05.5 +2.0**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 56.01 27 P **P** **02 02 05.5 +2.0**
SVE Sverdlovsk 56.53 319 *e*P **P** **02 02 07.4 0.0**
SVE pmax pmax
comp=Z,16nm,1.0s
ARU Arti 57.74 319 *d i*P **P** **02 02 15.9 -0.1**
ARU 02 04 24.4
ARU S **S** **02 10 15.7 +0.5**
ARU SS **SS** **02 13 56.1 -8.9**
ARU pmax pmax
comp=Z,12nm,0.8s
ARU Arti 57.74 319 P **P** **02 02 15.8 -0.1**
KBL Kabul 58.09 292 P **P** **02 02 18.3 -0.8**
KBL pmax pmax
comp=Z,3.0nm,0.7s
AS31 Alice Springs 58.98 188 P **P** **02 02 25.7 +0.7**
AS31 IAmb IAmb 02 02 29.5
comp=Z,2.0nm,0.6s
ASAR Alice Springs 58.98 188 P **P** **02 02 24.4 -0.5**
comp=Z,1.9nm,0.5s,baz=12,slow=10,SNR=20
ASAR Alice Springs 58.98 188 P **P** **02 02 24.8 -0.2**
ASAR Alice Springs 58.98 188 P **P** **02 02 24.8 -0.2**
ABKAR Akbulak array 59.13 311 P **P** **02 02 25.3 -0.5**
ABKAR IAmb IAmb 02 02 27.8
comp=Z,3.1nm,0.8s
AKTO Aktyubinsk 59.91 313 *i*P **P** **02 02 28.8 -2.4**
AKTO pmax pmax
comp=Z,5.0nm,1.0s
RES Resolute Bay 64.37 14 P **P** **02 03 01.6 +0.9**
comp=Z,3.5nm,0.8s,baz=311,slow=5.9,SNR=14
RES Resolute Bay 64.37 14 P **P** **02 03 01.5 +0.9**
RES IAmb IAmb 02 03 02.3
comp=Z,3.7nm,0.9s
BELG Belogornoye 65.15 318⇓ *e*P **P** **02 03 05.8 -0.3**
BELG pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 65.39 30 P **P** **02 03 08.6 +1.1**
comp=Z,1.7nm,0.7s,baz=301,slow=6.0,SNR=35
ARCES ARCESS Array B 65.71 340 LR LR 02 37 48.1
comp=Z,181nm,18.0s,baz=250,slow=41
STKA Stephens Creek 66.73 180 P **P** **02 03 16.6 +0.3**
comp=Z,1.6nm,0.7s,baz=349,slow=7.8,SNR=3.8
STKA Stephens Creek 66.73 180 P **P** **02 03 16.1 -0.2**
OBN Obninsk 69.57 324⇑ *i*P **P** **02 03 34.2 +0.2**
OBN *e* 02 06 05.4
OBN *e*S **SKiKP** **02 13 29.0 +5.9**
OBN *e*SS **SS** **02 17 09.4 +0.3**
OBN pmax pmax
comp=Z,20nm,1.7s
OBN MLR MLR
comp=Z,188nm,11.0s
FIA1 FINESS Array S 70.43 333 P **P** **02 03 39.8 +0.5**
FIA1 IAmb IAmb 02 03 44.9
comp=Z,8.0nm,1.2s
FINES FINESS Array B 70.44 333 P **P** **02 03 39.4 +0.1**
comp=Z,8.4nm,0.8s,baz=61,slow=6.3,SNR=18
FINES FINESS Array B 70.44 333 P **P** **02 03 39.6 +0.3**
NEW Newport 71.44 44 P **P** **02 03 47.4 +1.7**
comp=Z,1.8nm,0.8s,baz=315,slow=7.8,SNR=4.6
NEW Newport 71.44 44 P **P** **02 03 46.3 +0.6**
NEW pmax pmax
comp=Z,3.0nm,1.0s
NEW Newport 71.44 44 P **P** **02 03 46.3 +0.6**
VSU Vasula 72.03 330⇑ *e*P **P** **02 03 48.8 -0.2**
VSU pmax pmax
comp=Z,183nm,3.0s

KBZ Khabaz 72.10 311 P **P** **02 03 49.9 +0.2**
comp=Z,5.0nm,0.9s,baz=137,slow=1.6,SNR=11
KBZ Khabaz 72.10 311⇓ *i*P **P** **02 03 50.0 +0.3**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 72.11 311 *e*P **P** **02 03 50.5 +0.6**
KIV pmax pmax
comp=Z,23nm,1.0s
GNI Garni 72.81 307⇑ *e*P **P** **02 03 55.0 +0.8**
GNI pmax pmax
comp=Z,12nm,1.1s
MNK Minsk 74.01 326 *e*P P 02 04 06.0 +5.2
MNK Minsk 74.01 326 *i*P **P** **02 04 00.4 -0.4**
comp=E,1.0nm,1.0s
MNK *i*P **P** **02 04 00.4 -0.4**
comp=N,19nm,1.2s
MNK *i*P **P** **02 04 00.4 -0.4**
comp=Z,10.0nm,0.7s
MNK *i* PcP **PcP** **02 04 15.3 -0.8**
MNK *i* PP **PP** **02 06 45.3 -0.1**
MNK *i* PPP PPP 02 08 30.3
MNK *i* S **S** **02 13 32.8 -0.9**
MNK *i* ScS **ScS** **02 14 11.2 -0.2**
MNK *i* SS **SS** **02 18 20.3 +3.1**
MNK *i* SSS SSS 02 21 40.8
MNK *i* LQ LQ 02 31 36.3
MNK *i* LR LR 02 37 14.5
MNK *i* LRM MLR 02 39 45.3
comp=N,121nm,10.9s
MNK *i* LRM MLR 02 39 46.6
comp=Z,215nm,14.2s
MNK *i* LRM MLR 02 39 47.9
comp=E,20nm,17.1s
IDID Didziasalis 74.02 327 *e*P **P** **02 04 01.3 +0.5**
ISAL Salakas 74.12 328 *e*P **P** **02 04 01.9 +0.5**
IIGN Ignalina 74.22 328 *e*P **P** **02 04 02.5 +0.5**
NACGM Naroch 74.26 327 *i*P **P** **02 04 02.5 +0.2**
NACGM *e*P **P** **02 04 02.5 +0.2**
NACGM *i*P **P** **02 04 02.5 +0.2**
NACGM *i* PcP **PcP** **02 04 23.4 +6.3**
NACGM *i* PP PP 02 06 38.5 -8.8
NACGM *i* PPP PPP 02 08 18.9
NACGM *i* S SKiKP 02 13 13.9 -16
NACGM *i* PS PnS 02 13 53.1 -15
NACGM *i* SS SS 02 17 59.7 -21
NACGM *i* SSS SSS 02 21 16.4
NACGM *i* LR LR 02 33 23.2
UPP Uppsala 74.60 334 *e*P **P** **02 04 04.1 0.0**
PABE Paberze 75.10 329 *e*P **P** **02 04 07.3 +0.2**
FFC Flin Flon 75.24 32 P **P** **02 04 09.2 +1.2**
FFC pmax pmax
comp=Z,5.0nm,0.9s
FFC Flin Flon 75.24 32 P **P** **02 04 09.2 +1.2**
FFC IAmb IAmb 02 04 09.8
comp=Z,4.8nm,0.8s
FCC Fort Churchill 75.63 26 P **P** **02 04 10.8 +0.7**
FCC pmax pmax
comp=Z,4.0nm,0.9s
FCC Fort Churchill 75.63 26 P **P** **02 04 10.8 +0.7**
NC405 NORSAR Array S 75.66 337 P **P** **02 04 10.9 +0.7**
AKASG Malin Array Be 75.75 323 P **P** **02 04 10.7 -0.2**
comp=Z,4.2nm,0.6s,baz=48,slow=6.1,SNR=17
AKASG Malin Array Be 75.75 323 *ce*P **P** **02 04 10.5 -0.4**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 75.75 323 P **P** **02 04 10.3 -0.6**
AKBB Malin Array Si 75.75 323⇓ *e*P **P** **02 04 10.8 -0.1**
AKBB pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 75.75 323 P **P** **02 04 11.1 +0.2**
AKBB IAmb IAmb 02 04 11.8
comp=Z,7.5nm,0.8s
NC204 NORSAR Array S 75.83 338 P **P** **02 04 11.6 +0.3**
NB2 NORSAR Subarra 75.87 337 P **P** **02 04 11.3 -0.2**
comp=Z,3.7nm,0.7s,baz=41,slow=5.9
NOA NORSAR Array B 75.87 337 P **P** **02 04 12.0 +0.5**
comp=Z,4.8nm,0.7s,baz=40,slow=5.8,SNR=20
NOA NORSAR Array B 75.87 337 P **P** **02 04 12.0 +0.5**
NBO00 NORSAR Array S 76.02 338 P **P** **02 04 13.0 +0.7**
NVAR Mina Array Bea 76.08 53 P **P** **02 04 15.4 +2.1**
comp=Z,2.2nm,0.7s,baz=283,slow=6.1,SNR=20
NVAR Mina Array Bea 76.08 53 P **P** **02 04 14.9 +1.6**
KONO Kongsberg 77.46 337 P **P** **02 04 20.9 +0.5**
KONO pmax pmax
comp=Z,42nm,1.5s
KONO Kongsberg 77.46 337 P **P** **02 04 20.9 +0.5**
FRB Frobisher Bay 78.55 13 P **P** **02 04 27.3 +0.9**
comp=Z,4.7nm,0.7s,baz=334,slow=6.1,SNR=20
PDAR Pinedale Array 78.94 45 P **P** **02 04 30.6 +1.3**
comp=Z,1.1nm,0.6s,baz=277,slow=1.8,SNR=13
KWP Kalwaria Pacla 79.62 325 *e*P **P** **02 04 33.7 +1.1**
BURAR Bucovina Array 79.75 322 P **P** **02 04 33.7 +0.3**
PFO Pinyon Flats O 80.05 56 P **P** **02 04 32.9 -2.5**
PFO pmax pmax
comp=Z,2.0nm,0.9s
PFO Pinyon Flats O 80.05 56 P **P** **02 04 32.9 -2.5**
XPFO Pion Flat 80.06 56 P **P** **02 04 33.1 -2.2**
BR131 Keskin Array S 80.07 312⇓ *e*P **P** **02 04 35.5 +0.1**
BRTR Keskin Array B 80.07 312 P **P** **02 04 35.4 +0.1**
comp=Z,1.8nm,0.8s,baz=130,slow=5.0,SNR=8.8
BRTR Keskin Array B 80.07 312 *ce*P **P** **02 04 35.2 -0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KOLS Kolonicke sedl 80.31 324 *e*P **P** **02 04 40.0 +3.7**
KOLS Kolonicke sedl 80.31 324 *e*P **P** **02 04 40.0 +3.7**
OJC Ojcow 80.56 326 *e*P **P** **02 04 38.3 +0.6**
SOCY Socotra 81.01 279 P **P** **02 04 38.8 -2.0**
ULM Lac du Bonnet 81.03 33 P **P** **02 04 40.8 +0.7**
comp=Z,2.0nm,0.8s,baz=329,slow=7.4,SNR=6.6
RAYN Ar Rayn 81.36 293 P **P** **02 04 42.3 -0.2**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
RAYN Ar Rayn 81.36 293 P **P** **02 04 42.3 -0.2**
RAYN IAmb IAmb 02 04 42.9
comp=Z,4.6nm,0.8s
KSP Ksiaz 81.66 328 *e*P **P** **02 04 43.8 +0.3**
MORC Moravsky Berou 81.89 327 *e*P **P** **02 04 45.6 +0.8**
MORC Moravsky Berou 81.89 327 P **P** **02 04 43.9 -0.9**
MORC pmax pmax
comp=Z,8.0nm,1.2s
CHVC Chvalec 81.95 328 *e*P **P** **02 04 44.9 -0.1**
DPC Dobruska-Polom 82.01 328 *e*P **P** **02 04 46.0 +0.6**
DPC Dobruska-Polom 82.01 328 *e*P **P** **02 04 46.0 +0.6**
UPC Upice 82.03 328 *e*P **P** **02 04 46.4 +1.0**
UPC Upice 82.03 328 *e*P **P** **02 04 46.4 +1.0**
VYHS Vyhne 82.23 326 *e*P **P** **02 04 47.3 +0.7**
VYHS Vyhne 82.23 326 *e*P **P** **02 04 47.3 +0.7**
JAVC Velka Javorina 82.50 326 *e*P **P** **02 04 49.1 +1.1**
BRG Berggiesshubel 82.63 330 P **P** **02 04 49.1 +0.6**
BRG pmax pmax
comp=Z,8.0nm,2.6s
BRG Berggiesshubel 82.63 330 *e*P **P** **02 04 48.8 +0.3**
BRG Amp 02 04 50.3
comp=Z,6.5nm,0.9s
VRAC Vranov 82.66 327 *e*P **P** **02 04 49.2 +0.4**
CLL Collm 82.69 330 *i*P **P** **02 04 48.5 -0.3**
comp=Z,11nm,0.8s
CLL Collm 82.69 330 *i*P **P** **02 04 48.5 -0.3**
CLL pmax pmax
comp=Z,11nm,0.8s
KRUC Moravsky 82.93 327 *e*P **P** **02 04 50.2 +0.1**
PRU Pruhonice 83.04 329 *e*P **P** **02 04 50.7 0.0**
PRU Pruhonice 83.04 329 *e*P **P** **02 04 50.7 0.0**
NKC Novy Kostel 83.73 330 *e*P **P** **02 04 54.6 +0.3**
NKC Novy Kostel 83.73 330 *e*P **P** **02 04 54.6 +0.3**
CONA Conrad Observa 84.01 327 *e*P **P** **02 04 56.6 +0.8**
comp=Z,4.7nm,0.8s
CKRC Cesky Krumlov 84.03 328 *e*P **P** **02 04 55.8 0.0**
KHC Kasperske Hory 84.10 329⇓ *e*P **P** **02 04 56.8 +0.6**
KHC pmax pmax
comp=Z,17nm,0.9s
KHC Kasperske Hory 84.10 329 *e*P **P** **02 04 55.8 -0.5**
KHC Kasperske Hory 84.10 329 P **P** **02 04 57.0 +0.8**
KHC IAmb IAmb 02 04 57.5
comp=Z,7.4nm,0.9s
VTS Vitosha 84.17 319 P **P** **02 04 57.9 +1.1**
VTS pmax pmax
comp=Z,7.0nm,0.8s
VTS Vitosha 84.17 319 P **P** **02 04 57.9 +1.1**
VTS IAmb IAmb 02 04 58.5
comp=Z,7.1nm,0.8s
GEC2 GERESS Array S 84.27 328 P **P** **02 04 57.5 +0.2**
GEC2 IAmb IAmb 02 04 57.9
comp=Z,3.4nm,0.8s

GERES GERESS Array B 84.27 328 P **P** **02 04 57.2 0.0**
comp=Z,2.9nm,0.7s,baz=34,slow=5.2,SNR=22
GERES GERESS Array B 84.27 328 P **P** **02 04 57.4 +0.2**
GERES GERESS Array B 84.27 328 P **P** **02 04 57.4 +0.2**
GRA1 Grafenberg Arr 84.66 330 P **P** **02 04 59.7 +0.7**
GRF Grafenberg Arr 84.66 330 P **P** **02 04 59.7 +0.7**
GRF pmax pmax
comp=Z,10.0nm,1.0s
GRF Grafenberg Arr 84.66 330 *e*P **P** **02 04 59.6 +0.7**
comp=Z,6.8nm,0.9s,baz=44,slow=4.3
MOA Molln 84.78 327 *i*P **P** **02 05 00.9 +1.2**
comp=Z,2.3nm,0.7s
SOKA Soboth 85.31 326 *e*P **P** **02 05 02.5 0.0**
comp=Z,3.5nm,0.6s
KBA Koelnbreinsper 85.77 327 *e*P **P** **02 05 05.9 +1.0**
comp=Z,5.0nm,0.8s
RETA Reutte 86.57 329 *e*P **P** **02 05 09.3 +0.7**
comp=Z,2.7nm,0.8s
BMRD Maredsous 86.65 334 *d*PcP **P** **02 05 09.3 +0.4**
SNF Seneffe 86.65 334 *d*PcP **P** **02 05 09.0 +0.2**
DAVA Damuels 87.10 329 *e*P **P** **02 05 10.6 -0.7**
comp=Z,13nm,1.7s
TXAR Lajitas Array 91.23 52 P **P** **02 05 32.6 +1.5**
comp=Z,0.3nm,0.7s,baz=270,slow=2.4,SNR=4.5
H03N2 Juan Fernandez 146.78 99 T T 04 56 21.8
baz=290,slow=76,SNR=5.8
H03N3 Juan Fernandez 146.79 99 T T 04 56 28.7
baz=290,slow=76,SNR=5.1
H03N1 Juan Fernandez 146.80 99 T T 04 56 33.6
baz=290,slow=76,SNR=6.7
LPAZ La Paz 147.58 62 PKPbc **PKPbc** **02 12 12.0 +1.0**
comp=Z,1.0nm,0.6s,baz=0.0,slow=2.0,SNR=4.1
LPAZ La Paz 147.58 62 PKIKP **PKPbc** **02 12 10.1 -0.9**
LPAZ La Paz 147.58 62 **PKPbc** **02 12 10.1 -0.9**

*KRSC **09** 02:01:21.5± 1.1, 52.°55N× 156.°92E, h216km± 10km, ML3.7*
*IDC **09** 02:01:24.1± 3.3, 52.°64N× 157.°26E, h204km± 9km, mb2.9/4, mb1 3.3/4, mb1mx2.8/46, mbtmp3.5/4, Error ellipse: s-maj=89.5km s-min=62.6km az=102.0*
ISC 09 02:01:23.3± 1.0, 52.°50N± 0.°07× 157.°08E± 0.°09, h213km± 6km, n34, σ 1°17/47, mb3.1/4, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APC	**Apacha**	**0.43**	**7**	*e*P		**Pn**	**02 01 50.5**	**-1.1**
APC				*e*S		**S**	**02 02 12.1**	**-1.8**
ASAK	**Asacha**	**0.52**	**103**	*e*P		**Pn**	**02 01 52.3**	**+0.2**
GRL	**Gorelyy**	**0.61**	**85**	*e*P		**Pn**	**02 01 52.9**	**+0.4**
MTVR	**Mutnovka**	**0.68**	**91**	*e*P		**Pn**	**02 01 53.5**	**+0.7**
PETK	**Petropavlovsk-** 12nm,0.3s,baz=196,slow=2.1,SNR=254	**0.72**	**32**	P		**Pn**	**02 01 52.1**	**-0.7**
PETK				S		**S**	**02 02 14.4**	**-1.5**
baz=148,slow=33,SNR=1.7								
KRMR	**Karymshinskiy**	**0.72**	**62**	*e*P		**Pn**	**02 01 51.8**	**-1.0**
RUS	**Russkaya**	**0.88**	**94**	*e*P		**Pn**	**02 01 53.7**	**+0.1**
RUS				*e*S		**S**	**02 02 17.5**	**+0.3**
KDTR	**Khodutka, Kamc**	**0.93**	**138**	*e*P		**Pn**	**02 01 52.9**	**-1.0**
KDTR				*e*S		**S**	**02 02 16.4**	**-1.3**
PAU	**Pauzhetka**	**1.05**	**189**	*e*P		**Pn**	**02 01 54.3**	**-0.4**
PET	**Petropavlovsk**	**1.09**	**61**	*e*S		**S**	**02 02 20.5**	**+1.0**
DALK	**Dalny**	**1.15**	**62**	*e*P		**Pn**	**02 01 55.8**	**+0.5**
DALK				*e*S		**S**	**02 02 21.5**	**+1.3**
KOK	**Koryaka**	**1.23**	**49**	*e*P		**Pn**	**02 01 56.5**	**+0.4**
AVH	**Avacha**	**1.26**	**52**	*e*P		**Pn**	**02 01 57.1**	**+0.8**
UGLR	**Uglovaya**	**1.27**	**55**	*e*P		**Pn**	**02 01 57.4**	**+1.0**
KRX	**Arik**	**1.28**	**47**	*e*P		**Pn**	**02 01 56.7**	**+0.2**
SMAR	**Somma**	**1.29**	**53**	*e*P		**Pn**	**02 01 57.2**	**+0.5**
GNL	**Ganaly**	**1.30**	**23**	*e*P		**Pn**	**02 01 55.7**	**-0.9**
GNL				*e*S		**S**	**02 02 21.6**	**-1.0**
SDLR	**Sedlovina**	**1.34**	**54**	*e*P		**Pn**	**02 01 57.4**	**+0.5**
SDLR				*e*S		**S**	**02 02 25.4**	**+2.3**
NLC	**Nalytchevo**	**1.53**	**63**	*e*P		**Pn**	**02 01 59.2**	**+0.9**
NLC				*e*S		**S**	**02 02 27.4**	**+1.9**
SPN	**Mys Shipunski**	**1.89**	**70**	*e*P		**Pn**	**02 02 01.3**	**-0.3**
SPN				*e*S		**S**	**02 02 29.8**	**-1.4**
SKR	**Severo-Kuril's**	**1.92**	**199**	*e*P		**Pn**	**02 02 00.9**	**-1.0**
SKR				*e*S		**S**	**02 02 32.9**	**+1.1**
KZV	**Kizimen**	**3.24**	**35**	*e*P		**Pn**	**02 02 17.1**	**+0.7**
TUMR	**Tumrok**	**3.33**	**32**	*e*P		**Pn**	**02 02 18.4**	**+1.0**
TUMD	**Tumrok D**	**3.35**	**35**	*e*P		**Pn**	**02 02 18.3**	**+0.8**
TUMD				*e*S		**S**	**02 02 58.9**	**-1.0**
MKZ	**Mys Kozlova**	**3.46**	**52**	*e*P		**Pn**	**02 02 18.3**	**-0.5**
MKZ				*e*S		**S**	**02 03 00.1**	**-2.0**
SRDR	**Sredinnyy**	**4.12**	**21**	*e*P		**Pn**	**02 02 27.4**	**+0.4**
BDR	**Baidarnaya**	**4.73**	**29**	*e*P		**Pn**	**02 02 35.2**	**+0.7**
SRKR	**Sorokina**	**4.79**	**28**	*e*P		**Pn**	**02 02 35.6**	**+0.3**
KBTR	**Krutoberegovo**	**5.01**	**40**	*e*P		**Pn**	**02 02 36.5**	**-1.4**
BKI	**Bering**	**5.92**	**59**	*e*P		**Pn**	**02 02 49.1**	**-0.4**
BKI				*e*S		**S**	**02 03 54.0**	**-3.8**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=260,slow=7.9,SNR=5.8	**30.53**	**44**	P		**P**	**02 07 16.3**	**+0.1**
INK	**Inuvik** 0.4nm,0.3s,baz=275,slow=9.3,SNR=5.0	**35.45**	**37**	P		**P**	**02 07 58.7**	**0.0**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=302,slow=7.2,SNR=6.3	**44.83**	**41**	P		**P**	**02 09 15.6**	**+0.1**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=300,slow=4.9,SNR=4.8	**72.55**	**65**	P		**P**	**02 12 28.1**	**+1.1**

*IDC **09** 02:07:55.4± 1.3, 4.°13S× 129.°43E, h0km, mb3.9/2, mb1 3.8/6, mb1mx3.6/30, mbtmp3.7/6, ML3.4/4, MS3.1/1, Ms1 3.3/1, ms1mx2.5/39, Error ellipse: s-maj=50.6km s-min=22.4km az=87.0*
ISC 09 02:07:59.6± 1.0, 4.°2S± 0.°1× 129.°7E± 0.°2, h36km, n7, σ 0°94/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong** 6.8nm,0.3s,baz=198,slow=20,SNR=25	**3.65**	**25**	Pn		**Pn**	**02 08 54.1**	**+0.5**
SIJI				Sn		**Sn**	**02 09 34.2**	**-1.3**
4.0nm,0.3s,baz=224,slow=7.1,SNR=3.9								
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=12,slow=14,SNR=2.3	**14.38**	**196**	Pn		**Pn**	**02 11 19.9**	**-0.9**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=346,slow=13,SNR=5.5	**16.30**	**164**	Pn		**Pn**	**02 11 45.6**	**-0.2**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=346,slow=9.9,SNR=12	**19.78**	**169**	P		**Pn**	**02 12 29.4**	**+0.8**
CMAR	**Chiang Mai Arr** comp=Z,22nm,18.3s,baz=85,slow=42	**37.75**	**308**	LR		LR	02 33 52.6	
USRK	**Ussuriysk Ar.** 0.4nm,0.4s,baz=184,slow=6.8,SNR=4.2	**48.22**	**2**	P		**P**	**02 16 37.3**	**+0.6**
MKAR	**Makanchi Array** 1.4nm,0.6s,baz=121,slow=8.0,SNR=22	**65.73**	**326**	P		**P**	**02 18 40.8**	**-0.1**

*NEIC **09** 02:23:03.9± 1.8, 12.°76S± 0.°09× 73.°82W± 0.°07, h66km± 7km, mb4.5/41, ML4.4(ARE), Error ellipse: s-maj=13.9km s-min=8.1km az=205.0*
*ARE **09** 02:23:03± 1.8, 12.°88S± 0.°04× 73.°88W± 0.°06, h86km± 6km, Error ellipse: s-maj=9.2km s-min=5.7km az=110.0*
*IDC **09** 02:23:04.9± 1.4, 12.°74S× 73.°84W, h78km± 15km, mb3.6/9, mb1 3.8/15, mb1mx3.7/35, mbtmp3.9/15, MS2.6/3, Ms1 2.7/3, ms1mx2.6/25, Error ellipse: s-maj=24.9km s-min=10.3km az=28.0*
*VAO **09** 02:23:08.4± 1.6, 12.°37S× 73.°06W, h10km, mb4.2*
ISC 09 02:23:03.7± 0.5, 12.°81S± 0.°05× 73.°82W± 0.°05, h66km, n101, σ 1°31/106, mb4.3/24, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNA	**Nana** 35nm,0.3s,baz=110,slow=9.8,SNR=55	**3.07**	**285**	P		**Pn**	**02 23 50.7**	**+0.9**
NNA				S		**Sn**	**02 24 26.4**	**+1.0**
58nm,0.3s,baz=218,slow=5.3,SNR=8.9								
NNA				LR		LR	02 25 06.6	
comp=Z,43nm,18.8s,baz=94,slow=40								
NNA	**Nana**	**3.07**	**285**			**Pn**	**02 23 51.0**	**+1.2**
NNA				Sn		**Sn**	**02 24 26.0**	**+0.7**
CZSB	**Cruzeiro do Su**	**5.16**	**12**	*e*P		**Pn**	**02 24 18.5**	**0.0**
LPAZ	**La Paz** 1.6nm,0.3s,baz=308,slow=10,SNR=45	**6.50**	**123**	P		**Pn**	**02 24 40.4**	**+3.0**
LPAZ				LR		LR	02 28 00.7	
comp=Z,38nm,21.3s,baz=294,slow=45								
LPAZ	**La Paz**	**6.50**	**123**	Pn		**Pn**	**02 24 40.2**	**+2.8**
LPAZ	**La Paz**	**6.50**	**123**	*e*P		**Pn**	**02 24 40.0**	**+2.7**
PB16	**IPOC Station P**	**6.89**	**143**	Pn		**Pn**	**02 24 43.2**	**+0.6**
ATAH	**Atahualpa** 3.6nm,0.3s,baz=106,slow=4.3,SNR=24	**7.22**	**321**	P		**Pn**	**02 24 47.1**	**+0.2**
ATAH				S		**Sn**	**02 26 09.4**	**+1.7**
2.0nm,0.3s,baz=40,slow=7.9,SNR=1.3								
MNMC	**Minye Minye**	**7.48**	**148**	Pn		**Pn**	**02 24 48.3**	**-2.2**

PSGCX	**Pisagua**	**7.63**	**153**	Pn	**Pn**	**02 24 49.9**	**-2.3**
PB08	**IPOC Station P**	**8.55**	**149**	Pn	**Pn**	**02 25 05.1**	**-0.1**
PB07	**IPOC Station P**	**9.63**	**158**	Pn	**Pn**	**02 25 21.3**	**+1.6**
PB09	**IPOC Station P**	**9.95**	**155**	Pn	**Pn**	**02 25 25.2**	**+1.2**
LVC	**Limon Verde**	**10.81**	**155**	P	**Pn**	**02 25 37.9**	**+1.9**
	0.7nm,0.3s,baz=332,slow=12,SNR=2.9						
LVC				S	**Sn**	**02 27 31.0**	**-4.6**
	0.6nm,0.3s,baz=210,slow=20,SNR=2.5						
LVC				LR	LR	02 30 07.2	
	comp=Z,109nm,19.1s,baz=306,slow=39						
SAML	**Samuel**	**11.12**	**71**	Pn	**Pn**	**02 25 38.9**	**-1.1**
SIV	**San Ignacio**	**12.75**	**106**	P	**Pn**	**02 26 02.5**	**+0.3**
	0.1nm,0.3s,baz=293,slow=13,SNR=2.3						
SIV				S	**Sn**	**02 28 25.3**	**+2.9**
	0.2nm,0.3s,baz=292,slow=18,SNR=1.4						
VILB	**Vilhena**	**13.28**	**92**	*e*P	**Pn**	**02 26 08.7**	**-0.7**
OTAV	**Otavalo**	**13.75**	**340**		**Pn**	**02 26 15.9**	**-0.2**
OTAV	**Otavalo**	**13.75**	**340**	*e*P	**Pn**	**02 26 17.8**	**+1.7**
PTLB	**Pontes e Lacer**	**14.48**	**102**	*e*P	**Pn**	**02 26 24.0**	**-1.2**
AC02	**Maricunga**	**14.63**	**163**	P	**P**	**02 26 32.2**	**-0.2**
MACC	**Macarena, Meta**	**14.86**	**360**	*e*P	**Pn**	**02 26 28.0**	**-2.2**
BBAC	**Balboa, Cauca**	**15.12**	**347**	*e*P	**Pn**	**02 26 33.9**	**+0.2**
POPC	**Popayan, Colom**	**15.51**	**349**	*e*P	**P**	**02 26 41.7**	**-0.2**
MARP	**Paez Belalcaza**	**15.69**	**352**	*e*P	**P**	**02 26 43.2**	**-0.8**
ORTC	**Ortega, Tolima**	**16.67**	**355**	*e*P	**P**	**02 26 53.9**	**-0.6**
YOTC	**Yotoco, Valle**	**16.87**	**351**	*e*P	**P**	**02 26 57.0**	**+0.1**
CHIC	**Chingaza**	**17.32**	**0**	*e*P	**P**	**02 27 04.6**	**+2.4**
TOLC	**Tolima**	**17.34**	**355**	*e*P	**P**	**02 27 04.5**	**+2.2**
GUY2C	**Guyana, Caldas**	**17.98**	**355**	*e*P	**Pn**	**02 27 12.6**	**+2.9**
PTGA	**Pitinga**	**18.23**	**50**	P	**P**	**02 27 11.8**	**0.0**
	0.7nm,0.3s,baz=235,slow=15,SNR=6.1						
PTGA	**Pitinga**	**18.23**	**50**	*e*P	**P**	**02 27 09.5**	**-2.2**
NORC	**Norcasia**	**18.28**	**357**	*e*P	**Pn**	**02 27 13.9**	**+0.9**
SPBC	**San Pablo de B**	**18.34**	**359**	*e*P	**Pn**	**02 27 15.3**	**+1.6**
RUSC	**La Rusia**	**18.59**	**2**	*e*P	**Pn**	**02 27 17.2**	**+0.1**
CBOC	**Ciudad Bolivar**	**18.68**	**353**	*e*P	**P**	**02 27 13.9**	**-2.9**
NPGB	**Novo Progresso**	**19.06**	**74**	*e*P	**Pn**	**02 27 22.5**	**+0.3**
PTBC	**PUERTO BERRIO,**	**19.23**	**358**	*e*P	**P**	**02 27 22.2**	**-0.5**
ITTB	**Itaituba**	**19.73**	**66**	*e*P	**Pn**	**02 27 29.8**	**-0.5**
BOAV	**Boa Vista**	**20.06**	**42**	*e*P	**P**	**02 27 32.5**	**+0.8**
CPUP	**Villa Florida**	**20.52**	**133**	P	**P**	**02 27 37.6**	**+1.0**
	2.3nm,0.8s,baz=326,slow=12,SNR=5.3						
CPUP	**Villa Florida**	**20.52**	**133**	P	**P**	**02 27 38.5**	**+1.8**
SMLC	**San Martn de**	**21.47**	**359**	*e*P	**P**	**02 27 44.8**	**-2.0**
SDV	**Santo Domingo**	**21.78**	**9**	P	**P**	**02 27 50.0**	**-0.3**
	3.2nm,0.4s,baz=265,slow=4.3,SNR=4.5						
SDV	**Santo Domingo**	**21.78**	**9**	P	**P**	**02 27 50.1**	**-0.3**
SDV	**Santo Domingo**	**21.78**	**9**	*e*P	**P**	**02 27 49.6**	**-0.8**
SNDB	**Serra Nova Dou**	**22.01**	**90**	*e*P	**P**	**02 27 55.1**	**+2.3**
MALB	**Monte Alegre**	**22.21**	**62**	*e*P	**P**	**02 27 56.9**	**+2.0**
MCPB	**Macapa, AP**	**24.87**	**62**	*e*P	**P**	**02 28 22.2**	**+1.9**
MLPR	**Magueyes Islan**	**31.30**	**12**	P	**P**	**02 29 17.7**	**0.0**
OBIP	**Obispado Ponce**	**31.47**	**13**	P	**P**	**02 29 17.6**	**-1.6**
MPR	**Mayaguez**	**31.52**	**12**	P	**P**	**02 29 19.1**	**-0.5**
SJG	**San Juan**	**31.64**	**14**	P	**P**	**02 29 20.9**	**+0.2**
AOPR	**Arecibo Observ**	**31.73**	**13**	P	**P**	**02 29 20.1**	**-1.5**
HUMP	**Col San Antoni**	**31.74**	**15**	P	**P**	**02 29 20.7**	**-0.9**
T59A	**Double "B" Far**	**49.64**	**356**	P	**P**	**02 31 49.7**	**+1.1**
T59A				IAmb	IAmb	02 32 04.4	
	comp=Z,13nm,1.4s						
MIAR	**Mount Ida**	**50.70**	**339**	P	**P**	**02 31 55.9**	**-0.7**
MIAR				IAmb	IAmb	02 32 00.1	
	comp=Z,7.8nm,1.5s						
TX32	**Lajitas Array**	**50.85**	**326**	P	**P**	**02 31 57.9**	**-0.2**
TXAR	**Lajitas Array**	**50.85**	**326**	P	**P**	**02 31 57.3**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=151,slow=8.2,SNR=6.1						
TXAR	**Lajitas Array**	**50.85**	**326**	P	**P**	**02 31 57.4**	**-0.6**
TX31	**Lajitas Ar. Si**	**50.85**	**326**	P	**P**	**02 31 57.9**	**-0.2**
TX31				IAmb	IAmb	02 32 08.9	
	comp=Z,3.8nm,1.0s						
Q44A	**Meyer Farm, Va**	**53.37**	**345**	P	**P**	**02 32 14.9**	**-1.5**
BINY	**Binghamton**	**54.77**	**358**	P	**P**	**02 32 27.1**	**+0.5**
BINY				IAmb	IAmb	02 32 30.5	
	comp=Z,7.2nm,1.1s						
PLVO	**Plevna**	**57.65**	**357**	P	**P**	**02 32 46.6**	**-0.4**
SDCO	**Great Sand Dun**	**58.42**	**331**	P	**P**	**02 32 53.0**	**+0.1**
SDCO				IAmb	IAmb	02 32 53.4	
	comp=Z,3.9nm,0.9s						
PV01	**Paradox Valley**	**60.23**	**329**	P	**P**	**02 33 05.7**	**+0.4**
PV01				IAmb	IAmb	02 33 06.0	
	comp=Z,2.6nm,0.9s						
KNB	**Kanab**	**61.66**	**325**	P	**P**	**02 33 16.1**	**+1.1**
MTPU	**Mount Pierson**	**62.05**	**326**	P	**P**	**02 33 17.5**	**-0.3**
P17A	**Butcher Ranch,**	**62.35**	**328**	P	**P**	**02 33 19.4**	**-0.2**
MVU	**Marysvale**	**62.40**	**327**	P	**P**	**02 33 21.3**	**+1.2**
MVU				IAmb	IAmb	02 33 27.9	
	comp=Z,10nm,1.4s						
B35A	**Bob, Littlefor**	**63.41**	**345**	P	**P**	**02 33 24.8**	**-1.4**
B35A				IAmb	IAmb	02 33 25.4	
	comp=Z,2.7nm,0.8s						
DRLN	**Deer Lake**	**63.45**	**12**	P	**P**	**02 33 26.2**	**-0.2**
DRLN				IAmb	IAmb	02 33 26.7	
	comp=Z,9.4nm,0.9s						
SPR3	**Spring Creek 3**	**63.91**	**326**	P	**P**	**02 33 30.5**	**+0.4**
SPR3				IAmb	IAmb	02 33 33.1	
	comp=Z,5.3nm,1.4s						
AGMN	**Agassiz Nation**	**63.91**	**344**	P	**P**	**02 33 29.0**	**-0.5**
AGMN				IAmb	IAmb	02 33 29.1	
	comp=Z,4.5nm,0.7s						
DUG	**Dugway, Tooele**	**63.95**	**328**	P	**P**	**02 33 30.5**	**+0.3**
DUG				IAmb	IAmb	02 33 31.1	
	comp=Z,3.9nm,0.9s						
PDAR	**Pinedale Array**	**64.28**	**331**	P	**P**	**02 33 31.4**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=122,slow=9.1,SNR=4.7						
PDAR	**Pinedale Array**	**64.28**	**331**	P	**P**	**02 33 32.5**	**+0.1**
LOHW	**Long Hollow**	**65.42**	**331**	P	**P**	**02 33 39.5**	**-0.3**
ULM	**Lac du Bonnet**	**65.70**	**345**	P	**P**	**02 33 39.9**	**-1.2**
	comp=Z,3.3nm,0.7s,baz=153,slow=7.1,SNR=8.6						
ULM	**Lac du Bonnet**	**65.70**	**345**	P	**P**	**02 33 39.7**	**-1.4**
ULM				IAmb	IAmb	02 33 40.4	
	comp=Z,3.6nm,0.8s						
NVAR	**Mina Array Bea**	**65.78**	**323**	P	**P**	**02 33 42.2**	**0.0**
	comp=Z,0.4nm,0.7s,baz=170,slow=9.0,SNR=3.6						
NVAR	**Mina Array Bea**	**65.78**	**323**	P	**P**	**02 33 42.0**	**-0.1**
RLMT	**Red Lodge**	**65.98**	**333**	P	**P**	**02 33 42.9**	**-0.5**
YNE	**Yellowstone No**	**66.22**	**333**	P	**P**	**02 33 44.6**	**-0.3**
YHH	**Holmes Hill**	**66.43**	**332**	P	**P**	**02 33 47.3**	**+1.0**
YHL	**Hebgen Lake**	**66.63**	**332**	P	**P**	**02 33 48.5**	**+0.8**
GCMT	**Greycliff**	**66.68**	**333**	P	**P**	**02 33 47.9**	**+0.2**
PAHR	**Pah Rah Range**	**67.25**	**323**	P	**P**	**02 33 52.5**	**+1.0**
PAHR				IAmb	IAmb	02 33 52.7	
	comp=Z,2.3nm,0.8s						
BOZ	**Bozeman (W)**	**67.41**	**332**	P	**P**	**02 33 52.1**	**-0.2**
WALA	**Waterton Lakes**	**71.04**	**333**	P	**P**	**02 34 14.6**	**0.0**
WALA				IAmb	IAmb	02 34 15.1	
	comp=Z,2.9nm,0.8s						
SNAA	**Sanae**	**71.97**	**162**	P	**P**	**02 34 21.0**	**+1.1**
FCC	**Fort Churchill**	**73.21**	**349**	P	**P**	**02 34 26.5**	**-0.7**
KOWA	**Kowa**	**74.25**	**71**	P	**P**	**02 34 34.5**	**+0.2**
KOWA				IAmb	IAmb	02 34 53.0	
	comp=Z,5.9nm,1.5s						
TOA0	**Torodi Ar. Sit**	**79.17**	**74**	P	**P**	**02 35 01.5**	**-0.5**
TOA0				IAmb	IAmb	02 35 02.8	
	comp=Z,3.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**79.17**	**74**	P	**P**	**02 35 01.8**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=261,slow=5.3,SNR=7.8						
TORD	**Torodi Ar. Bea**	**79.17**	**74**	P	**P**	**02 35 01.6**	**-0.4**
YKA	**Yellowknife Ar**	**81.50**	**342**	P	**P**	**02 35 12.9**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=134,slow=6.5,SNR=20						
ESDC	**Sonseca Array**	**83.15**	**47**	P	**P**	**02 35 22.9**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=269,slow=5.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**135.61**	**18**	PKP	**PKPdf**	**02 42 16.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=308,slow=3.5,SNR=2.7						
WRA	**Warramunga Arr**	**137.25**	**221**	PKP	**PKPdf**	**02 42 19.8**	**-0.6**
	comp=Z,1.1nm,1.0s,baz=130,slow=1.9,SNR=3.4						
SONM	**Songino Array**	**145.08**	**360**	PKPbc	**PKPbc**	**02 42 33.5**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=323,slow=2.8,SNR=29						

*IDC **09** 02:37:27.1±2.8, 25°.26S×176°.43W, h97km±24km, mb3.6/5, mb1 3.9/6, mb1mx3.6/37, mbtmp3.9/6, MS3.6/7, Ms1 3.6/7, ms1mx3.4/22, Error ellipse: s-maj=32.1km s-min=21.4km az=101.0*

ISC 09 02:37:27.3±1.1**, 25°.29S**±0°.09×**176°.4W**±0°.2**, h100**km**, n18,** σ1s.06/10**, mb3.6**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.17**	**198**	P	**Pn**	**02 38 27.7**	**-1.1**
	114nm,0.3s,baz=31,slow=22,SNR=3.7						
RAO				S	**Sn**	**02 39 17.8**	**+1.4**
	43nm,0.3s,baz=262,slow=23,SNR=1.5						
RAO				LR	LR	02 39 18.9	
	comp=Z,216nm,20.4s,baz=102,slow=27						
MSVF	**Nonsavu**	**9.12**	**324**	P	**Pn**	**02 39 36.1**	**0.0**
	0.8nm,0.3s,baz=159,slow=13,SNR=6.6						
MSVF				LR	LR	02 42 52.6	
	comp=Z,665nm,20.0s,baz=155,slow=36						
URZ	**Urewera**	**14.05**	**201**	LR	LR	02 46 00.5	
	comp=Z,230nm,18.5s,baz=31,slow=36						
RAR	**Rarotonga**	**15.82**	**79**	LR	LR	02 45 12.9	
	comp=Z,111nm,21.9s,baz=240,slow=29						
DZM	**Mont Dzumac**	**16.03**	**278**	LR	LR	02 46 33.5	
	comp=Z,319nm,18.7s,baz=159,slow=34						
PPT	**Papeete**	**26.10**	**78**	LR	LR	02 50 49.7	
	comp=Z,68nm,19.1s,baz=270,slow=31						
STKA	**Stephens Creek**	**37.28**	**250**	LR	LR	02 58 29.4	
	comp=Z,213nm,18.1s,baz=48,slow=34						
ASAR	**Alice Springs**	**45.04**	**261**	P	**P**	**02 45 32.8**	**-0.6**
	0.4nm,0.4s,baz=91,slow=8.0,SNR=6.2						
ASAR				PcP	**PcP**	**02 47 12.7**	**0.0**
	0.5nm,0.7s,baz=89,slow=3.9,SNR=3.4						
WRA	**Warramunga Arr**	**45.58**	**266**	P	**P**	**02 45 36.5**	**-1.1**
	0.2nm,0.4s,baz=98,slow=7.9,SNR=6.7						
WRA				PcP	**PcP**	**02 47 14.2**	**-0.4**
	0.5nm,0.7s,baz=121,slow=3.1,SNR=4.7						
H03S2	**Juan Fernandez**	**82.11**	**124**	T	T	04 19 15.0	
	baz=244,slow=74,SNR=6.5						
H03S1	**Juan Fernandez**	**82.12**	**124**	T	T	04 19 17.4	
	baz=244,slow=74,SNR=7.8						
H03S3	**Juan Fernandez**	**82.12**	**124**	T	T	04 19 17.0	
	baz=244,slow=74,SNR=6.0						
H03N3	**Juan Fernandez**	**82.27**	**123**	T	T	04 19 21.7	
	baz=250,slow=73,SNR=15						
H03N2	**Juan Fernandez**	**82.27**	**123**	T	T	04 19 21.8	
	baz=250,slow=73,SNR=8.5						
H03N1	**Juan Fernandez**	**82.28**	**123**	T	T	04 19 25.2	
	baz=250,slow=73,SNR=13						
NVAR	**Mina Array Bea**	**83.53**	**42**	P	**P**	**02 49 44.3**	**-0.1**
	0.5nm,0.8s,baz=212,slow=9.6,SNR=4.4						
ILAR	**Eielson Array**	**92.65**	**12**	P	**P**	**02 50 27.3**	**0.0**
	0.4nm,0.8s,baz=208,slow=5.5,SNR=4.6						
CMAR	**Chiang Mai Arr**	**93.07**	**289**	P	**P**	**02 50 32.0**	**+1.7**
	0.8nm,0.3s,baz=134,slow=2.6,SNR=6.2						

*NOU **09** 02:42:01.4, 36°.52S×178°.90E, h202km, MLv4.5, Off E. Coast of N. Island, N.Z.*

WEL 09 02:42:27.4, 38°S±2°×**17°7E**±°**, h80**km±2km**, M3.2**/45**, ML3.4**/45**, MLv3.2**/45**, Error ellipse: s-maj=0.0km s-min=0.0km az=135.2, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	**0.30**	**244**	P	Pn	02 42 40.1	+0.4
WHRZ				S	Sn	02 42 50.5	+1.8
HAZ	**Te Kaha**	**0.37**	**95**	P	Pn	02 42 39.8	-0.3
HAZ				S	Sn	02 42 49.8	+0.3
RUGZ	**Raukumara Rang**	**0.37**	**130**	P	Pn	02 42 39.7	-0.6
RUGZ				S	Sn	02 42 49.5	-0.3
URZ	**Urewera**	**0.56**	**197**	P	Pn	02 42 41.8	+0.2
URZ				S	Sn	02 42 52.7	+0.6
MARZ	**Manawahe**	**0.57**	**243**	P	Pn	02 42 42.1	+0.3
OPRZ	**Ohinepanea**	**0.61**	**259**	P	Pn	02 42 42.2	0.0
OPRZ				S	Sn	02 42 54.0	+0.9
PKGZ	**Pakihiroa**	**0.62**	**105**	P	Pn	02 42 42.3	-0.1
PKGZ				S	Sn	02 42 53.8	+0.3
MWZ	**Matawai**	**0.63**	**165**	P	Pn	02 42 42.7	+0.3
MWZ				S	Sn	02 42 55.1	+1.6
TWGZ	**Tauwhareparae**	**0.69**	**131**	P	Pn	02 42 43.8	+0.8
RAGZ	**Rawiri**	**0.77**	**174**	P	Pn	02 42 44.6	+0.7
RAGZ				S	Sn	02 42 58.8	+2.6
MXZ	**Matakaoa Point**	**0.80**	**78**	P	Pn	02 42 44.6	+0.4
MXZ				S	Sn	02 42 57.9	+1.3
TARZ	**Mount Tarawera**	**0.82**	**231**	P	Pn	02 42 45.4	+1.0
PUZ	**Puketiti**	**0.82**	**115**	P	Pn	02 42 44.4	0.0
TKGZ	**Te Karaka**	**0.83**	**150**	P	Pn	02 42 44.9	+0.5
TKGZ				S	Sn	02 42 59.3	+2.2
OMRZ	**Omania**	**0.84**	**243**	P	Pn	02 42 45.1	+0.5
MUGZ	**Murupara**	**0.86**	**210**	P	Pn	02 42 45.2	+0.3
MUGZ				S	Sn	02 42 58.6	+0.7
WMGZ	**Waiomatatini S**	**0.88**	**96**	P	Pn	02 42 45.2	+0.2
WMGZ				S	Sn	02 42 59.4	+1.3
RRRZ	**Republican Roa**	**0.88**	**226**	P	Pn	02 42 45.3	+0.2
KARZ	**Kaharoa**	**0.90**	**251**	P	Pn	02 42 45.6	+0.3
RTZ	**Ruatahuna**	**0.93**	**196**	P	Pn	02 42 45.9	+0.2
MYRZ	**Mayor Island**	**0.96**	**297**	P	Pn	02 42 47.2	+1.2
HSRZ	**Hossack Road**	**1.03**	**235**	P	Pn	02 42 47.8	+1.0
CNGZ	**Carnagh Statio**	**1.03**	**137**	P	Pn	02 42 47.3	+0.4
RIGZ	**Rimuhau**	**1.04**	**160**	P	Pn	02 42 47.3	+0.4
SNGZ	**Shannon Statio**	**1.05**	**179**	P	Pn	02 42 47.9	+0.7
PRRZ	**Plateau Road**	**1.06**	**223**	P	Pn	02 42 47.6	+0.5
KMRZ	**Kaimai**	**1.09**	**263**	P	Pn	02 42 47.9	+0.3
ALRZ	**Allen Road**	**1.13**	**222**	P	Pn	02 42 48.7	+0.6
MTHZ	**Maungataniwha**	**1.18**	**198**	P	Pn	02 42 49.4	+0.6
RAHZ	**Arahi**	**1.20**	**189**	P	Pn	02 42 49.9	+0.9
PRGZ	**Paritu Road**	**1.27**	**160**	P	Pn	02 42 50.0	+0.2
MRHZ	**Matea Rd**	**1.31**	**212**	P	Pn	02 42 50.7	+0.3
KNZ	**Kokohu**	**1.32**	**168**	P	Pn	02 42 50.5	+0.1
WHHZ	**Waihua**	**1.35**	**183**	P	Pn	02 42 51.4	+0.6
WHHZ				S	Sn	02 43 10.6	+2.2
KUTZ	**Kaahu Road**	**1.40**	**237**	P	Pn	02 42 52.4	+0.9
NMHZ	**Naumai**	**1.43**	**196**	P	Pn	02 42 53.1	+1.2
MHGZ	**Mahia Peninsul**	**1.50**	**162**	P	Pn	02 42 53.0	+0.3
ARHZ	**Aropaoanui**	**1.55**	**189**	P	Pn	02 42 50.8	-2.6
BKZ	**Black Stump Fm**	**1.57**	**204**	P	Pn	02 42 54.2	+0.4
WATZ	**Wairara**	**1.58**	**231**	P	Pn	02 42 54.7	+0.8
RATZ	**Rangitukua**	**1.66**	**226**	P	Pn	02 42 56.0	+1.1
RITZ	**Rihia Road**	**1.69**	**222**	P	Pn	02 42 56.5	+1.2
KATZ	**Kakaramea**	**1.78**	**225**	P	Pn	02 42 56.6	0.0
MCHZ	**McNeill Hill**	**1.78**	**196**	P	Pn	02 42 59.9	+3.5
KWHZ	**Kaweka Forest**	**1.83**	**202**	P	Pn	02 42 57.4	+0.2
TMVZ	**Te Maari**	**1.88**	**222**	P	Pn	02 42 58.8	+1.1
ETVZ	**East Tongariro**	**1.89**	**221**	P	Pn	02 42 58.9	+1.0
KRVZ	**Karewarewa**	**1.90**	**223**	P	Pn	02 42 59.4	+1.4
OTVZ	**Oturere**	**1.93**	**222**	P	Pn	02 42 59.6	+1.1
CKHZ	**Cape Kidnapper**	**1.94**	**185**	P	Sn	02 43 21.3	-0.8
WTVZ	**West Tongariro**	**1.94**	**224**	P	Pn	02 42 59.9	+1.3
NGZ	**Ngauruhoe**	**1.98**	**222**	P	Pn	02 43 00.4	+1.3
TWVZ	**Taurewa**	**1.99**	**227**	P	Pn	02 43 00.6	+1.2
BHHZ	**Black Hill Sta**	**2.01**	**209**	P	Pn	02 42 59.7	+0.1
KRHZ	**Kereru**	**2.05**	**201**	P	Pn	02 42 59.5	-0.5
FWVZ	**Far West T-bar**	**2.06**	**222**	P	Pn	02 43 01.2	+0.9
WHVZ	**Whangaehu Hut**	**2.06**	**221**	P	Pn	02 43 01.2	+0.9
MOVZ	**Moawhango**	**2.08**	**216**	P	Pn	02 43 00.6	+0.2
WNVZ	**Wahianoa**	**2.09**	**220**	P	Pn	02 43 01.4	+0.7
HIZ	**Hauiti**	**2.09**	**247**	P	Pn	02 43 01.7	+1.2
KAHZ	**Kahuranaki**	**2.09**	**189**	P	Pn	02 43 00.1	-0.5
TRVZ	**Turoa**	**2.09**	**221**	P	Pn	02 43 01.5	+0.7
PKVZ	**Pokaka**	**2.19**	**224**	P	Pn	02 43 03.1	+1.2
MTVZ	**Mangateitei**	**2.20**	**221**	P	Pn	02 43 02.8	+0.8
PXZ	**Pawanui**	**2.33**	**189**	P	Pn	02 43 02.3	-1.4
PNHZ	**Pukenui**	**2.35**	**201**	P	Pn	02 43 02.8	-1.2
WPHZ	**Waipukurau**	**2.43**	**196**	P	Pn	02 43 04.2	-0.9
VRZ	**Vera Road**	**2.44**	**234**	P	Pn	02 43 06.8	+1.6
TSZ	**Takapari Road**	**2.56**	**204**	P	Pn	02 43 05.3	-1.5
PRHZ	**Porangahau**	**2.59**	**192**	P	Pn	02 43 05.5	-1.7
DVHZ	**Dannevirke**	**2.72**	**199**	P	Pn	02 43 06.8	-2.2
WAZ	**Wanganui**	**2.72**	**221**	P	Pn	02 43 09.8	+0.8
ANWZ	**Angora Road**	**2.81**	**193**	P	Pn	02 43 08.2	-1.9
LREZ	**Lake Rotokare**	**2.86**	**232**	P	Pn	02 43 12.8	+1.9
POWZ	**Post Office Ro**	**2.92**	**204**	P	Pn	02 43 10.7	-1.0
NEZ	**North Egmont**	**2.96**	**238**	P	Pn	02 43 15.3	+3.0
PKE	**Pukeiti**	**3.00**	**240**	P	Pn	02 43 15.9	+3.2
PRWZ	**Pori Road**	**3.01**	**200**	P	Pn	02 43 11.6	-1.3
KHEZ	**Kahui Hut**	**3.02**	**238**	P	Pn	02 43 16.0	+2.9
BFZ	**Birch Farm**	**3.06**	**195**	P	Pn	02 43 11.5	-2.1
MRZ	**Mangatainoka R**	**3.23**	**204**	P	Pn	02 43 13.8	-2.0
TIWZ	**Tintock**	**3.24**	**200**	P	Pn	02 43 14.2	-1.9
HOWZ	**Holdsworth Sta**	**3.46**	**203**	P	Pn	02 43 16.5	-2.5
OGWZ	**Otaki Gorge**	**3.50**	**208**	P	Pn	02 43 17.1	-2.4
TMWZ	**Te Maipa**	**3.55**	**198**	P	Pn	02 43 17.4	-2.9
KIW	**Kapiti Island**	**3.64**	**210**	P	Pn	02 43 19.1	-2.4
MTW	**Mount Morrison**	**3.70**	**202**	P	Pn	02 43 19.2	-3.1
CAW	**Cannon Point**	**3.80**	**207**	P	Pn	02 43 20.8	-2.7
TRWZ	**Traveller**	**3.88**	**198**	P	Pn	02 43 21.8	-2.9
PAWZ	**Paruwai Farm**	**3.93**	**201**	P	Pn	02 43 21.8	-3.6
MSWZ	**Moikau Station**	**4.01**	**203**	P	Pn	02 43 23.1	-3.4
DUWZ	**D'Urville Isla**	**4.04**	**220**	P	Pn	02 43 24.3	-2.6
PLWZ	**Palliser**	**4.15**	**202**	P	Pn	02 43 24.8	-3.6
TCW	**Tory Channel**	**4.20**	**213**	P	Pn	02 43 26.2	-2.8
CTZ	**Chatham Island**	**7.56**	**144**	P	Pn	02 44 14.9	0.0

*MOS **09** 02:48:42.7±1.5, 6°.54N×82°.73W, h10km, mb5.5/93, MS5.3/18, Error ellipse: s-maj=6.7km s-min=4.7km az=85.1*

*IDC **09** 02:48:43.9±0.5, 6°.49N×82°.70W, h0km, mb4.9/28, mb1 5.1/34, mb1mx5.0/43, mbtmp4.9/34, ML4.0/5, MS5.3/28, Ms1 5.3/28, ms1mx5.2/33, Error ellipse: s-maj=18.7km s-min=9.7km az=52.0*

*UPA **09** 02:48:44.0±1.0, 6°.52N×82°.67W, h9km±6km, MW6.2*

*UCR **09** 02:48:44.5±1.6, 6°.45N×82°.75W, h20km, MW5.5*

*NEIC **09** 02:48:45.5, 6°.54N×82°.66W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.11; $M_{\theta\theta}$-1.67; $M_{\phi\phi}$1.57; $M_{r\theta}$0.33; $M_{\theta\phi}$4.11; $M_{\phi r}$0.88; Fault plane solution: $M_0$4.52000×10^{17} NP1:ϕ_s79.81000°, δ79.79000°, λ6.26000°. NP2:ϕ_s348.70000°, δ83.84000°, λ169.73000°. Principal axes: T 4.5538, Plg12.0000°, Azm304.0000°; N -0.0707, Plg78.0000°, Azm138.0000°; P -4.4831, Plg3.0000°, Azm35.0000°;*

*INET **09** 02:48:45.0, 6°.40N×82°.76W, h15km, ML5.3, MW5.1*

*NEIC **09** 02:48:45.6±2.5, 6°.53N±0°.06×82°.65W±0°.07, h11km±1km, mb5.4/622, Ms_20 5.3/662, Mwb5.7/61, Mww5.8, Mwc5.8(GCMT), Mwr5.5(UCR), Error ellipse: s-maj=11.9km s-min=9.4km az=241.0*

*BJI **09** 02:48:45.5±0.0, 6°.50N×82°.70W, h10km, mB5.7/21, Ms5.8/34, Ms7 5.6/33*

*GCMT **09** 02:48:48.6±0.1, 6°.51N×82°.68W, h14km, MW5.8/164, Moment Tensor Solution. s140,c276; s164,c495; Duration: 1s.9 Moment tensor: Scale 10^{17}Nm; M_{rr}0.17±.03; $M_{\theta\theta}$-1.48±.04; $M_{\phi\phi}$1.30±.04; $M_{r\theta}$0.86±.08; $M_{\theta\phi}$5.48±.04; $M_{\phi r}$0.16±.08; Best double couple: $M_0$5.72100×10^{17} NP1:ϕ_s353.00000°, δ81.00000°, λ179.00000°. NP2:ϕ_s83.00000°, δ89.00000°, λ9.00000°. Principal axes: T 5.6430, Plg7.0000°, Azm308.0000°; N 0.1520, Plg81.0000°, Azm89.0000°; P -5.8000, Plg6.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **09** 02:48:50, 6°.48N×82°.68W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.12; $M_{\theta\theta}$-1.56; $M_{\phi\phi}$1.44; $M_{r\theta}$0.70; $M_{\theta\phi}$5.62; $M_{\phi r}$-0.43; Fault plane solution: $M_0$5.88000×10^{17} NP1:ϕ_s353.00000°, δ84.00000°, λ-175.00000°. NP2:ϕ_s262.00000°, δ85.00000°, λ-6.00000°. Principal axes: T 5.7579, Plg1.0000°, Azm308.0000°; N 0.2278, Plg82.0000°, Azm44.0000°; P -5.9857, Plg8.0000°, Azm217.0000°;*

*NEIC **09** 02:48:51, 6°.52N×82°.66W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.45; $M_{\theta\theta}$-1.33; $M_{\phi\phi}$1.77; $M_{r\theta}$0.71; $M_{\theta\phi}$5.42; $M_{\phi r}$0.43; Fault plane solution: $M_0$5.72000×10^{17} NP1:ϕ_s352.00000°, δ83.00000°, λ178.00000°. NP2:ϕ_s82.00000°, δ88.00000°, λ7.00000°. Principal axes: T 5.9577, Plg7.0000°, Azm307.0000°; N -0.5191, Plg82.0000°, Azm99.0000°; P -5.4386, Plg4.0000°, Azm217.0000°;*

*BGR **09** 02:48:52.8±0.0, 8°.21N×82°.63W, h33km, mb5.5, Ms5.6*

ISC 09 02:48:45.6±1.0**, 6°.50N**±0°.04×**82°.71W**±0°.04**, h14**km±5km**, n1220,** σ1s.77/763**, mb5.4**/431**, MS5.3**/383**, 29C-28D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIMO3	**Limones**	**1.60**	**354**	*e*P	**Pn**	**02 49 10.8**	**-2.7**
SBAR3	**San Bartolo, C**	**1.82**	**354**	*e*P	**Pn**	**02 49 15.3**	**-1.1**
PVID3	**Puerto Vidal,**	**1.89**	**35**	*e*P	**Pn**	**02 49 14.4**	**-3.0**
PEDE3	**Pedregal, Chir**	**1.89**	**9**	*e*P	**Pn**	**02 49 15.6**	**-1.9**
LESP3	**La Esperanza,**	**1.90**	**358**	*e*P	**Pn**	**02 49 15.4**	**-2.2**
CHIR3	**Chiriqui UPA,**	**1.92**	**11**	*e*P	**Pn**	**02 49 15.8**	**-2.1**
LOCO3	**Loma Colorada,**	**1.92**	**9**	*e*P	**Pn**	**02 49 16.2**	**-1.7**
GMAL	**Guarumal, Vera**	**1.93**	**49**	⇓*i*P	**Pn**	**02 49 15.7**	**-2.3**
GMAL				*e*S	**Sn**	**02 49 40.3**	**-1.8**
DVD	**David**	**1.94**	**7**	*e*P	**Pn**	**02 49 16.4**	**-1.8**
DVD				*e*S	**Sn**	**02 49 39.8**	**-2.6**
NANC3	**Nancito, Chiri**	**1.98**	**29**	⇓*i*P	**Pn**	**02 49 16.4**	**-2.4**
PIRO	**Carate, Puerto**	**1.99**	**342**	*e*P	**Pn**	**02 49 17.0**	**-1.9**
PIRO				*e*S	**Sn**	**02 49 42.8**	**-0.9**
CACAO	**El Cacao, Vera**	**2.02**	**65**	*e*P	**Pn**	**02 49 16.3**	**-2.9**
CACAO				*e*S	**Sn**	**02 49 41.8**	**-2.4**
GUAL3	**Gualaca, Chiri**	**2.06**	**11**	*e*P	**Pn**	**02 49 17.7**	**-2.1**
CDITO	**Canoas**	**2.07**	**355**	*e*P	**Pn**	**02 49 18.2**	**-1.7**
PSOM3	**Paja de Sombre**	**2.21**	**10**	*e*P	**Pn**	**02 49 20.1**	**-1.8**
BCO2	**Palmira**	**2.21**	**5**	*e*P	**Pn**	**02 49 20.2**	**-1.9**
BCO2				*e*S	**Sn**	**02 49 47.5**	**-1.9**
BRU2	**Volcan**	**2.28**	**0**	*e*P	**Pn**	**02 49 21.2**	**-1.8**
BRU2				*e*S	**Sn**	**02 49 50.2**	**-0.8**
BRU2	**Volcan**	**2.28**	**0**	*e*P	**Pn**	**02 49 21.1**	**-1.9**
LNBQ3	**Los Naranjos,**	**2.29**	**7**	*e*P	**Pn**	**02 49 21.3**	**-1.8**
EDSV	**San Vito**	**2.32**	**354**	*e*P	**Pn**	**02 49 22.3**	**-1.3**
RIOS	**Rincon, Osa**	**2.33**	**340**	*e*P	**Pn**	**02 49 20.7**	**-2.9**
RIOS				*e*S	**Sn**	**02 49 49.2**	**-2.7**
RIOS	**Rincon, Osa**	**2.33**	**340**		**Pn**	**02 49 20.6**	**-2.9**
CHGR2	**Aguacate**	**2.49**	**13**	*e*P	**Pn**	**02 49 24.1**	**-1.6**
LPLA	**Las Palmas La**	**2.53**	**353**	⇑*e*P	**Pn**	**02 49 25.4**	**-1.0**
LPLA				*e*S	**Sn**	**02 49 56.7**	**-0.6**
EDPN	**Palmar Norte**	**2.56**	**343**	⇑*e*P	**Pn**	**02 49 25.0**	**-1.7**
EDPN				*e*S	**Sn**	**02 49 57.0**	**-0.6**
EDBA	**Buenos Aires**	**2.71**	**348**	*e*P	**Pn**	**02 49 27.5**	**-1.2**
EDBA				*e*S	**Sn**	**02 50 02.5**	**+1.2**
AZU	**Azuero**	**2.73**	**62**	⇓*i*P	**Pn**	**02 49 27.1**	**-2.0**
AZU				*e*S	**Sn**	**02 50 00.1**	**-1.8**
AZU	**Azuero**	**2.73**	**62**	*e*P	**Pn**	**02 49 26.9**	**-2.2**
EDDO	**Dominical**	**2.97**	**337**	*e*P	**Pn**	**02 49 30.6**	**-1.7**
PEZE	**Perez Zeledon,**	**3.02**	**342**	*e*P	**Pn**	**02 49 31.8**	**-1.3**
PEZE	**Perez Zeledon,**	**3.02**	**342**	Pn	**Pn**	**02 49 31.7**	**-1.4**
RGM0	**Gandoca**	**3.07**	**2**	*e*P	**Pn**	**02 49 34.3**	**+0.6**
PNME	**Penonome**	**3.08**	**50**	⇓*i*P	**Pn**	**02 49 33.0**	**-0.8**
CDM	**Cerro de Muert**	**3.21**	**341**	*e*P	**Pn**	**02 49 34.8**	**-1.3**
RIMA	**Rio Macho**	**3.44**	**341**	*e*P	**Pn**	**02 49 37.8**	**-1.2**
LCR2	**La Lucha 2**	**3.47**	**338**	*e*P	**Pn**	**02 49 38.1**	**-1.3**
BATAN	**Batan**	**3.64**	**350**		**Pn**	**02 49 41.7**	**+0.2**
CVTR	**Volcan Turrial**	**3.65**	**343**	*e*P	**Pn**	**02 49 41.4**	**-0.7**
JACO	**JACO, Garabito**	**3.69**	**329**	*e*P	**Pn**	**02 49 40.1**	**-2.1**
ZANG	**Zanguenga, Cho**	**3.73**	**49**	*e*P	**Pn**	**02 49 42.0**	**-0.7**
HDC	**Heredia**	**3.75**	**338**	⇑*i*P	**Pn**	**02 49 42.6**	**-0.6**
HDC				*i* S	**Sn**	**02 50 26.2**	**-1.0**
HDC	**Heredia**	**3.75**	**338**	*e*P	**Pn**	**02 49 42.5**	**-0.6**
HDC	**Heredia**	**3.75**	**338**		**Pn**	**02 49 42.6**	**-0.6**
BCIP	**Isla Barro Col**	**3.89**	**47**	*e*P	**Pn**	**02 49 43.4**	**-1.6**
BCIP				*e*S	**Sn**	**02 50 29.2**	**-1.2**
BCIP	**Isla Barro Col**	**3.89**	**47**	P	**Pn**	**02 49 43.7**	**-1.2**
BCIP	**Isla Barro Col**	**3.89**	**47**	*e*P	**Pn**	**02 49 43.3**	**-1.6**
BCIP	**Isla Barro Col**	**3.89**	**47**	Pn	**Pn**	**02 49 43.7**	**-1.2**
BCIP	**Isla Barro Col**	**3.89**	**47**	*e*P	**Pn**	**02 49 43.5**	**-1.4**
LAFE	**Finca La Fe, P**	**3.94**	**327**	*e*P	**Pn**	**02 49 44.0**	**-1.8**
CAO2	**Cobano, Puntar**	**3.96**	**323**		**Pn**	**02 49 43.9**	**-2.1**
SRA1	**San Ramn**	**3.97**	**334**	*e*P	**Pn**	**02 49 44.7**	**-1.6**
UPA	**Univ. de Panam**	**4.00**	**52**	⇓*i*P	**Pn**	**02 49 45.6**	**-0.9**
UPA				*e*S	**Sn**	**02 50 28.0**	**-5.1**
INDI	**Punta indio, G**	**4.34**	**321**	*e*P	**Pn**	**02 49 48.9**	**-2.3**
JTS	**Las Juntas de**	**4.37**	**330**	Pn	**Pn**	**02 49 50.6**	**-1.1**
	196nm,0.3s,baz=206,slow=8.4,SNR=339						
JTS				Sn	**Sn**	**02 50 42.2**	**-0.3**
	192nm,0.3s,baz=106,slow=22,SNR=9.6						
JTS	**Las Juntas de**	**4.37**	**330**	⇑*i*P	**Pn**	**02 49 50.2**	**-1.5**
JTS				*e*S	**Sn**	**02 50 40.7**	**-1.8**
JTS	**Las Juntas de**	**4.37**	**330**	*c i*P	**Pn**	**02 49 49.9**	**-1.8**
JTS	**Las Juntas de**	**4.37**	**330**	*e*P	**Pn**	**02 49 50.0**	**-1.7**
JTS	**Las Juntas de**	**4.37**	**330**	Pn	**Pn**	**02 49 50.2**	**-1.5**
CASO	**Castillo**	**4.39**	**333**	⇑*i*P	**Pn**	**02 49 51.1**	**-0.9**
FORC	**Fortuna**	**4.39**	**334**	⇑*i*P	**Pn**	**02 49 51.2**	**-0.8**
ARE1	**Arenal 1**	**4.41**	**333**	*e*P	**Pn**	**02 49 51.8**	**-0.5**
CEDE	**Laguna Cedeo**	**4.43**	**334**	*e*P	**Pn**	**02 49 52.5**	**+0.1**
GRZA	**Playa Garza**	**4.46**	**320**	*e*P	**Pn**	**02 49 50.8**	**-2.1**
COVE	**Coope Vega, Sa**	**4.52**	**338**	*e*P	**Pn**	**02 49 52.6**	**-1.0**
COVE	**Coope Vega, Sa**	**4.52**	**338**		**Pn**	**02 49 53.0**	**-0.6**
SAJU	**San Juanillo,**	**4.63**	**320**	*e*P	**Pn**	**02 49 52.7**	**-2.5**
PLVR	**Palo Verde**	**4.63**	**326**	*e*P	**Pn**	**02 49 52.5**	**-2.9**
GUAI	**GUAI**	**4.66**	**324**	⇑*i*P	**Pn**	**02 49 53.2**	**-2.4**
ORTG	**Ortega, Santa**	**4.71**	**325**		**Pn**	**02 49 54.5**	**-1.9**
ACAL	**Aguas Claras**	**4.71**	**331**	⇑*i*P	**Pn**	**02 49 55.4**	**-1.0**
PTEN	**Parque Tenorio**	**4.76**	**332**	⇑*i*P	**Pn**	**02 49 56.4**	**-0.6**
CUI	**Cuipilapa**	**4.79**	**330**	*e*P	**Pn**	**02 49 56.8**	**-0.7**
CUI				*i* S	**Sn**	**02 50 52.8**	**-0.1**
COLC	**Colonia**	**4.82**	**329**	⇑*i*P	**Pn**	**02 49 56.5**	**-1.3**
LIM1	**Limonal**	**4.87**	**329**	*i* P	**Pn**	**02 49 57.4**	**-1.2**
GPS2	**Hotel Rincn d**	**4.97**	**328**	*e*P	**Pn**	**02 49 58.7**	**-1.3**
GPS3	**Bodega del ICE**	**4.98**	**328**	⇑*i*P	**Pn**	**02 50 00.2**	**+0.2**

BUAI Buenos Aires 5.07 329 *i*P Pn 02 49 59.7 -1.5
SOLC Bahia Solano 5.27 93 *e*P Pn 02 50 01.8 -2.2
CAPC Capurgana 5.72 68 *e*P Pn 02 50 11.1 +0.9
ESPN Las Esperanzas 5.87 345 Pn 02 50 11.5 -0.8
MALC Bahia Malaga 5.89 115 *e*P Pn 02 50 10.9 -1.6
ACON Acoyapa 5.96 336 Pn 02 50 13.0 -0.4
DBBC Dabeiba 6.47 85 *e*P Pn 02 50 20.9 +0.3
PLMC San Jos del P 6.58 104 *e*P Pn 02 50 19.4 -2.7
BOAB BOACO BROADBAN 6.59 334 Pn 02 50 21.2 -1.0
CBOC Ciudad Bolivar 6.69 95 *e*P Pn 02 50 21.6 -2.0
LCBC Los crdobas, 6.70 69 *e*P Pn 02 50 26.6 +2.8
YOTC Yotoco, Valle 6.81 111 *e*P Pn 02 50 23.3 -2.0
PRVC Isla de Provid 6.96 11 *e*P Pn 02 50 26.5 -0.7
BBAC Balboa, Cauca 7.03 129 *e*P Pn 02 50 25.7 -2.7
HELC Santa Helena 7.14 92 *e*P Pn 02 50 29.9 -0.2
POPC Popayan, Colom 7.18 123 *e*P Pn 02 50 28.1 -2.4
UREC San Jos de Ur 7.23 80 *e*P Pn 02 50 31.0 +0.1
MOTC Monteria, Cord 7.34 72 *e*P Pn 02 50 32.8 +0.4
MONA Monteria 7.34 72 *e*P Pn 02 50 34.6 +2.1
GUY2C Guyana, Caldas 7.41 99 *e*P Pn 02 50 32.3 -1.6
SOTA Rioblanco 7.47 125 *e*P Pn 02 50 34.5 -0.1
CCUFI Cufio, Nario 7.48 134 *e*P Pn 02 50 35.4 +0.5
GCUF Volcan Galeras 7.49 134 *e*P Pn 02 50 34.1 -0.8
RREF El Recreo 7.49 102 *e*P Pn 02 50 36.2 +1.0
CRIN San Cristobal 7.50 326 Pn 02 50 34.1 -0.7
CPAS1 Pasto 7.53 134 *e*P Pn 02 50 35.9 +0.5
OTAV Otavalo 7.53 146 *ce*P Pn 02 50 34.8 -0.7
OTAV pmax pmax
comp=Z,98nm,2.5s
OTAV Otavalo 7.53 146 Pn Pn 02 50 34.0 -1.5
OTAV Otavalo 7.53 146 *e*P Pn 02 50 31.4 -4.1
OTAV Otavalo 7.53 146 *e*P Pn 02 50 34.0 -1.5
PCON Cinco Dias 7.53 123 *e*P Pn 02 50 35.7 +0.1
ANIL Santa Ana 7.54 105 *e*P Pn 02 50 36.0 +0.6
TOLC Tolima 7.59 104 *e*P Pn 02 50 36.4 +0.1
MARP Paez Belalcaza 7.65 118 *e*P Pn 02 50 37.1 +0.2
NORC Norcasia 7.85 96 *e*P Pn 02 50 39.4 -0.1
ZARC Zaragoza, Cauc 7.85 82 *e*P Pn 02 50 40.3 +0.8
ORTC Ortega, Tolima 7.86 109 *e*P Pn 02 50 40.3 +0.6
BETC Betania 8.17 117 *e*P Pn 02 50 45.0 +1.0
PTBC PUERTO BERRIO, 8.20 89 *e*P Pn 02 50 45.9 +1.6
PRAC Prado 8.27 109 *e*P Pn 02 50 45.5 +0.3
GARC Garzon, Huila 8.37 120 *e*P Pn 02 50 44.9 -1.9
CNCH Conchagua 8.42 324 *e*P Pn 02 50 51.9 +4.5
ROSC El Rosal 8.51 101 Pn Pn 02 50 52.8 +3.9
comp=Z,4.3nm,0.3s,baz=301,slow=5.8,SNR=23
ROSC Sn Sn 02 52 31.9 +7.0
baz=45,slow=22,SNR=0.8
ROSC LR LR 02 53 27.2
comp=Z,21µm,20.0s,baz=287,slow=33
ROSC El Rosal 8.51 101 P Pn 02 50 51.8 +2.9
ROSC El Rosal 8.51 101 Pn Pn 02 50 51.8 +2.9
ROSC El Rosal 8.51 101 *e*P Pn 02 50 51.7 +2.9
SPBC San Pablo de B 8.63 95 *e*P Pn 02 50 51.5 +1.3
TGUH Tegucigalpa,Un 8.75 329 Pn Pn 02 50 52.6 +0.6
LCY Lacayo 8.81 322 *e*P Pn 02 50 55.0 +2.3
SMLC San Martn de 8.86 74 *e*P Pn 02 50 55.7 +2.4
PACA Pacayal 8.86 322 *e*P Pn 02 50 55.4 +1.9
BRRC Barranca, Sant 8.95 86 *e*P Pn 02 50 56.7 +2.1
TECA Tecapa 8.99 321 *e*S Sn 02 52 27.8 -8.8
ARGC Ariguani, Magd 9.02 68 *e*P Pn 02 50 56.3 +0.9
CHIC Chingaza 9.12 101 *e*P Pn 02 50 59.5 +2.2
LFRS El Faro 9.45 319 *e*P Pn 02 51 00.9 -0.6
BARC Barichara 9.46 89 *e*P Pn 02 51 04.2 +2.4
OCAC Ocana 9.47 79 *e*P Pn 02 51 04.0 +2.2
SMRC Santa Marta, M 9.58 60 *e*P Pn 02 51 01.9 -1.3
RUSC La Rusia 9.59 93 *e*P Pn 02 51 04.8 +1.0
SNET Serv Nac Est T 9.60 319 Pn 02 51 06.1 +2.5
MACC Macarena, Meta 9.83 116 *e*P Pn 02 51 05.9 -0.8
PAMC Pamplona, Colo 9.97 85 *e*P Pn 02 51 11.5 +2.5
PTLC Puerto Leguiza 10.09 128 *e*P Pn 02 51 12.3 +2.1
PTLC *e*P Pn 02 51 13.0 +2.8
MTO3 Montecristo 10.22 321 *e*P Pn 02 51 11.3 -0.8
MTO3 Montecristo 10.22 321 Pn 02 51 11.3 -0.8
ESQI Esquipulas 10.33 321 Pn 02 51 13.6 0.0
PAYG Puerto Ayora 10.39 227 Pn Pn 02 51 15.7 +1.3
GUVC San Jose del G 10.79 111 *e*P Pn 02 51 19.1 -0.7
TAMC Tame, Arauca 10.85 90 *e*P Pn 02 51 22.1 +1.5
MRL Marmol 10.94 322 *e*P Pn 02 51 26.7 +4.6
NBG Las Nubes 11.00 318 *e*P Pn 02 51 27.7 +4.9
PCG Pacaya 11.04 316 *e*P Pn 02 51 28.4 +5.0
FUG Fuego 3 11.24 315 *e*P Pn 02 51 30.7 +4.6
RTAL Retalhuleu 11.90 313 Pn 02 51 39.6 +4.6
SDV Santo Domingo 12.20 78 Pn Pn 02 51 40.1 +0.8
comp=Z,1.3nm,0.3s,baz=268,slow=21,SNR=32
SDV Sn Sn 02 53 50.8 -4.5
comp=Z,1.3nm,0.3s,baz=163,slow=23,SNR=2.9
SDV LR LR 02 56 27.2
comp=Z,15µm,21.4s,baz=247,slow=38
SDV Santo Domingo 12.20 78 *e*P Pn 02 51 39.9 +0.6
SDV Santo Domingo 12.20 78 *e*P Pn 02 51 40.0 +0.8
HUEH Huehuetenango 12.30 316 Pn 02 51 41.4 +0.7
PETF Flores 12.50 327 Pn 02 51 44.6 +1.5
CCIG Comitan 13.41 317 Pn 02 51 56.1 +0.3
CBCY The Bluff, Cay 13.47 12 Pn 02 51 58.3 +1.9
ATAH Atahualpa 14.21 162 Pn Pn 02 52 08.2 +1.3
comp=Z,0.5nm,0.3s,baz=336,slow=17,SNR=14
ATAH LR LR 02 56 59.0
comp=Z,14µm,19.6s,baz=339,slow=35
TEIG Tepich 14.68 339 Pn P 02 52 15.7 -3.5
comp=Z,0.4nm,0.3s,baz=125,slow=4.7,SNR=5.4
TEIG LR LR 02 58 03.7
comp=Z,19µm,18.1s,baz=148,slow=38
TEIG Tepich 14.68 339 P P 02 52 17.8 -1.4
BAUV El Baul 14.73 80 *e*P Pn 02 52 09.8 -4.0
GTBY Guantanamo Bay 15.25 28 P 02 52 21.9 -3.7
LGNH Logne 15.47 39 P Pn 02 52 24.0 +0.4
CMIG Matias Romero 15.89 313 Pn P 02 52 32.0 -0.7
comp=Z,0.2nm,0.3s,baz=131,slow=10,SNR=6.5
CMIG LR LR 02 57 48.0
comp=Z,17µm,20.5s,baz=118,slow=34
SOR Soroa 16.20 359 P P 02 52 35.5 -0.6
SOR pmax pmax
comp=Z,427nm,1.5s
SOR Soroa 16.20 359 P P 02 52 35.5 -0.6
SOR IAmb IAmb 02 52 50.9
comp=Z,427nm,1.5s
SDDR Presa de Saban 16.66 41 IAmb IAmb 02 52 45.9
comp=Z,728nm,1.6s
SDD Santo Domingo 17.23 45 P P 02 52 49.7 +2.2
CZSB Cruzeiro do Su 17.30 145 *e*P Pn 02 52 44.8 -2.1
PCRV Puerto La Cruz 18.25 77 P P 02 52 60.0 +1.1
comp=Z,0.8nm,0.3s,baz=249,slow=8.1,SNR=6.1
PCRV LR LR 03 01 00.7
comp=Z,12µm,22.0s,slow=40
TLIG Tlapa 18.99 307 IAmb IAmb 02 53 40.4
comp=Z,201nm,1.0s
MLPR Magueyes Islan 19.07 52 P Pn 02 53 08.6 0.0
MLPR IAmb IAmb 02 53 18.0
comp=Z,354nm,1.2s
MPR Mayaguez 19.13 51 IAmb IAmb 02 53 13.5
comp=Z,207nm,1.1s
NNA Nana 19.27 162 P Pn 02 53 10.5 -0.6
comp=Z,1.1nm,0.3s,baz=351,slow=11,SNR=31
NNA Nana 19.27 162⇓*e*P Pn 02 53 10.3 -0.8
NNA pmax pmax
comp=Z,266nm,1.1s
NNA Nana 19.27 162 P Pn 02 53 10.0 -1.0
ICMP Isla Caja de M 19.43 53 IAmb IAmb 02 53 19.5
comp=Z,436nm,1.1s
OBIP Obispado Ponce 19.45 52 IAmb IAmb 02 53 20.7
comp=Z,294nm,1.2s
SJG San Juan 19.85 53 P Pn 02 53 17.0 -0.9
comp=Z,0.9nm,0.3s,baz=234,slow=10,SNR=11
SJG LR LR 03 00 20.7
comp=Z,7µm,21.5s,baz=230,slow=35
SJG San Juan 19.85 53 P Pn 02 53 17.0 -0.9
SJG pmax pmax
comp=Z,427nm,1.2s
SJG San Juan 19.85 53 P Pn 02 53 17.0 -0.9
SJG San Juan 19.85 53 *e*P Pn 02 53 16.4 -1.5
GCPR Guaynabo City 20.01 53 P Pn 02 53 18.9 -0.9
HUMP Col San Antoni 20.10 53 P Pn 02 53 19.5 -1.4
CBYP Canovanas 20.17 53 P Pn 02 53 20.4 -1.4
UNM Universidad Na 20.48 310 IAMs_20 IAMs_20 02 59 57.6
comp=Z,17µm,20.0s
060A Indiantown 20.55 6 P Pn 02 53 26.5 +0.4
CUPR Culebra, Puert 20.65 54 P Pn 02 53 25.0 -2.3
CDVI St. Croix 20.78 56 *e*P Pn 02 53 26.8 -2.1
CDVI St. Croix 20.78 56 *e* 02 57 33.3
TPP Pointe-a-Pierr 21.36 78 *e*P P 02 53 32.7 0.0
TRN Trinidad (W) 21.46 77 *e*P P 02 53 38.1 +4.2

GRGR Grenville 21.51 73 *e*P P 02 53 34.2 -0.1
DWPF Disney Wildern 21.53 3 P 02 53 35.9
baz=183
DWPF Disney Wildern 21.53 3 P P 02 53 35.4 +1.0
DWPF IAmb IAmb 02 53 40.0
comp=Z,338nm,1.2s
DWPF Disney Wildern 21.53 3 IAMs_20 IAMs_20 03 02 02.2
comp=Z,8µm,18.0s
SEUS St. Eustatius 22.15 59 *e*P P 02 53 39.9 -1.3
SVB Belmont 22.17 71 *e*P P 02 53 42.8 +1.3
MOIG Morelia 22.23 308 P P 02 53 44.7 +2.4
SKI Saint Kitts 22.28 59 *e*P P 02 53 43.1 +0.4
BOAV Boa Vista 22.48 99 *e*P P 02 53 43.8 -1.1
MLYT Lee's Yard 22.49 61 *e*P P 02 53 49.2 +4.3
MCLT Moule a Chique 22.58 70 *e*P P 02 53 48.3 +2.5
SLBI Saint Lucia, B 22.64 69 *e*P P 02 53 49.2 +2.7
TDBA Terre de Bas, 22.64 64 *e*P P 02 53 50.4 +3.9
DSLB Salisbury 22.69 65 *e*P P 02 53 48.7 +1.7
FDF Fort de France 22.69 67 *e*P P 02 53 48.8 +1.6
FDF Fort de France 22.69 67 P P 02 53 48.2 +1.1
FDF pmax pmax
comp=Z,206nm,1.1s
BIM Bigot 22.70 68 *e*P P 02 53 49.1 +2.0
DLPL La Plaine 22.81 66 *e*P P 02 53 52.6 +4.4
MPOM Morne Pois Mar 22.87 68 *e*P P 02 53 51.3 +2.4
ILAM Ilet Lapin Mar 22.96 67 *e*P P 02 53 52.2 +2.4
MAGL Barre de l'ile 22.99 64 *e*P P 02 53 51.4 +1.2
ANBD Bethesda, Anti 23.00 61 *e*P P 02 53 48.4 -1.8
ABD La Joyeuse, An 23.01 63 *e*P P 02 53 44.1 -6.2
ETMB Extrema 23.08 134 *e*P P 02 53 49.3 -1.8
ANWB Willy Bob 23.24 60 *e*P P 02 53 49.4 -3.3
553A Crawfordville 23.62 356 P P 02 53 57.4 +1.1
BBGH Gun Hill 23.73 72 *e*P P 02 54 00.4 +2.8
BBGH Gun Hill 23.73 72 IAMs_20 IAMs_20 03 04 20.9
comp=Z,14µm,22.0s
PTGA Pitinga 23.80 107 P P 02 53 58.3 0.0
comp=Z,19nm,1.0s,baz=289,slow=11,SNR=18
PTGA LR LR 03 03 16.5
comp=Z,10µm,18.8s,baz=290,slow=37
PTGA Pitinga 23.80 107 P P 02 53 57.8 -0.6
PTGA IAMs_20 IAMs_20 03 02 56.1
comp=Z,9µm,19.0s
PTGA Pitinga 23.80 107 *e*P P 02 53 58.4 0.0
BBSP Saint Philip 23.82 72 *e*P P 02 54 01.4 +3.0
MACA Manacapuru-AM 23.99 113 *e*P P 02 53 59.8 -0.3
456A Hilliard 24.11 1 IAmb IAmb 02 54 07.0
comp=Z,146nm,0.9s
545A Edgard 24.54 344 IAMs_20 IAMs_20 03 01 15.4
comp=Z,13µm,20.0s
SAML Samuel 24.78 128 P P 02 54 05.5 -1.8
SAML pmax pmax
comp=Z,389nm,1.6s
SAML MLR MLR
comp=Z,5µm,20.0s
SAML Samuel 24.78 128 P P 02 54 05.5 -1.8
TIGA Tifton 24.82 358 P 02 54 08.2
baz=178,SNR=20
BRAL Brewton 24.88 351 P 02 54 09.4
baz=170,SNR=26
BRAL Brewton 24.88 351 P P 02 54 09.7 +1.7
ZAIG Zacatecas 25.06 312 P P 02 54 11.6 +1.5
ZAIG IAmb IAmb 02 54 15.4
comp=Z,98nm,1.2s
257A Skidaway Islan 25.39 3 IAMs_20 IAMs_20 03 04 28.6
comp=Z,9µm,18.0s
KVTX Kingsville 25.42 327 IAMs_20 IAMs_20 03 05 21.0
comp=Z,7µm,20.0s
346A Big Creek Wild 25.56 347 IAmb IAmb 02 54 47.5
comp=Z,142nm,1.0s
250A Grady 25.57 353 P P 02 54 15.1 +0.9
342A Flagon Creek P 26.34 341 P P 02 54 21.6 +0.5
HKT Hockley 26.40 334*c i*P P 02 54 22.1 +0.4
HKT pmax pmax
comp=Z,57nm,1.3s
HKT Hockley 26.40 334 P P 02 54 21.8 0.0
HKT IAmb IAmb 02 54 55.3
comp=Z,120nm,1.4s
NHSC New Hope 26.58 5 P 02 54 24.4
baz=186,SNR=19
NHSC New Hope 26.58 5 IAMs_20 IAMs_20 03 04 57.9
comp=Z,8µm,19.0s
VBMS Vicksburg 26.61 345 P 02 54 23.7
baz=162
LRAL Lakeview Retre 26.70 352 IAmb IAmb 02 54 33.9
comp=Z,134nm,1.1s
LRAL Lakeview Retre 26.70 352 P 02 54 24.9
baz=170,SNR=30
Z51A Franklin 26.78 355 IAmb IAmb 02 54 31.3
comp=Z,122nm,1.2s
GOGA Godfrey 26.79 359 P 02 54 25.8
baz=178,SNR=44
GOGA Godfrey 26.79 359 P P 02 54 25.4 +0.1
GOGA pmax pmax
comp=Z,103nm,1.1s
GOGA MLR MLR
comp=Z,4µm,19.0s
GOGA Godfrey 26.79 359 P P 02 54 25.4 +0.1
GOGA IAmb IAmb 02 54 31.2
comp=Z,103nm,1.1s
LPAZ La Paz 26.85 148 P P 02 54 26.8 +0.2
comp=Z,12nm,0.9s,baz=340,slow=12,SNR=22
LPAZ LR LR 03 06 04.2
comp=Z,14µm,19.9s,baz=314,slow=39
LPAZ La Paz 26.85 148 P P 02 54 26.6 0.0
LPAZ pmax pmax
comp=Z,23nm,0.9s
LPAZ La Paz 26.85 148 P P 02 54 26.6 0.0
LPAZ La Paz 26.85 148 *e*P P 02 54 25.6 -1.0
833A Chaparral WMA, 26.85 326 P 02 54 26.6
baz=141,SNR=53
Z47A Carrollton 27.03 350 IAmb IAmb 02 54 41.2
comp=Z,128nm,0.9s
Y52A Lilburn 27.26 358 IAmb IAmb 02 54 36.2
comp=Z,98nm,1.1s
143A Socs Landing, 27.30 344 P P 02 54 30.2 +0.3
143A IAmb IAmb 02 54 40.6
comp=Z,121nm,1.4s
Y58A Scranton 27.42 5 IAmb IAmb 02 55 03.7
comp=Z,92nm,1.1s
Y58A IAMs_20 IAMs_20 03 05 16.1
comp=Z,8µm,19.0s
Y57A Sumter 27.47 4 IAMs_20 IAMs_20 03 05 59.4
comp=Z,8µm,18.0s
NATX Nacogdoches 27.50 338 IAmb IAmb 02 54 38.8
comp=Z,80nm,1.0s
NATX Nacogdoches 27.50 338 P 02 54 31.7
baz=154
Y59A Loris 27.59 7 P P 02 54 33.0 +0.6
Y59A IAmb IAmb 02 54 45.7
comp=Z,65nm,0.8s
Y59A IAMs_20 IAMs_20 03 06 38.5
comp=Z,8µm,18.0s
HODGE Hodges 27.60 1 IAmb IAmb 02 54 38.5
comp=Z,97nm,1.1s
Y60A Bolivia 27.68 8 IAMs_20 IAMs_20 03 05 36.1
comp=Z,11µm,18.0s
435B Jarrell 27.90 332 P 02 54 35.8
baz=147,SNR=21
435B Jarrell 27.90 332 P P 02 54 35.6 +0.3
PB16 IPOC Station P 27.90 152 IAmb IAmb 02 54 44.8
comp=Z,55nm,0.9s
BIRD Birdtown, Kers 28.09 4 P P 02 54 36.9 0.0
BIRD IAmb IAmb 02 54 52.6
comp=Z,96nm,1.4s
BIRD IAMs_20 IAMs_20 03 06 18.8
comp=Z,8µm,18.0s
X58A Rowland 28.09 6 IAMs_20 IAMs_20 03 05 55.0
comp=Z,10µm,19.0s
X48A Hartselle 28.10 352 IAmb IAmb 02 55 07.3
comp=Z,58nm,1.1s
237A Washetta, Mont 28.17 336 IAmb IAmb 02 55 26.1
comp=Z,143nm,1.2s
PAULI Pauline 28.20 2 IAmb IAmb 02 54 58.8
comp=Z,113nm,1.4s
PAULI IAMs_20 IAMs_20 03 06 05.8
comp=Z,6µm,19.0s
Z41A Richland Creek 28.23 342 P 02 54 37.8
baz=158,SNR=5.4
X60A Albert Glenn T 28.28 8 P 02 54 39.1
baz=190,SNR=5.7
W52A Murphy 28.48 358 P P 02 54 40.8 +0.4
KMSC Kings Mountain 28.53 2 IAmb IAmb 02 54 47.0
comp=Z,74nm,1.1s
KMSC IAMs_20 IAMs_20 03 05 59.7
comp=Z,5µm,18.0s
KMSC Kings Mountain 28.53 2 P 02 54 41.4

baz=183,SNR=22
MNMC Minye Minye 28.56 153 IAmb IAmb 02 54 47.9
comp=Z,106nm,0.9s
W56A Indian Trail 28.57 4 P 02 54 41.5
baz=184,SNR=15
W57A Gilead 28.62 5 IAmb IAmb 02 54 52.7
comp=Z,86nm,1.2s
W57A IAMs_20 IAMs_20 03 06 01.1
comp=Z,5µm,19.0s
W50A Signal Mountai 28.66 356 P P 02 54 42.4 +0.3
W50A IAmb IAmb 02 55 12.4
comp=Z,68nm,1.1s
WLAR White Oak Lake 28.72 342 IAmb IAmb 02 55 39.9
comp=Z,90nm,1.1s
SWET Sewanee 28.73 355 IAmb IAmb 02 55 12.8
comp=Z,77nm,1.2s
JCT Junction City 28.76 328 P P 02 54 43.5 +0.5
JCT pmax pmax
comp=Z,234nm,1.5s
JCT MLR MLR
comp=Z,4µm,20.0s
JCT Junction City 28.76 328 P P 02 54 43.5 +0.5
JCT Junction City 28.76 328 P 02 54 43.7
baz=143,SNR=26
CPCT Cooper Cave 28.86 357 IAmb IAmb 02 55 14.7
comp=Z,86nm,1.3s
WHTX Lake Whitney, 28.86 333 IAmb IAmb 02 54 51.1
comp=Z,89nm,1.1s
WHTX Lake Whitney, 28.86 333 P 02 54 43.7
baz=148,SNR=12
X43A Marvell 28.89 346 P 02 54 44.0
baz=163
CNNC Cliffs of the 28.94 8 P 02 54 44.5
baz=190
Z38A Mt. Pleasant 28.97 338 P P 02 54 44.8 0.0
Z38A IAmb IAmb 02 54 51.7
comp=Z,92nm,1.2s
ITTB Itaituba 29.01 111 *e*P P 02 54 44.2 -1.2
TKL Tuckaleechee C 29.04 358 P P 02 54 45.7 +0.3
comp=Z,29nm,1.1s,baz=169,slow=9.9,SNR=22
TKL LR LR 03 06 48.5
comp=Z,4µm,18.0s,baz=184,slow=37
TKL Tuckaleechee C 29.04 358 IAmb IAmb 02 54 48.8
comp=Z,88nm,1.4s
W45A Hickory Valley 29.14 349 IAmb IAmb 02 54 52.2
comp=Z,92nm,1.1s
V51A Loudon 29.20 357 IAmb IAmb 02 54 49.8
comp=Z,59nm,1.0s
V51A IAMs_20 IAMs_20 03 06 51.6
comp=Z,5µm,18.0s
V52A Sevierville 29.21 359 IAmb IAmb 02 54 58.9
comp=Z,58nm,1.1s
V56A Mocksville 29.24 4 P 02 54 47.2
baz=184,SNR=5.9
V55A Taylorsville 29.25 2 P P 02 54 47.8 +0.5
V55A IAMs_20 IAMs_20 03 08 14.4
comp=Z,6µm,18.0s
V58A Windy Hill, Pi 29.34 6 P P 02 54 47.4 -0.6
V58A IAmb IAmb 02 54 50.6
comp=Z,59nm,1.1s
V58A IAMs_20 IAMs_20 03 06 59.2
comp=Z,8µm,18.0s
V48A Smith Brothers 29.35 353 IAmb IAmb 02 54 51.8
comp=Z,46nm,0.9s
V57A Coltrane Farms 29.37 5 P 02 54 48.1
baz=186,SNR=28
X40A Basin Creek Fa 29.38 343 P 02 54 47.5
baz=159
V59A Middlesex 29.41 7 P 02 54 48.5
baz=189,SNR=16
V60A Jim Taylor Roa 29.55 9 P 02 54 49.8
baz=191,SNR=8.3
V60A Jim Taylor Roa 29.55 9 IAmb IAmb 02 54 53.1
comp=Z,70nm,1.1s
V60A IAMs_20 IAMs_20 03 06 48.8
comp=Z,11µm,19.0s
VILB Vilhena 29.55 131 *e*P P 02 54 49.4 -0.8
TA01 Diego Aracena 29.58 156 IAmb IAmb 02 54 54.2
comp=Z,47nm,0.9s
MALB Monte Alegre 29.58 105 *e*P P 02 54 50.5 0.0
V62A Hyde County Ai 29.58 11 IAMs_20 IAMs_20 03 06 49.3
comp=Z,5µm,18.0s
MIAR Mount Ida 29.66 342 P 02 54 50.1
baz=158,SNR=17
MIAR Mount Ida 29.66 342 P P 02 54 50.8 -0.1
V61A Roper 29.69 10 IAMs_20 IAMs_20 03 05 35.4
comp=Z,7µm,22.0s
U56A King 29.78 4 P 02 54 52.9
baz=184,SNR=22
U56A King 29.78 4 IAmb IAmb 02 54 56.0
comp=Z,145nm,1.4s
W41B Gary Mavity, V 29.86 344 P 02 54 52.2
baz=161,SNR=25
WVT Waverly 29.86 352 P 02 54 51.8
baz=170
WVT Waverly 29.86 352 P P 02 54 51.7 -1.0
WVT pmax pmax
comp=Z,27nm,1.1s
WVT Waverly 29.86 352 P P 02 54 51.7 -1.0
U54A Nelsons Funny 29.89 1 P 02 54 53.6
baz=182,SNR=22
U54A Nelsons Funny 29.89 1 IAmb IAmb 02 54 56.7
comp=Z,162nm,1.5s
U54A IAMs_20 IAMs_20 03 07 08.7
comp=Z,5µm,19.0s
HALT Halls 29.90 349 IAmb IAmb 02 55 05.7
comp=Z,113nm,1.1s
Z35A Perchaven, San 29.92 335 IAmb IAmb 02 55 00.3
comp=Z,91nm,1.2s
Z35A IAMs_20 IAMs_20 03 08 45.2
comp=Z,6µm,22.0s
U57A Blanch 29.95 5 P 02 54 53.0
baz=187,SNR=28
WHAR Wooly Hollow 29.98 344 IAmb IAmb 02 55 00.2
comp=Z,70nm,1.0s
U58A Oxford 30.00 7 P 02 54 52.9
baz=188,SNR=11
U49A Red Boiling Sp 30.00 355 IAmb IAmb 02 55 14.7
comp=Z,51nm,1.1s
TX32 Lajitas Array 30.11 321 IAmb IAmb 02 55 16.0
comp=Z,76nm,1.6s
TXAR Lajitas Array 30.11 321 P P 02 54 56.1 +1.0
comp=Z,2.7nm,0.7s,baz=144,slow=8.8,SNR=34
TXAR PcP PcP 02 57 58.7 +2.1
comp=Z,1.1nm,0.8s,baz=163,slow=3.8,SNR=2.3
TXAR LR LR 03 08 11.9
comp=Z,4µm,21.9s,baz=0.0,slow=39
TXAR Lajitas Array 30.11 321 P P 02 54 55.9 +0.8
TXAR Lajitas Array 30.11 321 P P 02 54 55.9 +0.8
U61A Possum Corner 30.24 10 P 02 54 55.6
baz=192
U60A Pendleton 30.26 9 P 02 54 56.5
baz=191
W39A Magazine 30.33 342 P 02 54 56.4
baz=158,SNR=25
ABTX Abilene, Hawle 30.40 331 P P 02 54 57.2 -0.3
ABTX IAmb IAmb 02 55 08.5
comp=Z,54nm,1.2s
ABTX Abilene, Hawle 30.40 331 P 02 54 57.6
baz=145,SNR=17
NPGB Novo Progresso 30.42 116 *e*P P 02 54 56.4 -1.5
T56A Rocky Mt 30.48 4 P 02 54 59.0
baz=185,SNR=23
FCAR Ozark Folk Cen 30.50 345 P P 02 54 57.1 -1.2
FCAR IAmb IAmb 02 55 04.5
comp=Z,46nm,1.1s
T57A Hurt 30.52 5 P 02 54 58.9
baz=187,SNR=24
T57A Hurt 30.52 5 IAmb IAmb 02 55 01.9
comp=Z,68nm,1.1s
T57A IAMs_20 IAMs_20 03 07 43.5
comp=Z,9µm,18.0s
T58A Grand View Acr 30.54 7 P 02 54 58.6
baz=188,SNR=12
T47A Sharon Grove 30.61 353 IAmb IAmb 02 55 10.6
comp=Z,78nm,1.4s
BLA Blacksburg 30.64 4 IAmb IAmb 02 55 06.3
comp=Z,78nm,1.0s
BLA IAMs_20 IAMs_20 03 08 34.7
comp=Z,5µm,18.0s
BLA Blacksburg 30.64 4 P 02 54 60.0
baz=184,SNR=24
T59A Double "B" Far 30.69 8 IAmb IAmb 02 55 03.7
comp=Z,72nm,1.4s
PARMO Parma 30.71 349 IAmb IAmb 02 55 05.9
comp=Z,74nm,1.1s
BBSR BB Station 30.73 31 IAMs_20 IAMs_20 03 05 16.7
comp=Z,5µm,21.0s

T45A	Paducah	30.86	351	IAmb	IAmb	02 55 18.4	
	comp=Z,61nm,0.7s						
T60A	Surry	30.98	9	P		02 55 01.8	
	baz=191						
T60A	Surry	30.98	9	IAmb	IAmb	02 55 07.0	
	comp=Z,55nm,1.0s						
T60A				IAMs_20	IAMs_20	03 07 40.6	
	comp=Z,6µm,18.0s						
S51A	Beattyville	31.01	359	P	P	02 55 02.6	-0.2
PB09	IPOC Station P	31.07	155	IAMs_20	IAMs_20	03 09 34.5	
	comp=Z,5µm,19.0s						
U40A	Yellville	31.14	344	P		02 55 03.0	
	baz=160,SNR=20						
S56A	Natural Bridge	31.17	5	P		02 55 04.4	
	baz=186,SNR=9.1						
S54A	Dingess, Beckl	31.18	2	IAmb	IAmb	02 55 10.3	
	comp=Z,82nm,1.2s						
S54A				IAMs_20	IAMs_20	03 08 15.1	
	comp=Z,7µm,18.0s						
S54A	Dingess, Beckl	31.18	2	P		02 55 04.9	
	baz=183,SNR=20						
SLBS	Sierra La Lagu	31.26	306	P	P	02 55 07.0	+1.7
SLBS				IAmb	IAmb	02 55 08.7	
	comp=Z,43nm,1.1s						
SLBS	Sierra La Lagu	31.26	306	IAMs_20	IAMs_20	03 04 39.3	
	comp=Z,8µm,22.0s						
S58A	Poland Farm, P	31.26	7	IAmb	IAmb	02 55 09.1	
	comp=Z,92nm,1.6s						
S58A	Poland Farm, P	31.26	7	P		02 55 05.4	
	baz=189,SNR=8.9						
S57A	Dark Hollow, R	31.30	6	P		02 55 05.6	
	baz=187,SNR=12						
S57A	Dark Hollow, R	31.30	6	IAMs_20	IAMs_20	03 09 52.2	
	comp=Z,5µm,18.0s						
MCPB	Macapa, AP	31.34	101	*e*P	P	02 55 05.5	-0.5
T42A	Van Buren	31.34	347	IAmb	IAmb	02 55 11.5	
	comp=Z,101nm,1.6s						
S59A	Mechanicsville	31.51	8	P		02 55 07.1	
	baz=190						
S60A	Water View	31.55	9	P		02 55 07.8	
	baz=191,SNR=12						
R54A	Victor	31.58	3	P		02 55 07.7	
	baz=183,SNR=7.7						
S44A	Carbondale	31.62	350	IAmb	IAmb	02 55 16.2	
	comp=Z,39nm,1.1s						
R58B	Mineral	31.63	7	P		02 55 08.5	
	baz=189,SNR=8.2						
R58B	Mineral	31.63	7	IAmb	IAmb	02 55 13.7	
	comp=Z,70nm,1.5s						
SIUC	Southern Illin	31.63	350	IAmb	IAmb	02 55 16.3	
	comp=Z,46nm,1.1s						
TUL1	Leonard	31.64	339	P		02 55 07.4	
	baz=155,SNR=8.6						
TUL1	Leonard	31.64	339	P	P	02 55 07.3	-1.0
TUL1				IAmb	IAmb	02 55 14.5	
	comp=Z,92nm,1.6s						
USIN	University of	31.64	353	IAmb	IAmb	02 55 19.5	
	comp=Z,102nm,1.3s						
R50A	Paris	31.67	358	IAmb	IAmb	02 55 14.2	
	comp=Z,83nm,1.1s						
R50A				IAMs_20	IAMs_20	03 08 27.1	
	comp=Z,5µm,20.0s						
R53A	Hurricane	31.70	1	IAMs_20	IAMs_20	03 08 24.6	
	comp=Z,6µm,18.0s						
MGMO	Mountain Grove	31.74	345	IAmb	IAmb	02 55 15.8	
	comp=Z,84nm,1.2s						
PB06	IPOC Station P	31.74	156	IAmb	IAmb	02 55 59.2	
	comp=Z,39nm,0.6s						
WCI	Wyandotte Cave	31.75	355	P	P	02 55 09.4	0.0
WCI				pmax	pmax		
	comp=Z,108nm,1.3s						
WCI				MLR	MLR		
	comp=Z,3µm,19.0s						
WCI	Wyandotte Cave	31.75	355	P	P	02 55 09.3	0.0
WCI				IAmb	IAmb	02 55 12.1	
	comp=Z,108nm,1.2s						
WCI	Wyandotte Cave	31.75	355	P		02 55 08.6	
	baz=173						
WMOK	Wichita Mounta	31.77	334	P		02 55 08.9	
	baz=148,SNR=23						
WMOK	Wichita Mounta	31.78	334	P	P	02 55 09.0	-0.6
WMOK				pmax	pmax		
	comp=Z,27nm,1.2s						
CLDB	Colider	31.86	123	*e*P	P	02 55 09.2	-1.4
R57A	Stanardsville	31.88	6	P		02 55 10.6	
	baz=188,SNR=21						
LVC	Limon Verde	31.93	155	P	P	02 55 13.9	+2.5
LVC				pmax	pmax		
	comp=Z,50nm,1.1s						
LVC				MLR	MLR		
	comp=Z,5µm,20.0s						
LVC	Limon Verde	31.93	155	P	P	02 55 13.9	+2.5
LVC				IAmb	IAmb	02 55 50.0	
	comp=Z,50nm,1.1s						
LVC	Limon Verde	31.93	155	IAMs_20	IAMs_20	03 09 43.3	
	comp=Z,5µm,20.0s						
CBN	Corbin Frederi	31.93	8	P		02 55 11.6	
	baz=190						
CBN	Corbin Frederi	31.93	8	IAmb	IAmb	02 55 14.8	
	comp=Z,93nm,1.4s						
R58A	Rapidan	31.94	7	P		02 55 11.6	
	baz=189,SNR=30						
PTLB	Pontes e Lacer	31.95	133	*e*P	P	02 55 10.1	-1.2
R59A	King George, V	31.96	8	P		02 55 10.9	
	baz=190						
OK031	S. Brethren Rd	32.05	338	IAmb	IAmb	02 55 17.6	
	comp=Z,76nm,1.2s						
BCOK	Bluff Creek, N	32.09	337	IAmb	IAmb	02 55 17.5	
	comp=Z,107nm,1.4s						
PB10	IPOC Station P	32.10	159	IAMs_20	IAMs_20	03 10 22.1	
	comp=Z,4µm,19.0s						
R60A	Leonardtown, M	32.11	9	P		02 55 11.3	
	baz=191						
FVM	French Village	32.12	348	IAmb	IAmb	02 55 18.6	
	comp=Z,86nm,1.4s						
QUOK	Quay	32.20	338	IAmb	IAmb	02 55 18.5	
	comp=Z,107nm,1.7s						
Q53A	Leroy	32.23	2	P		02 55 14.2	
	baz=182,SNR=62						
Q52A	Bidwell	32.32	1	IAMs_20	IAMs_20	03 08 35.2	
	comp=Z,6µm,19.0s						
CCM	Cathedral Cave	32.35	347	P		02 55 13.1	
	baz=164						
CCM	Cathedral Cave	32.36	347	P	P	02 55 13.4	-1.2
CCM				pmax	pmax		
	comp=Z,91nm,1.2s						
CCM				MLR	MLR		
	comp=Z,2µm,19.0s						
CCM	Cathedral Cave	32.36	347	P	P	02 55 13.4	-1.2
CCM				IAmb	IAmb	02 55 19.8	
	comp=Z,91nm,1.2s						
Q54A	Coxs Mills	32.38	3	IAMs_20	IAMs_20	03 08 11.7	
	comp=Z,5µm,20.0s						
OLIL	Olney	32.46	352	IAmb	IAmb	02 55 18.8	
	comp=Z,68nm,0.9s						
S39A	Bolivar	32.52	344	IAmb	IAmb	02 55 22.3	
	comp=Z,60nm,1.1s						
Q56A	Snyder Ridge,	32.55	5	P		02 55 16.9	
	baz=186,SNR=27						
Q56A	Snyder Ridge,	32.55	5	IAMs_20	IAMs_20	03 08 55.2	
	comp=Z,5µm,18.0s						
Q58A	Fox Den Farm,	32.62	7	P		02 55 16.8	
	baz=189,SNR=14						
Q57A	Strasburg	32.62	6	P		02 55 17.4	
	baz=188,SNR=18						
Q59A	Harwood	32.68	9	P		02 55 18.4	
	baz=191,SNR=8.3						
BLO	Bloomington	32.71	355	IAmb	IAmb	02 55 22.1	
	comp=Z,58nm,1.1s						
SLM	Saint Louis	32.71	349	P	P	02 55 17.2	-0.5
SLM				pmax	pmax		
	comp=Z,72nm,1.1s						
SLM				MLR	MLR		
	comp=Z,3µm,20.0s						
SLM	Saint Louis	32.71	349	P	P	02 55 17.2	-0.5
SLM				IAmb	IAmb	02 55 23.1	
	comp=Z,72nm,1.1s						
Q44A	Meyer Farm, Va	32.76	351	IAmb	IAmb	02 55 21.2	
	comp=Z,61nm,1.2s						
T35A	Sooner Cattle	32.80	339	IAmb	IAmb	02 55 24.8	
	comp=Z,70nm,1.4s						
MNTX	Cornudas Mount	32.83	323	P		02 55 19.7	
	baz=135,SNR=107						
MNTX	Cornudas Mount	32.83	323	P	P	02 55 19.6	+0.7
P51A	Williamsport	32.84	359	IAmb	IAmb	02 55 21.7	
	comp=Z,106nm,1.2s						
P53A	Whipple	32.86	2	IAMs_20	IAMs_20	03 09 08.4	
	comp=Z,5µm,18.0s						

P48A	Milroy	32.91	356	IAmb	IAmb	02 55 24.1	
	comp=Z,77nm,0.9s						
Q61A	Milford	32.92	11	P		02 55 20.2	
	baz=193						
P49A	Miami Univ. Ec	32.94	357	IAmb	IAmb	02 55 24.3	
	comp=Z,80nm,1.1s						
P49A				IAMs_20	IAMs_20	03 09 16.5	
	comp=Z,4µm,20.0s						
P49A	Miami Univ. Ec	32.94	357	P		02 55 18.9	
	baz=176,SNR=15						
CROK	Carrier	32.98	337	IAmb	IAmb	02 55 29.8	
	comp=Z,38nm,1.0s						
P52A	Corning	32.99	1	P		02 55 19.8	
	baz=181,SNR=21						
P52A	Corning	32.99	1	IAMs_20	IAMs_20	03 08 55.8	
	comp=Z,7µm,19.0s						
P56A	Dayton Farm, R	33.04	5	P		02 55 21.0	
	baz=187,SNR=24						
MSTX	Muleshoe	33.05	328	P		02 55 21.0	
	baz=141,SNR=48						
MSTX	Muleshoe	33.05	328	IAMs_20	IAMs_20	03 10 29.0	
	comp=Z,6µm,22.0s						
P57A	Homestead Farm	33.11	7	IAmb	IAmb	02 55 25.6	
	comp=Z,98nm,1.1s						
P57A	Homestead Farm	33.11	7	P		02 55 22.2	
	baz=188,SNR=32						
MCWV	Mont Chateau	33.11	4	P		02 55 21.2	
	baz=185,SNR=18						
MCWV	Mont Chateau	33.11	4	IAmb	IAmb	02 55 25.0	
	comp=Z,59nm,1.3s						
PB14	IPOC Station P	33.18	159	P	P	02 55 24.7	+2.4
SDMD	Soldier's Deli	33.19	8	IAMs_20	IAMs_20	03 08 50.1	
	comp=Z,5µm,19.0s						
P46A	Rosedale	33.22	354	IAmb	IAmb	02 55 26.2	
	comp=Z,41nm,1.1s						
AMTX	Amarillo	33.22	331	P		02 55 22.2	
	baz=144						
U32A	Winter Ranch,	33.27	336	IAmb	IAmb	02 55 23.9	
	comp=Z,44nm,1.0s						
U32A				IAMs_20	IAMs_20	03 09 54.8	
	comp=Z,5µm,22.0s						
OK032	Salt Plains WL	33.32	337	IAmb	IAmb	02 55 28.9	
	comp=Z,53nm,1.4s						
P59A	Jarrettsville	33.45	9	P		02 55 25.0	
	baz=191,SNR=16						
KS20	Mayfield South	33.45	338	IAmb	IAmb	02 55 30.9	
	comp=Z,52nm,1.3s						
KAN01	Argonia South	33.46	338	P	P	02 55 22.9	-1.5
O52A	Adamsville	33.48	1	IAMs_20	IAMs_20	03 09 36.7	
	comp=Z,8µm,18.0s						
EPT	El Paso	33.56	322	IAMs_20	IAMs_20	03 09 48.0	
	comp=Z,6µm,21.0s						
O49A	Covington	33.57	358	IAmb	IAmb	02 55 30.1	
	comp=Z,71nm,1.1s						
O49A				IAMs_20	IAMs_20	03 10 18.2	
	comp=Z,4µm,18.0s						
ACSO	Alum Creek Sta	33.59	360	P		02 55 25.3	
	baz=179,SNR=41						
O53A	New Philadelph	33.63	2	IAMs_20	IAMs_20	03 08 59.7	
	comp=Z,5µm,20.0s						
O53A	New Philadelph	33.63	2	P		02 55 25.6	
	baz=183,SNR=32						
P60A	Greenville	33.77	10	P		02 55 26.7	
	baz=193,SNR=7.3						
P60A	Greenville	33.77	10	IAmb	IAmb	02 55 30.0	
	comp=Z,37nm,1.0s						
P60A				IAMs_20	IAMs_20	03 08 41.2	
	comp=Z,4µm,19.0s						
O56A	Blue Knob Stat	33.83	6	IAmb	IAmb	02 55 30.8	
	comp=Z,71nm,1.1s						
O56A				IAMs_20	IAMs_20	03 08 54.8	
	comp=Z,6µm,20.0s						
O56A	Blue Knob Stat	33.83	6	P		02 55 27.6	
	baz=187,SNR=18						
MVL	Millersville	33.84	9	IAmb	IAmb	02 55 31.7	
	comp=Z,89nm,1.3s						
MVL				IAMs_20	IAMs_20	03 09 29.1	
	comp=Z,7µm,18.0s						
O57A	Amberson	33.87	7	P		02 55 28.3	
	baz=189,SNR=16						
O58A	Lewisberry	33.88	8	P		02 55 28.2	
	baz=190,SNR=17						
WUPA	West Chester U	33.89	10	P	P	02 55 28.7	+0.7
P40A	Paris	33.95	347	IAmb	IAmb	02 55 33.6	
	comp=Z,65nm,1.2s						
GO02	Mina Guanaco	33.96	158	IAmb	IAmb	02 55 39.2	
	comp=Z,32nm,0.9s						
SFIN	Lafayette	33.96	354	IAmb	IAmb	02 55 30.5	
	comp=Z,57nm,1.2s						
SFIN	Lafayette	33.96	354	P		02 55 27.1	
	baz=172,SNR=13						
PAGS	Pennsylvania G	34.01	8	P	P	02 55 29.5	+0.5
PAGS				IAmb	IAmb	02 55 32.9	
	comp=Z,106nm,1.2s						
O59A	Robesonia	34.17	9	P		02 55 29.7	
	baz=192						
N53A	Lisbon	34.20	3	IAmb	IAmb	02 55 33.5	
	comp=Z,112nm,1.6s						
N53A				IAMs_20	IAMs_20	03 09 26.7	
	comp=Z,7µm,19.0s						
O61A	Allentown	34.24	11	P		02 55 30.3	
	baz=194						
N51A	Ashland	34.27	0	IAMs_20	IAMs_20	03 09 54.7	
	comp=Z,8µm,19.0s						
N49A	Columbus Grove	34.30	358	IAmb	IAmb	02 55 36.4	
	comp=Z,68nm,1.0s						
N49A				IAMs_20	IAMs_20	03 11 27.4	
	comp=Z,4µm,18.0s						
O60A	Telford	34.30	10	P		02 55 30.6	
	baz=193,SNR=10						
N47A	Urbana	34.34	356	IAmb	IAmb	02 55 33.7	
	comp=Z,60nm,1.1s						
P38A	Dawn	34.39	345	IAmb	IAmb	02 55 39.5	
	comp=Z,49nm,1.2s						
N54A	Moraine State	34.40	4	IAmb	IAmb	02 55 38.0	
	comp=Z,81nm,1.2s						
N54A				IAMs_20	IAMs_20	03 09 57.0	
	comp=Z,8µm,18.0s						
N54A	Moraine State	34.40	4	P		02 55 32.1	
	baz=185,SNR=18						
HDIL	Hopedale	34.42	351	P		02 55 31.3	
	baz=168,SNR=19						
HDIL	Hopedale	34.42	351	P	P	02 55 31.4	-1.2
HDIL				IAmb	IAmb	02 55 35.1	
	comp=Z,54nm,0.8s						
N57A	Milroy	34.42	7	P		02 55 32.1	
	baz=189,SNR=12						
N56A	West Decatur	34.50	6	P		02 55 32.6	
	baz=188,SNR=19						
LUPA	Lehigh Univers	34.58	10	IAmb	IAmb	02 55 38.4	
	comp=Z,62nm,1.1s						
N58A	Sunbury	34.61	8	P		02 55 34.7	
	baz=190,SNR=16						
N58A	Sunbury	34.61	8	IAmb	IAmb	02 55 38.1	
	comp=Z,82nm,1.2s						
M50A	Fremont	34.76	360	IAMs_20	IAMs_20	03 11 18.5	
	comp=Z,5µm,18.0s						
KSU1	Kansas State U	34.80	341	IAmb	IAmb	02 55 40.0	
	comp=Z,35nm,0.8s						
KSU1	Kansas State U	34.80	341	P		02 55 35.0	
	baz=155,SNR=12						
BRNJ	Basking Ridge	34.81	11	IAmb	IAmb	02 55 40.3	
	comp=Z,116nm,1.4s						
N59A	State Game Lan	34.83	9	IAmb	IAmb	02 55 39.7	
	comp=Z,51nm,1.2s						
N59A				IAMs_20	IAMs_20	03 08 53.2	
	comp=Z,5µm,22.0s						
N59A	State Game Lan	34.83	9	P		02 55 35.9	
	baz=192,SNR=8.7						
N41A	Harden Midland	34.83	349	IAmb	IAmb	02 55 37.3	
	comp=Z,74nm,0.9s						
M53A	WI Miller and	34.84	3	P		02 55 35.9	
	baz=183,SNR=16						
M53A	WI Miller and	34.84	3	IAmb	IAmb	02 55 41.0	
	comp=Z,56nm,1.1s						
M53A				IAMs_20	IAMs_20	03 09 55.6	
	comp=Z,8µm,18.0s						
SRIG	Santa Rosalia	34.86	310	P	P	02 55 38.6	+2.0
SRIG				IAmb	IAmb	02 55 44.9	
	comp=Z,144nm,1.6s						
SRIG				IAMs_20	IAMs_20	03 06 53.6	
	comp=Z,5µm,21.0s						
121A	Cookes Peak, D	34.87	321	IAmb	IAmb	02 55 41.0	
	comp=Z,99nm,1.1s						
121A				IAMs_20	IAMs_20	03 10 13.5	
	comp=Z,7µm,18.0s						
121A	Cookes Peak, D	34.87	321	P		02 55 38.2	
	baz=133,SNR=63						

N60A	Cedar Hill Far	34.89	10	P		02 55 37.0	
	baz=193,SNR=7.0						
M52A	Chesterland	34.91	2	IAmb	IAmb	02 55 41.9	
	comp=Z,61nm,1.1s						
M52A				IAMs_20	IAMs_20	03 09 48.7	
	comp=Z,5µm,19.0s						
N61A	South Mountain	34.93	11	P		02 55 37.4	
	baz=195,SNR=9.5						
R32A	Long Quarter,	34.93	338	IAmb	IAmb	02 55 44.5	
	comp=Z,94nm,1.1s						
M54A	Oil Creek Stat	34.97	4	IAmb	IAmb	02 55 40.5	
	comp=Z,99nm,1.4s						
M54A				IAMs_20	IAMs_20	03 10 12.9	
	comp=Z,6µm,19.0s						
M54A	Oil Creek Stat	34.97	4	P		02 55 37.7	
	baz=185,SNR=18						
M55A	Ridgway	35.00	5	IAMs_20	IAMs_20	03 09 31.8	
	comp=Z,4µm,20.0s						
M57A	Sunshine Farm,	35.05	7	P		02 55 38.7	
	baz=190,SNR=34						
M44A	Midewin, Midew	35.07	353	IAmb	IAmb	02 55 41.9	
	comp=Z,72nm,1.4s						
M56A	Emporium	35.07	6	IAmb	IAmb	02 55 40.9	
	comp=Z,90nm,0.9s						
M56A				IAMs_20	IAMs_20	03 09 40.6	
	comp=Z,8µm,20.0s						
M56A	Emporium	35.07	6	P		02 55 38.3	
	baz=188,SNR=35						
ALLY	Alegheny Colle	35.08	3	P	P	02 55 38.1	-0.2
ALLY				IAmb	IAmb	02 55 41.1	
	comp=Z,73nm,1.1s						
ALLY				IAMs_20	IAMs_20	03 10 27.5	
	comp=Z,8µm,19.0s						
319A	Douglas	35.08	318	IAMs_20	IAMs_20	03 09 34.2	
	comp=Z,7µm,18.0s						
PRPB	Parauapebas	35.16	110	*e*P	P	02 55 39.2	-0.2
M58A	Price's Panora	35.17	8	P		02 55 39.4	
	baz=191,SNR=18						
PAL	Palisades	35.25	12	IAmb	IAmb	02 55 44.3	
	comp=Z,134nm,1.7s						
PAL				IAMs_20	IAMs_20	03 09 50.3	
	comp=Z,4µm,19.0s						
PAL	Palisades	35.25	12	P		02 55 39.6	
	baz=195						
N62A	Caumsett State	35.27	12	P		02 55 39.2	
	baz=196						
TRNY	Table Rock, Ra	35.32	11	IAmb	IAmb	02 55 44.3	
	comp=Z,55nm,1.2s						
L48A	N Adams	35.33	358	IAmb	IAmb	02 55 44.9	
	comp=Z,50nm,1.1s						
L53A	Girard	35.37	3	P		02 55 40.7	
	baz=184,SNR=24						
Y22D	IRIS PASSCAL I	35.42	324	P		02 55 41.4	
	baz=135						
Y22D	IRIS PASSCAL I	35.42	324	IAMs_20	IAMs_20	03 10 39.1	
	comp=Z,4µm,21.0s						
M60A	Port Jervis	35.42	11	P		02 55 41.4	
	baz=194,SNR=14						
N38A	Joes South For	35.42	346	P	P	02 55 40.4	-0.9
HQIL	Hanson Quary C	35.45	353	IAmb	IAmb	02 55 43.5	
	comp=Z,91nm,1.3s						
KSPA	Keystone Colle	35.45	9	IAmb	IAmb	02 55 45.4	
	comp=Z,116nm,1.2s						
KSPA				IAMs_20	IAMs_20	03 08 49.7	
	comp=Z,5µm,22.0s						
M59A	Waymart	35.49	9	P		02 55 42.5	
	baz=192,SNR=21						
L46A	Eue Claire	35.51	355	IAmb	IAmb	02 55 43.2	
	comp=Z,54nm,1.3s						
LENM	Lemitar	35.52	324	P	P	02 55 44.5	+2.1
WSPT	Westport, CT	35.52	12	IAmb	IAmb	02 55 47.5	
	comp=Z,64nm,1.2s						
WSPT				IAMs_20	IAMs_20	03 09 14.6	
	comp=Z,5µm,20.0s						
ERPA	Erie	35.55	3	P		02 55 41.7	
	baz=184,SNR=9.1						
ERPA	Erie	35.55	3	IAmb	IAmb	02 55 46.9	
	comp=Z,94nm,1.4s						
M61A	Granite Spring	35.57	12	P		02 55 41.6	
	baz=195						
AC02	Maricunga	35.65	159	IAmb	IAmb	02 55 49.5	
	comp=Z,40nm,0.9s						
TMAB	Tom-Au,PA,Br	35.66	103	*e*P	P	02 55 43.4	-0.2
AAM	Ann Arbor	35.66	359	P		02 55 42.7	
	baz=178						
AAM	Ann Arbor	35.66	359	IAmb	IAmb	02 55 48.3	
	comp=Z,76nm,1.3s						
AAM				IAMs_20	IAMs_20	03 11 17.5	
	comp=Z,4µm,18.0s						
CBKS	Cedar Bluff	35.67	337	IAmb	IAmb	02 55 50.5	
	comp=Z,85nm,1.6s						
CBKS	Cedar Bluff	35.67	337	P		02 55 43.5	
	baz=150,SNR=8.3						
L57A	Andrews Acres	35.73	7	P		02 55 44.1	
	baz=190,SNR=33						
YLE	Yale	35.75	13	IAmb	IAmb	02 55 47.7	
	comp=Z,70nm,1.1s						
YLE				IAMs_20	IAMs_20	03 08 59.5	
	comp=Z,5µm,21.0s						
ANMO	Albuquerque	35.78	326*c*	*i*P	P	02 55 46.4	+1.7
ANMO				pmax	pmax		
	comp=Z,89nm,1.0s						
ANMO	Albuquerque	35.78	326	P	P	02 55 45.9	+1.2
ANMO				IAmb	IAmb	02 55 54.8	
	comp=Z,76nm,1.0s						
ANMO	Albuquerque	35.78	326	IAMs_20	IAMs_20	03 11 58.4	
	comp=Z,5µm,21.0s						
ANMO	Albuquerque	35.78	326	P		02 55 46.2	
	baz=137						
L56A	Greenwood	35.78	7	IAmb	IAmb	02 55 47.7	
	comp=Z,124nm,1.5s						
L56A	Greenwood	35.78	7	P		02 55 44.3	
	baz=189,SNR=13						
L44A	Lake County Fo	35.83	353	P		02 55 43.0	
	baz=171						
M62A	Hamden	35.88	13	P		02 55 44.3	
	baz=197						
L42A	Oliver, Polo	35.89	351	IAmb	IAmb	02 55 49.2	
	comp=Z,55nm,1.1s						
L58A	Harry Jones Me	35.92	9	P		02 55 46.3	
	baz=192,SNR=23						
WVNY	West Valley, N	35.94	5	IAMs_20	IAMs_20	03 10 10.8	
	comp=Z,5µm,20.0s						
M63A	Gales Ferry	36.03	14	P		02 55 47.5	
	baz=198,SNR=8.5						
M63A	Gales Ferry	36.03	14	IAmb	IAmb	02 55 50.7	
	comp=Z,87nm,1.2s						
M63A				IAMs_20	IAMs_20	03 08 43.1	
	comp=Z,5µm,21.0s						
BINY	Binghamton	36.05	8	P		02 55 46.8	
	baz=191,SNR=15						
BINY	Binghamton	36.05	8	IAMs_20	IAMs_20	03 10 46.5	
	comp=Z,6µm,19.0s						
K50A	Casco	36.13	0	IAmb	IAmb	02 55 52.0	
	comp=Z,112nm,1.4s						
K50A				IAMs_20	IAMs_20	03 10 59.8	
	comp=Z,7µm,19.0s						
L60A	Shokan	36.14	11	P		02 55 47.3	
	baz=194,SNR=12						
L59A	Walton	36.19	10	P		02 55 48.1	
	baz=193,SNR=8.8						
L59A	Walton	36.19	10	IAmb	IAmb	02 55 59.6	
	comp=Z,128nm,1.4s						
L59A				IAMs_20	IAMs_20	03 09 21.2	
	comp=Z,5µm,22.0s						
L40A	Anamosa	36.21	349	IAmb	IAmb	02 55 49.1	
	comp=Z,76nm,1.1s						
SNDB	Serra Nova Dou	36.23	120	*e*P	P	02 55 47.4	-1.2
MMNY	Mt. Morris Dam	36.33	6	P	P	02 55 48.3	-0.7
MMNY				IAmb	IAmb	02 55 51.4	
	comp=Z,91nm,1.0s						
MMNY				IAMs_20	IAMs_20	03 10 20.2	
	comp=Z,7µm,20.0s						
T25A	Trinidad	36.35	330	P		02 55 51.2	
	baz=142,SNR=91						
T25A	Trinidad	36.36	330	IAMs_20	IAMs_20	03 12 27.7	
	comp=Z,5µm,21.0s						
K56A	Middlesex	36.36	7	P		02 55 49.2	
	baz=189,SNR=16						
UCCT	U. Connecticut	36.36	13	IAMs_20	IAMs_20	03 08 53.8	
	comp=Z,6µm,21.0s						
M64A	Tiverton	36.38	15	IAMs_20	IAMs_20	03 09 28.1	
	comp=Z,4µm,20.0s						
M64A	Tiverton	36.38	15	P		02 55 49.2	
	baz=199						
PP1B	Ponte de Pedra	36.45	131	*e*P	P	02 55 49.4	-1.0
L61A	Hillsdale 1, H	36.46	11	P		02 55 51.0	
	baz=195,SNR=12						

SCIA	**State Center** comp=Z,144nm,1.4s	**36.48**	**347**	IAmb	IAmb	02 55 56.3			
SCIA	**State Center** baz=162,SNR=14	**36.48**	**347**	P		02 55 49.2			
L62A	**Suffield** comp=Z,62nm,1.1s	**36.49**	**13**	IAmb	IAmb	02 55 53.6			
L62A	comp=Z,6µm,22.0s			IAMs_20	IAMs_20	03 09 20.3			
L62A	**Suffield** baz=197	**36.49**	**13**	P		02 55 49.7			
K57A	**Scipio Center** baz=190,SNR=24	**36.50**	**8**	P		02 55 50.1			
M65A	**Busby, Falmout** baz=200	**36.53**	**15**	P		02 55 49.3			
M65A	**Busby, Falmout** comp=Z,6µm,20.0s	**36.53**	**15**	IAMs_20	IAMs_20	03 09 33.2			
L63A	**North Scituate** baz=199	**36.57**	**14**	P		02 55 49.2			
J47A	**Sunmer** comp=Z,60nm,1.3s	**36.64**	**357**	IAmb	IAmb	02 56 03.5			
J47A	comp=Z,4µm,19.0s			IAMs_20	IAMs_20	03 12 57.4			
K58A	**Earlville** comp=Z,150nm,1.4s	**36.65**	**9**	IAmb	IAmb	02 55 55.3			
K58A	comp=Z,5µm,18.0s			IAMs_20	IAMs_20	03 11 06.5			
K58A	**Earlville** baz=192,SNR=19	**36.65**	**9**	P		02 55 52.0			
TUC	**Tucson** baz=128	**36.66**	**318**	P		02 55 52.7			
TUC	**Tucson** comp=Z,69nm,1.5s	**36.66**	**318**	P pmax	**P** pmax	**02 55 53.9**	**+1.8**		
TUC	comp=Z,13µm,18.0s			MLR	MLR				
TUC	**Tucson** comp=Z,68nm,1.4s	**36.66**	**318**	P IAmb	**P** IAmb	**02 55 53.9** 02 56 00.4	**+1.8**		
MEDO	**Medina** comp=Z,147nm,1.4s	**36.71**	**5**	IAmb	IAmb	02 55 55.1			
MEDO	comp=Z,5µm,20.0s			IAMs_20	IAMs_20	03 10 54.1			
K59A	**Cooperstown** baz=193,SNR=17	**36.79**	**10**	P		02 55 53.0			
QUA2	**Belchertown** comp=Z,6µm,22.0s	**36.80**	**13**	IAMs_20	IAMs_20	03 09 28.3			
J54A	**Appleton** comp=Z,57nm,1.0s	**36.80**	**5**	IAmb	IAmb	02 55 55.1			
J54A	comp=Z,4µm,20.0s			IAMs_20	IAMs_20	03 10 58.5			
K60A	**Five Rivers En** baz=195,SNR=5.0	**36.81**	**11**	P		02 55 53.3			
L64A	**Middleborough** comp=Z,5µm,20.0s	**36.83**	**15**	IAMs_20	IAMs_20	03 09 32.2			
L64A	**Middleborough** baz=200	**36.83**	**15**	P		02 55 52.7			
J55A	**Hilton** comp=Z,83nm,1.4s	**36.87**	**6**	IAmb	IAmb	02 55 58.9			
J55A	comp=Z,7µm,20.0s			IAMs_20	IAMs_20	03 11 06.4			
JFWS	**Jewell Farm** baz=167,SNR=12	**36.87**	**351**	P		02 55 51.8			
L61B	**Northampton** baz=197	**36.89**	**12**	P		02 55 52.2			
TRY	**Troy** comp=Z,64nm,1.1s	**36.96**	**11**	P IAmb	**P** IAmb	**02 55 55.0** 02 55 57.9	**+0.6**		
K61A	**Williamstown** baz=196,SNR=5.2	**36.98**	**12**	P		02 55 53.7			
J56A	**Wolcott** comp=Z,98nm,0.9s	**36.99**	**7**	IAmb	IAmb	02 55 57.0			
J56A	**Wolcott** baz=190,SNR=31	**36.99**	**7**	P		02 55 54.0			
KSCO	**Kaye Shedlock'** baz=146,SNR=17	**37.03**	**334**	P		02 55 55.6			
KSCO	**Kaye Shedlock'** comp=Z,4µm,21.0s	**37.03**	**334**	IAMs_20	IAMs_20	03 12 14.4			
K38A	**Parkersburg** comp=Z,82nm,1.1s	**37.09**	**348**	IAmb	IAmb	02 56 01.1			
AC05	**El Transito**	**37.12**	**162**	P	**P**	**02 55 57.8**	**+1.8**		
BCX	**Boston College** comp=Z,118nm,1.6s	**37.12**	**14**	IAmb	IAmb	02 56 00.1			
I51A	**Listowel** baz=183,SNR=28	**37.18**	**2**	P		02 55 55.1			
K62A	**Royalston** comp=Z,6µm,22.0s	**37.19**	**13**	IAMs_20	IAMs_20	03 09 39.7			
K62A	**Royalston** baz=197,SNR=6.0	**37.19**	**13**	P		02 55 56.5			
HRV	**Adam Dziewonsk** comp=Z,27nm,1.1s	**37.19**	**14**	P pmax	**P** pmax	**02 55 59.1**	**+2.7**		
HRV	**Adam Dziewonsk** comp=Z,4µm,21.0s	**37.19**	**14**	IAMs_20	IAMs_20	03 09 27.8			
HRV	**Adam Dziewonsk** baz=198	**37.19**	**14**	P		02 55 54.8			
SDCO	**Great Sand Dun** baz=141,SNR=98	**37.37**	**330**	P		02 55 60.0			
SDCO	**Great Sand Dun** comp=Z,114nm,1.1s	**37.37**	**330**	P IAmb	**P** IAmb	**02 55 59.9** 02 56 01.6	**+1.6**		
SDCO	comp=Z,4µm,21.0s			IAMs_20	IAMs_20	03 12 37.6			
K63A	**Dunstable** comp=Z,5µm,21.0s	**37.37**	**14**	IAMs_20	IAMs_20	03 09 34.6			
BGNE	**Belgrade** baz=154	**37.39**	**341**	P		02 55 57.5			
J60A	**Lant Hill Farm** baz=195,SNR=14	**37.50**	**11**	P		02 55 59.3			
J59A	**Piesco** comp=Z,75nm,1.1s	**37.52**	**10**	IAmb	IAmb	02 56 02.4			
J59A	**Piesco** baz=193,SNR=16	**37.52**	**10**	P		02 55 58.8			
X18A	**Snowflake** comp=Z,82nm,1.2s	**37.55**	**322**	IAmb	IAmb	02 56 08.6			
PECO	**Prince Edward** comp=Z,69nm,1.0s	**37.62**	**7**	IAmb	IAmb	02 56 02.0			
I42A	**Draeger Farm,** comp=Z,58nm,1.1s	**37.64**	**353**	IAmb	IAmb	02 56 04.3			
I58A	**Old Forge** baz=192,SNR=6.5	**37.66**	**9**	P		02 56 00.2			
ARAG	**Araguaiana, MT**	**37.72**	**126**	*e*P	**P**	**02 55 59.6**	**-1.6**		
AQDB	**Aquidauana**	**37.73**	**136**	*e*P	**P**	**02 55 59.9**	**-1.3**		
J61A	**Chester** baz=196,SNR=10	**37.77**	**12**	P		02 56 01.4			
W18A	**Petrified Fore** comp=Z,6µm,20.0s	**37.81**	**323**	IAMs_20	IAMs_20	03 12 28.5			
W18A	**Petrified Fore** baz=133,SNR=22	**37.81**	**323**	P		02 56 04.5			
J62A	**Henniker** baz=198,SNR=7.7	**37.82**	**13**	P		02 56 02.6			
214A	**Organ Pipe Nat** baz=126,SNR=25	**37.82**	**316**	P		02 56 03.8			
I40A	**Norwalk** comp=Z,83nm,1.4s	**37.89**	**351**	IAmb	IAmb	02 56 03.8			
I59A	**Olmsteadville** baz=194,SNR=37	**37.95**	**10**	P		02 56 02.8			
PIX	**Pinacate** comp=Z,5µm,18.0s	**38.05**	**315**	P	**P**	**02 56 05.0**	**+1.2**		
PIX	comp=Z,5µm,19.0s			IAMs_20	IAMs_20	03 11 15.9			
S22A	**4UR Ranch, Cre** baz=139,SNR=91	**38.05**	**328**	P		02 56 05.7			
H43A	**Windswept, Lux** comp=Z,62nm,0.8s	**38.08**	**354**	IAmb	IAmb	02 56 07.7			
FFD	**Franklin Falls** comp=Z,5µm,21.0s	**38.09**	**13**	IAMs_20	IAMs_20	03 09 55.2			
H53A	**Bobcaygeon** baz=187,SNR=15	**38.10**	**5**	P		02 56 03.5			
I60A	**Shoreham** baz=195,SNR=28	**38.10**	**11**	P		02 56 03.9			
DELO	**Deloro Mine** comp=Z,92nm,1.3s	**38.13**	**6**	IAmb	IAmb	02 56 06.8			
Q24A	**Divide** baz=142,SNR=18	**38.15**	**331**	P		02 56 06.0			
SMTB	**Santa Maria do**	**38.19**	**113**	*e*P	**P**	**02 56 04.3**	**-0.9**		
GLMI	**Grayling** baz=177,SNR=7.4	**38.21**	**358**	P		02 56 03.8			
GLMI	**Grayling** comp=Z,80nm,1.0s	**38.21**	**358**	IAmb	IAmb	02 56 24.1			
GLMI	comp=Z,5µm,18.0s			IAMs_20	IAMs_20	03 13 20.1			
SADO	**Sadowa** comp=Z,140nm,1.7s	**38.25**	**4**	IAmb	IAmb	02 56 09.2			
SADO	comp=Z,5µm,20.0s			IAMs_20	IAMs_20	03 11 33.9			
H57A	**Richville** baz=192,SNR=26	**38.35**	**8**	P		02 56 05.9			
OGNE	**Ogallala** baz=148,SNR=14	**38.40**	**336**	P		02 56 07.3			
OGNE	**Ogallala** comp=Z,118nm,1.1s	**38.40**	**336**	IAmb	IAmb	02 56 14.8			
OGNE	comp=Z,4µm,22.0s			IAMs_20	IAMs_20	03 13 17.6			
G45A	**Suttons Bay** comp=Z,62nm,0.9s	**38.48**	**357**	IAmb	IAmb	02 56 26.1			
H58A	**Gabriels** baz=194,SNR=14	**38.50**	**10**	P		02 56 06.7			
I62A	**Tamworth** baz=198	**38.54**	**13**	P		02 56 07.7			
I62A	**Tamworth** comp=Z,5µm,21.0s	**38.54**	**13**	IAMs_20	IAMs_20	03 10 19.5			
MVCO	**Mesa Verde**	**38.56**	**326**	P	**P**	**02 56 09.6**	**+1.3**		
MVCO	**Mesa Verde** baz=136,SNR=59	**38.56**	**326**	P		02 56 09.9			
LONY	**Lake Ozonia** baz=193,SNR=15	**38.63**	**9**	P		02 56 07.9			
LONY	**Lake Ozonia** comp=Z,59nm,0.9s	**38.63**	**9**	IAmb	IAmb	02 57 24.6			
LONY	comp=Z,4µm,18.0s			IAMs_20	IAMs_20	03 11 59.9			
K31A	**O'Neill** comp=Z,128nm,1.0s	**38.68**	**341**	IAmb	IAmb	02 56 18.6			
VT1	**Waterbury** comp=Z,101nm,1.1s	**38.68**	**11**	IAmb	IAmb	02 56 12.6			
VT1	comp=Z,4µm,20.0s			IAMs_20	IAMs_20	03 11 00.8			
PLVO	**Plevna** comp=Z,78nm,1.0s	**38.70**	**6**	IAmb	IAmb	02 56 11.2			
LBNH	**Lisbon** comp=Z,76nm,1.3s	**38.76**	**12**	IAmb	IAmb	02 56 16.2			
LBNH	comp=Z,4µm,22.0s			IAMs_20	IAMs_20	03 10 27.3			
LBNH	**Lisbon** baz=197	**38.76**	**12**	P		02 56 08.8			
H59A	**Cadyville** baz=194,SNR=23	**38.80**	**10**	P		02 56 09.5			
CO03	**El Pedregal**	**38.87**	**163**	P	**P**	**02 56 10.6**	**-0.2**		
CO03	comp=Z,126nm,1.9s			IAmb	IAmb	02 56 57.0			
I63A	**Otisfield** comp=Z,4µm,21.0s	**38.88**	**14**	IAMs_20	IAMs_20	03 10 27.6			
I63A	**Otisfield** baz=199,SNR=7.4	**38.88**	**14**	P		02 56 11.0			
PEXB	**Peixe**	**38.89**	**118**	*e*P	**P**	**02 56 10.1**	**-1.0**		
H60A	**Morristown** baz=196,SNR=14	**38.91**	**11**	P		02 56 09.9			
G54A	**Lake Saint Pet** baz=187,SNR=20	**38.96**	**5**	P		02 56 08.9			
I64A	**Boothbay** baz=201	**39.00**	**15**	P		02 56 10.3			
ISCO	**Idaho Springs** baz=142,SNR=33	**39.03**	**332**	P		02 56 13.6			
ISCO	**Idaho Springs** comp=Z,56nm,1.7s	**39.03**	**332**	P pmax	**P** pmax	**02 56 13.7**	**+1.4**		
ISCO	**Idaho Springs** comp=Z,108nm,1.5s	**39.03**	**332**	IAmb	IAmb	02 56 21.1			
G57A	**Newington** baz=192,SNR=29	**39.04**	**9**	P		02 56 11.2			
H61A	**Lyndonville** baz=197,SNR=7.0	**39.04**	**12**	P		02 56 13.0			
ECSD	**EROS Data Cent** baz=158,SNR=10	**39.05**	**344**	P		02 56 10.4			
WUAZ	**Wupatki** comp=Z,81nm,1.1s	**39.08**	**322**	IAmb	IAmb	02 56 28.8			
WUAZ	comp=Z,6µm,18.0s			IAMs_20	IAMs_20	03 12 28.0			
WUAZ	**Wupatki** baz=131,SNR=34	**39.08**	**322**	P		02 56 14.6			
CO02	**Combarbal**	**39.13**	**164**	P	**P**	**02 56 13.5**	**+0.6**		
CO02	comp=Z,53nm,0.8s			IAmb	IAmb	02 56 16.4			
SMCO	**Snowmass** comp=Z,72nm,1.1s	**39.21**	**330**	IAmb	IAmb	02 56 30.7			
SMCO	comp=Z,4µm,19.0s			IAMs_20	IAMs_20	03 14 35.2			
G58A	**Ormstown** baz=194,SNR=9.3	**39.23**	**10**	P		02 56 13.6			
H62A	**Milan** comp=Z,5µm,21.0s	**39.25**	**13**	IAMs_20	IAMs_20	03 10 41.1			
PV01	**Paradox Valley** comp=Z,85nm,1.3s	**39.27**	**327**	IAmb	IAmb	02 56 30.8			
G59A	**Clenceville** baz=195	**39.32**	**11**	P		02 56 13.2			
PV15	**Paradox Valley** comp=Z,5µm,18.0s	**39.37**	**327**	P	**P**	**02 56 16.9**	**+1.8**		
PV15	comp=Z,6µm,18.0s			IAMs_20	IAMs_20	03 14 32.5			
G60A	**Masonville** baz=196,SNR=14	**39.50**	**12**	P		02 56 15.7			
PV03	**Paradox Valley** comp=Z,6µm,22.0s	**39.50**	**327**	IAMs_20	IAMs_20	03 14 14.1			
ALGO	**Algonquin Park** baz=187,SNR=28	**39.51**	**5**	P		02 56 14.2			
PV05	**Paradox Valley** comp=Z,202nm,1.4s	**39.51**	**327**	IAmb	IAmb	02 56 32.3			
PV05	comp=Z,6µm,18.0s			IAMs_20	IAMs_20	03 14 42.8			
PV12	**Saucer Basin,** comp=Z,5µm,18.0s	**39.52**	**327**	IAMs_20	IAMs_20	03 13 22.6			
PV07	**Paradox Valley** comp=Z,6µm,18.0s	**39.53**	**327**	IAMs_20	IAMs_20	03 14 35.8			
PV18	**Skein Mesa, Pa** comp=Z,132nm,1.1s	**39.53**	**327**	IAmb	IAmb	02 56 31.9			
PV18	comp=Z,5µm,19.0s			IAMs_20	IAMs_20	03 14 13.8			
PV11	**David Mesa, Pa** comp=Z,5µm,18.0s	**39.55**	**327**	IAMs_20	IAMs_20	03 14 01.3			
SPMN	**Marine on St.** baz=164,SNR=29	**39.56**	**349**	P		02 56 14.2			
SPMN	**Marine on St.** comp=Z,86nm,1.2s	**39.56**	**349**	P IAmb	**P** IAmb	**02 56 14.4** 02 56 19.8	**-1.9**		
PV16	**Nyswonger Mesa** comp=Z,5µm,19.0s	**39.58**	**327**	IAMs_20	IAMs_20	03 14 16.1			
PV17	**East Wray Mesa** comp=Z,142nm,1.2s	**39.58**	**327**	IAmb	IAmb	02 56 32.3			
H63A	**New Sharon** baz=200,SNR=10	**39.59**	**14**	P		02 56 17.3			
WVL	**Waterville** comp=Z,4µm,21.0s	**39.59**	**15**	IAMs_20	IAMs_20	03 11 43.3			
PV19	**Moning Glory** comp=Z,214nm,1.5s	**39.62**	**327**	IAmb	IAmb	02 56 33.2			
PV19	comp=Z,5µm,19.0s			IAMs_20	IAMs_20	03 14 16.1			
PV20	**West Nyswonger** comp=Z,178nm,1.4s	**39.63**	**327**	IAmb	IAmb	02 56 33.4			
PV04	**Paradox Valley** comp=Z,5µm,18.0s	**39.63**	**327**	IAMs_20	IAMs_20	03 14 04.5			
ROSB	**Rosrio**	**39.63**	**102**	*e*P	**P**	**02 56 16.4**	**-0.9**		
PV22	**Blue Mesa, Par** comp=Z,129nm,1.4s	**39.67**	**327**	IAmb	IAmb	02 56 34.8			
PV14	**Lion Creek, Pa** comp=Z,6µm,19.0s	**39.68**	**327**	IAMs_20	IAMs_20	03 14 17.8			
MOQ	**Mont Orford**	**39.72**	**12**	P	**P**	**02 56 18.1**	**+0.5**		
E46A	**Sault Ste Mari** comp=Z,3µm,20.0s	**39.74**	**358**	IAMs_20	IAMs_20	03 13 03.5			
F57A	**Harrington** baz=192,SNR=5.3	**39.77**	**9**	P		02 56 18.4			
H64A	**Troy** baz=201	**39.78**	**15**	P		02 56 18.0			
CPBX	**Cerro Prieto** comp=Z,4µm,20.0s	**39.83**	**315**	IAMs_20	IAMs_20	03 12 07.0			
G61A	**St-Isidore-de-** baz=197,SNR=13	**39.84**	**12**	P		02 56 18.9			
GLA	**Glamis** baz=124,SNR=12	**39.84**	**316**	P		02 56 20.4			
GLA	**Glamis** comp=Z,5µm,19.0s	**39.84**	**316**	IAMs_20	IAMs_20	03 12 11.4			
H03N2	**Juan Fernandez** baz=354	**39.88**	**175**	T	T	03 38 44.2			
H03N1	**Juan Fernandez** baz=354,slow=74	**39.88**	**175**	T	T	03 38 56.2			
H03N3	**Juan Fernandez** baz=354,slow=74	**39.90**	**175**	T	T	03 38 44.2			
G62A	**West of Eustis** comp=Z,62nm,0.9s	**40.00**	**13**	IAmb	IAmb	02 56 23.7			
G62A	comp=Z,5µm,21.0s			IAMs_20	IAMs_20	03 11 12.1			
G62A	**West of Eustis** baz=199,SNR=14	**40.00**	**13**	P		02 56 20.0			
G62A	baz=199			S		03 02 28.8			
UABX	**UABC, Campus M** comp=Z,5µm,20.0s	**40.04**	**315**	IAMs_20	IAMs_20	03 12 05.7			
N23A	**Red Feather La** baz=142,SNR=16	**40.05**	**332**	P		02 56 21.4			
N23A				S		03 02 29.0			
H65A	**Eastbrook** baz=142	**40.09**	**16**	P		02 56 19.6			
H65A	baz=202			S		03 02 29.2			
PDMCI	**Parker Dam,Lak** baz=126,SNR=24	**40.10**	**318**	P		02 56 22.3			
PDMCI	baz=126			S		03 02 30.4			
G63A	**Kingsbury** baz=200,SNR=11	**40.12**	**14**	P		02 56 20.6			
G63A	baz=200			S		03 02 30.2			
F59A	**Saint Guilaume** baz=195,SNR=7.1	**40.13**	**11**	P		02 56 20.0			
F59A	baz=195			S		03 02 28.2			
ZON	**Zonda** comp=Z,4µm,21.0s	**40.13**	**161**	IAMs_20	IAMs_20	03 16 05.9			
E55A	**Montcerf-Lytto** baz=190,SNR=12	**40.22**	**7**	P		02 56 19.9			
U15A	**North Rim** comp=Z,181nm,1.7s	**40.24**	**322**	IAmb	IAmb	02 56 45.6			
U15A	comp=Z,6µm,20.0s			IAMs_20	IAMs_20	03 12 43.7			
F36A	**Milaca** comp=Z,4µm,21.0s	**40.32**	**348**	IAMs_20	IAMs_20	03 15 17.0			
EMMW	**East Machias**	**40.32**	**17**	P	**P**	**02 56 22.8**	**+0.3**		
EMMW	comp=Z,5µm,21.0s			IAMs_20	IAMs_20	03 11 00.5			
PKME	**Peaks-Kenny Pk**	**40.34**	**15**	P	**P**	**02 56 23.8**	**+1.0**		
PKME	comp=Z,4µm,21.0s			IAMs_20	IAMs_20	03 12 15.1			
PKME	**Peaks-Kenny Pk** baz=201,SNR=10	**40.34**	**15**	P		02 56 23.1			
PKME	baz=201			S		03 02 34.1			
SUSD	**Miller** baz=155	**40.38**	**342**	P		02 56 21.3			
SUSD	baz=155			S		03 02 31.3			
F60A	**Warwick** baz=196,SNR=8.0	**40.41**	**12**	P		02 56 22.4			
F60A	baz=196			S		03 02 33.2			
W13A	**Hualapai Mount** comp=Z,118nm,1.4s	**40.41**	**319**	IAmb	IAmb	02 56 38.1			
H66A	**Whiting** baz=204	**40.43**	**17**	P		02 56 22.1			
H66A	baz=204			S		03 02 34.8			
E56A	**St. Veronique** baz=192,SNR=27	**40.44**	**8**	P		02 56 22.8			
E56A	baz=192			S		03 02 33.2			
SWSC	**Sam W. Stewart** baz=123,SNR=13	**40.46**	**315**	P		02 56 25.8			
G64A	**Maxfield** baz=202	**40.47**	**15**	P		02 56 23.0			
IKP	**In-Ko-Pah, Jac** baz=123,SNR=8.5	**40.52**	**314**	P		02 56 26.2			
IKP	baz=123			S		03 02 42.6			
E58A	**La Victoria** baz=194,SNR=18	**40.55**	**10**	P		02 56 23.6			
E58A	baz=194			S		03 02 35.9			
O20A	**White River Ci** comp=Z,183nm,1.4s	**40.57**	**329**	IAmb	IAmb	02 56 49.5			
O20A	comp=Z,4µm,20.0s			IAMs_20	IAMs_20	03 15 19.3			
O20A	**White River Ci** baz=139,SNR=33	**40.57**	**329**	P		02 56 26.5			
O20A	baz=139			S		03 02 41.0			
F61A	**St Evariste** baz=198	**40.61**	**13**	P		02 56 23.9			
F61A	baz=198			S		03 02 37.1			
BC3	**Big Chuckawall** baz=124,SNR=13	**40.61**	**316**	P		02 56 26.3			
BC3	baz=124			S		03 02 42.7			
IRM	**Iron Mountain** baz=125,SNR=7.1	**40.69**	**317**	P		02 56 27.5			
IRM	baz=125			S		03 02 41.0			
NEE2	**Needles Airpor** baz=126	**40.69**	**318**	P		02 56 25.0			
D41A	**Chassel** comp=Z,3µm,20.0s	**40.73**	**354**	IAMs_20	IAMs_20	03 16 33.6			
G65A	**Princeton** comp=Z,6µm,21.0s	**40.74**	**16**	IAMs_20	IAMs_20	03 11 35.7			
G65A	**Princeton** baz=203,SNR=8.4	**40.74**	**16**	P		02 56 26.2			
G65A	baz=203			S		03 02 41.1			
E59A	**St. Maurice** baz=196	**40.79**	**11**	P		02 56 26.1			
E59A	baz=196			S		03 02 38.6			
F63A	**Nahmakanta, Br** baz=201	**40.80**	**15**	P		02 56 25.7			
F63A	baz=201			S		03 02 40.8			
BDFB	**Brasilia** comp=Z,47nm,0.9s,baz=285,slow=7.4,SNR=37	**40.80**	**123**	P LR	**P** LR	**02 56 26.0** 03 13 01.5	**-1.1**		
BDFB	comp=Z,6µm,22.0s,baz=300,slow=36								
BDFB	**Brasilia** comp=Z,67nm,1.0s	**40.80**	**123**	P pmax	**P** pmax	**02 56 25.7**	**-1.4**		
BDFB	**Brasilia** comp=Z,67nm,1.0s	**40.80**	**123**	P IAmb	**P** IAmb	**02 56 25.7** 02 56 29.6	**-1.4**		
F63A	**Nahmakanta, Br** comp=Z,4µm,20.0s	**40.80**	**15**	IAMs_20	IAMs_20	03 12 29.2			
D55A	**Sainte-Anne-du** baz=191,SNR=49	**40.85**	**8**	P		02 56 26.1			
D55A	baz=191			S		03 02 38.4			
MONP2	**Monument Peak** baz=123,SNR=10	**40.87**	**314**	P		02 56 28.2			
MONP2	baz=123			S		03 02 48.2			
GGN	**Saint George** comp=Z,5µm,19.0s	**40.88**	**17**	IAMs_20	IAMs_20	03 13 48.3			
CPUP	**Villa Florida** comp=Z,9.6nm,1.0s,baz=329,slow=9.6,SNR=18	**40.88**	**144**	P LR	**P** LR	**02 56 26.5** 03 14 18.4	**-1.0**		
CPUP	comp=Z,4µm,21.8s,baz=322,slow=38								
CPUP	**Villa Florida** comp=Z,31nm,1.3s	**40.88**	**144**	P pmax	**P** pmax	**02 56 24.3**	**-3.1**		
CPUP	**Villa Florida**	**40.88**	**144**	P	**P**	**02 56 24.3**	**-3.1**		
CPUP	**Villa Florida**	**40.88**	**144**	*e*P	**P**	**02 56 26.1**	**-1.4**		
E60A	**Ste Agathe de** baz=197,SNR=17	**40.89**	**12**	P		02 56 26.7			
E60A	baz=197			S		03 02 41.7			
F33A	**5 Mile Ranch,** comp=Z,152nm,1.7s	**40.92**	**345**	IAmb	IAmb	02 56 33.1			
D56A	**ZEC Mazanza, M** baz=192	**40.97**	**8**	P		02 56 26.7			
D56A	baz=192			S		03 02 40.4			
TJX	**Tijuana** comp=Z,4µm,18.0s	**41.12**	**314**	IAMs_20	IAMs_20	03 12 35.4			
ITRB	**Iturama**	**41.13**	**130**	*e*P	**P**	**02 56 27.9**	**-1.7**		
F64A	**Sherman** baz=202,SNR=11	**41.14**	**15**	P		02 56 29.4			
F64A	baz=202			S		03 02 45.1			
F64A	**Sherman** comp=Z,54nm,1.0s	**41.14**	**15**	IAmb	IAmb	02 56 32.7			
F64A	comp=Z,4µm,20.0s			IAMs_20	IAMs_20	03 12 19.2			
E61A	**Lac Etchemin** baz=198	**41.16**	**13**	P		02 56 29.0			
E61A	baz=198			S		03 02 45.8			
BELC	**Belle Mtn. Jos** baz=124,SNR=20	**41.18**	**316**	P		02 56 31.8			
BELC	baz=124			S		03 02 52.1			
RWWY	**Rawlins** comp=Z,73nm,1.1s	**41.26**	**332**	IAmb	IAmb	02 56 34.3			
TPFO	**Pinon Flats**	**41.28**	**315**	P		02 56 31.9			

baz=123,SNR=14
TPFO S 03 02 52.0
baz=123
XPFO Pion Flat 41.28 315 P **P** **02 56 32.3 +1.4**
XPFO Pion Flat 41.28 315 IAMs_20 IAMs_20 03 12 55.5
comp=Z,5µm,20.0s
PFO Pinyon Flats O 41.29 315*c i*P **P** **02 56 32.8 +1.9**
PFO pmax pmax
comp=Z,71nm,1.5s
PFO Pinyon Flats O 41.29 315 P **P** **02 56 32.4 +1.5**
PFO Pinyon Flats O 41.29 315 IAMs_20 IAMs_20 03 13 04.6
comp=Z,5µm,19.0s
PFO Pinyon Flats O 41.29 315 P 02 56 32.3
baz=123,SNR=11
PFO S 03 02 52.6
baz=123
D58A Chemin du LacG 41.32 10 P 02 56 30.3
baz=195,SNR=18
D58A S 03 02 45.8
baz=195
109C Camp Elliot, M 41.36 314 P 02 56 32.4
baz=122,SNR=5.9
109C S 03 02 53.1
baz=122
109C Camp Elliot, M 41.36 314 IAMs_20 IAMs_20 03 12 55.6
comp=Z,5µm,18.0s
TRCB Terra Rica 41.39 136*e*P **P** **02 56 30.4 -1.4**
GMRC Granite Mounta 41.40 317 P 02 56 33.1
baz=125,SNR=16
GMRC S 03 02 52.4
baz=125
D59A Saint-Raymond 41.43 11 P 02 56 31.7
baz=196
D59A S 03 02 47.2
baz=196
D60A Saint Jean D'O 41.52 12 P 02 56 32.4
baz=198,SNR=25
D60A S 03 02 49.1
baz=198
PCMB Pacaembu 41.61 133*e*P **P** **02 56 31.5 -2.0**
LATQ La Tuque 41.61 10 P 02 56 33.6
baz=195,SNR=28
LATQ S 03 02 49.9
baz=195
E63A Oxbow 41.64 15 P 02 56 33.5
baz=202,SNR=7.4
E63A S 03 02 51.7
baz=202
E63A Oxbow 41.64 15 P **P** **02 56 34.4 +1.0**
E63A IAMs_20 IAMs_20 03 13 04.5
comp=Z,4µm,19.0s
VLDQ Val d'Or 41.71 5 IAmb IAmb 02 56 36.3
comp=Z,69nm,1.2s
K22A Casper 41.71 333 IAmb IAmb 02 56 41.7
comp=Z,100nm,1.4s
K22A IAMs_20 IAMs_20 03 17 06.2
comp=Z,4µm,18.0s
K22A Casper 41.71 333 P 02 56 34.9
baz=143,SNR=28
K22A S 03 02 55.2
baz=143
E64A Bridgewater 41.79 15 P 02 56 34.6
baz=202,SNR=7.5
E64A S 03 02 55.8
baz=202
MURC Murrieta 41.80 315 P 02 56 36.0
baz=122,SNR=10
MURC S 03 03 02.4
baz=122
IPMB Ipameri, GO 41.85 126*e*P **P** **02 56 33.5 -2.1**
RSSD Black Hills 41.87 337 P **P** **02 56 36.4 +0.7**
RSSD pmax pmax
comp=Z,96nm,1.7s
RSSD MLR MLR
comp=Z,4µm,21.0s
RSSD Black Hills 41.87 337 P **P** **02 56 36.4 +0.7**
RSSD IAmb IAmb 02 56 43.1
comp=Z,96nm,1.7s
RSSD Black Hills 41.87 337 IAMs_20 IAMs_20 03 16 05.5
comp=Z,4µm,21.0s
RSSD Black Hills 41.87 337 P 02 56 36.6
baz=147
RSSD S 03 02 53.8
baz=147
HEC Hector,Ludlow 41.88 317 P 02 56 35.8
baz=124,SNR=5.9
HEC S 03 03 01.4
baz=124
D61A St Aubert, Com 41.95 13 P 02 56 36.1
baz=199,SNR=26
D61A S 03 02 56.6
baz=199
BBRC Big Bear Solar 41.96 316 P 02 56 36.7
baz=123
EYMN Ely 41.98 351 P **P** **02 56 34.1 -2.1**
EYMN Ely 41.98 351 P 02 56 33.5
baz=167,SNR=16
EYMN S 03 02 51.3
baz=167
PQI Presque Isle 41.98 15 IAMs_20 IAMs_20 03 13 14.3
comp=Z,4µm,20.0s
SDBA SAO DESIDERIO 42.01 117*e*P **P** **02 56 35.3 -1.7**
SHPR Sheep Range 42.08 320 IAmb IAmb 02 56 46.0
comp=Z,90nm,1.6s
SHPR IAMs_20 IAMs_20 03 13 30.6
comp=Z,5µm,20.0s
D62A Allapoint, All 42.10 14 P 02 56 37.2
baz=200,SNR=13
D62A S 03 02 58.3
baz=200
D62A Allapoint, All 42.10 14 IAMs_20 IAMs_20 03 12 25.7
comp=Z,3µm,21.0s
LMN Caledonia Moun 42.16 19 IAmb IAmb 02 56 40.9
comp=Z,60nm,0.9s
LMN IAMs_20 IAMs_20 03 12 33.1
comp=Z,6µm,21.0s
D63A Stockholm 42.29 15 P 02 56 38.7
baz=202,SNR=11
D63A S 03 03 01.5
baz=202
D32A Dogwood Acres, 42.31 345 IAmb IAmb 02 56 41.0
comp=Z,59nm,1.1s
RRX Edison Barstow 42.35 317 P 02 56 39.2
baz=124
RRX S 03 03 08.7
baz=124
SHOC Shoshone, Teco 42.45 318 P 02 56 41.8
baz=126,SNR=11
SHOC S 03 03 07.8
baz=126
GSC Goldstone, Bar 42.46 317 P 02 56 41.7
baz=124,SNR=24
GSC S 03 03 11.2
baz=124
GSC Goldstone, Bar 42.46 317 P **P** **02 56 42.2 +1.7**
GSC pmax pmax
comp=Z,45nm,1.3s
GSC MLR MLR
comp=Z,5µm,18.0s
GSC Goldstone, Bar 42.46 317 P **P** **02 56 42.2 +1.7**
GSC IAMs_20 IAMs_20 03 14 48.8
comp=Z,5µm,18.0s
BFSC Mount Baldy Ra 42.47 315 P 02 56 40.1
baz=123
BFSC S 03 03 07.8
baz=123
CIS Catalina Islan 42.56 314 P 02 56 40.4
baz=121
CIS S 03 03 11.4
baz=121
PRN Pahroc Range 42.56 321 IAmb IAmb 02 57 09.4
comp=Z,71nm,1.3s
BO02 Sierra Bellavi 42.59 165 P **P** **02 56 41.5 +0.1**
NBPS Pedro II - PI 42.59 104*e*P **P** **02 56 41.2 -0.6**
FMP Fort Macarthur 42.63 314 S 03 03 13.1
baz=121
LSQQ Lebel-sur-Quev 42.69 6 P 02 56 41.5
baz=188
LSQQ S 03 03 03.2
baz=188
MWC Mount Wilson 42.74 315 IAMs_20 IAMs_20 03 13 40.1
comp=Z,3µm,20.0s
PASC Pasadena Art C 42.80 315 IAMs_20 IAMs_20 03 13 49.7
comp=Z,3µm,19.0s
E28A Huff 42.83 342 IAmb IAmb 02 56 51.0
comp=Z,77nm,0.9s
GBN Guysborough 42.91 22 IAmb IAmb 02 56 47.7
comp=Z,66nm,1.1s
GBN IAMs_20 IAMs_20 03 15 46.9
comp=Z,4µm,20.0s
DECC Green Verdugo 42.95 315 P 02 56 44.9
baz=122
DECC S 03 03 01.6
baz=122
EDW2 Edwards Air Fo 43.04 316 P 02 56 46.1
baz=123,SNR=10
EDW2 S 03 03 18.2
baz=123
TPNV Topopah Spring 43.05 320 P 02 56 47.3
baz=126,SNR=30
TPNV Topopah Spring 43.05 320 IAmb IAmb 02 57 03.6
comp=Z,109nm,1.4s
PTGB Pitanga 43.05 137*e*P **P** **02 56 44.3 -1.1**
DUG Dugway, Tooele 43.05 326 P 02 56 46.7
baz=133,SNR=26
DUG S 03 03 18.4
baz=133
DUG Dugway, Tooele 43.05 326 P P 02 56 57.0 +12
DUG pmax pmax
comp=Z,63nm,1.4s
DUG Dugway, Tooele 43.05 326 IAmb IAmb 02 57 02.0
comp=Z,123nm,1.5s
BATG Bathurst New B 43.06 17 IAMs_20 IAMs_20 03 13 05.1
comp=Z,6µm,21.0s
AGMN Agassiz Nation 43.13 347 P 02 56 44.1
baz=161,SNR=33
AGMN S 03 03 06.3
baz=161
SPR3 Spring Creek 3 43.13 323 IAmb IAmb 02 57 08.1
comp=Z,106nm,1.6s
LRMC Laurel Mtn Rad 43.16 317 P 02 56 47.6
baz=124,SNR=20
LRMC S 03 03 20.8
baz=124
FURC Furnace Creek, 43.17 319 P 02 56 47.8
baz=125,SNR=28
FURC S 03 03 17.5
baz=125
BW06 Boulder Array 43.20 331 P 02 56 47.1
baz=139,SNR=45
BW06 S 03 03 16.9
baz=139
BW06 Boulder Array 43.21 331 P **P** **02 56 47.0 +0.4**
BW06 IAMs_20 IAMs_20 03 16 44.9
comp=Z,5µm,19.0s
PDAR Pinedale Array 43.21 331 P **P** **02 56 47.0 +0.4**
comp=Z,17nm,1.1s,baz=138,slow=9.2,SNR=56
PDAR PcP **PcP** **02 58 37.1 +1.2**
comp=Z,5.3nm,0.9s,baz=143,slow=3.9,SNR=4.1
PDAR LR LR 03 16 55.8
comp=Z,4µm,19.5s,baz=144,slow=39
PDAR Pinedale Array 43.21 331 P **P** **02 56 46.8 +0.2**
SNCC San Nicolas Is 43.28 313 IAMs_20 IAMs_20 03 12 01.7
comp=Z,6µm,21.0s
SNCC San Nicolas Is 43.28 313 S 03 03 21.2
baz=120
BB19B Bebedouro 43.32 130*e*P **P** **02 56 45.9 -1.6**
MATQ Matagami 43.32 5 P 02 56 45.8
baz=187,SNR=35
MATQ S 03 03 11.7
baz=187
MPMC Manual Prospec 43.35 318 P 02 56 47.7
baz=124,SNR=19
MPMC S 03 03 22.9
baz=124
HWUT Hardware Ranch 43.36 328 IAmb IAmb 02 57 01.0
comp=Z,123nm,1.1s
HWUT IAMs_20 IAMs_20 03 16 01.1
comp=Z,5µm,20.0s
OSI Osito Audit: C 43.41 315 S 03 03 24.5
baz=122
R11A Troy Canyon, C 43.48 322 P 02 56 50.1
baz=128,SNR=21
R11A S 03 03 26.9
baz=128
MDND Maddock 43.65 344 P 02 56 49.1
baz=155,SNR=24
JANB Januaria 43.67 120*e*P **P** **02 56 49.0 -1.4**
SCZ2 Santa Cruz Isl 43.74 314 P 02 56 51.3
baz=120
ARVC Arvin 43.75 316 P 02 56 51.3
baz=122
ARVC S 03 03 25.6
baz=122
ISA Isabella, Lake 43.80 317 P 02 56 52.9
baz=123,SNR=7.3
ISA S 03 03 30.4
baz=123
ISA Isabella, Lake 43.80 317 IAMs_20 IAMs_20 03 14 17.1
comp=Z,4µm,22.0s
GRAC Grapevine Rang 43.80 319 P 02 56 53.0
baz=125,SNR=15
GRAC S 03 03 29.4
baz=125
ITQB Itaqui 43.84 146*e*P **P** **02 56 51.9 +0.4**
CWC Cottonwood Cre 43.96 318 P 02 56 54.3
baz=124
CWC S 03 03 31.8
baz=124
BI02 San Fabin de 44.25 167 P **P** **02 56 54.6 -0.2**
REDW Red Top Meadow 44.28 330 IAMs_20 IAMs_20 03 17 31.4
comp=Z,5µm,19.0s
SNOW Snow King Moun 44.31 331 IAMs_20 IAMs_20 03 17 34.1
comp=Z,5µm,21.0s
VES Vestal, Richgr 44.31 316 P 02 56 56.9
baz=122,SNR=15
PKM Mcpherson Peak 44.32 315 P 02 56 57.2
baz=121
PKM S 03 03 35.2
baz=121
LOHW Long Hollow 44.35 331 IAMs_20 IAMs_20 03 17 48.1
comp=Z,4µm,20.0s
TIN Tinemaha, Big 44.40 318 P 02 56 56.8
baz=124,SNR=8.2
TIN S 03 03 39.8
baz=124
SMMC Simmler 44.66 315 P 02 56 59.5
baz=121,SNR=7.3
SMMC S 03 03 44.1
baz=121
NBPB Pedra_Branca-C 44.67 105*e*P **P** **02 56 57.5 -1.1**
ITAB Concordia 44.72 140*e*P **P** **02 56 57.9 -0.7**
FLWY Flagg Ranch 44.74 331 IAMs_20 IAMs_20 03 16 52.6
comp=Z,3µm,21.0s
VOG Valley Oaks Go 44.77 317 P 02 56 59.6
baz=123
LAO LASA Array 44.86 337 IAMs_20 IAMs_20 03 18 07.6
comp=Z,3µm,21.0s
LAO LASA Array 44.86 337 P 02 56 59.9
baz=146,SNR=18
LAO S 03 03 39.3
baz=146
RLMT Red Lodge 44.87 333 P 02 57 00.5
baz=141,SNR=36
RLMT S 03 03 40.4
baz=141
RLMT Red Lodge 44.88 333 P **P** **02 57 00.1 +0.2**
RLMT IAmb IAmb 02 57 20.0
comp=Z,79nm,1.4s
RLMT IAMs_20 IAMs_20 03 17 06.0
comp=Z,4µm,22.0s
H17A Grant Village 44.92 332 IAmb IAmb 02 57 14.1
comp=Z,139nm,1.6s
H17A Grant Village 44.92 332 P 02 57 01.8
baz=139,SNR=18
H17A S 03 03 41.9
baz=139
LKWY Lake 44.97 332 IAmb IAmb 02 57 18.2
comp=Z,50nm,1.1s
ULM Lac du Bonnet 44.98 348 P **P** **02 56 58.9 -1.4**
comp=Z,62nm,0.9s,baz=164,slow=7.5,SNR=43
ULM Lac du Bonnet 44.98 348*c i*P **P** **02 56 58.1 -2.3**
ULM Lac du Bonnet 44.98 348 IAmb IAmb 02 57 04.2
comp=Z,84nm,1.0s
PAGB Antelope Grade 45.06 316 IAmb IAmb 02 57 20.8
comp=Z,60nm,1.2s
PAGB IAMs_20 IAMs_20 03 13 53.8
comp=Z,6µm,22.0s
MLAC Mammoth, Mammo 45.12 319 P 02 57 02.4
baz=124
MLAC S 03 03 46.7
baz=124
NV11 Mina Array Sit 45.14 320 IAmb IAmb 02 57 24.6
comp=Z,80nm,1.4s
NV11 IAMs_20 IAMs_20 03 16 17.6
comp=Z,5µm,19.0s
NVAR Mina Array Bea 45.24 320 P **P** **02 57 04.7 +1.8**
comp=Z,15nm,0.8s,baz=138,slow=7.0,SNR=88
NVAR PcP **PcP** **02 58 44.1 +1.2**
comp=Z,4.5nm,0.9s,baz=120,slow=3.4,SNR=2.5
NVAR LR LR 03 16 37.3
comp=Z,6µm,18.2s,baz=132,slow=37
NVAR Mina Array Bea 45.24 320 P **P** **02 57 04.4 +1.5**
LHV Little Huntoon 45.26 320 IAMs_20 IAMs_20 03 16 08.8
comp=Z,5µm,19.0s
MDPB Devils Postpil 45.29 319 IAmb IAmb 02 57 12.0
comp=Z,44nm,1.1s
MDPB IAMs_20 IAMs_20 03 14 48.5
comp=Z,5µm,22.0s
KVN Kaiserville 45.47 321 IAmb IAmb 02 57 21.1
comp=Z,46nm,1.4s
RYN Ryan 45.49 320 IAMs_20 IAMs_20 03 16 35.8
comp=Z,5µm,18.0s
TIJ01 Guaruva-PR 45.55 135*e*P **P** **02 57 04.9 -0.5**
SPB Sao Paulo 45.62 132 P **P** **02 57 04.8 -1.0**
SPB Sao Paulo 45.62 132*e*P **P** **02 57 05.5 -0.3**
VAO Valinhos 45.62 131*e*P **P** **02 57 04.9 -1.0**
DGMT Dagmar 45.63 340 IAmb IAmb 02 57 11.7
comp=Z,44nm,0.9s
DGMT Dagmar 45.63 340 P 02 57 05.4
baz=149,SNR=6.8
DGMT S 03 03 52.1
baz=149
DIAM Diamantina, MG 45.72 123*e*P **P** **02 57 05.5 -1.4**
WAKR Walker 46.01 319 IAmb IAmb 02 57 20.4
comp=Z,92nm,1.6s
PET01 Itanhaem-SP 46.15 133*e*P **P** **02 57 09.7 -0.3**
YERR Yerington 46.16 320 IAMs_20 IAMs_20 03 16 38.4
comp=Z,4µm,20.0s
BSCB Bom Sucesso 46.19 127*e*P **P** **02 57 08.9 -1.6**
CPSB Cacapava Do Su 46.19 144*e*P **P** **02 57 09.9 -0.3**
BOZ Bozeman (W) 46.31 332 IAMs_20 IAMs_20 03 19 06.2
comp=Z,5µm,20.0s
BOZ Bozeman (W) 46.31 332 P 02 57 12.3
baz=138,SNR=128
BOZ S 03 04 04.2
baz=138
MCMT McKenzie Canyo 46.33 330 P **P** **02 57 12.9 +1.4**
CMB Columbia Colle 46.37 318 IAMs_20 IAMs_20 03 15 17.2
comp=Z,4µm,21.0s
PNTR Pine Nut 46.44 320 IAMs_20 IAMs_20 03 20 06.1
comp=Z,4µm,18.0s
VCNR Virginia City 46.59 320 IAMs_20 IAMs_20 03 20 21.0
comp=Z,3µm,18.0s
DLMT Dillon 46.60 331 IAmb IAmb 02 57 25.0
comp=Z,91nm,1.4s
DLMT IAMs_20 IAMs_20 03 18 28.7
comp=Z,3µm,19.0s
PAHR Pah Rah Range 46.66 321 IAmb IAmb 02 57 33.0
comp=Z,60nm,1.4s
PAHR IAMs_20 IAMs_20 03 17 36.8
comp=Z,4µm,20.0s
PARB Paraibuna 46.82 131*e*P **P** **02 57 13.5 -1.9**
MFID Camas Ranch 46.89 327 IAMs_20 IAMs_20 03 17 02.5
comp=Z,5µm,21.0s
NBPA Parau_RN 47.10 104*e*P **P** **02 57 15.8 -1.9**
PLTB Pedras Altas 47.11 146*e*P **P** **02 57 16.8 -0.6**
AFDM Forest Hills D 47.25 319 IAMs_20 IAMs_20 03 15 48.5
comp=Z,4µm,22.0s
GDU01 Guandu, BA 47.29 115*e*P **P** **02 57 17.7 -1.4**
EGMT Eagleton 47.36 335 IAMs_20 IAMs_20 03 18 28.6
comp=Z,4µm,22.0s
EGMT Eagleton 47.36 335 P 02 57 19.9
baz=142,SNR=16
EGMT S 03 04 16.8
baz=142
LPA La Plata 47.36 152*e*P **P** **02 57 18.2 -1.0**
LPA PCP **PcP** **02 58 49.5 -0.5**
LPA PP **PP** **02 59 10.8 +0.2**
LPA PPP PPP 03 00 07.5
LPA S **S** **03 04 07.6 -5.2**
LPA PS 03 04 21.5
LPA SCS **ScS** **03 07 13.6 +0.4**
LPA SS **SS** **03 07 38.8 -1.9**
LPA SSS SSS 03 09 25.2
BEKR Beckworth 47.37 320 IAmb IAmb 02 57 36.6
comp=Z,40nm,1.2s
BEKR IAMs_20 IAMs_20 03 16 26.5
comp=Z,5µm,22.0s
ESAR Angra dos Reis 47.54 129*e*P **P** **02 57 20.7 -0.2**
TER01 Tubaro-SC 47.55 139*e*P **P** **02 57 19.7 -1.2**
NBLI Livramento-PB 47.68 106*e*P **P** **02 57 22.0 -0.2**
WVOR Wild Horse Val 47.84 324 P **P** **02 57 24.1 +1.0**
WVOR pmax pmax
comp=Z,97nm,1.4s
WVOR Wild Horse Val 47.84 324 IAMs_20 IAMs_20 03 17 40.8
comp=Z,4µm,20.0s
NBIT Itapeh - BA 47.89 117*e*P **P** **02 57 22.8 -0.9**
VAS01 Vassouras-RJ 47.92 128*e*P **P** **02 57 23.3 -0.6**
ORV Oroville 47.93 319 IAmb IAmb 02 57 38.3
comp=Z,42nm,1.2s
ORV IAMs_20 IAMs_20 03 17 30.4
comp=Z,4µm,19.0s
NBLA Lagarto - SE 47.97 111*e*P **P** **02 57 23.3 -1.0**
SJMB Sao Joao De Ma 47.99 122*e*P **P** **02 57 23.5 -1.0**
MCCM Marconi Confer 48.10 317 IAMs_20 IAMs_20 03 15 38.1
comp=Z,5µm,22.0s
RCBR Riachuelo 48.29 104 IAMs_20 IAMs_20 03 20 47.3
comp=Z,5µm,18.0s
RCBR Riachuelo 48.29 104*e*P **P** **02 57 26.2 -0.8**
MSO Missoula 48.31 332 P 02 57 27.2
baz=136,SNR=45
MSO S 03 04 28.7
baz=136
PLCA Paso Flores 48.31 168 P **P** **02 57 26.2 -0.5**
comp=Z,13nm,0.8s,baz=338,slow=8.8,SNR=23
PLCA Paso Flores 48.31 168 P **P** **02 57 26.9 +0.2**
PLCA pmax pmax
comp=Z,19nm,1.0s
PLCA Paso Flores 48.31 168 P **P** **02 57 26.9 +0.2**
PLCA Paso Flores 48.31 168*e*P **P** **02 57 25.6 -1.1**
J08A Circle Bar Ran 48.32 325 IAMs_20 IAMs_20 03 18 30.5
comp=Z,3µm,19.0s
BSFB Barra de Sao F 48.33 122*e*P **P** **02 57 26.2 -0.9**
NAN01 Guarapari, ES 48.50 121*e*P **P** **02 57 28.4 0.0**
MOD Modoc Plateau 48.51 323 IAmb IAmb 02 57 43.5
comp=Z,47nm,1.6s
O03E Paynes Creek 48.53 320 P 02 57 29.1
baz=123
O03E S 03 04 33.6
baz=123
BMO Blue Mountains 48.64 327 IAmb IAmb 02 58 01.2
comp=Z,33nm,1.1s
BMO IAMs_20 IAMs_20 03 18 07.8
comp=Z,5µm,20.0s
DUB01 Friburgo-RJ 48.66 127*e*P **P** **02 57 29.3 -0.4**
HOPS Hopland Field 48.67 318 IAMs_20 IAMs_20 03 15 26.9
comp=Z,5µm,21.0s
RIB01 Linhares ES 48.93 123*e*P **P** **02 57 30.5 -1.2**
NBAN Anadia - AL 48.97 109*e*P **P** **02 57 30.8 -1.3**
O02D Mt. Diablo Mer 49.10 319 P 02 57 32.7
baz=122
O02D S 03 04 41.9
baz=122
CAM01 Campos-RJ 49.10 126*e*P **P** **02 57 32.2 -0.8**
JTMT Jette 49.13 332 IAmb IAmb 02 57 39.7
comp=Z,25nm,0.8s
WDC Whiskeytown Da 49.16 320 IAMs_20 IAMs_20 03 18 09.8
comp=Z,2µm,20.0s
F10A Beach Ranch, E 49.34 329 IAmb IAmb 02 58 11.9
comp=Z,61nm,1.4s
F10A IAMs_20 IAMs_20 03 19 30.4
comp=Z,4µm,20.0s
K05A Summer Lake 49.34 323 P **P** **02 57 34.4 -0.4**
K05A IAmb IAmb 02 58 30.0
comp=Z,60nm,1.6s
K05A IAMs_20 IAMs_20 03 19 19.7
comp=Z,5µm,20.0s
I07A Izee 49.35 325 IAMs_20 IAMs_20 03 19 04.9
comp=Z,3µm,19.0s
KCPM Cahto Peak 49.36 318 IAMs_20 IAMs_20 03 18 45.3
comp=Z,4µm,18.0s
M04C Macdoel 49.38 322 P 02 57 35.5
baz=124
M04C S 03 04 45.2
baz=124
N02D Trinity Center 49.47 320 P 02 57 35.1
baz=123
N02D S 03 04 43.6
baz=123
KMRM Mail Ridge 49.72 319 IAmb IAmb 02 57 44.7
comp=Z,71nm,1.3s

M02C **Callahan** 49.79 321 P 02 57 38.6
baz=123
M02C S 03 04 50.0
baz=123
K04D **Chiloquin, OR** 49.80 323 P 02 57 38.9
baz=125
K04D S 03 04 52.9
baz=125
G08A **Pilot Rock** 49.81 327 IAmb IAmb 02 58 12.1
comp=Z,51nm,1.6s
G08A IAMs_20 IAMs_20 03 21 50.0
comp=Z,3µm,20.0s
J05D **Fort Rock, OR** 49.87 323 P 02 57 39.4
baz=126,SNR=8.6
J05D S 03 04 53.5
baz=126
YBH **Yreka Blue Hor** 49.89 321 P **P** **02 57 38.5 -0.4**
comp=Z,4.6nm,0.9s,baz=142,slow=3.6,SNR=14
YBH **Yreka Blue Hor** 49.89 321 IAMs_20 IAMs_20 03 18 34.2
comp=Z,5µm,21.0s
L04D **Klamath Falls** 49.91 322 P 02 57 39.1
baz=124,SNR=7.6
L04D S 03 04 54.3
baz=124
WALA **Waterton Lakes** 49.93 334 IAmb IAmb 02 57 44.0
comp=Z,52nm,1.1s
WALA IAMs_20 IAMs_20 03 20 58.7
comp=Z,4µm,18.0s
KHMM **Horse Mountain** 50.08 320 IAMs_20 IAMs_20 03 16 25.2
comp=Z,4µm,22.0s
E09A **Wood Farm, Sta** 50.18 329 IAmb IAmb 02 57 50.9
comp=Z,70nm,1.1s
E09A IAMs_20 IAMs_20 03 19 32.5
comp=Z,3µm,20.0s
JCC **Jacoby Creek,** 50.24 319 IAMs_20 IAMs_20 03 18 31.5
comp=Z,4µm,20.0s
J04D **Umpqua Nationa** 50.37 323 P 02 57 43.2
baz=125,SNR=18
J04D S 03 05 01.2
baz=125
HUMO **Hull Mountain** 50.52 322 IAMs_20 IAMs_20 03 19 10.0
comp=Z,4µm,21.0s
FFC **Flin Flon** 50.53 346 P **P** **02 57 42.3 -1.0**
FFC pmax pmax
comp=Z,44nm,1.2s
FFC **Flin Flon** 50.53 346 P **P** **02 57 42.3 -1.0**
FFC IAmb IAmb 02 57 46.9
comp=Z,44nm,1.1s
KRMB **Red Mountain** 50.53 320 IAmb IAmb 02 58 00.7
comp=Z,59nm,1.4s
KRMB IAMs_20 IAMs_20 03 21 30.2
comp=Z,4µm,20.0s
I05D **Terrebonne, OR** 50.56 325 P 02 57 44.2
baz=127,SNR=6.0
E08A **Dider Farm, El** 50.64 328 IAMs_20 IAMs_20 03 19 31.8
comp=Z,3µm,21.0s
L02E **Cave Junction** 50.68 321 P 02 57 45.2
baz=123
L02E S 03 05 03.5
baz=123
F07A **Phinny Hill Vi** 50.72 327 IAmb IAmb 02 58 19.0
comp=Z,55nm,1.2s
F07A IAMs_20 IAMs_20 03 21 21.0
comp=Z,2µm,18.0s
HAWA **Hanford** 50.83 328 IAMs_20 IAMs_20 03 20 52.7
comp=Z,2µm,20.0s
NEW **Newport** 50.85 331 P **P** **02 57 46.1 +0.2**
comp=Z,14nm,1.0s,baz=133,slow=9.1,SNR=12
NEW **Newport** 50.85 331 P **P** **02 57 46.5 +0.6**
NEW pmax pmax
comp=Z,34nm,1.9s
NEW **Newport** 50.85 331 IAmb IAmb 02 57 56.5
comp=Z,46nm,1.3s
NEW **Newport** 50.85 331 P 02 57 46.3
baz=134,SNR=22
NEW S 03 05 06.6
baz=134
I04A **Tendick Farm,** 50.87 323 P 02 57 46.1
baz=125,SNR=9.0
I04A S 03 05 03.8
baz=125
D08A **Wollman Farm,** 50.94 329 IAMs_20 IAMs_20 03 20 04.6
comp=Z,2µm,19.0s
K02D **Willamette Mer** 51.01 322 P 02 57 47.8
baz=123
K02D S 03 05 08.2
baz=123
G05D **Wamic, OR** 51.09 325 P 02 57 49.3
baz=127,SNR=14
G05D S 03 05 11.1
baz=127
KBO **Bosley Butte** 51.10 321 IAMs_20 IAMs_20 03 19 20.1
comp=Z,4µm,20.0s
C09A **Chrisman Ranch** 51.10 330 IAMs_20 IAMs_20 03 19 30.9
comp=Z,4µm,22.0s
E07A **Sunnyside** 51.10 328 P **P** **02 57 48.4 +0.5**
E07A IAMs_20 IAMs_20 03 20 58.1
comp=Z,3µm,19.0s
H04A **Detroit Lake** 51.25 324 IAmb IAmb 02 58 04.6
comp=Z,53nm,1.2s
I03D **Drain, OR** 51.37 323 P 02 57 50.0
baz=124
I03D S 03 05 13.2
baz=124
J01E **Myrtle Point** 51.43 322 P 02 57 51.5
baz=123,SNR=6.6
J01E S 03 05 14.2
baz=123
H04D **Lebanon** 51.48 324 P 02 57 50.3
baz=125
H04D S 03 05 14.6
baz=125
KEBM **Edson Butte** 51.52 321 IAMs_20 IAMs_20 03 19 48.3
comp=Z,4µm,19.0s
F05D **White Salmon** 51.56 326 P 02 57 52.0
baz=127,SNR=11
F05D S 03 05 18.0
baz=127
COR **Corvallis** 51.84 324 IAMs_20 IAMs_20 03 19 32.8
comp=Z,4µm,22.0s
I02D **Swisshome** 51.90 323 P 02 57 54.6
baz=124
LTY **Liberty** 51.98 328 P **P** **02 57 54.9 +0.4**
LTY IAMs_20 IAMs_20 03 23 19.1
comp=Z,2µm,18.0s
B08A **Colville Reser** 52.00 330 IAMs_20 IAMs_20 03 21 56.7
comp=Z,3µm,21.0s
G03D **McMinnville, O** 52.18 324 P 02 57 57.0
baz=125
LON **Longmire** 52.28 327 IAMs_20 IAMs_20 03 21 14.0
comp=Z,4µm,20.0s
C06D **Leavenworth** 52.52 328 P 02 57 59.2
baz=129
C06D S 03 05 31.4
baz=129
F04D **Rainier, OR** 52.54 325 P 02 57 59.0
baz=126
E04D **Cinebar** 52.58 326 P 02 57 59.1
baz=127
D05A **Emumclaw** 52.64 327 IAmb IAmb 02 58 10.0
comp=Z,85nm,1.2s
D05A IAMs_20 IAMs_20 03 21 35.7
comp=Z,4µm,20.0s
FCC **Fort Churchill** 52.87 353 IAmb IAmb 02 58 09.2
comp=Z,55nm,1.2s
D04E **Lakebay** 53.06 327 P 02 58 03.2
baz=127,SNR=6.4
E03A **Lebam** 53.12 326 IAmb IAmb 02 58 13.9
comp=Z,93nm,1.3s
B06A **Marblemount** 53.20 329 IAMs_20 IAMs_20 03 20 50.4
comp=Z,3µm,22.0s
B05A **Bryant** 53.36 328 P 02 58 04.6
baz=128
D03D **Eldon** 53.45 327 P 02 58 05.8
baz=127,SNR=20
NLWA **Neilton Lookou** 53.79 326 P **P** **02 58 09.0 +1.2**
NLWA IAmb IAmb 02 58 19.2
comp=Z,85nm,1.3s
NLWA IAMs_20 IAMs_20 03 20 48.1
comp=Z,4µm,22.0s
A05A **Maple Falls** 53.81 329 IAmb IAmb 02 58 17.9
comp=Z,41nm,1.2s
A04D **Lummi Island** 53.96 328 P 02 58 09.4
baz=128
A04D S 03 05 47.6
baz=128
PGC **Sidney** 54.31 328 IAmb IAmb 02 58 28.6
comp=Z,43nm,1.2s

FRB **Frobisher Bay** 58.05 7 P **P** **02 58 36.4 -1.5**
FRB pmax pmax
comp=Z,61nm,1.3s
BBB **Bella Bella** 58.79 329 P **P** **02 58 43.5 +0.2**
comp=Z,12nm,1.0s,baz=304,slow=3.6,SNR=2.5
BBB **Bella Bella** 58.79 329 IAMs_20 IAMs_20 03 24 45.3
comp=Z,2µm,22.0s
RKT **Rikitea** 58.94 238 *e*S **S** **03 06 51.8 +0.8**
comp=Z,2µm,30.2s
RKT *e*LQ LQ 03 13 44.3
RKT comp=Z,2µm,30.5s *e*LR LR 03 16 12.7
comp=Z,5µm,29.8s
TAOE **Nuku Hiva Isla** 59.25 256 *e*LR LR 03 16 23.0
comp=Z,2µm,25.5s
YKA **Yellowknife Ar** 60.58 344 P **P** **02 58 55.2 -0.2**
comp=Z,21nm,1.1s,baz=134,slow=7.2,SNR=91
YKA LR LR 03 27 42.4
comp=Z,2µm,19.3s,baz=0.0,slow=39
DIB **Dawson Inlet,** 61.58 329 IAMs_20 IAMs_20 03 27 44.1
comp=Z,2µm,19.0s
NUUK **Nuuk** 61.70 15 *i* P **P** **02 59 02.9 -0.1**
NUUK IAmb IAmb 02 59 04.7
comp=Z,42nm,0.9s
CRAG **Craig** 63.06 331 IAMs_20 IAMs_20 03 27 38.2
comp=Z,3µm,21.0s
WRAK **Wrangell Islan** 63.19 332 IAMs_20 IAMs_20 03 27 28.4
comp=Z,2µm,20.0s
WRAK **Wrangell Islan** 63.19 332 S 03 07 46.9
baz=122
DLBC **Dease Lake** 63.26 334 P **P** **02 59 14.9 +1.2**
comp=Z,40nm,0.9s,baz=122,slow=5.5,SNR=32
DLBC **Dease Lake** 63.26 334 IAmb IAmb 02 59 18.5
comp=Z,40nm,0.9s
SFJD **Kangerlussuaq** 64.26 13 *i* P **P** **02 59 18.2 -1.8**
comp=Z,1.1nm,0.9s
SFJD **Kangerlussuaq** 64.26 13 P **P** **02 59 18.6 -1.4**
SFJD pmax pmax
comp=Z,26nm,1.2s
SFJD **Kangerlussuaq** 64.26 13 P **P** **02 59 18.6 -1.4**
SFJD IAmb IAmb 02 59 26.4
comp=Z,26nm,1.1s
SFJD **Kangerlussuaq** 64.26 13 *i* P **P** **02 59 18.2 -1.8**
SFJD IAmb IAmb 02 59 20.9
comp=Z,1.1nm,0.9s
SIT **Sitka** 64.93 331 P 02 59 24.7
baz=119
JIS **Juneau Island** 65.10 333 IAMs_20 IAMs_20 03 29 13.9
comp=Z,3µm,21.0s
BESE **Bessie Mountai** 65.47 333 IAMs_20 IAMs_20 03 29 24.7
comp=Z,3µm,21.0s
ILULI **Ilulissat** 65.97 12 *i* P **P** **02 59 30.7 -0.4**
comp=Z,22nm,1.0s
ILULI **Ilulissat** 65.97 12 *i* P **P** **02 59 30.7 -0.4**
ILULI pmax pmax
comp=Z,22nm,1.0s
ILULI **Ilulissat** 65.97 12 *i* P **P** **02 59 30.7 -0.4**
ILULI IAmb IAmb 02 59 32.2
comp=Z,22nm,1.0s
SKAG **Skagway** 66.13 334 IAMs_20 IAMs_20 03 29 07.0
comp=Z,3µm,22.0s
ISOG **Isortoq, Green** 66.35 18 *e*P **P** **02 59 32.3 -1.3**
WHY **Whitehorse** 66.55 335 IAMs_20 IAMs_20 03 34 14.1
comp=Z,2µm,18.0s
ANGG **Ammassalik, Gr** 66.82 19 *i* P **P** **02 59 35.2 -1.4**
ANGG IAmb IAmb 02 59 37.6
comp=Z,38nm,0.8s
NUUG **Nuugaatsiaq** 67.54 10 *i* P **P** **02 59 40.9 -0.1**
NUUG IAmb IAmb 02 59 43.2
comp=Z,18nm,0.9s
UPNV **Upernavik** 68.16 8 *i* P **P** **02 59 45.2 +0.3**
UPNV IAmb IAmb 02 59 46.2
comp=Z,9.4nm,1.0s
BCPM **Bancas Point** 68.28 333 IAMs_20 IAMs_20 03 32 34.1
comp=Z,2µm,20.0s
C36M **Paulatuk** 68.30 345 IAMs_20 IAMs_20 03 31 32.9
comp=Z,3µm,20.0s
C36M **Paulatuk** 68.30 345 P 02 59 46.8
baz=135
C36M S 03 08 47.4
baz=135
RES **Resolute Bay** 68.50 357 P **P** **02 59 47.6 +0.5**
comp=Z,9.7nm,1.0s,baz=179,slow=10,SNR=20
RES **Resolute Bay** 68.50 357 P **P** **02 59 46.6 -0.5**
RES pmax pmax
comp=Z,11nm,1.1s
RES **Resolute Bay** 68.50 357 IAMs_20 IAMs_20 03 29 50.9
comp=Z,2µm,21.0s
ICESG **Greenland Ices** 68.56 15 *i* P **P** **02 59 47.4 -0.6**
ICESG IAmb IAmb 02 59 49.0
comp=Z,62nm,0.9s
PINM **Pinnacle** 68.62 333 P 02 59 48.6
baz=116
PCA **Pinnacle** 68.63 333 IAMs_20 IAMs_20 03 31 03.1
comp=Z,3µm,22.0s
TABL **Table Mountain** 69.17 333 IAMs_20 IAMs_20 03 32 16.6
comp=Z,2µm,20.0s
CTGM **Chitina Glacie** 69.48 334 IAmb IAmb 03 00 05.4
comp=Z,69nm,1.4s
CTG **Chitna Glacier** 69.48 334 P 02 59 54.7
baz=115
KULLO **Kullorsuaq** 69.61 7 *i* P **P** **02 59 55.0 +1.0**
comp=Z,22nm,1.1s
KULLO **Kullorsuaq** 69.61 7 *i* P **P** **02 59 55.0 +1.0**
KULLO pmax pmax
comp=Z,22nm,1.1s
KULLO **Kullorsuaq** 69.61 7 *i* P **P** **02 59 55.0 +1.0**
KULLO IAmb IAmb 02 59 56.0
comp=Z,22nm,1.1s
TGL **Tana Glacier** 70.06 333 IAmb IAmb 03 00 07.2
comp=Z,51nm,1.1s
TGL IAMs_20 IAMs_20 03 32 57.1
comp=Z,2µm,21.0s
DAWY **Dawson** 70.06 337 IAmb IAmb 03 00 00.9
comp=Z,23nm,0.9s
DAWY IAMs_20 IAMs_20 03 32 48.9
comp=Z,3µm,22.0s
CRQE **Cirque** 70.18 333 P 02 59 58.0
baz=113
CRQM **Cirque** 70.20 333 IAmb IAmb 03 00 08.5
comp=Z,59nm,1.2s
PPT **Papeete** 70.21 249 LR LR 03 22 41.6
comp=Z,2µm,20.6s,baz=78,slow=29
PPT2 **Papeete2** 70.21 249 *e*S **S** **03 09 08.3 -2.3**
comp=Z,368nm,25.0s
PPT2 *e*LQ LQ 03 18 28.5
comp=Z,1µm,23.8s
PPT2 *e*LR LR 03 21 26.0
comp=Z,4µm,25.0s,baz=60
INK **Inuvik** 70.26 342 P **P** **02 59 58.6 +0.6**
INK pmax pmax
comp=Z,71nm,1.1s
INK MLR MLR
comp=Z,5µm,18.0s
INK **Inuvik** 70.26 342 P **P** **02 59 58.6 +0.6**
MCARA **McCarthy VSAT** 70.40 334 P 02 59 59.1
baz=114,SNR=7.5
MCARA S 03 09 19.5
baz=114
TULEG **Thule** 70.41 3 *i* P **P** **02 59 59.4 +0.6**
TULEG IAmb IAmb 03 00 01.8
comp=Z,18nm,1.3s
KAIM **Kayak Island** 70.47 332 P 02 59 59.4
baz=112
RAGM **Ragged Mountai** 70.76 332 IAmb IAmb 03 00 12.3
comp=Z,52nm,1.1s
BMRM **Bremner River** 70.94 333 P 03 00 03.3
baz=112
EGAK **Eagle** 71.07 337 IAmb IAmb 03 00 13.7
comp=Z,41nm,1.1s
EGAK IAMs_20 IAMs_20 03 33 19.6
comp=Z,2µm,22.0s
EGAK **Eagle** 71.07 337 P 03 00 03.6
baz=116,SNR=28
EGAK S 03 09 24.1
baz=116
K27K **Chicken** 71.10 336 IAmb IAmb 03 00 33.8
comp=Z,33nm,1.1s
K27K IAMs_20 IAMs_20 03 32 20.2
comp=Z,3µm,21.0s
K27K **Chicken** 71.10 336 P 03 00 04.2
baz=115
K27K S 03 09 24.3
baz=115
N25K **Chitina, Valde** 71.18 334 IAmb IAmb 03 00 14.8
comp=Z,49nm,1.2s
N25K IAMs_20 IAMs_20 03 33 34.7
comp=Z,2µm,21.0s
N25K **Chitina, Valde** 71.18 334 P 03 00 04.4
baz=112,SNR=5.4
N25K S 03 09 25.3
baz=112
Q23K **Middleton Isla** 71.21 331 P 03 00 04.9
baz=110
SUMG **Summit** 71.24 13 *i* P **P** **03 00 04.4 0.0**
comp=Z,132nm,1.0s
SUMG **Summit** 71.24 13 *i* P **P** **03 00 04.4 0.0**
SUMG pmax pmax
comp=Z,130nm,1.0s
SUMG **Summit** 71.24 13 P **P** **03 00 04.5 0.0**
SUMG **Summit** 71.24 13 *i* P **P** **03 00 04.4 0.0**
SUMG IAmb IAmb 03 00 07.0
comp=Z,133nm,1.0s
EYAK **Cordova Ski Ar** 71.32 332 P 03 00 05.3
baz=111
MENT **Mentasta** 71.32 335 IAmb IAmb 03 00 15.2
comp=Z,29nm,1.0s
MENT IAMs_20 IAMs_20 03 32 20.3
comp=Z,3µm,22.0s
TBI **Tubuai** 71.57 243 *e*S **S** **03 09 26.2 +0.2**
comp=Z,714nm,29.0s
TBI *e*LQ LQ 03 19 03.8
comp=Z,3µm,32.0s
TBI *e*LR LR 03 22 03.9
comp=Z,4µm,28.0s,baz=66
HIN **Hinchinbrook I** 71.61 332 IAMs_20 IAMs_20 03 33 48.1
comp=Z,2µm,19.0s
KLU **Klutina** 71.73 333 P 03 00 07.9
baz=111,SNR=9.8
KLU S 03 09 29.2
baz=111
DOT **Dot Lake** 71.75 336 IAMs_20 IAMs_20 03 33 11.6
comp=Z,2µm,20.0s
SCRK **Sand Creek** 71.85 336 P 03 00 08.8
baz=114,SNR=17
SCRK S 03 09 33.8
baz=114
GLI **Glacier Island** 72.05 332 P 03 00 08.7
baz=110
M24K **Tolsona, Glenn** 72.06 334 P 03 00 09.6
baz=111
PAX **Paxson** 72.07 335 IAmb IAmb 03 00 19.3
comp=Z,32nm,1.2s
PAX IAMs_20 IAMs_20 03 34 08.2
comp=Z,1µm,19.0s
PAX **Paxson** 72.07 335 P 03 00 09.6
baz=112,SNR=11
SCM **Sheep Creek Mo** 72.48 333 IAMs_20 IAMs_20 03 37 47.0
comp=Z,2µm,19.0s
KNK **Knik Glacier** 72.85 333 IAMs_20 IAMs_20 03 36 26.8
comp=Z,2µm,18.0s
KNK **Knik Glacier** 72.85 333 P 03 00 14.2
baz=108,SNR=9.8
SEW **Seward** 72.91 331 IAmb IAmb 03 00 18.5
comp=Z,49nm,1.0s
SEW IAMs_20 IAMs_20 03 38 13.6
comp=Z,2µm,19.0s
SEW **Seward** 72.91 331 P 03 00 14.3
baz=107
WAT6 **Susitna Watana** 72.91 334 P 03 00 14.7
baz=110,SNR=14
WAT6 S 03 09 43.5
baz=110
SML **Sawmill** 72.92 333 P **P** **03 00 15.3 +0.9**
SML IAMs_20 IAMs_20 03 37 50.6
comp=Z,2µm,20.0s
SML **Sawmill** 72.92 333 P 03 00 14.7
baz=109,SNR=8.6
SML S 03 09 44.7
baz=109
PRP **Porcupine Dome** 73.06 337 IAmb IAmb 03 00 25.3
comp=Z,29nm,1.1s
PRP **Porcupine Dome** 73.06 337 P 03 00 15.4
baz=112
PRP S 03 09 47.2
baz=112
O22K **Cooper Landing** 73.15 332 IAMs_20 IAMs_20 03 35 54.9
comp=Z,2µm,20.0s
O22K **Cooper Landing** 73.15 332 P 03 00 15.9
baz=107
GHO **Glory Hole Cre** 73.18 333 IAMs_20 IAMs_20 03 38 16.4
comp=Z,2µm,19.0s
HDA **Harding Lake** 73.21 336 P 03 00 16.2
baz=111,SNR=27
HDA P 03 00 16.2
baz=111,SNR=27
HDA S 03 09 47.5
baz=111
HDA S 03 09 47.5
baz=111
PMR **Palmer** 73.21 333 IAmb IAmb 03 00 47.1
comp=Z,49nm,1.4s
PMR IAMs_20 IAMs_20 03 34 54.4
comp=Z,3µm,20.0s
PMR **Palmer** 73.21 333 P 03 00 15.5
baz=108
PMR S 03 09 47.5
baz=108
IL31 **73.32 336** IAmb IAmb 03 00 26.5
comp=Z,46nm,1.1s
ILAR **Eielson Array** 73.32 336 P **P** **03 00 16.9 +0.4**
comp=Z,16nm,1.0s,baz=117,slow=3.8,SNR=51
ILAR LR LR 03 36 03.6
comp=Z,1µm,18.1s,baz=119,slow=39
ILAR **Eielson Array** 73.32 336 P **P** **03 00 16.6 0.0**
ILAR **Eielson Array** 73.32 336 P **P** **03 00 16.6 0.0**
RC01 **Rabbit Creek A** 73.34 332 P 03 00 16.3
baz=107
RC01 S 03 09 49.4
baz=107
WAT2 **Susitna Watana** 73.41 334 P 03 00 17.6
baz=109,SNR=13
WAT2 S 03 09 49.2
baz=109
MORF **Marmelete** 73.41 53 *e*P **P** **03 00 18.7 +0.9**
MORF AMS AMS 03 26 53.5
comp=Z,1µm,17.7s
MORF **Marmelete** 73.41 53 *e*P **P** **03 00 18.6 +0.9**
MORF **Marmelete** 73.41 53 *e*P **P** **03 00 19.1 +1.4**
comp=Z,72nm,1.4s
BRSE **Bradley Lake S** 73.43 331 P 03 00 17.7
baz=106
PSBE **So Bento** 73.48 51 *e*P **P** **03 00 20.4 +2.3**
comp=Z,65nm,1.8s
BRLK **Bradley Lake** 73.51 331 IAMs_20 IAMs_20 03 30 50.5
comp=Z,2µm,20.0s
CNPM **China Poot** 73.61 330 IAMs_20 IAMs_20 03 29 50.2
comp=Z,2µm,21.0s
POKR **Poker Plat Res** 73.66 337 IAMs_20 IAMs_20 03 35 10.0
comp=Z,2µm,21.0s
POKR **Poker Plat Res** 73.66 337 P 03 00 18.8
baz=110
POKR S 03 09 51.3
baz=110
RND **Reindeer** 73.66 335 IAMs_20 IAMs_20 03 34 34.3
comp=Z,2µm,21.0s
WRH **Wood River Hil** 73.70 336 IAMs_20 IAMs_20 03 33 46.1
comp=Z,2µm,20.0s
COLA **College** 73.74 336‖ *e*P **P** **03 00 19.7 +0.7**
COLA pmax pmax
comp=Z,37nm,1.3s
COLA **College** 73.74 336 P **P** **03 00 19.4 +0.4**
COLA IAmb IAmb 03 00 26.5
comp=Z,37nm,1.2s
COLA **College** 73.74 336 IAMs_20 IAMs_20 03 33 26.2
comp=Z,2µm,21.0s
COLA **College** 73.74 336 P 03 00 19.3
baz=110
COLA S 03 09 52.9
baz=110
TCOL **CIGO, UAF Yank** 73.74 336 IAmb IAmb 03 00 26.6
comp=Z,38nm,1.2s
TCOL IAMs_20 IAMs_20 03 33 26.2
comp=Z,2µm,21.0s
TCOL **CIGO, UAF Yank** 73.74 336 P 03 00 19.0
baz=110
TCOL S 03 09 52.9
baz=110
MCK **McKinley** 73.80 335 P 03 00 19.8
baz=109,SNR=14
MCK S 03 09 54.4
baz=109
COI **Coimbra** 73.84 50 *e*P **P** **03 00 21.6 +1.5**
comp=Z,73nm,1.3s
COI **Coimbra** 73.84 50 IAmb IAmb 03 00 26.5

KDAK **Kodiak Island** 73.86 328 *e*P P 03 00 22.1 +2.3
comp=Z,54nm,1.1s
KDAK pmax pmax
comp=Z,55nm,1.1s
KDAK Kodiak Island 73.86 328 IAMs_20 IAMs_20 03 32 18.7
comp=Z,1µm,21.0s
KDAK Kodiak Island 73.86 328 P 03 00 19.4
baz=104
PMTG Montargil 73.89 51 *e*P P **03 00 22.4 +2.0**
comp=Z,26nm,1.4s
SUA Susitna One 73.92 332 IAmb IAmb 03 00 30.3
SUA IAMs_20 IAMs_20 03 39 15.0
comp=Z,2µm,19.0s
SUA Susitna One 73.92 332 P 03 00 19.9
baz=106
MDM Murphy Dome 73.92 336 IAMs_20 IAMs_20 03 34 16.9
comp=Z,3µm,21.0s
PCVE Castro Verde 73.92 53 *e*P P **03 00 23.1 +2.5**
comp=Z,40nm,1.6s
CUT Chulitna 73.97 333 P 03 00 20.2
baz=107
PBDV Barranco-do-Ve 73.98 53 *e*P P **03 00 22.4 +1.4**
comp=Z,24nm,1.3s
EVO Evora 74.01 52 *e*P P **03 00 22.0 +0.9**
comp=Z,20nm,1.6s
OHAK Old Harbor 74.09 328 IAmb IAmb 03 00 30.9
OHAK comp=Z,56nm,1.1s IAMs_20 IAMs_20 03 31 47.0
comp=Z,1µm,22.0s
OHAK Old Harbor 74.09 328 P 03 00 20.5
baz=103
NEA2 Nenana 74.14 336 P 03 00 21.7
baz=109,SNR=8.1
NEA2 S 03 09 55.8
baz=109
PVAQ Vaqueiros 74.16 53 *e*LR LR 03 23 29.6
comp=Z,1µm,18.0s
PVAQ Vaqueiros 74.16 53 IAMs_20 IAMs_20 03 28 29.5
comp=Z,2µm,22.0s
PVIS Viseu 74.28 50 *e*P P **03 00 23.4 +0.7**
comp=Z,42nm,1.4s
TRF Thorofare Moun 74.29 334 IAmb IAmb 03 00 31.9
comp=Z,34nm,1.0s
TRF Thorofare Moun 74.29 334 P 03 00 22.5
baz=107
TRF S 03 09 58.9
baz=107
PESTR Estremoz 74.36 52 P P **03 00 23.2 0.0**
PESTR IAMs_20 IAMs_20 03 26 39.8
comp=Z,1µm,20.0s
SCO Scoresbysund 74.39 18 *i* P P **03 00 22.5 -0.2**
comp=Z,11nm,1.2s
SCO Scoresbysund 74.39 18 *i* P P **03 00 22.5 -0.2**
SCO pmax pmax
comp=Z,11nm,1.2s
SCO Scoresbysund 74.39 18 P P **03 00 22.6 -0.2**
SCO Scoresbysund 74.39 18 *i* P P **03 00 22.6 -0.2**
SCO IAmb IAmb 03 00 30.7
comp=Z,11nm,1.2s
POLO Lamas de Olo 74.41 49 *e*P P **03 00 26.4 +2.8**
comp=Z,15nm,1.5s
SKT Skwentna 74.42 333 IAmb IAmb 03 00 33.0
SKT comp=Z,68nm,1.2s IAMs_20 IAMs_20 03 38 58.3
comp=Z,2µm,18.0s
SKT Skwentna 74.42 333 P 03 00 22.9
baz=106
SKT S 03 10 02.5
baz=106
SII Sitkinak Islan 74.43 327 P 03 00 23.0
baz=102
I23K Minto, Yukon-K 74.44 336 IAmb IAmb 03 00 33.5
comp=Z,80nm,1.2s
I23K IAMs_20 IAMs_20 03 34 31.5
comp=Z,2µm,21.0s
I23K Minto, Yukon-K 74.44 336 P 03 00 23.7
baz=109,SNR=35
I23K S 03 10 02.6
baz=109
PVRL Vila Real 74.46 49 *e*P P **03 00 25.0 +1.2**
comp=Z,32nm,1.5s
MTE Manteigas 74.52 50 *e*P P **03 00 25.0 +0.8**
comp=Z,49nm,1.7s
MTE Manteigas 74.52 50 *e*LR LR 03 23 30.8
comp=Z,2µm,22.0s
PCBR Castelo Branco 74.53 51 *e*P P **03 00 24.7 +0.6**
comp=Z,24nm,1.3s
PMRV Marv??o 74.56 51 *e*P P **03 00 24.7 +0.3**
comp=Z,31nm,1.7s
PMRV Marv??o 74.56 51 *e*LR LR 03 23 42.3
comp=Z,2µm,22.0s
KTH Kantishna Hill 74.59 334 IAmb IAmb 03 00 34.3
comp=Z,37nm,1.1s
PBAR Barrancos 74.75 52 *e*P P **03 00 26.5 +1.1**
comp=Z,21nm,1.4s
BPAW Bear Paw Mtn. 74.78 335 IAmb IAmb 03 00 34.9
comp=Z,50nm,1.1s
BPAW Bear Paw Mtn. 74.78 335 P 03 00 25.2
baz=107,SNR=22
BPAW S 03 10 05.7
baz=107
PPLA Purkeypile 74.96 334 P 03 00 26.5
baz=106,SNR=10
PPLA S 03 10 05.0
baz=106
PPLA Purkeypile 74.96 334 P P **03 00 25.8 -0.6**
MVO Moncorvo 74.97 49 *e*P P **03 00 28.6 +1.8**
comp=Z,28nm,1.3s
MVO Moncorvo 74.97 49 *e*LR LR 03 24 10.3
comp=Z,679nm,24.0s
PBRG Bragança 75.24 49 *e*P P **03 00 30.2 +1.9**
comp=Z,32nm,1.5s
CHUM Lake Minchumin 75.28 335 P 03 00 27.3
baz=106
COLD Coldfoot 75.43 338 IAmb IAmb 03 00 39.9
comp=Z,62nm,1.2s
COLD Coldfoot 75.43 338 P 03 00 29.8
baz=108,SNR=42
COLD S 03 10 15.6
baz=108
TOLK Toolik Lake Re 75.66 340 P 03 00 30.6
baz=109,SNR=20
TOLK S 03 10 16.9
baz=109
SVW2 Sparrevohn 76.09 331 IAmb IAmb 03 00 41.3
comp=Z,30nm,1.1s
SVW2 IAMs_20 IAMs_20 03 31 27.1
comp=Z,1µm,22.0s
DBG Daneborg 76.52 14 *i* P P **03 00 35.4 +0.5**
DBG IAmb IAmb 03 00 38.6
comp=Z,4.7nm,1.2s
TTA Tatalina 76.67 333 P P **03 00 35.1 -0.9**
TTA pmax pmax
comp=Z,44nm,1.2s
TTA MLR MLR
comp=Z,2µm,20.0s
TTA Tatalina 76.67 333 P P **03 00 35.1 -0.9**
TTA IAmb IAmb 03 00 45.4
comp=Z,44nm,1.2s
TTA IAMs_20 IAMs_20 03 36 53.7
comp=Z,2µm,20.0s
TTA Tatalina 76.67 333 P 03 00 35.8
baz=102,SNR=18
TTA S 03 10 24.9
baz=102
CHGN Chignik 76.70 326 IAMs_20 IAMs_20 03 41 01.0
comp=Z,1µm,18.0s
CHGN Chignik 76.70 326 P 03 00 35.7
baz=98,SNR=6.5
PAB San Pablo 76.92 51 P P **03 00 37.0 -0.9**
PAB pmax pmax
comp=Z,29nm,1.4s
PAB San Pablo 76.92 51 P P **03 00 37.0 -0.9**
TIC Toumodi 77.09 85 *e*P P **03 00 40.3 +1.0**
LIC Lamto 77.12 85 *e*P P **03 00 40.9 +1.5**
comp=Z,55nm,1.1s
CNBA Chernabura Isl 77.16 325 IAMs_20 IAMs_20 03 33 53.4
comp=Z,2µm,22.0s
ESDC Sonseca Array 77.22 51 P P **03 00 40.3 +0.7**
comp=Z,11nm,0.9s,baz=275,slow=5.3,SNR=33
ESDC LR LR 03 28 37.0
comp=Z,2µm,21.9s,baz=270,slow=31
ESDC Sonseca Array 77.22 51 P P **03 00 39.0 -0.6**
DBIC Dimbokro 77.25 85 P P **03 00 41.8 +1.7**
comp=Z,4.7nm,0.7s,baz=218,slow=5.4,SNR=5.3
DBIC LR LR 03 32 43.9
comp=Z,972nm,20.3s,baz=256,slow=34

KIC Kosan Boka 77.39 85 *e*P P **03 00 42.1 +1.1**
comp=Z,26nm,0.9s
KOWA Kowa 77.48 77 P P **03 00 41.8 +0.4**
KOWA IAmb IAmb 03 00 58.8
comp=Z,44nm,1.4s
SDPT Sand Point 77.73 325 P 03 00 41.5
baz=96
DAG Danmarks Havn 77.90 12 *i* P P **03 00 42.4 -0.2**
comp=Z,9.1nm,0.9s
DAG Danmarks Havn 77.90 12 *i* P P **03 00 42.4 -0.2**
DAG pmax pmax
comp=Z,9.0nm,0.9s
DAG Danmarks Havn 77.90 12 *i* P P **03 00 42.5 -0.2**
DAG IAmb IAmb 03 00 44.5
comp=Z,9.1nm,0.9s
ROSF Rostrenen 78.15 42 *e*P P **03 00 45.2 +0.7**
ROSF pmax pmax
comp=Z,88nm,1.3s
QUIF Quistinic 78.20 43 *e*P P **03 00 45.5 +0.7**
QUIF pmax pmax
comp=Z,45nm,1.0s
SGMF Saint Gilles 78.62 42 *e*P P **03 00 47.7 +0.6**
SGMF pmax pmax
comp=Z,44nm,1.2s
ESK Eskdalemuir 78.71 35 P P **03 00 45.7 -1.8**
ESK pmax pmax
comp=Z,51nm,2.8s
EKA Eskdalemuir Ar 78.74 35 P P **03 00 47.9 +0.3**
comp=Z,11nm,0.7s,baz=255,slow=4.6,SNR=21
A21K Barrow 78.75 342 P P **03 00 47.9 +0.6**
A21K IAmb IAmb 03 00 57.5
comp=Z,69nm,1.1s
A21K IAMs_20 IAMs_20 03 40 38.1
comp=Z,2µm,19.0s
A21K Barrow 78.75 342 P 03 00 48.0
baz=103,SNR=19
A21K S 03 10 49.3
baz=103
FALS False Pass 79.37 325 P 03 00 50.6
baz=94
SJPF Ste Jean 79.38 47 *e*P P **03 00 53.7 +2.3**
SJPF pmax pmax
comp=Z,45nm,1.2s
GRR Gorron 79.76 42 *e*P P **03 00 52.9 -0.5**
GRR pmax pmax
comp=Z,75nm,1.0s
ETSF Etsaut 79.86 48 *e*P P 03 00 58.1 +4.0
ETSF pmax pmax
comp=Z,23nm,1.4s
FLN La Foliniere 80.02 42 *e*P P **03 00 53.4 -1.4**
FLN pmax pmax
comp=Z,64nm,1.1s
MFF Saint Martin d 80.20 44 *e*P P **03 00 55.3 -0.5**
MFF pmax pmax
comp=Z,26nm,0.8s
LDF La Druitiere 80.26 42 *e*P P **03 00 54.5 -1.5**
LDF pmax pmax
comp=Z,46nm,0.9s
RDOG Red Dog Mine 80.34 338 P 03 00 56.5
baz=97,SNR=21
RDOG S 03 11 03.0
baz=97
EPF Esparros 80.52 48 *e*P P **03 00 57.7 0.0**
EPF pmax pmax
comp=Z,27nm,1.2s
RJF Les Rejaudoux 81.36 45 *e*P P **03 01 01.5 -0.5**
RJF pmax pmax
comp=Z,40nm,1.4s
CAF Calviac 81.75 46 *e*P P **03 01 04.7 +0.6**
CAF pmax pmax
comp=Z,25nm,1.2s
TCF Toulx Ste Croi 81.83 44 *e*P P **03 01 03.7 -0.8**
TCF pmax pmax
comp=Z,16nm,0.9s
MTLF Montolieu 81.89 47 *e*P P **03 01 05.5 +0.6**
MTLF pmax pmax
comp=Z,49nm,1.2s
BGF Bois d'Agland 82.27 44 *e*P P **03 01 06.1 -0.7**
BGF pmax pmax
comp=Z,35nm,1.2s
NIKH Nikolski High 82.54 323 P 03 01 07.9
baz=89
AVF Avril sur Loir 82.61 44 *e*P P **03 01 07.4 -1.1**
AVF pmax pmax
comp=Z,19nm,1.2s
LOR Lormes 82.94 43 *e*P P **03 01 10.7 +0.4**
LOR pmax pmax
comp=Z,18nm,1.1s
BAIF Baives 83.08 40 *e*P P **03 01 11.1 +0.2**
BAIF pmax pmax
comp=Z,11nm,1.1s
TOC5 Torodi Ar. Sit 83.10 78 IAMs_20 IAMs_20 03 34 25.4
comp=Z,2µm,22.0s
TOC7 Torodi Ar. Sit 83.10 78 IAMs_20 IAMs_20 03 34 25.4
comp=Z,1µm,22.0s
TOB5 Torodi Ar. Sit 83.10 78 IAMs_20 IAMs_20 03 34 25.5
comp=Z,1µm,22.0s
TOB4 Torodi Ar. Sit 83.11 78 IAMs_20 IAMs_20 03 37 54.6
comp=Z,1µm,19.0s
SNF Seneffe 83.12 40 *d*P P **03 01 11.4 +0.4**
TOA3 Torodi Ar. Sit 83.12 78 IAMs_20 IAMs_20 03 34 26.8
comp=Z,1µm,22.0s
TOA0 Torodi Ar. Sit 83.12 78 IAmb IAmb 03 01 25.7
comp=Z,31nm,1.4s
TOA0 IAMs_20 IAMs_20 03 37 54.9
comp=Z,1µm,19.0s
TORD Torodi Ar. Bea 83.12 78 P P **03 01 12.2 +0.4**
comp=Z,2.6nm,0.8s,baz=287,slow=5.3,SNR=6.1
TORD LR LR 03 37 56.6
comp=Z,1µm,20.7s,baz=295,slow=36
TOC1 Torodi Ar. Sit 83.12 78 IAMs_20 IAMs_20 03 37 55.0
comp=Z,1µm,19.0s
TOA2 Torodi Ar. Sit 83.12 78 IAMs_20 IAMs_20 03 37 56.0
comp=Z,1µm,19.0s
TOC4 Torodi Ar. Sit 83.12 78 IAMs_20 IAMs_20 03 34 27.0
comp=Z,1µm,22.0s
TOB3 Torodi Ar. Sit 83.13 78 IAMs_20 IAMs_20 03 34 27.1
comp=Z,1µm,22.0s
TOC2 Torodi Ar. Sit 83.14 78 IAMs_20 IAMs_20 03 38 04.5
comp=Z,990nm,20.0s
TOC3 Torodi Ar. Sit 83.14 78 IAMs_20 IAMs_20 03 37 55.5
comp=Z,1µm,19.0s
UCC Uccle 83.16 40 IAmb IAmb 03 01 20.4
comp=Z,25nm,1.2s
SPIA Saint Paul Isl 83.25 327 P 03 01 11.0
baz=88
DOU Dourbes 83.33 40 *d*P P **03 01 12.2 0.0**
DOU Dourbes 83.33 40 P P **03 01 12.8 +0.6**
DOU pmax pmax
comp=Z,23nm,1.4s
BMRD Maredsous 83.43 40 *d*P P **03 01 12.8 +0.1**
GIVF Givet 83.48 40 *e*P P **03 01 14.3 +1.3**
GIVF pmax pmax
comp=Z,21nm,1.0s
VIVF Saint-Julien-l 83.61 46 *e*P P **03 01 15.0 +1.2**
VIVF pmax pmax
comp=Z,26nm,1.0s
BGES Gesves 83.63 40 *d*P P **03 01 14.6 +0.8**
BCLA Clavier 83.77 40 *d*P P **03 01 15.0 +0.5**
BSTI Sart Tilman 83.93 40 *d*P P **03 01 17.0 +1.7**
BEBN Eben Emael 83.99 40 *d*P P **03 01 16.5 +1.0**
MEM Membach 84.21 40 *d*P P **03 01 16.6 0.0**
MEM Membach 84.21 40 P P **03 01 16.7 0.0**
MEM pmax pmax
comp=Z,22nm,1.2s
BHOU Houvegnez 84.22 40 *d*P P **03 01 18.7 +1.9**
BHOU *dx* x 03 01 47.2
BTNL Ternell 84.29 40 *d*P P **03 01 17.2 0.0**
WLF Walferdange 84.36 41 *d*P P **03 01 17.8 +0.3**
WLF *dx* x 03 01 49.9
WLF Walferdange 84.36 41 IAmb IAmb 03 01 23.5
comp=Z,36nm,1.0s
WLF Walferdange 84.36 41 *e*P P **03 01 18.8 +1.3**
comp=Z,52nm,1.3s,baz=278,slow=5.0
ORIF Oris-en-Rattie 84.46 46 P P **03 01 19.4 +1.2**
ORIF pmax pmax
comp=Z,24nm,1.2s
CABF La Chapelle 84.50 44 *e*P P **03 01 17.8 -0.6**
CABF pmax pmax
comp=Z,18nm,1.0s
HAU Haudompre 84.59 42 *e*P P **03 01 17.9 -0.8**
HAU pmax pmax
comp=Z,24nm,1.4s
AHRW Bad Neuenahr-A 84.89 40 *e*P P **03 01 21.7 +1.5**
comp=Z,97nm,1.4s,baz=278,slow=5.0
HINF Hinteralfeld 84.94 43 *e*P P **03 01 18.4 -2.1**

HINF pmax pmax
comp=Z,14nm,1.1s
BUG Bochum--Univer 84.95 39 P P **03 01 21.7 +1.3**
BUG pmax pmax
comp=Z,31nm,1.3s
BUG Bochum--Univer 84.95 39 *e*P P **03 01 21.5 +1.0**
comp=Z,50nm,1.3s,baz=278,slow=5.0
BNI Bardonecchia 85.02 45 IAmb IAmb 03 01 31.0
comp=Z,33nm,1.3s
LPL La Plagne 85.02 45 *e*P P **03 01 20.1 -1.1**
LPL pmax pmax
comp=Z,12nm,1.0s
LPG La Plagne 85.03 45 *e*P P **03 01 22.6 +1.2**
LPG pmax pmax
comp=Z,31nm,1.2s
FRF La Foret Royal 85.10 47 *e*P P **03 01 23.0 +1.6**
FRF pmax pmax
comp=Z,46nm,1.3s
MBDF Montbardon 85.11 46 *e*P P **03 01 22.6 +1.0**
MBDF pmax pmax
comp=Z,40nm,1.2s
CDF Champ du Feu 85.18 42 *e*P P **03 01 20.9 -0.9**
CDF pmax pmax
comp=Z,17nm,1.1s
IBBN Ibbenburen 85.19 38 *e*P P **03 01 22.8 +1.2**
comp=Z,44nm,1.4s,baz=278,slow=5.0
SPITS Spitsbergen Ar 85.54 12 P P **03 01 23.7 +0.8**
comp=Z,28nm,1.0s,baz=172,slow=7.6,SNR=9.3
MUD Monsted U'grnd 85.67 34 *i* P P **03 01 25.6 +1.7**
MUD Monsted U'grnd 85.67 34 *i* P P **03 01 25.6 +1.7**
MUD Monsted U'grnd 85.67 34 *i* P P **03 01 25.7 +1.7**
KASTN Kahler Asten 85.69 39 *e*P P **03 01 25.2 +1.0**
comp=Z,44nm,1.5s,baz=278,slow=5.0
TNS Taunus Mts 85.80 40 P P **03 01 26.8 +2.0**
TNS pmax pmax
comp=Z,25nm,1.1s
TNS Taunus Mts 85.80 40 *e*P P **03 01 25.9 +1.1**
comp=Z,34nm,1.2s,baz=278,slow=5.0
BFO Black Forest 85.89 42 P P **03 01 25.0 -0.2**
BFO pmax pmax
comp=Z,21nm,1.1s
BFO Black Forest 85.89 42 P P **03 01 25.0 -0.2**
BFO Black Forest 85.89 42 *e*P P **03 01 25.8 +0.5**
comp=Z,34nm,1.4s,baz=278,slow=5.0
TAM Tamanrasset 85.89 68 P P **03 01 29.6 +3.7**
TAM pmax pmax
comp=Z,10.0nm,1.2s
TAM Tamanrasset 85.89 68 IAMs_20 IAMs_20 03 38 04.0
comp=Z,1µm,21.0s
SKMB Sankelmark Bun 85.99 36 *e*P P **03 01 26.0 +0.5**
comp=Z,89nm,1.3s,baz=278,slow=5.0
SLE Schleitheim 86.05 43 P P **03 01 26.6 +0.6**
SLE pmax pmax
comp=Z,28nm,1.4s
NB2 NORSAR Subarra 86.26 29 P P **03 01 26.9 +0.1**
comp=Z,84nm,1.7s,baz=278,slow=4.8
NB2 NORSAR Subarra 86.26 29 P P **03 01 26.9 +0.1**
baz=278,slow=4.8
NOA NORSAR Array B 86.26 29 P P **03 01 27.9 +1.1**
comp=Z,15nm,1.0s,baz=276,slow=4.7,SNR=15
NOA LR LR 03 38 12.1
comp=Z,996nm,19.2s,baz=275,slow=34
STU Stuttgart 86.42 41 P P **03 01 29.6 +1.8**
STU pmax pmax
comp=Z,38nm,1.0s
STU Stuttgart 86.42 41 IAMs_20 IAMs_20 03 32 24.2
comp=Z,2µm,22.0s
STU Stuttgart 86.42 41 *e*P P **03 01 28.8 +1.0**
comp=Z,52nm,1.2s,baz=278,slow=5.0
NORES NORESS Array B 86.46 29 P P **03 01 31.2 +3.5**
NORES pmax pmax
comp=Z,22nm,0.9s
BSEG Bad Segeberg 86.58 36 P P **03 01 28.8 +0.4**
BSEG pmax pmax
comp=Z,32nm,1.7s
BSEG Bad Segeberg 86.58 36 *e*P P **03 01 29.5 +1.0**
comp=Z,43nm,1.5s,baz=278,slow=5.0
NRDL Niedersach Rie 86.61 38 *e*P P **03 01 30.2 +1.6**
comp=Z,60nm,1.4s,baz=278,slow=5.0
GTTG Gottingen 86.62 39 *e*P P **03 01 30.1 +1.3**
comp=Z,101nm,1.7s,baz=278,slow=5.0
UBBA Unterbreizbach 86.72 39 *e*P P **03 01 30.5 +1.4**
comp=Z,55nm,1.8s,baz=278,slow=5.0
TUE Stuetta 86.75 44 IAmb IAmb 03 01 36.8
comp=Z,21nm,0.8s
CLZ Clausthal 86.84 38 *e*P P **03 01 31.3 +1.4**
comp=Z,54nm,1.3s,baz=278,slow=5.0
ASSE Asse, Remlinge 87.00 38 *e*P P **03 01 32.1 +1.6**
comp=Z,61nm,1.4s,baz=278,slow=5.0
DAVA Damuels 87.03 43 *i* P P **03 01 33.5 +2.5**
comp=Z,25nm,1.2s,SNR=8.8
DAVOX Davos/Dischmat 87.08 43 P P **03 01 32.4 +1.1**
comp=Z,12nm,0.9s,baz=291,slow=8.1
UBR Ueberruh 87.14 43 *e*P P **03 01 32.8 +1.3**
comp=Z,42nm,1.4s,baz=278,slow=5.0
FLTG Flechtingen 87.31 38 *e*P P **03 01 32.9 +0.9**
comp=Z,69nm,1.6s,baz=278,slow=5.0
ADK Adak 87.39 322 P P **03 01 34.7 +2.3**
ADK pmax pmax
comp=Z,111nm,1.0s
ADK Adak 87.39 322 P P **03 01 34.7 +2.3**
HFS Hagfors 87.60 30 P P **03 01 34.0 +0.8**
comp=Z,8.2nm,1.0s,baz=286,slow=6.0,SNR=4.6
RETA Reutte 87.60 43 *e*P P **03 01 34.8 +1.1**
comp=Z,12nm,1.1s
GRFO Grafenberg 87.63 40 P P **03 01 34.9 +1.2**
GRFO pmax pmax
comp=Z,28nm,1.1s
GRFO Grafenberg 87.63 40 P P **03 01 34.9 +1.2**
GRFO IAmb IAmb 03 01 44.3
comp=Z,28nm,1.1s
GRA1 Grafenberg Arr 87.63 40 IAmb IAmb 03 01 44.3
comp=Z,29nm,1.1s
GRF Grafenberg Arr 87.63 40 P P **03 01 35.9 +2.2**
GRF pmax pmax
comp=Z,31nm,1.2s
GRF Grafenberg Arr 87.63 40 *e*P P **03 01 35.1 +1.3**
comp=Z,39nm,1.4s,baz=278,slow=5.0
GRF *e*L L 03 34 47.6
comp=Z,3µm,22.0s
MOX Moxa 87.76 39 P P **03 01 35.2 +0.9**
MOX pmax pmax
comp=Z,14nm,1.1s
MOX Moxa 87.76 39 *e*P P **03 01 35.5 +1.2**
comp=Z,31nm,1.5s,baz=278,slow=5.0
NEUB Neuenburg 87.79 39 *e*P P **03 01 35.8 +1.4**
comp=Z,55nm,1.5s,baz=278,slow=5.0
MOTA Moosalm 87.85 43 *e*P P **03 01 37.1 +2.1**
comp=Z,7.8nm,1.0s
FUR Furstenfeldbru 87.86 42 P P **03 01 37.5 +2.6**
FUR pmax pmax
comp=Z,21nm,1.3s
FUR Furstenfeldbru 87.86 42 *e*P P **03 01 36.2 +1.4**
comp=Z,52nm,1.5s,baz=278,slow=5.0
KEST Kesra 87.91 54 P P **03 01 36.0 +0.5**
comp=Z,5.0nm,0.9s,baz=288,slow=4.5,SNR=4.8
KEST LR LR 03 36 44.2
comp=Z,487nm,21.6s,baz=236,slow=33
KEST Kesra 87.91 54 IAMs_20 IAMs_20 03 40 36.6
comp=Z,1µm,19.0s
SQTA Sankt Quirin 87.94 43 *i* P P **03 01 37.5 +2.2**
comp=Z,16nm,1.1s,SNR=5.1
GRB1 Grafenberg Arr 87.95 41 P P **03 01 37.4 +2.2**
GRB1 pmax pmax
comp=Z,19nm,1.4s
PLN Plauen 88.13 40 *e*P P **03 01 37.3 +1.3**
comp=Z,43nm,1.3s,baz=278,slow=5.0
MANZ Manzenberg 88.16 40 *e*P P **03 01 37.8 +1.5**
comp=Z,13nm,1.0s,baz=278,slow=5.0
WATA Walderalm 88.17 43 *e*P P **03 01 37.5 +1.0**
comp=Z,8.1nm,1.2s
WTTA Wattenberg 88.22 43 *e*P P **03 01 39.0 +2.2**
comp=Z,9.8nm,1.2s
WTTA Wattenberg 88.22 43 P P **03 01 39.2 +2.4**
WTTA pmax pmax
comp=Z,22nm,1.4s
WERD Werda 88.23 40 *e*P P **03 01 37.7 +1.1**
comp=Z,20nm,1.5s,baz=278,slow=5.0
GUNZ Gunzen 88.25 40 *e*P P **03 01 38.1 +1.4**
comp=Z,37nm,1.5s,baz=278,slow=5.0
ROTZ Rotzenmuhle 88.26 40 *e*P P **03 01 38.2 +1.5**
comp=Z,18nm,1.4s,baz=278,slow=5.0
WERN Wernitzgruen 88.29 40 *e*P P **03 01 38.5 +1.6**
comp=Z,67nm,1.6s,baz=278,slow=5.0
TANN Tannenbergstha 88.33 40 *e*P P **03 01 38.5 +1.4**
comp=Z,54nm,1.5s,baz=278,slow=5.0
NKC Novy Kostel 88.35 40 *e*P P **03 01 38.0 +0.9**

NKC MLR MLR
comp=Z,3µm,12.2s
NKC Novy Kostel 88.35 40 *e*P **P 03 01 38.0 +0.9**
NKC AMS AMS 03 34 20.0
comp=Z,3µm,12.2s
CTI Castel Tesino 88.39 44 IAmb IAmb 03 01 46.2
comp=Z,23nm,1.1s
TEOL Teolo 88.49 45 IAmb IAmb 03 01 43.5
comp=Z,36nm,1.0s
CLL Collm 88.54 39 *i* P **P 03 01 38.3 +0.4**
comp=Z,29nm,1.3s
CLL *i* sP **pwP 03 01 42.7 -2.5**
comp=Z,60nm,1.6s
CLL *e*SKSac **SKSac 03 12 08.0 +1.2**
CLL *e*S **SKKSac 03 12 20.0 +2.3**
CLL *e*PS **PS 03 13 30.0 +1.3**
CLL *e*SS **SS 03 18 12.0 -2.0**
CLL *e*SSS SSS 03 22 00.0
CLL L L 03 34 00.0
comp=Z,1µm,21.9s
CLL Collm 88.54 39 *i* P **P 03 01 38.3 +0.4**
CLL *i* 03 01 42.7
CLL *e* 03 12 20.0
CLL pmax pmax
comp=Z,29nm,1.3s
CLL MLR MLR
comp=Z,1µm,21.9s
CLL Collm 88.54 39 IAmb IAmb 03 01 47.8
comp=Z,37nm,1.3s
CLL Collm 88.54 39 *e*P **P 03 01 39.2 +1.2**
comp=Z,49nm,1.5s,baz=278,slow=5.0
WET Wettzell 88.78 41 P **P 03 01 40.5 +1.3**
WET pmax pmax
comp=Z,22nm,1.4s
WET Wettzell 88.78 41 *e*P **P 03 01 40.8 +1.6**
comp=Z,46nm,1.4s,baz=278,slow=5.0
FBE Freiberg 88.82 39 *e*P **P 03 01 41.0 +1.7**
comp=Z,77nm,1.7s,baz=278,slow=5.0
RUE Ruedersdorf 88.84 37 *e*P **P 03 01 40.4 +1.1**
comp=Z,66nm,1.5s,baz=278,slow=5.0
ABTA Abfaltersbach 88.88 43 *i* P **P 03 01 41.0 +1.2**
comp=Z,14nm,1.0s,SNR=6.1
RJOB Jochberg 88.93 42 *e*P **P 03 01 42.0 +2.0**
comp=Z,37nm,1.2s,baz=278,slow=5.0
BRG Berggiesshubel 89.19 39 P **P 03 01 43.2 +2.2**
BRG pmax pmax
comp=Z,18nm,2.5s
BRG Berggiesshubel 89.19 39 *e*P **P 03 01 43.0 +2.0**
BRG Amp 03 01 51.2
comp=Z,38nm,1.6s
BRG *ex* x 03 02 13.0
BRG Amp 03 02 17.1
comp=Z,127nm,2.6s
BRG Berggiesshubel 89.19 39 *e*P **P 03 01 42.5 +1.5**
comp=Z,38nm,1.6s,baz=278,slow=5.0
ZOU Zoufplan 89.23 43 IAMs_20 IAMs_20 03 35 05.6
comp=Z,2µm,21.0s
KHC Kasperske Hory 89.24 41⇑ *e*P **P 03 01 42.8 +1.5**
KHC pmax pmax
comp=Z,45nm,1.5s
KHC Kasperske Hory 89.24 41 *e*P **P 03 01 42.5 +1.2**
KHC *ex* x 03 01 48.5
KHC AMS AMS 03 32 50.0
comp=Z,4µm,24.6s
KHC Kasperske Hory 89.24 41 IAmb IAmb 03 01 50.8
comp=Z,27nm,1.5s
GEC2 GERESS Array S 89.36 41 *e*P **P 03 01 43.2 +1.1**
comp=Z,9.5nm,1.0s,baz=278,slow=5.0
GERES GERESS Array B 89.36 41 P **P 03 01 42.1 +0.1**
comp=Z,6.7nm,0.9s,baz=298,slow=2.9,SNR=17
GERES LR LR 03 36 11.0
comp=Z,1µm,21.8s,baz=278,slow=32
GERES GERESS Array B 89.36 41 P **P 03 01 41.5 -0.5**
GERES GERESS Array B 89.36 41 P **P 03 01 41.5 -0.5**
KBA Koelnbreinsper 89.40 43 *e*P **P 03 01 44.6 +2.3**
comp=Z,22nm,1.5s
KBA Koelnbreinsper 89.40 43 P **P 03 01 44.8 +2.5**
KBA pmax pmax
comp=Z,24nm,1.3s
PRA Prague 89.63 40 AMS AMS 03 35 50.0
comp=Z,2µm,21.7s
PVCC Panska Ves 89.64 39 P **P 03 01 45.0 +1.9**
PVCC pmax pmax
comp=Z,5.0nm,1.3s
PVCC Panska Ves 89.64 39 AMS AMS 03 34 40.0
comp=Z,2µm,24.1s
MYKA Terra Mystica 89.67 43 *e*P **P 03 01 45.4 +1.9**
comp=Z,7.5nm,0.8s
PRU Pruhonice 89.72 40 *e*P **P 03 01 45.5 +2.0**
PRU MLR MLR
comp=Z,3µm,21.0s
PRU Pruhonice 89.72 40 *e*P **P 03 01 45.5 +2.0**
PRU AMS AMS 03 34 00.0
comp=Z,3µm,21.0s
CKRC Cesky Krumlov 89.76 41 *e*P **P 03 01 45.0 +1.2**
NRCA Norcia 89.88 47 IAMs_20 IAMs_20 03 38 38.3
comp=Z,1µm,22.0s
MOA Molln 89.89 42 *e*P **P 03 01 43.3 -1.1**
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 90.23 20 LR LR 03 40 15.3
comp=Z,831nm,19.7s,baz=275,slow=34
TREC Trest 90.44 40 *e*P **P 03 01 49.1 +2.1**
TREC MLR MLR
comp=Z,3µm,23.4s
TREC Trest 90.44 40 *e*P **P 03 01 49.1 +2.1**
TREC AMS AMS 03 35 40.0
comp=Z,3µm,23.4s
UPC Upice 90.55 39 *e*P **P 03 01 49.3 +1.9**
UPC MLR MLR
comp=Z,2µm,23.6s
UPC Upice 90.55 39 *e*P **P 03 01 49.3 +1.9**
UPC AMS AMS 03 35 30.0
comp=Z,2µm,23.6s
CHVC Chvalec 90.56 39 *e*P **P 03 01 49.8 +2.3**
CHVC AMS AMS 03 35 30.0
comp=Z,2µm,22.3s
SOKA Soboth 90.61 43 *e*P **P 03 01 51.3 +3.4**
comp=Z,8.4nm,0.9s
AFI Afiamalu 90.64 256 LR LR 03 34 18.5
comp=Z,810nm,19.0s,baz=86,slow=30
KSP Ksiaz 90.66 39 P **P 03 01 50.7 +2.8**
KSP pmax pmax
comp=Z,11nm,1.9s
OSTC Ostas 90.67 39 *e*P **P 03 01 49.1 +1.1**
OSTC AMS AMS 03 36 20.0
comp=Z,2µm,25.7s
VNA3 Neumayer Olymp 90.72 162 P **P 03 01 48.7 +1.0**
GKP Gorka Klasztor 90.75 36 P **P 03 01 50.7 +2.5**
DPC Dobruska-Polom 90.78 39 *e*P **P 03 01 49.9 +1.4**
DPC MLR MLR
comp=Z,2µm,25.9s
DPC Dobruska-Polom 90.78 39 *e*P **P 03 01 49.9 +1.4**
DPC AMS AMS 03 34 10.0
comp=Z,2µm,25.9s
ARSA Arzberg 90.84 42 *e*P **P 03 01 50.9 +2.0**
comp=Z,4.7nm,1.0s
CONA Conrad Observa 90.94 42 *e*P **P 03 01 51.5 +2.1**
comp=Z,5.8nm,0.8s
KRUC Moravsky 91.07 41 *e*P **P 03 01 51.2 +1.4**
KRLC Kraliky 91.12 39 AMS AMS 03 36 40.0
comp=Z,2µm,24.2s
VRAC Vranov 91.15 40 *e*P **P 03 01 52.7 +2.5**
VRAC Vranov 91.15 40 P **P 03 01 52.6 +2.4**
VRAC pmax pmax
comp=Z,20nm,1.6s
VNA2 Neumayer--Watz 91.34 161 P **P 03 01 51.4 +0.8**
baz=296,slow=5.1
SOP Sopron 91.44 42 P **P 03 01 52.1 +0.5**
SOP pmax pmax
comp=Z,12nm,1.3s
MORC Moravsky Berou 91.66 40 *e*P **P 03 01 55.3 +2.7**
MORC Moravsky Berou 91.66 40 P **P 03 01 54.0 +1.4**
MORC pmax pmax
comp=Z,12nm,2.8s
ZST Bratislava 91.70 41 *e*P **P 03 01 54.6 +1.8**
ZST Bratislava 91.70 41 *e*P **P 03 01 54.6 +1.8**
RAFF Raffo Rosso 91.71 52 IAMs_20 IAMs_20 03 36 49.1
comp=Z,1µm,20.0s
MODS Modra-Piesok 91.78 41 *e*P **P 03 01 54.8 +1.6**
MODS Modra-Piesok 91.78 41 *e*P **P 03 01 54.8 +1.6**
SMOL Smolenice 91.85 41 *e*P **P 03 01 56.5 +3.0**
SMOL Smolenice 91.85 41 *e*P **P 03 01 56.5 +3.0**
JAVC Velka Javorina 91.94 41 *e*P **P 03 01 56.5 +2.6**
OKC Ostrava-Krasne 92.03 40 AMS AMS 03 36 30.0
comp=Z,3µm,22.8s
CEL Celeste 92.73 51 IAMs_20 IAMs_20 03 36 37.9
comp=Z,2µm,22.0s
VYHS Vyhne 92.77 41 *e*P **P 03 01 59.6 +1.9**
VYHS Vyhne 92.77 41 *e*P **P 03 01 59.6 +1.9**
SNAA Sanae 92.94 162 P **P 03 01 59.0 +1.0**
SNAA Sanae 92.94 162⇓ *e*P **P 03 01 56.9 -1.2**
SNAA pmax pmax
comp=Z,34nm,3.4s
SNAA Sanae 92.94 162 P **P 03 01 56.6 -1.4**
SNAA IAmb IAmb 03 02 30.3
comp=Z,17nm,1.5s
OJC Ojcow 92.98 39 IAmb IAmb 03 02 05.5
comp=Z,32nm,1.6s
FINES FINESS Array B 93.16 27 P **P 03 02 00.8 +1.6**
comp=Z,2.0nm,0.9s,baz=296,slow=7.4,SNR=1.5
FINES LR LR 03 42 02.4
comp=Z,1µm,19.4s,baz=286,slow=34
APA Apatity 93.67 20⇓ *i*P P 03 02 06.8 +5.4
APA pmax pmax
comp=Z,9.0nm,1.0s
VSU Vasula 94.48 30⇑ *e*P **P 03 02 06.4 +1.1**
VSU pmax pmax
comp=Z,276nm,3.8s
DIVS Divibare 94.55 45 IAMs_20 IAMs_20 03 40 51.7
comp=Z,815nm,18.0s
KOLS Kolonicke sedl 94.87 40 *e*P P 03 02 12.5 +5.1
KOLS Kolonicke sedl 94.87 40 *e*P P 03 02 12.5 +5.1
NACGM Naroch 95.72 33 *i* P **P 03 02 12.9 +1.8**
NACGM *i* P **P 03 02 12.9 +1.8**
NACGM *i* P **P 03 02 12.9 +1.8**
NACGM *i* PP PP 03 05 49.3 -13
NACGM *i* PPP PPP 03 07 47.7
NACGM *i* SKS 03 11 35.5
NACGM *i* SS SS 03 19 16.2 -41
NACGM *i* SSS SSS 03 22 31.2
NACGM *i* LQ LQ 03 34 38.5
NACGM *i* LR LR 03 38 12.5
MNK Minsk 96.46 33 *i* P **P 03 02 10.7 -3.8**
comp=E,2.0nm,1.1s
MNK *i* P **P 03 02 10.7 -3.8**
comp=N,8.0nm,0.9s
MNK *i* P **P 03 02 10.7 -3.8**
comp=Z,8.0nm,1.4s
MNK *i* PP **PP 03 06 03.8 -4.3**
MNK *i* PPP PPP 03 08 07.1
MNK *i* S **SKSac 03 12 47.1 -3.7**
MNK *i* PS **PS 03 19 52.3 -3.7**
MNK *i* SS **SS 03 20 04.9 -2.4**
MNK *i* SSS SSS 03 23 49.2
MNK *i* LQ LQ 03 39 42.8
MNK *i* LR LR 03 44 27.8
MNK *i* LRM MLR 03 46 17.6
comp=N,533nm,22.9s
MNK *i* LRM MLR 03 46 17.6
comp=Z,675nm,22.2s
MNK *i* LRM MLR 03 46 30.3
comp=E,78nm,20.4s
QSPA South Pole Qui 96.50 180 P **P 03 02 14.4 -0.1**
QSPA South Pole Qui 96.50 180 IAMs_20 IAMs_20 03 48 29.0
comp=Z,1µm,20.0s
MLR Muntele Rosu 98.26 42 ⇓P **P 03 02 19.6 -3.4**
MLR Muntele Rosu 98.26 42 P Pdif 03 02 26.5 +3.5
MLR pmax pmax
comp=Z,15nm,1.5s
AKASG Malin Array Be 98.58 37 P Pdif 03 02 28.0 +3.8
comp=Z,0.2nm,0.3s,baz=293,slow=3.4,SNR=5.3
AKASG PP **PP 03 06 25.9 +1.5**
comp=Z,0.4nm,0.5s,baz=298,slow=6.7,SNR=4.2
AKASG LR LR 03 43 25.6
comp=Z,1µm,21.1s,baz=295,slow=33
AKASG Malin Array Be 98.58 37 P Pdif 03 02 28.0 +3.9
AKASG pmax pmax
comp=Z,1.0nm,0.8s
SEY Seymchan 99.22 338⇓ *e*P **Pdif 03 02 27.1 +0.4**
KLMR Klimovskoe 99.28 25 P **Pdif 03 02 26.4 -0.6**
KLMR *e* 03 06 28.5
KLMR pmax pmax
comp=Z,12nm,1.3s
KLMR Klimovskoe 99.28 25 P **Pdif 03 02 26.5 -0.6**
KLMR AMP 03 02 34.9
comp=Z,12nm,1.3s
KLMR *e*PP **PP 03 06 28.6 -0.9**
TIXI Tiksi 99.29 350⇑ *e*P **Pdif 03 02 26.1 -0.8**
TIXI Tiksi 99.29 350 P **Pdif 03 02 27.1 +0.3**
TIXI IAmb IAmb 03 02 30.3
comp=Z,8.3nm,0.9s
TIXI IAMs_20 IAMs_20 03 51 47.9
comp=Z,1µm,20.0s
OBN Obninsk 100.79 31⇑ *e*P **Pdif 03 02 31.4 -2.4**
OBN *i* 03 06 41.7
OBN *e*PPP PPP 03 08 50.1
OBN pmax pmax
comp=Z,19nm,1.9s
PRGR Permogore 101.28 22 *e*P **Pdif 03 02 36.7 +0.8**
PRGR *e* 03 06 51.1
PRGR pmax pmax
comp=Z,17nm,1.5s
MA2 Magadan 101.78 335 IAMs_20 IAMs_20 03 56 41.4
comp=Z,1µm,20.0s
PEA0B Petropavlovsk- 101.90 328 IAMs_20 IAMs_20 03 57 03.2
comp=Z,730nm,20.0s
ANTO Ankara 104.92 46 IAMs_20 IAMs_20 03 50 44.8
comp=Z,716nm,20.0s
ILGA Ilgaz 105.12 45 IAMs_20 IAMs_20 03 50 42.3
comp=Z,763nm,22.0s
H11N3 WAKE ISLAND Hyl 106.76 293 T T 05 02 36.1
baz=79,slow=75,SNR=6.1
H11N2 WAKE ISLAND Hyl 106.77 293 T T 05 02 39.2
baz=79,slow=75,SNR=6.0
H11N1 WAKE ISLAND Hyl 106.78 293 T T 05 02 41.3
baz=79,slow=75,SNR=5.8
CSS Mathiatis 107.10 51 IAMs_20 IAMs_20 03 47 17.4
comp=Z,691nm,22.0s
H11S2 WAKE ISLAND Hyl 107.23 292 T T 05 02 56.6
baz=77,slow=75,SNR=72
H11S1 WAKE ISLAND Hyl 107.23 292 T T 05 02 57.0
baz=77,slow=75,SNR=59
SYO Syowa Base 107.23 161⇑ *i*Pdiff **Pdif 03 03 00.6 -1.5**
SYO Syowa Base 107.23 161⇓ *e*PP **PP 03 07 29.0 +0.2**
H11S3 WAKE ISLAND Hyl 107.24 292 T T 05 02 56.3
baz=77,slow=75,SNR=99
KIV Kislovodsk 109.75 39 IAMs_20 IAMs_20 03 47 38.2
comp=Z,789nm,21.0s
DZM Mont Dzumac 111.72 249 *e*SP SP 03 17 32.4 -1.9
comp=Z,257nm,32.0s
DZM Mont Dzumac 111.72 249 *e*LR LR 03 40 38.8
comp=Z,814nm,25.4s
GNI Garni 113.01 41 IAMs_20 IAMs_20 03 48 56.8
comp=Z,677nm,21.0s
MAK Makhachkala 113.24 38 *i* P **Pdif 03 03 23.5 -6.0**
MAK pmax pmax
comp=Z,92nm,0.9s
MBAR Mbarara 113.36 88 IAMs_20 IAMs_20 03 56 19.8
comp=Z,811nm,19.0s
JKA Kamikawa-asahi 115.17 326 IAMs_20 IAMs_20 04 04 21.7
comp=Z,815nm,20.0s
AB09 Akbulak array 115.62 26 PKPdf **PKPdf 03 07 29.6 +2.1**
ABKAR Akbulak array 115.63 26 PKPdf **PKPdf 03 07 30.1 +2.5**
ERM Erimo 116.15 323 IAMs_20 IAMs_20 04 03 43.7
comp=Z,833nm,20.0s
JEM Erimo 116.15 323 IAMs_20 IAMs_20 04 03 43.7
comp=Z,834nm,21.0s
BRVK Borovoye 116.40 18 PKIKP **PKPdf 03 07 32.8 +3.8**
BRVK Borovoye 116.40 18⇑ *e*P **PKPdf 03 07 34.5 +5.5**
BRVK Borovoye 116.40 18 PKPdf **PKPdf 03 07 34.3 +5.4**
BRVK Borovoye 116.40 18 pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 118.87 8 PKP **PKiKP 03 07 33.0 -0.7**
comp=Z,0.6nm,0.5s,baz=329,slow=0.4,SNR=1.5
ZALV PP **PP 03 08 51.2 -0.2**
comp=Z,1.7nm,0.8s,baz=328,slow=5.3,SNR=6.1
ZALV Zalesovo Beam 118.87 8 **PKPdf 03 07 32.8 -0.9**
ZALV PP **PP 03 08 50.5 -0.8**
FURI Furi 119.61 76 IAMs_20 IAMs_20 04 08 16.9
comp=Z,663nm,21.0s
USA0B Ussuriysk Arra 120.63 332 IAMs_20 IAMs_20 04 07 35.3
comp=Z,808nm,19.0s
USRK Ussuriysk Ar. 120.63 332 PKP **PKiKP 03 07 37.2 -0.3**
comp=Z,1.1nm,0.7s,baz=172,slow=2.2,SNR=2.9
RAYN Ar Rayn 121.30 58 IAMs_20 IAMs_20 04 02 42.0
comp=Z,685nm,20.0s
MDJ Mudanjiang 121.41 333 IAMs_20 IAMs_20 04 11 47.7
comp=Z,951nm,20.0s
TLY Talaya 121.79 355⇓ *i*PKIKP **PKiKP 03 07 40.4 +0.8**
TLY Talaya 121.79 355 IAMs_20 IAMs_20 04 00 29.2
comp=Z,1µm,22.0s
MJAR Matsushiro Arr 122.55 321 PKP **PKiKP 03 07 41.5 0.0**
comp=Z,1.0nm,0.5s,baz=95,slow=1.0,SNR=2.5
GEYT Alibeck 122.70 36 PKP **PKiKP 03 07 42.8 +1.0**
comp=Z,2.2nm,0.7s,baz=335,slow=6.4,SNR=2.7
GYA0B ALIBECK ARRAY 122.70 36 IAMs_20 IAMs_20 04 11 06.6
comp=Z,684nm,21.0s
ATD Arta Tunnel 122.95 72 IAMs_20 IAMs_20 04 03 10.1
comp=Z,769nm,21.0s
DGZ Jazzator, Alta 123.38 8⇑ *i*PKIKP **PKiKP 03 07 42.8 -0.1**
INU Inuyama 124.06 321 IAMs_20 IAMs_20 04 08 54.2
comp=Z,668nm,20.0s
KKAR Karatay Array 124.97 24 PKIKP **PKiKP 03 07 47.1 +1.0**
KKAR Karatay Array 124.97 24 PKPdf **PKiKP 03 07 47.1 +1.0**
ULN Ulaanbaatar 125.19 352⇑ *i*PKIKP **PKiKP 03 07 47.0 +0.4**
MAKZ Makanchi 125.21 13 IAMs_20 IAMs_20 04 04 13.5
comp=Z,943nm,20.0s
MKAR Makanchi Array 125.29 13 PKP **PKiKP 03 07 47.3 +0.6**
comp=Z,1.3nm,0.8s,baz=298,slow=2.6,SNR=4.2
MKAR PP **PP 03 09 33.3 -1.8**
comp=Z,2.9nm,1.1s,baz=325,slow=6.2,SNR=5.7
MKAR Makanchi Array 125.29 13 PKP **PKiKP 03 07 48.0 +1.3**
MKAR PP **PP 03 09 33.1 -2.0**
SONM Songino Array 125.31 352 PKP **PKiKP 03 07 46.8 0.0**
comp=Z,2.2nm,0.9s,baz=26,slow=0.6,SNR=10
SONM PP **PP 03 09 33.7 -1.5**
comp=Z,1.3nm,1.0s,baz=1.1,slow=7.2,SNR=3.4
SONM Songino Array 125.31 352 PKIKP **PKiKP 03 07 46.0 -0.8**
SONM Songino Array 125.31 352 PKPdf **PKiKP 03 07 46.0 -0.8**
EIDS Eidsvold 125.38 244 IAMs_20 IAMs_20 03 50 13.6
comp=Z,1µm,22.0s
JHS Saijyo 126.67 323 IAMs_20 IAMs_20 03 59 02.3
comp=Z,633nm,20.0s
AAK Ala-Archa 126.87 21 PKP **PKiKP 03 07 52.0 +1.9**
comp=Z,7.5nm,1.1s,baz=123,slow=1.3,SNR=8.7
AAK Ala-Archa 126.87 21⇑ *e*PKIKP **PKiKP 03 07 49.4 -0.7**
AAK Ala-Archa 126.87 21 PKPdf **PKiKP 03 07 52.6 +2.5**
HRA Herat 127.56 37 IAMs_20 IAMs_20 04 07 12.4
comp=Z,966nm,19.0s
KSRS Korea Array 127.76 329 PKP **PKiKP 03 07 52.5 +0.8**
comp=Z,7.5nm,1.0s,baz=67,slow=1.2,SNR=11
KSAR Wonju Array Be 127.79 329 PKIKP **PKiKP 03 07 52.5 +0.6**
KSAR Wonju Array Be 127.79 329 **PKiKP 03 07 52.5 +0.6**
INCN Inchon 128.38 330 IAMs_20 IAMs_20 04 11 19.0
comp=Z,880nm,20.0s
JTU Tsushima 129.16 326 IAMs_20 IAMs_20 04 13 13.9
comp=Z,739nm,18.0s
WMQ Urumqi 129.17 9 *e*PKP **PKiKP 03 07 53.7 -0.8**
WMQ LR LR
comp=Z,2µm,19.9s
WMQ LR LR
comp=Z,1µm,21.3s
WMQ LR LR
comp=Z,2µm,23.1s
UOSS Minazif 129.25 50 IAMs_20 IAMs_20 04 12 49.8
comp=Z,576nm,20.0s
KSH Kashi 130.15 22 PKP **PKPdf 03 07 51.1 -4.8**
KSH AMB AMB
comp=Z,760nm,5.7s
KSH LR LR
comp=Z,1µm,13.7s
KSH LR LR
comp=Z,930nm,11.3s
KSH LR LR
comp=Z,3µm,22.7s
KBL Kabul 131.23 31 IAMs_20 IAMs_20 04 14 20.1
comp=Z,735nm,20.0s
STKA Stephens Creek 131.61 233 PKP **PKiKP 03 07 59.6 0.0**
comp=Z,1.9nm,0.9s,baz=135,slow=8.6,SNR=2.9
STKA Stephens Creek 131.61 233⇓ *i*PKIKP **PKiKP 03 08 01.2 +1.5**
SOCY Socotra 133.11 67 IAMs_20 IAMs_20 04 10 30.7
comp=Z,629nm,22.0s
NIL Nilore 134.02 28 IAMs_20 IAMs_20 04 18 52.6
comp=Z,763nm,22.0s
GTA Gaotai 134.26 357 PKP **PKiKP 03 08 09.6 +4.6**
GTA SS SS 03 28 24.2 +2.2
GTA LR LR
comp=Z,670nm,21.1s
GTA LR LR
comp=Z,630nm,20.4s
GTA LR LR
comp=Z,840nm,20.7s
SSE Sheshan 136.18 330 PKP **PKPdf 03 08 02.4 -4.9**
SSE LR LR
comp=Z,380nm,22.8s
SSE LR LR
comp=Z,410nm,21.4s
SSE LR LR
comp=Z,390nm,20.8s
NJ2 Nanjing 136.50 333 *e*PKP **PKPdf 03 08 07.5 -0.4**
LZH Lanzhou 137.19 352 *e*PKP **PKPdf 03 08 03.5 -5.8**
LZH sPKP 03 08 16.2
XAN Xi'an 138.21 345 PKP **PKiKP 03 08 16.7 +3.6**
XAN LR LR
comp=Z,1µm,19.5s
XAN LR LR
comp=Z,630nm,22.8s
XAN LR LR
comp=Z,1µm,23.9s
ASAR Alice Springs 140.91 240 PKhKP PKPpre 03 08 10.6
comp=Z,0.9nm,0.5s,baz=112,slow=3.1,SNR=7.7
ASAR Alice Springs 140.91 240 PKHKP PKPpre 03 08 10.0
ASAR Alice Springs 140.91 240 PKPpre 03 08 10.0
YHNB Yeheng 141.14 324 IAMs_20 IAMs_20 04 13 46.5
comp=Z,754nm,20.0s
WR6 Warramunga Arr 141.54 246 IAMs_20 IAMs_20 04 01 13.5
comp=Z,922nm,22.0s
WRAB Tennant Creek 141.64 246⇑ *e*PKIKP **PKPdf 03 08 15.3 -2.3**
WRA Warramunga Arr 141.65 246 PKhKP PKPpre 03 08 12.4
comp=Z,3.9nm,1.0s,baz=104,slow=3.2,SNR=12
YULB Yu-li 142.15 322 IAMs_20 IAMs_20 04 12 35.4
comp=Z,795nm,21.0s
CD2 Chengdu 142.29 351 *e*PKP **PKiKP 03 08 19.9 -1.7**
CD2 PP **PP 03 11 28.8 +5.5**
CD2 SKKS 03 18 18.0
CD2 SS **SS 03 29 58.3 +1.4**
CD2 AMB AMB
comp=Z,220nm,8.8s
CD2 LR LR
comp=Z,990nm,22.0s
CD2 LR LR
comp=Z,1µm,20.6s
CD2 LR LR
comp=Z,2µm,23.5s
TWG Pinlang 142.71 322 IAMs_20 IAMs_20 04 12 42.4
comp=Z,794nm,21.0s
KNMB Chin-men Tao 142.99 327 IAMs_20 IAMs_20 04 13 04.0
comp=Z,716nm,22.0s
LSA Lhasa 143.53 9 IAMs_20 IAMs_20 04 18 11.9
comp=Z,539nm,21.0s
GKN Gorkha 143.59 19 *e*P **PKPdf 03 08 19.2 -1.9**
comp=Z,38nm,0.7s
KKN Kakani 143.99 18 *e*P **PKPdf 03 08 20.0 -1.9**
GUN Gumba 144.06 17 *e*P PKPbc 03 08 20.3 +0.3
comp=Z,78nm,0.9s
DMN Daman 144.10 19 *e*P PKPbc 03 08 20.0 0.0
comp=Z,71nm,0.9s
PKIN Phulchoki 144.22 18 *e*P PKPbc 03 08 19.8 -0.6
comp=Z,52nm,0.7s
PKI Pulchoki 144.23 18 *e*P PKPbc 03 08 20.0 -0.5
comp=Z,119nm,1.2s
BHPL Bhopal 144.63 33 *e*P **PKiKP 03 08 25.9 -0.6**
TAPN Taplejung 145.10 15 *e*P **PKPbc 03 08 22.0 -1.2**
comp=Z,181nm,1.0s
RAMN Ramite 145.17 17 *e*P **PKPab 03 08 22.9 -0.6**
comp=Z,106nm,1.0s
GTK Tadong 145.34 14 *e*P **PKiKP 03 08 28.1 +0.1**
ODAN Odare 145.48 16 *e*P **PKPbc 03 08 23.0 -1.4**
comp=Z,270nm,1.3s
GYA Guiyang 146.00 345⇓ PKPbc **PKiKP 03 08 27.6 -1.8**
GYA PP PP 03 11 55.2 +9.4
GYA SS SS 03 30 38.2 -1.7
GYA AMB AMB
comp=Z,170nm,7.7s
GYA LR LR
comp=Z,580nm,20.4s
GYA LR LR
comp=Z,550nm,21.9s
GYA LR LR
comp=Z,1µm,24.2s
GUWA GUWAHATI 147.05 9 *e*P **PKiKP 03 08 32.6 +1.2**
MOKO MOKOCHONG 147.26 5 *e*P **PKiKP 03 08 31.8 -0.3**
SHL Shillong 147.70 9 PKP2 **PKPbc 03 08 29.5 -1.4**
SHL MLR MLR
comp=Z,1µm,22.0s
SHL Shillong 147.70 9 *e*P **PKiKP 03 08 31.8 -1.2**
SHL Shillong 147.70 9 PKPbc **PKPbc 03 08 29.4 -1.4**

H01W1	Cape Leeuwin H	147.75	207	T	T	05 54 05.2	
	baz=144,slow=76,SNR=16						
H01W2	Cape Leeuwin H	147.75	207	T	T	05 54 15.6	
	baz=144,slow=76,SNR=16						
H01W3	Cape Leeuwin H	147.77	207	T	T	05 54 06.4	
	baz=144,slow=76,SNR=18						
KOHI	KOHIMA	147.82	5	eP	PKPab	03 08 33.5	-0.1
BOK	Bokaro	147.90	20	eP	PKiKP	03 08 32.6	-0.6
KMI	Kunming	148.12	351	⇑PKPbc	PKPdf	03 08 26.6	-2.4
KMI				pPKP	pPKPdf	03 08 29.0	-3.8
HYB	Hyderabad	149.87	38	i PKP	PKPbc	03 08 35.0	-1.5
FITZ	Fitzroy Crossi	150.05	245	PKPbc	PKPbc	03 08 36.7	-0.2
SAIH	SAIHA	150.88	8	eP	PKPbc	03 08 36.9	-2.0
SLVN	Son La	151.59	347	PKPbc	PKiKP	03 08 42.5	+1.6
SLVN				IAMs_20	IAMs_20	04 22 10.6	
	comp=Z,769nm,21.0s						
QIZ	Qiongzhong	151.78	334	PKPbc	PKPdf	03 08 32.5	-2.1
QIZ				PP	PP	03 12 19.4	-0.2
QIZ				SS	SS	03 31 46.3	+1.4
QIZ				LR	LR		
	comp=Z,530nm,21.6s						
QIZ				LR	LR		
	comp=Z,250nm,19.8s						
QIZ				LR	LR		
	comp=Z,720nm,22.9s						
CM34	Chiang Mai Arr	154.74	356	P	PKPbc	03 08 46.0	-1.4
CM33	Chiang Mai Arr	154.79	356	P	PKiKP	03 08 52.0	+4.4
CHTO	Chiang Mai	154.79	356	PKIKP	PKPdf	03 08 39.9	+1.0
CHTO	Chiang Mai	154.79	356	PKPdf	PKPdf	03 08 39.9	+1.0
CHTO	Chiang Mai	154.79	356	IAMs_20	IAMs_20	04 30 10.7	
	comp=Z,628nm,21.0s						
CMMT	Chiang Mai	154.80	356	P	PKiKP	03 08 51.6	+4.0
CM35	Chiang Mai Arr	154.91	356	P	PKPbc	03 08 44.0	-3.8
CM36	Chiang Mai Arr	155.08	356	P	PKPdf	03 08 44.0	+4.7
CMAR	Chiang Mai Arr	155.15	356	PKP	PKPdf	03 08 40.5	+1.1
	comp=Z,1.6nm,0.5s,baz=294,slow=1.5,SNR=8.3						
CMAR	Chiang Mai Arr	155.15	356	PKIKP	PKPdf	03 08 40.2	+0.8
CMAR	Chiang Mai Arr	155.15	356		PKPdf	03 08 40.2	+0.8
CM02	Chiang Mai Arr	155.17	356	P	PKPdf	03 08 46.8	+7.3
MMRI	Maumere	155.18	264	IAMs_20	IAMs_20	04 14 48.9	
	comp=Z,696nm,20.0s						
CM13	Chiang Mai Arr	155.19	356	P	PKPdf	03 08 46.2	+6.8
CM04	Chiang Mai Arr	155.20	356	P	PKPdf	03 08 45.6	+6.1
CM05	Chiang Mai Arr	155.20	356	P	PKPdf	03 08 45.0	+5.5
MHMT	Maesarieng	155.47	359	P	PKPab	03 08 55.1	-10
KHON	Khomkaen	156.66	346	P	PKPab	03 09 14.0	+3.7
CHAI	Chaiyaphum	157.26	348	P	PKPab	03 09 16.8	+3.9
KKM	Kota Kinabalu	157.38	303	IAMs_20	IAMs_20	04 11 21.0	
	comp=Z,671nm,22.0s						
UMPA	Umpang Tak	157.39	356	P	PKPdf	03 08 56.9	+14
KAPI	Kappang	157.61	273	IAMs_20	IAMs_20	04 10 06.1	
	comp=Z,653nm,20.0s						
UTHA	Uthaitani	157.98	354	P	PKPab	03 09 18.8	+2.8
SRAK	Srakaew	159.08	347	P	PKPab	03 09 23.3	+2.5

SSNC 09 02:55:02.3±1.8**, 19°.68N×73°.11W, h10km, MD2.7, ML1.6, 1D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MASC	Masc	1.16	295	eP	Pb	02 55 20.8	-3.7
MASC				⇓eS	Sb	02 55 35.4	-4.2
MASC				IAML		02 55 38.2	
	comp=E,15nm,0.2s						
MASC				IAML		02 55 38.5	
	comp=N,21nm,0.1s						
RCC	Rio Carpintero	2.45	278	eP	Pn	02 55 40.5	-1.9
RCC				eS	Sn	02 56 08.6	-3.8
RCC				IAML		02 56 10.3	
	comp=E,1.4nm,0.2s						
RCC				IAML		02 56 11.1	
	comp=N,1.0nm,0.1s						
LMGC	Las Mercedes	3.69	277	eP	Pn	02 55 57.0	-2.3
LMGC				eS	Sn	02 56 36.6	-6.3
LMGC				IAML		02 56 36.8	
	comp=N,1.2nm,0.1s						
LMGC				IAML		02 56 37.8	
	comp=E,0.8nm,0.1s						

*MOS **09** 02:58:44.8±1.2, 38°.92N×142°.27E, h48km, mb4.6/20, Error ellipse: s-maj=8.4km s-min=5.1km az=97.4*
*JMA **09** 02:58:45.7±0.1, 38°.86N×142°.17E, h43km±1km, M4.1*
JMA Felt III J1.
*NIED **09** 02:58:45.7, 38°.86N×142°.17E, h43km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.85; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-0.82; $M_{r\theta}$1.04; $M_{\theta\phi}$-0.25; $M_{\phi r}$0.97; Fault plane solution: $M_0$1.67000×10^{15} NP1:ϕ_s41.00000°, δ75.00000°, λ103.00000°. NP2:ϕ_s178.00000°, δ20.00000°, λ49.00000°.*
*NEIC **09** 02:58:47.9±1.5, 38°.91N±0°.06×142°.1E±0°.1, h54km±4km, mb4.5/17 Error ellipse: s-maj=14.2km s-min=8.1km az=113.0*
*IDC **09** 02:58:48.1±1.9, 38°.86N×142°.12E, h60km±15km, mb3.8/19, mb1 3.9/25, mb1mx3.7/55, mbtmp4.1/25, MS3.0/5, Ms1 3.0/5, ms1mx3.0/37, Error ellipse: s-maj=19.7km s-min=11.1km az=124.0*
ISC 09 02:58:45.8±0.8**, 38°.86N**±0°.05×**142°.26E**±0°.06**, h41**km±6km**, n137, σ1s.52**/150**, mb4.4**/36**, 10C-7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.51	295	P	Pn	02 58 56.0	-0.7
OFUJ				S	Sn	02 59 03.2	-1.2
JKMT	Kesennumamotoy	0.62	265	P	Pn	02 58 57.1	-1.0
JKMT				S	Sn	02 59 04.9	-2.0
JMK	Ichinoseki	0.82	277	P	Pn	02 58 59.9	-0.9
JMK				S	Sn	02 59 10.1	-1.6
JIO	Ouri	0.82	241	P	Pn	02 58 59.8	-1.1
JIO				S	Sn	02 59 09.4	-2.5
JOM	Ohasama	0.97	309	P	Pn	02 59 02.5	-0.4
JOM				S	Sn	02 59 14.8	-0.7
JTH	Tanohata	1.12	344	P	Pn	02 59 04.5	-0.5
JTH				eS	Sn	02 59 18.5	-0.7
JOU	Okura	1.35	249	P	Pn	02 59 07.3	-0.8
JOU				eS	Sn	02 59 23.4	-1.4
JRG	Rokugo	1.37	293	P	Pn	02 59 08.0	-0.5
JYK	Kaneyama	1.48	273	P	Pn	02 59 09.4	-0.6
JMM	Marumori	1.52	230	P	Pn	02 59 09.4	-1.1
JMM				eS	Sn	02 59 27.4	-1.7
JMM	Marumori	1.52	230		Pn	02 59 09.8	-0.7
JANG	Nango	1.61	339	P	Pn	02 59 11.8	0.0
JANG				eS	Sn	02 59 31.6	+0.2
JTM	Tenmabayashi	2.13	335	Pn	Pn	02 59 19.9	+1.0
JYT	Yasato	3.10	213		Pn	02 59 32.8	+0.6
ERM	Erimo	3.22	12	⇑eP	Pn	02 59 34.8	+1.0
ERM	Erimo	3.22	12	Pn	Pn	02 59 35.5	+1.6
JSD	Sado	3.25	257	Pn	Pn	02 59 32.8	-1.4
MJAR	Matsushiro Arr	3.96	235	P	Pn	02 59 45.8	+1.8
	0.7nm,0.3s,baz=34,slow=14,SNR=21						
MJAR				S	Sn	03 00 30.1	+0.9
	0.4nm,0.3s,baz=147,slow=20,SNR=1.6						
MJAR	Matsushiro Arr	3.96	235		Pn	02 59 44.6	+0.6
MAJO	Matsushiro	3.96	235	d iP	Pn	02 59 46.8	+2.7
MAJO	Matsushiro	3.96	235	Pn	Pn	02 59 45.6	+1.5
MAT	Matsushiro	3.96	235	P	Pn	02 59 45.6	+1.5
MAT				eS	Sn	03 00 29.8	+0.5
JEW	Eniwo	4.02	351	Pn	Pn	02 59 46.5	+1.7
JGF	Kuroka	5.09	232	Pn	Pn	03 00 01.9	+2.3
NMR	Nemuro--Hokkai	5.21	29	⇑iP	Pn	03 00 00.1	-1.0
NMR				eS	Sn	03 00 55.7	-4.2
ASAJ	Asahikawa	5.25	3	P	Pn	03 00 03.0	+1.2
	2.8nm,0.3s,baz=214,slow=9.7,SNR=17						
ASAJ				S	Sn	03 01 04.3	+3.3
	2.1nm,0.3s,baz=0.0,slow=20,SNR=1.9						
JKA	Kamikawa-asahi	5.25	3	Pn	Pn	03 00 02.9	+1.2
GLVR	Golovnino	5.45	26	eP	Pn	03 00 05.7	+1.2
GLVR				eS	Sn	03 01 02.8	-3.1
GLVR				pmax	pmax		
	comp=Z,163nm,0.5s						
GLVR				smax	smax		
	comp=N,441nm,0.3s						
GLVR				smax	smax		
	comp=E,305nm,0.5s						
INU	Inuyama	5.46	232	Pn	Pn	03 00 06.9	+2.2
RUSJ	Misakicho	5.70	22	eP	Pn	03 00 07.7	-0.1
RUSJ				eS	Sn	03 01 09.5	-2.4
GRPR	Tuman	5.76	26	P	Pn	03 00 08.0	-0.7
GRPR				eS	Sn	03 01 09.5	-4.1
GRPR				smax	smax		
	comp=E,315nm,0.7s						
GRPR				smax	smax		
	comp=N,407nm,0.3s						
YUK	Yuzh-Kuril'sk	5.83	26	eP	Pn	03 00 08.7	-1.0
YUK				eS	Sn	03 01 09.6	-5.6
YUK				pmax	pmax		
	comp=Z,111nm,0.4s						
YUK				pmax	pmax		
	comp=E,15nm,0.1s						
YUK				pmax	pmax		
	comp=N,46nm,0.2s						
YUK				smax	smax		
	comp=N,238nm,0.4s						
YUK				smax	smax		
	comp=E,381nm,0.6s						
JWT	Wachi	6.54	239	Pn	Pn	03 00 22.6	+3.1
TEY	Ternei	7.47	327	⇑eP	Pn	03 00 36.3	+4.2
TEY				e		03 01 59.7	
TEY				pmax	pmax		
	comp=Z,30nm,0.6s						
TEY				pmax	pmax		
	comp=N,30nm,0.5s						
TEY				pmax	pmax		
	comp=E,20nm,0.5s						
KUR	Kuril'sk	7.61	31	eP	Pn	03 00 33.0	-1.0
KUR				eS	Sn	03 01 54.6	-4.3
KUR				pmax	pmax		
	comp=E,7.0nm,0.3s						
KUR				pmax	pmax		
	comp=Z,39nm,0.3s						
KUR				pmax	pmax		
	comp=N,23nm,0.4s						
YSS	Yuzh-Sakhalins	8.10	2	⇑eP	Pn	03 00 41.0	+0.3
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,200nm,11.0s						
JHS	Saijyo	8.28	245	Pn	Pn	03 00 47.2	+4.0
USA0B	Ussuriysk Arra	9.37	308	⇓eP	Pn	03 01 01.1	+3.0
USA0B	Ussuriysk Arra	9.37	308	Pn	Pn	03 00 59.8	+1.7
USRK	Ussuriysk Ar.	9.37	308	P	Pn	03 00 59.1	+1.0
	baz=118,slow=15,SNR=34						
USRK				LR	LR	03 04 34.8	
	comp=Z,94nm,18.3s,baz=129,slow=37						
USRK	Ussuriysk Ar.	9.37	308	P	Pn	03 00 59.8	+1.7
USRK	Ussuriysk Ar.	9.37	308	Pn	Pn	03 00 59.8	+1.7
JNU	Nakatsue	10.85	242	P	Pn	03 01 18.4	-0.1
	comp=Z,0.2nm,0.3s,baz=31,slow=5.9,SNR=1.1						
JNU				LR	LR	03 05 45.3	
	comp=Z,102nm,20.0s,baz=56,slow=39						
KSRS	Korea Array	11.38	267	P	Pn	03 01 26.5	+0.8
	comp=Z,0.4nm,0.3s,baz=73,slow=14,SNR=2.0						
KSRS				LR	LR	03 05 24.0	
	comp=Z,82nm,18.7s,baz=70,slow=35						
JCJ	Chichijima	11.74	180	LR	LR	03 06 17.8	
	comp=Z,18nm,21.9s,baz=278,slow=38						
KLR	Kul'dur	12.81	327	P	Pn	03 01 45.5	+0.3
	comp=Z,0.1nm,0.3s,baz=142,slow=13,SNR=4.8						
KLR	Kul'dur	12.81	327	⇓eP	Pn	03 01 44.3	-0.9
KLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZEA	Zeya	18.08	330	eP	Pn	03 02 51.7	-1.9
ZEA				pmax	pmax		
	comp=E,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MA2	Magadan	21.43	12	⇓eP	P	03 03 30.8	+0.7
MA2				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YAK	Yakutsk	24.45	346	eP	P	03 03 58.9	-1.5
YAK				e*PP	sP	03 04 16.2	0.0
YAK				e		03 07 37.4	
YAK				eS	S	03 08 14.1	-3.4
YAK				e		03 14 52.2	
YAK				pmax	pmax		
	comp=Z,18nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				smax	smax		
	comp=E,95nm,5.8s						
YAK				smax	smax		
	comp=N,57nm,3.3s						
SEY	Seymchan	24.87	11	⇓iP	P	03 04 06.1	+1.9
BOD	Bodaibo	26.38	325	eP	P	03 04 16.8	-1.1
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ULN	Ulaanbaatar	26.93	301	⇓eP	P	03 04 24.7	+1.4
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	Songino Array	27.37	301	P	P	03 04 26.8	-0.4
	comp=Z,0.9nm,0.6s,baz=88,slow=8.0,SNR=6.8						
SONM	Songino Array	27.37	301	P	P	03 04 26.9	-0.3
H11N2	WAKE ISLAND Hy	28.57	125	T	T	03 35 01.7	
	baz=317,slow=75,SNR=1662						
H11N1	WAKE ISLAND Hy	28.58	125	T	T	03 35 01.6	
	baz=317,slow=75,SNR=1156						
H11N3	WAKE ISLAND Hy	28.59	125	T	T	03 35 03.4	
	baz=317,slow=75,SNR=1424						
H11S1	WAKE ISLAND Hy	29.35	127	T	T	03 36 01.8	
	baz=319,slow=76,SNR=97						
H11S3	WAKE ISLAND Hy	29.36	127	T	T	03 35 59.3	
	baz=319,slow=76,SNR=111						
H11S2	WAKE ISLAND Hy	29.37	127	T	T	03 36 01.9	
	baz=319,slow=76,SNR=98						
TLY	Talaya	29.68	308	LR	LR	03 16 51.4	
	comp=Z,98nm,18.2s,baz=58,slow=37						
ZAK	Zakamensk	29.70	306	eP	P	03 04 47.1	-0.8
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
DGZ	Jazzator, Alta	39.89	304	c eP	P	03 06 16.0	+0.3
DGZ				pmax	pmax		
	comp=Z,11nm,0.8s						
WMQ	Urumqi	40.64	295	P	P	03 06 22.1	+0.2
WMQ				pmax	pmax		
	comp=Z,24nm,1.4s						
WMQ	Urumqi	40.64	295	P	P	03 06 22.1	+0.2
WMQ				IAmb	IAmb	03 06 24.1	
	comp=Z,24nm,1.4s						
ZAA0	Zalesovo Array	41.20	311	P	P	03 06 24.8	-1.4
ZAA0				IAmb	IAmb	03 06 26.4	
	comp=Z,5.2nm,0.6s						
ZALV	Zalesovo Beam	41.20	311	P	P	03 06 25.9	-0.3
	comp=Z,5.3nm,0.5s,baz=90,slow=8.2,SNR=29						
ZALV	Zalesovo Beam	41.20	311	i P	P	03 06 25.7	-0.5
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZALV	Zalesovo Beam	41.20	311	P	P	03 06 24.5	-1.7
MK31	Makanchi Array	43.74	301	c iP	P	03 06 46.4	-0.6
MK31	Makanchi Array	43.74	301	P	P	03 06 46.2	-0.8
MK31				IAmb	IAmb	03 06 48.6	
	comp=Z,5.0nm,0.7s						
MKAR	Makanchi Array	43.74	301	P	P	03 06 46.7	-0.3
	comp=Z,4.8nm,0.6s,baz=85,slow=9.3,SNR=51						
MKAR	Makanchi Array	43.74	301	i P	P	03 06 46.5	-0.5
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	Makanchi Array	43.74	301	P	P	03 06 46.2	-0.8
MAKZ	Makanchi	43.95	301	P	P	03 06 48.0	-0.7
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAKZ	Makanchi	43.95	301	P	P	03 06 48.0	-0.7
MAKZ				IAmb	IAmb	03 06 50.3	
	comp=Z,4.9nm,0.8s						
POKR	Poker Plat Res	47.35	33	P	P	03 07 17.7	+2.5
POKR				IAmb	IAmb	03 07 18.1	
	comp=Z,3.8nm,0.8s						
IL31		47.60	33	P	P	03 07 18.1	+1.1
IL31				IAmb	IAmb	03 07 18.9	
	comp=Z,2.8nm,0.8s						
ILAR	Eielson Array	47.60	33	P	P	03 07 18.0	+0.9
	comp=Z,1.8nm,0.7s,baz=265,slow=5.9,SNR=29						
ILAR	Eielson Array	47.60	33	P	P	03 07 18.4	+1.3
ILAR	Eielson Array	47.60	33	P	P	03 07 18.4	+1.3
CHKK	Chushkaly	48.11	298	eP	P	03 07 20.2	-1.4
	baz=298						
CHKK	Chushkaly	48.11	298	eP	P	03 07 20.1	-1.4
BMAR	Burnt Mountain	48.41	30	P	P	03 07 25.9	+2.5
KUU	Kurty	48.55	298	eP	P	03 07 23.4	-1.5
	baz=298						
KUU	Kurty	48.55	298	eP	P	03 07 23.3	-1.5
BRZS	Berezniki	49.23	307	eP	P	03 07 28.4	-1.5
	baz=307						
BRZS	Berezniki	49.23	307	eP	P	03 07 28.4	-1.5
K27K	Chicken	49.74	34	P	P	03 07 35.7	+2.0
BTLS	Baital	49.75	300	eP	P	03 07 32.7	-1.4
	baz=300						
BTLS	Baital	49.75	300	eP	P	03 07 32.6	-1.4
BVAR	Borovoye Array	49.85	311	P	P	03 07 33.6	-1.1
	comp=Z,1.3nm,0.3s,baz=58,slow=14,SNR=16						
BCAR	Beaver Creek A	50.01	35	P	P	03 07 38.0	+2.2
EGAK	Eagle	50.04	33	P	P	03 07 36.9	+1.0
AAK	Ala-Archa	50.23	297	P	P	03 07 37.5	-0.4
	comp=Z,0.7nm,0.4s,baz=63,slow=4.5,SNR=4.3						
AAK	Ala-Archa	50.23	297	P	P	03 07 37.6	-0.3
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AAK	Ala-Archa	50.23	297	P	P	03 07 37.6	-0.3
AAK				IAmb	IAmb	03 07 54.7	
	comp=Z,4.7nm,1.1s						
INK	Inuvik	52.46	28	P	P	03 07 55.1	+1.2
	comp=Z,0.9nm,0.3s,baz=270,slow=7.1,SNR=3.0						
SVE	Sverdlovsk	54.23	318	eP	P	03 08 07.4	+0.3
SVE				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ARU	Arti	55.45	318	P	P	03 08 15.5	-0.5
	comp=Z,0.9nm,0.4s,baz=98,slow=7.1,SNR=5.1						
ARU	Arti	55.45	318	c iP	P	03 08 15.3	-0.6
ARU						03 09 11.7	
ARU						03 10 21.4	
ARU				S	S	03 15 57.3	-0.3
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ARU	Arti	55.45	318	P	P	03 08 15.4	-0.5
ARU				IAmb	IAmb	03 08 16.3	
	comp=Z,12nm,1.2s						
AKTO	Aktyubinsk	57.96	311	P	P	03 08 33.7	-0.2
	comp=Z,1.2nm,0.5s,baz=72,slow=6.4,SNR=5.8						
WR0	Warramunga Arr	58.96	188	P	P	03 08 41.8	+0.8
WRA	Warramunga Arr	58.97	189	P	P	03 08 40.3	-0.8
	comp=Z,2.5nm,0.8s,baz=6.2,slow=7.1,SNR=6.6						
PRGR	Permogore	59.60	327	eP	P	03 08 44.2	-0.9
PRGR				pmax	pmax		
	comp=Z,16nm,1.4s						
RES	Resolute Bay	60.66	15	P	P	03 08 52.3	+0.2
RES				pmax	pmax		
	comp=Z,3.0nm,1.4s						
RES	Resolute Bay	60.66	15	P	P	03 08 52.3	+0.2
YKA	Yellowknife Ar	61.89	31	P	P	03 09 01.3	+0.7
	comp=Z,0.6nm,0.7s,baz=304,slow=6.0,SNR=8.4						
FIA1	FINESS Array S	67.51	332	P	P	03 09 36.8	-0.4
FINES	FINESS Array B	67.51	332	P	P	03 09 36.9	-0.4
	comp=Z,2.2nm,0.7s,baz=38,slow=9.6,SNR=6.3						
FINES	FINESS Array B	67.51	332	P	P	03 09 36.7	-0.5
SUMG	Summit	68.86	0	P	P	03 09 46.6	+0.6
SUMG	Summit	68.86	0	P	P	03 09 46.6	+0.6
VSU	Vasula	69.22	330	⇓eP	P	03 09 49.3	+1.3
VSU				pmax	pmax		
	comp=Z,238nm,3.6s						
KIV	Kislovodsk	70.22	311	eP	P	03 09 54.7	+0.2
KIV				pmax	pmax		
	comp=Z,22nm,1.0s						
KBZ	Khabaz	70.22	311	P	P	03 09 54.1	-0.3
	comp=Z,2.7nm,0.9s,baz=16,slow=6.5,SNR=3.9						
KBZ	Khabaz	70.22	311	⇑eP	P	03 09 53.8	-0.6
KBZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HFS	Hagfors	72.70	336	P	P	03 10 09.0	-0.1
	comp=Z,3.0nm,0.9s,baz=36,slow=7.6,SNR=6.1						
HFS	Hagfors	72.70	336	P	P	03 10 09.0	-0.1
AKASG	Malin Array Be	73.26	322	P	P	03 10 12.0	-0.5
	comp=Z,0.5nm,0.3s,baz=45,slow=6.3,SNR=8.5						
AKASG	Malin Array Be	73.26	322	c eP	P	03 10 11.8	-0.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PDAR	Pinedale Array	75.91	46	P	P	03 10 29.5	+1.1
	comp=Z,0.3nm,0.6s,baz=85,slow=3.1,SNR=3.6						
BUR08	Bucovina Ar. S	77.28	322	P	P	03 10 35.9	+0.1
BURAR	Bucovina Array	77.29	322	P	P	03 10 36.0	+0.1
KOLS	Kolonicke sedl	77.73	324	eP	P	03 10 37.7	-0.6
KOLS	Kolonicke sedl	77.73	324	eP	P	03 10 37.7	-0.6
BR131	Keskin Array S	78.14	312	P	P	03 10 40.8	0.0
BR131				pmax	pmax		
	comp=Z,18nm,1.5s						
BR131	Keskin Array S	78.14	312	P	P	03 10 40.8	0.0
BRTR	Keskin Array B	78.14	312	P	P	03 10 40.5	-0.3
	comp=Z,0.7nm,0.4s,baz=35,slow=5.3,SNR=13						
BRTR				LR	LR	03 47 47.8	
	comp=Z,503nm,21.9s,baz=302,slow=38						
BRTR	Keskin Array B	78.14	312	P	P	03 10 40.6	-0.2
KHC	Kasperske Hory	81.33	329	⇑eP	P	03 10 58.0	+0.1
KHC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MMAI	Mount Meron Ar	81.45	306	P	P	03 10 58.8	0.0
	comp=Z,0.5nm,0.4s,baz=19,slow=6.1,SNR=5.0						
GERES	GERESS Array B	81.51	329	P	P	03 10 57.9	-0.9
	comp=Z,0.3nm,0.5s,baz=34,slow=7.3,SNR=2.3						
GERES	GERESS Array B	81.51	329	P	P	03 10 58.0	-0.9
PDG	Podgorica	83.96	321	P	P	03 11 11.0	-0.6

*JMA **09** 03:12:20.4, 23°.72N×122°.59E, h43km, M2.9*
*TAP **09** 03:12:21.0, 23°.74N×122°.64E, h41km±1km, ML3.5, D*
ISC 09 03:12:17.9±1.1**, 23°.68N**±0°.02×**122°.61E**±0°.02**, h7**km±9km**, n103, σ1s.79**/177**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.82	21	P	Pg	03 12 35.3	+1.5
JYNG				eS	Sg	03 12 45.7	+1.2
YOJ	Yonaguni jima	0.86	25	i P	Pg	03 12 36.0	+1.5
	baz=24						
YOJ				i S	Sg	03 12 46.8	+1.2
	baz=24						
YOJ	Yonaguni jima	0.86	25	P	Pg	03 12 35.9	+1.5
YOJ				eS	Sg	03 12 47.1	+1.5
TWD	Chiawan	1.01	293	i P	Pg	03 12 37.9	+0.5
	baz=280						
TWD				i S	Sg	03 12 49.9	-0.7
	baz=280						
NACB	Ninganchiao	1.05	298	P	Pg	03 12 38.4	+0.3
	baz=294						
NACB				S	Sg	03 12 51.1	-0.8
	baz=294						
EGFH	Guangfu	1.09	270	i P	Pg	03 12 39.9	+1.1
	baz=266						
EGFH				i S	Sg	03 12 53.4	+0.4
	baz=266						
ENA	Nanau	1.09	313	i P	Pg	03 12 39.6	+0.8
	baz=310						
ENA				i S	Sg	03 12 53.8	+0.7
	baz=310						
ESL	Shilin	1.09	277	i P	Pg	03 12 38.9	+0.1
	baz=265						
ESL				i S	Sg	03 12 51.6	-1.5
	baz=265						
HGSD	Ruisui	1.11	260	P	Pg	03 12 39.7	+0.5
	baz=257						
HGSD				eS	Sg	03 12 52.5	-1.1
	baz=257						
HATJ	Hateruma jima	1.15	71	P	Pg	03 12 40.6	+0.6
HATJ				eS	Sg	03 12 55.2	+0.2
TWC	Suao	1.16	323	P	Pg	03 12 40.9	+0.8
	baz=320						
TWC				S	Sg	03 12 55.0	-0.3
	baz=320						
ETLH	Xiulin Townshi	1.16	297	P	Pg	03 12 40.2	0.0
	baz=293						
ETLH				S	Sg	03 12 54.9	-0.4
	baz=293						
EHY	Hungye	1.20	262	i P	Pg	03 12 41.5	+0.6
	baz=259						
EHY				i S	Sg	03 12 56.6	+0.1
	baz=259						
IRIF	Iriomote-Funau	1.21	57	P	Pg	03 12 41.6	+0.4
IRIF				S	Sg	03 12 56.5	-0.4
EYUL	Yuli	1.23	255	i P	Pg	03 12 41.9	+0.3
	baz=244						
EYUL				S	Sg	03 12 56.2	-1.4
	baz=244						
YULB	Yu-li	1.24	257	P	Pg	03 12 42.1	+0.3
	baz=246						
YULB				S	Sg	03 12 58.0	+0.1
	baz=246						
TWF1	Yuli	1.25	255	i P	Pg	03 12 42.1	+0.2
	baz=244						
TWF1				S	Sg	03 12 59.0	+0.8
	baz=244						
NDS	Dongshan	1.25	319	P	Pg	03 12 42.5	+0.5
	baz=316						

NDS				S	Sg	03 12 58.0	-0.3
	baz=316						
CHKT	**Chengkung**	**1.28**	**243**	*i* P	**Pg**	**03 12 42.2**	**-0.4**
	baz=232						
CHKT				S	Sg	03 12 57.0	-2.3
	baz=232						
FULB	**Fuli**	**1.30**	**249**	*i* P	**Pg**	**03 12 42.7**	**-0.3**
	baz=237						
FULB				S	Sg	03 12 58.3	-1.6
	baz=237						
WHF	**Hehuan Shan**	**1.32**	**291**	P	**Pg**	**03 12 42.8**	**-0.5**
	baz=278						
NNSB	**Datong**	**1.35**	**304**	*i* P	**Pg**	**03 12 43.5**	**-0.3**
	baz=301						
NNSB				S	Sg	03 12 59.6	-1.7
	baz=301						
NNSH	**Datong**	**1.35**	**304**	*i* P	**Pg**	**03 12 43.9**	**0.0**
	baz=300						
NNSH				*i* S	Sg	03 13 00.0	-1.3
	baz=300						
TWE	**Neicheng**	**1.35**	**320**	P	**Pg**	**03 12 44.1**	**+0.3**
	baz=318						
TWE				S	Sg	03 13 01.0	-0.4
	baz=318						
ENTT	**Nioudou**	**1.35**	**315**	*i* P	**Pg**	**03 12 43.7**	**-0.2**
	baz=312						
ENTT				*i* S	Sg	03 13 00.4	-1.0
	baz=312						
NDT	**Datong Townshi**	**1.36**	**313**	P	**Pg**	**03 12 43.9**	**-0.2**
	baz=310						
NDT				S	Sg	03 13 00.0	-1.7
	baz=310						
NNS	**Nan Shan**	**1.36**	**304**	*i* P	**Pg**	**03 12 44.0**	**-0.1**
	baz=301						
NNS				*i* S	Sg	03 13 00.5	-1.3
	baz=301						
NTC	**Toucheng**	**1.37**	**329**	*i* P	**Pg**	**03 12 44.1**	**-0.1**
	baz=326						
NTC				S	Sg	03 13 01.1	-0.9
	baz=326						
CHGB	**Renai**	**1.37**	**286**	P	**Pg**	**03 12 43.8**	**-0.5**
	baz=277						
CHGB				S	Sg	03 13 00.1	-2.0
	baz=277						
FUSS	**Fushou**	**1.38**	**295**	*i* P	**Pg**	**03 12 43.9**	**-0.4**
	baz=291						
FUSS				*i* S	Sg	03 12 60.0	-2.2
	baz=291						
JKRS	**Kuro-shima**	**1.39**	**66**	P	**Pg**	**03 12 44.2**	**-0.4**
JKRS				*e*S	Sg	03 13 01.2	-1.5
EDH	**Donghe**	**1.40**	**240**	P	Pn	03 12 43.7	-0.1
	baz=230						
EDH				*i* S	Sg	03 13 00.2	-2.6
	baz=230						
TWT	**Tachien**	**1.43**	**294**	*i* P	**Pn**	**03 12 45.4**	**+0.9**
	baz=290						
TWT				S	Sg	03 13 03.7	-0.4
	baz=290						
LDUT	**Ludao**	**1.45**	**227**	*i* P	Pn	03 12 44.4	-0.3
	baz=225						
LDUT				*i* S	Sg	03 13 01.4	-3.3
	baz=225						
TIPB	**Shuangxi**	**1.47**	**331**	*e*P	Pn	03 12 44.6	-0.4
	baz=328						
TIPB				S	Sg	03 13 01.7	-3.6
	baz=328						
NWLT	**Wulai**	**1.49**	**317**	P	**Pn**	**03 12 46.2**	**+1.0**
	baz=315						
NWLT				S	Sg	03 13 03.8	-2.0
	baz=315						
YHNB	**Yeheng**	**1.50**	**311**	P	**Pn**	**03 12 46.1**	**+0.7**
	baz=308						
YHNB				S	Sg	03 13 03.5	-2.7
	baz=308						
NSK	**Sanguang**	**1.52**	**311**	P	**Pn**	**03 12 46.5**	**+0.9**
	baz=308						
NSK				S	Sg	03 13 03.3	-3.4
	baz=308						
SSLB	**Suanglung**	**1.52**	**274**	P	**Pn**	**03 12 46.2**	**+0.6**
	baz=271						
SSLB				*e*S	Sg	03 13 03.8	-3.1
	baz=271						
YUS	**Yu-Shan**	**1.54**	**263**	*i* P	**Pn**	**03 12 47.2**	**+1.0**
	baz=260						
YUS				*e*S	Sg	03 13 04.8	-2.6
	baz=260						
ELDTW	**Lidau**	**1.55**	**252**	*i* P	**Pn**	**03 12 47.2**	**+1.2**
	baz=249						
ELDTW				*e*S	Sn	03 13 04.4	-2.0
	baz=249						
WPL	**Puli Township**	**1.55**	**283**	P	**Pn**	**03 12 46.7**	**+0.7**
	baz=272						
WPL				S	Sn	03 13 04.6	-1.8
	baz=272						
JIJ	**Ishigaki jima**	**1.55**	**64**	P	**Pn**	**03 12 46.1**	**+0.1**
JIJ				S	Sn	03 13 04.0	-2.4
LONT	**Longtian**	**1.57**	**241**	P	**Pn**	**03 12 46.8**	**+0.6**
	baz=232						
LONT				S	Sn	03 13 05.2	-1.5
	baz=232						
NWF	**Wu-fen Shan**	**1.58**	**331**	P	**Pn**	**03 12 46.3**	**-0.1**
	baz=329						
WFSB	**Wu-fen Shan**	**1.58**	**331**	P	**Pn**	**03 12 46.3**	**-0.1**
	baz=329						
SMLT	**Sun Moon Lake**	**1.58**	**278**	*i* P	**Pn**	**03 12 47.6**	**+1.1**
	baz=275						
SMLT				*e*S	Sn	03 13 03.7	-3.6
	baz=275						
DPDB	**Guoxing**	**1.58**	**283**	P	**Pn**	**03 12 47.5**	**+1.0**
	baz=273						
DPDB				S	Sn	03 13 06.5	-0.8
	baz=273						
WCS	**Beigang Elemen**	**1.60**	**284**	P	**Pn**	**03 12 47.0**	**+0.3**
	baz=275						
WCS				S	Sn	03 13 06.8	-0.9
	baz=275						
WHP	**Taichung City**	**1.64**	**292**	P	**Pn**	**03 12 49.0**	**+1.8**
	baz=289						
WHP				S	Sn	03 13 08.2	-0.5
	baz=289						
TATO	**Taipei**	**1.65**	**322**	S	**Sn**	**03 13 08.2**	**-0.6**
	baz=319						
TWGBT	**Beinan**	**1.65**	**239**	P	**Pn**	**03 12 47.9**	**+0.5**
	baz=229						
TWGBT				S	Sn	03 13 07.3	-1.5
	baz=229						
TWG	**Pinlang**	**1.66**	**239**	P	**Pn**	**03 12 48.1**	**+0.7**
	baz=229						
TWG				S	Sn	03 13 07.7	-1.2
	baz=229						
ALS	**Alishan**	**1.67**	**265**	*i* P	**Pn**	**03 12 49.6**	**+1.7**
	baz=262						
WJS	**Zhushan**	**1.73**	**275**	*e*P	**Pn**	**03 12 51.5**	**+3.0**
	baz=265						
WJS				S	Sn	03 13 12.4	+1.6
	baz=265						
NJD	**Zhudong**	**1.75**	**307**	S	**Sn**	**03 13 11.9**	**+0.8**
	baz=305						
LIOB	**Emei**	**1.75**	**304**	P	**Pn**	**03 12 51.3**	**+2.6**
	baz=292						
LIOB				S	Sn	03 13 11.5	+0.3
	baz=292						
NSTT	**Nanjuang**	**1.75**	**303**	P	**Pn**	**03 12 50.8**	**+2.0**
	baz=291						
NSTT				S	Sn	03 13 10.9	-0.4
	baz=291						
STYH	**Taoyuan**	**1.76**	**254**	P	**Pn**	**03 12 49.9**	**+1.0**
	baz=244						
STYH				S	Sn	03 13 10.6	-1.0
	baz=244						
CHN5	**Tsauling**	**1.78**	**268**	*i* P	**Pn**	**03 12 51.3**	**+2.2**
	baz=265						
CHN5				*i* S	Sn	03 13 13.4	+1.3
	baz=265						
WNT	**Mingjian**	**1.78**	**277**	*i* P	**Pn**	**03 12 52.1**	**+3.0**
	baz=274						
WNT				S	Sn	03 13 13.8	+1.8
	baz=274						
TWS1	**Kuangyinshan**	**1.79**	**323**	*e*P	**Pn**	**03 12 52.0**	**+2.8**
	baz=333						
TWS1				*e*S	Sn	03 13 12.1	0.0
	baz=333						
WNT1	**Nantou City**	**1.79**	**278**	*e*P	**Pn**	**03 12 52.3**	**+3.1**
	baz=275						
WNT1				S	Sn	03 13 15.4	+3.2
	baz=275						
WWF	**Wufeng**	**1.79**	**282**	P	**Pn**	**03 12 52.0**	**+2.7**
	baz=272						
WWF				*e*S	Sn	03 13 16.1	+3.8
	baz=272						
JISG	**Ishigakijimahi**	**1.79**	**59**	P	**Pn**	**03 12 48.9**	**-0.4**
TWQ1	**Liyutan**	**1.81**	**292**	P	**Pn**	**03 12 51.3**	**+1.7**
	baz=289						
TWQ1				S	Sn	03 13 13.1	+0.4
	baz=289						
TCU	**Taichung**	**1.83**	**285**	S	**Sn**	**03 13 16.1**	**+2.7**
	baz=282						
NSY	**Sanyi**	**1.85**	**294**	*e*P	**Pn**	**03 12 52.7**	**+2.6**
	baz=292						
TPUB	**Ta-pu**	**1.86**	**259**	P	**Pn**	**03 12 52.3**	**+2.1**
	baz=250						
TPUB				S	Sn	03 13 14.7	+0.6
	baz=250						
ECL	**Taimali**	**1.87**	**235**	*e*P	Pn	03 12 49.4	-1.0
	baz=244						
ECL				*e*S	Sn	03 13 12.1	-2.1
	baz=244						
CHN4	**Tsaushan**	**1.88**	**260**	*i* P	**Pn**	**03 12 53.4**	**+2.8**
	baz=258						
CHN4				S	Sn	03 13 17.3	+2.8
	baz=258						
WDLH	**Douliu**	**1.90**	**271**	*e*P	**Pn**	**03 12 54.4**	**+3.6**
	baz=268						
WDLH				S	Sn	03 13 18.1	+3.1
	baz=268						
LAY	**Lan-yu**	**1.91**	**211**	S	**Sn**	**03 13 12.7**	**-2.4**
	baz=210						
SLGT	**Liugui**	**1.93**	**250**	S	**Sn**	**03 13 16.6**	**+0.8**
	baz=243						
CHN1	**Nanshi**	**1.98**	**256**	*i* P	**Pn**	**03 12 55.0**	**+3.1**
	baz=254						
CHN1				*i* S	Sn	03 13 19.0	+2.1
	baz=254						
TWK	**Hsinying**	**2.00**	**259**	*i* P	**Pn**	**03 12 54.0**	**+1.9**
	baz=256						
TWK				*i* S	Sn	03 13 18.8	+1.4
	baz=256						
CHY	**Chiayi**	**2.02**	**265**	*e*P	**Pn**	**03 12 55.8**	**+3.4**
	baz=263						
CHY				S	Sn	03 13 20.0	+2.2
	baz=263						
WTK	**Tuku**	**2.04**	**271**	*e*P	**Pn**	**03 12 57.0**	**+4.3**
	baz=268						
WTK				S	Sn	03 13 20.9	+2.5
	baz=268						
SSD	**Sandimen**	**2.05**	**243**	P	**Pn**	**03 12 54.9**	**+2.1**
	baz=237						
SSD				*e*S	Sn	03 13 17.4	-1.2
	baz=237						
TAW	**Tawu**	**2.06**	**231**	*e*S	**Sn**	**03 13 17.8**	**-1.1**
	baz=237						
WRL	**Guolierlin Hig**	**2.06**	**277**	S	**Sn**	**03 13 20.7**	**+1.8**
	baz=274						
EAST	**Anshuo**	**2.08**	**232**	*i* P	**Pn**	**03 12 54.1**	**+0.9**
	baz=238						
EAST				*e*S	Sn	03 13 15.6	-3.8
	baz=238						
SCST	**Cishan**	**2.10**	**248**	S	**Sn**	**03 13 24.0**	**+4.0**
	baz=238						
MASBT	**Mashibuluo**	**2.11**	**240**	P	**Pn**	**03 12 55.2**	**+1.5**
	baz=234						
MASBT				*e*S	Sn	03 13 19.8	-0.3
	baz=234						
JTJ	**Tarama**	**2.13**	**63**	P	**Pn**	**03 12 54.6**	**+0.6**
JTJ				*e*S	Sn	03 13 19.9	-0.8
WTCT	**Ta-ch'eng**	**2.15**	**275**	S	**Sn**	**03 13 23.8**	**+2.8**
	baz=273						
SLIU	**Shizi**	**2.22**	**229**	*i* P	**Pn**	**03 12 55.9**	**+0.8**
	baz=228						
SLIU				*e*S	Sn	03 13 20.5	-2.3
	baz=228						
SSPT	**Xinbi**	**2.23**	**238**	*e*S	**Sn**	**03 13 25.7**	**+2.6**
	baz=231						
CHN8	**Yiju**	**2.23**	**262**	S	**Sn**	**03 13 25.7**	**+2.6**
	baz=259						
SCZT	**Fangliau**	**2.25**	**235**	*e*P	**Pn**	**03 12 58.2**	**+2.6**
	baz=233						
SCZT				S	Sn	03 13 23.6	0.0
	baz=233						
TSEB	**Hengchuen, Pin**	**2.38**	**222**	*e*P	**Pn**	**03 13 00.2**	**+2.9**
	baz=229						
TSEB				S	Sn	03 13 27.4	+0.7
	baz=229						
TWKBT	**Hengchun**	**2.40**	**224**	P	**Pn**	**03 12 59.5**	**+1.9**
	baz=223						
TWKBT				S	Sn	03 13 27.9	+0.6
	baz=223						
HEN	**Hengchun**	**2.40**	**226**	*e*P	**Pn**	**03 12 59.9**	**+2.2**
	baz=225						
HEN				S	Sn	03 13 28.1	+0.7
	baz=225						
TWK1	**Hengchun**	**2.40**	**224**	*i* P	**Pn**	**03 13 00.4**	**+2.7**
	baz=223						
TWK1				*i* S	Sn	03 13 27.6	+0.2
	baz=223						
PHUB	**P'eng-hu**	**2.80**	**267**	*e*P	**Pn**	**03 13 04.5**	**+1.5**
	baz=256						
PHUB				S	Sn	03 13 37.2	+0.2
	baz=256						
PNG	**Penghu**	**2.81**	**268**	*i* P	**Pn**	**03 13 04.9**	**+1.6**
	baz=257						
PNG				S	Sn	03 13 37.2	-0.1
	baz=257						
VWUC	**VWUC**	**3.17**	**295**	*e*P	**Pn**	**03 13 08.6**	**+0.4**
	baz=293						
MATB	**Ma-tsu**	**3.45**	**316**	*e*S	Sn	03 13 49.1	-4.2
	baz=314						
MSUT	**Lienchiang**	**3.48**	**316**	*e*S	Sn	03 13 49.8	-4.2
	baz=315						
LYJJ	**Jianjiangzhen**	**3.85**	**318**	*e*S	**Sn**	**03 13 59.3**	**-3.9**
	baz=307						
XPSS	**Dashiqiu**	**3.91**	**326**	*e*P	**Pn**	**03 13 18.5**	**+0.1**
	baz=332						
XPSS				*e*S	Sn	03 14 01.0	-3.6
	baz=332						
KNMB	**Chin-men Tao**	**3.94**	**282**	*e*P	**Pn**	**03 13 19.8**	**+1.0**
	baz=281						
KNMB				*e*S	Sn	03 14 02.0	-3.3
	baz=281						
MHZQ	**Yeshan**	**4.05**	**307**	*e*S	**Sn**	**03 14 04.1**	**-3.9**
	baz=307						

NEIC ***09*** *03:22:20.6±2.8, 19°.73S±0°.04×69°.55W±0°.06, h98km±4km, mb4.7/55, ML4.9(GUC), Error ellipse: s-maj=7.9km s-min=5.0km az=73.0*

IDC ***09*** *03:22:20.7±0.4, 19°.65S×69°.22W, h100km±3km, mb4.3/14, mb1 4.4/17, mb1mx4.2/44, mbtmp4.7/17, Error ellipse: s-maj=14.1km s-min=9.3km az=85.0*

GUC ***09*** *03:22:20.8±0.6, 19°.69S×69°.48W, h97km±2km, ML4.9*

VAO ***09*** *03:22:21.7±0.6, 19°.58S×69°.12W, h92km±4km, mb5.0*

ISC 09 03:22:19.9±0.4**, 19°.68S**±0°.03×**69°.43W**±0°.05**, h96**km±3km**, h96**km**:pP-P, n206,** σ1s**36**/225**, mb4.6**/35**, 16C-11D, Fault plane solution: NP1:**ϕs334.27945°, δ67.68976°, λ-99.71378°. **NP2:**ϕs178.55122°, δ24.23381°, λ-67.64812°. **Principal axes:** T Plg22.1085°, Azm71.6783°**;** N Plg8.9804°**,** Azm337.9975°**;** P Plg65.9553°**,** Azm227.2528°**; Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.53**	**151**⇓	*i*P	**Pn**	**03 22 36.9**	**+1.0**
PB08				*i* S	**Sn**	**03 22 49.3**	**+1.4**
PB08				IAML		03 22 49.6	
	comp=E,49µm,0.2s						
PB08	**IPOC Station P**	**0.53**	**151**	Pn	**Pn**	**03 22 36.9**	**+1.0**
PB08				Sn	**Sn**	**03 22 49.1**	**+1.2**
MNMC	**Minye Minye**	**0.57**	**344**⇓	*i*P	**Pn**	**03 22 37.0**	**+0.9**
MNMC				*i* S	**Sn**	**03 22 49.2**	**+0.9**
MNMC				IAML		03 22 51.1	
	comp=N,103µm,0.4s						
MNMC	**Minye Minye**	**0.57**	**344**	Pn	**Pn**	**03 22 36.7**	**+0.5**
MNMC				Sn	**Sn**	**03 22 49.7**	**+1.4**
PSGC	**Pisagua**	**0.66**	**277**⇑	*i*P	**Pn**	**03 22 36.5**	**-0.2**
PSGC				*i* S	**Sn**	**03 22 48.9**	**-0.4**
PSGCX	**Pisagua**	**0.66**	**277**	Pn	**Pn**	**03 22 36.0**	**-0.7**
PSGCX				Sn	**Sn**	**03 22 48.7**	**-0.6**
HMBC	**Humberstone**	**0.74**	**216**⇑	*i*P	**Pn**	**03 22 37.5**	**0.0**
HMBC				*i* S	**Sn**	**03 22 50.4**	**-0.2**
HMBC				IAML		03 22 52.1	
	comp=N,84µm,0.4s						
TA02	**Huaiquique**	**0.89**	**228**⇑	*i*P	**Pn**	**03 22 38.6**	**-0.2**
TA02				*i* S	**Sn**	**03 22 52.4**	**-0.6**
TA02				IAML		03 22 53.4	
	comp=E,51µm,0.1s						
TA01	**Diego Aracena**	**1.13**	**219**⇑	*i*P	**Pn**	**03 22 41.0**	**-0.5**
TA01				*i* S	**Sn**	**03 22 56.7**	**-1.1**
TA01				IAML		03 22 57.6	
	comp=N,16µm,0.3s						
TA01	**Diego Aracena**	**1.13**	**219**	Pn	**Pn**	**03 22 41.0**	**-0.5**
TA01				Sn	**Sn**	**03 22 56.4**	**-1.4**
PB01	**IPOC Station P**	**1.36**	**182**⇑	*i*P	**Pn**	**03 22 44.7**	**+0.4**
PB01				*i* S	**Sn**	**03 23 03.1**	**+0.4**
PB01				IAML		03 23 04.9	
	comp=E,25µm,0.5s						
PB01	**IPOC Station P**	**1.36**	**182**	Pn	**Pn**	**03 22 44.8**	**+0.4**
PB01				Sn	**Sn**	**03 23 02.9**	**+0.2**
AP01	**Chacalluta**	**1.56**	**326**⇑	*i*P	**Pn**	**03 22 47.0**	**+0.3**
AP01				*i* S	**Sn**	**03 23 06.9**	**-0.2**
AP01				IAML		03 23 09.5	
	comp=E,21µm,0.6s						
AP01	**Chacalluta**	**1.56**	**326**		**Pn**	**03 22 47.0**	**+0.3**
PB07	**IPOC Station P**	**2.08**	**192**⇑	*i*P	**Pn**	**03 22 53.5**	**-0.1**
PB07				IAML		03 23 22.0	
	comp=E,5µm,0.5s						
PB07	**IPOC Station P**	**2.08**	**192**		**Pn**	**03 22 53.5**	**-0.1**
PB09	**IPOC Station P**	**2.11**	**175**⇑	*i*P	**Pn**	**03 22 54.9**	**+0.9**
PB09	**IPOC Station P**	**2.11**	**175**	Pn	**Pn**	**03 22 55.0**	**+1.0**
PB04	**IPOC Station P**	**2.73**	**194**	IAML		03 24 05.4	
	comp=E,3µm,0.7s						
PB04	**IPOC Station P**	**2.73**	**194**		**Pn**	**03 23 01.0**	**-1.1**
LVC	**Limon Verde**	**2.96**	**171**	P	**Pn**	**03 23 06.7**	**+1.4**
	baz=356,slow=13						
LVC				S	**Sn**	**03 23 41.3**	**+1.0**
	comp=E,310nm,0.3s,baz=229,slow=20,SNR=4.5						
LVC	**Limon Verde**	**2.96**	**171**	Pn	**Pn**	**03 23 06.3**	**+1.0**
LVC	**Limon Verde**	**2.96**	**171**	*e*P	**Pn**	**03 23 06.7**	**+1.4**
PB06	**IPOC Station P**	**3.02**	**183**	IAML		03 24 06.2	
	comp=E,3µm,0.5s						
PB06	**IPOC Station P**	**3.02**	**183**		**Pn**	**03 23 05.6**	**-0.3**
PB05	**IPOC Station P**	**3.24**	**193**	IAML		03 24 14.6	
	comp=E,2µm,0.6s						
PB15	**IPOC Station P**	**3.51**	**181**		**Pn**	**03 23 12.7**	**0.0**
LPAZ	**La Paz**	**3.59**	**20**	P	**Pn**	**03 23 17.1**	**+3.0**
	comp=E,14nm,0.3s,baz=198,slow=13,SNR=228						
LPAZ				S	**Sn**	**03 23 55.1**	**-0.8**
	comp=E,10nm,0.3s,baz=204,slow=14,SNR=6.3						
LPAZ	**La Paz**	**3.59**	**20**⇑	*i*P	**Pn**	**03 23 17.1**	**+3.0**
PB10	**IPOC Station P**	**3.96**	**195**	Pn	**Pn**	**03 23 16.8**	**-1.7**
PB14	**IPOC Station P**	**5.01**	**190**	Pn	**Pn**	**03 23 30.7**	**-2.3**
GO02	**Mina Guanaco**	**5.46**	**182**	Pn	**Pn**	**03 23 37.8**	**-1.4**
AC01	**Pan de Azucar**	**6.53**	**189**	Pn	**Pn**	**03 23 50.0**	**-3.4**
AC02	**Maricunga**	**7.13**	**178**	Pn	**Pn**	**03 24 01.1**	**-0.9**
AC04	**Llanos de Chal**	**8.62**	**190**	Pn	Pn	03 24 16.4	-5.4
SIV	**San Ignacio**	**8.76**	**67**	P	**Pn**	**03 24 22.3**	**-1.5**
	comp=E,17nm,0.3s,baz=257,slow=14,SNR=361						
CO01	**Juntas del Tor**	**10.27**	**183**	Pn	**Pn**	**03 24 41.2**	**-3.4**
ETMB	**Extrema**	**10.28**	**18**	*e*P	**Pn**	**03 24 43.5**	**-1.1**
NNA	**Nana**	**10.46**	**316**	P	**Pn**	**03 24 46.1**	**-0.8**
	comp=E,2.5nm,0.3s,baz=98,slow=7.1,SNR=6.3						
NNA				S	**Sn**	**03 26 36.7**	**-5.5**
	comp=E,3.3nm,0.3s,baz=218,slow=17,SNR=2.3						
NNA	**Nana**	**10.46**	**316**		**Pn**	**03 24 44.9**	**-2.1**
PTLB	**Pontes e Lacer**	**10.68**	**68**	*e*P	**Pn**	**03 24 47.4**	**-2.5**
VILB	**Vilhena**	**11.10**	**54**	*e*P	**Pn**	**03 24 53.9**	**-1.8**
VILB				*e*S	**Sn**	**03 26 52.8**	**-5.0**
AQDB	**Aquidauana**	**12.92**	**96**	*e*P	**Pn**	**03 25 17.6**	**-2.4**
CPUP	**Villa Florida**	**12.95**	**123**	P	**Pn**	**03 25 19.0**	**-1.3**
	comp=E,1.2nm,0.3s,baz=305,slow=11,SNR=19						
CPUP	**Villa Florida**	**12.95**	**123**	Pn	**Pn**	**03 25 18.7**	**-1.6**
VA03	**San Esteban**	**13.07**	**184**		**Pn**	**03 25 22.8**	**+0.9**
PEL	**Peldehue**	**13.46**	**185**	Pn	**Pn**	**03 25 27.8**	**+0.8**
MT02	**Curacav**	**13.61**	**186**		**Pn**	**03 25 28.6**	**-0.3**
MT05	**Renca**	**13.71**	**185**	P	**P**	**03 25 37.0**	**+1.4**
PP1B	**Ponte de Pedra**	**13.94**	**84**	*e*P	**Pn**	**03 25 32.2**	**-1.1**
BO02	**Sierra Bellavi**	**15.10**	**184**		**Pn**	**03 25 47.9**	**-0.3**
BO02				IAmb	IAmb	03 25 54.2	
	comp=Z,63nm,0.8s						
CLDB	**Colider**	**15.79**	**58**	*e*P	**Pn**	**03 25 56.6**	**-0.2**
TRCB	**Terra Rica**	**15.96**	**104**	*e*P	**Pn**	**03 25 58.1**	**-0.9**
H03N1	**Juan Fernandez**	**16.11**	**210**	T	T	03 42 39.6	
	baz=32,slow=74						
H03N2	**Juan Fernandez**	**16.11**	**210**	T	T	03 42 38.7	
	baz=32						
H03N3	**Juan Fernandez**	**16.12**	**210**	T	T	03 42 37.4	
	baz=32,slow=74						
PTGB	**Pitanga**	**16.84**	**110**	*e*P	**Pn**	**03 26 09.5**	**-0.4**
BI02	**San Fabin de**	**17.00**	**185**	P	**Pn**	**03 26 11.7**	**0.0**
PCMB	**Pacaembu**	**17.11**	**100**	*e*P	**Pn**	**03 26 12.0**	**-1.1**
ARAG	**Araguaiana, MT**	**17.24**	**80**	*e*P	**Pn**	**03 26 14.1**	**-0.7**
ITAB	**Concordia**	**17.55**	**119**	*e*P	**Pn**	**03 26 18.4**	**0.0**
ITRB	**Iturama**	**17.96**	**93**	*e*P	**P**	**03 26 21.9**	**-0.8**
CPSB	**Cacapava Do Su**	**17.98**	**130**	*e*P	**P**	**03 26 22.6**	**-0.2**
MACA	**Manacapuru-AM**	**18.50**	**29**	*e*P	**P**	**03 26 28.0**	**-0.7**
NPGB	**Novo Progresso**	**18.55**	**49**	*e*P	**P**	**03 26 27.7**	**-1.6**
PLTB	**Pedras Altas**	**18.63**	**133**	*e*P	**P**	**03 26 30.3**	**+0.3**
SNDB	**Serra Nova Dou**	**19.04**	**69**	*e*P	**P**	**03 26 33.9**	**-0.8**
BB19B	**Bebedouro**	**19.64**	**98**	*e*P	**P**	**03 26 39.9**	**-1.3**
TIJ01	**Guaruva-PR**	**19.68**	**110**	*e*P	**P**	**03 26 41.2**	**-0.4**
IPMB	**Ipameri, GO**	**20.15**	**89**	*e*P	**P**	**03 26 45.6**	**-1.1**
ITTB	**Itaituba**	**20.24**	**43**	*e*P	**P**	**03 26 46.0**	**-1.6**
TER01	**Tubaro-SC**	**20.50**	**119**	*e*P	**P**	**03 26 49.9**	**-0.4**
BDFB	**Brasilia**	**20.79**	**82**	P	**P**	**03 26 52.1**	**-1.5**
	comp=Z,28nm,0.5s,baz=261,slow=9.3,SNR=35						
PTGA	**Pitinga**	**20.99**	**27**	P	**P**	**03 26 53.9**	**-1.8**
	comp=Z,37nm,0.3s,baz=206,slow=13,SNR=103						
PTGA	**Pitinga**	**20.99**	**27**	P	**P**	**03 26 53.8**	**-1.8**
PTGA				IAmb	IAmb	03 26 55.2	
	comp=Z,36nm,0.6s						
PTGA	**Pitinga**	**20.99**	**27**	*e*P	**P**	**03 26 53.5**	**-2.1**
PLCA	**Paso Flores**	**21.01**	**182**	P	**P**	**03 26 56.3**	**+0.6**
	comp=Z,26nm,0.7s,baz=2.9,slow=11,SNR=47						
PLCA				PcP	**PcP**	**03 30 59.7**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=1.8,slow=3.1,SNR=3.0						
PLCA	**Paso Flores**	**21.01**	**182**	P	**P**	**03 26 56.4**	**+0.6**
PLCA				IAmb	IAmb	03 26 59.4	
	comp=Z,28nm,0.8s						
PLCA				PcP	**PcP**	**03 31 00.1**	**+0.9**
PET01	**Itanhaem-SP**	**21.04**	**107**	*e*P	**P**	**03 26 55.0**	**-1.2**
VAO	**Valinhos**	**21.18**	**103**	*e*P	**P**	**03 26 56.4**	**-1.3**
PEXB	**Peixe**	**21.65**	**73**	*e*P	**P**	**03 27 00.8**	**-2.0**
OTAV	**Otavalo**	**21.68**	**335**	P	**P**	**03 27 06.9**	**+3.4**
OTAV	**Otavalo**	**21.68**	**335**	*e*P	**P**	**03 27 07.3**	**+3.9**
PARB	**Paraibuna**	**22.44**	**104**	*e*P	**P**	**03 27 09.8**	**-1.3**
MALB	**Monte Alegre**	**23.11**	**42**	*e*P	**P**	**03 27 16.1**	**-1.6**
BSCB	**Bom Sucesso**	**23.15**	**98**	*e*P	**P**	**03 27 16.9**	**-1.3**
PRPB	**Parauapebas**	**23.32**	**57**	*e*P	**P**	**03 27 17.5**	**-2.2**
ESAR	**Angra dos Reis**	**23.50**	**103**	*e*P	**P**	**03 27 21.8**	**+0.5**
BOAV	**Boa Vista**	**23.62**	**23**	*e*P	**P**	**03 27 22.0**	**-0.3**
SMTB	**Santa Maria do**	**23.71**	**66**	*e*P	**P**	**03 27 21.9**	**-1.3**
MAN01	**Angra dos Reis**	**23.93**	**102**	*e*P	**P**	**03 27 25.1**	**-0.2**
JANB	**Januaria**	**24.40**	**83**	*e*P	**P**	**03 27 27.4**	**-2.1**
SDBA	**SAO DESIDERIO**	**24.63**	**77**	*e*P	**P**	**03 27 30.7**	**-1.0**
DUB01	**Friburgo-RJ**	**25.38**	**100**	*e*P	**P**	**03 27 37.9**	**-0.5**
MCPB	**Macapa, AP**	**25.66**	**44**	*e*P	**P**	**03 27 40.1**	**-0.8**
SJMB	**Sao Joao De Ma**	**26.68**	**93**	*e*P	**P**	**03 27 49.6**	**-0.6**
ALF01	**Guarapari-ES**	**26.95**	**97**	*e*P	**P**	**03 27 52.4**	**-0.1**
BSFB	**Barra de Sao F**	**26.98**	**93**	*e*P	**P**	**03 27 52.4**	**-0.5**
TMAB	**Tom-Au,PA,Br**	**27.03**	**53**	*e*P	**P**	**03 27 53.7**	**+0.4**
RIB01	**Linhares ES**	**27.36**	**94**	*e*P	**P**	**03 27 55.7**	**-0.5**
NAN01	**Guarapari, ES**	**27.79**	**91**	*e*P	**P**	**03 27 59.8**	**-0.2**
SDV	**Santo Domingo**	**28.41**	**357**	P	**P**	**03 28 05.5**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=243,slow=6.8,SNR=2.0						
SDV	**Santo Domingo**	**28.41**	**357**	P	**P**	**03 28 05.9**	**+0.2**
NBIT	**Itapeh - BA**	**29.00**	**85**	*e*P	**P**	**03 28 10.2**	**-0.6**
GDU01	**Guandu, BA**	**29.17**	**83**	*e*P	**P**	**03 28 11.0**	**-1.4**
MDP	**Montagnes des**	**29.65**	**36**	P	**P**	**03 28 15.8**	**-0.8**
	comp=Z,15nm,0.9s,baz=205,slow=11,SNR=8.4						
ROSB	**Rosrio**	**29.82**	**59**	*e*P	**P**	**03 28 18.1**	**+0.1**
NBLA	**Lagarto - SE**	**31.66**	**79**	*e*P	**P**	**03 28 32.8**	**-1.6**
NBPB	**Pedra_Branca-C**	**32.25**	**68**	*e*P	**P**	**03 28 39.4**	**-0.2**
NBMO	**Morrinhos-CE**	**32.97**	**64**	*e*P	**P**	**03 28 45.8**	**0.0**
NBAN	**Anadia - AL**	**33.52**	**78**	*e*P	**P**	**03 28 50.2**	**-0.4**
NBLI	**Livramento-PB**	**33.79**	**73**	*e*P	**P**	**03 28 52.6**	**-0.4**
NBCL	**Cascavel-CE**	**34.02**	**67**	*e*P	**P**	**03 28 56.1**	**+1.2**
NBPA	**Parau_RN**	**34.34**	**71**	*e*P	**P**	**03 28 57.7**	**0.0**
NBRF	**Rio Formoso -**	**34.93**	**77**	*e*P	**P**	**03 29 02.8**	**0.0**
FDF	**Fort de France**	**35.15**	**14**	P	**P**	**03 29 02.9**	**-1.7**
RCBR	**Riachuelo**	**35.38**	**72**	P	**P**	**03 29 06.5**	**-0.2**
RCBR	**Riachuelo**	**35.38**	**72**	*e*P	**P**	**03 29 06.2**	**-0.6**
CDVI	**St. Croix**	**37.48**	**7**	P	**P**	**03 29 26.1**	**+1.8**
OBIP	**Obispado Ponce**	**37.59**	**4**	P	**P**	**03 29 24.1**	**-1.2**
PDPR	**Patillas Dam,**	**37.61**	**5**	P	**P**	**03 29 24.4**	**-1.0**
PDPR				IAmb	IAmb	03 29 36.2	
	comp=Z,13nm,0.9s						

MTP Monte Pirata 37.73 6 P P 03 29 25.0 -1.5
MTP IAmb IAmb 03 29 39.3
comp=Z,22nm,1.1s
CBYP Canovanas 37.88 6 P P 03 29 26.6 -1.2
CBYP IAmb IAmb 03 29 40.8
comp=Z,11nm,0.8s
AOPR Arecibo Observ 37.88 4 P P 03 29 26.0 -1.7
NHSC New Hope 53.48 349 P P 03 31 31.1 +0.8
JSC Jenkinsville 54.83 348 P P 03 31 38.3 -1.8
W57A Gilead 55.45 349 P P 03 31 46.2 +1.7
W57A IAmb IAmb 03 32 02.4
comp=Z,9.8nm,0.9s
U56A King 56.68 349 P P 03 31 51.5 -1.8
MCWV Mont Chateau 59.82 351 P P 03 32 13.2 -2.0
N58A Sunbury 60.59 354 P P 03 32 18.8 -1.5
N58A IAmb IAmb 03 32 20.6
comp=Z,11nm,0.8s
VNA3 Neumayer Olymp 61.95 162 P P 03 32 30.2 +1.0
VNA1 Neumayer--Stat 62.16 161 P P 03 32 32.0 +1.5
VNA2 Neumayer--Watz 62.52 161 P P 03 32 34.0 +1.0
baz=298,slow=7.2
SNAA Sanae 64.15 161 P P 03 32 44.7 +0.9
LIC Lamto 68.36 75 *e*PKP2 P 03 33 11.6 0.0
comp=Z,52nm,1.6s
TIC Toumodi 68.54 74 *e*PKP2 P 03 33 13.1 +0.4
KIC Kosan Boka 68.68 75 *e*PKP2 P 03 33 12.9 -0.7
comp=Z,23nm,0.4s
DBIC Dimbokro 68.70 74 P P 03 33 12.8 -0.9
comp=Z,7.1nm,0.5s,baz=217,slow=4.4,SNR=17
DBIC pP pP 03 33 38.8 -0.6
comp=Z,7.4nm,0.6s,baz=243,slow=6.8,SNR=4.5
DBIC Dimbokro 68.70 74 P P 03 33 12.8 -0.9
DBIC IAmb IAmb 03 33 18.7
comp=Z,12nm,0.8s
DBIC PcP pP 03 33 39.5 +0.1
XPFO Pion Flat 69.42 319 P P 03 33 19.3 +1.5
PFO Pinyon Flats O 69.42 319 P P 03 33 18.9 +1.0
comp=Z,5.6nm,1.0s,baz=118,slow=5.1,SNR=7.2
PFO pP pP 03 33 44.4 +1.6
comp=Z,2.1nm,0.7s,baz=152,slow=6.4,SNR=3.1
PFO Pinyon Flats O 69.42 319 P P 03 33 19.0 +1.1
PFO IAmb IAmb 03 33 20.3
comp=Z,5.6nm,0.9s
DRLN Deer Lake 69.44 8 P P 03 33 19.5 +2.1
DRLN IAmb IAmb 03 33 21.9
comp=Z,23nm,1.4s
CCUT Cedar City 70.36 324 P P 03 33 25.7 +2.0
MSU Marysvale 70.41 326 P P 03 33 25.4 +1.5
MVU Marysvale 70.42 326 P P 03 33 25.7 +1.7
MVU IAmb IAmb 03 33 26.4
comp=Z,17nm,0.8s
SHPR Sheep Range 70.63 322 P P 03 33 26.9 +1.6
PSUT Pine Spring 71.33 325 P P 03 33 31.3 +1.8
TPNV Topopah Spring 71.57 322 P P 03 33 32.9 +2.0
TPNV IAmb IAmb 03 33 33.2
comp=Z,4.4nm,0.6s
SPR3 Spring Creek 3 71.92 325 P P 03 33 34.2 +1.0
R11A Troy Canyon, C 72.16 323 P P 03 33 36.4 +1.9
MDND Maddock 72.47 339 P P 03 33 36.5 +0.7
KOWA Kowa 72.75 67 P P 03 33 39.1 +0.9
PAGB Antelope Grade 73.16 319 P P 03 33 42.1 +1.9
PAGB IAmb IAmb 03 33 45.0
comp=Z,9.9nm,1.2s
ELK Elko 73.66 325 P P 03 33 44.3 +1.0
comp=Z,1.0nm,0.8s,baz=140,slow=5.9,SNR=4.3
LHV Little Huntoon 73.76 322 P P 03 33 46.0 +2.3
LHV IAmb IAmb 03 33 46.3
comp=Z,6.1nm,0.7s
NVAR Mina Array Bea 73.77 322 P P 03 33 45.1 +1.1
comp=Z,2.5nm,0.7s,baz=156,slow=6.3,SNR=15
NVAR pP pP 03 34 10.5 +1.4
comp=Z,0.9nm,0.8s,baz=126,slow=5.9,SNR=2.6
NVAR sP sP 03 34 21.8 +2.0
comp=Z,1.1nm,0.7s,baz=154,slow=7.2,SNR=3.6
NVAR Mina Array Bea 73.77 322 P P 03 33 45.3 +1.3
PMPB Monarch Peak 73.81 319 P P 03 33 45.9 +1.7
PMPB IAmb IAmb 03 34 00.3
comp=Z,16nm,1.1s
RYN Ryan 74.03 322 P P 03 33 46.9 +1.4
KVN Kaiserville 74.07 323 P P 03 33 46.9 +1.2
KVN IAmb IAmb 03 33 47.5
comp=Z,4.6nm,0.7s
WAKR Walker 74.48 321 P P 03 33 50.3 +2.2
WAKR IAmb IAmb 03 33 51.0
comp=Z,7.6nm,1.4s
YERR Yerington 74.68 322 P P 03 33 50.7 +1.4
YERR IAmb IAmb 03 33 51.9
comp=Z,14nm,1.4s
PNTR Pine Nut 74.96 322 P P 03 33 52.9 +2.0
PNTR IAmb IAmb 03 33 53.5
comp=Z,5.8nm,0.8s
PAHR Pah Rah Range 75.25 322 P P 03 33 54.2 +1.8
PAHR IAmb IAmb 03 33 54.9
comp=Z,12nm,0.8s
BEKR Beckworth 75.92 322 P P 03 33 57.1 +0.8
TOA0 Torodi Ar. Sit 77.21 71 P P 03 34 03.0 -0.9
TORD Torodi Ar. Bea 77.21 71 P P 03 34 02.9 -1.1
comp=Z,5.2nm,0.4s,baz=255,slow=5.1,SNR=42
TORD pP pP 03 34 28.9 -1.2
comp=Z,3.2nm,0.4s,baz=254,slow=5.5,SNR=2.6
TORD PP PP 03 36 47.6 -12
comp=Z,2.3nm,0.8s,baz=250,slow=8.0,SNR=4.3
TORD Torodi Ar. Bea 77.21 71 P P 03 34 02.8 -1.1
MOD Modoc Plateau 77.22 324 P P 03 34 04.9 +1.3
BMO Blue Mountains 77.63 327 P P 03 34 06.6 +0.8
BMO IAmb IAmb 03 34 07.5
comp=Z,4.4nm,0.8s
WDC Whiskeytown Da 77.65 321 P P 03 34 05.2 -0.6
SYO Syowa Base 78.37 160⇑ *e*PcP PcP 03 34 15.1 -3.2
SYO Syowa Base 78.37 160⇑ *e*pP pP 03 34 32.0 -3.1
VNDA Vanda 78.55 190 P P 03 34 11.8 +1.5
comp=Z,1.8nm,1.0s,baz=100,slow=6.1,SNR=2.0
VNDA Vanda 78.55 190 P P 03 34 12.5 +2.2
PINE Pine Mountain 78.82 325 P P 03 34 13.9 +1.5
KRMB Red Mountain 79.05 322 P P 03 34 15.2 +1.6
KRMB IAmb IAmb 03 34 15.4
comp=Z,5.6nm,0.7s
KBO Bosley Butte 79.66 322 P P 03 34 18.4 +1.5
KBO IAmb IAmb 03 34 31.2
comp=Z,24nm,1.4s
H04A Detroit Lake 80.08 325 P P 03 34 19.9 +0.8
H04A IAmb IAmb 03 34 20.0
comp=Z,3.5nm,0.6s
FRB Frobisher Bay 83.15 0 P P 03 34 34.3 -0.4
comp=Z,1.3nm,0.6s,baz=170,slow=5.3,SNR=4.1
PAB San Pablo 84.56 45 P P 03 34 43.4 +0.8
PAB IAmb IAmb 03 35 02.6
comp=Z,6.0nm,1.2s
ESDC Sonseca Array 84.89 45 P P 03 34 44.9 +0.7
comp=Z,1.2nm,0.8s,baz=248,slow=5.8,SNR=4.9
YKA Yellowknife Ar 89.32 341 P P 03 35 05.2 +0.2
comp=Z,8.1nm,0.7s,baz=130,slow=5.2,SNR=105
YKA pP pP 03 35 31.0 -0.1
comp=Z,3.7nm,0.8s,baz=128,slow=5.5,SNR=5.5
YKA sP sP 03 35 43.1 +1.5
comp=Z,2.7nm,0.7s,baz=132,slow=5.5,SNR=3.8
H11S2 WAKE ISLAND Hy 127.15 279 T T 06 00 46.7
baz=100,slow=74,SNR=216
H11S1 WAKE ISLAND Hy 127.16 279 T T 06 00 43.3
baz=100,slow=74,SNR=120
H11S3 WAKE ISLAND Hy 127.17 279 T T 06 00 44.0
baz=100,slow=74,SNR=108
H11N3 WAKE ISLAND Hy 127.18 280 T T 06 00 47.9
baz=100,slow=74,SNR=55
H11N2 WAKE ISLAND Hy 127.20 280 T T 06 00 49.2
baz=100,slow=74,SNR=64
H11N1 WAKE ISLAND Hy 127.20 280 T T 06 00 47.2
baz=100,slow=74,SNR=40
ASAR Alice Springs 131.28 209 PKP PKPdf 03 41 21.4 -0.2
comp=Z,1.3nm,0.5s,baz=129,slow=1.6,SNR=16
ASAR pPKP pPKPdf 03 41 49.0 +0.2
comp=Z,0.5nm,0.7s,baz=116,slow=2.2,SNR=2.0
WRA Warramunga Arr 134.25 212 PKP PKPdf 03 41 27.2 -0.1
comp=Z,3.1nm,0.7s,baz=156,slow=1.8,SNR=29
ZALV Zalesovo Beam 140.50 24 PKhKP PKPpre 03 41 34.0
comp=Z,1.6nm,0.5s,baz=313,slow=2.6,SNR=3.2
ZALV PKP PKPdf 03 41 38.1 +0.4
comp=Z,1.8nm,0.5s,baz=279,slow=2.5,SNR=9.1
MKAR Makanchi Array 144.43 34 PKP PKPbc 03 41 43.8 +0.2
comp=Z,1.3nm,0.8s,baz=330,slow=2.7,SNR=11
MKAR Makanchi Array 144.43 34 PKPdf PKPab 03 41 43.5 +0.1
WMQ Urumqi 149.25 33 *e*P PKPdf 03 41 53.5 +0.3
WMQ pmax pmax
comp=Z,140nm,4.9s
USRK Ussuriysk Ar. 149.72 329 PKPbc PKPbc 03 41 59.0 +0.5
comp=Z,6.2nm,0.8s,baz=341,slow=0.7,SNR=18
USRK pPKPbc pPKPbc 03 42 25.4 -0.2
comp=Z,1.1nm,0.6s,baz=3.7,slow=1.0,SNR=4.1
USRK Ussuriysk Ar. 149.72 329 PKPbc 03 41 58.8 +0.3
MJAR Matsushiro Arr 150.54 311 PKPbc PKPbc 03 42 01.1 +0.2
comp=Z,6.2nm,0.8s,baz=91,slow=1.5,SNR=17
MJAR pPKPbc pPKPbc 03 42 28.5 +0.6
comp=Z,2.2nm,0.8s,baz=94,slow=1.6,SNR=2.6
MAT Matsushiro 150.55 311 PKP PKPbc 03 42 00.5 -0.4
SIJI Sorong 151.21 227 PKPbc PKPbc 03 42 03.6 +0.5
comp=Z,13nm,0.6s,baz=46,slow=5.5,SNR=6.0
SONM Songino Array 151.71 6 PKP PKPdf 03 41 57.6 +0.7
comp=Z,0.5nm,0.8s,baz=335,slow=0.6,SNR=4.7
SONM PKPbc PKPbc 03 42 03.7 +0.4
comp=Z,4.2nm,0.6s,baz=337,slow=3.0,SNR=26
SONM pPKP pPKPdf 03 42 23.6 -0.7
comp=Z,1.9nm,0.5s,baz=324,slow=1.6,SNR=5.4
SONM pPKPbc pPKPbc 03 42 30.9 +0.3
comp=Z,4.2nm,0.8s,baz=311,slow=1.4,SNR=7.7
SONM Songino Array 151.71 6 PKPdf 03 41 57.2 +0.2
SONM PKPbc 03 42 03.7 +0.4
KAPI Kappang 153.85 201 PKPab PKPab 03 42 23.0 +0.9
comp=Z,14nm,0.8s,baz=164,slow=3.8,SNR=8.7
HHC Hu-ho-hao-te 158.88 358 *e*P PKPdf 03 42 05.6 -1.2
NJ2 Nanjing 165.61 331 *e*P PKPdf 03 42 14.7 +1.0
NJ2 pmax pmax
comp=Z,8.0nm,0.5s

NEIC ***09*** *03:24:39.9±2.7, 35.˚85N±0.˚02×97.˚40W±0.˚05, h5^{km}±1^{km} Error ellipse: s-maj=7.5km s-min=2.9km az=77.0*
ANF ***09*** *03:24:39.8±0.2, 35.˚84N×97.˚43W, h5^{km}, ML4.9/24, Error ellipse: s-maj=2.5km s-min=2.2km az=163.0*
IDC ***09*** *03:24:39.8±0.7, 35.˚87N×97.˚43W, h0^{km}, mb3.8/4, mb1 4.0/14, mb1mx3.8/47, mbtmp3.8/14, ML3.3/9, Error ellipse: s-maj=10.8km s-min=8.3km az=165.0*
TUL ***09*** *03:24:40.4±3.1, 35.˚82N±0.˚02×97.˚45W±0.˚03, h5^{km}±5^{km}, ML4.3, mb4.0/24(NEIC), mb_Lg4.0/150(NEIC), Mwr3.7/11(SLM), Error ellipse: s-maj=0.0km s-min=0.0km az=164.0*
NEIC ***09*** *03:24:40.4, 35.˚83N×97.˚44W, h5^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.17; $M_{\theta\theta}$4.31; $M_{\phi\phi}$-3.13; $M_{r\theta}$-0.21; $M_{\theta\phi}$0.06; $M_{\phi r}$1.92; Fault plane solution: $M_0$4.32000×10^{14} NP1:ϕ_s229.00000°, δ67.00000°, λ-158.00000°. NP2:ϕ_s130.00000°, δ70.00000°, λ-25.00000°. Principal axes: T 4.3147, Plg2.0000°, Azm180.0000°; N -0.0027, Plg58.0000°, Azm274.0000°; P -4.3120, Plg32.0000°, Azm89.0000°;*
ISC 09 03:24:39.9±0.9**, 35.˚85N**±0.˚02×**97.˚42W**±0.˚02**, h5**^{km}±6^{km}**, n305, σ1^{s}35**/311**, mb3.4**/3**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.06	211	Pg	Pg	03 24 41.6	+0.3
OK029				Sg	Sg	03 24 42.5	+0.2
BCOK	Bluff Creek, N	0.25	219		Pg	03 24 44.8	+0.2
BCOK				Sg	Sg	03 24 47.9	0.0
OK009	Oakdale Elemen	0.27	181		Pg	03 24 45.4	+0.4
OK025	Westminster Rd	0.27	166		Pg	03 24 45.8	+0.6
OK025				Sg	Sg	03 24 49.8	+1.0
OK001	Jones High Sch	0.30	160	Pg	Pg	03 24 46.4	+0.6
OK001				Sg	Sg	03 24 50.8	+1.0
OKCFA	Oklahoma City	0.43	184		Pg	03 24 48.4	+0.2
OKCFA				Sg	Sg	03 24 54.0	+0.2
OKCSW	OKLAHOMA CITY	0.44	182		Pg	03 24 48.6	+0.2
OKCSW				Sg	Sg	03 24 54.7	+0.5
OK031	S. Brethren Rd	0.48	77	Pg	Pb	03 24 50.6	-0.3
OK031				Sg	Sb	03 24 57.6	-0.6
FNO	Franklin	0.59	179		Pg	03 24 51.7	+0.5
FNO				Sg	Sg	03 24 59.7	+0.9
QUOK	Quay	0.66	60		Pb	03 24 53.9	0.0
QUOK				Sg	Sb	03 25 03.2	-0.2
OK011	Prague	0.70	121	Pg	Pg	03 24 54.1	+0.8
CROK	Carrier	0.80	325	Pg	Pb	03 24 56.0	-0.3
CROK				IAmb_Lg		03 25 06.5	
	comp=Z,1μm,0.9s						
CROK				Sg	Sb	03 25 07.0	-0.5
GC02	Grant County #	1.06	341		Pb	03 25 00.8	0.0
GC02				Sg	Sb	03 25 15.6	+0.5
OK032	Salt Plains WL	1.15	326	Pg	Pb	03 25 02.1	-0.2
OK032				Sg	Sb	03 25 17.5	0.0
KAN13	South Haven SW	1.16	358		Pn	03 25 02.9	0.0
KAN13				Sg	Sn	03 25 18.6	-0.5
KAN14	Manchester OK	1.19	338	Pg	Pb	03 25 03.0	0.0
KAN14				Sg	Sn	03 25 19.3	-0.6
T35A	Sooner Cattle	1.29	34		Pb	03 25 05.0	+0.3
T35B	Sooner Cattle	1.29	34	P	Pb	03 25 05.0	+0.3
	baz=215,SNR=205						
T35B				S	Sn	03 25 22.8	+0.5
	baz=215						
T35B	Sooner Cattle	1.29	34	P		03 25 05.0	
	baz=215,SNR=205						
T35B				S		03 25 22.8	
	baz=215						
KAN09	Caldwell North	1.30	353		Pb	03 25 05.1	+0.4
TUL1	Leonard	1.32	87		Pn	03 25 04.8	-0.3
TUL1				IAmb_Lg		03 25 26.7	
	comp=Z,1μm,1.0s						
TUL1	Leonard	1.32	87	P	Pn	03 25 04.7	-0.3
	baz=266,SNR=444						
TUL1				S	Sb	03 25 23.0	+0.6
	baz=266						
TUL1	Leonard	1.32	87	P		03 25 04.7	
	baz=266,SNR=715						
TUL1				S		03 25 22.9	
	baz=266						
TUL1	Leonard	1.32	87	P		03 25 04.7	
	baz=266,SNR=444						
TUL1				S		03 25 23.0	
	baz=266						
KAN01	Argonia South	1.33	348		Pg	03 25 05.6	+0.2
KS20	Mayfield South	1.38	355		Pg	03 25 06.6	+0.2
KS20				IAmb_Lg		03 25 27.8	
	comp=Z,1μm,1.0s						
KAN10	Anthony SW Sta	1.39	337		Pb	03 25 06.2	0.0
U32A	Winter Ranch,	1.39	293	Pn	Pn	03 25 05.6	-0.3
U32A	Winter Ranch,	1.39	293	P	Pn	03 25 05.7	-0.3
	baz=114,SNR=100						
U32A				S	Sn	03 25 24.9	+0.1
	baz=114						
U32A	Winter Ranch,	1.39	293	P		03 25 05.7	
	baz=114,SNR=100						
U32A				S		03 25 24.9	
	baz=114						
KAN08	Anthony NE Sta	1.45	342		Pg	03 25 07.5	-0.1
KAN12	Harper NE Stat	1.52	342		Pb	03 25 08.8	+0.1
KAN12				IAmb_Lg		03 25 29.9	
	comp=Z,835nm,1.0s						
WMOK	Wichita Mounta	1.57	226		Pn	03 25 08.2	-0.3
WMOK	Wichita Mounta	1.57	226	P	Pn	03 25 08.1	-0.3
	baz=45						
WMOK				S	Sn	03 25 28.4	-0.9
	baz=45						
WMOK	Wichita Mounta	1.57	226	P		03 25 08.1	
	baz=45,SNR=290						
WMOK				S		03 25 28.1	
	baz=45						
WMOK	Wichita Mounta	1.57	226	P		03 25 08.1	
	baz=45						
WMOK				S		03 25 28.4	
	baz=45						
X37A	Clayton	2.09	126		Pn	03 25 16.9	+1.3
X37A				IAmb_Lg		03 25 50.5	
	comp=Z,829nm,0.8s						
X37A	Clayton	2.09	126	P	Pn	03 25 16.6	+0.9
	baz=306,SNR=249						
X37A				S	Sn	03 25 42.9	+0.9
	baz=306						
X37A	Clayton	2.09	126	P		03 25 16.6	
	baz=306,SNR=249						
X37A				S		03 25 42.9	
	baz=306						
Z35A	Perchaven, San	2.51	177		Pn	03 25 22.2	+0.8
Z35A				IAmb_Lg		03 25 59.1	
	comp=Z,496nm,1.2s						
Z35A	Perchaven, San	2.51	177	P	Pn	03 25 22.1	+0.6
	baz=356,SNR=123						
Z35A	Perchaven, San	2.51	177	P		03 25 22.1	
	baz=356,SNR=123						
U38A	Gravette	2.52	76	Pn	Pn	03 25 22.8	+1.2
U38A				IAmb_Lg		03 26 08.3	
	comp=Z,266nm,0.7s						
U38A	Gravette	2.52	76	P	Pn	03 25 22.9	+1.3
	baz=257,SNR=32						
U38A	Gravette	2.52	76	P		03 25 22.9	
	baz=257,SNR=32						
R32A	Long Quarter,	2.77	338		Pn	03 25 26.0	+1.0
R32A				IAmb_Lg		03 26 14.1	
	comp=Z,447nm,0.8s						
R32A	Long Quarter,	2.77	338	P	Pn	03 25 26.0	+1.0
	baz=158,SNR=152						
R32A	Long Quarter,	2.77	338	P		03 25 26.0	
	baz=158,SNR=152						
HHAR	Hobbs	2.85	80		Pn	03 25 26.8	+0.7
HHAR				IAmb_Lg		03 26 14.7	
	comp=Z,326nm,0.8s						
HHAR	Hobbs	2.85	80	P	Pn	03 25 27.1	+1.1
	baz=262,SNR=9.3						
HHAR	Hobbs	2.85	80	P		03 25 27.1	
	baz=262,SNR=9.3						
W39A	Magazine	3.03	101		Pn	03 25 29.0	+0.4
W39A				IAmb_Lg		03 26 23.6	
	comp=Z,472nm,0.7s						
W39A	Magazine	3.03	101	P	Pn	03 25 29.2	+0.6
	baz=283,SNR=87						
W39A	Magazine	3.03	101	P		03 25 29.2	
	baz=283,SNR=60						
W39A				S		03 26 04.8	
	baz=283						
W39A	Magazine	3.03	101	P		03 25 29.2	
	baz=283,SNR=87						
Z38A	Mt. Pleasant	3.27	141		Pn	03 25 32.1	+0.3
Z38A				IAmb_Lg		03 26 28.7	
	comp=Z,726nm,0.8s						
Z38A	Mt. Pleasant	3.27	141	P	Pn	03 25 32.3	+0.5
	baz=322						
Z38A	Mt. Pleasant	3.27	141	P		03 25 32.3	
	baz=322						
KSU1	Kansas State U	3.31	11		Pn	03 25 33.5	+1.2
KSU1				IAmb_Lg		03 26 31.9	
	comp=Z,460nm,0.9s						
KSU1	Kansas State U	3.31	11	P		03 25 33.2	
	baz=192,SNR=20						
KSU1				Sb		03 26 23.3	
	baz=192						
MIAR	Mount Ida	3.40	111	Pn	Pn	03 25 35.1	+1.4
MIAR				IAmb_Lg		03 26 36.1	
	comp=Z,359nm,0.9s						
MIAR	Mount Ida	3.40	111	P	Pn	03 25 34.6	+1.0
	baz=293,SNR=79						
MIAR				S	Sn	03 26 15.9	+1.5
	baz=293						
MIAR	Mount Ida	3.40	111	P		03 25 34.7	
	baz=293,SNR=129						
MIAR				S		03 26 14.7	
	baz=293						
MIAR	Mount Ida	3.40	111	P		03 25 34.6	
	baz=293,SNR=79						
MIAR				S		03 26 15.9	
	baz=293						
CBKS	Cedar Bluff	3.49	329	Pn	Pn	03 25 35.5	+0.7
CBKS				IAmb_Lg		03 26 36.0	
	comp=Z,654nm,0.7s						
CBKS	Cedar Bluff	3.49	329	P	Pn	03 25 35.6	+0.7
	baz=148,SNR=26						
CBKS	Cedar Bluff	3.49	329	P		03 25 35.7	
	baz=148,SNR=10						
CBKS				S		03 26 16.9	
	baz=148						
CBKS	Cedar Bluff	3.49	329	P		03 25 35.6	
	baz=148,SNR=26						
AMTX	Amarillo	3.62	256	Pn	Pn	03 25 38.2	+1.5
AMTX				IAmb_Lg		03 26 38.9	
	comp=Z,598nm,0.9s						
AMTX	Amarillo	3.62	256	P		03 25 38.3	
	baz=74						
AMTX				Sb		03 26 31.6	
	baz=74						
ABTX	Abilene, Hawle	3.71	210	Pn	Pn	03 25 37.4	-0.4
ABTX				IAmb_Lg		03 26 34.3	
	comp=Z,257nm,0.9s						
ABTX	Abilene, Hawle	3.71	210	P	Pn	03 25 37.6	-0.3
	baz=29,SNR=28						
ABTX	Abilene, Hawle	3.71	210	P		03 25 37.6	
	baz=29,SNR=23						
ABTX				S		03 26 22.0	
	baz=29						
ABTX	Abilene, Hawle	3.71	210	P		03 25 37.6	
	baz=29,SNR=28						
U40A	Yellville	3.73	81		Pn	03 25 39.0	+0.9
U40A	Yellville	3.73	81	P		03 25 38.5	
	baz=263,SNR=57						
S39A	Bolivar	3.77	60		Pn	03 25 39.6	+0.9
S39A				IAmb_Lg		03 26 45.3	
	comp=Z,593nm,0.8s						
S39A	Bolivar	3.77	60	P	Pn	03 25 39.7	+1.0
	baz=242,SNR=18						
S39A				S	Sn	03 26 24.6	+1.2
	baz=242						
S39A	Bolivar	3.77	60	P		03 25 39.7	
	baz=242,SNR=18						
S39A				S		03 26 24.6	
	baz=242						
WHTX	Lake Whitney,	3.85	180	P		03 25 39.7	
	baz=0.1,SNR=8.7						
WHTX				S		03 26 25.1	
	baz=0.1						
WHTX	Lake Whitney,	3.85	180	P		03 25 39.7	
	baz=0.1,SNR=28						
WHTX	Lake Whitney,	3.85	180		Pn	03 25 39.8	+0.1
WHTX	Lake Whitney,	3.85	180	P	Pn	03 25 39.7	0.0
	baz=0.1,SNR=28						
X40A	Basin Creek Fa	3.99	109		Pn	03 25 42.8	+1.1
X40A	Basin Creek Fa	3.99	109	P	Pn	03 25 42.8	+1.1
	baz=291,SNR=32						
X40A	Basin Creek Fa	3.99	109	P		03 25 42.7	
	baz=291,SNR=26						
X40A	Basin Creek Fa	3.99	109	P		03 25 42.8	
	baz=291,SNR=32						
X40A				P		03 25 42.8	
	baz=291,SNR=32						
237A	Washetta, Mont	4.06	160	Pn	Pn	03 25 42.2	-0.5
237A				IAmb_Lg		03 27 00.6	
	comp=Z,188nm,0.7s						
237A	Washetta, Mont	4.06	160	P	Pn	03 25 42.6	-0.1
	baz=341,SNR=20						
237A				S	Sn	03 26 29.8	-0.9
	baz=341						
237A	Washetta, Mont	4.06	160	P		03 25 42.6	
	baz=341,SNR=20						
237A				S		03 26 29.8	
	baz=341						
WLAR	White Oak Lake	4.15	120		Pn	03 25 44.1	+0.3
WLAR				IAmb_Lg		03 27 02.2	
	comp=Z,328nm,0.7s						
WHAR	Wooly Hollow	4.22	96		Pn	03 25 45.7	+0.8
WHAR				IAmb_Lg		03 26 56.2	
	comp=Z,422nm,1.0s						
W41B	Gary Mavity, V	4.27	98	P	Pn	03 25 46.4	+0.9
	baz=280,SNR=26						
W41B	Gary Mavity, V	4.27	98	P		03 25 46.3	
	baz=280,SNR=20						
W41B	Gary Mavity, V	4.27	98	P		03 25 46.4	
	baz=280,SNR=26						
FCAR	Ozark Folk Cen	4.30	88	Pn	Pn	03 25 46.1	+0.2
FCAR				IAmb_Lg		03 26 56.0	
	comp=Z,232nm,0.7s						
MGMO	Mountain Grove	4.35	71		Pn	03 25 47.5	+0.9
MGMO				IAmb_Lg		03 27 05.8	
	comp=Z,504nm,0.7s						
Z41A	Richland Creek	4.60	123	P		03 25 49.9	
	baz=305,SNR=7.3						
NATX	Nacogdoches	4.68	150	IAmb_Lg		03 27 21.0	
	comp=Z,206nm,0.7s						
NATX	Nacogdoches	4.68	150	S	Sn	03 26 44.2	-1.7
	baz=331						
NATX	Nacogdoches	4.68	150	S		03 26 43.8	
	baz=331						
NATX	Nacogdoches	4.68	150	S		03 26 44.2	
	baz=331						
MSTX	Muleshoe	4.78	248	Pn	Pn	03 25 53.4	+0.7
MSTX				IAmb_Lg		03 27 10.2	
	comp=Z,205nm,1.1s						
MSTX	Muleshoe	4.78	248	P	Pn	03 25 52.6	-0.1
	baz=66,SNR=36						
MSTX				S	Sn	03 26 48.6	0.0
	baz=66						
MSTX	Muleshoe	4.78	248	P		03 25 52.9	
	baz=66						

MSTX S 03 26 48.6
baz=66
MSTX Muleshoe 4.78 248 P 03 25 52.6
baz=66,SNR=36
MSTX S 03 26 48.6
baz=66
R40A Maddies Statio 4.79 58 IAmb_Lg 03 27 20.5
comp=Z,336nm,1.0s
R40A Maddies Statio 4.79 58 P **Pn** **03 25 53.6 +0.9**
baz=241,SNR=15
R40A S **Sn** **03 26 48.7 +0.2**
baz=241
R40A Maddies Statio 4.79 58 P 03 25 53.6
baz=241,SNR=15
R40A S 03 26 48.7
baz=241
P38A Dawn 4.87 38 Pn **Pn** **03 25 54.9 +1.2**
P38A IAmb_Lg 03 27 19.3
comp=Z,258nm,0.9s
CCAR Cane Creek 5.02 111 **Pn** **03 25 56.1 +0.2**
CCAR IAmb_Lg 03 27 28.3
comp=Z,402nm,0.9s
CCAR Cane Creek 5.02 111 P **Pn** **03 25 56.7 +0.8**
baz=294,SNR=14
CCAR Cane Creek 5.02 111 P 03 25 56.7
baz=294,SNR=14
435B Jarrell 5.05 182 Pn **Pn** **03 25 55.8 -0.5**
435B IAmb_Lg 03 27 33.7
comp=Z,307nm,0.8s
435B Jarrell 5.05 182 P **Pn** **03 25 56.6 +0.3**
baz=1.3,SNR=22
435B Jarrell 5.05 182 P 03 25 56.4
baz=1.3,SNR=10.0
435B S 03 26 53.8
baz=1.3
435B Jarrell 5.05 182 P 03 25 56.6
baz=1.3,SNR=22
LCAR Lake Charles 5.08 86 **Pn** **03 25 56.3 -0.5**
LCAR IAmb_Lg 03 27 19.9
comp=Z,129nm,0.7s
N35A Tabor 5.20 15 Pn **Pn** **03 25 59.1 +0.8**
N35A Tabor 5.20 15 P **Pn** **03 25 58.9 +0.7**
baz=196,SNR=9.8
N35A Tabor 5.20 15 P 03 25 58.9
baz=196,SNR=9.8
KSCO Kaye Shedlock' 5.21 309 Pn **Pn** **03 26 00.1 +1.5**
KSCO IAmb_Lg 03 27 28.1
comp=Z,318nm,0.7s
KSCO Kaye Shedlock' 5.21 309 P **Pn** **03 25 58.5 -0.1**
baz=126,SNR=17
KSCO Kaye Shedlock' 5.21 309 P 03 25 59.5
baz=126
KSCO Kaye Shedlock' 5.21 309 P 03 25 58.5
baz=126,SNR=17
T42A Van Buren 5.23 75 Pn **Pn** **03 25 59.7 +0.9**
T42A IAmb_Lg 03 27 41.8
comp=Z,195nm,0.7s
CCM Cathedral Cave 5.41 64 IAmb_Lg 03 27 39.2
comp=Z,269nm,0.8s
CCM Cathedral Cave 5.41 64 P 03 26 01.2
baz=248
X43A Marvell 5.51 102 P **Pn** **03 26 03.7 +1.0**
baz=286,SNR=13
X43A Marvell 5.51 102 P 03 26 03.2
baz=286,SNR=6.9
X43A Marvell 5.51 102 P 03 26 03.7
baz=286,SNR=13
BGNE Belgrade 5.58 354 Pn **Pn** **03 26 03.4 -0.2**
BGNE Belgrade 5.58 354 P **Pn** **03 26 03.5 -0.2**
baz=174,SNR=16
BGNE Belgrade 5.58 354 P 03 26 03.3
baz=174,SNR=7.2
BGNE S 03 27 06.8
baz=174
BGNE Belgrade 5.58 354 P 03 26 03.5
baz=174,SNR=16
P40A Paris 5.62 48 **Pn** **03 26 04.7 +0.5**
JCT Junction City 5.71 201 P 03 26 04.9
baz=20,SNR=9.6
JCT Junction City 5.71 201 P 03 26 04.7
baz=20,SNR=17
JCT Junction City 5.71 201 Pn **Pn** **03 26 05.5 0.0**
JCT Junction City 5.71 201 P **Pn** **03 26 04.7 -0.7**
baz=20,SNR=17
T25A Trinidad 5.78 285 **Pn** **03 26 06.0 -0.5**
T25A IAmb_Lg 03 27 46.8
comp=Z,382nm,0.9s
T25A Trinidad 5.78 285 P 03 26 06.7
baz=101,SNR=19
LPAR Lepanto 5.79 90 IAmb_Lg 03 27 51.3
comp=Z,300nm,0.8s
143A Socs Landing, 5.88 120 **Pn** **03 26 07.5 -0.3**
143A IAmb_Lg 03 27 58.1
comp=Z,217nm,0.8s
N38A Joes South For 5.93 32 **Pn** **03 26 08.7 +0.3**
N38A Joes South For 5.93 32 P **Pn** **03 26 08.9 +0.5**
baz=215,SNR=14
N38A Joes South For 5.93 32 P 03 26 08.9
baz=215,SNR=14
FVM French Village 5.99 67 **Pn** **03 26 09.7 +0.5**
FVM IAmb_Lg 03 27 52.2
comp=Z,320nm,1.0s
FVM French Village 5.99 67 P **Pn** **03 26 09.6 +0.4**
baz=251,SNR=9.6
FVM French Village 5.99 67 P 03 26 09.6
baz=251,SNR=9.6
HKT Hockley 6.03 167 Pn **Pn** **03 26 09.6 -0.1**
HKT Hockley 6.03 167 P **Pn** **03 26 09.5 -0.1**
baz=347,SNR=12
HKT Hockley 6.03 167 P 03 26 09.5
baz=347,SNR=12
PEBM Pemiscott Bayo 6.13 85 Pn **Pn** **03 26 11.5 +0.4**
PEBM IAmb_Lg 03 28 08.3
comp=Z,392nm,0.8s
MET Memphis--Engin 6.15 95 IAmb_Lg 03 28 07.8
comp=Z,158nm,0.8s
L34A Svendsen Farm, 6.16 7 Pn **Pn** **03 26 10.9 -0.6**
OGNE Ogallala 6.25 326 Pn **Pn** **03 26 13.8 +1.0**
OGNE Ogallala 6.25 326 P **Pn** **03 26 13.8 +1.0**
baz=144,SNR=26
OGNE Ogallala 6.25 326 P 03 26 13.5
baz=144,SNR=15
OGNE S 03 27 24.3
baz=144
OGNE Ogallala 6.25 326 P 03 26 13.8
baz=144,SNR=26
PVMO Portageville 6.27 83 IAmb_Lg 03 27 58.8
comp=Z,318nm,0.8s
LNXT Lenox 6.43 85 Pn **Pn** **03 26 17.9 +2.7**
CLNB Carlsbad 6.44 238 Pn **Pn** **03 26 16.6 +1.1**
GLAT Glass 6.60 84 Pn **Pn** **03 26 19.3 +1.7**
GLAT IAmb_Lg 03 28 11.2
comp=Z,339nm,0.9s
HICK Hickman 6.66 82 Pn **Pn** **03 26 20.1 +1.7**
W45A Hickory Valley 6.75 93 **Pn** **03 26 18.8 -0.8**
W45A IAmb_Lg 03 28 24.6
comp=Z,318nm,1.0s
W45A Hickory Valley 6.75 93 P **Pn** **03 26 19.4 -0.2**
baz=278,SNR=18
W45A Hickory Valley 6.75 93 P 03 26 19.4
baz=278,SNR=18
SDCO Great Sand Dun 6.76 289 Pn **Pn** **03 26 21.1 +1.1**
SDCO IAmb_Lg 03 28 27.8
comp=Z,116nm,1.0s
SDCO Great Sand Dun 6.76 289 P **Pn** **03 26 20.9 +0.9**
baz=104,SNR=25
SDCO Great Sand Dun 6.76 289 P 03 26 21.0
baz=104,SNR=70
SDCO Great Sand Dun 6.76 289 P 03 26 20.9
baz=104,SNR=25
Y45A Yeager Farm, C 6.77 105 **Pn** **03 26 19.6 -0.3**
Y45A IAmb_Lg 03 28 33.4
comp=Z,150nm,0.8s
Y45A Yeager Farm, C 6.77 105 P **Pn** **03 26 20.0 +0.1**
baz=289
Y45A Yeager Farm, C 6.77 105 P 03 26 20.0
baz=289
VBMS Vicksburg 6.78 120 IAmb_Lg 03 28 21.7
comp=Z,94nm,0.9s
VBMS Vicksburg 6.78 120 S 03 27 35.9
baz=304
S44A Carbondale 6.80 72 **Pn** **03 26 20.4 0.0**
S44A IAmb_Lg 03 28 19.6
comp=Z,276nm,0.8s
SIUC Southern Illin 6.84 72 **Pn** **03 26 20.6 -0.3**
K31A O'Neill 6.84 352 Pn **Pn** **03 26 22.1 +1.1**
SCIA State Center 6.88 27 Pn **Pn** **03 26 22.7 +1.3**
SCIA IAmb_Lg 03 28 26.6
comp=Z,274nm,0.7s
SCIA State Center 6.88 27 P 03 26 22.0
baz=210
Q24A Divide 6.89 299 P 03 26 22.2
baz=115,SNR=7.4
735A Kenedy 6.98 183 IAmb_Lg 03 28 33.2
comp=Z,148nm,0.8s
N41A Harden Midland 7.08 45 Pn **Pn** **03 26 24.4 +0.3**
N41A Harden Midland 7.08 45 P **Pn** **03 26 24.5 +0.3**
baz=229,SNR=6.1
N41A Harden Midland 7.08 45 P 03 26 24.5
baz=229,SNR=6.1
T45A Paducah 7.17 78 Pn **Pn** **03 26 25.7 +0.4**
P43A Skaggs, Pawnee 7.31 56 **Pn** **03 26 27.6 +0.2**
P43A Skaggs, Pawnee 7.31 56 P **Pn** **03 26 27.6 +0.2**
baz=241,SNR=11
P43A Skaggs, Pawnee 7.31 56 P 03 26 27.6
baz=241,SNR=11
Q44A Meyer Farm, Va 7.35 63 Pn **Pn** **03 26 28.4 +0.5**
ANMO Albuquerque 7.44 266 Pn **Pn** **03 26 31.3 +2.0**
comp=Z,0.3nm,0.3s,baz=88,slow=16,SNR=9.2
ANMO Pg Pb 03 26 55.7 +6.2
comp=Z,3.7nm,0.3s,baz=85,slow=18,SNR=21
ANMO Lg Lg 03 28 33.9
comp=Z,5.6nm,0.3s,baz=30,slow=20,SNR=5.9
ANMO Albuquerque 7.44 266 Pn **Pn** **03 26 29.5 +0.2**
ISCO Idaho Springs 7.59 304 Pn **Pn** **03 26 31.1 -0.4**
ISCO IAmb_Lg 03 28 42.1
comp=Z,107nm,0.8s
ISCO Idaho Springs 7.59 304 P **Pn** **03 26 31.4 -0.1**
baz=119,SNR=39
ISCO Idaho Springs 7.59 304 P 03 26 31.6
baz=119,SNR=22
ISCO Idaho Springs 7.59 304 P 03 26 31.4
baz=119,SNR=39
146A Union 7.63 112 **Pn** **03 26 31.0 -0.6**
146A IAmb_Lg 03 28 58.7
comp=Z,92nm,0.8s
146A Union 7.63 112 P **Pn** **03 26 31.5 -0.2**
baz=297
146A Union 7.63 112 P 03 26 31.5
baz=297
PLAL Pickwick Lake 7.68 94 Pn **Pn** **03 26 31.4 -0.9**
K38A Parkersburg 7.69 27 **Pn** **03 26 33.2 +0.7**
833A Chaparral WMA, 7.69 193 P 03 26 32.1
baz=12
BNM Barren Site 7.75 260 Pn **Pn** **03 26 34.9 +1.4**
WVT Waverly 7.78 85 Pn **Pn** **03 26 34.6 +0.9**
MNTX Cornudas Mount 7.81 240 Pn **Pn** **03 26 34.5 +0.2**
MNTX IAmb_Lg 03 28 51.4
comp=Z,111nm,0.8s
MNTX Cornudas Mount 7.81 240 P **Pn** **03 26 34.1 -0.2**
baz=56,SNR=23
MNTX Cornudas Mount 7.81 240 P 03 26 34.2
baz=56
MNTX Cornudas Mount 7.81 240 P 03 26 34.1
baz=56,SNR=23
L40A Anamosa 7.86 36 **Pn** **03 26 34.4 -0.5**
L40A IAmb_Lg 03 28 54.9
comp=Z,231nm,1.0s
ECSD EROS Data Cent 7.90 4 Pn **Pn** **03 26 34.7 -0.8**
ECSD IAmb_Lg 03 29 04.1
comp=Z,71nm,0.8s
ECSD EROS Data Cent 7.90 4 P **Pn** **03 26 34.6 -0.9**
baz=185,SNR=41
ECSD EROS Data Cent 7.90 4 P 03 26 34.6
baz=185,SNR=22
ECSD EROS Data Cent 7.90 4 P 03 26 34.6
baz=185,SNR=41
HDIL Hopedale 7.94 51 **Pn** **03 26 35.3 -0.6**
HDIL Hopedale 7.94 51 P **Pn** **03 26 35.5 -0.3**
baz=236,SNR=25
HDIL Hopedale 7.94 51 P 03 26 35.5
baz=236,SNR=54
HDIL Hopedale 7.94 51 P 03 26 35.5
baz=236,SNR=25
OLIL Olney 7.97 66 **Pn** **03 26 37.4 +1.1**
Y22D IRIS PASSCAL I 8.00 260 IAmb_Lg 03 29 16.7
comp=Z,224nm,0.8s
Z47A Carrollton 8.15 106 Pn **Pn** **03 26 39.2 +0.3**
Z47A IAmb_Lg 03 29 06.8
comp=Z,82nm,1.2s
O44A Mansfield 8.27 56 **Pn** **03 26 40.4 0.0**
PHWY Pilot Hill 8.32 313 **Pn** **03 26 41.0 -0.5**
PHWY IAmb_Lg 03 29 11.6
comp=Z,185nm,1.0s
TX31 Lajitas Ar. Si 8.36 221 Pn **Pn** **03 26 40.2 -1.7**
TX32 Lajitas Array 8.36 221 Pn **Pn** **03 26 40.0 -1.9**
TXAR Lajitas Array 8.36 221 Pn **Pn** **03 26 40.7 -1.2**
comp=Z,0.6nm,0.3s,baz=50,slow=11,SNR=19
TXAR Lg Lg 03 28 59.0
comp=Z,4.7nm,0.3s,baz=33,slow=29,SNR=4.9
TXAR Lajitas Array 8.36 221 Pn **Pn** **03 26 40.0 -1.9**
N23A Red Feather La 8.38 310 P 03 26 42.7
baz=125
T47A Sharon Grove 8.39 79 Pn **Pn** **03 26 41.4 -0.7**
T47A IAmb_Lg 03 29 12.9
comp=Z,144nm,0.7s
X48A Hartselle 8.61 96 **Pn** **03 26 44.3 -0.8**
L42A Oliver, Polo 8.62 42 **Pn** **03 26 45.0 -0.2**
L42A Oliver, Polo 8.62 42 P **Pn** **03 26 45.3 +0.1**
baz=227,SNR=19
L42A Oliver, Polo 8.62 42 P 03 26 45.3
baz=227,SNR=19
SUSD Miller 8.67 353 IAmb_Lg 03 29 31.2
comp=Z,161nm,0.8s
I37A Lemond, Waseca 8.72 19 Pn **Pn** **03 26 46.6 0.0**
I37A IAmb_Lg 03 29 27.2
comp=Z,139nm,0.7s
JFWS Jewell Farm 8.97 36 Pn **Pn** **03 26 49.8 -0.3**
JFWS IAmb_Lg 03 29 39.9
comp=Z,192nm,0.7s
JFWS Jewell Farm 8.97 36 P **Pn** **03 26 49.7 -0.5**
baz=220,SNR=10
JFWS Jewell Farm 8.97 36 P 03 26 49.7
baz=220,SNR=10.0
JFWS Jewell Farm 8.97 36 P 03 26 49.7
baz=220,SNR=10
CLTN Cedars of Leba 8.99 85 Pn **Pn** **03 26 50.0 -0.3**
CLTN IAmb_Lg 03 29 36.9
comp=Z,72nm,0.9s
LRAL Lakeview Retre 9.05 105 Pn **Pn** **03 26 50.1 -1.1**
LRAL Lakeview Retre 9.05 105 P **Pn** **03 26 50.5 -0.7**
baz=291,SNR=10
LRAL Lakeview Retre 9.05 105 P 03 26 50.4
baz=291,SNR=10
LRAL Lakeview Retre 9.05 105 P 03 26 50.5
baz=291,SNR=10
M44A Midewin, Midew 9.19 50 Pn **Pn** **03 26 52.3 -0.7**
M44A IAmb_Lg 03 29 30.0
comp=Z,205nm,0.8s
WCI Wyandotte Cave 9.21 72 Pn **Pn** **03 26 53.4 +0.1**
WCI IAmb_Lg 03 29 42.1
comp=Z,158nm,0.9s
WCI Wyandotte Cave 9.21 72 P 03 26 53.1
baz=258
Y49A Blount Mountai 9.26 99 Pn **Pn** **03 26 53.0 -1.1**
Y49A IAmb_Lg 03 29 39.3
comp=Z,58nm,0.8s
Y49A Blount Mountai 9.26 99 P **Pn** **03 26 53.5 -0.6**
baz=285,SNR=11
Y49A Blount Mountai 9.26 99 P 03 26 53.5
baz=285,SNR=11
BLO Bloomington 9.27 66 **Pn** **03 26 54.5 +0.2**
SFIN Lafayette 9.30 58 Pn **Pn** **03 26 55.3 +0.7**
SFIN Lafayette 9.30 58 P **Pn** **03 26 53.9 -0.8**
baz=244,SNR=7.0
SFIN Lafayette 9.30 58 P 03 26 53.8
baz=244,SNR=6.7
SFIN Lafayette 9.30 58 P 03 26 53.9
baz=244,SNR=7.0
PV13 Radium Mtn., P 9.41 288 IAmb_Lg 03 29 58.5
comp=Z,91nm,1.3s
U49A Red Boiling Sp 9.43 83 IAmb_Lg 03 30 01.1
comp=Z,65nm,0.9s
PV03 Paradox Valley 9.45 288 Pn **Pn** **03 26 59.2 +2.4**
PV11 David Mesa, Pa 9.48 288 Pn **Pn** **03 26 59.3 +2.1**
PV11 IAmb_Lg 03 29 55.7
comp=Z,66nm,1.0s
PV16 Nyswonger Mesa 9.51 288 Pn **Pn** **03 26 60.0 +2.2**
PV17 East Wray Mesa 9.54 288 IAmb_Lg 03 30 02.3
comp=Z,62nm,1.3s
O20A White River Ci 9.55 300 IAmb_Lg 03 30 04.3
comp=Z,76nm,1.2s
I40A Norwalk 9.58 31 **Pn** **03 26 57.1 -1.3**
I40A IAmb_Lg 03 29 47.9
comp=Z,141nm,0.8s
RWWY Rawlins 9.61 310 Pn **Pn** **03 27 00.0 +0.9**
RWWY IAmb_Lg 03 29 53.1
comp=Z,100nm,0.8s
RSSD Black Hills 9.70 330 Pn **Pn** **03 27 00.1 -0.2**
RSSD IAmb_Lg 03 29 59.4
comp=Z,73nm,0.8s
RSSD Black Hills 9.70 330 P 03 27 00.2
baz=146
L44A Lake County Fo 9.73 47 **Pn** **03 26 59.4 -1.0**
L44A Lake County Fo 9.73 47 P 03 26 59.7
baz=232,SNR=6.5
FPAL Fort Paine 9.75 94 Pn **Pn** **03 27 00.3 -0.6**
K22A Casper 9.79 317 Pn **Pn** **03 27 01.7 +0.2**
K22A IAmb_Lg 03 30 17.4
comp=Z,207nm,1.0s
K43A Burlington 9.82 43 **Pn** **03 27 00.8 -0.9**
BRAL Brewton 9.83 115 IAmb_Lg 03 30 10.4
comp=Z,69nm,1.1s
BRAL Brewton 9.83 115 P 03 27 01.6
baz=301
W50A Signal Mountai 9.89 90 IAmb_Lg 03 29 55.5
comp=Z,142nm,1.2s
SPMN Marine on St. 10.00 19 Pn **Pn** **03 27 03.8 -0.4**
SPMN Marine on St. 10.00 19 P 03 27 04.1
baz=202
F33A 5 Mile Ranch, 10.02 5 Pn **Pn** **03 27 03.4 -1.0**
250A Grady 10.04 109 **Pn** **03 27 03.4 -1.3**
250A Grady 10.04 109 P **Pn** **03 27 03.7 -1.0**
baz=296,SNR=6.3
250A Grady 10.04 109 P 03 27 03.7
baz=296,SNR=6.3
P48A Milroy 10.17 66 **Pn** **03 27 05.1 -1.4**
T50A Nancy 10.20 80 Pn **Pn** **03 27 06.1 -0.9**
I42A Draeger Farm, 10.35 37 Pn **Pn** **03 27 07.6 -1.4**
Z51A Franklin 10.40 101 **Pn** **03 27 08.4 -1.4**
F36A Milaca 10.43 15 Pn **Pn** **03 27 08.7 -1.4**
N47A Urbana 10.48 58 **Pn** **03 27 10.0 -0.8**
CPCT Cooper Cave 10.50 88 Pn **Pn** **03 27 09.2 -1.9**
V51A Loudon 10.61 86 **Pn** **03 27 11.9 -0.6**
L46A Eue Claire 10.62 51 **Pn** **03 27 11.5 -1.3**
L46A Eue Claire 10.62 51 P **Pn** **03 27 11.6 -1.1**
baz=238,SNR=7.3
L46A Eue Claire 10.62 51 P 03 27 11.6
baz=238,SNR=7.3
L46A P 03 27 11.6
baz=238,SNR=7.3
G40A Rib Lake 10.89 28 **Pn** **03 27 15.2 -1.2**
152A Waverly Hall 10.98 103 Pn **Pn** **03 27 17.4 -0.2**
E28A Huff 11.00 348 Pn **Pn** **03 27 16.1 -1.7**
W52A Murphy 11.03 90 Pn **Pn** **03 27 16.8 -1.5**
451A Vernon 11.07 115 Pn **Pn** **03 27 17.7 -1.2**
TKL Tuckaleechee C 11.09 87 Pn **Pn** **03 27 18.4 -0.7**
comp=Z,0.4nm,0.3s,baz=251,slow=9.7,SNR=8.1
TKL Sn **Sn** **03 29 21.6 -2.0**
comp=Z,0.7nm,0.3s,baz=311,slow=20,SNR=1.5
TKL Lg Lg 03 30 22.6
comp=Z,2.8nm,0.3s,baz=180,slow=20,SNR=4.4
TKL Tuckaleechee C 11.09 87 Pn **Pn** **03 27 18.8 -0.4**
O49A Covington 11.19 63 **Pn** **03 27 19.1 -1.4**
V52A Sevierville 11.22 86 Pn **Pn** **03 27 21.2 +0.3**
S51A Beattyville 11.24 77 **Pn** **03 27 21.4 +0.2**
H43A Windswept, Lux 11.33 38 Pn **Pn** **03 27 21.0 -1.4**
N49A Columbus Grove 11.55 60 Pn **Pn** **03 27 23.2 -2.2**
E38A The Farm, Brul 11.61 20 Pn **Pn** **03 27 24.8 -1.5**
Q51A Peebles 11.63 70 Pn **Pn** **03 27 27.6 +1.1**
PD31 Pinedale Array 11.66 310 Pn **Pn** **03 27 28.2 +1.0**
PDAR Pinedale Array 11.66 310 Pn **Pn** **03 27 26.8 -0.4**
comp=Z,0.6nm,0.3s,baz=122,slow=15,SNR=16
PDAR Lg Lg 03 30 42.1
comp=Z,1.3nm,0.3s,baz=107,slow=32,SNR=3.9
PDAR Pinedale Array 11.66 310 **Pn** **03 27 26.4 -0.7**
GOGA Godfrey 11.75 98 Pn **Pn** **03 27 27.4 -0.7**
GOGA Godfrey 11.75 98 P 03 27 26.9
baz=286
L48A N Adams 11.80 55 Pn **Pn** **03 27 27.0 -1.8**
I45A Fountain 11.85 43 Pn **Pn** **03 27 28.3 -1.1**
V53A Saluda 11.87 87 Pn **Pn** **03 27 29.9 0.0**
COWI Conover 11.99 29 **Pn** **03 27 29.9 -1.6**
F42A Maple Grove Fa 12.13 32 **Pn** **03 27 31.0 -2.4**
ACSO Alum Creek Sta 12.19 65 **Pn** **03 27 32.3 -1.9**
ACSO Alum Creek Sta 12.19 65 P 03 27 32.1
baz=253,SNR=6.3
J47A Sunmer 12.20 49 Pn **Pn** **03 27 32.3 -2.0**
J47A Sunmer 12.20 49 P **Pn** **03 27 32.3 -2.0**
baz=237,SNR=5.7
J47A Sunmer 12.20 49 P 03 27 32.3
baz=237,SNR=5.7
J47A P 03 27 32.3
baz=237,SNR=5.7
553A Crawfordville 12.27 114 Pn **Pn** **03 27 33.8 -1.5**
Q52A Bidwell 12.44 71 Pn **Pn** **03 27 38.7 +1.1**
AGMN Agassiz Nation 12.49 5 Pn **Pn** **03 27 37.1 -1.2**
AGMN Agassiz Nation 12.49 5 P 03 27 35.4
baz=186
HODGE Hodges 12.53 93 Pn **Pn** **03 27 37.8 -1.1**
M50A Fremont 12.53 59 **Pn** **03 27 37.0 -1.8**
U54A Nelsons Funny 12.62 82 Pn **Pn** **03 27 41.0 +0.8**
P52A Corning 12.67 68 Pn **Pn** **03 27 39.8 -1.0**
P52A Corning 12.68 68 P 03 27 39.7
baz=257
LAO LASA Array 12.69 331 Pn **Pn** **03 27 39.9 -1.1**
LOHW Long Hollow 12.76 311 Pn **Pn** **03 27 42.7 +0.5**
B35A Bob, Littlefor 12.80 11 **Pn** **03 27 39.7 -2.7**
G45A Suttons Bay 12.81 41 Pn **Pn** **03 27 39.9 -2.8**
G45A Suttons Bay 12.81 41 P **Pn** **03 27 40.3 -2.4**
baz=228,SNR=7.8
G45A Suttons Bay 12.81 41 P 03 27 40.3
baz=228,SNR=7.8
G45A P 03 27 40.3
baz=228,SNR=7.8
N51A Ashland 12.84 62 **Pn** **03 27 41.6 -1.4**
EYMN Ely 12.86 18 Pn **Pn** **03 27 41.7 -1.6**
EYMN Ely 12.86 18 P 03 27 40.8
baz=202,SNR=7.4
RLMT Red Lodge 12.92 319 **Pn** **03 27 43.5 -0.8**
Q53A Leroy 13.00 72 P 03 27 43.5
baz=261
O52A Adamsville 13.01 66 Pn **Pn** **03 27 45.4 0.0**
D41A Chassel 13.01 28 **Pn** **03 27 42.2 -3.1**
255A Hazlehurst 13.01 103 **Pn** **03 27 43.9 -1.6**
S54A Dingess, Beckl 13.05 77 **Pn** **03 27 44.4 -1.7**
S54A Dingess, Beckl 13.05 77 P 03 27 44.3
baz=266
E43A Lone Tree Farm 13.12 34 **Pn** **03 27 44.2 -2.5**
V55A Taylorsville 13.15 85 Pn **Pn** **03 27 45.3 -2.0**
P53A Whipple 13.21 69 Pn **Pn** **03 27 46.1 -1.9**
YNE Yellowstone No 13.24 318 Pn **Pn** **03 27 47.6 -1.1**
GLMI Grayling 13.24 43 **Pn** **03 27 46.0 -2.6**
GLMI Grayling 13.24 43 P 03 27 45.9
baz=232,SNR=10
JSC Jenkinsville 13.33 92 Pn **Pn** **03 27 47.5 -2.3**
O53A New Philadelph 13.50 66 **Pn** **03 27 48.4 -3.7**
O53A New Philadelph 13.50 66 P 03 27 49.3
baz=256
Q54A Coxs Mills 13.55 72 Pn **Pn** **03 27 50.4 -2.4**
DGMT Dagmar 13.57 340 Pn **Pn** **03 27 50.8 -2.2**
DGMT Dagmar 13.57 340 P 03 27 50.8
baz=156
GCMT Greycliff 13.57 321 Pn **Pn** **03 27 53.0 -0.2**
BLA Blacksburg 13.74 79 Pn **Pn** **03 27 54.6 -0.8**
M52A Chesterland 13.77 61 Pn **Pn** **03 27 52.8 -2.9**
N53A Lisbon 13.92 64 Pn **Pn** **03 27 54.4 -3.5**
O54A Avella 14.11 67 P **P** **03 28 08.5 +0.2**
W57A Gilead 14.22 88 Pn **Pn** **03 28 00.2 -1.6**
M53A WI Miller and 14.22 62 Pn **Pn** **03 27 58.9 -3.0**
E46A Sault Ste Mari 14.40 39 Pn **Pn** **03 28 01.2 -3.2**
ULM Lac du Bonnet 14.44 4 Pn **Pn** **03 28 00.5 -4.4**
comp=Z,0.5nm,0.3s,baz=173,slow=12,SNR=7.3
ULM Sn Sn 03 30 32.0 -13
comp=Z,1.0nm,0.3s,baz=102,slow=19,SNR=2.7
ULM Lg Lg 03 32 06.2
comp=Z,0.2nm,0.3s,baz=258,slow=19,SNR=1.9
ULM Lac du Bonnet 14.44 4 Pn **Pn** **03 28 00.7 -4.2**
N54A Moraine State 14.58 64 Pn **Pn** **03 28 03.2 -3.6**
N54A Moraine State 14.58 64 P 03 28 03.1
baz=255
T57A Hurt 14.67 80 Pn **Pn** **03 28 06.8 -1.3**
ELK Elko 14.82 295 Pn **Pn** **03 28 11.1 +0.8**
comp=Z,0.1nm,0.3s,baz=95,slow=8.6,SNR=5.9
I51A Listowel 14.88 53 P 03 28 06.5
baz=243
DLMT Dillon 14.92 314 P **P** **03 28 20.2 +2.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
M54A	Oil Creek Stat	14.96	62	Pn	Pn	03 28 08.4	-3.6
M54A				IAmb	IAmb	03 28 28.1	
	comp=Z,4.8nm,0.5s						
EGMT	Eagleton	15.22	327		Pn	03 28 13.3	-2.2
EGMT				IAmb	IAmb	03 28 23.3	
	comp=Z,6.0nm,1.0s						
M55A	Ridgway	15.61	63	Pn	Pn	03 28 16.7	-3.9
M55A				IAmb	IAmb	03 28 25.1	
	comp=Z,13nm,1.4s						
WVNY	West Valley, N	15.99	60	Pn	Pn	03 28 21.9	-3.6
M56A	Emporium	16.03	64	Pn	Pn	03 28 21.9	-4.1
M56A				IAmb	IAmb	03 28 27.8	
	comp=Z,15nm,1.2s						
SADO	Sadowa	16.52	52	Pn	Pn	03 28 28.7	-3.5
	comp=Z,0.3nm,0.3s,baz=242,slow=18,SNR=3.1						
SADO				Sn	Sn	03 31 25.1	-11
	comp=Z,0.4nm,0.3s,baz=203,slow=13,SNR=2.2						
SADO				Lg	Lg	03 33 09.9	
	comp=Z,1.0nm,0.3s,baz=180,slow=20,SNR=3.7						
NVAR	Mina Array Bea	16.85	285	Pn	P	03 28 38.6	-0.3
	comp=Z,0.0nm,0.3s,baz=86,slow=12,SNR=3.5						
J56A	Wolcott	17.48	59	Pn	Pn	03 28 40.3	-4.0
J56A				IAmb	IAmb	03 28 53.4	
	comp=Z,10nm,1.2s						
TEIG	Tepich	17.51	150	P	P	03 28 46.5	+0.4
	comp=Z,0.3nm,0.3s,baz=331,slow=12,SNR=1.2						
TEIG				S	Sn	03 31 47.0	-13
	comp=Z,0.2nm,0.3s,baz=16,slow=19,SNR=1.8						
BINY	Binghamton	17.80	63	P	P	03 28 49.5	+0.3
PLVO	Plevna	17.96	53	Pn	Pn	03 28 46.2	-4.1
F10A	Beach Ranch, E	18.02	310	P	P	03 28 54.9	+3.1
K58A	Earlville	18.18	61		Pn	03 28 50.8	-2.3
K58A				IAmb	IAmb	03 28 51.1	
	comp=Z,24nm,1.5s						
L59A	Walton	18.48	63	P	P	03 28 56.1	-0.5
L59A				IAmb	IAmb	03 29 03.7	
	comp=Z,9.8nm,1.1s						
ODNJ	Ogdensburg	18.59	67	P	P	03 28 56.2	-1.7
CMIG	Matias Romero	18.82	172	P	Pn	03 29 01.5	+0.6
	comp=Z,0.2nm,0.3s,baz=345,slow=12,SNR=1.5						
VLDQ	Val d'Or	19.18	44		P	03 29 01.9	-2.4
VLDQ				IAmb	IAmb	03 29 04.0	
	comp=Z,19nm,1.5s						
NCB	Newcomb	19.51	58	P	P	03 29 06.1	-1.9
NCB				IAmb	IAmb	03 29 19.1	
	comp=Z,13nm,1.4s						
KSCT	Kent School, K	19.53	65	P	P	03 29 08.6	+0.5
KSCT				IAmb	IAmb	03 29 21.9	
	comp=Z,5.9nm,0.8s						
ACCN	Adirondack Com	19.74	60	P	P	03 29 10.5	+0.1
ACCN				IAmb	IAmb	03 29 22.7	
	comp=Z,9.0nm,1.2s						
YBH	Yreka Blue Hor	20.54	294	P	Pn	03 29 20.8	-0.6
	comp=Z,3.0nm,0.6s,baz=113,slow=15,SNR=5.0						
YBH	Yreka Blue Hor	20.54	294	P	Pn	03 29 20.6	-0.8
YBH				IAmb	IAmb	03 29 25.4	
	comp=Z,3.5nm,0.7s						
K62A	Royalston	20.61	63	P	Pn	03 29 23.1	+0.9
FCC	Fort Churchill	23.03	4	P	P	03 29 47.1	+1.5
D62A	Allapoint, All	23.91	53	P	P	03 29 55.6	+1.1
F64A	Sherman	24.04	56	P	P	03 29 56.4	+0.7
E63A	Oxbow	24.13	55	P	P	03 29 57.0	+0.4
BATG	Bathurst New B	25.92	54	P	P	03 30 13.4	+0.5
YKA	Yellowknife Ar	28.75	343	P	P	03 30 39.1	+1.0
	comp=Z,0.2nm,0.7s,baz=134,slow=8.8,SNR=3.8						
YKA	Yellowknife Ar	28.75	343	P	P	03 30 39.1	+1.0
CBYP	Canovanas	32.91	114	P	P	03 31 16.5	+1.2
ILAR	Eielson Array	41.14	330	P	P	03 32 25.8	+1.1
	comp=Z,0.5nm,0.7s,baz=103,slow=7.6,SNR=7.5						
ILAR	Eielson Array	41.14	330	P	P	03 32 26.3	+1.6
FINES	FINESS Array B	72.79	25	P	P	03 36 09.6	+0.7
	comp=Z,4.9nm,1.0s,baz=282,slow=7.0,SNR=4.1						
FINES	FINESS Array B	72.79	25	P	P	03 36 09.1	+0.1
WMQ	Urumqi	100.57	356	eP	Pdif	03 38 30.5	+1.7

*DDA **09** 03:24:36.0, 39.41N×23.81E, h8km±3km, ML2.9*
*ISK **09** 03:24:39.9, 39.31N×24.05E, h9km, ML3.2/15*
*ATH **09** 03:24:41.3, 39.31N×24.02E, h16km±1km, ML3.7/3, Error ellipse: s-maj=1.8km s-min=0.9km az=242.0*
*THE **09** 03:24:41.4, 39.31N×24.05E, h14km, ML3.3/17, Error ellipse: s-maj=0.8km s-min=0.4km az=165.0*
*IDC **09** 03:24:41.0±2.0, 39.13N×24.02E, h0km, mb3.6/2, mb1 3.4/4, mb1mx3.2/41, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=45.8km s-min=25.1km az=131.0*
*BEO **09** 03:24:42.0±0.9, 39.41N×23.93E, h1km±2km, ML2.9/5*
ISC 09 03:24:41.2±0.9, **39.31N**±0.02×**24.03E**±0.02, **h11**km±7km, **n115**, σ0s**86**/150, **5C-4D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALNA	Alonissos	0.20	217	P	Pg	03 24 45.7	+0.1
ALNA				S	Sg	03 24 49.0	+0.5
ALNA				AML	AML	03 24 49.1	
	comp=N,33866μm,0.3s						
ALNA				AML	AML	03 24 49.6	
	comp=E,38086μm,0.3s						
SKY	Skiros Island	0.59	136	P	Pg	03 24 53.0	+0.2
SKY				S	Sg	03 25 00.4	-0.2
SKY				AML	AML	03 25 05.0	
	comp=N,17741μm,0.2s						
SKY				AML	AML	03 25 05.1	
	comp=E,26644μm,0.2s						
SKY	Skiros Island	0.59	136	P	Pg	03 24 53.0	+0.2
SKY				S	Sg	03 25 00.2	-0.4
	comp=E,11μm,0.2s						
NEO	Neokhori	0.62	270	P	Pg	03 24 53.7	+0.4
NEO				S	Sg	03 25 01.9	+0.4
NEO				AML	AML	03 25 04.4	
	comp=N,17461μm,0.2s						
NEO				AML	AML	03 25 04.5	
	comp=E,22881μm,0.3s						
NEO	Neokhori	0.62	270	P	Pg	03 24 53.7	+0.4
NEO				S	Sg	03 25 02.2	+0.7
	comp=E,10μm,0.2s						
XOR	Xorichti	0.65	275	P	Pb	03 24 54.4	-0.2
XOR				S	Sb	03 25 03.4	-0.2
	comp=E,7μm,0.3s						
PAIG	Paliouri	0.67	337	P	Pg	03 24 54.3	0.0
PAIG				S	Sb	03 25 04.1	-0.2
PAIG	Paliouri	0.67	337	P	Pg	03 24 54.3	0.0
PAIG				S	Sb	03 25 05.1	+0.8
	comp=E,2μm,0.4s						
KYMI	Kymi, Euboea I	0.68	175	P	Pg	03 24 54.2	-0.1
KYMI				S	Sb	03 25 04.2	-0.3
KYMI	Kymi, Euboea I	0.68	175	P	Pg	03 24 54.3	-0.1
KYMI				S	Sb	03 25 04.5	+0.1
	comp=E,3μm,0.4s						
SMIA	Simia	0.77	236	P	Pg	03 24 56.0	-0.1
SMIA				S	Sb	03 25 07.5	+0.5
	comp=E,14μm,0.4s						
EFSA	Agios Efstrati	0.78	73	P	Pb	03 24 56.8	0.0
EREA	Eretria	0.89	185	P	Pg	03 24 58.1	-0.3
EREA	Eretria	0.89	185	P	Pg	03 24 58.2	-0.3
EREA				S	Sb	03 25 11.9	+1.3
	comp=E,4μm,0.5s						
ATAL	Atalanti	1.00	232	P	Pg	03 24 59.9	-0.4
ATAL	Atalanti	1.00	232	P	Pg	03 25 00.0	-0.4
ATAL				S	Sb	03 25 13.9	+0.3
OUR	Ouranopolis	1.02	358	P	Pg	03 25 00.3	-0.6
OUR	Ouranopolis	1.02	358	P	Pg	03 25 00.3	-0.6
OUR				S	Sg	03 25 14.3	0.0
	comp=E,952nm,0.4s						
OUR	Ouranopolis	1.02	358	PG	Pg	03 25 00.1	-0.8
OUR				SG	Sb	03 25 14.7	+0.3
LKR	Lokris	1.04	231	P	Pg	03 25 00.6	-0.6
LKR	Lokris	1.04	231	P	Pg	03 25 00.5	-0.6
LKR				S	Sn	03 25 15.9	-0.2
	comp=E,980nm,0.2s						
LIA	Limnos Island	1.07	56	P	Pg	03 25 01.2	-0.6
LIA	Limnos Island	1.07	56	P	Pg	03 25 01.2	-0.6
LIA				S	Sg	03 25 15.4	-0.4
	comp=E,2μm,0.3s						
PLG	Polygyros	1.15	337	P	Pb	03 25 01.9	-1.3
PLG	Polygyros	1.15	337	P	Pb	03 25 01.9	-1.3
PLG				S	Sb	03 25 18.8	+0.6
	comp=E,3μm,0.7s						
AXAR	Agios Charalam	1.19	243	P	Pb	03 25 03.2	-0.7
AXAR	Agios Charalam	1.19	243	P	Pb	03 25 03.1	-0.7
AXAR				S	Sn	03 25 20.6	+0.5
	comp=E,1μm,0.4s						
DION	Dionisos Attik	1.23	183	P	Pn	03 25 03.8	-0.6
DION	Dionisos Attik	1.23	183	P	Pn	03 25 03.9	-0.5
DION				S	Sb	03 25 19.7	-0.7
VIL2	Platees	1.25	209	P	Pn	03 25 04.2	-0.4
PTL	Penteli	1.27	186	P	Pn	03 25 04.1	-0.8
PTL	Penteli	1.27	186	P	Pn	03 25 04.2	-0.7
VILL	Villia	1.27	206	P	Pn	03 25 04.2	-0.8
VILL				S	Sb	03 25 22.1	+0.5
KARY	Karystos	1.32	166	P	Pn	03 25 05.2	-0.4
KARY	Karystos	1.32	166	P	Pn	03 25 05.0	-0.5
KARY				S	Sb	03 25 21.5	-1.3
	comp=E,542nm,0.3s						
AGG	Agios Georgios	1.35	258	P	Pn	03 25 05.0	-1.0
AGG				S	Sb	03 25 23.1	-0.7
	comp=E,648nm,0.7s						
AGG	Agios Georgios	1.35	258	PN	Pn	03 25 05.1	-1.0
AGG				SN	Sg	03 25 24.8	+0.2
ATHU	Athens Univers	1.35	188	P	Pn	03 25 05.5	-0.6
ATH	Athens Observa	1.36	190	P	Pn	03 25 05.5	-0.6
THAS	Thassos island	1.40	22	P	Pn	03 25 05.7	-0.9
THAS	Thassos island	1.40	22	P	Pn	03 25 05.1	-1.6
LIT	Litokhoron	1.42	304	P	Pn	03 25 06.2	-0.8
LIT				S	Sn	03 25 25.5	-0.3
	comp=E,360nm,0.5s						
SIGR	SIGRI	1.43	93	PN	Pn	03 25 06.6	-0.4
HORT	Hortiatis	1.47	331	P	Pn	03 25 07.1	-0.6
HORT				S	Sn	03 25 25.6	-1.4
	comp=E,250nm,0.3s						
HORT	Hortiatis	1.47	331	PN	Pn	03 25 07.1	-0.6
DSF	Desfina	1.47	233	P	Pn	03 25 06.5	-1.3
MAKR	Makrakomi, Fth	1.50	259	P	Pn	03 25 07.7	-0.4
MAKR	Makrakomi, Fth	1.50	259	P	Pn	03 25 07.9	-0.2
MAKR				S	Sn	03 25 27.3	-0.4
	comp=E,625nm,0.7s						
LTK	Loutraki	1.53	213	P	Pn	03 25 07.8	-0.7
THE	Thessaloniki	1.55	329	P	Pn	03 25 08.2	-0.6
LOUT	Loutraki	1.56	212	P	Pn	03 25 08.3	-0.6
LOUT	Loutraki	1.56	212	P	Pn	03 25 08.2	-0.6
THL	Klokotos Trika	1.58	280	P	Pn	03 25 08.4	-0.7
SOH	Sokhos	1.59	341	P	Pn	03 25 08.8	-0.6
KOCA	Canakkale, Ayv	1.65	83	*i* P	Pn	03 25 10.6	+0.4
KOCA				IAML		03 25 37.0	
	comp=E,110nm,0.4s						
KOCA				IAML		03 25 44.0	
	comp=N,165nm,0.5s						
BOZC	Bozcaada	1.66	71	PN	Pn	03 25 09.7	-0.5
BOZC	Bozcaada	1.66	71	*i* P	Pn	03 25 09.8	-0.5
BOZC				*i* S	Sg	03 25 34.3	-0.2
BOZC				IAML		03 25 35.0	
	comp=N,164nm,0.5s						
THAL	Thalero	1.66	220	P	Pn	03 25 09.7	-0.6
THAL	Thalero	1.66	220	P	Pn	03 25 09.6	-0.6
GADA	Gvkgeada	1.69	58	PN	Pn	03 25 10.3	-0.4
GOKA	anakkale-Gk	1.70	58	*i* P	Pn	03 25 10.1	-0.7
KAVA	Kavala	1.73	12	P	Pn	03 25 09.9	-1.3
KALE	Kalithea	1.73	239	P	Pn	03 25 10.7	-0.6
ANX	Ano Chora	1.79	247	P	Pn	03 25 11.8	-0.3
TRIZ	Trizonia	1.79	239	P	Pn	03 25 11.5	-0.6
CHOS	Chios island	1.83	120	PN	Pn	03 25 12.2	-0.5
SRS	Serrai	1.83	350	P	Pn	03 25 11.7	-1.0
SRS	Serrai	1.83	350	*e*Pn	Pn	03 25 11.4	-1.3
SRS				*e*Sn	Sn	03 25 34.1	-1.8
EZN	Ezine	1.85	73	PN	Pn	03 25 12.3	-0.6
BAYC	CANAKKALE_Bayr	2.00	77	*i* P	Pn	03 25 14.3	-0.6
BAYC				IAML		03 25 46.0	
	comp=N,54nm,0.4s						
BAYC				IAML		03 25 47.0	
	comp=E,42nm,0.5s						
KZN	Kozani	2.00	301	P	Pn	03 25 14.7	-0.3
GRG	Griva	2.06	323	P	Pn	03 25 15.6	-0.2
GRG	Griva	2.06	323	PN	Pn	03 25 15.9	+0.1
AYVA	Ayvalik	2.07	89	*i* P	Pn	03 25 16.3	+0.4
AYVA				*i* S	Sg	03 25 48.5	+0.9
AYVA				IAML		03 25 51.0	
	comp=N,162nm,0.6s						
AYVA				IAML		03 25 54.0	
	comp=E,74nm,0.5s						
ENEZ	Enez	2.17	48	PN	Pn	03 25 16.9	-0.3
RDO	Rodhopi	2.17	32	PN	Pn	03 25 15.9	-1.3
GELI	Tayfur-Gelibol	2.18	59	PN	Pn	03 25 17.0	-0.3
ALN	Alexandroupoli	2.22	44	PN	Pn	03 25 17.5	-0.4
URLA	Izmir	2.22	114	PN	Pn	03 25 17.7	-0.3
DKL	Dikili	2.25	95	PN	Pn	03 25 18.0	-0.4
VAY	Valandovo	2.30	331	*e*Pn	Pn	03 25 18.7	-0.3
VAY				*e*Sn	Sn	03 25 48.3	+1.1
VAY	Valandovo	2.30	331	*i* Pn	Pn	03 25 18.8	-0.3
ERIK	Erikli-Kesan	2.35	54	PN	Pn	03 25 19.3	-0.4
APE	Apeiranthos	2.53	152	PN	Pn	03 25 22.1	-0.2
ITM	Ithomi	2.69	218	PN	Pn	03 25 24.9	+0.4
STIP	Stip	2.76	330	*i* Pn	Pn	03 25 25.1	-0.4
PLD	Plovdiv	2.84	10	*e*Pn	Pn	03 25 27.1	+0.6
PLD				*e*Sn	Sn	03 26 02.7	+2.1
PLD	Plovdiv	2.84	10	PN	Pn	03 25 26.8	+0.3
IGT	Igoumenitsa	2.87	276	*e*Pn	Pn	03 25 29.2	+2.3
IGT				*e*Sn	Sn	03 26 00.9	-0.5
GCAM	G?zelcaml?	2.99	122	PN	Pn	03 25 28.9	+0.4
OHR	Ohrid	3.06	307	*i* Pn	Pn	03 25 25.7	-3.8
VTS	Vitosha	3.36	350	*e*Pn	Pn	03 25 33.8	0.0
VTS				*e*Sn	Sn	03 26 11.9	-1.8
VTS	Vitosha	3.36	350	⇓P	Pn	03 25 33.9	+0.2
BARS	Barje	3.88	335	*e*Pn	Pn	03 25 41.0	+0.2
BARS	Barje	3.88	335	*e*Pn	Pg	03 25 54.7	-0.9
IDI	Anoyia	4.07	170	Pn	Pn	03 25 43.1	-0.4
	comp=E,1.4nm,0.3s,baz=346,slow=8.3,SNR=9.7						
IDI				Sn	Sn	03 26 28.6	-2.7
	comp=E,0.7nm,0.3s,baz=342,slow=19,SNR=1.1						
PLVB	Pleven	4.10	6	⇓P	Pn	03 25 44.0	+0.2
BLKB	Belogradchik	4.43	347	*e*Pn	Pn	03 25 48.6	+0.3
ZAGS	Zajecar	4.70	344	*e*Pn	Pn	03 25 51.5	-0.5
IVAS	Ivanjica	5.16	327	*e*Pn	Pn	03 25 58.5	+0.1
GRUS	Gruza	5.20	333	*e*Pn	Pn	03 25 59.1	+0.1
KUBS	Kucevo	5.39	342	*e*Pn	Pn	03 26 00.2	-1.4
TRUS	Trudelj	5.61	332	*e*Pn	Pn	03 26 04.6	+0.1
DIVS	Divibare	5.66	329	*e*Pn	Pn	03 26 05.4	+0.1
HERR	Herculane	5.69	348	⇑P	Pn	03 26 04.8	-0.9
GZR	Gura Zlata	6.15	352	⇑P	Pn	03 26 11.6	-0.4
VOIR		6.17	7	⇑P	Pn	03 26 12.4	+0.1
MLR	Muntele Rosu	6.34	12	⇓P	Pn	03 26 16.1	+1.5
BZS	Buzias	6.55	345	⇑P	Pn	03 26 16.5	-0.9
FRGS	Fruska Gora	6.63	333	*e*Pn	Pn	03 26 18.6	+0.1
VRI	Vrincioaia	6.85	16	⇓P	Pn	03 26 23.0	+1.4
BRTR	Keskin Array B	7.45	84	Pn	Pn	03 26 32.7	+2.8
	comp=E,0.1nm,0.3s,baz=265,slow=11,SNR=4.2						
MORH	Mrgy, Hungar	7.95	332	⇑P	Pn	03 26 36.7	+0.1
TORD	Torodi Ar. Bea	32.68	223	P	P	03 31 13.6	0.0
	comp=E,0.8nm,0.6s,baz=31,slow=9.0,SNR=3.7						
MKAR	Makanchi Array	42.37	60	P	P	03 32 37.7	+2.3
	comp=E,0.2nm,0.5s,baz=271,slow=7.3,SNR=5.3						

ATH 09 03:43:07.8, 38.35N×22.26E, h13km±2km, ML0.9/1, Error ellipse: s-maj=4.1km s-min=1.1km az=353.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	Kalithea	0.10	292	P	Pg	03 43 10.8	-0.2
KALE				S	Sg	03 43 12.9	-0.3
TRIZ	Trizonia	0.15	275	P	Pg	03 43 11.3	-0.1
TRIZ				S	Sg	03 43 14.2	+0.1
DSF	Desfina	0.21	74	P	Pg	03 43 12.3	-0.3
DSF				S	Sg	03 43 15.9	+0.1
DSF				AML	AML	03 43 17.1	
	comp=N,132μm,0.1s						
DSF				AML	AML	03 43 17.8	
	comp=E,67μm,0.1s						
LAKA	Lakka	0.25	244	P	Pg	03 43 13.1	0.0
EFP	Efpalio	0.29	285	P	Pg	03 43 13.6	-0.2
ANX	Ano Chora	0.36	312	P	Pg	03 43 15.0	-0.1

THE 09 03:43:55.0, 39.33N×23.98E, h22km±1km, ML1.9/5, Error ellipse: s-maj=1.3km s-min=0.6km az=286.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.59	268	P	Pb	03 44 06.9	+0.2
NEO				S	Sb	03 44 14.7	+0.1
	400nm,0.2s						
XOR	Xorichti	0.61	273	P	Pb	03 44 07.1	0.0
XOR				S	Sb	03 44 15.7	+0.4
	232nm,0.1s						
PAIG	Paliouri	0.64	339	P	Pb	03 44 07.2	-0.3
PAIG				S	Sb	03 44 16.2	+0.2
KYMI	Kymi, Euboea I	0.71	172	P	Pb	03 44 08.4	-0.2
KYMI				S	Sb	03 44 18.1	+0.2
	68nm,0.4s						
SMIA	Simia	0.75	233	P	Pb	03 44 09.5	+0.1
SMIA				S	Sn	03 44 20.4	-0.6
EREA	Eretria	0.91	182	P	Pb	03 44 11.7	-0.5
EREA				S	Sn	03 44 24.8	-0.2
ATAL	Atalanti	0.98	230	P	Pb	03 44 12.9	-0.4
ATAL				S	Sb	03 44 26.2	+0.3
	35nm,0.3s						
OUR	Ouranopolis	1.00	0	P	Pb	03 44 13.3	-0.3
OUR				S	Sn	03 44 26.9	-0.2
LKR	Lokris	1.02	228	P	Pb	03 44 13.3	-0.7
LKR				S	Sb	03 44 27.0	0.0
	40nm,0.2s						
PLG	Polygyros	1.12	339	P	Pn	03 44 14.7	-0.7
AGG	Agios Georgios	1.32	257	P	Pn	03 44 17.5	-0.6
AGG				S	Sn	03 44 35.1	0.0

*IASPEI **09** 04:01:22.9±1.0, 35.83N±0.03×97.46W±0.03, h7km±7km, Error ellipse: s-maj=4.8km s-min=3.8km az=89.4, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*ANF **09** 04:01:22.7±0.2, 35.85N×97.47W, h5km, ML4.0/19, Error ellipse: s-maj=3.4km s-min=2.5km az=143.0*
*NEIC **09** 04:01:23.1±1.5, 35.82N±0.02×97.45W±0.06, h5km±2km, Error ellipse: s-maj=7.7km s-min=3.1km az=280.0*
*TUL **09** 04:01:23±1.6, 35.81N±0.04×97.45W±0.06, h5km±7km, ML3.2, mb_Lg3.3/115(NEIC), Error ellipse: s-maj=6.6km s-min=5.7km az=76.0*
ISC 09 04:01:22.9±0.8, **35.83N**±0.02×**97.45W**±0.03, **h6**km±6km, **n139**, σ0s**90**/130, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.03	185		Pg	04 01 24.2	0.0
OK029				Sg	Sg	04 01 25.0	-0.1
BCOK	Bluff Creek, N	0.21	217		Pg	04 01 27.4	+0.2
BCOK				Sg	Sg	04 01 30.5	+0.5
OK009	Oakdale Elemen	0.25	175		Pg	04 01 28.0	+0.2
OK025	Westminster Rd	0.26	159		Pg	04 01 28.3	+0.3
OK025				Sg	Sg	04 01 32.2	+0.6
OKCFA	Oklahoma City	0.41	180		Pg	04 01 31.0	+0.1
OKCSW	OKLAHOMA CITY	0.42	178		Pg	04 01 31.1	+0.1
OKCSW				Sg	Sg	04 01 37.3	+0.7
OK031	S. Brethren Rd	0.51	76		Pg	04 01 33.2	+0.4
OK031				Sg	Sg	04 01 40.5	+1.0
FNO	Franklin	0.57	176	Pg	Pg	04 01 34.3	+0.4
FNO				IAmb_Lg		04 01 41.4	
	comp=Z,846nm,1.1s						
FNO				Sg	Sg	04 01 42.3	+0.9
QUOK	Quay	0.69	60		Pg	04 01 36.6	+0.3
QUOK				Sg	Sg	04 01 46.0	+0.7
CROK	Carrier	0.80	328	Pg	Pg	04 01 38.6	+0.4
CROK				Sg	Sg	04 01 49.7	+1.0
GC02	Grant County #	1.07	342		Pg	04 01 43.5	-0.1
OK032	Salt Plains WL	1.15	328		Pg	04 01 44.7	-0.3
KAN13	South Haven SW	1.18	359		Pg	04 01 45.5	-0.1
KAN14	Manchester OK	1.20	340		Pg	04 01 45.7	-0.2
KAN09	Caldwell North	1.31	354		Pn	04 01 47.8	0.0
T35A	Sooner Cattle	1.32	35		Pn	04 01 47.7	-0.2
T35B	Sooner Cattle	1.32	35	P	Pn	04 01 47.7	-0.2
	baz=215,SNR=114						
T35B				S	Sg	04 02 05.4	-0.1
	baz=215						
T35B	Sooner Cattle	1.32	35	P		04 01 47.7	
	baz=215,SNR=114						
T35B				S		04 02 05.4	
	baz=215						
KAN01	Argonia South	1.35	349		Pn	04 01 48.3	+0.1
TUL1	Leonard	1.35	86		Pn	04 01 47.4	-0.9
TUL1				IAmb_Lg		04 02 07.6	
	comp=Z,137nm,0.9s						
TUL1	Leonard	1.35	86	P	Pn	04 01 47.3	-0.9
	baz=266						
TUL1				S	Sb	04 02 05.9	-0.2
	baz=266						
TUL1	Leonard	1.35	86	P		04 01 47.3	
	baz=266,SNR=201						
TUL1				S		04 02 05.9	
	baz=266						
TUL1	Leonard	1.35	86	P		04 01 47.3	
	baz=266						
TUL1				S		04 02 05.9	
	baz=266						
U32A	Winter Ranch,	1.37	294	Pn	Pn	04 01 48.3	-0.3
U32A	Winter Ranch,	1.37	294	P	Pn	04 01 48.2	-0.3
	baz=114,SNR=86						
U32A	Winter Ranch,	1.37	294	P		04 01 48.2	
	baz=114,SNR=86						
KAN10	Anthony SW Sta	1.39	338		Pn	04 01 48.9	+0.1
KS20	Mayfield South	1.40	357		Pn	04 01 49.3	+0.3
KS20				IAmb_Lg		04 02 08.9	
	comp=Z,116nm,0.8s						
KAN08	Anthony NE Sta	1.46	343		Pb	04 01 50.4	0.0
WMOK	Wichita Mounta	1.54	225	Pn	Pn	04 01 50.8	-0.1
WMOK	Wichita Mounta	1.54	225	P	Pn	04 01 50.8	-0.1
	baz=45,SNR=393						
WMOK				S	Sn	04 02 11.0	-0.2
	baz=45						
WMOK	Wichita Mounta	1.54	225	P		04 01 50.6	
	baz=45						
WMOK				S		04 02 11.2	
	baz=45						
WMOK	Wichita Mounta	1.54	225	P		04 01 50.8	
	baz=45,SNR=393						
WMOK				S		04 02 11.0	
	baz=45						
X37A	Clayton	2.10	125	Pn	Pn	04 01 59.4	+0.8
X37A				IAmb_Lg		04 02 32.3	
	comp=Z,184nm,0.7s						
X37A	Clayton	2.10	125	P	Pn	04 01 59.1	+0.5
	baz=306,SNR=98						
X37A				S	Sb	04 02 26.9	-0.9
	baz=306						
X37A	Clayton	2.10	125	P		04 01 59.1	
	baz=306,SNR=98						
X37A				S		04 02 26.9	
	baz=306						
Z35A	Perchaven, San	2.50	176		Pn	04 02 04.7	+0.7
Z35A	Perchaven, San	2.50	176	P	Pn	04 02 04.6	+0.7
	baz=356,SNR=37						
Z35A	Perchaven, San	2.50	176	P		04 02 04.6	
	baz=356,SNR=37						
U38A	Gravette	2.56	75		Pn	04 02 05.7	+0.8
U38A				IAmb_Lg		04 02 50.9	
	comp=Z,75nm,0.7s						
U38A	Gravette	2.56	75	P	Pn	04 02 05.5	+0.7
	baz=257,SNR=124						
U38A	Gravette	2.56	75	P		04 02 05.5	
	baz=257,SNR=124						
R32A	Long Quarter,	2.78	339		Pn	04 02 09.4	+1.5
R32A				IAmb_Lg		04 02 57.9	
	comp=Z,65nm,0.9s						
HHAR	Hobbs	2.88	80		Pn	04 02 09.9	+0.6
HHAR	Hobbs	2.88	80	P	Pn	04 02 09.9	+0.6
	baz=262						
HHAR	Hobbs	2.88	80	P		04 02 09.9	
	baz=262						
W39A	Magazine	3.06	101		Pn	04 02 11.9	+0.2
W39A				IAmb_Lg		04 03 08.1	
	comp=Z,68nm,0.8s						
W39A	Magazine	3.06	101	P	Pn	04 02 12.0	+0.3
	baz=283,SNR=43						
W39A	Magazine	3.06	101	P		04 02 11.8	
	baz=283,SNR=21						
W39A	Magazine	3.06	101	P		04 02 12.0	
	baz=283,SNR=43						
Z38A	Mt. Pleasant	3.27	141	Pn	Pn	04 02 14.5	-0.1
Z38A				IAmb_Lg		04 03 12.2	
	comp=Z,93nm,0.7s						
KSU1	Kansas State U	3.33	11	Pn	Pn	04 02 16.2	+0.6
KSU1				IAmb_Lg		04 03 11.1	
	comp=Z,60nm,0.8s						
KSU1	Kansas State U	3.33	11	P	Pn	04 02 16.1	+0.6
	baz=192						
KSU1	Kansas State U	3.33	11	P		04 02 16.5	
	baz=192						
KSU1	Kansas State U	3.33	11	P		04 02 16.1	

baz=192
MIAR Mount Ida 3.42 111 Pn Pn 04 02 17.6 +0.9
MIAR IAmb_Lg 04 03 13.3
comp=Z,48nm,0.8s
MIAR Mount Ida 3.42 111 P Pn 04 02 17.3 +0.5
baz=293,SNR=67
MIAR S Sn **04 02 59.5 +1.9**
baz=293
MIAR Mount Ida 3.42 111 P 04 02 17.2
baz=293,SNR=31
MIAR S 04 02 58.5
baz=293
MIAR Mount Ida 3.42 111 P 04 02 17.3
baz=293,SNR=67
MIAR S 04 02 59.5
baz=293
CBKS Cedar Bluff 3.49 329 Pn Pn 04 02 18.8 +1.0
CBKS IAmb_Lg 04 03 23.2
comp=Z,79nm,0.8s
CBKS Cedar Bluff 3.49 329 P 04 02 18.7
baz=148,SNR=30
AMTX Amarillo 3.58 256 Pn 04 02 20.2 +1.2
AMTX IAmb_Lg 04 03 16.5
comp=Z,75nm,0.8s
AMTX Amarillo 3.58 256 Sb 04 03 13.6
baz=74
ABTX Abilene, Hawle 3.68 210 Pn 04 02 20.1 -0.1
ABTX IAmb_Lg 04 03 17.4
comp=Z,47nm,0.9s
ABTX Abilene, Hawle 3.68 210 P Pn 04 02 20.3 0.0
baz=29
ABTX Abilene, Hawle 3.68 210 P 04 02 20.2
baz=29
ABTX Abilene, Hawle 3.68 210 P 04 02 20.3
baz=29
U40A Yellville 3.76 81 Pn 04 02 21.6 +0.2
U40A Yellville 3.76 81 P Pn 04 02 21.6 +0.2
baz=263,SNR=32
U40A Yellville 3.76 81 P 04 02 21.5
baz=263
U40A S 04 03 07.5
baz=263
U40A Yellville 3.76 81 P 04 02 21.6
baz=263,SNR=32
U40A P 04 02 21.6
baz=263,SNR=32
S39A Bolivar 3.80 60 Pn 04 02 21.9 0.0
S39A IAmb_Lg 04 03 26.7
comp=Z,99nm,0.7s
S39A Bolivar 3.80 60 P Pn 04 02 22.3 +0.3
baz=242,SNR=25
S39A Bolivar 3.80 60 P 04 02 22.3
baz=242,SNR=25
WHTX Lake Whitney, 3.83 180 Pn 04 02 22.6 +0.3
WHTX Lake Whitney, 3.83 180 P Pn 04 02 22.4 +0.1
baz=0.1,SNR=6.3
WHTX Lake Whitney, 3.83 180 P 04 02 22.1
baz=0.1
WHTX Lake Whitney, 3.83 180 P 04 02 22.4
baz=0.1,SNR=6.3
X40A Basin Creek Fa 4.01 108 Pn 04 02 25.8 +1.0
X40A IAmb_Lg 04 03 33.7
comp=Z,60nm,0.7s
X40A Basin Creek Fa 4.01 108 P Pn 04 02 25.4 +0.5
baz=291,SNR=28
X40A Basin Creek Fa 4.01 108 P 04 02 25.2
baz=291,SNR=9.0
X40A Basin Creek Fa 4.01 108 P 04 02 25.4
baz=291,SNR=28
X40A P 04 02 25.4
baz=291,SNR=28
237A Washetta, Mont 4.05 160 Pn 04 02 25.1 -0.3
237A Washetta, Mont 4.05 160 P Pn 04 02 25.1 -0.3
baz=341
237A Washetta, Mont 4.05 160 P 04 02 25.1
baz=341
WLAR White Oak Lake 4.16 120 Pn 04 02 27.0 +0.1
WLAR IAmb_Lg 04 03 43.7
comp=Z,50nm,0.9s
WHAR Wooly Hollow 4.24 96 Pn **Pn 04 02 28.4 +0.4**
WHAR IAmb_Lg 04 03 44.3
comp=Z,62nm,0.7s
W41B Gary Mavity, V 4.29 97 P Pn 04 02 28.7 0.0
baz=280,SNR=35
W41B Gary Mavity, V 4.29 97 P 04 02 28.9
baz=280,SNR=7.7
W41B S 04 03 20.1
baz=280
W41B Gary Mavity, V 4.29 97 P 04 02 28.7
baz=280,SNR=35
FCAR Ozark Folk Cen 4.33 88 Pn 04 02 28.9 -0.3
FCAR IAmb_Lg 04 03 38.4
comp=Z,40nm,0.8s
MGMO Mountain Grove 4.38 71 Pn 04 02 30.8 +0.8
MGMO IAmb_Lg 04 03 49.8
comp=Z,84nm,0.8s
Z41A Richland Creek 4.61 122 S 04 03 26.2
baz=305
NATX Nacogdoches 4.68 149 S 04 03 26.8
baz=331
MSTX Muleshoe 4.75 249 Pn 04 02 35.9 +0.8
MSTX Muleshoe 4.75 249 S 04 03 31.1
baz=66
R40A Maddies Statio 4.82 58 IAmb_Lg 04 04 01.3
comp=Z,57nm,0.9s
R40A Maddies Statio 4.82 58 P Pn 04 02 36.1 +0.2
baz=241,SNR=15
R40A Maddies Statio 4.82 58 P 04 02 36.1
baz=241,SNR=15
P38A Dawn 4.90 38 Pn 04 02 37.5 +0.4
P38A IAmb_Lg 04 04 06.9
comp=Z,37nm,0.7s
N33A J Bar K, Exete 4.90 0 IAmb_Lg 04 04 05.2
comp=Z,42nm,0.7s
435B Jarrell 5.03 181 Pn 04 02 38.7 -0.1
435B IAmb_Lg 04 04 16.1
comp=Z,47nm,0.8s
435B Jarrell 5.03 181 P 04 02 38.7
baz=1.2
435B S 04 03 37.1
baz=1.2
CCAR Cane Creek 5.04 111 Pn 04 02 39.3 +0.3
CCAR IAmb_Lg 04 04 09.9
comp=Z,60nm,0.9s
LCAR Lake Charles 5.12 85 Pn 04 02 40.1 +0.2
KSCO Kaye Shedlock' 5.20 309 Pn 04 02 43.0 +1.6
KSCO IAmb_Lg 04 04 16.2
comp=Z,37nm,0.7s
N35A Tabor 5.22 15 Pn 04 02 42.6 +1.1
T42A Van Buren 5.27 75 Pn 04 02 43.2 +1.1
T42A IAmb_Lg 04 04 07.2
comp=Z,50nm,0.8s
T42A Van Buren 5.27 75 P Pn 04 02 42.4 +0.4
baz=258,SNR=7.1
T42A Van Buren 5.27 75 P 04 02 42.4
baz=258,SNR=7.1
CCM Cathedral Cave 5.45 64 Pn 04 02 46.3 +1.8
CCM Cathedral Cave 5.45 64 P 04 02 44.8
baz=248
HBAR Harrisburg 5.54 91 IAmb_Lg 04 04 28.4
comp=Z,65nm,0.7s
X43A Marvell 5.54 102 P 04 02 46.0
baz=285
BGNE Belgrade 5.60 355 Pn 04 02 45.7 -1.0
BGNE IAmb_Lg 04 04 33.3
comp=Z,57nm,0.8s
P40A Paris 5.66 48 Pn 04 02 48.4 +1.0
P40A IAmb_Lg 04 04 29.9
comp=Z,78nm,0.9s
JCT Junction City 5.69 201 Pn 04 02 48.1 +0.2
JCT Junction City 5.69 201 P 04 02 47.6
baz=20,SNR=7.7
T25A Trinidad 5.76 285 Pn 04 02 50.2 +1.1
T25A IAmb_Lg 04 04 36.7
comp=Z,47nm,0.7s
T25A Trinidad 5.76 285 P 04 02 49.3
baz=101,SNR=7.9
LPAR Lepanto 5.82 90 IAmb_Lg 04 04 33.7
comp=Z,67nm,0.7s
143A Socs Landing, 5.90 120 IAmb_Lg 04 04 45.2
comp=Z,32nm,0.8s
N38A Joes South For 5.96 33 Pn 04 02 51.9 +0.3
FVM French Village 6.03 67 Pn **Pn 04 02 53.1 +0.5**
FVM IAmb_Lg 04 04 33.7
comp=Z,78nm,1.1s
OGNE Ogallala 6.25 326 Pn **Pn 04 02 57.1 +1.4**
OGNE IAmb_Lg 04 04 46.9
comp=Z,71nm,0.8s
PVMO Portageville 6.30 82 IAmb_Lg 04 04 54.8
comp=Z,44nm,0.8s
SDCO Great Sand Dun 6.74 289 Pn Pn 04 03 03.5 +0.9
SDCO Great Sand Dun 6.74 289 P 04 03 03.1
baz=104
W45A Hickory Valley 6.78 93 IAmb_Lg 04 05 09.3
comp=Z,42nm,0.7s
K31A O'Neill 6.86 352 Pn Pn 04 03 04.9 +0.9
K31A IAmb_Lg 04 05 04.6
comp=Z,49nm,0.7s
SCIA State Center 6.91 27 Pn Pn 04 03 04.1 -0.5
SCIA IAmb_Lg 04 05 17.1
comp=Z,52nm,0.7s
N41A Harden Midland 7.12 45 Pn Pn 04 03 07.5 0.0
P43A Skaggs, Pawnee 7.34 56 Pn Pn 04 03 09.4 -1.2
Q44A Meyer Farm, Va 7.38 63 Pn Pn 04 03 10.9 -0.2
ANMO Albuquerque 7.41 266 Pn Pn 04 03 13.7 +2.0
ISCO Idaho Springs 7.58 304 Pn Pn 04 03 16.6 +2.4
ISCO IAmb_Lg 04 05 24.7
comp=Z,16nm,0.8s
K38A Parkersburg 7.72 27 IAmb_Lg 04 05 41.6
comp=Z,47nm,0.8s
MNTX Cornudas Mount 7.78 240 Pn Pn 04 03 17.4 +0.8
MNTX IAmb_Lg 04 05 30.4
comp=Z,16nm,0.8s
MNTX Cornudas Mount 7.78 240 P Pn 04 03 18.3 +1.6
baz=56,SNR=6.6
MNTX Cornudas Mount 7.78 240 P 04 03 17.5
baz=56
MNTX Cornudas Mount 7.78 240 P 04 03 18.3
baz=56,SNR=6.6
L40A Anamosa 7.89 36 Pn Pn 04 03 17.7 -0.4
L40A IAmb_Lg 04 05 37.5
comp=Z,37nm,1.0s
ECSD EROS Data Cent 7.92 4 Pn Pn 04 03 16.9 -1.7
ECSD EROS Data Cent 7.92 4 P Pn 04 03 17.4 -1.1
baz=185,SNR=15
ECSD EROS Data Cent 7.92 4 P 04 03 17.6
baz=185,SNR=6.7
ECSD EROS Data Cent 7.92 4 P 04 03 17.4
baz=185,SNR=15
HDIL Hopedale 7.97 51 Pn Pn 04 03 18.1 -1.1
HDIL Hopedale 7.97 51 P 04 03 18.2
baz=236
Y22D IRIS PASSCAL I 7.97 260 IAmb_Lg 04 05 44.3
comp=Z,38nm,0.9s
USIN University of 8.12 72 IAmb_Lg 04 05 51.0
comp=Z,31nm,0.9s
PHWY Pilot Hill 8.32 313 IAmb_Lg 04 05 58.4
comp=Z,19nm,0.8s
TX31 Lajitas Ar. Si 8.33 221 Pn Pn 04 03 24.8 +0.6
TX32 Lajitas Array 8.33 221 Pn Pn 04 03 22.9 -1.4
T47A Sharon Grove 8.42 79 Pn Pn 04 03 25.0 -0.4
T47A IAmb_Lg 04 06 07.6
comp=Z,29nm,0.9s
L42A Oliver, Polo 8.65 42 Pn Pn 04 03 27.8 -0.7
L42A Oliver, Polo 8.65 42 P Pn 04 03 28.3 -0.2
baz=227,SNR=5.4
L42A Oliver, Polo 8.65 42 P 04 03 28.3
baz=227,SNR=5.4
SUSD Miller 8.68 353 IAmb_Lg 04 06 14.8
comp=Z,28nm,0.9s
I37A Lemond, Waseca 8.75 20 IAmb_Lg 04 06 08.4
comp=Z,24nm,0.8s
P46A Rosedale 8.95 62 IAmb_Lg 04 06 16.2
comp=Z,45nm,0.8s
JFWS Jewell Farm 9.01 36 Pn Pn 04 03 33.1 -0.3
JFWS IAmb_Lg 04 06 09.3
comp=Z,40nm,0.8s
JFWS Jewell Farm 9.01 36 P 04 03 33.6
baz=220
CLTN Cedars of Leba 9.02 85 IAmb_Lg 04 06 10.1
comp=Z,16nm,1.1s
LRAL Lakeview Retre 9.07 105 Pn Pn 04 03 33.5 -0.8
M44A Midewin, Midew 9.22 50 Pn Pn 04 03 36.1 -0.2
WCI Wyandotte Cave 9.24 72 IAmb_Lg 04 06 25.8
comp=Z,24nm,0.7s
Y49A Blount Mountai 9.29 99 Pn Pn 04 03 38.1 +0.8
BLO Bloomington 9.30 66 Pn Pn 04 03 38.1 +0.6
U49A Red Boiling Sp 9.46 82 IAmb_Lg 04 06 44.1
comp=Z,12nm,0.9s
HQIL Hason Quary C 9.57 49 IAmb_Lg 04 06 36.1
comp=Z,41nm,0.9s
RWWY Rawlins 9.61 310 IAmb_Lg 04 06 34.1
comp=Z,18nm,1.0s
I40A Norwalk 9.61 31 IAmb_Lg 04 06 30.5
comp=Z,23nm,0.7s
RSSD Black Hills 9.70 331 Pn Pn 04 03 44.8 +1.7
RSSD IAmb_Lg 04 06 40.6
comp=Z,13nm,0.9s
K22A Casper 9.79 317 IAmb_Lg 04 06 60.0
comp=Z,30nm,1.0s
K43A Burlington 9.85 43 Pn Pn 04 03 43.9 -1.1
W50A Signal Mountai 9.92 90 IAmb_Lg 04 06 39.3
comp=Z,14nm,0.8s
F33A 5 Mile Ranch, 10.04 5 Pn Pn 04 03 47.1 -0.5
I42A Draeger Farm, 10.38 37 Pn Pn 04 03 51.3 -1.0
F36A Milaca 10.45 15 Pn Pn 04 03 51.9 -1.3
L46A Eue Claire 10.66 51 Pn Pn 04 03 54.7 -1.3
G40A Rib Lake 10.92 28 Pn Pn 04 03 58.4 -1.2
S51A Beattyville 11.27 77 Pn Pn 04 04 04.3 -0.1
COWI Conover 12.02 29 Pn Pn 04 04 14.8 +0.1
B35A Bob, Littlefor 12.82 11 Pn Pn 04 04 22.5 -3.1
EYMN Ely 12.89 18 Pn Pn 04 04 24.2 -2.3
E43A Lone Tree Farm 13.15 34 Pn Pn 04 04 27.7 -2.3
E46A Sault Ste Mari 14.44 39 Pn Pn 04 04 45.6 -2.1

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*IDC **09** 04:19:53.6±3.0, 42.˚10N×80.˚22E, h0km, mb3.0/1, mb1 3.3/4, mb1mx3.2/33, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=59.4km s-min=31.0km az=102.0*
*SOME **09** 04:19:55.8, 42.˚17N×80.˚08E, h15km*
*NNC **09** 04:19:56.7±0.9, 42.˚18N×80.˚08E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=6.1km s-min=4.0km az=144.0*
*KRNET **09** 04:20:00.1±0.1, 42.˚14N×79.˚70E, h14km, mb3.4*

ISC 09 04:19:55.9±1.7, 42.˚15N±0.˚05×80.˚07E±0.˚04, h6km±10km, n79,σ1°79/128, 13C-38D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 609nm,0.4s	**1.10**	**336**	*e*P	**Pb**	**04 20 15.7**	**-1.7**
SHLS				*e*S	**Sb**	**04 20 30.8**	**-1.3**
SHLS	**Shalkode** 609nm,0.4s	**1.10**	**336**	P	**Pb**	**04 20 15.7**	**-1.7**
SHLS	506nm,0.3s			S	**Sb**	**04 20 31.0**	**-1.0**
PDGK	**Podgornoye** 15nm,0.4s	**1.25**	**340**	P	**Pn**	**04 20 19.4**	**-0.6**
PDGK	94nm,0.4s			S	**Sg**	**04 20 37.3**	**+1.2**
PDGK	**Podgornoye** 20nm,0.5s	**1.25**	**340**	⇑P	**Pn**	**04 20 19.3**	**-0.7**
PDGK	137nm,0.6s			⇓S	**Sg**	**04 20 36.6**	**+0.5**
UZB	**Uzynbulak** 39nm,0.3s	**1.26**	**323**	*e*P	**Pn**	**04 20 19.8**	**-0.4**
UZB	279nm,0.3s			*e*S	**Sg**	**04 20 37.8**	**+1.5**
UZB	**Uzynbulak** 39nm,0.3s	**1.26**	**323**	P	**Pn**	**04 20 19.8**	**-0.4**
UZB	279nm,0.3s			S	**Sg**	**04 20 37.8**	**+1.5**
PRZ	**Przheval'sk** baz=91	**1.28**	**286**	⇓*e*P	**Pn**	**04 20 19.8**	**-0.7**
PRZ				⇓*i*S	**Sb**	**04 20 34.2**	**-3.1**
KTMS	**Ketmen** 346nm,0.2s	**1.31**	**9**	*e*P	**Pn**	**04 20 20.1**	**-0.8**
KTMS	252nm,0.3s			*e*S	**Sg**	**04 20 38.2**	**+0.3**
KTMS	**Ketmen** 346nm,0.2s	**1.31**	**9**	P	**Pn**	**04 20 20.0**	**-0.8**
KTMS	252nm,0.3s			S	**Sg**	**04 20 38.2**	**+0.3**
SATY	**Saty** 26nm,0.3s	**1.52**	**307**	*e*P	**Pb**	**04 20 24.8**	**+0.1**
SATY	164nm,0.1s			*e*S	**Sg**	**04 20 46.4**	**+1.5**
SATY	**Saty** 26nm,0.3s	**1.52**	**307**	P	**Pb**	**04 20 24.8**	**+0.1**
SATY				S	**Sg**	**04 20 46.4**	**+1.5**
KPKS	**Kokpek** 119nm,0.2s	**1.66**	**323**	*e*P	**Pb**	**04 20 27.5**	**+0.6**
KPKS	415nm,0.3s			*e*S	**Sg**	**04 20 50.2**	**+1.0**
ANVS	**Anan'yevo** baz=94	**1.89**	**290**	⇓*i*P	**Pb**	**04 20 31.0**	**+0.2**
ANVS	baz=94			⇓*i*S	**Sn**	**04 20 53.3**	**+0.3**
KURS	**Kuram** 26nm,0.5s	**1.93**	**314**	*e*P	**Pb**	**04 20 32.2**	**+0.6**
KURS	73nm,0.3s			*e*S	**Sg**	**04 20 58.5**	**+0.6**
KURS	**Kuram** 26nm,0.5s	**1.93**	**314**	Pg	**Pb**	**04 20 32.2**	**+0.6**
KURS	73nm,0.3s			Lg	Lg	04 20 58.5	
KDJ	**Kajisay** baz=70	**2.15**	**270**	⇑*e*P	**Pb**	**04 20 34.7**	**-0.6**
KDJ	baz=70			⇑*i*S	**Sn**	**04 21 00.4**	**+0.9**
DJR	**Jarkent** 39nm,0.4s	**2.19**	**355**	*e*P	**Pb**	**04 20 36.4**	**+0.5**
DJR	222nm,0.3s			*e*S	**Sg**	**04 21 05.7**	**-0.4**
DJR	**Jarkent** 39nm,0.4s	**2.19**	**355**	Pg	**Pb**	**04 20 36.4**	**+0.5**
DJR	222nm,0.3s			Lg	Lg	04 21 05.7	
MNBS	**Baschi** 87nm,0.3s	**2.28**	**328**	*e*P	**Pb**	**04 20 38.8**	**+1.3**
MNBS	545nm,0.4s			*e*S	**Sg**	**04 21 09.3**	**+0.2**
MNBS	**Baschi** 87nm,0.3s	**2.28**	**328**	Pg	**Pb**	**04 20 38.8**	**+1.3**
MNBS	545nm,0.4s			Lg	Lg	04 21 09.3	
KOTS	**Kotyrbulak** 99nm,0.3s	**2.43**	**297**	*e*P	**Pb**	**04 20 40.9**	**+0.7**
KOTS	230nm,0.4s			*e*S	**Sg**	**04 21 13.2**	**-0.8**
KOTS	**Kotyrbulak** 99nm,0.3s	**2.43**	**297**	Pg	**Pb**	**04 20 40.9**	**+0.7**
KOTS	230nm,0.4s			Lg	Lg	04 21 13.2	
MDOK	**Medeo** 26nm,0.3s	**2.45**	**295**	*e*P	**Pb**	**04 20 41.1**	**+0.7**
MDOK	91nm,0.4s			*e*S	**Sg**	**04 21 13.4**	**-1.1**
MDOK	**Medeo** 17nm,0.5s	**2.45**	**295**	⇑Pn	**Pb**	**04 20 40.8**	**+0.4**
MDOK	56nm,0.4s			⇓Lg	Lg	04 21 12.9	
MDOK	**Medeo** 26nm,0.3s	**2.45**	**295**	Pg	**Pb**	**04 20 41.1**	**+0.7**
MDOK	91nm,0.4s			Lg	Lg	04 21 13.4	
TNSS	**Tian-Shan** 20nm,0.4s	**2.47**	**292**	*e*P	**Pb**	**04 20 41.7**	**+0.8**
TNSS	61nm,0.3s			*e*S	**Sg**	**04 21 14.4**	**-0.8**
TNSS	**Tian-Shan** 20nm,0.4s	**2.47**	**292**	Pg	**Pb**	**04 20 41.7**	**+0.8**
TNSS	61nm,0.3s			Lg	Lg	04 21 14.4	
KNDC	**Almaty** 67nm,0.8s	**2.52**	**296**	⇓Pg	**Pg**	**04 20 43.5**	**-0.7**
KNDC	192nm,0.7s			⇓Lg	Lg	04 21 16.7	
AAA	**Alma-Ata** 41nm,0.2s	**2.55**	**295**	*e*P	**Pb**	**04 20 43.3**	**+1.2**
AAA	69nm,0.2s			*e*S	**Sg**	**04 21 17.2**	**-0.7**
AAA	**Alma-Ata** 41nm,0.2s	**2.55**	**295**	Pg	**Pb**	**04 20 43.3**	**+1.2**
AAA	69nm,0.2s			Lg	Lg	04 21 17.2	
ARXS	**Arharly** 63nm,0.4s	**2.63**	**322**	*e*P	**Pb**	**04 20 44.0**	**+0.5**
ARXS	114nm,0.5s			*e*S	**Sg**	**04 21 19.1**	**-1.3**
ARXS	**Arharly** 63nm,0.4s	**2.63**	**322**	Pg	**Pb**	**04 20 44.0**	**+0.5**
ARXS	114nm,0.5s			Lg	Lg	04 21 19.1	
IZV	**Izvestkoviy** 40nm,0.3s	**2.70**	**290**	*e*P	**Pb**	**04 20 45.9**	**+1.2**
IZV	93nm,0.3s			*e*S	**Sg**	**04 21 21.9**	**-0.6**
IZV	**Izvestkoviy** 40nm,0.3s	**2.70**	**290**	Pg	**Pb**	**04 20 45.9**	**+1.2**
IZV	93nm,0.3s			Lg	Lg	04 21 21.9	
CHKK	**Chushkaly** 12nm,0.4s	**2.83**	**308**	*e*P	**Pb**	**04 20 47.9**	**+1.1**
CHKK	182nm,0.4s			*e*S	**Sg**	**04 21 25.5**	**-1.2**
CHKK	**Chushkaly** 12nm,0.4s	**2.83**	**308**	Pg	**Pb**	**04 20 47.9**	**+1.1**
CHKK	182nm,0.4s			Lg	Lg	04 21 25.5	
ULHL	**Ulahol** baz=73	**2.84**	**273**	⇓*e*P	**Pb**	**04 20 45.1**	**-2.1**
ULHL	baz=73			⇓*i*S	**Sn**	**04 21 18.0**	**+1.3**
MTBS	**Maitube** 31nm,0.0s	**2.86**	**291**	*e*P	**Pb**	**04 20 48.5**	**+1.1**
MTBS	37nm,0.4s			*e*S	**Sg**	**04 21 25.9**	**-1.7**
MTBS	**Maitube** 31nm,0.0s	**2.86**	**291**	Pg	**Pb**	**04 20 48.5**	**+1.1**
MTBS	37nm,0.4s			Lg	Lg	04 21 25.9	
KTBS	**Karatobe** 23nm,0.4s	**2.94**	**303**	*e*P	**Pb**	**04 20 50.2**	**+1.6**
KTBS	168nm,0.4s			*e*S	**Sg**	**04 21 28.9**	**-1.2**
KTBS	**Karatobe** 23nm,0.4s	**2.94**	**303**	Pg	**Pb**	**04 20 50.2**	**+1.6**
KTBS	168nm,0.4s			Lg	Lg	04 21 28.9	
BOOM	**Boomskoye usch** baz=78	**3.08**	**278**	⇓*i*P	**Pb**	**04 20 48.5**	**-2.7**
BOOM	baz=78			⇓*i*S	**Sn**	**04 21 24.0**	**+1.5**
TDK	**Taldyqorghan** 46nm,0.3s	**3.09**	**338**	*e*P	**Pb**	**04 20 52.3**	**+1.0**
TDK	147nm,0.5s			*e*S	**Sg**	**04 21 32.6**	**-2.6**
TDK	**Taldyqorghan** 46nm,0.3s	**3.09**	**338**	Pg	**Pb**	**04 20 52.3**	**+1.0**
TDK	147nm,0.5s			Lg	Lg	04 21 32.6	
KST	**Kastek** 20nm,0.5s	**3.16**	**288**	*e*P	**Pb**	**04 20 54.3**	**+1.8**
KST	46nm,0.5s			*e*S	**Sg**	**04 21 36.3**	**-1.0**
KST	**Kastek** 20nm,0.5s	**3.16**	**288**	Pg	**Pb**	**04 20 54.3**	**+1.8**
KST	46nm,0.5s			Lg	Lg	04 21 36.3	
KAPS	**Kapalarasan** 8.2nm,0.3s	**3.17**	**351**	*e*P	**Pb**	**04 20 52.4**	**-0.3**
KAPS	61nm,0.3s			*e*S	**Sb**	**04 21 33.4**	**+1.7**
KAPS	**Kapalarasan** 11nm,0.3s	**3.17**	**351**	Pg	**Pb**	**04 20 53.0**	**+0.3**
KAPS	61nm,0.3s			Lg	Lg	04 21 32.0	
KUU	**Kurty** 6.0nm,0.3s	**3.24**	**304**	*e*P	**Pb**	**04 20 55.1**	**+1.2**
KUU	57nm,0.3s			*e*S	**Sg**	**04 21 37.2**	**-2.7**
KUU	**Kurty** 6.0nm,0.3s	**3.24**	**304**	Pg	**Pb**	**04 20 55.1**	**+1.2**
KUU	57nm,0.3s			Lg	Lg	04 21 37.2	
DGS	**Degeres** 10nm,0.5s	**3.35**	**290**	*e*P	**Pb**	**04 20 56.8**	**+1.0**
DGS	44nm,0.5s			*e*S	**Sg**	**04 21 40.6**	**-2.8**
DGS	**Degeres** 10nm,0.5s	**3.35**	**290**	Pg	**Pb**	**04 20 56.7**	**+1.0**
DGS	44nm,0.5s			Lg	Lg	04 21 40.6	
TKM2	**Tokmak 2** baz=86	**3.39**	**285**	⇓*i*P	**Pn**	**04 20 53.0**	**+3.4**
TKM2	baz=86			⇓*i*S	**Sn**	**04 21 31.9**	**+1.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TKM2	**Tokmak 2**	**3.39**	**285**	⇑Pg	**Pb**	**04 20 55.2**	**-1.3**
	8.2nm,0.5s						
TKM2				⇓Lg	Lg	04 21 47.3	
	22nm,0.5s						
KRBS	**Karabastau**	**3.58**	**297**	*e*P	**Pb**	**04 21 01.0**	**+1.4**
	7.5nm,0.3s						
KRBS				*e*S	**Sg**	**04 21 47.5**	**-3.2**
	54nm,0.4s						
KRBS	**Karabastau**	**3.58**	**297**	Pg	**Pb**	**04 21 01.0**	**+1.4**
	7.5nm,0.3s						
KRBS				Lg	Lg	04 21 47.4	
	54nm,0.4s						
KBK	**Karagaybulak**	**3.83**	**279**	⇓*i*P	**Pn**	**04 20 58.9**	**+3.4**
	baz=80						
KBK				⇓*i*S	**Sn**	**04 21 41.9**	**+1.0**
	baz=80						
CHMS	**Chumysh**	**4.02**	**284**	⇓*i*P	**Pn**	**04 21 01.7**	**+3.7**
	baz=85						
CHMS				⇓*i*S	**Sn**	**04 21 46.5**	**+1.1**
	baz=85						
FRU1	**Bishkek**	**4.08**	**281**	⇑*i*P	**Pn**	**04 21 02.7**	**+3.9**
	baz=82						
FRU1				⇑*i*S	**Sn**	**04 21 48.1**	**+1.2**
	baz=82						
UCH	**Uchtor**	**4.13**	**273**	⇓*i*P	**Pn**	**04 21 03.1**	**+3.2**
	baz=73						
UCH				⇓*i*S	**Sn**	**04 21 48.9**	**+0.2**
	baz=73						
AAK	**Ala-Archa**	**4.16**	**279**	⇓*i*P	**Pn**	**04 21 03.5**	**+3.5**
	baz=79						
AAK				⇓*i*S	**Sn**	**04 21 49.7**	**+0.7**
	baz=79						
AAK	**Ala-Archa**	**4.16**	**279**	⇓Pg	**Pg**	**04 21 14.3**	**-1.1**
	3.8nm,0.5s						
AAK				⇑Lg	Lg	04 22 06.3	
	10nm,0.7s						
SGDS	**Sogindy**	**4.21**	**290**	Pg	**Pb**	**04 21 13.3**	**+3.0**
	4.8nm,0.5s						
SGDS				Lg	Lg	04 22 08.6	
	19nm,0.7s						
USP	**Ospenovka**	**4.25**	**287**	⇓*i*P	**Pn**	**04 21 05.1**	**+3.9**
	baz=88						
USP				⇓*i*S	**Sn**	**04 21 52.8**	**+1.6**
	baz=88						
EKS2	**Erkin-Say**	**4.69**	**278**	⇑*i*P	**Pn**	**04 21 10.7**	**+3.4**
	baz=79						
EKS2				⇑*i*S	**Sn**	**04 22 02.4**	**+0.4**
	baz=79						
AML	**Almayashu**	**4.74**	**272**	⇓*i*P	**Pn**	**04 21 11.5**	**+3.3**
	baz=72						
AML				⇓*i*S	**Sn**	**04 22 03.7**	**0.0**
	baz=72						
MAKZ	**Makanchi**	**4.85**	**16**	⇓Pn	**Pn**	**04 21 10.7**	**+1.3**
	2.5nm,0.3s						
MAKZ				⇓Sn	**Sn**	**04 22 08.8**	**+2.9**
	4.4nm,0.5s						
MAKZ				⇑Lg	Lg	04 22 30.9	
	3.3nm,0.3s						
MK31	**Makanchi Array**	**4.91**	**18**	⇓Pn	**Pn**	**04 21 11.4**	**+1.2**
	1.2nm,0.3s,baz=199,slow=13,SNR=176						
MK31				⇓Sn	**Sn**	**04 22 09.4**	**+2.1**
	1.9nm,0.3s,baz=204,slow=24,SNR=14						
MK31				⇑Lg	Lg	04 22 31.3	
	11nm,0.6s						
MKAR	**Makanchi Array**	**4.91**	**18**	Pn	**Pn**	**04 21 11.3**	**+1.1**
	2.8nm,0.3s,baz=193,slow=12,SNR=123						
MKAR				Sn	**Sn**	**04 22 08.5**	**+1.2**
	3.9nm,0.3s,baz=197,slow=20,SNR=3.2						
MKAR				Lg	Lg	04 22 28.6	
	3.2nm,0.3s,baz=196,slow=29,SNR=4.3						
BTLS	**Baital**	**5.24**	**305**	*e*P	**Pb**	**04 21 32.4**	**+4.5**
	2.6nm,0.4s						
BTLS				*e*S	**Sg**	**04 22 42.0**	**-2.1**
	2.5nm,0.4s						
BTLS	**Baital**	**5.24**	**305**	Pg	**Pb**	**04 21 32.4**	**+4.5**
	2.6nm,0.4s						
BTLS				Lg	Lg	04 22 42.0	
	2.5nm,0.4s						
ARSB	**Arslanbob**	**5.37**	**263**	⇓*i*P	**Pn**	**04 21 19.9**	**+3.3**
	baz=63						
ARSB				⇓*i*S	**Sn**	**04 22 18.7**	**-0.1**
	baz=63						
SFK	**Sufi-Kurgan**	**5.40**	**249**	⇓*i*P	**Pn**	**04 21 20.5**	**+3.3**
	baz=48						
SFK				⇓*i*S	**Sn**	**04 22 19.9**	**+0.1**
	baz=48						
ZSN	**Zaisan**	**6.30**	**31**	Pg	**Pb**	**04 21 49.8**	**+3.9**
	3.7nm,0.5s						
ZSN				Lg	Lg	04 23 12.2	
	12nm,0.6s						
KK31	**Karatay Array**	**7.11**	**281**	⇓Pg	**Pg**	**04 22 10.9**	**-1.1**
	1.4nm,0.6s,baz=96,slow=18,SNR=10.0						
KK31				⇓Lg	Lg	04 23 41.3	
	3.8nm,0.6s						
KURBB	**Kurchatov Arra**	**8.54**	**353**	⇑Lg	Lg	04 24 24.3	
	16nm,0.7s						
ZALV	**Zalesovo Beam**	**12.22**	**13**	Pn	**Pn**	**04 22 50.8**	**+0.5**
	0.2nm,0.3s,baz=194,slow=13,SNR=2.6						
ZALV				Sn	**Sn**	**04 25 03.0**	**-3.8**
	0.1nm,0.3s,baz=195,slow=22,SNR=2.6						
ZALV				Lg	Lg	04 26 15.9	
	0.4nm,0.3s,baz=181,slow=24,SNR=3.0						
SONM	**Songino Array**	**19.42**	**64**	P	**P**	**04 24 21.1**	**-1.8**
	0.1nm,0.3s,baz=269,slow=12,SNR=2.5						
YKA	**Yellowknife Ar**	**75.04**	**7**	P	**P**	**04 31 36.2**	**-1.6**
	0.1nm,0.5s,baz=350,slow=5.3,SNR=2.0						

*IDC **09** 04:32:56.2±1.6, 39°.33N×136°.65E, h374km±19km, mb2.6/4, mb1 2.8/6, mb1mx2.6/40, mbtmp3.3/6, Error ellipse: s-maj=32.3km s-min=18.0km az=63.0*
*JMA **09** 04:32:57.8±0.5, 38°.88N×136°.15E, h367km, M3.5*
ISC 09 04:32:56.6±0.9**, 39°.11N**±0°.10×**136°.14E**±0°.09**, h367**km**, n12,** σ**1s.94**/15**, mb2.8**/4**, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**1.98**	**122**	P	**Pn**	**04 33 49.7**	**+0.4**
MJAR	**Matsushiro Arr**	**3.04**	**147**	P	**Pn**	**04 33 57.5**	**-0.3**
	0.2nm,0.3s,baz=318,slow=11,SNR=7.5						
JRG	**Rokugo**	**3.50**	**84**	P	**Pn**	**04 34 03.4**	**+1.7**
JRG				*e*S	**S**	**04 34 55.2**	**+0.9**
JMM	**Marumori**	**3.86**	**107**	P	**Pn**	**04 34 06.5**	**+1.3**
JMK	**Ichinoseki**	**3.96**	**91**	P	**Pn**	**04 34 07.7**	**+1.6**
JFK	**Kawauchi**	**4.12**	**114**	P	**Pn**	**04 34 08.0**	**+0.2**
JFK				S	**S**	**04 35 03.3**	**-2.1**
JCH	**Churui**	**6.49**	**55**	P	**P**	**04 34 35.7**	**+2.3**
JCH				*e*S	**S**	**04 35 49.6**	**-2.7**
KLR	**Kul'dur**	**10.59**	**344**	P	**Pn**	**04 35 21.4**	**+0.1**
	0.2nm,0.3s,baz=170,slow=9.4,SNR=5.9						
SONM	**Songino Array**	**23.16**	**302**	P	**P**	**04 37 33.4**	**+1.3**
	1.9nm,0.6s,baz=106,slow=9.2,SNR=18						
MKAR	**Makanchi Array**	**39.48**	**299**	P	**P**	**04 39 52.9**	**0.0**
	0.2nm,0.7s,baz=85,slow=9.0,SNR=1.8						
WRA	**Warramunga Arr**	**58.77**	**182**	P	**P**	**04 42 18.4**	**+0.9**
	0.5nm,0.9s,baz=358,slow=7.3,SNR=7.7						
YKA	**Yellowknife Ar**	**64.06**	**29**	P	**P**	**04 42 47.8**	**-4.2**
	0.1nm,0.5s,baz=306,slow=5.7,SNR=2.1						

*AEIC **09** 04:34:28.7±5.3, 55°.1N±0°.3×162°.2W±0°.2, h144km±5km, Error ellipse: s-maj=42.0km s-min=6.5km az=159.0*
NEIC 09 04:34:27.2±1.3**, 55°.5N**±0°.3×**162°.3W**±0°.2**, h161**km±11km**, ML3.5**/9**, ML2.8**/22(AEIC)**, Error ellipse: s-maj=46.0km s-min=5.1km az=160.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PN7A	**Pavlof North-7**	**0.20**	**113**		Pn	04 34 49.5	+0.6
PN6	**Pavlof North-6**	**0.24**	**104**		Pn	04 34 49.7	+0.8
PN6					Sn	04 35 04.4	-1.1
PS4A	**Pavlof South-4**	**0.32**	**122**		Pn	04 34 49.4	+0.3
PVV	**Pavlof Volcano**	**0.34**	**114**		Pn	04 34 49.3	+0.2
DT1	**Dutton Round H**	**0.41**	**176**		Pn	04 34 49.1	-0.3
FALS	**False Pass**	**0.91**	**224**		Pn	04 34 51.9	-0.4
FALS	**False Pass**	**0.91**	**224**		Sn	04 35 10.4	-1.0
SDPT	**Sand Point**	**1.07**	**98**		Pn	04 34 53.3	-0.2
SDPT					Sn	04 35 12.8	-0.8
SDPT				IAML		04 35 13.4	
	comp=E,968nm,1.0s						
SDPT				IAML		04 35 13.5	
	comp=N,532nm,0.4s						
SSLN	**Shishaldin Nor**	**1.19**	**234**		Pn	04 34 54.8	+0.1
SSBA	**Shishaldin**	**1.27**	**235**		Pn	04 34 55.2	-0.3
SSBA					Sn	04 35 16.0	-1.0
CNBA	**Chernabura Isl**	**1.72**	**113**		Pn	04 34 59.0	-0.8
WECS	**Westdahl Cape**	**1.72**	**236**		Pn	04 35 00.5	+0.5
CHGN	**Chignik**	**2.34**	**69**		Pn	04 35 07.5	+0.7
CHGN				IAML		04 35 43.4	
	comp=E,203nm,0.1s						
CHGN				IAML		04 36 14.6	
	comp=N,94nm,0.1s						
AKUT	**Akutan**	**2.42**	**237**		Pn	04 35 07.8	0.0
AKUT					Sn	04 35 38.0	-1.3
AKUT				IAML		04 36 47.7	
	comp=N,102nm,3.9s						
AKLV	**Akutan Long Va**	**2.50**	**239**		Pn	04 35 09.0	+0.2
MNAT	**Makushin Natee**	**3.01**	**239**		Pn	04 35 15.0	-0.1
MNAT					Sn	04 35 50.4	-1.8
MSW	**Makushin Switc**	**3.04**	**240**		Pn	04 35 15.3	-0.2
MREP	**Makushin Rep't**	**3.08**	**238**		Pn	04 35 16.3	+0.2
SII	**Sitkinak Islan**	**4.69**	**74**	Pn	Pn	04 35 36.9	+0.3
OHAK	**Old Harbor**	**5.31**	**67**	Pn	Pn	04 35 44.3	-0.4
KDAK	**Kodiak Island**	**5.84**	**63**	Pn	Pn	04 35 51.1	-0.6
CNPM	**China Poot**	**7.20**	**51**	Pn	Pn	04 36 09.8	0.0
SEW	**Seward**	**8.27**	**51**	Pn	Pn	04 36 23.3	-0.6
O22K	**Cooper Landing**	**8.34**	**48**	Pn	Pn	04 36 26.1	+1.3
GHO	**Glory Hole Cre**	**9.38**	**43**	Pn	Pn	04 36 38.7	0.0
HIN	**Hinchinbrook I**	**9.72**	**53**	Pn	Pn	04 36 42.3	-0.9
SCM	**Sheep Creek Mo**	**10.04**	**45**	Pn	Pn	04 36 47.0	-0.4
KLU	**Klutina**	**10.45**	**48**	Pn	Pn	04 36 52.0	-0.8
RAGM	**Ragged Mountai**	**10.56**	**55**	Pn	Pn	04 36 54.2	0.0
M24K	**Tolsona, Glenn**	**10.65**	**45**	Pn	Pn	04 36 55.3	-0.1
HMT	**Hamilton**	**10.74**	**56**	Pn	Pn	04 36 57.0	+0.5
N25K	**Chitina, Valde**	**11.07**	**49**	Pn	Pn	04 37 00.8	-0.1
CRQM	**Cirque**	**11.40**	**55**	Pn	Pn	04 37 05.7	+0.3
MCARA	**McCarthy VSAT**	**11.67**	**52**	Pn	Pn	04 37 09.3	+0.6
TABL	**Table Mountain**	**12.25**	**58**	Pn	Pn	04 37 17.5	+1.1
PCA	**Pinnacle**	**12.60**	**60**	P	P	04 37 24.1	-1.8
DAWY	**Dawson**	**14.30**	**44**	P	P	04 37 43.6	-1.0

IDC 09 04:50:58.8±3.6**, 2°.88S**×**136°.65E, h0**km**, mb3.6**/2**, mb1 3.9**/4**, mb1mx3.6**/23**, mbtmp3.7**/4**, ML3.8**/2**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx2.9**/31**, Error ellipse: s-maj=126.2km s-min=30.5km az=86.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.74**	**290**	Pn	Pn	04 52 20.2	-5.2
	0.8nm,0.3s,baz=266,slow=22,SNR=1.3						
SIJI				Sn	Sn	04 53 20.9	-11
	0.3nm,0.3s,baz=221,slow=23,SNR=1.1						
WRA	**Warramunga Arr**	**17.11**	**187**	P	Pn	04 54 57.6	-1.9
	0.4nm,0.3s,baz=12,slow=13,SNR=16						
WRA				S	Sn	04 58 01.9	-8.6
	0.2nm,0.3s,baz=4.4,slow=23,SNR=5.8						
FITZ	**Fitzroy Crossi**	**18.58**	**215**	P	P	04 55 17.1	-0.5
	0.2nm,0.3s,baz=45,slow=13,SNR=8.1						
FITZ				S	Sn	04 58 31.5	-15
	0.2nm,0.3s,baz=232,slow=19,SNR=1.9						
ASAR	**Alice Springs**	**20.83**	**187**	P	P	04 55 43.4	+1.1
	3.6nm,0.6s,baz=11,slow=11,SNR=51						
ASAR				S	S	04 59 29.3	-6.3
	0.6nm,0.8s,baz=4.1,slow=27,SNR=2.5						
STKA	**Stephens Creek**	**29.21**	**171**	LR	LR	05 09 28.0	
	comp=Z,213nm,21.0s,baz=268,slow=38						
MKAR	**Makanchi Array**	**68.68**	**323**	P	P	05 02 04.2	-0.1
	0.2nm,0.5s,baz=124,slow=7.3,SNR=2.7						

*IDC **09** 04:55:22.9±0.8, 55°.65S×26°.84W, h0km, mb4.3/8, mb1 4.3/9, mb1mx4.1/24, mbtmp4.2/9, ML3.4/1, Error ellipse: s-maj=31.4km s-min=17.9km az=66.0*
*NEIC **09** 04:55:29.1±1.4, 55°.8S±0°.1×26°.9W±0°.2, h38km±7km, mb4.6/18, Error ellipse: s-maj=21.8km s-min=16.2km az=214.0*
ISC 09 04:55:26.9±0.7**, 55°.7S**±0°.1×**27°.0W**±0°.1**, h25**km**, n42,** σ**1s.07**/38**, mb4.5**/12**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.66**	**280**	Pn	**Pn**	**04 56 49.4**	**+0.1**
VNA1	**Neumayer--Stat**	**17.10**	**159**	P	**Pn**	**04 59 25.5**	**+1.7**
VNA3	**Neumayer Olymp**	**17.30**	**161**	P	**Pn**	**04 59 28.3**	**+1.9**
VNA2	**Neumayer--Watz**	**17.49**	**159**	P	**Pn**	**04 59 29.8**	**+1.1**
	baz=322,slow=14						
SNAA	**Sanae**	**19.03**	**157**	P	**P**	**04 59 46.3**	**-0.5**
SNAA	**Sanae**	**19.03**	**157**	P	**P**	**04 59 46.0**	**-0.8**
	0.1nm,0.3s,baz=303,slow=14,SNR=7.4						
SNAA	**Sanae**	**19.03**	**157**	P	**P**	**04 59 45.9**	**-0.9**
PMSA	**Palmer Station**	**20.25**	**228**	P	**P**	**05 00 00.9**	**+1.0**
	9.4nm,0.7s,baz=119,slow=3.3,SNR=4.1						
PMSA	**Palmer Station**	**20.25**	**228**	P	**P**	**05 00 01.1**	**+1.2**
PMSA				IAmb	IAmb	05 00 18.0	
	comp=Z,50nm,1.4s						
BELA	**Belgrano 2**	**22.46**	**184**	P	**P**	**05 00 21.2**	**-2.5**
QSPA	**South Pole Qui**	**34.58**	**180**	P	**P**	**05 02 12.3**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=35,slow=1.6,SNR=22						
QSPA	**South Pole Qui**	**34.58**	**180**	P	**P**	**05 02 12.9**	**-0.5**
CPUP	**Villa Florida**	**36.66**	**311**	P	**P**	**05 02 30.2**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=154,slow=6.8,SNR=5.4						
CPUP	**Villa Florida**	**36.66**	**311**	P	**P**	**05 02 31.7**	**+0.3**
CPUP				IAmb	IAmb	05 02 32.4	
	comp=Z,9.2nm,1.4s						
MT02	**Curacav**	**37.80**	**288**	P	**P**	**05 02 40.2**	**-0.8**
CO01	**Juntas del Tor**	**39.79**	**292**	P	**P**	**05 02 59.0**	**+1.0**
CO01				IAmb	IAmb	05 03 07.5	
	comp=Z,9.9nm,1.3s						
AC05	**El Transito**	**40.80**	**293**	P	**P**	**05 03 06.4**	**+0.2**
AC05				IAmb	IAmb	05 03 08.2	
	comp=Z,8.1nm,1.0s						
AC02	**Maricunga**	**41.83**	**296**	P	**P**	**05 03 16.2**	**+1.1**
GO02	**Mina Guanaco**	**43.44**	**297**	P	**P**	**05 03 28.6**	**+0.6**
LVC	**Limon Verde**	**45.23**	**300**	P	**P**	**05 03 43.5**	**+1.1**
	comp=Z,4.1nm,0.5s,baz=128,slow=2.1,SNR=9.0						
LVC	**Limon Verde**	**45.23**	**300**	P	**P**	**05 03 43.7**	**+1.3**
LVC				IAmb	IAmb	05 03 55.2	
	comp=Z,7.9nm,1.2s						
PB09	**IPOC Station P**	**46.08**	**300**	P	**P**	**05 03 50.2**	**+1.4**
PB09				IAmb	IAmb	05 04 06.0	
	comp=Z,9.1nm,1.2s						
PB07	**IPOC Station P**	**46.45**	**299**	P	**P**	**05 03 52.0**	**+0.2**
PB01	**IPOC Station P**	**46.83**	**300**	P	**P**	**05 03 55.7**	**+1.0**
PB01				IAmb	IAmb	05 03 56.0	
	comp=Z,4.9nm,0.7s						
VNDA	**Vanda**	**46.96**	**183**	P	**P**	**05 03 55.6**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=180,slow=8.5,SNR=9.0						
VNDA	**Vanda**	**46.96**	**183**	P	**P**	**05 03 55.6**	**+0.7**
VNDA				IAmb	IAmb	05 04 06.7	
	comp=Z,9.6nm,1.2s						
PB08	**IPOC Station P**	**47.44**	**301**	P	**P**	**05 04 00.9**	**+1.2**
PB08				IAmb	IAmb	05 04 15.4	
	comp=Z,12nm,1.4s						
H10S2	**ASCENSION HYDR**	**47.60**	**17**	T	T	05 55 24.2	
	baz=189,slow=74,SNR=12						
H10S3	**ASCENSION HYDR**	**47.60**	**17**	T	T	05 55 26.6	
	baz=31,slow=74,SNR=17						
MNMC	**Minye Minye**	**48.51**	**301**	P	**P**	**05 04 09.0**	**+1.1**
H10N1	**ASCENSION HYDR**	**48.72**	**17**	T	T	05 56 48.0	
	baz=189,slow=75,SNR=12						
H10N3	**ASCENSION HYDR**	**48.72**	**17**	T	T	05 56 50.0	
	baz=189,slow=75,SNR=18						
H10N2	**ASCENSION HYDR**	**48.74**	**17**	T	T	05 56 50.2	
	baz=189,slow=75,SNR=14						
LPAZ	**La Paz**	**50.27**	**305**	P	**P**	**05 04 22.6**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=112,slow=4.9,SNR=11						
LPAZ	**La Paz**	**50.27**	**305**	P	**P**	**05 04 22.9**	**+1.1**
ROSC	**El Rosal**	**71.74**	**309**	P	**P**	**05 06 45.8**	**-1.5**
	comp=Z,5.3nm,0.4s,baz=143,slow=20,SNR=2.1						
TORD	**Torodi Ar. Bea**	**72.66**	**29**	P	**P**	**05 06 53.3**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=203,slow=6.5,SNR=2.0						
YKA	**Yellowknife Ar**	**135.98**	**318**	PKP	**PKPdf**	**05 14 44.0**	**0.0**
	comp=Z,0.2nm,0.4s,baz=117,slow=3.1,SNR=5.3						
YKA				SKPbc	**SKPbc**	**05 18 13.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=108,slow=2.3,SNR=4.1						
ILAR	**Eielson Array**	**149.96**	**312**	PKPbc	**PKPbc**	**05 15 13.2**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=125,slow=1.6,SNR=13						
ILAR	**Eielson Array**	**149.96**	**312**		**PKPbc**	**05 15 13.0**	**-0.5**
SONM	**Songino Array**	**150.57**	**86**	PKPbc	**PKPbc**	**05 15 15.3**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=224,slow=2.7,SNR=9.9						
SONM	**Songino Array**	**150.57**	**86**		**PKPbc**	**05 15 15.1**	**-0.5**

*NEIC **09** 05:03:08.7±0.4, 3°.6N±0°.1×124°.4E±0°.2, h10km±2km, mb4.1/7, Error ellipse: s-maj=36.5km s-min=15.7km az=67.0*
*IDC **09** 05:03:36.5±10.0, 3°.48N×124°.58E, h284km±117km, mb3.2/6, mb1 3.4/6, mb1mx3.1/34, mbtmp3.9/6, Error ellipse: s-maj=87.1km s-min=18.0km az=63.0*
ISC 09 05:03:38.1±0.9**, 3°.4N**±0°.2×**124°.4E**±0°.5**, h300**km**, n15,** σ**0s.60**/15**, mb4.0**/9**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.40**	**177**	P	**P**	**05 08 03.3**	**+0.5**
	4.2nm,0.4s,baz=354,slow=8.0,SNR=53						
FITZ	**Fitzroy Crossi**	**21.40**	**177**	P	**P**	**05 08 01.3**	**-1.5**
FITZ				IAmb	IAmb	05 08 04.8	
	comp=Z,4.1nm,0.7s						
WB0	**Warramunga Arr**	**25.02**	**157**	P	**P**	**05 08 35.1**	**-0.5**
WB0				IAmb	IAmb	05 08 37.8	
	comp=Z,9.7nm,1.4s						
WRA	**Warramunga Arr**	**25.16**	**158**	P	**P**	**05 08 36.5**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=334,slow=11,SNR=73						
WB2	**Warramunga Arr**	**25.17**	**158**	P	**P**	**05 08 36.3**	**-0.6**
WB2				IAmb	IAmb	05 08 37.3	
	comp=Z,7.4nm,1.1s						
WR0	**Warramunga Arr**	**25.26**	**157**	P	**P**	**05 08 37.6**	**-0.1**
WR0				IAmb	IAmb	05 08 59.0	
	comp=Z,9.6nm,1.4s						
ASAR	**Alice Springs**	**28.45**	**162**	P	**P**	**05 09 06.0**	**0.0**
	comp=Z,0.5nm,0.5s,baz=342,slow=7.4,SNR=8.8						
BBOO	**Buckleboo**	**37.67**	**164**	P	**P**	**05 10 25.6**	**+0.4**
STKA	**Stephens Creek**	**38.70**	**156**	P	**P**	**05 10 33.6**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=321,slow=9.2,SNR=5.9						
STKA	**Stephens Creek**	**38.70**	**156**	P	**P**	**05 10 34.6**	**+0.9**
STKA				IAmb	IAmb	05 10 35.4	
	comp=Z,0.6nm,1.0s						
SONM	**Songino Array**	**46.91**	**343**	P	**P**	**05 11 39.1**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=147,slow=8.4,SNR=1.7						
MK31	**Makanchi Array**	**56.53**	**326**	P	**P**	**05 12 50.0**	**+0.3**
MKAR	**Makanchi Array**	**56.53**	**326**	P	**P**	**05 12 49.7**	**0.0**
	comp=Z,0.5nm,0.3s,baz=119,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**56.53**	**326**	P	**P**	**05 12 49.8**	**+0.1**
TXAR	**Lajitas Array**	**123.60**	**51**	PKP	**PKPdf**	**05 22 00.7**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=255,slow=3.5,SNR=1.5						

IDC 09 05:24:39.9±4.6**, 29°.85S**×**178°.15W, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/33**, mbtmp3.6**/3**, Error ellipse: s-maj=184.4km s-min=72.1km az=159.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.48**	**256**	P	P	05 31 29.1	-0.5
	0.4nm,0.4s,baz=105,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**43.01**	**266**	P	P	05 32 41.3	-0.1
	0.3nm,0.3s,baz=104,slow=7.7,SNR=2.3						
WRA	**Warramunga Arr**	**43.95**	**272**	P	P	05 32 49.2	+0.2
	0.3nm,0.4s,baz=112,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**144.59**	**340**	PKP	PKPbc	05 44 16.9	+0.5
	1.9nm,0.9s,baz=54,slow=3.3,SNR=3.8						

NNC 09 05:28:51.7±7.3**, 36°.37N**×**68°.37E, h13**km±57km**, mb3.6, mpv3.4, 4C-3D, Error ellipse: s-maj=65.0km s-min=48.0km az=24.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.92**	**13**	⇓Pn	Pn	05 30 34.8	+1.9
	0.2nm,0.3s,baz=196,slow=11,SNR=5.4						
KK31				⇑Sn	Sn	05 31 53.9	+2.4
	1.3nm,0.8s,baz=199,slow=22						
KK31				⇓Lg	Lg	05 32 30.1	
	1.3nm,0.6s,baz=196,slow=26,SNR=5.1						
AAK	**Ala-Archa**	**7.84**	**35**	⇑Pn	Pn	05 30 45.1	-0.6
	2.8nm,0.6s						
AAK				⇓Sn	Sn	05 32 14.7	+0.4
	1.3nm,0.7s						
TKM2	**Tokmak 2**	**8.59**	**38**	⇑Pn	Pn	05 30 54.6	-1.3
	1.3nm,0.6s						
TKM2				⇑Sn	Sn	05 32 32.3	-0.5
	0.9nm,0.6s						

*NEIC **09** 05:59:44.8±1.5, 22°.0S±0°.1×179°.5W±0°.1, h597km±6km, mb4.7/55, Error ellipse: s-maj=15.7km s-min=14.8km az=193.0*
*IDC **09** 05:59:45.7±0.7, 21°.95S×179°.59W, h596km±6km, mb3.8/18, mb1 4.0/20, mb1mx3.9/33, mbtmp4.8/20, Error ellipse: s-maj=14.5km s-min=8.8km az=165.0*
*BGR **09** 05:59:46.2±0.0, 21°.86S×179°.58W, h600km*
ISC 09 05:59:44.4±0.3**, 22°.06S**±0°.06×**179°.44W**±0°.06**, h592**km**, n243,** σ**1s.20**/281**, mb4.7**/65**, 22C-10D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.91**	**331**	P	**P**	**06 01 16.8**	**+0.5**
	183nm,0.3s,baz=182,slow=5.4,SNR=333						
MSVF				S	**S**	**06 02 31.5**	**+0.4**
	baz=313,slow=23,SNR=0.6						
RAO	**Raoul Island**	**7.29**	**169**	P	**P**	**06 01 36.1**	**-0.5**
AFI	**Afiamalu**	**10.90**	**43**	S	**S**	**06 04 05.8**	**-7.8**
	2.8nm,0.3s,baz=31,slow=21,SNR=2.1						
DZM	**Mont Dzumac**	**13.09**	**267**	P	**P**	**06 02 34.0**	**-0.4**
	1.6nm,0.3s,baz=265,slow=23,SNR=12						
DZM	**Mont Dzumac**	**13.09**	**267**	*e*P	**P**	**06 02 33.4**	**-0.9**
	1.4nm,0.3s						
URZ	**Urewera**	**16.41**	**190**	P	**P**	**06 03 02.7**	**-2.9**
	2.3nm,0.3s,baz=277,slow=3.2,SNR=12						
URZ				S	**S**	**06 05 43.5**	**-6.1**
	0.8nm,0.3s,baz=349,slow=20,SNR=1.7						
URZ	**Urewera**	**16.41**	**190**	P	**P**	**06 03 04.5**	**-1.2**
URZ				IAmb	IAmb	06 03 07.2	
	comp=Z,24nm,1.2s						
EIDS	**Eidsvold**	**27.16**	**257**	P	**P**	**06 04 42.6**	**+0.5**
EIDS				IAmb	IAmb	06 04 43.4	
	comp=Z,11nm,0.7s						
ARMA	**Armidale**	**27.19**	**246**	P	**P**	**06 04 44.0**	**+1.6**
ARMA				IAmb	IAmb	06 04 44.9	
	comp=Z,16nm,0.8s						
TBI	**Tubuai**	**27.67**	**98**	*e*P	**P**	**06 04 48.0**	**+1.5**
	comp=Z,238nm,1.2s						
PPT2	**Papeete2**	**28.42**	**86**	*e*P	**P**	**06 04 54.6**	**+1.4**
	comp=Z,44nm,1.2s						
PPT	**Papeete**	**28.43**	**86**	P	**P**	**06 04 53.5**	**+0.3**
	comp=Z,29nm,0.7s,baz=342,slow=7.8,SNR=5.9						
MEH	**Mehetia**	**29.75**	**88**	*e*P	**P**	**06 05 05.9**	**+1.3**
	comp=Z,19nm,1.1s						
CAN	**Canberra**	**30.53**	**237**	P	**P**	**06 05 12.4**	**+1.3**
CAN				IAmb	IAmb	06 05 13.4	
	comp=Z,18nm,1.0s						
VAH	**Vaihoa**	**30.86**	**83**	*e*P	**P**	**06 05 14.8**	**+0.8**
	comp=Z,62nm,1.0s						
CTA	**Charters Tower**	**32.03**	**267**	P	**P**	**06 05 24.4**	**+0.3**
	comp=Z,22nm,0.5s,baz=94,slow=11,SNR=39						
CTA				PcP	**PcP**	**06 07 56.0**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=157,slow=2.7,SNR=2.3						
CTAO	**Charters Tower**	**32.03**	**267**	P	**P**	**06 05 24.3**	**+0.2**
TOO	**Toolangi**	**33.90**	**235**	P	**P**	**06 05 40.9**	**+1.4**
TOO				IAmb	IAmb	06 05 41.4	
	comp=Z,14nm,0.7s						
PMG	**Port Moresby**	**34.43**	**286**	P	**P**	**06 05 43.9**	**-0.3**
	comp=Z,61nm,0.9s,baz=68,slow=5.7,SNR=9.1						
PMG	**Port Moresby**	**34.43**	**286**	P	**P**	**06 05 43.9**	**-0.3**
STKA	**Stephens Creek**	**35.91**	**246**	P	**P**	**06 05 57.2**	**+0.9**
	comp=Z,12nm,0.5s,baz=91,slow=10,SNR=34						
STKA				ScP	**ScP**	**06 10 59.6**	**+2.4**
	comp=Z,2.8nm,0.8s,baz=111,slow=8.6,SNR=4.0						
STKA	**Stephens Creek**	**35.91**	**246**	P	**P**	**06 05 56.9**	**+0.6**
COEN	**Coen**	**36.38**	**276**	P	**P**	**06 06 00.6**	**+0.3**
COEN				IAmb	IAmb	06 06 01.9	
	comp=Z,18nm,0.8s						
BBOO	**Buckleboo**	**40.66**	**245**	P	**P**	**06 06 34.7**	**0.0**
BBOO				IAmb	IAmb	06 06 35.1	
	comp=Z,20nm,0.8s						
AS31	**Alice Springs**	**42.87**	**259**	P	**P**	**06 06 52.0**	**-0.2**
ASAR	**Alice Springs**	**42.87**	**259**	P	**P**	**06 06 52.2**	**0.0**
	comp=Z,34nm,0.8s,baz=91,slow=8.2,SNR=282						
ASAR				PcP	**PcP**	**06 08 29.7**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=102,slow=4.0,SNR=7.2						
ASAR				ScP	**ScP**	**06 11 26.7**	**+2.0**
	comp=Z,1.8nm,0.9s,baz=106,slow=4.4,SNR=5.3						
ASAR				S	**S**	**06 12 33.2**	**-1.9**
	comp=Z,3.2nm,1.0s,baz=94,slow=16,SNR=13						
ASAR	**Alice Springs**	**42.87**	**259**	P	**P**	**06 06 51.9**	**-0.2**
ASAR				PcP	**PcP**	**06 08 28.6**	**-0.8**
WR0	**Warramunga Arr**	**42.89**	**264**	P	**P**	**06 06 51.5**	**-0.8**
WR0				IAmb	IAmb	06 06 52.6	
	comp=Z,14nm,0.9s						
WB0	**Warramunga Arr**	**43.06**	**264**	P	**P**	**06 06 52.3**	**-1.4**
WB0				IAmb	IAmb	06 06 53.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,34nm,0.8s						
WB2	**Warramunga Arr**	**43.07**	**264**	P	**P**	**06 06 52.9**	**-0.8**
WRAB	**Tennant Creek**	**43.07**	**264**	P	**P**	**06 06 53.0**	**-0.8**
WRAB				IAmb	IAmb	06 06 54.0	
	comp=Z,39nm,0.9s						
WRA	**Warramunga Arr**	**43.08**	**264**	P	**P**	**06 06 52.9**	**-0.9**
	comp=Z,25nm,0.8s,baz=100,slow=6.9,SNR=108						
WRA				PcP	**PcP**	**06 08 30.4**	**+0.4**
	comp=Z,3.7nm,1.1s,baz=90,slow=5.0,SNR=3.8						
WRA				ScP	**ScP**	**06 11 27.8**	**+2.3**
	comp=Z,4.3nm,1.0s,baz=95,slow=4.4,SNR=9.2						
WRA				S	**S**	**06 12 35.4**	**-2.7**
	comp=Z,1.5nm,1.0s,baz=119,slow=14,SNR=4.7						
JAY	**Jayapura**	**43.30**	**291**	P	**P**	**06 06 54.6**	**-1.0**
FORT	**Forrest**	**47.45**	**248**	P	**P**	**06 07 26.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**51.51**	**264**	P	**P**	**06 07 57.1**	**+0.3**
FITZ				IAmb	IAmb	06 07 58.0	
	comp=Z,44nm,1.3s						
SWI	**Sorong**	**52.38**	**287**	P	**P**	**06 08 01.8**	**-1.3**
	comp=Z,2µmcomp=Z,247nm,0.8s						
SOEI	**Soe**	**55.23**	**273**	P	**P**	**06 08 22.7**	**-0.6**
SOEI	**Soe**	**55.23**	**273**	P	**P**	**06 08 21.6**	**-1.7**
	comp=Z,1µmcomp=Z,150nm,1.1s						
PSA00	**Pilbara Seismi**	**56.02**	**258**	P	**P**	**06 08 28.2**	**-0.4**
PSA00				IAmb	IAmb	06 08 29.0	
	comp=Z,39nm,1.0s						
VNDA	**Vanda**	**56.24**	**185**	P	**P**	**06 08 29.4**	**+0.3**
MORW	**Morawa**	**58.00**	**249**	P	**P**	**06 08 41.8**	**-0.1**
LUWI	**Luwuk**	**59.92**	**282**	P	**P**	**06 08 54.8**	**-0.1**
LUWI				IAmb	IAmb	06 08 56.0	
	comp=Z,79nm,1.1s						
TOLI2	**Tolitoli**	**62.63**	**283**	P	**P**	**06 09 12.1**	**-0.5**
TOLI2				IAmb	IAmb	06 09 12.9	
	comp=Z,25nm,1.0s						
QSPA	**South Pole Qui**	**68.01**	**180**	P	**P**	**06 09 47.0**	**+1.6**
UGM	**Wanagama**	**68.60**	**270**	P	**P**	**06 09 49.5**	**-0.3**
KKM	**Kota Kinabalu**	**68.88**	**286**	P	**P**	**06 09 51.4**	**-0.1**
KKM				IAmb	IAmb	06 09 52.4	
	comp=Z,20nm,0.7s						
MJAR	**Matsushiro Arr**	**70.69**	**325**	P	**P**	**06 10 01.2**	**-0.5**
	comp=Z,8.7nm,0.6s,baz=157,slow=5.7,SNR=17						
MJAR	**Matsushiro Arr**	**70.69**	**325**	P	**P**	**06 10 00.6**	**-1.1**
MAJO	**Matsushiro**	**70.69**	**325**	P	**P**	**06 10 00.6**	**-1.0**
MAJO				IAmb	IAmb	06 10 02.3	
	comp=Z,14nm,0.9s						
MAT	**Matsushiro**	**70.69**	**325**	P	**P**	**06 10 01.1**	**-0.6**
SBUM	**Sibu**	**70.96**	**281**	P	**P**	**06 10 04.0**	**+0.3**
JWT	**Wachi**	**71.31**	**322**	P	**P**	**06 10 06.1**	**+0.8**
JWT				IAmb	IAmb	06 10 10.3	
	comp=Z,20nm,1.1s						
JSD	**Sado**	**71.78**	**326**	P	**P**	**06 10 07.7**	**-0.3**
JSD				IAmb	IAmb	06 10 09.8	
	comp=Z,17nm,0.7s						
KSM	**Kuching**	**72.31**	**279**	P	**P**	**06 10 09.0**	**-2.6**
KSM	**Kuching**	**72.31**	**279**	P	**P**	**06 10 12.0**	**+0.4**
JHS	**Saijyo**	**72.43**	**321**	P	**P**	**06 10 11.8**	**0.0**
YULB	**Yu-li**	**73.25**	**304**	P	**P**	**06 10 15.1**	**-1.7**
YULB				IAmb	IAmb	06 10 35.4	
	comp=Z,28nm,1.2s						
NACB	**Ninganchiao**	**73.46**	**305**	P	**P**	**06 10 17.3**	**-0.6**
ADK	**Adak**	**73.67**	**2**	P	**P**	**06 10 18.2**	**-0.2**
TPUB	**Ta-pu**	**73.71**	**304**	P	**P**	**06 10 18.6**	**-0.8**
SSLB	**Suanglung**	**73.73**	**305**	P	**P**	**06 10 18.1**	**-1.4**
KSRS	**Korea Array**	**77.18**	**320**	P	**P**	**06 10 38.8**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=134,slow=5.8,SNR=5.9						
PEA0B	**Petropavlovsk-**	**77.44**	**346**	P	**P**	**06 10 39.5**	**+0.2**
PETK	**Petropavlovsk-**	**77.44**	**346**	P	**P**	**06 10 39.3**	**0.0**
	comp=Z,19nm,0.7s,baz=130,slow=6.7,SNR=19						
PETK	**Petropavlovsk-**	**77.44**	**346**	P	**P**	**06 10 39.7**	**+0.4**
BELA	**Belgrano 2**	**78.19**	**173**	P	**P**	**06 10 43.4**	**+0.3**
KGM	**Kluang**	**78.95**	**277**	P	**P**	**06 10 49.0**	**+0.7**
USRK	**Ussuriysk Ar.**	**79.51**	**327**	P	**P**	**06 10 51.4**	**+0.9**
	comp=Z,8.9nm,1.0s,baz=124,slow=3.7,SNR=13						
USRK	**Ussuriysk Ar.**	**79.51**	**327**	P	**P**	**06 10 50.4**	**-0.1**
PMSA	**Palmer Station**	**80.39**	**157**	P	**P**	**06 10 57.9**	**+3.1**
	baz=313,slow=18						
PMSA	**Palmer Station**	**80.39**	**157**	P	**P**	**06 10 58.1**	**+3.3**
PMSA				IAmb	IAmb	06 11 26.7	
	comp=Z,45nm,1.2s						
IPM	**Ipoh**	**82.01**	**278**	P	**P**	**06 11 05.0**	**+0.9**
WAKR	**Walker**	**82.40**	**43**	P	**P**	**06 11 06.9**	**+1.2**
PNTR	**Pine Nut**	**82.64**	**43**	P	**P**	**06 11 08.2**	**+1.2**
KULM	**Kulim**	**82.67**	**279**	P	**P**	**06 11 08.0**	**+0.6**
CN2	**Changchun**	**82.73**	**323**	*e*P	**P**	**06 11 06.2**	**-0.8**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
YERR	**Yerington**	**82.80**	**43**	P	**P**	**06 11 07.6**	**-0.2**
NVAR	**Mina Array Bea**	**83.08**	**44**	P	**P**	**06 11 10.3**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=226,slow=8.3,SNR=11						
NVAR				pP	**pwP**	**06 13 17.9**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=218,slow=8.0,SNR=3.7						
NVAR	**Mina Array Bea**	**83.08**	**44**	P	**P**	**06 11 08.6**	**-0.6**
RPSI	**Rantau Prapat**	**83.26**	**276**	P	**P**	**06 11 09.8**	**-0.6**
RPSI				IAmb	IAmb	06 11 10.8	
	comp=Z,13nm,0.9s						
TRTT	**Trang**	**84.53**	**281**	P	**P**	**06 11 17.9**	**+1.2**
	comp=Z,19nm,1.1s						
319A	**Douglas**	**85.65**	**54**	P	**P**	**06 11 22.1**	**+0.3**
BJI	**Beijing**	**86.07**	**316**	P	**P**	**06 11 24.4**	**+1.1**
BJI				PP	**PP**	**06 14 56.0**	**+0.7**
BJI				pmax	pmax		
	comp=Z,13nm,0.8s						
BJI				pmax	pmax		
	comp=Z,100nm,3.8s						
GYA	**Guiyang**	**86.26**	**300**	*e*P	**P**	**06 11 25.8**	**+1.0**
GYA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SNAA	**Sanae**	**86.49**	**179**	P	**P**	**06 11 23.2**	**-1.8**
VNA3	**Neumayer Olymp**	**86.67**	**177**	P	**P**	**06 11 24.7**	**-1.1**
GHO	**Glory Hole Cre**	**87.05**	**14**	P	**P**	**06 11 27.5**	**-0.1**
GHO				IAmb	IAmb	06 11 28.5	
	comp=Z,15nm,0.7s						
VNA2	**Neumayer--Watz**	**87.10**	**177**	P	**P**	**06 11 27.3**	**-0.5**
	baz=200,slow=1.9						
UTHA	**Uthaitani**	**87.79**	**288**	P	**P**	**06 11 34.2**	**+2.2**
	comp=Z,17nm,1.2s						
XAN	**Xi'an**	**88.02**	**308**	P	**P**	**06 11 33.8**	**+1.0**
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
XAN	**Xi'an**	**88.02**	**308**	P	**P**	**06 11 32.3**	**-0.4**
XAN				IAmb	IAmb	06 11 34.7	
	comp=Z,10nm,0.8s						
TRF	**Thorofare Moun**	**88.25**	**13**	P	**P**	**06 11 32.7**	**-0.6**
TRF				IAmb	IAmb	06 11 33.8	
	comp=Z,13nm,0.8s						
RND	**Reindeer**	**88.51**	**13**	P	**P**	**06 11 34.3**	**-0.1**
RND				IAmb	IAmb	06 11 35.1	
	comp=Z,9.7nm,0.8s						
MNTX	**Cornudas Mount**	**88.75**	**55**	P	**P**	**06 11 37.2**	**+1.0**
KMI	**Kunming**	**88.87**	**298**	⥣P	**P**	**06 11 37.5**	**+0.4**
KMI				sP	sP	06 14 44.7	+2.2
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
KMI				pmax	pmax		
	comp=Z,94nm,4.3s						
TCUT	**Toone Canyon**	**89.00**	**44**	P	**P**	**06 11 38.7**	**+1.3**
TCUT				IAmb	IAmb	06 11 39.5	
	comp=Z,6.1nm,0.7s						
TX31	**Lajitas Ar. Si**	**89.02**	**58**	P	**P**	**06 11 39.3**	**+1.7**
TX31				IAmb	IAmb	06 11 40.4	
	comp=Z,17nm,1.1s						
TX32	**Lajitas Array**	**89.02**	**58**	P	**P**	**06 11 39.3**	**+1.7**
TXAR	**Lajitas Array**	**89.02**	**58**	P	**P**	**06 11 39.2**	**+1.6**
	comp=Z,2.4nm,0.9s,baz=212,slow=6.1,SNR=26						
TXAR				pP	**pwP**	**06 13 47.4**	**-0.4**
	comp=Z,0.9nm,1.0s,baz=197,slow=3.8,SNR=5.1						
TXAR	**Lajitas Array**	**89.02**	**58**	P	**P**	**06 11 39.0**	**+1.3**
PLCA	**Paso Flores**	**89.17**	**134**	P	**P**	**06 11 39.8**	**+1.6**
	comp=Z,3.3nm,1.0s,baz=280,slow=1.5,SNR=6.4						
PLCA				pP	**pwP**	**06 13 47.4**	**-0.6**
	comp=Z,2.1nm,1.0s,baz=312,slow=10,SNR=2.5						
PLCA	**Paso Flores**	**89.17**	**134**	P	**P**	**06 11 39.8**	**+1.6**
PLCA				IAmb	IAmb	06 11 40.9	
	comp=Z,10nm,1.3s						
CM04	**Chiang Mai Arr**	**89.32**	**290**	P	**P**	**06 11 41.2**	**+2.1**
	comp=Z,148nmcomp=Z,21nm,0.9s						
CM01	**Chiang Mai Arr**	**89.35**	**290**	P	**P**	**06 11 40.9**	**+1.7**
CM05	**Chiang Mai Arr**	**89.35**	**290**	P	**P**	**06 11 41.2**	**+2.0**
	comp=Z,121nmcomp=Z,14nm,0.9s						
CM02	**Chiang Mai Arr**	**89.36**	**290**	P	**P**	**06 11 41.0**	**+1.7**
	comp=Z,19nm,0.9s						
CM31	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**06 11 41.9**	**+2.6**
	comp=Z,439nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**06 11 41.4**	**+2.0**
	comp=Z,9.7nm,0.7s,baz=133,slow=2.9,SNR=62						
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**06 11 40.6**	**+1.2**
CM15	**Chiang Mai Arr**	**89.39**	**290**	P	**P**	**06 11 41.7**	**+2.3**
	comp=Z,482nmcomp=Z,15nm,0.4s						
HHC	**Hu-ho-hao-te**	**89.49**	**315**	*e*P	**P**	**06 11 39.0**	**-0.5**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,8.7s						
WRH	**Wood River Hil**	**89.61**	**13**	P	**P**	**06 11 39.0**	**-0.4**
WRH				IAmb	IAmb	06 11 39.7	
	comp=Z,7.7nm,1.0s						
CCB	**Clear Creek Bu**	**89.83**	**13**	P	**P**	**06 11 39.9**	**-0.4**
IMAR	**Indian Mountai**	**89.92**	**10**	P	**P**	**06 11 40.3**	**-0.4**
ILAR	**Eielson Array**	**90.13**	**13**	P	**P**	**06 11 41.1**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=217,slow=4.9,SNR=11						
ILAR				pP	**pwP**	**06 13 52.6**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=219,slow=7.0,SNR=1.9						
ILAR	**Eielson Array**	**90.13**	**13**	P	**P**	**06 11 40.9**	**-0.8**
CD2	**Chengdu**	**90.51**	**303**	*e*P	**P**	**06 11 44.9**	**+0.5**
PDAR	**Pinedale Array**	**91.02**	**44**	P	**P**	**06 11 47.2**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=200,slow=3.4,SNR=4.7						
LZH	**Lanzhou**	**92.66**	**308**	*e*P	**P**	**06 11 54.8**	**+0.5**
LZH				pP	pP	06 14 00.3	-1.3
LZH				sP	sP	06 15 00.4	+0.4
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
SONM	**Songino Array**	**96.05**	**319**	P	**P**	**06 12 10.9**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=118,slow=2.0,SNR=4.0						
SONM				PP	**PP**	**06 16 16.7**	**+4.0**
	comp=Z,0.8nm,0.8s,baz=131,slow=6.1,SNR=4.5						
GTA	**Gaotai**	**96.92**	**310**	P	**P**	**06 12 15.4**	**+1.9**
GTA				pP	pwP	06 14 27.5	+1.4
GTA				sP	sP	06 15 23.1	+3.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
YKA	**Yellowknife Ar**	**98.49**	**25**	P	**P**	**06 12 20.0**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=238,slow=3.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**110.86**	**321**	PKiKP	**PKiKP**	**06 17 09.5**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=187,slow=2.4,SNR=5.0						
MKAR	**Makanchi Array**	**111.28**	**313**	Pdiff	**Pdif**	**06 13 17.9**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=99,slow=6.1,SNR=2.1						
MKAR				PKiKP	**PKiKP**	**06 17 10.9**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=220,slow=1.4,SNR=6.7						
KK31	**Karatay Array**	**119.16**	**308**		**PKPdf**	**06 17 26.4**	**-0.6**
KKAR	**Karatay Array**	**119.16**	**308**		**PKPdf**	**06 17 26.3**	**-0.7**
KKAR	**Karatay Array**	**119.16**	**308**		**PKPdf**	**06 17 26.0**	**-1.0**
ABKAR	**Akbulak array**	**126.28**	**316**		**PKPdf**	**06 17 39.7**	**-0.7**
ARCES	**ARCESS Array B**	**130.20**	**349**	PKP	**PKPdf**	**06 17 46.8**	**-0.5**
	comp=Z,5.1nm,0.8s,baz=352,slow=2.7,SNR=7.9						
ARCES	**ARCESS Array B**	**130.20**	**349**		**PKPdf**	**06 17 46.2**	**-1.1**
FINES	**FINESS Array B**	**136.87**	**342**	PKP	**PKPdf**	**06 17 59.4**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=58,slow=2.6,SNR=6.9						
FINES				SKPbc	**SKPbc**	**06 20 38.4**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=59,slow=5.4,SNR=2.3						
NB2	**NORSAR Subarra**	**140.35**	**352**	PKP	**PKPdf**	**06 17 59.1**	**-7.3**
	comp=Z,1.6nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**140.35**	**352**	PKhKP	PKPpre	06 17 59.1	
	comp=Z,2.2nm,0.9s,baz=16,slow=4.6,SNR=4.1						
AKASG	**Malin Array Be**	**143.69**	**329**	PKP	PKPbc	06 18 10.8	-0.9
	comp=Z,16nm,0.6s,baz=42,slow=4.4,SNR=63						
AKASG				SKPbc	**SKPbc**	**06 20 54.9**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=42,slow=2.7,SNR=6.0						
AKASG	**Malin Array Be**	**143.69**	**329**		PKPbc	06 18 10.6	-1.1
AKBB	**Malin Array Si**	**143.69**	**329**		PKPbc	06 18 10.8	-0.9
SORM	**Soroca**	**145.79**	**326**	⥣P	**PKPbc**	**06 18 17.9**	**-0.1**
BR131	**Keskin Array S**	**146.84**	**310**		**PKPbc**	**06 18 21.0**	**-0.4**
BRTR	**Keskin Array B**	**146.84**	**310**	PKPbc	**PKPbc**	**06 18 21.1**	**-0.3**
	comp=Z,4.8nm,0.7s,baz=130,slow=4.4,SNR=14						
BRTR	**Keskin Array B**	**146.84**	**310**		**PKPbc**	**06 18 20.6**	**-0.9**
BSEG	**Bad Segeberg**	**147.32**	**349**	*e*PKPbc	**PKPbc**	**06 18 22.3**	**+0.3**
TLCR		**147.34**	**322**	⥣P	**PKPbc**	**06 18 22.7**	**+0.3**
ANTO	**Ankara**	**147.39**	**310**	PKPbc	**PKPdf**	**06 18 20.8**	**+1.5**
ANTO					**PKPab**	**06 18 27.0**	**+0.1**
KWP	**Kalwaria Pacla**	**147.39**	**333**	*e*PKP	**PKPbc**	**06 18 22.6**	**+0.3**
KWP	**Kalwaria Pacla**	**147.39**	**333**	PKPab	**PKPab**	**06 18 27.0**	**+0.5**
HLG	**Helgoland**	**147.45**	**352**	*e*PKPbc	**PKPbc**	**06 18 23.0**	**+0.6**
BUR08	**Bucovina Ar. S**	**147.70**	**328**	PKPdf	**PKPdf**	**06 18 19.4**	**-0.2**
BURAR	**Bucovina Array**	**147.71**	**328**	⥣P	**PKiKP**	**06 18 24.3**	**-0.5**
BURAR	**Bucovina Array**	**147.71**	**328**	PKPbc	**PKPbc**	**06 18 23.7**	**+0.3**
BURAR				PKPab	**PKPab**	**06 18 28.1**	**+0.2**
BIZ	**Bicaz**	**147.73**	**326**	⥣P	**PKiKP**	**06 18 24.2**	**-0.5**
OJC	**Ojcow**	**148.08**	**336**	PKPdf	**PKPdf**	**06 18 18.5**	**-1.5**
OJC					**PKPbc**	**06 18 24.1**	**0.0**
VRI	**Vrincioaia**	**148.09**	**324**	⥥P	**PKPbc**	**06 18 24.4**	**+0.1**
KOLS	**Kolonicke sedl**	**148.11**	**332**	*e*PKP	**PKiKP**	**06 18 25.1**	**-0.4**
HARR	**Harsova**	**148.14**	**322**	⥣P	**PKPbc**	**06 18 24.8**	**+0.4**
CRVS	**Cervenica-Dubn**	**148.48**	**333**	*e*PKP	**PKiKP**	**06 18 25.9**	**-0.3**
CSS	**Mathiatis**	**148.61**	**301**	PKPdf	**PKPdf**	**06 18 20.9**	**-0.5**
CSS					**PKPbc**	**06 18 25.6**	**-0.3**
CSS				PKPab	**PKPab**	**06 18 32.0**	**0.0**
FLTG	**Flechtingen**	**148.68**	**347**	*e*PKPbc	**PKPbc**	**06 18 25.5**	**0.0**
FLTG				*e*PKPab	**PKPab**	**06 18 31.0**	**-0.5**
	baz=18,slow=4.3						
DOPR	**Dopca**	**148.74**	**326**	⥥P	**PKPbc**	**06 18 26.2**	**+0.3**
NRDL	**Niedersach Rie**	**148.74**	**349**	*e*PKPbc	**PKPbc**	**06 18 26.0**	**+0.5**
KSP	**Ksiaz**	**148.75**	**341**	*e*PKP	**PKPbc**	**06 18 26.3**	**+0.6**
MLR	**Muntele Rosu**	**148.75**	**324**	⥣P	**PKPbc**	**06 18 25.8**	**-0.3**
LEF	**Lefka**	**148.92**	**302**	⥥P	**PKPbc**	**06 18 25.8**	**-0.8**
ASSE	**Asse, Remlinge**	**148.98**	**348**	*e*PKPbc	**PKPbc**	**06 18 26.5**	**+0.3**
ASSE				*e*PKPab	**PKPab**	**06 18 32.5**	**-0.2**
	baz=18,slow=4.3						
OSTC	**Ostas**	**149.02**	**340**	⥣*e*PKP	**PKPbc**	**06 18 27.0**	**+0.6**
OSTC				*e*PKPAB	**PKPab**	**06 18 33.2**	**+0.1**
CHVC	**Chvalec**	**149.04**	**341**	⥣*e*PKP	**PKPbc**	**06 18 26.6**	**+0.1**
LANS	**Liptovska Anna**	**149.08**	**336**	*e*PKP	**PKiKP**	**06 18 28.1**	**+0.6**
LANS				*e*		06 18 34.8	
UPC	**Upice**	**149.13**	**341**	⥣*e*PKP	**PKPbc**	**06 18 27.0**	**+0.3**
UPC				*e*PKPAB	**PKPab**	**06 18 33.6**	**+0.1**
CJR	**Cluj-Napoca**	**149.13**	**328**	⥣P	**PKPbc**	**06 18 26.7**	**-0.2**
DPC	**Dobruska-Polom**	**149.17**	**340**	⥣*e*PKP	**PKPbc**	**06 18 27.1**	**+0.3**
DPC				*e*PKPAB	**PKPab**	**06 18 34.3**	**+0.6**
CLL	**Collm**	**149.24**	**345**	*i* PKPab	**PKPab**	**06 18 33.7**	**-0.2**
	comp=Z,14nm,0.8s						
CLL	**Collm**	**149.24**	**345**		**PKPbc**	**06 18 26.6**	**-0.2**
CLL				PKPab	**PKPab**	**06 18 33.5**	**-0.4**
CLL	**Collm**	**149.24**	**345**	*e*PKPbc	**PKPbc**	**06 18 26.9**	**0.0**
CLL				*e*PKPab	**PKPab**	**06 18 33.6**	**-0.2**
	baz=18,slow=4.3						
CLL	**Collm**	**149.24**	**345**	*i* PKPbc	**PKPbc**	**06 18 27.1**	**+0.2**
	comp=Z,22nm,0.9s						
KRLC	**Kraliky**	**149.26**	**339**	⥣*e*PKP	**PKPbc**	**06 18 27.0**	**0.0**
MORC	**Moravsky Berou**	**149.26**	**338**	⥥P	**PKPbc**	**06 18 27.3**	**+0.3**
MORC	**Moravsky Berou**	**149.26**	**338**	*e*PKP	**PKiKP**	**06 18 27.7**	**-0.2**
MORC				*e*		06 18 34.4	
MORC	**Moravsky Berou**	**149.26**	**338**		**PKPbc**	**06 18 26.8**	**-0.2**
MORC				PKPab	**PKPab**	**06 18 34.1**	**-0.1**
VOIR		**149.27**	**325**	⥣P	**PKPbc**	**06 18 27.0**	**-0.3**
IBBN	**Ibbenburen**	**149.30**	**351**	*e*PKPbc	**PKPbc**	**06 18 27.1**	**+0.1**
IBBN				*e*PKPab	**PKPab**	**06 18 34.0**	**-0.1**
	baz=18,slow=4.3						
CLZ	**Clausthal**	**149.31**	**348**	*e*PKPbc	**PKPbc**	**06 18 27.5**	**+0.4**
BRG	**Berggiesshubel**	**149.40**	**343**	Amp		06 18 35.9	
	comp=Z,10nm,0.8s						
BRG	**Berggiesshubel**	**149.40**	**343**	*e*PKPbc	**PKPbc**	**06 18 27.8**	**+0.5**
BRG				*e*PKPab	**PKPab**	**06 18 34.7**	**+0.1**
	baz=18,slow=4.3						
BRG	**Berggiesshubel**	**149.40**	**343**	*e*PKP	**PKPdf**	**06 18 20.8**	**-1.3**
BRG	**Berggiesshubel**	**149.40**	**343**	Amp		06 18 22.2	
	comp=Z,1.0nm,0.6s						
BRG	**Berggiesshubel**	**149.40**	**343**	*i* x	x	06 18 27.6	
BRG	**Berggiesshubel**	**149.40**	**343**	Amp		06 18 28.6	
	comp=Z,16nm,0.8s						
BRG	**Berggiesshubel**	**149.40**	**343**	*i* x	x	06 18 34.9	
FBE	**Freiberg**	**149.51**	**344**	*e*PKPbc	**PKiKP**	**06 18 28.1**	**-0.1**
FBE				*e*PKPab	**PKPab**	**06 18 35.6**	**+0.5**
	baz=18,slow=4.3						
ARR	**Arges**	**149.53**	**325**	⥣P	**PKPbc**	**06 18 27.6**	**-0.2**
PVCC	**Panska Ves**	**149.54**	**342**	⥣*e*PKP	**PKPbc**	**06 18 28.0**	**+0.4**
NEUB	**Neuenburg**	**149.62**	**346**	*e*PKPbc	**PKPbc**	**06 18 28.3**	**+0.5**
NEUB				*e*PKPab	**PKPab**	**06 18 35.8**	**+0.3**
	baz=18,slow=4.3						
GTTG	**Gottingen**	**149.68**	**348**	*e*PKPbc	**PKiKP**	**06 18 28.5**	**-0.1**
VRAC	**Vranov**	**149.98**	**339**	*e*PKP	**PKPbc**	**06 18 29.0**	**+0.3**
VRAC				*e*		06 18 37.7	
JAVC	**Velka Javorina**	**149.99**	**337**	*e*PKP	**PKiKP**	**06 18 30.3**	**+0.9**
PRU	**Pruhonice**	**150.03**	**342**	⥣*e*PKP	**PKPbc**	**06 18 28.4**	**-0.4**
PRU				*e*PKPAB	**PKPab**	**06 18 37.7**	**+0.4**
MOX	**Moxa**	**150.18**	**346**	*e*PKPbc	**PKPbc**	**06 18 29.1**	**0.0**
TANN	**Tannenbergstha**	**150.20**	**345**	*e*PKPbc	**PKPbc**	**06 18 29.4**	**+0.2**
WERD	**Werda**	**150.20**	**345**	*e*PKPbc	**PKPbc**	**06 18 29.6**	**+0.3**
PLN	**Plauen**	**150.21**	**345**	*e*PKPbc	**PKiKP**	**06 18 29.7**	**0.0**
BUG	**Bochum--Univer**	**150.21**	**352**	*e*PKPbc	**PKPbc**	**06 18 29.6**	**+0.4**
KRUC	**Moravsky**	**150.26**	**339**	*e*PKP	**PKPbc**	**06 18 29.7**	**+0.3**
KRUC				*e*		06 18 38.5	
KASTN	**Kahler Asten**	**150.27**	**350**	*e*PKPbc	**PKPbc**	**06 18 29.6**	**+0.3**
GUNZ	**Gunzen**	**150.28**	**345**	*e*PKPbc	**PKiKP**	**06 18 29.9**	**0.0**
WERN	**Wernitzgruen**	**150.34**	**345**	*e*PKPbc	**PKiKP**	**06 18 30.3**	**+0.3**
WERN				*e*PKPab	**PKPab**	**06 18 38.8**	**+0.2**
	baz=18,slow=4.3						
UBBA	**Unterbreizbach**	**150.36**	**348**	*e*PKPbc	**PKiKP**	**06 18 30.4**	**+0.5**
SIRR	**Siria**	**150.38**	**330**	⥥P	**PKPbc**	**06 18 29.9**	**+0.1**
GZR	**Gura Zlata**	**150.47**	**327**	⥥P	**PKPbc**	**06 18 28.6**	**-1.4**
MODS	**Modra-Piesok**	**150.54**	**337**	*e*PKP	**PKPbc**	**06 18 30.0**	**-0.1**
MODS				*e*		06 18 39.7	
MANZ	**Manzenberg**	**150.68**	**345**	*e*PKPbc	**PKPbc**	**06 18 30.7**	**+0.3**
PLVB	**Pleven**	**150.82**	**322**	⥥P	**PKPbc**	**06 18 30.2**	**-0.7**
ROTZ	**Rotzenmuhle**	**150.86**	**344**	*e*PKPbc	**PKiKP**	**06 18 31.1**	**0.0**
BZS	**Buzias**	**150.88**	**329**	⥣P	**PKPbc**	**06 18 29.6**	**-1.3**
HERR	**Herculane**	**151.01**	**327**	⥥P	**PKPbc**	**06 18 30.7**	**-0.5**
KHC	**Kasperske Hory**	**151.07**	**342**	⥣*e*PKP	**PKPbc**	**06 18 31.2**	**-0.1**
KHC				*e*PKPAB	**PKPab**	**06 18 41.8**	**+0.1**
KHC	**Kasperske Hory**	**151.07**	**342**		**PKPbc**	**06 18 30.6**	**-0.7**
KHC				PKPab	**PKPab**	**06 18 42.2**	**+0.5**
CKRC	**Cesky Krumlov**	**151.14**	**341**	⥣*e*PKP	**PKiKP**	**06 18 31.8**	**+0.1**
GRF	**Grafenberg Arr**	**151.16**	**346**	*e*PKPab	**PKPab**	**06 18 42.2**	**+0.1**
	baz=18,slow=4.3						
MEM	**Membach**	**151.19**	**353**	*d*PKiKP	**PKiKP**	**06 18 31.8**	**+0.1**
BTNL	**Ternell**	**151.20**	**353**	*d*PKiKP	**PKPbc**	**06 18 31.4**	**-0.1**
TNS	**Taunus Mts**	**151.22**	**349**	*e*PKPbc	**PKiKP**	**06 18 32.1**	**+0.2**
TNS				*e*PKPab	**PKPab**	**06 18 42.1**	**-0.2**
	baz=18,slow=4.3						
WET	**Wettzell**	**151.26**	**343**	*e*PKPab	**PKPab**	**06 18 42.7**	**+0.2**
	baz=18,slow=4.3						
GEC2	**GERESS Array S**	**151.30**	**342**	*e*PKPbc	**PKPbc**	**06 18 32.1**	**+0.2**
GERES	**GERESS Array B**	**151.30**	**342**	PKPbc	**PKPbc**	**06 18 31.6**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=47,slow=2.4,SNR=15						
GERES				PKPab	**PKPab**	**06 18 42.5**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=46,slow=3.9,SNR=6.2						
GERES	**GERESS Array B**	**151.30**	**342**		**PKPbc**	**06 18 31.2**	**-0.7**
GERES					**PKPab**	**06 18 41.2**	**-1.6**
CONA	**Conrad Observa**	**151.42**	**338**	*i* P	**PKiKP**	**06 18 32.7**	**+0.3**
	comp=Z,6.6nm,0.8s						
CONA				*i* P	**PKPab**	**06 18 44.3**	**+1.0**
	comp=Z,4.8nm,0.7s						
MORH	**Mrgy, Hungar**	**151.77**	**333**	⥣P	**PKPbc**	**06 18 32.4**	**-0.5**
MOA	**Molln**	**152.01**	**340**	*e*P	**PKPab**	**06 18 46.4**	**+0.7**
	comp=Z,11nm,1.4s						
FRGS	**Fruska Gora**	**152.07**	**330**	⥣P	**PKPbc**	**06 18 32.2**	**-1.4**
VTS	**Vitosha**	**152.10**	**323**	PKPbc	**PKPbc**	**06 18 34.0**	**+0.1**
VTS					**PKPab**	**06 18 47.4**	**+0.9**
STU	**Stuttgart**	**152.47**	**348**	*e*PKPbc	**PKiKP**	**06 18 34.8**	**+0.3**
FUR	**Furstenfeldbru**	**152.57**	**344**	*e*PKPbc	**PKiKP**	**06 18 35.0**	**+0.3**
SOKA	**Soboth**	**152.78**	**338**	*i* P	**PKPab**	**06 18 49.2**	**+0.1**
	comp=Z,6.2nm,1.1s						
KBA	**Koelnbreinsper**	**152.99**	**341**	*i* P	**PKPab**	**06 18 50.9**	**+0.8**
	comp=Z,4.1nm,0.6s						
WATA	**Walderalm**	**153.26**	**343**	*i* P	**PKPab**	**06 18 51.6**	**+0.4**
	comp=Z,4.4nm,0.5s						
MYKA	**Terra Mystica**	**153.29**	**340**	*e*P	**PKPab**	**06 18 50.9**	**-0.4**
	comp=Z,4.0nm,0.5s						
WTTA	**Wattenberg**	**153.31**	**343**	*i* P	**PKPab**	**06 18 52.0**	**+0.5**
	comp=Z,5.8nm,0.5s						
RETA	**Reutte**	**153.33**	**344**	*i* P	**PKPab**	**06 18 51.7**	**+0.3**
	comp=Z,3.0nm,0.6s						
MOTA	**Moosalm**	**153.38**	**344**	*i* P	**PKPab**	**06 18 52.0**	**+0.3**
	comp=Z,16nm,1.4s						
SQTA	**Sankt Quirin**	**153.47**	**344**	*i* P	**PKPab**	**06 18 52.6**	**+0.5**
	comp=Z,5.3nm,0.8s						
ABTA	**Abfaltersbach**	**153.53**	**341**	*i* P	**PKPab**	**06 18 52.0**	**-0.4**
	comp=Z,5.3nm,0.6s						
DAVA	**Damuels**	**153.73**	**346**	*i* P	**PKPab**	**06 18 53.3**	**+0.1**
	comp=Z,7.4nm,0.9s						
ESDC	**Sonseca Array**	**162.02**	**11**	PKPab	**PKPab**	**06 19 28.9**	**-0.4**
	comp=Z,1.9nm,1.1s,baz=348,slow=5.3,SNR=5.2						
ESDC	**Sonseca Array**	**162.02**	**11**	PKPdf	**PKPdf**	**06 18 36.3**	**-2.7**
ESDC					**PKPab**	**06 19 28.7**	**-0.6**

RHSSO 09 06:16:18.8±0.5**, 44°.82N×17°.09E, h3**km**, ML1.5**/2**,**
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.09**	**136**	*e*Pg	Pg	06 16 20.7	0.0
BLY				*e*Sg	Sg	06 16 22.2	+0.3
MRAK	**Mrakovica**	**0.24**	**325**	*e*Pg	Pg	06 16 23.9	+0.5
MRAK				*e*Sg	Sg	06 16 26.4	-0.2
MGRS	**Mrkonjic Grad**	**0.40**	**181**	*e*Pg	Pg	06 16 26.2	-0.3
MGRS				*e*Sg	Sg	06 16 32.0	+0.3
RICI	**Ricice**	**1.32**	**179**	*e*Pg	Pg	06 16 43.3	-0.8
RICI				Sg	Sg	06 16 59.1	-2.1
ZIRJ	**Zirje**	**1.56**	**222**	*e*Pn	Pn	06 16 46.3	-1.1
ZIRJ				Sn	Sg	06 17 09.5	+0.6
DUGI	**Dugi Otok**	**1.68**	**241**	*e*Pn	Pg	06 16 51.9	+1.0
DUGI				Sn	Sg	06 17 13.9	+1.3
HVAR	**Hvar**	**1.70**	**196**	Sn	Sg	06 17 14.4	+0.9

IDC ***09*** *06:17:12.7±1.5, 24°.98S×179°.89E, h483km±19km, mb3.4/8, mb1 3.6/10, mb1mx3.4/23, mbtmp4.3/10, Error ellipse: s-maj=25.3km s-min=18.8km az=133.0*

NEIC ***09*** *06:17:14.1±1.4, 24°.9S±0°.1×179°.8E±0°.2, h499km±5km, mb4.2/19, Error ellipse: s-maj=24.7km s-min=16.6km az=89.0*

ISC 09 06:17:14.1±0.7**, 24°.95S**±0°.07×**179°.8E**±0°.1**, h501**km**, n56,**
σ**1§76**/57**, mb4.0**/18**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.76**	**155**	P	**P**	**06 18 34.3**	**-4.7**
	219nm,0.3s,baz=42,slow=24,SNR=4.8						
RAO	**Raoul Island**	**4.76**	**155**	P	**P**	**06 18 34.5**	**-4.4**
MSVF	**Nonsavu**	**7.35**	**347**	P	**P**	**06 19 04.1**	**-0.2**
	5.1nm,0.3s,baz=119,slow=22,SNR=8.2						
MSVF	**Nonsavu**	**7.35**	**347**	P	**P**	**06 19 04.0**	**-0.2**
MSVF				S	**S**	**06 20 32.9**	**-1.3**
MBAZ	**Motutapu North**	**12.50**	**198**	P	P	06 20 06.6	+8.8
MXZ	**Matakaoa Point**	**12.64**	**185**	P	**P**	**06 20 02.3**	**+3.0**
MKAZ	**Moumakai**	**12.74**	**197**	P	**P**	**06 20 03.8**	**+3.4**
HAZ	**Te Kaha**	**12.88**	**187**	P	**P**	**06 20 03.1**	**+1.3**
PKGZ	**Pakihiroa**	**12.98**	**186**	P	**P**	**06 20 05.6**	**+2.6**
RUGZ	**Raukumara Rang**	**13.10**	**187**	P	**P**	**06 20 06.2**	**+1.9**
PUZ	**Puketiti**	**13.15**	**185**	P	**P**	**06 20 08.6**	**+3.9**
URZ	**Urewera**	**13.46**	**189**	P	**P**	**06 20 07.6**	**-0.4**
	2.2nm,0.3s,baz=9.1,slow=0.3,SNR=11						
URZ				S	**S**	**06 22 29.9**	**-1.4**
	1.2nm,0.3s,baz=227,slow=17,SNR=5.7						
URZ	**Urewera**	**13.46**	**189**	P	**P**	**06 20 07.2**	**-0.8**
URZ	**Urewera**	**13.46**	**189**	P	**P**	**06 20 08.8**	**+0.9**
MWZ	**Matawai**	**13.48**	**188**	P	**P**	**06 20 10.5**	**+2.3**
CNGZ	**Carnagh Statio**	**13.56**	**185**	P	**P**	**06 20 12.7**	**+3.7**
MTHZ	**Maungataniwha**	**14.08**	**189**	P	P	06 20 23.3	+8.8
HIZ	**Hauiti**	**14.15**	**196**	P	P	06 20 23.2	+7.9
BKZ	**Black Stump Fm**	**14.45**	**190**	P	**P**	**06 20 18.9**	**+0.6**
OTVZ	**Oturere**	**14.59**	**193**	P	**P**	**06 20 20.1**	**0.0**
BHHZ	**Black Hill Sta**	**14.83**	**191**	P	**P**	**06 20 22.8**	**+0.3**
PXZ	**Pawanui**	**15.24**	**189**	P	**P**	**06 20 26.0**	**-0.5**
QRZ	**Quartz Range**	**16.95**	**199**	P	**P**	**06 20 45.1**	**+0.7**
TUWZ	**Tuamarina**	**17.14**	**195**	P	**P**	**06 20 43.5**	**-2.7**
THZ	**Tophouse**	**17.71**	**197**	P	**P**	**06 20 52.2**	**+0.5**
THZ				IAmb	IAmb	06 20 59.2	
	comp=Z,11nm,1.0s						
KHZ	**Kahutara**	**18.17**	**195**	P	**P**	**06 20 56.3**	**+0.6**
MQZ	**McQueen's Vall**	**19.60**	**196**	P	**P**	**06 21 09.5**	**+0.7**
EIDS	**Eidsvold**	**25.95**	**263**	P	**P**	**06 22 04.9**	**-1.1**
EIDS				IAmb	IAmb	06 22 08.3	
	comp=Z,5.9nm,0.9s						
CTAO	**Charters Tower**	**31.28**	**272**	P	**P**	**06 22 53.1**	**+0.4**
STKA	**Stephens Creek**	**34.15**	**250**	P	**P**	**06 23 17.9**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=99,slow=14,SNR=6.8						
STKA	**Stephens Creek**	**34.15**	**250**	P	**P**	**06 23 16.8**	**-0.1**
COEN	**Coen**	**36.08**	**281**	P	**P**	**06 23 34.4**	**+1.1**
COEN				IAmb	IAmb	06 23 52.5	
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**41.66**	**262**	P	**P**	**06 24 19.2**	**+0.7**
ASAR	**Alice Springs**	**41.66**	**262**	P	**P**	**06 24 19.1**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=92,slow=8.5,SNR=22						
ASAR	**Alice Springs**	**41.66**	**262**	P	**P**	**06 24 18.7**	**+0.2**
WR0	**Warramunga Arr**	**41.95**	**267**	P	**P**	**06 24 21.0**	**+0.3**
WR0				IAmb	IAmb	06 24 21.8	
	comp=Z,4.3nm,1.0s						
WB2	**Warramunga Arr**	**42.12**	**267**	P	**P**	**06 24 22.2**	**+0.1**
WB2				IAmb	IAmb	06 24 22.5	
	comp=Z,6.6nm,0.9s						
WRAB	**Tennant Creek**	**42.13**	**267**	P	**P**	**06 24 21.9**	**-0.2**
WRAB				IAmb	IAmb	06 24 22.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,7.0nm,0.9s						
WB0	Warramunga Arr	42.13	268	P	P	06 24 21.5	-0.7
WB0				IAmb	IAmb	06 24 22.9	
	comp=Z,8.3nm,0.8s						
WRA	Warramunga Arr	42.13	267	P	P	06 24 22.1	-0.1
	comp=Z,3.3nm,0.3s,baz=99,slow=6.7,SNR=197						
WRA				S	S	06 30 02.2	-3.3
	comp=Z,1.2nm,0.9s,baz=99,slow=13,SNR=4.7						
FORT	Forrest	45.76	251	P	P	06 24 50.0	-0.2
FORT				IAmb	IAmb	06 25 07.5	
	comp=Z,15nm,1.1s						
FITZ	Fitzroy Crossi	50.54	267	P	P	06 25 27.5	+1.4
FITZ				IAmb	IAmb	06 25 33.2	
	comp=Z,7.1nm,1.2s						
NWAO	Narrogin (SRO)	54.62	246	P	P	06 25 54.1	-1.1
NWAO				IAmb	IAmb	06 26 20.3	
	comp=Z,26nm,1.2s						
MORW	Morawa	56.32	251	P	P	06 26 07.2	+0.1
MORW				IAmb	IAmb	06 26 20.9	
	comp=Z,9.7nm,1.2s						
QSPA	South Pole Qui	65.14	180	P	P	06 27 06.6	+1.7
MJAR	Matsushiro Arr	72.64	326	P	P	06 27 50.1	-0.3
	comp=Z,4.5nm,0.8s,baz=160,slow=5.3,SNR=5.5						
MJAR	Matsushiro Arr	72.64	326	P	P	06 27 49.9	-0.5
KSRS	Korea Array	78.91	320	P	P	06 28 26.2	+1.0
	comp=Z,0.7nm,0.4s,baz=354,slow=23,SNR=3.0						
PETK	Petropavlovsk-	80.06	347	P	P	06 28 31.1	+0.2
	comp=Z,2.3nm,0.7s,baz=123,slow=16,SNR=2.1						
CMAR	Chiang Mai Arr	89.69	290	P	P	06 29 21.4	+2.6
	comp=Z,0.9nm,0.3s,baz=121,slow=1.8,SNR=7.3						
CMAR	Chiang Mai Arr	89.69	290	P	P	06 29 21.2	+2.4
TXAR	Lajitas Array	91.16	58	P	P	06 29 26.8	+1.3
	comp=Z,0.4nm,0.8s,baz=216,slow=6.2,SNR=5.4						
AKASG	Malin Array Be	145.72	326	PKPbc	PKPdf	06 35 54.4	-0.5
	comp=Z,1.0nm,0.5s,baz=46,slow=4.9,SNR=4.5						
BRTR	Keskin Array B	148.03	306	PKPbc	PKPbc	06 36 03.5	+0.4
	comp=Z,0.9nm,0.7s,baz=67,slow=3.7,SNR=2.5						
BRTR	Keskin Array B	148.03	306	PKPab	PKPab	06 36 08.1	+0.3
GRA1	Grafenberg Arr	153.73	343		PKPbc	06 36 13.9	-1.9
GRA1				PKPab	PKPab	06 36 29.2	-1.9

IDC 09 06:26:09.5±8.8, 20°.90S×178°.40W, h533km±77km, mb3.0/3, mb1 3.2/5, mb1mx2.9/24, mbtmp4.0/5, Error ellipse: s-maj=245.6km s-min=35.5km az=58.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.60	313	P	P	06 27 35.1	0.0
	0.7nm,0.3s,baz=164,slow=15,SNR=4.0						
URZ	Urewera	17.73	192	P	P	06 29 45.5	0.0
	0.9nm,0.3s,baz=114,slow=22,SNR=6.3						
STKA	Stephens Creek	37.28	245	P	P	06 32 35.4	-0.7
	0.8nm,0.4s,baz=83,slow=8.2,SNR=3.1						
ASAR	Alice Springs	44.06	257	P	P	06 33 30.6	+0.3
	1.3nm,0.5s,baz=94,slow=7.9,SNR=21						
WRA	Warramunga Arr	44.18	263	P	P	06 33 30.9	-0.3
	0.7nm,0.3s,baz=96,slow=7.3,SNR=48						

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*IDC **09** 06:27:29.2±0.8, 13°.18N×50°.09E, h0km, mb3.9/16, mb1 4.1/18, mb1mx3.9/40, mbtmp3.9/18, ML4.0/2, MS3.5/9, Ms1 3.5/9, ms1mx3.3/41, Error ellipse: s-maj=18.7km s-min=18.3km az=134.0*

*NEIC **09** 06:27:31.0±1.4, 13°.15N±0°.07×50°.12E±0°.09, h10km±2km, mb4.0/5, Error ellipse: s-maj=16.4km s-min=8.2km az=125.0*

ISC 09 06:27:30.7±0.6, 13°.14N±0°.09×50°.11E±0°.08, h10km, n38, σ0s.99/32, mb4.0/18, MS3.5/7, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOCY	Socotra	3.90	104		Pn	06 28 29.6	-1.1
ATD	Arta Tunnel	7.28	258	Pn	Pn	06 29 17.5	+0.3
	7.9nm,0.3s,baz=336,slow=3.6,SNR=15						
ATD				LR	LR	06 31 26.7	
	comp=Z,435nm,18.4s,baz=76,slow=33						
ATD	Arta Tunnel	7.28	258		Pn	06 29 17.6	+0.5
WSAR	Wadi Sarin	12.90	38	LR	LR	06 35 21.7	
	comp=Z,258nm,20.1s,baz=224,slow=37						
KMBO	Kilima Mbogo	19.07	223	P	Pn	06 31 55.6	+1.2
	0.1nm,0.3s,baz=49,slow=21,SNR=1.7						
EIL	Elat	21.64	322	LR	LR	06 41 38.0	
	comp=Z,44nm,18.6s,baz=138,slow=39						
MBAR	Mbarara	23.57	236	LR	LR	06 40 28.6	
	comp=Z,84nm,18.5s,baz=80,slow=33						
MMAI	Mount Meron Ar	23.92	328	P	P	06 32 45.8	+0.8
	0.6nm,0.3s,baz=116,slow=15,SNR=4.4						
GEYT	Alibeck	25.70	15	P	P	06 33 01.6	+0.5
	4.4nm,0.8s,baz=212,slow=8.2,SNR=3.8						
GEYT				LR	LR	06 45 10.1	
	comp=Z,163nm,18.4s,baz=25,slow=41						
GEYT	Alibeck	25.70	15	P	P	06 33 00.0	-1.1
GEYT				IAmb	IAmb	06 33 04.2	
	comp=Z,3.1nm,0.7s						
GEVA	Gevas	25.84	347	P	P	06 33 04.6	+2.0
GNI	Garni	27.32	351	LR	LR	06 46 04.0	
	comp=Z,99nm,19.0s,baz=191,slow=41						
BRTR	Keskin Array B	30.20	334	P	P	06 33 42.4	+0.9
	comp=Z,1.0nm,0.7s,baz=158,slow=11,SNR=5.2						
BRTR	Keskin Array B	30.20	334	P	P	06 33 42.0	+0.5
KBZ	Khabaz	31.11	350	P	P	06 33 49.7	+0.5
	comp=Z,2.0nm,0.8s,baz=165,slow=10,SNR=4.4						
KBZ				LR	LR	06 47 43.5	
	comp=Z,136nm,18.8s,baz=162,slow=39						
OPO	Ambohidratompo	31.64	185	P	P	06 33 53.7	-0.6
	comp=Z,3.2nm,0.6s,baz=96,slow=15,SNR=1.6						
KKAR	Karatay Array	34.66	27	P	P	06 34 21.4	+1.0
AAK	Ala-Archa	36.18	31	LR	LR	06 51 52.3	
	comp=Z,90nm,21.8s,baz=260,slow=40						
ABKAR	Akbulak array	36.92	11	P	P	06 34 40.3	+0.7
ABKAR				IAmb	IAmb	06 34 40.8	
	comp=Z,1.7nm,1.0s						
BUR08	Bucovina Ar. S	40.20	334	P	P	06 35 06.0	-1.4
BUR08				IAmb	IAmb	06 35 15.5	
	comp=Z,6.2nm,1.4s						
DIVS	Divibare	40.21	326	P	P	06 35 07.0	-0.5
AKASG	Malin Array Be	41.14	340	P	P	06 35 12.9	-2.1
	comp=Z,1.9nm,0.8s,baz=155,slow=7.7,SNR=4.0						
MK31	Makanchi Array	43.06	32	P	P	06 35 31.2	+0.5
MKAR	Makanchi Array	43.06	32	P	P	06 35 31.2	+0.4
	comp=Z,0.6nm,0.5s,baz=221,slow=7.9,SNR=9.5						
MKAR	Makanchi Array	43.06	32	P	P	06 35 31.1	+0.3
GERES	GERESS Array B	46.57	327	P	P	06 35 57.3	-1.5
	comp=Z,0.4nm,0.5s,baz=143,slow=3.3,SNR=3.6						
GERES	GERESS Array B	46.57	327	P	P	06 35 58.7	-0.1
TORD	Torodi Ar. Bea	47.09	276	P	P	06 36 02.7	-0.5
	comp=Z,0.9nm,0.7s,baz=81,slow=6.9,SNR=1.2						
CMAR	Chiang Mai Arr	47.17	77	P	P	06 36 04.8	+0.9
	comp=Z,0.9nm,0.3s,baz=277,slow=9.0,SNR=4.7						
ZALV	Zalesovo Beam	49.04	26	P	P	06 36 15.7	-2.0
	comp=Z,1.0nm,0.6s,baz=245,slow=7.1,SNR=5.5						
ZALV	Zalesovo Beam	49.04	26	P	P	06 36 16.8	-0.9
FINES	FINESS Array B	51.28	345	P	P	06 36 34.0	-0.6
	comp=Z,1.7nm,0.7s,baz=166,slow=12,SNR=2.1						
FINES	FINESS Array B	51.28	345	P	P	06 36 34.2	-0.3
ESDC	Sonseca Array	54.22	310	P	P	06 36 56.5	-0.2
	comp=Z,1.2nm,0.7s,baz=96,slow=6.8,SNR=9.7						
NOA	NORSAR Array B	55.51	338	LR	LR	07 04 31.9	
	comp=Z,63nm,20.5s,baz=0.0,slow=40						
SONM	Songino Array	57.91	41	P	P	06 37 24.1	+0.9
	comp=Z,0.3nm,0.4s,baz=247,slow=7.5,SNR=4.6						
WRA	Warramunga Arr	89.11	111	P	P	06 40 27.3	+0.4
	comp=Z,1.6nm,1.0s,baz=292,slow=3.3,SNR=4.6						
ASAR	Alice Springs	89.63	114	P	P	06 40 29.5	+0.1
	comp=Z,0.3nm,0.5s,baz=289,slow=3.6,SNR=2.8						

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*BJI **09** 06:45:17.8±0.0, 7°.34S×128°.85E, h105km, mB5.3/50, mb5.4/75*

*DJA **09** 06:45:20.9±0.2, 7°S±2°×12°9E±°, h111km±3km, M5.2/73, mB5.6/46, mb5.3/73, MLv5.5/12, Mw(mB)5.2/46, MwMwp4.9/7, Mwp5.2/7*

*NEIC **09** 06:45:20.4±1.9, 7°.31S±0°.04×128°.73E±0°.05, h129km±4km, mb5.2/124, Error ellipse: s-maj=9.0km s-min=1.0km az=124.0*

*IDC **09** 06:45:21.3±1.0, 7°.29S×128°.74E, h132km±8km, mb4.8/37, mb1 4.8/42, mb1mx4.8/50, mbtmp5.2/42, MS4.0/16, Ms1 4.0/16, ms1mx3.8/33, Error ellipse: s-maj=9.2km s-min=6.8km az=70.0*

*GCMT **09** 06:45:21.4±0.1, 7°.35S±0°.01×128°.78E±0°.01, h132km±1km, MW5.3/139, Moment Tensor Solution. s97,c126; s139,c221; Duration: 1s.1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.89±.01; $M_{\theta\theta}$-0.56±.02; $M_{\phi\phi}$-0.32±.02; $M_{r\theta}$0.04±.01; $M_{\theta\phi}$0.75±.02; $M_{\phi r}$0.18±.01; Best double couple: $M_0$1.07100×10^{17} NP1:ϕ_s115.00000°, δ45.00000°, λ68.00000°. NP2:ϕ_s325.00000°, δ49.00000°, λ110.00000°. Principal axes: T 0.9340, Plg75.0000°, Azm302.0000°; N 0.2730, Plg15.0000°, Azm131.0000°; P -1.2070, Plg2.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **09** 06:45:21.5±1.0, 7°.04S×128°.74E, h138km, mb5.3/63 Error ellipse: s-maj=8.0km s-min=4.9km az=114.8*

*KLM **09** 06:45:35, 7°.48S×128°.49E, h257km, mb5.3*

ISC 09 06:45:20.5±0.4, 7°.37S±0°.03×128°.78E±0°.04, h131km±3km, h132km:pP-P, n665, σ1s.59/699, mb5.3/193, 28C-9D, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.57	104	Pn	Pn	06 46 02.2	+0.7
SAUI	Saumlaki	2.57	104	P	Pn	06 46 01.2	-0.3
BNDI	Bandanaira	3.04	22	P	Pn	06 46 08.9	+1.2
NLAI	Namlea	4.44	338	P	Pn	06 46 29.0	+2.9
SOEI	Soe	5.05	242	Pn	Pn	06 46 34.5	+0.1
SOEI	Soe	5.05	242	P	Pn	06 46 34.7	+0.3
	12nm10μm22μm3μm,1.0s						
FAKI	Fak Fak	5.61	38	Pn	Pn	06 46 40.4	-1.4
FAKI	Fak Fak	5.61	38	P	Pn	06 46 41.4	-0.4
	5.4nm16μm11μm2μm,0.7s						
BATI	Baumata	5.79	241	P	Pn	06 46 44.9	+0.6
	220nm,0.3s,baz=114,slow=2.5,SNR=77						
BATI				S	Sn	06 47 49.3	-0.3
	126nm,0.3s,baz=77,slow=22,SNR=1.8						
BATI				LR	LR	06 48 37.4	
	comp=Z,3μm,18.1s,baz=360,slow=34						
BATI	Baumata	5.79	241	P	Pn	06 46 44.6	+0.4
	6.4nm8μm18μm2μm,1.0s						
MTN	Manton Dam	5.91	157		Pn	06 46 45.5	-0.2
SANI	Sanana	5.98	332	P	Pn	06 46 48.2	+1.5
	0.6nm2μm2μm144nm,1.0s						
KDU	Kakadu	6.41	146	P	Pn	06 46 52.0	-0.5
	baz=6.5,SNR=615						
KDU				S	Sn	06 48 00.5	-3.9
	baz=6.5						
MMRI	Maumere	6.60	259	Pn	Pn	06 46 55.4	+0.2
MMRI	Maumere	6.60	259	P	Pn	06 46 55.1	0.0
	2.5nm10μm795nm,0.9s						
SIJI	Sorong	6.92	21	P	Pn	06 46 59.5	+0.1
	52nm,0.3s,baz=195,slow=11,SNR=54						
SIJI				S	Sn	06 48 16.0	-0.8
	32nm,0.3s,baz=212,slow=21,SNR=12						
SWI	Sorong	6.92	21	P	Pn	06 46 59.3	-0.1
SWI				pmax	pmax		
	comp=Z,470nm,0.8s						
SWI	Sorong	6.92	21	P	Pn	06 46 59.0	-0.4
	comp=Z,4.8nmcomp=Z,6μmcomp=Z,7μmcomp=Z,476nm,0.6s						
RKPI	Ransiki, Papua	7.92	43	P	Pn	06 47 12.2	-0.8
	comp=Z,18nmcomp=Z,46μmcomp=Z,6μm,0.8s						
TNTI	Ternate	8.21	350	P	Pn	06 47 18.4	+1.6
	comp=Z,2μmcomp=Z,8μmcomp=Z,91nm,1.0s						
KNRA	Kununurra	8.25	180	P	Pn	06 47 16.3	-1.0
	baz=8.2,SNR=54						
KNRA				S	Sn	06 48 43.3	-5.7
	baz=8.2						
KNRA	Kununurra	8.25	180		Pn	06 47 15.9	-1.4
BSSI	Bau Bau, Buton	8.33	278	P	Pn	06 47 21.3	+2.9
	comp=Z,4μmcomp=Z,306nm,1.0s						
BASI	Baing, Sumba	8.59	250	P	Pn	06 47 21.2	-0.7
	comp=Z,5μmcomp=Z,331nm,0.7s						
LUWI	Luwuk	8.69	316	Pn	Pn	06 47 22.5	-0.8
LUWI	Luwuk	8.69	316	P	Pn	06 47 26.3	+3.1
	comp=Z,5μmcomp=Z,146nm,1.1s						
WSI	Waingapu	8.70	254	P	Pn	06 47 22.3	-1.0
	comp=Z,21μmcomp=Z,999nm,1.0s						
BKSI	Bulukumba	8.85	283	P	Pn	06 47 27.7	+2.3
	comp=Z,2μmcomp=Z,2μmcomp=Z,225nm,1.1s						
BNSI	Bone	9.12	288	P	Pn	06 47 30.0	+0.9
	comp=Z,2μmcomp=Z,167nm,1.4s						
SRPI	Serui, Papua	9.22	54	P	Pn	06 47 29.8	-0.6
	comp=Z,11μmcomp=Z,1μm,0.8s						
KMSI	Cibinong	9.24	329	P	Pn	06 47 43.4	+13
KAPI	Kappang	9.28	284	P	Pn	06 47 32.7	+1.5
	comp=Z,1.8nm,0.3s,baz=105,slow=7.6,SNR=28						
KAPI	Kappang	9.28	284	Pn	Pn	06 47 33.3	+2.1
BAKI	Biak	9.54	50	P	Pn	06 47 35.4	+0.7
	comp=Z,29μmcomp=Z,4μm,0.8s						
APSI	Ampana	9.58	312	P	Pn	06 47 37.8	+2.6
	comp=Z,804nmcomp=Z,61nm,1.3s						
SPSI	Sidrap Palu	9.59	290	P	Pn	06 47 37.3	+2.0
	comp=Z,1μmcomp=Z,129nm,1.2s						
TTSI	Tana Toraja	9.91	295	P	Pn	06 47 42.0	+2.4
	comp=Z,55nm,0.9s						
MRSI	Marisa	10.36	319	P	Pn	06 47 47.5	+1.8
	comp=Z,918nmcomp=Z,49nm,0.8s						
PLAI	Plampang	10.99	262	P	Pn	06 47 52.4	-1.7
	comp=Z,3μmcomp=Z,189nm,0.8s						
FITZ	Fitzroy Crossi	11.09	196	P	Pn	06 47 52.3	-3.1
	comp=Z,23nm,0.3s,baz=16,slow=9.5,SNR=384						
FITZ				S	Sn	06 49 48.5	-9.2
	comp=Z,57nm,0.3s,baz=94,slow=21,SNR=6.2						
FITZ				LR	LR	06 53 18.9	
	comp=Z,2μm,19.8s,baz=14,slow=43						
FITZ	Fitzroy Crossi	11.09	196	P	Pn	06 47 51.9	-3.5
	baz=11,SNR=331						
FITZ				S	Sn	06 49 48.7	-9.0
	baz=11						
FITZ	Fitzroy Crossi	11.09	196	Pn	Pn	06 47 51.9	-3.5
SMPI	Sarmi	11.24	62	P	Pn	06 47 57.0	-0.4
	comp=Z,35μmcomp=Z,154nm,0.9s						
SGSI	Sangihe	11.46	343	P	Pn	06 48 02.4	+2.1
	comp=Z,325nm,0.8s						
MMPI	Merauke	11.54	96	P	Pn	06 48 03.4	+2.0
	comp=Z,1μm,0.8s						
TOLI2	Tolitoli	11.61	316	Pn	Pn	06 48 01.4	-0.9
TWSI	Taliwang, Sumb	11.86	263	P	Pn	06 48 03.4	-2.2
	comp=Z,846nmcomp=Z,37nm,1.0s						
GENI	Genyem	12.29	68	P	Pn	06 48 10.6	-0.6
	comp=Z,4μmcomp=Z,229nm,0.7s						
JAY	Jayapura	12.82	68	P	Pn	06 48 18.8	+0.7
JAY				pmax	pmax		
	comp=Z,81nm,0.9s						
JAY	Jayapura	12.82	68	P	Pn	06 48 18.9	+0.8
	comp=Z,979nmcomp=Z,51nm,0.9s						
KBKI	Kotabaru	13.20	287	P	P	06 48 41.9	+14
BKB	Balikpapan	13.31	297	Pn	Pn	06 48 24.4	0.0
BKB	Balikpapan	13.31	297	P	P	06 48 28.6	-0.8
	comp=Z,4μmcomp=Z,303nm,1.3s						
WB0	Warramunga Arr	13.47	157		Pn	06 48 23.1	-3.3
WRAB	Tennant Creek	13.60	157	*ce*P	Pn	06 48 25.3	-2.8
WRAB				pmax	pmax		
	comp=Z,50nm,0.3s						
WRAB	Tennant Creek	13.60	157		Pn	06 48 25.0	-3.1
WRA	Warramunga Arr	13.61	157	P	Pn	06 48 25.3	-2.9
	comp=Z,18nm,0.3s,baz=343,slow=13,SNR=329						
WRA				S	Sn	06 50 48.5	-10
	comp=Z,52nm,0.3s,baz=331,slow=23,SNR=17						
WRA				LR	LR	06 53 45.1	
	comp=Z,502nm,19.7s,baz=335,slow=37						
WB2	Warramunga Arr	13.61	157	Pn	Pn	06 48 25.4	-2.8
WC3	Warramunga Arr	13.63	157	Pn	Pn	06 48 25.5	-3.1
WR0	Warramunga Arr	13.70	157		Pn	06 48 25.8	-3.6
BBKI	Banjar Baru	14.41	285	P	P	06 48 41.4	-0.2
	comp=Z,4μmcomp=Z,202nm,1.0s						
ABJI	Asem Bagus	14.43	267	P	P	06 48 48.1	+6.3
JAGI	Jajag, Banyuwa	14.53	265	Pn	Pn	06 48 38.3	-1.7
JAGI	Jajag, Banyuwa	14.53	265	P	P	06 48 43.1	+0.2
	comp=Z,45nm,0.6s						
MTKI	Muara Teweh, K	15.25	294	P	P	06 48 53.3	+2.4
	comp=Z,133nm,0.8s						
COEN	Coen	15.58	116	Pn	Pn	06 48 53.1	0.0
MYLDM	Lahad Datu	16.15	320		Pn	06 48 59.2	-1.0
MYLDM				IAmb	IAmb	06 49 22.5	
	comp=Z,133nm,1.1s						
PSAD1	Pilbara Seismi	16.46	211	Pn	Pn	06 49 02.8	-1.1
PSA00	Pilbara Seismi	16.55	211		Pn	06 49 04.6	-0.3
PSA00				IAmb	IAmb	06 49 07.5	
	comp=Z,93nm,0.9s						
PSA00	Pilbara Seismi	16.55	211		Pn	06 49 03.7	-1.2
PSA00				IAmb	IAmb	06 49 11.6	
	comp=Z,336nm,0.8s						
QIS	Mount Isa	16.78	142	P	P	06 49 07.7	-0.1
	baz=17,SNR=45						
AS31	Alice Springs	16.93	164	P	P	06 49 08.7	-0.7
ASAR	Alice Springs	16.93	164	P	Pn	06 49 09.6	-0.1
	comp=Z,8.2nm,0.3s,baz=334,slow=8.6,SNR=206						
ASAR				S	Sn	06 52 09.0	-9.5
	comp=Z,15nm,0.3s,baz=328,slow=18,SNR=7.9						
ASAR				LR	LR	06 55 26.2	
	comp=Z,750nm,20.2s,baz=336,slow=36						
ASAR	Alice Springs	16.93	164	P	P	06 49 08.7	-0.7
WRKA	Warakurna	17.57	181	P	P	06 49 16.2	-0.3
	baz=18,SNR=133						
PBKI	Pangkalan Bun	17.66	284	P	Pn	06 49 20.6	+2.1
	comp=Z,677nm,1.1s						
WOJI	Wonogiri, Jawa	17.71	267	P	P	06 49 18.4	+0.4
	comp=Z,52nm,0.9s						
PMG	Port Moresby	18.29	98	P	Pn	06 49 26.1	+0.1
	comp=Z,1.8nm,0.3s,baz=214,slow=20,SNR=3.1						
PMG				S	S	06 52 40.0	-7.0
	comp=Z,5.9nm,0.3s,baz=172,slow=22,SNR=9.9						
PMG				LR	LR	06 57 02.4	
	comp=Z,296nm,21.5s,baz=281,slow=38						
PMG	Port Moresby	18.29	98	P	P	06 49 24.4	0.0
PMG				IAmb	IAmb	06 49 32.7	
	comp=Z,95nm,0.8s						
PMG	Port Moresby	18.29	98	P	Pn	06 49 26.8	+0.9
MTSU	Mount Surprise	18.53	127	P	Pn	06 49 29.0	+0.3
	baz=19,SNR=37						
STKI	Sintang	18.77	292	P	Pn	06 49 32.4	+0.7
	comp=Z,54nm,0.5s						
SBUM	Sibu	19.20	300	P	Pn	06 49 37.0	+0.4
MANU	Manus Island	19.25	75	P	P	06 49 34.8	-0.2
MANU				IAmb	IAmb	06 49 40.5	
	comp=Z,72nm,0.7s						
KSM	Kuching	20.42	295	P	P	06 49 47.9	+0.4
KSM	Kuching	20.42	295	P	P	06 49 49.0	+1.5
GIRL	Giralia	20.66	221	P	P	06 49 49.8	-0.1
	baz=21,SNR=16						
GIRL	Giralia	20.66	221	P	P	06 49 51.7	+1.8
CISI	Cisompet, Garu	20.79	268	P	P	06 49 49.5	-2.1
CISI				IAmb	IAmb	06 50 05.2	
	comp=Z,91nm,1.0s						
CISI	Cisompet, Garu	20.79	268	P	Pn	06 49 53.9	-1.5
	comp=Z,86nm,0.8s						
LEM	Lembang	21.01	270	P	P	06 49 55.6	+1.6
	comp=Z,29nm,0.5s,baz=39,slow=5.8,SNR=5.2						
LEM				S	S	06 53 37.1	-3.9
	comp=Z,17nm,0.3s,baz=303,slow=17,SNR=4.0						
LEM				LR	LR	07 01 29.5	
	comp=Z,388nm,18.1s,baz=112,slow=46						
LEM	Lembang	21.01	270	P	P	06 49 54.6	+0.6
	comp=Z,29nm,0.8s						
CTA	Charters Tower	21.13	128	P	P	06 49 57.3	+2.2
	comp=Z,16nm,0.5s,baz=301,slow=12,SNR=16						
CTA				S	S	06 53 46.3	+3.4
	comp=Z,9.8nm,0.6s,baz=244,slow=23,SNR=2.2						
CTAO	Charters Tower	21.13	128	P	P	06 49 57.5	+2.4
CTAO				pmax	pmax		
	comp=Z,82nm,1.3s						
CTAO	Charters Tower	21.13	128	P	P	06 49 57.5	+2.4
TPI	Tanjungpandan	21.54	281	P	P	06 49 59.3	-0.2
	comp=Z,2μmcomp=Z,202nm,1.2s						
CBJI	Citeko	21.80	271	P	P	06 50 02.8	+0.6
	comp=Z,15μmcomp=Z,89nm,0.5s						
TGY	Tagaytay City	22.71	340	P	P	06 50 12.3	+0.9
	comp=Z,160nm,0.3s,baz=335,slow=1.0,SNR=7.0						
XMIS	Christmas Isla	23.06	261	P	P	06 50 12.3	-2.4
PPBI	Pangkal Pinang	23.15	282	P	P	06 50 17.6	+2.1
	comp=Z,64μmcomp=Z,79nm,0.8s						
FORT	Forrest	23.30	182	P	P	06 50 17.9	+1.3
	baz=23,SNR=33						
FORT	Forrest	23.30	182	P	P	06 50 18.0	+1.3
KLSI		24.07	275	P	P	06 50 28.8	+4.9
	comp=Z,19nm,1.7s						
PMBI	Palembang	24.31	279	P	P	06 50 29.9	+3.8
PMBI	Palembang	24.31	279	P	P	06 50 31.5	+5.4
	comp=Z,654nm,1.2s						
MORW	Morawa	24.70	208	P	P	06 50 31.2	+1.7
	baz=25,SNR=42						
MORW	Morawa	24.70	208	P	P	06 50 30.8	+1.3
MORW				IAmb	IAmb	06 50 34.2	
	comp=Z,117nm,1.1s						
KMBL	Kambalda	24.73	194	P	P	06 50 30.9	+1.2
	baz=25,SNR=16						
DSRI	Dabo	25.09	285	P	P	06 50 37.3	+4.1
LHSI	Lahat	25.38	277	P	P	06 50 41.5	+5.7
	comp=Z,4μmcomp=Z,76nm,1.0s						
BLDU	Ballidu	25.74	205	P	P	06 50 39.8	+0.9
	baz=26,SNR=20						
MNAI	Manna	25.86	275	P	P	06 50 42.2	+2.0
BBOO	Buckleboo	26.20	166	P	P	06 50 44.1	+1.2
	baz=26,SNR=28						
BBOO	Buckleboo	26.20	166	P	P	06 50 43.5	+0.5
BBOO				IAmb	IAmb	06 50 46.1	
	comp=Z,46nm,0.8s						
KLBR	Kellerberrin	26.20	202	P	P	06 50 44.6	+1.6
	baz=26,SNR=12						
MYKOM	Kota Tinggi	26.49	289	P	P	06 50 45.7	-0.1
MYKOM				IAmb	IAmb	06 50 50.5	
	comp=Z,68nm,0.8s						
RMQ	Roma	26.87	137	P	P	06 50 51.1	+2.0
	baz=27,SNR=18						
MUN	Mundaring	27.14	204	P	P	06 50 52.4	+1.0
	baz=27,SNR=7.7						
STKA	Stephens Creek	27.15	156	P	P	06 50 52.6	+1.1
	comp=Z,17nm,0.5s,baz=328,slow=9.3,SNR=48						
STKA				LR	LR	07 02 57.6	
	comp=Z,871nm,21.1s,baz=326,slow=39						
STKA	Stephens Creek	27.15	156	P	P	06 50 52.5	+1.1
	baz=27,SNR=44						
STKA	Stephens Creek	27.15	156	P	P	06 50 52.5	+1.1
HTT	Hallett	27.58	161	P	P	06 50 56.8	+1.4
	baz=28,SNR=9.5						
NWAO	Narrogin (SRO)	27.59	201	P	P	06 50 56.4	+0.9
	comp=Z,16nm,0.5s,baz=26,slow=8.6,SNR=13						
NWAO				LR	LR	07 02 23.4	
	comp=Z,594nm,21.2s,baz=32,slow=37						
NWAO	Narrogin (SRO)	27.59	201	P	P	06 50 56.4	+0.9
	baz=28,SNR=14						
NWAO	Narrogin (SRO)	27.59	201	P	P	06 50 54.8	-0.7
NWAO	Narrogin (SRO)	27.59	201	P	P	06 50 55.3	-0.2
NWAO				IAmb	IAmb	06 50 58.9	
	comp=Z,27nm,0.9s						
EIDS	Eidsvold	27.81	133	P	P	06 50 57.7	+0.2
BKNI	Bangkinang	28.71	284	P	P	06 51 06.7	+1.1
	comp=Z,2μmcomp=Z,73nm,0.6s						
CMSA	Cobar Meteorol	28.76	149	P	P	06 51 07.4	+1.6
	baz=29,SNR=39						
IPM	Ipoh	30.10	292	P	P	06 51 18.8	+0.8
IPM				IAmb	IAmb	06 51 21.2	
	comp=Z,35nm,0.9s						
IPM	Ipoh	30.10	292	P	P	06 51 19.0	+1.1
MNSI	Mandailing Nat	30.24	284	P	P	06 51 18.8	-0.3
	comp=Z,5μmcomp=Z,65nm,1.0s						
KULM	Kulim	30.76	293	P	P	06 51 24.2	+0.5
KULM				IAmb	IAmb	06 51 27.0	
	comp=Z,67nm,1.2s						
KULM	Kulim	30.76	293	P	P	06 51 24.0	+0.3
ARMA	Armidale	31.37	140	P	P	06 51 32.0	+2.9
	baz=32,SNR=9.3						
ARMA	Armidale	31.37	140	P	P	06 51 31.0	+1.9
RPSI	Rantau Prapat	31.43	287	P	P	06 51 29.1	-0.6
RPSI				IAmb	IAmb	06 51 33.4	
	comp=Z,48nm,0.7s						
PSI	Prapat	31.46	288	P	P	06 51 29.1	-1.0
	comp=Z,39nm,0.8s,baz=179,slow=1.7,SNR=27						
PSI	Prapat	31.46	288	P	P	06 51 29.1	-1.0
PSI				pmax	pmax		
	comp=Z,48nm,0.7s						
ARPS	Mount Arapiles	31.59	160	P	P	06 51 32.9	+2.2
	baz=32,SNR=20						
QIZ	Qiongzhong	32.20	325	P	P	06 51 36.2	-0.1
QIZ				S	S	06 56 42.3	+2.5
QIZ				LR	LR		
	comp=Z,220nm,14.6s						
QIZ				LR	LR		
	comp=Z,120nm,12.6s						
QIZ				LR	LR		
	comp=Z,330nm,16.3s						
GSI	Gunungsitoli	32.31	284	IAmb	IAmb	06 51 40.1	
	comp=Z,63nm,0.9s						
GSI	Gunungsitoli	32.31	284	P	P	06 51 38.3	+1.0
	comp=Z,83nm,1.4s						
YNG	Young	32.33	149	P	P	06 51 39.5	+2.3
	baz=32,SNR=10						
YHNB	Yeheng	32.66	347	P	P	06 51 40.0	-0.3
YHNB				IAmb	IAmb	06 51 47.6	
	comp=Z,42nm,1.0s						
TRTT	Trang	32.71	297	P	P	06 51 40.0	-0.8
	comp=Z,74nm,1.1s						
CAN	Canberra	33.44	149	IAmb	IAmb	06 52 17.2	
	comp=Z,23nm,0.7s						

TOO Toolangi 33.67 156 P P 06 51 52.0 +3.1
baz=34,SNR=6.7
TOO Toolangi 33.67 156 P P 06 51 52.1 +3.2
TOO pmax pmax
comp=Z,17nm,0.7s
TOO Toolangi 33.67 156 P P 06 51 52.1 +3.2
SRAK Srakaew 34.00 309 P P 06 51 49.9 -2.1
comp=Z,2µmcomp=Z,152nm,0.9s
SURT Suratani 34.01 298 P P 06 51 55.5 +3.5
comp=Z,1.4nm,1.2s
JOW Kunigami 34.01 359 P P 06 51 52.8 +0.9
LHMI Lhok Sumawe 34.15 291 P P 06 51 53.5 +0.2
LHMI Lhok Sumawe 34.15 291 P P 06 51 55.7 +2.4
comp=Z,3µmcomp=Z,210nm,1.0s
MLSI Meulaboh, Aceh 34.32 289 P P 06 51 55.7 +0.9
CHAI Chaiyaphum 35.20 311 P P 06 52 03.8 +1.5
comp=Z,49nm,0.8s
NONG Nongkai 35.77 315 P P 06 52 08.8 +1.7
comp=Z,31nm,1.6s
PBKT Sadao Pong 36.38 311 P P 06 52 23.0 +11
SRDT SRDT 36.49 306 P P 06 52 14.5 +1.1
comp=Z,7µmcomp=Z,25nm,1.3s
JCJ Chichijima 36.64 20 P P 06 52 12.8 -1.6
comp=Z,38nm,0.5s,baz=127,slow=20,SNR=1.8
LOEI Loei 36.75 313 P P 06 52 14.3 -1.2
comp=Z,2µmcomp=Z,35nm,1.2s
UTHA Uthaitani 36.93 308 P P 06 52 17.8 +0.8
comp=Z,645nmcomp=Z,83nm,1.1s
LHI Lord Howe Isla 37.08 134 P P 06 52 20.6 +2.5
baz=37,SNR=3.3
PHIT Phitsanulok 37.17 311 P P 06 52 21.2 +2.2
comp=Z,186nm,1.1s
UTTA Uttaradit 37.42 312 P P 06 52 21.0 -0.1
comp=Z,603nmcomp=Z,54nm,1.1s
SLVN Son La 37.55 320 P P 06 52 21.6 -0.7
UMPA Umpang Tak 37.77 309 P P 06 52 24.0 -0.1
comp=Z,6µmcomp=Z,57nm,1.1s
SUKH Sukhothai 37.94 311 P P 06 52 26.7 +1.1
comp=Z,70nm,1.1s
SANVU Saraoutou 38.45 106 P P 06 52 31.8 +1.9
SANVU Saraoutou 38.45 106 P P 06 52 32.1 +2.2
LAMP Lampang 38.59 312 P P 06 52 33.1 +2.1
comp=Z,1µmcomp=Z,56nm,0.9s
CM36 Chiang Mai Arr 38.98 312 P P 06 52 35.0 +0.7
CM04 Chiang Mai Arr 39.00 311 P P 06 52 35.4 +1.0
comp=Z,298nmcomp=Z,33nm,0.9s
CM09 Chiang Mai Arr 39.02 311 P P 06 52 35.0 +0.5
comp=Z,283nmcomp=Z,35nm,1.2s
CM05 Chiang Mai Arr 39.02 311 P P 06 52 35.5 +0.9
comp=Z,234nmcomp=Z,25nm,0.9s
CM01 Chiang Mai Arr 39.02 311 P P 06 52 36.0 +1.4
comp=Z,907nmcomp=Z,41nm,1.2s
CM35 Chiang Mai Arr 39.04 312 P P 06 52 35.0 +0.3
CM02 Chiang Mai Arr 39.04 311 P P 06 52 36.1 +1.4
comp=Z,277nmcomp=Z,33nm,1.1s
CM31 Chiang Mai Arr 39.06 311 P P 06 52 37.1 +2.2
comp=Z,572nm,0.9s
CM31 Chiang Mai Arr 39.06 311 P P 06 52 35.0 +0.1
CM31 IAmb IAmb 06 52 37.9
comp=Z,93nm,1.3s
CMAR Chiang Mai Arr 39.06 311 P P 06 52 35.5 +0.6
comp=Z,28nm,1.0s,baz=142,slow=6.8,SNR=79
CMAR PcP PcP 06 54 43.5 +1.0
comp=Z,9.1nm,1.0s,baz=167,slow=2.5,SNR=5.6
CMAR ScP ScP 06 58 19.9 +1.1
comp=Z,1.8nm,0.3s,baz=162,slow=4.0,SNR=9.6
CMAR Chiang Mai Arr 39.06 311 P P 06 52 35.2 +0.3
CMAR PcP 06 54 43.0 +0.5
CM13 Chiang Mai Arr 39.06 311 P P 06 52 35.9 +0.9
comp=Z,296nmcomp=Z,32nm,0.9s
CM15 Chiang Mai Arr 39.07 311 P P 06 52 36.5 +1.5
comp=Z,26nm,0.9s
DZM Mont Dzumac 39.11 116 *e*LR LR 07 03 34.8
comp=Z,596nm,31.6s
CM34 Chiang Mai Arr 39.15 312 P P 06 52 36.0 +0.3
CM32 Chiang Mai Arr 39.25 312 P P 06 52 37.0 +0.5
CMMT Chiang Mai 39.28 312 P P 06 52 36.5 -0.2
comp=Z,28nm,1.2s
CHTO Chiang Mai 39.28 312 P P 06 52 37.1 +0.4
CHTO pmax pmax
comp=Z,49nm,1.0s
CHTO Chiang Mai 39.28 312 P P 06 52 37.1 +0.4
CHTO IAmb IAmb 06 52 39.6
comp=Z,49nm,1.0s
CM33 Chiang Mai Arr 39.28 312 P P 06 52 37.0 +0.3
YATNC Mamie plateau, 39.50 116 P P 06 52 41.6 +3.0
MHMT Maesarieng 39.65 310 P P 06 52 40.0 +0.2
comp=Z,984nmcomp=Z,17nm,1.0s
GYA Guiyang 39.90 328 ⇓P P 06 52 42.7 +0.8
GYA sP sP 06 53 24.5 +0.7
GYA PcP PcP 06 54 47.0 +1.9
GYA S S 06 58 42.9 +5.6
GYA sS sS 06 59 27.3 +1.0
GYA pmax pmax
comp=Z,38nm,1.1s
GYA LR LR
comp=Z,210nm,13.3s
WHN Wuhan 40.16 341 ⇓P P 06 52 44.7 +0.9
WHN pmax pmax
comp=Z,110nm,0.9s
JNU Nakatsue 40.32 3 P P 06 52 44.4 -0.7
comp=Z,24nm,0.8s,baz=242,slow=4.3,SNR=9.6
JNU Nakatsue 40.32 3 P P 06 52 44.6 -0.5
NJ2 Nanjing 40.33 347 *e*P P 06 52 45.6 +0.4
NJ2 pmax pmax
comp=Z,23nm,0.5s
KMI Kunming 41.06 323 ⇓P P 06 52 53.3 +1.7
KMI sP pwP 06 53 28.3 +3.3
KMI pmax pmax
comp=Z,69nm,1.1s
KMI pmax pmax
comp=Z,190nm,3.5s
KMI LR LR
comp=Z,380nm,16.1s
KMI LR LR
comp=Z,140nm,10.8s
KMI LR LR
comp=Z,190nm,18.0s
ENH Enshi 41.76 335 IAmb IAmb 06 52 58.8
comp=Z,34nm,0.6s
JHS Saijyo 42.34 5 IAmb IAmb 06 53 04.4
comp=Z,102nm,1.4s
TJN Taejon 43.54 358*ce*P P 06 53 08.4 -2.8
MAJO Matsushiro 44.57 11 *i* P P 06 53 17.7 -1.7
MAJO pmax pmax
comp=Z,37nm,1.0s
MAJO Matsushiro 44.57 11 P P 06 53 17.8 -1.7
MAT Matsushiro 44.57 11 P P 06 53 17.8 -1.6
MAT S S 06 59 39.6 -5.8
MJAR Matsushiro Arr 44.57 11 P P 06 53 17.9 -1.5
comp=Z,20nm,0.9s,baz=187,slow=9.3,SNR=21
MJAR PcP PcP 06 55 02.0 +1.8
comp=Z,2.7nm,0.7s,baz=199,slow=3.8,SNR=5.9
MJAR ScP ScP 06 58 40.2 -0.2
comp=Z,4.9nm,0.8s,baz=182,slow=5.1,SNR=5.8
KSAR Wonju Array Be 44.59 359 P P 06 53 20.2 +0.7
KSAR Wonju Array Be 44.59 359 P P 06 53 20.2 +0.7
KSRS Korea Array 44.60 359 P P 06 53 20.3 +0.7
comp=Z,20nm,0.7s,baz=175,slow=8.8,SNR=41
KSRS PcP PcP 06 55 01.8 +1.5
comp=Z,5.9nm,0.8s,baz=178,slow=4.2,SNR=6.0
KSRS ScP ScP 06 58 40.8 +0.3
comp=Z,2.0nm,0.7s,baz=162,slow=4.2,SNR=3.4
KS19 Wonju Array Si 44.65 359 P P 06 53 19.8 -0.3
KS19 IAmb IAmb 06 53 22.1
comp=Z,40nm,0.8s
CD2 Chengdu 44.99 329 ⇓P P 06 53 23.0 +0.1
CD2 S S 06 59 54.5 +2.8
CD2 pmax pmax
comp=Z,110nm,0.6s
CD2 pmax pmax
comp=Z,120nm,4.5s
CD2 LR LR
comp=Z,270nm,13.9s
CD2 LR LR
comp=Z,310nm,17.3s
CD2 LR LR
comp=Z,300nm,16.2s
XAN Xi'an 45.28 337 P P 06 53 24.6 -0.6
XAN pP pP 06 53 52.3 -1.2
XAN sP sP 06 54 05.3 -2.3
XAN PcP PcP 06 55 03.1 +0.3
XAN PcS PcS 06 58 52.7 -4.3
XAN pmax pmax
comp=Z,77nm,1.2s
XAN Xi'an 45.28 337 IAmb IAmb 06 53 26.3

comp=Z,47nm,0.8s
SAIH SAIHA 45.93 311 *e*P P 06 53 29.9 -0.6
SAIH IAmb IAmb 06 53 35.7
comp=Z,56nm,1.2s
DL2 Dalian 46.52 352 P P 06 53 35.8 +1.1
DL2 pmax pmax
comp=Z,60nm,0.7s
IMP Imphal 46.65 314 *e*P P 06 53 34.2 -1.9
IMP IAmb IAmb 06 53 39.7
comp=Z,14nm,0.5s
KOHI KOHIMA 47.10 316 *e*P P 06 53 38.5 -1.1
MOKO MOKOCHONG 47.20 316 *e*P P 06 53 39.6 -0.8
MOKO IAmb IAmb 06 53 42.6
comp=Z,62nm,0.6s
TIY Taiyuan 47.38 342 *e*P P 06 53 41.3 -0.2
TIY LR LR
comp=Z,1µm,13.5s
TIY LR LR
comp=Z,760nm,15.0s
ITAN ITANAGAR 48.27 317 *e*P P 06 53 48.7 +0.2
ITAN IAmb IAmb 06 53 53.9
comp=Z,83nm,0.2s
SHL Shillong 48.57 314 P P 06 53 49.9 -1.1
SHL pmax pmax
comp=Z,123nm,1.5s
SHL Shillong 48.57 314 *e*P P 06 53 50.5 -0.5
SHL IAmb IAmb 06 53 52.9
comp=Z,38nm,1.0s
SHL Shillong 48.57 314 P P 06 53 49.9 -1.1
BJT Baijiatuau 48.58 347 IAmb IAmb 06 53 52.2
comp=Z,39nm,0.8s
BJI Beijing 48.59 347 P P 06 53 50.3 -0.4
BJI sP sP 06 54 31.0 -2.7
BJI PcP PcP 06 55 16.8 +2.5
BJI S S 07 00 50.7 +8.2
BJI sS sS 07 01 32.7 -0.3
BJI pmax pmax
comp=Z,14nm,0.8s
BJI pmax pmax
comp=Z,370nm,6.4s
LZH Lanzhou 49.18 333 *e*P P 06 53 56.2 +0.7
LZH pP pP 06 54 25.8 +1.2
LZH sP sP 06 54 37.2 -1.5
LZH PcP PcP 06 55 18.8 +2.0
LZH pmax pmax
comp=Z,170nm,1.1s
LZH pmax pmax
comp=Z,340nm,4.1s
LZH LR LR
comp=Z,690nm,13.8s
LZH LR LR
comp=Z,440nm,14.9s
LZH LR LR
comp=Z,260nm,16.8s
OUZ Omahuta 49.51 131 P P 06 54 00.3 +2.5
OUZ IAmb IAmb 06 54 02.9
comp=Z,40nm,1.2s
MSHR Mys Shultsa 49.76 2 *i* P P 06 54 00.0 +0.5
MSHR pmax pmax
comp=Z,30nm,1.0s
PALK Pallekele 50.11 286 P P 06 54 03.1 +0.3
comp=Z,2.1nm,0.4s,baz=357,slow=22,SNR=3.6
PALK Pallekele 50.11 286 P P 06 54 02.9 +0.2
HHC Hu-ho-hao-te 50.53 343 *e*P P 06 54 06.0 +0.4
HHC pmax pmax
comp=Z,33nm,1.1s
HHC pmax pmax
comp=Z,180nm,8.1s
FOZ Fox Glacier 50.83 142 P P 06 54 08.3 +0.6
FOZ IAmb IAmb 06 54 11.5
comp=Z,30nm,0.8s
MLZ Mavora Lakes 50.86 145 IAmb IAmb 06 54 11.1
comp=Z,46nm,1.4s
CN2 Changchun 51.02 357 *e*P P 06 54 08.6 -0.4
CN2 pP pP 06 54 37.9 -0.3
CN2 PP PP 06 56 08.3 +1.3
CN2 S S 07 01 15.7 -0.5
WHZ Wether Hill Ro 51.07 145 IAmb IAmb 06 54 13.1
comp=Z,34nm,0.9s
USA0B Ussuriysk Arra 51.41 3 P P 06 54 12.0 +0.1
USA0B pmax pmax
comp=Z,23nm,0.9s
USA0B Ussuriysk Arra 51.41 3 P P 06 54 11.9 +0.1
USA0B IAmb IAmb 06 54 13.5
comp=Z,23nm,0.9s
USRK Ussuriysk Ar. 51.41 3 P P 06 54 12.1 +0.2
comp=Z,17nm,0.6s,baz=186,slow=7.0,SNR=85
USRK Ussuriysk Ar. 51.41 3 P P 06 54 11.8 -0.2
LSA Lhasa 51.64 317 P P 06 54 15.6 +1.1
LSA pmax pmax
comp=Z,230nm,0.8s
LSA Lhasa 51.64 317 *i* P P 06 54 15.8 +1.3
SNR=12
LSA Lhasa 51.64 317 IAmb IAmb 06 54 17.8
comp=Z,44nm,0.8s
RPZ Rata Peaks 51.69 142 P P 06 54 16.5 +2.4
comp=Z,113nm,0.8s,baz=284,slow=2.4,SNR=38
RPZ Rata Peaks 51.69 142 P P 06 54 16.0 +1.9
MDJ Mudanjiang 51.75 1 P P 06 54 15.1 +0.7
MDJ pP pP 06 54 41.0 -2.8
MDJ pmax pmax
comp=Z,32nm,1.2s
MDJ pmax pmax
comp=Z,160nm,5.0s
MDJ Mudanjiang 51.75 1 IAmb IAmb 06 54 16.2
comp=Z,23nm,0.9s
THZ Tophouse 51.88 139 IAmb IAmb 06 54 20.6
comp=Z,36nm,0.8s
OXZ Oxford 52.10 141 IAmb IAmb 06 54 24.1
comp=Z,31nm,0.6s
MDRS Chennai 52.32 293 *e*P P 06 54 19.4 +0.2
ODAN Odare 52.60 312 *e*P P 06 54 20.9 -0.4
comp=Z,93nm,0.8s
KHZ Kahutara 52.61 139 P P 06 54 22.6 +1.8
TEY Ternei 52.64 7⇑*e*P P 06 54 21.7 +0.7
TEY pmax pmax
comp=Z,40nm,0.9s
TEY pmax pmax
comp=N,20nm,1.0s
TAPN Taplejung 52.64 313 *e*P P 06 54 21.6 -0.1
comp=N,67nm,0.4s
ASAJ Asahikawa 52.75 12 P P 06 54 22.1 +0.3
ASAJ pmax pmax
comp=Z,16nm,0.9s
JKA Kamikawa-asahi 52.75 12 P P 06 54 22.1 +0.3
BKZ Black Stump Fm 53.20 134 IAmb IAmb 06 54 28.6
comp=Z,32nm,0.8s
RAMN Ramite 53.23 312 *e*P P 06 54 25.9 -0.1
comp=Z,189nm,0.8s
URZ Urewera 53.29 133 P P 06 54 26.0 +0.1
comp=Z,9.4nm,0.7s,baz=322,slow=8.9,SNR=4.9
URZ Urewera 53.29 133 IAmb IAmb 06 54 29.0
comp=Z,44nm,1.4s
GTA Gaotai 53.73 332 ⇑P P 06 54 29.5 +0.2
GTA PcP PcP 06 55 32.4 -1.3
GTA ScP ScP 06 59 22.9 +3.3
GTA S S 07 01 53.1 -0.4
GTA pmax pmax
comp=Z,120nm,1.3s
GTA pmax pmax
comp=Z,230nm,5.1s
GTA LR LR
comp=Z,260nm,16.4s
GTA LR LR
comp=Z,350nm,16.0s
GTA LR LR
comp=Z,170nm,17.4s
GUN Gumba 54.30 312 *e*P P 06 54 33.9 0.0
comp=Z,175nm,0.7s
PKI Pulchoki 54.46 311 *e*P P 06 54 34.9 -0.1
comp=Z,21nm,0.2s
PKIN Phulchoki 54.47 311 *e*P P 06 54 34.9 -0.1
comp=Z,45nm,0.6s
KKN Kakani 54.67 312 *e*P P 06 54 36.5 +0.1
DMN Daman 54.70 311 *e*P P 06 54 36.8 +0.1
comp=Z,116nm,1.0s
GKN Gorkha 55.27 311 *e*P P 06 54 40.6 0.0
comp=Z,62nm,0.3s
HYB Hyderabad 55.40 297 *i* P P 06 54 39.0 -2.6
HYB *e*pP pP 06 55 14.0 +2.4
HYB *e*sP sP 06 55 30.0 +4.3
HYB Hyderabad 55.40 297 *e*P P 06 54 38.9 -2.7
HYB IAmb IAmb 06 54 42.6
comp=Z,74nm,0.1s
YSS Yuzh-Sakhalins 55.50 12⇓*e*P P 06 54 41.5 -0.2
YSS pmax pmax

comp=Z,20nm,1.0s
YSS pmax pmax
comp=Z,200nm,4.2s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS Yuzh-Sakhalins 55.50 12 P P 06 54 41.9 +0.2
YSS IAmb IAmb 06 54 43.4
comp=Z,18nm,0.6s
KLR Kul'dur 56.42 2 P P 06 54 48.2 0.0
comp=Z,22nm,1.2s,baz=190,slow=4.9,SNR=9.5
KLR PcP PcP 06 55 43.2 -0.4
comp=Z,6.5nm,0.8s,baz=195,slow=6.2,SNR=3.4
KLR ScP ScP 06 59 30.8 -0.2
comp=Z,2.2nm,0.8s,baz=163,slow=12,SNR=5.5
KLR Kul'dur 56.42 2*ce*P P 06 54 47.8 -0.4
KLR pmax pmax
comp=Z,35nm,1.5s
HIA Hailar 56.95 353 P P 06 54 52.6 +0.6
HIA pmax pmax
comp=Z,22nm,1.4s
HIA Hailar 56.95 353 P P 06 54 52.6 +0.6
ULN Ulaanbaatar 58.26 343*ce*P P 06 55 00.6 -0.7
ULN pmax pmax
comp=Z,56nm,1.3s
ULN Ulaanbaatar 58.26 343 P P 06 55 01.0 -0.3
ULN IAmb IAmb 06 55 04.3
comp=Z,40nm,1.1s
GRNR Gornyy 58.28 6⇓*i*P P 06 55 01.9 +0.6
GRNR pmax pmax
comp=N,6.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,0.9s
SONM Songino Array 58.42 342 P P 06 55 03.1 +0.7
comp=Z,42nm,1.1s,baz=158,slow=6.6,SNR=94
SONM ScP ScP 06 59 39.4 -0.6
comp=Z,2.1nm,0.9s,baz=141,slow=4.6,SNR=4.5
SONM PKP2bc 07 24 52.0
comp=Z,1.6nm,1.0s,baz=282,slow=1.9,SNR=5.9
SONM Songino Array 58.42 342 P P 06 55 02.4 0.0
SONM IAmb IAmb 06 55 06.0
comp=Z,30nm,0.9s
BHPL Bhopal 58.69 303 *e*P P 06 55 02.6 -2.1
BHPL IAmb IAmb 06 55 06.1
comp=Z,25nm,1.0s
TYV Tymovskoe 59.23 10 *e*P P 06 55 09.9 +2.1
TYV pmax pmax
comp=Z,19nm,1.1s
TYV pmax pmax
comp=Z,100nm,2.6s
CASY Casey 60.15 188 P P 06 55 13.3 -0.6
CASY IAmb IAmb 06 55 17.8
comp=Z,47nm,1.2s
ZEA Zeya 60.89 359 *e*P P 06 55 19.8 +0.7
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZAK Zakamensk 61.63 342 *e*P P 06 55 23.6 -0.7
ZAK pmax pmax
comp=Z,15nm,1.2s
SMLA Simla 62.45 311 *e*P P 06 55 30.2 +0.2
SMLA *i* pP PcP 06 56 10.0 +1.8
SKR Severo-Kuril's 62.47 19 *e*P P 06 55 21.6 -8.1
SKR *e*S S 07 03 46.3 -0.2
SKR *e*SS SS 07 07 50.6 -2.5
SKR pmax pmax
comp=Z,18nm,1.3s
SKR pmax pmax
comp=Z,200nm,4.6s
SKR pmax pmax
comp=Z,100nm,6.1s
SKR MLR MLR
comp=Z,100nm,18.0s
SKR MLR MLR
comp=Z,100nm,16.0s
TLY Talaya 62.66 343 P P 06 55 31.4 +0.4
comp=Z,13nm,0.7s,baz=177,slow=6.4,SNR=13
TLY Talaya 62.66 343 *e*P P 06 55 32.2 +1.2
TLY pmax pmax
comp=Z,19nm,0.6s
TLY Talaya 62.66 343 P P 06 55 30.0 -1.0
TLY IAmb IAmb 06 55 34.1
comp=Z,22nm,0.9s
WMQ Urumqi 63.06 328 P P 06 55 34.8 +0.9
WMQ pP pP 06 56 05.0 +0.6
WMQ sP PcP 06 56 12.3 +1.8
WMQ pmax pmax
comp=Z,200nm,0.9s
WMQ pmax pmax
comp=Z,230nm,6.1s
WMQ Urumqi 63.06 328 P P 06 55 34.5 +0.6
WMQ pmax pmax
comp=Z,158nm,1.0s
WMQ Urumqi 63.06 328 P P 06 55 34.5 +0.6
MOY Mondy 63.47 341 *e*P P 06 55 37.6 +1.1
MOY pmax pmax
comp=Z,87nm,1.5s
DHRM DHARAMSHALA 63.63 311 *e*P P 06 55 36.4 -1.7
DHRM IAmb IAmb 06 55 44.3
comp=Z,72nm,0.3s
PEA0B Petropavlovsk- 65.06 19*ce*P P 06 55 45.4 -1.3
PEA0B Petropavlovsk- 65.06 19 IAmb IAmb 06 55 49.3
comp=Z,42nm,0.8s
PETK Petropavlovsk- 65.06 19 P P 06 55 47.4 +0.7
comp=Z,46nm,0.9s,baz=178,slow=5.0,SNR=34
PETK LR LR 07 19 14.0
comp=Z,52nm,21.9s,baz=209,slow=31
PETK PKP2bc 07 24 30.6
comp=Z,7.0nm,1.0s,baz=326,slow=7.7,SNR=4.0
PETK Petropavlovsk- 65.06 19 P P 06 55 45.7 -1.0
PET Petropavlovsk 65.30 19 *e*P P 06 55 48.0 -0.1
PET *e*S S 07 04 21.8 +0.5
PET pmax pmax
comp=Z,51nm,1.2s
PET MLR MLR
comp=Z,200nm,18.0s
PET Petropavlovsk 65.30 19 P P 06 55 48.3 +0.1
PET IAmb IAmb 06 55 51.1
comp=Z,59nm,1.3s
BOD Bodaibo 66.08 351 *e*P P 06 55 53.1 0.0
BOD pmax pmax
comp=Z,31nm,1.5s
NIL Nilore 66.55 311 P P 06 55 56.6 -0.1
NIL pmax pmax
comp=Z,45nm,1.0s
NIL Nilore 66.55 311 P P 06 55 56.6 -0.1
NIL IAmb IAmb 06 55 58.2
comp=Z,45nm,1.0s
NIL Nilore 66.55 311 P P 06 55 56.8 +0.1
ZSN Zaisan 66.97 329 *e*P P 06 55 59.9 +0.8
comp=Z,29nm,1.2s,baz=329
ZSN Zaisan 66.97 329 *e*P P 06 55 59.8 +0.8
ZSN pmax pmax
comp=Z,29nm,1.2s
DGZ Jazzator, Alta 67.27 332 *i* P P 06 56 01.3 +0.3
DGZ pmax pmax
comp=Z,120nm,1.0s
SHLS Shalkode 67.28 323 *e*P P 06 56 00.4 -0.8
comp=Z,56nm,0.8s,baz=323
SHLS Shalkode 67.28 323 *e*P P 06 56 00.4 -0.8
SHLS pmax pmax
comp=Z,56nm,0.8s
KSH Kashi 67.48 318 P P 06 56 03.0 +0.4
KSH PcP PcP 06 56 29.7 +0.7
KSH pmax pmax
comp=Z,140nm,0.8s
KSH pmax pmax
comp=Z,640nm,6.4s
UZB Uzynbulak 67.54 323 *i* P P 06 56 03.6 +0.7
comp=Z,49nm,1.2s,baz=323
UZB Uzynbulak 67.54 323 *i* P P 06 56 03.6 +0.7
UZB pmax pmax
comp=Z,49nm,1.2s
SATY Saty 67.86 322 *e*P P 06 56 05.6 +0.7
comp=Z,63nm,1.0s,baz=322
SATY Saty 67.86 322 *e*P P 06 56 05.6 +0.7
SATY pmax pmax
comp=Z,63nm,1.0s
MK31 Makanchi Array 67.88 327*c i*P P 06 56 04.8 0.0
MK31 Makanchi Array 67.88 327 P P 06 56 05.0 +0.2
MKAR Makanchi Array 67.88 327 P P 06 56 05.5 +0.7
comp=Z,67nm,0.7s,baz=122,slow=7.7,SNR=206
MKAR S S 07 04 47.2 -5.6
comp=Z,0.3nm,0.4s,baz=130,slow=11,SNR=6.4
MKAR Makanchi Array 67.88 327*ce*P P 06 56 05.0 +0.1
MKAR pmax pmax

comp=Z,67nm,0.7s
MKAR Makanchi Array 67.88 327 P **P** **06 56 04.9 +0.1**
KPKS Kokpek 67.92 323 *eP* **P** **06 56 05.9 +0.7**
comp=Z,105nm,1.0s,baz=323
KPKS *eS* **S** **07 04 56.2 +2.5**
baz=323
KPKS Kokpek 67.92 323 *eP* **P** **06 56 05.9 +0.7**
KPKS *eS* **S** **07 04 56.2 +2.5**
KPKS pmax pmax
comp=Z,105nm,1.0s
MAKZ Makanchi 68.06 327 P **P** **06 56 06.5 +0.6**
MAKZ pmax pmax
comp=Z,102nm,1.0s
MAKZ Makanchi 68.06 327 P **P** **06 56 06.5 +0.6**
TNSS Tian-Shan 68.74 322 *eP* **P** **06 56 11.7 +0.9**
baz=322
TNSS Tian-Shan 68.74 322 *eP* **P** **06 56 11.6 +0.9**
MDOK Medeo 68.75 322 *eP* **P** **06 56 11.1 +0.7**
baz=322
MDOK Medeo 68.75 322 *eP* **P** **06 56 11.1 +0.7**
ULHL Ulahol 68.75 321 P **P** **06 56 11.1 +0.6**
SNR=26
AAA Alma-Ata 68.85 322 *eP* **P** **06 56 11.7 +0.7**
comp=Z,33nm,0.8s,baz=322
AAA Alma-Ata 68.85 322 *eP* **P** **06 56 11.6 +0.7**
AAA pmax pmax
comp=Z,33nm,0.8s
TDK Taldyqorghan 68.97 324 *eP* **P** **06 56 12.0 +0.3**
comp=Z,84nm,1.2s,baz=324
TDK Taldyqorghan 68.97 324 *eP* **P** **06 56 11.9 +0.3**
TDK pmax pmax
comp=Z,84nm,1.2s
MA2 Magadan 69.00 12 *ceP* **P** **06 56 12.2 +0.8**
MA2 pmax pmax
comp=Z,44nm,1.0s
MA2 Magadan 69.00 12 P **P** **06 56 11.9 +0.5**
MA2 IAmb IAmb 06 56 14.2
comp=Z,52nm,1.1s
CHKK Chushkaly 69.16 323⇑ *iP* **P** **06 56 12.8 0.0**
baz=323
CHKK Chushkaly 69.16 323⇑ *iP* **P** **06 56 12.8 0.0**
YAK Yakutsk 69.20 0 *eP* **P** **06 56 11.1 -1.5**
YAK *e* 06 56 34.1
YAK *e**PP **pwP** **06 56 46.9 -1.4**
YAK *e* 06 58 43.4
YAK *eS* **S** **07 05 06.1 -1.6**
YAK *e* 07 05 58.3
YAK pmax pmax
comp=Z,87nm,0.9s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK pmax pmax
comp=Z,21nm,1.3s
YAK pmax pmax
comp=E,17nm,1.3s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK smax smax
comp=E,53nm,1.7s
YAK smax smax
comp=N,21nm,1.8s
YAK Yakutsk 69.20 0 P **P** **06 56 12.8 +0.2**
TKM2 Tokmak 2 69.51 321 P **P** **06 56 15.9 +0.7**
SNR=82
KUU Kurty 69.58 322 *eP* **P** **06 56 15.9 +0.5**
comp=N,163nm,0.9s,baz=322
KUU Kurty 69.58 322 *eP* **P** **06 56 15.9 +0.5**
KUU pmax pmax
comp=Z,163nm,0.9s
KBK Karagaybulak 69.78 321 P **P** **06 56 18.2 +1.4**
SNR=36
UCH Uchtor 69.83 320 P **P** **06 56 18.6 +1.1**
SNR=103
AAK Ala-Archa 70.05 320 P **P** **06 56 19.6 +1.1**
comp=Z,70nm,0.8s,baz=134,slow=4.6,SNR=99
AAK PKP2bc 07 24 20.5
comp=Z,5.3nm,0.9s,baz=256,slow=2.7,SNR=16
AAK LR LR 07 27 20.7
comp=Z,68nm,20.9s,baz=114,slow=36
AAK Ala-Archa 70.05 320 P **P** **06 56 19.7 +1.2**
SNR=85
AAK Ala-Archa 70.05 320 *iP* **P** **06 56 19.5 +1.1**
SNR=104
AAK Ala-Archa 70.05 320 *ceP* **P** **06 56 18.1 -0.4**
AAK pmax pmax
comp=Z,330nm,0.9s
AAK Ala-Archa 70.05 320 P **P** **06 56 19.6 +1.1**
CHMS Chumysh 70.08 321 P **P** **06 56 19.0 +0.5**
SNR=26
KBL Kabul 70.08 311 P **P** **06 56 19.2 +0.3**
KBL pmax pmax
comp=Z,23nm,1.1s
KBL Kabul 70.08 311 P **P** **06 56 19.2 +0.3**
KBL Kabul 70.08 311 P **P** **06 56 19.5 +0.5**
SNR=8.2
AML Almayashu 70.31 320 P **P** **06 56 20.9 +0.6**
SNR=140
USP Ospenovka 70.38 321 P **P** **06 56 20.9 +0.6**
SNR=135
SGDS Sogindy 70.39 321⇑ *iP* **P** **06 56 20.9 +0.5**
comp=Z,33nm,1.0s,baz=321
SGDS Sogindy 70.39 321 *c iP* **P** **06 56 20.9 +0.5**
SGDS pmax pmax
comp=Z,33nm,1.0s
EKS2 Erkin-Say 70.52 320 P **P** **06 56 22.4 +1.1**
SNR=129
ZAA0 Zalesovo Array 71.39 334 P **P** **06 56 25.5 -0.6**
ZAA0 IAmb IAmb 06 56 28.6
comp=Z,60nm,0.9s
ZALV Zalesovo Beam 71.39 334 P **P** **06 56 25.6 -0.4**
comp=Z,46nm,0.8s,baz=127,slow=5.5,SNR=93
ZALV S **S** **07 05 27.3 -6.2**
comp=Z,1.5nm,0.8s,baz=117,slow=15,SNR=3.8
ZALV LR LR 07 28 15.9
comp=Z,70nm,20.5s,baz=96,slow=36
ZALV Zalesovo Beam 71.39 334 P **P** **06 56 25.9 -0.2**
ZALV Zalesovo Beam 71.39 334 P **P** **06 56 25.9 -0.2**
BTLS Baital 71.58 322⇑ *iP* **P** **06 56 27.8 +0.4**
comp=Z,44nm,1.5s,baz=322
BTLS Baital 71.58 322 *c iP* **P** **06 56 27.8 +0.4**
BTLS pmax pmax
comp=Z,44nm,1.5s
DZA Taraz 72.20 319⇑ *iP* **P** **06 56 31.5 +0.2**
comp=Z,24nm,0.7s,baz=319
DZA Taraz 72.20 319 *c iP* **P** **06 56 31.4 +0.2**
DZA pmax pmax
comp=Z,24nm,0.7s
KURBB Kurchatov Arra 72.20 329 P **P** **06 56 31.3 +0.3**
comp=Z,75nm,0.7s,baz=131,slow=5.0,SNR=89
KURK Kurchatov 72.21 329 P **P** **06 56 31.3 +0.2**
KURK Kurchatov 72.21 329 P **P** **06 56 31.3 +0.2**
VNDA Vanda 72.23 173 P **P** **06 56 31.9 +1.1**
comp=Z,2.0nm,0.3s,baz=316,slow=7.6,SNR=20
VNDA LR LR 07 26 11.4
comp=Z,150nm,19.9s,baz=329,slow=34
VNDA Vanda 72.23 173 P **P** **06 56 31.8 +1.0**
SEY Seymchan 72.40 11 *iP* **P** **06 56 31.9 0.0**
IUG Iuzhnay 72.70 318⇑ *iP* **P** **06 56 35.0 +0.7**
comp=Z,56nm,1.0s,baz=318
IUG Iuzhnay 72.70 318 *c iP* **P** **06 56 35.0 +0.7**
IUG pmax pmax
comp=Z,56nm,1.0s
KK31 Karatay Array 72.83 319 P **P** **06 56 35.6 +0.6**
KK31 pmax pmax
comp=Z,94nm,1.2s
KK31 Karatay Array 72.83 319 P **P** **06 56 35.5 +0.6**
KKAR Karatay Array 72.83 319 P **P** **06 56 35.5 +0.5**
KKAR pmax pmax
comp=Z,94nm,1.2s
KKAR Karatay Array 72.83 319 P **P** **06 56 35.5 +0.5**
BRLS Borolday 73.23 319 *eP* **P** **06 56 37.6 +0.3**
comp=Z,51nm,0.8s,baz=319
BRLS Borolday 73.23 319 *eP* **P** **06 56 37.6 +0.3**
BRLS pmax pmax
comp=Z,51nm,0.8s
JLN Jalan Bani Buh 73.97 295 P **P** **06 56 42.1 0.0**
MAW Mawson 74.17 201 P **P** **06 56 43.8 +1.5**
comp=Z,49nm,1.2s,baz=0.6,slow=5.6,SNR=3.5
MAW LR LR 07 27 33.6
comp=Z,184nm,18.2s,baz=58,slow=34
WBK Wadi Bani Khal 74.48 296 P **P** **06 56 44.7 -0.3**
WSAR Wadi Sarin 74.95 296 P **P** **06 56 48.1 +0.4**
comp=Z,7.0nm,0.4s,baz=167,slow=5.0,SNR=14
BRZS Berezniki 74.95 326 *eP* **P** **06 56 47.5 +0.4**
comp=Z,43nm,0.9s,baz=326
BRZS Berezniki 74.95 326 *eP* **P** **06 56 47.5 +0.4**
BRZS pmax pmax
comp=Z,43nm,0.9s
MHTO MHTO 74.98 294 P **P** **06 56 47.1 -0.8**
SNR=8.6
JMDO Jabal Madar 75.20 295 P **P** **06 56 48.5 -0.7**
HRA Herat 75.23 308 IAmb IAmb 06 56 52.0
comp=Z,61nm,1.1s
SMDO Samad 75.42 296 P **P** **06 56 50.2 -0.4**
BIDO Bidbid 75.47 297 P **P** **06 56 50.8 +0.2**
BSY Bisya 76.10 296 P **P** **06 56 54.1 -0.2**
SHAO Shalim 76.45 290 P **P** **06 56 57.6 +1.2**
ARQ Araqi 76.85 296 P **P** **06 57 01.4 +2.9**
SOHO SOHO 77.03 297 *i* P **P** **06 56 59.6 +0.1**
SNR=9.2
SOHO SOHO 77.03 297 P **P** **06 56 60.0 +0.5**
UOSS Minazif 77.52 297 *i* P **P** **06 57 02.3 +0.1**
SNR=6.6
UOSS Minazif 77.52 297 P **P** **06 57 03.0 +0.7**
UOSS Minazif 77.52 297 P **P** **06 57 01.8 -0.4**
HATD Hatta, Dubai 77.56 297 P **P** **06 57 03.2 +0.7**
ASHO Ashiyiah 77.59 297 *i* P **P** **06 57 03.5 +0.9**
SNR=8.8
ASHO Ashiyiah 77.59 297 P **P** **06 57 02.4 -0.2**
SNR=5.3
MASF Masafi 77.67 298 P **P** **06 57 04.3 +1.2**
SNR=5.1
BANOM Banah 77.68 298 *i* P **P** **06 57 04.3 +1.1**
SNR=6.9
BANOM Banah 77.68 298 P **P** **06 57 04.1 +0.9**
SNR=7.0
BVAR Borovoye Array 77.74 328 P **P** **06 57 02.7 -0.1**
comp=Z,27nm,0.8s,baz=152,slow=19,SNR=74
BRVK Borovoye 77.81 328 *ceP* **P** **06 57 03.3 +0.1**
BRVK pmax pmax
comp=Z,36nm,0.8s
BRVK Borovoye 77.81 328 P **P** **06 57 02.4 -0.9**
BRVK IAmb IAmb 06 57 06.1
comp=Z,34nm,0.8s
SHME Shamm 77.85 299 P **P** **06 57 04.8 +0.8**
FAQ Al Faqa, Dubai 78.01 297 P **P** **06 57 05.4 +0.4**
ASUD Al Ashush, Dub 78.22 297 P **P** **06 57 07.2 +1.1**
TIXI Tiksi 78.86 0 *i* P **P** **06 57 07.9 -0.7**
TIXI Tiksi 78.86 0 P **P** **06 57 07.5 -1.1**
TIXI IAmb IAmb 06 57 10.5
comp=Z,40nm,0.8s
GEYT Alibeck 79.54 311 P **P** **06 57 13.3 +0.2**
comp=Z,10.0nm,0.7s,baz=193,slow=5.9,SNR=17
GEYT Alibeck 79.54 311 P **P** **06 57 12.7 -0.4**
GYA0B ALIBECK ARRAY 79.54 311 P **P** **06 57 12.9 -0.1**
TBI Tubuai 79.57 112 *e*LR LR 07 22 17.7
comp=Z,210nm,31.2s
PPT2 Papeete2 79.87 107 *e*LR LR 07 22 19.5
comp=Z,177nm,30.2s
PPT Papeete 79.87 107 P **P** **06 57 17.8 +2.6**
comp=Z,47nm,1.0s,baz=210,slow=24,SNR=3.5
PPT LR LR 07 31 03.9
comp=Z,24nm,18.2s,baz=260,slow=34
AB31 Akbulak array 82.05 322⇑ *eP* **P** **06 57 25.6 -0.5**
AB31 pmax pmax
comp=Z,35nm,0.9s
ABKAR Akbulak array 82.05 322 P **P** **06 57 25.9 -0.2**
QSPA South Pole Qui 82.61 180 P **P** **06 57 29.5 +0.7**
comp=Z,17nm,0.8s,baz=16,slow=0.2,SNR=13
QSPA South Pole Qui 82.61 180 P **P** **06 57 29.4 +0.5**
SYO Syowa Base 82.88 201‖ *i*PcP **PcP** **06 57 34.0 -0.5**
AKTO Aktyubinsk 83.63 323 P **P** **06 57 34.3 0.0**
comp=Z,27nm,0.7s,baz=115,slow=7.5,SNR=63
AKTO LR LR 07 39 32.3
comp=Z,76nm,18.1s,baz=126,slow=39
SVE Sverdlovsk 84.47 329 *ceP* **P** **06 57 38.4 +0.1**
SVE pmax pmax
comp=Z,65nm,1.0s
SDPT Sand Point 85.28 33 P 06 57 42.0
baz=250
ARU Arti 85.39 328 *ceP* **P** **06 57 42.7 -0.2**
ARU pmax pmax
comp=Z,58nm,1.0s
ARU Arti 85.39 328 P **P** **06 57 41.9 -1.0**
ARU IAmb IAmb 06 57 45.5
comp=Z,49nm,0.9s
CHNA Chernabura Isl 85.59 33 P 06 57 43.6
baz=251
RDF Al-Radifah 85.92 300 *eP* 06 57 44.5
MIB Mutribah 86.26 301 *eP* 06 57 45.8
RAYN Ar Rayn 86.79 294 *i* P **P** **06 57 50.8 +0.2**
SNR=17
RAYN Ar Rayn 86.79 294 P **P** **06 57 50.6 -0.1**
RAYN pmax pmax
comp=Z,17nm,0.9s
RAYN Ar Rayn 86.79 294 P **P** **06 57 50.6 -0.1**
RDOG Red Dog Mine 88.87 20 IAmb IAmb 06 58 01.4
comp=Z,31nm,1.3s
RDOG Red Dog Mine 88.87 20 P 06 57 59.3
baz=247
OHAK Old Harbor 89.67 32 P 06 58 03.8
baz=256
TTA Tatalina 89.86 26 IAmb IAmb 06 58 05.8
comp=Z,29nm,1.5s
TTA Tatalina 89.86 26 P 06 58 04.7
baz=254
KDAK Kodiak Island 90.17 32 P **P** **06 58 06.6 +0.9**
comp=Z,7.3nm,0.9s,baz=293,slow=3.3,SNR=4.4
KDAK Kodiak Island 90.17 32 P **P** **06 58 06.5 +0.7**
KDAK IAmb IAmb 06 58 12.7
comp=Z,33nm,1.4s
GEVA Gevas 91.18 308 P **P** **06 58 11.5 +0.4**
GEVA IAmb IAmb 06 58 13.8
comp=Z,23nm,0.9s
ZEI Tsey 91.21 313 *eP* **P** **06 58 11.2 0.0**
ZEI pmax pmax
comp=Z,16nm,1.3s
KMBO Kilima Mbogo 91.38 269 P **P** **06 58 13.3 +0.7**
comp=Z,5.5nm,1.0s,baz=50,slow=7.6,SNR=6.9
KMBO LR LR 07 34 33.6
comp=Z,42nm,21.7s,baz=89,slow=32
PPLA Purkeypile 91.54 27 P **P** **06 58 09.9 -2.3**
PPLA IAmb IAmb 06 58 14.2
comp=Z,24nm,1.2s
PPLA Purkeypile 91.54 27 P 06 58 12.2
baz=257
IMAR Indian Mountai 91.62 24 P **P** **06 58 11.4 -0.9**
NVL N'lazarevskaya 91.64 197 *eP* **P** **06 58 13.6 +1.2**
NVL pmax pmax
comp=Z,6.0nm,0.9s
CHUM Lake Minchumin 91.71 26 P 06 58 13.0
baz=257
SUA Susitna One 91.89 28 P 06 58 13.1
baz=258
A21K Barrow 92.05 18 P **P** **06 58 13.7 -0.5**
A21K Barrow 92.05 18 P 06 58 14.0
baz=253,SNR=6.1
KBZ Khabaz 92.08 314 P **P** **06 58 15.3 +0.4**
comp=Z,3.0nm,0.8s,baz=210,slow=5.2,SNR=5.7
KBZ Khabaz 92.08 314 *i* P **P** **06 58 14.4 -0.5**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
SHA1 Shidzhatmaz 92.25 314 *i* P **P** **06 58 14.5 -1.6**
KIV Kislovodsk 92.26 314 *eP* **P** **06 58 14.4 -1.5**
KIV pmax pmax
comp=Z,16nm,1.1s
RC01 Rabbit Creek A 92.29 29 P 06 58 15.4
baz=259
BPAW Bear Paw Mtn. 92.33 26 P 06 58 15.2
baz=258
TRF Thorofare Moun 92.50 26 P **P** **06 58 16.1 -0.6**
TRF IAmb IAmb 06 58 17.5
comp=Z,13nm,1.1s
TRF Thorofare Moun 92.50 26 P 06 58 15.8
baz=259
PMR Palmer 92.67 28 P 06 58 16.5
baz=260
MARD Mardin 92.83 307 P **P** **06 58 19.0 +0.2**
MARD IAmb IAmb 06 58 20.8
comp=Z,14nm,0.8s
KNK Knik Glacier 92.96 29 P 06 58 18.0
baz=260
SML Sawmill 93.09 28 P 06 58 18.1
baz=260,SNR=6.1
SML Sawmill 93.09 28 P **P** **06 58 19.4 +0.1**
RND Reindeer 93.13 27 P **P** **06 58 18.3 -1.1**
RND pmax pmax
comp=Z,25nm,0.9s
RND Reindeer 93.13 27 P **P** **06 58 18.3 -1.1**
MCK McKinley 93.15 26 P 06 58 18.4
baz=260,SNR=6.7
WAT2 Susitna Watana 93.17 27 P 06 58 18.6
baz=260,SNR=8.9
PRGR Permogore 93.19 332 *eP* **P** **06 58 17.5 -2.1**
PRGR pmax pmax
comp=Z,19nm,1.4s
I23K Minto, Yukon-K 93.22 25 P **P** **06 58 19.1 -0.6**
I23K IAmb IAmb 06 58 21.4
comp=Z,18nm,0.9s
I23K Minto, Yukon-K 93.22 25 P 06 58 19.0
baz=260,SNR=16
NEA2 Nenana 93.24 25 P 06 58 19.2
baz=260
COLD Coldfoot 93.28 23 P **P** **06 58 20.8 +0.9**
COLD Coldfoot 93.28 23 P 06 58 19.4
baz=259,SNR=9.4
WAT6 Susitna Watana 93.49 27 P 06 58 20.4
baz=261,SNR=5.6
WRH Wood River Hil 93.64 26 P **P** **06 58 20.6 -1.1**
WRH IAmb IAmb 06 58 22.4
comp=Z,12nm,0.9s
MDM Murphy Dome 93.66 25 P **P** **06 58 22.5 +0.7**
TOLK Toolik Lake Re 93.77 21 P **P** **06 58 22.1 -0.2**
TOLK Toolik Lake Re 93.77 21 P 06 58 22.0
baz=260,SNR=7.3
CCB Clear Creek Bu 93.79 25 P **P** **06 58 21.3 -1.0**
CCB IAmb IAmb 06 58 22.8
comp=Z,17nm,1.0s
VRH Novokhopyorsk 93.85 321 *eP* **P** **06 58 21.3 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s
HDA Harding Lake 94.12 26 P 06 58 23.5
baz=262
HDA P 06 58 23.5
baz=262
M24K Tolsona, Glenn 94.14 28 P **P** **06 58 24.1 0.0**
M24K Tolsona, Glenn 94.14 28 P 06 58 23.5
baz=262,SNR=6.1
KLU Klutina 94.18 29 P 06 58 24.0
baz=262
IL31 94.20 25 P **P** **06 58 22.1 -2.1**
ILAR Eielson Array 94.20 25 P **P** **06 58 22.7 -1.5**
comp=Z,5.0nm,1.0s,baz=284,slow=3.6,SNR=24
ILAR PKKPbc **PKKPdf** **07 15 25.5 -1.0**
comp=Z,0.5nm,0.8s,baz=146,slow=1.1,SNR=4.6
ILAR Eielson Array 94.20 25 P **P** **06 58 22.1 -2.2**
BELA Belgrano 2 94.38 183 P **P** **06 58 25.4 +0.5**
BELA IAmb IAmb 06 58 27.5
comp=Z,12nm,0.8s
PAX Paxson 94.58 27 P 06 58 25.8
baz=263
PAX Paxson 94.58 27 P **P** **06 58 26.6 +0.4**
PAX pmax pmax
comp=Z,23nm,1.3s
PAX Paxson 94.58 27 P **P** **06 58 26.6 +0.4**
PAX IAmb IAmb 06 58 27.9
comp=Z,22nm,1.3s
N25K Chitina, Valde 94.82 29 P 06 58 27.9
baz=264
SNAA Sanae 95.02 194 P **P** **06 58 29.8 +1.7**
SNAA Sanae 95.02 194 *ceP* **P** **06 58 29.7 +1.7**
SNAA pmax pmax
comp=Z,8.0nm,1.1s
SNAA Sanae 95.02 194 P **P** **06 58 29.0 +1.0**
SNAA IAmb IAmb 06 58 31.8
comp=Z,17nm,1.2s
FYU Fort Yukon 95.11 24 P **P** **06 58 29.4 +1.1**
VORD Divnogorie 95.35 321 *eP* **P** **06 58 28.2 -1.6**
VORD pmax pmax
comp=Z,20nm,1.0s
SCRK Sand Creek 95.35 26 P 06 58 29.9
baz=264
VSR Storozhevoye 95.45 321 *eP* **P** **06 58 29.3 -0.9**
VSR pmax pmax
comp=Z,10.0nm,0.8s
BMAR Burnt Mountain 95.46 23 P **P** **06 58 29.6 -0.4**
LPSR Galich'ya Gora 95.71 322 *eP* **P** **06 58 28.7 -2.7**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
KLMR Klimovskoe 96.02 331 *eP* P 06 58 27.5 -5.1
KLMR *e* 07 02 21.3
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR Klimovskoe 96.02 331 *eP* P 06 58 27.5 -5.1
KLMR AMP 06 58 30.1
comp=Z,19nm,1.2s
KLMR *e*PP **PP** **07 02 21.3 -5.5**
ANN Anapa 96.09 314 *eP* **P** **06 58 32.5 -0.8**
ANN pmax pmax
comp=Z,49nm,1.1s
K27K Chicken 96.19 26 P **P** **06 58 33.8 +0.4**
K27K Chicken 96.19 26 P 06 58 34.0
baz=266
BCAR Beaver Creek A 96.26 27 P **P** **06 58 33.3 -0.5**
VNA2 Neumayer--Watz 96.59 193 P **P** **06 58 38.2 +3.1**
baz=130,slow=3.5
EGAK Eagle 96.64 26 P 06 58 35.6
baz=267
VNA3 Neumayer Olymp 96.86 192 P **P** **06 58 38.5 +2.2**
OBN Obninsk 97.26 325‖ *eP* **P** **06 58 36.0 -2.3**
OBN *eS* **SKSac** **07 08 56.2 -6.9**
OBN *e*SS **SS** **07 16 21.8 -10**
OBN pmax pmax
comp=Z,11nm,1.0s
DAWY Dawson 97.38 26 IAmb IAmb 06 58 40.8
comp=Z,9.0nm,1.0s
LSZ Lusaka 98.20 253 P **P** **06 58 41.5 -2.1**
LSZ pmax pmax
comp=Z,6.0nm,0.8s
LSZ Lusaka 98.20 253 P **P** **06 58 41.5 -2.1**
LSZ IAmb IAmb 06 58 47.1
comp=Z,5.5nm,0.8s
BRTR Keskin Array B 98.61 309 P Pdif 06 58 45.3 +0.3
comp=Z,0.9nm,0.7s,baz=120,slow=4.9,SNR=3.5
BRTR PP **PP** **07 02 43.9 -3.6**
comp=Z,1.9nm,1.0s,baz=87,slow=5.1,SNR=2.6
APA Apatity 98.83 337‖ *iP* Pdif 06 58 55.8 +11
APA *i* *PP sP 06 59 31.1 -1.4
APA pmax pmax
comp=Z,10.0nm,0.9s
INK Inuvik 99.65 22 P **Pdif** **06 58 47.9 -0.8**
comp=Z,4.1nm,1.1s,baz=256,slow=3.4,SNR=6.5
INK PKiKP **PKiKP** **07 03 16.8 0.0**
comp=Z,0.8nm,0.7s,baz=206,slow=11,SNR=2.0
ARCES ARCESS Array B 101.51 340 P **Pdif** **06 58 56.5 -0.5**
comp=Z,8.5nm,1.0s,baz=70,slow=5.3,SNR=6.7
ARCES PKiKP **PKiKP** **07 03 20.4 +0.1**
comp=Z,2.5nm,0.8s,baz=98,slow=1.7,SNR=13
ARCES PKKPbc **PKKPbc** **07 15 04.0 -3.6**
comp=Z,1.5nm,0.6s,baz=287,slow=4.7,SNR=7.0
AKASG Malin Array Be 101.72 320 P **Pdif** **06 58 57.8 -0.5**
comp=Z,0.8nm,0.4s,baz=73,slow=4.2,SNR=7.1
AKASG PP **PP** **07 03 11.5 +1.0**
comp=Z,0.7nm,0.5s,baz=74,slow=7.0,SNR=6.8
MNK Minsk 102.30 324 *i* P **Pdif** **06 58 59.7 -1.1**
comp=E,5.0nm,1.1s
MNK *i* P **Pdif** **06 58 59.7 -1.1**
comp=N,33nm,1.0s
MNK *i* P **Pdif** **06 58 59.7 -1.1**
comp=Z,14nm,0.8s
MNK *i* pP **pPdif** **06 59 28.5 -5.5**
MNK *i* PP **PP** **07 03 13.3 -1.4**
MNK *i* PPP PPP 07 05 23.5
MNK *i* S **SKSac** **07 09 28.8 +0.8**
MNK *i* sS SKKSac 07 10 21.3 +14
MNK *i* SS SS 07 17 16.2 -25
MNK *i* SSS SSS 07 21 37.7
MNK *i* LRM MLR 07 45 46.2
comp=Z,85nm,12.1s
MNK *i* LRM MLR 07 45 52.6
comp=E,9.0nm,9.5s
MNK *i* LRM MLR 07 45 56.4
comp=N,102nm,14.6s
FINES FINESS Array B 102.51 331 P **Pdif** **06 59 01.1 -0.5**
comp=N,6.7nm,1.1s,baz=69,slow=9.1,SNR=2.9
FINES PKiKP **PKiKP** **07 03 22.8 +0.6**
comp=N,2.9nm,0.7s,baz=117,slow=3.0,SNR=6.6
FINES FINESS Array B 102.51 331 P **Pdif** **06 59 00.3 -1.3**
FINES FINESS Array B 102.51 331 **Pdif** **06 59 00.3 -1.3**
C36M Paulatuk 102.88 20 P 06 59 03.4
baz=284
NACGM Naroch 102.90 325 *i* P **Pdif** **06 59 02.0 -1.5**
NACGM *i* P **Pdif** **06 59 02.0 -1.5**
NACGM *i* P **Pdif** **06 59 02.0 -1.5**
NACGM *i* sP **sPdif** **06 59 47.8 -2.5**
NACGM *i* PP PP 07 02 53.1 -26

NACGM *i* PPP PPP 07 04 50.2
NACGM *i* SKS 07 08 52.9
NACGM *i* S SKKSac 07 09 55.2 -16
NACGM *i* PPS PPS 07 12 36.1
NACGM *i* SSS SSS 07 18 08.9
B05A Bryant 108.18 42 P 07 03 33.8
baz=280
M02C Callahan 108.61 49 P 07 03 34.4
baz=277
YKA Yellowknife Ar 108.61 26 Pdiff **Pdif 06 59 28.4 -0.3**
comp=N,0.4nm,0.7s,baz=291,slow=4.0,SNR=6.2
YKA PKiKP **PKiKP 07 03 33.4 -0.1**
comp=N,2.2nm,0.9s,baz=306,slow=1.2,SNR=25
YKA PKKPbc **PKKPbc 07 14 42.8 -2.9**
comp=N,0.6nm,0.8s,baz=104,slow=3.9,SNR=7.4
L04D Klamath Falls 108.91 48 P 07 03 35.3
baz=277
J04D Umpqua Nationa 108.92 47 P 07 03 35.7
baz=278
J05D Fort Rock, OR 109.55 47 P 07 03 36.7
baz=278
NB2 NORSAR Subarra 109.56 333 PKPdf **PKiKP 07 03 35.3 -0.1**
comp=Z,0.5nm,0.6s,baz=68,slow=1.9
NOA NORSAR Array B 109.56 333 Pdiff **Pdif 06 59 34.7 +1.7**
comp=Z,1.3nm,0.9s,baz=40,slow=6.3,SNR=3.2
NOA PKiKP **PKiKP 07 03 34.7 -0.6**
comp=Z,1.6nm,0.7s,baz=262,slow=3.2,SNR=6.3
NEW Newport 111.43 41 PKiKP **PKiKP 07 03 39.3 0.0**
comp=Z,0.4nm,0.4s,baz=151,slow=13,SNR=3.5
NEW Newport 111.43 41 P 07 03 40.0
baz=284
CLL Collm 111.72 323 *e*PKiKP **PKiKP 07 03 40.0 +0.3**
GERES GERESS Array B 111.93 320 PKiKP **PKiKP 07 03 40.1 -0.2**
comp=Z,2.9nm,0.6s,baz=52,slow=2.2,SNR=16
GERES PKKP **PKKPab 07 14 45.6 +3.4**
comp=Z,0.3nm,0.4s,baz=222,slow=1.8,SNR=4.5
NVAR Mina Array Bea 112.47 52 PKiKP **PKiKP 07 03 42.7 +0.9**
comp=Z,0.6nm,0.8s,baz=234,slow=3.1,SNR=5.9
KBA Koelnbreinsper 112.60 318 *e*P **PKiKP 07 03 42.1 +0.4**
comp=Z,4.3nm,0.8s
CWC Cottonwood Cre 112.93 54 P 07 03 42.8
baz=278
CIS Catalina Islan 113.04 57 P 07 03 42.6
baz=277
EDW2 Edwards Air Fo 113.21 55 P 07 03 43.1
baz=278
ABTA Abfaltersbach 113.23 318 *e*P **PKiKP 07 03 43.4 +0.5**
comp=Z,6.7nm,0.8s
MPMC Manual Prospec 113.46 54 P 07 03 44.0
baz=278
BFSC Mount Baldy Ra 113.57 56 P 07 03 44.5
baz=277
WTTA Wattenberg 113.68 319 *i* P **PKiKP 07 03 43.9 +0.1**
comp=Z,20nm,0.7s
WATA Walderalm 113.70 319 *e*P **PKiKP 07 03 43.8 0.0**
comp=Z,12nm,1.0s
MSO Missoula 113.88 42 P 07 03 45.0
baz=286
FURC Furnace Creek, 113.90 53 P 07 03 45.2
baz=279
MOTA Moosalm 114.00 319 *i* P PKPdf 07 03 44.2 -0.1
comp=Z,4.4nm,0.5s
GSC Goldstone, Bar 114.12 55 P 07 03 46.2
baz=278
ELK Elko 114.39 49 PKP **PKiKP 07 03 46.1 +0.6**
comp=Z,1.7nm,0.8s,baz=348,slow=8.1,SNR=5.8
R11A Troy Canyon, C 114.59 51 P 07 03 46.9
baz=281
PFO Pinyon Flats O 114.64 56 PKP **PKiKP 07 03 46.6 +0.6**
comp=Z,3.3nm,0.9s,baz=310,slow=4.8,SNR=5.0
PFO Pinyon Flats O 114.64 56 P 07 03 47.1
baz=278
TPFO Pinon Flats 114.64 56 P 07 03 47.5
baz=278
MONP2 Monument Peak 114.76 57 P 07 03 47.6
baz=278
DAVA Damuels 114.82 319 *e*P PKPdf 07 03 46.3 +0.4
comp=Z,17nm,0.9s
IKP In-Ko-Pah, Jac 115.06 57 P 07 03 48.3
baz=278
GMRC Granite Mounta 115.12 55 P 07 03 48.7
baz=279
SWSC Sam W. Stewart 115.27 57 P 07 03 48.8
baz=278
TUE Stuetta 115.41 318 **PKiKP 07 03 46.9 -0.3**
BC3 Big Chuckawall 115.46 56 P 07 03 49.0
baz=278
IRM Iron Mountain 115.64 56 P 07 03 48.9
baz=279
BOZ Bozeman (W) 115.76 43 PKIKP **PKPdf 07 03 47.6 -0.2**
BOZ Bozeman (W) 115.76 43 **PKPdf 07 03 47.6 -0.2**
BOZ Bozeman (W) 115.76 43 P 07 03 48.8
baz=287
EGMT Eagleton 116.23 40 P 07 03 49.4
baz=290
DUG Dugway, Tooele 116.32 49 P 07 03 50.2
baz=283
PDMCI Parker Dam,Lak 116.44 55 P 07 03 50.6
baz=280
HINF Hinteralfeld 116.60 320 *e*PKiKP **PKiKP 07 03 49.3 +0.1**
HINF pmax pmax
comp=Z,12nm,0.8s
HAU Haudompre 116.85 321 *e*PKiKP **PKiKP 07 03 50.1 +0.4**
HAU pmax pmax
comp=Z,11nm,0.9s
GIVF Givet 117.02 323 *e*PKiKP **PKiKP 07 03 50.8 +0.9**
GIVF pmax pmax
comp=Z,3.0nm,0.4s
LPG La Plagne 117.43 318 *e*PKiKP **PKiKP 07 03 51.9 +0.7**
LPG pmax pmax
comp=Z,8.0nm,0.7s
LPL La Plagne 117.44 318 *e*PKiKP **PKiKP 07 03 51.8 +0.7**
LPL pmax pmax
comp=Z,5.0nm,0.6s
RLMT Red Lodge 117.49 43 P 07 03 52.6
baz=289
CABF La Chapelle 117.50 319 *e*PKiKP **PKiKP 07 03 51.8 +0.7**
CABF pmax pmax
comp=Z,13nm,0.7s
BNI Bardonecchia 117.62 317 PKIKP **PKPdf 07 03 51.2 -0.2**
BNI Bardonecchia 117.62 317 **PKPdf 07 03 51.2 -0.2**
FFC Flin Flon 117.89 31 PKIKP **PKPdf 07 03 51.0 -0.4**
FFC Flin Flon 117.89 31 PKPdf **PKPdf 07 03 51.0 -0.4**
214A Organ Pipe Nat 117.92 58 P 07 03 53.1
baz=279
BW06 Boulder Array 118.01 45 P 07 03 53.2
baz=287
PDAR Pinedale Array 118.01 45 PKP **PKiKP 07 03 52.8 +0.4**
comp=Z,2.2nm,0.7s,baz=255,slow=0.6,SNR=19
PDAR PKKPbc **PKKPab 07 14 15.3 -0.3**
comp=Z,0.3nm,0.5s,baz=100,slow=7.7,SNR=3.6
PDAR Pinedale Array 118.01 45 **PKPdf 07 03 52.1 -0.3**
P17A Butcher Ranch, 118.04 49 **PKPdf 07 03 52.2 -0.2**
KEST Kesra 118.08 307 PKP **PKiKP 07 03 53.0 +0.5**
comp=Z,6.8nm,0.8s,baz=320,slow=2.6,SNR=7.2
ORIF Oris-en-Rattie 118.20 317 *e*PKiKP **PKiKP 07 03 53.0 +0.5**
ORIF pmax pmax
comp=Z,5.0nm,0.6s
WUAZ Wupatki 118.45 54 P 07 03 54.4
baz=282
LOR Lormes 118.69 320 *e*PKiKP **PKiKP 07 03 53.8 +0.5**
LOR pmax pmax
comp=Z,8.0nm,0.9s
BORG Borgarnes 118.95 346*c* *i*PKiKP **PKiKP 07 03 54.4 +1.2**
LAO LASA Array 118.95 40 PKPdf **PKPdf 07 03 53.6 -0.2**
LAO LASA Array 118.95 40 P 07 03 55.3
baz=292
VIVF Saint-Julien-l 119.03 318 *e*PKiKP **PKiKP 07 03 54.6 +0.6**
VIVF pmax pmax
comp=Z,15nm,1.0s
AVF Avril sur Loir 119.19 320 *e*PKiKP **PKiKP 07 03 54.5 +0.3**
AVF pmax pmax
comp=Z,11nm,1.1s
DGMT Dagmar 119.51 38 P 07 03 56.3
baz=295
TUC Tucson 119.55 57 PKIKP **PKiKP 07 03 55.9 +0.4**
TUC Tucson 119.55 57 PKPdf **PKiKP 07 03 55.9 +0.4**
TUC Tucson 119.55 57 P 07 03 56.5
baz=281
O20A White River Ci 119.72 48 P 07 03 56.8
baz=287
PV13 Radium Mtn., P 119.82 50 **PKiKP 07 03 56.5 +0.4**
W18A Petrified Fore 119.84 54 P 07 03 56.3
baz=283
RWWY Rawlins 120.00 46 PKPdf **PKiKP 07 03 56.4 +0.1**
TCF Toulx Ste Croi 120.11 320 *e*PKiKP **PKiKP 07 03 56.8 +0.7**
TCF pmax pmax
comp=Z,12nm,0.9s
K22A Casper 120.17 45 P 07 03 57.4
baz=290
MVCO Mesa Verde 120.32 51 P 07 03 57.7
baz=285
SFJD Kangerlussuaq 120.47 360 PKIKP **PKPdf 07 03 55.7 -0.3**
SFJD Kangerlussuaq 120.47 360 PKPdf **PKPdf 07 03 55.7 -0.3**
FLN La Foliniere 120.73 323 *e*PKiKP **PKiKP 07 03 58.1 +0.9**
FLN pmax pmax
comp=Z,64nm,1.7s
CAF Calviac 120.73 319 *e*PKiKP **PKiKP 07 03 58.4 +1.0**
CAF pmax pmax
comp=Z,8.0nm,0.8s
SMCO Snowmass 120.93 49 PKPdf **PKiKP 07 03 58.6 +0.2**
RJF Les Rejaudoux 120.94 319 *e*PKiKP **PKiKP 07 03 58.8 +1.1**
RJF pmax pmax
comp=Z,14nm,1.3s
319A Douglas 120.98 58 PKPdf **PKPdf 07 03 57.2 -1.0**
N23A Red Feather La 121.15 46 P 07 03 59.3
baz=289
MTLF Montolieu 121.22 317 *e*PKiKP **PKiKP 07 03 58.9 +0.6**
MTLF pmax pmax
comp=Z,14nm,0.9s
RSSD Black Hills 121.34 42 PKIKP **PKPdf 07 03 57.6 -1.1**
RSSD Black Hills 121.34 42 PKPdf **PKPdf 07 03 57.6 -1.1**
RSSD Black Hills 121.34 42 P 07 03 59.3
baz=292
S22A 4UR Ranch, Cre 121.45 50 P 07 04 00.4
baz=286
ISCO Idaho Springs 121.74 47 P 07 04 01.0
baz=289
121A Cookes Peak, D 121.99 56 P 07 04 01.6
baz=283
SGMF Saint Gilles 122.19 324 *e*PKiKP **PKiKP 07 04 00.4 +0.4**
SGMF pmax pmax
comp=Z,13nm,0.9s
SDCO Great Sand Dun 122.46 50 P 07 04 01.9
baz=288
ANMO Albuquerque 122.50 53 PKP **PKiKP 07 04 01.3 0.0**
comp=Z,5.6nm,1.0s,baz=210,slow=5.5,SNR=14
ANMO Albuquerque 122.50 53*c* *i*PKiKP **PKPdf 07 04 00.7 -0.5**
ANMO pmax pmax
comp=Z,9.0nm,1.0s
ANMO Albuquerque 122.50 53 PKPdf **PKiKP 07 04 02.3 +1.0**
ANMO Albuquerque 122.50 53 P 07 04 02.2
baz=285
MDND Maddock 122.54 37 P 07 04 01.9
baz=298
EPF Esparros 122.61 317 *e*PKiKP **PKiKP 07 04 01.7 +0.6**
EPF pmax pmax
comp=Z,8.0nm,0.8s
ETSF Etsaut 123.27 317 *e*PKiKP **PKiKP 07 04 03.7 +1.2**
ETSF pmax pmax
comp=Z,14nm,0.9s
ULM Lac du Bonnet 123.41 33 PKP **PKPdf 07 04 01.8 -0.4**
comp=Z,4.7nm,0.7s,baz=302,slow=3.0,SNR=11
T25A Trinidad 123.47 50 P 07 04 04.4
baz=288
SJPF Ste Jean 123.63 318 *e*PKiKP **PKiKP 07 04 04.2 +1.1**
SJPF pmax pmax
comp=Z,9.0nm,1.0s
MNTX Cornudas Mount 124.17 57 P 07 04 04.5
baz=284,SNR=29
KSCO Kaye Shedlock' 124.19 47 P 07 04 04.8
baz=291
AGMN Agassiz Nation 124.48 35 P 07 04 04.6
baz=302
SUSD Miller 124.52 40 P 07 04 05.3
baz=297
MSTX Muleshoe 125.69 53 P 07 04 07.7
baz=287,SNR=5.7
TX31 Lajitas Ar. Si 126.15 59 PKPdf **PKPdf 07 04 08.4 +0.2**
NRS Narsarsuaq 126.15 357 PKIKP **PKiKP 07 04 07.7 +0.2**
NRS Narsarsuaq 126.15 357 **PKiKP 07 04 07.7 +0.2**
TX32 Lajitas Array 126.15 59 PKPdf **PKPdf 07 04 08.4 +0.2**
TXAR Lajitas Array 126.15 59 PKP **PKiKP 07 04 09.0 +0.4**
comp=Z,0.9nm,0.4s,baz=212,slow=3.6,SNR=24
TXAR Lajitas Array 126.15 59 PKPdf **PKiKP 07 04 08.5 -0.1**
AMTX Amarillo 126.27 52 P 07 04 08.6
baz=289
ECSD EROS Data Cent 126.35 40 PKPdf **PKPdf 07 04 08.0 0.0**
ECSD EROS Data Cent 126.35 40 P 07 04 08.8
baz=299
CBKS Cedar Bluff 126.36 47 P 07 04 09.2
baz=293
BGNE Belgrade 126.40 43 P 07 04 08.8
baz=296
ESBB Sonseca Array 126.92 315 **PKPdf 07 04 09.0 -0.3**
ESDC Sonseca Array 126.92 315 PKP **PKiKP 07 04 10.3 +0.5**
comp=Z,5.5nm,1.0s,baz=20,slow=2.4,SNR=21
ESDC PP **PP 07 06 09.2 +0.8**
comp=Z,1.4nm,0.9s,baz=73,slow=7.7,SNR=6.2
ESDC Sonseca Array 126.92 315 **PKPdf 07 04 08.9 -0.4**
EYMN Ely 127.09 33 P 07 04 10.1
baz=307
PAB San Pablo 127.24 315 PKIKP **PKiKP 07 04 11.3 +0.8**
PAB San Pablo 127.24 315 PKPdf **PKiKP 07 04 11.3 +0.8**
TORD Torodi Ar. Bea 127.70 281 PKP **PKiKP 07 04 11.8 -0.1**
comp=Z,9.8nm,0.8s,baz=53,slow=1.7,SNR=24
TORD SKPbc SKiKP 07 07 17.8 -18
comp=Z,1.3nm,0.8s,baz=64,slow=3.4,SNR=3.9
TORD Torodi Ar. Bea 127.70 281 **PKPdf 07 04 08.2 -3.1**
PBRG Braganca 127.86 318 *e*PKPdf **PKiKP 07 04 12.8 +1.2**
SPMN Marine on St. 127.91 36 **PKPdf 07 04 11.0 +0.1**
SPMN Marine on St. 127.91 36 P 07 04 11.4
baz=304
KAN10 Anthony SW Sta 128.21 48 **PKiKP 07 04 12.3 -0.1**
MVO Moncorvo 128.36 318 *e*PKPdf **PKiKP 07 04 13.4 +0.7**
KSU1 Kansas State U 128.47 45 P 07 04 12.8
baz=296
WMOK Wichita Mounta 128.57 51 P 07 04 12.7
baz=291,SNR=7.7
ABTX Abilene, Hawle 128.59 54 P 07 04 12.8
baz=288
PCAB Cabril 128.75 319 *e*PKPdf **PKiKP 07 04 15.6 +2.2**
PVRL Vila Real 128.76 318 *e*PKPdf **PKiKP 07 04 14.5 +1.1**
POLO Lamas de Olo 128.76 318 *e*PKPdf **PKiKP 07 04 14.5 +1.0**
PGAV Gavieira, Arco 128.78 319 *e*PKPdf **PKiKP 07 04 14.1 +0.6**
PLCA Paso Flores 128.93 161 PKP **PKiKP 07 04 14.3 +0.4**
comp=Z,9.5nm,1.0s,baz=226,slow=3.5,SNR=11
PLCA SKPbc SKiKP 07 07 22.6 -15
comp=Z,3.7nm,1.1s,baz=156,slow=3.5,SNR=2.9
PLCA Paso Flores 128.93 161 PKIKP **PKiKP 07 04 15.1 +1.2**
PLCA Paso Flores 128.93 161 PKPdf **PKiKP 07 04 15.1 +1.2**
JCT Junction City 129.10 57 PKIKP **PKPdf 07 04 13.9 +0.2**
JCT Junction City 129.10 57 PKPdf **PKPdf 07 04 13.9 +0.2**
JCT Junction City 129.10 57 P 07 04 14.8
baz=287
PCBR Castelo Branco 129.28 317 *e*PKPdf **PKiKP 07 04 15.3 +0.9**
PMRV Marv??o 129.41 316 *e*PKPdf **PKiKP 07 04 16.9 +2.1**
PMRV *i* LQ LQ 07 07 25.1
PBAR Barrancos 129.72 314 *e*PKPdf **PKiKP 07 04 15.9 +0.5**
833A Chaparral WMA, 130.03 59 P 07 04 15.5
baz=285
PMTG Montargil 130.15 316 *i* LQ LQ 07 07 26.9
EVO Evora 130.25 315 *i* LQ LQ 07 07 28.6
PSBE So Bento 130.33 317 *e*PKPdf **PKiKP 07 04 19.0 +2.4**
TUL1 Leonard 130.39 48 P 07 04 16.3
baz=294,SNR=6.3
PVAQ Vaqueiros 130.55 314 *i* LQ LQ 07 07 28.6
WHTX Lake Whitney, 130.55 54 P 07 04 17.2
baz=290
PCVE Castro Verde 130.67 314 *e*PKPdf **PKiKP 07 04 17.9 +0.6**
PCVE *i* LQ LQ 07 07 29.4
MESJ Messejana 130.71 315 *e*PKPdf **PKPdf 07 04 16.9 +0.4**
MESJ Messejana 130.71 315 *e*PKPdf **PKiKP 07 04 18.3 +0.9**
MESJ *i* LQ LQ 07 07 30.1
JFWS Jewell Farm 130.73 38 PKIKP **PKPdf 07 04 16.4 0.0**
JFWS Jewell Farm 130.73 38 PKPdf **PKPdf 07 04 16.4 0.0**
JFWS Jewell Farm 130.73 38 P 07 04 17.1
baz=305
PBDV Barranco-do-Ve 130.77 314 *i* LQ LQ 07 07 31.3
PNCL Nicolau / Gran 130.80 315 *e*PKPdf **PKiKP 07 04 19.9 +2.4**
MORF Marmelete 131.25 314 *i* LQ LQ 07 07 32.0
W39A Magazine 132.18 48 P 07 04 20.4
baz=295
MATQ Matagami 132.31 23 P 07 04 20.0
baz=324
U40A Yellville 132.35 47 P 07 04 20.2
baz=297,SNR=9.2
MIAR Mount Ida 132.60 49 P 07 04 21.4
baz=295,SNR=6.8
HDIL Hopedale 132.64 40 P 07 04 21.4
baz=304
CCM Cathedral Cave 132.67 44 PKIKP **PKiKP 07 04 21.0 -0.3**
CCM Cathedral Cave 132.67 44 PKPdf **PKiKP 07 04 21.0 -0.3**
CCM Cathedral Cave 132.67 44 P 07 04 21.4
baz=300
GLMI Grayling 132.75 32 P 07 04 21.5
baz=312
NATX Nacogdoches 132.86 53 P 07 04 21.6
baz=292
LSQQ Lebel-sur-Quev 133.13 23 P 07 04 22.0
baz=324
KOWA Kowa 133.19 283 PKPdf **PKiKP 07 04 23.4 +0.4**
W41B Gary Mavity, V 133.32 48 P 07 04 22.7
baz=297
KIC Kosan Boka 133.86 272 *e*PKP2 **PKiKP 07 04 25.1 +0.7**
comp=Z,25nm,0.9s
KIC Kosan Boka 133.86 272 *e*PKP1 **SKPbc 07 07 40.5 +0.2**
comp=Z,16nm,0.9s
DBIC Dimbokro 134.00 272 PKP **PKiKP 07 04 25.0 +0.3**
comp=Z,9.5nm,0.8s,baz=81,slow=2.8,SNR=9.1
DBIC SKPbc **SKPbc 07 07 38.8 -1.9**
comp=Z,8.4nm,0.9s,baz=158,slow=5.0,SNR=5.9
DBIC Dimbokro 134.00 272 PKIKP **PKiKP 07 04 25.4 +0.7**
DBIC Dimbokro 134.00 272 **PKiKP 07 04 25.4 +0.7**
SFIN Lafayette 134.12 39 P 07 04 23.8
baz=306
LIC Lamto 134.14 272 *e*PKP2 **PKiKP 07 04 26.3 +1.3**
comp=Z,74nm,1.3s
LIC Lamto 134.14 272 *e*PKP1 **SKPbc 07 07 41.3 +0.1**
comp=Z,51nm,1.5s
TIC Toumodi 134.16 272 *e*PKP2 **PKiKP 07 04 25.8 +0.8**
TIC Toumodi 134.16 272 *e*PKP1 **SKPbc 07 07 41.3 0.0**
BO02 Sierra Bellavi 134.17 157 **PKPdf 07 04 22.2 -1.1**
OLIL Olney 134.42 41 **PKPdf 07 04 23.9 +0.4**
ALGO Algonquin Park 135.14 27 P 07 04 25.4
baz=321
I51A Listowel 135.32 31 P 07 04 26.0
baz=316
D55A Sainte-Anne-du 135.37 24 P 07 04 26.3
baz=325
G54A Lake Saint Pet 135.55 27 P 07 04 26.9
baz=320
E55A Montcerf-Lytto 135.59 25 P 07 04 26.8
baz=324
D56A ZEC Mazanza, M 135.63 23 P 07 04 26.7
baz=326
WCI Wyandotte Cave 135.88 41 PKIKP **PKiKP 07 04 27.2 -0.6**
WCI Wyandotte Cave 135.88 41 PKPdf **PKiKP 07 04 27.2 -0.6**
WCI Wyandotte Cave 135.88 41 P 07 04 27.1
baz=305
E56A St. Veronique 135.94 24 P 07 04 27.5
baz=325
H53A Bobcaygeon 135.95 28 P 07 04 27.6
baz=319
WVT Waverly 136.00 44 PKIKP **PKPdf 07 04 26.2 -0.3**
WVT Waverly 136.00 44 PKPdf **PKPdf 07 04 26.1 -0.3**
WVT Waverly 136.00 44 P 07 04 27.6
baz=302
LATQ La Tuque 136.08 21 P 07 04 27.4
baz=328
P49A Miami Univ. Ec 136.09 38 P 07 04 27.8
baz=308
D58A Chemin du LacG 136.29 21 P 07 04 27.9
baz=328
ACSO Alum Creek Sta 136.69 36 P 07 04 29.1
baz=311
D59A Saint-Raymond 136.74 21 P 07 04 29.3
baz=330
E58A La Victoria 136.76 22 P 07 04 29.3
baz=327
L53A Girard 137.03 32 P 07 04 29.5
baz=315
ERPA Erie 137.06 32 P 07 04 29.6
baz=316
D61A St Aubert, Com 137.12 19 P 07 04 29.7
baz=332
G57A Newington 137.13 25 P 07 04 29.1
baz=324
D60A Saint Jean D'O 137.13 20 P 07 04 29.2
baz=331
M53A WI Miller and 137.17 33 P 07 04 30.0
baz=314
F59A Saint Guilaume 137.38 22 P 07 04 30.4
baz=328
E60A Ste Agathe de 137.43 21 P 07 04 30.9
baz=330
G58A Ormstown 137.47 24 P 07 04 31.3
baz=326
H57A Richville 137.47 26 P 07 04 30.9
baz=323
P52A Corning 137.57 36 P 07 04 30.9
baz=311
F60A Warwick 137.59 21 P 07 04 31.1
baz=329
M54A Oil Creek Stat 137.66 32 P 07 04 31.1
baz=316
O53A New Philadelph 137.69 35 P 07 04 31.6
baz=313
E61A Lac Etchemin 137.70 20 P 07 04 31.4
baz=331
J56A Wolcott 137.74 28 P 07 04 31.4
baz=320
N54A Moraine State 137.87 33 P 07 04 31.8
baz=315
D63A Stockholm 137.91 17 P 07 04 32.4
baz=335
F61A St Evariste 137.93 21 P 07 04 31.7
baz=330
K56A Middlesex 137.96 29 P 07 04 32.2
baz=320
H58A Gabriels 138.02 25 P 07 04 32.1
baz=325
H59A Cadyville 138.03 24 P 07 04 32.7
baz=326
LRAL Lakeview Retre 138.16 47 P 07 04 32.6
baz=300
I58A Old Forge 138.27 26 P 07 04 32.4
baz=323
L56A Greenwood 138.27 30 P 07 04 32.9
baz=319
K57A Scipio Center 138.32 28 P 07 04 32.9
baz=321
Q53A Leroy 138.44 36 P 07 04 33.3
baz=311
M56A Emporium 138.45 31 P 07 04 33.2
baz=318
H60A Morristown 138.50 23 P 07 04 33.5
baz=327
I59A Olmsteadville 138.65 25 P 07 04 33.4
baz=325
J59A Piesco 138.65 26 P 07 04 33.5
baz=324
K58A Earlville 138.70 27 P 07 04 33.8
baz=322
L57A Andrews Acres 138.72 29 P 07 04 33.7
baz=320
G62A West of Eustis 138.74 21 P 07 04 32.9
baz=330
F63A Nahmakanta, Br 138.80 19 P 07 04 33.5
baz=333
N56A West Decatur 138.80 32 P 07 04 33.8
baz=317
H61A Lyndonville 138.82 23 P 07 04 33.6
baz=328
I60A Shoreham 138.85 24 P 07 04 34.0
baz=326
F64A Sherman 138.90 18 P 07 04 33.5
baz=334
BINY Binghamton 138.98 28 P 07 04 34.0
baz=321
K59A Cooperstown 139.05 27 P 07 04 34.4
baz=323
LBNH Lisbon 139.07 23 P 07 04 34.8
baz=328
H62A Milan 139.07 22 P 07 04 34.7
baz=329
M57A Sunshine Farm, 139.09 30 P 07 04 34.6
baz=319
O56A Blue Knob Stat 139.13 32 P 07 04 35.0
baz=316
G63A Kingsbury 139.15 20 P 07 04 35.0
baz=332
L58A Harry Jones Me 139.17 28 P 07 04 35.0
baz=321
R54A Victor 139.19 37 P 07 04 34.7
baz=311
S54A Dingess, Beckl 139.25 37 P 07 04 35.1
baz=311
J60A Lant Hill Farm 139.29 25 P 07 04 35.6
baz=325

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
N57A	**Milroy**	**139.30**	**31**	P		07 04 34.7	
	baz=318						
M58A	**Price's Panora**	**139.39**	**30**	P		07 04 35.3	
	baz=320						
H63A	**New Sharon**	**139.40**	**21**	P		07 04 35.3	
	baz=331						
L59A	**Walton**	**139.43**	**27**	P		07 04 35.6	
	baz=322						
P56A	**Dayton Farm, R**	**139.52**	**34**	P		07 04 35.1	
	baz=315						
I62A	**Tamworth**	**139.60**	**23**	P		07 04 34.9	
	baz=328						
Q56A	**Snyder Ridge,**	**139.66**	**34**	P		07 04 35.3	
	baz=314						
O57A	**Amberson**	**139.66**	**32**	P		07 04 35.5	
	baz=317						
G65A	**Princeton**	**139.74**	**18**	P		07 04 35.4	
	baz=335						
U54A	**Nelsons Funny**	**139.75**	**39**	P		07 04 35.2	
	baz=309						
M59A	**Waymart**	**139.75**	**28**	P		07 04 35.5	
	baz=321						
K61A	**Williamstown**	**139.83**	**25**	P		07 04 35.3	
	baz=325						
H65A	**Eastbrook**	**139.97**	**19**	P		07 04 36.0	
	baz=333						
P57A	**Homestead Farm**	**139.99**	**33**	P		07 04 35.6	
	baz=316						
N59A	**State Game Lan**	**140.07**	**29**	P		07 04 36.9	
	baz=320						
O58A	**Lewisberry**	**140.09**	**31**	P		07 04 37.1	
	baz=318						
K62A	**Royalston**	**140.26**	**24**	P		07 04 37.1	
	baz=326						
M60A	**Port Jervis**	**140.30**	**28**	P		07 04 37.1	
	baz=322						
O59A	**Robesonia**	**140.33**	**30**	P		07 04 36.5	
	baz=319						
GOGA	**Godfrey**	**140.49**	**45**	PKIKP	**PKPdf**	**07 04 34.6**	**-0.2**
GOGA	**Godfrey**	**140.49**	**45**		**PKPdf**	**07 04 34.6**	**-0.2**
GOGA	**Godfrey**	**140.49**	**45**	P		07 04 36.9	
	baz=304						
T56A	**Rocky Mt**	**140.53**	**37**	P		07 04 37.1	
	baz=311						
P59A	**Jarrettsville**	**140.73**	**31**	P		07 04 37.5	
	baz=318						
P60A	**Greenville**	**140.98**	**30**	P		07 04 38.1	
	baz=320						
M62A	**Hamden**	**140.99**	**26**	P		07 04 38.2	
	baz=325						
V56A	**Mocksville**	**141.03**	**39**	P		07 04 38.3	
	baz=310						
R58B	**Mineral**	**141.14**	**34**	P		07 04 38.3	
	baz=315						
Q59A	**Harwood**	**141.16**	**32**	P		07 04 39.0	
	baz=317						
U57A	**Blanch**	**141.34**	**37**	P		07 04 39.2	
	baz=312						
M63A	**Gales Ferry**	**141.39**	**25**	P		07 04 38.9	
	baz=326						
W56A	**Indian Trail**	**141.40**	**40**	P		07 04 39.1	
	baz=309						
V57A	**Coltrane Farms**	**141.43**	**39**	P		07 04 39.6	
	baz=311						
L64A	**Middleborough**	**141.44**	**24**	P		07 04 39.3	
	baz=328						
T58A	**Grand View Acr**	**141.47**	**36**	P		07 04 39.6	
	baz=313						
M64A	**Tiverton**	**141.61**	**24**	P		07 04 40.2	
	baz=327						
U58A	**Oxford**	**141.84**	**37**	P		07 04 40.9	
	baz=313						
V58A	**Windy Hill, Pi**	**141.89**	**38**		**PKPdf**	**07 04 38.5**	**+1.3**
S60A	**Water View**	**142.00**	**34**	P		07 04 40.5	
	baz=316						
M66A	**Nantucket**	**142.29**	**24**	P		07 04 41.2	
	baz=328						
T60A	**Surry**	**142.37**	**34**	P		07 04 41.9	
	baz=316						
V59A	**Middlesex**	**142.44**	**37**	P		07 04 41.8	
	baz=312						
NHSC	**New Hope**	**142.91**	**42**	P		07 04 43.1	
	baz=307						
X60A	**Albert Glenn T**	**143.40**	**39**	P		07 04 43.1	
	baz=312						
V62A	**Hyde County Ai**	**143.93**	**35**	P		07 04 44.3	
	baz=315						
PB10	**IPOC Station P**	**143.95**	**149**	PKPdf	**PKPdf**	**07 04 40.5**	**-0.7**
TGUH	**Tegucigalpa,Un**	**143.99**	**76**	PKPdf	PKPbc	07 04 39.7	-0.2
CRIN	**San Cristobal**	**144.34**	**79**		PKPbc	07 04 41.5	+0.6
PB15	**IPOC Station P**	**144.75**	**150**		**PKPdf**	**07 04 43.8**	**+0.8**
DWPF	**Disney Wildern**	**144.77**	**50**		PKPbc	07 04 42.1	+0.3
PB06	**IPOC Station P**	**145.12**	**149**		**PKPdf**	**07 04 44.2**	**+0.6**
PB04	**IPOC Station P**	**145.13**	**148**		**PKPdf**	**07 04 44.3**	**+0.8**
LVC	**Limon Verde**	**145.53**	**150**	PKP2	**PKPab**	**07 04 45.9**	**+0.7**
LVC	**Limon Verde**	**145.53**	**150**		**PKPab**	**07 04 45.9**	**+0.7**
MBO	**M'Bour**	**145.67**	**285**		**PKPab**	**07 04 45.4**	**0.0**
CPUP	**Villa Florida**	**145.97**	**170**	PKPbc	**PKPab**	**07 04 46.4**	**+0.1**
	comp=Z,24nm,0.9s,baz=188,slow=3.0,SNR=39						
CPUP				SKPbc	**SKPbc**	**07 08 12.1**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=115,slow=14,SNR=3.1						
CPUP	**Villa Florida**	**145.97**	**170**	PKIKP	**PKPbc**	**07 04 45.7**	**+0.1**
CPUP	**Villa Florida**	**145.97**	**170**	PKPbc	**PKPbc**	**07 04 45.6**	**+0.1**
ACON	**Acoyapa**	**146.23**	**80**		**PKPbc**	**07 04 46.8**	**+0.2**
PB01	**IPOC Station P**	**146.54**	**148**		**PKPbc**	**07 04 47.7**	**+0.2**
JTS	**Las Juntas de**	**146.55**	**83**	PKP2	**PKPab**	**07 04 49.1**	**+0.2**
JTS	**Las Juntas de**	**146.55**	**83**		**PKPab**	**07 04 49.1**	**+0.2**
TA01	**Diego Aracena**	**146.56**	**146**		**PKPbc**	**07 04 47.7**	**+0.3**
ESPN	**Las Esperanzas**	**147.06**	**79**		**PKPbc**	**07 04 48.8**	**-0.2**
NNA	**Nana**	**148.07**	**127**	PKIKP	**PKPbc**	**07 04 51.8**	**-0.1**
NNA	**Nana**	**148.07**	**127**		**PKPbc**	**07 04 51.8**	**-0.1**
LPAZ	**La Paz**	**151.14**	**145**	PKP	**PKPdf**	**07 04 55.4**	**+1.3**
	comp=Z,12nm,1.2s,baz=5.9,slow=2.0,SNR=14						
LPAZ				PKPbc	**PKiKP**	**07 05 01.2**	**+0.7**
	comp=Z,22nm,0.9s,baz=205,slow=1.9,SNR=31						
LPAZ	**La Paz**	**151.14**	**145**	PKPdf	**PKPdf**	**07 04 50.7**	**-3.3**
OTAV	**Otavalo**	**151.93**	**103**	PKIKP	**PKPbc**	**07 05 01.3**	**-0.5**
OTAV	**Otavalo**	**151.93**	**103**		**PKPbc**	**07 05 01.3**	**-0.5**
BBSR	**BB Station**	**152.14**	**25**		**PKiKP**	**07 05 01.3**	**-0.1**
GCUF	**Volcan Galeras**	**153.25**	**102**	*e*P	**PKiKP**	**07 05 04.9**	**+0.1**
BBAC	**Balboa, Cauca**	**153.53**	**100**	*e*P	**PKiKP**	**07 05 05.5**	**+0.4**
POPC	**Popayan, Colom**	**154.19**	**99**	*e*P	**PKiKP**	**07 05 06.7**	**+0.2**
CBOC	**Ciudad Bolivar**	**155.32**	**92**	*e*P	PKPdf	07 05 08.4	+8.8
PTLC	**Puerto Leguiza**	**155.42**	**106**	*e*P	PKPab	07 05 14.8	-11
ORTC	**Ortega, Tolima**	**155.84**	**97**	*e*P	**PKPdf**	**07 05 00.8**	**+0.6**
TOLC	**Tolima**	**155.87**	**95**	*e*P	**PKPdf**	**07 05 02.2**	**+1.6**
GUY2C	**Guyana, Caldas**	**155.90**	**94**	*e*P	PKPdf	07 05 11.6	+11
MACC	**Macarena, Meta**	**156.86**	**102**	*e*P	**PKPdf**	**07 05 01.6**	**+0.1**
ROSC	**El Rosal**	**156.89**	**95**	PKP	**PKPdf**	**07 05 03.6**	**+1.6**
	comp=Z,8.2nm,0.6s,baz=108,slow=22,SNR=4.5						
ROSC				PKPab	**pPKPdf**	**07 05 34.4**	**-1.7**
	comp=Z,4.5nm,0.5s,baz=20,slow=3.2,SNR=3.8						
BDFB	**Brasilia**	**156.91**	**188**	PKP	**PKPdf**	**07 05 03.0**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=229,slow=3.7,SNR=5.4						
BDFB				PKPab	**PKPab**	**07 05 32.4**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=67,slow=11,SNR=2.0						
BDFB	**Brasilia**	**156.91**	**188**	PKPdf	**PKPdf**	**07 04 58.3**	**-3.3**
BDFB					**PKPab**	**07 05 31.8**	**0.0**
PTBC	**PUERTO BERRIO;**	**156.92**	**91**	*e*P	**PKPdf**	**07 05 01.8**	**+0.3**
SPBC	**San Pablo de B**	**157.23**	**93**	*e*P	**PKPdf**	**07 05 02.9**	**+0.9**
CHIC	**Chingaza**	**157.44**	**96**	*e*P	**PKPdf**	**07 05 02.3**	**-0.4**
OCAC	**Ocana**	**158.08**	**86**	*e*P	**PKPdf**	**07 05 03.4**	**+0.3**
RUSC	**La Rusia**	**158.23**	**93**	*e*P	**PKPdf**	**07 05 03.5**	**-0.3**
SAML	**Samuel**	**159.87**	**143**	PKIKP	**PKPdf**	**07 05 05.4**	**+0.3**
SAML						07 05 45.8	
SAML	**Samuel**	**159.87**	**143**		**PKPdf**	**07 05 05.4**	**+0.3**
SAML					**PKPab**	**07 05 45.8**	**+1.1**
SDV	**Santo Domingo**	**160.72**	**84**	PKPdf	**PKPdf**	**07 05 06.2**	**-0.1**

*DJA **09** 06:53:15.1±0.8, 8°S±7°×12°4E±°, h147km±8km, M3.9/6, mb4.0/2, mB4.9/1, MLv3.8/6, Mw(mB)4.2/1*
*IDC **09** 06:53:15.5±3.0, 8°.33S×123°.85E, h186km±31km, mb3.4/2, mb1 3.8/5, mb1mx3.4/41, mbtmp4.2/5, Error ellipse: s-maj=91.1km s-min=14.2km az=59.0*
ISC 09 06:53:14.5±1.2**, 8°.4S**±0°.1×**123°.8E**±0°.1**, h186**km**, n12,** σ**2ˢ25**/19**, Flores region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.45**	**162**	P	**Pn**	**06 53 47.4**	**+0.8**
SOEI				S	**Sn**	**06 54 12.3**	**+0.7**
MMRI	**Maumere**	**1.58**	**260**	P	**Pn**	**06 53 45.8**	**-2.0**
MMRI				S	**Sn**	**06 54 10.3**	**-3.2**
BATI	**Baumata**	**1.83**	**185**	P	**Pn**	**06 53 52.0**	**+1.7**
	119nm,0.3s,baz=342,slow=4.9,SNR=29						
BATI				S	**Sn**	**06 54 20.1**	**+1.9**
	50nm,0.3s,baz=174,slow=9.0,SNR=7.9						
BATI	**Baumata**	**1.83**	**185**	P	**Pn**	**06 53 51.7**	**+1.4**
BATI				S	**Sn**	**06 54 20.0**	**+1.9**
BASI	**Baing, Sumba**	**3.69**	**240**	P	**Pn**	**06 54 12.6**	**+0.7**
PLAI	**Plampang**	**5.99**	**265**	P	**Pn**	**06 54 42.5**	**+1.0**
	0.2nm1μm24nm,0.5s						
TWSI	**Taliwang, Sumb**	**6.87**	**266**	P	**Pn**	**06 54 53.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**9.83**	**170**	P	**Pn**	**06 55 32.2**	**+0.5**
	0.7nm,0.3s,baz=356,slow=13,SNR=1.3						
FITZ				S	**Sn**	**06 57 17.5**	**-3.9**
	3.0nm,0.3s,baz=126,slow=18,SNR=2.2						
WRA	**Warramunga Arr**	**15.36**	**140**	P	**P**	**06 56 43.8**	**+1.3**
	baz=316,slow=13,SNR=1.7						
WRA				S	**S**	**06 59 28.4**	**-5.1**
	0.4nm,0.3s,baz=314,slow=23,SNR=1.5						
ASAR	**Alice Springs**	**18.02**	**149**	P	**Pn**	**06 57 12.7**	**-0.9**
	baz=331,slow=14,SNR=1.4						
ASAR				S	**S**	**07 00 30.9**	**+2.3**
	0.0nm,0.3s,baz=313,slow=22,SNR=1.5						
MKAR	**Makanchi Array**	**66.18**	**330**	P	**P**	**07 03 43.7**	**+1.5**
	0.9nm,0.4s,baz=131,slow=7.5,SNR=14						
ZALV	**Zalesovo Beam**	**70.25**	**337**	P	**P**	**07 04 06.9**	**-0.4**
	0.5nm,0.6s,baz=133,slow=6.1,SNR=1.6						

*NEIC **09** 06:57:51.2±0.7, 17°.5S±0°.2×178°.9W±0°.1, h535km±10km, mb4.1/7, Error ellipse: s-maj=32.7km s-min=12.5km az=159.0*
*IDC **09** 06:57:52.1±1.8, 17°.39S×179°.04W, h543km±17km, mb3.1/11, mb1 3.4/13, mb1mx3.3/34, mbtmp4.0/13, Error ellipse: s-maj=49.4km s-min=15.5km az=144.0*
ISC 09 06:57:50.8±0.6**, 17°.5S**±0°.2×**178°.8W**±0°.1**, h539**km**, n31,** σ**1ˢ29**/33**, mb3.9**/15**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.98**	**264**	P	**P**	**06 59 06.1**	**+1.2**
	16nm,0.3s,baz=86,slow=3.1,SNR=77						
MSVF	**Nonsavu**	**2.98**	**264**	P	**P**	**06 59 06.0**	**+1.1**
AFI	**Afiamalu**	**7.65**	**64**	P	**P**	**06 59 42.7**	**-2.2**
	4.0nm,0.3s,baz=56,slow=21,SNR=5.5						
AFI				S	**S**	**07 01 14.4**	**-4.0**
	1.8nm,0.3s,baz=240,slow=20,SNR=1.7						
AFI	**Afiamalu**	**7.65**	**64**	P	**P**	**06 59 46.0**	**+1.0**
DZM	**Mont Dzumac**	**14.60**	**249**	P	**P**	**07 00 54.0**	**-2.4**
	0.3nm,0.3s,baz=132,slow=21,SNR=1.7						
ARMA	**Armidale**	**29.82**	**239**	P	**P**	**07 03 15.1**	**+0.6**
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**07 04 26.6**	**-0.5**
	3.9nm,0.9s,baz=91,slow=8.0,SNR=12						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**07 04 27.3**	**+0.3**
STKA				IAmb	IAmb	07 04 33.0	
	comp=Z,3.1nm,1.5s						
BBOO	**Buckleboo**	**43.27**	**240**	P	**P**	**07 05 04.9**	**-0.1**
BBOO				IAmb	IAmb	07 05 30.9	
	comp=Z,24nm,1.3s						
WB2	**Warramunga Arr**	**44.31**	**259**	P	**P**	**07 05 12.7**	**-0.6**
WB2				IAmb	IAmb	07 05 35.0	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**44.32**	**259**	P	**P**	**07 05 11.9**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=90,slow=7.9,SNR=4.8						
WRA				PcP	**PcP**	**07 06 46.3**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=93,slow=3.1,SNR=1.3						
AS31	**Alice Springs**	**44.52**	**254**	P	**P**	**07 05 14.0**	**-0.9**
AS31				IAmb	IAmb	07 05 15.0	
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**07 05 14.7**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=91,slow=8.1,SNR=18						
ASAR				PcP	**PcP**	**07 06 46.9**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=103,slow=3.9,SNR=2.8						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**07 05 14.2**	**-0.7**
MJAR	**Matsushiro Arr**	**67.30**	**323**	P	**P**	**07 07 51.4**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=144,slow=6.5,SNR=2.4						
QSPA	**South Pole Qui**	**72.60**	**180**	P	**P**	**07 08 24.1**	**+0.7**
KDAK	**Kodiak Island**	**78.06**	**14**	P	**P**	**07 08 54.6**	**+1.1**
	comp=Z,7.6nm,0.9s,baz=286,slow=23,SNR=1.8						
NVAR	**Mina Array Bea**	**79.38**	**44**	P	**P**	**07 09 02.9**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=234,slow=7.8,SNR=1.9						
ILAR	**Eielson Array**	**85.54**	**13**	P	**P**	**07 09 32.1**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=224,slow=5.3,SNR=14						
ILAR	**Eielson Array**	**85.54**	**13**	P	**P**	**07 09 32.6**	**+1.2**
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**07 09 35.8**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=237,slow=3.1,SNR=2.6						
PDAR	**Pinedale Array**	**87.30**	**44**	P	**P**	**07 09 41.5**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=198,slow=5.7,SNR=2.4						
CMAR	**Chiang Mai Arr**	**88.35**	**290**	P	**P**	**07 09 45.8**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=119,slow=3.2,SNR=1.7						
CHTO	**Chiang Mai**	**88.46**	**290**	P	**P**	**07 09 44.2**	**-2.1**
CHTO				IAmb	IAmb	07 09 44.2	
	comp=Z,5.2nm,0.7s						
YKA	**Yellowknife Ar**	**94.09**	**25**	P	**P**	**07 10 12.3**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=242,slow=3.7,SNR=3.9						
MKAR	**Makanchi Array**	**108.53**	**314**	PKiKP	**PKiKP**	**07 15 18.1**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=107,slow=1.5,SNR=4.8						
CLL	**Collm**	**144.93**	**347**	*e*PKPbc	PKPbc	07 16 28.0	+0.9
	comp=Z,5.0nm,0.7s						
MMAI	**Mount Meron Ar**	**145.55**	**303**	PKPbc	**PKPbc**	**07 16 30.3**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=39,slow=5.4,SNR=4.3						
GERES	**GERESS Array B**	**147.07**	**345**	PKPbc	**PKPbc**	**07 16 34.0**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=29,slow=3.0,SNR=5.2						
GERES	**GERESS Array B**	**147.07**	**345**		**PKPbc**	**07 16 34.1**	**+0.8**
ESDC	**Sonseca Array**	**157.41**	**10**	PKPab	**PKPab**	**07 17 20.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=338,slow=3.2,SNR=2.4						

*SNET **09** 06:59:13.7±0.9, 13°.41N×90°.05W, h48km±10km, ML3.8*
*INET **09** 06:59:14.2, 13°.39N×90°.03W, h45km, ML3.3, MW3.5*
*GCG **09** 06:59:14.6±0.5, 13°.47N×90°.09W, h80km±56km, MD3.8*
ISC 09 06:59:14.6±1.9**, 13°.4N**±0°.1×**90°.02W**±0°.06**, h43**km±30km**, n32,** σ**0ˢ66**/46**, 2C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.61**	**39**	*e*P	**Pn**	**06 59 26.8**	**-0.3**
CEVE				*e*S	**Sn**	**06 59 36.6**	**+0.5**
SBLS	**San Blas**	**0.62**	**39**	*e*P	**Pn**	**06 59 26.8**	**-0.5**
JAYA	**Jayaque - finc**	**0.63**	**62**	*e*P	**Pn**	**06 59 26.5**	**-0.8**
JAYA				*e*S	**Sn**	**06 59 36.7**	**+0.2**
JAYA				IAML		06 59 37.7	
	comp=Z,4μm,0.2s						
RTR	**El Retiro**	**0.65**	**34**	*e*P	**Pn**	**06 59 27.2**	**-0.5**
LALI	**Alcalda de L**	**0.69**	**79**	*e*P	**Pn**	**06 59 27.3**	**-0.7**
LALI				*e*S	**Sn**	**06 59 38.3**	**+0.6**
CEDA	**San Andres**	**0.75**	**54**	*e*P	**Pn**	**06 59 28.3**	**-0.6**
CEDA				*e*S	**Sn**	**06 59 39.9**	**+0.7**
CEDA				IAML		06 59 43.5	
	comp=Z,6μm,0.4s						
PMON	**Piamonte**	**0.77**	**63**	⇓*i*P	**Pn**	**06 59 28.7**	**-0.5**
PMON				*e*S	**Sn**	**06 59 40.3**	**+0.5**
PMON				IAML		06 59 43.5	
UNIC	**Universidad Ca**	**0.77**	**36**	*e*P	**Pn**	**06 59 28.6**	**-0.6**
MAGS	**Ministerio de**	**0.79**	**65**	*e*P	**Pn**	**06 59 28.6**	**-0.7**
MAGS				*e*S	**Sn**	**06 59 40.9**	**+0.8**
MAGS				IAML		06 59 43.8	
	comp=Z,1μm,0.2s						
ITCA	**Escuela Especi**	**0.79**	**66**	*e*S	**Sn**	**06 59 40.4**	**+0.3**
BOQS	**Boqueron**	**0.81**	**62**	*e*P	**Pn**	**06 59 29.3**	**-0.5**
BOQS				*e*S	**Sn**	**06 59 41.5**	**+0.6**
SNET	**Serv Nac Est T**	**0.83**	**67**	*e*P	**Pn**	**06 59 29.4**	**-0.7**
SNET				*e*S	**Sn**	**06 59 41.6**	**+0.3**
SNET				IAML		06 59 46.3	
	comp=Z,2μm,0.3s						
UEES	**Universidad Ev**	**0.84**	**65**	IAML		06 59 45.9	
	comp=Z,3μm,0.2s						
QUEZ	**Alcaldia de Qu**	**0.87**	**57**	*e*P	**Pn**	**06 59 30.0**	**-0.5**
QUEZ				*e*S	**Sn**	**06 59 42.7**	**+0.7**
OPAM	**Oficina de Pla**	**0.88**	**66**	*e*P	**Pn**	**06 59 30.2**	**-0.3**
OPAM				*e*S	**Sn**	**06 59 42.8**	**+0.6**
OPAM				IAML		06 59 44.6	
	comp=Z,1μm,0.2s						
UESS	**Universidad de**	**0.88**	**65**	IAML		06 59 43.9	
	comp=Z,2μm,0.2s						
TACO	**Tacachico**	**0.89**	**47**	*e*P	**Pn**	**06 59 29.9**	**-0.8**
IGN	**Direccin Gen**	**0.90**	**67**	*e*P	**Pn**	**06 59 30.3**	**-0.6**
IGN				*e*S	**Sn**	**06 59 43.3**	**+0.5**
UDBS	**Universidad Do**	**0.91**	**67**	IAML		06 59 31.4	
	comp=Z,2μm,0.2s						
AEIL	**Aeropuerto Ilo**	**0.94**	**69**	*e*P	**Pn**	**06 59 31.3**	**-0.2**
AEIL				IAML		06 59 32.9	
	comp=Z,2μm,0.2s						
AEIL				*e*S	**Sn**	**06 59 45.4**	**+1.5**
LFU	**La Fuente**	**0.96**	**66**	*e*P	**Pn**	**06 59 31.6**	**-0.2**
LFRS	**El Faro**	**0.97**	**74**	*e*P	**Pn**	**06 59 31.1**	**-0.8**
COEG	**Centro de Oper**	**1.14**	**77**	*e*P	**Pn**	**06 59 33.8**	**-0.3**
COEG				IAML		06 59 56.4	
	comp=Z,2μm,0.3s						
PCG	**Pacaya**	**1.18**	**331**	⇑*i*P	**Pn**	**06 59 35.1**	**+0.2**
PCG				*e*S	**Sn**	**06 59 49.5**	**-0.4**
MTO3	**Montecristo**	**1.22**	**32**	*e*P	**Pn**	**06 59 34.3**	**-1.1**
MTO3				*e*S	**Sn**	**06 59 50.9**	**0.0**
NBG	**Las Nubes**	**1.27**	**346**	⇓*e*P	**Pn**	**06 59 36.6**	**+0.5**
NBG				*e*S	**Sn**	**06 59 53.4**	**+1.3**
FUG	**Fuego 3**	**1.35**	**324**	⇑*e*P	**Pn**	**06 59 37.0**	**-0.1**
FUG				*e*S	**Sn**	**06 59 52.9**	**-1.0**
ESQI	**Esquipulas**	**1.37**	**29**	*e*P	**Pn**	**06 59 36.6**	**-0.7**
ESQI				*e*S	**Sn**	**06 59 54.0**	**-0.3**
ALJI	**Alcalda de J**	**1.41**	**91**	*e*S	**Sn**	**06 59 55.7**	**+0.5**
PQSS	**Presa 15 de Se**	**1.45**	**79**	*e*P	**Pn**	**06 59 37.7**	**-0.6**
TECA	**Tecapa**	**1.48**	**84**	*e*P	**Pn**	**06 59 38.9**	**-0.1**
MRL	**Marmol**	**1.75**	**11**	*e*P	**Pn**	**06 59 42.8**	**+0.1**

*NNC **09** 07:30:05.8±0.6, 49°.98N×78°.58E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=10.7km s-min=3.2km az=79.0, Suspected Mining explosion.*
*IDC **09** 07:30:06.8±0.9, 50°.03N×78°.68E, h0km, mb1 3.0/3, mb1mx3.0/36, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=10.4km s-min=6.1km az=59.0*
ISC 09 07:30:06.7±0.9**, 50°.00N**±0°.06×**78°.59E**±0°.08**, h0**km**, n13,** σ**1ˢ29**/13**, 7C-4D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.63**	**357**	Pg	**Pg**	**07 30 18.4**	**-0.3**
	6.5nm,0.3s,baz=166,slow=18,SNR=571						
KURBB				Lg	Lg	07 30 27.0	
	8.2nm,0.3s,baz=174,slow=33,SNR=25						
KURBB	**Kurchatov Arra**	**0.63**	**357**	⇑P	**Pg**	**07 30 18.4**	**-0.3**
	54nm,0.3s						
KURBB				⇑S	**Sg**	**07 30 27.5**	**+0.7**
	228nm,0.6s						
MAKZ	**Makanchi**	**3.91**	**143**	⇑Pg	**Pb**	**07 31 15.8**	**-0.7**
	4.4nm,0.5s						
MAKZ				⇑Lg	Lg	07 32 07.8	
	26nm,0.7s						
MK31	**Makanchi Array**	**4.05**	**141**	⇑Pn	**Pn**	**07 31 10.5**	**+0.7**
	0.9nm,0.4s,baz=277,slow=6.9,SNR=102						
MK31				⇑Pg	**Pb**	**07 31 19.2**	**+0.4**
	4.4nm,0.5s,baz=337,slow=14,SNR=26						
MK31				Lg	Lg	07 32 13.4	
	19nm,0.6s,baz=327,slow=26,SNR=21						
MKAR	**Makanchi Array**	**4.05**	**141**	Pn	**Pn**	**07 31 10.5**	**+0.6**
	0.7nm,0.3s,baz=326,slow=10,SNR=88						
MKAR				Pg	**Pb**	**07 31 16.7**	**-2.1**
	1.8nm,0.3s,baz=329,slow=14,SNR=28						
MKAR				Lg	Lg	07 32 11.4	
	2.7nm,0.3s,baz=322,slow=27,SNR=14						
I46RU	**ZALESOVO INFRA**	**5.52**	**42**	*i*		08 00 00.5	
	baz=226,slow=332,SNR=2.6						
ZALV	**Zalesovo Beam**	**5.52**	**42**	Pn	**Pn**	**07 31 30.9**	**+0.8**
	2.2nm,0.3s,baz=229,slow=14,SNR=19						
ZALV				Lg	Lg	07 33 00.1	
	0.6nm,0.3s,baz=231,slow=28,SNR=6.9						
BVAR	**Borovoye Array**	**5.95**	**304**	Pn	**Pn**	**07 31 37.5**	**+1.5**
	0.3nm,0.3s,baz=106,slow=15,SNR=3.1						
BVAR				Sn	**Sn**	**07 32 42.2**	**-2.5**
	0.5nm,0.3s,baz=140,slow=29,SNR=4.8						
BVAR				Lg	Lg	07 33 13.7	
	0.7nm,0.3s,baz=133,slow=32,SNR=2.5						
BRVK	**Borovoye**	**6.02**	**304**	⇑Pn	**Pn**	**07 31 37.7**	**+0.8**
	1.6nm,0.9s						
BRVK				⇓Sn	**Sn**	**07 32 45.9**	**-0.6**
	3.4nm,0.6s						
BRVK				⇓Lg	Lg	07 33 19.1	
	3.1nm,0.5s						
PDGK	**Podgornoye**	**6.70**	**174**	⇓Lg	Lg	07 33 37.8	
	12nm,0.7s						
TKM2	**Tokmak 2**	**7.37**	**197**	⇓Lg	Lg	07 33 56.4	
	7.4nm,0.7s						
AAK	**Ala-Archa**	**7.89**	**203**	Lg	Lg	07 34 12.3	
	0.2nm,0.3s,baz=305,slow=23,SNR=2.1						
AAK	**Ala-Archa**	**7.89**	**203**	Lg	Lg	07 34 16.1	
	5.8nm,0.7s						

*IDC **09** 07:51:02.9±1.1, 32°.23N×141°.93E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.5/30, mbtmp3.4/7, ML2.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/23, Error ellipse: s-maj=36.2km s-min=22.4km az=83.0*
ISC 09 07:51:08.6±1.1**, 32°.3N**±0°.2×**141°.8E**±0°.2**, h39**km**, n9,** σ**1ˢ09**/7**, mb3.4**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.18**	**326**	Pn	**Pn**	**07 52 22.2**	**-1.3**
	0.1nm,0.3s,baz=149,slow=11,SNR=5.7						
JOW	**Kunigami**	**12.97**	**249**	LR	LR	07 58 49.6	
	comp=Z,140nm,18.4s,baz=30,slow=36						
TGY	**Tagaytay City**	**26.29**	**231**	LR	LR	08 06 08.8	
	comp=Z,88nm,19.6s,baz=266,slow=34						
SONM	**Songino Array**	**30.91**	**311**	P	**P**	**07 57 22.7**	**+1.0**
	0.4nm,0.6s,baz=119,slow=8.9,SNR=3.9						
MKAR	**Makanchi Array**	**47.04**	**306**	P	**P**	**07 59 37.0**	**+0.8**
	0.5nm,0.8s,baz=89,slow=9.5,SNR=6.2						
WRA	**Warramunga Arr**	**52.42**	**189**	P	**P**	**08 00 17.0**	**-0.2**
	1.2nm,0.7s,baz=5.8,slow=7.7,SNR=10						
ILAR	**Eielson Array**	**53.37**	**30**	P	**P**	**08 00 24.5**	**+0.7**
	0.5nm,0.9s,baz=261,slow=5.9,SNR=1.4						
ASAR	**Alice Springs**	**56.15**	**189**	P	**P**	**08 00 43.7**	**-0.7**
	0.1nm,0.3s,baz=7.8,slow=7.5,SNR=1.9						
YKA	**Yellowknife Ar**	**67.76**	**29**	P	**P**	**08 02 01.4**	**-0.5**
	0.1nm,0.5s,baz=292,slow=6.1,SNR=2.0						

*IDC **09** 07:53:34.7±0.5, 34°.41S×73°.49W, h0km, mb4.9/18, mb1 5.0/20, mb1mx4.8/28, mbtmp4.9/20, ML5.3/2, MS3.6/16, Ms1 3.6/16, ms1mx3.6/29, Error ellipse: s-maj=16.3km s-min=14.9km az=86.0*
*NEIC **09** 07:53:37.0±1.4, 34°.35S±0°.05×73°.48W±0°.07, h15km±2km, mb5.1/352, Mww4.8, ML4.8(GUC), Error ellipse: s-maj=7.8km s-min=6.9km az=102.0*
*BJI **09** 07:53:36.0±0.0, 34°.37S×73°.53W, h10km, mB5.6/3, Ms5.4/2, Ms7 4.9/2*
*GUC **09** 07:53:37.4±0.9, 34°.30S×73°.39W, h38km±4km, ML4.8*
*VAO **09** 07:53:37.3±0.5, 34°.34S×73°.35W, h10km, mb5.0*
*MOS **09** 07:53:37.1±1.0, 34°.28S×73°.45W, h23km, mb5.2/38, Error ellipse: s-maj=13.1km s-min=6.6km az=94.3*
*GCMT **09** 07:53:38.0±0.3, 34°.48S±0°.03×73°.79W±0°.02, h15km±1km, MW4.9/80, Moment Tensor Solution. s29,c34; s80,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.59±.16; $M_{\theta\theta}$0.64±.09; $M_{\phi\phi}$1.95±.11; $M_{r\theta}$-0.51±.20; $M_{\theta\phi}$0.92±.06; $M_{\phi r}$0.67±.19; Best double couple: $M_0$2.62700×10^{16} NP1:ϕ_s41.00000°,δ42.00000°,λ-69.00000°. NP2: ϕ_s193.00000°,δ51.00000°,λ-108.00000°. Principal axes: T 2.4470, Plg4.0000°, Azm296.0000°; N 0.3560, Plg14.0000°, Azm205.0000°; P -2.8070, Plg75.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 07:53:40, 34°.43S×73°.69W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-2.06; $M_{\theta\theta}$0.52; $M_{\phi\phi}$1.55; $M_{r\theta}$-0.19; $M_{\theta\phi}$1.10; $M_{\phi r}$0.86; Fault plane solution: $M_0$2.33000×10^{16} NP1:ϕ_s48.00000°, δ39.00000°,λ-64.00000°. NP2:ϕ_s197.00000°,δ55.00000°, λ-109.00000°. Principal axes: T 2.3401, Plg8.0000°, Azm300.0000°; N -0.0125, Plg16.0000°, Azm208.0000°; P -2.3276, Plg72.0000°, Azm58.0000°;*
ISC 09 07:53:35.3±0.6**, 34°.32S**±0°.04×**73°.49W**±0°.03**, h5**km±3km**, h6**km**:pP-P, n559,** σ**1ˢ11**/510**, mb5.1**/203**, MS3.9**/14**, 16C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**1.28**	**98**	⇑*i*P	**Pg**	**07 53 58.4**	**-1.4**
BO03				*i* S	**Sg**	**07 54 14.2**	**-2.1**
VA05	**Santo Domingo**	**1.69**	**67**	⇑*i*P	**Pn**	**07 54 04.4**	**-1.0**
VA05				*i* S	**Sn**	**07 54 25.0**	**-2.5**
VA05				IAML		07 54 28.2	
	comp=E,14μm,0.5s						
MT09	**Talagante**	**2.15**	**76**	⇑*i*P	**Pn**	**07 54 11.2**	**-0.6**
MT09				*i* S	**Sn**	**07 54 36.7**	**-2.2**
MT09				IAML		07 54 38.1	
	comp=N,13μm,0.4s						

MT02 Curacav 2.23 62⇓*e*P Pn 07 54 12.1 -0.7
MT02 *i* S **Sn 07 54 37.9 -2.9**
MT02 Curacav 2.23 62 Pn 07 54 12.2 -0.6
MT02 Sn **Sn 07 54 38.9 -1.8**
BO02 Sierra Bellavi 2.28 103⇑*i*P Pn 07 54 13.6 -0.1
BO02 *i* S **Sn 07 54 40.3 -1.9**
BO02 Sierra Bellavi 2.28 103 Pn 07 54 14.2 +0.5
BO02 Sn **Sn 07 54 41.5 -0.7**
ROCH El Roble 2.47 58⇑*i*P Pn 07 54 15.8 -0.5
ROCH *i* S **Sn 07 54 45.2 -1.8**
ROCH IAML 07 54 50.4
comp=N,4µm,0.5s
MT05 Renca 2.47 69⇑*i*P Pn 07 54 15.6 -0.7
MT05 *i* S **Sn 07 54 44.6 -2.2**
MT05 IAML 07 54 57.4
comp=E,5µm,0.3s
MT05 Renca 2.47 69 Pn 07 54 16.0 -0.2
MT05 Sn **Sb 07 54 46.2 -4.7**
BI03 Tigo 2.54 172 Pn 07 54 15.5 -1.7
MT03 Universidad Ad 2.61 72⇑*i*P Pn 07 54 17.7 -0.5
MT03 *i* S **Sn 07 54 47.9 -2.5**
MT03 IAML 07 54 50.5
comp=E,6µm,0.2s
PEL Peldehue 2.62 64⇑*i*P Pn 07 54 17.3 -1.0
PEL *i* S **Sn 07 54 47.0 -3.3**
PEL IAML 07 54 52.0
comp=N,5µm,0.5s
PEL Peldehue 2.62 64 P **Pn 07 54 18.5 +0.3**
PEL Peldehue 2.62 64 Pn 07 54 18.5 +0.3
VA03 San Esteban 2.91 58⇑*i*P Pn 07 54 21.5 -0.7
VA03 *i* S **Sn 07 54 55.0 -2.6**
VA03 San Esteban 2.91 58 Pn 07 54 22.4 +0.2
BI02 San Fabin de 2.95 143 *i* P **Pn 07 54 22.6 -0.2**
BI02 *i* S **Sn 07 54 56.6 -2.1**
BI02 IAML 07 55 06.2
comp=N,2µm,0.5s
BI02 San Fabin de 2.95 143 Pn 07 54 22.9 0.0
CO02 Combarbal 3.75 35 *e*P **Pn 07 54 33.2 -0.7**
CO02 *i* S **Sn 07 55 15.2 -3.3**
CO02 Combarbal 3.75 35 Pn 07 54 33.8 0.0
CO03 El Pedregal 4.20 35 Pn 07 54 40.1 0.0
VA04 Juan Fernndez 4.49 277 Pn 07 54 43.3 -0.6
H03S1 Juan Fernandez 4.52 275 Pn **Pn 07 54 42.3 -1.7**
H03S1 Sn Sn 07 55 29.2 -7.7
SNR=15
H03S3 Juan Fernandez 4.53 275 Pn **Pn 07 54 42.9 -1.2**
H03S3 Sn Sn 07 55 30.0 -7.0
SNR=7.9
H03S2 Juan Fernandez 4.54 275 Pn **Pn 07 54 42.7 -1.6**
H03S2 Sn Sn 07 55 29.5 -7.8
SNR=5.9
H03N1 Juan Fernandez 4.59 280 Pn **Pn 07 54 44.9 -0.1**
baz=132,slow=22,SNR=45
H03N1 Sn **Sn 07 55 32.8 -5.9**
SNR=3.1
H03N1 T T 07 59 36.6
baz=89,slow=74,SNR=9.7
H03N3 Juan Fernandez 4.60 279 Pn **Pn 07 54 45.0 -0.2**
baz=132,slow=22,SNR=45
H03N3 Sn **Sn 07 55 33.7 -5.2**
SNR=3.9
H03N3 T T 07 59 36.3
baz=89,slow=74,SNR=6.9
H03N2 Juan Fernandez 4.61 280 Pn **Pn 07 54 45.0 -0.3**
baz=132,slow=22,SNR=37
H03N2 Sn Sn 07 55 30.1 -9.0
SNR=4.9
H03N2 T T 07 59 36.7
baz=89,slow=74,SNR=7.0
GO04 Tololo Observa 4.72 30 Pn 07 54 46.7 -0.6
ZON Zonda 4.90 57 P **Pn 07 54 51.5 +1.8**
ZON Zonda 4.90 57 Pn **Pn 07 54 51.5 +1.8**
CO01 Juntas del Tor 5.20 35 Pn 07 54 54.5 +0.6
LCO Las Campanas 5.80 25 P **Pn 07 55 00.9 -1.3**
LCO Las Campanas 5.80 25 Pn **Pn 07 55 00.9 -1.3**
AC05 El Transito 6.12 28 Pn 07 55 06.2 -0.3
AC04 Llanos de Chal 6.44 19 Pn **Pn 07 55 08.5 -2.2**
PLCA Paso Flores 6.81 161 Pn **Pn 07 55 16.4 +0.6**
comp=N,27nm,0.3s,baz=328,slow=12,SNR=664
PLCA LR LR 07 57 02.0
comp=N,139nm,21.6s,baz=334,slow=31
PLCA Paso Flores 6.81 161 Pn **Pn 07 55 16.2 +0.3**
PLCA Paso Flores 6.81 161 *e*P **Pn 07 55 16.5 +0.6**
GO03 Copiap 7.27 23 Pn **Pn 07 55 20.7 -1.4**
LL01 San Ignacio de 8.09 174 Pn 07 55 33.3 +0.1
AC02 Maricunga 8.36 28 Pn **Pn 07 55 36.5 -1.0**
GO07 Milladeo Hill, 8.78 181 Pn 07 55 41.3 -1.4
GO02 Mina Guanaco 9.74 21 Pn **Pn 07 55 56.1 -0.2**
PB14 IPOC Station P 10.03 16 Pn **Pn 07 55 59.9 -0.4**
PB15 IPOC Station P 11.62 19 Pn 07 56 20.1 -1.8
LVC Limon Verde 12.34 20 Pn Pn 07 56 27.1 -4.9
comp=N,0.7nm,0.3s,baz=170,slow=8.8,SNR=6.5
LVC LR LR 08 00 40.3
comp=N,296nm,21.4s,baz=212,slow=34
LVC Limon Verde 12.34 20 P **Pn 07 56 28.4 -3.6**
LVC Limon Verde 12.34 20 Pn 07 56 28.4 -3.6
PB07 IPOC Station P 12.95 15 Pn 07 56 39.1 -1.0
PB09 IPOC Station P 13.03 18 Pn 07 56 40.0 -1.3
PB08 IPOC Station P 14.64 16 Pn 07 57 01.9 -1.6
PSGCX Pisagua 14.97 12 Pn **Pn 07 57 07.3 -0.3**
MNMC Minye Minye 15.52 14 Pn **Pn 07 57 15.3 +0.1**
MNMC IAmb IAmb 07 57 23.9
comp=Z,73nm,0.7s
CPUP Villa Florida 16.05 65 Pn **Pn 07 57 18.4 -3.3**
comp=Z,0.3nm,0.3s,baz=230,slow=14,SNR=5.1
CPUP LR LR 08 04 46.7
comp=Z,324nm,18.2s,baz=238,slow=42
CPUP Villa Florida 16.05 65 P **Pn 07 57 18.8 -2.9**
CPUP pmax pmax
comp=Z,10.0nm,1.1s
CPUP Villa Florida 16.05 65 Pn **Pn 07 57 18.8 -2.9**
PLTB Pedras Altas 16.87 87 *e*P **Pn 07 57 31.4 -0.8**
GO09 Cerro Castillo 16.96 178 Pn **Pn 07 57 30.9 -2.2**
CPSB Cacapava Do Su 17.38 83 *e*P **Pn 07 57 38.1 -0.4**
LPAZ La Paz 18.59 16 P **Pn 07 57 56.6 +2.5**
comp=Z,1.3nm,0.3s,baz=181,slow=4.2,SNR=34
LPAZ LR LR 08 06 02.4
comp=Z,85nm,18.1s,baz=185,slow=40
LPAZ La Paz 18.59 16 *e*P **Pn 07 57 54.7 +0.5**
ITAB Concordia 19.64 75 *e*P **Pn 07 58 05.8 -0.4**
EFI East Falkland 20.61 152 *i* P **P 07 58 16.5 +1.3**
EFI pmax pmax
comp=Z,288nm,2.7s
EFI East Falkland 20.61 152 P **P 07 58 16.2 +1.0**
EFI IAmb IAmb 07 58 19.3
comp=Z,51nm,0.7s
PTGB Pitanga 20.92 68 *e*P Pn 07 58 19.8 -1.6
AQDB Aquidauana 20.93 53 *e*P Pn 07 58 19.4 -1.9
SIV San Ignacio 21.40 35 P **P 07 58 24.8 +0.9**
comp=Z,27nm,0.8s,baz=233,slow=12,SNR=47
SIV PcP **PcP 08 02 27.0 -0.8**
comp=Z,2.1nm,0.8s,baz=248,slow=21,SNR=2.7
SIV LR LR 08 07 23.4
comp=Z,154nm,18.3s,baz=232,slow=39
TRCB Terra Rica 21.58 63 *e*P **P 07 58 26.1 +0.3**
NNA Nana 22.44 351 P **P 07 58 36.0 +0.8**
comp=Z,39nm,0.8s,baz=189,slow=8.6,SNR=17
NNA LR LR 08 04 57.9
comp=Z,161nm,21.7s,baz=158,slow=30
NNA Nana 22.44 351*ce*P **P 07 58 36.6 +1.4**
NNA pmax pmax
comp=Z,181nm,1.7s
NNA Nana 22.44 351 P **P 07 58 36.5 +1.3**
NNA IAmb IAmb 07 58 39.2
comp=Z,55nm,0.8s
PTLB Pontes e Lacer 22.81 38 *e*P **P 07 58 39.8 +0.7**
TIJ01 Guaruva-PR 23.01 74 *e*P **P 07 58 40.4 -0.9**
PCMB Pacaembu 23.30 63 *e*P **P 07 58 45.1 +1.0**
FRTB Fartura 23.59 69 *e*P **P 07 58 48.3 +1.3**
VILB Vilhena 24.46 33 *e*P **P 07 58 55.6 +0.4**
PET01 Itanhaem-SP 24.89 73 *e*P **P 07 58 59.2 +0.2**
ITRB Iturama 25.15 61 *e*P **P 07 59 02.3 +0.8**
ETMB Extrema 25.29 17 *e*P **P 07 59 04.2 +1.5**
BB19B Bebedouro 25.66 66 *e*P **P 07 59 06.7 +0.5**
VAO Valinhos 25.79 71 *e*P **P 07 59 08.9 +1.6**
CZSB Cruzeiro do Su 26.48 2 *e*P **P 07 59 14.4 +1.0**
ARAG Araguaiana, MT 26.91 52 *e*P **P 07 59 18.9 +1.6**
SAML Samuel 26.97 23 P **P 07 59 18.4 +0.5**
SAML pmax pmax
comp=Z,18nm,1.4s
SAML Samuel 26.97 23 P **P 07 59 18.4 +0.5**
ATAH Atahualpa 27.43 349 P **P 07 59 24.7 +2.2**
comp=Z,5.3nm,0.8s,baz=175,slow=12,SNR=5.3
ATAH PcP **PcP 08 02 42.0 +0.6**
comp=Z,3.5nm,0.6s,baz=144,slow=6.4,SNR=4.7
ATAH LR LR 08 08 09.1
comp=Z,89nm,18.9s,baz=185,slow=32
IPMB Ipameri, GO 27.81 61 *e*P **P 07 59 25.3 -0.2**
CLDB Colider 28.39 39 *e*P **P 07 59 31.4 +0.7**
BDFB Brasilia 29.52 57 P **P 07 59 40.6 -0.2**
comp=Z,2.7nm,0.6s,baz=204,slow=7.7,SNR=6.3
BDFB LR LR 08 11 45.1
comp=Z,82nm,20.1s,baz=312,slow=37
BDFB Brasilia 29.52 57 P **P 07 59 41.3 +0.5**
SNDB Serra Nova Dou 30.06 48 *e*P **P 07 59 45.6 +0.2**
NPGB Novo Progresso 31.89 36 *e*P **P 08 00 01.4 -0.3**
MACA Manacapuru-AM 33.22 24 *e*P **P 08 00 13.9 +0.6**
ITTB Itaituba 34.07 33 *e*P **P 08 00 20.6 0.0**
PTLC Puerto Leguiza 34.34 358 *e*P **P 08 00 22.0 -1.0**
OTAV Otavalo 34.69 351 P **P 08 00 25.8 -0.8**
OTAV pmax pmax
comp=Z,22nm,1.0s
OTAV Otavalo 34.69 351 *e*P **P 08 00 29.0 +2.4**
OTAV Otavalo 34.69 351 *e*P **P 08 00 29.0 +2.4**
SMTB Santa Maria do 34.75 49 *e*P **P 08 00 27.4 +0.8**
GCUF Volcan Galeras 35.55 353 *e*P **P 08 00 37.0 +3.0**
PRPB Parauapebas 35.55 43 *e*P **P 08 00 33.8 +0.3**
PTGA Pitinga 35.74 24 P **P 08 00 35.2 +0.2**
comp=Z,12nm,0.8s,baz=207,slow=10,SNR=12
PTGA Pitinga 35.74 24 P **P 08 00 35.6 +0.6**
PTGA IAmb IAmb 08 00 36.4
comp=Z,47nm,1.6s
PTGA Pitinga 35.74 24 *e*P **P 08 00 35.6 +0.6**
MACC Macarena, Meta 36.28 359 *e*P **P 08 00 41.3 +1.7**
BBAC Balboa, Cauca 36.33 354 *e*P **P 08 00 41.8 +1.5**
GARC Garzon, Huila 36.37 357 *e*P **P 08 00 42.6 +1.9**
SOTA Rioblanco 36.38 355 *e*P **P 08 00 43.4 +2.2**
PCON Cinco Dias 36.56 355⇓*e*P **P 08 00 45.9 +3.2**
POPC Popayan, Colom 36.79 355 *e*P **P 08 00 46.1 +1.8**
GDU01 Guandu, BA 36.89 65 *e*P **P 08 00 44.5 -0.5**
MALB Monte Alegre 36.96 33 *e*P **P 08 00 45.9 +0.5**
MARP Paez Belalcaza 37.04 356 *e*P **P 08 00 48.2 +1.8**
PRAC Prado 37.86 358 *e*P **P 08 00 55.6 +2.5**
ORTC Ortega, Tolima 38.06 357 *e*P **P 08 00 57.2 +2.3**
YOTC Yotoco, Valle 38.20 355 *e*P **P 08 00 57.1 +1.0**
BOAV Boa Vista 38.51 21 *e*P **P 08 00 58.8 +0.3**
TOLC Tolima 38.74 357 *e*P **P 08 01 02.5 +1.7**
CHIC Chingaza 38.74 360 *e*P **P 08 01 02.6 +1.6**
ROSC El Rosal 38.96 359 P **P 08 01 05.3 +2.5**
comp=Z,29nm,0.8s,baz=354,slow=0.8,SNR=12
PLMC San Jos del P 39.11 356 *e*P **P 08 01 05.1 +1.4**
MCPB Macapa, AP 39.30 35 *e*P **P 08 01 05.8 +0.6**
GUY2C Guyana, Caldas 39.37 357 *e*P **P 08 01 07.6 +1.3**
TMAB Tom-Au,PA,Br 39.64 42 *e*P **P 08 01 08.8 +0.8**
NORC Norcasia 39.69 358 *e*P **P 08 01 08.5 0.0**
SPBC San Pablo de B 39.76 359 *e*P **P 08 01 09.8 +0.7**
NBLA Lagarto - SE 39.98 63 *e*P **P 08 01 10.9 -0.1**
RUSC La Rusia 40.00 1 *e*P **P 08 01 13.2 +1.6**
CBOC Ciudad Bolivar 40.04 356 *e*P **P 08 01 13.0 +1.4**
HELC Santa Helena 40.34 357 *e*P **P 08 01 15.6 +1.4**
PTBC PUERTO BERRIO, 40.65 359 *e*P **P 08 01 15.9 -0.6**
BARC Barichara 40.69 0 *e*P **P 08 01 13.2 -3.9**
DBBC Dabeiba 41.20 356 *e*P **P 08 01 23.5 +2.5**
BRRC Barranca, Sant 41.20 360 *e*P **P 08 01 20.2 -0.8**
UREC San Jos de Ur 41.89 357 *e*P **P 08 01 27.4 +0.7**
SMLC San Martn de 42.89 359 *e*P **P 08 01 34.2 -0.6**
SDV Santo Domingo 43.06 4 P **P 08 01 36.0 -0.3**
comp=Z,14nm,0.8s,baz=214,slow=4.6,SNR=12
SDV Santo Domingo 43.06 4 P **P 08 01 35.9 -0.5**
SDV Santo Domingo 43.06 4 *e*P **P 08 01 36.8 +0.5**
SDV Santo Domingo 43.06 4 *e*P **P 08 01 37.2 +0.8**
RIOS Rincon, Osa 43.83 346 P **P 08 01 43.6 +1.3**
MDP Montagnes des 43.88 31 P **P 08 01 43.3 +0.5**
comp=Z,20nm,0.8s,baz=88,slow=23,SNR=7.8
JTS Las Juntas de 45.68 344 LR LR 08 16 20.2
comp=Z,105nm,20.5s,baz=326,slow=30
JTS Las Juntas de 45.68 344 *i* P **P 08 01 57.5 +0.3**
JTS pmax pmax
comp=Z,15nm,1.1s
GRGR Grenville 47.55 16 P **P 08 02 12.4 +0.7**
SVB Belmont 48.74 16 P **P 08 02 21.2 +0.2**
MCLT Moule a Chique 49.24 16 P **P 08 02 25.3 +0.6**
VNA3 Neumayer Olymp 49.52 158 P **P 08 02 27.7 +1.3**
VNA1 Neumayer--Stat 49.85 157 P **P 08 02 30.5 +1.7**
TGUH Tegucigalpa,Un 49.87 342 P **P 08 02 29.9 +0.2**
VNA2 Neumayer--Watz 50.18 157 P **P 08 02 32.7 +1.2**
baz=289,slow=8.8
SNAA Sanae 51.74 158 P **P 08 02 44.4 +1.2**
SNAA Sanae 51.74 158*ce*P **P 08 02 44.0 +0.8**
SNAA pmax pmax
comp=Z,51nm,1.4s
SNAA Sanae 51.74 158 P **P 08 02 43.3 +0.1**
SNAA IAmb IAmb 08 02 47.9
comp=Z,61nm,1.4s
SJG San Juan 52.61 9 LR LR 08 23 21.6
comp=Z,37nm,20.5s,baz=304,slow=34
PETF Flores 53.29 340 P **P 08 02 55.0 -0.1**
PETF IAmb IAmb 08 02 57.0
comp=Z,52nm,1.4s
QSPA South Pole Qui 55.91 180 P **P 08 03 13.8 -0.1**
QSPA IAmb IAmb 08 03 18.8
comp=Z,29nm,1.0s
TEIG Tepich 56.04 343 P **P 08 03 15.1 0.0**
NVL N'lazarevskaya 56.50 157 *e*P **P 08 03 18.3 +0.5**
NVL pmax pmax
comp=Z,24nm,1.1s
TLIG Tlapa 56.85 331 P **P 08 03 21.1 +0.1**
TLIG IAmb IAmb 08 03 24.0
comp=Z,17nm,0.9s
SOR Soroa 57.52 350 P **P 08 03 25.3 -0.2**
SOR pmax pmax
comp=Z,40nm,0.8s
SOR Soroa 57.52 350 P **P 08 03 25.3 -0.2**
TBI Tubuai 66.07 257 *e*LR LR 08 24 09.0
comp=Z,204nm,31.8s
TIGA Tifton 66.10 351 P 08 04 23.2
baz=171
BRAL Brewton 66.38 347 P 08 04 25.7
baz=168
833A Chaparral WMA, 66.96 335 P 08 04 30.0
baz=157,SNR=12
250A Grady 67.04 348 IAmb IAmb 08 04 30.3
comp=Z,17nm,0.9s
SLBS Sierra La Lagu 67.29 324 P **P 08 04 32.1 +1.1**
SLBS IAmb IAmb 08 04 33.9
comp=Z,16nm,0.8s
HKT Hockley 67.32 339 *i* P **P 08 04 31.2 +0.3**
HKT pmax pmax
comp=Z,5.0nm,1.0s
HKT Hockley 67.32 339 P **P 08 04 31.4 +0.5**
NHSC New Hope 67.37 354 P 08 04 31.7
baz=174
NHSC New Hope 67.37 354 P **P 08 04 29.3 -1.9**
344A Westbrook Farm 67.41 344 P **P 08 04 30.8 -0.8**
344A IAmb IAmb 08 04 35.2
comp=Z,15nm,0.8s
152A Waverly Hall 67.47 350 P **P 08 04 31.8 -0.1**
152A IAmb IAmb 08 04 32.9
comp=Z,24nm,1.1s
342A Flagon Creek P 67.72 343 P **P 08 04 33.1 -0.4**
LPIG La Paz 67.82 324 LR LR 08 25 52.6
comp=Z,12nm,20.8s,baz=167,slow=28
GOGA Godfrey 68.03 351 P 08 04 35.2
baz=171,SNR=8.2
GOGA Godfrey 68.03 351 P **P 08 04 35.1 -0.3**
GOGA pmax pmax
comp=Z,17nm,1.0s
GOGA Godfrey 68.03 351 P **P 08 04 35.1 -0.3**
GOGA IAmb IAmb 08 04 36.5
comp=Z,17nm,1.0s
VBMS Vicksburg 68.10 344 P 08 04 36.9
baz=165
VBMS Vicksburg 68.10 344 P **P 08 04 36.7 +0.9**
Z51A Franklin 68.17 349 IAmb IAmb 08 04 37.7
comp=Z,14nm,0.9s
LRAL Lakeview Retre 68.19 348 P 08 04 36.6
baz=168,SNR=6.8
LRAL Lakeview Retre 68.20 348 P **P 08 04 37.2 +0.8**
LRAL IAmb IAmb 08 04 38.0
comp=Z,19nm,1.3s
VAH Vaihoa 68.59 266 *e*P **P 08 04 41.7 +2.2**
comp=Z,41nm,1.1s
435B Jarrell 68.63 338 P 08 04 40.0
baz=159
X60A Albert Glenn T 68.67 356 P 08 04 39.9
baz=176
NATX Nacogdoches 68.69 341 P 08 04 40.5
baz=161,SNR=5.6
NATX Nacogdoches 68.69 341 P **P 08 04 40.5 +0.9**
HODGE Hodges 68.69 352 P **P 08 04 38.7 -0.8**
HODGE IAmb IAmb 08 04 40.9
comp=Z,14nm,1.0s
X58A Rowland 68.74 355 P **P 08 04 40.0 +0.2**
X58A IAmb IAmb 08 04 41.2
comp=Z,14nm,0.7s
Y49A Blount Mountai 68.90 348 P **P 08 04 40.7 -0.2**
Y49A IAmb IAmb 08 04 42.8
comp=Z,13nm,0.9s
PPT2 Papeete2 69.00 263 *e*P **P 08 04 43.5 +1.4**
comp=Z,45nm,1.0s
PPT2 Papeete2 69.00 263 *e*LR LR 08 25 33.4
comp=Z,249nm,30.2s
PPT Papeete 69.01 263 P **P 08 04 43.6 +1.6**
comp=Z,59nm,1.0s,baz=79,slow=5.4,SNR=6.2
JCT Junction City 69.07 336 P 08 04 42.5
baz=157,SNR=21
JCT Junction City 69.07 336 P **P 08 04 42.7 +0.6**
JCT pmax pmax
comp=Z,31nm,0.9s
JCT Junction City 69.07 336 P **P 08 04 42.7 +0.6**
PAULI Pauline 69.23 353 P **P 08 04 43.4 +0.6**
PAULI IAmb IAmb 08 04 44.4
comp=Z,22nm,1.0s
237A Washetta, Mont 69.24 340 P **P 08 04 42.9 -0.1**
CNNC Cliffs of the 69.32 356 P 08 04 43.7
baz=176
CNNC Cliffs of the 69.33 356 P **P 08 04 43.3 -0.2**
CNNC IAmb IAmb 08 04 54.9
comp=Z,16nm,0.8s
X51A Calhoun 69.35 350 P **P 08 04 44.0 +0.3**
W57A Gilead 69.38 354 P **P 08 04 43.8 0.0**
W57A IAmb IAmb 08 04 45.0
comp=Z,18nm,1.1s
W56A Indian Trail 69.42 354 P 08 04 44.0
baz=174
FPAL Fort Paine 69.44 349 P **P 08 04 44.0 -0.2**
FPAL IAmb IAmb 08 04 45.5
comp=Z,17nm,1.2s
TX31 Lajitas Ar. Si 69.44 332 P **P 08 04 45.1 +0.7**
TX32 Lajitas Array 69.44 332 P **P 08 04 44.7 +0.3**
TX32 IAmb IAmb 08 04 46.2
comp=Z,12nm,0.7s
TXAR Lajitas Array 69.44 332 P **P 08 04 45.6 +1.2**
comp=Z,11nm,0.6s,baz=157,slow=8.4,SNR=81
TXAR LR LR 08 29 54.2
comp=Z,86nm,20.7s,baz=0.0,slow=31
TXAR Lajitas Array 69.44 332 P **P 08 04 45.2 +0.7**
TXAR Lajitas Array 69.44 332 P **P 08 04 45.1 +0.7**
Y45A Yeager Farm, C 69.48 346 P **P 08 04 45.2 +0.8**
KMSC Kings Mountain 69.49 353 P 08 04 44.8
baz=173,SNR=8.5
KMSC Kings Mountain 69.49 353 P **P 08 04 44.5 0.0**
KMSC IAmb IAmb 08 04 45.8
comp=Z,17nm,0.9s
BG3 Lake Jocassee 69.52 352 P **P 08 04 44.8 +0.1**
BG3 IAmb IAmb 08 04 46.4
comp=Z,17nm,1.0s
V62A Hyde County Ai 69.56 358 P 08 04 45.5
baz=178
X48A Hartselle 69.59 348 P **P 08 04 45.6 +0.5**
Z41A Richland Creek 69.63 343 P 08 04 46.2
baz=163
WHTX Lake Whitney, 69.71 338 P 08 04 46.1
baz=159,SNR=20
WHTX Lake Whitney, 69.72 338 P **P 08 04 46.6 +0.6**
W52A Murphy 69.75 351 P **P 08 04 46.2 0.0**
W52A IAmb IAmb 08 04 47.8
comp=Z,19nm,1.1s
V60A Jim Taylor Roa 69.81 357 P 08 04 47.2
baz=177
V60A Jim Taylor Roa 69.82 357 P **P 08 04 47.3 +0.9**
V60A IAmb IAmb 08 04 48.5
comp=Z,17nm,0.9s
V59A Middlesex 69.87 356 P 08 04 47.1
baz=176,SNR=5.2
V58A Windy Hill, Pi 69.95 355 IAmb IAmb 08 04 48.5
comp=Z,14nm,1.1s
V56A Mocksville 70.08 354 P 08 04 48.0
baz=174,SNR=8.7
V57A Coltrane Farms 70.09 355 P 08 04 48.6
baz=175
WLAR White Oak Lake 70.12 343 IAmb IAmb 08 04 50.2
comp=Z,22nm,0.9s
CPCT Cooper Cave 70.17 350 IAmb IAmb 08 04 50.2
comp=Z,26nm,1.0s
V53A Saluda 70.17 352 IAmb IAmb 08 04 50.1
comp=Z,23nm,1.1s
V55A Taylorsville 70.19 353 IAmb IAmb 08 04 50.2
comp=Z,25nm,1.1s
TKL Tuckaleechee C 70.28 351 IAmb IAmb 08 04 50.5
comp=Z,19nm,1.1s
PLAL Pickwick Lake 70.28 347 P **P 08 04 49.4 0.0**
U61A Possum Corner 70.35 357 P 08 04 50.6
baz=178,SNR=5.9
X43A Marvell 70.39 345 P 08 04 50.9
baz=165
U59A Littleton 70.43 356 IAmb IAmb 08 04 52.1
comp=Z,15nm,1.1s
V52A Sevierville 70.44 351 IAmb IAmb 08 04 51.5
comp=Z,23nm,1.1s
V51A Loudon 70.50 351 IAmb IAmb 08 04 52.5
comp=Z,21nm,1.1s
U58A Oxford 70.51 356 P 08 04 51.0
baz=176
U60A Pendleton 70.51 357 P 08 04 51.3
baz=177
U56A King 70.60 354 P 08 04 51.7
baz=174
U56A King 70.60 354 IAmb IAmb 08 04 52.9
comp=Z,15nm,1.0s
U57A Blanch 70.60 355 P 08 04 51.5
baz=175
W45A Hickory Valley 70.66 346 P **P 08 04 51.9 +0.2**
X40A Basin Creek Fa 70.81 343 P 08 04 52.8
baz=163
U54A Nelsons Funny 70.91 353 P 08 04 53.2
baz=173,SNR=7.7
U54A Nelsons Funny 70.91 353 IAmb IAmb 08 04 54.4
comp=Z,20nm,1.0s
ABTX Abilene, Hawle 70.99 337 P 08 04 54.3
baz=158,SNR=20
ABTX Abilene, Hawle 70.99 337 P **P 08 04 54.1 +0.3**
T59A Double "B" Far 71.03 357 P **P 08 04 54.5 +0.6**
MIAR Mount Ida 71.05 343 P 08 04 54.0
baz=163,SNR=8.6
MIAR Mount Ida 71.05 343 P **P 08 04 54.4 +0.3**
MIAR pmax pmax
comp=Z,22nm,1.4s
MIAR Mount Ida 71.05 343 P **P 08 04 54.4 +0.3**
MIAR IAmb IAmb 08 04 55.8
comp=Z,22nm,1.4s
T58A Grand View Acr 71.06 356 P 08 04 54.5
baz=176
CLTN Cedars of Leba 71.07 349 P **P 08 04 54.5 +0.4**
T57A Hurt 71.16 355 P 08 04 55.0
baz=175
T57A Hurt 71.16 355 P **P 08 04 55.1 +0.4**
T60A Surry 71.16 357 P 08 04 55.5
baz=177
T60A Surry 71.16 357 P **P 08 04 55.7 +1.0**
T56A Rocky Mt 71.25 354 P 08 04 55.4
baz=174,SNR=6.9
W41B Gary Mavity, V 71.33 344 P 08 04 55.9
baz=164,SNR=14
WVT Waverly 71.36 348 P 08 04 56.2
baz=168
WVT Waverly 71.36 348 P **P 08 04 55.3 -0.6**
WVT pmax pmax
comp=Z,60nm,1.1s
WVT Waverly 71.36 348 P **P 08 04 55.3 -0.6**
U49A Red Boiling Sp 71.40 350 P **P 08 04 56.7 +0.5**
U49A IAmb IAmb 08 04 57.7
comp=Z,43nm,1.5s
WHAR Wooly Hollow 71.45 344 P **P 08 04 57.3 +0.9**
SRIG Santa Rosalia 71.46 324 IAmb IAmb 08 04 59.5
comp=Z,26nm,1.2s
BLA Blacksburg 71.46 354 P 08 04 57.9
baz=174
GNAR Gosnell 71.61 346 P **P 08 04 58.0 +0.6**
S58A Poland Farm, P 71.70 356 P 08 04 58.7
baz=176
S58A Poland Farm, P 71.70 356 P **P 08 04 58.8 +0.9**
S58A IAmb IAmb 08 04 59.8

comp=Z,14nm,1.1s
W39A Magazine 71.72 343 P 08 04 58.9
baz=163,SNR=17
W39A Magazine 71.72 343 P **P** **08 04 59.1 +1.0**
S60A Water View 71.72 357 P 08 04 58.6
baz=177,SNR=5.1
S59A Mechanicsville 71.81 357 P 08 04 59.5
baz=177
S56A Natural Bridge 71.86 355 P 08 04 59.3
baz=175
S57A Dark Hollow, R 71.90 355 P 08 04 59.3
baz=175,SNR=5.8
S57A Dark Hollow, R 71.90 355 IAmb IAmb 08 05 00.7
comp=Z,14nm,0.9s
LCAR Lake Charles 71.95 345 P **P** **08 04 59.9 +0.5**
LCAR IAmb IAmb 08 05 00.6
comp=Z,22nm,0.9s
FCAR Ozark Folk Cen 71.99 344 P **P** **08 04 59.6 -0.1**
FCAR IAmb IAmb 08 05 00.8
comp=Z,13nm,0.9s
R58B Mineral 72.04 356 P 08 05 00.5
baz=176
R58B Mineral 72.04 356 IAmb IAmb 08 05 02.2
comp=Z,25nm,1.4s
S54A Dingess, Beckl 72.12 353 P 08 05 00.2
baz=173,SNR=5.7
S54A Dingess, Beckl 72.13 353 IAmb IAmb 08 05 02.2
comp=Z,33nm,1.4s
MNTX Cornudas Mount 72.21 332 P 08 05 01.1
baz=153,SNR=20
S51A Beattyville 72.21 352 P **P** **08 05 01.4 +0.4**
S51A IAmb IAmb 08 05 02.2
comp=Z,16nm,0.9s
MNTX Cornudas Mount 72.21 332 P **P** **08 05 00.8 -0.4**
R59A King George, V 72.23 357 P 08 05 02.0
baz=177
HSIG 72.27 326 P **P** **08 05 02.3 +0.7**
R60A Leonardtown, M 72.28 357 P 08 05 02.3
baz=177
R58A Rapidan 72.38 356 P 08 05 02.6
baz=176
R57A Stanardsville 72.40 356 P 08 05 02.6
baz=176,SNR=5.8
R54A Victor 72.47 354 P 08 05 02.6
baz=174
U40A Yellville 72.60 344 P 08 05 03.3
baz=163,SNR=19
U40A Yellville 72.60 344 IAmb IAmb 08 05 04.7
comp=Z,27nm,1.2s
WMOK Wichita Mounta 72.67 338 P 08 05 03.8
baz=158,SNR=12
WMOK Wichita Mounta 72.67 338 P **P** **08 05 04.1 +0.3**
WMOK pmax pmax
comp=Z,13nm,1.1s
WMOK Wichita Mounta 72.67 338 P **P** **08 05 04.1 +0.3**
R53A Hurricane 72.71 353 IAmb IAmb 08 05 05.1
comp=Z,33nm,1.6s
HHAR Hobbs 72.79 343 P **P** **08 05 04.5 0.0**
HHAR IAmb IAmb 08 05 05.8
comp=Z,20nm,1.3s
Q61A Milford 72.86 359 P 08 05 06.0
baz=178
Q59A Harwood 72.88 357 P 08 05 05.5
baz=177
TUL1 Leonard 72.91 341 P 08 05 05.2
baz=161,SNR=11
TUL1 Leonard 72.91 341 P **P** **08 05 05.2 -0.1**
TUL1 IAmb IAmb 08 05 06.5
comp=Z,27nm,1.0s
R50A Paris 72.94 351 P **P** **08 05 04.6 -0.7**
R50A IAmb IAmb 08 05 06.3
comp=Z,38nm,1.6s
Q57A Strasburg 73.13 356 P 08 05 07.4
baz=176
S44A Carbondale 73.14 347 IAmb IAmb 08 05 07.6
comp=Z,14nm,0.8s
SIUC Southern Illin 73.15 347 P **P** **08 05 06.6 +0.1**
SIUC IAmb IAmb 08 05 07.7
comp=Z,15nm,0.8s
WCI Wyandotte Cave 73.16 349 P 08 05 06.9
baz=169
WCI Wyandotte Cave 73.16 349 P **P** **08 05 06.2 -0.4**
WCI pmax pmax
comp=Z,10.0nm,1.0s
WCI Wyandotte Cave 73.16 349 P **P** **08 05 06.2 -0.4**
BCOK Bluff Creek, N 73.18 340 P **P** **08 05 07.1 +0.3**
Q56A Snyder Ridge, 73.19 355 P 08 05 07.2
baz=175
Q53A Leroy 73.19 353 P 08 05 07.2
baz=173
MAW Mawson 73.21 164 P **P** **08 05 07.2 +0.5**
comp=Z,29nm,1.1s,baz=315,slow=22,SNR=1.2
MAW LR LR 08 35 22.7
comp=Z,101nm,22.0s,baz=234,slow=34
MGMO Mountain Grove 73.23 344 IAmb IAmb 08 05 08.5
comp=Z,20nm,1.2s
MSTX Muleshoe 73.28 335 P 08 05 07.7
baz=155,SNR=18
MSTX Muleshoe 73.28 335 P **P** **08 05 08.1 +0.5**
MSTX IAmb IAmb 08 05 09.1
comp=Z,28nm,0.8s
Q52A Bidwell 73.37 353 IAmb IAmb 08 05 09.1
comp=Z,35nm,1.2s
QUOK Quay 73.41 341 P **P** **08 05 08.7 +0.6**
319A Douglas 73.54 329 IAmb IAmb 08 05 12.0
comp=Z,21nm,1.1s
Q51A Peebles 73.55 352 P **P** **08 05 08.7 -0.3**
Q51A IAmb IAmb 08 05 11.4
comp=Z,13nm,0.8s
P57A Homestead Farm 73.56 356 P 08 05 09.8
baz=176
P59A Jarrettsville 73.61 358 P 08 05 10.2
baz=178,SNR=5.4
P56A Dayton Farm, R 73.62 356 P 08 05 09.9
baz=176
FVM French Village 73.64 346 P **P** **08 05 09.6 +0.1**
FVM pmax pmax
comp=Z,39nm,1.5s
FVM French Village 73.64 346 P **P** **08 05 09.6 +0.1**
FVM IAmb IAmb 08 05 10.9
comp=Z,39nm,1.4s
AMTX Amarillo 73.73 336 P 08 05 10.9
baz=156
AMTX Amarillo 73.73 336 P **P** **08 05 10.2 -0.1**
AMTX IAmb IAmb 08 05 12.2
comp=Z,40nm,1.2s
P60A Greenville 73.79 358 P 08 05 11.0
baz=178
P60A Greenville 73.79 358 IAmb IAmb 08 05 11.8
comp=Z,21nm,1.2s
P53A Whipple 73.81 354 P **P** **08 05 09.9 -0.5**
P53A IAmb IAmb 08 05 11.7
comp=Z,37nm,1.6s
CCM Cathedral Cave 73.88 345 P 08 05 11.1
baz=165
CCM Cathedral Cave 73.88 345 P **P** **08 05 11.3 +0.4**
CCM pmax pmax
comp=Z,37nm,1.0s
CCM Cathedral Cave 73.88 345 P **P** **08 05 11.2 +0.4**
121A Cookes Peak, D 73.91 330 P 08 05 12.9
baz=151,SNR=13
121A Cookes Peak, D 73.91 330 IAmb IAmb 08 05 14.2
comp=Z,22nm,0.9s
WUPA West Chester U 73.91 358 P **P** **08 05 12.1 +1.1**
WUPA IAmb IAmb 08 05 13.2
comp=Z,39nm,1.9s
OLIL Olney 73.94 348 P **P** **08 05 10.9 -0.3**
OLIL IAmb IAmb 08 05 11.8
comp=Z,30nm,1.6s
P51A Williamsport 73.97 352 P **P** **08 05 11.1 -0.2**
S39A Bolivar 73.98 344 IAmb IAmb 08 05 12.8
comp=Z,23nm,1.4s
MVL Millersville 74.00 358 P **P** **08 05 12.7 +1.2**
MVL IAmb IAmb 08 05 13.9
comp=Z,26nm,1.4s
P52A Corning 74.02 353 P 08 05 11.5
baz=173,SNR=11
T35A Sooner Cattle 74.05 341 P **P** **08 05 12.4 +0.4**
T35A IAmb IAmb 08 05 13.7
comp=Z,33nm,1.1s
O61A Allentown 74.05 359 P 08 05 12.6
baz=179
BLO Bloomington 74.12 350 P **P** **08 05 12.1 -0.1**
BLO pmax pmax
comp=Z,13nm,1.0s
BLO Bloomington 74.12 350 P **P** **08 05 12.1 -0.1**
O58A Lewisberry 74.14 357 P 08 05 12.9
baz=177
P49A Miami Univ. Ec 74.22 351 P 08 05 12.8
baz=170
P49A Miami Univ. Ec 74.22 351 IAmb IAmb 08 05 14.4
comp=Z,20nm,1.2s
P48A Milroy 74.24 350 P **P** **08 05 12.7 -0.3**
P48A IAmb IAmb 08 05 14.3
comp=Z,34nm,1.2s
PAGS Pennsylvania G 74.24 357 P **P** **08 05 14.0 +1.1**
U32A Winter Ranch, 74.26 339 IAmb IAmb 08 05 15.0
comp=Z,31nm,0.9s
O57A Amberson 74.26 357 P 08 05 13.9
baz=176
Q44A Meyer Farm, Va 74.27 347 P **P** **08 05 12.8 -0.3**
O60A Telford 74.29 358 P 08 05 14.1
baz=178
O59A Robesonia 74.31 358 P 08 05 14.2
baz=178,SNR=5.9
R40A Maddies Statio 74.32 345 P **P** **08 05 13.6 +0.1**
R40A IAmb IAmb 08 05 14.7
comp=Z,21nm,1.0s
O56A Blue Knob Stat 74.37 356 P 08 05 14.1
baz=176
KAN13 South Haven SW 74.41 340 P **P** **08 05 15.1 +1.1**
KAN14 Manchester OK 74.49 340 P **P** **08 05 15.1 +0.6**
KAN14 IAmb IAmb 08 05 16.1
comp=Z,26nm,1.2s
O53A New Philadelph 74.55 354 P 08 05 14.9
baz=174
O53A New Philadelph 74.55 354 IAmb IAmb 08 05 15.9
comp=Z,32nm,1.4s
KAN10 Anthony SW Sta 74.69 340 IAmb IAmb 08 05 17.5
comp=Z,46nm,1.4s
ACSO Alum Creek Sta 74.70 352 P 08 05 15.9
baz=172
ACSO Alum Creek Sta 74.70 352 P **P** **08 05 15.2 -0.5**
ACSO IAmb IAmb 08 05 18.1
comp=Z,18nm,0.7s
N61A South Mountain 74.71 359 P 08 05 16.2
baz=179
KAN08 Anthony NE Sta 74.75 340 P **P** **08 05 16.1 +0.2**
N57A Milroy 74.80 357 P 08 05 16.8
baz=177
O49A Covington 74.82 351 P **P** **08 05 15.7 -0.6**
O49A IAmb IAmb 08 05 18.0
comp=Z,25nm,1.1s
N60A Cedar Hill Far 74.84 359 P 08 05 17.0
baz=179
N58A Sunbury 74.85 357 P 08 05 17.9
baz=177
N59A State Game Lan 74.90 358 P 08 05 18.0
baz=178
TUC Tucson 74.99 328 P 08 05 18.8
baz=149
TUC Tucson 74.99 328 P **P** **08 05 19.1 +1.5**
TUC pmax pmax
comp=Z,13nm,1.1s
TUC Tucson 74.99 328 P **P** **08 05 19.1 +1.5**
N56A West Decatur 75.00 356 P 08 05 17.8
baz=176
LENM Lemitar 75.01 332 P **P** **08 05 19.4 +1.6**
N53A Lisbon 75.07 354 P **P** **08 05 18.3 +0.6**
P43A Skaggs, Pawnee 75.08 347 IAmb IAmb 08 05 18.8
comp=Z,24nm,0.9s
N54A Moraine State 75.15 355 P 08 05 18.6
baz=174
M60A Port Jervis 75.29 359 P 08 05 19.7
baz=179
N51A Ashland 75.32 353 IAmb IAmb 08 05 20.2
comp=Z,24nm,1.0s
M57A Sunshine Farm, 75.36 357 P 08 05 20.5
baz=177
M58A Price's Panora 75.37 358 P 08 05 20.5
baz=178
SFIN Lafayette 75.39 349 P 08 05 19.9
baz=168
M62A Hamden 75.40 0 P 08 05 20.7
baz=181
ANMO Albuquerque 75.50 333 P 08 05 22.0
baz=152
ANMO Albuquerque 75.50 333 *ce* P **P** **08 05 21.7 +1.1**
ANMO pmax pmax
comp=Z,17nm,1.2s
ANMO Albuquerque 75.50 333 P **P** **08 05 21.6 +0.9**
M59A Waymart 75.52 358 P 08 05 21.8
baz=178
N49A Columbus Grove 75.52 352 IAmb IAmb 08 05 21.3
comp=Z,19nm,1.1s
M64A Tiverton 75.53 2 P 08 05 21.0
baz=182
M56A Emporium 75.56 356 P 08 05 20.9
baz=176
M56A Emporium 75.56 356 IAmb IAmb 08 05 22.2
comp=Z,48nm,1.6s
214A Organ Pipe Nat 75.60 326 P 08 05 22.4
baz=147,SNR=8.0
214A Organ Pipe Nat 75.61 326 P **P** **08 05 21.4 +0.3**
M54A Oil Creek Stat 75.67 355 P 08 05 21.5
baz=175
N47A Urbana 75.67 350 IAmb IAmb 08 05 21.5
comp=Z,18nm,0.9s
M53A WI Miller and 75.68 354 P 08 05 20.6
baz=174,SNR=5.6
SUR Sutherland 75.72 119 LR LR 08 33 16.5
comp=Z,174nm,21.7s,baz=203,slow=32
SFX San Felipe 75.81 324 IAmb IAmb 08 05 24.8
comp=Z,14nm,0.9s
L63A North Scituate 75.83 1 P 08 05 22.3
baz=182
M52A Chesterland 75.84 354 P **P** **08 05 21.6 -0.6**
M52A IAmb IAmb 08 05 23.3
comp=Z,23nm,1.1s
M50A Fremont 75.87 353 IAmb IAmb 08 05 23.3
comp=Z,15nm,1.0s
P38A Dawn 75.88 344 P **P** **08 05 22.1 -0.3**
P38A IAmb IAmb 08 05 23.4
comp=Z,21nm,0.9s
HDIL Hopedale 75.92 348 P 08 05 22.7
baz=167
HDIL Hopedale 75.92 348 P **P** **08 05 22.5 -0.1**
L64A Middleborough 75.93 2 P 08 05 23.8
baz=182
L60A Shokan 75.94 359 P 08 05 24.1
baz=179
L57A Andrews Acres 76.02 357 P 08 05 23.2
baz=177
LIC Lamo 76.02 72 *e* P **P** **08 05 24.7 +0.9**
comp=Z,54nm,0.7s
KSU1 Kansas State U 76.13 342 P 08 05 23.7
baz=161
L59A Walton 76.16 359 P 08 05 25.0
baz=179
L53A Girard 76.16 355 P 08 05 24.1
baz=174
L56A Greenwood 76.18 357 P 08 05 24.5
baz=177,SNR=5.4
L56A Greenwood 76.18 357 P **P** **08 05 24.7 +0.6**
L56A IAmb IAmb 08 05 25.8
comp=Z,22nm,1.0s
TIC Toumodi 76.28 72 *e* P **P** **08 05 26.2 +0.9**
ERPA Erie 76.30 355 P 08 05 25.2
baz=175
ERPA Erie 76.30 355 P **P** **08 05 24.5 -0.3**
KIC Kosan Boka 76.33 72 *e* P **P** **08 05 26.6 +1.0**
comp=Z,53nm,0.6s
L61B Northampton 76.41 1 P 08 05 26.4
baz=181
DBIC Dimbokro 76.42 72 P **P** **08 05 27.2 +1.1**
comp=Z,20nm,0.6s,baz=210,slow=6.0,SNR=41
DBIC Dimbokro 76.42 72 P **P** **08 05 27.2 +1.1**
DBIC pmax pmax
comp=Z,21nm,0.7s
DBIC Dimbokro 76.42 72 P **P** **08 05 27.2 +1.1**
DBIC IAmb IAmb 08 05 27.8
comp=Z,21nm,0.7s
HRV Adam Dziewonsk 76.48 1 P 08 05 27.0
baz=182
WVNY West Valley, N 76.50 356 P **P** **08 05 26.4 +0.5**
WVNY IAmb IAmb 08 05 27.6
comp=Z,13nm,0.8s
M44A Midewin, Midew 76.52 349 IAmb IAmb 08 05 26.8
comp=Z,22nm,0.9s
L48A N Adams 76.56 352 P **P** **08 05 25.5 -0.7**
K62A Royalston 76.62 1 P 08 05 27.6
baz=181
T25A Trinidad 76.70 335 P 08 05 28.6
baz=154,SNR=30
T25A Trinidad 76.71 335 P **P** **08 05 28.6 +1.1**
CBKS Cedar Bluff 76.73 339 P 08 05 28.0
baz=158,SNR=11
K56A Middlesex 76.73 357 P 08 05 27.9
baz=177
CBKS Cedar Bluff 76.73 339 P **P** **08 05 28.0 +0.7**
CBKS pmax pmax
comp=Z,38nm,1.1s
CBKS Cedar Bluff 76.73 339 P **P** **08 05 28.0 +0.7**
K57A Scipio Center 76.73 358 P 08 05 27.4
baz=178
K59A Cooperstown 76.74 359 P 08 05 27.8
baz=179
K58A Earlville 76.74 358 P 08 05 27.8
baz=178
K58A Earlville 76.74 358 IAmb IAmb 08 05 28.4
comp=Z,20nm,1.1s
MMNY Mt. Morris Dam 76.79 357 IAmb IAmb 08 05 28.4
comp=Z,19nm,1.2s
HQIL Hanson Quary C 76.89 349 P **P** **08 05 27.8 -0.3**
HQIL IAmb IAmb 08 05 29.0
comp=Z,24nm,0.8s
W18A Petrified Fore 76.95 330 P 08 05 29.5
baz=150,SNR=5.0
K50A Casco 77.18 353 P **P** **08 05 29.1 -0.6**
K50A IAmb IAmb 08 05 30.3
comp=Z,27nm,1.1s
J62A Henniker 77.19 1 P 08 05 31.2
baz=182
J56A Wolcott 77.29 357 P 08 05 30.6
baz=177
L42A Oliver, Polo 77.39 348 P **P** **08 05 30.6 -0.3**
L42A IAmb IAmb 08 05 31.8
comp=Z,20nm,0.9s
J59A Piesco 77.42 359 P 08 05 31.3
baz=179
GLA Glamis 77.45 325 P 08 05 32.2
baz=146
N35A Tabor 77.55 343 IAmb IAmb 08 05 32.8
comp=Z,31nm,0.9s
SDCO Great Sand Dun 77.63 335 P 08 05 33.7
baz=154,SNR=12
SDCO Great Sand Dun 77.63 335 P **P** **08 05 33.3 +0.6**
I58A Old Forge 77.65 359 P 08 05 32.3
baz=179
IKP In-Ko-Pah, Jac 77.73 324 P 08 05 33.8
baz=145
L40A Anamosa 77.74 347 IAmb IAmb 08 05 33.7
comp=Z,19nm,0.8s
I59A Olmsteadville 77.75 360 P 08 05 33.0
baz=180
I60A Shoreham 77.80 0 P 08 05 34.1
baz=180
KSCO Kaye Shedlock' 77.80 337 P 08 05 34.5
baz=156,SNR=5.4
SWSC Sam W. Stewart 77.83 325 P 08 05 35.0
baz=145
WUAZ Wupatki 77.98 329 P 08 05 35.8
baz=149,SNR=7.8
WUAZ Wupatki 77.98 329 P **P** **08 05 35.2 +0.6**
WUAZ IAmb IAmb 08 05 37.5
comp=Z,15nm,1.0s
I63A Otisfield 78.05 2 P 08 05 36.5
baz=182
I51A Listowel 78.06 354 P 08 05 34.3
baz=174,SNR=6.5
MONP2 Monument Peak 78.08 324 P 08 05 36.2
baz=145
S22A 4UR Ranch, Cre 78.11 334 P 08 05 36.5
baz=152,SNR=10
BC3 Big Chuckawall 78.25 325 P 08 05 37.8
baz=146,SNR=13
MVCO Mesa Verde 78.27 332 P 08 05 37.4
baz=151,SNR=8.6
MVCO Mesa Verde 78.28 332 P **P** **08 05 36.2 -0.1**
MVCO IAmb IAmb 08 05 38.8
comp=Z,22nm,1.3s
H58A Gabriels 78.37 359 P 08 05 36.7
baz=180
JFWS Jewell Farm 78.38 348 P 08 05 36.5
baz=166
JFWS Jewell Farm 78.38 348 P **P** **08 05 37.0 +0.6**
JFWS pmax pmax
comp=Z,22nm,1.1s
JFWS Jewell Farm 78.38 348 P **P** **08 05 37.0 +0.6**
JFWS IAmb IAmb 08 05 37.6
comp=Z,22nm,1.1s
H57A Richville 78.43 359 P 08 05 38.0
baz=178
H61A Lyndonville 78.50 1 P 08 05 38.3
baz=181
IRM Iron Mountain 78.52 326 P 08 05 39.0
baz=146,SNR=7.9
Q24A Divide 78.60 335 P 08 05 39.2
baz=154,SNR=12
H53A Bobcaygeon 78.66 356 P 08 05 39.4
baz=176
H63A New Sharon 78.67 3 P 08 05 39.8
baz=183
TPFO Pinon Flats 78.68 325 P 08 05 39.5
baz=145,SNR=11
XPFO Pion Flat 78.69 325 P **P** **08 05 39.5 +1.0**
XPFO IAmb IAmb 08 05 41.7
comp=Z,18nm,1.1s
PFO Pinyon Flats O 78.69 325 P 08 05 39.8
baz=145,SNR=10
PFO Pinyon Flats O 78.69 325 *i* P **P** **08 05 38.3 -0.2**
PFO pmax pmax
comp=Z,13nm,0.9s
PFO Pinyon Flats O 78.69 325 P **P** **08 05 39.1 +0.6**
PFO IAmb IAmb 08 05 41.7
comp=Z,19nm,1.1s
W13A Hualapai Mount 78.72 327 P **P** **08 05 40.3 +1.5**
BELC Belle Mtn. Jos 78.79 325 P 08 05 40.7
baz=145,SNR=5.2
SADO Sadowa 78.89 356 P **P** **08 05 38.9 -0.2**
H66A Whiting 78.94 4 P 08 05 41.0
baz=185
MURC Murrieta 79.03 324 P 08 05 42.2
baz=145
PLVO Plevna 79.06 357 IAmb IAmb 08 05 41.6
comp=Z,23nm,1.5s
G57A Newington 79.07 359 P 08 05 40.9
baz=179
G58A Ormstown 79.10 360 P 08 05 41.1
baz=180
PV01 Paradox Valley 79.11 333 P **P** **08 05 41.1 +0.2**
G63A Kingsbury 79.14 3 P 08 05 41.6
baz=183
G62A West of Eustis 79.22 2 P 08 05 42.5
baz=183
PV13 Radium Mtn., P 79.23 332 IAmb IAmb 08 05 43.8
comp=Z,22nm,1.2s
PV02 Paradox Valley 79.24 332 IAmb IAmb 08 05 44.0
comp=Z,19nm,1.2s
G61A St-Isidore-de- 79.25 1 P 08 05 42.5
baz=182
GMRC Granite Mounta 79.27 326 P 08 05 42.2
baz=146,SNR=7.0
G64A Maxfield 79.32 3 P 08 05 42.5
baz=184
PV03 Paradox Valley 79.32 332 P **P** **08 05 41.7 -0.3**
PV11 David Mesa, Pa 79.37 332 P **P** **08 05 42.6 +0.4**
PV11 IAmb IAmb 08 05 44.6
comp=Z,32nm,1.5s
PV17 East Wray Mesa 79.39 332 IAmb IAmb 08 05 44.5
comp=Z,26nm,1.5s
I40A Norwalk 79.39 347 P **P** **08 05 41.9 0.0**
PV16 Nyswonger Mesa 79.40 332 IAmb IAmb 08 05 44.7
comp=Z,24nm,1.5s
SMCO Snowmass 79.43 334 P **P** **08 05 43.7 +0.9**
SMCO IAmb IAmb 08 05 45.7
comp=Z,26nm,1.3s
BBRC Big Bear Solar 79.44 325 P 08 05 44.3
baz=145
G54A Lake Saint Pet 79.46 357 P 08 05 41.7
baz=176
PV14 Lion Creek, Pa 79.49 332 IAmb IAmb 08 05 45.2
comp=Z,18nm,1.2s
PV10 Paradox Valley 79.50 332 IAmb IAmb 08 05 44.8
comp=Z,15nm,0.9s
ISCO Idaho Springs 79.50 335 P 08 05 43.8
baz=154,SNR=9.4
ISCO Idaho Springs 79.51 335 IAmb IAmb 08 05 45.5
comp=Z,26nm,1.7s
HEC Hector,Ludlow 79.62 325 P 08 05 44.8
baz=145

F63A **Nahmakanta, Br** **79.75 3** P 08 05 45.1
baz=184
G45A **Suttons Bay** **79.76 351** P **P** **08 05 43.1 -0.8**
G45A IAmb IAmb 08 05 44.7
comp=Z,21nm,1.3s
BFSC **Mount Baldy Ra** **79.78 324** P 08 05 45.2
baz=144
KNB **Kanab** **79.87 329** IAmb IAmb 08 05 48.0
comp=Z,26nm,1.1s
SNCC **San Nicolas Is** **79.91 322** P 08 05 45.6
baz=143
F60A **Warwick** **79.93 1** P 08 05 44.9
baz=181
F64A **Sherman** **79.95 4** P 08 05 45.6
baz=184
F61A **St Evariste** **79.96 2** P 08 05 45.5
baz=182
K31A **O'Neill** **80.00 341** P **P** **08 05 46.0 +0.7**
ALGO **Algonquin Park** **80.01 357** P 08 05 45.7
baz=176
I37A **Lemond, Waseca** **80.05 346** IAmb IAmb 08 05 46.7
comp=Z,24nm,0.9s
DECC **Green Verdugo** **80.12 324** P 08 05 46.7
baz=144
TRQ **Mont Tremblant** **80.18 359** P **P** **08 05 46.3 +0.1**
GSC **Goldstone, Bar** **80.23 325** P 08 05 48.0
baz=145
TSUM **Tsumeb** **80.28 107** P **P** **08 05 46.6 -1.1**
TSUM IAmb IAmb 08 05 51.0
comp=Z,29nm,1.6s
E58A **La Victoria** **80.32 0** P 08 05 47.3
baz=180
E60A **Ste Agathe de** **80.34 1** P 08 05 47.0
baz=182
E55A **Montcerf-Lytto** **80.44 358** P 08 05 47.6
baz=178
EDW2 **Edwards Air Fo** **80.46 324** P 08 05 47.9
baz=144
MTPU **Mount Pierson** **80.47 330** P **P** **08 05 48.0 -0.3**
ECSD **EROS Data Cent** **80.50 343** P 08 05 48.0
baz=161,SNR=25
ECSD **EROS Data Cent** **80.50 343** IAmb IAmb 08 05 49.4
comp=Z,30nm,1.1s
E56A **St. Veronique** **80.51 359** P 08 05 47.6
baz=179,SNR=7.5
E64A **Bridgewater** **80.53 4** P 08 05 48.9
baz=185
CCUT **Cedar City** **80.55 329** P **P** **08 05 49.4 +0.8**
CCUT IAmb IAmb 08 05 52.0
comp=Z,17nm,1.1s
N23A **Red Feather La** **80.60 336** P 08 05 50.0
baz=153,SNR=9.0
O20A **White River Ci** **80.74 334** P 08 05 49.8
baz=152,SNR=7.2
O20A **White River Ci** **80.74 334** P **P** **08 05 50.0 +0.5**
LRMC **Laurel Mtn Rad** **80.79 325** P 08 05 50.7
baz=144
D60A **Saint Jean D'O** **80.90 2** P 08 05 50.7
baz=182
E46A **Sault Ste Mari** **80.91 352** P **P** **08 05 49.7 -0.3**
D59A **Saint-Raymond** **80.97 1** P 08 05 51.0
baz=181
BOSA **Boshof** **80.98 118** P **P** **08 05 52.0 +0.7**
comp=Z,15nm,0.9s,baz=229,slow=4.2,SNR=11
BOSA LR LR 08 39 24.4
comp=Z,70nm,18.9s,baz=200,slow=34
BOSA **Boshof** **80.98 118** P **P** **08 05 51.2 -0.1**
BOSA pmax pmax
comp=Z,19nm,1.0s
BOSA **Boshof** **80.98 118** P **P** **08 05 51.2 -0.1**
BOSA IAmb IAmb 08 05 54.9
comp=Z,19nm,1.0s
D55A **Sainte-Anne-du** **80.99 359** P 08 05 50.3
baz=178,SNR=8.1
D56A **ZEC Mazanza, M** **81.01 359** P 08 05 50.1
baz=179
D58A **Chemin du LacG** **81.05 0** P 08 05 51.1
baz=181,SNR=9.3
SPMN **Marine on St.** **81.09 346** P 08 05 50.9
baz=164,SNR=8.7
SPMN **Marine on St.** **81.09 346** P **P** **08 05 50.8 -0.3**
SPMN IAmb IAmb 08 05 51.7
comp=Z,13nm,0.8s
P17A **Butcher Ranch,** **81.11 332** P **P** **08 05 50.8 -0.8**
D62A **Allapoint, All** **81.13 3** P **P** **08 05 52.0 +0.8**
D62A IAmb IAmb 08 05 53.1
comp=Z,14nm,1.0s
D63A **Stockholm** **81.13 4** P 08 05 52.1
baz=185
PRN **Pahroc Range** **81.16 328** IAmb IAmb 08 05 55.1
comp=Z,20nm,1.0s
MPMC **Manual Prospec** **81.17 325** P 08 05 52.0
baz=145
D61A **St Aubert, Com** **81.21 2** P 08 05 52.5
baz=183
FURC **Furnace Creek,** **81.21 326** P 08 05 53.2
baz=145
E43A **Lone Tree Farm** **81.25 351** IAmb IAmb 08 05 53.2
comp=Z,15nm,1.1s
COWI **Conover** **81.29 349** P **P** **08 05 52.5 +0.4**
ISA **Isabella, Lake** **81.32 324** P 08 05 54.2
baz=144,SNR=6.6
TPNV **Topopah Spring** **81.32 327** P 08 05 53.9
baz=146,SNR=7.7
LATQ **La Tuque** **81.34 0** P 08 05 53.0
baz=181
LATQ **La Tuque** **81.34 0** P **P** **08 05 53.1 +0.8**
PKM **Mcpherson Peak** **81.36 323** P 08 05 54.2
baz=143
RDMU **Red Mountain** **81.61 333** P **P** **08 05 55.6 +1.4**
RDMU IAmb IAmb 08 05 56.3
comp=Z,18nm,1.1s
RWWY **Rawlins** **81.74 335** IAmb IAmb 08 05 57.1
comp=Z,21nm,1.2s
SUSD **Miller** **81.74 342** P 08 05 54.4
baz=159
CWC **Cottonwood Cre** **81.76 325** P 08 05 56.4
baz=144
VES **Vestal, Richgr** **81.76 324** P 08 05 56.1
baz=144,SNR=6.4
SMMC **Simmler** **81.78 323** P 08 05 55.4
baz=143
F36A **Milaca** **81.84 346** P **P** **08 05 54.6 -0.4**
F36A IAmb IAmb 08 05 55.8
comp=Z,14nm,0.8s
KOWA **Kowa** **81.87 66** P **P** **08 05 56.7 +0.8**
KOWA IAmb IAmb 08 05 57.6
comp=Z,17nm,0.6s
GRAC **Grapevine Rang** **81.87 326** P 08 05 57.0
baz=145
NLU **North Lily Min** **82.05 331** IAmb IAmb 08 05 59.3
comp=Z,21nm,1.5s
VLDQ **Val d'Or** **82.14 357** IAmb IAmb 08 05 58.0
comp=Z,14nm,0.9s
SPR3 **Spring Creek 3** **82.18 329** IAmb IAmb 08 05 59.7
comp=Z,22nm,1.3s
R11A **Troy Canyon, C** **82.18 328** P 08 05 59.0
baz=146,SNR=15
E38A **The Farm, Brul** **82.19 348** IAmb IAmb 08 05 57.7
comp=Z,18nm,1.1s
K22A **Casper** **82.36 336** P 08 05 58.6
baz=153,SNR=13
JLU **Jordanelle** **82.36 332** P **P** **08 05 58.6 +0.4**
K22A **Casper** **82.36 336** P **P** **08 05 58.2 +0.2**
K22A IAmb IAmb 08 06 00.3
comp=Z,34nm,1.3s
F33A **5 Mile Ranch,** **82.42 344** P **P** **08 05 58.3 +0.3**
DUG **Dugway, Tooele** **82.55 331** P 08 06 00.2
baz=148,SNR=17
DUG **Dugway, Tooele** **82.55 331** P **P** **08 05 59.9 +0.8**
DUG pmax pmax
comp=Z,33nm,1.4s
DUG **Dugway, Tooele** **82.55 331** P **P** **08 05 59.9 +0.8**
DUG IAmb IAmb 08 06 01.8
comp=Z,32nm,1.4s
TCUT **Toone Canyon** **82.78 332** IAmb IAmb 08 06 03.4
comp=Z,25nm,1.3s
RSSD **Black Hills** **82.88 338** P 08 06 01.1
baz=155
RSSD **Black Hills** **82.88 338** P **P** **08 06 01.1 +0.3**
RSSD pmax pmax
comp=Z,11nm,1.0s
RSSD **Black Hills** **82.88 338** P **P** **08 06 01.1 +0.3**
RSSD IAmb IAmb 08 06 02.4
comp=Z,11nm,0.9s
LSQQ **Lebel-sur-Quev** **83.07 358** P 08 06 01.9
baz=177

MLAC **Mammoth, Mammo** **83.07 325** P 08 06 03.4
baz=144
LBTB **Lobatse** **83.26 116** LR LR 08 35 58.5
comp=Z,61nm,20.8s,baz=216,slow=31
LBTB **Lobatse** **83.26 116** P **P** **08 06 03.8 +0.6**
LBTB pmax pmax
comp=Z,16nm,0.9s
LBTB **Lobatse** **83.26 116** P **P** **08 06 03.8 +0.6**
LBTB IAmb IAmb 08 06 07.2
comp=Z,16nm,0.8s
BGU **Big Grassy Mou** **83.26 331** P **P** **08 06 03.3 +0.6**
BGU IAmb IAmb 08 06 05.6
comp=Z,21nm,1.5s
HWUT **Hardware Ranch** **83.27 332** P **P** **08 06 02.4 -0.4**
HWUT IAmb IAmb 08 06 04.7
comp=Z,26nm,1.2s
SPUT **South Promonto** **83.36 332** P **P** **08 06 03.9 +0.7**
NV11 **Mina Array Sit** **83.41 326** P **P** **08 06 03.3 -0.2**
LHV **Little Huntoon** **83.42 326** P **P** **08 06 04.7 +1.3**
LHV IAmb IAmb 08 06 06.7
comp=Z,20nm,1.3s
EYMN **Ely** **83.47 348** P 08 06 03.7
baz=165
NVAR **Mina Array Bea** **83.47 326** P **P** **08 06 05.2 +1.2**
comp=Z,1.9nm,0.8s,baz=154,slow=5.9,SNR=16
NVAR **Mina Array Bea** **83.47 326** P **P** **08 06 04.8 +0.8**
EYMN **Ely** **83.47 348** P **P** **08 06 03.4 -0.1**
EYMN IAmb IAmb 08 06 04.4
comp=Z,14nm,1.1s
BW06 **Boulder Array** **83.52 334** P 08 06 04.1
baz=151,SNR=8.9
BW06 **Boulder Array** **83.52 334** P **P** **08 06 04.6 +0.5**
PD31 **Pinedale Array** **83.52 334** P **P** **08 06 03.8 -0.3**
PDAR **Pinedale Array** **83.52 334** P **P** **08 06 04.7 +0.6**
comp=Z,4.5nm,1.0s,baz=154,slow=4.8,SNR=23
PDAR PKKP **PKKPbc** **08 24 21.1 -2.9**
comp=Z,0.3nm,0.5s,baz=120,slow=2.3,SNR=5.4
PDAR **Pinedale Array** **83.52 334** P **P** **08 06 04.2 0.0**
RYN **Ryan** **83.73 326** P **P** **08 06 03.6 -1.6**
MATQ **Matagami** **83.79 357** P 08 06 04.8
baz=177
KVN **Kaiserville** **83.88 327** P **P** **08 06 06.9 +0.8**
KVN pmax pmax
comp=Z,15nm,1.2s
KVN **Kaiserville** **83.88 327** P **P** **08 06 06.9 +0.8**
KVN IAmb IAmb 08 06 08.4
comp=Z,15nm,1.2s
HVU **Hansel Valley** **83.88 332** IAmb IAmb 08 06 07.7
comp=Z,16nm,1.0s
ELK **Elko** **84.02 329** IAmb IAmb 08 06 08.9
comp=Z,10nm,1.1s
WAKR **Walker** **84.06 325** IAmb IAmb 08 06 10.3
comp=Z,13nm,1.4s
B35A **Bob, Littlefor** **84.28 347** P **P** **08 06 07.4 -0.2**
B35A IAmb IAmb 08 06 08.4
comp=Z,11nm,0.8s
YERR **Yerington** **84.35 326** P **P** **08 06 09.7 +1.2**
DRLN **Deer Lake** **84.42 10** P **P** **08 06 08.7 +0.5**
REDW **Red Top Meadow** **84.51 334** P **P** **08 06 10.1 +0.9**
REDW IAmb IAmb 08 06 11.0
comp=Z,19nm,1.4s
PNTR **Pine Nut** **84.60 326** P **P** **08 06 10.3 +0.5**
LOHW **Long Hollow** **84.63 334** IAmb IAmb 08 06 11.6
comp=Z,14nm,1.4s
AGMN **Agassiz Nation** **84.65 345** P 08 06 09.5
baz=162,SNR=11
AGMN **Agassiz Nation** **84.65 345** P **P** **08 06 08.8 -0.6**
AGMN IAmb IAmb 08 06 10.6
comp=Z,13nm,0.8s
PAHR **Pah Rah Range** **85.00 326** P **P** **08 06 12.3 +0.6**
FLWY **Flagg Ranch** **85.07 334** P **P** **08 06 12.5 +0.5**
FLWY IAmb IAmb 08 06 13.6
comp=Z,11nm,0.9s
MDND **Maddock** **85.08 343** P 08 06 11.9
baz=159,SNR=6.6
MDND **Maddock** **85.08 343** P **P** **08 06 11.8 +0.1**
AFDM **Forest Hills D** **85.14 325** P **P** **08 06 13.2 +1.0**
YPP **Pitchstone Pla** **85.27 334** P **P** **08 06 12.7 -0.4**
YMP **Mirror Lake Pl** **85.45 335** P **P** **08 06 12.9 -1.1**
TOA0 **Torodi Ar. Sit** **85.45 71** P **P** **08 06 13.7 -0.6**
TOA0 IAmb IAmb 08 06 15.7
comp=Z,11nm,0.7s
TORD **Torodi Ar. Bea** **85.45 71** P **P** **08 06 14.5 +0.2**
comp=Z,8.0nm,0.7s,baz=255,slow=3.8,SNR=21
TORD **Torodi Ar. Bea** **85.45 71** P **P** **08 06 13.7 -0.6**
TORD IAmb IAmb 08 06 15.7
comp=Z,8.1nm,0.7s
RLMT **Red Lodge** **85.47 335** P 08 06 14.2
baz=151,SNR=8.8
RLMT **Red Lodge** **85.47 335** P **P** **08 06 13.6 -0.4**
RLMT IAmb IAmb 08 06 15.7
comp=Z,10nm,0.9s
BEKR **Beckworth** **85.58 326** IAmb IAmb 08 06 17.2
comp=Z,15nm,1.4s
YNE **Yellowstone No** **85.63 335** P **P** **08 06 15.1 +0.3**
YMR **Madison River** **85.67 334** IAmb IAmb 08 06 17.5
comp=Z,20nm,1.0s
YHH **Holmes Hill** **85.74 334** IAmb IAmb 08 06 17.7
comp=Z,13nm,1.0s
LAO **LASA Array** **85.86 338** P 08 06 15.9
baz=154,SNR=9.4
LAO **LASA Array** **85.86 338** P **P** **08 06 15.9 +0.3**
LAO IAmb IAmb 08 06 17.0
comp=Z,14nm,0.8s
ORV **Oroville** **85.87 325** P **P** **08 06 16.3 +0.5**
ORV pmax pmax
comp=Z,21nm,1.3s
ORV **Oroville** **85.87 325** P **P** **08 06 16.3 +0.5**
ORV IAmb IAmb 08 06 18.7
comp=Z,21nm,1.2s
YHL **Hebgen Lake** **85.91 334** P **P** **08 06 16.4 +0.2**
YHL IAmb IAmb 08 06 19.0
comp=Z,22nm,1.6s
MFID **Camas Ranch** **86.48 331** P **P** **08 06 19.0 +0.1**
MFID IAmb IAmb 08 06 21.0
comp=Z,14nm,1.4s
MCMT **McKenzie Canyo** **86.50 333** P **P** **08 06 20.6 +1.5**
ULM **Lac du Bonnet** **86.51 346** P **P** **08 06 18.0 -0.6**
comp=Z,11nm,1.0s,baz=171,slow=3.1,SNR=20
ULM **Lac du Bonnet** **86.51 346** *i* P **P** **08 06 18.3 -0.3**
ULM **Lac du Bonnet** **86.51 346** IAmb IAmb 08 06 19.5
comp=Z,18nm,1.1s
O03E **Paynes Creek** **86.59 325** P 08 06 19.5
baz=142,SNR=6.6
BOZ **Bozeman (W)** **86.71 334** P 08 06 20.4
baz=149,SNR=6.0
BOZ **Bozeman (W)** **86.71 334** P **P** **08 06 19.8 -0.2**
BOZ pmax pmax
comp=Z,6.0nm,1.1s
BOZ **Bozeman (W)** **86.71 334** P **P** **08 06 19.8 -0.2**
WVOR **Wild Horse Val** **86.86 328** P **P** **08 06 22.0 +1.2**
WVOR pmax pmax
comp=Z,9.0nm,1.3s
DLMT **Dillon** **86.86 334** IAmb IAmb 08 06 23.1
comp=Z,20nm,1.2s
DGMT **Dagmar** **86.87 340** P 08 06 21.2
baz=155,SNR=17
DGMT **Dagmar** **86.87 340** P **P** **08 06 20.4 -0.1**
WDC **Whiskeytown Da** **87.17 325** P **P** **08 06 22.0 -0.1**
WDC pmax pmax
comp=Z,8.0nm,0.8s
WDC **Whiskeytown Da** **87.17 325** P **P** **08 06 22.0 -0.1**
WDC IAmb IAmb 08 06 23.4
comp=Z,7.9nm,0.8s
MOD **Modoc Plateau** **87.17 327** IAmb IAmb 08 06 24.7
comp=Z,16nm,0.9s
KMRM **Mail Ridge** **87.45 324** P **P** **08 06 24.7 +1.0**
J08A **Circle Bar Ran** **87.54 329** P **P** **08 06 25.2 +1.2**
N02D **Trinity Center** **87.55 325** P 08 06 24.5
baz=141
M04C **Macdoel** **87.78 326** P 08 06 25.9
baz=142
M02C **Callahan** **87.95 325** P 08 06 27.0
baz=141,SNR=5.0
K05A **Summer Lake** **88.09 327** P **P** **08 06 28.2 +1.4**
YBH **Yreka Blue Hor** **88.14 325** P **P** **08 06 27.7 +0.8**
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH **Yreka Blue Hor** **88.14 325** P **P** **08 06 27.6 +0.8**
EGMT **Eagleton** **88.17 337** P 08 06 26.7
baz=151
EGMT **Eagleton** **88.17 337** P **P** **08 06 26.6 -0.3**
EGMT IAmb IAmb 08 06 27.8
comp=Z,8.1nm,1.1s
BMO **Blue Mountains** **88.27 330** P **P** **08 06 27.2 -0.3**

BMO pmax pmax
comp=Z,6.0nm,1.1s
BMO **Blue Mountains** **88.27 330** P **P** **08 06 27.1 -0.3**
L04D **Klamath Falls** **88.33 326** P 08 06 28.1
baz=142,SNR=5.1
K04D **Chiloquin, OR** **88.40 327** P 08 06 29.1
baz=142,SNR=5.4
I07A **Izee** **88.56 329** P **P** **08 06 29.6 +0.8**
I07A IAmb IAmb 08 06 31.5
comp=Z,9.1nm,1.0s
MSO **Missoula** **88.60 334** P 08 06 30.0
baz=148
J05D **Fort Rock, OR** **88.68 327** P 08 06 31.0
baz=142,SNR=11
L02E **Cave Junction** **88.89 325** P 08 06 31.3
baz=141
J04D **Umpqua Nationa** **89.04 327** P 08 06 30.4
baz=142
F10A **Beach Ranch, E** **89.15 331** IAmb IAmb 08 06 48.7
comp=Z,12nm,1.5s
G08A **Pilot Rock** **89.30 330** P **P** **08 06 33.9 +1.5**
K02D **Willamette Mer** **89.34 326** P 08 06 33.7
baz=141
I05D **Terrebonne, OR** **89.56 328** P 08 06 35.0
baz=142
I04A **Tendick Farm,** **89.61 327** P 08 06 34.5
baz=142
I03D **Drain, OR** **89.97 326** P 08 06 36.6
baz=141
H04A **Detroit Lake** **90.21 328** P **P** **08 06 37.1 +0.6**
H04A IAmb IAmb 08 06 38.1
comp=Z,12nm,1.2s
WALA **Waterton Lakes** **90.48 335** P **P** **08 06 38.1 +0.4**
WALA IAmb IAmb 08 06 39.4
comp=Z,13nm,1.2s
NEW **Newport** **90.99 333** P 08 06 40.3
baz=145
NEW **Newport** **90.99 333** P **P** **08 06 40.1 0.0**
NEW pmax pmax
comp=Z,9.0nm,1.4s
NEW **Newport** **90.99 333** P **P** **08 06 40.1 0.0**
C09A **Chrisman Ranch** **91.06 332** IAmb IAmb 08 06 42.1
comp=Z,8.1nm,1.1s
B08A **Colville Reser** **91.93 331** P **P** **08 06 44.3 0.0**
B08A IAmb IAmb 08 06 45.6
comp=Z,10nm,1.6s
FFC **Flin Flon** **92.02 344** P **P** **08 06 44.2 -0.4**
FFC pmax pmax
comp=Z,13nm,1.9s
FFC **Flin Flon** **92.02 344** P **P** **08 06 44.2 -0.4**
FFC IAmb IAmb 08 09 48.8
comp=Z,13nm,1.9s
D03D **Eldon** **92.83 329** P 08 06 49.7
baz=141
FCC **Fort Churchill** **94.32 349** P **P** **08 06 55.1 +0.1**
FCC pmax pmax
comp=Z,8.0nm,0.8s
FCC **Fort Churchill** **94.32 349** P **P** **08 06 55.1 +0.1**
FCC IAmb IAmb 08 06 56.2
comp=Z,8.2nm,0.8s
ESDC **Sonseca Array** **97.67 47** P Pdif 08 07 11.6 +0.6
comp=Z,0.9nm,0.8s,baz=237,slow=4.4,SNR=3.9
YKA **Yellowknife Ar** **101.98 342** P **Pdif** **08 07 29.2 -0.2**
comp=Z,1.3nm,0.9s,baz=137,slow=5.0,SNR=18
YKA PP **PP** **08 11 41.5 +0.1**
comp=Z,0.4nm,1.0s,baz=139,slow=8.2,SNR=6.1
YKA PKiKP **PKiKP** **08 11 51.1 -0.9**
comp=Z,0.5nm,1.0s,baz=137,slow=8.2,SNR=4.1
SII **Sitkinak Islan** **113.16 324** P 08 12 13.4
baz=118
WAT6 **Susitna Watana** **113.17 331** P 08 12 13.2
baz=120
GERES **GERESS Array B** **113.24 46** PKiKP **PKiKP** **08 12 12.5 -1.1**
comp=Z,0.6nm,0.7s,baz=228,slow=3.4,SNR=3.9
HOM **Homer** **113.41 327** P 08 12 13.3
baz=118
WAT2 **Susitna Watana** **113.70 331** P 08 12 14.2
baz=119
HDA **Harding Lake** **113.78 333** P 08 12 14.3
baz=120
HDA P 08 12 14.3
baz=120
ILAR **Eielson Array** **113.94 333** PKP **PKiKP** **08 12 14.2 -0.1**
comp=Z,0.8nm,0.7s,baz=152,slow=2.3,SNR=9.2
ILAR **Eielson Array** **113.94 333** *i* PKiKP **PKiKP** **08 12 13.9 -0.4**
ILAR **Eielson Array** **113.94 333** **PKiKP** **08 12 13.9 -0.4**
BPAW **Bear Paw Mtn.** **115.19 332** P 08 12 17.0
baz=117
COLD **Coldfoot** **116.29 335** P 08 12 19.3
baz=116
TOLK **Toolik Lake Re** **116.70 337** P 08 12 19.7
baz=116
TOLK **Toolik Lake Re** **116.70 337** PKPdf **PKPdf** **08 12 19.8 +0.2**
ASAR **Alice Springs** **116.72 208** PKP **PKPdf** **08 12 20.2 -0.9**
comp=Z,0.9nm,0.7s,baz=128,slow=1.7,SNR=12
ASAR PKKPbc **PKKPbc** **08 22 48.0 +0.8**
comp=Z,0.5nm,0.4s,baz=333,slow=3.1,SNR=9.6
ASAR **Alice Springs** **116.72 208** **PKPdf** **08 12 19.7 -1.5**
IMAR **Indian Mountai** **117.05 333** **PKiKP** **08 12 20.9 +0.6**
WRA **Warramunga Arr** **119.88 210** PKP **PKPdf** **08 12 26.6 -0.7**
comp=Z,2.1nm,0.6s,baz=163,slow=1.6,SNR=28
A21K **Barrow** **119.96 338** P 08 12 26.0
baz=109
RDOG **Red Dog Mine** **121.13 334** P 08 12 28.3
baz=105
RDOG **Red Dog Mine** **121.13 334** **PKPdf** **08 12 28.2 +0.1**
AKASG **Malin Array Be** **123.30 48** PKP **PKPdf** **08 12 31.9 -0.8**
comp=Z,1.1nm,0.6s,baz=256,slow=2.8,SNR=7.2
FINES **FINESS Array B** **123.94 35** PKP **PKPdf** **08 12 32.8 -0.7**
comp=Z,3.4nm,1.0s,baz=236,slow=2.1,SNR=3.7
ARCES **ARCESS Array B** **124.82 25** PKP **PKPdf** **08 12 35.0 -0.1**
comp=Z,3.6nm,0.9s,baz=230,slow=3.0,SNR=4.4
ARCES **ARCESS Array B** **124.82 25** PKiKP **PKPdf** **08 12 35.0 -0.1**
OBN **Obninsk** **128.50 44** *i* PKiKP **PKiKP** **08 12 43.0 -0.1**
OBN *e* 08 14 53.0
OBN pmax pmax
comp=Z,3.0nm,0.8s
KLMR **Klimovskoe** **130.38 36** *e*PKiKP **PKPdf** **08 12 45.4 -0.4**
KLMR pmax pmax
comp=Z,31nm,1.4s
KLMR **Klimovskoe** **130.38 36** *e*PKPdf **PKPdf** **08 12 45.5 -0.4**
KLMR AMP 08 12 50.1
comp=Z,31nm,1.4s
NEY **Neytrino** **130.56 60** *i* PKiKP **PKiKP** **08 12 47.8 -0.2**
SHA1 **Shidzhatmaz** **130.62 59** *i* PKiKP **PKPdf** **08 12 46.3 -1.0**
KIV **Kislovodsk** **130.69 59** *e*PKiKP **PKiKP** **08 12 48.4 +0.3**
KIV pmax pmax
comp=Z,13nm,1.0s
KBZ **Khabaz** **130.79 59** *i* PKiKP **PKiKP** **08 12 49.9 +1.8**
KBZ pmax pmax
comp=Z,8.0nm,1.9s
COCO **West Island** **132.84 167** *i* PKiKP **PKPdf** **08 12 50.7 -1.3**
PETK **Petropavlovsk-** **139.51 314** PKP **PKPdf** **08 13 03.4 +0.1**
comp=Z,3.8nm,0.9s,baz=64,slow=5.0,SNR=2.6
SEY **Seymchan** **139.70 329** *i* PKiKP **PKPdf** **08 13 04.1 +0.8**
ARU **Arti** **140.78 41** *i* PKiKP **PKPdf** **08 13 05.9 +0.5**
TIXI **Tiksi** **140.79 349** *e*PKiKP **PKPdf** **08 13 05.1 +0.1**
TIXI **Tiksi** **140.79 349** **PKPdf** **08 13 05.3 +0.3**
RPSI **Rantau Prapat** **147.75 166** **PKPbc** **08 13 21.4 -0.3**
PSI **Prapat** **147.85 166** PKP2 **PKPbc** **08 13 21.4 -0.7**
BRVK **Borovoye** **148.26 43** PKP2 **PKPbc** **08 13 22.2 +0.3**
BRVK **Borovoye** **148.26 43** **PKPbc** **08 13 22.2 +0.3**
YAK **Yakutsk** **148.62 339** *e*PKP2 **PKPbc** **08 13 22.2 -0.3**
YAK pmax pmax
comp=Z,73nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK **Yakutsk** **148.62 339** **PKPbc** **08 13 22.4 -0.1**
IPM **Ipoh** **149.87 169** **PKPbc** **08 13 26.9 -0.2**
HYB **Hyderabad** **149.87 117** *i* PKP **PKPbc** **08 13 27.0 0.0**
YSS **Yuzh-Sakhalins** **150.01 306** *c* PKiKP **PKPbc** **08 13 25.3 -1.1**
YSS pmax pmax
comp=Z,44nm,2.5s
IUG **luzhnay** **150.47 64** *e*PKPbc **PKPbc** **08 13 28.0 +0.1**
baz=64
IUG **luzhnay** **150.47 64** *e*PKiKP **PKPbc** **08 13 28.0 +0.1**
JKA **Kamikawa-asahi** **150.58 300** **PKPbc** **08 13 28.3 +0.4**
ASAJ **Asahikawa** **150.59 300** PKiKP **PKPbc** **08 13 28.3 +0.4**
BRZS **Berezniki** **150.75 47** *e*PKPbc **PKPbc** **08 13 28.3 +0.2**
baz=47
BRZS **Berezniki** **150.75 47** *e*PKiKP **PKPbc** **08 13 28.3 +0.2**
KK31 **Karatay Array** **150.76 62** PKiKP **PKiKP** **08 13 28.9 -0.2**
KK31 **Karatay Array** **150.76 62** **PKiKP** **08 13 28.9 -0.2**
KKAR **Karatay Array** **150.76 62** PKiKP **PKPbc** **08 13 28.7 +0.3**

KKAR						08 13 35.8	
KKAR	Karatay Array	150.76	62		PKPbc	08 13 28.7	+0.3
KKAR	Karatay Array	150.76	62		PKPbc	08 13 28.3	-0.1
KKAR				PKPab	pPKPab	08 13 35.8	+0.2
NIL	Nilore	152.48	82	PKIKP	PKPbc	08 13 32.8	+0.1
NIL						08 13 42.0	
NIL	Nilore	152.48	82	PKPdf	PKPdf	08 13 26.3	+0.5
NIL					PKPbc	08 13 32.8	+0.1
NIL				PKPab	PKPab	08 13 42.0	-1.1
BTLS	Baital	152.99	57	ePKPab	PKPab	08 13 45.6	+0.8
	baz=57						
BTLS	Baital	152.99	57	ePKP2	PKPab	08 13 45.5	+0.8
AAK	Ala-Archa	153.72	62c	iPKIKP	PKPdf	08 13 30.4	+2.9
AAK				pmax	pmax		
	comp=Z,20nm,2.5s						
AAK	Ala-Archa	153.72	62		PKiKP	08 13 36.1	+0.7
AAK				PKPab	PKPab	08 13 46.2	-1.9
MJAR	Matsushiro Arr	154.13	284	PKPbc	PKPbc	08 13 36.5	+0.3
	comp=Z,1.5nm,0.5s,baz=86,slow=2.8,SNR=4.9						
MJAR	Matsushiro Arr	154.13	284	PKP2	PKPab	08 13 50.4	+0.5
MJAR	Matsushiro Arr	154.13	284		PKPbc	08 13 36.7	+0.5
MJAR				PKPab	PKPab	08 13 50.4	+0.5
KUU	Kurty	154.83	59	ePKPab	PKPab	08 13 53.4	+0.7
	baz=59						
KUU	Kurty	154.83	59	ePKP2	PKPab	08 13 53.4	+0.7
KSH	Kashi	155.11	69	PKPbc	PKPdf	08 13 25.8	-3.7
KSH				AMB	AMB		
	comp=Z,400nm,5.9s						
ZALV	Zalesovo Beam	155.13	31	PKP	PKPdf	08 13 28.7	-0.1
	comp=Z,2.1nm,0.7s,baz=302,slow=3.3,SNR=6.1						
ZALV				PKPab	sPKPab	08 13 54.5	+1.0
	comp=Z,9.1nm,0.9s,baz=306,slow=5.3,SNR=9.3						
ZALV	Zalesovo Beam	155.13	31	PKIKP	PKPdf	08 13 28.3	-0.5
ZALV						08 13 38.1	
ZALV	Zalesovo Beam	155.13	31		PKPdf	08 13 28.2	-0.5
ZALV				PKPbc	pPKPbc	08 13 38.1	+0.4
ZALV				PKPab	sPKPab	08 13 54.6	+1.0
BOD	Bodaibo	155.96	350	ePKP2	PKPab	08 13 56.7	-0.2
BOD				pmax	pmax		
	comp=Z,20nm,1.0s						
SATY	Saty	156.48	60	ePKPab	PKPab	08 14 00.4	+0.5
	baz=60						
SATY	Saty	156.48	60	ePKP2	PKPab	08 14 00.4	+0.5
KPKS	Kokpek	156.59	59	ePKPab	PKPab	08 14 00.9	+0.6
	baz=59						
KPKS	Kokpek	156.59	59	ePKP2	PKPab	08 14 00.8	+0.6
SHLS	Shalkode	157.21	59	ePKPab	PKPab	08 14 05.4	+2.3
	baz=59						
SHLS	Shalkode	157.21	59	ePKP2	PKPab	08 14 05.3	+2.3
MAKZ	Makanchi	157.68	49	PKP2	PKPab	08 14 05.2	+0.4
MAKZ						09 13 32.5	
MAKZ	Makanchi	157.68	49	PKPdf	PKPdf	08 13 32.5	0.0
MAKZ					PKPab	08 14 05.2	+0.4
MK31	Makanchi Array	157.88	48	PKP2	PKPab	08 14 05.4	-0.2
MK31						09 13 32.0	
MK31	Makanchi Array	157.88	48	PKPdf	PKPdf	08 13 32.0	-0.7
MK31				PKPab	PKPab	08 14 05.4	-0.2
MKAR	Makanchi Array	157.88	48	PKP	PKPdf	08 13 32.8	+0.1
	comp=Z,0.8nm,0.7s,baz=11,slow=1.2,SNR=9.7						
MKAR				PKPab	pPKPab	08 14 06.2	+0.4
	comp=Z,3.8nm,0.7s,baz=305,slow=4.0,SNR=19						
MKAR	Makanchi Array	157.88	48	PKPdf	PKPdf	08 13 32.6	-0.1
MKAR					pPKPab	08 14 05.8	+0.1
TLY	Talaya	162.53	6	ePKIKP	PKPdf	08 13 39.2	+1.5
TLY				pmax	pmax		
	comp=Z,4.0nm,0.3s						
WMQ	Urumqi	162.62	51	ePKP	PKPdf	08 13 38.1	0.0
WMQ				LR	LR		
	comp=Z,520nm,22.3s						
WMQ				LR	LR		
	comp=Z,220nm,21.3s						
CMAR	Chiang Mai Arr	162.82	155	PKP	PKPdf	08 13 39.5	+0.5
	comp=Z,1.3nm,0.3s,baz=248,slow=2.3,SNR=5.5						
ZAK	Zakamensk	163.78	7	ePKP2	PKPab	08 14 31.9	+0.7
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SONM	Songino Array	166.50	0	PKP	PKPdf	08 13 41.0	-0.5
	comp=Z,0.9nm,0.9s,baz=11,slow=1.5,SNR=4.3						
SONM				PKPab	sPKPab	08 14 44.4	+1.0
	comp=Z,2.4nm,0.7s,baz=337,slow=4.4,SNR=13						
SONM	Songino Array	166.50	0	PKPab	PKPab	08 14 44.3	+1.0
NJ2	Nanjing	169.41	261	ePKP	PKPdf	08 13 45.4	+1.6
KMI	Kunming	170.26	159	⇑PKP	PKPdf	08 13 44.0	-0.8
KMI				pPKP	sPKPdf	08 13 47.4	+2.5
GYA	Guiyang	172.16	181	ePKP	PKPdf	08 13 45.8	+0.2
HHC	Hu-ho-hao-te	172.35	330	ePKP	PKPdf	08 13 46.3	+1.1
LZH	Lanzhou	177.20	50	ePKP	PKPdf	08 13 46.9	0.0
XAN	Xi'an	177.98	263	PKP	PKPdf	08 13 45.6	-1.3

*GCG **09** 08:11:31.8±0.8, 13°.42N×91°.55W, h22km±999km, MD4.0*
*IDC **09** 08:11:32.0±2.1, 13°.55N×91°.25W, h0km, mb3.4/3, mb1 3.8/7, mb1mx3.6/33, mbtmp3.6/7, ML3.8/4, Error ellipse: s-maj=31.7km s-min=29.5km az=7.0*
*SNET **09** 08:11:36.1±1.5, 13°.71N×91°.16W, h11km±15km, ML3.5*
ISC 09 08:11:35.1±1.2**, 13°.49N**±0°.08×**91°.37W**±0°.05**, h28**km**, n20, σ1s.34**/26**, mb3.4**/3**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTAL	Retalhuleu	1.08	343	eP	Pn	08 11 52.7	-1.7
FUG	Fuego 3	1.08	28	eP	Pn	08 11 53.9	-0.6
FUG				eS	Sb	08 12 11.5	+2.4
PCG	Pacaya	1.16	39	eP	Pn	08 11 55.2	-0.5
NBG	Las Nubes	1.47	42	eP	Pn	08 12 00.7	+0.6
NBG				eS	Sb	08 12 22.2	+1.8
RTR	El Retiro	1.72	76	eP	Pn	08 12 03.2	-0.2
SBLS	San Blas	1.73	78	eP	Pn	08 12 02.3	-1.3
SNJE	San Jose	1.75	77	eP	Pn	08 12 02.9	-0.9
HUEH	Huehuetenango	1.82	356	eP	Pn	08 12 05.0	+0.1
HUEH				eS	Sn	08 12 28.0	+0.9
SNET	Serv Nac Est T	2.08	84	eP	Pn	08 12 08.2	-0.1
SNET				eS	Sn	08 12 31.8	-1.6
SNET				IAML		08 12 38.2	
	comp=Z,410nm,0.4s						
ESQI	Esquipulas	2.23	61	eP	Pn	08 12 09.6	-0.8
LFRS	El Faro	2.25	86	eP	Pn	08 12 10.5	0.0
MRL	Marmol	2.27	46	eP	Pb	08 12 13.8	-1.8
TECA	Tecapa	2.79	90	eP	Pn	08 12 19.0	+1.0
CMIG	Matias Romero	4.93	317	Pn	Pn	08 12 47.6	+0.2
	comp=Z,1.4nm,0.3s,baz=136,slow=10,SNR=22						
CMIG				Sn	Sn	08 13 41.0	-2.5
	comp=Z,4.6nm,0.3s,baz=332,slow=22,SNR=4.7						
CMIG				Lg	Lg	08 13 55.9	
	comp=Z,13nm,0.3s,baz=244,slow=22,SNR=7.3						
JTS	Las Juntas de	7.04	116	Pn	Pn	08 13 15.9	-0.4
	comp=Z,0.5nm,0.3s,baz=199,slow=14,SNR=1.8						
JTS				Lg	Lg	08 15 06.4	
	comp=Z,0.3nm,0.3s,baz=124,slow=19,SNR=3.3						
TEIG	Tepich	7.32	23	Pn	Pn	08 13 19.5	-0.8
	comp=Z,4.4nm,0.3s,baz=138,slow=8.1,SNR=23						
TEIG				Sn	Sn	08 14 41.2	-1.3
	baz=30,slow=23,SNR=1.3						
TEIG				Lg	Lg	08 15 23.2	
	comp=Z,0.6nm,0.3s,baz=105,slow=20,SNR=1.4						
TXAR	Lajitas Array	19.46	326	P	Pn	08 16 00.8	-0.3
	comp=Z,0.2nm,0.3s,baz=153,slow=12,SNR=8.2						
ANMO	Albuquerque	25.35	330	P	P	08 17 01.5	+1.6
	comp=Z,0.5nm,0.5s,baz=133,slow=13,SNR=2.4						
NVAR	Mina Array Bea	34.45	321	P	P	08 18 23.1	+2.3
	comp=Z,0.5nm,0.6s,baz=138,slow=8.4,SNR=6.5						
YKA	Yellowknife Ar	51.66	346	P	P	08 20 38.0	-1.1
	comp=Z,0.2nm,0.6s,baz=151,slow=8.0,SNR=4.9						

IDC 09 08:27:07.3±5.9**, 29°.39S**×**74°.60E, h0**km**, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.4**/50**, mbtmp3.4**/4**, Error ellipse: s-maj=200.9km s-min=41.9km az=42.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	21.72	354	T	T	08 54 14.7	
	baz=182,slow=74,SNR=9.9						
H08S1	Diego Carcia H	21.72	354	T	T	08 54 18.3	
	baz=182						
H08S3	Diego Garcia H	21.74	354	T	T	08 54 16.1	
	baz=182,slow=74,SNR=24						
H01W2	Cape Leeuwin H	33.77	110	T	T	09 09 11.7	
	baz=269,slow=74,SNR=9.0						
H01W3	Cape Leeuwin H	33.77	110	T	T	09 09 15.3	
	baz=269,slow=74,SNR=8.3						
H01W1	Cape Leeuwin H	33.78	110	T	T	09 09 13.0	
	baz=269,slow=74,SNR=9.9						
ASAR	Alice Springs	52.89	99	P	P	08 36 25.2	-0.1
	0.2nm,0.6s,baz=242,slow=7.4,SNR=2.4						
WRA	Warramunga Arr	54.60	95	P	P	08 36 37.9	-0.1
	0.5nm,0.8s,baz=249,slow=7.5,SNR=2.2						
MKAR	Makanchi Array	76.15	5	P	P	08 38 56.8	-0.1
	0.2nm,0.6s,baz=193,slow=5.6,SNR=2.7						
SONM	Songino Array	82.01	21	P	P	08 39 29.3	+0.2
	0.2nm,0.5s,baz=219,slow=3.7,SNR=2.4						
YKA	Yellowknife Ar	146.35	8	PKPbc	PKPdf	08 46 48.5	+0.4
	0.1nm,0.4s,baz=342,slow=3.9,SNR=2.5						

*IDC **09** 08:29:02.1±1.2, 47°.28N×153°.79E, h0km, mb3.6/10, mb1 3.8/12, mb1mx3.6/50, mbtmp3.6/12, ML3.0/2, Error ellipse: s-maj=32.3km s-min=21.2km az=154.0*
ISC 09 08:29:07.3±1.0**, 47°.3N**±0°.2×**153°.7E**±0°.1**, h35**km**, n18, σ0s.63**/12**, mb3.5**/10**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.35	22	Pn	Pn	08 30 38.6	+0.3
	0.5nm,0.3s,baz=188,slow=12,SNR=16						
PETK				Sn	Sn	08 31 59.6	+10
	0.1nm,0.3s,baz=210,slow=26,SNR=1.5						
ASAJ	Asahikawa	8.42	252	Pn	Pn	08 31 06.2	-0.4
	0.3nm,0.3s,baz=311,slow=25,SNR=2.1						
H11N2	WAKE ISLAND Hy	29.52	154	T	T	09 05 49.5	
	baz=338,slow=74,SNR=9.0						
H11N1	WAKE ISLAND Hy	29.54	154	T	T	09 05 49.5	
	baz=338,slow=74,SNR=11						
H11N3	WAKE ISLAND Hy	29.54	154	T	T	09 05 51.2	
	baz=338						
H11S1	WAKE ISLAND Hy	30.62	155	T	T	09 07 12.7	
	baz=343,slow=75,SNR=24						
H11S3	WAKE ISLAND Hy	30.63	155	T	T	09 07 12.2	
	baz=343,slow=75,SNR=28						
H11S2	WAKE ISLAND Hy	30.64	155	T	T	09 07 14.4	
	baz=343,slow=75,SNR=21						
SONM	Songino Array	31.55	289	P	P	08 35 25.7	-0.5
	0.3nm,0.5s,baz=69,slow=7.9,SNR=2.6						
ILAR	Eielson Array	35.85	39	P	P	08 36 02.4	-0.8
	0.3nm,0.8s,baz=252,slow=7.5,SNR=1.6						
ZALV	Zalesovo Beam	42.63	305	P	P	08 36 59.8	-0.1
	0.4nm,0.3s,baz=100,slow=3.3,SNR=3.8						
MKAR	Makanchi Array	47.06	297	P	P	08 37 35.8	+0.5
	0.7nm,0.7s,baz=67,slow=8.5,SNR=7.9						
YKA	Yellowknife Ar	50.23	37	P	P	08 37 58.4	-0.9
	0.1nm,0.5s,baz=303,slow=6.4,SNR=3.9						
FINES	FINESS Array B	63.72	335	P	P	08 39 35.1	+0.3
	0.7nm,0.3s,baz=24,slow=7.1,SNR=6.6						
NOA	NORSAR Array B	67.84	341	P	P	08 40 01.9	+0.5
	1.4nm,0.8s,baz=26,slow=6.4,SNR=3.4						
AKASG	Malin Array Be	71.32	326	P	P	08 40 23.6	+0.6
	0.5nm,0.4s,baz=34,slow=6.1,SNR=5.0						
ASAR	Alice Springs	72.86	199	P	P	08 40 32.8	+0.3
	0.4nm,0.9s,baz=19,slow=5.9,SNR=2.7						
TXAR	Lajitas Array	76.86	61	P	P	08 40 56.5	+0.7
	0.2nm,0.7s,baz=342,slow=4.9,SNR=2.2						

*NEIC **09** 08:36:08.8±1.1, 5°.31S±0°.08×152°.06E±0°.05, h63km±12km, mb4.1/8, Error ellipse: s-maj=11.9km s-min=6.3km az=192.0*
*IDC **09** 08:36:11.1±6.3, 5°.46S×152°.08E, h78km±49km, mb3.5/6, mb1 3.8/7, mb1mx3.6/35, mbtmp3.9/7, ML2.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/25, Error ellipse: s-maj=70.8km s-min=29.3km az=117.0*
ISC 09 08:36:10.9±1.0**, 5°.2S**±0°.1×**151°.9E**±0°.1**, h70**km**, n21, σ1s.25**/21**, mb4.0**/9**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	0.99	17	Pn	Pn	08 36 28.2	-1.1
MANU	Manus Island	5.45	304	Pn	Pn	08 37 28.5	-1.1
PMG	Port Moresby	6.30	228	P	Pn	08 37 40.2	-1.0
	2.7nm,0.3s,baz=60,slow=8.6,SNR=5.8						
PMG				S	Sn	08 38 53.0	+1.1
	2.9nm,0.3s,baz=72,slow=11,SNR=1.8						
PMG	Port Moresby	6.30	228		Pn	08 37 41.8	+0.6
HNR	Honiara	9.08	118	LR	LR	08 41 32.4	
	comp=Z,74nm,18.3s,baz=206,slow=37						
WB0	Warramunga Arr	22.37	228	P	P	08 41 02.3	-1.2
WB0				IAmb	IAmb	08 41 08.2	
	comp=Z,7.8nm,1.2s						
WR0	Warramunga Arr	22.38	227	P	P	08 41 01.9	-1.8
WR0				IAmb	IAmb	08 41 04.5	
	comp=Z,4.8nm,0.8s						
WRAB	Tennant Creek	22.51	228	P	P	08 41 03.8	-1.2
WRAB				IAmb	IAmb	08 41 19.7	
	comp=Z,11nm,1.4s						
WB2	Warramunga Arr	22.51	228	P	P	08 41 04.0	-1.1
WRA	Warramunga Arr	22.52	228	P	P	08 41 03.9	-1.3
	comp=Z,4.4nm,0.6s,baz=53,slow=10,SNR=42						
AS31	Alice Springs	25.27	221	P	P	08 41 30.4	-0.5
ASAR	Alice Springs	25.27	221	P	P	08 41 30.1	-0.7
	comp=Z,4.3nm,0.7s,baz=55,slow=9.0,SNR=37						
ASAR	Alice Springs	25.27	221	P	P	08 41 29.9	-0.9
FITZ	Fitzroy Crossi	28.68	241	P	P	08 42 00.5	-0.9
	comp=Z,2.1nm,0.6s,baz=73,slow=7.5,SNR=12						
FITZ	Fitzroy Crossi	28.68	241	P	P	08 42 00.5	-0.9
FITZ				IAmb	IAmb	08 42 08.8	
	comp=Z,8.1nm,1.2s						
MORW	Morawa	41.41	231	P	P	08 43 49.2	-1.4
SONM	Songino Array	66.12	328	P	P	08 46 52.5	+1.6
	comp=Z,0.3nm,0.5s,baz=139,slow=5.0,SNR=3.0						
SONM	Songino Array	66.12	328	P	P	08 46 51.4	+0.5
MKAR	Makanchi Array	79.97	319	P	P	08 48 15.0	+2.3
	comp=Z,0.2nm,0.6s,baz=102,slow=7.1,SNR=2.1						
MKAR				LR	LR	09 24 01.1	
	comp=Z,41nm,19.1s,baz=304,slow=36						
ILAR	Eielson Array	82.83	22	P	P	08 48 27.9	+0.7
	comp=Z,0.5nm,1.0s,baz=238,slow=5.2,SNR=2.3						
TORD	Torodi Ar. Bea	149.52	287	PKPbc	PKPbc	08 55 52.6	-0.7
	comp=Z,0.3nm,0.4s,baz=81,slow=2.3,SNR=1.4						

IDC 09 09:03:02.0±1.5**, 16°.81S**×**70°.73W, h0**km**, mb3.2**/2**, mb1 3.6**/5**, mb1mx3.5**/30**, mbtmp3.4**/5**, ML3.3**/3**, MS2.8**/4**, Ms1 2.9**/4**, ms1mx2.7**/14**, Error ellipse: s-maj=32.6km s-min=24.0km az=30.0, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	2.55	79	Pn	Pn	09 03 46.5	+1.3
	3.9nm,0.3s,baz=254,slow=12,SNR=67						
LPAZ				Sn	Sn	09 04 18.4	+1.2
	2.4nm,0.3s,baz=69,slow=13,SNR=1.6						
LPAZ				LR	LR	09 04 57.7	
	comp=Z,151nm,21.3s,baz=268,slow=45						
LVC	Limon Verde	6.02	164	Pn	Pn	09 04 33.5	+0.8
	1.0nm,0.3s,baz=342,slow=11,SNR=6.9						
LVC				Sn	Sn	09 05 42.0	-0.5
	0.5nm,0.3s,baz=234,slow=20,SNR=1.4						
LVC				Lg	Lg	09 05 58.5	
	0.9nm,0.3s,baz=186,slow=13,SNR=4.0						
LVC				LR	LR	09 07 07.8	
	comp=Z,89nm,18.8s,baz=266,slow=41						
SIV	San Ignacio	9.30	86	Pn	Pn	09 05 15.4	-2.2
	0.3nm,0.3s,baz=271,slow=15,SNR=7.0						
SIV				LR	LR	09 09 10.4	
	comp=Z,81nm,19.5s,baz=238,slow=40						
ATAH	Atahualpa	12.19	321	LR	LR	09 10 49.4	
	comp=Z,49nm,18.2s,baz=191,slow=38						
TXAR	Lajitas Array	55.82	325	P	P	09 12 41.4	0.0
	0.1nm,0.5s,baz=153,slow=6.1,SNR=2.0						
YKA	Yellowknife Ar	86.22	341	P	P	09 15 44.8	-0.2
	0.2nm,0.7s,baz=127,slow=5.8,SNR=8.4						

*IDC **09** 09:04:54.8±2.2, 19°.17S×167°.76E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/25, mbtmp3.6/5, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/25, Error ellipse: s-maj=63.0km s-min=32.1km az=123.0*
*NOU **09** 09:05:13.5, 20°.47S×167°.31E, h0km, MLv3.2, Loyalty Islands*
ISC 09 09:04:58.6±1.6**, 19°.3S**±0°.1×**167°.8E**±0°.3**, h26**km**, n9, σ0s.77**/10**, mb3.6**/4**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YATNC	Mamie plateau,	2.84	197	P	Pn	09 05 42.7	+0.4
DZM	Mont Dzumac	3.01	205	Pn	Pn	09 05 45.1	+0.4
	8.5nm,0.3s,baz=87,slow=9.0,SNR=132						
DZM				Sn	Sn	09 06 18.8	-1.1
	12nm,0.3s,baz=142,slow=22,SNR=4.7						
DZM	Mont Dzumac	3.01	205	P	Pn	09 05 45.4	+0.8
NOUC	Port Laguerre	3.09	207	P	Pn	09 05 46.2	+0.5
ONTNC	Ouen Toro	3.22	203	P	Pn	09 05 48.4	+1.0
WRA	Warramunga Arr	31.49	263	P	P	09 11 18.0	-0.5
	0.3nm,0.8s,baz=89,slow=8.2,SNR=1.6						
WRA				LR	LR	09 22 17.9	
	comp=Z,46nm,18.8s,baz=270,slow=33						
ASAR	Alice Springs	31.78	256	P	P	09 11 21.4	+0.3
	0.6nm,0.7s,baz=83,slow=8.6,SNR=9.6						
SONM	Songino Array	86.48	324	P	P	09 17 39.6	+0.5
	0.3nm,0.5s,baz=130,slow=5.3,SNR=2.2						
ILAR	Eielson Array	90.73	18	P	P	09 17 58.1	-0.6
	0.2nm,0.6s,baz=228,slow=5.6,SNR=2.0						

*KRNET **09** 09:14:54.5±0.1, 40°.88N×69°.66E, mb2.5*
ISC 09 09:14:53.8±2.2**, 40°.95N**±0°.05×**69°.7E**±0°.1**, h10**km**, n7, σ1s.68**/13**, 11C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTK	Batken	1.25	135	⇑iP	Pg	09 15 17.6	-0.2
	baz=32						
BTK				⇑iS	Sn	09 15 34.3	0.0
	baz=32						
TRKS	Terek-Say	1.25	62	⇑iP	Pg	09 15 19.0	+1.1
	baz=62						
TRKS				⇑eS	Sn	09 15 37.3	+2.8
	baz=62						
DRK	Karamyk	2.19	131	⇑iP	Pb	09 15 34.2	+0.5
	baz=29						
DRK				⇑iS	Sg	09 16 02.9	-1.4
	baz=29						
KK31	Karatay Array	2.24	16	⇑Pg	Pb	09 15 33.9	-0.5
	0.9nm,0.2s,baz=190,slow=17,SNR=96						
KK31				⇓Lg	Lg	09 16 18.6	
	1.0nm,0.2s,baz=182,slow=20,SNR=6.6						
OHH	Osh	2.40	99	⇑iP	Pb	09 15 37.1	-0.1
	baz=97						
OHH				⇑iS	Sb	09 16 08.1	+1.2
	baz=97						
ARSB	Arslanbob	2.53	80	⇓iP	Pb	09 15 39.6	+0.2
	baz=79						
ARSB				⇓iS	Sg	09 16 12.4	-2.7
	baz=79						
MNAS	Manas	2.62	53	⇑iP	Pb	09 15 40.9	-0.1
	baz=52						
MNAS				⇑iS	Sg	09 16 15.1	-2.9
	baz=52						

*IDC **09** 09:39:14.3±1.2, 11°.86N×86°.23W, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.5/33, mbtmp3.4/6, ML3.0/2, Error ellipse: s-maj=75.9km s-min=19.2km az=53.0*
*UCR **09** 09:39:15.5±0.9, 10°.87N×87°.07W, h35km±755km, MW3.8*
*INET **09** 09:39:18.7, 11°.14N×86°.88W, h26km, ML3.6, MW3.3*
ISC 09 09:39:17.8±1.0**, 11°.3N**±0°.2×**86°.8W**±0°.1**, h35**km**, n13, σ1s.62**/15**, mb3.3**/4**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GBS3	Finca Las Img	1.43	110	iP	Pn	09 39 41.1	-0.1
BUEV	Buena Vista	1.46	109	iP	Pn	09 39 41.2	-0.6
BUAI	Buenos Aires	1.51	105	iP	Pn	09 39 43.2	+0.8
GUAI	GUAI	1.63	128	iP	Pn	09 39 41.7	-2.2
CUI	Cuipilapa	1.74	111	iS	Sn	09 40 08.7	+2.2
JTS	Las Juntas de	2.08	118	Pn	Pn	09 39 49.7	-0.5
	2.5nm,0.3s,baz=171,slow=22,SNR=27						
JTS				Sn	Sn	09 40 14.2	-0.6
	20nm,0.3s,baz=54,slow=22,SNR=4.1						
CMIG	Matias Romero	9.72	307	Pn	Pn	09 41 36.6	+1.4
	0.4nm,0.3s,baz=112,slow=13,SNR=4.3						
TXAR	Lajitas Array	23.87	321	P	P	09 44 28.6	+0.4
	0.9nm,0.8s,baz=137,slow=9.2,SNR=11						
TXAR				PcP	PcP	09 48 12.5	+1.7
	0.3nm,0.8s,baz=157,slow=4.9,SNR=4.1						
PDAR	Pinedale Array	37.09	332	P	P	09 46 25.0	-0.1
	0.2nm,0.6s,baz=143,slow=9.1,SNR=1.8						
ULM	Lac du Bonnet	39.57	351	P	P	09 46 42.8	-2.7
	0.8nm,0.5s,baz=153,slow=11,SNR=3.4						
YKA	Yellowknife Ar	54.90	345	P	P	09 48 43.1	-1.6
	0.2nm,0.7s,baz=136,slow=7.9,SNR=3.2						
WRA	Warramunga Arr	139.52	253	PKP	PKiKP	09 58 47.0	+2.1
	0.3nm,0.9s,baz=94,slow=2.3,SNR=1.2						
CMAR	Chiang Mai Arr	149.91	349	PKPbc	PKPbc	09 59 06.2	+0.8
	1.1nm,0.3s,baz=332,slow=5.6,SNR=1.7						

*IDC **09** 09:55:26.4±1.7, 11°.70N×86°.37W, h0km, mb3.2/4, mb1 3.6/5, mb1mx3.4/34, mbtmp3.3/5, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/23, Error ellipse: s-maj=77.4km s-min=20.4km az=48.0*
*INET **09** 09:55:28.3, 10°.90N×86°.96W, h30km, ML3.1, MW3.7*
ISC 09 09:55:30.9±1.2**, 11°.6N**±0°.3×**86°.5W**±0°.3**, h35**km**, n7, σ0s.80**/7**, mb3.2**/4**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	Las Juntas de	2.00	130	Pn	Pn	09 56 01.5	-0.8
	0.3nm,0.3s,baz=313,slow=19,SNR=1.6						
JTS				Sn	Sn	09 56 27.3	+1.1
	7.9nm,0.3s,baz=72,slow=23,SNR=6.8						
CMIG	Matias Romero	9.78	305	Pn	Pn	09 57 49.3	+0.1
	0.2nm,0.3s,baz=123,slow=10,SNR=4.2						
TXAR	Lajitas Array	23.82	320	P	P	10 00 41.5	+0.6
	0.7nm,0.8s,baz=138,slow=9.8,SNR=9.4						
LPIG	La Paz	25.79	302	LR	LR	10 10 09.3	
	comp=Z,53nm,18.8s,baz=24,slow=34						
PDAR	Pinedale Array	36.97	331	P	P	10 02 36.7	-0.5
	0.2nm,0.6s,baz=144,slow=7.8,SNR=1.5						
ULM	Lac du Bonnet	39.32	351	P	P	10 02 56.6	0.0
	0.5nm,0.3s,baz=164,slow=7.4,SNR=2.3						
YKA	Yellowknife Ar	54.69	344	P	P	10 04 56.4	+0.2
	0.1nm,0.6s,baz=138,slow=6.8,SNR=1.8						

*IDC **09** 09:57:10.5±1.0, 12°.06N×86°.00W, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.7/35, mbtmp3.6/8, ML3.3/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/32, Error ellipse: s-maj=53.4km s-min=15.7km az=57.0*
*INET **09** 09:57:14.2, 11°.05N×86°.99W, h22km, ML3.5, MW3.8*
*UCR **09** 09:57:16.8±1.6, 10°.70N×86°.80W, h10km, MW4.1*
ISC 09 09:57:14.4±1.0**, 11°.0N**±0°.2×**87°.0W**±0°.2**, h30**km**, n19, σ1s.72**/14**, mb3.5**/7**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRZA	Playa Garza	1.71	130	eP	Pn	09 57 39.8	-2.4
JTS	Las Juntas de	2.11	110	Pn	Pn	09 57 46.7	-1.0
	8.0nm,0.3s,baz=174,slow=22,SNR=5.5						
JTS				Sn	Sn	09 58 11.7	-1.3
	21nm,0.3s,baz=6.3,slow=20,SNR=5.3						
JTS				LR	LR	09 58 52.7	
	comp=Z,112nm,20.7s,baz=357,slow=50						
LAFE	Finca La Fe, P	2.36	121	eP	Pn	09 57 49.0	-2.0
JACO	JACO, Garabito	2.65	120	eP	Pn	09 57 55.7	+0.7
LCR2	La Lucha 2	3.19	113	eP	Pn	09 58 03.6	+1.0
CDM	Cerro de Muert	3.48	114	eP	Pn	09 58 07.8	+0.9
LPLA	Las Palmas La	4.38	117	eP	Pn	09 58 19.9	+0.9
CMIG	Matias Romero	9.76	309	Pn	Pn	09 59 33.1	+0.3
	0.4nm,0.3s,baz=117,slow=9.4,SNR=2.9						
TXAR	Lajitas Array	23.98	322	P	P	10 02 25.5	-1.0
	1.3nm,0.8s,baz=139,slow=9.5,SNR=12						
TKL	Tuckaleechee C	24.70	6	P	P	10 02 23.2	-10
	0.9nm,0.7s,baz=181,slow=7.5,SNR=1.3						
SIV	San Ignacio	37.11	136	P	P	10 04 23.9	+1.3
	1.5nm,0.8s,baz=343,slow=6.6,SNR=7.2						
PDAR	Pinedale Array	37.25	332	P	P	10 04 21.5	-2.2
	0.4nm,0.8s,baz=126,slow=10,SNR=3.0						
NVAR	Mina Array Bea	39.09	320	P	P	10 04 38.8	-0.4
	0.4nm,0.8s,baz=130,slow=8.4,SNR=2.7						
ULM	Lac du Bonnet	39.80	351	P	P	10 04 37.4	-7.3
	1.2nm,0.5s,baz=179,slow=9.2,SNR=3.8						
H03N2	Juan Fernandez	44.87	170	T	T	10 53 36.7	
	baz=349						
H03N1	Juan Fernandez	44.87	170	T	T	10 53 36.9	
	baz=349						
H03N3	Juan Fernandez	44.89	170	T	T	10 53 25.0	
	baz=349						
YKA	Yellowknife Ar	55.11	345	P	P	10 06 38.0	-5.4
	0.2nm,0.7s,baz=136,slow=7.7,SNR=4.1						
CMAR	Chiang Mai Arr	150.13	349	PKPbc	PKPdf	10 17 01.3	+3.0
	1.2nm,0.3s,baz=357,slow=3.4,SNR=5.8						

IDC ***09*** *09:59:41.8±0.6, 25.°43N×103.°17E, h0km, mb4.2/20, mb1 4.2/21, mb1mx4.2/36, mbtmp4.1/21, ML4.1/1, MS3.9/21, Ms1 3.9/21, ms1mx3.8/38, Error ellipse: s-maj=16.6km s-min=13.9km az=80.0*

MOS ***09*** *09:59:42.3±1.5, 25.°31N×103.°31E, h12km, mb4.9/23, MS4.2/5, Error ellipse: s-maj=7.4km s-min=5.3km az=102.3*

NEIC ***09*** *09:59:43.5±1.8, 25.°32N±0.°06×103.°14E±0.°05, h10km±1km, mb4.6/31, Error ellipse: s-maj=11.3km s-min=6.2km az=143.0*

BJI ***09*** *09:59:44.5±0.0, 25.°31N×103.°09E, h16km, mB5.0/34, mb4.7/50, ML4.8/13, Ms4.6/59, Ms7 4.4/54*

GCMT ***09*** *09:59:45.5±0.4, 25.°26N±0.°02×103.°30E±0.°03, h25km±1km, MW4.8/73, Moment Tensor Solution. s7,c7; s73,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.37±.12; $M_{\theta\theta}$-0.10±.09; $M_{\phi\phi}$0.47±.09; $M_{r\theta}$0.47±.19; $M_{\theta\phi}$-1.74±.08; $M_{\phi r}$0.16±.17; Best double couple: $M_0$1.84800×10^{16} NP1:ϕ_s183.00000°, δ74.00000°, λ-10.00000°. NP2: ϕ_s276.00000°, δ80.00000°, λ-163.00000°. Principal axes: T 1.9640, Plg5.0000°, Azm49.0000°; N -0.2320, Plg71.0000°, Azm306.0000°; P -1.7320, Plg19.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 09:59:44.5±0.3**, 25.°39N**±0.°03×**103.°25E**±0.°04**, h10km, n214, σ2.s38**/231**, mb4.5**/59**, MS4.0**/30**, 13C-14D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.53**	**240**	⇑Pg	**Pg**	**09 59 50.5**	**-4.4**
KMI				Sg	**Sg**	**09 59 55.4**	**-6.5**
KMI				smax	smax		
	comp=N,79μm,0.5s						
KMI				smax	smax		
	comp=E,81μm,0.5s						
KMI	**Kunming**	**0.53**	**240**	P	**Pg**	**09 59 50.5**	**-4.4**
KMI	**Kunming**	**0.53**	**240**	Pg	**Pg**	**09 59 50.5**	**-4.4**
GYA	**Guiyang**	**3.25**	**70**	*e*Pn	**Pn**	**10 00 37.4**	**+1.6**
GYA				Pg	**Pg**	**10 00 47.7**	**+0.8**
GYA				Sn	**Sb**	**10 01 19.2**	**-3.1**
GYA				smax	smax		
	comp=N,3μm,0.9s						
GYA				smax	smax		
	comp=E,3μm,0.9s						
GYA				LR	LR		
	comp=N,3μm,3.8s						
GYA				LR	LR		
	comp=E,4μm,3.8s						
GYA				LR	LR		
	comp=Z,5μm,6.3s						
SLVN	**Son La**	**4.08**	**171**		**Pn**	**10 00 46.3**	**-0.8**
CD2	**Chengdu**	**5.52**	**5**	Pn	**Pn**	**10 01 08.7**	**+1.9**
CD2				Sg	**Sg**	**10 02 42.4**	**+0.7**
CD2				smax	smax		
	comp=N,620nm,1.5s						
CD2				smax	smax		
	comp=E,710nm,1.8s						
CD2				LR	LR		
	comp=N,7μm,6.3s						
CD2				LR	LR		
	comp=E,14μm,7.9s						
CD2				LR	LR		
	comp=Z,5μm,10.4s						
CRAI	**Chiangrai**	**5.78**	**208**	P	**Pg**	**10 01 31.4**	**-3.9**
CRAI				S	**Sg**	**10 02 48.3**	**-1.9**
NONG	**Nongkai**	**7.29**	**181**	P	Pb	10 01 43.5	-7.7
	56nm,1.1s						
ENH	**Enshi**	**7.36**	**47**	Pn	**Pn**	**10 01 34.4**	**+2.3**
CM34	**Chiang Mai Arr**	**7.54**	**211**	P	**Pn**	**10 01 39.0**	**+4.5**
LAMP	**Lampang**	**7.61**	**207**	P	Pn	10 01 41.0	+5.4
	2μm65nm,0.7s						
LAMP	**Lampang**	**7.61**	**207**	P	**Pg**	**10 02 09.4**	**-0.9**
LAMP				S	**Sg**	**10 03 52.7**	**+3.8**
CM33	**Chiang Mai Arr**	**7.66**	**212**	P	**Pn**	**10 01 40.0**	**+3.8**
CM33	**Chiang Mai Arr**	**7.66**	**212**	P	**Pg**	**10 02 10.4**	**-0.8**
CM33				S	**Sg**	**10 03 55.1**	**+4.7**
CMMT	**Chiang Mai**	**7.66**	**212**	P	**Pn**	**10 01 40.0**	**+3.7**
	306nm20nm,0.7s						
CMMT	**Chiang Mai**	**7.66**	**212**	P	**Pg**	**10 02 11.7**	**+0.4**
CMMT				S	**Sg**	**10 03 54.1**	**+3.5**
CHTO	**Chiang Mai**	**7.66**	**212**	P	**Pn**	**10 01 38.1**	**+1.8**
CHTO	**Chiang Mai**	**7.66**	**212**	Pn	**Pn**	**10 01 38.1**	**+1.8**
CM35	**Chiang Mai Arr**	**7.68**	**210**	P	**Pn**	**10 01 40.0**	**+3.5**
CM32	**Chiang Mai Arr**	**7.85**	**212**	P	**Pn**	**10 01 43.0**	**+4.2**
CM36	**Chiang Mai Arr**	**7.85**	**210**	P	**Pn**	**10 01 42.0**	**+3.2**
CM09	**Chiang Mai Arr**	**7.96**	**211**	P	Pn	10 01 47.0	+6.6
	402nm28nm,0.8s						
CMAR	**Chiang Mai Arr**	**7.97**	**211**	Pn	**Pn**	**10 01 38.9**	**-1.6**
	0.7nm,0.3s,baz=21,slow=12,SNR=3.8						
CMAR				Pg	**Pg**	**10 02 13.3**	**-3.9**
	1.1nm,0.3s,baz=12,slow=16,SNR=11						
CMAR				Lg	Lg	10 03 55.3	
	0.7nm,0.3s,baz=24,slow=27,SNR=1.5						
CMAR				LR	LR	10 05 04.7	
	comp=Z,640nm,19.4s,baz=72,slow=40						
CM15	**Chiang Mai Arr**	**7.99**	**211**	P	Pn	10 01 47.7	+7.0
	444nm61nm,1.0s						
CM02	**Chiang Mai Arr**	**7.99**	**211**	P	**Pn**	**10 01 45.0**	**+4.2**
	468nm20nm,0.9s						
CM04	**Chiang Mai Arr**	**8.01**	**210**	P	**Pn**	**10 01 45.0**	**+4.0**
	442nm16nm,0.9s						
UTTA	**Uttaradit**	**8.01**	**199**	P	Pn	10 01 49.8	+8.8
	312nm24nm,0.7s						
UTTA	**Uttaradit**	**8.01**	**199**	P	**Pg**	**10 02 15.2**	**-2.7**
UTTA				S	**Sg**	**10 04 04.2**	**+2.5**
CM05	**Chiang Mai Arr**	**8.02**	**211**	P	**Pn**	**10 01 45.5**	**+4.4**
	310nm12nm,0.9s						
CM05	**Chiang Mai Arr**	**8.02**	**211**	P	**Pg**	**10 02 18.0**	**-0.1**
CM05				S	**Sg**	**10 04 02.7**	**+0.7**
CM13	**Chiang Mai Arr**	**8.02**	**211**	P	Pn	10 01 47.0	+5.8
	514nm37nm,0.9s						
CM13	**Chiang Mai Arr**	**8.02**	**211**	P	**Pg**	**10 02 17.7**	**-0.4**
CM13				S	**Sg**	**10 04 05.7**	**+3.7**
LOEI	**Loei**	**8.06**	**194**	P	**Pn**	**10 01 46.0**	**+4.3**
	19nm,0.8s						
MHMT	**Maesarieng**	**8.71**	**216**	P	Pn	10 01 55.9	+5.2
	3μm40nm,0.8s						
QIZ	**Qiongzhong**	**8.80**	**135**	P	**Pn**	**10 01 50.6**	**-1.2**
QIZ				S	**Sn**	**10 03 31.4**	**+0.3**
QIZ				LR	LR		
	comp=N,1μm,8.6s						
QIZ				LR	LR		
	comp=E,590nm,9.0s						
QIZ				LR	LR		
	comp=Z,1μm,7.7s						
QIZ	**Qiongzhong**	**8.80**	**135**	Pn	**Pn**	**10 01 50.9**	**-0.9**
KHON	**Khomkaen**	**9.02**	**183**	P	**Pn**	**10 01 58.0**	**+3.2**
	9μm72nm,0.5s						
CHAI	**Chaiyaphum**	**9.52**	**187**	P	Pn	10 02 10.0	+8.4
	21nm,1.0s						
XAN	**Xi'an**	**9.93**	**28**	⇑P	**Pn**	**10 02 07.0**	**-0.3**
XAN				pP		10 02 13.8	
XAN				sP		10 02 17.2	
XAN				S	**Sn**	**10 03 59.4**	**+0.5**
XAN				pmax	pmax		
	comp=Z,26nm,1.1s						
XAN				LR	LR		
	comp=N,3μm,12.3s						
XAN				LR	LR		
	comp=E,4μm,11.8s						
XAN				LR	LR		
	comp=Z,3μm,13.2s						
XAN	**Xi'an**	**9.93**	**28**	P	**Pn**	**10 02 06.7**	**-0.6**
XAN	**Xi'an**	**9.93**	**28**	Pn	**Pn**	**10 02 06.7**	**-0.6**
SHL	**Shillong**	**10.27**	**273**	P	**Pn**	**10 02 11.7**	**-0.5**
SHL	**Shillong**	**10.27**	**273**	Pn	**Pn**	**10 02 11.7**	**-0.5**
LZH	**Lanzhou**	**10.67**	**3**	*e*P	Pn	10 02 22.7	+5.1
LZH				sP		10 02 31.8	
LZH				S	**Sn**	**10 04 14.9**	**-2.4**
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,170nm,4.6s						
LZH				LR	LR		
	comp=N,2μm,8.1s						
LZH				LR	LR		
	comp=Z,990nm,11.4s						
WHN	**Wuhan**	**11.07**	**60**	⇑P	**Pn**	**10 02 25.7**	**+2.7**
WHN				sP		10 02 31.8	
WHN				S	**Sn**	**10 04 24.7**	**-2.2**
WHN				LR	LR		
	comp=N,6μm,10.7s						
WHN				LR	LR		
	comp=E,3μm,10.8s						
WHN				LR	LR		
	comp=Z,3μm,8.0s						
LSA	**Lhasa**	**11.56**	**294**	P	**Pn**	**10 02 32.1**	**+2.0**
LSA				pmax	pmax		
	comp=Z,16nm,0.5s						
LSA	**Lhasa**	**11.56**	**294**	P	**Pn**	**10 02 31.5**	**+1.4**
LSA	**Lhasa**	**11.56**	**294**	Pn	**Pn**	**10 02 31.5**	**+1.4**
TAPN	**Taplejung**	**14.06**	**281**	*e*P	**Pn**	**10 03 04.4**	**+0.2**
GTA	**Gaotai**	**14.28**	**349**	*e*P	**Pn**	**10 03 07.4**	**+0.6**
GTA				pP	P	10 03 16.2	+2.0
GTA				sP		10 03 20.2	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,150nm,5.1s						
GTA				LR	LR		
	comp=N,890nm,16.7s						
GTA				LR	LR		
	comp=E,2μm,17.8s						
GTA				LR	LR		
	comp=Z,560nm,15.6s						
ODAN	**Odare**	**14.32**	**279**	*e*P	**Pn**	**10 03 06.7**	**-0.9**
TIY	**Taiyuan**	**14.56**	**30**	*e*P	**Pn**	**10 03 12.0**	**+1.3**
TIY				pmax	pmax		
	comp=Z,25nm,0.6s						
TIY				LR	LR		
	comp=N,2μm,12.2s						
TIY				LR	LR		
	comp=Z,1μm,10.8s						
RAMN	**Ramite**	**15.03**	**280**	*e*P	**Pn**	**10 03 15.8**	**-1.5**
	35nm,0.6s						
NJ2	**Nanjing**	**15.21**	**61**	*e*P	**Pn**	**10 03 20.0**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				LR	LR		
	comp=N,3μm,8.5s						
NJ2				LR	LR		
	comp=E,1μm,9.5s						
NJ2				LR	LR		
	comp=Z,960nm,7.1s						
GUN	**Gumba**	**15.73**	**283**	*e*P	**Pn**	**10 03 25.6**	**-1.0**
	41nm,0.7s						
PKI	**Pulchoki**	**16.12**	**282**	*e*P	**Pn**	**10 03 29.5**	**-2.1**
	42nm,0.7s						
PKIN	**Phulchoki**	**16.13**	**282**	*e*P	**Pn**	**10 03 29.8**	**-1.9**
BTO	**Baotou**	**16.19**	**19**	P	**Pn**	**10 03 31.1**	**-1.1**
DMN	**Daman**	**16.39**	**282**	*e*P	**Pn**	**10 03 33.6**	**-1.4**
	54nm,0.9s						
SSE	**Sheshan**	**16.79**	**66**	P	**Pn**	**10 03 37.5**	**-2.3**
SSE				S	**Sn**	**10 06 49.2**	**+2.8**
SSE				pmax	pmax		
	comp=Z,15nm,0.8s						
SSE				pmax	pmax		
	comp=Z,210nm,4.1s						
SSE				LR	LR		
	comp=N,1μm,8.3s						
SSE				LR	LR		
	comp=E,420nm,7.1s						
GKN	**Gorkha**	**16.83**	**283**	*e*P	**Pn**	**10 03 38.3**	**-2.2**
	comp=E,38nm,0.9s						
HHC	**Hu-ho-hao-te**	**16.90**	**22**	*e*P	**P**	**10 03 42.7**	**-0.6**
HHC				PP	**PnPn**	**10 03 54.7**	**+3.8**
HHC				S	**S**	**10 06 57.8**	**-1.9**
HHC				pmax	pmax		
	comp=E,17nm,0.8s						
HHC				pmax	pmax		
	comp=E,150nm,7.1s						
HHC				LR	LR		
	comp=E,2μm,9.4s						
HHC				LR	LR		
	comp=E,1μm,9.3s						
HHC				LR	LR		
	comp=E,1μm,10.8s						
BJT	**Baijiatuau**	**18.16**	**33**	P	**Pn**	**10 03 56.6**	**-0.2**
BJT				pmax	pmax		
	comp=Z,59nm,1.4s						
BJT	**Baijiatuau**	**18.16**	**33**	P	**Pn**	**10 03 56.6**	**-0.2**
BJT				IAmb	IAmb	10 04 06.3	
	comp=Z,59nm,1.4s						
BJI	**Beijing**	**18.18**	**33**	P	**P**	**10 03 57.4**	**+0.1**
BJI				S	**S**	**10 07 24.8**	**-0.7**
BJI				pmax	pmax		
	comp=Z,24nm,1.1s						
BJI				pmax	pmax		
	comp=Z,130nm,3.5s						
BJI				LR	LR		
	comp=Z,510nm,11.3s						
BJI				LR	LR		
	comp=Z,730nm,18.6s						
BJI				LR	LR		
	comp=Z,480nm,18.2s						
TGY	**Tagaytay City**	**20.06**	**121**	LR	LR	10 13 13.5	
	comp=Z,160nm,18.0s,baz=170,slow=40						
WMQ	**Urumqi**	**22.34**	**329**	*e*P	**P**	**10 04 43.1**	**+0.6**
WMQ				pP	sP	10 04 48.1	+0.6
WMQ				sP	pP	10 04 54.4	+8.5
WMQ				pmax	pmax		
	comp=Z,12nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,180nm,4.7s						
WMQ				LR	LR		
	comp=Z,580nm,9.7s						
WMQ				LR	LR		
	comp=Z,540nm,10.9s						
JOW	**Kunigami**	**22.51**	**81**	LR	LR	10 13 41.4	
	comp=Z,590nm,18.2s,baz=330,slow=37						
SONM	**Songino Array**	**22.54**	**6**	P	**P**	**10 04 44.3**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=186,slow=12,SNR=14						
SONM				LR	LR	10 14 32.4	
	comp=Z,561nm,18.1s,baz=182,slow=40						
SONM	**Songino Array**	**22.54**	**6**	P	**P**	**10 04 46.4**	**+1.7**
SONM				pmax	pmax		
	comp=Z,10.0nm,1.2s						
SONM	**Songino Array**	**22.54**	**6**	P	**P**	**10 04 46.4**	**+1.7**
ULN	**Ulaanbaatar**	**22.63**	**7**	*i* P	**P**	**10 04 42.7**	**-3.0**
ULN	**Ulaanbaatar**	**22.63**	**7**	P	**P**	**10 04 45.5**	**-0.2**
PSI	**Prapat**	**22.84**	**191**	P	**P**	**10 04 48.7**	**+0.6**
	comp=Z,5.3nm,0.7s,baz=360,slow=5.7,SNR=5.0						
PSI				LR	LR	10 12 58.1	
	comp=Z,531nm,20.4s,baz=274,slow=35						
PSI	**Prapat**	**22.84**	**191**	P	**P**	**10 04 48.7**	**+0.6**
PSI						10 04 52.3	
PSI				pmax	pmax		
	comp=Z,15nm,1.1s						
RPSI	**Rantau Prapat**	**22.95**	**191**		**P**	**10 04 52.2**	**+3.2**
RPSI				IAmb	IAmb	10 04 56.6	
	comp=Z,15nm,1.1s						
RPSI	**Rantau Prapat**	**22.95**	**191**	P	**P**	**10 04 48.7**	**-0.3**
TJN	**Taejon**	**23.35**	**56**	*ce*P	**P**	**10 04 58.4**	**+5.3**
SNY	**Shenyang**	**23.48**	**41**	P	**P**	**10 05 00.5**	**+6.2**
SNY				pmax	pmax		
	comp=Z,410nm,2.8s						
SNY				LR	LR		
	comp=Z,470nm,7.8s						
SNY				LR	LR		
	comp=Z,660nm,10.8s						
SNY				LR	LR		
	comp=Z,630nm,16.6s						
KSRS	**Korea Array**	**24.17**	**54**	P	**P**	**10 04 58.9**	**-2.1**
	comp=Z,1.2nm,0.6s,baz=241,slow=11,SNR=3.1						
KSRS				LR	LR	10 14 25.4	
	comp=Z,304nm,18.9s,baz=250,slow=37						
HYB	**Hyderabad**	**24.29**	**256**	*i* P	**P**	**10 04 59.0**	**-3.3**
ZAK	**Zakamensk**	**24.95**	**0**	*e*P	**P**	**10 05 07.2**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
JNU	**Nakatsue**	**25.26**	**66**	LR	LR	10 16 40.7	
	comp=Z,142nm,19.6s,baz=262,slow=40						
CN2	**Changchun**	**25.78**	**39**	*e*P	**P**	**10 05 15.6**	**+0.1**
CN2				pmax	pmax		
	comp=Z,20nm,1.3s						
CN2	**Changchun**	**25.78**	**39**	*e*P	**P**	**10 05 16.1**	**+0.6**
CN2				S	**S**	**10 09 51.3**	**+6.7**
CN2				LR	LR		
	comp=Z,460nm,12.0s						
CN2				LR	LR		
	comp=Z,350nm,12.0s						
CN2				LR	LR		
	comp=Z,380nm,13.0s						
TLY	**Talaya**	**26.25**	**1**	*i* P	**P**	**10 05 17.2**	**-2.6**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MOY	**Mondy**	**26.29**	**357**	*e*P	**P**	**10 05 22.8**	**+2.6**
ZSN	**Zaisan**	**26.39**	**331**	*e*P	**P**	**10 05 23.0**	**+1.9**
	baz=331						
ZSN	**Zaisan**	**26.39**	**331**	*e*P	**P**	**10 05 23.0**	**+1.9**
UZB	**Uzynbulak**	**26.58**	**318**	*e*P	**P**	**10 05 24.6**	**+1.6**
	baz=318						
UZB	**Uzynbulak**	**26.58**	**318**	*e*P	**P**	**10 05 24.6**	**+1.6**
KSH	**Kashi**	**26.86**	**308**	P	**P**	**10 05 26.6**	**+1.1**
KSH				pP	sP	10 05 31.8	+1.1
KSH				PP	**PnPn**	**10 06 13.1**	**+6.0**
KSH				S	**S**	**10 09 57.9**	**-4.2**
KSH				pmax	pmax		
	comp=Z,19nm,1.0s						
KSH				pmax	pmax		
	comp=Z,360nm,8.2s						
KSH				LR	LR		
	comp=Z,530nm,7.5s						
KSH				LR	LR		
	comp=Z,440nm,12.6s						
KSH				LR	LR		
	comp=Z,1μm,13.8s						
SATY	**Saty**	**26.91**	**317**	*e*P	**P**	**10 05 27.4**	**+1.4**
	baz=317						
SATY	**Saty**	**26.91**	**317**	*e*P	**P**	**10 05 27.3**	**+1.4**
HIA	**Hailar**	**27.09**	**24**	P	**P**	**10 05 27.3**	**0.0**
HIA				pmax	pmax		
	comp=Z,17nm,1.0s						
HIA	**Hailar**	**27.09**	**24**	P	**P**	**10 05 27.3**	**0.0**
HIA				IAmb	IAmb	10 05 28.5	
	comp=Z,17nm,1.0s						
MK31	**Makanchi Array**	**27.10**	**327**	*i* P	**P**	**10 05 27.9**	**+0.4**
MK31	**Makanchi Array**	**27.10**	**327**	P	**P**	**10 05 27.0**	**-0.5**
MK31				IAmb	IAmb	10 05 32.3	
	comp=Z,8.2nm,0.9s						
MKAR	**Makanchi Array**	**27.10**	**327**	P	**P**	**10 05 26.5**	**-1.0**
	comp=Z,8.3nm,1.0s,baz=146,slow=8.8,SNR=24						
MKAR				LR	LR	10 16 21.6	
	comp=Z,176nm,19.1s,baz=136,slow=37						
MKAR	**Makanchi Array**	**27.10**	**327**	*i* P	**P**	**10 05 26.8**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DGZ	**Jazzator, Alta**	**27.20**	**337**	*i* P	**P**	**10 05 29.2**	**+0.7**
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NIL	**Nilore**	**27.30**	**295**	P	**P**	**10 05 28.4**	**-1.0**
NIL				pmax	pmax		
	comp=Z,16nm,0.8s						
NIL	**Nilore**	**27.30**	**295**		**P**	**10 05 28.4**	**-1.0**
TNSS	**Tian-Shan**	**27.81**	**316**	*e*P	**P**	**10 05 35.5**	**+1.2**
	baz=316						
TNSS	**Tian-Shan**	**27.81**	**316**	*e*P	**P**	**10 05 35.5**	**+1.2**
MDOK	**Medeo**	**27.81**	**316**	*e*P	**P**	**10 05 36.0**	**+2.0**
	baz=316						
MDOK	**Medeo**	**27.81**	**316**	*e*P	**P**	**10 05 36.0**	**+2.0**
PALK	**Pallekele**	**28.07**	**234**	LR	LR	10 17 50.7	
	comp=Z,164nm,18.3s,baz=150,slow=39						
CHKK	**Chushkaly**	**28.21**	**317**	*e*P	**P**	**10 05 38.6**	**+1.2**
	baz=317						
CHKK	**Chushkaly**	**28.21**	**317**	*e*P	**P**	**10 05 38.6**	**+1.2**
AAK	**Ala-Archa**	**29.20**	**313**	P	**P**	**10 05 46.3**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=206,slow=23,SNR=2.9						
AAK				LR	LR	10 19 22.7	
	comp=Z,179nm,19.1s,baz=122,slow=41						
AAK	**Ala-Archa**	**29.20**	**313**	*ce*P	**P**	**10 05 49.1**	**+2.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AAK	**Ala-Archa**	**29.20**	**313**	P	**P**	**10 05 47.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**29.92**	**44**	P	**P**	**10 05 51.5**	**-1.2**
	comp=Z,11nm,0.9s,baz=243,slow=8.7,SNR=21						
USRK				LR	LR	10 18 28.5	
	comp=Z,265nm,19.1s,baz=222,slow=38						
BTLS	**Baital**	**30.62**	**317**	*e*P	**P**	**10 06 01.4**	**+2.6**
	baz=317						
BTLS	**Baital**	**30.62**	**317**	*e*P	**P**	**10 06 01.3**	**+2.5**
ZAA0	**Zalesovo Array**	**31.66**	**339**	P	**P**	**10 06 07.2**	**-0.6**
ZALV	**Zalesovo Beam**	**31.66**	**339**	P	**P**	**10 06 06.2**	**-1.6**
	comp=Z,5.0nm,0.6s,baz=149,slow=9.7,SNR=13						
ZALV				LR	LR	10 19 51.1	
	comp=Z,152nm,20.1s,baz=152,slow=38						
ZALV	**Zalesovo Beam**	**31.66**	**339**	*i* P	**P**	**10 06 10.0**	**+2.2**
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZALV	**Zalesovo Beam**	**31.66**	**339**	P	**P**	**10 06 05.9**	**-1.9**
MJAR	**Matsushiro Arr**	**31.81**	**61**	P	**P**	**10 06 08.7**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=267,slow=8.5,SNR=2.7						
MJAR				LR	LR	10 19 41.1	
	comp=Z,268nm,18.4s,baz=260,slow=38						
IUG	**Iuzhnay**	**32.02**	**310**	*e*P	**P**	**10 06 13.4**	**+2.1**
	baz=310						
IUG	**Iuzhnay**	**32.02**	**310**	*e*P	**P**	**10 06 13.4**	**+2.1**
KK31	**Karatay Array**	**32.05**	**312**	P	**P**	**10 06 11.6**	**+0.2**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KK31	**Karatay Array**	**32.05**	**312**	P	**P**	**10 06 11.6**	**+0.2**
KKAR	**Karatay Array**	**32.05**	**312**	P	**P**	**10 06 11.4**	**0.0**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KKAR	**Karatay Array**	**32.05**	**312**	P	**P**	**10 06 10.0**	**-1.4**
KKAR	**Karatay Array**	**32.05**	**312**	P	**P**	**10 06 11.4**	**0.0**
KKAR				IAmb	IAmb	10 06 12.7	
	comp=Z,1.7nm,0.9s						
KLR	**Kul'dur**	**32.53**	**36**	*ce*P	**P**	**10 06 15.5**	**0.0**
KLR				pmax	pmax		
	comp=Z,9.0nm,1.4s						
ZEA	**Zeya**	**33.50**	**26**	*e*P	**P**	**10 06 24.4**	**+0.5**
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,200nm,16.0s						
BRVK	**Borovoye**	**37.05**	**327**	*ce*P	**P**	**10 06 54.7**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRVK	**Borovoye**	**37.05**	**327**	P	**P**	**10 06 53.3**	**-1.3**
BRVK				IAmb	IAmb	10 06 56.6	
	comp=Z,5.1nm,0.8s						
YSS	**Yuzh-Sakhalins**	**37.93**	**45**	*e*P	**P**	**10 07 02.7**	**+0.6**
YSS				*e*		10 07 11.5	
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
YSS				MLR	MLR		
	comp=E,300nm,13.0s						
GEYT	**Alibeck**	**40.03**	**299**	P	**P**	**10 07 18.5**	**-1.4**
	comp=E,5.8nm,0.7s,baz=138,slow=6.9,SNR=12						
GEYT	**Alibeck**	**40.03**	**299**	IAmb	IAmb	10 07 24.4	
	comp=Z,9.9nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**40.03**	**299**	P	**P**	**10 07 18.9**	**-1.0**
YAK	**Yakutsk**	**40.72**	**19**	*e*P	**P**	**10 07 24.4**	**-0.7**
YAK				*e**PP	**pP**	**10 07 28.5**	**-0.3**
YAK				*e*		10 09 27.1	
YAK				*e*S	**S**	**10 13 37.9**	**+2.7**
YAK				*e**SS	**sS**	**10 13 44.3**	**+3.0**
YAK				*e*SS	**SS**	**10 16 25.6**	**-10**
YAK				*e*		10 17 30.6	
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				smax	smax		
	comp=N,61nm,2.8s						
YAK				smax	smax		
	comp=E,17nm,2.2s						
YAK				MLR	MLR		
	comp=Z,346nm,17.0s						
YAK				MLR	MLR		
	comp=E,198nm,17.0s						
YAK				MLR	MLR		
	comp=N,169nm,16.0s						
ABKAR	**Akbulak array**	**41.11**	**317**	P	**P**	**10 07 27.5**	**-1.0**
ABKAR	**Akbulak array**	**41.11**	**317**	P	**P**	**10 07 27.3**	**-1.2**
ABKAR				IAmb	IAmb	10 07 30.5	
	comp=Z,4.9nm,1.2s						
ARU	**Arti**	**44.61**	**326**	*c i*P	**P**	**10 07 56.3**	**-0.6**
ARU						10 09 38.8	
ARU				S	**S**	**10 14 34.9**	**+2.2**
ARU				SS	**SS**	**10 17 53.1**	**+0.6**
ARU				pmax	pmax		
	comp=Z,42nm,2.8s						
ARU	**Arti**	**44.61**	**326**		**P**	**10 07 55.9**	**-1.0**
ARU				IAmb	IAmb	10 08 13.4	
	comp=Z,8.9nm,1.0s						
TIXI	**Tiksi**	**48.48**	**11**	*e*P	**P**	**10 08 25.7**	**-1.3**
TIXI	**Tiksi**	**48.48**	**11**	P	**P**	**10 08 25.6**	**-1.4**
TIXI				IAmb	IAmb	10 08 28.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.6nm,0.6s						
PETK	Petropavlovsk-	48.91	41	LR	LR	10 30 02.1	
	comp=Z,158nm,18.8s,baz=234,slow=37						
PET	Petropavlovsk	49.45	41	*ce*P	P	10 08 33.8	-0.9
PET				pmax	pmax		
	comp=Z,357nm,2.5s						
BELG	Belogornoye	49.46	318	*i* P	P	10 08 36.7	+2.0
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GNI	Garni	50.50	302	*ce*P	P	10 08 47.6	+4.5
GNI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBZ	Khabaz	51.82	307	LR	LR	10 34 42.8	
	comp=Z,101nm,20.7s,baz=112,slow=41						
KBZ	Khabaz	51.82	307	*ce*P	P	10 08 57.1	+4.4
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KIV	Kislovodsk	51.97	307	*e*P	P	10 08 58.0	+4.0
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV				MLR	MLR		
	comp=Z,321nm,16.0s						
PRGR	Permogore	52.70	330	*e*P	P	10 08 57.6	-1.3
PRGR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRAB	Tennant Creek	54.26	143	P	P	10 09 10.5	-0.4
WRAB				pmax	pmax		
	comp=Z,11nm,1.0s						
WRAB	Tennant Creek	54.26	143	P	P	10 09 10.5	-0.4
WRA	Warramunga Arr	54.26	143	P	P	10 09 10.5	-0.4
	comp=Z,3.0nm,0.8s,baz=330,slow=8.4,SNR=13						
WB2	Warramunga Arr	54.27	143		P	10 09 10.3	-0.7
WB2				IAmb	IAmb	10 09 20.0	
	comp=Z,7.5nm,0.9s						
WR0	Warramunga Arr	54.38	143		P	10 09 11.5	-0.3
WR0				IAmb	IAmb	10 09 21.3	
	comp=Z,6.0nm,0.9s						
KLMR	Klimovskoe	55.40	328	*e*P	P	10 09 16.3	-2.4
KLMR				pmax	pmax		
	comp=Z,21nm,1.0s						
KLMR	Klimovskoe	55.40	328	*e*P	P	10 09 16.4	-2.3
KLMR				AMP		10 09 22.3	
	comp=Z,21nm,1.0s						
OBN	Obninsk	56.30	321	⇑*e*P	P	10 09 26.7	+1.5
OBN				*e*		10 11 32.8	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,115nm,10.0s						
ASAR	Alice Springs	57.10	146	P	P	10 09 31.2	-0.1
	comp=Z,1.0nm,0.8s,baz=325,slow=6.9,SNR=8.1						
BRTR	Keskin Array B	59.03	303	P	P	10 09 42.2	-2.8
	comp=Z,0.7nm,0.5s,baz=101,slow=6.0,SNR=1.8						
BRTR				LR	LR	10 38 03.6	
	comp=Z,97nm,20.2s,baz=64,slow=39						
BRTR	Keskin Array B	59.03	303	*i* P	P	10 09 48.2	+3.2
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	60.83	316	P	P	10 09 54.8	-2.1
	comp=Z,1.2nm,0.5s,baz=71,slow=7.1,SNR=5.1						
AKASG				LR	LR	10 39 33.0	
	comp=Z,124nm,18.4s,baz=310,slow=39						
AKASG	Malin Array Be	60.83	316	*i* P	P	10 10 01.1	+4.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	Malin Array Si	60.83	316	*ce*P	P	10 09 59.5	+2.6
MNK	Minsk	61.33	320	*i* P	P	10 10 00.3	0.0
	comp=E,4.0nm,0.9s						
MNK				*i* P	P	10 10 00.3	0.0
	comp=N,21nm,0.9s						
MNK				*i* P	P	10 10 00.3	0.0
	comp=Z,13nm,0.7s						
MNK				*i* PcP	PcP	10 10 42.8	+0.2
MNK				*i* PP	PP	10 12 15.0	-0.1
MNK				*i* PPP	PPP	10 13 39.3	
MNK				*i* S	S	10 18 21.6	+0.9
MNK				*i* ScS	SKKSac	10 19 51.6	0.0
MNK				*i* SS	SS	10 22 21.9	+1.2
MNK				*i* SSS	SSS	10 25 13.1	
MNK				*i* LR	LR	10 35 50.3	
MNK				*i* LRM	MLR	10 38 56.8	
	comp=N,129nm,11.2s						
MNK				*i* LRM	MLR	10 39 02.4	
	comp=Z,64nm,8.6s						
MNK				*i* LRM	MLR	10 39 04.9	
	comp=E,6.0nm,12.0s						
SORM	Soroca	61.67	313	⇓P	P	10 10 00.4	-2.3
SORM	Soroca	61.67	313	⇓P	P	10 10 00.4	-2.3
FINES	FINESS Array B	61.93	328	P	P	10 10 01.8	-2.4
	comp=E,4.0nm,1.1s,baz=102,slow=5.8,SNR=2.3						
FINES	FINESS Array B	61.93	328	*i* P	P	10 10 08.1	+3.9
FINES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NACGM	Naroch	61.94	320	*i* P	P	10 10 05.9	+1.5
NACGM				*i* P	P	10 10 05.9	+1.5
NACGM				*i* P	P	10 10 05.9	+1.5
NACGM				*i* PcP	PcP	10 10 43.0	-2.0
NACGM				*i* PP	PP	10 12 27.0	+6.6
NACGM				*i* PPP	PPP	10 13 57.1	
NACGM				*i* S	S	10 18 35.4	+7.1
NACGM				*i* PS	PnS	10 19 32.5	+50
NACGM				*i* SS	SS	10 22 49.4	+19
NACGM				*i* SSS	SSS	10 25 36.5	
NACGM				*i* LQ	LQ	10 33 01.1	
NACGM				*i* LR	LR	10 36 39.6	
ARCES	ARCESS Array B	62.18	337	P	P	10 10 03.8	-1.9
	comp=Z,3.7nm,1.0s,baz=95,slow=7.3,SNR=1.2						
ARCES				LR	LR	10 39 57.3	
	comp=Z,145nm,20.3s,baz=305,slow=39						
VRI	Vrincioaia	63.10	310	⇓P	P	10 10 11.6	-0.7
VRI	Vrincioaia	63.10	310	⇓P	P	10 10 11.6	-0.7
PLOR	Plostina	63.16	310	⇓P	P	10 10 13.9	+1.2
PLOR	Plostina	63.16	310	⇓P	P	10 10 13.9	+1.2
BIZ	Bicaz	63.35	312	⇓P	P	10 10 11.9	-2.0
MLR	Muntele Rosu	63.71	310	⇓P	P	10 10 17.4	+0.9
MLR	Muntele Rosu	63.71	310	⇓P	P	10 10 17.4	+0.9
BURAR	Bucovina Array	63.84	312	⇓P	P	10 10 18.3	+1.0
BURAR	Bucovina Array	63.84	312	⇓P	P	10 10 18.3	+1.0
ARR	Arges	64.64	310	⇓P	P	10 10 21.5	-1.0
KWP	Kalwaria Pacla	65.12	315	P	P	10 10 24.5	-1.0
KWP				pmax	pmax		
	comp=Z,24nm,1.3s						
DRGR		65.67	312	⇓P	P	10 10 28.2	-1.0
DRGR		65.67	312	⇓P	P	10 10 28.2	-1.0
MORC	Moravsky Berou	68.37	316	*e*P	P	10 10 51.1	+4.8
JAVC	Velka Javorina	68.51	315	*e*P	P	10 10 52.3	+5.1
KMBO	Kilima Mbogo	68.93	258	P	P	10 10 48.0	-2.5
	comp=Z,1.8nm,0.7s,baz=228,slow=24,SNR=2.4						
VRAC	Vranov	69.08	316	*e*P	P	10 10 54.7	+4.0
NB2	NORSAR Subarra	69.09	329	P	P	10 10 48.6	-1.9
	comp=Z,6.6nm,1.2s,baz=77,slow=6.5						
NOA	NORSAR Array B	69.09	329	P	P	10 10 48.1	-2.5
	comp=Z,1.4nm,0.8s,baz=78,slow=6.0,SNR=4.2						
KRUC	Moravsky	69.28	315	*e*P	P	10 10 55.9	+4.0
GERES	GERESS Array B	71.04	316	LR	LR	10 46 11.2	
	comp=Z,155nm,18.6s,baz=26,slow=39						
IMAR	Indian Mountai	72.19	25	P	P	10 11 08.8	-0.5
TOLK	Toolik Lake Re	72.61	22	P	P	10 11 11.6	-0.2
TOLK				IAmb	IAmb	10 11 23.3	
	comp=Z,3.8nm,1.0s						
COLD	Coldfoot	72.99	23	IAmb	IAmb	10 11 19.4	
	comp=Z,3.8nm,1.0s						
MDM	Murphy Dome	74.72	25	P	P	10 11 23.6	-0.7
MDM				IAmb	IAmb	10 11 28.2	
	comp=Z,7.7nm,0.9s						
POKR	Poker Plat Res	74.94	24	IAmb	IAmb	10 11 37.8	
	comp=Z,7.4nm,0.9s						
ILAR	Eielson Array	75.31	25	P	P	10 11 26.3	-1.4
	comp=Z,0.6nm,0.9s,baz=288,slow=4.5,SNR=4.8						
ILAR				LR	LR	10 45 34.8	
	comp=Z,66nm,18.8s,baz=308,slow=37						
ILAR	Eielson Array	75.31	25	P	P	10 11 26.7	-1.0
ILAR	Eielson Array	75.31	25	P	P	10 11 26.7	-1.0
PRP	Porcupine Dome	75.45	24	P	P	10 11 28.6	0.0
INK	Inuvik	77.78	19	P	P	10 11 40.4	-1.1
INK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
INK	Inuvik	77.78	19	P	P	10 11 40.4	-1.1
INK				IAmb	IAmb	10 11 45.7	
	comp=Z,6.3nm,0.8s						
SUMG	Summit	78.89	349	*i* P	P	10 11 46.4	-1.7
	comp=Z,6.9nm,0.9s						
SUMG	Summit	78.89	349	*i* P	P	10 11 46.4	-1.7
SUMG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SUMG	Summit	78.89	349	*i* P	P	10 11 46.5	-1.7
SUMG				IAmb	IAmb	10 11 48.6	
	comp=Z,6.9nm,0.9s						
RES	Resolute Bay	79.47	5	P	P	10 11 50.2	-0.5
RES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RES	Resolute Bay	79.47	5	IAmb	IAmb	10 11 51.8	
	comp=Z,4.0nm,0.9s						
C36M	Paulatuk	79.56	15	IAmb	IAmb	10 11 51.5	
	comp=Z,7.4nm,1.2s						
YKA	Yellowknife Ar	87.36	17	P	P	10 12 30.7	-0.9
	comp=Z,1.5nm,0.8s,baz=332,slow=4.2,SNR=14						
TORD	Torodi Ar. Bea	94.59	287	P	P	10 13 04.4	-1.8
	comp=Z,1.5nm,0.8s,baz=64,slow=3.0,SNR=3.2						
NEW	Newport	98.23	26	LR	LR	11 01 29.0	
	comp=Z,83nm,19.9s,baz=322,slow=38						
TXAR	Lajitas Array	119.76	27	PKP	PKPdf	10 18 34.1	-1.5
	comp=Z,0.5nm,0.7s,baz=239,slow=2.2,SNR=5.2						

*INET **09** 09:59:48.3, 10°.16N×87°.25W, h20km, ML3.8, MW3.8*

IDC 09 09:59:57.5±1.5**, 11°.88N**×**86°.11W, h0km, mb3.1**/3**, mb1 3.6**/4**, mb1mx3.4**/37**, mbtmp3.2**/4**, ML2.9**/1**, Error ellipse: s-maj=90.8km s-min=20.5km az=53.0, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	Las Juntas de	1.95	144	Pn	Pn	10 00 31.6	-0.3
	3.0nm,0.3s,baz=330,slow=20,SNR=2.0						
JTS				Sn	Sb	10 00 58.4	-0.3
	13nm,0.3s,baz=356,slow=11,SNR=4.6						
CMIG	Matias Romero	9.95	302	Pn	Pn	10 02 20.1	-1.8
	0.1nm,0.3s,baz=120,slow=14,SNR=6.2						
TXAR	Lajitas Array	23.85	319	P	P	10 05 12.7	-0.1
	0.7nm,0.8s,baz=138,slow=12,SNR=6.4						
PDAR	Pinedale Array	36.90	331	P	P	10 07 09.3	+1.1
	0.2nm,0.7s,baz=143,slow=7.7,SNR=1.8						
YKA	Yellowknife Ar	54.51	344	P	P	10 09 26.4	-0.4
	0.1nm,0.6s,baz=134,slow=7.8,SNR=2.1						

*SOME **09** 10:00:35.7, 44°.68N×83°.05E, h25km*
*NNC **09** 10:00:36.4±4.2, 44°.81N×83°.16E, h0km, mb2.7, mpv2.2, Error ellipse: s-maj=41.6km s-min=15.4km az=112.0*

ISC 09 10:00:35.2±2.3**, 44°.68N**±0°.07×**83°.2E**±0°.1**, h17km, n9,** σ**1s.50**/18**, 3C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.20	344	⇓Pn	Pn	10 01 11.6	+0.6
	0.5nm,0.3s,baz=161,slow=16,SNR=5.4						
MK31				⇑Sn	Sb	10 01 40.3	-1.3
	1.6nm,0.4s,baz=161,slow=27,SNR=18						
MAKZ	Makanchi	2.29	339	⇓Pn	Pn	10 01 13.5	+1.3
	0.7nm,0.4s						
MAKZ				⇑Sn	Sb	10 01 42.5	-1.5
	6.6nm,0.6s						
KTMS	Ketmen	2.38	240	*e*P	Pn	10 01 15.5	+1.9
	0.8nm,0.2s						
KTMS				*e*S	Sn	10 01 43.9	+1.5
	15nm,0.3s						
DJR	Jarkent	2.44	263	*e*P	Pb	10 01 17.9	-0.8
	0.9nm,0.6s						
DJR				*e*S	Sb	10 01 47.8	-0.9
	2.9nm,0.3s						
KAPS	Kapalarasan	2.77	284	*e*P	Pb	10 01 24.4	0.0
	0.3nm,0.3s						
KAPS				*e*S	Sb	10 01 59.9	+1.8
	3.3nm,0.2s						
PDGK	Podgornoye	2.98	244	⇓Pn	Pb	10 01 29.2	+1.3
	0.5nm,0.3s						
PDGK				⇑Sn	Sb	10 02 02.2	-1.8
	2.3nm,0.5s						
SHLS	Shalkode	3.08	242	*e*P	Pn	10 01 24.0	+0.7
	3.5nm,0.5s						
SHLS				*e*S	Sn	10 01 59.2	-0.5
	11nm,0.5s						
UZB	Uzynbulak	3.37	244	*e*P	Pb	10 01 32.4	-2.2
	2.4nm,0.3s						
UZB				*e*S	Sb	10 02 13.3	-2.0
	2.1nm,0.5s						
MNBS	Baschi	3.47	262	*e*P	Pb	10 01 35.0	-1.3
	1.4nm,0.4s						
MNBS				*e*S	Sb	10 02 17.4	-0.8
	3.8nm,0.4s						

JMA 09 10:32:44.0, 38°.36N×**142°.07E, h44**km±1km**, M3.2, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.48	264	P	Pn	10 32 54.5	-0.1
JIKH				S	Sn	10 33 01.9	-0.2
JIO	Ouri	0.57	280	P	Pn	10 32 55.9	0.0
JIO				S	Sn	10 33 04.2	-0.1
JKMT	Kesennumamotoy	0.65	314	P	Pn	10 32 56.9	+0.1
JKMT				S	Sn	10 33 06.1	0.0
OFUJ	Ofunato	0.79	337	P	Pn	10 32 58.7	0.0
OFUJ				S	Sn	10 33 09.2	-0.1
JMK	Ichinoseki	0.89	312	P	Pn	10 33 00.3	+0.2
JMK				*e*S	Sn	10 33 12.0	+0.1
JOU	Okura	1.10	271	P	Pn	10 33 03.4	+0.3
JOU				S	Sn	10 33 17.8	+0.7
JMM	Marumori	1.12	244	P	Pn	10 33 02.8	-0.4
JMM				S	Sn	10 33 17.2	-0.3
JOM	Ohasama	1.27	332	P	Pn	10 33 06.0	+0.8
JOM				S	Sn	10 33 22.5	+1.4
JFK	Kawauchi	1.37	224	P	Pn	10 33 06.4	-0.3
JFK				S	Sn	10 33 22.6	-1.1
JYK	Kaneyama	1.45	293	P	Pn	10 33 08.5	+0.7
JYK				*e*S	Sn	10 33 27.1	+1.5
JRG	Rokugo	1.53	313	P	Pn	10 33 10.1	+1.3
JYS	Shirataka	1.58	266	P	Pn	10 33 10.1	+0.5
JYS				S	Sn	10 33 29.6	+0.7
JFT	Otama	1.61	239	P	Pn	10 33 10.8	+0.9
JFT				S	Sn	10 33 29.8	+0.3

KRSC 09 10:33:32.4±1.5**, 48°.32N**×**156°.09E, h12**km±34km**, ML3.5, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.37	0	*e*P	Pn	10 34 11.9	+0.9
PAU	Pauzhetka	3.19	8	*e*S	Sb	10 35 04.0	-3.6
KDTR	Khodutka, Kamc	3.72	19	*e*P	Pn	10 34 33.7	+4.1
KDTR				*e*S	Sn	10 35 17.6	+4.3
ASAK	Asacha	4.23	15	*e*P	Pn	10 34 41.4	+4.7
MTVR	Mutnovka	4.38	17	*e*P	Pn	10 34 43.3	+4.5
RUS	Russkaya	4.40	20	*e*P	Pn	10 34 42.2	+3.2
GRL	Gorelyy	4.42	16	*e*P	Pn	10 34 42.9	+3.5
AVH	Avacha	5.23	18	*e*P	Pn	10 34 55.5	+5.1
SDLR	Sedlovina	5.27	19	*e*P	Pn	10 34 55.2	+4.2
KRX	Arik	5.30	17	*e*P	Pn	10 34 55.0	+3.5

*NEIC **09** 10:36:32.3±1.8, 57°.3S±0°.1×25°.9W±0°.1, h62km±7km, mb4.4/12, Error ellipse: s-maj=20.5km s-min=5.4km az=202.0*
*IDC **09** 10:36:32.7±2.7, 57°.38S×25°.80W, h65km±22km, mb4.1/7, mb1 4.2/8, mb1mx3.9/27, mbtmp4.4/8, MS3.4/4, Ms1 3.4/4, ms1mx3.1/24, Error ellipse: s-maj=33.6km s-min=17.4km az=70.0*

ISC 09 10:36:32.6±0.7**, 57°.4S**±0°.1×**25°.9W**±0°.2**, h65km, n39,** σ**0s.89**/29**, mb4.4**/9**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.73	293	Pn	Pn	10 38 08.2	-0.4
VNA1	Neumayer--Stat	15.28	157	P	Pn	10 40 03.9	-0.1
VNA3	Neumayer Olymp	15.48	160	P	Pn	10 40 05.9	-0.8
VNA3				S	Sn	10 42 45.6	-11
VNA2	Neumayer--Watz	15.68	157	P	Pn	10 40 08.8	-0.3
	baz=318,slow=14						
VNA2				S	Sn	10 42 48.3	-13
SNAA	Sanae	17.22	155	P	Pn	10 40 28.6	+0.1
SNAA	Sanae	17.22	155	P	Pn	10 40 28.4	0.0
	1.1nm,0.3s,baz=318,slow=15,SNR=43						
SNAA				S	Sn	10 43 27.1	-12
	0.1nm,0.3s,baz=7.3,slow=18,SNR=2.5						
SNAA				LR	LR	10 46 20.6	
	comp=Z,90nm,18.1s,baz=9.5,slow=34						
SNAA	Sanae	17.22	155	P	Pn	10 40 28.5	+0.1
PMSA	Palmer Station	19.60	232	LR	LR	10 47 00.9	
	comp=Z,117nm,20.4s,baz=77,slow=32						
BELA	Belgrano 2	20.79	185	P	P	10 41 07.5	-0.5
BELA				IAmb	IAmb	10 41 11.2	
	comp=Z,13nm,0.6s						
QSPA	South Pole Qui	32.85	180	P	P	10 43 00.1	+0.2
	comp=Z,9.5nm,0.6s,baz=212,slow=1.5,SNR=98						
QSPA	South Pole Qui	32.85	180	P	P	10 43 00.3	+0.4
PLCA	Paso Flores	32.95	281	LR	LR	10 55 48.1	
	comp=Z,33nm,18.2s,baz=176,slow=35						
BDFB	Brasilia	44.89	329	P	P	10 44 41.3	+0.6
	comp=Z,2.4nm,0.5s,baz=255,slow=9.9,SNR=4.2						
VNDA	Vanda	45.26	182	P	P	10 44 43.5	+0.7
	comp=Z,4.4nm,0.7s,baz=183,slow=6.9,SNR=12						
VNDA	Vanda	45.26	182	IAmb	IAmb	10 44 44.7	
	comp=Z,4.5nm,0.7s						
LVC	Limon Verde	46.59	300	P	P	10 44 55.8	+1.4
	comp=Z,1.4nm,0.5s,baz=117,slow=9.0,SNR=3.2						
LVC	Limon Verde	46.59	300	IAmb	IAmb	10 44 56.6	
	comp=Z,4.9nm,1.1s						
H10S2	ASCENSION HYDR	49.10	15	T	T	11 39 02.1	
	baz=32,slow=74,SNR=28						
H10S3	ASCENSION HYDR	49.10	15	T	T	11 39 00.5	
	baz=188,slow=74,SNR=46						
MNMC	Minye Minye	49.91	301	P	P	10 45 19.3	-0.6
H10N1	ASCENSION HYDR	50.22	15	T	T	11 40 21.2	
	baz=188,slow=75,SNR=28						
H10N3	ASCENSION HYDR	50.22	15	T	T	11 40 16.8	
	baz=188,slow=75,SNR=60						
H10N2	ASCENSION HYDR	50.23	15	T	T	11 40 26.1	
	baz=188,slow=75,SNR=51						
LPAZ	La Paz	51.73	305	P	P	10 45 33.2	-0.8
	comp=Z,2.9nm,0.4s,baz=101,slow=3.4,SNR=14						
LPAZ	La Paz	51.73	305	P	P	10 45 33.0	-1.0
LPAZ				IAmb	IAmb	10 45 35.6	
	comp=Z,5.0nm,1.1s						
SAML	Samuel	56.26	314	P	P	10 46 05.8	-0.3
SAML				IAmb	IAmb	10 46 06.0	
	comp=Z,3.8nm,0.9s						
TOA0	Torodi Ar. Sit	73.89	28	P	P	10 48 00.7	+0.3
TOA0				IAmb	IAmb	10 48 01.5	
	comp=Z,3.2nm,0.6s						
TORD	Torodi Ar. Bea	73.89	28	P	P	10 48 00.8	+0.4
	comp=Z,3.6nm,0.6s,baz=200,slow=6.5,SNR=7.8						
TORD	Torodi Ar. Bea	73.89	28	IAmb	IAmb	10 48 01.5	
	comp=Z,2.4nm,0.7s						
THZ	Tophouse	79.96	194	P	P	10 48 35.2	+0.9
PPT	Papeete	91.96	233	LR	LR	11 25 13.1	
	comp=Z,32nm,18.6s,baz=174,slow=32						
ASAR	Alice Springs	97.49	161	P	P	10 49 58.0	-1.3
	comp=Z,0.2nm,0.8s,baz=184,slow=3.8,SNR=1.7						
FINES	FINESS Array B	125.24	28	PKP	PKPdf	10 55 23.2	-1.0
	comp=Z,1.4nm,0.8s,baz=219,slow=1.8,SNR=1.2						
YKA	Yellowknife Ar	137.64	316	PKP	PKPdf	10 55 46.8	-0.8
	comp=Z,0.5nm,0.5s,baz=120,slow=2.8,SNR=8.1						
YKA				SKPbc	SKPbc	10 59 14.7	-0.6
	comp=Z,0.8nm,0.7s,baz=120,slow=2.8,SNR=12						
INK	Inuvik	147.29	319	PKPbc	PKPbc	10 56 06.2	-0.7
	comp=Z,1.1nm,0.4s,baz=117,slow=2.5,SNR=13						
INK	Inuvik	147.29	319		PKPbc	10 56 07.0	0.0
SONM	Songino Array	150.08	88	PKPbc	PKPbc	10 56 14.4	-0.5
	comp=Z,0.5nm,0.7s,baz=207,slow=3.1,SNR=3.9						
ILAR	Eielson Array	151.53	310	PKPbc	PKPbc	10 56 17.4	-0.2
	comp=Z,2.0nm,0.8s,baz=138,slow=4.5,SNR=15						
ILAR	Eielson Array	151.53	310		PKPdf	10 56 14.3	+3.0

*KRSC **09** 10:47:06.8±1.3, 55°.94N×164°.77E, h68km±26km, ML4.7*
*IDC **09** 10:47:06.4±0.6, 55°.89N×164°.65E, h0km, mb3.9/26, mb1 4.1/28, mb1mx4.0/50, mbtmp3.9/28, ML3.6/2, MS3.8/4, Ms1 3.8/4, ms1mx3.1/45, Error ellipse: s-maj=19.7km s-min=10.4km az=153.0*
*MOS **09** 10:47:10.1±0.9, 55°.91N×164°.57E, h43km, mb4.6/10, Error ellipse: s-maj=6.8km s-min=4.5km az=55.3*
*NEIC **09** 10:47:18.7±2.9, 55°.94N±0°.08×163°.7E±0°.2, h79km±6km, mb4.5/48, Error ellipse: s-maj=16.8km s-min=8.7km az=124.0*

ISC 09 10:47:13.5±1.2**, 55°.99N**±0°.04×**164°.05E**±0°.05**, h29**km±8km**, n229,** σ**2s.01**/236**, mb4.4**/55**, 1C, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.72	288	PN	Pb	10 47 26.1	-1.4
KBTR	Krutoberegovo	0.72	288	*i* P	Pb	10 47 26.1	-1.4
KBG	Krutoberegovo	0.80	290	PN	Pb	10 47 27.2	-1.6
KBG	Krutoberegovo	0.80	290	*i* P	Pb	10 47 27.2	-1.6
BKI	Bering	1.34	125	PN	Pn	10 47 27.3	-8.9
BKI				S	Sn	10 47 40.8	-12
BKI	Bering	1.34	125	*i* P	Pn	10 47 27.3	-8.9
BKI				*i* S	Sn	10 47 40.8	-12
SMKR	Semkarok	1.56	293	PN	Pb	10 47 39.5	-2.2
SMKR				S	Sb	10 48 03.8	+2.8
SMKR	Semkarok	1.56	293	*e*P	Pb	10 47 39.5	-2.2
SMKR				*e*S	Sb	10 48 03.8	+2.8
BDR	Baidarnaya	1.69	291	PN	Pb	10 47 41.8	-2.1
BDR	Baidarnaya	1.69	291	*i* P	Pb	10 47 41.8	-2.1
SRKR	Sorokina	1.74	294	PN	Pb	10 47 42.3	-2.4
SRKR	Sorokina	1.74	294	*e*P	Pb	10 47 42.3	-2.4
ZLN	Zelenaya	1.82	272	PN	Pb	10 47 44.5	-1.7
ZLN	Zelenaya	1.82	272	*e*P	Pb	10 47 44.5	-1.7
BZGR	Bezymyannyi-Gr	1.89	270	PN	Pb	10 47 45.1	-2.2
BZGR	Bezymyannyi-Gr	1.89	270	*i* P	Pb	10 47 45.1	-2.2
LGNR	Loginova	1.89	274	PN	Pb	10 47 45.9	-1.5
LGNR	Loginova	1.89	274	*e*P	Pb	10 47 45.9	-1.5
MKZ	Mys Kozlova	1.96	224	PN	Pn	10 47 42.8	-1.9
MKZ				S	Sn	10 48 08.5	+0.3
MKZ	Mys Kozlova	1.96	224	*e*P	Pn	10 47 42.8	-1.9
MKZ				*e*S	Sn	10 48 08.5	+0.3
KRSR	Krestovskiy	1.97	278	PN	Pb	10 47 45.8	-2.8
KRSR	Krestovskiy	1.97	278	*e*P	Pb	10 47 45.8	-2.8
BZWR	Bezymyannyi-We	2.00	271	PN	Pb	10 47 46.9	-2.3
BZWR				S	Sb	10 48 16.0	+2.3
BZWR	Bezymyannyi-We	2.00	271	*i* P	Pb	10 47 46.9	-2.3
BZWR				*i* S	Sb	10 48 16.0	+2.3
BZMR	Bezymyannaya	2.00	270	PN	Pb	10 47 46.9	-2.4
BZMR	Bezymyannaya	2.00	270	*i* P	Pb	10 47 46.9	-2.4
KIRR	Kirishev	2.09	270	PN	Pb	10 47 48.4	-2.3
KIRR	Kirishev	2.09	270	*e*P	Pb	10 47 48.4	-2.3
KMNR	Kamenistaya	2.16	265	PN	Pb	10 47 49.2	-2.8
KMNR	Kamenistaya	2.16	265	*e*P	Pb	10 47 49.2	-2.8
TUMD	Tumrok D	2.22	251	*e*P	Pn	10 47 49.4	+1.1
TUMD				*e*S	Sb	10 48 20.6	+0.7
KZV	Kizimen	2.31	249	PN	Pn	10 47 50.9	+1.2
KZV	Kizimen	2.31	249	*e*P	Pn	10 47 50.9	+1.2
TUMR	Tumrok	2.33	254	PN	Pn	10 47 49.4	-0.5
TUMR				S	Sb	10 48 20.6	-2.4
TUMR	Tumrok	2.33	254	*e*P	Pb	10 47 51.6	-3.1
TUMR				*e*S	Sb	10 48 24.5	+1.5
KOZ	Kozyrevsk	2.35	273	PN	Pb	10 47 52.2	-2.8
KOZ	Kozyrevsk	2.35	273	*e*P	Pb	10 47 52.2	-2.8
SRDR	Sredinnyy	2.45	279	PN	Pb	10 47 53.6	-3.2
SRDR	Sredinnyy	2.45	279	*e*P	Pb	10 47 53.6	-3.2
ESO	Esso	3.01	271	PN	Pn	10 48 01.2	+2.0
ESO	Esso	3.01	271	*i* P	Pn	10 48 01.2	+2.0
KII	Karymskiy	3.30	235	PN	Pn	10 48 04.0	+0.8
KII	Karymskiy	3.30	235	*e*P	Pn	10 48 04.0	+0.8
OSSR	Ossora	3.31	351	PN	Pn	10 48 00.1	-3.2
OSSR	Ossora	3.31	351	*e*P	Pn	10 48 00.1	-3.2
OSSR				*e*S	Sn	10 48 37.6	-4.0
SPN	Mys Shipunski	3.73	221	PN	Pn	10 48 06.7	-2.3
SPN	Mys Shipunski	3.73	221	*e*P	Pn	10 48 06.7	-2.3
SPN				*e*S	Sn	10 48 49.8	-2.1
PALN	Palana	3.81	326	PN	Pn	10 48 10.0	-0.1
PALN	Palana	3.81	326	*e*P	Pn	10 48 10.0	-0.1
NLC	Nalytchevo	3.94	226	PN	Pn	10 48 11.4	-0.4
NLC				S	Sn	10 48 57.2	+0.2
NLC	Nalytchevo	3.94	226	*e*P	Pn	10 48 11.4	-0.4
NLC				*e*S	Sn	10 48 57.2	+0.2
SDLR	Sedlovina	4.05	230	PN	Pn	10 48 13.9	+0.3
SDLR				S	Sn	10 49 02.3	+2.3
SDLR	Sedlovina	4.05	230	*e*P	Pn	10 48 13.9	+0.3
SDLR				*e*S	Sn	10 49 02.3	+2.3
KRER	Koryakskii	4.09	231	PN	Pn	10 48 14.8	+0.6
KRER				S	Sn	10 49 04.1	+2.9
KRER	Koryakskii	4.09	231	*e*P	Pn	10 48 14.8	+0.6
KRER				*e*S	Sn	10 49 04.1	+2.9
SMAR	Somma	4.10	230	PN	Pn	10 48 14.6	+0.3
SMAR				S	Sn	10 49 03.3	+2.0
SMAR	Somma	4.10	230	*e*P	Pn	10 48 14.6	+0.3
SMAR				*e*S	Sn	10 49 03.3	+2.0

KRX	**Arik**	**4.10**	**232**	PN	**Pn**	**10 48 15.2**	**+1.0**
KRX	**Arik**	**4.10**	**232**	*e*P	**Pn**	**10 48 15.2**	**+1.0**
AVH	**Avacha**	**4.12**	**231**	PN	**Pn**	**10 48 15.2**	**+0.7**
AVH				S	**Sn**	**10 49 04.8**	**+3.0**
AVH	**Avacha**	**4.12**	**231**	*e*P	**Pn**	**10 48 15.2**	**+0.7**
AVH				*i* S	**Sn**	**10 49 04.8**	**+3.0**
UGLR	**Uglovaya**	**4.12**	**230**	PN	**Pn**	**10 48 15.0**	**+0.4**
UGLR	**Uglovaya**	**4.12**	**230**	*e*P	**Pn**	**10 48 15.0**	**+0.4**
KOK	**Koryaka**	**4.15**	**232**	PN	**Pn**	**10 48 15.3**	**+0.4**
KOK	**Koryaka**	**4.15**	**232**	*e*P	**Pn**	**10 48 15.3**	**+0.4**
GNL	**Ganaly**	**4.21**	**239**	PN	**Pn**	**10 48 17.6**	**+1.8**
GNL	**Ganaly**	**4.21**	**239**	*i* P	**Pn**	**10 48 17.6**	**+1.8**
DALK	**Dalny**	**4.28**	**228**	PN	**Pn**	**10 48 16.4**	**-0.2**
DALK	**Dalny**	**4.28**	**228**	*i* P	**Pn**	**10 48 16.4**	**-0.2**
DALK				*i* S	**Sn**	**10 49 06.3**	**+0.8**
PET	**Petropavlovsk**	**4.33**	**229**	*i* PN	**Pn**	**10 48 17.2**	**0.0**
PET	**Petropavlovsk**	**4.33**	**229**	*e*P	**Pn**	**10 48 17.3**	**0.0**
PET				*e*S	**Sn**	**10 49 07.8**	**+1.1**
PET	**Petropavlovsk**	**4.33**	**229**	Pn	**Pn**	**10 48 17.4**	**+0.2**
KRMR	**Karymshinskiy**	**4.69**	**230**	PN	**Pn**	**10 48 22.7**	**+0.5**
KRMR	**Karymshinskiy**	**4.69**	**230**	*e*P	**Pn**	**10 48 22.7**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.69**	**235**	PN	**Pn**	**10 48 22.8**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.69**	**235**	Pn	**Pn**	**10 48 22.8**	**+0.5**
PETK	**Petropavlovsk-**	**4.69**	**235**	Pn	**Pn**	**10 48 22.5**	**+0.2**
	2.7nm,0.3s,baz=70,slow=18,SNR=52						
PETK				Sn	**Sn**	**10 49 20.6**	**+4.8**
	5.2nm,0.3s,baz=64,slow=26,SNR=7.2						
PETK				LR	LR	10 50 38.5	
	comp=Z,308nm,18.4s,baz=113,slow=43						
PETK	**Petropavlovsk-**	**4.69**	**235**	Pn	**Pn**	**10 48 24.0**	**+1.8**
RUS	**Russkaya**	**4.82**	**225**	PN	**Pn**	**10 48 23.0**	**-1.1**
RUS	**Russkaya**	**4.82**	**225**	*e*P	**Pn**	**10 48 23.0**	**-1.1**
RUS				*e*S	**Sn**	**10 49 18.0**	**-0.9**
GRL	**Gorelyy**	**4.91**	**228**	PN	**Pn**	**10 48 26.2**	**+0.8**
GRL	**Gorelyy**	**4.91**	**228**	*e*P	**Pn**	**10 48 26.2**	**+0.8**
MTVR	**Mutnovka**	**4.92**	**227**	PN	**Pn**	**10 48 25.6**	**+0.1**
MTVR	**Mutnovka**	**4.92**	**227**	*e*P	**Pn**	**10 48 25.6**	**+0.1**
MTVR				*e*S	**Sn**	**10 49 22.5**	**+1.0**
APC	**Apacha**	**5.06**	**235**	PN	**Pn**	**10 48 29.7**	**+2.4**
APC	**Apacha**	**5.06**	**235**	*i* P	**Pn**	**10 48 29.7**	**+2.4**
ASAK	**Asacha**	**5.11**	**228**	PN	**Pn**	**10 48 28.5**	**+0.4**
ASAK				S	**Sn**	**10 49 28.2**	**+2.1**
ASAK	**Asacha**	**5.11**	**228**	*e*P	**Pn**	**10 48 28.5**	**+0.4**
ASAK				*i* S	**Sn**	**10 49 28.2**	**+2.1**
KDTR	**Khodutka, Kamc**	**5.48**	**223**	PN	**Pn**	**10 48 32.0**	**-1.0**
KDTR	**Khodutka, Kamc**	**5.48**	**223**	*e*P	**Pn**	**10 48 32.0**	**-1.0**
MIPR	**Malaya Ipel'ka**	**5.68**	**232**	PN	**Pn**	**10 48 37.4**	**+1.6**
MIPR	**Malaya Ipel'ka**	**5.68**	**232**	*e*P	**Pn**	**10 48 37.4**	**+1.6**
PAU	**Pauzhetka**	**6.24**	**226**	PN	**Pn**	**10 48 44.1**	**+0.6**
PAU	**Pauzhetka**	**6.24**	**226**	*e*P	**Pn**	**10 48 44.1**	**+0.6**
KMSK	**Kamenskaya**	**6.59**	**9**	PN	**Pn**	**10 48 44.8**	**-3.4**
KMSK	**Kamenskaya**	**6.59**	**9**	*e*P	**Pn**	**10 48 44.8**	**-3.4**
SKR	**Severo-Kuril's**	**7.13**	**225**	*e*PN	**Pn**	**10 48 55.0**	**-0.7**
SKR				pmax	pmax		
	comp=Z,34nm,0.5s						
NIKH	**Nikolski High**	**15.99**	**90**		**P**	**10 51 03.2**	**+3.9**
YSS	**Yuzh-Sakhalins**	**16.00**	**245**	*i* P	**Pn**	**10 50 54.8**	**-1.4**
YSS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AKUT	**Akutan**	**17.32**	**84**		**P**	**10 51 18.8**	**+4.8**
JKA	**Kamikawa-asahi**	**18.10**	**238**	P	**Pn**	**10 51 22.2**	**-0.3**
JKA				IAmb	IAmb	10 51 34.1	
	comp=Z,27nm,0.8s						
ASAJ	**Asahikawa**	**18.10**	**238**	P	**Pn**	**10 51 22.0**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=54,slow=7.4,SNR=7.8						
YAK	**Yakutsk**	**18.53**	**303**	*e*P	**Pn**	**10 51 27.9**	**+0.3**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
RDOG	**Red Dog Mine**	**19.34**	**38**		**Pn**	**10 51 39.4**	**+2.0**
KLR	**Kul'dur**	**20.61**	**264**	*i* P	Pn	10 51 52.8	+0.4
KLR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TTA	**Tatalina**	**21.14**	**55**	P	**P**	**10 51 58.9**	**+3.0**
TIXI	**Tiksi**	**21.55**	**330**	*i* P	**P**	**10 52 01.5**	**+1.5**
TIXI	**Tiksi**	**21.55**	**330**		**P**	**10 51 58.3**	**-1.7**
A21K	**Barrow**	**22.61**	**32**	P	**P**	**10 52 12.6**	**+1.2**
A21K				IAmb	IAmb	10 52 19.7	
	comp=Z,15nm,0.8s						
RSO	**Redoubt South**	**22.85**	**61**	P	**P**	**10 52 19.4**	**+5.1**
SKT	**Skwentna**	**23.27**	**57**	P	**P**	**10 52 22.4**	**+4.2**
BPAW	**Bear Paw Mtn.**	**23.40**	**51**	P	**P**	**10 52 22.1**	**+2.6**
BPAW				IAmb	IAmb	10 52 25.8	
	comp=Z,39nm,1.5s						
KTH	**Kantishna Hill**	**23.44**	**53**	P	**P**	**10 52 22.7**	**+2.7**
KDAK	**Kodiak Island**	**23.46**	**68**	P	P	10 52 12.9	-7.3
	comp=Z,17nm,1.2s,baz=274,slow=14,SNR=1.6						
USRK	**Ussuriysk Ar.**	**23.48**	**253**	P	**P**	**10 52 20.6**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=54,slow=12,SNR=1.9						
CNPM	**China Poot**	**23.76**	**63**	P	**P**	**10 52 26.2**	**+3.2**
CNPM				IAmb	IAmb	10 52 52.4	
	comp=Z,23nm,1.0s						
COLD	**Coldfoot**	**23.85**	**44**	P	**P**	**10 52 25.5**	**+1.7**
TOLK	**Toolik Lake Re**	**24.26**	**40**	P	**P**	**10 52 26.1**	**-1.6**
TOLK				IAmb	IAmb	10 52 34.3	
	comp=Z,16nm,0.8s						
GHO	**Glory Hole Cre**	**24.52**	**57**	P	**P**	**10 52 30.9**	**+0.8**
GHO				IAmb	IAmb	10 52 39.2	
	comp=Z,16nm,0.9s						
SEW	**Seward**	**24.54**	**61**	P	**P**	**10 52 32.7**	**+2.6**
SEW				IAmb	IAmb	10 52 35.5	
	comp=Z,27nm,1.1s						
MDM	**Murphy Dome**	**24.57**	**49**	P	**P**	**10 52 31.0**	**+0.5**
TCOL	**CIGO, UAF Yank**	**24.73**	**49**	P	**P**	**10 52 34.7**	**+2.8**
TCOL				IAmb	IAmb	10 52 38.7	
	comp=Z,19nm,1.1s						
COLA	**College**	**24.74**	**49**	P	**P**	**10 52 34.8**	**+2.9**
COLA				pmax	pmax		
	comp=Z,24nm,1.2s						
COLA	**College**	**24.74**	**49**	P	**P**	**10 52 34.8**	**+2.9**
COLA				IAmb	IAmb	10 52 38.7	
	comp=Z,24nm,1.1s						
CCB	**Clear Creek Bu**	**24.77**	**50**		**P**	**10 52 31.2**	**-1.0**
CCB				IAmb	IAmb	10 52 38.5	
	comp=Z,18nm,0.8s						
KNK	**Knik Glacier**	**24.79**	**58**	P	**P**	**10 52 34.4**	**+1.9**
JSD	**Sado**	**24.90**	**235**	P	**P**	**10 52 30.6**	**-3.0**
HDA	**Harding Lake**	**25.15**	**50**	P	**P**	**10 52 35.6**	**0.0**
HDA				IAmb	IAmb	10 52 41.5	
	comp=Z,12nm,0.7s						
IL31		**25.15**	**50**	P	**P**	**10 52 36.2**	**+0.5**
ILAR	**Eielson Array**	**25.15**	**50**	P	**P**	**10 52 30.6**	**-5.2**
	comp=Z,1.8nm,0.8s,baz=263,slow=8.0,SNR=16						
ILAR	**Eielson Array**	**25.15**	**50**	P	**P**	**10 52 35.6**	**-0.1**
PRP	**Porcupine Dome**	**25.69**	**48**	P	**P**	**10 52 43.5**	**+2.7**
PRP				IAmb	IAmb	10 52 46.7	
	comp=Z,14nm,0.8s						
FYU	**Fort Yukon**	**25.78**	**45**		**P**	**10 52 43.4**	**+2.0**
FYU				IAmb	IAmb	10 52 50.4	
	comp=Z,9.1nm,0.8s						
KLU	**Klutina**	**25.98**	**57**	P	**P**	**10 52 46.8**	**+3.5**
KLU				IAmb	IAmb	10 52 49.2	
	comp=Z,15nm,0.8s						
BMAR	**Burnt Mountain**	**26.04**	**43**	P	**P**	**10 52 46.5**	**+2.7**
MJA0	**Matsu Arr-Jizo**	**26.13**	**233**	*e*P	**P**	**10 52 47.7**	**+2.8**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAJO	**Matsushiro**	**26.15**	**233**	*i* P	**P**	**10 52 44.5**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,45nm,2.5s						
MAT	**Matsushiro**	**26.15**	**233**	P	**P**	**10 52 44.5**	**-0.5**
MJAR	**Matsushiro Arr**	**26.15**	**233**	P	**P**	**10 52 44.4**	**-0.6**
	comp=Z,3.8nm,0.6s,baz=31,slow=8.1,SNR=11						
MJAR				LR	LR	11 03 02.5	
	comp=Z,89nm,19.4s,baz=295,slow=36						
N25K	**Chitina, Valde**	**26.58**	**57**	P	**P**	**10 52 52.3**	**+3.6**
N25K				IAmb	IAmb	10 52 54.0	
	comp=Z,14nm,0.7s						
EGAK	**Eagle**	**27.60**	**49**		**P**	**10 53 00.3**	**+2.6**
EGAK				IAmb	IAmb	10 53 02.4	
	comp=Z,14nm,0.8s						
DAWY	**Dawson**	**28.46**	**50**	P	**P**	**10 53 09.4**	**+3.8**
BCPM	**Bancas Point**	**29.35**	**59**	P	**P**	**10 53 16.3**	**+3.0**
INK	**Inuvik**	**30.16**	**41**	P	P	10 53 16.4	-4.0
	comp=Z,1.2nm,0.7s,baz=293,slow=5.8,SNR=5.1						
INK	**Inuvik**	**30.16**	**41**	P	**P**	**10 53 20.3**	**-0.1**
KSRS	**Korea Array**	**30.45**	**248**	P	**P**	**10 53 23.5**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=41,slow=9.3,SNR=1.8						
DLBC	**Dease Lake**	**34.50**	**58**	P	P	10 53 54.4	-4.3
	comp=Z,4.7nm,0.9s,baz=288,slow=8.9,SNR=9.5						
DLBC	**Dease Lake**	**34.50**	**58**	P	**P**	**10 53 59.2**	**+0.6**
TLY	**Talaya**	**34.91**	**289**	LR	LR	11 08 26.4	
	comp=Z,121nm,19.2s,baz=38,slow=36						
SONM	**Songino Array**	**35.53**	**282**	P	**P**	**10 54 07.2**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=60,slow=8.1,SNR=9.8						
SONM	**Songino Array**	**35.53**	**282**	P	**P**	**10 54 06.7**	**-1.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**35.53**	**282**	P	**P**	**10 54 06.7**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**36.27**	**175**	T	T	11 32 06.2	
	baz=357,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**36.28**	**175**	T	T	11 32 08.7	
	baz=357,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**36.28**	**175**	T	T	11 32 09.1	
	baz=357,slow=76,SNR=718						
H11S1	**WAKE ISLAND Hy**	**37.47**	**176**	T	T	11 33 40.0	
	baz=359,slow=74						
H11S3	**WAKE ISLAND Hy**	**37.49**	**176**	T	T	11 33 50.4	
	baz=359,slow=74						
H11S2	**WAKE ISLAND Hy**	**37.49**	**176**	T	T	11 33 44.2	
	baz=359,slow=74						
EUNU	**Eureka**	**38.56**	**15**	P	**P**	**10 54 32.7**	**-0.3**
YKA	**Yellowknife Ar**	**39.48**	**46**	P	P	10 54 36.5	-4.2
	comp=Z,0.5nm,0.5s,baz=301,slow=7.6,SNR=9.8						
RES	**Resolute Bay**	**39.75**	**24**	P	**P**	**10 54 40.1**	**-2.8**
	comp=Z,0.9nm,0.7s,baz=312,slow=8.4,SNR=8.1						
RES	**Resolute Bay**	**39.75**	**24**	P	**P**	**10 54 43.4**	**+0.5**
RES				IAmb	IAmb	10 54 49.5	
	comp=Z,4.6nm,0.8s						
DGZ	**Jazzator, Alta**	**44.48**	**296**	*i* P	**P**	**10 55 20.9**	**-1.0**
DGZ				pmax	pmax		
	comp=Z,8.0nm,2.5s						
DAG	**Danmarks Havn**	**47.49**	**1**	*i* P	**P**	**10 55 45.4**	**+0.3**
DAG				*i*		10 55 51.7	
DAG	**Danmarks Havn**	**47.49**	**1**	*i* P	**P**	**10 55 45.4**	**+0.3**
DAG	**Danmarks Havn**	**47.49**	**1**	*i* P	**P**	**10 55 45.5**	**+0.3**
DAG				*i*		10 55 51.7	
YBH	**Yreka Blue Hor**	**47.94**	**75**	P	P	10 55 44.1	-5.0
	comp=Z,0.9nm,0.9s,baz=343,slow=14,SNR=2.2						
JTMT	**Jette**	**48.29**	**63**	P	**P**	**10 55 54.4**	**+2.6**
MK31	**Makanchi Array**	**48.98**	**296**	P	**P**	**10 55 54.4**	**-2.6**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**48.98**	**296**	P	**P**	**10 55 54.4**	**-2.6**
MKAR	**Makanchi Array**	**48.98**	**296**	P	**P**	**10 55 55.1**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=57,slow=6.0,SNR=16						
MKAR	**Makanchi Array**	**48.98**	**296**	P	**P**	**10 55 54.5**	**-2.5**
MKAR	**Makanchi Array**	**48.98**	**296**	P	**P**	**10 55 54.5**	**-2.5**
DBG	**Daneborg**	**49.95**	**2**	*i* P	**P**	**10 56 02.4**	**-1.6**
DBG				*i*		10 56 10.3	
BRVK	**Borovoye**	**50.41**	**309**	P	**P**	**10 56 07.2**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**50.41**	**309**	P	**P**	**10 56 07.2**	**-0.6**
BRVK				IAmb	IAmb	10 56 22.8	
	comp=Z,4.6nm,0.7s						
SUMG	**Summit**	**50.77**	**9**	*i* P	**P**	**10 56 09.1**	**-1.6**
SUMG				*i*		10 56 17.3	
SUMG	**Summit**	**50.77**	**9**	*i* P	**P**	**10 56 09.1**	**-1.6**
SUMG				*i*		10 56 17.3	
SUMG	**Summit**	**50.77**	**9**		**P**	**10 56 12.2**	**+1.5**
SUMG	**Summit**	**50.77**	**9**	*i* P	**P**	**10 56 09.2**	**-1.6**
SUMG				*i*		10 56 17.3	
ARCES	**ARCESS Array B**	**51.23**	**343**	P	**P**	**10 56 13.2**	**-0.5**
	comp=Z,4.2nm,0.9s,baz=30,slow=9.7,SNR=1.2						
ELK	**Elko**	**52.65**	**71**	P	P	10 56 21.3	-3.6
	comp=Z,0.2nm,0.4s,baz=340,slow=12,SNR=1.6						
NVAR	**Mina Array Bea**	**52.67**	**75**	P	P	10 56 20.9	-4.2
	comp=Z,0.3nm,0.7s,baz=305,slow=6.7,SNR=3.0						
ARU	**Arti**	**52.81**	**318**	*e*P	**P**	**10 56 25.1**	**-0.5**
ARU				S	**S**	**11 03 49.8**	**-2.0**
ARU				SS	**SS**	**11 07 35.6**	**+5.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ICESG	**Greenland Ices**	**54.03**	**10**	*e*P	**P**	**10 56 34.8**	**-0.1**
ICESG				*i*		10 56 40.9	
PDAR	**Pinedale Array**	**54.15**	**65**	P	P	10 56 30.6	-5.3
	comp=Z,0.4nm,0.6s,baz=325,slow=4.6,SNR=1.2						
SPR3	**Spring Creek 3**	**54.39**	**71**	IAmb	IAmb	10 57 00.1	
	comp=Z,3.4nm,0.9s						
TPNV	**Topopah Spring**	**54.86**	**75**	P	**P**	**10 56 41.6**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TPNV	**Topopah Spring**	**54.86**	**75**	P	**P**	**10 56 41.6**	**+0.5**
TPNV				IAmb	IAmb	10 57 08.9	
	comp=Z,5.5nm,1.2s						
PSUT	**Pine Spring**	**54.98**	**72**	P	**P**	**10 56 44.9**	**+2.9**
PRN	**Pahroc Range**	**55.17**	**73**	IAmb	IAmb	10 56 54.8	
	comp=Z,3.0nm,0.7s						
AAK	**Ala-Archa**	**55.84**	**297**	LR	LR	11 21 42.1	
	comp=Z,414nm,18.9s,baz=313,slow=37						
AAK	**Ala-Archa**	**55.84**	**297**	*i* P	**P**	**10 56 47.8**	**-0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KK31	**Karatay Array**	**57.47**	**300**	P	**P**	**10 56 58.1**	**-1.4**
KK31				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KK31	**Karatay Array**	**57.47**	**300**	P	**P**	**10 56 58.1**	**-1.4**
KK31				IAmb	IAmb	10 57 10.1	
	comp=Z,4.9nm,1.0s						
KKAR	**Karatay Array**	**57.47**	**300**	P	**P**	**10 56 57.4**	**-2.0**
KKAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KKAR	**Karatay Array**	**57.47**	**300**	P	**P**	**10 56 57.4**	**-2.0**
KKAR	**Karatay Array**	**57.47**	**300**	P	**P**	**10 56 58.2**	**-1.2**
KKAR				IAmb	IAmb	10 57 10.1	
	comp=Z,4.9nm,1.0s						
ABKAR	**Akbulak array**	**57.65**	**311**	P	**P**	**10 56 59.2**	**-1.4**
ABKAR				IAmb	IAmb	10 57 10.2	
	comp=Z,3.1nm,0.6s						
ABKAR	**Akbulak array**	**57.65**	**311**	P	**P**	**10 57 00.3**	**-0.2**
FINES	**FINESS Array B**	**58.34**	**338**	P	**P**	**10 57 04.1**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=19,slow=8.8,SNR=1.6						
UTTA	**Uttaradit**	**60.69**	**258**	P	P	10 57 33.0	+11
CM35	**Chiang Mai Arr**	**60.71**	**260**	P	P	10 57 32.0	+10
CM33	**Chiang Mai Arr**	**60.71**	**260**	P	P	10 57 31.0	+8.8
CMMT	**Chiang Mai**	**60.71**	**260**	P	P	10 57 31.6	+9.4
CM36	**Chiang Mai Arr**	**60.87**	**260**	P	P	10 57 33.0	+10
CMAR	**Chiang Mai Arr**	**61.00**	**260**	P	**P**	**10 57 23.9**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=13,slow=7.6,SNR=7.0						
CM02	**Chiang Mai Arr**	**61.02**	**260**	P	P	10 57 36.0	+12
CM04	**Chiang Mai Arr**	**61.03**	**260**	P	P	10 57 35.4	+11
CM05	**Chiang Mai Arr**	**61.05**	**260**	P	P	10 57 35.5	+11
OBN	**Obninsk**	**61.28**	**329**	*i* P	**P**	**10 57 29.7**	**+4.2**
OBN				*e*		10 58 07.7	
OBN				*e*		10 59 46.2	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NB2	**NORSAR Subarra**	**61.36**	**345**	P	**P**	**10 57 27.8**	**+1.7**
	comp=Z,5.3nm,0.7s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**61.36**	**345**	P	**P**	**10 57 24.3**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=18,slow=6.9,SNR=2.1						
MNK	**Minsk**	**64.18**	**333**	*i* P	**P**	**10 57 46.2**	**+1.3**
	comp=E,4.0nm,0.9s						
MNK				*i* P	**P**	**10 57 46.2**	**+1.3**
	comp=N,21nm,0.7s						
MNK				*i* P	**P**	**10 57 46.2**	**+1.3**
	comp=Z,16nm,0.9s						
MNK				*i* PcP	**PcP**	**10 58 19.9**	**+0.3**
MNK				*i* PP	**PP**	**11 00 08.4**	**+2.9**
MNK				*i* PPP	PPP	11 01 40.0	
MNK				*i* S	**S**	**11 06 19.0**	**-0.8**
MNK				*i* ScS	**SKKSac**	**11 07 34.9**	**-1.4**
MNK				*i* SS	**SS**	**11 10 30.5**	**+2.3**
MNK				*i* SSS	SSS	11 13 45.9	
MNK				*i* LR	LR	11 26 17.5	
MNK				*i* LRM	MLR	11 28 21.5	
	comp=Z,68nm,9.1s						
MNK				*i* LRM	MLR	11 28 25.0	
	comp=E,18nm,16.3s						
MNK				*i* LRM	MLR	11 28 25.0	
	comp=N,182nm,17.2s						
GDL2	**Guadalupe Moun**	**64.82**	**69**	P	**P**	**10 57 49.3**	**-0.2**
CLNB	**Carlsbad**	**65.02**	**69**	P	**P**	**10 57 51.7**	**+0.8**
AKASG	**Malin Array Be**	**67.26**	**331**	P	**P**	**10 58 03.7**	**-1.1**
	comp=N,0.4nm,0.4s,baz=28,slow=6.5,SNR=2.0						
GEYT	**Alibeck**	**67.40**	**305**	P	**P**	**10 58 06.1**	**+0.2**
	comp=N,0.9nm,0.4s,baz=16,slow=7.5,SNR=1.6						
TXAR	**Lajitas Array**	**67.44**	**71**	P	P	10 58 01.7	-4.7
	comp=N,0.3nm,0.6s,baz=305,slow=4.8,SNR=3.1						
TXAR	**Lajitas Array**	**67.44**	**71**	P	**P**	**10 58 07.3**	**+0.9**
KBZ	**Khabaz**	**68.96**	**318**	P	**P**	**10 58 16.0**	**+0.5**
	comp=N,1.3nm,0.8s,baz=263,slow=7.4,SNR=3.5						
KBZ	**Khabaz**	**68.96**	**318**	P	**P**	**10 58 16.0**	**+0.5**
BRTR	**Keskin Array B**	**75.78**	**323**	P	**P**	**10 58 56.1**	**-0.4**
	comp=N,0.8nm,0.8s,baz=18,slow=5.2,SNR=1.7						
GAZ	**Gaziantep**	**76.79**	**319**	P	**P**	**10 59 01.8**	**-0.4**
WRA	**Warramunga Arr**	**79.71**	**208**	P	**P**	**10 59 15.7**	**-2.6**
	comp=N,1.3nm,0.8s,baz=21,slow=6.1,SNR=6.9						
ASAR	**Alice Springs**	**83.38**	**208**	P	**P**	**10 59 35.6**	**-1.9**
	comp=N,1.5nm,0.9s,baz=11,slow=5.7,SNR=9.4						
ASAR	**Alice Springs**	**83.38**	**208**	P	**P**	**10 59 34.3**	**-3.3**
ASAR	**Alice Springs**	**83.38**	**208**	P	**P**	**10 59 34.3**	**-3.3**
QSPA	**South Pole Qui**	**145.74**	**180**	PKPbc	**PKPdf**	**11 06 43.6**	**-3.9**
	comp=N,2.5nm,0.9s,baz=65,slow=3.3,SNR=5.7						

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*IDC **09** 10:48:55.6±1.1, 35.98N×97.59W, h0km, mb1 3.5/5, mb1mx3.3/48, mbtmp3.2/5, ML3.4/4, Error ellipse: s-maj=17.3km s-min=11.8km az=124.0*
*TUL **09** 10:48:57±0.0, 35.82N×97.44W, h5km, ML3.3, mb_Lg3.3/136(NEIC), Mwr3.1/8(SLM), Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*
*NEIC **09** 10:48:57.2±1.2, 35.84N±0.01×97.45W±0.02, h5km±2km, Error ellipse: s-maj=3.2km s-min=3.1km az=93.0*
*ANF **09** 10:48:57.1±0.2, 35.82N×97.46W, h5km, ML3.8/16, Error ellipse: s-maj=4.0km s-min=3.2km az=172.0*
*NEIC **09** 10:48:57.2, 35.85N×97.44W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}=3.59; $M_{\theta\theta}$=6.41; $M_{\phi\phi}$=2.81; $M_{r\theta}$=0.56; $M_{r\phi}$=0.58; $M_{\theta r}$=3.18; Fault plane solution: M_0=6.46000×10^{13} NP1:φ_0=53.00000°, δ=56.00000°, λ=-143.00000°. NP2:φ_0=300.00000°, δ=60.00000°, λ=-40.00000°. Principal axes: T 6.4581, Plg2.0000°, Azm357.0000°; N -0.0002, Plg42.0000°, Azm89.0000°; P -6.4579, Plg48.0000°, Azm265.0000°;*

ISC 09 10:48:57.2±0.9, 35.84N±0.02×97.44W±0.03, h6km±7km, n115, σ0.975/95, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.04**	**198**		**Pg**	**10 48 58.2**	**-0.2**
OK029				Sg	**Sg**	**10 48 59.1**	**-0.3**
BCOK	**Bluff Creek, N**	**0.23**	**218**		**Pg**	**10 49 01.5**	**-0.1**
BCOK				Sg	**Sg**	**10 49 04.8**	**+0.2**
OK009	**Oakdale Elemen**	**0.25**	**177**		**Pg**	**10 49 02.0**	**-0.1**
OK025	**Westminster Rd**	**0.27**	**162**		**Pg**	**10 49 02.3**	**0.0**
OK025				Sg	**Sg**	**10 49 06.0**	**+0.1**
OKCFA	**Oklahoma City**	**0.42**	**181**	Pg	**Pg**	**10 49 05.0**	**-0.2**
OKCFA				Sg	**Sg**	**10 49 10.9**	**+0.2**
OKCSW	**OKLAHOMA CITY**	**0.43**	**180**		**Pg**	**10 49 05.2**	**-0.3**
OK031	**S. Brethren Rd**	**0.50**	**76**		**Pg**	**10 49 06.9**	**+0.1**
OK031				Sg	**Sg**	**10 49 13.8**	**+0.4**
FNO	**Franklin**	**0.58**	**177**		**Pg**	**10 49 08.3**	**+0.1**
QUOK	**Quay**	**0.68**	**60**		**Pg**	**10 49 10.2**	**0.0**
QUOK				Sg	**Sg**	**10 49 19.5**	**+0.3**
CROK	**Carrier**	**0.80**	**327**	Pg	**Pg**	**10 49 12.5**	**-0.1**
GC02	**Grant County #**	**1.07**	**342**		**Pg**	**10 49 17.2**	**-0.5**
GC02				Sg	**Sb**	**10 49 32.1**	**-0.3**
OK032	**Salt Plains WL**	**1.15**	**327**		**Pg**	**10 49 18.6**	**-0.6**
KAN13	**South Haven SW**	**1.18**	**358**		**Pg**	**10 49 19.3**	**-0.5**
KAN13				Sg	**Sb**	**10 49 35.7**	**+0.3**
KAN14	**Manchester OK**	**1.20**	**339**		**Pg**	**10 49 19.4**	**-0.7**
KAN14				Sn	**Sg**	**10 49 35.3**	**-0.4**
KAN09	**Caldwell North**	**1.31**	**354**		**Pn**	**10 49 21.5**	**-0.5**
T35A	**Sooner Cattle**	**1.31**	**34**		**Pn**	**10 49 21.4**	**-0.7**
T35B	**Sooner Cattle**	**1.

ABTX	**Abilene, Hawle**	**3.69**	**210**	Pn		**Pn**		**10 49 54.5**	**-0.3**
ABTX	**Abilene, Hawle**	**3.69**	**210**	P		**Pn**		**10 49 54.5**	**-0.3**
	baz=29,SNR=18								
ABTX	**Abilene, Hawle**	**3.69**	**210**	P				10 49 54.2	
	baz=29,SNR=13								
ABTX				Sb				10 50 49.5	
	baz=29								
ABTX	**Abilene, Hawle**	**3.69**	**210**	P				10 49 54.5	
	baz=29,SNR=18								
U40A	**Yellville**	**3.75**	**81**	Pn		**Pn**		**10 49 56.4**	**+0.8**
U40A				lAmb_Lg				10 51 01.0	
	comp=Z,57nm,0.8s								
U40A	**Yellville**	**3.75**	**81**	P				10 49 56.0	
	baz=264,SNR=11								
U40A				Sb				10 50 53.2	
	baz=264								
S39A	**Bolivar**	**3.79**	**60**			**Pn**		**10 49 56.3**	**+0.2**
S39A				lAmb_Lg				10 51 02.7	
	comp=Z,80nm,0.7s								
S39A	**Bolivar**	**3.79**	**60**	P		**Pn**		**10 49 56.5**	**+0.4**
	baz=242,SNR=13								
S39A	**Bolivar**	**3.79**	**60**	P				10 49 56.5	
	baz=242,SNR=13								
WHTX	**Lake Whitney,**	**3.83**	**180**			**Pn**		**10 49 56.8**	**0.0**
WHTX				lAmb_Lg				10 51 05.7	
	comp=Z,46nm,0.7s								
WHTX	**Lake Whitney,**	**3.83**	**180**	P		**Pn**		**10 49 56.2**	**-0.6**
	baz=0.1,SNR=8.6								
WHTX	**Lake Whitney,**	**3.83**	**180**	P				10 49 56.3	
	baz=0.1,SNR=11								
WHTX				S				10 50 41.4	
	baz=0.1								
WHTX	**Lake Whitney,**	**3.83**	**180**	P				10 49 56.2	
	baz=0.1,SNR=8.6								
X40A	**Basin Creek Fa**	**4.00**	**108**			**Pn**		**10 49 59.8**	**+0.7**
X40A				lAmb_Lg				10 51 12.9	
	comp=Z,73nm,0.8s								
X40A	**Basin Creek Fa**	**4.00**	**108**	P				10 49 59.2	
	baz=291,SNR=8.0								
237A	**Washetta, Mont**	**4.06**	**160**	Pn		**Pn**		**10 49 58.8**	**-1.0**
237A				lAmb_Lg				10 51 07.9	
	comp=Z,41nm,0.7s								
WLAR	**White Oak Lake**	**4.16**	**120**	lAmb_Lg				10 51 16.2	
	comp=Z,45nm,0.7s								
WHAR	**Wooly Hollow**	**4.23**	**96**			**Pn**		**10 50 03.0**	**+0.8**
WHAR				lAmb_Lg				10 51 14.6	
	comp=Z,93nm,0.9s								
W41B	**Gary Mavity, V**	**4.29**	**97**	P		**Pn**		**10 50 03.2**	**+0.3**
	baz=280,SNR=54								
W41B	**Gary Mavity, V**	**4.29**	**97**	P				10 50 03.3	
	baz=280,SNR=8.2								
W41B				S				10 50 53.2	
	baz=280								
W41B	**Gary Mavity, V**	**4.29**	**97**	P				10 50 03.2	
	baz=280,SNR=54								
FCAR	**Ozark Folk Cen**	**4.32**	**88**			**Pn**		**10 50 04.0**	**+0.6**
FCAR				lAmb_Lg				10 51 13.5	
	comp=Z,39nm,0.8s								
MGMO	**Mountain Grove**	**4.37**	**71**			**Pn**		**10 50 06.1**	**+2.0**
MGMO				lAmb_Lg				10 51 17.3	
	comp=Z,88nm,0.9s								
Z41A	**Richland Creek**	**4.61**	**123**	S				10 51 00.3	
	baz=305								
NATX	**Nacogdoches**	**4.68**	**150**	S				10 51 01.3	
	baz=331								
MSTX	**Muleshoe**	**4.76**	**249**	Pn		**Pn**		**10 50 09.6**	**0.0**
MSTX	**Muleshoe**	**4.76**	**249**	P				10 50 09.3	
	baz=65,SNR=11								
MSTX				Sb				10 51 22.9	
	baz=65								
R40A	**Maddies Statio**	**4.81**	**58**			**Pn**		**10 50 10.4**	**+0.3**
R40A				lAmb_Lg				10 51 30.3	
	comp=Z,44nm,0.8s								
R40A	**Maddies Statio**	**4.81**	**58**	P		**Pn**		**10 50 10.2**	**+0.1**
	baz=241,SNR=16								
R40A	**Maddies Statio**	**4.81**	**58**	P				10 50 10.2	
	baz=241,SNR=16								
P38A	**Dawn**	**4.89**	**38**	lAmb_Lg				10 51 45.5	
	comp=Z,63nm,0.8s								
CCAR	**Cane Creek**	**5.04**	**111**	Pn		**Pn**		**10 50 13.7**	**+0.4**
CCAR				lAmb_Lg				10 51 46.6	
	comp=Z,70nm,0.9s								
435B	**Jarrell**	**5.04**	**181**	S				10 51 10.3	
	baz=1.3								
LCAR	**Lake Charles**	**5.10**	**86**			**Pn**		**10 50 14.0**	**-0.2**
N35A	**Tabor**	**5.21**	**15**			**Pn**		**10 50 15.9**	**+0.2**
T42A	**Van Buren**	**5.25**	**75**	Pn		**Pn**		**10 50 17.1**	**+0.9**
T42A				lAmb_Lg				10 51 52.4	
	comp=Z,49nm,1.1s								
BGNE	**Belgrade**	**5.59**	**355**	Pn		**Pn**		**10 50 21.9**	**+0.9**
P40A	**Paris**	**5.65**	**48**			**Pn**		**10 50 22.7**	**+1.1**
P40A				lAmb_Lg				10 51 58.2	
	comp=Z,80nm,0.8s								
JCT	**Junction City**	**5.70**	**201**	Pn		**Pn**		**10 50 22.7**	**+0.3**
JCT	**Junction City**	**5.70**	**201**	P				10 50 22.3	
	baz=20								
PBMO	**Poplar Bluff**	**5.74**	**79**	lAmb_Lg				10 52 01.5	
	comp=Z,46nm,0.7s								
T25A	**Trinidad**	**5.77**	**285**			**Pn**		**10 50 23.4**	**0.0**
T25A	**Trinidad**	**5.77**	**285**	P				10 50 23.0	
	baz=101,SNR=5.1								
LPAR	**Lepanto**	**5.81**	**90**	lAmb_Lg				10 52 09.5	
	comp=Z,67nm,0.9s								
143A	**Socs Landing,**	**5.89**	**120**	lAmb_Lg				10 52 00.6	
	comp=Z,29nm,0.9s								
FVM	**French Village**	**6.01**	**67**	lAmb_Lg				10 52 14.6	
	comp=Z,35nm,0.8s								
PEBM	**Pemiscott Bayo**	**6.15**	**85**	lAmb_Lg				10 52 19.6	
	comp=Z,83nm,0.8s								
SDCO	**Great Sand Dun**	**6.74**	**289**	Pn		**Pn**		**10 50 38.1**	**+1.1**
SDCO	**Great Sand Dun**	**6.74**	**289**	P		**Pn**		**10 50 37.8**	**+0.8**
	baz=104,SNR=14								
SDCO	**Great Sand Dun**	**6.74**	**289**	P				10 50 37.6	
	baz=104,SNR=18								
SDCO	**Great Sand Dun**	**6.74**	**289**	P				10 50 37.8	
	baz=104,SNR=14								
W45A	**Hickory Valley**	**6.77**	**93**	lAmb_Lg				10 52 43.9	
	comp=Z,39nm,0.8s								
W45A	**Hickory Valley**	**6.77**	**93**	P		**Pn**		**10 50 36.9**	**-0.1**
	baz=278,SNR=6.2								
W45A	**Hickory Valley**	**6.77**	**93**	P				10 50 36.9	
	baz=278,SNR=6.2								
Y45A	**Yeager Farm, C**	**6.78**	**105**			**Pn**		**10 50 38.1**	**+0.9**
S44A	**Carbondale**	**6.83**	**72**	lAmb_Lg				10 52 36.8	
	comp=Z,65nm,0.9s								
SIUC	**Southern Illin**	**6.86**	**72**	lAmb_Lg				10 52 42.6	
	comp=Z,72nm,0.8s								
SCIA	**State Center**	**6.90**	**27**	lAmb_Lg				10 52 41.4	
	comp=Z,54nm,0.7s								
N41A	**Harden Midland**	**7.10**	**45**	lAmb_Lg				10 52 40.2	
	comp=Z,59nm,0.8s								
T45A	**Paducah**	**7.19**	**78**	lAmb_Lg				10 52 57.9	
	comp=Z,63nm,0.7s								
P43A	**Skaggs, Pawnee**	**7.33**	**56**			**Pn**		**10 50 45.5**	**+0.7**
ANMO	**Albuquerque**	**7.42**	**266**	Pn		**Pn**		**10 50 43.6**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=88,slow=15,SNR=2.7								
ANMO				Pg		**Pb**		**10 51 08.0**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=80,slow=16,SNR=6.2								
ANMO				Lg		Lg		10 52 45.7	
	comp=Z,0.8nm,0.3s,baz=349,slow=22,SNR=3.3								
ANMO	**Albuquerque**	**7.42**	**266**	lAmb_Lg				10 52 53.6	
	comp=Z,9.1nm,1.0s								
ISCO	**Idaho Springs**	**7.58**	**304**	Pn		**Pn**		**10 50 48.5**	**0.0**
ISCO	**Idaho Springs**	**7.58**	**304**	P		**Pn**		**10 50 48.3**	**-0.2**
	baz=119,SNR=8.8								
ISCO	**Idaho Springs**	**7.58**	**304**	P				10 50 48.3	
	baz=119								
ISCO	**Idaho Springs**	**7.58**	**304**	P				10 50 48.3	
	baz=119,SNR=8.8								
K38A	**Parkersburg**	**7.71**	**27**	lAmb_Lg				10 53 14.4	
	comp=Z,46nm,0.7s								
MNTX	**Cornudas Mount**	**7.79**	**240**	Pn		**Pn**		**10 50 50.7**	**-0.4**
MNTX	**Cornudas Mount**	**7.79**	**240**	P		**Pn**		**10 50 50.8**	**-0.4**
	baz=56,SNR=7.2								
MNTX	**Cornudas Mount**	**7.79**	**240**	P				10 50 50.4	
	baz=56								
MNTX	**Cornudas Mount**	**7.79**	**240**	P				10 50 50.8	
	baz=56,SNR=7.2								
L40A	**Anamosa**	**7.88**	**36**	Pn		**Pn**		**10 50 51.8**	**-0.5**
L40A				lAmb_Lg				10 53 09.8	
	comp=Z,42nm,1.0s								
HDIL	**Hopedale**	**7.96**	**51**	P				10 50 53.6	
	baz=236								
OLIL	**Olney**	**7.99**	**66**	lAmb_Lg				10 53 13.9	
	comp=Z,56nm,0.9s								
USIN	**University of**	**8.11**	**72**	lAmb_Lg				10 53 18.2	
	comp=Z,51nm,1.1s								
Z47A	**Carrollton**	**8.17**	**106**	lAmb_Lg				10 53 39.4	
	comp=Z,17nm,1.2s								
TXAR	**Lajitas Array**	**8.34**	**221**	Pn		**Pn**		**10 50 56.7**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=49,slow=12,SNR=15								
TXAR				Pg		Pb		10 51 28.5	+6.4
	comp=Z,0.7nm,0.3s,baz=45,slow=15,SNR=15								
TXAR				Lg		Lg		10 53 14.7	
	comp=Z,1.2nm,0.3s,baz=45,slow=23,SNR=4.0								
N23A	**Red Feather La**	**8.37**	**310**	P				10 50 59.9	
	baz=124								
T47A	**Sharon Grove**	**8.41**	**79**	lAmb_Lg				10 53 42.1	
	comp=Z,38nm,1.0s								
L42A	**Oliver, Polo**	**8.64**	**42**	lAmb_Lg				10 53 35.1	
	comp=Z,47nm,0.9s								
I37A	**Lemond, Waseca**	**8.74**	**20**	lAmb_Lg				10 53 54.7	
	comp=Z,30nm,0.9s								
P46A	**Rosedale**	**8.94**	**62**	lAmb_Lg				10 53 43.4	
	comp=Z,43nm,0.9s								
JFWS	**Jewell Farm**	**8.99**	**36**	P				10 51 07.6	
	baz=221								
WCI	**Wyandotte Cave**	**9.23**	**72**	lAmb_Lg				10 53 49.9	
	comp=Z,28nm,0.8s								
SFIN	**Lafayette**	**9.33**	**58**	lAmb_Lg				10 53 50.5	
	comp=Z,44nm,1.0s								
U49A	**Red Boiling Sp**	**9.45**	**82**	lAmb_Lg				10 54 04.4	
	comp=Z,16nm,1.1s								
PV16	**Nyswonger Mesa**	**9.50**	**288**	lAmb_Lg				10 54 06.4	
	comp=Z,16nm,1.2s								
HQIL	**Hanson Quary C**	**9.56**	**49**	lAmb_Lg				10 54 08.2	
	comp=Z,43nm,0.9s								
I40A	**Norwalk**	**9.60**	**31**	lAmb_Lg				10 54 07.1	
	comp=Z,26nm,1.0s								
W50A	**Signal Mountai**	**9.91**	**90**	lAmb_Lg				10 54 17.2	
	comp=Z,19nm,0.8s								
TKL	**Tuckaleechee C**	**11.11**	**87**	Pn		**Pn**		**10 51 36.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=274,slow=6.6,SNR=2.0								
TKL				Lg		Lg		10 54 39.0	
	comp=Z,0.3nm,0.3s,baz=322,slow=22,SNR=2.9								
PDAR	**Pinedale Array**	**11.66**	**310**	Pn		**Pn**		**10 51 42.9**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=119,slow=17,SNR=4.3								
PDAR				Pg				10 52 36.6	
	comp=Z,0.2nm,0.3s,baz=116,slow=17,SNR=5.8								
PDAR				Lg		Lg		10 55 00.2	
	comp=Z,0.2nm,0.3s,baz=113,slow=36,SNR=3.5								
ULM	**Lac du Bonnet**	**14.45**	**4**	Pn		Pn		10 52 14.1	-8.1
	comp=Z,0.1nm,0.3s,baz=194,slow=5.9,SNR=2.0								
ULM				Sn		Sn		10 54 44.5	-18
	comp=Z,0.1nm,0.3s,baz=161,slow=20,SNR=1.6								
ULM				Lg		Lg		10 56 17.6	
	comp=Z,0.1nm,0.3s,baz=90,slow=17,SNR=1.3								

IDC 09 11:00:38.8±1.2, 53°24'S×24°15'E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/38, mbtmp4.0/3, MS3.5/10, Ms1 3.5/10, ms1mx3.3/35, Error ellipse: s-maj=44.6km s-min=40.1km az=17.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.98**	**352**	LR	LR	11 12 18.0	
	comp=Z,114nm,18.6s,baz=172,slow=33						
SNAA	**Sanae**	**21.94**	**203**	P	P	11 05 33.6	+0.1
	7.6nm,1.1s,baz=46,slow=11,SNR=6.7						
SNAA				LR	LR	11 11 56.0	
	comp=Z,91nm,21.2s,baz=9.0,slow=31						
MAW	**Mawson**	**23.38**	**143**	LR	LR	11 13 06.4	
	comp=Z,67nm,20.4s,baz=212,slow=32						
BOSA	**Boshof**	**24.61**	**2**	LR	LR	11 13 44.5	
	comp=Z,143nm,20.1s,baz=170,slow=32						
LBTB	**Lobatse**	**28.20**	**3**	LR	LR	11 16 06.6	
	comp=Z,54nm,21.1s,baz=162,slow=33						
TSUM	**Tsumeb**	**34.35**	**349**	LR	LR	11 19 22.7	
	comp=Z,67nm,18.7s,baz=334,slow=33						
QSPA	**South Pole Qui**	**36.39**	**180**	LR	LR	11 21 52.6	
	comp=Z,73nm,21.4s,baz=247,slow=34						
LSZ	**Lusaka**	**38.01**	**6**	LR	LR	11 22 14.0	
	comp=Z,87nm,18.6s,baz=153,slow=34						
VNDA	**Vanda**	**46.90**	**168**	LR	LR	11 27 56.6	
	comp=Z,112nm,20.0s,baz=188,slow=35						
KMBO	**Kilima Mbogo**	**53.06**	**16**	LR	LR	11 31 11.7	
	comp=Z,52nm,19.6s,baz=90,slow=34						
ASAR	**Alice Springs**	**82.38**	**119**	P	P	11 13 02.3	-0.4
	1.0nm,0.9s,baz=198,slow=5.7,SNR=5.9						
WRA	**Warramunga Arr**	**85.66**	**118**	P	P	11 13 19.9	+0.4
	1.6nm,1.0s,baz=209,slow=3.7,SNR=5.8						
PDAR	**Pinedale Array**	**147.84**	**270**	PKPbc	PKPbc	11 20 24.6	-0.7
	0.2nm,0.6s,baz=134,slow=2.6,SNR=2.7						
NVAR	**Mina Array Bea**	**150.34**	**255**	PKPbc	PKPbc	11 20 31.3	-0.4
	0.6nm,1.0s,baz=160,slow=2.9,SNR=3.7						
YKA	**Yellowknife Ar**	**156.58**	**310**	PKPab	PKPab	11 21 03.0	-0.5
	0.2nm,0.6s,baz=89,slow=5.8,SNR=5.0						

*IDC **09** 11:02:53.3±0.8, 0°.91N×27°.51W, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/46, mbtmp4.0/11, ML4.0/1, MS3.6/11, Ms1 3.6/11, ms1mx3.4/40, Error ellipse: s-maj=27.7km s-min=20.0km az=146.0*

*NEIC **09** 11:02:55.2±1.8, 0°.7N±0°.1×27°.4W±0°.1, h10km±1km, mb4.6/12, Error ellipse: s-maj=21.5km s-min=14.8km az=139.0*

ISC 09 11:02:55.3±0.5, 0°.79N±0°.10×27°.42W±0°.10, h12km, n42, σ0°.99/29, mb4.2/14, MS3.5/10, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.73**	**232**	Pn	**Pn**	**11 05 27.8**	**-1.1**
	1.2nm,0.3s,baz=45,slow=22,SNR=23						
RCBR				Sn	Sn	11 07 16.7	-12
	0.4nm,0.3s,baz=40,slow=20,SNR=1.2						
RCBR				LR	LR	11 08 33.5	
	comp=Z,240nm,21.8s,baz=138,slow=32						
RCBR	**Riachuelo**	**10.73**	**232**	Pn	**Pn**	**11 05 28.1**	**-0.9**
RCBR				Sn	Sn	11 07 18.1	-11
SACV	**Santiago Islan**	**14.58**	**15**		**Pn**	**11 06 20.6**	**-1.1**
H10N3	**ASCENSION HYDR**	**15.47**	**124**	T	T	11 22 29.6	
	baz=303,slow=74,SNR=102						
H10N2	**ASCENSION HYDR**	**15.48**	**124**	T	T	11 22 33.9	
	baz=303,slow=74,SNR=151						
H10N1	**ASCENSION HYDR**	**15.49**	**124**	T	T	11 22 34.8	
	baz=303,slow=74,SNR=128						
H10S3	**ASCENSION HYDR**	**15.97**	**128**	T	T	11 23 07.3	
	baz=276,slow=74,SNR=148						
H10S2	**ASCENSION HYDR**	**15.99**	**128**	T	T	11 23 07.2	
	baz=304,slow=74,SNR=34						
DBIC	**Dimbokro**	**23.25**	**75**	P	**P**	**11 08 02.9**	**0.0**
	8.4nm,1.1s,baz=228,slow=8.2,SNR=4.7						
DBIC				LR	LR	11 16 02.4	
	comp=Z,67nm,19.2s,baz=229,slow=34						
DBIC	**Dimbokro**	**23.25**	**75**	P	**P**	**11 08 02.7**	**-0.1**
MDP	**Montagnes des**	**25.55**	**280**	LR	LR	11 16 34.7	
	comp=Z,55nm,18.3s,baz=90,slow=32						
BDFB	**Brasilia**	**26.09**	**230**	LR	LR	11 17 45.2	
	comp=Z,143nm,19.9s,baz=39,slow=34						
KOWA	**Kowa**	**26.84**	**58**	P	**P**	**11 08 35.6**	**-0.4**
	12nm,0.8s,baz=240,slow=6.7,SNR=19						
KOWA				LR	LR	11 17 34.9	
	comp=Z,196nm,18.8s,baz=192,slow=33						
KOWA	**Kowa**	**26.84**	**58**		**P**	**11 08 36.1**	**+0.1**
KOWA				lAmb	lAmb	11 08 39.6	
	comp=Z,12nm,0.8s						
TOA0	**Torodi Ar. Sit**	**31.34**	**66**	P	**P**	**11 09 16.6**	**+0.6**
TOA0				lAmb	lAmb	11 09 17.5	
	comp=Z,17nm,1.5s						
TORD	**Torodi Ar. Bea**	**31.34**	**66**	P	**P**	**11 09 16.4**	**+0.3**
	comp=Z,3.5nm,1.0s,baz=258,slow=7.4,SNR=6.7						
TORD				LR	LR	11 21 45.6	
	comp=Z,90nm,19.6s,baz=280,slow=36						
CPUP	**Villa Florida**	**39.49**	**225**	LR	LR	11 26 18.8	
	comp=Z,70nm,19.9s,baz=72,slow=36						
H09W1	**TRISTAN DA CUN**	**40.27**	**161**	T	T	11 53 22.0	
CBYP	**Canovanas**	**41.54**	**297**	P	**P**	**11 10 43.0**	**-0.1**
LPAZ	**La Paz**	**43.61**	**245**	LR	LR	11 28 51.5	
	comp=Z,102nm,18.8s,baz=46,slow=36						
GO02	**Mina Guanaco**	**48.26**	**235**	P	**P**	**11 11 37.4**	**+0.5**
KEST	**Kesra**	**48.72**	**40**	LR	LR	11 33 51.6	
	comp=Z,103nm,18.4s,baz=235,slow=38						
BO02	**Sierra Bellavi**	**53.81**	**224**	P	**P**	**11 12 19.9**	**+1.6**
BI02	**San Fabin de**	**55.14**	**223**	P	**P**	**11 12 27.7**	**-0.3**
BI02				lAmb	lAmb	11 12 30.1	
	comp=Z,6.1nm,0.8s						
LMN	**Caledonia Moun**	**55.59**	**329**	P	**P**	**11 12 32.2**	**+1.3**
LMN				lAmb	lAmb	11 12 38.0	
	comp=Z,10nm,1.1s						
SUR	**Sutherland**	**56.20**	**131**	P	**P**	**11 12 35.4**	**-0.4**
PLCA	**Paso Flores**	**56.94**	**218**	LR	LR	11 35 02.1	
	comp=Z,39nm,18.7s,baz=136,slow=34						
BATG	**Bathurst New B**	**57.19**	**330**	P	**P**	**11 12 44.4**	**+2.1**
LBTB	**Lobatse**	**57.32**	**121**	LR	LR	11 32 23.2	
	comp=Z,57nm,18.6s,baz=108,slow=31						
PKME	**Peaks-Kenny Pk**	**57.62**	**326**	P	**P**	**11 12 48.3**	**+3.0**
PKME				lAmb	lAmb	11 13 04.7	
	comp=Z,4.8nm,1.0s						
GERES	**GERESS Array B**	**59.47**	**30**	P	**P**	**11 12 57.5**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=232,slow=6.6,SNR=7.7						
GERES	**GERESS Array B**	**59.47**	**30**	P	**P**	**11 12 57.9**	**-0.4**
AKASG	**Malin Array Be**	**68.88**	**35**	P	**P**	**11 14 00.2**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=238,slow=6.9,SNR=5.9						
AKASG	**Malin Array Be**	**68.88**	**35**	lAmb	lAmb	11 14 01.2	
	comp=Z,2.4nm,0.8s						
SNAA	**Sanae**	**74.06**	**172**	P	**P**	**11 14 31.1**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=304,slow=11,SNR=1.8						
SNAA	**Sanae**	**74.06**	**172**	P	**P**	**11 14 30.6**	**-0.3**
KBZ	**Khabaz**	**75.31**	**45**	P	**P**	**11 14 38.4**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=321,slow=6.5,SNR=4.0						
TXAR	**Lajitas Array**	**77.63**	**300**	P	**P**	**11 14 51.1**	**-1.2**
	comp=Z,0.6nm,1.0s,baz=149,slow=5.3,SNR=4.6						
PDAR	**Pinedale Array**	**83.69**	**313**	P	**P**	**11 15 24.0**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=72,slow=8.6,SNR=2.3						
YKA	**Yellowknife Ar**	**88.00**	**332**	P	**P**	**11 15 45.2**	**0.0**
	comp=Z,0.1nm,0.8s,baz=91,slow=5.6,SNR=1.2						
ASAR	**Alice Springs**	**150.93**	**143**	PKPbc	**PKiKP**	**11 22 49.4**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=201,slow=2.2,SNR=7.9						
ASAR				PKPab	**PKPab**	**11 22 57.0**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=216,slow=3.0,SNR=9.1						
WRA	**Warramunga Arr**	**153.90**	**138**	PKPab	**PKPab**	**11 23 09.1**	**+0.3**
	comp=Z,0.8nm,1.1s,baz=216,slow=2.9,SNR=4.8						

*JMA **09** 11:05:02.9, 29°.29N×130°.48E, h47km±2km, M3.3*

*IDC **09** 11:05:04.3±1.7, 29°.40N×130°.27E, h50km±15km, mb3.5/9, mb1 3.6/12, mb1mx3.4/40, mbtmp3.7/12, ML3.1/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/28, Error ellipse: s-maj=25.7km s-min=10.1km az=112.0*

ISC 09 11:05:03.3±1.1, 29°.29N±0°.03×130°.50E±0°.06, h47km±11km, n32, σ1°.08/44, mb3.6/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.78**	**316**	P	**Pn**	**11 05 17.3**	**-0.7**
JNN				*eS*	**Sn**	**11 05 28.3**	**-0.3**
JYAK	**Yakushimahirau**	**0.95**	**1**	P	**Pn**	**11 05 20.0**	**-0.3**
JYAK				*eS*	**Sn**	**11 05 32.7**	**0.0**
JZK	**Kikaishima**	**1.07**	**206**	*eS*	**Sn**	**11 05 35.6**	**-0.1**
JTAJ	**Takarajima**	**1.14**	**264**	P	**Pn**	**11 05 22.9**	**+0.1**
JTAJ				*eS*	**Sn**	**11 05 37.2**	**-0.1**
JMTN	**Minamitane**	**1.16**	**17**	P	**Pn**	**11 05 23.1**	**-0.1**
JMTN				*eS*	**Sn**	**11 05 37.8**	**-0.1**
JAM	**Amami Oshima**	**1.17**	**222**	P	**Pn**	**11 05 23.2**	**-0.1**
JAM				*eS*	**Sn**	**11 05 38.3**	**+0.2**
JKC	**Kuchinoerabu**	**1.20**	**347**	P	**Pn**	**11 05 23.8**	**+0.1**
JKC				*eS*	**Sn**	**11 05 38.6**	**-0.3**
JTN	**Tanegashima 3**	**1.43**	**17**	P	**Pn**	**11 05 27.0**	**+0.2**
JTN				*eS*	**Sn**	**11 05 44.6**	**+0.2**
JAMN	**Amaminishikomi**	**1.56**	**229**	P	**Pn**	**11 05 28.3**	**-0.3**
JAMN				*eS*	**Sn**	**11 05 47.4**	**+0.2**
JTSR	**Tashiro 2**	**1.91**	**11**	P	**Pn**	**11 05 33.6**	**+0.2**
JTSR				*eS*	**Sn**	**11 05 56.8**	**+0.5**
JTK	**Tokunoshima**	**2.02**	**223**	P	**Pn**	**11 05 35.9**	**+1.0**
JTK				*eS*	**Sn**	**11 05 59.7**	**+0.7**
JSU	**Suzuyama**	**2.21**	**359**	P	**Pn**	**11 05 37.6**	**0.0**
JNAR	**Kushima--Naru**	**2.33**	**16**	P	**Pn**	**11 05 40.4**	**+1.2**
JNAR				*eS*	**Sn**	**11 06 08.8**	**+2.2**
JOKE	**Okinoerabujima**	**2.56**	**222**	P	**Pn**	**11 05 43.3**	**+1.0**
JYRO	**Yoronjima**	**2.89**	**219**	P	**Pn**	**11 05 47.1**	**+0.3**
JYRO				*eS*	**Sn**	**11 06 20.4**	**+0.1**
JOW	**Kunigami**	**3.14**	**219**	P	**Pn**	**11 05 50.6**	**+0.4**
	6.4nm,0.3s,baz=52,slow=27,SNR=1.8						
JOW				S	**Sn**	**11 06 26.9**	**+0.4**
	19nm,0.3s,baz=133,slow=29,SNR=2.3						
JOW	**Kunigami**	**3.14**	**219**	*eS*	**Sn**	**11 06 26.9**	**+0.4**
JIH	**Iheya**	**3.17**	**225**	P	**Pn**	**11 05 51.7**	**+1.1**
JKDJ	**Kitadaitoujima**	**3.40**	**168**	S	**Sn**	**11 06 28.5**	**-4.4**

KBN				AMP				
	comp=E,0.9nm,0.3s,baz=54							
IGT	**Igoumenitsa**	**0.80**	**155**	P	**Pb**	**11 38 02.2**	**-0.7**
IGT				S	**Sg**	**11 38 13.2**	**-0.1**
IGT				AML	AML	11 38 20.9	
	comp=N,796µm,0.3s						
IGT				AML	AML	11 38 21.3	
	comp=E,627µm,0.3s						
IGT	**Igoumenitsa**	**0.80**	**155**	P	**Pb**	**11 38 02.4**	**-0.5**
IGT				S	**Sg**	**11 38 14.8**	**+1.5**
IGT	**Igoumenitsa**	**0.80**	**155**	*i* Pg	**Pb**	**11 38 02.4**	**-0.5**
IGT				*i* Sg	**Sg**	**11 38 16.0**	**+2.7**
NEST	**Nestorio**	**0.89**	**79**	P	**Pb**	**11 38 03.9**	**-0.7**
NEST	**Nestorio**	**0.89**	**79**	P	**Pn**	**11 38 04.3**	**-1.2**
NEST				S	**Sn**	**11 38 17.8**	**-0.4**
	comp=E,160nm,0.6s						
JAN	**Janina**	**0.94**	**129**	P	**Pb**	**11 38 05.4**	**0.0**
JAN	**Janina**	**0.94**	**129**	P	**Pb**	**11 38 05.8**	**+0.3**
JAN				S	**Sg**	**11 38 21.1**	**+3.0**
PENT	**Pentalofos**	**0.95**	**93**	P	**Pg**	**11 38 05.4**	**-0.4**
PENT	**Pentalofos**	**0.95**	**93**	P	**Pn**	**11 38 06.0**	**-0.3**
TIR	**Tirane**	**1.09**	**359**	P	Pn	11 38 11.7	+3.5
	baz=356						
TIR	**Tirane**	**1.09**	**359**	*i* Pg	Pn	11 38 12.7	+4.6
OHR	**Ohrid**	**1.09**	**38**	*i* Pg	**Pn**	**11 38 10.1**	**+1.9**
OHR				*i* Sg	Sn	11 38 28.7	+5.6
OHR				*e*Lg	Lg	11 38 28.9	
	comp=N,45nm,0.4s						
KPRO	**Kipourio**	**1.16**	**104**	P	**Pn**	**11 38 09.2**	**0.0**
KPRO				S	**Sg**	**11 38 26.6**	**+1.6**
	comp=N,380nm,0.5s						
FNA	**Florina**	**1.24**	**64**	P	**Pg**	**11 38 11.6**	**+0.3**
FNA	**Florina**	**1.24**	**64**	*i* Pg	**Pg**	**11 38 11.7**	**+0.4**
PHP	**Peshkopia**	**1.49**	**16**	P	Pg	11 38 18.8	+2.9
	baz=12						
PUK	**Puka**	**1.79**	**360**	P	Pg	11 38 23.1	+1.4
	baz=358						
LIT	**Litokhoron**	**1.99**	**94**	*i* Pn	**Pg**	**11 38 24.8**	**-0.8**
GRG	**Griva**	**2.03**	**69**	*i* Pn	**Pg**	**11 38 25.3**	**-1.0**
PRZK	**Prizren**	**2.06**	**18**	*i* Pn	**Pg**	**11 38 26.7**	**-0.2**
VAY	**Valandovo**	**2.29**	**61**	*i* Pn	**Pg**	**11 38 30.7**	**-0.6**

*IDC **09** 11:47:37.7±1.8, 0.°81N×97.°14E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.4/47, mbtmp3.5/8, ML2.4/1, Error ellipse: s-maj=52.8km s-min=22.6km az=58.0*
*DJA **09** 11:47:42.9±2.1, 1.°1N±1.°2, h28km±7km, M3.1/6, MLv3.1/6*
ISC 09 11:47:42.0±1.2, **0.°96N**±0.°09×**97.°24E**±0.°10, **h25**km, **n17**, σ0s**57**/13, **mb3.6/6, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.48**	**45**	P	**Pn**	**11 47 53.1**	**-0.2**
GSI				S	**Sn**	**11 48 00.4**	**-0.5**
TPTI		**2.28**	**358**	P	**Pn**	**11 48 17.6**	**-0.5**
MNSI	**Mandailing Nat**	**2.34**	**94**	P	**Pn**	**11 48 19.2**	**+0.2**
PSI	**Prapat**	**2.48**	**43**	Pn	**Pn**	**11 48 21.1**	**+0.1**
	0.8nm,0.3s,baz=180,slow=13,SNR=4.0						
PSI				Sn	**Sb**	**11 48 56.2**	**0.0**
	1.7nm,0.3s,baz=180,slow=15,SNR=3.6						
CMAR	**Chiang Mai Arr**	**17.47**	**5**	P	**Pn**	**11 51 44.2**	**+0.2**
	baz=196,slow=12,SNR=5.3						
H08S2	**Diego Garcia H**	**26.12**	**250**	T	T	12 20 13.7	
	baz=72,slow=76,SNR=119						
H08S3	**Diego Garcia H**	**26.12**	**251**	T	T	12 20 14.1	
	baz=72,slow=76,SNR=236						
H08S1	**Diego Garcia H**	**26.14**	**250**	T	T	12 20 15.1	
	baz=72,slow=76,SNR=32						
H01W3	**Cape Leeuwin H**	**39.01**	**158**	T	T	12 36 22.0	
	baz=333,slow=76,SNR=6.7						
H01W2	**Cape Leeuwin H**	**39.02**	**158**	T	T	12 36 23.1	
	baz=333,slow=76,SNR=6.7						
H01W1	**Cape Leeuwin H**	**39.03**	**158**	T	T	12 36 24.1	
	baz=333,slow=76,SNR=8.0						
WRA	**Warramunga Arr**	**41.88**	**122**	P	**P**	**11 55 30.5**	**-0.1**
	0.5nm,0.8s,baz=307,slow=9.3,SNR=1.9						
ASAR	**Alice Springs**	**43.22**	**127**	P	**P**	**11 55 40.2**	**-1.3**
	0.3nm,1.0s,baz=306,slow=7.9,SNR=1.1						
SONM	**Songino Array**	**47.36**	**8**	P	**P**	**11 56 14.7**	**+0.6**
	0.2nm,0.3s,baz=178,slow=7.9,SNR=2.1						
MKAR	**Makanchi Array**	**47.48**	**346**	P	**P**	**11 56 15.5**	**+0.6**
	0.4nm,0.5s,baz=166,slow=8.5,SNR=9.2						
KURBB	**Kurchatov Arra**	**51.97**	**345**	P	**P**	**11 56 49.0**	**+0.1**
	0.5nm,0.6s,baz=169,slow=5.7,SNR=7.0						
ZALV	**Zalesovo Beam**	**53.80**	**351**	P	**P**	**11 57 02.9**	**+0.5**
	1.1nm,0.4s,baz=166,slow=5.8,SNR=7.7						

*IDC **09** 11:48:21.2±0.9, 0.°24S×125.°76E, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.9/41, mbtmp4.1/10, ML4.1/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/39, Error ellipse: s-maj=44.4km s-min=15.5km az=67.0*
*DJA **09** 11:48:25.2±0.3, 0.°S±3.°×12.°6E±.°, h10km, M4.3/12, mb4.8/4, mB5.2/2, MLv4.1/12, Mw(mB)4.5/2*
ISC 09 11:48:22.7±0.6, **0.°33S**±0.°06×**125.°65E**±0.°06, **h10**km, **n21**, σ1s**67**/24, **mb4.1/8, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**1.74**	**169**	P	**Pn**	**11 48 53.2**	**+0.2**
SANI				S	**Sb**	**11 49 17.1**	**+0.4**
KMSI	**Cibinong**	**1.90**	**298**	P	**Pb**	**11 48 57.2**	**-0.3**
TNTI	**Ternate**	**2.03**	**57**	P	**Pg**	**11 49 00.4**	**-1.3**
LUWI	**Luwuk**	**2.97**	**256**	P	**Pn**	**11 49 11.0**	**+1.1**
NLAI	**Namlea**	**3.23**	**153**	P	**Pn**	**11 49 15.5**	**+2.0**
MRSI	**Marisa**	**3.80**	**282**	P	**Pn**	**11 49 22.8**	**+1.5**
APSI	**Ampana**	**4.05**	**262**	P	**Pn**	**11 49 26.5**	**+1.8**
TTSI	**Tana Toraja**	**6.43**	**245**	P	**Pn**	**11 49 59.2**	**+1.7**
	0.3nm2µm56nm,0.4s						
BNSI	**Bone**	**6.86**	**234**	P	**Pn**	**11 50 04.8**	**+1.4**
	0.1nm22nm,0.6s						
SPSI	**Sidrap Palu**	**6.90**	**238**	P	**Pn**	**11 50 06.5**	**+2.5**
KAPI	**Kappang**	**7.51**	**232**	Pn	**Pn**	**11 50 14.7**	**+2.4**
	3.3nm,0.3s,baz=91,slow=8.2,SNR=4.3						
KAPI				Sn	**Sn**	**11 51 32.5**	**-5.2**
	1.7nm,0.3s,baz=150,slow=20,SNR=1.3						
FITZ	**Fitzroy Crossi**	**17.66**	**180**	P	**Pn**	**11 52 28.9**	**0.0**
	0.5nm,0.3s,baz=12,slow=8.0,SNR=15						
WRA	**Warramunga Arr**	**21.27**	**157**	P	**P**	**11 53 09.0**	**-0.4**
	6.9nm,0.4s,baz=335,slow=11,SNR=138						
ASAR	**Alice Springs**	**24.54**	**162**	P	**P**	**11 53 43.5**	**+0.8**
	3.0nm,0.7s,baz=345,slow=12,SNR=62						
ASAR				PcP	**PcP**	**11 57 20.9**	**-0.3**
	0.5nm,0.7s,baz=0.6,slow=2.2,SNR=5.8						
PSI	**Prapat**	**26.90**	**277**	LR	LR	12 05 40.3	
	comp=Z,172nm,18.2s,baz=92,slow=38						
CMAR	**Chiang Mai Arr**	**32.21**	**307**	P	**P**	**11 54 51.3**	**-0.1**
	0.5nm,0.5s,baz=123,slow=6.6,SNR=5.5						
CMAR				LR	LR	12 08 06.2	
	comp=Z,21nm,19.1s,baz=290,slow=37						
STKA	**Stephens Creek**	**34.81**	**156**	P	**P**	**11 55 14.4**	**+0.6**
	2.1nm,0.7s,baz=328,slow=11,SNR=3.9						
STKA				PcP	**PcP**	**11 57 48.1**	**+0.9**
	0.7nm,0.3s,baz=346,slow=11,SNR=3.1						
SONM	**Songino Array**	**50.82**	**343**	P	**P**	**11 57 23.1**	**-0.4**
	0.7nm,0.5s,baz=158,slow=9.4,SNR=7.3						
MKAR	**Makanchi Array**	**60.31**	**327**	P	**P**	**11 58 31.6**	**-0.1**
	1.0nm,0.3s,baz=123,slow=8.3,SNR=24						
ZALV	**Zalesovo Beam**	**63.73**	**334**	P	**P**	**11 58 54.3**	**-0.2**
	0.5nm,0.5s,baz=119,slow=5.6,SNR=2.5						
KBZ	**Khabaz**	**84.98**	**314**	P	**P**	**12 00 59.0**	**+0.6**
	1.9nm,0.9s,baz=48,slow=3.1,SNR=4.3						

IDC 09 11:53:55.2±2.4, **1.°92N**×**127.°30E, h0**km, **mb3.1**/3, **mb1 3.4**/3, **mb1mx3.1**/30, **mbtmp3.2**/3, **Error ellipse: s-maj=181.6km s-min=28.2km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.80**	**163**	P	P	11 58 59.9	+0.1
	0.5nm,0.6s,baz=342,slow=12,SNR=8.6						
ASAR	**Alice Springs**	**26.24**	**166**	P	P	11 59 32.3	+0.1
	0.2nm,0.8s,baz=346,slow=12,SNR=6.1						
MKAR	**Makanchi Array**	**59.35**	**326**	P	P	12 03 59.1	-0.2
	0.2nm,0.5s,baz=113,slow=8.7,SNR=1.9						

*IDC **09** 12:05:43.9±0.8, 30.°94N×142.°01E, h0km, mb3.8/9, mb1 4.0/12, mb1mx3.8/40, mbtmp3.8/12, ML2.9/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/46, Error ellipse: s-maj=28.2km s-min=17.0km az=77.0*
ISC 09 12:05:47.4±0.7, **30.°93N**±0.°08×**141.°9E**±0.°2, **h24**km, **n14**, σ1s**26**/16, **mb3.9/9, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.83**	**176**	Pn	**Pn**	**12 06 44.9**	**-0.1**
	4.8nm,0.3s,baz=287,slow=19,SNR=2.4						
JCJ				Sn	**Sn**	**12 07 27.5**	**-1.8**
	19nm,0.3s,baz=90,slow=23,SNR=4.6						
MJAR	**Matsushiro Arr**	**6.38**	**332**	Pn	**Pn**	**12 07 20.1**	**+0.2**
	0.3nm,0.3s,baz=154,slow=11,SNR=29						
MJAR				Sn	**Sn**	**12 08 32.0**	**0.0**
	0.2nm,0.3s,baz=148,slow=5.8,SNR=4.2						
MAT	**Matsushiro**	**6.38**	**332**	P	**Pn**	**12 07 19.8**	**-0.1**
MAT				*e*S	**Sn**	**12 08 28.3**	**-3.7**
KSRS	**Korea Array**	**13.26**	**303**	LR	LR	12 14 08.1	
	comp=Z,50nm,19.1s,baz=325,slow=38						
USRK	**Ussuriysk Ar.**	**15.38**	**332**	Pn	**Pn**	**12 09 22.7**	**0.0**
	baz=151,slow=43,SNR=4.2						
SONM	**Songino Array**	**31.86**	**312**	P	**P**	**12 12 11.7**	**+1.1**
	1.4nm,0.9s,baz=118,slow=9.0,SNR=8.4						
ZALV	**Zalesovo Beam**	**46.47**	**317**	P	**P**	**12 14 12.2**	**-0.1**
	0.9nm,0.6s,baz=90,slow=9.6,SNR=16						
MKAR	**Makanchi Array**	**47.90**	**307**	P	**P**	**12 14 24.1**	**+0.5**
	1.4nm,0.6s,baz=90,slow=9.6,SNR=4.3						
WRA	**Warramunga Arr**	**51.10**	**189**	P	**P**	**12 14 48.0**	**-0.2**
	0.7nm,0.4s,baz=4.6,slow=7.3,SNR=23						
ILAR	**Eielson Array**	**54.50**	**30**	P	**P**	**12 15 12.0**	**-0.9**
	0.4nm,0.7s,baz=274,slow=6.2,SNR=4.8						
ASAR	**Alice Springs**	**54.83**	**189**	P	**P**	**12 15 16.2**	**+0.6**
	0.5nm,0.4s,baz=349,slow=4.9,SNR=28						
NVAR	**Mina Array Bea**	**78.37**	**52**	P	**P**	**12 17 46.3**	**0.0**
	0.5nm,0.7s,baz=292,slow=4.8,SNR=4.4						
AKASG	**Malin Array Be**	**79.38**	**323**	P	**P**	**12 17 52.4**	**+1.1**
	0.4nm,0.4s,baz=49,slow=6.0,SNR=5.6						
TXAR	**Lajitas Array**	**93.51**	**53**	P	**P**	**12 19 02.1**	**+0.5**
	0.4nm,0.8s,baz=306,slow=3.0,SNR=5.1						
TXAR				LR	LR	12 59 10.0	
	comp=Z,18nm,19.1s,baz=0.0,slow=34						

*JMA **09** 12:12:27.7±0.1, 43.°44N×145.°11E, h119km±1km, M2.8*
*SKHL **09** 12:12:27.8±0.3, 43.°40N×145.°10E, h117km±2km, mb4.0/3, msha5.0/3*
ISC 09 12:12:28.9±1.8, **43.°45N**±0.°06×**145.°08E**±0.°04, **h110**km±10km, **n17**, σ0s**50**/33, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNK	**Nakash**	**0.30**	**298**	P	**Pn**	**12 12 44.6**	**-0.1**
JNK				*e*S	**Sn**	**12 12 56.9**	**+0.4**
JNSB	**Nemuroshibetsu**	**0.34**	**350**	P	**Pn**	**12 12 44.9**	**+0.1**
JNSB				*e*S	**Sn**	**12 12 58.0**	**+1.2**
JKHN	**Kushirohamanak**	**0.37**	**171**	P	**Pn**	**12 12 44.9**	**-0.1**
JKHN				*e*S	**Sn**	**12 12 57.8**	**+0.8**
NMR	**Nemuro--Hokkai**	**0.48**	**99**	*e*P	**Pn**	**12 12 45.0**	**-0.6**
NMR				*e*S	**Sn**	**12 12 58.0**	**-0.1**
NEM2	**Nemuro 2**	**0.49**	**99**	P	**Pn**	**12 12 45.3**	**-0.4**
NEM2				*e*S	**Sn**	**12 12 57.9**	**-0.4**
JRA	**Rausu**	**0.49**	**3**	P	**Pn**	**12 12 45.5**	**-0.2**
JRA				*e*S	**Sn**	**12 12 58.7**	**+0.3**
JAK	**Akkeshi**	**0.53**	**212**	P	**Pn**	**12 12 45.9**	**-0.1**
JAK				*e*S	**Sn**	**12 12 59.4**	**+0.6**
GRPR	**Tuman**	**0.74**	**42**	*e*P	**Pn**	**12 12 47.0**	**-0.6**
GRPR				AMB	AMB	12 12 48.0	
	50nm,0.2s						
GRPR				*e*S	**Sn**	**12 13 01.4**	**-0.3**
GRPR				A	A	12 13 03.0	
	350nm,0.2s						
GRPR				A	A	12 13 03.0	
	100nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.82**	**44**	*e*P	**Pn**	**12 12 47.7**	**-0.6**
YUK				AMB	AMB	12 12 48.0	
	70nm,0.3s						
YUK				*e*S	**Sn**	**12 13 02.4**	**-0.5**
YUK				A	A	12 13 04.0	
	270nm,0.3s						
YUK				A	A	12 13 04.0	
	330nm,0.3s						
JAR	**Ashorobuto**	**0.97**	**262**	P	**Pn**	**12 12 49.8**	**0.0**
JAR				*e*S	**Sn**	**12 13 06.2**	**+0.7**
JTKR	**Abashiri--Toko**	**1.00**	**302**	P	**Pn**	**12 12 49.7**	**-0.4**
JTKR				*e*S	**Sn**	**12 13 05.8**	**-0.3**
JOB	**Onbets**	**1.06**	**240**	P	**Pn**	**12 12 50.7**	**0.0**
JOB				*e*S	**Sn**	**12 13 07.6**	**+0.4**
JMP	**Maruseppu**	**1.37**	**295**	P	**Pn**	**12 12 53.7**	**-0.5**
JMP				*e*S	**Sn**	**12 13 12.9**	**-0.5**
JCH	**Churui**	**1.51**	**237**	P	**Pn**	**12 12 55.5**	**-0.3**
JCH				*e*S	**Sn**	**12 13 15.4**	**-0.8**
JFR	**Furan**	**1.84**	**262**	P	**Pn**	**12 12 59.6**	**-0.2**
ASAJ	**Asahikawa**	**1.92**	**291**	P	**Pn**	**12 13 01.0**	**+0.1**
ASAJ				*e*S	**Sn**	**12 13 25.5**	**+0.2**
KUR	**Kuril'sk**	**2.68**	**47**	*e*P	**Pn**	**12 13 11.3**	**+0.7**
KUR				AMB	AMB	12 13 12.6	
	20nm,0.6s						
KUR				*e*S	**Sn**	**12 13 43.3**	**+0.6**
KUR				A	A	12 13 45.1	
	20nm,0.2s						
KUR				A	A	12 13 45.1	
	30nm,0.2s						

*IDC **09** 12:16:25.5±1.0, 32.°28S×67.°04W, h0km, mb3.0/1, mb1 3.6/4, mb1mx3.5/20, mbtmp3.3/4, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.7/4, Error ellipse: s-maj=40.0km s-min=20.7km az=124.0*
ISC 09 12:16:30.8±0.9, **32.°3S**±0.°1×**67.°0W**±0.°1, **h35**km, **n8**, σ0s**78**/10, **Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**8.89**	**198**	Pn	**Pn**	**12 18 37.2**	**+0.5**
	0.1nm,0.3s,baz=0.0,slow=9.1,SNR=2.6						
PLCA				Lg	Lg	12 21 08.0	
	0.3nm,0.3s,baz=123,slow=21,SNR=3.5						
CPUP	**Villa Florida**	**10.33**	**57**	Pn	**Pn**	**12 18 55.4**	**-1.1**
	0.4nm,0.3s,baz=220,slow=9.8,SNR=4.1						
CPUP				Sn	**Sn**	**12 20 52.5**	**+1.3**
	0.6nm,0.3s,baz=233,slow=18,SNR=1.5						
CPUP				Lg	Lg	12 21 53.1	
	0.9nm,0.3s,baz=326,slow=12,SNR=3.2						
CPUP				LR	LR	12 23 22.8	
	comp=Z,68nm,18.8s,baz=211,slow=40						
LPAZ	**La Paz**	**15.97**	**356**	Pn	**Pn**	**12 20 14.1**	**+0.7**
	0.1nm,0.4s,baz=190,slow=6.1,SNR=2.3						
TXAR	**Lajitas Array**	**70.47**	**326**	P	**P**	**12 27 41.6**	**-0.3**
	0.1nm,0.4s,baz=153,slow=8.0,SNR=1.6						
ASAR	**Alice Springs**	**120.87**	**202**	PKP	**PKPdf**	**12 35 19.6**	**-0.3**
	0.4nm,1.0s,baz=115,slow=1.4,SNR=4.2						
WRA	**Warramunga Arr**	**124.18**	**204**	PKP	**PKPdf**	**12 35 26.2**	**-0.1**
	0.3nm,0.4s,baz=165,slow=1.7,SNR=8.5						
ZALV	**Zalesovo Beam**	**150.49**	**34**	PKPbc	**PKPbc**	**12 36 18.3**	**+0.2**
	0.6nm,0.3s,baz=320,slow=3.2,SNR=2.8						
MKAR	**Makanchi Array**	**152.47**	**49**	PKPbc	**PKPbc**	**12 36 23.1**	**+0.1**
	0.3nm,0.6s,baz=296,slow=1.8,SNR=4.6						
MKAR				PKPab	**pPKPbc**	**12 36 34.1**	**-0.5**
	0.5nm,0.6s,baz=298,slow=1.9,SNR=6.3						

IDC 09 12:18:39.0±2.1, **4.°07N**×**126.°59E, h0**km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.3**/39, **mbtmp3.3**/3, **Error ellipse: s-maj=162.4km s-min=27.7km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.05**	**163**	P	P	12 24 05.1	-0.1
	0.6nm,0.8s,baz=342,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**28.48**	**166**	P	P	12 24 36.1	0.0
	0.3nm,0.9s,baz=345,slow=9.3,SNR=1.8						
MKAR	**Makanchi Array**	**57.20**	**325**	P	P	12 28 28.0	0.0
	0.3nm,0.5s,baz=117,slow=8.9,SNR=4.9						

*IDC **09** 12:19:37.8±1.4, 35.°00N×24.°95E, h0km, mb3.6/5, mb1 3.7/9, mb1mx3.6/40, mbtmp3.6/9, ML3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/35, Error ellipse: s-maj=25.0km s-min=8.3km az=72.0*
*THE **09** 12:19:38.9, 35.°04N×24.°93E, h2km±2km, ML3.2/13, Error ellipse: s-maj=2.7km s-min=0.5km az=188.0*
*ATH **09** 12:19:38.8, 35.°03N×24.°93E, h11km±2km, ML3.3/7, Error ellipse: s-maj=2.8km s-min=0.8km az=290.0*
ISC 09 12:19:39.3±0.8, **35.°05N**±0.°03×**24.°93E**±0.°02, **h9**km±5km, **n45**, σ0s**76**/67, **mb3.6/5, Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.10**	**253**	P	**Pg**	**12 19 41.3**	**-0.5**
SIVA				S	**Sg**	**12 19 43.4**	**-0.2**
SIVA				AML	AML	12 19 43.9	
SIVA				AML	AML	12 19 47.0	
	comp=N,73555µm,0.6s						
SIVA	**Sivas**	**0.10**	**253**	P	**Pg**	**12 19 41.3**	**-0.5**
SIVA				S	**Sg**	**12 19 43.2**	**-0.4**
	comp=N,61µm,0.2s						
TMBK	**Timbaki Herakl**	**0.14**	**281**	P	**Pg**	**12 19 42.3**	**-0.1**
TMBK				S	**Sg**	**12 19 44.6**	**+0.1**
	comp=N,18µm,0.3s						
IDI	**Anoyia**	**0.24**	**353**	Pg	**Pg**	**12 19 43.8**	**-0.6**
	comp=N,648nm,0.3s,baz=167,slow=19,SNR=18						
IDI				Lg	Lg	12 19 47.1	
	comp=N,1µm,0.3s,baz=300,slow=18,SNR=17						
IDI	**Anoyia**	**0.24**	**353**	P	**Pg**	**12 19 43.7**	**-0.6**
IDI				S	**Sg**	**12 19 47.6**	**-0.1**
IDI				AML	AML	12 19 48.2	
	comp=E,13153µm,0.2s						
IDI				AML	AML	12 19 49.5	
	comp=N,16281µm,0.3s						
IDI	**Anoyia**	**0.24**	**353**	P	**Pg**	**12 19 43.8**	**-0.6**
IDI				S	**Sg**	**12 19 47.3**	**-0.4**
	comp=N,7µm,0.3s						
KSTL	**Kastelli Herak**	**0.28**	**25**	P	**Pb**	**12 19 46.2**	**-0.4**
KSTL				S	**Sb**	**12 19 51.9**	**+0.5**
IACM	**Heraklion**	**0.28**	**24**	P	**Pg**	**12 19 44.8**	**-0.2**
IACM	**Heraklion**	**0.28**	**24**	P	**Pg**	**12 19 44.9**	**-0.2**
HRKL	**Herakleio**	**0.30**	**28**	P	**Pg**	**12 19 45.1**	**-0.2**
HRKL				S	**Sg**	**12 19 50.0**	**+0.6**
	comp=N,18µm,0.6s						
LAST	**Lasithi**	**0.47**	**76**	P	**Pg**	**12 19 47.5**	**-1.0**
LAST				S	**Sg**	**12 19 54.8**	**+0.2**
LAST				AML	AML	12 19 58.8	
	comp=E,8348µm,0.5s						
LAST				AML	AML	12 19 59.0	
	comp=N,7476µm,0.7s						
LAST	**Lasithi**	**0.47**	**76**	P	**Pg**	**12 19 47.5**	**-1.0**
LAST				S	**Sg**	**12 19 54.8**	**+0.2**
	comp=N,4µm,0.6s						
PRNS	**Prines Rethymn**	**0.47**	**312**	P	**Pg**	**12 19 48.4**	**-0.1**
PRNS				S	**Sb**	**12 19 56.8**	**-0.1**
NPS	**Neapolis**	**0.60**	**69**	P	**Pg**	**12 19 50.4**	**-0.6**
NPS				S	**Sg**	**12 19 59.3**	**+0.4**
NPS				AML	AML	12 20 05.7	
	comp=E,4749µm,0.7s						
NPS				AML	AML	12 20 06.8	
	comp=N,3710µm,0.5s						
NPS	**Neapolis**	**0.60**	**69**	P	**Pg**	**12 19 50.3**	**-0.7**
NPS				S	**Sg**	**12 19 59.0**	**+0.1**
	comp=N,3µm,0.3s						
FRMA	**Ierapetra Chan**	**0.66**	**93**	P	**Pb**	**12 19 53.0**	**0.0**
FRMA				S	**Sn**	**12 20 04.5**	**-0.9**
	comp=N,842nm,0.5s						
VAM	**Vamos**	**0.70**	**301**	P	**Pg**	**12 19 51.8**	**-1.0**
VAM				S	**Sg**	**12 20 02.2**	**+0.3**
VAM				AML	AML	12 20 04.9	
	comp=E,7897µm,0.3s						
VAM				AML	AML	12 20 06.2	
	comp=N,8172µm,0.3s						
VAM	**Vamos**	**0.70**	**301**	P	**Pg**	**12 19 51.8**	**-1.0**
VAM				S	**Sg**	**12 20 02.4**	**+0.5**
	comp=N,4µm,0.3s						
GVDS	**Gavdos**	**0.72**	**254**	P	**Pg**	**12 19 52.9**	**-0.3**
GVDS				S	**Sb**	**12 20 04.5**	**+0.6**
	comp=N,2µm,0.3s						
GVD	**Gavdhos**	**0.72**	**254**	P	**Pg**	**12 19 52.7**	**-0.5**
GVD				S	**Sg**	**12 20 02.2**	**-0.4**
GVD				AML	AML	12 20 06.2	
	comp=N,7096µm,0.3s						
GVD				AML	AML	12 20 08.6	
	comp=E,6530µm,0.3s						
GVD	**Gavdhos**	**0.72**	**254**	P	**Pg**	**12 19 52.7**	**-0.5**
GVD				S	**Sb**	**12 20 04.2**	**+0.2**
	comp=E,3µm,0.2s						
IMMV	**Iera Moni Meta**	**0.88**	**298**	P	**Pg**	**12 19 55.2**	**-1.1**
IMMV				S	**Sg**	**12 20 07.6**	**0.0**
IMMV				AML	AML	12 20 08.9	
	comp=E,4322µm,0.5s						
IMMV				AML	AML	12 20 11.9	
	comp=N,4912µm,0.5s						
IMMV	**Iera Moni Meta**	**0.88**	**298**	P	**Pg**	**12 19 55.0**	**-1.2**
IMMV				S	**Sg**	**12 20 08.0**	**+0.3**
	comp=N,2µm,0.4s						
STIA	**Sitia Lasithi**	**0.97**	**80**	P	**Pg**	**12 19 57.1**	**-0.8**
STIA				S	**Sb**	**12 20 10.9**	**-0.2**
ZKR	**Zakros**	**1.06**	**86**	P	**Pg**	**12 19 58.6**	**-1.1**
ZKR	**Zakros**	**1.06**	**86**	P	**Pg**	**12 19 58.7**	**-1.0**
ZKR				S	**Sb**	**12 20 14.4**	**+0.6**
	comp=N,1µm,0.5s						
THR6	**Thira Island,**	**1.36**	**16**	P	**Pb**	**12 20 05.2**	**+0.2**
SANT	**Santorini**	**1.39**	**18**	P	**Pn**	**12 20 05.1**	**+0.2**
SANT				S	**Sg**	**12 20 23.3**	**-0.8**
	comp=N,2µm,0.4s						
SNT5	**Nea Kammeni, S**	**1.41**	**16**	P	**Pn**	**12 20 05.3**	**+0.2**
THR5	**

MAN 09 12:53:32.2, 13°10N×120°44E, h1km, mb3.7, ML2.4, MS1.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.64**	**51⇑**	*eP*	Pg	12 53 44.3	-0.3
PGP				*eS*	Sg	12 53 52.1	-0.9
LUBP	**Lubang**	**0.66**	**344**	*eP*	Pg	12 53 45.3	+0.5
LUBP				*eS*	Sb	12 53 57.1	+0.9
BUSP	**Coron**	**1.11**	**192**	*eP*	Pg	12 53 53.2	-0.3
BUSP				*eS*	Sn	12 54 11.7	+0.8
MACP	**Maragondon, Ca**	**1.19**	**13**	*eP*	Pg	12 53 54.8	-0.2
MACP				*eS*	Sn	12 54 13.2	+0.3
BOAC	**Boac**	**1.42**	**75**	*eP*	Pg	12 53 59.3	-0.1
BOAC				*eS*	Sn	12 54 23.7	+5.3

IDC 09 12:59:14.5±3.7, 8.77S×121.17E, h168km±21km, mb3.7/1, mb1 3.2/5, mb1mx2.9/34, mbtmp3.6/5, Error ellipse: s-maj=59.5km s-min=31.8km az=46.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.85**	**120**	P	Pn	13 00 02.4	+1.6
	1.0nm,0.3s,baz=297,slow=4.5,SNR=1.7						
BATI				S	Sn	13 00 36.9	+0.1
	14nm,0.3s,baz=310,slow=7.5,SNR=15						
FITZ	**Fitzroy Crossi**	**10.24**	**155**	P	Pn	13 01 37.5	0.0
	0.1nm,0.3s,baz=14,slow=8.3,SNR=1.3						
FITZ				S	Sn	13 03 31.2	+0.1
	0.2nm,0.3s,baz=154,slow=20,SNR=6.1						
WRA	**Warramunga Arr**	**16.90**	**132**	P	P	13 02 59.5	-1.2
	0.3nm,0.3s,baz=302,slow=11,SNR=23						
WRA				S	S	13 05 59.6	-8.7
	0.1nm,0.3s,baz=304,slow=24,SNR=2.1						
ASAR	**Alice Springs**	**19.19**	**142**	P	P	13 03 25.7	+0.2
	0.3nm,0.3s,baz=325,slow=11,SNR=25						
ASAR				S	S	13 06 55.5	+1.4
	baz=318,slow=23,SNR=2.0						
STKA	**Stephens Creek**	**29.81**	**143**	P	P	13 05 05.6	-0.3
	1.0nm,0.3s,baz=322,slow=10,SNR=6.1						

*NEIC **09** 13:11:39.3±0.7, 30.65S±0.2×178.8W±0.3, h185km±14km, mb4.2/5, Error ellipse: s-maj=47.3km s-min=21.0km az=121.0*

*IDC **09** 13:11:42.6±3.5, 30.52S×178.85W, h209km±29km, mb3.5/4, mb1 3.6/5, mb1mx3.3/44, mbtmp4.1/5, MS3.1/1, Ms1 3.1/1, ms1mx2.6/19, Error ellipse: s-maj=43.6km s-min=30.3km az=158.0*

ISC 09 13:11:40.3±0.9, 30.64S±0.09×178.7W±0.2, h200km, n28, σ2°15°/30, mb4.1/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.55**	**27**	S	**Sn**	**13 12 40.1**	**-0.8**
	197nm,0.3s,baz=90,slow=20,SNR=3.2						
RAO	**Raoul Island**	**1.55**	**27**	Pn	**Pn**	**13 12 11.6**	**-2.8**
MXZ	**Matakaoa Point**	**7.33**	**199**	Pn	**Pn**	**13 13 26.6**	**+1.9**
OUZ	**Omahuta**	**7.92**	**233**	Pn	**Pn**	**13 13 32.4**	**+0.1**
URZ	**Urewera**	**8.35**	**203**	P	**Pn**	**13 13 41.7**	**+3.9**
	0.7nm,0.3s,baz=92,slow=21,SNR=2.0						
URZ				S	**Sn**	**13 15 14.2**	**+2.5**
	3.2nm,0.3s,baz=154,slow=24,SNR=10						
URZ	**Urewera**	**8.35**	**203**		**Pn**	**13 13 40.1**	**+2.2**
BFZ	**Birch Farm**	**10.82**	**201**	Pn	**Pn**	**13 14 10.0**	**0.0**
TUWZ	**Tuamarina**	**12.29**	**207**	Pn	**Pn**	**13 14 29.2**	**+0.5**
NNZ	**Nelson**	**12.34**	**209**	P	**P**	**13 14 33.1**	**-0.4**
THZ	**Tophouse**	**12.99**	**209**	Pn	**Pn**	**13 14 39.1**	**+1.5**
MSVF	**Nonsavu**	**13.19**	**346**	LR	LR	13 18 24.5	
	comp=Z,81nm,18.6s,baz=155,slow=31						
KHZ	**Kahutara**	**13.29**	**206**	Pn	**Pn**	**13 14 42.8**	**+1.5**
LTZ	**Lake Taylor**	**14.10**	**208**	Pn	**Pn**	**13 14 51.5**	**+0.2**
OXZ	**Oxford**	**14.65**	**208**	Pn	**Pn**	**13 14 57.6**	**-0.4**
RPZ	**Rata Peaks**	**15.37**	**209**	S	**S**	**13 17 48.7**	**-8.7**
	0.2nm,0.3s,baz=23,slow=20,SNR=1.4						
CTA	**Charters Tower**	**33.23**	**280**	P	**P**	**13 18 00.0**	**+1.3**
	1.5nm,0.4s,baz=119,slow=6.2,SNR=2.2						
CTAO	**Charters Tower**	**33.23**	**280**	P	**P**	**13 17 60.0**	**+1.3**
ASAR	**Alice Springs**	**42.49**	**268**	P	**P**	**13 19 15.9**	**-0.2**
	0.5nm,0.7s,baz=101,slow=7.2,SNR=9.4						
ASAR				PcP	**PcP**	**13 21 06.2**	**+1.2**
	0.5nm,0.8s,baz=107,slow=4.2,SNR=2.4						
ASAR				ScP	**ScP**	**13 24 36.6**	**-0.1**
	0.5nm,0.9s,baz=113,slow=4.3,SNR=4.7						
ASAR	**Alice Springs**	**42.49**	**268**	P	**P**	**13 19 16.3**	**+0.2**
WR0	**Warramunga Arr**	**43.32**	**273**	P	**P**	**13 19 22.8**	**+0.1**
WR0				IAmb	IAmb	13 19 45.4	
	comp=Z,11nm,1.3s						
WB2	**Warramunga Arr**	**43.49**	**273**	P	**P**	**13 19 23.8**	**-0.2**
WRAB	**Tennant Creek**	**43.49**	**273**	P	**P**	**13 19 23.8**	**-0.3**
WRAB				IAmb	IAmb	13 19 25.8	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**43.50**	**273**	P	**P**	**13 19 24.2**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=110,slow=8.1,SNR=68						
WB0	**Warramunga Arr**	**43.52**	**273**	P	**P**	**13 19 24.2**	**-0.1**
WB0				IAmb	IAmb	13 19 26.5	
	comp=Z,12nm,1.5s						
PETK	**Petropavlovsk-**	**85.90**	**346**	P	**P**	**13 23 57.9**	**+0.8**
	comp=Z,3.0nm,0.9s,baz=117,slow=9.3,SNR=5.2						
FINES	**FINESS Array B**	**145.16**	**339**	PKPbc	**PKPdf**	**13 30 53.0**	**-0.1**
	comp=Z,6.2nm,0.7s,baz=40,slow=2.4,SNR=18						
AKASG	**Malin Array Be**	**151.12**	**322**	PKPbc	**PKiKP**	**13 31 09.6**	**0.0**
	comp=Z,2.1nm,0.6s,baz=51,slow=2.8,SNR=8.1						
AKASG	**Malin Array Be**	**151.12**	**322**		**PKiKP**	**13 31 09.7**	**+0.1**

*IDC **09** 13:15:08.8±1.7, 1.38S×125.94E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.5/37, mbtmp3.5/4, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/24, Error ellipse: s-maj=48.6km s-min=28.1km az=62.0*

*DJA **09** 13:15:13.3±1.1, 1°S±6'×12°6E±°, h13km±9km, M3.8/6, mb4.0/1, MLv3.6/6*

ISC 09 13:15:14.7±1.1, 1.3S±0.1×126.19E±0.07, h35km, n10, σ1°68°/11, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.73**	**196**	P	**Pn**	**13 15 28.0**	**-0.6**
SANI				S	**Sn**	**13 15 39.7**	**+1.2**
NLAI	**Namlea**	**2.10**	**154**	P	**Pn**	**13 15 47.6**	**+0.2**
APSI	**Ampana**	**4.56**	**275**	P	**Pn**	**13 16 23.0**	**+1.8**
MRSI	**Marisa**	**4.61**	**293**	P	**Pn**	**13 16 24.4**	**+2.4**
SIJI	**Sorong**	**5.10**	**85**	Pn	**Pn**	**13 16 31.4**	**+2.6**
	2.1nm,0.3s,baz=231,slow=19,SNR=5.2						
SIJI				Sn	**Sn**	**13 17 27.3**	**+0.8**
	0.4nm,0.3s,baz=301,slow=23,SNR=1.6						
FAKI	**Fak Fak**	**6.26**	**105**	P	**Pn**	**13 16 44.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**16.66**	**182**	LR	LR	13 26 21.4	
	comp=Z,53nm,18.2s,baz=108,slow=40						
WRA	**Warramunga Arr**	**20.14**	**157**	P	**P**	**13 19 44.7**	**-1.3**
	0.8nm,0.7s,baz=340,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**23.42**	**162**	P	**P**	**13 20 20.2**	**-0.7**
	1.1nm,0.7s,baz=342,slow=12,SNR=22						
MKAR	**Makanchi Array**	**61.44**	**327**	P	**P**	**13 25 26.2**	**-1.6**
	0.2nm,0.7s,baz=117,slow=7.7,SNR=2.8						

*NEIC **09** 13:21:09.8±1.6, 52.46N±0.10×179.63W±0.10, h237km±4km, mb4.1/93, ML4.0/4, ML3.8/17(AEIC), Error ellipse: s-maj=14.4km s-min=8.5km az=168.0*

*AEIC **09** 13:21:11.1±3.7, 52.1N±0.1×179.39W±0.10, h220km±5km, Error ellipse: s-maj=18.2km s-min=8.3km az=175.0*

*IDC **09** 13:21:12.0±2.0, 52.63N×179.70W, h254km±18km, mb3.3/23, mb1 3.5/25, mb1mx3.4/56, mbtmp3.9/25, Error ellipse: s-maj=17.7km s-min=8.1km az=168.0*

ISC 09 13:21:10.1±0.5, 52.41N±0.09×179.63W±0.04, h250km, n157, σ1°45°/159, mb3.8/44, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERAA	**Semis' Rag'd T**	**0.66**	**220**		**Pn**	**13 21 41.8**	**-1.7**
CESW	**Semis' Southwe**	**0.71**	**225**		**Pn**	**13 21 41.4**	**-2.3**
GALAA	**Gareloi Lava P**	**0.84**	**141**		**Pn**	**13 21 42.7**	**-1.6**
TAFP	**Tanaga Falls P**	**1.14**	**116**		**Pn**	**13 21 43.8**	**-2.1**
TASE	**Tanaga Southea**	**1.14**	**120**		**Pn**	**13 21 44.0**	**-2.0**
AMKA	**Amchitka**	**1.23**	**213**		**S**	**13 22 09.5**	**-5.6**
AMKA	**Amchitka**	**1.23**	**213**		**Pn**	**13 21 44.5**	**-2.0**
KICM	**Kanaga Island**	**1.58**	**107**		**Pn**	**13 21 47.3**	**-1.6**
KIKV	**Kanaga Island**	**1.60**	**108**		**Pn**	**13 21 47.3**	**-1.9**
KIMD	**Kanaga Island**	**1.61**	**113**		**Pn**	**13 21 46.9**	**-2.3**
ADK	**Adak**	**1.89**	**105**		**Pn**	**13 21 49.1**	**-2.4**
ADK					**S**	**13 22 19.5**	**-4.6**
	372nm,0.2s						
ADAG	**Mount Adagdak**	**1.91**	**102**		**Pn**	**13 21 49.9**	**-1.8**
GSTD	**Great Sitkin T**	**2.17**	**98**		**Pn**	**13 21 52.1**	**-2.0**
GSTD					**S**	**13 22 25.1**	**-3.8**
GSTR	**Great Sitkin T**	**2.22**	**97**	Pn	**Pn**	**13 21 52.7**	**-1.9**
GSMY	**Great Sitkin M**	**2.23**	**98**		**Pn**	**13 21 52.6**	**-2.0**
ATKA	**Atka Island**	**3.34**	**91**		**Pn**	**13 22 04.5**	**-1.7**
SMY	**Shemya**	**3.84**	**277**		**Pn**	**13 22 09.8**	**-2.1**
SMY				IAML		13 24 24.6	
	comp=N,201nm,2.5s						
NIKH	**Nikolski High**	**6.58**	**81**	Pn	**Pn**	**13 22 44.8**	**-0.5**
FALS	**False Pass**	**9.94**	**69**	Pn	**Pn**	**13 23 28.0**	**+0.4**
SDPT	**Sand Point**	**11.67**	**68**	Pn	**Pn**	**13 23 47.7**	**-1.6**
CNBA	**Chernabura Isl**	**12.14**	**71**	Pn	**Pn**	**13 23 52.7**	**-2.4**
CHGN	**Chignik**	**12.96**	**64**	Pn	**Pn**	**13 24 04.2**	**-0.9**
PETK	**Petropavlovsk-**	**13.74**	**282**	P	**P**	**13 24 15.6**	**-0.2**
	comp=N,0.4nm,0.3s,baz=94,slow=13,SNR=11						
PETK				S	**S**	**13 26 42.7**	**-4.2**
	comp=N,0.1nm,0.3s,baz=107,slow=20,SNR=1.2						
OHAK	**Old Harbor**	**15.88**	**62**	P	**P**	**13 24 38.2**	**-1.0**
KDAK	**Kodiak Island**	**16.32**	**60**	P	**P**	**13 24 43.2**	**-0.9**
	comp=N,1.8nm,0.3s,baz=286,slow=9.1,SNR=30						
KDAK	**Kodiak Island**	**16.32**	**60**	IAmb	IAmb	13 24 43.2	
	comp=Z,66nm,1.4s						
TTA	**Tatalina**	**16.34**	**41**	P	**P**	**13 24 43.4**	**-0.9**
TTA				IAmb	IAmb	13 24 48.7	
	comp=Z,4.7nm,1.0s						
RSO	**Redoubt South**	**16.80**	**51**	P	**P**	**13 24 48.6**	**-1.0**
CNPM	**China Poot**	**17.31**	**55**	P	**P**	**13 24 55.1**	**+0.2**
BRLK	**Bradley Lake**	**17.53**	**54**	P	**P**	**13 24 56.7**	**-0.6**
SKT	**Skwentna**	**17.84**	**47**	P	**Pn**	**13 25 02.7**	**-0.7**
SKT				IAmb	IAmb	13 25 08.1	
	comp=Z,12nm,0.7s						
PPLA	**Purkeypile**	**17.89**	**43**	P	**Pn**	**13 25 02.9**	**-1.3**
PPLA				IAmb	IAmb	13 25 14.3	
	comp=Z,9.6nm,0.7s						
MA2	**Magadan**	**17.93**	**305**	P	**Pn**	**13 25 03.5**	**-1.0**
MA2				IAmb	IAmb	13 25 03.9	
	comp=Z,15nm,1.4s						
SUA	**Susitna One**	**18.03**	**49**	P	**Pn**	**13 25 04.3**	**-1.5**
SUA				IAmb	IAmb	13 25 05.9	
	comp=Z,15nm,0.9s						
O22K	**Cooper Landing**	**18.26**	**52**	P	**Pn**	**13 25 06.0**	**-2.3**
SEW	**Seward**	**18.31**	**53**	P	**P**	**13 25 05.5**	**-0.2**
KTH	**Kantishna Hill**	**18.68**	**42**	P	**Pn**	**13 25 11.4**	**-2.0**
KTH				IAmb	IAmb	13 25 14.7	
	comp=Z,9.3nm,0.9s						
IMAR	**Indian Mountai**	**18.78**	**34**	P	**P**	**13 25 11.3**	**+0.6**
PMR	**Palmer**	**18.81**	**49**	P	**Pn**	**13 25 12.4**	**-2.4**
PMR				IAmb	IAmb	13 25 19.5	
	comp=Z,15nm,1.4s						
BPAW	**Bear Paw Mtn.**	**18.88**	**41**	P	**Pn**	**13 25 13.2**	**-2.4**
BPAW				IAmb	IAmb	13 25 23.8	
	comp=Z,3.3nm,0.6s						
TRF	**Thorofare Moun**	**18.90**	**43**	P	**P**	**13 25 13.0**	**+0.8**
TRF				IAmb	IAmb	13 25 21.6	
	comp=Z,14nm,1.4s						
GHO	**Glory Hole Cre**	**18.95**	**48**	P	**P**	**13 25 12.4**	**-0.3**
GHO				IAmb	IAmb	13 25 23.1	
	comp=Z,13nm,1.1s						
KNK	**Knik Glacier**	**19.08**	**50**	P	**P**	**13 25 13.2**	**-0.7**
KNK				IAmb	IAmb	13 25 20.4	
	comp=Z,9.4nm,0.8s						
SML	**Sawmill**	**19.23**	**48**	P	**P**	**13 25 15.6**	**0.0**
SML				IAmb	IAmb	13 25 18.1	
	comp=Z,8.1nm,0.6s						
RND	**Reindeer**	**19.49**	**44**	P	**P**	**13 25 18.4**	**+0.1**
RND				IAmb	IAmb	13 25 21.0	
	comp=Z,4.6nm,0.9s						
SCM	**Sheep Creek Mo**	**19.70**	**49**	P	**P**	**13 25 20.9**	**+0.3**
FID	**Port Fidalgo**	**19.88**	**52**	P	**P**	**13 25 22.1**	**-0.3**
I23K	**Minto, Yukon-K**	**19.96**	**39**	P	**P**	**13 25 23.6**	**+0.5**
I23K				IAmb	IAmb	13 25 27.0	
	comp=Z,1.8nm,0.7s						
WRH	**Wood River Hil**	**20.18**	**41**	P	**P**	**13 25 25.5**	**-0.2**
WRH				IAmb	IAmb	13 25 37.4	
	comp=Z,3.7nm,0.6s						
KLU	**Klutina**	**20.28**	**50**	P	**P**	**13 25 27.2**	**+0.3**
KLU				IAmb	IAmb	13 25 32.9	
	comp=Z,23nm,1.5s						
M24K	**Tolsona, Glenn**	**20.30**	**48**	P	**P**	**13 25 27.2**	**+0.2**
MDM	**Murphy Dome**	**20.32**	**40**	P	**P**	**13 25 27.5**	**+0.4**
MDM				IAmb	IAmb	13 25 29.6	
	comp=Z,3.5nm,0.6s						
CCB	**Clear Creek Bu**	**20.36**	**41**	P	**P**	**13 25 27.6**	**0.0**
CCB				IAmb	IAmb	13 25 36.6	
	comp=Z,9.6nm,1.4s						
HDA	**Harding Lake**	**20.62**	**42**	P	**P**	**13 25 30.7**	**+0.3**
HDA				IAmb	IAmb	13 25 41.9	
	comp=Z,2.6nm,0.6s						
RAGM	**Ragged Mountai**	**20.71**	**54**	P	**P**	**13 25 31.9**	**+0.6**
IL31		**20.78**	**41**	P	**P**	**13 25 32.6**	**+0.7**
IL31				IAmb	IAmb	13 25 43.8	
	comp=Z,9.5nm,1.4s						
ILAR	**Eielson Array**	**20.78**	**41**	P	**P**	**13 25 30.2**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=240,slow=9.1,SNR=15						
ILAR				PcP	**PcP**	**13 29 29.4**	**0.0**
	comp=Z,0.4nm,0.9s,baz=258,slow=3.5,SNR=1.8						
ILAR				ScP	**ScP**	**13 32 40.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=278,slow=3.2,SNR=1.8						
ILAR	**Eielson Array**	**20.78**	**41**	P	**P**	**13 25 32.3**	**+0.3**
PAX	**Paxson**	**20.82**	**46**	P	**P**	**13 25 32.1**	**-0.4**
PAX				IAmb	IAmb	13 25 34.6	
	comp=Z,7.5nm,1.0s						
HMT	**Hamilton**	**20.91**	**54**	P	**P**	**13 25 32.9**	**-0.5**
N25K	**Chitina, Valde**	**20.93**	**50**	P	**P**	**13 25 33.1**	**-0.5**
N25K				IAmb	IAmb	13 25 38.6	
	comp=Z,12nm,1.2s						
SUCK	**Suckling Hills**	**21.12**	**55**	P	**P**	**13 25 36.1**	**+0.7**
CRQM	**Cirque**	**21.50**	**53**	P	**P**	**13 25 39.6**	**+0.3**
A21K	**Barrow**	**21.58**	**20**	P	**P**	**13 25 40.0**	**+0.4**
A21K				IAmb	IAmb	13 26 05.7	
	comp=Z,12nm,1.2s						
DOT	**Dot Lake**	**21.61**	**45**	P	**P**	**13 25 38.6**	**-1.5**
DOT				IAmb	IAmb	13 25 42.5	
	comp=Z,5.7nm,0.8s						
TOLK	**Toolik Lake Re**	**21.61**	**30**	P	**P**	**13 25 40.9**	**+0.8**
TOLK				IAmb	IAmb	13 25 49.4	
	comp=Z,4.5nm,1.3s						
MCARA	**McCarthy VSAT**	**21.64**	**51**	P	**P**	**13 25 40.0**	**-0.4**
MCARA				IAmb	IAmb	13 25 42.4	
	comp=Z,13nm,0.8s						
TGL	**Tana Glacier**	**21.66**	**53**	P	**P**	**13 25 41.3**	**+0.7**
TGL				IAmb	IAmb	13 25 43.9	
	comp=Z,18nm,0.9s						
MESA	**MESA**	**22.04**	**55**	P	**P**	**13 25 45.5**	**+1.2**
FYU	**Fort Yukon**	**22.09**	**37**	P	**P**	**13 25 45.5**	**+1.1**
FYU				IAmb	IAmb	13 25 47.8	
	comp=Z,10nm,1.4s						
YAH	**Yahtse**	**22.15**	**54**	P	**P**	**13 25 46.4**	**+1.0**
CTGM	**Chitina Glacie**	**22.41**	**52**	P	**P**	**13 25 48.0**	**+0.4**
TABL	**Table Mountain**	**22.46**	**54**	P	**P**	**13 25 48.7**	**+0.6**
BCAR	**Beaver Creek A**	**22.48**	**47**	P	**P**	**13 25 49.7**	**+1.6**
K27K	**Chicken**	**22.56**	**44**	P	**P**	**13 25 50.1**	**+1.4**
K27K				IAmb	IAmb	13 25 52.1	
	comp=Z,4.2nm,0.8s						
BMAR	**Burnt Mountain**	**22.67**	**35**	P	**P**	**13 25 50.9**	**+1.1**
PCA	**Pinnacle**	**22.88**	**55**	P	**P**	**13 25 52.6**	**+0.8**
EGAK	**Eagle**	**23.12**	**43**	P	**P**	**13 25 54.7**	**+0.9**
EGAK				IAmb	IAmb	13 25 56.0	
	comp=Z,5.2nm,0.7s						
BCPM	**Bancas Point**	**23.19**	**55**	P	**P**	**13 25 55.0**	**+0.5**
DAWY	**Dawson**	**23.72**	**45**	P	**P**	**13 25 59.6**	**+0.2**
DAWY				IAmb	IAmb	13 26 03.9	
	comp=Z,6.6nm,0.9s						
ASAJ	**Asahikawa**	**26.23**	**267**	P	**P**	**13 26 24.0**	**+1.9**
	comp=Z,4.7nm,0.8s,baz=21,slow=14,SNR=1.7						
INK	**Inuvik**	**26.92**	**36**	P	**P**	**13 26 29.2**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=244,slow=8.3,SNR=7.2						
INK				pP	**pwP**	**13 27 19.6**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=244,slow=15,SNR=3.2						
INK	**Inuvik**	**26.92**	**36**	IAmb	IAmb	13 26 36.1	
	comp=Z,3.1nm,1.2s						
DLBC	**Dease Lake**	**28.23**	**58**	P	**P**	**13 26 41.3**	**+1.6**
	comp=Z,2.3nm,0.7s,baz=214,slow=7.3,SNR=10						
DLBC	**Dease Lake**	**28.23**	**58**	P	**P**	**13 26 40.7**	**+0.9**
DLBC				IAmb	IAmb	13 26 58.5	
	comp=Z,10nm,1.4s						
USRK	**Ussuriysk Ar.**	**32.67**	**275**	P	**P**	**13 27 19.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=59,slow=9.5,SNR=2.0						
MJAR	**Matsushiro Arr**	**33.46**	**259**	P	**P**	**13 27 27.5**	**+1.9**
	comp=Z,0.9nm,0.5s,baz=46,slow=7.2,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**34.27**	**203**	T	T	14 03 53.3	
	baz=16,slow=76,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**34.28**	**203**	T	T	14 03 32.5	
	baz=16,slow=76,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**34.28**	**203**	T	T	14 03 52.9	
	baz=16,slow=76,SNR=7.1						
YKA	**Yellowknife Ar**	**34.90**	**47**	P	**P**	**13 27 39.0**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=282,slow=7.0,SNR=9.9						
YKA				pP	**pwP**	**13 28 32.4**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=280,slow=7.4,SNR=2.3						
YKA				ScP	**ScP**	**13 33 25.4**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=286,slow=3.4,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**35.49**	**203**	T	T	14 05 44.6	
	baz=16						
H11S2	**WAKE ISLAND Hy**	**35.51**	**203**	T	T	14 05 49.8	
	baz=16						
H11S3	**WAKE ISLAND Hy**	**35.51**	**203**	T	T	14 05 49.2	
	baz=16						
NEW	**Newport**	**39.01**	**70**	P	**P**	**13 28 13.6**	**+1.3**
	comp=Z,1.0nm,0.4s,baz=304,slow=8.6,SNR=3.9						
KSRS	**Korea Array**	**39.13**	**269**	P	**P**	**13 28 15.6**	**+2.2**
	comp=Z,1.4nm,0.8s,baz=50,slow=7.9,SNR=3.3						
YBH	**Yreka Blue Hor**	**39.25**	**82**	P	**P**	**13 28 17.0**	**+2.6**
	comp=Z,0.5nm,0.2s,baz=333,slow=11,SNR=6.8						
K05A	**Summer Lake**	**39.77**	**80**	P	**P**	**13 28 21.0**	**+2.1**
MOD	**Modoc Plateau**	**40.60**	**81**	P	**P**	**13 28 27.2**	**+1.6**
MOD				IAmb	IAmb	13 28 28.6	
	comp=Z,5.7nm,1.5s						
JTMT	**Jette**	**40.91**	**69**	P	**P**	**13 28 28.5**	**+0.5**
MSO	**Missoula**	**41.60**	**70**	P	**P**	**13 28 34.3**	**+0.7**
BEKR	**Beckworth**	**41.79**	**83**	P	**P**	**13 28 36.9**	**+1.6**
PAHR	**Pah Rah Range**	**42.48**	**83**	P	**P**	**13 28 42.6**	**+1.7**
PNTR	**Pine Nut**	**42.73**	**83**	P	**P**	**13 28 44.9**	**+1.9**
PNTR				IAmb	IAmb	13 28 47.6	
	comp=Z,4.0nm,0.6s						
WAKR	**Walker**	**43.20**	**84**	P	**P**	**13 28 48.7**	**+2.1**
BCYI	**Bear Canyon**	**43.32**	**73**	P	**P**	**13 28 48.4**	**+0.8**
MCMT	**McKenzie Canyo**	**43.35**	**72**	P	**P**	**13 28 47.9**	**0.0**
BOZ	**Bozeman (W)**	**43.62**	**71**	P	**P**	**13 28 50.0**	**+0.2**
KVN	**Kaiserville**	**43.67**	**82**	P	**P**	**13 28 51.4**	**+1.0**
RYN	**Ryan**	**43.68**	**83**	P	**P**	**13 28 51.4**	**+1.0**
RYN				IAmb	IAmb	13 28 53.2	
	comp=Z,1.9nm,0.5s						
LHV	**Little Huntoon**	**43.93**	**84**	P	**P**	**13 28 54.0**	**+1.9**
NVAR	**Mina Array Bea**	**43.94**	**83**	P	**P**	**13 28 54.4**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=297,slow=7.4,SNR=14						
NVAR	**Mina Array Bea**	**43.94**	**83**	P	**P**	**13 28 54.2**	**+1.7**
NV11	**Mina Array Sit**	**44.02**	**83**	P	**P**	**13 28 54.6**	**+1.4**
YHL	**Hebgen Lake**	**44.30**	**71**	P	**P**	**13 28 56.1**	**+0.7**
YHL				IAmb	IAmb	13 28 56.9	
	comp=Z,4.1nm,1.2s						
ELK	**Elko**	**44.35**	**79**	P	**P**	**13 28 57.4**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=310,slow=7.9,SNR=4.8						
ELK	**Elko**	**44.35**	**79**	P	**P**	**13 28 57.1**	**+1.3**
PAGB	**Antelope Grade**	**44.49**	**88**	P	**P**	**13 28 58.7**	**+2.0**
PAGB				IAmb	IAmb	13 28 59.4	
	comp=Z,11nm,1.3s						
YHH	**Holmes Hill**	**44.53**	**71**	P	**P**	**13 28 57.8**	**+0.5**
HVU	**Hansel Valley**	**45.19**	**76**	P	**P**	**13 29 03.2**	**+0.9**
HVU				IAmb	IAmb	13 29 04.7	
	comp=Z,5.7nm,1.4s						
R11A	**Troy Canyon, C**	**45.64**	**81**	P	**P**	**13 29 06.8**	**+0.9**
SONM	**Songino Array**	**45.73**	**295**	P	**P**	**13 29 07.1**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=60,slow=8.5,SNR=2.9						
SPR3	**Spring Creek 3**	**45.98**	**80**	P	**P**	**13 29 10.3**	**+1.6**
TPNV	**Topopah Spring**	**46.13**	**83**	P	**P**	**13 29 11.0**	**+1.3**
DUG	**Dugway, Tooele**	**46.14**	**78**	P	**P**	**13 29 10.7**	**+0.9**
DUG				IAmb	IAmb	13 29 12.1	
	comp=Z,4.8nm,1.2s						
BW06	**Boulder Array**	**46.49**	**73**	P	**P**	**13 29 13.0**	**+0.5**
PD31	**Pinedale Array**	**46.49**	**73**	P	**P**	**13 29 12.8**	**+0.3**
PDAR	**Pinedale Array**	**46.49**	**73**	P	**P**	**13 29 12.7**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=320,slow=3.3,SNR=13						
PDAR				pP	**pwP**	**13 30 07.4

IDC 09 13:40:55.2±4.4, 5°54S×147°30E, h205km±45km, mb3.4/3, mb1 3.6/5, mb1mx3.2/29, mbtmp3.9/5, MS3.9/1, Ms1 3.9/1, ms1mx2.7/22, Error ellipse: s-maj=73.8km s-min=28.2km az=135.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**182**	P	Pn	13 41 55.7	+0.5
	1.1nm,0.3s,baz=46,slow=11,SNR=6.4						
PMG				S	S	13 42 40.5	-1.5
	5.5nm,0.3s,baz=26,slow=23,SNR=9.3						
WRA	**Warramunga Arr**	**19.07**	**220**	P	P	13 45 02.5	0.0
	1.3nm,0.3s,baz=48,slow=12,SNR=60						
ASAR	**Alice Springs**	**22.16**	**214**	P	P	13 45 35.1	+0.4
	1.3nm,0.4s,baz=49,slow=8.7,SNR=26						
BATI	**Baumata**	**23.86**	**257**	LR	LR	13 58 48.9	
	comp=Z,289nm,18.4s,baz=230,slow=45						
FITZ	**Fitzroy Crossi**	**24.56**	**238**	P	P	13 45 56.2	-0.3
	5.5nm,0.5s,baz=56,slow=11,SNR=29						
ILAR	**Eielson Array**	**84.94**	**23**	P	P	13 53 06.3	-0.7
	0.1nm,0.5s,baz=248,slow=4.8,SNR=2.4						

IDC 09 13:51:24.8±2.1, 7°97S×129°47E, h0km, mb3.4/1, mb1 3.8/5, mb1mx3.6/27, mbtmp3.6/5, ML3.7/4, Error ellipse: s-maj=50.1km s-min=28.6km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.15**	**248**	Pn	Pn	13 52 57.1	+0.1
	2.2nm,0.3s,baz=107,slow=11,SNR=2.2						
BATI				Sn	Sn	13 54 00.8	-7.4
	5.4nm,0.3s,baz=97,slow=18,SNR=5.9						
FITZ	**Fitzroy Crossi**	**10.74**	**200**	Pn	Pn	13 53 58.8	-1.2
	0.4nm,0.3s,baz=23,slow=11,SNR=20						
FITZ				Sn	Sn	13 55 50.0	-11
	0.7nm,0.3s,baz=141,slow=19,SNR=6.9						
WRA	**Warramunga Arr**	**12.80**	**159**	Pn	Pn	13 54 29.1	+0.8
	0.4nm,0.3s,baz=343,slow=12,SNR=17						
WRA				Sn	Sn	13 56 45.2	-6.5
	0.2nm,0.3s,baz=321,slow=26,SNR=2.4						
ASAR	**Alice Springs**	**16.18**	**165**	Pn	Pn	13 55 14.1	+0.3
	0.2nm,0.3s,baz=346,slow=11,SNR=20						
ASAR				Sn	Sn	13 58 06.1	-7.9
	0.2nm,0.3s,baz=344,slow=22,SNR=2.9						
MKAR	**Makanchi Array**	**68.75**	**327**	P	P	14 02 30.7	0.0
	0.3nm,0.6s,baz=127,slow=7.4,SNR=5.2						

IDC 09 14:11:42.8±7.5, 6°65S×153°80E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/36, mbtmp3.4/4, Error ellipse: s-maj=238.8km s-min=36.1km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.05**	**233**	P	P	14 16 49.6	-0.3
	0.7nm,0.9s,baz=57,slow=9.7,SNR=2.7						
ASAR	**Alice Springs**	**25.52**	**226**	P	P	14 17 13.4	0.0
	0.4nm,0.9s,baz=58,slow=9.6,SNR=2.7						
MKAR	**Makanchi Array**	**82.36**	**319**	P	P	14 24 07.3	+0.6
	0.6nm,0.7s,baz=114,slow=5.3,SNR=6.7						
KURBB	**Kurchatov Arra**	**85.86**	**322**	P	P	14 24 23.8	-0.6
	0.2nm,0.5s,baz=98,slow=3.9,SNR=1.7						

*INMG **09** 14:31:06.2±1.2, 32°29N×7°68W, h10km, ML2.5, Error ellipse: s-maj=5.5km s-min=5.3km az=45.0*
*IGIL **09** 14:31:07.2, 32°28N×7°74W, h9km*
*SFS **09** 14:31:07.0, 32°40N×7°64W, ML3.7, BENGUERIR (MARRUECOS)*
*MDD **09** 14:31:10.1±2.9, 32°77N×7°42W, h0km, mb3.7/5, Error ellipse: s-maj=27.9km s-min=19.6km az=87.0, PRXIMO*
ISC 09 14:31:07.2±3.5, 32°5N±0°2×7°63W±0°09, h10km, n28, σ1s25/50, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVE	**Averroes**	**0.86**	**12**	*e*P	**Pn**	**14 31 26.6**	**+1.2**
AVE				*e*S	**Sn**	**14 31 42.2**	**+4.2**
IFR	**Ifrane**	**2.35**	**63**	*e*P	**Pn**	14 31 45.9	-0.2
IFR				*e*S	**Sg**	**14 32 23.4**	**+0.6**
PFVI	**Vila Bisbo**	**4.77**	**348**	P	**Pn**	**14 32 19.8**	**+0.7**
	1.6nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**14 33 13.1**	**-1.3**
	2.7nm,0.2s,SNR=4.0						
PFVI	**Vila Bisbo**	**4.77**	**348**	*e*Pn	**Pn**	**14 32 20.3**	**+1.2**
PFVI				*e*Sn	**Sn**	**14 33 14.5**	**+0.1**
PBDV	**Barranco-do-Ve**	**4.78**	**357**	P	**Pn**	**14 32 20.0**	**+0.7**
PBDV				S	**Sn**	**14 33 14.3**	**-0.5**
	4.3nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.78**	**357**	*e*Pn	**Pn**	**14 32 20.0**	**+0.7**
PBDV				*e*Sn	**Sn**	**14 33 14.3**	**-0.5**
PBDV				A	A	14 33 40.9	
	4.3nm,0.6s						
MORF	**Marmelete**	**4.91**	**350**	*e*P	**Pn**	**14 32 21.4**	**+0.3**
MORF	**Marmelete**	**4.91**	**350**	P	**Pn**	**14 32 21.4**	**+0.3**
MORF				S	**Sn**	**14 33 17.2**	**-0.8**
MORF	**Marmelete**	**4.91**	**350**	*e*Pn	**Pn**	**14 32 21.6**	**+0.5**
MORF				*e*Sn	**Sn**	**14 33 17.2**	**-0.8**
PVAQ	**Vaqueiros**	**4.94**	**359**	P	**Pn**	**14 32 21.8**	**+0.4**
PVAQ				S	**Sn**	**14 33 18.8**	**+0.3**
	6.0nm,0.6s						
PVAQ	**Vaqueiros**	**4.94**	**359**	*e*Pn	**Pn**	**14 32 21.8**	**+0.4**
PVAQ				*e*Sn	**Sn**	**14 33 18.8**	**+0.3**
PVAQ				A	A	14 33 19.4	
	6.0nm,0.6s						
EGRO	**El Granado**	**5.07**	**1**	P	**Pn**	**14 32 23.8**	**+0.6**
	0.7nm,0.3s,SNR=5.1						
EGRO				S	**Sn**	**14 33 19.8**	**-2.0**
	1.5nm,0.2s,SNR=4.9						
PTEO	**Sao Teotonio**	**5.16**	**350**	P	**Pn**	**14 32 25.0**	**+0.6**
PTEO	**Sao Teotonio**	**5.16**	**350**	*e*Pn	**Pn**	**14 32 25.0**	**+0.6**
PCVE	**Castro Verde**	**5.17**	**356**	P	**Pn**	**14 32 25.4**	**+0.7**
PCVE				S	**Sn**	**14 33 24.0**	**-0.4**
	6.6nm,0.5s						
PCVE	**Castro Verde**	**5.17**	**356**	*e*Pn	**Pn**	**14 32 25.4**	**+0.7**
PCVE				*e*Sn	**Sn**	**14 33 24.0**	**-0.4**
PCVE				A	A	14 33 26.1	
	6.6nm,0.5s						
EMIN	**Mina Concepcio**	**5.36**	**8**	P	**Pn**	**14 32 27.2**	**0.0**
	0.7nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**14 33 26.7**	**-2.2**
	4.2nm,0.4s,SNR=8.2						
PNCL	**Nicolau / Gran**	**5.69**	**353**	P	**Pn**	**14 32 32.8**	**+1.1**
PNCL	**Nicolau / Gran**	**5.69**	**353**	*e*Pn	**Pn**	**14 32 32.8**	**+1.1**
PBAR	**Barrancos**	**5.72**	**5**	P	**Pn**	**14 32 33.0**	**+0.8**
PBAR				S	**Sn**	**14 33 36.5**	**-1.5**
	3.0nm,0.4s						
PBAR	**Barrancos**	**5.72**	**5**	*e*Pn	**Pn**	**14 32 33.0**	**+0.8**
PBAR				*e*Sn	**Sn**	**14 33 36.5**	**-1.5**
PBAR				A	A	14 33 47.3	
	3.0nm,0.4s						
ECAB	**El Cabril**	**5.89**	**17**	P	**Pn**	**14 32 35.1**	**+0.6**
	0.4nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**14 33 40.7**	**-1.4**
	9.9nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**6.22**	**23**	P	**Pn**	**14 32 39.9**	**+0.8**
	0.7nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**14 33 47.3**	**-3.0**
	1.5nm,0.3s,SNR=7.9						
PMTG	**Montargil**	**6.62**	**356**	P	**Pn**	**14 32 44.9**	**+0.4**
PMTG				S	**Sn**	**14 33 58.8**	**-1.1**
PMTG	**Montargil**	**6.62**	**356**	*e*Pn	**Pn**	**14 32 44.9**	**+0.4**
PMTG				*e*Sn	**Sn**	**14 33 58.8**	**-1.1**
PMRV	**Marv??o**	**6.96**	**2**	P	**Pn**	**14 32 50.0**	**+0.8**
PMRV				S	**Sn**	**14 34 07.5**	**-0.9**
PMRV	**Marv??o**	**6.96**	**2**	*e*Pn	**Pn**	**14 32 50.0**	**+0.8**
PMRV				*e*Sn	**Sn**	**14 34 07.5**	**-0.9**
PSBE	**So Bento**	**7.11**	**353**	*e*Pn	**Pn**	**14 32 48.1**	**-3.1**

IDC 09 14:34:27.1±2.2, 0°01S×125°68E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/23, mbtmp3.0/3, Error ellipse: s-maj=206.9km s-min=30.0km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.55**	**157**	P	P	14 39 17.6	-0.6
	0.4nm,0.7s,baz=335,slow=12,SNR=0.3						
ASAR	**Alice Springs**	**24.84**	**162**	P	P	14 39 51.9	+0.5
	0.3nm,0.9s,baz=344,slow=11,SNR=1.5						
MKAR	**Makanchi Array**	**60.05**	**327**	P	P	14 44 35.9	-0.1
	0.2nm,0.7s,baz=118,slow=8.4,SNR=2.1						

*IDC **09** 14:51:58.1±0.7, 11°35N×86°65W, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.2/42, mbtmp4.2/17, ML4.2/1, MS4.0/21, Ms1 4.0/21, ms1mx3.8/46, Error ellipse: s-maj=27.1km s-min=9.9km az=44.0*
*INET **09** 14:52:02.6, 11°13N×86°95W, h15km, MW4.5*
*NEIC **09** 14:52:02.3±1.8, 11°10N±0°07×86°92W±0°07, h45km±8km, mb4.7/199, Error ellipse: s-maj=11.9km s-min=7.5km az=49.0*
*BJI **09** 14:52:02.5±0.0, 11°20N×86°90W, h41km, Ms5.2/1, Ms7 4.9/1*
*SNET **09** 14:52:03.9±1.1, 11°17N×87°05W, h45km, ML4.4*
ISC 09 14:52:02.0±0.4, 11°18N±0°05×86°92W±0°06, h30km, n323, σ1s20/302, mb4.7/112, MS4.1/22, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.52**	**355**		**Pb**	**14 52 28.3**	**-1.2**
ORTG	**Ortega, Santa**	**1.65**	**119**		**Pn**	**14 52 26.4**	**-2.5**
BOAB	**BOACO BROADBAN**	**1.76**	**44**		**Pn**	**14 52 30.8**	**+0.4**
ACON	**Acoyapa**	**1.88**	**65**		**Pn**	**14 52 32.5**	**+0.4**
JTS	**Las Juntas de**	**2.12**	**114**	Pg	**Pn**	**14 52 34.2**	**-1.2**
	8.7nm,0.3s,baz=24,slow=13,SNR=14						
JTS				LR	LR	14 52 58.0	
	comp=Z,430nm,18.4s,baz=355,slow=30						
JTS				Lg	Lg	14 53 01.1	
	46nm,0.3s,baz=359,slow=18,SNR=6.1						
JTS	**Las Juntas de**	**2.12**	**114**	Pn	**Pn**	**14 52 34.5**	**-1.0**
CNCH	**Conchagua**	**2.27**	**337**	*i* P	**Pn**	**14 52 38.8**	**+1.2**
JUCU	**Jucuar¡n**	**2.44**	**328**	*e*P	**Pn**	**14 52 40.4**	**+0.5**
COVE	**Coope Vega, Sa**	**2.51**	**100**		**Pn**	**14 52 40.9**	**+0.1**
LCY	**Lacayo**	**2.61**	**329**	*e*P	**Pn**	**14 52 44.4**	**+2.2**
RANC	**El Ranchito**	**2.61**	**329**	*e*P	**Pn**	**14 52 43.1**	**+0.8**
PACA	**Pacayal**	**2.66**	**329**	*e*P	**Pn**	**14 52 44.6**	**+1.7**
PACA				IAML		14 53 22.9	
	comp=Z,119nm,0.2s						
ALJI	**Alcalda de J**	**2.68**	**323**	*e*S	**Sn**	**14 53 15.1**	**+0.6**
ESPN	**Las Esperanzas**	**2.76**	**68**		**Pn**	**14 52 44.7**	**+0.6**
TECA	**Tecapa**	**2.77**	**326**	*i* P	**Pn**	**14 52 45.4**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.88**	**353**	*e*P	**Pn**	**14 52 47.9**	**+1.9**
TGUH	**Tegucigalpa,Un**	**2.88**	**353**	Pn	**Pn**	**14 52 47.1**	**+1.1**
HDC	**Heredia**	**3.00**	**113**	Pn	**Pn**	**14 52 47.9**	**+0.4**
COEG	**Centro de Oper**	**3.09**	**322**	*e*P	**Pn**	**14 52 49.6**	**+0.7**
LFRS	**El Faro**	**3.21**	**319**	*e*P	**Pn**	**14 52 51.1**	**+0.6**
LBRS	**Las Brisas**	**3.28**	**321**	*e*P	**Pn**	**14 52 52.7**	**+1.2**
PMON	**Piamonte**	**3.44**	**317**	*e*P	**Pn**	**14 52 54.9**	**+1.3**
JAYA	**Jayaque - finc**	**3.49**	**315**	*e*P	**Pn**	**14 52 55.7**	**+1.3**
BATAN	**Batan**	**3.64**	**107**	Pn	**Pn**	**14 52 55.6**	**-0.8**
PEZE	**Perez Zeledon,**	**3.65**	**119**	Pn	**Pn**	**14 52 56.2**	**-0.4**
MTO3	**Montecristo**	**3.99**	**324**		**Pn**	**14 53 02.2**	**+0.9**
RIOS	**Rincon, Osa**	**4.16**	**126**		**Pn**	**14 53 03.7**	**+0.2**
PETF	**Flores**	**6.38**	**334**		**Pn**	**14 53 35.0**	**+1.0**
CCIG	**Comitan**	**7.17**	**316**	Pn	**Pn**	**14 53 45.4**	**+0.3**
CMIG	**Matias Romero**	**9.71**	**308**	Pn	**Pn**	**14 54 21.4**	**+1.7**
	comp=Z,2.0nm,0.3s,baz=108,slow=9.4,SNR=25						
CMIG				Sn	**Sn**	**14 56 08.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=49,slow=20,SNR=1.6						
MOTC	**Monteria, Cord**	**11.34**	**101**	*e*P	Pn	14 54 46.4	+4.4
DBBC	**Dabeiba**	**11.35**	**110**	*e*P	**Pn**	**14 54 43.3**	**+1.0**
PLMC	**San Jos del P**	**12.23**	**120**	*e*P	**Pn**	**14 54 57.9**	**+3.5**
GUY2C	**Guyana, Caldas**	**12.87**	**116**	*e*P	**P**	**14 55 14.9**	**+1.0**
SMLC	**San Martn de**	**12.87**	**99**	*e*P	**P**	**14 55 15.0**	**+1.5**
TLIG	**Tlapa**	**12.94**	**301**	Pn	**Pn**	**14 55 06.6**	**+2.5**
NORC	**Norcasia**	**13.16**	**114**	*e*P	**P**	**14 55 14.4**	**-2.3**
TOLC	**Tolima**	**13.22**	**119**	*e*P	P	14 55 22.0	+4.3
BBAC	**Balboa, Cauca**	**13.22**	**133**	*e*P	**Pn**	**14 55 11.4**	**+3.4**
ORTC	**Ortega, Tolima**	**13.63**	**121**	*e*P	**P**	**14 55 19.8**	**-2.2**
MARP	**Paez Belalcaza**	**13.67**	**126**	*e*P	**P**	**14 55 25.2**	**+2.6**
ROSC	**El Rosal**	**13.97**	**116**	LR	LR	15 00 47.3	
	comp=Z,380nm,20.4s,baz=311,slow=38						
PRAC	**Prado**	**14.04**	**121**	*e*P	**P**	**14 55 27.4**	**+0.9**
BARC	**Barichara**	**14.31**	**107**	*e*P	**P**	**14 55 31.4**	**+1.7**
061Z	**Ochoppi**	**15.68**	**20**	Pn	**Pn**	**14 55 40.9**	**+0.2**
MACC	**Macarena, Meta**	**15.77**	**124**	*e*P	**P**	**14 55 46.3**	**+0.5**
SDV	**Santo Domingo**	**16.20**	**97**	LR	LR	15 03 18.5	
	comp=Z,375nm,18.6s,baz=274,slow=43						
SDV	**Santo Domingo**	**16.20**	**97**	Pn	**Pn**	**14 55 48.0**	**+0.2**
SDV	**Santo Domingo**	**16.20**	**97**	*e*P	**P**	**14 55 51.4**	**+0.8**
ATAH	**Atahualpa**	**20.07**	**155**	LR	LR	15 03 20.3	
	comp=Z,532nm,19.4s,baz=338,slow=34						
346A	**Big Creek Wild**	**20.25**	**354**	P	Pn	14 56 36.1	-0.9
346A				IAmb	IAmb	14 57 02.9	
	comp=Z,30nm,0.6s						
352A	**Blakely**	**20.29**	**5**	P	**P**	**14 56 35.9**	**+0.6**
441A	**DeRidder**	**20.33**	**344**	P	Pn	14 56 37.7	-0.2
TIGA	**Tifton**	**20.40**	**8**	P		14 56 38.6	
	baz=189						
833A	**Chaparral WMA,**	**20.68**	**327**	P		14 56 39.8	
	baz=143						
250A	**Grady**	**20.71**	**2**	P	Pn	14 56 41.4	-0.9
250A				IAmb	IAmb	14 56 52.8	
	comp=Z,43nm,1.1s						
AOPR	**Arecibo Observ**	**20.75**	**68**	P	Pn	14 56 41.9	-1.1
AOPR				IAmb	IAmb	14 56 46.7	
	comp=Z,38nm,1.1s						
152A	**Waverly Hall**	**21.48**	**5**	P	**P**	**14 56 48.6**	**+0.4**
NATX	**Nacogdoches**	**21.70**	**342**	P	**P**	**14 56 51.5**	**+0.9**
NATX				IAmb	IAmb	14 56 54.9	
	comp=Z,50nm,1.2s						
NATX	**Nacogdoches**	**21.70**	**342**	P		14 56 51.4	
	baz=159						
LRAL	**Lakeview Retre**	**21.75**	**360**	P	**P**	**14 56 52.1**	**+1.0**
LRAL				IAmb	IAmb	14 56 55.4	
	comp=Z,19nm,0.9s						
LRAL	**Lakeview Retre**	**21.75**	**360**	P		14 56 52.0	
	baz=180,SNR=9.5						
PCRV	**Puerto La Cruz**	**21.92**	**90**	P	**P**	**14 56 52.0**	**-1.2**
	comp=Z,18nm,1.0s,baz=294,slow=2.7,SNR=3.2						
Z47A	**Carrollton**	**21.94**	**357**	P	**P**	**14 56 53.2**	**0.0**
Z47A				IAmb	IAmb	14 57 06.1	
	comp=Z,20nm,0.8s						
Z51A	**Franklin**	**22.09**	**4**	P	**P**	**14 56 55.7**	**+1.0**
Z51A				IAmb	IAmb	14 57 06.5	
	comp=Z,29nm,1.0s						
237A	**Washetta, Mont**	**22.29**	**340**	P	**P**	**14 56 58.2**	**+1.3**
237A				IAmb	IAmb	14 57 06.1	
	comp=Z,41nm,0.9s						
GOGA	**Godfrey**	**22.35**	**8**	P		14 56 57.7	
	baz=189,SNR=14						
GOGA	**Godfrey**	**22.36**	**8**	P	**P**	**14 56 58.0**	**+0.5**
GOGA				IAmb	IAmb	14 57 01.0	
	comp=Z,27nm,0.8s						
Y49A	**Blount Mountai**	**22.58**	**1**	P	**P**	**14 57 00.6**	**+0.6**
Y49A				IAmb	IAmb	14 57 01.8	
	comp=Z,15nm,0.7s						
JCT	**Junction City**	**22.63**	**330**	P		14 57 00.1	
	baz=146						
JCT	**Junction City**	**22.63**	**330**	P	**P**	**14 57 01.0**	**+0.4**
NHSC	**New Hope**	**22.69**	**15**	P		14 57 01.4	
	baz=197						
Y45A	**Yeager Farm, C**	**22.71**	**354**	P	**P**	**14 57 00.6**	**-0.7**
Y52A	**Lilburn**	**22.73**	**6**	P	**P**	**14 57 02.1**	**+0.5**
Y52A				IAmb	IAmb	14 57 04.6	
	comp=Z,32nm,1.1s						
WHTX	**Lake Whitney,**	**22.88**	**336**	P		14 57 03.4	
	baz=153						
WHTX	**Lake Whitney,**	**22.88**	**336**	P	**P**	**14 57 03.0**	**-0.2**
WHTX				IAmb	IAmb	14 57 12.7	
	comp=Z,18nm,0.8s						
X48A	**Hartselle**	**23.17**	**360**	P	**P**	**14 57 04.8**	**-1.2**
Z38A	**Mt. Pleasant**	**23.19**	**343**	P	**P**	**14 57 05.2**	**-1.1**
HODGE	**Hodges**	**23.34**	**10**	P	**P**	**14 57 08.3**	**+0.6**
X51A	**Calhoun**	**23.36**	**4**	P	**P**	**14 57 08.5**	**+0.5**
X51A				IAmb	IAmb	14 57 11.0	
	comp=Z,25nm,0.8s						
CZSB	**Cruzeiro do Su**	**23.51**	**142**	*e*P	**P**	**14 57 12.2**	**+2.5**
JSC	**Jenkinsville**	**23.57**	**12**	P	**P**	**14 57 09.7**	**-0.3**
PLAL	**Pickwick Lake**	**23.72**	**358**	P	**P**	**14 57 10.9**	**-0.5**
PLAL				IAmb	IAmb	14 57 12.8	
	comp=Z,23nm,1.1s						
X40A	**Basin Creek Fa**	**23.82**	**348**	P		14 57 11.7	
	baz=166						
X40A	**Basin Creek Fa**	**23.82**	**348**	P	**P**	**14 57 11.7**	**-0.7**
TXAR	**Lajitas Array**	**23.89**	**322**	P	**P**	**14 57 14.6**	**+1.3**
	comp=Z,7.4nm,0.8s,baz=138,slow=9.8,SNR=75						
TXAR				PcP	**PcP**	**15 00 58.2**	**+2.5**
	comp=Z,2.4nm,0.9s,baz=134,slow=3.9,SNR=8.9						
TXAR	**Lajitas Array**	**23.89**	**322**	P	**P**	**14 57 13.3**	**+0.1**
TX31	**Lajitas Ar. Si**	**23.89**	**322**	P	**P**	**14 57 13.4**	**+0.2**
TX31				IAmb	IAmb	14 57 29.7	
	comp=Z,25nm,0.9s						
TX32	**Lajitas Array**	**23.89**	**322**	P	**P**	**14 57 13.5**	**+0.3**
SWET	**Sewanee**	**23.95**	**2**	P	**P**	**14 57 13.9**	**+0.3**
SWET				IAmb	IAmb	14 57 15.7	
	comp=Z,25nm,0.9s						
W50A	**Signal Mountai**	**23.96**	**3**	P	**P**	**14 57 13.9**	**+0.2**
W50A				IAmb	IAmb	14 57 16.0	
	comp=Z,22nm,0.8s						
W45A	**Hickory Valley**	**23.96**	**355**	P	**P**	**14 57 13.5**	**-0.2**
W52A	**Murphy**	**23.96**	**6**	P	**P**	**14 57 14.2**	**+0.4**
W52A				IAmb	IAmb	14 57 17.1	
	comp=Z,14nm,0.8s						
BG3	**Lake Jocassee**	**23.98**	**8**	P	**P**	**14 57 14.6**	**+0.7**
PAULI	**Pauline**	**23.99**	**10**	P	**P**	**14 57 14.7**	**+0.7**
Z35A	**Perchaven, San**	**24.00**	**338**	P	**P**	**14 57 14.6**	**+0.4**
Z35A				IAmb	IAmb	14 57 40.5	
	comp=Z,26nm,0.9s						
MIAR	**Mount Ida**	**24.04**	**346**	P	**P**	**14 57 14.3**	**-0.2**
MIAR	**Mount Ida**	**24.04**	**346**	P		14 57 14.4	
	baz=164						
BIRD	**Birdtown, Kers**	**24.09**	**13**	P	**P**	**14 57 14.9**	**0.0**
CPCT	**Cooper Cave**	**24.26**	**5**	P	**P**	**14 57 17.1**	**+0.6**
CPCT				IAmb	IAmb	14 57 19.7	
	comp=Z,29nm,0.9s						
ABTX	**Abilene, Hawle**	**24.35**	**333**	P	**P**	**14 57 17.4**	**+0.1**
ABTX				IAmb	IAmb	14 57 30.5	
	comp=Z,27nm,1.1s						
ABTX	**Abilene, Hawle**	**24.35**	**333**	P		14 57 16.6	
	baz=149						
H06E1	**SOCORRO T-PHAS**	**24.37**	**291**	T	T	15 22 28.3	
	SNR=34						
W41B	**Gary Mavity, V**	**24.37**	**349**	P		14 57 16.8	
	baz=167						
KMSC	**Kings Mountain**	**24.39**	**11**	P		14 57 17.3	
	baz=193						
V48A	**Smith Brothers**	**24.45**	**0**	P	**P**	**14 57 17.6**	**-0.7**
V48A				IAmb	IAmb	14 57 21.7	
	comp=Z,15nm,0.8s						
WHAR	**Wooly Hollow**	**24.50**	**349**	P	**P**	**14 57 18.1**	**-0.6**
WHAR				IAmb	IAmb	14 57 21.2	
	comp=Z,23nm,1.3s						
W56A	**Indian Trail**	**24.54**	**13**	P		14 57 19.4	
	baz=195						
TKL	**Tuckaleechee C**	**24.54**	**6**	P	**P**	**14 57 19.0**	**0.0**
	comp=Z,15nm,0.8s,baz=180,slow=9.7,SNR=13						
TKL	**Tuckaleechee C**	**24.54**	**6**	P	**P**	**14 57 19.4**	**+0.4**
X37A	**Clayton**	**24.55**	**343**	P	**P**	**14 57 19.6**	**+0.5**
X37A				IAmb	IAmb	14 57 35.5	
	comp=Z,31nm,1.0s						
V51A	**Loudon**	**24.63**	**5**	P	**P**	**14 57 19.9**	**+0.1**
V51A				IAmb	IAmb	14 57 23.4	
	comp=Z,20nm,0.8s						
V53A	**Saluda**	**24.66**	**8**	P	**P**	**14 57 20.3**	**+0.1**
V53A				IAmb	IAmb	14 57 23.9	
	comp=Z,17nm,0.8s						
W39A	**Magazine**	**24.71**	**346**	P		14 57 19.9	
	baz=164						
V52A	**Sevierville**	**24.74**	**6**	P	**P**	**14 57 20.2**	**-0.6**
CLTN	**Cedars of Leba**	**24.81**	**1**	P	**P**	**14 57 20.4**	**-1.0**
CLTN				IAmb	IAmb	14 57 24.3	
	comp=Z,22nm,0.8s						
WVT	**Waverly**	**24.86**	**358**	P	**P**	**14 57 20.2**	**-1.7**
WVT	**Waverly**	**24.86**	**358**	P		14 57 21.3	
	baz=178						
LCAR	**Lake Charles**	**25.08**	**352**	P	**P**	**14 57 21.8**	**-2.1**
V55A	**Taylorsville**	**25.10**	**11**	P	**P**	**14 57 23.3**	**-0.8**
V55A				IAmb	IAmb	14 57 28.0	
	comp=Z,16nm,1.0s						
V56A	**Mocksville**	**25.20**	**12**	P		14 57 24.5	
	baz=195						
U49A	**Red Boiling Sp**	**25.25**	**2**	P	**P**	**14 57 24.1**	**-1.4**
U49A				IAmb	IAmb	14 57 28.8	
	comp=Z,16nm,0.9s						
V57A	**Coltrane Farms**	**25.44**	**14**	P		14 57 27.0	
	baz=196						
PARMO	**Parma**	**25.50**	**355**	P	**P**	**14 57 25.1**	**-2.6**
V58A	**Windy Hill, Pi**	**25.51**	**15**	P	**P**	**14 57 27.8**	**+0.1**
V58A				IAmb	IAmb	14 57 29.6	
	comp=Z,30nm,1.0s						
U40A	**Yellville**	**25.64**	**349**	P		14 57 27.9	
	baz=166						
U54A	**Nelsons Funny**	**25.65**	**10**	P		14 57 29.0	
	baz=192						
U54A	**Nelsons Funny**	**25.65**	**10**	P	**P**	**14 57 29.7**	**+0.5**
U54A				IAmb	IAmb	14 57 34.0	
	comp=Z,20nm,0.9s						
T47A	**Sharon Grove**	**25.70**	**360**	P	**P**	**14 57 28.9**	**-0.6**
T47A				IAmb	IAmb	14 57 30.3	
	comp=Z,14nm,0.8s						
V59A	**Middlesex**	**25.71**	**16**	P		14 57 29.6	
	baz=200						
FNO	**Franklin**	**25.80**	**340**	P	**P**	**14 57 30.8**	**+0.4**
T50A	**Nancy**	**25.80**	**4**	P	**P**	**14 57 30.3**	**-0.2**
WMOK	**

T35A Sooner Cattle 27.05 343 P P 14 57 40.5 -1.2
R50A Paris 27.09 4 P P 14 57 41.8 -0.3
AMTX Amarillo 27.16 333 P P 14 57 42.2 -0.7
AMTX IAmb IAmb 14 57 59.3
comp=Z,31nm,1.4s
S56A Natural Bridge 27.20 13 P 14 57 42.8
baz=196
R54A Victor 27.41 10 P 14 57 45.1
baz=193
S57A Dark Hollow, R 27.42 14 P 14 57 44.8
baz=197
S58A Poland Farm, P 27.50 15 P 14 57 45.8
baz=199
Q44A Meyer Farm, Va 27.67 356 P P 14 57 45.9 -1.4
R58B Mineral 27.88 15 P 14 57 49.2
baz=199
Q51A Peebles 27.91 6 P P 14 57 48.5 -1.0
Q52A Bidwell 27.98 8 P P 14 57 49.1 -0.9
Q52A IAmb IAmb 14 57 52.1
comp=Z,25nm,0.9s
Q53A Leroy 27.98 9 P 14 57 49.6
baz=191
R57A Stanardsville 28.03 14 P 14 57 49.6
baz=198,SNR=6.3
R58A Rapidan 28.16 15 P 14 57 51.0
baz=199
P48A Milroy 28.20 2 P P 14 57 50.6 -1.3
P48A IAmb IAmb 14 57 52.5
comp=Z,24nm,1.2s
Q54A Coxs Mills 28.22 10 P P 14 57 51.9 -0.2
Q54A IAmb IAmb 14 57 53.8
comp=Z,20nm,0.8s
P49A Miami Univ. Ec 28.31 4 P P 14 57 52.1 -0.9
P49A IAmb IAmb 14 57 53.5
comp=Z,24nm,1.2s
P49A Miami Univ. Ec 28.31 4 P 14 57 52.1
baz=185
P46A Rosedale 28.32 360 P P 14 57 52.2 -0.9
Q56A Snyder Ridge, 28.59 13 P 14 57 55.0
baz=196,SNR=7.4
Q56A Snyder Ridge, 28.59 13 P P 14 57 56.7 +1.2
Q56A IAmb IAmb 14 57 58.0
comp=Z,17nm,0.8s
P53A Whipple 28.62 9 P P 14 57 56.3 +0.5
P52A Corning 28.66 8 P 14 57 56.0
baz=190,SNR=8.5
P52A Corning 28.66 8 P P 14 57 55.9 -0.2
Q57A Strasburg 28.76 14 P 14 57 56.4
baz=198
Q58A Fox Den Farm, 28.85 15 P 14 57 56.8
baz=199
P38A Dawn 28.93 349 P P 14 57 57.2 -1.3
P38A IAmb IAmb 14 57 58.7
comp=Z,10.0nm,0.7s
O49A Covington 28.98 4 P P 14 57 57.9 -1.1
O49A IAmb IAmb 14 57 59.7
comp=Z,23nm,1.1s
MCWV Mont Chateau 29.05 11 P P 14 57 58.6 -1.0
MCWV Mont Chateau 29.05 11 P 14 57 58.6
baz=194
SFIN Lafayette 29.08 360 P P 14 57 58.0 -1.9
SFIN IAmb IAmb 14 58 00.0
comp=Z,20nm,1.3s
SFIN Lafayette 29.08 360 P 14 57 58.8
baz=180
BNM Barren Site 29.11 325 P P 14 57 58.4 -2.0
P56A Dayton Farm, R 29.11 13 P 14 57 59.8
baz=196,SNR=8.1
ACSO Alum Creek Sta 29.15 6 P P 14 57 59.7 -0.7
ACSO IAmb IAmb 14 58 01.5
comp=Z,24nm,1.0s
ACSO Alum Creek Sta 29.15 6 P 14 58 00.0
baz=188,SNR=5.0
O52A Adamsville 29.17 8 P P 14 58 00.5 -0.2
P57A Homestead Farm 29.28 14 P 14 58 02.2
baz=198,SNR=6.8
P57A Homestead Farm 29.28 14 P P 14 58 02.0 +0.4
P57A IAmb IAmb 14 58 04.0
comp=Z,20nm,0.9s
ETMB Extrema 29.31 135 eP P 14 58 04.3 +2.2
O53A New Philadelph 29.39 9 P 14 58 02.5
baz=191,SNR=7.4
O53A New Philadelph 29.39 9 P P 14 58 02.4 -0.2
SDMD Soldier's Deli 29.51 16 P P 14 58 03.9 +0.3
ANMO Albuquerque 29.60 326 P P 14 58 06.6 +1.9
comp=Z,1.8nm,0.8s,baz=124,slow=7.9,SNR=3.9
ANMO Albuquerque 29.60 326 P P 14 58 04.6 -0.1
ANMO Albuquerque 29.60 326 P 14 58 04.2
baz=139
N49A Columbus Grove 29.73 4 P P 14 58 04.7 -0.8
MACA Manacapuru-AM 29.73 117 eP P 14 58 06.5 +0.6
CBKS Cedar Bluff 29.80 340 P 14 58 05.9
baz=154
P59A Jarrettsville 29.81 16 P 14 58 05.4
baz=201
O56A Blue Knob Stat 29.90 13 P 14 58 06.5
baz=196
N53A Lisbon 30.00 9 P P 14 58 06.9 -1.0
O57A Amberson 30.06 14 P 14 58 08.9
baz=198,SNR=7.1
O58A Lewisberry 30.16 15 P 14 58 10.0
baz=200,SNR=5.0
MVL Millersville 30.20 16 P P 14 58 09.1 -0.6
MVL IAmb IAmb 14 58 12.3
comp=Z,13nm,0.9s
P60A Greenville 30.22 17 P 14 58 08.9
baz=202
N54A Moraine State 30.29 10 P 14 58 10.1
baz=194
N54A Moraine State 30.29 10 P P 14 58 10.4 -0.1
N54A IAmb IAmb 14 58 11.7
comp=Z,14nm,0.9s
M50A Fremont 30.30 6 P P 14 58 10.1 -0.5
PAGS Pennsylvania G 30.31 16 P P 14 58 10.2 -0.5
HQIL Hanson Quary C 30.52 359 P P 14 58 11.1 -1.4
O59A Robesonia 30.53 16 P 14 58 12.3
baz=201,SNR=10
N35A Tabor 30.55 347 P P 14 58 11.7 -1.1
N56A West Decatur 30.58 13 P 14 58 13.2
baz=197,SNR=5.6
N57A Milroy 30.60 14 P 14 58 13.0
baz=198,SNR=5.2
M52A Chesterland 30.64 8 P P 14 58 12.1 -1.5
M52A IAmb IAmb 14 58 15.3
comp=Z,9.7nm,0.8s
M53A WI Miller and 30.64 9 P 14 58 13.1
baz=192,SNR=9.1
M53A WI Miller and 30.64 9 P P 14 58 12.9 -0.7
L46A Eue Claire 30.72 1 P P 14 58 13.2 -1.2
L48A N Adams 30.73 4 P P 14 58 13.0 -1.3
L48A IAmb IAmb 14 58 15.0
comp=Z,18nm,0.8s
O60A Telford 30.76 17 P 14 58 15.1
baz=202
L42A Oliver, Polo 30.80 356 P P 14 58 13.6 -1.4
L42A IAmb IAmb 14 58 15.0
comp=Z,16nm,0.9s
M54A Oil Creek Stat 30.88 11 P 14 58 15.1
baz=194
N33A J Bar K, Exete 30.88 344 P P 14 58 15.2 -0.5
M54A Oil Creek Stat 30.88 11 P P 14 58 14.9 -0.8
M54A IAmb IAmb 14 58 16.8
comp=Z,12nm,0.7s
N58A Sunbury 30.88 15 P P 14 58 15.1 -0.7
N58A IAmb IAmb 14 58 17.9
comp=Z,18nm,0.9s
N58A Sunbury 30.88 15 P 14 58 14.4
baz=200,SNR=7.3
SAML Samuel 30.94 129 P P 14 58 16.1 -0.4
SAML IAmb IAmb 14 58 18.1
comp=Z,9.7nm,0.9s
SAML Samuel 30.94 129 eP P 14 58 16.8 +0.3
L40A Anamosa 31.00 354 P P 14 58 15.5 -1.2
L40A IAmb IAmb 14 58 16.9
comp=Z,12nm,0.8s
M55A Ridgway 31.01 12 P P 14 58 16.4 -0.6
M55A IAmb IAmb 14 58 25.1
comp=Z,33nm,1.5s
LUPA Lehigh Univers 31.03 17 P P 14 58 17.4 +0.3
LUPA IAmb IAmb 14 58 19.1
comp=Z,12nm,0.6s
AAM Ann Arbor 31.14 5 P P 14 58 17.4 -0.5
M56A Emporium 31.15 13 P P 14 58 18.1 0.0
M56A Emporium 31.15 13 P 14 58 17.5
baz=197,SNR=7.8
L53A Girard 31.21 10 P 14 58 18.1
baz=193,SNR=9.9
N59A State Game Lan 31.21 16 P P 14 58 19.4 +0.8
N59A State Game Lan 31.21 16 P 14 58 19.0
baz=201,SNR=8.7
M57A Sunshine Farm, 31.25 14 P 14 58 19.0
baz=199,SNR=9.4
M57A Sunshine Farm, 31.25 14 P P 14 58 19.6 +0.5
SDCO Great Sand Dun 31.27 331 P 14 58 18.2
baz=143
BRNJ Basking Ridge 31.34 18 P P 14 58 18.6 -1.3
BRNJ IAmb IAmb 14 58 21.8
comp=Z,11nm,0.8s
N60A Cedar Hill Far 31.36 17 P 14 58 19.6
baz=203
ERPA Erie 31.41 10 P P 14 58 18.8 -1.6
ERPA Erie 31.41 10 P 14 58 20.2
baz=193,SNR=5.5
K43A Burlington 31.43 358 P P 14 58 18.9 -1.7
K43A IAmb IAmb 14 58 20.4
comp=Z,21nm,1.1s
M58A Price's Panora 31.45 15 P 14 58 20.1
baz=200
W18A Petrified Fore 31.59 323 P P 14 58 22.1 -0.2
W18A IAmb IAmb 14 58 35.4
comp=Z,10nm,1.1s
JFWS Jewell Farm 31.75 355 P P 14 58 21.9 -1.5
JFWS IAmb IAmb 14 58 23.5
comp=Z,17nm,1.1s
JFWS Jewell Farm 31.75 355 P 14 58 22.2
baz=174
L34A Svendsen Farm, 31.77 347 P P 14 58 22.5 -1.1
M59A Waymart 31.88 16 P 14 58 23.3
baz=202,SNR=6.6
L56A Greenwood 31.91 13 P P 14 58 23.8 -1.0
L56A Greenwood 31.91 13 P 14 58 23.4
baz=198,SNR=6.5
M60A Port Jervis 31.92 18 P 14 58 22.8
baz=203
S22A 4UR Ranch, Cre 31.92 329 P 14 58 25.0
baz=141,SNR=5.9
L57A Andrews Acres 31.95 14 P 14 58 22.7
baz=199,SNR=5.4
M61A Granite Spring 32.16 19 P 14 58 24.4
baz=205
L58A Harry Jones Me 32.24 16 P 14 58 24.5
baz=201,SNR=5.8
N63A Mattituck 32.29 21 P 14 58 24.6
baz=207
BINY Binghamton 32.35 15 P 14 58 26.1
baz=200,SNR=6.8
BINY Binghamton 32.35 15 P P 14 58 28.7 0.0
MVCO Mesa Verde 32.38 327 P P 14 58 29.0 -0.4
MMNY Mt. Morris Dam 32.40 12 P P 14 58 27.7 -1.4
K56A Middlesex 32.50 13 P 14 58 26.9
baz=198,SNR=6.6
L59A Walton 32.59 16 P P 14 58 30.1 -0.7
L59A Walton 32.59 16 P 14 58 27.7
baz=202,SNR=5.1
KSCT Kent School, K 32.63 19 P P 14 58 30.4 -0.7
KSCT IAmb IAmb 14 58 47.8
comp=Z,12nm,1.1s
L60A Shokan 32.64 18 P 14 58 28.7
baz=204
K57A Scipio Center 32.72 14 P 14 58 29.6
baz=199
J54A Appleton 32.77 11 P P 14 58 31.9 -0.4
I51A Listowel 32.90 8 P 14 58 30.7
baz=191,SNR=12
J55A Hilton 32.93 12 P P 14 58 33.2 -0.6
J55A IAmb IAmb 14 59 01.7
comp=Z,9.6nm,0.8s
K58A Earlville 32.96 15 P P 14 58 33.9 -0.2
K58A Earlville 32.96 15 P 14 58 31.1
baz=201,SNR=5.1
LPAZ La Paz 33.02 145 P P 14 58 36.6 +1.1
comp=Z,1.2nm,0.8s,baz=330,slow=7.4,SNR=2.9
LPAZ LR LR 15 13 34.9
comp=Z,178nm,20.2s,baz=331,slow=39
LPAZ La Paz 33.02 145 eP P 14 58 36.8 +1.4
PV01 Paradox Valley 33.11 328 P P 14 58 34.5 -1.1
J56A Wolcott 33.15 13 P 14 58 33.2
baz=198,SNR=15
J56A Wolcott 33.15 13 P P 14 58 35.0 -0.6
H43A Windswept, Lux 33.18 359 P P 14 58 34.2 -1.7
H43A IAmb IAmb 14 58 35.7
comp=Z,14nm,0.9s
K59A Cooperstown 33.19 16 P 14 58 32.9
baz=202,SNR=6.6
PV13 Radium Mtn., P 33.26 328 P P 14 58 37.0 0.0
PV05 Paradox Valley 33.34 327 P P 14 58 37.2 -0.5
PV05 IAmb IAmb 14 58 48.0
comp=Z,6.2nm,0.7s
PV16 Nyswonger Mesa 33.42 328 P P 14 58 37.2 -1.1
PV16 IAmb IAmb 14 58 54.5
comp=Z,18nm,1.5s
PV17 East Wray Mesa 33.42 328 P P 14 58 38.9 +0.5
PV17 IAmb IAmb 14 58 40.7
comp=Z,8.7nm,0.7s
PV20 West Nyswonger 33.47 328 P P 14 58 38.5 -0.3
PV04 Paradox Valley 33.48 328 P P 14 58 39.1 +0.3
PV04 IAmb IAmb 14 58 55.2
comp=Z,14nm,1.2s
TRY Troy 33.49 18 P P 14 58 38.1 -0.5
ECSD EROS Data Cent 33.51 347 P P 14 58 37.6 -1.2
ECSD IAmb IAmb 14 58 39.2
comp=Z,10nm,0.9s
ECSD EROS Data Cent 33.51 347 P 14 58 36.1
baz=163
L61B Northampton 33.54 19 P 14 58 36.2
baz=206
GLMI Grayling 33.59 3 P P 14 58 37.7 -1.7
GLMI Grayling 33.59 3 P 14 58 36.9
baz=184
PECO Prince Edward 33.75 13 P P 14 58 39.0 -1.8
PECO IAmb IAmb 14 58 41.3
comp=Z,13nm,1.1s
G45A Suttons Bay 33.76 2 P P 14 58 39.3 -1.7
J59A Piesco 33.92 16 P 14 58 40.4
baz=202,SNR=6.2
J59A Piesco 33.92 16 P P 14 58 42.0 -0.4
J59A IAmb IAmb 14 58 43.3
comp=Z,14nm,1.1s
I58A Old Forge 34.01 16 P 14 58 41.6
baz=201
J60A Last Hill Farm 34.03 18 P 14 58 40.7
baz=204
H53A Bobcaygeon 34.04 11 P 14 58 41.0
baz=195,SNR=11
ACCN Adirondack Com 34.09 17 P P 14 58 42.6 -1.2
ACCN IAmb IAmb 14 59 10.5
comp=Z,16nm,1.3s
G40A Rib Lake 34.09 356 P P 14 58 42.4 -1.4
G40A IAmb IAmb 14 58 43.6
comp=Z,11nm,0.9s
SADO Sadowa 34.13 10 P P 14 58 43.5 -0.7
comp=Z,8.3nm,0.8s,baz=222,slow=8.3,SNR=10
SADO LR LR 15 13 38.9
comp=Z,95nm,20.2s,baz=332,slow=38
K63A Dunstable 34.14 20 P 14 58 41.9
baz=208
K63A Dunstable 34.14 20 P P 14 58 42.6 -1.7
W13A Hualapai Mount 34.17 319 P P 14 58 44.4 -0.5
IKP In-Ko-Pah, Jac 34.30 313 P 14 58 41.9
baz=122
SPMN Marine on St. 34.30 353 P P 14 58 44.1 -1.5
BC3 Big Chuckawall 34.38 315 P 14 58 42.3
baz=124
J61A Chester 34.39 19 P 14 58 43.1
baz=205
I59A Olmsteadville 34.40 17 P 14 58 44.3
baz=203
O20A White River Ci 34.47 330 P 14 58 44.5
baz=141,SNR=8.6
O20A White River Ci 34.47 330 P P 14 58 47.3 -0.1
O20A IAmb IAmb 14 59 02.0
comp=Z,14nm,1.0s
J62A Henniker 34.52 20 P 14 58 45.5
baz=207
H57A Richville 34.62 15 P 14 58 46.4
baz=200
ITTB Itaituba 34.66 115 eP P 14 58 48.9 -0.3
SUSD Miller 34.73 345 P 14 58 47.2
baz=159
SUSD Miller 34.73 345 P P 14 58 47.6 -1.8
PLVO Plevna 34.78 12 P P 14 58 48.7 -1.1
PLVO IAmb IAmb 14 58 50.3
comp=Z,9.9nm,1.0s
COWI Conover 34.85 357 P P 14 58 48.0 -2.5
COWI IAmb IAmb 14 58 50.0
comp=Z,12nm,0.8s
SRU San Rafael Swe 34.86 327 P P 14 58 50.5 -0.3
SRU IAmb IAmb 14 59 06.3
comp=Z,16nm,1.3s
H58A Gabriels 34.89 16 P 14 58 48.2
baz=202
G54A Lake Saint Pet 34.93 11 P 14 58 49.1
baz=195,SNR=12
MALB Monte Alegre 34.96 110 eP P 14 58 52.7 +1.0
F36A Milaca 35.02 352 P P 14 58 50.3 -1.6
F36A IAmb IAmb 14 58 51.3
comp=Z,8.7nm,0.8s
PFO Pinyon Flats O 35.06 314 LR LR 15 14 05.7
comp=Z,262nm,20.4s,baz=128,slow=38
E43A Lone Tree Farm 35.08 360 P P 14 58 50.4 -1.9
H59A Cadyville 35.24 16 P 14 58 51.7
baz=203
P17A Butcher Ranch, 35.24 327 P P 14 58 54.6 +0.5
P17A IAmb IAmb 14 59 07.1
comp=Z,9.5nm,0.9s
G57A Newington 35.32 15 P 14 58 52.2
baz=200
MSU Marysvale 35.35 325 P P 14 58 53.4 -1.7
TMUT Trail Mountain 35.36 327 P P 14 58 54.1 -1.2
TMUT IAmb IAmb 14 59 11.1
comp=Z,9.0nm,1.0s
LBNH Lisbon 35.39 19 P 14 58 52.8
baz=206
H60A Morristown 35.45 18 P 14 58 52.6
baz=204
F33A 5 Mile Ranch, 35.46 349 P P 14 58 53.6 -2.0
F33A IAmb IAmb 14 58 55.3
comp=Z,11nm,0.8s
ALGO Algonquin Park 35.47 11 P 14 58 53.1
baz=195,SNR=9.0
E38A The Farm, Brul 35.53 354 P P 14 58 54.8 -1.5
G58A Ormstown 35.60 16 P 14 58 53.9
baz=202
VILB Vilhena 35.75 131 eP P 14 59 00.2 +1.7
I64A Boothbay 35.88 21 P 14 58 55.7
baz=210
TRQ Mont Tremblant 36.48 14 P P 14 59 02.6 -1.8
MCPB Macapa, AP 36.49 106 eP P 14 59 04.6 -0.3
F59A Saint Guilaume 36.60 17 P 14 59 01.6
baz=204
G62A West of Eustis 36.71 19 P P 14 59 06.2 -0.2
G62A IAmb IAmb 14 59 08.0
comp=Z,15nm,1.1s
G62A West of Eustis 36.71 19 P 14 59 02.8
baz=208
EYMN Ely 36.85 355 P P 14 59 05.6 -1.9
EYMN IAmb IAmb 14 59 06.8
comp=Z,11nm,1.1s
EYMN Ely 36.85 355 P 14 59 05.4
baz=172
SPR3 Spring Creek 3 36.92 323 P P 14 59 07.9 -0.8
G63A Kingsbury 36.93 21 P 14 59 06.2
baz=209
E58A La Victoria 36.94 16 P 14 59 05.9
baz=203
F60A Warwick 36.95 17 P 14 59 05.9
baz=205
D55A Sainte-Anne-du 37.01 13 P 14 59 06.1
baz=199,SNR=10
MPMC Manual Prospec 37.11 317 P 14 59 07.4
baz=124
BW06 Boulder Array 37.13 332 P P 14 59 09.5 -0.8
BW06 Boulder Array 37.13 332 P 14 59 08.1
baz=141
PD31 Pinedale Array 37.13 332 P P 14 59 09.7 -0.6
PDAR Pinedale Array 37.13 332 P P 14 59 10.2 0.0
comp=Z,1.9nm,0.8s,baz=126,slow=10.0,SNR=14
PDAR PcP PcP 15 01 30.5 +0.3
comp=Z,0.4nm,0.6s,baz=152,slow=4.7,SNR=2.5
PDAR ScP ScP 15 05 17.9 +2.5
comp=Z,0.6nm,0.8s,baz=113,slow=6.9,SNR=2.5
PDAR Pinedale Array 37.13 332 P P 14 59 09.4 -0.8
PKME Peaks-Kenny Pk 37.17 21 P 14 59 08.0
baz=209
D56A ZEC Mazanza, M 37.20 14 P 14 59 08.0
baz=200
HWUT Hardware Ranch 37.23 329 P P 14 59 10.9 -0.1
HWUT IAmb IAmb 14 59 14.0
comp=Z,9.1nm,0.8s
F61A St Evariste 37.24 18 P 14 59 08.6
baz=206
SPUT South Promonto 37.47 328 P P 14 59 12.8 -0.2
B35A Bob, Littlefor 37.50 353 P P 14 59 11.1 -1.9
B35A IAmb IAmb 14 59 12.5
comp=Z,10nm,1.2s
F63A Nahmakanta, Br 37.62 21 P 14 59 11.3
baz=209
D58A Chemin du LacG 37.71 16 P 14 59 12.5
baz=203
G65A Princeton 37.74 23 P 14 59 12.4
baz=212
AGMN Agassiz Nation 37.75 350 P P 14 59 13.0 -2.2
AGMN Agassiz Nation 37.75 350 P 14 59 13.4
baz=166,SNR=6.9
E61A Lac Etchemin 37.80 19 P 14 59 14.2
baz=207
CLDB Colider 37.90 124 eP P 14 59 17.1 +0.3
LATQ La Tuque 38.01 16 P 14 59 15.1
baz=203
F64A Sherman 38.02 21 P 14 59 15.4
baz=210
MDND Maddock 38.08 346 P P 14 59 16.1 -1.9
MDND Maddock 38.08 346 P 14 59 15.6
baz=160
D60A Saint Jean D'O 38.10 18 P 14 59 16.0
baz=206
PTLB Pontes e Lacer 38.17 133 eP P 14 59 19.3 +0.3
REDW Red Top Meadow 38.20 331 P P 14 59 18.8 -0.5
REDW IAmb IAmb 14 59 33.7
comp=Z,14nm,1.1s
E63A Oxbow 38.48 21 P 14 59 18.2
baz=210
D61A St Aubert, Com 38.59 18 P 14 59 19.5
baz=207
ELK Elko 38.60 325 P P 14 59 23.0 +0.3
comp=Z,1.5nm,0.9s,baz=139,slow=4.1,SNR=4.4
ELK LR LR 15 19 12.9
comp=Z,244nm,18.3s,baz=128,slow=42
ELK Elko 38.60 325 P P 14 59 23.0 +0.3
LSQQ Lebel-sur-Quev 38.66 10 P 14 59 19.9
baz=196
FLWY Flagg Ranch 38.68 332 P P 14 59 23.8 +0.5
E64A Bridgewater 38.68 21 P 14 59 19.9
baz=211
NVAR Mina Array Bea 39.00 319 P P 14 59 28.2 +2.1
comp=Z,2.2nm,0.8s,baz=136,slow=7.0,SNR=15
NVAR PcP PcP 15 01 37.4 +1.3
comp=Z,2.2nm,0.8s,baz=142,slow=4.2,SNR=7.5
NVAR LR LR 15 19 21.2
comp=Z,248nm,18.3s,baz=134,slow=42
NVAR Mina Array Bea 39.00 319 P P 14 59 24.1 -2.0
MATQ Matagami 39.22 10 P 14 59 24.7
baz=194,SNR=6.0
LMN Caledonia Moun 39.36 25 P P 14 59 28.2 -0.5
LMN IAmb IAmb 14 59 29.6
comp=Z,14nm,0.8s
ULM Lac du Bonnet 39.65 351 P P 14 59 29.1 -2.0
comp=Z,7.9nm,0.8s,baz=170,slow=8.5,SNR=12
ULM Lac du Bonnet 39.65 351 P P 14 59 28.9 -2.1
ULM IAmb IAmb 14 59 30.2
comp=Z,12nm,1.0s
BCYI Bear Canyon 40.13 330 P P 14 59 35.2 -0.2
MCMT McKenzie Canyo 40.24 331 P P 14 59 37.0 +0.7
BOZ Bozeman (W) 40.27 333 P 14 59 34.6
baz=141
BOZ Bozeman (W) 40.27 333 P P 14 59 37.1 +0.6
EGMT Eagleton 41.42 337 P 14 59 44.7
baz=145
SNDB Serra Nova Dou 42.20 122 eP P 14 59 52.9 +0.4
BMO Blue Mountains 42.48 328 P P 14 59 53.5 -1.1
F10A Beach Ranch, E 43.21 329 P P 14 59 59.7 -0.8
KMRM Mail Ridge 43.48 318 P P 15 00 01.4 -1.3
ARAG Araguaiana, MT 43.83 127 eP P 15 00 06.1 +0.4
SMTB Santa Maria do 43.90 115 eP P 15 00 06.3 +0.1
AQDB Aquidauana 43.96 136 eP P 15 00 07.2 +0.6
PEXB Peixe 44.79 120 eP P 15 00 13.0 -0.4
D08A Wollman Farm, 44.80 329 P P 15 00 12.9 -0.2
H03N2 Juan Fernandez 45.02 171 T T 15 48 24.0

baz=349,slow=76,SNR=3.4
H03N1 Juan Fernandez 45.02 171 T T 15 48 21.0
baz=349,slow=76,SNR=6.1
H03N3 Juan Fernandez 45.03 171 T T 15 48 20.2
baz=349,slow=76,SNR=5.6
FFC Flin Flon 45.04 348 P **P** **15 00 13.4 -1.5**
DRLN Deer Lake 45.12 27 P **P** **15 00 13.4 -2.2**
DRLN IAmb IAmb 15 00 17.3
comp=Z,13nm,1.1s
BDFB Brasilia 46.84 124 P **P** **15 00 28.7 -0.9**
comp=Z,8.5nm,0.9s,baz=291,slow=9.0,SNR=6.3
BDFB LR LR 15 20 51.7
comp=Z,413nm,18.5s,baz=295,slow=37
BDFB Brasilia 46.84 124 P **P** **15 00 27.7 -2.0**
BDFB IAmb IAmb 15 00 38.0
comp=Z,14nm,1.1s
CPUP Villa Florida 47.09 143 LR LR 15 21 45.8
comp=Z,120nm,18.2s,baz=324,slow=38
ITRB Iturama 47.31 130 *eP* **P** **15 00 32.8 -0.4**
FCC Fort Churchill 47.80 355 P **P** **15 00 34.8 -1.5**
PCMB Pacaembu 47.82 133 *eP* **P** **15 00 37.2 0.0**
SDBA SAO DESIDERIO 47.85 118 *eP* **P** **15 00 36.9 -0.6**
IPMB Ipameri, GO 47.96 127 *eP* **P** **15 00 38.5 +0.2**
BB19B Bebedouro 49.49 130 *eP* **P** **15 00 50.5 +0.4**
JANB Januaria 49.61 121 *eP* **P** **15 00 50.6 -0.5**
FRTB Fartura 50.13 133 *eP* **P** **15 00 55.8 +0.9**
ITAB Concordia 50.96 139 *eP* **P** **15 01 02.1 +1.1**
PLCA Paso Flores 53.82 165 P **P** **15 01 22.2 +0.1**
comp=Z,3.4nm,0.9s,baz=338,slow=5.6,SNR=6.2
FRB Frobisher Bay 54.08 10 LR LR 15 25 51.5
comp=Z,175nm,18.6s,baz=195,slow=38
YKA Yellowknife Ar 54.37 345 P **P** **15 01 28.9 -1.2**
comp=Z,1.1nm,0.8s,baz=136,slow=8.2,SNR=17
YKA PcP **PcP** **15 02 32.1 +0.5**
comp=Z,0.6nm,0.8s,baz=143,slow=4.7,SNR=2.3
YKA ScP **ScP** **15 06 32.7 +4.5**
comp=Z,0.2nm,0.7s,baz=141,slow=5.0,SNR=3.0
DLBC Dease Lake 57.27 335 P **P** **15 01 47.1 +0.4**
comp=Z,2.4nm,0.8s,baz=114,slow=6.3,SNR=4.2
RKT Rikitea 58.09 234 *e*LR LR 15 18 52.7
comp=Z,135nm,29.2s
SFJD Kangerlussuaq 60.80 15 LR LR 15 27 27.8
comp=Z,165nm,21.4s,baz=204,slow=35
INK Inuvik 64.57 343 LR LR 15 34 50.5
comp=Z,68nm,19.2s,baz=114,slow=40
IL31 67.39 336 P **P** **15 02 53.3 -0.8**
IL31 IAmb IAmb 15 02 56.8
comp=Z,10.0nm,1.5s
ILAR Eielson Array 67.39 336 P **P** **15 02 53.6 -0.6**
comp=Z,1.0nm,0.9s,baz=136,slow=4.5,SNR=9.4
ILAR LR LR 15 38 45.0
comp=Z,98nm,18.9s,baz=122,slow=42
ILAR Eielson Array 67.39 336 P **P** **15 02 53.3 -1.0**
RND Reindeer 67.68 335 P **P** **15 02 56.5 +0.3**
RND IAmb IAmb 15 03 07.7
comp=Z,10nm,1.0s
PPT2 Papeete2 68.16 246 *e*S **S** **15 11 53.8 -4.8**
comp=Z,50nm,23.5s
PPT2 Papeete2 68.16 246 *e*LR LR 15 23 27.7
comp=Z,130nm,25.5s
BORG Borgarnes 69.64 25 LR LR 15 32 39.2
comp=Z,128nm,18.2s,baz=182,slow=35
TBI Tubuai 70.13 240 *e*LR LR 15 24 25.9
comp=Z,125nm,24.2s
RDOG Red Dog Mine 74.47 338 P **P** **15 03 36.6 -0.5**
JMIC Jan Mayen 75.72 19 LR LR 15 40 27.5
comp=Z,51nm,19.1s,baz=190,slow=38
ESDC Sonseca Array 77.56 52 P **P** **15 03 53.8 -1.7**
comp=Z,0.8nm,1.0s,baz=269,slow=5.1,SNR=3.4
ESDC LR LR 15 32 36.6
comp=Z,117nm,21.1s,baz=260,slow=32
MDT Midelt 77.62 59 LR LR 15 33 52.0
comp=Z,135nm,19.3s,baz=324,slow=32
NOA NORSAR Array B 84.22 29 LR LR 15 39 31.1
comp=Z,75nm,20.1s,baz=350,slow=34
FINES FINESS Array B 90.88 26 LR LR 15 44 44.5
comp=Z,117nm,18.6s,baz=266,slow=35
AKASG Malin Array Be 97.25 35 LR LR 15 46 42.8
comp=Z,109nm,20.7s,baz=300,slow=34
KSRS Korea Array 121.62 328 PKP **PKiKP** **15 10 54.7 +1.3**
comp=Z,1.5nm,0.8s,baz=17,slow=1.5,SNR=3.4
WMQ Urumqi 125.05 5 *e*PKP **PKPdf** **15 10 58.3 -1.5**
HHC Hu-ho-hao-te 125.49 343 *e*PKP **PKPdf** **15 10 59.6 -1.1**
GTA Gaotai 129.28 353 *e*PKP **PKiKP** **15 11 08.7 -0.1**
GTA sPKP 15 11 20.4
NJ2 Nanjing 130.44 331 *e*PKP **PKPdf** **15 11 08.1 -2.2**
XAN Xi'an 132.58 342 PKP **PKiKP** **15 11 17.3 +1.8**
XAN sPKP 15 11 34.3
ASAR Alice Springs 139.26 247 PKhKP PKPpre 15 11 25.4
comp=Z,0.5nm,0.9s,baz=108,slow=3.0,SNR=3.1
WRA Warramunga Arr 139.40 252 PKP **PKiKP** **15 11 27.9 -1.7**
comp=Z,1.4nm,0.9s,baz=92,slow=1.8,SNR=4.9
CMAR Chiang Mai Arr 149.99 349 PKPbc **PKiKP** **15 11 51.8 +0.3**
comp=Z,5.2nm,0.9s,baz=341,slow=3.5,SNR=32

IDC 09 14:52:53.5±5.8, 7.98°S×116.95°E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/28, mbtmp3.1/3, Error ellipse: s-maj=281.6km s-min=28.6km az=58.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.14**	**141**	P	P	14 58 29.9	+1.4
	baz=183,slow=18						
WRA	**Warramunga Arr**	**20.61**	**127**	P	P	14 57 34.4	-0.2
	0.4nm,1.0s,baz=303,slow=12,SNR=1.7						
WRA				S	S	15 01 20.8	-5.3
	0.2nm,0.8s,baz=296,slow=25,SNR=1.3						
ASAR	**Alice Springs**	**22.52**	**136**	P	P	14 57 55.3	+0.1
	0.3nm,1.0s,baz=310,slow=9.3,SNR=9.1						
SONM	**Songino Array**	**56.35**	**351**	P	P	15 02 36.5	0.0
	0.3nm,0.5s,baz=163,slow=8.2,SNR=4.3						

*IDC **09** 14:54:15.2±1.2, 55.57°S×27.14°W, h0km, mb4.2/2, mb1 4.3/2, mb1mx3.9/27, mbtmp4.1/2, MS4.1/2, Ms1 4.1/2, ms1mx3.5/16, Error ellipse: s-maj=134.2km s-min=42.7km az=37.0*
*NEIC **09** 14:54:18.6±1.0, 55.4°S±0.2×27.0°W±0.1, h22km±4km, mb4.6/16, Error ellipse: s-maj=23.3km s-min=9.5km az=184.0*
ISC 09 14:54:18.6±0.7, 55.4°S±0.1×27.0°W±0.1, h25km, n32, σ0°71/29, mb4.6/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.59**	**278**		**Pn**	**14 55 39.6**	**-0.4**
VNA1	**Neumayer--Stat**	**17.36**	**159**	P	**P**	**14 58 20.2**	**+0.2**
VNA3	**Neumayer Olymp**	**17.57**	**161**	P	**P**	**14 58 22.6**	**+0.3**
VNA2	**Neumayer--Watz**	**17.75**	**159**	P	**P**	**14 58 25.4**	**+1.0**
	baz=318,slow=14						
SNAA	**Sanae**	**19.29**	**157**	P	**Pn**	**14 58 43.1**	**+0.7**
SNAA	**Sanae**	**19.29**	**157**	P	**Pn**	**14 58 41.8**	**-0.6**
PMSA	**Palmer Station**	**20.40**	**228**	P	Pn	14 58 54.3	-1.1
BELA	**Belgrano 2**	**22.72**	**184**	P	**P**	**14 59 18.0**	**-0.2**
GO09	**Cerro Castillo**	**27.00**	**260**	P	**P**	**14 59 56.9**	**-1.3**
ITQB	**Itaqui**	**33.27**	**308**	*eP*	**P**	**15 00 54.7**	**+0.9**
QSPA	**South Pole Qui**	**34.84**	**180**	P	**P**	**15 01 07.5**	**+0.2**
QSPA				IAmb	IAmb	15 01 33.3	
	comp=Z,3.9nm,0.8s						
PEL	**Peldehue**	**37.52**	**288**	P	**P**	**15 01 30.9**	**+0.5**
MT02	**Curacav**	**37.68**	**287**	P	**P**	**15 01 32.1**	**+0.3**
VA03	**San Esteban**	**37.74**	**289**	P	**P**	**15 01 32.5**	**+0.2**
VA03				IAmb	IAmb	15 01 38.4	
	comp=Z,19nm,0.8s						
CO02	**Combarbal**	**39.19**	**290**	P	**P**	**15 01 42.9**	**-1.6**
CO02				IAmb	IAmb	15 02 05.7	
	comp=Z,15nm,1.0s						
CO03	**El Pedregal**	**39.30**	**290**	P	**P**	**15 01 46.4**	**+0.9**
CO03				IAmb	IAmb	15 02 00.8	
	comp=Z,16nm,1.3s						
AC05	**El Transito**	**40.66**	**293**	P	**P**	**15 01 57.0**	**+0.1**
AC05				IAmb	IAmb	15 02 06.6	
	comp=Z,9.3nm,0.9s						
BOSA	**Boshof**	**45.72**	**76**	LR	LR	15 19 01.0	
	comp=Z,233nm,18.3s,baz=211,slow=32						
PB01	**IPOC Station P**	**46.67**	**300**	P	**P**	**15 02 45.8**	**+0.7**
PB01				IAmb	IAmb	15 03 14.6	
	comp=Z,6.3nm,0.8s						
MNMC	**Minye Minye**	**48.35**	**301**	P	**P**	**15 02 59.9**	**+1.5**
MNMC				IAmb	IAmb	15 03 04.0	
	comp=Z,5.0nm,0.7s						
LBTB	**Lobatse**	**48.73**	**74**	P	**P**	**15 03 00.8**	**-0.4**
LBTB				IAmb	IAmb	15 03 03.8	
	comp=Z,5.5nm,1.1s						
LPAZ	**La Paz**	**50.09**	**305**	P	**P**	**15 03 12.4**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=150,slow=5.5,SNR=8.0						
LPAZ	**La Paz**	**50.09**	**305**	P	**P**	**15 03 12.2**	**0.0**
SAML	**Samuel**	**54.42**	**314**	P	**P**	**15 03 44.0**	**+0.4**
KMBO	**Kilima Mbogo**	**74.72**	**69**	LR	LR	15 37 59.3	
	comp=Z,96nm,18.0s,baz=90,slow=35						
ASAR	**Alice Springs**	**99.57**	**162**	P	**Pdif**	**15 07 59.5**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=184,slow=3.4,SNR=1.5						
YKA	**Yellowknife Ar**	**135.76**	**318**	PKP	**PKiKP**	**15 13 36.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=109,slow=2.8,SNR=5.2						
RES	**Resolute Bay**	**137.30**	**339**	PKP	**PKiKP**	**15 13 40.1**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=143,slow=4.2,SNR=3.8						
INK	**Inuvik**	**145.37**	**321**	PKPbc	**PKPab**	**15 13 52.9**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=100,slow=3.2,SNR=9.0						
INK	**Inuvik**	**145.37**	**321**		**PKPab**	**15 13 52.6**	**-0.1**
ILAR	**Eielson Array**	**149.76**	**312**	PKPbc	**PKiKP**	**15 14 05.2**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=131,slow=1.5,SNR=8.9						
SONM	**Songino Array**	**150.59**	**85**	PKPbc	**PKiKP**	**15 14 07.5**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=223,slow=3.7,SNR=5.4						

*UCR **09** 14:58:52.0±0.8, 11.70°N×87.25°W, h0km±510km, MW4.5*
*IDC **09** 14:58:58.9±1.3, 11.59°N×86.43°W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/42, mbtmp3.6/7, ML3.0/1, Error ellipse: s-maj=57.2km s-min=12.8km az=46.0*
*INET **09** 14:59:03.2, 11.14°N×86.81°W, h15km, MW3.3*
ISC 09 14:59:01.6±0.8, 11.7°N±0.2×86.6°W±0.2, h10km, n16, σ1°20/14, mb3.4/6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUEV	**Buena Vista**	**1.46**	**129**	*i* P	**Pn**	**14 59 27.0**	**-1.1**
GUAI	**GUAI**	**1.77**	**145**	*i* S	**Sg**	**14 59 59.6**	**+0.9**
PTEN	**Parque Tenorio**	**1.84**	**123**	*i* P	**Pg**	**14 59 37.9**	**+1.0**
JTS	**Las Juntas de**	**2.12**	**132**	Pg	**Pn**	**14 59 34.8**	**-2.4**
	1.9nm,0.3s,baz=22,slow=20,SNR=2.7						
JTS				Lg	Lg	15 00 00.1	
	16nm,0.3s,baz=233,slow=23,SNR=5.9						
LPLA	**Las Palmas La**	**4.40**	**127**	*eP*	**Pn**	**15 00 08.7**	**0.0**
CMIG	**Matias Romero**	**9.67**	**304**	Pn	**Pn**	**15 01 21.7**	**+0.8**
	0.1nm,0.3s,baz=135,slow=14,SNR=2.1						
TXAR	**Lajitas Array**	**23.69**	**320**	P	**P**	**15 04 14.2**	**+0.4**
	1.1nm,0.8s,baz=141,slow=10,SNR=10						
TXAR				PcP	**PcP**	**15 07 58.3**	**+0.1**
	0.3nm,0.7s,baz=133,slow=3.8,SNR=3.6						
SADO	**Sadowa**	**33.53**	**10**	P	**P**	**15 05 42.5**	**+1.0**
	4.0nm,0.8s,baz=247,slow=7.7,SNR=3.4						
PDAR	**Pinedale Array**	**36.82**	**331**	P	**P**	**15 06 10.3**	**+0.2**
	0.3nm,0.7s,baz=119,slow=10,SNR=2.3						
NVAR	**Mina Array Bea**	**38.82**	**319**	P	**P**	**15 06 27.9**	**+0.8**
	0.1nm,0.4s,baz=122,slow=6.8,SNR=2.3						
ULM	**Lac du Bonnet**	**39.17**	**351**	P	**P**	**15 06 29.4**	**-0.2**
	1.8nm,0.2s,baz=177,slow=9.8,SNR=3.6						
H03N2	**Juan Fernandez**	**45.50**	**171**	T	T	15 55 12.1	
	baz=349						
H03N1	**Juan Fernandez**	**45.51**	**171**	T	T	15 55 15.2	
	baz=349						
H03N3	**Juan Fernandez**	**45.52**	**171**	T	T	15 55 20.7	
	baz=349						
YKA	**Yellowknife Ar**	**54.53**	**344**	P	**P**	**15 08 28.0**	**-1.6**
	0.2nm,0.6s,baz=125,slow=7.6,SNR=3.9						
CMAR	**Chiang Mai Arr**	**149.52**	**350**	PKPbc	**PKPbc**	**15 18 50.8**	**-1.4**
	0.3nm,0.3s,baz=326,slow=3.8,SNR=6.4						

*SOME **09** 15:26:27.8, 43.22°N×81.78°E, h10km*
*IDC **09** 15:26:27.6±2.1, 43.06°N×81.79°E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.3/54, mbtmp3.4/5, ML2.9/3, Error ellipse: s-maj=56.7km s-min=16.9km az=82.0*
*NNC **09** 15:26:29.5±1.0, 43.20°N×81.73°E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=8.4km s-min=4.2km az=151.0*
ISC 09 15:26:27.9±1.6, 43.17°N±0.05×81.73°E±0.04, h4km±10km, n60, σ1°98/93, 10C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.04**	**286**	*eP*	**Pb**	**15 26 49.4**	**+0.7**
	1.4nm,0.2s						
KTMS				*eS*	**Sb**	**15 27 03.6**	**+0.8**
	71nm,0.2s						
KTMS	**Ketmen**	**1.04**	**286**	P	**Pb**	**15 26 49.4**	**+0.7**
	1.4nm,0.2s						
KTMS				S	**Sn**	**15 27 05.2**	**+0.5**
	71nm,0.2s						
PDGK	**Podgornoye**	**1.65**	**276**	P	**Pb**	**15 26 59.4**	**+0.5**
	15nm,0.4s						
PDGK				S	**Sg**	**15 27 22.1**	**+1.4**
	139nm,0.4s						
PDGK	**Podgornoye**	**1.65**	**276**	⇑P	**Pn**	**15 26 59.1**	**+1.3**
	12nm,0.3s						
PDGK				⇑S	**Sg**	**15 27 22.0**	**+1.2**
	140nm,0.4s						
SHLS	**Shalkode**	**1.66**	**270**	*eP*	**Pn**	**15 26 55.0**	**-2.9**
	47nm,0.5s						
SHLS				*eS*	**Sn**	**15 27 14.5**	**-5.3**
	236nm,0.4s						
SHLS	**Shalkode**	**1.66**	**270**	P	**Pn**	**15 26 55.0**	**-2.9**
	47nm,0.5s						
SHLS				S	**Sn**	**15 27 15.1**	**-4.7**
	236nm,0.4s						
DJR	**Jarkent**	**1.83**	**310**	*eP*	**Pb**	**15 27 02.3**	**+0.4**
	33nm,0.5s						
DJR				*eS*	**Sg**	**15 27 27.9**	**+1.4**
	83nm,0.6s						
DJR	**Jarkent**	**1.83**	**310**	P	**Pb**	**15 27 02.3**	**+0.4**
	33nm,0.5s						
DJR				S	**Sg**	**15 27 27.9**	**+1.4**
	83nm,0.6s						
UZB	**Uzynbulak**	**1.98**	**270**	*eP*	**Pb**	**15 27 05.5**	**+0.8**
	34nm,0.3s						
UZB				*eS*	**Sg**	**15 27 32.9**	**+1.2**
	204nm,0.7s						
UZB	**Uzynbulak**	**1.98**	**270**	Pg	**Pb**	**15 27 05.5**	**+0.8**
	34nm,0.3s						
UZB				Lg	Lg	15 27 32.9	
	204nm,0.7s						
KPKS	**Kokpek**	**2.24**	**279**	*eP*	**Pb**	**15 27 09.8**	**+0.7**
	60nm,0.4s						
KPKS				*eS*	**Sg**	**15 27 40.1**	**+0.1**
	463nm,0.5s						
SATY	**Saty**	**2.44**	**269**	*eP*	**Pb**	**15 27 13.4**	**+1.0**
	18nm,0.4s						
SATY				*eS*	**Sg**	**15 27 46.5**	**+0.3**
	155nm,0.4s						
SATY	**Saty**	**2.44**	**269**	Pg	**Pb**	**15 27 13.4**	**+1.0**
	18nm,0.4s						
SATY				Lg	Lg	15 27 46.5	
	155nm,0.4s						
MNBS	**Baschi**	**2.58**	**292**	*eP*	**Pb**	**15 27 13.9**	**-0.9**
	16nm,0.4s						
MNBS				*eS*	**Sb**	**15 27 47.3**	**+0.2**
	269nm,0.6s						
MNBS	**Baschi**	**2.58**	**292**	Pg	**Pb**	**15 27 13.9**	**-0.9**
	16nm,0.4s						
MNBS				Lg	Lg	15 27 47.3	
	269nm,0.6s						
KURS	**Kuram**	**2.62**	**278**	*eP*	**Pb**	**15 27 16.0**	**+0.6**
	12nm,0.5s						
KURS				*eS*	**Sg**	**15 27 51.6**	**-0.4**
	120nm,0.7s						
KURS	**Kuram**	**2.62**	**278**	Pg	**Pb**	**15 27 16.0**	**+0.6**
	12nm,0.5s						
KURS				Lg	Lg	15 27 51.6	
	120nm,0.7s						
KAPS	**Kapalarasan**	**2.72**	**322**	*eP*	**Pb**	**15 27 16.9**	**-0.2**
	10nm,0.3s						
KAPS				*eS*	**Sb**	**15 27 52.3**	**+1.4**
	43nm,0.5s						
KAPS	**Kapalarasan**	**2.72**	**322**	Pg	**Pb**	**15 27 16.9**	**-0.2**
	10nm,0.3s						
KAPS				Lg	Lg	15 27 52.3	
	43nm,0.5s						
TDK	**Taldyqorghan**	**3.02**	**309**	*eP*	**Pb**	**15 27 22.5**	**+0.3**
	37nm,0.3s						
TDK				*eS*	**Sb**	**15 28 02.5**	**+3.1**
	57nm,0.5s						
TDK	**Taldyqorghan**	**3.02**	**309**	Pg	**Pb**	**15 27 22.5**	**+0.3**
	55nm,0.5s						
TDK				Lg	Lg	15 28 02.9	
	57nm,0.5s						
ARXS	**Arharly**	**3.02**	**292**	*eP*	**Pb**	**15 27 23.0**	**+0.7**
	17nm,0.4s						
ARXS				*eS*	**Sb**	**15 28 02.4**	**+2.9**
	108nm,0.6s						
ARXS	**Arharly**	**3.02**	**292**	Pg	**Pb**	**15 27 23.0**	**+0.7**
	17nm,0.4s						
ARXS				Lg	Lg	15 28 02.4	
	108nm,0.6s						
KOTS	**Kotyrbulak**	**3.38**	**273**	*eP*	**Pb**	**15 27 29.2**	**+0.8**
	19nm,0.5s						
KOTS				*eS*	**Sb**	**15 28 13.7**	**+3.8**
	71nm,0.6s						
KOTS	**Kotyrbulak**	**3.38**	**273**	Pg	**Pb**	**15 27 29.2**	**+0.8**
	19nm,0.5s						
KOTS				Lg	Lg	15 28 13.7	
	71nm,0.6s						
MDOK	**Medeo**	**3.43**	**271**	*eP*	**Pb**	**15 27 31.0**	**+1.8**
	3.9nm,0.5s						
MDOK				*eS*	**Sg**	**15 28 16.8**	**-1.2**
	22nm,0.5s						
MDOK	**Medeo**	**3.43**	**271**	⇑Pg	**Pg**	**15 27 35.0**	**+1.4**
	3.2nm,0.4s						
MDOK				⇑Lg	Lg	15 28 23.9	
	69nm,1.0s						
MDOK	**Medeo**	**3.43**	**271**	Pg	**Pb**	**15 27 31.0**	**+1.8**
	3.9nm,0.5s						
MDOK				Lg	Lg	15 28 16.8	
	22nm,0.5s						
TNSS	**Tian-Shan**	**3.51**	**269**	*eP*	**Pb**	**15 27 33.1**	**+2.3**
	6.3nm,0.3s						
TNSS				*eS*	**Sg**	**15 28 19.5**	**-1.1**
	20nm,0.7s						
TNSS	**Tian-Shan**	**3.51**	**269**	Pg	**Pb**	**15 27 33.1**	**+2.3**
	6.3nm,0.3s						
TNSS				Lg	Lg	15 28 21.9	
	20nm,0.7s						
CHKK	**Chushkaly**	**3.52**	**283**	*eP*	**Pg**	**15 27 33.9**	**-1.4**
	2.8nm,0.1s						
CHKK				*eS*	**Sg**	**15 28 21.2**	**+0.3**
	27nm,0.3s						
CHKK	**Chushkaly**	**3.52**	**283**	Pg	**Pg**	**15 27 33.9**	**-1.4**
	2.8nm,0.1s						
CHKK				Lg	Lg	15 28 21.2	
	27nm,0.3s						
MAKZ	**Makanchi**	**3.64**	**3**	⇓Pn	**Pn**	**15 27 28.5**	**+3.4**
	4.5nm,0.6s						
MAKZ				⇑Pg	**Pg**	**15 27 37.2**	**-0.5**
	5.2nm,0.6s						
MAKZ				⇓Lg	Lg	15 28 28.1	
	24nm,0.8s						
MK31	**Makanchi Array**	**3.65**	**6**	Pn	**Pn**	**15 27 28.3**	**+3.2**
	1.2nm,0.5s,baz=184,slow=13,SNR=35						
MK31				⇓Pg	**Pg**	**15 27 35.7**	**-2.1**
	0.8nm,0.2s,baz=180,slow=16,SNR=17						
MK31				⇓Lg	Lg	15 28 22.7	
	12nm,0.5s,baz=189,slow=31,SNR=4.9						
MKAR	**Makanchi Array**	**3.65**	**6**	Pn	**Pn**	**15 27 28.6**	**+3.5**
	1.0nm,0.3s,baz=185,slow=13,SNR=34						
MKAR				Pg	**Pg**	**15 27 35.6**	**-2.1**
	1.7nm,0.3s,baz=181,slow=15,SNR=20						
MKAR				Sn	**Sb**	**15 28 13.8**	**-3.6**
	3.1nm,0.3s,baz=182,slow=26,SNR=6.3						
MKAR				Lg	Lg	15 28 23.7	
	4.2nm,0.3s,baz=181,slow=27,SNR=10						
KTBS	**Karatobe**	**3.72**	**280**	*eP*	**Pb**	**15 27 36.8**	**+2.6**
	4.4nm,0.5s						
KTBS				*eS*	**Sg**	**15 28 26.6**	**-0.7**
	45nm,0.6s						
KTBS	**Karatobe**	**3.72**	**280**	Pg	**Pb**	**15 27 36.7**	**+2.6**
	4.4nm,0.5s						
KTBS				Lg	Lg	15 28 26.6	
	45nm,0.6s						
IZV	**Izvestkoviy**	**3.75**	**270**	*eP*	**Pg**	**15 27 38.1**	**-1.6**
	4.9nm,0.6s						
IZV				*eS*	**Sg**	**15 28 28.5**	**+0.1**
	44nm,0.6s						
IZV	**Izvestkoviy**	**3.75**	**270**	Pg	**Pg**	**15 27 38.1**	**-1.6**
	4.9nm,0.6s						
IZV				Lg	Lg	15 28 28.5	
	44nm,0.6s						
MTBS	**Maitube**	**3.88**	**271**	*eP*	**Pb**	**15 27 39.7**	**+2.8**
	2.1nm,0.2s						
MTBS				*eS*	**Sg**	**15 28 32.2**	**-0.4**
	19nm,0.6s						
MTBS	**Maitube**	**3.88**	**271**	Pg	**Pb**	**15 27 39.7**	**+2.8**
	2.1nm,0.2s						
MTBS				Lg	Lg	15 28 32.2	
	19nm,0.6s						
KUU	**Kurty**	**3.99**	**282**	*eP*	**Pb**	**15 27 42.0**	**+3.3**
	4.9nm,0.5s						
KUU				*eS*	**Sg**	**15 28 35.6**	**-0.4**
	40nm,0.6s						
KUU	**Kurty**	**3.99**	**282**	Pg	**Pb**	**15 27 42.0**	**+3.3**
	4.9nm,0.5s						
KUU				Lg	Lg	15 28 35.6	
	40nm,0.6s						
KST	**Kastek**	**4.23**	**270**	*eP*	**Pg**	**15 27 46.7**	**-2.1**
	12nm,0.5s						
KST				*eS*	**Sg**	**15 28 43.5**	**-0.1**
	25nm,0.6s						
KST	**Kastek**	**4.23**	**270**	Pg	**Pg**	**15 27 46.7**	**-2.1**
	12nm,0.5s						
KST				Lg	Lg	15 28 43.5	
	25nm,0.6s						
DGS	**Degeres**	**4.36**	**273**	*eP*	**Pb**	**15 27 47.8**	**+2.7**
	4.5nm,0.5s						
DGS				*eS*	**Sg**	**15 28 45.1**	**-2.8**
	18nm,0.7s						
DGS	**Degeres**	**4.36**	**273**	Pg	**Pb**	**15 27 47.8**	**+2.7**
	4.5nm,0.5s						
DGS				Lg	Lg	15 28 45.1	
	18nm,0.7s						
KRBS	**Karabastau**	**4.44**	**279**	*eP*	**Pg**	**15 27 50.4**	**-2.6**
	6.4nm,0.5s						
KRBS				*eS*	**Sg**	**15 28 50.4**	**-0.2**
	24nm,0.6s						
KRBS	**Karabastau**	**4.44**	**279**	Pg	**Pg**	**15 27 50.4**	**-2.6**
	6.4nm,0.5s						
KRBS				Lg	Lg	15 28 50.4	
	24nm,0.6s						
TKM2	**Tokmak 2**	**4.50**	**269**	⇑Pg	**Pg**	**15 27 51.8**	**-2.3**
	5.4nm,0.7s						
TKM2				⇑Lg	Lg	15 28 50.3	
	29nm,0.9s						
ZSN	**Zaisan**	**4.82**	**26**	*eP*	**Pb**	**15 27 52.7**	**-0.2**
	1.8nm,0.3s						
ZSN				*eS*	**Sb**	**15 28 54.2**	**+3.1**
	38nm,0.9s						
ZSN	**Zaisan**	**4.82**	**26**	Pg	**Pb**	**15 27 52.7**	**-0.2**
	1.8nm,0.3s						
ZSN				Lg	Lg	15 28 54.2	
	38nm,0.9s						
SGDS	**Sogindy**	**5.19**	**276**	Pg	**Pg**	**15 28 04.7**	**-2.6**
	2.4nm,0.7s						
SGDS				Lg	Lg	15 29 14.7	
	10nm,0.9s						
AAK	**Ala-Archa**	**5.34**	**267**	⇓Pg	**Pg**	**15 28 07.4**	**-2.8**
	2.4nm,0.6s						
AAK				⇓Lg	Lg	15 29 22.8	
	9.9nm,0.6s						
KURBB	**Kurchatov Arra**	**7.77**	**345**	⇑Pn	**Pn**	**15 28 23.6**	**+1.9**
	2.6nm,1.0s						
KURBB				⇓Sn	**Sn**	**15 29 50.1**	**0.0**
	2.8nm,0.7s						
KURBB				⇑Lg	Lg	15 30 38.3	
	17nm,0.7s						
KK31	**Karatay

baz=266,slow=75,SNR=17
H11S1 WAKE ISLAND Hy 21.54 79 T T 16 06 41.1
baz=266,slow=75,SNR=23
H11S2 WAKE ISLAND Hy 21.54 80 T T 16 06 37.2
baz=266,slow=75,SNR=30
H11N1 WAKE ISLAND Hy 21.83 76 T T 16 06 53.1
baz=263,slow=75,SNR=95
H11N2 WAKE ISLAND Hy 21.84 76 T T 16 06 53.9
baz=263,slow=75,SNR=83
H11N3 WAKE ISLAND Hy 21.85 76 T T 16 06 54.7
baz=263,slow=75,SNR=91
WRA Warramunga Arr 36.80 196 P P 15 47 04.7 -0.6
1.8nm,0.7s,baz=14,slow=9.3,SNR=5.6
ASAR Alice Springs 40.48 195 P P 15 47 36.6 +0.5
0.4nm,0.9s,baz=15,slow=14,SNR=4.2
CMAR Chiang Mai Arr 43.40 280 P P 15 47 60.0 -0.2
0.3nm,0.6s,baz=76,slow=7.5,SNR=2.1
CMAR LR LR 16 04 10.0
comp=Z,13nm,20.6s,baz=275,slow=34
SONM Songino Array 44.70 324 P P 15 48 10.8 +0.4
0.4nm,0.7s,baz=134,slow=8.3,SNR=2.4
ZALV Zalesovo Beam 59.59 324 P P 15 50 00.1 -0.9
0.4nm,0.4s,baz=122,slow=7.5,SNR=2.0
MKAR Makanchi Array 59.60 315 P P 15 50 01.5 +0.3
0.2nm,0.6s,baz=92,slow=7.2,SNR=2.2
RAR Rarotonga 65.98 122 LR LR 16 14 06.7
comp=Z,29nm,21.3s,baz=18,slow=31
ILAR Eielson Array 66.85 26 P P 15 50 49.0 0.0
0.4nm,0.9s,baz=261,slow=4.5,SNR=2.6

*IDC **09** 15:58:07.1±2.5,8.63S×118.21E,h131km±19km,mb3.4/7, mb1 3.6/12,mb1mx3.5/33,mbtmp3.9/12,MS3.4/3, Ms1 3.3/3,ms1mx2.8/29,Error ellipse: s-maj=32.3km s-min=12.4km az=68.0*
*NEIC **09** 15:58:07.7±1.9,8.62S±0.06×118.30E±0.07,h137km±5km, mb4.2/14,Error ellipse: s-maj=11.0km s-min=7.2km az=50.0*
*DJA **09** 15:58:08.7±0.3,9°S±4°×11°8E±°,h118km±4km,M4.2/15, mb4.4/3,mB4.8/2,MLv4.1/15,Mw(mB)4.1/2*
ISC 09 15:58:08.0±0.5,**8.71S**±0.05×**118.32E**±0.05,**h152**km,**n56,** σ1§**71**/60,**mb3.9**/10,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.55**	**258**	P	**Pn**	**15 58 28.5**	**-1.3**
PLAI				S	**Sn**	**15 58 42.7**	**-3.8**
TWSI	**Taliwang, Sumb**	**1.42**	**269**	P	**Pn**	**15 58 36.1**	**-0.8**
WSI	**Waingapu**	**2.17**	**116**	P	**Pn**	**15 58 44.4**	**-0.8**
BASI	**Baing, Sumba**	**2.68**	**124**	P	**Pn**	**15 58 51.0**	**-0.5**
DNP	**Denpasar**	**3.08**	**270**	P	**Pn**	**15 58 56.1**	**-0.3**
SRBI	**Singaraja**	**3.14**	**281**	P	**Pn**	**15 58 58.5**	**+1.3**
BSSI	**Bau Bau, Buton**	**3.33**	**40**	P	**Pn**	**15 58 58.6**	**-1.1**
BKSI	**Bulukumba**	**3.81**	**28**	P	**Pn**	**15 59 04.9**	**-1.0**
MMRI	**Maumere**	**3.87**	**89**		**Pn**	**15 59 06.3**	**-0.4**
MMRI	**Maumere**	**3.87**	**89**	P	**Pn**	**15 59 06.5**	**-0.2**
KAPI	**Kappang**	**3.94**	**21**	P	**Pn**	**15 59 06.6**	**-0.9**
KAPI	5.2nm,0.3s,baz=186,slow=6.6,SNR=24			S	**Sn**	**15 59 51.5**	**-2.3**
	2.7nm,0.3s,baz=201,slow=18,SNR=1.8						
KAPI	**Kappang**	**3.94**	**21**		**Pn**	**15 59 06.4**	**-1.1**
JAGI	**Jajag, Banyuwa**	**4.13**	**273**		**Pn**	**15 59 09.2**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.13**	**273**	P	**Pn**	**15 59 09.4**	**-0.7**
BNSI	**Bone**	**4.63**	**23**	P	**Pn**	**15 59 16.3**	**-0.4**
BATI	**Baumata**	**5.47**	**106**	P	**Pn**	**15 59 27.8**	**0.0**
	30nm,0.3s,baz=304,slow=3.6,SNR=31						
BATI				S	**Sn**	**16 00 27.1**	**-3.0**
	19nm,0.3s,baz=198,slow=19,SNR=6.9						
BATI	**Baumata**	**5.47**	**106**	P	**Pn**	**15 59 27.8**	**0.0**
	0.3nm1μm59nm,0.6s						
SOEI	**Soe**	**5.96**	**101**		**Pn**	**15 59 34.0**	**-0.4**
SOEI	**Soe**	**5.96**	**101**	P	**Pn**	**15 59 34.1**	**-0.2**
	0.3nm1μm47nm,0.6s						
CISI	**Cisompet, Garu**	**10.47**	**276**	Pn	**Pn**	**16 00 32.3**	**-2.0**
FITZ	**Fitzroy Crossi**	**11.73**	**143**	P	**Pn**	**16 00 51.2**	**+0.4**
	0.7nm,0.3s,baz=345,slow=12,SNR=25						
FITZ				S	**Sn**	**16 02 54.0**	**-6.6**
	1.2nm,0.3s,baz=172,slow=20,SNR=3.6						
FITZ	**Fitzroy Crossi**	**11.73**	**143**		**Pn**	**16 00 50.9**	**+0.1**
PSA00	**Pilbara Seismi**	**12.87**	**174**	Pn	**Pn**	**16 01 06.1**	**+0.5**
GIRL	**Giralia**	**14.40**	**195**	Pn	**P**	**16 01 26.8**	**-0.7**
FAKI	**Fak Fak**	**15.00**	**68**	Pn	**Pn**	**16 01 31.3**	**-1.1**
SIJI	**Sorong**	**15.06**	**60**	P	**P**	**16 01 34.5**	**-0.3**
	0.8nm,0.3s,baz=180,slow=20,SNR=1.6						
WB0	**Warramunga Arr**	**19.04**	**127**	P	**P**	**16 02 19.6**	**+0.9**
WB0				IAmb	IAmb	16 02 45.8	
	comp=Z,7.0nm,1.2s						
WRA	**Warramunga Arr**	**19.10**	**128**	P	**Pn**	**16 02 20.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=289,slow=12,SNR=22						
WRA				S	**S**	**16 05 47.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=298,slow=25,SNR=2.5						
WRAB	**Tennant Creek**	**19.10**	**127**	P	**P**	**16 02 20.2**	**+0.9**
WRAB				IAmb	IAmb	16 02 43.9	
	comp=Z,6.1nm,0.8s						
WB2	**Warramunga Arr**	**19.11**	**127**	P	**P**	**16 02 20.4**	**+1.0**
WB2				IAmb	IAmb	16 02 29.4	
	comp=Z,4.6nm,0.7s						
WR0	**Warramunga Arr**	**19.27**	**127**	P	**P**	**16 02 22.1**	**+1.1**
WR0				IAmb	IAmb	16 02 29.4	
	comp=Z,4.6nm,0.8s						
MORW	**Morawa**	**20.37**	**186**	P	Pn	16 02 36.3	-0.3
MORW				IAmb	IAmb	16 02 40.1	
	comp=Z,25nm,1.5s						
AS31	**Alice Springs**	**21.06**	**137**	P	**P**	**16 02 42.7**	**+2.4**
ASAR	**Alice Springs**	**21.06**	**137**	P	**P**	**16 02 43.0**	**+2.6**
	comp=Z,1.1nm,0.5s,baz=308,slow=9.3,SNR=88						
ASAR				S	**S**	**16 06 28.3**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=311,slow=18,SNR=6.7						
ASAR				PcP	**PcP**	**16 06 43.4**	**+2.5**
	comp=Z,0.8nm,0.6s,baz=316,slow=1.7,SNR=6.2						
ASAR				ScP	**ScP**	**16 10 06.4**	**+2.7**
	comp=Z,0.3nm,0.6s,baz=334,slow=2.0,SNR=2.8						
ASAR				LR	LR	16 12 16.2	
	comp=Z,67nm,19.9s,baz=139,slow=40						
FORT	**Forrest**	**23.77**	**159**	P	**P**	**16 03 10.0**	**+3.4**
FORT				IAmb	IAmb	16 03 14.4	
	comp=Z,40nm,1.4s						
NWAO	**Narrogin (SRO)**	**24.12**	**182**	pP	pP	16 03 37.0	-2.0
	comp=Z,2.6nm,0.5s,baz=23,slow=7.7,SNR=1.8						
NWAO	**Narrogin (SRO)**	**24.12**	**182**	P	**P**	**16 03 12.7**	**+2.9**
NWAO				IAmb	IAmb	16 03 34.8	
	comp=Z,32nm,1.4s						
COEN	**Coen**	**24.91**	**104**	P	**P**	**16 03 18.6**	**+1.5**
COEN				IAmb	IAmb	16 03 38.9	
	comp=Z,12nm,1.3s						
STKA	**Stephens Creek**	**31.60**	**140**	LR	LR	16 17 13.6	
	comp=Z,67nm,18.4s,baz=205,slow=36						
CMAR	**Chiang Mai Arr**	**33.08**	**325**	P	**P**	**16 04 30.4**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=157,slow=7.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**33.08**	**325**	P	**P**	**16 04 30.7**	**+1.1**
JTM	**Tenmabayashi**	**53.53**	**21**	P	**P**	**16 07 12.6**	**-0.4**
USA0B	**Ussuriysk Arra**	**54.10**	**12**	P	**P**	**16 07 18.5**	**+1.5**
USRK	**Ussuriysk Ar.**	**54.10**	**12**	P	**P**	**16 07 17.6**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=207,slow=6.5,SNR=8.0						
USRK				LR	LR	16 31 53.4	
	comp=Z,38nm,18.4s,baz=270,slow=38						
SONM	**Songino Array**	**57.28**	**350**	P	**P**	**16 07 40.4**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=170,slow=9.3,SNR=7.2						
SONM	**Songino Array**	**57.28**	**350**	IAmb	IAmb	16 07 41.0	
	comp=Z,0.6nm,0.6s						
MK31	**Makanchi Array**	**63.90**	**333**	P	**P**	**16 08 24.7**	**+0.2**
MKAR	**Makanchi Array**	**63.90**	**333**	P	**P**	**16 08 24.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=146,slow=5.7,SNR=9.3						
ZALV	**Zalesovo Beam**	**68.53**	**339**	P	**P**	**16 08 52.9**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=132,slow=4.2,SNR=4.2						
PEA0B	**Petropavlovsk-**	**70.08**	**24**	P	**P**	**16 09 05.0**	**+1.6**
PETK	**Petropavlovsk-**	**70.08**	**24**	P	**P**	**16 09 04.8**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=187,slow=7.3,SNR=9.8						
PETK	**Petropavlovsk-**	**70.08**	**24**	P	**P**	**16 09 05.0**	**+1.6**
ABKAR	**Akbulak array**	**76.94**	**325**	P	**P**	**16 09 42.2**	**-1.4**
CPUP	**Villa Florida**	**144.91**	**187**	PKP	**PKiKP**	**16 17 30.1**	**-1.6**
	comp=Z,3.1nm,0.9s,baz=180,slow=1.0,SNR=4.6						
TKL	**Tuckaleechee C**	**146.44**	**34**	PKPbc	**PKPab**	**16 17 32.4**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=338,slow=5.4,SNR=5.0						
CMIG	**Matias Romero**	**146.62**	**72**	PKPbc	**PKiKP**	**16 17 34.5**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=299,slow=7.8,SNR=2.1						

*ATH **09** 16:21:35.9,38.32N×20.40E,h14km±1km,ML2.5/3,Error ellipse: s-maj=2.6km s-min=0.8km az=271.0*
*THE **09** 16:21:36.0,38.33N×20.40E,h11km,ML2.9/4,Error ellipse: s-maj=1.0km s-min=0.4km az=280.0*
ISC 09 16:21:35.5±0.9,**38.33N**±0.02×**20.38E**±0.04,**h15**km±5km, **n42,** σ0§**32**/63,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF4	**Livadi, Kephal**	**0.08**	**153**	P	**Pg**	**16 21 38.5**	**+0.1**
KEF4				S	**Sg**	**16 21 40.5**	**+0.1**
KEF4	**Livadi, Kephal**	**0.08**	**153**	P	**Pg**	**16 21 38.5**	**+0.1**
KEF4				S	**Sg**	**16 21 40.4**	**0.0**
KEF5	**Kardakata, Kep**	**0.08**	**125**	P	**Pg**	**16 21 38.4**	**-0.1**
KEF5				S	**Sg**	**16 21 40.0**	**-0.5**
KEF5	**Kardakata, Kep**	**0.08**	**125**	P	**Pg**	**16 21 38.4**	**-0.1**
KEF5				S	**Sg**	**16 21 40.0**	**-0.5**
DMLN	**Damoulianata-K**	**0.09**	**184**	P	**Pg**	**16 21 38.8**	**+0.2**
DMLN				S	**Sg**	**16 21 40.7**	**+0.1**
	20μm,0.1s						
KEF3	**Kipouria, Keph**	**0.12**	**192**	P	**Pg**	**16 21 39.0**	**0.0**
KEF3				S	**Sg**	**16 21 41.3**	**0.0**
KEF3	**Kipouria, Keph**	**0.12**	**192**	P	**Pg**	**16 21 39.0**	**0.0**
KEF3				S	**Sg**	**16 21 41.1**	**-0.2**
LXRA	**Lixouri, Kepha**	**0.13**	**160**	P	**Pg**	**16 21 39.5**	**+0.4**
LXRA				S	**Sg**	**16 21 42.3**	**+0.8**
VSK1	**VASILIKIADES**	**0.17**	**60**	P	**Pg**	**16 21 39.4**	**-0.2**
VSK1				S	**Sg**	**16 21 42.1**	**-0.2**
	6μm,0.1s						
ARGA	**Argostoli. Kep**	**0.17**	**152**	P	**Pg**	**16 21 39.7**	**+0.1**
ARGA				S	**Sg**	**16 21 42.7**	**+0.4**
ARG2	**Argostoli**	**0.17**	**150**	P	**Pg**	**16 21 39.8**	**+0.2**
ARG2				S	**Sg**	**16 21 42.5**	**+0.2**
FSK	**Fiskardo**	**0.20**	**47**	P	**Pg**	**16 21 40.0**	**0.0**
FSK				S	**Sg**	**16 21 43.1**	**+0.1**
FSK				AML	AML	16 21 43.6	
	comp=N,2408μm,0.2s						
FSK				AML	AML	16 21 44.4	
	comp=E,4540μm,0.1s						
FSK	**Fiskardo**	**0.20**	**47**	P	**Pg**	**16 21 40.0**	**0.0**
FSK				S	**Sg**	**16 21 43.0**	**-0.1**
VLS	**Valsamata**	**0.22**	**132**	P	**Pg**	**16 21 40.3**	**-0.1**
VLS				S	**Sg**	**16 21 43.7**	**-0.1**
VLS				AML	AML	16 21 44.2	
	comp=E,11255μm,0.1s						
VLS				AML	AML	16 21 44.2	
	comp=N,9954μm,0.1s						
VLS	**Valsamata**	**0.22**	**132**	P	**Pg**	**16 21 40.4**	**-0.1**
VLS				S	**Sg**	**16 21 43.7**	**-0.1**
	comp=N,6μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.27**	**143**	P	**Pg**	**16 21 41.2**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.27**	**143**	P	**Pg**	**16 21 41.2**	**+0.1**
NYDR	**Nydri-Lefkada**	**0.46**	**33**	P	**Pg**	**16 21 44.4**	**-0.2**
NYDR				S	**Sg**	**16 21 51.4**	**+0.5**
VLMS	**Volimes, Zakyn**	**0.50**	**154**	P	**Pg**	**16 21 45.4**	**0.0**
VLMS				S	**Sb**	**16 21 53.4**	**+0.3**
VLMS	**Volimes, Zakyn**	**0.50**	**154**	P	**Pg**	**16 21 45.2**	**-0.2**
VLMS				S	**Sb**	**16 21 53.3**	**+0.2**
LKD2	**Lefkada island**	**0.51**	**25**	P	**Pg**	**16 21 45.4**	**-0.1**
LKD2				S	**Sg**	**16 21 53.3**	**+0.8**
LKD2				AML	AML	16 22 00.6	
	comp=E,606μm,0.2s						
LKD2				AML	AML	16 22 00.9	
	comp=N,418μm,0.2s						
LKD2	**Lefkada island**	**0.51**	**25**	P	**Pg**	**16 21 45.5**	**-0.1**
TSLK	**Tsoukalades, L**	**0.54**	**23**	P	**Pg**	**16 21 46.2**	**0.0**
TSLK				S	**Sb**	**16 21 54.6**	**+0.3**
TSLK	**Tsoukalades, L**	**0.54**	**23**	P	**Pg**	**16 21 46.2**	**0.0**
TSLK				S	**Sb**	**16 21 54.7**	**+0.3**
	comp=N,300nm,0.4s						
PDO	**Prodromos**	**0.69**	**66**	P	**Pg**	**16 21 48.8**	**-0.1**
PDO	**Prodromos**	**0.69**	**66**	P	**Pg**	**16 21 48.6**	**-0.3**
LTHK	**Lithakia**	**0.71**	**150**	P	**Pg**	**16 21 48.9**	**-0.5**
LTHK	**Lithakia**	**0.71**	**150**	P	**Pg**	**16 21 48.9**	**-0.5**
DRO	**Drossia**	**1.11**	**109**	P	**Pb**	**16 21 56.5**	**+0.1**
EFP	**Efpalio**	**1.20**	**85**	P	**Pb**	**16 21 57.4**	**-0.5**
EFP	**Efpalio**	**1.20**	**85**	P	**Pb**	**16 21 57.6**	**-0.4**
ANX	**Ano Chora**	**1.24**	**77**	P	**Pn**	**16 21 58.9**	**+0.6**
ANX	**Ano Chora**	**1.24**	**77**	P	**Pn**	**16 21 59.1**	**+0.7**
LAKA	**Lakka**	**1.26**	**93**	P	**Pn**	**16 21 58.5**	**-0.1**
TRIZ	**Trizonia**	**1.33**	**88**	P	**Pn**	**16 21 59.6**	**+0.1**
KALE	**Kalithea**	**1.38**	**87**	P	**Pn**	**16 22 00.5**	**+0.2**
HVAR	**Hvar**	**5.69**	**330**	*e*Pn	**Pn**	**16 22 59.8**	**+0.3**
RICI	**Ricice**	**5.72**	**336**	*i* Pn	**Pn**	**16 22 59.8**	**-0.1**
ZIRJ	**Zirje**	**6.42**	**328**	*i* Pn	**Pn**	**16 23 08.7**	**-0.8**
MORI	**Morici**	**6.56**	**329**	*e*Pn	**Pn**	**16 23 11.9**	**+0.4**
DUGI	**Dugi Otok**	**6.94**	**326**	*e*Pn	**Pn**	**16 23 16.4**	**-0.3**
NVLJ	**Novalja**	**7.48**	**328**	*e*Pn	**Pn**	**16 23 23.6**	**-0.3**

*IDC **09** 16:27:03.8±1.5,53.90N×163.48W,h0km,mb3.3/5, mb1 3.6/7,mb1mx3.4/53,mbtmp3.4/7,ML3.1/2,Error ellipse: s-maj=35.8km s-min=21.2km az=179.0*
*NEIC **09** 16:27:06.5±1.4,53.87N±0.05×163.32W±0.07,h20km±9km, ML3.3/6,ML3.4/29(AEIC), Error ellipse: s-maj=8.2km s-min=5.5km az=154.0*
*AEIC **09** 16:27:07.1±1.6,53.86N±0.06×163.32W±0.08,h30km±4km, Error ellipse: s-maj=9.4km s-min=5.3km az=148.0*
ISC 09 16:27:04.2±3.0,**53.90N**±0.06×**163.28W**±0.04,**h5**km±21km, **n53,** σ1§**12**/51,**mb3.5**/5,**Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**0.92**	**333**		**Pn**	**16 27 24.4**	**+0.6**
SSLS					**Sb**	**16 27 35.3**	**+0.2**
FALS	**False Pass**	**0.96**	**355**		**Pn**	**16 27 24.9**	**+0.5**
FALS					**Sn**	**16 27 36.9**	**-1.5**
SSLW	**Shishaldin Wes**	**1.00**	**331**		**Pn**	**16 27 25.5**	**+0.5**
SSBA	**Shishaldin**	**1.00**	**331**		**Pn**	**16 27 25.4**	**+0.4**
SSBA					**Sn**	**16 27 39.6**	**+0.1**
SSLN	**Shishaldin Nor**	**1.00**	**336**		**Pn**	**16 27 26.0**	**+1.0**
SSLN					**Sn**	**16 27 39.2**	**-0.3**
WESP	**Westdahl Peak**	**1.03**	**306**		**Pn**	**16 27 25.7**	**+0.3**
WEBT	**Westdahl Beart**	**1.11**	**309**		**Pn**	**16 27 26.9**	**+0.6**
DTI	**Dutton Round H**	**1.34**	**25**		**Pb**	**16 27 30.1**	**+0.3**
AKSA	**Akutan Strait**	**1.44**	**280**		**Pn**	**16 27 31.1**	**+0.1**
AKSA					**Sn**	**16 27 48.7**	**-1.6**
AKUT	**Akutan**	**1.49**	**280**		**Pb**	**16 27 31.9**	**-0.3**
AKUT					**Sn**	**16 27 50.0**	**-1.3**
AKBBA	**Akutan Broad B**	**1.58**	**278**		**Pn**	**16 27 33.1**	**+0.4**
AKLV	**Akutan Long Va**	**1.60**	**281**		**Pn**	**16 27 33.4**	**+0.3**
AKMO	**Akutan Morgan**	**1.62**	**278**		**Pn**	**16 27 33.9**	**+0.5**
AKGG	**Akutan Green G**	**1.62**	**282**		**Pn**	**16 27 33.6**	**+0.1**
AKGG					**Sn**	**16 27 54.2**	**-0.5**
AKRB	**Akutan Reef Bi**	**1.66**	**279**		**Pb**	**16 27 34.7**	**-0.5**
PS4A	**Pavlof South-4**	**1.67**	**29**		**Pb**	**16 27 35.5**	**+0.2**
MNAT	**Makushin Natee**	**2.01**	**271**		**Pn**	**16 27 39.3**	**+0.5**
MREP	**Makushin Rep't**	**2.05**	**269**		**Pn**	**16 27 39.9**	**+0.5**
MSW	**Makushin Switc**	**2.07**	**272**		**Pn**	**16 27 40.0**	**+0.4**
MGOD	**Makushin Gods**	**2.13**	**269**		**Pn**	**16 27 41.0**	**+0.6**
MAPS	**Pakushin South**	**2.17**	**269**		**Pn**	**16 27 41.5**	**+0.5**
SDPT	**Sand Point**	**2.19**	**47**		**Pb**	**16 27 42.9**	**-1.3**
SDPT	**Sand Point**	**2.19**	**47**	IAML		16 28 22.7	
	comp=N,272nm,1.1s						
CNBA	**Chernabura Isl**	**2.35**	**65**	Pn	**Pn**	**16 27 43.6**	**+0.2**
CNBA				IAML		16 28 13.8	
	comp=E,47nm,1.3s						
NIKH	**Nikolski High**	**3.46**	**257**	Pn	**Pn**	**16 27 58.8**	**+0.2**
CHGN	**Chignik**	**3.69**	**47**	Pn	**Pn**	**16 28 02.7**	**+0.9**
CHGN				IAML		16 29 30.1	
	comp=E,63nm,0.1s						
CHGN				IAML		16 29 31.9	
	comp=N,59nm,0.1s						
OHAK	**Old Harbor**	**6.57**	**56**	Pn	**Pn**	**16 28 41.0**	**-0.4**
ATKA	**Atka Island**	**6.80**	**260**	Pn	**Pn**	**16 28 42.8**	**-1.6**
KDAK	**Kodiak Island**	**7.17**	**53**	Pn	**Pn**	**16 28 49.1**	**-0.4**
	comp=N,0.5nm,0.3s,baz=228,slow=12,SNR=6.6						
KDAK				Sn	**Sn**	**16 30 06.4**	**-4.9**
	comp=N,0.3nm,0.3s,baz=356,slow=7.6,SNR=1.9						
SEW	**Seward**	**9.76**	**45**	Pn	**Pn**	**16 29 25.0**	**-0.1**
TTA	**Tatalina**	**9.82**	**20**	Pn	**Pn**	**16 29 27.7**	**+1.8**
HIN	**Hinchinbrook I**	**11.18**	**48**	Pn	**Pn**	**16 29 44.4**	**-0.1**
SCM	**Sheep Creek Mo**	**11.61**	**40**	Pn	**Pn**	**16 29 49.4**	**-1.0**
KLU	**Klutina**	**11.97**	**44**	Pn	**Pn**	**16 29 54.5**	**-0.9**
HMT	**Hamilton**	**12.15**	**50**	Pn	**Pn**	**16 29 57.7**	**-0.1**
M24K	**Tolsona, Glenn**	**12.21**	**41**	Pn	**Pn**	**16 29 58.4**	**-0.2**
N25K	**Chitina, Valde**	**12.58**	**45**	Pn	**Pn**	**16 30 03.2**	**-0.4**
ILAR	**Eielson Array**	**13.68**	**31**	Pn	**Pn**	**16 30 17.4**	**-1.2**
	comp=N,0.1nm,0.3s,baz=204,slow=17,SNR=1.8						
DOT	**Dot Lake**	**13.89**	**38**	Pn	**Pn**	**16 30 21.4**	**-0.2**
PETK	**Petropavlovsk-**	**23.03**	**284**	P	**P**	**16 32 08.6**	**-1.3**
	comp=N,1.3nm,0.8s,baz=87,slow=14,SNR=9.5						
YKA	**Yellowknife Ar**	**26.44**	**52**	P	**P**	**16 32 43.7**	**+2.1**
	comp=N,0.1nm,0.4s,baz=270,slow=8.6,SNR=2.5						
NVAR	**Mina Array Bea**	**34.13**	**98**	P	**P**	**16 33 52.1**	**+2.0**
	comp=N,0.4nm,0.7s,baz=295,slow=8.0,SNR=4.2						
H11N2	**WAKE ISLAND Hy 41.05 226**			T	T	17 18 34.6	
	baz=26,slow=76,SNR=65						
H11N3	**WAKE ISLAND Hy 41.05 225**			T	T	17 18 34.0	
	baz=26,slow=76,SNR=60						
H11N1	**WAKE ISLAND Hy 41.06 226**			T	T	17 18 41.5	
	baz=26,slow=76,SNR=60						
H11S1	**WAKE ISLAND Hy 42.22 225**			T	T	17 20 10.5	
	baz=26,slow=76,SNR=62						
H11S2	**WAKE ISLAND Hy 42.23 225**			T	T	17 20 10.6	
	baz=26,slow=76,SNR=59						
H11S3	**WAKE ISLAND Hy 42.24 225**			T	T	17 20 07.7	
	baz=26,slow=76,SNR=44						
TXAR	**Lajitas Array 49.14 95**			P	**P**	**16 35 53.4**	**+0.6**
	comp=N,0.6nm,0.5s,baz=301,slow=5.0,SNR=7.2						
MKAR	**Makanchi Array 65.32 316**			P	**P**	**16 37 47.2**	**+0.3**
	comp=N,0.1nm,0.4s,baz=48,slow=6.6,SNR=2.1						
H03N2	**Juan Fernandez 113.17 115**			T	T	18 48 59.7	
	baz=323,slow=78,SNR=4.7						
H03N1	**Juan Fernandez 113.18 115**			T	T	18 48 59.7	
	baz=323,slow=78,SNR=6.4						
H03N3	**Juan Fernandez 113.18 115**			T	T	18 49 01.5	
	baz=323,slow=78,SNR=5.5						

*IDC **09** 16:27:35.3±1.4,5.67S×147.47E,h221km±19km,mb3.5/6, mb1 3.7/8,mb1mx3.3/40,mbtmp4.0/8,Error ellipse: s-maj=45.5km s-min=11.2km az=112.0*
*NEIC **09** 16:27:36.6±2.2,5.65S±0.1×147.3E±0.2,h224km±13km, mb4.4/11,Error ellipse: s-maj=27.6km s-min=16.0km az=102.0*
ISC 09 16:27:33.8±0.8,**5.56S**±0.07×**147.4E**±0.2,**h200**km,**n22,** σ1§**39**/24,**mb3.6**/6,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.83**	**183**	P	**Pn**	**16 28 35.9**	**+2.5**
	1.5nm,0.3s,baz=24,slow=12,SNR=8.4						
PMG				S	**Sn**	**16 29 21.0**	**+0.7**
	9.4nm,0.3s,baz=142,slow=21,SNR=18						
COEN	**Coen**	**9.30**	**206**	Pn	**Pn**	**16 29 46.3**	**+2.3**
WB0	**Warramunga Arr**	**18.93**	**221**	P	**P**	**16 31 40.1**	**+0.3**
WB0				IAmb	IAmb	16 31 44.5	
	comp=Z,5.9nm,0.9s						
WR0	**Warramunga Arr**	**18.98**	**220**	P	**P**	**16 31 40.8**	**+0.5**
WR0				IAmb	IAmb	16 31 45.6	
	comp=Z,16nm,1.2s						
WRAB	**Tennant Creek**	**19.08**	**220**	P	**P**	**16 31 41.9**	**+0.5**
WRAB				IAmb	IAmb	16 31 46.1	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**19.09**	**220**	P	**P**	**16 31 41.9**	**+0.4**
WB2				IAmb	IAmb	16 31 46.3	
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**19.09**	**220**	P	**P**	**16 31 42.1**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=53,slow=9.7,SNR=98						
WRA				S	**S**	**16 35 04.3**	**-3.2**
	comp=Z,0.0nm,0.3s,baz=39,slow=20,SNR=2.6						
EIDS	**Eidsvold**	**20.02**	**170**	P	**Pn**	**16 31 54.5**	**-1.4**
EIDS				IAmb	IAmb	16 31 57.2	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**22.18**	**214**	P	**P**	**16 32 14.6**	**+0.8**
ASAR	**Alice Springs**	**22.18**	**214**	P	**P**	**16 32 14.8**	**+1.0**
	comp=Z,3.6nm,0.6s,baz=50,slow=9.2,SNR=110						
ASAR				S	**S**	**16 36 02.9**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=30,slow=20,SNR=3.2						
FITZ	**Fitzroy Crossi**	**24.60**	**238**	P	**P**	**16 32 36.0**	**+0.3**
	comp=Z,10.0nm,0.4s,baz=55,slow=7.8,SNR=63						
FITZ	**Fitzroy Crossi**	**24.60**	**238**	IAmb	IAmb	16 32 38.3	
	comp=Z,8.3nm,0.5s						
ARMA	**Armidale**	**25.05**	**171**	P	**P**	**16 32 37.9**	**-2.0**
MBWA	**Marble Bar**	**30.94**	**237**	P	**P**	**16 33 31.0**	**-1.2**
FORT	**Forrest**	**30.96**	**214**	P	**P**	**16 33 32.3**	**+0.1**
SMRI	**Semarang**	**36.71**	**266**

FITZ	**Fitzroy Crossi**	**11.83**	**196**	P	Pn	17 23 49.8	+0.5
	0.1nm,0.3s,baz=24,slow=10.0,SNR=1.7						
FITZ				S	Sn	17 25 53.5	-7.2
	0.1nm,0.3s,baz=323,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**14.20**	**159**	P	Pn	17 24 18.2	-1.1
	0.1nm,0.3s,baz=337,slow=12,SNR=8.5						
WRA				S	Sn	17 26 43.7	-14
	0.3nm,0.3s,baz=331,slow=22,SNR=4.5						
ASAR	**Alice Springs**	**17.57**	**165**	P	P	17 24 58.8	+0.3
	0.1nm,0.3s,baz=345,slow=9.9,SNR=9.0						
MKAR	**Makanchi Array**	**67.38**	**327**	P	P	17 31 42.0	0.0
	0.1nm,0.3s,baz=130,slow=5.8,SNR=1.5						

*ROM **09** 17:25:38.7±0.2,43.018N±0.009×14.14E±0.02, h26km±1km, ML2.6/18, Error ellipse: s-maj=1.2km s-min=0.7km az=55.0*
*PRU **09** 17:25:44.7±0.0,43.27N×14.28E, h0km*
ISC 09 17:25:38.8±1.3,**42.99N**±0.03×**14.06E**±0.02,**h4**km±12km, **n37**,σ0**967**/42,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.28**	**258**	P	**Pb**	**17 25 46.6**	**+0.2**
OFFI				AML	AML		
	comp=N,8310μm,0.7s						
OFFI				AML	AML		
	comp=E,5595μm,0.7s						
OFFI				END			
CADA	**Capodarco di F**	**0.30**	**313**	P	**Pb**	**17 25 46.0**	**-0.6**
CADA				S	**Sb**	**17 25 51.5**	**-0.5**
TERO	**Teramo**	**0.50**	**222**	P	**Pb**	**17 25 49.7**	**-0.4**
TERO				S	**Sb**	**17 25 58.1**	**+0.2**
TERO				AML	AML		
	comp=E,609μm,0.3s						
TERO				AML	AML		
	comp=N,632μm,0.4s						
TERO				AML	AML		
	comp=E,610μm,0.3s						
TERO				AML	AML		
	comp=N,268μm,0.4s						
TERO				AML	AML		
	comp=E,262μm,0.3s						
TERO				END			
SMA1	**SAN MARTINO**	**0.65**	**236**	P	**Pg**	**17 25 51.8**	**+0.6**
SMA1				S	**Sb**	**17 26 02.3**	**+0.2**
SMA1				AML	AML		
	comp=E,704μm,0.4s						
SMA1				AML	AML		
	comp=N,662μm,0.5s						
AOI	**Ancona**	**0.65**	**329**	P	**Pb**	**17 25 52.3**	**-0.5**
GIGS	**Gran Sasso**	**0.65**	**214**	P	**Pb**	**17 25 52.3**	**-0.5**
GIGS				S	**Sb**	**17 26 02.7**	**+0.4**
GIGS				AML	AML		
	comp=E,20μm,0.8s						
GIGS				AML	AML		
	comp=E,20μm,0.8s						
GIGS				AML	AML		
	comp=N,18μm,1.1s						
CAMP	**Campotosto**	**0.66**	**227**	P	**Pg**	**17 25 52.1**	**+0.7**
CAMP				S	**Sb**	**17 26 03.2**	**+0.6**
CAMP				AML	AML		
	comp=N,318μm,1.0s						
CAMP				AML	AML		
	comp=N,318μm,1.0s						
CAMP				AML	AML		
	comp=E,246μm,0.5s						
NRCA	**Norcia**	**0.71**	**257**	AML	AML		
	comp=E,712μm,0.2s						
NRCA				AML	AML		
	comp=E,711μm,0.2s						
NRCA				AML	AML		
	comp=N,548μm,0.2s						
CING	**Cingoli**	**0.74**	**301**	P	**Pb**	**17 25 53.6**	**-0.7**
CING				S	**Sb**	**17 26 05.1**	**+0.3**
CING				AML	AML		
	comp=E,359μm,0.5s						
CING				AML	AML		
	comp=N,370μm,1.1s						
EL6	**Elcito**	**0.78**	**296**	P	**Pb**	**17 25 54.2**	**-0.7**
EL6				S	**Sb**	**17 26 06.2**	**+0.3**
EL6				AML	AML		
	comp=E,918μm,0.2s						
EL6				AML	AML		
	comp=N,929μm,0.3s						
RM33	**Pellescritta (**	**0.79**	**232**	P	**Pg**	**17 25 54.3**	**+0.4**
RM33				AML	AML		
	comp=E,526μm,0.4s						
RM33				AML	AML		
	comp=N,458μm,0.3s						
RM33				AML	AML		
	comp=E,525μm,0.4s						
T0110	**Collepietro**	**0.79**	**195**	P	**Pb**	**17 25 55.3**	**+0.1**
T0110				AML	AML		
	comp=N,504μm,0.3s						
T0110				AML	AML		
	comp=E,488μm,0.5s						
CAFR	**Castel Frentan**	**0.80**	**164**	P	**Pg**	**17 25 53.9**	**-0.1**
FAGN	**Fagnano**	**0.81**	**206**	P	**Pb**	**17 25 55.8**	**+0.3**
FAGN				AML	AML		
	comp=E,771μm,0.6s						
FAGN				AML	AML		
	comp=E,770μm,0.6s						
FAGN				AML	AML		
	comp=N,625μm,0.4s						
CESI	**CESI - Serrava**	**0.85**	**271**	P	**Pg**	**17 25 55.2**	**+0.2**
CESI				AML	AML		
	comp=N,247μm,1.1s						
CESI				AML	AML		
	comp=E,108μm,0.4s						
CESI				AML	AML		
	comp=E,108μm,0.4s						
CESI				AML	AML		
	comp=N,246μm,1.1s						
SNTG	**Esanatoglia**	**0.86**	**288**	P	**Pg**	**17 25 55.5**	**+0.2**
SNTG				S	**Sb**	**17 26 08.8**	**+0.6**
SNTG				AML	AML		
	comp=E,258μm,0.6s						
SNTG				AML	AML		
	comp=N,361μm,0.3s						
SNTG				AML	AML		
	comp=N,362μm,0.3s						
ARVD	**Arcevia**	**0.96**	**302**	P	**Pb**	**17 25 57.5**	**-0.5**
ARVD				AML	AML		
	comp=E,237μm,0.7s						
ARVD				AML	AML		
	comp=N,164μm,0.6s						
INTR	**Introdacqua**	**0.99**	**187**	P	**Pb**	**17 25 58.5**	**-0.1**
INTR				AML	AML		
	comp=E,544μm,0.7s						
INTR				AML	AML		
	comp=N,672μm,0.4s						
INTR				AML	AML		
	comp=N,671μm,0.4s						
SSFR	**Montelago di S**	**1.03**	**296**	P	**Pb**	**17 25 59.1**	**-0.2**
SSFR				AML	AML		
	comp=E,824μm,0.3s						
SSFR				AML	AML		
	comp=N,626μm,0.6s						
SSFR				AML	AML		
	comp=E,824μm,0.3s						
SSFR				AML	AML		
	comp=N,594μm,0.6s						
SSFR				AML	AML		
	comp=E,686μm,0.3s						
SSFR				AML	AML		
	comp=N,626μm,0.6s						
MOMA	**Monte Martano**	**1.11**	**261**	P	**Pb**	**17 26 00.3**	**-0.3**
MOMA				AML	AML		
	comp=N,330μm,0.4s						
MOMA				AML	AML		
	comp=E,272μm,0.4s						
FSSB	**Fossombrone**	**1.17**	**307**	AML	AML		
	comp=E,637μm,1.4s						
FSSB				AML	AML		
	comp=E,636μm,1.4s						
FSSB				AML	AML		
	comp=N,881μm,0.4s						
DUGI	**Dugi Otok**	**1.23**	**36**	*i* Pg	**Pn**	**17 26 03.1**	**+0.2**
DUGI				Sg	**Sn**	**17 26 21.0**	**+1.0**
ATVO	**AVT- Monte Val**	**1.27**	**288**	AML	AML		
	comp=E,224μm,1.0s						
ATVO				AML	AML		
	comp=N,192μm,0.4s						
ATVO				AML	AML		
	comp=N,193μm,0.4s						
TRIV	**Trivento**	**1.28**	**163**	AML	AML		
	comp=E,158μm,0.6s						
TRIV				AML	AML		
	comp=N,134μm,1.6s						
TRIV				AML	AML		
	comp=N,134μm,1.6s						
ATPI	**Pietralunga -**	**1.29**	**291**	AML	AML		
	comp=E,342μm,0.5s						
ATPI				AML	AML		
	comp=N,448μm,1.2s						
POFI	**Posta Fibreno**	**1.30**	**192**	AML	AML		
	comp=N,109μm,0.4s						
POFI				AML	AML		
	comp=E,170μm,0.6s						
POFI				AML	AML		
	comp=E,170μm,0.6s						
ZIRJ	**Zirje**	**1.33**	**60**	*i* Pn	**Pb**	**17 26 05.1**	**+0.7**
ZIRJ				Sn	**Sn**	**17 26 23.5**	**+1.1**
PE3	**Peglio**	**1.34**	**302**	AML	AML		
	comp=E,420μm,0.6s						
PE3				AML	AML		
	comp=N,570μm,0.6s						
PE3				AML	AML		
	comp=N,570μm,0.6s						
TREM	**Isole Tremiti**	**1.38**	**129**	P	**Pn**	**17 26 02.5**	**-2.3**
CERA	**Filignano**	**1.40**	**181**	AML	AML		
	comp=E,260μm,0.6s						
CERA				AML	AML		
	comp=E,260μm,0.6s						
CERA				AML	AML		
	comp=N,289μm,0.6s						
MGAB	**Montegabbione**	**1.43**	**267**	AML	AML		
	comp=N,178μm,0.6s						
MGAB				AML	AML		
	comp=E,147μm,0.5s						
MGAB				AML	AML		
	comp=E,152μm,0.6s						
MGAB				AML	AML		
	comp=N,166μm,0.6s						
MORI	**Morici**	**1.48**	**53**	*e*Pn	**Pg**	**17 26 07.2**	**0.0**
MORI				Sg	**Sg**	**17 26 27.2**	**+0.8**
VAGA	**Valle Agricola**	**1.58**	**175**	AML	AML		
	comp=E,85μm,0.4s						
VAGA				AML	AML		
	comp=N,110μm,0.7s						
NVLJ	**Novalja**	**1.68**	**20**	*e*Pn	**Pn**	**17 26 09.0**	**+0.1**
NVLJ				Sn	**Sg**	**17 26 31.8**	**-0.8**
HVAR	**Hvar**	**1.76**	**83**	*e*Pn	**Pg**	**17 26 13.5**	**+1.0**
HVAR				Sn	**Sb**	**17 26 34.3**	**+0.2**
UDBI	**Udbina**	**1.97**	**38**	*e*Pn	**Pb**	**17 26 14.5**	**-0.7**
UDBI				Sn	**Sb**	**17 26 40.2**	**0.0**
RICI	**Ricice**	**2.30**	**76**	*e*Pn	**Pb**	**17 26 19.9**	**-1.0**
RICI				Sn	**Sn**	**17 26 46.4**	**+0.1**

*TAP **09** 17:30:31.0,24.12N×122.28E, h24km, ML3.2, C*
*JMA **09** 17:30:31.1±0.1,24.04N×122.28E, h28km±3km, M2.6*
ISC 09 17:30:30.8±1.2,**24.07N**±0.02×**122.28E**±0.02,**h22**km±5km, **n105**,σ0**664**/152,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.59**	**310**	*i* P	**Pb**	**17 30 42.0**	**-0.5**
	baz=313						
EWUT				*e*S	**Sb**	**17 30 49.8**	**-0.6**
	baz=313						
ENA	**Nanau**	**0.60**	**306**	P	**Pb**	**17 30 42.5**	**-0.3**
	baz=310						
ENA				S	**Sb**	**17 30 51.0**	**+0.1**
	baz=310						
TWD	**Chiawan**	**0.62**	**271**	P	**Pb**	**17 30 43.5**	**+0.4**
	baz=253						
TWD				S	**Sb**	**17 30 52.4**	**+1.0**
	baz=253						
NACB	**Ninganchiao**	**0.63**	**280**	*e*P	**Pb**	**17 30 43.4**	**+0.2**
	baz=259						
TWC	**Suao**	**0.66**	**324**	*i* P	**Pb**	**17 30 42.9**	**-0.8**
	baz=321						
TWC				*e*S	**Sb**	**17 30 51.1**	**-1.4**
	baz=321						
JYNG	**Yonagunijimaku**	**0.72**	**58**	P	**Pb**	**17 30 45.0**	**+0.4**
JYNG				S	**Sb**	**17 30 54.2**	**+0.1**
ETLH	**Xiulin Townshi**	**0.74**	**281**	P	**Pb**	**17 30 45.1**	**+0.1**
	baz=263						
ETLH				*e*S	**Sn**	**17 30 55.7**	**-0.9**
	baz=263						
NDS	**Dongshan**	**0.76**	**318**	P	**Pb**	**17 30 45.0**	**-0.3**
	baz=318						
NDS				*e*S	**Sb**	**17 30 55.2**	**0.0**
	baz=318						
YOJ	**Yonaguni jima**	**0.78**	**60**	*e*P	**Pb**	**17 30 45.5**	**-0.1**
	baz=61						
YOJ				S	**Sn**	**17 30 56.7**	**-0.7**
	baz=61						
YOJ	**Yonaguni jima**	**0.78**	**60**	P	**Pb**	**17 30 45.9**	**+0.3**
YOJ				S	**Sb**	**17 30 55.4**	**-0.3**
ESL	**Shilin**	**0.81**	**252**	P	**Pb**	**17 30 45.9**	**-0.4**
	baz=240						
ESL				*e*S	**Sn**	**17 30 58.5**	**+0.1**
	baz=240						
ILA	**Ilan**	**0.84**	**325**	*e*P	**Pb**	**17 30 46.3**	**-0.4**
	baz=322						
ILA				*e*S	**Sb**	**17 30 58.3**	**+0.7**
	baz=322						
TWE	**Neicheng**	**0.85**	**320**	*e*P	**Pb**	**17 30 46.7**	**-0.2**
	baz=317						
ENTT	**Nioudou**	**0.86**	**311**	*e*P	**Pb**	**17 30 47.3**	**+0.2**
	baz=315						
ENTT				*e*S	**Sb**	**17 30 58.2**	**+0.1**
	baz=315						
EGFH	**Guangfu**	**0.87**	**243**	*e*S	**Sn**	**17 30 59.3**	**-0.6**
	baz=230						
NDT	**Datong Townshi**	**0.88**	**307**	P	**Pn**	**17 30 47.9**	**+0.1**
	baz=315						
NDT				*e*S	**Sb**	**17 30 58.6**	**+0.1**
	baz=315						
NNSB	**Datong**	**0.89**	**294**	*e*P	**Pb**	**17 30 47.7**	**+0.1**
	baz=291						
NNSH	**Datong**	**0.89**	**294**	*e*P	**Pb**	**17 30 47.8**	**+0.2**
	baz=290						
NNS	**Nan Shan**	**0.90**	**294**	P	**Pb**	**17 30 48.0**	**+0.1**
	baz=291						
NNS				*e*S	**Sn**	**17 31 01.1**	**+0.3**
	baz=291						
WHF	**Hehuan Shan**	**0.93**	**275**	P	**Pb**	**17 30 48.2**	**-0.2**
	baz=257						
FUSS	**Fushou**	**0.96**	**281**	P	**Pb**	**17 30 49.0**	**+0.1**
	baz=278						
HGSD	**Ruisui**	**0.97**	**234**	*e*P	**Pb**	**17 30 48.8**	**-0.1**
	baz=232						
TWB1	**Santiao Chiao**	**0.97**	**344**	*e*P	**Pb**	**17 30 48.6**	**-0.3**
	baz=329						
TWB1				*e*S	**Sb**	**17 31 01.1**	**-0.2**
	baz=329						
TIPB	**Shuangxi**	**0.99**	**336**	P	**Pb**	**17 30 49.1**	**-0.1**
	baz=333						
TIPB				*e*S	**Sb**	**17 31 01.3**	**-0.5**
	baz=333						
NWLT	**Wulai**	**1.00**	**315**	*e*P	**Pb**	**17 30 49.6**	**+0.3**
	baz=312						
NWLT				*e*S	**Sb**	**17 31 02.2**	**+0.2**
	baz=312						
YHNB	**Yeheng**	**1.01**	**306**	*e*P	**Pn**	**17 30 49.7**	**-0.1**
	baz=303						
YHNB				S	**Sb**	**17 31 02.9**	**+0.3**
	baz=303						
TWT	**Tachien**	**1.02**	**281**	*e*P	**Pb**	**17 30 50.5**	**+0.6**
	baz=264						
NSK	**Sanguang**	**1.03**	**306**	*e*P	**Pn**	**17 30 49.9**	**-0.1**
	baz=303						
NSK				*e*S	**Sb**	**17 31 03.2**	**0.0**
	baz=303						
TDCB	**Techi**	**1.04**	**280**	*e*P	**Pb**	**17 30 50.4**	**+0.2**
	baz=264						
EHY	**Hungye**	**1.04**	**237**	*e*P	**Pb**	**17 30 50.2**	**+0.1**
	baz=250						
VWDT	**VWDT**	**1.08**	**253**	*e*P	**Pb**	**17 30 50.8**	**0.0**
	baz=240						
VWDT				*e*S	**Sn**	**17 31 05.1**	**+0.1**
	baz=240						
NWF	**Wu-fen Shan**	**1.09**	**336**	*e*P	**Pn**	**17 30 50.7**	**-0.2**
	baz=332						
NWF				*e*S	**Sb**	**17 31 04.8**	**-0.1**
	baz=332						
WFSB	**Wu-fen Shan**	**1.09**	**336**	*e*P	**Pn**	**17 30 50.7**	**-0.1**
	baz=332						
WFSB				*e*S	**Sb**	**17 31 04.6**	**-0.2**
	baz=332						
TWA	**Mucha**	**1.10**	**325**	*e*P	**Pb**	**17 30 51.7**	**+0.5**
	baz=323						
NHDH	**Xindian Distri**	**1.12**	**323**	*e*P	**Pb**	**17 30 51.9**	**+0.4**
	baz=310						
NHDH				*e*S	**Sb**	**17 31 05.7**	**0.0**
	baz=310						
YULB	**Yu-li**	**1.12**	**233**	*e*P	**Pn**	**17 30 50.7**	**-0.5**
	baz=248						
YULB				*e*S	**Sb**	**17 31 04.6**	**-1.1**
	baz=248						
EYUL	**Yuli**	**1.14**	**231**	*e*P	**Pn**	**17 30 51.2**	**-0.2**
	baz=247						
EYUL				*e*S	**Sn**	**17 31 06.7**	**+0.4**
	baz=247						
TWF1	**Yuli**	**1.15**	**232**	*e*P	**Pn**	**17 30 51.1**	**-0.5**
	baz=219						
TATO	**Taipei**	**1.15**	**322**	*e*P	**Pb**	**17 30 52.0**	**0.0**
	baz=318						
TATO				*e*S	**Sn**	**17 31 06.5**	**-0.3**
	baz=318						
WPL	**Puli Township**	**1.21**	**268**	*e*P	**Pb**	**17 30 52.7**	**-0.2**
	baz=265						
WHP	**Taichung City**	**1.23**	**280**	*e*P	**Pb**	**17 30 53.5**	**+0.1**
	baz=266						
DPDB	**Guoxing**	**1.23**	**269**	*e*P	**Pn**	**17 30 53.1**	**+0.3**
	baz=266						
SSLB	**Suanglung**	**1.24**	**257**	*e*P	**Pn**	**17 30 53.0**	**+0.1**
	baz=244						
WCS	**Beigang Elemen**	**1.25**	**270**	*e*P	**Pn**	**17 30 53.3**	**+0.4**
	baz=259						
WCS				*e*S	**Sb**	**17 31 09.9**	**+0.6**
	baz=259						
YM01	**YM01**	**1.25**	**329**	*e*P	**Pn**	**17 30 53.2**	**+0.2**
	baz=341						
YM01				*e*S	**Sn**	**17 31 08.7**	**-0.6**
	baz=341						
FULB	**Fuli**	**1.25**	**226**	*e*P	**Pn**	**17 30 52.2**	**-0.8**
	baz=212						
YM10	**YM10**	**1.26**	**329**	*e*P	**Pn**	**17 30 53.3**	**+0.1**
	baz=342						
YM11	**YM11**	**1.26**	**330**	*e*P	**Pb**	**17 30 54.1**	**+0.1**
	baz=342						
YM05	**YM05**	**1.27**	**329**	*e*P	**Pn**	**17 30 53.0**	**-0.3**
	baz=343						
YM04	**YM04**	**1.27**	**328**	*e*P	**Pn**	**17 30 53.2**	**-0.1**
	baz=343						
YM08	**YM08**	**1.28**	**331**	*e*P	**Pn**	**17 30 53.5**	**+0.1**
	baz=343						
CHKT	**Chengkung**	**1.28**	**221**	*i* S	**Sn**	**17 31 07.8**	**-2.0**
	baz=210						
LIOB	**Emei**	**1.28**	**297**	*e*P	**Pb**	**17 30 54.6**	**+0.3**
	baz=294						
NSTT	**Nanjuang**	**1.29**	**296**	*e*P	**Pb**	**17 30 54.6**	**+0.3**
	baz=293						
TWS1	**Kuangyinshan**	**1.29**	**323**	*e*P	**Pb**	**17 30 54.2**	**-0.1**
	baz=320						
ANP	**Anpu**	**1.31**	**328**	*e*P	**Pb**	**17 30 54.3**	**-0.4**
	baz=325						
TYC	**Yuchr**	**1.31**	**263**	*e*P	**Pn**	**17 30 54.1**	**+0.3**
	baz=261						
NCUH	**Zhongli**	**1.34**	**312**	*e*P	**Pb**	**17 30 54.8**	**-0.4**
	baz=309						
YUS	**Yu-Shan**	**1.34**	**245**	P	**Pn**	**17 30 55.1**	**+0.4**
	baz=244						
YUS				*e*S	**Sb**	**17 31 12.4**	**-0.1**
	baz=244						
IRIF	**Iriomote-Funau**	**1.35**	**78**	P	**Pb**	**17 30 55.1**	**-0.3**
IRIF				S	**Sb**	**17 31 13.4**	**+1.1**
WHYT	**Xinyi Township**	**1.35**	**254**	*e*P	**Pb**	**17 30 55.5**	**+0.1**
	baz=244						
WHYT				*e*S	**Sb**	**17 31 13.2**	**+0.8**
	baz=244						
HATJ	**Hateruma jima**	**1.40**	**90**	P	**Pb**	**17 30 56.5**	**+0.3**
HATJ				S	**Sb**	**17 31 13.8**	**+0.2**
EDH	**Donghe**	**1.41**	**219**	*e*P	**Pn**	**17 30 54.3**	**-0.9**
	baz=210						
EDH				*e*S	**Sn**	**17 31 11.5**	**-1.6**
	baz=210						
NMLH	**Miaoli**	**1.43**	**289**	*e*P	**Pb**	**17 30 57.0**	**+0.2**
	baz=287						
WJS	**Zhushan**	**1.44**	**260**	*e*P	**Pb**	**17 30 57.0**	**+0.1**
	baz=259						
ELDTW	**Lidau**	**1.45**	**233**	*e*P	**Pn**	**17 30 55.2**	**-0.6**
	baz=219						
ALS	**Alishan**	**1.46**	**248**	*e*P	**Pb**	**17 30 56.9**	**-0.5**
	baz=247						
ALS				*e*S	**Sb**	**17 31 15.3**	**-0.3**
	baz=247						
WNT	**Mingjian**	**1.47**	**263**	*e*P	**Pb**	**17 30 57.4**	**0.0**
	baz=250						
WNT1	**Nantou City**	**1.47**	**264**	*e*P	**Pb**	**17 30 57.8**	**+0.4**
	baz=251						
CHN5	**Tsauling**	**1.54**	**252**	*e*P	**Pb**	**17 30 58.4**	**-0.2**
	baz=241						
CHN5				*e*S	**Sb**	**17 31 17.9**	**+0.3**
	baz=241						
LONT	**Longtian**	**1.56**	**222**	*e*P	**Pn**	**17 30 56.9**	**-0.4**
	baz=222						
JKRS	**Kuro-shima**	**1.59**	**84**	P	**Pb**	**17 30 58.8**	**-0.7**
JKRS				S	**Sb**	**17 31 19.4**	**+0.2**
WGK	**Gukeng**	**1.61**	**257**	*e*P	**Pb**	**17 30 59.2**	**-0.7**
	baz=255						
WDLH	**Douliu**	**1.64**	**257**	*e*P	**Pb**	**17 30 59.8**	**-0.4**
	baz=256						
STYH	**Taoyuan**	**1.64**	**237**	*e*P	**Pn**	**17 30 59.0**	**+0.7**
	baz=237						
STYH				*e*S	**Sb**	**17 31 20.3**	**-0.3**
	baz=237						
STYT	**Tauyuan**	**1.66**	**237**	*e*P	**Pn**	**17 30 59.5**	**+0.9**
	baz=237						
STYT				*e*S	**Sn**	**17 31 20.3**	**+0.9**
	baz=237						
TWGBT	**Beinan**	**1.66**	**222**	*e*P	**Pn**	**17 30 58.1**	**-0.6**
	baz=222						
TPUB	**Ta-pu**	**1.69**	**243**	*e*P	**Pb**	**17 31 00.6**	**-0.7**
	baz=243						
TPUB				*e*S	**Sb**	**17 31 22.9**	**+0.8**
	baz=243						
CHN4	**Tsaushan**	**1.70**	**245**	*e*P	**Pb**	**17 31 01.1**	**-0.2**
	baz=235						
CHN4				*e*S	**Sb**	**17 31 23.3**	**+1.0**
	baz=235						
JIJ	**Ishigaki jima**	**1.73**	**80**	P	**Pn**	**17 30 59.9**	**+0.3**
JIJ				S	**Sn**	**17 31 20.8**	**-0.2**
WTP	**Ta-pu**	**1.73**	**242**	*e*P	**Pb**	**17 31 01.1**	**-0.8**
	baz=242						
WTP				*e*S	**Sb**	**17 31 23.4**	**+0.2**
	baz=242						
WRL	**Guolierlin Hig**	**1.75**	**265**	*e*S	**Sb**	**17 31 24.0**	**+0.4**
	baz=264						
WTK	**Tuku**	**1.77**	**258**	*e*P	**Pb**	**17 31 02.2**	**-0.3**
	baz=245						
WTK				*e*S	**Sb**	**17 31 24.3**	**+0.1**
	baz=245						
TWK	**Hsinying**	**1.82**	**244**	*e*P	**Pb**	**17 31 02.7**	**-0.8**
	baz=244						
TWK				*e*S	**Sb**	**17 31 26.0**	**+0.1**
	baz=244						
CHN1	**Nanshi**	**1.83**	**242**	*e*P	**Pb**	**17 31 02.9**	**-0.7**
	baz=241						
SGST	**Jiashian**	**1.84**	**238**	*e*P	**Pn**	**17 31 02.4**	**+1.3**
	baz=238						
SGST				*e*S	**Sb**	**17 31 25.7**	**-0.6**
	baz=238						
SLGT	**Liugui**	**1.84**	**235**	*e*P	**Pn**	**17 31 02.4**	**+1.2**
	baz=224						
ECL	**Taimali**	**1.90**	**220**	*e*P	**Pb**	**17 31 03.9**	**-0.9**
	baz=230						
JISG	**Ishigakijimahi**	**1.93**	**74**	P	**Pn**	**17 31 02.6**	**+0.3**
JISG				S	**Sn**	**17 31 25.5**	**-0.3**
WSF	**Szhu**	**1.93**	**258**	*e*P	**Pb**	**17 31 04.1**	**-1.1**
	baz=242						
ICHU	**Yijhu**	**1.96**	**249**	*e*P	**Pb**	**17 31 04.4**	**-1.4**
	baz=249						
SSD	**Sandimen**	**2.00**	**229**	*e*P	**Pn**	**17 31 05.0**	**+1.6**
	baz=220						
SCST	**Cishan**	**2.02**	**235**	*e*P	**Pb**	**17 31 06.0**	**-0.8**
	baz=224						
TSMG	**Majia**	**2.02**	**228**	*e*P	**Pb**	**17 31 06.0**	**-0.8**
	baz=219						
MASBT	**Mashibuluo**	**2.10**	**226**	*e*P	**Pn**	**17 31 05.5**	**+0.9**
	baz=218						
SGLT	**Jiouru**	**2.12**	**231**	*e*P	**Pn**	**17 31 06.4**	**+1.5**
	baz=231						
EAST	**Anshuo**	**2.13**	**218**	*e*P	**Pn**	**17 31 06.0**	**+0.8**
	baz=219						
SSPT	**Xinbi**	**2.23**	**225**	*e*P	**Pn**	**17 31 08.3**	**+1.9**

	baz=218							
SCZT	**Fangliau**	**2.27**	**222**	*e*P		**Pn**	**17 31 08.9**	**+1.8**
	baz=216							
SLIU	**Shizi**	**2.29**	**217**	*e*P		**Pn**	**17 31 08.7**	**+1.3**
	baz=217							
PHUB	**P'eng-hu**	**2.54**	**258**	*e*P		**Pn**	**17 31 12.0**	**+1.3**
	baz=258							
PHUB				*e*S		**Sn**	**17 31 41.9**	**+0.9**
	baz=258							
LYJJ	**Jianjiangzhen**	**3.36**	**318**	*e*P		**Pn**	**17 31 22.8**	**+0.9**
	baz=315							
XPSS	**Dashiqiu**	**3.42**	**327**	*e*P		**Pn**	**17 31 22.4**	**-0.3**
	baz=334							
KNMB	**Chin-men Tao**	**3.57**	**277**	*e*P		**Pn**	**17 31 24.7**	**-0.2**
	baz=276							
AXDP	**Jialang**	**4.01**	**283**	*e*P		**Pn**	**17 31 31.2**	**+0.3**
	baz=281							

*INMG **09** 18:18:16.7±2.1, 37.°59N×16.°39W, h10km, ML2.7, Error ellipse: s-maj=11.9km s-min=7.7km az=96.0*
*MDD **09** 18:18:21.5±2.8, 38.°00N×15.°22W, h0km, mb3.8/5, mbLg2.7/1, Error ellipse: s-maj=19.7km s-min=15.4km az=71.0, PRXIMO*

ISC 09 18:18:17.3±4.0, 37.°82N±0.°10×15.°7W±0.°2, h10km, n36, σ1°49/64, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**5.17**	**75**	P		**Pn**	**Pn**	**18 19 37.1**	**+2.3**
	2.9nm,0.1s,SNR=7.9								
PMAFR				S		**Sn**	**Sn**	**18 20 35.8**	**+1.3**
	2.7nm,0.2s,SNR=7.9								
PMAFR	**Mafra**	**5.17**	**75**	*e*Pn		**Pn**	**Pn**	**18 19 37.2**	**+2.4**
PMAFR				*e*Sn		**Sn**	**Sn**	**18 20 36.3**	**+1.8**
PMAFR				A		A	A	18 20 51.5	
	13nm,0.6s								
PFVI	**Vila Bisbo**	**5.52**	**95**	P		**Pn**	**Pn**	**18 19 39.5**	**0.0**
	0.9nm,0.1s,SNR=7.9								
PFVI				S		**Sn**	**Sn**	**18 20 40.4**	**-2.5**
	3.8nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**5.52**	**95**	*e*Pn		**Pn**	**Pn**	**18 19 39.5**	**0.0**
PFVI				*e*Sn		**Sn**	**Sn**	**18 20 41.8**	**-1.1**
PFVI				A		A	A	18 20 51.6	
	7.5nm,1.0s								
PTEO	**Sao Teotonio**	**5.55**	**91**	P		**Pn**	**Pn**	**18 19 40.3**	**+0.4**
PTEO				S		**Sn**	**Sn**	**18 20 42.6**	**-1.1**
	3.2nm,0.6s								
PTEO	**Sao Teotonio**	**5.55**	**91**	*e*Pn		**Pn**	**Pn**	**18 19 40.3**	**+0.4**
PTEO				*e*Sn		**Sn**	**Sn**	**18 20 42.6**	**-1.1**
PTEO				A		A	A	18 20 51.7	
	6.5nm,0.6s								
PNCL	**Nicolau / Gran**	**5.68**	**85**	P		**Pn**	**Pn**	**18 19 42.6**	**+0.9**
PNCL				S		**Sn**	**Sn**	**18 20 43.1**	**-3.9**
PNCL	**Nicolau / Gran**	**5.68**	**85**	*e*Pn		**Pn**	**Pn**	**18 19 42.6**	**+0.9**
PNCL				*e*Sn		**Sn**	**Sn**	**18 20 43.1**	**-3.9**
MESJ	**Messejana**	**5.93**	**88**	P		**Pn**	**Pn**	**18 19 45.8**	**+0.7**
MESJ				S		**Sn**	**Sn**	**18 20 52.5**	**-0.6**
	2.0nm,1.1s								
MESJ	**Messejana**	**5.93**	**88**	*e*Pn		**Pn**	**Pn**	**18 19 45.8**	**+0.7**
MESJ				*e*Sn		**Sn**	**Sn**	**18 20 52.5**	**-0.6**
MESJ				A		A	A	18 20 54.2	
	2.0nm,1.1s								
PMTG	**Montargil**	**6.00**	**76**	P		**Pn**	**Pn**	**18 19 47.5**	**+1.3**
PMTG				S		**Sn**	**Sn**	**18 20 54.7**	**-0.3**
	2.5nm,0.7s								
PMTG	**Montargil**	**6.00**	**76**	*e*Pn		**Pn**	**Pn**	**18 19 47.5**	**+1.3**
PMTG				*e*Sn		**Sn**	**Sn**	**18 20 54.7**	**-0.3**
PMTG				A		A	A	18 21 09.4	
	2.5nm,0.7s								
PCAS	**Casmilo, Conde**	**6.05**	**66**	S		**Sn**	**Sn**	**18 20 56.7**	**+0.7**
PCAS	**Casmilo, Conde**	**6.05**	**66**	*e*Sn		**Sn**	**Sn**	**18 20 56.7**	**+0.7**
PCVE	**Castro Verde**	**6.08**	**89**	P		**Pn**	**Pn**	**18 19 49.3**	**+2.1**
PCVE				S		**Sn**	**Sn**	**18 20 56.2**	**-0.7**
	1.4nm,0.6s								
PCVE	**Castro Verde**	**6.08**	**89**	*e*Pn		**Pn**	**Pn**	**18 19 49.3**	**+2.1**
PCVE				*e*Sn		**Sn**	**Sn**	**18 20 56.2**	**-0.7**
PCVE				A		A	A	18 21 02.8	
	1.4nm,0.6s								
PBDV	**Barranco-do-Ve**	**6.21**	**93**	P		**Pn**	**Pn**	**18 19 49.4**	**+0.4**
PBDV				S		**Sn**	**Sn**	**18 20 59.5**	**-0.5**
	3.3nm,0.7s								
PBDV	**Barranco-do-Ve**	**6.21**	**93**	*e*Pn		**Pn**	**Pn**	**18 19 49.4**	**+0.4**
PBDV				*e*Sn		**Sn**	**Sn**	**18 20 59.5**	**-0.5**
PBDV				A		A	A	18 21 29.0	
	3.3nm,0.7s								
PVAQ	**Vaqueiros**	**6.36**	**91**	P		**Pn**	**Pn**	**18 19 52.2**	**+1.2**
PVAQ				S		**Sn**	**Sn**	**18 21 02.8**	**-0.9**
	1.3nm,0.4s								
PVAQ	**Vaqueiros**	**6.36**	**91**	*e*Pn		**Pn**	**Pn**	**18 19 52.2**	**+1.2**
PVAQ				*e*Sn		**Sn**	**Sn**	**18 21 02.8**	**-0.9**
PVAQ				A		A	A	18 21 08.9	
	1.3nm,0.4s								
PESTR	**Estremoz**	**6.47**	**78**	*e*Sn		**Sn**	**Sn**	**18 21 07.7**	**+1.3**
PESTR				A		A	A	18 21 10.9	
	3.7nm,0.7s								
EGRO	**El Granado**	**6.53**	**90**	P		**Pn**	**Pn**	**18 19 54.0**	**+0.7**
	0.3nm,0.1s,SNR=7.9								
EGRO				S		**Sn**	**Sn**	**18 21 05.6**	**-2.3**
	1.7nm,0.3s,SNR=7.9								
PMRV	**Marv??o**	**6.71**	**74**	P		**Pn**	**Pn**	**18 19 57.4**	**+1.6**
PMRV				S		**Sn**	**Sn**	**18 21 12.3**	**0.0**
PMRV	**Marv??o**	**6.71**	**74**	*e*Pn		**Pn**	**Pn**	**18 19 57.4**	**+1.6**
PMRV				*e*Sn		**Sn**	**Sn**	**18 21 12.3**	**0.0**
PBAR	**Barrancos**	**6.86**	**84**	P		**Pn**	**Pn**	**18 20 00.3**	**+2.4**
PBAR				S		**Sn**	**Sn**	**18 21 15.0**	**-0.9**
PBAR	**Barrancos**	**6.86**	**84**	*e*Pn		**Pn**	**Pn**	**18 20 00.3**	**+2.4**
PBAR				*e*Sn		**Sn**	**Sn**	**18 21 15.0**	**-0.9**
EZAM	**Zamans**	**6.91**	**49**	S		**Sn**	**Sn**	**18 21 15.6**	**-1.5**
	SNR=7.9								
PGAV	**Gavieira, Arco**	**7.06**	**52**	P		**Pn**	**Pn**	**18 20 01.3**	**+0.6**
PGAV				S		**Sn**	**Sn**	**18 21 20.4**	**-0.7**
PGAV	**Gavieira, Arco**	**7.06**	**52**	*e*Pn		**Pn**	**Pn**	**18 20 01.3**	**+0.6**
PGAV				*e*Sn		**Sn**	**Sn**	**18 21 20.4**	**-0.7**
ELOB	**Lobios**	**7.14**	**53**	S		**Sn**	**Sn**	**18 21 21.6**	**-1.4**
	1.4nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**7.16**	**88**	P		**Pn**	**Pn**	**18 20 02.2**	**+0.2**
	0.1nm,0.1s,SNR=7.9								
EMIN				S		**Sn**	**Sn**	**18 21 20.9**	**-2.5**
	0.5nm,0.2s,SNR=7.9								
EMAZ	**Mazaricos**	**7.25**	**43**	S		**Sn**	**Sn**	**18 21 23.1**	**-2.6**
	1.8nm,0.2s,SNR=4.0								
MVO	**Moncorvo**	**7.50**	**61**	S		**Sn**	**Sn**	**18 21 30.0**	**-1.8**
	1.1nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**7.50**	**61**	*e*Pn		**Pn**	**Pn**	**18 20 06.7**	**0.0**
MVO				*e*Sn		**Sn**	**Sn**	**18 21 31.6**	**-0.2**
EAGO	**Agolada(Pontev**	**7.66**	**47**	S		**Sn**	**Sn**	**18 21 32.8**	**-2.9**
	0.9nm,0.1s,SNR=7.9								
ECAB	**El Cabril**	**8.13**	**85**	P		**Pn**	**Pn**	**18 20 16.2**	**+0.8**
	0.2nm,0.2s,SNR=7.9								
ECAB				S		**Sn**	**Sn**	**18 21 47.3**	**-0.1**
	1.1nm,0.2s,SNR=4.0								

*JMA **09** 18:41:25.5±0.1, 40.°35N×142.°08E, h50km±1km, M3.8*
JMA Felt II J1.
*IDC **09** 18:41:27.8±2.1, 40.°42N×142.°16E, h80km±17km, mb3.4/8, mb1 3.5/12, mb1mx3.3/31, mbtmp3.7/12, Error ellipse: s-maj=28.0km s-min=13.6km az=100.0*

ISC 09 18:41:25.3±1.0, 40.°39N±0.°04×142.°05E±0.°08, h49km±7km, n29, σ1°17/34, mb3.7/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.32**	**235**	P		**Pn**	**Pn**	**18 41 34.8**	**+0.4**
JKEN				S		**Sn**	**Sn**	**18 41 41.3**	**+0.4**
JANG	**Nango**	**0.41**	**268**	P		**Pn**	**Pn**	**18 41 35.9**	**+0.5**
JANG				S		**Sn**	**Sn**	**18 41 43.2**	**+0.6**
JTH	**Tanohata**	**0.47**	**198**	P		**Pn**	**Pn**	**18 41 36.1**	**0.0**
JTH				S		**Sn**	**Sn**	**18 41 43.4**	**-0.4**
JKZ	**Kuzumaki**	**0.68**	**234**	P		**Pn**	**Pn**	**18 41 39.3**	**+0.5**
JKZ				S		**Sn**	**Sn**	**18 41 48.8**	**+0.3**
JARK	**Aomorirokkasho**	**0.81**	**320**	P		**Pn**	**Pn**	**18 41 40.7**	**+0.3**
JARK				S		**Sn**	**Sn**	**18 41 51.6**	**+0.2**
JTM	**Tenmabayashi**	**0.85**	**298**	P		**Pn**	**Pn**	**18 41 41.2**	**+0.3**
JTM				*e*S		**Sn**	**Sn**	**18 41 52.7**	**+0.4**
JOM	**Ohasama**	**1.08**	**213**	P		**Pn**	**Pn**	**18 41 44.4**	**+0.3**
JOM				S		**Sn**	**Sn**	**18 41 57.8**	**-0.2**
JAH	**Hinai**	**1.10**	**260**	P		**Pn**	**Pn**	**18 41 44.9**	**+0.6**
JAH				S		**Sn**	**Sn**	**18 41 58.9**	**+0.6**
JOT	**Ohata**	**1.25**	**323**	P		**Pn**	**Pn**	**18 41 46.8**	**+0.5**
JOT				*e*S		**Sn**	**Sn**	**18 42 02.5**	**+0.5**
JRG	**Rokugo**	**1.47**	**228**	P		**Pn**	**Pn**	**18 41 50.3**	**+1.0**
JRG				*e*S		**Sn**	**Sn**	**18 42 09.0**	**+1.6**
ASAJ	**Asahikawa**	**3.75**	**6**	P		**Pn**	**Pn**	**18 42 22.1**	**+1.6**
	5.7nm,0.3s,baz=202,slow=15,SNR=70								
ASAJ				S		**Sn**	**Sn**	**18 43 06.2**	**+2.8**
	3.0nm,0.3s,baz=240,slow=33,SNR=6.4								
MAT	**Matsushiro**	**4.88**	**219**	P		**Pn**	**Pn**	**18 42 37.3**	**+1.2**
MAT				*e*S		**Sn**	**Sn**	**18 43 34.2**	**+2.9**
MJAR	**Matsushiro Arr**	**4.88**	**219**	P		**Pn**	**Pn**	**18 42 39.2**	**+3.1**
	0.2nm,0.3s,baz=30,slow=13,SNR=14								
USRK	**Ussuriysk Ar.**	**8.37**	**300**	P		Pn		18 43 27.6	+3.7
	baz=97,slow=13,SNR=10								
KSRS	**Korea Array**	**11.39**	**260**	P		Pn		18 44 10.5	+5.4
	0.1nm,0.3s,baz=74,slow=16,SNR=2.4								
SONM	**Songino Array**	**26.48**	**298**	P		**P**	**P**	**18 46 57.9**	**0.0**
	0.3nm,0.4s,baz=98,slow=9.4,SNR=3.3								
H11N2	**WAKE ISLAND Hy**	**29.60**	**127**	T		T	T	19 18 15.5	
	baz=319,slow=75,SNR=108								
H11N1	**WAKE ISLAND Hy**	**29.61**	**127**	T		T	T	19 18 19.8	
	baz=319,slow=75,SNR=85								
H11N3	**WAKE ISLAND Hy**	**29.62**	**127**	T		T	T	19 18 16.6	
	baz=319,slow=75,SNR=83								
H11S1	**WAKE ISLAND Hy**	**30.41**	**129**	T		T	T	19 19 49.6	
	baz=322,slow=76,SNR=28								
H11S3	**WAKE ISLAND Hy**	**30.42**	**129**	T		T	T	19 19 50.6	
	baz=322,slow=76,SNR=19								
H11S2	**WAKE ISLAND Hy**	**30.43**	**129**	T		T	T	19 19 50.7	
	baz=322,slow=76,SNR=20								
ZALV	**Zalesovo Beam**	**40.09**	**309**	P		**P**	**P**	**18 48 55.4**	**-0.3**
	1.7nm,0.4s,baz=95,slow=9.5,SNR=10.0								
ZALV				PcP		**PcP**	**PcP**	**18 50 59.3**	**-0.2**
	0.4nm,0.4s,baz=75,slow=1.7,SNR=2.3								
MKAR	**Makanchi Array**	**42.84**	**299**	P		**P**	**P**	**18 49 17.7**	**-0.7**
	0.7nm,0.5s,baz=83,slow=9.9,SNR=14								
WRA	**Warramunga Arr**	**60.45**	**188**	P		**P**	**P**	**18 51 28.5**	**-1.4**
	0.2nm,0.4s,baz=5.0,slow=6.7,SNR=5.6								
ASAR	**Alice Springs**	**64.17**	**188**	P		**P**	**P**	**18 51 55.1**	**+0.3**
	0.2nm,0.6s,baz=14,slow=12,SNR=4.7								
FINES	**FINESS Array B**	**66.09**	**332**	P		**P**	**P**	**18 52 05.8**	**-1.0**
	2.0nm,0.9s,baz=52,slow=10,SNR=3.9								
NOA	**NORSAR Array B**	**71.29**	**337**	P		**P**	**P**	**18 52 38.4**	**-0.9**
	1.0nm,0.9s,baz=56,slow=5.5,SNR=2.0								
AKASG	**Malin Array Be**	**71.96**	**322**	P		**P**	**P**	**18 52 43.0**	**-0.4**
	0.5nm,0.4s,baz=44,slow=6.1,SNR=2.6								

*NIC **09** 19:18:57.7±0.0, 33.°71N×26.°04E, h15km±32km, Ml3.9/4*
*ATH **09** 19:19:02.1, 34.°12N×26.°49E, h7km±4km, ML3.1/7, Error ellipse: s-maj=4.9km s-min=2.2km az=47.0*
*HLW **09** 19:19:06.0, 34.°19N×26.°60E, h11km±16km, Md3.6, Ml3.2*
*ISK **09** 19:19:05.6, 34.°37N×26.°44E, h16km, ML3.2/11*
*IDC **09** 19:19:06.3±3.1, 34.°37N×26.°40E, h23km±21km, mb3.8/8, mb1 3.8/14, mb1mx3.6/39, mbtmp3.8/14, ML3.7/5, Error ellipse: s-maj=33.5km s-min=16.7km az=26.0*
*THE **09** 19:19:07.3, 34.°44N×26.°41E, h0km±5km, ML2.7/2, Error ellipse: s-maj=7.9km s-min=1.6km az=152.0*

ISC 09 19:19:03.8±1.3, 34.°25N±0.°04×26.°47E±0.°03, h11km±9km, n78, σ1°36/90, mb3.9/8, 5C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.89**	**346**	P		**Pg**	**Pg**	**19 19 20.8**	**-0.1**
ZKR				S		**Sn**	**Sg**	**19 19 35.2**	**0.0**
ZKR				AML		AML	AML	19 19 37.5	
	comp=N,1685μm,0.3s								
ZKR				AML		AML	AML	19 19 47.0	
	comp=E,3539μm,0.7s								
ZKR	**Zakros**	**0.89**	**346**	P		**Pg**	**Pg**	**19 19 20.8**	**-0.1**
ZKR				S		**Sg**	**Sg**	**19 19 31.7**	**-0.8**
	comp=E,1μm,0.4s								
ZKR	**Zakros**	**0.89**	**346**	PG		**Pg**	**Pg**	**19 19 21.1**	**+0.2**
ZKR				SG		**Sg**	**Sg**	**19 19 31.9**	**-0.6**
ZKR	**Zakros**	**0.89**	**346**	P		**Pg**	**Pg**	**19 19 20.9**	**-0.1**
ZKR				AML		AML	AML	19 19 41.0	
	comp=E,3.0nm,0.6s								
FRMA	**Ierapetra Chan**	**0.97**	**321**	P		**Pg**	**Pg**	**19 19 21.6**	**-1.0**
FRMA				S		**Sg**	**Sg**	**19 19 34.4**	**-0.9**
	comp=E,458nm,0.4s								
STIA	**Sitia Lasithi**	**1.00**	**342**	P		**Pg**	**Pg**	**19 19 22.7**	**-0.3**
STIA				S		**Sg**	**Sg**	**19 19 36.5**	**+0.5**
LAST	**Lasithi**	**1.22**	**318**	P		**Pn**	**Pn**	**19 19 26.4**	**-0.6**
LAST				S		**Sn**	**Sn**	**19 19 44.7**	**+1.1**
LAST				AML		AML	AML	19 19 58.4	
	comp=N,1292μm,0.7s								
LAST				AML		AML	AML	19 20 00.7	
	comp=E,1492μm,0.8s								
LAST	**Lasithi**	**1.22**	**318**	P		**Pn**	**Pn**	**19 19 26.4**	**-0.6**
NPS	**Neapolis**	**1.23**	**325**	P		**Pn**	**Pn**	**19 19 26.8**	**-0.3**
NPS				S		**Sn**	**Sn**	**19 19 45.0**	**+1.2**
NPS				AML		AML	AML	19 19 55.2	
	comp=E,1653μm,0.7s								
NPS				AML		AML	AML	19 19 57.6	
	comp=N,1173μm,0.6s								
NPS	**Neapolis**	**1.23**	**325**	P		**Pn**	**Pn**	**19 19 26.8**	**-0.3**
KARP	**Karpathos**	**1.41**	**23**	P		**Pb**	**Pb**	**19 19 30.5**	**+0.2**
KARP				AML		AML	AML	19 20 05.5	
	comp=E,1006μm,0.6s								
KARP				AML		AML	AML	19 20 05.8	
	comp=N,1129μm,0.5s								
KARP	**Karpathos**	**1.41**	**23**	P		**Pg**	**Pg**	**19 19 31.5**	**+0.6**
KARP	**Karpathos**	**1.41**	**23**	PN		**Pn**	**Pn**	**19 19 29.9**	**+0.3**
KARP	**Karpathos**	**1.41**	**23**	⇑P		**Pg**	**Pg**	**19 19 31.8**	**+0.9**
KARP				AML		AML	AML	19 20 05.1	
	comp=N,1.1nm,0.7s								
KARP				AML		AML	AML	19 20 10.2	
	comp=N,1.3nm,0.8s								
HRKL	**Herakleio**	**1.54**	**313**	PN		**Pn**	**Pn**	**19 19 32.1**	**+0.7**
HRKL				SN		**Sn**	**Sn**	**19 19 51.1**	**-0.3**
SIVA	**Sivas**	**1.57**	**300**	P		**Pn**	**Pn**	**19 19 32.5**	**+0.8**
SIVA				AML		AML	AML	19 20 08.9	
	comp=E,1507μm,0.5s								
SIVA				AML		AML	AML	19 20 10.7	
	comp=N,1330μm,0.6s								
SIVA	**Sivas**	**1.57**	**300**	P		**Pb**	**Pb**	**19 19 33.8**	**+0.9**
IDI	**Anoyia**	**1.66**	**309**	Pg		**Pb**	**Pb**	**19 19 35.1**	**+0.6**
	comp=N,4.0nm,0.3s,baz=127,slow=15,SNR=25								
IDI				Lg		Lg		19 19 55.8	
	comp=N,10nm,0.3s,baz=98,slow=23,SNR=8.6								
IDI	**Anoyia**	**1.66**	**309**	P		**Pn**	**Pn**	**19 19 34.0**	**+0.9**
IDI				AML		AML	AML	19 20 06.1	
	comp=E,455μm,0.5s								
IDI				AML		AML	AML	19 20 09.8	
	comp=N,500μm,0.5s								
IDI	**Anoyia**	**1.66**	**309**	P		**Pb**	**Pb**	**19 19 34.7**	**+0.2**
IDI	**Anoyia**	**1.66**	**309**	PN		**Pn**	**Pn**	**19 19 33.8**	**+0.8**
GVDS	**Gavdos**	**2.05**	**287**	PN		**Pn**	**Pn**	**19 19 39.8**	**+1.5**
GVD	**Gavdhos**	**2.05**	**287**	P		**Pn**	**Pn**	**19 19 40.2**	**+1.9**
GVD				AML		AML	AML	19 20 22.9	
	comp=E,728μm,0.5s								
GVD				AML		AML	AML	19 20 24.0	
	comp=N,515μm,0.5s								
GVD	**Gavdhos**	**2.05**	**287**	PN		**Pn**	**Pn**	**19 19 39.7**	**+1.3**
VAM	**Vamos**	**2.19**	**302**	P		**Pb**	**Pb**	**19 19 42.5**	**-1.1**
VAM	**Vamos**	**2.19**	**302**	P		**Pn**	**Pn**	**19 19 41.8**	**+1.5**
SANT	**Santorini**	**2.27**	**339**	PN		**Pn**	**Pn**	**19 19 41.8**	**+0.4**
THR3	**Thira Island,**	**2.32**	**338**	P		**Pn**	**Pn**	**19 19 43.3**	**+1.3**
THT2	**Imerovigli**	**2.34**	**339**	PN		**Pn**	**Pn**	**19 19 42.8**	**+0.5**
IMMV	**Iera Moni Meta**	**2.38**	**301**	P		**Pn**	**Pn**	**19 19 45.1**	**+2.3**
IMMV	**Iera Moni Meta**	**2.38**	**301**	PN		**Pn**	**Pn**	**19 19 43.9**	**+1.1**
ARG	**Arkhangelos**	**2.38**	**34**	P		**Pb**	**Pb**	**19 19 45.7**	**-1.1**
ARG	**Arkhangelos**	**2.38**	**34**	PN		**Pn**	**Pn**	**19 19 44.1**	**+1.2**
ARG	**Arkhangelos**	**2.38**	**34**	⇑P		**Pn**	**Pn**	**19 19 45.7**	**-1.1**
KNDR	**Palaiochora Ch**	**2.49**	**294**	PN		**Pn**	**Pn**	**19 19 46.3**	**+1.9**
KOSK	**Kos Island**	**2.53**	**9**	PN		**Pn**	**Pn**	**19 19 45.6**	**+0.8**
BODT	**Bodrum**	**2.88**	**13**	PN		**Pn**	**Pn**	**19 19 49.9**	**+0.1**
TURN	**Turunc**	**2.90**	**29**	PN		**Pn**	**Pn**	**19 19 51.3**	**+1.3**
APE	**Apeiranthos**	**2.91**	**345**	PN		**Pn**	**Pn**	**19 19 50.8**	**+0.6**
APE	**Apeiranthos**	**2.91**	**345**	P		**Pn**	**Pn**	**19 19 50.1**	**-0.1**
SLUM	**Salum**	**2.95**	**201**	P		**Pn**	**Pn**	**19 19 53.0**	**+2.3**
	baz=204								
SLUM				AMP				19 20 00.0	
	baz=204								
SLUM				S		**Sn**	**Sn**	**19 20 25.8**	**-0.3**
	baz=204								
DALY	**Dalyan (Mula)**	**3.12**	**34**	PN		**Pn**	**Pn**	**19 19 54.4**	**+1.5**
KSL	**Kastellorizon**	**3.17**	**53**	P		**Pn**	**Pn**	**19 19 55.6**	**+1.8**
FETY	**Fethiye**	**3.19**	**41**	PN		**Pn**	**Pn**	**19 19 54.5**	**+0.4**
MLSB	**Milas**	**3.21**	**19**	PN		**Pn**	**Pn**	**19 19 55.7**	**+1.3**
YER	**Yerkesik**	**3.23**	**27**	PN		**Pn**	**Pn**	**19 19 56.3**	**+1.7**
ELL	**Elmali**	**3.75**	**47**	P		**Pn**	**Pn**	**19 20 04.3**	**+2.5**
OSC1	**CSNet OBS 1**	**4.07**	**99**	P		**Pn**	**Pn**	**19 20 05.7**	**-0.3**
ITM	**Ithomi**	**4.71**	**310**	PN		**Pn**	**Pn**	**19 20 17.1**	**+2.2**
AKMS	**Akamas**	**4.89**	**79**	P		**Pn**	**Pn**	**19 20 18.0**	**+0.6**
AKMS				AML		AML	AML	19 21 15.0	
	comp=N,0.2nm,0.3s								
AKMS				AML		AML	AML	19 21 24.9	
	comp=N,0.3nm,0.4s								
OSC2	**CSNet OBS 4**	**4.97**	**102**	P		**Pn**	**Pn**	**19 20 16.4**	**-2.1**
NATA	**Nata**	**5.06**	**82**	P		**Pn**	**Pn**	**19 20 20.6**	**+0.9**
SWA2		**5.07**	**190**	P		**Pn**	**Pn**	**19 20 21.7**	**+1.9**
	baz=192								
SWA2				AMP				19 21 00.0	
	baz=192								
SWA2				S		**Sn**	**Sn**	**19 21 17.0**	**-1.4**
	baz=192								
ALFC	**Alefka**	**5.13**	**78**	⇓P		**Pn**	**Pn**	**19 20 20.7**	**0.0**
ALFC				AML		AML	AML	19 21 21.3	
	comp=N,0.2nm,0.3s								
ALFC				AML		AML	AML	19 21 21.4	
	comp=N,0.2nm,0.2s								
SZAC	**Souni**	**5.32**	**83**	⇑P		**Pn**	**Pn**	**19 20 24.0**	**+0.7**
ASGA	**Asgata**	**5.62**	**83**	P		**Pn**	**Pn**	**19 20 28.4**	**+1.0**
CSS	**Mathiatis**	**5.70**	**81**	⇑P		**Pn**	**Pn**	**19 20 29.0**	**+0.5**
AGG	**Agios Georgios**	**5.81**	**326**	PN		**Pn**	**Pn**	**19 20 32.3**	**+2.3**
MVOU	**Mavrovouni**	**5.95**	**81**	⇑P		**Pn**	**Pn**	**19 20 32.7**	**+0.8**
RYAN	**Fayoum**	**6.09**	**147**	P		**Pn**	**Pn**	**19 20 35.8**	**+2.0**
	baz=147								
RYAN				AMP				19 22 00.0	
	baz=147								
GLL	**Jalalah**	**6.45**	**135**	P		**Pn**	**Pn**	**19 20 39.4**	**+0.6**
	baz=135								
NBNS	**Bani Suef**	**6.96**	**142**	P		**Pn**	**Pn**	**19 20 47.9**	**+2.0**
	baz=142								
SUZ	**Suez**	**6.96**	**127**	P		**Pn**	**Pn**	**19 20 47.3**	**+1.5**
	baz=127								
MMAI	**Mount Meron Ar**	**7.55**	**97**	Pn		**Pn**	**Pn**	**19 20 54.1**	**+0.1**
	comp=N,3.4nm,0.3s,baz=305,slow=12,SNR=18								
MMAI				Sn		**Sn**	**Sn**	**19 22 20.5**	**+0.8**
	comp=N,3.0nm,0.3s,baz=289,slow=23,SNR=5.7								
BRTR	**Keskin Array B**	**7.92**	**44**	Pn		**Pn**	**Pn**	**19 21 01.5**	**+2.4**
	baz=212,slow=15,SNR=1.8								
TR2	**Tor 2**	**8.52**	**131**	P		**Pn**	**Pn**	**19 21 07.4**	**+0.2**
	baz=131								
EIL	**Elat**	**8.53**	**120**	Pn		**Pn**	**Pn**	**19 21 08.4**	**+1.1**
	comp=N,0.5nm,0.3s,baz=301,slow=1.2,SNR=16								
EIL				Sn		**Sn**	**Sn**	**19 22 37.4**	**-6.2**
	comp=N,1.0nm,0.3s,baz=38,slow=19,SNR=2.6								
KBZ	**Khabaz**	**15.87**	**49**	Pn		**P**	**P**	**19 22 50.2**	**-0.7**
	comp=N,0.0nm,0.3s,baz=238,slow=13,SNR=7.3								
AKASG	**Malin Array Be**	**16.56**	**6**	Pn		**Pn**	**Pn**	**19 22 54.4**	**-1.5**
	comp=N,2.0nm,0.3s,baz=191,slow=11,SNR=12								
GERES	**GERESS Array B**	**17.40**	**331**	Pn		**Pn**	**Pn**	**19 23 07.4**	**+0.8**
	comp=N,0.

PAU A A 19 41 47.5
comp=E,160nm,0.3s
PAU A A 19 41 47.5
comp=E,220nm,0.3s
PAU A A 19 41 52.3
comp=E,800nm,2.0s
PAU A A 19 41 52.3
comp=E,700nm,2.0s
PEA0B Petropavlovsk- 6.41 20 *ce*PN **Pn** **19 41 12.5 -1.2**
PEA0B Petropavlovsk- 6.41 20 **Pn** **19 41 12.4 -1.3**
PETK Petropavlovsk- 6.41 20 Pn **Pn** **19 41 12.3 -1.4**
comp=E,2.2nm,0.3s,baz=173,slow=12,SNR=20
PETK Sn **Sn** **19 42 33.0 +7.5**
baz=152,slow=25,SNR=1.6
YUK Yuzh-Kuril'sk 6.51 244 *i* PN **Pn** **19 41 14.3 -0.7**
YUK Yuzh-Kuril'sk 6.51 244 *e*P **Pn** **19 41 14.5 -0.5**
YUK AMB AMB 19 41 15.4
comp=E,280nm,0.7s
YUK *e*S **Sn** **19 42 26.1 -1.7**
YUK A A 19 42 40.7
comp=E,400nm,0.4s
YUK A A 19 42 40.7
comp=E,490nm,0.4s
GRPR Tuman 6.58 244 *e*PN **Pn** **19 41 15.3 -0.8**
GRPR pmax pmax
comp=Z,104nm,0.4s
GRPR pmax pmax
comp=E,39nm,0.1s
GRPR pmax pmax
comp=N,62nm,0.3s
GRPR pmax pmax
comp=Z,271nm,1.7s
GRPR Tuman 6.58 244 *e*P **Pn** **19 41 15.9 -0.2**
GRPR AMB AMB 19 41 18.0
comp=Z,100nm,0.4s
GRPR AMB AMB 19 41 19.0
comp=Z,300nm,2.0s
GRPR *e*S **Sn** **19 42 27.6 -2.2**
PET Petropavlovsk 6.59 25 *e*PN **Pn** **19 41 14.4 -1.7**
PET MLR MLR
comp=Z,500nm,14.0s
PET MLR MLR
comp=Z,300nm,16.0s
PET Petropavlovsk 6.59 25 Pn **Pn** **19 41 14.5 -1.6**
PET Petropavlovsk 6.59 25 *e*P **Pn** **19 41 16.1 0.0**
PET AMB AMB 19 41 21.0
comp=Z,80nm,0.5s
PET *e*S **Sn** **19 42 26.0 -3.8**
PET A A 19 42 34.0
comp=Z,60nm,0.6s
PET A A 19 42 34.0
comp=Z,70nm,0.6s
PET AMS AMS 19 44 11.0
comp=Z,500nm,14.0s
RUSJ Misakicho 6.85 247 *e*PN **Pn** **19 41 21.3 +1.5**
RUSJ *e*S **Sn** **19 42 40.5 +4.2**
GLVR Golovnino 6.87 243 *e*S **Sn** **19 42 34.1 -2.8**
NMR Nemuro--Hokkai 6.96 240 *e*PN **Pn** **19 41 18.1 -3.1**
NMR Nemuro--Hokkai 6.96 240 *e*P **Pn** **19 41 18.3 -2.9**
YSS Yuzh-Sakhalins 7.68 273 *e*PN **Pn** **19 41 32.8 +1.7**
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=Z,700nm,13.0s
YSS Yuzh-Sakhalins 7.68 273 **Pn** **19 41 32.3 +1.2**
YSS Yuzh-Sakhalins 7.68 273 *e*P **Pn** **19 41 32.8 +1.7**
YSS AMB AMB 19 41 35.0
comp=Z,20nm,0.6s
YSS *e*S **Sn** **19 42 56.7 0.0**
YSS A A 19 43 04.2
comp=Z,10.0nm,0.4s
YSS A A 19 43 04.2
comp=Z,20nm,0.4s
YSS AMS AMS 19 44 26.9
comp=Z,700nm,13.0s
TYV Tymovskoe 8.32 301 *e*PN Pn 19 41 44.5 +4.6
TYV *e*S **Sn** **19 43 17.1 +4.7**
TYV pmax pmax
comp=Z,20nm,1.2s
TYV pmax pmax
comp=Z,100nm,4.6s
TYV smax smax
comp=N,8.0nm,1.5s
TYV Tymovskoe 8.32 301 *e*P **Pn** **19 41 42.5 +2.6**
TYV AMB AMB 19 41 45.0
comp=N,20nm,1.0s
TYV AMB AMB 19 41 46.0
comp=N,200nm,4.0s
TYV *e*S **Sn** **19 43 12.1 -0.3**
TYV A A 19 43 20.0
TYV AMS AMS 19 45 04.0
comp=N,700nm,20.0s
JKA Kamikawa-asahi 8.55 253 **Pn** **19 41 43.6 +0.6**
JKA Kamikawa-asahi 8.55 253 *e*P **Pn** **19 41 43.6 +0.6**
ASAJ Asahikawa 8.55 253 Pn **Pn** **19 41 44.0 +1.0**
comp=N,1.5nm,0.3s,baz=89,slow=19,SNR=12
ASAJ Sn Sn 19 43 29.0 +11
comp=N,0.3nm,0.3s,baz=27,slow=28,SNR=1.2
ASAJ Asahikawa 8.55 253 PN **Pn** **19 41 43.6 +0.6**
ERM Erimo 9.29 240 PN **Pn** **19 41 52.0 -1.1**
ERM Erimo 9.29 240 Pn **Pn** **19 41 52.0 -1.1**
OKH Okha 9.53 316 *e*P **Pn** **19 41 58.4 +2.1**
OKH AMB AMB 19 42 02.5
comp=N,30nm,0.8s
NKL Nikolayevsk 10.43 310 *e*P **Pn** **19 42 10.1 +1.4**
NKL AMB AMB 19 42 13.7
comp=N,70nm,1.0s
MA2 Magadan 12.58 352 *e*PN **Pn** **19 42 38.0 -0.1**
MA2 pmax pmax
comp=Z,6.0nm,0.7s
MA2 Magadan 12.58 352 Pn **Pn** **19 42 37.9 -0.1**
MA2 Magadan 12.58 352 *e*P **Pn** **19 42 37.9 -0.1**
EKMR Ekimchan 14.71 301 *e*P **Pn** **19 43 06.2 -0.7**
EKMR AMB AMB 19 43 10.0
comp=Z,10.0nm,1.0s
KLR Kul'dur 14.97 286 Pn **P** **19 43 13.9 -0.9**
comp=Z,0.1nm,0.3s,baz=89,slow=14,SNR=5.0
KLR Kul'dur 14.97 286 *i* P **Pn** **19 43 10.4 +0.2**
KLR pmax pmax
comp=Z,4.0nm,0.8s
KLR Kul'dur 14.97 286 *e*P **Pn** **19 43 08.4 -1.8**
USA0B Ussuriysk Arra 15.66 267 P **Pn** **19 43 18.9 -0.2**
USA0B pmax pmax
comp=Z,19nm,1.2s
USA0B Ussuriysk Arra 15.66 267 Pn **Pn** **19 43 18.9 -0.2**
USRK Ussuriysk Ar. 15.66 267 Pn **Pn** **19 43 17.6 -1.5**
baz=70,slow=10,SNR=11
USRK Ussuriysk Ar. 15.66 267 P **Pn** **19 43 17.9 -1.2**
USRK Ussuriysk Ar. 15.66 267 **Pn** **19 43 17.9 -1.2**
MJAR Matsushiro Arr 15.81 234 Pn **Pn** **19 43 17.2 -4.0**
comp=Z,0.1nm,0.3s,baz=27,slow=14,SNR=5.8
MJAR Matsushiro Arr 15.81 234 P **Pn** **19 43 20.2 -0.9**
MJAR pmax pmax
comp=Z,7.0nm,1.3s
MJAR Matsushiro Arr 15.81 234 **Pn** **19 43 20.2 -0.9**
MAJO Matsushiro 15.81 234 *i* P **P** **19 43 23.2 -1.0**
MAJO Matsushiro 15.81 234 **Pn** **19 43 19.7 -1.5**
BMKR Bomnak 17.49 305 *e*P **Pn** **19 43 40.0 -2.1**
BMKR AMB AMB 19 43 45.9
comp=Z,10.0nm,0.8s
ZEA Zeya 18.19 301 *e*P **Pn** **19 43 52.4 +1.8**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,200nm,16.0s
ZEA Zeya 18.19 301 *e*P **Pn** **19 43 52.4 +1.8**
ZEA AMB AMB 19 43 54.7
comp=Z,10.0nm,0.5s
ZEA AMS AMS 19 51 25.0
comp=Z,200nm,16.0s
KROS Kirovskiy 18.49 303 *e*P **Pn** **19 43 54.4 +0.2**
KROS AMB AMB 19 43 57.0
comp=Z,10.0nm,0.8s
CN2 Changchun 20.25 271 *e*P **P** **19 44 13.0 +0.1**
CN2 *e*PP **PnPn** **19 44 35.3 +4.3**
YAK Yakutsk 20.31 326 P **P** **19 44 12.7 -0.7**
comp=Z,8.4nm,0.5s,baz=105,slow=3.2,SNR=5.7
YAK Yakutsk 20.31 326 *e*P **P** **19 44 12.8 -0.6**
YAK *e**PP **pwP** **19 44 26.7 -0.6**
YAK *e* 19 44 31.6
YAK *e*S **S** **19 47 55.4 -2.6**
YAK *e*SS **SnSn** **19 48 16.9 -1.5**
YAK *e* 19 55 33.2

YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=Z,81nm,3.1s
YAK pmax pmax
comp=N,43nm,3.0s
YAK pmax pmax
comp=E,27nm,2.8s
YAK smax smax
comp=N,78nm,4.6s
YAK Yakutsk 20.31 326 P **P** **19 44 12.4 -1.0**
YAK lAmb lAmb 19 44 15.2
comp=Z,21nm,0.7s
KSRS Korea Array 21.50 253 P **P** **19 44 27.6 +1.3**
comp=Z,4.9nm,0.6s,baz=62,slow=9.3,SNR=18
BOD Bodaibo 26.20 309 *e*P **P** **19 45 12.4 +0.8**
BOD pmax pmax
comp=Z,8.0nm,1.1s
BOD Bodaibo 26.20 309 *e*P **P** **19 45 12.4 +0.8**
TIXI Tiksi 27.25 343 P **P** **19 45 19.4 -1.5**
comp=Z,1.1nm,0.3s,baz=121,slow=13,SNR=4.2
TIXI Tiksi 27.25 343 *e*P **P** **19 45 20.1 -0.8**
TIXI Tiksi 27.25 343 P **P** **19 45 19.2 -1.7**
TIXI Tiksi 27.25 343 *e*P **P** **19 45 20.1 -0.8**
H11N2 WAKE ISLAND Hy 29.32 155 T T 20 17 27.4
baz=340,slow=75,SNR=96
H11N1 WAKE ISLAND Hy 29.33 155 T T 20 17 34.8
baz=340,slow=75,SNR=61
H11N3 WAKE ISLAND Hy 29.33 155 T T 20 17 36.2
baz=340,slow=75,SNR=46
H11S1 WAKE ISLAND Hy 30.42 156 T T 20 17 45.7
baz=343,slow=75,SNR=189
H11S3 WAKE ISLAND Hy 30.43 156 T T 20 17 44.5
baz=343,slow=75,SNR=194
H11S2 WAKE ISLAND Hy 30.44 156 T T 20 17 46.5
baz=343,slow=75,SNR=163
ULN Ulaanbaatar 31.34 289 *ce*P **P** **19 45 57.4 -0.2**
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 31.34 289 P **P** **19 45 56.6 -1.0**
ULN Ulaanbaatar 31.34 289 *e*P **P** **19 45 57.4 -0.2**
SONM Songino Array 31.77 289 P **P** **19 46 00.8 -0.5**
comp=Z,2.6nm,0.7s,baz=65,slow=8.4,SNR=23
SONM Songino Array 31.77 289 P **P** **19 46 00.8 -0.5**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 31.77 289 P **P** **19 46 00.8 -0.5**
CHIR Chirikof Islan 31.89 55 P **P** **19 46 00.7 -1.4**
TLY Talaya 32.53 297 *e*P **P** **19 46 07.2 -0.6**
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY Talaya 32.53 297 *e*P **P** **19 46 06.6 -1.2**
IMAR Indian Mountai 33.08 36 P **P** **19 46 12.3 -0.1**
BPAW Bear Paw Mtn. 34.05 40 P **P** **19 46 22.3 +1.4**
BPAW lAmb lAmb 19 46 26.4
comp=Z,12nm,1.5s
KTH Kantishna Hill 34.05 41 P **P** **19 46 21.5 +0.5**
KTH lAmb lAmb 19 46 23.3
comp=Z,8.2nm,0.8s
TRF Thorofare Moun 34.33 41 P **P** **19 46 23.6 0.0**
TRF lAmb lAmb 19 46 25.9
comp=Z,6.6nm,0.9s
O22K Cooper Landing 34.65 46 P **P** **19 46 24.3 -1.8**
COLD Coldfoot 34.65 34 P **P** **19 46 25.8 -0.3**
RND Reindeer 34.98 41 P **P** **19 46 28.6 -0.5**
RND pmax pmax
comp=Z,10.0nm,1.2s
RND Reindeer 34.98 41 P **P** **19 46 28.6 -0.5**
RND lAmb lAmb 19 46 32.4
comp=Z,10nm,1.2s
TOLK Toolik Lake Re 35.08 32 P **P** **19 46 30.7 +0.9**
KNK Knik Glacier 35.21 45 P **P** **19 46 30.4 -0.6**
KNK lAmb lAmb 19 46 33.1
comp=Z,23nm,1.4s
SML Sawmill 35.26 44 P **P** **19 46 31.6 +0.2**
MDM Murphy Dome 35.28 39 P **P** **19 46 31.1 -0.4**
WRH Wood River Hil 35.33 39 P **P** **19 46 31.7 -0.2**
COLA College 35.44 39 *i* P **P** **19 46 33.6 +0.8**
COLA pmax pmax
comp=Z,9.0nm,1.0s
POKR Poker Plat Res 35.62 38 P **P** **19 46 34.8 +0.3**
POKR lAmb lAmb 19 46 36.8
comp=Z,9.1nm,0.7s
SCM Sheep Creek Mo 35.73 44 P **P** **19 46 35.7 +0.2**
SCM pmax pmax
comp=Z,14nm,1.2s
SCM Sheep Creek Mo 35.73 44 P **P** **19 46 35.7 +0.2**
SCM lAmb lAmb 19 46 38.9
comp=Z,14nm,1.2s
HDA Harding Lake 35.82 40 P **P** **19 46 36.2 +0.1**
IL31 35.85 39 P **P** **19 46 36.0 -0.3**
ILAR Eielson Array 35.85 39 P **P** **19 46 35.5 -0.9**
comp=Z,1.4nm,0.9s,baz=256,slow=8.1,SNR=12
ILAR Eielson Array 35.85 39 P **P** **19 46 35.9 -0.5**
ILAR Eielson Array 35.85 39 P **P** **19 46 35.9 -0.5**
XAN Xi'an 36.15 265 P **P** **19 46 39.9 +0.5**
XAN pmax pmax
comp=Z,17nm,1.0s
XAN Xi'an 36.15 265 P **P** **19 46 39.6 +0.2**
XAN pmax pmax
comp=Z,11nm,0.8s
XAN Xi'an 36.15 265 P **P** **19 46 39.5 +0.2**
XAN lAmb lAmb 19 46 40.6
comp=Z,11nm,0.8s
PRP Porcupine Dome 36.43 38 P **P** **19 46 42.8 +1.3**
PAX Paxson 36.52 42 P **P** **19 46 40.5 -1.8**
PAX pmax pmax
comp=Z,5.0nm,0.7s
PAX Paxson 36.52 42 P **P** **19 46 40.5 -1.8**
PAX lAmb lAmb 19 46 49.4
comp=Z,4.7nm,0.7s
FYU Fort Yukon 36.56 36 P **P** **19 46 42.1 -0.3**
FYU lAmb lAmb 19 46 55.9
comp=Z,7.4nm,0.6s
DOT Dot Lake 37.12 41 P **P** **19 46 46.3 -1.0**
MENT Mentasta 37.33 42 P **P** **19 46 48.5 -0.6**
MENT lAmb lAmb 19 47 13.1
comp=Z,15nm,1.5s
K27K Chicken 37.97 40 P **P** **19 46 55.1 +0.7**
ENH Enshi 38.03 260 P **P** **19 46 55.2 -0.2**
ENH lAmb lAmb 19 47 02.3
comp=Z,10nm,1.2s
BCAR Beaver Creek A 38.19 42 P **P** **19 46 57.3 +1.0**
LZH Lanzhou 38.48 272 *e*P **P** **19 47 00.2 +1.0**
LZH pP sP 19 47 16.3 -0.9
LZH pmax pmax
comp=Z,31nm,1.1s
INK Inuvik 40.98 33 P **P** **19 47 19.8 +0.4**
comp=Z,3.0nm,0.8s,baz=274,slow=7.8,SNR=9.8
INK Inuvik 40.98 33 P **P** **19 47 20.1 +0.8**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 40.98 33 P **P** **19 47 20.1 +0.8**
CD2 Chengdu 41.52 265 ⇑P **P** **19 47 25.1 +0.8**
CD2 pmax pmax
comp=Z,70nm,0.9s
ZAA0 Zalesovo Array 42.86 306 P **P** **19 47 33.9 -1.0**
ZAA0 lAmb lAmb 19 47 34.7
comp=Z,6.8nm,0.7s
ZAA0 **PcP** **19 49 25.4 +0.4**
ZALV Zalesovo Beam 42.86 306 P **P** **19 47 33.9 -1.0**
comp=Z,8.1nm,0.6s,baz=64,slow=7.0,SNR=41
ZALV PcP **PcP** **19 49 24.6 -0.4**
comp=Z,3.1nm,0.8s,baz=60,slow=3.6,SNR=7.7
ZALV Zalesovo Beam 42.86 306 P **P** **19 47 33.9 -1.0**
ZALV 19 49 25.1
ZALV Zalesovo Beam 42.86 306 P **P** **19 47 33.9 -1.0**
ZALV **PcP** **19 49 25.1 +0.1**
DGZ Jazzator, Alta 42.93 299 *e*P **P** **19 47 36.2 +0.5**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
C36M Paulatuk 44.16 30 P **P** **19 47 45.1 0.0**
C36M lAmb lAmb 19 47 47.1
comp=Z,8.1nm,0.9s
ZSN Zaisan 45.43 297 *e*P **P** **19 47 54.7 -0.8**
baz=297
ZSN Zaisan 45.43 297 *e*P **P** **19 47 54.7 -0.8**
MK31 Makanchi Array 47.29 297 *i* P **P** **19 48 10.0 -0.2**
MK31 Makanchi Array 47.29 297 P **P** **19 48 09.5 -0.7**
MK31 lAmb lAmb 19 48 10.6
comp=Z,6.6nm,0.9s

MKAR Makanchi Array 47.29 297 P **P** **19 48 09.6 -0.6**
comp=Z,6.5nm,0.7s,baz=66,slow=7.8,SNR=66
MKAR PcP **PcP** **19 49 41.0 +0.5**
comp=Z,1.5nm,0.8s,baz=66,slow=4.6,SNR=5.6
MAKZ Makanchi 47.47 298 P **P** **19 48 11.0 -0.6**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 47.47 298 P **P** **19 48 11.0 -0.6**
EUNU Eureka 48.60 12 P **P** **19 48 20.6 +0.7**
EUNU lAmb lAmb 19 48 22.0
comp=Z,8.9nm,1.1s
YKA Yellowknife Ar 50.23 37 P **P** **19 48 33.3 +0.8**
comp=Z,1.5nm,0.8s,baz=298,slow=6.8,SNR=18
YKA Yellowknife Ar 50.23 37 *i* P **P** **19 48 33.4 +1.0**
YKA pmax pmax
comp=Z,2.0nm,0.8s
RES Resolute Bay 50.25 19 P **P** **19 48 33.6 +1.1**
RES pmax pmax
comp=Z,5.0nm,1.0s
RES Resolute Bay 50.25 19 P **P** **19 48 33.6 +1.1**
RES lAmb lAmb 19 48 34.6
comp=Z,5.0nm,1.0s
TDK Taldyqorghan 50.53 297 *e*P **P** **19 48 34.7 -0.3**
comp=Z,13nm,0.6s,baz=297
TDK Taldyqorghan 50.53 297 *e*P **P** **19 48 34.7 -0.3**
TDK pmax pmax
comp=Z,13nm,0.6s
SHLS Shalkode 50.85 295 *e*P **P** **19 48 34.8 -2.8**
comp=Z,1.6nm,0.6s,baz=294
SHLS Shalkode 50.85 295 *e*P **P** **19 48 34.8 -2.8**
SHLS pmax pmax
comp=Z,2.0nm,0.6s
LSA Lhasa 50.85 273 P **P** **19 48 40.3 +2.1**
LSA pmax pmax
comp=Z,74nm,0.8s
LSA Lhasa 50.85 273 P **P** **19 48 40.1 +1.9**
LSA pmax pmax
comp=Z,13nm,0.7s
LSA Lhasa 50.85 273 P **P** **19 48 40.1 +1.9**
BRVK Borovoye 51.10 310 *ce*P **P** **19 48 38.8 -0.4**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 51.10 310 P **P** **19 48 38.7 -0.5**
BRVK lAmb lAmb 19 48 39.9
comp=Z,9.6nm,0.9s
BRVK Borovoye 51.10 310 *e*P **P** **19 48 38.8 -0.4**
UZB Uzynbulak 51.13 295 *e*P **P** **19 48 39.0 -0.8**
comp=Z,1.7nm,0.8s,baz=295
UZB Uzynbulak 51.13 295 *e*P **P** **19 48 38.9 -0.8**
UZB pmax pmax
comp=Z,2.0nm,0.8s
KPKS Kokpek 51.17 295 *e*P **P** **19 48 39.3 -0.6**
comp=Z,2.0nm,0.7s,baz=295
KPKS Kokpek 51.17 295 *e*P **P** **19 48 39.3 -0.6**
KPKS pmax pmax
comp=Z,2.0nm,0.7s
BRZS Berezniki 51.34 305 *e*P **P** **19 48 39.9 -1.1**
comp=Z,4.0nm,1.1s,baz=305
BRZS Berezniki 51.34 305 *e*P **P** **19 48 39.8 -1.1**
BRZS pmax pmax
comp=Z,4.0nm,1.1s
SATY Saty 51.56 295 *e*P **P** **19 48 42.5 -0.4**
baz=295
SATY Saty 51.56 295 *e*P **P** **19 48 42.5 -0.4**
CHKK Chushkaly 52.00 297 *e*P **P** **19 48 45.0 -1.0**
baz=296
CHKK Chushkaly 52.00 297 *e*P **P** **19 48 45.0 -1.0**
MDOK Medeo 52.34 296 *e*P **P** **19 48 48.3 -0.5**
baz=296
MDOK Medeo 52.34 296 *e*P **P** **19 48 48.2 -0.5**
KUU Kurty 52.38 297 *e*P **P** **19 48 47.5 -1.4**
comp=Z,3.7nm,0.7s,baz=297
KUU Kurty 52.38 297 *e*P **P** **19 48 47.4 -1.4**
KUU pmax pmax
comp=Z,4.0nm,0.7s
TNSS Tian-Shan 52.47 296 *e*P **P** **19 48 49.6 -0.4**
baz=296
TNSS Tian-Shan 52.47 296 *e*P **P** **19 48 49.6 -0.4**
CM34 Chiang Mai Arr 52.64 257 P **P** **19 48 53.0 +2.0**
CM35 Chiang Mai Arr 52.76 257 P **P** **19 48 54.0 +2.1**
CMMT Chiang Mai 52.80 257 P **P** **19 48 53.1 +0.9**
CHTO Chiang Mai 52.80 257 P **P** **19 48 53.4 +1.2**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 52.80 257 P **P** **19 48 53.4 +1.2**
CHTO lAmb lAmb 19 48 55.2
comp=Z,6.9nm,0.8s
CM36 Chiang Mai Arr 52.91 257 P **P** **19 48 55.0 +2.0**
CM32 Chiang Mai Arr 52.98 257 P **P** **19 48 56.0 +2.5**
SHL Shillong 52.98 269 P **P** **19 48 54.2 +0.5**
SHL pmax pmax
comp=Z,13nm,1.0s
SHL Shillong 52.98 269 P **P** **19 48 54.2 +0.5**
SHL lAmb lAmb 19 48 55.1
comp=Z,13nm,1.0s
CM09 Chiang Mai Arr 53.03 257 P **P** **19 48 57.0 +3.1**
CM31 Chiang Mai Arr 53.05 257 P **P** **19 48 57.0 +2.9**
CM31 Chiang Mai Arr 53.05 257 P **P** **19 48 55.1 +1.0**
CM31 lAmb lAmb 19 48 57.4
comp=Z,4.3nm,0.8s
CMAR Chiang Mai Arr 53.05 257 P **P** **19 48 56.0 +1.9**
comp=Z,2.9nm,0.8s,baz=36,slow=7.2,SNR=19
CMAR LR LR 20 12 38.2
comp=Z,21nm,19.1s,baz=50,slow=37
CMAR Chiang Mai Arr 53.05 257 P **P** **19 48 55.6 +1.5**
CM02 Chiang Mai Arr 53.07 257 P **P** **19 48 57.0 +2.8**
CM01 Chiang Mai Arr 53.07 257 P **P** **19 48 57.6 +3.4**
CM15 Chiang Mai Arr 53.07 257 P **P** **19 48 57.5 +3.3**
CM04 Chiang Mai Arr 53.07 257 P **P** **19 48 57.0 +2.8**
CM05 Chiang Mai Arr 53.09 257 P **P** **19 48 57.0 +2.6**
CM13 Chiang Mai Arr 53.10 257 P **P** **19 48 57.8 +3.3**
BTLS Baital 53.13 299 *e*P **P** **19 48 53.1 -1.3**
baz=299
BTLS Baital 53.13 299 *e*P **P** **19 48 53.1 -1.3**
NLWA Neilton Lookou 53.15 57 P **P** **19 48 54.0 -0.4**
SGDS Sogindy 53.66 297 *e*P **P** **19 48 58.1 -0.3**
comp=Z,2.1nm,0.8s,baz=297
SGDS Sogindy 53.66 297 *e*P **P** **19 48 58.0 -0.3**
SGDS pmax pmax
comp=Z,2.0nm,0.8s
SVE Sverdlovsk 53.94 317 *e*P **P** **19 48 59.3 -0.8**
SVE pmax pmax
comp=Z,18nm,0.9s
AAK Ala-Archa 54.19 297 *ce*P **P** **19 49 02.4 +0.1**
AAK pmax pmax
comp=Z,14nm,0.7s
AAK Ala-Archa 54.19 297 P **P** **19 49 02.1 -0.2**
AAK lAmb lAmb 19 49 03.0
comp=Z,5.5nm,0.8s
AAK Ala-Archa 54.19 297 *e*P **P** **19 49 02.4 +0.1**
TAPN Taplejung 54.68 274 *e*P **P** **19 49 07.1 +0.9**
comp=Z,33nm,0.9s
ARU Arti 55.12 318 *d i*P **P** **19 49 07.2 -1.4**
ARU 19 50 08.1
ARU 19 51 09.7
ARU S **S** **19 56 46.8 -0.7**
ARU SS **SS** **20 00 30.5 -0.7**
ARU pmax pmax
comp=Z,18nm,0.7s
ARU Arti 55.12 318 P **P** **19 49 07.8 -0.8**
ODAN Odare 55.21 273 *e*P **P** **19 49 10.9 +0.9**
comp=Z,15nm,0.8s
GUN Gumba 55.57 275 *e*P **P** **19 49 13.7 +1.0**
comp=Z,37nm,0.9s
RAMN Ramite 55.69 274 *e*P **P** **19 49 14.4 +0.9**
comp=Z,86nm,0.9s
DZA Taraz 55.96 298 *e*P **P** **19 49 14.8 -0.1**
comp=Z,2.7nm,0.6s,baz=298
DZA Taraz 55.96 298 *e*P **P** **19 49 14.8 -0.1**
DZA pmax pmax
comp=Z,3.0nm,0.6s
KKN Kakani 56.05 276 *e*P **P** **19 49 16.8 +0.8**
comp=Z,40nm,0.7s
PKI Pulchoki 56.10 275 *e*P **P** **19 49 17.4 +0.9**
comp=Z,64nm,1.1s
DAG Danmarks Havn 56.26 358 *i* P **P** **19 49 14.4 -2.1**
comp=Z,1.9nm,0.6s
DAG Danmarks Havn 56.26 358 *i* P **P** **19 49 14.4 -2.1**
DAG pmax pmax
comp=Z,2.0nm,0.6s
DAG Danmarks Havn 56.26 358 *i* P **P** **19 49 14.4 -2.1**
DAG lAmb lAmb 19 49 17.6
comp=Z,1.9nm,0.6s
DMN Daman 56.28 276 *e*P **P** **19 49 19.1 +1.4**
comp=Z,79nm,0.8s

KK31 Karatay Array 56.33 299 P **P** 19 49 16.2 -1.4
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KK31 Karatay Array 56.33 299 P **P** 19 49 16.2 -1.4
KK31 lAmb lAmb 19 49 17.9
comp=Z,4.5nm,0.8s
KKAR Karatay Array 56.33 299 P **P** 19 49 16.7 -0.9
KKAR Karatay Array 56.33 299 P **P** 19 49 16.3 -1.3
KKAR lAmb lAmb 19 49 17.9
comp=Z,4.5nm,0.8s
KKAR Karatay Array 56.33 299 P **P** 19 49 16.7 -0.9
GKN Gorkha 56.35 276 *eP* **P** 19 49 19.3 +1.2
comp=Z,94nm,0.8s
NEW Newport 56.44 53 P **P** 19 49 16.8 -1.5
NEW pmax pmax
comp=Z,2.0nm,1.2s
NEW Newport 56.44 53 P **P** 19 49 16.8 -1.5
IUG luzhnay 57.18 298 *eP* **P** 19 49 23.8 +0.1
comp=Z,3.2nm,0.6s,baz=298
IUG luzhnay 57.18 298 *eP* **P** 19 49 23.7 +0.1
IUG pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 57.66 341 P **P** 19 49 27.8 +1.2
comp=Z,15nm,1.1s,baz=11,slow=12,SNR=3.4
ARCES ARCESS Array B 57.66 341 P **P** 19 49 28.0 +1.4
ARCES pmax pmax
comp=Z,30nm,1.4s
ARCES ARCESS Array B 57.66 341 P **P** 19 49 28.0 +1.4
ABKAR Akbulak array 58.63 310 P **P** 19 49 32.7 -0.8
ABKAR lAmb lAmb 19 49 34.0
comp=Z,7.2nm,0.9s
ABKAR Akbulak array 58.63 310 P **P** 19 49 32.5 -1.1
DBG Daneborg 58.76 358 *i* P **P** 19 49 34.2 +0.1
DBG lAmb lAmb 19 49 38.5
comp=Z,2.2nm,0.9s
MSF Maaselka 59.60 337 P **P** 19 49 40.3 +0.3
MSF pmax pmax
comp=Z,23nm,2.0s
KLMR Klimovskoe 60.07 329 *eP* **P** 19 49 42.6 -0.7
KLMR pmax pmax
comp=Z,15nm,1.0s
KLMR Klimovskoe 60.07 329 *eP* **P** 19 49 42.7 -0.6
KLMR AMP 19 49 44.7
comp=Z,15nm,1.0s
SUMG Summit 60.25 4 *i* P **P** 19 49 45.6 +0.8
comp=Z,35nm,0.8s
SUMG Summit 60.25 4 *i* P **P** 19 49 45.6 +0.8
SUMG pmax pmax
comp=Z,35nm,0.8s
SUMG Summit 60.25 4 P **P** 19 49 45.7 +0.8
SUMG Summit 60.25 4 *i* P **P** 19 49 45.7 +0.8
SUMG lAmb lAmb 19 49 47.5
comp=Z,35nm,0.8s
NIL Nilore 60.35 289 P **P** 19 49 46.6 +0.9
NIL pmax pmax
comp=Z,11nm,0.7s
NIL Nilore 60.35 289 P **P** 19 49 46.6 +0.9
EGMT Eagleton 60.53 50 P **P** 19 49 46.7 -0.1
FCC Fort Churchill 60.59 34 P **P** 19 49 47.2 +0.3
FCC pmax pmax
comp=Z,2.0nm,0.8s
FCC Fort Churchill 60.59 34 P **P** 19 49 47.2 +0.3
OUL Oulu 61.07 338 P **P** 19 49 49.8 -0.2
JOF Joensuu 61.23 334 P **P** 19 49 50.9 -0.3
NVAR Mina Array Bea 61.71 63 P **P** 19 49 56.1 +1.0
comp=Z,0.3nm,0.6s,baz=316,slow=7.7,SNR=2.7
KBL Kabul 62.48 292 P **P** 19 50 00.1 -0.2
KBL pmax pmax
comp=Z,7.0nm,0.7s
KBL Kabul 62.48 292 P **P** 19 50 00.1 -0.2
KBL lAmb lAmb 19 50 00.7
comp=Z,7.2nm,0.7s
BELG Belogornoye 62.63 319 *i* P **P** 19 50 00.5 -0.2
SUF Sumiainen 62.88 336 P **P** 19 50 02.4 +0.1
LPC La Cumbre Peak 63.35 67 P P 19 50 15.4 +9.4
LPC *PP pwP 19 50 27.1 +3.5
ICESG Greenland Ices 63.63 5 *i* P **P** 19 50 08.4 +0.9
ICESG lAmb lAmb 19 50 11.5
comp=Z,8.7nm,0.8s
FIA1 FINESS Array S 63.92 335 P **P** 19 50 09.4 +0.2
FINES FINESS Array B 63.92 335 P **P** 19 50 09.1 -0.1
comp=Z,3.1nm,0.3s,baz=34,slow=7.6,SNR=40
FINES FINESS Array B 63.92 335 *ceP* **P** 19 50 09.3 +0.1
FINES pmax pmax
comp=Z,3.0nm,0.3s
PDAR Pinedale Array 64.02 54 P **P** 19 50 11.9 +1.5
comp=Z,1.0nm,1.0s,baz=304,slow=3.4,SNR=3.9
PDAR Pinedale Array 64.02 54 P **P** 19 50 09.0 -1.4
FRB Frobisher Bay 64.46 19 P **P** 19 50 12.4 -0.2
FRB pmax pmax
comp=Z,6.0nm,1.0s
SSK Sunset Peak 64.80 66 P **P** 19 50 15.8 +0.2
BFSC Mount Baldy Ra 64.80 66 P **P** 19 50 15.5 0.0
RVR Riverside 65.14 66 P **P** 19 50 17.5 -0.1
RVR Riverside 65.14 66 P **P** 19 50 17.5 -0.1
OBN Obninsk 65.31 326⇑ *eP* **P** 19 50 18.1 -0.2
OBN *eS* **S** 19 58 59.9 +1.9
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN MLR MLR
comp=Z,114nm,10.0s
OBN Obninsk 65.31 326 *eP* **P** 19 50 18.4 +0.1
CPE Camp Elliot 66.04 67 P **P** 19 50 25.6 +2.2
VRH Novokhopyorsk 66.08 320 *eP* **P** 19 50 22.0 -1.3
VRH pmax pmax
comp=Z,20nm,1.4s
VSU Vasula 66.13 333 *eP* **P** 19 50 23.9 +0.4
LPSR Galich'ya Gora 66.24 323 *eP* **P** 19 50 23.3 -1.0
LPSR pmax pmax
comp=Z,10.0nm,0.8s
MONP2 Monument Peak 66.47 67 P **P** 19 50 26.1 -0.3
AAL Aland 66.66 337 *eP* **P** 19 50 26.4 -0.5
MTSE Matsula 66.81 334 *eP* **P** 19 50 28.0 +0.2
HRA Herat 66.82 296 P **P** 19 50 29.4 +0.8
GEYT Alibeck 66.91 301 P **P** 19 50 29.8 +0.9
comp=Z,2.5nm,0.5s,baz=356,slow=4.6,SNR=5.8
GEYT Alibeck 66.91 301 P **P** 19 50 29.6 +0.7
GYA0B ALIBECK ARRAY 66.91 301 P **P** 19 50 29.9 +1.0
GYA0B lAmb lAmb 19 50 30.3
comp=Z,3.9nm,0.6s
VSR Storozhevoye 67.17 322 *eP* **P** 19 50 28.5 -1.7
VSR pmax pmax
comp=Z,10.0nm,1.8s
VORD Divnogorie 67.30 321 *eP* **P** 19 50 30.0 -1.1
VORD pmax pmax
comp=Z,10.0nm,0.9s
UPP Uppsala 67.56 338 *eP* **P** 19 50 33.0 +0.5
NC303 NORSAR Array S 67.83 342 P **P** 19 50 35.3 +1.0
NC405 NORSAR Array S 67.86 341 P **P** 19 50 35.1 +0.6
NC204 NORSAR Array S 67.92 342 P **P** 19 50 35.6 +0.7
NC204 lAmb lAmb 19 50 57.9
comp=Z,5.8nm,0.8s
NB201 NORSAR Array S 68.01 341 P **P** 19 50 36.0 +0.6
NOA NORSAR Array B 68.03 341 P **P** 19 50 36.0 +0.4
comp=Z,11nm,0.8s,baz=25,slow=5.9,SNR=9.2
SLIT Slitere, Latvi 68.16 334 *eP* **P** 19 50 35.8 -0.6
NC602 NORSAR Array S 68.23 341 P **P** 19 50 37.4 +0.6
NORES NORESS Array B 68.23 341 P **P** 19 50 37.0 +0.2
NORES pmax pmax
comp=Z,12nm,0.8s
NAO01 NORSAR Array S 68.28 342 P **P** 19 50 38.0 +0.8
IDID Didziasalis 68.68 331 *eP* **P** 19 50 40.3 +0.7
IIGN Ignalina 68.82 331 *eP* **P** 19 50 41.2 +0.7
MNK Minsk 68.95 330 *i* P **P** 19 50 39.2 -2.2
comp=E,3.0nm,1.2s
MNK *i* P **P** 19 50 39.2 -2.2
comp=N,19nm,0.9s
MNK *i* P **P** 19 50 39.2 -2.2
comp=Z,30nm,0.9s
MNK *i* PcP **PcP** 19 51 03.4 -2.0
MNK *i* PP **PP** 19 53 11.3 -2.1
MNK *i* PPP PPP 19 54 51.3
MNK *i* S **S** 19 59 38.3 -3.5
MNK *i* ScS **SKSac** 20 00 34.9 -1.6
MNK *i* SS **SS** 20 04 06.2 -0.7
MNK *i* SSS SSS 20 07 17.4
MNK *i* LQ LQ 20 15 39.0
MNK *i* LR LR 20 20 59.5
MNK *i* LRM MLR 20 23 30.6
comp=Z,52nm,6.8s
MNK *i* LRM MLR 20 23 32.8
comp=N,45nm,8.6s
MNK *i* LRM MLR 20 23 35.1
comp=E,5.0nm,7.7s

NACGM Naroch 69.00 330 *i* P **P** 19 50 41.5 -0.1
NACGM *i* P **P** 19 50 41.5 -0.1
NACGM *i* P **P** 19 50 41.5 -0.1
NACGM *i* pP **sP** 19 50 57.9 -2.4
NACGM *i* PP **PP** 19 53 10.8 -3.1
NACGM *i* PPP PPP 19 54 44.8
NACGM *i* S S 19 59 33.8 -8.6
NACGM *i* sS **sS** 20 00 05.9 +1.1
NACGM *i* SS **SS** 20 03 57.7 -10
NACGM *i* SSS SSS 20 07 35.0
NACGM *i* LQ LQ 20 15 09.7
NACGM *i* LR LR 20 20 44.5
WRA Warramunga Arr 69.10 200 P **P** 19 50 42.2 -0.5
comp=E,0.8nm,1.0s,baz=13,slow=6.3,SNR=2.4
PABE Paberze 69.42 332 *eP* **P** 19 50 44.9 +0.6
PBUR Paburge 69.62 334 *eP* **P** 19 50 46.0 +0.6
KONO Kongsberg 69.64 342 *ceP* **P** 19 50 47.0 +1.5
KONO pmax pmax
comp=Z,29nm,1.1s
KONO Kongsberg 69.64 342 P **P** 19 50 46.8 +1.3
GOF Gofitskoye 69.96 315⇓ *eP* **P** 19 50 47.8 0.0
ZKTA Zakatala 70.66 311 P **P** 19 50 53.2 +1.0
SUW Suwalki 70.92 332 *eP* **P** 19 50 53.6 +0.1
SUW Suwalki 70.92 332 P **P** 19 50 53.2 -0.3
SUW pmax pmax
comp=Z,21nm,0.9s
SUW Suwalki 70.92 332 P **P** 19 50 53.2 -0.3
KIV Kislovodsk 70.94 315 *eP* **P** 19 50 55.2 +1.3
KIV pmax pmax
comp=Z,40nm,1.0s
KIV Kislovodsk 70.94 315 P **P** 19 50 54.9 +1.0
KIV lAmb lAmb 19 50 56.8
comp=Z,10nm,0.8s
KIV Kislovodsk 70.94 315 *eP* **P** 19 50 55.2 +1.3
KBZ Khabaz 71.01 314 P **P** 19 50 55.6 +1.5
comp=Z,7.5nm,0.7s,baz=240,slow=18,SNR=26
KBZ Khabaz 71.01 314 *ceP* **P** 19 50 55.5 +1.3
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 71.01 314 *eP* **P** 19 50 55.5 +1.3
DDFL Dedoflistskaro 71.06 311 P **P** 19 50 57.1 +2.4
SHA1 Shidzhatmaz 71.12 314 *dP* **P** 19 50 55.5 +0.3
GUDG Gudauri 71.16 313 P **P** 19 50 57.5 +2.1
LENM Lemitar 71.35 60 P **P** 19 50 56.5 -0.1
AKASG Malin Array Be 71.54 327 P **P** 19 50 57.0 -0.2
comp=Z,7.5nm,0.4s,baz=34,slow=6.2,SNR=44
AKASG Malin Array Be 71.54 327 P **P** 19 50 57.0 -0.2
AKASG lAmb lAmb 19 50 58.1
comp=Z,4.1nm,0.7s
AKBB Malin Array Si 71.54 327 *ceP* **P** 19 50 57.1 -0.2
AKBB Malin Array Si 71.54 327 P **P** 19 50 56.9 -0.3
GANJ Ganja 71.54 310 P **P** 19 50 58.5 +1.0
KIEV Kiev 71.55 327 P **P** 19 50 58.0 +0.7
ONI Oni 71.58 313 P **P** 19 50 59.6 +1.9
LKRN Lenkeran, Azer 71.63 307 P **P** 19 50 58.8 +0.8
BSD Bornholm Skovb 72.42 337 P **P** 19 51 02.9 +0.5
BSD pmax pmax
comp=Z,9.0nm,1.1s
AKH Akhalkalaki 72.43 312⇑ P **P** 19 51 04.9 +1.9
AKH Akhalkalaki 72.43 312 P **P** 19 51 04.9 +1.9
GNI Garni 72.72 311 P **P** 19 51 06.6 +1.8
GNI pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 72.72 311 P **P** 19 51 06.6 +1.8
GNI lAmb lAmb 19 51 20.1
comp=Z,9.6nm,0.8s
ASAR Alice Springs 72.79 199 P **P** 19 51 05.8 +0.9
comp=Z,1.3nm,0.8s,baz=14,slow=5.6,SNR=8.6
GKP Gorka Klasztor 73.39 335 *eP* **P** 19 51 08.9 +0.7
GKP Gorka Klasztor 73.39 335 P **P** 19 51 09.2 +1.0
BEL Belsk 73.54 332 P **P** 19 51 10.5 +1.4
KMPD K-Podol'skiy 74.32 327 P **P** 19 51 13.0 -0.8
KWP Kalwaria Pacla 74.78 330 *eP* **P** 19 51 17.8 +1.4
KWP Kalwaria Pacla 74.78 330 P **P** 19 51 16.9 +0.5
KWP pmax pmax
comp=Z,31nm,1.0s
KWP Kalwaria Pacla 74.78 330 P **P** 19 51 16.9 +0.5
OJC Ojcow 75.25 332 *eP* **P** 19 51 20.4 +1.3
OJC Ojcow 75.25 332 P **P** 19 51 19.6 +0.5
OJC pmax pmax
comp=Z,10.0nm,0.7s
OJC Ojcow 75.25 332 P **P** 19 51 19.6 +0.5
OJC lAmb lAmb 19 51 20.9
comp=Z,9.8nm,0.7s
N41A Harden Midland 75.26 45 P **P** 19 51 19.0 -0.4
KOLS Kolonicke sedl 75.52 329 *eP* **P** 19 51 21.6 +0.9
KOLS pmax pmax
comp=Z,10.0nm,1.1s
KOLS Kolonicke sedl 75.52 329 *eP* **P** 19 51 21.6 +0.9
BUR08 Bucovina Ar. S 75.56 327 P **P** 19 51 21.2 +0.1
BUR08 lAmb lAmb 19 51 23.1
comp=Z,11nm,0.8s
BURAR Bucovina Array 75.58 327⇓ P **P** 19 51 22.2 +1.0
BURAR Bucovina Array 75.58 327⇓ P **P** 19 51 22.2 +1.0
BURAR Bucovina Array 75.58 327 P **P** 19 51 21.1 0.0
KSP Ksiaz 75.80 334 P **P** 19 51 23.0 +0.7
KSP pmax pmax
comp=Z,13nm,0.9s
BIZ Bicaz 75.81 326⇑ P **P** 19 51 23.3 +0.9
CRVS Cervenica-Dubn 75.83 330 *eP* **P** 19 51 23.6 +1.1
CRVS Cervenica-Dubn 75.83 330 *eP* **P** 19 51 23.6 +1.1
TESR Tescani 75.95 326⇑ P **P** 19 51 23.8 +0.6
J47A Sunmer 76.07 40 P **P** 19 51 24.4 +0.5
CHVC Chvatec 76.10 334 *eP* **P** 19 51 25.3 +1.3
DPC Dobruska-Polom 76.23 334 *eP* **P** 19 51 25.4 +0.6
DPC Dobruska-Polom 76.23 334 *eP* **P** 19 51 25.4 +0.6
LANS Liptovska Anna 76.28 331 *eP* **P** 19 51 27.6 +2.5
LANS pmax pmax
comp=Z,7.0nm,0.6s
LANS Liptovska Anna 76.28 331 *eP* **P** 19 51 27.6 +2.5
KRLC Kraliky 76.33 333 *eP* **P** 19 51 26.1 +0.7
KRLC Kraliky 76.33 333 *eP* **P** 19 51 26.1 +0.7
CLL Collm 76.34 336 *i* P **P** 19 51 25.3 0.0
comp=Z,24nm,0.8s
CLL *i* 19 51 34.1
comp=Z,7.0nm,0.8s
CLL Collm 76.34 336 *i* P **P** 19 51 25.3 0.0
CLL pmax pmax
comp=Z,24nm,0.8s
CLL Collm 76.34 336 P **P** 19 51 25.1 -0.2
MORC Moravsky Berou 76.36 333⇓ P **P** 19 51 26.0 +0.5
MORC Moravsky Berou 76.36 333 *eP* **P** 19 51 27.0 +1.5
MORC Moravsky Berou 76.36 333⇓ P **P** 19 51 26.0 +0.5
MORC Moravsky Berou 76.36 333 P **P** 19 51 25.8 +0.3
MORC lAmb lAmb 19 51 28.2
comp=Z,9.1nm,0.8s
ODBI Odobesti 76.41 325⇑ P **P** 19 51 28.1 +2.3
BRG Berggiesshubel 76.46 335 P **P** 19 51 27.8 +1.8
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG Berggiesshubel 76.46 335 *eP* **P** 19 51 27.6 +1.5
BRG Amp 19 51 29.3
comp=Z,7.7nm,1.1s
CFR Carcaliu 76.47 324⇑ P **P** 19 51 27.6 +1.4
CFR Carcaliu 76.47 324 P **P** 19 51 27.5 +1.4
PVCC Panska Ves 76.59 335 *eP* **P** 19 51 28.2 +1.4
PVCC Panska Ves 76.59 335 *eP* **P** 19 51 28.2 +1.4
TPGR Topolog 76.62 324⇑ P **P** 19 51 28.4 +1.3
TOKA Tokat 76.70 316 P **P** 19 51 27.8 +0.1
TOKA lAmb lAmb 19 51 30.2
comp=Z,16nm,1.0s
TX31 Lajitas Ar. Si 76.76 61 P **P** 19 51 29.1 +0.8
TX31 lAmb lAmb 19 51 29.6
comp=Z,8.1nm,1.0s
TX32 Lajitas Array 76.76 61 P **P** 19 51 28.9 +0.7
TXAR Lajitas Array 76.76 61 P **P** 19 51 28.9 +0.6
comp=Z,1.8nm,0.8s,baz=294,slow=4.2,SNR=19
TXAR Lajitas Array 76.76 61 P **P** 19 51 28.4 +0.1
DOPR Dopca 76.89 326⇑ P **P** 19 51 30.6 +2.0
MARD Mardin 76.89 311 P **P** 19 51 30.8 +2.0
HARR Harsova 76.95 324⇓ P **P** 19 51 30.0 +1.1
HARR Harsova 76.95 324⇓ P **P** 19 51 30.0 +1.1
VYHS Vyhne 77.06 331 *eP* **P** 19 51 31.8 +2.3
VYHS Vyhne 77.06 331 *eP* **P** 19 51 31.8 +2.3
VRAC Vranov 77.06 333⇑ P **P** 19 51 31.3 +1.9
VRAC Vranov 77.06 333 *eP* **P** 19 51 30.9 +1.4
VRAC Vranov 77.06 333⇑ P **P** 19 51 31.3 +1.9
MLR Muntele Rosu 77.07 325⇑ P **P** 19 51 31.5 +1.8
MLR Muntele Rosu 77.07 325⇑ P **P** 19 51 31.5 +1.8
MLR Muntele Rosu 77.07 325 P **P** 19 51 30.8 +1.0
MLR lAmb lAmb 19 51 32.5
comp=Z,10.0nm,0.7s

PRU Pruhonice 77.08 335 *eP* **P** 19 51 30.3 +0.8
PRU Pruhonice 77.08 335 *eP* **P** 19 51 30.3 +0.8
JAVC Velka Javorina 77.12 332 *eP* **P** 19 51 31.9 +2.1
UOSS Minazif 77.14 293 P **P** 19 51 29.9 -0.4
UOSS lAmb lAmb 19 51 32.0
comp=Z,7.1nm,0.6s
ISR Istrita 77.15 325⇑ P **P** 19 51 31.8 +1.7
ISR Istrita 77.15 325⇑ P **P** 19 51 31.8 +1.7
PSZ Piszkesteto 77.21 330 P **P** 19 51 31.9 +1.5
PSZ pmax pmax
comp=Z,6.0nm,0.9s
PSZ Piszkesteto 77.21 330 P **P** 19 51 31.9 +1.5
PSZ lAmb lAmb 19 51 35.2
comp=Z,5.8nm,0.9s
MOX Moxa 77.32 337 P **P** 19 51 31.7 +0.8
MOX pmax pmax
comp=Z,9.0nm,0.9s
KRUC Moravsky 77.34 333 *eP* **P** 19 51 31.7 +0.7
NKC Novy Kostel 77.46 336 *eP* **P** 19 51 32.8 +1.1
NKC Novy Kostel 77.46 336 *eP* **P** 19 51 32.8 +1.1
VOIR 77.46 326⇓ P **P** 19 51 33.2 +1.3
VOIR 77.46 326⇓ P **P** 19 51 33.2 +1.3
SMOL Smolenice 77.50 332 *eP* **P** 19 51 33.9 +2.0
SMOL pmax pmax
comp=Z,4.0nm,0.8s
SMOL Smolenice 77.50 332 *eP* **P** 19 51 33.9 +2.0
MODS Modra-Piesok 77.67 332 *eP* **P** 19 51 34.3 +1.4
MODS pmax pmax
comp=Z,6.0nm,0.9s
MODS Modra-Piesok 77.67 332 *eP* **P** 19 51 34.3 +1.4
ARR Arges 77.68 326⇑ P **P** 19 51 35.1 +2.0
KHC Kasperske Hory 78.13 335 *eP* **P** 19 51 36.2 +0.8
KHC Kasperske Hory 78.13 335 *eP* **P** 19 51 36.2 +0.8
KHC Kasperske Hory 78.13 335 P **P** 19 51 36.4 +1.0
KHC lAmb lAmb 19 51 38.4
comp=Z,8.1nm,0.9s
CKRC Cesky Krumlov 78.19 334 *eP* **P** 19 51 36.8 +1.0
GRA1 Grafenberg Arr 78.29 336 P **P** 19 51 37.4 +1.1
GRF Grafenberg Arr 78.29 336 P **P** 19 51 37.4 +1.1
GRF pmax pmax
comp=Z,20nm,0.7s
GRF Grafenberg Arr 78.29 336 *eP* **P** 19 51 37.5 +1.1
comp=Z,12nm,0.9s,baz=23,slow=4.9
GRFO Grafenberg 78.29 336 P **P** 19 51 37.2 +0.9
GRFO pmax pmax
comp=Z,20nm,0.8s
GRFO Grafenberg 78.29 336 P **P** 19 51 37.1 +0.9
WET Wettzell 78.32 335 P **P** 19 51 38.0 +1.5
WET pmax pmax
comp=Z,13nm,1.8s
GEC2 GERESS Array S 78.35 334 P **P** 19 51 36.9 +0.2
GERES GERESS Array B 78.35 334 P **P** 19 51 37.4 +0.6
comp=Z,2.5nm,0.7s,baz=33,slow=5.1,SNR=19
GERES GERESS Array B 78.35 334 P **P** 19 51 36.8 +0.1
GZR Gura Zlata 78.36 327⇑ P **P** 19 51 37.7 +0.9
GZR Gura Zlata 78.36 327⇑ P **P** 19 51 37.7 +0.9
COPA Copaceanca 78.49 325⇑ P **P** 19 51 38.1 +0.7
BR131 Keskin Array S 78.50 317 P **P** 19 51 37.9 +0.1
BR131 pmax pmax
comp=Z,8.0nm,0.9s
BR131 Keskin Array S 78.50 317 P **P** 19 51 37.9 +0.1
BR131 lAmb lAmb 19 51 41.0
comp=Z,8.3nm,0.8s
BRTR Keskin Array B 78.50 317 P **P** 19 51 38.5 +0.7
comp=Z,5.8nm,0.9s,baz=70,slow=5.4,SNR=12
BRTR Keskin Array B 78.50 317 *i* P **P** 19 51 39.7 +1.9
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 78.50 317 P **P** 19 51 38.9 +1.1
CONA Conrad Observa 78.51 333 *eP* **P** 19 51 38.9 +1.3
comp=Z,7.3nm,0.8s
TNS Taunus Mts 78.53 338 P **P** 19 51 38.9 +1.2
TNS pmax pmax
comp=Z,15nm,0.9s
BZS Buzias 78.59 328⇑ P **P** 19 51 38.2 +0.2
BZS Buzias 78.59 328⇑ P **P** 19 51 38.2 +0.2
GAZ Gaziantep 78.81 313 P **P** 19 51 40.9 +1.5
GAZ lAmb lAmb 19 51 42.3
comp=Z,9.4nm,1.0s
BR231 Keskin MP Arra 78.81 318 P **P** 19 51 40.1 +0.7
BR231 lAmb lAmb 19 51 42.5
comp=Z,9.8nm,0.7s
HERR Herculane 78.92 327⇑ P **P** 19 51 40.3 +0.5
MOA Molln 79.07 334 *i* P **P** 19 51 42.1 +1.5
comp=Z,3.7nm,0.8s
MORH Mrgy, Hungar 79.11 330⇑ P **P** 19 51 40.7 -0.1
ARSA Arzberg 79.22 333 *eP* **P** 19 51 43.5 +2.0
comp=Z,3.0nm,0.9s
ACSO Alum Creek Sta 79.31 41 P **P** 19 51 42.4 +0.3
ACSO lAmb lAmb 19 51 49.5
comp=Z,7.0nm,0.5s
PLVB Pleven 79.35 325⇑ P **P** 19 51 43.3 +1.1
FRGS Fruska Gora 79.63 329⇓ P **P** 19 51 44.0 +0.3
BAIF Baives 79.70 341 *eP* **P** 19 51 45.6 +1.6
BAIF pmax pmax
comp=Z,14nm,1.4s
SOKA Soboth 79.88 333 *eP* **P** 19 51 46.0 +0.9
comp=Z,4.1nm,0.7s
KBA Koelnbreinsper 80.04 334 *eP* **P** 19 51 47.6 +1.6
comp=Z,9.5nm,0.8s
KBA Koelnbreinsper 80.04 334 P **P** 19 51 47.7 +1.6
KBA pmax pmax
comp=Z,16nm,1.0s
BFO Black Forest 80.31 338 P **P** 19 51 48.8 +1.5
BFO pmax pmax
comp=Z,7.0nm,1.0s
BFO Black Forest 80.31 338 P **P** 19 51 48.8 +1.5
BFO lAmb lAmb 19 51 49.7
comp=Z,7.0nm,1.0s
WATA Walderalm 80.33 335 *i* P **P** 19 51 48.9 +1.3
comp=Z,6.2nm,0.8s
WTTA Wattenberg 80.38 335 *i* P **P** 19 51 49.5 +1.6
comp=Z,12nm,0.7s
WTTA Wattenberg 80.38 335 P **P** 19 51 49.5 +1.6
WTTA pmax pmax
comp=Z,19nm,0.9s
MOTA Moosalm 80.45 335 *i* P **P** 19 51 49.6 +1.3
comp=Z,8.7nm,0.8s,SNR=8.1
CDF Champ du Feu 80.50 338 *eP* **P** 19 51 49.8 +1.4
CDF pmax pmax
comp=Z,6.0nm,0.8s
SQTA Sankt Quirin 80.54 335 *eP* **P** 19 51 50.2 +1.5
comp=Z,12nm,1.3s
VTS Vitosha 80.55 325⇑ P **P** 19 51 49.8 +0.9
VTS Vitosha 80.55 325 P **P** 19 51 50.1 +1.2
VTS pmax pmax
comp=Z,12nm,0.8s
VTS Vitosha 80.55 325 P **P** 19 51 50.1 +1.2
VTS lAmb lAmb 19 51 51.7
comp=Z,12nm,0.8s
ABTA Abfaltersbach 80.59 334 *eP* **P** 19 51 50.3 +1.4
comp=Z,3.8nm,1.0s
SLE Schleitheim 80.78 337 P **P** 19 51 50.8 +0.9
SLE pmax pmax
comp=Z,8.0nm,1.0s
DAVA Damuels 80.85 336 *i* P **P** 19 51 52.4 +2.0
comp=Z,11nm,0.9s
FETA Feichten 80.86 336 *eP* **P** 19 51 51.8 +1.3
comp=Z,5.0nm,1.0s,SNR=4.3
HAU Haudompre 81.11 339 *eP* **P** 19 51 52.0 +0.4
HAU pmax pmax
comp=Z,18nm,1.4s
HINF Hinteralfeld 81.16 338 *eP* **P** 19 51 52.1 +0.2
HINF pmax pmax
comp=Z,14nm,1.6s
PLE Pljevlja 81.37 328 P **P** 19 51 55.7 +2.5
CTI Castel Tesino 81.47 335 P **P** 19 51 54.4 +0.7
CTI pmax pmax
comp=Z,6.0nm,1.0s
CTI Castel Tesino 81.47 335 P **P** 19 51 54.4 +0.7
CTI lAmb lAmb 19 51 55.6
comp=Z,5.5nm,1.0s
TUE Stuetta 81.74 336 P **P** 19 51 55.9 +0.7
TUE lAmb lAmb 19 51 59.8
comp=Z,7.8nm,0.9s
LDF La Druitiere 82.01 343 *eP* **P** 19 51 59.5 +3.2
LDF pmax pmax
comp=Z,75nm,2.1s
GRR Gorron 82.35 343 *eP* **P** 19 51 58.8 +0.7
GRR pmax pmax
comp=Z,19nm,1.4s
LOR Lormes 82.40 340 *eP* **P** 19 51 58.8 +0.4
LOR pmax pmax
comp=Z,5.0nm,0.9s
CSS Mathiatis 82.47 315 P **P** 19 51 59.4 +0.4

CSS				IAmb	IAmb	19 52 01.2	
	comp=Z,8.7nm,0.7s						
ELL	**Elmali**	**82.63**	**318**	P	**P**	**19 52 00.7**	**+0.8**
ELL				pmax	pmax		
	comp=Z,40nm,0.9s						
ELL	**Elmali**	**82.63**	**318**	P	**P**	**19 52 00.7**	**+0.8**
SSF	**Saint Saulge**	**82.68**	**340**	*eP*	**P**	**19 52 02.5**	**+2.7**
SSF				pmax	pmax		
	comp=Z,10.0nm,1.2s						
SGMF	**Saint Gilles**	**82.80**	**344**	*eP*	**P**	**19 52 01.1**	**+0.7**
SGMF				pmax	pmax		
	comp=Z,36nm,1.6s						
AVF	**Avril sur Loir**	**82.97**	**340**	*eP*	**P**	**19 52 02.1**	**+0.8**
AVF				pmax	pmax		
	comp=Z,20nm,1.3s						
QUIF	**Quistinic**	**83.23**	**345**	*eP*	**P**	**19 52 02.9**	**+0.2**
QUIF				pmax	pmax		
	comp=Z,94nm,1.8s						
LPL	**La Plagne**	**83.33**	**337**	*eP*	**P**	**19 52 04.7**	**+1.2**
LPL				pmax	pmax		
	comp=Z,13nm,1.2s						
LPG	**La Plagne**	**83.34**	**337**	*eP*	**P**	**19 52 05.0**	**+1.3**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NRCA	**Norcia**	**83.93**	**332**	P	**P**	**19 52 07.0**	**+0.6**
NRCA				IAmb	IAmb	19 52 08.8	
	comp=Z,12nm,1.1s						
MBDF	**Montbardon**	**84.05**	**337**	*eP*	**P**	**19 52 10.3**	**+3.2**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ORIF	**Oris-en-Rattie**	**84.10**	**338**	*eP*	**P**	**19 52 08.5**	**+1.2**
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VIVF	**Saint-Julien-l**	**84.47**	**339**	*eP*	**P**	**19 52 10.2**	**+1.1**
VIVF				pmax	pmax		
	comp=Z,15nm,1.4s						
RAYN	**Ar Rayn**	**84.75**	**299**	P	**P**	**19 52 11.6**	**+0.7**
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RAYN	**Ar Rayn**	**84.75**	**299**	P	**P**	**19 52 11.6**	**+0.7**
RAYN				IAmb	IAmb	19 52 14.4	
	comp=Z,6.7nm,0.9s						
CAF	**Calviac**	**85.03**	**340**	*eP*	**P**	**19 52 12.8**	**+0.9**
CAF				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MTLF	**Montolieu**	**86.49**	**340**	*eP*	**P**	**19 52 20.4**	**+1.2**
MTLF				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ESDC	**Sonseca Array**	**91.34**	**343**	P	**P**	**19 52 42.3**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=13,slow=3.7,SNR=5.3						
KEST	**Kesra**	**91.60**	**332**	P	**P**	**19 52 44.1**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=353,slow=16,SNR=2.1						
H03N2	**Juan Fernandez**	**138.15**	**91**	T	T	22 32 46.0	
	baz=308,slow=77,SNR=4.5						
H03N1	**Juan Fernandez**	**138.16**	**90**	T	T	22 32 44.8	
	baz=308,slow=77,SNR=6.2						
H03N3	**Juan Fernandez**	**138.16**	**91**	T	T	22 32 46.0	
	baz=308,slow=77,SNR=4.8						
PLCA	**Paso Flores**	**147.64**	**95**	PKPbc	**PKiKP**	**19 59 21.4**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=221,slow=4.9,SNR=3.8						
PLCA	**Paso Flores**	**147.64**	**95**		**PKPbc**	**19 59 21.0**	**+0.6**
CPUP	**Villa Florida**	**147.74**	**61**	PKPbc	**PKPdf**	**19 59 19.0**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=52,slow=4.1,SNR=2.5						
CPUP	**Villa Florida**	**147.74**	**61**	PKIKP	**PKPdf**	**19 59 19.0**	**+0.9**

IDC 09 19:40:08.7±1.6, 13°.14N×146°.16E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/41, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/32, Error ellipse: s-maj=285.0km s-min=26.6km az=112.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**22.42**	**177**	LR	LR	19 54 45.7	
	comp=Z,74nm,18.2s,baz=70,slow=39						
WRA	**Warramunga Arr**	**34.87**	**200**	P	P	19 47 02.4	+0.4
	0.5nm,0.4s,baz=23,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**38.49**	**198**	P	P	19 47 32.3	-0.6
	0.3nm,0.5s,baz=16,slow=9.9,SNR=5.7						
ILAR	**Eielson Array**	**68.44**	**25**	P	P	19 51 12.3	0.0
	0.7nm,0.7s,baz=256,slow=4.8,SNR=6.8						

MAN 09 19:48:32.2, 6°.30N×126°.88E, h46km, mb3.9, ML2.6, MS2.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.89**	**316**	*eP*	Pn	19 48 49.1	+0.6
MATI				*eS*	Sn	19 49 01.9	+1.6
DDMP	**Don Marcelino,**	**1.18**	**261**	*eP*	Pn	19 48 53.0	+0.8
SKMP	**Bagumbayan, Su**	**2.33**	**276**	*eP*	Pn	19 49 09.0	+0.8
BUKP	**Musuan**	**2.39**	**311**	*eP*	Pn	19 49 10.3	+1.2
BUKP				*eS*	Sn	19 49 38.6	+1.4
CGP	**Cagayan de Oro**	**3.05**	**315**	*eP*	Pn	19 49 19.3	+1.3
CGP				*eS*	Sn	19 49 54.9	+1.6
APYP	**Conner**	**12.74**	**335**	*eP*	P	19 51 40.3	-0.5
APYP				*eS*	P	19 51 45.5	+4.6
ABRA	**Dolores**	**12.79**	**332**	*eP*	P	19 51 40.6	-0.8
ABRA				*eS*	P	19 51 45.3	+3.9

*IDC **09** 20:01:11.2±2.5, 46°.81N×154°.36E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.7/38, mbtmp3.8/11, ML2.2/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/39, Error ellipse: s-maj=64.2km s-min=27.4km az=168.0*

*NEIC **09** 20:01:15.9±1.5, 46°.7N±0°.2×154°.6E±0°.3, h36km±13km, mb4.0/3, Error ellipse: s-maj=34.2km s-min=22.8km az=96.0*

ISC 09 20:01:17.0±1.8, 47°.0N±0°.2×154°.4E±0°.2, h27km, n32, σ1808/24, mb4.0/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEA0B	**Petropavlovsk-**	**6.48**	**18**	Pn	**Pn**	**20 02 52.0**	**+1.5**
PETK	**Petropavlovsk-**	**6.48**	**18**	Pn	**Pn**	**20 02 51.7**	**+1.2**
	0.5nm,0.3s,baz=169,slow=13,SNR=17						
PETK				Sn	Sn	20 04 13.9	+10
	baz=105,slow=21,SNR=1.4						
PETK	**Petropavlovsk-**	**6.48**	**18**		**Pn**	**20 02 51.1**	**+0.6**
ASAJ	**Asahikawa**	**8.74**	**255**	Pn	**Pn**	**20 03 23.3**	**+1.8**
	0.3nm,0.3s,baz=160,slow=25,SNR=2.5						
ASAJ				Sn	**Sn**	**20 04 59.5**	**+0.5**
	0.1nm,0.3s,baz=332,slow=20,SNR=1.4						
USRK	**Ussuriysk Ar.**	**15.89**	**268**	Pn	**Pn**	**20 04 57.0**	**-1.6**
	baz=67,slow=15,SNR=1.7						
USRK				LR	LR	20 11 06.6	
	comp=Z,72nm,19.6s,baz=345,slow=38						
H11N2	**WAKE ISLAND Hy**	**29.07**	**155**	T	T	20 39 00.6	
	baz=340,slow=75,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**29.09**	**155**	T	T	20 39 02.1	
	baz=340,slow=75,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**29.09**	**155**	T	T	20 39 07.3	
	baz=340,slow=75,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**30.18**	**156**	T	T	20 39 25.8	
	baz=343,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hy**	**30.19**	**156**	T	T	20 39 23.6	
	baz=343,slow=75,SNR=35						
H11S2	**WAKE ISLAND Hy**	**30.20**	**156**	T	T	20 39 25.1	
	baz=343,slow=75,SNR=24						
SONM	**Songino Array**	**32.05**	**289**	P	**P**	**20 07 40.9**	**-0.4**
	0.6nm,0.8s,baz=59,slow=7.6,SNR=3.3						
ZALV	**Zalesovo Beam**	**43.15**	**306**	P	**P**	**20 09 13.7**	**-1.2**
	1.1nm,0.5s,baz=57,slow=7.6,SNR=5.9						
MK31	**Makanchi Array**	**47.58**	**298**	P	**P**	**20 09 49.4**	**-0.7**
MK31				IAmb	IAmb	20 09 50.2	
	comp=Z,1.5nm,0.9s						
MKAR	**Makanchi Array**	**47.58**	**298**	P	**P**	**20 09 49.2**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=68,slow=7.9,SNR=11						
MKAR	**Makanchi Array**	**47.58**	**298**	P	**P**	**20 09 49.1**	**-0.9**
ABKAR	**Akbulak array**	**58.91**	**310**	P	**P**	**20 11 12.9**	**-0.4**
ABKAR				IAmb	IAmb	20 11 13.2	
	comp=Z,0.6nm,0.6s						
ABKAR	**Akbulak array**	**58.91**	**310**	P	**P**	**20 11 13.1**	**-0.2**
NVAR	**Mina Array Bea**	**61.56**	**63**	P	**P**	**20 11 31.3**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=286,slow=6.4,SNR=1.9						
NVAR				LR	LR	20 35 50.9	
	comp=Z,28nm,19.3s,baz=338,slow=34						
FINES	**FINESS Array B**	**64.17**	**335**	P	**P**	**20 11 48.6**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=30,slow=8.5,SNR=9.1						
FINES	**FINESS Array B**	**64.17**	**335**	P	**P**	**20 11 48.4**	**-0.2**
NB2	**NORSAR Subarra**	**68.26**	**342**	P	**P**	**20 12 15.6**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.26**	**342**	P	**P**	**20 12 13.6**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=26,slow=6.2,SNR=4.7						
KBZ	**Khabaz**	**71.29**	**315**	P	**P**	**20 12 33.4**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=43,slow=7.6,SNR=4.3						
AKASG	**Malin Array Be**	**71.81**	**327**	P	**P**	**20 12 36.6**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=34,slow=6.0,SNR=8.2						
BUR08	**Bucovina Ar. S**	**75.82**	**327**	P	**P**	**20 13 01.4**	**+0.9**
BUR08				IAmb	IAmb	20 13 07.3	
	comp=Z,5.0nm,1.2s						
BURAR	**Bucovina Array**	**75.84**	**327**	P	**P**	**20 13 01.5**	**+1.0**
CLL	**Collm**	**76.58**	**336**	*i* P	**P**	**20 13 06.3**	**+1.7**
	comp=Z,6.0nm,0.9s						
GERES	**GERESS Array B**	**78.60**	**335**	P	**P**	**20 13 14.3**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=60,slow=5.8,SNR=2.6						
H03N2	**Juan Fernandez**	**137.91**	**91**	T	T	22 54 28.5	
	baz=308,slow=77,SNR=12						
H03N1	**Juan Fernandez**	**137.92**	**91**	T	T	22 54 30.0	
	baz=308,slow=77,SNR=16						
H03N3	**Juan Fernandez**	**137.92**	**91**	T	T	22 54 29.5	
	baz=308,slow=77,SNR=12						

*IDC **09** 20:02:42.7±1.9, 43°.68N×105°.43W, h0km, mb3.6/2, mb1 3.5/5, mb1mx3.4/37, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=48.7km s-min=9.6km az=150.0*

*NEIC **09** 20:02:44.1±1.3, 43°.78N±0°.05×105°.28W±0°.05, h0km±1km, ML3.2/66, Error ellipse: s-maj=9.6km s-min=4.8km az=146.0*

ISC 09 20:02:43.8±0.8, 43°.80N±0°.06×105°.33W±0°.06, h0km, n77, σ0s86/76, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.98**	**71**	Pg	**Pg**	**20 03 02.1**	**-0.5**
K22A	**Casper**	**1.45**	**218**		**Pn**	**20 03 09.6**	**-1.8**
K22A				IAML		20 03 35.6	
	comp=N,372nm,0.3s						
K22A				IAML		20 03 37.8	
	comp=E,298nm,0.3s						
PHWY	**Pilot Hill**	**2.50**	**182**		**Pn**	**20 03 25.8**	**-0.2**
RWWY	**Rawlins**	**2.53**	**214**		**Pn**	**20 03 27.1**	**+0.8**
RWWY				IAML		20 04 04.0	
	comp=E,131nm,0.4s						
RWWY				IAML		20 04 06.2	
	comp=E,133nm,0.9s						
LAO	**LASA Array**	**2.95**	**348**		**Pn**	**20 03 32.5**	**+0.5**
RLMT	**Red Lodge**	**3.11**	**296**		**Pn**	**20 03 35.1**	**+0.8**
RLMT				IAML		20 04 24.7	
	comp=E,53nm,0.4s						
RLMT				IAML		20 04 31.4	
	comp=E,82nm,0.7s						
PD31	**Pinedale Array**	**3.26**	**253**		**Pn**	**20 03 36.8**	**+0.4**
PDAR	**Pinedale Array**	**3.26**	**253**	Pn	**Pn**	**20 03 36.8**	**+0.4**
	comp=E,3.5nm,0.3s,baz=70,slow=16,SNR=86						
PDAR				Lg	Lg	20 04 21.2	
	comp=E,10nm,0.3s,baz=76,slow=34,SNR=2.6						
PDAR	**Pinedale Array**	**3.26**	**253**	Pn	**Pn**	**20 03 35.7**	**-0.6**
BW06	**Boulder Array**	**3.26**	**253**		**Pn**	**20 03 36.5**	**+0.1**
BW06				IAML		20 04 29.0	
	comp=E,41nm,0.3s						
YNE	**Yellowstone No**	**3.56**	**291**		**Pn**	**20 03 40.9**	**+0.3**
YNE				IAML		20 04 38.5	
	comp=N,61nm,0.7s						
YNE				IAML		20 04 41.2	
	comp=E,54nm,0.6s						
YMP	**Mirror Lake Pl**	**3.59**	**287**		**Pn**	**20 03 41.9**	**+0.9**
LKWY	**Lake**	**3.73**	**284**		**Pn**	**20 03 44.0**	**+1.2**
LKWY				IAML		20 04 10.4	
	comp=E,26nm,0.6s						
OGNE	**Ogallala**	**3.76**	**138**	Pn	**Pn**	**20 03 43.3**	**+0.3**
OGNE				IAML		20 04 48.0	
	comp=E,80nm,0.7s						
OGNE				IAML		20 04 48.6	
	comp=E,78nm,0.6s						
H17A	**Grant Village**	**3.83**	**281**		**Pn**	**20 03 45.7**	**+1.6**
LOHW	**Long Hollow**	**3.83**	**269**		**Pn**	**20 03 45.1**	**+0.9**
FLWY	**Flagg Ranch**	**3.89**	**276**		**Pn**	**20 03 45.5**	**+0.5**
FLWY				IAML		20 04 57.6	
	comp=E,29nm,1.0s						
FLWY				IAML		20 05 00.7	
	comp=E,25nm,1.0s						
SNOW	**Snow King Moun**	**3.96**	**267**		**Pn**	**20 03 47.3**	**+1.3**
SNOW				IAML		20 05 01.6	
	comp=E,35nm,1.8s						
SNOW				IAML		20 05 10.2	
	comp=E,29nm,0.9s						
YPP	**Pitchstone Pla**	**3.98**	**279**		**Pn**	**20 03 46.8**	**+0.5**
ISCO	**Idaho Springs**	**4.01**	**183**	Pn	**Pn**	**20 03 46.9**	**+0.2**
REDW	**Red Top Meadow**	**4.04**	**266**		**Pn**	**20 03 47.7**	**+0.6**
REDW				IAML		20 04 59.5	
	comp=E,36nm,1.0s						
REDW				IAML		20 05 04.0	
	comp=E,32nm,0.8s						
YHH	**Holmes Hill**	**4.09**	**286**		**Pn**	**20 03 48.1**	**+0.4**
YMR	**Madison River**	**4.14**	**284**		**Pn**	**20 03 49.9**	**+1.4**
YMR				IAML		20 05 21.0	
	comp=N,24nm,0.8s						
YMR				IAML		20 05 24.5	
	comp=E,28nm,0.8s						
O20A	**White River Ci**	**4.26**	**212**	Pn	**Pn**	**20 03 51.0**	**+0.9**
O20A				IAML		20 05 01.6	
	comp=E,27nm,0.7s						
O20A				IAML		20 05 08.2	
	comp=N,33nm,0.8s						
E28A	**Huff**	**4.29**	**48**		**Pn**	**20 03 51.4**	**+1.1**
YHB	**Horse Butte**	**4.32**	**285**		**Pn**	**20 03 51.6**	**+0.7**
YHL	**Hebgen Lake**	**4.33**	**286**		**Pn**	**20 03 51.3**	**+0.2**
YHL				IAML		20 05 10.8	
	comp=E,18nm,0.6s						
YHL				IAML		20 05 24.7	
	comp=N,17nm,1.0s						
AHID	**Auburn Hatcher**	**4.34**	**258**		**Pn**	**20 03 50.0**	**-1.2**
AHID				IAML		20 05 05.9	
	comp=E,23nm,0.8s						
AHID				IAML		20 05 12.2	
	comp=N,27nm,0.8s						
ECR	**Eagle Creek**	**4.47**	**262**		**Pn**	**20 03 53.3**	**+0.4**
RDMU	**Red Mountain**	**4.51**	**226**		**Pn**	**20 03 54.1**	**+0.6**
RDMU				IAML		20 05 14.2	
	comp=E,18nm,0.9s						
RDMU				IAML		20 05 19.6	
	comp=N,21nm,0.9s						
DGMT	**Dagmar**	**4.73**	**9**		**Pn**	**20 03 56.7**	**+0.3**
SMCO	**Snowmass**	**4.79**	**196**		**Pn**	**20 03 56.9**	**-0.6**
SMCO				IAML		20 05 20.0	
	comp=N,22nm,0.3s						
SMCO				IAML		20 05 22.1	
	comp=N,14nm,0.9s						
BOZ	**Bozeman (W)**	**4.84**	**294**		**Pn**	**20 03 57.2**	**-0.7**
BOZ				IAML		20 05 20.9	
	comp=N,11nm,0.7s						
BOZ				IAML		20 05 22.0	
	comp=N,14nm,0.8s						
K31A	**O'Neill**	**4.95**	**102**		**Pb**	**20 04 13.0**	**+1.8**
HWUT	**Hardware Ranch**	**5.09**	**247**		**Pn**	**20 04 02.0**	**+0.5**
HWUT				IAML		20 05 29.9	
	comp=N,19nm,1.1s						
HWUT				IAML		20 05 37.7	
	comp=N,13nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.20**	**156**	Pn	**Pn**	**20 04 02.3**	**-0.6**
EGMT	**Eagleton**	**5.23**	**325**	Pn	**Pn**	**20 04 03.0**	**-0.3**
TCUT	**Toone Canyon**	**5.24**	**241**		**Pn**	**20 04 03.6**	**0.0**
HRY	**Holter Researc**	**5.43**	**305**	Pn	**Pn**	**20 04 07.2**	**+1.1**
LRM	**Limekiln Ridge**	**5.46**	**294**		**Pn**	**20 04 06.6**	**+0.1**
MCMT	**McKenzie Canyo**	**5.50**	**283**		**Pn**	**20 04 07.2**	**+0.1**
BGNE	**Belgrade**	**5.81**	**112**	Pn	**Pn**	**20 04 10.3**	**-0.9**
SPUT	**South Promonto**	**5.82**	**247**		**Pn**	**20 04 12.4**	**+0.9**
HVU	**Hansel Valley**	**5.84**	**252**		**Pn**	**20 04 11.7**	**-0.1**
PV22	**Blue Mesa, Par**	**5.88**	**208**		**Pn**	**20 04 11.5**	**-0.7**
PV07	**Paradox Valley**	**5.92**	**206**	Pn	**Pn**	**20 04 13.4**	**+0.6**
P17A	**Butcher Ranch,**	**5.93**	**225**		**Pn**	**20 04 12.9**	**0.0**
PV15	**Paradox Valley**	**5.95**	**205**		**Pn**	**20 04 13.6**	**+0.2**
PV04	**Paradox Valley**	**6.04**	**208**	Pn	**Pn**	**20 04 15.1**	**+0.6**
SDCO	**Great Sand Dun**	**6.05**	**181**	Pn	**Pn**	**20 04 15.2**	**+0.4**
PV12	**Saucer Basin,**	**6.08**	**207**	Pn	**Pn**	**20 04 15.5**	**+0.5**
SRU	**San Rafael Swe**	**6.10**	**222**		**Pn**	**20 04 15.1**	**-0.2**
PV14	**Lion Creek, Pa**	**6.10**	**208**		**Pn**	**20 04 16.0**	**+0.6**
PV10	**Paradox Valley**	**6.10**	**209**	Pn	**Pn**	**20 04 16.6**	**+1.1**
PV20	**West Nyswonger**	**6.11**	**208**		**Pn**	**20 04 16.6**	**+1.1**
PV16	**Nyswonger Mesa**	**6.12**	**208**		**Pn**	**20 04 17.1**	**+1.5**
PV03	**Paradox Valley**	**6.15**	**207**		**Pn**	**20 04 16.4**	**+0.4**
PV02	**Paradox Valley**	**6.16**	**206**	Pn	**Pn**	**20 04 17.2**	**+1.0**
PV17	**East Wray Mesa**	**6.16**	**208**	Pn	**Pn**	**20 04 17.6**	**+1.3**
PV18	**Skein Mesa, Pa**	**6.18**	**207**	Pn	**Pn**	**20 04 17.2**	**+0.8**
PV13	**Radium Mtn., P**	**6.23**	**206**		**Pn**	**20 04 17.7**	**+0.5**
TMUT	**Trail Mountain**	**6.30**	**226**		**Pn**	**20 04 18.7**	**+0.5**
ECSD	**EROS Data Cent**	**6.31**	**88**		**Pn**	**20 04 18.7**	**+0.7**
NLU	**North Lily Min**	**6.34**	**235**	Pn	**Pn**	**20 04 19.6**	**+1.1**
BGU	**Big Grassy Mou**	**6.39**	**246**	Pn	**Pn**	**20 04 19.6**	**+0.3**
PV05	**Paradox Valley**	**6.39**	**208**		**Pn**	**20 04 18.1**	**-1.2**
Q16A	**Castle Valley**	**6.57**	**224**		**Pn**	**20 04 22.4**	**+0.7**
F33A	**5 Mile Ranch,**	**6.74**	**69**		**Pn**	**20 04 21.5**	**-2.4**
MSU	**Marysvale**	**7.39**	**227**	Pn	**Pn**	**20 04 34.3**	**+1.2**
JTMT	**Jette**	**7.40**	**305**	Pn	**Pn**	**20 04 33.9**	**+0.8**
MVU	**Marysvale**	**7.42**	**227**	Pn	**Pn**	**20 04 34.3**	**+0.9**
MTPU	**Mount Pierson**	**7.75**	**224**	Pn	**Pn**	**20 04 38.6**	**+0.4**
I10CA	**LAC DU BONNET**	**9.01**	**42**	*i*		21 01 10.0	
	baz=223,slow=314,SNR=5.5						
ULM	**Lac du Bonnet**	**9.12**	**42**	Pn	**Pn**	**20 04 55.6**	**-0.9**
	comp=N,1.0nm,0.3s,baz=231,slow=11,SNR=7.6						
ULM				Pg		20 05 27.4	
	comp=N,1.1nm,0.3s,baz=220,slow=14,SNR=5.7						
ULM				Lg	Lg	20 07 25.8	
	comp=N,0.4nm,0.3s,baz=308,slow=22,SNR=2.0						
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**P**	**20 07 10.8**	**-1.3**
	comp=N,0.1nm,0.3s,baz=152,slow=13,SNR=2.3						
SONM	**Songino Array**	**84.56**	**339**	P	**P**	**20 15 18.6**	**-0.2**
	comp=N,0.3nm,0.8s,baz=14,slow=5.5,SNR=2.0						
MKAR	**Makanchi Array**	**89.53**	**355**	P	**P**	**20 15 42.3**	**-0.5**
	comp=N,0.3nm,0.7s,baz=359,slow=3.7,SNR=2.5						

JMA 09 20:15:34.1±0.6, 22°.50N×128°.90E, h48km, M4.6, Philippine Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**3.77**	**345**	P	Pn	20 16 32.3	+2.6
JOGS	**Gusukube**	**3.92**	**306**	P	Pn	20 16 32.4	+0.7
JOGS				*eS*	Sn	20 17 16.6	+0.2
JMZ	**Minamidaito 2**	**3.92**	**32**	P	Pn	20 16 32.9	+1.0
JMZ				*eS*	Sn	20 17 14.1	-2.6
JMJ2	**Miyako jima3**	**3.96**	**305**	P	Pn	20 16 34.5	+2.1
JMJ2				S	Sn	20 17 17.0	-0.6
JKDJ	**Kitadaitoujima**	**4.07**	**32**	P	Pn	20 16 35.0	+1.1
JKDJ				*eS*	Sn	20 17 19.9	-0.4
JNTH	**Nagotoyohara**	**4.08**	**349**	P	Pn	20 16 36.0	+2.0
JIKM	**Ikemajima**	**4.13**	**307**	P	Pn	20 16 36.7	+2.1
JIKM				*eS*	Sn	20 17 20.7	-0.9
JIRB	**Irabujima**	**4.13**	**305**	S	Sn	20 17 20.8	-0.9
JKE	**Kume jima 2**	**4.27**	**334**	P	Pn	20 16 38.6	+1.9
JKE				*eS*	Sn	20 17 26.2	+1.1
JAGN	**Aguni-jima**	**4.34**	**340**	P	Pn	20 16 40.3	+2.7
JOW	**Kunigami**	**4.35**	**353**	P	Pn	20 16 40.2	+2.5
JOW				*eS*	Sn	20 17 28.4	+1.2
JTJ	**Tarama**	**4.40**	**300**	P	Pn	20 16 40.1	+1.7
JTJ				*eS*	Sn	20 17 26.1	-2.3
JYRO	**Yoronjima**	**4.52**	**355**	*eS*	Sn	20 17 31.0	-0.4
JIH	**Iheya**	**4.59**	**350**	P	Pn	20 16 43.7	+2.7
JTK	**Tokunoshima**	**5.26**	**0**	P	Pn	20 16 52.7	+2.5
JTK				S	Sn	20 17 48.6	-1.0
JAMN	**Amaminishikomi**	**5.72**	**2**	P	Pn	20 16 59.3	+2.8

DDA 09 20:34:30.7, 37°.11N×28°.74E, h7km±2km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**0.30**	**192**	*i* P	Pg	20 34 36.4	-0.3
DALY				*i* S	Sg	20 34 42.0	+1.4
DALY	**Dalyan (Mula)**	**0.30**	**192**	*i* P	Pg	20 34 36.3	-0.3
DALY				*i* S	Sb	20 34 42.4	-1.2
DALY				IAML		20 34 45.0	
	comp=E,94nm,0.5s						
MULA	**Mugla, Merkez-**	**0.36**	**293**	*i* P	Pg	20 34 36.9	-0.9
MULA				*i* S	Sg	20 34 43.5	+0.9
MULA	**Mugla, Merkez-**	**0.36**	**293**	*i* P	Pb	20 34 38.7	-0.8
MULA				*i* S	Sg	20 34 43.7	+1.1
MULA				IAML		20 34 46.0	
	comp=E,129nm,0.3s						
TAVA	**DENIZLI_Tavas**	**0.38**	**22**	*i* P	Pg	20 34 37.8	-0.4
TAVA				*i* S	Sg	20 34 41.8	-1.4
TAVA	**DENIZLI_Tavas**	**0.38**	**22**	*i* P	Pg	20 34 37.8	-0.4
TAVA				*i* S	Sg	20 34 41.8	-1.4
TAVA				IAML		20 34 47.0	
	comp=N,103nm,0.3s						
TAVA				IAML		20 34 47.0	
	comp=E,88nm,0.4s						
CAEL	**Denizli, Camel**	**0.47**	**89**	*i* P	Pb	20 34 41.3	-0.1
CAEL				*i* S	Sb	20 34 47.4	-1.2
CAEL	**Denizli, Camel**	**0.47**	**89**	*i* P	Pg	20 34 40.3	+0.5
CAEL				*i* S	Sg	20 34 47.1	+1.2
CAEL				IAML		20 34 54.0	
	comp=N,74nm,1.1s						
CAEL				IAML		20 34 56.0	
	comp=E,77nm,0.5s						
TURN	**Turunc**	**0.52**	**229**	*i* P	Pg	20 34 41.2	+0.5
TURN				*i* S	Sg	20 34 46.6	-0.9
TURN	**Turunc**	**0.52**	**229**	*i* P	Pg	20 34 40.8	+0.1
TURN				*i* S	Sg	20 34 46.

KHL	**Karahalli**	**1.09**	**159**	PN	Pg	20 34 58.5	-0.6
AFYO	**Afyonkarahisar**	**1.14**	**119**	*i* P	Pn	20 35 01.0	+0.3
AFYO				*i* S	Sg	20 35 11.8	-2.9
AFYO				IAML		20 35 29.0	
	comp=N,115nm,0.7s						
AFYO				IAML		20 35 37.0	
	comp=E,136nm,1.3s						
BALY	**Balya**	**1.15**	**290**	*i* P	Pg	20 34 59.1	-1.1
BALY				*i* S	Sg	20 35 09.8	-5.4
AUKIR	**Kırka- Seyitga**	**1.17**	**93**	*i* P	Pn	20 35 01.7	+0.7
AUKIR				*i* S	Sg	20 35 13.8	-2.0
AUKIR				IAML		20 35 29.0	
	comp=E,116nm,0.5s						
ADVT	**Abdulvahap**	**1.22**	**27**	PN	Pn	20 35 01.8	+0.2
BORA	**Eskisehir**	**1.23**	**64**	PN	Pg	20 35 01.4	-0.2
BORA	**Eskisehir**	**1.23**	**64**	*i* P	Pg	20 35 01.5	-0.2
BORA				*i* S	Sg	20 35 13.7	-3.8
YLV	**Yalova**	**1.25**	**12**	PN	Pn	20 35 02.6	+0.5
TRML	**Termal-Yalova**	**1.27**	**5**	PN	Pg	20 35 02.9	+0.5
EDC	**Edincik**	**1.34**	**319**	PN	Pg	20 35 03.7	-0.1
KZIL	**AFYON_Kizioren**	**1.40**	**141**	*i* P	Pn	20 35 04.2	0.0
KZIL				*i* S	Sb	20 35 20.0	-2.7
SGAZ	**Eskisehir, Sey**	**1.42**	**82**	*i* P	Pb	20 35 04.7	-0.2
SGAZ				*i* S	Sb	20 35 19.5	-3.7
SRCK	**Saricakaya, Es**	**1.42**	**60**	PN	Pb	20 35 05.0	+0.1
SRCK	**Saricakaya, Es**	**1.42**	**60**	*i* P	Pb	20 35 05.0	+0.1
SRCK				*i* S	Sb	20 35 19.7	-3.5
SRCK				IAML		20 35 35.0	
	comp=E,72nm,0.5s						
SHUT	**Suhut-Afyon**	**1.43**	**123**	PN	Pg	20 35 05.8	+0.2
GEYV	**SAKARYA_Geyve**	**1.50**	**40**	*i* P	Pg	20 35 07.1	+0.2
GEYV				*i* S	Sn	20 35 20.3	-5.0
GEYV				IAML		20 35 39.0	
	comp=E,83nm,0.6s						
GEYV				IAML		20 35 43.0	
	comp=N,84nm,1.2s						
BUY	**Buyukada**	**1.50**	**3**	*i* P	Pb	20 35 06.4	+0.1
BUY				*i* S	Sn	20 35 19.6	-5.8
BUY				IAML		20 35 38.0	
	comp=N,64nm,0.8s						
BUHA	**Balikesir, Bur**	**1.52**	**276**	*i* P	Pb	20 35 06.3	-0.2
BUHA				*i* S	Sn	20 35 20.6	-5.1
HRT	**Hereke**	**1.55**	**18**	PN	Pb	20 35 06.8	-0.4
ZEDA	**zmir-Bergama**	**1.56**	**256**	*i* P	Pg	20 35 08.1	+0.1
ZEDA				*i* S	Sn	20 35 22.2	-4.5
GULT	**Gulveren**	**1.58**	**46**	PN	Pb	20 35 07.3	-0.4
SPNC	**Sapanca-Adapaz**	**1.66**	**36**	PN	Pb	20 35 08.6	-0.5
MRMT	**Marmara Adasi**	**1.67**	**319**	PN	Pb	20 35 08.6	-0.6
DKL	**Dikili**	**1.67**	**261**	PN	Pn	20 35 08.4	+0.6
KRBG	**Karabiga-Canak**	**1.69**	**309**	PN	Pb	20 35 08.8	-0.7
SAUV	**Serdivan-Sakar**	**1.71**	**35**	PN	Pb	20 35 09.6	-0.3
KAVV	**Kandilli-Istan**	**1.71**	**1**	PN	Pn	20 35 09.1	+0.7
ISK	**Istanbul-Kandi**	**1.72**	**1**	PN	Pn	20 35 09.2	+0.8
BLCB	**Balcova**	**1.82**	**239**	PN	Pn	20 35 10.3	+0.4
BGKT	**Bogazkoy**	**1.84**	**354**	PN	Pn	20 35 11.0	+0.9
MAR2	**Marsite Statio**	**1.90**	**317**	PN	Pb	20 35 12.1	-0.9
MAR6	**Marsite Statio**	**1.91**	**316**	PN	Pn	20 35 11.8	+0.7

*NEIC **09** 20:40:36.1±1.4, 52.4°N±0.1°×32.1°W±0.1°, h10km±1km, mb4.3/17, Error ellipse: s-maj=21.1km s-min=7.0km az=146.0*

*IDC **09** 20:40:36.2±1.2, 52.63°N×31.96°W, h0km, mb3.7/16, mb1 4.0/18, mb1mx3.8/48, mbtmp3.8/18, ML4.1/2, MS3.5/15, Ms1 3.5/15, ms1mx3.3/49, Error ellipse: s-maj=34.8km s-min=14.5km az=10.0*

ISC 09 20:40:37.0±0.7, 52.5°N±0.1°×32.08°W±0.07, h13km, n55, σ0.94°/46, mb3.9/22, MS3.5/13, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**13.50**	**20**	Pn	**Pn**	**20 43 48.0**	**0.0**
	0.4nm,0.3s,baz=47,slow=9.7,SNR=1.0						
BORG				LR	LR	20 47 16.9	
	comp=Z,132nm,19.6s,baz=252,slow=30						
BORG	**Borgarnes**	**13.50**	**20**		**Pn**	**20 43 46.5**	**-1.5**
DRLN	**Deer Lake**	**16.34**	**269**	Pn	**Pn**	**20 44 24.3**	**-1.7**
DRLN				IAmb	IAmb	20 44 40.5	
	comp=Z,65nm,1.9s						
SFJD	**Kangerlussuaq**	**17.19**	**335**	LR	LR	20 49 57.4	
	comp=Z,119nm,21.0s,baz=134,slow=33						
EKA	**Eskdalemuir Ar**	**17.23**	**69**	P	**P**	**20 44 37.6**	**-1.0**
	baz=274,slow=9.2,SNR=11						
FRB	**Frobisher Bay**	**21.98**	**315**	P	**P**	**20 45 30.7**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=81,slow=9.0,SNR=7.3						
ESDC	**Sonseca Array**	**23.16**	**112**	P	**P**	**20 45 44.6**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=316,slow=9.1,SNR=5.0						
ESDC				LR	LR	20 52 15.9	
	comp=Z,103nm,20.1s,baz=155,slow=30						
ESDC	**Sonseca Array**	**23.16**	**112**	P	**P**	**20 45 43.9**	**+0.9**
ESDC				IAmb	IAmb	20 45 49.7	
	comp=Z,20nm,1.9s						
NOA	**NORSAR Array B**	**24.81**	**53**	P	**P**	**20 45 58.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=287,slow=13,SNR=3.4						
NOA				LR	LR	20 54 46.8	
	comp=Z,58nm,18.9s,baz=275,slow=34						
HFS	**Hagfors**	**26.05**	**55**	LR	LR	20 54 57.3	
	comp=Z,116nm,18.7s,baz=285,slow=33						
DAVOX	**Davos/Dischmat**	**27.47**	**85**	P	**P**	**20 46 23.6**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=304,slow=18,SNR=3.9						
DAVOX				LR	LR	20 56 37.5	
	comp=Z,155nm,21.2s,baz=332,slow=35						
CLL	**Collm**	**27.51**	**74**	P	**P**	**20 46 22.8**	**-0.2**
CLL				IAmb	IAmb	20 46 23.2	
	comp=Z,3.9nm,0.7s						
GEC2	**GERESS Array S**	**28.87**	**79**	P	**P**	**20 46 34.5**	**-0.7**
GEC2				IAmb	IAmb	20 46 49.9	
	comp=Z,7.7nm,1.5s						
GERES	**GERESS Array B**	**28.87**	**79**	P	**P**	**20 46 34.7**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=297,slow=8.8,SNR=10						
GERES	**GERESS Array B**	**28.87**	**79**	P	**P**	**20 46 34.8**	**-0.4**
VRAC	**Vranov**	**30.41**	**76**	LR	LR	20 58 31.6	
	comp=Z,162nm,20.9s,baz=320,slow=36						
FINES	**FINESS Array B**	**31.92**	**51**	P	**P**	**20 47 01.4**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=245,slow=2.9,SNR=1.3						
FINES				LR	LR	20 57 50.0	
	comp=Z,111nm,19.3s,baz=271,slow=33						
RES	**Resolute Bay**	**33.19**	**334**	P	**P**	**20 47 13.8**	**+1.0**
S57A	**Dark Hollow, R**	**35.53**	**265**	P	**P**	**20 47 34.1**	**+0.6**
S57A				IAmb	IAmb	20 47 36.7	
	comp=Z,7.7nm,1.4s						
BUR08	**Bucovina Ar. S**	**36.26**	**74**	P	**P**	**20 47 39.4**	**-0.4**
BUR08				IAmb	IAmb	20 47 50.6	
	comp=Z,6.3nm,1.5s						
BURAR	**Bucovina Array**	**36.28**	**74**	P	**P**	**20 47 39.6**	**-0.4**
ACSO	**Alum Creek Sta**	**36.46**	**271**	P	**P**	**20 47 40.5**	**-1.0**
ACSO				IAmb	IAmb	20 47 42.0	
	comp=Z,5.0nm,0.8s						
AKASG	**Malin Array Be**	**37.13**	**68**	P	**P**	**20 47 45.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=303,slow=8.5,SNR=5.8						
T47A	**Sharon Grove**	**41.00**	**270**	P	**P**	**20 48 16.9**	**-2.6**
T47A				IAmb	IAmb	20 48 18.3	
	comp=Z,5.5nm,0.8s						
YKA	**Yellowknife Ar**	**42.48**	**317**	P	**P**	**20 48 31.5**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=67,slow=8.7,SNR=8.4						
BR131	**Keskin Array S**	**45.77**	**79**	P	**P**	**20 48 58.0**	**-0.1**
BRTR	**Keskin Array B**	**45.77**	**79**	P	**P**	**20 48 58.8**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=299,slow=6.5,SNR=10						
BRTR	**Keskin Array B**	**45.77**	**79**	P	**P**	**20 48 57.6**	**-0.6**
W39A	**Magazine**	**46.26**	**273**	P	**P**	**20 48 59.5**	**-2.4**
INK	**Inuvik**	**46.44**	**330**	LR	LR	21 08 58.9	
	comp=Z,53nm,18.2s,baz=62,slow=37						
EGMT	**Eagleton**	**47.63**	**297**	P	**P**	**20 49 12.8**	**+0.3**
CSS	**Mathiatis**	**48.67**	**84**	P	**P**	**20 49 20.0**	**-0.7**
CSS				IAmb	IAmb	20 49 22.9	
	comp=Z,3.4nm,1.0s						
KBZ	**Khabaz**	**48.71**	**69**	P	**P**	**20 49 21.6**	**+0.7**
	comp=Z,1.1nm,1.0s,baz=315,slow=14,SNR=2.5						
BMAR	**Burnt Mountain**	**50.26**	**332**	P	**P**	**20 49 33.6**	**+1.2**
PDAR	**Pinedale Array**	**50.74**	**292**	P	**P**	**20 49 37.6**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=76,slow=8.1,SNR=4.3						
PDAR				LR	LR	21 08 05.5	
	comp=Z,27nm,21.1s,baz=88,slow=32						
PDAR	**Pinedale Array**	**50.74**	**292**	P	**P**	**20 49 37.1**	**+0.5**
HWUT	**Hardware Ranch**	**52.63**	**292**	P	**P**	**20 49 51.1**	**+0.4**
ILAR	**Eielson Array**	**52.79**	**331**	P	**P**	**20 49 52.3**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=134,slow=10,SNR=4.1						
ILAR	**Eielson Array**	**52.79**	**331**	P	**P**	**20 49 52.0**	**+0.7**
TEIG	**Tepich**	**53.74**	**255**	LR	LR	21 15 21.3	
	comp=Z,25nm,18.1s,baz=111,slow=39						
ANMO	**Albuquerque**	**54.10**	**282**	LR	LR	21 11 55.0	
	comp=Z,48nm,22.0s,baz=239,slow=35						
TXAR	**Lajitas Array**	**56.34**	**276**	P	**P**	**20 50 19.7**	**+2.0**
	comp=Z,0.1nm,0.5s,baz=49,slow=4.2,SNR=1.5						
BRVK	**Borovoye**	**56.52**	**45**	P	**P**	**20 50 18.9**	**+0.3**
NVAR	**Mina Array Bea**	**58.58**	**293**	LR	LR	21 13 40.1	
	comp=Z,58nm,18.7s,baz=338,slow=34						
YBH	**Yreka Blue Hor**	**58.70**	**299**	LR	LR	21 15 37.6	
	comp=Z,46nm,18.8s,baz=359,slow=36						
ZALV	**Zalesovo Beam**	**61.68**	**37**	P	**P**	**20 50 54.3**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=325,slow=7.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**61.68**	**37**	P	**P**	**20 50 54.1**	**-0.2**
MK31	**Makanchi Array**	**66.34**	**43**	P	**P**	**20 51 24.6**	**-0.5**
MKAR	**Makanchi Array**	**66.34**	**43**	P	**P**	**20 51 25.2**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=330,slow=5.9,SNR=14						
MKAR	**Makanchi Array**	**66.34**	**43**	P	**P**	**20 51 24.9**	**-0.2**
SONM	**Songino Array**	**73.98**	**28**	P	**P**	**20 52 12.1**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=319,slow=5.5,SNR=7.3						
SONM	**Songino Array**	**73.98**	**28**	P	**P**	**20 52 11.7**	**-0.3**
KSRS	**Korea Array**	**88.77**	**16**	LR	LR	21 34 45.6	
	comp=Z,36nm,18.4s,baz=40,slow=37						
WRA	**Warramunga Arr**	**145.86**	**23**	PKPbc	**PKPab**	**21 00 16.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=350,slow=3.5,SNR=2.3						
ASAR	**Alice Springs**	**149.31**	**26**	PKPbc	**PKPbc**	**21 00 25.6**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=343,slow=2.9,SNR=2.6						

*IDC **09** 20:48:45.5±3.1, 5.10°S×153.49°E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/37, mbtmp3.8/5, Error ellipse: s-maj=107.2km s-min=24.7km az=114.0*

*NEIC **09** 20:48:54.7±0.4, 5.3°S±0.2°×153.7°E±0.2°, h69km±12km, mb4.1/4, Error ellipse: s-maj=27.6km s-min=21.3km az=220.0*

ISC 09 20:48:53.7±1.8, 5.3°S±0.2°×153.8°E±0.3, h74km, n11, σ1.926°/11, mb3.7/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.94**	**305**	Pn	**Pn**	**20 49 24.5**	**-0.1**
WB0	**Warramunga Arr**	**23.70**	**231**	P	**P**	**20 54 00.1**	**+1.1**
WB0				IAmb	IAmb	20 54 18.2	
	comp=Z,6.4nm,1.2s						
WB2	**Warramunga Arr**	**23.83**	**231**	P	**P**	**20 54 01.1**	**+0.9**
WB2				IAmb	IAmb	20 54 26.1	
	comp=Z,17nm,1.5s						
WRA	**Warramunga Arr**	**23.84**	**231**	P	**P**	**20 54 01.5**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=57,slow=10,SNR=19						
ASAR	**Alice Springs**	**26.43**	**224**	P	**P**	**20 54 22.9**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=57,slow=9.1,SNR=9.4						
FITZ	**Fitzroy Crossi**	**30.26**	**243**	P	**P**	**20 54 57.3**	**-0.6**
PETK	**Petropavlovsk**	**58.30**	**3**	P	**P**	**20 58 40.1**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=175,slow=8.5,SNR=4.1						
MK31	**Makanchi Array**	**81.33**	**319**	P	**P**	**21 01 03.4**	**+1.2**
MKAR	**Makanchi Array**	**81.33**	**319**	P	**P**	**21 01 02.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=98,slow=5.3,SNR=9.3						
MKAR	**Makanchi Array**	**81.33**	**319**	P	**P**	**21 01 04.8**	**+2.5**
ZALV	**Zalesovo Beam**	**82.11**	**326**	P	**P**	**21 01 06.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=131,slow=7.9,SNR=2.1						

IDC 09 20:53:43.1±2.3, 35.50°S×52.85°E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, MS3.7/12, Ms1 3.7/12, ms1mx3.6/31, Error ellipse: s-maj=178.9km s-min=27.9km az=25.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**24.32**	**279**	LR	LR	21 06 11.6	
	comp=Z,81nm,19.6s,baz=128,slow=31						
LBTB	**Lobatse**	**25.68**	**287**	LR	LR	21 07 03.8	
	comp=Z,84nm,18.8s,baz=124,slow=31						
MATP	**Matopo**	**26.12**	**299**	P	P	20 59 19.6	+0.4
	2.8nm,1.0s,baz=148,slow=8.6,SNR=5.2						
MATP				LR	LR	21 08 18.8	
	comp=Z,228nm,18.8s,baz=141,slow=34						
SUR	**Sutherland**	**26.70**	**267**	LR	LR	21 08 28.4	
	comp=Z,87nm,18.2s,baz=101,slow=33						
MAW	**Mawson**	**32.66**	**173**	LR	LR	21 11 20.6	
	comp=Z,107nm,19.4s,baz=18,slow=32						
KMBO	**Kilima Mbogo**	**37.15**	**334**	LR	LR	21 15 06.1	
	comp=Z,15nm,20.2s,baz=93,slow=34						
H01W2	**Cape Leeuwin H**	**49.34**	**108**	T	T	21 56 21.7	
	baz=248,slow=75,SNR=25						
H01W3	**Cape Leeuwin H**	**49.35**	**108**	T	T	21 56 22.3	
	baz=248,slow=75,SNR=29						
H01W1	**Cape Leeuwin H**	**49.36**	**108**	T	T	21 56 23.0	
	baz=248,slow=75,SNR=21						
VNDA	**Vanda**	**59.57**	**166**	LR	LR	21 26 46.3	
	comp=Z,119nm,18.6s,baz=212,slow=33						
CMAR	**Chiang Mai Arr**	**69.20**	**47**	LR	LR	21 32 27.1	
	comp=Z,38nm,18.7s,baz=316,slow=34						
ASAR	**Alice Springs**	**69.69**	**105**	P	P	21 04 54.4	-0.6
	0.4nm,0.6s,baz=230,slow=5.7,SNR=6.7						
WRA	**Warramunga Arr**	**71.96**	**102**	P	P	21 05 09.9	+1.1
	1.5nm,1.1s,baz=239,slow=5.7,SNR=4.9						
BRTR	**Keskin Array B**	**76.93**	**345**	LR	LR	21 36 26.0	
	comp=Z,52nm,21.0s,baz=297,slow=33						
PLCA	**Paso Flores**	**88.02**	**219**	LR	LR	21 43 00.2	
	comp=Z,34nm,18.2s,baz=159,slow=34						
ESDC	**Sonseca Array**	**91.31**	**320**	LR	LR	21 50 36.4	
	comp=Z,74nm,18.0s,baz=35,slow=37						
HNR	**Honiara**	**98.20**	**108**	LR	LR	21 51 19.8	
	comp=Z,68nm,18.3s,baz=132,slow=35						
INK	**Inuvik**	**146.95**	**4**	PKPbc	PKPbc	21 13 26.2	-0.3
	0.7nm,0.6s,baz=199,slow=5.2,SNR=3.3						
ILAR	**Eielson Array**	**148.38**	**16**	PKPbc	PKPbc	21 13 30.4	-0.2
	0.9nm,1.0s,baz=324,slow=3.2,SNR=6.3						
YKA	**Yellowknife Ar**	**151.87**	**348**	PKPbc	PKPbc	21 13 37.2	-1.8
	0.2nm,0.6s,baz=46,slow=1.8,SNR=3.7						

IDC 09 21:03:33.4±1.4, 57.26°S×151.00°W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/28, mbtmp3.8/2, MS3.7/2, Ms1 3.7/2, ms1mx3.1/25, Error ellipse: s-maj=149.8km s-min=39.7km az=175.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**33.89**	**3**	*eT*	T	21 45 12.5	
	29nm,0.4s						
PPT2	**Papeete2**	**39.62**	**2**	*eL*	LR	21 21 31.8	
	comp=Z,100nm,24.8s						
PPT	**Papeete**	**39.64**	**2**	LR	LR	21 22 04.6	
	comp=Z,64nm,21.1s,baz=186,slow=28						
VAH	**Vaihoa**	**42.02**	**5**	*eT*	T	21 55 21.6	
	29nm,0.3s						
H03S2	**Juan Fernandez**	**52.81**	**96**	T	T	22 09 46.4	
	baz=219,slow=74,SNR=16						
H03S1	**Juan Fernandez**	**52.81**	**96**	T	T	22 09 46.9	
	baz=219,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**52.83**	**96**	T	T	22 09 49.7	
	baz=219,slow=74,SNR=13						
MAW	**Mawson**	**52.95**	**196**	LR	LR	21 32 38.0	
	comp=Z,113nm,18.7s,baz=234,slow=33						
H03N3	**Juan Fernandez**	**53.10**	**96**	T	T	22 10 05.9	
	baz=222,slow=72,SNR=46						
H03N2	**Juan Fernandez**	**53.11**	**96**	T	T	22 10 05.0	
	baz=222,slow=72,SNR=51						
H03N1	**Juan Fernandez**	**53.12**	**96**	T	T	22 10 04.8	
	baz=222,slow=72,SNR=72						
ASAR	**Alice Springs**	**62.41**	**269**	P	P	21 13 58.1	+0.1
	1.1nm,0.8s,baz=138,slow=6.6,SNR=13						
H01W1	**Cape Leeuwin H**	**63.88**	**246**	T	T	22 24 13.5	
	baz=142,slow=76,SNR=9.5						
H01W2	**Cape Leeuwin H**	**63.88**	**246**	T	T	22 24 09.2	
	baz=142,slow=76,SNR=7.8						
H01W3	**Cape Leeuwin H**	**63.89**	**246**	T	T	22 24 09.5	
	baz=142,slow=76,SNR=8.2						
WRA	**Warramunga Arr**	**65.17**	**272**	P	P	21 14 16.2	0.0
	1.2nm,1.0s,baz=150,slow=6.6,SNR=4.7						
H10S3	**ASCENSION HYDR**	**104.99**	**135**	T	T	23 16 00.8	
	baz=15,slow=74,SNR=18						
H10S2	**ASCENSION HYDR**	**104.99**	**135**	T	T	23 15 58.8	
	baz=205,slow=74,SNR=6.6						
H10N3	**ASCENSION HYDR**	**106.07**	**135**	T	T	23 17 22.3	
	baz=204,slow=75,SNR=16						
H10N1	**ASCENSION HYDR**	**106.07**	**135**	T	T	23 17 25.3	
	baz=204,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**106.08**	**135**	T	T	23 17 27.1	
	baz=204,slow=75,SNR=14						
ILAR	**Eielson Array**	**121.75**	**2**	PKP	PKPdf	21 22 26.2	-1.4
	0.4nm,0.7s,baz=268,slow=1.3,SNR=5.8						
YKA	**Yellowknife Ar**	**122.71**	**19**	PKP	PKiKP	21 22 31.1	+1.5
	0.2nm,0.8s,baz=159,slow=1.9,SNR=2.4						
MKAR	**Makanchi Array**	**146.42**	**275**	PKPbc	PKPbc	21 23 14.8	-0.5
	2.1nm,0.7s,baz=118,slow=4.4,SNR=29						
ZALV	**Zalesovo Beam**	**149.04**	**288**	PKPbc	PKPbc	21 23 20.7	-1.4
	0.9nm,0.7s,baz=98,slow=4.5,SNR=5.1						
ESDC	**Sonseca Array**	**152.34**	**115**	PKPbc	PKPbc	21 23 30.2	-0.3
	0.3nm,0.7s,baz=168,slow=2.2,SNR=3.3						

MAN 09 21:39:39.5, 8.74°N×127.76°E, h12km, mb4.4, ML3.2, MS3.0, Philippine Islands region

*NSSP **09** 22:12:22.7, 40.73°N×46.90°E, h15km, Ms2.9*
*TIF **09** 22:12:24.3, 40.82°N×47.03°E, h28km±2km*
*DRS **09** 22:12:24.5±0.0, 40.75°N×46.71°E, h18km*
*DDA **09** 22:12:28.9, 40.72°N×46.11°E, h8km±4km, ML2.3*

ISC 09 22:12:22.6±1.4, 40.69°N±0.04°×46.93°E±0.04, h3km±12km, n31, σ2.914/58, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDFL	**Dedoflistskaro**	**0.97**	**321**	P	**Pb**	**22 12 42.6**	**+0.4**
DDFL	**Dedoflistskaro**	**0.97**	**321**	*i* P	**Pb**	**22 12 42.6**	**+0.4**
DDFL				*i* S	**Sg**	**22 12 53.6**	**-0.2**
AKT	**Akhty**	**1.00**	**37**	*i* Pg	**Pg**	**22 12 41.3**	**-0.4**
	65nm,0.2s						
AKT				*e*Sg	**Sg**	**22 12 54.2**	**-0.5**
	184nm,0.3s						
GRS	**Goris**	**1.27**	**201**	⇑ *i* P	Pg	22 12 44.0	-2.9
GRS				⇓ *i* S	**Sg**	**22 13 00.0**	**-3.4**
URKR	**Urkarakh**	**1.57**	**20**	*i* Pg	**Pn**	**22 12 52.5**	**+1.0**
	19nm,0.6s						
URKR				*e*Sg	**Sn**	**22 13 13.1**	**+0.6**
	98nm,0.2s						
GNBR	**Gunib**	**1.70**	**1**	*e*Pg	**Pn**	**22 12 54.5**	**+1.2**
	28nm,0.6s						
GNBR				*e*Sg	**Sg**	**22 13 17.3**	**+0.1**
	73nm,0.6s						
KAPZ	**Kaputan**	**1.74**	**259**	*i* P	**Pn**	**22 12 55.7**	**+1.8**
KAPZ				*i* S	**Sb**	**22 13 19.1**	**+1.6**
GNI	**Garni**	**1.75**	**253**	*i* P	**Pn**	**22 12 56.2**	**+2.2**
GNI				*i* S	**Sg**	**22 13 21.4**	**+2.5**
SGKR	**Sergokala**	**1.85**	**17**	*e*Pg	**Pn**	**22 12 56.7**	**+1.4**
	10.0nm,0.2s						
SGKR				*e*Sg	**Sb**	**22 13 21.3**	**+0.5**
	46nm,0.4s						
NRKZ	**NAREK**	**1.86**	**249**	*i* P	**Pn**	**22 12 57.5**	**+2.0**
NRKZ				*i* S	**Sg**	**22 13 24.1**	**+1.7**
BTNK	**Botanikuri**	**1.89**	**302**	P	**Pn**	**22 12 55.9**	**0.0**
BTNK				S	**Sn**	**22 13 21.2**	**+1.0**
BTNK	**Botanikuri**	**1.89**	**302**	*i* P	**Pn**	**22 12 55.1**	**-0.7**
BTNK				*i* S	**Sn**	**22 13 13.5**	**-6.7**
BTNK				IAML		22 13 22.0	
	comp=E,189nm,0.1s						
ARKR	**Arakani**	**1.92**	**1**	*e*Pg	**Pb**	**22 12 57.9**	**-0.3**
	comp=E,16nm,0.6s						
ARKR				*e*Sg	**Sg**	**22 13 23.1**	**-1.0**
	comp=E,32nm,0.4s						
STE	**Stepanavan**	**1.97**	**280**	*e*P	**Pn**	**22 12 57.6**	**+0.6**
STE				S	**Sn**	**22 13 23.5**	**+1.3**
KZRT	**Kazreti**	**2.04**	**291**	*i* P	Pg	22 13 09.4	+7.8
KZRT				*i* S	**Sn**	**22 13 18.2**	**-5.7**
BTLR	**Botlikh**	**2.04**	**345**	*e*Pg	**Pn**	**22 12 58.8**	**+0.8**
	comp=E,9.0nm,0.5s						
BTLR				*e*Sg	**Sn**	**22 13 24.9**	**+0.8**
	comp=E,33nm,0.3s						
DMNI	**Dmanisi**	**2.17**	**288**	P	**Pn**	**22 13 00.7**	**+1.0**
DMNI				S	**Sn**	**22 13 28.8**	**+1.5**
METS	**Metsamor**	**2.24**	**257**	*i* P	**Pn**	**22 13 02.8**	**+2.1**
METS				*i* S	**Sb**	**22 13 32.9**	**+1.0**
TRLG	**Trialeti**	**2.30**	**293**	P	**Pn**	**22 13 02.6**	**+1.0**
TRLG				S	**Sn**	**22 13 32.0**	**+1.5**
DBC	**Dubki**	**2.33**	**358**	*e*Pn	**Pn**	**22 13 02.7**	**+0.7**
	comp=E,12nm,0.5s						
DBC				*e*Sn	**Sn**	**22 13 31.6**	**+0.4**
	comp=E,12nm,0.4s						
VNNZ	**Vanand**	**2.44**	**257**	*i* P	**Pn**	**22 13 05.5**	**+2.0**
VNNZ				*i* S	**Sb**	**22 13 37.8**	**0.0**
BRNG	**Burnasheti**	**2.52**	**293**	P	**Pn**	**22 13 06.7**	**+2.0**
BRNG				S	**Sb**	**22 13 40.0**	**-0.1**
EAK	**Akyaka**	**2.52**	**271**	*i* P	**Pn**	**22

BKZ	**Black Stump Fm**	**29.86**	**163**	P	**P**	**23 15 18.5**	**+1.5**
BKZ				IAmb	IAmb	23 15 20.9	
	comp=Z,12nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**30.26**	**2**	T	T	23 47 38.9	
	baz=182,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**30.26**	**2**	T	T	23 47 36.6	
	baz=182,slow=76,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**30.28**	**2**	T	T	23 47 38.5	
	baz=182,slow=76,SNR=13						
STKA	**Stephens Creek**	**30.79**	**223**	P	**P**	**23 15 26.8**	**+1.5**
	comp=Z,5.6nm,0.6s,baz=46,slow=10.0,SNR=16						
STKA	**Stephens Creek**	**30.79**	**223**	P	**P**	**23 15 26.6**	**+1.3**
BFZ	**Birch Farm**	**31.21**	**165**	P	**P**	**23 15 29.5**	**+0.6**
THZ	**Tophouse**	**31.52**	**170**	P	**P**	**23 15 32.6**	**+1.0**
THZ				IAmb	IAmb	23 15 49.6	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**31.56**	**249**	P	**P**	**23 15 31.6**	**-0.7**
WR0				IAmb	IAmb	23 15 34.2	
	comp=Z,5.8nm,1.1s						
WB0	**Warramunga Arr**	**31.66**	**250**	P	**P**	**23 15 33.0**	**-0.1**
WB0				IAmb	IAmb	23 15 33.2	
	comp=Z,7.6nm,0.7s						
MSWZ	**Moikau Station**	**31.66**	**167**	P	**P**	**23 15 33.0**	**+0.2**
WB2	**Warramunga Arr**	**31.73**	**249**	P	**P**	**23 15 33.5**	**-0.3**
WRA	**Warramunga Arr**	**31.75**	**249**	P	**P**	**23 15 33.4**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=82,slow=8.9,SNR=29						
LTZ	**Lake Taylor**	**32.42**	**171**	P	**P**	**23 15 41.5**	**+2.1**
LTZ				IAmb	IAmb	23 15 44.0	
	comp=Z,8.8nm,1.1s						
TOO	**Toolangi**	**32.43**	**211**	P	**P**	**23 15 41.4**	**+1.8**
TOO				IAmb	IAmb	23 15 59.9	
	comp=Z,5.5nm,1.1s						
FOZ	**Fox Glacier**	**32.86**	**175**	P	**P**	**23 15 45.6**	**+2.3**
FOZ				IAmb	IAmb	23 15 47.9	
	comp=Z,9.2nm,1.0s						
ASAR	**Alice Springs**	**33.08**	**243**	P	**P**	**23 15 45.0**	**-0.6**
	comp=Z,3.5nm,1.0s,baz=74,slow=9.6,SNR=21						
MQZ	**McQueen's Vall**	**33.38**	**171**	P	**P**	**23 15 48.8**	**+1.1**
MQZ				IAmb	IAmb	23 15 49.9	
	comp=Z,7.5nm,0.9s						
MLZ	**Mavora Lakes**	**34.57**	**177**	P	**P**	**23 15 58.0**	**-0.1**
MLZ				IAmb	IAmb	23 15 58.8	
	comp=Z,9.4nm,1.0s						
BBOO	**Buckleboo**	**35.16**	**227**	P	**P**	**23 16 03.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**39.62**	**255**	P	**P**	**23 16 41.0**	**+0.1**
	comp=Z,11nm,0.6s,baz=78,slow=6.6,SNR=42						
FITZ	**Fitzroy Crossi**	**39.62**	**255**	P	**P**	**23 16 41.2**	**+0.2**
FORT	**Forrest**	**40.36**	**235**	P	**P**	**23 16 45.0**	**-2.0**
PSA00	**Pilbara Seismi**	**45.39**	**250**	P	**P**	**23 17 27.8**	**+0.2**
PSA00				IAmb	IAmb	23 17 28.5	
	comp=Z,8.5nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.77**	**236**	P	**P**	**23 18 02.5**	**+1.2**
MORW	**Morawa**	**49.92**	**241**	P	**P**	**23 18 03.6**	**+1.2**
PETK	**Petropavlovsk-**	**53.96**	**355**	P	**P**	**23 19 39.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**77.13**	**293**	P	**P**	**23 20 32.9**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=134,slow=6.4,SNR=4.2						
ILAR	**Eielson Array**	**83.16**	**18**	P	**P**	**23 21 33.1**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=237,slow=5.0,SNR=20						
NVAR	**Mina Array Bea**	**85.69**	**50**	P	**P**	**23 21 46.5**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=224,slow=7.6,SNR=3.9						
MKAR	**Makanchi Array**	**93.40**	**317**	P	**P**	**23 22 21.9**	**0.0**
	comp=Z,0.3nm,0.8s,baz=94,slow=7.4,SNR=3.4						
YKA	**Yellowknife Ar**	**94.61**	**27**	P	**P**	**23 22 25.7**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=254,slow=3.7,SNR=3.0						

*SNET **09** 23:36:31.3±0.9, 13°.27N×89°.96W, h33km±2km, ML3.7*
*IDC **09** 23:36:32.9±8.3, 13°.26N×89°.56W, h62km±50km, mb3.1/3, mb1 3.8/5, mb1mx3.4/37, mbtmp3.7/5, ML4.0/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/18, Error ellipse: s-maj=85.5km s-min=48.1km az=171.0*
*GCG **09** 23:36:33.6±0.6, 13°.34N×90°.00W, h35km±76km, MD4.0*
*NEIC **09** 23:36:34.7±2.6, 13°.40N±0°.07×89°.64W±0°.07, h69km±11km, mb4.3/9, Md3.7(SNET), Error ellipse: s-maj=11.1km s-min=8.6km az=216.0*

ISC 09 23:36:32.3±1.3, 13°.29N±0°.08×89°.88W±0°.05, h52km±10km, n64, σ1§16/68, mb4.3/6, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.56**	**49**	*eP*		**Pn**		**23 36 44.1**	**-0.4**
JAYA				*eS*		**Sn**		**23 36 53.8**	**+0.4**
JAYA				IAML				23 36 57.0	
	comp=Z,5μm,0.2s								
LALI	**Alcalda de L**	**0.58**	**70**	*eP*		**Pn**		**23 36 44.2**	**-0.4**
LALI				*eS*		**Sn**		**23 36 53.4**	**-0.2**
CEVE	**Cerro Verde**	**0.59**	**25**	*eP*		**Pn**		**23 36 44.7**	**-0.4**
CEVE				*eS*		**Sn**		**23 36 55.0**	**+0.8**
SBLS	**San Blas**	**0.60**	**25**	*eP*		**Pn**		**23 36 44.7**	**-0.5**
SNJE	**San Jose**	**0.64**	**25**	*eP*		**Pn**		**23 36 45.1**	**-0.5**
RTR	**El Retiro**	**0.65**	**21**	*eP*		**Pn**		**23 36 45.1**	**-0.5**
CEDA	**San Andres**	**0.70**	**43**	*eP*		**Pn**		**23 36 45.8**	**-0.3**
CEDA				*eS*		**Sn**		**23 36 57.4**	**+1.2**
CEDA				IAML				23 37 01.2	
	comp=Z,5μm,0.2s								
BOQS	**Boqueron**	**0.73**	**53**	*eP*		**Pn**		**23 36 46.7**	**-0.1**
BOQS				*eS*		**Sn**		**23 36 59.0**	**+1.6**
SNET	**Serv Nac Est T**	**0.75**	**58**	*eP*		**Pn**		**23 36 46.7**	**0.0**
SNET				IAML				23 36 47.6	
	comp=Z,2μm,0.2s								
SNET	**Serv Nac Est T**	**0.75**	**58**	Pn		**Pn**		**23 36 46.8**	**0.0**
UEES	**Universidad Ev**	**0.76**	**56**	*eP*		**Pn**		**23 36 46.6**	**-0.3**
UEES				IAML				23 37 01.8	
	comp=Z,2μm,0.2s								
OPAM	**Oficina de Pla**	**0.79**	**58**	*eP*		**Pn**		**23 36 47.8**	**+0.5**
TACO	**Tacachico**	**0.85**	**37**	*eP*		**Pn**		**23 36 48.1**	**-0.1**
LFRS	**El Faro**	**0.86**	**67**	*eP*		**Pn**		**23 36 48.3**	**-0.1**
LFU	**La Fuente**	**0.88**	**58**	*eP*		**Pn**		**23 36 48.8**	**+0.3**
LBRS	**Las Brisas**	**0.93**	**61**	*eP*		**Pn**		**23 36 49.5**	**+0.2**
COEG	**Centro de Oper**	**1.03**	**71**	*eP*		**Pn**		**23 36 50.6**	**+0.1**
COEG				*eS*		**Sn**		**23 37 05.9**	**+1.9**
COEG				IAML				23 37 10.4	
	comp=Z,2μm,0.3s								
MTO3	**Montecristo**	**1.22**	**25**	*eP*		**Pn**		**23 36 53.1**	**-0.1**
MTO3	**Montecristo**	**1.22**	**25**	Pn		**Pn**		**23 36 53.2**	**0.0**
PCG	**Pacaya**	**1.30**	**327**	*eP*		**Pn**		**23 36 54.8**	**+0.4**
PCG				*eS*		**Sn**		**23 37 10.7**	**-0.2**
COEB	**Comit de Eme**	**1.33**	**81**	*eP*		**Pn**		**23 36 54.8**	**+0.1**
COEB				IAML				23 37 19.2	
	comp=Z,596nm,0.2s								
TECA	**Tecapa**	**1.36**	**81**	*eP*		**Pn**		**23 36 55.4**	**+0.3**
NBG	**Las Nubes**	**1.37**	**341**	*eP*		**Pn**		**23 36 56.3**	**+1.0**
NBG				*eS*		**Sn**		**23 37 13.6**	**+1.2**
ESQI	**Esquipulas**	**1.37**	**23**	*eP*		**Pn**		**23 36 55.5**	**+0.4**
ESQI	**Esquipulas**	**1.37**	**23**	Pn		**Pn**		**23 36 55.7**	**+0.6**
FUG	**Fuego 3**	**1.48**	**321**	*eP*		**Pn**		**23 36 56.8**	**+0.1**
FUG				*eS*		**Sn**		**23 37 15.3**	**+0.2**
PACA	**Pacayal**	**1.53**	**83**	*eP*		**Pn**		**23 36 58.5**	**+1.2**
LCY	**Lacayo**	**1.55**	**85**	*eP*		**Pn**		**23 36 57.7**	**0.0**
VSM	**San Miguel**	**1.57**	**85**	*eP*		**Pn**		**23 36 59.9**	**+0.8**
JUCU	**Jucuarįn**	**1.59**	**91**	*eP*		**Pn**		**23 36 58.0**	**-0.1**
JUCU				IAML				23 37 22.2	
	comp=Z,568nm,0.3s								
MRL	**Marmol**	**1.79**	**6**	*eP*		**Pn**		**23 37 02.4**	**+1.3**
LCND	**La Caada**	**1.94**	**89**	*eP*		**Pn**		**23 37 03.5**	**+0.6**
LCND				IAML				23 37 37.3	
	comp=Z,561nm,0.3s								
RTAL	**Retalhuleu**	**2.15**	**305**	Pn		Pn		23 37 11.9	+6.2
HUEH	**Huehuetenango**	**2.56**	**322**	Pn		Pn		**23 37 14.9**	**+3.5**
TGUH	**Tegucigalpa,Ún**	**2.65**	**73**	Pn		Pn		**23 37 12.8**	**+0.1**
CRIN	**San Cristobal**	**2.82**	**102**	Pn		Pn		**23 37 15.6**	**+0.6**
PETF	**Flores**	**3.61**	**0**	Pn		Pn		**23 37 27.7**	**+2.0**
CCIG	**Comitan**	**3.69**	**324**	Pn		Pn		**23 37 30.1**	**+3.1**
MATN	**Matagalpa**	**3.87**	**95**	Pn		Pn		**23 37 29.7**	**+0.3**
BOAB	**BOACO BROADBAN**	**4.20**	**101**	Pn		Pn		**23 37 33.9**	**+0.1**
ORTG	**Ortega, Santa**	**5.22**	**123**	Pn		Pn		**23 37 48.3**	**+0.4**
JTS	**Las Juntas de**	**5.67**	**121**	Pn		Pn		**23 37 55.6**	**+1.6**
CAO2	**Cobano, Puntar**	**5.89**	**127**	Pn		Pn		**23 37 56.1**	**-1.0**
CMIG	**Matias Romero**	**6.13**	**309**	P		**Pn**		**23 38 02.8**	**+2.5**
	comp=Z,2.3nm,0.3s,baz=98,slow=10.0,SNR=40								
CMIG				S		**Sn**		**23 39 06.1**	**-3.1**
	comp=Z,1.5nm,0.3s,baz=111,slow=6.2,SNR=4.2								
TEIG	**Tepich**	**7.07**	**12**	P		**Pn**		**23 38 14.4**	**+1.2**
	comp=Z,3.1nm,0.3s,baz=197,slow=4.8,SNR=20								
TEIG				LR		LR		23 41 13.8	
	comp=Z,104nm,21.5s,baz=131,slow=40								
TEIG	**Tepich**	**7.07**	**12**			**Pn**		**23 38 13.9**	**+0.8**
PEZE	**Perez Zeledon,**	**7.22**	**122**	Pn		Pn		**23 38 16.0**	**+0.7**
TLIG	**Tlapa**	**9.39**	**298**	Pn		Pn		23 38 49.5	+4.4
SDV	**Santo Domingo**	**19.39**	**101**	LR		LR		23 50 21.3	
	comp=Z,6.6nm,18.1s,baz=259,slow=43								
TXAR	**Lajitas Array**	**20.46**	**323**	P		Pn		23 41 09.5	+1.3
	comp=Z,0.6nm,0.6s,baz=144,slow=12,SNR=8.7								
TX31	**Lajitas Ar. Si**	**20.46**	**323**	P		Pn		23 41 09.3	+1.1
TX31				IAmb		IAmb		23 41 23.9	
	comp=Z,5.5nm,1.1s								
MIAR	**Mount Ida**	**21.43**	**352**	P		**P**		**23 41 16.2**	**+0.3**
WMOK	**Wichita Mounta**	**22.82**	**341**	P		**P**		**23 41 30.1**	**-0.9**
TKL	**Tuckaleechee C**	**22.94**	**13**	LR		LR		23 51 22.5	
	comp=Z,68nm,18.0s,baz=176,slow=39								
PDPR	**Patillas Dam,**	**23.44**	**75**	P		**P**		**23 41 36.8**	**-0.3**
PDPR				IAmb		IAmb		23 41 44.9	
	comp=Z,28nm,1.3s								
ANMO	**Albuquerque**	**26.26**	**328**	LR		LR		23 55 48.5	
	comp=Z,35nm,19.7s,baz=84,slow=44								
MMNY	**Mt. Morris Dam**	**31.11**	**17**	P		**P**		**23 42 45.0**	**-0.8**
MMNY				IAmb		IAmb		23 42 57.2	
	comp=Z,7.5nm,1.1s								
GLMI	**Grayling**	**31.75**	**7**	P		**P**		**23 42 49.1**	**-2.3**
J57A	**Williamstown**	**32.31**	**19**	P		**P**		**23 42 55.5**	**-0.7**
NLU	**North Lily Min**	**32.96**	**328**	P		**P**		**23 43 01.1**	**-1.3**
NLU				IAmb		IAmb		23 43 04.0	
	comp=Z,5.3nm,0.8s								
NVAR	**Mina Array Bea**	**35.52**	**320**	P		**P**		**23 43 26.3**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=138,slow=7.6,SNR=13								
NVAR				PcP		**PcP**		**23 45 53.2**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=120,slow=3.4,SNR=5.0								
LHV	**Little Huntoon**	**35.54**	**320**	P		**P**		**23 43 26.9**	**+2.5**
LHV				IAmb		IAmb		23 43 28.3	
	comp=Z,3.2nm,0.9s								
YKA	**Yellowknife Ar**	**52.20**	**346**	P		**P**		**23 45 36.4**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=147,slow=8.0,SNR=2.9								
CMAR	**Chiang Mai Arr**	**147.28**	**344**	PKPbc		**PKPdf**		**23 56 09.8**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=335,slow=4.0,SNR=4.3								

*NEIC **09** 23:49:11.9±2.2, 24°.28S±0°.06×67°.2W±0°.1, h184km±11km, mb4.7/6, Error ellipse: s-maj=14.3km s-min=8.7km az=93.0*
*VAO **09** 23:49:11.5±1.1, 24°.28S×67°.64W, h243km±7km, mb4.1*
*GUC **09** 23:49:13.1±0.7, 24°.19S×67°.47W, h191km±11km, ML3.9*
*IDC **09** 23:49:15.4±1.2, 23°.82S×67°.24W, h199km±15km, mb1 3.5/4, mb1mx3.2/25, mbtmp4.0/4, Error ellipse: s-maj=22.6km s-min=21.8km az=62.0*

ISC 09 23:49:11.3±0.7, 24°.21S±0°.04×67°.33W±0°.07, h206km±9km, n74, σ1§28/95, 6C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.16**	**317**	P		**Pn**		**23 49 53.3**	**+0.9**
	20nm,0.3s,baz=143,slow=7.4,SNR=365								
LVC				S		**S**		**23 50 23.5**	**-0.2**
	65nm,0.3s,baz=12,slow=21,SNR=50								
LVC	**Limon Verde**	**2.16**	**317**	*eP*		**Pn**		**23 49 53.2**	**+0.9**
LVC				*eS*		**S**		**23 50 23.6**	**-0.2**
LVC	**Limon Verde**	**2.16**	**317**	Pn		**Pn**		**23 49 53.2**	**+0.9**
LVC						**S**		**23 50 23.9**	**+0.1**
LVC	**Limon Verde**	**2.16**	**317**	*eP*		**Pn**		**23 49 53.3**	**+0.9**
PB15	**IPOC Station P**	**2.20**	**297**	⇑*iP*		**Pn**		**23 49 53.9**	**+1.3**
PB15				*i* S		**S**		**23 50 24.3**	**+0.1**
PB15	**IPOC Station P**	**2.20**	**297**			**Pn**		**23 49 53.5**	**+0.9**
PB15						**S**		**23 50 24.4**	**+0.1**
GO02	**Mina Guanaco**	**2.26**	**245**	⇑*iP*		**Pn**		**23 49 54.4**	**+1.1**
GO02				*i* S		**S**		**23 50 26.1**	**+0.6**
GO02	**Mina Guanaco**	**2.26**	**245**	Pn		**Pn**		**23 49 54.4**	**+1.1**
GO02						**S**		**23 50 26.6**	**+1.0**
PB06	**IPOC Station P**	**2.55**	**306**	⇑*iP*		**Pn**		**23 49 57.5**	**+1.2**
PB06				*i* S		**S**		**23 50 30.7**	**-0.1**
PB06				IAML				23 50 33.4	
	comp=N,673nm,0.3s								
PB06	**IPOC Station P**	**2.55**	**306**			**Pn**		**23 49 57.5**	**+1.2**
PB06						**S**		**23 50 30.5**	**-0.4**
PB14	**IPOC Station P**	**2.83**	**261**	⇑*iP*		**Pn**		**23 50 00.6**	**+1.0**
PB14				*i* S		**S**		**23 50 37.0**	**+0.1**
PB14				IAML				23 50 39.7	
	comp=E,78nm,0.5s								
PB14	**IPOC Station P**	**2.83**	**261**	Pn		**Pn**		**23 49 59.9**	**+0.3**
PB09	**IPOC Station P**	**2.98**	**323**	⇓*iP*		**Pn**		**23 50 02.9**	**+1.6**
PB09				*i* S		**S**		**23 50 39.9**	**+0.1**
PB09				IAML				23 50 41.9	
	comp=N,272nm,0.4s								
PB09	**IPOC Station P**	**2.98**	**323**			**Pn**		**23 50 02.7**	**+1.4**
PB09						**S**		**23 50 40.4**	**+0.6**
PB10	**IPOC Station P**	**3.03**	**283**	*eP*		**Pn**		**23 50 03.0**	**+1.4**
PB10				*i* S		**S**		**23 50 40.9**	**+0.4**
PB10				IAML				23 50 44.6	
	comp=E,106nm,0.5s								
PB10	**IPOC Station P**	**3.03**	**283**	Pn		**Pn**		**23 50 03.1**	**+1.5**
AC02	**Maricunga**	**3.08**	**212**	*eP*		**Pn**		**23 50 03.5**	**+0.8**
AC02	**Maricunga**	**3.08**	**212**	Pn		**Pn**		**23 50 03.5**	**+0.8**
PB04	**IPOC Station P**	**3.20**	**305**	⇓*iP*		**Pn**		**23 50 05.1**	**+1.3**
PB04				*i* S		**S**		**23 50 43.5**	**-0.8**
PB04				IAML				23 50 46.4	
	comp=N,356nm,0.2s								
PB04	**IPOC Station P**	**3.20**	**305**			**Pn**		**23 50 04.9**	**+1.1**
PB04						**S**		**23 50 43.7**	**-0.6**
PB07	**IPOC Station P**	**3.42**	**316**	⇑*iP*		**Pn**		**23 50 07.3**	**+0.9**
PB07				*i* S		**S**		**23 50 47.8**	**-1.2**
PB07	**IPOC Station P**	**3.42**	**316**			**Pn**		**23 50 07.3**	**+0.9**
PB07						**S**		**23 50 47.9**	**-1.2**
AC01	**Pan de Azucar**	**3.53**	**236**	⇑*iP*		**Pn**		**23 50 07.8**	**+0.2**
AC01				*i* S		**S**		**23 50 49.9**	**-1.4**
AC01	**Pan de Azucar**	**3.53**	**236**	Pn		**Pn**		**23 50 07.8**	**+0.2**
AC01						**S**		**23 50 50.0**	**-1.3**
PB01	**IPOC Station P**	**3.73**	**327**	*eP*		**Pn**		**23 50 10.4**	**+0.2**
PB01				*eS*		**S**		**23 50 54.2**	**-1.7**
PB01	**IPOC Station P**	**3.73**	**327**			**Pn**		**23 50 10.7**	**+0.5**
GO03	**Copiap**	**4.26**	**217**	*eP*		**Pn**		**23 50 16.3**	**-0.3**
GO03				*eS*		**S**		**23 51 06.3**	**-1.4**
GO03	**Copiap**	**4.26**	**217**	Pn		**Pn**		**23 50 16.5**	**-0.1**
GO03						**S**		**23 51 07.0**	**-0.7**
PB08	**IPOC Station P**	**4.39**	**337**			**Pn**		**23 50 20.1**	**+1.5**
TA01	**Diego Aracena**	**4.49**	**323**	Pn		**Pn**		**23 50 20.7**	**+1.3**
AC04	**Llanos de Chal**	**5.21**	**219**	*eP*		**Pn**		**23 50 27.8**	**-0.6**
AC04	**Llanos de Chal**	**5.21**	**219**	Pn		**Pn**		**23 50 27.7**	**-0.8**
AC04						**S**		**23 51 25.3**	**-3.8**
PSGCX	**Pisagua**	**5.28**	**330**	Pn		**Pn**		**23 50 29.6**	**+0.1**
AC05	**El Transito**	**5.30**	**209**			**Pn**		**23 50 29.9**	**0.0**
AC05						**S**		**23 51 30.5**	**-1.1**
MNMC	**Minye Minye**	**5.48**	**337**			**Pn**		**23 50 34.2**	**+1.9**
LCO	**Las Campanas**	**5.65**	**212**			**Pn**		**23 50 33.7**	**-0.7**
PB16	**IPOC Station P**	**6.19**	**340**			**Pn**		**23 50 42.9**	**+1.1**
CO01	**Juntas del Tor**	**6.25**	**203**	Pn		**Pn**		**23 50 43.3**	**+1.2**
GO04	**Tololo Observa**	**6.69**	**207**	Pn		**Pn**		**23 50 47.5**	**-0.2**
CO03	**El Pedregal**	**7.24**	**204**	Pn		**Pn**		**23 50 55.0**	**+0.3**
LPAZ	**La Paz**	**7.92**	**354**	*P*		**Pn**		**23 51 04.8**	**+0.6**
	comp=N,2.1nm,0.3s,baz=167,slow=7.5,SNR=36								
LPAZ				S		**S**		**23 52 32.2**	**-1.8**
	baz=345,slow=19,SNR=2.0								
LPAZ	**La Paz**	**7.92**	**354**	Pn		**Pn**		**23 51 05.3**	**+1.2**
LPAZ	**La Paz**	**7.92**	**354**	*eP*		**Pn**		**23 51 05.4**	**+1.2**
CPUP	**Villa Florida**	**9.29**	**105**	P		**P**		**23 51 27.6**	**-2.5**
	comp=N,0.2nm,0.3s,baz=288,slow=9.6,SNR=3.8								
CPUP	**Villa Florida**	**9.29**	**105**			**Pn**		**23 51 20.8**	**-0.6**
BI02	**San Fabin de**	**12.86**	**194**			**P**		**23 52 08.2**	**-1.9**
TRCB	**Terra Rica**	**13.56**	**87**	*eP*		**P**		**23 52 18.3**	**+0.4**
PTGB	**Pitanga**	**13.91**	**95**	*eP*		**P**		**23 52 22.8**	**+0.9**
PCMB	**Pacaembu**	**15.03**	**83**	*eP*		**P**		**23 52 35.5**	**+1.3**
ITRB	**Iturama**	**16.37**	**77**	*eP*		**Pn**		**23 52 50.5**	**+0.6**
PLCA	**Paso Flores**	**16.69**	**189**	P		Pn		23 53 03.4	+10
	comp=N,0.2nm,0.3s,baz=16,slow=10,SNR=5.4								
PLCA	**Paso Flores**	**16.69**	**189**	P		**Pn**		**23 52 55.3**	**+1.7**
ARAG	**Araguaiana, MT**	**16.85**	**63**	*eP*		**Pn**		**23 52 56.2**	**+0.6**
CZSB	**Cruzeiro do Su**	**17.18**	**342**	*eP*		**P**		**23 52 56.2**	**-1.6**
CLDB	**Colider**	**17.22**	**42**	*eP*		**P**		**23 52 57.5**	**-0.8**
SPB	**Sao Paulo**	**18.21**	**92**	P		**P**		**23 53 05.8**	**-3.2**
SPB				IAmb		IAmb		23 53 06.0	
	comp=Z,16nm,0.3s								
LL01	**San Ignacio de**	**18.60**	**192**			**Pn**		**23 53 18.3**	**+2.4**
LL01				IAmb		IAmb		23 53 21.0	
	comp=Z,12nm,0.6s								
VAO	**Valinhos**	**18.70**	**90**	*eP*		**P**		**23 53 14.4**	**-0.1**
IPMB	**Ipameri, GO**	**18.88**	**74**	*eP*		**P**		**23 53 16.9**	**+0.5**
SNDB	**Serra Nova Dou**	**19.48**	**54**	*eP*		**P**		**23 53 22.7**	**-0.2**
BDFB	**Brasilia**	**20.05**	**68**	P		**P**		**23 53 29.4**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=244,slow=9.9,SNR=11								
BDFB	**Brasilia**	**20.05**	**68**	P		**P**		**23 53 29.4**	**+0.4**
PEXB	**Peixe**	**21.69**	**60**	*eP*		**P**		**23 53 45.8**	**-0.3**
JANB	**Januaria**	**23.49**	**71**	*eP*		**P**		**23 54 03.0**	**+0.3**
SDBA	**SAO DESIDERIO**	**24.27**	**65**	*eP*		**P**		**23 54 10.2**	**+0.3**
GDU01	**Guandu, BA**	**28.19**	**73**	*eP*		**P**		**23 54 44.6**	**-0.4**
SDV	**Santo Domingo**	**33.05**	**354**	*eP*		**P**		**23 55 24.2**	**-3.6**
Y58A	**Scranton**	**58.98**	**348**	P		**P**		**23 58 50.2**	**+1.1**
U61A	**Possum Corner**	**60.83**	**352**	P		**P**		**23 59 04.5**	**+2.8**
U61A				IAmb		IAmb		23 59 06.1	
	comp=Z,15nm,0.5s								
P38A	**Dawn**	**68.06**	**338**	P		P		23 59 54.3	+5.8
P38A				IAmb		IAmb		23 59 55.5	
	comp=Z,4.3nm,0.5s								
214A	**Organ Pipe Nat**	**70.77**	**320**			PcP		00 00 33.4	+8.6
KSCO	**Kaye Shedlock***	**71.04**	**332**			PcP		00 00 35.3	+9.4
WRA	**Warramunga Arr**	**131.30**	**208**	PKP		**PKiKP**		**00 08 04.3**	**+3.7**
	comp=Z,0.4nm,0.8s,baz=154,slow=1.9,SNR=4.7								
MKAR	**Makanchi Array**	**146.88**	**39**	PKPbc		**PKiKP**		**00 08 32.6**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=334,slow=3.7,SNR=1.9								

WEL 10 00:05:36.0±1.1, 38°S±8°×18°0E±°, h33km, M3.3/24, ML3.6/24, MLv3.3/24, Error ellipse: s-maj=0.0km s-min=0.0km az=35.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.96**	**263**	P		Pn		00 05 53.1	-0.1
WMGZ				S		Sb		00 06 06.1	-0.4
MXZ	**Matakaoa Point**	**1.05**	**277**	P		Pn		00 05 53.4	-1.0
MXZ				S		Sn		00 06 05.9	-2.0
PUZ	**Puketiti**	**1.14**	**251**	P		Pn		00 05 56.0	+0.4
PUZ				S		Sn		00 06 10.2	+0.1
PKGZ	**Pakihiroa**	**1.23**	**261**	P		Pn		00 05 56.6	-0.4
PKGZ				S		Sn		00 06 11.3	-1.2
CNGZ	**Carnagh Statio**	**1.36**	**234**	P		Pb		00 06 00.3	-0.6
TWGZ	**Tauwhareparae**	**1.38**	**249**	P		Pn		00 05 59.6	+0.6
TWGZ				S		Sn		00 06 16.5	+0.4
HAZ	**Te Kaha**	**1.46**	**267**	P		Pn		00 05 59.9	-0.1
RUGZ	**Raukumara Rang**	**1.56**	**260**	P		Pn		00 06 01.7	+0.2
TKGZ	**Te Karaka**	**1.58**	**242**	P		Pn		00 06 02.4	+0.7
MWZ	**Matawai**	**1.77**	**248**	P		Pn		00 06 04.3	0.0
RIGZ	**Rimuhau**	**1.77**	**235**	P		Pn		00 06 05.1	+0.7
RAGZ	**Rawiri**	**1.91**	**245**	P		Pn		00 06 06.8	+0.5
URZ	**Urewera**	**2.06**	**253**	P		Pn		00 06 09.0	+0.8
SNGZ	**Shannon Statio**	**2.09**	**238**	P

*IDC **10** 00:40:08.7±2.0, 38°.64N×122°.90W, h0^{km}, mb1 3.5/5, mb1mx3.3/51, mbtmp3.1/5, ML3.1/6, Error ellipse: s-maj=22.8km s-min=8.8km az=56.0*
*NCEDC **10** 00:40:09.3±2.3, 38°.82N±0°.04×122°.81W±0°.06, h4^{km}±6^{km}, Mwr3.4/3, ML2.9/66(NEIC), Error ellipse: s-maj=7.7km s-min=4.0km az=55.0*
*NEIC **10** 00:40:09.5±2.3, 38°.80N±0°.02×122°.83W±0°.04, h3^{km}±2^{km}, Error ellipse: s-maj=4.5km s-min=2.7km az=60.0*
*NEIC **10** 00:40:09.3, 38°.82N×122°.81W, h8^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M$_{rr}$=0.90; M$_{\theta\theta}$=0.68; M$_{\phi\phi}$ 1.57; M$_{r\theta}$=0.98; M$_{r\phi}$0.46; M$_{\theta\phi}$0.03; Fault plane solution: M$_o$1.75000×10^{14} NP1:ϕ_s157.00000°, δ55.22000°, λ-145.55000°. NP2:ϕ_s45.63000°, δ62.31000°, λ-40.11000°. Principal axes: T 1.6749, Plg4.0000°, Azm103.0000°; N 0.1331, Plg43.0000°, Azm197.0000°; P -1.8080, Plg47.0000°, Azm8.0000°:*
ISC 10 00:40:08.3±1.0, 38°.78N±0°.03×122°.81W±0°.03, h4^{km}±9^{km}, n68, σ1^{s}46/69, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.03**	**29**	**Pg**	**Pg**	**00 40 10.1**	**+0.8**
GCRM	**Castle Rock Sp**	**0.08**	**96**		**Pg**	**00 40 11.2**	**+1.2**
GSGM	**Seigler Mounta**	**0.12**	**44**		**Pg**	**00 40 11.8**	**+1.1**
GPMM	**Pine Mountain**	**0.12**	**303**		**Pg**	**00 40 11.8**	**+1.1**
HOPS	**Hopland Field**	**0.29**	**316**	Pg	**Pg**	**00 40 15.1**	**+1.2**
HOPS					**Sg**	**00 40 15.3**	**-2.5**
MNRC	**McLaughlin Min**	**0.31**	**71**		**Pb**	**00 40 15.8**	**-0.5**
FTR	**Fort Ross**	**0.38**	**227**		**Pb**	**00 40 17.8**	**+0.3**
CVS	**Carmenet Viney**	**0.52**	**147**		**Pb**	**00 40 19.9**	**+0.1**
MCCM	**Marconi Confer**	**0.64**	**185**	Pg	**Pn**	**00 40 22.9**	**-1.1**
MCCM				IAML		00 40 41.1	
	comp=E,825nm,1.0s						
GNAM	**Navarro Ridge**	**0.76**	**303**		**Pb**	**00 40 24.5**	**+0.5**
GASB	**Alder Springs**	**0.88**	**5**		**Pn**	**00 40 27.1**	**-0.4**
HERB	**Hercules**	**0.88**	**150**		**Pn**	**00 40 27.0**	**-0.4**
SUTB	**Sutter Butte**	**0.92**	**61**		**Pb**	**00 40 26.5**	**-0.2**
BRK	**Berkeley--Havi**	**1.00**	**154**		**Pn**	**00 40 29.0**	**-0.1**
BL67	**Building 67, L**	**1.01**	**154**		**Pn**	**00 40 28.7**	**-0.5**
BKS	**Berkeley--Byer**	**1.01**	**153**		**Pn**	**00 40 28.8**	**-0.5**
KCPM	**Cahto Peak**	**1.08**	**327**		**Pn**	**00 40 30.6**	**+0.3**
FARB	**Farallon Islan**	**1.09**	**188**		**Pn**	**00 40 30.1**	**-0.1**
BDM	**Black Diamond**	**1.11**	**138**		**Pg**	**00 40 30.0**	**+0.4**
ORV	**Oroville**	**1.28**	**52**		**Pn**	**00 40 31.0**	**-1.9**
ORV	**Oroville**	**1.28**	**52**		**Pn**	**00 40 31.3**	**-1.6**
ORV				IAML		00 40 55.5	
	comp=E,42nm,0.8s						
ORV				IAML		00 41 03.1	
	comp=N,34nm,1.2s						
AFDM	**Forest Hills D**	**1.45**	**83**		**Pn**	**00 40 34.0**	**-1.3**
JRSC	**Jasper Ridge**	**1.45**	**162**		**Pn**	**00 40 35.0**	**-0.2**
KMRM	**Mail Ridge**	**1.60**	**335**		**Pg**	**00 40 38.7**	**-0.2**
KMRM				IAML		00 41 13.8	
	comp=E,231nm,0.9s						
KMRM				IAML		00 41 17.4	
	comp=N,190nm,1.2s						
LCMM	**Colby Mountain**	**1.69**	**36**		**Pn**	**00 40 38.5**	**-0.2**
MHC	**Mount Hamilton**	**1.71**	**147**		**Pn**	**00 40 39.0**	**+0.1**
WDC	**Whiskeytown Da**	**1.81**	**7**		**Pn**	**00 40 40.0**	**-0.2**
GHS	**Gilroy Hot Spr**	**2.00**	**147**		**Pn**	**00 40 42.8**	**-0.1**
CMB	**Columbia Colle**	**2.05**	**111**		**Pn**	**00 40 43.9**	**+0.3**
CMB	**Columbia Colle**	**2.05**	**111**	Pn	**Pn**	**00 40 43.6**	**+0.1**
RUBR	**Rubicon Trail**	**2.09**	**82**		**Pb**	**00 40 45.7**	**-1.2**
PACP	**Pacheco Peak**	**2.14**	**145**		**Pn**	**00 40 44.9**	**+0.1**
BEKR	**Beckworth**	**2.19**	**60**		**Pb**	**00 40 46.7**	**-1.9**
KHMM	**Horse Mountain**	**2.21**	**342**		**Pb**	**00 40 47.3**	**-1.5**
KHMM				IAML		00 41 00.5	
	comp=E,53nm,0.6s						
KHMM				IAML		00 41 51.0	
	comp=N,78nm,1.4s						
HSFM	**Saint Francis**	**2.23**	**152**		**Pn**	**00 40 46.2**	**+0.3**
JCC	**Jacoby Creek,**	**2.24**	**336**	Pn	**Pb**	**00 40 48.4**	**-0.9**
JCC				IAML		00 41 47.3	
	comp=E,64nm,2.0s						
JCC				IAML		00 41 48.9	
	comp=N,47nm,2.2s						
HATC	**Hat Creek Radi**	**2.28**	**27**		**Pb**	**00 40 49.4**	**-0.7**
SAO	**San Andreas Ge**	**2.29**	**151**	Pn	**Pn**	**00 40 46.3**	**-0.5**
SAO					**Pb**	**00 40 46.7**	**-3.4**
VCNR	**Virginia City**	**2.52**	**77**		**Pb**	**00 40 52.0**	**-2.1**
VCNR				IAML		00 41 07.3	
	comp=E,71nm,0.7s						
VCNR				IAML		00 41 50.4	
	comp=N,55nm,1.0s						
PNTR	**Pine Nut**	**2.52**	**82**		**Pb**	**00 40 52.1**	**-2.2**
WAKR	**Walker**	**2.66**	**95**		**Pb**	**00 40 54.4**	**-2.1**
WAKR				IAML		00 41 11.7	
	comp=E,52nm,1.0s						
WAKR				IAML		00 41 32.5	
	comp=N,43nm,0.8s						
YERR	**Yerington**	**2.80**	**85**		**Pn**	**00 40 55.5**	**+1.5**
YERR				IAML		00 41 46.0	
	comp=N,60nm,1.0s						
PAHR	**Pah Rah Range**	**2.82**	**70**		**Pn**	**00 40 55.3**	**+1.1**
PAHR				IAML		00 41 51.3	
	comp=E,30nm,0.9s						
PAHR				IAML		00 41 54.8	
	comp=N,34nm,1.6s						
YBH	**Yreka Blue Hor**	**2.95**	**2**	Pn	**Pb**	**00 40 58.9**	**-2.5**
	comp=N,0.3nm,0.3s,baz=176,slow=9.7,SNR=3.0						
YBH				Pg	**Pg**	**00 41 04.3**	**-0.5**
	comp=N,1.5nm,0.3s,baz=172,slow=6.6,SNR=14						
YBH				Lg	Lg	00 41 45.6	
	comp=N,0.2nm,0.3s,baz=45,slow=4.9,SNR=3.5						
YBH	**Yreka Blue Hor**	**2.95**	**2**		**Pn**	**00 40 57.2**	**+1.3**
PMPB	**Monarch Peak**	**3.02**	**147**		**Pn**	**00 40 57.8**	**+0.9**
PMPB				IAML		00 41 50.3	
	comp=N,48nm,2.2s						
PMPB				IAML		00 42 06.9	
	comp=E,39nm,1.2s						
MDPB	**Devils Postpil**	**3.16**	**110**	Pn	**Pn**	**00 41 00.8**	**+1.9**
MDPB				IAML		00 41 51.9	
	comp=E,37nm,0.6s						
MDPB				IAML		00 41 57.5	
	comp=N,38nm,1.1s						
RYN	**Ryan**	**3.36**	**91**	IAML		00 41 58.5	
	comp=E,36nm,1.3s						
RYN				IAML		00 41 60.0	
	comp=N,24nm,1.2s						
LHV	**Little Huntoon**	**3.42**	**98**		**Pn**	**00 41 04.9**	**+2.6**
NVAR	**Mina Array Bea**	**3.55**	**94**	Pn	**Pn**	**00 41 06.0**	**+1.6**
	comp=N,0.7nm,0.3s,baz=270,slow=15,SNR=20						
NVAR				Pg	**Pb**	**00 41 11.6**	**-0.2**
	comp=N,3.7nm,0.3s,baz=268,slow=18,SNR=50						
NVAR				Lg	Lg	00 42 02.2	
	comp=N,1.1nm,0.3s,baz=218,slow=51,SNR=1.8						
MOD	**Modoc Plateau**	**3.66**	**31**		**Pn**	**00 41 06.2**	**+0.4**
NV11	**Mina Array Sit**	**3.67**	**94**	IAML		00 42 09.2	
	comp=E,28nm,1.8s						
NV11				IAML		00 42 11.1	
	comp=N,22nm,1.9s						
PAGB	**Antelope Grade**	**3.67**	**145**		**Pn**	**00 41 07.3**	**+1.6**
PAGB				IAML		00 41 38.3	
	comp=E,21nm,4.2s						
PAGB				IAML		00 41 56.1	
	comp=N,17nm,2.1s						
KVN	**Kaiserville**	**3.69**	**84**		**Pn**	**00 41 06.9**	**+0.7**
KVN				IAML		00 42 11.2	
	comp=N,14nm,1.6s						
KVN				IAML		00 42 19.0	
	comp=E,13nm,1.2s						
HUMO	**Hull Mountain**	**3.82**	**358**		**Pn**	**00 41 10.9**	**+3.0**
K05A	**Summer Lake**	**4.20**	**20**		**Pn**	**00 41 15.3**	**+2.0**
K05A				IAML		00 41 48.8	
	comp=N,15nm,4.3s						
K05A				IAML		00 43 22.7	
	comp=E,13nm,4.8s						
KEBM	**Edson Butte**	**4.25**	**345**	Pn	**Pn**	**00 41 12.2**	**-1.5**
ISA	**Isabella, Lake**	**4.66**	**131**		**Pn**	**00 41 21.3**	**+1.9**
ISA				IAML		00 42 31.3	
	comp=N,6.4nm,1.6s						
ISA				IAML		00 42 31.6	
	comp=E,11nm,2.1s						
PINE	**Pine Mountain**	**5.20**	**15**	Pn	**Pn**	**00 41 28.6**	**+1.6**
PINE				IAML		00 43 23.5	
	comp=E,11nm,4.5s						
PINE				IAML		00 44 21.1	
	comp=N,8.3nm,5.0s						
TPNV	**Topopah Spring**	**5.51**	**107**	Pn	**Pb**	**00 41 42.9**	**-2.2**
ELK	**Elko**	**6.16**	**69**	Pn	**Pn**	**00 41 43.6**	**+3.5**
	comp=N,0.2nm,0.3s,baz=259,slow=11,SNR=7.0						
ELK	**Elko**	**6.16**	**69**		**Pn**	**00 41 42.9**	**+2.7**
PFO	**Pinyon Flats O**	**7.28**	**133**	Pn	**Pn**	**00 41 56.4**	**+1.0**
	comp=N,0.2nm,0.3s,baz=322,slow=12,SNR=4.5						
XPFO	**Pion Flat**	**7.28**	**133**	Pn	**Pn**	**00 41 56.1**	**+0.6**
DUG	**Dugway, Tooele**	**7.86**	**77**	Pn	**Pn**	**00 42 04.6**	**+1.1**
LON	**Longmire**	**8.00**	**5**	Pn	**Pn**	**00 42 04.7**	**-0.5**
PDAR	**Pinedale Array**	**10.81**	**64**	Pn	Pn	00 42 49.5	+5.5
	comp=N,0.1nm,0.3s,baz=250,slow=10,SNR=5.8						
TXAR	**Lajitas Array**	**18.42**	**115**	P	**Pn**	**00 44 26.6**	**+1.9**
	comp=N,0.0nm,0.3s,baz=302,slow=7.2,SNR=5.4						

*JMA **10** 00:42:54.6±0.1, 41°.23N×140°.40E, h166^{km}±1^{km}, M2.9*
*IDC **10** 00:42:55.6±4.3, 41°.12N×140°.24E, h186^{km}±41^{km}, mb3.0/7, mb1 3.2/8, mb1mx2.9/50, mbtmp3.5/8, Error ellipse: s-maj=30.6km s-min=22.5km az=149.0*
ISC 10 00:42:54.1±0.8, 41°.20N±0°.05×140°.39E±0°.07, h170^{km}±5^{km}, n22, σ0^{s}72/33, mb3.2/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.14**	**172**	P	**Pn**	**00 43 16.9**	**+0.2**
JSI2				S	**Sn**	**00 43 33.9**	**-0.1**
JSR	**Shiriuchi**	**0.33**	**4**	P	**Pn**	**00 43 17.1**	**0.0**
JSR				S	**Sn**	**00 43 33.9**	**-0.9**
JOMM	**Oshimamatsumae**	**0.43**	**319**	P	**Pn**	**00 43 18.0**	**+0.6**
JOMM				eS	**Sn**	**00 43 35.4**	**0.0**
JHHS	**Hirosakihyakuz**	**0.55**	**182**	P	**Pn**	**00 43 18.8**	**+0.8**
JHHS				S	**Sn**	**00 43 37.2**	**+1.0**
JTM	**Tenmabayashi**	**0.66**	**128**	P	**Pn**	**00 43 18.8**	**+0.3**
JTM				eS	**Sn**	**00 43 37.3**	**+0.1**
JIW	**Iwasaki**	**0.67**	**206**	P	**Pn**	**00 43 19.1**	**+0.5**
JYM2	**Yakumo 2**	**0.92**	**359**	P	**Pn**	**00 43 20.4**	**+0.3**
JYM2				S	**Sn**	**00 43 40.2**	**-0.1**
JAH	**Hinai**	**1.03**	**169**	P	**Pn**	**00 43 21.5**	**+0.5**
JAH				S	**Sn**	**00 43 42.2**	**+0.5**
JOSM	**Okushiri--Mats**	**1.12**	**323**	P	**Pn**	**00 43 21.5**	**-0.2**
JOSM				S	**Sn**	**00 43 41.8**	**-1.2**
JANG	**Nango**	**1.19**	**133**	P	**Pn**	**00 43 22.3**	**-0.1**
JANG				S	**Sn**	**00 43 43.4**	**-0.7**
JOM	**Ohasama**	**1.86**	**158**	P	**Pn**	**00 43 29.1**	**+0.2**
JOM				S	**Sn**	**00 43 55.2**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.08**	**58**	P	**Pn**	**00 43 31.7**	**+0.5**
JNBK				S	**Sn**	**00 43 59.9**	**-0.2**
JYK	**Kaneyama**	**2.28**	**181**	S	**Sn**	**00 44 04.1**	**-0.1**
JMK	**Ichinoseki**	**2.33**	**164**	P	**Pn**	**00 43 34.2**	**-0.1**
USRK	**Ussuriysk Ar.**	**6.87**	**299**	P	**Pn**	**00 44 33.4**	**+1.0**
	baz=101,slow=12,SNR=8.9						
SONM	**Songino Array**	**24.98**	**297**	P	**P**	**00 47 59.7**	**-2.3**
	0.2nm,0.5s,baz=99,slow=8.9,SNR=1.7						
ZALV	**Zalesovo Beam**	**38.60**	**309**	P	**P**	**00 50 00.7**	**+0.4**
	0.3nm,0.4s,baz=88,slow=7.5,SNR=2.7						
MKAR	**Makanchi Array**	**41.34**	**298**	P	**P**	**00 50 23.4**	**+0.4**
	0.4nm,0.7s,baz=88,slow=8.9,SNR=3.5						
ILAR	**Eielson Array**	**46.46**	**34**	P	**P**	**00 51 04.5**	**+1.0**
	0.6nm,0.6s,baz=275,slow=6.8,SNR=7.9						
INK	**Inuvik**	**51.08**	**28**	P	**P**	**00 51 39.4**	**+0.9**
	0.9nm,0.5s,baz=288,slow=3.9,SNR=5.1						
WRA	**Warramunga Arr**	**61.09**	**186**	P	**P**	**00 52 49.4**	**-0.6**
	0.2nm,0.5s,baz=3.6,slow=7.0,SNR=1.9						
PDAR	**Pinedale Array**	**75.33**	**46**	P	**P**	**00 54 18.8**	**0.0**
	0.1nm,0.4s,baz=318,slow=2.4,SNR=3.8						

*IDC **10** 00:48:55.6±43.0, 9°.25S×109°.19E, h0^{km}, mb3.8/3, mb1 3.8/3, mb1mx3.5/35, mbtmp3.8/3, Error ellipse: s-maj=940.6km s-min=193.2km az=160.0*
*NEIC **10** 00:49:14.8±1.7, 8°.51S±0°.06×109°.13E±0°.06, h119^{km}±4^{km}, mb4.2/2, Error ellipse: s-maj=9.3km s-min=7.8km az=161.0*
*DJA **10** 00:49:16.1±0.7, 9°.S±9'×10°9E±', h51^{km}±41^{km}, M3.8/7, MLv3.8/7*
ISC 10 00:49:13.1±0.9, 8°.61S±0°.07×109°.12E±0°.04, h100^{km}, n16, σ1^{s}62/19, mb3.9/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.55**	**63**	Pn	**Pn**	**00 49 41.5**	**+1.4**
UGM				Sn	**Sn**	**00 50 00.3**	**-0.2**
UGM	**Wanagama**	**1.55**	**63**	P	**Pn**	**00 49 41.4**	**+1.4**
UGM				S	**Sn**	**00 50 00.3**	**-0.2**
CISI	**Cisompet, Garu**	**1.67**	**309**		**Pn**	**00 49 43.6**	**+2.1**
CISI				Sn	**Sn**	**00 50 04.3**	**+1.1**
CISI	**Cisompet, Garu**	**1.67**	**309**	P	**Pn**	**00 49 43.0**	**+1.5**
SMRI	**Semarang**	**2.03**	**40**	Pn	**Pn**	**00 49 47.9**	**+1.8**
SMRI				Sn	**Sn**	**00 50 10.5**	**-0.8**
SMRI	**Semarang**	**2.03**	**40**	P	**Pn**	**00 49 48.0**	**+1.8**
XMIS	**Christmas Isla**	**3.90**	**241**	Pn	**Pn**	**00 50 13.7**	**+2.8**
XMIS				Sn	**Sn**	**00 50 54.2**	**-1.5**
JAGI	**Jajag, Banyuwa**	**4.98**	**89**	Pn	**Pn**	**00 50 28.4**	**+2.8**
JAGI				Sn	**Sn**	**00 51 22.6**	**+0.6**
GIRL	**Giralia**	**14.79**	**161**	Pn	**P**	**00 52 39.3**	**-1.3**
H08S2	**Diego Garcia H**	**36.27**	**269**	T	T	01 34 47.7	
	baz=94						
H08S3	**Diego Garcia H**	**36.28**	**269**	T	T	01 34 48.8	
	baz=94						
H08S1	**Diego Garcia H**	**36.28**	**269**	T	T	01 34 37.7	
	baz=94						
SONM	**Songino Array**	**56.25**	**358**	P	**P**	**00 58 42.3**	**-0.8**
	0.3nm,0.5s,baz=179,slow=8.8,SNR=4.9						
MK31	**Makanchi Array**	**60.12**	**339**	P	**P**	**00 59 09.4**	**-0.6**
MK31				IAmb	IAmb	01 01 20.2	
	comp=Z,3.5nm,1.6s						
MKAR	**Makanchi Array**	**60.12**	**339**	P	**P**	**00 59 09.1**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=152,slow=7.4,SNR=15						
ZALV	**Zalesovo Beam**	**65.62**	**345**	P	**P**	**00 59 45.3**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=153,slow=7.1,SNR=5.6						

*NEIC **10** 00:59:11.7±1.3, 6°.15S±0°.06×107°.89E±0°.08, h285^{km}±8^{km}, mb4.0/15, Error ellipse: s-maj=13.6km s-min=3.5km az=52.0*
*DJA **10** 00:59:12.1±0.5, 6°.S±5'×10°8E±', h296^{km}±8^{km}, M4.2/15, mb4.2/5, mB5.3/2, MLv4.2/15, Mw(mB)4.8/2*
*IDC **10** 00:59:12.7±0.5, 6°.12S×108°.01E, h288^{km}±8^{km}, mb3.4/12, mb1 3.5/12, mb1mx3.3/39, mbtmp4.1/12, Error ellipse: s-maj=34.9km s-min=9.2km az=57.0*
ISC 10 00:59:13.0±0.5, 6°.22S±0°.06×107°.93E±0°.06, h300^{km}, n51, σ1^{s}29/54, mb3.7/18, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJI	**Jatiwangi**	**0.43**	**128**	P	**Pn**	**00 59 50.8**	**-0.7**
LEM	**Lembang**	**0.68**	**207**	P	**Pn**	**00 59 51.2**	**-1.2**
	14nm,0.3s,baz=323,slow=20,SNR=19						
LEM				S	**S**	**01 00 21.9**	**-1.7**
	23nm,0.3s,baz=301,slow=18,SNR=5.0						
CBJI	**Citeko**	**1.09**	**260**	P	**Pn**	**00 59 52.6**	**-1.2**
DBJI	**Dramaga**	**1.22**	**254**	P	**Pn**	**00 59 54.0**	**-0.5**
CISI	**Cisompet, Garu**	**1.33**	**185**		**Pn**	**00 59 52.8**	**-2.4**
CISI				S	**S**	**01 00 25.3**	**-3.5**
CISI	**Cisompet, Garu**	**1.33**	**185**	P	**Pn**	**00 59 52.8**	**-2.4**
SMRI	**Semarang**	**2.63**	**108**	Pn	**Pn**	**01 00 04.0**	**-1.2**
SMRI	**Semarang**	**2.63**	**108**	P	**Pn**	**01 00 04.1**	**-1.2**
UGM	**Wanagama**	**3.08**	**123**	Pn	**Pn**	**01 00 07.8**	**-1.9**
UGM	**Wanagama**	**3.08**	**123**	P	**Pn**	**01 00 07.7**	**-1.9**
TPI	**Tanjungpandan**	**3.45**	**355**	P	**Pn**	**01 00 12.1**	**-1.4**
KASI	**Kota Agung**	**3.48**	**281**	P	**Pn**	**01 00 13.7**	**0.0**
KLSI		**3.53**	**295**	P	**Pn**	**01 00 14.0**	**-0.2**
PPBI	**Pangkal Pinang**	**4.41**	**336**	P	**Pn**	**01 00 24.0**	**+0.1**
PMBI	**Palembang**	**4.54**	**316**	Pn	**Pn**	**01 00 23.9**	**-1.4**
XMIS	**Christmas Isla**	**4.79**	**208**	Pn	**Pn**	**01 00 26.4**	**-1.8**
MNAI	**Manna**	**5.28**	**290**	Pn	**Pn**	**01 00 33.6**	**-0.3**
MNAI	**Manna**	**5.28**	**290**	P	**Pn**	**01 00 33.6**	**-0.3**
	2.0nm157nm,2.5s						
JAGI	**Jajag, Banyuwa**	**6.57**	**110**	Pn	**Pn**	**01 00 46.3**	**-2.9**
JAGI	**Jajag, Banyuwa**	**6.57**	**110**	P	**Pn**	**01 00 47.4**	**-1.8**
	0.3nm1µm26nm,0.8s						
GSI	**Gunungsitoli**	**12.76**	**306**		**Pn**	**01 02 03.1**	**-1.7**
KULM	**Kulim**	**13.55**	**327**		**Pn**	**01 02 13.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.93**	**126**	P	**P**	**01 03 34.3**	**+0.9**
	0.9nm,0.5s,baz=309,slow=9.4,SNR=8.0						
FITZ	**Fitzroy Crossi**	**20.93**	**126**	P	**P**	**01 03 33.8**	**+0.4**
FITZ				IAmb	IAmb	01 03 53.3	
	comp=Z,7.1nm,1.3s						
MORW	**Morawa**	**23.98**	**162**	P	**P**	**01 04 02.8**	**+1.7**
MORW				IAmb	IAmb	01 04 22.1	
	comp=Z,12nm,1.5s						
CMAR	**Chiang Mai Arr**	**26.07**	**340**	P	**P**	**01 04 20.7**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=178,slow=8.7,SNR=14						
WB0	**Warramunga Arr**	**29.03**	**120**	P	**P**	**01 04 46.8**	**+0.6**
WB0				IAmb	IAmb	01 05 05.9	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**29.05**	**120**	P	**P**	**01 04 47.1**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=318,slow=10,SNR=17						
WRA				PcP	**PcP**	**01 07 47.1**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=314,slow=2.3,SNR=2.1						
WB2	**Warramunga Arr**	**29.06**	**120**	P	**P**	**01 04 46.7**	**+0.2**
WB2				IAmb	IAmb	01 05 01.6	
	comp=Z,2.7nm,1.0s						
WR0	**Warramunga Arr**	**29.23**	**120**	P	**P**	**01 04 48.8**	**+0.9**
WR0				IAmb	IAmb	01 04 49.3	
	comp=Z,4.1nm,0.9s						
ASAR	**Alice Springs**	**30.41**	**127**	P	**P**	**01 04 59.3**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=304,slow=8.3,SNR=26						
ASAR				S	**S**	**01 09 36.5**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=296,slow=15,SNR=5.2						
ASAR	**Alice Springs**	**30.41**	**127**	P	**P**	**01 04 59.1**	**+0.8**
TWG	**Pinlang**	**31.60**	**24**	P	**P**	**01 05 07.8**	**-0.8**
XAN	**Xi'an**	**40.05**	**1**	P	**P**	**01 06 19.8**	**-0.1**
XAN				IAmb	IAmb	01 06 20.8	
	comp=Z,4.1nm,0.8s						
STKA	**Stephens Creek**	**40.49**	**133**	P	**P**	**01 06 24.9**	**+1.4**
	comp=Z,3.2nm,0.7s,baz=291,slow=8.1,SNR=7.4						
STKA	**Stephens Creek**	**40.49**	**133**	P	**P**	**01 06 24.7**	**+1.3**
AIS	**Amsterdam Isla**	**41.82**	**217**	P	**P**	**01 06 34.5**	**+0.5**
SONM	**Songino Array**	**53.84**	**359**	P	**P**	**01 08 06.3**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=178,slow=9.2,SNR=8.8						
SONM	**Songino Array**	**53.84**	**359**	IAmb	IAmb	01 08 07.1	
	comp=Z,1.1nm,1.0s						
ULN	**Ulaanbaatar**	**53.86**	**359**	P	**P**	**01 08 05.8**	**-0.1**
ULN				IAmb	IAmb	01 08 07.2	
	comp=Z,3.4nm,1.0s						
USRK	**Ussuriysk Ar.**	**54.68**	**21**	P	**P**	**01 08 11.6**	**0.0**
	comp=Z,0.8nm,0.4s,baz=193,slow=5.9,SNR=5.1						
USRK	**Ussuriysk Ar.**	**54.68**	**21**	P	**P**	**01 08 11.3**	**-0.3**
SOCY	**Socotra**	**56.66**	**289**	P	**P**	**01 08 26.0**	**-0.3**
SOCY				IAmb	IAmb	01 08 36.1	
	comp=Z,17nm,1.3s						
MK31	**Makanchi Array**	**57.48**	**339**	P	**P**	**01 08 30.7**	**-0.6**
MKAR	**Makanchi Array**	**57.48**	**339**	P	**P**	**01 08 30.8**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=155,slow=7.9,SNR=43						
MKAR	**Makanchi Array**	**57.48**	**339**	P	**P**	**01 08 30.3**	**-1.0**
MAKZ	**Makanchi**	**57.60**	**339**	P	**P**	**01 08 31.1**	**-1.0**
KLR	**Kul'dur**	**59.01**	**18**	P	**P**	**01 08 41.2**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=211,slow=5.9						
ZALV	**Zalesovo Beam**	**63.02**	**345**	P	**P**	**01 09 07.5**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=153,slow=6.6,SNR=3.2						
VNDA	**Vanda**	**76.56**	**170**	P	**P**	**01 10 32.1**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=316,slow=4.6,SNR=1.7						
FINES	**FINESS Array B**	**91.53**	**332**	P	**P**	**01 11 46.5**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=34,slow=7.1,SNR=4.1						

*IDC **10** 01:00:50.3±1.6, 50°.57N×173°.39W, h0^{km}, mb4.0/12, mb1 4.3/14, mb1mx4.0/48, mbtmp4.0/14, ML3.5/2, Error ellipse: s-maj=43.3km s-min=17.7km az=11.0*
*NEIC **10** 01:00:54.7±1.5, 50°.70N±0°.04×173°.31W±0°.07, h24^{km}±5^{km}, mb4.2/80, ML3.6(AEIC), Error ellipse: s-maj=7.1km s-min=4.8km az=57.0*
*AEIC **10** 01:00:54±1.6, 50°.58N±0°.07×173°.39W±0°.07, h20^{km}±1^{km}, Error ellipse: s-maj=11.4km s-min=7.9km az=182.0*
ISC 10 01:00:53.7±4.2, 50°.70N±0°.07×173°.31W±0°.04, h17^{km}±26^{km}, n138, σ0^{s}96/146, mb4.2/37, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.61**	**340**	Pn	**Pn**	**01 01 21.3**	**0.0**
ATKA				Sn	**Sn**	**01 01 42.7**	**+1.1**
ATKA	**Atka Island**	**1.61**	**340**		**Sb**	**01 01 43.3**	**+0.4**
KOFP	**Korovin Flat P**	**1.66**	**343**		**Pn**	**01 01 22.3**	**+0.2**
KOFP					**Sb**	**01 01 45.8**	**+1.5**
KOKL	**Mount Kliuchef**	**1.72**	**341**		**Pn**	**01 01 23.4**	**+0.5**
KOKL					**Sb**	**01 01 46.2**	**0.0**
GSMY	**Great Sitkin M**	**2.19**	**309**		**Pn**	**01 01 29.3**	**0.0**
GSMY					**Sn**	**01 01 55.5**	**-0.5**
GSTR	**Great Sitkin T**	**2.22**	**310**	Pn	**Pn**

TGL	Tana Glacier	19.71	48	P	P	01 05 22.8	+0.6
ILAR	Eielson Array	19.72	34	P	P	01 05 21.7	-0.5
	comp=Z,0.8nm,0.3s,baz=233,slow=9.3,SNR=11						
ILAR	Eielson Array	19.72	34	P	P	01 05 22.1	0.0
MCARA	McCarthy VSAT	19.82	46	P	Pn	01 05 25.1	+0.3
MCARA				IAmb	IAmb	01 05 34.5	
	comp=Z,15nm,0.9s						
YAH	Yahtse	20.12	49	P	Pn	01 05 29.3	+0.7
YAH				IAmb	IAmb	01 05 33.1	
	comp=Z,25nm,1.2s						
DOT	Dot Lake	20.24	39	P	P	01 05 28.2	+0.4
DOT				IAmb	IAmb	01 05 34.4	
	comp=Z,12nm,1.0s						
CTGM	Chitina Glacie	20.47	48	P	P	01 05 31.1	+0.6
PCA	Pinnacle	20.78	50	P	Pn	01 05 35.6	-0.6
BCAR	Beaver Creek A	20.95	42	P	P	01 05 36.0	+0.5
K27K	Chicken	21.20	39	P	P	01 05 38.4	+0.3
K27K				IAmb	IAmb	01 05 44.3	
	comp=Z,13nm,1.1s						
FYU	Fort Yukon	21.29	31	P	P	01 05 40.9	+1.8
FYU				IAmb	IAmb	01 05 44.4	
	comp=Z,8.2nm,0.7s						
TOLK	Toolik Lake Re	21.36	24	P	P	01 05 40.3	+0.5
TOLK				IAmb	IAmb	01 05 41.5	
	comp=Z,9.7nm,0.9s						
EGAK	Eagle	21.88	38	P	P	01 05 45.9	+0.5
EGAK				IAmb	IAmb	01 05 47.1	
	comp=Z,6.9nm,0.6s						
A21K	Barrow	22.05	14	P	P	01 05 47.1	-0.1
A21K				IAmb	IAmb	01 05 47.6	
	comp=Z,7.7nm,0.8s						
DAWY	Dawson	22.31	40	P	P	01 05 50.8	+0.7
DAWY				IAmb	IAmb	01 05 54.2	
	comp=Z,10nm,1.1s						
CRAG	Craig	24.35	63	P	P	01 06 11.1	+0.7
DLBC	Dease Lake	25.86	56	P	P	01 06 26.8	+2.6
	comp=Z,2.9nm,0.8s,baz=253,slow=11,SNR=4.2						
INK	Inuvik	26.09	33	P	P	01 06 26.6	+0.5
	comp=Z,2.7nm,0.6s,baz=226,slow=7.7,SNR=7.1						
INK	Inuvik	26.09	33	P	P	01 06 26.2	+0.1
NLWA	Neilton Lookou	32.09	76	P	P	01 07 19.8	+0.1
YKA	Yellowknife Ar	33.19	46	P	P	01 07 30.1	+1.0
	comp=Z,3.6nm,1.1s,baz=269,slow=7.5,SNR=20						
LON	Longmire	33.64	76	P	P	01 07 34.4	+1.1
LON				IAmb	IAmb	01 07 35.1	
	comp=Z,2.2nm,0.8s						
HUH	Hualalai	33.90	150	P	P	01 07 37.1	+1.1
KHLU	Kahalu`u	33.97	150	P	P	01 07 38.0	+1.6
B08A	Colville Reser	34.47	72	P	P	01 07 40.4	0.0
B08A				IAmb	IAmb	01 07 56.2	
	comp=Z,3.5nm,1.1s						
NEW	Newport	35.84	71	P	P	01 07 52.2	-0.1
	comp=Z,1.5nm,0.8s,baz=269,slow=7.6,SNR=4.5						
NEW	Newport	35.84	71	P	P	01 07 52.5	+0.3
NEW				IAmb	IAmb	01 07 53.0	
	comp=Z,1.8nm,0.8s						
K05A	Summer Lake	36.15	82	P	P	01 07 54.9	-0.2
K05A				IAmb	IAmb	01 07 57.0	
	comp=Z,5.4nm,1.0s						
I07A	Izee	36.33	79	P	P	01 07 56.8	+0.3
I07A				IAmb	IAmb	01 07 57.6	
	comp=Z,2.8nm,0.7s						
WVOR	Wild Horse Val	37.72	81	P	P	01 08 08.3	-0.1
WVOR				IAmb	IAmb	01 08 09.8	
	comp=Z,2.5nm,0.8s						
PNTR	Pine Nut	38.96	86	P	P	01 08 18.6	-0.4
PNTR				IAmb	IAmb	01 08 25.5	
	comp=Z,3.8nm,0.8s						
WAKR	Walker	39.41	87	P	P	01 08 22.4	-0.3
RYN	Ryan	39.91	86	P	P	01 08 26.1	-0.8
MCMT	McKenzie Canyo	40.06	74	P	P	01 08 28.2	+0.1
NVAR	Mina Array Bea	40.17	86	P	P	01 08 29.3	+0.2
	comp=Z,1.0nm,0.8s,baz=291,slow=7.9,SNR=7.3						
NVAR	Mina Array Bea	40.17	86	P	P	01 08 28.7	-0.4
EGMT	Eagleton	40.35	68	P	P	01 08 30.2	-0.1
EGMT				IAmb	IAmb	01 08 31.8	
	comp=Z,4.5nm,1.1s						
ELK	Elko	40.77	81	P	P	01 08 33.9	-0.1
YHH	Holmes Hill	41.30	73	P	P	01 08 38.6	+0.1
FFC	Flin Flon	41.70	56	P	P	01 08 41.2	0.0
SPUT	South Promonto	42.20	78	P	P	01 08 45.8	+0.1
TPNV	Topopah Spring	42.36	86	P	P	01 08 46.8	-0.2
TPNV				IAmb	IAmb	01 08 47.9	
	comp=Z,3.2nm,0.7s						
PRN	Pahroc Range	42.84	85	P	P	01 08 51.3	+0.4
PRN				IAmb	IAmb	01 08 52.0	
	comp=Z,5.6nm,0.7s						
PSUT	Pine Spring	42.92	83	P	P	01 08 51.3	-0.3
GSC	Goldstone, Bar	43.03	89	P	P	01 08 50.7	-1.6
GSC				IAmb	IAmb	01 08 53.2	
	comp=Z,3.0nm,0.8s						
BW06	Boulder Array	43.18	75	P	P	01 08 53.2	-0.5
PD31	Pinedale Array	43.18	75	P	P	01 08 53.3	-0.4
PDAR	Pinedale Array	43.18	75	P	P	01 08 53.3	-0.4
	comp=Z,2.1nm,0.8s,baz=308,slow=3.7,SNR=17						
PDAR	Pinedale Array	43.18	75	P	P	01 08 53.6	-0.1
NLU	North Lily Min	43.21	80	P	P	01 08 54.2	+0.3
CCUT	Cedar City	43.82	83	P	P	01 08 59.4	+0.4
FCC	Fort Churchill	43.90	48	P	P	01 08 59.7	+0.8
FCC				IAmb	IAmb	01 09 00.3	
	comp=Z,4.0nm,0.8s						
MSU	Marysvale	43.99	82	P	P	01 09 00.8	+0.5
RDMU	Red Mountain	44.41	77	P	P	01 09 03.4	-0.3
RDMU				IAmb	IAmb	01 09 04.5	
	comp=Z,5.0nm,0.8s						
KNB	Kanab	44.49	84	P	P	01 09 05.1	+0.9
KNB				IAmb	IAmb	01 09 05.3	
	comp=Z,2.1nm,0.7s						
SRU	San Rafael Swe	44.67	80	P	P	01 09 05.5	-0.2
SRU				IAmb	IAmb	01 09 06.9	
	comp=Z,3.5nm,0.7s						
CBX	Cerro Bola	45.04	92	P	P	01 09 09.0	+0.4
U15A	North Rim	45.19	84	P	P	01 09 09.4	-0.5
U15A				IAmb	IAmb	01 09 11.0	
	comp=Z,4.2nm,0.9s						
PV13	Radium Mtn., P	46.31	80	P	P	01 09 18.5	-0.2
PV02	Paradox Valley	46.33	80	P	P	01 09 18.1	-0.8
WUAZ	Wupatki	46.34	84	P	P	01 09 18.9	0.0
WUAZ				IAmb	IAmb	01 09 19.6	
	comp=Z,3.1nm,0.8s						
PV01	Paradox Valley	46.48	80	P	P	01 09 19.7	-0.4
SPX	San Pedro Mart	46.65	92	P	P	01 09 21.1	-0.4
SPX				IAmb	IAmb	01 09 24.1	
	comp=Z,5.3nm,1.2s						
ULM	Lac du Bonnet	47.12	59	P	P	01 09 23.8	-0.8
	comp=Z,1.3nm,0.5s,baz=246,slow=9.4,SNR=3.3						
SONM	Songino Array	50.02	300	P	P	01 09 46.4	-0.8
	comp=Z,0.3nm,0.6s,baz=46,slow=9.0,SNR=2.9						
SONM	Songino Array	50.02	300	P	P	01 09 46.5	-0.6
TXAR	Lajitas Array	55.30	85	P	P	01 10 25.5	-0.8
	comp=Z,1.1nm,0.6s,baz=298,slow=5.7,SNR=13						
TXAR	Lajitas Array	55.30	85	P	P	01 10 25.2	-1.1
FVM	French Village	57.64	68	P	P	01 10 42.1	-0.7
ARCES	ARCESS Array B	59.29	352	P	P	01 10 53.9	0.0
	comp=Z,5.7nm,1.0s,baz=35,slow=6.5,SNR=5.0						
ARCES	ARCESS Array B	59.29	352	P	P	01 10 54.1	+0.3
MKAR	Makanchi Array	63.12	312	P	P	01 11 19.7	-0.5
	comp=Z,0.5nm,0.8s,baz=55,slow=6.3,SNR=6.1						
ARU	Arti	64.94	331	P	P	01 11 33.0	+1.1
NOA	NORSAR Array B	68.56	358	P	P	01 11 55.3	+0.3
	comp=Z,2.2nm,0.9s,baz=1.1,slow=6.5,SNR=3.4						
ABKAR	Akbulak array	70.51	326	P	P	01 12 07.5	+0.5
ABKAR				IAmb	IAmb	01 12 09.5	
	comp=Z,1.9nm,0.7s						
ABKAR	Akbulak array	70.51	326	P	P	01 12 07.6	+0.5
AKASG	Malin Array Be	77.17	346	P	P	01 12 46.2	+0.1
	comp=Z,1.7nm,0.6s,baz=17,slow=5.8,SNR=4.8						

*TAP **10** 01:02:34.6,24.2°N×122.2°81E,h48km±1km,ML2.7,D*
*JMA **10** 01:02:34.8±0.1,24.3°34N×122.2°73E,h82km±2km,M2.2*
ISC 10 01:02:35.2±1.6,24.3°5N±0.1°06×122.2°74E±0.1°03,h78km±13km, n38,σ0°62/62,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.27	66	P	Pn	01 02 47.3	+0.2
YOJ				S	Sn	01 02 56.3	+0.5
TWC	Suao	0.85	288	S	Sn	01 03 04.3	-0.8
	baz=288						
IRIF	Iriomote-Funau	0.91	91	S	Sn	01 03 06.6	+0.4
ENA	Nanau	0.91	275	eP	Pn	01 02 52.7	-0.3
	baz=276						
ENA				eS	Sn	01 03 06.0	-0.4
	baz=276						
NTC	Toucheng	0.97	301	eS	Sn	01 03 06.6	-1.0
	baz=300						
NDS	Dongshan	0.97	287	S	Sn	01 03 07.3	-0.3
	baz=287						
HATJ	Hateruma jima	1.02	106	S	Sn	01 03 09.6	+1.0
TIPB	Shuangxi	1.03	307	eP	Pn	01 02 54.0	-0.6
	baz=306						
TIPB				eS	Sn	01 03 08.9	-0.1
	baz=306						
NACB	Ninganchiao	1.06	261	i P	Pn	01 02 54.5	-0.3
	baz=262						
NACB				S	Sn	01 03 09.2	-0.3
	baz=262						
TWD	Chiawan	1.08	256	S	Sn	01 03 09.6	-0.3
	baz=257						
ENTT	Nioudou	1.11	285	eP	Pn	01 02 55.9	+0.4
	baz=285						
ENTT				eS	Sn	01 03 10.9	+0.3
	baz=285						
NDT	Datong Townshi	1.14	283	eP	Pn	01 02 57.0	+1.1
	baz=283						
NDT				S	Sn	01 03 11.6	+0.2
	baz=283						
ETLH	Xiulin Townshi	1.16	263	P	Pn	01 02 56.0	-0.2
	baz=264						
ETLH				S	Sn	01 03 11.2	-0.6
	baz=264						
JKRS	Kuro-shima	1.17	95	P	Pn	01 02 56.6	+0.5
JKRS				eS	Sn	01 03 12.6	+0.8
NWLT	Wulai	1.20	291	eP	Pn	01 02 56.6	0.0
	baz=290						
NWLT				S	Sn	01 03 12.4	-0.3
	baz=290						
NNSB	Datong	1.24	274	P	Pn	01 02 57.1	0.0
	baz=274						
NNSB				eS	Sn	01 03 14.6	+0.9
	baz=274						
YHNB	Yeheng	1.28	285	P	Pn	01 02 57.8	+0.1
	baz=284						
YHNB				S	Sn	01 03 15.0	+0.4
	baz=284						
JIJ	Ishigaki jima	1.28	89	P	Pn	01 02 57.5	-0.1
JIJ				S	Sn	01 03 13.6	-0.9
NSK	Sanguang	1.30	285	eP	Pn	01 02 58.1	+0.2
	baz=285						
NSK				eS	Sn	01 03 14.7	-0.3
	baz=285						
ESL	Shilin	1.31	246	eS	Sn	01 03 14.5	-0.5
	baz=247						
WHF	Hehuan Shan	1.36	262	P	Pn	01 02 58.9	-0.2
	baz=262						
WHF				S	Sn	01 03 16.5	-0.4
	baz=262						
FUSS	Fushou	1.37	266	eP	Pn	01 02 58.9	0.0
	baz=267						
FUSS				S	Sn	01 03 16.4	-0.4
	baz=267						
TDCB	Techi	1.44	266	P	Pn	01 03 00.2	+0.3
	baz=267						
TDCB				S	Sn	01 03 18.2	-0.2
	baz=267						
JISG	Ishigakijimahi	1.45	80	P	Pn	01 02 59.6	-0.2
JISG				eS	Sn	01 03 17.5	-0.9
CHGB	Renai	1.46	259	eP	Pn	01 03 00.2	+0.1
	baz=260						
CHGB				eS	Sn	01 03 18.6	-0.3
	baz=260						
HGSD	Ruisui	1.48	235	i P	Pn	01 02 60.0	-0.1
	baz=236						
HGSD				S	Sn	01 03 18.8	-0.1
	baz=236						
EHY	Hungye	1.54	237	P	Pn	01 03 00.8	-0.3
	baz=238						
EHY				S	Sn	01 03 19.3	-1.2
	baz=238						
VWDT	VWDT	1.57	248	P	Pn	01 03 01.9	+0.5
	baz=249						
VWDT				S	Sn	01 03 21.6	+0.3
	baz=249						
YULB	Yu-li	1.63	234	i P	Pn	01 03 02.0	-0.1
	baz=236						
YULB				S	Sn	01 03 22.1	-0.4
	baz=236						
WHP	Taichung City	1.64	268	P	Pn	01 03 03.5	+1.2
	baz=268						
WHP				S	Sn	01 03 23.5	+0.7
	baz=268						
TWF1	Yuli	1.65	233	eS	Sn	01 03 23.3	+0.2
	baz=234						
SSLB	Suanglung	1.72	251	eP	Pn	01 03 04.9	+1.5
	baz=252						
SSLB				eS	Sn	01 03 24.4	-0.4
	baz=252						
SMLT	Sun Moon Lake	1.74	255	eS	Sn	01 03 27.4	+2.0
	baz=255						
FULB	Fuli	1.75	229	eS	Sn	01 03 25.3	-0.1
	baz=231						
TYC	Yuchr	1.77	256	eS	Sn	01 03 26.1	+0.1
	baz=256						
JTJ	Tarama	1.81	80	eS	Sn	01 03 26.1	-0.7
EDH	Donghe	1.90	224	S	Sn	01 03 27.9	-1.0
	baz=225						
LDUT	Ludao	2.04	215	eS	Sn	01 03 31.4	-0.8
	baz=216						

*IDC **10** 01:07:54.2±1.1,1.7°9N×30.7°79W,h0km,mb3.8/9, mb1 4.1/10,mb1mx3.8/39,mbtmp3.8/10,ML3.9/1,MS3.5/11, Ms1 3.5/11,ms1mx3.3/31,Error ellipse: s-maj=37.5km s-min=20.4km az=139.0*
*NEIC **10** 01:07:56±1.0,1.7°N±0.2°×30.8°4W±0.0°6,h15km±4km, mb4.7/25,Error ellipse: s-maj=23.9km s-min=4.0km az=159.0*
ISC 10 01:07:54.8±0.7,1.6°N±0.1°×30.7°W±0.1°,h10km,n51, σ0°82/39,mb4.5/19,MS3.5/10,2D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	9.04	215	Pn	Pn	01 10 06.7	+1.2
	1.1nm,0.3s,baz=311,slow=11,SNR=5.7						
RCBR				Sn	Sn	01 11 38.0	-9.5
	0.6nm,0.3s,baz=348,slow=9.3,SNR=1.9						
RCBR				LR	LR	01 12 57.5	
	comp=Z,238nm,18.7s,baz=316,slow=33						
RCBR	Riachuelo	9.04	215		Pn	01 10 06.1	+0.6
H10N3	ASCENSION HYDR	18.71	120	T	T	01 31 21.7	
	baz=299,slow=75,SNR=70						
H10N2	ASCENSION HYDR	18.72	120	T	T	01 31 22.2	
	baz=299,slow=75,SNR=127						
H10N1	ASCENSION HYDR	18.73	120	T	T	01 31 23.3	
	baz=299,slow=75,SNR=114						
H10S3	ASCENSION HYDR	19.14	124	T	T	01 31 52.3	
	baz=299,slow=74,SNR=80						
H10S2	ASCENSION HYDR	19.16	124	T	T	01 31 52.7	
	baz=281,slow=74,SNR=24						
MDP	Montagnes des	22.15	279	LR	LR	01 19 40.2	
	comp=Z,61nm,20.0s,baz=52,slow=32						
BDFB	Brasilia	24.23	224	P	P	01 13 13.6	+1.4
	2.6nm,0.8s,baz=88,slow=13,SNR=3.8						
BDFB				LR	LR	01 21 43.2	
	comp=Z,91nm,18.8s,baz=63,slow=34						
BDFB	Brasilia	24.23	224	P	P	01 13 11.2	-1.0
DBIC	Dimbokro	26.27	78	P	P	01 13 31.7	+1.1
	1.8nm,0.6s,baz=247,slow=12,SNR=4.1						
DBIC				LR	LR	01 21 21.4	
	comp=Z,94nm,19.8s,baz=190,slow=31						
DBIC	Dimbokro	26.27	78	P	P	01 13 31.3	+0.6
DBIC				IAmb	IAmb	01 13 45.5	
	comp=Z,37nm,1.6s						
KOWA	Kowa	29.31	63	LR	LR	01 23 30.4	
	comp=Z,174nm,20.1s,baz=201,slow=32						
PTGA	Pitinga	29.34	266	LR	LR	01 23 26.8	
	comp=Z,75nm,20.0s,baz=99,slow=32						
CPUP	Villa Florida	37.85	221	LR	LR	01 30 03.6	
	comp=Z,60nm,20.4s,baz=40,slow=35						
LPAZ	La Paz	41.01	243	P	P	01 15 41.0	+1.8
	comp=Z,0.7nm,0.6s,baz=147,slow=1.3,SNR=4.1						
LPAZ				LR	LR	01 32 37.3	
	comp=Z,122nm,18.2s,baz=60,slow=36						
LPAZ	La Paz	41.01	243	P	P	01 15 37.7	-1.6
ROSC	El Rosal	43.64	275	LR	LR	01 34 03.0	
	comp=Z,96nm,19.1s,baz=108,slow=36						
ESDC	Sonseca Array	45.02	29	P	P	01 16 11.3	+0.5
	comp=Z,0.4nm,0.5s,baz=226,slow=8.0,SNR=4.8						
NOA	NORSAR Array B	67.26	21	P	P	01 18 50.0	+0.6
	comp=Z,1.2nm,0.8s,baz=227,slow=6.0,SNR=2.5						
KS20	Mayfield South	70.68	309	P	P	01 19 09.9	-1.2
TXAR	Lajitas Array	74.35	300	P	P	01 19 34.0	+0.7
	comp=Z,0.4nm,0.8s,baz=144,slow=6.3,SNR=4.7						
TXAR	Lajitas Array	74.35	300	P	P	01 19 33.6	+0.3
FCC	Fort Churchill	75.07	331	P	P	01 19 36.5	-0.2
SDCO	Great Sand Dun	76.98	308	P	P	01 19 48.8	+0.3
KBZ	Khabaz	77.06	46	LR	LR	01 55 43.1	
	comp=Z,27nm,19.1s,baz=10,slow=37						
ISCO	Idaho Springs	77.37	310	P	P	01 19 49.8	-0.8
ISCO				IAmb	IAmb	01 19 53.0	
	comp=Z,17nm,1.8s						
FFC	Flin Flon	77.92	326	P	P	01 19 53.1	+0.1
FFC				IAmb	IAmb	01 19 54.5	
	comp=Z,8.6nm,1.4s						
SMCO	Snowmass	78.33	310	P	P	01 19 55.0	-1.1
SMCO				IAmb	IAmb	01 19 58.2	
	comp=Z,9.2nm,1.6s						
PV03	Paradox Valley	79.67	308	P	P	01 20 03.1	-0.2
PV03				IAmb	IAmb	01 20 09.6	
	comp=Z,18nm,1.7s						
PV16	Nyswonger Mesa	79.73	309	P	P	01 20 02.9	-0.7
PV16				IAmb	IAmb	01 20 10.8	
	comp=Z,8.7nm,1.4s						
PDAR	Pinedale Array	80.70	313	P	P	01 20 08.5	-0.3
	comp=Z,0.4nm,0.6s,baz=75,slow=6.6,SNR=4.8						
PDAR				LR	LR	01 50 37.4	
	comp=Z,38nm,21.8s,baz=107,slow=32						
YNE	Yellowstone No	81.28	315	P	P	01 20 11.7	-0.1
LOHW	Long Hollow	81.55	314	P	P	01 20 13.3	+0.1
LOHW				IAmb	IAmb	01 20 14.5	
	comp=Z,7.7nm,1.6s						
REDW	Red Top Meadow	81.71	313	P	P	01 20 14.2	+0.1
REDW				IAmb	IAmb	01 20 29.8	
	comp=Z,6.4nm,1.4s						
YHH	Holmes Hill	81.85	315	P	P	01 20 15.0	+0.1
YMR	Madison River	81.92	315	P	P	01 20 15.0	-0.2
HWUT	Hardware Ranch	82.07	312	P	P	01 20 16.1	+0.1
MTPU	Mount Pierson	82.27	308	P	P	01 20 17.0	-0.3
NLU	North Lily Min	82.33	310	P	P	01 20 17.5	+0.1
CCUT	Cedar City	83.17	307	P	P	01 20 21.3	-0.6
SYO	Syowa Base	84.55	160	⇓eP	P	01 20 25.6	-2.2
SYO	Syowa Base	84.55	160	⇓epP	pP	01 20 32.8	+2.7
YKA	Yellowknife Ar	85.73	332	P	P	01 20 33.4	-0.5
	comp=Z,0.9nm,0.7s,baz=98,slow=6.2,SNR=14						
BMO	Blue Mountains	86.44	315	P	P	01 20 38.0	+0.1
BMO				IAmb	IAmb	01 20 41.2	
	comp=Z,11nm,1.4s						
KVN	Kaiserville	86.95	309	P	P	01 20 40.5	-0.3
NVAR	Mina Array Bea	87.10	308	P	P	01 20 41.9	+0.4
	comp=Z,0.7nm,0.7s,baz=98,slow=5.5,SNR=7.4						
NVAR	Mina Array Bea	87.10	308	P	P	01 20 41.2	-0.3
LHV	Little Huntoon	87.26	308	P	P	01 20 42.1	+0.2
LHV				IAmb	IAmb	01 20 44.9	
	comp=Z,13nm,1.5s						
RYN	Ryan	87.28	308	P	P	01 20 41.9	-0.4
RYN				IAmb	IAmb	01 20 43.9	
	comp=Z,7.5nm,1.4s						
PAX	Paxson	99.56	335	P	Pdif	01 21 38.9	+0.6

*IDC **10** 01:13:53.8±1.2,27.0°3N×141.7°69E,h68km±11km,mb3.6/9, mb1 3.9/9,mb1mx3.4/58,mbtmp3.9/9,Error ellipse: s-maj=30.3km s-min=16.2km az=101.0*
*JMA **10** 01:13:54.8,27.0°7N×142.4°2E,h85km,M4.2*
JMA Felt I J1.
ISC 10 01:13:54.6±1.1,27.0°3N±0.0°07×141.7°E±0.2,h78km±10km, n23,σ0°97/22,mb3.8/9,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.45	81	P	Pn	01 14 07.3	-0.4
CBIJ				eS	Sn	01 14 16.7	-0.7
JCJ	Chichijima	0.45	81	P	Pn	01 14 07.7	0.0
	1μm,0.3s,baz=234,slow=11,SNR=329						
JCJ				S	Sn	01 14 17.2	-0.1
	3μm,0.3s,baz=296,slow=23,SNR=29						
JHH2	Haha-jima-NKT2	0.59	132	P	Pn	01 14 09.0	0.0
JHH2				eS	Sn	01 14 19.4	-0.2
BSO1	Boso 1	7.62	356	P	Pn	01 15 41.0	-1.4
BSO1				eS	Sn	01 17 07.5	+0.5
BSO3	Boso 3	7.81	353	P	Pn	01 15 46.8	+1.5
BSO4	Boso 4	8.02	352	P	Pn	01 15 48.8	+0.6
BSO4				eS	Sn	01 17 17.7	+0.4
JAG	Ashikaga	9.56	349	P	Pn	01 16 07.5	-1.8
KLR	Kul'dur	23.46	344	P	P	01 18 57.2	+0.1
	2.4nm,0.6s,baz=170,slow=6.2,SNR=9.8						
H11N2	WAKE ISLAND Hy	24.23	102	T	T	01 43 59.2	
	baz=293,slow=75,SNR=5.7						
H11N1	WAKE ISLAND Hy	24.23	102	T	T	01 43 50.4	
	baz=293,slow=75,SNR=4.5						
H11N3	WAKE ISLAND Hy	24.25	102	T	T	01 43 59.5	
	baz=293,slow=75,SNR=7.0						
H11S3	WAKE ISLAND Hy	24.54	105	T	T	01 44 41.4	
	baz=296,slow=74						
H11S1	WAKE ISLAND Hy	24.54	105	T	T	01 44 40.5	
	baz=296						
H11S2	WAKE ISLAND Hy	24.55	105	T	T	01 44 38.3	
	baz=296,slow=74						
WRA	Warramunga Arr	47.23	189	P	P	01 22 19.6	-0.4
	3.1nm,0.5s,baz=11,slow=8.6,SNR=25						
FITZ	Fitzroy Crossi	47.48	201	P	P	01 22 22.4	+0.6
	2.3nm,0.9s,baz=42,slow=11,SNR=2.2						
MKAR	Makanchi Array	50.17	310	ScP	ScP	01 27 47.3	-2.3
	0.3nm,0.6s,baz=81,slow=3.8,SNR=4.9						
ASAR	Alice Springs	50.96	189	P	P	01 22 48.3	-0.1
	0.4nm,0.5s,baz=12,slow=5.8,SNR=5.3						
KURBB	Kurchatov Array	52.77	314	P	P	01 23 02.2	+0.6
	0.4nm,0.5s,baz=91,slow=8.8,SNR=5.3						
ILAR	Eielson Array	57.98	29	P	P	01 23 39.0	+0.2
	1.1nm,0.8s,baz=260,slow=6.0,SNR=14						
YKA	Yellowknife Ar	72.41	28	P	P	01 25 12.4	+0.2
	0.6nm,0.5s,baz=294,slow=5.4,SNR=7.5						
FINES	FINESS Array B	77.81	334	P	P	01 25 42.4	-0.7
	1.3nm,0.6s,baz=75,slow=5.9,SNR=5.5						
NVAR	Mina Array Bea	80.91	52	P	P	01 26 01.8	+1.0
	0.5nm,0.7s,baz=287,slow=5.3,SNR=4.7						

*IDC **10** 01:15:28.2±7.3,35.9°8N×71.2°4E,h122km±36km,mb3.4/4, mb1 3.5/10,mb1mx3.1/62,mbtmp3.9/10,Error ellipse: s-maj=93.1km s-min=26.1km az=160.0*
*NNC **10** 01:15:34.3±6.1,37.0°2N×70.7°4E,h0km,mb4.5,mpv4.3, Error ellipse: s-maj=49.0km s-min=32.8km az=176.0*
**ISC 10 01:15:35.6±1.4,36.7°N±0.1°×70.8°7E±0.0°7,h150km,n26, σ1°8°70/36,mb3.4/3,6C-7D,Hind

MDOK S Sn 01 18 57.5 -1.7
4.8nm,0.9s
PDGK Podgornoye 9.38 42 ⇑P Pn 01 17 47.0 -0.3
4.6nm,0.8s
PDGK ⇓S Sn 01 19 35.9 +4.6
5.5nm,1.1s
GEYT Alibeck 10.24 281 P Pn 01 17 57.7 -1.1
1.3nm,0.3s,baz=109,slow=10,SNR=20
GEYT S Sn 01 19 50.2 -1.9
1.6nm,0.3s,baz=88,slow=16,SNR=3.5
MKAR Makanchi Array 13.22 36 P Pn 01 18 35.8 -1.7
0.1nm,0.3s,baz=215,slow=13,SNR=7.5
AB31 Akbulak array 14.89 331 ⇑P P 01 19 00.1 -0.3
1.6nm,0.5s
AB31 ⇓S Sn 01 21 43.5 -0.1
0.8nm,0.4s,baz=130,slow=26,SNR=4.1
KURBB Kurchatov Arra 15.00 19 P P 01 19 01.1 -0.5
0.1nm,0.3s,baz=206,slow=11,SNR=25
BVAR Borovoye Array 16.36 359 P Pn 01 19 18.8 +2.3
0.3nm,0.3s,baz=108,slow=9.9,SNR=6.2
AKTO Aktyubinsk 16.59 330 P Pn 01 19 22.2 +2.9
0.4nm,0.3s,baz=146,slow=10,SNR=11
AKTO S S 01 22 23.8 +0.3
0.1nm,0.3s,baz=198,slow=20,SNR=2.0
AKTO Aktyubinsk 16.59 330 ⇓P Pn 01 19 22.0 +2.7
11nm,1.1s
AKTO ⇓S Sn 01 22 26.6 +2.2
4.3nm,1.2s
ZALV Zalesovo Beam 19.81 25 P P 01 19 54.0 -0.2
2.7nm,0.4s,baz=213,slow=10,SNR=22
FINES FINESS Array B 37.29 326 P P 01 22 34.0 +1.3
2.2nm,0.8s,baz=110,slow=12,SNR=1.8
NOA NORSAR Array B 44.19 323 P P 01 23 30.0 +0.8
0.8nm,0.8s,baz=117,slow=6.3,SNR=1.7
YKA Yellowknife Ar 81.08 3 P P 01 27 33.1 -0.4
0.2nm,0.4s,baz=356,slow=5.2,SNR=4.2

*IDC **10** 01:18:47.6±1.0, 16°.23S×176°.55W, h392km±11km, mb3.5/7, mb1 3.8/9, mb1mx3.4/40, mbtmp4.2/9, Error ellipse: s-maj=29.6km s-min=10.7km az=151.0*
ISC 10 01:18:47.1±0.8, 16°.2S±0°.2×176°.5W±0°.1, h382km, n13, σ1§50/15, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.09**	**64**	P		**Pn**		**01 20 09.3**	**-0.1**
	4.2nm,0.3s,baz=149,slow=4.3,SNR=4.7								
AFI				S		**S**		**01 21 18.4**	**+2.3**
	4.3nm,0.3s,baz=105,slow=20,SNR=1.6								
MSVF	**Nonsavu**	**5.44**	**253**	P		**Pn**		**01 20 14.3**	**+1.3**
	35nm,0.3s,baz=75,slow=10,SNR=113								
MSVF				S		**S**		**01 21 25.8**	**+3.0**
	baz=143,slow=21,SNR=1.5								
URZ	**Urewera**	**22.71**	**193**	P		**P**		**01 23 16.4**	**-0.9**
	4.7nm,0.3s,baz=9.5,slow=13,SNR=6.9								
WRA	**Warramunga Arr**	**46.76**	**258**	P		**P**		**01 26 38.3**	**-1.8**
	1.5nm,0.3s,baz=96,slow=8.1,SNR=50								
ASAR	**Alice Springs**	**47.03**	**253**	P		**P**		**01 26 41.0**	**-1.2**
	9.4nm,0.6s,baz=86,slow=7.9,SNR=109								
NVAR	**Mina Array Bea**	**76.92**	**43**	P		**P**		**01 29 59.3**	**+0.5**
	0.7nm,0.7s,baz=224,slow=9.2,SNR=8.0								
TXAR	**Lajitas Array**	**83.53**	**57**	P		**P**		**01 30 35.0**	**+1.3**
	1.5nm,0.4s,baz=218,slow=5.7,SNR=13								
ILAR	**Eielson Array**	**83.80**	**12**	P		**P**		**01 30 32.9**	**-1.3**
	1.6nm,0.6s,baz=218,slow=5.3,SNR=7.6								
PDAR	**Pinedale Array**	**84.84**	**43**	P		**P**		**01 30 40.2**	**+0.1**
	0.2nm,0.5s,baz=242,slow=3.8,SNR=2.8								
YKA	**Yellowknife Ar**	**92.00**	**24**	P		**P**		**01 31 12.6**	**-0.4**
	0.2nm,0.7s,baz=238,slow=4.1,SNR=3.9								
ARCES	**ARCESS Array B**	**124.92**	**351**	PKP		**PKPdf**		**01 37 00.8**	**-0.9**
	13nm,1.2s,baz=20,slow=2.9,SNR=4.6								
BRTR	**Keskin Array B**	**144.79**	**318**	PKP		**PKPdf**		**01 37 39.1**	**-0.5**
	1.5nm,0.8s,baz=115,slow=3.3,SNR=3.7								
GERES	**GERESS Array B**	**146.36**	**348**	PKPbc		**PKPbc**		**01 37 43.0**	**-0.8**
	0.3nm,0.4s,baz=46,slow=3.9,SNR=5.8								

IDC 10 01:46:36.1±2.3, 7°.02S×129°.30E, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=141.2km s-min=33.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.75**	**160**	Pn		Pn		01 49 52.4	0.0
	0.6nm,0.3s,baz=342,slow=14,SNR=20								
WRA				Sn		Sn		01 52 16.6	-9.4
	0.4nm,0.3s,baz=328,slow=22,SNR=3.7								
ASAR	**Alice Springs**	**17.13**	**166**	Pn		Pn		01 50 37.2	0.0
	0.2nm,0.3s,baz=341,slow=11,SNR=8.2								
ASAR				Sn		Sn		01 53 40.6	-7.9
	0.1nm,0.3s,baz=355,slow=27,SNR=2.3								
MKAR	**Makanchi Array**	**67.86**	**327**	P		P		01 57 36.4	0.0
	0.3nm,0.4s,baz=131,slow=6.5,SNR=4.0								

*IDC **10** 02:00:19.0±1.6, 34°.20N×78°.89E, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.5/35, mbtmp3.7/9, ML3.2/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/40, Error ellipse: s-maj=43.0km s-min=19.7km az=60.0*
ISC 10 02:00:24.7±1.4, 34°.3N±0°.1×79°.4E±0°.2, h35km, n10, σ1§95/11, mb3.7/4, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.15**	**337**	Pn		**Pn**		**02 02 34.9**	**+0.6**
	0.2nm,0.3s,baz=161,slow=16,SNR=9.9								
AAK				Sn		**Sn**		**02 04 19.6**	**+3.6**
	0.1nm,0.3s,baz=347,slow=15,SNR=0.9								
AAK				Lg		Lg		02 05 06.6	
	0.1nm,0.3s,baz=18,slow=20,SNR=1.9								
MKAR	**Makanchi Array**	**12.67**	**9**	Pn		**Pn**		**02 03 22.7**	**+0.4**
	0.1nm,0.3s,baz=189,slow=14,SNR=16								
MKAR				Sn		**Sn**		**02 05 40.6**	**-1.4**
	0.0nm,0.3s,baz=185,slow=24,SNR=6.9								
MKAR				Lg		Lg		02 07 07.0	
	0.0nm,0.3s,baz=189,slow=25,SNR=0.9								
KURBB	**Kurchatov Arra**	**16.31**	**358**	Pn		**Pn**		**02 04 11.0**	**+0.1**
	0.0nm,0.3s,baz=187,slow=11,SNR=15								
BVAR	**Borovoye Array**	**19.77**	**344**	P		**P**		**02 04 50.2**	**-1.4**
	0.1nm,0.3s,baz=147,slow=11,SNR=9.2								
ZALV	**Zalesovo Beam**	**20.01**	**9**	P		**P**		**02 04 55.5**	**+1.3**
	0.6nm,0.4s,baz=203,slow=9.7,SNR=4.6								
AKTO	**Aktyubinsk**	**22.42**	**322**	P		**P**		**02 05 17.8**	**-2.5**
	3.2nm,0.7s,baz=121,slow=14,SNR=12								
AKTO				LR		LR		02 15 06.0	
	comp=Z,96nm,19.7s,baz=325,slow=40								
CMAR	**Chiang Mai Arr**	**23.53**	**127**	P		**P**		**02 05 33.6**	**+1.8**
	1.8nm,0.9s,baz=313,slow=9.8,SNR=8.1								
FINES	**FINESS Array B**	**43.13**	**326**	P		**P**		**02 08 19.9**	**-1.4**
	1.3nm,0.6s,baz=101,slow=9.9,SNR=4.8								
NWAO	**Narrogin (SRO)**	**75.76**	**148**	LR		LR		02 43 12.7	
	comp=Z,12nm,21.8s,baz=337,slow=34								
YKA	**Yellowknife Ar**	**82.88**	**6**	P		**P**		**02 12 45.0**	**-0.3**
	0.2nm,0.7s,baz=355,slow=5.0,SNR=4.7								

*MDD **10** 02:15:02.4±0.9, 35°.81N×4°.62W, h84km±7km, mb3.2/1, Error ellipse: s-maj=5.0km s-min=3.6km az=163.0, PRXIMO*
*IGIL **10** 02:15:03.4, 35°.82N×4°.55W, h14km, ML1.6*
*SFS **10** 02:15:03.0, 35°.82N×4°.54W, h117km, ML2.5, ALBORAN W.*
*INMG **10** 02:15:05.1±1.9, 35°.86N×4°.58W, h108km±19km, ML1.9, Error ellipse: s-maj=9.5km s-min=5.7km az=146.0*
ISC 10 02:15:01.4±1.6, 35°.72N±0°.04×4°.54W±0°.04, h99km±10km, n46, σ1§62/80, 2C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.57**	**160**	P		**Pn**		**02 15 18.2**	**+0.7**
PVLZ				S		**Sn**		**02 15 29.4**	**-0.2**
PVLZ	**Peæn de**	**0.57**	**160**	*eP*		**Pn**		**02 15 18.2**	**+0.7**
PVLZ				*eS*		**Sn**		**02 15 29.4**	**-0.2**
CEU	**Ceuta**	**0.70**	**285**	P		**Pn**		**02 15 18.7**	**+0.1**
CEU				S		**Sn**		**02 15 29.0**	**-2.6**
CEU	**Ceuta**	**0.70**	**285**	*eP*		**Pn**		**02 15 18.7**	**+0.1**
CEU				*eS*		**Sn**		**02 15 29.0**	**-2.6**
EMAL	**Malaga-Limoner**	**1.05**	**5**	P		**Pn**		**02 15 22.7**	**+0.5**
EMAL				S		**Sn**		**02 15 36.6**	**-1.2**
EMAL	**Malaga-Limoner**	**1.05**	**5**	*eP*		**Pn**		**02 15 22.7**	**+0.5**
EMAL				*eS*		**Sn**		**02 15 36.6**	**-1.2**
EJIF	**Jimena Fronter**	**1.05**	**314**	⇑P		**Pn**		**02 15 25.2**	**+2.9**
	SNR=18								
EJIF				S		**Sn**		**02 15 41.2**	**+3.2**
	SNR=7.9								
ELGU	**Los Guajares,**	**1.36**	**32**	P		**Pn**		**02 15 26.3**	**+0.4**
	0.3nm,0.1s,SNR=7.9								
ELGU				S		**Sn**		**02 15 42.9**	**-1.7**
	2.0nm,0.1s,SNR=7.9								
ESPR	**Espera**	**1.57**	**318**	P		**Pn**		**02 15 30.6**	**+2.2**
	1.0nm,0.1s,SNR=7.9								
ESPR				S		**Sn**		**02 15 51.0**	**+2.1**
	3.1nm,0.3s,SNR=7.9								
EBER	**Berja**	**1.78**	**48**	S		**Sn**		**02 15 53.3**	**-0.5**
	0.1nm,0.0s,SNR=7.9								
IFR	**Ifrane**	**2.25**	**193**	*eS*		**Sn**		**02 16 03.3**	**-1.4**
EQES	**Quesada**	**2.39**	**29**	S		**Sn**		**02 16 09.0**	**+1.0**
	0.2nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**2.45**	**359**	P		**Pn**		**02 15 41.5**	**+1.7**
	0.2nm,0.1s,SNR=7.9								
EADA				S		**Sn**		**02 16 08.2**	**-1.0**
	1.4nm,0.1s,SNR=7.9								
ECAB	**El Cabril**	**2.46**	**344**	S		**Sn**		**02 16 08.1**	**-1.4**
	2.9nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**2.67**	**321**	⇑P		**Pn**		**02 15 43.9**	**+1.2**
	1.6nm,0.0s,SNR=18								
EMIN				S		**Sn**		**02 16 12.9**	**-1.5**
	1.1nm,0.0s,SNR=7.9								
EGRO	**El Granado**	**2.99**	**308**	P		**Pn**		**02 15 48.0**	**+1.2**
	0.9nm,0.1s,SNR=7.9								
EGRO				S		**Sn**		**02 16 20.6**	**-1.3**
	2.5nm,0.1s,SNR=7.9								
PVAQ	**Vaqueiros**	**3.07**	**304**	P		**Pn**		**02 15 49.0**	**+1.1**
PVAQ				S		**Sn**		**02 16 22.4**	**-1.4**
	4.2nm,0.3s								
PVAQ	**Vaqueiros**	**3.07**	**304**	*eP*		**Pn**		**02 15 49.0**	**+1.1**
PVAQ				*eS*		**Sn**		**02 16 22.4**	**-1.4**
PVAQ				A		A		02 16 24.1	
	4.2nm,0.3s								
PBDV	**Barranco-do-Ve**	**3.13**	**300**	P		**Pn**		**02 15 50.1**	**+1.3**
PBDV				S		**Sn**		**02 16 24.4**	**-1.1**
	2.0nm,1.1s								
PBDV	**Barranco-do-Ve**	**3.13**	**300**	*eP*		**Pn**		**02 15 50.1**	**+1.3**
PBDV				*eS*		**Sn**		**02 16 24.4**	**-1.1**
PBDV				A		A		02 16 30.1	
	2.0nm,1.1s								
PBAR	**Barrancos**	**3.17**	**321**	P		**Pn**		**02 15 50.7**	**+1.4**
PBAR				S		**Sn**		**02 16 24.9**	**-1.4**
	2.1nm,0.2s								
PBAR	**Barrancos**	**3.17**	**321**	*eP*		**Pn**		**02 15 50.7**	**+1.4**
PBAR				*eS*		**Sn**		**02 16 24.9**	**-1.4**
PBAR				A		A		02 16 27.4	
	2.1nm,0.2s								
PCVE	**Castro Verde**	**3.40**	**305**	P		**Pn**		**02 15 53.6**	**+1.1**
PCVE				S		**Sn**		**02 16 30.3**	**-1.7**
	1.8nm,0.2s								
PCVE	**Castro Verde**	**3.40**	**305**	*eP*		**Pn**		**02 15 53.6**	**+1.1**
PCVE				*eS*		**Sn**		**02 16 30.3**	**-1.7**
PCVE				A		A		02 16 32.6	
	1.8nm,0.2s								
PBEJ	**Beja**	**3.53**	**312**	S		**Sn**		**02 16 33.8**	**-1.2**
	0.9nm,0.2s								
PBEJ	**Beja**	**3.53**	**312**	*eS*		**Sn**		**02 16 33.8**	**-1.2**
PBEJ				A		A		02 16 34.9	
	1.9nm,0.2s								
MESJ	**Messejana**	**3.64**	**307**	*eP*		**Pn**		**02 15 56.8**	**+1.2**
MESJ				*eS*		**Sn**		**02 16 35.5**	**-2.1**
MESJ				AML		AML		02 16 38.2	
	comp=N,1.5nm,0.3s								
MESJ	**Messejana**	**3.64**	**307**	P		**Pn**		**02 15 56.8**	**+1.2**
MESJ				S		**Sn**		**02 16 35.5**	**-2.1**
	comp=N,1.5nm,0.3s								
MESJ	**Messejana**	**3.64**	**307**	*eP*		**Pn**		**02 15 56.8**	**+1.2**
MESJ				*eS*		**Sn**		**02 16 35.8**	**-1.8**
MESJ				A		A		02 16 36.7	
	comp=N,2.3nm,0.4s								
PFVI	**Vila Bisbo**	**3.74**	**293**	S		**Sn**		**02 16 39.3**	**-0.7**
	comp=N,3.1nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**3.74**	**293**	*eP*		**Pn**		**02 15 58.5**	**+1.5**
PFVI				*eS*		**Sn**		**02 16 38.9**	**-1.1**
PAB	**San Pablo**	**3.83**	**2**	S		**Sn**		**02 16 39.5**	**-2.8**
	comp=N,0.1nm,0.1s,SNR=7.9								
PTEO	**Sao Teotonio**	**3.83**	**300**	P		**Pn**		**02 16 00.1**	**+1.9**
PTEO				S		**Sn**		**02 16 41.5**	**-0.8**
PTEO	**Sao Teotonio**	**3.83**	**300**	*eP*		**Pn**		**02 16 00.1**	**+1.9**
PTEO				*eS*		**Sn**		**02 16 41.5**	**-0.8**
EVO	**Evora**	**3.95**	**316**	P		**Pn**		**02 16 01.7**	**+1.9**
EVO				S		**Sn**		**02 16 43.5**	**-1.7**
	comp=N,3.1nm,0.3s								
EVO	**Evora**	**3.95**	**316**	*eP*		**Pn**		**02 16 01.7**	**+1.9**
EVO				*eS*		**Sn**		**02 16 43.5**	**-1.7**
EVO				A		A		02 16 45.2	
	comp=N,3.1nm,0.3s								
PESTR	**Estremoz**	**3.98**	**323**	*eS*		**Sn**		**02 16 44.4**	**-1.4**
PESTR				A		A		02 16 46.0	
	comp=N,2.5nm,0.4s								
PNCL	**Nicolau / Gran**	**4.00**	**308**	P		**Pn**		**02 16 01.6**	**+1.2**
PNCL				S		**Sn**		**02 16 44.5**	**-1.7**
	comp=N,2.3nm,0.5s								
PNCL	**Nicolau / Gran**	**4.00**	**308**	*eP*		**Pn**		**02 16 01.6**	**+1.2**
PNCL				*eS*		**Sn**		**02 16 44.5**	**-1.7**
PNCL				A		A		02 16 47.4	
	comp=N,2.3nm,0.5s								
PMRV	**Marv??o**	**4.34**	**329**	P		**Pn**		**02 16 06.9**	**+1.7**
PMRV				S		**Sn**		**02 16 52.9**	**-1.8**
	comp=N,1.5nm,0.7s								
PMRV	**Marv??o**	**4.34**	**329**	*eP*		**Pn**		**02 16 06.9**	**+1.7**
PMRV				*eS*		**Sn**		**02 16 52.9**	**-1.8**
PMRV				A		A		02 17 07.1	
	comp=N,1.5nm,0.7s								
PMTG	**Montargil**	**4.45**	**320**	P		**Pn**		**02 16 08.2**	**+1.6**
PMTG				S		**Sn**		**02 16 54.8**	**-2.5**
	comp=N,1.2nm,0.5s								
PMTG	**Montargil**	**4.45**	**320**	*eP*		**Pn**		**02 16 08.2**	**+1.6**
PMTG				*eS*		**Sn**		**02 16 54.8**	**-2.5**
PMTG				A		A		02 17 08.2	
	comp=N,1.2nm,0.5s								
EPLA	**Plasencia**	**4.51**	**345**	S		**Sn**		**02 16 56.7**	**-2.1**
	comp=N,0.2nm,0.2s,SNR=7.9								
PCBR	**Castelo Branco**	**4.73**	**331**	S		**Sn**		**02 17 01.6**	**-2.4**
PCBR	**Castelo Branco**	**4.73**	**331**	*eS*		**Sn**		**02 17 01.6**	**-2.4**

IDC 10 02:32:36.0±8.7, 10°.22N×91°.32E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/43, mbtmp3.4/3, MS3.5/2, Ms1 3.6/2, ms1mx2.9/25, Error ellipse: s-maj=430.4km s-min=32.9km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.03**	**41**	LR		LR		02 39 58.5	
	comp=Z,102nm,19.3s,baz=205,slow=40								
H08S3	**Diego Garcia H**	**25.81**	**227**	T		T		03 05 45.7	
	baz=47,slow=75,SNR=932								
H08S2	**Diego Garcia H**	**25.81**	**227**	T		T		03 05 44.3	
	baz=47,slow=75,SNR=193								
H08S1	**Diego Carcia H**	**25.83**	**227**	T		T		03 05 42.3	
	baz=47,slow=75,SNR=60								
MKAR	**Makanchi Array**	**37.25**	**350**	P		P		02 39 49.2	-0.2
	0.5nm,1.1s,baz=159,slow=8.7,SNR=2.5								
WRA	**Warramunga Arr**	**51.88**	**125**	P		P		02 41 46.4	-0.2
	0.7nm,0.6s,baz=304,slow=8.9,SNR=3.2								
ASAR	**Alice Springs**	**53.54**	**130**	P		P		02 41 59.0	+0.1
	0.2nm,0.3s,baz=305,slow=7.2,SNR=1.8								
STKA	**Stephens Creek**	**63.73**	**133**	LR		LR		03 13 30.5	
	comp=Z,77nm,18.1s,baz=193,slow=38								

*NEIC **10** 02:38:01.9±0.5, 23°.85S±0°.1×179°.9E±0°.2, h529km±9km, mb4.3/38, Error ellipse: s-maj=21.0km s-min=19.1km az=98.0*
*IDC **10** 02:38:01.6±1.4, 23°.79S×179°.91E, h520km±12km, mb3.7/10, mb1 3.9/12, mb1mx3.6/36, mbtmp4.5/12, Error ellipse: s-maj=26.8km s-min=12.8km az=156.0*
ISC 10 02:38:01.6±0.5, 23°.86S±0°.08×179°.93E±0°.1, h526km, n62, σ0§68/68, mb4.2/25, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.35**	**344**	P		**P**		**02 39 42.2**	**-0.4**
	3.3nm,0.3s,baz=229,slow=11,SNR=18								
URZ	**Urewera**	**14.55**	**189**	P		**P**		**02 41 07.2**	**+0.6**
	1.9nm,0.3s,baz=106,slow=3.5,SNR=7.6								
URZ				S		**S**		**02 43 37.6**	**-1.6**
	0.9nm,0.3s,baz=249,slow=24,SNR=9.4								
URZ	**Urewera**	**14.55**	**189**	P		**P**		**02 41 06.8**	**+0.2**
LTZ	**Lake Taylor**	**19.91**	**197**	P		**P**		**02 41 59.1**	**+1.2**
LTZ						IAmb	IAmb	02 42 04.8	
	comp=Z,10.0nm,1.1s								
CTAO	**Charters Tower**	**31.41**	**270**	P		**P**		**02 43 40.2**	**+0.5**
STKA	**Stephens Creek**	**34.68**	**248**	P		**P**		**02 44 08.2**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=80,slow=8.1,SNR=7.3								
STKA	**Stephens Creek**	**34.68**	**248**	P		**P**		**02 44 07.7**	**+0.5**
AS31	**Alice Springs**	**41.98**	**261**	P		**P**		**02 45 06.7**	**0.0**
AS31						IAmb	IAmb	02 45 08.2	
	comp=Z,3.5nm,0.4s								
ASAR	**Alice Springs**	**41.98**	**261**	P		**P**		**02 45 07.1**	**+0.3**
	comp=Z,5.0nm,0.4s,baz=99,slow=7.3,SNR=80								
ASAR						ScP	**ScP**	**02 49 52.2**	**+2.0**
	comp=Z,3.7nm,0.7s,baz=107,slow=4.3,SNR=24								
ASAR						S	**S**	**02 50 47.0**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=96,slow=13,SNR=4.2								
ASAR	**Alice Springs**	**41.98**	**261**	P		**P**		**02 45 06.3**	**-0.5**
WR0	**Warramunga Arr**	**42.16**	**266**	P		**P**		**02 45 07.8**	**-0.3**
WR0						IAmb	IAmb	02 45 08.2	
	comp=Z,6.5nm,0.6s								
WB2	**Warramunga Arr**	**42.34**	**266**	P		**P**		**02 45 09.1**	**-0.4**
WB0	**Warramunga Arr**	**42.34**	**266**	P		**P**		**02 45 09.1**	**-0.5**
WRAB	**Tennant Creek**	**42.34**	**266**	P		**P**		**02 45 09.0**	**-0.6**
WRA	**Warramunga Arr**	**42.35**	**266**	P		**P**		**02 45 09.5**	**-0.2**
	comp=Z,11nm,0.5s,baz=102,slow=8.5,SNR=182								
WRA						ScP	**ScP**	**02 49 54.1**	**+2.4**
	comp=Z,3.2nm,0.9s,baz=98,slow=3.8,SNR=12								
JAY	**Jayapura**	**43.44**	**293**	P		**P**		**02 45 18.1**	**-0.2**
	comp=Z,19nm,0.8s,baz=180,slow=4.0,SNR=5.4								
FORT	**Forrest**	**46.26**	**250**	P		**P**		**02 45 39.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.77**	**266**	P		**P**		**02 46 13.8**	**+0.4**
	comp=Z,5.3nm,0.6s,baz=102,slow=7.5,SNR=20								
FITZ	**Fitzroy Crossi**	**50.77**	**266**	P		**P**		**02 46 13.0**	**-0.4**
FITZ						IAmb	IAmb	02 46 14.8	
	comp=Z,7.0nm,0.8s								
SIJI	**Sorong**	**52.36**	**289**	P		**P**		**02 46 24.9**	**-0.1**
	comp=Z,29nm,0.8s,baz=89,slow=7.6,SNR=6.8								
TOLI2	**Tolitoli**	**62.51**	**285**	P		**P**		**02 47 33.5**	**-0.7**
TOLI2						IAmb	IAmb	02 47 34.2	
	comp=Z,11nm,0.9s								
QSPA	**South Pole Qui**	**66.22**	**180**	P		**P**		**02 47 58.2**	**+1.2**
QSPA						IAmb	IAmb	02 47 59.3	
	comp=Z,5.5nm,0.8s								
BELA	**Belgrano 2**	**76.48**	**173**	P		**P**		**02 48 56.5**	**-0.2**
SLBS	**Sierra La Lagu**	**82.84**	**60**	P		**P**		**02 49 31.9**	**+0.7**
SLBS						IAmb	IAmb	02 49 44.8	
	comp=Z,8.0nm,1.1s								
ISA	**Isabella, Lake**	**83.04**	**46**	P		**P**		**02 49 32.0**	**+0.1**
ISA						IAmb	IAmb	02 49 33.2	
	comp=Z,5.9nm,0.8s								
CMB	**Columbia Colle**	**83.22**	**43**	P		**P**		**02 49 32.9**	**+0.2**
AFDM	**Forest Hills D**	**83.41**	**42**	P		**P**		**02 49 34.0**	**+0.4**
ORV	**Oroville**	**83.46**	**42**	P		**P**		**02 49 34.1**	**+0.3**
MDPB	**Devils Postpil**	**83.81**	**44**	P		**P**		**02 49 35.9**	**0.0**
PNTR	**Pine Nut**	**84.34**	**43**	P		**P**		**02 49 38.4**	**-0.2**
PNTR						IAmb	IAmb	02 49 39.8	
	comp=Z,7.5nm,1.0s								
SNAA	**Sanae**	**84.70**	**179**	P		**P**		**02 49 39.0**	**-0.6**
NVAR	**Mina Array Bea**	**84.77**	**44**	P		**P**		**02 49 40.7**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=219,slow=8.1,SNR=9.9								
NVAR	**Mina Array Bea**	**84.77**	**44**	P		**P**		**02 49 40.5**	**-0.1**
VNA3	**Neumayer Olymp**	**84.92**	**177**	P		**P**		**02 49 40.2**	**-0.4**
TPH	**Tonopah**	**85.26**	**45**	P		**P**		**02 49 43.0**	**0.0**
VNA2	**Neumayer--Watz**	**85.33**	**178**	P		**P**		**02 49 42.1**	**-0.5**
VNA1	**Neumayer--Stat**	**85.57**	**177**	P		**P**		**02 49 41.2**	**-2.5**
PRN	**Pahroc Range**	**86.30**	**46**	P		**P**		**02 49 48.1**	**+0.2**
TUC	**Tucson**	**86.55**	**53**	P		**P**		**02 49 49.2**	**+0.1**
TUC						IAmb	IAmb	02 49 51.2	
	comp=Z,4.4nm,0.9s								
I07A	**Izee**	**87.40**	**39**	P		**P**		**02 49 53.0**	**+0.2**
I07A						IAmb	IAmb	02 49 54.3	
	comp=Z,7.2nm,1.0s								
J08A	**Circle Bar Ran**	**87.57**	**40**	P		**P**		**02 49 53.9**	**+0.2**
J08A						IAmb	IAmb	02 49 54.9	
	comp=Z,7.9nm,1.2s								
U15A	**North Rim**	**87.63**	**48**	P		**P**		**02 49 54.3**	**-0.1**
U15A						IAmb	IAmb	02 49 56.0	
	comp=Z,3.5nm,0.8s								
G08A	**Pilot Rock**	**88.44**	**38**	P		**P**		**02 49 57.9**	**+0.2**
G08A						IAmb	IAmb	02 49 58.9	
	comp=Z,4.2nm,0.9s								
MTPU	**Mount Pierson**	**88.55**	**47**	P		**P**		**02 49 58.6**	**-0.1**
MFID	**Camas Ranch**	**89.17**	**41**	P		**P**		**02 50 01.3**	**+0.1**
MFID						IAmb	IAmb	02 50 02.3	
	comp=Z,3.5nm,0.8s								
**T

mb1 3.3/8, mb1mx3.2/30, mbtmp3.5/8, Error ellipse: s-maj=21.9km s-min=17.0km az=30.0

ISC 10 03:33:32.8±0.9, **23°99S**±0°06×**66°89W**±0°08, **h199**km±9km, **n22**, σ1°57/35, **mb3.0**/3, **9C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.31**	**306**	P	**Pn**	**03 34 15.8**	**+0.8**
	23nm,0.3s,baz=135,slow=6.2,SNR=263						
LVC				S	**Sn**	**03 34 49.6**	**+1.9**
	33nm,0.3s,baz=246,slow=22,SNR=34						
LVC	**Limon Verde**	**2.31**	**306**	*eP*	**Pn**	**03 34 15.8**	**+0.8**
LVC				*i* S	**Sn**	**03 34 49.1**	**+1.4**
PB15	**IPOC Station P**	**2.49**	**288**↑	*iP*	**Pn**	**03 34 17.6**	**+0.8**
PB15				*i* S	**Sn**	**03 34 51.8**	**+0.9**
GO02	**Mina Guanaco**	**2.72**	**244**↑	*iP*	**Pn**	**03 34 19.4**	**-0.1**
GO02				*i* S	**Sn**	**03 34 55.7**	**-0.1**
GO02				IAML		03 34 57.4	
	comp=N,562nm,0.5s						
PB06	**IPOC Station P**	**2.78**	**297**↑	*iP*	**Pn**	**03 34 20.6**	**+0.6**
PB06				*i* S	**Sn**	**03 34 56.8**	**0.0**
PB06				IAML		03 34 60.0	
	comp=E,268nm,0.2s						
PB09	**IPOC Station P**	**3.08**	**315**↑	*iP*	**Pn**	**03 34 24.6**	**+1.1**
PB05	**IPOC Station P**	**3.25**	**290**	*eP*	**Pn**	**03 34 25.4**	**-0.1**
PB05				*i* S	**Sn**	**03 35 05.4**	**-1.2**
PB14	**IPOC Station P**	**3.27**	**258**↑	*iP*	**Pn**	**03 34 25.4**	**-0.4**
PB14				*i* S	**Sn**	**03 35 05.4**	**-1.9**
PB10	**IPOC Station P**	**3.39**	**277**↑	*iP*	**Pn**	**03 34 27.3**	**+0.2**
PB10				*i* S	**Sn**	**03 35 08.4**	**-1.1**
PB04	**IPOC Station P**	**3.42**	**298**↑	*iP*	**Pn**	**03 34 27.9**	**+0.2**
PB04				*i* S	**Sn**	**03 35 09.8**	**-0.8**
PB07	**IPOC Station P**	**3.56**	**309**↑	*iP*	**Pn**	**03 34 29.4**	**0.0**
PB07				*i* S	**Sn**	**03 35 12.1**	**-1.6**
PB01	**IPOC Station P**	**3.79**	**320**	*eP*	**Pn**	**03 34 31.4**	**-0.8**
PB01				*i* S	**Sn**	**03 35 17.1**	**-1.5**
AC01	**Pan de Azucar**	**3.99**	**237**↑	*iP*	**Pn**	**03 34 32.7**	**-1.8**
AC01				*i* S	**Sn**	**03 35 19.5**	**-3.4**
LPAZ	**La Paz**	**7.75**	**351**	P	**Pn**	**03 35 23.5**	**0.0**
	comp=E,0.3nm,0.3s,baz=150,slow=9.7,SNR=6.8						
LPAZ				S	**Sn**	**03 36 47.9**	**-3.6**
	comp=E,0.0nm,0.3s,baz=294,slow=8.7,SNR=1.2						
CPUP	**Villa Florida**	**8.97**	**107**	P	**Pn**	**03 35 38.2**	**-0.5**
	comp=E,0.0nm,0.3s,baz=300,slow=8.1,SNR=1.9						
PLCA	**Paso Flores**	**16.97**	**190**	P	**Pn**	**03 37 22.7**	**+3.9**
	comp=E,0.2nm,0.3s,baz=339,slow=9.5,SNR=8.8						
BDFB	**Brasilia**	**19.59**	**68**	P	**P**	**03 37 43.3**	**-2.8**
	comp=E,0.5nm,0.3s,baz=238,slow=14,SNR=5.2						
TXAR	**Lajitas Array**	**63.73**	**324**	P	**P**	**03 43 43.9**	**+0.3**
	comp=E,0.1nm,0.6s,baz=147,slow=8.6,SNR=1.4						
NVAR	**Mina Array Bea**	**78.59**	**321**	P	**P**	**03 45 14.2**	**+1.5**
	comp=E,0.2nm,0.6s,baz=113,slow=6.3,SNR=1.6						
YKA	**Yellowknife Ar**	**94.15**	**340**	P	**P**	**03 46 27.8**	**-0.5**
	comp=E,0.2nm,0.6s,baz=133,slow=4.6,SNR=6.7						
WRA	**Warramunga Arr**	**131.68**	**207**	PKP	**PKPdf**	**03 52 21.9**	**-0.9**
	comp=E,0.5nm,1.0s,baz=162,slow=1.7,SNR=4.5						
MKAR	**Makanchi Array**	**146.46**	**40**	PKPbc	**PKPdf**	**03 52 49.1**	**+0.4**
	comp=E,0.6nm,0.7s,baz=305,slow=2.9,SNR=6.5						

*IDC **10** 03:55:38.7±8.0, 36°.01N×20°.90E, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.4/60, mbtmp3.6/7, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/40, Error ellipse: s-maj=150.0km s-min=37.3km az=24.0*

*ATH **10** 03:55:49.1, 36°.72N×21°.42E, h9km±3km, ML3.1/10, Error ellipse: s-maj=3.8km s-min=0.9km az=40.0*

*THE **10** 03:55:49.0, 36°.71N×21°.43E, h0km±1km, ML3.3/7, Error ellipse: s-maj=1.9km s-min=0.8km az=200.0*

ISC 10 03:55:50.0±1.2, **36.74N**±0°04×**21.44E**±0°04, **h27**km±9km, **n75**, σ1°41/87, **mb3.4**/5, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.29**	**58**	P	**Pb**	**03 55 55.5**	**-1.5**
ITM	**Ithomi**	**0.59**	**42**	P	**Pb**	**03 56 00.8**	**-0.9**
ITM				S	**Sb**	**03 56 09.4**	**-0.3**
ITM				AML	AML	03 56 09.9	
	comp=N,5330μm,0.4s						
ITM				AML	AML	03 56 11.8	
	comp=E,4591μm,0.5s						
ITM	**Ithomi**	**0.59**	**42**	P	**Pb**	**03 56 00.8**	**-0.9**
ITM				S	**Sb**	**03 56 09.3**	**-0.4**
	comp=E,2μm,0.3s						
VLX	**Vlachokerasia**	**0.98**	**50**	P	**Pn**	**03 56 07.6**	**-0.5**
VLX				S	**Sb**	**03 56 21.3**	**+0.3**
VLX				AML	AML	03 56 29.8	
	comp=N,4712μm,0.6s						
VLX				AML	AML	03 56 29.9	
	comp=E,3744μm,0.6s						
VLX	**Vlachokerasia**	**0.98**	**50**	P	**Pn**	**03 56 07.5**	**-0.5**
VLX				S	**Sn**	**03 56 22.4**	**+1.4**
	comp=E,2μm,0.5s						
LTHK	**Lithakia**	**1.08**	**334**	P	**Pb**	**03 56 09.8**	**-0.2**
LTHK				S	**Sn**	**03 56 24.1**	**+0.8**
LTHK				AML	AML	03 56 36.4	
	comp=N,1298μm,0.3s						
LTHK				AML	AML	03 56 36.7	
	comp=E,1362μm,0.5s						
LTHK	**Lithakia**	**1.08**	**334**	P	**Pb**	**03 56 09.1**	**-0.9**
LTHK				S	**Sn**	**03 56 25.4**	**+2.1**
	comp=E,772nm,0.4s						
VLI	**Veliai**	**1.20**	**91**	P	**Pb**	**03 56 12.0**	**-0.2**
VLI				S	**Sb**	**03 56 28.6**	**+1.3**
VLI				AML	AML	03 56 32.5	
	comp=E,1916μm,0.8s						
VLI				AML	AML	03 56 33.9	
	comp=N,2607μm,0.6s						
VLI	**Veliai**	**1.20**	**91**	P	**Pb**	**03 56 11.9**	**-0.2**
DRO	**Drossia**	**1.23**	**10**	P	**Pb**	**03 56 12.0**	**-0.6**
DRO				AML	AML	03 56 41.9	
	comp=E,2191μm,0.4s						
DRO				AML	AML	03 56 45.8	
	comp=N,1584μm,0.5s						
DRO	**Drossia**	**1.23**	**10**	P	**Pb**	**03 56 11.9**	**-0.6**
MNVA	**Monemvasia**	**1.29**	**92**	P	**Pb**	**03 56 12.7**	**-0.8**
VLMS	**Volimes, Zakyn**	**1.29**	**332**	P	**Pb**	**03 56 13.0**	**-0.7**
VLMS				AML	AML	03 56 41.1	
	comp=N,1669μm,0.4s						
VLMS				AML	AML	03 56 42.6	
	comp=E,1450μm,0.6s						
VLMS	**Volimes, Zakyn**	**1.29**	**332**	P	**Pb**	**03 56 12.9**	**-0.7**
VLMS				S	**Sb**	**03 56 32.7**	**+2.9**
	comp=E,900nm,0.6s						
RLS	**Riolos of Patr**	**1.31**	**1**	P	**Pb**	**03 56 13.6**	**-0.4**
RLS	**Riolos of Patr**	**1.31**	**1**	P	**Pb**	**03 56 13.6**	**-0.4**
KTHR	**Kythira**	**1.35**	**110**	P	**Pb**	**03 56 14.1**	**-0.5**
KTHR				S	**Sb**	**03 56 33.1**	**+1.6**
	comp=E,758nm,0.4s						
KTHA	**Kythira Island**	**1.40**	**110**	P	**Pb**	**03 56 14.8**	**-0.5**
KTHA				AML	AML	03 56 38.9	
	comp=E,1676μm,0.9s						
KTHA				AML	AML	03 56 42.1	
	comp=N,1185μm,0.4s						
KRND	**KRANIDI**	**1.51**	**64**	P	**Pb**	**03 56 17.0**	**-0.4**
KRND	**KRANIDI**	**1.51**	**64**	P	**Pb**	**03 56 17.1**	**-0.2**
PSDA	**Pessada-Kefalo**	**1.53**	**334**	P	**Pb**	**03 56 17.1**	**-0.6**
PSDA	**Pessada-Kefalo**	**1.53**	**334**	P	**Pb**	**03 56 16.7**	**-0.9**
PSDA				S	**Sb**	**03 56 39.8**	**+3.2**
LAKA	**Lakka**	**1.56**	**16**	P	**Pb**	**03 56 17.7**	**-0.4**
LAKA	**Lakka**	**1.56**	**16**	P	**Pb**	**03 56 17.9**	**-0.2**
LAKA				S	**Sb**	**03 56 40.3**	**+2.9**
	comp=N,1μm,0.7s						
VLS	**Valsamata**	**1.58**	**335**	P	**Pb**	**03 56 18.0**	**-0.6**
VLS				AML	AML	03 56 52.2	
	comp=E,385μm,0.6s						
VLS				AML	AML	03 56 52.2	
	comp=N,642μm,0.5s						
EPID	**Epidavros**	**1.60**	**57**	P	**Pb**	**03 56 18.5**	**-0.3**
EPID	**Epidavros**	**1.60**	**57**	P	**Pb**	**03 56 18.5**	**-0.3**
THAL	**Thalero**	**1.62**	**37**	P	**Pb**	**03 56 19.1**	**-0.1**
KEF3	**Kipouria, Keph**	**1.70**	**330**	P	**Pb**	**03 56 20.5**	**0.0**
KEF3	**Kipouria, Keph**	**1.70**	**330**	P	**Pb**	**03 56 19.8**	**-0.7**
KEF3				S	**Sb**	**03 56 43.7**	**+2.3**
	comp=N,880nm,0.5s						
TRIZ	**Trizonia**	**1.70**	**17**	P	**Pb**	**03 56 20.3**	**-0.2**
TRIZ	**Trizonia**	**1.70**	**17**	P	**Pb**	**03 56 19.1**	**-1.4**
KEF4	**Livadi, Kephal**	**1.71**	**332**	P	**Pb**	**03 56 20.0**	**-0.8**
KEF5	**Kardakata, Kep**	**1.72**	**334**	P	**Pb**	**03 56 20.8**	**-0.1**
DMLN	**Damoulianata-K**	**1.72**	**331**	P	**Pb**	**03 56 20.9**	**0.0**
EFP	**Efpalio**	**1.72**	**12**	P	**Pb**	**03 56 21.0**	**0.0**
EFP				AML	AML	03 56 55.0	
	comp=E,415μm,1.0s						
EFP				AML	AML	03 56 56.7	
	comp=N,358μm,0.6s						
KALE	**Kalithea**	**1.74**	**18**	P	**Pb**	**03 56 21.2**	**0.0**
KALE	**Kalithea**	**1.74**	**18**	P	**Pb**	**03 56 20.4**	**-0.8**
ANKY	**Antikythira Is**	**1.74**	**120**	P	**Pb**	**03 56 20.6**	**-0.7**
ANKY	**Antikythira Is**	**1.74**	**120**	P	**Pb**	**03 56 20.4**	**-0.8**
LOUT	**Loutraki**	**1.74**	**44**	P	**Pb**	**03 56 20.4**	**-0.9**
LTK	**Loutraki**	**1.77**	**43**	P	**Pb**	**03 56 21.1**	**-0.6**
LTK				AML	AML	03 56 53.2	
	comp=N,579μm,0.4s						
LTK				AML	AML	03 56 53.7	
	comp=E,713μm,0.7s						
LTK	**Loutraki**	**1.77**	**43**	P	**Pb**	**03 56 20.6**	**-1.1**
DSF	**Desfina**	**1.88**	**27**	P	**Pb**	**03 56 22.8**	**-0.8**
DSF	**Desfina**	**1.88**	**27**	P	**Pn**	**03 56 21.2**	**+0.9**
NYDR	**Nydri-Lefkada**	**2.05**	**344**	P	**Pb**	**03 56 26.2**	**-0.4**
VILL	**Villia**	**2.06**	**46**	P	**Pn**	**03 56 23.9**	**+1.1**
LKD2	**Lefkada island**	**2.13**	**343**	P	**Pb**	**03 56 27.2**	**-0.8**
LKD2	**Lefkada island**	**2.13**	**343**	P	**Pb**	**03 56 26.6**	**-1.4**
TSLK	**Tsoukalades, L**	**2.17**	**344**	P	**Pb**	**03 56 27.7**	**-0.8**
ATHU	**Athens Univers**	**2.23**	**56**	P	**Pn**	**03 56 26.0**	**+0.8**
AXAR	**Agios Charalam**	**2.24**	**25**	P	**Pb**	**03 56 28.0**	**-1.8**
LKR	**Lokris**	**2.27**	**33**	P	**Pn**	**03 56 27.0**	**+1.3**
ATAL	**Atalanti**	**2.32**	**32**	P	**Pn**	**03 56 28.0**	**+1.7**
AGG	**Agios Georgios**	**2.38**	**17**	P	**Pb**	**03 56 29.7**	**-2.5**
IMMV	**Iera Moni Meta**	**2.42**	**121**	P	**Pb**	**03 56 31.9**	**-1.0**
EREA	**Eretria**	**2.59**	**49**	P	**Pn**	**03 56 31.4**	**+1.3**
OHR	**Ohrid**	**4.39**	**354**	*i* Pn	Pn	03 56 59.1	+4.3
STIP	**Stip**	**4.98**	**6**	*i* Pn	**Pn**	**03 57 05.6**	**+2.7**
DBRK	**Dubrovnik**	**6.44**	**338**	*ePn*	**Pn**	**03 57 21.0**	**-1.9**
STON	**Ston**	**6.76**	**336**	*ePn*	**Pn**	**03 57 25.4**	**-2.0**
STON				Sn	**Sn**	**03 58 38.0**	**-5.4**
MAKA	**Makarska**	**7.36**	**334**	*ePn*	**Pn**	**03 57 35.2**	**-0.4**
MAKA				Sn	**Sn**	**03 58 53.9**	**-4.3**
HVAR	**Hvar**	**7.48**	**331**	*ePn*	**Pn**	**03 57 36.4**	**-0.8**
RICI	**Ricice**	**7.51**	**335**	*ePn*	**Pn**	**03 57 37.0**	**-0.6**
ZIRJ	**Zirje**	**8.20**	**329**	*ePn*	**Pn**	**03 57 46.6**	**-0.5**
DUGI	**Dugi Otok**	**8.72**	**328**	*ePn*	**Pn**	**03 57 54.8**	**+0.5**
UDBI	**Udbina**	**8.89**	**333**	*i* Pn	**Pn**	**03 57 57.6**	**+1.0**
MLR	**Muntele Rosu**	**9.38**	**20**	LR	LR	04 03 24.6	
	comp=E,161nm,19.2s,baz=328,slow=46						
BRTR	**Keskin Array B**	**10.05**	**69**	Pn	**Pn**	**03 58 14.3**	**+1.7**
	comp=E,0.1nm,0.3s,baz=258,slow=12,SNR=1.4						
KBZ	**Khabaz**	**17.78**	**60**	P	**P**	**03 59 58.3**	**+2.3**
	comp=E,0.1nm,0.3s,baz=237,slow=9.9,SNR=4.6						
HFS	**Hagfors**	**23.93**	**350**	P	**P**	**04 01 00.7**	**-0.7**
	comp=E,2.7nm,0.9s,baz=157,slow=10,SNR=5.4						
FINES	**FINESS Array B**	**24.90**	**5**	P	**P**	**04 01 09.5**	**-0.7**
	comp=E,0.5nm,0.5s,baz=168,slow=11,SNR=4.7						
KURBB	**Kurchatov Arra**	**42.51**	**52**	P	**P**	**04 03 41.8**	**-1.0**
	comp=E,0.5nm,0.6s,baz=280,slow=8.9,SNR=7.3						
MKAR	**Makanchi Array**	**45.45**	**57**	P	**P**	**04 04 05.5**	**-0.9**
	comp=E,0.3nm,0.6s,baz=275,slow=7.1,SNR=6.5						
ZALV	**Zalesovo Beam**	**46.12**	**47**	P	**P**	**04 04 09.8**	**-1.8**
	comp=E,0.5nm,0.3s,baz=275,slow=8.5,SNR=3.2						

*IDC **10** 03:56:11.4±3.6, 37°.62N×72°.56E, h102km±30km, mb3.1/3, mb1 3.4/7, mb1mx3.1/65, mbtmp3.7/7, MS3.5/1, Ms1 3.5/1, ms1mx2.6/22, Error ellipse: s-maj=35.4km s-min=28.0km az=177.0*

*NNC **10** 03:56:15.5±4.8, 38°.30N×72°.26E, h0km, mb4.1, mpv3.6, Error ellipse: s-maj=37.6km s-min=24.1km az=167.0*

ISC 10 03:56:13.3±0.8, **37.85N**±0°06×**72.47E**±0°08, **h119**km, **n22**, σ1°59/27, **mb3.3**/3, **2C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.38**	**12**	P	**Pn**	**03 57 18.8**	**+0.6**
	SNR=18						
UCH	**Uchtor**	**4.65**	**19**	P	**Pn**	**03 57 22.6**	**+0.7**
	SNR=23						
EKS2	**Erkin-Say**	**4.91**	**11**	P	**Pn**	**03 57 26.1**	**+0.9**
	SNR=24						
AAK	**Ala-Archa**	**5.03**	**17**	P	**Pn**	**03 57 27.9**	**+1.2**
	3.1nm,0.3s,baz=93,slow=5.7,SNR=33						
AAK				S	**Sn**	**03 58 22.1**	**-1.8**
	2.1nm,0.3s,baz=344,slow=22,SNR=15						
AAK	**Ala-Archa**	**5.03**	**17**	P	**Pn**	**03 57 27.9**	**+1.2**
	SNR=14						
AAK	**Ala-Archa**	**5.03**	**17**	⇓P		**03 57 27.8**	**+1.0**
	5.5nm,0.5s						
AAK				⇑S	**Sn**	**03 58 21.7**	**-2.2**
	8.3nm,0.5s						
ULHL	**Ulahol**	**5.26**	**32**	P	**Pn**	**03 57 29.9**	**+0.1**
	SNR=8.0						
KK31	**Karatay Array**	**5.46**	**345**	P	**Pn**	**03 57 33.4**	**+1.0**
	7.8nm,0.2s,baz=158,slow=13,SNR=305						
KK31				⇓S	**Sn**	**03 58 31.3**	**-2.7**
	9.4nm,0.3s,baz=164,slow=24,SNR=4.3						
TKM2	**Tokmak 2**	**5.60**	**24**	⇑P	**Pn**	**03 57 34.8**	**+0.4**
	1.8nm,0.7s						
TKM2				⇓S	**Sn**	**03 58 39.9**	**+2.2**
	2.1nm,0.3s						
USP	**Ospenovka**	**5.63**	**15**	P	**Pn**	**03 57 35.0**	**+0.3**
	SNR=6.3						
THN	**Thein Dam**	**6.02**	**153**	*eP*	**Pn**	**03 57 41.0**	**+1.1**
THN				*eS*	**Sn**	**03 58 45.0**	**-2.5**
GEYT	**Alibeck**	**11.35**	**275**	P	**Pn**	**03 58 51.4**	**-0.5**
	1.4nm,0.3s,baz=101,slow=13,SNR=7.6						
MKAR	**Makanchi Array**	**11.51**	**36**	P	**Pn**	**03 58 53.2**	**-0.8**
	0.0nm,0.3s,baz=226,slow=12,SNR=2.1						
KURBB	**Kurchatov Arra**	**13.48**	**17**	P	**Pn**	**03 59 15.7**	**-4.0**
	0.0nm,0.3s,baz=207,slow=11,SNR=3.4						
AB31	**Akbulak array**	**14.56**	**326**	⇓P		**03 59 33.2**	**-0.2**
	3.6nm,0.6s,baz=133,slow=13,SNR=3.9						
AB31				S	**Sn**	**04 02 12.2**	**-1.9**
	1.3nm,0.7s,baz=150,slow=22,SNR=5.7						
AKTO	**Aktyubinsk**	**16.27**	**325**	P	**P**	**03 59 56.0**	**+0.4**
	0.9nm,0.3s,baz=114,slow=8.3,SNR=11						
AKTO	**Aktyubinsk**	**16.27**	**325**	⇓P	**Pn**	**03 59 55.7**	**+1.0**
	3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**18.21**	**24**	P	**Pn**	**04 00 18.5**	**+0.4**
	0.1nm,0.3s,baz=221,slow=11,SNR=1.9						
FINES	**FINESS Array B**	**37.05**	**325**	P	**P**	**04 03 13.0**	**+1.7**
	1.2nm,0.9s,baz=108,slow=12,SNR=1.1						
USRK	**Uesuriysk Ar.**	**44.49**	**62**	LR	LR	04 26 35.2	
	comp=Z,50nm,18.4s,baz=128,slow=41						
YKA	**Yellowknife Ar**	**79.84**	**3**	P	**P**	**04 08 09.1**	**+1.0**
	0.2nm,0.6s,baz=360,slow=5.6,SNR=6.1						
WRA	**Warramunga Arr**	**81.72**	**123**	P	**P**	**04 08 17.9**	**-0.9**
	0.4nm,1.2s,baz=318,slow=4.2,SNR=4.7						
WRA				pP	pP	04 08 37.6	-13
	0.4nm,0.7s,baz=332,slow=8.0,SNR=2.5						

*IDC **10** 03:56:35.5±8.2, 23°.80N×143°.05E, h33km±62km, mb3.4/10, mb1 3.7/11, mb1mx3.5/61, mbtmp3.6/11, ML3.9/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/28, Error ellipse: s-maj=31.2km s-min=19.2km az=94.0*

ISC 10 03:56:35.0±0.9, **23.8N**±0°.1×**143.1E**±0°.2, **h29**km, **n13**, σ0°76/13, **mb3.8**/11, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.38**	**347**	Pn	**Pn**	**03 57 26.4**	**+0.6**
	12nm,0.3s,baz=160,slow=17,SNR=2.0						
JCJ				Sn	**Sn**	**03 58 04.0**	**-0.9**
	24nm,0.3s,baz=299,slow=23,SNR=8.2						
MJAR	**Matsushiro Arr**	**13.37**	**343**	LR	LR	04 04 26.0	
	comp=Z,32nm,20.1s,baz=150,slow=35						
SONM	**Songino Array**	**37.67**	**319**	P	**P**	**04 03 48.3**	**+0.6**
	0.3nm,0.8s,baz=113,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**44.30**	**192**	P	**P**	**04 04 42.3**	**-0.1**
	0.8nm,0.5s,baz=8.2,slow=8.1,SNR=10						
FITZ	**Fitzroy Crossi**	**44.98**	**204**	P	**P**	**04 04 47.2**	**-0.6**
	2.8nm,1.2s,baz=25,slow=10,SNR=1.4						
MKAR	**Makanchi Array**	**53.23**	**312**	P	**P**	**04 05 50.6**	**0.0**
	0.1nm,0.4s,baz=86,slow=7.4,SNR=1.5						
KURBB	**Kurchatov Arra**	**55.93**	**316**	P	**P**	**04 06 10.3**	**0.0**
	0.2nm,0.5s,baz=94,slow=7.9,SNR=3.0						
ILAR	**Eielson Array**	**60.24**	**28**	P	**P**	**04 06 39.3**	**-1.0**
	0.6nm,0.8s,baz=262,slow=5.4,SNR=4.5						
BVAR	**Borovoye Array**	**61.01**	**319**	P	**P**	**04 06 44.3**	**-1.5**
	0.4nm,0.4s,baz=91,slow=13,SNR=2.4						
YKA	**Yellowknife Ar**	**74.67**	**28**	P	**P**	**04 08 11.9**	**+0.4**
	0.4nm,0.7s,baz=294,slow=5.0,SNR=7.3						
KBZ	**Khabaz**	**80.84**	**314**	P	**P**	**04 08 46.8**	**+0.6**
	1.4nm,0.8s,baz=78,slow=9.3,SNR=3.8						
FINES	**FINESS Array B**	**81.25**	**334**	P	**P**	**04 08 48.0**	**-0.1**
	3.8nm,1.1s,baz=75,slow=5.9,SNR=4.3						
NVAR	**Mina Array Bea**	**81.94**	**52**	P	**P**	**04 08 52.9**	**+0.5**
	0.2nm,0.6s,baz=284,slow=3.6,SNR=2.5						

*MAN **10** 03:57:15.5, 6°.66N×125°.39E, h14km, MS3.4*

MAN INTENSITY III - DIGOS CITY.

ISC 10 03:57:15.1±1.4, **6.63N**±0°04×**125.37E**±0°05, **h15**km±10km, **n12**, σ1°45/18, **mb3.6**/4, **2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.46**	**324**↑	*eP*	**Pn**	**03 57 27.8**	**+0.5**
KCP				*i* S	**Sn**	**03 57 35.9**	**+0.6**
DDMP	**Don Marcelino,**	**0.63**	**147**	*eP*	**Pg**	**03 57 28.3**	**+0.8**
DDMP				*eS*	**Sn**	**03 57 41.3**	**+2.0**
SKMP	**Bagumbayan, Su**	**0.83**	**262**	*eP*	**Pb**	**03 57 30.1**	**-1.1**
MATI	**Mati**	**0.94**	**71**	*eP*	**Pb**	**03 57 31.5**	**-1.6**
MATI				*eS*	**Sb**	**03 57 45.9**	**+0.5**
BUKP	**Musuan**	**1.27**	**346**	*eP*	**Pn**	**03 57 37.2**	**-1.3**
BUKP				*eS*	**Sg**	**03 57 56.2**	**-0.1**
CGP	**Cagayan de Oro**	**1.93**	**340**↑	*eP*	**Pn**	**03 57 48.1**	**+0.7**
CGP				*i* S	**Sb**	**03 58 14.8**	**+0.9**
PAGZ	**Pagadian**	**2.31**	**302**	*eP*	**Pn**	**03 57 53.3**	**+0.6**
GLSP	**General Luna,**	**3.22**	**13**	*eP*	**Pn**	**03 58 06.3**	**+1.1**
GLSP				*eS*	**Sn**	**03 58 45.1**	**+1.8**
FITZ	**Fitzroy Crossi**	**24.58**	**179**	P	**P**	**04 02 36.0**	**+1.3**
	2.2nm,0.8s,baz=351,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	**27.85**	**162**	P	**P**	**04 03 03.7**	**-0.6**
	0.8nm,0.7s,baz=344,slow=9.3,SNR=4.1						
ASAR	**Alice Springs**	**31.25**	**165**	P	**P**	**04 03 35.2**	**+0.7**
	0.4nm,0.5s,baz=351,slow=7.4,SNR=8.0						
STKA	**Stephens Creek**	**41.31**	**159**	P	**P**	**04 04 57.2**	**-3.1**
	1.0nm,0.8s,baz=333,slow=14,SNR=2.2						

*NEIC **10** 04:21:04.6±0.6, 36°.74N±0°.01×97°.52W±0°.02, h7km±8km, Error ellipse: s-maj=2.2km s-min=1.8km az=60.0*

*ANF **10** 04:21:04.7±0.2, 36°.72N×97°.52W, h7km, ML4.4/22, Error ellipse: s-maj=2.9km s-min=2.5km az=175.0*

*TUL **10** 04:21:04.5±0.9, 36°.75N±0°.01×97°.53W±0°.02, h7km±7km, ML3.8, mb_Lg3.5/121(NEIC), Mwr3.3/14(SLM), Error ellipse: s-maj=2.1km s-min=1.6km az=57.0*

*NEIC **10** 04:21:04.5, 36°.74N×97°.52W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.02; $M_{\theta\theta}$=0.81; $M_{\phi\phi}$=0.79; $M_{r\theta}$=0.06; $M_{\theta\phi}$=0.94; $M_{r\phi}$=0.14; Fault plane solution: $M_0$1.24000×10^{14} NP1:ϕ_s110.00000°, δ85.00000°, λ-5.00000°. NP2:ϕ_s200.00000°, δ85.00000°, λ-175.00000°. Principal axes: T 1.2448, Plg0.0000°, Azm335.0000°; N -0.0002, Plg83.0000°, Azm245.0000°; P -1.2446, Plg7.0000°, Azm65.0000°;*

*IDC **10** 04:21:08.1±0.9, 36°.82N×98°.14W, h0km, mb3.4/1, mb1 3.6/7, mb1mx3.5/40, mbtmp3.4/7, ML3.9/4 Error ellipse: s-maj=12.4km s-min=9.8km az=139.0*

ISC 10 04:21:04.1±1.0, **36.71N**±0°02×**97.52W**±0°02, **h6**km±8km, **n153**, σ0°95/146, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAN13	**South Haven SW**	**0.30**	**7**		**Pg**	**04 21 10.2**	**+0.2**
KAN13				Sg	**Sg**	**04 21 14.1**	**+0.1**
GC02	**Grant County #**	**0.31**	**297**		**Pg**	**04 21 10.3**	**+0.3**
GC02				Sg	**Sg**	**04 21 14.4**	**+0.3**
CROK	**Carrier**	**0.43**	**241**		**Pb**	**04 21 13.2**	**-0.9**
CROK				Sg	**Sb**	**04 21 19.3**	**-1.4**
KAN09	**Caldwell North**	**0.43**	**350**	Pg	**Pg**	**04 21 12.5**	**+0.1**
KAN09				Sg	**Sg**	**04 21 18.0**	**-0.1**
KAN14	**Manchester OK**	**0.43**	**305**		**Pg**	**04 21 12.6**	**+0.1**
KAN01	**Argonia South**	**0.48**	**337**		**Pg**	**04 21 13.4**	**0.0**
KAN01				Sg	**Sg**	**04 21 19.6**	**-0.1**
KS20	**Mayfield South**	**0.52**	**357**		**Pg**	**04 21 14.1**	**0.0**
KS20				Sg	**Sg**	**04 21 20.8**	**0.0**
OK032	**Salt Plains W

U38A	**Gravette**	**2.54**	**95**	P			04 21 47.2		
	baz=278,SNR=194								
CBKS	**Cedar Bluff**	**2.74**	**321**			**Pn**	**04 21 48.9**	**+0.3**	
CBKS	**Cedar Bluff**	**2.74**	**321**	P		**Pn**	**04 21 48.9**	**+0.3**	
	baz=139,SNR=55								
CBKS				S		**Sb**	**04 22 28.0**	**+0.8**	
	baz=139								
CBKS	**Cedar Bluff**	**2.74**	**321**	P			04 21 48.9		
	baz=139,SNR=58								
CBKS				Sb			04 22 28.2		
	baz=139								
CBKS	**Cedar Bluff**	**2.74**	**321**	P			04 21 48.9		
	baz=139,SNR=55								
CBKS				S			04 22 28.0		
	baz=139								
X37A	**Clayton**	**2.75**	**140**			**Pn**	**04 21 50.1**	**+1.5**	
X37A				IAmb_Lg			04 22 38.9		
	comp=Z,86nm,0.8s								
X37A	**Clayton**	**2.75**	**140**	P		**Pn**	**04 21 49.5**	**+0.9**	
	baz=322,SNR=82								
X37A	**Clayton**	**2.75**	**140**	P			04 21 49.5		
	baz=322,SNR=82								
HHAR	**Hobbs**	**2.92**	**97**			**Pn**	**04 21 52.2**	**+1.2**	
HHAR	**Hobbs**	**2.92**	**97**	P		**Pn**	**04 21 52.3**	**+1.2**	
	baz=280,SNR=36								
HHAR	**Hobbs**	**2.92**	**97**	P			04 21 52.3		
	baz=280,SNR=36								
Z35A	**Perchaven, San**	**3.38**	**176**	Pn		**Pn**	**04 21 58.1**	**+0.7**	
W39A	**Magazine**	**3.39**	**115**	Pn		**Pn**	**04 21 58.2**	**+0.7**	
W39A				IAmb_Lg			04 23 00.4		
	comp=Z,130nm,0.8s								
W39A	**Magazine**	**3.39**	**115**	P		**Pn**	**04 21 58.2**	**+0.7**	
	baz=298,SNR=17								
W39A	**Magazine**	**3.39**	**115**	P			04 21 58.2		
	baz=298								
W39A				Sb			04 22 50.0		
	baz=298								
W39A	**Magazine**	**3.39**	**115**	P			04 21 58.2		
	baz=296,SNR=17								
S39A	**Bolivar**	**3.49**	**72**			**Pn**	**04 21 59.6**	**+0.7**	
S39A	**Bolivar**	**3.49**	**72**	P		**Pn**	**04 21 59.6**	**+0.7**	
	baz=256,SNR=38								
S39A				S		**Sn**	**04 22 41.6**	**+1.1**	
	baz=256								
S39A	**Bolivar**	**3.49**	**72**	P			04 21 59.6		
	baz=256,SNR=38								
S39A				S			04 22 41.6		
	baz=256								
U40A	**Yellville**	**3.77**	**94**	Pn		**Pn**	**04 22 03.5**	**+0.7**	
U40A	**Yellville**	**3.77**	**94**	P		**Pn**	**04 22 03.7**	**+0.9**	
	baz=277,SNR=60								
U40A	**Yellville**	**3.77**	**94**	P			04 22 03.7		
	baz=277,SNR=35								
U40A				S			04 22 48.2		
	baz=277								
U40A	**Yellville**	**3.77**	**94**	P			04 22 03.7		
	baz=277,SNR=60								
U40A				P			04 22 03.7		
	baz=277,SNR=60								
AMTX	**Amarillo**	**3.84**	**243**	Pn		**Pn**	**04 22 04.6**	**+0.8**	
AMTX				IAmb_Lg			04 23 14.1		
	comp=Z,97nm,0.8s								
AMTX	**Amarillo**	**3.84**	**243**	P		**Pn**	**04 22 05.2**	**+1.4**	
	baz=60,SNR=14								
AMTX	**Amarillo**	**3.84**	**243**	P			04 22 04.6		
	baz=60								
AMTX				Sb			04 23 04.2		
	baz=60								
AMTX	**Amarillo**	**3.84**	**243**	P			04 22 05.2		
	baz=60,SNR=14								
MIAR	**Mount Ida**	**3.87**	**123**			**Pn**	**04 22 04.9**	**+0.9**	
MIAR				IAmb_Lg			04 23 12.2		
	comp=Z,120nm,0.9s								
MIAR	**Mount Ida**	**3.87**	**123**	P		**Pn**	**04 22 05.0**	**+0.9**	
	baz=306,SNR=44								
MIAR	**Mount Ida**	**3.87**	**123**	P			04 22 05.0		
	baz=306,SNR=19								
MIAR				S			04 22 50.9		
	baz=306								
MIAR	**Mount Ida**	**3.87**	**123**	P			04 22 05.0		
	baz=306,SNR=44								
N33A	**J Bar K, Exete**	**4.02**	**1**	Pn		**Pn**	**04 22 06.1**	**-0.1**	
Z38A	**Mt. Pleasant**	**4.02**	**148**	Pn		**Pn**	**04 22 07.1**	**+0.8**	
MGMO	**Mountain Grove**	**4.23**	**82**			**Pn**	**04 22 09.9**	**+0.8**	
MGMO				IAmb_Lg			04 23 17.1		
	comp=Z,158nm,0.8s								
P38A	**Dawn**	**4.28**	**46**	Pn		**Pn**	**04 22 10.0**	**+0.3**	
P38A	**Dawn**	**4.28**	**46**	P		**Pn**	**04 22 09.9**	**+0.2**	
	baz=229,SNR=19								
P38A	**Dawn**	**4.28**	**46**	P			04 22 09.9		
	baz=229,SNR=19								
N35A	**Tabor**	**4.39**	**19**	Pn		**Pn**	**04 22 10.9**	**-0.4**	
N35A	**Tabor**	**4.39**	**19**	P		**Pn**	**04 22 12.1**	**+0.8**	
	baz=200,SNR=8.6								
N35A	**Tabor**	**4.39**	**19**	P			04 22 12.1		
	baz=200,SNR=8.6								
X40A	**Basin Creek Fa**	**4.42**	**119**			**Pn**	**04 22 12.4**	**+0.8**	
X40A				IAmb_Lg			04 23 25.6		
	comp=Z,88nm,0.7s								
X40A	**Basin Creek Fa**	**4.42**	**119**	P		**Pn**	**04 22 12.8**	**+1.2**	
	baz=302,SNR=9.6								
X40A	**Basin Creek Fa**	**4.42**	**119**	P			04 22 12.7		
	baz=302,SNR=7.8								
X40A				S			04 23 04.5		
	baz=302								
X40A	**Basin Creek Fa**	**4.42**	**119**	P			04 22 12.8		
	baz=302,SNR=9.6								
X40A				P			04 22 12.8		
	baz=302,SNR=9.6								
FCAR	**Ozark Folk Cen**	**4.43**	**99**	Pn		**Pn**	**04 22 14.0**	**+2.1**	
FCAR				IAmb_Lg			04 23 22.9		
	comp=Z,115nm,0.8s								
ABTX	**Abilene, Hawle**	**4.44**	**204**	P			04 22 12.8		
	baz=22,SNR=20								
R40A	**Maddies Statio**	**4.46**	**68**	IAmb_Lg			04 23 30.3		
	comp=Z,97nm,0.7s								
R40A	**Maddies Statio**	**4.46**	**68**	P		**Pn**	**04 22 12.8**	**+0.5**	
	baz=251,SNR=57								
R40A	**Maddies Statio**	**4.46**	**68**	P			04 22 12.8		
	baz=251,SNR=57								
WHAR	**Wooly Hollow**	**4.47**	**107**	Pn		**Pn**	**04 22 13.2**	**+0.8**	
WHAR				IAmb_Lg			04 23 24.7		
	comp=Z,91nm,0.8s								
W41B	**Gary Mavity, V**	**4.54**	**108**	P			04 22 14.0		
	baz=292								
W41B				Sb			04 23 24.9		
	baz=292								
KSCO	**Kaye Shedlock'**	**4.65**	**301**	P		**Pn**	**04 22 15.3**	**+0.4**	
	baz=118								
KSCO	**Kaye Shedlock'**	**4.65**	**301**	P			04 22 14.8		
	baz=118,SNR=5.5								
KSCO				S			04 23 08.1		
	baz=118								
KSCO	**Kaye Shedlock'**	**4.65**	**301**	P			04 22 15.3		
	baz=118								
WLAR	**White Oak Lake**	**4.70**	**129**			**Pn**	**04 22 16.4**	**+0.8**	
WLAR				IAmb_Lg			04 23 47.4		
	comp=Z,89nm,1.1s								
WHTX	**Lake Whitney,**	**4.71**	**179**	P		**Pn**	**04 22 16.7**	**+1.0**	
	baz=359,SNR=13								
WHTX	**Lake Whitney,**	**4.71**	**179**	P			04 22 16.8		
	baz=359								
WHTX				S			04 23 11.0		
	baz=359								
WHTX	**Lake Whitney,**	**4.71**	**179**	P			04 22 16.7		
	baz=359,SNR=13								
BGNE	**Belgrade**	**4.71**	**354**	P		**Pn**	**04 22 16.0**	**+0.3**	
	baz=174								
BGNE	**Belgrade**	**4.71**	**354**	P			04 22 15.7		
	baz=174								
BGNE				S			04 23 09.2		
	baz=174								
BGNE	**Belgrade**	**4.71**	**354**	P			04 22 16.0		
	baz=174								
237A	**Washetta, Mont**	**4.91**	**163**			**Pn**	**04 22 19.2**	**+0.8**	
237A				IAmb_Lg			04 23 55.0		
	comp=Z,66nm,0.8s								
MSTX	**Muleshoe**	**5.09**	**239**	P			04 22 21.6		
	baz=55								
P40A	**Paris**	**5.15**	**55**	Pn		**Pn**	**04 22 22.1**	**+0.4**	
P40A				IAmb_Lg			04 23 49.9		
	comp=Z,68nm,0.7s								
T42A	**Van Buren**	**5.16**	**85**	Pn		**Pn**	**04 22 22.4**	**+0.6**	
T42A				IAmb_Lg			04 23 53.2		
	comp=Z,82nm,0.8s								
CCM	**Cathedral Cave**	**5.17**	**73**	Pn		**Pn**	**04 22 22.2**	**+0.1**	
CCM				IAmb_Lg			04 24 00.5		
	comp=Z,79nm,0.8s								
CCM	**Cathedral Cave**	**5.17**	**73**	P		**Pn**	**04 22 22.3**	**+0.3**	
	baz=257								
CCM	**Cathedral Cave**	**5.17**	**73**	P			04 22 22.3		
	baz=257								
CCM	**Cathedral Cave**	**5.17**	**73**	P			04 22 22.3		
	baz=257								
LCAR	**Lake Charles**	**5.18**	**95**	Pn		**Pn**	**04 22 22.7**	**+0.6**	
LCAR				IAmb_Lg			04 23 48.7		
	comp=Z,109nm,0.8s								
Z41A	**Richland Creek**	**5.18**	**130**	P			04 22 23.1		
	baz=313								
Z41A				S			04 23 21.9		
	baz=313								
N38A	**Joes South For**	**5.28**	**38**			**Pn**	**04 22 23.1**	**-0.3**	
N38A				IAmb_Lg			04 23 55.9		
	comp=Z,90nm,0.9s								
CCAR	**Cane Creek**	**5.46**	**119**	IAmb_Lg			04 24 11.1		
	comp=Z,63nm,1.0s								
NATX	**Nacogdoches**	**5.48**	**154**	IAmb_Lg			04 24 10.7		
	comp=Z,89nm,0.9s								
OGNE	**Ogallala**	**5.50**	**322**	Pn		**Pn**	**04 22 26.8**	**+0.2**	
OGNE				IAmb_Lg			04 24 02.8		
	comp=Z,88nm,0.7s								
OGNE	**Ogallala**	**5.50**	**322**	P		**Pn**	**04 22 27.1**	**+0.5**	
	baz=139,SNR=13								
OGNE	**Ogallala**	**5.50**	**322**	P			04 22 27.2		
	baz=139								
OGNE	**Ogallala**	**5.50**	**322**	P			04 22 27.1		
	baz=139,SNR=13								
T25A	**Trinidad**	**5.54**	**276**	Pn		**Pn**	**04 22 27.4**	**+0.1**	
T25A				IAmb_Lg			04 24 09.7		
	comp=Z,108nm,0.8s								
PBMO	**Poplar Bluff**	**5.70**	**87**	Pn		**Pn**	**04 22 29.5**	**+0.3**	
PBMO				IAmb_Lg			04 24 12.6		
	comp=Z,109nm,0.8s								
435B	**Jarrell**	**5.91**	**181**	Pn		**Pn**	**04 22 32.7**	**+0.5**	
435B				IAmb_Lg			04 24 21.4		
	comp=Z,122nm,1.0s								
K31A	**O'Neill**	**5.98**	**351**	Pn		**Pn**	**04 22 33.3**	**+0.2**	
K31A	**O'Neill**	**5.98**	**351**	P		**Pn**	**04 22 33.5**	**+0.3**	
	baz=170,SNR=12								
K31A	**O'Neill**	**5.98**	**351**	P			04 22 33.5		
	baz=170,SNR=12								
SCIA	**State Center**	**6.17**	**31**	IAmb_Lg			04 24 24.3		
	comp=Z,66nm,0.8s								
SCIA	**State Center**	**6.17**	**31**	S			04 23 44.3		
	baz=214								
PEBM	**Pemiscott Bayo**	**6.21**	**93**	Pn		**Pn**	**04 22 36.9**	**+0.7**	
Q24A	**Divide**	**6.44**	**293**	P			04 22 39.6		
	baz=108								
SDCO	**Great Sand Dun**	**6.45**	**282**	Pn		**Pn**	**04 22 40.0**	**+0.1**	
SDCO	**Great Sand Dun**	**6.45**	**282**	P			04 22 39.9		
	baz=96								
JCT	**Junction City**	**6.50**	**198**	P			04 22 40.5		
	baz=16								
N41A	**Harden Midland**	**6.56**	**51**	Pn		**Pn**	**04 22 41.3**	**+0.2**	
N41A				IAmb_Lg			04 24 44.7		
	comp=Z,57nm,0.8s								
HALT	**Halls**	**6.65**	**94**	IAmb_Lg			04 24 50.0		
	comp=Z,106nm,1.1s								
S44A	**Carbondale**	**6.67**	**79**	Pn		**Pn**	**04 22 43.2**	**+0.6**	
SIUC	**Southern Illin**	**6.70**	**79**	Pn		**Pn**	**04 22 43.3**	**+0.3**	
W45A	**Hickory Valley**	**6.94**	**100**	IAmb_Lg			04 24 57.5		
	comp=Z,63nm,0.8s								
P43A	**Skaggs, Pawnee**	**6.95**	**63**	Pn		**Pn**	**04 22 46.9**	**+0.5**	
K38A	**Parkersburg**	**6.97**	**30**	IAmb_Lg			04 24 59.6		
	comp=Z,75nm,0.9s								
ECSD	**EROS Data Cent**	**7.05**	**5**			**Pn**	**04 22 47.2**	**-0.6**	
ECSD				IAmb_Lg			04 24 51.5		
	comp=Z,30nm,0.8s								
ECSD	**EROS Data Cent**	**7.05**	**5**	P		**Pn**	**04 22 46.8**	**-1.0**	
	baz=186,SNR=18								
ECSD	**EROS Data Cent**	**7.05**	**5**	P			04 22 46.8		
	baz=186								
ECSD	**EROS Data Cent**	**7.05**	**5**	P			04 22 46.8		
	baz=186,SNR=18								
ISCO	**Idaho Springs**	**7.07**	**298**	Pn		**Pn**	**04 22 48.5**	**0.0**	
ISCO				IAmb_Lg			04 24 52.2		
	comp=Z,38nm,1.0s								
ISCO	**Idaho Springs**	**7.07**	**298**	P		**Pn**	**04 22 48.4**	**0.0**	
	baz=113,SNR=7.9								
ISCO	**Idaho Springs**	**7.07**	**298**	P			04 22 48.2		
	baz=113,SNR=5.9								
ISCO	**Idaho Springs**	**7.07**	**298**	P			04 22 48.4		
	baz=113,SNR=7.9								
Q44A	**Meyer Farm, Va**	**7.08**	**69**	Pn		**Pn**	**04 22 48.6**	**+0.5**	
Y45A	**Yeager Farm, C**	**7.11**	**111**	IAmb_Lg			04 25 06.6		
	comp=Z,67nm,0.9s								
L40A	**Anamosa**	**7.23**	**40**	IAmb_Lg			04 24 56.4		
	comp=Z,42nm,0.9s								
ANMO	**Albuquerque**	**7.47**	**259**	Pn		**Pn**	**04 22 54.2**	**+0.5**	
	comp=Z,0.1nm,0.3s,baz=75,slow=13,SNR=1.4								
ANMO				Pg		**Pb**	**04 23 15.5**	**+1.4**	
	comp=Z,0.3nm,0.3s,baz=94,slow=18,SNR=4.0								
ANMO				Lg		Lg	04 24 53.0		
	comp=Z,1.3nm,0.3s,baz=83,slow=22,SNR=3.1								
HDIL	**Hopedale**	**7.50**	**57**			**Pn**	**04 22 53.9**	**+0.1**	
HDIL				IAmb_Lg			04 25 22.3		
	comp=Z,81nm,0.7s								
HDIL	**Hopedale**	**7.50**	**57**	P			04 22 53.8		
	baz=242								
PHWY	**Pilot Hill**	**7.69**	**309**	Pn		**Pn**	**04 22 56.9**	**0.0**	
N23A	**Red Feather La**	**7.79**	**305**	P			04 22 58.6		
	baz=120								
SUSD	**Miller**	**7.80**	**352**	P			04 22 57.3		
	baz=172								
WVT	**Waverly**	**7.83**	**91**	IAmb_Lg			04 25 14.8		
	comp=Z,39nm,0.8s								
WVT	**Waverly**	**7.83**	**91**	P			04 22 58.6		
	baz=277								
735A	**Kenedy**	**7.84**	**182**	IAmb_Lg			04 25 25.8		
	comp=Z,28nm,0.8s								
SMCO	**Snowmass**	**7.86**	**291**	Pn		**Pn**	**04 22 59.3**	**0.0**	
O44A	**Mansfield**	**7.89**	**61**	IAmb_Lg			04 25 17.2		
	comp=Z,61nm,0.7s								
I37A	**Lemond, Waseca**	**7.94**	**22**	IAmb_Lg			04 25 27.6		
	comp=Z,48nm,0.8s								
L42A	**Oliver, Polo**	**8.06**	**47**	Pn		**Pn**	**04 23 01.1**	**-0.5**	
L42A				IAmb_Lg			04 25 19.1		
	comp=Z,39nm,0.9s								
146A	**Union**	**8.07**	**118**	IAmb_Lg			04 25 42.0		
	comp=Z,23nm,0.8s								
Y22D	**IRIS PASSCAL I**	**8.12**	**254**	IAmb_Lg			04 25 33.6		
	comp=Z,82nm,1.0s								
MNTX	**Cornudas Mount**	**8.21**	**235**	Pn		**Pn**	**04 23 04.2**	**+0.4**	
MNTX	**Cornudas Mount**	**8.21**	**235**	P		**Pn**	**04 23 04.2**	**+0.4**	
	baz=50,SNR=7.3								
MNTX	**Cornudas Mount**	**8.21**	**235**	P			04 23 04.0		
	baz=50,SNR=6.8								
MNTX	**Cornudas Mount**	**8.21**	**235**	P			04 23 04.2		
	baz=50,SNR=7.3								
JFWS	**Jewell Farm**	**8.35**	**40**	Pn		**Pn**	**04 23 04.6**	**-1.0**	
JFWS				IAmb_Lg			04 25 27.1		
	comp=Z,46nm,0.8s								
JFWS	**Jewell Farm**	**8.35**	**40**	P		**Pn**	**04 23 04.5**	**-1.0**	
	baz=225,SNR=7.6								
JFWS	**Jewell Farm**	**8.35**	**40**	P			04 23 04.6		
	baz=225								
JFWS	**Jewell Farm**	**8.35**	**40**	P			04 23 04.5		
	baz=225,SNR=7.6								
T47A	**Sharon Grove**	**8.36**	**85**	IAmb_Lg			04 25 43.0		
	comp=Z,53nm,0.9s								
Z47A	**Carrollton**	**8.51**	**112**	IAmb_Lg			04 25 58.6		
	comp=Z,22nm,0.8s								
V48A	**Smith Brothers**	**8.70**	**93**	IAmb_Lg			04 25 37.5		
	comp=Z,42nm,0.9s								
M44A	**Midewin, Midew**	**8.72**	**55**	Pn		**Pn**	**04 23 10.3**	**-0.5**	
M44A				IAmb_Lg			04 25 39.6		
	comp=Z,62nm,1.1s								
X48A	**Hartselle**	**8.83**	**102**	IAmb_Lg			04 25 40.5		
	comp=Z,34nm,1.0s								
I40A	**Norwalk**	**8.90**	**34**	P		**Pn**	**04 23 11.9**	**-1.3**	
	baz=219,SNR=6.3								
I40A	**Norwalk**	**8.90**	**34**	P			04 23 11.9		
	baz=219,SNR=6.3								
RSSD	**Black Hills**	**8.91**	**328**	Pn		**Pn**	**04 23 12.7**	**-0.8**	
RSSD	**Black Hills**	**8.91**	**328**	P			04 23 13.9		
	baz=144								
SFIN	**Lafayette**	**8.95**	**63**	P			04 23 14.7		
	baz=249								
TX31	**Lajitas Ar. Si**	**8.98**	**217**			**Pn**	**04 23 14.3**	**-0.2**	
TX32	**Lajitas Array**	**8.98**	**217**	Pn		**Pn**	**04 23 14.1**	**-0.3**	
TXAR	**Lajitas Array**	**8.98**	**217**	Pn		**Pn**	**04 23 14.3**	**-0.2**	
	comp=Z,0.4nm,0.3s,baz=37,slow=11,SNR=19								
TXAR				Sn		**Sn**	**04 24 51.9**	**-4.1**	
	comp=Z,0.4nm,0.3s,baz=30,slow=22,SNR=1.7								
TXAR				Lg		Lg	04 25 41.1		
	comp=Z,0.5nm,0.3s,baz=55,slow=19,SNR=2.5								
CLTN	**Cedars of Leba**	**9.04**	**91**	IAmb_Lg			04 25 51.7		
	comp=Z,30nm,0.7s								
WCI	**Wyandotte Cave**	**9.05**	**77**	IAmb_Lg			04 25 52.2		
	comp=Z,57nm,1.0s								
HQIL	**Hanson Quary C**	**9.05**	**53**	IAmb_Lg			04 26 12.7		
	comp=Z,31nm,0.8s								
F33A	**5 Mile Ranch,**	**9.17**	**5**	Pn		**Pn**	**04 23 16.2**	**-0.6**	
F33A				IAmb_Lg			04 25 55.2		
	comp=Z,30nm,0.9s								
L44A	**Lake County Fo**	**9.22**	**51**	IAmb_Lg			04 26 07.0		
	comp=Z,53nm,1.0s								
K43A	**Burlington**	**9.27**	**47**	IAmb_Lg			04 26 10.6		
	comp=Z,37nm,0.9s								
U49A	**Red Boiling Sp**	**9.44**	**88**	IAmb_Lg			04 26 18.2		
	comp=Z,42nm,1.1s								
SWET	**Sewanee**	**9.51**	**96**	IAmb_Lg			04 26 16.5		
	comp=Z,22nm,0.9s								
Y49A	**Blount Mountai**	**9.52**	**104**	IAmb_Lg			04 26 15.9		
	comp=Z,30nm,0.7s								
I42A	**Draeger Farm,**	**9.72**	**40**	Pn		**Pn**	**04 23 23.4**	**-1.1**	
I42A				IAmb_Lg			04 26 29.5		
	comp=Z,18nm,0.7s								
P48A	**Milroy**	**9.92**	**70**	IAmb_Lg			04 26 15.8		
	comp=Z,51nm,0.8s								
FPAL	**Fort Paine**	**9.93**	**99**	IAmb_Lg			04 26 25.9		
	comp=Z,28nm,0.8s								
R49A	**Shelbyville**	**9.94**	**77**	IAmb_Lg			04 26 16.5		
	comp=Z,24nm,0.9s								
G40A	**Rib Lake**	**10.18**	**31**	Pn		**Pn**	**04 23 30.0**	**-0.7**	
CPCT	**Cooper Cave**	**10.60**	**93**	Pn		**Pn**	**04 23 36.3**	**-0.1**	
V51A	**Loudon**	**10.67**	**91**	Pn		**Pn**	**04 23 37.4**	**-0.1**	
BW06	**Boulder Array**	**11.06**	**307**	Pn		**Pn**	**04 23 41.0**	**-2.0**	
PDAR	**Pinedale Array**	**11.06**	**307**	Pn		**Pn**	**04 23 42.0**	**-0.9**	
	comp=Z,0.2nm,0.3s,baz=119,slow=15,SNR=6.4								
PDAR				Lg		Lg	04 26 38.9		
	comp=Z,0.3nm,0.3s,baz=122,slow=31,SNR=2.4								
TKL	**Tuckaleechee C**	**11.16**	**91**	Pn		Pn	04 23 53.9	+10	
	comp=Z,0.3nm,0.3s,baz=220,slow=12,SNR=1.9								
TKL				Sn		Sn	04 26 04.0	+15	
	comp=Z,0.5nm,0.3s,baz=161,slow=18,SNR=3.7								
TKL				Lg		Lg	04 26 50.0		
	comp=Z,1.7nm,0.3s,baz=160,slow=20,SNR=5.0								
V52A	**Sevierville**	**11.28**	**90**	Pn		**Pn**	**04 23 45.6**	**-0.1**	
EYMN	**Ely**	**12.07**	**20**	Pn		**Pn**	**04 23 53.5**	**-3.1**	
D41A	**Chassel**	**12.30**	**30**	Pn		**Pn**	**04 23 57.0**	**-2.6**	
E43A	**Lone Tree Farm**	**12.45**	**36**	Pn		**Pn**	**04 23 59.5**	**-2.3**	
GLMI	**Grayling**	**12.69**	**46**	Pn		**Pn**	**04 24 02.2**	**-2.8**	
ULM	**Lac du Bonnet**	**13.59**	**5**	Pn		**Pn**	**04 24 16.2**	**-1.0**	
	comp=Z,0.2nm,0.3s,baz=186,slow=10,SNR=2.1								
ULM				Sn		Sn	04 26 33.9	-14	
	comp=Z,0.4nm,0.3s,baz=120,slow=16,SNR=4.0								
ULM				Lg		Lg	04 28 05.2		
	comp=Z,0.3nm,0.3s,baz=222,slow=12,SNR=1.9								
SADO	**Sadowa**	**16.06**	**54**	Pn		**P**	**04 24 56.8**	**+2.8**	
	comp=Z,0.1nm,0.3s,baz=230,slow=13,SNR=1.4								
SADO				Lg		Lg	04 29 21.6		
	comp=Z,0.2nm,0.3s,baz=10,slow=22,SNR=4.4								
ILAR	**Eielson Array**	**40.35**	**330**	P		**P**	**04 28 44.7**	**+2.5**	
	comp=Z,0.4nm,0.7s,baz=107,slow=8.1,SNR=5.2								

NOU ***10*** *04:30:25.9, 37.˚14S× 176.˚79E, h330km, MLv4.3, North Island, New Zealand*
WEL ***10*** *04:30:29.1, 37˚S±6˚× 17˚7E±˚, h298km±7km, M3.6/48, MLv3.6/48, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
IDC ***10*** *04:30:30.9±0.9, 37.31S× 176.09E±6km, h266km±8km, mb3.2/3, mb1 3.6/4, mb1mx3.3/33, mbtmp4.1/4, Error ellipse: s-maj=24.3km s-min=20.4km az=65.0*

ISC 10 04:30:29.9±1.0, 37.34S±0.08× 176.57E±0.08, h294km±6km, n156, σ1♀33/166, mb3.4/3, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYRZ	**Mayor Island**	**0.27**	**283**	P	**Pn**	**04 31 07.2**	**-0.3**
TGRZ	**Tauranga**	**0.46**	**212**	P	**Pn**	**04 31 07.8**	**+0.1**
OPRZ	**Ohinepanea**	**0.51**	**181**	P	**Pn**	**04 31 07.7**	**-0.1**
OPRZ				S	**S**	**04 31 37.2**	**-0.8**
WHRZ	**Whale Island**	**0.61**	**148**	P	**Pn**	**04 31 08.5**	**+0.4**
WHRZ				S	**S**	**04 31 38.4**	**-0.2**
MARZ	**Manawahe**	**0.65**	**172**	P	**Pn**	**04 31 08.6**	**+0.3**
MARZ				S	**S**	**04 31 38.3**	**-0.5**
KMRZ	**Kaimai**	**0.71**	**224**	P	**Pn**	**04 31 09.1**	**+0.6**
KARZ	**Kaharoa**	**0.73**	**200**	P	**Pn**	**04 31 09.2**	**+0.6**
EDRZ	**Edgecumbe**	**0.78**	**170**	P	**Pn**	**04 31 09.5**	**+0.7**
EDRZ				S	**S**	**04 31 37.8**	**-1.9**
OMRZ	**Omania**	**0.78**	**191**	P	**Pn**	**04 31 09.3**	**+0.6**
MKRZ	**Makatiti**	**0.80**	**186**	P	**Pn**	**04 31 10.2**	**+1.2**
NGRZ	**Ngongotaha**	**0.82**	**201**	P	**Pn**	**04 31 09.9**	**+1.0**
UTU	**Utuhina**	**0.89**	**199**	P	**Pn**	**04 31 10.4**	**+1.3**
**TARZ

MTVZ	Mangateitei	2.22 203	P	Pn	04 31 19.3	+1.3
WCZ	Waipu Caves	2.27 307	P	Pn	04 31 17.6	-0.8
VRZ	Vera Road	2.28 218	P	Pn	04 31 20.7	+2.2
KRHZ	Kereru	2.31 184	P	Pn	04 31 19.8	+1.0
CKHZ	Cape Kidnapper	2.35 170	P	Pn	04 31 20.4	+1.4
KAHZ	Kahuranaki	2.46 174	P	Pn	04 31 21.6	+1.4
MHEZ	Mangahewa	2.48 225	P	Pn	04 31 23.4	+3.2
PNHZ	Pukenui	2.59 186	P	Pn	04 31 22.2	+0.9
PXZ	Pawanui	2.70 175	P	Pn	04 31 23.3	+1.1
WAZ	Wanganui	2.71 207	P	Pn	04 31 23.9	+1.5
LREZ	Lake Rotokare	2.71 218	P	Pn	04 31 24.9	+2.5
WPHZ	Waipukurau	2.72 182	P	Pn	04 31 23.6	+1.0
NEZ	North Egmont	2.74 224	P	Pn	04 31 25.7	+2.9
PKE	Pukeiti	2.75 227	P	Pn	04 31 25.7	+2.9
PREZ	Palmer Road	2.75 223	P	Pn	04 31 25.6	+2.7
TSZ	Takapari Road	2.76 190	P	Pn	04 31 23.8	+1.0
KHEZ	Kahui Hut	2.80 225	P	Pn	04 31 26.0	+2.6
NBEZ	Newall Road No	2.87 227	P	Pn	04 31 26.9	+3.0
PRHZ	Porangahau	2.92 179	P	Pn	04 31 25.5	+1.0
NMEZ	Namu Road	2.96 225	P	Pn	04 31 27.7	+2.9
DVHZ	Dannevirke	2.97 186	P	Pn	04 31 25.8	+0.8
OHWZ	Ohakea	3.02 198	P	Pn	04 31 27.2	+1.8
POWZ	Post Office Ro	3.11 191	P	Pn	04 31 27.2	+0.9
ANWZ	Angora Road	3.12 181	P	Pn	04 31 27.7	+1.4
OUZ	Omahuta	3.20 311	P	Pn	04 31 26.1	-1.2
PRWZ	Pori Road	3.25 188	P	Pn	04 31 28.8	+1.1
BFZ	Birch Farm	3.35 184	P	Pn	04 31 29.6	+0.9
MRZ	Mangatainoka R	3.41 193	P	Pn	04 31 29.9	+0.6
TIWZ	Tintock	3.47 189	P	Pn	04 31 31.1	+1.0
CPWZ	Castlepoint	3.58 184	P	Pn	04 31 32.7	+1.6
OGWZ	Otaki Gorge	3.64 197	P	Pn	04 31 32.6	+0.8
HOWZ	Holdsworth Sta	3.65 193	P	Pn	04 31 32.4	+0.5
KIWZ	Kapiti Island	3.75 200	P	Pn	04 31 33.5	+0.5
TMWZ	Te Maipa	3.80 188	P	Pn	04 31 34.6	+1.0
MTW	Mount Morrison	3.90 192	P	Pn	04 31 34.9	+0.3
CAW	Cannon Point	3.94 197	P	Pn	04 31 35.6	+0.6
DUWZ	D'Urville Isla	4.02 210	P	Pn	04 31 36.4	+0.3
TRWZ	Traveller	4.11 189	P	Pn	04 31 37.8	+0.8
PAWZ	Paruwai Farm	4.13 192	P	Pn	04 31 37.7	+0.4
WEL	Wellington	4.18 199	P	Pn	04 31 38.5	+0.8
MSWZ	Moikau Station	4.20 194	P	Pn	04 31 38.3	+0.3
TCW	Tory Channel	4.25 204	P	Pn	04 31 39.1	+0.5
BHW	Baring Head	4.27 197	P	Pn	04 31 39.4	+0.6
PLWZ	Palliser	4.34 193	P	Pn	04 31 40.0	+0.3
TUWZ	Tuamarina	4.56 206	P	Pn	04 31 42.4	+0.3
NNZ	Nelson	4.59 212	P	Pn	04 31 42.2	-0.2
QRZ	Quartz Range	4.69 221	P	Pn	04 31 43.1	-0.4
CMWZ	Cape Campbell	4.76 202	P	Pn	04 31 45.7	+1.3
BSWZ	Blackbirch Sta	4.84 205	P	Pn	04 31 46.0	+0.7
THZ	Tophouse	5.25 211	P	Pn	04 31 49.8	-0.3
KHZ	Kahutara	5.58 204	P	Pn	04 31 54.6	+0.7
DSZ	Denniston Nort	5.74 218	P	Pn	04 31 54.9	-0.9
GVZ	Greta Valley S	6.24 205	P	Pn	04 32 02.2	+0.3
LTZ	Lake Taylor	6.36 210	P	Pn	04 32 03.0	-0.3
AMCZ	Amberley	6.55 206	P	Pn	04 32 05.8	+0.2
INZ	Inchbonnie	6.66 215	P	Pn	04 32 06.8	-0.1
OXZ	Oxford	6.91 209	P	Pn	04 32 09.3	-0.7
MQZ	McQueen's Vall	7.02 204	P	Pn	04 32 10.7	-0.7
RACZ	Rakaia	7.22 206	P	Pn	04 32 13.4	-0.3
WVZ	Waitaha Valley	7.26 216	P	Pn	04 32 13.9	-0.4
WACZ	Wakanui South	7.51 207	P	Pn	04 32 17.4	+0.1
RPZ	Rata Peaks	7.63 212	P	Pn	04 32 18.0	-0.8
	13nm,0.3s,baz=93,slow=3.6,SNR=12					
RPZ			S	S	04 33 43.0	-3.9
	12nm,0.3s,baz=320,slow=18,SNR=13					
RPZ	Rata Peaks	7.63 212	P	Pn	04 32 19.3	+0.5
GCSZ	Gaunt Creek Bo	7.64 217	P	Pn	04 32 18.5	-0.3
TMZ	Timaru	8.20 209	P	Pn	04 32 25.6	-0.2
CTZ	Chatham Island	8.23 143	P	Pn	04 32 28.5	+2.4
LBZ	Lake Benmore	8.54 212	P	Pn	04 32 29.4	-0.5
ODZ	Otahua Downs	8.89 208	P	Pn	04 32 35.0	+0.7
JCZ	Jackson Bay	8.95 219	P	Pn	04 32 33.8	-1.3
WKZ	Wanaka	9.40 215	P	Pn	04 32 39.5	-1.1
EAZ	Earnscleugh	9.59 212	P	Pn	04 32 42.3	-0.6
MSZ	Milford Sound	9.81 219	P	Pn	04 32 45.5	0.0
MLZ	Mavora Lakes	10.22 216	P	Pn	04 32 50.9	+0.2
WHZ	Wether Hill Ro	10.70 214	P	Pn	04 32 56.5	-0.1
SYZ	Scrubby Hill	10.72 209	P	Pn	04 32 58.8	+2.1
APZ	The Paps	11.42 211	P	Pn	04 33 06.8	+1.4
ASAR	Alice Springs	38.88 278	P	P	04 37 27.9	+0.2
	1.0nm,0.5s,baz=122,slow=8.1,SNR=16					
WRA	Warramunga Arr	40.53 283	P	P	04 37 41.3	+0.1
	1.0nm,0.5s,baz=120,slow=7.9,SNR=24					
QSPA	South Pole Qui	52.78 180	P	P	04 39 18.7	+3.6
	0.7nm,0.6s,baz=287,slow=1.2,SNR=8.9					
FINES	FINESS Array B	149.65 332	PKPbc	PKPab	04 49 47.5	-2.7
	2.0nm,0.9s,baz=5.7,slow=4.2,SNR=3.8					

IDC ***10*** *04:52:00.8±3.0, 42.˚15N×78.˚43E, h0km, mb2.9/1, mb1 3.3/5, mb1mx3.2/46, mbtmp3.3/5, ML3.1/4, Error ellipse: s-maj=44.2km s-min=12.0km az=160.0*
NNC ***10*** *04:52:06.2±0.5, 42.˚85N×77.˚99E, h0km, mb3.9, mpv4.0, Error ellipse: s-maj=4.5km s-min=1.4km az=176.0*
KRNET ***10*** *04:52:06.8±0.1, 42.˚86N×77.˚98E, h19km, mb4.0*
SOME ***10*** *04:52:07.0, 42.˚80N×77.˚98E, h20km*
ISC 10 04:52:07.1±0.9, 42.˚87N±0.˚02×77.˚94E±0.˚01, h18km±2km, n103, σ1°68/179, 36C-19D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANVS	Anan'yevo	0.22	248	⇑*i*P		Pb	04 52 11.8	-0.5
	baz=54							
ANVS				⇑*i*S		Sb	04 52 15.0	-0.7
	baz=54							
SATY	Saty	0.39	60	⇑*e*P		Pg	04 52 14.1	-1.2
	baz=57							
SATY				⇑*e*S		Sg	04 52 19.3	-1.6
	baz=57							
SATY	Saty	0.39	60	⇑*e*P		Pg	04 52 14.1	-1.2
	454nm,0.1s							
SATY				*e*S		Sg	04 52 19.4	-1.6
	1μm,0.2s							
SATY	Saty	0.39	60	P		Pg	04 52 14.1	-1.2
	454nm,0.1s							
SATY				S		Sg	04 52 19.4	-1.6
	2μm,0.2s							
PRZ	Przheval'sk	0.51	138	⇓*i*P		Pg	04 52 16.5	-1.0
	baz=39							
PRZ				⇓*i*S		Sg	04 52 23.3	-1.1
	baz=39							
KURS	Kuram	0.64	15	⇑*e*P		Pg	04 52 19.6	-0.3
	baz=12							
KURS				⇑*e*S		Sg	04 52 28.5	0.0
	baz=12							
KURS	Kuram	0.64	15	⇑*e*P		Pg	04 52 19.6	-0.3
	107nm,0.1s							
KURS				*e*S		Sg	04 52 28.6	0.0
	470nm,0.3s							
KURS	Kuram	0.64	15	P		Pg	04 52 19.6	-0.3
	101nm,0.1s							
KURS				S		Sg	04 52 28.5	0.0
	470nm,0.3s							
KOTS	Kotyrbulak	0.71	302	*e*P		Pb	04 52 21.2	+0.2
	baz=1.0							
KOTS				*e*S		Sg	04 52 31.5	+0.9
	baz=1.0							
KOTS	Kotyrbulak	0.71	302	*e*P		Pb	04 52 21.2	+0.2
	638nm,0.2s							
KOTS				*e*S		Sg	04 52 31.4	+0.9
	3μm,0.2s							
KOTS	Kotyrbulak	0.71	302	P		Pb	04 52 21.2	+0.2
	638nm,0.2s							
KOTS				S		Sg	04 52 31.4	+0.9
	3μm,0.2s							
MDOK	Medeo	0.72	295	⇑*e*P		Pb	04 52 21.1	0.0
	baz=95							
MDOK				⇑*e*S		Sb	04 52 31.3	+0.6
	baz=95							
MDOK	Medeo	0.72	295	⇑*e*P		Pb	04 52 21.1	0.0
	136nm,0.1s							
MDOK				*e*S		Sb	04 52 31.3	+0.6
	523nm,0.4s							
MDOK	Medeo	0.72	295	⇓P		Pb	04 52 21.1	0.0
	106nm,0.5s							
MDOK				⇓S		Sb	04 52 31.1	+0.4
	338nm,0.5s							
MDOK	Medeo	0.72	295	Pg		Pb	04 52 21.1	0.0
	128nm,0.2s							
MDOK				Lg		Lg	04 52 31.3	
	523nm,0.4s							
TNSS	Tian-Shan	0.75	284	⇓*e*P		Pb	04 52 21.6	-0.2
	baz=84							
TNSS				⇓*e*S		Sb	04 52 32.3	+0.4
	baz=84							
TNSS	Tian-Shan	0.75	284	⇓*e*P		Pb	04 52 21.6	-0.2
	87nm,0.3s							
TNSS				*e*S		Sb	04 52 32.2	+0.4
	276nm,0.2s							
TNSS	Tian-Shan	0.75	284	P		Pb	04 52 21.6	-0.2
	87nm,0.3s							
TNSS				S		Sb	04 52 32.3	+0.4
	276nm,0.4s							
KNDC	Almaty	0.80	297	⇑P		Pb	04 52 22.7	+0.3
	46nm,0.4s							
KNDC				⇑S		Sg	04 52 34.3	+1.0
	170nm,0.3s							
KPKS	Kokpek	0.81	42	*e*P		Pb	04 52 22.0	-0.7
	baz=40							
KPKS				*e*S		Sg	04 52 32.9	-0.9
	baz=40							
KPKS	Kokpek	0.81	42	*e*P		Pb	04 52 21.9	-0.7
	340nm,0.1s							
KPKS				*e*S		Sg	04 52 32.9	-0.9
	888nm,0.4s							
AAA	Alma-Ata	0.82	295	*e*P		Pg	04 52 23.7	+0.4
	baz=95							
AAA				*e*S		Sn	04 52 35.7	0.0
	baz=95							
AAA	Alma-Ata	0.82	295	*e*P		Pg	04 52 23.7	+0.4
	245nm,0.2s							
AAA				*e*S		Sn	04 52 35.6	0.0
	840nm,0.2s							
AAA	Alma-Ata	0.82	295	P		Pg	04 52 23.7	+0.4
	245nm,0.2s							
AAA				S		Sn	04 52 35.6	0.0
	840nm,0.2s							
UZB	Uzynbulak	0.84	70	*e*P		Pb	04 52 21.9	-1.4
	baz=69							
UZB				*e*S		Sb	04 52 32.6	-1.7
	baz=69							
UZB	Uzynbulak	0.84	70	*e*P		Pb	04 52 21.9	-1.4
	68nm,0.2s							
UZB				*e*S		Sb	04 52 32.5	-1.7
	628nm,0.2s							
UZB	Uzynbulak	0.84	70	P		Pb	04 52 21.9	-1.4
	68nm,0.2s							
UZB				S		Sb	04 52 32.5	-1.7
	628nm,0.2s							
KDJ	Kajisay	0.93	218	⇑*i*P		Pb	04 52 23.8	-0.9
	baz=19							
KDJ				⇑*i*S		Sb	04 52 36.9	+0.2
	baz=19							
IZV	Izvestkoviy	0.99	280	*e*P		Pb	04 52 26.0	+0.3
	baz=81							
IZV				*e*S		Sg	04 52 39.7	+0.4
	baz=81							
IZV	Izvestkoviy	0.99	280	*e*P		Pb	04 52 26.0	+0.3
	84nm,0.4s							
IZV				*e*S		Sg	04 52 39.7	+0.4
	861nm,0.2s							
IZV	Izvestkoviy	0.99	280	P		Pb	04 52 26.0	+0.3
	84nm,0.4s							
IZV				S		Sg	04 52 39.7	+0.4
	861nm,0.2s							
MTBS	Maitube	1.14	284	*e*P		Pb	04 52 28.7	+0.4
	baz=84							
MTBS				*e*S		Sn	04 52 44.0	+0.6
	baz=84							
MTBS	Maitube	1.14	284	*e*P		Pb	04 52 28.7	+0.4
	81nm,0.3s							
MTBS				*e*S		Sn	04 52 44.0	+0.6
	248nm,0.2s							
MTBS	Maitube	1.14	284	P		Pb	04 52 28.7	+0.4
	81nm,0.3s							
MTBS				S		Sn	04 52 44.0	+0.6
	248nm,0.2s							
SHLS	Shalkode	1.15	75	*e*P		Pg	04 52 33.4	+3.9
	baz=77							
SHLS				*e*S		Sg	04 52 52.1	+7.5
	baz=77							
SHLS	Shalkode	1.15	75	*e*P		Pg	04 52 33.4	+3.9
	118nm,0.2s							
SHLS				*e*S		Sg	04 52 52.1	+7.5
	682nm,0.4s							
SHLS	Shalkode	1.15	75	P		Pg	04 52 33.4	+3.9
	118nm,0.2s							
SHLS				S		Sg	04 52 52.1	+7.5
	682nm,0.4s							
PDGK	Podgornoye	1.23	67	P		Pn	04 52 28.7	-0.7
	16nm,0.3s							
PDGK				S		Sb	04 52 44.2	-1.2
	154nm,0.7s							
PDGK	Podgornoye	1.23	67	⇑P		Pn	04 52 28.7	-0.7
	21nm,0.5s							
PDGK				⇓S		Sb	04 52 44.1	-1.2
	61nm,0.4s							
KTBS	Karatobe	1.25	313	*e*P		Pg	04 52 30.9	-0.3
	baz=13							
KTBS				*e*S		Sg	04 52 48.0	+0.4
	baz=13							
KTBS	Karatobe	1.25	313	*e*P		Pg	04 52 30.9	-0.3
	51nm,0.2s							
KTBS				*e*S		Sg	04 52 48.0	+0.4
	597nm,0.2s							
KTBS	Karatobe	1.25	313	P		Pg	04 52 30.9	-0.3
	51nm,0.2s							
KTBS				S		Sg	04 52 48.0	+0.4
	597nm,0.2s							
MNBS	Baschi	1.26	15	*e*P		Pg	04 52 31.1	-0.3
	106nm,0.2s							
MNBS				*e*S		Sg	04 52 48.5	+0.5
	218nm,0.2s							
MNBS	Baschi	1.26	15	P		Pg	04 52 31.1	-0.3
	106nm,0.2s							
MNBS				S		Sg	04 52 48.5	+0.5
	218nm,0.2s							
ARXS	Arharly	1.35	357	*e*P		Pg	04 52 32.5	-0.6
	48nm,0.2s							
ARXS				*e*S		Sg	04 52 50.8	0.0
	82nm,0.2s							
ARXS	Arharly	1.35	357	P		Pg	04 52 32.5	-0.6
	48nm,0.2s							
ARXS				S		Sg	04 52 50.8	0.0
	82nm,0.2s							
ULHL	Ulahol	1.40	244	⇑*i*P		Pb	04 52 32.7	-0.1
	baz=45							
ULHL				⇑*i*S		Sb	04 52 51.3	+0.9
	baz=45							
ULHL	Ulahol	1.40	244	P		Pb	04 52 32.8	0.0
	SNR=115							
KST	Kastek	1.46	278	*e*P		Pb	04 52 34.4	+0.6
	baz=78							
KST				*e*S		Sg	04 52 54.0	-0.4
	baz=78							
KST	Kastek	1.46	278	*e*P		Pb	04 52 34.4	+0.6
	71nm,0.5s							
KST				*e*S		Sg	04 52 54.0	-0.4
	369nm,0.5s							
KST	Kastek	1.46	278	P		Pb	04 52 34.4	+0.6
	71nm,0.5s							
KST				S		Sg	04 52 54.0	-0.4
	369nm,0.5s							
BOOM	Boomskoye usch	1.52	256	⇑*i*P		Pb	04 52 35.0	+0.2
	baz=57							
BOOM				⇑*i*S		Sb	04 52 55.4	+1.6
	baz=57							
KUU	Kurty	1.55	312	*e*P		Pb	04 52 36.2	+0.9
	baz=11							
KUU				*e*S		Sg	04 52 57.0	-0.3
	baz=11							
KUU	Kurty	1.55	312	*e*P		Pb	04 52 36.2	+0.9
	31nm,0.2s							
KUU				*e*S		Sg	04 52 57.0	-0.3
	528nm,0.2s							
KUU	Kurty	1.55	312	P		Pb	04 52 36.2	+0.9
	31nm,0.2s							
KUU				S		Sg	04 52 57.0	-0.3
	528nm,0.2s							
DGS	Degeres	1.63	284	*e*P		Pb	04 52 37.4	+0.7
	baz=84							
DGS				*e*S		Sg	04 52 59.1	-0.6
	baz=84							
DGS	Degeres	1.63	284	*e*P		Pb	04 52 37.4	+0.7
	58nm,0.4s							
DGS				*e*S		Sg	04 52 59.2	-0.6
	200nm,0.3s							
DGS	Degeres	1.63	284	P		Pb	04 52 37.4	+0.7
	58nm,0.4s							
DGS				S		Sg	04 52 59.2	-0.6
	200nm,0.3s							
TKM2	Tokmak 2	1.72	273	⇓*i*P		Pb	04 52 39.2	+0.9
	baz=73							
TKM2				⇓*i*S		Sg	04 53 02.4	-0.3
	baz=73							
TKM2	Tokmak 2	1.72	273	P		Pb	04 52 39.1	+0.8
	SNR=92							
TKM2	Tokmak 2	1.72	273	⇑P		Pb	04 52 38.9	+0.6
	29nm,0.3s							
TKM2				⇑S		Sg	04 53 02.3	-0.3
	175nm,0.8s							
KRBS	Karabastau	1.85	297	*e*P		Pb	04 52 41.2	+0.8
	baz=97							
KRBS				*e*S		Sg	04 53 05.9	-0.8
	baz=97							
KRBS	Karabastau	1.85	297	*e*P		Pb	04 52 41.2	+0.8
	52nm,0.4s							
KRBS				*e*S		Sg	04 53 05.9	-0.8
	504nm,0.4s							
KRBS	Karabastau	1.85	297	P		Pb	04 52 41.2	+0.8
	52nm,0.4s							
KRBS				S		Sg	04 53 05.9	-0.8
	504nm,0.4s							
KTMS	Ketmen	1.86	71	*e*P		Pb	04 52 40.4	-0.2
	baz=70							
KTMS				*e*S		Sg	04 53 04.2	-2.8
	baz=70							
KTMS	Ketmen	1.86	71	*e*P		Pb	04 52 40.4	-0.2
	49nm,0.2s							
KTMS				*e*S		Sg	04 53 04.2	-2.8
	197nm,0.4s							
KTMS	Ketmen	1.86	71	P		Pb	04 52 40.0	-0.6
	71nm,0.2s							
KTMS				S		Sb	04 53 03.6	0.0
	197nm,0.4s							
DJR	Jarkent	1.99	42	*e*P		Pb	04 52 42.9	+0.2
	29nm,0.3s							
DJR				*e*S		Sg	04 53 09.2	-2.0
	570nm,0.3s							
DJR	Jarkent	1.99	42	Pg		Pb	04 52 42.9	+0.2
	29nm,0.3s							
DJR				Lg		Lg	04 53 09.2	
	570nm,0.3s							
TDK	Taldyqorghan	2.16	9	*e*P		Pb	04 52 46.8	+1.1
	92nm,0.4s							
TDK				*e*S		Sg	04 53 15.1	-1.6
	271nm,0.4s							
TDK	Taldyqorghan	2.16	9	Pg		Pb	04 52 46.8	+1.1
	92nm,0.4s							
TDK				Lg		Lg	04 53 15.1	
	271nm,0.4s							
KBK	Karagaybulak	2.21	266	⇓*i*P		Pb	04 52 46.6	0.0
	baz=66							
KBK				⇓*i*S		Sb	04 53 14.5	+0.8
	baz=66							
KBK	Karagaybulak	2.21	266	P		Pb	04 52 47.7	+1.1
	SNR=160							
CHMS	Chumysh	2.34	274	⇑*i*P		Pb	04 52 48.1	-0.7
	baz=75							
CHMS				⇑*i*S		Sb	04 53 17.7	+0.3
	baz=75							
CHMS	Chumysh	2.34	274	P		Pb	04 52 49.4	+0.6
	SNR=15							
SGDS	Sogindy	2.49	285	Pg		Pb	04 52 52.6	+1.2
	26nm,0.4s							
SGDS				Lg		Lg	04 53 24.0	
	172nm,0.3s							
AAK	Ala-Archa	2.55	266	Pn		Pb	04 52 52.9	+0.6
	24nm,0.3s,baz=101,slow=8.8,SNR=228							
AAK				Sn		Sg	04 53 27.4	-1.6
	22nm,0.3s,baz=326,slow=20,SNR=23							
AAK	Ala-Archa	2.55	266	⇓*i*P		Pb	04 52 51.2	-1.1
	baz=66							
AAK				⇓*i*S		Sb	04 53 22.8	-0.6
	baz=66							
AAK	Ala-Archa	2.55	266	P		Pb	04 52 52.7	+0.4
	SNR=136							
AAK	Ala-Archa	2.55	266	⇑Pn		Pb	04 52 52.4	+0.1
	36nm,0.4s							
AAK				⇑Lg		Lg	04 53 27.1	
	65nm,0.5s							
USP	Ospenovka	2.55	280	⇑*i*P		Pb	04 52 51.4	-0.9
	baz=80							
USP				⇑*i*S		Sb	04 53 22.9	-0.5
	baz=80							
USP	Ospenovka	2.55	280	P		Pb	04 52 52.4	0.0
	SNR=40							
UCH	Uchtor	2.61	257	⇑*i*P		Pb	04 52 51.9	-1.7
	baz=57							
UCH				⇑*i*S		Sb	04 53 24.4	-1.1
	baz=57							
UCH	Uchtor	2.61	257	P		Pb	04 52 53.5	-0.1
	SNR=47							
KAPS	Kapalarasan	2.63	22	*e*P		Pg	04 52 55.7	-1.8
	22nm,0.3s							
KAPS				*e*S		Sg	04 53 30.8	-0.7
	87nm,0.3s							
KAPS	Kapalarasan	2.63	22	Pg		Pb	04 52 54.5	+0.9
	20nm,0.4s							
KAPS				Lg		Lg	04 53 29.0	
	113nm,0.2s							
EKS2	Erkin-Say	3.07	268	⇑*i*P		Pb	04 52 58.3	-2.9
	baz=68							
EKS2				⇑*i*S		Sb	04 53 35.3	-3.1
	baz=68							
EKS2	Erkin-Say	3.07	268	P		Pb	04 52 59.7	-1.5
	SNR=31							
AML	Almayashu	3.22	258	⇑*e*P		Pn	04 53 00.5	+3.4
	baz=59							
AML				⇑*i*S		Sn	04 53 39.2	+4.0
	baz=59							
AML	Almayashu	3.22	258	P		Pb	04 53 04.1	+0.1
	SNR=12							
MRKS	Merke	3.47	270	*e*P		Pb	04 53 10.0	+2.0
	1.5nm,0.2s							
MRKS				*e*S		Sg	04 53 55.5	-3.0
	6.1nm,0.3s							
MRKS	Merke	3.47	270	Pg		Pb	04 53 10.3	+2.3
	1.5nm,0.4s							
MRKS				Lg		Lg	04 53 55.5	
	6.1nm,0.3s							
BTLS	Baital	3.55	309	*e*P		Pg	04 53 12.9	-2.2
	8.9nm,0.3s							
BTLS				*e*S		Sg	04 53 59.8	-1.4
	14nm,0.5s							
BTLS	Baital	3.55	309	Pg		Pb	04 53 11.3	+1.9
	8.9nm,0.3s							
BTLS				Lg		Lg	04 53 57.1	
	14nm,0.5s							
MNAS	Manas	4.03	266	⇓*e*P		Pn	04 53 11.5	+3.6
	baz=67							
MNAS				⇓*i*S		Sn	04 53 58.3	+3.6
	baz=67							
MAKZ	Makanchi	4.88	35	⇑Pn		Pn	04 53 19.1	-0.4
	3.1nm,0.9s							
MAKZ				⇓Lg		Lg	04 54 36.8	
	7.2nm,0.6s							
MK31	Makanchi Array	5.00	37	⇓Pn		Pn	04 53 24.2	+3.0
	2.7nm,0.5s,baz=214,slow=13,SNR=47							
MK31				⇑Lg		Lg	04 54 41.4	
	5.2nm,0.5s,baz=217,slow=28,SNR=7.6							
MKAR	Makanchi Array	5.00	37	Pn		Pn	04 53 24.4	+3.2
	1.0nm,0.3s,baz=210,slow=15,SNR=28							
MKAR				Pg		Pb	04 53 36.7	+2.7
	0.7nm,0.3s,baz=211,slow=13,SNR=8.4							
MKAR				Lg		Lg	04 54 38.3	
	3.0nm,0.3s,baz=216,slow=27,SNR=10							
KK31	Karatay Array	5.45	275	Pg		Pg

mb1mx3.3/23,mbtmp3.1/4,ML2.9/4,Error ellipse: s-maj=64.7km s-min=13.4km az=46.0

ISC 10 05:15:03.7±1.5, 30.1°S±0.2° 138.8°E±0.3, h10km, n4, σ0.8 6/8, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.00**	**127**	**Pn**	**Pn**	**05 15 51.9**	**+0.4**
	0.6nm,0.3s,baz=309,slow=13,SNR=8.5						
STKA				Pg	**Pg**	**05 16 00.4**	**-0.9**
	2.6nm,0.3s,baz=301,slow=13,SNR=26						
STKA				Sn	**Sn**	**05 16 28.1**	**+0.6**
	3.1nm,0.3s,baz=10,slow=18,SNR=7.5						
STKA				Lg	Lg	05 16 38.9	
	4.2nm,0.3s,baz=3.7,slow=18,SNR=5.4						
ASAR	**Alice Springs**	**7.75**	**325**	Pn	**Pn**	**05 16 57.0**	**+0.3**
	0.1nm,0.3s,baz=152,slow=12,SNR=6.2						
ASAR				Sn	**Sn**	**05 18 24.6**	**+0.1**
	0.0nm,0.3s,baz=149,slow=15,SNR=1.4						
ASAR				Lg	Lg	05 19 09.1	
	0.1nm,0.3s,baz=147,slow=24,SNR=2.3						
WRA	**Warramunga Arr**	**10.89**	**337**	Pn	**Pn**	**05 17 40.4**	**+0.6**
	0.1nm,0.3s,baz=162,slow=12,SNR=7.3						
WRA				Sn	**Sn**	**05 19 40.5**	**-1.2**
	0.1nm,0.3s,baz=155,slow=21,SNR=1.4						
FITZ	**Fitzroy Crossi**	**16.91**	**312**	Pn	**Pn**	**05 19 00.0**	**-0.5**
	0.1nm,0.3s,baz=135,slow=17,SNR=1.3						

*FUNV **10** 05:47:24.6, 10.85°N×62.26°W, h14km, MW3.8*
*TRN **10** 05:47:25.1, 10.90°N×62.22°W, h91km, MD2.8*

ISC 10 05:47:24.8±1.4, 10.87°N±0.05° 62.32°W±0.04, h76km±18km, n13, σ1.9 19/23, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.92**	**258**	*eP*	**Pn**	**05 47 43.6**	**+1.0**
CRUV				*eS*	**Sn**	**05 47 53.3**	**-2.6**
TRN	**Trinidad (W)**	**0.93**	**104**	*eP*	**Pn**	**05 47 43.8**	**+1.1**
TRN				*eS*	**Sn**	**05 47 55.4**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.02**	**123**	*eS*	**Sn**	**05 47 58.8**	**+0.8**
TBH	**Brigand Hill**	**1.29**	**107**	*eP*	**Pn**	**05 47 46.5**	**-0.8**
GRGR	**Grenville**	**1.41**	**28**	*eP*	**Pn**	**05 47 49.3**	**+0.4**
GRGR				*eS*	**Sn**	**05 48 07.0**	**0.0**
GRGR	**Grenville**	**1.41**	**28**	*eP*	**Pn**	**05 47 49.1**	**+0.3**
GRGR				*eS*	**Sn**	**05 48 07.3**	**+0.4**
GCMP	**Grenada, Carri**	**1.83**	**29**	*eP*	**Pn**	**05 47 54.6**	**+0.3**
GCMP				*eS*	**Sn**	**05 48 15.7**	**-1.0**
PCRV	**Puerto La Cruz**	**2.38**	**253**	*eP*	**Pn**	**05 48 02.6**	**+0.9**
PCRV				*eS*	**Sn**	**05 48 30.9**	**+1.0**
RIOV	**Rio Grande**	**2.83**	**170**	*eP*	**Pn**	**05 48 08.2**	**+0.4**
RIOV				*eS*	**Sn**	**05 48 40.1**	**-0.8**
MERV	**Las Mercedes**	**4.23**	**248**	*eP*	**Pn**	**05 48 28.3**	**+1.4**
MERV				*eS*	**Sn**	**05 49 15.2**	**0.0**
BAUV	**El Baul**	**5.95**	**252**	*eS*	**Sn**	**05 49 56.1**	**-1.1**
BAUV	**El Baul**	**5.95**	**252**	*eP*	**Pn**	**05 48 51.2**	**+0.8**
BAUV				*eS*	**Sn**	**05 49 55.2**	**-2.0**
MAPV	**Macapo**	**6.12**	**261**	*eP*	**Pn**	**05 48 53.5**	**+0.8**
MAPV				*eS*	**Sn**	**05 49 59.6**	**-1.9**

*NEIC **10** 05:53:53.6±1.7, 37.61°N±0.06°×141.4°E±0.1, h61km±5km, mb4.1/6, Error ellipse: s-maj=14.7km s-min=8.2km az=96.0*
*JMA **10** 05:53:53.7, 37.69°N×141.32°E, h66km±1km, M3.9*
JMA Felt II J1.
*IDC **10** 05:53:55.4±2.5, 37.64°N×141.20°E, h82km±23km, mb3.5/10, mb1 3.7/13, mb1mx3.6/32, mbtmp3.9/13, Error ellipse: s-maj=22.6km s-min=15.2km az=95.0*

ISC 10 05:53:53.5±0.9, 37.67°N±0.04°×141.40°E±0.07, h63km±7km, n56, σ1.3 38/59, mb4.0/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMST	**Minamisumatoc**	**0.41**	**278**	P	**Pn**	**05 54 04.9**	**+0.1**
JMST				S	**Sn**	**05 54 13.1**	**+0.1**
JFK	**Kawauchi**	**0.51**	**234**	P	**Pn**	**05 54 05.9**	**0.0**
JFK				S	**Sn**	**05 54 14.7**	**-0.2**
JMM	**Marumori**	**0.51**	**292**	P	**Pn**	**05 54 05.8**	**0.0**
JMM				S	**Sn**	**05 54 14.5**	**-0.4**
JMM	**Marumori**	**0.51**	**292**		**Pn**	**05 54 05.9**	**0.0**
JIKH	**Ishinomakikobu**	**0.64**	**5**	P	**Pn**	**05 54 07.6**	**+0.4**
JIKH				S	**Sn**	**05 54 17.5**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.74**	**220**	P	**Pn**	**05 54 08.7**	**+0.2**
ONAJ				S	**Sn**	**05 54 19.3**	**-0.2**
JIO	**Ouri**	**0.78**	**357**	P	**Pn**	**05 54 09.2**	**+0.3**
JIO				S	**Sn**	**05 54 20.2**	**0.0**
JFT	**Otama**	**0.85**	**260**	P	**Pn**	**05 54 09.8**	**0.0**
JFT				*eS*	**Sn**	**05 54 21.3**	**-0.6**
JOU	**Okura**	**0.90**	**320**	P	**Pn**	**05 54 10.2**	**-0.2**
JOU				*eS*	**Sn**	**05 54 22.3**	**-0.6**
JYS	**Shirataka**	**1.19**	**298**	P	**Pn**	**05 54 14.1**	**0.0**
JYS				*eS*	**Sn**	**05 54 29.5**	**+0.1**
JMK	**Ichinoseki**	**1.28**	**354**	P	**Pn**	**05 54 15.6**	**+0.2**
JFY	**Yanaizu**	**1.37**	**259**	P	**Pn**	**05 54 16.5**	**0.0**
JFY				*eS*	**Sn**	**05 54 33.4**	**-0.4**
JYK	**Kaneyama**	**1.49**	**327**	P	**Pn**	**05 54 18.3**	**+0.2**
JYT	**Yasato**	**1.73**	**214**		**Pn**	**05 54 20.7**	**-0.7**
JSD	**Sado**	**2.51**	**279**	Pn	**Pn**	**05 54 32.0**	**+0.1**
MJAR	**Matsushiro Arr**	**2.79**	**247**	P	**Pn**	**05 54 36.5**	**+0.8**
	1.5nm,0.3s,baz=50,slow=11,SNR=21						
MJAR				S	Sn	05 54 55.2	-13
	2.6nm,0.3s,baz=80,slow=17,SNR=13						
MAJO	**Matsushiro**	**2.79**	**247**		**Pn**	**05 54 36.9**	**+1.2**
MAT	**Matsushiro**	**2.79**	**247**	P	**Pn**	**05 54 36.7**	**+1.0**
MAT				*eS*	**Sn**	**05 55 10.8**	**+2.6**
MJB9	**Matsu-Tunnel**	**2.79**	**247**		**Pn**	**05 54 32.6**	**-3.2**
JTM	**Tenmabayashi**	**3.12**	**355**	Pn	**Pn**	**05 54 41.5**	**+1.3**
JGF	**Kuroka**	**3.85**	**239**		**Pn**	**05 54 52.3**	**+2.0**
JHJ	**Hachijo jima 2**	**4.73**	**197**	P	**Pn**	**05 55 01.8**	**-0.5**
	11nm,0.3s,baz=47,slow=18,SNR=1.8						
JHJ				S	**Sn**	**05 55 53.5**	**-2.4**
	43nm,0.3s,baz=106,slow=24,SNR=2.2						
JWT	**Wachi**	**5.39**	**246**	Pn	**Pn**	**05 55 13.4**	**+2.2**
ASAJ	**Asahikawa**	**6.50**	**8**	P	**Pn**	**05 55 25.8**	**-0.7**
	1.1nm,0.3s,baz=198,slow=9.6,SNR=1.5						
ASAJ				S	**Sn**	**05 56 33.6**	**-5.6**
	0.6nm,0.3s,baz=92,slow=31,SNR=2.4						
JKA	**Kamikawa-asahi**	**6.50**	**8**	Pn	**Pn**	**05 55 25.6**	**-0.9**
JHS	**Saijyo**	**7.19**	**251**	Pn	**Pn**	**05 55 38.1**	**+2.1**
USRK	**Ussuriysk Ar.**	**9.65**	**315**	P	**Pn**	**05 56 10.2**	**+0.7**
	baz=133,slow=14,SNR=7.5						
KSRS	**Korea Array**	**10.70**	**273**	P	**Pn**	**05 56 27.3**	**+3.4**
	0.2nm,0.3s,baz=78,slow=14,SNR=1.6						
SONM	**Songino Array**	**27.42**	**303**	P	**P**	**05 59 32.2**	**-1.0**
	0.6nm,0.5s,baz=102,slow=9.1,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**28.49**	**122**	T	T	06 30 01.1	
	baz=315,slow=75,SNR=76						
H11N1	**WAKE ISLAND Hy**	**28.50**	**122**	T	T	06 29 59.4	
	baz=315,slow=75,SNR=77						
H11N3	**WAKE ISLAND Hy**	**28.51**	**122**	T	T	06 30 00.5	
	baz=315,slow=75,SNR=82						
H11S1	**WAKE ISLAND Hy**	**29.22**	**124**	T	T	06 30 54.2	
	baz=317,slow=75,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.22**	**124**	T	T	06 30 52.2	
	baz=317,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**29.24**	**124**	T	T	06 30 52.5	
	baz=317,slow=75,SNR=29						
MK31	**Makanchi Array**	**43.77**	**302**	P	**P**	**06 01 52.2**	**-0.5**
MKAR	**Makanchi Array**	**43.77**	**302**	P	**P**	**06 01 51.7**	**-1.1**
	1.3nm,0.8s,baz=89,slow=9.6,SNR=13						
MKAR	**Makanchi Array**	**43.77**	**302**	P	**P**	**06 01 51.4**	**-1.4**
IMAR	**Indian Mountai**	**46.11**	**31**	P	**P**	**06 02 12.2**	**+1.2**
PPLA	**Purkeypile**	**46.66**	**35**	P	**P**	**06 02 17.6**	**+2.1**
MDM	**Murphy Dome**	**48.38**	**32**	P	**P**	**06 02 29.9**	**+1.1**
MDM				IAmb	IAmb	06 02 31.2	
	comp=Z,2.0nm,0.8s						
CCB	**Clear Creek Bu**	**48.58**	**33**	P	**P**	**06 02 30.8**	**+0.6**
CCB				IAmb	IAmb	06 02 41.3	
	comp=Z,2.5nm,1.4s						
IL31		**48.97**	**33**	P	**P**	**06 02 33.6**	**+0.6**
IL31				IAmb	IAmb	06 02 34.9	
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**48.97**	**33**	P	**P**	**06 02 34.0**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=264,slow=5.8,SNR=18						
ILAR	**Eielson Array**	**48.97**	**33**	P	**P**	**06 02 34.2**	**+1.0**
INK	**Inuvik**	**53.83**	**27**	P	**P**	**06 03 10.7**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=291,slow=7.0,SNR=6.1						
INK	**Inuvik**	**53.83**	**27**	IAmb	IAmb	06 03 11.3	
	comp=Z,1.2nm,0.7s						
WRA	**Warramunga Arr**	**57.69**	**188**	P	**P**	**06 03 37.2**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=5.1,slow=7.3,SNR=47						
ASAR	**Alice Springs**	**61.42**	**188**	P	**P**	**06 04 03.0**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=14,slow=8.7,SNR=9.7						
YKA	**Yellowknife Ar**	**63.27**	**30**	P	**P**	**06 04 15.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=306,slow=6.0,SNR=12						
FINES	**FINESS Array B**	**68.24**	**332**	P	**P**	**06 04 46.3**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=22,slow=7.8,SNR=1.1						
AKASG	**Malin Array Be**	**73.78**	**322**	P	**P**	**06 05 20.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=44,slow=5.9,SNR=1.5						
NVAR	**Mina Array Bea**	**74.62**	**53**	P	**P**	**06 05 26.3**	**0.0**
	comp=Z,0.5nm,0.8s,baz=308,slow=5.3,SNR=3.7						
H03N2	**Juan Fernandez**	**147.10**	**95**	T	T	08 58 34.6	
	baz=291,slow=76,SNR=3.7						
H03N3	**Juan Fernandez**	**147.11**	**95**	T	T	08 58 38.4	
	baz=291,slow=76,SNR=5.3						
H03N1	**Juan Fernandez**	**147.12**	**95**	T	T	08 58 09.5	
	baz=291,slow=76,SNR=4.9						

*GCG **10** 06:32:51.2±0.6, 13.47°N×90.78°W, h28km±10km, MD3.9*
*SNET **10** 06:32:54.4±1.1, 13.77°N×90.63°W, h28km±3km, ML3.4*

ISC 10 06:32:53.1±2.5, 13.6°N±0.1°×90.7°W±0.1, h22km±7km, n20, σ0.8 81/33, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.81**	**5**	*eP*	**Pn**	**06 33 09.0**	**-0.4**
FUG	**Fuego 3**	**0.88**	**350**	*eP*	**Pn**	**06 33 09.7**	**-0.6**
FUG				*eS*	**Sn**	**06 33 23.5**	**+1.0**
NBG	**Las Nubes**	**1.05**	**18**	*eP*	**Pn**	**06 33 12.5**	**-0.3**
NBG				*eS*	**Sn**	**06 33 29.7**	**+2.8**
RTR	**El Retiro**	**1.05**	**73**	*eP*	**Pb**	**06 33 13.2**	**+0.5**
RTR				*eS*	**Sn**	**06 33 27.0**	**+0.2**
CEVE	**Cerro Verde**	**1.05**	**76**	*eP*	**Pb**	**06 33 12.8**	**+0.1**
CEVE				*eS*	**Sn**	**06 33 27.6**	**+0.7**
CEVE				IAML		06 33 29.2	
	comp=Z,2μm,0.2s						
SBLS	**San Blas**	**1.06**	**76**	*i* Pg	**Pb**	**06 33 12.8**	**0.0**
SBLS				*eS*	**Sn**	**06 33 26.4**	**-0.6**
SNJE	**San Jose**	**1.08**	**75**	*eP*	**Pb**	**06 33 13.2**	**0.0**
SNJE				*eS*	**Sb**	**06 33 27.8**	**+0.9**
UNIC	**Universidad Ca**	**1.17**	**70**	*eP*	**Pn**	**06 33 13.2**	**-1.0**
UNIC				*eS*	**Sb**	**06 33 28.6**	**-0.7**
JAYA	**Jayaque - finc**	**1.20**	**86**	*eP*	**Pn**	**06 33 14.6**	**-0.1**
JAYA				*eS*	**Sn**	**06 33 29.6**	**-0.8**
JAYA				IAML		06 33 32.7	
	comp=Z,1μm,0.2s						
LALI	**Alcalda de L**	**1.32**	**94**	*eP*	**Pn**	**06 33 16.7**	**+0.4**
LALI				*eS*	**Sb**	**06 33 34.0**	**+0.3**
PMON	**Piamonte**	**1.33**	**84**	*eP*	**Pn**	**06 33 16.2**	**-0.3**
PMON				*eS*	**Sb**	**06 33 33.9**	**-0.2**
TACO	**Tacachico**	**1.34**	**73**	*eP*	**Pn**	**06 33 15.5**	**-1.1**
BOQS	**Boqueron**	**1.37**	**83**	*eP*	**Pn**	**06 33 17.7**	**+0.6**
UEES	**Universidad Ev**	**1.41**	**84**	*eP*	**Pn**	**06 33 17.8**	**+0.4**
UEES				*eS*	**Sb**	**06 33 36.1**	**0.0**
SNET	**Serv Nac Est T**	**1.41**	**86**	*eP*	**Pn**	**06 33 17.6**	**+0.1**
SNET				*eS*	**Sb**	**06 33 36.3**	**0.0**
OPAM	**Oficina de Pla**	**1.44**	**85**	*eP*	**Pb**	**06 33 19.0**	**-0.3**
OPAM				IAML		06 33 43.0	
	comp=Z,338nm,0.2s						
LFRS	**El Faro**	**1.57**	**88**	*eP*	**Pn**	**06 33 20.1**	**+0.3**
LFRS				*eS*	**Sb**	**06 33 40.5**	**-0.6**
COEG	**Centro de Oper**	**1.75**	**89**	*eP*	**Pn**	**06 33 22.3**	**+0.2**
COEG				IAML		06 33 51.4	
	comp=Z,190nm,0.3s						
PQSS	**Presa 15 de Se**	**2.06**	**89**	*eP*	**Pn**	**06 33 26.1**	**-0.3**
PETF	**Flores**	**3.41**	**13**	*eP*	**Pn**	**06 33 43.2**	**-1.7**

*NEIC **10** 07:06:33.1±2.1, 40.35°N±0.04°×124.78°W±0.09, h20km±13km, Error ellipse: s-maj=10.0km s-min=5.2km az=91.0*
*IDC **10** 07:06:33.4±2.7, 40.45°N×124.43°W, h0km, mb2.7/2, mb1 3.4/5, mb1mx3.2/53, mbtmp3.0/5, ML3.7/3, MS2.5/3, Ms1 2.5/3, ms1mx2.4/11, Error ellipse: s-maj=32.3km s-min=10.7km az=103.0*
*NCEDC **10** 07:06:34.8±2.5, 40.33°N±0.04°×124.66°W±0.06, h14km±4km, Mwr3.8/4, ML3.1/68(NEIC), Error ellipse: s-maj=7.2km s-min=5.7km az=114.0*
*NEIC **10** 07:06:34.5, 40.33°N×124.69°W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr 0.17; Mθθ -3.63; Mφφ 3.45; Mrθ 0.95; Mφθ -4.80; Mrφ 0.97; Fault plane solution: M0 6.11000×10^14 NP1: φ1 288.72000°, δ 78.84000°, λ -175.21000°. NP2: φ2 197.79000°, δ 85.30000°, λ -11.19000°. Principal axes: T 5.9078, Plg 5.0000°, Azm 244.0000°; N 0.3942, Plg 78.0000°, Azm 355.0000°; P -6.3020, Plg 11.0000°, Azm 153.0000°;*
*ANF **10** 07:06:37.1±1.4, 40.63°N×124.26°W, h0km, ML3.3/14 Error ellipse: s-maj=15.3km s-min=5.6km az=60.0, Hypocentre not reviewed by the ISC*

ISC 10 07:06:32.1±1.6, 40.32°N±0.04°×124.86°W±0.10, h13km, n72, σ1.9 04/69, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMM	**Slide Mountain**	**0.54**	**104**		**Pb**	**07 06 43.4**	**-0.1**
KCRM	**Chalk Rock**	**0.80**	**82**		**Pb**	**07 06 47.7**	**-0.2**
JCC	**Jacoby Creek,**	**0.81**	**52**		**Pg**	**07 06 47.3**	**-0.4**
JCC				IAML		07 07 00.1	
	comp=E,925nm,0.5s						
JCC	**Jacoby Creek,**	**0.81**	**52**		**Sg**	**07 06 57.0**	**-1.3**
KMRM	**Mail Ridge**	**0.89**	**96**		**Pb**	**07 06 49.2**	**-0.2**
KHMM	**Horse Mountain**	**1.02**	**57**		**Pb**	**07 06 51.0**	**-0.7**
KBSM	**Bell Springs**	**1.05**	**112**		**Pb**	**07 06 51.4**	**-0.8**
KCPM	**Cahto Peak**	**1.17**	**122**		**Pb**	**07 06 53.2**	**-1.0**
KRMB	**Red Mountain**	**1.40**	**31**		**Pn**	**07 06 56.7**	**-0.8**
KOMM	**Orleans Mounta**	**1.44**	**48**		**Pn**	**07 06 56.9**	**-1.0**
GNAM	**Navarro Ridge**	**1.47**	**139**		**Pn**	**07 06 57.4**	**-0.8**
O02D	**Mt. Diablo Mer**	**1.59**	**94**	P		07 06 59.2	
	baz=277,SNR=821						
N02D	**Trinity Center**	**1.77**	**68**	P		07 07 01.2	
	baz=247,SNR=1000						
N02D				S		07 07 18.4	
	baz=247						
GASB	**Alder Springs**	**1.78**	**111**		**Pn**	**07 07 01.3**	**-1.3**
WDC	**Whiskeytown Da**	**1.79**	**81**		**Pn**	**07 07 01.5**	**-1.2**
WDC				IAML		07 07 36.5	
	comp=N,247nm,0.9s						
WDC				IAML		07 07 36.5	
	comp=E,184nm,0.8s						
M02C	**Callahan**	**1.86**	**54**	P		07 07 02.5	
	baz=233,SNR=1000						
HOPS	**Hopland Field**	**1.91**	**133**		**Pn**	**07 07 03.5**	**-0.9**
HOPS				IAML		07 07 53.5	
	comp=E,116nm,1.3s						
KBO	**Bosley Butte**	**1.95**	**14**	Pn	**Pn**	**07 07 03.9**	**-1.0**
L02E	**Cave Junction**	**2.07**	**27**	P		07 07 06.2	
	baz=204,SNR=9.3						
L02E				S		07 07 28.5	
	baz=204						
GPMM	**Pine Mountain**	**2.09**	**134**		**Pn**	**07 07 06.5**	**-0.3**
LTCM	**Tuscan Springs**	**2.10**	**92**		**Pn**	**07 07 06.3**	**-0.6**
YBH	**Yreka Blue Hor**	**2.15**	**48**	Pg	**Pn**	**07 07 07.1**	**-0.6**
	comp=E,24nm,0.3s,baz=270,slow=8.5,SNR=1085						
YBH				Lg	Lg	07 07 30.6	
	comp=E,17nm,0.3s,baz=196,slow=10,SNR=5.4						
YBH	**Yreka Blue Hor**	**2.15**	**48**		**Pn**	**07 07 07.2**	**-0.5**
YBH				IAML		07 07 34.0	
	comp=E,110nm,0.5s						
YBH				IAML		07 07 34.6	
	comp=N,168nm,0.5s						
GDXM	**Geysers**	**2.20**	**133**		**Pn**	**07 07 08.0**	**-0.4**
FTR	**Fort Ross**	**2.23**	**143**		**Pn**	**07 07 07.9**	**-0.8**
GCRM	**Castle Rock Sp**	**2.27**	**132**		**Pn**	**07 07 09.0**	**-0.3**
LGBM	**Gray Butte**	**2.27**	**62**		**Pn**	**07 07 09.3**	**-0.2**
O03E	**Paynes Creek**	**2.34**	**90**	P		07 07 09.1	
	baz=272,SNR=143						
MNRC	**McLaughlin Min**	**2.36**	**127**		**Pn**	**07 07 10.6**	**+0.1**
LHEM	**Herd Peak**	**2.39**	**56**		**Pn**	**07 07 11.1**	**0.0**
LMEM	**Manzanita Entr**	**2.52**	**84**		**Pn**	**07 07 13.6**	**+0.7**
K02D	**Willamette Mer**	**2.54**	**20**	P		07 07 13.3	
	baz=198,SNR=46						
K02D				S		07 07 40.8	
	baz=198						
LCMM	**Colby Mountain**	**2.56**	**93**		**Pn**	**07 07 12.8**	**-0.7**
KEBM	**Edson Butte**	**2.58**	**9**	Pn	**Pn**	**07 07 14.1**	**+0.5**
KEBM				IAML		07 08 00.5	
	comp=E,68nm,1.1s						
KEBM				IAML		07 08 10.0	
	comp=N,68nm,1.1s						
SUTB	**Sutter Butte**	**2.61**	**114**		**Pn**	**07 07 12.3**	**-1.6**
HATC	**Hat Creek Radi**	**2.64**	**78**		**Pn**	**07 07 14.4**	**0.0**
MCCM	**Marconi Confer**	**2.66**	**144**	Pn	**Pn**	**07 07 13.9**	**-0.7**
MCCM				IAML		07 08 23.1	
	comp=E,72nm,2.1s						
MCCM				IAML		07 08 42.0	
	comp=N,57nm,2.3s						
ORV	**Oroville**	**2.70**	**105**		**Pn**	**07 07 14.3**	**-0.9**
HUMO	**Hull Mountain**	**2.70**	**31**		**Pn**	**07 07 15.1**	**-0.1**
HUMO				IAML		07 07 48.9	
	comp=E,78nm,0.4s						
HUMO				IAML		07 07 50.7	
	comp=N,72nm,0.5s						
L04D	**Klamath Falls**	**2.70**	**45**	P		07 07 16.0	
	baz=224,SNR=49						
M04C	**Macdoel**	**2.71**	**56**	P		07 07 15.2	
	baz=237,SNR=65						
CVS	**Carmenet Viney**	**2.71**	**136**		**Pn**	**07 07 14.6**	**-0.7**
J01E	**Myrtle Point**	**2.92**	**13**	S		07 07 50.4	
	baz=191						
FARB	**Farallon Islan**	**2.99**	**150**		**Pn**	**07 07 19.2**	**+0.1**
BL67	**Building 67, L**	**3.17**	**139**		**Pn**	**07 07 21.5**	**-0.3**
BKS	**Berkeley--Byer**	**3.18**	**139**		**Pn**	**07 07 21.2**	**-0.6**
K04D	**Chiloquin, OR**	**3.28**	**44**	P		07 07 23.5	
	baz=224,SNR=16						
AFDM	**Forest Hills D**	**3.30**	**113**		**Pn**	**07 07 23.0**	**-0.5**
BEKR	**Beckworth**	**3.48**	**96**		**Pn**	**07 07 26.0**	**-0.1**
BEKR				IAML		07 08 07.4	
	comp=E,47nm,0.7s						
BEKR				IAML		07 08 10.1	
	comp=N,51nm,1.0s						
I03D	**Drain, OR**	**3.56**	**18**	P		07 07 27.6	
	baz=196						
I03D				S		07 08 06.2	
	baz=196						
JRSC	**Jasper Ridge**	**3.56**	**144**		**Pn**	**07 07 26.2**	**-0.7**
J04D	**Umpqua Nationa**	**3.57**	**34**	P		07 07 27.4	
	baz=214,SNR=9.1						
MOD	**Modoc Plateau**	**3.79**	**64**	Pn	**Pn**	**07 07 29.4**	**-0.9**
MOD				IAML		07 08 47.2	
	comp=E,22nm,1.4s						
MOD				IAML		07 08 47.5	
	comp=N,24nm,1.4s						
K05A	**Summer Lake**	**3.83**	**50**	Pn	**Pn**	**07 07 30.9**	**0.0**
K05A				IAML		07 08 47.4	
	comp=N,24nm,1.9s						
K05A				IAML		07 08 51.4	
	comp=E,27nm,1.5s						
RUBR	**Rubicon Trail**	**3.85**	**108**		**Pn**	**07 07 31.9**	**+0.8**
I02D	**Swisshome**	**3.86**	**11**	P		07 07 33.0	
	baz=189,SNR=16						
I02D				S		07 08 13.4	
	baz=189						
I04A	**Tendick Farm,**	**3.92**	**27**	P		07 07 33.3	
	baz=206,SNR=12						
J05D	**Fort Rock, OR**	**4.02**	**41**	P		07 07 34.1	
	baz=222,SNR=11						
VCNR	**Virginia City**	**4.14**	**103**		**Pn**	**07 07 36.5**	**+1.3**
VCNR				IAML		07 08 28.0	
	comp=N,23nm,0.8s						
VCNR				IAML		07 08 31.7	
	comp=E,26nm,0.8s						
CMB	**Columbia Colle**	**4.16**	**122**		**Pn**	**07 07 36.1**	**+0.8**
PNTR	**Pine Nut**	**4.24**	**105**		**Pn**	**07 07 38.0**	**+1.4**
PAHR	**Pah Rah Range**	**4.25**	**97**		**Pn**	**07 07 37.1**	**+0.4**
PAHR				IAML		07 09 00.8	
	comp=E,16nm,1.4s						
COR	**Corvallis**	**4.42**	**15**	Pn	**Pn**	**07 07 40.4**	**+1.7**
COR				IAML		07 08 33.2	
	comp=E,26nm,0.8s						
COR				IAML		07 08 58.9	
	comp=E,20nm,1.4s						
SAO	**San Andreas Ge**	**4.45**	**142**		**Pn**	**07 07 38.0**	**-1.2**
PINE	**Pine Mountain**	**4.53**	**39**		**Pn**	**07 07 41.7**	**+1.2**
PINE				IAML		07 08 48.7	
	comp=N,16nm,4.6s						
PINE				IAML		07 08 53.5	
	comp=E,17nm,4.2s						
YERR	**Yerington**	**4.54**	**105**		**Pn**	**07 07 40.9**	**+0.3**
YERR				IAML		07 09 01.9	
	comp=E,22nm,1.5s						
YERR				IAML		07 09 05.2	
	comp=N,14nm,1.5s						
WAKR	**Walker**	**4.58**	**112**		**Pn**	**07 07 42.8**	**+1.6**
BJCM	**Johnson Can.**	**4.65**	**143**		**Pn**	**07 07 40.7**	**-1.3**
HAST	**Hastings Reser**	**4.71**	**145**		**Pn**	**07 07 41.5**	**-1.4**
H04A	**Detroit Lake**	**4.79**	**24**	Pn	**Pn**	**07 07 46.0**	**+2.1**
H04A				IAML		07 08 47.1	
	comp=E,16nm,0.4s						
H04A				IAML		07 08 49.8	
	comp=N,17nm,0.5s						
WVOR	**Wild Horse Val**	**5.14**	**64**		**Pn**	**07 07 47.7**	**-1.1**
WVOR				IAML		07 09 43.0	
	comp=N,10.0nm,2.7s						
PMPB	**Monarch Peak**	**5.20**	**141**	Pn	**Pn**	**07 07 49.8**	**+0.3**
LHV	**Little Huntoon**	**5.35**	**111**		**Pn**	**07 07 52.8**	**+1.2**
LHV				IAML		07 09 32.4

	0.2nm,0.2s,baz=320,slow=15,SNR=16						
MK31			⇓Lg		Lg	07 09 27.8	
	2.8nm,0.4s,baz=324,slow=28,SNR=15						
MKAR	**Makanchi Array**	**4.03 146**	Pn		**Pn**	**07 08 25.1**	**+1.4**
	0.3nm,0.3s,baz=321,slow=10,SNR=76						
MKAR			Pg		**Pb**	**07 08 32.5**	**0.0**
	0.6nm,0.3s,baz=321,slow=11,SNR=11						
MKAR			Sn		**Sn**	**07 09 14.1**	**+2.5**
	0.4nm,0.3s,baz=331,slow=12,SNR=3.6						
MKAR			Lg		Lg	07 09 26.0	
	2.0nm,0.3s,baz=325,slow=27,SNR=16						
ZSN	**Zaisan**	**4.74 123**	Pg		**Pg**	**07 08 49.8**	**-1.7**
ZSN			Lg		Lg	07 09 54.3	
	5.4nm,0.5s						
KAPS	**Kapalarasan**	**4.90 177**	Pg		**Pb**	**07 08 46.2**	**-1.1**
	1.1nm,0.3s						
KAPS			Lg		Lg	07 09 48.3	
	5.8nm,0.6s						
I46RU	**ZALESOVO INFRA**	**5.21 41**	*i*			07 40 10.0	
	baz=224,slow=317,SNR=1.6						
ZALV	**Zalesovo Beam**	**5.21 41**	Pn		Pb	07 08 45.4	-7.2
	0.8nm,0.3s,baz=230,slow=14,SNR=9.2						
ZALV			Lg		Lg	07 10 14.5	
	0.3nm,0.3s,baz=232,slow=23,SNR=2.9						
DJR	**Jarkent**	**5.87 174**	Pg		**Pb**	**07 09 04.5**	**+0.5**
	1.1nm,0.4s						
DJR			Lg		Lg	07 10 19.6	
	2.3nm,0.5s						
ARXS	**Arharly**	**6.02 188**	Pg		**Pb**	**07 09 05.8**	**-0.6**
	1.6nm,0.5s						
ARXS			Lg		Lg	07 10 22.1	
	4.7nm,0.5s						
MNBS	**Baschi**	**6.11 184**	Pg		**Pb**	**07 09 08.0**	**0.0**
	0.3nm,0.1s						
MNBS			Lg		Lg	07 10 25.9	
	10.0nm,0.5s						
BRVK	**Borovoye**	**6.15 301**	⇑Pn		**Pn**	**07 08 52.5**	**-0.2**
	3.8nm,1.2s						
BRVK			⇓Sn		**Sn**	**07 10 01.8**	**-1.9**
	2.2nm,1.0s						
BRVK			⇑Lg		Lg	07 10 32.3	
	1.6nm,0.6s						

*IDC **10** 07:07:57.0±6.3, 7.65S×128.46E, h170km±65km, mb3.4/5, mb1 3.4/9, mb1mx3.3/40, mbtmp3.9/9, Error ellipse: s-maj=63.0km s-min=17.9km az=47.0*

ISC 10 07:07:55.1±1.0, 7.74S±0.08×128.7E±0.1, h151km, n9, σ2°29/13, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.52**	**243**	P		P	**Pn**	**07 09 17.8**	**+2.2**
	39nm,0.3s,baz=273,slow=4.3,SNR=13								
BATI				S		S	**Sn**	**07 10 17.4**	**-1.0**
	27nm,0.3s,baz=207,slow=21,SNR=9.3								
FITZ	**Fitzroy Crossi**	**10.71**	**196**	P		P	**Pn**	**07 10 24.8**	**+0.2**
	0.8nm,0.3s,baz=18,slow=10.0,SNR=19								
FITZ				S		S	**Sn**	**07 12 19.8**	**-3.4**
	1.7nm,0.3s,baz=104,slow=21,SNR=7.7								
WRA	**Warramunga Arr**	**13.32**	**156**	P		P	**Pn**	**07 10 60.0**	**+1.5**
	0.2nm,0.3s,baz=330,slow=14,SNR=9.6								
WRA				S		S	**Sn**	**07 13 23.6**	**-2.4**
	0.8nm,0.3s,baz=325,slow=24,SNR=7.6								
ASAR	**Alice Springs**	**16.62**	**163**	P		P	**Pn**	**07 11 43.0**	**+3.5**
	0.2nm,0.3s,baz=341,slow=9.7,SNR=16								
ASAR				S			**S**	**07 14 43.2**	**-0.9**
	0.4nm,0.3s,baz=316,slow=18,SNR=7.1								
STKA	**Stephens Creek**	**26.87**	**155**	P			**P**	**07 13 24.2**	**+2.3**
	0.4nm,0.4s,baz=324,slow=12,SNR=3.4								
SONM	**Songino Array**	**58.73**	**343**	P			**P**	**07 17 36.4**	**-0.8**
	0.6nm,0.6s,baz=169,slow=4.7,SNR=4.7								
MKAR	**Makanchi Array**	**68.12**	**328**	P			**P**	**07 18 37.6**	**-1.2**
	0.7nm,0.6s,baz=121,slow=7.5,SNR=8.0								
ZALV	**Zalesovo Beam**	**71.66**	**334**	P			**P**	**07 18 58.2**	**-2.0**
	0.9nm,0.7s,baz=129,slow=5.7,SNR=2.3								
KURBB	**Kurchatov Arra**	**72.45**	**329**	P			**P**	**07 19 03.5**	**-1.5**
	0.6nm,0.6s,baz=130,slow=4.9,SNR=7.1								

*MEX **10** 07:13:49.6±0.7, 14.32N×93.60W, h10km, MD4.1*
*IDC **10** 07:13:54.6±9.4, 14.70N×93.43W, h39km±52km, mb3.4/3, mb1 3.8/6, mb1mx3.4/40, mbtmp3.6/6, ML3.5/3, MS3.2/3, Ms1 3.2/3, ms1mx2.7/25, Error ellipse: s-maj=92.4km s-min=35.8km az=2.0*

ISC 10 07:13:52.3±1.6, 14.5N±0.1×93.47W±0.06, h36km, n13, σ0°98/18, mb3.6/3, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**1.25**	**69**	*i* P			**Pn**	**07 14 11.8**	**-1.4**
THIG				*i* S			**Sn**	**07 14 28.4**	**-0.3**
PCIG		**1.26**	**11**	*i* P			**Pn**	**07 14 11.7**	**-1.7**
PCIG				*e*S			**Sn**	**07 14 28.7**	**-0.4**
CCIG	**Comitan**	**2.22**	**35**	*e*P			**Pn**	**07 14 26.8**	**+0.1**
CCIG				*i* S			**Sn**	**07 14 54.3**	**+1.2**
TGIG		**2.33**	**8**	*i* P			**Pn**	**07 14 28.0**	**-0.1**
TGIG				*i* S			**Sn**	**07 14 56.4**	**+0.9**
CMIG	**Matias Romero**	**2.95**	**333**	Pn			**Pn**	**07 14 35.8**	**-0.7**
	2.4nm,0.3s,baz=160,slow=8.6,SNR=33								
CMIG				Sn			**Sn**	**07 15 09.8**	**-0.9**
	9.8nm,0.3s,baz=126,slow=14,SNR=4.6								
CMIG	**Matias Romero**	**2.95**	**333**	⇓*e*P			**Pn**	**07 14 35.6**	**-1.0**
CMIG				*i* S			**Sn**	**07 15 10.5**	**-0.2**
TEIG	**Tepich**	**7.58**	**40**	Pn			**Pn**	**07 15 40.2**	**-0.1**
	4.2nm,0.3s,baz=227,slow=8.3,SNR=15								
TEIG				Sn			**Sn**	**07 17 03.9**	**-1.1**
	1.4nm,0.3s,baz=316,slow=23,SNR=6.2								
TEIG				LR		LR	07 18 59.7		
	comp=Z,286nm,20.4s,baz=219,slow=41								
TXAR	**Lajitas Array**	**17.55**	**329**	P			**Pn**	**07 17 53.3**	**-0.9**
	0.0nm,0.3s,baz=122,slow=9.7,SNR=1.9								
LPIG	**La Paz**	**18.54**	**304**	LR		LR	07 25 43.6		
	comp=Z,56nm,19.6s,baz=60,slow=38								
TKL	**Tuckaleechee C**	**22.84**	**21**	LR		LR	07 28 24.0		
	comp=Z,42nm,18.8s,baz=192,slow=38								
NVAR	**Mina Array Bea**	**32.42**	**322**	P			**P**	**07 20 20.8**	**+1.6**
	0.5nm,0.7s,baz=141,slow=9.1,SNR=5.7								
YKA	**Yellowknife Ar**	**50.26**	**347**	P			**P**	**07 22 44.6**	**-0.1**
	1.6nm,0.8s,baz=148,slow=7.8,SNR=23								
ILAR	**Eielson Array**	**61.86**	**337**	P			**P**	**07 24 08.0**	**+0.4**
	0.4nm,0.8s,baz=120,slow=4.7,SNR=3.1								

IDC 10 07:32:53.9±6.1, 24.32S×178.91W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=182.7km s-min=96.9km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.49**	**249**	P		P		07 39 52.0	-0.4
	1.3nm,1.0s,baz=103,slow=13,SNR=2.8								
ASAR	**Alice Springs**	**42.95**	**261**	P		P		07 40 54.7	-0.2
	0.7nm,0.8s,baz=92,slow=7.9,SNR=7.4								
WRA	**Warramunga Arr**	**43.37**	**266**	P		P		07 40 58.6	+0.2
	0.4nm,0.9s,baz=104,slow=7.8,SNR=7.5								
NOA	**NORSAR Array B**	**142.64**	**352**	PKP		PKPdf		07 52 28.2	-0.4
	1.1nm,0.8s,baz=22,slow=2.5,SNR=3.6								

*ANF **10** 07:52:52.1±0.9, 32.23N×115.22W, h10km±3km, ML2.7/11, Error ellipse: s-maj=7.8km s-min=4.6km az=9.0, Hypocentre not reviewed by the ISC*
*PAS **10** 07:52:53.6±1.9, 32.20N±0.01×115.28W±0.01, h0km±5km, Error ellipse: s-maj=1.8km s-min=1.7km az=90.0*
*ECX **10** 07:52:54.8±0.6, 32.23N×115.29W, h2km±3km, MD2.9, ML3.1*
*SCEDC **10** 07:52:54.0, 32.20N×115.29W, h0km, Hypocentre not reviewed by the ISC*
*NEIC **10** 07:52:54.0±1.8, 32.21N±0.02×115.29W±0.02, h10km±1km, Error ellipse: s-maj=3.2km s-min=2.7km az=28.0*
*MEX **10** 07:52:56.0±1.1, 32.25N×115.24W, h10km, MD3.4*

ISC 10 07:52:53.7±0.8, 32.20N±0.02×115.29W±0.02, h14km±6km, n84, σ0°98/112, 12C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUVIX	**Guadalupe Vict**	**0.21**	**60**				**Pg**	**07 52 58.5**	**+0.1**
GUVIX							**Sg**	**07 53 02.3**	**+0.8**
GUVIX	**Guadalupe Vict**	**0.21**	**60**	⇑*i* P			**Pg**	**07 52 58.5**	**+0.1**
CPBX	**Cerro Prieto**	**0.22**	**356**	Pg			**Pg**	**07 52 57.5**	**-1.1**
CPBX				Sg			**Sg**	**07 53 02.0**	**+0.1**
CPBX	**Cerro Prieto**	**0.22**	**356**	⇓*i* P			**Pg**	**07 52 57.5**	**-1.1**
CPBX				*e*S			**Sg**	**07 53 00.2**	**-1.8**
CPBX				⇑*e*				07 53 03.0	
CPBX					IAML			07 53 03.0	
	comp=N,18μm,0.2s								
MBIG	**Mexicali**	**0.22**	**20**	*e*P			**Pg**	**07 52 58.8**	**+0.2**
MBIG				*i* S			**Sg**	**07 53 03.0**	**+1.1**
MBIG	**Mexicali**	**0.22**	**20**	⇑*e*P			**Pg**	**07 52 58.5**	**-0.1**
CTLX	**Tlaxcala, TLX**	**0.30**	**24**	⇓*i* P			**Pg**	**07 52 59.9**	**0.0**
UABX	**UABC, Campus M**	**0.45**	**344**				**Pg**	**07 53 03.1**	**+0.4**
UABX							**Sb**	**07 53 10.4**	**+0.4**
UABX	**UABC, Campus M**	**0.45**	**344**		IAML			07 53 10.8	
	comp=N,6μm,0.4s								
UABX					IAML			07 53 10.9	
	comp=E,5μm,0.5s								
UABX	**UABC, Campus M**	**0.45**	**344**	⇓*i* P			**Pg**	**07 53 03.1**	**+0.4**
CEA0	**Mexicali**	**0.56**	**325**	*e*P			**Pg**	**07 53 04.7**	**0.0**
SGL	**Mount Signal**	**0.58**	**321**				**Pg**	**07 53 05.0**	**-0.1**
SGL							**Sg**	**07 53 12.9**	**+0.1**
SGL	**Mount Signal**	**0.58**	**321**	⇑*i* P			**Pg**	**07 53 05.0**	**-0.1**
SGL				*i* S			**Sg**	**07 53 13.1**	**+0.2**
ESJX	**Sierra Juarez**	**0.59**	**251**				**Pg**	**07 53 06.2**	**+0.8**
ESJX							**Sg**	**07 53 14.3**	**+1.1**
ESJX	**Sierra Juarez**	**0.59**	**251**		IAML			07 53 15.7	
	comp=E,1μm,0.1s								
ESJX					IAML			07 53 15.7	
	comp=N,918nm,0.2s								
EMSC	**East Mesa**	**0.60**	**25**				**Pg**	**07 53 05.1**	**-0.3**
EMSC							**Sg**	**07 53 13.5**	**+0.1**
EMSC	**East Mesa**	**0.60**	**25**	*e*P			**Pg**	**07 53 05.1**	**-0.3**
EMSC				⇓*e*P			**Pb**	**07 53 05.3**	**-0.6**
DREC	**Desert Rsrch C**	**0.62**	**348**				**Pg**	**07 53 06.0**	**+0.1**
DREC							**Sb**	**07 53 16.0**	**+1.1**
DREC	**Desert Rsrch C**	**0.62**	**348**	*e*P			**Pg**	**07 53 05.9**	**+0.1**
SNR	**Schaffner Ranc**	**0.67**	**349**				**Pg**	**07 53 06.8**	**-0.1**
SNR							**Sb**	**07 53 17.0**	**+0.6**
WESC	**Westside Schoo**	**0.67**	**326**				**Pg**	**07 53 06.8**	**0.0**
WESC							**Sb**	**07 53 16.8**	**+0.4**
WESC	**Westside Schoo**	**0.67**	**326**	*e*P			**Pg**	**07 53 06.8**	**0.0**
COA	**Coachella**	**0.68**	**12**				**Pg**	**07 53 06.2**	**-0.8**
COA	**Coachella**	**0.68**	**12**	*e*P			**Pg**	**07 53 06.2**	**-0.8**
YUH	**Yuha Desert**	**0.70**	**310**				**Pg**	**07 53 06.9**	**-0.4**
YUH							**Sg**	**07 53 16.5**	**0.0**
SJX	**San Joaquin**	**0.72**	**233**	⇑*i* P			**Pg**	**07 53 06.2**	**-1.4**
SJX				*e*S			**Sg**	**07 53 14.5**	**-2.5**
SJX				*e*				07 53 15.7	
SJX					IAML			07 53 15.7	
	comp=N,1μm,0.2s								
YMD	**Yuma Desert**	**0.72**	**60**				**Pg**	**07 53 06.7**	**-1.1**
COK2	**Cook Ranch 2**	**0.75**	**330**				**Pg**	**07 53 07.7**	**-0.5**
COK2							**Sg**	**07 53 18.7**	**+0.6**
COK2	**Cook Ranch 2**	**0.75**	**330**	⇑*e*P			**Pg**	**07 53 07.8**	**-0.5**
ECBX	**El Chinero**	**0.75**	**164**	⇓*e*P			**Pg**	**07 53 07.1**	**-1.1**
ECBX				*e*S			**Sg**	**07 53 17.9**	**-0.2**
RMX	**La Rumorosa**	**0.78**	**301**				**Pg**	**07 53 07.6**	**-1.3**
RMX							**Sg**	**07 53 17.2**	**-2.0**
RMX	**La Rumorosa**	**0.78**	**301**		IAML			07 53 17.6	
	comp=N,444nm,0.3s								
RMX					IAML			07 53 19.8	
	comp=E,274nm,0.4s								
RMX	**La Rumorosa**	**0.78**	**301**	⇑*i* P			**Pg**	**07 53 07.6**	**-1.3**
RMX				*e*S			**Sg**	**07 53 17.2**	**-2.0**
RUN	**Ruthven**	**0.82**	**19**				**Pg**	**07 53 07.7**	**-1.8**
RUN							**Sg**	**07 53 19.8**	**-0.5**
IKP	**In-Ko-Pah, Jac**	**0.83**	**303**				**Pg**	**07 53 09.2**	**-0.6**
IKP							**Sg**	**07 53 20.6**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**0.83**	**303**	⇑*e*P			**Pg**	**07 53 09.2**	**-0.6**
IKP				*e*S			**Sg**	**07 53 20.5**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**0.83**	**303**	P				07 53 09.2	
	baz=123,SNR=96								
IKP					S			07 53 20.3	
	baz=123								
SWSC	**Sam W. Stewart**	**0.86**	**330**	*e*P			**Pg**	**07 53 09.3**	**-1.0**
SWSC	**Sam W. Stewart**	**0.86**	**330**	P				07 53 08.7	
	baz=150,SNR=23								
SWSC					S			07 53 20.1	
	baz=150								
CRR	**Carrizo Plain**	**0.90**	**320**				**Pg**	**07 53 10.3**	**-0.7**
CRR							**Sg**	**07 53 22.6**	**-0.2**
CRR	**Carrizo Plain**	**0.90**	**320**	⇑*i* P			**Pg**	**07 53 10.4**	**-0.7**
VTX	**Valle De La Tr**	**0.91**	**208**	*e*P			**Pg**	**07 53 11.3**	**+0.1**
VTX				*e*S			**Sg**	**07 53 23.3**	**+0.2**
VTX				*e*				07 53 25.5	
VTX					IAML			07 53 25.5	
	comp=N,297nm,0.1s								
VTX					IAML			07 53 25.5	
	comp=E,569nm,0.1s								
VTX				*e*				07 53 25.5	
GLA	**Glamis**	**0.94**	**24**				**Pg**	**07 53 10.5**	**-1.3**
GLA							**Sg**	**07 53 22.5**	**-1.6**
GLA	**Glamis**	**0.94**	**24**		IAML			07 53 22.9	
	comp=E,271nm,0.4s								
GLA					IAML			07 53 23.0	
	comp=N,258nm,0.4s								
GLA	**Glamis**	**0.94**	**24**	*e*P			**Pg**	**07 53 09.9**	**-1.9**
GLA	**Glamis**	**0.94**	**24**	P				07 53 09.6	
	baz=205,SNR=22								
GLA					S			07 53 21.4	
	baz=205								
SPIG	**San Pedro Mart**	**1.16**	**188**	*i* P			**Pb**	**07 53 15.1**	**-0.6**
SPIG				*i* S			**Sg**	**07 53 32.0**	**+0.8**
SPIG	**San Pedro Mart**	**1.16**	**188**	*e*P			**Pb**	**07 53 14.4**	**-1.2**
SPX	**San Pedro Mart**	**1.17**	**187**				**Pb**	**07 53 15.2**	**-0.7**
SPX	**San Pedro Mart**	**1.17**	**187**		IAML			07 53 32.7	
	comp=E,111nm,0.5s								
SPX					IAML			07 53 32.9	
	comp=N,111nm,0.4s								
SPX	**San Pedro Mart**	**1.17**	**187**	⇓*e*P			**Pb**	**07 53 15.1**	**-0.7**
CBX	**Cerro Bola**	**1.17**	**276**				**Pb**	**07 53 15.1**	**-0.7**
CBX							**Sb**	**07 53 31.1**	**+0.3**
CBX					IAML			07 53 32.8	
	comp=N,170nm,0.4s								
CBX					IAML			07 53 33.4	
	comp=E,191nm,0.4s								
CBX	**Cerro Bola**	**1.17**	**276**	⇑*e*P			**Pb**	**07 53 15.1**	**-0.7**
CBX				*e*S			**Sb**	**07 53 31.1**	**+0.3**
CBX				⇑*e*				07 53 33.5	
CBX					IAML			07 53 33.5	
	comp=E,370nm,0.2s								
TKX	**Tecate**	**1.18**	**289**				**Pb**	**07 53 15.1**	**-0.7**
TKX							**Sb**	**07 53 31.1**	**+0.1**
TKX	**Tecate**	**1.18**	**289**	*e*P			**Pb**	**07 53 14.7**	**-1.1**
TKX				*e*S			**Sb**	**07 53 31.0**	**+0.1**
MONP2	**Monument Peak**	**1.18**	**306**				**Pb**	**07 53 15.6**	**-0.4**
MONP2							**Sg**	**07 53 30.9**	**-1.0**
MONP2	**Monument Peak**	**1.18**	**306**	⇑*e*P			**Pb**	**07 53 15.6**	**-0.4**
MONP2	**Monument Peak**	**1.18**	**306**	P				07 53 14.4	
	baz=126,SNR=47								
MONP2					S			07 53 30.7	
	baz=126								
TJIG	**Tijuana**	**1.20**	**282**	*i* P			**Pb**	**07 53 15.3**	**-0.9**
TJIG				*i* S			**Sb**	**07 53 31.2**	**-0.3**
TJIG	**Tijuana**	**1.20**	**282**	*e*P			**Pb**	**07 53 15.1**	**-1.1**
CCX	**Cicese**	**1.21**	**255**				**Sb**	**07 53 32.7**	**+0.8**
CCX	**Cicese**	**1.21**	**255**				**Pn**	**07 53 16.9**	**+0.7**
CCX	**Cicese**	**1.21**	**255**		IAML			07 53 33.9	
	comp=N,910nm,0.5s								
CCX					IAML			07 53 34.1	
	comp=E,535nm,0.3s								
SFX	**San Felipe**	**1.22**	**162**				**Pn**	**07 53 16.6**	**+0.4**
SFX							**Sb**	**07 53 33.3**	**+1.3**
SFX					IAML			07 53 34.6	
	comp=N,158nm,0.3s								
SFX					IAML			07 53 36.9	
	comp=E,195nm,0.5s								
SFX	**San Felipe**	**1.22**	**162**	*e*P			**Pn**	**07 53 14.5**	**-1.7**
SLH	**Sleepy Hollow**	**1.28**	**321**				**Pn**	**07 53 17.0**	**-0.2**
BORC	**Borrego Spring**	**1.43**	**319**				**Sn**	**07 53 38.6**	**+0.8**
OLP	**Otay Lakes Par**	**1.45**	**287**				**Sn**	**07 53 39.2**	**+1.0**
OLP	**Otay Lakes Par**	**1.45**	**287**	*e*P			**Pn**	**07 53 20.2**	**+0.8**
SDRC	**San Diego Road**	**1.50**	**291**				**Pn**	**07 53 21.0**	**+0.9**
SDRC							**Sn**	**07 53 40.7**	**+1.2**
SDRC	**San Diego Road**	**1.50**	**291**	*e*P			**Pn**	**07 53 19.4**	**-0.8**
MATG	**Mataguay Scout**	**1.52**	**311**				**Pn**	**07 53 21.6**	**+1.0**
TJX	**Tijuana**	**1.53**	**282**				**Pn**	**07 53 22.3**	**+1.8**
TJX					IAML			07 53 46.4	
	comp=N,205nm,0.6s								
TJX					IAML			07 53 57.9	
	comp=E,170nm,0.8s								
DPP	**Dos Picos Cty**	**1.61**	**300**				**Pn**	**07 53 22.9**	**+1.3**
HWB	**Hans Werner Br**	**1.64**	**301**				**Pn**	**07 53 23.6**	**+1.6**
PIX	**Pinacate**	**1.68**	**112**				**Pn**	**07 53 23.6**	**+1.0**
109C	**Camp Elliot, M**	**1.68**	**295**				**Pn**	**07 53 22.2**	**-0.5**
109C					IAML			07 53 47.7	
	comp=N,182nm,0.3s								
109C	**Camp Elliot, M**	**1.68**	**295**	P				07 53 22.0	
	baz=114,SNR=16								
109C					S			07 53 45.4	
	baz=114								
CPE	**Camp Elliot**	**1.68**	**295**				**Pn**	**07 53 23.9**	**+1.2**
XPFO	**Pion Flat**	**1.72**	**325**	Pn			**Pn**	**07 53 21.3**	**-2.0**
PFO	**Pinyon Flats O**	**1.72**	**325**				**Pn**	**07 53 21.2**	**-2.1**
PFO	**Pinyon Flats O**	**1.72**	**325**	P				07 53 21.3	
	baz=145,SNR=7.5								
GORC	**Green Oak Ranc**	**1.89**	**301**				**Pn**	**07 53 27.8**	**+2.3**
HMTC	**Hemet**	**2.09**	**317**				**Pb**	**07 53 32.8**	**+1.5**
214A	**Organ Pipe Nat**	**2.12**	**96**	P				07 53 26.5	
	baz=277,SNR=11								
MURC	**Murrieta**	**2.13**	**312**	Sb				07 54 00.2	
	baz=131								
BBRC	**Big Bear Solar**	**2.47**	**327**	Sb				07 54 10.5	
	baz=146								
CIS	**Catalina Islan**	**2.89**	**295**	Sb				07 54 21.9	
	baz=114								
PEM	**Pine Mountain**	**2.92**	**313**				**Pb**	**07 53 46.3**	**+0.8**
MWC	**Mount Wilson**	**3.08**	**312**				**Pn**	**07 53 41.5**	**-0.5**
MWC					IAML			07 54 35.1	
	comp=E,19nm,0.5s								
MWC					IAML			07 54 37.2	
	comp=N,13nm,0.7s								
W13A	**Hualapai Mount**	**3.12**	**22**				**Pn**	**07 53 42.3**	**-0.4**
DECC	**Green Verdugo**	**3.27**	**310**	Sb				07 54 34.0	
	baz=128								
TUC	**Tucson**	**3.82**	**87**				**Pn**	**07 53 53.2**	**+1.1**
TUC					IAML			07 55 00.6	
	comp=N,7.2nm,0.7s								
U15A	**North Rim**	**4.89**	**30**	Pn			**Pn**	**07 54 07.8**	**+0.7**
U15A					IAML			07 55 41.3	
	comp=E,5.3nm,3.9s								
U15A					IAML			07 55 50.2	
	comp=N,4.7nm,3.9s								
TCRU	**Three Creeks R**	**6.80**	**19**				**Pn**	**07 54 32.6**	**-0.7**

*DJA **10** 07:53:05.3±0.4, 1.7N±3.7×10.7E±., h143km±5km, M3.9/12, mb4.5/2, MLv3.5/12*
*IDC **10** 07:53:06.0±4.0, 0.62N×99.76E, h155km±16km, mb3.4/4, mb1 3.4/5, mb1mx3.1/47, mbtmp3.8/5, Error ellipse: s-maj=133.0km s-min=24.3km az=56.0*

ISC 10 07:53:05.5±0.9, 0.62N±0.07×99.85E±0.07, h150km, n12, σ0°67/15, mb3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.32**	**304**	P		P	**Pn**	**07 53 24.8**	**-1.2**
MNSI				S		S	**Sn**	**07 53 41.6**	**-0.1**
BKNI	**Bangkinang**	**1.23**	**104**	P		P	**Pn**	**07 53 32.7**	**+0.4**
PBSI	**Pulau Batu**	**1.70**	**247**	P		P	**Pn**	**07 53 37.1**	**-0.1**
PBSI				S		S	**Sn**	**07 54 00.9**	**-0.6**
SDSI	**Sungai Dareh**	**2.21**	**134**	P		P	**Pn**	**07 53 43.0**	**-0.1**
PSI	**Prapat**	**2.36**	**337**	P		P	**Pn**	**07 53 44.9**	**-0.1**
	1.6nm,0.3s,baz=179,slow=4.3,SNR=6.4								
PSI				S			**Sn**	**07 54 14.2**	**-1.2**
	0.5nm,0.3s,baz=0.3,slow=19,SNR=5.6								
GSI	**Gunungsitoli**	**2.37**	**287**	P		P	**Pn**	**07 53 45.8**	**+0.8**
TPTI		**3.74**	**315**	P		P	**Pn**	**07 54 03.0**	**+0.7**
MLSI	**Meulaboh, Aceh**	**5.00**	**317**	P		P	**Pn**	**07 54 19.3**	**+0.4**
	0.4nm66nm,0.4s								
WRA	**Warramunga Arr**	**39.49**	**123**	P			**P**	**08 00 22.0**	**+0.3**
	0.2nm,0.4s,baz=313,slow=9.9,SNR=1.6								
SONM	**Songino Array**	**47.37**	**6**	P			**P**	**08 01 25.0**	**+0.5**
	0.3nm,0.4s,baz=191,slow=11,SNR=3.5								
MKAR	**Makanchi Array**	**48.48**	**344**	P			**P**	**08 01 32.5**	**-0.4**
	0.9nm,0.3s,baz=156,slow=8.7,SNR=14								
ZALV	**Zalesovo Beam**	**54.59**	**349**	P			**P**	**08 02 17.9**	**-0.2**
	1.3nm,0.3s,baz=171,slow=7.0,SNR=4.8								

DJA 10 08:26:28.8±0.4, 4.5S±3.3×10.2E±., h90km±5km, M3.6/11, MLv3.6/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.40**	**112**	P		P	Pn	08 26 44.1	+1.2
KSI				S		S	Sn	08 26 55.4	+2.0
MNAI	**Manna**	**1.13**	**139**	P		P	Pn	08 26 50.5	+0.5
LHSI	**Lahat**	**1.34**	**104**	P		P	Pn	08 26 52.9	+0.4
KRJI	**Kerinci**	**1.59**	**332**	P		P	Pn	08 26 55.5	-

BATI Sn **Sb** **08 39 55.7 -5.8**
7.7nm,0.3s,baz=329,slow=18,SNR=2.0
BATI Baumata 5.23 110 P Pb 08 38 53.5 -5.2
0.2nm42nm,0.5s
TTSI Tana Toraja 5.49 12 P **Pn** **08 38 52.7 +3.7**
0.8nm4μm130nm,0.5s
SOEI Soe 5.68 104 **Pn** **08 38 55.8 +4.2**
KBKI Kotabaru 5.69 334 P **Pn** **08 38 53.2 +1.4**
LEM Lembang 11.07 278 LR LR 08 44 53.6
comp=Z,82nm,20.7s,baz=231,slow=41
FITZ Fitzroy Crossi 11.74 145 Pn **Pn** **08 40 17.8 +3.0**
2.4nm,0.3s,baz=326,slow=7.9,SNR=60
FITZ Sn **Sn** **08 42 23.7 -2.3**
0.6nm,0.3s,baz=159,slow=4.5,SNR=3.3
FITZ LR LR 08 44 29.6
comp=Z,64nm,21.3s,baz=320,slow=35
FITZ Fitzroy Crossi 11.74 145 **Pn** **08 40 17.2 +2.4**
PSA00 Pilbara Seismi 13.09 175 Pn **Pn** **08 40 34.9 +1.6**
GIRL Giralia 14.74 196 Pn **Pn** **08 40 56.5 +0.8**
WB0 Warramunga Arr 18.93 128 P **Pn** **08 41 49.9 +1.0**
WB0 IAmb IAmb 08 42 07.3
comp=Z,13nm,1.4s
WRA Warramunga Arr 18.98 129 P **P** **08 41 50.3 +1.3**
comp=Z,0.4nm,0.3s,baz=301,slow=13,SNR=17
WRA S **Sn** **08 45 17.2 -5.1**
comp=Z,0.2nm,0.3s,baz=307,slow=19,SNR=2.9
WB2 Warramunga Arr 18.99 129 P **P** **08 41 50.2 +1.1**
WB2 IAmb IAmb 08 42 15.3
comp=Z,11nm,1.4s
WR0 Warramunga Arr 19.15 128 P **P** **08 41 51.6 +0.9**
WR0 IAmb IAmb 08 42 08.6
comp=Z,4.8nm,0.8s
AS31 Alice Springs 21.02 138 P **P** **08 42 12.5 +1.4**
ASAR Alice Springs 21.02 138 P **P** **08 42 13.4 +2.3**
comp=Z,2.0nm,0.5s,baz=310,slow=9.4,SNR=38
ASAR S **S** **08 46 04.8 -0.6**
comp=Z,1.1nm,0.8s,baz=309,slow=22,SNR=7.3
ASAR ScP **ScP** **08 49 51.4 -4.0**
comp=Z,0.3nm,0.8s,baz=335,slow=2.3,SNR=2.3
ASAR Alice Springs 21.02 138 P **P** **08 42 12.2 +1.1**
FORT Forrest 23.88 160 P **P** **08 42 41.6 +0.6**
NWAO Narrogin (SRO) 24.39 183 P **P** **08 42 45.3 -0.4**
NWAO Narrogin (SRO) 24.39 183 P **P** **08 42 44.6 -1.0**
NWAO IAmb IAmb 08 43 00.6
comp=Z,23nm,1.4s
COEN Coen 24.64 105 P **P** **08 42 48.9 +0.7**
COEN IAmb IAmb 08 42 50.7
comp=Z,9.8nm,1.2s
BBOO Buckleboo 29.10 149 P **P** **08 43 28.3 +0.2**
BBOO IAmb IAmb 08 43 43.3
comp=Z,15nm,1.1s
STKA Stephens Creek 31.58 141 P **P** **08 43 51.4 +1.4**
comp=Z,1.7nm,0.6s,baz=316,slow=10,SNR=8.2
STKA Stephens Creek 31.58 141 P **P** **08 43 50.5 +0.4**
KSAR Wonju Array Be 46.46 10 P **P** **08 45 52.8 -1.5**
SONM Songino Array 57.09 350 P **P** **08 47 14.4 +0.7**
comp=Z,0.4nm,0.5s,baz=173,slow=8.3,SNR=2.8
MKAR Makanchi Array 63.83 333 P **P** **08 47 58.9 -0.8**
comp=Z,0.4nm,0.6s,baz=140,slow=5.7,SNR=5.4
MKAR Makanchi Array 63.83 333 P **P** **08 47 58.0 -1.7**
QSPA South Pole Qui 81.54 180 P **P** **08 49 42.9 -1.9**
QSPA IAmb IAmb 08 50 04.0
comp=Z,3.2nm,1.3s

IDC 10 10:00:41.3±5.1, 1°52S×136°24E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/28, mbtmp3.3/3, Error ellipse: s-maj=238.7km s-min=30.8km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.41**	**186**	P		Pn	10 04 57.2	-0.9
	baz=8.0,slow=13,SNR=1.2						
ASAR	**Alice Springs**	**22.14**	**186**	P		P	10 05 39.2	+0.4
	0.6nm,0.7s,baz=6.6,slow=12,SNR=11						
MKAR	**Makanchi Array**	**67.35**	**323**	P		P	10 11 38.3	-0.1
	0.5nm,0.9s,baz=114,slow=6.8,SNR=2.3						

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*IDC **10** 10:09:04.5±2.3, 1°.97N×126°.57E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/22, mbtmp3.1/3, Error ellipse: s-maj=182.6km s-min=28.7km az=66.0*

DJA 10 10:09:10.6±2.4, 2°N±13°×126°E±°, h14km±27km, M3.1/4, MLv3.1/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.38**	**130**	P		Pn	10 09 35.3	-0.2
WRA	**Warramunga Arr**	**22.88**	**160**	P		P	10 14 11.1	-2.8
	0.2nm,0.4s,baz=340,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**26.25**	**164**	P		P	10 14 44.5	-1.0
	0.2nm,0.7s,baz=347,slow=9.3,SNR=1.7						
MKAR	**Makanchi Array**	**59.01**	**326**	P		P	10 19 05.2	-4.8
	0.1nm,0.4s,baz=134,slow=8.3,SNR=2.2						

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*IDC **10** 10:22:47.8±0.9, 13°.18N×145°.61E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/38, mbtmp3.8/7, Error ellipse: s-maj=44.6km s-min=20.3km az=105.0*

*NEIC **10** 10:22:49.8±1.8, 13°.06N±0°.09×145°.61E±0°.08, h10km±1km, mb4.6/18, Error ellipse: s-maj=15.7km s-min=12.8km az=163.0*

ISC 10 10:22:54.0±0.6, 13°.12N±0°.10×145°.5E±0°.1, h43km, n38, σ0°77/38, mb4.4/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.77**	**308**		**Pn**	**10 23 08.4**	**-0.2**
WB0	**Warramunga Arr**	**34.46**	**199**	P	**P**	**10 29 37.9**	**+0.1**
WB0				IAmb	IAmb	10 29 59.7
	comp=Z,6.6nm,1.4s						
WR0	**Warramunga Arr**	**34.59**	**198**	P	**P**	**10 29 38.4**	**-0.6**
WR0				IAmb	IAmb	10 29 43.1
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**34.63**	**199**	P	**P**	**10 29 40.4**	**+1.1**
WRAB				IAmb	IAmb	10 30 07.3
	comp=Z,9.8nm,1.4s						
WB2	**Warramunga Arr**	**34.63**	**199**	P	**P**	**10 29 39.9**	**+0.5**
WB2				IAmb	IAmb	10 30 07.4
	comp=Z,9.1nm,1.3s						
WRA	**Warramunga Arr**	**34.64**	**199**	P	**P**	**10 29 39.7**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=24,slow=9.4,SNR=18						
AS31	**Alice Springs**	**38.27**	**197**	P	**P**	**10 30 10.7**	**+0.3**
ASAR	**Alice Springs**	**38.27**	**197**	P	**P**	**10 30 10.9**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=28,slow=7.9,SNR=18						
ASAR	**Alice Springs**	**38.27**	**197**	P	**P**	**10 30 09.6**	**-0.8**
MNAI	**Manna**	**45.67**	**250**	P	**P**	**10 31 10.1**	**-0.9**
BBOO	**Buckleboo**	**46.55**	**191**	P	**P**	**10 31 18.3**	**+0.7**
BBOO				IAmb	IAmb	10 31 32.0
	comp=Z,16nm,1.4s						
MORW	**Morawa**	**50.68**	**214**	P	**P**	**10 31 50.4**	**+1.0**
MORW				IAmb	IAmb	10 32 19.4
	comp=Z,21nm,1.4s						
NIUE	**Niue**	**54.33**	**125**	P	**P**	**10 32 17.1**	**+0.5**
BKZ	**Black Stump Fm**	**59.51**	**152**	P	**P**	**10 32 51.4**	**-1.6**
MK31	**Makanchi Array**	**62.25**	**316**	P	**P**	**10 33 12.6**	**+1.0**
MK31				IAmb	IAmb	10 33 20.4
	comp=Z,3.7nm,1.5s						
MKAR	**Makanchi Array**	**62.25**	**316**	P	**P**	**10 33 12.3**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=92,slow=8.0,SNR=11						
MKAR	**Makanchi Array**	**62.25**	**316**	P	**P**	**10 33 13.3**	**+1.7**
MAKZ	**Makanchi**	**62.47**	**316**	P	**P**	**10 33 13.5**	**+0.5**
PPLA	**Purkeypile**	**65.94**	**26**	P	**P**	**10 33 36.6**	**+1.0**
PPLA				IAmb	IAmb	10 33 37.0
	comp=Z,15nm,1.4s						
IMAR	**Indian Mountai**	**66.39**	**23**	P	**P**	**10 33 38.8**	**+0.6**
TRF	**Thorofare Moun**	**66.93**	**26**	P	**P**	**10 33 41.9**	**-0.1**
TRF				IAmb	IAmb	10 33 45.9
	comp=Z,4.4nm,1.1s						
GHO	**Glory Hole Cre**	**67.05**	**28**	P	**P**	**10 33 43.1**	**+0.4**
ILAR	**Eielson Array**	**68.73**	**25**	P	**P**	**10 33 52.5**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=248,slow=5.3,SNR=7.6						
ILAR	**Eielson Array**	**68.73**	**25**	P	**P**	**10 33 54.3**	**+1.2**
TOLK	**Toolik Lake Re**	**68.84**	**21**	P	**P**	**10 33 53.6**	**-0.1**
BMAR	**Burnt Mountain**	**70.30**	**23**	P	**P**	**10 34 04.1**	**+1.3**
BCAR	**Beaver Creek A**	**70.58**	**27**	P	**P**	**10 34 05.2**	**+0.7**
BRVK	**Borovoye**	**70.74**	**322**	P	**P**	**10 34 05.5**	**-0.2**
DAWY	**Dawson**	**71.78**	**27**	P	**P**	**10 34 11.6**	**-0.3**
DAWY				IAmb	IAmb	10 34 29.7
	comp=Z,9.0nm,1.5s						
YKA	**Yellowknife Ar**	**83.00**	**27**	P	**P**	**10 35 14.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=284,slow=4.6,SNR=7.2						
NVAR	**Mina Array Bea**	**86.73**	**51**	P	**P**	**10 35 34.1**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=263,slow=6.3,SNR=1.7						
FINES	**FINESS Array B**	**91.85**	**335**	P	**P**	**10 35 56.2**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=104,slow=3.4,SNR=1.9						
FINES	**FINESS Array B**	**91.85**	**335**	P	**P**	**10 35 56.7**	**-0.6**
DBIC	**Dimbokro**	**144.59**	**302**	PKP	**PKPdf**	**10 42 26.4**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=37,slow=3.4,SNR=7.2						
DBIC	**Dimbokro**	**144.59**	**302**		**PKPdf**	**10 42 26.8**	**-0.2**
KIC	**Kosan Boka**	**144.67**	**301**	*e*PKP1	**PKPdf**	**10 42 26.6**	**-0.5**
	comp=Z,46nm,1.4s						
TIC	**Toumodi**	**144.74**	**302**	*e*PKP1	**PKPdf**	**10 42 26.8**	**-0.5**
LIC	**Lamto**	**144.98**	**302**	*e*PKP1	**PKPdf**	**10 42 27.6**	**-0.1**
	comp=Z,29nm,0.8s						

IDC 10 10:24:57.3±1.2, 13°.15N×145°.77E, h0km, mb3.4/6, mb1 3.7/6, mb1mx3.5/41, mbtmp3.4/6, Error ellipse: s-maj=55.3km s-min=24.9km az=100.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.76**	**199**	P	P	10 31 49.3	-0.2
	0.5nm,0.6s,baz=24,slow=9.8,SNR=2.5						
ASAR	**Alice Springs**	**38.39**	**198**	P	P	10 32 20.6	0.0
	0.3nm,0.6s,baz=30,slow=7.7,SNR=4.3						
MKAR	**Makanchi Array**	**62.41**	**316**	P	P	10 35 21.8	-0.4
	0.2nm,0.4s,baz=90,slow=7.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**62.48**	**324**	P	P	10 35 22.8	+0.3
	0.3nm,0.4s,baz=120,slow=5.2,SNR=1.5						
ILAR	**Eielson Array**	**68.59**	**25**	P	P	10 36 01.9	+0.1
	0.2nm,0.4s,baz=254,slow=5.7,SNR=1.9						
YKA	**Yellowknife Ar**	**82.84**	**27**	P	P	10 37 23.2	-0.2
	0.1nm,0.5s,baz=286,slow=4.7,SNR=2.2						

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*IDC **10** 10:28:31.5±0.6, 13°.19N×145°.52E, h0km, mb4.2/18, mb1 4.4/19, mb1mx4.2/44, mbtmp4.2/19, ML3.9/1, MS3.6/18, Ms1 3.6/18, ms1mx3.5/47, Error ellipse: s-maj=24.2km s-min=13.3km az=102.0*

*BJI **10** 10:28:31.6±0.0, 12°.98N×145°.49E, h11km, mB5.2/18, mb4.6/20, Ms4.8/5, Ms7 4.4/3*

*NEIC **10** 10:28:33.6±1.3, 13°.06N±0°.07×145°.58E±0°.08, h10km±1km, mb4.9/58, Error ellipse: s-maj=16.1km s-min=8.2km az=226.0*

ISC 10 10:28:34.0±2.5, 13°.11N±0°.06×145°.59E±0°.07, h15km±15km, n122, σ1°00/117, mb4.7/49, MS3.6/16, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.85**	**304**		**Pn**	**10 28 52.2**	**+0.7**
GUMO				Sg	**Sg**	**10 29 01.5**	**-0.2**
ANA2	**Anatahan**	**3.21**	**2**	Pn	**Pn**	**10 29 24.5**	**+0.5**
PATS	**Pohnpei**	**13.99**	**115**	Pn	**Pn**	**10 31 50.5**	**-1.3**
JAY	**Jayapura**	**16.27**	**198**	LR	LR	10 37 13.4
	comp=Z,290nm,21.9s,baz=24,slow=32						
SIJI	**Sorong**	**19.87**	**227**	P	**P**	**10 33 04.2**	**-0.7**
	0.4nm,0.3s,baz=182,slow=22,SNR=3.0						
SIJI				LR	LR	10 41 31.8
	comp=Z,262nm,18.5s,baz=98,slow=39						
H11S3	**WAKE ISLAND Hy**	**20.98**	**73**	T	T	10 54 58.0
	baz=244						
H11S1	**WAKE ISLAND Hy**	**21.00**	**72**	T	T	10 54 58.0
	baz=244						
H11S2	**WAKE ISLAND Hy**	**21.00**	**73**	T	T	10 54 57.7
	baz=244						
H11N1	**WAKE ISLAND Hy**	**21.45**	**69**	T	T	10 55 31.8
	baz=256						
H11N2	**WAKE ISLAND Hy**	**21.46**	**69**	T	T	10 55 32.7
	baz=256						
H11N3	**WAKE ISLAND Hy**	**21.46**	**69**	T	T	10 55 32.9
	baz=256						
PMG	**Port Moresby**	**22.43**	**176**	LR	LR	10 41 39.0
	comp=Z,56nm,21.9s,baz=75,slow=35						
JNU	**Nakatsue**	**24.02**	**328**	LR	LR	10 43 01.6
	comp=Z,83nm,18.2s,baz=170,slow=36						
MJAR	**Matsushiro Arr**	**24.25**	**345**	P	**P**	**10 33 47.6**	**-3.0**
	2.4nm,0.9s,baz=162,slow=9.2,SNR=2.4						
MJAR				LR	LR	10 42 04.3
	comp=Z,300nm,21.3s,baz=155,slow=34						
MAJO	**Matsushiro**	**24.25**	**345**	P	**P**	**10 33 52.2**	**+1.6**
MAJO				IAmb	IAmb	10 34 18.6
	comp=Z,24nm,1.4s						
MAT	**Matsushiro**	**24.25**	**345**	P	**P**	**10 33 49.6**	**-1.0**
HNR	**Honiara**	**26.55**	**147**	LR	LR	10 45 58.0
	comp=Z,259nm,18.2s,baz=300,slow=39						
COEN	**Coen**	**27.00**	**185**	P	**P**	**10 34 16.3**	**+0.7**
NJ2	**Nanjing**	**30.92**	**312**	*e*P	**P**	**10 34 51.2**	**+0.9**
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s						
KAPI	**Kappang**	**31.36**	**237**	LR	LR	10 49 05.8
	comp=Z,64nm,19.1s,baz=64,slow=39						
BATI	**Baumata**	**31.79**	**224**	LR	LR	10 48 27.8
	comp=Z,59nm,18.6s,baz=71,slow=38						
USRK	**Ussuriysk Ar.**	**33.10**	**342**	P	**P**	**10 35 09.5**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=151,slow=9.2,SNR=1.6						
USRK				LR	LR	10 47 02.4
	comp=Z,126nm,20.2s,baz=142,slow=34						
USRK	**Ussuriysk Ar.**	**33.10**	**342**	P	**P**	**10 35 10.2**	**+0.8**
WB0	**Warramunga Arr**	**34.48**	**199**	P	**P**	**10 35 21.7**	**0.0**
WR0	**Warramunga Arr**	**34.62**	**199**	P	**P**	**10 35 22.8**	**0.0**
WRAB	**Tennant Creek**	**34.65**	**199**	P	**P**	**10 35 23.3**	**+0.2**
WRAB				IAmb	IAmb	10 35 24.1
	comp=Z,7.1nm,0.7s						
WB2	**Warramunga Arr**	**34.66**	**199**	P	**P**	**10 35 23.4**	**+0.2**
WB2				IAmb	IAmb	10 35 24.3
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**34.67**	**199**	P	**P**	**10 35 23.3**	**+0.1**
	comp=Z,5.6nm,0.6s,baz=22,slow=9.5,SNR=48						
WRA				PcP	**PcP**	**10 37 57.7**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=9.1,slow=3.1,SNR=3.6						
WRA				LR	LR	10 48 55.6
	comp=Z,112nm,20.4s,baz=30,slow=35						
SBUM	**Sibu**	**34.67**	**255**	P	**P**	**10 35 23.8**	**+0.5**
SBUM				IAmb	IAmb	10 35 27.0
	comp=Z,23nm,1.5s						
FITZ	**Fitzroy Crossi**	**36.73**	**213**	P	**P**	**10 35 41.1**	**+0.1**
AS31	**Alice Springs**	**38.30**	**197**	P	**P**	**10 35 54.8**	**+0.6**
ASAR	**Alice Springs**	**38.30**	**197**	P	**P**	**10 35 54.5**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=27,slow=8.1,SNR=60						
ASAR				LR	LR	10 51 09.8
	comp=Z,97nm,21.1s,baz=14,slow=35						
ASAR	**Alice Springs**	**38.30**	**197**	P	**P**	**10 35 54.3**	**+0.1**
DZM	**Mont Dzumac**	**40.51**	**149**	P	**P**	**10 36 13.5**	**+0.7**
DZM				IAmb	IAmb	10 36 14.3
	comp=Z,23nm,1.1s						
HHC	**Hu-ho-hao-te**	**40.59**	**319**	*e*P	**P**	**10 36 13.8**	**+0.5**
HHC				pmax	pmax	
	comp=Z,15nm,1.1s						
HHC				pmax	pmax	
	comp=Z,170nm,5.1s						
PETK	**Petropavlovsk-**	**41.05**	**11**	P	**P**	**10 36 16.5**	**-0.3**
	comp=Z,5.0nm,1.0s,baz=180,slow=8.1,SNR=2.4						
PETK				LR	LR	10 50 45.3
	comp=Z,102nm,21.1s,baz=181,slow=32						
PETK	**Petropavlovsk-**	**41.05**	**11**	P	**P**	**10 36 17.7**	**+0.9**
CD2	**Chengdu**	**42.34**	**302**	*e*P	**P**	**10 36 27.1**	**-0.7**
STKA	**Stephens Creek**	**44.90**	**185**	P	**P**	**10 36 47.5**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=24,slow=10,SNR=4.7						
STKA				LR	LR	10 55 27.4
	comp=Z,75nm,20.1s,baz=23,slow=36						
STKA	**Stephens Creek**	**44.90**	**185**	P	**P**	**10 36 49.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**45.11**	**283**	P	**P**	**10 36 49.8**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=81,slow=6.8,SNR=7.2						
CMAR				PcP	**PcP**	**10 38 31.1**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=91,slow=1.3,SNR=6.5						
CMAR				LR	LR	10 56 21.5
	comp=Z,36nm,18.9s,baz=55,slow=37						
CMAR	**Chiang Mai Arr**	**45.11**	**283**	P	**P**	**10 36 50.0**	**-0.1**
MNAI	**Manna**	**45.76**	**251**	P	**P**	**10 36 55.0**	**-0.4**
MA2	**Magadan**	**46.54**	**4**	P	**P**	**10 36 59.2**	**-1.6**
	comp=Z,2.7nm,0.7s,baz=169,slow=5.5,SNR=4.3						
MA2	**Magadan**	**46.54**	**4**	P	**P**	**10 37 02.7**	**+1.9**
BBOO	**Buckleboo**	**46.56**	**191**	P	**P**	**10 37 01.6**	**+0.3**
BBOO				IAmb	IAmb	10 37 21.7
	comp=Z,18nm,1.5s						
FORT	**Forrest**	**46.78**	**201**	P	**P**	**10 37 04.0**	**+0.9**
SONM	**Songino Array**	**47.52**	**325**	P	**P**	**10 37 06.1**	**-2.8**
	comp=Z,0.6nm,0.7s,baz=124,slow=7.5,SNR=3.4						
SONM				PcP	**PcP**	**10 38 39.0**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=155,slow=4.7,SNR=4.8						
SONM	**Songino Array**	**47.52**	**325**	P	**P**	**10 37 09.3**	**+0.5**
SONM				PcP	**PcP**	**10 38 39.4**	**+0.5**
TOO	**Toolangi**	**50.41**	**180**	P	**P**	**10 37 31.4**	**+0.5**
TOO				IAmb	IAmb	10 37 49.3
	comp=Z,10nm,1.2s						
MORW	**Morawa**	**50.73**	**214**	P	**P**	**10 37 34.0**	**+0.6**
MORW				IAmb	IAmb	10 37 51.6
	comp=Z,22nm,1.4s						
NWAO	**Narrogin (SRO)**	**53.20**	**210**	P	**P**	**10 37 51.3**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=37,slow=12,SNR=1.2						
NWAO	**Narrogin (SRO)**	**53.20**	**210**	P	**P**	**10 37 52.2**	**+0.4**
NWAO				IAmb	IAmb	10 37 56.1
	comp=Z,16nm,1.4s						
WMQ	**Urumqi**	**57.97**	**314**	*e*P	**P**	**10 38 29.3**	**+3.1**
WMQ				pmax	pmax	
	comp=Z,13nm,1.3s						
WMQ				pmax	pmax	
	comp=Z,110nm,3.9s						
URZ	**Urewera**	**59.02**	**151**	P	**P**	**10 38 33.6**	**+0.4**
URZ				IAmb	IAmb	10 38 34.1
	comp=Z,5.8nm,0.7s						
BKZ	**Black Stump Fm**	**59.46**	**152**	P	**P**	**10 38 36.5**	**0.0**
BKZ				IAmb	IAmb	10 38 37.3
	comp=Z,8.5nm,0.7s						
TUWZ	**Tuamarina**	**60.26**	**156**	P	**P**	**10 38 41.3**	**-0.5**
BFZ	**Birch Farm**	**60.59**	**154**	P	**P**	**10 38 43.9**	**-0.2**
LTZ	**Lake Taylor**	**60.77**	**158**	P	**P**	**10 38 45.1**	**-0.3**
LTZ				IAmb	IAmb	10 39 07.0
	comp=Z,12nm,1.2s						
PLWZ	**Palliser**	**60.91**	**155**	P	**P**	**10 38 45.6**	**-0.7**
KHZ	**Kahutara**	**60.93**	**157**	P	**P**	**10 38 44.7**	**-1.7**
RPZ	**Rata Peaks**	**61.15**	**159**	P	**P**	**10 38 48.5**	**+0.6**
RPZ				IAmb	IAmb	10 39 00.2
	comp=Z,17nm,1.4s						
OXZ	**Oxford**	**61.16**	**158**	P	**P**	**10 38 47.3**	**-0.6**
MK31	**Makanchi Array**	**62.32**	**316**	P	**P**	**10 38 56.4**	**+0.5**
MKAR	**Makanchi Array**	**62.32**	**316**	P	**P**	**10 38 55.9**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=91,slow=8.0,SNR=19						
MKAR	**Makanchi Array**	**62.32**	**316**	P	**P**	**10 38 55.8**	**-0.1**
MKAR				PcP	**PcP**	**10 39 32.0**	**-3.5**
ZAA0	**Zalesovo Array**	**62.42**	**324**	PcP	**PcP**	**10 39 34.5**	**-1.2**
ZALV	**Zalesovo Beam**	**62.42**	**324**	P	**P**	**10 38 55.8**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=86,slow=7.4,SNR=1.8						
ZALV				PcP	**PcP**	**10 39 35.8**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=110,slow=5.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**62.42**	**324**	P	**P**	**10 38 55.6**	**-0.7**
ZALV				PcP	**PcP**	**10 39 34.7**	**-1.1**
MAKZ	**Makanchi**	**62.53**	**316**	P	**P**	**10 38 57.7**	**+0.3**
MAKZ				IAmb	IAmb	10 38 58.5
	comp=Z,5.5nm,1.1s						
RDOG	**Red Dog Mine**	**64.09**	**19**	P	**P**	**10 39 07.1**	**-0.2**
RDOG				IAmb	IAmb	10 39 18.9
	comp=Z,6.3nm,0.8s						
KDAK	**Kodiak Island**	**64.10**	**32**	P	**P**	**10 39 09.2**	**+1.7**
HYB	**Hyderabad**	**64.54**	**283**	*i* P	**P**	**10 39 10.0**	**-1.1**
BRLK	**Bradley Lake**	**65.53**	**30**	P	**P**	**10 39 17.6**	**+0.8**
PPLA	**Purkeypile**	**65.89**	**26**	P	**P**	**10 39 20.3**	**+1.1**
PPLA				IAmb	IAmb	10 39 31.7
	comp=Z,19nm,1.5s						
IMAR	**Indian Mountai**	**66.35**	**23**	P	**P**	**10 39 22.7**	**+0.8**
BPAW	**Bear Paw Mtn.**	**66.80**	**25**	P	**P**	**10 39 26.4**	**+1.5**
BPAW				IAmb	IAmb	10 39 37.1
	comp=Z,18nm,1.4s						
PMR	**Palmer**	**66.87**	**28**	P	**P**	**10 39 25.8**	**+0.6**
PMR				IAmb	IAmb	10 39 35.7
	comp=Z,9.9nm,1.2s						
TRF	**Thorofare Moun**	**66.89**	**26**	P	**P**	**10 39 26.5**	**+0.9**
TRF				IAmb	IAmb	10 39 37.3
	comp=Z,16nm,1.3s						
GHO	**Glory Hole Cre**	**67.01**	**28**	P	**P**	**10 39 26.7**	**+0.4**
GHO				IAmb	IAmb	10 39 36.9
	comp=Z,14nm,1.2s						
KNK	**Knik Glacier**	**67.13**	**28**	P	**P**	**10 39 27.7**	**+0.7**
SML	**Sawmill**	**67.29**	**28**	P	**P**	**10 39 29.3**	**+1.3**
SCM	**Sheep Creek Mo**	**67.76**	**28**	P	**P**	**10 39 31.9**	**+0.9**
I23K	**Minto, Yukon-K**	**67.79**	**24**	P	**P**	**10 39 32.2**	**+1.2**
I23K				IAmb	IAmb	10 39 43.7
	comp=Z,16nm,1.4s						
WRH	**Wood River Hil**	**68.11**	**25**	P	**P**	**10 39 33.7**	**+0.6**
WRH				IAmb	IAmb	10 39 39.0
	comp=Z,11nm,1.4s						
COLD	**Coldfoot**	**68.12**	**22**	P	**P**	**10 39 33.9**	**+0.8**
COLD				IAmb	IAmb	10 39 45.8
	comp=Z,9.1nm,1.0s						
MDM	**Murphy Dome**	**68.19**	**25**	P	**P**	**10 39 35.6**	**+1.9**
MDM				IAmb	IAmb	10 39 49.4
	comp=Z,5.1nm,1.0s						
IL31		**68.69**	**25**	P	**P**	**10 39 36.8**	**+0.1**
IL31				IAmb	IAmb	10 39 47.6
	comp=Z,9.5nm,1.3s						
ILAR	**Eielson Array**	**68.69**	**25**	P	**P**	**10 39 36.1**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=248,slow=5.8,SNR=21						
ILAR				LR	LR	11 06 52.7
	comp=Z,41nm,21.7s,baz=284,slow=34						
ILAR	**Eielson Array**	**68.69**	**25**	P	**P**	**10 39 36.5**	**-0.2**
TOLK	**Toolik Lake Re**	**68.81**	**21**	P	**P**	**10 39 38.4**	**+1.0**
TOLK				IAmb	IAmb	10 39 44.6
	comp=Z,18nm,1.5s						
PAX	**Paxson**	**68.87**	**27**	P	**P**	**10 39 38.7**	**+0.7**
CRQM	**Cirque**	**69.51**	**30**	P	**P**	**10 39 44.2**	**+2.1**
FYU	**Fort Yukon**	**69.81**	**23**	P	**P**	**10 39 45.2**	**+1.6**
BMAR	**Burnt Mountain**	**70.27**	**23**	P	**P**	**10 39 47.3**	**+0.9**
KKAR	**Karatay Array**	**70.29**	**311**	P	**P**	**10 39 47.0**	**-0.1**
BCAR	**Beaver Creek A**	**70.54**	**27**	P	**P**	**10 39 46.9**	**-1.3**

0.4nm,0.5s,baz=92,slow=9.1,SNR=9.3
ILAR Eielson Array 68.78 25 P **P 10 44 30.2 -0.8**
0.3nm,0.4s,baz=247,slow=5.8,SNR=8.8
YKA Yellowknife Ar 83.04 27 P **P 10 45 52.3 0.0**
0.4nm,0.6s,baz=286,slow=4.5,SNR=6.9
NVAR Mina Array Bea 86.77 51 P **P 10 46 12.4 +0.5**
0.2nm,0.5s,baz=258,slow=3.4,SNR=1.9
DBIC Dimbokro 144.63 302 PKP **PKPab 10 53 02.8 -0.4**
4.2nm,0.8s,baz=58,slow=3.8,SNR=4.1

*KRNET **10** 10:50:52.0±0.1, 42.°11N×73.°33E, h20km, mb2.7*
*SOME **10** 10:50:52.8, 42.°17N×73.°40E, h10km*
*NNC **10** 10:50:53.4±0.9, 42.°19N×73.°40E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=7.3km s-min=3.6km az=6.0*
*KNET **10** 10:50:54.2±0.4, 42.°18N×73.°49E, h12km±1km, ml2.1, Error ellipse: s-maj=3.0km s-min=2.2km az=81.0*
ISC 10 10:50:51.9±1.1, 42.°13N±0.°02×73.°41E±0.°02, h17km±9km, n64, σ1§48/108, 29C-22D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.21**	**89**	⇓*i*P			**Pb**	**10 50 57.9**	**+0.4**
	baz=85								
AML				⇓*i*S			**Sb**	**10 51 01.8**	**+0.5**
	baz=85								
AML	**Almayashu**	**0.21**	**89**	P			**Pb**	**10 50 58.0**	**+0.4**
	234nm,0.1s,SNR=781								
AML				⇓S			**Sb**	**10 51 01.9**	**+0.5**
	206nm,0.1s								
EKS2	**Erkin-Say**	**0.60**	**27**	*i* P			**Pb**	**10 51 04.4**	**+0.4**
	baz=31								
EKS2				*i* S			**Sb**	**10 51 13.1**	**+0.9**
	baz=31								
EKS2	**Erkin-Say**	**0.60**	**27**	P			**Pb**	**10 51 04.5**	**+0.5**
	10nm,0.1s,SNR=81								
EKS2				⇓S			**Sb**	**10 51 13.2**	**+1.0**
	50nm,0.1s								
MRKS	**Merke**	**0.63**	**347**	*e*P			**Pb**	**10 51 04.5**	**-0.1**
	3.2nm,0.1s								
MRKS				*e*S			**Sb**	**10 51 13.2**	**0.0**
	14nm,0.1s								
MRKS	**Merke**	**0.63**	**347**	P			**Pb**	**10 51 04.5**	**-0.1**
	3.2nm,0.1s								
MRKS				S			**Sb**	**10 51 13.2**	**0.0**
	14nm,0.1s								
MNAS	**Manas**	**0.76**	**298**	⇓*i*P			**Pb**	**10 51 05.7**	**-1.2**
	baz=2.0								
MNAS				⇓*i*S			**Sb**	**10 51 15.7**	**-1.4**
	baz=2.0								
UCH	**Uchtor**	**0.82**	**83**	⇑*i*P			**Pn**	**10 51 08.7**	**-0.5**
	baz=82								
UCH				⇑*i*S			**Sn**	**10 51 20.8**	**-0.4**
	baz=82								
UCH	**Uchtor**	**0.82**	**83**	⇑P			**Pn**	**10 51 08.9**	**-0.3**
	9.9nm,0.1s,SNR=12								
UCH				⇑S			**Sn**	**10 51 20.9**	**-0.4**
	52nm,0.2s								
ARSB	**Arslanbob**	**0.87**	**202**	⇓*i*P			**Pb**	**10 51 07.4**	**-1.2**
	baz=99								
ARSB				⇓*i*S			**Sb**	**10 51 18.8**	**-1.2**
	baz=99								
AAK	**Ala-Archa**	**0.95**	**57**	⇑*i*P			**Pn**	**10 51 11.0**	**+0.4**
	baz=58								
AAK				⇑*i*S			**Sn**	**10 51 24.5**	**+0.6**
	baz=58								
AAK	**Ala-Archa**	**0.95**	**57**	⇓P			**Pn**	**10 51 11.4**	**+0.7**
	5.4nm,0.1s,SNR=9.1								
AAK				⇑S			**Sn**	**10 51 24.5**	**+0.6**
	14nm,0.2s								
AAK	**Ala-Archa**	**0.95**	**57**	P			**Pn**	**10 51 11.0**	**+0.4**
	2.6nm,0.4s								
AAK				⇑S			**Sn**	**10 51 23.7**	**-0.2**
	18nm,0.7s								
KBK	**Karagaybulak**	**1.25**	**65**	⇓*i*P			**Pg**	**10 51 16.4**	**+0.3**
	baz=65								
KBK				⇓*i*S			**Sg**	**10 51 34.0**	**+1.5**
	baz=65								
CHMS	**Chumysh**	**1.32**	**48**	⇓*i*P			**Pg**	**10 51 17.4**	**+0.1**
	baz=49								
CHMS				⇓*i*S			**Sg**	**10 51 35.6**	**+1.1**
	baz=49								
CHMS	**Chumysh**	**1.32**	**48**	⇑P			**Pg**	**10 51 17.8**	**+0.5**
	14nm,0.2s,SNR=6.7								
CHMS				⇑S			**Sg**	**10 51 36.0**	**+1.6**
	12nm,0.1s								
USP	**Ospenovka**	**1.39**	**35**	⇑*i*P			**Pg**	**10 51 18.6**	**-0.1**
	baz=36								
USP				⇑*i*S			**Sg**	**10 51 37.8**	**+0.9**
	baz=36								
USP	**Ospenovka**	**1.39**	**35**	⇓P			**Pg**	**10 51 19.1**	**+0.3**
	8.7nm,0.1s,SNR=31								
USP				⇑S			**Sg**	**10 51 38.1**	**+1.2**
	30nm,0.2s								
SGDS	**Sogindy**	**1.60**	**34**	P			**Pg**	**10 51 22.4**	**-0.2**
	4.4nm,0.1s								
SGDS				S			**Sg**	**10 51 44.0**	**+0.6**
	23nm,0.2s								
TKM2	**Tokmak 2**	**1.80**	**63**	⇓*i*P			**Pg**	**10 51 25.8**	**-0.7**
	baz=63								
TKM2				⇓*i*S			**Sg**	**10 51 50.3**	**+0.5**
	baz=63								
TKM2	**Tokmak 2**	**1.80**	**63**	⇑P			**Pg**	**10 51 26.8**	**+0.3**
	43nm,0.2s,SNR=64								
TKM2	**Tokmak 2**	**1.80**	**63**	⇓P			**Pg**	**10 51 27.2**	**+0.8**
	20nm,0.3s								
TKM2				⇓S			**Sg**	**10 51 50.8**	**+1.0**
	34nm,0.6s								
TRKS	**Terek-Say**	**1.80**	**251**	⇑*i*P			**Pb**	**10 51 24.0**	**-0.6**
	baz=49								
TRKS				⇑*i*S			**Sb**	**10 51 47.1**	**+0.2**
	baz=49								
BOOM	**Boomskoye usch**	**1.91**	**78**	⇑*i*P			**Pg**	**10 51 27.5**	**-1.1**
	baz=78								
BOOM				⇑*i*S			**Sg**	**10 51 52.7**	**-0.7**
	baz=78								
DGS	**Degeres**	**2.06**	**57**	*e*P			**Pg**	**10 51 31.3**	**-0.2**
	20nm,0.4s								
DGS				*e*S			**Sg**	**10 51 59.0**	**+0.6**
	23nm,0.4s								
DGS	**Degeres**	**2.06**	**57**	Pg			**Pg**	**10 51 31.3**	**-0.2**
	20nm,0.4s								
DGS				Lg			Lg	10 51 58.9	
	23nm,0.4s								
KST	**Kastek**	**2.09**	**63**	*e*P			**Pg**	**10 51 32.0**	**-0.1**
	35nm,0.3s								
KST				*e*S			**Sg**	**10 52 00.5**	**+1.2**
	54nm,0.5s								
KST	**Kastek**	**2.09**	**63**	Pg			**Pg**	**10 51 32.0**	**-0.1**
	35nm,0.3s								
KST				Lg			Lg	10 52 00.5	
	54nm,0.5s								
ULHL	**Ulahol**	**2.10**	**86**	⇑*i*P			**Pb**	**10 51 30.1**	**+0.3**
	baz=85								
ULHL				⇑*i*S			**Sg**	**10 51 57.7**	**-2.0**
	baz=85								
ULHL	**Ulahol**	**2.10**	**86**	⇑P			**Pg**	**10 51 32.1**	**-0.2**
	12nm,0.3s,SNR=48								
SFK	**Sufi-Kurgan**	**2.12**	**178**	⇑*i*P			**Pb**	**10 51 28.5**	**-1.5**
	baz=76								
SFK				⇑*i*S			**Sb**	**10 51 55.6**	**-0.4**
	baz=76								
KRBS	**Karabastau**	**2.28**	**46**	*e*P			**Pg**	**10 51 34.1**	**-1.6**
	4.8nm,0.3s								
KRBS				*e*S			**Sg**	**10 52 04.0**	**-1.4**
	30nm,0.4s								
KRBS	**Karabastau**	**2.28**	**46**	Pg			**Pg**	**10 51 34.1**	**-1.6**
	4.8nm,0.3s								
KRBS				Lg			Lg	10 52 04.0	
	30nm,0.4s								
KK31	**Karatay Array**	**2.35**	**295**	⇓Pg			**Pb**	**10 51 33.6**	**-0.3**
	2.7nm,0.4s,baz=118,slow=17,SNR=49								
KK31				⇓Lg			Lg	10 52 06.0	
	4.4nm,0.3s,baz=126,slow=27,SNR=8.8								
IZV	**Izvestkoviy**	**2.53**	**68**	*e*P			**Pg**	**10 51 40.0**	**-0.4**
	26nm,0.4s								
IZV				*e*S			**Sg**	**10 52 13.9**	**+0.7**
	29nm,0.5s								
IZV	**Izvestkoviy**	**2.53**	**68**	Pg			**Pg**	**10 51 40.0**	**-0.4**
	26nm,0.4s								
IZV				Lg			Lg	10 52 13.9	
	29nm,0.5s								
TNSS	**Tian-Shan**	**2.76**	**70**	*e*P			**Pg**	**10 51 44.2**	**-0.7**
	10nm,0.3s								
TNSS				*e*S			**Sg**	**10 52 20.9**	**+0.2**
	11nm,0.3s								
TNSS	**Tian-Shan**	**2.76**	**70**	Pg			**Pg**	**10 51 44.2**	**-0.7**
	10nm,0.3s								
TNSS				Lg			Lg	10 52 20.9	
	11nm,0.3s								
BRLS	**Borolday**	**2.79**	**290**	*e*P			**Pg**	**10 51 45.2**	**-0.2**
	11nm,0.1s								
BRLS				*e*S			**Sg**	**10 52 22.6**	**+1.0**
	25nm,0.6s								
KDJ	**Kajisay**	**2.80**	**89**	⇑*i*P			**Pb**	**10 51 39.7**	**-1.9**
	baz=88								
KDJ				⇑*i*S			**Sb**	**10 52 14.5**	**-1.2**
	baz=88								
BTK	**Batken**	**2.85**	**224**	⇓*i*P			**Pn**	**10 51 38.5**	**+1.8**
	baz=24								
BTK				⇓*i*S			**Sn**	**10 52 12.3**	**+1.6**
	baz=24								
MDOK	**Medeo**	**2.87**	**68**	*e*P			**Pg**	**10 51 45.7**	**-1.2**
	5.1nm,0.3s								
MDOK				*e*S			**Sg**	**10 52 24.0**	**-0.2**
	18nm,0.9s								
MDOK	**Medeo**	**2.87**	**68**	Pg			**Pb**	**10 51 43.2**	**+0.4**
	3.4nm,0.4s								
MDOK				Lg			Lg	10 52 23.4	
	14nm,0.6s								
MDOK	**Medeo**	**2.87**	**68**	Pg			**Pg**	**10 51 45.7**	**-1.2**
	5.1nm,0.3s								
MDOK				Lg			Lg	10 52 24.0	
	18nm,0.9s								
KTBS	**Karatobe**	**2.88**	**56**	*e*P			**Pg**	**10 51 45.5**	**-1.5**
	3.4nm,0.3s								
KTBS				*e*S			**Sg**	**10 52 23.4**	**-0.8**
	33nm,0.6s								
KTBS	**Karatobe**	**2.88**	**56**	Pg			**Pg**	**10 51 45.5**	**-1.5**
	3.4nm,0.3s								
KTBS				Lg			Lg	10 52 23.4	
	33nm,0.6s								
DRK	**Karamyk**	**2.92**	**205**	⇑*e*P			**Pn**	**10 51 39.7**	**+1.9**
	baz=4.0								
DRK				⇑*i*S			**Sn**	**10 52 14.5**	**+1.9**
	baz=4.0								
KOTS	**Kotyrbulak**	**2.94**	**67**	*e*P			**Pg**	**10 51 47.3**	**-1.0**
	8.9nm,0.2s								
KOTS				*e*S			**Sg**	**10 52 26.3**	**-0.2**
	49nm,0.6s								
KOTS	**Kotyrbulak**	**2.94**	**67**	Pg			**Pg**	**10 51 47.3**	**-1.0**
	8.9nm,0.2s								
KOTS				Lg			Lg	10 52 26.3	
	49nm,0.6s								
BTLS	**Baital**	**2.95**	**9**	*e*P			**Pg**	**10 51 46.8**	**-1.6**
BTLS				*e*S			**Sg**	**10 52 25.8**	**-0.8**
	16nm,0.3s								
BTLS	**Baital**	**2.95**	**9**	Pg			**Pg**	**10 51 46.8**	**-1.6**
BTLS				Lg			Lg	10 52 25.8	
	16nm,0.3s								
SATY	**Saty**	**3.80**	**74**	*e*P			**Pg**	**10 52 03.1**	**-1.6**
	2.2nm,0.2s								
SATY				*e*S			**Sg**	**10 52 53.3**	**-0.6**
	8.3nm,0.4s								
SATY	**Saty**	**3.80**	**74**	Pg			**Pg**	**10 52 03.1**	**-1.6**
	2.2nm,0.2s								
SATY				Lg			Lg	10 52 53.3	
	8.3nm,0.4s								
ARXS	**Arharly**	**3.84**	**56**	*e*P			**Pg**	**10 52 04.0**	**-1.5**
	11nm,0.5s								
ARXS				*e*S			**Sg**	**10 52 55.3**	**0.0**
	12nm,0.6s								
ARXS	**Arharly**	**3.84**	**56**	Pg			**Pg**	**10 52 04.0**	**-1.5**
	11nm,0.5s								
ARXS				Lg			Lg	10 52 55.3	
	12nm,0.6s								
MNBS	**Baschi**	**4.14**	**60**	*e*P			**Pg**	**10 52 10.1**	**-1.1**
	4.8nm,0.4s								
MNBS				*e*S			**Sg**	**10 53 05.1**	**+0.3**
	7.8nm,0.4s								
MNBS	**Baschi**	**4.14**	**60**	Pg			**Pg**	**10 52 10.1**	**-1.1**
	4.8nm,0.4s								
MNBS				Lg			Lg	10 53 05.1	
	7.8nm,0.4s								
UZB	**Uzynbulak**	**4.26**	**74**	*e*P			**Pg**	**10 52 10.6**	**-2.9**
	4.8nm,0.3s								
UZB				*e*S			**Sg**	**10 53 05.7**	**-3.0**
	8.3nm,0.6s								
SHLS	**Shalkode**	**4.58**	**75**	*e*P			**Pg**	**10 52 22.8**	**+3.2**
	4.2nm,0.3s								
SHLS				*e*S			**Sg**	**10 53 26.9**	**+8.1**
	6.9nm,0.3s								
SHLS	**Shalkode**	**4.58**	**75**	Pg			**Pg**	**10 52 22.8**	**+3.2**
	4.2nm,0.3s								
SHLS				Lg			Lg	10 53 26.9	
	6.9nm,0.3s								
PDGK	**Podgornoye**	**4.63**	**73**	Pg			**Pg**	**10 52 18.3**	**-2.4**
	0.8nm,0.4s								
PDGK				Lg			Lg	10 53 19.7	
	2.6nm,0.6s								
PDGK	**Podgornoye**	**4.63**	**73**	⇑Pg			**Pg**	**10 52 18.4**	**-2.2**
	2.4nm,0.8s								
PDGK				⇑Lg			Lg	10 53 21.3	
	3.7nm,0.8s								
KAPS	**Kapalarasan**	**5.34**	**52**	*e*P			**Pg**	**10 52 30.9**	**-3.2**
	0.7nm,0.4s								
KAPS				*e*S			**Sg**	**10 53 41.0**	**-2.2**
	4.1nm,0.8s								
KAPS	**Kapalarasan**	**5.34**	**52**	Pg			**Pg**	**10 52 30.9**	**-3.2**
	0.7nm,0.4s								
KAPS				Lg			Lg	10 53 41.0	
	4.1nm,0.8s								

*IDC **10** 10:58:49.9±0.7, 13.°14N×145.°63E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.0/49, mbtmp4.0/14, MS3.4/5, Ms1 3.4/5, ms1mx3.1/39, Error ellipse: s-maj=26.8km s-min=17.8km az=109.0*
*NEIC **10** 10:58:52.2±2.6, 13.°01N±0.°08×145.°54E±0.°06, h10km±1km, mb4.8/35, Error ellipse: s-maj=13.5km s-min=9.4km az=175.0*
ISC 10 10:58:55.9±0.5, 13.°00N±0.°08×145.°47E±0.°09, h43km, n75, σ1§27/66, mb4.5/33, MS3.5/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.83**	**315**				**Pn**	**10 59 10.2**	**-0.9**
GUMO	**Guam**	**0.83**	**315**	P			**Pn**	**10 59 10.8**	**-0.4**
ANA2	**Anatahan**	**3.33**	**4**	Pn			**Pn**	**10 59 49.0**	**+3.5**
SARN	**Sarigan**	**3.69**	**5**	P			**Pn**	**10 59 50.7**	**+0.2**
PATS	**Pohnpei**	**14.05**	**115**	Pn			**Pn**	**11 02 09.8**	**-2.7**
H11S3	**WAKE ISLAND Hy**	**21.13**	**72**	T			T	11 25 18.2	
	baz=245								
H11S1	**WAKE ISLAND Hy**	**21.15**	**72**	T			T	11 25 19.4	
	baz=245								
H11S2	**WAKE ISLAND Hy**	**21.15**	**72**	T			T	11 25 18.8	
	baz=245								
H11N1	**WAKE ISLAND Hy**	**21.60**	**69**	T			T	11 25 53.3	
	baz=256,slow=75,SNR=5.1								
H11N2	**WAKE ISLAND Hy**	**21.61**	**69**	T			T	11 25 57.2	
	baz=256								
H11N3	**WAKE ISLAND Hy**	**21.62**	**69**	T			T	11 25 52.2	
	baz=256,slow=75,SNR=3.2								
MJAR	**Matsushiro Arr**	**24.33**	**346**	LR			LR	11 12 22.2	
	comp=Z,268nm,19.9s,baz=155,slow=34								
KSAR	**Wonju Array Be**	**28.97**	**330**	P			**P**	**11 04 51.1**	**-0.3**
ERM	**Erimo**	**28.98**	**356**	P			**P**	**11 04 50.6**	**-0.8**
WB0	**Warramunga Arr**	**34.34**	**199**	P			**P**	**11 05 40.1**	**+1.3**
WR0	**Warramunga Arr**	**34.47**	**198**	P			**P**	**11 05 41.1**	**+1.2**
WR0						IAmb	IAmb	11 05 41.9	
	comp=Z,12nm,1.4s								
WRAB	**Tennant Creek**	**34.51**	**199**	P			**P**	**11 05 41.9**	**+1.7**
WB2	**Warramunga Arr**	**34.52**	**199**	P			**P**	**11 05 40.3**	**0.0**
WB2						IAmb	IAmb	11 05 42.3	
	comp=Z,17nm,1.5s								
WRA	**Warramunga Arr**	**34.52**	**199**	P			**P**	**11 05 41.5**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=23,slow=9.6,SNR=20								
WRA						LR	LR	11 19 15.6	
	comp=Z,87nm,21.6s,baz=65,slow=35								
FITZ	**Fitzroy Crossi**	**36.57**	**213**	LR			LR	11 22 00.6	
	comp=Z,45nm,19.4s,baz=52,slow=38								
FITZ	**Fitzroy Crossi**	**36.57**	**213**	P			**P**	**11 06 00.8**	**+2.9**
AS31	**Alice Springs**	**38.16**	**197**	P			**P**	**11 06 13.6**	**+2.3**
ASAR	**Alice Springs**	**38.16**	**197**	P			**P**	**11 06 12.9**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=22,slow=9.7,SNR=25								
ASAR						LR	LR	11 23 15.7	
	comp=Z,65nm,18.5s,baz=3.0,slow=38								
ASAR	**Alice Springs**	**38.16**	**197**	P			**P**	**11 06 13.0**	**+1.6**
PETK	**Petropavlovsk-**	**41.18**	**11**	P			**P**	**11 06 35.1**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=194,slow=6.8,SNR=1.2								
CMAR	**Chiang Mai Arr**	**45.02**	**283**	P			**P**	**11 07 08.7**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=86,slow=6.7,SNR=5.9								
BBOO	**Buckleboo**	**46.43**	**191**	P			**P**	**11 07 18.6**	**+0.1**
BBOO						IAmb	IAmb	11 07 36.7	
	comp=Z,14nm,1.3s								
MA2	**Magadan**	**46.66**	**4**	LR			LR	11 29 16.5	
	comp=Z,9.7nm,18.6s,baz=214,slow=39								
SONM	**Songino Array**	**47.55**	**325**	P			**P**	**11 07 27.3**	**0.0**
	comp=Z,0.6nm,0.6s,baz=117,slow=5.7,SNR=2.7								
MWH	**Moku'aweowe**	**56.73**	**75**	P			**P**	**11 08 35.6**	**-0.8**
HMH	**Humu'ula Sheep**	**56.83**	**75**	P			**P**	**11 08 37.5**	**+0.6**
URZ	**Urewera**	**58.98**	**151**	P			**P**	**11 08 51.5**	**+0.4**
URZ						IAmb	IAmb	11 08 58.4	
	comp=Z,12nm,1.3s								
BKZ	**Black Stump Fm**	**59.42**	**152**	P			**P**	**11 08 55.2**	**+0.9**
BKZ						IAmb	IAmb	11 09 16.0	
	comp=Z,13nm,1.1s								
MK31	**Makanchi Array**	**62.32**	**316**	P			**P**	**11 09 14.7**	**+0.7**
MKAR	**Makanchi Array**	**62.32**	**316**	P			**P**	**11 09 14.4**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=94,slow=8.8,SNR=23								
MKAR	**Makanchi Array**	**62.32**	**316**	P			**P**	**11 09 14.2**	**+0.2**
ZALV	**Zalesovo Beam**	**62.44**	**324**	P			**P**	**11 09 14.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=102,slow=6.2,SNR=1.7								
MAKZ	**Makanchi**	**62.53**	**316**	P			**P**	**11 09 13.8**	**-1.5**
CNPM	**China Poot**	**65.44**	**30**	P			**P**	**11 09 35.0**	**+0.7**
SKT	**Skwentna**	**66.05**	**27**	P			**P**	**11 09 39.4**	**+1.3**
SKT						IAmb	IAmb	11 09 39.8	
	comp=Z,7.8nm,1.2s								
PPLA	**Purkeypile**	**66.05**	**26**	P			**P**	**11 09 39.3**	**+1.0**
PPLA						IAmb	IAmb	11 09 50.4	
	comp=Z,7.2nm,0.8s								
IMAR	**Indian Mountai**	**66.50**	**23**	P			**P**	**11 09 42.6**	**+1.6**
KTH	**Kantishna Hill**	**66.81**	**26**	P			**P**	**11 09 44.3**	**+1.3**
KTH						IAmb	IAmb	11 09 55.0	
	comp=Z,12nm,1.2s								
BPAW	**Bear Paw Mtn.**	**66.95**	**25**	P			**P**	**11 09 43.1**	**-0.7**
BPAW						IAmb	IAmb	11 09 55.8	
	comp=Z,12nm,1.2s								
PMR	**Palmer**	**67.02**	**28**	P			**P**	**11 09 44.3**	**+0.1**
PMR						IAmb	IAmb	11 10 10.8	
	comp=Z,9.7nm,1.3s								
KNK	**Knik Glacier**	**67.29**	**28**	P			**P**	**11 09 47.4**	**+1.4**
KNK						IAmb	IAmb	11 10 00.9	
	comp=Z,9.1nm,0.9s								
SML	**Sawmill**	**67.45**	**28**	P			**P**	**11 09 48.2**	**+1.2**
SCM	**Sheep Creek Mo**	**67.92**	**28**	P			**P**	**11 09 51.7**	**+1.6**
I23K	**Minto, Yukon-K**	**67.94**	**24**	P			**P**	**11 09 51.7**	**+1.7**
I23K						IAmb	IAmb	11 10 02.2	
	comp=Z,5.5nm,1.0s								
WRH	**Wood River Hil**	**68.27**	**25**	P			**P**	**11 09 52.6**	**+0.5**
WRH						IAmb	IAmb	11 10 06.4	
	comp=Z,6.5nm,0.9s								
MDM	**Murphy Dome**	**68.34**	**25**	P			**P**	**11 09 53.3**	**+0.7**
MDM						IAmb	IAmb	11 10 05.2	
	comp=Z,5.1nm,1.0s								
CCB	**Clear Creek Bu**	**68.43**	**25**	P			**P**	**11 09 55.2**	**+2.1**
CCB						IAmb	IAmb	11 10 15.8	
	comp=Z,5.1nm,1.4s								
IL31		**68.85**	**25**	P			**P**	**11 09 54.9**	**-0.7**
IL31						IAmb	IAmb	11 10 06.2	
	comp=Z,4.7nm,0.9s								
ILAR	**Eielson Array**	**68.85**	**25**	P			**P**	**11 09 54.6**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=252,slow=5.5,SNR=16								
TOLK	**Toolik Lake Re**	**68.95**	**21**	P			**P**	**11 09 56.7**	**+0.3**
TOLK						IAmb	IAmb	11 10 20.6	
	comp=Z,12nm,1.5s								
PAX	**Paxson**	**69.02**	**27**	P			**P**	**11 09 58.0**	**+1.1**
PAX						IAmb	IAmb	11 10 01.5	
	comp=Z,3.0nm,0.8s								
MCARA	**McCarthy VSAT**	**69.83**	**29**	P			**P**	**11 10 03.2**	**+1.3**
BMAR	**Burnt Mountain**	**70.42**	**23**	P			**P**	**11 10 06.9**	**+1.5**
TABL	**Table Mountain**	**70.59**	**30**	P			**P**	**11 10 08.8**	**+2.0**
BCAR	**Beaver Creek A**	**70.69**	**27**	P			**P**	**11 10 09.7**	**+2.5**
BRVK	**Borovoye**	**70.81**	**322**	P			**P**	**11 10 06.8**	**-1.2**
BRVK						IAmb	IAmb	11 10 08.8	
	comp=Z,10.0nm,0.9s								
INK	**Inuvik**	**74.68**	**22**	P			**P**	**11 10 30.0**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=278,slow=6.5,SNR=4.7								
INK	**Inuvik**	**74.68**	**22**	P			**P**	**11 10 31.1**	**+0.4**
ABKAR	**Akbulak array**	**77.37**	**318**	P			**P**	**11 10 46.0**	**-0.3**
AKTO	**Aktyubinsk**	**78.49**	**319**	P			**P**	**11 10 53.5**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=84,slow=9.2,SNR=2.9								
YKA	**Yellowknife Ar**	**83.11**	**27**	P			**P**	**11 11 16.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=287,slow=4.4,SNR=14								
NVAR	**Mina Array Bea**	**86.83**	**51**	P			**P**	**11 11 36.6**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=261,slow=5.4,SNR=7.0								
NVAR	**Mina Array Bea**	**86.83**	**51**	P			**P**	**11 11 36.2**	**-0.3**
FINES	**FINESS Array B**	**91.94**	**335**	P			**P**	**11 11 58.1**	**-1.5**
	comp=Z,3.5nm,1.0s,baz=142,slow=6.5,SNR=4.8								
FINES	**FINESS Array B**	**91.94**	**335**	P			**P**	**11 11 58.5**	**-1.2**
PDAR	**Pinedale Array**	**91.96**	**45**	P			**P**	**11 11 59.6**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=211,slow=0.5,SNR=1.4								
DBIC	**Dimbokro**	**144.63**	**302**	PKP			**PKPdf**	**11 18 28.8**	**-0.1**
	comp=Z,8.4nm,0.8s,baz=89,slow=4.6,SNR=7.8								
KIC	**Kosan Boka**	**144.70**	**301**	*e*PKP1			**PKPdf**	**11 18 28.9**	**-0.2**
	comp=Z,11nm,0.7s								
TIC	**Toumodi**	**144.78**	**302**	*e*PK

TGY Tagaytay City 23.95 275 LR LR 11 33 36.4
comp=Z,106nm,18.2s,baz=119,slow=40
MJAR Matsushiro Arr 24.24 345 P **P** **11 22 44.8 -1.4**
comp=Z,3.2nm,0.7s,baz=172,slow=11,SNR=3.2
MJAR LR LR 11 31 08.0
comp=Z,491nm,19.6s,baz=150,slow=34
MJAR Matsushiro Arr 24.24 345 P **P** **11 22 45.3 -0.9**
MAJO Matsushiro 24.24 345 P **P** **11 22 47.6 +1.5**
MAJO IAmb IAmb 11 23 35.3
comp=Z,96nm,1.8s
MAT Matsushiro 24.24 345 P **P** **11 22 44.9 -1.3**
JHS Saijyo 24.52 335 P **P** **11 22 46.3 -2.5**
KMSI Cibinong 24.74 241 P **P** **11 22 52.8 +1.9**
comp=Z,117nm,1.1s
JMM Marumori 25.01 351 P **P** **11 22 53.4 +0.3**
YULB Yu-li 25.16 297 P **P** **11 22 54.1 -0.6**
GTOI Gorontalo 25.55 243 P **P** **11 23 00.0 +1.8**
comp=Z,19nm,1.1s
TPUB Ta-pu 25.71 297 P **P** **11 22 58.9 -0.8**
MRSI Marisa 26.55 244 P **P** **11 23 08.1 +0.8**
comp=Z,52nm,0.8s
COEN Coen 27.00 185 P **P** **11 23 10.4 -0.9**
KSRS Korea Array 28.90 330 P **P** **11 23 28.0 -0.1**
comp=Z,2.1nm,0.8s,baz=152,slow=11,SNR=3.5
NJ2 Nanjing 30.89 312 *e*P **P** **11 23 45.8 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
SOEI Soe 31.03 224 P **P** **11 23 47.3 0.0**
SOEI IAmb IAmb 11 24 32.5
comp=Z,25nm,0.9s
KAPI Kappang 31.33 237 LR LR 11 37 52.6
comp=Z,119nm,19.9s,baz=56,slow=39
USA0B Ussuriysk Arra 33.09 342 P **P** **11 24 05.7 +0.8**
USRK Ussuriysk Ar. 33.09 342 P **P** **11 24 04.1 -0.8**
comp=Z,3.4nm,0.9s,baz=160,slow=7.5,SNR=4.5
USRK LR LR 11 36 17.9
comp=Z,256nm,21.6s,baz=151,slow=34
WB0 Warramunga Arr 34.47 199 P **P** **11 24 17.0 -0.2**
WR0 Warramunga Arr 34.61 198 P **P** **11 24 18.3 -0.1**
WR0 IAmb IAmb 11 24 31.1
comp=Z,52nm,1.9s
SBUM Sibu 34.63 255 P **P** **11 24 18.3 -0.4**
SBUM IAmb IAmb 11 24 25.4
comp=Z,20nm,1.3s
WRAB Tennant Creek 34.64 199 P **P** **11 24 18.0 -0.6**
WB2 Warramunga Arr 34.65 199 P **P** **11 24 18.1 -0.6**
WB2 IAmb IAmb 11 24 24.4
comp=Z,16nm,0.9s
WRA Warramunga Arr 34.66 199 P **P** **11 24 18.7 -0.1**
comp=Z,8.0nm,0.8s,baz=18,slow=9.4,SNR=40
WRA LR LR 11 37 53.5
comp=Z,210nm,21.5s,baz=15,slow=35
QIZ Qiongzhong 34.77 284 P **P** **11 24 18.8 -1.1**
QIZ S **S** **11 29 50.7 +3.1**
QIZ LR LR
comp=Z,350nm,8.9s
QIZ LR LR
comp=Z,330nm,3.1s
QIZ LR LR
comp=Z,330nm,12.0s
FITZ Fitzroy Crossi 36.72 213 P **P** **11 24 35.9 -0.5**
KLR Kul'dur 37.77 345 P **P** **11 24 43.9 -1.2**
comp=Z,2.2nm,0.7s,baz=174,slow=8.8,SNR=3.9
AS31 Alice Springs 38.29 197 P **P** **11 24 49.6 -0.2**
ASAR Alice Springs 38.29 197 P **P** **11 24 49.9 +0.1**
comp=Z,4.4nm,0.7s,baz=29,slow=7.9,SNR=68
ASAR LR LR 11 41 54.0
comp=Z,166nm,18.1s,baz=7.5,slow=38
ASAR Alice Springs 38.29 197 P **P** **11 24 49.7 -0.1**
PETK Petropavlovsk- 41.05 11 P **P** **11 25 12.5 +0.1**
comp=Z,2.8nm,0.7s,baz=182,slow=7.2,SNR=1.8
PETK LR LR 11 40 23.9
comp=Z,162nm,19.4s,baz=188,slow=34
KMI Kunming 42.01 293 ⇑P **P** **11 25 23.3 +2.4**
KMI sP pP 11 25 31.8 0.0
KMI S **S** **11 31 43.8 +6.5**
KMI SS **SS** **11 34 43.2 -2.3**
KMI pmax pmax
comp=Z,11nm,1.0s
KMI LR LR
comp=Z,270nm,7.8s
KMI LR LR
comp=Z,250nm,7.4s
KMI LR LR
comp=Z,240nm,13.2s
CD2 Chengdu 42.31 302 *e*P **P** **11 25 23.5 +0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
LEM Lembang 42.58 244 LR LR 11 45 12.2
comp=Z,85nm,19.5s,baz=58,slow=39
PSA00 Pilbara Seismi 42.72 217 P **P** **11 25 26.7 +0.3**
PSA00 IAmb IAmb 11 25 28.1
comp=Z,45nm,1.4s
STKA Stephens Creek 44.90 185 P **P** **11 25 43.0 -0.7**
comp=Z,3.1nm,0.9s,baz=345,slow=6.7,SNR=4.7
STKA LR LR 11 46 49.1
comp=Z,113nm,18.1s,baz=20,slow=39
CMAR Chiang Mai Arr 45.07 283 P **P** **11 25 45.8 +0.3**
comp=Z,2.1nm,0.6s,baz=83,slow=6.3,SNR=10
CMAR PcP **PcP** **11 27 25.8 +0.1**
comp=Z,1.2nm,0.4s,baz=74,slow=1.5,SNR=6.0
CMAR LR LR 11 45 57.7
comp=Z,96nm,18.1s,baz=142,slow=38
CMAR Chiang Mai Arr 45.07 283 P **P** **11 25 45.5 +0.1**
MA2 Magadan 46.54 4 P **P** **11 25 55.2 -1.2**
comp=Z,8.4nm,0.8s,baz=160,slow=5.5,SNR=10
MA2 Magadan 46.54 4 P **P** **11 25 54.9 -1.4**
MA2 IAmb IAmb 11 26 07.7
comp=Z,12nm,0.9s
BBOO Buckleboo 46.56 191 P **P** **11 25 56.5 -0.4**
BBOO IAmb IAmb 11 26 10.4
comp=Z,21nm,1.1s
FORT Forrest 46.77 201 P **P** **11 25 59.2 +0.7**
FORT IAmb IAmb 11 26 00.1
comp=Z,19nm,0.9s
RPSI Rantau Prapat 47.25 261 P **P** **11 26 00.7 -1.9**
SONM Songino Array 47.50 325 P **P** **11 26 04.5 +0.3**
comp=Z,1.2nm,0.6s,baz=141,slow=6.0,SNR=3.7
SONM PcP **PcP** **11 27 34.5 +0.6**
comp=Z,0.7nm,0.5s,baz=142,slow=4.5,SNR=1.8
SONM Songino Array 47.50 325 P **P** **11 26 04.4 +0.3**
GTA Gaotai 47.98 312 *e*P P 11 26 13.9 +5.8
GTA pmax pmax
comp=Z,3.0nm,1.2s
GSI Gunungsitoli 48.92 260 P **P** **11 26 13.8 -1.7**
MORW Morawa 50.71 214 P **P** **11 26 29.3 +0.5**
MORW IAmb IAmb 11 26 29.8
comp=Z,10nm,0.8s
WMQ Urumqi 57.95 314 *e*P **P** **11 27 24.3 +2.9**
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,100nm,5.5s
WMQ LR LR
comp=Z,290nm,24.1s
WMQ LR LR
comp=Z,210nm,17.3s
URZ Urewera 59.04 151 P **P** **11 27 28.5 -0.3**
comp=Z,4.4nm,0.8s,baz=322,slow=20,SNR=3.4
RPZ Rata Peaks 61.16 159 P **P** **11 27 43.1 -0.2**
comp=Z,7.3nm,0.7s,baz=214,slow=13,SNR=4.5
RPZ Rata Peaks 61.16 159 P **P** **11 27 42.0 -1.3**
OXZ Oxford 61.17 158 P **P** **11 27 42.9 -0.5**
OXZ IAmb IAmb 11 27 44.0
comp=Z,16nm,0.9s
MK31 Makanchi Array 62.29 316 P **P** **11 27 51.6 +0.5**
MKAR Makanchi Array 62.29 316 P **P** **11 27 51.4 +0.4**
comp=Z,1.7nm,0.5s,baz=90,slow=8.2,SNR=26
MKAR Makanchi Array 62.29 316 P **P** **11 27 51.5 +0.5**
ZALV Zalesovo Beam 62.39 324 P **P** **11 27 51.3 -0.2**
comp=Z,1.2nm,0.7s,baz=86,slow=6.7,SNR=4.9
MAKZ Makanchi 62.51 316 P **P** **11 27 52.9 +0.4**
MAKZ IAmb IAmb 11 28 31.3
comp=Z,13nm,1.6s
SII Sitkinak Islan 62.91 33 P **P** **11 27 56.5 +1.5**
OHAK Old Harbor 63.59 32 P **P** **11 28 00.7 +1.3**
SVW2 Sparrevohn 63.78 28 P **P** **11 28 02.4 +1.7**
RDOG Red Dog Mine 64.11 19 P **P** **11 28 02.6 -0.1**
RDOG IAmb IAmb 11 28 13.9
comp=Z,7.9nm,0.8s
KDAK Kodiak Island 64.12 32 P **P** **11 28 02.8 -0.1**
comp=Z,2.4nm,0.5s,baz=276,slow=5.9,SNR=5.4
HYB Hyderabad 64.50 283 *i*P **P** **11 28 05.5 -0.7**
PPLA Purkeypile 65.91 26 P **P** **11 28 15.0 +0.3**
PPLA IAmb IAmb 11 28 31.3
comp=Z,10nm,0.8s
SUA Susitna One 66.10 28 P **P** **11 28 15.1 -0.8**
BPAW Bear Paw Mtn. 66.81 25 P **P** **11 28 20.3 +0.1**
PMR Palmer 66.88 28 P **P** **11 28 21.3 +0.7**
TRF Thorofare Moun 66.90 26 P **P** **11 28 20.7 -0.3**
TRF IAmb IAmb 11 28 33.6
comp=Z,10nm,0.9s
SML Sawmill 67.31 28 P **P** **11 28 24.0 +0.5**
RND Reindeer 67.51 26 P **P** **11 28 22.8 -1.9**
RND IAmb IAmb 11 28 37.8
comp=Z,10nm,1.0s
A21K Barrow 67.63 17 P **P** **11 28 24.4 -0.8**
I23K Minto, Yukon-K 67.80 24 P **P** **11 28 26.3 -0.1**
I23K IAmb IAmb 11 28 39.4
comp=Z,17nm,1.1s
WRH Wood River Hil 68.13 25 P **P** **11 28 28.9 +0.4**
WRH IAmb IAmb 11 28 43.1
comp=Z,11nm,0.8s
COLD Coldfoot 68.13 22 P **P** **11 28 27.9 -0.6**
COLD IAmb IAmb 11 28 40.9
comp=Z,6.8nm,0.9s
MDM Murphy Dome 68.21 25 P **P** **11 28 29.8 +0.8**
MDM IAmb IAmb 11 28 42.4
comp=Z,12nm,1.2s
CCB Clear Creek Bu 68.30 25 P **P** **11 28 29.7 +0.2**
CCB IAmb IAmb 11 28 41.8
comp=Z,8.9nm,1.1s
IL31 68.71 25 P **P** **11 28 30.5 -1.6**
IL31 IAmb IAmb 11 28 43.9
comp=Z,14nm,1.1s
ILAR Eielson Array 68.71 25 P **P** **11 28 31.1 -1.1**
comp=Z,1.5nm,0.7s,baz=251,slow=4.5,SNR=18
ILAR LR LR 11 55 58.4
comp=Z,75nm,21.3s,baz=274,slow=34
ILAR Eielson Array 68.71 25 P **P** **11 28 30.1 -2.0**
TOLK Toolik Lake Re 68.82 21 P **P** **11 28 32.8 -0.1**
TOLK IAmb IAmb 11 29 10.9
comp=Z,16nm,1.3s
FYU Fort Yukon 69.82 23 P **P** **11 28 39.9 +0.9**
KKAR Karatay Array 70.26 311 P **P** **11 28 41.6 -0.6**
BMAR Burnt Mountain 70.28 23 P **P** **11 28 41.9 0.0**
CTGM Chitina Glacie 70.43 30 P **P** **11 28 43.9 +0.8**
CTGM IAmb IAmb 11 28 51.0
comp=Z,22nm,1.3s
TABL Table Mountain 70.45 30 P **P** **11 28 43.3 +0.1**
BCAR Beaver Creek A 70.55 27 P **P** **11 28 43.4 -0.2**
K27K Chicken 70.59 26 P **P** **11 28 43.6 -0.1**
K27K IAmb IAmb 11 28 56.3
comp=Z,8.5nm,1.1s
BRVK Borovoye 70.78 322 P **P** **11 28 45.7 +0.6**
BRVK IAmb IAmb 11 28 46.0
comp=Z,6.0nm,0.6s
PPT Papeete 70.91 114 LR LR 11 51 31.3
comp=Z,109nm,21.7s,baz=304,slow=29
PPT2 Papeete2 70.92 114 *e*LR LR 11 50 13.4
comp=Z,163nm,26.2s
EGAK Eagle 71.11 26 P **P** **11 28 47.5 +0.6**
EGAK IAmb IAmb 11 28 59.0
comp=Z,13nm,1.1s
DAWY Dawson 71.76 27 P **P** **11 28 50.2 -0.7**
DAWY IAmb IAmb 11 28 58.8
comp=Z,12nm,1.2s
TBI Tubuai 73.16 120 *e*LR LR 11 50 44.7
comp=Z,80nm,32.8s
INK Inuvik 74.55 22 P **P** **11 29 07.0 -0.2**
comp=Z,5.1nm,0.9s,baz=264,slow=8.2,SNR=8.8
INK Inuvik 74.55 22 P **P** **11 29 07.5 +0.3**
DLBC Dease Lake 76.02 33 P **P** **11 29 17.2 +1.2**
DLBC IAmb IAmb 11 29 33.5
comp=Z,19nm,1.4s
TAOE Nuku Hiva Isla 76.93 102 *e*LR LR 11 52 30.2
comp=Z,247nm,25.2s
ABKAR Akbulak array 77.34 318 P **P** **11 29 23.4 -0.1**
ABKAR Akbulak array 77.34 318 P **P** **11 29 23.0 -0.5**
C36M Paulatuk 77.96 21 P **P** **11 29 26.3 -0.2**
C36M IAmb IAmb 11 29 42.8
comp=Z,7.8nm,0.9s
GEYT Alibeck 80.07 307 LR LR 12 07 16.2
comp=Z,79nm,22.0s,baz=325,slow=37
YBH Yreka Blue Hor 82.68 49 P **P** **11 29 52.8 +0.2**
YBH IAmb IAmb 11 30 27.1
comp=Z,19nm,1.7s
YKA Yellowknife Ar 82.97 27 P **P** **11 29 53.5 0.0**
comp=Z,1.6nm,0.6s,baz=288,slow=4.8,SNR=25
YKA LR LR 12 06 56.1
comp=Z,57nm,19.7s,baz=0.0,slow=36
EUNU Eureka 83.24 8 P **P** **11 29 55.9 +1.1**
EUNU IAmb IAmb 11 31 51.7
comp=Z,26nm,1.9s
PINE Pine Mountain 83.55 47 P **P** **11 29 58.1 +0.9**
PINE IAmb IAmb 11 30 08.9
comp=Z,9.7nm,0.8s
B08A Colville Reser 83.68 42 P **P** **11 29 58.0 +0.5**
K05A Summer Lake 83.80 48 P **P** **11 29 59.5 +0.9**
K05A IAmb IAmb 11 30 12.7
comp=Z,11nm,1.1s
MOD Modoc Plateau 84.41 48 P **P** **11 30 02.4 +0.8**
MOD IAmb IAmb 11 30 15.9
comp=Z,9.2nm,1.4s
AFDM Forst Hills D 84.54 51 P **P** **11 30 03.2 +1.0**
BEKR Beckworth 84.81 50 P **P** **11 30 03.7 0.0**
BEKR IAmb IAmb 11 30 17.2
comp=Z,6.6nm,1.0s
RES Resolute Bay 84.85 13 P **P** **11 30 03.1 +0.2**
WVOR Wild Horse Val 85.49 48 P **P** **11 30 07.4 +0.5**
WVOR IAmb IAmb 11 30 53.2
comp=Z,9.8nm,1.4s
PNTR Pine Nut 85.55 51 P **P** **11 30 07.7 +0.2**
PNTR IAmb IAmb 11 30 22.2
comp=Z,17nm,1.6s
BMO Blue Mountains 85.85 45 P **P** **11 30 08.9 +0.3**
NVAR Mina Array Bea 86.69 51 P **P** **11 30 14.4 +1.3**
comp=Z,1.2nm,0.7s,baz=263,slow=5.3,SNR=14
NVAR LR LR 12 02 16.3
comp=Z,54nm,20.2s,baz=304,slow=31
NVAR Mina Array Bea 86.69 51 P **P** **11 30 13.5 +0.4**
KVN Kaiserville 86.70 51 P **P** **11 30 14.5 +1.4**
NV11 Mina Array Sit 86.81 51 P **P** **11 30 14.4 +0.9**
MFID Camas Ranch 87.25 46 P **P** **11 30 16.5 +0.9**
MFID IAmb IAmb 11 30 27.3
comp=Z,7.3nm,0.8s
ARCES ARCESS Array B 87.74 342 P **P** **11 30 17.3 +0.1**
comp=Z,2.5nm,0.7s,baz=66,slow=9.4,SNR=3.6
ARCES LR LR 12 12 00.1
comp=Z,108nm,19.9s,baz=265,slow=37
ARCES ARCESS Array B 87.74 342 P **P** **11 30 17.6 +0.3**
ELK Elko 88.39 49 P **P** **11 30 21.6 +0.4**
ELK IAmb IAmb 11 30 35.3
comp=Z,5.5nm,0.9s
GSC Goldstone, Bar 88.64 54 P **P** **11 30 23.2 +0.9**
TPNV Topopah Spring 88.64 52 P **P** **11 30 22.8 +0.4**
PFO Pinyon Flats O 89.35 56 P **P** **11 30 27.1 +1.4**
XPFO Pion Flat 89.36 56 P **P** **11 30 26.2 +0.4**
KBZ Khabaz 89.97 315 LR LR 12 15 28.5
comp=Z,45nm,19.4s,baz=58,slow=39
YHL Hebgen Lake 90.03 44 P **P** **11 30 30.9 +2.0**
YHL IAmb IAmb 11 30 55.5
comp=Z,9.5nm,1.3s
PSUT Pine Spring 90.03 50 P **P** **11 30 29.5 +0.5**
PSUT IAmb IAmb 11 30 42.9
comp=Z,13nm,1.5s
SPUT South Promonto 90.25 47 P **P** **11 30 29.9 +0.1**
DUG Dugway, Tooele 90.32 49 P **P** **11 30 31.6 +1.5**
W13A Hualapai Mount 90.99 54 P **P** **11 30 34.5 +1.0**
W13A IAmb IAmb 11 31 01.7
comp=Z,12nm,1.8s
KNB Kanab 91.26 52 P **P** **11 30 34.9 +0.3**
KNB IAmb IAmb 11 31 02.9
comp=Z,7.2nm,1.2s
PDAR Pinedale Array 91.82 45 P **P** **11 30 36.1 -1.1**
comp=Z,0.1nm,0.6s,baz=255,slow=3.5,SNR=1.6
PDAR LR LR 12 08 43.1
comp=Z,79nm,19.1s,baz=315,slow=34
PDAR Pinedale Array 91.82 45 P **P** **11 30 35.5 -1.7**
FINES FINESS Array B 91.87 335 P **P** **11 30 35.6 -1.1**
comp=Z,1.0nm,0.4s,baz=72,slow=6.2,SNR=3.7
FINES LR LR 12 13 34.9
comp=Z,100nm,18.3s,baz=257,slow=37
FINES FINESS Array B 91.87 335 P **P** **11 30 35.8 -0.8**
AKASG Malin Array Be 95.78 325 LR LR 12 16 54.6
comp=Z,136nm,19.7s,baz=320,slow=37
ULM Lac du Bonnet 97.25 35 LR LR 12 10 19.8
comp=Z,82nm,21.2s,baz=290,slow=33
NOA NORSAR Array B 97.72 339 LR LR 12 16 19.1
comp=Z,97nm,18.4s,baz=30,slow=36
MAW Mawson 99.25 203 LR LR 12 17 44.4
comp=Z,60nm,18.8s,baz=42,slow=36
TORD Torodi Ar. Bea 135.68 305 PKP **PKiKP** **11 36 52.0 +0.4**
comp=Z,1.2nm,1.0s,baz=33,slow=4.0,SNR=2.6
DBIC Dimbokro 144.64 302 PKP PKPbc 11 37 05.5 +0.4
comp=Z,17nm,0.8s,baz=31,slow=3.6,SNR=19
DBIC Dimbokro 144.64 302 **PKPdf** **11 37 05.8 -0.4**
KIC Kosan Boka 144.71 302 *e*PKP1 PKPbc 11 37 05.5 +0.2
comp=Z,50nm,1.0s
TIC Toumodi 144.79 302 *e*PKP1 PKPbc 11 37 05.7 +0.1
LIC Lamto 145.03 302 *e*PKP1 **PKPbc** **11 37 06.3 0.0**
comp=Z,84nm,0.8s
LPAZ La Paz 147.29 100 PKPbc **PKPbc** **11 37 13.4 -0.4**
comp=Z,1.0nm,0.5s,baz=303,slow=2.7,SNR=3.8

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*NEIC **10** 11:18:51.6±2.2, 32.3°S±0.1×179.8°W±0.2, h347km±8km, mb4.3/17, Error ellipse: s-maj=23.2km s-min=12.8km az=123.0*
*WEL **10** 11:18:55.2±0.5, 32.5°S±7.7×18.0°W±1.7, h311km±8km, M4.3/25, mB4.8/25, MLv5.1/25, Mw(mB)4.1/25, Error ellipse: s-maj=0.0km s-min=0.0km az=111.8*
*IDC **10** 11:18:56.7±2.2, 31.89S×179.79E, h372km±20km, mb3.8/7, mb1 3.8/9, mb1mx3.5/37, mbtmp4.5/9, Error ellipse: s-maj=18.6km s-min=16.6km az=125.0*
*NOU **10** 11:19:08.8, 33.36S×179.31E, h327km, mb4.2, South of Kermadec Islands*

ISC 10 11:18:52.9±0.5, 32°25S±0.06'×179°93W±0.09', h350km, n116, σ2.933/141, mb4.1/13, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
GLKZ	**Green Lake**	**3.44**	**31**	P	**Pn**	**11 19 56.1**	**-0.4**
GLKZ				S	S	11 20 34.0	-14
RAO	**Raoul Island**	**3.45**	**31**	S	**S**	**11 20 44.4**	**-3.4**
	274nm,0.3s,baz=91,slow=22,SNR=6.8						
RAO	**Raoul Island**	**3.45**	**31**	Pn	**Pn**	**11 19 53.8**	**-2.8**
RAO				S	**S**	**11 20 43.8**	**-4.0**
MXZ	**Matakaoa Point**	**5.50**	**195**	P	**Pn**	**11 20 22.7**	**+4.8**
MXZ				S	**S**	**11 21 26.7**	**0.0**
WMGZ	**Waiomatatini S**	**5.72**	**193**	P	Pn	11 20 26.2	+5.8
WMGZ				S	**S**	**11 21 32.0**	**+0.6**
KUZ	**Kuaotunu**	**5.75**	**217**	P	**Pn**	**11 20 25.2**	**+4.5**
HAZ	**Te Kaha**	**5.81**	**198**	P	**Pn**	**11 20 22.8**	**+1.4**
HAZ				S	**S**	**11 21 33.8**	**+0.7**
PKGZ	**Pakihiroa**	**5.86**	**196**	P	**Pn**	**11 20 25.2**	**+3.1**
PKGZ				S	**S**	**11 21 30.3**	**-4.1**
PUZ	**Puketiti**	**6.00**	**194**	P	**Pn**	**11 20 24.7**	**+1.1**
PUZ				S	**S**	**11 21 37.4**	**+0.2**
RUGZ	**Raukumara Rang**	**6.03**	**198**	P	**Pn**	**11 20 25.7**	**+1.6**
OUZ	**Omahuta**	**6.15**	**239**		**Pn**	**11 20 28.5**	**+3.1**
URZ	**Urewera**	**6.47**	**201**	P	**Pn**	**11 20 30.2**	**+1.2**
	7.4nm,0.3s,baz=317,slow=2.7,SNR=65						
URZ				S	**S**	**11 21 45.5**	**-1.4**
	4.8nm,0.3s,baz=92,slow=2.3,SNR=3.8						
URZ	**Urewera**	**6.47**	**201**	Pn	**Pn**	**11 20 28.9**	**0.0**
BKZ	**Black Stump Fm**	**7.49**	**202**		**Pn**	**11 20 41.7**	**+0.7**
TMVZ	**Te Maari**	**7.72**	**206**	P	**Pn**	**11 20 47.0**	**+3.3**
KRVZ	**Karewarewa**	**7.72**	**207**	P	**Pn**	**11 20 46.9**	**+3.1**
KRVZ				S	**S**	**11 22 15.8**	**+1.7**
ETVZ	**East Tongariro**	**7.73**	**206**	P	**Pn**	**11 20 46.4**	**+2.5**
TWVZ	**Taurewa**	**7.78**	**208**	P	**Pn**	**11 20 47.7**	**+3.2**
CKHZ	**Cape Kidnapper**	**7.78**	**197**	P	**Pn**	**11 20 48.5**	**+4.2**
CKHZ				S	**S**	**11 22 14.4**	**-0.7**
TUVZ	**Tukino**	**7.87**	**206**	P	**Pn**	**11 20 48.2**	**+2.7**
TUVZ				S	**S**	**11 22 16.9**	**-0.4**
BHHZ	**Black Hill Sta**	**7.92**	**203**	P	**Pn**	**11 20 47.2**	**+1.1**
BHHZ				S	S	11 22 09.3	-9.0
TRVZ	**Turoa**	**7.94**	**206**	P	**Pn**	**11 20 49.1**	**+2.7**
KRHZ	**Kereru**	**7.96**	**201**	P	**Pn**	**11 20 47.3**	**+0.7**
KRHZ				S	**S**	**11 22 16.8**	**-2.4**
PKVZ	**Pokaka**	**8.00**	**207**	P	**P**	**11 20 49.4**	**-0.7**
PKVZ				S	**S**	**11 22 20.4**	**+0.2**
MTVZ	**Mangateitei**	**8.04**	**206**	P	**P**	**11 20 50.2**	**-0.3**
VRZ	**Vera Road**	**8.11**	**211**	P	**P**	**11 20 52.3**	**+1.1**
PNHZ	**Pukenui**	**8.26**	**201**	P	**P**	**11 20 52.0**	**-1.0**
PNHZ				S	**S**	**11 22 22.4**	**-3.3**
PRHZ	**Porangahau**	**8.47**	**198**	P	**Pn**	**11 20 53.8**	**+1.3**
PRHZ				S	**S**	**11 22 25.7**	**-4.4**
TSZ	**Takapari Road**	**8.47**	**202**	P	**Pn**	**11 20 51.6**	**-0.9**
TSZ				S	**S**	**11 22 22.8**	**-7.4**
NEZ	**North Egmont**	**8.52**	**213**	P	**P**	**11 20 58.2**	**+2.3**
KHEZ	**Kahui Hut**	**8.58**	**213**	P	**P**	**11 20 58.8**	**+2.3**
DVHZ	**Dannevirke**	**8.63**	**200**	P	**P**	**11 20 56.0**	**-1.0**
DVHZ				S	**S**	**11 22 27.8**	**-5.9**
ANWZ	**Angora Road**	**8.69**	**198**	P	**P**	**11 20 56.9**	**-0.8**
ANWZ				S	**S**	**11 22 31.2**	**-3.7**
NMEZ	**Namu Road**	**8.74**	**213**	P	**P**	**11 21 00.2**	**+2.0**
POWZ	**Post Office Ro**	**8.84**	**202**	P	**Pn**	**11 20 58.0**	**+1.2**
POWZ				S	**S**	**11 22 34.7**	**-3.5**
PRWZ	**Pori Road**	**8.92**	**201**	P	**P**	**11 20 59.9**	**-0.3**
PRWZ				S	**S**	**11 22 36.2**	**-3.8**
BFZ	**Birch Farm**	**8.96**	**199**		**Pn**	**11 20 59.3**	**+1.0**
BFZ	**Birch Farm**	**8.96**	**199**	P	**Pn**	**11 20 59.0**	**+0.7**
BFZ				S	**S**	**11 22 35.8**	**-5.1**
TIWZ	**Tintock**	**9.15**	**200**	P	**Pn**	**11 21 01.6**	**+1.0**
TIWZ				S	**S**	**11 22 38.6**	**-6.6**
HOWZ	**Holdsworth Sta**	**9.38**	**202**	P	**Pn**	**11 21 03.0**	**-0.3**
HOWZ				S	**S**	**11 22 44.4**	**-5.7**
OGWZ	**Otaki Gorge**	**9.41**	**203**	P	**Pn**	**11 21 04.1**	**+0.4**
OGWZ				S	**S**	**11 22 45.5**	**-5.3**
TMWZ	**Te Maipa**	**9.46**	**200**	P	**P**	**11 21 05.4**	**-0.8**
TMWZ				S	**S**	**11 22 46.2**	**-5.6**
KIW	**Kapiti Island**	**9.54**	**204**	P	**Pn**	**11 21 05.6**	**+0.4**
KIW				S	**S**	**11 22 48.2**	**-5.5**
MTW	**Mount Morrison**	**9.62**	**201**	P	**Pn**	**11 21 06.6**	**+0.5**
CAW	**Cannon Point**	**9.71**	**203**	P	**Pn**	**11 21 06.4**	**-0.8**
TRWZ	**Traveller**	**9.78**	**200**	P	**P**	**11 21 09.2**	**-0.6**
PAWZ	**Paruwai Farm**	**9.84**	**201**	P	**Pn**	**11 21 09.6**	**+0.7**
DUWZ	**D'Urville Isla**	**9.86**	**208**	P	**Pn**	**11 21 09.0**	**-0.2**
MSWZ	**Moikau Station**	**9.93**	**201**		**Pn**	**11 21 10.5**	**+0.6**
MSWZ	**Moikau Station**	**9.93**	**201**	P	**Pn**	**11 21 10.3**	**+0.4**
WEL	**Wellington**	**9.97**	**204**	P	**P**	**11 21 11.2**	**-0.7**
SNZO	**South Karori**	**10.01**	**204**		**Pn**	**11 21 10.8**	**-0.1**
BHW	**Baring Head**	**10.04**	**203**		**Pn**	**11 21 11.4**	**+0.2**
BHW	**Baring Head**	**10.04**	**203**	P	**Pn**	**11 21 11.4**	**+0.2**
PLWZ	**Palliser**	**10.07**	**201**	P	**Pn**	**11 21 11.9**	**+0.3**
PLWZ	**Palliser**	**10.07**	**201**	P	**Pn**	**11 21 12.1**	**+0.5**
TCW	**Tory Channel**	**10.08**	**206**	P	**Pn**	**11 21 11.4**	**-0.3**
TUWZ	**Tuamarina**	**10.39**	**206**	P	**Pn**	**11 21 15.0**	**-0.4**
NNZO	**Nelson**	**10.43**	**209**	P	**Pn**	**11 21 14.3**	**-1.6**
QRZ	**Quartz Range**	**10.49**	**213**		**Pn**	**11 21 17.0**	**+0.4**
QRZ	**Quartz Range**	**10.49**	**213**	P	**Pn**	**11 21 16.2**	**-0.4**
CMWZ	**Cape Campbell**	**10.57**	**205**	P	**P**	**11 21 19.3**	**+0.7**
BSWZ	**Blackbirch Sta**	**10.66**	**206**	P	**Pn**	**11 21 18.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**10.66**	**206**	P	**Pn**	**11 21 18.7**	**+0.1**
THZ	**Tophouse**	**11.08**	**209**	P	**Pn**	**11 21 23.3**	**-0.5**
KHZ	**Kahutara**	**11.40**	**205**	P	**Pn**	**11 21 26.6**	**-0.7**
DSZ	**Denniston Nort**	**11.55**	**212**	P	**Pn**	**11 21 28.5**	**-0.7**
OXZ	**Oxford**	**12.74**	**208**	P	**P**	**11 21 41.8**	**-0.8**
RPZ	**Rata Peaks**	**13.46**	**209**	P	**P**	**11 21 51.0**	**+0.5**
	1.0nm,0.3s,baz=278,slow=2.0,SNR=8.1						
RPZ				S	**S**	**11 24 10.9**	**-6.8**
	0.6nm,0.3s,baz=42,slow=14,SNR=2.3						
RPZ	**Rata Peaks**	**13.46**	**209**	P	**P**	**11 21 49.9**	**-0.7**
DZM	**Mont Dzumac**	**15.79**	**307**	P	**P**	**11 22 13.7**	**-2.6**
	0.1nm,0.3s,baz=295,slow=15,SNR=1.8						
WHZ	**Wether Hill Ro**	**16.53**	**211**	P	**P**	**11 22 19.4**	**-4.6**
WHZ				IAmb	IAmb	11 22 43.6	
	comp=Z,41nm,1.5s						
AFI	**Afiamalu**	**19.72**	**24**	P	**P**	**11 22 58.6**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=359,slow=20,SNR=1.5						
AFI	**Afiamalu**	**19.72**	**24**	P	**P**	**11 22 58.6**	**+0.3**
AFI				IAmb	IAmb	11 23 10.4	
	comp=Z,24nm,0.8s						
TOO	**Toolangi**	**28.74**	**250**	P	**P**	**11 24 21.7**	**+2.3**
TOO				IAmb	IAmb	11 24 26.2	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**32.49**	**260**	P	**P**	**11 24 53.6**	**+1.5**
	comp=Z,2.2nm,0.4s,baz=100,slow=12,SNR=18						
STKA	**Stephens Creek**	**32.49**	**260**	P	**P**	**11 24 53.7**	**+1.6**
CTA	**Charters Tower**	**32.54**	**283**	P	**P**	**11 24 53.0**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=150,slow=16,SNR=1.8						
CTAO	**Charters Tower**	**32.54**	**283**	P	**P**	**11 24 53.1**	**+0.5**
CTAO				IAmb	IAmb	11 25 08.3	
	comp=Z,29nm,1.5s						
BBOO	**Buckleboo**	**36.91**	**257**	P	**P**	**11 25 29.9**	**+0.4**
BBOO				IAmb	IAmb	11 25 58.2	
	comp=Z,8.6nm,0.8s						
COEN	**Coen**	**38.26**	**290**	P	**P**	**11 25 40.7**	**-0.2**
AS31	**Alice Springs**	**41.40**	**270**	P	**P**	**11 26 06.3**	**-0.3**
ASAR	**Alice Springs**	**41.40

comp=Z,3.3nm,0.4s,baz=106,slow=7.2,SNR=35
ASAR PcP **PcP** **11 27 56.1 -1.0**
comp=Z,1.1nm,1.1s,baz=105,slow=5.8,SNR=1.8
ASAR ScP **ScP** **11 31 11.3 -1.8**
comp=Z,0.6nm,1.0s,baz=139,slow=5.8,SNR=2.0
ASAR Alice Springs 41.40 270 P **P** **11 26 05.8 -0.8**
WR0 Warramunga Arr 42.39 275 P **P** **11 26 13.3 -1.2**
WB2 Warramunga Arr 42.55 275 P **P** **11 26 15.2 -0.6**
WB2 IAmb IAmb 11 26 15.2
comp=Z,13nm,0.4s
WRAB Tennant Creek 42.56 275 P **P** **11 26 15.0 -0.8**
WRAB IAmb IAmb 11 26 15.5
comp=Z,5.7nm,0.7s
WRA Warramunga Arr 42.56 275 P **P** **11 26 15.0 -0.8**
comp=Z,7.0nm,0.3s,baz=111,slow=8.0,SNR=74
WRA ScP **ScP** **11 31 16.9 -0.8**
comp=Z,1.0nm,1.0s,baz=116,slow=3.8,SNR=3.1
WB0 Warramunga Arr 42.60 275 P **P** **11 26 15.1 -1.0**
WB0 IAmb IAmb 11 26 15.7
comp=Z,8.1nm,0.7s
FITZ Fitzroy Crossi 50.74 272 P **P** **11 27 17.3 -1.3**
FITZ IAmb IAmb 11 27 45.3
comp=Z,13nm,1.3s
QSPA South Pole Qui 57.87 180 P **P** **11 28 13.2 +4.3**
comp=Z,3.9nm,0.7s,baz=313,slow=0.7,SNR=22
SNAA Sanae 76.35 179 P **P** **11 30 06.4 +2.6**
VNA3 Neumayer Olymp 76.57 177 P **P** **11 30 08.0 +3.0**
VNA2 Neumayer--Watz 76.98 177 P **P** **11 30 10.2 +3.0**
VNA1 Neumayer--Stat 77.22 177 P **P** **11 30 11.1 +2.5**
KSRS Korea Array 84.71 321 P **P** **11 30 47.2 -0.8**
comp=Z,2.0nm,0.9s,baz=130,slow=5.2,SNR=3.8
PETK Petropavlovsk- 87.20 347 P **P** **11 31 00.3 +0.5**
comp=Z,5.1nm,0.8s,baz=122,slow=6.5,SNR=13
PETK Petropavlovsk- 87.20 347 P **P** **11 31 00.2 +0.4**
PB14 IPOC Station P 92.16 121 P **P** **11 31 24.2 0.0**
GO02 Mina Guanaco 92.43 122 P **P** **11 31 23.9 -1.4**
TCRU Three Creeks R 94.35 47 P **P** **11 31 34.4 +0.7**
PB01 IPOC Station P 94.99 119 P P 11 31 31.4 -5.5
MKAR Makanchi Array 117.69 310 PKP **PKPdf** **11 36 56.9 -0.6**
comp=Z,0.3nm,0.8s,baz=85,slow=1.6,SNR=3.1
MKAR Makanchi Array 117.69 310 **PKPdf** **11 36 56.7 -0.8**
KURK Kurchatov 121.12 313 **PKPdf** **11 37 03.5 -0.4**
KURBB Kurchatov Arra 121.15 313 PKP **PKPdf** **11 37 03.5 -0.5**
comp=Z,1.1nm,0.5s,baz=125,slow=1.8,SNR=6.0
ARCES ARCESS Array B 140.01 346 PKhKP PKPpre 11 37 32.3
comp=Z,6.7nm,1.1s,baz=1.6,slow=3.4,SNR=3.9
KBZ Khabaz 144.71 301 PKP PKPbc 11 37 46.9 -1.0
comp=Z,2.4nm,0.9s,baz=136,slow=8.2,SNR=4.8
FIA1 FINESS Array S 146.26 338 **PKPbc** **11 37 52.0 0.0**
FINES FINESS Array B 146.26 338 PKPbc **PKPbc** **11 37 51.7 -0.3**
comp=Z,14nm,0.7s,baz=38,slow=4.0,SNR=38
FINES FINESS Array B 146.26 338 **PKPbc** **11 37 52.0 0.0**
NB2 NORSAR Subarra 150.29 349 PKP **PKPbc** **11 38 02.6 +0.2**
comp=Z,2.6nm,0.5s,baz=18,slow=2.6
NOA NORSAR Array B 150.29 349 PKPbc **PKPbc** **11 38 02.4 0.0**
comp=Z,3.5nm,0.6s,baz=17,slow=4.2,SNR=12
HFS Hagfors 150.68 346 PKPbc **PKPbc** **11 38 03.1 -0.1**
comp=Z,7.0nm,0.6s,baz=163,slow=1.5,SNR=15
AKASG Malin Array Be 151.69 319 PKPbc **PKPbc** **11 38 05.6 -0.3**
comp=Z,0.9nm,0.4s,baz=60,slow=2.5,SNR=7.4
TORD Torodi Ar. Bea 160.93 185 PKPab **PKPab** **11 38 59.3 +2.6**
comp=Z,0.7nm,0.5s,baz=185,slow=3.1,SNR=3.0

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*IDC **10** 11:47:11.2±1.2,5.98S×148.57E,h0km,mb3.6/5, mb1 3.8/7,mb1mx3.6/29,mbtmp3.7/7,ML2.9/2,Error ellipse: s-maj=51.7km s-min=20.5km az=115.0*

ISC 10 11:47:19.5±1.1,6.1S±0.2×148.4E±0.3,h65km,n7,σ1s12/8, mb3.8/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.53**	**200**	Pn			**Pn**	**11 48 10.1**	**-1.7**
	9.5nm,0.3s,baz=24,slow=9.5,SNR=22								
PMG				Sn			**Sn**	**11 48 52.6**	**+0.3**
	8.8nm,0.3s,baz=98,slow=23,SNR=8.0								
WRA	**Warramunga Arr**	**19.40**	**223**	P			**Pn**	**11 51 42.0**	**-0.1**
	0.1nm,0.3s,baz=50,slow=11,SNR=10								
ASAR	**Alice Springs**	**22.36**	**217**	P			**P**	**11 52 12.9**	**+0.5**
	0.4nm,0.6s,baz=52,slow=9.5,SNR=12								
FITZ	**Fitzroy Crossi**	**25.20**	**240**	P			**P**	**11 52 40.1**	**+0.9**
	4.0nm,1.1s,baz=58,slow=13,SNR=3.2								
PETK	**Petropavlovsk-**	**59.48**	**7**	P			**P**	**11 57 14.9**	**-0.7**
	0.5nm,0.5s,baz=148,slow=6.0,SNR=1.1								
VNDA	**Vanda**	**71.76**	**177**	P			**P**	**11 58 35.7**	**+1.3**
	0.5nm,0.4s,baz=340,slow=6.2,SNR=6.3								
ILAR	**Eielson Array**	**85.01**	**23**	P			**P**	**11 59 47.6**	**0.0**
	0.1nm,0.7s,baz=246,slow=5.8,SNR=1.7								

RSNC 10 12:02:48.7±1.0,11.82N×72.32W,h56km±8km,ML3.6, Mw3.6,1C-1D,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.34**	**110**	⇓*iP*			Pn	12 02 58.2	-0.5
URIC				*eS*			Sn	12 03 06.1	+0.1
URIC				*i*				12 03 07.0	
	comp=Z,2μm,0.3s								
CRJC	**Cerrejon, Guaj**	**0.97**	**215**	⇑*iP*			Pn	12 03 05.4	-0.9
CRJC				*eS*			Sn	12 03 18.4	-0.8
CVALL	**Valledupar, Ce**	**1.60**	**215**	*eP*			Pn	12 03 13.6	-1.1
CVALL				*eS*			Sn	12 03 34.5	+0.2
SMRC	**Santa Marta, M**	**1.98**	**251**	*eP*			Pn	12 03 17.6	-2.2
SMRC				*eS*			Sn	12 03 43.4	-0.1
SMRC				*i*				12 03 45.9	
	comp=Z,691nm,0.3s								
ARGC	**Ariguani, Magd**	**2.72**	**224**	*eP*			Pn	12 03 29.3	-0.6
ARGC				*eS*			Sn	12 04 01.9	+0.2
ARGC				*i*				12 04 13.9	
	comp=Z,281nm,0.3s								
SDV	**Santo Domingo**	**3.35**	**150**	*eP*			Pn	12 03 39.0	+0.2
SDV				*eS*			Sn	12 04 17.0	-0.6
SDV				*i*				12 04 22.0	
	comp=Z,111nm,0.4s								
SMLC	**San Martn de**	**3.46**	**210**	*eP*			Pn	12 03 38.6	-1.5
SMLC				*eS*			Sn	12 04 17.1	-2.9
SMLC				*i*				12 04 32.3	
	comp=Z,148nm,0.2s								
OCAC	**Ocana**	**3.69**	**196**	*eP*			Pn	12 03 42.9	-0.5
OCAC				*eS*			Sn	12 04 25.8	-0.1
PAMC	**Pamplona, Colo**	**4.47**	**185**	*eP*			Pn	12 03 54.5	+0.1
PAMC				*eS*			Sn	12 04 45.0	-0.4
PAMC				*i*				12 04 54.5	
	comp=Z,60nm,0.3s								
MOTC	**Monteria, Cord**	**4.47**	**228**	*eP*			Pn	12 03 53.6	-0.4
MOTC				*eS*			Sn	12 04 44.5	-0.2
MOTC				*i*				12 05 05.9	
	comp=Z,34nm,0.6s								
BRRC	**Barranca, Sant**	**4.88**	**196**	*eP*			Pn	12 03 59.2	-0.4
BRRC				*eS*			Sn	12 04 55.3	+0.5
BRRC				*i*				12 05 06.5	
	comp=Z,63nm,0.4s								
UREC	**San Jos de Ur**	**5.14**	**218**	*eP*			Pn	12 04 02.6	-0.6
UREC				*eS*			Sn	12 05 00.1	-1.0
UREC				*i*				12 05 05.9	
	comp=Z,45nm,0.2s								
PTBC	**PUERTO BERRIO,**	**5.66**	**202**	*eP*			Pn	12 04 09.4	-0.9
PTBC				*eS*			Sn	12 05 12.7	-1.2
PTBC				*i*				12 05 19.4	
	comp=Z,57nm,0.4s								
SPBC	**San Pablo de B**	**6.37**	**196**	*eP*			Pn	12 04 19.0	-1.1
SPBC				*eS*			Sn	12 05 30.6	-1.0
SPBC				*i*				12 05 42.5	
	comp=Z,27nm,0.3s								
NORC	**Norcasia**	**6.71**	**202**	*eP*			Pn	12 04 25.1	+0.4
NORC				*eS*			Sn	12 05 39.7	-0.1
NORC				*i*				12 05 48.5	
	comp=Z,29nm,0.6s								
CBOC	**Ciudad Bolivar**	**6.95**	**212**	*eP*			Pn	12 04 29.7	+1.5
CBOC				*eS*			Sn	12 05 41.0	-5.1
CBOC				*i*				12 06 04.0	
	comp=Z,12nm,0.6s								
CHIC	**Chingaza**	**7.28**	**191**	*eP*			Pn	12 04 33.1	+0.3
CHIC				*eS*			Sn	12 05 53.5	-0.9
CHIC				*i*				12 06 14.2	
	comp=Z,12nm,0.4s								
TOLC	**Tolima**	**7.78**	**203**	*eP*			Pn	12 04 41.7	+2.0
TOLC				*i*				12 06 28.0	
	comp=Z,18nm,0.7s								

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*TAP **10** 12:06:19.4,24.73N×122.54E,h93km,ML4.3,C*
*JMA **10** 12:06:19.1±0.1,24.65N×122.50E,h98km±1km,M3.1*

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*IDC **10** 12:06:30.8±6.8,25.00N×122.20E,h216km±59km,mb3.2/6, mb1 3.3/7,mb1mx3.0/49,mbtmp3.7/7,MS3.3/1,Ms1 3.3/1, ms1mx2.5/17,Error ellipse: s-maj=56.6km s-min=27.6km az=137.0*

ISC 10 12:06:17.8±0.8,24.72N±0.03×122.52E±0.02,h100km±5km, n150,σ1s81/258,mb3.4/6,2C-17D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.47**	**125**	P			**Pn**	**12 06 34.3**	**+1.0**
JYNG				S			**Sn**	**12 06 45.8**	**+0.9**
YOJ	**Yonaguni jima**	**0.52**	**120**	*i* P			**Pn**	**12 06 34.7**	**+1.1**
	baz=128								
YOJ				*eS*			**Sn**	**12 06 46.1**	**+0.7**
	baz=128								
YOJ	**Yonaguni jima**	**0.52**	**120**	P			**Pn**	**12 06 34.7**	**+1.1**
YOJ				S			**Sn**	**12 06 46.3**	**+0.8**
EGS		**0.55**	**283**	*eP*			**Pn**	**12 06 35.6**	**+1.8**
	baz=274								
TWB1	**Santiao Chiao**	**0.56**	**300**	⇓*iP*			**Pn**	**12 06 35.3**	**+1.4**
	baz=299								
TWB1				*eS*			**Sn**	**12 06 46.7**	**+0.6**
	baz=299								
TWC	**Suao**	**0.62**	**260**	⇓*iP*			**Pn**	**12 06 35.6**	**+1.1**
	baz=255								
TWC				*eS*			**Sn**	**12 06 46.9**	**-0.1**
	baz=255								
NTC	**Toucheng**	**0.64**	**282**	P			**Pn**	**12 06 36.2**	**+1.5**
	baz=281								
NTC				*eS*			**Sn**	**12 06 47.6**	**+0.4**
	baz=281								
TIPB	**Shuangxi**	**0.68**	**291**	⇓*iP*			**Pn**	**12 06 36.5**	**+1.5**
	baz=284								
TIPB				S			**Sn**	**12 06 48.3**	**+0.4**
	baz=284								
ILA	**Ilan**	**0.71**	**274**	P			**Pn**	**12 06 36.9**	**+1.7**
	baz=270								
ILA				S			**Sn**	**12 06 49.6**	**+1.3**
	baz=270								
NDS	**Dongshan**	**0.74**	**263**	⇓*iP*			**Pn**	**12 06 37.0**	**+1.5**
	baz=259								
NDS				*eS*			**Sn**	**12 06 49.1**	**+0.2**
	baz=259								
NWF	**Wu-fen Shan**	**0.76**	**297**	⇓*iP*			**Pn**	**12 06 37.3**	**+1.6**
	baz=291								
NWF				S			**Sn**	**12 06 50.1**	**+0.8**
	baz=291								
WFSB	**Wu-fen Shan**	**0.76**	**297**	⇓*iP*			**Pn**	**12 06 37.4**	**+1.7**
	baz=291								
WFSB				S			**Sn**	**12 06 50.2**	**+1.1**
	baz=291								
ENA	**Nanau**	**0.77**	**248**	⇓*iP*			**Pn**	**12 06 37.2**	**+1.4**
	baz=247								
ENA				*eS*			**Sn**	**12 06 50.6**	**+1.2**
	baz=247								
TWE	**Neicheng**	**0.78**	**270**	⇓*iP*			**Pn**	**12 06 37.4**	**+1.6**
	baz=269								
TWE				*eS*			**Sn**	**12 06 50.2**	**+0.7**
	baz=269								
TNOU	**National Taiwa**	**0.80**	**302**	*eP*			**Pn**	**12 06 37.6**	**+1.5**
	baz=301								
TNOU				*eS*			**Sn**	**12 06 51.2**	**+1.3**
	baz=301								
ENTT	**Nioudou**	**0.88**	**265**	⇓*iP*			**Pn**	**12 06 38.6**	**+1.8**
	baz=267								
ENTT				*eS*			**Sn**	**12 06 53.2**	**+2.0**
	baz=267								
TWA	**Mucha**	**0.89**	**287**	⇓*iP*			**Pn**	**12 06 38.6**	**+1.6**
	baz=279								
TWA				*eS*			**Sn**	**12 06 52.2**	**+0.7**
	baz=279								
NDT	**Datong Townshi**	**0.93**	**263**	⇑*iP*			**Pn**	**12 06 39.7**	**+2.3**
	baz=264								
NDT				*eS*			**Sn**	**12 06 54.3**	**+2.1**
	baz=264								
NWLT	**Wulai**	**0.93**	**274**	⇓*iP*			**Pn**	**12 06 38.9**	**+1.5**
	baz=278								
NWLT				*eS*			**Sn**	**12 06 52.8**	**+0.5**
	baz=278								
NHDH	**Xindian Distri**	**0.94**	**285**	*eP*			**Pn**	**12 06 38.7**	**+1.2**
	baz=276								
NHDH				*eS*			**Sn**	**12 06 52.9**	**+0.6**
	baz=276								
TAP1	**Taipei**	**0.96**	**289**	*eS*			**Sn**	**12 06 53.5**	**+0.8**
	baz=288								
YM01	**YM01**	**0.96**	**296**	*eP*			**Pn**	**12 06 38.3**	**+0.5**
	baz=288								
YM01				*eS*			**Sn**	**12 06 52.4**	**-0.4**
	baz=288								
YM08	**YM08**	**0.96**	**299**	*eP*			**Pn**	**12 06 39.1**	**+1.3**
	baz=297								
YM08				*eS*			**Sn**	**12 06 53.8**	**+0.9**
	baz=297								
YM11	**YM11**	**0.97**	**297**	*eP*			**Pn**	**12 06 40.0**	**+2.1**
	baz=289								
YM11				*eS*			**Sn**	**12 06 54.5**	**+1.5**
	baz=289								
TATO	**Taipei**	**0.97**	**285**	⇓*iP*			**Pn**	**12 06 39.3**	**+1.5**
	baz=276								
TATO				*eS*			**Sn**	**12 06 53.1**	**+0.1**
	baz=276								
YM05	**YM05**	**0.97**	**297**	*eP*			**Pn**	**12 06 39.4**	**+1.4**
	baz=288								
YM05				*eS*			**Sn**	**12 06 53.7**	**+0.6**
	baz=288								
YM10	**YM10**	**0.97**	**296**	*i* P			**Pn**	**12 06 39.5**	**+1.6**
	baz=287								
YM10				*eS*			**Sn**	**12 06 53.5**	**+0.4**
	baz=287								
YM04	**YM04**	**0.99**	**296**	⇓*iP*			**Pn**	**12 06 39.6**	**+1.5**
	baz=286								
YM04				*eS*			**Sn**	**12 06 54.1**	**+0.7**
	baz=286								
TWY	**Chenhua**	**1.00**	**303**	*eP*			**Pn**	**12 06 38.6**	**+0.4**
	baz=302								
TWY				*eS*			**Sn**	**12 06 55.2**	**+1.7**
	baz=302								
NACB	**Ninganchiao**	**1.01**	**237**	P			**Pn**	**12 06 39.0**	**+0.7**
	baz=237								
NACB				*eS*			**Sn**	**12 06 53.1**	**-0.5**
	baz=237								
ANP	**Anpu**	**1.02**	**297**	*eP*			**Pn**	**12 06 38.9**	**+0.4**
	baz=287								
YHNB	**Yeheng**	**1.04**	**267**	⇓*iP*			**Pn**	**12 06 40.7**	**+2.0**
	baz=272								
YHNB				S			**Sn**	**12 06 55.5**	**+1.0**
	baz=272								
TWD	**Chiawan**	**1.06**	**233**	P			**Pn**	**12 06 39.9**	**+1.1**
	baz=227								
TWD				*eS*			**Sn**	**12 06 55.3**	**+0.6**
	baz=227								
NSK	**Sanguang**	**1.06**	**268**	P			**Pn**	**12 06 40.5**	**+1.6**
	baz=272								
NSK				*eS*			**Sn**	**12 06 56.1**	**+1.3**
	baz=272								
NTST	**Danshui**	**1.07**	**294**	*eP*			**Pn**	**12 06 40.1**	**+1.2**
	baz=293								
NTST				*eS*			**Sn**	**12 06 56.8**	**+1.9**
	baz=293								
TWS1	**Kuangyinshan**	**1.07**	**291**	*eP*			**Pn**	**12 06 40.7**	**+1.8**
	baz=289								
TWS1				*eS*			**Sn**	**12 06 55.9**	**+1.0**
	baz=289								
ETLH	**Xiulin Townshi**	**1.08**	**242**	⇓*iP*			**Pn**	**12 06 40.3**	**+1.2**
	baz=236								
ETLH				*eS*			**Sn**	**12 06 55.6**	**+0.4**
	baz=236								
NNSB	**Datong**	**1.08**	**254**	*i* P			**Pn**	**12 06 40.7**	**+1.6**
	baz=248								
NNSB				*eS*			**Sn**	**12 06 54.7**	**-0.6**
	baz=248								
NNSH	**Datong**	**1.08**	**254**	P			**Pn**	**12 06 41.0**	**+1.8**
	baz=248								
NNSH				*eS*			**Sn**	**12 06 54.9**	**-0.4**
	baz=248								
NNS	**Nan Shan**	**1.08**	**255**	⇓*iP*			**Pn**	**12 06 40.9**	**+1.7**
	baz=248								
NNS				*eS*			**Sn**	**12 06 56.2**	**+0.8**
	baz=248								
HWA	**Hwalien**	**1.12**	**229**	*eP*			**Pn**	**12 06 40.9**	**+1.5**
	baz=223								
HWA				*eS*			**Sn**	**12 06 57.5**	**+1.6**
	baz=223								
NTY	**Taoyuan**	**1.15**	**284**	*eP*			**Pn**	**12 06 41.0**	**+1.2**
	baz=278								
NTY				*eS*			**Sn**	**12 06 57.2**	**+0.8**
	baz=278								
IRIF	**Iriomote-Funau**	**1.17**	**109**	P			**Pn**	**12 06 41.0**	**+1.0**
IRIF				S			**Sn**	**12 06 57.8**	**+1.0**
NCU	**National Centr**	**1.24**	**282**	*eP*			**Pn**	**12 06 43.1**	**+2.3**
	baz=288								
NCU				*eS*			**Sn**	**12 07 00.6**	**+2.3**
	baz=288								
NCUH	**Zhongli**	**1.24**	**282**	*eP*			**Pn**	**12 06 42.7**	**+1.8**
	baz=288								
NCUH				*eS*			**Sn**	**12 06 59.5**	**+1.2**
	baz=288								
FUSS	**Fushou**	**1.26**	**248**	P			**Pn**	**12 06 43.3**	**+1.9**
	baz=242								
FUSS				*eS*			**Sn**	**12 07 00.5**	**+1.4**
	baz=242								
WHF	**Hehuan Shan**	**1.28**	**244**	⇓*iP*			**Pn**	**12 06 43.3**	**+1.4**
	baz=237								
WHF				S			**Sn**	**12 07 00.6**	**+0.6**
	baz=237								
NJD	**Zhudong**	**1.30**	**271**	*eP*			**Pn**	**12 06 44.9**	**+3.2**
	baz=270								
NJD				*eS*			**Sn**	**12 07 02.1**	**+2.4**
	baz=270								
TWT	**Tachien**	**1.31**	**249**	*eP*			**Pn**	**12 06 44.2**	**+2.3**
	baz=241								
TWT				*eS*			**Sn**	**12 07 00.8**	**+0.7**
	baz=241								
HATJ	**Hateruma jima**	**1.34**	**119**	P			**Pn**	**12 06 43.8**	**+1.7**
HATJ				*eS*			**Sn**	**12 07 02.4**	**+1.9**
ESL	**Shilin**	**1.34**	**228**	*eP*			**Pn**	**12 06 43.1**	**+0.9**
	baz=237								
ESL				*eS*			**Sn**	**12 07 00.5**	**-0.1**
	baz=237								
HSN1	**Hsinchu**	**1.37**	**273**	*eP*			**Pn**	**12 06 44.4**	**+2.0**
	baz=272								
LIOB	**Emei**	**1.37**	**267**	P			**Pn**	**12 06 44.4**	**+1.9**
	baz=266								
LIOB				*eS*			**Sn**	**12 07 02.5**	**+1.3**
	baz=266								
NSTT	**Nanjuang**	**1.39**	**267**	*eP*			**Pn**	**12 06 44.5**	**+1.9**
	baz=265								
NSTT				*eS*			**Sn**	**12 07 02.5**	**+1.0**
	baz=265								
CHGB	**Renai**	**1.40**	**242**	P			**Pn**	**12 06 44.8**	**+1.9**
	baz=236								
CHGB				*eS*			**Sn**	**12 07 03.2**	**+1.2**
	baz=236								
SBCB	**Hsinchu**	**1.40**	**273**	*eP*			**Pn**	**12 06 44.7**	**+1.9**
	baz=272								
SBCB				*eS*			**Sn**	**12 07 03.3**	**+1.6**
	baz=272								
HSN	**Hsinchu**	**1.41**	**274**	*eS*			**Sn**	**12 07 03.1**	**+1.0**
	baz=273								
JKRS	**Kuro-shima**	**1.44**	**109**	P			**Pn**	**12 06 44.9**	**+1.7**
JKRS				*eS*			**Sn**	**12 07 04.2**	**+1.7**
EGFH	**Guangfu**	**1.45**	**224**	*eP*			**Pn**	**12 06 44.4**	**+1.0**
	baz=218								
EGFH				*eS*			**Sn**	**12 07 03.4**	**+0.5**
	baz=218								
NJN	**Zhunan**	**1.50**	**269**	*eS*			**Sn**	**12 07 06.2**	**+2.3**
	baz=268								
WHP	**Taichung City**	**1.50**	**253**	P			**Pn**	**12 06 46.8**	**+2.7**
	baz=253								
WHP				*eS*			**Sn**	**12 07 06.3**	**+2.2**
	baz=253								
JIJ	**Ishigaki jima**	**1.52**	**103**	P			**Pn**	**12 06 45.5**	**+1.3**
JIJ				S			**Sn**	**12 07 04.8**	**+0.5**
HGSD	**Ruisui**	**1.58**	**220**	P			**Pn**	**12 06 46.2**	**+1.1**
	baz=220								
HGSD				*eS*			**Sn**	**12 07 06.4**	**+0.6**
	baz=220								
NMLH	**Miaoli**	**1.59**	**264**	P			**Pn**	**12 06 47.1**	**+2.0**
	baz=263								
NMLH				*eS*			**Sn**	**12 07 07.6**	**+1.8**
	baz=263								
VWDT	**VWDT**	**1.59**	**233**	⇑*iP*			**Pn**	**12 06 47.0**	**+1.9**
	baz=233								
VWDT				*eS*			**Sn**	**12 07 06.6**	**+0.8**
	baz=233								
WPL	**Puli Township**	**1.59**	**244**	P			**Pn**	**12 06 47.5**	**+2.4**
	baz=241								
WPL				*eS*			**Sn**	**12 07 07.3**	**+1.3**
	baz=241								
DPDB	**Guoxing**	**1.61**	**245**	*eP*			**Pn**	**12 06 46.2**	**+0.7**
	baz=245								
DPDB				*eS*			**Sn**	**12 07 09.0**	**+2.5**
	baz=245								
WCS	**Beigang Elemen**	**1.61**	**246**	*eP*			**Pn**	**12 06 47.8**	**+2.4**
	baz=246								
WCS				*eS*			**Sn**	**12 07 08.3**	**+1.9**
	baz=246								
JISG	**Ishigakijimahi**	**1.63**	**94**	P			**Pn**	**12 06 47.2**	**+1.6**
JISG				*eS*			**Sn**	**12 07 07.9**	**+1.1**
NSY	**Sanyi**	**1.63**	**260**	*eP*			**Pn**	**12 06 48.0**	**+2.3**
	baz=259								
NSY				S			**Sn**	**12 07 08.9**	**+2.0**
	baz=259								
EHY	**Hungye**	**1.64**	**222**	*i* P			**Pn**	**12 06 46.2**	**+0.5**
	baz=223								
EHY				*eS*			**Sn**	**12 07 05.7**	**-1.2**
	baz=223								
TWQ1	**Liyutan**	**1.64**	**257**	P			**Pn**	**12 06 47.7**	**+2.0**
	baz=256								
TWQ1				*eS*			**Sn**	**12 07 08.6**	**+1.6**
	baz=256								
SMLT	**Sun Moon Lake**	**1.70**	**241**	*eP*			**Pn**	**12 06 49.2**	**+2.5**
	baz=234								
SSLB	**Suanglung**	**1.71**	**237**	*eP*			**Pn**	**12 06 48.4**	**+1.8**
	baz=234								
SSLB				*eS*			**Sn**	**12 07 09.2**	**+0.6**
	baz=234								
TYC	**Yuchr**	**1.73**	**242**	P			**Pn**	**12 06 49.3**	**+2.5**
	baz=242								
TYC				*eS*			**Sn**	**12 07 10.7**	**+1.8**
	baz=242								
YULB	**Yu-li**	**1.73**	**220**	P			**Pn**	**12 06 47.5**	**+0.6**
	baz=221								
YULB				*eS*			**Sn**	**12 07 07.3**	**-1.8**
	baz=221								
WDJ	**Dajia District**	**1.75**	**258**	*eP*			**Pn**	**12 06 49.5**	**+2.3**
	baz=257								
WDJ				*eS*			**Sn**	**12 07 11.2**	**+1.7**
	baz=257								
EYUL	**Yuli**	**1.76**	**219**	*eP*			**Pn**	**12 06 48.5**	**+1.3**
	baz=227								
EYUL				*eS*			**Sn**	**12 07 11.8**	**+2.1**
	baz=227								
TWF1	**Yuli**	**1.77**	**220**	*eP*			**Pn**	**12 06 48.1**	**+0.8**
	baz=227								
TWF1				*eS*			**Sn**	**12 07 09.2**	**-0.6**
	baz=227								
TCU	**Taichung**	**1.78**	**252**	*eP*			**Pn**	**12 06 49.9**	**+2.4**
	baz=251								
TCU				*eS*			**Sn**	**12 07 12.5**	**+2.3**
	baz=251								
WWF	**

baz=226
ALS eS Sn 12 07 17.5 +2.3
baz=226
JTJ Tarama 1.98 92 P Pn 12 06 52.3 +2.2
JTJ eS Sn 12 07 17.1 +2.3
CHN5 Tsauling 2.02 237 P Pn 12 06 53.5 +2.8
baz=247
CHN5 eS Sn 12 07 19.1 +3.2
baz=247
ELDTW Lidau 2.06 222 eP Pn 12 06 52.2 +1.1
baz=220
ELDTW eS Sn 12 07 16.2 -0.5
baz=220
WGK Gukeng 2.07 240 eP Pn 12 06 54.2 +3.1
baz=250
EDH Donghe 2.07 213 eP Pn 12 06 52.6 +1.3
baz=209
EDH eS Sn 12 07 16.6 -0.1
baz=209
WDLH Douliu 2.08 241 P Pn 12 06 54.0 +2.6
baz=251
WDLH eS Sn 12 07 20.5 +3.3
baz=251
WRL Guolierlin Hig 2.12 248 eS Sn 12 07 19.1 +1.1
baz=255
RLNB Erlin 2.14 248 P Pn 12 06 54.0 +1.9
baz=254
WTK Tuku 2.21 243 eP Pn 12 06 55.2 +2.2
baz=242
WTK eS Sn 12 07 22.9 +2.9
baz=242
LONT Longtian 2.21 215 P Pn 12 06 53.8 +0.7
baz=222
LONT eS Sn 12 07 19.9 -0.3
baz=222
CHN2 Minshiung 2.21 238 eP Pn 12 06 56.8 +3.7
baz=248
CHN2 eS Sn 12 07 24.4 +4.3
baz=248
STYH Taoyuan 2.22 226 P Pn 12 06 55.9 +2.7
baz=227
STYH eS Sn 12 07 21.8 +1.4
baz=227
CHN4 Tsaushan 2.23 233 P Pn 12 06 56.0 +2.7
baz=233
CHN4 eS Sn 12 07 23.8 +3.2
baz=233
TPUB Ta-pu 2.24 231 eP Pn 12 06 55.8 +2.3
baz=224
TPUB eS Sn 12 07 24.1 +3.3
baz=224
STYT Tauyuan 2.24 226 P Pn 12 06 56.0 +2.5
baz=227
STYT eS Sn 12 07 22.1 +1.2
baz=227
LDUT Ludao 2.26 206 P Pn 12 06 54.4 +0.7
baz=211
LDUT eS Sn 12 07 20.2 -1.0
baz=211
CHY Chiayi 2.27 238 eP Pn 12 06 56.2 +2.4
baz=248
CHY eS Sn 12 07 24.0 +2.5
baz=248
WTP Ta-pu 2.28 230 eP Pn 12 06 56.8 +2.8
baz=230
WTP eS Sn 12 07 23.2 +1.3
baz=230
TWGBT Beinan 2.31 215 eP Pn 12 06 55.3 +0.9
baz=221
TWGBT eS Sn 12 07 21.5 -1.0
baz=221
TWG Pinlang 2.31 215 eP Pn 12 06 55.2 +0.8
baz=221
TWG eS Sn 12 07 21.7 -0.8
baz=221
TWK Hsinying 2.36 232 P Pn 12 06 57.7 +2.6
baz=233
TWK eS Sn 12 07 26.5 +2.9
baz=233
WSF Szhu 2.36 243 eP Pn 12 06 56.5 +1.5
baz=243
CHN1 Nanshi 2.38 230 eP Pn 12 06 58.0 +2.6
baz=231
CHN1 eS Sn 12 07 27.2 +3.0
baz=231
SNST Tainan City 2.38 231 eP Pn 12 06 57.9 +2.5
baz=232
JIRB Irabujima 2.41 87 eS Sn 12 07 26.8 +2.1
SGST Jiashian 2.41 228 eP Pn 12 06 57.5 +1.8
baz=228
SGST eS Sn 12 07 26.7 +1.8
baz=228
SLGT Liugui 2.43 225 eP Pn 12 06 58.9 +2.9
baz=226
SLGT eS Sn 12 07 29.2 +3.9
baz=226
ICHU Yijhu 2.46 237 eP Pn 12 06 58.2 +1.8
baz=237
CHN8 Yiju 2.52 238 eP Pn 12 06 58.6 +1.5
baz=247
JMJ Miyako jima 2 2.52 87 eP Pn 12 07 01.1 +4.0
baz=88
JMJ2 Miyako jima3 2.55 89 P Pn 12 07 00.4 +2.9
JMJ2 eS Sn 12 07 30.7 +2.7
ECL Taimali 2.56 215 eP Pn 12 06 58.2 +0.5
baz=219
SCST Cishan 2.61 226 eP Pn 12 07 01.0 +2.8
baz=226
SCST eS Sn 12 07 30.7 +1.3
baz=226
SSD Sandimen 2.62 222 eP Pn 12 07 01.3 +2.8
baz=222
SSD eS Sn 12 07 33.0 +3.3
baz=222
TSMG Majia 2.65 221 eP Pn 12 07 01.6 +2.8
baz=222
TSMG eS Sn 12 07 33.2 +2.9
baz=222
TWM1 Shoushan 2.70 226 eP Pn 12 07 02.5 +3.0
baz=225
MASBT Mashibuluo 2.72 220 eP Pn 12 07 02.0 +2.2
baz=221
MASBT eS Sn 12 07 33.6 +1.4
baz=221
MATB Ma-tsu 2.73 302 eP Pn 12 07 00.7 +0.8
baz=299
EAST Anshuo 2.79 214 eP Pn 12 07 01.8 +1.0
baz=209
VWUC VWUC 2.81 276 eP Pn 12 07 02.1 +1.2
baz=274
LAY Lan-yu 2.82 199 eP Pn 12 07 01.7 +0.6
baz=200
SSPT Xinbi 2.86 219 eP Pn 12 07 05.3 +3.6
baz=220
SCZT Fangliau 2.92 217 eP Pn 12 07 04.9 +2.4
baz=229
SCZT eS Sn 12 07 37.9 +1.0
baz=229
PNG Penghu 2.94 248 eP Pn 12 07 03.5 +0.7
baz=247
SLIU Shizi 2.96 213 eP Pn 12 07 03.2 +0.2
baz=210
WDGT Dungji 3.00 241 eP Pn 12 07 04.7 +1.3
baz=241
LYJJ Jianjiangzhen 3.09 307 eP Pn 12 07 05.3 +0.7
baz=304
PTMZ Houxiangcun 3.11 277 eP Pn 12 07 06.0 +1.2
baz=275
TWKBT Hengchun 3.19 210 eP Pn 12 07 06.8 +0.8
baz=211
MHZQ Yeshan 3.44 294 eP Pn 12 07 10.7 +1.2
baz=292
KNM Kinmen 3.74 266 eP Pn 12 07 16.4 +3.1
baz=264
KNMB Chin-men Tao 3.77 267 eP Pn 12 07 14.3 +0.5
baz=265
JOW Kunigami 5.59 67 LR LR 12 09 43.6
comp=Z,260nm,18.2s,baz=258,slow=33
KSRS Korea Array 13.50 19 P P 12 09 30.6 -0.1
0.2nm,0.3s,baz=195,slow=11,SNR=5.9
CMAR Chiang Mai Arr 22.78 259 P P 12 11 13.0 +0.9
0.7nm,0.4s,baz=52,slow=10,SNR=4.6
SONM Songino Array 26.37 335 P P 12 11 45.2 +0.5
0.5nm,0.4s,baz=146,slow=11,SNR=6.4
MKAR Makanchi Array 38.81 315 P P 12 13 30.6 -2.3
0.3nm,0.6s,baz=104,slow=11,SNR=3.6
ZALV Zalesovo Beam 40.47 326 P P 12 13 43.8 -2.6
0.4nm,0.4s,baz=116,slow=9.4,SNR=2.8

FINES FINESS Array B 71.60 330 P P 12 17 25.6 -2.4
4.7nm,1.1s,baz=151,slow=4.4,SNR=3.6
YKA Yellowknife Ar 82.00 23 P P 12 18 25.8 -0.6
0.2nm,0.6s,baz=310,slow=5.0,SNR=3.1

*IDC **10** 12:09:12.3±2.1,6.65S×130.07E,h152km±25km,mb3.2/2, mb1 3.6/7,mb1mx3.3/44,mbtmp4.0/7,Error ellipse: s-maj=33.0km s-min=18.0km az=86.0*
ISC 10 12:09:11.6±0.9,6.82S±0.07×130.0E±0.1,h150km,n7, σ2s83/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.04**	**12**	P	**Pn**	**12 10 37.5**	**-1.4**
	4.0nm,0.3s,baz=257,slow=23,SNR=41						
SIJI				S	Sn	12 11 30.9	-16
	4.3nm,0.3s,baz=192,slow=23,SNR=5.6						
BATI	**Baumata**	**7.15**	**241**	P	**Pn**	**12 10 56.1**	**+2.5**
	8.0nm,0.3s,baz=313,slow=2.2,SNR=5.6						
BATI				S	**Sn**	**12 12 12.2**	**-1.6**
	4.2nm,0.3s,baz=295,slow=9.2,SNR=3.6						
FITZ	**Fitzroy Crossi**	**12.00**	**201**	P	**Pn**	**12 11 59.8**	**+1.9**
	0.9nm,0.3s,baz=29,slow=12,SNR=23						
FITZ				S	**Sn**	**12 14 05.2**	**-5.5**
	0.8nm,0.3s,baz=198,slow=19,SNR=6.1						
WRA	**Warramunga Arr**	**13.69**	**163**	P	**Pn**	**12 12 21.1**	**+1.3**
	0.6nm,0.3s,baz=348,slow=13,SNR=32						
WRA				S	**Sn**	**12 14 48.5**	**-3.0**
	0.8nm,0.3s,baz=327,slow=21,SNR=8.7						
ASAR	**Alice Springs**	**17.16**	**168**	P	**Pn**	**12 13 06.0**	**+3.6**
	0.6nm,0.3s,baz=341,slow=9.2,SNR=70						
ASAR				S	**S**	**12 16 12.7**	**-0.3**
	0.1nm,0.3s,baz=355,slow=29,SNR=2.5						
STKA	**Stephens Creek**	**27.16**	**158**	P	**P**	**12 14 42.8**	**+1.8**
	0.9nm,0.4s,baz=340,slow=7.7,SNR=6.3						
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**12 19 54.7**	**-0.5**
	0.1nm,0.3s,baz=111,slow=7.0,SNR=4.2						
MKAR				pP	**pP**	**12 20 29.7**	**-1.0**
	0.7nm,0.6s,baz=119,slow=9.1,SNR=6.3						

*NEIC **10** 12:10:29.7±1.3,15.08S±0.08×173.06W±0.10,h10km±2km, mb4.3/3,Error ellipse: s-maj=20.5km s-min=5.4km az=309.0*
*IDC **10** 12:10:29.1±1.4,14.94S×173.12W,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.6/49,mbtmp3.9/3,MS3.2/2,Ms1 3.2/2, ms1mx2.8/28,Error ellipse: s-maj=59.4km s-min=23.6km az=142.0*
ISC 10 12:10:30.8±0.8,15.05S±0.1×173.0W±0.1,h29km,n12, σ1s58/12,mb4.1/5,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.57**	**49**	Pn	**Pb**	**12 10 59.2**	**-0.1**
	86nm,0.3s,baz=202,slow=5.5,SNR=153						
AFI				Sn	**Sn**	**12 11 16.3**	**0.0**
	161nm,0.3s,baz=212,slow=7.8,SNR=47						
AFI				LR	LR	12 11 37.9	
	comp=Z,356nm,19.1s,baz=228,slow=42						
NIUE	**Niue**	**5.05**	**145**	Pn	**Pn**	**12 11 44.9**	**+0.2**
MSVF	**Nonsavu**	**9.03**	**251**	Pn	**Pn**	**12 12 38.5**	**-0.8**
PPT	**Papeete**	**22.64**	**100**	LR	LR	12 21 41.1	
	comp=Z,34nm,20.1s,baz=182,slow=30						
URZ	**Urewera**	**24.81**	**199**	P	**P**	**12 15 52.6**	**+2.1**
	3.0nm,0.6s,baz=282,slow=23,SNR=2.5						
URZ				LR	LR	12 24 58.3	
	comp=Z,97nm,18.5s,baz=30,slow=35						
URZ	**Urewera**	**24.81**	**199**	P	**P**	**12 15 52.4**	**+1.9**
URZ				IAmb	IAmb	12 15 56.7	
	comp=Z,3.5nm,0.7s						
LTZ	**Lake Taylor**	**30.49**	**202**	P	**P**	**12 16 41.7**	**+0.3**
LTZ				IAmb	IAmb	12 16 44.0	
	comp=Z,5.0nm,1.0s						
WHZ	**Wether Hill Ro**	**34.76**	**204**	P	**P**	**12 17 15.8**	**-2.8**
WHZ				IAmb	IAmb	12 17 28.5	
	comp=Z,6.7nm,0.9s						
WRA	**Warramunga Arr**	**50.32**	**256**	P	**P**	**12 19 27.1**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=90,slow=6.9,SNR=2.0						
ASAR	**Alice Springs**	**50.62**	**252**	P	**P**	**12 19 28.9**	**+1.3**
	comp=Z,2.3nm,1.0s,baz=83,slow=8.3,SNR=10						
ASAR	**Alice Springs**	**50.62**	**252**	P	**P**	**12 19 28.7**	**+1.1**
BRTR	**Keskin Array B**	**146.04**	**322**	PKPbc	**PKiKP**	**12 30 11.2**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=55,slow=4.7,SNR=3.9						

*INET **10** 12:14:24.0,10.01N×85.54W,h15km,MW3.5*
UCR 10 12:14:22.3±1.2,9.98N×85.64W,h12km±2km,MW4.0,1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRZA	**Playa Garza**	**0.07**	**174**	eP	Pg	12 14 24.9	+0.1
GRZA				eS	Sg	12 14 27.4	+0.8
SAJU	**San Juanillo,**	**0.11**	**321**	eP	Pg	12 14 25.4	+0.2
SAJU				eS	Sg	12 14 28.2	+0.9
DUNO	**Dulce Nombre,**	**0.17**	**57**	eP	Pg	12 14 26.4	+0.2
DUNO				eS	Sg	12 14 30.1	+1.1
INDI	**Punta indio, G**	**0.18**	**130**	eP	Pg	12 14 26.4	+0.1
INDI				eS	Sg	12 14 30.2	+1.0
GUAI	**GUAI**	**0.31**	**25**	iP	Pg	12 14 28.7	0.0
GUAI				*i* S	Sb	12 14 34.1	-0.8
ORTG	**Ortega, Santa**	**0.42**	**26**	eP	Pg	12 14 30.5	-0.1
PLVR	**Palo Verde**	**0.46**	**38**	eP	Pg	12 14 30.3	-1.2
PLVR				eS	Sg	12 14 37.9	+0.2
HZTE	**Horizontes, Gu**	**0.73**	**4**	eP	Pg	12 14 36.2	-0.2
LAFE	**Finca La Fe, P**	**0.74**	**104**	eP	Pg	12 14 35.1	-1.6
GPS2	**Hotel Rincn d**	**0.82**	**21**	eP	Pg	12 14 37.5	-0.6
CUI	**Cuipilapa**	**0.82**	**35**	*i* P	Pg	12 14 37.3	-0.9
GUAB	**Guayabo de Bag**	**0.83**	**29**	*i* P	Pg	12 14 37.6	-0.7
BUEV	**Buena Vista**	**0.84**	**16**	*i* P	Pg	12 14 37.6	-1.0
GB1A	**Borinquen Arri**	**0.86**	**16**	*i* P	Pg	12 14 38.1	-0.9
ACAL	**Aguas Claras**	**0.88**	**43**	*i* P	Pg	12 14 38.7	-0.6
BUAI	**Buenos Aires**	**0.94**	**19**	*i* P	Pg	12 14 39.5	-0.9
PTEN	**Parque Tenorio**	**0.97**	**42**	*i* P	Pg	12 14 40.2	-0.9
CASO	**Castillo**	**1.00**	**63**	*i* P	Pg	12 14 40.2	-1.0
JACO	**JACO, Garabito**	**1.02**	**108**	eP	Pb	12 14 40.2	-1.8
ARE1	**Arenal 1**	**1.03**	**62**	eP	Pb	12 14 41.4	-0.7
CEDE	**Laguna Cedeo**	**1.05**	**62**	*i* P	Pb	12 14 41.8	-0.7
FORC	**Fortuna**	**1.07**	**63**	*i* P	Pb	12 14 42.2	-0.6
COVE	**Coope Vega, Sa**	**1.42**	**59**	eP	Pn	12 14 47.5	-0.6
RIMA	**Rio Macho**	**1.77**	**97**	eP	Pn	12 14 52.5	-0.4
CDM	**Cerro de Muert**	**1.90**	**103**	eP	Pn	12 14 54.3	-0.7
ACON	**Acoyapa**	**2.02**	**13**	eP	Pn	12 14 55.5	-0.9
MRVA	**Moravia de Chi**	**2.17**	**94**	eP	Pn	12 14 58.5	0.0
PIRO	**Carate, Puerto**	**2.77**	**124**	eP	Pn	12 15 06.3	-0.2
LPLA	**Las Palmas La**	**2.77**	**110**	eP	Pn	12 15 05.7	-1.0

*IDC **10** 12:20:24.8±1.4,51.70N×176.31W,h0km,mb3.2/4, mb1 3.7/5,mb1mx3.3/60,mbtmp3.5/5,ML3.4/1,Error ellipse: s-maj=83.2km s-min=26.5km az=143.0*
*NEIC **10** 12:20:32.6±1.1,51.66N±0.06×176.09W±0.05,h50km±6km, Error ellipse: s-maj=8.8km s-min=4.5km az=174.0*
*AEIC **10** 12:20:32.1±1.9,51.77N±0.04×176.11W±0.05,h50km±5km, ML3.6/27,mb4.0/14(NEIC),Error ellipse: s-maj=6.5km s-min=4.0km az=188.0*
ISC 10 12:20:31.9±0.8,51.60N±0.10×176.09W±0.04,h47km,n60, σ0s96/54,mb3.5/4,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETKA	**Kagalaska Isla**	**0.33**	**324**		**Pn**	**12 20 41.1**	**+0.1**
GSCK	**Great Sitkin C**	**0.42**	**354**		**Pn**	**12 20 41.2**	**-0.8**
GSMY	**Great Sitkin M**	**0.45**	**3**		**Pn**	**12 20 42.8**	**+0.5**
GSTD	**Great Sitkin T**	**0.46**	**356**		**Pn**	**12 20 43.0**	**+0.5**
ADK	**Adak**	**0.47**	**308**		**Pn**	**12 20 42.0**	**-0.6**
ADK					**Sn**	**12 20 50.4**	**+0.3**
ADAG	**Mount Adagdak**	**0.50**	**321**		**Pn**	**12 20 43.5**	**+0.6**
GSTR	**Great Sitkin T**	**0.50**	**2**		**Pn**	**12 20 43.3**	**+0.4**
KIKV	**Kanaga Island**	**0.73**	**293**		**Pn**	**12 20 46.0**	**+0.2**
KIMD	**Kanaga Island**	**0.73**	**283**		**Pn**	**12 20 45.9**	**0.0**
KIMD					**Sn**	**12 20 56.1**	**0.0**
KICM	**Kanaga Island**	**0.76**	**296**		**Pn**	**12 20 46.5**	**+0.3**
TAFP	**Tanaga Falls P**	**1.21**	**285**		**Pn**	**12 20 52.8**	**+0.4**
TAFP					**Sn**	**12 21 08.3**	**+0.6**
TASE	**Tanaga Southea**	**1.23**	**282**		**Pn**	**12 20 53.4**	**+0.7**
ATKA	**Atka Island**	**1.32**	**62**		**Pn**	**12 20 53.9**	**+0.1**
ATKA	**Atka Island**	**1.32**	**62**		**Sn**	**12 21 10.4**	**0.0**
KOWE	**Korovin West**	**1.37**	**55**		**Pn**	**12 20 55.8**	**+1.2**
KOKL	**Mount Kliuchef**	**1.38**	**57**		**Pn**	**12 20 55.8**	**+1.0**
KOFP	**Korovin Flat P**	**1.41**	**60**		**Pn**	**12 20 56.2**	**+1.0**

GALAA	**Gareloi Lava P**	**1.68**	**277**		**Pn**	**12 20 59.9**	**+1.2**
CERAA	**Semis' Rag'd T**	**2.64**	**278**		**Pn**	**12 21 13.3**	**+1.3**
CESW	**Semis' Southwe**	**2.72**	**278**		**Pn**	**12 21 13.6**	**+0.6**
AMKA	**Amchitka**	**2.89**	**267**		**Pn**	**12 21 15.8**	**+0.5**
LSPA	**Little Sitkin**	**3.33**	**278**		**Pn**	**12 21 22.4**	**+0.9**
LSNW	**Little Sitkin**	**3.37**	**278**		**Pn**	**12 21 22.6**	**+0.6**
SPIA	**Saint Paul Isl**	**6.55**	**29**		**Pn**	**12 22 05.7**	**+0.2**
OHAK	**Old Harbor**	**14.39**	**58**	Pn	**Pn**	**12 23 51.5**	**-0.9**
KDAK	**Kodiak Island**	**14.89**	**56**	Pn	**Pn**	**12 23 56.5**	**-2.6**
	0.2nm,0.3s,baz=227,slow=5.9,SNR=2.0						
KDAK				Sn	**Sn**	**12 26 45.5**	**+2.9**
	0.1nm,0.3s,baz=318,slow=16,SNR=1.6						
KDAK	**Kodiak Island**	**14.89**	**56**		**Pn**	**12 23 59.0**	**-0.1**
BRLK	**Bradley Lake**	**16.31**	**50**		**P**	**12 24 19.2**	**-0.5**
PPLA	**Purkeypile**	**17.06**	**39**		**P**	**12 24 27.1**	**-1.0**
PPLA				IAmb	IAmb	12 24 38.3	
	comp=Z,28nm,1.6s						
O22K	**Cooper Landing**	**17.10**	**48**		**Pn**	**12 24 26.9**	**-0.2**
KTH	**Kantishna Hill**	**17.89**	**38**		**P**	**12 24 37.6**	**+0.5**
KTH				IAmb	IAmb	12 24 59.6	
	comp=Z,24nm,1.8s						
TRF	**Thorofare Moun**	**18.08**	**39**	P	**P**	**12 24 41.9**	**+2.5**
BPAW	**Bear Paw Mtn.**	**18.14**	**37**	P	**Pn**	**12 24 40.7**	**+0.6**
BPAW				IAmb	IAmb	12 24 56.3	
	comp=Z,22nm,2.0s						
IMAR	**Indian Mountai**	**18.32**	**30**	P	**Pn**	**12 24 43.1**	**+0.9**
KLU	**Klutina**	**19.18**	**47**	P	**Pn**	**12 24 51.7**	**-0.9**
KLU				IAmb	IAmb	12 25 40.9	
	comp=Z,18nm,1.4s						
I23K	**Minto, Yukon-K**	**19.30**	**35**	P	**P**	**12 24 52.0**	**-0.4**
I23K				IAmb	IAmb	12 25 30.0	
	comp=Z,20nm,1.9s						
WRH	**Wood River Hil**	**19.43**	**38**	P	**P**	**12 24 53.2**	**-0.7**
WRH				IAmb	IAmb	12 24 54.4	
	comp=Z,11nm,1.6s						
MDM	**Murphy Dome**	**19.61**	**36**	P	**Pn**	**12 24 56.6**	**-1.1**
IL31		**20.02**	**38**	P	**P**	**12 25 00.4**	**0.0**
IL31				IAmb	IAmb	12 25 14.6	
	comp=Z,18nm,1.9s						
ILAR	**Eielson Array**	**20.02**	**38**	P	**P**	**12 25 00.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=224,slow=10,SNR=12						
ILAR	**Eielson Array**	**20.02**	**38**	P	**P**	**12 25 00.4**	**0.0**
PRP	**Porcupine Dome**	**20.88**	**36**	P	Pn	12 25 11.7	-1.1
K27K	**Chicken**	**21.66**	**42**	P	**P**	**12 25 19.8**	**+1.8**
DAWY	**Dawson**	**22.79**	**43**	P	**P**	**12 25 29.4**	**-0.8**
DAWY				IAmb	IAmb	12 25 30.4	
	comp=Z,9.7nm,1.7s						
YKA	**Yellowknife Ar**	**33.85**	**47**	P	**P**	**12 27 08.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=282,slow=7.7,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**34.49**	**209**	T	T	13 03 52.9	
	baz=18,slow=76,SNR=114						
H11N3	**WAKE ISLAND Hy**	**34.50**	**209**	T	T	13 03 53.2	
	baz=18,slow=76,SNR=54						
H11N1	**WAKE ISLAND Hy**	**34.51**	**209**	T	T	13 03 53.5	
	baz=18,slow=76,SNR=179						
H11S1	**WAKE ISLAND Hy**	**35.71**	**209**	T	T	13 05 23.7	
	baz=18,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**35.72**	**209**	T	T	13 05 25.2	
	baz=18,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**35.72**	**209**	T	T	13 05 24.9	
	baz=18,slow=76,SNR=22						
PDAR	**Pinedale Array**	**44.63**	**74**	P	**P**	**12 28 40.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=316,slow=6.3,SNR=3.6						
PDAR	**Pinedale Array**	**44.63**	**74**	P	**P**	**12 28 38.9**	**-0.8**
ASAR	**Alice Springs**	**86.81**	**225**	P	**P**	**12 33 11.1**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=25,slow=5.3,SNR=5.4						
ASAR	**Alice Springs**	**86.81**	**225**	P	**P**	**12 33 11.4**	**+0.4**
H03N2	**Juan Fernandez**	**119.59**	**107**	T	T	14 50 30.8	
	baz=317,slow=77,SNR=8.9						
H03N1	**Juan Fernandez**	**119.60**	**107**	T	T	14 50 36.1	
	baz=317,slow=77,SNR=17						
H03N3	**Juan Fernandez**	**119.60**	**107**	T	T	14 50 30.5	
	baz=317,slow=77,SNR=16						
BOSA	**Boshof**	**152.03**	**317**	PKPbc	**PKPbc**	**12 40 20.6**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=40,slow=2.0,SNR=1.4						
BOSA	**Boshof**	**152.03**	**317**		**PKPbc**	**12 40 21.4**	**-0.3**

IDC 10 12:22:36.1±28.0,37.69N×26.92E,h0km,mb3.6/2, mb1 3.6/3,mb1mx3.3/42,mbtmp3.5/3,ML3.8/1,Error ellipse: s-maj=593.1km s-min=36.9km az=23.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GERES	**GERESS Array B**	**14.71**	**323**	Pn	Pn	12 26 06.7	+1.3
	0.2nm,0.3s,baz=134,slow=11,SNR=2.4						
MKAR	**Makanchi Array**	**41.23**	**59**	P	P	12 30 22.4	-0.3
	0.3nm,0.5s,baz=276,slow=6.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**42.25**	**48**	P	P	12 30 31.0	+0.1
	0.6nm,0.5s,baz=284,slow=7.3,SNR=2.3						

IDC 10 13:01:45.1±1.2,13.19N×145.38E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.4/47,mbtmp3.4/5,Error ellipse: s-maj=64.7km s-min=23.8km az=104.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.67**	**198**	P	P	13 08 36.7	0.0
	0.4nm,0.5s,baz=21,slow=9.2,SNR=7.0						
ASAR	**Alice Springs**	**38.31**	**197**	P	P	13 09 07.6	-0.2
	0.4nm,0.7s,baz=22,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**62.12**	**316**	P	P	13 12 08.2	0.0
	0.2nm,0.7s,baz=95,slow=6.4,SNR=2.4						
ILAR	**Eielson Array**	**68.71**	**25**	P	P	13 12 50.6	+0.1
	0.4nm,0.8s,baz=257,slow=6.9,SNR=2.1						
YKA	**Yellowknife Ar**	**82.98**	**27**	P	P	13 14 11.8	-0.2
	0.2nm,0.6s,baz=289,slow=4.3,SNR=2.8						

*JMA **10** 13:19:08.8±0.1,37.72N×141.88E,h26km±1km,M4.0*
*IDC **10** 13:19:12.6±2.9,37.73N×141.90E,h40km±27km,mb3.3/9, mb1 3.6/12,mb1mx3.4/42,mbtmp3.6/12,ML3.1/3,Error ellipse: s-maj=26.9km s-min=16.7km az=100.0*
ISC 10 13:19:06.5±1.7,37.74N±0.04×141.95E±0.06,h1km±10km, n32,σ1s20/42,mb3.5/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.69**	**326**	P	**Pb**	**13 19 21.7**	**+0.3**
JIKH				S	**Sb**	**13 19 30.9**	**-0.6**
JMST	**Minamisoumatoc**	**0.84**	**270**	P	**Pg**	**13 19 23.3**	**+0.6**
JMST				S	**Sg**	**13 19 33.5**	**-0.2**
JIO	**Ouri**	**0.86**	**327**	P	**Pb**	**13 19 24.4**	**+0.1**
JIO				S	**Sb**	**13 19 35.3**	**-1.1**
JMM	**Marumori**	**0.93**	**278**	P	**Pg**	**13 19 24.8**	**+0.5**
JMM				S	**Sg**	**13 19 35.7**	**-0.7**
JFK	**Kawauchi**	**0.93**	**247**	P	**Pg**	**13 19 24.8**	**+0.4**
JFK				S	**Sg**	**13 19 36.4**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.11**	**236**	P	**Pg**	**13 19 27.7**	**-0.2**
ONAJ				S	**Sg**	**13 19 41.5**	**-0.9**
JKMT	**Kesennumamotoy**	**1.14**	**341**	P	**Pb**	**13 19 28.9**	**-0.1**
JKMT				S	**Sg**	**13 19 43.0**	**-0.1**
JOU	**Okura**	**1.20**	**302**	P	**Pb**	**13 19 30.0**	**0.0**
JOU				eS	**Sb**	**13 19 45.1**	**-0.9**
JFT	**Otama**	**1.30**	**261**	P	**Pg**	**13 19 31.1**	**-0.4**
JFT				eS	**Sg**	**13 19 47.4**	**-0.9**
JMK	**Ichinoseki**	**1.34**	**335**	P	**Pg**	**13 19 32.1**	**-0.2**
JMK				S	**Sg**	**13 19 48.9**	**-0.9**
JYS	**Shirataka**	**1.57**	**289**	P	**Pn**	**13 19 35.5**	**0.0**
JYS				S	**Sn**	**13 19 55.3**	**-1.2**
JYK	**Kaneyama**	**1.72**	**314**	P	**Pn**	**13 19 37.4**	**-0.3**
JFY	**Yanaizu**	**1.82**	**260**	P	**Pn**	**13 19 39.2**	**+0.2**
JFY				eS	**Sn**	**13 20 01.3**	**-1.3**
MJAR	**Matsushiro Arr**	**3.22**	**249**	P	**Pn**	**13 19 59.4**	**+1.1**
	0.6nm,0.3s,baz=83,slow=16,SNR=32						
MJAR				S	**Sn**	**13 20 37.9**	**+0.6**
	0.5nm,0.3s,baz=83,slow=18,SNR=5.4						
MAT	**Matsushiro**	**3.22**	**249**	P	**Pn**	**13 19 59.1**	**+0.8**
MAT				eS	**Sn**	**13 20 37.1**	**-0.2**
JHJ	**Hachijo jima 2**	**4.93**	**202**	P	**Pn**	**13 20 24.9**	**+3.1**
	16nm,0.3s,baz=90,slow=20,SNR=2.0						
JHJ				S	**Sn**	**13 21 14.3**	**-5.2**
	11nm,0.3s,baz=73,slow=19,SNR=2.0						
ASAJ	**Asahikawa**	**6.39**	**4**	P	**Pn**	**13 20 43.4**	**+1.6**
	0.3nm,0.3s,baz=211,slow=15,SNR=2.2						
ASAJ				S	**Sn**	**13 21 54.9

H11N2 **WAKE ISLAND Hy 28.15 123** T T 13 54 29.3
baz=315,slow=75,SNR=178
H11N1 **WAKE ISLAND Hy 28.16 123** T T 13 54 29.1
baz=315,slow=75,SNR=142
H11N3 **WAKE ISLAND Hy 28.17 123** T T 13 54 26.6
baz=315,slow=75,SNR=144
H11S1 **WAKE ISLAND Hy 28.89 125** T T 13 55 22.9
baz=317,slow=76,SNR=105
H11S3 **WAKE ISLAND Hy 28.89 125** T T 13 55 23.0
baz=317,slow=76,SNR=74
H11S2 **WAKE ISLAND Hy 28.91 125** T T 13 55 24.1
baz=317,slow=76,SNR=78
ZALV **Zalesovo Beam 41.76 312** P **P** **13 26 56.5 -0.7**
0.3nm,0.3s,baz=79,slow=7.6,SNR=3.8
MKAR **Makanchi Array 44.11 302** P **P** **13 27 16.7 +0.3**
0.7nm,0.9s,baz=88,slow=10,SNR=5.0
ILAR **Eielson Array 48.67 33** P **P** **13 27 52.8 +0.9**
0.5nm,0.9s,baz=262,slow=6.3,SNR=3.3
WRA **Warramunga Arr 57.81 188** P **P** **13 28 59.2 -0.4**
0.4nm,0.5s,baz=5.4,slow=7.1,SNR=9.5
ASAR **Alice Springs 61.54 188** P **P** **13 29 25.4 +0.1**
0.3nm,0.7s,baz=5.5,slow=5.1,SNR=8.5
PDAR **Pinedale Array 76.87 46** P **P** **13 31 01.2 +0.6**
0.2nm,0.6s,baz=322,slow=2.6,SNR=1.6
TXAR **Lajitas Array 89.35 53** P **P** **13 32 05.4 +0.3**
0.2nm,0.6s,baz=304,slow=5.0,SNR=2.4

*RSNC **10** 13:45:26.6±1.1,6°.81N×73°.16W,h151km±5km,ML3.2, Mw3.5*
*IDC **10** 13:45:26.6±4.7,6°.67N×73°.13W,h170km±32km,mb2.8/2, mb1 3.2/3,mb1mx2.9/32,mbtmp3.3/3,MS3.2/1,Ms1 3.2/1, ms1mx2.4/8, Error ellipse: s-maj=86.3km s-min=34.4km az=86.0*
ISC 10 13:45:25.6±0.9,6°.82N±0°.04×73°.16W±0°.06,h155km±6km, n18,σ0°.72/30,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**186**	*i*P		**Pn**		**13 45 46.9**	**0.0**
BARC				*e*S		**Sn**		**13 46 02.4**	**-0.8**
BARC				*i*				13 46 03.7	
	comp=Z,418nm,0.2s								
BRRC	**Barranca, Sant**	**0.62**	**297**	*e*P		**Pn**		**13 45 48.9**	**+0.7**
BRRC				*e*S		**Sn**		**13 46 06.2**	**+0.7**
BRRC				*i*				13 46 06.9	
	comp=Z,253nm,0.1s								
BRRC				*i*				13 46 09.1	
	comp=Z,263nm,0.4s								
PAMC	**Pamplona, Colo**	**0.69**	**41**	*i* P		**Pn**		**13 45 49.8**	**+0.6**
PAMC				*e*S		**Sn**		**13 46 07.0**	**-0.2**
PAMC				*i*				13 46 08.7	
	comp=Z,369nm,0.6s								
PAMC				*i*				13 46 09.1	
	comp=Z,396nm,0.5s								
RUSC	**La Rusia**	**0.92**	**175**	*e*P		**Pn**		**13 45 50.8**	**0.0**
RUSC				*e*S		**Sn**		**13 46 09.8**	**-0.4**
RUSC				*i*				13 46 10.7	
	comp=Z,222nm,0.3s								
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*e*P		**Pn**		**13 45 53.5**	**-0.3**
PTBC				*e*S		**Sn**		**13 46 14.6**	**-0.8**
PTBC				*i*				13 46 16.6	
	comp=Z,131nm,0.4s								
PTBC				*i*				13 46 16.6	
	comp=Z,172nm,0.4s								
TAMC	**Tame, Arauca**	**1.41**	**106**	*i* P		**Pn**		**13 45 55.2**	**+0.5**
TAMC				*e*S		**Sn**		**13 46 16.7**	**-0.3**
OCAC	**Ocana**	**1.42**	**353**	*e*P		**Pn**		**13 45 55.3**	**+0.4**
OCAC				*e*S		**Sn**		**13 46 16.9**	**-0.5**
OCAC				*i*				13 46 21.7	
	comp=Z,216nm,0.5s								
SPBC	**San Pablo de B**	**1.48**	**218**	*e*P		**Pn**		**13 45 55.8**	**+0.4**
SPBC				*e*S		**Sn**		**13 46 17.7**	**-0.7**
SPBC				*i*				13 46 20.6	
	comp=Z,412nm,0.2s								
NORC	**Norcasia**	**2.11**	**234**	*e*P		**Pn**		**13 46 02.8**	**+0.4**
NORC				*e*S		**Sn**		**13 46 30.8**	**0.0**
NORC				*i*				13 46 34.4	
	comp=Z,109nm,0.2s								
NORC				*i*				13 46 34.4	
	comp=Z,115nm,0.2s								
SMLC	**San Martn de**	**2.17**	**335**	*e*P		**Pn**		**13 46 03.3**	**+0.3**
SMLC				*e*S		**Sn**		**13 46 31.2**	**-0.7**
SMLC				*i*				13 46 39.8	
	comp=Z,152nm,0.1s								
CHIC	**Chingaza**	**2.25**	**195**	*e*P		**Pn**		**13 46 04.9**	**+0.4**
CHIC				*e*S		**Sn**		**13 46 34.1**	**-0.2**
CHIC				*i*				13 46 43.9	
	comp=Z,80nm,0.4s								
CHIC				*i*				13 46 44.1	
	comp=Z,69nm,0.6s								
ROSC	**El Rosal**	**2.28**	**211**	P		**Pn**		**13 46 06.5**	**+1.7**
	comp=Z,35nm,0.3s,baz=310,slow=16,SNR=28								
ROSC				S		**Sn**		**13 46 35.3**	**+0.4**
	comp=Z,25nm,0.3s,baz=310,slow=15,SNR=10								
PRAC	**Prado**	**3.53**	**209**	*e*P		**Pn**		**13 46 20.1**	**+0.1**
PRAC				*e*S		**Sn**		**13 47 01.4**	**-0.9**
PRAC				*i*				13 47 08.8	
	comp=Z,49nm,0.3s								
SIV	**San Ignacio**	**25.63**	**152**	LR		LR		14 00 11.5	
	comp=Z,55nm,20.1s,baz=95,slow=35								
TXAR	**Lajitas Array**	**36.44**	**312**	P		**P**		**13 52 16.8**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=121,slow=11,SNR=2.1								
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**		**13 55 37.1**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=126,slow=7.4,SNR=5.8								
ASAR	**Alice Springs**	**149.08**	**234**	PKPbc		**PKPbc**		**14 04 55.0**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=127,slow=2.9,SNR=1.7								
WRA	**Warramunga Arr**	**150.31**	**241**	PKPbc		**PKPbc**		**14 04 58.4**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=108,slow=3.0,SNR=1.5								

*NOU **10** 13:49:30.9,35°.30S×179°.61E,h0km,MLv4.1,Off E. Coast of N. Island, N.Z.*
WEL 10 13:49:44.9±0.9,36°.5S±6°×179°.9E±1°.0,h33km,M3.9/42, ML4.1/42,MLv3.9/42,Error ellipse: s-maj=0.0km s-min=0.0km az=99.2,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.90**	**200**	P		P	Pn	13 50 12.2	-2.8
MXZ				S		Sn		13 50 33.4	-4.3
WMGZ	**Waiomatatini S**	**2.12**	**196**	P		P	Pn	13 50 18.5	+0.5
HAZ	**Te Kaha**	**2.25**	**209**	P		P	Pn	13 50 16.5	-3.3
HAZ				S		Sn		13 50 42.6	-3.9
PKGZ	**Pakihiroa**	**2.27**	**202**	P		P	Pn	13 50 19.0	-1.1
PKGZ				S		Sn		13 50 49.5	+2.5
PUZ	**Puketiti**	**2.40**	**197**	P		P	Pn	13 50 22.8	+1.1
PUZ				S		Sn		13 50 51.7	+1.7
RUGZ	**Raukumara Rang**	**2.48**	**208**	P		P	Pn	13 50 21.0	-2.0
RUGZ				S		Sn		13 50 47.9	-4.3
TWGZ	**Tauwhareparae**	**2.57**	**201**	P		P	Pn	13 50 26.2	+2.0
TWGZ				S		Sb		13 50 58.6	-2.8
CNGZ	**Carnagh Statio**	**2.80**	**195**	P		P	Pn	13 50 29.6	+2.3
CNGZ				S		Sb		13 51 05.1	-2.9
TKGZ	**Te Karaka**	**2.85**	**201**	P		P	Pn	13 50 29.3	+1.3
TKGZ				S		Sn		13 51 04.1	+2.9
MWZ	**Matawai**	**2.86**	**206**	P		P	Pn	13 50 26.5	-1.7
MWZ				S		Sn		13 51 03.0	+1.5
OPRZ	**Ohinepanea**	**2.93**	**224**	P		P	Pn	13 50 30.9	+1.9
OPRZ				S		Sn		13 51 04.6	+1.6
MARZ	**Manawahe**	**2.96**	**221**	P		P	Pn	13 50 28.3	-1.3
URZ	**Urewera**	**2.96**	**213**	P		P	Pn	13 50 26.9	-2.6
URZ				S		Sn		13 50 57.1	-6.9
TGRZ	**Tauranga**	**3.02**	**229**	P		P	Pn	13 50 33.0	+2.6
RAGZ	**Rawiri**	**3.04**	**206**	P		P	Pn	13 50 29.6	-1.1
RIGZ	**Rimuhau**	**3.12**	**200**	P		P	Pn	13 50 32.7	+0.9
MKRZ	**Makatiti**	**3.18**	**222**	P		P	Pn	13 50 35.7	+3.0
OMRZ	**Omania**	**3.21**	**223**	P		P	Pn	13 50 36.5	+3.5
KARZ	**Kaharoa**	**3.23**	**225**	P		P	Pn	13 50 34.7	+1.5
MUGZ	**Murupara**	**3.29**	**214**	P		P	Pn	13 50 32.9	-1.2
PRGZ	**Paritu Road**	**3.29**	**197**	P		P	Pn	13 50 35.8	+1.6
RTZ	**Ruatahuna**	**3.31**	**211**	P		P	Pn	13 50 32.6	-1.8
SNGZ	**Shannon Statio**	**3.32**	**205**	P		P	Pn	13 50 35.4	+0.8
PRRZ	**Plateau Road**	**3.49**	**218**	P		P	Pn	13 50 35.9	-0.9
RAHZ	**Arahi**	**3.53**	**207**	P		P	Pn	13 50 38.0	+0.5
MTHZ	**Maungataniwha**	**3.57**	**210**	P		P	Pn	13 50 36.7	-1.3
WHHZ	**Waihua**	**3.62**	**204**	P		P	Pn	13 50 39.8	+1.2
MRHZ	**Matea Rd**	**3.74**	**215**	P		P	Pn	13 50 39.4	-0.9
NMHZ	**Naumai**	**3.80**	**209**	P		P	Pn	13 50 41.7	+0.5
ARHZ	**Aropaoanui**	**3.87**	**206**	P		P	Pn	13 50 42.6	+0.6
HATZ	**Hinemaiaia**	**3.94**	**217**	P		P	Pn	13 50 42.7	-0.4
BKZ	**Black Stump Fm**	**3.98**	**211**	P		P	Pn	13 50 43.6	-0.1
RATZ	**Rangitukua**	**4.09**	**220**	P		P	Pn	13 50 46.6	+1.5
RITZ	**Rihia Road**	**4.13**	**218**	P		P	Pn	13 50 47.0	+1.4
MCHZ	**McNeill Hill**	**4.14**	**207**	P		P	Pn	13 50 45.5	-0.3
KWHZ	**Kaweka Forest**	**4.23**	**210**	P		P	Pn	13 50 46.5	-0.6
TMVZ	**Te Maari**	**4.31**	**218**	P		P	Pn	13 50 48.5	+0.3
ETVZ	**East Tongariro**	**4.32**	**218**	P		P	Pn	13 50 47.9	-0.4
KRVZ	**Karewarewa**	**4.33**	**219**	P		P	Pn	13 50 48.9	+0.5
OTVZ	**Oturere**	**4.37**	**218**	P		P	Pn	13 50 47.7	-1.3
WTVZ	**West Tongariro**	**4.37**	**219**	P		P	Pn	13 50 49.3	+0.3
KAHZ	**Kahuranaki**	**4.39**	**203**	P		P	Pn	13 50 48.6	-0.6
NGZ	**Ngauruhoe**	**4.41**	**219**	P		P	Pn	13 50 49.6	+0.1
BHHZ	**Black Hill Sta**	**4.44**	**213**	P		P	Pn	13 50 49.4	-0.5
KRHZ	**Kereru**	**4.44**	**209**	P		P	Pn	13 50 48.5	-1.3
MOVZ	**Moawhango**	**4.51**	**216**	P		P	Pn	13 50 49.5	-1.4
WNVZ	**Wahianoa**	**4.52**	**217**	P		P	Pn	13 50 50.6	-0.6
PXZ	**Patanui**	**4.61**	**202**	P		P	Pn	13 50 50.7	-1.5
PKVZ	**Pokaka**	**4.62**	**220**	P		P	Pn	13 50 52.6	+0.2
MTVZ	**Mangateitei**	**4.63**	**218**	P		P	Pn	13 50 55.2	+2.6
VRZ	**Vera Road**	**4.83**	**225**	P		P	Pn	13 50 56.6	+1.4
TSZ	**Takapari Road**	**4.96**	**210**	P		P	Pn	13 50 54.7	-2.3
WAZ	**Wanganui**	**5.16**	**218**	P		P	Pn	13 51 00.3	+0.6
NEZ	**North Egmont**	**5.31**	**228**	P		P	Pn	13 51 08.1	+6.2
MRZ	**Mangatainoka R**	**5.62**	**209**	P		P	Pn	13 51 03.7	-2.4
KHZ	**Kahutara**	**7.93**	**212**	P		P	Pn	13 51 35.7	-2.0

*NEIC **10** 13:53:35.0±2.1,18°.55S±0°.05×70°.76W±0°.1,h56km±5km, mb4.0/3,ML3.8(GUC),Error ellipse: s-maj=15.3km s-min=6.4km az=109.0*
*GUC **10** 13:53:37.2±0.8,18°.56S×70°.49W,h47km±4km,ML3.8*
*IDC **10** 13:53:41.7±2.9,18°.75S×70°.01W,h111km±25km,mb3.5/3, mb1 3.5/6,mb1mx3.3/37,mbtmp3.8/6,MS3.0/1,Ms1 3.0/1, ms1mx2.4/20,Error ellipse: s-maj=48.4km s-min=16.2km az=98.0*
ISC 10 13:53:34.2±1.1,18°.54S±0°.05×70°.70W±0°.10,h52km±9km, n58,σ1°37/58,8C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.38**	**64**	↑*i*P		**Pn**		**13 53 45.0**	**+0.7**
AP01				*i* S		**Sn**		**13 53 51.4**	**0.0**
AP01				IAML				13 53 52.8	
	comp=N,24μm,0.3s								
AP01	**Chacalluta**	**0.38**	**64**			**Pn**		**13 53 45.0**	**+0.7**
AP01					Sn	**Sn**		**13 53 51.5**	**0.0**
PB16	**IPOC Station P**	**1.15**	**80**	↓*i*P		**Pn**		**13 53 54.9**	**+0.5**
PB16				*i* S		**Sn**		**13 54 08.6**	**-0.8**
PB16				IAML				13 54 10.0	
	comp=E,2μm,0.2s								
PB16	**IPOC Station P**	**1.15**	**80**			**Pn**		**13 53 54.8**	**+0.3**
PB16					Sn	**Sn**		**13 54 07.5**	**-1.9**
PSGC	**Pisagua**	**1.18**	**153**	↑*i*P		**Pn**		**13 53 55.2**	**+0.7**
PSGC				*i* S		**Sn**		**13 54 09.5**	**-0.2**
PSGCX	**Pisagua**	**1.18**	**153**			**Pn**		**13 53 55.2**	**+0.6**
PSGCX					Sn	**Sn**		**13 54 08.5**	**-1.2**
MNMC	**Minye Minye**	**1.20**	**120**	↓*i*P		**Pn**		**13 53 55.7**	**+0.8**
MNMC				*i* S		**Sn**		**13 54 09.4**	**-0.9**
MNMC	**Minye Minye**	**1.20**	**120**			**Pn**		**13 53 55.3**	**+0.4**
HMBC	**Humberstone**	**1.89**	**156**	↑*i*P		**Pn**		**13 54 05.5**	**+1.4**
HMBC				*i* S		**Sn**		**13 54 28.0**	**+1.0**
HMBC				IAML				13 54 35.1	
	comp=E,1μm,0.5s								
TA01	**Diego Aracena**	**2.07**	**167**	*e*P		**Pn**		**13 54 08.1**	**+1.6**
TA01				*i* S		**Sn**		**13 54 32.2**	**+1.0**
TA01				IAML				13 54 44.6	
	comp=N,538nm,0.5s								
TA01	**Diego Aracena**	**2.07**	**167**			**Pn**		**13 54 08.0**	**+1.4**
PB08	**IPOC Station P**	**2.16**	**138**	↑*i*P		**Pn**		**13 54 09.8**	**+1.7**
PB08				*i* S		**Sn**		**13 54 34.5**	**+0.6**
PB08				IAML				13 54 39.9	
	comp=E,1μm,0.2s								
PB08	**IPOC Station P**	**2.16**	**138**			**Pn**		**13 54 09.8**	**+1.7**
PB01	**IPOC Station P**	**2.74**	**156**	↑*i*P		**Pn**		**13 54 17.0**	**+1.3**
PB01				*i* S		**Sn**		**13 54 47.9**	**+0.2**
PB01				IAML				13 55 06.0	
	comp=N,453nm,0.1s								
PB01	**IPOC Station P**	**2.74**	**156**			**Pn**		**13 54 16.2**	**+0.5**
PB07	**IPOC Station P**	**3.26**	**167**	↑*i*P		**Pn**		**13 54 24.7**	**+1.7**
PB07	**IPOC Station P**	**3.26**	**167**			**Pn**		**13 54 24.5**	**+1.5**
LPAZ	**La Paz**	**3.32**	**48**	P		Pn		13 54 29.7	+5.5
	comp=N,1.6nm,0.3s,baz=233,slow=11,SNR=19								
LPAZ	**La Paz**	**3.32**	**48**			**Pn**		**13 54 28.3**	**+4.1**
PB09	**IPOC Station P**	**3.52**	**157**	*e*P		**Pn**		**13 54 28.4**	**+1.9**
PB09	**IPOC Station P**	**3.52**	**157**			**Pn**		**13 54 28.5**	**+2.0**
PB03	**IPOC Station P**	**3.60**	**166**	↑*i*P		**Pn**		**13 54 29.1**	**+1.4**
PB03				*i* S		**Sn**		**13 55 08.8**	**-0.3**
PB03				IAML				13 55 28.6	
	comp=E,268nm,0.3s								
PB04	**IPOC Station P**	**3.81**	**172**	*e*P		**Pn**		**13 54 31.4**	**+0.9**
PB04	**IPOC Station P**	**3.81**	**172**			**Pn**		**13 54 30.7**	**+0.2**
PB06	**IPOC Station P**	**4.28**	**166**			**Pn**		**13 54 37.7**	**+0.8**
PB05	**IPOC Station P**	**4.32**	**174**	↑*i*P		**Pn**		**13 54 37.9**	**+0.5**
LVC	**Limon Verde**	**4.38**	**158**	P		**Pn**		**13 54 40.4**	**+1.9**
	comp=E,2.7nm,0.3s,baz=349,slow=13,SNR=69								
LVC				S		**Sn**		**13 55 27.6**	**-0.8**
	comp=E,5.8nm,0.3s,baz=312,slow=16,SNR=1.7								
LVC	**Limon Verde**	**4.38**	**158**			**Pn**		**13 54 40.2**	**+1.6**
PB15	**IPOC Station P**	**4.78**	**166**			**Pn**		**13 54 44.1**	**+0.2**
PB10	**IPOC Station P**	**4.95**	**178**	Pn		**Pn**		**13 54 45.2**	**-0.8**
PB14	**IPOC Station P**	**6.06**	**177**			**Pn**		**13 55 01.0**	**-0.6**
GO02	**Mina Guanaco**	**6.67**	**171**			**Pn**		**13 55 10.1**	**+0.2**
AC01	**Pan de Azucar**	**7.57**	**179**	Pn		**Pn**		**13 55 20.6**	**-1.4**
AC02	**Maricunga**	**8.38**	**170**	Pn		**Pn**		**13 55 34.0**	**+0.5**
GO03	**Copiap**	**9.02**	**177**	Pn		**Pn**		**13 55 41.3**	**-0.6**
SIV	**San Ignacio**	**9.54**	**76**	P		**Pn**		**13 55 49.1**	**+0.1**
	comp=E,1.8nm,0.3s,baz=272,slow=12,SNR=18								
AC05	**El Transito**	**10.26**	**178**	Pn		**Pn**		**13 55 56.4**	**-2.4**
LCO	**Las Campanas**	**10.42**	**180**	Pn		**Pn**		**13 55 59.2**	**-2.1**
CO01	**Juntas del Tor**	**11.40**	**177**	Pn		Pn		13 56 10.9	-3.7
GO04	**Tololo Observa**	**11.58**	**180**	Pn		**Pn**		**13 56 14.3**	**-2.7**
SAML	**Samuel**	**12.00**	**38**	Pn		**Pn**		**13 56 22.1**	**-0.6**
BO02	**Sierra Bellavi**	**16.19**	**180**	P		**P**		**13 57 20.4**	**-0.2**
BO02				IAmb		IAmb		13 57 33.9	
	comp=Z,11nm,1.1s								
H03N1	**Juan Fernandez**	**16.56**	**205**	T		T		14 14 21.8	
	baz=29,slow=73								
H03N2	**Juan Fernandez**	**16.57**	**205**	T		T		14 14 20.7	
	baz=29,slow=73								
H03N3	**Juan Fernandez**	**16.58**	**205**	T		T		14 14 20.7	
	baz=29,slow=73								
PTGA	**Pitinga**	**20.60**	**32**	P		**P**		**13 58 08.7**	**-0.3**
	comp=Z,2.3nm,0.3s,baz=180,slow=20,SNR=7.7								
PTGA	**Pitinga**	**20.60**	**32**	P		**P**		**13 58 08.6**	**-0.4**
PTGA				IAmb		IAmb		13 58 09.6	
	comp=Z,12nm,1.3s								
SDV	**Santo Domingo**	**27.25**	**0**	LR		LR		14 10 46.7	
	comp=Z,29nm,20.4s,baz=238,slow=37								
TORD	**Torodi Ar. Bea**	**77.99**	**72**	P		**P**		**14 05 25.6**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=247,slow=6.2,SNR=1.8								
TORD	**Torodi Ar. Bea**	**77.99**	**72**	IAmb		IAmb		14 05 37.3	
	comp=Z,2.1nm,1.2s								
YKA	**Yellowknife Ar**	**87.86**	**341**	P		**P**		**14 06 20.2**	**+2.8**
	comp=Z,0.5nm,0.7s,baz=130,slow=5.3,SNR=10								
H11S2	**WAKE ISLAND Hy**	**125.78**	**280**	T		T		16 31 24.9	
	baz=100,slow=75,SNR=10								
H11S1	**WAKE ISLAND Hy**	**125.79**	**280**	T		T		16 31 27.7	
	baz=100,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hy**	**125.79**	**281**	T		T		16 31 27.3	
	baz=100,slow=75,SNR=5.7								
H11S3	**WAKE ISLAND Hy**	**125.80**	**280**	T		T		16 31 30.3	
	baz=100,slow=75,SNR=11								
H11N2	**WAKE ISLAND Hy**	**125.81**	**281**	T		T		16 31 31.2	
	baz=100,slow=75,SNR=6.2								
H11N1	**WAKE ISLAND Hy**	**125.81**	**281**	T		T		16 31 30.5	
	baz=100,slow=75,SNR=5.4								
MKAR	**Makanchi Array**	**144.13**	**32**	PKP		**PKPdf**		**14 13 04.6**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=330,slow=3.1,SNR=1.9								

IDC 10 14:27:30.6±2.4,9°.92S×123°.91E,h0km,mb3.3/1, mb1 3.5/3,mb1mx3.4/23,mbtmp3.3/3,ML3.4/2,Error ellipse: s-maj=233.0km s-min=34.1km az=54.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.17**	**136**	Pn		Pn		14 30 51.5	-1.3
	0.2nm,0.3s,baz=313,slow=16,SNR=11								
WRA				Sn		Sn		14 33 23.2	-7.6
	0.2nm,0.3s,baz=304,slow=22,SNR=1.6								
ASAR	**Alice Springs**	**16.68**	**146**	Pn		Pn		14 31 27.0	+1.1
	0.1nm,0.3s,baz=318,slow=12,SNR=13								
ASAR				Sn		Sn		14 34 23.8	-8.1
	0.1nm,0.3s,baz=317,slow=22,SNR=3.4								
MKAR	**Makanchi Array**	**67.56**	**330**	P		P		14 38 28.9	0.0
	0.2nm,0.6s,baz=144,slow=7.0,SNR=2.0								

*NEIC **10** 14:39:48.0±1.9,30°.48S±0°.06×177°.9W±0°.2,h16km±5km, mb4.5/16,Error ellipse: s-maj=23.6km s-min=5.2km az=108.0*
*IDC **10** 14:39:54.8±1.9,30°.22S×178°.02W,h64km±16km,mb4.1/6, mb1 4.3/6,mb1mx3.9/21,mbtmp4.4/6,MS3.3/2,Ms1 3.3/2, ms1mx2.9/26,Error ellipse: s-maj=27.1km s-min=20.6km az=133.0*
ISC 10 14:39:52.0±0.8,30°.51S±0°.07×177°.9W±0°.2,h46km,n45, σ1°47/40,mb4.5/13,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.26**	**1**	P		P		**14 40 12.6**	**-0.5**
	382nm,0.3s,baz=89,slow=12,SNR=21								
RAO				S		**Sn**		**14 40 26.2**	**-2.7**
	2μm,0.3s,baz=116,slow=23,SNR=12								
RAO	**Raoul Island**	**1.26**	**1**			**Pn**		**14 40 11.8**	**-1.3**
MXZ	**Matakaoa Point**	**7.69**	**203**	Pn		**Pn**		**14 41 39.9**	**-1.5**
URZ	**Urewera**	**8.74**	**207**	P		**Pn**		**14 41 52.9**	**-2.9**
	0.3nm,0.3s,baz=261,slow=4.7,SNR=21								
URZ				S		**Sn**		**14 43 30.7**	**-2.1**
	4.2nm,0.3s,baz=178,slow=2.0,SNR=9.0								
URZ	**Urewera**	**8.74**	**207**	Pn		**Pn**		**14 41 53.2**	**-2.6**
BKZ	**Black Stump Fm**	**9.77**	**206**	Pn		**Pn**		**14 42 07.0**	**-2.8**
RPZ	**Rata Peaks**	**15.81**	**211**	P		**Pn**		**14 43 31.7**	**+0.3**
	0.4nm,0.3s,baz=149,slow=19,SNR=1.4								
RPZ				S		Sn		14 46 12.0	-14
	0.2nm,0.3s,baz=73,slow=24,SNR=2.4								
RPZ	**Rata Peaks**	**15.81**	**211**			**Pn**		**14 43 31.6**	**+0.2**
FOZ	**Fox Glacier**	**16.24**	**213**	P		**P**		**14 43 39.5**	**+0.2**
DZM	**Mont Dzumac**	**16.32**	**297**	LR		LR		14 48 23.2	
	comp=Z,100nm,20.2s,baz=37,slow=32								
WHZ	**Wether Hill Ro**	**18.89**	**212**	P		**P**		**14 44 07.5**	**-1.1**
WHZ				IAmb		IAmb		14 44 34.6	
	comp=Z,34nm,1.5s								
CAN	**Canberra**	**28.09**	**251**	P		**P**		**14 45 39.9**	**+0.5**
TOO	**Toolangi**	**30.97**	**247**	P		**P**		**14 46 06.6**	**+1.7**
TOO				IAmb		IAmb		14 46 13.8	
	comp=Z,8.1nm,1.1s								
CTAO	**Charters Tower**	**33.87**	**279**	P		**P**		**14 46 32.5**	**+2.1**
STKA	**Stephens Creek**	**34.50**	**257**	P		**P**		**14 46 37.9**	**+2.1**
	comp=Z,10nm,0.6s,baz=101,slow=11,SNR=44								
STKA				LR		LR		14 58 17.2	
	comp=Z,49nm,19.1s,baz=35,slow=32								
STKA	**Stephens Creek**	**34.50**	**257**	P		**P**		**14 46 38.0**	**+2.3**
BBOO	**Buckleboo**	**38.99**	**254**	P		**P**		**14 47 14.1**	**+0.1**
BBOO				IAmb		IAmb		14 47 16.9	
	comp=Z,4.6nm,0.6s								
AS31	**Alice Springs**	**43.15**	**267**	P		**P**		**14 47 48.3**	**-0.1**
ASAR	**Alice Springs**	**43.15**	**267**	P		**P**		**14 47 48.5**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=106,slow=7.4,SNR=74								
ASAR	**Alice Springs**	**43.15**	**267**	P		**P**		**14 47 48.1**	**-0.2**
WR0	**Warramunga Arr**	**43.97**	**272**	P		**P**		**14 47 54.8**	**-0.2**
WR0				IAmb		IAmb		14 47 57.0	
	comp=Z,5.3nm,1.0s								
WB2	**Warramunga Arr**	**44.14**	**272**	P		**P**		**14 47 56.0**	**-0.3**
WB2				IAmb		IAmb		14 47 57.5	
	comp=Z,6.8nm,0.7s								
WRAB	**Tennant Creek**	**44.15**	**272**	P		**P**		**14 47 56.1**	**-0.3**
WRAB				IAmb		IAmb		14 47 57.8	
	comp=Z,7.9nm,0.7s								
WRA	**Warramunga Arr**	**44.15**	**272**	P		**P**		**14 47 56.5**	**+0.1**
	comp=Z,5.6nm,

FUNA Funafuti 6.70 343 Pn P 15 13 00.3 -3.5
NIUE Niue 9.40 117 P P 15 13 31.9 -1.8
DZM Mont Dzumac 15.68 241 P P 15 14 42.7 0.0
4.6nm,0.3s,baz=30,slow=20,SNR=36
DZM Mont Dzumac 15.68 241 P P 15 14 41.0 -1.8
OUZ Omahuta 21.30 197 P P 15 15 40.6 +1.8
OUZ IAmb IAmb 15 15 42.7
comp=Z,25nm,1.2s
OUZ Omahuta 21.30 197 P P 15 15 41.2 +2.4
WCZ Waipu Caves 21.77 195 P P 15 15 46.4 +3.3
WCZ S S 15 19 06.6 -8.5
KUZ Kuaotunu 22.23 192 P P 15 15 48.4 +1.1
MXZ Matakaoa Point 22.65 186 P P 15 15 49.3 -1.8
MXZ IAmb IAmb 15 16 03.5
comp=Z,18nm,0.9s
WMGZ Waiomatatini S 22.89 186 P P 15 15 52.8 -0.5
HAZ Te Kaha 22.90 187 P P 15 15 51.9 -1.4
TOZ Tahuroa Road 23.23 192 P P 15 15 59.5 +3.1
KMRZ Kaimai 23.26 191 P P 15 15 57.2 +0.5
TWGZ Tauwhareparae 23.29 186 P P 15 15 56.7 -0.2
URZ Urewera 23.48 188 P P 15 15 56.2 -2.4
comp=Z,7.9nm,0.3s,baz=12,slow=6.5,SNR=18
URZ Urewera 23.48 188 P P 15 15 55.7 -2.9
URZ IAmb IAmb 15 16 07.3
comp=Z,13nm,0.8s
URZ Urewera 23.48 188 P P 15 15 55.7 -2.9
URZ S S 15 19 46.9 +4.7
MWZ Matawai 23.50 187 P P 15 15 56.8 -2.0
MWZ S S 15 19 43.8 +1.3
RIGZ Rimuhau 23.84 187 P P 15 16 01.5 -0.3
MTHZ Maungataniwha 24.10 188 P P 15 16 04.6 +0.4
RAHZ Arahi 24.13 188 P P 15 16 04.4 0.0
BKZ Black Stump Fm 24.46 189 P P 15 16 05.0 -2.4
OTVZ Oturere 24.59 190 P P 15 16 08.2 -0.6
BHHZ Black Hill Sta 24.84 190 P P 15 16 10.1 -0.8
KAHZ Kahuranaki 25.02 188 P P 15 16 12.8 +0.4
TSZ Takapari Road 25.41 189 P P 15 16 14.8 -1.1
BFZ Birch Farm 25.98 189 P P 15 16 19.4 -1.5
BFZ IAmb IAmb 15 16 19.6
comp=Z,39nm,1.2s
QRZ Quartz Range 26.85 195 P P 15 16 28.6 0.0
QRZ IAmb IAmb 15 16 51.6
comp=Z,28nm,1.2s
NNZ Nelson 27.02 193 P P 15 16 28.3 -1.8
NNZ IAmb IAmb 15 16 54.6
comp=Z,26nm,1.2s
LTZ Lake Taylor 28.76 194 P P 15 16 42.7 -2.8
RPZ Rata Peaks 29.94 195 P P 15 16 53.3 -2.4
comp=Z,6.6nm,0.6s,baz=0.0,slow=4.0,SNR=2.0
RPZ Rata Peaks 29.94 195 IAmb IAmb 15 16 58.7
comp=Z,27nm,1.2s
FOZ Fox Glacier 30.09 197 P P 15 16 55.5 -1.5
FOZ IAmb IAmb 15 16 57.3
comp=Z,23nm,0.8s
ARMA Armidale 31.20 235 P P 15 17 08.4 +1.3
WKZ Wanaka 31.51 197 P P 15 17 06.8 -2.5
WKZ IAmb IAmb 15 17 19.7
comp=Z,33nm,1.1s
MLZ Mavora Lakes 32.26 197 P P 15 17 14.7 -1.1
MLZ IAmb IAmb 15 17 16.6
comp=Z,39nm,1.2s
WHZ Wether Hill Ro 32.78 197 P P 15 17 19.5 -0.8
CTA Charters Tower 33.69 256 P P 15 17 28.4 -0.1
comp=Z,3.7nm,0.5s,baz=88,slow=12,SNR=7.8
CTAO Charters Tower 33.69 256 P P 15 17 28.3 -0.1
CTAO IAmb IAmb 15 17 42.3
comp=Z,34nm,1.3s
COEN Coen 36.82 267 P P 15 17 55.5 +0.6
TOO Toolangi 38.80 228 P P 15 18 11.0 0.0
STKA Stephens Creek 39.80 238 P P 15 18 19.2 +0.1
comp=Z,9.2nm,0.7s,baz=90,slow=10,SNR=42
STKA PcP PcP 15 20 17.1 +0.9
comp=Z,1.7nm,0.5s,baz=98,slow=5.5,SNR=3.3
STKA Stephens Creek 39.80 238 P P 15 18 19.2 +0.1
BBOO Buckleboo 44.57 238 P P 15 18 56.9 -0.3
WR0 Warramunga Arr 44.69 257 P P 15 18 57.5 -0.8
WB0 Warramunga Arr 44.84 257 P P 15 18 58.6 -0.8
WB2 Warramunga Arr 44.87 257 P P 15 18 58.7 -1.0
WRA Warramunga Arr 44.88 257 P P 15 18 58.9 -0.8
comp=Z,2.3nm,0.8s,baz=87,slow=8.0,SNR=48
WRA PcP PcP 15 20 34.2 +0.7
comp=Z,1.0nm,0.4s,baz=83,slow=3.4,SNR=5.0
WRA S S 15 25 06.3 -0.8
comp=Z,1.2nm,0.9s,baz=89,slow=14,SNR=5.6
WRA PKiKP PKiKP 15 27 30.4 -0.7
comp=Z,1.4nm,1.2s,baz=58,slow=1.0,SNR=2.5
AS31 Alice Springs 45.31 251 P P 15 19 02.9 -0.1
AS31 IAmb IAmb 15 19 04.6
comp=Z,8.9nm,0.4s
ASAR Alice Springs 45.31 251 P P 15 19 03.0 -0.1
comp=Z,16nm,0.3s,baz=85,slow=8.8,SNR=350
ASAR PcP PcP 15 20 35.5 +0.6
comp=Z,2.8nm,0.7s,baz=101,slow=3.9,SNR=9.0
ASAR ScP ScP 15 23 50.5 +1.7
comp=Z,0.3nm,0.7s,baz=107,slow=4.5,SNR=1.8
ASAR S S 15 25 12.1 -1.1
comp=Z,2.4nm,0.8s,baz=86,slow=16,SNR=16
ASAR PKiKP PKiKP 15 27 30.5 -1.0
comp=Z,0.1nm,0.4s,baz=95,slow=1.5,SNR=5.6
ASAR Alice Springs 45.31 251 P P 15 19 02.4 -0.6
FORT Forrest 50.99 242 P P 15 19 44.9 -0.8
FORT IAmb IAmb 15 19 45.9
comp=Z,18nm,0.8s
FITZ Fitzroy Crossi 53.21 258 P P 15 20 02.9 +0.9
comp=Z,2.4nm,1.0s,baz=127,slow=10,SNR=2.0
SOEI Soe 55.75 268 P P 15 20 20.3 0.0
SOEI IAmb IAmb 15 20 42.2
comp=Z,30nm,1.4s
NWAO Narrogin (SRO) 60.30 240 P P 15 20 50.7 -0.4
MORW Morawa 61.36 245 P P 15 20 57.5 -0.7
VNDA Vanda 63.33 185 P P 15 21 10.7 +0.5
comp=Z,1.5nm,0.6s,baz=352,slow=7.5,SNR=5.6
VNDA Vanda 63.33 185 P P 15 21 11.7 +1.5
JGF Kuroka 65.22 322 P P 15 21 23.1 +0.1
MJAR Matsushiro Arr 65.36 323 P P 15 21 23.2 -0.7
comp=Z,4.9nm,0.6s,baz=150,slow=6.6,SNR=10
MJAR Matsushiro Arr 65.36 323 P P 15 21 23.4 -0.4
MAJO Matsushiro 65.36 323 P P 15 21 23.6 -0.2
MAT Matsushiro 65.36 323 P P 15 21 23.6 -0.2
JHS Saijyo 67.46 319 P P 15 21 37.5 +0.5
NIKH Nikolski High 68.20 6 P P 15 21 41.1 -0.1
CASY Casey 68.65 204 P P 15 21 44.0 +0.2
PEA0B Petropavlovsk- 70.76 345 P P 15 21 56.9 +0.3
PETK Petropavlovsk- 70.76 345 P P 15 21 56.9 +0.2
comp=Z,7.8nm,0.7s,baz=113,slow=7.7,SNR=17
PETK Petropavlovsk- 70.76 345 P P 15 21 56.2 -0.4
KSRS Korea Array 72.29 318 P P 15 22 06.5 +0.6
comp=Z,2.1nm,0.9s,baz=99,slow=7.7,SNR=4.0
USRK Ussuriysk Ar. 74.00 325 P P 15 22 16.6 +0.8
comp=Z,1.5nm,0.7s,baz=123,slow=6.7,SNR=4.2
MCCM Marconi Confer 74.38 43 P P 15 22 19.1 +1.1
SAO San Andreas Ge 74.58 45 P P 15 22 20.0 +0.7
SAO IAmb IAmb 15 22 20.8
comp=Z,6.6nm,0.7s
HOPS Hopland Field 74.72 42 P P 15 22 21.1 +1.1
HOPS IAmb IAmb 15 22 22.0
comp=Z,14nm,1.2s
PKM Mcpherson Peak 74.73 47 P 15 22 21.7
baz=239
PMPB Monarch Peak 74.73 45 P P 15 22 21.4 +1.3
SMMC Simmler 74.82 46 P 15 22 22.1
baz=239
OHAK Old Harbor 74.98 14 P 15 22 21.2
baz=206
OHAK Old Harbor 74.98 14 P P 15 22 21.1 +0.1
OHAK IAmb IAmb 15 22 22.1
comp=Z,11nm,0.7s
KMRM Mail Ridge 75.02 41 P P 15 22 23.3 +1.6
JCC Jacoby Creek, 75.16 40 P P 15 22 24.1 +1.8
O02D Mt. Diablo Mer 75.57 41 P 15 22 26.4
baz=236
KRMB Red Mountain 75.64 39 P P 15 22 26.4 +1.2
MWC Mount Wilson 75.65 48 P P 15 22 26.2 +0.6
MWC IAmb IAmb 15 22 26.9
comp=Z,6.8nm,0.6s
KDAK Kodiak Island 75.65 14 P 15 22 25.1
baz=206
KDAK Kodiak Island 75.65 14 P P 15 22 25.1 +0.3
KDAK IAmb IAmb 15 22 25.8
comp=Z,12nm,0.8s
NJ2 Nanjing 75.81 309 eP P 15 22 27.6 +1.4
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
BFSC Mount Baldy Ra 75.94 48 P 15 22 27.8
baz=241
WDC Whiskeytown Da 75.95 41 P P 15 22 26.7 -0.2
WDC IAmb IAmb 15 22 28.9
comp=Z,14nm,1.4s
CMB Columbia Colle 75.97 44 P P 15 22 27.3 +0.2
CMB IAmb IAmb 15 22 28.6
comp=Z,6.5nm,0.7s
EDW2 Edwards Air Fo 76.02 48 P 15 22 27.0
baz=246,SNR=5.7
ORV Oroville 76.05 42 P P 15 22 27.8 +0.4
ISA Isabella, Lake 76.06 47 P P 15 22 27.9 +0.2
ISA Isabella, Lake 76.06 47 P 15 22 29.0
baz=240
AFDM Forest Hills D 76.07 43 P P 15 22 28.2 +0.6
AFDM IAmb IAmb 15 22 29.1
comp=Z,5.1nm,0.8s
N02D Trinity Center 76.07 40 P 15 22 29.0
baz=236
ESJX Sierra Juarez 76.14 51 P P 15 22 28.9 +0.6
MONP2 Monument Peak 76.20 50 P 15 22 29.4
baz=242
M02C Callahan 76.21 40 P 15 22 29.7
baz=235
O03E Paynes Creek 76.26 41 P 15 22 28.8
baz=236
IKP In-Ko-Pah, Jac 76.32 50 P 15 22 30.0
baz=242
RMX La Rumorosa 76.32 51 P P 15 22 30.2 +0.9
RMX IAmb IAmb 15 22 31.9
comp=Z,4.9nm,0.8s
K02D Willamette Mer 76.46 38 P 15 22 29.9
baz=235
YBH Yreka Blue Hor 76.49 40 P P 15 22 30.9 +0.9
YBH IAmb IAmb 15 22 32.2
comp=Z,9.2nm,1.1s
TPFO Pinon Flats 76.52 49 P 15 22 29.7
baz=242
LRMC Laurel Mtn Rad 76.53 47 P 15 22 30.9
baz=240
SWSC Sam W. Stewart 76.69 50 P 15 22 31.7
baz=242
CWC Cottonwood Cre 76.73 46 P 15 22 32.1
baz=240
HUMO Hull Mountain 76.84 39 P P 15 22 32.8 +1.0
HUMO IAmb IAmb 15 22 33.6
comp=Z,6.5nm,0.9s
WAKR Walker 76.85 44 P P 15 22 32.7 +0.5
WAKR IAmb IAmb 15 22 34.1
comp=Z,6.7nm,0.8s
MPMC Manual Prospec 76.95 47 P 15 22 31.7
baz=240,SNR=5.6
BEKR Beckworth 76.96 42 P P 15 22 33.5 +0.8
BEKR IAmb IAmb 15 22 33.9
comp=Z,4.6nm,0.7s
L04D Klamath Falls 77.02 39 P 15 22 33.5
baz=236
BELC Belle Mtn. Jos 77.04 49 P 15 22 34.1
baz=242
PNTR Pine Nut 77.05 43 P P 15 22 33.7 +0.4
M04C Macdoel 77.06 40 P 15 22 33.6
baz=236
HEC Hector,Ludlow 77.18 48 P 15 22 34.4
baz=241
YERR Yerington 77.23 44 P P 15 22 34.7 +0.4
YERR IAmb IAmb 15 22 35.9
comp=Z,7.2nm,0.7s
BC3 Big Chuckawall 77.28 50 P 15 22 35.4
baz=242
LHV Little Huntoon 77.35 44 P P 15 22 35.5 +0.9
LHV IAmb IAmb 15 22 36.9
comp=Z,10nm,0.9s
SLBS Sierra La Lagu 77.45 61 P P 15 22 37.0 +1.4
SLBS IAmb IAmb 15 22 38.0
comp=Z,18nm,1.4s
GLA Glamis 77.46 51 P 15 22 36.4
baz=243
PAHR Pah Rah Range 77.51 43 P P 15 22 36.3 +0.6
PAHR IAmb IAmb 15 22 36.9
comp=Z,4.1nm,0.6s
RYN Ryan 77.53 44 P P 15 22 36.4 +0.5
RYN IAmb IAmb 15 22 37.6
comp=Z,6.4nm,1.0s
CNPM China Poot 77.53 14 P P 15 22 35.4 +0.2
NVAR Mina Array Bea 77.58 44 P P 15 22 37.0 +0.8
comp=Z,5.2nm,0.8s,baz=227,slow=8.9,SNR=44
NVAR Mina Array Bea 77.58 44 P P 15 22 36.6 +0.4
FURC Furnace Creek, 77.59 47 P 15 22 36.7
baz=241
GMRC Granite Mounta 77.65 49 P 15 22 37.4
baz=242
NV11 Mina Array Sit 77.68 44 P P 15 22 37.0 +0.4
NV11 IAmb IAmb 15 22 38.4
comp=Z,9.7nm,1.2s
J04D Umpqua Nationa 77.71 39 P 15 22 37.0
baz=236
IRM Iron Mountain 77.73 49 P 15 22 37.5
baz=242
SHOC Shoshone, Teco 77.74 47 P 15 22 37.4
baz=241
BRLK Bradley Lake 77.83 14 P P 15 22 36.8 0.0
PIX Pinacate 77.83 53 P P 15 22 37.8 +0.4
BRSE Bradley Lake S 77.84 14 P 15 22 37.0
baz=208
I04A Tendick Farm, 77.84 38 P 15 22 37.9
baz=235
KVN Kaiserville 78.03 44 P P 15 22 38.7 +0.1
KVN IAmb IAmb 15 22 40.2
comp=Z,6.7nm,0.9s
RSO Redoubt South 78.03 13 P P 15 22 37.8 -0.3
H04D Lebanon 78.07 37 P 15 22 38.8
baz=235
MOD Modoc Plateau 78.09 41 P P 15 22 39.9 +1.1
MOD IAmb IAmb 15 22 40.0
comp=Z,4.8nm,0.7s
TPH Tonopah 78.13 45 P P 15 22 39.8 +0.6
K05A Summer Lake 78.17 40 P P 15 22 40.1 +0.8
K05A IAmb IAmb 15 22 41.3
comp=Z,11nm,0.9s
TPNV Topopah Spring 78.26 47 P 15 22 40.2
baz=241,SNR=11
TPNV Topopah Spring 78.26 47 P P 15 22 39.9 +0.1
TPNV IAmb IAmb 15 22 41.6
comp=Z,9.0nm,0.7s
J05D Fort Rock, OR 78.27 39 P 15 22 40.8
baz=236
MA2 Magadan 78.28 345 P P 15 22 38.6 -0.7
comp=Z,3.3nm,0.6s,baz=151,slow=4.0,SNR=5.1
MA2 Magadan 78.28 345 IAmb IAmb 15 22 39.2
comp=Z,13nm,1.3s
H04A Detroit Lake 78.48 37 P P 15 22 41.1 +0.4
H04A IAmb IAmb 15 22 41.4
comp=Z,5.5nm,0.6s
214A Organ Pipe Nat 78.50 52 P 15 22 42.0
baz=244
PDMCI Parker Dam,Lak 78.54 50 P 15 22 42.1
baz=243
PINE Pine Mountain 78.72 39 P P 15 22 43.1 +0.8
PINE IAmb IAmb 15 22 44.3
comp=Z,11nm,0.8s
I05D Terrebonne, OR 78.79 38 P 15 22 42.9
baz=236
SHPR Sheep Range 78.82 47 P P 15 22 42.8 0.0
W13A Hualapai Mount 79.09 49 P P 15 22 45.2 +0.8
G05D Wamic, OR 79.31 37 P 15 22 45.3
baz=236
PRN Pahroc Range 79.32 47 P P 15 22 46.4 +0.8
PRN IAmb IAmb 15 22 47.7
comp=Z,6.7nm,0.8s
E04D Cinebar 79.33 36 P 15 22 46.5
baz=235
SUA Susitna One 79.37 13 P 15 22 44.6
baz=208
SUA Susitna One 79.37 13 P P 15 22 44.7 -0.5
SUA IAmb IAmb 15 22 45.2
comp=Z,11nm,0.9s
R11A Troy Canyon, C 79.39 46 P 15 22 46.3
baz=241
WVOR Wild Horse Val 79.42 41 P P 15 22 45.9 0.0
D03D Eldon 79.61 35 P 15 22 47.5
baz=234
KAIM Kayak Island 79.63 17 P P 15 22 46.1 -0.3
I07A Izee 79.75 39 P P 15 22 48.3 +0.7
I07A IAmb IAmb 15 22 49.4
comp=Z,7.2nm,0.7s
LON Longmire 79.87 36 P P 15 22 48.5 +0.4
BBB Bella Bella 79.93 29 P P 15 22 48.8 +0.6
BBB IAmb IAmb 15 22 49.2
comp=Z,9.2nm,0.8s
J08A Circle Bar Ran 80.00 40 P P 15 22 49.9 +0.9
J08A IAmb IAmb 15 22 50.7
comp=Z,6.8nm,1.0s
TUC Tucson 80.21 53 P 15 22 51.8
baz=245
TUC Tucson 80.21 53 P P 15 22 51.6 +1.3
TUC IAmb IAmb 15 22 52.8
comp=Z,7.9nm,1.4s
LCMT Little Creek M 80.42 48 P P 15 22 51.9 +0.6
A04D Lummi Island 80.51 34 P 15 22 52.2
baz=234
SPR3 Spring Creek 3 80.56 45 P P 15 22 52.0 -0.3
CCUT Cedar City 80.58 47 P P 15 22 53.6 +1.3
B05A Bryant 80.58 34 P 15 22 51.9
baz=235
PSUT Pine Spring 80.68 46 P P 15 22 53.2 +0.4
KNB Kanab 80.72 48 P P 15 22 54.0 +1.0
G08A Pilot Rock 80.73 38 P P 15 22 53.2 +0.4
G08A IAmb IAmb 15 22 54.3
comp=Z,7.3nm,1.1s
ELK Elko 80.78 44 P P 15 22 53.5 +0.2
U15A North Rim 80.84 49 P P 15 22 54.7 +0.9
U15A IAmb IAmb 15 22 56.1
comp=Z,7.0nm,0.8s
N25K Chitina, Valde 80.98 16 P 15 22 53.8
baz=213
N25K Chitina, Valde 80.98 16 P P 15 22 53.7 +0.1
N25K IAmb IAmb 15 22 54.4
comp=Z,9.3nm,0.8s
319A Douglas 81.00 54 P P 15 22 54.7 +0.2
319A IAmb IAmb 15 22 57.2
comp=Z,12nm,0.8s
M24K Tolsona, Glenn 81.00 15 P 15 22 54.3
baz=212
WAT6 Susitna Watana 81.03 14 P 15 22 53.8
baz=210
WUAZ Wupatki 81.12 50 P P 15 22 55.5 +0.4
WUAZ Wupatki 81.12 50 P 15 22 55.8
baz=244
WAT2 Susitna Watana 81.17 13 P 15 22 54.0
baz=209
CHUM Lake Minchumin 81.21 12 P 15 22 54.0
baz=206
TRF Thorofare Moun 81.23 13 P 15 22 54.7
baz=208
TRF Thorofare Moun 81.23 13 P P 15 22 54.1 -0.9
TRF IAmb IAmb 15 22 55.1
comp=Z,10nm,0.8s
CTG Chitna Glacier 81.36 17 P 15 22 55.7
baz=216
BMO Blue Mountains 81.50 39 P P 15 22 56.4 -0.3
RND Reindeer 81.50 13 P P 15 22 55.9 -0.4
RND IAmb IAmb 15 22 57.0
comp=Z,7.7nm,0.7s
MTPU Mount Pierson 81.63 47 P P 15 22 59.5 +1.5
MTPU IAmb IAmb 15 23 00.7
comp=Z,6.4nm,0.7s
BPAW Bear Paw Mtn. 81.67 12 P 15 22 56.7
baz=207
D08A Wollman Farm, 81.69 37 P P 15 22 58.1 +0.6
D08A IAmb IAmb 15 22 59.2
comp=Z,7.8nm,1.0s
MFID Camas Ranch 81.69 41 P P 15 22 58.1 +0.3
MCK McKinley 81.77 13 P 15 22 57.6
baz=209
MVU Marysvale 81.81 47 P P 15 23 00.1 +1.3
MSU Marysvale 81.84 47 P P 15 23 00.4 +1.6
E09A Wood Farm, Sta 81.86 37 P P 15 22 58.6 +0.2
PAX Paxson 81.91 15 P 15 22 57.7
baz=212
F10A Beach Ranch, E 82.12 38 P P 15 23 00.0 +0.1
DUG Dugway, Tooele 82.16 45 P 15 23 00.5
baz=243
DUG Dugway, Tooele 82.16 45 P P 15 23 00.4 +0.1
DUG IAmb IAmb 15 23 01.9
comp=Z,4.2nm,0.7s
B08A Colville Reser 82.16 35 P P 15 22 59.6 -0.4
B08A IAmb IAmb 15 23 00.7
comp=Z,5.2nm,0.7s
W18A Petrified Fore 82.16 51 P 15 23 01.5
baz=246
NEA2 Nenana 82.50 12 P 15 23 00.8
baz=209
WRH Wood River Hil 82.60 13 P P 15 23 01.3 -0.5
121A Cookes Peak, D 82.62 54 P 15 23 04.2
baz=247
HDA Harding Lake 82.80 13 P 15 23 02.4
baz=211,SNR=9.0
HDA P 15 23 02.4
baz=211,SNR=9.0
HDA Harding Lake 82.80 13 P P 15 23 02.4 -0.5
CCB Clear Creek Bu 82.81 13 P P 15 23 02.0 -0.9
DOT Dot Lake 82.83 15 P P 15 23 02.6 -0.4
DOT IAmb IAmb 15 23 03.8
comp=Z,8.8nm,0.7s
TMUT Trail Mountain 82.87 46 P P 15 23 04.7 +0.6
HVU Hansel Valley 82.90 44 P P 15 23 04.7 +0.6
HVU IAmb IAmb 15 23 05.9
comp=Z,8.2nm,0.8s
I23K Minto, Yukon-K 82.93 12 P 15 23 03.3
baz=209
MDM Murphy Dome 83.00 13 P P 15 23 03.3 -0.6
MDM IAmb IAmb 15 23 04.1
comp=Z,14nm,1.0s
TCOL CIGO, UAF Yank 83.00 13 P 15 23 03.6
baz=210
TCOL CIGO, UAF Yank 83.00 13 P P 15 23 03.4 -0.4
COLA College 83.00 13 P 15 23 03.6
baz=210
COLA College 83.00 13 P P 15 23 03.0 -0.8
IL31 83.12 13 P P 15 23 03.7 -0.7
IL31 IAmb IAmb 15 23 04.9
comp=Z,8.7nm,0.8s
ILAR Eielson Array 83.12 13 P P 15 23 03.8 -0.7
comp=Z,4.2nm,0.4s,baz=234,slow=5.3,SNR=75
SCRK Sand Creek 83.12 15 P 15 23 04.3
baz=214,SNR=7.2
SRU San Rafael Swe 83.27 47 P P 15 23 06.4 +0.4
SRU IAmb IAmb 15 23 07.8
comp=Z,12nm,0.9s
JLU Jordanelle 83.27 45 P P 15 23 06.3 +0.3
JLU IAmb IAmb 15 23 07.8
comp=Z,6.3nm,0.7s
POKR Poker Plat Res 83.30 13 P 15 23 04.7
baz=210,SNR=9.1
POKR Poker Plat Res 83.30 13 P P 15 23 04.7 -0.7
NEW Newport 83.36 36 P 15 23 05.5
baz=239
TCUT Toone Canyon 83.53 45 P P 15 23 07.8 +0.5
RDOG Red Dog Mine 83.59 6 P 15 23 06.8
baz=195
RDOG Red Dog Mine 83.59 6 P P 15 23 07.3 +0.5
RDOG IAmb IAmb 15 23 08.3
comp=Z,7.4nm,0.7s
HWUT Hardware Ranch 83.64 44 P P 15 23 08.0 +0.2
HWUT IAmb IAmb 15 23 09.2
comp=Z,6.1nm,0.9s
K27K Chicken 83.64 15 P 15 23 07.7
baz=216
BCYI Bear Canyon 83.66 41 P P 15 23 08.3 +0.3
PV05 Paradox Valley 83.85 48 P P 15 23 10.3 +1.2
PV05 IAmb IAmb 15 23 11.2
comp=Z,8.1nm,0.7s
LENM Lemitar 83.88 52 P P 15 23 09.8 +0.6
PV14 Lion Creek, Pa 84.02 48 P P 15 23 10.3 +0.4
PV14 IAmb IAmb 15 23 12.1
comp=Z,7.1nm,0.8s
PV17 East Wray Mesa 84.03 48 P P 15 23 10.1 +0.2
PV17 IAmb IAmb 15 23 12.6
comp=Z,7.2nm,0.8s
PRP Porcupine Dome 84.06 13 P 15 23 09.0
baz=212
PRP Porcupine Dome 84.06 13 P P 15 23 09.1 -0.2
PRP IAmb IAmb 15 23 10.0
comp=Z,6.9nm,1.0s
PV16 Nyswonger Mesa 84.07 48 P P 15 23 10.5 +0.3
PV13 Radium Mtn., P 84.08 48 P P 15 23 10.6 +0.4
PV13 IAmb IAmb 15 23 11.7
comp=Z,10nm,1.4s
PV03 Paradox Valley 84.10 48 P P 15 23 11.0 +0.7
PV11 David Mesa, Pa 84.10 48 P P 15 23 11.0 +0.8
PV04 Paradox Valley 84.12 48 P P 15 23 11.1 +0.8
PV04 IAmb IAmb 15 23 12.0

comp=Z,6.9nm,0.7s
BNM Barren Site 84.13 53 P P 15 23 11.2 +0.7
PV12 Saucer Basin, 84.16 48 P P 15 23 11.3 +0.7
PV12 IAmb IAmb 15 23 12.3
comp=Z,7.6nm,0.7s
MNTX Cornudas Mount 84.19 55 P P 15 23 11.5 +0.8
MNTX Cornudas Mount 84.19 55 P 15 23 11.7
baz=248
PV01 Paradox Valley 84.25 48 P P 15 23 10.5 -0.5
PV01 IAmb IAmb 15 23 12.6
comp=Z,4.6nm,0.8s
MCMT McKenzie Canyo 84.25 41 P P 15 23 11.6 +0.6
DAWY Dawson 84.38 16 P P 15 23 11.1 +0.3
DAWY IAmb IAmb 15 23 11.9
comp=Z,5.4nm,0.8s
EGAK Eagle 84.49 15 P 15 23 11.1
baz=216,SNR=8.6
EGAK Eagle 84.49 15 P P 15 23 11.3 +0.1
EGAK IAmb IAmb 15 23 12.2
comp=Z,9.5nm,0.9s
ANMO Albuquerque 84.57 52 P P 15 23 12.9 +0.3
ANMO Albuquerque 84.57 52 P 15 23 13.4
baz=248
COLD Coldfoot 84.61 11 P 15 23 12.1
baz=208
COLD Coldfoot 84.61 11 P P 15 23 12.3 +0.4
DLMT Dillon 84.66 40 P P 15 23 13.1 +0.4
DLMT IAmb IAmb 15 23 14.5
comp=Z,10nm,1.1s
TX31 Lajitas Ar. Si 84.74 58 P 15 23 14.7 +1.2
TX32 Lajitas Array 84.74 58 P 15 23 14.1 +0.6
TX32 IAmb IAmb 15 23 16.2
comp=Z,9.3nm,1.1s
TXAR Lajitas Array 84.74 58 P P 15 23 15.0 +1.5
comp=Z,5.3nm,0.8s,baz=223,slow=6.4,SNR=58
TXAR Lajitas Array 84.74 58 P 15 23 14.3 +0.8
REDW Red Top Meadow 84.88 43 P P 15 23 14.2 +0.2
HHC Hu-ho-hao-te 84.97 314 *eP* **P 15 23 14.5 +0.1**
HHC pmax pmax
comp=Z,7.0nm,1.1s
HHC pmax pmax
comp=Z,210nm,5.4s
BELA Belgrano 2 85.11 173 P P 15 23 14.7 +0.3
LOHW Long Hollow 85.15 43 P P 15 23 15.7 +0.3
LOHW IAmb IAmb 15 23 17.0
comp=Z,4.8nm,0.7s
QLMT Earthquake Lak 85.16 41 P P 15 23 16.4 +1.1
YHB Horse Butte 85.27 41 P P 15 23 17.0 +1.1
FLWY Flagg Ranch 85.30 42 P P 15 23 17.1 +1.1
FLWY IAmb IAmb 15 23 18.2
comp=Z,8.1nm,0.8s
YHL Hebgen Lake 85.32 41 P P 15 23 17.4 +1.2
S22A 4UR Ranch, Cre 85.36 49 P 15 23 17.5
baz=247
BOZ Bozeman (W) 85.37 40 P 15 23 16.6
baz=243
BOZ Bozeman (W) 85.37 40 P P 15 23 16.9 +0.6
YMR Madison River 85.38 42 P P 15 23 17.4 +0.9
BW06 Boulder Array 85.48 44 P 15 23 17.1
baz=245,SNR=8.6
BW06 Boulder Array 85.48 44 P P 15 23 17.4 +0.4
BW06 IAmb IAmb 15 23 17.7
comp=Z,5.2nm,0.6s
PD31 Pinedale Array 85.48 44 P P 15 23 17.1 +0.1
PD31 IAmb IAmb 15 23 17.7
comp=Z,4.8nm,0.6s
PDAR Pinedale Array 85.48 44 P P 15 23 17.1 +0.1
comp=Z,4.5nm,0.6s,baz=207,slow=2.8,SNR=46
PDAR Pinedale Array 85.48 44 P P 15 23 17.1 +0.1
H17A Grant Village 85.51 42 P 15 23 18.3
baz=244,SNR=6.7
HRY Holter Researc 85.75 39 P P 15 23 18.4 +0.3
TOLK Toolik Lake Re 85.97 10 P 15 23 18.5
baz=208
YNE Yellowstone No 86.14 42 P P 15 23 20.4 +0.3
YNE IAmb IAmb 15 23 22.2
comp=Z,9.2nm,1.2s
SDCO Great Sand Dun 86.33 50 P P 15 23 21.3 0.0
SDCO Great Sand Dun 86.33 50 P 15 23 21.4
baz=248
MAW Mawson 86.49 200 P P 15 23 22.1 +1.0
comp=Z,15nm,0.6s,baz=296,slow=19,SNR=2.0
RLMT Red Lodge 86.66 42 P 15 23 22.6
baz=245,SNR=6.0
RLMT Red Lodge 86.67 42 P P 15 23 23.6 +1.0
RLMT IAmb IAmb 15 23 24.6
comp=Z,5.0nm,0.8s
EPYK Eagle Plains 86.89 16 P 15 23 22.1
baz=220
MSTX Muleshoe 87.05 54 P 15 23 24.6
baz=250
A21K Barrow 87.40 7 P 15 23 25.4
baz=201
K22A Casper 87.48 45 P 15 23 27.1
baz=247
CMAR Chiang Mai Arr 87.56 290 P P 15 23 28.6 +1.5
comp=Z,0.3nm,0.4s,baz=107,slow=2.1,SNR=4.4
EGMT Eagleton 87.59 39 P 15 23 27.4
baz=244
833A Chaparral WMA, 87.95 60 P 15 23 29.6
baz=252
AMTX Amarillo 88.21 53 P 15 23 30.0
baz=250
ABTX Abilene, Hawle 89.09 56 P 15 23 34.6
baz=252
LAO LASA Array 89.24 41 P 15 23 35.9
baz=247
RSSD Black Hills 89.71 44 P 15 23 37.2
baz=249
RSSD Black Hills 89.71 44 P P 15 23 37.1 +0.2
WMOK Wichita Mounta 90.42 54 P 15 23 40.4
baz=252
SONM Songino Array 91.10 319 P P 15 23 42.9 -0.2
comp=Z,0.4nm,0.5s,baz=129,slow=5.3,SNR=5.6
DGMT Dagmar 91.18 40 P 15 23 44.4
baz=249
DGMT Dagmar 91.18 40 P P 15 23 44.1 +0.8
YKA Yellowknife Ar 91.83 25 P P 15 23 45.9 -0.1
comp=Z,0.6nm,0.6s,baz=239,slow=4.0,SNR=11
T35A Sooner Cattle 92.83 53 P P 15 23 51.7 +0.5
GTA Gaotai 92.89 310 ⇑P **P 15 23 52.5 +0.9**
GTA pmax pmax
comp=Z,2.0nm,0.7s
SNAA Sanae 93.53 179 P P 15 23 53.7 -0.2
SNAA Sanae 93.53 179 P P 15 23 53.6 -0.3
VNA3 Neumayer Olymp 93.68 176 P P 15 23 54.8 +0.3
VNA2 Neumayer--Watz 94.11 177 P P 15 23 56.5 +0.1
baz=189,slow=4.3
VNA1 Neumayer--Stat 94.34 177 P P 15 23 58.2 +0.7
W39A Magazine 94.49 55 P 15 23 59.5
baz=255
ECSD EROS Data Cent 94.67 46 P 15 23 59.3
baz=254
S39A Bolivar 95.48 53 P P 15 24 03.5 +0.1
U40A Yellville 95.52 54 P 15 24 04.3
baz=256
CCM Cathedral Cave 97.17 53 P 15 24 11.1
baz=257
Q53A Leroy 104.81 53 P 15 24 44.8
baz=263
MKAR Makanchi Array 106.83 315 PKiKP **PKiKP 15 29 00.9 -0.5**
comp=Z,0.4nm,0.4s,baz=165,slow=0.7,SNR=18
KURBB Kurchatov Arra 109.46 319 PKiKP **PKiKP 15 29 05.2 -0.9**
comp=Z,0.5nm,0.4s,baz=96,slow=1.5,SNR=10.0
ARCES ARCESS Array B 123.39 350 PKP **PKPdf 15 29 32.2 -0.1**
comp=Z,2.2nm,0.5s,baz=25,slow=1.8,SNR=22
GEYT Alibeck 125.07 306 PKP **PKPdf 15 29 36.5 0.0**
comp=Z,2.9nm,0.8s,baz=180,slow=1.0,SNR=4.7
SUR Sutherland 129.32 202 PKP **PKiKP 15 29 46.0 +0.1**
comp=Z,4.4nm,0.7s,baz=118,slow=4.5,SNR=5.6
FINES FINESS Array B 130.28 345 PKP **PKPdf 15 29 46.0 +0.4**
comp=Z,2.8nm,0.6s,baz=42,slow=3.4,SNR=10
NOA NORSAR Array B 133.43 353 PKP **PKPdf 15 29 52.1 +0.3**
comp=Z,0.4nm,0.4s,baz=281,slow=0.7,SNR=2.0
AKASG Malin Array Be 137.79 334 PKhKP PKPpre 15 29 55.6
comp=Z,0.6nm,0.4s,baz=43,slow=4.2,SNR=4.0
AKASG PKP **PKiKP 15 30 01.5 -0.6**
comp=Z,0.8nm,0.4s,baz=38,slow=3.3,SNR=4.8
BRTR Keskin Array B 142.43 317 PKP **PKPdf 15 30 06.5 -2.5**
comp=Z,2.5nm,0.8s,baz=171,slow=2.4,SNR=6.8
VRI Vrincioaia 142.48 330 ⇓P **PKiKP 15 30 13.6 +1.7**
DPC Dobruska-Polom 142.64 344 *e*PKP **PKPdf 15 30 06.8 -2.1**
MORC Moravsky Berou 142.82 342 *e*PKP **PKPdf 15 30 06.6 -2.6**
VRAC Vranov 143.51 343 *e*PKP PKPbc 15 30 09.0 +0.5
VOIR 143.59 331 ⇑P PKPbc 15 30 09.8 +0.8
JAVC Velka Javorina 143.60 342 *e*PKP **PKPdf 15 30 10.4 -0.3**
KRUC Moravsky 143.79 343 *e*PKP PKPbc 15 30 10.0 +0.6
TREC Trest 143.83 344 *e*PKP PKPbc 15 30 10.0 +0.4
ARR Arges 143.83 332 ⇓P **PKPdf 15 30 11.3 +0.2**
SMOL Smolenice 143.98 342 *e*PKP **PKPdf 15 30 11.4 +0.1**
MODS Modra-Piesok 144.15 342 *e*PKP **PKPab 15 30 11.0 +0.3**
MEM Membach 144.24 355 *d*PKPdf **PKPdf 15 30 11.3 -0.3**
BTNL Ternell 144.25 355 *d*PKPdf **PKPdf 15 30 11.4 -0.2**
BSTI Sart Tilman 144.31 355 *d*PKPdf **PKPdf 15 30 11.5 -0.2**
ZST Bratislava 144.36 342 *e*PKP **PKPdf 15 30 13.0 +1.1**
GRF Grafenberg Arr 144.42 349 *e*PKP **PKPdf 15 30 12.1 +0.1**
baz=17,slow=2.9
KHC Kasperske Hory 144.46 346 *e*PKP **PKPdf 15 30 12.4 +0.3**
KHC Kasperske Hory 144.46 346 PKPbc 15 30 11.6 0.0
SNF Seneffe 144.47 357 *d*PKP **PKPdf 15 30 12.0 0.0**
BCLA Clavier 144.49 356 *d*PKPdf **PKPdf 15 30 12.0 0.0**
BHOU Houvegnez 144.50 355 *d*PKP **PKPdf 15 30 12.1 0.0**
BGES Gesves 144.54 356 *d*PKPdf PKPbc 15 30 11.7 -0.1
BGES *d*PKiKP **PKiKP 15 30 15.0 -1.0**
CKRC Cesky Krumlov 144.57 345 *e*PKP **PKPdf 15 30 12.3 0.0**
GZR Gura Zlata 144.64 333 ⇑P **PKPab 15 30 12.8 +0.2**
BMRD Maredsous 144.64 356 *d*PKPdf **PKPdf 15 30 12.3 0.0**
GEC2 GERESS Array S 144.69 346 PKPbc 15 30 12.3 -0.2
GERES GERESS Array B 144.69 346 PKP **PKPab 15 30 12.8 0.0**
comp=Z,13nm,0.7s,baz=29,slow=3.9,SNR=60
DOU Dourbes 144.86 356 *d*PKP **PKPdf 15 30 12.7 0.0**
BZS Buzias 144.95 335 ⇑P **PKPab 15 30 14.0 +0.3**
CSS Mathiatis 144.97 310 PKPdf **PKPdf 15 30 13.1 -0.3**
CONA Conrad Observa 144.97 343 *i* P **PKPab 15 30 14.2 +0.4**
comp=Z,8.0nm,0.6s,SNR=7.7
WLF Walferdange 145.17 354 *d*PKP **PKPab 15 30 14.6 +0.2**
WLF Walferdange 145.17 354 PKPbc 15 30 13.9 +0.2
HERR Herculane 145.20 333 ⇓P **PKPab 15 30 14.4 -0.3**
LEF Lefka 145.22 311 ⇓P **PKPab 15 30 14.8 -0.3**
MOA Molln 145.48 344 *i* P **PKPab 15 30 15.3 -0.4**
comp=Z,5.0nm,0.5s,SNR=5.8
MDVR Moldovita 145.58 334 ⇓P **PKPab 15 30 16.1 -0.1**
MORH Mrgy, Hungar 145.59 338 ⇑P **PKPbc 15 30 15.5 +0.4**
ARSA Arzberg 145.68 343 *i* P **PKPbc 15 30 14.9 -0.5**
comp=Z,3.7nm,0.5s
FRGS Fruska Gora 146.05 336 ⇑P **PKPab 15 30 17.5 -0.6**
BFO Black Forest 146.22 351 PKPbc 15 30 16.9 -0.1
SOKA Soboth 146.34 343 *i* P **PKPbc 15 30 17.4 -0.1**
comp=Z,6.0nm,0.6s,SNR=5.0
PERS Pernice 146.36 343 *i* PKPbc **PKPbc 15 30 17.3 -0.1**
KBA Koelnbreinsper 146.43 345 *e*P **PKPbc 15 30 17.3 -0.5**
comp=Z,5.9nm,0.5s,SNR=8.1
ELL Elmali 146.50 316 PKPbc 15 30 18.4 +0.1
VTS Vitosha 146.57 330 ⇓P **PKPbc 15 30 18.4 +0.2**
VTS Vitosha 146.57 330 PKPbc 15 30 18.2 0.0
WATA Walderalm 146.60 347 *i* P **PKPbc 15 30 18.4 +0.2**
comp=Z,6.3nm,0.5s
RETA Reutte 146.62 348 *e*P **PKPbc 15 30 18.4 +0.3**
comp=Z,6.9nm,0.5s,SNR=5.4
WTTA Wattenberg 146.65 347 *e*P **PKPbc 15 30 18.8 +0.4**
comp=Z,11nm,0.4s,SNR=8.6
MOTA Moosalm 146.69 348 *i* P **PKPbc 15 30 18.6 +0.1**
comp=Z,14nm,1.0s,SNR=6.0
MYKA Terra Mystica 146.77 344 *i* P **PKPbc 15 30 18.1 -0.5**
comp=Z,7.5nm,0.6s
SQTA Sankt Quirin 146.79 348 *i* P **PKPbc 15 30 18.1 -0.6**
comp=Z,6.5nm,0.5s,SNR=5.1
DIVS Divibare 146.86 335 PKPbc 15 30 19.0 +0.1
ABTA Abfaltersbach 146.94 346 *i* P **PKPbc 15 30 18.8 -0.3**
comp=Z,12nm,0.7s,SNR=6.6
DAVA Damuels 146.98 349 *i* P **PKPbc 15 30 19.7 +0.4**
comp=Z,10nm,0.7s
ZOU Zoufplan 147.01 345 PKPbc 15 30 18.8 -0.6
LJU Ljubljana 147.07 343 *i* PKPbc **PKPbc 15 30 19.6 +0.2**
FETA Feichten 147.07 348 *i* P **PKPbc 15 30 19.9 +0.4**
comp=Z,6.3nm,0.8s
CRNS Crni Vrh 147.11 343 *i* PKPbc **PKPbc 15 30 19.2 -0.3**
CTI Castel Tesino 147.80 346 PKPbc 15 30 21.1 -0.3
TUE Stuetta 147.86 349 PKPbc 15 30 21.3 -0.4
SENIN Lac Senin/Sane 148.29 352 PKPbc 15 30 22.9 +0.1
PDG Podgorica 148.53 334 ⇓P **PKPbc 15 30 23.3 +0.1**
SSB Saint Sauveur 149.66 355 PKPbc 15 30 26.1 +0.1
TIP Timpagrande 152.28 333 ⇑P **PKiKP 15 30 32.6 +0.2**
DBIC Dimbokro 169.82 143 PKP **PKPdf 15 30 42.6 -1.4**
comp=Z,2.0nm,0.6s,baz=135,slow=4.3,SNR=3.6
TORD Torodi Ar. Bea 178.13 194 PKP **PKPdf 15 30 46.0 -0.8**
comp=Z,2.8nm,0.8s,baz=153,slow=0.9,SNR=8.8
TORD PKPab pPKPdf 15 32 37.6 +13
comp=Z,0.5nm,0.6s,baz=168,slow=4.2,SNR=2.5

MOS ***10*** *15:27:55.9± 1.4, 52.˚22S× 16.˚96E, h10km, mb5.3/26, Error ellipse: s-maj=17.9km s-min=9.4km az=85.0*
IDC ***10*** *15:27:55.5± 0.4, 52.˚26S× 17.˚02E, h0km, mb4.9/22, mb1 5.0/22, mb1mx4.9/33, mbtmp4.9/22, MS4.5/24, Ms1 4.5/24, ms1mx4.4/27, Error ellipse: s-maj=16.0km s-min=13.9km az=93.0*
NEIC ***10*** *15:27:57.5± 1.1, 52.˚22S± 0.˚09× 17.˚0E± 0.˚2, h14km± 1km, mb5.3/58, Error ellipse: s-maj=16.1km s-min=12.4km az=105.0*
BJI ***10*** *15:27:58.0± 0.0, 52.˚30S× 17.˚10E, h15km, mB5.7/1, Ms5.1/3, Ms7 4.8/3*
GCMT ***10*** *15:27:59.5± 0.1, 52.˚35S± 0.˚01× 17.˚31E± 0.˚02, h12km, MW5.3/135, Moment Tensor Solution. s59,c78; s135,c221; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.85±.01; Mθθ 0.80±.01; Mφφ 0.05±.01; Mrθ 0.41±.04; Mrφ -0.18±.01; Mθφ -0.19±.05; Best double couple: M0.96300×10^17 NP1:φs 98.00000°, δ 31.00000°, λ -99.00000°. NP2:φs 289.00000°, δ 59.00000°, λ -84.00000°. Principal axes: T 0.9540, Plg14.0000°, Azm15.0000°; N 0.0180, Plg5.0000°, Azm106.0000°; P -0.9720, Plg75.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 15:27:56.8± 0.3, 52.˚22S± 0.˚05× 17.˚07E± 0.˚07, h10km, n426, σ 0.˚99/406, mb5.2/59, MS4.7/31, 9C-9D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NVL	**N'lazarevskaya**	**18.77**	**185**	⇓*i*	P	**P**		**15 32 14.1**	**-1.5**
NVL				*e*	S	**Sn**		**15 35 37.1**	**-8.6**
NVL				pmax	pmax				
comp=Z,75nm,1.2s									
SYO	**Syowa Base**	**19.92**	**156**	⇓*e*	pP	pP		15 32 30.6	+0.5
SYO	**Syowa Base**	**19.92**	**156**	⇓*e*	P	**Pn**		**15 32 32.2**	**+2.4**
SYO	**Syowa Base**	**19.92**	**156**	⇓*e*	pP	pP		15 32 36.8	+6.7
SUR	**Sutherland**	**20.01**	**9**	P		Pn		15 32 32.0	+0.6
comp=Z,26nm,0.7s,baz=183,slow=12,SNR=10									
SUR				S		**S**		**15 36 10.1**	**-4.6**
comp=Z,2.2nm,0.6s,baz=297,slow=18,SNR=1.1									
SUR				LR		LR		15 38 26.4	
comp=Z,4μm,21.0s,baz=189,slow=32									
SUR	**Sutherland**	**20.01**	**9**	Pn		Pn		15 32 31.7	+0.3
SUR				IAmb		IAmb		15 32 40.2	
comp=Z,133nm,1.3s									
SNAA	**Sanae**	**21.43**	**197**	P		**P**		**15 32 44.9**	**+0.3**
SNAA	**Sanae**	**21.43**	**197**	P		**P**		**15 32 44.9**	**+0.3**
comp=Z,84nm,0.8s,baz=36,slow=10,SNR=150									
SNAA				LR		LR		15 38 47.7	
comp=Z,2μm,21.4s,baz=14,slow=30									
SNAA	**Sanae**	**21.43**	**197**	*c* *i*	P	**P**		**15 32 44.0**	**-0.6**
SNAA				pmax		pmax			
comp=Z,102nm,0.9s									
SNAA	**Sanae**	**21.43**	**197**	P		**P**		**15 32 44.7**	**+0.1**
SNAA				IAmb		IAmb		15 32 45.9	
comp=Z,114nm,0.9s									
VNA2	**Neumayer--Watz**	**21.78**	**202**	P		**P**		**15 32 47.9**	**-0.4**
baz=30,slow=12									
VNA1	**Neumayer--Stat**	**21.78**	**203**	P		**P**		**15 32 48.4**	**+0.1**
VNA3	**Neumayer Olymp**	**22.53**	**202**	P		**P**		**15 32 55.4**	**-0.9**
BOSA	**Boshof**	**24.36**	**18**	P		**P**		**15 33 16.1**	**+1.2**
comp=Z,25nm,0.9s,baz=196,slow=10,SNR=14									
BOSA				LR		LR		15 41 12.5	
comp=Z,3μm,20.1s,baz=198,slow=33									
BOSA	**Boshof**	**24.36**	**18**	P		**P**		**15 33 15.1**	**+0.2**
BOSA				pmax		pmax			
comp=Z,33nm,1.0s									
BOSA	**Boshof**	**24.36**	**18**	P		**P**		**15 33 15.1**	**+0.2**
MAW	**Mawson**	**26.81**	**142**	LR		LR		15 42 01.2	
comp=Z,1μm,21.4s,baz=294,slow=32									
MAW	**Mawson**	**26.81**	**142**	P		**P**		**15 33 36.7**	**+0.1**
MAW				pmax		pmax			
comp=Z,21nm,1.3s									
MAW	**Mawson**	**26.81**	**142**	P		**P**		**15 33 36.7**	**+0.1**
LBTB	**Lobatse**	**27.93**	**17**	P		**P**		**15 33 47.4**	**+0.2**
comp=Z,5.6nm,1.0s,baz=191,slow=11,SNR=4.7									
LBTB				LR		LR		15 43 48.3	
comp=Z,3μm,18.3s,baz=182,slow=34									
LBTB	**Lobatse**	**27.93**	**17**	P		**P**		**15 33 47.0**	**-0.2**
LBTB				pmax		pmax			
comp=Z,25nm,1.3s									
LBTB	**Lobatse**	**27.93**	**17**	P		**P**		**15 33 47.0**	**-0.2**
BELA	**Belgrano 2**	**31.66**	**198**	P		**P**		**15 34 18.9**	**-0.8**
BELA				IAmb		IAmb		15 34 29.7	
comp=Z,34nm,1.2s									
LSZ	**Lusaka**	**37.90**	**18**	P		**P**		**15 35 13.7**	**-0.5**
LSZ				pmax		pmax			
comp=Z,10.0nm,1.2s									
LSZ	**Lusaka**	**37.90**	**18**	P		**P**		**15 35 13.7**	**-0.5**
ABPO	**Ambohimpanom**	**40.66**	**47**	P		**P**		**15 35 37.4**	**+0.2**
ABPO				pmax		pmax			
comp=Z,11nm,1.0s									
ABPO	**Ambohimpanom**	**40.66**	**47**	P		**P**		**15 35 37.4**	**+0.2**
PMSA	**Palmer Station**	**41.15**	**220**	P		**P**		**15 35 41.2**	**+0.6**
comp=Z,31nm,1.0s,baz=163,slow=7.4,SNR=2.3									
PMSA	**Palmer Station**	**41.15**	**220**	P		**P**		**15 35 40.9**	**+0.3**
PMSA				IAmb		IAmb		15 35 43.8	
comp=Z,85nm,1.2s									
VNDA	**Vanda**	**48.69**	**170**	P		**P**		**15 36 41.2**	**+0.8**
comp=Z,22nm,0.9s,baz=234,slow=8.3,SNR=57									
VNDA				LR		LR		15 56 04.2	
comp=Z,2μm,20.5s,baz=196,slow=35									
VNDA	**Vanda**	**48.69**	**170**	P		**P**		**15 36 41.1**	**+0.6**
VNDA				pmax		pmax			
comp=Z,25nm,1.0s									
VNDA	**Vanda**	**48.69**	**170**	P		**P**		**15 36 41.1**	**+0.6**
VNDA				IAmb		IAmb		15 36 42.7	
comp=Z,25nm,0.9s									
SBA	**Scott Base**	**48.85**	**172**	P		**P**		**15 36 43.0**	**+1.3**
SBA				pmax		pmax			
comp=Z,47nm,1.2s									
SBA	**Scott Base**	**48.85**	**172**	P		**P**		**15 36 43.0**	**+1.3**
MBAR	**Mbarara**	**52.70**	**17**	⇑*e*	P	**P**		**15 37 10.5**	**-1.1**
MBAR				pmax		pmax			
comp=Z,1.0nm,0.8s									
KMBO	**Kilima Mbogo**	**53.65**	**25**	LR		LR		15 58 21.8	
comp=Z,863nm,21.7s,baz=110,slow=34									
ALF01	**Guarapari-ES**			**54.33**	**283**	*e*P	**P**	**15 37 24.4**	**+1.0**
MAN01	**Angra dos Reis**			**54.59**	**278**	*e*P	**P**	**15 37 26.4**	**+1.1**
VAS01	**Vassouras-RJ**			**54.72**	**279**	*e*P	**P**	**15 37 27.1**	**+0.9**
ESAR	**Angra dos Reis**			**54.77**	**278**	*e*P	**P**	**15 37 27.4**	**+0.9**
CPSB	**Cacapava Do Su**			**54.95**	**264**	*e*P	**P**	**15 37 28.6**	**+0.8**
RIB01	**Linhares ES**			**55.13**	**284**	*e*P	**P**	**15 37 29.5**	**+0.3**
PARB	**Paraibuna**			**55.25**	**276**	*e*P	**P**	**15 37 30.6**	**+0.5**
PET01	**Itanhaem-SP**			**55.56**	**274**	*e*P	**P**	**15 37 32.9**	**+0.6**
BSFB	**Barra de Sao F**			**55.78**	**284**	*e*P	**P**	**15 37 33.8**	**0.0**
SJMB	**Sao Joao De Ma**			**56.08**	**284**	*e*P	**P**	**15 37 36.0**	**0.0**
NAN01	**Guarapari, ES**			**56.11**	**285**	*e*P	**P**	**15 37 36.4**	**+0.1**
SPB	**Sao Paulo**			**56.17**	**275**	*e*P	**P**	**15 37 38.0**	**+1.4**
VAO	**Valinhos**			**56.33**	**275**	*e*P	**P**	**15 37 38.7**	**+0.8**
ITAB	**Concordia**			**56.40**	**268**	*e*P	**P**	**15 37 39.2**	**+1.0**
BSCB	**Bom Sucesso**			**56.49**	**279**	*e*P	**P**	**15 37 39.3**	**+0.3**
ITQB	**Itaqui**			**57.41**	**262**	*e*P	**P**	**15 37 45.5**	**+0.2**
FRTB	**Fartura**			**57.67**	**273**	*e*P	**P**	**15 37 48.5**	**+1.2**
PLCA	**Paso Flores**			**57.87**	**244**	P	**P**	**15 37 47.9**	**-0.6**
comp=Z,9.8nm,1.0s,baz=129,slow=6.9,SNR=12									
PLCA				LR		LR		16 00 09.5	
comp=Z,376nm,18.7s,baz=142,slow=33									
PLCA	**Paso Flores**			**57.87**	**244**	P	**P**	**15 37 48.0**	**-0.6**
PLCA				IAmb		IAmb		15 37 55.8	
comp=Z,31nm,1.4s									
PLCA	**Paso Flores**			**57.87**	**244**	*e*P	**P**	**15 37 48.2**	**-0.4**
DIAM	**Diamantina, MG**			**57.88**	**282**	*e*P	**P**	**15 37 48.9**	**-0.1**
NBIT	**Itapeh - BA**			**57.99**	**288**	*e*P	**P**	**15 37 50.1**	**+0.5**
PTGB	**Pitanga**			**58.19**	**270**	*e*P	**P**	**15 37 52.1**	**+1.1**
BB19B	**Bebedouro**			**58.73**	**276**	*e*P	**P**	**15 37 55.3**	**+0.6**
GDU01	**Guandu, BA**			**59.03**	**289**	*e*P	**P**	**15 37 57.3**	**+0.5**
TRCB	**Terra Rica**			**59.96**	**271**	*e*P	**P**	**15 38 04.1**	**+0.8**
PCMB	**Pacaembu**			**60.00**	**273**	*e*P	**P**	**15 38 04.7**	**+1.2**
NBLA	**Lagarto - SE**			**60.20**	**292**	*e*P	**P**	**15 38 05.0**	**+0.1**
CPUP	**Villa Florida**			**60.25**	**265**	P	**P**	**15 38 04.6**	**-0.5**
comp=Z,22nm,1.0s,baz=125,slow=6.1,SNR=22									
CPUP				LR		LR		15 59 30.8	
comp=Z,192nm,21.6s,baz=159,slow=32									
CPUP	**Villa Florida**			**60.25**	**265**	P	**P**	**15 38 04.6**	**-0.5**
CPUP				pmax		pmax			
comp=Z,25nm,1.0s									
CPUP	**Villa Florida**			**60.25**	**265**	P	**P**	**15 38 04.6**	**-0.5**
CPUP				IAmb		IAmb		15 38 05.7	
comp=Z,25nm,1.0s									
CPUP	**Villa Florida**			**60.25**	**265**	*e*P	**P**	**15 38 05.0**	**-0.1**
NBAN	**Anadia - AL**			**60.42**	**295**	*e*P	**P**	**15 38 07.3**	**+0.9**
JANB	**Januaria**			**60.78**	**284**	*e*P	**P**	**15 38 08.9**	**0.0**
IPMB	**Ipameri, GO**			**60.87**	**278**	*e*P	**P**	**15 38 10.1**	**+0.6**
ITRB	**Iturama**			**60.88**	**275**	*e*P	**P**	**15 38 10.8**	**+1.3**
BI02	**San Fabin de**			**61.12**	**247**	P	**P**	**15 38 10.5**	**-0.5**
BI02				IAmb		IAmb		15 38 18.8	
comp=Z,37nm,1.2s									
LIC	**Lamto**			**61.20**	**335**	*e*P	**P**	**15 38 12.0**	**+0.4**
comp=Z,76nm,1.0s									
KIC	**Kosan Boka**			**61.25**	**335**	*e*P	**P**	**15 38 12.2**	**+0.2**
comp=Z,13nm,0.9s									
DBIC	**Dimbokro**			**61.58**	**335**	P	**P**	**15 38 13.5**	**-0.6**
comp=Z,20nm,0.8s,baz=137,slow=8.8,SNR=17									
DBIC				LR		LR		15 58 47.6	
comp=Z,578nm,21.7s,baz=128,slow=30									
DBIC	**Dimbokro**			**61.58**	**335**	P	**P**	**15 38 13.6**	**-0.6**
DBIC				IAmb		IAmb		15 38 21.4	
comp=Z,27nm,0.9s									
TIC	**Toumodi**			**61.60**	**335**	*e*P	**P**	**15 38 14.8**	**+0.5**
NBPN	**Ponto Novo - B**			**61.70**	**290**	*e*P	**P**	**15 38 15.1**	**0.0**
BO02	**Sierra Bellavi**			**62.18**	**248**	P	**P**	**15 38 17.6**	**-0.6**
BO02				IAmb		IAmb		15 38 18.6	
comp=Z,16nm,1.0s									
BDFB	**Brasilia**			**62.55**	**280**	P	**P**	**15 38 21.3**	**+0.3**
comp=Z,35nm,1.0s,baz=126,slow=4.8,SNR=19									
BDFB				LR		LR		16 01 25.7	
comp=Z,78nm,19.8s,baz=156,slow=32									
BDFB	**Brasilia**			**62.55**	**280**	P	**P**	**15 38 20.7**	**-0.3**
BDFB				pmax		pmax			
comp=Z,46nm,1.1s									
BDFB	**Brasilia**			**62.55**	**280**	P	**P**	**15 38 20.6**	**-0.3**
NBLI	**Livramento-PB**			**62.69**	**295**	*e*P	**P**	**15 38 22.5**	**+0.7**
SDBA	**SAO DESIDERIO**			**63.21**	**285**	*e*P	**P**	**15 38 25.6**	**+0.3**
PEL	**Peldehue**			**63.31**	**250**	P	**P**	**15 38 25.8**	**+0.1**
PEL				pmax		pmax			
comp=Z,54nm,2.0s									
RCBR	**Riachuelo**			**63.38**	**297**	P	**P**	**15 38 25.9**	**-0.5**
RCBR				pmax		pmax			
comp=Z,40nm,1.3s									
RCBR	**Riachuelo**			**63.38**	**297**	P	**P**	**15 38 25.9**	**-0.5**
RCBR	**Riachuelo**			**63.38**	**297**	*e*P	**P**	**15 38 27.0**	**+0.7**
MT02	**Curacav**

NBPS Pedro II - PI 67.64 293 *e*P P 15 38 54.6 +0.6
NBMO Morrinhos-CE 67.75 295 *e*P P 15 38 55.7 +1.1
GO02 Mina Guanaco 68.54 256 P P 15 38 59.5 -0.3
GO02 IAmb IAmb 15 39 06.8
comp=Z,23nm,1.2s
KOWA Kowa 68.91 338 P P 15 39 02.2 +0.6
KOWA IAmb IAmb 15 39 03.2
comp=Z,20nm,1.0s
PB14 IPOC Station P 69.43 256 P P 15 39 04.8 -0.6
PTLB Pontes e Lacer 69.51 271 *e*P P 15 39 05.6 +0.1
PB15 IPOC Station P 69.94 258 P P 15 39 07.9 -0.5
LVC Limon Verde 70.05 259 P P 15 39 08.8 -0.5
LVC pmax pmax
comp=Z,23nm,1.3s
LVC Limon Verde 70.05 259 P P 15 39 08.8 -0.5
LVC IAmb IAmb 15 39 18.7
comp=Z,23nm,1.3s
LVC Limon Verde 70.05 259 *e*P P 15 39 10.2 +0.9
PB06 IPOC Station P 70.38 258 P P 15 39 10.6 -0.4
PB06 IAmb IAmb 15 39 12.2
comp=Z,19nm,0.8s
ROSB Rosrio 70.39 292 *e*P P 15 39 12.3 +1.4
PB09 IPOC Station P 70.87 259 P P 15 39 13.3 -0.8
CLDB Colider 70.99 277 *e*P P 15 39 16.1 +1.4
PRPB Parauapebas 71.08 285 *e*P P 15 39 16.1 +0.9
PB07 IPOC Station P 71.31 259 P P 15 39 15.1 -1.6
PB07 IAmb IAmb 15 39 24.9
comp=Z,33nm,1.3s
PB01 IPOC Station P 71.58 259 P P 15 39 17.3 -1.0
PB01 IAmb IAmb 15 39 26.6
comp=Z,31nm,1.4s
BLDU Ballidu 71.90 117 P P 15 39 20.0 +0.1
baz=72,SNR=4.0
VILB Vilhena 72.08 272 *e*P P 15 39 22.3 +1.0
MNMC Minye Minye 73.11 261 P P 15 39 27.6 -0.1
MNMC IAmb IAmb 15 39 36.2
comp=Z,34nm,1.4s
TMAB Tom-Au,PA,Br 73.11 289 *e*P P 15 39 28.2 +0.9
PB16 IPOC Station P 73.66 261 P P 15 39 31.3 +0.1
NPGB Novo Progresso 73.72 280 *e*P P 15 39 32.5 +1.6
KMBL Kambalda 74.11 121 P P 15 39 33.1 0.0
baz=74,SNR=4.6
LPAZ La Paz 74.39 264 P P 15 39 36.1 +0.5
comp=Z,14nm,1.1s,baz=109,slow=5.9,SNR=22
LPAZ LR LR 16 10 45.2
comp=Z,149nm,18.7s,baz=121,slow=35
LPAZ La Paz 74.39 264 P P 15 39 33.9 -1.7
LPAZ pmax pmax
comp=Z,45nm,1.4s
LPAZ La Paz 74.39 264 P P 15 39 33.9 -1.7
LPAZ IAmb IAmb 15 39 44.2
comp=Z,45nm,1.4s
LPAZ La Paz 74.39 264 *e*P P 15 39 36.5 +0.9
TAM Tamanrasset 75.37 349 P P 15 39 42.7 +2.3
TAM pmax pmax
comp=Z,11nm,1.2s
ITTB Itaituba 76.06 281 *e*P P 15 39 45.4 +0.9
SAML Samuel 77.02 272 P P 15 39 49.5 -0.4
SAML pmax pmax
comp=Z,41nm,1.1s
SAML Samuel 77.02 272 P P 15 39 49.5 -0.4
SAML Samuel 77.02 272 *e*P P 15 39 50.8 +0.9
MCPB Macapa, AP 77.05 287 *e*P P 15 39 51.3 +1.2
MALB Monte Alegre 77.17 284 *e*P P 15 39 51.8 +1.1
FORT Forrest 77.77 125 P P 15 39 53.2 -0.8
FORT IAmb IAmb 15 39 57.3
comp=Z,31nm,1.1s
ETMB Extrema 78.20 269 *e*P P 15 39 56.4 -0.1
ARPS Mount Arapiles 79.15 138 P P 15 40 02.7 +1.3
baz=79,SNR=7.3
RAYN Ar Rayn 79.41 26 P P 15 40 04.1 +1.2
RAYN pmax pmax
comp=Z,8.0nm,1.4s
RAYN Ar Rayn 79.41 26 P P 15 40 04.0 +1.2
TOO Toolangi 79.93 141 P P 15 40 06.9 +1.2
TOO pmax pmax
comp=Z,11nm,2.6s
BBOO Buckleboo 79.97 132 P P 15 40 06.5 +0.4
baz=80,SNR=8.4
BBOO Buckleboo 79.97 132 P P 15 40 05.9 -0.1
BBOO IAmb IAmb 15 40 07.5
comp=Z,51nm,1.4s
MACA Manacapuru-AM 80.01 278 *e*P P 15 40 06.9 +0.5
PALK Pallekele 80.10 64⇑ *e*P P 15 40 06.5 -0.4
PALK pmax pmax
comp=Z,12nm,1.2s
HTT Hallett 80.75 134 P P 15 40 10.9 +0.7
baz=81,SNR=3.9
PTGA Pitinga 81.49 280 LR LR 16 10 32.6
comp=Z,213nm,18.7s,baz=146,slow=31
PTGA Pitinga 81.49 280 P P 15 40 14.3 0.0
PTGA IAmb IAmb 15 40 23.0
comp=Z,45nm,1.4s
PTGA Pitinga 81.49 280 *e*P P 15 40 15.5 +1.2
WRKA Warakurna 82.54 121 P P 15 40 20.4 +0.6
baz=82,SNR=4.9
LTZ Lake Taylor 82.97 162 P P 15 40 21.7 -0.1
LTZ IAmb IAmb 15 40 29.7
comp=Z,31nm,1.2s
STKA Stephens Creek 83.24 135 P P 15 40 23.6 +0.3
comp=Z,18nm,1.1s,baz=200,slow=3.1,SNR=19
STKA Stephens Creek 83.24 135 P P 15 40 23.9 +0.6
baz=83,SNR=7.4
STKA Stephens Creek 83.24 135 P P 15 40 23.7 +0.4
CAN Canberra 83.25 142 P P 15 40 24.4 +1.1
CAN pmax pmax
comp=Z,30nm,1.1s
CAN Canberra 83.25 142 P P 15 40 24.4 +1.1
CNB Canberra Magne 83.39 142 P P 15 40 25.6 +1.5
baz=83,SNR=5.6
CZSB Cruzeiro do Su 83.82 265 *e*P P 15 40 26.2 -0.3
YNG Young 83.92 141 P P 15 40 28.1 +1.3
baz=84,SNR=9.1
THZ Tophouse 84.08 162 P P 15 40 26.5 -1.0
BOAV Boa Vista 84.30 281 *e*P P 15 40 30.0 +1.1
LEM Lembang 84.99 95 P P 15 40 34.0 +1.4
comp=Z,35nm,1.0s,baz=163,slow=6.8,SNR=5.8
LEM Lembang 84.99 95 P P 15 40 34.0 +1.4
CMSA Cobar Meteorol 85.27 138 P P 15 40 34.6 +1.0
baz=85,SNR=9.4
ASPA Alice Springs 86.56 125 P P 15 40 40.2 0.0
baz=86
ASAR Alice Springs 86.56 125 P P 15 40 40.3 +0.1
comp=Z,22nm,1.1s,baz=207,slow=4.5,SNR=67
ASAR LR LR 16 12 00.5
comp=Z,186nm,20.2s,baz=196,slow=31
ASAR Alice Springs 86.56 125 P P 15 40 40.0 -0.2
ASAR Alice Springs 86.56 125 P P 15 40 40.0 -0.2
AS31 Alice Springs 86.56 125 P P 15 40 40.0 -0.2
FITZ Fitzroy Crossi 86.73 115 P P 15 40 41.4 +0.4
comp=Z,2.4nm,0.8s,baz=234,slow=8.4,SNR=3.0
RPSI Rantau Prapat 87.12 82 P P 15 40 42.8 -0.1
RPSI IAmb IAmb 15 40 45.7
comp=Z,21nm,1.2s
PSI Prapat 87.20 82 P P 15 40 43.8 +0.3
comp=Z,4.7nm,0.5s,baz=180,slow=7.4,SNR=7.4
PSI Prapat 87.20 82 P P 15 40 42.8 -0.6
PSI pmax pmax
comp=Z,21nm,1.2s
BKZ Black Stump Fm 87.24 164 P P 15 40 43.4 +0.1
HYB Hyderabad 87.37 57 *i* P P 15 40 42.0 -2.0
ATAH Atahualpa 87.76 261 LR LR 16 20 34.4
comp=Z,68nm,18.3s,baz=158,slow=36
KEST Kesra 87.84 354 LR LR 16 19 48.5
comp=Z,316nm,20.4s,baz=120,slow=35
URZ Urewera 88.23 164 P P 15 40 46.9 -1.0
comp=Z,17nm,0.9s,baz=171,slow=3.2,SNR=12
URZ Urewera 88.23 164 IAmb IAmb 15 40 48.3
comp=Z,20nm,0.9s
QLP Quilpie 88.96 134 P P 15 40 52.0 +0.4
baz=89,SNR=5.9
WRA Warramunga Arr 89.88 123 P P 15 40 55.4 -0.6
comp=Z,6.3nm,1.1s,baz=194,slow=2.4,SNR=15
WRA LR LR 16 17 20.8
comp=Z,118nm,18.3s,baz=195,slow=33
WC3 Warramunga Arr 89.88 123 P P 15 40 56.0 0.0
baz=90
WB2 Warramunga Arr 89.88 123 P P 15 40 55.6 -0.4
WB2 IAmb IAmb 15 40 57.2
comp=Z,20nm,1.4s
WRAB Tennant Creek 89.89 123⇓ *e*P P 15 40 56.8 +0.7
WRAB pmax pmax
comp=Z,10.0nm,1.1s
WRAB Tennant Creek 89.89 123 P P 15 40 55.9 -0.1
WR0 Warramunga Arr 89.97 123 P P 15 40 56.0 -0.5

WB0 Warramunga Arr 90.05 123 P P 15 40 56.5 -0.3
OUZ Omahuta 90.54 161 P P 15 40 59.3 +0.5
OUZ IAmb IAmb 15 41 03.8
comp=Z,14nm,1.0s
QIS Mount Isa 92.00 128 P P 15 41 06.5 +0.6
baz=92,SNR=5.7
BRTR Keskin Array B 92.70 13 P P 15 41 09.1 +0.6
comp=Z,2.8nm,1.2s,baz=142,slow=7.2,SNR=2.8
BRTR LR LR 16 24 55.4
comp=Z,333nm,18.6s,baz=206,slow=37
ESDC Sonseca Array 93.33 344 P P 15 41 12.9 +1.5
comp=Z,2.3nm,1.2s,baz=175,slow=4.7,SNR=8.1
ESDC LR LR 16 21 32.0
comp=Z,127nm,19.4s,baz=145,slow=34
ESDC Sonseca Array 93.33 344 IAmb IAmb 15 41 35.0
comp=Z,19nm,1.5s
ROSC El Rosal 94.64 272 LR LR 16 19 36.4
comp=Z,261nm,19.2s,baz=168,slow=33
GNI Garni 95.09 21⇑ *e*P P 15 41 17.0 -2.5
GNI pmax pmax
comp=Z,3.0nm,0.9s
SDV Santo Domingo 95.55 277 LR LR 16 23 16.3
comp=Z,114nm,18.0s,baz=142,slow=35
KBZ Khabaz 98.14 19 LR LR 16 28 06.0
comp=Z,293nm,18.2s,baz=198,slow=37
KIV Kislovodsk 98.32 18 *e*P P 15 41 32.9 -1.1
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,733nm,20.0s
CMAR Chiang Mai Arr 99.53 72 P Pdif 15 41 41.4 +1.5
comp=Z,0.7nm,0.8s,baz=225,slow=5.0,SNR=4.3
CMAR LR LR 16 19 49.6
comp=Z,104nm,19.2s,baz=234,slow=31
CHTO Chiang Mai 99.81 72 P Pdif 15 41 42.6 +1.4
CHTO pmax pmax
comp=Z,2.0nm,1.2s
RKT Rikitea 101.10 206 *e*LR LR 16 14 52.0
comp=Z,477nm,34.8s
DZM Mont Dzumac 101.33 151 *e*LR LR 16 14 50.7
comp=Z,506nm,33.0s
AKASG Malin Array Be 103.06 8 PP PP 15 46 10.7 +0.6
comp=Z,0.2nm,0.2s,baz=204,slow=6.9,SNR=4.2
TBI Tubuai 103.84 193 *e*SP SP 15 55 24.9 +0.2
comp=Z,99nm,28.6s
TBI *e*SS SS 16 01 02.8 +2.0
comp=Z,94nm,25.8s
TBI Tubuai 103.84 193 *e*LR LR 16 16 08.6
comp=Z,666nm,23.8s,baz=173
NACGM Naroch 107.06 6 *i* P Pdif 15 42 09.8 -2.6
NACGM *i* P Pdif 15 42 09.8 -2.6
NACGM *i* P Pdif 15 42 09.8 -2.6
NACGM *i* PP PP 15 46 33.1 -6.6
NACGM *i* PPP PPP 15 47 57.4
NACGM *i* SKS SKSdf 15 53 14.5 -18
NACGM *i* S SKKSac 15 54 14.6 +32
NACGM *i* PS PS 15 56 19.6 +20
NACGM *i* SS SKKPbc 16 00 49.4 -35
NACGM *i* SSS SSS 16 04 27.4
NACGM *i* LR LR 16 20 10.2
PPT2 Papeete2 109.52 194 *e*SP SP 15 56 23.6 0.0
comp=Z,113nm,26.0s
PPT2 Papeete2 109.52 194 *e*LR LR 16 18 44.0
comp=Z,598nm,23.5s,baz=169
MK31 Makanchi Array 113.31 43⇓ *i*PKIKP **PKiKP** 15 46 34.0 +0.2
WMQ Urumqi 113.34 48 *e*PKP **PKiKP** 15 46 35.3 +1.3
WMQ LR LR
comp=Z,300nm,20.9s
WMQ LR LR
comp=Z,260nm,21.5s
LZH Lanzhou 115.74 64 *e*PKP **PKPdf** 15 46 36.3 -2.7
GTA Gaotai 115.99 59 PKP **PKiKP** 15 46 40.6 +1.3
GTA sPKP 15 46 47.0
GTA LR LR
comp=Z,220nm,19.3s
GTA LR LR
comp=Z,170nm,18.5s
ZALV Zalesovo Beam 119.88 39 PKP **PKPdf** 15 46 45.3 -0.8
comp=Z,0.8nm,0.6s,baz=242,slow=3.2,SNR=4.1
U57A Blanch 121.43 290 P 15 46 49.7
baz=134
NJ2 Nanjing 121.53 77 *e*PKP **PKiKP** 15 46 52.0 +1.8
K62A Royalston 121.79 300 P 15 46 50.7
baz=134
I63A Otisfield 121.87 302 P 15 46 50.8
baz=134
PKME Peaks-Kenny Pk 122.05 304 P 15 46 51.0
baz=134
N60A Cedar Hill Far 122.11 297 P 15 46 51.0
baz=134
S57A Dark Hollow, R 122.13 291 P 15 46 50.7
baz=134
L61A Hillsdale 1, H 122.18 299 P 15 46 51.0
baz=134
T56A Rocky Mt 122.25 290 P 15 46 51.4
baz=134
R57A Stanardsville 122.26 292 P 15 46 50.8
baz=134
J61A Chester 122.43 300 P 15 46 52.3
baz=133
BG3 Lake Jocassee 122.53 286 **PKPdf** 15 46 51.8 -0.1
D63A Stockholm 122.67 306 P 15 46 52.6
baz=133
M59A Waymart 122.75 297 P 15 46 51.6
baz=133
V53A Saluda 122.93 287 **PKPdf** 15 46 52.5 -0.2
L59A Walton 122.98 298 P 15 46 53.0
baz=133
Q56A Snyder Ridge, 123.15 292 P 15 46 53.1
baz=133
G61A St-Isidore-de- 123.21 302 P 15 46 52.9
baz=133
L58A Harry Jones Me 123.32 297 P 15 46 53.8
baz=133
HHC Hu-ho-hao-te 123.38 65 *e*PKP **PKiKP** 15 46 56.4 +2.7
F61A St Evariste 123.40 303 P 15 46 53.0
baz=133
I59A Olmsteadville 123.44 300 P 15 46 53.3
baz=133
E61A Lac Etchemin 123.45 304 P 15 46 53.1
baz=133
BINY Binghamton 123.50 297 P 15 46 53.6
baz=133
G60A Masonville 123.50 302 P 15 46 53.6
baz=133
S54A Dingess, Beckl 123.52 290 P 15 46 53.6
baz=133
O56A Blue Knob Stat 123.63 294 P 15 46 53.4
baz=133
K58A Earlville 123.70 298 P 15 46 53.9
baz=132
Y49A Blount Mountai 123.82 283 **PKPdf** 15 46 53.3 -1.1
E60A Ste Agathe de 123.90 303 P 15 46 54.4
baz=132
H59A Cadyville 123.91 301 P 15 46 54.5
baz=132
V51A Loudon 123.93 286 **PKPdf** 15 46 53.7 -0.8
I58A Old Forge 123.96 299 P 15 46 54.3
baz=132
D60A Saint Jean D'O 124.00 304 P 15 46 54.3
baz=132
H58A Gabriels 124.02 300 P 15 46 54.7
baz=132
K57A Scipio Center 124.15 297 P 15 46 55.1
baz=132
M56A Emporium 124.23 295 P 15 46 55.2
baz=132
F59A Saint Guilaume 124.25 302 P 15 46 55.3
baz=132
J57A Williamstown 124.32 298 P 15 46 55.5
baz=132
L56A Greenwood 124.33 296 P 15 46 55.4
baz=132
L56A Greenwood 124.33 296 **PKPdf** 15 46 55.0 -0.2
Q53A Leroy 124.36 291 P 15 46 55.2
baz=133
SWET Sewanee 124.47 285 **PKPdf** 15 46 55.1 -0.5
I57A Carthage 124.49 299 P 15 46 55.4
baz=132
O54A Avella 124.60 293 **PKPdf** 15 46 55.8 +0.1
X48A Hartselle 124.61 283 **PKPdf** 15 46 55.3 -0.5
H57A Richville 124.70 300 P 15 46 55.9
baz=132
J56A Wolcott 124.70 298 P 15 46 56.2
baz=132
E58A La Victoria 124.85 302 P 15 46 56.3
baz=132

N54A Moraine State 124.90 294 P 15 46 56.9
baz=132
G57A Newington 124.91 300 P 15 46 56.8
baz=132
T50A Nancy 125.05 287 **PKPdf** 15 46 56.5 -0.1
M54A Oil Creek Stat 125.08 294 P 15 46 57.4
baz=132
O53A New Philadelph 125.11 292 P 15 46 57.0
baz=132
D58A Chemin du LacG 125.12 303 P 15 46 57.1
baz=131
P52A Corning 125.23 291 P 15 46 57.4
baz=132
P52A Corning 125.23 291 **PKPdf** 15 46 56.3 -0.6
LATQ La Tuque 125.26 304 P 15 46 56.8
baz=131
U49A Red Boiling Sp 125.26 286 PKPdf **PKPdf** 15 46 56.6 -0.5
N53A Lisbon 125.27 293 **PKiKP** 15 46 57.4 +0.1
SONM Songino Array 125.29 56 PKP **PKPdf** 15 46 56.8 -0.1
comp=Z,1.4nm,0.9s,baz=208,slow=3.3,SNR=7.4
ZAK Zakamensk 125.42 52 *e*PKIKP **PKPdf** 15 46 54.8 -2.2
ZAK pmax pmax
comp=Z,4.0nm,1.3s
M53A WI Miller and 125.60 294 P 15 46 57.8
baz=132
ULN Ulaanbaatar 125.64 56⇓ *i*PKIKP **PKPdf** 15 46 56.7 -0.9
ERPA Erie 125.66 295 P 15 46 58.0
baz=131
L53A Girard 125.71 294 P 15 46 58.1
baz=131
Y45A Yeager Farm, C 125.71 281 PKPdf **PKPdf** 15 46 58.0 0.0
E56A St. Veronique 125.88 302 P 15 46 58.5
baz=131
D56A ZEC Mazanza, M 126.06 302 P 15 46 58.6
baz=131
WVT Waverly 126.22 284 PKIKP **PKPdf** 15 46 58.4 -0.5
WVT Waverly 126.22 284 **PKPdf** 15 46 58.4 -0.5
WVT Waverly 126.22 284 P 15 46 58.7
baz=133
T47A Sharon Grove 126.37 285 **PKPdf** 15 46 59.1 -0.1
D55A Sainte-Anne-du 126.41 302 P 15 46 59.4
baz=130
TLY Talaya 126.44 51⇑ *i*PKIKP **PKiKP** 15 47 01.7 +2.4
H53A Bobcaygeon 126.49 298 P 15 46 59.8
baz=130
WCI Wyandotte Cave 126.71 287 PKIKP **PKPdf** 15 46 59.1 -0.7
WCI Wyandotte Cave 126.71 287 **PKPdf** 15 46 59.1 -0.7
WCI Wyandotte Cave 126.71 287 P 15 47 00.1
baz=132
G54A Lake Saint Pet 126.76 299 P 15 47 00.3
baz=130
O49A Covington 126.87 290 **PKPdf** 15 46 59.7 -0.3
ALGO Algonquin Park 127.09 299 P 15 47 00.8
baz=130
SIUC Southern Illin 128.10 285 **PKPdf** 15 47 02.5 +0.1
OLIL Olney 128.11 286 **PKPdf** 15 47 02.1 -0.3
S44A Carbondale 128.11 285 **PKPdf** 15 47 02.6 +0.1
LCAR Lake Charles 128.17 282 **PKPdf** 15 47 02.6 0.0
PBMO Poplar Bluff 128.21 283 PKPdf **PKPdf** 15 47 02.4 -0.3
W41B Gary Mavity, V 128.23 280 P 15 47 03.5
baz=132
WHAR Wooly Hollow 128.34 280 PKPdf **PKPdf** 15 47 02.9 0.0
LSQQ Lebel-sur-Quev 128.49 303 P 15 47 03.4
baz=128
SFIN Lafayette 128.59 289 P 15 47 03.6
baz=130
MIAR Mount Ida 128.62 279 P 15 47 04.2
baz=133
FCAR Ozark Folk Cen 128.64 281 **PKPdf** 15 47 03.3 -0.2
T42A Van Buren 128.77 283 **PKPdf** 15 47 03.3 -0.4
FVM French Village 129.00 284 PKIKP **PKPdf** 15 47 04.2 0.0
FVM French Village 129.00 284 **PKPdf** 15 47 04.2 0.0
W39A Magazine 129.18 279 P 15 47 05.3
baz=132
W39A Magazine 129.18 279 PKPdf **PKPdf** 15 47 04.8 +0.2
WHTX Lake Whitney, 129.25 273 P 15 47 05.0
baz=134
U40A Yellville 129.39 281 PKPdf **PKPdf** 15 47 04.7 -0.3
U40A Yellville 129.39 281 P 15 47 05.5
baz=132
CCM Cathedral Cave 129.54 284 P 15 47 05.9
baz=131
CCM Cathedral Cave 129.54 284 PKIKP **PKiKP** 15 47 05.8 -0.1
CCM Cathedral Cave 129.54 284 **PKiKP** 15 47 05.8 -0.1
MGMO Mountain Grove 129.56 282 **PKPdf** 15 47 05.2 -0.1
JCT Junction City 129.64 270 P 15 47 06.1
baz=135
X37A Clayton 129.74 277 **PKPdf** 15 47 05.6 -0.1
HHAR Hobbs 130.00 280 **PKPdf** 15 47 05.7 -0.5
U38A Gravette 130.37 280 **PKPdf** 15 47 06.2 -0.6
S39A Bolivar 130.55 282 **PKPdf** 15 47 06.3 -0.8
P40A Paris 130.97 285 **PKPdf** 15 47 07.7 -0.2
TXAR Lajitas Array 131.21 266 PKP **PKiKP** 15 47 10.0 +0.3
comp=Z,6.2nm,1.1s,baz=147,slow=3.0,SNR=26
TXAR Lajitas Array 131.21 266 PKIKP **PKPdf** 15 47 08.8 0.0
TXAR Lajitas Array 131.21 266 PKPdf **PKPdf** 15 47 08.8 0.0
TX31 Lajitas Ar. Si 131.21 266 **PKPdf** 15 47 08.8 0.0
TX32 Lajitas Array 131.21 266 **PKPdf** 15 47 08.9 +0.2
P38A Dawn 131.91 284 PKPdf **PKPdf** 15 47 09.4 -0.2
WMOK Wichita Mounta 131.92 275 P 15 47 10.2
baz=132
WMOK Wichita Mounta 131.92 275 PKIKP **PKPdf** 15 47 09.6 -0.2
WMOK Wichita Mounta 131.92 275 **PKPdf** 15 47 09.6 -0.2
JFWS Jewell Farm 132.02 289 P 15 47 10.6
baz=128
MNTX Cornudas Mount 133.92 267 P 15 47 14.8
baz=134
F36A Milaca 135.66 291 PKPdf **PKPdf** 15 47 15.9 -0.5
121A Cookes Peak, D 135.97 266 P 15 47 18.4
baz=134
ECSD EROS Data Cent 136.24 286 P 15 47 18.4
baz=126
ECSD EROS Data Cent 136.24 286 PKPdf **PKPdf** 15 47 17.4 -0.3
BNM Barren Site 136.35 268 PKPdf **PKPdf** 15 47 18.4 0.0
ANMO Albuquerque 136.78 269 P 15 47 19.8
baz=132
ANMO Albuquerque 136.78 269 PKIKP **PKPdf** 15 47 19.4 +0.2
ANMO Albuquerque 136.78 269 **PKPdf** 15 47 19.4 +0.2
T25A Trinidad 136.94 273 P 15 47 20.3
baz=130
T25A Trinidad 136.94 273 PKPdf **PKPdf** 15 47 19.3 -0.2
TUC Tucson 137.65 263 P 15 47 22.0
baz=134
TUC Tucson 137.65 263 PKIKP **PKPdf** 15 47 21.2 +0.5
TUC Tucson 137.65 263 **PKPdf** 15 47 21.2 +0.5
OGNE Ogallala 137.85 280 P 15 47 22.6
baz=127
SDCO Great Sand Dun 138.00 273 P 15 47 21.9
baz=129,SNR=10
SDCO Great Sand Dun 138.00 273 PKPdf **PKPdf** 15 47 21.6 +0.2
AGMN Agassiz Nation 138.32 292 P 15 47 23.1
baz=122
Q24A Divide 138.54 275 P 15 47 23.4
baz=128
214A Organ Pipe Nat 138.64 261 P 15 47 23.9
baz=134
X18A Snowflake 138.65 266 **PKPdf** 15 47 23.1 +0.5
S22A 4UR Ranch, Cre 138.81 272 P 15 47 24.2
baz=129
ULM Lac du Bonnet 139.33 295 PP PP 15 50 15.8 -2.1
comp=Z,1.0nm,0.5s,baz=113,slow=7.7,SNR=3.3
ULM Lac du Bonnet 139.33 295⇓ *i*PKIKP **PKiKP** 15 47 25.3 0.0
ISCO Idaho Springs 139.34 276 P 15 47 25.1
baz=128
ISCO Idaho Springs 139.34 276 PKIKP **PKPdf** 15 47 24.4 +0.5
ISCO Idaho Springs 139.34 276 PKPdf **PKPdf** 15 47 24.4 +0.5
MVCO Mesa Verde 139.50 270 PKPdf **PKPdf** 15 47 24.7 +0.6
MVCO Mesa Verde 139.50 270 P 15 47 25.4
baz=130
SPX San Pedro Mart 139.59 257 **PKPdf** 15 47 25.2 +0.6
KLR Kul'dur 139.79 67⇑ *i*PKIKP **PKiKP** 15 47 25.8 -0.5
WUAZ Wupatki 140.18 266 PKPdf **PKPdf** 15 47 26.0 +0.7
WUAZ Wupatki 140.18 266 P 15 47 26.6
baz=131
N23A Red Feather La 140.20 277 P 15 47 26.0
baz=126
PV15 Paradox Valley 140.21 272 **PKPdf** 15 47 26.1 +0.6
PV13 Radium Mtn., P 140.30 271 **PKPdf** 15 47 25.9 +0.3
PV07 Paradox Valley 140.37 272 **PKPdf** 15 47 26.1 +0.5
PV03 Paradox Valley 140.38 271 **PKPdf** 15 47 24.9 -0.8
PV12 Saucer Basin, 140.39 271 PKPdf **PKPdf** 15 47 24.4 -1.3
PV18 Skein Mesa, Pa 140.41 271 **PKPdf** 15 47 24.8 -0.9
PV05 Paradox Valley 140.42 271 **PKPdf** 15 47 25.6 -0.2
PV16 Nyswonger Mesa 140.45 271 **PKPdf** 15 47 25.7 -0.1
PV17 East Wray Mesa 140.46 271 **PKPdf** 15 47 26.3 +0.5

ESJX	Sierra Juarez	140.57 258			PKPdf	15 47 27.0	+0.8
RSSD	Black Hills	140.88 282	P			15 47 27.4	
	baz=124						
RSSD	Black Hills	140.88 282	PKIKP		PKPdf	15 47 26.1	-0.3
RSSD	Black Hills	140.88 282			PKPdf	15 47 26.1	-0.3
PDMCI	Parker Dam,Lak	141.06 262	P			15 47 28.2	
	baz=133						
RMX	La Rumorosa	141.07 259			PKPdf	15 47 27.1	+0.1
IKP	In-Ko-Pah, Jac	141.12 259	P			15 47 28.4	
	baz=134						
SWSC	Sam W. Stewart	141.14 259	P			15 47 28.9	
	baz=134						
O20A	White River Ci	141.15 274	P			15 47 28.2	
	baz=127						
BC3	Big Chuckawall	141.42 260	P			15 47 28.2	
	baz=134,SNR=6.6						
W13A	Hualapai Mount	141.44 263	PKPdf		PKPdf	15 47 27.1	-0.6
MONP2	Monument Peak	141.48 259	P			15 47 29.0	
	baz=134						
IRM	Iron Mountain	141.57 261	P			15 47 28.7	
	baz=133,SNR=7.7						
BELC	Belle Mtn. Jos	141.99 260	P			15 47 29.7	
	baz=133,SNR=7.8						
TPFO	Pinon Flats	141.99 259	P			15 47 29.9	
	baz=134						
XPFO	Pion Flat	142.00 259			PKPdf	15 47 29.0	+0.4
PKCU	Pink Cliffs	142.00 268	PKPdf		PKPdf	15 47 28.5	-0.3
PFO	Pinyon Flats O	142.00 259	PKIKP		PKPdf	15 47 29.2	+0.5
PFO	Pinyon Flats O	142.00 259	PKPdf		PKPdf	15 47 29.1	+0.5
PFO	Pinyon Flats O	142.00 259	P			15 47 30.2	
	baz=134						
FCC	Fort Churchill	142.05 308	PKHKP		PKPpre	15 47 22.7	
FCC	Fort Churchill	142.05 308			PKPpre	15 47 22.7	
LCMT	Little Creek M	142.29 266			PKPdf	15 47 29.4	+0.3
GMRC	Granite Mounta	142.31 261	P			15 47 30.7	
	baz=132						
TMUT	Trail Mountain	142.47 271	PKPdf		PKPdf	15 47 29.9	+0.3
SZCU	Shurtz Canyon	142.57 267			PKPdf	15 47 30.6	+1.0
MSU	Marysvale	142.58 269	PKIKP		PKPdf	15 47 30.8	+1.1
MSU	Marysvale	142.58 269	PKPdf		PKPdf	15 47 30.8	+1.1
MVU	Marysvale	142.60 269	PKPpre		PKPpre	15 47 25.6	
CCUT	Cedar City	142.71 267	PKPdf		PKPdf	15 47 30.3	+0.4
HEC	Hector,Ludlow	142.75 261	P			15 47 31.3	
	baz=132						
SCI2	San Clemente I	142.81 257	P			15 47 32.2	
	baz=135						
SHPR	Sheep Range	143.14 264	PKPdf		PKPdf	15 47 31.0	+0.3
NLU	North Lily Min	143.40 271			PKPdf	15 47 30.1	-1.0
JLU	Jordanelle	143.40 272			PKPdf	15 47 30.4	-0.7
PDAR	Pinedale Array	143.48 277	PKhKP		PKPpre	15 47 27.8	
	comp=Z,4.4nm,0.6s,baz=128,slow=5.1,SNR=48						
PDAR			PP		PP	15 50 40.1	-3.5
	comp=Z,2.4nm,1.1s,baz=114,slow=6.6,SNR=5.6						
PDAR	Pinedale Array	143.48 277			PKPpre	15 47 27.3	
BW06	Boulder Array	143.48 277			PKPpre	15 47 27.3	
LAO	LASA Array	143.54 284	PKPpre		PKPpre	15 47 28.1	
PSUT	Pine Spring	143.63 268	PKPpre		PKPpre	15 47 28.8	
YAK	Yakutsk	143.78 47	*de*	PKIKP	PKPab	15 47 27.5	-0.1
EDW2	Edwards Air Fo	143.79 259	P			15 47 31.1	
	baz=133						
DUG	Dugway, Tooele	144.00 271	P			15 47 30.6	
	baz=127						
HWUT	Hardware Ranch	144.06 274			PKPbc	15 47 29.9	-0.2
TPNV	Topopah Spring	144.09 264	P			15 47 31.4	
	baz=130						
SPR3	Spring Creek 3	144.21 268			PKPbc	15 47 31.0	+0.2
MPMC	Manual Prospec	144.27 261	P			15 47 33.1	
	baz=132						
AHID	Auburn Hatcher	144.43 276			PKPab	15 47 31.1	+0.1
SPUT	South Promonto	144.43 273	PKPdf		PKPbc	15 47 31.2	-0.1
BGU	Big Grassy Mou	144.56 272			PKPbc	15 47 31.7	0.0
RLMT	Red Lodge	144.57 280	PKPdf		PKPbc	15 47 31.9	+0.2
RLMT	Red Lodge	144.57 280	P			15 47 32.3	
	baz=121,SNR=28						
R11A	Troy Canyon, C	144.58 266	P			15 47 32.2	
	baz=129						
LOHW	Long Hollow	144.59 277			PKPab	15 47 31.5	0.0
SNOW	Snow King Moun	144.60 277			PKPab	15 47 31.7	+0.1
REDW	Red Top Meadow	144.60 277	PKPdf		PKPab	15 47 31.5	-0.2
ISA	Isabella, Lake	144.61 260	P			15 47 32.0	
	baz=132						
ISA	Isabella, Lake	144.61 260	PKIKP		PKPbc	15 47 32.0	+0.1
ISA	Isabella, Lake	144.61 260	PKPdf		PKPbc	15 47 32.0	+0.2
FFC	Flin Flon	144.63 299	PKIKP		PKPbc	15 47 31.5	+0.3
FFC	Flin Flon	144.63 299	PKPdf		PKPbc	15 47 31.5	+0.2
ECR	Eagle Creek	144.75 276			PKPab	15 47 32.1	-0.1
CWC	Cottonwood Cre	144.88 261	P			15 47 32.9	
	baz=131						
PKM	Mcpherson Peak	144.89 258	P			15 47 32.7	
	baz=133						
HVU	Hansel Valley	144.90 273	PKIKP		PKPab	15 47 32.5	-0.2
HVU	Hansel Valley	144.90 273			PKPab	15 47 32.5	-0.2
H17A	Grant Village	144.99 278	P			15 47 34.3	
	baz=122						
YPP	Pitchstone Pla	145.06 278			PKPbc	15 47 33.2	-0.2
TIXI	Tiksi	145.10 31	*i*	PKIKP	PKPab	15 47 32.4	+0.1
TIXI	Tiksi	145.10 31			PKPbc	15 47 31.8	-0.4
YSS	Yuzh-Sakhalins	145.10 77	*e*	PKIKP	PKPdf	15 47 33.5	+0.1
GCMT	Greycliff	145.16 281			PKPab	15 47 33.5	0.0
RES	Resolute Bay	145.20 334	PKIKP		PKPdf	15 47 33.8	+1.0
RES	Resolute Bay	145.20 334			PKPdf	15 47 33.8	+1.0
YHH	Holmes Hill	145.36 279			PKPab	15 47 34.8	+0.3
YMR	Madison River	145.37 279			PKPab	15 47 34.5	0.0
TIN	Tinemaha, Big	145.37 262	P			15 47 36.0	
	baz=130						
TPH	Tonopah	145.41 264	PKIKP		PKPab	15 47 34.8	+0.1
TPH	Tonopah	145.41 264			PKPab	15 47 34.8	+0.1
YHB	Horse Butte	145.55 279			PKPab	15 47 35.1	0.0
YHL	Hebgen Lake	145.60 279			PKPdf	15 47 34.8	0.0
PAGB	Antelope Grade	145.72 258			PKPab	15 47 35.8	0.0
QLMT	Earthquake Lak	145.74 278			PKPab	15 47 35.8	+0.1
ELK	Elko	145.81 270	PKP2		PKPbc	15 47 35.9	+0.1
ELK	Elko	145.81 270			PKPbc	15 47 35.9	+0.1
MLAC	Mammoth, Mamm	146.11 262	P			15 47 38.2	
	baz=130						
NV11	Mina Array Sit	146.20 264	PKPbc		PKPbc	15 47 37.0	+0.1
BOZ	Bozeman (W)	146.25 280	P			15 47 37.7	
	baz=120,SNR=12						
BOZ	Bozeman (W)	146.25 280	PKP2		PKPbc	15 47 36.9	0.0
BOZ	Bozeman (W)	146.25 280	PKPbc		PKPbc	15 47 36.9	0.0
EGMT	Eagleton	146.29 284	PKPbc		PKPbc	15 47 36.3	-0.5
EGMT	Eagleton	146.29 284	P			15 47 37.5	
	baz=118						
NVAR	Mina Array Bea	146.29 264	PKPbc		PKPab	15 47 38.1	0.0
	comp=Z,40nm,0.9s,baz=139,slow=4.5,SNR=214						
NVAR	Mina Array Bea	146.29 264			PKPbc	15 47 37.4	+0.1
LHV	Little Huntoon	146.30 263	PKPbc		PKPab	15 47 37.4	-0.4
RYN	Ryan	146.55 264	PKPbc		PKPbc	15 47 37.9	-0.1
KVN	Kaiserville	146.56 265	PKP2		PKPbc	15 47 37.5	-0.5
KVN	Kaiserville	146.56 265			PKPbc	15 47 37.5	-0.5
MCMT	McKenzie Canyo	146.60 278			PKPbc	15 47 37.8	-0.2
BCYI	Bear Canyon	146.67 276			PKPbc	15 47 38.2	0.0
DLMT	Dillon	146.72 279			PKPbc	15 47 38.0	-0.2
LRM	Limekiln Ridge	146.86 279			PKPbc	15 47 38.2	-0.5
HRY	Holter Researc	146.92 281			PKPbc	15 47 38.3	-0.4
WAKR	Walker	147.03 263			PKPbc	15 47 38.9	-0.5
SAO	San Andreas Ge	147.13 259	PKP2		PKPbc	15 47 39.5	0.0
SAO	San Andreas Ge	147.13 259			PKPbc	15 47 39.5	0.0
YERR	Yerington	147.21 264			PKPbc	15 47 39.1	-0.8
CMB	Columbia Colle	147.31 261	PKP2		PKPbc	15 47 39.5	-0.5
CMB	Columbia Colle	147.31 261			PKPbc	15 47 39.5	-0.5
PAHR	Pah Rah Range	147.74 265			PKPbc	15 47 42.0	+0.8
AFDM	Forest Hills D	148.25 262	PKPdf		PKPdf	15 47 39.3	+0.2
AFDM					sPKPdf	15 47 43.0	+0.5
MSO	Missoula	148.25 280	PKPdf		PKPdf	15 47 38.7	-0.2
MSO			PKPbc		sPKPdf	15 47 42.5	0.0
MSO	Missoula	148.25 280	P			15 47 43.0	
	baz=118,SNR=17						
BEKR	Beckworth	148.44 264			PKPbc	15 47 43.5	+0.4
WVOR	Wild Horse Val	148.87 270	PKIKP		PKPdf	15 47 40.1	0.0
WVOR	Wild Horse Val	148.87 270			PKPdf	15 47 40.1	0.0
JTMT	Jette	148.88 281	PKPdf		PKPdf	15 47 39.7	-0.3
JTMT			PKPbc		PKPbc	15 47 44.0	0.0
WALA	Waterton Lakes	149.23 284			PKPbc	15 47 44.8	0.0
BMO	Blue Mountains	149.34 275	PKP2		PKPbc	15 47 45.4	+0.3
BMO	Blue Mountains	149.34 275	PKPdf		PKPdf	15 47 40.7	-0.1
BMO			PKPbc		PKPbc	15 47 45.4	+0.3
HOPS	Hopland Field	149.55 260			PKiKP	15 47 46.6	-0.2
O03E	Paynes Creek	149.58 263	P			15 47 46.1	
	baz=127,SNR=25						
MOD	Modoc Plateau	149.60 267	PKPdf		PKPdf	15 47 41.6	+0.3
MOD			PKPbc		PKPbc	15 47 46.1	+0.1
F10A	Beach Ranch, E	149.84 277			PKPbc	15 47 46.1	-0.2
O02D	Mt. Diablo Mer	150.11 262	P			15 47 48.6	
	baz=127,SNR=7.1						
WDC	Whiskeytown Da	150.20 263	PKIKP		PKPbc	15 47 47.2	0.0
WDC	Whiskeytown Da	150.20 263	PKPdf		PKPdf	15 47 41.8	-0.3
WDC			PKPbc		PKPbc	15 47 47.2	0.0
I07A	Izee	150.29 272			PKPdf	15 47 42.5	+0.2
I07A			PKPbc		PKiKP	15 47 48.5	+0.3
M04C	Macdoel	150.47 266	P			15 47 49.1	
	baz=125,SNR=12						
N02D	Trinity Center	150.53 264	P			15 47 49.1	
	baz=126,SNR=12						
G08A	Pilot Rock	150.57 274	PKPdf		PKPdf	15 47 42.7	0.0
G08A			PKPbc		PKiKP	15 47 48.9	+0.1
E09A	Wood Farm, Sta	150.66 277	PKPdf		PKPdf	15 47 42.4	-0.2
E09A			PKPbc		PKPbc	15 47 48.2	0.0
NEW	Newport	150.82 281	P			15 47 48.6	
	baz=115						
NEW	Newport	150.82 281	PKIKP		PKPbc	15 47 47.6	-0.9
NEW	Newport	150.82 281			PKPbc	15 47 47.5	-0.9
M02C	Callahan	150.87 264	P			15 47 50.0	
	baz=126,SNR=5.5						
K04D	Chiloquin, OR	150.89 267	P			15 47 50.4	
	baz=124						
J05D	Fort Rock, OR	150.93 269	P			15 47 50.1	
	baz=123,SNR=5.6						
YBH	Yreka Blue Hor	150.98 265	PKIKP		PKPbc	15 47 48.9	-0.3
YBH	Yreka Blue Hor	150.98 265			PKPbc	15 47 48.9	-0.3
L04D	Klamath Falls	151.00 266	P			15 47 49.8	
	baz=124,SNR=5.8						
PINE	Pine Mountain	151.02 270			PKiKP	15 47 50.0	+0.1
E08A	Dider Farm, El	151.21 276			PKiKP	15 47 49.7	-0.2
C09A	Chrisman Ranch	151.32 279			PKPbc	15 47 49.6	-0.1
D08A	Wollman Farm,	151.38 277	PKPdf		PKPdf	15 47 43.6	-0.1
D08A			PKPbc		PKiKP	15 47 50.1	-0.2
J04D	Umpqua Nationa	151.45 268	P			15 47 51.3	
	baz=123,SNR=7.7						
I05D	Terrebonne, OR	151.55 271	P			15 47 51.6	
	baz=121,SNR=6.0						
HUMO	Hull Mountain	151.62 266	PKPdf		PKPdf	15 47 44.5	+0.2
HUMO			PKPbc		PKiKP	15 47 51.0	0.0
E07A	Sunnyside	151.73 276			PKiKP	15 47 51.1	+0.1
L02E	Cave Junction	151.77 265	P			15 47 51.8	
	baz=125						
I04A	Tendick Farm,	151.93 269	P			15 47 51.4	
	baz=122,SNR=6.5						
G05D	Wamic, OR	152.00 272	P			15 47 52.8	
	baz=120						
K02D	Willamette Mer	152.11 266	P			15 47 52.9	
	baz=124						
B08A	Colville Reser	152.20 280	PKPdf		PKPdf	15 47 45.3	+0.4
B08A			PKPbc		PKPbc	15 47 51.6	0.0
H04A	Detroit Lake	152.25 271			PKPbc	15 47 52.0	+0.1
H04D	Lebanon	152.51 270	P			15 47 53.9	
	baz=121						
YKA	Yellowknife Ar	152.64 311	PKP		PKPdf	15 47 42.8	-2.3
	comp=Z,1.2nm,0.9s,baz=88,slow=2.2,SNR=9.5						
YKA			PKPbc		PKPbc	15 47 52.0	-0.1
	comp=Z,8.8nm,0.9s,baz=88,slow=2.3,SNR=12						
YKA			PP		PP	15 51 33.5	-2.9
	comp=Z,0.3nm,0.6s,baz=83,slow=6.5,SNR=4.3						
LON	Longmire	153.01 275	PKIKP		PKPbc	15 47 53.6	0.0
LON	Longmire	153.01 275			PKPdf	15 47 45.8	-0.5
LON			PKPbc		PKPbc	15 47 53.6	0.0
G03D	McMinnville, O	153.18 271	P			15 47 54.0	
	baz=120						
E04D	Cinebar	153.39 274	P			15 47 55.1	
	baz=117						
MA2	Magadan	153.50 56	PKIKP		PKPbc	15 47 54.0	-0.1
MA2	Magadan	153.50 56			PKPbc	15 47 54.0	-0.1
B05A	Bryant	153.84 278	P			15 47 56.0	
	baz=114						
D03D	Eldon	154.14 276	P			15 47 57.5	
	baz=115						
SEY	Seymchan	154.30 48	*je*	PKIKP	PKPdf	15 47 48.0	+0.5
DLBC	Dease Lake	160.42 302	PKPab		PKPab	15 48 37.3	+0.7
TOLK	Toolik Lake Re	162.33 344	P			15 48 47.1	
	baz=28						
DAWY	Dawson	162.95 323	PKPab		PKPab	15 48 48.4	+0.9
EGAK	Eagle	163.16 327	P			15 48 49.3	
	baz=52						
PRP	Porcupine Dome	164.00 333	P			15 48 54.9	
	baz=42						
RDOG	Red Dog Mine	164.11 360	P			15 48 54.8	
	baz=0.2						
IL31		164.95 333			PKPab	15 48 56.3	+0.2
ILAR	Eielson Array	164.95 333	PKPab		PKPab	15 48 57.6	+1.4
	comp=Z,3.2nm,1.1s,baz=19,slow=3.4,SNR=13						
ILAR	Eielson Array	164.95 333	PKP2		PKPab	15 48 56.5	+0.3
ILAR	Eielson Array	164.95 333	PKPab		PKPab	15 48 56.5	+0.3
PINM	Pinnacle	165.17 311	P			15 48 59.4	
	baz=68						
HDA	Harding Lake	165.24 332	P			15 48 59.5	
	baz=42						
HDA			P			15 48 59.5	
	baz=42						
I23K	Minto, Yukon-K	165.29 337	P			15 48 59.0	
	baz=35						
CTG	Chitna Glacier	165.30 315	P			15 48 59.7	
	baz=53						
PAX	Paxson	165.79 326	P			15 49 02.0	
	baz=49						
MCARA	McCarthy VSAT	165.81 318	P			15 49 02.7	
	baz=59						
N25K	Chitina, Valde	166.32 321	P			15 49 03.6	
	baz=55						
KLU	Klutina	166.89 322	P			15 49 06.5	
	baz=53						

*IDC **10** 15:31:28.0±4.2,24˚.91N×94˚.42E, h86km±39km, mb3.0/4, mb1 3.2/5, mb1mx3.0/42, mbtmp3.3/5, Error ellipse: s-maj=61.2km s-min=21.5km az=69.0*

ISC 10 15:31:27.0±2.1,25˚.0N±0˚.3×94˚.4E±0˚.6, h72km, n18, σ0s91/16, mb3.2/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
CM33	Chiang Mai Arr	7.42	145	P		Pn 15 33 12.0	-0.7
CMMT	Chiang Mai	7.43	145	P		Pn 15 33 12.0	-0.8
CM34	Chiang Mai Arr	7.50	143	P		Pn 15 33 14.0	+0.2
CM32	Chiang Mai Arr	7.51	146	P		Pn 15 33 14.0	+0.1
CM35	Chiang Mai Arr	7.65	144	P		Pn 15 33 16.0	+0.2
CM15	Chiang Mai Arr	7.72	146	P		Pn 15 33 18.4	+1.7
CM31	Chiang Mai Arr	7.72	146	P		Pn 15 33 25.1	+8.3
CMAR	Chiang Mai Arr	7.72	146	P		Pn 15 33 17.1	+0.3
	0.3nm,0.3s,baz=321,slow=13,SNR=25						
CM13	Chiang Mai Arr	7.74	147	P		Pn 15 33 25.0	+8.0
CM02	Chiang Mai Arr	7.74	146	P		Pn 15 33 18.2	+1.1
CM36	Chiang Mai Arr	7.75	145	P		Pn 15 33 17.0	-0.2
CM05	Chiang Mai Arr	7.77	146	P		Pn 15 33 18.3	+0.8
CM04	Chiang Mai Arr	7.79	146	P		Pn 15 33 18.0	+0.2
SUKH	Sukhothai	8.89	146	P		Pn 15 33 34.4	+1.6
MKAR	Makanchi Array	23.83	339	P		P 15 36 33.4	-0.1
	0.1nm,0.4s,baz=145,slow=11,SNR=5.1						
SONM	Songino Array	24.70	20	P		P 15 36 42.1	+0.7
	0.2nm,0.5s,baz=187,slow=8.5,SNR=2.2						
WRA	Warramunga Arr	59.16	135	P		P 15 41 19.6	-1.1
	1.3nm,1.2s,baz=324,slow=7.3,SNR=5.6						
ASAR	Alice Springs	61.66	139	P		P 15 41 37.0	-0.6
	0.2nm,0.4s,baz=318,slow=6.8,SNR=5.2						

*IDC **10** 16:00:03.9±1.5, 11˚.43N×86˚.78W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.6/44, mbtmp3.6/8, ML2.9/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/36, Error ellipse: s-maj=55.1km s-min=24.3km az=43.0*

*INET **10** 16:00:14.3, 11˚.61N×86˚.77W, h9km, MW3.9*

ISC 10 16:00:08.8±1.2, 11˚.3N±0˚.3×86˚.8W±0˚.2, h49km, n9, σ1s73/12, mb3.5/6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
JTS	Las Juntas de	2.07	117	Pn		Pn 16 00 40.2	-1.0
	1.6nm,0.3s,baz=0.0,slow=20,SNR=2.5						
JTS				Sn		Sn 16 01 05.1	-0.7
	17nm,0.3s,baz=17,slow=15,SNR=4.2						
JTS				LR		LR 16 01 12.3	
	comp=Z,117nm,18.7s,baz=328,slow=32						
CMIG	Matias Romero	9.74	307	Pn		Pn 16 02 23.7	-2.7
	0.2nm,0.3s,baz=105,slow=10,SNR=6.2						
TXAR	Lajitas Array	23.89	321	P		P 16 05 18.6	+0.4
	1.7nm,0.8s,baz=137,slow=10,SNR=19						
TXAR				PcP		PcP 16 09 03.5	+3.4
	0.7nm,0.8s,baz=145,slow=4.6,SNR=5.1						
TKL	Tuckaleechee C	24.45	6	P		P 16 05 24.5	+1.3
	2.3nm,0.9s,baz=155,slow=10,SNR=4.3						
PDAR	Pinedale Array	37.11	332	P		P 16 07 15.3	+0.4
	0.4nm,0.7s,baz=126,slow=6.9,SNR=2.8						
NVAR	Mina Array Bea	39.01	319	P		P 16 07 31.9	+0.9
	0.4nm,0.6s,baz=142,slow=7.5,SNR=4.0						
NVAR				PcP		PcP 16 09 42.1	+1.6
	0.3nm,0.4s,baz=125,slow=5.6,SNR=2.9						
ULM	Lac du Bonnet	39.59	351	P		P 16 07 34.6	-0.8
	1.0nm,0.5s,baz=133,slow=6.0,SNR=3.4						
YKA	Yellowknife Ar	54.92	345	P		P 16 09 33.8	-0.6
	0.2nm,0.7s,baz=134,slow=8.5,SNR=6.6						
CMAR	Chiang Mai Arr	149.93	349	PKPbc		PKiKP 16 19 56.0	+0.3
	1.2nm,0.8s,baz=340,slow=3.3,SNR=9.4						

*IDC **10** 16:07:44.8±5.3, 52˚.26N×169˚.30W, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.3/67, mbtmp3.5/6, ML3.2/3, Error ellipse: s-maj=130.8km s-min=23.6km az=164.0*

*NEIC **10** 16:07:49.5±1.8, 51˚.96N±0˚.08×169˚.38W±0˚.09, h43km±4km, ML2.9/17(AEIC), Error ellipse: s-maj=11.3km s-min=8.3km az=168.0*

*AEIC **10** 16:07:49.9±2.0, 52˚.07N±0˚.07×169˚.41W±0˚.09, h47km±7km, Error ellipse: s-maj=10.2km s-min=7.8km az=178.0*

ISC 10 16:07:48.1±1.4, 52˚.0N±0˚.1×169˚.29W±0˚.09, h30km, n25, σ2s02/28, mb3.4/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
NIKH	Nikolski High	0.99	15			Pb 16 08 07.5	+0.8
OKSP	Okmok Steeple	1.38	26			Pb 16 08 12.9	-0.3
OKSO	Okmok South	1.51	27			Pb 16 08 14.2	-1.2
OKSO						Sb 16 08 34.1	0.0
OKFG	Magazine Ridge	1.63	30			Pb 16 08 16.0	-1.4
OKFG						Sb 16 08 37.7	+0.2
MAPS	Pakushin South	2.29	38			Pn 16 08 26.1	+2.3
MGOD	Makushin Gods	2.30	39			Pb 16 08 26.6	-2.4
MSW	Makushin Switc	2.43	38			Pn 16 08 28.4	+2.6
MNAT	Makushin Natee	2.44	39			Pn 16 08 28.6	+2.7
MNAT						Sb 16 08 58.5	-2.5
ZRO	Akutan Zero	2.88	43			Pn 16 08 34.8	+2.8
AKBBA	Akutan Broad B	2.91	43			Pn 16 08 35.4	+3.1
AKUT	Akutan	3.00	44	Pn		Pn 16 08 36.4	+2.9
ATKA	Atka Island	3.03	275	Pn		Pn 16 08 33.9	-0.1
ADK	Adak	4.58	271	Pn		Pn 16 08 56.1	+0.9
SPIA	Saint Paul Isl	5.20	354	Pn		Pn 16 09 07.1	+3.4
CNBA	Chernabura Isl	6.44	60	Pn		Pn 16 09 23.1	+2.4
OHAK	Old Harbor	10.63	54	Pn		Pn 16 10 19.3	+1.1
KDAK	Kodiak Island	11.20	52	Pn		Pn 16 10 26.3	+0.3
	0.2nm,0.3s,baz=86,slow=3.6,SNR=7.6						
KDAK	Kodiak Island	11.20	52			Pn 16 10 27.2	+1.2
CNPM	China Poot	12.61	46	Pn		Pn 16 10 47.1	+1.9
BRLK	Bradley Lake	12.88	46	Pn		Pn 16 10 50.7	+1.8
ILAR	Eielson Array	17.21	33	Pn		Pn 16 11 42.8	-3.2
	0.1nm,0.3s,baz=234,slow=9.0,SNR=1.5						
PETK	Petropavlovsk-	20.00	286	P		Pn 16 12 18.7	-1.2
	0.4nm,0.3s,baz=86,slow=13,SNR=15						
INK	Inuvik	23.61	33	P		P 16 12 55.7	-0.3
	0.7nm,0.4s,baz=221,slow=7.2,SNR=5.4						
YKA	Yellowknife Ar	30.44	48	P		P 16 13 57.9	+0.4
	0.2nm,0.5s,baz=274,slow=7.8,SNR=2.5						
MKAR	Makanchi Array	64.08	314	P		P 16 18 18.1	-0.8
	0.2nm,0.6s,baz=58,slow=6.7,SNR=2.6						

*IDC **10** 16:10:40.2±1.1, 12˚.00N×86˚.21W, h0km, mb3.6/7, mb1 3.9/9, mb1mx3.7/49, mbtmp3.6/9, ML3.6/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/37, Error ellipse: s-maj=52.5km s-min=22.0km az=54.0*

*UCR **10** 16:10:42.6±1.7, 10˚.96N×86˚.78W, h5km, MW4.4*

*INET **10** 16:10:43.3, 11˚.14N×86˚.86W, h15km, MW3.7*

ISC 10 16:10:42.4±0.8, 11˚.10N±0˚.08×86˚.91W±0˚.07, h30km, n26, σ1s47/29, mb3.4/7, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
MASN	Masaya	1.15	40	*e*	P	Pn 16 11 02.7	+0.2
LAPC	Finca la Perla	1.48	103	*i*	P	Pn 16 11 06.5	-0.6
LAPC				*i*	S	Sn 16 11 25.6	+0.1
GB1A	Borinquen Arri	1.51	101	*i*	P	Pn 16 11 07.1	-0.3
GB1A				*i*	S	Sb 16 11 27.9	-0.7
PLVR	Palo Verde	1.70	116	*e*	P	Pn 16 11 08.2	-2.0
GRZA	Playa Garza	1.72	133	*e*	P	Pn 16 11 08.5	-1.7
COLC	Colonia	1.73	104	*i*	P	Pn 16 11 10.7	+0.3
INDI	Punta indio, G	1.85	132	*e*	P	Pn 16 11 11.1	-0.9
JTS	Las Juntas de	2.08	113	Pn		Pn 16 11 16.2	+0.9
	13nm,0.3s,baz=18,slow=11,SNR=34						
JTS				Sn		Sn 16 11 39.8	-0.5
	27nm,0.3s,baz=335,slow=17,SNR=4.1						
JTS				LR		LR 16 12 22.5	
	comp=Z,215nm,19.8s,baz=360,slow=49						
JACO	JACO, Garabito	2.63

KOTA				*i* S		**Sg**	**16 12 50.9**	**-0.9**
KRIK	**Erzurum-spir**	**1.01**	**306**	*i* P		**Pb**	**16 12 41.5**	**0.0**
KRIK				*i* S		**Sb**	**16 12 55.6**	**+0.5**
MUSM	**Mu-Merkez**	**1.09**	**200**	*i* P		**Pg**	**16 12 41.7**	**-0.7**
MUSM				*i* S		**Sg**	**16 12 55.0**	**-1.5**
SLHN	**Bingol, Solhan**	**1.09**	**224**	*i* P		**Pb**	**16 12 42.1**	**-0.7**
SLHN				*i* S		**Sn**	**16 12 58.1**	**-0.7**
SLHN				IAML			16 13 06.0	
	comp=E,1μm,0.7s							
ADCV	**BITLIS_Adilcev**	**1.10**	**148**	*i* P		**Pg**	**16 12 42.0**	**-0.6**
ADCV				*i* S		**Sg**	**16 12 56.6**	**-0.2**
YEDI	**Yedisu-Bingol**	**1.16**	**255**	PN	Pn	**Pn**	**16 12 43.2**	**-0.6**
YEDI				SN		**Sn**	**16 13 00.9**	**+0.3**
DDEM	**Demirkent**	**1.16**	**351**	*i* P		**Pb**	**16 12 43.9**	**-0.1**
DDEM				*i* S		**Sg**	**16 12 58.9**	**0.0**
DDEM				IAML			16 13 05.0	
	comp=N,2μm,0.5s							
DDEM				IAML			16 13 05.0	
	comp=E,2μm,0.3s							
GURO	**Guroymak-BITLI**	**1.19**	**178**	PN	Pn	**Pn**	**16 12 44.4**	**-0.4**
GURO				SN		**Sn**	**16 13 01.9**	**+0.5**
KARS	**Kars**	**1.21**	**43**	PN	Pg	**Pg**	**16 12 44.7**	**-0.2**
KARS				SN		**Sn**	**16 13 03.6**	**+1.7**
DIGO	**Kars**	**1.25**	**57**	*i* P		**Pg**	**16 12 44.3**	**-1.4**
BNGB	**Bingl**	**1.27**	**234**	PN	Pg	**Pg**	**16 12 45.2**	**-0.7**
BNGB				SN		**Sn**	**16 13 04.4**	**+1.3**
DYDN	**Diyadin**	**1.33**	**98**	*i* P		**Pb**	**16 12 46.2**	**-0.5**
BLIS	**Bitlis-Merkez**	**1.33**	**176**	*i* P		**Pb**	**16 12 46.5**	**-0.5**
BLIS				*i* S		**Sn**	**16 13 04.8**	**0.0**
BLIS				IAML			16 13 07.0	
	comp=E,1μm,0.4s							
VMUR	**Van-Muradiye**	**1.44**	**121**	*i* P		**Pn**	**16 12 47.9**	**-0.4**
VMUR				*i* S		**Sg**	**16 13 08.3**	**+0.5**
EAK	**Akyaka**	**1.55**	**52**	*i* P		**Pn**	**16 12 49.8**	**0.0**
EAK				*i* S		**Sg**	**16 13 13.8**	**+2.2**
VANB	**Van**	**1.58**	**136**	PN	Pg	**Pg**	**16 12 52.8**	**+0.9**
CLDR	**Caldiran**	**1.61**	**111**	PN	Pb	**Pb**	**16 12 51.5**	**-0.2**
CLDR	**Caldiran**	**1.61**	**111**	*i* P		**Pn**	**16 12 50.6**	**0.0**
AKDM	**Akdamar-Van**	**1.61**	**151**	PN	Pg	**Pg**	**16 12 52.1**	**-0.4**
IGDI	**IGDIR**	**1.61**	**85**	*i* P		**Pb**	**16 12 51.6**	**-0.1**
DBOC	**Borcka**	**1.62**	**351**	*i* P		**Pg**	**16 12 52.2**	**-0.4**
DBOC				IAML			16 13 15.0	
	comp=E,806nm,0.8s							
TVAN	**Van**	**1.64**	**137**	*i* P		**Pg**	**16 12 52.4**	**-0.6**
CHOM	**Cayeli-Rize**	**1.65**	**326**	PN	Pg	**Pg**	**16 12 53.1**	**0.0**
CHAY	**Cayeli-Rize**	**1.65**	**325**	PN	Pb	**Pb**	**16 12 52.3**	**0.0**
GEVA	**Gevas**	**1.66**	**149**	*i* P		**Pn**	**16 12 51.6**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.71**	**201**	PN	Pg	**Pg**	**16 12 53.3**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.71**	**201**	*i* P		**Pg**	**16 12 54.5**	**+0.2**
SVAN				*i* S		**Sg**	**16 13 17.0**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.75**	**81**	PN	Pb	**Pb**	**16 12 53.6**	**-0.4**
SRTM	**Siirt_Merkez**	**1.75**	**182**	*i* P		**Pg**	**16 12 54.7**	**-0.5**
SRTM				*i* S		**Sg**	**16 13 20.0**	**+2.1**
EUZM	**Uzumlu**	**1.77**	**270**	*i* P		**Pb**	**16 12 53.7**	**-0.8**
EPOS	**Posof**	**1.84**	**17**	*i* P		**Pn**	**16 12 54.6**	**+0.8**
PERV	**Siirt/Pervari-**	**1.85**	**166**	*i* P		**Pb**	**16 12 55.9**	**+0.1**
PERV				IAML			16 13 28.0	
	comp=N,465nm,0.8s							
PERV				IAML			16 13 31.0	
	comp=E,429nm,0.9s							
BATM	**Batumi**	**1.87**	**353**	*i* P		**Pn**	**16 12 51.9**	**-2.1**
BATM				*i* S		**Sn**	**16 13 15.6**	**-2.3**
OZAP	**Van, Ozalp-Mer**	**1.90**	**124**	*i* P		**Pb**	**16 12 56.5**	**-0.1**
BTMN	**Batman**	**1.94**	**197**	*i* P		**Pg**	**16 12 58.3**	**-0.4**
BTMN				IAML			16 13 35.0	
	comp=E,392nm,1.0s							
KOVA	**Elazig, Kovanc**	**1.98**	**239**	*i* P		**Pb**	**16 12 57.8**	**-0.3**
AKH	**Akhalkalaki**	**2.02**	**34**	PN	Pb	**Pb**	**16 12 57.6**	**-1.1**
MACK	**Trabzon**	**2.08**	**306**	*i* P		**Pg**	**16 13 00.6**	**-0.8**
KTUT	**Trabzon**	**2.10**	**307**	PN	Pb	**Pb**	**16 12 58.4**	**-1.6**
KELT	**Kelkit**	**2.14**	**282**	*i* P		**Pb**	**16 13 00.5**	**-0.3**
GNI	**Garni**	**2.15**	**78**	PN	Pb	**Pb**	**16 12 59.7**	**-1.3**
SIRN	**Sirnak**	**2.27**	**171**	*i* P		**Pb**	**16 13 01.9**	**-1.1**
DYBB	**Diyarbakir**	**2.30**	**220**	PN	Pb	**Pb**	**16 13 01.2**	**+1.2**
REFA	**Refahiye_ERZN**	**2.52**	**263**	*i* P		**Pg**	**16 13 08.8**	**-1.0**
ALUC	**Giresun/Alucra**	**2.54**	**285**	*i* P		**Pg**	**16 13 08.8**	**-1.6**
CUKT	**Cukurca**	**2.80**	**153**	PN	Pn	**Pn**	**16 13 08.3**	**+1.4**
MALT	**Malatya**	**3.12**	**244**	PN	Pn	**Pn**	**16 13 12.9**	**+1.6**
URFA	**Urfa**	**3.38**	**228**	PN	Pn	**Pn**	**16 13 16.8**	**+1.9**
RSDY	**Resadiye-TOKAT**	**3.64**	**282**	PN	Pn	**Pn**	**16 13 20.3**	**+2.0**
DARE	**Darende-Malaty**	**3.69**	**253**	PN	Pn	**Pn**	**16 13 21.1**	**+1.9**
SVSK	**Karacayir**	**3.85**	**274**	PN	Pn	**Pn**	**16 13 23.3**	**+2.1**

NEIC ***10*** *16:14:31.8±2.8, 51°.87N±0°.05×169°.34W±0°.09, h22km±8km, mb4.1/14, ML3.2/20(AEIC), Error ellipse: s-maj=9.4km s-min=5.0km az=127.0*

IDC ***10*** *16:14:32.7±1.2, 52°.31N×169°.46W, h0km, mb3.5/8, mb1 3.7/10, mb1mx3.5/69, mbtmp3.5/10, ML3.3/2, Error ellipse: s-maj=36.4km s-min=19.2km az=177.0*

AEIC ***10*** *16:14:33.5±2.1, 51°.94N±0°.07×169°.46W±0°.09, h52km±7km, Error ellipse: s-maj=11.1km s-min=7.3km az=163.0*

ISC 10 16:14:34.3±0.9, 52°.02N±0°.09×169°.38W±0°.06, h30km, n51,
σ1§69/54, mb3.4/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.01**	**18**		**Pb**	**16 14 52.9**	**-0.3**
NIKH					**Sb**	**16 15 08.2**	**+2.1**
OKSP	**Okmok Steeple**	**1.41**	**28**		**Pn**	**16 14 58.3**	**+0.4**
OKSO	**Okmok South**	**1.54**	**28**		**Pn**	**16 14 59.5**	**-0.1**
OKSO					**Sn**	**16 15 20.2**	**+1.6**
OKFG	**Magazine Ridge**	**1.66**	**32**		**Pn**	**16 15 01.9**	**+0.5**
OKFG					**Sb**	**16 15 25.0**	**+0.4**
MAPS	**Pakushin South**	**2.33**	**38**		**Pn**	**16 15 11.4**	**+0.9**
MGOD	**Makushin Gods**	**2.34**	**39**		**Pn**	**16 15 11.9**	**+1.1**
MREP	**Makushin Rep't**	**2.40**	**40**		**Pn**	**16 15 12.9**	**+1.3**
MSW	**Makushin Switc**	**2.47**	**38**		**Pn**	**16 15 13.6**	**+1.2**
MNAT	**Makushin Natee**	**2.48**	**40**		**Pn**	**16 15 13.8**	**+1.2**
ZRO	**Akutan Zero**	**2.92**	**43**		**Pn**	**16 15 20.0**	**+1.3**
AKBBA	**Akutan Broad B**	**2.95**	**44**		**Pn**	**16 15 20.6**	**+1.6**
ATKA	**Atka Island**	**2.98**	**276**		**Pn**	**16 15 18.0**	**-1.4**
AHB	**Akutan Harbor**	**3.01**	**44**		**Pn**	**16 15 21.2**	**+1.3**
AKUT	**Akutan**	**3.04**	**44**	Pn	**Pn**	**16 15 21.2**	**+1.0**
ADK	**Adak**	**4.52**	**271**		**Pn**	**16 15 40.8**	**+0.2**
SPIA	**Saint Paul Isl**	**5.20**	**355**	Pn	**Pn**	**16 15 51.7**	**+1.8**
CNBA	**Chernabura Isl**	**6.49**	**61**	Pn	**Pn**	**16 16 07.8**	**+0.1**
OHAK	**Old Harbor**	**10.68**	**54**	Pn	**Pn**	**16 17 04.4**	**-0.6**
KDAK	**Kodiak Island**	**11.25**	**53**	Pn	**Pn**	**16 17 11.7**	**-1.1**
KDAK	0.3nm,0.3s,baz=336,slow=8.0,SNR=1.1			Sn	**Sn**	**16 19 10.4**	**-6.8**
	0.1nm,0.3s,baz=261,slow=15,SNR=1.9						
RSO	**Redoubt South**	**12.50**	**41**	Pn	**Pn**	**16 17 27.9**	**-2.1**
SEW	**Seward**	**13.72**	**46**	Pn	**Pn**	**16 17 46.1**	**-0.3**
SUA	**Susitna One**	**13.88**	**40**	Pn	**Pn**	**16 17 49.2**	**+0.5**
PPLA	**Purkeypile**	**14.24**	**33**	P	**P**	**16 17 59.2**	**-1.5**
KNK	**Knik Glacier**	**14.78**	**42**	Pn	**Pn**	**16 17 59.8**	**-1.2**
GLI	**Glacier Island**	**15.11**	**45**	Pn	**Pn**	**16 18 05.1**	**-0.3**
HIN	**Hinchinbrook I**	**15.18**	**48**	Pn	**Pn**	**16 18 05.6**	**-0.7**
FID	**Port Fidalgo**	**15.33**	**46**	Pn	**Pn**	**16 18 06.0**	**-2.3**
FID				IAmb	IAmb	16 18 09.6	
	comp=Z,18nm,1.1s						
BPAW	**Bear Paw Mtn.**	**15.45**	**31**	Pn	**Pn**	**16 18 08.5**	**-1.3**
BPAW				IAmb	IAmb	16 18 16.1	
	comp=Z,19nm,1.4s						
SCM	**Sheep Creek Mo**	**15.46**	**42**	Pn	**Pn**	**16 18 08.3**	**-1.7**
SCM				IAmb	IAmb	16 18 13.2	
	comp=Z,10nm,0.8s						
KLU	**Klutina**	**15.89**	**44**	Pn	**Pn**	**16 18 14.5**	**-1.1**
KLU				IAmb	IAmb	16 18 15.9	
	comp=Z,4.7nm,0.7s						
RAGM	**Ragged Mountai**	**16.01**	**49**	Pn	**Pn**	**16 18 15.3**	**-1.8**
M24K	**Tolsona, Glenn**	**16.07**	**42**	Pn	**Pn**	**16 18 16.4**	**-1.4**
N25K	**Chitina, Valde**	**16.51**	**45**	P	**Pn**	**16 18 23.4**	**-0.2**
WRH	**Wood River Hil**	**16.66**	**33**	P	**P**	**16 18 26.2**	**-1.1**
CRQM	**Cirque**	**16.85**	**48**	P	**Pn**	**16 18 27.9**	**0.0**
CRQM				IAmb	IAmb	16 18 46.8	
	comp=Z,31nm,1.4s						
ILAR	**Eielson Array**	**17.25**	**34**	P	**Pn**	**16 18 31.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=221,slow=9.4,SNR=4.6						
ILAR	**Eielson Array**	**17.25**	**34**	Pn	**Pn**	**16 18 30.7**	**-2.0**
CTGM	**Chitina Glacie**	**17.76**	**49**	P	**Pn**	**16 18 37.6**	**-1.5**
CTGM				IAmb	IAmb	16 18 59.4	
	comp=Z,19nm,1.4s						
PEA0B	**Petropavlovsk-**	**19.95**	**286**		**P**	**16 19 02.6**	**-1.1**
PETK	**Petropavlovsk-**	**19.95**	**286**	P	**Pn**	**16 19 04.6**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=86,slow=14,SNR=24						
PETK	**Petropavlovsk-**	**19.95**	**286**	P	**P**	**16 19 00.8**	**-2.9**
SEY	**Seymchan**	**22.91**	**313**	P	**P**	**16 19 35.7**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=135,slow=7.1,SNR=1.8						
INK	**Inuvik**	**23.64**	**33**	P	**P**	**16 19 42.9**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=270,slow=4.1,SNR=5.7						
INK	**Inuvik**	**23.64**	**33**	P	**P**	**16 19 42.2**	**-0.3**
YKA	**Yellowknife Ar**	**30.48**	**48**	P	**P**	**16 20 46.3**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=274,slow=7.8,SNR=8.9						
PDAR	**Pinedale Array**	**40.48**	**79**	P	**P**	**16 22 13.1**	**+2.8**
	comp=Z,0.7nm,1.0s,baz=278,slow=2.5,SNR=2.5						
PDAR	**Pinedale Array**	**40.48**	**79**	P	**P**	**16 22 08.0**	**-2.3**
SONM	**Songino Array**	**51.48**	**301**	P	**P**	**16 23 38.7**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=97,slow=6.2,SNR=1.8						
TXAR	**Lajitas Array**	**52.76**	**89**	P	**P**	**16 23 48.7**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=319,slow=5.3,SNR=4.6						
MKAR	**Makanchi Array**	**64.05**	**314**	P	**P**	**16 25 04.8**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=58,slow=6.0,SNR=2.2						
ASAR	**Alice Springs**	**90.16**	**230**	P	P	16 27 36.0	+4.5
	comp=Z,0.4nm,0.8s,baz=37,slow=4.5,SNR=4.4						

DJA ***10*** *16:16:08.7±0.7, 4°.N±5°×12°.7E±°, h48km±5km, M4.4/13, mb4.3/6, mB5.1/2, MLv4.4/13, Mw(mB)4.5/2*

NEIC ***10*** *16:16:13.0±1.0, 3°.9N±0°.1×126°.7E±0°.1, h67km±8km, mb4.2/8, Error ellipse: s-maj=19.2km s-min=12.1km az=49.0*

MAN ***10*** *16:16:13.5, 4°.10N×126°.53E, h152km, MS4.4*

IDC ***10*** *16:16:13.1±4.5, 3°.86N×126°.63E, h65km±49km, mb3.4/7, mb1 3.6/8, mb1mx3.4/50, mbtmp3.7/8, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/24, Error ellipse: s-maj=54.3km s-min=17.4km az=66.0*

ISC 10 16:16:12.3±0.7, 3°.78N±0°.04×126°.52E±0°.06, h45km, n39,
σ1§90/41, mb4.0/11, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.00**	**265**	P	**Pn**	**16 16 30.5**	**+0.6**
SGSI				S	**Sn**	**16 16 43.9**	**+1.0**
DDMP	**Don Marcelino,**	**2.44**	**341**	*eP*	**Pn**	**16 16 50.5**	**+0.8**
DDMP				*eS*	**Sn**	**16 17 19.8**	**+1.3**
TNTI	**Ternate**	**3.11**	**164**		**Pn**	**16 16 59.3**	**+0.4**
TNTI	**Ternate**	**3.11**	**164**	P	**Pn**	**16 16 59.6**	**+0.7**
TNTI				S	**Sn**	**16 17 37.0**	**+2.2**
SKMP	**Bagumbayan, Su**	**3.36**	**324**	*eP*	**Pn**	**16 17 02.1**	**-0.3**
SKMP				*eS*	**Sn**	**16 17 41.5**	**+0.5**
KCP	**Kidapawan**	**3.51**	**336**	*eP*	**Pn**	**16 17 07.0**	**+2.6**
KMSI	**Cibinong**	**4.08**	**219**	P	**Pn**	**16 17 16.0**	**+3.8**
BUKP	**Musuan**	**4.32**	**340**	*eP*	**Pn**	**16 17 15.6**	**0.0**
GTOI	**Gorontalo**	**4.70**	**228**	P	**Pn**	**16 17 22.8**	**+2.1**
GTOI	0.1nm30nm,0.7s			S	**Sn**	**16 18 13.0**	**-1.0**
	0.1nm30nm,0.7s						
CGP	**Cagayan de Oro**	**4.99**	**339**	*i*P	Pn	16 17 39.0	+14
CGP				*eS*	**Sn**	**16 18 27.0**	**+5.9**
MRSI	**Marisa**	**5.63**	**234**	P	**Pn**	**16 17 35.3**	**+1.7**
	0.2nm731nm58nm,0.6s						
SANI	**Sanana**	**5.82**	**185**	P	**Pn**	**16 17 36.4**	**+0.3**
	0.1nm11nm,0.6s						
LUWI	**Luwuk**	**6.08**	**218**	Pn	**Pn**	**16 17 43.8**	**+4.0**
LUWI	**Luwuk**	**6.08**	**218**	P	**Pn**	**16 17 41.8**	**+2.0**
	0.5nm3μm121nm,0.8s						
TOLI2	**Tolitoli**	**6.32**	**245**	Pn	**Pn**	**16 17 44.2**	**+1.2**
SWI	**Sorong**	**6.61**	**134**	P	Pn	16 17 41.5	-5.5
	0.1nm22nm,0.8s						
SIJI	**Sorong**	**6.62**	**134**	P	**Pn**	**16 17 47.3**	**+0.2**
	2.1nm,0.3s,baz=177,slow=20,SNR=8.8						
SIJI				S	**Sn**	**16 19 02.5**	**+1.1**
	0.7nm,0.3s,baz=185,slow=23,SNR=1.7						
SIJI				LR	LR	16 20 27.9	
	comp=Z,123nm,19.8s,baz=312,slow=39						
APSI	**Ampana**	**6.74**	**226**	P	Pn	16 17 54.9	+6.1
NLAI	**Namlea**	**7.00**	**175**	P	**Pn**	**16 17 54.1**	**+1.8**
MYLDM	**Lahad Datu**	**8.12**	**280**	Pn	**Pn**	**16 18 11.6**	**+3.9**
FAKI	**Fak Fak**	**8.78**	**139**	Pn	**Pn**	**16 18 17.8**	**+1.1**
LEM	**Lembang**	**21.61**	**241**	LR	LR	16 29 57.0	
	comp=Z,91nm,18.8s,baz=65,slow=38						
FITZ	**Fitzroy Crossi**	**21.76**	**182**	P	**P**	**16 21 00.5**	**+0.3**
	1.5nm,0.5s,baz=9.6,slow=11,SNR=7.7						
WB0	**Warramunga Arr**	**24.65**	**162**	P	**P**	**16 21 27.4**	**-1.5**
WB0				IAmb	IAmb	16 21 29.4	
	comp=Z,6.3nm,0.8s						
WRAB	**Tennant Creek**	**24.79**	**162**	P	**P**	**16 21 29.2**	**-1.0**
WRA	**Warramunga Arr**	**24.80**	**162**	P	**P**	**16 21 29.1**	**-1.2**
	comp=Z,3.6nm,0.7s,baz=342,slow=10,SNR=19						
WB2	**Warramunga Arr**	**24.80**	**162**	P	**P**	**16 21 28.9**	**-1.4**
WB2				IAmb	IAmb	16 21 31.0	
	comp=Z,6.2nm,0.8s						
WR0	**Warramunga Arr**	**24.87**	**162**	P	**P**	**16 21 29.4**	**-1.6**
WR0				IAmb	IAmb	16 21 54.2	
	comp=Z,16nm,1.5s						
ASAR	**Alice Springs**	**28.21**	**166**	P	**P**	**16 22 01.1**	**0.0**
	comp=Z,0.3nm,0.4s,baz=339,slow=7.0,SNR=12						
ASAR	**Alice Springs**	**28.21**	**166**	P	**P**	**16 22 00.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**30.67**	**301**	P	**P**	**16 22 22.1**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=104,slow=7.6,SNR=2.8						
BBOO	**Buckleboo**	**37.50**	**167**	P	**P**	**16 23 20.8**	**-1.1**
NWAO	**Narrogin (SRO)**	**37.55**	**193**	P	**P**	**16 23 21.9**	**-0.4**
STKA	**Stephens Creek**	**38.25**	**159**	P	**P**	**16 23 26.9**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=336,slow=9.1,SNR=4.9						
STKA	**Stephens Creek**	**38.25**	**159**	IAmb	IAmb	16 23 29.1	
	comp=Z,0.8nm,1.1s						
ARMA	**Armidale**	**41.62**	**147**	P	**P**	**16 23 56.7**	**+0.3**
ARMA				IAmb	IAmb	16 24 07.4	
	comp=Z,7.5nm,1.1s						
SONM	**Songino Array**	**47.18**	**342**	P	**P**	**16 24 39.3**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=147,slow=8.6,SNR=1.8						
MKAR	**Makanchi Array**	**57.40**	**325**	P	**P**	**16 25 54.7**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=120,slow=8.2,SNR=8.5						
ABKAR	**Akbulak array**	**71.98**	**321**	P	**P**	**16 27 29.8**	**-1.5**

WEL 10 16:23:09.6±1.0, 34°.S±16°×18°.0W±3°.7, h291km±15km,
M4.0/6, MLv4.0/6, Error ellipse: s-maj=0.1km
s-min=0.0km az=112.6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.21**	**199**	P	Pn	16 24 24.1	+6.4
MXZ				S	S	16 25 11.4	-0.7
WMGZ	**Waiomatatini S**	**4.43**	**197**	P	Pn	16 24 17.1	-3.0
WMGZ				S	S	16 25 14.8	-1.7
HAZ	**Te Kaha**	**4.55**	**203**	P	Pn	16 24 23.4	+1.9
HAZ				S	S	16 25 21.1	+2.0
GLKZ	**Green Lake**	**4.65**	**22**	P	Pn	16 24 21.7	-1.1
GLKZ				S	S	16 25 19.9	-1.5
RUGZ	**Raukumara Rang**	**4.78**	**203**	P	Pn	16 24 20.1	-4.1
RUGZ				S	S	16 25 23.8	-0.3
TWGZ	**Tauwhareparae**	**4.88**	**200**	S	S	16 25 28.1	+2.0
CNGZ	**Carnagh Statio**	**5.11**	**197**	S	S	16 25 28.1	-2.8
MWZ	**Matawai**	**5.16**	**203**	S	S	16 25 31.9	-0.2
TKGZ	**Te Karaka**	**5.16**	**200**	S	S	16 25 33.0	+1.0
URZ	**Urewera**	**5.24**	**206**	P	Pn	16 24 38.4	+8.9
URZ				S	S	16 25 33.8	+0.2
RIGZ	**Rimuhau**	**5.43**	**199**	P	Pn	16 24 37.5	+5.7
RIGZ				S	S	16 25 39.1	+1.1
SNGZ	**Shannon Statio**	**5.63**	**202**	S	S	16 25 43.7	+1.5
KAHZ	**Kahuranaki**	**6.70**	**202**	P	Pn	16 24 33.3	-14
KAHZ				S	S	16 26 07.2	+1.4
TSZ	**Takapari Road**	**7.25**	**206**	P	Pn	16 24 48.8	-5.0
DVHZ	**Dannevirke**	**7.39**	**204**	S	S	16 26 20.9	-0.2
POWZ	**Post Office Ro**	**7.61**	**206**	S	S	16 26 26.9	+0.8
PRWZ	**Pori Road**	**7.68**	**204**	S	S	16 26 27.7	0.0
TIWZ	**Tintock**	**7.91**	**204**	S	S	16 26 32.7	-0.2
MRZ	**Mangatainoka R**	**7.91**	**206**	S	S	16 26 30.6	-2.3
KIW	**Kapiti Island**	**8.34**	**208**	S	S	16 26 42.1	-0.4
MTW	**Mount Morrison**	**8.38**	**204**	S	S	16 26 42.8	-0.7
CAW	**Cannon Point**	**8.49**	**206**	S	S	16 26 46.1	+0.2
PLWZ	**Palliser**	**8.83**	**204**	S	S	16 26 52.9	-0.8

IDC ***10*** *16:26:45.4±1.4, 7°.52S×154°.67E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/27, mbtmp3.7/8, Error ellipse: s-maj=56.7km s-min=24.7km az=133.0*

NEIC ***10*** *16:26:49.1±2.4, 7°.8S±0°.2×154°.9E±0°.2, h35km±2km, mb4.3/4, Error ellipse: s-maj=30.9km s-min=25.1km az=120.0*

ISC 10 16:26:49.5±0.8, 7°.8S±0°.1×154°.9E±0°.2, h35km, n12,
σ1§67/11, mb3.7/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.26**	**237**	P	**P**	**16 31 53.1**	**-1.1**
	0.4nm,0.5s,baz=60,slow=8.9,SNR=3.0						
AS31	**Alice Springs**	**25.55**	**230**	P	**P**	**16 32 17.7**	**+2.4**
ASAR	**Alice Springs**	**25.55**	**230**	P	**P**	**16 32 17.2**	**+1.9**
	0.2nm,0.4s,baz=60,slow=9.8,SNR=9.4						
BBOO	**Buckleboo**	**30.38**	**212**	P	**P**	**16 32 58.1**	**-0.3**
BBOO				IAmb	IAmb	16 33 07.5	
	comp=Z,17nm,1.3s						
BKZ	**Black Stump Fm**	**36.76**	**151**	P	**P**	**16 33 52.8**	**-1.1**
SONM	**Songino Array**	**69.97**	**328**	P	**P**	**16 37 57.3**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=146,slow=5.4,SNR=5.9						
SONM	**Songino Array**	**69.97**	**328**	IAmb	IAmb	16 37 58.8	
	comp=Z,1.7nm,1.3s						
MKAR	**Makanchi Array**	**83.95**	**319**	P	**P**	**16 39 15.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=106,slow=4.3,SNR=5.4						
ILAR	**Eielson Array**	**84.18**	**21**	P	**P**	**16 39 15.6**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=246,slow=5.7,SNR=3.8						
NVAR	**Mina Array Bea**	**92.32**	**52**	P	**P**	**16 39 58.4**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=267,slow=8.0,SNR=2.6						
YKA	**Yellowknife Ar**	**97.11**	**28**	P	**P**	**16 40 18.2**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=254,slow=4.4,SNR=2.1						
PDAR	**Pinedale Array**	**99.33**	**48**	P	**Pdif**	**16 40 31.2**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=231,slow=8.0,SNR=2.9						

IDC ***10*** *17:05:26.5±2.4, 1°.81S×77°.89W, h177km±28km, mb3.3/10, mb1 3.6/12, mb1mx3.4/42, mbtmp3.9/12, Error ellipse: s-maj=30.4km s-min=21.7km az=69.0*

ISC 10 17:05:24.5±0.7, 1°.69S±0°.08×77°.9W±0°.1, h150km, n23,
σ1§39/23, mb3.5/10, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**1.98**	**345**	*eP*	**Pn**	**17 06 01.3**	**+1.3**
PTLC	**Puerto Leguiza**	**3.64**	**59**	*eP*	**Pn**	**17 06 20.0**	**-0.1**
BBAC	**Balboa, Cauca**	**3.75**	**10**	*eP*	**Pn**	**17 06 23.0**	**+1.2**
POPC	**Popayan, Colom**	**4.38**	**17**	*eP*	**Pn**	**17 06 31.1**	**+1.0**
GARC	**Garzon, Huila**	**4.56**	**32**	*eP*	**Pn**	**17 06 34.3**	**+1.9**
MARP	**Paez Belalcaza**	**4.92**	**24**	*eP*	**Pn**	**17 06 39.4**	**+2.3**
ATAH	**Atahualpa**	**5.43**	**185**	P	**Pn**	**17 06 45.2**	**+1.1**
	2.9nm,0.3s,baz=353,slow=10,SNR=4.0						
ATAH				S	**Sn**	**17 07 46.5**	**+0.4**
	11nm,0.3s,baz=194,slow=10,SNR=8.2						
MACC	**Macarena, Meta**	**5.58**	**47**	*eP*	**Pn**	**17 06 47.1**	**+1.3**
YOTC	**Yotoco, Valle**	**5.85**	**16**	*eP*	**Pn**	**17 06 48.5**	**-1.0**
SDV	**Santo Domingo**	**12.78**	**35**	P	**Pn**	**17 08 24.5**	**+3.3**
	0.5nm,0.3s,baz=242,slow=9.0,SNR=3.6						
CMIG	**Matias Romero**	**25.06**	**319**	P	**P**	**17 10 35.3**	**+0.1**
	1.9nm,0.5s,baz=109,slow=5.8,SNR=4.5						
TXAR	**Lajitas Array**	**39.47**	**323**	P	**P**	**17 12 41.4**	**+0.8**
	0.2nm,0.6s,baz=140,slow=7.1,SNR=2.7						
ANMO	**Albuquerque**	**45.19**	**326**	P	**P

comp=N,41nm,0.7s
PNTR Pine Nut 2.42 56 Pn Pn 17 08 04.7 +1.5
PNTR IAML 17 08 56.9
comp=N,67nm,1.0s
VCNR Virginia City 2.51 51 Pn 17 08 04.8 +0.3
VCNR IAML 17 08 45.1
comp=E,55nm,0.6s
VCNR IAML 17 08 58.4
comp=N,55nm,0.7s
BEKR Beckworth 2.54 33 Pn 17 08 05.5 +0.6
BEKR IAML 17 08 41.3
comp=N,48nm,0.5s
YERR Yerington 2.61 61 Pn 17 08 06.8 +0.9
YERR IAML 17 08 57.3
comp=N,56nm,0.9s
KMRM Mail Ridge 2.75 335 Pn Pn 17 08 06.6 -0.9
KMRM IAML 17 09 20.1
comp=E,23nm,1.5s
KMRM IAML 17 09 30.2
comp=N,28nm,2.5s
WDC Whiskeytown Da 2.84 354 Pn 17 08 08.2 -0.7
PAHR Pah Rah Range 2.93 47 Pn 17 08 10.9 +0.8
PAHR IAML 17 08 56.6
comp=E,18nm,0.7s
LHV Little Huntoon 2.94 79 Pn 17 08 11.1 +0.9
LHV IAML 17 09 02.4
comp=E,39nm,0.8s
LHV IAML 17 09 24.8
comp=N,32nm,1.1s
RYN Ryan 3.01 72 Pn 17 08 12.3 +1.0
RYN IAML 17 09 19.5
comp=E,17nm,1.4s
NVAR Mina Array Bea 3.13 76 Pn Pn 17 08 13.5 +0.6
NV11 Mina Array Sit 3.24 77 Pn 17 08 15.7 +1.3
JCC Jacoby Creek, 3.39 335 Pn Pn 17 08 16.3 0.0
JCC IAML 17 08 48.3
comp=N,26nm,4.5s
KVN Kaiserville 3.45 67 Pn 17 08 17.2 -0.2
KVN IAML 17 09 19.3
comp=E,12nm,1.0s
KVN IAML 17 09 26.9
comp=N,12nm,1.2s
ISA Isabella, Lake 3.63 124 Pn 17 08 19.6 -0.2
TPH Tonopah 3.93 84 Pn 17 08 24.3 +0.3
YBH Yreka Blue Hor 4.00 354 Pn Pn 17 08 25.0 +0.2
YBH IAML 17 10 27.5
comp=N,7.8nm,4.5s
KRMB Red Mountain 4.00 341 Pn Pn 17 08 27.6 +2.7
KRMB IAML 17 10 20.4
comp=N,16nm,2.5s
KRMB IAML 17 11 03.0
comp=E,16nm,2.0s
KBO Bosley Butte 4.73 341 Pn 17 08 36.7 +1.9
TPNV Topopah Spring 4.79 98 Pn 17 08 37.2 +1.5
TPNV IAML 17 10 14.6
comp=E,6.4nm,1.9s
TPNV IAML 17 10 25.3
comp=E,6.8nm,3.8s
GSC Goldstone, Bar 4.96 118 Pn Pn 17 08 38.7 +0.6
GSC IAML 17 10 07.2
comp=N,8.9nm,4.6s

NOU ***10*** *17:17:28.5, 38.°01S×178.°97W, h5km, MLv4.7, East of North Island, N.Z.*
NEIC ***10*** *17:17:35.2±2.8, 37.°90S±0.°09×179.°8W±0.°2, h15km±8km, mb4.6/16, Error ellipse: s-maj=19.1km s-min=10.0km az=60.0*
IDC ***10*** *17:17:38.4±2.3, 38.°11S×179.°84E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.9/27, mbtmp4.1/4, ML4.2/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/30, Error ellipse: s-maj=70.7km s-min=30.5km az=159.0*
WEL ***10*** *17:17:40.5±1.1, 38.°S±9.°×18.°0W±1.°2, h24km±23km, M4.4/37, ML4.7/37, MLv4.4/37, Error ellipse: s-maj=0.0km s-min=0.0km az=59.0*

ISC 10 17:17:34.4±2.0, 38.°01S±0.°05×179.°80W±0.°06, h5km±10km, n165, σ2°04/175, mb4.6/10, MS3.6/3, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.43**	**277**	P	**Pg**	**17 18 02.7**	**+0.9**
WMGZ				S	**Sg**	**17 18 19.7**	**-0.6**
PUZ	**Puketiti**	**1.54**	**267**	P	**Pg**	**17 18 04.4**	**+0.5**
PUZ				S	**Sb**	**17 18 23.2**	**-0.1**
MXZ	**Matakaoa Point**	**1.57**	**286**		**Pg**	**17 18 03.9**	**-0.6**
MXZ				Sn	**Sn**	**17 18 21.4**	**-2.3**
MXZ	**Matakaoa Point**	**1.57**	**286**	P	**Pg**	**17 18 04.0**	**-0.5**
MXZ				S	**Sn**	**17 18 21.6**	**-2.1**
CNGZ	**Carnagh Statio**	**1.64**	**253**	P	**Pg**	**17 18 06.8**	**+1.0**
PKGZ	**Pakihiroa**	**1.69**	**273**	P	**Pb**	**17 18 06.2**	**+0.2**
TWGZ	**Tauwhareparae**	**1.76**	**264**	P	**Pb**	**17 18 08.0**	**+0.7**
TWGZ				S	**Sb**	**17 18 29.4**	**-0.3**
TKGZ	**Te Karaka**	**1.90**	**256**	P	**Pb**	**17 18 10.3**	**+0.6**
TKGZ				S	**Sb**	**17 18 33.4**	**-0.3**
HAZ	**Te Kaha**	**1.93**	**277**	P	**Pb**	**17 18 09.6**	**-0.6**
HAZ				S	**Sb**	**17 18 32.1**	**-2.5**
RUGZ	**Raukumara Rang**	**2.00**	**271**	P	**Pb**	**17 18 10.5**	**-0.8**
PRGZ	**Paritu Road**	**2.04**	**243**	P	**Pb**	**17 18 12.5**	**+0.5**
RIGZ	**Rimuhau**	**2.04**	**249**	P	**Pb**	**17 18 12.3**	**+0.3**
RIGZ				S	**Sb**	**17 18 37.3**	**-0.5**
MHGZ	**Mahia Peninsul**	**2.13**	**237**	P	**Pb**	**17 18 14.0**	**+0.4**
MWZ	**Matawai**	**2.13**	**260**	P	**Pb**	**17 18 12.8**	**-0.8**
MWZ				S	**Sn**	**17 18 37.9**	**+0.2**
KNZ	**Kokohu**	**2.23**	**242**	P	**Pb**	**17 18 14.9**	**-0.3**
RAGZ	**Rawiri**	**2.25**	**257**	P	**Pb**	**17 18 14.9**	**-0.7**
SNGZ	**Shannon Statio**	**2.38**	**250**	P	**Pb**	**17 18 16.8**	**-1.0**
URZ	**Urewera**	**2.45**	**263**	Pn	**Pb**	**17 18 17.4**	**-1.6**
	54nm,0.3s,baz=266,slow=5.6,SNR=328						
URZ				Sn	**Sn**	**17 18 45.8**	**+0.3**
	246nm,0.3s,baz=232,slow=18,SNR=42						
URZ	**Urewera**	**2.45**	**263**		**Pb**	**17 18 17.1**	**-1.9**
URZ				Sn	**Sn**	**17 18 45.2**	**-0.3**
URZ	**Urewera**	**2.45**	**263**	P	**Pb**	**17 18 17.7**	**-1.3**
URZ				S	**Sn**	**17 18 45.7**	**+0.2**
WHRZ	**Whale Island**	**2.56**	**272**	P	**Pb**	**17 18 19.1**	**-1.8**
WHHZ	**Waihua**	**2.56**	**245**	P	**Pb**	**17 18 19.8**	**-1.1**
WHHZ				S	**Sb**	**17 18 50.8**	**-1.8**
RTZ	**Ruatahuna**	**2.61**	**256**	P	**Pb**	**17 18 20.1**	**-1.6**
RAHZ	**Arahi**	**2.61**	**249**	P	**Pb**	**17 18 20.2**	**-1.5**
EDRZ	**Edgecumbe**	**2.74**	**267**	P	**Pb**	**17 18 21.5**	**-2.5**
MUGZ	**Murupara**	**2.74**	**259**	P	**Pb**	**17 18 21.8**	**-2.2**
MTHZ	**Maungataniwha**	**2.77**	**251**	P	**Pb**	**17 18 22.5**	**-2.0**
MTHZ				S	**Sn**	**17 18 54.5**	**+1.0**
MARZ	**Manawahe**	**2.79**	**269**	P	**Pn**	**17 18 21.7**	**+1.9**
ARHZ	**Aropaoanui**	**2.81**	**243**	P	**Pb**	**17 18 23.3**	**-1.8**
NMHZ	**Naumai**	**2.88**	**247**	P	**Pb**	**17 18 24.1**	**-2.2**
OPRZ	**Ohinepanea**	**2.89**	**272**	P	**Pn**	**17 18 22.5**	**+1.4**
OPRZ				S	**Sn**	**17 18 53.5**	**-2.8**
TARZ	**Mount Tarawera**	**2.92**	**264**	P	**Pn**	**17 18 24.1**	**+2.3**
RRRZ	**Republican Roa**	**2.93**	**262**	P	**Pn**	**17 18 24.0**	**+2.3**
CKHZ	**Cape Kidnapper**	**2.94**	**235**	P	**Pn**	**17 18 24.8**	**+2.9**
MKRZ	**Makatiti**	**2.95**	**266**	P	**Pb**	**17 18 24.9**	**-2.7**
OMRZ	**Omania**	**3.03**	**267**	P	**Pn**	**17 18 25.2**	**+2.2**
PRRZ	**Plateau Road**	**3.04**	**260**	P	**Pn**	**17 18 25.7**	**+2.5**
HLRZ	**Highlands Stat**	**3.05**	**264**	P	**Pn**	**17 18 25.9**	**+2.6**
MRHZ	**Matea Rd**	**3.09**	**253**	P	**Pn**	**17 18 26.7**	**+2.9**
ALRZ	**Allen Road**	**3.09**	**259**	P	**Pn**	**17 18 26.4**	**+2.5**
MCHZ	**McNeill Hill**	**3.09**	**241**	P	**Pn**	**17 18 27.0**	**+3.1**
HRRZ	**Handcock Road**	**3.11**	**262**	P	**Pn**	**17 18 26.8**	**+2.5**
KARZ	**Kaharoa**	**3.13**	**269**	P	**Pn**	**17 18 26.1**	**+1.7**
BKZ	**Black Stump Fm**	**3.13**	**247**		**Pn**	**17 18 26.9**	**+2.5**
BKZ				Sn	**Sn**	**17 19 02.8**	**+0.5**
BKZ	**Black Stump Fm**	**3.13**	**247**	P	**Pn**	**17 18 27.1**	**+2.6**
TGRZ	**Tauranga**	**3.13**	**274**	P	**Pn**	**17 18 25.9**	**+1.4**
HSRZ	**Hossack Road**	**3.13**	**263**	P	**Pb**	**17 18 27.4**	**-3.2**
KAHZ	**Kahuranaki**	**3.15**	**235**	P	**Pn**	**17 18 27.4**	**+2.6**
NGRZ	**Ngongotaha**	**3.17**	**267**	P	**Pn**	**17 18 27.7**	**+2.6**
WPRZ	**Whakapapatarin**	**3.22**	**260**	P	**Pb**	**17 18 32.9**	**+0.7**
MYRZ	**Mayor Island**	**3.23**	**282**	P	**Pn**	**17 18 27.8**	**+2.0**
GRRZ	**Galatos Road**	**3.24**	**263**	P	**Pn**	**17 18 28.9**	**+2.9**
KWHZ	**Kaweka Forest**	**3.28**	**243**	P	**Pn**	**17 18 29.2**	**+2.7**
PXZ	**Pawanui**	**3.29**	**231**	P	**Pn**	**17 18 28.7**	**+2.0**
KMRZ	**Kaimai**	**3.37**	**271**	P	**Pn**	**17 18 29.6**	**+1.8**
WHTZ	**Whakaora**	**3.40**	**258**	P	**Pn**	**17 18 31.0**	**+2.7**
KRHZ	**Kereru**	**3.41**	**240**	P	**Pn**	**17 18 30.6**	**+2.3**
KUTZ	**Kaahu Road**	**3.48**	**261**	P	**Pn**	**17 18 31.6**	**+2.3**
RITZ	**Rihia Road**	**3.54**	**253**	P	**Pn**	**17 18 33.1**	**+2.9**
BHHZ	**Black Hill Sta**	**3.56**	**244**	P	**Pn**	**17 18 33.3**	**+2.9**
PRHZ	**Porangahau**	**3.57**	**230**	P	**Pn**	**17 18 32.4**	**+1.9**
WPHZ	**Waipukurau**	**3.58**	**234**	P	**Pn**	**17 18 32.7**	**+2.1**
WATZ	**Wairara**	**3.58**	**257**	P	**Pn**	**17 18 33.2**	**+2.5**
RATZ	**Rangitukua**	**3.58**	**255**	P	**Pn**	**17 18 33.8**	**+3.1**
PNHZ	**Pukenui**	**3.65**	**237**	P	**Pn**	**17 18 33.9**	**+2.2**
KATZ	**Kakaramea**	**3.67**	**253**	P	**Pn**	**17 18 34.7**	**+2.7**
TLZ	**Tolley Road**	**3.69**	**264**	P	**Pn**	**17 18 33.9**	**+1.7**
TMVZ	**Te Maari**	**3.70**	**251**	P	**Pn**	**17 18 35.0**	**+2.6**
ETVZ	**East Tongariro**	**3.70**	**251**	P	**Pn**	**17 18 35.1**	**+2.8**
KRVZ	**Karewarewa**	**3.74**	**252**	P	**Pn**	**17 18 35.6**	**+2.7**
OTVZ	**Oturere**	**3.74**	**251**	P	**Pn**	**17 18 35.6**	**+2.6**
MOVZ	**Moawhango**	**3.75**	**247**	P	**Pn**	**17 18 35.9**	**+2.8**
TUVZ	**Tukino**	**3.78**	**249**	P	**Pn**	**17 18 36.6**	**+3.1**
WTVZ	**West Tongariro**	**3.78**	**252**	P	**Pn**	**17 18 36.7**	**+3.1**
KUZ	**Kuaotunu**	**3.79**	**288**	P	**Pn**	**17 18 34.2**	**+0.7**
ANWZ	**Angora Road**	**3.79**	**229**	P	**Pn**	**17 18 35.1**	**+1.6**
NGZ	**Ngauruhoe**	**3.79**	**251**	P	**Pn**	**17 18 36.4**	**+2.7**
WHVZ	**Whangaehu Hut**	**3.83**	**249**	P	**Pn**	**17 18 37.6**	**+3.3**
WNVZ	**Wahianoa**	**3.84**	**249**	P	**Pn**	**17 18 37.1**	**+2.8**
FWVZ	**Far West T-bar**	**3.85**	**250**	P	**Pn**	**17 18 37.6**	**+3.1**
TRVZ	**Turoa**	**3.87**	**249**	P	**Pn**	**17 18 38.0**	**+3.2**
DVHZ	**Dannevirke**	**3.88**	**233**	P	**Pn**	**17 18 36.5**	**+1.7**
TSZ	**Takapari Road**	**3.89**	**237**	P	**Pn**	**17 18 36.6**	**+1.7**
MTVZ	**Mangateitei**	**3.95**	**248**	P	**Pn**	**17 18 38.8**	**+3.0**
PKVZ	**Pokaka**	**4.01**	**250**	P	**Pn**	**17 18 39.9**	**+3.2**
BFZ	**Birch Farm**	**4.07**	**228**		**Pn**	**17 18 38.2**	**+0.9**
BFZ				Sn	**Sn**	**17 19 24.3**	**-1.0**
MKAZ	**Moumakai**	**4.11**	**281**	P	**Pn**	**17 18 39.3**	**+1.4**
PRWZ	**Pori Road**	**4.15**	**231**	P	**Pn**	**17 18 40.5**	**+2.0**
GRZ	**Great Barrier**	**4.18**	**293**	P	**Pn**	**17 18 39.9**	**+1.1**
POWZ	**Post Office Ro**	**4.19**	**234**	P	**Pn**	**17 18 41.4**	**+2.4**
WIAZ	**Waiheke Island**	**4.22**	**285**	P	**Pn**	**17 18 40.9**	**+1.5**
HIZ	**Hauiti**	**4.24**	**262**		**Pn**	**17 18 41.9**	**+2.2**
HIZ	**Hauiti**	**4.24**	**262**	P	**Pn**	**17 18 42.4**	**+2.7**
ETAZ	**East Tamaki Re**	**4.33**	**282**	P	**Pn**	**17 18 43.1**	**+2.2**
TIWZ	**Tintock**	**4.34**	**229**	P	**Pn**	**17 18 42.3**	**+1.2**
OHWZ	**Ohakea**	**4.39**	**239**	P	**Pn**	**17 18 45.4**	**+3.6**
MBAZ	**Motutapu North**	**4.40**	**285**	P	**Pn**	**17 18 44.0**	**+2.0**
VRZ	**Vera Road**	**4.41**	**254**	P	**Pn**	**17 18 45.0**	**+3.0**
WAZ	**Wanganui**	**4.43**	**245**	P	**Pn**	**17 18 45.9**	**+3.6**
MRZ	**Mangatainoka R**	**4.46**	**232**	P	**Pn**	**17 18 44.0**	**+1.3**
ABAZ	**Army Bay**	**4.51**	**287**	P	**Pn**	**17 18 46.1**	**+2.7**
HBAZ	**Herne Bay Bore**	**4.51**	**283**	P	**Pn**	**17 18 46.5**	**+3.1**
AWAZ	**Awhitu Peninsu**	**4.52**	**280**	P	**Pn**	**17 18 46.4**	**+2.8**
LREZ	**Lake Rotokare**	**4.76**	**251**	P	**Pn**	**17 18 50.2**	**+3.4**
OGWZ	**Otaki Gorge**	**4.80**	**233**	P	**Pn**	**17 18 48.9**	**+1.5**
PREZ	**Palmer Road**	**4.91**	**252**	P	Pn	17 18 54.0	+5.0
NEZ	**North Egmont**	**4.95**	**253**	P	**Pn**	**17 18 53.5**	**+4.1**
KIW	**Kapiti Island**	**4.99**	**234**	P	**Pn**	**17 18 51.5**	**+1.5**
KHEZ	**Kahui Hut**	**5.01**	**253**	P	**Pn**	**17 18 54.7**	**+4.3**
PKE	**Pukeiti**	**5.01**	**254**	P	**Pn**	**17 18 54.7**	**+4.3**
MSWZ	**Moikau Station**	**5.12**	**227**		**Pn**	**17 18 51.4**	**-0.3**
WCZ	**Waipu Caves**	**5.13**	**292**	P	**Pn**	**17 18 53.6**	**+1.7**
PLWZ	**Palliser**	**5.21**	**225**		**Pn**	**17 18 52.9**	**-0.2**
BHW	**Baring Head**	**5.33**	**229**		**Pn**	**17 18 54.5**	**-0.2**
SNZO	**South Karori**	**5.37**	**230**		**Pn**	**17 18 55.6**	**+0.4**
DUWZ	**D'Urville Isla**	**5.61**	**238**	P	**Pn**	**17 18 59.4**	**+0.9**
TUWZ	**Tuamarina**	**5.91**	**233**		**Pn**	**17 19 02.7**	**0.0**
CMWZ	**Cape Campbell**	**5.93**	**229**	Pn	**Pn**	**17 19 03.2**	**+0.3**
OUZ	**Omahuta**	**6.00**	**296**		**Pn**	**17 19 00.1**	**-3.8**
OUZ	**Omahuta**	**6.00**	**296**	P	**Pn**	**17 19 05.8**	**+1.9**
BSWZ	**Blackbirch Sta**	**6.11**	**231**	Pn	**Pn**	**17 19 05.4**	**0.0**
NNZ	**Nelson**	**6.17**	**237**	Pn	**Pn**	**17 19 07.2**	**+1.1**
NNZ	**Nelson**	**6.17**	**237**	P	**Pn**	**17 19 07.4**	**+1.2**
CTZ	**Chatham Island**	**6.21**	**158**	P	Pn	17 19 14.1	+7.4
QRZ	**Quartz Range**	**6.57**	**242**	Pn	**Pn**	**17 19 11.9**	**+0.1**
KHZ	**Kahutara**	**6.74**	**227**	Pn	**Pn**	**17 19 12.8**	**-1.2**
THZ	**Tophouse**	**6.75**	**234**		**Pn**	**17 19 14.1**	**-0.1**
LTZ	**Lake Taylor**	**7.70**	**229**	Pn	**Pn**	**17 19 26.2**	**-1.1**
MQZ	**McQueen's Vall**	**8.07**	**225**	Pn	**Pn**	**17 19 31.5**	**-0.7**
OXZ	**Oxford**	**8.16**	**227**		**Pn**	**17 19 33.4**	**-0.2**
RPZ	**Rata Peaks**	**8.97**	**228**	Pn	**Pn**	**17 19 44.7**	**+0.1**
	3.1nm,0.3s,baz=67,slow=2.1,SNR=23						
RPZ				Sn	**Sn**	**17 21 20.4**	**-5.7**
	4.7nm,0.3s,baz=149,slow=20,SNR=14						
RPZ	**Rata Peaks**	**8.97**	**228**		**Pn**	**17 19 44.5**	**-0.1**
FOZ	**Fox Glacier**	**9.62**	**232**	Pn	**Pn**	**17 19 53.7**	**+0.3**
LBZ	**Lake Benmore**	**9.87**	**227**	Pn	**Pn**	**17 19 56.5**	**-0.5**
ODZ	**Otahua Downs**	**10.03**	**223**	Pn	**Pn**	**17 19 59.5**	**+0.3**
WKZ	**Wanaka**	**10.81**	**227**		**Pn**	**17 20 09.3**	**-0.5**
MLZ	**Mavora Lakes**	**11.64**	**227**	Pn	**Pn**	**17 20 20.5**	**-0.7**
WHZ	**Wether Hill Ro**	**12.04**	**225**	Pn	**Pn**	**17 20 25.2**	**-1.5**
DCZ	**Deep Cove**	**12.26**	**228**	Pn	**Pn**	**17 20 28.0**	**-1.6**
DZM	**Mont Dzumac**	**19.82**	**319**	LR	LR	17 28 58.6	
	comp=Z,118nm,19.0s,baz=38,slow=34						
EIDS	**Eidsvold**	**27.68**	**289**	P	**P**	**17 23 23.6**	**+0.2**
STKA	**Stephens Creek**	**32.07**	**269**	LR	LR	17 36 14.6	
	comp=Z,78nm,18.6s,baz=36,slow=35						
VNDA	**Vanda**	**40.39**	**186**	P	**P**	**17 25 11.5**	**-1.4**
COEN	**Coen**	**40.61**	**296**	P	**P**	**17 25 14.5**	**-0.9**
COEN				IAmb	IAmb	17 25 27.2	
	comp=Z,14nm,1.1s						
PMG	**Port Moresby**	**41.16**	**305**	P	**P**	**17 25 19.1**	**-0.8**
AS31	**Alice Springs**	**41.83**	**276**	P	**P**	**17 25 26.8**	**+1.3**
ASAR	**Alice Springs**	**41.83**	**276**	P	**P**	**17 25 27.0**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=121,slow=7.5,SNR=12						
ASAR				LR	LR	17 42 35.5	
	comp=Z,70nm,18.1s,baz=86,slow=36						
FORT	**Forrest**	**43.16**	**263**	P	**P**	**17 25 38.2**	**+2.0**
FORT				IAmb	IAmb	17 25 58.3	
	comp=Z,21nm,0.9s						
WR0	**Warramunga Arr**	**43.33**	**281**	P	**P**	**17 25 39.0**	**+1.4**
WB2	**Warramunga Arr**	**43.49**	**281**	P	**P**	**17 25 40.0**	**+1.1**
WB2				IAmb	IAmb	17 26 20.0	
	comp=Z,15nm,1.4s						
WRAB	**Tennant Creek**	**43.49**	**281**	P	**P**	**17 25 38.4**	**-0.6**
WRAB				IAmb	IAmb	17 25 44.5	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**43.50**	**281**	P	**P**	**17 25 40.6**	**+1.6**
	comp=Z,1.6nm,0.6s,baz=120,slow=8.2,SNR=21						
WB0	**Warramunga Arr**	**43.56**	**281**	P	**P**	**17 25 40.8**	**+1.4**
CASY	**Casey**	**47.79**	**211**	P	**P**	**17 26 12.9**	**+0.6**
NWAO	**Narrogin (SRO)**	**50.68**	**256**	P	**P**	**17 26 36.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**51.32**	**277**	P	**P**	**17 26 41.6**	**+1.7**
FITZ				IAmb	IAmb	17 26 52.5	
	comp=Z,14nm,1.6s						
QSPA	**South Pole Qui**	**52.12**	**180**	P	**P**	**17 26 48.5**	**+3.1**
QSPA				IAmb	IAmb	17 26 55.8	
	comp=Z,11nm,1.6s						
TOLI2	**Tolitoli**	**67.05**	**291**	P	**P**	**17 28 26.6**	**-2.3**
TOLI2				IAmb	IAmb	17 28 37.0	
	comp=Z,6.1nm,0.9s						
SNAA	**Sanae**	**70.60**	**179**	LR	LR	17 55 02.2	
	comp=Z,69nm,19.5s,baz=12,slow=32						
SNAA	**Sanae**	**70.60**	**179**	P	**P**	**17 28 50.6**	**+0.3**
SNAA				IAmb	IAmb	17 29 05.5	
	comp=Z,6.3nm,1.3s						
H03N3	**Juan Fernandez**	**77.76**	**123**	T	T	18 55 54.8	
	baz=234,slow=72,SNR=9.7						
H03N2	**Juan Fernandez**	**77.77**	**123**	T	T	18 55 59.4	
	baz=234,slow=72,SNR=7.4						
H03N1	**Juan Fernandez**	**77.78**	**123**	T	T	18 56 04.1	
	baz=234,slow=72,SNR=8.0						
ARCES	**ARCESS Array B**	**145.61**	**345**	PKPbc	**PKiKP**	**17 37 17.1**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=352,slow=4.6,SNR=1.4						
FINES	**FINESS Array B**	**151.56**	**334**	PKPbc	**PKPab**	**17 37 34.5**	**-2.8**
	comp=Z,2.9nm,0.9s,baz=320,slow=3.6,SNR=1.5						

TAP 10 17:28:00.0, 24.°66N×121.°78E, h11km, ML2.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDS	**Dongshan**	**0.06**	**249**	*i* P	Pg	17 28 03.0	+0.8
	baz=248						
NDS				*e*S	Sg	17 28 04.4	+0.6
	baz=248						
TWC	**Suao**	**0.08**	**126**	P	Pg	17 28 03.1	+0.7
	baz=123						
TWC				S	Sg	17 28 04.4	+0.3
	baz=123						
ILA	**Ilan**	**0.11**	**345**	*i* P	Pb	17 28 03.8	-0.4
	baz=349						
ILA				S	Sg	17 28 06.1	+1.2
	baz=349						
TWE	**Neicheng**	**0.12**	**302**	P	Pb	17 28 03.7	-0.6
	baz=305						
TWE				S	Sg	17 28 05.5	+0.4
	baz=305						
ENTT	**Nioudou**	**0.19**	**265**	*i* P	Pb	17 28 05.1	-0.5
	baz=264						
ENTT				S	Sg	17 28 08.3	+1.3
	baz=264						
NTC	**Toucheng**	**0.20**	**13**	P	Pb	17 28 05.1	-0.6
	baz=13						
NTC				S	Sg	17 28 07.9	+0.6
	baz=13						
ENA	**Nanau**	**0.23**	**189**	P	Pb	17 28 05.8	-0.4
	baz=186						
ENA				S	Sg	17 28 09.3	+1.3
	baz=186						
NDT	**Datong Townshi**	**0.25**	**258**	P	Pb	17 28 06.0	-0.5
	baz=257						
NDT				S	Sg	17 28 09.7	+1.1
	baz=257						
NWLT	**Wulai**	**0.28**	**296**	P	Pb	17 28 06.7	-0.4
	baz=295						
NWLT				S	Sg	17 28 10.2	+0.7
	baz=295						
TIPB	**Shuangxi**	**0.32**	**8**	P	Pb	17 28 07.3	-0.4
	baz=7.0						
TIPB				S	Sg	17 28 11.2	+0.5
	baz=7.0						
YHNB	**Yeheng**	**0.37**	**272**	P	Pb	17 28 08.4	-0.2
	baz=272						
YHNB				S	Sg	17 28 12.9	+0.6
	baz=272						
TWA	**Mucha**	**0.37**	**331**	*e*P	Pb	17 28 08.5	-0.1
	baz=332						
TWA				*e*S	Sg	17 28 12.2	0.0
	baz=332						
NHDH	**Xindian Distri**	**0.38**	**323**	P	Pb	17 28 09.1	+0.2
	baz=322						
NHDH				S	Sb	17 28 14.2	-0.6
	baz=322						
NSK	**Sanguang**	**0.38**	**273**	*e*P	Pb	17 28 08.7	-0.2
	baz=272						
NSK				S	Sg	17 28 13.3	+0.6
	baz=272						
TWB1	**Santiao Chiao**	**0.40**	**28**	P	Pb	17 28 09.0	-0.1
	baz=29						
TWB1				S	Sg	17 28 13.7	+0.4
	baz=29						
NWF	**Wu-fen Shan**	**0.41**	**0**	*e*P	Pb	17 28 09.0	-0.4
NWF				*e*S	Sb	17 28 15.4	-0.4
WFSB	**Wu-fen Shan**	**0.41**	**0**	*e*P	Pg	17 28 08.3	+0.1
WFSB				*e*S	Sb	17 28 15.1	-0.6
NNSB	**Datong**	**0.43**	**238**	P	Pb	17 28 09.3	-0.4
	baz=237						
NNSB				S	Sb	17 28 16.5	+0.3
	baz=237						
NNS	**Nan Shan**	**0.43**	**240**	P	Pb	17 28 09.4	-0.3
	baz=238						
NNS				*e*S	Sb	17 28 15.9	-0.3
	baz=238						
NACB	**Ninganchiao**	**0.51**	**199**	*e*P	Pb	17 28 11.3	+0.3
	baz=199						
NACB				*e*S	Sb	17 28 18.0	-0.4
	baz=199						
ETLH	**Xiulin Townshi**	**0.52**	**211**	P	Pb	17 28 11.2	-0.1
	baz=211						
ETLH				*e*S	Sg	17 28 17.8	+0.6
	baz=211						
YM01	**YM01**	**0.52**	**339**	*e*P	Pg	17 28 10.8	+0.5
	baz=338						
YM01				*e*S	Sb	17 28 18.4	-0.5
	baz=338						
YM10	**YM10**	**0.54**	**338**	P	Pb	17 28 12.4	+0.9
	baz=338						
YM11	**YM11**	**0.54**	**340**	*e*P	Pb	17 28 12.5	+0.9
	baz=339						
YM04	**YM04**	**0.54**	**336**	P	Pb	17 28 12.0	+0.4
	baz=336						
YM05	**YM05**	**0.54**	**339**	*e*P	Pb	17 28 12.2	+0.6
	baz=339						
YM05				S	Sb	17 28 19.6	+0.1
	baz=339						
NTY	**Taoyuan**	**0.56**	**308**	P	Pb	17 28 11.7	-0.1
	baz=308						
NTY				S	Sb	17 28 21.0	+1.2
	baz=308						
YM08	**YM08**	**0.56**	**342**	P	Pb	17 28 12.2	+0.4
	baz=342						
TWD	**Chiawan**	**0.60**	**196**	*e*P	Pb	17 28 12.2	-0.2
	baz=195						
TWD				S	Sb	17 28 20.9	-0.1
	baz=195						
NJD	**Zhudong**	**0.63**	**277**	*e*S	Sb	17 28 22.8	+0.8
	baz=277						
FUSS	**Fushou**	**0.64**	**230**	P	Pb	17 28 13.0	-0.3
	baz=230						
FUSS				S	Sb	17 28 21.7	-0.6
	baz=230						
WHF	**Hehuan Shan**	**0.69**	**223**	P	Pb	17 28 14.1	-0.3
	baz=222						
WHF				S	Sb	17 28 24.0	-0.1
	baz=222						
LIOB	**Emei**	**0.69**	**269**	*e*P	Pn	17 28 15.8	0.0
	baz=269						
LIOB				*e*S	Sb	17 28 25.1	+1.4
	baz=269						
NSTT	**Nanjuang**	**0.71**	**268**	*e*P	Pb	17 28 14.4	0.0
	baz=267						
NSTT				S	S

mb4.3/103,Md4.7(SNET),Error ellipse: s-maj=10.9km s-min=5.1km az=216.0
SNET ***10*** *17:38:57.0±0.9, 12°.96N×88°.67W, h66km±7km, ML4.7*
INET ***10*** *17:38:57.5, 12°.92N×88°.69W, h26km, MW4.0*
IDC ***10*** *17:38:57.6±1.0, 13°.22N×88°.42W, h83km±8km, mb3.9/8, mb1 4.1/11,mb1mx3.8/38,mbtmp4.2/11,MS3.3/3, Ms1 3.4/3,ms1mx2.9/27,Error ellipse: s-maj=31.0km s-min=11.9km az=45.0*
ISC 10 17:38:56.8±0.7, 13°.07N±0°.06×88°.60W±0°.04, h77km±4km, n182,σ1°32/210, mb4.3/52, 1C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.26**	**5**	*eP*	**Pn**	**17 39 08.7**	**+0.1**
ALJI				*eS*	**Sn**	**17 39 18.0**	**+0.8**
ALJI				IAML		17 39 19.4	
	comp=Z,39μm,0.2s						
JUCU	**Jucuarɲn**	**0.38**	**62**	*eP*	**Pn**	**17 39 09.3**	**-0.1**
JUCU				*eS*	**Sn**	**17 39 19.0**	**+0.2**
JUCU				IAML		17 39 22.5	
	comp=Z,44μm,0.3s						
COEB	**Comit de Eme**	**0.43**	**8**	*i P*	**Pn**	**17 39 10.1**	**+0.2**
COEB				*eS*	**Sn**	**17 39 20.3**	**+0.8**
COEB				IAML		17 39 23.3	
	comp=Z,28μm,0.3s						
TECA	**Tecapa**	**0.43**	**12**	*⇓i P*	**Pn**	**17 39 10.3**	**+0.3**
LCY	**Lacayo**	**0.46**	**40**	*eP*	**Pn**	**17 39 10.7**	**+0.6**
PQSS	**Presa 15 de Se**	**0.55**	**3**	*eP*	**Pn**	**17 39 11.2**	**+0.4**
PQSS				*eS*	**Sn**	**17 39 22.7**	**+1.6**
CNRM	**Centro Naciona**	**0.58**	**46**	*eP*	**Pn**	**17 39 11.7**	**+0.6**
CNRM				*eS*	**Sn**	**17 39 23.2**	**+1.7**
COEG	**Centro de Oper**	**0.61**	**333**	*eP*	**Pn**	**17 39 11.6**	**+0.1**
COEG				*eS*	**Sn**	**17 39 22.7**	**+0.4**
COEG				IAML		17 39 27.5	
	comp=Z,16μm,0.3s						
LFRS	**El Faro**	**0.71**	**320**	*⇑i P*	**Pn**	**17 39 12.6**	**0.0**
LCND	**La Caada**	**0.73**	**71**	*eP*	**Pn**	**17 39 13.3**	**+0.8**
LCND				*⇓i P*	**Pn**	**17 39 13.3**	**+0.8**
LCND				*eS*	**Sn**	**17 39 26.1**	**+1.9**
LCND				*eS*	**Sn**	**17 39 26.1**	**+1.9**
LCND				IAML		17 39 28.6	
	comp=Z,25μm,0.3s						
CNCH	**Conchagua**	**0.77**	**74**	*eP*	**Pn**	**17 39 14.0**	**+0.9**
LBRS	**Las Brisas**	**0.79**	**327**	*i P*	**Pn**	**17 39 13.8**	**+0.4**
AEIL	**Aeropuerto Ilo**	**0.80**	**321**	*eP*	**Pn**	**17 39 14.0**	**+0.5**
AEIL				*eS*	**Sn**	**17 39 27.2**	**+1.4**
AEIL				IAML		17 39 33.6	
	comp=Z,22μm,0.4s						
LALI	**Alcalda de L**	**0.82**	**301**	*eP*	**Pn**	**17 39 13.0**	**-0.6**
LALI				*eS*	**Sn**	**17 39 25.3**	**-0.7**
UDBS	**Universidad Do**	**0.84**	**320**	*eP*	**Pn**	**17 39 14.3**	**+0.4**
UDBS				*eS*	**Sn**	**17 39 27.3**	**+0.7**
UDBS				IAML		17 39 30.2	
	comp=Z,16μm,0.3s						
LFU	**La Fuente**	**0.84**	**323**	*eP*	**Pn**	**17 39 14.4**	**+0.5**
OPAM	**Oficina de Pla**	**0.87**	**317**	*eP*	**Pn**	**17 39 14.6**	**+0.4**
OPAM				*eS*	**Sn**	**17 39 27.9**	**+0.7**
OPAM				IAML		17 39 32.8	
	comp=Z,12μm,0.3s						
SNET	**Serv Nac Est T**	**0.87**	**315**	*eP*	**Pn**	**17 39 14.4**	**+0.2**
SNET				IAML		17 39 30.5	
	comp=Z,11μm,0.3s						
SNET	**Serv Nac Est T**	**0.87**	**315**		**Pn**	**17 39 14.3**	**0.0**
SNET				Sn	**Sn**	**17 39 27.3**	**0.0**
CPRS	**Casa Presidenc**	**0.88**	**314**	*eP*	**Pn**	**17 39 14.6**	**+0.3**
CPRS				*eS*	**Sn**	**17 39 27.5**	**+0.1**
UEES	**Universidad Ev**	**0.90**	**316**	*eP*	**Pn**	**17 39 14.9**	**+0.3**
UEES				*eS*	**Sn**	**17 39 28.7**	**+0.9**
UEES				IAML		17 39 29.6	
	comp=Z,10μm,0.4s						
MAGS	**Ministerio de**	**0.91**	**312**	*eP*	**Pn**	**17 39 15.1**	**+0.4**
MAGS				*eS*	**Sn**	**17 39 28.7**	**+0.6**
MAGS				IAML		17 39 31.7	
	comp=Z,11μm,0.4s						
BOQS	**Boqueron**	**0.94**	**315**	*eP*	**Pn**	**17 39 15.7**	**+0.5**
PMON	**Piamonte**	**0.95**	**312**	*eP*	**Pn**	**17 39 15.4**	**+0.2**
PMON				*eS*	**Sn**	**17 39 29.6**	**+0.7**
CSGN	**Cosiguina Volc**	**1.01**	**95**		**Pn**	**17 39 19.8**	**+3.8**
CSGN				Sn	**Sn**	**17 39 32.7**	**+2.5**
JAYA	**Jayaque - finc**	**1.01**	**305**	*i P*	**Pn**	**17 39 15.7**	**-0.4**
JAYA				*eS*	**Sn**	**17 39 31.0**	**+0.6**
CEDA	**San Andres**	**1.07**	**313**	*eP*	**Pn**	**17 39 17.0**	**+0.5**
CEDA				*eS*	**Sn**	**17 39 32.5**	**+1.2**
CEVE	**Cerro Verde**	**1.25**	**307**	*eP*	**Pn**	**17 39 19.7**	**+0.6**
CEVE				*eS*	**Sn**	**17 39 37.2**	**+1.4**
CEVE				IAML		17 39 38.8	
	comp=Z,14μm,0.5s						
SBLS	**San Blas**	**1.26**	**308**	*eP*	**Pn**	**17 39 19.7**	**+0.6**
MTO3	**Montecristo**	**1.52**	**331**		**Pn**	**17 39 23.1**	**+0.6**
MTO3				Sn	**Sn**	**17 39 41.1**	**-0.7**
CRIN	**San Cristobal**	**1.55**	**104**		**Pn**	**17 39 24.1**	**+1.3**
CRIN				Sn	**Sn**	**17 39 44.7**	**+2.3**
TGUH	**Tegucigalpa,Un**	**1.62**	**53**	Pn	**Pn**	**17 39 25.2**	**+1.5**
TGUH				Sn	**Sn**	**17 39 45.8**	**+1.8**
ESQI	**Esquipulas**	**1.65**	**334**		**Pn**	**17 39 25.3**	**+1.2**
ESQI				Sn	**Sn**	**17 39 43.5**	**-1.2**
MRL	**Marmol**	**2.26**	**332**	*eP*	**Pn**	**17 39 34.7**	**+2.3**
MRL				*eS*	Sn	17 40 12.0	+12
NBG	**Las Nubes**	**2.27**	**312**	*eP*	**Pn**	**17 39 34.8**	**+2.2**
NBG				*eS*	**Sn**	**17 40 07.0**	**+7.2**
PCG	**Pacaya**	**2.36**	**304**	*eP*	**Pn**	**17 39 35.7**	**+2.1**
FUG	**Fuego 3**	**2.58**	**302**	*eP*	**Pn**	**17 39 37.2**	**+0.7**
FUG				*eS*	**Sn**	**17 40 10.6**	**+3.6**
MATN	**Matagalpa**	**2.61**	**93**		**Pn**	**17 39 37.9**	**+1.1**
MATN				Sn	**Sn**	**17 40 05.0**	**-2.6**
BOAB	**BOACO BROADBAN**	**2.92**	**102**	Pn	**Pn**	**17 39 41.2**	**+0.1**
RTAL	**Retalhuleu**	**3.34**	**296**		**Pn**	**17 39 47.8**	**+1.1**
ACON	**Acoyapa**	**3.52**	**108**		**Pn**	**17 39 48.8**	**-0.3**
PETF	**Flores**	**4.02**	**342**		**Pn**	**17 39 58.8**	**+2.9**
ORTG	**Ortega, Santa**	**4.08**	**131**		**Pn**	**17 39 58.5**	**+1.6**
ESPN	**Las Esperanzas**	**4.28**	**101**	Pn	**Pn**	**17 39 58.3**	**-1.2**
JTS	**Las Juntas de**	**4.51**	**127**	P	**Pn**	**17 40 04.8**	**+2.1**
	comp=Z,6.7nm,0.3s,baz=37,slow=5.4,SNR=43						
JTS				S	**Sn**	**17 40 54.5**	**+0.5**
	comp=Z,6.2nm,0.3s,baz=336,slow=23,SNR=1.1						
JTS	**Las Juntas de**	**4.51**	**127**	Pn	**Pn**	**17 40 03.2**	**+0.5**
CCIG	**Comitan**	**4.68**	**313**	Pn	**Pn**	**17 40 07.2**	**+2.0**
COVE	**Coope Vega, Sa**	**4.72**	**119**		**Pn**	**17 40 06.3**	**+0.7**
CAO2	**Cobano, Puntar**	**4.79**	**134**		**Pn**	**17 40 07.1**	**+0.5**
BATAN	**Batan**	**5.91**	**119**	Pn	**Pn**	**17 40 23.6**	**+1.9**
PEZE	**Perez Zeledon,**	**6.06**	**127**		**Pn**	**17 40 24.9**	**+1.0**
RIOS	**Rincon, Osa**	**6.61**	**131**	Pn	**Pn**	**17 40 31.8**	**+0.4**
TEIG	**Tepich**	**7.12**	**2**	P	**Pn**	**17 40 41.8**	**+3.4**
	comp=Z,33nm,0.3s,baz=29,slow=0.4,SNR=63						
TEIG				LR	LR	17 43 43.0	
	comp=Z,147nm,20.9s,baz=130,slow=41						
TEIG	**Tepich**	**7.12**	**2**		**Pn**	**17 40 41.6**	**+3.3**
CMIG	**Matias Romero**	**7.27**	**304**	P	**Pn**	**17 40 42.6**	**+2.3**
	comp=Z,1.2nm,0.3s,baz=144,slow=11,SNR=9.1						
CMIG				S	**Sn**	**17 42 02.7**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=134,slow=19,SNR=1.7						
WBCY	**West Bay, Gran**	**9.33**	**47**	Pn	**Pn**	**17 41 12.0**	**+3.5**
553A	**Crawfordville**	**17.47**	**12**	P	**P**	**17 43 00.1**	**+4.7**
SDV	**Santo Domingo**	**18.11**	**101**	P	**P**	**17 43 02.7**	**-0.3**
	comp=Z,2.5nm,0.3s,baz=283,slow=4.6,SNR=10						
SDV	**Santo Domingo**	**18.11**	**101**		**P**	**17 43 02.4**	**-0.6**
SDV				IAmb	IAmb	17 43 06.2	
	comp=Z,24nm,1.2s						
833A	**Chaparral WMA,**	**18.21**	**328**	P		17 43 05.1	
	baz=144						
152A	**Waverly Hall**	**19.83**	**10**	P	**Pn**	**17 43 23.3**	**-0.3**
152A				IAmb	IAmb	17 43 25.6	
	comp=Z,16nm,0.8s						
LRAL	**Lakeview Retre**	**19.93**	**4**	P		17 43 24.4	
	baz=185						
LRAL	**Lakeview Retre**	**19.93**	**4**	Pn	**Pn**	**17 43 24.3**	**-0.4**
Z47A	**Carrollton**	**20.04**	**1**	P	Pn	17 43 25.1	-1.0
Z47A				IAmb	IAmb	17 43 27.5	
	comp=Z,20nm,0.8s						
Z51A	**Franklin**	**20.39**	**8**	P	Pn	17 43 30.1	-0.1
GOGA	**Godfrey**	**20.78**	**12**	P	Pn	17 43 33.3	-1.4
GOGA				IAmb	IAmb	17 43 35.9	
	comp=Z,6.9nm,0.6s						
GOGA	**Godfrey**	**20.78**	**12**	P		17 43 33.4	
	baz=194						
Y49A	**Blount Mountai**	**20.79**	**5**	P	**P**	**17 43 32.6**	**+0.9**
WLAR	**White Oak Lake**	**20.93**	**349**	P	**P**	**17 43 34.8**	**+1.6**
WLAR				IAmb	IAmb	17 43 59.5	
	comp=Z,15nm,1.0s						
Y52A	**Lillburn**	**21.11**	**11**	P	**P**	**17 43 36.5**	**+1.4**
Y52A				IAmb	IAmb	17 43 38.8	
	comp=Z,15nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSU	**Charleston Sou**	**21.30**	**20**	P	**P**	**17 43 37.4**	**+0.3**
TX31	**Lajitas Ar. Si**	**21.39**	**322**	P	**P**	**17 43 39.4**	**+1.1**
TX31				IAmb	IAmb	17 43 41.0	
	comp=Z,14nm,0.9s						
TX32	**Lajitas Array**	**21.39**	**322**	P	**P**	**17 43 38.9**	**+0.6**
TXAR	**Lajitas Array**	**21.39**	**322**	P	**P**	**17 43 39.7**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=140,slow=10,SNR=30						
TXAR				pP	**pP**	**17 43 57.0**	**+2.7**
	comp=Z,1.1nm,0.6s,baz=147,slow=11,SNR=4.7						
TXAR				PcP	**PcP**	**17 47 39.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=124,slow=5.1,SNR=2.9						
TXAR	**Lajitas Array**	**21.39**	**322**	P	**P**	**17 43 39.3**	**+1.0**
HODGE	**Hodges**	**21.84**	**14**	P	**P**	**17 43 45.2**	**+2.3**
MIAR	**Mount Ida**	**21.85**	**349**	P		17 43 44.0	
	baz=167						
MIAR	**Mount Ida**	**21.85**	**349**	P	**P**	**17 43 43.9**	**+0.8**
ABTX	**Abilene, Hawle**	**21.93**	**334**	P		17 43 45.3	
	baz=150						
W41B	**Gary Mavity, V**	**22.25**	**352**	P		17 43 48.6	
	baz=171						
X37A	**Clayton**	**22.29**	**345**	P	**P**	**17 43 49.5**	**+1.7**
X37A				IAmb	IAmb	17 44 10.4	
	comp=Z,9.6nm,0.8s						
WHAR	**Wooly Hollow**	**22.37**	**352**	P	**P**	**17 43 50.0**	**+1.3**
BG3	**Lake Jocassee**	**22.42**	**12**	P	**P**	**17 43 49.9**	**+0.8**
BG3				IAmb	IAmb	17 43 51.5	
	comp=Z,17nm,1.6s						
LPAR	**Lepanto**	**22.49**	**356**	P	**P**	**17 43 49.8**	**0.0**
W39A	**Magazine**	**22.52**	**349**	P	**P**	**17 43 50.4**	**+0.1**
W39A				IAmb	IAmb	17 43 53.3	
	comp=Z,20nm,1.5s						
W39A	**Magazine**	**22.52**	**349**	P		17 43 51.7	
	baz=167						
CPCT	**Cooper Cave**	**22.58**	**9**	P	**P**	**17 43 51.1**	**+0.2**
V48A	**Smith Brothers**	**22.63**	**4**	P	**P**	**17 43 51.5**	**+0.1**
BIRD	**Birdtown, Kers**	**22.71**	**18**	P	**P**	**17 43 52.6**	**+0.4**
BIRD				IAmb	IAmb	17 43 53.9	
	comp=Z,12nm,0.7s						
TKL	**Tuckaleechee C**	**22.91**	**10**	P	**P**	**17 43 54.5**	**+0.3**
	comp=Z,6.3nm,0.7s,baz=182,slow=11,SNR=10						
TKL	**Tuckaleechee C**	**22.91**	**10**	P	**P**	**17 43 54.5**	**+0.3**
TKL				IAmb	IAmb	17 43 56.1	
	comp=Z,28nm,1.6s						
KMSC	**Kings Mountain**	**22.94**	**15**	P		17 43 55.2	
	baz=198						
FCAR	**Ozark Folk Cen**	**22.94**	**353**	P	**P**	**17 43 54.8**	**+0.2**
FCAR				IAmb	IAmb	17 43 55.9	
	comp=Z,9.0nm,0.7s						
WVT	**Waverly**	**22.97**	**2**	P		17 43 54.6	
	baz=182						
CLTN	**Cedars of Leba**	**23.01**	**5**	P	**P**	**17 43 55.4**	**+0.1**
LCAR	**Lake Charles**	**23.02**	**355**	P	**P**	**17 43 56.9**	**+1.6**
V53A	**Saluda**	**23.10**	**12**	P	**P**	**17 43 56.6**	**+0.4**
W56A	**Indian Trail**	**23.13**	**17**	P		17 43 57.2	
	baz=200						
WMOK	**Wichita Mounta**	**23.46**	**339**	P	**P**	**17 43 59.5**	**-0.1**
WMOK	**Wichita Mounta**	**23.46**	**339**	P		17 44 00.1	
	baz=154,SNR=7.0						
X60A	**Albert Glenn T**	**23.48**	**22**	P		17 43 59.6	
	baz=207						
U49A	**Red Boiling Sp**	**23.48**	**6**	P	**P**	**17 43 59.2**	**-0.4**
FNO	**Franklin**	**23.48**	**342**	P	**P**	**17 44 00.2**	**+0.5**
U40A	**Yellville**	**23.50**	**351**	P	**P**	**17 44 00.5**	**+0.7**
U40A				IAmb	IAmb	17 44 02.1	
	comp=Z,15nm,0.8s						
U40A	**Yellville**	**23.50**	**351**	P		17 44 00.3	
	baz=170,SNR=16						
PARMO	**Parma**	**23.52**	**358**	P	**P**	**17 44 01.3**	**+1.4**
HHAR	**Hobbs**	**23.61**	**349**	P	**P**	**17 44 01.9**	**+1.1**
V55A	**Taylorsville**	**23.64**	**15**	P	**P**	**17 44 01.5**	**+0.4**
V55A				IAmb	IAmb	17 44 03.4	
	comp=Z,6.2nm,0.6s						
PBMO	**Poplar Bluff**	**23.67**	**356**	P	**P**	**17 44 01.5**	**+0.2**
PBMO				IAmb	IAmb	17 44 04.3	
	comp=Z,15nm,1.4s						
V56A	**Mocksville**	**23.79**	**16**	P		17 44 03.1	
	baz=200						
U38A	**Gravette**	**23.84**	**348**	P	**P**	**17 44 04.1**	**+1.1**
U38A				IAmb	IAmb	17 44 04.7	
	comp=Z,17nm,1.6s						
T47A	**Sharon Grove**	**23.86**	**3**	P	**P**	**17 44 02.4**	**-0.6**
T47A				IAmb	IAmb	17 44 03.3	
	comp=Z,9.4nm,0.8s						
OK031	**S. Brethren Rd**	**23.96**	**343**	P	**P**	**17 44 02.7**	**-1.3**
OK031				IAmb	IAmb	17 44 04.8	
	comp=Z,9.7nm,0.6s						
T42A	**Van Buren**	**23.96**	**355**	P	**P**	**17 44 03.4**	**-0.6**
OK029	**Liberty Lake**	**24.00**	**342**	P	**P**	**17 44 03.8**	**-0.5**
V57A	**Coltrane Farms**	**24.07**	**18**	P		17 44 05.2	
	baz=201						
MNTX	**Cornudas Mount**	**24.12**	**323**	P	**P**	**17 44 05.5**	**0.0**
MNTX	**Cornudas Mount**	**24.12**	**323**	P		17 44 05.6	
	baz=137,SNR=7.1						
U54A	**Nelsons Funny**	**24.13**	**13**	P	**P**	**17 44 06.0**	**+0.4**
U54A	**Nelsons Funny**	**24.13**	**13**	P		17 44 05.5	
	baz=196						
QUOK	**Quay**	**24.13**	**344**	P	**P**	**17 44 05.3**	**-0.2**
QUOK				IAmb	IAmb	17 44 06.7	
	comp=Z,10.0nm,0.6s						
V58A	**Windy Hill, Pi**	**24.19**	**19**	P	**P**	**17 44 06.0**	**0.0**
MGMO	**Mountain Grove**	**24.21**	**353**	P	**P**	**17 44 05.9**	**-0.3**
U56A	**King**	**24.32**	**16**	P	**P**	**17 44 09.0**	**+1.7**
U56A				IAmb	IAmb	17 44 10.5	
	comp=Z,10nm,0.6s						
V59A	**Middlesex**	**24.45**	**21**	P		17 44 08.4	
	baz=205						
MSTX	**Muleshoe**	**24.48**	**331**	P		17 44 08.8	
	baz=145,SNR=6.7						
S44A	**Carbondale**	**24.53**	**359**	P	**P**	**17 44 09.1**	**0.0**
S44A				IAmb	IAmb	17 44 14.3	
	comp=Z,9.2nm,0.8s						
SIUC	**Southern Illin**	**24.55**	**359**	P	**P**	**17 44 08.9**	**-0.3**
SIUC				IAmb	IAmb	17 44 30.3	
	comp=Z,15nm,1.4s						
U57A	**Blanch**	**24.70**	**18**	P		17 44 10.9	
	baz=202						
AMTX	**Amarillo**	**24.74**	**334**	P	**P**	**17 44 11.7**	**+0.5**
AMTX				IAmb	IAmb	17 44 14.8	
	comp=Z,8.6nm,0.7s						
AMTX	**Amarillo**	**24.74**	**334**	P		17 44 12.4	
	baz=148						
S39A	**Bolivar**	**24.88**	**351**	P	**P**	**17 44 12.0**	**-0.3**
S39A				IAmb	IAmb	17 44 15.0	
	comp=Z,13nm,0.6s						
U58A	**Oxford**	**24.92**	**20**	P		17 44 13.0	
	baz=204						
CCM	**Cathedral Cave**	**25.00**	**355**	P	**P**	**17 44 13.0**	**-0.3**
CCM				IAmb	IAmb	17 44 33.9	
	comp=Z,8.2nm,0.7s						
CCM	**Cathedral Cave**	**25.00**	**355**	P		17 44 13.4	
	baz=174						
BLA	**Blacksburg**	**25.13**	**16**	P		17 44 14.6	
	baz=199						
T58A	**Grand View Acr**	**25.43**	**19**	P		17 44 17.5	
	baz=203						
S56A	**Natural Bridge**	**25.80**	**17**	P		17 44 21.1	
	baz=200						
P40A	**Paris**	**26.53**	**354**	P	**P**	**17 44 26.6**	**-0.6**
R57A	**Stanardsville**	**26.67**	**18**	P		17 44 28.9	
	baz=202						
R58A	**Rapidan**	**26.83**	**19**	P		17 44 29.8	
	baz=203						
ANMO	**Albuquerque**	**27.12**	**326**	P		17 44 33.6	
	baz=139						
Q56A	**Snyder Ridge,**	**27.18**	**16**	P		17 44 33.8	
	baz=200						
CBKS	**Cedar Bluff**	**27.48**	**341**	P		17 44 36.3	
	baz=156						
ACSO	**Alum Creek Sta**	**27.50**	**9**	P		17 44 35.6	
	baz=192						
T25A	**Trinidad**	**27.84**	**332**	P	**P**	**17 44 40.3**	**+1.1**
T25A	**Trinidad**	**27.84**	**332**	P		17 44 40.6	
	baz=146						
O53A	**New Philadelph**	**27.84**	**12**	P		17 44 39.4	
	baz=196						
N38A	**Joes South For**	**27.91**	**352**	P	**P**	**17 44 39.3**	**-0.3**
P57A	**Homestead Farm**	**27.92**	**18**	P		17 44 40.4	
	baz=202						
SDCO	**Great Sand Dun**	**28.83**	**331**	P	**P**	**17 44 48.8**	**+0.7**
SDCO	**Great Sand Dun**	**28.83**	**331**	P		17 44 49.1	
	baz=144,SNR=6.5						
SCIA	**State Center**	**29.01**	**353**	P		17 44 50.0	
	baz=171						
W18A	**Petrified Fore**	**29.10**	**323**	P		17 44 50.8	
	baz=134						
N57A	**Milroy**	**29.23**	**17**	P		17 44 51.9	

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
	baz=202						
O59A	**Robesonia**	**29.25**	**20**	P		17 44 52.0	
	baz=205						
BGNE	**Belgrade**	**29.44**	**345**	P		17 44 52.8	
	baz=161						
S22A	**4UR Ranch, Cre**	**29.47**	**330**	P		17 44 55.0	
	baz=142						
N59A	**State Game Lan**	**29.93**	**20**	P		17 44 57.5	
	baz=206						
M58A	**Price's Panora**	**30.12**	**18**	P		17 44 58.8	
	baz=204						
N61A	**South Mountain**	**30.29**	**22**	P		17 45 00.9	
	baz=208						
ISCO	**Idaho Springs**	**30.56**	**334**	P		17 45 04.4	
	baz=146						
M59A	**Waymart**	**30.60**	**20**	P		17 45 03.3	
	baz=206						
SMCO	**Snowmass**	**30.67**	**331**	P	**P**	**17 45 03.7**	**-0.8**
SMCO				IAmb	IAmb	17 45 07.4	
	comp=Z,3.4nm,0.6s						
M60A	**Port Jervis**	**30.68**	**21**	P		17 45 05.0	
	baz=207						
PV05	**Paradox Valley**	**30.88**	**327**	P	**P**	**17 45 06.6**	**+0.4**
PV05				IAmb	IAmb	17 45 07.8	
	comp=Z,5.9nm,1.1s						
PV03	**Paradox Valley**	**30.88**	**328**	P	**P**	**17 45 07.0**	**+0.9**
PV03				IAmb	IAmb	17 45 08.0	
	comp=Z,7.3nm,1.2s						
PV12	**Saucer Basin,**	**30.90**	**328**	P	**P**	**17 45 07.2**	**+0.9**
PV12				IAmb	IAmb	17 45 09.1	
	comp=Z,6.5nm,0.8s						
PV17	**East Wray Mesa**	**30.95**	**328**	P	**P**	**17 45 07.5**	**+0.7**
PV17				IAmb	IAmb	17 45 09.2	
	comp=Z,5.4nm,1.1s						
PV16	**Nyswonger Mesa**	**30.95**	**328**	P	**P**	**17 45 07.1**	**+0.3**
PV16				IAmb	IAmb	17 45 09.4	
	comp=Z,7.9nm,1.3s						
M61A	**Granite Spring**	**30.97**	**22**	P		17 45 06.5	
	baz=209						
BINY	**Binghamton**	**31.02**	**18**	P		17 45 07.2	
	baz=204						
K56A	**Middlesex**	**31.09**	**16**	P		17 45 07.3	
	baz=202						
L59A	**Walton**	**31.31**	**20**	P		17 45 09.2	
	baz=206						
ECSD	**EROS Data Cent**	**31.32**	**349**	P		17 45 08.8	
	baz=165						
L60A	**Shokan**	**31.41**	**21**	P		17 45 10.1	
	baz=208						
N23A	**Red Feather La**	**31.61**	**334**	P		17 45 12.4	
	baz=146						
M63A	**Gales Ferry**	**31.71**	**24**	P		17 45 13.5	
	baz=212						
J56A	**Wolcott**	**31.76**	**16**	P	**P**	**17 45 12.7**	**-0.8**
J56A	**Wolcott**	**31.76**	**16**	P		17 45 12.9	
	baz=202,SNR=5.1						
O20A	**White River Ci**	**32.02**	**331**	P		17 45 17.2	
	baz=142						
H53A	**Bobcaygeon**	**32.54**	**13**	P		17 45 19.7	
	baz=198						
SADO	**Sadowa**	**32.61**	**13**	P	**P**	**17 45 20.1**	**-0.8**
	comp=Z,4.4nm,0.6s,baz=236,slow=7.5,SNR=8.4						
SADO	**Sadowa**	**32.61**	**13**	P	**P**	**17 45 19.9**	**-1.1**
SADO				IAmb	IAmb	17 45 20.7	
	comp=Z,6.0nm,0.7s						
RWWY	**Rawlins**	**32.80**	**334**	P	**P**	**17 45 24.2**	**+1.1**
RWWY				IAmb	IAmb	17 45 25.6	
	comp=Z,5.7nm,0.9s						
K63A	**Dunstable**	**33.01**	**23**	P		17 45 24.0	
	baz=212						
F33A	**5 Mile Ranch,**	**33.31**	**350**	P	**P**	**17 45 25.2**	**-1.9**
K22A	**Casper**	**33.31**	**336**	P		17 45 28.0	
	baz=147						
J62A	**Henniker**	**33.36**	**23**	P		17 45 28.3	
	baz=211						
SAML	**Samuel**	**33.40**	**130**	P	**P**	**17 45 27.1**	**-1.2**
SAML				IAmb	IAmb	17 45 27.6	
	comp=Z,3.2nm,0.6s						
BW06	**Boulder Array**	**34.70**	**332**	P	**P**	**17 45 39.3**	**-0.2**
BW06				IAmb	IAmb	17 45 40.4	
	comp=Z,5.3nm,1.4s						
BW06	**Boulder Array**	**34.70**	**332**	P		17 45 39.3	
	baz=142						
PD31	**Pinedale Array**	**34.70**	**332**	P	**P**	**17 45 38.6**	**-0.9**
PDAR	**Pinedale Array**	**34.70**	**332**	P	**P**	**17 45 39.6**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=126,slow=12,SNR=12						
PDAR	**Pinedale Array**	**34.70**	**332**	P	**P**	**17 45 36.9**	**-2.7**
EYMN	**Ely**	**34.85**	**357**	P		17 45 39.9	
	baz=175						
LPAZ	**La Paz**	**35.50**	**145**	LR	LR	18 01 41.6	
	comp=Z,60nm,21.9s,baz=200,slow=38						
G62A	**West of Eustis**	**35.54**	**22**	P		17 45 46.3	
	baz=211						
D55A	**Sainte-Anne-du**	**35.59**	**15**	P		17 45 46.0	
	baz=202						
AGMN	**Agassiz Nation**	**35.64**	**352**	P		17 45 46.4	
	baz=168						
AGMN	**Agassiz Nation**	**35.64**	**352**	P	**P**	**17 45 45.6**	**-1.6**
F60A	**Warwick

YKA	**Yellowknife Ar**	**52.73**	**345**	P	**P**	**17 48 02.3**	**-1.0**
	comp=Z,2.8nm,0.4s,baz=144,slow=7.5,SNR=72						
YKA				pP	**pP**	**17 48 21.8**	**-1.0**
	comp=Z,2.3nm,0.8s,baz=139,slow=8.1,SNR=5.6						
DLBC	**Dease Lake**	**54.87**	**335**	P	**P**	**17 48 19.5**	**+0.3**
RES	**Resolute Bay**	**61.70**	**358**	P	**P**	**17 49 04.3**	**-2.1**
RES				IAmb	IAmb	17 49 05.9	
	comp=Z,2.7nm,0.6s						
EPYK	**Eagle Plains**	**62.11**	**340**	P		17 49 08.4	
	baz=125						
INK	**Inuvik**	**62.28**	**343**	P	**P**	**17 49 09.2**	**-1.1**
BMRM	**Bremner River**	**62.49**	**333**	P		17 49 11.7	
	baz=114						
N25K	**Chitina, Valde**	**62.75**	**334**	P	**P**	**17 49 14.1**	**+0.4**
N25K				IAmb	IAmb	17 49 31.6	
	comp=Z,6.9nm,1.2s						
N25K	**Chitina, Valde**	**62.75**	**334**	P		17 49 13.4	
	baz=115						
K27K	**Chicken**	**62.80**	**337**	P		17 49 13.4	
	baz=118						
EGAK	**Eagle**	**62.82**	**338**	P	**P**	**17 49 13.5**	**-0.5**
EGAK	**Eagle**	**62.82**	**338**	P		17 49 13.1	
	baz=120						
DOT	**Dot Lake**	**63.41**	**336**	P	**P**	**17 49 18.0**	**0.0**
DOT				IAmb	IAmb	17 49 18.1	
	comp=Z,3.0nm,0.6s						
SCRK	**Sand Creek**	**63.52**	**336**	P		17 49 18.3	
	baz=116						
PAX	**Paxson**	**63.69**	**335**	P		17 49 18.9	
	baz=114						
GHO	**Glory Hole Cre**	**64.72**	**333**	P	**P**	**17 49 25.9**	**-0.8**
PRP	**Porcupine Dome**	**64.80**	**337**	P	**P**	**17 49 26.4**	**-0.7**
PRP				IAmb	IAmb	17 49 27.3	
	comp=Z,2.6nm,0.7s						
PRP	**Porcupine Dome**	**64.80**	**337**	P		17 49 26.1	
	baz=116						
RC01	**Rabbit Creek A**	**64.85**	**332**	P		17 49 26.5	
	baz=110						
WAT2	**Susitna Watana**	**65.00**	**334**	P		17 49 27.6	
	baz=112						
IL31		**65.01**	**336**	P	**P**	**17 49 27.1**	**-1.2**
IL31				IAmb	IAmb	17 49 29.0	
	comp=Z,2.7nm,0.8s						
ILAR	**Eielson Array**	**65.01**	**336**	P	**P**	**17 49 27.2**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=164,slow=4.6,SNR=25						
ILAR	**Eielson Array**	**65.01**	**336**	P	**P**	**17 49 27.4**	**-1.0**
FYU	**Fort Yukon**	**65.15**	**338**	P	**P**	**17 49 28.6**	**-0.7**
RND	**Reindeer**	**65.28**	**335**	P	**P**	**17 49 29.9**	**-0.3**
MCK	**McKinley**	**65.43**	**335**	P		17 49 30.4	
	baz=112						
SUA	**Susitna One**	**65.44**	**332**	P	**P**	**17 49 30.8**	**-0.6**
SUA	**Susitna One**	**65.44**	**332**	P		17 49 30.3	
	baz=109						
NEA2	**Nenana**	**65.80**	**336**	P		17 49 32.5	
	baz=112						
TRF	**Thorofare Moun**	**65.90**	**334**	P	**P**	**17 49 34.0**	**-0.4**
TRF				IAmb	IAmb	17 49 35.1	
	comp=Z,5.2nm,0.9s						
TRF	**Thorofare Moun**	**65.90**	**334**	P		17 49 33.6	
	baz=110						
I23K	**Minto, Yukon-K**	**66.12**	**336**	P	**P**	**17 49 34.8**	**-0.7**
I23K				IAmb	IAmb	17 49 36.7	
	comp=Z,2.8nm,0.8s						
I23K	**Minto, Yukon-K**	**66.12**	**336**	P		17 49 34.9	
	baz=112						
BPAW	**Bear Paw Mtn.**	**66.41**	**335**	P	**P**	**17 49 35.6**	**-1.8**
BPAW				IAmb	IAmb	17 49 36.8	
	comp=Z,3.3nm,0.6s						
BPAW	**Bear Paw Mtn.**	**66.41**	**335**	P		17 49 36.3	
	baz=110						
PPLA	**Purkeypile**	**66.53**	**333**	P	**P**	**17 49 37.0**	**-1.5**
EUNU	**Eureka**	**67.01**	**0**	P	**P**	**17 49 40.0**	**-1.1**
TOLK	**Toolik Lake Re**	**67.53**	**340**	P	**P**	**17 49 43.7**	**-0.8**
TOLK				IAmb	IAmb	17 49 44.4	
	comp=Z,2.7nm,0.7s						
TOLK	**Toolik Lake Re**	**67.53**	**340**	P		17 49 43.3	
	baz=113						
SDPT	**Sand Point**	**69.05**	**324**	P		17 49 53.1	
	baz=98						
GERES	**GERESS Array B**	**88.19**	**40**	LR	LR	18 31 19.9	
	comp=Z,28nm,18.6s,baz=3.5,slow=36						
WRA	**Warramunga Arr**	**138.36**	**255**	PKP	**PKPdf**	**17 58 14.8**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=90,slow=2.1,SNR=22						
WRA				pPKP	**pPKPdf**	**17 58 36.9**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=91,slow=1.9,SNR=2.7						
ASAR	**Alice Springs**	**138.45**	**249**	PKhKP	PKPpre	17 58 07.5	
ASAR				PKP	**PKPdf**	**17 58 15.1**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=100,slow=1.8,SNR=18						
CMAR	**Chiang Mai Arr**	**147.80**	**346**	PKPbc	**PKPdf**	**17 58 30.9**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=330,slow=3.8,SNR=4.7						

*NEIC **10** 17:48:18.9±2.8,34°.29S±0°.04×73°.64W±0°.06,h1km±3km, Error ellipse: s-maj=7.3km s-min=5.7km az=74.0*
*IDC **10** 17:48:20.4±0.7,34°.41S×73°.51W,h0km,mb4.2/11, mb1 4.3/15,mb1mx4.2/30,mbtmp4.2/15,ML4.3/4,MS3.6/9, Ms1 3.6/9,ms1mx3.4/26,Error ellipse: s-maj=27.1km s-min=17.6km az=74.0*
*GUC **10** 17:48:23.3±0.8,34°.23S×73°.43W,h30km±4km,ML4.1*
*VAO **10** 17:48:39.3±1.0,32°.61S×72°.89W,h10km,mb4.6*
ISC 10 17:48:21.6±1.4,**34°.33S**±0°.05×**73°.56W**±0°.04,**h10**km±8km, **n112,σ2§11**/123,**mb4.4**/13,**MS3.8**/6,**4C-1D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**1.33**	**97**	⇑*i*P	**Pn**	**17 48 44.7**	**-1.6**
BO03				*i* S	**Sb**	**17 49 00.1**	**-3.6**
VA05	**Santo Domingo**	**1.75**	**68**	⇑*i*P	**Pn**	**17 48 50.0**	**-2.0**
VA05				*i* S	**Sn**	**17 49 10.3**	**-4.1**
MT09	**Talagante**	**2.21**	**76**	*i* P	**Pn**	**17 48 56.5**	**-2.0**
MT09				*i* S	**Sn**	**17 49 22.6**	**-3.2**
MT02	**Curacav**	**2.28**	**63**	*e*P	**Pn**	**17 48 57.8**	**-1.6**
MT02				*i* S	**Sn**	**17 49 24.0**	**-3.5**
MT02	**Curacav**	**2.28**	**63**		**Pn**	**17 48 57.5**	**-1.9**
MT02				Sn	**Sn**	**17 49 24.2**	**-3.3**
BO02	**Sierra Bellavi**	**2.34**	**102**	⇑*i*P	**Pn**	**17 48 59.8**	**-0.4**
BO02				*i* S	**Sn**	**17 49 27.4**	**-1.6**
BO02				IAML		17 49 28.8	
	comp=N,3μm,0.7s						
BO02	**Sierra Bellavi**	**2.34**	**102**	Pn	**Pn**	**17 48 59.6**	**-0.6**
BO02				Sn	**Sn**	**17 49 27.1**	**-1.9**
ROCH	**El Roble**	**2.52**	**58**	⇓*i*P	**Pn**	**17 49 01.3**	**-1.5**
ROCH				*i* S	**Sn**	**17 49 30.6**	**-3.2**
MT05	**Renca**	**2.53**	**69**	Pn	**Pn**	**17 49 02.5**	**-0.3**
MT05				Sn	**Sn**	**17 49 30.7**	**-3.0**
BI03	**Tigo**	**2.54**	**170**		**Pn**	**17 49 01.3**	**-1.6**
MT03	**Universidad Ad**	**2.67**	**73**	*e*P	**Pn**	**17 49 03.8**	**-1.0**
MT03				*i* S	**Sn**	**17 49 34.2**	**-3.1**
PEL	**Peldehue**	**2.67**	**64**	*e*P	**Pn**	**17 49 03.5**	**-1.2**
PEL				*i* S	**Sn**	**17 49 34.7**	**-2.5**
PEL				IAML		17 49 40.1	
	comp=N,620nm,0.6s						
PEL	**Peldehue**	**2.67**	**64**		**Pn**	**17 49 04.1**	**-0.6**
PEL				Sn	**Sn**	**17 49 35.9**	**-1.3**
LMEL	**Las Melosas**	**2.83**	**81**	*e*P	**Pn**	**17 49 06.1**	**-0.8**
LMEL				*i* S	**Sn**	**17 49 39.5**	**-1.7**
VA03	**San Esteban**	**2.96**	**59**	*e*P	**Pn**	**17 49 07.7**	**-1.0**
VA03				*i* S	**Sn**	**17 49 42.0**	**-2.5**
VA03				IAML		17 49 46.2	
	comp=N,464nm,0.5s						
VA03	**San Esteban**	**2.96**	**59**		**Pn**	**17 49 07.8**	**-1.0**
VA03				Sn	**Sn**	**17 49 42.3**	**-2.1**
BI02	**San Fabin de**	**2.98**	**142**	⇑*i*P	**Pn**	**17 49 08.6**	**-0.5**
BI02				*i* S	**Sn**	**17 49 42.9**	**-2.0**
BI02				IAML		17 49 52.8	
	comp=N,558nm,0.8s						
BI02	**San Fabin de**	**2.98**	**142**	Pn	**Pn**	**17 49 08.5**	**-0.5**
CO02	**Combarbal**	**3.79**	**35**		**Pn**	**17 49 18.8**	**-1.4**
CO03	**El Pedregal**	**4.24**	**36**	*e*P	**Pn**	**17 49 25.2**	**-1.1**
CO03	**El Pedregal**	**4.24**	**36**		**Pn**	**17 49 25.3**	**-1.1**
VA04	**Juan Fernndez**	**4.43**	**277**	Pn	Pn	17 49 25.3	-3.6
VA04					Sn	17 50 12.7	-7.9
H03S1	**Juan Fernandez**	**4.46**	**275**	Pn	**Pn**	**17 49 28.0**	**-1.1**
H03S1				Sn	Sn	17 50 12.5	-8.5
	baz=70,slow=78,SNR=21						
H03S1				T	T	17 53 50.7	
	baz=94,slow=72,SNR=20						
H03S3	**Juan Fernandez**	**4.47**	**275**	Pn	**Pn**	**17 49 28.3**	**-0.9**
H03S3				Sn	**Sn**	**17 50 15.8**	**-5.3**
	baz=70,slow=78,SNR=35						
H03S3				T	T	17 53 59.4	
	baz=94,slow=72,SNR=22						
H03S2	**Juan Fernandez**	**4.48**	**275**	Pn	**Pn**	**17 49 28.1**	**-1.2**
H03S2				Sn	Sn	17 50 14.2	-7.2
	baz=70,slow=78,SNR=24						
H03S2				T	T	17 53 55.0	
	baz=94,slow=72,SNR=20						
H03N1	**Juan Fernandez**	**4.54**	**280**	Pn	**Pn**	**17 49 30.2**	**+0.1**
	baz=133,slow=22,SNR=56						
H03N1				Sn	Sn	17 50 13.7	-9.2
H03N3	**Juan Fernandez**	**4.55**	**280**	Pn	**Pn**	**17 49 30.6**	**+0.4**
	baz=133,slow=22,SNR=51						
H03N3				Sn	Sn	17 50 14.5	-8.6
H03N2	**Juan Fernandez**	**4.56**	**280**	Pn	**Pn**	**17 49 30.6**	**+0.2**
	baz=133,slow=22,SNR=44						
H03N2				Sn	Sn	17 50 14.7	-8.6
GO04	**Tololo Observa**	**4.76**	**30**	Pn	**Pn**	**17 49 31.6**	**-2.1**
ZON	**Zonda**	**4.96**	**57**	Pn	**Pn**	**17 49 36.6**	**+0.5**
CO01	**Juntas del Tor**	**5.24**	**35**		**Pn**	**17 49 39.6**	**-0.7**
LCO	**Las Campanas**	**5.84**	**25**	Pn	**Pn**	**17 49 46.3**	**-2.2**
AC05	**El Transito**	**6.16**	**28**		**Pn**	**17 49 51.6**	**-1.1**
AC04	**Llanos de Chal**	**6.47**	**20**	Pn	**Pn**	**17 49 54.7**	**-2.2**
PLCA	**Paso Flores**	**6.82**	**160**	Pn	**Pn**	**17 50 02.4**	**+0.6**
	comp=N,5.2nm,0.3s,baz=329,slow=11,SNR=92						
PLCA				LR	LR	17 52 28.3	
	comp=N,354nm,21.1s,baz=330,slow=37						
PLCA	**Paso Flores**	**6.82**	**160**	Pn	**Pn**	**17 50 02.2**	**+0.4**
GO03	**Copiap**	**7.30**	**24**	Pn	**Pn**	**17 50 06.1**	**-2.3**
LL01	**San Ignacio de**	**8.08**	**174**		**Pn**	**17 50 17.5**	**-1.5**
AC02	**Maricunga**	**8.39**	**28**	Pn	**Pn**	**17 50 21.1**	**-2.6**
AC01	**Pan de Azucar**	**8.55**	**18**	Pn	**Pn**	**17 50 21.7**	**-3.8**
GO07	**Milladeo Hill,**	**8.77**	**181**	Pn	**Pn**	**17 50 25.5**	**-2.9**
GO02	**Mina Guanaco**	**9.77**	**22**	Pn	**Pn**	**17 50 38.1**	**-4.4**
PB14	**IPOC Station P**	**10.06**	**17**	Pn	Pn	17 50 41.8	-4.7
PB10	**IPOC Station P**	**11.10**	**14**	Pn	**Pn**	**17 50 56.4**	**-4.0**
LVC	**Limon Verde**	**12.37**	**20**	Pn	**Pn**	**17 51 17.9**	**-0.3**
	comp=N,0.3nm,0.3s,baz=324,slow=7.8,SNR=2.0						
LVC				LR	LR	17 55 48.1	
	comp=N,132nm,18.1s,baz=194,slow=36						
LVC	**Limon Verde**	**12.37**	**20**	Pn	**Pn**	**17 51 14.6**	**-3.6**
PB07	**IPOC Station P**	**12.97**	**15**	Pn	**Pn**	**17 51 22.4**	**-3.8**
PB09	**IPOC Station P**	**13.06**	**18**		**Pn**	**17 51 26.5**	**-0.8**
MNMC	**Minye Minye**	**15.55**	**14**	P	**Pn**	**17 52 01.9**	**+0.6**
MNMC				IAmb	IAmb	17 52 09.2	
	comp=Z,20nm,0.7s						
CPUP	**Villa Florida**	**16.11**	**65**	Pn	**P**	**17 52 09.8**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=238,slow=13,SNR=1.7						
CPUP				LR	LR	17 59 01.2	
	comp=Z,77nm,19.6s,baz=222,slow=40						
PB16	**IPOC Station P**	**16.34**	**14**	P	**Pn**	**17 52 09.2**	**-2.5**
PB16				IAmb	IAmb	17 52 26.8	
	comp=Z,36nm,1.1s						
LPAZ	**La Paz**	**18.62**	**17**	P	**Pn**	**17 52 42.2**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=185,slow=8.8,SNR=15						
LPAZ	**La Paz**	**18.62**	**17**	P	**P**	**17 52 38.1**	**-1.8**
AQDB	**Aquidauana**	**20.98**	**53**	*e*P	**P**	**17 53 05.5**	**+0.5**
SIV	**San Ignacio**	**21.44**	**35**	P	**P**	**17 53 09.8**	**-0.3**
	comp=Z,9.6nm,0.9s,baz=240,slow=12,SNR=30						
TRCB	**Terra Rica**	**21.63**	**63**	*e*P	**P**	**17 53 16.6**	**+4.5**
NNA	**Nana**	**22.45**	**352**	LR	LR	17 59 43.0	
	comp=Z,172nm,20.0s,baz=188,slow=30						
PTLB	**Pontes e Lacer**	**22.86**	**38**	*e*P	**P**	**17 53 25.0**	**-0.2**
TIJ01	**Guaruva-PR**	**23.07**	**74**	*e*P	P	17 53 34.4	+6.9
PCMB	**Pacaembu**	**23.36**	**63**	*e*P	**P**	**17 53 35.2**	**+4.9**
VILB	**Vilhena**	**24.50**	**33**	*e*P	**P**	**17 53 41.5**	**+0.3**
SPB	**Sao Paulo**	**25.17**	**72**	*e*P	P	17 53 55.2	+8.0
ITRB	**Iturama**	**25.21**	**61**	*e*P	**P**	**17 53 53.8**	**+6.2**
ETMB	**Extrema**	**25.31**	**17**	*e*P	**P**	**17 53 49.7**	**+1.2**
BB19B	**Bebedouro**	**25.72**	**66**	*e*P	**P**	**17 53 58.8**	**+6.5**
VAO	**Valinhos**	**25.84**	**71**	*e*P	P	17 54 02.2	+8.8
CLDB	**Colider**	**28.44**	**39**	*e*P	**P**	**17 54 19.4**	**+2.7**
SNDB	**Serra Nova Dou**	**30.10**	**48**	*e*P	**P**	**17 54 35.2**	**+3.7**
OTAV	**Otavalo**	**34.70**	**351**	P	**P**	**17 55 11.0**	**-1.2**
OTAV				IAmb	IAmb	17 55 24.4	
	comp=Z,12nm,1.2s						
OTAV	**Otavalo**	**34.70**	**351**	*e*P	**P**	**17 55 15.8**	**+3.7**
GDU01	**Guandu, BA**	**36.95**	**65**	*e*P	P	17 55 39.0	+7.9
PRAC	**Prado**	**37.86**	**358**	*e*P	**P**	**17 55 41.0**	**+2.2**
ORTC	**Ortega, Tolima**	**38.07**	**357**	*e*P	**P**	**17 55 39.5**	**-1.1**
ORTC				*e*P	**pP**	**17 55 42.4**	**+0.4**
TOLC	**Tolima**	**38.74**	**357**	*e*P	**P**	**17 55 49.4**	**+2.9**
GUY2C	**Guyana, Caldas**	**39.38**	**357**	*e*P	**P**	**17 55 53.1**	**+1.1**
RUSC	**La Rusia**	**40.01**	**1**	*e*P	**P**	**17 55 58.7**	**+1.4**
DBBC	**Dabeiba**	**41.20**	**356**	*e*P	**P**	**17 56 08.2**	**+1.5**
SDV	**Santo Domingo**	**43.07**	**4**	P	**P**	**17 56 20.3**	**-1.8**
BELA	**Belgrano 2**	**46.78**	**169**	P	**P**	**17 56 49.8**	**-1.0**
BELA				IAmb	IAmb	17 57 01.4	
	comp=Z,14nm,1.4s						
VNA3	**Neumayer Olymp**	**49.53**	**158**	P	**P**	**17 57 14.1**	**+2.0**
VNA1	**Neumayer--Stak**	**49.86**	**157**	P	**P**	**17 57 13.4**	**-1.2**
VNA2	**Neumayer--Watz**	**50.20**	**157**	P	**P**	**17 57 15.4**	**-1.7**
	baz=288,slow=8.9						
SNAA	**Sanae**	**51.75**	**158**	P	**P**	**17 57 29.3**	**+0.4**
SNAA	**Sanae**	**51.75**	**158**	P	**P**	**17 57 29.0**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=291,slow=7.7,SNR=15						
SNAA	**Sanae**	**51.75**	**158**	P	**P**	**17 57 28.4**	**-0.5**
SNAA				IAmb	IAmb	17 57 39.0	
	comp=Z,14nm,0.9s						
GRTK	**Grand Turk**	**55.58**	**3**	P	**P**	**17 57 57.3**	**-0.1**
TEIG	**Tepich**	**56.04**	**343**	P	**P**	**17 57 59.7**	**-0.9**
LPIG	**La Paz**	**67.79**	**324**	LR	LR	18 22 17.1	
	comp=Z,51nm,18.6s,baz=28,slow=30						
TXAR	**Lajitas Array**	**69.42**	**332**	P	**P**	**17 59 31.1**	**+1.2**
	comp=Z,2.7nm,0.6s,baz=154,slow=8.2,SNR=32						
TXAR				LR	LR	18 25 07.9	
	comp=Z,67nm,18.7s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**69.42**	**332**	P	**P**	**17 59 30.6**	**+0.7**
MAW	**Mawson**	**73.21**	**164**	LR	LR	18 33 04.6	
	comp=Z,93nm,18.3s,baz=238,slow=37						
DBIC	**Dimbokro**	**76.48**	**72**	P	**P**	**18 00 11.7**	**-0.4**
	comp=Z,3.6nm,0.7s,baz=226,slow=4.9,SNR=5.6						
DBIC	**Dimbokro**	**76.48**	**72**	IAmb	IAmb	18 00 21.1	
	comp=Z,10nm,0.8s						
BOSA	**Boshof**	**81.03**	**118**	P	**P**	**18 00 37.4**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=264,slow=10,SNR=1.7						
BOSA	**Boshof**	**81.03**	**118**	IAmb	IAmb	18 00 46.8	
	comp=Z,8.5nm,1.1s						
LBTB	**Lobatse**	**83.30**	**116**	P	**P**	**18 00 49.0**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=238,slow=4.0,SNR=2.9						
NVAR	**Mina Array Bea**	**83.45**	**326**	P	**P**	**18 00 51.3**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=165,slow=6.2,SNR=4.8						
NVAR				LR	LR	18 34 03.7	
	comp=Z,32nm,19.6s,baz=212,slow=33						
NVAR	**Mina Array Bea**	**83.45**	**326**	P	**P**	**18 00 50.2**	**+0.8**
PDAR	**Pinedale Array**	**83.50**	**334**	P	**P**	**18 00 50.9**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=116,slow=6.8,SNR=5.5						
PDAR				LR	LR	18 34 43.7	
	comp=Z,48nm,18.3s,baz=142,slow=33						
TORD	**Torodi Ar. Bea**	**85.51**	**71**	P	**P**	**18 00 59.8**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=263,slow=3.7,SNR=4.6						
ULM	**Lac du Bonnet**	**86.50**	**346**	P	**P**	**18 01 04.3**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=116,slow=4.0,SNR=4.4						
MATP	**Matopo**	**88.13**	**113**	P	**P**	**18 01 13.4**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=196,slow=5.3,SNR=2.0						
ASAR	**Alice Springs**	**116.69**	**208**	PKP	**PKPdf**	**18 07 05.3**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=128,slow=1.6,SNR=3.0						
WRA	**Warramunga Arr**	**119.85**	**210**	PKP	**PKPdf**	**18 07 11.7**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=132,slow=1.4,SNR=5.5						
BVAR	**Borovoye Array**	**148.38**	**43**	PKPbc	**PKPbc**	**18 08 07.9**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=21,slow=10,SNR=9.1						
KURBB	**Kurchatov Arra**	**153.97**	**43**	PKPbc	**PKiKP**	**18 08 21.3**	**+0.4**
	comp=Z,0.4nm,0.2s,baz=301,slow=2.8,SNR=6.1						
KURBB				PKPab	**PKPab**	**18 08 35.2**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=292,slow=3.4,SNR=7.4						
KURK	**Kurchatov**	**153.98**	**43**		**PKiKP**	**18 08 21.3**	**+0.3**
ZALV	**Zalesovo Beam**	**155.17**	**31**	PKP	**PKPdf**	**18 08 14.3**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=329,slow=2.5,SNR=1.5						
ZALV				PKPab	**PKPab**	**18 08 40.1**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=289,slow=4.5,SNR=5.1						
ZALV	**Zalesovo Beam**	**155.17**	**31**	PKPdf	**PKPdf**	**18 08 13.6**	**-0.8**
ZALV					**PKPab**	**18 08 38.0**	**-1.2**
MKAR	**Makanchi Array**	**157.93**	**48**	PKP	**PKPdf**	**18 08 12.8**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=15,slow=6.0,SNR=2.3						
MKAR				PKPab	**PKPab**	**18 08 52.0**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=305,slow=4.3,SNR=5.5						
MKAR	**Makanchi Array**	**157.93**	**48**		**PKPab**	**18 08 50.8**	**-0.6**
SONM	**Songino Array**	**166.51**	**0**	PKPab	**PKPab**	**18 09 29.6**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=336,slow=4.3,SNR=3.8						

*IDC **10** 17:49:32.1±1.3,29°.62N×70°.05E,h0km,mb3.6/7, mb1 3.8/10,mb1mx3.5/66,mbtmp3.7/10,ML3.5/3,Error ellipse: s-maj=36.2km s-min=22.1km az=88.0*
*NDI **10** 17:49:37.3±2.2,29°.83N×70°.02E,h10km,ML3.9*
ISC 10 17:49:34.2±0.8,**29°.76N**±0°.06×**70°.00E**±0°.07,**h10**km,**n20,σ2§01**/25,**mb3.6**/7,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJM	**Ajmer**	**5.24**	**127**	*e*P	**Pb**	**17 51 09.0**	**+3.1**
AJM				*i* S	**Sn**	**17 51 53.0**	**-0.1**
KUDL	**Kundal**	**5.91**	**104**	*e*P	**Pn**	**17 51 05.4**	**+3.6**
KUDL				*e*S	**Sn**	**17 52 07.0**	**-2.5**
DHRM	**DHARAMSHALA**	**5.95**	**64**	*e*P	**Pn**	**17 51 03.7**	**+1.1**
DHRM				*e*S	**Sn**	**17 52 09.6**	**-1.3**
DHRM				IAML		17 52 15.2	
	comp=N,182nm,1.2s						
DHRM				IAML		17 52 54.7	
	comp=E,197nm,0.2s						
DHRM				IAML		17 52 56.0	
	comp=N,200nm,1.4s						
DHRM				IAML		17 53 00.6	
	comp=E,252nm,0.7s						
SMLA	**Simla**	**6.34**	**76**	*e*P	**Pn**	**17 51 10.9**	**+3.3**
SMLA				*e*S	**Sn**	**17 52 18.2**	**-1.9**
SMLA				IAML		17 52 23.1	
	comp=N,157nm,0.4s						
SMLA				IAML		17 52 23.3	
	comp=E,102nm,0.0s						
BHUJ	**Bhuj**	**6.48**	**183**	*e*S	**Sn**	**17 52 23.9**	**+0.2**
BHPL	**Bhopal**	**9.29**	**133**	*e*P	**Pn**	**17 51 49.6**	**+1.4**
BHPL				*e*S	**Sn**	**17 53 30.1**	**-2.7**
WSAR	**Wadi Sarin**	**12.07**	**240**	Pn	**Pn**	**17 52 24.1**	**-2.2**
	comp=E,0.3nm,0.3s,baz=50,slow=16,SNR=1.6						
WSAR				Sn	Sn	17 54 25.9	-15
	comp=E,0.2nm,0.3s,baz=54,slow=7.9,SNR=1.8						
GKN	**Gorkha**	**12.95**	**94**	*e*P	**Pn**	**17 52 37.3**	**-1.1**
AAK	**Ala-Archa**	**13.36**	**14**	Pn	**Pn**	**17 52 43.2**	**-0.7**
	comp=E,0.4nm,0.3s,baz=186,slow=6.2,SNR=18						
PKI	**Pulchoki**	**13.70**	**95**	*e*P	**Pn**	**17 52 47.3**	**-1.6**
GUN	**Gumba**	**14.04**	**94**	*e*P	**Pn**	**17 52 50.0**	**-3.5**
RAMN	**Ramite**	**14.88**	**97**	*e*P	**Pn**	**17 53 03.0**	**-1.9**
MKAR	**Makanchi Array**	**19.52**	**26**	P	**P**	**17 54 01.1**	**-0.5**
	comp=E,0.1nm,0.3s,baz=204,slow=9.0,SNR=10.0						
KURBB	**Kurchatov Arra**	**21.81**	**15**	P	**P**	**17 54 26.2**	**-0.1**
	comp=E,2.0nm,0.7s,baz=208,slow=9.8,SNR=12						
BVAR	**Borovoye Array**	**23.25**	**1**	P	**P**	**17 54 42.5**	**+0.9**
	comp=E,2.3nm,0.9s,baz=158,slow=12,SNR=10						
ZALV	**Zalesovo Beam**	**26.46**	**20**	P	**P**	**17 55 12.4**	**+1.2**
	comp=E,0.5nm,0.4s,baz=219,slow=11,SNR=2.6						
SONM	**Songino Array**	**33.23**	**47**	P	**P**	**17 56 12.5**	**+1.1**
	comp=E,0.3nm,0.7s,baz=270,slow=7.0,SNR=2.9						
ARCES	**ARCESS Array B**	**47.13**	**340**	P	**P**	**17 58 07.6**	**+1.5**
	comp=E,2.9nm,0.9s,baz=142,slow=7.4,SNR=1.4						
WRA	**Warramunga Arr**	**79.23**	**120**	P	**P**	**18 01 39.4**	**-0.5**
	comp=E,0.4nm,0.7s,baz=315,slow=5.4,SNR=2.2						
ASAR	**Alice Springs**	**81.16**	**124**	P	**P**	**18 01 48.9**	**-1.4**
	comp=E,0.3nm,0.7s,baz=306,slow=5.8,SNR=8.0						

*IDC **10** 17:51:57.4±0.7,35°.70N×76°.86E,h0km,mb4.0/16, mb1 4.0/20,mb1mx3.8/64,mbtmp3.9/20,ML3.2/4,MS3.1/5, Ms1 3.2/5,ms1mx2.8/40,Error ellipse: s-maj=18.6km s-min=12.9km az=52.0*
*BJI **10** 17:52:00.0±0.0,35°.80N×76°.78E,h5km,mB4.5/10, mb4.1/20,ML4.4/3,Ms4.1/9,Ms7 4.0/6*
*NNC **10** 17:52:01.0±3.0,35°.72N×77°.02E,h0km,mb4.4,mp

ODAN	**Odare**	**12.54**	**131**	*eP*		**Pn**	**17 54 55.1**	**-2.5**
	10nm,0.5s							
LSA	**Lhasa**	**13.43**	**112**			**Pn**	**17 55 10.7**	**+0.8**
KURBB	**Kurchatov Arra**	**15.09**	**4**	Pn		**Pn**	**17 55 30.9**	**-1.1**
	0.0nm,0.3s,baz=194,slow=11,SNR=5.1							
KURBB				Lg		Lg	17 59 49.9	
	0.0nm,0.3s,baz=173,slow=30,SNR=4.5							
SHL	**Shillong**	**16.35**	**123**	P		**P**	**17 55 51.6**	**0.0**
SHL				IAmb		IAmb	17 56 08.4	
	comp=Z,15nm,1.4s							
BVAR	**Borovoye Array**	**18.02**	**347**	P		**P**	**17 56 10.4**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=161,slow=23,SNR=16							
BRVK	**Borovoye**	**18.08**	**347**	P		**P**	**17 56 10.2**	**-0.1**
HYB	**Hyderabad**	**18.16**	**175**	*i* P		**Pn**	**17 56 10.0**	**-1.2**
HYB				*e*			17 56 16.0	
ABKAR	**Akbulak array**	**18.43**	**323**	P		**P**	**17 56 12.1**	**-2.2**
ABKAR				IAmb		IAmb	17 56 17.6	
	comp=Z,13nm,1.4s							
GTA	**Gaotai**	**18.64**	**71**	⇑P		**Pn**	**17 56 18.4**	**+1.3**
GTA				pP		sP	17 56 21.8	-1.4
GTA				sP		pP	17 56 25.4	+4.2
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
ZAA0	**Zalesovo Array**	**19.20**	**14**			**P**	**17 56 21.8**	**-0.9**
ZALV	**Zalesovo Beam**	**19.20**	**14**	P		**Pn**	**17 56 22.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=219,slow=9.1,SNR=4.8							
AKTO	**Aktyubinsk**	**20.15**	**323**	P		**P**	**17 56 31.8**	**-1.3**
	comp=Z,5.2nm,0.8s,baz=117,slow=13,SNR=11							
CD2	**Chengdu**	**22.98**	**94**	P		**P**	**17 57 10.4**	**+6.7**
CD2				pmax		pmax		
	comp=Z,20nm,1.0s							
ARU	**Arti**	**24.26**	**335**	P		**P**	**17 57 14.5**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=108,slow=14,SNR=5.2							
ARU	**Arti**	**24.26**	**335**	P		**P**	**17 57 14.6**	**-1.3**
ARU				IAmb		IAmb	17 57 26.7	
	comp=Z,9.5nm,1.2s							
SONM	**Songino Array**	**25.09**	**52**	P		**P**	**17 57 24.6**	**+0.9**
	comp=Z,4.4nm,1.0s,baz=246,slow=8.2,SNR=19							
SONM				LR		LR	18 08 26.2	
	comp=Z,47nm,19.6s,baz=166,slow=40							
SONM	**Songino Array**	**25.09**	**52**	P		**P**	**17 57 23.3**	**-0.4**
SONM				IAmb		IAmb	17 57 26.5	
	comp=Z,5.0nm,1.2s							
ULN	**Ulaanbaatar**	**25.52**	**52**	P		**P**	**17 57 27.0**	**-0.7**
ULN				IAmb		IAmb	17 57 36.5	
	comp=Z,9.2nm,1.4s							
GNI	**Garni**	**25.65**	**290**	LR		LR	18 08 36.2	
	comp=Z,25nm,20.9s,baz=34,slow=39							
GNI	**Garni**	**25.65**	**290**	P		**P**	**17 57 30.2**	**+1.4**
GNI				IAmb		IAmb	17 57 49.9	
	comp=Z,9.3nm,1.2s							
CHTO	**Chiang Mai**	**25.72**	**125**	P		**P**	**17 57 29.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**25.97**	**125**	P		**P**	**17 57 34.0**	**+2.2**
	comp=Z,2.7nm,0.8s,baz=310,slow=11,SNR=16							
CMAR				LR		LR	18 09 50.8	
	comp=Z,48nm,18.8s,baz=12,slow=41							
CMAR	**Chiang Mai Arr**	**25.97**	**125**	P		**P**	**17 57 32.4**	**+0.6**
XAN	**Xi'an**	**26.35**	**84**	P		**P**	**17 57 34.8**	**-0.4**
XAN				pmax		pmax		
	comp=Z,8.0nm,1.3s							
XAN	**Xi'an**	**26.35**	**84**	P		**P**	**17 57 33.6**	**-1.5**
XAN				IAmb		IAmb	17 57 36.3	
	comp=Z,8.9nm,1.2s							
BELG	**Belogornoye**	**26.64**	**318**	P		**P**	**17 57 38.0**	**+0.5**
	comp=Z,12nm,0.9s,baz=112,slow=4.6,SNR=6.2							
GYA	**Guiyang**	**27.07**	**101**	*eP*		**P**	**17 57 46.0**	**+4.2**
GYA				S		**S**	**18 02 22.6**	**+2.8**
GYA				pmax		pmax		
	comp=Z,6.0nm,1.5s							
HHC	**Hu-ho-hao-te**	**27.69**	**69**	*eP*		**P**	**17 57 42.5**	**-4.7**
BRTR	**Keskin Array B**	**34.19**	**290**	P		**P**	**17 58 45.6**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=96,slow=2.9,SNR=1.3							
EIL	**Elat**	**35.55**	**273**	LR		LR	18 15 56.3	
	comp=Z,40nm,18.8s,baz=97,slow=40							
AKASG	**Malin Array Be**	**37.19**	**309**	P		**P**	**17 59 10.9**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=78,slow=7.7,SNR=4.9							
AKASG	**Malin Array Be**	**37.19**	**309**	IAmb		IAmb	17 59 11.9	
	comp=Z,3.1nm,1.5s							
MLR	**Muntele Rosu**	**39.32**	**301**	P		**P**	**17 59 28.4**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=127,slow=10,SNR=3.0							
BURAR	**Bucovina Array**	**39.72**	**304**	P		**P**	**17 59 31.7**	**+0.2**
FINES	**FINESS Array B**	**40.90**	**325**	P		**P**	**17 59 39.2**	**-1.6**
	comp=Z,1.9nm,0.5s,baz=114,slow=7.9,SNR=12							
KLR	**Kul'dur**	**41.90**	**53**	P		**P**	**17 59 47.8**	**-1.4**
	comp=Z,2.1nm,0.9s,baz=241,slow=14,SNR=4.6							
ARCES	**ARCESS Array B**	**43.83**	**337**	P		**P**	**18 00 03.7**	**-0.9**
	comp=Z,5.6nm,0.9s,baz=60,slow=4.8,SNR=5.1							
CLL	**Collm**	**47.41**	**310**	*e*pP		pP	18 00 44.0	+5.8
DAG	**Danmarks Havn**	**56.92**	**344**	*i* P		**P**	**18 01 41.8**	**-1.8**
	comp=Z,1.4nm,0.9s							
DAG	**Danmarks Havn**	**56.92**	**344**	*i* P		**P**	**18 01 41.9**	**-1.8**
DAG				IAmb		IAmb	18 01 47.3	
	comp=Z,1.4nm,0.9s							
SUMG	**Summit**	**63.42**	**342**	*i* P		**P**	**18 02 29.2**	**+0.6**
	comp=Z,14nm,1.0s							
SUMG	**Summit**	**63.42**	**342**	*i* P		**P**	**18 02 29.2**	**+0.6**
SUMG				IAmb		IAmb	18 02 32.7	
	comp=Z,14nm,1.0s							
ICESG	**Greenland Ices**	**65.78**	**339**	*e*P		**P**	**18 02 44.6**	**+0.6**
ICESG				IAML			18 02 48.5	
	comp=Z,7.9nm,0.9s							
ICESG				IAmb		IAmb	18 02 48.5	
	comp=Z,7.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**70.44**	**272**	P		**P**	**18 03 14.1**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=51,slow=4.8,SNR=2.5							
IMAR	**Indian Mountai**	**71.55**	**19**	P		**P**	**18 03 17.6**	**-2.1**
BMAR	**Burnt Mountain**	**72.65**	**16**	P		**P**	**18 03 26.8**	**+0.5**
ILAR	**Eielson Array**	**74.29**	**18**	P		**P**	**18 03 34.2**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=310,slow=5.9,SNR=4.9							
ILAR	**Eielson Array**	**74.29**	**18**	P		**P**	**18 03 34.1**	**-1.9**
BCAR	**Beaver Creek A**	**76.97**	**17**	P		**P**	**18 03 50.6**	**-0.7**
WB0	**Warramunga Arr**	**77.48**	**125**	P		**P**	**18 03 54.6**	**-0.1**
WRA	**Warramunga Arr**	**77.56**	**126**	P		**P**	**18 03 54.6**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=306,slow=4.0,SNR=6.4							
WB2	**Warramunga Arr**	**77.57**	**126**	P		**P**	**18 03 54.7**	**-0.6**
WR0	**Warramunga Arr**	**77.71**	**126**	P		**P**	**18 03 55.5**	**-0.6**
ASAR	**Alice Springs**	**79.93**	**129**	P		**P**	**18 04 07.3**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=320,slow=6.0,SNR=6.4							
YKA	**Yellowknife Ar**	**81.84**	**5**	P		**P**	**18 04 16.0**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=350,slow=4.8,SNR=5.5							

*IDC **10** 17:57:33.8±7.0,36°.28N×69°.96E,h111km±54km, mb3.2/3, mb1 3.3/7, mb1mx2.9/59, mbtmp3.6/7, Error ellipse: s-maj=53.8km s-min=40.8km az=51.0*
*NNC **10** 17:57:33.4±7.3,36°.83N×69°.41E,h0km, mb4.0, mpv3.7, Error ellipse: s-maj=59.4km s-min=43.0km az=168.0*
ISC 10 17:57:29.7±1.0, 36°.23N±0°.08×69°.7E±0°.1, h100km, n25, σ3§13/32, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**6.65**	**26**	P		**Pn**	**17 59 06.7**	**+1.5**
	SNR=8.4							
DHRM	**DHARAMSHALA**	**6.74**	**124**	*e*P		**Pn**	**17 59 05.9**	**-0.3**
DHRM				*e*S		**Sn**	**18 00 18.8**	**-2.8**
DHRM				IAML			18 00 19.5	
	comp=E,55nm,0.1s							
DHRM				IAML			18 00 20.0	
	comp=N,69nm,0.1s							
KK31	**Karatay Array**	**6.89**	**5**	⇑P		**Pn**	**17 59 09.9**	**+1.8**
	comp=N,1.3nm,0.4s,baz=198,slow=16,SNR=19							
KK31				S		**Sn**	**18 00 24.2**	**-0.8**
	comp=N,2.1nm,0.3s,baz=181,slow=18,SNR=8.5							
UCH	**Uchtor**	**7.05**	**30**	P		**Pn**	**17 59 11.9**	**+1.3**
	SNR=7.1							
EKS2	**Erkin-Say**	**7.14**	**25**	P		**Pn**	**17 59 13.5**	**+1.9**
	SNR=12							
AAK	**Ala-Archa**	**7.38**	**28**	P		**Pn**	**17 59 16.9**	**+2.0**
	comp=N,2.6nm,0.3s,baz=192,slow=6.2,SNR=25							
AAK				S		**Sn**	**18 00 37.3**	**+0.1**
	comp=N,1.7nm,0.3s,baz=146,slow=22,SNR=12							
AAK	**Ala-Archa**	**7.38**	**28**	P		**Pn**	**17 59 16.9**	**+2.0**
	SNR=12							
AAK	**Ala-Archa**	**7.38**	**28**	⇑P		**Pn**	**17 59 16.5**	**+1.5**
	comp=N,5.0nm,0.5s							
AAK				⇓S		**Sn**	**18 00 36.6**	**-0.5**
	comp=N,6.6nm,0.6s							
USP	**Ospenovka**	**7.93**	**26**	P		**Pn**	**17 59 23.9**	**+1.7**
	SNR=7.4							
SMLA	**Simla**	**8.02**	**127**	*e*P		**Pn**	**17 59 22.8**	**-0.6**
SMLA				*e*S		**Sn**	**18 00 46.0**	**-6.5**
SMLA				IAML			18 00 50.1	
	comp=N,35nm,0.6s							
SMLA				IAML			18 00 50.5	
	comp=E,14nm,0.2s							
MKAR	**Makanchi Array**	**14.12**	**38**	P		**Pn**	**18 00 47.6**	**+2.5**
	baz=227,slow=14,SNR=1.2							
AB31	**Akbulak array**	**14.85**	**334**	P		**Pn**	**18 00 55.7**	**+1.3**
	comp=E,0.8nm,0.3s,baz=155,slow=13,SNR=54							
AB31				S		**Sn**	**18 03 31.1**	**-6.9**
	comp=E,0.8nm,0.5s,baz=165,slow=22,SNR=6.0							
KKN	**Kakani**	**15.63**	**118**	*e*P		**Pn**	**18 01 03.6**	**-1.0**
PKIN	**Phulchoki**	**15.84**	**119**	*e*P		**Pn**	**18 01 06.4**	**-0.9**
	comp=E,14nm,0.8s							
PKI	**Pulchoki**	**15.86**	**119**	*e*P		**Pn**	**18 01 06.1**	**-1.4**
	comp=E,4.5nm,0.3s							
GUN	**Gumba**	**15.99**	**117**	*e*P		**Pn**	**18 01 09.0**	**-0.3**
AKTO	**Aktyubinsk**	**16.53**	**333**	P		**P**	**18 01 19.3**	**+3.1**
	comp=E,0.4nm,0.3s,baz=133,slow=7.2,SNR=8.6							
AKTO				S		**Sn**	**18 04 10.5**	**-8.0**
	comp=E,0.1nm,0.3s,baz=202,slow=23,SNR=1.6							
AKTO	**Aktyubinsk**	**16.53**	**333**	⇓P		**P**	**18 01 18.3**	**+2.1**
	comp=E,4.1nm,1.2s							
AKTO				⇓S		**Sn**	**18 04 11.4**	**-7.1**
	comp=E,3.8nm,1.4s							
BVAR	**Borovoye Array**	**16.80**	**1**	P		**P**	**18 01 22.3**	**+3.1**
	comp=E,0.2nm,0.3s,baz=190,slow=16,SNR=4.3							
RAMN	**Ramite**	**17.07**	**118**	*e*P		**Pn**	**18 01 21.2**	**-1.3**
	comp=E,5.7nm,0.4s							
TAPN	**Taplejung**	**17.64**	**115**	*e*P		**Pn**	**18 01 30.5**	**+1.0**
	comp=E,6.4nm,0.3s							
ODAN	**Odare**	**17.69**	**117**	*e*P		**P**	**18 01 29.5**	**0.0**
	comp=E,5.8nm,0.5s							
ZALV	**Zalesovo Beam**	**20.60**	**26**	P		Pn	18 02 03.7	0.0
	comp=E,2.1nm,0.5s,baz=218,slow=9.7,SNR=6.3							
YKA	**Yellowknife Ar**	**81.56**	**2**	P		**P**	**18 09 37.8**	**+1.9**
	comp=E,0.4nm,0.8s,baz=3.2,slow=3.8,SNR=4.4							
ASAR	**Alice Springs**	**84.95**	**124**	P		**P**	**18 09 56.0**	**+2.1**
	comp=E,0.3nm,0.9s,baz=314,slow=5.2,SNR=1.8							

*OMAN **10** 18:20:28.9,28°.19N×55°.34E,h20km, mb5.0/1, ml3.2/8*
*THR **10** 18:20:33.8±0.3,27°.81N×55°.49E,h14km±8km, ML3.0*
*TEH **10** 18:20:34.0,27°.70N×55°.44E,h2km, ML3.2*
ISC 10 18:20:33.2±1.0, 27°.65N±0°.04×55°.36E±0°.05, h15km, n37, σ1§48/41, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.76**	**109**	*e*Pg		**Pb**	**18 20 47.9**	**-0.4**
BNDS				IAML			18 21 05.5	
	comp=N,726nm,0.4s							
BNDS	**Bandar-Abbas**	**0.76**	**109**	*e*Pg		**Pb**	**18 20 47.9**	**-0.4**
GENO	**Geno**	**0.76**	**109**	*e*Pg		**Pb**	**18 20 47.8**	**-0.5**
LAR1	**LAR**	**0.87**	**272**	*e*Pg		**Pn**	**18 20 52.3**	**+1.2**
LAR1				*e*			18 21 25.2	
	comp=Z,99nm,0.3s							
SHME	**Shamm**	**1.74**	**156**	P		**Pb**	**18 21 04.9**	**+0.1**
JHRM	**Jahrom**	**1.79**	**299**	*e*			18 21 43.1	
	comp=Z,99nm,0.3s							
JHRM				*e*Pn		**Pn**	**18 21 06.0**	**+2.3**
BANOM	**Banah**	**1.91**	**154**	P		**Pb**	**18 21 07.0**	**-0.8**
	SNR=21							
BANOM				S		**Sg**	**18 21 37.5**	**+2.7**
KHNJ	**Kahnooj**	**2.10**	**81**	*e*Pn		**Pn**	**18 21 07.9**	**0.0**
NGRK	**Negar Kerman**	**2.33**	**31**	*e*Pn		**Pn**	**18 21 11.6**	**+0.3**
NGRK				*e*			18 21 14.7	
	comp=Z,99nm,0.3s							
MASF	**Masafi**	**2.38**	**162**	P		**Pb**	**18 21 14.0**	**-1.7**
MDH	**Madha**	**2.48**	**160**	P		**Pb**	**18 21 15.5**	**-2.1**
MDH				S		**Sb**	**18 21 48.0**	**0.0**
KRBR	**Kerman**	**2.63**	**28**	*e*Pn		**Pn**	**18 21 15.4**	**-0.1**
KRBR				*e*Sg		**Sb**	**18 21 50.3**	**-2.2**
KRBR	**Kerman**	**2.63**	**28**	*e*Pn		**Pn**	**18 21 15.4**	**-0.1**
UOSS	**Minazif**	**2.79**	**164**	P		**Pb**	**18 21 19.9**	**-3.0**
KHGB	**Koh Gabri**	**2.89**	**20**	*e*Pn		**Pn**	**18 21 20.1**	**+1.1**
KHGB				*e*			18 21 27.9	
	comp=Z,99nm,0.3s							
HATD	**Hatta, Dubai**	**2.89**	**166**	P		**Pb**	**18 21 22.1**	**-2.5**
FAQ	**Al Faqa, Dubai**	**2.90**	**176**	P		**Pb**	**18 21 22.3**	**-2.3**
CHMN	**Cheshme madani**	**2.92**	**40**	*e*Pn		**Pn**	**18 21 20.7**	**+1.2**
CHMN				*e*			18 21 21.9	
	comp=Z,99nm,0.2s							
ASUD	**Al Ashush, Dub**	**3.01**	**181**	P		**Pb**	**18 21 23.6**	**-3.0**
ASHO	**Ashiyiah**	**3.02**	**168**	P		**Pb**	**18 21 23.4**	**-3.3**
	SNR=14							
ASHO				S		**Sb**	**18 22 02.5**	**-0.8**
KBAM	**BAM**	**3.10**	**61**	*e*Pn		**Pn**	**18 21 22.5**	**+0.8**
KBAM				*e*			18 21 24.6	
	comp=Z,99nm,0.2s							
IMEH	**Mehriz**	**3.79**	**350**	*e*Pn		**Pn**	**18 21 32.3**	**+1.0**
IBAF	**Bafgh**	**3.93**	**3**	*e*Pn		**Pn**	**18 21 33.7**	**+0.4**
HOQ	**Hoqain**	**4.41**	**156**	P		**Pn**	**18 21 41.5**	**+1.7**
KLNJ	**Kolanjah**	**4.70**	**316**	*e*Pn		**Pn**	**18 21 44.1**	**+0.2**
YZKH	**Yazd**	**4.78**	**352**	*e*Pn		**Pn**	**18 21 45.6**	**+0.9**
YZKH	**Yazd**	**4.78**	**352**	*e*Pn		**Pn**	**18 21 45.6**	**+0.9**
IRAM	**Ramesheh**	**4.89**	**329**	*e*Pn		**Pn**	**18 21 47.3**	**+0.8**
NHDN	**Nehbandan**	**5.54**	**46**	*e*Pn		**Pn**	**18 21 55.3**	**+0.1**
IGAR	**Gharneh**	**5.55**	**330**	*e*Pn		**Pn**	**18 21 56.6**	**+1.1**
ANAR	**Anarak**	**5.70**	**346**	*e*Pn		**Pn**	**18 21 58.0**	**+0.5**
IKOO	**Kooshah**	**5.71**	**33**	*e*Pn		**Pn**	**18 21 58.5**	**+0.7**
IZEF	**Zefreh**	**5.85**	**334**	*e*Pn		**Pn**	**18 21 59.2**	**-0.5**
WBK	**Wadi Bani Khal**	**5.99**	**146**	P		**Pn**	**18 22 02.2**	**+0.8**
JLN	**Jalan Bani Buh**	**6.59**	**145**	P		**Pn**	**18 22 10.3**	**+0.6**
IMON	**Monand**	**6.66**	**33**	*e*Pn		**Pn**	**18 22 11.6**	**+0.8**
DOK	**Doka**	**9.06**	**187**	P		**Pn**	**18 22 44.4**	**+0.9**

*MAN **10** 18:21:54.1,4°.79N×125°.77E,h100km, MS3.5*
*IDC **10** 18:22:00.0±1.1,5°.17N×125°.83E,h140km±10km, mb3.2/8, mb1 3.5/9, mb1mx3.3/32, mbtmp3.7/9, Error ellipse: s-maj=31.5km s-min=11.1km az=72.0*
ISC 10 18:21:57.7±0.9, 5°.02N±0°.08×125°.65E±0°.10, h120km±8km, n17, σ2§09/27, mb3.5/8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.08**	**3**	*e*P		**Pn**	**18 22 18.7**	**-1.8**
DDMP				*e*S		**Sn**	**18 22 36.5**	**-1.3**
SKMP	**Bagumbayan, Su**	**1.85**	**324**	*e*P		**Pn**	**18 22 29.1**	**-0.2**
SKMP				*e*S		**Sn**	**18 22 54.1**	**+0.7**
DAV	**Davao City (W)**	**2.04**	**358**	P		**Pn**	**18 22 31.9**	**+0.3**
	35nm,0.3s,baz=222,slow=17,SNR=1.3							
DAV				S		**Sn**	**18 23 00.1**	**+2.6**
	113nm,0.3s,baz=281,slow=23,SNR=6.7							
KCP	**Kidapawan**	**2.05**	**344**	⇑*i*P		**Pn**	**18 22 32.5**	**+0.6**
KCP				*i* S		**Sn**	**18 23 00.2**	**+2.2**
BUKP	**Musuan**	**2.90**	**348**	*e*P		**Pn**	**18 22 46.2**	**-0.1**
BUKP				*e*S		**Sn**	**18 23 11.2**	**-6.2**
CGP	**Cagayan de Oro**	**3.54**	**345**	⇓*e*P		**Pn**	**18 22 51.6**	**+0.4**
CGP				*e*S		**Sn**	**18 23 35.6**	**+3.1**
PAGZ	**Pagadian**	**3.60**	**321**	*e*P		**Pn**	**18 22 51.6**	**-0.3**
PAGZ				*e*S		**Sn**	**18 23 32.0**	**-1.9**
BUTP	**Butuan**	**3.92**	**360**	*e*P		**Pn**	**18 22 56.9**	**+0.7**
BUTP				*e*S		**Sn**	**18 23 44.7**	**+3.2**
SIJI	**Sorong**	**8.11**	**136**	P		**Pn**	**18 23 53.1**	**+0.5**
	2.7nm,0.3s,baz=172,slow=18,SNR=1.1							
SIJI				S		**Sn**	**18 25 20.6**	**-2.1**
	0.4nm,0.3s,baz=197,slow=23,SNR=1.2							
FITZ	**Fitzroy Crossi**	**22.97**	**180**	P		**P**	**18 26 54.6**	**+2.6**
	0.6nm,0.2s,baz=346,slow=4.4,SNR=13							
WRA	**Warramunga Arr**	**26.24**	**161**	P		**P**	**18 27 22.7**	**+1.0**
	0.6nm,0.8s,baz=338,slow=9.5,SNR=13							
CMAR	**Chiang Mai Arr**	**29.30**	**299**	P		**P**	**18 27 50.5**	**+1.4**
	0.6nm,0.7s,baz=116,slow=7.4,SNR=6.0							
ASAR	**Alice Springs**	**29.63**	**165**	P		**P**	**18 27 53.5**	**+1.6**
	0.3nm,0.5s,baz=341,slow=7.0,SNR=15							
ASAR				ScP		**ScP**	**18 34 24.0**	**-0.9**
	0.2nm,0.6s,baz=327,slow=3.2,SNR=4.2							
SONM	**Songino Array**	**45.74**	**342**	P		**P**	**18 30 06.4**	**-0.6**
	0.2nm,0.4s,baz=157,slow=8.8,SNR=4.2							
PETK	**Petropavlovsk-**	**54.66**	**23**	P		**P**	**18 31 12.7**	**-1.4**
	3.7nm,1.0s,baz=207,slow=3.7,SNR=1.9							
MKAR	**Makanchi Array**	**55.89**	**325**	P		**P**	**18 31 22.1**	**-0.9**
	0.3nm,0.3s,baz=117,slow=7.6,SNR=13							
ILAR	**Eielson Array**	**84.41**	**25**	P		**P**	**18 34 15.8**	**-0.7**
	0.3nm,0.4s,baz=257,slow=4.4,SNR=5.3							

*SLM **10** 18:42:31.2±2.3,35°.50N±0°.02×92°.43W±0°.02,h3km±4km, Md2.3/6, mb_Lg2.4/16(NEIC), Error ellipse: s-maj=3.0km s-min=2.1km az=133.0*
NEIC 10 18:42:30.4±1.9, 35°.53N±0°.01×92°.53W±0°.02, h1km±5km, Error ellipse: s-maj=2.4km s-min=1.2km az=224.0, Arkansas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WHAR	**Wooly Hollow**	**0.31**	**139**			Pg	18 42 36.2	-0.2
WHAR						Sg	18 42 39.2	-1.2
FCAR	**Ozark Folk Cen**	**0.49**	**43**			Pg	18 42 39.8	-0.1
FCAR						Sg	18 42 46.2	-0.1
U40A	**Yellville**	**0.87**	**343**			Pb	18 42 48.0	-0.3
U40A				Sg		Sb	18 42 59.8	-0.6
X40A	**Basin Creek Fa**	**1.07**	**193**			Pg	18 42 51.1	+0.3
X40A				Sg		Sg	18 43 05.0	+0.4
W39A	**Magazine**	**1.07**	**252**			Pn	18 42 52.4	-0.1
W39A				Sg		Sn	18 43 07.8	-0.3
LCAR	**Lake Charles**	**1.25**	**64**			Pg	18 42 52.5	-1.8
LCAR						Sg	18 43 08.6	-1.9
MIAR	**Mount Ida**	**1.30**	**221**			Pn	18 42 55.6	0.0
MIAR				Sn		Sn	18 43 14.2	+0.5
HHAR	**Hobbs**	**1.37**	**304**			Pn	18 42 57.6	+0.8
HBAR	**Harrisburg**	**1.53**	**88**	Pn		Pn	18 42 58.5	-0.4
QUAR	**Qualls**	**1.54**	**85**			Sn	18 43 18.0	-1.6
MGMO	**Mountain Grove**	**1.64**	**7**			Pn	18 43 00.1	-0.3
CCAR	**Cane Creek**	**1.72**	**158**	Pn		Pn	18 43 01.8	+0.3
U38A	**Gravette**	**1.76**	**302**			Pb	18 43 03.4	0.0
LPAR	**Lepanto**	**1.82**	**87**			Pn	18 43 02.2	-0.7
T42A	**Van Buren**	**1.90**	**37**			Pn	18 43 04.5	+0.5
LVAR	**Leachville**	**1.92**	**78**			Sb	18 43 31.0	+0.3
DLAR	**Dell**	**2.08**	**81**			Sb	18 43 34.0	-1.1
GNAR	**Gosnell**	**2.09**	**77**	Pn		Pn	18 43 06.2	-0.3
PBMO	**Poplar Bluff**	**2.11**	**53**	Pn		Pn	18 43 06.1	-0.8
GSAR	**Gosnell High S**	**2.13**	**77**			Lg	18 44 01.0	
S39A	**Bolivar**	**2.25**	**344**	Pn		Pb	18 43 10.6	-1.3
S39A				IAmb_Lg			18 43 42.6	
	comp=Z,21nm,1.0s							
BETM	**Bethany**	**2.28**	**61**			Sb	18 43 41.0	0.0
CVTN	**Covington**	**2.36**	**89**			Lg	18 43 51.0	
BRNM	**Bernie**	**2.38**	**59**			Sb	18 43 45.0	+1.2
EDIT	**Edith**	**2.45**	**81**			Sb	18 43 46.0	+0.1
X37A	**Clayton**	**2.51**	**249**	Pn		Pn	18 43 11.7	-0.6
X37A				IAmb_Lg			18 43 57.8	
	comp=Z,16nm,1.1s							
WYBT	**Wynnburg**	**2.60**	**71**			Lg	18 44 22.0	
HALT	**Halls**	**2.63**	**81**	Pn		Pn	18 43 14.0	+0.1
EBZ	**Ebenezer Churc**	**2.63**	**97**			Sn	18 43 47.0	+0.5
SJMO	**Saint John's B**	**2.71**	**65**			Sb	18 43 53.0	-0.4
CCM	**Cathedral Cave**	**2.73**	**22**	Pn		Pn	18 43 14.2	-1.2
CCM				IAmb_Lg			18 43 57.5	
	comp=Z,7.8nm,0.9s							
W45A	**Hickory Valley**	**2.76**	**97**	Pn		Pn	18 43 14.6	-1.2
HICK	**Hickman**	**2.86**	**68**	Pn		Pn	18 43 15.9	-1.3
CHRM	**Charleston**	**2.89**	**62**			Sn	18 43 54.0	+1.2
UTMT	**University of**	**3.09**	**74**	Pn		Pn	18 43 19.9	-0.3
SIUC	**Southern Illin**	**3.45**	**50**			Pn	18 43 25.0	-0.2
T35A	**Sooner Cattle**	**3.50**	**294**	IAmb_Lg			18 44 29.8	
	comp=Z,9.7nm,1.0s							
OK031	**S. Brethren Rd**	**3.53**	**278**	Pn		Pn	18 43 26.4	+0.1
OK031				IAmb_Lg			18 44 28.2	
	comp=Z,9.7nm,1.1s							
**PLA

KZLR				Sg	**Sg**	19 22 01.7	**-1.0**
DJOS	**Djoyskaya Sosn**	**2.43**	**2**	Pg	**Pg**	19 21 31.3	**-0.2**
DJOS				Sg	**Sg**	19 22 03.3	**+0.4**
CERR	**Cheremushki**	**2.49**	**2**	Sg	**Sg**	19 22 05.1	**+0.3**
DGZ	**Jazzator, Alta**	**2.56**	**256**	Pg	**Pg**	19 21 33.0	**-1.0**
DGZ				Sg	**Sg**	19 22 07.4	**+0.3**
ARDR	**Aradan**	**2.60**	**31**	Pg	**Pg**	19 21 34.4	**-0.3**
ARDR				Sg	**Sg**	19 22 08.8	**+0.5**
BLRR	**Bol'shaya Rech**	**2.77**	**15**	Pg	**Pg**	19 21 38.0	**0.0**
BLRR				Sg	**Sg**	19 22 13.8	**0.0**
ARTR	**Artybash**	**2.89**	**301**	Pg	**Pg**	19 21 40.3	**+0.1**
ARTR				Sg	**Sg**	19 22 18.5	**+0.9**
TASR	**Tashtagol**	**3.19**	**320**	Pg	**Pg**	19 21 44.9	**-1.1**
TASR				Sg	**Sg**	19 22 27.8	**+0.5**
ABNR	**Abakan**	**3.36**	**2**	Sg	**Sg**	19 22 32.4	**-0.4**
TDJR	**Todzha**	**3.65**	**54**	Sg	**Sg**	19 22 42.7	**+0.6**
GALT	**Gorno-Altaysk,**	**3.70**	**297**	Pg	**Pg**	19 21 55.1	**-0.8**
GALT				Sg	**Sg**	19 22 45.0	**+1.3**
KNGR	**Kungurtug, Tuv**	**4.00**	**84**	P	**Pn**	19 21 49.1	**+2.7**
KNGR				Pg	**Pg**	19 21 59.4	**-2.2**
KNGR				Sg	**Sg**	19 22 51.4	**-2.0**
UKR	**Ust'-Kan**	**4.17**	**280**	Pg	**Pg**	19 22 02.8	**-1.9**
UKR				Sg	**Sg**	19 22 58.7	**0.0**
SHRR	**Shira**	**4.18**	**351**	Pg	**Pg**	19 22 03.9	**-1.1**
SHRR				Sg	**Sg**	19 22 58.8	**-0.4**
ELT	**Eltsovka**	**4.25**	**315**	Pg	**Pg**	19 22 03.0	**-3.3**
ELT				Sg	**Sg**	19 22 57.9	**-3.4**
KTRR	**Kuturchin**	**4.92**	**20**	Pg	**Pg**	19 22 18.5	**-0.5**
KTRR				Sg	**Sg**	19 23 24.3	**+1.6**
BRCR	**Berchikul'**	**5.57**	**343**	Sg	**Sg**	19 23 41.7	**-1.8**
MK31	**Makanchi Array**	**6.94**	**242**	⇑Pg	**Pg**	19 22 56.3	**-1.4**
	0.4nm,0.5s,baz=63,slow=16,SNR=4.2						
MK31				Lg	Lg	19 24 25.9	
	1.3nm,0.6s,baz=62,slow=30,SNR=4.5						
MAKZ	**Makanchi**	**7.11**	**243**	⇑Pg	**Pg**	19 22 59.0	**-2.1**
	1.3nm,1.1s						
MAKZ				⇑Lg	Lg	19 24 30.2	
	3.7nm,1.2s						

*IDC **10** 19:26:09.4±3.9, 17.°57N×85.°36W, h0km, mb3.1/3, mb1 3.7/5, mb1mx3.5/34, mbtmp3.4/5, ML4.0/3, Error ellipse: s-maj=57.3km s-min=39.4km az=122.0*

ISC 10 19:26:16.9±2.1, 17.°6N±0.°1×85.°8W±0.°2, h35km, n6, σ4$ 43/9, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEIG	**Tepich**	**3.54**	**319**	Pn	**Pn**	**19 27 10.6**	**+1.2**
	96nm,0.3s,baz=89,slow=2.1,SNR=279						
TEIG				Sn	**Sn**	**19 27 55.7**	**+5.7**
	27nm,0.3s,baz=122,slow=18,SNR=12						
APG	**El Apazote**	**5.16**	**241**	Pn	**Pn**	**19 27 34.1**	**+2.2**
	3.2nm,0.3s,baz=80,slow=18,SNR=4.2						
CMIG	**Matias Romero**	**8.70**	**268**	Pn	**Pn**	**19 28 20.1**	**-0.2**
	0.4nm,0.3s,baz=76,slow=13,SNR=2.4						
CMIG				Sn	**Sn**	**19 29 57.7**	**+0.5**
	0.2nm,0.3s,baz=177,slow=23,SNR=1.2						
TXAR	**Lajitas Array**	**20.12**	**309**	P	**P**	**19 30 48.4**	**+0.4**
	0.8nm,0.7s,baz=124,slow=11,SNR=13						
TXAR				S	**S**	**19 34 23.5**	**-8.7**
	0.1nm,0.3s,baz=116,slow=23,SNR=3.0						
NVAR	**Mina Array Bea**	**35.16**	**313**	P	**P**	**19 33 08.1**	**+0.4**
	0.1nm,0.3s,baz=118,slow=9.3,SNR=1.5						
YKA	**Yellowknife Ar**	**49.17**	**343**	P	**P**	**19 34 59.8**	**-1.3**
	0.2nm,0.6s,baz=124,slow=7.0,SNR=2.2						

IDC 10 20:12:12.9±1.2, 57.°01S×150.°59W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/22, mbtmp4.0/4, MS3.4/1, Ms1 3.5/1, ms1mx2.9/33, Error ellipse: s-maj=160.2km s-min=28.3km az=177.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**26.18**	**201**	LR	LR	20 24 54.3	
	comp=Z,78nm,18.1s,baz=196,slow=29						
STKA	**Stephens Creek**	**52.00**	**269**	P	P	20 21 25.1	+1.3
	1.6nm,0.7s,baz=113,slow=7.5,SNR=3.7						
H03S2	**Juan Fernandez**	**52.61**	**96**	T	T	21 18 31.8	
	baz=219,slow=74,SNR=10						
H03S1	**Juan Fernandez**	**52.62**	**96**	T	T	21 18 33.2	
	baz=219,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**52.63**	**96**	T	T	21 18 31.1	
	baz=219,slow=74,SNR=8.6						
H03N3	**Juan Fernandez**	**52.90**	**96**	T	T	21 18 45.7	
	baz=222,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**52.91**	**96**	T	T	21 18 51.6	
	baz=222,slow=72,SNR=15						
H03N1	**Juan Fernandez**	**52.92**	**96**	T	T	21 18 45.5	
	baz=222,slow=72,SNR=20						
ASAR	**Alice Springs**	**62.63**	**268**	P	P	20 22 38.4	-0.6
	1.2nm,0.6s,baz=139,slow=6.6,SNR=27						
H01W1	**Cape Leeuwin H**	**64.18**	**245**	T	T	21 32 55.7	
	baz=142,slow=76,SNR=3.7						
H01W2	**Cape Leeuwin H**	**64.19**	**245**	T	T	21 32 51.2	
	baz=142,slow=76,SNR=5.6						
H01W3	**Cape Leeuwin H**	**64.20**	**245**	T	T	21 32 52.1	
	baz=142,slow=76,SNR=5.1						
WRA	**Warramunga Arr**	**65.39**	**271**	P	P	20 22 56.7	-0.5
	1.1nm,1.1s,baz=146,slow=5.9,SNR=2.4						
LPAZ	**La Paz**	**72.41**	**93**	P	P	20 23 41.5	-0.1
	1.2nm,0.8s,baz=180,slow=6.1,SNR=3.9						
H10S3	**ASCENSION HYDR**	**105.00**	**135**	T	T	22 24 23.9	
	SNR=10						
ILAR	**Eielson Array**	**121.49**	**2**	PKP	PKPdf	20 31 05.7	-0.9
	0.6nm,0.7s,baz=204,slow=2.0,SNR=5.2						
YKA	**Yellowknife Ar**	**122.41**	**19**	PKP	PKiKP	20 31 09.3	+0.7
	0.1nm,0.5s,baz=186,slow=2.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**131.37**	**143**	PKhKP	PKPpre	20 31 19.3	
	0.5nm,0.6s,baz=354,slow=1.4,SNR=2.5						
SONM	**Songino Array**	**134.55**	**293**	PKhKP	PKPpre	20 31 28.4	
	0.1nm,0.6s,baz=149,slow=3.0,SNR=1.9						
MKAR	**Makanchi Array**	**146.62**	**275**	PKPbc	PKPbc	20 31 55.2	-0.2
	2.8nm,0.7s,baz=117,slow=4.6,SNR=31						
ZALV	**Zalesovo Beam**	**149.18**	**288**	PKPbc	PKPbc	20 32 00.8	-1.2
	0.6nm,0.3s,baz=108,slow=4.8,SNR=4.6						

*SOF **10** 20:26:49.5, 40.°90N×22.°25E, h7km, MD2.5*
*SKO **10** 20:26:49.4, 40.°90N×22.°29E, h15km*
*ATH **10** 20:26:50.8, 40.°89N×22.°28E, h1†km±2km, ML2.3/14, Error ellipse: s-maj=2.8km s-min=1.0km az=345.0*
*THE **10** 20:26:50.7, 40.°89N×22.°25E, h5km±2km, ML2.3/4, Error ellipse: s-maj=2.2km s-min=0.6km az=359.0*

ISC 10 20:26:50.6±0.8, 40.°89N±0.°02×22.°28E±0.°02, h12km±5km, n62, σ0$ 84/86, 10C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRG	**Griva**	**0.12**	**52**	P	**Pg**	**20 26 53.6**	**-0.1**
GRG				S	**Sg**	**20 26 56.0**	**0.0**
GRG				AML	AML	20 26 56.2	
	comp=E,18156μm,0.3s						
GRG				AML	AML	20 26 56.3	
	comp=N,21368μm,0.1s						
GRG	**Griva**	**0.12**	**52**	P	**Pg**	**20 26 53.6**	**-0.1**
GRG				S	**Sg**	**20 26 56.2**	**+0.1**
	comp=N,8μm,0.1s						
GRG	**Griva**	**0.12**	**52**	⇓*i* Pg	**Pg**	**20 26 53.6**	**-0.1**
GRG				*i* Sg	**Sg**	**20 26 56.1**	**+0.1**
VAY	**Valandovo**	**0.49**	**27**	⇓*i* Pg	**Pg**	**20 27 00.4**	**+0.2**
VAY				*i* Sg	**Sb**	**20 27 07.6**	**-0.5**
VAY				*e*Lg	Lg	20 27 08.0	
	comp=E,693nm,0.4s						
VAY				*e*Lg	Lg	20 27 08.4	
	comp=N,302nm,0.3s						
KTI	**Kastanea**	**0.51**	**194**	P	**Pg**	**20 27 00.1**	**-0.5**
THE	**Thessaloniki**	**0.58**	**116**	P	**Pg**	**20 27 01.6**	**-0.3**
THE	**Thessaloniki**	**0.58**	**116**	P	**Pg**	**20 27 01.6**	**-0.3**
THE				S	**Sb**	**20 27 10.7**	**0.0**
	comp=N,165nm,0.4s						
THE	**Thessaloniki**	**0.58**	**116**	*i* Pg	**Pg**	**20 27 01.7**	**-0.2**
THE				*i* Sg	**Sg**	**20 27 09.4**	**-0.1**
HORT	**Hortiatis**	**0.69**	**115**	P	**Pg**	**20 27 03.7**	**-0.2**
HORT				AML	AML	20 27 18.6	
	comp=E,598μm,0.3s						
HORT				AML	AML	20 27 19.0	
	comp=N,346μm,0.5s						
HORT	**Hortiatis**	**0.69**	**115**	P	**Pg**	**20 27 03.7**	**-0.2**
HORT				S	**Sb**	**20 27 14.7**	**+0.8**
	comp=N,238nm,0.4s						
FNA	**Florina**	**0.69**	**262**	P	**Pg**	**20 27 03.5**	**-0.5**
FNA				S	**Sg**	**20 27 13.4**	**+0.2**
FNA				AML	AML	20 27 17.1	
	comp=N,592μm,0.4s						
FNA				AML	AML	20 27 21.2	
	comp=E,632μm,0.4s						
FNA	**Florina**	**0.69**	**262**	P	**Pg**	**20 27 03.6**	**-0.5**
FNA				S	**Sg**	**20 27 12.6**	**-0.6**
	comp=E,310nm,0.4s						
FNA	**Florina**	**0.69**	**262**	⇓*i* Pg	**Pg**	**20 27 03.5**	**-0.5**
FNA				*i* Sg	**Sg**	**20 27 13.7**	**+0.5**
KZN	**Kozani**	**0.70**	**214**	P	**Pg**	**20 27 03.4**	**-0.7**
KZN				S	**Sg**	**20 27 13.4**	**+0.1**
KZN				AML	AML	20 27 15.5	
	comp=N,302μm,0.3s						
KZN				AML	AML	20 27 16.8	
	comp=E,594μm,0.5s						
KZN	**Kozani**	**0.70**	**214**	P	**Pg**	**20 27 03.5**	**-0.7**
LIT	**Litokhoron**	**0.80**	**168**	P	**Pg**	**20 27 06.2**	**+0.1**
LIT				AML	AML	20 27 20.4	
	comp=E,202μm,0.3s						
LIT				AML	AML	20 27 22.8	
	comp=N,180μm,0.3s						
LIT	**Litokhoron**	**0.80**	**168**	P	**Pg**	**20 27 06.4**	**+0.3**
LIT	**Litokhoron**	**0.80**	**168**	*i* Pg	**Pg**	**20 27 06.5**	**+0.3**
LIT				*i* Sg	**Sb**	**20 27 18.2**	**+1.0**
STIP	**Stip**	**0.81**	**355**	*i* Pg	**Pb**	**20 27 07.2**	**+0.5**
STIP				*i* Sg	**Sn**	**20 27 19.4**	**-0.4**
SOH	**Sokhos**	**0.82**	**94**	P	**Pg**	**20 27 06.1**	**-0.2**
SOH				AML	AML	20 27 23.4	
	comp=N,1033μm,0.3s						
SOH				AML	AML	20 27 24.7	
	comp=E,1310μm,0.5s						
SOH	**Sokhos**	**0.82**	**94**	P	**Pg**	**20 27 06.2**	**-0.2**
SOH	**Sokhos**	**0.82**	**94**	⇑*i* Pg	**Pg**	**20 27 06.2**	**-0.2**
SOH				*i* Sg	**Sn**	**20 27 19.2**	**-0.7**
SRS	**Serrai**	**1.02**	**76**	P	**Pg**	**20 27 09.5**	**-0.7**
SRS				AML	AML	20 27 29.2	
	comp=N,259μm,0.5s						
SRS				AML	AML	20 27 29.3	
	comp=E,256μm,0.6s						
SRS	**Serrai**	**1.02**	**76**	P	**Pg**	**20 27 09.4**	**-0.8**
SRS	**Serrai**	**1.02**	**76**	⇓*i* Pg	**Pg**	**20 27 09.6**	**-0.7**
SRS				*i* Sg	**Sn**	**20 27 24.8**	**-0.1**
PLG	**Polygyros**	**1.02**	**120**	P	**Pg**	**20 27 10.3**	**0.0**
PLG				AML	AML	20 27 28.5	
	comp=E,461μm,0.4s						
PLG				AML	AML	20 27 30.1	
	comp=N,422μm,0.4s						
PLG	**Polygyros**	**1.02**	**120**	P	**Pg**	**20 27 10.3**	**0.0**
NEST	**Nestorio**	**1.05**	**244**	P	**Pg**	**20 27 10.2**	**-0.6**
NEST				AML	AML	20 27 30.2	
	comp=N,286μm,0.5s						
NEST				AML	AML	20 27 30.5	
	comp=E,242μm,0.6s						
NEST	**Nestorio**	**1.05**	**244**	P	**Pg**	**20 27 10.1**	**-0.7**
PENT	**Pentalofos**	**1.11**	**232**	P	**Pb**	**20 27 11.9**	**+0.1**
OHR	**Ohrid**	**1.14**	**282**	*i* Pg	**Pb**	**20 27 12.5**	**+0.2**
OHR				*i* Sg	**Sn**	**20 27 28.2**	**+0.1**
OHR				*e*Lg	Lg	20 27 29.3	
	comp=N,70nm,0.5s						
OHR				*e*Lg	Lg	20 27 30.8	
	comp=E,94nm,0.5s						
KKB	**Krupnik**	**1.15**	**31**	*i* P	**Pb**	**20 27 12.2**	**-0.2**
KPRO	**Kipourio**	**1.16**	**217**	P	**Pb**	**20 27 12.5**	**-0.1**
KPRO				AML	AML	20 27 36.1	
	comp=E,243μm,0.6s						
KPRO				AML	AML	20 27 36.3	
	comp=N,183μm,0.5s						
SKO	**Skopje**	**1.26**	**330**	*i* Sg	**Sn**	**20 27 31.3**	**+0.6**
MMB	**Musomiste**	**1.30**	**57**	*i* P	**Pn**	**20 27 14.7**	**+0.2**
THL	**Klokotos Trika**	**1.33**	**189**	P	**Pb**	**20 27 15.7**	**+0.2**
THL				AML	AML	20 27 37.4	
	comp=E,121μm,0.7s						
THL				AML	AML	20 27 41.3	
	comp=N,93μm,0.6s						
THL	**Klokotos Trika**	**1.33**	**189**	P	**Pn**	**20 27 15.1**	**+0.1**
OUR	**Ouranopolis**	**1.41**	**112**	P	**Pb**	**20 27 17.1**	**+0.3**
OUR				AML	AML	20 27 39.3	
	comp=N,425μm,0.5s						
OUR				AML	AML	20 27 41.3	
	comp=E,301μm,0.3s						
OUR	**Ouranopolis**	**1.41**	**112**	P	**Pb**	**20 27 17.1**	**+0.3**
PAIG	**Paliouri**	**1.44**	**131**	P	**Pn**	**20 27 16.5**	**+0.2**
PAIG				AML	AML	20 27 41.8	
	comp=N,206μm,0.6s						
PAIG				AML	AML	20 27 44.0	
	comp=E,142μm,0.4s						
PAIG	**Paliouri**	**1.44**	**131**	P	**Pn**	**20 27 16.5**	**+0.2**
XOR	**Xorichti**	**1.67**	**155**	P	**Pn**	**20 27 19.7**	**+0.1**
KAVA	**Kavala**	**1.69**	**86**	P	**Pn**	**20 27 20.8**	**+0.9**
KAVA				AML	AML	20 27 49.6	
	comp=E,185μm,0.8s						
KAVA				AML	AML	20 27 51.1	
	comp=N,146μm,0.6s						
GJIK	**Gjilan**	**1.70**	**338**	*i* Pg	**Pb**	**20 27 22.4**	**+0.6**
GJIK				*i* Sg	**Sg**	**20 27 45.5**	**+0.3**
PRZK	**Prizren**	**1.75**	**320**	*i* Pn	**Pb**	**20 27 23.2**	**+0.6**
PRZK				*i* Sg	**Sg**	**20 27 48.5**	**+1.7**
VTS	**Vitosha**	**1.87**	**22**	⇓P	**Pb**	**20 27 24.2**	**-0.6**
VTS				⇓S	**Sb**	**20 27 48.8**	**+0.6**
VTS	**Vitosha**	**1.87**	**22**	*i* P	**Pb**	**20 27 24.0**	**-0.8**
VTS	**Vitosha**	**1.87**	**22**	*i* Pn	**Pb**	**20 27 24.0**	**-0.8**
VTS				*i* Sg	**Sb**	**20 27 48.6**	**+0.4**
THAS	**Thassos island**	**1.87**	**98**	P	**Pn**	**20 27 23.5**	**+1.1**
BARS	**Barje**	**1.96**	**350**	*i* Pn	**Pb**	**20 27 25.7**	**-0.5**
ZATK	**Zatriq**	**2.00**	**322**	*i* Pn	**Pb**	**20 27 27.3**	**+0.5**
IGT	**Igoumenitsa**	**2.01**	**228**	P	**Pb**	**20 27 27.1**	**+0.1**
SMRK	**Smrekonice**	**2.22**	**334**	*i* Pn	**Pb**	**20 27 29.5**	**-1.2**
LKD2	**Lefkada island**	**2.44**	**211**	P	**Pb**	**20 27 32.8**	**-1.6**
BLKB	**Belogradchik**	**2.75**	**6**	⇓S	**Sn**	**20 28 08.1**	**+0.4**
PLVB	**Pleven**	**3.04**	**34**	⇓P	**Pb**	**20 27 42.0**	**-2.7**
PLVB				⇓S	**Sb**	**20 28 18.8**	**-3.0**
MDVR	**Moldovita**	**3.92**	**354**	⇑P	**Pn**	**20 27 50.5**	**0.0**
MDVR				⇑S	**Sn**	**20 28 35.0**	**-1.4**
GZR	**Gura Zlata**	**4.52**	**4**	⇑P	**Pn**	**20 27 59.7**	**+0.8**
GZR				⇑S	**Sn**	**20 28 51.2**	**-0.1**
BZS	**Buzias**	**4.75**	**354**	⇓P	**Pn**	**20 28 02.0**	**0.0**
BZS				⇑S	**Sn**	**20 28 56.0**	**-0.9**
VOIR		**4.98**	**23**	⇑P	**Pn**	**20 28 07.0**	**+1.8**
MLR	**Muntele Rosu**	**5.33**	**29**	⇑P	**Pn**	**20 28 12.6**	**+2.6**
VRI	**Vrincioaia**	**5.94**	**32**	⇑P	**Pn**	**20 28 20.8**	**+2.5**

*BJI **10** 20:44:52.9±0.0, 0.°69S×124.°88E, h65km, mB5.3/29, mb4.6/43, Ms5.2/8, Ms7 5.1/8*
*DJA **10** 20:44:56.5±0.9, 0.°5±2.°×12.°5E±.°, h36km±18km, M4.7/21, mb4.9/12, mB5.1/7, MLv4.8/21, Mw(mB)4.5/7, MwMwp5.0/1, Mwp5.3/1*
*NEIC **10** 20:44:57.9±2.2, 0.°16S±0.°04×124.°92E±0.°04, h69km±6km, mb4.8/61, Error ellipse: s-maj=7.4km s-min=3.4km az=53.0*
*IDC **10** 20:44:57.3±2.0, 0.°15S×124.°81E, h61km±20km, mb4.1/27, mb1 4.2/31, mb1mx4.1/51, mbtmp4.4/31, MS3.4/5, Ms1 3.4/5, ms1mx3.1/49, Error ellipse: s-maj=12.7km s-min=11.0km az=85.0*

ISC 10 20:44:57.7±0.8, 0.°22S±0.°04×124.°98E±0.°04, h67km±8km, n167, σ1$ 37/180, mb4.6/72, 3C, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.27**	**308**	P	**Pn**	**20 45 16.1**	**-3.5**
SANI	**Sanana**	**2.08**	**151**	P	**Pn**	**20 45 28.5**	**-1.9**
SANI				S	**Sn**	**20 45 52.6**	**-2.7**
GTOI	**Gorontalo**	**2.15**	**293**	P	**Pn**	**20 45 31.2**	**-0.1**
GTOI				S	**Sn**	**20 45 58.7**	**+1.8**
LUWI	**Luwuk**	**2.36**	**250**	Pn	**Pn**	**20 45 32.6**	**-1.6**
LUWI				Sn	**Sn**	**20 46 06.0**	**+4.0**
LUWI	**Luwuk**	**2.36**	**250**	P	**Pn**	**20 45 33.4**	**-0.8**
LUWI				S	**Sn**	**20 46 04.0**	**+1.9**
TNTI	**Ternate**	**2.58**	**68**		**Pn**	**20 45 37.8**	**+0.7**
TNTI				Sn	**Sn**	**20 46 08.5**	**+1.0**
TNTI	**Ternate**	**2.58**	**68**	P	**Pn**	**20 45 36.5**	**-0.7**
TNTI				S	**Sn**	**20 46 07.0**	**-0.4**
MRSI	**Marisa**	**3.12**	**283**	P	**Pn**	**20 45 40.5**	**-4.0**
APSI	**Ampana**	**3.40**	**258**	P	**Pn**	**20 45 47.9**	**-0.5**
NLAI	**Namlea**	**3.67**	**145**	P	**Pn**	**20 45 50.9**	**-1.2**
NLAI				S	**Sn**	**20 46 32.2**	**-2.0**
SGSI	**Sangihe**	**3.91**	**8**	P	**Pn**	**20 45 52.0**	**-3.4**
TOLI2	**Tolitoli**	**4.40**	**287**	Pn	**Pn**	**20 46 00.1**	**-2.0**
TTSI	**Tana Toraja**	**5.88**	**241**	P	**Pn**	**20 46 21.8**	**-0.4**
SWI	**Sorong**	**6.31**	**96**	P	**Pn**	**20 46 25.5**	**-2.7**
	0.2nm27nm,0.7s						
SIJI	**Sorong**	**6.32**	**96**	P	**Pn**	**20 46 31.1**	**+2.8**
	3.4nm,0.3s,baz=215,slow=23,SNR=12						
SIJI				S	**Sn**	**20 47 44.2**	**+5.1**
	1.3nm,0.3s,baz=292,slow=21,SNR=0.9						
BNSI	**Bone**	**6.40**	**229**	P	**Pn**	**20 46 28.6**	**-0.9**
	0.5nm1μm103nm,0.6s						
SPSI	**Sidrap Palu**	**6.40**	**234**	P	**Pn**	**20 46 27.9**	**-1.6**
	0.6nm2μm162nm,0.7s						
BNDI	**Bandanaira**	**6.52**	**131**	P	**Pn**	**20 46 29.2**	**-1.8**
	1.7nm284nm,0.7s						
BKSI	**Bulukumba**	**7.02**	**224**	P	**Pn**	**20 46 37.8**	**-0.1**
	0.3nm558nm40nm,0.7s						
KAPI	**Kappang**	**7.07**	**228**	P	**Pn**	**20 46 38.7**	**+0.1**
	7.4nm,0.3s,baz=80,slow=6.8,SNR=14						
KAPI				S	**Sn**	**20 47 57.0**	**-0.6**
	5.4nm,0.3s,baz=73,slow=20,SNR=1.6						
KAPI	**Kappang**	**7.07**	**228**	Pn	**Pn**	**20 46 39.1**	**+0.5**
KCP	**Kidapawan**	**7.18**	**1**	⇑P	**Pn**	**20 46 42.2**	**+2.1**
DAV	**Davao City (W)**	**7.26**	**5**	LR	LR	20 49 39.7	
	comp=Z,426nm,18.3s,baz=170,slow=39						
FAKI	**Fak Fak**	**7.74**	**110**	Pn	**Pn**	**20 46 46.7**	**-1.1**
BKB	**Balikpapan**	**8.15**	**263**	Pn	**Pn**	**20 46 50.8**	**-2.6**
BKB	**Balikpapan**	**8.15**	**263**	P	Pn	20 47 01.2	+7.8
MYLDM	**Lahad Datu**	**8.40**	**310**	Pn	**Pn**	**20 46 57.5**	**+0.7**
SOEI	**Soe**	**9.50**	**184**	Pn	**Pn**	**20 47 13.4**	**+1.4**
SOEI	**Soe**	**9.50**	**184**	P	Pn	20 47 16.7	+4.7
SAUI	**Saumlaki**	**9.96**	**141**	P	**Pn**	**20 47 19.4**	**+1.3**
	216nm,1.0s						
BATI	**Baumata**	**10.01**	**187**	P	**Pn**	**20 47 21.6**	**+2.7**
	1.1nm,0.3s,baz=39,slow=3.1,SNR=6.9						
BATI				LR	LR	20 51 53.8	
	comp=Z,172nm,21.9s,baz=8.0,slow=41						
BATI	**Baumata**	**10.01**	**187**	P	**Pn**	**20 47 20.6**	**+1.7**
	14nm,0.9s						
BBKI	**Banjar Baru**	**10.63**	**252**	P	**Pn**	**20 47 26.1**	**-1.3**
KKM	**Kota Kinabalu**	**10.74**	**306**	Pn	**Pn**	**20 47 29.0**	**+0.1**
SBUM	**Sibu**	**13.03**	**282**	Pn	**Pn**	**20 47 58.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**17.78**	**178**	P	**P**	**20 49 00.2**	**-0.5**
	0.5nm,0.3s,baz=355,slow=6.0,SNR=19						
FITZ	**Fitzroy Crossi**	**17.78**	**178**	P	**Pn**	**20 49 01.3**	**+0.5**
SZP	**Santa**	**18.21**	**346**	P	**P**	**20 49 05.1**	**-0.3**
SZP				IAmb	IAmb	20 49 12.9	
	comp=Z,129nm,1.3s						
LEM	**Lembang**	**18.53**	**249**	P	**P**	**20 49 08.2**	**-0.9**
	comp=Z,2.8nm,0.3s,baz=86,slow=12,SNR=5.0						
LEM				LR	LR	20 56 46.4	
	comp=Z,195nm,19.1s,baz=46,slow=39						
CISI	**Cisompet, Garu**	**18.60**	**247**	P	**P**	**20 49 10.1**	**+0.2**
CISI				IAmb	IAmb	20 49 20.5	
	comp=Z,45nm,0.8s						
DLV	**T Lat**	**20.35**	**307**	P	**P**	**20 49 29.3**	**+0.3**
DLV				IAmb	IAmb	20 49 40.1	
	comp=Z,70nm,1.5s						
MYKOM	**Kota Tinggi**	**21.22**	**275**	P	**P**	**20 49 38.8**	**+0.5**
MYKOM				IAmb	IAmb	20 49 43.9	
	comp=Z,18nm,0.8s						
WB0	**Warramunga Arr**	**21.51**	**155**	P	**P**	**20 49 40.9**	**-0.3**
WB0				IAmb	IAmb	20 50 04.0	
	comp=Z,25nm,0.9s						
WRAB	**Tennant Creek**	**21.64**	**155**	P	**P**	**20 49 44.3**	**+1.7**
WRAB				IAmb	IAmb	20 50 05.5	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**21.64**	**155**	P	**P**	**20 49 42.3**	**-0.4**
	comp=Z,5.9nm,0.8s,baz=334,slow=11,SNR=38						
WB2	**Warramunga Arr**	**21.65**	**155**	P	**P**	**20 49 42.2**	**-0.5**
WB2				IAmb	IAmb	20 50 05.6	
	comp=Z,20nm,0.9s						
WR0	**Warramunga Arr**	**21.74**	**155**	P	**P**	**20 49 43.2**	**-0.5**
PSA00	**Pilbara Seismi**	**21.81**	**193**	P	**P**	**20 49 43.5**	**-1.0**
PSA00				IAmb	IAmb	20 50 04.8	
	comp=Z,67nm,1.6s						
MNAI	**Manna**	**22.39**	**259**	P	**P**	**20 49 50.1**	**-0.6**
COEN	**Coen**	**22.60**	**128**	P	**P**	**20 49 53.6**	**+0.6**
COEN				IAmb	IAmb	20 50 00.6	
	comp=Z,79nm,1.6s						
YULB	**Yu-li**	**23.74**	**352**	P	**P**	**20 50 03.4**	**-0.5**
YULB				IAmb	IAmb	20 50 09.3	
	comp=Z,50nm,1.3s						
TPUB	**Ta-pu**	**23.75**	**350**	P	**P**	**20 50 03.1**	**-1.0**
TPUB				IAmb	IAmb	20 50 35.9	
	comp=Z,189nm,1.6s						
PMG	**Port Moresby**	**23.89**	**113**	LR	LR	21 02 04.3	
	comp=Z,124nm,18.4s,baz=288,slow=43						
SSLB	**Suanglung**	**24.18**	**351**	P	**P**	**

LZH	Lanzhou	41.12	334	eP		P		20 52 36.9	+1.4
LZH				sP		sP		20 53 01.4	+3.2
LZH				pmax		pmax			
	comp=Z,12nm,1.2s								
HHC	Hu-ho-hao-te	42.66	345	eP		P		20 52 49.6	+1.8
HHC				pmax		pmax			
	comp=Z.4.0nm,1.0s								
HHC				pmax		pmax			
	comp=Z,310nm,5.4s								
LSA	Lhasa	43.87	316	P		P		20 52 57.8	-0.5
USA0B	Ussuriysk Arra	44.66	7	P		P		20 53 02.9	-0.9
USA0B				IAmb		IAmb		20 54 24.4	
	comp=Z,81nm,1.9s								
USRK	Ussuriysk Ar.	44.66	7	P		P		20 53 04.3	+0.6
	comp=Z,3.1nm,0.3s,baz=186,slow=7.6,SNR=31								
USRK	Ussuriysk Ar.	44.66	7	P		P		20 53 04.0	+0.2
ODAN	Odare	45.08	310	eP		P		20 53 05.9	-1.8
	comp=Z,14nm,0.9s								
TAPN	Taplejung	45.08	310	eP		P		20 53 06.6	-1.2
	comp=Z,10nm,0.4s								
GTA	Gaotai	45.67	333	⇑P		P		20 53 13.2	+1.2
GTA				PcP		PcP		20 54 50.7	+1.5
GTA				pmax		pmax			
	comp=Z,9.0nm,1.0s								
RAMN	Ramite	45.73	309	eP		P		20 53 12.0	-0.9
	comp=Z,21nm,0.6s								
GUN	Gumba	46.76	310	eP		P		20 53 19.2	-1.9
	comp=Z,20nm,0.5s								
PKI	Pulchoki	46.96	309	eP		P		20 53 20.8	-1.8
	comp=Z,15nm,1.0s								
PKIN	Phulchoki	46.97	309	eP		P		20 53 20.8	-1.8
	comp=Z,4.0nm,0.4s								
KKN	Kakani	47.16	309	eP		P		20 53 22.1	-1.9
DMN	Daman	47.21	309	eP		P		20 53 23.4	-1.1
	comp=Z,17nm,0.8s								
GKN	Gorkha	47.77	309	eP		P		20 53 27.4	-1.2
	comp=Z,13nm,0.6s								
KLR	Kul'dur	49.60	6	P		P		20 53 41.5	-0.6
	comp=Z,2.3nm,0.4s,baz=187,slow=9.7,SNR=17								
ULN	Ulaanbaatar	50.37	344	P		P		20 53 47.6	-0.6
SONM	Songino Array	50.52	344	P		P		20 53 47.9	-1.4
	comp=Z,4.0nm,0.7s,baz=160,slow=7.7,SNR=30								
SONM				PcP		PcP		20 55 06.3	-0.1
	comp=Z,1.1nm,0.9s,baz=169,slow=6.2,SNR=2.2								
SONM	Songino Array	50.52	344	P		P		20 53 48.7	-0.5
SONM				IAmb		IAmb		20 53 51.8	
	comp=Z,3.2nm,0.8s								
SONM				PcP		PcP		20 55 07.1	+0.7
WMQ	Urumqi	55.02	328	eP		P		20 54 23.5	+1.0
WMQ				pP		pwP		20 54 42.1	-1.7
WMQ				pmax		pmax			
	comp=Z,11nm,1.1s								
WMQ				pmax		pmax			
	comp=Z,130nm,4.1s								
ZSN	Zaisan	58.92	329	eP		P		20 54 49.7	-0.2
	baz=329								
SHLS	Shalkode	59.33	323	eP		P		20 54 51.3	-1.7
	comp=Z,3.8nm,1.2s,baz=323								
UZB	Uzynbulak	59.59	322	eP		P		20 54 54.9	+0.1
	comp=Z,3.0nm,1.1s,baz=322								
RPZ	Rata Peaks	59.63	143	P		P		20 54 56.3	+1.4
KSH	Kashi	59.67	317	P		P		20 54 55.9	+0.5
KSH				PcP		PcP		20 55 42.6	+0.7
KSH				pmax		pmax			
	comp=Z,16nm,1.2s								
KSH				pmax		pmax			
	comp=Z,98nm,4.8s								
KSH				LR		LR			
	comp=Z,580nm,6.1s								
KSH				LR		LR			
	comp=Z,600nm,12.2s								
KSH				LR		LR			
	comp=Z,1μm,10.9s								
PEA0B	Petropavlovsk-	59.72	22	P		P		20 54 55.1	-0.2
PETK	Petropavlovsk-	59.72	22	P		P		20 54 56.2	+0.9
	comp=Z,5.2nm,1.0s,baz=182,slow=2.4,SNR=5.3								
PETK	Petropavlovsk-	59.72	22	P		P		20 54 56.8	+1.5
THZ	Tophouse	59.75	140	P		P		20 54 58.6	+2.8
MK31	Makanchi Array	59.85	327	P		P		20 54 55.0	-1.4
MK31				IAmb		IAmb		20 54 57.4	
	comp=Z,3.8nm,0.6s								
MKAR	Makanchi Array	59.85	327	P		P		20 54 55.0	-1.4
	comp=Z,4.4nm,0.4s,baz=120,slow=8.3,SNR=91								
MKAR				PcP		PcP		20 55 42.5	+0.2
	comp=Z,1.8nm,0.7s,baz=116,slow=4.8,SNR=4.6								
MKAR	Makanchi Array	59.85	327	P		P		20 54 54.5	-1.9
SATY	Saty	59.92	322	eP		P		20 54 57.1	+0.1
	comp=Z,3.7nm,0.8s,baz=322								
MAKZ	Makanchi	60.03	327	P		P		20 54 55.9	-1.7
MAKZ				IAmb		IAmb		20 54 58.5	
	comp=Z,5.4nm,0.5s								
ODZ	Otahua Downs	60.13	144	P		P		20 54 57.2	-1.1
TUWZ	Tuamarina	60.25	139	P		P		20 54 58.5	-0.7
TNSS	Tian-Shan	60.81	321	eP		P		20 55 03.9	+0.4
	baz=321								
MDOK	Medeo	60.81	322	eP		P		20 55 03.3	+0.1
	baz=322								
BHW	Baring Head	60.85	139	P		P		20 55 03.6	+0.3
BKZ	Black Stump Fm	60.91	136	P		P		20 55 04.7	+0.8
BKZ				IAmb		IAmb		20 57 07.3	
	comp=Z,24nm,1.4s								
TDK	Taldyqorghan	60.98	324	eP		P		20 55 04.2	+0.1
	comp=Z,3.8nm,0.5s,baz=324								
PLWZ	Palliser	61.18	139	P		P		20 55 06.7	+1.2
AAK	Ala-Archa	62.16	320	P		P		20 55 11.8	-0.5
AAK				IAmb		IAmb		20 55 14.5	
	comp=Z,4.4nm,1.1s								
YAK	Yakutsk	62.19	3	P		P		20 55 12.0	+0.1
YAK				IAmb		IAmb		20 55 16.3	
	comp=Z,22nm,0.9s								
SGDS	Sogindy	62.48	321	eP		P		20 55 13.9	-0.3
	baz=321								
KBL	Kabul	62.60	310	P		P		20 55 13.5	-1.9
KBL				IAmb		IAmb		20 55 16.1	
	comp=Z,6.4nm,0.7s								
MA2	Magadan	62.93	14	P		P		20 55 17.4	+0.6
	comp=Z,7.5nm,0.8s,baz=194,slow=5.1,SNR=7.0								
MA2	Magadan	62.93	14	P		P		20 55 16.7	-0.2
ZAA0	Zalesovo Array	63.34	335	P		P		20 55 18.9	-0.8
ZAA0				IAmb		IAmb		20 55 20.5	
	comp=Z,4.3nm,1.0s								
ZALV	Zalesovo Beam	63.34	335	P		P		20 55 18.6	-1.1
	comp=Z,1.8nm,0.4s,baz=131,slow=5.9,SNR=12								
ZALV	Zalesovo Beam	63.34	335	P		P		20 55 18.5	-1.2
BTLS	Baital	63.63	322	eP		P		20 55 21.3	-0.6
	baz=322								
KURBB	Kurchatov Arra	64.15	329	P		P		20 55 23.7	-1.4
	comp=Z,5.3nm,0.7s								
DZA	Taraz	64.34	319	eP		P		20 55 26.3	-0.3
	baz=319								
IUG	Iuzhnay	64.88	318	eP		P		20 55 30.0	-0.2
	baz=318								
KK31	Karatay Array	64.97	319	P		P		20 55 30.4	-0.3
KKAR	Karatay Array	64.97	319	P		P		20 55 30.4	-0.3
KKAR	Karatay Array	64.97	319	P		P		20 55 29.1	-1.5
BRZS	Berezniki	66.93	326	eP		P		20 55 43.5	+0.5
	baz=326								
BVAR	Borovoye Array	69.70	328	P		P		20 55 59.9	-0.4
	comp=Z,1.5nm,0.5s,baz=213,slow=11,SNR=13								
BRVK	Borovoye	69.77	328	P		P		20 56 00.0	-0.7
BRVK				IAmb		IAmb		20 56 08.8	
	comp=Z,4.0nm,0.6s								
TIXI	Tiksi	71.79	1	P		P		20 56 12.4	-0.2
	comp=Z,1.9nm,0.3s,baz=197,slow=5.4,SNR=5.4								
TIXI	Tiksi	71.79	1	IAmb		IAmb		20 56 18.4	
	comp=Z,3.1nm,0.9s								
ABKAR	Akbulak array	74.12	322	P		P		20 56 25.4	-1.4
AKTO	Aktyubinsk	75.68	323	P		P		20 56 34.6	-1.3
	comp=Z,5.7nm,0.7s,baz=101,slow=6.6,SNR=21								
ARU	Arti	77.34	329	P		P		20 56 43.6	-1.5
	comp=Z,1.1nm,0.6s,baz=359,slow=1.6,SNR=8.4								
ARU	Arti	77.34	329	P		P		20 56 43.9	-1.2
ARU				IAmb		IAmb		20 56 46.4	
	comp=Z,5.3nm,0.8s								
VNDA	Vanda	79.77	172	P		P		20 56 58.6	+0.6
	comp=Z,1.1nm,0.8s,baz=303,slow=6.5,SNR=5.8								
BELG	Belogornoye	82.46	323	P		P		20 57 11.7	-1.1
	comp=Z,7.0nm,0.7s,baz=69,slow=4.9,SNR=5.6								
KIRV	Kirov	82.68	329	P		P		20 57 14.0	+0.2
	comp=Z,5.3nm,0.5s,baz=288,slow=23,SNR=4.0								
KBZ	Khabaz	84.42	314	P		P		20 57 23.5	+0.4
	comp=Z,1.3nm,0.8s,baz=68,slow=8.8,SNR=2.6								
KMBO	Kilima Mbogo	87.73	269	P		P		20 57 40.0	-0.3
	comp=Z,3.0nm,0.7s,baz=53,slow=6.6,SNR=9.1								
ILAR	Eielson Array	89.39	25	P		P		20 57 46.5	-0.3
	comp=Z,0.3nm,0.7s,baz=227,slow=4.8,SNR=2.6								
ARCES	ARCESS Array B	93.52	340	P		P		20 58 05.7	-0.1
	comp=Z,3.6nm,0.9s,baz=60,slow=7.2,SNR=4.7								
FINES	FINESS Array B	94.45	332	P		P		20 58 10.0	-0.3
	comp=Z,2.4nm,0.8s,baz=218,slow=18,SNR=3.6								
HFS	Hagfors	100.66	332	P		Pdif		20 58 38.0	-0.2
	comp=Z,1.8nm,0.8s,baz=95,slow=9.7,SNR=1.4								
TORD	Torodi Ar. Bea	122.38	285	PKP		PKPdf		21 03 45.8	-0.5
	comp=Z,1.0nm,0.7s,baz=50,slow=1.8,SNR=3.4								

IDC ***10*** *20:47:53.1±0.7, 13˚.18N×145˚.68E, h0km, mb4.2/23, mb1 4.4/23, mb1mx4.2/57, mbtmp4.2/23, MS3.9/1, Ms1 3.9/1, ms1mx3.1/51, Error ellipse: s-maj=23.2km s-min=14.2km az=99.0*

NEIC ***10*** *20:47:55.0±1.6, 13˚.09N±0˚.08×145˚.6E±0˚.1, h10km±1km, mb4.9/87, Error ellipse: s-maj=19.4km s-min=12.8km az=76.0*

BJI ***10*** *20:47:57.0±0.0, 13˚.10N×145˚.50E, h40km, mB5.1/2, mb4.7/4, Ms4.7/1, Ms7 4.4/1*

ISC 10 20:47:59.5±0.5, 13˚.12N±0˚.07×145˚.61E±0˚.09, h43km, n130, σ1§04/127, mb4.7/68, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.86	303			Pn	20 48 13.4	-1.7
ANA2	Anatahan	3.20	2			Pn	20 48 44.7	-2.6
PATS	Pohnpei	13.98	115	Pn		Pn	20 51 10.7	-4.4
JOW	Kunigami	21.21	313	LR		LR	21 00 39.3	
	comp=Z,278nm,18.8s,baz=100,slow=36							
JGF	Kuroka	23.59	343	P		P	20 53 07.0	+0.6
JGF				IAmb		IAmb	20 53 30.2	
	comp=Z,99nm,1.6s							
JWT	Wachi	23.91	339	P		P	20 53 09.5	+0.1
MJAR	Matsushiro Arr	24.25	345	P		P	20 53 11.8	-0.7
MAJO	Matsushiro	24.25	345	P		P	20 53 11.7	-0.8
MAJO				IAmb		IAmb	20 53 15.4	
	comp=Z,95nm,1.8s							
JMM	Marumori	25.01	351	P		P	20 53 18.7	-0.7
JMM				IAmb		IAmb	20 53 26.5	
	comp=Z,78nm,1.4s							
SSLB	Suanglung	25.64	298	P		P	20 53 27.1	+1.8
KSRS	Korea Array	26.92	330	P		P	20 53 54.9	+0.3
	comp=Z,1.1nm,0.7s,baz=161,slow=42,SNR=1.9							
SOEI	Soe	31.08	224	P		P	20 54 13.8	-0.2
SOEI				IAmb		IAmb	20 54 39.0	
	comp=Z,66nm,1.7s							
USRK	Ussuriysk Ar.	33.10	342	P		P	20 54 33.1	+1.9
	comp=Z,3.0nm,0.7s,baz=172,slow=12,SNR=4.3							
WB0	Warramunga Arr	34.50	199	P		P	20 54 43.5	-0.2
WB0				IAmb		IAmb	20 54 48.4	
	comp=Z,14nm,1.4s							
WR0	Warramunga Arr	34.63	199	P		P	20 54 44.0	-0.9
WR0				IAmb		IAmb	20 54 49.4	
	comp=Z,15nm,1.4s							
WB2	Warramunga Arr	34.68	199	P		P	20 54 44.6	-0.6
WB2				IAmb		IAmb	20 54 50.0	
	comp=Z,21nm,1.4s							
WRA	Warramunga Arr	34.68	199	P		P	20 54 45.1	-0.2
	comp=Z,4.0nm,0.9s,baz=22,slow=9.6,SNR=9.3							
SBUM	Sibu	34.69	255	P		P	20 54 45.2	-0.3
SBUM				IAmb		IAmb	20 54 51.5	
	comp=Z,25nm,1.5s							
FITZ	Fitzroy Crossi	36.75	213	P		P	20 55 02.4	-0.7
	comp=Z,2.7nm,0.9s,baz=190,slow=21,SNR=1.9							
FITZ	Fitzroy Crossi	36.75	213	P		P	20 55 01.9	-1.1
FITZ				IAmb		IAmb	20 55 06.8	
	comp=Z,22nm,1.7s							
KLR	Kul'dur	37.78	345	P		P	20 55 10.0	-1.4
	comp=Z,2.8nm,0.7s,baz=147,slow=8.7,SNR=6.3							
AS31	Alice Springs	38.31	197	P		P	20 55 16.3	0.0
ASAR	Alice Springs	38.32	197	P		P	20 55 16.1	-0.2
	comp=Z,1.5nm,0.6s,baz=26,slow=9.4,SNR=16							
ASAR	Alice Springs	38.32	197	P		P	20 55 14.8	-1.4
STKA	Stephens Creek	44.91	185	P		P	20 56 10.5	+0.4
	comp=Z,1.4nm,0.7s,baz=340,slow=14,SNR=2.3							
KULM	Kulim	45.00	264	P		P	20 56 11.1	-0.1
KULM				IAmb		IAmb	20 56 19.0	
	comp=Z,30nm,1.5s							
CMAR	Chiang Mai Arr	45.12	283	P		P	20 56 12.0	-0.1
	comp=Z,0.9nm,0.5s,baz=83,slow=6.5,SNR=8.0							
CMAR				PcP		PcP	20 57 55.0	+2.8
	comp=Z,1.2nm,0.6s,baz=78,slow=3.0,SNR=5.6							
MNAI	Manna	45.78	251	P		P	20 56 16.0	-1.3
MA2	Magadan	46.53	4	P		P	20 56 21.2	-1.4
	comp=Z,5.1nm,0.7s,baz=168,slow=8.4,SNR=4.2							
MA2	Magadan	46.53	4	P		P	20 56 20.9	-1.7
MA2				IAmb		IAmb	20 56 33.1	
	comp=Z,9.9nm,0.7s							
BBOO	Buckleboo	46.58	191	P		P	20 56 21.2	-2.1
BBOO				IAmb		IAmb	20 56 24.7	
	comp=Z,14nm,1.2s							
ULN	Ulaanbaatar	47.17	325	P		P	20 56 28.3	+0.3
SONM	Songino Array	47.52	325	P		P	20 56 30.1	-0.6
	comp=Z,0.6nm,0.6s,baz=137,slow=6.6,SNR=3.8							
SONM	Songino Array	47.52	325	P		P	20 56 30.0	-0.6
GTA	Gaotai	48.02	312	eP		P	20 56 48.7	+14
GTA				pP		sP	20 56 53.9	+3.5
GTA				sP		pwP	20 56 57.0	+7.0
GTA				pmax		pmax		
	comp=Z,2.0nm,1.5s							
WMQ	Urumqi	57.98	314	eP		P	20 57 49.4	+1.5
TIXI	Tiksi	59.37	354	P		P	20 57 57.9	+0.9
	comp=Z,0.6nm,0.3s,baz=129,slow=6.5,SNR=1.1							
BKZ	Black Stump Fm	59.47	152	P		P	20 57 57.8	-0.4
BKZ				IAmb		IAmb	20 58 46.0	
	comp=Z,20nm,1.4s							
PLWZ	Palliser	60.91	155	P		P	20 58 08.2	+0.2
RPZ	Rata Peaks	61.15	159	P		P	20 58 09.8	+0.2
MK31	Makanchi Array	62.32	316	P		P	20 58 17.0	-0.5
MKAR	Makanchi Array	62.32	316	P		P	20 58 17.4	-0.1
	comp=Z,0.8nm,0.4s,baz=93,slow=9.0,SNR=11							
MKAR	Makanchi Array	62.32	316	P		P	20 58 17.3	-0.3
ZALV	Zalesovo Beam	62.42	324	P		P	20 58 18.4	+0.4
	comp=Z,0.6nm,0.4s,baz=106,slow=9.2,SNR=3.3							
ZALV	Zalesovo Beam	62.42	324	P		P	20 58 20.6	+2.5
MAKZ	Makanchi	62.54	316	P		P	20 58 18.7	-0.3
SII	Sitkinak Islan	62.88	33	P		P	20 58 23.1	+2.1
RDOG	Red Dog Mine	64.08	19	P		P	20 58 29.0	+0.2
RDOG				IAmb		IAmb	20 58 30.0	
	comp=Z,7.2nm,0.8s							
KDAK	Kodiak Island	64.08	32	P		P	20 58 30.3	+1.4
HYB	Hyderabad	64.55	283	*i* P		P	20 58 36.0	+3.2
CNPM	China Poot	65.27	30	P		P	20 58 37.0	+0.3
KURK	Kurchatov	65.40	320	P		P	20 58 37.8	+0.2
KURBB	Kurchatov Arra	65.44	320	P		P	20 58 37.8	-0.1
	comp=Z,3.8nm,0.5s,baz=104,slow=6.8,SNR=26							
BRLK	Bradley Lake	65.51	30	P		P	20 58 37.9	-0.3
PPLA	Purkeypile	65.88	26	P		P	20 58 42.7	+1.9
SEW	Seward	66.30	30	P		P	20 58 42.3	-0.9
IMAR	Indian Mountai	66.34	23	P		P	20 58 44.0	+0.6
BPAW	Bear Paw Mtn.	66.78	25	P		P	20 58 46.9	+0.5
BPAW				IAmb		IAmb	20 58 54.7	
	comp=Z,5.2nm,0.8s							
TRF	Thorofare Moun	66.87	26	P		P	20 58 47.1	0.0
TRF				IAmb		IAmb	20 58 59.2	
	comp=Z,6.6nm,1.0s							
GHO	Glory Hole Cre	66.99	28	P		P	20 58 47.6	-0.2
GHO				IAmb		IAmb	20 59 11.2	
	comp=Z,21nm,1.4s							
KNK	Knik Glacier	67.11	28	P		P	20 58 49.2	+0.7
KNK				IAmb		IAmb	20 58 51.4	
	comp=Z,10nm,1.0s							
SML	Sawmill	67.28	28			P	20 58 50.2	+0.7
RND	Reindeer	67.48	26	P		P	20 58 50.2	-0.6
RND				IAmb		IAmb	20 59 18.1	
	comp=Z,17nm,1.5s							
A21K	Barrow	67.61	17	P		P	20 58 51.6	+0.2
A21K				IAmb		IAmb	20 58 52.5	
	comp=Z,11nm,0.8s							
SCM	Sheep Creek Mo	67.74	28	P		P	20 58 51.0	-1.5
SCM				IAmb		IAmb	20 59 08.8	
	comp=Z,12nm,0.9s							
I23K	Minto, Yukon-K	67.77	24	P		P	20 58 52.9	+0.3
I23K				IAmb		IAmb	20 59 07.7	
	comp=Z,4.9nm,0.8s							
HIN	Hinchinbrook I	67.80	30	P		P	20 58 53.6	+0.8
FID	Port Fidalgo	67.89	29	P		P	20 58 52.9	-0.4
WRH	Wood River Hil	68.10	25	P		P	20 58 54.1	-0.5
WRH				IAmb		IAmb	20 58 54.9	
	comp=Z,7.0nm,1.0s							
COLD	Coldfoot	68.10	22	P		P	20 58 55.2	+0.6
COLD				IAmb		IAmb	20 58 56.2	
	comp=Z,8.5nm,1.1s							
MDM	Murphy Dome	68.18	25	P		P	20 58 56.3	+1.2
CCB	Clear Creek Bu	68.26	25	P		P	20 58 55.4	-0.3
CCB				IAmb		IAmb	20 58 55.8	
	comp=Z,14nm,1.6s							
KLU	Klutina	68.31	29	P		P	20 58 56.8	+0.6
M24K	Tolsona, Glenn	68.34	28	P		P	20 58 57.9	+1.7
HDA	Harding Lake	68.56	26	P		P	20 58 57.1	-0.4
HDA				IAmb		IAmb	20 59 10.1	
	comp=Z,6.4nm,0.9s							
IL31		68.68	25	P		P	20 58 56.7	-1.5
IL31				IAmb		IAmb	20 59 12.8	
	comp=Z,16nm,1.6s							
ILAR	Eielson Array	68.68	25	P		P	20 58 57.1	-1.1
	comp=Z,2.0nm,0.7s,baz=253,slow=5.4,SNR=18							
ILAR	Eielson Array	68.68	25	P		P	20 58 57.0	-1.2
TOLK	Toolik Lake Re	68.79	21	P		P	20 58 59.2	+0.3
TOLK				IAmb		IAmb	20 59 00.7	
	comp=Z,14nm,1.3s							
PAX	Paxson	68.85	27	P		P	20 59 00.1	+0.7
PAX				IAmb		IAmb	20 59 17.7	
	comp=Z,5.1nm,0.8s							
HMT	Hamilton	68.87	30	P		P	20 59 00.7	+1.1
N25K	Chitina, Valde	68.96	29	P		P	20 59 01.3	+1.1
N25K				IAmb		IAmb	20 59 31.9	
	comp=Z,28nm,1.7s							
PRP	Porcupine Dome	69.42	25	P		P	20 59 05.7	+2.7
PRP				IAmb		IAmb	20 59 48.6	
	comp=Z,12nm,1.8s							
CRQM	Cirque	69.49	30	P		P	20 59 04.0	+0.4
DOT	Dot Lake	69.62	27	P		P	20 59 04.3	+0.1
DOT				IAmb		IAmb	20 59 34.0	
	comp=Z,5.1nm,0.8s							
FYU	Fort Yukon	69.79	23	P		P	20 59 05.4	+0.3
FYU				IAmb		IAmb	20 59 08.4	
	comp=Z,22nm,1.3s							
YAH	Yahtse	70.11	30	P		P	20 59 08.0	+0.6
BMAR	Burnt Mountain	70.25	23	P		P	20 59 08.7	+0.7
KKAR	Karatay Array	70.30	311	P		P	20 59 08.9	+0.2
CTGM	Chitina Glacie	70.40	30	P		P	20 59 10.3	+1.2
TABL	Table Mountain	70.42	30	P		P	20 59 10.6	+1.3
BCAR	Beaver Creek A	70.52	27	P		P	20 59 09.6	-0.1
K27K	Chicken	70.56	26	P		P	20 59 10.3	+0.5
K27K				IAmb		IAmb	20 59 45.2	
	comp=Z,14nm,1.6s							
BVAR	Borovoye Array	70.74	322	P		P	20 59 10.6	-0.6
	comp=Z,1.3nm,0.4s,baz=194,slow=15,SNR=20							
BRVK	Borovoye	70.80	322	P		P	20 59 11.5	0.0
PCA	Pinnacle	70.81	31	P		P	20 59 12.0	+0.5
EGAK	Eagle	71.08	26	P		P	20 59 13.9	+0.9
DAWY	Dawson	71.73	27	P		P	20 59 17.6	+0.6
EPYK	Eagle Plains	73.12	24	P		P	20 59 25.4	+0.2
EPYK				IAmb		IAmb	21 00 14.1	
	comp=Z,15nm,1.4s							
INK	Inuvik	74.52	22	P		P	20 59 32.9	-0.4
	comp=Z,4.9nm,1.0s,baz=247,slow=6.5,SNR=9.5							
INK	Inuvik	74.52	22	P		P	20 59 33.0	-0.3
HRA	Herat	77.30	303	P		P	20 59 49.3	-0.8
HRA				IAmb		IAmb	21 00 24.9	
	comp=Z,12nm,1.8s							
ABKAR	Akbulak array	77.37	318	P		P	20 59 48.6	-1.3
ABKAR	Akbulak array	77.37	318	P		P	20 59 47.5	-2.4
ABKAR				IAmb		IAmb	21 00 01.2	
	comp=Z,2.6nm,0.9s							
ARU	Arti	77.56	325	P		P	20 59 50.4	-0.5
	comp=Z,0.6nm,0.5s,baz=35,slow=2.5,SNR=3.7							
ARU	Arti	77.56	325	P		P	20 59 51.2	+0.4
C36M	Paulatuk	77.94	21	P		P	20 59 52.0	-0.6
C36M				IAmb		IAmb	20 59 53.5	
	comp=Z,13nm,1.2s							
GEYT	Alibeck	80.11	307	P		P	21 00 05.7	+0.4
	comp=Z,1.4nm,0.5s,baz=48,slow=2.1,SNR=2.0							
GEYT	Alibeck	80.11	307	IAmb		IAmb	21 00 10.7	
	comp=Z,1.8nm,0.7s							
KCPM	Cahto Peak	82.36	51	P		P	21 00 18.8	+1.4
KCPM				IAmb		IAmb	21 00 21.1	
	comp=Z,22nm,1.3s							
YBH	Yreka Blue Hor	82.63	49	P		P	21 00 20.2	+1.6
YKA	Yellowknife Ar	82.94	27	P		P	21 00 19.7	+0.1
	comp=Z,3.6nm,0.7s,baz=288,slow=4.9,SNR=35							
EUNU	Eureka	83.22	8	P		P	21 00 22.4	+1.4
PINE	Pine Mountain	83.50	47	P		P	21 00 24.3	+1.0
PINE				IAmb		IAmb	21 00 26.9	
	comp=Z,7.7nm,0.9s							
B08A	Colville Reser	83.64	42	P		P	21 00 24.1	+0.5
B08A				IAmb		IAmb	21 00 37.8	
	comp=Z,6.7nm,1.1s							
K05A	Summer Lake	83.76	48	P		P	21 00 25.3	+0.7
K05A				IAmb		IAmb	21 00 44.7	
	comp=Z,26

plane solution: $M_0$3.02000×10^{18} NP1:$\phi_0$144.00000°, δ27.00000°,λ-149.00000°. NP2:$\phi_0$26.00000°,δ76.00000°, λ-66.00000°. Principal axes: T 3.0709, Plg28.0000°, Azm97.0000°; N -0.1126, Plg23.0000°, Azm200.0000°; P -2.9583, Plg53.0000°, Azm324.0000°;

NEIC ***10*** *20:55:49, 6.83N×72.91W, h160km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-1.12; $M_{\theta\theta}$-0.92; $M_{\phi\phi}$2.04; $M_{r\theta}$-1.32; $M_{\theta\phi}$0.09; $M_{\phi r}$-1.79; Fault plane solution: $M_0$2.85000×10^{18} NP1:$\phi_0$147.00000°, δ30.00000°,λ-151.00000°. NP2:$\phi_0$32.00000°,δ76.00000°, λ-62.00000°. Principal axes: T 2.9607, Plg26.0000°, Azm101.0000°; N -0.2452, Plg26.0000°, Azm205.0000°; P -2.7155, Plg51.0000°, Azm333.0000°;*

NEIC ***10*** *20:55:59.7, 7.23N×72.17W, h176km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-1.06; $M_{\theta\theta}$-0.63; $M_{\phi\phi}$ 1.68; $M_{r\theta}$-1.10; $M_{\theta\phi}$-0.01; $M_{\phi r}$-1.48; Fault plane solution: $M_0$2.36000×10^{18} NP1:$\phi_0$148.30000°, δ29.49000°,λ-147.86000°. NP2:$\phi_0$29.63000°,δ74.82000°, λ-64.41000°. Principal axes: T 2.3958, Plg25.0000°, Azm100.0000°; N -0.0779, Plg25.0000°, Azm202.0000°; P -2.3179, Plg53.0000°, Azm330.0000°;*

UCR ***10*** *20:56:10.4±1.9, 7.60N×74.84W, h155km, mb6.2(NEIC)*

ISC 10 20:55:44.5±0.2, 6°80N±0.0°02×73°04W±0.0°02, h162km±1km, h162km:pP-P,n1911,σ1^{s}85/2081,mb6.2/595,142C-164D, Fault plane solution: NP1:$\phi_0$34.61286°,δ48.53696°, λ-8.33480°. NP2:$\phi_0$130.15356°,δ83.76374°, λ-138.23489°. Principal axes: T Plg23.0410°, Azm255.1231°; N Plg47.8566°, Azm137.0891°; P Plg33.0256°, Azm1.1730°; **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**215**	⇓	*iP*		**Pn**	**20 56 05.9**	**-0.8**
BARC						*eS*	**Sn**	**20 56 22.6**	**-1.0**
BARC						*i*		20 56 27.9	
	comp=Z,324μm,0.3s								
PAMC	**Pamplona, Colo**	**0.64**	**32**	⇑	*iP*		**Pn**	**20 56 08.7**	**+0.2**
PAMC						*eS*	**Sn**	**20 56 26.7**	**-0.3**
BRRC	**Barranca, Sant**	**0.74**	**295**	⇓	*iP*		**Pn**	**20 56 07.7**	**-0.8**
BRRC						*eS*	**Sn**	**20 56 24.8**	**-2.1**
RUSC	**La Rusia**	**0.90**	**183**	⇓	*iP*		**Pn**	**20 56 09.8**	**-0.5**
RUSC						*eS*	**Sn**	**20 56 29.4**	**-0.6**
RUSC						*i*		20 56 33.0	
	comp=Z,206μm,0.5s								
TAMC	**Tame, Arauca**	**1.29**	**106**	⇑	*iP*		**Pn**	**20 56 14.4**	**+1.3**
TAMC						*i*		20 56 18.4	
	comp=Z,104μm,0.4s								
TAMC						*eS*	**Sn**	**20 56 35.7**	**+0.8**
PTBC	**PUERTO BERRIO,**	**1.43**	**260**	⇓	*iP*		**Pn**	**20 56 12.3**	**-2.1**
PTBC						*eS*	**Sn**	**20 56 34.5**	**-2.7**
PTBC						*i*		20 56 40.7	
	comp=Z,207μm,0.4s								
OCAC	**Ocana**	**1.46**	**349**	⇑	*eP*		**Pn**	**20 56 14.0**	**-0.8**
OCAC						*eS*	**Sn**	**20 56 36.7**	**-1.5**
OCAC						*i*		20 56 47.6	
	comp=Z,242μm,0.6s								
SPBC	**San Pablo de B**	**1.53**	**222**	⇓	*iP*		**Pn**	**20 56 14.6**	**-0.9**
SPBC						*eS*	**Sn**	**20 56 37.9**	**-1.4**
SPBC						*i*		20 56 45.0	
	comp=Z,210μm,0.5s								
NORC	**Norcasia**	**2.19**	**236**	⇓	*iP*		**Pn**	**20 56 21.5**	**-1.2**
NORC						*eS*	**Sn**	**20 56 50.6**	**-1.6**
NORC						*i*		20 56 57.9	
	comp=Z,140μm,0.4s								
SMLC	**San Martn de**	**2.24**	**333**	⇓	*iP*		**Pn**	**20 56 22.0**	**-1.2**
SMLC						*eS*	**Sn**	**20 56 51.1**	**-2.0**
SMLC						*i*		20 57 01.8	
	comp=Z,218μm,0.7s								
CHIC	**Chingaza**	**2.26**	**198**	⇓	*iP*		**Pn**	**20 56 23.8**	**0.0**
CHIC						*eS*	**Sn**	**20 56 53.4**	**-0.8**
CHIC						*i*		20 57 00.3	
	comp=Z,187μm,0.5s								
ROSC	**El Rosal**	**2.33**	**213**	P			**Pn**	**20 56 25.4**	**+0.8**
	comp=Z,17μm,0.3s,baz=276,slow=2.7,SNR=2797								
ROSC					S		**Sn**	**20 56 54.7**	**-0.8**
	comp=Z,13μm,0.3s,baz=142,slow=20,SNR=3.6								
ROSC	**El Rosal**	**2.33**	**213**	P			**Pn**	**20 56 25.4**	**+0.8**
ROSC								20 56 54.1	
ROSC	**El Rosal**	**2.33**	**213**				**Pn**	**20 56 25.4**	**+0.8**
ROSC						Sn	**Sn**	**20 56 54.1**	**-1.4**
ROSC	**El Rosal**	**2.33**	**213**	⇓	*iP*		**Pn**	**20 56 25.4**	**+0.8**
ROSC						*eS*	**Sn**	**20 56 54.8**	**-0.8**
HELC	**Santa Helena**	**2.55**	**256**		*eP*		**Pn**	**20 56 26.2**	**-1.0**
HELC						*eS*	**Sn**	**20 56 57.4**	**-2.7**
HELC	**Santa Helena**	**2.55**	**256**	⇑	*iP*		**Pn**	**20 56 25.8**	**-1.4**
HELC						*eS*	**Sn**	**20 56 57.6**	**-2.5**
HELC						*i*		20 57 08.6	
	comp=Z,130μm,0.4s								
UREC	**San Jos de Ur**	**2.65**	**291**	⇑	*eP*		**Pn**	**20 56 25.4**	**-2.7**
UREC						*eS*	**Sn**	**20 56 57.4**	**-4.5**
PTGC	**Puerto Gaitan,**	**2.73**	**161**	⇓	*iP*		**Pn**	**20 56 29.1**	**0.0**
PTGC						*i*		20 56 31.3	
	comp=Z,72μm,0.2s								
PTGC						*eS*	**Sn**	**20 57 02.8**	**-0.9**
GUY2C	**Guyana, Caldas**	**2.79**	**236**	⇑	*iP*		**Pn**	**20 56 29.6**	**-0.7**
GUY2C						*eS*	**Sn**	**20 57 04.1**	**-1.5**
GUY2C						*i*		20 57 19.7	
	comp=Z,130μm,0.6s								
RREF	**El Recreo**	**2.97**	**231**	⇑	*eP*		**Pn**	**20 56 32.3**	**-0.3**
RREF						*eS*	**Sn**	**20 57 08.0**	**-1.8**
RREF						*i*		20 57 20.1	
	comp=Z,130μm,0.7s								
CBOC	**Ciudad Bolivar**	**3.10**	**253**	⇑	*iP*		**Pn**	**20 56 33.2**	**-0.6**
CBOC						*eS*	**Sn**	**20 57 09.2**	**-2.7**
CBOC						*i*		20 57 23.3	
	comp=Z,59μm,0.7s								
DBBC	**Dabeiba**	**3.16**	**274**	⇑	*eP*		**Pn**	**20 56 33.0**	**-1.4**
SDV	**Santo Domingo**	**3.16**	**49**	P			**Pn**	**20 56 35.0**	**+0.4**
	comp=Z,3μm,0.3s,baz=234,slow=8.9,SNR=3825								
SDV						S	**Sn**	**20 57 13.0**	**-0.4**
	comp=Z,4μm,0.3s,baz=334,slow=11,SNR=7.5								
SDV	**Santo Domingo**	**3.16**	**49**				**Pn**	**20 56 35.3**	**+0.7**
SDV						Sn	**Sn**	**20 57 11.5**	**-2.0**
SDV	**Santo Domingo**	**3.16**	**49**	⇑	*iP*		**Pn**	**20 56 35.4**	**+0.7**
SDV						*eS*	**Sn**	**20 57 12.9**	**-0.4**
SDV						*i*		20 57 21.0	
	comp=Z,40μm,0.5s								
SDV	**Santo Domingo**	**3.16**	**49**		*eP*		**Pn**	**20 56 35.5**	**+0.9**
SDV						*eS*	**Sn**	**20 57 13.8**	**+0.3**
TOLC	**Tolima**	**3.16**	**226**	⇓	*iP*		**Pn**	**20 56 34.2**	**-0.5**
TOLC						*eS*	**Sn**	**20 57 11.8**	**-1.9**
MONA	**Monteria**	**3.25**	**307**		*eP*		**Pn**	**20 56 32.2**	**-2.7**
MOTC	**Monteria, Cord**	**3.26**	**307**	⇑	*iP*		**Pn**	**20 56 32.8**	**-2.9**
MOTC						*eS*	**Sn**	**20 57 12.0**	**-3.4**
MOTC						*i*		20 57 30.4	
	comp=Z,112μm,0.6s								
ARGC	**Ariguani, Magd**	**3.27**	**339**	⇓	*iP*		**Pn**	**20 56 36.0**	**+0.2**
ARGC						*eS*	**Sn**	**20 57 14.7**	**-1.0**
ARGC						*i*		20 57 50.2	
	comp=Z,85μm,0.6s								
ANIL	**Santa Ana**	**3.28**	**226**		*eP*		**Pn**	**20 56 35.9**	**-0.4**
ANIL						*eS*	**Sn**	**20 57 14.7**	**-1.7**
PRAC	**Prado**	**3.57**	**211**	⇓	*iP*		**Pn**	**20 56 38.8**	**-1.0**
PRAC						*eS*	**Sn**	**20 57 20.9**	**-1.7**
ORTC	**Ortega, Tolima**	**3.61**	**218**	⇓	*iP*		**Pn**	**20 56 39.5**	**-0.7**
ORTC						*eS*	**Sn**	**20 57 22.4**	**-1.1**
ORTC						*i*		20 57 28.3	
	comp=Z,67μm,0.5s								
CVALL	**Valledupar, Ce**	**3.69**	**357**		*eP*		**Pn**	**20 56 39.8**	**-1.5**
CVALL						*eS*	**Sn**	**20 57 20.5**	**-4.9**
CVALL						*i*		20 57 35.1	
	comp=Z,65μm,0.6s								
PLMC	**San Jos del P**	**3.73**	**240**	⇑	*eP*		**Pn**	**20 56 40.7**	**-1.1**
PLMC						*i*		20 57 33.9	
	comp=Z,36μm,0.4s								
LCBC	**Los crdobas,**	**3.88**	**302**	⇑	*eP*		**Pn**	**20 56 41.3**	**-2.3**
LCBC						*eS*	**Sn**	**20 57 29.8**	**+0.1**
LCBC						*i*		20 57 43.7	
	comp=Z,47μm,0.4s								
CRJC	**Cerrejon, Guaj**	**4.20**		**2**	⇓	*eP*	**Pn**	**20 56 46.0**	**-1.8**
CRJC						*eS*	**Sn**	**20 57 32.0**	**-5.1**
CRJC						*i*		20 57 43.8	
	comp=Z,53μm,0.4s								
GUVC	**San Jose del G**	**4.24**	**174**	⇓	*iP*		**Pn**	**20 56 47.8**	**-0.6**
GUVC						*eS*	**Sn**	**20 57 37.8**	**-0.3**
GUVC						*i*		20 57 44.1	
	comp=Z,49μm,0.7s								
YOTC	**Yotoco, Valle**	**4.32**	**230**	⇑	*eP*		**Pn**	**20 56 48.1**	**-1.3**
YOTC						*i*		20 57 53.3	
	comp=Z,15μm,0.7s								

SMRC	**Santa Marta, M**	**4.50**	**345**		*eP*	**Pn**	**20 56 50.1**	**-1.5**
SMRC					*eS*	**Sn**	**20 57 38.0**	**-5.9**
SMRC					*i*		20 58 00.9	
	comp=Z,29μm,0.5s							
CAPC	**Capurgana**	**4.65**	**293**	⇑	*eP*	**Pn**	**20 56 49.7**	**-3.9**
CAPC					*i*		20 57 50.5	
	comp=Z,21μm,0.7s							
CAP2	**Capurgana**	**4.66**	**294**		*eP*	**Pn**	**20 56 50.8**	**-3.0**
CAP2					*eS*	**Sn**	**20 57 40.4**	**-7.4**
PIZC	**Pizarro, Choco**	**4.67**	**247**	⇑	*iP*	**Pn**	**20 56 53.7**	**-0.1**
PIZC					*eS*	**Sn**	**20 57 46.5**	**-1.4**
PIZC					*i*		20 58 05.3	
	comp=Z,27μm,0.6s							
MACC	**Macarena, Meta**	**4.69**	**190**	⇓	*iP*	**Pn**	**20 56 52.6**	**-1.6**
MACC					*i*		20 58 11.8	
	comp=Z,40μm,0.5s							
BETC	**Betania**	**4.74**	**210**	⇓	*eP*	**Pn**	**20 56 53.3**	**-1.5**
MARP	**Paez Belalcaza**	**4.89**	**217**	⇓	*eP*	**Pn**	**20 56 55.4**	**-1.6**
URIC	**Uribia, Colomb**	**4.98**	**12**	⇓	*iP*	**Pn**	**20 56 56.2**	**-1.8**
URIC					*eS*	Sn	20 57 41.6	-14
URIC					*i*		20 57 58.2	
	comp=Z,10μm,0.6s							
MALC	**Bahia Malaga**	**5.09**	**237**	⇑	*iP*	**Pn**	**20 56 59.9**	**+0.4**
GARC	**Garzon, Huila**	**5.19**	**208**	⇓	*eP*	**Pn**	**20 56 59.5**	**-1.5**
GARC					*i*		20 58 03.3	
	comp=Z,24μm,0.5s							
UPD2	**Meteti**	**5.23**	**290**		*eP*	**Pn**	**20 56 58.8**	**-2.4**
UPD2					*eS*	**Sn**	**20 57 54.2**	**-7.0**
BAUV	**El Baul**	**5.39**	**66**		*eP*	**Pn**	**20 57 01.9**	**-1.5**
PCON	**Cinco Dias**	**5.56**	**217**	⇓	*eP*	**Pn**	**20 57 05.9**	**-0.2**
PCON					*i*		20 58 41.6	
	comp=Z,15μm,0.6s							
POPC	**Popayan, Colom**	**5.57**	**221**	⇑	*eP*	**Pn**	**20 57 05.3**	**-0.6**
SOTA	**Rioblanco**	**5.84**	**218**	⇓	*eP*	**Pn**	**20 57 10.3**	**+0.5**
SOTA					*i*		20 58 28.2	
	comp=Z,13μm,0.6s							
BBAC	**Balboa, Cauca**	**6.33**	**222**	⇑	*eP*	**Pn**	**20 57 14.7**	**-1.3**
BBAC					*i*		20 58 30.7	
	comp=Z,9μm,0.7s							
UPA	**Univ. de Panam**	**6.79**	**289**		*eP*	**Pn**	**20 57 18.8**	**-3.1**
UPA					*eS*	Sn	20 58 28.0	-10
UPA	**Univ. de Panam**	**6.79**	**289**		*eP*	**Pn**	**20 57 18.8**	**-3.1**
PTLC	**Puerto Leguiza**	**6.81**	**195**	⇓	*eP*	**Pn**	**20 57 24.5**	**+2.3**
GCUF	**Volcan Galeras**	**7.00**	**218**	⇑	*iP*	**Pn**	**20 57 25.4**	**+0.2**
GCUF					*i*		20 58 50.0	
	comp=Z,4μm,0.6s							
BCIP	**Isla Barro Col**	**7.13**	**290**		*eP*	**Pn**	**20 57 23.4**	**-3.0**
BCIP					*eS*	**Sn**	**20 58 40.7**	**-5.9**
BCIP	**Isla Barro Col**	**7.13**	**290**		P	**Pn**	**20 57 23.3**	**-3.1**
BCIP							20 58 44.4	
BCIP	**Isla Barro Col**	**7.13**	**290**		Pn	**Pn**	**20 57 23.3**	**-3.1**
BCIP					Sn	**Sn**	**20 58 44.4**	**-2.1**
BCIP	**Isla Barro Col**	**7.13**	**290**	⇓	P	**Pn**	**20 57 23.2**	**-3.1**
AZU	**Azuero**	**7.25**	**278**		*eP*	**Pn**	**20 57 26.1**	**-1.9**
AZU					*eS*	**Sn**	**20 58 43.3**	**-5.9**
PNME	**Penonome**	**7.42**	**284**		*eP*	**Pn**	**20 57 28.7**	**-1.5**
PNME	**Penonome**	**7.42**	**284**	⇑	*eP*	**Pn**	**20 57 28.4**	**-1.9**
TUMC	**Tumaco**	**7.52**	**229**	⇑	*eP*	**Pn**	**20 57 29.5**	**-2.1**
CACAO	**El Cacao, Vera**	**7.78**	**274**		*eP*	**Pn**	**20 57 32.8**	**-2.3**
CACAO					*eS*	**Sn**	**20 58 57.6**	**-4.6**
GMAL	**Guarumal, Vera**	**8.19**	**277**		*eP*	**Pn**	**20 57 39.9**	**-0.5**
GMAL					*eS*	**Sn**	**20 59 04.5**	**-7.3**
OTAV	**Otavalo**	**8.46**	**220**		P	**Pn**	**20 57 42.0**	**-2.5**
OTAV	**Otavalo**	**8.46**	**220**		Pn	**Pn**	**20 57 42.0**	**-2.5**
OTAV	**Otavalo**	**8.46**	**220**	⇓	*eP*	**Pn**	**20 57 43.6**	**-0.9**
OTAV	**Otavalo**	**8.46**	**220**	⇑	P	**Pn**	**20 57 43.6**	**-0.9**
OTAV	**Otavalo**	**8.46**	**220**		*eP*	**Pn**	**20 57 43.8**	**-0.8**
PCRV	**Puerto La Cruz**	**8.96**	**67**		P	**Pn**	**20 57 49.9**	**-0.9**
	comp=Z,69nm,0.3s,baz=214,slow=5.7,SNR=79							
PCRV					S	**Sn**	**20 59 29.5**	**-1.0**
	baz=233,slow=18,SNR=1.0							
PCRV					LR	LR	21 02 24.3	
	comp=Z,24μm,19.2s,slow=45							
PLCV	**Puerto La Cruz**	**9.00**	**68**			**Pn**	**20 57 49.9**	**-1.3**
PLCV						**Sn**	**20 59 29.5**	**-1.9**
EDSV	**San Vito**	**10.05**	**282**		*eP*	**Pn**	**20 58 06.4**	**+1.3**
LPLA	**Las Palmas La**	**10.12**	**283**		*eP*	**Pn**	**20 58 06.4**	**+0.2**
PIRO	**Carate, Puerto**	**10.33**	**280**		*eP*	**Pn**	**20 58 08.7**	**-0.1**
EDBA	**Buenos Aires**	**10.41**	**284**		*eP*	**Pn**	**20 58 11.0**	**+1.2**
RIOS	**Rincon, Osa**	**10.55**	**281**			**Pn**	**20 58 10.0**	**-1.7**
BATAN	**Batan**	**10.74**	**288**			**Pn**	**20 58 12.4**	**-1.8**
PEZE	**Perez Zeledon,**	**10.84**	**284**		*eP*	**Pn**	**20 58 15.6**	**0.0**
PEZE	**Perez Zeledon,**	**10.84**	**284**			**Pn**	**20 58 15.2**	**-0.4**
CDM	**Cerro de Muert**	**10.96**	**285**		*eP*	**Pn**	**20 58 16.8**	**-0.7**
EDDO	**Dominical**	**10.99**	**284**		*eP*	**Pn**	**20 58 18.3**	**+0.8**
CVTR	**Volcan Turrial**	**11.08**	**288**		*eP*	**Pn**	**20 58 18.2**	**-0.8**
VTUC	**Crater, Volcan**	**11.08**	**288**		*eP*	**Pn**	**20 58 18.3**	**-0.7**
RIMA	**Rio Macho**	**11.11**	**286**		*eP*	**Pn**	**20 58 18.5**	**-0.8**
LCR2	**La Lucha 2**	**11.24**	**286**		*eP*	**Pn**	**20 58 21.2**	**+0.3**
SJS	**Escuela Geolog**	**11.34**	**287**		*eP*	**Pn**	**20 58 22.8**	**+0.7**
HDC	**Heredia**	**11.41**	**287**		*eP*	**Pn**	**20 58 23.5**	**+0.5**
HDC	**Heredia**	**11.41**	**287**			**Pn**	**20 58 22.4**	**-0.7**
HDC	**Heredia**	**11.41**	**287**	⇑	P	**Pn**	**20 58 23.0**	**0.0**
HOJ	**Hope**	**11.71**	**342**		*iP*	**Pn**	**20 58 28.8**	**+2.0**
CMJ	**Castle Mountai**	**11.73**	**344**		*iP*	**Pn**	**20 58 29.0**	**+1.9**
GWJ	**Greenwich**	**11.77**	**343**		*iP*	**Pn**	**20 58 30.1**	**+2.4**
SRA1	**San Ramn**	**11.78**	**287**		*eP*	**Pn**	**20 58 28.2**	**+0.4**
BANI	**BANI**	**11.82**	**13**			**Pn**	**20 58 27.5**	**-0.8**
BANI	**BANI**	**11.82**	**13**		*iP*	**Pn**	**20 58 28.6**	**+0.3**
JACO	**JACO, Garabito**	**11.85**	**285**		*eP*	**Pn**	**20 58 28.7**	**+0.1**
COVE	**Coope Vega, Sa**	**11.89**	**290**		*eP*	**Pn**	**20 58 27.4**	**-1.7**
COVE	**Coope Vega, Sa**	**11.89**	**290**			**Pn**	**20 58 27.9**	**-1.2**
MCJ	**Malvern**	**11.95**	**338**		*iP*	**Pn**	**20 58 32.1**	**+2.1**
TPP	**Pointe-a-Pierr**	**11.98**	**72**		*eP*	**Pn**	**20 58 30.5**	**+0.2**
SDD	**Santo Domingo**	**11.98**	**14**	Pn		**Pn**	**20 58 28.4**	**-1.9**
SDD	**Santo Domingo**	**11.98**	**14**		*iP*	**Pn**	**20 58 30.8**	**+0.5**
FORC	**Fortuna**	**12.06**	**288**		*eP*	**Pn**	**20 58 33.0**	**+1.6**
CEDE	**Laguna Cedeo**	**12.10**	**288**		*eP*	**Pn**	**20 58 32.9**	**+1.0**
ARE1	**Arenal 1**	**12.11**	**288**		*eP*	**Pn**	**20 58 32.5**	**+0.6**
CASO	**Castillo**	**12.12**	**288**		*eP*	**Pn**	**20 58 33.9**	**+1.8**
TRN	**Trinidad (W)**	**12.12**	**71**		*eP*	**Pn**	**20 58 30.5**	**-1.6**
LAFE	**Finca La Fe, P**	**12.12**	**285**		*eP*	**Pn**	**20 58 31.8**	**-0.3**
MTDJ	**Mount Denham**	**12.18**	**339**	Pn		**Pn**	**20 58 32.9**	**0.0**
MTDJ	**Mount Denham**	**12.18**	**339**		*iP*	**Pn**	**20 58 34.5**	**+1.5**
MTDJ					*iS*	**Sn**	**21 00 43.9**	**-4.0**
MTDJ	**Mount Denham**	**12.18**	**339**	⇑	P	**Pn**	**20 58 32.4**	**-0.6**
MTDJ					⇓S	**Sn**	**21 00 39.8**	**-8.1**
BBJ	**Bamboo Saint A**	**12.23**	**341**	⇑	*iP*	**Pn**	**20 58 35.0**	**+1.5**
SDDR	**Presa de Saban**	**12.23**	**8**	Pn		**Pn**	**20 58 32.5**	**-1.1**
SDDR	**Presa de Saban**	**12.23**	**8**	⇓	*eP*	**Pn**	**20 58 33.1**	**-0.4**
SDDR	**Presa de Saban**	**12.23**	**8**	⇑	*iP*	**Pn**	**20 58 34.9**	**+1.3**
SDDR	**Presa de Saban**	**12.23**	**8**	⇓	P	**Pn**	**20 58 33.1**	**-0.4**
SDDR	**Presa de Saban**	**12.23**	**8**	*i*	P	**Pn**	**20 58 34.9**	**+1.3**
SDDR					*eS*	**Sn**	**21 00 40.6**	**-8.5**
SDDR					IAML		21 01 14.0	
	comp=Z,942nm,0.9s							
JTS	**Las Juntas de**	**12.28**	**287**		P	**Pn**	**20 58 34.8**	**+0.6**
	comp=Z,12nm,0.3s,baz=142,slow=10.0,SNR=158							
JTS					S	**Sn**	**21 00 54.0**	**+3.6**
	comp=Z,3.0nm,0.3s,baz=208,slow=22,SNR=0.7							
JTS	**Las Juntas de**	**12.28**	**287**	c	*iP*	**Pn**	**20 58 34.5**	**+0.3**
JTS					pmax	pmax		
	comp=Z,798nm,1.0s							
JTS	**Las Juntas de**	**12.28**	**287**		Pn	**Pn**	**20 58 33.5**	**-0.8**
CAO2	**Cobano, Puntar**	**12.29**	**284**		P	**Pn**	**20 58 33.9**	**-0.3**
ESPN	**Las Esperanzas**	**12.33**	**297**		*eP*	**Pn**	**20 58 33.0**	**-1.8**
ESPN	**Las Esperanzas**	**12.33**	**297**		P	**Pn**	**20 58 33.0**	**-1.8**
TBH	**Brigand Hill**	**12.39**	**72**		*eP*	**P**	**20 58 44.1**	**+3.1**
GRGR	**Grenville**	**12.41**	**64**		*eP*	**Pn**	**20 58 35.2**	**-0.7**
GRGR	**Grenville**	**12.41**	**64**		Pn	**Pn**	**20 58 34.0**	**-1.9**
GRGR	**Grenville**	**12.41**	**64**	⇑	P	**Pn**	**20 58 35.2**	**-0.7**
PTEN	**Parque Tenorio**	**12.43**	**289**		*eP*	**Pn**	**20 58 36.6**	**+0.3**
DR12	**Loma Pena Alta**	**12.44**	**16**			**Pn**	**20 58 33.6**	**-2.6**
ACAL	**Aguas Claras**	**12.46**	**289**		*eP*	**Pn**	**20 58 37.5**	**+1.0**
MLPR	**Magueyes Islan**	**12.55**	**27**	Pn		**Pn**	**20 58 34.2**	**-3.3**
CUI	**Cuipilapa**	**12.58**	**289**		*eP*	**Pn**	**20 58 38.8**	**+0.6**
HORNC	**Hornillas**	**12.61**	**289**		*eP*	**Pn**	**20 58 39.9**	**+1.3**
COLC	**Colonia**	**12.62**	**289**		*eP*	**Pn**	**20 58 39.7**	**+1.1**
GUAB	**Guayabo de Bag**	**12.66**	**289**		*eP*	**Pn**	**20 58 40.8**	**+1.7**
PLVR	**Palo Verde**	**12.68**	**287**		*eP*	**Pn**	**20 58 39.0**	**-0.4**
LIM1	**Limonal**	**12.68**	**289**		*eP*	**Pn**	**20 58 40.2**	**+0.9**
MPR	**Mayaguez**	**12.72**	**26**			**Pn**	**20 58 37.6**	**-2.1**
ICMP	**Isla Caja de M**	**12.72**	**29**	Pn		**Pn**	**20 58 37.6**	**-2.2**
SC01	**Santiago de lo**	**12.75**	**10**			**Pn**	**20 58 41.4**	**+1.2**
SC01	**Santiago de lo**	**12.75**	**10**		*iP*	**Pn**	**20 58 42.0**	**+1.7**
SC01					*eS*	**Sn**	**21 00 53.6**	**-8.0**
SC01					IAML		21 01 46.0	
	comp=Z,2μm,1.2s							
ORTG	**Ortega, Santa**	**12.78**	**287**			**Pn**	**20 58 39.9**	**-0.8**
GPS2	**Hotel Rincn d**	**12.79**	**289**		*eP*	**Pn**	**20 58 42.0**	**+1.2**
BUAI	**Buenos Aires**	**12.81**	**289**		*eP*	**Pn**	**20 58 41.7**	**+0.8**

GUAI	**GUAI**	**12.81**	**286**		*eP*	**Pn**	**20 58 41.4**	**+0.4**
OBIP	**Obispado Ponce**	**12.82**	**29**			**Pn**	**20 58 38.1**	**-2.9**
GB1A	**Borinquen Arri**	**12.85**	**289**		*eP*	**Pn**	**20 58 43.1**	**+1.5**
BUEV	**Buena Vista**	**12.85**	**289**	⇑	*eP*	**Pn**	**20 58 42.9**	**+1.2**
LAPC	**Finca la Perla**	**12.87**	**289**		*eP*	**Pn**	**20 58 42.6**	**+0.8**
GBS3	**Finca Las Img**	**12.89**	**289**		*eP*	**Pn**	**20 58 43.4**	**+1.3**
BOT	**Bacolet**	**12.92**	**69**		*eP*	**Pn**	**20 58 42.4**	**0.0**
AGPR	**Aguadilla, PR**	**12.96**	**26**	Pn		**Pn**	**20 58 40.9**	**-2.0**
AGPR	**Aguadilla, PR**	**12.96**	**26**	*i*	P	**Pn**	**20 58 42.6**	**-0.2**
AGPR					*eS*	**Sn**	**21 00 57.5**	**-9.0**
HZTE	**Horizontes, Gu**	**13.01**	**288**		*eP*	**Pn**	**20 58 44.0**	**+0.5**
AOPR	**Arecibo Observ**	**13.01**	**28**	Pn		**Pn**	**20 58 41.1**	**-2.4**
ACON	**Acoyapa**	**13.03**	**294**		*eP*	**Pn**	**20 58 43.5**	**-0.3**
ACON	**Acoyapa**	**13.03**	**294**			**Pn**	**20 58 42.1**	**-1.1**
PDPR	**Patillas Dam,**	**13.08**	**31**			**Pn**	**20 58 41.7**	**-2.7**
SJG	**San Juan**	**13.10**	**30**	P		**Pn**	**20 58 42.4**	**-2.3**
	comp=Z,126nm,0.3s,baz=208,slow=13,SNR=82							
SJG					S	Sn	21 00 59.0	-11
	comp=Z,19nm,0.3s,baz=6.3,slow=23,SNR=6.5							
SJG	**San Juan**	**13.10**	**30**		P	**Pn**	**20 58 41.9**	**-2.7**
SJG	**San Juan**	**13.10**	**30**			**Pn**	**20 58 41.9**	**-2.7**
SJG	**San Juan**	**13.10**	**30**	⇑	P	**Pn**	**20 58 42.3**	**-2.3**
GTBY	**Guantanamo Bay**	**13.21**	**351**		Pn	**Pn**	**20 58 44.8**	**-1.2**
GTBY	**Guantanamo Bay**	**13.21**	**351**	⇓	*eP*	**Pn**	**20 58 46.2**	**+0.2**
GTBY	**Guantanamo Bay**	**13.21**	**351**		*i* P	**Pn**	**20 58 46.5**	**+0.6**
GTBY					*i* S	Sn	21 01 02.8	-10

comp=Z,720nm,0.6s,baz=270,slow=8.9,SNR=146
061Z Ochoppi 20.40 339 P **P** **21 00 09.1 +0.2**
ITTB Itaituba 20.53 122 *eP* **P** **21 00 12.3 +1.8**
MALB Monte Alegre 20.61 114 *eP* **P** **21 00 13.4 +2.0**
CCIG Comitan 20.93 298 P **P** **21 00 14.9 0.0**
CCIG pP **pP** **21 00 43.8 +0.4**
CCIG sP **sP** **21 01 05.7 +1.8**
060A Indiantown 21.30 342 P **P** **21 00 18.0 -0.5**
MCPB Macapa, AP 22.11 108 *eP* **P** **21 00 28.6 +1.5**
NPGB Novo Progresso 22.36 128 *eP* **P** **21 00 29.4 -0.1**
DWPF Disney Wildern 22.64 340 P 21 00 33.7
baz=158
DWPF Disney Wildern 22.64 340 P **P** **21 00 31.8 -0.1**
DWPF Disney Wildern 22.64 340 ⇓P **P** **21 00 33.7 +1.7**
VILB Vilhena 23.40 147 *eP* **P** **21 00 40.1 +1.1**
LPAZ La Paz 23.45 168 P **P** **21 00 40.4 +0.3**
comp=Z,315nm,0.9s,baz=354,slow=8.5,SNR=61
LPAZ pP **pP** **21 01 12.7 +1.6**
comp=Z,1μm,0.8s,baz=350,slow=25,SNR=14
LPAZ La Paz 23.45 168 P **P** **21 00 38.6 -1.5**
LPAZ pP **pP** **21 01 12.4 +1.2**
LPAZ IAmb IAmb 21 01 18.4
comp=Z,2μm,0.8s
LPAZ La Paz 23.45 168 ⇑P **P** **21 00 40.4 +0.3**
LPAZ La Paz 23.45 168 *eP* **P** **21 00 40.7 +0.6**
CMIG Matias Romero 23.67 298 P **P** **21 00 39.5 -2.0**
comp=Z,320nm,0.5s,baz=88,slow=8.7,SNR=36
CMIG pP **pP** **21 01 16.7 +3.8**
comp=Z,142nm,0.9s,baz=82,slow=10,SNR=4.4
656A Willston 24.17 339 P **P** **21 00 46.4 +0.5**
CLDB Colider 24.55 136 *eP* **P** **21 00 49.8 +0.3**
AP01 Chacalluta 25.15 174 P **P** **21 00 53.6 -1.2**
PB16 IPOC Station P 25.21 172 P **P** **21 00 54.4 -1.7**
PB16 pP **pP** **21 01 27.8 -2.7**
456A Hilliard 25.25 342 P **P** **21 00 55.3 -0.4**
SIV San Ignacio 25.55 152 P **P** **21 00 58.9 +0.3**
comp=Z,114nm,0.8s,baz=341,slow=8.5,SNR=88
SIV pP **pP** **21 01 32.6 -0.1**
comp=Z,563nm,0.9s,baz=342,slow=8.9,SNR=13
SIV LR LR 21 12 28.2
comp=Z,21μm,20.4s,baz=346,slow=39
553A Crawfordville 25.62 337 P **P** **21 00 58.2 -0.8**
MNMC Minye Minye 25.99 173 P **P** **21 01 01.4 -1.4**
MNMC pP **pP** **21 01 36.0 -1.2**
PTLB Pontes e Lacer 26.04 148 *eP* **P** **21 01 03.6 +0.7**
257A Skidaway Islan 26.14 344 P **P** **21 01 04.4 +0.8**
PSGCX Pisagua 26.38 174 P **P** **21 01 04.1 -2.0**
PSGCX pP **pP** **21 01 38.6 -2.0**
TIGA Tifton 26.43 339 P 21 01 08.6
baz=156,SNR=36
255A Hazlehurst 26.51 342 P **P** **21 01 08.6 +1.7**
TMAB Tom-Au,PA,Br 26.51 109 *eP* **P** **21 01 08.7 +1.4**
PRPB Parauapebas 26.51 119 *eP* **P** **21 01 07.9 +0.7**
451A Vernon 26.53 335 P **P** **21 01 08.8 +1.6**
BBSR BB Station 26.61 16 P **P** **21 01 08.9 +1.1**
BBSR BB Station 26.61 16 ⇓P **P** **21 01 08.9 +1.1**
CSU Charleston Sou 26.87 347 P **P** **21 01 11.5 +1.3**
CSU sP **sP** **21 02 00.2 -3.3**
352A Blakely 26.96 337 P **P** **21 01 13.0 +2.0**
NHSC New Hope 27.01 347 P **P** **21 01 13.3 +1.9**
NHSC IAmb IAmb 21 01 18.4
comp=Z,1μm,0.9s
NHSC sP **sP** **21 02 02.1 -2.6**
NHSC New Hope 27.01 347 P 21 01 13.8
baz=164,SNR=52
PB08 IPOC Station P 27.04 172 *eP* **P** **21 01 12.6 +0.3**
PB08 IPOC Station P 27.04 172 P **P** **21 01 11.4 -0.9**
PB08 pP **pP** **21 01 45.9 -1.1**
PB08 IAmb IAmb 21 01 53.7
comp=Z,3μm,2.0s
HMBC Humberstone 27.08 173 *eP* **P** **21 01 12.4 +0.1**
TLIG Tlapa 27.11 296 P **P** **21 01 14.0 +1.3**
TLIG IAmb IAmb 21 01 18.1
comp=Z,2μm,1.8s
TLIG sP **sP** **21 02 06.2 +0.9**
TA01 Diego Aracena 27.34 174 *eP* **P** **21 01 12.7 -1.7**
TA01 Diego Aracena 27.34 174 P **P** **21 01 14.1 -0.4**
TA01 pP **pP** **21 01 48.2 -0.9**
154A Montrose 27.34 341 P **P** **21 01 15.5 +1.1**
Y60A Bolivia 27.50 351 P **P** **21 01 17.1 +1.3**
BRAL Brewton 27.57 333 P **P** **21 01 18.9 +2.5**
BRAL pP **pP** **21 01 53.4 +3.2**
BRAL Brewton 27.57 333 P 21 01 18.6
baz=149,SNR=19
Y59A Loris 27.59 349 P **P** **21 01 17.7 +1.0**
Y58A Scranton 27.66 348 P **P** **21 01 18.2 +0.9**
Y58A IAmb IAmb 21 01 21.3
comp=Z,620nm,0.9s
PB01 IPOC Station P 27.89 173 *eP* **P** **21 01 19.1 -0.4**
PB01 IPOC Station P 27.89 173 P **P** **21 01 18.5 -0.9**
PB01 pP **pP** **21 01 53.4 -0.9**
PB01 IAmb IAmb 21 01 58.0
comp=Z,606nm,1.0s
Y57A Sumter 27.93 347 P **P** **21 01 20.7 +1.1**
Y57A IAmb IAmb 21 01 23.9
comp=Z,841nm,1.0s
250A Grady 27.93 335 P **P** **21 01 21.3 +1.6**
152A Waverly Hall 27.94 339 P **P** **21 01 21.7 +1.9**
X60A Albert Glenn T 28.02 351 P 21 01 22.1
baz=170,SNR=35
GOGA Godfrey 28.19 341 P 21 01 24.2
baz=158,SNR=274
GOGA Godfrey 28.20 341 P **P** **21 01 23.9 +1.9**
GOGA pmax pmax
comp=Z,556nm,0.9s
GOGA Godfrey 28.20 341 P **P** **21 01 23.9 +1.9**
GOGA IAmb IAmb 21 01 26.5
comp=Z,556nm,0.9s
X58A Rowland 28.23 349 P **P** **21 01 23.6 +1.3**
X58A IAmb IAmb 21 01 26.3
comp=Z,540nm,0.9s
UNM Universidad Na 28.29 299 P **P** **21 01 26.5 +3.1**
UNM pmax pmax
comp=Z,2μm,1.6s
UNM Universidad Na 28.29 299 P **P** **21 01 26.5 +3.1**
UNM IAmb IAmb 21 01 28.9
comp=Z,2μm,1.6s
545A Edgard 28.36 327 P **P** **21 01 25.9 +2.5**
545A IAmb IAmb 21 02 26.8
comp=Z,1μm,1.4s
JSC Jenkinsville 28.39 346 P **P** **21 01 24.9 +1.2**
JSC pmax pmax
comp=Z,413nm,0.9s
JSC Jenkinsville 28.39 346 P **P** **21 01 24.9 +1.2**
JSC IAmb IAmb 21 01 27.9
comp=Z,413nm,0.9s
PB07 IPOC Station P 28.51 174 *eP* **P** **21 01 25.1 -0.1**
PB07 IPOC Station P 28.51 174 P **P** **21 01 23.7 -1.4**
PB07 pP **pP** **21 01 58.4 -1.6**
PB07 IAmb IAmb 21 02 03.0
comp=Z,474nm,0.9s
BIRD Birdtown, Kers 28.55 347 P **P** **21 01 26.6 +1.5**
SNDB Serra Nova Dou 28.55 131 *eP* **P** **21 01 25.9 +0.4**
HODGE Hodges 28.60 344 P **P** **21 01 27.1 +1.5**
HODGE IAmb IAmb 21 01 29.9
comp=Z,528nm,0.7s
CNNC Cliffs of the 28.66 352 P **P** **21 01 27.2 +1.2**
CNNC IAmb IAmb 21 02 29.5
comp=Z,659nm,1.1s
CNNC Cliffs of the 28.66 352 P 21 01 27.3
baz=170
PB09 IPOC Station P 28.66 173 *eP* **P** **21 01 26.4 0.0**
PB09 IPOC Station P 28.66 173 P **P** **21 01 26.1 -0.3**
PB09 pP **pP** **21 02 00.9 -0.4**
PB09 IAmb IAmb 21 02 04.8
comp=Z,544nm,1.0s
Z51A Franklin 28.69 338 P **P** **21 01 28.2 +1.7**
V62A Hyde County Ai 28.75 355 P 21 01 28.6
baz=174,SNR=10
V62A Hyde County Ai 28.75 355 P **P** **21 01 28.4 +1.5**
V62A IAmb IAmb 21 02 26.4
comp=Z,794nm,0.8s
Y52A Lilburn 28.80 341 P **P** **21 01 29.0 +1.6**
Y52A IAmb IAmb 21 01 31.9
comp=Z,610nm,0.8s
346A Big Creek Wild 28.89 330 P **P** **21 01 30.1 +1.9**
W57A Gilead 28.94 348 P **P** **21 01 29.7 +1.2**
PAULI Pauline 29.04 345 P **P** **21 01 31.2 +1.7**
PAULI IAmb IAmb 21 01 33.8
comp=Z,518nm,0.8s
V61A Roper 29.04 354 P **P** **21 01 30.3 +0.9**
V61A IAmb IAmb 21 01 33.4
comp=Z,803nm,1.1s

W56A Indian Trail 29.05 347 P 21 01 31.3
baz=164,SNR=96
PB04 IPOC Station P 29.09 174 *eP* **P** **21 01 30.1 -0.1**
PB04 IPOC Station P 29.09 174 P **P** **21 01 29.6 -0.6**
PB04 IAmb IAmb 21 02 09.5
comp=Z,398nm,0.9s
V60A Jim Taylor Roa 29.09 353 P 21 01 31.8
baz=171,SNR=42
V60A Jim Taylor Roa 29.09 353 P **P** **21 01 31.4 +1.5**
V60A IAmb IAmb 21 01 34.0
comp=Z,619nm,0.8s
LRAL Lakeview Retre 29.15 335 P 21 01 32.6
baz=151,SNR=346
LRAL Lakeview Retre 29.15 335 P **P** **21 01 32.4 +1.9**
LRAL IAmb IAmb 21 01 36.6
comp=Z,683nm,0.9s
V59A Middlesex 29.22 351 P 21 01 32.9
baz=169,SNR=201
KMSC Kings Mountain 29.22 346 P 21 01 33.1
baz=163,SNR=156
V58A Windy Hill, Pi 29.39 350 P **P** **21 01 33.8 +1.2**
V58A IAmb IAmb 21 01 37.9
comp=Z,562nm,1.1s
BG3 Lake Jocassee 29.50 343 P **P** **21 01 35.9 +2.3**
BG3 IAmb IAmb 21 01 38.4
comp=Z,762nm,1.3s
LVC Limon Verde 29.50 172 P **P** **21 01 33.7 -0.4**
comp=Z,80nm,0.7s,baz=4.2,slow=5.8,SNR=24
LVC pP **pP** **21 02 08.3 -0.7**
comp=Z,176nm,0.8s,baz=2.0,slow=6.5,SNR=5.6
LVC LR LR 21 14 43.4
comp=Z,3μm,20.1s,baz=294,slow=39
LVC Limon Verde 29.50 172 P **P** **21 01 33.3 -0.8**
LVC pP **pP** **21 02 08.2 -0.8**
LVC IAmb IAmb 21 02 14.0
comp=Z,2μm,1.9s
LVC Limon Verde 29.50 172 ⇑P **P** **21 01 34.6 +0.5**
LVC Limon Verde 29.50 172 *eP* **P** **21 01 34.0 -0.1**
PB06 IPOC Station P 29.52 173 *eP* **P** **21 01 33.3 -0.7**
PB06 IPOC Station P 29.52 173 P **P** **21 01 33.4 -0.6**
PB06 pP **pP** **21 02 07.6 -1.4**
PB06 IAmb IAmb 21 02 13.4
comp=Z,400nm,1.0s
U61A Possum Corner 29.56 354 P 21 01 35.9
baz=173,SNR=39
U61A Possum Corner 29.56 354 P **P** **21 01 35.8 +1.7**
344A Westbrook Farm 29.59 328 P **P** **21 01 36.8 +2.5**
V57A Coltrane Farms 29.61 349 P 21 01 36.2
baz=166,SNR=162
Y49A Blount Mountai 29.64 337 P **P** **21 01 36.5 +1.7**
Y49A IAmb IAmb 21 01 39.1
comp=Z,939nm,0.8s
V56A Mocksville 29.68 348 P 21 01 37.2
baz=165,SNR=181
X51A Calhoun 29.71 340 IAmb IAmb 21 01 39.6
comp=Z,513nm,0.8s
YJA Yavi 29.72 166 *i* P **P** **21 01 34.4 -1.7**
U59A Littleton 29.74 352 P **P** **21 01 36.9 +1.3**
SMTB Santa Maria do 29.76 121 *eP* **P** **21 01 37.2 +1.2**
U60A Pendleton 29.77 353 P 21 01 37.6
baz=172,SNR=40
V55A Taylorsville 29.88 347 P **P** **21 01 38.0 +1.2**
V55A IAmb IAmb 21 01 41.5
comp=Z,670nm,0.9s
U58A Oxford 29.89 351 P 21 01 38.6
baz=169,SNR=307
W52A Murphy 29.89 342 P **P** **21 01 38.8 +1.7**
FPAL Fort Paine 29.95 339 P **P** **21 01 39.3 +1.8**
FPAL IAmb IAmb 21 01 41.8
comp=Z,1μm,1.1s
PB15 IPOC Station P 30.02 173 *eP* P 21 01 49.4 +11
PB15 IPOC Station P 30.02 173 P **P** **21 01 37.5 -1.0**
PB15 IPOC Station P 30.02 173 *i* P **P** **21 01 38.7 +0.2**
U57A Blanch 30.05 350 P 21 01 39.8
baz=167,SNR=240
VBMS Vicksburg 30.09 329 P **P** **21 01 40.6 +1.8**
VBMS Vicksburg 30.09 329 P 21 01 41.0
baz=144,SNR=159
V53A Saluda 30.11 344 P **P** **21 01 40.8 +1.8**
V53A IAmb IAmb 21 01 43.6
comp=Z,451nm,0.8s
PP1B Ponte de Pedra 30.16 144 *eP* **P** **21 01 39.3 -0.3**
U56A King 30.17 348 P 21 01 41.5
baz=165,SNR=77
U56A King 30.17 348 IAmb IAmb 21 01 45.5
comp=Z,424nm,0.9s
MOIG Morelia 30.18 298 IAmb IAmb 21 01 45.3
comp=Z,2μm,2.0s
PB10 IPOC Station P 30.22 175 *eP* **P** **21 01 42.1 +2.1**
PB10 IPOC Station P 30.22 175 P **P** **21 01 41.7 +1.7**
PB10 pP **pP** **21 02 15.3 +0.4**
PB10 IAmb IAmb 21 02 20.1
comp=Z,725nm,1.7s
T59A Double "B" Far 30.32 353 P **P** **21 01 42.1 +1.4**
T59A IAmb IAmb 21 01 44.7
comp=Z,659nm,0.8s
TKL Tuckaleechee C 30.37 343 IAmb IAmb 21 01 45.6
comp=Z,989nm,1.4s
342A Flagon Creek P 30.39 326 P **P** **21 01 43.2 +1.8**
342A IAmb IAmb 21 01 45.6
comp=Z,1μm,1.3s
T60A Surry 30.39 354 P 21 01 43.2
baz=173,SNR=35
CPCT Cooper Cave 30.41 341 P **P** **21 01 43.2 +1.6**
CPCT IAmb IAmb 21 01 47.8
comp=Z,740nm,0.9s
441A DeRidder 30.41 324 IAmb IAmb 21 01 46.3
comp=Z,743nm,0.9s
T58A Grand View Acr 30.43 351 P 21 01 43.3
baz=169,SNR=473
ROSB Rosrio 30.43 108 *eP* **P** **21 01 41.1 -0.9**
W50A Signal Mountai 30.44 340 IAmb IAmb 21 01 46.5
comp=Z,903nm,0.8s
V52A Sevierville 30.49 343 IAmb IAmb 21 01 46.6
comp=Z,766nm,1.1s
T57A Hurt 30.59 350 P **P** **21 01 44.5 +1.3**
T57A IAmb IAmb 21 01 48.7
comp=Z,812nm,0.9s
T57A Hurt 30.59 350 P 21 01 44.9
baz=168,SNR=397
U54A Nelsons Funny 30.66 346 P **P** **21 01 45.8 +1.9**
U54A Nelsons Funny 30.66 346 P 21 01 46.0
baz=163,SNR=494
SWET Sewanee 30.67 339 IAmb IAmb 21 01 48.1
comp=Z,454nm,0.9s
ARAG Araguaiana, MT 30.69 137 *eP* **P** **21 01 44.5 +0.2**
T56A Rocky Mt 30.76 349 P 21 01 46.5
baz=166,SNR=184
143A Socs Landing, 30.92 329 P **P** **21 01 47.6 +1.5**
143A IAmb IAmb 21 01 51.2
comp=Z,1μm,1.1s
S60A Water View 30.94 354 P 21 01 48.6
baz=173,SNR=92
PEXB Peixe 30.95 127 *eP* **P** **21 01 47.2 +0.6**
S58A Poland Farm, P 31.01 352 IAmb IAmb 21 01 50.7
comp=Z,1μm,1.6s
S58A Poland Farm, P 31.01 352 P 21 01 48.5
baz=170,SNR=98
BLA Blacksburg 31.01 349 IAmb IAmb 21 01 51.5
comp=Z,822nm,1.1s
BLA Blacksburg 31.01 349 P 21 01 49.2
baz=166,SNR=156
S59A Mechanicsville 31.07 353 P 21 01 49.4
baz=172,SNR=82
S57A Dark Hollow, R 31.29 351 P **P** **21 01 50.8 +1.6**
S57A IAmb IAmb 21 01 53.4
comp=Z,661nm,0.8s
S57A Dark Hollow, R 31.29 351 P 21 01 51.3
baz=169,SNR=369
S56A Natural Bridge 31.31 350 P 21 01 51.3
baz=167,SNR=76
KVTX Kingsville 31.33 314 IAmb IAmb 21 01 53.3
comp=Z,546nm,0.7s
KVTX Kingsville 31.33 314 ⇓P **P** **21 01 51.1 +1.3**
R58B Mineral 31.34 353 P 21 01 51.4
baz=171,SNR=108
PB14 IPOC Station P 31.34 175 *i* P **P** **21 01 49.6 -0.5**
PB14 IPOC Station P 31.34 175 P **P** **21 01 49.9 -0.3**
PB14 IPOC Station P 31.34 175 *i* P **P** **21 01 50.1 -0.1**
HKT Hockley 31.46 320 *d* *i* P **P** **21 01 51.9 +1.1**
HKT pmax pmax
comp=Z,357nm,1.0s
HKT Hockley 31.46 320 P **P** **21 01 52.0 +1.1**
HKT Hockley 31.46 320 ⇓P **P** **21 01 52.2 +1.3**
R59A King George, V 31.48 354 P 21 01 53.1
baz=172,SNR=162

R60A Leonardtown, M 31.49 355 P 21 01 53.2
baz=173,SNR=54
CBN Corbin Frederi 31.51 353 IAmb IAmb 21 01 57.1
comp=Z,695nm,1.1s
CBN Corbin Frederi 31.51 353 P 21 01 53.3
baz=172,SNR=30
R58A Rapidan 31.68 353 P 21 01 54.7
baz=171,SNR=245
R57A Stanardsville 31.75 352 P 21 01 55.5
baz=170,SNR=152
S54A Dingess, Beckl 31.76 347 P 21 01 55.5
baz=164,SNR=263
U49A Red Boiling Sp 31.79 340 P **P** **21 01 55.1 +1.4**
U49A IAmb IAmb 21 01 59.4
comp=Z,645nm,1.0s
GO02 Mina Guanaco 31.94 174 *eP* **P** **21 01 55.4 -0.1**
GO02 Mina Guanaco 31.94 174 P **P** **21 01 55.1 -0.4**
R56A Bull Pasture M 31.99 351 P 21 01 57.7
baz=168
Q61A Milford 32.01 357 P 21 01 57.8
baz=176,SNR=17
NATX Nacogdoches 32.01 324 P 21 01 57.3
baz=136,SNR=86
AQDB Aquidauana 32.02 148 *eP* **P** **21 01 56.0 +0.1**
R54A Victor 32.06 348 P 21 01 58.4
baz=165,SNR=96
735A Kenedy 32.07 316 P **P** **21 01 57.1 +0.9**
735A IAmb IAmb 21 01 59.3
comp=Z,888nm,0.9s
Z41A Richland Creek 32.09 328 P 21 01 57.5
baz=141,SNR=79
Q59A Harwood 32.09 355 P 21 01 58.4
baz=173,SNR=39
X43A Marvell 32.13 332 P 21 01 58.5
baz=145,SNR=47
S51A Beattyville 32.17 344 IAmb IAmb 21 02 01.4
comp=Z,613nm,0.8s
SLA San Lorenzo 32.18 167 *eP* **P** **21 01 56.4 -0.9**
SLA San Lorenzo 32.18 167 *i* P **P** **21 01 57.0 -0.4**
WVT Waverly 32.19 337 P **P** **21 01 58.3 +1.2**
WVT pmax pmax
comp=Z,2μm,1.1s
WVT Waverly 32.19 337 P **P** **21 01 58.3 +1.2**
WVT Waverly 32.19 337 ⇑P **P** **21 01 58.3 +1.2**
WVT Waverly 32.19 337 P 21 01 58.6
baz=152
Q58A Fox Den Farm, 32.27 353 P 21 01 60.0
baz=171,SNR=194
R53A Hurricane 32.41 347 IAmb IAmb 21 02 05.2
comp=Z,725nm,1.0s
Q57A Strasburg 32.46 352 P 21 02 02.0
baz=170,SNR=98
ZAIG Zacatecas 32.57 302 P **P** **21 02 02.6 +1.6**
Q56A Snyder Ridge, 32.58 351 P 21 02 03.0
baz=169,SNR=225
Q56A Snyder Ridge, 32.58 351 IAmb IAmb 21 02 07.3
comp=Z,1μm,1.2s
LPAR Lepanto 32.76 333 P **P** **21 02 03.6 +1.5**
P61A Hammonton 32.77 357 P **P** **21 02 03.9 +1.7**
P61A pP **pP** **21 02 35.7 -1.2**
P61A **sP** **21 02 55.7 -0.1**
Q54A Coxs Mills 32.81 349 IAmb IAmb 21 02 07.2
comp=Z,789nm,1.0s
P59A Jarrettsville 32.81 355 P 21 02 04.5
baz=174,SNR=62
Q53A Leroy 32.83 348 P 21 02 05.0
baz=164,SNR=401
AC01 Pan de Azucar 32.83 176 *eP* **P** **21 02 05.4 +2.5**
AC01 Pan de Azucar 32.83 176 pP 21 02 37.1 -0.9
P57A Homestead Farm 32.85 353 P 21 02 05.5
baz=171,SNR=197
P57A Homestead Farm 32.85 353 IAmb IAmb 21 02 08.0
comp=Z,945nm,1.2s
833A Chaparral WMA, 32.86 314 P 21 02 03.4
baz=126,SNR=99
HBAR Harrisburg 32.88 333 P **P** **21 02 05.0 +1.8**
P60A Greenville 32.95 356 IAmb IAmb 21 02 08.1
comp=Z,630nm,1.1s
P60A Greenville 32.95 356 P 21 02 05.7
baz=175,SNR=96
P56A Dayton Farm, R 32.98 352 P 21 02 06.8
baz=169,SNR=414
X40A Basin Creek Fa 33.06 329 IAmb IAmb 21 02 08.4
comp=Z,642nm,0.8s
X40A Basin Creek Fa 33.06 329 P 21 02 05.7
baz=142,SNR=387
WUPA West Chester U 33.07 356 P **P** **21 02 06.6 +1.8**
435B Jarrell 33.15 319 P **P** **21 02 06.5 +0.9**
435B Jarrell 33.15 319 P 21 02 06.7
baz=131,SNR=87
O61A Allentown 33.18 358 P 21 02 07.6
baz=177,SNR=31
R49A Shelbyville 33.23 342 P **P** **21 02 07.7 +1.5**
R49A IAmb IAmb 21 02 11.4
comp=Z,628nm,0.9s
T45A Paducah 33.28 337 P **P** **21 02 07.9 +1.3**
MCWV Mont Chateau 33.28 350 P 21 02 09.2
baz=168,SNR=116
Z38A Mt. Pleasant 33.29 325 IAmb IAmb 21 02 10.2
comp=Z,962nm,0.8s
W41B Gary Mavity, V 33.31 331 P 21 02 08.3
baz=144,SNR=270
BDFB Brasilia 33.34 132 P **P** **21 02 07.9 +0.4**
comp=Z,298nm,0.5s,baz=298,slow=10,SNR=396
BDFB LR LR 21 17 40.1
comp=Z,18μm,18.8s,baz=280,slow=40
BDFB Brasilia 33.34 132 P **P** **21 02 08.5 +1.0**
BDFB pmax pmax
comp=Z,316nm,0.6s
BDFB Brasilia 33.34 132 P **P** **21 02 08.5 +1.0**
BDFB IAmb IAmb 21 02 10.2
comp=Z,316nm,0.6s
O58A Lewisberry 33.36 355 P 21 02 09.5
baz=173,SNR=177
P53A Whipple 33.40 348 IAmb IAmb 21 02 14.0
comp=Z,733nm,0.9s
PARMO Parma 33.42 335 P **P** **21 02 09.2 +1.4**
FSA Cafayete 33.42 168 *i* P **P** **21 02 05.6 -2.6**
NBPS Pedro II - PI 33.44 109 *eP* **P** **21 02 09.4 +1.0**
O60A Telford 33.44 357 P 21 02 09.9
baz=176,SNR=111
PAGS Pennsylvania G 33.45 355 IAmb IAmb 21 02 13.7
comp=Z,2μm,1.9s
MIAR Mount Ida 33.49 328 P 21 02 09.1
baz=141,SNR=257
MIAR Mount Ida 33.49 328 P **P** **21 02 09.0 +0.5**
MIAR pmax pmax
comp=Z,349nm,0.9s
MIAR Mount Ida 33.49 328 P **P** **21 02 09.0 +0.5**
MIAR IAmb IAmb 21 02 12.3
comp=Z,349nm,0.8s
WCI Wyandotte Cave 33.52 341 P 21 02 10.4
baz=156
WCI Wyandotte Cave 33.52 341 P **P** **21 02 10.1 +1.4**
WCI pmax pmax
comp=Z,1μm,0.8s
WCI Wyandotte Cave 33.52 341 P **P** **21 02 10.1 +1.4**
WCI Wyandotte Cave 33.52 341 ⇑P **P** **21 02 10.5 +1.8**
O57A Amberson 33.52 354 P 21 02 11.2
baz=172,SNR=355
AC02 Maricunga 33.65 174 *eP* **P** **21 02 11.1 +0.6**
O56A Blue Knob Stat 33.69 352 P 21 02 12.9
baz=170,SNR=381
O56A Blue Knob Stat 33.69 352 IAmb IAmb 21 02 16.9
comp=Z,930nm,1.0s
P52A Corning 33.70 347 P 21 02 12.5
baz=164,SNR=738
P52A Corning 33.70 347 P **P** **21 02 12.3 +2.0**
PBMO Poplar Bluff 33.80 334 P **P** **21 02 12.8 +1.7**
N61A South Mountain 33.83 358 P 21 02 13.6
baz=178,SNR=70
SDBA SAO DESIDERIO 33.86 124 *eP* **P** **21 02 12.6 +0.6**
CPNY Central Park 33.86 359 IAmb IAmb 21 02 16.7
comp=Z,2μm,1.9s
WHTX Lake Whitney, 33.87 321 P 21 02 12.9
baz=133,SNR=154
O54A Avella 33.89 350 IAmb IAmb 21 02 16.4
comp=Z,388nm,0.9s
N60A Cedar Hill Far 33.98 357 P 21 02 14.9
baz=176,SNR=207
N63A Mattituck 34.05 1 P 21 02 15.5
baz=181,SNR=14
N57A Milroy 34.05 354 P 21 02 15.5
baz=172,SNR=183
N58A Sunbury 34.06 355 P 21 02 15.6
baz=173,SNR=243

N58A Sunbury 34.06 355 IAmb IAmb 21 02 19.1
comp=Z,455nm,0.9s
N59A State Game Lan 34.06 356 P **P** **21 02 15.6 +2.2**
N59A IAmb IAmb 21 02 18.2
comp=Z,753nm,0.9s
N59A State Game Lan 34.06 356 P 21 02 15.8
baz=175,SNR=245
PAL Palisades 34.07 359 P **P** **21 02 14.9 +1.5**
PAL pmax pmax
comp=Z,640nm,0.9s
PAL Palisades 34.07 359 P **P** **21 02 14.9 +1.5**
PAL IAmb IAmb 21 02 19.1
comp=Z,640nm,0.8s
PAL Palisades 34.07 359 P 21 02 15.2
baz=178,SNR=147
W39A Magazine 34.10 329 P 21 02 14.9
baz=141,SNR=862
O53A New Philadelph 34.10 349 IAmb IAmb 21 02 18.3
comp=Z,899nm,0.9s
O53A New Philadelph 34.10 349 P 21 02 16.0
baz=165,SNR=156
S44A Carbondale 34.10 337 P **P** **21 02 14.9 +1.1**
ODNJ Ogdensburg 34.17 358 P **P** **21 02 16.0 +1.7**
ODNJ IAmb IAmb 21 02 18.6
comp=Z,590nm,1.2s
AHML Horco Molle 34.21 168 *e*P **P** **21 02 12.5 -2.3**
AHML Horco Molle 34.21 168 *i* P **P** **21 02 13.0 -1.8**
TRNY Table Rock, Ra 34.22 358 IAmb IAmb 21 02 20.9
comp=Z,1µm,1.1s
WSPT Westport, CT 34.23 360 IAmb IAmb 21 02 20.6
comp=Z,703nm,1.2s
P49A Miami Univ. Ec 34.25 344 P 21 02 16.5
baz=159,SNR=118
P49A Miami Univ. Ec 34.25 344 IAmb IAmb 21 02 20.4
comp=Z,571nm,1.1s
GO03 Copiap 34.30 176 *e*P **P** **21 02 15.7 +0.1**
GO03 Copiap 34.30 176 ⇑P **P** **21 02 16.0 +0.4**
GO03 Copiap 34.30 176 *i* P **P** **21 02 15.3 -0.2**
N56A West Decatur 34.30 353 P 21 02 18.0
baz=171,SNR=438
T42A Van Buren 34.30 334 P **P** **21 02 16.2 +0.7**
M61A Granite Spring 34.37 359 P 21 02 17.7
baz=179,SNR=159
YLE Yale 34.37 0 IAmb IAmb 21 02 22.3
comp=Z,971nm,1.3s
P48A Milroy 34.38 343 IAmb IAmb 21 02 20.5
comp=Z,2µm,1.6s
M60A Port Jervis 34.41 358 P 21 02 18.1
baz=177,SNR=162
M66A Nantucket 34.41 4 P 21 02 17.9
baz=185,SNR=6.4
JCT Junction City 34.43 317 P **P** **21 02 16.9 +0.1**
JCT pmax pmax
comp=Z,799nm,1.5s
JCT Junction City 34.43 317 P **P** **21 02 16.9 +0.1**
JCT IAmb IAmb 21 02 19.3
comp=Z,799nm,1.4s
JCT Junction City 34.43 317 ⇓P **P** **21 02 16.9 +0.1**
JCT Junction City 34.43 317 P 21 02 17.2
baz=128,SNR=83
NBMO Morrinhos-CE 34.43 106 *e*P **P** **21 02 18.2 +1.3**
ACSO Alum Creek Sta 34.46 346 P 21 02 19.0
baz=162,SNR=348
ACSO Alum Creek Sta 34.47 346 IAmb IAmb 21 02 23.0
comp=Z,1µm,0.9s
M63A Gales Ferry 34.47 1 P 21 02 19.1
baz=182,SNR=245
X37A Clayton 34.48 326 IAmb IAmb 21 02 20.2
comp=Z,635nm,1.0s
M62A Hamden 34.50 0 P 21 02 19.2
baz=180,SNR=170
ITRB Iturama 34.52 140 *e*P **P** **21 02 17.7 +0.1**
U40A Yellville 34.56 331 P 21 02 19.1
baz=144,SNR=1000
U40A Yellville 34.56 331 P **P** **21 02 18.5 +0.8**
M58A Price's Panora 34.56 355 P 21 02 20.2
baz=174,SNR=322
N53A Lisbon 34.58 350 IAmb IAmb 21 02 23.9
comp=Z,590nm,1.1s
N54A Moraine State 34.58 351 P 21 02 20.1
baz=168,SNR=268
N54A Moraine State 34.58 351 IAmb IAmb 21 02 22.7
comp=Z,1µm,0.9s
M57A Sunshine Farm, 34.59 355 P **P** **21 02 20.2 +2.4**
M57A IAmb IAmb 21 02 22.8
comp=Z,958nm,1.1s
M57A Sunshine Farm, 34.59 355 P 21 02 20.4
baz=173,SNR=273
M64A Tiverton 34.65 2 IAmb IAmb 21 02 22.8
comp=Z,961nm,1.1s
M64A Tiverton 34.65 2 P 21 02 20.3
baz=183,SNR=172
M59A Waymart 34.66 357 P 21 02 20.7
baz=176,SNR=265
M65A Busby, Falmout 34.68 3 P 21 02 20.3
baz=184,SNR=7.6
M65A Busby, Falmout 34.69 3 IAmb IAmb 21 02 22.9
comp=Z,482nm,0.9s
KSPA Keystone Colle 34.70 356 P **P** **21 02 20.8 +2.0**
KSPA IAmb IAmb 21 02 23.4
comp=Z,815nm,0.9s
IPMB Ipameri, GO 34.74 135 *e*P **P** **21 02 20.0 +0.5**
O49A Covington 34.76 345 IAmb IAmb 21 02 24.2
comp=Z,1µm,1.2s
KSCT Kent School, K 34.79 359 IAmb IAmb 21 02 23.8
comp=Z,865nm,1.1s
M56A Emporium 34.84 353 P 21 02 22.3
baz=171,SNR=440
M56A Emporium 34.84 353 P **P** **21 02 22.2 +2.1**
M56A IAmb IAmb 21 02 26.3
comp=Z,1µm,0.9s
AC04 Llanos de Chal 34.85 177 *e*P **P** **21 02 21.5 +1.2**
AC04 Llanos de Chal 34.85 177 P **P** **21 02 20.8 +0.5**
UCCT U. Connecticut 34.86 1 IAmb IAmb 21 02 25.6
comp=Z,571nm,0.9s
M55A Ridgway 34.90 352 IAmb IAmb 21 02 25.1
comp=Z,605nm,1.0s
MGMO Mountain Grove 34.93 333 P **P** **21 02 21.9 +1.0**
MGMO IAmb IAmb 21 02 24.2
comp=Z,951nm,0.9s
L63A North Scituate 34.94 2 IAmb IAmb 21 02 26.2
comp=Z,472nm,0.9s
L63A North Scituate 34.94 2 P 21 02 22.7
baz=182,SNR=156
N51A Ashland 34.98 348 IAmb IAmb 21 02 27.1
comp=Z,1µm,1.1s
BRYW Bryant College 35.00 2 IAmb IAmb 21 02 26.7
comp=Z,2µm,1.7s
HHAR Hobbs 35.03 330 IAmb IAmb 21 02 24.4
comp=Z,688nm,0.9s
L64A Middleborough 35.05 3 P 21 02 23.5
baz=184,SNR=50
L60A Shokan 35.06 358 P 21 02 24.2
baz=178,SNR=173
M54A Oil Creek Stat 35.06 351 P **P** **21 02 24.0 +2.0**
M54A IAmb IAmb 21 02 26.7
comp=Z,1µm,1.1s
M54A Oil Creek Stat 35.06 351 P 21 02 24.3
baz=168,SNR=370
L62A Suffield 35.09 0 IAmb IAmb 21 02 27.7
comp=Z,803nm,0.9s
L62A Suffield 35.09 0 P 21 02 24.0
baz=181,SNR=10
M53A WI Miller and 35.16 350 IAmb IAmb 21 02 28.4
comp=Z,824nm,1.1s
M53A WI Miller and 35.16 350 P 21 02 25.0
baz=167,SNR=155
L65A Cape Cod Natio 35.19 4 P 21 02 25.1
baz=185,SNR=11
L58A Harry Jones Me 35.19 356 P 21 02 25.5
baz=175,SNR=214
L57A Andrews Acres 35.22 355 P 21 02 25.7
baz=173,SNR=282
CCM Cathedral Cave 35.23 335 P **P** **21 02 24.5 +1.1**
CCM pmax pmax
comp=Z,3µm,0.8s
CCM Cathedral Cave 35.23 335 P **P** **21 02 24.5 +1.1**
CCM Cathedral Cave 35.23 335 ⇓P **P** **21 02 24.2 +0.8**
CCM Cathedral Cave 35.23 335 P 21 02 24.5
baz=148
L61A Hillsdale 1, H 35.25 359 P 21 02 25.7
baz=179,SNR=312
ALLY Alegheny Colle 35.28 351 IAmb IAmb 21 02 28.3
comp=Z,983nm,0.9s
L59A Walton 35.29 357 P 21 02 26.0
baz=176,SNR=148
L59A Walton 35.29 357 P **P** **21 02 25.6 +1.6**
L59A IAmb IAmb 21 02 28.4
comp=Z,522nm,0.9s
BINY Binghamton 35.35 356 P 21 02 26.8
baz=175,SNR=212
BINY Binghamton 35.35 356 IAmb IAmb 21 02 29.1
comp=Z,774nm,1.0s
U38A Gravette 35.38 330 IAmb IAmb 21 02 27.1
comp=Z,739nm,0.9s
M52A Chesterland 35.38 349 P **P** **21 02 26.7 +2.0**
M52A IAmb IAmb 21 02 29.1
comp=Z,794nm,0.9s
PCMB Pacaembu 35.40 143 *e*P **P** **21 02 24.9 -0.2**
N49A Columbus Grove 35.41 345 IAmb IAmb 21 02 28.8
comp=Z,906nm,1.1s
L56A Greenwood 35.42 354 IAmb IAmb 21 02 31.2
comp=Z,1µm,1.0s
L56A Greenwood 35.42 354 P 21 02 27.3
baz=172,SNR=402
BCX Boston College 35.43 2 IAmb IAmb 21 02 29.5
comp=Z,859nm,1.0s
WES Weston 35.47 2 P **P** **21 02 27.1 +1.7**
WES pmax pmax
comp=Z,4µm,1.9s
WES Weston 35.47 2 P **P** **21 02 27.1 +1.7**
L61B Northampton 35.51 0 P 21 02 27.6
baz=180,SNR=151
AC05 El Transito 35.53 176 *e*P **P** **21 02 25.8 -0.4**
TRCB Terra Rica 35.55 146 *e*P **P** **21 02 26.4 0.0**
NBPB Pedra_Branca-C 35.57 109 *e*P **P** **21 02 27.4 +0.8**
HRV Adam Dziewonsk 35.59 2 P 21 02 28.6
baz=182
HRV Adam Dziewonsk 35.59 2 P **P** **21 02 28.1 +1.7**
HRV pmax pmax
comp=Z,1µm,1.3s
HRV Adam Dziewonsk 35.59 2 P **P** **21 02 28.1 +1.7**
HRV IAmb IAmb 21 02 31.0
comp=Z,1µm,1.2s
HRV Adam Dziewonsk 35.59 2 ⇓P **P** **21 02 28.4 +2.0**
L53A Girard 35.59 351 P 21 02 28.6
baz=168,SNR=255
VCA Vinchina 35.63 173 ⇓*i*P **P** **21 02 27.6 +0.4**
VCA Vinchina 35.63 173 *i* P **P** **21 02 28.1 +1.0**
LCO Las Campanas 35.67 176 P **P** **21 02 26.8 -0.8**
LCO pmax pmax
comp=Z,575nm,1.4s
LCO Las Campanas 35.67 176 P **P** **21 02 26.8 -0.8**
LCO IAmb IAmb 21 03 06.9
comp=Z,575nm,1.4s
LCO Las Campanas 35.67 176 ⇑P **P** **21 02 27.1 -0.5**
ABTX Abilene, Hawle 35.67 320 P 21 02 28.3
baz=130,SNR=153
K60A Five Rivers En 35.68 359 P 21 02 29.2
baz=178,SNR=31
TUL1 Leonard 35.70 327 P 21 02 28.1
baz=139,SNR=157
ERPA Erie 35.71 351 P 21 02 29.4
baz=168,SNR=97
ERPA Erie 35.71 351 IAmb IAmb 21 02 31.8
comp=Z,643nm,0.8s
K61A Williamstown 35.73 360 P 21 02 29.6
baz=180,SNR=118
K62A Royalston 35.73 1 P 21 02 29.5
baz=181,SNR=210
K62A Royalston 35.73 1 IAmb IAmb 21 02 33.8
comp=Z,888nm,1.1s
SFIN Lafayette 35.73 341 P 21 02 29.0
baz=156,SNR=1000
K63A Dunstable 35.77 2 IAmb IAmb 21 02 32.5
comp=Z,1µm,1.1s
K63A Dunstable 35.77 2 P 21 02 30.2
baz=182,SNR=232
N47A Urbana 35.77 343 P **P** **21 02 28.4 +0.3**
WVNY West Valley, N 35.80 353 P **P** **21 02 30.3 +2.0**
WVNY IAmb IAmb 21 02 34.5
comp=Z,832nm,0.9s
JANB Januaria 35.81 127 *e*P **P** **21 02 28.6 -0.1**
S39A Bolivar 35.85 332 IAmb IAmb 21 02 32.3
comp=Z,652nm,0.7s
K59A Cooperstown 35.87 358 P 21 02 30.9
baz=177,SNR=158
K58A Earlville 35.89 357 P 21 02 31.2
baz=176,SNR=294
K58A Earlville 35.89 357 IAmb IAmb 21 02 33.4
comp=Z,534nm,0.8s
K57A Scipio Center 35.92 356 P 21 02 31.3
baz=174,SNR=269
K56A Middlesex 35.95 355 P 21 02 31.5
baz=173,SNR=138
O44A Mansfield 35.98 340 P **P** **21 02 30.2 +0.4**
MMNY Mt. Morris Dam 36.05 354 IAmb IAmb 21 02 34.6
comp=Z,996nm,1.3s
OKCFA Oklahoma City 36.25 325 IAmb IAmb 21 02 34.3
comp=Z,299nm,0.7s
CPUP Villa Florida 36.29 156 P **P** **21 02 29.6 -3.0**
comp=Z,28nm,0.8s,baz=334,slow=8.9,SNR=37
CPUP pP **pP** **21 03 05.7 -2.4**
comp=Z,64nm,0.8s,baz=333,slow=9.8,SNR=6.6
CPUP ScP **ScP** **21 08 25.1 -0.4**
comp=Z,106nm,0.9s,baz=354,slow=4.6,SNR=12
CPUP LR LR 21 19 36.6
comp=Z,10µm,19.8s,baz=344,slow=40
CPUP Villa Florida 36.29 156 *e*P **P** **21 02 29.7 -2.8**
CPUP Villa Florida 36.29 156 P **P** **21 02 29.2 -3.3**
CPUP pmax pmax
comp=Z,61nm,0.8s
CPUP Villa Florida 36.29 156 P **P** **21 02 29.2 -3.3**
CPUP **ScP** **21 08 25.2 -0.2**
CPUP Villa Florida 36.29 156 ⇓P **P** **21 02 29.8 -2.7**
J62A Henniker 36.30 2 P 21 02 34.5
baz=182,SNR=126
OK031 S. Brethren Rd 36.30 326 P **P** **21 02 32.8 +0.2**
J60A Lant Hill Farm 36.30 360 P 21 02 35.0
baz=179,SNR=317
AGUA GUANDACOL 36.34 173 *i* P **P** **21 02 32.9 -0.2**
NBCL Cascavel-CE 36.37 107 *e*P **P** **21 02 34.1 +0.6**
J63A Strafford 36.38 2 P 21 02 35.0
baz=183,SNR=86
J61A Chester 36.40 1 P 21 02 35.8
baz=181,SNR=201
ACCN Adirondack Com 36.45 359 P **P** **21 02 35.4 +1.7**
ACCN IAmb IAmb 21 02 39.3
comp=Z,568nm,1.1s
ACLC CERRO LA CRUZ 36.49 171 *i* P **P** **21 02 33.1 -1.3**
J56A Wolcott 36.49 355 P 21 02 35.9
baz=174,SNR=464
J56A Wolcott 36.49 355 IAmb IAmb 21 02 39.8
comp=Z,1µm,0.9s
OK029 Liberty Lake 36.53 326 P **P** **21 02 34.8 +0.2**
MEDO Medina 36.53 353 IAmb IAmb 21 02 40.3
comp=Z,863nm,0.8s
TXAR Lajitas Array 36.54 312 P **P** **21 02 35.7 +0.8**
comp=Z,265nm,0.7s,baz=126,slow=8.2,SNR=1889
TXAR pP **pP** **21 03 09.4 -0.2**
comp=Z,49nm,0.8s,baz=80,slow=1.4,SNR=2.1
TXAR sP **sP** **21 03 29.7 +1.6**
comp=Z,170nm,1.0s,baz=126,slow=7.9,SNR=3.5
TXAR PcP **PcP** **21 04 56.8 +1.8**
comp=Z,101nm,0.6s,baz=140,slow=5.3,SNR=12
TXAR ScP **ScP** **21 08 28.3 +1.8**
comp=Z,3.1nm,0.7s,baz=231,slow=52,SNR=3.4
TXAR P3KPbc 21 33 05.6
comp=Z,0.8nm,0.8s,baz=320,slow=3.3,SNR=6.2
TXAR Lajitas Array 36.54 312 P **P** **21 02 35.1 +0.3**
TXAR **PcP** **21 04 57.1 +2.1**
TX31 Lajitas Ar. Si 36.54 312 ⇓P **P** **21 02 35.6 +0.8**
TX32 Lajitas Array 36.54 312 IAmb IAmb 21 02 38.0
comp=Z,377nm,0.8s
J59A Piesco 36.54 358 P 21 02 36.6
baz=178,SNR=240
J59A Piesco 36.54 358 IAmb IAmb 21 02 39.9
comp=Z,1µm,1.4s
FFD Franklin Falls 36.55 2 P **P** **21 02 36.5 +2.0**
FFD IAmb IAmb 21 02 39.0
comp=Z,814nm,1.2s
WMOK Wichita Mounta 36.55 323 IAmb IAmb 21 02 36.9
comp=Z,544nm,0.8s
WMOK Wichita Mounta 36.55 323 P 21 02 34.8
baz=134,SNR=560
J57A Williamstown 36.56 356 P 21 02 36.6
baz=175,SNR=659
J55A Hilton 36.56 354 IAmb IAmb 21 02 40.5
comp=Z,799nm,0.9s
AAM Ann Arbor 36.59 347 P 21 02 36.7
baz=162,SNR=92
HDIL Hopedale 36.63 339 P 21 02 35.8
baz=152,SNR=198
CO01 Juntas del Tor 36.67 176 *e*P **P** **21 02 36.1 +0.1**
BB19B Bebedouro 36.69 140 *e*P **P** **21 02 36.4 +0.3**
HNH Hanover 36.77 1 IAmb IAmb 21 02 41.0
comp=Z,420nm,1.0s
I58A Old Forge 36.78 358 P 21 02 38.8
baz=177,SNR=740
GO04 Tololo Observa 36.82 177 *e*P **P** **21 02 36.8 -0.5**
GO04 Tololo Observa 36.82 177 P **P** **21 02 37.5 +0.2**
GO04 Tololo Observa 36.82 177 *i* P **P** **21 02 37.2 -0.1**
T35A Sooner Cattle 36.84 328 IAmb IAmb 21 02 39.7
comp=Z,919nm,0.9s
I59A Olmsteadville 36.86 359 P 21 02 39.3
baz=179,SNR=164
I60A Shoreham 36.90 360 P 21 02 39.6
baz=180,SNR=145
HPIG 36.91 307 P **P** **21 02 39.1 +1.0**
HPIG IAmb IAmb 21 02 41.2
comp=Z,505nm,1.1s
HPIG **PcP** **21 04 58.3 +2.0**
AROD Rodeo 36.91 175 *i* P **P** **21 02 38.5 +0.3**
M44A Midewin, Midew 36.95 341 IAmb IAmb 21 02 40.7
comp=Z,681nm,0.9s
I62A Tamworth 36.96 2 P 21 02 39.6
baz=183,SNR=67
NCB Newcomb 37.04 359 IAmb IAmb 21 02 43.2
comp=Z,551nm,1.1s
I57A Carthage 37.06 357 P 21 02 40.7
baz=176,SNR=165
NBPN Ponto Novo - B 37.09 118 *e*P **P** **21 02 39.8 +0.2**
I64A Boothbay 37.09 4 P 21 02 41.5
baz=186,SNR=148
PECO Prince Edward 37.15 355 IAmb IAmb 21 02 45.2
comp=Z,628nm,1.0s
I63A Otisfield 37.17 3 P 21 02 42.0
baz=184,SNR=158
I63A Otisfield 37.17 3 IAmb IAmb 21 02 44.2
comp=Z,504nm,0.9s
HQIL Hanson Quary C 37.26 342 P **P** **21 02 41.0 +0.4**
LBNH Lisbon 37.31 1 P 21 02 43.2
baz=182,SNR=284
LBNH Lisbon 37.31 1 IAmb IAmb 21 02 45.5
comp=Z,590nm,0.8s
ACCO Cerro Coronel 37.37 174 *i* P **P** **21 02 41.3 -0.7**
VT1 Waterbury 37.39 0 IAmb IAmb 21 02 47.8
comp=Z,588nm,1.1s
PTGB Pitanga 37.40 148 *e*P **P** **21 02 41.2 -0.9**
KGNO Kingston 37.41 356 ⇑P **P** **21 02 43.6 +1.8**
KAN13 South Haven SW 37.43 327 P **P** **21 02 42.2 +0.1**
KAN13 IAmb IAmb 21 02 44.6
comp=Z,836nm,1.0s
H58A Gabriels 37.49 359 P 21 02 44.5
baz=178,SNR=208
CO03 El Pedregal 37.49 177 *e*P **P** **21 02 42.6 -0.2**
I51A Listowel 37.52 350 P 21 02 45.0
baz=167,SNR=665
H57A Richville 37.57 357 P 21 02 45.0
baz=176,SNR=376
KAN09 Caldwell North 37.59 327 IAmb IAmb 21 02 46.0
comp=Z,913nm,0.9s
H61A Lyndonville 37.60 1 P 21 02 45.7
baz=182,SNR=136
H61A S 21 08 23.7
baz=182
H60A Morristown 37.62 0 P 21 02 45.8
baz=180,SNR=242
H60A S 21 08 24.2
baz=180
L44A Lake County Fo 37.62 342 P 21 02 44.3
baz=155,SNR=45
L44A S 21 08 22.5
baz=155
L44A Lake County Fo 37.62 342 P **P** **21 02 44.1 +0.4**
L44A IAmb IAmb 21 02 46.4
comp=Z,908nm,0.9s
AVFE Valle Fertil 37.62 172 *i* P **P** **21 02 43.0 -0.9**
KAN14 Manchester OK 37.65 326 P **P** **21 02 44.0 0.0**
KAN14 IAmb IAmb 21 02 46.2
comp=Z,560nm,0.8s
H62A Milan 37.66 2 P 21 02 46.1
baz=183,SNR=114
H62A S 21 08 24.8
baz=183
H62A Milan 37.67 2 IAmb IAmb 21 02 48.5
comp=Z,652nm,1.2s
OK032 Salt Plains WL 37.68 326 IAmb IAmb 21 02 46.6
comp=Z,872nm,0.7s
KAN01 Argonia South 37.68 327 IAmb IAmb 21 02 46.9
comp=Z,1µm,0.9s
LONY Lake Ozonia 37.70 358 P 21 02 46.3
baz=177,SNR=8.8
LONY S 21 08 25.6
baz=177
H59A Cadyville 37.70 359 P 21 02 46.3
baz=179,SNR=181
H59A S 21 08 25.2
baz=179
FRTB Fartura 37.73 143 *e*P **P** **21 02 44.8 0.0**
WVL Waterville 37.74 4 IAmb IAmb 21 02 49.1
comp=Z,654nm,1.1s
J47A Sumner 37.75 346 P **P** **21 02 46.0 +1.3**
DELO Deloro Mine 37.79 355 IAmb IAmb 21 02 50.5
comp=Z,739nm,1.1s
H63A New Sharon 37.81 3 P 21 02 47.5
baz=185,SNR=97
H63A S 21 08 26.9
baz=185
CO02 Combarbal 37.84 177 *e*P **P** **21 02 45.8 +0.1**
CO02 Combarbal 37.84 177 IAmb IAmb 21 03 25.7
comp=Z,819nm,1.6s
H64A Troy 37.84 4 P 21 02 47.5
baz=186,SNR=154
H64A S 21 08 25.9
baz=186
KAN08 Anthony NE Sta 37.85 327 IAmb IAmb 21 02 48.2
comp=Z,699nm,0.8s
FRNY Flat Rock 37.89 359 P **P** **21 02 47.4 +1.5**
FRNY IAmb IAmb 21 02 50.2
comp=Z,619nm,1.0s
KAN12 Harper NE Stat 37.92 327 IAmb IAmb 21 02 48.8
comp=Z,910nm,0.8s
H53A Bobcaygeon 37.94 354 P 21 02 47.9
baz=171,SNR=275
H53A S 21 08 27.4
baz=171
H65A Eastbrook 37.98 6 P 21 02 48.6
baz=188,SNR=64
H65A S 21 08 28.5
baz=188
L42A Oliver, Polo 38.04 340 P **P** **21 02 47.0 -0.2**
L42A IAmb IAmb 21 02 49.5
comp=Z,745nm,0.8s
EMMW East Machias 38.08 6 IAmb IAmb 21 02 51.6
comp=Z,773nm,0.8s
EMMW **S** **21 08 29.6 +1.6**
G59A Clarenceville 38.14 360 P 21 02 49.7
baz=180,SNR=9.9
G60A Masonville 38.16 1 P 21 02 50.2
baz=181,SNR=226
G60A S 21 08 33.0
baz=181
RTLL Cerro Villicun 38.16 174 ⇑*i*P **P** **21 02 47.2 -1.2**
RTLL Cerro Villicun 38.16 174 *i* P **P** **21 02 47.1 -1.2**
H66A Whiting 38.17 7 P 21 02 50.1
baz=189,SNR=90
H66A S 21 08 31.2
baz=189
G57A Newington 38.20 358 P 21 02 50.2
baz=177,SNR=321
G57A S 21 08 32.7
baz=177
SADO Sadowa 38.20 353 P **P** **21 02 49.5 +1.0**
comp=Z,430nm,0.7s,baz=187,slow=7.5,SNR=351
SADO sP **sP** **21 03 42.0 -0.8**
comp=Z,200nm,0.7s,baz=197,slow=7.7,SNR=3.2
SADO Sadowa 38.20 353 IAmb IAmb 21 02 53.9
comp=Z,872nm,1.1s
SADO Sadowa 38.20 353 ⇓P **P** **21 02 49.7 +1.3**
G58A Ormstown 38.22 359 P 21 02 50.5
baz=178,SNR=257
G58A S 21 08 33.3
baz=178
DIAM Diamantina, MG 38.23 131 *e*P **P** **21 02 49.4 +0.2**
ACHE Chepes 38.23 171 *i* P P 21 02 38.5 -11
PLVO Plevna 38.26 355 IAmb IAmb 21 02 53.0
comp=Z,783nm,1.0s
G63A Kingsbury 38.29 4 P 21 02 51.3
baz=185,SNR=131

G63A S 21 08 33.2
baz=185
G62A West of Eustis 38.34 3 IAmb IAmb 21 02 54.3
comp=Z,927nm,0.9s
G62A West of Eustis 38.34 3 P 21 02 52.1
baz=184,SNR=370
G62A S 21 08 34.5
baz=184
SJA San Juan 38.35 174 *i* P **P 21 02 51.4 +1.5**
ZON Zonda 38.35 174 S 21 08 29.0 -3.5
ZON Zonda 38.35 174 *i* P **P 21 02 49.4 -0.6**
G61A St-Isidore-de- 38.36 2 P 21 02 52.3
baz=182,SNR=187
G61A S 21 08 34.9
baz=182
MOQ Mont Orford 38.37 1 P **P 21 02 52.0 +2.1**
AMTX Amarillo 38.42 321 P **P 21 02 51.4 +0.8**
AMTX Amarillo 38.42 321 P 21 02 51.6
baz=130
AMTX S 21 08 34.7
baz=130
PKME Peaks-Kenny Pk 38.46 4 IAmb IAmb 21 02 56.5
comp=Z,563nm,1.1s
PKME Peaks-Kenny Pk 38.46 4 P 21 02 52.7
baz=186,SNR=144
PKME S 21 08 35.7
baz=186
G64A Maxfield 38.49 5 P 21 02 52.9
baz=187,SNR=142
G64A S 21 08 35.5
baz=187
KSU1 Kansas State U 38.55 330 P **P 21 02 51.3 -0.2**
KSU1 Kansas State U 38.55 330 ⇓P **P 21 02 51.2 -0.2**
KSU1 Kansas State U 38.55 330 P 21 02 51.6
baz=140,SNR=242
KSU1 S 21 08 34.2
baz=140
G65A Princeton 38.55 6 IAmb IAmb 21 02 55.7
comp=Z,961nm,0.9s
G65A Princeton 38.55 6 P 21 02 53.4
baz=189,SNR=214
G65A S 21 08 36.1
baz=189
GGN Saint George 38.55 7 IAmb IAmb 21 02 55.7
comp=Z,1μm,0.8s
GGN **S 21 08 35.6 +0.5**
MSTX Muleshoe 38.55 319 P 21 02 52.5
baz=128,SNR=550
MSTX S 21 08 36.6
baz=128
MNTQ Montreal, Queb 38.56 359 ⇑P **P 21 02 53.5 +2.0**
HAL Halifax 38.59 11 IAmb IAmb 21 02 55.7
comp=Z,434nm,1.0s
HAL **S 21 08 36.4 +0.8**
L40A Anamosa 38.65 338 IAmb IAmb 21 02 55.6
comp=Z,882nm,0.8s
NBLI Livramento-PB 38.65 111 *eP* **P 21 02 53.7 +1.0**
RTCV Cerro Valdivia 38.68 174 *i* P **P 21 02 51.9 -0.7**
G54A Lake Saint Pet 38.70 354 P 21 02 54.5
baz=172,SNR=489
G54A S 21 08 39.5
baz=172
TCA Tanti 38.77 168 *i* P **P 21 02 51.4 -2.0**
GAC Glen Almond 38.82 357 ⇓P **P 21 02 55.1 +1.5**
F57A Harrington 38.89 358 P 21 02 56.1
baz=177,SNR=26
F57A S 21 08 43.0
baz=177
F59A Saint Guilaume 38.91 0 P 21 02 56.0
baz=180,SNR=78
F59A S 21 08 42.3
baz=180
F63A Nahmakanta, Br 38.91 4 P 21 02 56.1
baz=186,SNR=95
F63A S 21 08 41.0
baz=186
F63A Nahmakanta, Br 38.91 4 IAmb IAmb 21 03 00.1
comp=Z,394nm,0.9s
F58A St-Lin Laurent 38.93 359 P 21 02 55.9
baz=179
F58A S 21 08 42.6
baz=179
AUSP Uspallata 38.96 175 *i* P **P 21 02 55.3 0.0**
GDU01 Guandu, BA 38.98 122 *eP* **P 21 02 55.5 +0.1**
F60A Warwick 39.03 1 P 21 02 57.2
baz=182,SNR=196
F60A S 21 08 43.7
baz=182
JFWS Jewell Farm 39.04 340 P 21 02 56.2
baz=152,SNR=591
JFWS S 21 08 41.8
baz=152
MNTX Cornudas Mount 39.05 314 P 21 02 56.9
baz=123,SNR=1000
MNTX S 21 08 44.6
baz=123
F61A St Evariste 39.07 2 P 21 02 57.4
baz=183,SNR=121
F61A S 21 08 44.5
baz=183
VAO Valinhos 39.08 140 *eP* **P 21 02 56.7 +0.5**
R32A Long Quarter, 39.12 327 IAmb IAmb 21 02 58.7
comp=Z,1μm,1.3s
RCBR Riachuelo 39.12 108 P **P 21 02 57.5 +0.8**
RCBR pmax pmax
comp=Z,116nm,0.6s
RCBR Riachuelo 39.12 108 P **P 21 02 57.5 +0.8**
RCBR Riachuelo 39.12 108 ⇑P **P 21 02 57.9 +1.3**
RCBR Riachuelo 39.12 108 *eP* **P 21 02 57.8 +1.1**
F64A Sherman 39.13 5 IAmb IAmb 21 03 00.2
comp=Z,658nm,1.1s
F64A Sherman 39.13 5 P 21 02 58.0
baz=187,SNR=237
F64A S 21 08 45.1
baz=187
BSCB Bom Sucesso 39.16 136 *eP* **P 21 02 57.6 +0.8**
GLMI Grayling 39.20 347 P 21 02 58.2
baz=162,SNR=63
SLBS Sierra La Lagu 39.20 299 P **P 21 02 59.3 +2.1**
SLBS Sierra La Lagu 39.20 299 ⇓P **P 21 02 59.7 +2.5**
GLMI Grayling 39.20 347 P **P 21 02 58.2 +1.4**
GLMI IAmb IAmb 21 03 04.8
comp=Z,948nm,0.8s
SPB Sao Paulo 39.22 141 P **P 21 02 56.9 -0.3**
SPB Sao Paulo 39.22 141 *eP* **P 21 02 57.0 -0.1**
ALGO Algonquin Park 39.25 354 P 21 02 58.9
baz=172,SNR=567
ALGO S 21 08 48.5
baz=172
NBLA Lagarto - SE 39.28 116 *eP* **P 21 02 57.5 -0.3**
SCIA State Center 39.28 336 P 21 02 58.6
baz=147,SNR=320
SCIA S 21 08 45.5
baz=147
ITAB Concordia 39.42 150 *eP* **P 21 02 57.6 -1.2**
E58A La Victoria 39.43 360 P 21 03 00.3
baz=180,SNR=256
E58A S 21 08 50.0
baz=180
E60A Ste Agathe de 39.45 2 P 21 03 00.0
baz=182,SNR=69
E60A S 21 08 50.8
baz=182
I42A Draeger Farm, 39.48 342 IAmb IAmb 21 03 03.8
comp=Z,988nm,0.8s
E59A St. Maurice 39.54 1 P 21 03 01.6
baz=181,SNR=14
E59A S 21 08 51.5
baz=181
ITQB Itaqui 39.54 157 *eP* **P 21 02 57.3 -2.5**
E61A Lac Etchemin 39.55 3 P 21 03 01.6
baz=184,SNR=265
E61A S 21 08 51.8
baz=184
TIJ01 Guaruva-PR 39.57 145 *eP* **P 21 03 03.9 +3.7**
E55A Montcerf-Lytto 39.59 357 P 21 03 01.8
baz=175,SNR=107
E55A S 21 08 52.5
baz=175
ROCH El Roble 39.59 177 *eP* **P 21 02 59.9 -0.6**
ROC1 El Roble 39.60 177 *i* P **P 21 02 59.6 -0.9**
MRA San Martin 39.62 170 *i* P **P 21 02 58.4 -2.1**
E56A St. Veronique 39.64 358 P 21 03 01.9
baz=177,SNR=165
E56A S 21 08 53.2
baz=177

LPIG La Paz 39.65 300 P **P 21 03 02.5 +1.6**
comp=Z,155nm,0.6s,baz=263,slow=0.5,SNR=51
LPIG sP **sP 21 03 53.9 -0.6**
comp=Z,190nm,0.8s,baz=291,slow=5.8,SNR=2.6
E63A Oxbow 39.68 5 P **P 21 03 02.0 +1.3**
E63A IAmb IAmb 21 03 04.9
comp=Z,608nm,0.8s
E63A Oxbow 39.68 5 P 21 03 02.6
baz=187,SNR=216
E63A S 21 08 53.5
baz=187
NBIT Itapeh - BA 39.70 123 *eP* **P 21 03 02.4 +1.1**
E64A Bridgewater 39.73 6 P 21 03 03.2
baz=188,SNR=363
E64A S 21 08 55.2
baz=188
PEL Peldehue 39.78 177 *eP* **P 21 03 00.8 -1.0**
PEL Peldehue 39.78 177 P **P 21 03 04.5 +2.7**
PEL Peldehue 39.78 177 ⇓P **P 21 03 04.2 +2.5**
PEL Peldehue 39.78 177 *i* P **P 21 02 59.3 -2.5**
PET01 Itanhaem-SP 39.82 142 *eP* **P 21 03 02.6 +0.4**
MT02 Curacav 39.88 178 *eP* **P 21 03 02.4 -0.1**
MT02 Curacav 39.88 178 P **P 21 03 02.4 -0.1**
NBPV Pedro Velho 39.89 108 *eP* **P 21 03 03.5 +0.6**
CBKS Cedar Bluff 39.96 327 P 21 03 03.7
baz=136,SNR=113
CBKS S 21 08 57.1
baz=136
CBKS Cedar Bluff 39.96 327 ⇓P **P 21 03 03.4 +0.2**
PQI Presque Isle 39.96 5 IAmb IAmb 21 03 07.2
comp=Z,584nm,0.8s
D60A Saint Jean D'O 40.01 2 P 21 03 05.5
baz=183,SNR=333
D60A S 21 08 58.6
baz=183
MT05 Renca 40.03 177 *eP* **P 21 03 04.9 +1.1**
I40A Norwalk 40.03 340 IAmb IAmb 21 03 06.5
comp=Z,877nm,0.7s
D59A Saint-Raymond 40.08 1 P 21 03 06.0
baz=182,SNR=93
D59A S 21 08 59.8
baz=182
NBAN Anadia - AL 40.11 114 *eP* **P 21 03 05.0 +0.2**
D55A Sainte-Anne-du 40.13 357 P 21 03 06.0
baz=176,SNR=414
D55A S 21 08 59.0
baz=176
D56A ZEC Mazanza, M 40.13 358 P 21 03 06.1
baz=177,SNR=400
D56A S 21 08 59.4
baz=177
D58A Chemin du LacG 40.15 0 P 21 03 06.4
baz=180,SNR=351
D58A S 21 08 59.6
baz=180
PARB Paraibuna 40.19 139 *eP* **P 21 03 06.1 +0.8**
N33A J Bar K, Exete 40.22 331 IAmb IAmb 21 03 09.2
comp=Z,994nm,1.1s
VA05 Santo Domingo 40.25 178 *eP* **P 21 03 06.2 +0.7**
D62A Allapoint, All 40.28 4 P **P 21 03 07.0 +1.3**
D62A IAmb IAmb 21 03 10.0
comp=Z,833nm,0.9s
D63A Stockholm 40.32 5 P 21 03 08.0
baz=188,SNR=417
D63A S 21 09 03.3
baz=188
D61A St Aubert, Com 40.33 3 P 21 03 08.8
baz=184,SNR=570
D61A S 21 09 04.5
baz=184
SJMB Sao Joao De Ma 40.35 129 *eP* **P 21 03 07.0 +0.3**
MT09 Talagante 40.40 177 *eP* **P 21 03 06.3 -0.6**
LATQ La Tuque 40.44 0 P 21 03 09.0
baz=180,SNR=438
LATQ S 21 09 05.2
baz=180
LATQ La Tuque 40.44 0 P **P 21 03 08.7 +1.7**
LATQ IAmb IAmb 21 03 11.4
comp=Z,445nm,0.9s
LMEL Las Melosas 40.51 176 *eP* **P 21 03 09.0 +1.1**
VA04 Juan Fernndez 40.59 187 *eP* **P 21 03 08.6 +0.2**
VA04 Juan Fernndez 40.59 187 P **P 21 03 09.3 +0.9**
BSFB Barra de Sao F 40.69 129 *eP* **P 21 03 09.8 +0.4**
ESAR Angra dos Reis 40.75 138 *eP* **P 21 03 10.5 +0.7**
BATG Bathurst New B 40.77 7 P **P 21 03 10.7 +1.0**
BATG IAmb IAmb 21 03 13.7
comp=Z,934nm,0.8s
NBRF Rio Formoso - 40.80 112 *eP* **P 21 03 11.4 +1.0**
VAS01 Vassouras-RJ 40.93 136 *eP* **P 21 03 11.9 +0.5**
F42A Maple Grove Fa 40.96 344 IAmb IAmb 21 03 14.3
comp=Z,932nm,0.9s
MAN01 Angra dos Reis 40.96 137 *eP* **P 21 03 12.4 +0.7**
BGNE Belgrade 41.07 331 P 21 03 12.5
baz=140,SNR=125
BGNE S 21 09 12.3
baz=140
BO03 Pichilemu 41.08 179 *eP* **P 21 03 11.9 -0.4**
G40A Rib Lake 41.12 342 IAmb IAmb 21 03 15.9
comp=Z,1μm,1.1s
I37A Lemond, Waseca 41.14 338 P **P 21 03 12.6 -0.1**
I37A IAmb IAmb 21 03 16.9
comp=Z,934nm,1.1s
121A Cookes Peak, D 41.22 313 P 21 03 16.1
baz=121,SNR=394
121A S 21 09 20.0
baz=121
E43A Lone Tree Farm 41.23 345 IAmb IAmb 21 03 16.6
comp=Z,566nm,0.8s
RIB01 Linhares ES 41.32 130 *eP* **P 21 03 15.0 +0.5**
VLDQ Val d'Or 41.34 356 IAmb IAmb 21 03 20.6
comp=Z,1μm,1.3s
BO02 Sierra Bellavi 41.42 177 *eP* **P 21 03 16.6 +1.4**
Y22D IRIS PASSCAL I 41.42 316 P **P 21 03 16.6 +1.1**
Y22D IAmb IAmb 21 03 20.4
comp=Z,780nm,1.1s
Y22D IRIS PASSCAL I 41.42 316 P 21 03 17.3
baz=123,SNR=7.6
Y22D S 21 09 22.8
baz=123
CPSB Cacapava Do Su 41.49 154 *eP* **P 21 03 13.1 -2.7**
DUB01 Friburgo-RJ 41.55 135 *eP* **P 21 03 17.0 +0.6**
COWI Conover 41.55 343 IAmb IAmb 21 03 21.7
comp=Z,967nm,0.8s
T25A Trinidad 41.56 321 P 21 03 18.8
baz=129,SNR=243
T25A S 21 09 24.0
baz=129
T25A Trinidad 41.56 321 IAmb IAmb 21 03 21.0
comp=Z,738nm,1.1s
RFA San Rafael 41.57 174 *i* P **P 21 03 15.6 -0.9**
ANMO Albuquerque 41.59 317 P 21 03 18.4
baz=125
ANMO S 21 09 22.5
baz=125
ANMO Albuquerque 41.59 317 P **P 21 03 18.3 +1.5**
comp=Z,197nm,1.0s,baz=135,slow=10,SNR=303
ANMO pP **pP 21 03 52.9 +0.6**
comp=Z,172nm,1.2s,baz=128,slow=15,SNR=2.7
ANMO Albuquerque 41.59 317 P **P 21 03 18.3 +1.5**
ANMO pmax pmax
comp=Z,671nm,1.4s
ANMO Albuquerque 41.59 317 P **P 21 03 18.3 +1.5**
KSCO Kaye Shedlock' 41.71 325 P 21 03 18.9
baz=133,SNR=82
KSCO S 21 09 23.6
baz=133
319A Douglas 41.76 311 IAmb IAmb 21 03 22.3
comp=Z,780nm,0.9s
ALF01 Guarapari-ES 41.84 131 *eP* **P 21 03 19.8 +1.1**
CAM01 Campos-RJ 41.90 134 *eP* **P 21 03 20.2 +1.0**
SPMN Marine on St. 41.96 339 P 21 03 19.8
baz=150,SNR=55
SPMN S 21 09 25.8
baz=150
TER01 Tubaro-SC 42.02 148 *eP* **P 21 03 18.8 -1.3**
ECSD EROS Data Cent 42.20 334 P 21 03 21.4
baz=144,SNR=649
ECSD S 21 09 27.1
baz=144
LSQQ Lebel-sur-Quev 42.25 356 P 21 03 23.3
baz=174
LSQQ S 21 09 31.0
baz=174
D41A Chassel 42.27 344 IAmb IAmb 21 03 25.2
comp=Z,1μm,1.1s
K31A O'Neill 42.30 332 P **P 21 03 22.3 +0.1**

SRIG Santa Rosalia 42.41 304 IAmb IAmb 21 03 28.4
comp=Z,2μm,1.5s
SDCO Great Sand Dun 42.62 321 IAmb IAmb 21 03 29.4
comp=Z,626nm,0.9s
SDCO Great Sand Dun 42.62 321 P 21 03 27.4
baz=128,SNR=1000
SDCO S 21 09 40.3
baz=128
OGNE Ogallala 42.72 327 IAmb IAmb 21 03 28.4
comp=Z,1μm,1.4s
OGNE Ogallala 42.72 327 P 21 03 26.2
baz=135,SNR=46
OGNE S 21 09 39.0
baz=135
E38A The Farm, Brul 42.74 341 IAmb IAmb 21 03 28.6
comp=Z,529nm,0.8s
F36A Milaca 42.76 339 IAmb IAmb 21 03 29.6
comp=Z,1μm,1.1s
ICQ Pointe Anglais 42.86 6 ⇑P **P 21 03 27.6 +1.0**
Q24A Divide 43.16 323 P 21 03 31.0
baz=130,SNR=148
Q24A S 21 09 46.2
baz=130
KAPO Kapuskasing 43.25 351 ⇓P **P 21 03 30.7 +1.0**
BI02 San Fabin de 43.26 178 *eP* **P 21 03 30.5 +0.4**
BI02 San Fabin de 43.26 178 P **P 21 03 29.4 -0.7**
TUC Tucson 43.33 311 P 21 03 32.3
baz=118
TUC S 21 09 49.4
baz=118
TUC Tucson 43.33 311 P **P 21 03 32.0 +1.3**
TUC pmax pmax
comp=Z,3μm,2.0s
TUC Tucson 43.33 311 P **P 21 03 32.0 +1.3**
TUC Tucson 43.33 311 ⇓P **P 21 03 32.1 +1.3**
S22A 4UR Ranch, Cre 43.46 320 P 21 03 33.9
baz=127,SNR=712
S22A S 21 09 51.3
baz=127
F33A 5 Mile Ranch, 43.79 336 IAmb IAmb 21 03 36.3
comp=Z,1μm,1.2s
X18A Snowflake 43.79 314 P **P 21 03 36.2 +1.6**
X18A IAmb IAmb 21 03 38.8
comp=Z,596nm,0.9s
SUSD Miller 43.79 333 P 21 03 34.7
baz=141,SNR=356
SUSD S 21 09 51.6
baz=141
LPA La Plata 43.86 162 *eP* P 21 03 25.4 -9.4
LPA pP pP 21 04 00.4 -11
LPA sP sP 21 04 28.2 -1.9
LPA PCP PcP 21 05 09.8 -8.4
LPA PP **PP 21 05 16.8 -3.6**
LPA pPP 21 05 44.4
LPA PPP PPP 21 06 15.2
LPA S S 21 09 43.8 -10
LPA sS sS 21 10 49.4 -7.3
LPA PKIKP **PKiKP 21 12 20.4 +0.9**
LPA SS **SS 21 13 16.4 -0.1**
LPA SKIKP 21 15 40.9
LPA SKIKS 21 19 09.5
EYMN Ely 43.92 342 P 21 03 36.0
baz=153,SNR=663
EYMN S 21 09 53.1
baz=153
W18A Petrified Fore 43.94 315 P 21 03 37.7
baz=121,SNR=667
W18A S 21 09 58.5
baz=121
ISCO Idaho Springs 43.97 323 IAmb IAmb 21 03 40.1
comp=Z,1μm,1.1s
ISCO Idaho Springs 43.97 323 P 21 03 37.9
baz=130,SNR=715
ISCO S 21 09 58.2
baz=130
MVCO Mesa Verde 44.23 318 P 21 03 39.6
baz=124,SNR=423
MVCO S 21 10 03.6
baz=124
DRLN Deer Lake 44.30 15 P **P 21 03 38.5 +0.4**
DRLN Deer Lake 44.30 15 ⇑P **P 21 03 38.6 +0.5**
SMCO Snowmass 44.41 322 IAmb IAmb 21 03 44.6
comp=Z,2μm,2.0s
SMCO Snowmass 44.41 322 ⇑P **P 21 03 41.3 +1.6**
214A Organ Pipe Nat 44.71 309 P 21 03 43.6
baz=116,SNR=334
214A S 21 10 06.8
baz=116
PV01 Paradox Valley 44.80 319 IAmb IAmb 21 03 46.9
comp=Z,944nm,1.0s
PV15 Paradox Valley 44.86 320 P **P 21 03 44.6 +1.5**
N23A Red Feather La 44.87 324 P 21 03 44.9
baz=130,SNR=599
N23A S 21 10 11.1
baz=130
PV02 Paradox Valley 44.95 319 IAmb IAmb 21 03 47.8
comp=Z,777nm,0.9s
PV13 Radium Mtn., P 44.98 319 IAmb IAmb 21 03 47.9
comp=Z,967nm,0.8s
B35A Bob, Littlefor 44.99 341 P **P 21 03 43.8 +0.2**
B35A IAmb IAmb 21 03 46.3
comp=Z,1μm,0.8s
B35A PcP **PcP 21 05 24.0 +2.0**
PV03 Paradox Valley 45.05 319 P **P 21 03 46.0 +1.5**
PV03 IAmb IAmb 21 03 48.3
comp=Z,469nm,0.8s
PV12 Saucer Basin, 45.05 319 IAmb IAmb 21 03 48.6
comp=Z,765nm,0.7s
PV18 Skein Mesa, Pa 45.08 319 IAmb IAmb 21 03 48.6
comp=Z,562nm,0.8s
PV11 David Mesa, Pa 45.09 319 P **P 21 03 46.3 +1.5**
PV05 Paradox Valley 45.11 319 IAmb IAmb 21 03 48.4
comp=Z,679nm,0.8s
PV16 Nysworoger Mesa 45.12 319 IAmb IAmb 21 03 50.9
comp=Z,772nm,1.2s
PV17 East Wray Mesa 45.13 319 IAmb IAmb 21 03 50.9
comp=Z,2μm,1.6s
D32A Dogwood Acres, 45.14 337 IAmb IAmb 21 03 47.2
comp=Z,907nm,0.8s
PV19 Morning Glory 45.17 319 P **P 21 03 46.8 +1.4**
PV19 IAmb IAmb 21 03 51.2
comp=Z,673nm,1.2s
PV22 Blue Mesa, Par 45.17 320 IAmb IAmb 21 03 49.2
comp=Z,557nm,0.9s
WUAZ Wupatki 45.30 315 P **P 21 03 47.9 +1.4**
WUAZ IAmb IAmb 21 03 51.1
comp=Z,1μm,0.9s
WUAZ Wupatki 45.30 315 ⇓P **P 21 03 48.2 +1.7**
WUAZ Wupatki 45.30 315 P 21 03 48.4
baz=120,SNR=814
WUAZ S 21 10 18.4
baz=120
AGMN Agassiz Nation 45.68 339 IAmb IAmb 21 03 53.4
comp=Z,928nm,0.8s
AGMN Agassiz Nation 45.68 339 P 21 03 49.8
baz=148,SNR=578
AGMN S 21 10 19.4
baz=148
O20A White River Ci 45.77 322 P 21 03 52.0
baz=127,SNR=236
O20A S 21 10 23.9
baz=127
RSSD Black Hills 46.00 329 P **P 21 03 52.6 +0.7**
RSSD pmax pmax
comp=Z,3μm,2.0s
RSSD Black Hills 46.00 329 P **P 21 03 52.6 +0.7**
RSSD IAmb IAmb 21 03 56.2
comp=Z,3μm,2.0s
RSSD Black Hills 46.00 329 ⇓P **P 21 03 52.5 +0.7**
RSSD Black Hills 46.00 329 P 21 03 52.7
baz=135
RSSD S 21 10 25.4
baz=135
RWWY Rawlins 46.11 324 IAmb IAmb 21 03 56.7
comp=Z,923nm,1.0s
K22A Casper 46.34 326 P 21 03 55.8
baz=131,SNR=197
K22A S 21 10 31.4
baz=131
U15A North Rim 46.39 315 P **P 21 03 56.8 +1.6**
GLA Glamis 46.71 310 IAmb IAmb 21 04 01.2
comp=Z,675nm,0.8s
GLA Glamis 46.71 310 P 21 03 59.2
baz=115,SNR=188
GLA S 21 10 37.1
baz=115

PDMCI	**Parker Dam,Lak**	**46.73 312**	P			21 03 58.9
	baz=116,SNR=123					
PDMCI			S			21 10 37.2
	baz=116					
MDND	**Maddock**	**46.75 336**	P			21 03 58.5
	baz=142,SNR=331					
MDND			S			21 10 33.5
	baz=142					
CPBX	**Cerro Prieto**	**46.82 309**	IAmb	IAmb		21 04 01.2
	comp=Z,760nm,1.4s					
RDMU	**Red Mountain**	**46.84 322**	P	**P**		**21 03 59.5 +1.0**
RDMU			IAmb	IAmb		21 04 01.9
	comp=Z,925nm,1.2s					
PKCU	**Pink Cliffs**	**46.92 316**	IAmb	IAmb		21 04 03.3
	comp=Z,845nm,1.1s					
Q16A	**Castle Valley**	**46.93 319**	IAmb	IAmb		21 04 03.7
	comp=Z,2µm,2.0s					
P17A	**Butcher Ranch,**	**46.95 320**	IAmb	IAmb		21 04 03.1
	comp=Z,966nm,0.9s					
KNB	**Kanab**	**47.06 316**	P	**P**		**21 04 02.0 +1.8**
KNB			pmax	pmax		
	comp=Z,4µm,1.6s					
KNB	**Kanab**	**47.06 316**	P	**P**		**21 04 02.0 +1.8**
MTPU	**Mount Pierson**	**47.14 317**	IAmb	IAmb		21 04 05.8
	comp=Z,3µm,2.0s					
TMUT	**Trail Mountain**	**47.16 319**	IAmb	IAmb		21 04 04.6
	comp=Z,628nm,1.1s					
ESJX	**Sierra Juarez**	**47.16 308**	IAmb	IAmb		21 04 05.9
	comp=Z,961nm,1.7s					
NEE2	**Needles Airpor**	**47.29 312**	P			21 04 02.8
	baz=116,SNR=6.7					
NEE2			S			21 10 44.6
	baz=116					
ULM	**Lac du Bonnet**	**47.34 340**	P	**P**		**21 04 01.9 0.0**
	comp=Z,1µm,0.8s,baz=149,slow=7.8,SNR=685					
ULM			sP	**sP**		**21 04 54.7 -1.7**
	comp=Z,362nm,1.0s,baz=150,slow=7.2,SNR=1.9					
ULM			LR	LR		21 24 05.9
	comp=Z,5µm,20.9s,baz=146,slow=36					
ULM			P4KPbc			21 41 41.2
	comp=Z,4.5nm,0.7s,baz=156,slow=2.7,SNR=12					
ULM	**Lac du Bonnet**	**47.34 340** *d*	iP	**P**		**21 04 02.1 +0.2**
ULM	**Lac du Bonnet**	**47.34 340**	⇓P	**P**		**21 04 01.8 0.0**
LCMT	**Little Creek M**	**47.35 315**	IAmb	IAmb		21 04 07.1
	comp=Z,1µm,1.0s					
PLCA	**Paso Flores**	**47.35 177**	P	**P**		**21 04 00.6 -1.6**
	comp=Z,51nm,0.9s,baz=355,slow=8.8,SNR=52					
PLCA			pP	**pP**		**21 04 38.2 -1.0**
	comp=Z,140nm,0.8s,baz=351,slow=9.7,SNR=5.5					
PLCA			ScP	**ScP**		**21 09 08.8 -0.5**
	comp=Z,86nm,0.9s,baz=350,slow=4.9,SNR=11					
PLCA			P4KPbc			21 41 41.6
	comp=Z,1.6nm,0.7s,baz=348,slow=8.2,SNR=3.5					
PLCA	**Paso Flores**	**47.35 177**	P	**P**		**21 04 01.7 -0.5**
PLCA			pmax	pmax		
	comp=Z,248nm,1.0s					
PLCA	**Paso Flores**	**47.35 177**	P	**P**		**21 04 01.7 -0.5**
PLCA	**Paso Flores**	**47.35 177**	⇓P	**P**		**21 04 01.4 -0.8**
PLCA	**Paso Flores**	**47.35 177**	eP	**P**		**21 04 01.9 -0.3**
SWSC	**Sam W. Stewart**	**47.41 309**	P			21 04 04.5
	baz=114,SNR=92					
SWSC			S			21 10 46.8
	baz=114					
IRM	**Iron Mountain**	**47.42 311**	P			21 04 04.5
	baz=115,SNR=286					
IRM			S			21 10 45.1
	baz=115					
BC3	**Big Chuckawall**	**47.44 310**	P			21 04 04.4
	baz=115,SNR=260					
BC3			S			21 10 47.4
	baz=115					
RMX	**La Rumorosa**	**47.49 309**	P	**P**		**21 04 04.3 +0.7**
SZCU	**Shurtz Canyon**	**47.53 316**	IAmb	IAmb		21 04 07.3
	comp=Z,436nm,0.9s					
IKP	**In-Ko-Pah, Jac**	**47.54 309**	P			21 04 05.5
	baz=113,SNR=142					
IKP			S			21 10 48.8
	baz=113					
TCRU	**Three Creeks R**	**47.61 318**	IAmb	IAmb		21 04 08.6
	comp=Z,1µm,0.9s					
MPU	**Maple Canyon**	**47.83 320**	P	**P**		**21 04 07.2 +1.1**
MPU			IAmb	IAmb		21 04 09.7
	comp=Z,918nm,1.0s					
MONP2	**Monument Peak**	**47.87 309**	P			21 04 08.1
	baz=113,SNR=184					
MONP2			S			21 10 53.7
	baz=113					
BELC	**Belle Mtn. Jos**	**47.99 310**	P			21 04 08.9
	baz=114,SNR=271					
BELC			S			21 10 54.0
	baz=114					
JLU	**Jordanelle**	**48.03 320**	IAmb	IAmb		21 04 11.3
	comp=Z,443nm,1.0s					
GMRC	**Granite Mounta**	**48.07 311**	P			21 04 09.4
	baz=115,SNR=159					
GMRC			S			21 10 55.7
	baz=115					
NLU	**North Lily Min**	**48.08 319**	P	**P**		**21 04 09.4 +1.3**
NLU			IAmb	IAmb		21 04 11.8
	comp=Z,676nm,1.0s					
BW06	**Boulder Array**	**48.15 324**	IAmb	IAmb		21 04 11.6
	comp=Z,831nm,1.2s					
BW06	**Boulder Array**	**48.15 324**	P			21 04 09.4
	baz=128,SNR=532					
BW06			S			21 10 56.0
	baz=128					
PD31	**Pinedale Array**	**48.15 324**	IAmb	IAmb		21 04 11.6
	comp=Z,757nm,1.2s					
PD31	**Pinedale Array**	**48.15 324**	⇓P	**P**		**21 04 09.2 +0.7**
PDAR	**Pinedale Array**	**48.15 324**	P	**P**		**21 04 09.1 +0.5**
	comp=Z,159nm,0.6s,baz=128,slow=9.7,SNR=846					
PDAR			pP	**pP**		**21 04 46.3 +1.3**
	comp=Z,33nm,0.7s,baz=126,slow=7.5,SNR=1.4					
PDAR			sP	**sP**		**21 05 01.6 -1.4**
	comp=Z,149nm,0.9s,baz=120,slow=8.8,SNR=3.6					
PDAR			PcP	**PcP**		**21 05 33.7 +0.2**
	comp=Z,59nm,0.9s,baz=105,slow=11,SNR=1.5					
PDAR			ScP	**ScP**		**21 09 14.9 +2.0**
	comp=Z,20nm,0.9s,baz=114,slow=5.5,SNR=5.4					
PDAR			S	**S**		**21 10 59.5 +4.2**
	comp=Z,1.5nm,0.5s,baz=266,slow=14,SNR=5.7					
PDAR			P4KPbc			21 41 47.1
	comp=Z,4.9nm,0.6s,baz=123,slow=5.6,SNR=43					
PDAR	**Pinedale Array**	**48.15 324**	P	**P**		**21 04 09.2 +0.7**
TPFO	**Pinon Flats**	**48.18 310**	P			21 04 10.2
	baz=114,SNR=90					
TPFO			S			21 10 58.9
	baz=114					
XPFO	**Pion Flat**	**48.18 310**	P	**P**		**21 04 09.8 +0.9**
PFO	**Pinyon Flats O**	**48.19 310** *d*	iP	**P**		**21 04 10.2 +1.3**
PFO			pmax	pmax		
	comp=Z,233nm,1.3s					
PFO	**Pinyon Flats O**	**48.19 310**	P	**P**		**21 04 09.8 +0.9**
PFO	**Pinyon Flats O**	**48.19 310**	P			21 04 10.4
	baz=114,SNR=85					
PFO			S			21 10 59.6
	baz=114					
CTU	**Camp Tracy**	**48.27 320**	IAmb	IAmb		21 04 13.0
	comp=Z,485nm,1.1s					
109C	**Camp Elliot, M**	**48.40 309**	P			21 04 11.7
	baz=113,SNR=19					
109C			S			21 11 02.2
	baz=113					
SHPR	**Sheep Range**	**48.46 314**	P	**P**		**21 04 12.4 +1.3**
SHPR			IAmb	IAmb		21 04 15.7
	comp=Z,1µm,1.6s					
HEC	**Hector,Ludlow**	**48.59 311**	P			21 04 13.7
	baz=115,SNR=136					
HEC			S			21 11 04.2
	baz=115					
HWUT	**Hardware Ranch**	**48.67 322**	IAmb	IAmb		21 04 15.6
	comp=Z,446nm,0.8s					
DUG	**Dugway, Tooele**	**48.69 319**	IAmb	IAmb		21 04 16.5
	comp=Z,511nm,0.8s					
DUG	**Dugway, Tooele**	**48.69 319**	P			21 04 14.2
	baz=122,SNR=406					
DUG			S			21 11 05.2
	baz=122					
MURC	**Murrieta**	**48.75 309**	P			21 04 14.6
	baz=113,SNR=56					
MURC			S			21 11 06.0
	baz=113					
BBRC	**Big Bear Solar**	**48.80 310**	P			21 04 15.6
	baz=114,SNR=31					
BBRC			S			21 11 06.8
	baz=114					
PRN	**Pahroc Range**	**48.80 315**	P	**P**		**21 04 14.9 +1.3**
PRN	**Pahroc Range**	**48.80 315**	⇓P	**P**		**21 04 15.4 +1.8**
LAO	**LASA Array**	**48.90 330**	P			21 04 15.0
	baz=134,SNR=197					
LAO			S			21 11 07.8
	baz=134					
LAO	**LASA Array**	**48.90 330**	IAmb	IAmb		21 04 18.6
	comp=Z,479nm,0.8s					
LL01	**San Ignacio de**	**48.94 179**	P	**P**		**21 04 12.8 -1.5**
SHOC	**Shoshone, Teco**	**49.00 313**	P			21 04 16.7
	baz=116,SNR=28					
SHOC			S			21 11 08.8
	baz=116					
AHID	**Auburn Hatcher**	**49.06 323**	IAmb	IAmb		21 04 20.1
	comp=Z,684nm,1.0s					
SPUT	**South Promonto**	**49.06 321**	IAmb	IAmb		21 04 19.7
	comp=Z,2µm,2.0s					
SPR3	**Spring Creek 3**	**49.07 317**	IAmb	IAmb		21 04 19.4
	comp=Z,640nm,1.1s					
RRX	**Edison Barstow**	**49.11 311**	P			21 04 17.7
	baz=114,SNR=8.3					
RRX			S			21 11 10.6
	baz=114					
SACV	**Santiago Islan**	**49.12 76**	P	**P**		**21 04 16.4 +0.3**
SACV				**pP**		**21 04 54.7 +1.7**
SACV			IAmb	IAmb		21 04 59.7
	comp=Z,1µm,1.5s					
GSC	**Goldstone, Bar**	**49.14 312**	P	**P**		**21 04 17.1 +1.0**
GSC			IAmb	IAmb		21 04 19.8
	comp=Z,457nm,0.8s					
GSC			pP	**pP**		**21 04 54.4 +1.8**
GSC	**Goldstone, Bar**	**49.14 312**	P			21 04 17.7
	baz=115,SNR=275					
GSC			S			21 11 12.2
	baz=115					
DGMT	**Dagmar**	**49.21 333**	P			21 04 18.1
	baz=137					
DGMT			S			21 11 13.7
	baz=137					
BGU	**Big Grassy Mou**	**49.22 320**	IAmb	IAmb		21 04 20.0
	comp=Z,846nm,0.9s					
SNOW	**Snow King Moun**	**49.26 324**	IAmb	IAmb		21 04 21.3
	comp=Z,633nm,0.7s					
LOHW	**Long Hollow**	**49.27 324**	IAmb	IAmb		21 04 20.5
	comp=Z,570nm,0.8s					
BFSC	**Mount Baldy Ra**	**49.35 310**	P			21 04 19.0
	baz=113,SNR=51					
BFSC			S			21 11 15.5
	baz=113					
ECR	**Eagle Creek**	**49.39 323**	P	**P**		**21 04 18.9 +0.9**
TPNV	**Topopah Spring**	**49.44 314**	IAmb	IAmb		21 04 22.6
	comp=Z,618nm,1.1s					
TPNV	**Topopah Spring**	**49.44 314**	⇓P	**P**		**21 04 20.2 +1.7**
TPNV	**Topopah Spring**	**49.44 314**	P			21 04 20.5
	baz=117,SNR=418					
TPNV			S			21 11 16.7
	baz=117					
RLMT	**Red Lodge**	**49.45 327**	P	**P**		**21 04 18.7 +0.3**
RLMT			IAmb	IAmb		21 04 22.7
	comp=Z,2µm,1.6s					
RLMT			pP	**pP**		**21 04 57.1 +2.1**
RLMT	**Red Lodge**	**49.45 327**	P			21 04 19.5
	baz=130,SNR=363					
RLMT			S			21 11 15.6
	baz=130					
HVU	**Hansel Valley**	**49.52 321**	IAmb	IAmb		21 04 24.3
	comp=Z,415nm,0.9s					
SCI2	**San Clemente I**	**49.56 308**	P			21 04 21.1
	baz=112,SNR=44					
SCI2			S			21 11 18.1
	baz=112					
FLWY	**Flagg Ranch**	**49.60 325**	P	**P**		**21 04 20.8 +1.1**
CIS	**Catalina Islan**	**49.61 309**	P			21 04 21.2
	baz=112,SNR=149					
CIS			S			21 11 18.3
	baz=112					
R11A	**Troy Canyon, C**	**49.62 316**	P			21 04 21.4
	baz=118,SNR=184					
R11A			S			21 11 17.4
	baz=118					
FMP	**Fort Macarthur**	**49.63 309**	P			21 04 21.4
	baz=112					
FMP			S			21 11 18.7
	baz=112					
MWC	**Mount Wilson**	**49.65 310**	IAmb	IAmb		21 04 24.7
	comp=Z,927nm,1.8s					
FURC	**Furnace Creek,**	**49.68 313**	P			21 04 21.8
	baz=116,SNR=217					
FURC			S			21 11 17.6
	baz=116					
GO07	**Milladeo Hill,**	**49.68 181**	IAmb	IAmb		21 04 59.0
	comp=Z,955nm,1.8s					
H17A	**Grant Village**	**49.72 325**	P			21 04 22.0
	baz=128,SNR=160					
H17A			S			21 11 20.7
	baz=128					
PASC	**Pasadena Art C**	**49.73 310**	P	**P**		**21 04 22.1 +1.7**
PASC			IAmb	IAmb		21 04 24.9
	comp=Z,787nm,1.4s					
EDW2	**Edwards Air Fo**	**49.86 311**	P			21 04 22.8
	baz=114,SNR=301					
EDW2			S			21 11 20.8
	baz=114					
LRMC	**Laurel Mtn Rad**	**49.87 311**	P			21 04 23.0
	baz=114,SNR=241					
LRMC			S			21 11 22.6
	baz=114					
DECC	**Green Verdugo**	**49.87 310**	P			21 04 23.0
	baz=113,SNR=20					
MPMC	**Manual Prospec**	**49.96 312**	P			21 04 23.5
	baz=115,SNR=159					
MPMC			S			21 11 22.0
	baz=115					
YNM	**Yellowstone No**	**50.00 325**	P	**P**		**21 04 24.2 +1.5**
YMR	**Madison River**	**50.11 325**	IAmb	IAmb		21 04 27.4
	comp=Z,538nm,1.0s					
GRAC	**Grapevine Rang**	**50.27 313**	P			21 04 26.4
	baz=116,SNR=66					
GRAC			S			21 11 26.5
	baz=116					
OSI	**Osito Audit: C**	**50.31 310**	P	**P**		**21 04 26.0 +1.1**
OSI	**Osito Audit: C**	**50.31 310**	P			21 04 25.7
	baz=113,SNR=16					
OSI			S			21 11 27.2
	baz=113					
SNCC	**San Nicolas Is**	**50.42 308**	IAmb	IAmb		21 04 30.2
	comp=Z,2µm,1.6s					
SNCC	**San Nicolas Is**	**50.42 308**	P			21 04 27.1
	baz=111,SNR=45					
SNCC			S			21 11 28.4
	baz=111					
ISA	**Isabella, Lake**	**50.53 311**	P			21 04 28.1
	baz=114,SNR=129					
ISA			S			21 11 32.3
	baz=114					
ISA	**Isabella, Lake**	**50.53 311**	IAmb	IAmb		21 04 31.2
	comp=Z,981nm,1.9s					
ELK	**Elko**	**50.55 319**	P4KPbc			21 42 00.0
	comp=Z,2.1nm,0.8s,baz=156,slow=4.4,SNR=6.2					
ELK	**Elko**	**50.55 319**	P	**P**		**21 04 27.7 +0.8**
ELK			pmax	pmax		
	comp=Z,210nm,0.9s					
ELK	**Elko**	**50.55 319**	P	**P**		**21 04 27.7 +0.8**
CWC	**Cottonwood Cre**	**50.55 312**	P			21 04 28.5
	baz=115					
CWC			S			21 11 31.2
	baz=115					
ARVC	**Arvin**	**50.59 310**	P			21 04 28.7
	baz=113,SNR=48					
SCZ2	**Santa Cruz Isl**	**50.78 309**	P			21 04 29.7
	baz=111,SNR=90					
SCZ2			S			21 11 35.4
	baz=111					
TIN	**Tinemaha, Big**	**50.92 313**	P			21 04 31.5
	baz=115,SNR=95					
TIN			S			21 11 38.0
	baz=115					
SBC	**Santa Barbara**	**51.00 309**	P			21 04 31.4
	baz=112,SNR=9.9					
BOZ	**Bozeman (W)**	**51.05 326**	P			21 04 31.8
	baz=127,SNR=448					
BOZ			S			21 11 38.3
	baz=127					
BOZ	**Bozeman (W)**	**51.05 326**	IAmb	IAmb		21 04 33.9
	comp=Z,453nm,0.8s					
VES	**Vestal, Richgr**	**51.06 311**	P			21 04 32.2
	baz=113,SNR=181					
VES			S			21 11 40.5
	baz=113					
PKM	**Mcpherson Peak**	**51.24 310**	P			21 04 33.4
	baz=112,SNR=139					
PKM			S			21 11 41.0
	baz=112					
BCYI	**Bear Canyon**	**51.32 323**	P	**P**		**21 04 34.0 +1.5**
DLMT	**Dillon**	**51.45 325**	IAmb	IAmb		21 04 37.9
	comp=Z,1µm,1.6s					
VOG	**Valley Oaks Go**	**51.47 312**	P			21 04 34.0
	baz=113					
SMMC	**Simmler**	**51.54 310**	P			21 04 35.9
	baz=112,SNR=188					
SMMC			S			21 11 47.1
	baz=112					
NVAR	**Mina Array Bea**	**51.56 315**	P	**P**		**21 04 35.5 +1.1**
	comp=Z,153nm,0.7s,baz=115,slow=6.6,SNR=249					
NVAR			pP	**pP**		**21 05 11.5 +0.3**
	comp=Z,52nm,0.8s,baz=122,slow=7.4,SNR=2.1					
NVAR			PcP	**PcP**		**21 05 47.2 +1.1**
	comp=Z,79nm,0.7s,baz=135,slow=4.7,SNR=8.5					
NVAR			ScP	**ScP**		**21 09 28.9 +1.2**
	comp=Z,25nm,1.1s,baz=114,slow=13,SNR=5.4					
NVAR			LR	LR		21 28 02.7
	comp=Z,2µm,21.9s,baz=118,slow=38					
NVAR			PKP2ab			21 35 49.0
	comp=Z,1.1nm,0.8s,baz=266,slow=4.7,SNR=3.8					
NVAR			P4KPbc			21 42 03.9
	comp=Z,5.2nm,0.7s,baz=126,slow=4.6,SNR=29					
EGMT	**Eagleton**	**51.57 329**	P			21 04 35.5
	baz=131,SNR=348					
EGMT			S			21 11 45.6
	baz=131					
EGMT	**Eagleton**	**51.57 329**	IAmb	IAmb		21 04 37.6
	comp=Z,2µm,1.4s					
MLAC	**Mammoth, Mammo**	**51.60 313**	P			21 04 36.4
	baz=115,SNR=56					
LHV	**Little Huntoon**	**51.62 314**	IAmb	IAmb		21 04 38.7
	comp=Z,760nm,1.3s					
PAGB	**Antelope Grade**	**51.89 311**	P	**P**		**21 04 37.9 +1.2**
PAGB			IAmb	IAmb		21 04 40.1
	comp=Z,623nm,0.9s					
MFID	**Camas Ranch**	**52.30 321**	IAmb	IAmb		21 04 44.6
	comp=Z,836nm,0.8s					
WAKR	**Walker**	**52.40 314**	IAmb	IAmb		21 04 45.3
	comp=Z,2µm,1.9s					
PMPB	**Monarch Peak**	**52.48 311**	P	**P**		**21 04 41.9 +0.8**
PNTR	**Pine Nut**	**52.76 315**	P	**P**		**21 04 44.4 +1.1**
PNTR			IAmb	IAmb		21 04 47.0
	comp=Z,474nm,0.8s					
VCNR	**Virginia City**	**52.88 315**	IAmb	IAmb		21 04 48.0
	comp=Z,853nm,1.2s					
CMB	**Columbia Colle**	**52.88 313**	P	**P**		**21 04 44.5 +0.5**
CMB			pmax	pmax		
	comp=Z,145nm,1.1s					
CMB	**Columbia Colle**	**52.88 313**	P	**P**		**21 04 44.5 +0.5**
CMLA	**Cha da Macela**	**52.90 47**	P	**P**		**21 04 44.8 +0.8**
CMLA			pmax	pmax		
	comp=Z,1µm,1.7s					
CMLA	**Cha da Macela**	**52.90 47**	P	**P**		**21 04 44.8 +0.8**
CMLA			IAmb	IAmb		21 05 26.2
	comp=Z,1µm,1.7s					
MSO	**Missoula**	**53.07 326**	P			21 04 46.4
	baz=126,SNR=233					
MSO			S			21 12 06.7
	baz=126					
RUBR	**Rubicon Trail**	**53.13 315**	IAmb	IAmb		21 04 53.0
	comp=Z,708nm,0.9s					
FFC	**Flin Flon**	**53.14 339**	P	**P**		**21 04 45.4 -0.1**
FFC			pmax	pmax		
	comp=Z,1µm,1.6s					
FFC	**Flin Flon**	**53.14 339**	P	**P**		**21 04 45.4 -0.1**
FFC			IAmb	IAmb		21 04 48.1
	comp=Z,1µm,1.6s					
SAO	**San Andreas Ge**	**53.17 311**	P	**P**		**21 04 46.6 +0.6**
SAO			pmax	pmax		
	comp=Z,411nm,1.2s					
SAO	**San Andreas Ge**	**53.17 311**	P	**P**		**21 04 46.6 +0.6**
SAO			IAmb	IAmb		21 04 50.2
	comp=Z,411nm,1.1s					
SAO	**San Andreas Ge**	**53.17 311**	⇓P	**P**		**21 04 47.0 +1.0**
WVOR	**Wild Horse Val**	**53.60 319**	⇓P	**P**		**21 04 50.1 +0.9**
BEKR	**Beckworth**	**53.62 315**	IAmb	IAmb		21 04 52.7
	comp=Z,426nm,1.0s					
JTMT	**Jette**	**53.80 327**	P	**P**		**21 04 51.5 +1.0**
JTMT			IAmb	IAmb		21 04 54.2
	comp=Z,761nm,0.9s					
J08A	**Circle Bar Ran**	**53.94 320**	IAmb	IAmb		21 04 55.2
	comp=Z,644nm,1.2s					
ORV	**Oroville**	**54.29 315**	IAmb	IAmb		21 04 59.3
	comp=Z,540nm,1.0s					
WALA	**Waterton Lakes**	**54.37 328**	P	**P**		**21 04 55.2 +0.5**
MOD	**Modoc Plateau**	**54.46 318**	IAmb	IAmb		21 04 58.8
	comp=Z,941nm,1.6s					
F10A	**Beach Ranch, E**	**54.49 323**	IAmb	IAmb		21 04 58.2
	comp=Z,483nm,0.7s					
F10A	**Beach Ranch, E**	**54.49 323**	⇓P	**P**		**21 04 56.0 +0.4**
MCCM	**Marconi Confer**	**54.74 312**	IAmb	IAmb		21 05 00.9
	comp=Z,540nm,0.9s					
O03E	**Paynes Creek**	**54.80 315**	P			21 04 58.1
	baz=114					
O03E			S			21 12 28.9
	baz=114					
I07A	**Izee**	**54.94 320**	P	**P**		**21 04 59.6 +0.7**
I07A			IAmb	IAmb		21 05 02.8
	comp=Z,612nm,1.0s					
G08A	**Pilot Rock**	**55.19 322**	P	**P**		**21 05 01.5 +0.9**
G08A			pP	**pP**		**21 05 39.1 +1.2**
G08A			PcP	**sP**		**21 05 56.1 +0.3**
HOPS	**Hopland Field**	**55.20 313**	IAmb	IAmb		21 05 04.5
	comp=Z,485nm,1.2s					
K05A	**Summer Lake**	**55.22 318**	IAmb	IAmb		21 06 04.2
	comp=Z,352nm,0.9s					
E09A	**Wood Farm, Sta**	**55.31 323**	IAmb	IAmb		21 05 04.3
	comp=Z,677nm,1.0s					
WDC	**Whiskeytown Da**	**55.43 315**	⇑P	**P**		**21 05 01.2 -1.0**
M04C	**Macdoel**	**55.44 317**	P			21 05 03.5
	baz=115,SNR=224					
M04C			S			21 12 37.6
	baz=115					
O02D	**Mt. Diablo Mer**	**55.45 315**	P			21 05 02.3
	baz=113,SNR=150					
O02D			S			21 12 38.2
	baz=113					
MBO	**M'Bour**	**55.53 77**	P	**P**		**21 05 03.0 -0.4**
MBO			pP	**pP**		**21 05 43.8 +2.6**
MBO			IAmb	IAmb		21 05 49.0
	comp=Z,597nm,1.4s					
NEW	**Newport**	**55.66 326**	P4KPbc			21 42 19.7
	comp=Z,2.0nm,0.7s,baz=133,slow=3.5,SNR=5.6					
NEW	**Newport**	**55.66 326**	IAmb	IAmb		21 05 06.5
	comp=Z,494nm,1.1s					
NEW	**Newport**	**55.66 326**	P			21 05 04.4
	baz=123,SNR=295					
NEW			S			21 12 40.5
	baz=123					
J05D	**Fort Rock, OR**	**55.69 319**	P			21 05 05.8
	baz=116,SNR=432					
J05D			S			21 12 43.0
	baz=116					
N02D	**Trinity Center**	**55.70 316**	P			21 05 03.7
	baz=114,SNR=98					
N02D			S			21 12 38.6
	baz=114					
K04D	**Chiloquin, OR**	**55.74 318**	P			21 05 05.9
	baz=116,SNR=113					
K04D			S			21 12 43.1
	baz=116					
E08A	**Dider Farm, El**	**55.85 323**	P	**P**		**21 05 05.1 0.0**
L04D	**Klamath Falls**	**55.94 317**	P			21 05 06.7
	baz=115,SNR=272					
L04D			S			21 12 43.2
	baz=115					
M02C	**Callahan**	**55.98 316**	P			21 05 06.0
	baz=114,SNR=95					
M02C			S			21 12 41.1
	baz=114					
YBH	**Yreka Blue Hor**	**56.01 317**	P4KPbc			21 42 20.9
	comp=Z,2.5nm,0.9s,baz=336,slow=3.5,SNR=4.0					
YBH	**Yreka Blue Hor**	**56.01 317**	IAmb	IAmb		21 05 08.1
	comp=Z,214nm,0.7s					
D08A	**Wollman Farm,**	**56.05 324**	IAmb	IAmb		21 05 09.8
	comp=Z,320nm,0.8s					
F07A	**Phinny Hill Vi**	**56.08 322**	IAmb	IAmb		21 05 10.0
	comp=Z,339nm,0.7s					
HAWA	**Hanford**	**56.08 323**	P	**P**		**21 05 07.3 +0.5**
HAWA			IAmb	IAmb		21 05 10.5
	comp=Z,1µm,1.9s					
HAWA	**Hanford**	**56.08 323**	⇑P	**P**		**21 05 07.5 +0.7**

I05D Terrebonne, OR 56.23 320 P 21 05 09.7
baz=117,SNR=89
I05D S 21 12 48.5
baz=117
J04D Umpqua Nationa 56.24 318 P 21 05 09.6
baz=116,SNR=207
J04D S 21 12 48.0
baz=116
HUMO Hull Mountain 56.54 317 ⇓P **P** **21 05 09.9 -0.2**
JCC Jacoby Creek, 56.57 315 P **P** **21 05 11.8 +1.5**
G05D Wamic, OR 56.62 321 P 21 05 12.8
baz=118,SNR=103
G05D S 21 12 52.6
baz=118
I04A Tendick Farm, 56.68 319 P 21 05 11.9
baz=116,SNR=81
I04A S 21 12 51.3
baz=116
L02E Cave Junction 56.80 317 P 21 05 12.4
baz=114,SNR=39
L02E S 21 12 53.8
baz=114
FRB Frobisher Bay 56.94 2 S **S** **21 12 53.5 +0.1**
comp=Z,20nm,1.1s,baz=61,slow=18,SNR=1.8
FRB Frobisher Bay 56.94 2 ⇓P **P** **21 05 12.3 -0.2**
B08A Colville Reser 56.96 325 IAmb IAmb 21 05 15.9
comp=Z,588nm,0.8s
F05D White Salmon 57.01 321 P 21 05 14.9
baz=118,SNR=15
K02D Willamette Mer 57.05 317 P 21 05 14.6
baz=114,SNR=63
K02D S 21 12 56.9
baz=114
LTY Liberty 57.19 323 IAmb IAmb 21 05 18.1
comp=Z,589nm,0.8s
H04D Lebanon 57.21 320 P 21 05 15.3
baz=116,SNR=43
H04D S 21 12 58.4
baz=116
KBO Bosley Butte 57.24 316 P **P** **21 05 16.8 +1.6**
I03D Drain, OR 57.25 318 P 21 05 15.9
baz=115,SNR=93
I03D S 21 13 00.0
baz=115
MACI Morro de la Ar 57.42 61 P **P** **21 05 16.2 -0.6**
MACI pP **pP** **21 05 57.0 +2.1**
J01E Myrtle Point 57.42 318 P 21 05 17.9
baz=114,SNR=85
J01E S 21 13 02.9
baz=114
COR Corvallis 57.60 319 P **P** **21 05 19.0 +1.5**
COR pmax pmax
comp=Z,953nm,1.0s
COR Corvallis 57.60 319 P **P** **21 05 19.0 +1.5**
COR Corvallis 57.60 319 ⇓P **P** **21 05 19.2 +1.7**
LON Longmire 57.63 322 IAmb IAmb 21 05 21.0
comp=Z,268nm,0.8s
C06D Leavenworth 57.64 324 P 21 05 18.8
baz=119,SNR=41
C06D S 21 13 06.4
baz=119
I02D Swisshome 57.75 319 P 21 05 20.3
baz=114,SNR=76
I02D S 21 13 06.7
baz=114
PMOZ Porto Moniz, M 57.80 55 *e*P **P** **21 05 19.1 -0.2**
comp=Z,142nm,2.2s
PMOZ *i* LQ LQ 21 06 00.3
PMOZ *e*S **S** **21 13 07.5 +1.4**
PMOZ Porto Moniz, M 57.80 55 P **P** **21 05 18.2 -1.0**
PMOZ **pP** **21 05 58.6 +1.1**
GO09 Cerro Castillo 57.84 179 IAmb IAmb 21 06 00.6
comp=Z,622nm,1.8s
G03D McMinnville, O 57.84 320 P 21 05 20.8
baz=116,SNR=44
G03D S 21 13 08.2
baz=116
D05A Enumclaw 57.94 323 IAmb IAmb 21 05 25.1
comp=Z,747nm,1.0s
E04D Cinebar 58.00 322 P 21 05 21.0
baz=117,SNR=65
E04D S 21 13 09.3
baz=117
PMAR Madeira 58.01 56 *i* LQ LQ 21 06 02.6
NRS Narsarsuaq 58.03 15 *i* P **P** **21 05 21.9 +1.7**
comp=Z,459nm,0.8s
NRS Narsarsuaq 58.03 15 *i* P **P** **21 05 21.9 +1.7**
NRS pmax pmax
comp=Z,460nm,0.8s
NRS Narsarsuaq 58.03 15 P **P** **21 05 21.4 +1.3**
NRS IAmb IAmb 21 05 25.6
comp=Z,474nm,0.8s
NRS Narsarsuaq 58.03 15 *i* P **P** **21 05 21.9 +1.7**
NRS IAmb IAmb 21 05 25.4
comp=Z,460nm,0.8s
F04D Rainier, OR 58.06 321 P 21 05 21.6
baz=116,SNR=9.8
F04D S 21 13 11.0
baz=116
B06A Marblemount 58.28 324 P **P** **21 05 22.3 +0.2**
B06A IAmb IAmb 21 05 25.8
comp=Z,654nm,1.6s
D04E Lakebay 58.41 322 P 21 05 24.4
baz=117,SNR=48
B05A Bryant 58.51 324 P 21 05 23.7
baz=118,SNR=49
B05A S 21 13 14.8
baz=118
PMPS Porto Santo 58.56 55 *i* LQ LQ 21 06 02.7
PMPST Porto Santo, M 58.56 55 *i* LQ LQ 21 06 02.8
D03D Eldon 58.77 323 P 21 05 26.3
baz=117,SNR=126
D03D S 21 13 20.2
baz=117
A05A Maple Falls 58.86 324 IAmb IAmb 21 05 29.5
comp=Z,557nm,1.4s
A04D Lummi Island 59.09 324 P 21 05 28.4
baz=118,SNR=24
A04D S 21 13 23.3
baz=118
NUUK Nuuk 59.28 11 *i* P **P** **21 05 30.7 +2.0**
NUUK IAmb IAmb 21 05 32.5
comp=Z,747nm,1.0s
NUUK Nuuk 59.28 11 ⇓P **P** **21 05 30.6 +1.9**
PGC Sidney 59.49 324 IAmb IAmb 21 05 35.5
comp=Z,403nm,0.9s
EFI East Falkland 59.64 169 ⇑*e*P **P** **21 05 29.6 -1.8**
EFI pmax pmax
comp=Z,215nm,1.9s
EFI East Falkland 59.64 169 P **P** **21 05 30.9 -0.5**
EFI pP **pP** **21 06 09.8 -0.3**
EFI IAmb IAmb 21 06 14.7
comp=Z,375nm,1.2s
GO10 Punta Arenas 59.74 179 P **P** **21 05 33.4 +1.2**
H10N3 ASCENSION HYDR 60.16 103 P **P** **21 05 33.9 -1.4**
baz=286,slow=7.5,SNR=2.2
H10N2 ASCENSION HYDR 60.17 103 P **P** **21 05 37.0 +1.6**
baz=286,slow=7.5,SNR=3.3
H10N1 ASCENSION HYDR 60.18 103 P **P** **21 05 37.8 +2.3**
baz=286,slow=7.5,SNR=3.5
ASCN Ascension 60.31 103 P **P** **21 05 36.8 0.0**
ASCN PcP **PcP** **21 06 19.6 -0.8**
ASCN IAmb IAmb 21 06 35.9
comp=Z,383nm,0.9s
SFJD Kangerlussuaq 62.04 10 P **P** **21 05 47.7 +0.4**
comp=Z,210nm,1.0s,baz=201,slow=5.4,SNR=74
SFJD Kangerlussuaq 62.04 10 *i* P **P** **21 05 47.6 +0.2**
SFJD Kangerlussuaq 62.04 10 P **P** **21 05 47.6 +0.2**
SFJD IAmb IAmb 21 05 49.9
comp=Z,515nm,1.4s
SFJD Kangerlussuaq 62.04 10 *i* P **P** **21 05 47.6 +0.2**
SFJD Kangerlussuaq 62.04 10 ⇓P **P** **21 05 47.8 +0.4**
SFJD ⇓P **P** **21 05 47.8 +0.4**
DY2G Dye2 62.38 12 ⇑P **P** **21 05 50.4 +0.4**
DY2G ⇑P **P** **21 05 50.5 +0.6**
ISOG Isortoq, Green 63.30 15 *i* P **P** **21 05 56.9 +1.2**
ISOG IAmb IAmb 21 05 58.6
comp=Z,1μm,1.2s
YKA Yellowknife Ar 63.31 340 P **P** **21 05 56.4 +0.4**
comp=Z,748nm,0.7s,baz=128,slow=7.4,SNR=3013
YKA pP **pP** **21 06 35.0 +0.6**
comp=Z,116nm,0.7s,baz=126,slow=7.6,SNR=1.7
YKA LR LR 21 33 53.8
comp=Z,4μm,20.0s,baz=0.0,slow=36
YKA PKPPKP **P'P'df** **21 34 51.9 -0.3**
comp=Z,0.5nm,0.8s,baz=318,slow=2.3,SNR=6.0
YKA P4KPbc 21 42 51.6
comp=Z,2.7nm,0.7s,baz=119,slow=5.0,SNR=43
ANGG Ammassalik, Gr 63.70 16 IAmb IAmb 21 06 02.9
comp=Z,309nm,1.0s
ANGG Ammassalik, Gr 63.70 16 *i* P **P** **21 05 59.0 +0.6**
ANGG IAmb IAmb 21 06 03.2
comp=Z,332nm,1.1s
ANGG Ammassalik, Gr 63.70 16 ⇑P **P** **21 05 59.0 +0.6**
ANGG ⇓P **P** **21 05 59.1 +0.8**
BBB Bella Bella 63.73 326 P **P** **21 05 59.9 +1.2**
BBB IAmb IAmb 21 06 02.7
comp=Z,740nm,1.0s
BBB Bella Bella 63.73 326 ⇓P **P** **21 06 00.6 +1.8**
BBB ⇓P **P** **21 06 00.6 +1.8**
PTCN Pitcairn Islan 63.88 238 P **P** **21 06 02.1 +1.8**
PTCN IAmb IAmb 21 06 59.5
comp=Z,244nm,0.7s
ILULI Ilulissat 63.98 9 ⇓*i* P **P** **21 06 00.7 +0.6**
comp=Z,729nm,0.9s
ILULI Ilulissat 63.98 9 ⇓*i* P **P** **21 06 00.7 +0.6**
ILULI pmax pmax
comp=Z,730nm,0.9s
ILULI Ilulissat 63.98 9 ⇓*i* P **P** **21 06 00.8 +0.6**
ILULI IAmb IAmb 21 06 02.5
comp=Z,730nm,0.9s
PFVI Vila Bisbo 65.42 52 *e*P **P** **21 06 11.0 +0.9**
comp=Z,75nm,0.9s
PFVI Vila Bisbo 65.42 52 P **P** **21 06 11.1 +1.0**
LIS Lisbon 65.47 51 *e*S **S** **21 14 43.8 +1.6**
LIS AMS AMS 21 24 06.4
comp=N,3μm,20.0s
PTEO Sao Teotonio 65.58 52 *e*P **P** **21 06 12.1 +1.0**
comp=N,92nm,1.0s
PTEO *i* LQ LQ 21 06 53.6
PNCL Nicolau / Gran 65.83 51 *e*P **P** **21 06 13.3 +0.6**
comp=N,55nm,2.5s
NUUG Nuugaatsiaq 65.86 7 *i* P **P** **21 06 13.2 +1.0**
NUUG IAmb IAmb 21 06 14.9
comp=Z,395nm,0.9s
AVE Averroes 65.95 57 *e*S **S** **21 14 44.2 -4.2**
AVE Averroes 65.95 57 ⇑P **P** **21 06 14.6 +1.0**
ICESG Greenland Ices 65.96 12 *i* P **P** **21 06 14.2 +0.8**
ICESG IAmb IAmb 21 06 15.9
comp=Z,2μm,1.1s
MESJ Messejana 66.02 52 *e*P **P** **21 06 14.0 0.0**
MESJ AMb AMB 21 06 20.2
comp=Z,46nm,0.7s
MESJ *e*S **S** **21 14 50.6 +1.6**
MESJ AMS AMS 21 30 20.7
comp=Z,1μm,15.9s
MESJ Messejana 66.02 52 *e*P **P** **21 06 14.0 0.0**
MESJ *e*S **S** **21 14 50.6 +1.6**
MESJ Messejana 66.02 52 *e*P **P** **21 06 13.6 -0.4**
comp=Z,44nm,1.3s
PCVE Castro Verde 66.13 52 *e*P **P** **21 06 15.5 +0.8**
comp=Z,50nm,2.5s
PCVE *i* LQ LQ 21 06 53.2
PBDV Barranco-do-Ve 66.14 52 *e*P **P** **21 06 15.4 +0.6**
comp=Z,40nm,1.3s
PBDV *i* LQ LQ 21 07 15.7
PCAS Casmilo, Conde 66.23 49 *e*P **P** **21 06 15.4 +0.1**
comp=Z,47nm,1.1s
PMTG Montargil 66.25 50 *e*P **P** **21 06 14.7 -0.7**
comp=Z,33nm,2.2s
PMTG *i* LQ LQ 21 06 56.5
EVO Evora 66.31 51 *e*S **S** **21 14 48.5 -4.0**
EVO Evora 66.31 51 *e*P **P** **21 06 15.3 -0.5**
comp=Z,35nm,1.8s
EVO *i* LQ LQ 21 06 57.8
COI Coimbra 66.33 49 *e*P **P** **21 06 16.1 +0.2**
comp=Z,135nm,1.0s
PBEJ Beja 66.33 51 *e*P **P** **21 06 16.7 +0.7**
comp=Z,7.9nm,1.3s
PBEJ *i* LQ LQ 21 06 58.7
PVAQ Vaqueiros 66.34 52 *e*P **P** **21 06 16.6 +0.6**
comp=Z,33nm,1.8s
PVAQ *e*S **S** **21 14 57.3 +4.4**
PVAQ Vaqueiros 66.34 52 P **P** **21 06 16.8 +0.7**
PTO Porto 66.38 48 *e*P **P** **21 06 16.4 +0.3**
DIB Dawson Inlet, 66.57 326 IAmb IAmb 21 06 20.6
comp=Z,689nm,1.4s
UPNV Upernavik 66.72 5 *i* P **P** **21 06 18.3 +0.6**
UPNV IAmb IAmb 21 06 20.0
comp=Z,202nm,0.9s
PGAV Gavieira, Arco 66.79 47 *e*P **P** **21 06 18.1 -0.8**
comp=Z,66nm,1.5s
PGAV *e*S **S** **21 14 57.0 -1.4**
PVIS Viseu 66.81 49 *e*P **P** **21 06 18.6 -0.4**
comp=Z,47nm,2.6s
PVIS *i* LQ LQ 21 07 01.6
PCAB Cabril 66.92 48 *e*P **P** **21 06 19.3 -0.3**
comp=Z,36nm,1.2s
PMRV Marv??o 66.95 50 *e*P **P** **21 06 18.8 -1.1**
comp=Z,27nm,1.5s
PMRV *e*S **S** **21 15 01.7 +1.5**
PCBR Castelo Branco 66.96 50 *e*P **P** **21 06 19.4 -0.5**
comp=Z,40nm,1.4s
PBAR Barrancos 67.00 51 *e*P **P** **21 06 19.9 -0.3**
comp=Z,26nm,2.0s
MTE Manteigas 67.02 49 *e*P **P** **21 06 19.8 -0.5**
comp=Z,40nm,2.0s
MTE *i* LQ LQ 21 07 24.3
MTE *e*S **S** **21 15 00.8 -0.3**
MTE Manteigas 67.02 49 P **P** **21 06 19.3 -1.0**
MTE Manteigas 67.02 49 ⇑P **P** **21 06 20.3 0.0**
POLO Lamas de Olo 67.02 48 *e*P **P** **21 06 20.1 -0.3**
comp=Z,28nm,1.3s
PVRL Vila Real 67.06 48 *e*P **P** **21 06 20.0 -0.6**
comp=Z,47nm,2.2s
PVRL *i* LQ LQ 21 07 03.0
DLBC Dease Lake 67.38 331 IAmb IAmb 21 06 26.3
comp=Z,739nm,1.1s
RKT Rikitea 67.41 242 *e*S **S** **21 15 07.0 +1.0**
comp=Z,7μm,29.0s
RKT *e*LQ LQ 21 24 07.4
comp=Z,7μm,30.5s
RKT *e*LR LR 21 26 55.7
comp=Z,2μm,27.8s
TIC Toumodi 67.49 86 *e*P **P** **21 06 23.1 -0.6**
TIC Toumodi 67.49 86 *e*P P'P'df 21 34 35.2 -13
LIC Lamto 67.52 86 *e*P **P** **21 06 23.4 -0.5**
comp=Z,1μm,0.7s
LIC Lamto 67.52 86 *e*P P'P'df 21 34 37.9 -10
comp=Z,146nm,1.1s
MVO Moncorvo 67.55 48 *e*P **P** **21 06 23.1 -0.6**
comp=Z,60nm,2.4s
MVO *e*S **S** **21 15 08.0 +0.6**
DBIC Dimbokro 67.65 86 P **P** **21 06 23.7 -1.0**
comp=Z,361nm,0.7s,baz=261,slow=6.8,SNR=327
DBIC pP **pP** **21 07 05.2 +1.2**
comp=Z,111nm,0.7s,baz=261,slow=7.8,SNR=2.8
DBIC S **S** **21 15 07.4 -2.0**
comp=Z,14nm,0.9s,baz=346,slow=22,SNR=20
DBIC PKPPKP **P'P'df** **21 34 40.2 -7.6**
comp=Z,5.8nm,0.9s,baz=111,slow=0.6,SNR=4.4
DBIC Dimbokro 67.65 86 P **P** **21 06 23.6 -1.1**
DBIC IAmb IAmb 21 06 25.5
comp=Z,378nm,0.7s
DBIC **S** **21 15 07.4 -2.0**
WRAK Wrangell Islan 67.70 329 P 21 06 25.5
baz=113,SNR=64
WRAK S 21 15 11.3
baz=113
CRAG Craig 67.75 328 IAmb IAmb 21 06 28.0
comp=Z,424nm,1.1s
CRAG Craig 67.75 328 P 21 06 25.8
baz=112,SNR=31
CRAG S 21 15 12.7
baz=112
KIC Kosan Boka 67.79 86 *e*P **P** **21 06 25.3 -0.3**
comp=Z,820nm,0.7s
KIC Kosan Boka 67.79 86 *e*P P'P'df 21 34 38.2 -9.4
comp=Z,127nm,1.3s
IFR Ifrane 67.88 57 *e*P pP 21 07 03.0 -2.4
IFR Ifrane 67.88 57 *e*S **S** **21 15 11.1 -0.7**
PBRG Braganca 67.88 48 *e*P **P** **21 06 24.9 -0.8**
comp=Z,30nm,1.4s
PBRG *i* LQ LQ 21 07 28.5
CEU Ceuta 67.97 54 *e*S **S** **21 15 12.3 -0.2**
KOWA Kowa 68.06 77 P **P** **21 06 27.1 -0.1**
comp=Z,129nm,0.7s,baz=270,slow=5.6,SNR=303
KOWA pP **pP** **21 07 07.8 +1.4**
comp=Z,107nm,0.9s,baz=278,slow=3.6,SNR=4.1
KOWA Kowa 68.06 77 P **P** **21 06 27.4 +0.2**
KOWA pP **pP** **21 07 08.3 +1.9**
KOWA IAmb IAmb 21 07 12.5
comp=Z,1μm,1.8s
VAL Valentia 68.07 36 ⇑P **P** **21 06 27.1 +0.5**
VAL ⇑P **P** **21 06 27.2 +0.7**
HOPE Hope Point 68.13 158 P **P** **21 06 26.1 -0.7**
HOPE pmax pmax
comp=Z,237nm,1.2s
HOPE Hope Point 68.13 158 P **P** **21 06 26.1 -0.7**
MDT Midelt 68.23 57 P **P** **21 06 27.8 -0.4**
comp=Z,13nm,0.6s,baz=304,slow=1.9,SNR=42
MDT pP **pP** **21 07 08.7 +1.1**
comp=Z,30nm,0.9s,baz=263,slow=6.7,SNR=4.9
BORG Borgarnes 68.28 21 P **P** **21 06 28.2 +0.6**
comp=Z,40nm,0.8s,baz=240,slow=4.6,SNR=5.6
BORG Borgarnes 68.28 21 P **P** **21 06 28.2 +0.6**
BORG pmax pmax
comp=Z,952nm,1.9s
BORG Borgarnes 68.28 21 IAmb IAmb 21 08 56.4
comp=Z,952nm,1.9s
KULLO Kullorsuaq 68.35 4 *i* P **P** **21 06 28.7 +0.8**
comp=Z,365nm,0.8s
KULLO Kullorsuaq 68.35 4 *i* P **P** **21 06 28.7 +0.8**
KULLO pmax pmax
comp=Z,370nm,0.8s
KULLO Kullorsuaq 68.35 4 *i* P **P** **21 06 28.8 +0.8**
KULLO IAmb IAmb 21 06 30.6
comp=Z,366nm,0.8s
TAOE Nuku Hiva Isla 68.67 258 *e*S **S** **21 15 22.6 +1.0**
comp=Z,4μm,24.8s
TAOE *e*LQ LQ 21 24 38.8
comp=Z,5μm,27.2s
TAOE *e*LR LR 21 27 34.7
comp=Z,4μm,35.1s
TAOE Nuku Hiva Isla 68.67 258 P **P** **21 06 31.8 +0.7**
PVLZ Peæn de 68.75 55 *e*P pP 21 07 06.3 -4.3
PVLZ Peæn de 68.75 55 *e*S **S** **21 15 19.4 -2.2**
EMAL Malaga-Limoner 68.84 53 *e*P pP 21 07 11.7 +0.5
EMAL Malaga-Limoner 68.84 53 *e*S **S** **21 15 20.4 -2.3**
SUMG Summit 69.00 11 *i* P **P** **21 06 33.7 +1.2**
comp=Z,4μm,0.8s
SUMG Summit 69.00 11 *i* P **P** **21 06 33.7 +1.2**
SUMG pmax pmax
comp=Z,4μm,0.8s
SUMG Summit 69.00 11 *i* P **P** **21 06 33.7 +1.2**
SUMG IAmb IAmb 21 06 35.6
comp=Z,4μm,0.8s
SUMG Summit 69.00 11 ⇓P **P** **21 06 33.3 +0.8**
SUMG ⇑P **P** **21 06 33.5 +1.0**
RES Resolute Bay 69.01 354 P **P** **21 06 32.7 +0.7**
comp=Z,96nm,0.8s,baz=172,slow=9.3,SNR=200
RES pP **pP** **21 07 12.7 +1.3**
comp=Z,33nm,0.8s,baz=161,slow=6.4,SNR=1.8
PAB San Pablo 69.29 50 P **P** **21 06 33.9 -0.7**
PAB pmax pmax
comp=Z,61nm,0.9s
PAB San Pablo 69.29 50 P **P** **21 06 33.9 -0.7**
PAB San Pablo 69.29 50 ⇑P **P** **21 06 33.8 -0.8**
PAB ⇑P **P** **21 06 34.0 -0.5**
JIS Juneau Island 69.42 330 IAmb IAmb 21 06 38.7
comp=Z,448nm,1.0s
SIT Sitka 69.46 329 IAmb IAmb 21 06 38.8
comp=Z,405nm,1.0s
SIT Sitka 69.46 329 P 21 06 36.6
baz=110,SNR=32
SIT S 21 15 34.6
baz=110
ESDC Sonseca Array 69.61 50 P **P** **21 06 36.1 -0.3**
comp=Z,14nm,0.7s,baz=268,slow=6.1,SNR=113
ESDC pP **pP** **21 07 16.3 +0.2**
comp=Z,22nm,0.8s,baz=268,slow=5.0,SNR=5.2
ESDC PKPPKP **P'P'df** **21 34 39.5 -3.8**
comp=Z,30nm,1.1s,baz=57,slow=2.5,SNR=41
ESDC Sonseca Array 69.61 50 P **P** **21 06 36.1 -0.3**
ESDC pP **pP** **21 07 16.9 +0.8**
ESDC sP **sP** **21 07 36.5 +2.8**
ESDC **P'P'df** **21 34 39.3 -4.1**
TULEG Thule 69.74 1 IAmb IAmb 21 06 39.7
comp=Z,719nm,1.2s
TULEG Thule 69.74 1 ⇓*i* P **P** **21 06 37.7 +1.2**
TULEG IAmb IAmb 21 06 41.7
comp=Z,652nm,1.2s
BESE Bessie Mountai 69.77 331 IAmb IAmb 21 06 42.6
comp=Z,489nm,1.0s
MELI Melilla 69.87 55 *e*P pP 21 07 17.2 -0.4
MELI Melilla 69.87 55 *e*S **S** **21 15 34.9 +0.1**
SKAG Skagway 70.31 331 IAmb IAmb 21 06 44.1
comp=Z,314nm,0.9s
SKAG Skagway 70.31 331 P 21 06 42.1
baz=111,SNR=42
SKAG S 21 15 41.5
baz=111
SHEL Horse Pasture 70.33 110 P **P** **21 06 42.3 +1.1**
SHEL pmax pmax
comp=Z,238nm,1.1s
SHEL Horse Pasture 70.33 110 P **P** **21 06 42.2 +1.1**
C36M Paulatuk 70.64 343 P 21 06 41.4
baz=125,SNR=66
C36M S 21 15 38.6
baz=125
CCA1 Carnmenellis 70.66 39 *e*P **P** **21 06 42.6 0.0**
GMM Mts of Mourne 71.21 35 *e*P **P** **21 06 46.5 +0.8**
HTL Hartland 71.30 38 *e*P **P** **21 06 46.5 +0.1**
HTL IAmb IAmb 21 06 49.5
comp=Z,60nm,0.7s
SCO Scoresbysund 71.31 16 *i* P **P** **21 06 47.2 +1.1**
comp=Z,139nm,1.3s
SCO Scoresbysund 71.31 16 *i* P **P** **21 06 47.2 +1.1**
SCO pmax pmax
comp=Z,140nm,1.3s
SCO Scoresbysund 71.31 16 *i* P **P** **21 06 47.2 +1.1**
SCO IAmb IAmb 21 06 49.3
comp=Z,139nm,1.3s
CLGH Cloghs, Cushen 71.34 34 *e*P **P** **21 06 46.9 +0.4**
DYA Yadsworthy 71.53 39 *e*P **P** **21 06 47.4 -0.4**
ROSF Rostrenen 71.53 41 *e*P **P** **21 06 47.6 -0.2**
ROSF pmax pmax
comp=Z,51nm,0.8s
CART Cartagena 71.66 53 *e*S **S** **21 15 52.4 -3.0**
CART Cartagena 71.66 53 P **P** **21 06 48.9 +0.1**
PMSA Palmer Station 71.69 176 *e*P **P** **21 06 48.6 +0.3**
YRC Rhoscolyn 71.76 36 *e*P **P** **21 06 49.0 0.0**
LEWI Lewis, Hebride 71.79 31 *e*P **P** **21 06 49.6 +0.4**
LEWI IAmb IAmb 21 06 54.4
comp=Z,163nm,1.4s
WPS Cemaes, Angles 71.84 36 *e*P **P** **21 06 49.9 +0.4**
WLF1 Llynfaes 71.87 36 *e*P **P** **21 06 49.9 +0.2**
WLF1 IAmb IAmb 21 06 54.1
comp=Z,60nm,0.9s
WIM Isle of Man 71.91 35 *e*P **P** **21 06 50.7 +0.7**
WME Myndd Eilian 71.95 36 *e*P **P** **21 06 50.4 +0.2**
YLL Llanberis 71.97 36 *e*P **P** **21 06 50.9 +0.6**
SGMF Saint Gilles 71.99 41 *e*P **P** **21 06 50.2 -0.4**
SGMF pmax pmax
comp=Z,49nm,0.8s
IOMK Kirk Michael 72.00 35 *e*P **P** **21 06 50.2 -0.3**
LAWE Loch Awe, Argy 72.04 33 *e*P **P** **21 06 51.3 +0.6**
GAL1 Galloway 72.06 34 *e*P **P** **21 06 51.4 +0.5**
SJPF Ste Jean 72.12 47 *e*P **P** **21 06 51.4 -0.1**
SJPF pmax pmax
comp=Z,43nm,0.6s
KPL Plockton 72.19 32 *e*P **P** **21 06 52.0 +0.5**
JVM Valle D.L. Mar 72.39 41 *e*P **P** **21 06 53.1 +0.3**
NEWG New Galloway 72.39 34 *e*P **P** **21 06 52.5 -0.3**
NEWG IAmb IAmb 21 06 54.2
comp=Z,51nm,0.6s
JSA Saint Aubin 72.41 41 *e*P **P** **21 06 52.6 -0.3**
KAC Achnashellach 72.42 32 *e*P **P** **21 06 53.2 +0.3**
MCH1 Michaelchurch 72.42 38 *e*P **P** **21 06 52.6 -0.4**
MCH1 IAmb IAmb 21 06 55.8
comp=Z,59nm,0.7s
FOEL Foel Wylfa 72.49 37 *e*P **P** **21 06 52.8 -0.6**
MONM Monmouth 72.51 38 *e*P **P** **21 06 53.3 -0.3**
MONM IAmb IAmb 21 06 56.1
comp=Z,128nm,0.9s
BCPM Bancas Point 72.54 331 IAmb IAmb 21 06 57.9
comp=Z,945nm,1.0s
ETSF Etsaut 72.58 47 *e*P **P** **21 06 54.6 +0.3**
ETSF pmax pmax
comp=Z,42nm,1.2s
EAB Aberfoyle 72.59 33 *e*P **P** **21 06 54.1 +0.2**
HLM1 Long Mynd 72.60 37 *e*P **P** **21 06 53.4 -0.7**
HLM1 IAmb IAmb 21 06 57.0
comp=Z,71nm,1.1s
OLDB Oldbury-Upon-S 72.63 38 *e*P **P** **21 06 54.4 +0.2**
OLDB IAmb IAmb 21 06 57.3
comp=Z,90nm,0.7s

INVG	**Invergeldie, C**	**72.81**	**33**	*eP*		**P**	**21 06 55.1**	**-0.1**
PINM	**Pinnacle**	**72.88**	**331**	P			21 06 57.8	
	baz=107,SNR=34							
PINM				S			21 16 11.9	
	baz=107							
PCA	**Pinnacle**	**72.88**	**331**	IAmb		IAmb	21 06 59.9	
	comp=Z,453nm,0.9s							
STRD	**Stroud**	**72.89**	**38**	*eP*		**P**	**21 06 55.9**	**+0.2**
STRD				IAmb		IAmb	21 06 58.6	
	comp=Z,127nm,0.9s							
KESW	**Keswick, Cumbr**	**72.91**	**35**	*eP*		**P**	**21 06 56.2**	**+0.3**
ESK	**Eskdalemuir**	**73.01**	**34**	*eP*		**P**	**21 06 56.6**	**+0.2**
ESK				IAmb		IAmb	21 07 00.1	
	comp=Z,56nm,0.9s							
ESK	**Eskdalemuir**	**73.01**	**34**	P		**P**	**21 06 56.7**	**+0.2**
ESK				pmax		pmax		
	comp=Z,137nm,1.1s							
ESK	**Eskdalemuir**	**73.01**	**34**	P		**P**	**21 06 56.7**	**+0.2**
EKA	**Eskdalemuir Ar**	**73.04**	**34**	P		**P**	**21 06 56.9**	**+0.3**
	comp=Z,16nm,0.5s,baz=275,slow=1.6,SNR=175							
EKA				pP		**pP**	**21 07 37.4**	**+0.6**
	comp=Z,19nm,0.6s,baz=257,slow=5.9,SNR=2.6							
SWN1	**Swindon**	**73.06**	**38**	*eP*		**P**	**21 06 57.0**	**+0.2**
SWN1				IAmb		IAmb	21 06 59.4	
	comp=Z,83nm,0.9s							
STNC	**Stoke**	**73.12**	**37**	*eP*		**P**	**21 06 58.0**	**+0.9**
STNC				IAmb		IAmb	21 06 59.9	
	comp=Z,74nm,0.7s							
GRR	**Gorron**	**73.13**	**42**	*eP*		**P**	**21 06 57.0**	**-0.3**
GRR				pmax		pmax		
	comp=Z,86nm,0.6s							
EDI	**Edinburgh**	**73.16**	**34**	*eP*		**P**	**21 06 58.0**	**+0.7**
EBL	**Broad Law**	**73.20**	**34**	*eP*		**P**	**21 06 57.6**	**+0.1**
EANR	**'Ain N'Sour**	**73.20**	**55**	P		**P**	**21 06 54.4**	**-3.7**
BIGH	**Upper Bighouse**	**73.39**	**31**	*eP*		**P**	**21 06 58.8**	**+0.2**
TABL	**Table Mountain**	**73.40**	**331**	IAmb		IAmb	21 07 03.0	
	comp=Z,497nm,1.0s							
ECHA	**Ech Chlef**	**73.43**	**54**	P		**P**	**21 06 59.5**	**+0.2**
FLN	**La Foliniere**	**73.43**	**41**	*eP*		**P**	**21 06 58.9**	**-0.2**
FLN				pmax		pmax		
	comp=Z,63nm,0.4s							
EPYK	**Eagle Plains**	**73.44**	**338**	P			21 07 00.2	
	baz=112,SNR=273							
EPYK				S			21 16 15.0	
	baz=112							
LBWR	**Ladybower, Pea**	**73.46**	**36**	*eP*		**P**	**21 06 59.3**	**+0.2**
LBWR				IAmb		IAmb	21 07 02.9	
	comp=Z,156nm,1.0s							
ESY	**Stoneypath**	**73.47**	**34**	*eP*		**P**	**21 06 59.6**	**+0.4**
EUNU	**Eureka**	**73.52**	**358**	P		**P**	**21 07 00.1**	**+1.0**
EBNR	**Beni Rached**	**73.57**	**54**	P		**P**	**21 07 02.7**	**+2.5**
CWF	**Charnwood Fore**	**73.58**	**37**	*eP*		**P**	**21 06 59.1**	**-0.7**
CWF				IAmb		IAmb	21 07 01.8	
	comp=Z,76nm,1.0s							
EDMD	**Edmundbyers**	**73.61**	**35**	*eP*		**P**	**21 07 00.1**	**+0.1**
HPK	**Haverah Park**	**73.63**	**36**	*eP*		**P**	**21 07 00.4**	**+0.3**
CTGM	**Chitina Glacie**	**73.63**	**332**	IAmb		IAmb	21 07 04.6	
	comp=Z,474nm,0.8s							
CTG	**Chitna Glacier**	**73.64**	**332**	P			21 07 02.5	
	baz=106,SNR=129							
CTG				S			21 16 21.1	
	baz=106							
LDF	**La Druitiere**	**73.64**	**41**	*eP*		**P**	**21 07 00.0**	**-0.3**
LDF				pmax		pmax		
	comp=Z,46nm,0.5s							
TOA0	**Torodi Ar. Sit**	**73.66**	**78**	IAmb		IAmb	21 07 46.1	
	comp=Z,1μm,2.0s							
TORD	**Torodi Ar. Bea**	**73.66**	**78**	P		**P**	**21 07 00.8**	**-0.3**
	comp=Z,26nm,0.3s,baz=293,slow=6.0,SNR=130							
TORD				pP		**pP**	**21 07 42.0**	**+1.0**
	comp=Z,50nm,0.9s,baz=286,slow=5.7,SNR=4.8							
TORD				S		**SKiKP**	**21 16 16.4**	**+1.7**
	comp=Z,7.0nm,1.2s,baz=246,slow=6.7,SNR=4.5							
TORD				PKPPKP		P'P'df	21 34 27.6	-10
	comp=Z,4.9nm,0.9s,baz=108,slow=4.8,SNR=4.8							
TORD	**Torodi Ar. Bea**	**73.66**	**78**	P		**P**	**21 07 00.4**	**-0.6**
TORD				pP		**pP**	**21 07 43.1**	**+2.1**
YAH	**Yahtse**	**73.67**	**331**	IAmb		IAmb	21 07 05.2	
	comp=Z,744nm,1.0s							
DAWY	**Dawson**	**73.70**	**335**	P		**P**	**21 07 01.1**	**+0.7**
DBG	**Daneborg**	**73.95**	**13**	*iP*		**P**	**21 07 03.8**	**+2.2**
DBG				IAmb		IAmb	21 07 04.8	
	comp=Z,339nm,1.1s							
GDLE	**Glaisdale, N Y**	**74.18**	**35**	*eP*		**P**	**21 07 03.8**	**+0.5**
HMNX	**Herstmonceux**	**74.28**	**39**	*eP*		**P**	**21 07 03.5**	**-0.4**
TGL	**Tana Glacier**	**74.28**	**331**	IAmb		IAmb	21 07 08.0	
	comp=Z,750nm,1.0s							
LMK	**Market Rasen**	**74.29**	**36**	*eP*		**P**	**21 07 04.4**	**+0.4**
RJF	**Les Rejaudoux**	**74.34**	**45**	*eP*		**P**	**21 07 03.8**	**-0.6**
RJF				pmax		pmax		
	comp=Z,25nm,0.6s							
BGLC	**Bering Glacier**	**74.35**	**331**	P			21 07 06.5	
	baz=104							
CRQE	**Cirque**	**74.41**	**331**	P			21 07 06.7	
	baz=104,SNR=78							
CRQE				S			21 16 28.3	
	baz=104							
CRQM	**Cirque**	**74.43**	**331**	IAmb		IAmb	21 07 08.8	
	comp=Z,507nm,1.0s							
MCARA	**McCarthy VSAT**	**74.53**	**332**	P		**P**	**21 07 07.4**	**+2.1**
MCARA				IAmb		IAmb	21 07 09.8	
	comp=Z,778nm,1.1s							
MCARA	**McCarthy VSAT**	**74.53**	**332**	P			21 07 07.6	
	baz=104,SNR=130							
MCARA				S			21 16 30.3	
	baz=104							
SUCK	**Suckling Hills**	**74.58**	**331**	IAmb		IAmb	21 07 10.2	
	comp=Z,2μm,1.7s							
EGAK	**Eagle**	**74.64**	**336**	P			21 07 07.0	
	baz=107,SNR=278							
EGAK				S			21 16 28.4	
	baz=107							
CAF	**Calviac**	**74.69**	**45**	*eP*		**P**	**21 07 06.0**	**-0.5**
CAF				pmax		pmax		
	comp=Z,27nm,0.7s							
WACR	**West Acre**	**74.74**	**37**	*eP*		**P**	**21 07 06.0**	**-0.5**
WACR				IAmb		IAmb	21 07 09.3	
	comp=Z,232nm,0.9s							
K27K	**Chicken**	**74.81**	**335**	IAmb		IAmb	21 07 12.7	
	comp=Z,402nm,1.0s							
ELSH	**Elham, Standar**	**74.82**	**39**	*eP*		**P**	**21 07 07.3**	**+0.3**
KAIM	**Kayak Island**	**74.86**	**330**	IAmb		IAmb	21 07 11.6	
	comp=Z,740nm,0.9s							
KAIM	**Kayak Island**	**74.86**	**330**	P			21 07 09.5	
	baz=103,SNR=28							
KAIM				S			21 16 35.4	
	baz=103							
HMT	**Hamilton**	**74.87**	**331**	P		**P**	**21 07 09.2**	**+2.0**
HMT				IAmb		IAmb	21 07 11.4	
	comp=Z,691nm,0.9s							
TCF	**Toulx Ste Croi**	**74.93**	**44**	*eP*		**P**	**21 07 07.2**	**-0.6**
TCF				pmax		pmax		
	comp=Z,42nm,1.1s							
RAGM	**Ragged Mountai**	**75.08**	**331**	IAmb		IAmb	21 07 12.7	
	comp=Z,1μm,1.0s							
LRW	**Lerwick**	**75.14**	**29**	*eP*		**P**	**21 07 09.1**	**+0.4**
BMRM	**Bremner River**	**75.18**	**331**	P			21 07 11.1	
	baz=103,SNR=200							
BMRM				S			21 16 35.9	
	baz=103							
MENT	**Mentasta**	**75.24**	**333**	P		**P**	**21 07 11.1**	**+1.8**
MENT				IAmb		IAmb	21 07 13.2	
	comp=Z,2μm,1.8s							
N25K	**Chitina, Valde**	**75.32**	**332**	IAmb		IAmb	21 07 14.0	
	comp=Z,437nm,1.0s							
N25K	**Chitina, Valde**	**75.32**	**332**	P			21 07 11.8	
	baz=103,SNR=132							
N25K				S			21 16 38.0	
	baz=103							
JMIC	**Jan Mayen**	**75.46**	**18**	P		**P**	**21 07 11.1**	**+0.7**
	comp=Z,36nm,0.4s,baz=166,slow=6.7,SNR=3.8							
JMIC	**Jan Mayen**	**75.46**	**18**	*eP*		**P**	**21 07 13.8**	**+3.4**
DOT	**Dot Lake**	**75.56**	**334**	IAmb		IAmb	21 07 15.1	
	comp=Z,923nm,0.8s							
SCRK	**Sand Creek**	**75.61**	**335**	P			21 07 13.3	
	baz=104,SNR=361							
SCRK				S			21 16 40.5	
	baz=104							
EYAK	**Cordova Ski Ar**	**75.64**	**331**	P		**P**	**21 07 13.4**	**+1.9**
EYAK				IAmb		IAmb	21 07 15.4	
	comp=Z,514nm,1.2s							
EYAK	**Cordova Ski Ar**	**75.64**	**331**	P			21 07 13.3	
	baz=102,SNR=34							
EYAK				S			21 16 44.1	
	baz=102							
DAG	**Danmarks Havn**	**75.67**	**11**	*iP*		**P**	**21 07 11.9**	**+0.5**
	comp=Z,347nm,0.8s							
DAG	**Danmarks Havn**	**75.67**	**11**	*iP*		**P**	**21 07 11.9**	**+0.5**
DAG				pmax		pmax		
	comp=Z,350nm,0.8s							
DAG	**Danmarks Havn**	**75.67**	**11**	*iP*		**P**	**21 07 12.0**	**+0.5**
DAG				IAmb		IAmb	21 07 13.8	
	comp=Z,348nm,0.8s							
MID	**Middleton Isla**	**75.71**	**330**	IAmb		IAmb	21 07 15.7	
	comp=Z,519nm,0.9s							
Q23K	**Middleton Isla**	**75.71**	**330**	IAmb		IAmb	21 07 15.7	
	comp=Z,532nm,0.9s							
Q23K	**Middleton Isla**	**75.71**	**330**	P			21 07 13.7	
	baz=101							
KLU	**Klutina**	**75.92**	**332**	IAmb		IAmb	21 07 16.9	
	comp=Z,469nm,1.0s							
KLU	**Klutina**	**75.92**	**332**	P			21 07 14.8	
	baz=102,SNR=143							
KLU				S			21 16 43.3	
	baz=102							
MAHO	**Mahon**	**75.94**	**51**	*eP*		pP	21 07 49.8	-4.2
MAHO	**Mahon**	**75.94**	**51**	*eS*		**S**	**21 16 39.8**	**-3.4**
HIN	**Hinchinbrook I**	**75.97**	**331**	P		**P**	**21 07 15.1**	**+1.6**
HIN				IAmb		IAmb	21 07 16.7	
	comp=Z,1μm,1.6s							
PAX	**Paxson**	**76.02**	**333**	IAmb		IAmb	21 07 17.4	
	comp=Z,657nm,1.1s							
PAX	**Paxson**	**76.02**	**333**	P			21 07 15.2	
	baz=103,SNR=219							
PAX				S			21 16 45.2	
	baz=103							
LOR	**Lormes**	**76.15**	**43**	*eP*		**P**	**21 07 14.0**	**-0.8**
LOR				pmax		pmax		
	comp=Z,35nm,1.0s							
M24K	**Tolsona, Glenn**	**76.16**	**332**	P			21 07 16.5	
	baz=102,SNR=184							
M24K				S			21 16 47.0	
	baz=102							
GLI	**Glacier Island**	**76.35**	**331**	P		**P**	**21 07 16.4**	**+0.8**
GLI	**Glacier Island**	**76.35**	**331**	P			21 07 16.5	
	baz=101							
GLI				S			21 16 50.3	
	baz=101							
PRP	**Porcupine Dome**	**76.62**	**336**	IAmb		IAmb	21 07 20.4	
	comp=Z,469nm,0.8s							
PRP	**Porcupine Dome**	**76.62**	**336**	P			21 07 18.3	
	baz=103,SNR=508							
SET	**Setif**	**76.69**	**55**	P		**P**	**21 07 19.0**	**+0.8**
SNF	**Seneffe**	**76.72**	**40**	*dP*		**P**	**21 07 17.8**	**0.0**
FYU	**Fort Yukon**	**76.75**	**337**	P		**P**	**21 07 18.6**	**+0.9**
FYU				IAmb		IAmb	21 07 21.3	
	comp=Z,859nm,1.2s							
UCC	**Uccle**	**76.80**	**40**	*dP*		**P**	**21 07 18.3**	**+0.1**
TAM	**Tamanrasset**	**76.88**	**68**	P		**P**	**21 07 20.5**	**+1.0**
DOU	**Dourbes**	**76.88**	**40**	*dP*		**P**	**21 07 18.6**	**-0.2**
	comp=Z,43nm,0.9s							
DOU				*dp*P		**pP**	**21 08 02.4**	**+3.0**
WAT6	**Susitna Watana**	**76.97**	**333**	P			21 07 20.4	
	baz=100,SNR=261							
WAT6				S			21 16 54.3	
	baz=100							
HDA	**Harding Lake**	**76.97**	**335**	IAmb		IAmb	21 07 22.1	
	comp=Z,639nm,0.9s							
HDA	**Harding Lake**	**76.97**	**335**	P			21 07 20.1	
	baz=102,SNR=373							
HDA				P			21 07 20.1	
	baz=102,SNR=373							
HDA				S			21 16 52.6	
	baz=102							
HDA				S			21 16 52.6	
	baz=102							
BMRD	**Maredsous**	**77.01**	**40**	*dP*		**P**	**21 07 19.3**	**-0.2**
	comp=Z,73nm,1.4s							
BMRD				*dp*P		**pP**	**21 08 01.1**	**+1.0**
ILAR	**Eielson Array**	**77.02**	**335**	P		**P**	**21 07 19.8**	**+0.5**
	comp=Z,154nm,0.8s,baz=101,slow=3.8,SNR=305							
ILAR				pP		**pP**	**21 08 01.1**	**+2.1**
	comp=Z,73nm,0.8s,baz=120,slow=4.2,SNR=3.7							
ILAR				PP		**PP**	**21 10 15.2**	**+0.4**
	comp=Z,40nm,0.9s,baz=100,slow=5.8,SNR=6.8							
GIVF	**Givet**	**77.03**	**40**	*eP*		**P**	**21 07 19.4**	**-0.2**
GIVF				pmax		pmax		
	comp=Z,84nm,0.9s							
VAH	**Vaihoa**	**77.05**	**253**	*eP*		**P**	**21 07 22.1**	**+1.8**
	comp=Z,182nm,1.2s							
VAH				*ep*P		**pP**	**21 08 00.2**	**0.0**
	comp=Z,107nm,1.1s							
DFRA	**Djebel Bou Aff**	**77.09**	**54**	P		**P**	**21 07 24.5**	**+4.1**
KNK	**Knik Glacier**	**77.10**	**331**	IAmb		IAmb	21 07 23.4	
	comp=Z,781nm,0.9s							
KNK	**Knik Glacier**	**77.10**	**331**	P			21 07 21.3	
	baz=100,SNR=262							
KNK				S			21 16 55.1	
	baz=100							
SML	**Sawmill**	**77.10**	**332**	IAmb		IAmb	21 07 23.4	
	comp=Z,1μm,1.2s							
SML	**Sawmill**	**77.10**	**332**	P			21 07 21.2	
	baz=100,SNR=176							
SML				S			21 16 56.2	
	baz=100							
BGES	**Gesves**	**77.22**	**40**	*dP*		**P**	**21 07 20.8**	**+0.1**
	comp=Z,65nm,1.2s							
BGES				*dp*P		**pP**	**21 08 03.5**	**+2.2**
RCHB	**Rochefort**	**77.30**	**40**	*dP*		**P**	**21 07 21.4**	**+0.3**
	comp=Z,120nm,1.5s							
RCHB				*dp*P		**pP**	**21 08 03.0**	**+1.4**
POKR	**Poker Plat Res**	**77.32**	**335**	IAmb		IAmb	21 07 25.3	
	comp=Z,1μm,1.4s							
POKR	**Poker Plat Res**	**77.32**	**335**	P			21 07 22.2	
	baz=101,SNR=114							
POKR				S			21 16 56.5	
	baz=101							
BCLA	**Clavier**	**77.36**	**40**	*bP*		**P**	**21 07 21.6**	**+0.1**
BCLA				*dp*P		**pP**	**21 08 03.8**	**+1.7**
BCLA				*ds*P		**sP**	**21 08 17.8**	**-1.9**
SEW	**Seward**	**77.37**	**330**	IAmb		IAmb	21 07 24.2	
	comp=Z,708nm,1.2s							
SEW	**Seward**	**77.37**	**330**	P			21 07 22.1	
	baz=98,SNR=55							
SEW				S			21 16 57.7	
	baz=98							
GHO	**Glory Hole Cre**	**77.38**	**332**	P		**P**	**21 07 22.5**	**+1.1**
ORIF	**Oris-en-Rattie**	**77.39**	**46**	*eP*		**P**	**21 07 22.3**	**+0.4**
ORIF				pmax		pmax		
	comp=Z,26nm,0.7s							
WAT2	**Susitna Watana**	**77.42**	**333**	P			21 07 23.2	
	baz=100,SNR=423							
WAT2				S			21 16 59.2	
	baz=100							
PMR	**Palmer**	**77.44**	**332**	IAmb		IAmb	21 07 26.4	
	comp=Z,466nm,1.0s							
PMR	**Palmer**	**77.44**	**332**	P			21 07 22.9	
	baz=99,SNR=146							
PMR				S			21 16 58.3	
	baz=99							
COLA	**College**	**77.44**	**335**	*d iP*		**P**	**21 07 22.4**	**+0.9**
COLA				pmax		pmax		
	comp=Z,190nm,1.1s							
COLA	**College**	**77.44**	**335**	P		**P**	**21 07 22.5**	**+0.9**
COLA	**College**	**77.44**	**335**	P			21 07 22.5	
	baz=101							
COLA				S			21 16 59.4	
	baz=101							
TCOL	**CIGO, UAF Yank**	**77.45**	**335**	P			21 07 22.7	
	baz=101,SNR=17							
TCOL				S			21 16 57.9	
	baz=101							
WRH	**Wood River Hil**	**77.47**	**335**	P		**P**	**21 07 22.5**	**+0.7**
BSTI	**Sart Tilman**	**77.55**	**40**	*dP*		**P**	**21 07 22.9**	**+0.4**
O22K	**Cooper Landing**	**77.56**	**330**	IAmb		IAmb	21 07 31.8	
	comp=Z,690nm,0.8s							
O22K	**Cooper Landing**	**77.56**	**330**	P			21 07 23.5	
	baz=98,SNR=38							
O22K				S			21 16 58.9	
	baz=98							
MDM	**Murphy Dome**	**77.62**	**335**	IAmb		IAmb	21 07 26.0	
	comp=Z,962nm,1.3s							
CABF	**La Chapelle**	**77.62**	**44**	*eP*		**P**	**21 07 24.9**	**+1.8**
CABF				pmax		pmax		
	comp=Z,33nm,0.9s							
BEBN	**Eben Emael**	**77.63**	**40**	*dP*		**P**	**21 07 23.5**	**+0.6**
BEBN				*dp*P		**pP**	**21 08 06.3**	**+2.7**
RC01	**Rabbit Creek A**	**77.66**	**331**	P			21 07 24.2	
	baz=98,SNR=85							
RC01				S			21 16 59.2	
	baz=98							
MCK	**McKinley**	**77.70**	**334**	P			21 07 24.6	
	baz=100,SNR=212							
MCK				S			21 17 02.1	
	baz=100							
CKFL	**Kef-Lekhel**	**77.77**	**54**	P		**P**	21 07 29.2	+5.0
BHOU	**Houvegnez**	**77.81**	**40**	*dP*		**P**	**21 07 24.3**	**+0.3**
	comp=Z,137nm,1.4s							
BHOU				*dp*P		**pP**	**21 08 06.4**	**+1.8**
MEM	**Membach**	**77.83**	**40**	*dP*		**P**	**21 07 24.2**	**+0.2**
	comp=Z,72nm,1.3s							
MEM	**Membach**	**77.83**	**40**	P		**P**	**21 07 25.3**	**+1.3**
WLF	**Walferdange**	**77.86**	**41**	*dP*		**P**	**21 07 24.5**	**+0.2**
WLF				*dp*P		**pP**	**21 08 06.0**	**+1.1**
WLF	**Walferdange**	**77.86**	**41**	P		**P**	**21 07 24.4**	**+0.2**
WLF				pmax		pmax		
	comp=Z,308nm,1.2s							
WLF	**Walferdange**	**77.86**	**41**	P		**P**	**21 07 24.4**	**+0.2**
WLF	**Walferdange**	**77.86**	**41**	*eP*		**P**	**21 07 24.5**	**+0.2**
	comp=Z,135nm,0.9s,baz=269,slow=5.4							
FRF	**La Foret Royal**	**77.88**	**47**	*eP*		**P**	**21 07 24.0**	**-0.5**
FRF				pmax		pmax		
	comp=Z,19nm,0.6s							
HAU	**Haudompre**	**77.88**	**42**	*eP*		**P**	**21 07 25.4**	**+1.0**
HAU				pmax		pmax		
	comp=Z,46nm,1.2s							
BTNL	**Ternell**	**77.90**	**40**	*dP*		**P**	**21 07 26.2**	**+1.7**
	comp=Z,67nm,1.5s							
BTNL				*dp*P		**pP**	**21 08 06.0**	**+0.8**
NEA2	**Nenana**	**77.91**	**335**	P			21 07 25.5	
	baz=100,SNR=397							
NEA2				S			21 17 01.9	
	baz=100							
BNI	**Bardonecchia**	**77.96**	**45**	P		**P**	**21 07 26.1**	**+1.0**
BRSE	**Bradley Lake S**	**77.97**	**330**	P			21 07 25.7	
	baz=97,SNR=76							
BRSE				S			21 17 02.9	
	baz=97							
MEH	**Mehetia**	**77.97**	**250**	*eP*		**P**	**21 07 27.2**	**+1.8**
	comp=Z,45nm,1.0s							
MEH				*ep*P		**pP**	**21 08 05.2**	**-0.2**
	comp=Z,37nm,1.1s							
MBDF	**Montbardon**	**78.01**	**46**	*eP*		**P**	**21 07 27.2**	**+1.8**
MBDF				pmax		pmax		
	comp=Z,16nm,0.8s							
LPL	**La Plagne**	**78.02**	**45**	*eP*		**P**	**21 07 25.8**	**+0.3**
LPL				pmax		pmax		
	comp=Z,31nm,0.7s							
LPG	**La Plagne**	**78.03**	**45**	*eP*		**P**	**21 07 26.0**	**+0.4**
LPG				pmax		pmax		
	comp=Z,25nm,0.6s							
BRLK	**Bradley Lake**	**78.04**	**330**	IAmb		IAmb	21 07 28.1	
	comp=Z,595nm,0.8s							
CUT	**Chulitna**	**78.10**	**332**	P			21 07 26.6	
	baz=98,SNR=130							
CUT				S			21 17 04.8	
	baz=98							
I23K	**Minto, Yukon-K**	**78.12**	**335**	IAmb		IAmb	21 07 28.9	
	comp=Z,361nm,0.9s							
I23K	**Minto, Yukon-K**	**78.12**	**335**	P			21 07 26.8	
	baz=100,SNR=282							
I23K				S			21 17 04.1	
	baz=100							
LOMF	**Lomont**	**78.17**	**43**	P		**P**	**21 07 26.5**	**+0.4**
SUE	**Sulen**	**78.18**	**29**	*eP*		**P**	**21 07 27.6**	**+1.9**
SUE				IVmB_BB			21 07 30.8	
	comp=Z,10μm,4.7s							
CNPM	**China Poot**	**78.19**	**329**	P		**P**	**21 07 26.9**	**+1.0**
CNPM				IAmb		IAmb	21 07 29.0	
	comp=Z,570nm,1.0s							
SUA	**Susitna One**	**78.19**	**331**	P			21 07 27.6	
	baz=98,SNR=238							
SUA				S			21 17 06.9	
	baz=98							
KMY	**Karmoy**	**78.20**	**31**	*eP*		**P**	**21 07 27.0**	**+1.1**
KMY				*eS*cS		**ScS**	**21 17 29.5**	**-1.4**
HINF	**Hinteralfeld**	**78.21**	**43**	*eP*		**P**	**21 07 25.4**	**-0.9**
HINF				pmax		pmax		
	comp=Z,28nm,0.6s							
TRF	**Thorofare Moun**	**78.26**	**333**	IAmb		IAmb	21 07 31.6	
	comp=Z,1μm,1.2s							
TRF	**Thorofare Moun**	**78.26**	**333**	P			21 07 27.8	
	baz=98,SNR=303							
TRF				S			21 17 07.7	
	baz=98							
CAPN	**Captain Cook N**	**78.30**	**331**	P			21 07 28.7	
	baz=97,SNR=9.9							
CAPN				S			21 17 07.9	
	baz=97							
ASK	**Askoy**	**78.32**	**30**	*eP*		**P**	**21 07 28.9**	**+2.4**
ASK				*eS*		**S**	**21 17 08.2**	**0.0**
CMAH	**Djebel Manchou**	**78.33**	**54**	P		**P**	**21 07 27.1**	**-0.1**
BER	**Bergen**	**78.38**	**30**	*eP*		**P**	**21 07 29.1**	**+2.2**
BER				IVmB_BB			21 08 15.3	
	comp=Z,6μm,4.9s							
BER				*eS*		**S**	**21 17 08.5**	**-0.4**
BER				*e*SKSac		**SKSac**	**21 17 24.3**	**-1.7**
FOO	**Floro**	**78.39**	**29**	*eP*		**P**	**21 07 29.2**	**+2.3**
FOO				IVmB_BB			21 08 18.5	
	comp=Z,8μm,4.7s							
MOF	**Molkenrain**	**78.40**	**43**	P		**P**	**21 07 27.3**	**-0.1**
HOM	**Homer**	**78.41**	**329**	P			21 07 28.4	
	baz=96,SNR=13							
SENIN	**Lac Senin/Sane**	**78.45**	**44**	P		**P**	**21 07 28.1**	**+0.3**
SBF	**Sospel**	**78.46**	**47**	*eP*		**P**	**21 07 27.3**	**-0.5**
SBF				pmax		pmax		
	comp=Z,34nm,0.8s							
AHRW	**Bad Neuenahr-A**	**78.50**	**40**	*eP*		**P**	**21 07 28.3**	**+0.5**
	comp=Z,73nm,0.8s,baz=269,slow=5.4							
AHRW				*ep*P		**pP**	**21 08 11.2**	**+2.8**
AHRW				*eS*		**S**	**21 17 08.9**	**-1.7**
	baz=270,slow=11							
SKT	**Skwentna**	**78.63**	**332**	IAmb		IAmb	21 07 31.6	
	comp=Z,674nm,0.9s							
SKT	**Skwentna**	**78.63**	**332**	P			21 07 29.4	
	baz=97,SNR=253							
SKT				S			21 17 10.3	
	baz=97							
BPAW	**Bear Paw Mtn.**	**78.66**	**334**	IAmb		IAmb	21 07 31.6	
	comp=Z,572nm,0.9s							
BPAW	**Bear Paw Mtn.**	**78.66**	**334**	P			21 07 29.5	
	baz=98,SNR=404							
BPAW				S			21 17 10.5	
	baz=98							
BUG	**Bochum--Univer**	**78.68**	**39**	*eP*		**P**	**21 07 28.7**	**+0.1**
	comp=Z,82nm,0.8s,baz=269,slow=5.4							
BUG				*eS*		**S**	**21 17 09.5**

SNART *i* P **P** **21 07 32.4 +1.5**
HLG Helgoland 79.21 36 *e*P **P** **21 07 31.8 +0.3**
comp=Z,292nm,1.3s,baz=269,slow=5.4
CHUM Lake Minchumin 79.21 334 P 21 07 32.5
baz=97,SNR=256
CHUM S 21 17 16.3
baz=97
BFO Black Forest 79.22 42 P **P** **21 07 31.3 -0.5**
BFO pmax pmax
comp=Z,100nm,1.3s
BFO Black Forest 79.22 42 P **P** **21 07 31.3 -0.5**
BFO Black Forest 79.22 42 *e*P **P** **21 07 31.3 -0.5**
comp=Z,38nm,0.9s,baz=269,slow=5.4
BFO *e*S **S** **21 17 14.9 -3.5**
baz=270,slow=11
SLE Schleitheim 79.31 43 P **P** **21 07 32.5 +0.2**
PPTF Pamatai, Papee 79.32 251 P **P** **21 07 34.6 +1.7**
PPT Papeete 79.32 251 P **P** **21 07 34.0 +1.1**
comp=Z,88nm,0.8s,baz=35,slow=0.2,SNR=12
PPT pP **pP** **21 08 15.1 +2.2**
comp=Z,62nm,0.8s,baz=47,slow=12,SNR=1.6
PPT LR LR 21 35 16.6
comp=Z,3μm,18.1s,baz=75,slow=30
PPT2 Papeete2 79.33 251 *e*P **P** **21 07 34.9 +2.0**
comp=Z,184nm,1.3s
PPT2 *e*pP **pP** **21 08 12.2 -0.8**
comp=Z,171nm,1.3s
PPT2 *e*S **S** **21 17 20.4 -0.2**
comp=Z,2μm,27.2s
PPT2 Papeete2 79.33 251 *e*LQ LQ 21 29 09.9
comp=Z,10μm,31.8s
PPT2 *e*LR LR 21 32 29.3
comp=Z,5μm,33.2s
PAE Paea 79.34 251 *e*P **P** **21 07 34.7 +1.8**
comp=Z,69nm,1.1s
PAE *e*pP **pP** **21 08 12.6 -0.3**
comp=Z,75nm,1.2s
TNS Taunus Mts 79.36 40 P **P** **21 07 33.1 +0.6**
TNS Taunus Mts 79.36 40 *e*P **P** **21 07 32.7 +0.2**
comp=Z,92nm,0.9s,baz=269,slow=5.4
TNS *e*S **S** **21 17 15.9 -4.0**
baz=270,slow=11
AKN Aaknes 79.37 28 *e*P **P** **21 07 35.0 +2.7**
KASTN Kahler Asten 79.38 39 *e*P **P** **21 07 32.5 -0.1**
comp=Z,40nm,0.9s,baz=269,slow=5.4
KASTN *e*pP **pP** **21 08 15.7 +2.3**
SII Sitkinak Islan 79.48 326 IAmb IAmb 21 07 35.7
comp=Z,461nm,0.8s
SII Sitkinak Islan 79.48 326 P 21 07 33.7
baz=94,SNR=20
PGF Pioggiola 79.58 48 *e*P **P** **21 07 33.3 -0.6**
PGF pmax pmax
comp=Z,23nm,0.6s
MOL Molde 79.66 28 *e*P **P** **21 07 35.1 +1.3**
MOL *e*PP **PP** **21 10 38.0 +1.2**
HOMB Homborsund 79.81 32 *e*P **P** **21 07 37.0 +2.4**
HOMB IVmBBB 21 07 53.9
comp=Z,5μm,4.3s
HOMB Homborsund 79.81 32 *i* P **P** **21 07 36.0 +1.4**
HOMB *i* P **P** **21 07 36.0 +1.4**
STU Stuttgart 79.81 42 *e*P **P** **21 07 34.6 -0.3**
comp=Z,111nm,0.8s,baz=269,slow=5.4
STU *e*pP **pP** **21 08 18.4 +2.6**
SKAR Skarslia 79.87 30 *e*P **P** **21 07 37.2 +2.2**
SKAR IVmB_BB 21 07 53.9
comp=Z,5μm,4.8s
SKAR *e*SKSac **SKSac** **21 17 34.2 -2.5**
SKAR IVMs_BB IVMs_BB 21 41 03.8
comp=Z,8μm,4.9s
KEST Kesra 79.90 55 P **P** **21 07 36.2 +0.5**
comp=Z,13nm,0.6s,baz=164,slow=3.1,SNR=18
KEST pP **pP** **21 08 18.6 +2.0**
comp=Z,48nm,0.9s,baz=281,slow=5.9,SNR=4.5
MSSA Maissana 79.97 46 P **P** **21 07 35.1 -0.9**
MUD Monsted U'grnd 80.07 34 *i* P **P** **21 07 37.5 +1.5**
comp=Z,126nm,0.6s
MUD Monsted U'grnd 80.07 34 *i* P **P** **21 07 37.5 +1.5**
MUD pmax pmax
comp=Z,130nm,0.6s
MUD Monsted U'grnd 80.07 34 *i* P **P** **21 07 37.6 +1.5**
MUD IAmb IAmb 21 07 39.1
comp=Z,126nm,0.6s
GOET G??ttrup 80.12 33 *i* P **P** **21 07 38.8 +2.5**
comp=Z,149nm,0.7s
GOET G??ttrup 80.12 33 *i* P **P** **21 07 38.9 +2.5**
GOET IAmb IAmb 21 07 39.5
comp=Z,150nm,0.7s
SKMB Sankelmark Bun 80.14 36 *e*P **P** **21 07 36.6 +0.1**
comp=Z,3μm,3.6s,baz=269,slow=5.4
SKMB *e*pP **pP** **21 08 20.6 +3.1**
DAVOX Davos/Dischmat 80.24 44 P **P** **21 07 38.2 +0.7**
comp=Z,106nm,0.8s,baz=270,slow=5.7,SNR=92
DAVOX pP **pP** **21 08 20.5 +2.2**
comp=Z,72nm,0.8s,baz=202,slow=4.6,SNR=2.0
DAVOX PKKPbc **PKKPbc** **21 26 19.3 -1.8**
comp=Z,5.5nm,0.7s,baz=74,slow=7.4,SNR=8.4
DAVA Damuels 80.24 43 *e*P **P** **21 07 37.5 +0.1**
comp=Z,116nm,0.8s,SNR=50
DAVA *e*P **pP** **21 08 22.1 +3.8**
comp=Z,234nm,1.5s
DAVA *e*P **P'P'df** **21 34 16.9 -7.3**
comp=Z,14nm,1.2s
DAVA Damuels 80.24 43 *e*P **PKKPbc** **21 26 21.0 -0.1**
comp=Z,9.3nm,0.6s,SNR=6.3
CHIR Chirikof Islan 80.25 325 IAmb IAmb 21 07 39.9
comp=Z,528nm,0.9s
CHIR Chirikof Islan 80.25 325 P 21 07 37.9
baz=92,SNR=8.9
JCUZ Jacuzzi 80.32 288 P **P** **21 07 39.0 +0.7**
JCUZ IAmb IAmb 21 07 41.5
comp=Z,528nm,0.9s
NPOC North of Pu'u 80.32 288 P **P** **21 07 39.2 +0.8**
NPOC IAmb IAmb 21 07 41.5
comp=Z,624nm,0.8s
DOMB Dombas 80.33 28 *e*P **P** **21 07 39.9 +2.4**
DOMB IVmB_BB 21 07 49.4
comp=Z,6μm,5.1s
DOMB *e*S **S** **21 17 28.3 -1.2**
TBI Tubuai 80.33 245 *e*P **P** **21 07 39.8 +1.7**
comp=Z,332nm,1.5s
TBI *e*S **S** **21 17 30.2 -0.6**
comp=Z,2μm,28.0s
TBI Tubuai 80.33 245 *e*LQ LQ 21 29 35.2
comp=Z,4μm,34.2s
TBI *e*LR LR 21 32 58.7
comp=Z,1μm,32.0s
STCH Steam Cracks 80.34 288 P **P** **21 07 40.1 +1.7**
GTTG Gottingen 80.36 39 *e*P **P** **21 07 38.1 +0.3**
comp=Z,76nm,0.9s,baz=269,slow=5.4
GTTG *e*S **S** **21 17 27.9 -2.3**
baz=270,slow=11
UBBA Unterbreizbach 80.37 40 *e*P **P** **21 07 38.3 +0.5**
comp=Z,22nm,1.2s,baz=269,slow=5.4
UBBA *e*pP **pP** **21 08 22.2 +3.6**
UBBA *e*S **S** **21 17 27.9 -2.2**
baz=270,slow=11
UBR Ueberruh 80.40 43 *e*P **P** **21 07 38.8 +0.7**
comp=Z,36nm,0.9s,baz=269,slow=5.4
UBR *e*pP **pP** **21 08 22.3 +3.2**
UBR *e*S **S** **21 17 29.4 -1.5**
baz=270,slow=11
PUH Pauahi 80.42 288 P **P** **21 07 40.0 +1.1**
PUH IAmb IAmb 21 07 42.0
comp=Z,555nm,0.9s
PUH **pP** **21 08 19.4 +0.5**
KONO Kongsberg 80.45 31⇓ *e*P **P** **21 07 39.0 +0.9**
KONO pmax pmax
comp=Z,97nm,2.0s
KONO Kongsberg 80.45 31 *e*P **P** **21 07 40.6 +2.5**
KONO IVmB_BB 21 08 35.8
comp=Z,5μm,4.9s
KONO *e*SKSac **SKSac** **21 17 38.7 -2.0**
BYL Byron's Ledge 80.46 289 IAmb IAmb 21 07 42.2
comp=Z,536nm,1.1s
HATHI Halema'uma'u T 80.46 289 IAmb IAmb 21 07 42.9
comp=Z,590nm,1.2s
KKO Keanakako`i 80.47 288 P **P** **21 07 40.8 +1.6**
KKO IAmb IAmb 21 07 43.0
comp=Z,876nm,1.2s
KKO **pP** **21 08 19.9 +0.7**
KKO **sP** **21 08 36.2 -0.2**
SBLHI Steaming Bluff 80.47 289 IAmb IAmb 21 07 42.9
comp=Z,551nm,1.2s
NRDL Niedersach Rie 80.47 38 *e*P **P** **21 07 39.4 +1.2**
comp=Z,46nm,0.8s,baz=269,slow=5.4
RIM Rim 80.48 288 IAmb IAmb 21 07 43.0
comp=Z,820nm,1.2s
UWB Uwekahuna B 80.48 289 P **P** **21 07 41.2 +2.0**
UWB IAmb IAmb 21 07 42.9
comp=Z,567nm,1.3s
UWB pP **pP** **21 08 19.6 +0.3**
UWB **sP** **21 08 35.3 -1.2**
SVW2 Sparrevohn 80.48 331 IAmb IAmb 21 07 40.6
comp=Z,518nm,0.9s
OBL Observatory Le 80.48 289 IAmb IAmb 21 07 43.0
comp=Z,653nm,1.3s
UWE Uwekahuna 80.49 289 IAmb IAmb 21 07 43.1
comp=Z,1μm,1.6s
SDHHI Sand Hill 80.50 288 IAmb IAmb 21 07 42.4
comp=Z,572nm,1.2s
WRMHI West Rim 80.50 289 IAmb IAmb 21 07 43.1
comp=Z,807nm,1.6s
HLP Hilina Pali 80.52 288 P **P** **21 07 41.0 +1.7**
HLP IAmb IAmb 21 07 43.5
comp=Z,879nm,1.3s
CLZ Clausthal 80.62 39 *e*P **P** **21 07 39.5 +0.3**
comp=Z,85nm,0.8s,baz=269,slow=5.4
CLZ *e*pP **pP** **21 08 23.3 +3.2**
CLZ *e*S **S** **21 17 29.6 -3.4**
baz=270,slow=11
BSEG Bad Segeberg 80.63 37 *e*P **P** **21 07 39.3 +0.2**
comp=Z,84nm,0.7s,baz=269,slow=5.4
HMH Humu'ula Sheep 80.66 289 IAmb IAmb 21 07 44.2
comp=Z,570nm,1.3s
POHA Pohakuloa 80.70 289 P **P** **21 07 42.1 +1.6**
POHA IAmb IAmb 21 07 44.1
comp=Z,1μm,1.4s
MLOA Mauna Loa Obse 80.75 289 P **P** **21 07 41.7 +0.7**
ASSE Asse, Remlinge 80.81 38 *e*P **P** **21 07 41.4 +1.3**
comp=Z,43nm,0.9s,baz=269,slow=5.4
ASSE *e*S **S** **21 17 32.0 -2.6**
baz=270,slow=11
FETA Feichten 80.82 44 *i* P **P** **21 07 41.1 +0.6**
comp=Z,78nm,0.8s,SNR=50
FETA *e*P **pP** **21 08 25.3 +3.8**
comp=Z,195nm,1.3s
FETA Feichten 80.82 44 *e*P **PKKPbc** **21 26 19.2 -0.6**
comp=Z,6.9nm,0.7s,SNR=6.6
RETA Reutte 80.84 43 *e*P **P** **21 07 40.8 +0.2**
comp=Z,36nm,0.8s,SNR=15
RETA Reutte 80.84 43 *i* P **PKKPbc** **21 26 19.5 -0.2**
comp=Z,3.5nm,0.6s
OSL Oslo 81.03 30 *e*P **P** **21 07 43.0 +1.9**
OSL IVmB_BB 21 07 43.7
comp=Z,5μm,5.1s
OSL *e*S **S** **21 17 36.3 -0.4**
KHLU Kahalu`u 81.05 289 P **P** **21 07 43.3 +1.1**
KHLU IAmb IAmb 21 07 45.3
comp=Z,2μm,1.9s
MOTA Moosalm 81.08 43 *e*P **P** **21 07 42.0 +0.1**
comp=Z,41nm,0.7s,SNR=23
MOTA *e*P P'P'df 21 34 14.7 -8.1
comp=Z,7.2nm,1.0s
MOTA Moosalm 81.08 43 *e*P **PKKPbc** **21 26 18.9 -0.3**
comp=Z,13nm,0.9s
NBO00 NORSAR Array S 81.10 29 P **P** **21 07 42.6 +1.0**
NAO01 NORSAR Array S 81.14 30 IAmb IAmb 21 08 50.7
comp=Z,524nm,1.1s
GRF Grafenberg Arr 81.15 41 P **P** **21 07 42.9 +0.9**
GRF Grafenberg Arr 81.15 41 *e*P **P** **21 07 41.4 -0.6**
comp=Z,27nm,0.9s,baz=269,slow=5.4
GRF *e*pP **pP** **21 08 25.6 +2.6**
GRF *e*S **S** **21 17 33.8 -4.7**
baz=270,slow=11
GRF *e*PKKP **PKKPbc** **21 26 18.0 -1.0**
baz=120,slow=1.2
GRF *e*PKPPKP **P'P'df** **21 34 21.8 -0.5**
baz=124,slow=0.9
GRF *e*X1 21 37 35.2
baz=109,slow=2.2
GRF *e*X2 21 38 47.3
baz=112,slow=2.8
GRFO Grafenberg 81.15 41 P **P** **21 07 42.2 +0.2**
GRFO *PP **pP** **21 08 23.8 +0.8**
GRFO pmax pmax
comp=Z,76nm,1.1s
GRFO Grafenberg 81.15 41 P **P** **21 07 42.2 +0.2**
GRFO pP **pP** **21 08 23.8 +0.8**
SQTA Sankt Quirin 81.15 43 *i* P **P** **21 07 42.3 +0.1**
comp=Z,59nm,0.8s,SNR=35
SQTA *e*P **P'P'df** **21 34 16.1 -6.5**
comp=Z,11nm,1.3s
SQTA Sankt Quirin 81.15 43 *e*P **PKKPbc** **21 26 18.9 -0.2**
comp=Z,10nm,0.8s
FLTG Flechtingen 81.16 38 *e*P **P** **21 07 41.8 -0.2**
comp=Z,75nm,0.8s,baz=269,slow=5.4
FLTG *e*S **S** **21 17 32.8 -5.6**
baz=270,slow=11
FUR Furstenfeldbru 81.19 42 *e*P **P** **21 07 42.5 +0.2**
comp=Z,83nm,1.6s,baz=269,slow=5.4
FUR *e*pP **pP** **21 08 26.2 +2.9**
HLK Haleakala 81.30 290 IAmb IAmb 21 07 47.1
comp=Z,715nm,1.4s
NB2 NORSAR Subarra 81.31 29 P **P** **21 07 43.9 +1.2**
comp=Z,29nm,0.7s,baz=267,slow=5.3
NB2 NORSAR Subarra 81.31 29 P **P** **21 07 45.3 +2.6**
NB2 pmax pmax
comp=Z,119nm,0.7s
NB2 NORSAR Subarra 81.31 29 P **P** **21 07 43.9 +1.2**
baz=267,slow=5.3
NOA NORSAR Array B 81.31 29 P **P** **21 07 43.9 +1.2**
comp=Z,76nm,0.6s,baz=268,slow=5.3,SNR=280
NOA pP **pP** **21 08 25.0 +1.3**
comp=Z,49nm,0.7s,baz=268,slow=5.4,SNR=3.0
NOA PKKPbc **PKKPbc** **21 26 15.9 -3.3**
comp=Z,3.3nm,0.9s,baz=254,slow=3.0,SNR=5.9
NOA PKPPKP **P'P'df** **21 34 22.0 +0.7**
comp=Z,2.7nm,0.9s,baz=256,slow=3.2,SNR=3.5
NB201 NORSAR Array S 81.35 29 P **P** **21 07 44.4 +1.6**
WATA Walderalm 81.40 43 *e*P **P** **21 07 43.6 0.0**
comp=Z,21nm,0.7s,SNR=15
WATA *e*P **pP** **21 08 27.8 +3.2**
comp=Z,64nm,1.4s
WATA *e*P **P'P'df** **21 34 14.8 -7.4**
comp=Z,13nm,1.4s
WATA Walderalm 81.40 43 *e*P **PKKPbc** **21 26 18.2 -0.3**
comp=Z,12nm,0.7s,SNR=8.1
WTTA Wattenberg 81.44 43 *e*P **P** **21 07 44.1 +0.3**
comp=Z,47nm,0.8s,SNR=20
WTTA *e*P **pP** **21 08 28.4 +3.6**
comp=Z,61nm,0.8s
WTTA *e*P P'P'df 21 34 14.2 -7.9
comp=Z,16nm,1.5s
WTTA Wattenberg 81.44 43 *e*P **PKKPbc** **21 26 18.4 0.0**
comp=Z,20nm,0.7s,SNR=16
WTTA Wattenberg 81.44 43 P **P** **21 07 44.2 +0.3**
NC602 NORSAR Array S 81.46 30 *e*P **P** **21 07 45.6 +2.2**
NC602 *e*S **S** **21 17 41.0 -0.2**
TEOL Teolo 81.49 45 P **P** **21 07 43.9 -0.1**
NEUB Neuenburg 81.50 39 *e*P **P** **21 07 44.0 +0.2**
comp=Z,54nm,0.8s,baz=269,slow=5.4
NEUB *e*S **S** **21 17 39.1 -2.8**
baz=270,slow=11
A21K Barrow 81.54 341 IAmb IAmb 21 07 47.4
comp=Z,836nm,0.9s
A21K Barrow 81.54 341 P 21 07 45.3
baz=94,SNR=175
A21K S 21 17 39.7
baz=94
MANZ Manzenberg 81.72 41 *e*P **P** **21 07 45.3 +0.3**
comp=Z,53nm,0.8s,baz=269,slow=5.4
MANZ *e*S **S** **21 17 43.4 -0.9**
baz=270,slow=11
PLN Plauen 81.74 40 *e*P **P** **21 07 45.2 +0.1**
comp=Z,50nm,0.8s,baz=269,slow=5.4
PLN *e*pP **pP** **21 08 28.6 +2.4**
LLD Lille Linde 81.75 35 *i* P **P** **21 07 47.0 +2.0**
LLD Lille Linde 81.75 35 *i* P **P** **21 07 47.0 +2.0**
LLD Lille Linde 81.75 35 *i* P **P** **21 07 47.0 +2.0**
NSS Namsos 81.75 26 *e*P **P** **21 07 46.8 +1.9**
NSS IVmB_BB 21 08 21.3
comp=Z,7μm,5.4s
ROTZ Rotzenmuhle 81.78 41 *e*P **P** **21 07 46.2 +0.8**
comp=Z,24nm,1.1s,baz=269,slow=5.4
CHGN Chignik 81.82 326 IAmb IAmb 21 07 47.8
comp=Z,709nm,0.9s
CHGN Chignik 81.82 326 P 21 07 45.9
baz=90,SNR=35
WERD Werda 81.84 40 *e*P **P** **21 07 45.6 -0.1**
comp=Z,25nm,0.8s,baz=269,slow=5.4
GUNZ Gunzen 81.86 40 *e*P **P** **21 07 46.1 +0.3**
comp=Z,27nm,0.8s,baz=269,slow=5.4
GUNZ *e*pP **pP** **21 08 28.9 +2.0**
COP Copenhagen 81.88 35⇓ *i*P **P** **21 07 47.8 +2.2**
comp=Z,79nm,0.7s
COP Copenhagen 81.88 35⇓ *i*P **P** **21 07 47.8 +2.2**
COP pmax pmax
comp=Z,79nm,0.7s
COP Copenhagen 81.88 35⇓ *i*P **P** **21 07 47.8 +2.2**
COP IAmb IAmb 21 07 48.5
comp=Z,79nm,0.7s
WERN Wernitzgruen 81.89 40 *e*P **P** **21 07 46.5 +0.5**
comp=Z,46nm,0.9s,baz=269,slow=5.4
N2RO R_st 81.91 23 *e*P **P** **21 07 47.5 +1.9**
NKC Novy Kostel 81.93 40 *e*P **P** **21 07 47.0 +0.8**
NKC *e* 21 17 47.7
NKC MLR MLR
comp=Z,2μm,19.1s
NKC Novy Kostel 81.93 40 *e*P **P** **21 07 47.0 +0.8**
NKC *e*S **S** **21 17 47.7 +1.2**
NKC AMS AMS 21 35 30.0
comp=Z,2μm,19.1s
TANN Tannenbergstha 81.94 40 *e*P **P** **21 07 46.5 +0.2**
comp=Z,64nm,0.9s,baz=269,slow=5.4
TANN *e*S **S** **21 17 47.0 +0.4**
baz=270,slow=11
ABTA Abfaltersbach 82.05 44 *e*P **P** **21 07 47.2 +0.3**
comp=Z,69nm,0.8s,SNR=33
ABTA *e*P **pP** **21 08 31.5 +3.5**
comp=Z,75nm,1.1s
ABTA *e*P P'P'df 21 34 12.9 -8.0
comp=Z,4.3nm,0.8s
ABTA Abfaltersbach 82.05 44 *e*P **PKKPbc** **21 26 16.4 -0.5**
comp=Z,6.4nm,1.0s
N2VA Vr_y 82.13 23 *e*P **P** **21 07 49.0 +2.3**
N2VA *e*S **S** **21 17 47.6 -0.1**
RJOB Jochberg 82.22 43 *e*P **P** **21 07 47.4 -0.4**
comp=Z,189nm,0.7s,baz=269,slow=5.4
RJOB *e*S **S** **21 17 45.9 -3.7**
baz=270,slow=11
STOK Stokkvaagen 82.23 24 *e*P **P** **21 07 49.1 +1.8**
WET Wettzell 82.23 41 P **P** **21 07 48.6 +0.8**
WET Wettzell 82.23 41 *e*P **P** **21 07 48.1 +0.3**
comp=Z,46nm,0.9s,baz=269,slow=5.4
WET *e*pP **pP** **21 08 32.3 +3.5**
WET *e*S **S** **21 17 49.1 -0.6**
baz=270,slow=11
N2SV S_rv¥gen 82.26 22 *e*P **P** **21 07 49.3 +1.9**
CLL Collm 82.27 39 *i* P **P** **21 07 48.3 +0.5**
CLL *i* Pmax 21 07 49.7
comp=Z,44nm,0.7s
CLL *e*pP **pP** **21 08 27.0 -1.9**
CLL *i* pPmax 21 08 31.9
comp=Z,150nm,1.7s
CLL *e*sP **sP** **21 08 44.0 -2.4**
CLL *e*pPP 21 11 35.0
CLL *e*sPP 21 11 48.0
CLL *e*S **S** **21 17 49.0 -0.8**
CLL *e*pS pS 21 18 49.0 +8.1
CLL *e*sS **sS** **21 18 56.0 -4.6**
CLL *e*sPS 21 19 45.0
CLL *e*SS **SS** **21 23 12.0 -1.4**
CLL *i* PKKPbc **PKKPbc** **21 26 15.9 -0.6**
comp=Z,7.0nm,0.9s
CLL *e*SSS SSS 21 26 42.0
CLL *e*SSSS 21 29 28.0
CLL *e*sSSSS 21 30 12.0
CLL L L 21 37 00.0
comp=Z,2μm,21.5s
CLL Collm 82.27 39 *i* P **P** **21 07 48.3 +0.5**
CLL *i* *PP **pP** **21 08 31.9 +3.0**
CLL *e*S **S** **21 17 49.0 -0.8**
CLL pmax pmax
comp=Z,44nm,0.7s
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 82.27 39 *e*P **P** **21 07 47.9 0.0**
comp=Z,44nm,0.7s,baz=269,slow=5.4
CLL *e*S **S** **21 17 46.8 -3.0**
baz=270,slow=11
KONS Konsvik 82.28 24 *e*P **P** **21 07 50.1 +2.6**
ZOU Zoufplan 82.37 44 P **P** **21 07 48.6 -0.1**
RGN Rugen 82.40 36 *e*S **S** **21 17 51.2 +0.3**
baz=270,slow=11
KBS Kingsbay 82.41 11 *de*P **P** **21 07 50.1 +2.1**
KBS pmax pmax
comp=Z,396nm,1.1s
KBS Kingsbay 82.41 11 P **P** **21 07 49.6 +1.5**
KBS Kingsbay 82.41 11 *e*P **P** **21 07 51.2 +3.2**
KBS IVmB_BB 21 07 51.7
comp=Z,3μm,1.1s
KBS *e*ScS **ScS** **21 18 03.7 -1.0**
KBS Kingsbay 82.41 11 *i* P **P** **21 07 50.8 +2.8**
KBS IAmb IAmb 21 07 52.2
comp=Z,696nm,0.9s
LOF Lofoten 82.46 22 *e*P **P** **21 07 50.3 +1.8**
LOF IVmB_BB 21 08 06.4
comp=Z,3μm,3.9s
LOF *e*S **S** **21 17 50.9 -0.2**
NBB15 Halsa Church 82.46 24 *e*P **P** **21 07 49.0 +0.6**
FBE Freiberg 82.50 40 *e*P **P** **21 07 49.4 +0.3**
comp=Z,56nm,0.7s,baz=269,slow=5.4
CNBA Chernabura Isl 82.50 324 IAmb IAmb 21 07 51.5
comp=Z,2μm,1.7s
CHNA Chernabura Isl 82.50 324 P 21 07 49.5
baz=89,SNR=22
HFS Hagfors 82.52 30 P **P** **21 07 49.5 +0.6**
comp=Z,48nm,0.5s,baz=222,slow=2.0,SNR=138
HFS pP **pP** **21 08 31.2 +1.1**
comp=Z,19nm,0.5s,baz=219,slow=3.8,SNR=2.3
NBB30 Finnes 82.53 23 *e*P **P** **21 07 50.9 +2.1**
KBA Koelnbreinsper 82.61 43 *e*P **P** **21 07 50.2 +0.3**
comp=Z,35nm,0.6s,SNR=38
KBA *e*P **pP** **21 08 34.6 +3.6**
comp=Z,121nm,1.1s
KBA *e*P **P'P'df** **21 34 14.3 -5.7**
comp=Z,5.9nm,1.7s
KBA Koelnbreinsper 82.61 43 P **P** **21 07 50.1 +0.2**
NBB17 Glomfjord B¥r 82.61 23 *e*P **P** **21 07 51.3 +2.0**
NBB05 Inndyr 82.64 23 *e*P **P** **21 07 51.9 +2.5**
NBB05 Inndyr 82.64 23 IVmB_BB 21 08 53.7
comp=Z,5μm,4.5s
NBB05 *e*S **S** **21 17 52.5 -0.4**
KHC Kasperske Hory 82.69 41 *d* *iP* **P** **21 07 50.8 +0.6**
KHC *i* *PP **pP** **21 08 31.2 -0.1**
KHC pmax pmax
comp=Z,112nm,1.0s
KHC Kasperske Hory 82.69 41 *e*P **P** **21 07 50.7 +0.6**
KHC *e*pP **pP** **21 08 30.3 -1.0**
KHC *e*S **S** **21 17 54.8 +0.5**
KHC *e*PKKP **PKKPbc** **21 26 15.2 -0.3**
KHC *ex* x 21 34 00.0
KHC AMS AMS 21 37 30.0
comp=Z,1μm,17.3s
RUE Ruedersdorf 82.72 38 *e*P **P** **21 07 50.2 +0.1**
comp=Z,88nm,0.7s,baz=269,slow=5.4
RUE *e*S **S** **21 17 53.8 -0.4**
baz=270,slow=11
ROBS Robic 82.75 44 *i* P **P** **21 07 50.6 +0.2**
ROBS *e*S **S** **21 17 53.8 -1.1**
GEC2 GERESS Array S 82.79 42 *e*P **P** **21 07 50.5 -0.2**
comp=Z,56nm,0.8s,baz=269,slow=5.4
GEC2 *e*S **S** **21 17 54.4 -1.0**
baz=270,slow=11
GERES GERESS Array B 82.79 42 P **P** **21 07 50.6 -0.2**
comp=Z,51nm,0.8s,baz=250,slow=2.7,SNR=153
GERES pP **pP** **21 08 33.0 +1.1**
comp=Z,21nm,0.7s,baz=268,slow=3.6,SNR=2.7
GERES PKKPbc **PKKPbc** **21 26 14.9 -0.4**
comp=Z,2.5nm,0.7s,baz=100,slow=1.7,SNR=13
GERES PKPPKP P'P'df 21 34 11.1 -8.4
comp=Z,1.8nm,0.9s,baz=90,slow=1.7,SNR=7.8
MOR8 Moi Rana 82.81 24 *e*P **P** **21 07 52.3 +1.9**
MOR8 IVmBBB 21 08 31.2
comp=Z,4μm,4.6s
MOR8 *e*S **S** **21 17 55.5 +0.7**
NBB28 Valnes 82.81 23 *e*P **P** **21 07 52.1 +1.8**
NBB28 IVmB_BB 21 08 14.7
comp=Z,4μm,7.0s
MYKA Terra Mystica 82.83 44 *e*P **P** **21 07 50.7 -0.3**
comp=Z,34nm,0.7s,SNR=27
MYKA *e*P **pP** **21 08 34.8 +2.8**
comp=Z,30nm,0.6s
AQU L'Aquila 82.84 48 *e*P **P** **21 07 50.6 -0.5**
OPA Opana 82.87 291 P **P** **21 07 52.9 +1.4**
OPA pmax pmax
comp=Z,257nm,1.1s
OPA Opana 82.87 291 P **P** **21 07 52.9 +1.4**

BRG Berggiesshubel 82.87 40 P **P 21 07 51.7 +0.7**
BRG Berggiesshubel 82.87 40 *e*P **P 21 07 51.6 +0.7**
BRG Amp 21 07 53.7
comp=Z,39nm,0.8s
BRG pP **pP 21 08 32.8 +0.6**
BRG Amp 21 08 37.8
comp=Z,141nm,1.8s
BRG *e*x x 21 09 07.9
BRG Amp 21 09 09.1
comp=Z,61nm,1.1s
BRG S **S 21 17 57.0 +1.1**
BRG sS **sS 21 19 05.0 -1.7**
BRG PKKP **PKKPbc 21 26 14.9 -0.2**
BRG *e*x x 21 29 39.0
BRG PKPPKP P'P'df 21 34 09.7 -9.3
BRG Amp 21 34 18.3
comp=Z,9.8nm,1.2s
BRG Berggiesshubel 82.87 40 *e*P **P 21 07 51.1 +0.1**
comp=Z,40nm,0.8s,baz=269,slow=5.4
BRG *e*S **S 21 17 56.5 +0.5**
baz=270,slow=11
NBB08 Skaug oppvekst 82.88 23 *e*P **P 21 07 52.4 +1.8**
HON Honolulu 82.89 291 IAmb IAmb 21 07 55.4
comp=Z,781nm,1.1s
KIP Kipapa 82.89 291*c* *i*P **P 21 07 54.5 +2.8**
KIP pmax pmax
comp=Z,367nm,1.3s
KIP Kipapa 82.89 291 P **P 21 07 54.0 +2.3**
KIP IAmb IAmb 21 07 55.4
comp=Z,583nm,1.3s
PBCC Pribram 82.95 41 *e*P **P 21 07 53.4 +2.0**
TRI Trieste 82.95 45 P **P 21 07 53.4 +1.9**
TRI pmax pmax
comp=Z,69nm,1.0s
SDPT Sand Point 83.00 325 IAmb IAmb 21 07 54.2
comp=Z,851nm,0.9s
SDPT Sand Point 83.00 325 P 21 07 52.4
baz=88,SNR=23
SDPT S 21 17 57.4
baz=88
N2TV Tvrnvik 83.06 23 *e*P **P 21 07 53.4 +1.8**
N2TV IVmB_BB 21 07 55.3
comp=Z,4µm,4.8s
HSPB Hornsund (broa 83.10 13 *e*P **P 21 07 55.0 +3.4**
HSPB *e*S **S 21 18 00.0 +2.7**
HSPB *e*L L 21 35 54.0
comp=Z,2µm,36.2s
HSPB Hornsund (broa 83.10 13 *e*P **P 21 07 55.1 +3.4**
HSPB IVmB_BB 21 07 55.5
comp=Z,5µm,1.1s
HSPB *e*ScS **ScS 21 18 09.5 -1.0**
STEI Steigen 83.10 22 *e*P **P 21 07 53.3 +1.6**
STEI *e*SKSac **S 21 17 56.1 -1.4**
FAUS Fauske 83.13 23 *e*P **P 21 07 54.0 +2.1**
SKDS Skadanscina 83.14 45 *e*S **S 21 17 57.6 -1.3**
SKDS *e* 21 29 45.7
CKRC Cesky Krumlov 83.19 42 *e*P **P 21 07 52.9 +0.2**
CKRC *e*S **S 21 18 02.7 +3.4**
CKRC *e*PKKP **PKKPbc 21 26 14.2 -0.1**
CKRC *e*x x 21 34 07.2
MOA Molln 83.20 43 *i*P **P 21 07 52.6 -0.2**
comp=Z,35nm,1.1s,SNR=25
MOA *e*P **pP 21 08 36.0 +2.1**
comp=Z,87nm,1.0s
MOA *e*P **P'P'df 21 34 12.3 -6.3**
comp=Z,2.6nm,1.1s
MOA Molln 83.20 43 *i*P **PKKPbc 21 26 09.6 -4.6**
comp=Z,7.0nm,0.5s
PRA Prague 83.22 40 *e*P **P 21 07 54.6 +1.9**
PRA *e* 21 17 58.8
PRA Prague 83.22 40 *e*P **P 21 07 54.6 +1.9**
PRA *e*S **S 21 17 58.8 -0.6**
N2ST Straumen 83.25 23 *e*P **P 21 07 54.2 +1.7**
PVCC Panska Ves 83.28 40 *e*P **P 21 07 53.9 +0.8**
PVCC Panska Ves 83.28 40 *e*P **P 21 07 53.9 +0.8**
PVCC *e*PKKP **PKKPbc 21 26 14.4 +0.3**
PRU Pruhonice 83.29 40 *e*P **P 21 07 54.0 +0.9**
PRU *e* 21 17 57.7
PRU MLR MLR
comp=Z,2µm,21.8s
PRU Pruhonice 83.29 40 *e*P **P 21 07 54.0 +0.9**
PRU *e*S **S 21 17 57.7 -2.5**
PRU *e*PKKP **PKKPbc 21 26 13.7 -0.4**
PRU AMS AMS 21 42 00.0
comp=Z,2µm,21.8s
BSD Bornholm Skovb 83.30 35⇓ *i*P **P 21 07 54.7 +1.7**
comp=Z,55nm,0.7s
BSD Bornholm Skovb 83.30 35 *e*P **P 21 07 54.8 +1.8**
BSD Bornholm Skovb 83.30 35⇓ *i*P **P 21 07 54.7 +1.7**
BSD pmax pmax
comp=Z,55nm,0.7s
BSD Bornholm Skovb 83.30 35⇓ *i*P **P 21 07 54.7 +1.7**
BSD IAmb IAmb 21 07 55.5
comp=Z,55nm,0.7s
N2IH Innhavet 83.36 22 *e*P **P 21 07 55.4 +2.3**
CEY Cerknica 83.41 45 *e*P **P 21 07 54.3 +0.4**
CEY *i*pP **pP 21 08 38.3 +3.2**
CEY *e*S **S 21 18 01.0 -0.7**
CEY *e* 21 18 50.9
CEY *e* 21 29 50.3
CEY Cerknica 83.41 45 *e*P **P 21 07 52.8 -1.1**
OBKA Obir 83.46 44 *e*P **P 21 07 54.9 +0.7**
comp=Z,18nm,0.7s,SNR=13
LJU Ljubljana 83.47 44 *i*P **P 21 07 54.6 +0.4**
LJU *i*pP **pP 21 08 38.5 +3.2**
LJU *e*S **S 21 18 01.5 -0.7**
LJU Ljubljana 83.47 44 *e*P **P 21 07 53.5 -0.7**
RIY Rijeka 83.47 45 P **P 21 07 54.5 +0.3**
RDOG Red Dog Mine 83.70 338 P 21 07 56.3
baz=88,SNR=133
RDOG S 21 18 01.3
baz=88
SOKA Soboth 83.78 44 *e*P **P 21 07 55.8 0.0**
comp=Z,12nm,0.5s,SNR=14
SOKA *e*P **P'P'df 21 34 12.6 -5.1**
SOKA Soboth 83.78 44 *e*P **PKKPbc 21 26 13.0 +0.1**
comp=Z,5.5nm,0.8s,SNR=5.4
NVLJ Novalja 83.79 46 *i*P **P 21 07 55.3 -0.5**
TREC Trest 83.94 41 *e*P **P 21 07 57.0 +0.5**
TREC *e* 21 18 04.7
TREC Trest 83.94 41 *e*P **P 21 07 57.0 +0.5**
TREC *e*S **S 21 18 04.7 -2.1**
DUGI Dugi Otok 83.96 47 *i*P **P 21 07 57.6 +0.9**
BJO1 Bjornoya 84.05 16 *e*P **P 21 07 59.2 +2.7**
BJO1 IVmB_BB 21 07 59.6
comp=Z,4µm,1.3s
BJO1 *e*S **S 21 18 06.7 -0.2**
ARSA Arzberg 84.08 43 *e*P **P 21 07 55.9 -1.4**
comp=Z,28nm,0.8s,SNR=23
ARSA *e*P **pP 21 08 40.4 +1.9**
comp=Z,26nm,0.7s
ARSA *e*P **P'P'df 21 34 10.7 -6.4**
comp=Z,3.7nm,1.1s
ARSA Arzberg 84.08 43 *e*P **PKKPbc 21 26 11.1 -1.1**
comp=Z,2.6nm,0.6s
CRES Cresnjev 84.13 45 *e*P **P 21 07 57.4 -0.1**
UPC Upice 84.20 40 *e*P **P 21 07 58.8 +1.0**
UPC *e* 21 18 10.3
UPC MLR MLR
comp=Z,2µm,20.6s
UPC Upice 84.20 40 *e*P **P 21 07 58.8 +1.0**
UPC *e*S **S 21 18 10.3 +0.9**
UPC AMS AMS 21 42 20.0
comp=Z,2µm,20.6s
XMAS Kiritimati 84.21 271 P **P 21 07 59.2 +0.7**
CHVC Chvalec 84.23 40 *e*P **P 21 07 58.4 +0.5**
CHVC *e*PKKP **PKKPbc 21 26 11.7 -0.3**
CONA Conrad Observa 84.27 43 *i*P **P 21 07 58.6 +0.3**
comp=Z,28nm,0.8s,SNR=28
CONA *e*P **pP 21 08 42.4 +2.9**
comp=Z,81nm,1.2s
CONA *e*P P'P'df 21 34 08.2 -8.5
comp=Z,4.6nm,1.1s
CONA Conrad Observa 84.27 43 *e*P **PKKPbc 21 26 11.4 -0.4**
comp=Z,8.5nm,1.2s
OSTC Ostas 84.33 40 *e*P **P 21 07 59.4 +1.0**
OSTC *e*S **S 21 18 09.2 -1.4**
OSTC *e*x x 21 34 13.5
KSP Ksiaz 84.36 40 *e*P **P 21 08 00.4 +1.9**
KSP *e*S **S 21 18 16.4 +5.5**
KSP *e*L L 21 36 26.5
comp=Z,2µm,35.4s
KSP Ksiaz 84.36 40 P **P 21 08 00.3 +1.7**
TRO Tromso 84.36 21 *e*P **P 21 07 59.9 +1.8**
TRO IVmB_BB 21 08 01.8
comp=Z,3µm,1.7s
ZIRJ Zirje 84.41 47 *i*P **P 21 07 57.6 -1.3**
DPC Dobruska-Polom 84.41 40 *e*P **P 21 07 59.0 +0.1**
DPC *e* 21 18 10.5
DPC Dobruska-Polom 84.41 40 *e*P **P 21 07 59.0 +0.1**
DPC *e*S **S 21 18 10.5 -1.0**
DPC *e*PKKP **PKKPbc 21 26 11.7 +0.1**
MORI Morici 84.44 47 *i*P **P 21 07 58.6 -0.5**
PTJ Puntijarka 84.48 45 P **P 21 07 59.7 +0.4**
UPP Uppsala 84.51 30 *e*P **P 21 07 59.6 +0.5**
KRUC Moravsky 84.55 41 *e*P **P 21 08 00.3 +0.8**
KRUC *e*pP **pP 21 08 43.5 +2.7**
KRUC *e*S **S 21 18 11.5 -1.3**
KRUC *e*PKKP **PKKPbc 21 26 10.2 -0.9**
KRUC Moravsky 84.55 41 P **P 21 08 00.3 +0.8**
VRAC Vranov 84.66 41 P **P 21 08 00.6 +0.5**
comp=Z,37nm,0.8s,baz=276,slow=5.9,SNR=51
VRAC pP **pP 21 08 43.0 +1.6**
comp=Z,45nm,1.1s,baz=276,slow=5.8,SNR=3.7
VRAC Vranov 84.66 41⇓ *e*P **P 21 08 01.2 +1.0**
VRAC Vranov 84.66 41 *e*P **P 21 08 01.1 +1.0**
VRAC *e*pP **pP 21 08 43.8 +2.4**
VRAC *e*S **S 21 18 16.6 +2.7**
VRAC *e*PKKP **PKKPbc 21 26 09.9 -1.0**
VRAC Vranov 84.66 41⇓ P **P 21 08 01.2 +1.0**
FALS False Pass 84.72 325 P 21 08 00.9
baz=86,SNR=19
KRLC Kraliky 84.72 40 P **P 21 08 01.5 +1.1**
KRLC Kraliky 84.72 40 *e*P **P 21 08 01.6 +1.1**
KRLC *e*PKKP **PKKPbc 21 26 10.7 -0.1**
SOP Sopron 84.76 43 P **P 21 08 02.0 +1.4**
SOP pmax pmax
comp=Z,60nm,1.2s
GKP Gorka Klasztor 84.77 37 *e*P **P 21 08 03.0 +2.5**
GKP *e*L L 21 38 19.9
comp=Z,3µm,21.1s
GKP Gorka Klasztor 84.77 37 *e*P **P 21 08 03.2 +2.7**
JETT Jettan, Norway 84.89 21 *e*P **P 21 08 03.1 +2.2**
BEHE Becsehely 85.00 44 *e*P **P 21 08 05.5 +3.7**
HVAR Hvar 85.03 47 *i*P **P 21 08 02.7 +0.7**
MOSL Moslavina 85.05 45 *i*P **P 21 08 03.3 +1.2**
ZST Bratislava 85.08 42 *e*P **P 21 08 03.8 +1.6**
ZST pmax pmax
comp=Z,100nm,0.9s
ZST Bratislava 85.08 42 *e*P **P 21 08 03.8 +1.6**
ZST Bratislava 85.08 42 *e*S **S 21 18 13.0 -5.1**
MODS Modra-Piesok 85.18 42 *e*P **P 21 08 03.3 +0.5**
MODS pmax pmax
comp=Z,53nm,0.9s
MODS Modra-Piesok 85.18 42 *e*P **P 21 08 03.3 +0.5**
MODS Modra-Piesok 85.18 42 *e*S **S 21 18 12.2 -7.0**
MORC Moravsky Berou 85.24 41⇑ P **P 21 08 05.0 +2.0**
MORC Moravsky Berou 85.24 41⇑ *e*P **PKKPbc 21 26 07.7 -1.9**
MORC Moravsky Berou 85.24 41 *e*P **P 21 08 03.8 +0.8**
MORC *e*pP **pP 21 08 47.3 +2.9**
MORC *e*S **S 21 18 21.0 +1.3**
MORC *e*PKKP **PKKPbc 21 26 09.2 -0.4**
MORC Moravsky Berou 85.24 41⇑ P **P 21 08 05.0 +2.0**
SMOL Smolenice 85.27 42 *e*P **P 21 08 05.2 +2.0**
SMOL Smolenice 85.27 42 *e*P **P 21 08 05.2 +2.0**
HOPEN Hopen 85.32 13 *e*P **P 21 08 05.2 +2.4**
HOPEN IAmb IAmb 21 08 07.6
comp=Z,445nm,1.5s
HOPEN *e*S **S 21 18 18.8 -0.5**
MGRS Mrkonjic Grad 85.38 46 *e*P **P 21 08 04.3 +0.4**
JAVC Velka Javorina 85.40 41 *e*P **P 21 08 05.3 +1.4**
JAVC *e*pP **pP 21 08 04.3 +4.0**
JAVC *e*PKKP **PKKPbc 21 26 09.6 +0.4**
BLY Banja Luka 85.43 46 *e*P **P 21 08 03.5 -0.5**
MAKA Makarska 85.44 47 *i*P **P 21 08 04.0 -0.1**
RICI Ricice 85.50 47 P **P 21 08 04.6 +0.1**
TIP Timpagrande 85.60 51⇓ P **P 21 08 04.4 -0.7**
TIP Timpagrande 85.60 51 P **P 21 08 04.5 -0.6**
OKC Ostrava-Krasne 85.62 40 *e*S **S 21 18 23.8 +0.4**
AAL Aland 85.67 30 *e*P **P 21 08 06.0 +1.2**
HAMF Hammerfest 85.87 19 *e*P **P 21 08 07.7 +2.0**
HAMF IVmB_BB 21 08 08.8
comp=Z,3µm,2.3s
HAMF *e*S **S 21 18 24.3 -0.6**
KTK1 Kautokeino 85.95 21 *e*P **P 21 08 07.5 +1.4**
STON Ston 85.97 47 *i*P **P 21 08 06.2 -0.5**
AKUT Akutan 86.15 324 IAmb IAmb 21 08 10.0
comp=Z,1µm,1.6s
VYHS Vyhne 86.20 42 *e*P **P 21 08 10.0 +2.2**
VYHS *e*S **S 21 18 22.7 -6.4**
VYHS Vyhne 86.20 42 *e*P **P 21 08 10.0 +2.2**
MORH Mrgy, Hungar 86.31 44⇓ P **P 21 08 09.7 +1.4**
MORH Mrgy, Hungar 86.31 44⇑ *e*P **PKKPbc 21 26 06.1 -0.7**
MORH Mrgy, Hungar 86.31 44⇓ *e*P **P'P'df 21 34 08.5 -4.4**
MORH Mrgy, Hungar 86.31 44 *e*P **P 21 08 06.8 -1.5**
DBRK Dubrovnik 86.32 48 *i*P **P 21 08 06.7 -1.7**
BUD Budapest 86.44 43 P **P 21 08 10.5 +1.6**
BUD pmax pmax
comp=Z,47nm,0.8s
TREB Trebinje 86.46 48 *e*P **P 21 08 08.1 -1.0**
LANS Liptovska Anna 86.55 41 *e*P **P 21 08 12.3 +2.7**
LANS pmax pmax
comp=Z,12nm,1.0s
LANS Liptovska Anna 86.55 41 *e*P **P 21 08 12.2 +2.7**
HCY Herceg Novi 86.59 48 *e*P **P 21 08 07.4 -2.4**
OJC Ojcow 86.64 40 *e*P **P 21 08 11.7 +1.8**
OJC *e*S **S 21 18 37.5 +4.3**
OJC *e*L L 21 37 43.9
comp=Z,2µm,25.7s
ARA0 ARCESS Array S 86.67 20 *e*P **P 21 08 10.5 +0.9**
ARCES ARCESS Array B 86.67 20 P **P 21 08 10.3 +0.7**
comp=Z,84nm,0.8s,baz=273,slow=4.2,SNR=127
ARCES pP **pP 21 08 52.2 +1.0**
comp=Z,21nm,0.6s,baz=266,slow=4.9,SNR=1.8
ARCES ARCESS Array B 86.67 20 P **P 21 08 10.1 +0.5**
HAPS Han Pijesak,Bl 86.75 46 *e*P **P 21 08 09.2 -1.5**
UPM Unac-Piva 86.81 47 *e*P P 21 08 02.2 -8.9
PSZ Piszkesteto 86.97 42⇓ P **P 21 08 13.4 +1.8**
PSZ Piszkesteto 86.97 42⇓ P **P 21 08 13.4 +1.8**
NIE Niedzica 87.06 41 *e*P **P 21 08 14.7 +2.7**
NIE *e*S **S 21 18 38.3 +0.9**
NIE *e*L L 21 38 46.8
comp=Z,1µm,23.4s
BEL Belsk 87.07 38 *e*P **P 21 08 14.4 +2.5**
BEL *e*S **S 21 18 38.8 +1.5**
BEL *e*L L 21 40 27.7
comp=Z,2µm,21.2s
BBLS Lazići 87.10 46 *e*P **P 21 08 12.1 -0.2**
TEKS Tekeris 87.11 46 *e*P **P 21 08 13.0 +0.7**
DRME Dracevica, Mon 87.13 48 *e*P **P 21 08 12.1 -0.3**
KEV Kevo 87.14 20 P **P 21 08 12.6 +0.8**
KEV pmax pmax
comp=Z,332nm,1.3s
KEV Kevo 87.14 20 P **P 21 08 12.6 +0.8**
KEV IAmb IAmb 21 08 14.8
comp=Z,332nm,1.3s
PDG Podgorica 87.16 48⇓ *e*P **P 21 08 13.3 +0.8**
PDG Podgorica 87.16 48 *e*P **P 21 08 12.4 -0.1**
SLIT Slitere, Latvi 87.16 32 *e*P **P 21 08 13.5 +1.4**
PBUR Paburge 87.19 34 *e*P **P 21 08 13.9 +1.6**
FRGS Fruska Gora 87.24 45⇓ P **P 21 08 14.1 +1.2**
FRGS Fruska Gora 87.24 45 *e*P **P 21 08 13.7 +0.8**
BSZH Besenyszg 87.30 43⇓ P **P 21 08 15.7 +2.6**
DIVS Divibare 87.49 46 *e*P **P 21 08 13.3 -0.9**
AMBH Ambrzfalva 87.73 44⇑ P **P 21 08 17.7 +2.6**
MTSE Matsula 87.80 31 *e*P **P 21 08 17.2 +2.0**
CRVS Cervenica-Dubn 87.88 41 *e*P **P 21 08 18.2 +2.3**
CRVS pmax pmax
comp=Z,47nm,1.2s
CRVS Cervenica-Dubn 87.88 41 *e*P **P 21 08 18.2 +2.3**
NIKH Nikolski High 88.12 323 P 21 08 17.9
baz=81,SNR=15
NIKH S 21 18 28.9
baz=81
VNA3 Neumayer Olymp 88.12 163 P **P 21 08 16.3 -0.2**
BANR Banloc 88.14 45⇓ P **P 21 08 18.9 +1.9**
SUW Suwalki 88.20 36 *e*P **P 21 08 19.3 +2.1**
SUW *e*S **SKSac 21 18 30.0 -0.6**
SUW *e*L L 21 37 57.0
comp=Z,1µm,28.0s
SUW Suwalki 88.20 36 *e*P **P 21 08 18.7 +1.5**
SPIA Saint Paul Isl 88.24 327 P 21 08 18.9
baz=80,SNR=7.6
SPIA S 21 18 29.7
baz=80
VNA1 Neumayer--Stat 88.27 162 P **P 21 08 17.5 +0.4**
IGT Igoumenitsa 88.32 51 P **P 21 08 19.6 +1.5**
IGT pmax pmax
comp=Z,31nm,1.4s
LTVH Ltavrtes, Hu 88.39 43⇑ P **P 21 08 20.6 +2.4**
PABE Paberze 88.41 34 *e*P **P 21 08 19.2 +1.1**
KOLS Kolonicke sedl 88.41 41 *e*P **P 21 08 20.6 +2.3**
KOLS Kolonicke sedl 88.41 41 *e*P **P 21 08 20.6 +2.3**
FINES FINESS Array B 88.42 28 P **P 21 08 18.8 +0.7**
comp=Z,59nm,0.8s,baz=275,slow=3.0,SNR=88
FINES pP **pP 21 09 01.3 +1.4**
comp=Z,71nm,0.8s,baz=245,slow=3.2,SNR=3.6
FINES PKKPbc **PKKPdf 21 25 58.7 +2.7**
comp=Z,5.5nm,0.7s,baz=103,slow=2.2,SNR=7.9
FINES PKPPKP **P'P'df 21 34 01.6 -6.5**
comp=Z,2.1nm,0.5s,baz=107,slow=2.0,SNR=11
FINES FINESS Array B 88.42 28 P **P 21 08 18.4 +0.3**
FINES pP **pP 21 09 01.3 +1.4**
BZS Buzias 88.44 44⇓ P **P 21 08 20.1 +1.6**
BZS Buzias 88.44 44⇓ P **P'P'df 21 34 03.5 -5.5**
BZS Buzias 88.44 44⇓ P **P 21 08 20.1 +1.6**
OHR Ohrid 88.46 49 *i*P **P 21 08 20.5 +1.6**
UZH Uzhgorod 88.47 41 *e*P **P 21 08 19.3 +0.7**
UZH *e* 21 09 01.7
UZH *e*PPP PPP 21 13 55.8
UZH *e*S **S 21 18 46.3 -4.3**
UZH *e*SS **SS 21 24 51.1 +6.7**
KWP Kalwaria Pacla 88.59 40 *e*P **P 21 08 21.6 +2.4**
KWP *e*L L 21 39 35.2
comp=Z,1µm,23.8s
MDVR Moldovita 88.63 45⇑ P **P 21 08 21.1 +1.6**
VNA2 Neumayer--Watz 88.65 163 P **P 21 08 18.7 -0.2**
baz=310,slow=5.8
BOVS Bovan 88.78 46⇓ P **P 21 08 22.0 +1.8**
SKO Skopje 88.82 48 *i*P **P 21 08 21.4 +1.0**
FNA Florina 88.94 49 P **P 21 08 22.0 +0.9**
FNA pmax pmax
comp=Z,34nm,0.9s
DRGR 89.02 43⇑ P **P 21 08 22.5 +1.1**
DRGR 89.02 43⇓ P **P'P'df 21 34 02.9 -5.1**
DRGR 89.02 43 P **P 21 08 22.3 +1.0**
DRGR pmax pmax
comp=Z,38nm,1.1s
HERR Herculane 89.11 45⇓ P **P 21 08 22.8 +1.2**
GZR Gura Zlata 89.28 45⇑ P **P 21 08 24.3 +1.7**
GZR Gura Zlata 89.28 45⇑ P **P'P'df 21 34 02.4 -5.2**
GZR Gura Zlata 89.28 45⇑ P **P 21 08 24.3 +1.7**
VSU Vasula 89.35 31 *e*P **P 21 08 23.2 +0.8**
VSU Vasula 89.35 31*c* *i*P **P 21 08 23.3 +0.8**
VSU pmax pmax
comp=Z,377nm,1.0s
RAR Rarotonga 89.40 249 LR LR 21 40 18.5
comp=Z,2µm,18.5s,baz=84,slow=30
RAR Rarotonga 89.40 249 P **P 21 08 23.8 +0.3**
RAR pmax pmax
comp=Z,470nm,1.7s
RAR Rarotonga 89.40 249 P **P 21 08 23.8 +0.3**
RAR IAmb IAmb 21 08 27.9
comp=Z,470nm,1.6s
LVV L'vov 89.40 40 *e*P **P 21 08 24.7 +1.8**
LVV *e* 21 09 04.4
LVV *e* 21 18 36.8
LVV *e*S **S 21 18 59.8 +0.4**
LVV *e* 21 20 12.8
LVV pmax pmax
comp=Z,200nm,1.5s
BMR Baia Mare 89.41 42⇑ P **P 21 08 25.2 +2.1**
BMR Baia Mare 89.41 42 P **P 21 08 25.2 +2.1**
STIP Stip 89.42 48 *i*P **P 21 08 24.2 +1.1**
ISAL Salakas 89.60 34 *e*P **P 21 08 25.4 +1.6**
CJR Cluj-Napoca 89.64 43⇑ P **P 21 08 26.4 +2.2**
CJR Cluj-Napoca 89.64 43⇑ P **P 21 08 26.4 +2.2**
SRE Strehaia 89.70 45⇓ P P 21 08 31.2 +6.8
SRE Strehaia 89.70 45⇓ P P 21 08 31.2 +6.8
IIGN Ignalina 89.70 34 *e*P **P 21 08 25.8 +1.6**
VAY Valandovo 89.76 49 *i*P **P 21 08 25.6 +0.8**
LOT Lotru 89.96 44⇑ P **P 21 08 27.0 +1.2**
IDID Didziasalis 90.00 34 *e*P **P 21 08 27.1 +1.5**
VTS Vitosha 90.04 47⇑ P **P 21 08 27.8 +1.5**
VTS Vitosha 90.04 47⇑ P **P 21 08 27.8 +1.5**
ARCR ARCALIA 90.08 43⇑ P **P 21 08 27.8 +1.6**
NACGM Naroch 90.11 35 *i*P **P 21 08 27.7 +1.7**
NACGM *i*P **P 21 08 27.7 +1.7**
NACGM *i*P **P 21 08 27.7 +1.7**
NACGM *i*pP pP 21 08 58.6 -9.1
NACGM *i*sP sP 21 09 16.2 -8.8
NACGM *i*PP **PP 21 11 55.1 -6.4**
NACGM *i*PPP PPP 21 14 01.0
NACGM *i*S **SKSac 21 18 44.0 +2.2**
NACGM *i*PS PS 21 20 24.0 -9.1
NACGM *i*SS **SS 21 25 02.6 -5.1**
NACGM *i*SSS SSS 21 28 35.6
NACGM *i*LR LR 21 43 02.8
MDB Medias 90.27 44⇑ P **P 21 08 29.0 +1.9**
MDB Medias 90.27 44⇑ P **P 21 08 29.0 +1.9**
SNAA Sanae 90.29 163 P **P 21 08 26.5 -0.1**
SNAA Sanae 90.29 163 PKKPbc PKKPbc 21 25 52.6 -6.0
comp=Z,1.9nm,0.3s,baz=200,slow=8.9,SNR=17
SNAA Sanae 90.29 163*c* *i*P **P 21 08 26.4 -0.2**
SNAA pmax pmax
comp=Z,144nm,1.7s
SNAA Sanae 90.29 163 P **P 21 08 26.1 -0.5**
SNAA pP **pP 21 09 08.2 -0.2**
LVZ Lovozero 90.31 21 P **P 21 08 27.7 +0.9**
LVZ *PP **pP 21 09 09.3 +0.7**
LVZ pmax pmax
comp=Z,126nm,1.0s
LVZ Lovozero 90.31 21 P **P 21 08 27.7 +0.9**
LVZ pP **pP 21 09 09.3 +0.7**
BURAR Bucovina Array 90.57 42⇑ P **P 21 08 30.4 +1.8**
BURAR Bucovina Array 90.57 42⇑ P **P'P'df 21 34 02.2 -2.8**
BURAR Bucovina Array 90.57 42⇑ P **P 21 08 30.4 +1.8**
BURAR Bucovina Array 90.57 42 P **P 21 08 29.2 +0.6**
ARR Arges 90.58 44⇑ P **P 21 08 30.2 +1.6**
VLAD Vladila 90.66 46⇓ P **P 21 08 30.2 +1.3**
VALR Valaam 90.69 28 *e*P **P 21 08 30.0 +1.4**
VALR pmax pmax
comp=Z,180nm,1.2s
PAIG Paliouri 90.81 50 P **P 21 08 31.3 +1.6**
MNK Minsk 90.82 35⇑ *e*P **P 21 08 30.0 +0.6**
MNK *e**PP **pP 21 09 13.0 +1.9**
MNK *e* 21 09 30.0
MNK *e* 21 18 45.0
MNK *e*S **S 21 19 13.0 +0.9**
MNK pmax pmax
comp=Z,420nm,1.8s
MNK Minsk 90.82 35 *i*P **P 21 08 29.1 -0.3**
comp=E,4.0nm,0.9s
MNK *i*P **P 21 08 29.1 -0.3**
comp=N,16nm,0.9s
MNK *i*P **P 21 08 29.1 -0.3**
comp=Z,130nm,0.9s
MNK *i*pP **pP 21 09 07.1 -4.0**
MNK *i*sP **sP 21 09 23.1 -5.3**
MNK *i*PP **PP 21 12 05.7 -1.4**
MNK *i*PPP PPP 21 14 05.2
MNK *i*S **SKSac 21 18 54.1 +8.2**
MNK *i*sS pS 21 19 47.8 -17
MNK *i*SP ScS 21 20 10.1 +55
MNK *i*PS PS 21 20 15.9 -25
MNK *i*SS **SS 21 25 19.9 +1.9**
MNK *i*SSS SSS 21 28 43.5
MNK *i*SKKS **SKKSdf 21 32 44.7 -2.6**
MNK *i*LRM MLR 21 47 07.0
comp=Z,887nm,18.7s
MNK *i*LRM MLR 21 47 07.7
comp=E,102nm,18.7s
MNK *i*LRM MLR 21 47 08.7
comp=N,299nm,18.7s
PUL Pulkovo 90.84 29⇑ *e*P **P 21 08 30.9 +1.5**
PUL pmax pmax
comp=Z,66nm,1.1s
VOIR 90.85 44⇓ P **P 21 08 31.4 +1.5**
VOIR 90.85 44⇓ P **P 21 08 31.4 +1.5**
MTUR Matau 90.90 44⇑ P **P 21 08 31.5 +1.3**
MTUR Matau 90.90 44⇑ P **P 21 08 31.5 +1.3**
PLVB Pleven 90.92 46⇑ P **P 21 08 31.7 +1.6**
HUMR Humele 90.97 45⇓ P **P 21 08 31.6 +1.2**
OUR Ouranopolis 90.97 49 P **P 21 08 32.2 +1.8**
DOPR Dopca 90.99 44⇑ P **P 21 08 32.5 +2.1**
PLD Plovdiv 91.20 48 P **P 21 08 33.4 +1.9**
PLD pmax pmax
comp=Z,77nm,1.4s

COPA Copaceanca 91.21 45 ⇓P P 21 08 32.8 +1.3
OZUR 91.24 43 ⇑P P 21 08 35.1 +3.5
BIZ Bicaz 91.29 43 ⇑P P 21 08 33.8 +2.0
PRAR RASCA 91.29 42 ⇑P P 21 08 33.0 +1.2
ZIMR 91.40 46 ⇑P P 21 08 34.9 +2.5
ZIMR 91.40 46 ⇑P P 21 08 34.9 +2.5
MLR Muntele Rosu 91.46 44 P P 21 08 33.5 +0.7
comp=Z,62nm,0.9s,baz=225,slow=0.9,SNR=102
MLR pP pP 21 09 13.8 -0.9
comp=Z,25nm,0.7s,baz=331,slow=3.1,SNR=2.3
MLR Muntele Rosu 91.46 44 ⇑P P 21 08 34.0 +1.2
MLR Muntele Rosu 91.46 44 ⇓P P'P'df 21 33 58.4 -5.1
ATKA Atka Island 91.47 323 P P 21 08 33.7 +1.2
ATKA IAmb IAmb 21 09 32.3
comp=Z,248nm,0.8s
NEHR Nehoiu 91.72 44 ⇓P P 21 08 35.5 +1.7
SGRR Singureni 91.73 45 ⇑P P 21 08 35.3 +1.5
TESR Tescani 91.74 43 ⇑P P 21 08 35.2 +1.3
PLOR Plostina 91.88 44 ⇓P P 21 08 37.0 +2.4
PLOR Plostina 91.88 44 ⇓P P 21 08 37.0 +2.4
VRI Vrincioaia 91.92 44 ⇓P P 21 08 37.5 +2.7
VRI ⇓P P 21 08 37.8 +3.0
VRI Vrincioaia 91.92 44 ⇓P P 21 08 37.5 +2.7
ISR Istrita 91.95 44 ⇑P P 21 08 36.9 +2.0
ISR Istrita 91.95 44 ⇑P P 21 08 36.9 +2.0
BISRR Bisoca 91.98 44 ⇓P P 21 08 35.8 +0.7
BISRR Bisoca 91.98 44 ⇑P P'P'df 21 34 02.0 -0.4
IAS Iasi 92.21 42 P P 21 08 40.3 +4.3
ALN Alexandroupoli 92.42 49 P P 21 08 38.4 +1.3
AKASG Malin Array Be 92.49 38 P P 21 08 37.4 +0.2
comp=Z,3.2nm,0.6s,baz=281,slow=3.7,SNR=19
AKASG pP pP 21 09 16.3 -2.7
comp=Z,8.4nm,0.9s,baz=282,slow=4.2,SNR=2.2
AKASG S SKSac 21 18 52.8 -2.6
comp=Z,0.5nm,0.4s,baz=228,slow=26,SNR=2.8
AKASG PKKP PKKPdf 21 25 46.5 -2.2
comp=Z,6.0nm,0.6s,baz=77,slow=2.8,SNR=4.0
AKASG PKPPKP 21 33 59.6
comp=Z,1.9nm,0.7s,baz=77,slow=2.1,SNR=5.1
AKASG LR LR 21 50 24.5
comp=Z,826nm,18.6s,baz=290,slow=36
AKASG Malin Array Be 92.49 38 P P 21 08 37.4 +0.2
AKASG pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 92.49 38 P P 21 08 37.4 +0.2
AKBB Malin Array Si 92.49 38⇓eP P 21 08 37.6 +0.4
SORM Soroca 92.53 41 ⇑P P 21 08 37.6 +0.2
SORM Soroca 92.53 41 ⇑P P 21 08 37.6 +0.2
IDI Anoyia 92.55 54 PKPPKP P'P'df 21 33 59.8 -2.2
comp=Z,14nm,0.9s,baz=30,slow=7.2,SNR=5.8
IDI Anoyia 92.55 54 ⇓P P 21 08 38.5 +0.6
IDI Anoyia 92.55 54 ⇑P PKKPbc 21 25 51.8 +0.8
TSUM Tsumeb 92.79 109 P P 21 08 39.7 +0.3
comp=Z,14nm,0.7s,baz=296,slow=4.5,SNR=17
TSUM pP pP 21 09 20.0 -1.3
comp=Z,17nm,1.1s,baz=268,slow=6.1,SNR=2.6
TSUM Tsumeb 92.79 109 P P 21 08 40.4 +1.0
TSUM IAmb IAmb 21 09 26.3
comp=Z,227nm,1.6s
SANT Santorini 92.81 53 ⇑P P 21 08 38.7 -0.4
EZN Ezine 92.83 50 P P 21 08 40.1 +1.1
HARR Harsova 93.00 45 ⇑P P 21 08 41.4 +1.7
HARR Harsova 93.00 45 ⇑P P 21 08 41.4 +1.7
ICOR Ion Corvin 93.03 45 ⇑P P 21 08 41.6 +1.7
ADK Adak 93.04 323 P P 21 08 40.4 +0.7
ADK pmax pmax
comp=Z,290nm,1.0s
ADK Adak 93.04 323 P P 21 08 40.4 +0.7
ADK IAmb IAmb 21 09 39.0
comp=Z,290nm,1.0s
CFR Carcaliu 93.04 44 ⇑P P 21 08 40.1 +0.3
CFR Carcaliu 93.04 44 ⇑P P 21 08 40.1 +0.3
TPGR Topolog 93.31 44 ⇑P P 21 08 37.2 -4.0
TIRR Tirgusor 93.39 45 ⇑P P 21 08 42.8 +1.3
TIRR Tirgusor 93.39 45 ⇑P P 21 08 42.8 +1.3
TLCR 93.50 44 ⇑P P 21 08 44.2 +2.2
TLCR 93.50 44 ⇑P P 21 08 44.2 +2.2
JURR Jurilovca 93.64 44 ⇓P P 21 08 44.5 +1.9
NVL N'lazarevskaya 94.67 161 eP P 21 08 44.7 -2.1
NVL e 21 12 39.3
NVL eS SKSac 21 19 02.6 -3.8
NVL eSS SS 21 26 23.8 +11
NVL pmax pmax
comp=Z,38nm,0.7s
KLMR Klimovskoe 94.82 27 eP P 21 08 47.3 -0.4
KLMR eS SKSac 21 19 08.4 +0.7
KLMR eSS SS 21 26 13.2 -1.3
KLMR pmax pmax
comp=Z,181nm,1.4s
KLMR Klimovskoe 94.82 27 eP P 21 08 47.4 -0.3
KLMR AMP 21 08 50.2
comp=Z,181nm,1.4s
KLMR esP sP 21 09 39.6 -7.2
KLMR eS SKSac 21 19 08.4 +0.7
KLMR eS SKSac 21 19 08.4 +0.7
KLMR eSS SS 21 26 13.3 -1.3
KLMR eSS SS 21 26 13.3 -1.3
OBN Obninsk 95.46 33 P P 21 08 51.1 +0.4
comp=Z,5.8nm,0.7s,baz=217,slow=2.1,SNR=12
OBN pP pP 21 09 33.7 +1.0
comp=Z,11nm,0.7s,baz=89,slow=7.9,SNR=3.5
OBN Obninsk 95.46 33 ⇓P PKKPdf 21 25 43.7 +0.3
OBN Obninsk 95.46 33 i P P 21 08 51.0 +0.3
OBN i *PP pP 21 09 33.6 +0.9
OBN i 21 12 54.0
OBN pmax pmax
comp=Z,49nm,1.1s
OBN Obninsk 95.46 33 P P 21 08 51.2 +0.4
MOS Moscow 95.81 32 eP P 21 08 51.6 -0.7
MOS e*PP pP 21 09 34.3 0.0
MOS e 21 19 09.5
MOS eS S 21 19 52.7 -3.3
MOS ePS PS 21 21 23.6 -12
MOS pmax pmax
comp=Z,55nm,1.0s
ELL Elmali 96.24 52 P P 21 08 57.8 +2.9
SUR Sutherland 96.84 122 P P 21 08 59.3 +1.6
SUR pP pP 21 09 42.0 +2.6
SUR IAmb IAmb 21 09 44.6
comp=Z,202nm,1.4s
PRGR Permogore 97.13 25 eP Pdif 21 08 58.8 +0.6
PRGR e*PP pP 21 09 38.1 -1.9
PRGR eS SKSac 21 19 21.3 +1.5
PRGR pmax pmax
comp=Z,72nm,1.0s
LPSR Galich'ya Gora 97.67 35 eP Pdif 21 09 01.8 +1.0
LPSR e 21 19 20.0
LPSR pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 98.32 36 eP Pdif 21 09 04.3 +0.6
VSR e 21 19 24.1
VSR pmax pmax
comp=Z,10.0nm,1.5s
BR131 Keskin Array S 98.33 48⇑eP Pdif 21 09 04.7 +0.4
BRTR Keskin Array B 98.33 48 P Pdif 21 09 04.3 0.0
comp=Z,3.9nm,0.9s,baz=224,slow=3.2,SNR=9.1
BRTR pP pP 21 09 45.0 -1.2
comp=Z,1.5nm,0.8s,baz=278,slow=4.8,SNR=1.8
BRTR PKKPbc PKKPbc 21 25 34.6 -1.3
comp=Z,4.1nm,0.5s,baz=138,slow=3.7,SNR=10
BRTR PKPPKP 21 33 50.8
comp=Z,1.0nm,0.5s,baz=160,slow=3.9,SNR=4.8
BRTR Keskin Array B 98.33 48 P P 21 09 03.0 -1.3
VORD Divnogorie 98.48 36 eP P 21 09 03.2 -1.3
VORD pmax pmax
comp=Z,6.0nm,0.5s
ANN Anapa 99.48 43 eP Pdif 21 09 06.6 -2.4
ANN eS SKSac 21 19 31.0 -1.3
ANN eS ScS 21 20 24.3 -3.3
ANN eSS SS 21 27 22.4 +1.4
ANN pmax pmax
comp=Z,28nm,1.5s
VRH Novokhopyorsk 99.80 35 eP Pdif 21 09 11.0 +0.7
VRH e 21 19 31.7
VRH pmax pmax
comp=Z,20nm,1.3s
KIRV Kirov 100.31 27 P Pdif 21 09 11.8 -0.6
comp=Z,7.1nm,0.7s,baz=253,slow=16,SNR=2.9
KIRV pP pPdif 21 09 53.8 -0.5
comp=Z,5.6nm,0.6s,baz=322,slow=23,SNR=1.5
KIRV Kirov 100.31 27⇓eP Pdif 21 09 13.0 +0.6
TIXI Tiksi 100.39 353 P Pdif 21 09 12.8 +0.2
comp=Z,17nm,0.7s,baz=22,slow=4.2,SNR=57
TIXI pP pP 21 09 54.0 +0.1
comp=Z,9.6nm,0.8s,baz=11,slow=6.7,SNR=2.0
TIXI PP PP 21 13 18.8 -1.5
comp=Z,17nm,0.9s,baz=26,slow=5.1,SNR=7.3
TIXI PKKPbc PKKPbc 21 25 28.2 -2.9
comp=Z,3.2nm,0.7s,baz=95,slow=4.2,SNR=5.3
TIXI Tiksi 100.39 353 d iP Pdif 21 09 13.6 +1.1
TIXI pmax pmax
comp=Z,103nm,1.0s
TIXI Tiksi 100.39 353 Pdif Pdif 21 09 13.1 +0.6
BOSA Boshof 100.48 118 P Pdif 21 09 12.2 -1.8
comp=Z,6.0nm,0.9s,baz=310,slow=4.7,SNR=3.9
BOSA pP pPdif 21 09 55.5 -0.1
comp=Z,5.9nm,0.8s,baz=271,slow=6.3,SNR=3.7
BOSA PKKPbc PKKPbc 21 25 27.6 -2.0
comp=Z,5.2nm,0.8s,baz=112,slow=1.1,SNR=6.5
SOC Sochi 101.44 43 eP Pdif 21 09 18.7 +0.9
SOC e 21 13 31.6
SOC ePPP PPP 21 15 38.8
SOC e 21 19 39.3
SOC eSS SS 21 27 44.3 -4.0
SOC eSSS SSS 21 31 49.9
LSZ Lusaka 102.55 104 P Pdif 21 09 22.5 -1.0
comp=Z,2.3nm,0.9s,baz=255,slow=1.9,SNR=4.8
LSZ pP pPdif 21 10 07.9 +2.2
comp=Z,3.4nm,0.9s,baz=115,slow=13,SNR=1.5
BELG Belogornoye 102.56 33 P Pdif 21 09 22.4 -0.1
comp=Z,8.4nm,1.0s,baz=221,slow=4.6,SNR=5.1
BELG S SKSac 21 19 46.2 -0.5
comp=Z,25nm,1.0s,baz=315,slow=23,SNR=13
KIV Kislovodsk 103.30 42 i P Pdif 21 09 25.6 -0.6
KIV i 21 13 43.7
KIV e 21 19 50.9
KIV ePS PS 21 22 55.2 -1.1
KIV eSS SS 21 28 15.5 +1.5
KIV eSSS SSS 21 32 12.4
KIV pmax pmax
comp=Z,19nm,1.0s
KBZ Khabaz 103.53 42 Pdiff Pdif 21 09 27.6 +0.5
comp=Z,1.3nm,0.8s,baz=239,slow=3.8,SNR=3.5
KBZ pPdiff pPdif 21 10 11.1 +2.1
comp=Z,1.6nm,0.8s,baz=291,slow=4.4,SNR=4.1
KBZ PKKPbc PKKPbc 21 25 20.1 -0.9
comp=Z,9.9nm,0.8s,baz=140,slow=2.5,SNR=17
MBAR Mbarara 103.75 89 eP PKiKP 21 13 37.7 -8.7
VNDA Vanda 103.83 191 Pdiff Pdif 21 09 28.2 +0.6
comp=Z,1.2nm,0.7s,baz=121,slow=6.0,SNR=3.7
VNDA PKKPbc PKKPbc 21 25 16.2 -5.1
comp=Z,4.6nm,0.6s,baz=314,slow=5.1,SNR=16
SYO Syowa Base 104.32 160⇑ePdiff Pdif 21 09 30.0 0.0
SYO Syowa Base 104.32 160⇑ePKiKP PKiKP 21 13 46.6 +1.0
AKH Akhalkalaki 104.84 44 ⇑P PKKPbc 21 25 18.3 +1.0
MA2 Magadan 105.28 339 PP PP 21 13 48.4 -8.6
comp=Z,9.8nm,0.7s,baz=36,slow=10,SNR=6.0
MA2 Magadan 105.28 339 P Pdif 21 09 35.9 +1.3
MA2 Magadan 105.28 339 Pdif Pdif 21 09 35.9 +1.3
ARU Arti 105.58 26 Pdiff Pdif 21 09 36.4 +0.5
comp=Z,0.2nm,0.3s,baz=281,slow=5.1,SNR=5.6
ARU PP PP 21 13 49.5 -10
comp=Z,1.9nm,0.5s,baz=344,slow=6.5,SNR=3.8
ARU Arti 105.58 26c iP Pdif 21 09 37.7 +1.8
ARU S SKSac 21 20 03.1 +2.6
ARU SP SP 21 22 57.7 -0.9
ARU pmax pmax
comp=Z,12nm,1.5s
PET Petropavlovsk 106.15 330 eP Pdif 21 09 48.9 +10
PET e 21 14 03.7
PET e 21 20 04.9
PET eSP SP 21 23 12.5 +7.7
PET eSPP SPP 21 24 11.7
PETK Petropavlovsk- 106.57 331 Pdiff Pdif 21 09 41.9 +1.5
comp=Z,3.4nm,0.6s,baz=67,slow=5.6,SNR=2.7
PETK pPdiff pPdif 21 10 19.4 -2.2
comp=Z,1.7nm,0.4s,baz=239,slow=8.1,SNR=4.1
PETK PP PP 21 14 04.5 -2.2
comp=Z,13nm,0.8s,baz=75,slow=9.7,SNR=6.5
MAK Makhachkala 106.90 41 iP Pdif 21 09 40.5 -1.6
MAK e 21 14 08.9
MAK ePPP PPP 21 16 23.8
MAK e 21 20 04.4
MAK ePS PS 21 23 25.8 -7.4
MAK eSS SS 21 28 59.0 -3.8
MAK eSSS SSS 21 33 07.0
MAK pmax pmax
comp=Z,71nm,1.0s
AKTO Aktyubinsk 109.07 31 Pdiff Pdif 21 09 52.6 +1.0
comp=Z,0.7nm,0.4s,baz=86,slow=6.5,SNR=3.8
AKTO PKiKP PKiKP 21 13 54.2 -0.9
comp=Z,6.9nm,0.8s,baz=323,slow=7.6,SNR=6.5
YAK Yakutsk 109.16 349 PKiKP PKiKP 21 13 54.8 -0.1
comp=Z,13nm,0.7s,baz=218,slow=1.4,SNR=6.4
YAK PP PP 21 14 23.7 -1.4
comp=Z,50nm,0.9s,baz=2.5,slow=2.8,SNR=13
YAK PKKPbc PKKPab 21 25 11.7 -4.8
comp=Z,7.3nm,0.5s,baz=300,slow=2.0,SNR=5.3
YAK Yakutsk 109.16 349 eP Pdif 21 09 55.6 +3.9
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK Yakutsk 109.16 349 Pdif Pdif 21 09 52.9 +1.2
KMBO Kilima Mbogo 110.28 89 PP PP 21 14 38.0 +2.2
comp=E,1.6nm,0.6s,baz=265,slow=5.9,SNR=4.9
BRVK Borovoye 112.77 23⇑iPKiKP PKiKP 21 14 04.0 +2.0
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BVAR Borovoye Array 112.83 23 Pdiff Pdif 21 10 09.6 +1.3
comp=Z,0.2nm,0.4s,baz=58,slow=26,SNR=2.1
BVAR pPdiff pPdif 21 10 49.6 -0.7
comp=Z,1.0nm,0.9s,baz=252,slow=3.0,SNR=3.6
BVAR PKiKP PKiKP 21 14 02.7 +0.6
comp=Z,9.3nm,0.7s,baz=182,slow=11,SNR=2.2
BVAR pPKiKP pPKiKP 21 14 46.7 +1.3
comp=Z,5.1nm,0.7s,baz=246,slow=14,SNR=2.3
BVAR PKKPbc PKKPbc 21 24 50.1 -2.1
comp=Z,4.9nm,0.8s,baz=152,slow=9.8,SNR=12
BOD Bodaibo 115.35 356 eP Pdif 21 10 20.6 +1.2
BOD pmax pmax
comp=Z,11nm,1.9s
BRZS Berezniki 116.10 24 ePKP PKiKP 21 14 08.6 0.0
baz=24
BRZS Berezniki 116.10 24 ePKiKP PKiKP 21 14 08.5 0.0
GEYT Alibeck 116.41 42 PKP PKiKP 21 14 10.1 +0.6
comp=Z,9.7nm,0.4s,baz=298,slow=3.2,SNR=27
GEYT pPKP pPKPdf 21 14 54.5 +1.3
comp=Z,10nm,0.8s,baz=247,slow=7.2,SNR=4.3
GEYT SKP 21 17 31.7
comp=Z,6.2nm,0.7s,baz=45,slow=2.3,SNR=3.8
GEYT PKKPbc PKKPbc 21 24 36.6 -2.9
comp=Z,11nm,0.8s,baz=72,slow=9.5,SNR=10.0
GEYT Alibeck 116.41 42 PKPdf PKiKP 21 14 09.8 +0.3
GYA0B ALIBECK ARRAY116.41 42 PKPdf PKiKP 21 14 09.7 +0.2
ZAA0 Zalesovo Array 116.67 14 PKPdf PKiKP 21 14 09.6 +0.1
ZAA0 PP sPKPdf 21 15 11.1 +1.5
ZALV Zalesovo Beam 116.67 14 Pdiff Pdif 21 10 34.3 +8.9
comp=Z,0.4nm,0.3s,baz=354,slow=9.1,SNR=3.7
ZALV PKP PKiKP 21 14 10.0 +0.5
comp=Z,94nm,0.6s,baz=268,slow=2.0,SNR=167
ZALV SKP 21 17 31.6
comp=Z,37nm,0.8s,baz=302,slow=1.5,SNR=9.0
ZALV PKKPbc PKKPbc 21 24 35.4 -3.7
comp=Z,3.8nm,0.4s,baz=164,slow=4.7,SNR=8.7
ZALV Zalesovo Beam 116.67 14 PKIKP PKiKP 21 14 10.0 +0.5
ZALV Zalesovo Beam 116.67 14 PKPdf PKiKP 21 14 09.8 +0.4
KURK Kurchatov 117.70 20 PKIKP PKiKP 21 14 12.5 +1.0
KURK 21 14 57.0
KURBB Kurchatov Arra 117.75 20 Pdiff Pdif 21 10 38.9 +8.7
comp=Z,0.9nm,0.9s,baz=335,slow=5.5,SNR=7.8
KURBB PKP PKiKP 21 14 12.4 +0.8
comp=Z,57nm,0.7s,baz=321,slow=2.2,SNR=168
KURBB pPKP pPKPdf 21 14 57.0 +2.0
comp=Z,7.4nm,0.7s,baz=310,slow=2.2,SNR=1.5
KURBB SKP 21 17 33.6
comp=Z,20nm,0.9s,baz=320,slow=2.4,SNR=8.4
KURBB PKKPbc PKKPbc 21 24 28.1 -7.1
comp=Z,2.6nm,0.8s,baz=129,slow=3.8,SNR=8.7
JKA Kamikawa-asahi 119.98 331 PP PP 21 15 36.7 -5.0
ASAJ Asahikawa 119.98 331 PKP PKiKP 21 14 17.2 +1.0
comp=Z,31nm,1.0s,baz=357,slow=0.3,SNR=11
ASAJ PP PP 21 15 41.6 -0.2
comp=Z,142nm,1.3s,baz=81,slow=8.6,SNR=6.5
KLR Kul'dur 120.15 341 PKP PKiKP 21 14 16.4 0.0
comp=Z,20nm,0.7s,baz=16,slow=3.4,SNR=35
KLR pPKP pPKPdf 21 15 00.8 +1.5
comp=Z,6.7nm,0.6s,baz=52,slow=4.4,SNR=4.8
KLR PP PP 21 15 42.5 -0.1
comp=Z,21nm,0.7s,baz=3.3,slow=9.5,SNR=5.3
KLR SKP 21 17 38.4
comp=Z,24nm,1.0s,baz=353,slow=3.8,SNR=3.7
KLR Kul'dur 120.15 341 c iPKIKP PKiKP 21 14 17.9 +1.5
KKAR Karatay Array 120.33 30 PKIKP PKiKP 21 14 17.2 +0.3
KKAR Karatay Array 120.33 30 PKPdf PKiKP 21 14 17.2 +0.3
BTLS Baital 120.54 27 ePKP PKiKP 21 14 18.3 +0.9
baz=27
BTLR Baital 120.54 27 ePKIKP PKiKP 21 14 18.2 +0.9
ABPO Ambohimpanom 120.77 108 PKIKP PKiKP 21 14 18.9 +0.2
ABPO Ambohimpanom 120.77 108 PKPdf PKiKP 21 14 18.9 +0.2
DZM Mont Dzumac 120.78 248 ePKIKP PKiKP 21 14 18.8 +0.3
comp=Z,125nm,1.1s
IUG luzhnay 120.78 31 ePKP PKiKP 21 14 18.4 +0.3
baz=31
IUG luzhnay 120.78 31 ePKIKP PKiKP 21 14 18.3 +0.3
DZA Taraz 120.89 30 ePKP PKiKP 21 14 18.9 +0.8
baz=30
DZA Taraz 120.89 30 ePKIKP PKiKP 21 14 18.9 +0.8
CIT Chita 121.14 355 ePKIKP PKiKP 21 14 19.6 +1.3
CIT e 21 15 00.6
CIT e 21 15 17.0
CIT pmax pmax
comp=Z,101nm,1.4s
IRK Irkutsk 121.15 2 ePKIKP PKiKP 21 14 19.0 +0.7
IRK e 21 15 48.5
IRK pmax pmax
comp=Z,64nm,2.3s
DGZ Jazzator, Alta 121.22 15c iPKIKP PKiKP 21 14 19.5 +0.8
UOSS Minazif 121.40 55 PKPdf 21 14 19.4 0.0
MOY Mondy 121.54 4 ePKIKP PKiKP 21 14 21.0 +1.8
MOY pmax pmax
comp=Z,67nm,1.5s
TLY Talaya 121.69 2 PKP PKiKP 21 14 20.2 +0.8
comp=Z,17nm,0.6s,baz=316,slow=1.4,SNR=6.0
TLY PP PP 21 15 55.6 +2.7
comp=Z,8.3nm,0.8s,baz=322,slow=6.9,SNR=4.0
TLY SKP 21 17 41.6
comp=Z,13nm,0.8s,baz=22,slow=6.0,SNR=3.6
TLY Talaya 121.69 2 i PKIKP PKiKP 21 14 21.3 +1.9
TLY ePS SP 21 25 35.9 +7.0
TLY ePPS PPS 21 26 50.9
TLY eSS SS 21 32 20.0 +4.7
TLY pmax pmax
comp=Z,53nm,0.8s
TLY Talaya 121.69 2 PKPdf PKiKP 21 14 20.6 +1.2
TLY PP PP 21 15 47.1 -5.8
USP Ospenovka 122.12 28 P PKiKP 21 14 21.7 +1.2
SNR=43
MAKZ Makanchi 122.20 20 PKIKP PKPdf 21 14 19.9 -0.5
MAKZ Makanchi 122.20 20 PKPdf PKPdf 21 14 19.9 -0.5
EKS2 Erkin-Say 122.25 29 P PKiKP 21 14 22.6 +1.6
SNR=45
MK31 Makanchi Array 122.32 20d iPKIKP PKiKP 21 14 20.7 -0.1
MKAR Makanchi Array 122.32 20 Pdiff Pdif 21 11 08.5 +18
comp=Z,0.2nm,0.8s,baz=333,slow=6.9,SNR=3.9
MKAR PKP PKiKP 21 14 20.9 +0.1
comp=Z,67nm,0.7s,baz=305,slow=2.1,SNR=202
MKAR pPKP pPKPdf 21 15 05.2 +1.2
comp=Z,4.9nm,0.4s,baz=308,slow=2.6,SNR=1.1
MKAR SKP 21 17 42.1
comp=Z,22nm,0.9s,baz=325,slow=1.9,SNR=5.8
MKAR PKPbc PKKPbc 21 24 16.7 -1.6
comp=Z,1.6nm,0.5s,baz=156,slow=3.4,SNR=9.6
MKAR SKKPbc SKKPbc 21 27 52.3 +0.8
comp=Z,6.1nm,0.9s,baz=127,slow=5.2,SNR=5.8
TDK Taldyqorghan 122.41 24 ePKP PKiKP 21 14 21.8 +0.8
baz=24
TDK ePP PP 21 15 60.0 +1.8
baz=24
TDK Taldyqorghan 122.41 24 ePKIKP PKiKP 21 14 21.8 +0.8
TDK e 21 15 59.9
CHMS Chumysh 122.45 28 P PKiKP 21 14 22.4 +1.3
SNR=19
KUU Kurty 122.45 26 ePKP PKiKP 21 14 21.2 +0.1
baz=26
KUU Kurty 122.45 26 ePKIKP PKiKP 21 14 21.2 +0.1
ZSN Zaisan 122.56 18 ePKP PKiKP 21 14 21.7 +0.5
baz=18
ZSN Zaisan 122.56 18 ePKIKP PKiKP 21 14 21.7 +0.5
AAK Ala-Archa 122.61 28 PKKPbc PKKPbc 21 24 14.9 -2.4
comp=Z,7.5nm,0.8s,baz=155,slow=6.0,SNR=10
AAK Ala-Archa 122.61 28 P PKiKP 21 14 23.1 +1.5
SNR=47
AAK Ala-Archa 122.61 28c iPKIKP PKiKP 21 14 23.2 +1.5
AAK pmax pmax
comp=Z,199nm,1.0s
AAK Ala-Archa 122.61 28 PKPdf PKiKP 21 14 22.2 +0.5
AML Almayashu 122.62 29 P PKiKP 21 14 23.5 +1.5
SNR=52
KBK Karagaybulak 122.81 28 P PKiKP 21 14 23.1 +1.0
SNR=31
TKM2 Tokmak 2 122.89 27 P PKiKP 21 14 23.4 +1.1
SNR=50
UCH Uchtor 122.94 28 P PKiKP 21 14 24.5 +1.8
SNR=57
ZAK Zakamensk 122.97 3 ePKIKP PKiKP 21 14 22.9 +0.9
ZAK pmax pmax
comp=Z,45nm,1.0s
HIA Hailar 123.06 350 PKIKP PKiKP 21 14 23.3 +1.1
HIA Hailar 123.06 350 PKiKP 21 14 23.3 +1.1
HIA PP 21 16 00.5 -1.8
AAA Alma-Ata 123.25 26 ePKP PKiKP 21 14 23.2 +0.4
baz=26
AAA Alma-Ata 123.25 26 ePKIKP PKiKP 21 14 23.2 +0.4
MDOK Medeo 123.34 26 ePKP PKiKP 21 14 23.4 +0.3
baz=26
MDOK ePP PP 21 16 05.5 +0.8
baz=26
MDOK Medeo 123.34 26 ePKIKP PKiKP 21 14 23.4 +0.3
MDOK e 21 16 05.4
TNSS Tian-Shan 123.40 26 ePKP PKiKP 21 14 24.1 +0.6
baz=26
TNSS Tian-Shan 123.40 26 ePKIKP PKiKP 21 14 24.1 +0.6
ULHL Ulahol 123.72 27 P PKiKP 21 14 26.3 +2.4
SNR=16
SATY Saty 124.01 25 ePKP PKiKP 21 14 24.4 0.0
baz=25
SATY Saty 124.01 25 ePKIKP PKiKP 21 14 24.3 0.0
UZB Uzynbulak 124.19 24 ePKP PKiKP 21 14 24.6 -0.1
baz=24
UZB Uzynbulak 124.19 24 ePKIKP PKiKP 21 14 24.6 -0.1
SHLS Shalkode 124.36 24 ePKP PKiKP 21 14 25.4 +0.3
baz=24
SHLS ePP PP 21 16 13.9 +2.5
baz=24
SHLS Shalkode 124.36 24 ePKIKP PKiKP 21 14 25.4 +0.3
SHLS e 21 16 13.9
USA0B Ussuriysk Arra 124.44 338⇑iPKIKP PKiKP 21 14 26.5 +1.5
USA0B Ussuriysk Arra 124.44 338 PKPdf PKPdf 21 14 24.6 -0.1
USA0B PP 21 16 08.9 -2.8
USRK Ussuriysk Ar. 124.44 338 PKP PKiKP 21 14 25.1 +0.1
comp=Z,71nm,0.9s,baz=314,slow=1.1,SNR=66
USRK pPKP pPKPdf 21 15 10.3 +2.6
comp=Z,22nm,0.7s,baz=249,slow=1.9,SNR=2.9
USRK PP PP 21 16 09.4 -2.2
comp=Z,22nm,0.9s,baz=22,slow=6.8,SNR=7.6
USRK SKP 21 17 47.9
comp=Z,24nm,0.9s,baz=350,slow=1.9,SNR=4.1
USRK Ussuriysk Ar. 124.44 338 PKIKP PKiKP 21 14 25.4 +0.4
USRK 21 16 10.1
USRK Ussuriysk Ar. 124.44 338 PKPdf PKiKP 21 14 25.4 +0.4
USRK PP PP 21 16 10.1 -1.5
KBL Kabul 125.47 39 PKIKP PKiKP 21 14 27.6 0.0
KBL Kabul 125.47 39 PKPdf PKiKP 21 14 27.6 0.0
ULN Ulaanbaatar 125.58 360 c iPKIKP PKiKP 21 14 28.2 +0.8
SONM Songino Array 125.60 0 Pdiff Pdif 21 11 17.9 +12
comp=Z,0.3nm,0.8s,baz=330,slow=5.2,SNR=3.7
SONM PKP PKiKP 21 14 27.8 +0.4
comp=Z,64nm,0.6s,baz=306,slow=0.9,SNR=51
SONM pPKP pPKPdf 21 15 11.4 +1.2
comp=Z,8.2nm,0.6s,baz=184,slow=1.1,SNR=1.2
SONM PP PP 21 16 17.6 -1.6
comp=Z,8.7nm,0.7s,baz=191,slow=3.4,SNR=1.8
SONM SKP 21 17 50.2
comp=Z,20nm,1.0s,baz=244,slow=1.8,SNR=4.0
SONM PKKPbc PKKPab 21 24 03.3 -1.2
comp=Z,1.5nm,0.6s,baz=180,slow=4.4,SNR=11
SONM SKKPbc SKKPbc 21 27 48.9 +8.1
comp=Z,4.5nm,0.9s,baz=177,slow=3.3,SNR=5.0
SONM Songino Array 125.60 0 PKPpre 21 14 16.0
SONM PKPdif PKiKP 21 14 27.7 +0.4
SONM PP PP 21 16 15.4 -3.9

KSH **Kashi** 125.73 29 PKP **PKiKP** 21 14 29.6 +1.7
KSH SS SS 21 33 07.8 +0.2
KSH AMB AMB
comp=Z,330nm,5.9s
KSH LR LR
comp=Z,1μm,15.4s
KSH LR LR
comp=Z,1μm,15.7s
KSH LR LR
comp=Z,2μm,19.6s
WMQ Urumqi 126.69 17 PKP **PKiKP** 21 14 30.3 +0.7
WMQ PP **PP** 21 16 29.7 +3.1
WMQ SKS **SKSdf** 21 21 21.9 -4.0
WMQ SKKS **SKKSac** 21 23 05.8 -3.7
WMQ SS **SS** 21 33 22.4 +3.7
WMQ AMB AMB
comp=Z,2μm,4.9s
WMQ LR LR
comp=Z,1μm,22.5s
WMQ LR LR
comp=Z,1μm,18.1s
WMQ LR LR
comp=Z,2μm,24.3s
CN2 Changchun 126.93 343 *e*PKP **PKPdf** 21 14 29.4 -0.1
MAJO Matsushiro 127.88 328 ⇑ *i*PKIKP **PKiKP** 21 14 33.3 +1.2
MAJO Matsushiro 127.88 328 PKPdf **PKPdf** 21 14 31.8 +0.2
MAJO PP **PP** 21 16 35.7 +0.8
MAT Matsushiro 127.88 328 PKP **PKPdf** 21 14 31.7 +0.2
MJAR Matsushiro Arr 127.88 328 PKP **PKiKP** 21 14 32.5 +0.4
comp=Z,49nm,1.0s,baz=66,slow=0.8,SNR=37
MJAR pPKP **pPKPdf** 21 15 15.9 +1.3
comp=Z,29nm,0.9s,baz=303,slow=0.2,SNR=4.2
NIL Nilore 128.63 36 PKIKP **PKPdf** 21 14 33.1 +0.1
NIL Nilore 128.63 36 PKPdf **PKPdf** 21 14 33.1 +0.1
SNY Shenyang 129.28 344 ⇓ PKP **PKiKP** 21 14 34.9 +0.2
SNY SKKS 21 23 22.7
SNY AMB AMB
comp=Z,2μm,12.3s
SNY LR LR
comp=Z,1μm,17.5s
SNY LR LR
comp=Z,870nm,20.4s
SNY LR LR
comp=Z,1μm,28.4s
DHRM DHARAMSHALA 131.41 35 *i* x **SKPbc** 21 17 48.7 -0.2
KSRS Korea Array 131.82 338 PKhKP PKPpre 21 14 25.6
comp=Z,5.5nm,0.7s,baz=35,slow=2.2,SNR=12
KSRS PKP **PKPdf** 21 14 38.6 -0.3
comp=Z,15nm,0.5s,baz=17,slow=1.3,SNR=14
KSRS pPKP pPKPdf 21 15 24.0 +2.0
comp=Z,18nm,0.7s,baz=29,slow=1.3,SNR=4.3
KSRS PP **PP** 21 17 00.8 +0.8
comp=Z,22nm,0.9s,baz=12,slow=7.1,SNR=8.6
KSRS SKPbc **SKPbc** 21 17 50.1 +0.2
comp=Z,13nm,0.9s,baz=23,slow=4.2,SNR=2.3
KSAR Wonju Array Be 131.85 338 PKIKP **PKiKP** 21 14 41.0 +1.0
KSAR 21 17 00.3
KSAR Wonju Array Be 131.85 338 PKPpre 21 14 24.4
KSAR PKPdf **PKiKP** 21 14 41.0 +1.0
KSAR PP **PP** 21 17 00.3 +0.2
BHK Bhakra 132.08 36 *ex* x 21 17 51.0
CAN Canberra 132.13 228 PKIKP **PKiKP** 21 14 40.4 -0.3
CAN Canberra 132.13 228 PKPdf **PKiKP** 21 14 40.4 -0.3
HHC Hu-ho-hao-te 132.40 355 *e*PKP **PKiKP** 21 14 43.0 +1.8
HHC sPKP 21 15 42.1
HHC PP PP 21 17 12.0 +8.5
HHC PKS 21 18 17.7
HHC SKS **SKSdf** 21 21 36.4 -0.2
HHC SKKS **SKKSac** 21 23 45.4 +0.3
HHC SS **SS** 21 34 35.2 +6.6
HHC AMB AMB
comp=Z,330nm,5.3s
HHC LR LR
comp=Z,970nm,20.2s
HHC LR LR
comp=Z,880nm,18.6s
HHC LR LR
comp=Z,2μm,20.2s
BJI Beijing 132.63 350 PKP **PKPdf** 21 14 40.6 +0.2
BJI PP **PP** 21 17 04.8 -0.1
BJI SKS **SKSdf** 21 21 36.7 0.0
BJI AMB AMB
comp=Z,1μm,9.7s
BJI LR LR
comp=Z,1μm,22.4s
BJI LR LR
comp=Z,370nm,22.3s
BJI LR LR
comp=Z,2μm,23.9s
SMLA Simla 132.73 35 *i* x x 21 17 44.2
SMLA *es*P 21 19 06.2
BTO Baotou 132.75 357 PKP **PKiKP** 21 14 42.1 +0.2
BTO LR LR
comp=Z,5μm,14.3s
BTO LR LR
comp=Z,5μm,20.0s
TJN Taejon 132.98 337 ⇑ *i*PKIKP **PKiKP** 21 14 44.0 +1.7
GTA Gaotai 133.55 8 ⇑ P PKPdf 21 14 30.1 -12
GTA pP PKiKP 21 14 35.5 -8.1
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA Gaotai 133.55 8 ⇓ PKP **PKiKP** 21 14 43.9 +0.3
GTA PP **PP** 21 17 14.4 +3.5
GTA PKS 21 18 18.7
GTA SKKS 21 23 51.0
GTA SS **SS** 21 34 42.0 -0.7
GTA AMB AMB
comp=Z,550nm,10.9s
GTA LR LR
comp=Z,790nm,19.6s
GTA LR LR
comp=Z,590nm,18.2s
GTA LR LR
comp=Z,830nm,18.2s
JNU Nakatsue 134.26 332 PKP **PKiKP** 21 14 45.0 -0.1
comp=Z,26nm,1.0s,baz=37,slow=16,SNR=4.1
NDI New Delhi 134.54 38 *e*P **PKiKP** 21 14 46.0 +0.2
RABL Rabaul 134.94 271 **PKPdf** 21 14 44.5 -1.0
TIY Taiyuan 135.43 354 *e*PKP **PKiKP** 21 14 48.4 +1.0
TIY PP **PP** 21 17 23.0 +0.3
TIY SS SS 21 35 10.7 +5.7
TIY AMB AMB
comp=Z,1μm,6.4s
TIY LR LR
comp=Z,430nm,11.3s
TIY LR LR
comp=Z,1μm,17.4s
TIY LR LR
comp=Z,1μm,31.1s
JSU Suzuyama 135.79 331 PKPdf **PKPdf** 21 14 46.0 -0.6
TIA Tai'an 136.17 348 PKP PKPdf 21 14 38.1 -9.1
TIA PP **PP** 21 17 24.4 -2.9
TIA Tai'an 136.17 348 SS SS 21 35 11.9 -1.9
TIA pmax pmax
comp=Z,640nm,4.3s
TIA LR LR
comp=N,620nm,17.8s
TIA LR LR
comp=E,730nm,17.8s
TIA LR LR
comp=Z,1μm,18.5s
LZH Lanzhou 137.24 4 *e*PKP PKPdf 21 14 40.9 -8.5
LZH pPKP PKiKP 21 14 51.8 +0.5
LZH sPKP 21 15 34.7
LZH PP **PP** 21 17 35.4 +1.2
LZH PKS 21 18 13.4
LZH SKKS 21 24 12.9
LZH Lanzhou 137.24 4 SS SS 21 35 23.5 -3.3
LZH AMB AMB
comp=Z,610nm,9.8s
LZH LR LR
comp=N,860nm,16.3s
LZH LR LR
comp=E,700nm,14.6s
LZH LR LR
comp=Z,630nm,16.3s
BHPL Bhopal 138.47 43 *i* x **SKPbc** 21 18 09.7 -1.7
POO Poona 138.77 52 ⇑ *iP* **PKPdf** 21 14 50.0 -2.4
comp=Z,40nm,0.3s
POO *i* x x 21 18 12.1
STKA Stephens Creek 139.20 228 PKhKP PKPpre 21 14 44.3
comp=Z,10nm,0.5s,baz=67,slow=2.8,SNR=22
STKA PKP **PKiKP** 21 14 54.2 -0.9
comp=Z,88nm,0.8s,baz=87,slow=1.9,SNR=38
STKA pPKP pPKPdf 21 15 35.3 -0.6
comp=Z,30nm,0.7s,baz=77,slow=1.4,SNR=2.6
STKA SKPbc **SKPbc** 21 18 13.2 +0.2
comp=Z,49nm,0.9s,baz=67,slow=4.6,SNR=5.7
STKA Stephens Creek 139.20 228 *ce*PKIKP **PKPdf** 21 14 53.6 +0.8
GKN Gorkha 139.23 31 *eP* PKPdf 21 14 44.2 -9.0
comp=Z,31nm,0.6s
XAN Xi'an 139.34 358 PKP **PKPdf** 21 14 46.0 -7.1
XAN PP **PP** 21 17 46.7 -0.3
XAN SKKS 21 24 23.4
XAN SS **SS** 21 35 49.6 -1.7
XAN AMB AMB
comp=Z,2μm,10.2s
XAN LR LR
comp=Z,2μm,21.7s
XAN LR LR
comp=Z,2μm,22.1s
CTA Charters Tower 139.69 247 PKhKP PKPpre 21 14 46.3
comp=Z,28nm,0.7s,baz=113,slow=3.9,SNR=27
CTA PKP **PKiKP** 21 14 55.5 -0.9
comp=Z,59nm,0.5s,baz=116,slow=5.1,SNR=7.5
CTA pPKP pPKPdf 21 15 37.2 +0.1
comp=Z,23nm,0.7s,baz=264,slow=4.7,SNR=1.8
CTA SKPbc **SKPbc** 21 18 15.7 +1.0
comp=Z,37nm,1.0s,baz=126,slow=4.0,SNR=5.3
CTAO Charters Tower 139.69 247 PKIKP **PKiKP** 21 14 56.2 -0.3
CTAO Charters Tower 139.69 247 PKPpre 21 14 45.8
CTAO PKPdf **PKiKP** 21 14 56.1 -0.3
KKN Kakani 139.73 30 *eP* PKPdf 21 14 45.8 -8.4
comp=Z,25nm,0.7s
NJ2 Nanjing 139.74 344 *e*PKP **PKPdf** 21 14 48.8 -5.0
NJ2 sPKP 21 15 54.7
NJ2 SS SS 21 35 52.5 -3.6
NJ2 AMB AMB
comp=Z,890nm,6.2s
NJ2 LR LR
comp=Z,710nm,17.1s
NJ2 LR LR
comp=Z,690nm,14.7s
NJ2 LR LR
comp=Z,1μm,18.2s
DMN Daman 139.79 31 *eP* PKPdf 21 14 46.3 -8.1
comp=Z,51nm,0.6s
GUN Gumba 139.93 30 *eP* **PKPdf** 21 14 47.1 -7.7
SSE Sheshan 139.94 341 PKP **PKPdf** 21 14 50.3 -3.9
SSE PP **PP** 21 17 52.1 +1.3
SSE SS SS 21 35 57.7 -0.9
SSE AMB AMB
comp=Z,660nm,6.0s
SSE LR LR
comp=Z,380nm,22.6s
SSE LR LR
comp=Z,490nm,20.6s
PKIN Phulchoki 139.97 30 *eP* PKPdf 21 14 46.2 -8.5
comp=Z,56nm,0.6s
PKI Pulchoki 139.98 30 *eP* PKPdf 21 14 46.7 -8.1
comp=Z,35nm,0.6s
PMG Port Moresby 140.13 263 SKPbc **SKiKP** 21 18 19.5 +0.9
comp=Z,21nm,0.9s,baz=45,slow=14,SNR=3.3
LSA Lhasa 140.66 22 PKP **PKPdf** 21 14 50.0 -6.2
JOW Kunigami 140.70 329 PKhKP PKPpre 21 14 51.3
comp=Z,50nm,0.5s,baz=6.1,slow=5.6,SNR=7.1
JOW PKP **PKiKP** 21 14 57.2 -1.1
comp=Z,54nm,0.5s,baz=166,slow=6.1,SNR=5.4
JOW SKPbc **SKiKP** 21 18 18.6 -0.8
comp=Z,154nm,1.0s,baz=62,slow=1.9,SNR=4.9
RAMN Ramite 141.08 30 *eP* PKPdf 21 14 48.9 -7.8
ODAN Odare 141.54 29 *eP* PKPdf 21 14 49.0 -8.5
WHN Wuhan 142.20 350 PKP **PKPdf** 21 14 53.6 -4.7
WHN pPKP **pPKPdf** 21 15 39.2 -2.4
WHN sPKP 21 15 58.0
WHN SKKS 21 24 43.7
WHN AMB AMB
comp=Z,2μm,15.9s
WHN LR LR
comp=Z,3μm,20.1s
CD2 Chengdu 142.38 5 PKP **PKPdf** 21 14 55.9 -2.8
CD2 PP **PP** 21 18 07.6 +2.1
CD2 PKS 21 18 35.1
CD2 SKKS 21 24 41.1
CD2 SS **SS** 21 36 26.5 -0.2
CD2 AMB AMB
comp=Z,2μm,10.3s
CD2 LR LR
comp=Z,810nm,17.0s
CD2 LR LR
comp=Z,950nm,18.1s
CD2 LR LR
comp=Z,820nm,23.5s
BBOO Buckleboo 142.57 222 PKPdf **PKPdf** 21 14 55.2 -3.7
HYB Hyderabad 143.03 49 *i* PKP PKPab 21 14 56.0 +0.3
HYB Hyderabad 143.03 49 IAmb IAmb 21 15 02.3
comp=Z,18nm,0.7s
HYB *i* x x 21 18 22.3
BOK Bokaro 143.28 33 IAmb IAmb 21 15 18.6
comp=Z,35nm,1.0s
BOK *i* x x 21 18 25.2
ZIRO ZIRO 143.60 20 *eP* PKPbc 21 14 59.2 +0.3
ZIRO *i* x x 21 18 27.6
ITAN ITANAGAR 143.91 20 *eP* PKPbc 21 15 00.4 +0.9
DIBR DIBRUGARH 144.00 18 *eP* **PKPdf** 21 15 01.9 +0.3
GUWA GUWAHATI 144.01 24 *eP* PKPbc 21 15 00.1 +0.2
GUWA IAmb IAmb 21 15 02.5
comp=Z,451nm,0.5s
JORH JORHAT 144.46 20 *eP* **PKPdf** 21 15 02.2 -0.1
JORH *i* PP **PP** 21 18 22.5 +4.4
SHL Shillong 144.65 24 *eP* PKPbc 21 15 02.0 -0.1
SHL *i* PP **PP** 21 18 24.1 +4.4
MOKO MOKOCHONG 144.93 20 *eP* **PKPdf** 21 15 04.1 +0.7
MOKO *i* PP **PP** 21 18 26.1 +4.9
KOHI KOHIMA 145.35 21 *eP* **PKPdf** 21 15 03.4 -0.7
TATO Taipei 145.40 336 **PKPab** 21 15 04.5 0.0
DGAR Diego Garcia 145.75 93 *de*PKP2 **PKPab** 21 15 06.6 +0.4
DGAR Diego Garcia 145.75 93 **PKPab** 21 15 06.7 +0.4
AGT Agartala 145.87 26 *eP* **PKPbc** 21 15 05.5 -0.2
AGT IAmb IAmb 21 15 10.8
comp=Z,778nm,1.1s
BWNR Bhubaneshwar 145.97 37 *eP* **PKPdf** 21 15 03.0 -2.1
JAY Jayapura 146.11 276 PKP **PKPab** 21 15 07.4 -0.3
TRD Trivandrum 146.45 63 *eP* **PKPdf** 21 15 06.5 +0.4
TRD IAmb IAmb 21 15 13.5
comp=Z,281nm,1.1s
QZH Guanzhou 146.48 341 ⇓ *i*PKPbc **PKPbc** 21 15 07.7 +0.3
QZH sPKP 21 16 07.7
QZH PP **PP** 21 18 33.1 +3.0
QZH SKKS 21 25 08.2
QZH LR LR
comp=Z,950nm,15.2s
QZH LR LR
comp=Z,900nm,15.6s
QZH LR LR
comp=Z,1μm,23.2s
BELO BELONIA 146.51 26 *eP* **PKPdf** 21 15 06.2 +0.3
GENI Genyem 146.65 276 PKP **PKiKP** 21 15 10.6 -0.3
YULB Yu-li 146.88 335 **PKPdf** 21 15 04.8 -1.8
YULB PKPbc **PKPbc** 21 15 08.7 0.0
MDRS Chennai 146.93 53 *eP* **PKPdf** 21 15 06.9 +0.1
MDRS IAmb IAmb 21 15 11.7
comp=Z,142nm,0.5s
GYA Guiyang 146.94 0 ⇓ PKPbc **PKPbc** 21 15 08.1 -0.8
GYA SKKS 21 25 09.6
GYA AMB AMB
comp=Z,1μm,9.3s
GYA LR LR
comp=Z,540nm,25.8s
GYA LR LR
comp=Z,440nm,20.1s
GYA LR LR
comp=Z,1μm,24.0s
SAIH SAIHA 147.84 25 *eP* **PKPdf** 21 15 09.2 +0.9
KMI Kunming 148.01 7 ⇓ PKPbc **PKPbc** 21 15 10.8 -1.2
ASAR Alice Springs 149.16 234 PKP **PKPdf** 21 15 10.9 +0.5
comp=Z,92nm,0.7s,baz=108,slow=1.6,SNR=287
ASAR PKPbc **PKPbc** 21 15 14.8 +0.1
comp=Z,459nm,0.6s,baz=118,slow=3.4,SNR=106
ASAR pPKPbc **pPKPbc** 21 15 57.9 +0.1
comp=Z,109nm,0.8s,baz=128,slow=2.9,SNR=4.2
ASAR Alice Springs 149.16 234 PKPdf **PKPdf** 21 15 10.4 +0.1
ASAR PKPbc **PKPbc** 21 15 15.2 +0.5
PALK Pallekele 150.31 62 *de*PKIKP **PKPdf** 21 15 13.8 +1.4
PALK Pallekele 150.31 62 PKPdf **PKPdf** 21 15 13.3 +0.9
PALK PKPbc **PKiKP** 21 15 18.9 +0.4
WRAB Tennant Creek 150.39 241 PKIKP **PKPdf** 21 15 12.8 +0.4
WRAB Tennant Creek 150.39 241 **PKPdf** 21 15 12.8 +0.4
WRAB PKPbc **PKiKP** 21 15 18.8 +0.3
WRAB **pPKPbc** 21 15 59.5 -1.4
WRA Warramunga Arr 150.40 241 PKP **PKPdf** 21 15 13.2 +0.8
comp=Z,102nm,0.7s,baz=107,slow=2.0,SNR=239
WRA PKPbc **PKPbc** 21 15 18.1 +0.3
comp=Z,403nm,0.5s,baz=110,slow=2.7,SNR=97
WRA pPKPbc **pPKPbc** 21 16 00.5 -0.3
comp=Z,130nm,0.6s,baz=106,slow=2.3,SNR=2.4
SRPI Serui, Papua 150.41 278 PKP **PKiKP** 21 15 19.3 +0.6
BAKI Biak 150.41 280 PKP **PKPbc** 21 15 16.6 -1.4
NWAO Narrogin (SRO) 152.30 199 PKP **PKPdf** 21 15 15.0 +0.1
comp=Z,27nm,0.7s,baz=171,slow=2.7,SNR=20
NWAO PKPbc **PKiKP** 21 15 22.3 +0.2
comp=Z,159nm,1.1s,baz=158,slow=3.4,SNR=19
NWAO pPKPbc **pPKPbc** 21 16 04.1 -0.8
comp=Z,74nm,0.9s,baz=163,slow=5.9,SNR=3.0
NWAO Narrogin (SRO) 152.30 199 PKPdf **PKPdf** 21 15 14.2 -0.7
NWAO PKPbc **PKPbc** 21 15 21.9 +0.1
CM33 Chiang Mai Arr 153.35 17 P **PKPdf** 21 15 17.0 +0.2
CHTO Chiang Mai 153.35 17 PKIKP **PKPdf** 21 15 18.1 +1.3
CHTO Chiang Mai 153.35 17 PKPdf **PKPdf** 21 15 17.8 +1.0
CHTO PKPbc **PKiKP** 21 15 26.3 +1.7
CHTO PKPab **PKPab** 21 15 37.5 +0.6
CMMT Chiang Mai 153.35 17 P **PKPdf** 21 15 17.1 +0.3
CM34 Chiang Mai Arr 153.38 17 P **PKPdf** 21 15 18.0 +1.1
CM32 Chiang Mai Arr 153.47 17 P **PKPdf** 21 15 18.0 +1.0
CM36 Chiang Mai Arr 153.68 17 P **PKPdf** 21 15 18.0 +0.7
CM15 Chiang Mai Arr 153.69 17 P **PKPdf** 21 15 19.0 +1.7
CM31 Chiang Mai Arr 153.69 17 P **PKPdf** 21 15 19.5 +2.2
CMAR Chiang Mai Arr 153.69 17 PKP **PKPdf** 21 15 19.0 +1.7
comp=Z,79nm,0.9s,baz=307,slow=2.2,SNR=291
CMAR PKPbc **PKiKP** 21 15 26.4 +1.2
comp=Z,165nm,0.6s,baz=325,slow=3.5,SNR=43
CMAR SKKPbc 21 25 54.2
comp=Z,3.1nm,0.8s,baz=169,slow=4.1,SNR=4.8
CMAR Chiang Mai Arr 153.69 17 PKIKP **PKPdf** 21 15 18.2 +0.9
CMAR Chiang Mai Arr 153.69 17 PKPdf **PKPdf** 21 15 18.2 +0.9
CMAR PKPbc **PKiKP** 21 15 25.9 +0.6
CM02 Chiang Mai Arr 153.71 17 P **PKPdf** 21 15 19.0 +1.7
CM13 Chiang Mai Arr 153.71 17 P **PKPdf** 21 15 19.0 +1.7
CM09 Chiang Mai Arr 153.72 17 P **PKPdf** 21 15 19.0 +1.7
CM01 Chiang Mai Arr 153.73 17 P **PKPdf** 21 15 19.0 +1.6
CM05 Chiang Mai Arr 153.74 17 P **PKPdf** 21 15 19.1 +1.8
CM04 Chiang Mai Arr 153.75 17 P **PKPdf** 21 15 19.0 +1.6
LAMP Lampang 153.82 16 P **PKPdf** 21 15 19.3 +1.8
NANT Nan 153.83 14 P **PKPdf** 21 15 19.2 +1.7
QIZ Qiongzhong 154.18 354 PKPbc **PKPdf** 21 15 17.1 -0.9
QIZ PP **PP** 21 19 15.0 +0.9
QIZ SS SS 21 38 42.3 +3.5
QIZ AMB AMB
comp=Z,700nm,9.4s
QIZ LR LR
comp=Z,560nm,20.4s
QIZ LR LR
comp=Z,460nm,23.3s
QIZ LR LR
comp=Z,570nm,17.8s
FAKI Fak Fak 154.52 277 PKP **PKiKP** 21 15 31.3 +4.1
SWI Sorong 155.06 283 PKP PKPdf 21 15 30.6 +11
DGPR DIGLIPUR 155.75 35 *eP* **PKPdf** 21 15 21.4 +1.2
FITZ Fitzroy Crossi 158.61 237 PKP **PKPdf** 21 15 24.2 +0.5
comp=Z,46nm,1.1s,baz=115,slow=2.2,SNR=27
FITZ PKPab **PKPab** 21 15 59.9 +0.2
comp=Z,102nm,0.9s,baz=123,slow=3.7,SNR=14
NLAI Namlea 159.63 279 PKP **PKPdf** 21 15 27.2 +2.1
SANI Sanana 160.46 283 PKP **PKPdf** 21 15 27.5 +1.5
PSA00 Pilbara Seismi 160.74 219 PKPdf **PKPdf** 21 15 25.4 -0.7
PSA00 PKPab **PKPab** 21 16 08.0 -0.8
KMSI Cibinong 161.51 293 PKP **PKPdf** 21 15 31.4 +4.3
GTOI Gorontalo 162.37 294 PKP PKPdf 21 15 36.4 +8.4
SOEI Soe 162.63 259 PKP **PKPdf** 21 15 30.6 +2.2
BATI Baumata 163.14 257 PKP **PKPdf** 21 15 30.4 +1.7
comp=Z,49nm,0.6s,baz=208,slow=1.3,SNR=7.7
BATI PKPab **PKPab** 21 16 20.4 +0.7
comp=Z,98nm,0.9s,baz=62,slow=4.6,SNR=7.8
BATI Baumata 163.14 257 PKP **PKPdf** 21 15 31.0 +2.3
MRSI Marisa 163.40 295 PKP **PKPdf** 21 15 30.3 +1.3
MYLDM Lahad Datu 163.44 316 PKPdf **PKPdf** 21 15 28.6 -0.4
MYLDM PKPab **PKPab** 21 16 23.0 +2.2
APSI Ampana 164.23 291 PKP **PKPdf** 21 15 31.4 +1.7
LHMI Lhok Sumawe 164.42 40 **PKPdf** 21 15 29.1 -0.8
LHMI Lhok Sumawe 164.42 40 PKP **PKPdf** 21 15 31.3 +1.4
MMRI Maumere 164.75 262 PKPdf **PKPdf** 21 15 29.0 -1.1
MMRI PKPab **PKPab** 21 16 27.4 +0.6
MMRI Maumere 164.75 262 PKP **PKPdf** 21 15 35.3 +5.1
BASI Baing, Sumba 166.11 255 PKP **PKPdf** 21 15 33.8 +2.5
TTSI Tana Toraja 166.66 286 PKP **PKPdf** 21 15 33.6 +1.9
TSI Tuntungan 166.78 40 PKP **PKPdf** 21 15 33.1 +1.3
SPSI Sidrap Palu 166.94 282 PKP **PKPdf** 21 15 33.1 +1.1
KAPI Kappang 167.16 277 PKPab **PKPab** 21 16 38.2 +0.7
comp=Z,96nm,1.1s,baz=85,slow=1.7,SNR=4.2
KAPI PP **PP** 21 20 24.4 -1.8
comp=Z,6.7nm,0.2s,baz=71,slow=6.1,SNR=3.7
KAPI Kappang 167.16 277 PKIKP **PKPdf** 21 15 31.9 -0.2
KAPI 21 16 38.6
KAPI 21 20 24.4
KAPI Kappang 167.16 277 **PKPdf** 21 15 31.9 -0.2
KAPI PKPab **PKPab** 21 16 38.6 +1.2
IPM Ipoh 167.33 28 **PKPdf** 21 15 32.9 +0.7
PSI Prapat 167.54 40 PKIKP **PKPdf** 21 15 32.9 +0.3
RPSI Rantau Prapat 167.62 41 **PKPdf** 21 15 32.9 +0.4
GSI Gunungsitoli 167.65 50 PKP **PKPdf** 21 15 34.6 +2.1
BKB Balikpapan 168.67 299 PKPab **PKPab** 21 16 45.5 +1.5
BKB Balikpapan 168.67 299 PKP **PKPdf** 21 15 36.7 +3.5
PLAI Plampang 169.10 259 PKP **PKPdf** 21 15 34.0 +0.6
TWSI Taliwang, Sumb 169.98 258 PKP **PKPdf** 21 15 34.0 +0.1
MTKI Muara Teweh, K 170.18 306 PKP **PKPdf** 21 15 36.1 +2.0
BKNI Bangkinang 170.78 40 PKP **PKPdf** 21 15 34.1 -0.3
BBKI Banjar Baru 171.48 292 PKP **PKPdf** 21 15 36.1 +1.3
SRBI Singaraja 171.72 261 PKP **PKPdf** 21 15 35.5 +0.7
SDSI Sungai Dareh 171.97 44 PKP **PKPdf** 21 15 34.4 -0.6
JAGI Jajag, Banyuwa 172.68 256 **PKPdf** 21 15 34.1 -1.2
JAGI **PKPab** 21 17 00.9 -1.0
JAGI Jajag, Banyuwa 172.68 256 PKP **PKPdf** 21 15 35.5 +0.2
ABJI Asem Bagus 172.72 262 PKP **PKPdf** 21 15 36.7 +1.4
PBKI Pangkalan Bun 173.79 311 PKP **PKPdf** 21 15 37.7 +2.0
JMBI JAMBI 173.90 33 PKP **PKPdf** 21 15 37.5 +1.7
PPBI Pangkal Pinang 175.32 10 PKP **PKPdf** 21 15 37.2 +1.0
PMBI Palembang 175.58 30 PKP **PKPdf** 21 15 38.0 +1.7
TPI Tanjungpandan 175.93 350 PKP **PKPdf** 21 15 37.5 +1.1
UGM Wanagama 176.30 252 PKP **PKPdf** 21 15 37.9 +1.4
SMRI Semarang 176.54 266 PKP **PKPdf** 21 15 38.7 +2.2
LWLI Liwa 176.61 59 PKP **PKPdf** 21 15 37.0 +0.3
KLSI 176.95 47 PKP **PKPdf** 21 15 36.4 -0.2
BLSI Bandar Lampung 177.78 50 PKP **PKPdf** 21 15 36.7 0.0
CISI Cisompet, Garu 178.87 228 **PKPdf** 21 15 35.3 -1.6
CISI Cisompet, Garu 178.87 228 PKP **PKPdf** 21 15 37.2 +0.3
LEM Lembang 179.35 267 PKPab 21 17 32.2
comp=Z,62nm,0.9s,baz=11,slow=5.1,SNR=5.4
LEM PP **PP** 21 21 23.9 -2.0
comp=Z,11nm,0.6s,baz=166,slow=7.6,SNR=6.2
CBJI Citeko 179.61 17 PKP **PKPdf** 21 15 33.0 -3.8
DBJI Dramaga 179.68 41 PKP **PKPdf** 21 15 37.1 +0.3

WEL 10 21:12:25.2±0.4,44°S±3°×16°9E±°,h4km±2km,M3.5/21,
ML3.6/21,MLv3.5/21 Error ellipse: s-maj=0.0km
s-min=0.0km az=131.7,South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.45**	**243**	P		Pg	21 12 34.9	+0.9
JCZ				S		Sg	21 12 41.3	+1.4
FOZ	**Fox Glacier**	**0.48**	**45**	P		Pg	21 12 34.8	+0.3
FOZ				S		Sg	21 12 40.6	-0.1
LBZ	**Lake Benmore**	**0.80**	**131**	P		Pb	21 12 41.2	-0.4
LBZ				S		Sg	21 12 51.5	+0.7
GCSZ	**Gaunt Creek Bo**	**0.90**	**53**	P		Pg	21 12 42.6	+0.1
WKZ	**Wanaka**	**0.98**	**194**	P		Pg	21 12 44.1	0.0
WKZ				S		Sg	21 12 57.1	+0.1
RPZ	**Rata Peaks**	**1.25**	**83**	P		Pb	21 12 49.3	-0.1
WVZ	**Waitaha Valley**	**1.29**	**52**	P		Pg	21 12 49.9	0.0
WVZ				S		Sg	21 13 06.3	-0.3
MSZ	**Milford Sound**	**1.30**	**231**	P		Pg	21 12 48.2	-1.9
MSZ				S		Sg	21 13 03.8	-3.2
TMZ	**Timaru**	**1.30**	**114**	P		Pb	21 12 50.5	+0.2
ARCZ	**Arundel**	**1.33**	**94**	P		Pn	21 12 50.3	-0.3
EAZ	**Earnscleugh**	**1.36**	**181**	P		Pn	21 12 50.2	-0.8
EAZ				S		Sg	21 13 08.2	-0.7
ODZ	**Otahua Downs**	**1.50**	**142**	P		Pn	21 12 52.2	-0.7
ODZ				S		Sn	21 13 12.8	-0.2
MLZ	**Mavora Lakes**	**1.73**	**210**	P		Pn	21 12 56.5	+0.4
WACZ	**Wakanui South**	**1.80**	**93**	P		Pb	21 12 59.0	+0.2

INZ	**Inchbonnie**	**1.91**	**54**	P	Pn	21 12 57.8	-0.8
RACZ	**Rakaia**	**2.03**	**87**	P	Pg	21 13 04.7	+0.6
OXZ	**Oxford**	**2.03**	**75**	P	Pn	21 13 00.8	+0.6
OXZ				S	Sg	21 13 30.7	+0.3
TUZ	**Tuapeka**	**2.09**	**175**	P	Pn	21 13 00.1	-1.0
HHSZ	**Highcliff Hill**	**2.20**	**157**	P	Pg	21 13 06.9	-0.5
DCZ	**Deep Cove**	**2.23**	**224**	P	Pn	21 13 03.7	+0.8
WHZ	**Wether Hill Ro**	**2.25**	**206**	P	Pn	21 13 03.2	-0.1
LTZ	**Lake Taylor**	**2.40**	**64**	P	Pn	21 13 04.7	-0.6
MQZ	**McQueen's Vall**	**2.40**	**87**	P	Pn	21 13 04.9	-0.4
AKCZ	**Akaroa Harbour**	**2.58**	**91**	P	Pn	21 13 07.1	-0.6
SYZ	**Scrubby Hill**	**2.67**	**183**	P	Pn	21 13 08.1	-0.9
OKCZ	**Okains Bay**	**2.69**	**88**	P	Pn	21 13 09.7	+0.4
DSZ	**Denniston Nort**	**2.79**	**41**	P	Pn	21 13 10.7	0.0
GVZ	**Greta Valley S**	**2.84**	**73**	P	Pn	21 13 10.7	-0.6
APZ	**The Paps**	**3.11**	**197**	P	Pn	21 13 14.1	-1.1
THZ	**Tophouse**	**3.36**	**52**	P	Pn	21 13 18.5	-0.1
KHZ	**Kahutara**	**3.40**	**66**	P	Pn	21 13 22.1	+3.1
QRZ	**Quartz Range**	**3.85**	**39**	P	Pn	21 13 24.3	-0.9
DUWZ	**D'Urville Isla**	**4.57**	**49**	P	Pn	21 13 36.3	+1.1
PKE	**Pukeiti**	**5.83**	**38**	P	Pn	21 13 53.8	+1.4
KATZ	**Kakaramea**	**6.83**	**46**	P	Pn	21 14 08.9	+2.5

*TAP **10** 21:18:12.2,24˚.78N×121˚.98E,h66km,ML3.0,D*
*JMA **10** 21:18:12.4±0.1,24˚.74N×122˚.01E,h62km±1km*
ISC 10 21:18:12.3±1.4,**24˚.77N**±0˚.04×**122˚.02E**±0˚.03,**h66**km±7km,
n59,σ0**844**/103,**2C-2D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.19**	**296**	*e*P	**Pn**	**21 18 21.6**	**-0.8**
	baz=300						
NTC				*e*S	**Sn**	**21 18 29.6**	**-0.1**
	baz=300						
TWC	**Suao**	**0.22**	**224**	*i* P	**Pn**	**21 18 22.2**	**-0.3**
	baz=213						
TWC				*i* S	**Sn**	**21 18 29.6**	**-0.4**
	baz=213						
TWB1	**Santiao Chiao**	**0.24**	**353**	⇓*i*P	**Pn**	**21 18 22.8**	**+0.2**
	baz=4.0						
TWB1				*i* S	**Sn**	**21 18 30.5**	**+0.3**
	baz=4.0						
ILA	**Ilan**	**0.25**	**269**	P	**Pn**	**21 18 22.9**	**+0.3**
	baz=266						
ILA				*i* S	**Sn**	**21 18 30.9**	**+0.7**
	baz=266						
TIPB	**Shuangxi**	**0.27**	**319**	⇓*i*P	**Pn**	**21 18 22.9**	**+0.1**
	baz=324						
TIPB				*i* S	**Sn**	**21 18 30.5**	**0.0**
	baz=324						
NDS	**Dongshan**	**0.31**	**244**	*i* P	**Pn**	**21 18 23.2**	**+0.1**
	baz=239						
NDS				*i* S	**Sn**	**21 18 30.8**	**-0.1**
	baz=239						
TWE	**Neicheng**	**0.33**	**261**	⇑*i*P	**Pn**	**21 18 23.2**	**0.0**
	baz=258						
TWE				S	**Sn**	**21 18 30.8**	**-0.3**
	baz=258						
NWF	**Wu-fen Shan**	**0.37**	**324**	*i* P	**Pn**	**21 18 23.8**	**+0.1**
	baz=328						
NWF				*i* S	**Sn**	**21 18 32.7**	**+0.7**
	baz=328						
WFSB	**Wu-fen Shan**	**0.37**	**324**	P	**Pn**	**21 18 23.8**	**+0.2**
	baz=328						
WFSB				S	**Sn**	**21 18 32.9**	**+1.1**
	baz=328						
ENA	**Nanau**	**0.43**	**217**	*i* P	**Pn**	**21 18 23.9**	**-0.2**
	baz=211						
ENA				*i* S	**Sn**	**21 18 33.5**	**+0.9**
	baz=211						
ENTT	**Nioudou**	**0.43**	**253**	*i* P	**Pn**	**21 18 24.3**	**+0.2**
	baz=249						
ENTT				S	**Sn**	**21 18 33.6**	**+0.9**
	baz=249						
TNOU	**National Taiwa**	**0.44**	**329**	P	**Pn**	**21 18 24.2**	**+0.1**
	baz=332						
TNOU				S	**Sn**	**21 18 32.9**	**+0.1**
	baz=332						
TWA	**Mucha**	**0.45**	**298**	*i* P	**Pn**	**21 18 24.2**	**0.0**
	baz=299						
TWA				*i* S	**Sn**	**21 18 32.9**	**-0.1**
	baz=299						
NWLT	**Wulai**	**0.47**	**271**	P	**Pn**	**21 18 24.4**	**-0.1**
	baz=270						
NWLT				S	**Sn**	**21 18 33.5**	**+0.1**
	baz=270						
NHDH	**Xindian Distri**	**0.49**	**293**	*e*P	**Pn**	**21 18 24.6**	**0.0**
	baz=294						
NHDH				*e*S	**Sn**	**21 18 33.4**	**-0.2**
	baz=294						
NDT	**Datong Townshi**	**0.49**	**250**	*i* P	**Pn**	**21 18 24.9**	**+0.3**
	baz=247						
NDT				*i* S	**Sn**	**21 18 34.0**	**+0.3**
	baz=247						
TATO	**Taipei**	**0.52**	**293**	P	**Pn**	**21 18 24.8**	**-0.2**
	baz=294						
TATO				S	**Sn**	**21 18 33.9**	**-0.4**
	baz=294						
TAP	**Taipei**	**0.54**	**300**	*e*P	**Pn**	**21 18 25.2**	**+0.1**
	baz=301						
TAP				S	**Sn**	**21 18 34.5**	**0.0**
	baz=301						
YM01	**YM01**	**0.55**	**313**	P	**Pn**	**21 18 24.2**	**-1.1**
	baz=314						
YM01				S	**Sn**	**21 18 33.6**	**-1.3**
	baz=314						
YM11	**YM11**	**0.56**	**314**	P	**Pn**	**21 18 25.7**	**+0.2**
	baz=316						
YM11				S	**Sn**	**21 18 35.5**	**+0.3**
	baz=316						
YM10	**YM10**	**0.57**	**313**	P	**Pn**	**21 18 25.5**	**0.0**
	baz=314						
YM10				S	**Sn**	**21 18 35.0**	**-0.1**
	baz=314						
YM05	**YM05**	**0.57**	**314**	P	**Pn**	**21 18 25.5**	**-0.1**
	baz=315						
YM05				*e*S	**Sn**	**21 18 34.9**	**-0.4**
	baz=315						
YM08	**YM08**	**0.57**	**317**	P	**Pn**	**21 18 25.3**	**-0.2**
	baz=319						
YM08				S	**Sn**	**21 18 34.5**	**-0.6**
	baz=319						
BACT	**New Taipei Cit**	**0.57**	**293**	*e*P	**Pn**	**21 18 25.6**	**+0.1**
	baz=294						
YM04	**YM04**	**0.58**	**311**	P	**Pn**	**21 18 25.5**	**-0.1**
	baz=313						
YM04				S	**Sn**	**21 18 35.2**	**-0.1**
	baz=313						
YHNB	**Yeheng**	**0.59**	**260**	P	**Pn**	**21 18 25.6**	**-0.2**
	baz=259						
YHNB				S	**Sn**	**21 18 35.4**	**-0.4**
	baz=259						
NSK	**Sanguang**	**0.61**	**261**	⇑*i*P	**Pn**	**21 18 25.7**	**-0.3**
	baz=259						
NSK				*i* S	**Sn**	**21 18 35.5**	**-0.5**
	baz=259						
ANP	**Anpu**	**0.61**	**312**	*e*P	**Pn**	**21 18 25.6**	**-0.4**
	baz=314						
ANP				*e*S	**Sn**	**21 18 36.5**	**+0.4**
	baz=314						
TWY	**Chenhua**	**0.63**	**323**	*e*P	**Pn**	**21 18 25.6**	**-0.5**
	baz=325						
TWY				*e*S	**Sn**	**21 18 35.8**	**-0.5**
	baz=325						
TWS1	**Kuangyinshan**	**0.64**	**301**	P	**Pn**	**21 18 26.4**	**+0.2**
	baz=302						
TWS1				*e*S	**Sn**	**21 18 36.2**	**-0.2**
	baz=302						
NTST	**Danshui**	**0.65**	**307**	*e*P	**Pn**	**21 18 26.6**	**+0.3**
	baz=308						
NNSB	**Datong**	**0.67**	**240**	P	**Pn**	**21 18 26.6**	**-0.1**
	baz=237						
NNSB				S	**Sn**	**21 18 37.0**	**-0.3**
	baz=237						
NNS	**Nan Shan**	**0.68**	**241**	*i* P	**Pn**	**21 18 26.7**	**-0.1**
	baz=238						
NNS				S	**Sn**	**21 18 36.5**	**-0.8**
	baz=238						
NTY	**Taoyuan**	**0.69**	**289**	*e*P	**Pn**	**21 18 27.3**	**+0.5**
	baz=289						
NTY				*e*S	**Sn**	**21 18 38.1**	**+0.5**
	baz=289						
NACB	**Ninganchiao**	**0.71**	**213**	P	**Pn**	**21 18 26.8**	**-0.3**
	baz=210						
NACB				*e*S	**Sn**	**21 18 37.1**	**-0.8**
	baz=210						

NCU	**National Centr**	**0.78**	**285**	S	**Sn**	**21 18 39.7**	**+0.3**
	baz=285						
NCUH	**Zhongli**	**0.78**	**285**	*e*S	**Sn**	**21 18 39.9**	**+0.5**
	baz=284						
NJD	**Zhudong**	**0.85**	**268**	*e*S	**Sn**	**21 18 41.5**	**+0.7**
	baz=267						
FUSS	**Fushou**	**0.88**	**234**	*e*P	**Pn**	**21 18 29.1**	**-0.2**
	baz=231						
FUSS				*e*S	**Sn**	**21 18 42.4**	**+0.5**
	baz=231						
JYNG	**Yonagunijimaku**	**0.90**	**111**	P	**Pn**	**21 18 29.3**	**0.0**
JYNG				*e*S	**Sn**	**21 18 41.9**	**0.0**
HSN1	**Hsinchu**	**0.91**	**271**	*e*S	**Sn**	**21 18 42.3**	**+0.1**
	baz=270						
NHW	**Xinwu Township**	**0.91**	**285**	*e*S	**Sn**	**21 18 42.6**	**+0.4**
	baz=285						
LIOB	**Emei**	**0.92**	**262**	P	**Pn**	**21 18 29.4**	**-0.2**
	baz=261						
LIOB				S	**Sn**	**21 18 41.5**	**-0.9**
	baz=261						
TWT	**Tachien**	**0.93**	**236**	*e*P	**Pn**	**21 18 30.2**	**+0.3**
	baz=234						
TWT				*e*S	**Sn**	**21 18 42.7**	**-0.1**
	baz=234						
WHF	**Hehuan Shan**	**0.93**	**228**	*e*P	**Pn**	**21 18 29.5**	**-0.6**
	baz=225						
WHF				*e*S	**Sn**	**21 18 43.0**	**-0.3**
	baz=225						
NSTT	**Nanjuang**	**0.94**	**262**	*e*P	**Pn**	**21 18 29.0**	**-0.8**
	baz=260						
NSTT				S	**Sn**	**21 18 42.4**	**-0.4**
	baz=260						
SBCB	**Hsinchu**	**0.94**	**272**	*e*S	**Sn**	**21 18 43.1**	**+0.2**
	baz=271						
CHGB	**Renai**	**1.05**	**228**	*e*P	**Pn**	**21 18 31.1**	**-0.3**
	baz=225						
CHGB				*e*S	**Sn**	**21 18 46.0**	**+0.4**
	baz=225						
ESL	**Shilin**	**1.09**	**209**	*e*P	**Pn**	**21 18 31.9**	**+0.1**
	baz=207						
WHP	**Taichung City**	**1.09**	**244**	P	**Pn**	**21 18 32.2**	**+0.3**
	baz=242						
WHP				S	**Sn**	**21 18 46.7**	**+0.3**
	baz=242						
NSY	**Sanyi**	**1.20**	**253**	P	**Pn**	**21 18 33.3**	**+0.1**
	baz=251						
NSY				*e*S	**Sn**	**21 18 48.8**	**0.0**
	baz=251						
TWQ1	**Liyutan**	**1.21**	**250**	*e*P	**Pn**	**21 18 34.2**	**+0.8**
	baz=248						
TWQ1				*e*S	**Sn**	**21 18 48.9**	**-0.1**
	baz=248						
WCS	**Beigang Elemen**	**1.23**	**235**	*e*P	**Pn**	**21 18 34.0**	**+0.3**
	baz=233						
WCS				*e*S	**Sn**	**21 18 50.5**	**+1.0**
	baz=233						
SMLT	**Sun Moon Lake**	**1.35**	**229**	*e*P	**Pn**	**21 18 35.0**	**-0.2**
	baz=227						
TYC	**Yuchr**	**1.37**	**231**	*e*P	**Pn**	**21 18 35.6**	**+0.2**
	baz=229						
SSLB	**Suanglung**	**1.38**	**225**	*e*P	**Pn**	**21 18 35.0**	**-0.5**
	baz=223						
IRIF	**Iriomote-Funau**	**1.62**	**105**	S	**Sn**	**21 18 58.7**	**+0.1**
JKRS	**Kuro-shima**	**1.89**	**106**	*e*S	**Sn**	**21 19 05.6**	**+0.4**
JIJ	**Ishigaki jima**	**1.98**	**101**	*e*S	**Sn**	**21 19 07.0**	**-0.3**

*IDC **10** 21:32:23.6±0.9,26˚.51N×58˚.05E,h0km,mb3.6/17,*
mb1 3.8/19,mb1mx3.6/63,mbtmpg3.7/19,ML3.8/2,MS4.3/3,
Ms1 4.4/3,ms1mx3.5/52,Error ellipse: s-maj=20.2km
s-min=17.7km az=162.0
*THR **10** 21:32:27.3±0.3,26˚.58N×58˚.06E,h14km±5km,ML4.4*
*MOS **10** 21:32:27.4±1.3,26˚.50N×57˚.91E,h43km,mb4.3/3,Error*
ellipse: s-maj=18.4km s-min=10.2km az=67.4
*NEIC **10** 21:32:29.4±1.6,26˚.40N±0˚.06×58˚.16E±0˚.07,h44km±4km,*
Error ellipse: s-maj=9.7km s-min=8.2km az=93.0
*OMAN **10** 21:32:31.8,26˚.09N×58˚.00E,h20km,mb6.0/5,ml3.8/18,*
Mwp5.4/3
*DSN **10** 21:32:33.8±2.2,26˚.14N×57˚.76E,h15km,ML3.8/11,Error*
ellipse: s-maj=27.5km s-min=17.7km az=111.0
ISC 10 21:32:23.1±1.6,**26˚.17N**±0˚.04×**58˚.29E**±0˚.04,**h8**km±10km,
n103,σ1**$40**/125,**mb3.7**/20,**MS4.2**/3,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSK1	**Jask**	**0.71**	**222**		Pn	21 32 46.6	+7.2
BANOM	**Banah**	**1.81**	**263**	*e*P	**Pb**	**21 32 57.0**	**+0.5**
	SNR=71						
BANOM	**Banah**	**1.81**	**263**	P	**Pb**	**21 32 57.1**	**+0.6**
	SNR=71						
SHME	**Shamm**	**1.94**	**267**	*e*P	**Pb**	**21 32 59.1**	**+0.4**
	SNR=65						
SHME	**Shamm**	**1.94**	**267**	Pn	**Pb**	**21 32 59.2**	**+0.5**
SHME	**Shamm**	**1.94**	**267**	P	**Pb**	**21 32 59.2**	**+0.5**
	SNR=65						
MDH	**Madha**	**2.00**	**245**	*e*P	**Pb**	**21 33 00.1**	**+0.4**
	SNR=53						
MDH	**Madha**	**2.00**	**245**	P	**Pb**	**21 33 00.2**	**+0.4**
	SNR=53						
MDH				S	**Sn**	**21 33 22.7**	**+0.3**
	SNR=5.2						
MDH				S	**Sb**	**21 33 23.1**	**-1.7**
MASF	**Masafi**	**2.08**	**248**	P	**Pb**	**21 33 01.2**	**0.0**
	SNR=9.7						
MSFE	**Esma-Masafi**	**2.09**	**248**	*e*P	**Pb**	**21 33 01.0**	**-0.3**
	SNR=9.8						
UOSS	**Minazif**	**2.25**	**238**		**Pb**	**21 33 03.6**	**-0.4**
UOSS	**Minazif**	**2.25**	**238**	P	**Pb**	**21 33 03.9**	**-0.1**
UOSS				S	**Sn**	**21 33 29.4**	**+0.8**
BNDS	**Bandar-Abbas**	**2.26**	**303**	*e*Pg	**Pn**	**21 33 01.5**	**+0.6**
BNDS				IAML		21 33 33.2	
	comp=E,1μm,0.5s						
BNDS	**Bandar-Abbas**	**2.26**	**303**		**Pn**	**21 33 01.5**	**+0.6**
GENO	**Geno**	**2.26**	**303**	Pn	**Pn**	**21 33 01.9**	**+1.0**
HATD	**Hatta, Dubai**	**2.37**	**236**	*e*P	**Pb**	**21 33 05.5**	**-0.5**
	SNR=16						
HATD				S	**Sn**	**21 33 31.7**	**+0.1**
HATD	**Hatta, Dubai**	**2.37**	**236**	P	**Pb**	**21 33 05.7**	**-0.4**
	SNR=15						
HATD				S	**Sn**	**21 33 32.1**	**+0.5**
ASHO	**Ashiyiah**	**2.51**	**234**	*e*P	**Pb**	**21 33 08.1**	**-0.3**
	SNR=65						
ASHO	**Ashiyiah**	**2.51**	**234**	P	**Pb**	**21 33 08.1**	**-0.3**
	SNR=64						
ASHO				S	**Sg**	**21 33 42.9**	**-0.7**
ASHO				S	**Sb**	**21 33 43.0**	**+3.6**
SOHO	**SOHO**	**2.58**	**219**	*e*P	**Pb**	**21 33 09.2**	**-0.4**
	SNR=58						
SOHO	**SOHO**	**2.58**	**219**	P	**Pb**	**21 33 09.4**	**-0.2**
SOHO				S	**Sn**	**21 33 38.3**	**+1.6**
BIDO	**Bidbid**	**2.64**	**183**	P	**Pb**	**21 33 11.9**	**+1.2**
	SNR=111						
BIDO				S	**Sb**	**21 33 43.0**	**-0.4**
NAZ	**Nazwa, Dubai**	**2.65**	**244**	*e*P	**Pb**	**21 33 09.9**	**-0.9**
	SNR=7.8						
NAZ	**Nazwa, Dubai**	**2.65**	**244**	P	**Pg**	**21 33 13.5**	**-0.4**
NAZ				P	**Pg**	**21 33 13.5**	**-0.4**
NAZ				S	**Sb**	**21 33 45.5**	**+1.9**
NAZ				S	**Sb**	**21 33 45.5**	**+1.9**
HOQ	**Hoqain**	**2.73**	**199**	P	**Pb**	**21 33 12.3**	**+0.2**
	SNR=444						
HOQ				S	**Sb**	**21 33 43.7**	**-2.1**
FAQ	**Al Faqa, Dubai**	**2.83**	**240**	*e*P	**Pb**	**21 33 14.8**	**+1.0**
	SNR=18						
FAQ	**Al Faqa, Dubai**	**2.83**	**240**	Pn	**Pb**	**21 33 14.8**	**+1.0**
FAQ	**Al Faqa, Dubai**	**2.83**	**240**	P	**Pb**	**21 33 15.2**	**+1.4**
	SNR=18						
FAQ				P	**Pb**	**21 33 15.2**	**+1.4**
	SNR=18						
FAQ				S	**Sb**	**21 33 48.5**	**-0.1**
FAQ				S	**Sb**	**21 33 48.5**	**-0.1**
WSAR	**Wadi Sarin**	**2.94**	**174**	Pn	**Pb**	**21 33 16.9**	**+1.2**
	comp=E,38nm,0.3s,baz=348,slow=4.8,SNR=973						
WSAR				Sn	**Sb**	**21 33 51.5**	**-0.3**
	comp=E,39nm,0.3s,baz=292,slow=23,SNR=14						
ASUD	**Al Ashush, Dub**	**3.09**	**241**	*e*P	**Pb**	**21 33 18.4**	**+0.1**
	SNR=15						
ASUD	**Al Ashush, Dub**	**3.09**	**241**	Pn	**Pb**	**21 33 18.5**	**+0.1**
ASUD	**Al Ashush, Dub**	**3.09**	**241**	P	**Pb**	**21 33 18.8**	**+0.5**
	SNR=15						
SMDO	**Samad**	**3.11**	**184**	P	**Pb**	**21 33 19.0**	**+0.3**
	SNR=45						
SMDO				S	**Sb**	**21 33 56.2**	**-0.6**
ALNE	**Al Ain**	**3.12**	**228**	*e*P	**Pb**	**21 33 19.1**	**+0.2**
	SNR=12						
ALNE	**Al Ain**	**3.12**	**228**	°P	**Pb**	**21 33 18.4**	**-0.5**
ALNE	**Al Ain**	**3.12**	**228**	P	**Pb**	**21 33 19.3**	**+0.4**
	SNR=12						
ALNE				P	**Pb**	**21 33 19.3**	**+0.4**
	SNR=12						
ALNE				S	**Sb**	**21 33 56.8**	**-0.3**
ALNE				S	**Sb**	**21 33 56.8**	**-0.3**
ARQ	**Araqi**	**3.25**	**210**	P	**Pb**	**21 33 22.2**	**+1.1**
	SNR=267						
ARQ				S	**Sb**	**21 34 02.7**	**+1.9**
AJN	**Ajban**	**3.39**	**243**	*e*P	**Pb**	**21 33 21.8**	**-1.7**
	SNR=7.3						
BSY	**Bisya**	**3.55**	**197**	P	**Pb**	**21 33 26.6**	**+0.3**
	SNR=40						
BSY				S	**Sb**	**21 34 08.9**	**-0.7**
WBK	**Wadi Bani Khal**	**3.60**	**170**	P	**Pb**	**21 33 24.2**	**-2.8**
	SNR=917						
CHMN	**Cheshme madani**	**3.74**	**350**	Pn	**Pn**	**21 33 22.0**	**+0.6**
JMDO	**Jabal Madar**	**3.79**	**183**	P	**Pb**	**21 33 29.0**	**-1.2**
	SNR=70						
JMDO				S	**Sb**	**21 34 14.6**	**-1.7**
ZHSF	**Zahedan**	**4.07**	**32**	*e*Pn	**Pn**	**21 33 28.4**	**+2.5**
KHGB	**Koh Gabri**	**4.49**	**339**	Pn	**Pn**	**21 33 33.5**	**+1.9**
BSRN	**Basiran**	**5.82**	**7**	*e*Pn	**Pn**	**21 33 50.4**	**+0.5**
YZKH	**Yazd**	**6.99**	**333**	*e*Pn	**Pn**	**21 34 05.5**	**-0.4**
SHRT	**Shahrakht**	**7.65**	**13**	*e*Pn	**Pn**	**21 34 15.9**	**+1.0**
DOK	**Doka**	**8.45**	**208**	P	**Pn**	**21 34 29.8**	**+4.0**
DOK				S	**Sn**	**21 36 01.4**	**0.0**
SHAO	**Shalim**	**8.48**	**197**	P	Pn	21 34 32.1	+5.8
	SNR=26						
HRA	**Herat**	**8.87**	**22**	Pn	**Pn**	**21 34 32.8**	**+1.0**
DMTO	**DMTO**	**8.97**	**201**	P	Pn	21 34 37.5	+4.5
DMTO				S	**Sn**	**21 36 14.1**	**-0.1**
WHFO	**Wadi Hawf**	**9.22**	**208**	P	**Pn**	**21 34 40.0**	**+3.5**
	SNR=43						
WHFO				S	**Sn**	**21 36 18.6**	**-2.0**
QRN	**Al-Qurain**	**9.57**	**288**	*e*P		21 34 40.5	
RDF	**Al-Radifah**	**9.92**	**288**	*e*P		21 34 45.4	
ABTO	**Aybut**	**9.93**	**209**	P	**Pn**	**21 34 49.1**	**+2.9**
	SNR=11						
ABTO				S	**Sn**	**21 36 34.8**	**-3.1**
UMR	**Umm Al-Rimmam**	**9.95**	**292**	*e*P		21 34 45.2	
MIB	**Mutribah**	**10.34**	**293**	*e*P		21 34 50.8	
GEYT	**Alibeck**	**11.72**	**359**	Pn	**Pn**	**21 35 07.6**	**-3.1**
	comp=E,0.2nm,0.3s,baz=179,slow=14,SNR=1.5						
GEYT	**Alibeck**	**11.72**	**359**		**Pn**	**21 35 11.3**	**+0.5**
RAYN	**Ar Rayn**	**11.91**	**260**	P	**Pn**	**21 35 12.0**	**-1.3**
RAYN	**Ar Rayn**	**11.91**	**260**		**Pn**	**21 35 12.0**	**-1.3**
THW	**Thamne Wali**	**13.44**	**57**	P	**Pn**	**21 35 35.3**	**+1.1**
MARD	**Mardin**	**18.55**	**311**		**Pn**	**21 36 40.8**	**+0.2**
MARD				IAmb	IAmb	21 36 53.4	
	comp=Z,13nm,0.5s						
KK31	**Karatay Array**	**19.62**	**27**	P	**P**	**21 36 52.5**	**+0.5**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KK31	**Karatay Array**	**19.62**	**27**		**P**	**21 36 52.5**	**+0.5**
KKAR	**Karatay Array**	**19.62**	**27**	P	**Pn**	**21 36 53.3**	**0.0**
KKAR	**Karatay Array**	**19.62**	**27**	P	**Pn**	**21 36 53.3**	**0.0**
KKAR	**Karatay Array**	**19.62**	**27**	P	**P**	**21 36 52.3**	**+0.3**
KKAR				IAmb	IAmb	21 37 06.0	
	comp=Z,3.0nm,0.8s						
EIL	**Elat**	**20.91**	**285**	P	**P**	**21 37 04.9**	**-1.2**
	comp=Z,6.2nm,0.6s,baz=46,slow=8.3,SNR=5.0						
MMAI	**Mount Meron Ar**	**21.02**	**294**	P	**P**	**21 37 05.9**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=97,slow=12,SNR=6.8						
AAK	**Ala-Archa**	**21.12**	**35**	P	**P**	**21 37 09.2**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=203,slow=4.7,SNR=12						
AAK	**Ala-Archa**	**21.12**	**35**	P	**P**	**21 37 08.5**	**+0.1**
AAK				IAmb	IAmb	21 37 23.9	
	comp=Z,5.3nm,1.1s						
KIV	**Kislovodsk**	**21.80**	**328**	*e*P	**P**	**21 37 16.9**	**+1.3**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
ABKAR	**Akbulak array**	**23.08**	**3**	P	**P**	**21 37 28.4**	**-0.7**
ABKAR				IAmb	IAmb	21 37 30.0	
	comp=Z,12nm,1.3s						
ABKAR	**Akbulak array**	**23.08**	**3**	P	**P**	**21 37 28.4**	**-0.7**
AKTO	**Aktyubinsk**	**24.23**	**360**	P	**P**	**21 37 39.2**	**-1.0**
	comp=Z,2.2nm,0.5s,baz=180,slow=10,SNR=7.2						
AKTO				LR	LR	21 48 20.8	
	comp=Z,752nm,20.7s,baz=325,slow=40						
BRTR	**Keskin Array B**	**24.62**	**309**	P	**P**	**21 37 42.1**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=110,slow=12,SNR=1.7						
BELG	**Belogornoye**	**27.40**	**346**	LR	LR	21 49 17.2	
	comp=Z,1μm,20.7s,baz=289,slow=38						
MK31	**Makanchi Array**	**28.02**	**37**	P	**P**	**21 38 16.1**	**+1.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MK31	**Makanchi Array**	**28.02**	**37**	P	**P**	**21 38 16.1**	**+1.5**
MK31				IAmb	IAmb	21 38 33.1	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**28.02**	**37**	P	**P**	**21 38 16.1**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=218,slow=8.0,SNR=3.3						
MKAR	**Makanchi Array**	**28.02**	**37**	P	**P**	**21 38 15.2**	**+0.6**
BVAR	**Borovoye Array**	**28.31**	**15**	P	**P**	**21 38 17.3**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=206,slow=23,SNR=4.3						
BRVK	**Borovoye**	**28.32**	**15**	P	**P**	**21 38 17.0**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BRVK	**Borovoye**	**28.32**	**15**	P	**P**	**21 38 17.0**	**-0.1**
BRVK				IAmb	IAmb	21 38 30.5	
	comp=Z,6.8nm,1.4s						
KURBB	**Kurchatov Arra**	**28.93**	**27**	P	**P**	**21 38 23.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=231,slow=8.6,SNR=1.5						
KURK	**Kurchatov**	**29.03**	**27**	P	**P**	**21 38 23.0**	**-0.5**
KURK	**Kurchatov**	**29.03**	**27**	P	**P**	**21 38 23.0**	**-0.5**
AKASG	**Malin Array Be**	**33.07**	**326**	P	**P**	**21 38 55.7**	**-3.4**
	comp=Z,0.2nm,0.2s,baz=131,slow=7.9,SNR=1.3						
BURAR	**Bucovina Array**	**33.64**	**318**	P	**P**	**21 39 02.8**	**-1.6**
ZALV	**Zalesovo Beam**	**33.99**	**28**	P	**P**	**21 39 06.5**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=239,slow=10,SNR=4.8						
ZALV	**Zalesovo Beam**	**33.99**	**28**	P	**P**	**21 39 07.0

URZ	**Urewera**	**17.81**	**192**	P	**P**		21 42 03.1	-1.4
URZ				IAmb	IAmb		21 42 04.3	
	comp=Z,16nm,1.2s							
BKZ	**Black Stump Fm**	**18.81**	**192**	P	**P**		**21 42 12.8**	**-0.9**
BKZ				IAmb	IAmb		21 42 17.8	
	comp=Z,7.1nm,0.9s							
ETVZ	**East Tongariro**	**18.95**	**194**	P	**P**		**21 42 15.1**	**+0.1**
OTVZ	**Oturere**	**18.98**	**194**	P	**P**		**21 42 15.2**	**-0.2**
KWHZ	**Kaweka Forest**	**19.07**	**192**	P	**P**		**21 42 15.1**	**-1.0**
BHHZ	**Black Hill Sta**	**19.21**	**193**	P	**P**		**21 42 17.5**	**+0.1**
TSZ	**Takapari Road**	**19.77**	**193**	P	**P**		**21 42 22.6**	**+0.1**
BFZ	**Birch Farm**	**20.32**	**192**	P	**P**		**21 42 26.2**	**-1.1**
QRZ	**Quartz Range**	**21.38**	**199**	P	**P**		**21 42 37.1**	**+0.3**
WHZ	**Wether Hill Ro**	**27.40**	**201**	P	**P**		**21 43 31.1**	**+1.1**
CTA	**Charters Tower**	**33.06**	**265**	P	**P**		**21 44 19.2**	**+0.2**
	comp=Z,5.1nm,1.0s,baz=52,slow=16,SNR=1.5							
TOO	**Toolangi**	**35.39**	**234**	P	**P**		**21 44 37.3**	**-1.0**
TOO				IAmb	IAmb		21 44 42.6	
	comp=Z,15nm,1.4s							
STKA	**Stephens Creek**	**37.29**	**244**	P	**P**		**21 44 52.5**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=80,slow=6.5,SNR=4.1							
STKA	**Stephens Creek**	**37.29**	**244**	P	**P**		**21 44 54.0**	**+0.1**
BBOO	**Buckleboo**	**42.05**	**244**	P	**P**		**21 45 31.3**	**-0.7**
BBOO				IAmb	IAmb		21 45 47.9	
	comp=Z,18nm,1.4s							
AS31	**Alice Springs**	**44.06**	**257**	P	**P**		**21 45 47.3**	**-0.4**
ASAR	**Alice Springs**	**44.06**	**257**	P	**P**		**21 45 46.4**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.7,SNR=15							
WB0	**Warramunga Arr**	**44.14**	**263**	P	**P**		**21 45 47.6**	**-0.8**
WB0				IAmb	IAmb		21 46 04.2	
	comp=Z,7.0nm,1.2s							
WB2	**Warramunga Arr**	**44.15**	**262**	P	**P**		**21 45 47.5**	**-0.9**
WB2				IAmb	IAmb		21 45 47.8	
	comp=Z,17nm,1.4s							
WRA	**Warramunga Arr**	**44.16**	**262**	P	**P**		**21 45 47.5**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=97,slow=7.7,SNR=20							
FORT	**Forrest**	**48.80**	**247**	P	**P**		**21 46 21.9**	**-1.4**
FORT				IAmb	IAmb		21 46 39.5	
	comp=Z,14nm,1.1s							
VNDA	**Vanda**	**57.56**	**185**	P	**P**		**21 47 25.6**	**+1.0**
QSPA	**South Pole Qui**	**69.26**	**180**	P	**P**		**21 48 40.7**	**+1.1**
TPUB	**Ta-pu**	**73.81**	**303**	P	**P**		**21 49 07.1**	**+0.5**
PEA0B	**Petropavlovsk-**	**76.47**	**345**	P	**P**		**21 49 20.8**	**+0.1**
PETK	**Petropavlovsk-**	**76.47**	**345**	P	**P**		**21 49 20.8**	**+0.1**
BELA	**Belgrano 2**	**79.30**	**173**	P	**P**		**21 49 35.8**	**+0.1**
SCM	**Sheep Creek Mo**	**86.03**	**14**		**P**		**21 50 09.8**	**+0.3**
SCM				IAmb	IAmb		21 50 17.5	
	comp=Z,15nm,1.4s							
N25K	**Chitina, Valde**	**86.49**	**15**	P	**P**		**21 50 11.7**	**-0.1**
N25K				IAmb	IAmb		21 50 16.9	
	comp=Z,7.1nm,1.4s							
SEY	**Seymchan**	**86.59**	**347**	P	**P**		**21 50 12.1**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=111,slow=8.4,SNR=5.6							
TRF	**Thorofare Moun**	**86.84**	**12**	P	**P**		**21 50 12.7**	**-0.7**
TRF				IAmb	IAmb		21 50 20.8	
	comp=Z,11nm,1.5s							
RND	**Reindeer**	**87.09**	**13**	P	**P**		**21 50 14.7**	**+0.2**
RND				IAmb	IAmb		21 50 29.2	
	comp=Z,9.5nm,1.3s							
BPAW	**Bear Paw Mtn.**	**87.29**	**12**	P	**P**		**21 50 14.7**	**-0.7**
TXAR	**Lajitas Array**	**87.56**	**57**	P	**P**		**21 50 17.5**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=208,slow=5.1,SNR=4.4							
WRH	**Wood River Hil**	**88.19**	**13**	P	**P**		**21 50 19.3**	**-0.2**
CCB	**Clear Creek Bu**	**88.41**	**13**	P	**P**		**21 50 19.8**	**-0.7**
CCB				IAmb	IAmb		21 50 20.7	
	comp=Z,3.5nm,0.9s							
IMAR	**Indian Mountai**	**88.53**	**10**	P	**P**		**21 50 19.5**	**-1.6**
MDM	**Murphy Dome**	**88.60**	**12**	P	**P**		**21 50 20.9**	**-0.5**
ILAR	**Eielson Array**	**88.71**	**13**	P	**P**		**21 50 20.3**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=222,slow=5.7,SNR=6.8							
ILAR	**Eielson Array**	**88.71**	**13**	P	**P**		**21 50 21.4**	**-0.5**
K27K	**Chicken**	**89.16**	**15**	P	**P**		**21 50 25.1**	**+1.1**
K27K				IAmb	IAmb		21 50 38.1	
	comp=Z,6.9nm,1.4s							
CMAR	**Chiang Mai Arr**	**89.84**	**290**	P	**P**		**21 50 27.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=98,slow=2.8,SNR=4.3							
AKASG	**Malin Array Be**	**143.09**	**331**	PKP		PKPab	21 56 55.4	-0.9
	comp=Z,2.1nm,0.4s,baz=40,slow=4.3,SNR=12							
CLL	**Collm**	**148.27**	**346**	*e*PKPbc	**PKPbc**		**21 57 10.0**	**-1.4**
GERES	**GERESS Array B**	**150.39**	**344**	PKPbc	**PKPbc**		**21 57 15.1**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=29,slow=3.0,SNR=4.7							

*IDC **10** 21:44:43.4±4.8, 47.68N×153.11E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/43, mbtmp3.7/10, ML2.1/1, MS3.9/1, Ms1 3.9/1, ms1mx3.2/37, Error ellipse: s-maj=117.1km s-min=25.5km az=162.0*

ISC 10 21:44:51.9±3.2, 48.0N±0.5×153.0E±0.2, h50km, n11, σ0.74/10, mb3.7/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.92**	**28**	Pn		**Pn**	**21 46 16.8**	**-0.1**
	0.2nm,0.3s,baz=186,slow=12,SNR=1.0							
SONM	**Songino Array**	**30.88**	**287**	P		**P**	**21 51 03.2**	**-0.3**
	0.4nm,0.8s,baz=91,slow=8.6,SNR=2.0							
KDAK	**Kodiak Island**	**33.37**	**52**	LR		LR	22 05 29.3	
	comp=Z,215nm,21.5s,baz=59,slow=37							
ILAR	**Eielson Array**	**35.62**	**40**	P		**P**	**21 51 45.4**	**+1.0**
	0.2nm,0.7s,baz=262,slow=6.3,SNR=2.0							
ZALV	**Zalesovo Beam**	**41.84**	**305**	P		**P**	**21 52 36.5**	**0.0**
	0.6nm,0.5s,baz=63,slow=14,SNR=3.7							
MKAR	**Makanchi Array**	**46.32**	**296**	P		**P**	**21 53 12.8**	**+0.2**
	0.7nm,0.7s,baz=69,slow=7.0,SNR=9.4							
YKA	**Yellowknife Ar**	**49.96**	**37**	P		**P**	**21 53 39.2**	**-1.2**
	0.2nm,0.9s,baz=307,slow=6.1,SNR=2.3							
FINES	**FINESS Array B**	**62.88**	**334**	P		**P**	**21 55 12.2**	**0.0**
	5.1nm,1.0s,baz=34,slow=7.0,SNR=8.3							
NOA	**NORSAR Array B**	**67.02**	**341**	P		**P**	**21 55 39.9**	**+0.7**
	1.2nm,0.9s,baz=23,slow=7.0,SNR=2.3							
KBZ	**Khabaz**	**69.95**	**314**	P		**P**	**21 55 58.4**	**+0.7**
	0.9nm,0.7s,baz=71,slow=7.7,SNR=4.3							
AKASG	**Malin Array Be**	**70.47**	**326**	P		**P**	**21 56 00.1**	**-0.6**
	1.0nm,0.5s,baz=34,slow=6.2,SNR=5.5							

IDC 10 22:19:05.3±3.5, 30.01N×142.67E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/43, mbtmp3.5/3, MS3.8/1, Ms1 3.8/1, ms1mx2.9/40, Error ellipse: s-maj=412.7km s-min=31.4km az=109.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**10.53**	**290**	LR		LR	22 25 37.2	
	comp=Z,488nm,18.1s,baz=308,slow=37							
WRA	**Warramunga Arr**	**50.31**	**190**	P		P	22 28 03.4	-0.5
	0.7nm,0.5s,baz=9.0,slow=8.6,SNR=7.6							
ASAR	**Alice Springs**	**54.03**	**190**	P		P	22 28 31.9	+0.4
	0.3nm,0.4s,baz=13,slow=6.7,SNR=6.3							
YKA	**Yellowknife Ar**	**69.39**	**29**	P		P	22 30 14.6	0.0
	0.1nm,0.5s,baz=286,slow=6.3,SNR=3.6							

JMA 10 22:20:23.4±0.1, 37.09N×140.79E, h93km±1km, M2.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.01**	**30**	P		Pn	22 20 36.6	+0.1
ONAJ				S		Sn	22 20 46.4	+0.2
JFFD	**Fukushimafurud**	**0.18**	**270**	P		Pn	22 20 36.9	+0.2
JFFD				S		Sn	22 20 46.6	0.0
JFK	**Kawauchi**	**0.28**	**14**	P		Pn	22 20 37.2	0.0
JFK				S		Sn	22 20 47.1	-0.3
JFT	**Otama**	**0.56**	**320**	P		Pn	22 20 39.3	+0.4
JFT				S		Sn	22 20 50.9	+0.4
JMM	**Marumori**	**0.78**	**0**	P		Pn	22 20 40.9	0.0
JMM				S		Sn	22 20 53.8	-0.2
JAG	**Ashikaga**	**1.26**	**239**	P		Pn	22 20 46.5	+0.1
JAG				S		Sn	22 21 03.4	-0.3
JOU	**Okura**	**1.28**	**356**	S		Sn	22 21 04.7	+0.7
JIO	**Ouri**	**1.43**	**18**	P		Pn	22 20 48.3	-0.1
JIO				S		Sn	22 21 05.9	-1.4

*IDC **10** 22:42:54.9±1.3, 49.77S×164.05E, h0km, mb4.2/5, mb1 4.4/7, mb1mx4.2/25, mbtmp4.2/7, ML4.1/2, MS4.1/8, Ms1 4.1/8, ms1mx3.8/33, Error ellipse: s-maj=33.5km s-min=25.7km az=72.0*

*NEIC **10** 22:42:56.5±1.5, 49.80S±0.08×163.8E±0.2, h10km±2km, mb4.5/9, Error ellipse: s-maj=18.9km s-min=12.4km az=112.0*

ISC 10 22:42:56.6±0.6, 49.76S±0.07×163.83E±0.07, h10km, n68, σ1.9s66/73, mb4.4/9, MS4.1/8, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APZ	**The Paps**	**4.04**	**45**	P		**Pn**	**22 43 59.5**	**+1.1**
APZ				S		**Sn**	**22 44 44.7**	**-1.0**
PYZ	**Puysegur Point**	**4.07**	**29**	Pn		**Pn**	**22 43 59.7**	**+0.8**
PYZ	**Puysegur Point**	**4.07**	**29**	P		**Pn**	**22 43 59.5**	**+0.6**
PYZ				S		**Sn**	**22 44 45.8**	**-0.7**
WHZ	**Wether Hill Ro**	**4.76**	**37**			**Pn**	**22 44 08.9**	**+0.5**
WHZ	**Wether Hill Ro**	**4.76**	**37**	P		**Pn**	**22 44 09.7**	**+1.4**
WHZ				S		**Sn**	**22 45 02.3**	**-1.2**
SYZ	**Scrubby Hill**	**4.80**	**50**	P		**Pn**	**22 44 10.6**	**+1.8**
SYZ				S		**Sn**	**22 45 01.9**	**-2.5**
DCZ	**Deep Cove**	**4.85**	**29**	Pn		**Pn**	**22 44 10.0**	**+0.5**
DCZ	**Deep Cove**	**4.85**	**29**	P		**Pn**	**22 44 10.1**	**+0.5**
DCZ				S		**Sn**	**22 45 05.8**	**+0.1**
TUZ	**Tuapeka**	**5.45**	**48**	P		**Pn**	**22 44 19.5**	**+1.6**
TUZ				S		**Sn**	**22 45 14.9**	**-5.6**
MCQ	**Macquarie Isla**	**5.62**	**210**			**Pn**	**22 44 17.5**	**-2.5**
EAZ	**Earnscleugh**	**5.86**	**41**	P		**Pn**	**22 44 24.4**	**+1.0**
EAZ				S		**Sn**	**22 45 31.9**	**+1.4**
HHSZ	**Highcliff Hill**	**5.98**	**52**	P		**Pn**	**22 44 27.4**	**+2.2**
HHSZ				S		**Sn**	**22 45 33.0**	**-0.6**
WKZ	**Wanaka**	**6.06**	**38**	P		**Pn**	**22 44 28.6**	**+2.3**
WKZ				S		**Sn**	**22 45 36.8**	**+1.1**
ODZ	**Otahua Downs**	**6.60**	**47**			**Pn**	**22 44 34.0**	**+0.3**
ODZ	**Otahua Downs**	**6.60**	**47**	P		**Pn**	**22 44 34.1**	**+0.5**
ODZ				S		**Sn**	**22 45 47.4**	**-1.6**
LBZ	**Lake Benmore**	**6.91**	**41**	Pn		**Pn**	**22 44 37.3**	**-0.6**
LBZ	**Lake Benmore**	**6.91**	**41**	P		**Pn**	**22 44 37.3**	**-0.6**
LBZ				S		**Sn**	**22 45 55.7**	**-0.7**
TMZ	**Timaru**	**7.27**	**45**	P		**Pn**	**22 44 44.4**	**+1.6**
FOZ	**Fox Glacier**	**7.46**	**36**			**Pn**	**22 44 46.3**	**+0.9**
FOZ	**Fox Glacier**	**7.46**	**36**	P		**Pn**	**22 44 47.2**	**+1.7**
FOZ				S		**Sn**	**22 46 09.4**	**-0.7**
ARCZ	**Arundel**	**7.69**	**44**	P		**Pn**	**22 44 49.3**	**+0.8**
RPZ	**Rata Peaks**	**7.82**	**42**	Pn		**Pn**	**22 44 48.7**	**-1.6**
	2.7nm,0.3s,baz=234,slow=6.6,SNR=17							
RPZ				S		**Sn**	**22 46 15.0**	**-3.9**
	9.8nm,0.3s,baz=24,slow=17,SNR=8.9							
RPZ	**Rata Peaks**	**7.82**	**42**	P		**Pn**	**22 44 48.8**	**-1.6**
RPZ				S		**Sn**	**22 46 15.2**	**-3.6**
GCSZ	**Gaunt Creek Bo**	**7.84**	**37**	P		**Pn**	**22 44 51.9**	**+1.3**
WACZ	**Wakanui South**	**8.00**	**46**	P		**Pn**	**22 44 53.5**	**+0.7**
WVZ	**Waitaha Valley**	**8.21**	**38**	P		**Pn**	**22 44 58.5**	**+2.8**
RACZ	**Rakaia**	**8.30**	**47**	P		**Pn**	**22 44 57.3**	**+0.4**
MQZ	**McQueen's Vall**	**8.56**	**48**	P		**Pn**	**22 45 02.1**	**+1.6**
OXZ	**Oxford**	**8.56**	**44**	P		**Pn**	**22 45 00.7**	**+0.2**
AKCZ	**Akaroa Harbour**	**8.57**	**50**	P		**Pn**	**22 45 03.0**	**+2.4**
OKCZ	**Okains Bay**	**8.75**	**50**	P		**Pn**	**22 45 05.9**	**+2.9**
INZ	**Inchbonnie**	**8.79**	**40**	P		**Pn**	**22 45 05.6**	**+2.0**
LTZ	**Lake Taylor**	**9.10**	**43**	Pn		**Pn**	**22 45 08.5**	**+0.6**
LTZ	**Lake Taylor**	**9.10**	**43**	P		**Pn**	**22 45 10.7**	**+2.8**
KHZ	**Kahutara**	**9.96**	**46**	P		**Pn**	**22 45 22.7**	**+3.0**
THZ	**Tophouse**	**10.20**	**42**	P		**Pn**	**22 45 25.7**	**+2.7**
QRZ	**Quartz Range**	**10.82**	**38**	P		**Pn**	**22 45 32.0**	**+0.4**
TAU	**Tasmania Unive**	**13.29**	**295**	Pn		**Pn**	**22 46 03.7**	**-1.5**
URZ	**Urewera**	**14.92**	**45**	Pn		**Pn**	**22 46 25.2**	**-2.3**
	0.7nm,0.3s,baz=343,slow=22,SNR=2.4							
TOO	**Toolangi**	**17.95**	**306**			**P**	**22 47 08.8**	**+2.0**
STKA	**Stephens Creek**	**24.39**	**309**	P		**P**	**22 48 16.0**	**+1.1**
	0.6nm,0.3s,baz=152,slow=18,SNR=2.0							
BBOO	**Buckleboo**	**26.65**	**299**	P		**P**	**22 48 36.4**	**+1.0**
BBOO				IAmb	IAmb		22 48 42.0	
	comp=Z,16nm,1.3s							
DZM	**Mont Dzumac**	**27.71**	**5**	LR		LR	22 58 29.2	
	comp=Z,438nm,20.4s,baz=219,slow=34							
VNDA	**Vanda**	**27.88**	**181**	P		**P**	**22 48 45.4**	**-0.6**
	comp=Z,4.3nm,1.1s,baz=355,slow=8.3,SNR=7.6							
VNDA				LR		LR	22 57 11.9	
	comp=Z,247nm,21.5s,baz=316,slow=31							
VNDA	**Vanda**	**27.88**	**181**	P		**P**	**22 48 46.2**	**+0.3**
VNDA				IAmb	IAmb		22 48 48.4	
	comp=Z,8.8nm,1.2s							
AS31	**Alice Springs**	**35.00**	**307**	P		**P**	**22 49 48.4**	**-0.8**
ASAR	**Alice Springs**	**35.00**	**307**	P		**P**	**22 49 50.0**	**+0.9**
	comp=Z,4.0nm,0.8s,baz=146,slow=8.2,SNR=34							
ASAR				LR		LR	23 03 39.5	
	comp=Z,405nm,19.4s,baz=3.5,slow=35							
ASAR	**Alice Springs**	**35.00**	**307**	P		**P**	**22 49 49.4**	**+0.3**
WRA	**Warramunga Arr**	**37.89**	**311**	P		**P**	**22 50 13.7**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=145,slow=7.8,SNR=11							
WB0	**Warramunga Arr**	**38.02**	**311**	P		**P**	**22 50 14.6**	**-0.3**
WB0				IAmb	IAmb		22 50 16.1	
	comp=Z,17nm,1.4s							
NWAO	**Narrogin (SRO)**	**38.13**	**278**	LR		LR	23 02 34.6	
	comp=Z,404nm,21.1s,baz=108,slow=31							
HNR	**Honiara**	**40.33**	**354**	LR		LR	23 03 24.9	
	comp=Z,380nm,21.6s,baz=344,slow=30							
QSPA	**South Pole Qui**	**40.36**	**180**	P		**P**	**22 50 35.5**	**+1.3**
MORW	**Morawa**	**41.46**	**282**	P		**P**	**22 50 43.1**	**-0.4**
MORW				IAmb	IAmb		22 50 54.3	
	comp=Z,15nm,1.4s							
PMG	**Port Moresby**	**42.55**	**335**	LR		LR	23 05 36.8	
	comp=Z,439nm,18.8s,baz=192,slow=32							
FITZ	**Fitzroy Crossi**	**43.96**	**302**	LR		LR	23 07 46.4	
	comp=Z,203nm,21.8s,baz=142,slow=34							
FITZ	**Fitzroy Crossi**	**43.96**	**302**	P		**P**	**22 51 03.6**	**-0.2**
FITZ				IAmb	IAmb		22 51 08.4	
	comp=Z,8.8nm,1.2s							
SNAA	**Sanae**	**58.51**	**185**	P		**P**	**22 52 52.6**	**+0.2**
SNAA	**Sanae**	**58.51**	**185**	P		**P**	**22 52 52.0**	**-0.5**
VNA3	**Neumayer Olymp**	**59.22**	**182**	P		**P**	**22 52 57.6**	**+0.3**
VNA2	**Neumayer--Watz**	**59.46**	**183**	P		**P**	**22 52 59.7**	**+0.7**
	baz=148,slow=7.3							
VNA1	**Neumayer--Stat**	**59.77**	**183**	P		**P**	**22 53 01.9**	**+0.9**
H03S2	**Juan Fernandez**	**79.94**	**131**	T		T	00 23 44.4	
	baz=217							
H03S1	**Juan Fernandez**	**79.94**	**131**	T		T	00 23 44.6	
	baz=217							
H03S3	**Juan Fernandez**	**79.95**	**131**	T		T	00 23 44.9	
	baz=217							
CMAR	**Chiang Mai Arr**	**88.75**	**301**	P		**P**	**22 55 51.1**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=165,slow=4.3,SNR=1.4							
KSRS	**Korea Array**	**92.46**	**332**	LR		LR	23 36 03.5	
	comp=Z,30nm,19.9s,baz=220,slow=34							
AKASG	**Malin Array Be**	**151.29**	**290**	PKPbc		**PKiKP**	**23 02 50.1**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=79,slow=2.7,SNR=1.9							

*ARE **10** 22:42:59±1.8, 15.63S±0.08×72.0W±0.2, h12km±8km, ML4.1, mb4.2/6(NEIC), Error ellipse: s-maj=22.7km s-min=10.6km az=80.0*

*NEIC **10** 22:43:00.1±1.5, 15.58S±0.04×72.1W±0.2, h10km±2km, Error ellipse: s-maj=27.7km s-min=4.6km az=258.0*

*IDC **10** 22:43:01.4±1.2, 15.54S×72.18W, h0km, mb3.8/2, mb1 4.0/7, mb1mx3.7/33, mbtmp3.8/7, ML3.5/5, MS3.8/2, Ms1 3.8/2, ms1mx3.1/33, Error ellipse: s-maj=31.0km s-min=23.0km az=58.0*

ISC 10 22:43:00.7±0.7, 15.68S±0.07×72.46W±0.09, h10km, n35, σ1.9s79/37, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.35**	**143**			**Pn**	**22 43 56.6**	**+3.3**
PB16	**IPOC Station P**	**3.86**	**134**	*i*P		**Pn**	**22 44 03.1**	**+2.3**
PB16				*i* S		**Sn**	**22 44 49.7**	**+3.1**
PB16	**IPOC Station P**	**3.86**	**134**			**Pn**	**22 43 59.6**	**-1.1**
LPAZ	**La Paz**	**4.20**	**99**	Pn		**Pn**	**22 44 05.2**	**-0.3**
	0.5nm,0.3s,baz=275,slow=11,SNR=17							
LPAZ	**La Paz**	**4.20**	**99**	*e*P		**Pn**	**22 44 06.2**	**+0.7**
LPAZ	**La Paz**	**4.20**	**99**			**Pn**	**22 44 06.2**	**+0.7**
MNMC	**Minye Minye**	**4.38**	**142**			**Pn**	**22 44 08.3**	**+0.6**
PSGCX	**Pisagua**	**4.49**	**151**			**Pn**	**22 44 10.1**	**+1.1**
TA01	**Diego Aracena**	**5.32**	**156**			**Pn**	**22 44 20.9**	**+0.6**
PB08	**IPOC Station P**	**5.44**	**145**			**Pn**	**22 44 22.5**	**+0.2**
NNA	**Nana**	**5.62**	**310**	Pn		**Pn**	**22 44 28.0**	**+3.5**
	0.7nm,0.3s,baz=126,slow=19,SNR=1.4							
NNA				Sn		**Sn**	**22 45 25.2**	**-4.1**
	1.0nm,0.3s,baz=63,slow=23,SNR=1.7							
NNA				Lg		Lg	22 45 51.3	
	1.0nm,0.3s,baz=65,slow=23,SNR=1.7							
PB01	**IPOC Station P**	**6.03**	**153**			**Pn**	**22 44 29.9**	**-0.3**
PB07	**IPOC Station P**	**6.49**	**158**			**Pn**	**22 44 36.5**	**0.0**
PB09	**IPOC Station P**	**6.80**	**154**			**Pn**	**22 44 41.6**	**+0.7**
PB04	**IPOC Station P**	**6.97**	**162**			**Pn**	**22 44 43.2**	**+0.1**
PB06	**IPOC Station P**	**7.50**	**159**			**Pn**	**22 44 49.7**	**-0.7**
LVC	**Limon Verde**	**7.66**	**155**	Pn		**Pn**	**22 44 54.2**	**+1.4**
	3.3nm,0.3s,baz=329,slow=10,SNR=22							
LVC				Sn		**Sn**	**22 46 16.9**	**-3.1**
	0.5nm,0.3s,baz=146,slow=18,SNR=2.1							
LVC	**Limon Verde**	**7.66**	**155**			**Pn**	**22 44 53.7**	**+0.9**
PB15	**IPOC Station P**	**8.00**	**160**			**Pn**	**22 44 56.8**	**-0.5**
PB14	**IPOC Station P**	**9.11**	**168**			**Pn**	**22 45 12.2**	**-0.4**
GO02	**Mina Guanaco**	**9.81**	**165**			**Pn**	**22 45 22.3**	**+0.1**
SIV	**San Ignacio**	**10.96**	**93**	Pn		**Pn**	**22 45 34.4**	**-3.4**
	0.4nm,0.3s,baz=280,slow=17,SNR=9.2							
GO03	**Copiap**	**12.03**	**171**			**Pn**	**22 45 50.7**	**-1.8**
LCO	**Las Campanas**	**13.37**	**173**	Pn		**Pn**	**22 46 10.8**	**0.0**
CO03	**El Pedregal**	**15.18**	**174**	P		**P**	**22 46 40.5**	**+0.1**
CO03				IAmb	IAmb		22 46 50.6	
	comp=Z,12nm,1.0s							
ZON	**Zonda**	**16.17**	**168**	P		**Pn**	**22 46 48.1**	**-0.1**
ZON				IAmb	IAmb		22 46 59.1	
	comp=Z,11nm,0.9s							
CPUP	**Villa Florida**	**17.64**	**129**			**Pn**	**22 47 04.5**	**-2.2**
PTGA	**Pitinga**	**19.30**	**41**	P		**P**	**22 47 25.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=244,slow=13,SNR=5.1							
PTGA				LR		LR	22 54 48.7	
	comp=Z,230nm,18.3s,baz=38,slow=37							
BI02	**San Fabin de**	**20.93**	**177**	P		**P**	**22 47 44.3**	**+0.6**
BI02				IAmb	IAmb		22 47 51.3	
	comp=Z,18nm,1.1s							
PLCA	**Paso Flores**	**25.02**	**177**	P		**P**	**22 48 28.5**	**+3.5**
	comp=Z,4.0nm,1.0s,baz=357,slow=10,SNR=5.3							
PLCA	**Paso Flores**	**25.02**	**177**	P		**P**	**22 48 24.3**	**-0.7**
PLCA				IAmb	IAmb		22 48 31.3	
	comp=Z,8.5nm,1.1s							
SNAA	**Sanae**	**68.84**	**161**	P		**P**	**22 54 05.0**	**-0.1**
RAR	**Rarotonga**	**82.03**	**250**	LR		LR	23 22 32.4	
	comp=Z,69nm,21.9s,baz=276,slow=29							
YKA	**Yellowknife Ar**	**84.62**	**342**	P		**P**	**22 55 35.9**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=132,slow=5.6,SNR=6.7							
SONM	**Songino Array**	**147.92**	**1**	PKPbc		**PKiKP**	**23 02 48.3**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=348,slow=1.5,SNR=6.0							

*NEIC **10** 22:46:30.0±1.5, 25.5S±0.1×179.5E±0.1, h505km±9km, mb4.4/25, Error ellipse: s-maj=19.6km s-min=16.9km az=73.0*

*IDC **10** 22:46:30.6±1.7, 25.27S×179.47E, h506km±12km, mb3.9/10, mb1 4.1/12, mb1mx3.8/30, mbtmp4.7/12, Error ellipse: s-maj=34.5km s-min=12.4km az=155.0*

*NOU **10** 22:46:39.2, 26.17S×177.67E, h413km, mb4.7, South of Fiji Islands*

ISC 10 22:46:29.9±0.5, 25.51S±0.07×179.54E±0.08, h507km, n54, σ1.8s18/59, mb4.4/22, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.36**	**149**	P		**P**	**22 47 52.7**	**+1.1**
MSVF	**Nonsavu**	**7.87**	**350**	P		**P**	**22 48 22.6**	**-2.6**
	5.9nm,0.3s,baz=265,slow=21,SNR=11							
MSVF	**Nonsavu**	**7.87**	**350**	P			**22 48 22.9**	**-2.4**
DZM	**Mont Dzumac**	**12.47**	**283**	P		**P**	**22 49 12.4**	**-1.1**
	0.9nm,0.3s,baz=95,slow=15,SNR=6.8							
DZM	**Mont Dzumac**	**12.47**	**283**	P		**P**	**22 49 13.2**	**-0.3**
URZ	**Urewera**	**12.87**	**189**	P		**P**	**22 49 16.1**	**-1.3**
	1.8nm,0.3s,baz=328,slow=3.9,SNR=12							
URZ				S		**S**	**22 51 30.7**	**-4.9**
	0.4nm,0.3s,baz=181,slow=21,SNR=1.9

NEIC ***10*** *23:05:43.7±2.5,0.°12S±0.°05×123.°99E±0.°07, h94km±7km, mb4.0/11, Error ellipse: s-maj=10.4km s-min=7.8km az=89.0*

ISC 10 23:05:43.9±0.6, 0.°08S±0.°06×124.°14E±0.°05, h110km, n41, σ2s24/46, mb4.0/11, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.67**	**347**	P	**Pn**	**23 05 58.5**	**-3.6**
KMSI				S	**Sn**	**23 06 10.3**	**-5.4**
LUWI	**Luwuk**	**1.67**	**235**		**Pn**	**23 06 09.8**	**-3.0**
LUWI	**Luwuk**	**1.67**	**235**	P	**Pn**	**23 06 09.7**	**-3.1**
LUWI				S	**Sn**	**23 06 33.6**	**-1.1**
MRSI	**Marisa**	**2.27**	**284**	P	**Pn**	**23 06 16.4**	**-3.9**
APSI	**Ampana**	**2.62**	**252**	P	**Pn**	**23 06 23.7**	**-1.3**
APSI				S	**Sn**	**23 06 54.8**	**-1.7**
SANI	**Sanana**	**2.69**	**137**	P	Pn	23 06 22.1	-3.8
SANI				S	Sn	23 06 49.7	-8.5
TNTI	**Ternate**	**3.34**	**75**	Pn	**Pn**	**23 06 35.2**	**+0.7**
TNTI	**Ternate**	**3.34**	**75**	P	Pn	23 06 29.2	-5.3
TNTI				S	**Sn**	**23 07 09.6**	**-3.9**
TOLI2	**Tolitoli**	**3.56**	**289**		**Pn**	**23 06 35.5**	**-1.9**
NLAI	**Namlea**	**4.31**	**137**	P	**Pn**	**23 06 45.5**	**-2.0**
NLAI				S	**Sn**	**23 07 32.0**	**-4.9**
TTSI	**Tana Toraja**	**5.22**	**236**	P	**Pn**	**23 06 58.6**	**-1.2**
SPSI	**Sidrap Palu**	**5.83**	**228**	P	**Pn**	**23 07 07.6**	**-0.4**
BNSI	**Bone**	**5.88**	**223**	P	**Pn**	**23 07 07.4**	**-1.4**
	0.3nm870nm62nm,0.5s						
KAPI	**Kappang**	**6.57**	**222**	P	**Pn**	**23 07 16.6**	**-1.5**
	8.1nm,0.3s,baz=58,slow=10,SNR=17						
KAPI				S	**Sn**	**23 08 27.0**	**-4.7**
	baz=247,slow=24,SNR=1.1						
SWI	**Sorong**	**7.17**	**96**	P	Pn	23 07 21.3	-4.8
	0.2nm25nm,0.5s						
SIJI	**Sorong**	**7.17**	**96**	P	**Pn**	**23 07 25.8**	**-0.4**
	6.2nm,0.3s,baz=248,slow=9.8,SNR=8.9						
SIJI				S	**Sn**	**23 08 47.0**	**+0.8**
	1.4nm,0.3s,baz=277,slow=23,SNR=1.6						
MYLDM	**Lahad Datu**	**7.68**	**313**	Pn	**Pn**	**23 07 34.0**	**+0.8**
FAKI	**Fak Fak**	**8.59**	**109**	Pn	**Pn**	**23 07 42.8**	**-2.6**
MMRI	**Maumere**	**8.71**	**193**	P	**Pn**	**23 07 44.4**	**-2.7**
KKM	**Kota Kinabalu**	**9.98**	**308**	Pn	**Pn**	**23 08 05.5**	**+1.1**
BATI	**Baumata**	**10.07**	**183**	P	**Pn**	**23 08 04.3**	**-1.3**
	2.7nm,0.3s,baz=356,slow=6.9,SNR=1.6						
FITZ	**Fitzroy Crossi**	**17.97**	**175**	P	**P**	**23 09 46.6**	**+0.7**
	0.6nm,0.3s,baz=1.6,slow=9.5,SNR=14						
FITZ	**Fitzroy Crossi**	**17.97**	**175**	P	**P**	**23 09 46.5**	**+0.7**
FITZ				IAmb	IAmb	23 09 52.6	
	comp=Z,4.6nm,0.9s						
PSA00	**Pilbara Seismi**	**21.77**	**191**	P	**P**	**23 10 27.4**	**+0.5**
WB0	**Warramunga Arr**	**22.00**	**153**	P	**P**	**23 10 29.6**	**+0.2**
WB0				IAmb	IAmb	23 10 47.2	
	comp=Z,9.6nm,1.3s						
WRA	**Warramunga Arr**	**22.12**	**154**	P	**P**	**23 10 30.8**	**0.0**
	comp=Z,2.8nm,0.6s,baz=336,slow=9.9,SNR=18						
WB2	**Warramunga Arr**	**22.13**	**154**	P	**P**	**23 10 32.1**	**+1.3**
WB2				IAmb	IAmb	23 10 32.9	
	comp=Z,13nm,1.1s						
WR0	**Warramunga Arr**	**22.23**	**153**	P	**P**	**23 10 33.4**	**+1.6**
WR0				IAmb	IAmb	23 10 42.3	
	comp=Z,3.9nm,0.9s						
COEN	**Coen**	**23.35**	**127**	P	**P**	**23 10 44.7**	**+1.9**
COEN				IAmb	IAmb	23 11 03.6	
	comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**25.29**	**159**	P	**P**	**23 11 02.6**	**+2.2**
ASAR	**Alice Springs**	**25.29**	**159**	P	**P**	**23 11 01.6**	**+1.2**
	comp=Z,2.6nm,0.6s,baz=328,slow=7.6,SNR=29						
ASAR				PcP	**PcP**	**23 14 32.2**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=360,slow=2.4,SNR=5.2						
ASAR	**Alice Springs**	**25.29**	**159**	P	**P**	**23 11 04.4**	**+4.0**
FORT	**Forrest**	**30.76**	**173**	P	**P**	**23 11 50.0**	**+1.1**
STKA	**Stephens Creek**	**35.68**	**154**	P	**P**	**23 12 32.0**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=335,slow=8.6,SNR=3.6						
STKA	**Stephens Creek**	**35.68**	**154**	P	**P**	**23 12 33.5**	**+1.8**
USRK	**Ussuriysk Ar.**	**44.64**	**8**	P	**P**	**23 13 46.4**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=194,slow=6.0,SNR=8.6						
MK31	**Makanchi Array**	**59.28**	**328**	P	**P**	**23 15 34.0**	**-0.1**
MK31				IAmb	IAmb	23 15 34.3	
	comp=Z,2.3nm,1.4s						
MKAR	**Makanchi Array**	**59.28**	**328**	P	**P**	**23 15 34.0**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=120,slow=8.1,SNR=20						
MKAR	**Makanchi Array**	**59.28**	**328**	P	**P**	**23 15 34.2**	**+0.1**
MAKZ	**Makanchi**	**59.46**	**328**	P	**P**	**23 15 36.5**	**+1.2**
MAKZ				IAmb	IAmb	23 15 36.9	
	comp=Z,1.6nm,0.6s						
ABKAR	**Akbulak array**	**73.49**	**322**	P	**P**	**23 17 03.6**	**-1.0**

KRSC 10 23:08:45.0±0.8, 53.°10N×171.°36E, h40km±32km, ML4.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**1.70**	**101**	*e*P	Pn	23 09 13.9	+1.8
SMY				*e*S	Sn	23 09 33.6	+1.0
BKI	**Bering**	**3.81**	**306**	*e*P	Pn	23 09 45.2	+4.2
BKI				*e*S	Sn	23 10 27.1	+2.7
MKZ	**Mys Kozlova**	**5.89**	**288**	*e*P	Pn	23 10 14.3	+4.7
MKZ				S	Sn	23 11 19.3	+3.6
KZV	**Kizimen**	**6.81**	**292**	*e*P	Pn	23 10 27.5	+5.1
SPN	**Mys Shipunski**	**6.83**	**275**	*e*P	Pn	23 10 27.9	+5.4
KOK	**Koryaka**	**7.65**	**277**	P	Pn	23 10 39.7	+5.9
TILK	**Tilichiki**	**7.90**	**341**	P	Pn	23 10 44.2	+7.1
MTVR	**Mutnovka**	**8.02**	**271**	P	Pn	23 10 44.6	+5.7

IDC 10 23:17:04.3±6.2, 6.°70S×156.°02E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/28, mbtmp3.6/4, Error ellipse: s-maj=182.6km s-min=34.5km az=109.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.82**	**236**	P	P	23 22 29.4	+0.8
	0.7nm,0.6s,baz=63,slow=9.3,SNR=5.6						
ASAR	**Alice Springs**	**27.13**	**229**	P	P	23 22 48.5	-0.9
	0.2nm,0.4s,baz=60,slow=9.8,SNR=1.3						
SONM	**Songino Array**	**69.64**	**327**	P	P	23 28 16.2	+0.4
	0.7nm,0.8s,baz=139,slow=6.2,SNR=4.2						
MKAR	**Makanchi Array**	**83.86**	**318**	P	P	23 29 35.6	-0.5
	0.6nm,0.8s,baz=100,slow=6.3,SNR=5.3						

IDC ***10*** *23:29:12.5±1.0, 37.°70N×142.°00E, h0km, mb3.7/7, mb1 3.9/11, mb1mx3.7/51, mbtmp3.8/11, ML2.9/3, Error ellipse: s-maj=25.9km s-min=17.1km az=96.0*

JMA ***10*** *23:29:15.0±0.1, 37.°71N×141.°89E, h26km±2km, M4.0*

NEIC ***10*** *23:29:18.3±1.7, 37.°76N±0.°06×141.°9E±0.°1, h35km±6km, mb4.1/5, Error ellipse: s-maj=14.3km s-min=9.1km az=99.0*

ISC 10 23:29:12.4±2.0, 37.°65N±0.°04×141.°96E±0.°07, h1km±12km, n54, σ1s59/55, mb3.8/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.77**	**329**	P	**Pg**	**23 29 28.1**	**+0.9**
JIKH				S	**Sg**	**23 29 37.3**	**+0.1**
JMST	**Minamisoumatoc**	**0.86**	**275**	P	**Pb**	**23 29 29.6**	**-0.5**
JMST				*e*S	**Sb**	**23 29 40.2**	**-1.9**
JFK	**Kawauchi**	**0.91**	**252**	P	**Pb**	**23 29 31.1**	**0.0**
JFK				*e*S	**Sb**	**23 29 42.5**	**-1.2**
JIO	**Ouri**	**0.94**	**329**	P	**Pg**	**23 29 30.9**	**+0.5**
JIO				S	**Sg**	**23 29 41.8**	**-0.8**
JMM	**Marumori**	**0.95**	**283**	P	**Pg**	**23 29 31.0**	**+0.3**
JMM	**Marumori**	**0.95**	**283**		**Pg**	**23 29 30.6**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.08**	**240**	P	**Pb**	**23 29 33.7**	**-0.2**
JKMT	**Kesennumamotoy**	**1.22**	**342**	P	**Pb**	**23 29 35.2**	**-1.1**
JKMT				S	**Sb**	**23 29 50.0**	**-2.6**
JOU	**Okura**	**1.25**	**305**	P	**Pn**	**23 29 36.3**	**-0.8**
JOU				S	**Sb**	**23 29 51.2**	**-2.3**
JFT	**Otama**	**1.30**	**265**	P	**Pb**	**23 29 37.4**	**-0.3**
JMK	**Ichinoseki**	**1.43**	**336**	P	**Pn**	**23 29 38.7**	**-0.7**
JYS	**Shirataka**	**1.61**	**291**	P	**Pb**	**23 29 41.7**	**-1.2**
JYK	**Kaneyama**	**1.79**	**316**	P	**Pn**	**23 29 44.0**	**-0.4**
JFY	**Yanaizu**	**1.81**	**263**	P	**Pb**	**23 29 45.3**	**-1.1**
JFY				*e*S	**Sb**	**23 30 07.6**	**-2.0**
JYT	**Yasato**	**2.01**	**226**	Pn	**Pn**	**23 29 47.5**	**+0.1**
MJAR	**Matsushiro Arr**	**3.20**	**251**	Pn	**Pn**	**23 30 05.2**	**+1.4**
	4.0nm,0.3s,baz=83,slow=15,SNR=77						
MJAR	**Matsushiro Arr**	**3.20**	**251**	Pn	**Pn**	**23 30 05.4**	**+1.6**
MAJO	**Matsushiro**	**3.20**	**251**	Pn	**Pn**	**23 30 05.5**	**+1.6**
MAT	**Matsushiro**	**3.20**	**251**	P	**Pn**	**23 30 05.7**	**+1.8**
MAT				S	**Sb**	**23 30 45.8**	**-3.8**
MJB9	**Matsu-Tunnel**	**3.20**	**251**	Pn	**Pn**	**23 30 06.2**	**+2.3**
JTM	**Tenmabayashi**	**3.21**	**348**	Pn	**Pn**	**23 30 05.5**	**+1.5**
JGF	**Kuroka**	**4.23**	**242**	Pn	**Pn**	**23 30 20.4**	**+2.3**
INU	**Inuyama**	**4.60**	**242**	Pn	**Pn**	**23 30 25.7**	**+2.6**
JHJ2	**Mitsune**	**4.86**	**202**	Pn	**Pn**	**23 30 27.6**	**+1.0**
JHJ	**Hachijo jima 2**	**4.86**	**202**	Pn	**Pn**	**23 30 27.1**	**+0.4**
	85nm,0.3s,baz=23,slow=4.2,SNR=12						
JHJ				Sn	**Sn**	**23 31 21.0**	**-2.6**
	26nm,0.3s,baz=245,slow=22,SNR=1.4						
JWT	**Wachi**	**5.79**	**248**	Pn	**Pn**	**23 30 42.2**	**+2.7**
ASAJ	**Asahikawa**	**6.48**	**4**	Pn	**Pn**	**23 30 47.6**	**-1.2**
	0.3nm,0.3s,baz=188,slow=26,SNR=1.7						
ASAJ				Sn	**Sn**	**23 32 03.4**	**-0.1**
	0.4nm,0.3s,baz=218,slow=18,SNR=1.8						
JHS	**Saijyo**	**7.62**	**252**	Pn	**Pn**	**23 31 08.3**	**+3.8**
JMN	**Monobe**	**7.65**	**242**	Pn	**Pn**	**23 31 08.6**	**+3.5**
USRK	**Ussuriysk Ar.**	**9.98**	**314**	Pn	**Pn**	**23 31 39.2**	**+2.2**
	baz=121,slow=14,SNR=2.1						
SONM	**Songino Array**	**27.81**	**303**	P	**P**	**23 35 04.0**	**+0.8**
	0.5nm,0.7s,baz=106,slow=14,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.10**	**123**	T	T	00 04 31.9	
	baz=315,slow=75,SNR=189						
H11N1	**WAKE ISLAND Hy**	**28.11**	**123**	T	T	00 04 36.2	
	baz=315,slow=75,SNR=143						
H11N3	**WAKE ISLAND Hy**	**28.11**	**123**	T	T	00 04 33.2	
	baz=315,slow=75,SNR=130						
H11S1	**WAKE ISLAND Hy**	**28.84**	**125**	T	T	00 05 28.8	
	baz=316,slow=76,SNR=127						
H11S3	**WAKE ISLAND Hy**	**28.84**	**125**	T	T	00 05 25.1	
	baz=316,slow=76,SNR=105						
H11S2	**WAKE ISLAND Hy**	**28.85**	**125**	T	T	00 05 35.6	
	baz=316,slow=76,SNR=89						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**23 37 03.2**	**-0.3**
	0.7nm,0.3s,baz=89,slow=5.9,SNR=3.3						
MK31	**Makanchi Array**	**44.17**	**302**	P	**P**	**23 37 23.6**	**+0.9**
MK31				IAmb	IAmb	23 37 30.2	
	comp=Z,2.7nm,0.9s						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**23 37 21.7**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=85,slow=9.9,SNR=6.1						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**23 37 23.7**	**+1.0**
ILAR	**Eielson Array**	**48.74**	**33**	P	**P**	**23 37 58.4**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=259,slow=6.7,SNR=5.0						
AAK	**Ala-Archa**	**50.59**	**298**	P	**P**	**23 38 13.3**	**+0.4**
AAK				IAmb	IAmb	23 38 21.0	
	comp=Z,1.2nm,0.8s						
WB0	**Warramunga Arr**	**57.55**	**188**	P	**P**	**23 39 04.2**	**+0.6**
WB0				IAmb	IAmb	23 39 07.0	
	comp=Z,6.2nm,1.2s						
WR0	**Warramunga Arr**	**57.73**	**188**	P	**P**	**23 39 05.7**	**+0.9**
WRA	**Warramunga Arr**	**57.73**	**188**	P	**P**	**23 39 05.3**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=5.1,slow=7.2,SNR=8.6						
ABKAR	**Akbulak array**	**57.88**	**310**	P	**P**	**23 39 06.5**	**+0.7**
ASAR	**Alice Springs**	**61.46**	**188**	P	**P**	**23 39 31.4**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=13,slow=7.3,SNR=7.9						
ASAR	**Alice Springs**	**61.46**	**188**	P	**P**	**23 39 32.1**	**+1.5**
RES	**Resolute Bay**	**61.90**	**15**	P	**P**	**23 39 32.9**	**0.0**
YKA	**Yellowknife Ar**	**63.06**	**30**	P	**P**	**23 39 40.8**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=305,slow=6.1,SNR=2.3						
H03N2	**Juan Fernandez**	**146.65**	**95**	T	T	02 32 56.4	
	baz=292,slow=76,SNR=6.8						
H03N3	**Juan Fernandez**	**146.66**	**95**	T	T	02 32 56.5	
	baz=292,slow=76,SNR=9.1						
H03N1	**Juan Fernandez**	**146.66**	**95**	T	T	02 32 53.7	
	baz=292,slow=76,SNR=9.5						

DJA ***10*** *23:31:21.1±0.3, 9.°5S×11.°3E±.°, h133km±3km, M4.6/15, mB5.5/3, mb4.8/12, MLv4.5/15, Mw(mB)4.9/3*

NEIC ***10*** *23:31:22.5±2.5, 8.°52S±0.°09×112.°56E±0.°05, h123km±7km, mb4.3/23, Error ellipse: s-maj=13.8km s-min=7.0km az=194.0*

IDC ***10*** *23:31:22.4±1.6, 8.°40S±112.°57E, h123km±14km, mb4.0/12, mb1 4.1/15, mb1mx3.9/36, mbtmp4.4/15, Error ellipse: s-maj=19.4km s-min=10.3km az=47.0*

ISC 10 23:31:22.4±0.7, 8.°55S±0.°06×112.°57E±0.°04, h125km±7km, n84, σ1s37/98, mb4.5/35, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.57**	**87**		**Pn**	**23 31 51.8**	**+0.9**
JAGI				S	**Sn**	**23 32 12.5**	**-0.2**
JAGI	**Jajag, Banyuwa**	**1.57**	**87**	P	**Pn**	**23 31 51.6**	**+0.7**
JAGI				S	**Sn**	**23 32 12.4**	**-0.2**
ABJI	**Asem Bagus**	**1.81**	**66**	P	**Pn**	**23 31 55.5**	**+1.7**
ABJI				S	**Sn**	**23 32 20.1**	**+2.4**
KMMI	**Kalianget**	**2.03**	**43**	P	**Pn**	**23 31 57.4**	**+0.9**
UGM	**Wanagama**	**2.12**	**287**		**Pn**	**23 31 58.4**	**+0.8**
UGM				Sn	**Sn**	**23 32 24.4**	**-0.2**
UGM	**Wanagama**	**2.12**	**287**	P	**Pn**	**23 31 58.3**	**+0.7**
UGM				S	**Sn**	**23 32 22.6**	**-2.0**
SMRI	**Semarang**	**2.58**	**305**		**Pn**	**23 32 04.7**	**+1.3**
SMRI	**Semarang**	**2.58**	**305**	P	**Pn**	**23 32 04.3**	**+0.9**
SMRI				S	**Sn**	**23 32 35.5**	**+0.6**
DNP	**Denpasar**	**2.62**	**93**	P	**Pn**	**23 32 05.4**	**+1.5**
DNP				S	**Sn**	**23 32 37.7**	**+2.0**
SRBI	**Singaraja**	**2.66**	**80**	P	**Pn**	**23 32 04.9**	**+0.5**
SRBI				S	**Sn**	**23 32 36.4**	**-0.3**
TWSI	**Taliwang, Sumb**	**4.27**	**93**	P	**Pn**	**23 32 22.6**	**-3.1**
TWSI				S	**Sn**	**23 33 12.6**	**-2.2**
CISI	**Cisompet, Garu**	**4.81**	**281**	Pn	**Pn**	**23 32 33.9**	**+1.0**
CISI	**Cisompet, Garu**	**4.81**	**281**	P	**Pn**	**23 32 33.6**	**+0.7**
PLAI	**Plampang**	**5.16**	**94**	P	**Pn**	**23 32 38.4**	**+0.8**
	0.5nm2µm144nm,0.7s						
LEM	**Lembang**	**5.20**	**289**	P	**Pn**	**23 32 38.3**	**+0.1**
	6.6nm,0.3s,baz=49,slow=20,SNR=2.5						
LEM				S	**Sn**	**23 33 36.6**	**-0.6**
	6.0nm,0.3s,baz=104,slow=24,SNR=1.8						
LEM	**Lembang**	**5.20**	**289**	P	**Pn**	**23 32 36.5**	**-1.7**
	0.1nm24nm,0.9s						
BBKI	**Banjar Baru**	**5.53**	**24**	P	**Pn**	**23 32 45.5**	**+2.9**
	0.6nm85nm,0.9s						
KBKI	**Kotabaru**	**6.32**	**35**	P	**Pn**	**23 32 54.6**	**+1.3**
	0.2nm35nm,0.6s						
XMIS	**Christmas Isla**	**7.09**	**254**	Pn	**Pn**	**23 33 01.5**	**-2.1**
KAPI	**Kappang**	**7.95**	**64**	P	**Pn**	**23 33 14.0**	**-1.3**
	0.8nm,0.3s,baz=198,slow=14,SNR=2.0						
KAPI				S	**Sn**	**23 34 38.5**	**-5.1**
	0.2nm,0.3s,baz=254,slow=16,SNR=0.9						
KAPI	**Kappang**	**7.95**	**64**	Pn	**Pn**	**23 33 17.4**	**+2.2**
MNAI	**Manna**	**10.41**	**293**	Pn	**Pn**	**23 33 48.5**	**0.0**
KSI	**Kapahiang**	**11.04**	**296**	P	**Pn**	**23 33 56.9**	**-0.1**
	238nm,0.7s						
BATI	**Baumata**	**11.07**	**99**	S	Sn	23 35 49.9	-9.5
	5.0nm,0.3s,baz=4.2,slow=22,SNR=7.4						
MRSI	**Marisa**	**12.94**	**47**	P	**Pn**	**23 34 23.0**	**+1.1**
	29nm,0.8s						
MRSI				S	**Pn**	**23 34 23.9**	**+2.0**
	29nm,0.8s						
GIRL	**Giralia**	**14.11**	**174**	Pn	**Pn**	**23 34 35.6**	**-1.2**
PSA00	**Pilbara Seismi**	**14.73**	**152**	Pn	**Pn**	**23 34 43.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**15.86**	**128**	P	**Pn**	**23 34 58.7**	**-0.2**
	0.9nm,0.3s,baz=328,slow=9.4,SNR=13						
FITZ				S	Sn	23 37 40.8	-14
	0.3nm,0.3s,baz=290,slow=11,SNR=2.1						
FITZ	**Fitzroy Crossi**	**15.86**	**128**	Pn	**Pn**	**23 34 58.9**	**+0.1**
GSI	**Gunungsitoli**	**17.86**	**303**	P	**P**	**23 35 20.6**	**-1.6**
GSI				IAmb	IAmb	23 35 36.4	
	comp=Z,50nm,1.4s						
WB0	**Warramunga Arr**	**23.89**	**120**	P	**P**	**23 36 26.1**	**+1.3**
WB0				IAmb	IAmb	23 36 34.7	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**23.92**	**121**	P	**P**	**23 36 26.0**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=294,slow=12,SNR=27						
WRA				ScP	**ScP**	**23 43 31.0**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=309,slow=1.9,SNR=2.6						
WB2	**Warramunga Arr**	**23.93**	**121**	P	**P**	**23 36 26.3**	**+1.2**
WB2				IAmb	IAmb	23 36 27.4	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**24.09**	**120**	P	**P**	**23 36 27.8**	**+1.2**
WR0				IAmb	IAmb	23 36 29.9	
	comp=Z,7.4nm,0.9s						
AS31	**Alice Springs**	**25.36**	**129**	P	**P**	**23 36 39.6**	**+1.4**
ASAR	**Alice Springs**	**25.36**	**129**	P	**P**	**23 36 39.4**	**+1.3**
	comp=Z,3.4nm,0.4s,baz=303,slow=8.4,SNR=72						
ASAR				ScP	**ScP**	**23 43 35.8**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=300,slow=1.8,SNR=4.5						
CMAR	**Chiang Mai Arr**	**30.01**	**333**	P	**P**	**23 37 18.4**	**-1.2**
	comp=Z,3.9nm,0.7s,baz=169,slow=8.4,SNR=28						
CMAR	**Chiang Mai Arr**	**30.01**	**333**	P	**P**	**23 37 19.9**	**+0.4**
BBOO	**Buckleboo**	**32.49**	**141**	P	**P**	**23 37 42.4**	**+1.1**
BBOO				IAmb	IAmb	23 37 53.4	
	comp=Z,4.8nm,0.9s						
STKA	**Stephens Creek**	**35.58**	**135**	P	**P**	**23 38 08.4**	**+0.4**
	comp=Z,5.2nm,0.6s,baz=307,slow=8.6,SNR=13						
STKA	**Stephens Creek**	**35.58**	**135**	P	**P**	**23 38 10.5**	**+2.5**
WHN	**Wuhan**	**38.90**	**2**	⇓P	P	23 38 26.0	-10
SHL	**Shillong**	**39.43**	**330**	P	P	**23 38 41.0**	**+0.3**
XAN	**Xi'an**	**42.49**	**356**	P	P	**23 39 05.4**	**0.0**
ODAN	**Odare**	**42.84**	**326**	*e*P	P	**23 39 08.1**	**-0.5**
	comp=Z,58nm,0.6s						
TAPN	**Taplejung**	**43.05**	**327**	*e*P	P	**23 39 10.3**	**-0.1**
	comp=Z,50nm,0.6s						
LSA	**Lhasa**	**43.25**	**332**	P	P	**23 39 12.9**	**+0.7**
LSA				pmax	pmax		
	comp=Z,61nm,0.8s						
LSA	**Lhasa**	**43.25**	**332**	P	**P**	**23 39 13.2**	**+1.0**
RAMN	**Ramite**	**43.35**	**325**	*e*P	**P**	**23 39 12.6**	**-0.1**
	comp=Z,14nm,0.6s						
GUN	**Gumba**	**44.50**	**325**	*e*P	**P**	**23 39 21.6**	**-0.4**
	comp=Z,51nm,0.5s						
PKI	**Pulchoki**	**44.50**	**325**	*e*P	**P**	**23 39 21.1**	**-0.9**
PKIN	**Phulchoki**	**44.51**	**325**	*e*P	**P**	**23 39 21.0**	**-1.0**
	comp=Z,13nm,0.6s						
DMN	**Daman**	**44.70**	**324**	*e*P	**P**	**23 39 22.8**	**-0.8**
	comp=Z,41nm,0.7s						
KKN	**Kakani**	**44.74**	**325**	*e*P	**P**	**23 39 23.1**	**-0.7**
	comp=Z,18nm,0.6s						
GKN	**Gorkha**	**45.27**	**324**	*e*P	**P**	**23 39 27.0**	**-0.9**
	comp=Z,20nm,0.4s						
KSRS	**Korea Array**	**47.96**	**16**	P	**P**	**23 39 47.1**	**-1.3**
	comp=Z,3.3nm,0.7s,baz=201,slow=8.4,SNR=6.3						
HHC	**Hu-ho-hao-te**	**49.16**	**359**	*e*P	**P**	**23 39 58.6**	**+0.9**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,290nm,5.1s						
GTA	**Gaotai**	**49.16**	**347**	*e*P	**P**	**23 39 58.5**	**+0.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**55.37**	**17**	P	**P**	**23 40 43.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**55.37**	**17**	P	**P**	**23 40 43.2**	**-0.2**
	comp=Z,9.7nm,0.7s,baz=204,slow=3.2,SNR=21						
NIL	**Nilore**	**56.16**	**320**	P	**P**	**23 40 47.7**	**-1.7**
ULN	**Ulaanbaatar**	**56.37**	**356**	P	**P**	**23 40 50.8**	**+0.1**
SONM	**Songino Array**	**56.40**	**355**	P	**P**	**23 40 50.6**	**-0.3**
	comp=Z,4.4nm,0.5s,baz=175,slow=8.4,SNR=50						
SONM				PcP	**PcP**	**23 41 46.5**	**0.0**
	comp=Z,0.6nm,0.5s,baz=174,slow=4.3,SNR=2.3						
SONM	**Songino Array**	**56.40**	**355**	P	**P**	**23 40 50.9**	**0.0**
SONM				PcP	**PcP**	**23 41 46.9**	**+0.4**
WMQ	**Urumqi**	**56.79**	**339**	*e*P	**P**	**23 40 56.0**	**+2.3**
WMQ	**Urumqi**	**56.79**	**339**	P	**P**	**23 40 53.6**	**-0.1**
WMQ				IAmb	IAmb	23 40 54.7	
	comp=Z,8.7nm,1.3s						
KSH	**Kashi**	**58.62**	**327**	P	**P**	**23 41 03.8**	**-2.8**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,140nm,4.3s						
KBL	**Kabul**	**59.42**	**319**	P	**P**	**23 41 11.1**	**-1.3**
KBL				IAmb	IAmb	23 41 11.3	
	comp=Z,3.6nm,0.8s						
MK31	**Makanchi Array**	**61.34**	**337**	P	**P**	**23 41 24.4**	**-0.6**
MK31				IAmb	IAmb	23 41 25.0	
	comp=Z,2.6nm,0.8s						
MKAR	**Makanchi Array**	**61.34**	**337**	P	**P**	**23 41 24.2**	**-0.8**
	comp=Z,3.3nm,0.4s,baz=150,slow=7.4,SNR=86						
AAK	**Ala-Archa**	**61.65**	**329**	P	**P**	**23 41 27.1**	**-0.2**
AAK				IAmb	IAmb	23 41 27.9	
	comp=

BOBN	**Bobandana**	**6.29**	**300**	*i* P		**Pn**	**00 12 34.8**	**+0.4**
BOBN				IAML			00 14 23.9	
	comp=Z,626nm,0.6s							
TGO	**Tongo**	**6.34**	**305**	*i* P		**Pn**	**00 12 35.6**	**+0.5**
TGO				IAML			00 14 29.3	
	comp=Z,519nm,0.6s							
KTSH	**Kitshanga**	**6.51**	**304**	*i* P		**Pn**	**00 12 37.6**	**+0.2**
KTSH				IAML			00 14 35.3	
	comp=Z,269nm,0.7s							
KIL	**Kilembe**	**6.75**	**319**	*e*P		**Pn**	**00 12 38.2**	**-2.4**
KIL				*e*S		**Sn**	**00 13 50.1**	**-7.6**
LBB	**Lubumbashi**	**9.58**	**226**	*i* P		**Pn**	**00 13 22.3**	**+2.8**
LSZ	**Lusaka**	**11.98**	**210**	Pn		**Pn**	**00 13 52.5**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=28,slow=12,SNR=32							
LSZ				Sn		**Sn**	**00 16 00.1**	**-6.2**
	comp=Z,0.6nm,0.3s,baz=350,slow=20,SNR=2.0							
LSZ				Lg	Lg		00 17 15.8	
	comp=Z,2.6nm,0.3s,baz=138,slow=22,SNR=4.8							
LSZ	**Lusaka**	**11.98**	**210**			**Pn**	**00 13 52.7**	**+0.4**
LSZ	**Lusaka**	**11.98**	**210**	*i* P		**Pn**	**00 13 52.0**	**-0.4**
LSZ				*i* S		Sn	00 16 25.7	+19
LSZ	**Lusaka**	**11.98**	**210**	*i* P		**Pn**	**00 13 52.0**	**-0.4**
LSZ				*i* S		Sn	00 16 25.7	+19
LSZ	**Lusaka**	**11.98**	**210**	*i* P		**Pn**	**00 13 53.1**	**+0.7**
LSZ				IAML			00 17 22.9	
	comp=Z,78nm,0.7s							
BLWY	**Bulawayo**	**16.15**	**200**	*i* P		**Pn**	**00 14 48.0**	**-0.7**
BLWY				*i* S		S	00 18 13.9	+13
BLWY	**Bulawayo**	**16.15**	**200**	*i* P		**Pn**	**00 14 48.0**	**-0.7**
BLWY				*i* S		S	00 18 13.9	+13
MATP	**Matopo**	**16.45**	**200**	Pn		**Pn**	**00 14 48.4**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=296,slow=6.4,SNR=3.1							
MATP				Lg	Lg		00 19 36.5	
	comp=Z,0.3nm,0.3s,baz=285,slow=23,SNR=3.8							
MATP	**Matopo**	**16.45**	**200**	*i* P		**Pn**	**00 14 50.9**	**-1.6**
MATP				*i* S		S	00 18 20.7	+13
MATP	**Matopo**	**16.45**	**200**	*i* P		**Pn**	**00 14 50.9**	**-1.6**
MATP				*i* S		S	00 18 20.7	+13
LBTB	**Lobatse**	**21.70**	**202**	P		**P**	**00 15 53.9**	**+1.2**
	comp=Z,4.2nm,0.7s,baz=7.6,slow=12,SNR=6.9							
LBTB	**Lobatse**	**21.70**	**202**	P		**P**	**00 15 54.0**	**+1.3**
LBTB				IAmb	IAmb		00 16 00.0	
	comp=Z,16nm,1.3s							
BOSA	**Boshof**	**25.12**	**199**	P		**P**	**00 16 28.8**	**+2.2**
	comp=Z,3.2nm,0.6s,baz=25,slow=9.1,SNR=10.0							
BOSA	**Boshof**	**25.12**	**199**	P		**P**	**00 16 29.9**	**+3.3**
BOSA				IAmb	IAmb		00 16 30.5	
	comp=Z,6.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**37.15**	**299**	P		**P**	**00 18 13.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=113,slow=9.9,SNR=2.2							
ARU	**Arti**	**64.26**	**15**	P		**P**	**00 21 38.2**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=207,slow=6.8,SNR=3.9							
ARU	**Arti**	**64.26**	**15**	P		**P**	**00 21 38.6**	**+2.1**
MK31	**Makanchi Array**	**66.59**	**34**	P		**P**	**00 21 54.5**	**+2.7**
MKAR	**Makanchi Array**	**66.59**	**34**	P		**P**	**00 21 52.8**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=228,slow=7.1,SNR=5.5							
MKAR	**Makanchi Array**	**66.59**	**34**	P		**P**	**00 21 52.6**	**+0.8**
KSRS	**Korea Array**	**95.73**	**53**	LR		LR	01 09 12.5	
	comp=Z,12nm,19.5s,baz=210,slow=36							

*MDD **11** 00:11:44.7±0.3,39.˚24N×6.˚00E, h28km±16km, mb4.0/3, Error ellipse: s-maj=4.7km s-min=1.9km az=154.0, PRXIMO*
*LDG **11** 00:11:45.3±0.1,39.˚31N×5.˚94E, h25km, Ml2.4/15, Error ellipse: s-maj=2.8km s-min=1.4km az=153.0*

ISC 11 00:11:40.1±1.5,**39.˚39N**±0.˚07×**5.˚92E**±0.˚05,**h10**km,**n51,**
σ**2**s**24**/79,**Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHO	**Mahon**	**1.37**	**292**	P	**Pn**	**00 12 06.1**	**+0.8**
MAHO				S	**Sb**	**00 12 24.0**	**+0.5**
MAHO	**Mahon**	**1.37**	**292**	*e*P	**Pn**	**00 12 06.1**	**+0.8**
MAHO				*e*S	**Sb**	**00 12 24.0**	**+0.5**
ETOS	**Mallorca**	**2.43**	**280**	P	**Pn**	**00 12 21.4**	**+1.6**
	5.4nm,0.2s,SNR=28						
ETOS				S	**Sn**	**00 12 50.6**	**+0.9**
	2.8nm,0.2s,SNR=8.8						
CFON	**Fontmartina**	**3.56**	**313**	P	**Pn**	**00 12 37.4**	**+1.9**
	0.7nm,0.1s,SNR=7.9						
CFON				S	**Sn**	**00 13 18.2**	**+0.6**
	1.0nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.57**	**266**	P	**Pn**	**00 12 37.2**	**+1.7**
	1.7nm,0.1s,SNR=8.9						
EIBI				S	**Sn**	**00 13 14.4**	**-3.5**
	2.3nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**3.82**	**324**	P	**Pn**	**00 12 41.4**	**+2.4**
	0.9nm,0.1s,SNR=7.9						
EJON				S	**Sn**	**00 13 24.6**	**+0.5**
	0.5nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**3.85**	**324**	P	**Pn**	**00 12 41.9**	**+2.4**
	0.3nm,0.1s,SNR=7.9						
SJAF				S	**Sn**	**00 13 26.1**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
PGF	**Pioggiola**	**3.92**	**35**	P	**Pn**	**00 12 42.9**	**+2.4**
PGF				S	**Sn**	**00 13 25.3**	**-1.3**
	1.1nm,0.3s						
PGF	**Pioggiola**	**3.92**	**35**	*e*Pn	**Pn**	**00 12 42.9**	**+2.4**
PGF	**Pioggiola**	**3.92**	**35**	*e*P	Pn	00 12 46.7	+6.2
PGF				*e*Sn	**Sn**	**00 13 25.3**	**-1.3**
	2.1nm,0.3s						
LMR	**La Mourre**	**3.96**	**6**	P	**Pn**	**00 12 44.0**	**+3.0**
LMR				S	**Sn**	**00 13 27.1**	**-0.4**
	0.6nm,0.2s						
LMR	**La Mourre**	**3.96**	**6**	*e*Pn	**Pn**	**00 12 44.0**	**+3.0**
LMR	**La Mourre**	**3.96**	**6**	*e*P	Pn	00 12 47.3	+6.3
LMR				*e*Sn	**Sn**	**00 13 27.1**	**-0.4**
	1.1nm,0.2s						
EPOB	**Poblet**	**4.18**	**299**	P	**Pn**	**00 12 46.3**	**+2.3**
	0.4nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**00 13 31.8**	**-1.3**
	0.5nm,0.1s,SNR=7.9						
FRF	**La Foret Royal**	**4.20**	**7**	P	**Pn**	**00 12 48.1**	**+3.9**
FRF				S	**Sn**	**00 13 32.8**	**-0.5**
	0.7nm,0.2s						
FRF	**La Foret Royal**	**4.20**	**7**	*e*Pn	**Pn**	**00 12 48.1**	**+3.9**
FRF				*e*Sn	**Sn**	**00 13 32.8**	**-0.5**
	1.4nm,0.2s						
CLLI	**Llivia**	**4.29**	**317**	P	**Pn**	**00 12 48.1**	**+2.5**
	1.1nm,0.1s,SNR=12						
CLLI				S	**Sn**	**00 13 37.6**	**+1.8**
	0.5nm,0.1s,SNR=6.1						
SMRF	**Simiane la Rot**	**4.59**	**357**	P	**Pn**	**00 12 52.5**	**+2.9**
SMRF				S	**Sn**	**00 13 41.9**	**-1.0**
	0.4nm,0.3s						
SMRF	**Simiane la Rot**	**4.59**	**357**	*e*Pn	**Pn**	**00 12 52.5**	**+2.9**
SMRF				*e*Sn	**Sn**	**00 13 41.9**	**-1.0**
	0.4nm,0.3s						
SBF	**Sospel**	**4.61**	**14**	P	**Pn**	**00 12 52.6**	**+2.7**
SBF				S	**Sn**	**00 13 42.6**	**-0.9**
	1.2nm,0.3s						
SBF	**Sospel**	**4.61**	**14**	*e*Pn	**Pn**	**00 12 52.6**	**+2.7**
SBF	**Sospel**	**4.61**	**14**	*e*P	Pn	00 12 56.6	+6.7
SBF				*e*Sn	**Sn**	**00 13 42.6**	**-0.9**
	2.4nm,0.3s						
CSOR	**Sort**	**4.69**	**311**	P	**Pn**	**00 12 54.4**	**+3.3**
	0.4nm,0.2s,SNR=7.9						
CSOR				S	**Sn**	**00 13 47.5**	**+1.8**
	1.5nm,0.4s,SNR=7.9						
EBEN2	**Beniarda presa**	**4.81**	**263**	P	**Pn**	**00 12 53.5**	**+0.8**
	0.5nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**4.83**	**326**	P	**Pn**	**00 12 55.3**	**+2.4**
MTLF				S	**Sn**	**00 13 47.8**	**-1.0**
	0.6nm,0.2s						
MTLF	**Montolieu**	**4.83**	**326**	*e*Pn	**Pn**	**00 12 55.3**	**+2.4**
MTLF	**Montolieu**	**4.83**	**326**	*e*P	Pn	00 12 59.4	+6.5
MTLF				*e*Sn	**Sn**	**00 13 47.8**	**-1.0**
	1.1nm,0.2s						
LASF	**Ste Croix**	**4.93**	**342**	P	**Pn**	**00 12 58.0**	**+3.8**
LASF				S	**Sn**	**00 13 50.3**	**-1.0**
	0.6nm,0.4s						
LASF	**Ste Croix**	**4.93**	**342**	*e*Pn	**Pn**	**00 12 58.0**	**+3.8**
LASF				*e*Sn	**Sn**	**00 13 50.3**	**-1.0**
	1.1nm,0.4s						
EMOS	**Mosqueruela**	**5.01**	**283**	P	**Pn**	**00 12 57.6**	**+2.1**
	0.2nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**00 13 53.6**	**0.0**
	2.1nm,0.3s,SNR=7.9						
MBDF	**Montbardon**	**5.37**	**7**	P	**Pn**	**00 13 03.1**	**+2.7**
MBDF				S	**Sn**	**00 14 00.6**	**-1.7**
	0.2nm,0.2s						
MBDF	**Montbardon**	**5.37**	**7**	*e*Pn	**Pn**	**00 13 03.1**	**+2.7**
MBDF				*e*Sn	**Sn**	**00 14 00.6**	**-1.7**
	0.3nm,0.2s						

ORIF	**Oris-en-Rattie**	**5.52**	**360**	P		Pn	00 13 09.7	+7.2
ORIF				S		**Sn**	**00 14 04.2**	**-1.9**
	0.1nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.52**	**360**	*e*P		Pn	00 13 09.7	+7.2
ORIF				*e*Sn		**Sn**	**00 14 04.2**	**-1.9**
	0.2nm,0.3s							
VIVF	**Saint-Julien-l**	**5.54**	**351**	P		**Pn**	**00 13 06.0**	**+3.4**
VIVF				S		**Sn**	**00 14 04.8**	**-1.6**
	0.6nm,0.3s							
VIVF	**Saint-Julien-l**	**5.54**	**351**	*e*Pn		**Pn**	**00 13 06.0**	**+3.4**
VIVF				*e*Sn		**Sn**	**00 14 04.8**	**-1.6**
	1.2nm,0.3s							
ETSF	**Etsaut**	**6.01**	**308**	P		**Pn**	**00 13 11.8**	**+2.6**
ETSF	**Etsaut**	**6.01**	**308**	*e*Pn		**Pn**	**00 13 11.8**	**+2.6**
LPG	**La Plagne**	**6.13**	**5**	P		**Pn**	**00 13 13.7**	**+2.7**
LPG	**La Plagne**	**6.13**	**5**	*e*Pn		**Pn**	**00 13 13.7**	**+2.7**
LPL	**La Plagne**	**6.15**	**5**	P		**Pn**	**00 13 14.0**	**+2.8**
LPL				S		**Sn**	**00 14 19.5**	**-2.2**
	0.2nm,0.3s							
LPL	**La Plagne**	**6.15**	**5**	*e*Pn		**Pn**	**00 13 14.0**	**+2.8**
LPL				*e*Sn		**Sn**	**00 14 19.5**	**-2.2**
	0.4nm,0.3s							
CAF	**Calviac**	**6.23**	**334**	P		**Pn**	**00 13 14.6**	**+2.5**
CAF	**Calviac**	**6.23**	**334**	*e*Pn		**Pn**	**00 13 14.6**	**+2.5**
SJPF	**Ste Jean**	**6.54**	**307**	P		**Pn**	**00 13 18.6**	**+2.2**
SJPF				S		**Sn**	**00 14 28.7**	**-2.3**
	0.3nm,0.4s							
SJPF	**Ste Jean**	**6.54**	**307**	*e*Pn		**Pn**	**00 13 18.6**	**+2.2**
SJPF	**Ste Jean**	**6.54**	**307**	*e*P		Pn	00 13 23.6	+7.2
SJPF				*e*Sn		**Sn**	**00 14 28.7**	**-2.3**
	0.6nm,0.4s							
LFF	**La Frestale**	**6.75**	**327**	P		Pn	00 13 26.7	+7.5
LFF				S		**Sn**	**00 14 33.9**	**-2.1**
	0.3nm,0.3s							
LFF	**La Frestale**	**6.75**	**327**	*e*P		Pn	00 13 26.7	+7.5
LFF				*e*Sn		**Sn**	**00 14 33.9**	**-2.1**
	0.7nm,0.3s							
RJF	**Les Rejaudoux**	**6.75**	**333**	P		**Pn**	**00 13 21.7**	**+2.5**
RJF	**Les Rejaudoux**	**6.75**	**333**	*e*Pn		**Pn**	**00 13 21.7**	**+2.5**

*SOME **11** 00:13:38.4, 40.˚92N×83.˚38E, h0km*
*NNC **11** 00:13:38.9±1.4, 41.˚34N×83.˚93E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=11.9km s-min=7.5km az=174.0*

ISC 11 00:13:38.1±2.4,**41.˚1N**±0.˚1×**83.˚62E**±0.˚07,**h10**km,**n34,**
σ**2**s**67**/50,**12C-5D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.40**	**316**	*e*P	**Pg**	**00 14 41.5**	**-1.7**
	3.0nm,0.1s						
KTMS				*e*S	**Sg**	**00 15 27.1**	**-0.1**
	27nm,0.4s						
KTMS	**Ketmen**	**3.40**	**316**	Pg	**Pb**	**00 14 40.1**	**+1.6**
	3.0nm,0.1s						
KTMS				Lg	Lg	00 15 27.4	
	27nm,0.4s						
SHLS	**Shalkode**	**3.73**	**306**	*e*P	**Pb**	**00 14 44.7**	**+0.5**
	5.8nm,0.2s						
SHLS				*e*S	**Sb**	**00 15 32.5**	**+3.0**
	31nm,0.3s						
SHLS	**Shalkode**	**3.73**	**306**	Pg	**Pb**	**00 14 42.3**	**-1.8**
	5.8nm,0.2s						
SHLS				Lg	Lg	00 15 31.2	
	31nm,0.3s						
PDGK	**Podgornoye**	**3.81**	**308**	Pg	**Pb**	**00 14 48.4**	**+2.8**
	0.6nm,0.1s						
PDGK				Lg	Lg	00 15 41.5	
	7.8nm,0.3s						
PDGK	**Podgornoye**	**3.81**	**308**	⇑Pn	**Pg**	**00 14 48.7**	**-2.5**
	2.1nm,0.5s						
PDGK				⇓Pg	Pb	00 14 59.1	+14
	3.3nm,0.6s						
PDGK				⇑Lg	Lg	00 15 39.8	
	15nm,0.6s						
PDGK	**Podgornoye**	**3.81**	**308**	⇑Pn	**Pg**	**00 14 48.7**	**-2.5**
	2.1nm,0.5s						
PDGK				⇓Pg	Pb	00 14 59.1	+14
	3.3nm,0.6s						
PDGK				⇑Lg	Lg	00 15 39.8	
	15nm,0.6s						
UZB	**Uzynbulak**	**4.00**	**303**	*e*P	**Pg**	**00 14 52.3**	**-2.5**
	1.0nm,0.3s						
UZB				*e*S	**Sg**	**00 15 45.6**	**-1.0**
	10.0nm,0.3s						
UZB	**Uzynbulak**	**4.00**	**303**	Pg	**Pg**	**00 14 52.5**	**-2.3**
	4.4nm,0.3s						
UZB				Lg	Lg	00 15 48.7	
	10.0nm,0.3s						
DJR	**Jarkent**	**4.32**	**321**	*e*P	**Pg**	**00 14 58.4**	**-2.4**
	3.4nm,0.2s						
DJR				*e*S	**Sg**	**00 15 56.1**	**-0.6**
	8.0nm,0.4s						
DJR	**Jarkent**	**4.32**	**321**	Pg	**Pb**	**00 14 56.0**	**+1.8**
	3.4nm,0.2s						
DJR				Lg	Lg	00 15 54.6	
	8.0nm,0.4s						
SATY	**Saty**	**4.36**	**299**	*e*P	**Pb**	**00 14 57.2**	**+2.3**
	3.7nm,0.2s						
SATY				*e*S	**Sg**	**00 15 54.1**	**-4.0**
	9.1nm,0.2s						
SATY	**Saty**	**4.36**	**299**	Pg	**Pg**	**00 14 59.8**	**-1.8**
	3.7nm,0.2s						
SATY				Lg	Lg	00 16 01.4	
	9.1nm,0.2s						
MNBS	**Baschi**	**4.89**	**310**	*e*P	**Pb**	**00 15 07.5**	**+3.6**
	1.4nm,0.1s						
MNBS				*e*S	**Sg**	**00 16 11.3**	**-3.8**
	12nm,0.5s						
MNBS	**Baschi**	**4.89**	**310**	Pg	**Pb**	**00 15 07.5**	**+3.6**
	1.4nm,0.1s						
MNBS				Lg	Lg	00 16 14.4	
	12nm,0.5s						
KAPS	**Kapalarasan**	**5.25**	**325**	*e*P	**Pg**	**00 15 15.9**	**-2.7**
	2.4nm,0.4s						
KAPS				*e*S	**Sg**	**00 16 25.9**	**-0.6**
	5.2nm,0.5s						
KAPS	**Kapalarasan**	**5.25**	**325**	Pg	**Pb**	**00 15 12.3**	**+2.4**
	2.4nm,0.4s						
KAPS				Lg	Lg	00 16 23.1	
	5.2nm,0.5s						
KOTS	**Kotyrbulak**	**5.30**	**296**	*e*P	**Pb**	**00 15 13.9**	**+3.0**
	4.9nm,0.3s						
KOTS				*e*S	**Sg**	**00 16 22.6**	**-5.6**
	16nm,0.4s						
KOTS	**Kotyrbulak**	**5.30**	**296**	Pg	**Pg**	**00 15 17.2**	**-2.4**
	4.9nm,0.3s						
KOTS				Lg	Lg	00 16 31.2	
	16nm,0.4s						
ARXS	**Arharly**	**5.30**	**308**	*e*P	**Pg**	**00 15 17.3**	**-2.4**
	3.0nm,0.3s						
ARXS				*e*S	**Sg**	**00 16 28.4**	**0.0**
	10nm,0.4s						
ARXS	**Arharly**	**5.30**	**308**	Pg	**Pb**	**00 15 15.5**	**+4.6**
	3.0nm,0.3s						
ARXS				Lg	Lg	00 16 28.3	
	10nm,0.4s						
MDOK	**Medeo**	**5.32**	**295**	*e*P	**Pb**	**00 15 14.8**	**+3.6**
	3.6nm,0.4s						
MDOK				*e*S	**Sg**	**00 16 24.2**	**-4.6**
	7.0nm,0.7s						
MDOK	**Medeo**	**5.32**	**295**	Pg	**Pg**	**00 15 17.8**	**-2.2**
	3.6nm,0.4s						
MDOK				Lg	Lg	00 16 32.4	
	7.0nm,0.7s						
MDOK	**Medeo**	**5.32**	**295**	Pn	**Pb**	**00 15 13.8**	**+2.6**
	3.6nm,0.9s						
MDOK				Pg	Pg	00 15 30.3	+10
	5.3nm,0.9s						
MDOK				Sn	**Sb**	**00 16 17.3**	**+2.1**
	5.9nm,0.8s						
MDOK				⇓Lg	Lg	00 16 40.4	
	10nm,1.1s						
TNSS	**Tian-Shan**	**5.34**	**294**	*e*P	**Pg**	**00 15 17.5**	**-2.9**
	3.3nm,0.3s						
TNSS				*e*S	**Sg**	**00 16 28.9**	**-0.8**
	3.3nm,0.4s						
TNSS	**Tian-Shan**	**5.34**	**294**	Pg	**Pg**	**00 15 18.4**	**-2.1**
	3.3nm,0.3s						
TNSS				Lg	Lg	00 16 33.1	
	3.3nm,0.4s						
MK31	**Makanchi Array**	**5.81**	**351**	Pn	**Pn**	**00 15 06.4**	**+2.0**
	0.1nm,0.2s,baz=174,slow=13,SNR=7.6						
MK31				⇑Pg	**Pb**	**00 15 22.2**	**+2.7**
	0.8nm,0.5s,baz=169,slow=16,SNR=8.4						
MK31				⇑Lg	Lg	00 16 35.5	
	4.3nm,0.6s,baz=165,slow=29,SNR=5.5						
MK31	**Makanchi Array**	**5.81**	**351**	Pn	**Pn**	**00 15 06.4**	**+2.0**
	0.1nm,0.2s,baz=174,slow=13,SNR=7.6						
MK31				⇑Pg	**Pb**	**00 15 22.2**	**+2.7**
	0.8nm,0.5s,baz=169,slow=16,SNR=8.4						
MK31				⇑Lg	Lg	00 16 35.5	
	4.3nm,0.6s,baz=165,slow=29,SNR=5.5						
MAKZ	**Makanchi**	**5.87**	**349**	⇑Pn	**Pn**	**00 15 05.3**	**+0.2**
	0.8nm,0.7s						
MAKZ				⇓Pg	**Pb**	**00 15 22.9**	**+2.4**
	2.0nm,0.6s						
MAKZ				⇑Lg	Lg	00 16 36.1	
	2.9nm,0.8s						
MAKZ	**Makanchi**	**5.87**	**349**	⇑Pn	**Pn**	**00 15 05.3**	**+0.2**
	0.8nm,0.7s						
MAKZ				⇓Pg	**Pb**	**00 15 22.9**	**+2.4**
	2.0nm,0.6s						
MAKZ				⇑Lg	Lg	00 16 36.1	
	2.9nm,0.8s						
KST	**Kastek**	**6.03**	**292**	Pg	**Pg**	**00 15 31.6**	**-2.0**
	1.8nm,0.1s						
KST				Lg	Lg	00 16 55.8	
	1.6nm,0.1s						
KUU	**Kurty**	**6.08**	**300**	Pg	**Pg**	**00 15 31.2**	**-3.3**
	5.6nm,2.0s						
KUU				Lg	Lg	00 16 55.2	
	6.1nm,0.8s						
DGS	**Degeres**	**6.22**	**293**	Pg	**Pg**	**00 15 35.0**	**-2.3**
	1.1nm,0.6s						
DGS				Lg	Lg	00 17 01.9	
	3.3nm,0.3s						
ZSN	**Zaisan**	**6.45**	**8**	Pg	**Pb**	**00 15 28.3**	**-2.1**
	4.5nm,0.6s						
ZSN				Lg	Lg	00 16 50.1	
	7.9nm,0.4s						

IDC 11 00:17:05.0±18.0,**7.˚57S**×**146.˚03E, h153**km±182km,
mb3.3/3,**mb1 3.3**/5,**mb1mx3.1**/27,**mbtmp3.6**/5,**ML3.7**/2,
Error ellipse: s-maj=74.8km s-min=42.4km az=62.0,
Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.14**	**149**	S	Sn	00 18 07.0	-3.5
	2.6nm,0.3s,baz=114,slow=7.5,SNR=1.4						
WRA	**Warramunga Arr**	**16.73**	**221**	P	Pn	00 20 51.9	+1.3
	0.4nm,0.3s,baz=50,slow=11,SNR=21						
ASAR	**Alice Springs**	**19.79**	**215**	P	P	00 21 23.2	-0.4
	0.1nm,0.3s,baz=51,slow=9.4,SNR=10						
FITZ	**Fitzroy Crossi**	**22.45**	**240**	P	P	00 21 50.2	-1.3
	3.1nm,0.8s,baz=59,slow=9.1,SNR=9.8						
STKA	**Stephens Creek**	**24.54**	**189**	P	P	00 22 11.8	+1.3
	0.8nm,0.3s,baz=21,slow=17,SNR=1.8						
SONM	**Songino Array**	**65.31**	**332**	P	P	00 27 30.7	0.0
	0.2nm,0.5s,baz=152,slow=6.5,SNR=1.3						

IDC 11 00:18:53.9±5.9,**2.˚48N**×**128.˚51E, h114**km±71km,**mb3.2**/3,
mb1 3.3/4,**mb1mx3.0**/36,**mbtmp3.5**/4,**Error ellipse:**
s-maj=154.2km s-min=23.8km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.32**	**140**	P	Pn	00 19 57.4	-0.2
	1.5nm,0.3s,baz=284,slow=24,SNR=1.8						
WRA	**Warramunga Arr**	**23.00**	**166**	P	P	00 23 49.0	0.0
	1.0nm,0.4s,baz=345,slow=10,SNR=13						
ASAR	**Alice Springs**	**26.51**	**169**	P	P	00 24 20.9	-0.1
	0.2nm,0.4s,baz=355,slow=8.2,SNR=5.4						
MKAR	**Makanchi Array**	**59.59**	**325**	P	P	00 28 45.8	+0.1
	0.3nm,0.4s,baz=112,slow=8.4,SNR=7.8						

*SFS **11** 00:41:51.0, 36.˚59N×9.˚89W, h14km, ML2.7, SW. CABO DE SAN VICENTE*
*MDD **11** 00:41:52.0±0.3, 36.˚42N×9.˚99W, h40km±5km, mbLg2.8/18, Error ellipse: s-maj=2.8km s-min=1.9km az=47.0, PRXIMO*
*IGIL **11** 00:41:52.0, 36.˚40N×9.˚90W, h32km, ML2.5*
*INMG **11** 00:41:52.3±1.5, 36.˚41N×9.˚90W, h31km±10km, ML2.3, Error ellipse: s-maj=5.6km s-min=4.3km az=68.0*

ISC 11 00:41:51.0±2.3,**36.˚49N**±0.˚08×**9.˚87W**±0.˚09,**h35**km,**n74,**
σ**1**s**38**/136,**5C, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.05**	**52**	⇑P	**Pn**	**00 42 10.3**	**+1.1**
	7.0nm,0.2s,SNR=18						
PFVI				S	**Sn**	**00 42 23.6**	**+0.9**
	21nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.05**	**52**	⇑*e*P	**Pn**	**00 42 10.3**	**+1.1**
PFVI				*e*S	**Sn**	**00 42 23.6**	**+0.9**
PFVI				A	A	00 42 24.3	
	21nm,0.2s						
PTEO	**Sao Teotonio**	**1.39**	**41**	P	**Pn**	**00 42 15.1**	**+1.1**
PTEO				S	**Sn**	**00 42 32.2**	**+1.1**
	6.2nm,0.2s						
PTEO	**Sao Teotonio**	**1.39**	**41**	*e*P	**Pn**	**00 42 15.1**	**+1.1**
PTEO				*e*S	**Sn**	**00 42 32.2**	**+1.1**
PTEO				A	A	00 42 33.7	
	12nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.72**	**64**	P	**Pn**	**00 42 19.8**	**+1.3**
PBDV				S	**Sn**	**00 42 40.1**	**+0.8**
	9.0nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.72**	**64**	⇑*e*Pn	**Pn**	**00 42 19.8**	**+1.3**
PBDV				*e*Sn	**Sn**	**00 42 40.1**	**+0.8**
PBDV				A	A	00 42 45.6	
	9.0nm,0.3s						
PCVE	**Castro Verde**	**1.85**	**

EVO	**Evora**	**2.51**	**35**	*e*P	**Pn**	**00 42 30.0**	**+0.7**
EVO				*e*S	**Sn**	**00 42 58.4**	**-0.4**
EVO	**Evora**	**2.51**	**35**	*e*Pn	**Pn**	**00 42 30.2**	**+0.8**
EVO				*e*Sn	**Sn**	**00 42 58.9**	**+0.1**
EVO				A	A	00 42 59.5	
	comp=N,13nm,0.2s						
PBAR	**Barrancos**	**2.81**	**52**	P	**Pn**	**00 42 34.4**	**+0.9**
PBAR				S	**Sn**	**00 43 05.8**	**-0.3**
	comp=N,1.6nm,0.2s						
PBAR	**Barrancos**	**2.81**	**52**	*e*Pn	**Pn**	**00 42 34.4**	**+0.9**
PBAR				*e*Sn	**Sn**	**00 43 05.8**	**-0.3**
PBAR				A	A	00 43 28.4	
	comp=N,1.6nm,0.2s						
EMIN	**Mina Concepcio**	**2.85**	**63**	P	**Pn**	**00 42 34.8**	**+0.8**
	comp=N,0.5nm,0.1s,SNR=15						
EMIN				S	**Sn**	**00 43 06.4**	**-0.7**
	comp=N,3.4nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**2.88**	**26**	P	**Pn**	**00 42 35.5**	**+1.1**
PMTG				S	**Sn**	**00 43 07.5**	**-0.4**
	comp=N,8.0nm,0.3s						
PMTG	**Montargil**	**2.88**	**26**	*e*Pn	**Pn**	**00 42 35.5**	**+1.1**
PMTG				*e*Sn	**Sn**	**00 43 07.5**	**-0.4**
PMTG				A	A	00 43 10.1	
	comp=N,8.0nm,0.3s						
PESTR	**Estremoz**	**2.98**	**37**	*e*Pn	**Pn**	**00 42 36.4**	**+0.6**
PESTR				*e*Sn	**Sn**	**00 43 10.3**	**0.0**
PESTR				A	A	00 43 20.1	
	comp=N,3.6nm,0.6s						
PSBE	**So Bento**	**3.13**	**15**	*e*Pn	**Pn**	**00 42 38.9**	**+1.0**
PSBE				*e*Sn	**Sn**	**00 43 14.3**	**+0.2**
PSBE				A	A	00 43 21.0	
	comp=N,9.3nm,0.3s						
ESPR	**Espera**	**3.25**	**82**	P	**Pn**	**00 42 40.8**	**+1.4**
	comp=N,0.1nm,0.1s,SNR=4.6						
ESPR				S	**Sn**	**00 43 16.1**	**-0.7**
	comp=N,38nm,0.2s,SNR=12						
PMRV	**Marv??o**	**3.52**	**33**	P	**Pn**	**00 42 44.1**	**+0.8**
PMRV				S	**Sn**	**00 43 22.9**	**-0.8**
	comp=N,5.2nm,0.2s						
PMRV	**Marv??o**	**3.52**	**33**	*e*Pn	**Pn**	**00 42 44.1**	**+0.8**
PMRV				*e*Sn	**Sn**	**00 43 22.9**	**-0.8**
PMRV				A	A	00 43 24.6	
	comp=N,5.2nm,0.2s						
PCAS	**Casmilo, Conde**	**3.71**	**16**	P	**Pn**	**00 42 47.0**	**+1.1**
PCAS				S	**Sn**	**00 43 28.8**	**+0.4**
	comp=N,5.8nm,0.3s						
PCAS	**Casmilo, Conde**	**3.71**	**16**	*e*Pn	**Pn**	**00 42 47.0**	**+1.1**
PCAS				*e*Sn	**Sn**	**00 43 28.8**	**+0.4**
PCAS				A	A	00 43 30.8	
	comp=N,5.8nm,0.3s						
PCBR	**Castelo Branco**	**3.83**	**29**	P	**Pn**	**00 42 48.8**	**+1.3**
PCBR				S	**Sn**	**00 43 30.7**	**-0.7**
	comp=N,0.9nm,0.8s						
PCBR	**Castelo Branco**	**3.83**	**29**	*e*Pn	**Pn**	**00 42 48.8**	**+1.3**
PCBR				*e*Sn	**Sn**	**00 43 30.7**	**-0.7**
PCBR				A	A	00 43 31.8	
	comp=N,1.8nm,0.8s						
COI	**Coimbra**	**3.88**	**17**	S	**Sn**	**00 43 32.2**	**-0.3**
COI	**Coimbra**	**3.88**	**17**	*e*Sn	**Sn**	**00 43 32.2**	**-0.3**
ECAB	**El Cabril**	**3.88**	**65**	P	**Pn**	**00 42 49.3**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=19						
ECAB				S	**Sn**	**00 43 31.1**	**-1.6**
	comp=N,4.0nm,0.5s						
MTE	**Manteigas**	**4.30**	**24**	P	**Pn**	**00 42 54.9**	**+0.8**
MTE				S	**Sn**	**00 43 43.9**	**+0.8**
	comp=N,1.7nm,0.4s						
MTE	**Manteigas**	**4.30**	**24**	*e*Pn	**Pn**	**00 42 54.9**	**+0.8**
MTE				*e*Sn	**Sn**	**00 43 43.9**	**+0.8**
MTE				A	A	00 43 46.2	
	comp=N,3.3nm,0.4s						
PVIS	**Viseu**	**4.49**	**20**	P	**Pn**	**00 42 57.8**	**+1.2**
PVIS				S	**Sn**	**00 43 46.9**	**-0.7**
	comp=N,2.4nm,0.3s						
PVIS	**Viseu**	**4.49**	**20**	*e*Pn	**Pn**	**00 42 57.8**	**+1.2**
PVIS				*e*Sn	**Sn**	**00 43 46.9**	**-0.7**
PVIS				A	A	00 43 49.4	
	comp=N,4.8nm,0.3s						
EADA	**Adamuz**	**4.53**	**67**	P	**Pn**	**00 42 58.2**	**+1.0**
	comp=N,0.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**00 43 46.6**	**-2.1**
	comp=N,3.7nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.64**	**39**	P	**Pn**	**00 42 59.8**	**+1.1**
	comp=N,0.7nm,0.1s,SNR=8.8						
EPLA				S	**Sn**	**00 43 50.4**	**-1.1**
	comp=N,2.2nm,0.1s,SNR=7.9						
EGOR	**Sierra Gorda,**	**4.66**	**81**	P	**Pn**	**00 43 01.7**	**+2.7**
	comp=N,0.1nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**00 43 51.7**	**-0.3**
	comp=N,2.7nm,0.3s,SNR=7.9						
IFR	**Ifrane**	**4.89**	**126**	*e*P	**Pn**	**00 43 00.9**	**-1.3**
IFR				*e*S	**Sn**	**00 43 52.1**	**-5.7**
ELGU	**Los Guajares,**	**5.03**	**84**	S	**Sn**	**00 44 01.1**	**+0.2**
	comp=N,3.3nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**5.06**	**19**	S	**Sn**	**00 44 00.0**	**-1.7**
	comp=N,4.0nm,0.3s						
PVRL	**Vila Real**	**5.06**	**19**	*e*Sn	**Sn**	**00 44 00.0**	**-1.7**
PVRL				A	A	00 44 02.6	
	comp=N,8.0nm,0.3s						
POLO	**Lamas de Olo**	**5.13**	**18**	P	**Pn**	**00 43 06.2**	**+0.7**
POLO	**Lamas de Olo**	**5.13**	**18**	*e*Pn	**Pn**	**00 43 06.2**	**+0.7**
POLO				*e*Sn	**Sn**	**00 44 01.4**	**-2.1**
POLO				A	A	00 44 04.0	
	comp=N,1.3nm,0.2s						
MVO	**Moncorvo**	**5.16**	**25**	P	**Pn**	**00 43 06.7**	**+0.8**
	comp=N,1.6nm,0.1s,SNR=7.1						
MVO				S	**Sn**	**00 44 02.1**	**-2.1**
	comp=N,4.1nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.16**	**25**	*e*Pn	**Pn**	**00 43 06.7**	**+0.8**
MVO				*e*Sn	**Sn**	**00 44 02.1**	**-2.1**
MVO				A	A	00 44 05.0	
	comp=N,3.5nm,0.4s						
PAB	**San Pablo**	**5.32**	**53**	P	**Pn**	**00 43 08.9**	**+0.9**
	comp=N,0.5nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**00 44 05.3**	**-2.8**
	comp=N,0.5nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**5.40**	**15**	P	**Pn**	**00 43 09.8**	**+0.7**
PCAB	**Cabril**	**5.40**	**15**	*e*Pn	**Pn**	**00 43 09.8**	**+0.7**
PCAB				*e*Sn	**Sn**	**00 44 08.9**	**-1.2**
PCAB				A	A	00 44 10.1	
	comp=N,3.3nm,0.3s						
ELOB	**Lobios**	**5.55**	**14**	P	**Pn**	**00 43 11.4**	**+0.2**
	comp=N,0.5nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**00 44 10.2**	**-3.5**
	comp=N,3.7nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.58**	**74**	P	**Pn**	**00 43 13.4**	**+1.7**
	comp=N,0.1nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**00 44 12.8**	**-1.9**
	comp=N,1.8nm,0.3s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.60**	**12**	P	**Pn**	**00 43 12.9**	**+1.0**
PGAV	**Gavieira, Arco**	**5.60**	**12**	*e*Pn	**Pn**	**00 43 12.9**	**+1.0**
PGAV				*e*Sn	**Sn**	**00 44 13.6**	**-1.5**
PGAV				A	A	00 44 16.9	
	comp=N,2.3nm,0.5s						
ESDC	**Sonseca Array**	**5.64**	**54**	P	**Pn**	**00 43 13.2**	**+0.9**
	comp=N,0.1nm,0.2s,baz=241,slow=13,SNR=13						
ESDC				S	**Sn**	**00 44 14.0**	**-1.9**
	comp=N,0.1nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**5.83**	**24**	P	**Pn**	**00 43 15.7**	**+0.7**
PBRG	**Braganca**	**5.83**	**24**	*e*Pn	**Pn**	**00 43 15.7**	**+0.7**
PBRG				*e*Sn	**Sn**	**00 44 19.6**	**-1.1**
PBRG				A	A	00 44 20.0	
	comp=N,3.0nm,0.7s						
ECAL	**Calabor**	**5.96**	**23**	P	**Pn**	**00 43 18.1**	**+1.3**
	comp=N,0.2nm,0.2s,SNR=4.5						
ECAL				S	**Sn**	**00 44 21.2**	**-2.6**
	comp=N,3.6nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**6.06**	**72**	S	**Sn**	**00 44 23.8**	**-2.6**
	comp=N,3.0nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**6.10**	**45**	P	**Pn**	**00 43 19.4**	**+0.7**
	comp=N,0.2nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**00 44 25.7**	**-1.7**
	comp=N,0.9nm,0.3s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.45**	**12**	P	**Pn**	**00 43 23.6**	**+0.1**
	comp=N,0.7nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**00 44 31.2**	**-4.6**
	comp=N,2.1nm,0.4s,SNR=7.9						
EMAZ	**Mazaricos**	**6.48**	**6**	P	**Pn**	**00 43 23.7**	**-0.2**
	comp=N,0.2nm,0.2s,SNR=7.9						
EMAZ				S	**Sn**	**00 44 32.2**	**-4.4**
	comp=N,1.3nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.95**	**70**	P	**Pn**	**00 43 30.3**	**-0.1**
	comp=N,0.1nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**00 44 46.4**	**-1.8**
	comp=N,0.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**7.48**	**52**	P	**Pn**	**00 43 38.3**	**+0.6**
	comp=N,2.5nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**00 44 59.1**	**-2.2**
	comp=N,1.3nm,0.4s,SNR=7.9						

*IDC **11** 00:46:30.8±2.1,23°.72S×179°.54E,h552km±25km, mb3.3/3, mb1 3.5/6, mb1mx3.1/25, mbtmp4.3/6, Error ellipse: s-maj=40.8km s-min=22.8km az=77.0*
*NEIC **11** 00:46:31.3±1.7,23°.5S±0°.1×179°.8E±0°.2,h590km±12km, mb4.4/24, Error ellipse: s-maj=29.5km s-min=14.3km az=115.0*

ISC 11 00:46:28.8±1.0,**23°.65S**±0°.08×**179°.9E**±0°.2,**h550**km,**n55,**
σ1s80/62,mb4.4/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.12**	**344**	P	**P**	**00 48 10.4**	**+1.7**
	6.3nm,0.3s,baz=195,slow=5.8,SNR=9.2						
MSVF	**Nonsavu**	**6.12**	**344**	P	**P**	**00 48 10.6**	**+1.9**
DZM	**Mont Dzumac**	**12.47**	**275**	P	**P**	**00 49 12.2**	**-0.2**
	0.5nm,0.3s,baz=290,slow=10,SNR=1.8						
OUZ	**Omahuta**	**12.76**	**204**	P	**P**	**00 49 18.5**	**+3.5**
MXZ	**Matakaoa Point**	**13.94**	**185**	P	**P**	**00 49 30.3**	**+3.2**
HAZ	**Te Kaha**	**14.18**	**187**	P	**P**	**00 49 29.0**	**-0.6**
HAZ				S	**S**	**00 51 59.8**	**+1.3**
PKGZ	**Pakihiroa**	**14.28**	**186**	P	**P**	**00 49 33.8**	**+3.1**
RUGZ	**Raukumara Rang**	**14.40**	**187**	P	**P**	**00 49 33.4**	**+1.4**
RUGZ				S	**S**	**00 52 05.0**	**+2.1**
TWGZ	**Tauwhareparae**	**14.57**	**186**	P	**P**	**00 49 36.9**	**+3.1**
URZ	**Urewera**	**14.76**	**189**	P	**P**	**00 49 35.0**	**-0.5**
	3.4nm,0.3s,baz=266,slow=3.1,SNR=13						
URZ				S	**S**	**00 52 04.4**	**-5.0**
	0.3nm,0.3s,baz=185,slow=21,SNR=1.3						
URZ	**Urewera**	**14.76**	**189**	P	**P**	**00 49 35.6**	**+0.1**
URZ	**Urewera**	**14.76**	**189**	P	**P**	**00 49 35.9**	**+0.4**
URZ				S	**S**	**00 52 08.8**	**-0.6**
MWZ	**Matawai**	**14.78**	**187**	P	**P**	**00 49 36.7**	**+0.9**
MWZ				S	**S**	**00 52 09.6**	**-0.3**
CNGZ	**Carnagh Statio**	**14.86**	**185**	P	**P**	**00 49 40.2**	**+3.6**
RTZ	**Ruatahuna**	**15.12**	**189**	P	**P**	**00 49 40.4**	**+1.0**
BKZ	**Black Stump Fm**	**15.74**	**190**	P	**P**	**00 49 46.5**	**+0.9**
BKZ	**Black Stump Fm**	**15.74**	**190**	P	**P**	**00 49 46.1**	**+0.5**
BFZ	**Birch Farm**	**17.26**	**189**	P	**P**	**00 50 00.2**	**+0.6**
BHW	**Baring Head**	**18.20**	**192**	P	**P**	**00 50 10.7**	**+2.4**
QRZ	**Quartz Range**	**18.21**	**198**	P	**P**	**00 50 11.4**	**+3.1**
PLWZ	**Palliser**	**18.29**	**191**	P	**P**	**00 50 09.9**	**+0.8**
NNZ	**Nelson**	**18.35**	**196**	P	**P**	**00 50 11.2**	**+1.6**
TUWZ	**Tuamarina**	**18.41**	**194**	P	**P**	**00 50 12.2**	**+2.1**
TUWZ				PcP	**PcP**	**00 54 11.1**	**-0.9**
BSWZ	**Blackbirch Sta**	**18.70**	**194**	P	**P**	**00 50 15.2**	**+2.3**
THZ	**Tophouse**	**18.98**	**196**	P	**P**	**00 50 18.0**	**+2.6**
THZ				IAmb	IAmb	00 50 19.6	
	comp=Z,9.2nm,0.6s						
KHZ	**Kahutara**	**19.44**	**194**	P	**P**	**00 50 21.0**	**+1.4**
LTZ	**Lake Taylor**	**20.10**	**196**	P	**P**	**00 50 26.2**	**+0.7**
LTZ				IAmb	IAmb	00 50 26.7	
	comp=Z,10nm,0.6s						
OXZ	**Oxford**	**20.67**	**196**	P	**P**	**00 50 31.2**	**+0.5**
OXZ				IAmb	IAmb	00 50 32.4	
	comp=Z,13nm,0.6s						
RPZ	**Rata Peaks**	**21.29**	**198**	P	**P**	**00 50 37.6**	**+1.3**
	comp=Z,5.3nm,0.6s,baz=32,slow=7.3,SNR=6.7						
RPZ	**Rata Peaks**	**21.29**	**198**	P	**P**	**00 50 37.7**	**+1.4**
RPZ				IAmb	IAmb	00 50 53.2	
	comp=Z,19nm,1.3s						
FOZ	**Fox Glacier**	**21.50**	**200**	P	**P**	**00 50 38.9**	**+0.8**
FOZ				IAmb	IAmb	00 50 40.4	
	comp=Z,10nm,0.8s						
WKZ	**Wanaka**	**22.91**	**200**	P	**P**	**00 50 50.6**	**-0.2**
MLZ	**Mavora Lakes**	**23.68**	**201**	P	**P**	**00 51 00.4**	**+2.7**
MLZ				IAmb	IAmb	00 51 01.5	
	comp=Z,9.0nm,1.0s						
WHZ	**Wether Hill Ro**	**24.20**	**201**	P	**P**	**00 51 05.0**	**+2.8**
WHZ				IAmb	IAmb	00 51 21.5	
	comp=Z,10nm,1.1s						
ARMA	**Armidale**	**26.00**	**249**	P	**P**	**00 51 18.2**	**-0.3**
EIDS	**Eidsvold**	**26.23**	**260**	P	**P**	**00 51 20.8**	**+0.3**
EIDS				IAmb	IAmb	00 51 24.1	
	comp=Z,14nm,1.3s						
CTAO	**Charters Tower**	**31.35**	**270**	P	**P**	**00 52 05.2**	**+0.2**
COEN	**Coen**	**35.95**	**279**	P	**P**	**00 52 44.7**	**+0.9**
COEN				IAmb	IAmb	00 52 51.0	
	comp=Z,12nm,1.2s						
COEN				PcP	**PcP**	**00 54 51.7**	**-3.6**
BBOO	**Buckleboo**	**39.43**	**247**	P	**P**	**00 53 11.7**	**-0.2**
BBOO				IAmb	IAmb	00 53 15.4	
	comp=Z,11nm,1.3s						
AS31	**Alice Springs**	**41.95**	**260**	P	**P**	**00 53 32.0**	**-0.1**
ASAR	**Alice Springs**	**41.96**	**260**	P	**P**	**00 53 31.6**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=101,slow=8.0,SNR=14						
ASAR	**Alice Springs**	**41.96**	**260**	P	**P**	**00 53 32.2**	**+1.1**
WR0	**Warramunga Arr**	**42.11**	**266**	P	**P**	**00 53 32.5**	**-0.8**
WR0				IAmb	IAmb	00 53 46.0	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**42.29**	**266**	P	**P**	**00 53 33.7**	**-1.0**
WB0	**Warramunga Arr**	**42.29**	**266**	P	**P**	**00 53 33.8**	**-1.0**
WRA	**Warramunga Arr**	**42.30**	**266**	P	**P**	**00 53 33.9**	**-1.0**
	comp=Z,2.6nm,0.5s,baz=106,slow=8.7,SNR=50						
FORT	**Forrest**	**46.28**	**249**	P	**P**	**00 54 04.8**	**-0.5**
FORT				IAmb	IAmb	00 54 07.0	
	comp=Z,16nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.73**	**265**	P	**P**	**00 54 39.0**	**+0.5**
KK31	**Karatay Array**	**119.61**	**307**	PKPdf	**PKPdf**	**01 04 15.2**	**-1.2**
KKAR	**Karatay Array**	**119.61**	**307**	PKPdf	**PKPdf**	**01 04 15.1**	**-1.3**
BRTR	**Keskin Array B**	**147.33**	**307**	PKPbc	**PKPbc**	**01 05 11.3**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=90,slow=4.3,SNR=2.3						
KWP	**Kalwaria Pacla**	**148.49**	**331**	PKPab	**PKPab**	**01 05 17.2**	**-1.9**
BUR08	**Bucovina Ar. S**	**148.68**	**326**	PKPab	**PKPab**	**01 05 18.7**	**-1.4**
BURAR	**Bucovina Array**	**148.69**	**326**	PKPab	**PKPab**	**01 05 18.9**	**-1.2**
CSS	**Mathiatis**	**148.85**	**299**	PKPab	**PKiKP**	**01 05 18.1**	**+2.1**

KRSC 11 00:52:07.9±1.4,**49°.91N**×**156°.69E,h96**km±25km,**ML3.7,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.86**	**335**	*i* P	Pn	00 52 27.3	+0.8
SKR				*e*S	Sn	00 52 41.2	+0.8
KDTR	**Khodutka, Kamc**	**2.10**	**24**	*e*S	Sn	00 53 09.5	+2.3
ASAK	**Asacha**	**2.59**	**17**	*e*P	Pn	00 52 51.7	+3.5
MTVR	**Mutnovka**	**2.75**	**19**	*e*P	Pn	00 52 52.7	+2.5
MTVR				*e*S	Sn	00 53 25.7	+2.9
RUS	**Russkaya**	**2.78**	**24**	*e*P	Pn	00 52 52.4	+1.9
RUS				*e*S	Sn	00 53 25.1	+1.8
KRER	**Koryakskii**	**3.64**	**20**	P	Pn	00 53 04.2	+2.0
SDLR	**Sedlovina**	**3.64**	**21**	*e*P	Pn	00 53 04.5	+2.3
SPN	**Mys Shipunski**	**3.81**	**32**	*e*P	Pn	00 53 07.2	+2.8
SPN				*e*S	Sn	00 53 50.2	+2.0
MKZ	**Mys Kozlova**	**5.59**	**32**	*e*P	Pn	00 53 29.8	+1.4

*SOME **11** 01:13:01.4,41°.75N×71°.60E,h10km*
*NNC **11** 01:13:02.1±0.9,41°.75N×71°.61E,h0km,mb2.8,mpv3.1, Error ellipse: s-maj=9.7km s-min=3.0km az=176.0*
*KRNET **11** 01:13:02.1±0.1,41°.84N×71°.54E,h16km,mb2.2*

ISC 11 01:13:02.1±1.2,**41°.78N**±0°.02×**71°.57E**±0°.02,**h3**km±11km,
n24,σ1s14/42,19C-9D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**0.40**	**233**	*i* P	**Pb**	**01 13 11.3**	**-0.7**
	baz=16						
TRKS				*i* S	**Sb**	**01 13 17.6**	**-1.0**
	baz=16						
MNAS	**Manas**	**1.00**	**44**	P	**Pg**	**01 13 20.6**	**-0.6**
	baz=48						
MNAS				*i* S	**Sg**	**01 13 34.0**	**-0.2**
	baz=48						
ARSB	**Arslanbob**	**1.16**	**112**	*i* P	**Pb**	**01 13 24.2**	**-0.6**
	baz=15						
ARSB				*i* S	**Sn**	**01 13 41.3**	**-0.5**
	baz=15						
IUG	**Iuzhnay**	**1.20**	**289**	*e*P	**Pg**	**01 13 25.6**	**+0.4**
	6.0nm,0.1s						
IUG				*e*S	**Sn**	**01 13 42.0**	**-0.9**
	39nm,0.2s						
IUG	**Iuzhnay**	**1.20**	**289**	P	**Pg**	**01 13 25.6**	**+0.4**
	6.0nm,0.1s						
IUG				S	**Sn**	**01 13 42.0**	**-0.9**
	39nm,0.2s						
KK31	**Karatay Array**	**1.54**	**330**	P	**Pb**	**01 13 30.6**	**-0.7**
	1.3nm,0.2s,baz=148,slow=18,SNR=32						
KK31				S	**Sg**	**01 13 52.9**	**+1.3**
	2.4nm,0.3s,baz=150,slow=27,SNR=12						
OHH	**Osh**	**1.55**	**143**	*i* P	**Pg**	**01 13 31.7**	**-0.2**
	baz=44						
OHH				*i* S	**Sg**	**01 13 53.5**	**+1.5**
	baz=44						
AML	**Almayashu**	**1.63**	**77**	*i* P	**Pb**	**01 13 32.2**	**-0.8**
	baz=79						
AML				*i* S	**Sg**	**01 13 54.2**	**-0.2**
	baz=79						
BRLS	**Borolday**	**1.79**	**315**	*e*P	**Pb**	**01 13 34.8**	**-0.8**
	12nm,0.2s						
BRLS				*e*S	**Sb**	**01 13 58.0**	**-0.6**
	23nm,0.1s						
BRLS	**Borolday**	**1.79**	**315**	P	**Pb**	**01 13 34.8**	**-0.8**
	31nm,0.2s						
BRLS				S	**Sb**	**01 13 58.0**	**-0.6**
	23nm,0.1s						
BTK	**Batken**	**1.81**	**199**	*i* P	**Pg**	**01 13 36.3**	**-0.4**
	baz=97						
BTK				*i* S	**Sg**	**01 14 01.4**	**+1.3**
	baz=97						
EKS2	**Erkin-Say**	**1.87**	**61**	*i* P	**Pb**	**01 13 36.1**	**-0.9**
	baz=63						
EKS2				*i* S	**Sb**	**01 14 00.8**	**0.0**
	baz=63						
UCH	**Uchtor**	**2.24**	**77**	*i* P	**Pb**	**01 13 41.9**	**-1.7**
	baz=79						
UCH				*i* S	**Sb**	**01 14 10.5**	**-1.4**
	baz=79						
SFK	**Sufi-Kurgan**	**2.29**	**140**	*i* P	**Pb**	**01 13 43.4**	**-0.9**
	baz=40						
SFK				*i* S	**Sb**	**01 14 13.0**	**-0.1**
	baz=40						
DRK	**Karamyk**	**2.30**	**175**	*i* P	**Pb**	**01 13 43.7**	**-0.7**
	baz=75						
DRK				*i* S	**Sb**	**01 14 13.5**	**+0.1**
	baz=75						
AAK	**Ala-Archa**	**2.34**	**67**	*i* P	**Pb**	**01 13 43.2**	**-1.9**
	baz=69						
AAK				*i* S	**Sb**	**01 14 12.5**	**-2.0**
	baz=69						
AAK	**Ala-Archa**	**2.34**	**67**	Pg	**Pb**	**01 13 45.4**	**+0.3**
	1.0nm,0.5s						
AAK				Lg	Lg	01 14 16.4	
	3.3nm,0.7s						
USP	**Ospenovka**	**2.63**	**55**	*i* P	**Pn**	**01 13 46.9**	**+1.3**
	baz=56						
USP				*i* S	**Sn**	**01 14 19.6**	**+1.5**
	baz=56						
SGDS	**Sogindy**	**2.82**	**52**	Pg	**Pb**	**01 13 53.3**	**+0.2**
	2.6nm,0.3s						
SGDS				Lg	Lg	01 14 29.7	
	4.2nm,0.5s						
TKM2	**Tokmak 2**	**3.20**	**68**	Lg	Lg	01 14 42.5	
	2.1nm,0.4s						
DGS	**Degeres**	**3.44**	**63**	*e*P	**Pb**	**01 14 04.3**	**+0.6**
	1.1nm,0.4s						
DGS				*e*S	**Sb**	**01 14 48.3**	**+2.3**
	2.3nm,0.5s						
DGS	**Degeres**	**3.44**	**63**	Pg	**Pb**	**01 14 04.3**	**+0.6**
	1.1nm,0.4s						
DGS				Lg	Lg	01 14 48.3	
	2.3nm,0.5s						
KST	**Kastek**	**3.50**	**67**	*e*P	**Pb**	**01 14 06.2**	**+1.5**
	1.2nm,0.2s						
KST				*e*S	**Sg**	**01 14 51.7**	**-2.6**
	2.3nm,0.4s						
KST	**Kastek**	**3.50**	**67**	Pg	**Pb**	**01 14 06.2**	**+1.5**
	1.2nm,0.2s						
KST				Lg	Lg	01 14 51.7	
	2.3nm,0.4s						

*INET **11** 01:14:17.4, 12°.96N×89°.09W,h49km, MW3.6*
*SNET **11** 01:14:17.7±0.7, 13°.04N×89°.09W,h57km±6km, ML3.9*
*GCG **11** 01:14:21.5±0.8, 13°.21N×89°.17W,h35km±253km, MD4.1*

ISC 11 01:14:19.2±1.9,**13°.1N**±0°.1×**89°.07W**±0°.05,**h45**km±18km,
n30,σ0s81/40,4C-14D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.49**	**330**	*i* P	**Pn**	**01 14 29.4**	**-0.7**
LALI				*e*S	**Sn**	**01 14 38.1**	**+0.3**
LALI				IAML		01 14 38.6	
	comp=Z,2μm,0.2s						
ALJI	**Alcalda de J**	**0.56**	**61**	*i* P	**Pn**	**01 14 30.6**	**-0.3**
ALJI				*e*S	**Sn**	**01 14 40.6**	**+1.4**
LFRS	**El Faro**	**0.56**	**1**	*i* P	**Pn**	**01 14 30.4**	**-0.8**
COEG	**Centro de Oper**	**0.59**	**18**	*i* P	**Pn**	**01 14 30.6**	**-0.8**
COEG				IAML		01 14 43.2	
	comp=Z,3μm,0.3s						
AEIL	**Aeropuerto Ilo**	**0.64**	**356**	*i* P	**Pn**	**01 14 31.5**	**-0.5**
SNET	**Serv Nac Est T**	**0.64**	**346**	*i* P	**Pn**	**01 14 31.4**	**-0.7**
SNET				*e*S	**Sn**	**01 14 42.6**	**+1.2**
SNET				IAML		01 14 44.6	
	comp=Z,3μm,0.2s						
IGN	**Direccin Gen**	**0.66**	**352**	*e*P	**Pn**	**01 14 31.7**	**-0.6**
LBRS	**Las Brisas**	**0

JAYA					IAML		01 44 39.6	
	comp=Z,2μm,0.2s							
SNET	**Serv Nac Est T**	**0.61**	**34**	*eP*		**Pn**	**01 44 30.9**	**-0.7**
SNET					IAML		01 44 43.4	
	comp=Z,756nm,0.2s							
BOQS	**Boqueron**	**0.63**	**28**	⇓*eP*		**Pn**	**01 44 31.4**	**-0.6**
BOQS				*eS*		**Sn**	**01 44 41.3**	**+0.5**
CEDA	**San Andres**	**0.65**	**16**	*eP*		**Pn**	**01 44 31.4**	**-0.6**
CEVE	**Cerro Verde**	**0.65**	**356**	*eP*		**Pn**	**01 44 31.5**	**-0.7**
SBLS	**San Blas**	**0.66**	**356**	*eP*		**Pn**	**01 44 31.8**	**-0.6**
LFRS	**El Faro**	**0.67**	**49**	⇓*iP*		**Pn**	**01 44 31.9**	**-0.5**
RTR	**El Retiro**	**0.72**	**355**	*eP*		**Pn**	**01 44 32.5**	**-0.7**
LFU	**La Fuente**	**0.73**	**39**	*eP*		**Pn**	**01 44 32.9**	**-0.2**
LBRS	**Las Brisas**	**0.76**	**43**	⇑*eP*		**Pn**	**01 44 33.5**	**-0.1**
COEG	**Centro de Oper**	**0.81**	**57**	⇓*iP*		**Pn**	**01 44 33.8**	**-0.4**
COEG					IAML		01 44 34.8	
	comp=Z,1μm,0.3s							
TACO	**Tacachico**	**0.82**	**16**	⇓*eP*		**Pn**	**01 44 33.7**	**-0.6**
TACO				*eS*		**Sn**	**01 44 45.9**	**+0.6**
COEB	**Comit de Eme**	**1.07**	**73**	*eP*		**Pn**	**01 44 37.5**	**-0.4**
COEB				*eS*		**Sn**	**01 44 52.0**	**+0.4**
COEB					IAML		01 44 56.4	
	comp=Z,416nm,0.2s							
MTO3	**Montecristo**	**1.23**	**10**	⇓*iP*		**Pn**	**01 44 39.9**	**-0.4**
PACA	**Pacayal**	**1.26**	**77**	⇑*eP*		**Pn**	**01 44 40.6**	**+0.1**
PCG	**Pacaya**	**1.57**	**320**	*eP*		**Pn**	**01 44 44.5**	**-0.4**
PCG				*eS*		**Sn**	**01 45 03.3**	**-0.7**
NBG	**Las Nubes**	**1.59**	**332**	*eP*		**Pn**	**01 44 46.2**	**+1.1**
NBG				*eS*		**Sn**	**01 45 06.8**	**+2.2**
LCND	**La Caada**	**1.65**	**85**	⇓*eP*		**Pn**	**01 44 45.5**	**-0.3**
LCND					IAML		01 45 10.9	
	comp=Z,403nm,0.3s							
FUG	**Fuego 3**	**1.76**	**316**	*eP*		**Pn**	**01 44 46.8**	**-0.6**
FUG				*eS*		**Sn**	**01 45 08.6**	**-0.1**

SOME ***11*** *01:44:23.3, 39°.22N × 76°.17E, h10km*
NNC ***11*** *01:44:25.6±1.1, 39°.28N × 76°.21E, h0km±8km, mb4.0, mpv3.6, Error ellipse: s-maj=7.8km s-min=5.8km az=164.0*
ISC 11 01:44:27.3±1.9, 39°.38N±0°.09 × 76°.25E±0°.04, h10km, n46, σ2.963/66, 8C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.86**	**360**	P		**Pg**	**01 45 20.3**	**-1.8**
	SNR=5.9							
UCH	**Uchtor**	**3.13**	**336**	P		**Pn**	**01 45 19.3**	**+2.2**
	SNR=15							
AML	**Almayashu**	**3.37**	**326**	P		**Pn**	**01 45 21.7**	**+1.4**
	SNR=7.1							
KBK	**Karagaybulak**	**3.42**	**344**	P		**Pg**	**01 45 30.4**	**-2.3**
	SNR=10							
AAK	**Ala-Archa**	**3.52**	**338**	P		**Pn**	**01 45 24.4**	**+2.3**
	SNR=9.7							
AAK	**Ala-Archa**	**3.52**	**338**	⇑Pn		**Pn**	**01 45 24.1**	**+2.0**
	3.7nm,0.5s							
AAK				⇑Pg		**Pb**	**01 45 31.0**	**+1.4**
	17nm,0.8s							
AAK				⇓Lg		Lg	01 46 19.9	
	42nm,0.9s							
TKM2	**Tokmak 2**	**3.57**	**352**	⇓Pn		**Pn**	**01 45 24.7**	**+1.8**
	1.4nm,0.3s							
TKM2				⇑Pg		**Pg**	**01 45 33.0**	**-2.7**
	4.2nm,0.3s							
TKM2				⇓Lg		Lg	01 46 22.7	
	18nm,0.6s							
KST	**Kastek**	**3.67**	**357**	*eP*		**Pb**	**01 45 34.2**	**+2.0**
	13nm,0.3s							
KST				⇓*iS*		**Sg**	**01 46 25.6**	**+0.7**
	23nm,0.3s							
KST	**Kastek**	**3.67**	**357**	Pg		**Pb**	**01 45 34.2**	**+2.0**
	13nm,0.3s							
KST				Lg		Lg	01 46 25.6	
	23nm,0.3s							
TNSS	**Tian-Shan**	**3.69**	**8**	*eP*		**Pb**	**01 45 34.5**	**+1.7**
	11nm,0.3s							
TNSS				*eS*		**Sg**	**01 46 26.0**	**+0.2**
	17nm,0.5s							
TNSS	**Tian-Shan**	**3.69**	**8**	Pg		**Pb**	**01 45 34.5**	**+1.7**
	11nm,0.3s							
TNSS				Lg		Lg	01 46 26.0	
	17nm,0.5s							
MTBS	**Maitube**	**3.75**	**2**	*eP*		**Pb**	**01 45 35.1**	**+1.5**
	8.2nm,0.3s							
MTBS				*eS*		**Sg**	**01 46 26.9**	**-0.7**
	19nm,0.3s							
MTBS	**Maitube**	**3.75**	**2**	Pg		**Pb**	**01 45 35.1**	**+1.5**
	8.2nm,0.3s							
MTBS				Lg		Lg	01 46 26.9	
	19nm,0.3s							
MDOK	**Medeo**	**3.83**	**9**	*eP*		**Pg**	**01 45 37.3**	**-3.3**
	10nm,0.3s							
MDOK				*eS*		**Sg**	**01 46 30.7**	**+0.6**
	31nm,0.4s							
MDOK	**Medeo**	**3.83**	**9**	⇑Pn		**Pn**	**01 45 26.7**	**+0.3**
	5.4nm,0.8s							
MDOK				⇓Pg		**Pb**	**01 45 36.6**	**+1.6**
	6.8nm,0.5s							
MDOK				Lg		Lg	01 46 31.1	
	38nm,0.7s							
MDOK	**Medeo**	**3.83**	**9**	Pg		**Pg**	**01 45 37.3**	**-3.3**
	10nm,0.3s							
MDOK				Lg		Lg	01 46 30.7	
	31nm,0.4s							
DGS	**Degeres**	**3.88**	**355**	*eP*		**Pb**	**01 45 37.9**	**+2.1**
	19nm,0.3s							
DGS				*eS*		**Sg**	**01 46 31.8**	**+0.1**
	18nm,0.6s							
DGS	**Degeres**	**3.88**	**355**	Pg		**Pb**	**01 45 37.9**	**+2.1**
	19nm,0.3s							
DGS				Lg		Lg	01 46 31.8	
	18nm,0.6s							
KOTS	**Kotyrbulak**	**3.90**	**9**	*eP*		**Pg**	**01 45 39.5**	**-2.5**
	19nm,0.3s							
KOTS				*eS*		**Sg**	**01 46 34.4**	**+1.8**
	75nm,0.3s							
KOTS	**Kotyrbulak**	**3.90**	**9**	Pg		**Pg**	**01 45 39.5**	**-2.5**
	19nm,0.3s							
KOTS				Lg		Lg	01 46 34.4	
	75nm,0.3s							
SATY	**Saty**	**4.02**	**23**	*eP*		**Pg**	**01 45 41.2**	**-3.0**
	10.0nm,0.4s							
SATY				*eS*		**Sg**	**01 46 37.2**	**+1.0**
	19nm,0.4s							
SATY	**Saty**	**4.02**	**23**	Pg		**Pg**	**01 45 41.2**	**-3.0**
	10.0nm,0.4s							
SATY				Lg		Lg	01 46 37.2	
	19nm,0.4s							
USP	**Ospenovka**	**4.10**	**342**	P		**Pn**	**01 45 32.8**	**+2.8**
	SNR=10.0							
SGDS	**Sogindy**	**4.25**	**344**	Pg		**Pb**	**01 45 44.4**	**+2.4**
	10.0nm,0.2s							
SGDS				Lg		Lg	01 46 42.9	
	12nm,0.6s							
UZB	**Uzynbulak**	**4.30**	**28**	⇓*iP*		**Pb**	**01 45 44.4**	**+1.3**
	4.7nm,0.4s							
UZB				⇓*iS*		**Sg**	**01 46 42.7**	**-2.7**
	21nm,0.7s							
UZB	**Uzynbulak**	**4.30**	**28**	Pg		**Pb**	**01 45 44.4**	**+1.3**
	4.7nm,0.4s							
UZB				Lg		Lg	01 46 42.7	
	21nm,0.7s							
KURS	**Kuram**	**4.35**	**19**	*eP*		**Pg**	**01 45 47.0**	**-3.5**
	6.2nm,0.5s							
KURS				⇑*iS*		**Sg**	**01 46 47.3**	**+0.4**
	10nm,0.7s							
KURS	**Kuram**	**4.35**	**19**	Pg		**Pg**	**01 45 47.1**	**-3.5**
	6.2nm,0.5s							
KURS				Lg		Lg	01 46 47.3	
	10nm,0.7s							
SHLS	**Shalkode**	**4.48**	**32**	*eP*		**Pg**	**01 45 52.3**	**-0.8**
	8.4nm,0.2s							
SHLS				*eS*		**Sg**	**01 46 56.5**	**+5.4**
	21nm,0.4s							
SHLS	**Shalkode**	**4.48**	**32**	Pg		**Pg**	**01 45 52.3**	**-0.8**
	8.4nm,0.2s							
SHLS				Lg		Lg	01 46 56.5	
	21nm,0.4s							
KUU	**Kurty**	**4.51**	**1**	*eP*		**Pg**	**01 45 49.5**	**-4.1**
	7.5nm,0.3s							
KUU				*eS*		**Sg**	**01 46 51.6**	**-0.4**
	38nm,0.6s							
KUU	**Kurty**	**4.51**	**1**	Pg		**Pg**	**01 45 49.5**	**-4.1**
	7.5nm,0.3s							
KUU				Lg		Lg	01 46 51.6	
	38nm,0.6s							
PDGK	**Podgornoye**	**4.64**	**31**	Pg		**Pg**	**01 45 52.2**	**-3.9**
	2.1nm,0.6s							
PDGK				Lg		Lg	01 46 56.4	
	9.7nm,0.6s							
PDGK	**Podgornoye**	**4.64**	**31**	⇑Pn		**Pn**	**01 45 37.2**	**-0.3**
	1.8nm,0.9s							
PDGK				⇑Pg		**Pb**	**01 45 51.4**	**+2.7**
	3.1nm,0.5s							
PDGK				⇓Lg		Lg	01 46 57.2	
	27nm,0.8s							
MNBS	**Baschi**	**4.96**	**18**	*eP*		**Pg**	**01 45 58.2**	**-4.0**
	8.5nm,0.5s							
MNBS				*eS*		**Sg**	**01 47 06.4**	**-0.1**
	14nm,0.4s							
MNBS	**Baschi**	**4.96**	**18**	Pg		**Pg**	**01 45 58.2**	**-4.0**
	8.5nm,0.5s							
MNBS				Lg		Lg	01 47 06.4	
	14nm,0.4s							
KTMS	**Ketmen**	**5.10**	**36**	*eP*		**Pg**	**01 46 00.6**	**-4.3**
	2.7nm,0.2s							
KTMS				*eS*		**Sg**	**01 47 10.6**	**-0.3**
	11nm,0.4s							
KTMS	**Ketmen**	**5.10**	**36**	Pg		**Pg**	**01 46 00.6**	**-4.3**
	2.7nm,0.2s							
KTMS				Lg		Lg	01 47 10.6	
	11nm,0.4s							
IUG	**luzhnay**	**5.47**	**302**	*eP*		**Pb**	**01 46 06.2**	**+3.3**
	4.4nm,0.3s							
IUG				*eS*		**Sg**	**01 47 19.9**	**-3.0**
	11nm,0.3s							
IUG	**luzhnay**	**5.47**	**302**	Pg		**Pb**	**01 46 06.2**	**+3.3**
	4.4nm,0.3s							
IUG				Lg		Lg	01 47 19.9	
	11nm,0.3s							
DJR	**Jarkent**	**5.61**	**27**	*eP*		**Pg**	**01 46 11.5**	**-3.1**
	2.4nm,0.4s							
DJR				*eS*		**Sg**	**01 47 29.4**	**+2.2**
	4.1nm,0.3s							
DJR	**Jarkent**	**5.61**	**27**	Pg		**Pg**	**01 46 11.5**	**-3.1**
	2.4nm,0.4s							
DJR				Lg		Lg	01 47 29.4	
	4.1nm,0.3s							
KK31	**Karatay Array**	**5.71**	**313**	⇓Pn		**Pn**	**01 45 50.8**	**-1.2**
	0.3nm,0.3s,baz=124,slow=12,SNR=5.0							
KK31				⇑Lg		Lg	01 47 28.4	
	4.5nm,0.8s,baz=111,slow=29,SNR=3.9							
BTLS	**Baital**	**5.89**	**345**	*eP*		**Pg**	**01 46 16.2**	**-3.8**
	2.2nm,0.5s							
BTLS				*eS*		**Sg**	**01 47 37.3**	**+1.1**
	9.8nm,0.5s							
BTLS	**Baital**	**5.89**	**345**	Pg		**Pg**	**01 46 16.2**	**-3.8**
	2.2nm,0.5s							
BTLS				Lg		Lg	01 47 37.3	
	9.8nm,0.5s							
KAPS	**Kapalarasan**	**6.33**	**20**	Pg		**Pg**	**01 46 24.0**	**-4.4**
	2.8nm,0.7s							
KAPS				Lg		Lg	01 47 51.1	
	3.8nm,0.6s							

IDC 11 01:50:02.4±3.2, 4°.54S × 152°.09E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/32, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=111.0km s-min=45.1km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.46**	**200**	Pn		Pn	01 53 53.3	-1.7
	0.1nm,0.3s,baz=12,slow=14,SNR=1.7							
WRA	**Warramunga Arr**	**23.09**	**227**	P		P	01 55 10.4	+0.3
	0.8nm,0.4s,baz=53,slow=10,SNR=10							
ASAR	**Alice Springs**	**25.87**	**221**	P		P	01 55 36.5	+0.4
	0.4nm,0.5s,baz=54,slow=8.8,SNR=8.3							
TORD	**Torodi Ar. Bea**	**149.55**	**288**	PKPbc		PKPbc	02 09 54.1	-0.8
	0.9nm,0.8s,baz=89,slow=2.8,SNR=2.5							

TIF ***11*** *01:54:22.7, 42°.36N × 41°.05E, h16km±1km*
MOS ***11*** *01:54:23.6±0.0, 42°.46N × 41°.04E, h4km, ML2.6/8, MPVA3.4*
DDA ***11*** *01:54:23.9, 42°.20N × 41°.09E, h6km±4km, ML2.3*
NORS ***11*** *01:54:24.8±0.0, 42°.50N × 41°.25E, h11km, MPVA2.8*
ISC 11 01:54:21.9±1.2, 42°.41N±0°.03 × 41°.08E±0°.02, h6km±10km, n30, σ0.967/59, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CHVG	**Ch'k'valeri**	**0.81**	**67**	P		**Pn**	**01 54 39.5**	**-0.3**
CHVG				S		**Sn**	**01 54 51.8**	**-0.3**
DOMR	**Dombai**	**0.97**	**24**	*i* Pg		**Pn**	**01 54 41.9**	**-0.3**
	107nm,0.1s							
DOMR				*e*Sg		**Sb**	**01 54 53.6**	**-0.8**
	136nm,0.1s							
DOMR				*i* AML		AML	01 54 58.0	
	152nm,0.1s							
ARXR	**Arkhyz**	**1.17**	**7**	*i* Pg		**Pn**	**01 54 45.2**	**+0.4**
	126nm,0.5s							
ARXR				*i* Sg		**Sn**	**01 55 00.6**	**-0.6**
	174nm,0.3s							
ARXR				*i* AML		AML	01 55 00.8	
	152nm,0.3s							
VSLR	**Vesyoloye**	**1.30**	**324**	*i* Pg		**Pg**	**01 54 47.2**	**+0.3**
VSLR				*e*Sg		**Sg**	**01 55 04.7**	**+0.9**
RPOR	**Krasnaya Polya**	**1.42**	**336**	*i* Pg		**Pg**	**01 54 49.4**	**+0.3**
	81nm,0.4s							
RPOR				*e*Sg		**Sg**	**01 55 07.9**	**+0.3**
RPOR				*i* AML		AML	01 55 11.3	
	69nm,0.6s							
ABS	**Abastumani**	**1.45**	**116**	P		**Pg**	**01 54 50.5**	**+0.8**
ABS				S		**Sg**	**01 55 10.1**	**+1.7**
NEY	**Neytrino**	**1.48**	**55**	*i* Pg		**Pg**	**01 54 51.0**	**+0.8**
NEY				*e*Sg		**Sg**	**01 55 09.9**	**+0.7**
NEY				*i* AML		AML	01 55 11.1	
	79nm,0.7s							
EPOS	**Posof**	**1.53**	**126**	*i* P		**Pb**	**01 54 50.6**	**0.0**
EPOS				*i* S		**Sn**	**01 55 09.5**	**-0.5**
EPOS					IAML		01 55 13.0	
	comp=N,27nm,0.8s							
SOC	**Sochi**	**1.54**	**320**	*i* Pg		**Pg**	**01 54 51.1**	**-0.3**
SOC				*i* Sg		**Sg**	**01 55 11.4**	**-0.1**
SOC				*i* AML		AML	01 55 12.9	
	comp=N,176nm,0.4s							
DDEM	**Demirkent**	**1.59**	**161**	*i* P		**Pn**	**01 54 51.5**	**+0.8**
DDEM				*i* S		**Sn**	**01 55 10.7**	**-1.0**
DDEM					IAML		01 55 14.0	
	comp=E,45nm,0.4s							
DDEM					IAML		01 55 15.0	
	comp=N,86nm,0.3s							
GUZR	**Guzeripl'**	**1.74**	**337**	*i* Pg		**Pg**	**01 54 54.7**	**-0.5**
GUZR				*i* Sg		**Sg**	**01 55 17.0**	**-0.7**
GUZR				*i* AML		AML	01 55 19.5	
	comp=N,31nm,0.4s							
AHMR	**Akhmetovskaya**	**1.75**	**359**	*e*Pg		**Pg**	**01 54 54.8**	**-0.7**
AHMR				*e*Sg		**Sg**	**01 55 16.8**	**-1.4**
SHA1	**Shidzhatmaz**	**1.77**	**40**	*i* Pg		**Pg**	**01 54 56.2**	**+0.5**
SHA1				*e*Sg		**Sg**	**01 55 18.9**	**+0.3**
SHA1				*i* AML		AML	01 55 19.7	
	comp=N,25nm,0.4s							
ONI	**Oni**	**1.77**	**83**	P		**Pg**	**01 54 55.4**	**-0.3**
ONI				S		**Sg**	**01 55 19.0**	**+0.4**
ONI	**Oni**	**1.77**	**83**	*i* Pg		**Pg**	**01 54 55.4**	**-0.3**
ONI				*i* Sg		**Sg**	**01 55 19.4**	**+0.8**
KBZ	**Khabaz**	**1.88**	**45**	*e*Pg		**Pg**	**01 54 58.3**	**+0.4**
KBZ				*e*Sg		**Sg**	**01 55 22.7**	**+0.4**
DIGR	**Digorskoe uzhe**	**1.91**	**74**	*e*Pg		**Pg**	**01 54 58.4**	**-0.1**
DIGR				*e*Sg		**Sg**	**01 55 22.9**	**-0.5**
BKRG	**Bakuriani**	**1.93**	**109**	P		**Pg**	**01 54 58.6**	**-0.3**
BKRG				S		**Sg**	**01 55 24.1**	**+0.1**
KIV	**Kislovodsk**	**1.94**	**37**	*e*Pg		**Pg**	**01 54 59.3**	**+0.2**
KIV				*e*Sg		**Sg**	**01 55 24.4**	**0.0**
KIV0	**Kislovodsk Arr**	**1.95**	**37**	*i* Pg		**Pg**	**01 54 59.6**	**+0.3**
KIV0				*i* Sg		**Sg**	**01 55 24.7**	**+0.1**
LZRR	**Lazarevskoye**	**1.97**	**321**	*e*Pg		**Pb**	**01 54 58.0**	**-0.1**
LZRR				*e*Sg		**Sb**	**01 55 23.2**	**+0.4**
LZRR				*i* AML		AML	01 55 25.7	
	comp=N,117nm,0.3s							
BEYR	**Belyy Ugol+**	**2.05**	**38**	*e*Pg		**Pg**	**01 55 01.2**	**+0.1**
BEYR				*i* Sg		**Sg**	**01 55 27.3**	**-0.4**
AKH	**Akhalkalaki**	**2.06**	**118**	P		**Pb**	**01 54 59.7**	**0.0**
AKH				S		**Sb**	**01 55 26.1**	**+0.4**
KRIK	**Erzurum-spir**	**2.07**	**183**	*i* P		**Pn**	**01 54 57.0**	**-0.3**
KRIK				*i* S		**Sn**	**01 55 24.2**	**+0.7**
ZEI	**Tsey**	**2.12**	**79**	*e*Pg		**Pg**	**01 55 01.8**	**-0.7**
ZEI				*e*Sg		**Sg**	**01 55 29.2**	**-0.8**
NCK	**Nalchik**	**2.15**	**59**	*e*Pg		**Pb**	**01 55 01.0**	**-0.1**
NCK				*e*Sg		**Sb**	**01 55 28.6**	**+0.6**
AKDA	**Akdag**	**2.31**	**175**	*i* P		**Pb**	**01 55 02.8**	**-1.3**
TRLG	**Trialeti**	**2.42**	**110**	P		**Pn**	**01 55 03.1**	**+1.0**
TRLG				S		**Sg**	**01 55 38.0**	**-1.4**
MTEO	**Meteo**	**2.57**	**83**	P		**Pb**	**01 55 08.2**	**-0.5**
MTEO				S		**Sg**	**01 55 43.8**	**-0.6**
KGUR	**Krasnodar**	**3.01**	**331**	*i* Pn		**Pn**	**01 55 11.0**	**+1.0**
KGUR				*i* Sn		**Sn**	**01 55 47.4**	**+1.0**

UUSS ***11*** *02:06:32.7±1.9, 38°.183N±0°.008 × 112°.64W±0°.02, h4km±4km, ML2.8/13, ML3.1/78(NEIC), Error ellipse: s-maj=2.1km s-min=1.2km az=97.0*
NEIC ***11*** *02:06:32.5±1.8, 38°.16N±0°.01 × 112°.62W±0°.01, h1km±8km, Error ellipse: s-maj=2.1km s-min=0.8km az=132.0*
IDC ***11*** *02:06:32.2±1.2, 38°.43N × 112°.46W, h0km, mb1 2.7/4, mb1mx2.7/40, mbtmp2.4/4, ML2.7/4, Error ellipse: s-maj=12.2km s-min=9.9km az=12.0*
ISC 11 02:06:32.5±1.0, 38°.19N±0°.02 × 112°.61W±0°.02, h10km±10km, n61, σ1.331/71, Utah

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DWU	**Dry Willow Pea**	**0.32**	**255**			**Pg**	**02 06 38.7**	**-0.3**
MTPU	**Mount Pierson**	**0.36**	**113**	Pg		**Pg**	**02 06 39.7**	**-0.1**
MTPU				Sg		**Sg**	**02 06 45.2**	**+0.5**
NMUT	**North Mineral**	**0.38**	**330**			**Pg**	**02 06 40.0**	**-0.1**
TCRU	**Three Creeks R**	**0.44**	**16**			**Pg**	**02 06 41.5**	**+0.3**
TCRU						**Sg**	**02 06 47.8**	**+0.7**
MVU	**Marysvale**	**0.44**	**44**	Pg		**Pg**	**02 06 41.4**	**+0.2**
MVU				Sg		**Sb**	**02 06 48.5**	**-0.8**
MSU	**Marysvale**	**0.47**	**46**			**Pg**	**02 06 41.7**	**0.0**
IMU	**Iron Mountain**	**0.62**	**316**			**Pg**	**02 06 44.7**	**+0.1**
BHU	**Blowhard Mount**	**0.63**	**199**			**Pg**	**02 06 44.7**	**0.0**
SZCU	**Shurtz Canyon**	**0.70**	**213**			**Pg**	**02 06 45.5**	**-0.6**
SZCU				Sg		**Sg**	**02 06 54.5**	**-0.8**
BTU	**Barney Top**	**0.72**	**126**			**Pg**	**02 06 46.8**	**+0.3**
ARUT	**Antelope Range**	**0.77**	**239**			**Pg**	**02 06 47.5**	**+0.1**
PKCU	**Pink Cliffs**	**0.78**	**162**			**Pg**	**02 06 47.4**	**-0.2**
PKCU	**Pink Cliffs**	**0.78**	**162**	Sg		**Sg**	**02 06 56.8**	**-0.9**
PKCU				IAML			02 06 59.5	
	comp=N,835nm,0.4s							
PKCU				IAML			02 07 00.8	
	comp=E,2μm,0.3s							
CCUT	**Cedar City**	**0.87**	**224**			**Pg**	**02 06 48.8**	**-0.5**
CCUT				Sg		**Sg**	**02 07 00.2**	**-0.6**
MMU	**Miners Mountai**	**1.03**	**89**			**Pg**	**02 06 51.8**	**-0.6**
PSUT	**Pine Spring**	**1.04**	**290**			**Pg**	**02 06 52.1**	**-0.4**
OWUT	**Old Woman Plat**	**1.10**	**57**			**Pg**	**02 06 53.7**	**+0.1**
EKU	**East Kanab**	**1.11**	**176**			**Pg**	**02 06 53.0**	**-0.9**
KNB	**Kanab**	**1.18**	**188**			**Pb**	**02 06 54.0**	**-1.1**
KNB				Sg		**Sb**	**02 07 08.7**	**-1.8**
FLU	**Fool Peak**	**1.24**	**16**			**Pg**	**02 06 56.7**	**+0.4**
LCMT	**Little Creek M**	**1.28**	**204**			**Pg**	**02 06 56.2**	**-0.3**
LCMT				Sg		**Sb**	**02 07 12.3**	**-1.0**
Q16A	**Castle Valley**	**1.34**	**57**			**Pn**	**02 06 57.3**	**-0.1**
Q16A				Sg		**Sb**	**02 07 14.9**	**-0.3**
ICU	**Indian Springs**	**1.47**	**226**			**Pb**	**02 06 59.7**	**-0.3**
HMU	**Henry Mountain**	**1.49**	**99**			**Pb**	**02 07 00.1**	**-0.4**
TMUT	**Trail Mountain**	**1.56**	**44**			**Pn**	**02 07 00.9**	**+0.4**
SPR3	**Spring Creek 3**	**1.58**	**301**			**Pn**	**02 07 00.4**	**-0.4**
SPR3				IAML			02 07 24.4	
	comp=N,148nm,0.7s							
U15A	**North Rim**	**1.77**	**172**	Pn		**Pb**	**02 07 04.5**	**-0.7**
U15A				IAML			02 07 31.2	
	comp=N,159nm,0.4s							
U15A				IAML			02 07 34.0	
	comp=E,128nm,0.4s							
NLU	**North Lily Min**	**1.81**	**13**	Pn		**Pb**	**02 07 05.6**	**-0.3**
SRU	**San Rafael Swe**	**1.87**	**60**	Pn		**Pb**	**02 07 06.8**	**-0.1**
MPU	**Maple Canyon**	**1.98**	**22**	Pg		**Pg**	**02 07 09.7**	**-0.7**
DUG	**Dugway, Tooele**	**2.01**	**355**	Pn		**Pn**	**02 07 06.8**	**+0.1**
PRN	**Pahroc Range**	**2.09**	**249**	Pn		**Pn**	**02 07 08.1**	**+0.5**
PRN				IAML			02 07 39.7	
	comp=N,165nm,0.4s							
PRN				IAML			02 07 40.2	
	comp=E,170nm,0.7s							
JLU	**Jordanelle**	**2.57**	**20**			**Pb**	**02 07 20.1**	**+1.3**
CTU	**Camp Tracy**	**2.59**	**15**	Pg		**Pg**	**02 07 21.2**	**-0.9**
SHPR	**Sheep Range**	**2.64**	**231**	Pn		**Pn**	**02 07 16.4**	**+1.2**
BGU	**Big Grassy Mou**	**2.75**	**353**	Pn		**Pb**	**02 07 19.9**	**-2.0**
PV05	**Paradox Valley**	**2.77**	**91**			**Pb**	**02 07 22.7**	**+0.5**
PV05				IAML			02 08 01.8	
	comp=N,95nm,0.5s							
PV10	**Paradox Valley**	**2.81**	**85**	Pg		**Pb**	**02 07 22.8**	**-0.1**
PV10				IAML			02 08 00.2	
	comp=N,64nm,0.5s							
PV10				IAML			02 08 04.6	
	comp=E,60nm,0.7s							
PV14	**Lion Creek, Pa**	**2.83**	**85**	Pg		**Pb**	**02 07 23.3**	**+0.1**
WUAZ	**Wupatki**	**2.84**	**159**	Pn		**Pn**	**02 07 19.7**	**+1.6**
PV19	**Morning Glory**	**2.85**	**86**	Pg		**Pb**	**02 07 23.7**	**0.0**
PV19				IAML			02 08 03.0	
	comp=E,51nm,0.5s							
PV19				IAML			02 08 07.8	
	comp=N,63nm,0.6s							
TCUT	**Toone Canyon**	**3.07**	**17**			**Pn**	**02 07 23.7**	**+2.4**
SPUT	**South Promonto**	**3.12**	**2**	Pn		**Pn**	**02 07 22.8**	**+0.9**
TPNV	**Topopah Spring**	**3.15**	**248**	Pn		**Pn**	**02 07 23.

PMOZ	**Porto Moniz, M**	**4.88**	**161**	*e*Pn	**Pn**	**02 37 47.7**	**-1.8**
PMOZ				*e*Sn	**Sn**	**02 38 42.1**	**-4.0**
PMOZ				A	A	02 38 52.2	
	142nm,0.3s						
PMPST	**Porto Santo, M**	**4.92**	**152**	*e*Pn	**Pn**	**02 37 48.9**	**-1.0**
PMPST				*e*Sn	**Sn**	**02 38 43.1**	**-3.7**
PMPST				A	A	02 38 50.2	
	55nm,0.2s						
PMPS	**Porto Santo**	**4.94**	**153**	*e*Pn	**Pn**	**02 37 49.1**	**-1.0**
PMPS				*e*Sn	**Sn**	**02 38 44.2**	**-3.0**
PMPS				A	A	02 38 51.6	
	41nm,0.2s						
PMAR	**Madeira**	**5.05**	**159**	*e*Pn	**Pn**	**02 37 49.7**	**-2.2**
PMAR				*e*Sn	**Sn**	**02 38 45.4**	**-5.0**
PMAR				A	A	02 38 50.1	
	177nm,0.2s						
PCALD	**Caldeiras da R**	**5.13**	**276**	*e*P	**Pg**	**02 38 15.9**	**+1.8**
FUL	**Funchal**	**5.13**	**159**‖	*e*Pn	**Pn**	**02 37 51.0**	**-1.8**
FUL				*e*Sn	**Sn**	**02 38 47.4**	**-4.7**
FUL				A	A	02 38 53.8	
	94nm,0.2s						
PMAFR	**Mafra**	**7.82**	**76**	*e*Pn	**Pn**	**02 38 30.6**	**+0.8**
PMAFR				*e*Sn	**Sn**	**02 40 01.4**	**+3.0**
LIS	**Lisbon**	**7.90**	**78**	*e*S	**Sn**	**02 40 04.0**	**+3.8**
PFVI	**Vila Bisbo**	**8.15**	**89**	*e*S	**Sn**	**02 40 10.7**	**+4.3**
PTEO	**Sao Teotonio**	**8.20**	**86**	*e*P	**Pn**	**02 38 35.4**	**+0.4**
PTEO				*e*S	**Sn**	**02 40 11.4**	**+3.7**
PSBE	**So Bento**	**8.29**	**73**	*e*P	**Pn**	**02 38 37.3**	**+1.1**
PSBE				*e*S	**Sn**	**02 40 14.3**	**+4.4**
PNCL	**Nicolau / Gran**	**8.35**	**82**	*e*P	**Pn**	**02 38 37.1**	**+0.1**
PNCL				*e*S	**Sn**	**02 40 12.7**	**+1.4**
MESJ	**Messejana**	**8.59**	**84**	*e*P	**Pn**	**02 38 43.0**	**+2.7**
MESJ				*e*S	**Sn**	**02 40 20.6**	**+3.3**
PCAS	**Casmilo, Conde**	**8.63**	**69**	*e*P	**Pn**	**02 38 40.3**	**-0.5**
PCAS				*e*S	**Sn**	**02 40 17.5**	**-0.7**
PMTG	**Montargil**	**8.65**	**76**	*e*P	**Pn**	**02 38 41.5**	**+0.3**
PMTG				*e*S	**Sn**	**02 40 20.1**	**+1.3**
COI	**Coimbra**	**8.73**	**69**	*e*S	**Sn**	**02 40 22.1**	**+1.4**
PCVE	**Castro Verde**	**8.74**	**86**	*e*P	**Pn**	**02 38 42.0**	**-0.4**
PCVE				*e*S	**Sn**	**02 40 24.4**	**+3.4**
EVO	**Evora**	**8.77**	**80**	*e*P	**Pn**	**02 38 43.1**	**+0.4**
EVO				*e*S	**Sn**	**02 40 21.9**	**+0.2**
EVO	**Evora**	**8.77**	**80**	*e*S	**Sn**	**02 40 24.0**	**+2.3**
PBDV	**Barranco-do-Ve**	**8.85**	**88**	*e*P	**Pn**	**02 38 44.1**	**+0.2**
PBDV				*e*S	**Sn**	**02 40 27.0**	**+3.3**
PBEJ	**Beja**	**8.87**	**83**	*e*S	**Sn**	**02 40 26.2**	**+2.1**
PTO	**Porto**	**8.88**	**62**	*e*S	**Sn**	**02 40 22.4**	**-1.9**
PVAQ	**Vaqueiros**	**9.01**	**87**	*e*P	**Pn**	**02 38 47.6**	**+1.6**
PVAQ				*e*S	**Sn**	**02 40 30.1**	**+2.6**
PESTR	**Estremoz**	**9.13**	**78**	*e*S	**Sn**	**02 40 30.8**	**+0.4**
PVIS	**Viseu**	**9.25**	**66**	*e*P	**Pn**	**02 38 48.5**	**-0.9**
PVIS				*e*S	**Sn**	**02 40 32.3**	**-1.2**
PMRV	**Marv??o**	**9.35**	**74**	*e*P	**Pn**	**02 38 50.3**	**-0.4**
PMRV				*e*S	**Sn**	**02 40 35.9**	**+0.1**
PCBR	**Castelo Branco**	**9.35**	**72**	*e*P	**Pn**	**02 38 50.6**	**-0.1**
PCBR				*e*S	**Sn**	**02 40 35.2**	**-0.7**
MTE	**Manteigas**	**9.42**	**68**	*e*P	**Pn**	**02 38 51.3**	**-0.5**
MTE				*e*S	**Sn**	**02 40 39.2**	**+1.4**
PGAV	**Gavieira, Arco**	**9.43**	**58**	*e*P	**Pn**	**02 38 51.0**	**-0.9**
PGAV				*e*S	**Sn**	**02 40 34.0**	**-4.0**
PCAB	**Cabril**	**9.49**	**60**	*e*P	**Pn**	**02 38 51.6**	**-1.1**
PCAB				*e*S	**Sn**	**02 40 36.4**	**-3.1**
PBAR	**Barrancos**	**9.52**	**82**	*e*P	**Pn**	**02 38 54.0**	**+0.9**
PBAR				*e*S	**Sn**	**02 40 40.6**	**+0.4**
POLO	**Lamas de Olo**	**9.53**	**62**	*e*P	**Pn**	**02 38 52.3**	**-1.0**
POLO				*e*S	**Sn**	**02 40 37.8**	**-2.7**
PVRL	**Vila Real**	**9.55**	**63**	*e*S	**Sn**	**02 40 38.6**	**-2.4**
MVO	**Moncorvo**	**10.01**	**65**	*e*P	**Pn**	**02 38 58.3**	**-1.5**
MVO				*e*S	**Sn**	**02 40 49.0**	**-3.2**
PBRG	**Braganca**	**10.42**	**62**	*e*P	**Pn**	**02 39 05.7**	**+0.2**
PBRG				*e*S	**Sn**	**02 40 59.2**	**-3.1**

SSNC ***11*** *03:29:28.3±1.5, 19°.19N×79°.17W, h20km±168km, MD3.4, ML3.5, MW3.6*
JSN ***11*** *03:29:32.5±0.5, 19°.19N×78°.64W, h1km±22km, MD3.9*
ISC 11 03:29:26.2±1.4**, 19°.32N**±0°.06×**79°.02W**±0°.07**, h10km, n11,** σ1**°85/19, 3C-1D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEJ	**Negril**	**1.25**	**148**‖	*i* P	**Pb**	**03 29 50.4**	**+0.6**
MCJ	**Malvern**	**1.87**	**137**‖	*i* P	**Pn**	**03 29 59.9**	**+1.5**
MCJ				*i* S	**Sn**	**03 30 20.1**	**-2.0**
BBJ	**Bamboo Saint A**	**1.90**	**119**	*i* P	**Pn**	**03 29 59.7**	**+0.9**
LMGC	**Las Mercedes**	**2.04**	**68**	*e*Pn	**Pn**	**03 30 01.3**	**+0.7**
LMGC				*e*P	**Pn**	**03 30 01.4**	**+0.8**
LMGC				*e*Sn	**Sn**	**03 30 24.1**	**-2.0**
LMGC				IAML		03 30 27.6	
	comp=E,730nm,0.1s						
LMGC				IAML		03 30 27.9	
	comp=N,690nm,0.1s						
BNJ	**Bonny Gate**	**2.20**	**116**‖	*i* P	**Pn**	**03 30 03.4**	**+0.6**
STH	**Stony Hill**	**2.43**	**120**‖	*i* P	**Pn**	**03 30 06.7**	**+0.7**
STH				*i* S	**Sn**	**03 30 32.8**	**-3.0**
GWJ	**Greenwich**	**2.50**	**119**	*i* P	**Pn**	**03 30 07.9**	**+0.9**
MGV	**Manicaragua**	**2.92**	**342**	*e*P	**Pn**	**03 30 13.4**	**+0.7**
MGV				*e*S	**Sn**	**03 30 45.6**	**-2.2**
MGV				IAML		03 30 47.4	
	comp=E,64nm,0.2s						
MGV				IAML		03 30 47.5	
	comp=N,73nm,0.5s						
RCC	**Rio Carpintero**	**3.20**	**77**	*e*P	**Pn**	**03 30 17.1**	**+0.5**
RCC				*e*S	**Sn**	**03 30 51.2**	**-3.7**
RCC				IAML		03 30 56.7	
	comp=E,35nm,0.1s						
RCC				IAML		03 30 56.7	
	comp=N,53nm,0.2s						
MOAC	**Moa**	**4.04**	**70**	*e*P	**Pn**	**03 30 30.6**	**+2.4**
MOAC				*e*S	**Sn**	**03 31 15.8**	**+0.2**
MOAC				IAML		03 31 21.8	
	comp=E,17nm,0.3s						
MOAC				IAML		03 31 24.8	
	comp=N,35nm,0.4s						
MASC	**Masc**	**4.59**	**78**	*e*P	**Pn**	**03 30 38.1**	**+2.4**
MASC				*e*S	**Sn**	**03 31 28.6**	**-0.5**
MASC				IAML		03 31 35.7	
	comp=E,86nm,0.4s						
MASC				IAML		03 31 35.9	
	comp=N,51nm,0.3s						

IDC ***11*** *03:56:45.7±1.6, 25°.57N×109°.77W, h0km, mb1 3.6/4, mb1mx3.4/40, mbtmp3.2/4, ML3.7/2, Error ellipse: s-maj=26.3km s-min=15.2km az=121.0*
MEX ***11*** *03:56:46.8±0.4, 25°.86N×110°.25W, h10km, MD4.0*
ISC 11 03:56:46.9±3.5**, 25°.76N**±0°.05×**110°.06W**±0°.06**, h17**km±25**km, n19,** σ1**°34/23, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.94**	**100**	*i* P	**Pb**	**03 57 04.5**	**-0.2**
TSIG				*i* S	**Sn**	**03 57 18.7**	**+0.3**
TSIG	**Topolobambo**	**0.94**	**100**	*i* P	**Pb**	**03 57 04.5**	**-0.2**
TSIG				*i* S	**Sn**	**03 57 18.7**	**+0.3**
LPIG	**La Paz**	**1.67**	**188**	Pn	**Pn**	**03 57 14.8**	**-0.6**
	15nm,0.3s,baz=14,slow=2.5,SNR=9.6						
LPIG				Sn	**Sn**	**03 57 35.3**	**-1.1**
	29nm,0.3s,baz=1.1,slow=19,SNR=4.4						
LPIG	**La Paz**	**1.67**	**188**	*i* P	**Pn**	**03 57 14.2**	**-1.2**
LPIG				*i* S	**Sn**	**03 57 35.4**	**-1.1**
LPIG	**La Paz**	**1.67**	**188**	*i* P	**Pn**	**03 57 14.2**	**-1.2**
LPIG				*i* S	**Sn**	**03 57 35.4**	**-1.1**
CSIG	**Choix**	**1.85**	**55**	*e*P	**Pn**	**03 57 16.8**	**-1.2**
CSIG				*i* S	**Sn**	**03 57 40.7**	**-0.4**
CSIG	**Choix**	**1.85**	**55**	*e*P	**Pn**	**03 57 16.8**	**-1.2**
CSIG				*i* S	**Sn**	**03 57 40.2**	**-0.9**
SSIG	**Sanalona**	**2.81**	**109**	*e*P	**Pn**	**03 57 30.7**	**-0.4**
SSIG	**Sanalona**	**2.81**	**109**	*e*P	**Pn**	**03 57 30.7**	**-0.4**
CGIG		**4.94**	**21**	*i* P	**Pn**	**03 57 58.5**	**-2.1**
CGIG		**4.94**	**21**	*i* P	**Pn**	**03 57 58.5**	**-2.1**
TXAR	**Lajitas Array**	**6.70**	**56**	Pn	**Pn**	**03 58 23.8**	**-0.9**
	0.2nm,0.3s,baz=232,slow=13,SNR=17						
TXAR				Sn	**Sn**	**03 59 39.1**	**-1.7**
	0.5nm,0.3s,baz=239,slow=18,SNR=4.3						
TXAR				Lg	Lg	04 00 14.7	
	1.1nm,0.3s,baz=247,slow=31,SNR=6.6						
ANMO	**Albuquerque**	**9.67**	**18**	Lg	Lg	04 01 45.3	
	0.4nm,0.3s,baz=165,slow=0.1,SNR=1.5						
NVAR	**Mina Array Bea**	**14.42**	**333**	Pn	**P**	**04 00 18.8**	**+1.4**
	baz=152,slow=11,SNR=5.9						
ELK	**Elko**	**15.55**	**345**	Pn	**P**	**04 00 32.2**	**+2.3**
	0.0nm,0.3s,baz=158,slow=11,SNR=2.9						
PDAR	**Pinedale Array**	**16.97**	**1**	P	**Pn**	**04 00 45.6**	**+1.9**
	0.0nm,0.3s,baz=172,slow=14,SNR=2.8						
H03N2	**Juan Fernandez**	**65.90**	**152**	T	T	05 19 07.3	
	baz=331,slow=77,SNR=8.5						
H03N1	**Juan Fernandez**	**65.91**	**152**	T	T	05 19 11.0	
	baz=331,slow=77,SNR=14						
H03N3	**Juan Fernandez**	**65.92**	**152**	T	T	05 19 03.4	
	baz=331,slow=77,SNR=13						

ASRS 11 03:59:34.4±0.2**, 52°N**±1°×**9°6E**±°**, h5km, MLh3.6**/15**, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.64**	**2**	Pg	Pg	03 59 47.0	+0.3
TDJR				Sg	Sb	03 59 56.4	-1.0
KZLR	**Kyzyl**	**1.00**	**267**	Pg	Pg	03 59 51.4	-2.1
KZLR				Sg	Sg	04 00 03.4	-3.1
KNGR	**Kungurtug, Tuv**	**1.48**	**141**	Pg	Pn	04 00 00.1	-1.7
KNGR				Sg	Sn	04 00 19.6	-2.0
ARDR	**Aradan**	**1.81**	**298**	Pg	Pb	04 00 07.3	-0.8
ARDR				Sg	Sb	04 00 30.6	-0.5
BLRR	**Bol'shaya Rech**	**2.56**	**301**	Pg	Pb	04 00 20.9	0.0
BLRR				Sg	Sg	04 00 55.6	-1.1
DJOS	**Djoyskaya Sosn**	**3.04**	**292**	Pg	Pb	04 00 30.2	+1.2
DJOS				Sg	Sg	04 01 10.1	-1.9
CERR	**Cheremushki**	**3.05**	**293**	Pg	Pb	04 00 28.4	-0.8
CERR				Sg	Sg	04 01 11.3	-1.0
DJO	**Djoy, Khakassi**	**3.14**	**291**	Pg	Pb	04 00 31.8	+1.1
DJO				Sg	Sg	04 01 13.0	-2.3
ORY	**Orie**	**3.30**	**350**	Pg	Pb	04 00 33.7	+0.4
ORY				Sg	Sg	04 01 17.2	-3.0
KTRR	**Kuturchin**	**3.37**	**342**	Pg	Pb	04 00 34.9	+0.4
KTRR				Sg	Sg	04 01 23.3	+0.8
TEL	**Teeli**	**3.74**	**261**	Pn	Pn	04 00 29.3	-3.6
TEL				Pg	Pb	04 00 40.9	-0.1
TEL				Sg	Sg	04 01 33.7	-0.8
SHRR	**Shira**	**4.48**	**310**	Pg	Pb	04 00 56.1	+2.6
SHRR				Sg	Sg	04 01 56.2	-2.0
TLY	**Talaya**	**4.72**	**88**	Sg	Sb	04 02 00.1	+5.4
LUZB	**Luzhba, Kemero**	**4.75**	**296**	Pg	Pb	04 00 59.8	+1.7
LUZB				Sg	Sg	04 02 04.5	-2.3
ZAK	**Zakamensk**	**4.76**	**104**	Pg	Pb	04 00 59.8	+1.5
ZAK				Sg	Sg	04 02 08.1	+0.9
SHTK	**Zheleznogorsk-**	**4.80**	**343**	Pg	Pn	04 00 49.8	+2.5
SHTK				Sg	Sb	04 01 54.3	-2.7
GZLN	**Zheleznogorsk**	**4.82**	**345**	Sg	Sg	04 02 04.9	-4.1
TASR	**Tashtagol**	**5.12**	**284**	Pg	Pg	04 01 08.7	-3.8
TASR				Sg	Sg	04 02 16.5	-2.3
CUR	**Chagan-Uzun**	**5.15**	**254**	Pn	Pn	04 00 54.0	+1.8
CUR				Pg	Pb	04 01 07.3	+2.3
CUR				Sg	Sg	04 02 18.4	-1.3
ULGR	**Ulagan, Altay**	**5.22**	**261**	Pg	Pb	04 01 10.0	+3.9
ULGR				Sg	Sg	04 02 18.6	-3.2
ARTR	**Artybash**	**5.45**	**274**	Pg	Pb	04 01 12.4	+2.4
ARTR				Sg	Sg	04 02 26.7	-2.5
CHBI	**Chibit, Altay**	**5.59**	**258**	Pg	Pb	04 01 15.8	+3.4
CHBI				Sg	Sg	04 02 28.8	-4.9
DGZ	**Jazzator, Alta**	**5.85**	**253**	Pg	Pg	04 01 22.6	-3.9
DGZ				Sg	Sg	04 02 37.7	-4.5
BRCR	**Berchikul'**	**6.01**	**313**	Pg	Pg	04 01 27.2	-2.3
BRCR				Sg	Sg	04 02 45.4	-1.9
ELT	**Eltsovka**	**6.18**	**288**	Pg	Pg	04 01 29.2	-3.5
ELT				Sg	Sg	04 02 48.5	-4.1
SALR	**Pechorkino, Sa**	**6.78**	**297**	Sg	Sg	04 03 12.9	+1.0
UKR	**Ust'-Kan**	**7.12**	**268**	Sg	Sg	04 03 21.2	-1.6

THE ***11*** *04:06:42.7, 38°.28N×22°.23E, h7km, ML3.0/20, Error ellipse: s-maj=0.7km s-min=0.3km az=290.0*
IDC ***11*** *04:06:42.7±1.5, 38°.20N×22°.30E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/46, mbtmp3.4/4, Error ellipse: s-maj=63.0km s-min=25.0km az=153.0*
ATH ***11*** *04:06:43.0, 38°.28N×22°.22E, h7km±2km, ML3.0/12, Error ellipse: s-maj=2.6km s-min=0.7km az=299.0*
ISC 11 04:06:42.5±0.8**, 38°.31N**±0°.02×**22°.23E**±0°.02**, h11**km±4**km, n73,** σ1**°28/110, mb3.6/3, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIK	**Aliki, Aigiali**	**0.10**	**244**	P	**Pg**	**04 06 44.7**	**-0.6**
ALIK				S	**Sg**	**04 06 47.4**	**+0.2**
KALE	**Kalithea**	**0.11**	**321**	P	**Pg**	**04 06 45.4**	**-0.1**
KALE				S	**Sg**	**04 06 47.4**	**-0.3**
KALE				AML	AML	04 06 48.1	
	comp=E,56294µm,0.3s						
KALE				AML	AML	04 06 48.7	
	comp=N,50548µm,0.3s						
KALE	**Kalithea**	**0.11**	**321**	P	**Pg**	**04 06 45.4**	**-0.1**
KALE				S	**Sg**	**04 06 47.6**	**0.0**
	comp=N,27µm,0.3s						
TRIZ	**Trizonia**	**0.14**	**296**	P	**Pg**	**04 06 45.7**	**-0.1**
TRIZ				S	**Sg**	**04 06 48.2**	**+0.2**
TRIZ	**Trizonia**	**0.14**	**296**	P	**Pg**	**04 06 45.6**	**-0.1**
TRIZ				S	**Sg**	**04 06 48.0**	**-0.1**
LAKA	**Lakka**	**0.21**	**252**	P	**Pg**	**04 06 46.6**	**-0.3**
LAKA				S	**Sg**	**04 06 49.7**	**-0.3**
LAKA	**Lakka**	**0.21**	**252**	P	**Pg**	**04 06 46.6**	**-0.3**
LAKA				S	**Sg**	**04 06 50.0**	**0.0**
	comp=N,15µm,0.6s						
DSF	**Desfina**	**0.26**	**66**	P	**Pg**	**04 06 48.1**	**+0.3**
DSF				S	**Sg**	**04 06 52.4**	**+0.9**
DSF				AML	AML	04 06 54.4	
	comp=N,5632µm,0.2s						
DSF				AML	AML	04 06 57.2	
	comp=E,4238µm,0.3s						
DSF	**Desfina**	**0.26**	**66**	P	**Pg**	**04 06 47.9**	**0.0**
DSF				S	**Sg**	**04 06 52.6**	**+1.1**
	comp=E,3µm,0.3s						
DLFA	**Delphi**	**0.27**	**50**	P	**Pg**	**04 06 48.5**	**+0.4**
DLFA				S	**Sg**	**04 06 52.3**	**+0.4**
DLFA				AML	AML	04 06 54.4	
	comp=N,5167µm,0.4s						
DLFA				AML	AML	04 06 58.5	
	comp=E,6413µm,0.4s						
EFP	**Efpalio**	**0.28**	**296**	P	**Pb**	**04 06 48.3**	**-1.3**
EFP				S	**Sb**	**04 06 53.2**	**-1.1**
EFP				AML	AML	04 06 56.4	
	comp=N,8630µm,0.7s						
EFP				AML	AML	04 06 56.5	
	comp=E,7254µm,0.4s						
EFP	**Efpalio**	**0.28**	**296**	P	**Pb**	**04 06 48.2**	**-1.4**
EFP				S	**Sb**	**04 06 53.1**	**-1.2**
	comp=E,4µm,0.4s						
UPR	**University Cam**	**0.35**	**267**	P	**Pg**	**04 06 49.5**	**0.0**
UPR				S	**Sg**	**04 06 55.2**	**+1.1**
ANX	**Ano Chora**	**0.38**	**320**	P	**Pb**	**04 06 50.1**	**-1.1**
ANX				S	**Sb**	**04 06 56.4**	**-0.7**
ANX				AML	AML	04 06 57.1	
	comp=N,13716µm,0.4s						
ANX				AML	AML	04 06 59.8	
	comp=E,10367µm,0.7s						
ANX	**Ano Chora**	**0.38**	**320**	P	**Pb**	**04 06 50.0**	**-1.3**
ANX				S	**Sb**	**04 06 56.5**	**-0.7**
	comp=E,6µm,0.7s						
THAL	**Thalero**	**0.43**	**128**	P	**Pb**	**04 06 50.9**	**-1.2**
THAL	**Thalero**	**0.43**	**128**	P	**Pb**	**04 06 51.0**	**-1.2**
DRO	**Drossia**	**0.54**	**229**	P	**Pg**	**04 06 52.5**	**-0.5**
DRO				S	**Sg**	**04 07 00.3**	**+0.2**
DRO				AML	AML	04 07 02.0	
	comp=E,3755µm,0.3s						
DRO				AML	AML	04 07 03.4	
	comp=N,4641µm,0.3s						
DRO	**Drossia**	**0.54**	**229**	P	**Pg**	**04 06 52.3**	**-0.7**
DRO				S	**Sg**	**04 07 00.8**	**+0.6**
	comp=N,2µm,0.3s						
AXAR	**Agios Charalam**	**0.57**	**36**	P	**Pn**	**04 06 54.2**	**-2.4**
AXAR				S	**Sn**	**04 07 02.4**	**-3.6**
AXAR				AML	AML	04 07 08.2	
	comp=E,9877µm,0.4s						
AXAR				AML	AML	04 07 09.1	
	comp=N,8378µm,0.3s						
AXAR	**Agios Charalam**	**0.57**	**36**	P	**Pb**	**04 06 53.6**	**-0.9**
AXAR				S	**Sn**	**04 07 02.3**	**-3.7**
	comp=N,5µm,0.3s						
LTK	**Loutraki**	**0.65**	**116**	P	**Pb**	**04 06 55.0**	**-0.8**
LTK	**Loutraki**	**0.65**	**116**	P	**Pb**	**04 06 55.0**	**-0.8**
RLS	**Riolos of Patr**	**0.65**	**248**	P	**Pg**	**04 06 54.4**	**-0.8**
RLS	**Riolos of Patr**	**0.65**	**248**	P	**Pg**	**04 06 54.3**	**-0.8**
RLS				S	**Sb**	**04 07 04.8**	**-0.1**
	comp=N,1µm,0.7s						
LOUT	**Loutraki**	**0.67**	**118**	P	**Pb**	**04 06 55.2**	**-0.9**
LOUT	**Loutraki**	**0.67**	**118**	P	**Pb**	**04 06 55.3**	**-0.9**
EVR	**Evrytania**	**0.69**	**332**	P	**Pb**	**04 06 56.0**	**-0.6**
EVR				S	**Sb**	**04 07 06.7**	**+0.4**
EVR				AML	AML	04 07 08.0	
	comp=E,2604µm,0.6s						
EVR				AML	AML	04 07 09.2	
	comp=N,5607µm,0.7s						
EVR	**Evrytania**	**0.69**	**332**	P	**Pb**	**04 06 55.8**	**-0.9**
EVR				S	**Sb**	**04 07 06.9**	**+0.6**
	comp=N,2µm,0.6s						
LKR	**Lokris**	**0.70**	**60**	P	**Pn**	**04 06 55.8**	**-2.5**
LKR				S	**Sn**	**04 07 06.1**	**-3.0**
LKR				AML	AML	04 07 10.1	
	comp=E,1571µm,0.5s						
LKR				AML	AML	04 07 12.0	
	comp=N,1573µm,0.4s						
LKR	**Lokris**	**0.70**	**60**	P	**Pn**	**04 06 55.6**	**-2.7**
MAKR	**Makrakomi, Fth**	**0.71**	**354**	P	**Pn**	**04 06 57.0**	**-1.6**
MAKR	**Makrakomi, Fth**	**0.71**	**354**	P	**Pn**	**04 06 56.5**	**-2.0**
MAKR				S	**Sn**	**04 07 07.5**	**-2.0**
	comp=N,2µm,0.5s						
AGG	**Agios Georgios**	**0.72**	**6**	P	**Pb**	**04 06 56.2**	**-0.9**
AGG				S	**Sn**	**04 07 07.3**	**-2.4**
AGG				AML	AML	04 07 10.9	
	comp=E,1672µm,0.4s						
AGG				AML	AML	04 07 12.7	
	comp=N,1066µm,0.4s						
AGG	**Agios Georgios**	**0.72**	**6**	P	**Pb**	**04 06 56.0**	**-1.1**
AGG				S	**Sn**	**04 07 07.3**	**-2.4**
	comp=N,702nm,0.4s						
ATAL	**Atalanti**	**0.73**	**58**	P	**Pn**	**04 06 56.5**	**-2.3**
ATAL				S	**Sn**	**04 07 07.3**	**-2.7**
ATAL				AML	AML	04 07 11.4	
	comp=N,1934µm,0.6s						
ATAL				AML	AML	04 07 11.7	
	comp=E,1190µm,0.8s						
ATAL	**Atalanti**	**0.73**	**58**	P	**Pn**	**04 06 56.2**	**-2.6**
ATAL				S	**Sn**	**04 07 08.2**	**-1.8**
	comp=E,775nm,0.7s						
VIL2	**Platees**	**0.82**	**96**	P	**Pn**	**04 06 59.9**	**-0.1**
VILL	**Villia**	**0.86**	**99**	P	**Pn**	**04 06 59.0**	**-1.7**
VILL				S	**Sn**	**04 07 12.0**	**-1.3**
	comp=E,1µm,0.5s						
PDO	**Prodromos**	**0.87**	**290**	P	**Pb**	**04 06 58.9**	**-0.7**
PDO	**Prodromos**	**0.87**	**290**	P	**Pg**	**04 06 58.7**	**-0.6**
PDO				S	**Sb**	**04 07 12.5**	**+1.2**
	comp=E,2µm,0.3s						
VLX	**Vlachokerasia**	**0.94**	**173**	P	**Pg**	**04 06 59.4**	**-1.3**
VLX				S	**Sb**	**04 07 12.8**	**-0.6**
	comp=E,1µm,0.5s						
EPID	**Epidavros**	**0.98**	**134**	P	**Pn**	**04 07 00.8**	**-1.5**
EPID	**Epidavros**	**0.98**	**134**	P	**Pn**	**04 07 00.8**	**-1.5**
ITM	**Ithomi**	**1.15**	**192**	P	**Pg**	**04 07 03.0**	**-1.6**
ITM				S	**Sn**	**04 07 20.9**	**+0.7**
KRND	**KRANIDI**	**1.18**	**141**	P	**Pn**	**04 07 04.3**	**-0.5**
KRND				S	**Sn**	**04 07 21.2**	**+0.4**
	comp=E,575nm,0.5s						
ATH	**Athens Observa**	**1.22**	**105**	P	**Pn**	**04 07 06.2**	**+0.7**
LTHK	**Lithakia**	**1.25**	**242**	P	**Pn**	**04 07 05.3**	**-0.6**
NEO	**Neokhori**	**1.27**	**38**	P	**Pn**	**04 07 06.8**	**+0.7**
NEO	**Neokhori**	**1.27**	**38**	P	**Pn**	**04 07 06.9**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.27**	**289**	P	**Pn**	**04 07 05.5**	**-0.6**
THL	**Klokotos Trika**	**1.27**	**353**	P	**Pn**	**04 07 07.9**	**+1.7**
THL				AML	AML	04 07 29.3	
	comp=E,555µm,0.5s						
THL				AML	AML	04 07 30.5	
	comp=N,411µm,0.7s						
THL	**Klokotos Trika**	**1.27**	**353**	P	**Pn**	**04 07 07.0**	**+0.8**
THL				S	**Sn**	**04 07 24.5**	**+1.3**
EVGI	**Lefkada island**	**1.27**	**285**	P	**Pn**	**04 07 05.8**	**-0.4**
VLS	**Valsamata**	**1.30**	**265**	P	**Pn**	**04 07 05.7**	**-0.9**
VLS				S	**Sn**	**04 07 24.6**	**+0.7**
	comp=N,248nm,0.7s						
XOR	**Xorichti**	**1.30**	**35**	P	**Pn**	**04 07 07.0**	**+0.4**
XOR	**Xorichti**	**1.30**	**35**	P	**Pn**	**04 07 07.1**	**+0.5**
XOR				S	**Sn**	**04 07 25.4**	**+1.4**
	comp=N,310nm,0.6s						
VLMS	**Volimes, Zakyn**	**1.31**	**251**	P	**Pn**	**04 07 06.0**	**-0.7**
FSK	**Fiskardo**	**1.32**	**277**	P	**Pn**	**04 07 06.3**	**-0.5**
LKD2	**Lefkada island**	**1.32**	**292**	P	**Pg**	**04 07 07.1**	**-0.8**
EREA	**Eretria**	**1.34**	**85**	P	**Pb**	**04 07 08.1**	**+0.4**
EREA	**Eretria**	**1.34**	**85**	P	**Pb**	**04 07 07.6**	**-0.1**
EREA				S	**Sn**	**04 07 25.5**	**+0.4**
	comp=N,295nm,0.4s						
DION	**Dionisos Attik**	**1.36**	**99**	P	**Pb**	**04 07 08.4**	**+0.4**
DION	**

IDC ***11*** *04:16:45.0±1.9, 50°.67N×173°.15W, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.6/64, mbtmp3.6/9, ML3.7/1, Error ellipse: s-maj=49.7km s-min=23.9km az=12.0*
NEIC ***11*** *04:16:45.3±1.7, 50°.5N±0°.1×173°.25W±0°.02, h21km±9km, mb3.6/12, Error ellipse: s-maj=15.7km s-min=2.0km az=183.0*
ISC 11 04:16:49.1±1.1, 50°.7N±0°.1×173°.19W±0°.06, h35km, n30, σ1s27/33, mb3.5/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.66**	**338**	Pn	**Pn**	**04 17 15.2**	**-0.5**
ATKA				Sn	**Sn**	**04 17 36.9**	**+1.2**
ADK	**Adak**	**2.51**	**300**	Pn	**Pn**	**04 17 25.8**	**-1.6**
ADK				Sn	**Sn**	**04 17 54.9**	**-1.8**
NIKH	**Nikolski High**	**3.54**	**48**	Pn	**Pn**	**04 17 41.2**	**-0.3**
NIKH				Sn	**Sn**	**04 18 22.3**	**+0.2**
OHAK	**Old Harbor**	**13.40**	**53**	Pn	**Pn**	**04 19 54.0**	**-2.5**
KDAK	**Kodiak Island**	**13.96**	**51**	Pn	**Pn**	**04 20 00.6**	**-3.5**
	0.4nm,0.3s,baz=308,slow=18,SNR=1.3						
KDAK	**Kodiak Island**	**13.96**	**51**		**Pn**	**04 20 02.0**	**-2.1**
BRLK	**Bradley Lake**	**15.57**	**46**	Pn	**Pn**	**04 20 24.8**	**-1.0**
SKT	**Skwentna**	**16.41**	**38**		**Pn**	**04 20 37.0**	**+0.6**
SKT				IAmb	IAmb	04 20 44.8	
	comp=Z,4.1nm,1.0s						
RC01	**Rabbit Creek A**	**16.69**	**42**	Pn	**Pn**	**04 20 39.2**	**-0.7**
RC01				IAmb	IAmb	04 20 43.3	
	comp=Z,5.2nm,1.2s						
PPLA	**Purkeypile**	**16.70**	**35**	Pn	**Pn**	**04 20 38.7**	**-1.4**
GHO	**Glory Hole Cre**	**17.36**	**41**		**Pn**	**04 20 48.0**	**-0.3**
GHO				IAmb	IAmb	04 21 04.7	
	comp=Z,7.9nm,1.2s						
KNK	**Knik Glacier**	**17.38**	**42**		**Pn**	**04 20 48.9**	**+0.2**
KNK				IAmb	IAmb	04 21 00.7	
	comp=Z,9.0nm,1.2s						
BPAW	**Bear Paw Mtn.**	**17.86**	**33**	P	**Pn**	**04 20 54.3**	**-0.3**
BPAW				IAmb	IAmb	04 20 58.8	
	comp=Z,5.2nm,1.0s						
SCM	**Sheep Creek Mo**	**18.06**	**42**		**Pn**	**04 20 56.4**	**-0.5**
ILAR	**Eielson Array**	**19.70**	**34**	P	**P**	**04 21 15.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=229,slow=9.3,SNR=15						
ILAR	**Eielson Array**	**19.70**	**34**	P	**P**	**04 21 14.1**	**-0.9**
EGAK	**Eagle**	**21.85**	**38**	P	**P**	**04 21 38.2**	**0.0**
EGAK				IAmb	IAmb	04 21 56.6	
	comp=Z,2.8nm,1.0s						
DAWY	**Dawson**	**22.28**	**40**	P	**P**	**04 21 42.4**	**-0.5**
INK	**Inuvik**	**26.07**	**33**	P	**P**	**04 22 19.9**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=230,slow=7.3,SNR=2.3						
INK	**Inuvik**	**26.07**	**33**	P	**P**	**04 22 18.9**	**+0.1**
YKA	**Yellowknife Ar**	**33.15**	**46**	P	**P**	**04 23 22.2**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=274,slow=8.9,SNR=7.0						
NVAR	**Mina Array Bea**	**40.09**	**86**	P	**P**	**04 24 22.5**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=320,slow=8.2,SNR=2.5						
PDAR	**Pinedale Array**	**43.11**	**75**	P	**P**	**04 24 47.1**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=328,slow=3.2,SNR=4.1						
PDAR	**Pinedale Array**	**43.11**	**75**	P	**P**	**04 24 45.5**	**-0.5**
SONM	**Songino Array**	**50.10**	**300**	P	**P**	**04 25 41.7**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=66,slow=3.5,SNR=2.2						
TXAR	**Lajitas Array**	**55.22**	**85**	P	**P**	**04 26 18.6**	**0.0**
	comp=Z,0.3nm,0.6s,baz=291,slow=6.7,SNR=5.0						
TXAR	**Lajitas Array**	**55.22**	**85**	P	**P**	**04 26 16.7**	**-1.9**
ARCES	**ARCESS Array B**	**59.33**	**352**	P	**P**	**04 26 47.9**	**+1.0**
	comp=Z,4.1nm,1.0s,baz=2.1,slow=7.5,SNR=3.6						
ARCES	**ARCESS Array B**	**59.33**	**352**	P	**P**	**04 26 46.6**	**-0.2**
AKTO	**Aktyubinsk**	**70.24**	**328**	P	**P**	**04 27 59.6**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=36,slow=8.4,SNR=5.2						

SOME ***11*** *04:18:30.5, 41°.35N×83°.67E, h15km*
NNC ***11*** *04:18:33.5±1.1, 41°.42N×83°.50E, h5km±5km, mb4.0, mpv3.7, Error ellipse: s-maj=7.6km s-min=6.9km az=155.0*
ISC 11 04:18:31.9±2.3, 41°.3N±0°.1×83°.35E±0°.07, h10km, n34, σ2s52/49, 8C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**3.12**	**316**	*e*P	**Pg**	**04 19 29.8**	**-2.0**
	14nm,0.1s						
KTMS				*e*S	**Sg**	**04 20 12.8**	**+0.5**
	39nm,0.3s						
KTMS	**Ketmen**	**3.12**	**316**	Pg	**Pg**	**04 19 29.8**	**-2.0**
	14nm,0.1s						
KTMS				Lg	Lg	04 20 12.8	
	39nm,0.3s						
SHLS	**Shalkode**	**3.46**	**305**	*e*P	**Pb**	**04 19 32.4**	**-1.0**
	33nm,0.3s						
SHLS				*e*S	**Sb**	**04 20 17.0**	**+1.5**
	65nm,0.3s						
SHLS	**Shalkode**	**3.46**	**305**	Pg	**Pb**	**04 19 32.4**	**-1.0**
	33nm,0.3s						
SHLS				Lg	Lg	04 20 17.0	
	65nm,0.3s						
PDGK	**Podgornoye**	**3.54**	**307**	Pg	**Pg**	**04 19 37.7**	**-2.0**
	6.8nm,0.5s						
PDGK				Lg	Lg	04 20 26.5	
	14nm,0.3s						
PDGK	**Podgornoye**	**3.54**	**307**	⇑Pn	**Pn**	**04 19 30.1**	**+3.0**
	1.5nm,0.5s						
PDGK				⇑Pg	**Pg**	**04 19 38.6**	**-1.1**
	15nm,0.8s						
PDGK				⇑Lg	Lg	04 20 25.5	
	22nm,0.6s						
UZB	**Uzynbulak**	**3.73**	**302**	*e*P	**Pg**	**04 19 40.4**	**-3.1**
	5.1nm,0.2s						
UZB				*e*S	**Sg**	**04 20 30.7**	**-1.1**
	18nm,0.4s						
UZB	**Uzynbulak**	**3.73**	**302**	Pg	**Pg**	**04 19 40.4**	**-3.1**
	5.1nm,0.2s						
UZB				Lg	Lg	04 20 30.7	
	18nm,0.4s						
SATY	**Saty**	**4.10**	**298**	*e*P	**Pg**	**04 19 47.3**	**-3.0**
	14nm,0.4s						
SATY				*e*S	**Sg**	**04 20 42.9**	**-0.6**
	35nm,0.3s						
SATY	**Saty**	**4.10**	**298**	Pg	**Pg**	**04 19 47.3**	**-3.0**
	14nm,0.4s						
SATY				Lg	Lg	04 20 42.8	
	35nm,0.3s						
KURS	**Kuram**	**4.44**	**302**	*e*P	**Pg**	**04 19 55.9**	**-1.1**
	8.1nm,0.8s						
KURS				*e*S	**Sg**	**04 20 57.2**	**+2.7**
	11nm,0.5s						
KURS	**Kuram**	**4.44**	**302**	Pg	**Pg**	**04 19 55.9**	**-1.1**
	8.1nm,0.8s						
KURS				Lg	Lg	04 20 57.2	
	11nm,0.5s						
MNBS	**Baschi**	**4.62**	**309**	*e*P	**Pg**	**04 19 57.4**	**-3.0**
	9.6nm,0.4s						
MNBS				*e*S	**Sg**	**04 21 00.1**	**-0.1**
	15nm,0.2s						
MNBS	**Baschi**	**4.62**	**309**	Pg	**Pg**	**04 19 57.4**	**-3.0**
	9.6nm,0.4s						
MNBS				Lg	Lg	04 21 00.1	
	15nm,0.2s						
KAPS	**Kapalarasan**	**4.98**	**326**	*e*P	**Pg**	**04 20 04.1**	**-3.1**
	6.1nm,0.3s						
KAPS				*e*S	**Sg**	**04 21 11.7**	**0.0**
	12nm,0.3s						
KAPS	**Kapalarasan**	**4.98**	**326**	Pg	**Pg**	**04 20 04.1**	**-3.1**
	6.1nm,0.3s						
KAPS				Lg	Lg	04 21 11.7	
	12nm,0.3s						
ARXS	**Arharly**	**5.03**	**308**	*e*P	**Pg**	**04 20 04.9**	**-3.3**
	7.6nm,0.4s						
ARXS				*e*S	**Sg**	**04 21 13.1**	**-0.3**
	9.1nm,0.3s						
ARXS	**Arharly**	**5.03**	**308**	Pg	**Pg**	**04 20 04.9**	**-3.3**
	7.6nm,0.4s						
ARXS				Lg	Lg	04 21 13.1	
	9.1nm,0.3s						
KOTS	**Kotyrbulak**	**5.04**	**295**	*e*P	**Pg**	**04 20 04.9**	**-3.5**
	19nm,0.3s						
KOTS				*e*S	**Sg**	**04 21 13.1**	**-0.5**
	36nm,0.4s						
KOTS	**Kotyrbulak**	**5.04**	**295**	Pg	**Pg**	**04 20 04.9**	**-3.5**
	19nm,0.3s						
KOTS				Lg	Lg	04 21 13.1	
	36nm,0.4s						
MDOK	**Medeo**	**5.06**	**294**	*e*P	**Pg**	**04 20 05.5**	**-3.2**
	7.9nm,0.8s						
MDOK				*e*S	**Sg**	**04 21 13.9**	**-0.3**
	8.5nm,0.4s						
MDOK	**Medeo**	**5.06**	**294**	Pg	**Pg**	**04 20 05.5**	**-3.2**
	7.9nm,0.8s						
MDOK				Lg	Lg	04 21 13.3	
	8.5nm,0.4s						

TNSS	**Tian-Shan**	**5.08**	**293**	*e*P	**Pg**	**04 20 06.8**	**-2.5**
	4.0nm,0.3s						
TNSS				*e*S	**Sg**	**04 21 16.3**	**+1.1**
	6.7nm,0.3s						
TNSS	**Tian-Shan**	**5.08**	**293**	Pg	**Pg**	**04 20 06.8**	**-2.5**
	4.0nm,0.3s						
TNSS				Lg	Lg	04 21 16.3	
	6.7nm,0.3s						
MK31	**Makanchi Array**	**5.60**	**353**	⇑Pn	**Pn**	**04 19 55.3**	**+0.1**
	0.8nm,0.8s,baz=172,slow=16,SNR=5.3						
MK31				⇑Pg	**Pb**	**04 20 12.6**	**+2.9**
	0.2nm,0.3s						
MK31				Sn	**Sn**	**04 20 59.1**	**-0.5**
	3.8nm,0.6s,baz=96,slow=26,SNR=6.0						
MK31				Lg	Lg	04 21 25.3	
	15nm,0.7s,baz=166,slow=27,SNR=5.2						
MAKZ	**Makanchi**	**5.65**	**350**	⇓Pn	**Pn**	**04 19 55.9**	**0.0**
MAKZ				⇓Pg	**Pb**	**04 20 14.3**	**+3.7**
	1.5nm,0.8s						
MAKZ				⇑Sn	**Sn**	**04 21 00.6**	**-0.2**
	3.3nm,0.7s						
MAKZ				⇑Lg	Lg	04 21 27.4	
	15nm,0.9s						
KST	**Kastek**	**5.78**	**291**	Pg	**Pg**	**04 20 20.3**	**-2.2**
	7.7nm,0.7s						
KST				Lg	Lg	04 21 39.5	
	9.8nm,0.8s						
KUU	**Kurty**	**5.81**	**299**	Pg	**Pg**	**04 20 20.3**	**-2.8**
	2.1nm,0.4s						
KUU				Lg	Lg	04 21 39.8	
	5.5nm,0.4s						
DGS	**Degeres**	**5.97**	**292**	Pg	**Pg**	**04 20 22.9**	**-3.2**
	4.4nm,0.4s						
DGS				Lg	Lg	04 21 44.0	
	5.2nm,0.4s						
TKM2	**Tokmak 2**	**6.01**	**289**	⇓Pn	**Pn**	**04 20 04.4**	**+3.4**
	1.3nm,0.6s						
TKM2				⇓Lg	Lg	04 21 47.0	
	7.4nm,0.6s						
KRBS	**Karabastau**	**6.18**	**296**	Pg	**Pg**	**04 20 26.7**	**-3.5**
	1.6nm,0.2s						
KRBS				Lg	Lg	04 21 50.5	
	3.3nm,0.3s						
ZSN	**Zaisan**	**6.30**	**9**	Pg	**Pg**	**04 20 28.4**	**-4.0**
	8.4nm,0.2s						
ZSN				Lg	Lg	04 21 54.1	
	16nm,0.4s						
AAK	**Ala-Archa**	**6.75**	**285**	⇑Lg	Lg	04 22 11.0	
	11nm,1.1s						
SGDS	**Sogindy**	**6.83**	**292**	Pg	**Pg**	**04 20 39.0**	**-3.5**
	4.7nm,1.2s						
SGDS				Lg	Lg	04 22 11.2	
	5.4nm,0.5s						

IDC 11 04:19:21.8±1.5, 18°.89N×147°.53E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/56, mbtmp3.4/3, Error ellipse: s-maj=64.9km s-min=32.6km az=103.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.70**	**199**	P	P	04 27 04.2	-0.1
	0.9nm,0.7s,baz=22,slow=8.5,SNR=6.8						
MKAR	**Makanchi Array**	**59.59**	**314**	P	P	04 29 27.2	-0.2
	0.3nm,0.9s,baz=99,slow=8.9,SNR=1.7						
YKA	**Yellowknife Ar**	**77.01**	**28**	P	P	04 31 16.4	+0.2
	0.3nm,0.6s,baz=286,slow=5.1,SNR=5.2						

ISK ***11*** *05:02:57.9, 37°.84N×29°.66E, h5km, ML3.5/41*
DDA ***11*** *05:02:59.0, 37°.81N×29°.67E, h7km±3km, MW3.7*
ISC 11 05:02:59.1±1.1, 37°.83N±0°.02×29°.67E±0°.02, h1km±10km, n90, σ0s78/110, 9C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASM	**Basmaki-Afyon**	**0.32**	**74**	PG	**Pg**	**05 03 05.2**	**0.0**
BRDR	**BURDUR-Merkez**	**0.34**	**113**	*i* P	**Pg**	**05 03 05.2**	**-0.4**
BRDR				*i* S	**Sg**	**05 03 09.3**	**-0.7**
BRDR				IAML		05 03 15.0	
	comp=N,8μm,0.3s						
BRDR				IAML		05 03 15.0	
	comp=E,6μm,0.3s						
KHL	**Karahalli**	**0.51**	**347**	PG	**Pg**	**05 03 08.5**	**-0.3**
KHL				SG	**Sg**	**05 03 16.4**	**+1.1**
KHAL	**Karahalli**	**0.56**	**346**	*i* P	**Pg**	**05 03 10.3**	**+0.5**
KHAL				*i* S	**Sb**	**05 03 18.8**	**-1.4**
KHAL				IAML		05 03 26.0	
	comp=N,3μm,0.4s						
KHAL				IAML		05 03 26.0	
	comp=E,3μm,0.4s						
KZIL	**AFYON_Kizioren**	**0.57**	**41**	*i* P	**Pg**	**05 03 10.3**	**+0.3**
KZIL				*i* S	**Sg**	**05 03 18.3**	**+1.0**
KZIL				IAML		05 03 24.0	
	comp=E,3μm,0.4s						
GOLH	**Golhisar**	**0.60**	**188**	*i* P	**Pg**	**05 03 10.3**	**-0.2**
GOLH				*i* S	**Sg**	**05 03 18.6**	**+0.3**
ISP	**Isparta**	**0.68**	**90**	PG	**Pg**	**05 03 11.8**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.70**	**239**	*i* P	**Pg**	**05 03 12.2**	**-0.2**
CAEL	**Denizli, Camel**	**0.76**	**201**	*i* P	**Pg**	**05 03 14.2**	**+0.6**
CAEL				IAML		05 03 34.0	
	comp=N,2μm,0.6s						
BCK	**Bucak**	**0.82**	**116**	PG	**Pg**	**05 03 15.2**	**+0.4**
BUCA	**Burdur, Bucak-**	**0.87**	**125**	*i* P	**Pg**	**05 03 15.5**	**-0.2**
BUCA				*i* S	**Sb**	**05 03 28.8**	**-0.3**
BAGO	**Egridir - ISPA**	**0.90**	**79**	*i* P	**Pg**	**05 03 15.6**	**-0.8**
BAGO				*i* S	**Sb**	**05 03 29.3**	**-0.8**
KORT	**Korkueli**	**0.99**	**146**	PG	**Pg**	**05 03 18.3**	**+0.2**
KORT	**Korkueli**	**0.99**	**146**	*i* P	**Pg**	**05 03 18.4**	**+0.4**
KORT				*i* S	**Sb**	**05 03 32.7**	**0.0**
KORT				IAML		05 03 37.0	
	comp=E,1μm,0.8s						
SHUT	**Suhut-Afyon**	**1.00**	**44**	PG	**Pg**	**05 03 18.2**	**-0.1**
USAK	**Uak-Merkez**	**1.02**	**330**	*i* P	**Pg**	**05 03 19.1**	**+0.5**
USAK				*i* S	**Sb**	**05 03 33.0**	**-0.5**
KULA	**Kula-Manisa**	**1.05**	**311**	PG	**Pg**	**05 03 19.0**	**-0.1**
AFYO	**Afyonkarahisar**	**1.08**	**27**	*i* P	**Pg**	**05 03 19.8**	**+0.1**
AFYO				*i* S	**Sn**	**05 03 38.1**	**+1.1**
MANT	**Manisa**	**1.09**	**307**	*i* P	**Pg**	**05 03 20.2**	**+0.1**
MANT				*i* S	**Sn**	**05 03 37.1**	**-0.4**
ELL	**Elmali**	**1.10**	**170**	PN	**Pg**	**05 03 18.9**	**-1.2**
MULA	**Mugla, Merkez-**	**1.21**	**242**	*i* P	**Pg**	**05 03 21.4**	**-0.9**
MULA				*i* S	**Sb**	**05 03 38.7**	**-0.3**
ANTB	**Antalya**	**1.22**	**139**	PN	**Pn**	**05 03 23.0**	**-0.2**
GEDZ	**Gediz**	**1.23**	**351**	PN	**Pg**	**05 03 22.5**	**-0.1**
SHAP	**Saphane-Kutahy**	**1.24**	**344**	PN	**Pn**	**05 03 23.6**	**0.0**
GDZ	**Gediz**	**1.27**	**353**	*i* P	**Pg**	**05 03 22.1**	**-1.2**
GDZ				*i* S	**Sn**	**05 03 41.2**	**-0.5**
FETY	**Fethiye**	**1.28**	**201**	PN	**Pg**	**05 03 22.3**	**-1.3**
DALY	**Dalyan (Mula)**	**1.29**	**219**	PN	**Pg**	**05 03 23.9**	**0.0**
DALY	**Dalyan (Mula)**	**1.29**	**219**	*i* P	**Pg**	**05 03 23.9**	**0.0**
DALY				*i* S	**Sg**	**05 03 38.7**	**-1.9**
YER	**Yerkesik**	**1.30**	**238**	PN	**Pg**	**05 03 23.9**	**-0.1**
YVAC	**Isparta, Yalva**	**1.32**	**70**	*i* P	**Pg**	**05 03 24.2**	**-0.1**
SIMA	**Simav-Kutahya**	**1.36**	**337**	PN	**Pn**	**05 03 24.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.41**	**275**	PN	**Pn**	**05 03 25.6**	**-0.3**
KEMT	**Kemer-ANTALYA**	**1.42**	**150**	PN	**Pn**	**05 03 26.0**	**+0.1**
DEMI	**Demirci**	**1.42**	**329**	*i* P	**Pn**	**05 03 26.2**	**+0.1**
TURN	**Turunc**	**1.55**	**228**	PN	**Pb**	**05 03 28.7**	**+0.2**
TURN	**Turunc**	**1.55**	**228**	*i* P	**Pg**	**05 03 29.1**	**+0.4**
TURN				*i* S	**Sn**	**05 03 47.7**	**-0.6**
MLSB	**Milas**	**1.59**	**251**	PN	**Pg**	**05 03 31.2**	**+1.6**
AKAS	**Kas**	**1.59**	**182**	PN	**Pb**	**05 03 29.1**	**-0.3**
AKAS	**Kas**	**1.59**	**182**	*i* P	**Pb**	**05 03 29.3**	**-0.1**
AUKIR	**Kırka- Seyitga**	**1.60**	**25**	*i* P	**Pb**	**05 03 29.1**	**-0.3**
AUKIR				*i* S	**Sn**	**05 03 49.2**	**-0.6**
AKUM	**Antalya-Kumluc**	**1.60**	**160**	*i* P	**Pg**	**05 03 29.9**	**+0.2**
AKUM				*i* S	**Sg**	**05 03 53.3**	**+2.9**
DOGA	**KONYA_Doganhis**	**1.61**	**80**	*i* P	**Pb**	**05 03 29.2**	**-0.4**
MRSB	**Marmaris-Mugla**	**1.61**	**227**	PN	**Pb**	**05 03 29.3**	**-0.4**
TVSB	**Tavsanli**	**1.62**	**354**	PN	**Pn**	**05 03 28.0**	**-0.9**
ANDZ	**Kutahya, Merke**	**1.69**	**6**	*i* P	**Pn**	**05 03 29.9**	**+0.1**
ANDZ				*i* S	**Sn**	**05 03 50.4**	**-1.6**
SEDI	**Konya, Seydise**	**1.70**	**102**	*i* P	**Pn**	**05 03 30.4**	**+0.5**
KEPZ	**Antalya-Kepez**	**1.80**	**120**	*i* P	**Pn**	**05 03 30.6**	**-0.7**
CIFT	**Cifteler, Eski**	**1.88**	**35**	PN	**Pn**	**05 03 32.3**	**-0.1**
BDRM	**Kayabasi**	**1.93**	**247**	*i* P	**Pn**	**05 03 33.6**	**+0.7**
GCAM	**G?zelcami?**	**1.93**	**267**	PN	**Pn**	**05 03 32.6**	**-0.4**
DURS	**Dursunbey**	**2.00**	**333**	*i* P	**Pn**	**05 03 34.4**	**+0.4**
BODT	**Bodrum**	**2.02**	**248**	PN	**Pn**	**05 03 33.9**	**-0.4**
ARG	**Arkhangelos**	**2.03**	**218**	PN	**Pb**	**05 03 35.8**	**-0.9**
AUBOZ	**BOZOYÜK**	**2.10**	**8**	PN	**Pb**	**05 03 38.1**	**+0.2**
KONT	**Konya--Tatoy**	**2.14**	**86**	PN	**Pn**	**05 03 35.9**	**0.0**
KONT	**Konya--Tatoy**	**2.14**	**86**	*i* P	**Pn**	**05 03 36.5**	**+0.6**
BORA	**Eskisehir**	**2.14**	**16**	PN	**Pn**	**05 03 36.2**	**+0.3**
BORA	**Eskisehir**	**2.14**	**16**	*i* P	**Pg**	**05 03 39.9**	**-0.2**
BLCB	**Balcova**	**2.14**	**286**	PN	**Pn**	**05 03 36.1**	**+0.2**
KMER	**Konya-Meram**	**2.14**	**91**	*i* P	**Pn**	**05 03 35.9**	**-0.1**
LADK	**Ladik-KONYA**	**2.16**	**79**	PN	**Pn**	**05 03 36.4**	**+0.1**
STEP	**BALIKESIR_Sava**	**2.17**	**316**	*i* P	**Pn**	**05 03 36.8**	**+0.5**
STEP				IAML		05 04 21.0	
	comp=N,368nm,0.6s						
SVRH	**Sivrihisar-ESK**	**2.17**	**41**	PN	**Pn**	**05 03 36.3**	**-0.1**
AUSIV	**SIVRIHISAR**	**2.18**	**42**	PN	**Pn**	**05 03 36.7**	**+0.2**
ZEDA	**zmir-Bergama**	**2.33**	**300**	*i* P	**Pn**	**05 03 38.0**	**-0.5**
SRCK	**Saricakaya, Es**	**2.33**	**18**	PN	**Pn**	**05 03 38.9**	**+0.4**
ULDT	**Uludag**	**2.34**	**350**	*i* P	**Pn**	**05 03 39.1**	**+0.3**
CAVI	**Cavuskoy**	**2.37**	**3**	PN	**Pn**	**05 03 39.4**	**+0.3**
IGD	**Bursa**	**2.46**	**352**	*i* P	**Pn**	**05 03 40.3**	**+0.1**
AUMIH	**MIHALICIK**	**2.48**	**34**	PN	**Pn**	**05 03 41.3**	**+0.6**
BALY	**Balya**	**2.49**	**321**	*i* P	**Pn**	**05 03 40.8**	**+0.1**
ADVT	**Abdulvahap**	**2.60**	**1**	PN	**Pn**	**05 03 42.7**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.61**	**347**	PN	**Pn**	**05 03 42.3**	**0.0**
BUHA	**Balikesir, Bur**	**2.62**	**310**	*i* P	**Pn**	**05 03 41.7**	**-0.8**
BUHA				IAML		05 04 37.0	
	comp=N,195nm,1.0s						
KCTX	**Karacabey (Bur**	**2.64**	**338**	PN	**Pn**	**05 03 43.0**	**+0.3**
GAZI	**Gazipasa**	**2.65**	**126**	PN	**Pn**	**05 03 43.1**	**+0.2**
GULT	**Gulveren**	**2.68**	**14**	PN	**Pn**	**05 03 44.0**	**+0.6**
GEYV	**SAKARYA_Geyve**	**2.69**	**10**	*i* P	**Pg**	**05 03 50.8**	**0.0**
YLV	**Yalova**	**2.74**	**355**	PN	**Pn**	**05 03 44.6**	**+0.4**
LEF	**Lefka**	**3.75**	**135**	⇑P	**Pn**	**05 03 58.9**	**+0.8**
LEF				⇓S	**Sn**	**05 04 44.4**	**+1.6**
KESN	**Edirne-Kesan**	**3.78**	**323**	*i* P	**Pn**	**05 03 58.7**	**-0.1**
IDI	**Anoyia**	**4.61**	**238**	⇓P	**Pn**	**05 04 10.9**	**+1.1**
IDI				⇑S	**Sn**	**05 05 05.9**	**+1.9**
VTS	**Vitosha**	**6.86**	**316**	⇑P	**Pn**	**05 04 41.9**	**+1.0**
MLR	**Muntele Rosu**	**8.14**	**341**	⇑P	**Pn**	**05 04 59.4**	**+0.9**
VRI	**Vrincioaia**	**8.32**	**346**	⇑P	**Pn**	**05 05 02.2**	**+1.4**
PLOR	**Plostina**	**8.32**	**345**	⇑P	**Pn**	**05 05 02.7**	**+1.8**
VOIR		**8.35**	**337**	⇑P	**Pn**	**05 05 02.2**	**+1.0**
DOPR	**Dopca**	**8.73**	**340**	⇑P	**Pn**	**05 05 07.9**	**+1.4**
GZR	**Gura Zlata**	**9.15**	**328**	⇑P	**Pn**	**05 05 13.1**	**+0.9**
MDVR	**Moldovita**	**9.16**	**322**	⇓P	**Pn**	**05 05 10.3**	**-2.1**

ECX ***11*** *05:44:52.2±0.5, 30°.52N×113°.94W, h11km±5km, MD3.5, ML3.6*
IDC ***11*** *05:44:55.3±2.1, 31°.20N×113°.42W, h0km, mb3.5/1, mb1 3.4/6, mb1mx3.3/34, mbtmp3.0/6, ML3.1/4, MS2.8/4, Ms1 2.8/4, ms1mx2.6/28, Error ellipse: s-maj=39.2km s-min=10.2km az=31.0*
MEX ***11*** *05:44:58.0±0.4, 30°.76N×113°.61W, h5km, MD3.9*
ISC 11 05:44:49.9±0.8, 30°.55N±0°.05×113°.85W±0°.03, h10km, n23, σ2s64/24, 2C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAHB	**Baha de los**	**0.66**	**158**	*e*P	**Sn**	**05 45 19.7**	**+4.0**
SFX	**San Felipe**	**0.99**	**300**	*e*P	**Pg**	**05 45 08.6**	**-0.3**
PIX	**Pinacate**	**1.06**	**18**	⇓*e*P	**Pg**	**05 45 11.8**	**+1.5**
PIX				*e*S	**Sg**	**05 45 26.6**	**+2.5**
ECBX	**El Chinero**	**1.38**	**312**	*e*P	**Pn**	**05 45 12.6**	**-2.7**
ECBX				*e*S	**Sn**	**05 45 30.5**	**-3.0**
SPX	**San Pedro Mart**	**1.47**	**290**	*e*P	**Pb**	**05 45 16.6**	**-1.0**
SPX				IAML		05 45 47.5	
	comp=N,1μm,0.6s						
SPX				⇑*e*		05 45 47.5	
SPIG	**San Pedro Mart**	**1.47**	**290**	*i* P	Pg	05 45 23.9	+5.6
SPIG				*i* S	**Sg**	**05 45 44.2**	**+6.7**
SPIG	**San Pedro Mart**	**1.47**	**290**	*e*P	**Pb**	**05 45 16.7**	**-1.0**
SQX	**San Quintin**	**1.75**	**271**	⇑*e*P	**Pb**	**05 45 20.2**	**-1.9**
CPBX	**Cerro Prieto**	**2.24**	**327**	⇓*e*		05 46 41.4	
CPBX				IAML		05 46 41.4	
	comp=N,1μm,1.4s						
CPBX				*e*		05 46 55.6	
CPBX				IAML		05 46 55.6	
	comp=E,820nm,1.3s						
HSIG		**2.95**	**120**	*i* P	**Pb**	**05 45 41.9**	**-0.7**
HSIG				*i* S	**Sb**	**05 46 16.2**	**-2

3.6nm,0.7s,baz=331,slow=18,SNR=2.9
URZ Urewera 22.40 160 IAmb IAmb 06 53 58.0
comp=Z,12nm,0.9s
BKZ Black Stump Fm 23.04 162 P **P** **06 53 53.0 +0.6**
BKZ IAmb IAmb 06 53 56.2
comp=Z,38nm,1.4s
STKA Stephens Creek 27.64 234 P **P** **06 54 36.2 +1.3**
comp=Z,0.7nm,0.4s,baz=66,slow=8.6,SNR=1.8
STKA LR LR 07 05 39.7
comp=Z,139nm,18.4s,baz=43,slow=37
RAR Rarotonga 30.95 102 LR LR 07 04 40.9
comp=Z,59nm,20.4s,baz=304,slow=31
WR0 Warramunga Arr 31.45 260 P **P** **06 55 06.7 -2.1**
WB0 Warramunga Arr 31.59 260 P **P** **06 55 09.5 -0.5**
WB0 IAmb IAmb 06 55 26.6
comp=Z,13nm,1.5s
WB2 Warramunga Arr 31.62 260 P **P** **06 55 11.2 +0.9**
WRA Warramunga Arr 31.64 260 P **P** **06 55 11.2 +0.7**
comp=Z,0.5nm,0.7s,baz=79,slow=6.2,SNR=5.0
WRA LR LR 07 07 25.7
comp=Z,116nm,19.3s,baz=80,slow=35
ASAR Alice Springs 32.17 253 P **P** **06 55 15.8 +0.7**
comp=Z,1.2nm,0.6s,baz=78,slow=8.7,SNR=22
ASAR LR LR 07 08 07.2
comp=Z,242nm,18.2s,baz=82,slow=36
BBOO Buckleboo 32.32 236 P **P** **06 55 16.9 +0.5**
FITZ Fitzroy Crossi 39.96 262 P **P** **06 56 22.8 +1.0**
FITZ IAmb IAmb 06 56 39.2
comp=Z,11nm,1.2s
TBI Tubuai 40.53 106 *e*S **S** **07 02 36.4 +1.5**
comp=Z,41nm,27.4s
TBI *e*LR LR 07 07 32.7
comp=Z,112nm,26.8s
PPT2 Papeete2 40.73 97 *e*S **S** **07 02 41.4 +3.2**
comp=Z,68nm,25.8s
PPT2 *e*LR LR 07 07 43.4
comp=Z,147nm,24.5s
PPT Papeete 40.73 97 LR LR 07 08 49.9
comp=Z,184nm,21.8s,baz=253,slow=30
TAOE Nuku Hiva Isla 51.41 88 *e*S **S** **07 05 13.6 +1.9**
comp=Z,116nm,24.3s
TAOE *e*LR LR 07 12 38.1
comp=Z,130nm,22.4s
QSPA South Pole Qui 72.67 180 P **P** **07 00 14.9 +0.3**
BELA Belgrano 2 84.07 175 P **P** **07 01 16.0 -1.2**
SONM Songino Array 84.83 324 P **P** **07 01 21.4 -0.2**
comp=Z,3.6nm,1.1s,baz=134,slow=4.2,SNR=14
SONM Songino Array 84.83 324 P **P** **07 01 21.5 -0.2**
SONM IAmb IAmb 07 01 23.3
comp=Z,6.1nm,1.2s
YBH Yreka Blue Hor 87.03 45 LR LR 07 35 03.0
comp=Z,40nm,18.2s,baz=251,slow=32
NVAR Mina Array Bea 88.71 49 P **P** **07 01 43.0 +2.1**
comp=Z,0.5nm,0.9s,baz=237,slow=3.1,SNR=3.2
NVAR LR LR 07 35 37.4
comp=Z,50nm,18.3s,baz=314,slow=32
ILAR Eielson Array 88.92 18 P **P** **07 01 42.2 +1.2**
comp=Z,0.2nm,0.6s,baz=212,slow=4.9,SNR=1.4
SNAA Sanae 90.94 183 Pdiff **P** **07 01 50.5 -0.1**
VNA3 Neumayer Olymp 91.59 181 Pdiff **P** **07 01 53.2 -0.3**
ELK Elko 91.78 48 LR LR 07 37 56.0
comp=Z,48nm,19.2s,baz=228,slow=32
VNA2 Neumayer--Watz 91.86 182 Pdiff **P** **07 01 54.7 -0.1**
baz=163,slow=2.8
VNA1 Neumayer--Stat 92.16 181 Pdiff **P** **07 01 55.2 -0.9**
ARCES ARCESS Array B 122.89 345 PKP **PKPdf** **07 07 41.0 -1.5**
comp=Z,3.0nm,0.8s,baz=67,slow=1.3,SNR=8.5
FINES FINESS Array B 128.30 339 PKP **PKPdf** **07 07 52.4 -0.7**
comp=Z,1.7nm,0.9s,baz=141,slow=2.9,SNR=3.6
TUE Stuetta 145.87 333 **PKPab** **07 08 26.4 -0.7**
BNI Bardonecchia 148.13 334 **PKiKP** **07 08 33.6 -1.3**

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*IDC **11** 06:58:48.0±2.2,21.°20S×177.°92W,h481km±23km, mb3.1/7, mb1 3.4/10,mb1mx3.2/27, mbtmp4.0/10, Error ellipse: s-maj=28.1km s-min=16.2km az=135.0*
*NEIC **11** 06:58:49.7±0.9,20.°9S±0.°2×178.°1W±0.°2,h499km±7km, mb4.3/10, Error ellipse: s-maj=35.3km s-min=19.9km az=147.0*
ISC 11 06:58:49.2±0.8,21.°1S±0.°1×178.°0W±0.°1,h495km,n23,
σ0s79/23,mb3.8/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.01**	**312**	P		**P**	**07 00 15.1**	**-1.2**
	5.6nm,0.3s,baz=139,slow=9.1,SNR=15							
MSVF	**Nonsavu**	**5.01**	**312**	P		**P**	**07 00 15.3**	**-1.0**
DZM	**Mont Dzumac**	**14.48**	**263**	P		**P**	**07 01 54.2**	**0.0**
	0.3nm,0.3s,baz=125,slow=11,SNR=2.4							
URZ	**Urewera**	**17.59**	**193**	P		**P**	**07 02 24.5**	**-1.4**
	0.3nm,0.3s,baz=273,slow=5.3,SNR=1.9							
URZ				S		**S**	**07 05 21.8**	**-1.1**
	0.2nm,0.3s,baz=81,slow=12,SNR=1.8							
EIDS	**Eidsvold**	**28.67**	**256**	P		**P**	**07 04 05.3**	**-0.1**
ARMA	**Armidale**	**28.78**	**245**	P		**P**	**07 04 06.8**	**+0.3**
ARMA				IAmb		IAmb	07 04 30.8	
	comp=Z,15nm,1.4s							
CTAO	**Charters Tower**	**33.42**	**265**	P		**P**	**07 04 47.6**	**+1.3**
TOO	**Toolangi**	**35.52**	**234**	P		**P**	**07 05 05.3**	**+1.5**
TOO				IAmb		IAmb	07 05 17.1	
	comp=Z,19nm,1.4s							
STKA	**Stephens Creek**	**37.51**	**245**	P		**P**	**07 05 20.9**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=83,slow=7.7,SNR=3.9							
STKA	**Stephens Creek**	**37.51**	**245**	IAmb		IAmb	07 05 22.3	
	comp=Z,2.4nm,1.5s							
COEN	**Coen**	**37.61**	**274**	P		**P**	**07 05 21.4**	**0.0**
BBOO	**Buckleboo**	**42.26**	**244**	P		**P**	**07 05 58.7**	**+0.2**
BBOO				IAmb		IAmb	07 06 14.0	
	comp=Z,13nm,1.4s							
WR0	**Warramunga Arr**	**44.31**	**263**	P		**P**	**07 06 14.1**	**-0.7**
WR0				IAmb		IAmb	07 06 30.8	
	comp=Z,14nm,1.5s							
ASAR	**Alice Springs**	**44.36**	**257**	P		**P**	**07 06 15.8**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=93,slow=8.1,SNR=24							
ASAR				PcP		**PcP**	**07 07 49.6**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=88,slow=5.5,SNR=4.2							
WB0	**Warramunga Arr**	**44.48**	**263**	P		**P**	**07 06 15.9**	**-0.2**
WB0				IAmb		IAmb	07 06 36.3	
	comp=Z,16nm,1.4s							
WB2	**Warramunga Arr**	**44.49**	**263**	P		**P**	**07 06 16.0**	**-0.2**
WB2				IAmb		IAmb	07 06 17.3	
	comp=Z,7.6nm,1.1s							
WRA	**Warramunga Arr**	**44.50**	**263**	P		**P**	**07 06 16.1**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=95,slow=7.6,SNR=29							
NVAR	**Mina Array Bea**	**81.49**	**43**	P		**P**	**07 10 14.7**	**0.0**
	comp=Z,0.5nm,0.7s,baz=226,slow=8.8,SNR=5.1							
TXAR	**Lajitas Array**	**87.41**	**57**	P		**P**	**07 10 44.4**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=221,slow=6.6,SNR=5.0							
ILAR	**Eielson Array**	**88.92**	**13**	P		**P**	**07 10 49.5**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=218,slow=5.5,SNR=5.2							
PDAR	**Pinedale Array**	**89.43**	**43**	P		**P**	**07 10 53.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=221,slow=5.5,SNR=4.6							
ARCES	**ARCESS Array B 129.53**	**350**		PKP		**PKPdf**	**07 17 00.5**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=64,slow=5.6,SNR=3.6							
AKASG	**Malin Array Be 143.55**	**331**		PKP		PKPab	07 17 24.9	-0.4
	comp=Z,1.5nm,0.5s,baz=43,slow=4.3,SNR=7.5							

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*IDC **11** 07:04:32.4±1.7,54.°20S×4.°52E,h0km,mb4.0/3,mb1 4.2/3, mb1mx3.8/17,mbtmp4.0/3,MS3.5/7,Ms1 3.5/7, ms1mx3.3/20,Error ellipse: s-maj=76.5km s-min=35.5km az=45.0*
ISC 11 07:04:35.2±1.5,54.°4S±0.°2×4.°4E±0.°3,h10km,n19,σ0s89/8,
mb4.1/3,MS3.6/7,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.23**	**194**	P		**Pn**	**07 08 37.1**	**+1.6**
VNA2	**Neumayer--Watz**	**17.36**	**193**	P		**Pn**	**07 08 37.2**	**0.0**
	baz=12,slow=16							
SNAA	**Sanae**	**17.60**	**188**	P		**Pn**	**07 08 39.6**	**-0.6**
VNA3	**Neumayer Olymp**	**17.97**	**195**	P		**Pn**	**07 08 44.4**	**-0.4**
BOSA	**Boshof**	**29.92**	**39**	LR		LR	07 20 06.3	
	comp=Z,83nm,20.6s,baz=167,slow=31							
VNDA	**Vanda**	**47.58**	**174**	P		**P**	**07 13 10.2**	**-0.1**
	1.0nm,0.7s,baz=197,slow=5.6,SNR=5.5							
H10S2	**ASCENSION HYDR**	**47.83**	**334**	T		T	08 04 48.5	
	baz=164,slow=74,SNR=6.8							
H10S3	**ASCENSION HYDR**	**47.84**	**334**	T		T	08 04 52.0	
	baz=56,slow=74,SNR=17							
DBIC	**Dimbokro**	**61.35**	**350**	LR		LR	07 35 44.3	
	comp=Z,49nm,18.3s,baz=161,slow=31							
LPAZ	**La Paz**	**66.75**	**274**	P		**P**	**07 15 26.9**	**-0.5**
	1.9nm,0.7s,baz=157,slow=4.5,SNR=8.2							
LPAZ				LR		LR	07 42 17.8	
	comp=Z,18nm,19.8s,baz=105,slow=34							

TORD	**Torodi Ar. Bea**	**67.34**	**357**	LR		LR	07 40 02.4	
	comp=Z,25nm,20.2s,baz=170,slow=32							
H01W2	**Cape Leeuwin H**	**72.55**	**126**	T		T	08 35 57.1	
	baz=215,slow=75,SNR=30							
H01W3	**Cape Leeuwin H**	**72.57**	**126**	T		T	08 35 56.9	
	baz=215,slow=75,SNR=33							
H01W1	**Cape Leeuwin H**	**72.57**	**126**	T		T	08 35 56.0	
	baz=215,slow=75,SNR=33							
EIL	**Elat**	**87.80**	**26**	LR		LR	07 54 37.2	
	comp=Z,50nm,19.5s,baz=138,slow=34							
ASAR	**Alice Springs**	**90.98**	**135**	P		**P**	**07 17 39.4**	**-0.1**
	0.8nm,0.9s,baz=177,slow=5.0,SNR=4.2							
MMAI	**Mount Meron Ar**	**91.10**	**26**	LR		LR	07 56 43.6	
	comp=Z,23nm,20.2s,baz=205,slow=34							
BRTR	**Keskin Array B**	**97.08**	**22**	LR		LR	08 03 45.6	
	comp=Z,38nm,18.0s,baz=218,slow=37							
YKA	**Yellowknife Ar**	**148.23**	**310**	PKPbc		**PKPdf**	**07 24 17.4**	**+0.9**
	1.4nm,0.7s,baz=100,slow=3.1,SNR=20							

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*NNC **11** 07:25:47.6±0.4,50.°00N×78.°66E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=5.8km s-min=1.9km az=79.0, Suspected Mining explosion.*
ISC 11 07:25:47.3±0.8,49.°91N±0.°03×78.°53E±0.°05,h0km,n26,
σ1s46/43,21C-6D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.68**	**360**	⇑P		**Pg**	**07 25 59.2**	**-1.1**
KUR07				⇓S		**Sg**	**07 26 07.9**	**-1.2**
KUR06	**Kurchatov Arra**	**0.70**	**360**	⇑P		**Pg**	**07 25 59.5**	**-1.1**
KUR06				⇑S		**Sg**	**07 26 08.2**	**-1.5**
KUR14	**Kurchatov Arra**	**0.71**	**3**	⇑P		**Pg**	**07 25 59.6**	**-1.3**
KUR14				⇑S		**Sg**	**07 26 08.3**	**-1.7**
KUR15	**Kurchatov Arra**	**0.71**	**2**	⇑P		**Pg**	**07 25 59.7**	**-1.2**
KUR15				⇑S		**Sg**	**07 26 08.8**	**-1.3**
KURBB	**Kurchatov Arra**	**0.72**	**0**	⇑P		**Pg**	**07 25 59.8**	**-1.2**
KURBB				⇑S		**Sg**	**07 26 09.3**	**-1.0**
	271nm,0.6s							
KUR16	**Kurchatov Arra**	**0.72**	**359**	⇑P		**Pg**	**07 26 00.0**	**-1.1**
KUR16				⇓S		**Sg**	**07 26 08.9**	**-1.6**
KUR17	**Kurchatov Arra**	**0.73**	**357**	⇑P		**Pg**	**07 26 00.1**	**-1.1**
KUR17				⇑S		**Sg**	**07 26 09.9**	**-0.7**
KUR05	**Kurchatov Arra**	**0.73**	**1**	⇑P		**Pg**	**07 26 00.1**	**-1.3**
KUR05				⇑S		**Sg**	**07 26 08.9**	**-2.0**
BRZS	**Berezniki**	**3.78**	**273**	Pg		**Pg**	**07 27 00.0**	**+0.3**
	9.8nm,0.3s							
BRZS				Lg		Lg	07 27 51.9	
	20nm,0.3s							
MAKZ	**Makanchi**	**3.86**	**142**	P		**Pn**	**07 26 51.0**	**+3.1**
MAKZ				S		**Sn**	**07 27 32.7**	**-1.3**
MAKZ	**Makanchi**	**3.86**	**142**	⇑Pn		**Pn**	**07 26 50.1**	**+2.2**
	0.4nm,0.5s							
MAKZ				⇑Pg		**Pb**	**07 26 57.7**	**+1.4**
	5.0nm,0.9s							
MAKZ				⇓Lg		Lg	07 27 50.9	
	16nm,0.7s							
MK31	**Makanchi Array**	**4.00**	**140**	⇑Pn		**Pn**	**07 26 51.3**	**+1.4**
	0.3nm,0.2s,baz=322,slow=9.9,SNR=98							
MK31				⇑Pg		**Pb**	**07 26 59.7**	**+1.1**
	1.4nm,0.4s,baz=323,slow=12,SNR=27							
MK31				Lg		Lg	07 27 53.8	
	11nm,0.4s,baz=328,slow=27,SNR=13							
MKAR	**Makanchi Array**	**4.00**	**140**	P		**Pn**	**07 26 52.0**	**+2.1**
MKAR				S		**Sn**	**07 27 36.5**	**-0.9**
UKR	**Ust'-Kan**	**4.12**	**73**	P		**Pn**	**07 26 52.4**	**+0.8**
UKR				S		**Sn**	**07 27 41.5**	**+0.9**
ARXS	**Arharly**	**5.72**	**185**	Pg		**Pg**	**07 27 33.6**	**-3.2**
	2.2nm,0.4s							
ARXS				Lg		Lg	07 28 49.5	
	18nm,0.5s							
BTLS	**Baital**	**5.74**	**214**	Pg		**Pg**	**07 27 34.9**	**-2.3**
	0.8nm,0.2s							
BTLS				Lg		Lg	07 28 51.3	
	3.9nm,0.5s							
DGZ	**Jazzator, Alta**	**5.77**	**89**	P		**Pn**	**07 27 15.5**	**+1.3**
DGZ				S		**Sn**	**07 28 22.1**	**+0.8**
CHBI	**Chibit, Altay**	**5.79**	**83**	P		**Pn**	**07 27 15.2**	**+0.7**
CHBI				S		**Sn**	**07 28 21.5**	**-0.1**
ARTR	**Artybash**	**5.86**	**68**	P		**Pn**	**07 27 15.9**	**+0.5**
ARTR				S		**Sn**	**07 28 26.2**	**+3.1**
ELT	**Eltsovka**	**5.86**	**52**	P		**Pn**	**07 27 15.4**	**+0.1**
ELT				S		**Sn**	**07 28 23.2**	**0.0**
BRVK	**Borovoye**	**6.04**	**305**	⇓Pn		**Pn**	**07 27 18.1**	**+0.3**
	0.5nm,0.4s							
BRVK				⇓Sn		**Sn**	**07 28 28.0**	**+0.4**
	3.5nm,0.5s							
BRVK				⇓Lg		Lg	07 28 59.0	
	5.0nm,1.0s							
ULGR	**Ulagan, Altay**	**6.09**	**80**	P		**Pn**	**07 27 18.4**	**-0.2**
ULGR				S		**Sn**	**07 28 28.4**	**-0.7**
CUR	**Chagan-Uzun**	**6.34**	**85**	P		**Pn**	**07 27 23.1**	**+1.1**
CUR				S		**Sn**	**07 28 35.2**	**+0.1**
PDGK	**Podgornoye**	**6.62**	**174**	⇑Lg		Lg	07 29 21.6	
	6.7nm,0.6s							
TKM2	**Tokmak 2**	**7.28**	**197**	⇑Lg		Lg	07 29 41.0	
	4.0nm,0.6s							
AAK	**Ala-Archa**	**7.79**	**203**	⇑Lg		Lg	07 29 59.6	
	5.8nm,0.8s							

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*CNRM **11** 07:42:28.7,34.°94N×2.°84W,h13km,ml2.8,Hypocentre not reviewed by the ISC*
*SFS **11** 07:42:28.0,34.°94N×2.°87W,h3km,ML2.6,HASSI BERNAKE (MARRUECOS)*
*IGIL **11** 07:42:28.5,34.°92N×2.°88W,h0km*
*MDD **11** 07:42:28.4±1.1,34.°93N×2.°88W,h2km±4km,mbLg2.7/17, Error ellipse: s-maj=8.0km s-min=5.8km az=135.0, PRXIMO*
*INMG **11** 07:42:29.6±1.2,34.°98N×2.°98W,h5km±4km,ML2.2, Error ellipse: s-maj=5.8km s-min=2.3km az=108.0*
ISC 11 07:42:28.6±1.3,34.°97N±0.°05×2.°88W±0.°04,h17km±7km,
n76,σ1s37/108,4C-3D,Morocco

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.27**	**340**	P			07 42 35.0	
MELI	**Melilla**	**0.33**	**352**	P		**Pg**	**07 42 35.0**	**-0.5**
	98nm,0.1s,SNR=7.9							
MELI				S		**Sg**	**07 42 39.9**	**-0.3**
	756nm,0.2s,SNR=7.9							
MELI	**Melilla**	**0.33**	**352**	*i* P		**Pg**	**07 42 35.0**	**-0.5**
MELI				*e*S		**Sg**	**07 42 39.7**	**-0.5**
EMEL	**Melilla**	**0.34**	**350**	⇓P		**Pg**	**07 42 35.3**	**-0.3**
	242nm,0.1s,SNR=18							
EMEL				S		**Sg**	**07 42 40.5**	**+0.1**
	2μm,0.2s,SNR=13							
TAF	**Taforalt**	**0.41**	**112**	P			07 42 36.2	
PALE	**Palemas**	**0.90**	**286**	P			07 42 47.0	
EALB	**Alboran**	**0.98**	**353**	⇓P		**Pg**	**07 42 46.9**	**-0.7**
	32nm,0.2s,SNR=18							
EALB				S		**Sg**	**07 43 00.1**	**-0.3**
	526nm,0.6s,SNR=6.7							
PVLZ	**Peæn de**	**1.18**	**280**	P		**Pg**	**07 42 50.7**	**-0.7**
PVLZ				S		**Sb**	**07 43 07.8**	**+2.3**
PVLZ	**Peæn de**	**1.18**	**280**	*e*P		**Pg**	**07 42 50.7**	**-0.7**
PVLZ				*e*S		**Sb**	**07 43 07.8**	**+2.3**
EBER	**Berja**	**1.93**	**360**	⇑P		**Pn**	**07 43 00.3**	**-0.5**
	6.8nm,0.4s,SNR=18							
EBER				S		**Sn**	**07 43 22.6**	**-2.1**
	142nm,0.6s,SNR=17							
ELGU	**Los Guajares,**	**1.99**	**343**	⇑P		**Pn**	**07 43 00.6**	**-0.9**
	5.2nm,0.2s,SNR=18							
ELGU				S		**Sn**	**07 43 24.1**	**-2.0**
	28nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**2.07**	**15**	P		**Pn**	**07 43 01.9**	**-0.8**
	6.2nm,0.3s,SNR=7.9							
ENIJ				S		**Sn**	**07 43 24.7**	**-3.4**
	66nm,0.6s,SNR=7.9							
ECEU	**Ceuta**	**2.24**	**295**	P		**Pn**	**07 43 05.1**	**+0.2**
	1.5nm,0.0s,SNR=4.0							
EQUE	**Quentar**	**2.28**	**349**	⇑P		**Pn**	**07 43 06.3**	**+0.8**
	3.9nm,0.1s,SNR=18							
EQUE				S		**Sn**	**07 43 32.2**	**-1.1**
	18nm,0.5s,SNR=5.7							
EGOR	**Sierra Gorda,**	**2.36**	**335**	P		**Pn**	**07 43 07.9**	**+1.3**
	15nm,0.4s,SNR=7.9							
EGOR				S		**Sb**	**07 43 40.3**	**+0.7**
	18nm,0.3s,SNR=7.9							
IFR	**Ifrane**	**2.36**	**233**	*e*P		**Pb**	**07 43 11.2**	**+0.5**
IFR				*e*S		**Sg**	**07 43 43.9**	**-0.5**
EJIF	**Jimena Fronter**	**2.57**	**306**	P		**Pn**	**07 43 11.5**	**+2.0**
	SNR=7.9							
MDT	**Midelt**	**2.58**	**214**	P			07 43 10.4	

EQES	**Quesada**	**2.83**	**357**	P		**Pn**	**07 43 15.2**	**+2.0**
	5.3nm,0.4s,SNR=26							
EQES				S		**Sn**	**07 43 49.0**	**+2.1**
	31nm,0.3s							
SESP	**Santiago Espad**	**3.16**	**5**	⇓P		**Pn**	**07 43 19.6**	**+1.9**
	4.6nm,0.2s,SNR=18							
SESP				S		**Sn**	**07 43 56.3**	**+1.3**
	44nm,0.4s,SNR=7.9							
SESP	**Santiago Espad**	**3.16**	**5**	S			07 43 57.1	
EMUR	**La Murta**	**3.16**	**24**	P		**Pn**	**07 43 18.3**	**+0.7**
	12nm,0.3s,SNR=10							
EMUR				S		**Sn**	**07 43 51.6**	**-3.3**
	17nm,0.4s,SNR=6.1							
HORN	**Hornachuelos**	**3.45**	**327**	P			07 43 22.5	
EADA	**Adamuz**	**3.47**	**337**	P		**Pn**	**07 43 22.8**	**+0.9**
	3.8nm,0.3s,SNR=17							
EADA				S		**Sn**	**07 44 03.2**	**+0.6**
	10nm,0.3s							
ECAB	**El Cabril**	**3.71**	**327**	P		**Pn**	**07 43 26.4**	**+1.2**
	1.4nm,0.3s,SNR=6.4							
ECAB				S		**Sn**	**07 44 09.3**	**+0.7**
	15nm,0.5s							
ETOB	**Tobarra**	**3.82**	**16**	P		**Pn**	**07 43 29.5**	**+2.8**
	5.0nm,0.3s,SNR=7.2							
ETOB				S		**Sn**	**07 44 10.6**	**-0.7**
	5.2nm,0.3s							
EMIN	**Mina Concepcio**	**4.14**	**314**	P		**Pn**	**07 43 31.2**	**+0.1**
	1.1nm,0.3s,SNR=15							
EMIN				S		**Sn**	**07 44 17.3**	**-1.8**
	3.5nm,0.4s							
EGRO	**El Granado**	**4.51**	**306**	⇑P		**Pn**	**07 43 36.3**	**+0.2**
	7.1nm,0.3s,SNR=18							
EGRO				S		**Sn**	**07 44 25.6**	**-2.7**
	5.8nm,0.4s							
PVAQ	**Vaqueiros**	**4.60**	**303**	P		**Pn**	**07 43 37.4**	**0.0**
PVAQ				S		**Sn**	**07 44 28.8**	**-1.7**
	2.3nm,0.3s							
PVAQ	**Vaqueiros**	**4.60**	**303**	*e*Pn		**Pn**	**07 43 37.4**	**0.0**
PVAQ				*e*Sn		**Sn**	**07 44 28.8**	**-1.7**
PVAQ				A		A	07 44 39.0	
	2.3nm,0.3s							
PVAQ	**Vaqueiros**	**4.60**	**303**	P			07 43 38.1	
PBAR	**Barrancos**	**4.63**	**315**	P		**Pn**	**07 43 38.3**	**+0.6**
PBAR				S		**Sn**	**07 44 28.7**	**-2.4**
	2.9nm,0.5s							
PBAR	**Barrancos**	**4.63**	**315**	*e*Pn		**Pn**	**07 43 38.3**	**+0.6**
PBAR				*e*Sn		**Sn**	**07 44 28.7**	**-2.4**
PBAR				A		A	07 44 35.5	
	2.9nm,0.5s							
PBDV	**Barranco-do-Ve**	**4.67**	**300**	P		**Pn**	**07 43 38.1**	**-0.3**
PBDV				S		**Sn**	**07 44 31.4**	**-0.9**
	3.0nm,0.9s							
PBDV	**Barranco-do-Ve**	**4.67**	**300**	*e*Pn		**Pn**	**07 43 38.1**	**-0.3**
PBDV				*e*Sn		**Sn**	**07 44 31.4**	**-0.9**
PBDV				A		A	07 44 33.5	
	3.0nm,0.9s							
PAB	**San Pablo**	**4.72**	**346**	P		**Pn**	**07 43 40.6**	**+1.5**
	5.7nm,0.3s,SNR=7.9							
PAB	**San Pablo**	**4.72**	**346**	P			07 43 40.6	
ESDC	**Sonseca Array**	**4.78**	**350**	P		**Pn**	**07 43 41.6**	**+1.7**
	5.9nm,0.5s,baz=173,slow=12,SNR=34							
ECHE	**Chera**	**4.86**	**18**	P		**Pn**	**07 43 42.7**	**+1.8**
	0.1nm,0.1s,SNR=7.9							
PCVE	**Castro Verde**	**4.94**	**304**	P		**Pn**	**07 43 42.5**	**+0.5**
PCVE	**Castro Verde**	**4.94**	**304**	*e*Pn		**Pn**	**07 43 42.5**	**+0.5**
PBEJ	**Beja**	**5.04**	**309**	P		**Pn**	**07 43 44.5**	**+1.1**
PBEJ	**Beja**	**5.04**	**309**	*e*Pn		**Pn**	**07 43 44.5**	**+1.1**
MESJ	**Messejana**	**5.17**	**305**	*e*P		**Pn**	**07 43 45.3**	**+0.1**
MESJ	**Messejana**	**5.17**	**305**	P		**Pn**	**07 43 46.0**	**+0.8**
MESJ	**Messejana**	**5.17**	**305**	*e*Pn		**Pn**	**07 43 46.0**	**+0.8**
EIBI	**Ibiza**	**5.28**	**39**	P		**Pn**	**07 43 47.9**	**+1.3**
	3.5nm,0.3s,SNR=7.9							
EIBI				S		**Sn**	**07 44 44.5**	**-2.6**
	2.0nm,0.3s,SNR=7.9							
PFVI	**Vila Bisbo**	**5.28**	**296**	*e*Pn		**Pn**	**07 43 49.5**	**+2.8**
PTEO	**Sao Teotonio**	**5.38**	**300**	P		**Pn**	**07 43 48.1**	**+0.1**
PTEO	**Sao Teotonio**	**5.38**	**300**	*e*Pn		**Pn**	**07 43 48.1**	**+0.1**
PESTR	**Estremoz**	**5.42**	**317**	*e*Pn		**Pn**	**07 43 49.7**	**+1.1**
EVO	**Evora**	**5.44**	**312**	P		**Pn**	**07 43 49.3**	**+0.4**
EVO				S		**Sn**	**07 44 48.5**	**-2.6**
	3.5nm,0.2s							
EVO	**Evora**	**5.44**	**312**	*e*Pn		**Pn**	**07 43 49.3**	**+0.4**
EVO				*e*Sn		**Sn**	**07 44 48.5**	**-2.6**
EVO				A		A	07 44 50.8	
	3.5nm,0.2s							
PNCL	**Nicolau / Gran**	**5.52**	**306**	P		**Pn**	**07 43 50.7**	**+0.7**
PNCL				S		**Sn**	**07 44 51.4**	**-1.7**
PNCL	**Nicolau / Gran**	**5.52**	**306**	*e*Pn		**Pn**	**07 43 50.7**	**+0.7**
PNCL				*e*Sn		**Sn**	**07 44 51.4**	**-1.7**
EPLA	**Plasencia**	**5.69**	**334**	P		**Pn**	**07 43 52.9**	**+0.6**
	1.0nm,0.2s,SNR=7.9							
PMRV	**Marv??o**	**5.72**	**322**	P		**Pn**	**07 43 53.9**	**+1.1**
PMRV	**Marv??o**	**5.72**	**322**	*e*Pn		**Pn**	**07 43 53.9**	**+1.1**
GUD	**Guadarrama**	**5.75**	**350**	P		**Pn**	**07 43 54.5**	**+1.1**
	7.5nm,0.6s,SNR=5.9						

Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}2.63; $M_{\theta\theta}$-3.70; $M_{\phi\phi}$1.07; $M_{r\theta}$3.18; $M_{r\phi}$0.40; $M_{\theta\phi}$1.98; Fault plane solution: M_o5.01000×1014 NP1:ϕ_s67.00000°, δ72.00000°, λ66.00000°. NP2:ϕ_s303.00000°, δ30.00000°, λ142.00000°.

ISC 11 07:51:53.8±1.0, **23°.94N**±0°.02×**122°.68E**±0°.02, **h27**km±9km, **n140**,σ1§12/257, **mb3.5**/6, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
JYNG	**Yonagunijimaku**	**0.57**	**26**	P	**Pb**	**07 52 05.1**	**-0.2**
JYNG				eS	**Sb**	**07 52 12.3**	**-0.8**
YOJ	**Yonaguni jima**	**0.61**	**30**	P	**Pb**	**07 52 06.0**	**0.0**
	baz=36						
YOJ				S	**Sb**	**07 52 13.6**	**-0.5**
	baz=36						
YOJ	**Yonaguni jima**	**0.61**	**30**	P	**Pb**	**07 52 05.8**	**-0.1**
YOJ				S	**Sb**	**07 52 13.4**	**-0.8**
EWUT	**Wuta**	**0.96**	**302**	eP	**Pn**	**07 52 11.3**	**-0.3**
	baz=299						
EWUT				eS	**Sn**	**07 52 25.5**	**+1.1**
	baz=299						
HWA	**Hwalien**	**0.98**	**273**	eP	**Pn**	**07 52 12.1**	**+0.3**
	baz=256						
HWA				eS	**Sb**	**07 52 25.2**	**+0.5**
	baz=256						
ENA	**Nanau**	**0.98**	**300**	eP	**Pn**	**07 52 12.1**	**+0.3**
	baz=298						
ENA				S	**Sn**	**07 52 25.6**	**+0.7**
	baz=298						
TWD	**Chiawan**	**1.00**	**279**	eP	**Pn**	**07 52 11.9**	**-0.1**
	baz=276						
TWD				eS	**Sb**	**07 52 24.7**	**-0.5**
	baz=276						
TWC	**Suao**	**1.01**	**312**	eP	**Pb**	**07 52 12.5**	**-0.1**
	baz=310						
TWC				eS	**Sb**	**07 52 24.8**	**-0.8**
	baz=310						
NACB	**Ninganchiao**	**1.02**	**284**	eP	**Pn**	**07 52 12.0**	**-0.2**
	baz=266						
NACB				eS	**Sb**	**07 52 25.2**	**-0.6**
	baz=266						
HATJ	**Hateruma jima**	**1.04**	**83**	P	**Pb**	**07 52 13.6**	**+0.4**
HATJ				eS	**Sb**	**07 52 26.7**	**+0.2**
IRIF	**Iriomote-Funau**	**1.04**	**67**	P	**Pb**	**07 52 13.8**	**+0.6**
IRIF				S	**Sn**	**07 52 28.3**	**+2.0**
NDS	**Dongshan**	**1.12**	**309**	eP	**Pb**	**07 52 14.8**	**+0.3**
	baz=306						
NDS				eS	**Sb**	**07 52 29.7**	**+1.0**
	baz=306						
ETLH	**Xiulin Townshi**	**1.12**	**284**	P	**Pn**	**07 52 14.2**	**+0.4**
	baz=268						
ETLH				eS	**Sn**	**07 52 28.5**	**0.0**
	baz=268						
EGS		**1.13**	**323**	eP	**Pb**	**07 52 14.6**	**-0.1**
	baz=335						
ESL	**Shilin**	**1.14**	**264**	eP	**Pn**	**07 52 13.7**	**-0.4**
	baz=262						
ESL				eS	**Sn**	**07 52 28.3**	**-0.5**
	baz=262						
EGFH	**Guangfu**	**1.17**	**257**	eP	**Pn**	**07 52 14.6**	**+0.2**
	baz=255						
EGFH				eS	**Sn**	**07 52 30.1**	**+0.6**
	baz=255						
ILA	**Ilan**	**1.18**	**315**	eP	**Pb**	**07 52 15.9**	**+0.3**
	baz=312						
ILA				eS	**Sb**	**07 52 32.2**	**+1.6**
	baz=312						
NTC	**Toucheng**	**1.20**	**320**	P	**Pb**	**07 52 15.7**	**-0.2**
	baz=334						
NTC				eS	**Sb**	**07 52 31.9**	**+1.0**
	baz=334						
TWE	**Neicheng**	**1.21**	**311**	P	**Pb**	**07 52 16.2**	**+0.1**
	baz=309						
TWE				S	**Sb**	**07 52 32.3**	**+1.0**
	baz=309						
HGSD	**Ruisui**	**1.23**	**249**	eP	**Pn**	**07 52 15.4**	**+0.2**
	baz=247						
HGSD				eS	**Sn**	**07 52 30.7**	**-0.2**
	baz=247						
ENTT	**Nioudou**	**1.23**	**305**	eP	**Pb**	**07 52 16.4**	**-0.1**
	baz=288						
ENTT				eS	**Sb**	**07 52 33.3**	**+1.3**
	baz=288						
TWB1	**Santiao Chiao**	**1.24**	**330**	eP	**Pn**	**07 52 15.5**	**+0.1**
	baz=328						
TWB1				eS	**Sb**	**07 52 31.4**	**-0.8**
	baz=328						
NDT	**Datong Townshi**	**1.25**	**302**	eP	**Pb**	**07 52 16.9**	**+0.1**
	baz=285						
NDT				eS	**Sb**	**07 52 33.6**	**+1.1**
	baz=285						
JKRS	**Kuro-shima**	**1.26**	**76**	P	**Pb**	**07 52 16.9**	**0.0**
JKRS				S	**Sb**	**07 52 33.0**	**+0.4**
NNSB	**Datong**	**1.28**	**293**	eP	**Pn**	**07 52 16.3**	**+0.3**
	baz=278						
NNSB				eS	**Sn**	**07 52 33.0**	**+0.6**
	baz=278						
NNSH	**Datong**	**1.28**	**293**	eP	**Pn**	**07 52 16.8**	**+0.8**
	baz=278						
NNSH				eS	**Sn**	**07 52 32.8**	**+0.4**
	baz=278						
TIPB	**Shuangxi**	**1.29**	**323**	eP	**Pb**	**07 52 16.8**	**-0.6**
	baz=337						
TIPB				eS	**Sb**	**07 52 33.4**	**-0.2**
	baz=337						
NNS	**Nan Shan**	**1.29**	**293**	P	**Pn**	**07 52 17.0**	**+0.8**
	baz=279						
NNS				eS	**Sb**	**07 52 34.4**	**+0.6**
	baz=279						
WHF	**Hehuan Shan**	**1.31**	**279**	eP	**Pn**	**07 52 16.8**	**+0.1**
	baz=277						
WHF				eS	**Sn**	**07 52 33.6**	**+0.2**
	baz=277						
EHY	**Hungye**	**1.31**	**251**	eP	**Pn**	**07 52 16.8**	**+0.4**
	baz=249						
EHY				eS	**Sn**	**07 52 33.2**	**+0.2**
	baz=249						
FUSS	**Fushou**	**1.34**	**284**	eP	**Pn**	**07 52 17.8**	**+0.8**
	baz=281						
FUSS				eS	**Sn**	**07 52 34.8**	**+0.7**
	baz=281						
NWLT	**Wulai**	**1.36**	**308**	P	**Pb**	**07 52 18.7**	**0.0**
	baz=306						
NWLT				S	**Sb**	**07 52 36.3**	**+0.6**
	baz=306						
YULB	**Yu-li**	**1.37**	**247**	eP	**Pn**	**07 52 17.9**	**+0.7**
	baz=245						
YULB				eS	**Sn**	**07 52 35.1**	**+0.6**
	baz=245						
EYUL	**Yuli**	**1.38**	**245**	eP	**Pn**	**07 52 18.4**	**+1.1**
	baz=243						
EYUL				eS	**Sn**	**07 52 34.9**	**+0.4**
	baz=243						
CHGB	**Renai**	**1.38**	**275**	eP	**Pn**	**07 52 18.0**	**+0.5**
	baz=273						
CHGB				eS	**Sn**	**07 52 35.1**	**+0.2**
	baz=273						
TWF1	**Yuli**	**1.39**	**246**	eP	**Pn**	**07 52 18.2**	**+0.8**
	baz=244						
TWF1				eS	**Sn**	**07 52 34.9**	**0.0**
	baz=244						
NWF	**Wu-fen Shan**	**1.39**	**324**	eP	**Pn**	**07 52 18.0**	**+0.4**
	baz=322						
NWF				eS	**Sb**	**07 52 35.7**	**-1.0**
	baz=322						
WFSB	**Wu-fen Shan**	**1.39**	**324**	P	**Pn**	**07 52 18.2**	**+0.7**
	baz=322						
WFSB				eS	**Sb**	**07 52 35.7**	**-0.9**
	baz=322						
YHNB	**Yeheng**	**1.39**	**302**	eP	**Pn**	**07 52 18.3**	**+0.7**
	baz=300						
YHNB				eS	**Sb**	**07 52 37.7**	**+1.0**
	baz=300						
JIJ	**Ishigaki jima**	**1.41**	**72**	P	**Pn**	**07 52 18.4**	**+0.7**
JIJ				S	**Sb**	**07 52 36.2**	**-0.8**
VWDT	**VWDT**	**1.42**	**263**	eP	**Pn**	**07 52 18.5**	**+0.8**
	baz=261						
VWDT				S	**Sn**	**07 52 35.3**	**-0.2**
	baz=261						
TDCB	**Techi**	**1.42**	**283**	eP	**Pn**	**07 52 19.0**	**+1.0**
	baz=269						
TDCB				eS	**Sn**	**07 52 36.4**	**+0.5**
	baz=269						
TWA	**Mucha**	**1.44**	**317**	eP	**Pb**	**07 52 19.6**	**-0.4**
	baz=315						
TWA				eS	**Sb**	**07 52 39.0**	**+1.1**
	baz=315						
CHKT	**Chengkung**	**1.46**	**236**	eS	**Sn**	**07 52 35.5**	**-1.2**
	baz=221						
TNOU	**National Taiwa**	**1.46**	**326**	eP	**Pn**	**07 52 19.3**	**+0.9**
	baz=324						
TNOU				eS	**Sn**	**07 52 37.1**	**+0.4**
	baz=324						
FULB	**Fuli**	**1.46**	**240**	eP	**Pn**	**07 52 19.3**	**+0.8**
	baz=226						
FULB				eS	**Sn**	**07 52 37.2**	**+0.4**
	baz=226						
NHDH	**Xindian Distri**	**1.47**	**315**	eP	**Pb**	**07 52 20.5**	**+0.1**
	baz=330						
NHDH				eS	**Sb**	**07 52 39.4**	**+0.8**
	baz=330						
TATO	**Taipei**	**1.50**	**314**	eP	**Pb**	**07 52 20.5**	**-0.5**
	baz=329						
TATO				eS	**Sb**	**07 52 39.2**	**-0.3**
	baz=329						
TAP	**Taipei**	**1.53**	**316**	eS	**Sb**	**07 52 41.2**	**+0.7**
	baz=330						
YM01	**YM01**	**1.57**	**320**	eP	**Pn**	**07 52 20.2**	**+0.3**
	baz=319						
YM01				eS	**Sn**	**07 52 38.9**	**-0.6**
	baz=319						
WPL	**Puli Township**	**1.57**	**273**	eP	**Pn**	**07 52 20.8**	**+0.9**
	baz=271						
WPL				eS	**Sn**	**07 52 40.1**	**+0.6**
	baz=271						
EDH	**Donghe**	**1.58**	**233**	eP	**Pn**	**07 52 20.0**	**-0.1**
	baz=220						
EDH				S	**Sn**	**07 52 38.4**	**-1.2**
	baz=220						
SSLB	**Suanglung**	**1.58**	**265**	eP	**Pn**	**07 52 21.2**	**+1.1**
	baz=263						
SSLB				eS	**Sn**	**07 52 40.7**	**+1.0**
	baz=263						
YM10	**YM10**	**1.58**	**320**	eP	**Pn**	**07 52 20.9**	**+0.8**
	baz=318						
YM10				eS	**Sn**	**07 52 40.6**	**+0.9**
	baz=318						
YM11	**YM11**	**1.58**	**321**	eP	**Pn**	**07 52 21.2**	**+1.0**
	baz=319						
YM11				eS	**Sb**	**07 52 41.8**	**-0.3**
	baz=319						
YM08	**YM08**	**1.59**	**322**	eP	**Pn**	**07 52 21.4**	**+1.1**
	baz=320						
YM04	**YM04**	**1.60**	**320**	eP	**Pb**	**07 52 22.0**	**-0.7**
	baz=318						
YM04				eS	**Sn**	**07 52 40.1**	**+0.1**
	baz=318						
DPDB	**Guoxing**	**1.60**	**274**	eP	**Pn**	**07 52 21.6**	**+1.2**
	baz=272						
DPDB				eS	**Sn**	**07 52 41.8**	**+1.6**
	baz=272						
YM03	**YM03**	**1.61**	**320**	eP	**Pb**	**07 52 22.1**	**-0.9**
	baz=318						
WHP	**Taichung City**	**1.62**	**283**	eP	**Pb**	**07 52 22.7**	**-0.4**
	baz=269						
WHP				eS	**Sb**	**07 52 42.7**	**-0.4**
	baz=269						
WCS	**Beigang Elemen**	**1.62**	**275**	eP	**Pn**	**07 52 21.9**	**+1.3**
	baz=273						
WCS				eS	**Sb**	**07 52 42.7**	**-0.3**
	baz=273						
SMLT	**Sun Moon Lake**	**1.62**	**269**	eP	**Pn**	**07 52 22.0**	**+1.2**
	baz=267						
SMLT				eS	**Sn**	**07 52 41.2**	**+0.3**
	baz=267						
JISG	**Ishigakijimahi**	**1.63**	**66**	P	**Pn**	**07 52 21.2**	**+0.5**
JISG				S	**Sn**	**07 52 41.5**	**+0.8**
TWY	**Chenhua**	**1.66**	**324**	eP	**Pn**	**07 52 22.1**	**+1.0**
	baz=322						
TWY				eS	**Sb**	**07 52 43.6**	**-0.5**
	baz=322						
NTST	**Danshui**	**1.66**	**318**	eP	**Pb**	**07 52 23.0**	**-0.7**
	baz=316						
TYC	**Yuchr**	**1.66**	**269**	eP	**Pn**	**07 52 22.4**	**+1.2**
	baz=267						
TYC				eS	**Sn**	**07 52 43.3**	**+1.6**
	baz=267						
LIOB	**Emei**	**1.67**	**295**	eP	**Pb**	**07 52 23.1**	**-0.8**
	baz=293						
LIOB				eS	**Sb**	**07 52 44.5**	**-0.1**
	baz=293						
LDUT	**Ludao**	**1.68**	**222**	eP	**Pn**	**07 52 20.9**	**-0.4**
	baz=221						
LDUT				eS	**Sn**	**07 52 40.3**	**-1.6**
	baz=221						
NSTT	**Nanjuang**	**1.68**	**295**	eP	**Pn**	**07 52 22.5**	**+1.1**
	baz=293						
NSTT				eS	**Sb**	**07 52 44.6**	**-0.2**
	baz=293						
ELDTW	**Lidau**	**1.69**	**244**	eP	**Pn**	**07 52 22.0**	**+0.3**
	baz=242						
ELDTW				eS	**Sn**	**07 52 42.0**	**-0.5**
	baz=242						
NCU	**National Centr**	**1.70**	**308**	eS	**Sb**	**07 52 47.6**	**+2.1**
	baz=306						
NCUH	**Zhongli**	**1.70**	**307**	eP	**Pb**	**07 52 24.0**	**-0.5**
	baz=305						
NCUH				eS	**Sb**	**07 52 47.0**	**+1.5**
	baz=305						
LONT	**Longtian**	**1.75**	**234**	eP	**Pn**	**07 52 23.5**	**+1.1**
	baz=223						
LONT				eS	**Sn**	**07 52 44.3**	**+0.5**
	baz=223						
SBCB	**Hsinchu**	**1.76**	**299**	eP	**Pb**	**07 52 25.1**	**-0.4**
	baz=297						
SBCB				eS	**Sb**	**07 52 48.2**	**+1.0**
	baz=297						
ALS	**Alishan**	**1.77**	**257**	eP	**Pn**	**07 52 24.2**	**+1.4**
	baz=254						
ALS				eS	**Sn**	**07 52 45.7**	**+1.1**
	baz=254						
PCYT	**Pengchaiyu**	**1.77**	**342**	eP	**Pn**	**07 52 22.7**	**0.0**
	baz=341						
WJS	**Zhushan**	**1.79**	**267**	eP	**Pb**	**07 52 25.5**	**-0.4**
	baz=265						
WJS				eS	**Sb**	**07 52 48.6**	**+0.8**
	baz=265						
WWF	**Wufeng**	**1.81**	**274**	eP	**Pb**	**07 52 25.8**	**-0.5**
	baz=272						
WWF				eS	**Sb**	**07 52 50.2**	**+1.6**
	baz=272						
NSY	**Sanyi**	**1.81**	**286**	eP	**Pb**	**07 52 25.2**	**-1.2**
	baz=284						
NSY				eS	**Sb**	**07 52 49.1**	**+0.4**
	baz=284						
NMLH	**Miaoli**	**1.82**	**290**	eP	**Pb**	**07 52 25.4**	**-1.1**
	baz=287						
NMLH				eS	**Sb**	**07 52 48.0**	**-0.9**
	baz=287						
WNT	**Mingjian**	**1.82**	**269**	eP	**Pb**	**07 52 26.1**	**-0.4**
	baz=266						
WNT				eS	**Sb**	**07 52 48.4**	**-0.6**
	baz=266						
TTN	**Taitung**	**1.83**	**230**	eP	**Pn**	**07 52 24.7**	**+1.2**
	baz=229						
TTN				eS	**Sn**	**07 52 46.2**	**+0.5**
	baz=229						
TCU	**Taichung**	**1.84**	**277**	eP	**Pb**	**07 52 26.4**	**-0.4**
	baz=275						
TCU				eS	**Sb**	**07 52 49.8**	**+0.4**
	baz=275						
TWGBT	**Beinan**	**1.84**	**233**	eP	**Pn**	**07 52 24.0**	**+0.3**
	baz=222						
TWGBT				eS	**Sn**	**07 52 45.7**	**-0.4**
	baz=222						
TWG	**Pinlang**	**1.84**	**233**	eP	**Pn**	**07 52 24.5**	**+0.8**
	baz=222						
TWG				eS	**Sn**	**07 52 45.8**	**-0.3**
	baz=222						
CHN5	**Tsauling**	**1.86**	**260**	eP	**Pn**	**07 52 26.0**	**+2.0**
	baz=258						
CHN5				eS	**Sb**	**07 52 49.9**	**-0.2**
	baz=258						
STYH	**Taoyuan**	**1.90**	**247**	eP	**Pn**	**07 52 26.3**	**+1.9**
	baz=236						
STYH				eS	**Sn**	**07 52 48.9**	**+1.4**
	baz=236						
STYT	**Tauyuan**	**1.92**	**247**	eP	**Pn**	**07 52 26.4**	**+1.6**
	baz=235						
STYT				eS	**Sn**	**07 52 49.7**	**+1.6**
	baz=235						
WCHH	**Zhanghua**	**1.94**	**275**	eP	**Pb**	**07 52 27.6**	**-1.0**
	baz=273						
WCHH				eS	**Sb**	**07 52 52.9**	**+0.6**
	baz=273						
WGK	**Gukeng**	**1.95**	**263**	eP	**Pb**	**07 52 28.1**	**-0.6**
	baz=261						
WGK				eS	**Sb**	**07 52 52.3**	**-0.3**
	baz=261						
WDLH	**Douliu**	**1.97**	**263**	eP	**Pb**	**07 52 28.2**	**-0.9**
	baz=261						
WDLH				eS	**Sb**	**07 52 53.8**	**+0.6**
	baz=261						
JTJ	**Tarama**	**1.98**	**69**	P	**Pn**	**07 52 27.4**	**+1.9**
TPUB	**Ta-pu**	**1.98**	**252**	eP	**Pb**	**07 52 28.2**	**-1.0**
	baz=240						
TPUB				S	**Sb**	**07 52 52.9**	**-0.6**
	baz=240						
CHN4	**Tsaushan**	**2.00**	**253**	eP	**Pb**	**07 52 29.1**	**-0.4**
	baz=241						
CHN4				eS	**Sb**	**07 52 54.1**	**+0.2**
	baz=241						
WTP	**Ta-pu**	**2.01**	**250**	eP	**Pn**	**07 52 28.4**	**+2.4**
	baz=249						
WTP				eS	**Sb**	**07 52 53.9**	**-0.6**
	baz=249						
ECL	**Taimali**	**2.07**	**230**	eP	**Pn**	**07 52 27.2**	**+0.4**
	baz=229						
ECL				eS	**Sn**	**07 52 51.1**	**-0.5**
	baz=229						
SGST	**Jiashian**	**2.10**	**247**	eP	**Pn**	**07 52 29.9**	**+2.7**
	baz=234						
SGST				eS	**Sn**	**07 52 55.4**	**+3.0**
	baz=234						
WRL	**Guolierlin Hig**	**2.10**	**270**	eS	**Sb**	**07 52 56.1**	**-0.9**
	baz=282						
CHN1	**Nanshi**	**2.11**	**250**	eP	**Pb**	**07 52 30.9**	**-0.5**
	baz=248						
CHN1				eS	**Sb**	**07 52 57.0**	**-0.2**
	baz=248						
CHY	**Chiayi**	**2.11**	**259**	eP	**Pn**	**07 52 29.6**	**+2.3**
	baz=256						
CHY				eS	**Sb**	**07 52 56.2**	**-0.9**
	baz=256						
WTK	**Tuku**	**2.11**	**264**	eP	**Pb**	**07 52 30.6**	**-0.8**
	baz=262						
WTK				eS	**Sb**	**07 52 56.4**	**-0.7**
	baz=262						
TWK	**Hsinying**	**2.11**	**252**	eP	**Pb**	**07 52 30.4**	**-1.1**
	baz=250						
TWK				eS	**Sb**	**07 52 56.4**	**-0.9**
	baz=250						
SNST	**Tainan City**	**2.12**	**251**	eP	**Pb**	**07 52 30.6**	**-1.0**
	baz=249						
SNST				eS	**Sb**	**07 52 56.8**	**-0.7**
	baz=249						
LAY	**Lan-yu**	**2.15**	**209**	eP	**Pn**	**07 52 27.6**	**-0.4**
	baz=208						
LAY				eS	**Sn**	**07 52 51.9**	**-1.9**
	baz=208						
SSD	**Sandimen**	**2.22**	**238**	eP	**Pb**	**07 52 31.9**	**-1.4**
	baz=231						
SSD				eS	**Sn**	**07 52 56.8**	**+1.4**
	baz=231						
TSMG	**Majia**	**2.23**	**237**	eP	**Pn**	**07 52 31.1**	**+2.1**
	baz=229						
TSMG				eS	**Sn**	**07 52 57.4**	**+1.7**
	baz=229						
SCST	**Cishan**	**2.26**	**243**	eP	**Pb**	**07 52 33.7**	**-0.3**
	baz=229						
SCST				eS	**Sb**	**07 53 01.5**	**0.0**
	baz=229						
ICHU	**Yijhu**	**2.27**	**256**	eP	**Pn**	**07 52 32.0**	**+2.5**
	baz=254						
ICHU				eS	**Sn**	**07 52 59.7**	**+3.0**
	baz=254						
EAST	**Anshuo**	**2.28**	**228**	eP	**Pn**	**07 52 30.8**	**+1.0**
	baz=237						
EAST				eS	**Sn**	**07 52 57.5**	**+0.5**
	baz=237						
MASBT	**Mashibuluo**	**2.29**	**235**	eP	**Pn**	**07 52 31.8**	**+1.9**
	baz=227						
MASBT				eS	**Sn**	**07 53 00.0**	**+2.8**
	baz=227						
TWM1	**Shoushan**	**2.35**	**242**	eS	**Sb**	**07 53 04.5**	**+0.4**
	baz=241						
SSPT	**Xinbi**	**2.42**	**234**	eP	**Pn**	**07 52 33.9**	**+2.3**
	baz=226						
SSPT				eS	**Sn**	**07 53 03.0**	**+2.8**
	baz=226						
SLIU	**Shizi**	**2.43**	**226**	eP	**Pn**	**07 52 32.6**	**+0.9**
	baz=225						
SLIU				eS	**Sn**	**07 53 01.9**	**+1.3**
	baz=225						
SCZT	**Fangliau**	**2.45**	**231**	eP	**Pn**	**07 52 34.0**	**+2.0**
	baz=222						
SCZT				eS	**Sn**	**07 53 03.8**	**+2.8**
	baz=222						
JMJ	**Miyako jima 2**	**2.54**	**69**	eP	**Pn**	**07 52 34.6**	**+1.3**
	baz=72						
JMJ				eS	**Sn**	**07 53 03.8**	**+0.4**
	baz=72						
HEN	**Hengchun**	**2.62**	**223**	eP	**Pn**	**07 52 36.8**	**+2.5**
	baz=222						
HEN				eS	**Sn**	**07 53 07.1**	**+1.8**
	baz=222						
TWKBT	**Hengchun**	**2.62**	**221**	eP	**Pn**	**07 52 36.2**	**+1.8**
	baz=220						
TWKBT				eS	**Sn**	**07 53 06.2**	**+0.9**
	baz=220						
TWK1	**Hengchun**	**2.63**	**221**	eP	**Pn**	**07 52 36.7**	**+2.2**
	baz=220						
TWK1				eS	**Sn**	**07 53 06.8**	**+1.4**
	baz=220						
WLCH	**Liuqiu**	**2.64**	**234**	eP	**Pb**	**07 52 39.7**	**-0.7**
	baz=227						
WDGT	**Dungji**	**2.85**	**257**	eP	**Pn**	**07 52 39.0**	**+1.6**
	baz=255						
WDGT				eS	**Sn**	**07 53 12.1**	**+1.3**
	baz=255						
PHUB	**P'eng-hu**	**2.88**	**262**	eP	**Pn**	**07 52 39.0**	**+1.2**
	baz=275						
PHUB				eS	**Sn**	**07 53 13.1**	**+1.5**
	baz=275						
PNG	**Penghu**	**2.88**	**263**	eP	**Pn**	**07 52 39.9**	**+1.9**
	baz=261						
PNG				eS	**Sn**	**07 53 13.4**	**+1.6**
	baz=261						
VWUC	**VWUC**	**3.12**	**290**	eP	**Pn**	**07 52 42.0**	**+0.8**
	baz=288						
VWUC				eS	**Sn**	**07 53 17.6**	**-0.1**
	baz=288						
MATB	**Ma-tsu**	**3.32**	**312**	eP	**Pn**	**07 52 44.2**	**+0.3**
	baz=310						
PTMZ	**Houxiangcun**	**3.42**	**289**	eP	**Pn**	**07 52 46.0**	**+0.6**
	baz=287						
PTMZ				eS	**Sn**	**07 53 25.6**	**+0.6**
	baz=287						
LYJJ	**Jianjiangzhen**	**3.71**	**315**	eP	**Pn**	**07 52 51.0**	**+1.7**
	baz=324						
XPSS	**Dashiqiu**	**3.73**	**324**	eP	**Pn**	**07 52 50.2**	**+0.6**
	baz=323						
XPSS				eS	**Sn**	**07 53 33.8**	**+1.1**
	baz=323						
KNM	**Kinmen**	**3.90**	**278**	eP	**Pn**	**07 52 54.3**	**+2.3**
	baz=275						
KNM				eS	**Sn**	**07 53 39.7**	**+2.8**
	baz=275						
MHZQ	**Yeshan**	**3.95**	**304**	eP	**Pn**	**07 52 55.0**	**+2.4**
	baz=302						
KNMB	**Chin-men Tao**	**3.95**	**279**	eP	**Pn**	**07 52 53.4**	**+0.7**
	baz=276						
KNMB				eS	**Sn**	**07 53 37.6**	**-0.5**
	baz=276						
AXDP	**Jialang**	**4.39**	**284**	eP	**Pn**	**07 53 01.9**	**+3.2**
	baz=270						
AXDP				eS	**Sn**	**07 53 50.1**	**+1.1**
	baz=270						
ZPLA	**Ao Xicun**	**4.51**	**271**	eS	**Sn**	**07 53 51.2**	**-0.6**
	baz=268						
JOW	**Kunigami**	**5.83**	**59**	Pn	**Pn**	**07 53 15.9**	**-2.6**
	1.9nm,0.3s,baz=298,slow=26,SNR=1.7						
KSRS	**Korea Array**	**14.21**	**17**	Pn	**P**	**07 55 19.1**	**-1.2**
	0.5nm,0.3s,baz=194,slow=11,SNR=6.7						
KSRS				LR	LR	08 01 03.0	
	comp=Z,35nm,19.2s,baz=165,slow=40						
USRK	**Ussuriysk Ar.**	**21.61**	**18**	P	**P**	**07 56 39.4**	**-2.2**
	1.4nm,0.7s,baz=212,slow=13,SNR=2.1						
SONM	**Songino Array**	**27.14**	**336**	P	**P**	**07 57 33.2**	**-1.6**
	0.6nm,0.6s,baz=153,slow=10,SNR=4.7						
MKAR	**Makanchi Array**	**39.47**	**316**	P	**P**	**07 59 21.4**	**-0.3**
	0.6nm,0.6s,baz=104,slow=9.6,SNR=7.2						

MKAR				PcP		**PcP**	**08 01 29.2**	**-0.1**
	0.5nm,0.8s,baz=86,slow=5.1,SNR=3.6								
WRA	**Warramunga Arr**	**45.07**	**164**	P		**P**	**08 00 08.5**	**+0.9**
	0.4nm,0.6s,baz=347,slow=8.9,SNR=5.5								
ASAR	**Alice Springs**	**48.56**	**166**	P		**P**	**08 00 36.7**	**+1.8**
	0.4nm,0.5s,baz=354,slow=14,SNR=7.3								
YKA	**Yellowknife Ar**	**82.66**	**23**	P		**P**	**08 04 13.6**	**-0.9**
	0.4nm,0.8s,baz=317,slow=4.4,SNR=7.7								

*NEIC **11** 07:54:11.1±1.2, 13.86N±0.08×144.8E±0.1, h187km±5km, mb4.3/20, Error ellipse: s-maj=18.7km s-min=11.5km az=95.0*
*IDC **11** 07:54:11.9±2.3, 14.01N×144.74E, h195km±21km, mb3.4/11, mb1 3.6/13, mb1mx3.5/41, mbtmp4.0/13, Error ellipse: s-maj=17.9km s-min=11.7km az=81.0*
ISC 11 07:54:11.7±0.5, 13.90N±0.07×144.8E±0.1, h200km, n37, σ1§31/39, mb4.0/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.32**	**164**		**Pn**	**07 54 36.2**	**-2.2**
ANA2	**Anatahan**	**2.59**	**20**		**Pn**	**07 54 55.7**	**-1.0**
SIJI	**Sorong**	**19.86**	**223**	P	**P**	**07 58 30.1**	**+2.3**
	2.1nm,0.3s,baz=27,slow=15,SNR=5.4						
JOW	**Kunigami**	**20.09**	**312**	P	**P**	**07 58 30.7**	**+0.5**
	3.7nm,0.3s,baz=97,slow=10,SNR=4.6						
FAKI	**Fak Fak**	**20.82**	**218**	P	**P**	**07 58 38.4**	**+0.4**
MJB9	**Matsu-Tunnel**	**23.31**	**347**		pP	07 59 43.4	+6.0
WB0	**Warramunga Arr**	**34.98**	**197**	P	**P**	**08 00 45.4**	**+0.2**
WB0				IAmb	IAmb	08 01 07.4	
	comp=Z,7.1nm,1.3s						
WR0	**Warramunga Arr**	**35.12**	**197**	P	**P**	**08 00 46.3**	**0.0**
WRAB	**Tennant Creek**	**35.15**	**197**	P	**P**	**08 00 46.8**	**+0.2**
WB2	**Warramunga Arr**	**35.16**	**197**	P	**P**	**08 00 47.0**	**+0.4**
WB2				IAmb	IAmb	08 00 53.5	
	comp=Z,8.4nm,1.4s						
WRA	**Warramunga Arr**	**35.16**	**197**	P	**P**	**08 00 46.8**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=18,slow=9.7,SNR=26						
WRA				ScP	**ScP**	**08 06 41.7**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=12,slow=3.7,SNR=4.0						
FITZ	**Fitzroy Crossi**	**36.98**	**211**	P	**P**	**08 01 02.4**	**+0.3**
FITZ				IAmb	IAmb	08 01 02.8	
	comp=Z,5.8nm,0.8s						
ASAR	**Alice Springs**	**38.82**	**196**	P	**P**	**08 01 17.8**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=15,slow=13,SNR=7.5						
ASAR				PcP	**PcP**	**08 03 25.3**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=23,slow=5.0,SNR=1.3						
ASAR				ScP	**S**	**08 06 55.2**	**-5.1**
	comp=Z,0.4nm,0.5s,baz=19,slow=3.7,SNR=7.7						
EIDS	**Eidsvold**	**39.51**	**171**	P	**P**	**08 01 23.6**	**+0.5**
EIDS				IAmb	IAmb	08 01 44.2	
	comp=Z,17nm,1.4s						
DZM	**Mont Dzumac**	**41.59**	**149**	P	**P**	**08 01 43.2**	**+2.9**
	comp=Z,8.7nm,0.5s,baz=315,slow=5.4,SNR=19						
DZM	**Mont Dzumac**	**41.59**	**149**	P	**P**	**08 01 42.2**	**+1.9**
DZM				IAmb	IAmb	08 02 05.5	
	comp=Z,34nm,1.5s						
CMAR	**Chiang Mai Arr**	**44.16**	**282**	P	**P**	**08 02 01.2**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=83,slow=5.3,SNR=5.1						
STKA	**Stephens Creek**	**45.62**	**184**	P	**P**	**08 02 12.7**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=360,slow=10,SNR=4.5						
SONM	**Songino Array**	**46.43**	**325**	P	**P**	**08 02 19.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=112,slow=5.4,SNR=4.6						
BBOO	**Buckleboo**	**47.19**	**190**	P	**P**		
BBOO				IAmb	IAmb	08 02 43.4	
	comp=Z,15nm,1.4s						
FORT	**Forrest**	**47.24**	**200**	P	**P**	**08 02 25.8**	**+1.0**
MORW	**Morawa**	**50.95**	**213**	P	**P**	**08 02 52.0**	**-0.9**
MORW				IAmb	IAmb	08 03 12.5	
	comp=Z,10.0nm,1.2s						
OUZ	**Omahuta**	**55.97**	**152**	P	**P**	**08 03 29.3**	**-0.1**
OUZ				IAmb	IAmb	08 03 42.5	
	comp=Z,19nm,1.2s						
MK31	**Makanchi Array**	**61.20**	**316**	P	**P**	**08 04 05.8**	**+0.3**
MKAR	**Makanchi Array**	**61.20**	**316**	P	**P**	**08 04 05.5**	**0.0**
	comp=Z,0.9nm,0.5s,baz=93,slow=8.5,SNR=18						
MAKZ	**Makanchi**	**61.42**	**316**	P	**P**	**08 04 06.6**	**-0.3**
MAKZ				IAmb	IAmb	08 04 07.4	
	comp=Z,1.6nm,0.5s						
KHZ	**Kahutara**	**61.97**	**156**	P	**P**	**08 04 10.0**	**-0.4**
ILAR	**Eielson Array**	**68.33**	**25**	P	**P**	**08 04 49.5**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=255,slow=5.7,SNR=5.1						
YKA	**Yellowknife Ar**	**82.63**	**27**	P	**P**	**08 06 11.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=286,slow=4.2,SNR=6.1						
BEKR	**Beckworth**	**84.89**	**50**	P	**P**	**08 06 25.1**	**+0.5**
NVAR	**Mina Array Bea**	**86.80**	**51**	P	**P**	**08 06 35.1**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=268,slow=5.7,SNR=9.9						
MFID	**Camas Ranch**	**87.25**	**46**	P	**P**	**08 06 36.3**	**+0.3**
MFID				IAmb	IAmb	08 06 48.7	
	comp=Z,4.3nm,1.1s						
PDAR	**Pinedale Array**	**91.81**	**45**	P	**P**	**08 06 57.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=245,slow=2.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**134.62**	**305**	PKP	**PKiKP**	**08 13 08.2**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=59,slow=1.1,SNR=2.0						
PLCA	**Paso Flores**	**139.22**	**138**	PKP	**PKiKP**	**08 13 16.9**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=311,slow=2.3,SNR=4.3						
AC05	**El Transito**	**144.29**	**120**		**PKPdf**	**08 13 24.8**	**+0.1**
LPAZ	**La Paz**	**148.16**	**99**	PKPbc	**PKiKP**	**08 13 36.9**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=332,slow=3.7,SNR=8.9						

*ATH **11** 08:40:03.3, 37.27N×20.85E, h15km±2km, ML3.0/5, Error ellipse: s-maj=3.8km s-min=1.1km az=49.0*
*THE **11** 08:40:03.6, 37.29N×20.85E, h7km±1km, ML3.3/10, Error ellipse: s-maj=2.0km s-min=0.6km az=227.0*
ISC 11 08:40:02.6±1.2, 37.25N±0.03×20.80E±0.03, h13km±9km, n61, σ1§02/81, 3C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTHK	**Lithakia**	**0.46**	**3**	P	**Pg**	**08 40 12.0**	**+0.2**
LTHK				S	**Sg**	**08 40 18.1**	**+0.2**
LTHK				AML	AML	08 40 22.1	
	comp=N,5823μm,0.4s						
LTHK				AML	AML	08 40 24.3	
	comp=E,6145μm,0.3s						
LTHK	**Lithakia**	**0.46**	**3**	P	**Pg**	**08 40 12.0**	**+0.2**
LTHK				S	**Sg**	**08 40 18.5**	**+0.6**
	comp=E,4μm,0.6s						
ZAK2	**Zakynthos**	**0.55**	**8**	P	**Pg**	**08 40 12.1**	**-1.2**
PYL	**PYLOS**	**0.83**	**115**	P	**Pg**	**08 40 18.8**	**+0.1**
PYL	**PYLOS**	**0.83**	**115**	P	**Pg**	**08 40 18.9**	**+0.2**
ITM	**Ithomi**	**0.90**	**94**	P	**Pg**	**08 40 19.8**	**-0.2**
ITM				AML	AML	08 40 37.1	
	comp=E,1668μm,0.4s						
ITM				AML	AML	08 40 38.8	
	comp=N,2047μm,1.0s						
ITM	**Ithomi**	**0.90**	**94**	P	**Pg**	**08 40 19.8**	**-0.2**
ITM				S	**Sb**	**08 40 33.1**	**+1.0**
VLS	**Valsamata**	**0.94**	**350**	P	**Pg**	**08 40 20.1**	**-0.8**
VLS				S	**Sg**	**08 40 33.3**	**+0.1**
VLS				AML	AML	08 40 35.8	
	comp=E,1557μm,0.2s						
VLS				AML	AML	08 40 39.7	
	comp=N,1541μm,0.5s						
VLS	**Valsamata**	**0.94**	**350**	P	**Pg**	**08 40 20.1**	**-0.8**
VLS				S	**Sn**	**08 40 34.8**	**-0.3**
	comp=N,945nm,0.6s						
ARGA	**Argostoli. Kep**	**0.96**	**345**	P	**Pg**	**08 40 21.1**	**-0.1**
RLS	**Riolos of Patr**	**0.96**	**33**	P	**Pg**	**08 40 20.1**	**-1.2**
RLS				AML	AML	08 40 36.6	
	comp=N,947μm,0.6s						
RLS				AML	AML	08 40 40.6	
	comp=E,711μm,0.7s						
RLS	**Riolos of Patr**	**0.96**	**33**	P	**Pg**	**08 40 20.2**	**-1.1**
DRO	**Drossia**	**1.01**	**45**	P	**Pg**	**08 40 20.6**	**-1.4**
DRO				AML	AML	08 40 38.6	
	comp=N,2050μm,0.6s						
DRO				AML	AML	08 40 40.9	
	comp=E,2082μm,0.7s						
DRO	**Drossia**	**1.01**	**45**	P	**Pg**	**08 40 20.7**	**-1.4**
KEF3	**Kipouria, Keph**	**1.02**	**339**	P	**Pg**	**08 40 22.2**	**-0.2**
KEF3				S	**Sb**	**08 40 36.6**	**+1.1**
KEF3	**Kipouria, Keph**	**1.02**	**339**	P	**Pg**	**08 40 22.1**	**-0.2**
KEF3				S	**Sb**	**08 40 36.8**	**+1.3**
	comp=E,3μm,0.5s						
DMLN	**Damoulianata-K**	**1.05**	**341**	P	**Pg**	**08 40 22.8**	**0.0**
DMLN				S	**Sn**	**08 40 37.6**	**0.0**
	comp=E,2μm,0.6s						
KEF4	**Livadi, Kephal**	**1.05**	**344**	P	**Pg**	**08 40 22.7**	**-0.2**
KEF4	**Livadi, Kephal**	**1.05**	**344**	P	**Pg**	**08 40 22.8**	**-0.2**
KEF4				S	**Sn**	**08 40 38.0**	**+0.3**
	comp=E,6μm,0.6s						
KEF5	**Kardakata, Kep**	**1.06**	**346**	P	**Pg**	**08 40 22.4**	**-0.7**
KEF5	**Kardakata, Kep**	**1.06**	**346**	P	**Pg**	**08 40 22.5**	**-0.6**
KEF5				S	**Sn**	**08 40 38.4**	**+0.4**
	comp=E,4μm,0.6s						
FSK	**Fiskardo**	**1.23**	**351**	P	**Pn**	**08 40 25.3**	**-0.2**
FSK				S	**Sn**	**08 40 42.3**	**+0.3**
	comp=E,615nm,0.9s						
VLX	**Vlachokerasia**	**1.26**	**84**	P	**Pn**	**08 40 26.4**	**+0.3**
LAKA	**Lakka**	**1.36**	**43**	P	**Pn**	**08 40 27.3**	**-0.1**
LAKA	**Lakka**	**1.36**	**43**	P	**Pn**	**08 40 27.4**	**0.0**
LAKA				S	**Sg**	**08 40 45.6**	**-0.9**
	comp=E,970nm,0.8s						
EVGI	**Lefkada island**	**1.38**	**355**	P	**Pb**	**08 40 28.7**	**+0.4**
PDO	**Prodromos**	**1.38**	**12**	P	**Pn**	**08 40 27.2**	**-0.4**
PDO	**Prodromos**	**1.38**	**12**	P	**Pn**	**08 40 27.3**	**-0.4**
PDO				S	**Sn**	**08 40 46.0**	**+0.1**
	comp=E,1μm,0.5s						
EFP	**Efpalio**	**1.47**	**36**	P	**Pn**	**08 40 29.4**	**+0.6**
EFP	**Efpalio**	**1.47**	**36**	P	**Pn**	**08 40 29.5**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.47**	**357**	P	**Pn**	**08 40 29.4**	**+0.6**
TRIZ	**Trizonia**	**1.50**	**42**	P	**Pb**	**08 40 30.2**	**-0.2**
LKD2	**Lefkada island**	**1.54**	**356**	P	**Pn**	**08 40 30.9**	**+1.0**
LKD2				S	**Sn**	**08 40 50.4**	**+0.5**
	comp=E,480nm,0.8s						
KALE	**Kalithea**	**1.56**	**42**	P	**Pb**	**08 40 31.0**	**-0.4**
KALE	**Kalithea**	**1.56**	**42**	P	**Pn**	**08 40 30.7**	**+0.5**
ANX	**Ano Chora**	**1.61**	**33**	P	**Pn**	**08 40 30.9**	**0.0**
ANX	**Ano Chora**	**1.61**	**33**	P	**Pn**	**08 40 31.5**	**+0.6**
VLI	**Veliai**	**1.79**	**107**	P	**Pb**	**08 40 35.1**	**-0.2**
DSF	**Desfina**	**1.79**	**49**	P	**Pn**	**08 40 34.4**	**+1.0**
DSF	**Desfina**	**1.79**	**49**	P	**Pn**	**08 40 34.2**	**+0.8**
LTK	**Loutraki**	**1.88**	**65**	P	**Pn**	**08 40 35.0**	**+0.4**
MAKR	**Makrakomi, Fth**	**2.05**	**30**	P	**Pb**	**08 40 38.7**	**-1.1**
KTHA	**Kythira Island**	**2.07**	**118**	P	**Pn**	**08 40 38.7**	**+1.6**
AGG	**Agios Georgios**	**2.14**	**34**	P	**Pn**	**08 40 39.2**	**+1.0**
ATAL	**Atalanti**	**2.27**	**50**	P	**Pn**	**08 40 40.5**	**+0.6**
THL	**Klokotos Trika**	**2.50**	**22**	P	**Pn**	**08 40 44.2**	**+1.1**
PLAC	**Placanica**	**3.66**	**290**	P	**Pn**	**08 41 00.5**	**+1.5**
MPAZ	**Palizzi**	**3.87**	**282**	P	**Pn**	**08 41 03.6**	**+1.7**
MPAZ				S	**Sn**	**08 41 45.8**	**-1.5**
JOPP	**Joppolo**	**4.12**	**291**	P	**Pn**	**08 41 07.1**	**+1.7**
AIO	**Antillo**	**4.48**	**281**	P	**Pn**	**08 41 12.1**	**+1.7**
AIO				AML	AML		
	comp=E,41μm,1.6s						
AIO				AML	AML		
	comp=N,45μm,1.4s						
MCSR	**Castroreale**	**4.48**	**282**	P	**Pn**	**08 41 12.1**	**+1.7**
MCSR				AML	AML		
	comp=E,144μm,0.3s						
MCSR				AML	AML		
	comp=N,152μm,0.3s						
HAVL	**Avola**	**4.55**	**268**	P	**Pn**	**08 41 12.0**	**+0.7**
HAVL				S	**Sn**	**08 42 00.7**	**-3.3**
NOV	**Novara**	**4.56**	**282**	P	**Pn**	**08 41 13.2**	**+1.7**
NOV				S	**Sn**	**08 42 03.5**	**-1.0**
SSY	**Sortino**	**4.58**	**271**	P	**Pn**	**08 41 11.7**	**0.0**
SSY				S	**Sn**	**08 42 02.6**	**-2.1**
MEU	**Monte Lauro**	**4.69**	**270**	P	**Pn**	**08 41 14.3**	**+1.0**
MEU				S	**Sn**	**08 42 07.3**	**-0.4**
HLNI	**Lentini**	**4.73**	**273**	↑P	**Pn**	**08 41 13.7**	**0.0**
HLNI	**Lentini**	**4.73**	**273**	↑P	**Pn**	**08 41 13.7**	**0.0**
HLNI				S	**Sn**	**08 42 04.8**	**-3.6**
HLNI				AML	AML		
	comp=E,116μm,0.3s						
HLNI				AML	AML		
	comp=N,110μm,1.1s						
HLNI	**Lentini**	**4.73**	**273**	↑P	**Pn**	**08 41 13.7**	**0.0**
HMDC	**Modica**	**4.82**	**268**	↓P	**Pn**	**08 41 15.8**	**+0.8**
HMDC	**Modica**	**4.82**	**268**	↓P	**Pn**	**08 41 15.8**	**+0.8**
HMDC	**Modica**	**4.82**	**268**	↓P	**Pn**	**08 41 15.8**	**+0.8**

*BJI **11** 08:51:38.1±0.0, 7.43S×129.94E, h144km, mB5.0/10, mb4.5/24*
*IDC **11** 08:51:40.9±1.7, 6.90S×129.71E, h121km±14km, mb4.0/15, mb1 4.1/18, mb1mx4.0/43, mbtmp4.4/18, MS3.1/4, Ms1 3.1/4, ms1mx2.8/53, Error ellipse: s-maj=18.2km s-min=12.3km az=91.0*
*NEIC **11** 08:51:41.6±2.3, 7.01S±0.09×129.67E±0.05, h132km±9km, mb4.6/13, Error ellipse: s-maj=12.8km s-min=6.4km az=187.0*
*DJA **11** 08:51:41.6±0.3, 7°S±3°×13°0E±°, h123km±5km, M4.8/18, mB5.3/6, mb4.8/18, MLv4.9/8, Mw(mB)4.7/6*
ISC 11 08:51:41.9±0.4, 7.00S±0.05×129.67E±0.06, h139km, n76, σ1§98/80, mb4.4/28, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.89**	**121**	Pn	**Pn**	**08 52 14.8**	**-0.3**
SAUI	**Saumlaki**	**1.89**	**121**	P	**Pn**	**08 52 14.7**	**-0.3**
NLAI	**Namlea**	**4.53**	**325**	P	**Pn**	**08 52 50.5**	**+1.5**
FAKI	**Fak Fak**	**4.80**	**32**	Pn	**Pn**	**08 52 51.2**	**-1.4**
SOEI	**Soe**	**6.01**	**243**	Pn	**Pn**	**08 53 08.0**	**-0.7**
SOEI	**Soe**	**6.01**	**243**	P	**Pn**	**08 53 07.9**	**-0.9**
	3.2nm4μm444nm,0.9s						
SANI	**Sanana**	**6.14**	**323**	P	**Pn**	**08 53 10.6**	**+0.1**
	0.2nm79nm,0.8s						
SIJI	**Sorong**	**6.30**	**15**	P	**Pn**	**08 53 09.4**	**-3.2**
	9.9nm,0.3s,baz=42,slow=15,SNR=40						
SIJI				S	**Sn**	**08 54 15.6**	**-7.9**
	14nm,0.3s,baz=200,slow=24,SNR=16						
SWI	**Sorong**	**6.30**	**15**	P	**Pn**	**08 53 11.7**	**-0.9**
	0.7nm2μm48nm,0.9s						
BATI	**Baumata**	**6.74**	**241**	P	**Pn**	**08 53 17.6**	**-1.0**
	44nm,0.3s,baz=222,slow=1.1,SNR=28						
BATI				S	**Sn**	**08 54 29.8**	**-4.4**
	31nm,0.3s,baz=113,slow=23,SNR=14						
BATI	**Baumata**	**6.74**	**241**	P	**Pn**	**08 53 17.7**	**-0.8**
	0.8nm2μm245nm,0.8s						
BAKI	**Biak**	**8.63**	**48**	P	**Pn**	**08 53 43.9**	**0.0**
	266nm,1.0s						
KNRA	**Kununurra**	**8.67**	**186**		**Pn**	**08 53 41.7**	**-2.7**
BSSI	**Bau Bau, Buton**	**9.16**	**275**	P	**Pn**	**08 53 51.7**	**+0.7**
	59nm,1.0s						
KAPI	**Kappang**	**10.06**	**281**	P	**Pn**	**08 54 02.2**	**-0.9**
	1.2nm,0.3s,baz=109,slow=11,SNR=5.7						
KAPI				LR	LR	08 57 48.2	
	comp=Z,51nm,18.1s,baz=102,slow=36						
KAPI	**Kappang**	**10.06**	**281**	Pn	**Pn**	**08 54 03.8**	**+0.7**
MRSI	**Marisa**	**10.71**	**314**	P	**Pn**	**08 54 13.8**	**+2.1**
FITZ	**Fitzroy Crossi**	**11.71**	**199**	P	**Pn**	**08 54 20.8**	**-4.0**
	4.7nm,0.3s,baz=40,slow=13,SNR=68						
FITZ				S	Sn	08 56 20.9	-13
	8.7nm,0.3s,baz=109,slow=11,SNR=15						
FITZ				LR	LR	08 59 13.6	
	comp=Z,54nm,19.9s,baz=25,slow=38						
FITZ	**Fitzroy Crossi**	**11.71**	**199**	Pn	**Pn**	**08 54 21.2**	**-3.6**
PLAI	**Plampang**	**11.92**	**260**	P	**Pn**	**08 54 24.3**	**-3.3**
	50nm,0.8s						
WB0	**Warramunga Arr**	**13.49**	**161**	Pn	**Pn**	**08 54 44.5**	**-3.4**
WRAB	**Tennant Creek**	**13.63**	**161**		**Pn**	**08 54 47.0**	**-2.7**
WRA	**Warramunga Arr**	**13.64**	**161**	P	**Pn**	**08 54 45.0**	**-4.8**
	6.1nm,0.3s,baz=340,slow=14,SNR=172						
WRA				S	Sn	08 57 06.5	-14
	5.0nm,0.3s,baz=332,slow=24,SNR=13						
WRA				LR	LR	09 00 59.6	
	comp=Z,145nm,19.9s,baz=350,slow=41						
WRA				ScP	**ScP**	**09 03 27.1**	**+1.9**
	0.3nm,0.3s,baz=314,slow=2.1,SNR=7.2						
WB2	**Warramunga Arr**	**13.64**	**161**		**Pn**	**08 54 46.0**	**-3.9**
WR0	**Warramunga Arr**	**13.72**	**160**		**Pn**	**08 54 47.4**	**-3.5**
COEN	**Coen**	**14.96**	**119**	Pn	**Pn**	**08 55 04.8**	**-1.7**
BBKI	**Banjar Baru**	**15.18**	**283**	P	**P**	**08 55 10.8**	**-0.3**
	3μm103nm,1.2s						
AS31	**Alice Springs**	**17.06**	**167**		**P**	**08 55 30.6**	**-1.1**
ASAR	**Alice Springs**	**17.06**	**167**	P	**P**	**08 55 30.3**	**-1.5**
	1.6nm,0.3s,baz=335,slow=9.4,SNR=74						
ASAR				S	S	08 58 27.8	-15
	0.8nm,0.3s,baz=334,slow=17,SNR=8.5						
ASAR				ScP	**ScP**	**09 03 33.5**	**+2.0**
	0.8nm,0.3s,baz=349,slow=2.2,SNR=22						
ASAR	**Alice Springs**	**17.06**	**167**	P	**P**	**08 55 31.7**	**-0.1**
PSA00	**Pilbara Seismi**	**17.32**	**212**	P	**P**	**08 55 35.1**	**+0.5**
PSA00	**Pilbara Seismi**	**17.32**	**212**	P	**P**	**08 55 35.0**	**+0.3**
PSA00				IAmb	IAmb	08 55 36.6	
	comp=Z,42nm,0.7s						
PMG	**Port Moresby**	**17.47**	**99**	P	**Pn**	**08 55 37.5**	**+0.3**
PMG				IAmb	IAmb	08 56 02.9	
	comp=Z,64nm,1.2s						
LEM	**Lembang**	**21.89**	**269**	P	**P**	**08 56 24.7**	**+0.4**
	comp=Z,18nm,0.4s,baz=75,slow=12,SNR=4.5						
TGY	**Tagaytay City**	**22.69**	**338**	P	**P**	**08 56 32.3**	**+0.3**
	comp=Z,252nm,0.6s,baz=187,slow=3.6,SNR=6.1						

FORT	**Forrest**	**23.70**	**183**	P		**P**	**08 56 42.8**	**+1.7**
MORW	**Morawa**	**25.44**	**209**	P		**P**	**08 56 57.5**	**+0.5**
MORW				IAmb		IAmb	08 57 00.9	
	comp=Z,22nm,0.8s							
BBOO	**Buckleboo**	**26.36**	**168**	P		**P**	**08 57 05.1**	**0.0**
BBOO				IAmb		IAmb	08 57 29.8	
	comp=Z,19nm,1.4s							
STKA	**Stephens Creek**	**27.14**	**157**	P		**P**	**08 57 13.8**	**+1.6**
	comp=Z,1.4nm,0.4s,baz=337,slow=9.1,SNR=7.7							
STKA				ScP		**ScP**	**09 03 58.7**	**+1.7**
	comp=Z,4.9nm,1.0s,baz=358,slow=10,SNR=3.9							
STKA				LR		LR	09 09 42.7	
	comp=Z,88nm,18.1s,baz=19,slow=40							
STKA	**Stephens Creek**	**27.14**	**157**	P		**P**	**08 57 13.8**	**+1.6**
NWAO	**Narrogin (SRO)**	**28.27**	**202**	P		**P**	**08 57 23.7**	**+1.5**
	comp=Z,7.2nm,0.7s,baz=37,slow=7.3,SNR=7.0							
NWAO	**Narrogin (SRO)**	**28.27**	**202**	P		**P**	**08 57 23.1**	**+0.9**
NWAO				IAmb		IAmb	08 57 31.4	
	comp=Z,26nm,1.4s							
PSI	**Prapat**	**32.20**	**287**	P		**P**	**08 57 57.7**	**+0.5**
	comp=Z,12nm,0.7s,baz=179,slow=1.4,SNR=7.9							
CMAR	**Chiang Mai Arr**	**39.48**	**310**	P		**P**	**08 58 58.7**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=133,slow=7.4,SNR=6.1							
GYA	**Guiyang**	**40.06**	**327**	*eP*		**P**	**08 59 06.1**	**+2.2**
GYA				pmax		pmax		
	comp=Z,7.0nm,1.1s							
NJ2	**Nanjing**	**40.19**	**346**	*eP*		**P**	**08 59 07.3**	**+2.6**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
MJAR	**Matsushiro Arr**	**44.05**	**10**	P		**P**	**08 59 34.3**	**-1.7**
	comp=Z,5.7nm,0.8s,baz=178,slow=9.6,SNR=7.3							
KSRS	**Korea Array**	**44.26**	**358**	P		**P**	**08 59 37.7**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=156,slow=8.8,SNR=3.2							
XAN	**Xi'an**	**45.31**	**336**	P		**P**	**08 59 46.0**	**0.0**
XAN				pmax		pmax		
	comp=Z,7.0nm,0.9s							
BJI	**Beijing**	**48.44**	**346**	P		**P**	**09 00 10.0**	**-0.2**
BJI				pmax		pmax		
	comp=Z,8.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**50.45**	**342**	*eP*		**P**	**09 00 28.3**	**+2.7**
HHC				pmax		pmax		
	comp=Z,8.0nm,1.1s							
HHC				pmax		pmax		
	comp=Z,210nm,5.7s							
USRK	**Ussuriysk Ar.**	**51.01**	**2**	P		**P**	**09 00 29.2**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=166,slow=6.0,SNR=7.4							
GTA	**Gaotai**	**53.82**	**331**	⇑P		**P**	**09 00 51.6**	**+1.0**
GTA				pP		pP	09 01 22.7	+0.8
GTA				sP		sP	09 01 36.9	0.0
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
SONM	**Songino Array**	**58.34**	**342**	P		**P**	**09 01 23.3**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=155,slow=6.4,SNR=12							
SONM	**Songino Array**	**58.34**	**342**	P		**P**	**09 01 23.6**	**+1.0**
WMQ	**Urumqi**	**63.22**	**327**	*eP*		**P**	**09 01 57.7**	**+2.1**
WMQ				pP		PcP	09 02 29.9	-1.8
WMQ				pmax		pmax		
	comp=Z,17nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,210nm,4.3s							
PETK	**Petropavlovsk-**	**64.43**	**18**	P		**P**	**09 02 04.5**	**+1.3**
	comp=Z,4.0nm,0.7s,baz=184,slow=8.7,SNR=2.9							
MK31	**Makanchi Array**	**68.05**	**327**	P		**P**	**09 02 27.6**	**+1.1**
MK31				IAmb		IAmb	09 02 28.6	
	comp=Z,3.4nm,0.7s							
MKAR	**Makanchi Array**	**68.05**	**327**	P		**P**	**09 02 27.9**	**+1.4**
	comp=Z,5.7nm,0.6s,baz=124,slow=7.8,SNR=74							
MKAR	**Makanchi Array**	**68.05**	**327**	P		**P**	**09 02 27.0**	**+0.5**
MAKZ	**Makanchi**	**68.23**	**327**	P		**P**	**09 02 28.6**	**+1.0**
MAKZ				IAmb		IAmb	09 02 29.6	
	comp=Z,4.1nm,0.6s							
AAK	**Ala-Archa**	**70.33**	**320**	P		**P**	**09 02 42.4**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=153,slow=6.5,SNR=5.0							
VNDA	**Vanda**	**72.48**	**173**	P		**P**	**09 02 54.0**	**+1.1**

MDP	**Montagnes des**	**25.40**	**32**	LR	LR	09 14 08.8			
	comp=Z,62nm,20.0s,baz=203,slow=38								
TORD	**Torodi Ar. Bea**	**72.93**	**70**	P	**P**	**09 09 37.8**	**-0.5**		
	1.2nm,0.7s,baz=252,slow=5.3,SNR=6.4								
NVAR	**Mina Array Bea**	**73.93**	**319**	P	**P**	**09 09 45.6**	**+1.7**		
	0.1nm,0.3s,baz=157,slow=4.9,SNR=1.5								
YKA	**Yellowknife Ar**	**87.97**	**339**	P	**P**	**09 10 58.9**	**+1.0**		
	0.6nm,0.9s,baz=123,slow=5.2,SNR=8.1								
INK	**Inuvik**	**97.75**	**340**	LR	LR	09 58 25.0			
	comp=Z,85nm,20.4s,baz=130,slow=37								

OMAN ***11*** *09:03:30.5, 14˚.00N×52˚.26E, h16km, ml3.8/5*
IDC ***11*** *09:03:44.7±15.0, 15˚.10N×53˚.89E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.3/71, mbtmp3.7/5, MS3.1/3, Ms1 3.1/3, ms1mx2.6/58, Error ellipse: s-maj=310.5km s-min=54.1km az=46.0*

ISC 11 09:03:31.2±1.9, 13˚.90N±0˚.06×52˚.5E±0˚.2, h10km, n15, σ3°10/17, mb3.8/5, MS2.9/3, Socotra region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.24**	**139**	P	**Pn**	**09 04 06.7**	**-1.8**
	SNR=444						
SOCY				S	**Sn**	**09 04 33.7**	**-2.6**
ABTO	**Aybut**	**3.52**	**13**	P	**Pn**	**09 04 22.7**	**-3.5**
	SNR=54						
ABTO				S	**Sn**	**09 05 03.6**	**-4.3**
RBK	**Rabkut**	**3.95**	**25**	P	**Pn**	**09 04 31.7**	**-0.3**
	SNR=37						
RBK				S	**Sn**	**09 05 18.7**	**+0.3**
WHFO	**Wadi Hawf**	**4.18**	**17**	P	**Pn**	**09 04 32.8**	**-2.4**
	SNR=32						
WHFO				S	**Sn**	**09 05 21.6**	**-2.6**
DMTO	**DMTO**	**4.47**	**32**	P	**Pn**	**09 04 39.9**	**+0.7**
	SNR=31						
DMTO				S	**Sn**	**09 05 34.6**	**+3.2**
DOK	**Doka**	**4.95**	**18**	P	**Pn**	**09 04 43.5**	**-2.2**
	SNR=11						
DOK				S	**Sn**	**09 05 41.2**	**-1.9**
WSAR	**Wadi Sarin**	**10.96**	**31**	Sn	**Sn**	**09 08 04.5**	**-6.6**
	0.5nm,0.3s,baz=262,slow=18,SNR=0.8						
EIL	**Elat**	**22.57**	**317**	LR	LR	09 18 25.0	
	comp=Z,21nm,18.1s,baz=119,slow=39						
BRTR	**Keskin Array B**	**30.60**	**331**	LR	LR	09 22 43.0	
	comp=Z,28nm,19.2s,baz=64,slow=38						
AKTO	**Aktyubinsk**	**36.72**	**6**	P	P	09 10 41.7	+3.2
	1.4nm,0.8s,baz=180,slow=6.3,SNR=2.4						
MKAR	**Makanchi Array**	**41.20**	**31**	P	**P**	**09 11 16.1**	**-0.1**
	0.2nm,0.5s,baz=218,slow=8.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**44.76**	**78**	P	**P**	**09 11 47.2**	**+1.9**
	0.8nm,0.3s,baz=275,slow=9.9,SNR=1.0						
GERES	**GERESS Array B**	**47.22**	**326**	LR	LR	09 36 00.9	
	comp=Z,48nm,19.6s,baz=333,slow=41						
ZALV	**Zalesovo Beam**	**47.35**	**25**	P	**P**	**09 12 07.8**	**+2.6**
	1.3nm,0.6s,baz=232,slow=8.7,SNR=3.9						
SONM	**Songino Array**	**55.82**	**41**	P	**P**	**09 13 11.9**	**+3.0**
	0.3nm,0.7s,baz=245,slow=5.9,SNR=2.2						

IDC ***11*** *09:11:56.2±0.7, 1˚.18N×97˚.04E, h0km, mb4.3/23, mb1 4.4/25, mb1mx4.1/75, mbtmp4.3/25, ML4.2/2, MS3.9/13, Ms1 4.0/13, ms1mx3.6/51, Error ellipse: s-maj=24.1km s-min=12.7km az=51.0*
DJA ***11*** *09:11:57.6±0.4, 1˚.1N±4˚×9˚.7E±˚, h10km, M4.7/12, mb4.7/9, mB5.5/2, MLv4.7/12, Mw(mB)4.9/2*
BJI ***11*** *09:11:59.6±0.0, 1˚.07N×97˚.37E, h36km, mB5.1/29, mb4.7/45, Ms4.8/21, Ms7 4.6/21*
NEIC ***11*** *09:12:01.0±1.5, 1˚.24N±0˚.02×97˚.14E±0˚.06, h35km±2km, mb4.5/23, Error ellipse: s-maj=10.3km s-min=3.3km az=255.0*

ISC 11 09:12:00.5±0.5, 1˚.23N±0˚.05×97˚.09E±0˚.06, h25km, n124, σ2°01/118, mb4.5/51, MS4.2/18, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.49**	**82**		**Pn**	**09 12 10.8**	**-1.1**
GSI				Sn	**Sn**	**09 12 18.2**	**-1.6**
GSI	**Gunungsitoli**	**0.49**	**82**	P	**Pn**	**09 12 10.7**	**-1.2**
GSI				S	**Sn**	**09 12 18.1**	**-1.6**
RPSI	**Rantau Prapat**	**2.34**	**52**	Pn	**Pn**	**09 12 37.3**	**-0.1**
RPSI	**Rantau Prapat**	**2.34**	**52**		**Pn**	**09 12 37.2**	**-0.1**
PSI	**Prapat**	**2.41**	**50**	Pn	**Pn**	**09 12 37.2**	**-1.2**
	11nm,0.3s,baz=0.1,slow=9.1,SNR=31						
PSI				LR	LR	09 13 04.3	
	comp=Z,960nm,21.3s,baz=270,slow=28						
MNSI	**Mandailing Nat**	**2.53**	**100**	P	**Pn**	**09 12 40.2**	**+0.2**
TSI	**Tuntungan**	**2.69**	**33**	P	**Pn**	**09 12 40.2**	**-2.0**
MLSI	**Meulaboh, Aceh**	**3.09**	**347**	P	**Pn**	**09 12 43.1**	**-4.6**
SISI	**Saibi**	**3.24**	**142**	P	**Pn**	**09 12 50.9**	**+1.2**
LHMI	**Lhok Sumawe**	**3.97**	**358**	P	**Pn**	**09 12 56.4**	**-3.4**
BKNI	**Bangkinang**	**4.05**	**103**		**Pn**	**09 13 00.8**	**-0.1**
BKNI	**Bangkinang**	**4.05**	**103**	P	**Pn**	**09 13 02.6**	**+1.6**
IPM	**Ipoh**	**5.09**	**51**	Pn	**Pn**	**09 13 13.1**	**-2.1**
KULM	**Kulim**	**5.37**	**41**	Pn	**Pn**	**09 13 17.8**	**-1.3**
MYKOM	**Kota Tinggi**	**6.78**	**85**	Pn	**Pn**	**09 13 37.8**	**-0.7**
MNAI	**Manna**	**8.08**	**133**	Pn	**Pn**	**09 13 55.2**	**-1.2**
SRAK	**Srakaew**	**13.61**	**21**	P	**P**	**09 15 24.0**	**+3.3**
	153nm,0.8s						
UTHA	**Uthaitani**	**14.42**	**9**	P	**P**	**09 15 32.6**	**+2.9**
	20nm,0.8s						
CHAI	**Chaiyaphum**	**15.36**	**18**	P	**P**	**09 15 41.3**	**+1.1**
	20nm,0.9s						
DLV	**T Lat**	**15.53**	**46**	Pn	**Pn**	**09 15 35.7**	**-2.4**
DLV				IAmb	IAmb	09 15 49.2	
	comp=Z,50nm,1.3s						
PHIT	**Phitsanulok**	**16.19**	**11**	P	**P**	**09 15 54.0**	**+4.6**
	comp=Z,66nm,1.1s						
UBPT	**Khong Chiam**	**16.23**	**30**	P	**P**	**09 15 50.2**	**+0.4**
	comp=Z,10nm,0.8s						
UBPT	**Khong Chiam**	**16.23**	**30**	Pn	**Pn**	**09 15 46.0**	**-0.9**
SUKH	**Sukhothai**	**16.34**	**9**	P	**P**	**09 15 51.0**	**-0.1**
	comp=Z,27nm,0.8s						
CM05	**Chiang Mai Arr**	**17.16**	**6**	P	**P**	**09 16 00.3**	**+0.1**
	comp=Z,80nmcomp=Z,8.7nm,0.8s						
CM04	**Chiang Mai Arr**	**17.16**	**6**	P	**P**	**09 16 01.2**	**+1.0**
	comp=Z,10nm,0.8s						
CM13	**Chiang Mai Arr**	**17.17**	**6**	P	**P**	**09 16 01.1**	**+0.8**
	comp=Z,126nmcomp=Z,9.4nm,0.8s						
CM01	**Chiang Mai Arr**	**17.18**	**6**	P	**P**	**09 16 01.8**	**+1.4**
	comp=Z,14nm,0.8s						
CM02	**Chiang Mai Arr**	**17.19**	**6**	P	**P**	**09 16 02.0**	**+1.5**
	comp=Z,9.9nm,0.8s						
CM31	**Chiang Mai Arr**	**17.21**	**6**	P	**Pn**	**09 15 58.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**17.21**	**6**	P	**Pn**	**09 15 58.5**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=197,slow=11,SNR=19						
CMAR				LR	LR	09 23 16.4	
	comp=Z,718nm,18.2s,baz=236,slow=39						
PALK	**Pallekele**	**17.40**	**291**	LR	LR	09 22 26.9	
	comp=Z,712nm,18.7s,baz=214,slow=36						
CHTO	**Chiang Mai**	**17.57**	**6**	P	**Pn**	**09 16 02.6**	**-1.2**
MTKI	**Muara Teweh, K**	**17.94**	**97**	P	P	09 16 16.3	+7.5
SLVN	**Son La**	**21.06**	**18**	P	**P**	**09 16 41.1**	**-1.8**
QIZ	**Qiongzhong**	**21.66**	**34**	P	**P**	**09 16 49.1**	**-0.2**
QIZ				S	**S**	**09 20 48.9**	**+0.8**
QIZ				LR	LR		
	comp=Z,610nm,13.4s						
QIZ				LR	LR		
	comp=Z,580nm,12.9s						
QIZ				LR	LR		
	comp=Z,520nm,13.6s						
TOLI2	**Tolitoli**	**23.69**	**90**	P	**P**	**09 17 09.4**	**-1.1**
TOLI2				IAmb	IAmb	09 17 10.5	
	comp=Z,31nm,1.1s						
KMI	**Kunming**	**24.37**	**12**	⇑P	**P**	**09 17 17.1**	**+0.1**
KMI				pP	sP	09 17 29.0	+1.5
KMI				sP	pP	09 17 33.3	+8.9
KMI				PP	**PnPn**	**09 17 57.4**	**+10**
KMI				S	**S**	**09 21 34.5**	**-0.8**
KMI				sS	sS	09 21 54.7	+7.4
KMI				SS	**SnSn**	**09 22 30.3**	**+10**
KMI				pmax	pmax		
	comp=Z,31nm,1.2s						
KMI				pmax	pmax		
	comp=Z,270nm,3.7s						
KMI				LR	LR		
	comp=Z,2μm,15.9s						
KMI				LR	LR		
	comp=Z,720nm,14.0s						
KMI				LR	LR		
	comp=Z,2μm,16.9s						
SHL	**Shillong**	**24.71**	**349**	P	**P**	**09 17 19.3**	**-0.7**
H08S2	**Diego Garcia H**	**26.07**	**250**	T	T	09 44 33.8	
	baz=71,slow=76,SNR=2778						
H08S3	**Diego Garcia H**	**26.07**	**250**	T	T	09 44 34.0	
	baz=71,slow=76						
H08S1	**Diego Garcia H**	**26.09**	**250**	T	T	09 44 34.7	
	baz=71,slow=76,SNR=879						
GYA	**Guiyang**	**26.72**	**19**	*e*P	**P**	**09 17 38.9**	**+0.7**
GYA				S	**S**	**09 22 15.7**	**+3.2**
GYA				pmax	pmax		
	comp=Z,15nm,1.0s						
GYA				LR	LR		
	comp=Z,950nm,15.0s						
GYA				LR	LR		
	comp=Z,540nm,16.0s						
GYA				LR	LR		
	comp=Z,1μm,13.5s						
ODAN	**Odare**	**27.13**	**341**	*e*P	**P**	**09 17 44.8**	**+2.8**
	comp=Z,54nm,0.9s						
RAMN	**Ramite**	**27.48**	**339**	*e*P	**P**	**09 17 48.1**	**+2.9**
	comp=Z,17nm,0.6s						
TAPN	**Taplejung**	**27.48**	**342**	*e*P	**P**	**09 17 47.9**	**+2.7**
	comp=Z,62nm,1.0s						
PKI	**Pulchoki**	**28.48**	**338**	*e*P	**P**	**09 17 57.1**	**+2.9**
	comp=Z,20nm,0.8s						
PKIN	**Phulchoki**	**28.49**	**338**	*e*P	**P**	**09 17 57.0**	**+2.8**
	comp=Z,11nm,0.6s						
GUN	**Gumba**	**28.61**	**339**	*e*P	**P**	**09 17 56.9**	**+1.5**
	comp=Z,38nm,0.7s						
BATI	**Baumata**	**28.79**	**114**	LR	LR	09 31 34.4	
	comp=Z,727nm,18.4s,baz=262,slow=41						
GKN	**Gorkha**	**29.16**	**337**	*e*P	**P**	**09 18 01.7**	**+1.6**
	comp=Z,21nm,0.6s						
CD2	**Chengdu**	**30.18**	**11**	*e*P	**P**	**09 18 08.7**	**-0.2**
CD2				LR	LR		
	comp=Z,1μm,18.4s						
CD2				LR	LR		
	comp=Z,2μm,14.7s						
CD2				LR	LR		
	comp=Z,2μm,14.9s						
ENH	**Enshi**	**31.19**	**21**	P	**P**	**09 18 16.2**	**-1.6**
FITZ	**Fitzroy Crossi**	**34.04**	**126**	P	**P**	**09 18 41.5**	**-1.4**
	comp=Z,2.5nm,0.7s,baz=310,slow=6.1,SNR=7.2						
FITZ	**Fitzroy Crossi**	**34.04**	**126**	P	**P**	**09 18 41.1**	**-1.7**
XAN	**Xi'an**	**34.47**	**18**	P	**P**	**09 18 44.8**	**-1.6**
XAN				pP	pP	09 18 52.8	-1.1
XAN				pmax	pmax		
	comp=Z,21nm,0.9s						
XAN				LR	LR		
	comp=Z,880nm,15.2s						
XAN				LR	LR		
	comp=Z,670nm,17.4s						
XAN				LR	LR		
	comp=Z,1μm,17.4s						
XAN	**Xi'an**	**34.47**	**18**	P	**P**	**09 18 42.4**	**-4.0**
NJ2	**Nanjing**	**36.90**	**32**	*e*P	**P**	**09 19 08.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SSE	**Sheshan**	**37.45**	**35**	P	**P**	**09 19 11.7**	**-0.3**
SSE				S	**S**	**09 24 57.6**	**-1.6**
SSE				pmax	pmax		
	comp=Z,20nm,0.6s						
SSE				pmax	pmax		
	comp=Z,160nm,5.3s						
SSE				LR	LR		
	comp=Z,300nm,7.8s						
SSE				LR	LR		
	comp=Z,230nm,6.5s						
GTA	**Gaotai**	**38.08**	**3**	⇑P	**P**	**09 19 18.5**	**+1.2**
GTA				pP	sP	09 19 29.4	+1.5
GTA				sP	pP	09 19 33.4	+8.5
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,140nm,5.6s						
GTA				LR	LR		
	comp=Z,310nm,13.8s						
GTA				LR	LR		
	comp=Z,310nm,15.6s						
GTA				LR	LR		
	comp=Z,380nm,14.5s						
NIL	**Nilore**	**39.23**	**328**	P	**P**	**09 19 26.9**	**-0.1**
NIL				IAmb	IAmb	09 19 47.9	
	comp=Z,8.1nm,0.8s						
H01W3	**Cape Leeuwin H**	**39.32**	**158**	T	T	10 01 00.8	
	baz=334,slow=76,SNR=45						
H01W2	**Cape Leeuwin H**	**39.33**	**158**	T	T	10 01 01.8	
	baz=334,slow=76,SNR=50						
H01W1	**Cape Leeuwin H**	**39.34**	**158**	T	T	10 01 02.0	
	baz=334,slow=76,SNR=57						
HHC	**Hu-ho-hao-te**	**41.56**	**17**	*e*P	**P**	**09 19 46.4**	**+0.2**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,260nm,5.1s						
HHC				LR	LR		
	comp=Z,780nm,15.1s						
HHC				LR	LR		
	comp=Z,370nm,14.1s						
HHC				LR	LR		
	comp=Z,800nm,14.9s						
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**09 19 50.7**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=302,slow=9.1,SNR=17						
WR0	**Warramunga Arr**	**42.33**	**122**	P	**P**	**09 19 50.7**	**-2.0**
WR0				IAmb	IAmb	09 19 55.5	
	comp=Z,17nm,1.2s						
BJT	**Baijiatuau**	**42.33**	**22**	P	**P**	**09 19 50.7**	**-1.7**
BJT				IAmb	IAmb	09 19 55.0	
	comp=Z,6.2nm,0.5s						
BJI	**Beijing**	**42.35**	**22**	P	**P**	**09 19 53.3**	**+0.7**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMQ	**Urumqi**	**43.22**	**350**	*e*P	**P**	**09 20 02.0**	**+2.3**
WMQ				pP	pP	09 20 06.6	-0.5
WMQ				sP	sP	09 20 16.7	+6.6
WMQ				pmax	pmax		
	comp=Z,17nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,380nm,5.3s						
ASAR	**Alice Springs**	**43.51**	**127**	P	**P**	**09 20 02.2**	**0.0**
	comp=Z,1.2nm,0.4s,baz=298,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**43.51**	**127**	P	**P**	**09 19 59.8**	**-2.5**
SHLS	**Shalkode**	**44.62**	**342**	*e*P	**P**	**09 20 11.8**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=342						
UZB	**Uzynbulak**	**44.75**	**341**	*e*P	**P**	**09 20 12.2**	**+0.2**
	baz=341						
KSAR	**Wonju Array Be**	**45.85**	**35**	P	**P**	**09 20 18.6**	**-2.1**
KSRS	**Korea Array**	**45.88**	**35**	P	**P**	**09 20 20.3**	**-0.7**
	comp=Z,9.1nm,0.8s,baz=221,slow=9.0,SNR=19						
KSRS				LR	LR	09 39 51.8	
	comp=Z,169nm,19.0s,baz=226,slow=36						
AAK	**Ala-Archa**	**45.93**	**337**	P	**P**	**09 20 22.4**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=188,slow=11,SNR=4.0						
KUU	**Kurty**	**46.31**	**339**	*e*P	**P**	**09 20 25.3**	**+1.0**
	baz=339						
TDK	**Taldyqorghan**	**46.61**	**342**	*e*P	**P**	**09 20 28.4**	**+1.8**
	baz=342						
SONM	**Songino Array**	**47.12**	**9**	P	**P**	**09 20 30.5**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=189,slow=8.1,SNR=36						
SONM				PcP	**PcP**	**09 22 02.3**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=188,slow=4.0,SNR=4.1						
SONM	**Songino Array**	**47.12**	**9**	P	**P**	**09 20 30.5**	**-0.1**
SONM				IAmb	IAmb	09 20 32.7	
	comp=Z,4.7nm,0.8s						
MK31	**Makanchi Array**	**47.18**	**346**	P	**P**	**09 20 30.2**	**-0.9**
MK31				IAmb	IAmb	09 20 32.9	
	comp=Z,4.2nm,0.9s						
MKAR	**Makanchi Array**	**47.18**	**346**	P	**P**	**09 20 31.5**	**+0.5**
	comp=Z,3.4nm,0.5s,baz=162,slow=8.5,SNR=44						
MKAR				LR	LR	09 43 46.8	
	comp=Z,147nm,21.6s,baz=158,slow=40						
MKAR	**Makanchi Array**	**47.18**	**346**	P	**P**	**09 20 30.9**	**-0.1**
ZSN	**Zaisan**	**47.24**	**349**	*e*P	**P**	**09 20 33.1**	**+1.6**
	comp=Z,4.2nm,0.8s,baz=349						
ULN	**Ulaanbaatar**	**47.25**	**9**	P	**P**	**09 20 31.2**	**-0.4**
ULN				IAmb	IAmb	09 20 33.0	
	comp=Z,5.7nm,0.9s						
MAKZ	**Makanchi**	**47.27**	**346**	P	**P**	**09 20 31.6**	**-0.1**
MAKZ				IAmb	IAmb	09 20 36.6	
	comp=Z,3.5nm,0.8s						
IUG	**Iuzhnay**	**47.44**	**333**	*e*P	**P**	**09 20 34.8**	**+1.6**
	comp=Z,4.1nm,0.8s,baz=333						
KKAR	**Karatay Array**	**47.98**	**334**	P	**P**	**09 20 36.6**	**-0.7**
KKAR	**Karatay Array**	**47.98**	**334**		**P**	**09 20 36.5**	**-0.8**
KKAR				IAmb	IAmb	09 20 54.0	
	comp=Z,2.1nm,0.7s						
TLY	**Talaya**	**50.57**	**5**	P	**P**	**09 20 58.2**	**+1.3**
	comp=Z,3.0nm,0.7s,baz=182,slow=2.1,SNR=3.7						
GEYT	**Alibeck**	**51.12**	**320**	P	**P**	**09 21 01.0**	**-0.4**
HIA	**Hailar**	**51.65**	**19**	P	P	09 20 59.6	-5.5
HIA				IAmb	IAmb	09 21 01.7	
	comp=Z,5.5nm,0.8s						
KURBB	**Kurchatov Arra**	**51.67**	**345**	P	**P**	**09 21 04.9**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=167,slow=6.9,SNR=14						
KURK	**Kurchatov**	**51.73**	**345**	P	**P**	**09 21 04.9**	**-0.7**
USRK	**Ussuriysk Ar.**	**52.80**	**31**	P	**P**	**09 21 13.9**	**+0.2**
	comp=Z,8.9nm,0.8s,baz=213,slow=3.1,SNR=7.8						
USRK	**Ussuriysk Ar.**	**52.80**	**31**	P	**P**	**09 21 12.2**	**-1.5**
BRZS	**Berezniki**	**52.84**	**340**	*e*P	**P**	**09 21 14.2**	**+0.3**
	baz=340						
STKA	**Stephens Creek**	**53.46**	**132**	P	**P**	**09 21 18.9**	**0.0**
	comp=Z,3.8nm,0.7s,baz=308,slow=6.8,SNR=13						
ZAA0	**Zalesovo Array**	**53.51**	**351**	P	**P**	**09 21 18.4**	**-0.3**
ZALV	**Zalesovo Beam**	**53.51**	**351**	P	**P**	**09 21 18.7**	**0.0**
	comp=Z,12nm,0.7s,baz=176,slow=6.1,SNR=44						
ZALV				LR	LR	09 49 09.6	
	comp=Z,138nm,19.3s,baz=86,slow=42						
ZALV	**Zalesovo Beam**	**53.51**	**351**	P	**P**	**09 21 18.3**	**-0.4**
BVAR	**Borovoye Array**	**56.18**	**341**	P	**P**	**09 21 37.7**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=157,slow=16,SNR=23						
BRVK	**Borovoye**	**56.24**	**341**	P	**P**	**09 21 36.9**	**-1.6**
BRVK				IAmb	IAmb	09 21 39.7	
	comp=Z,4.1nm,0.9s						
KLR	**Kul'dur**	**56.27**	**27**	P	**P**	**09 21 37.8**	**-1.0**
	comp=Z,4.6nm,0.7s,baz=229,slow=6.2,SNR=6.6						
ABKAR	**Akbulak array**	**57.43**	**332**	P	**P**	**09 21 46.6**	**-0.4**
AKTO	**Aktyubinsk**	**59.15**	**332**	P	**P**	**09 21 58.9**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=134,slow=6.8,SNR=8.1						
KBZ	**Khabaz**	**63.97**	**319**	P	**P**	**09 22 31.4**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=123,slow=7.4,SNR=4.0						
YAK	**Yakutsk**	**65.42**	**16**	LR	LR	09 53 44.2	
	comp=Z,1μm,18.0s,baz=290,slow=38						
BELG	**Belogornoye**	**65.47**	**329**	P	**P**	**09 22 41.5**	**+0.1**
	comp=Z,7.0nm,0.8s,baz=158,slow=1.3,SNR=5.2						
BRTR	**Keskin Array B**	**69.00**	**312**	P	**P**	**09 23 04.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=155,slow=4.4,SNR=1.6						
BOSA	**Boshof**	**74.70**	**240**	LR	LR	09 51 18.1	
	comp=Z,103nm,20.6s,baz=143,slow=32						
IDI	**Anoyia**	**74.79**	**306**	LR	LR	10 01 50.9	
	comp=Z,40nm,18.2s,baz=82,slow=40						
AKASG	**Malin Array Be**	**75.16**	**322**	P	**P**	**09 23 40.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=245,slow=18,SNR=1.7						
FINES	**FINESS Array B**	**79.92**	**333**	P	**P**	**09 24 06.0**	**-1.0**
	comp=Z,2.6nm,0.9s,baz=109,slow=10,SNR=4.1						
ARCES	**ARCESS Array B**	**82.47**	**340**	P	**P**	**09 24 20.4**	**0.0**
	comp=Z,4.9nm,0.9s,baz=96,slow=8.2,SNR=2.0						
ARCES				LR	LR	10 03 51.1	
	comp=Z,64nm,20.1s,baz=215,slow=38						
GERES	**GERESS Array B**	**84.71**	**319**	P	**P**	**09 24 32.1**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=67,slow=7.6,SNR=2.2						
VNDA	**Vanda**	**85.88**	**169**	LR	LR	09 59 43.2	
	comp=Z,77nm,18.4s,baz=298,slow=33						
NB2	**NORSAR Subarra**	**86.92**	**331**	P	**P**	**09 24 43.8**	**+0.6**
	comp=Z,5.6nm,1.1s,baz=94,slow=5.1						
NOA	**NORSAR Array B**	**86.92**	**331**	P	**P**	**09 24 41.1**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=140,slow=7.3,SNR=1.7						
NOA				LR	LR	10 08 30.7	
	comp=Z,35nm,18.3s,baz=100,slow=39						
KEST	**Kesra**	**87.45**	**306**	LR	LR	10 04 09.6	
	comp=Z,42nm,19.9s,baz=275,slow=36						
PDAR	**Pinedale Array**	**130.06**	**26**	PKP	**PKPdf**	**09 31 07.8**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=285,slow=1.8,SNR=2.4						
TXAR	**Lajitas Array**	**143.70**	**32**	PKP	**PKPdf**	**09 31 32.6**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=288,slow=1.2,SNR=6.1						
CPUP	**Villa Florida**	**144.95**	**222**	PKP	**PKPdf**	**09 31 36.5**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=183,slow=2.0,SNR=3.3						

IDC ***11*** *09:15:16.6±1.4, 30˚.65S×177˚.46W, h0km, mb4.0/4, mb1 4.3/5, mb1mx4.0/34, mbtmp4.1/5, ML3.9/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/32, Error ellipse: s-maj=59.4km s-min=27.9km az=150.0*

ISC 11 09:15:22.2±1.0, 30˚.6S±0˚.1×177˚.6W±0˚.2, h35km, n53, σ1°40/34, mb4.0/4, MS3.6/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**7.92**	**203**	P	**Pn**	**09 17 17.9**	**+3.1**
HAZ	**Te Kaha**	**8.10**	**207**	P	**Pn**	**09 17 18.5**	**+1.3**
PUZ	**Puketiti**	**8.20**	**204**	P	**Pn**	**09 17 19.0**	**+0.3**
RUGZ	**Raukumara Rang**	**8.32**	**207**	P	**Pn**	**09 17 21.7**	**+1.3**
TWGZ	**Tauwhareparae**	**8.39**	**205**	P	**Pn**	**09 17 22.5**	**+1.1**
CNGZ	**Carnagh Statio**	**8.59**	**203**	P	**Pn**	**09 17 23.9**	**-0.1**
TKGZ	**Te Karaka**	**8.68**	**204**	P	**Pn**	**09 17 25.4**	**+0.3**
MWZ	**Matawai**	**8.70**	**206**	P	**Pn**	**09 17 25.4**	**-0.1**
URZ	**Urewera**	**8.80**	**208**	Pn	**Pn**	**09 17 25.4**	**-1.4**
	1.4nm,0.3s,baz=269,slow=3.3,SNR=32						
URZ				Sn	Sn	09 18 54.9	-10
	2.7nm,0.3s,baz=62,slow=22,SNR=3.2						
URZ	**Urewera**	**8.80**	**208**	P	**Pn**	**09 17 27.0**	**+0.2**
RAGZ	**Rawiri**	**8.88**	**206**	P	**Pn**	**09 17 29.5**	**+1.4**
RIGZ	**Rimuhau**	**8.94**	**204**	P	**Pn**	**09 17 30.0**	**+1.1**
RTZ	**Ruatahuna**	**9.16**	**208**	P	**Pn**	**09 17 33.3**	**+1.5**
SNGZ	**Shannon Statio**	**

comp=Z,1.1nm,0.9s,baz=324,slow=6.7,SNR=2.5
AKASG Malin Array Be 151.66 323 PKPbc **PKPbc 09 35 12.3 -0.1**
comp=Z,0.5nm,0.3s,baz=65,slow=3.4,SNR=4.2

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*UPA **11** 09:20:21.7±1.0, 7.°50N×78.°14W, h22km±16km, MW3.3*
*RSNC **11** 09:20:22.0±0.6, 7.°43N×77.°99W, h4km±11km, ML2.3*
ISC 11 09:20:18.4±1.6, 7.°49N±0.°04×78.°13W±0.°05, h5km±12km, n10, σ1§06/18, 1D, Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PTAC	**Punta Ardita,**	**0.46**	**137**	⇓*i* P		**Pg**	**09 20 28.1**	**+0.7**
PTAC				*e* S		**Sg**	**09 20 33.3**	**-0.1**
UPD2	**Meteti**	**1.06**	**6**	*e* P		**Pn**	**09 20 40.1**	**+0.2**
UPD2				*e* S		**Sn**	**09 20 54.8**	**-0.3**
CAP2	**Capurgana**	**1.38**	**33**	*e* P		**Pn**	**09 20 44.4**	**0.0**
CAP2				*e* S		**Sg**	**09 21 01.9**	**-0.9**
SOLC	**Bahia Solano**	**1.44**	**150**	*e* P		**Pn**	**09 20 45.0**	**-0.3**
SOLC				*e* S		**Sg**	**09 21 02.5**	**-2.4**
SOLC				*i*			09 21 07.5	
	comp=Z,25nm,0.5s							
DBBC	**Dabeiba**	**1.96**	**104**	*e* P		**Pn**	**09 20 52.4**	**0.0**
DBBC				*e* S		**Sn**	**09 21 16.4**	**-1.1**
DBBC				*i*			09 21 24.2	
	comp=Z,58nm,0.5s							
AZU	**Azuero**	**2.15**	**278**	*e* P		**Pn**	**09 20 55.9**	**+0.9**
AZU				*e* S		**Sn**	**09 21 21.3**	**-0.8**
UREC	**San Jos de Ur**	**2.58**	**84**	*e* S		**Sn**	**09 21 32.2**	**-0.6**
CBOC	**Ciudad Bolivar**	**2.65**	**127**	*e* P		**Pn**	**09 21 03.0**	**+1.0**
MONA	**Monteria**	**2.75**	**62**	*e* P		**Pn**	**09 21 04.2**	**+0.9**
MONA				*e* S		**Sn**	**09 21 37.0**	**0.0**
HELC	**Santa Helena**	**2.88**	**116**	*e* P		**Pn**	**09 21 07.4**	**+1.9**
HELC				*e* S		**Sn**	**09 21 40.8**	**+0.1**

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*IDC **11** 09:24:06.8±5.6, 30.°95S×179.°87E, h260km±45km, mb3.1/4, mb1 3.3/6, mb1mx3.2/37, mbtmp3.8/6, Error ellipse: s-maj=49.7km s-min=20.9km az=51.0*
*NOU **11** 09:24:07.9, 31.°75S×178.°38W, h263km, mb4.0, Kermadec Islands Region*
ISC 11 09:24:06.1±0.8, 31.°05S±0.°08×179.°9W±0.°1, h250km, n74, σ1§99/86, mb3.2/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GLKZ	**Green Lake**	**2.46**	**44**	P		**Pn**	**09 24 54.8**	**+1.8**
GLKZ				S		**S**	**09 25 32.7**	**+2.7**
RIZ	**Raoul Island**	**2.47**	**44**	S		**S**	**09 25 34.0**	**+3.9**
MXZ	**Matakaoa Point**	**6.67**	**192**	P		**Pn**	**09 25 43.9**	**+1.5**
MXZ				S		**S**	**09 27 00.3**	**+0.5**
WCZ	**Waipu Caves**	**6.86**	**223**	P		Pn	09 25 55.0	+10
OUZ	**Omahuta**	**6.87**	**231**	P		Pn	09 25 54.5	+10
WMGZ	**Waiomatatini S**	**6.90**	**191**	P		**Pn**	**09 25 47.8**	**+2.4**
WMGZ				S		**S**	**09 27 04.1**	**-0.9**
HAZ	**Te Kaha**	**6.96**	**195**	P		**Pn**	**09 25 48.2**	**+2.0**
HAZ				S		**S**	**09 27 10.6**	**+4.1**
PKGZ	**Pakihiroa**	**7.03**	**193**	P		**Pn**	**09 25 50.6**	**+3.5**
PKGZ				S		**S**	**09 27 08.2**	**+0.1**
PUZ	**Puketiti**	**7.17**	**192**	P		**Pn**	**09 25 49.7**	**+0.8**
PUZ				S		**S**	**09 27 11.7**	**+0.3**
RUGZ	**Raukumara Rang**	**7.19**	**196**	P		**Pn**	**09 25 50.5**	**+1.4**
RUGZ				S		**S**	**09 27 13.8**	**+1.9**
MKAZ	**Moumakai**	**7.30**	**213**	P		Pn	09 25 58.5	+8.0
TWGZ	**Tauwhareparae**	**7.33**	**193**	P		**Pn**	**09 25 52.7**	**+1.9**
TWGZ				S		**S**	**09 27 16.4**	**+1.5**
OPRZ	**Ohinepanea**	**7.39**	**202**	P		**Pn**	**09 25 54.6**	**+3.1**
MARZ	**Manawahe**	**7.48**	**201**	P		**Pn**	**09 25 55.8**	**+3.1**
MWZ	**Matawai**	**7.58**	**196**	P		**Pn**	**09 25 54.7**	**+0.8**
MWZ				S		**S**	**09 27 19.8**	**-0.9**
CNGZ	**Carnagh Statio**	**7.58**	**191**	P		**Pn**	**09 25 55.2**	**+1.2**
CNGZ				S		**S**	**09 27 18.5**	**-2.3**
TKGZ	**Te Karaka**	**7.61**	**194**	P		**Pn**	**09 25 54.6**	**+0.3**
TKGZ				S		**S**	**09 27 18.8**	**-2.5**
URZ	**Urewera**	**7.61**	**198**	P		**Pn**	**09 25 54.4**	**+0.1**
	2.6nm,0.3s,baz=249,slow=5.0,SNR=29							
URZ				S		**S**	**09 27 22.4**	**+1.0**
	3.0nm,0.3s,baz=56,slow=22,SNR=3.1							
URZ	**Urewera**	**7.61**	**198**	P		**Pn**	**09 25 54.9**	**+0.6**
URZ				S		**S**	**09 27 22.6**	**+1.2**
RAGZ	**Rawiri**	**7.75**	**196**	P		**Pn**	**09 25 56.9**	**+0.7**
RAGZ				S		**S**	**09 27 27.2**	**+2.3**
TARZ	**Mount Tarawera**	**7.76**	**202**	P		Pn	09 26 02.0	+5.7
RRRZ	**Republican Roa**	**7.85**	**201**	P		Pn	09 26 02.7	+5.3
RRRZ				S		**S**	**09 27 32.6**	**+5.5**
RIGZ	**Rimuhau**	**7.88**	**194**	P		**Pn**	**09 25 57.8**	**0.0**
RIGZ				S		**S**	**09 27 28.0**	**+0.3**
MUGZ	**Murupara**	**7.91**	**199**	P		**Pn**	**09 25 58.7**	**+0.7**
MUGZ				S		**S**	**09 27 30.8**	**+2.5**
RTZ	**Ruatahuna**	**7.98**	**198**	P		**Pn**	**09 25 59.0**	**-0.1**
RTZ				S		**S**	**09 27 32.3**	**+2.3**
SNGZ	**Shannon Statio**	**8.04**	**196**	P		**Pn**	**09 25 59.0**	**-0.8**
PRGZ	**Paritu Road**	**8.07**	**192**	P		**Pn**	**09 26 01.1**	**+0.9**
PRGZ				S		**S**	**09 27 27.9**	**-4.2**
ALRZ	**Allen Road**	**8.11**	**201**	P		**Pn**	**09 26 04.8**	**+4.1**
TLZ	**Tolley Road**	**8.18**	**206**	P		Pn	09 26 07.4	+5.8
KNZ	**Kokohu**	**8.20**	**193**	P		**Pn**	**09 26 01.2**	**-0.6**
RAHZ	**Arahi**	**8.23**	**197**	P		**Pn**	**09 26 02.2**	**0.0**
MTHZ	**Maungataniwha**	**8.24**	**198**	P		**Pn**	**09 26 02.8**	**+0.6**
MHGZ	**Mahia Peninsul**	**8.29**	**192**	P		**Pn**	**09 26 03.9**	**+1.0**
MRHZ	**Matea Rd**	**8.34**	**200**	P		**Pn**	**09 26 04.0**	**+0.4**
WHHZ	**Waihua**	**8.35**	**196**	P		**Pn**	**09 26 03.2**	**-0.4**
HATZ	**Hinemaiaia**	**8.49**	**202**	P		**Pn**	**09 26 06.0**	**+0.5**
HIZ	**Hauiti**	**8.61**	**209**	P		Pn	09 26 12.4	+5.4
BKZ	**Black Stump Fm**	**8.62**	**199**	P		**Pn**	**09 26 06.9**	**-0.3**
TMVZ	**Te Maari**	**8.82**	**203**	P		**Pn**	**09 26 10.5**	**+0.8**
KRVZ	**Karewarewa**	**8.82**	**203**	P		**Pn**	**09 26 13.3**	**+3.5**
WTVZ	**West Tongariro**	**8.86**	**203**	P		**Pn**	**09 26 14.2**	**+4.0**
NGZ	**Ngauruhoe**	**8.91**	**203**	P		**Pn**	**09 26 14.6**	**+3.7**
TUVZ	**Tukino**	**8.98**	**203**	P		**Pn**	**09 26 14.2**	**+2.5**
FWVZ	**Far West T-bar**	**9.00**	**203**	P		**Pn**	**09 26 15.1**	**+3.0**
WNVZ	**Wahianoa**	**9.05**	**203**	P		**Pn**	**09 26 15.7**	**+3.0**
BHHZ	**Black Hill Sta**	**9.05**	**200**	P		**Pn**	**09 26 12.4**	**-0.2**
MOVZ	**Moawhango**	**9.07**	**202**	P		**Pn**	**09 26 12.4**	**-0.4**
MTVZ	**Mangateitei**	**9.14**	**203**	P		**Pn**	**09 26 15.8**	**+2.0**
VRZ	**Vera Road**	**9.17**	**207**	P		**P**	**09 26 18.8**	**-2.3**
PXZ	**Pawanui**	**9.35**	**196**	P		**Pn**	**09 26 14.5**	**-1.8**
PNHZ	**Pukenui**	**9.40**	**199**	P		**Pn**	**09 26 15.5**	**-1.5**
PKE	**Pukeiti**	**9.55**	**210**	P		**P**	**09 26 25.8**	**+0.5**
NEZ	**North Egmont**	**9.57**	**209**	P		**P**	**09 26 25.8**	**+0.2**
TSZ	**Takapari Road**	**9.61**	**199**	P		**Pn**	**09 26 19.7**	**-0.4**
KHEZ	**Kahui Hut**	**9.62**	**210**	P		**P**	**09 26 26.7**	**+0.5**
WAZ	**Wanganui**	**9.64**	**204**	P		**Pn**	**09 26 22.2**	**+2.2**
DVHZ	**Dannevirke**	**9.77**	**198**	P		**Pn**	**09 26 21.3**	**-0.3**
ANWZ	**Angora Road**	**9.85**	**196**	P		**Pn**	**09 26 20.9**	**-1.7**
POWZ	**Post Office Ro**	**9.97**	**200**	P		**Pn**	**09 26 24.9**	**+0.8**
PRWZ	**Pori Road**	**10.06**	**198**	P		**Pn**	**09 26 24.7**	**-0.6**
BFZ	**Birch Farm**	**10.11**	**197**	P		**Pn**	**09 26 23.4**	**-2.5**
TIWZ	**Tintock**	**10.29**	**198**	P		**Pn**	**09 26 27.1**	**-1.1**
HOWZ	**Holdsworth Sta**	**10.51**	**199**	P		**Pn**	**09 26 30.7**	**-0.2**
OGWZ	**Otaki Gorge**	**10.54**	**201**	P		**Pn**	**09 26 29.2**	**-2.1**
KIW	**Kapiti Island**	**10.66**	**202**	P		**Pn**	**09 26 31.2**	**-1.6**
MTW	**Mount Morrison**	**10.76**	**199**	P		**Pn**	**09 26 33.1**	**-0.8**
RPZ	**Rata Peaks**	**14.54**	**207**	P		**Pn**	**09 27 19.8**	**-0.8**
	0.6nm,0.3s,baz=243,slow=5.1,SNR=9.5							
RPZ				S		S	09 29 51.8	-10
	0.3nm,0.3s,baz=358,slow=20,SNR=1.6							
ASAR	**Alice Springs**	**41.46**	**269**	P		**P**	**09 31 27.2**	**-1.7**
	0.3nm,0.9s,baz=104,slow=7.7,SNR=1.8							
WRA	**Warramunga Arr**	**42.51**	**274**	P		**P**	**09 31 35.5**	**-1.8**
	0.3nm,0.3s,baz=111,slow=8.0,SNR=18							
VNDA	**Vanda**	**47.30**	**185**	P		**P**	**09 32 13.9**	**-0.2**
	1.7nm,1.1s,baz=46,slow=9.3,SNR=2.4							
QSPA	**South Pole Qui**	**59.06**	**180**	P		**P**	**09 33 41.1**	**+1.3**
	1.2nm,0.5s,baz=302,slow=1.1,SNR=14							
ARCES	**ARCESS Array B**	**138.86**	**347**	PKP		**PKPdf**	**09 43 01.5**	**0.0**
	4.2nm,0.9s,baz=90,slow=4.5,SNR=1.8							
FINES	**FINESS Array B**	**145.17**	**338**	PKPbc		**PKPbc**	**09 43 11.0**	**-2.1**
	2.2nm,0.4s,baz=49,slow=3.9,SNR=20							
AKASG	**Malin Array Be**	**150.80**	**321**	PKPbc		**PKPbc**	**09 43 26.0**	**-2.4**
	1.3nm,0.5s,baz=54,slow=2.5,SNR=2.0							

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*MEX **11** 09:33:46.9±0.4, 29.°80N×114.°26W, h46km±40km, MD3.9*
*ECX **11** 09:33:47.7±0.6, 30.°49N×113.°91W, h14km±9km, MD3.6, ML3.7*
*IDC **11** 09:33:53.4±1.5, 31.°31N×113.°01W, h0km, mb3.3/3, mb1 3.5/10, mb1mx3.4/42, mbtmp3.2/10, ML3.2/7, MS3.0/6, Ms1 3.0/6, ms1mx2.8/19, Error ellipse: s-maj=27.8km s-min=10.8km az=32.0*

ISC 11 09:33:46.7±0.8, 30.°37N±0.°06×113.°96W±0.°04, h21km±4km, n29, σ2§41/36, mb3.4/3, 4C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BAHB	**Baha de los**	**0.55**	**141**	*e* P		**Sn**	**09 34 13.9**	**+6.2**
SFX	**San Felipe**	**1.02**	**311**	*e* P		**Pb**	**09 34 04.1**	**-1.6**
SFX				*e* S		**Sb**	**09 34 18.0**	**-0.6**
PIX	**Pinacate**	**1.26**	**20**	⇓*e* P		**Pn**	**09 34 07.2**	**-1.9**
PIX				*e* S		**Sn**	**09 34 23.2**	**-2.2**
ECBX	**El Chinero**	**1.45**	**320**	*e* P		**Pn**	**09 34 11.5**	**-0.2**
ECBX				*e* S		**Sn**	**09 34 30.4**	**+0.4**
SPX	**San Pedro Mart**	**1.46**	**297**	*e* P		**Pn**	**09 34 12.2**	**0.0**
SPX				*e* S		**Sb**	**09 34 32.7**	**+1.1**
SPX				⇑*e*			09 34 43.1	
SPX				IAML			09 34 43.1	
	comp=N,1μm,0.8s							
SPX				⇑*e*			09 34 45.3	
SPX				IAML			09 34 45.3	
	comp=E,784nm,1.2s							
SPIG	**San Pedro Mart**	**1.47**	**298**	*e* P		**Pn**	**09 34 11.8**	**-0.4**
SPIG				*i* S		**Sn**	**09 34 31.1**	**+0.1**
SQX	**San Quintin**	**1.67**	**278**	⇑*e* P		**Pn**	**09 34 15.5**	**+0.7**
MBIG	**Mexicali**	**2.29**	**333**	*i* P		**Pb**	**09 34 27.6**	**+0.2**
MBIG				*i* S		**Sb**	**09 34 57.6**	**+2.4**
CPBX	**Cerro Prieto**	**2.35**	**331**	⇓*e*			09 35 36.9	
CPBX				IAML			09 35 36.9	
	comp=N,2μm,1.0s							
CPBX				IAML			09 35 51.1	
	comp=E,1μm,1.2s							
CPBX				*e*			09 35 51.1	
HSIG		**2.94**	**116**	*i* P		**Pn**	**09 34 29.9**	**-2.4**
HSIG				*i* S		**Sn**	**09 35 04.8**	**-2.2**
HSIG		**2.94**	**116**	*e* P		**Pn**	**09 34 33.6**	**+1.4**
CBX	**Cerro Bola**	**3.02**	**311**	*e* P		**Pn**	**09 34 34.6**	**+1.1**
CBX				IAML			09 35 33.8	
	comp=N,328nm,1.0s							
CBX				⇑*e*			09 35 33.8	
TJIG	**Tijuana**	**3.10**	**312**	*e* P		**Pn**	**09 34 35.4**	**+0.8**
TJIG				*e* S		**Sn**	**09 35 13.4**	**+2.4**
TUC	**Tucson**	**3.33**	**54**	*i* P		**Pb**	**09 34 43.9**	**-1.2**
TUC				*i* S		**Sb**	**09 35 27.4**	**+2.2**
PFO	**Pinyon Flats O**	**3.87**	**327**	Pn		**Pb**	**09 34 52.2**	**-2.1**
	comp=N,0.1nm,0.3s,baz=141,slow=11,SNR=6.1							
PFO				Pg		Pn	09 35 04.1	+19
	comp=N,0.4nm,0.3s,baz=133,slow=16,SNR=6.4							
PFO				Lg		Lg	09 35 49.9	
	comp=N,0.9nm,0.3s,baz=150,slow=14,SNR=1.8							
		5.17	**89**	*i* P		**Pn**	**09 35 04.6**	**+1.6**
CGIG								
CGIG				*i* S		**Sn**	**09 36 06.7**	**+4.6**
CSIG	**Choix**	**6.04**	**124**	*i* P		**Pn**	**09 35 12.1**	**-2.8**
CSIG				*e* S		**Sn**	**09 36 19.6**	**-3.9**
LPIG	**La Paz**	**7.04**	**152**	LR		LR	09 38 27.9	
	comp=N,82nm,20.3s,baz=341,slow=36							
NVAR	**Mina Array Bea**	**8.80**	**337**	Pn		**Pn**	**09 35 56.9**	**+3.9**
	comp=N,0.1nm,0.3s,baz=155,slow=15,SNR=7.3							
TXAR	**Lajitas Array**	**8.99**	**94**	Pn		**Pn**	**09 35 56.2**	**+0.7**
	comp=N,0.2nm,0.3s,baz=262,slow=15,SNR=23							
TXAR				Lg		Lg	09 38 28.0	
	comp=N,0.5nm,0.3s,baz=282,slow=29,SNR=3.4							
TXAR				LR		LR	09 39 35.7	
	comp=N,178nm,19.1s,baz=0.0,slow=41							
ELK	**Elko**	**10.40**	**355**	Pn		**Pn**	**09 36 14.9**	**0.0**
	comp=N,0.1nm,0.3s,baz=228,slow=18,SNR=1.8							
ELK				LR		LR	09 39 47.1	
	comp=N,48nm,21.6s,baz=196,slow=37							
PDAR	**Pinedale Array**	**12.86**	**15**	Pn		**Pn**	**09 36 44.6**	**-3.9**
	comp=N,0.1nm,0.3s,baz=175,slow=10,SNR=1.8							
PDAR				Lg		Lg	09 40 04.7	
	comp=N,0.0nm,0.3s,baz=169,slow=20,SNR=1.5							
PDAR				LR		LR	09 40 41.1	
	comp=N,30nm,19.6s,baz=202,slow=35							
YBH	**Yreka Blue Hor**	**13.36**	**330**	Pn		**P**	**09 37 02.1**	**-2.5**
	comp=N,0.0nm,0.3s,baz=140,slow=16,SNR=2.7							
NEW	**Newport**	**18.03**	**353**	P		**P**	**09 37 56.6**	**+0.2**
	comp=N,0.2nm,0.3s,baz=180,slow=13,SNR=4.5							
ULM	**Lac du Bonnet**	**24.06**	**29**	P		**P**	**09 38 59.5**	**-0.9**
	comp=N,0.7nm,0.6s,baz=231,slow=7.6,SNR=3.3							
TKL	**Tuckaleechee C**	**25.79**	**70**	LR		LR	09 49 53.1	
	comp=N,42nm,21.6s,baz=264,slow=39							
APG	**El Apazote**	**26.44**	**120**	LR		LR	09 51 05.7	
	comp=N,74nm,21.8s,baz=272,slow=39							
YKA	**Yellowknife Ar**	**32.13**	**359**	P		**P**	**09 40 13.2**	**+0.7**
	comp=N,0.1nm,0.4s,baz=282,slow=7.0,SNR=3.7							
ILAR	**Eielson Array**	**40.06**	**339**	P		**P**	**09 41 23.6**	**+3.4**
	comp=N,1.1nm,1.0s,baz=166,slow=7.4,SNR=8.5							

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*BJI **11** 09:39:04.3±0.0, 7.°24S×129.°92E, h165km, mB5.1/31, mb4.7/45*
*NEIC **11** 09:39:09.7±1.5, 6.°72S±0.°07×129.°59E±0.°07, h160km±6km, mb4.9/69, Error ellipse: s-maj=10.3km s-min=9.2km az=51.0*
*DJA **11** 09:39:10.7±0.2, 7.°5±2.°×13.°0E±.°, h165km±3km, M5.0/47, mb5.0/47, mB5.4/22, MLv5.3/11, Mw(mB)4.9/22, MwMwp4.7/1, Mwp5.0/1*
*GCMT **11** 09:39:11.7±0.3, 6.°85S±0.°02×129.°68E±0.°03, h178km±4km, MW5.0/94, Moment Tensor Solution. s10,c12; s94,c125; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.91±.15; Mθθ-3.14±.16; Mφφ 1.23±.17; Mrθ 0.86±.13; Mθφ-0.54±.15; Mφr 1.95±.13; Best double couple: Mo 3.51100×10¹⁶ NP1: φs 295.00000°, δ 45.00000°, λ 147.00000°. NP2: φs 50.00000°, δ 67.00000°, λ 50.00000°. Principal axes: T 3.5650, Plg51.0000°, Azm274.0000°; N -0.1070, Plg36.0000°, Azm68.0000°; P -3.4570, Plg13.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **11** 09:39:11.4±1.1, 6.°72S×129.°65E, h174km±9km, mb4.4/31, mb1 4.5/37, mb1mx4.4/50, mbtmp4.9/37, MS3.6/7, Ms1 3.7/7, ms1mx3.2/35 Error ellipse: s-maj=11.6km s-min=7.4km az=58.0*
*KLM **11** 09:39:18, 7.°09S×129.°71E, h256km, mb5.1*
ISC 11 09:39:11.2±0.3, 6.°75S±0.°04×129.°65E±0.°04, h178km, n292, σ1§63/299, mb4.8/91, 21C-31D, Fault plane solution: NP1: φs 43.86038°, δ 89.95256°, λ 31.71913°. **NP2:** φs 313.83106°, δ 58.28088°, λ 179.94423°. **Principal axes:** T Plg21.8607°, Azm273.4624°; N Plg58.2808°, Azm43.9371°; P Plg21.7884°, Azm174.2337°; **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SAUI	**Saumlaki**	**2.05**	**127**	Pn		**Pn**	**09 39 47.9**	**-0.8**
SAUI				Sn		**Sn**	**09 40 14.2**	**-3.6**
SAUI	**Saumlaki**	**2.05**	**127**	P		**Pn**	**09 39 47.8**	**-0.8**
BNDI	**Bandanaira**	**2.23**	**7**	P		**Pn**	**09 39 51.3**	**+0.6**
NLAI	**Namlea**	**4.31**	**324**	P		**Pn**	**09 40 18.1**	**+1.8**
FAKI	**Fak Fak**	**4.61**	**34**			**Pn**	**09 40 17.7**	**-2.4**
FAKI						Sn	**09 41 08.3**	**-5.8**
FAKI	**Fak Fak**	**4.61**	**34**	P		**Pn**	**09 40 17.5**	**-2.6**
FAKI				S		**Sn**	**09 41 08.3**	**-5.8**
SANI	**Sanana**	**5.92**	**322**	P		**Pn**	**09 40 38.7**	**+1.4**
	0.7nm3μm3μm211nm,1.2s							
SIJI	**Sorong**	**6.06**	**16**	P		**Pn**	**09 40 36.9**	**-2.2**
	44nm,0.3s,baz=61,slow=4.5,SNR=265							
SIJI				S		**Sn**	**09 41 41.4**	**-6.9**
	57nm,0.3s,baz=227,slow=23,SNR=16							
SWI	**Sorong**	**6.07**	**15**	P		**Pn**	**09 40 37.4**	**-1.7**
SOEI	**Soe**	**6.10**	**240**	Pn		**Pn**	**09 40 39.8**	**0.0**
SOEI	**Soe**	**6.10**	**240**	P		**Pn**	**09 40 39.2**	**-0.5**
	4.9nm5μm453nm,0.9s							
MTN	**Manton Dam**	**6.23**	**167**			**Pn**	**09 40 39.0**	**-2.3**
KDU	**Kakadu**	**6.52**	**155**	P		**Pn**	**09 40 42.8**	**-2.3**
	baz=6.5,SNR=1000							
KDU				S		Sn	09 41 50.8	-8.4
	baz=6.5							
BATI	**Baumata**	**6.84**	**239**	P		**Pn**	**09 40 48.7**	**-0.7**
	58nm,0.3s,baz=127,slow=1.6,SNR=19							
BATI				S		**Sn**	**09 42 00.8**	**-6.0**
	82nm,0.3s,baz=230,slow=22,SNR=14							
BATI	**Baumata**	**6.84**	**239**	P		**Pn**	**09 40 48.9**	**-0.5**
	2.1nm3μm121nm,0.5s							
MMRI	**Maumere**	**7.58**	**255**	Pn		**Pn**	**09 40 56.3**	**-2.7**
TNTI	**Ternate**	**7.81**	**343**			**Pn**	**09 40 59.4**	**-2.7**
TNTI	**Ternate**	**7.81**	**343**	P		**Pn**	**09 41 00.2**	**-1.9**
	0.4nm51nm,0.8s							
SRPI	**Serui, Papua**	**8.17**	**54**	P		**Pn**	**09 41 03.1**	**-3.7**
	279nm,0.5s							
KNRA	**Kununurra**	**8.91**	**186**	P		**Pn**	**09 41 13.8**	**-2.9**
	baz=8.9,SNR=24							
KNRA				S		Sn	09 42 45.0	-11
	baz=8.9							
KNRA	**Kununurra**	**8.91**	**186**			**Pn**	**09 41 13.7**	**-2.9**
BNSI	**Bone**	**9.78**	**283**	P		Pn	09 41 35.7	+7.7
APSI	**Ampana**	**9.86**	**306**	P		**Pn**	**09 41 31.2**	**+2.1**
	570nm75nm,0.8s							
KAPI	**Kappang**	**9.99**	**279**	P		**Pn**	**09 41 30.0**	**-0.8**
	0.6nm,0.3s,baz=147,slow=16,SNR=1.0							
SPSI	**Sidrap Palu**	**10.22**	**285**	P		**Pn**	**09 41 34.0**	**+0.3**
	2μm186nm,0.9s							
TTSI	**Tana Toraja**	**10.46**	**290**	P		**Pn**	**09 41 40.2**	**+3.3**
	1μm72nm,0.8s							
MRSI	**Marisa**	**10.52**	**313**	P		**Pn**	**09 41 40.6**	**+2.9**
	2μm148nm,0.8s							
JAY	**Jayapura**	**11.80**	**70**	P		**Pn**	**09 41 54.1**	**-0.2**
	3.4nm,0.3s,baz=218,slow=10,SNR=10							
JAY				LR		LR	09 47 58.8	
	comp=Z,198nm,19.7s,baz=270,slow=45							
FITZ	**Fitzroy Crossi**	**11.94**	**199**	P		**Pn**	**09 41 52.5**	**-3.5**
	19nm,0.3s,baz=27,slow=10,SNR=106							
FITZ				S		Sn	09 43 57.5	-11
	16nm,0.3s,baz=112,slow=16,SNR=12							
FITZ	**Fitzroy Crossi**	**11.94**	**199**	S		Sn	09 43 57.8	-11
	baz=12							
FITZ	**Fitzroy Crossi**	**11.94**	**199**	Pn		**Pn**	**09 41 52.1**	**-3.9**
PLAI	**Plampang**	**11.94**	**259**	P		**Pn**	**09 41 51.9**	**-4.2**
WB0	**Warramunga Arr**	**13.74**	**161**	Pn		Pn	09 42 14.6	-4.2
BKB	**Balikpapan**	**13.84**	**293**			**Pn**	**09 42 18.5**	**-1.6**
BKB	**Balikpapan**	**13.84**	**293**	P		**P**	**09 42 23.7**	**+1.0**
	3μm255nm,1.3s							
KBKI	**Kotabaru**	**13.86**	**284**	P		**P**	**09 42 22.7**	**-0.3**
	97nm,0.8s							
WRAB	**Tennant Creek**	**13.88**	**161**			Pn	09 42 16.2	-4.3
WRA	**Warramunga Arr**	**13.88**	**161**	P		Pn	09 42 16.2	-4.5
	17nm,0.3s,baz=342,slow=13,SNR=363							
WRA				S		Sn	09 44 43.5	-12
	56nm,0.3s,baz=326,slow=24,SNR=12							
WRA				LR		LR	09 48 30.2	
	comp=Z,569nm,19.2s,baz=320,slow=40							
WB2	**Warramunga Arr**	**13.89**	**161**			Pn	09 42 16.4	-4.3
WR0	**Warramunga Arr**	**13.96**	**161**			Pn	09 42 17.3	-4.4
BBKI	**Banjar Baru**	**15.10**	**282**	P		**P**	**09 42 39.2**	**+2.4**
	3μm288nm,1.4s							
COEN	**Coen**	**15.11**	**119**	Pn		**Pn**	**09 42 35.1**	**-0.7**
COEN				IAmb		IAmb	09 42 39.1	
	comp=Z,113nm,1.3s							
ABJI	**Asem Bagus**	**15.32**	**265**	P		**P**	**09 42 39.6**	**+0.3**
	comp=Z,94nm,0.8s							
JAGI	**Jajag, Banyuwa**	**15.45**	**263**			**Pn**	**09 42 37.5**	**-2.6**
JAGI				IAmb		IAmb	09 42 42.0	
	comp=Z,89nm,1.1s							
MTKI	**Muara Teweh, K**	**15.80**	**291**	P		**P**	**09 42 47.1**	**+2.5**
MYLDM	**Lahad Datu**	**16.25**	**317**			**P**	**09 42 47.8**	**-1.8**
MYLDM				IAmb		IAmb	09 43 06.5	
	comp=Z,50nm,1.0s							
QIS	**Mount Isa**	**16.78**	**146**	P		**P**	**09 42 54.4**	**-0.9**
	baz=17,SNR=122							
MBWA	**Marble Bar**	**17.24**	**213**	P		**P**	**09 43 00.5**	**+0.1**
AS31	**Alice Springs**	**17.31**	**167**	P		**P**	**09 43 01.9**	**+0.7**
ASAR	**Alice Springs**	**17.31**	**167**	P		**P**	**09 43 01.2**	**+0.1**
	comp=Z,33nm,0.3s,baz=345,slow=9.3,SNR=1504							
ASAR				S		**S**	**09 46 03.3**	**-9.0**
	comp=Z,10nm,0.3s,baz=354,slow=27,SNR=6.9							

comp=Z,58nm,1.0s
TPUB Ta-pu 31.14 344 P P 09 45 12.2 -1.2
ARMA Armidale 31.31 142 P P 09 45 15.6 +0.7
baz=31,SNR=18
ARMA Armidale 31.31 142 P P 09 45 16.7 +1.7
ARMA IAmb IAmb 09 45 17.7
comp=Z,24nm,1.2s
KULM Kulim 31.32 292 P P 09 45 13.2 -1.8
KULM IAmb IAmb 09 45 18.5
comp=Z,32nm,1.1s
KULM Kulim 31.32 292 P P 09 45 18.0 +3.0
ARPS Mount Arapiles 31.89 161 P P 09 45 21.1 +1.4
baz=32,SNR=103
RPSI Rantau Prapat 32.07 286 P P 09 45 20.3 -1.4
RPSI IAmb IAmb 09 45 25.7
comp=Z,17nm,0.9s
RPSI Rantau Prapat 32.07 286 P P 09 45 22.1 +0.5
PSI Prapat 32.10 286 P P 09 45 22.1 +0.1
comp=Z,7.5nm,0.4s,baz=360,slow=14,SNR=5.7
YNG Young 32.43 150 P P 09 45 26.1 +1.5
baz=32,SNR=52
UBPT Khong Chiam 32.45 313 P P 09 45 25.8 +0.9
comp=Z,9.2nm,1.0s
UBPT Khong Chiam 32.45 313 P P 09 45 24.4 -0.6
UBPT IAmb IAmb 09 45 26.5
comp=Z,18nm,1.1s
GSI Gunungsitoli 32.99 283 P P 09 45 28.0 -1.7
GSI Gunungsitoli 32.99 283 P P 09 45 32.1 +2.4
comp=Z,49nm,0.9s
MGCD Mangrove Creek 33.01 146 P P 09 45 31.9 +2.3
baz=33,SNR=7.6
CAN Canberra 33.54 151 P P 09 45 34.2 -0.1
CNB Canberra Magne 33.72 150 P P 09 45 37.4 +1.7
baz=34,SNR=48
TOO Toolangi 33.90 157 P P 09 45 39.5 +2.3
baz=34,SNR=13
TOO Toolangi 33.90 157 P P 09 45 36.7 -0.6
TOO IAmb IAmb 09 45 40.6
comp=Z,20nm,1.1s
TPTI 33.90 286 P P 09 45 36.8 -0.8
comp=Z,11nm,1.6s
MLSI Meulaboh, Aceh 34.94 287 P P 09 45 44.5 -2.0
comp=Z,69nm,0.5s
CHAI Chaiyaphum 35.45 310 P P 09 45 51.0 +0.2
comp=Z,24nm,0.5s
UTHA Uthaitani 37.23 307 P P 09 46 06.5 +0.6
comp=Z,686nmcomp=Z,36nm,0.9s
PHIT Phitsanulok 37.42 310 P P 09 46 09.7 +2.2
comp=Z,80nm,0.9s
UTTA Uttaradit 37.65 311 P P 09 46 10.3 +0.9
comp=Z,354nmcomp=Z,31nm,0.9s
UMPA Umpang Tak 38.06 307 P P 09 46 13.0 +0.1
SUKH Sukhothai 38.20 309 P P 09 46 15.0 +1.0
comp=Z,416nmcomp=Z,37nm,0.9s
NOUC Port Laguerre 38.50 117 P P 09 46 17.7 +1.2
comp=Z,25nm,2.0s
DZM Mont Dzumac 38.62 117 P P 09 46 17.6 0.0
comp=Z,7.3nm,0.9s,baz=257,slow=9.9,SNR=5.9
DZM Mont Dzumac 38.62 117 P P 09 46 18.1 +0.5
DZM IAmb IAmb 09 46 18.3
comp=Z,18nm,1.0s
DZM Mont Dzumac 38.62 117 P P 09 46 18.9 +1.3
comp=Z,19nm,1.5s
LAMP Lampang 38.82 311 P P 09 46 20.7 +1.5
comp=Z,603nmcomp=Z,21nm,1.0s
YATNC Mamie plateau, 39.01 117 P P 09 46 22.9 +2.1
comp=Z,32nm,1.5s
CM01 Chiang Mai Arr 39.27 310 P P 09 46 24.0 +1.1
comp=Z,214nmcomp=Z,19nm,0.8s
CM02 Chiang Mai Arr 39.29 310 P P 09 46 24.0 +1.0
comp=Z,148nmcomp=Z,15nm,0.9s
CMAR Chiang Mai Arr 39.30 310 P P 09 46 24.1 +0.9
comp=Z,8.3nm,0.6s,baz=141,slow=7.2,SNR=32
CMAR PcP **PcP 09 48 30.1 +1.7**
comp=Z,1.5nm,0.4s,baz=163,slow=2.9,SNR=5.0
CMAR ScP **ScP 09 52 01.3 +1.0**
comp=Z,2.3nm,0.3s,baz=108,slow=2.9,SNR=2.0
CMAR LR LR 10 03 42.7
comp=Z,52nm,19.8s,baz=189,slow=38
CMAR Chiang Mai Arr 39.30 310 P P 09 46 23.3 +0.1
CHTO Chiang Mai 39.52 311 P P 09 46 25.4 +0.5
CHTO IAmb IAmb 09 46 26.8
comp=Z,18nm,0.8s
CHTO Chiang Mai 39.52 311 P P 09 46 26.1 +1.1
GYA Guiyang 39.84 327 *eP* **P 09 46 29.1 +1.5**
GYA pmax pmax
comp=Z,11nm,0.7s
WHN Wuhan 39.88 339 P P 09 46 29.5 +1.8
NJ2 Nanjing 39.94 346 *eP* **P 09 46 30.4 +2.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MJAR Matsushiro Arr 43.81 10 P P 09 46 57.7 -1.9
comp=Z,1.0nm,0.4s,baz=192,slow=9.0,SNR=5.7
MJAR LR LR 10 02 27.6
comp=Z,35nm,21.3s,baz=60,slow=32
MJAR Matsushiro Art 43.81 10 P P 09 46 59.3 -0.2
KSRS Korea Array 44.00 358 P P 09 47 01.6 +0.6
comp=Z,1.0nm,0.5s,baz=180,slow=10.0,SNR=6.7
CD2 Chengdu 44.91 328 *eP* **P 09 47 09.8 +1.4**
XAN Xi'an 45.07 335 P P 09 47 09.2 -0.4
XAN pP pP 09 47 49.0 +1.7
XAN pmax pmax
comp=Z,15nm,0.9s
XAN Xi'an 45.07 335 P P 09 47 08.9 -0.7
BJT Baijiatuan 48.17 346 P P 09 47 31.9 -1.6
BJT IAmb IAmb 09 47 34.6
comp=Z,14nm,0.6s
BJI Beijing 48.19 346 P P 09 47 34.3 +0.6
BJI pmax pmax
comp=Z,19nm,0.5s
SHL Shillong 48.77 313 P P 09 47 38.2 -0.4
LZH Lanzhou 49.02 332 *eP* **P 09 47 41.4 +1.1**
LZH pmax pmax
comp=Z,15nm,1.1s
LZH pmax pmax
comp=Z,68nm,4.7s
HHC Hu-ho-hao-te 50.20 342 *eP* **P 09 47 46.4 -2.7**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,410nm,5.9s
USRK Ussuriysk Ar. 50.76 2 P P 09 47 53.4 +0.4
comp=Z,4.6nm,0.5s,baz=181,slow=7.3,SNR=23
RPZ Rata Peaks 51.64 142 P P 09 48 00.8 +1.0
comp=Z,10nm,0.5s,baz=305,slow=2.6,SNR=21
RPZ Rata Peaks 51.64 142 P P 09 48 00.7 +1.0
RPZ IAmb IAmb 09 48 02.3
comp=Z,46nm,1.3s
ODAN Odare 52.83 311 *eP* **P 09 48 09.4 +0.4**
comp=Z,37nm,0.4s
TAPN Taplejung 52.86 312 *eP* **P 09 48 09.8 +0.5**
comp=Z,62nm,0.4s
URZ Urewera 53.09 133 P P 09 48 10.5 +0.1
comp=Z,2.5nm,0.4s,baz=270,slow=5.8,SNR=6.2
URZ Urewera 53.09 133 P P 09 48 10.8 +0.4
RAMN Ramite 53.47 311 *eP* **P 09 48 14.5 +0.8**
comp=Z,72nm,0.5s
GTA Gaotai 53.59 331 ⇑P **P 09 48 15.1 +0.9**
GTA pP pP 09 48 52.3 -0.8
GTA sP sP 09 49 09.3 -2.9
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA pmax pmax
comp=Z,160nm,6.5s
GTA LR LR
comp=Z,160nm,14.9s
GTA LR LR
comp=Z,220nm,14.9s
GTA LR LR
comp=Z,120nm,16.7s
GUN Gumba 54.52 311 *eP* **P 09 48 21.9 +0.5**
comp=Z,63nm,0.4s
PKI Pulchoki 54.70 311 *eP* **P 09 48 22.7 0.0**
comp=Z,14nm,0.3s
PKIN Phulchoki 54.71 311 *eP* **P 09 48 22.8 +0.1**
comp=Z,25nm,0.4s
DMN Daman 54.95 311 *eP* **P 09 48 24.8 +0.4**
comp=Z,22nm,0.5s
GKN Gorkha 55.51 311 *eP* **P 09 48 28.6 +0.3**
comp=Z,45nm,0.3s
HYB Hyderabad 55.89 296 *i* P **P 09 48 29.5 -1.5**
ULN Ulaanbaatar 57.92 342 P **P 09 48 45.7 +0.8**
ULN IAmb IAmb 09 48 47.5
comp=Z,18nm,0.8s
ULN Ulaanbaatar 57.92 342 P P 09 48 46.8 +2.0
SONM Songino Array 58.10 342 P P 09 48 47.2 +1.2
comp=Z,3.8nm,0.4s,baz=162,slow=7.2,SNR=51
SONM Songino Array 58.10 342 P P 09 48 47.2 +1.2
TLY Talaya 62.33 342 P P 09 49 14.7 +0.1
TLY IAmb IAmb 09 49 16.9
comp=Z,7.2nm,0.6s
WMQ Urumqi 62.99 327 *eP* **P 09 49 21.2 +2.0**
WMQ pP pP 09 49 57.9 -1.6
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ pmax pmax
comp=Z,220nm,4.5s
WMQ Urumqi 62.99 327 P P 09 49 19.0 -0.2
WMQ IAmb IAmb 09 49 21.9
comp=Z,9.1nm,0.7s
PETK Petropavlovsk- 64.20 18 P P 09 49 28.4 +1.6
comp=Z,4.5nm,0.8s,baz=163,slow=5.4,SNR=1.5
PETK PcP **PcP 09 50 00.8 +0.6**
comp=Z,11nm,1.1s,baz=186,slow=1.5,SNR=4.3
NIL Nilore 66.79 311 P P 09 49 43.1 -0.8
NIL IAmb IAmb 09 49 52.2
comp=Z,11nm,0.5s
ZSN Zaisan 66.88 329 *eP* **P 09 49 44.3 +0.1**
baz=329
SHLS Shalkode 67.31 322 *eP* **P 09 49 45.8 -1.3**
comp=Z,5.4nm,0.9s,baz=323
UZB Uzynbulak 67.57 322 *eP* **P 09 49 49.6 +0.8**
baz=322
THW Thamme Wali 67.57 309 P P 09 49 49.9 +1.0
KSH Kashi 67.60 318 P P 09 49 50.7 +1.7
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,290nm,5.3s
MK31 Makanchi Array 67.83 327 P P 09 49 51.4 +1.3
MK31 IAmb IAmb 09 49 52.5
comp=Z,28nm,1.1s
MKAR Makanchi Array 67.83 327 P P 09 49 51.4 +1.2
comp=Z,22nm,0.3s,baz=115,slow=8.4,SNR=566
MKAR Makanchi Array 67.83 327 P P 09 49 51.2 +1.0
MAKZ Makanchi 68.00 327 P P 09 49 52.4 +1.1
YAK Yakutsk 68.58 0 P P 09 49 54.7 +0.3
TNSS Tian-Shan 68.78 321 *eP* **P 09 49 56.8 +0.1**
baz=321
TKM2 Tokmak 2 69.57 321 P P 09 50 02.7 +1.4
SNR=9.6
KUU Kurty 69.61 322 *eP* **P 09 50 01.6 +0.4**
comp=Z,24nm,0.5s,baz=322
KBK Karagaybulak 69.85 320 P P 09 50 04.9 +2.0
SNR=6.0
UCH Uchtor 69.91 320 P P 09 50 05.9 +2.3
SNR=10
AAK Ala-Archa 70.13 320 P P 09 50 05.0 +0.4
comp=Z,7.6nm,0.3s,baz=133,slow=5.0,SNR=24
AAK Ala-Archa 70.13 320 P P 09 50 06.6 +2.0
SNR=11
AAK Ala-Archa 70.13 320 P P 09 50 04.6 0.0
AAK IAmb IAmb 09 50 07.6
comp=Z,13nm,0.5s
AAK Ala-Archa 70.13 320 P P 09 50 06.6 +2.0
KBL Kabul 70.33 310 P P 09 50 05.5 -0.6
KBL Kabul 70.33 310 P P 09 50 07.5 +1.4
AML Almayashu 70.39 319 P P 09 50 08.1 +1.5
SNR=15
USP Ospenovka 70.44 320 P P 09 50 08.3 +1.9
SNR=6.7
SGDS Sogindy 70.45 321 *eP* **P 09 50 06.8 +0.4**
comp=Z,3.0nm,0.4s,baz=321
EKS2 Erkin-Say 70.60 320 P P 09 50 09.6 +2.2
SNR=9.5
ZAA0 Zalesovo Array 71.21 334 P P 09 50 10.5 -0.1
ZALV Zalesovo Beam 71.21 334 P P 09 50 10.9 +0.3
comp=Z,10nm,0.4s,baz=121,slow=5.4,SNR=49
ZALV S **S 09 59 11.6 -1.5**
comp=Z,0.5nm,0.4s,baz=147,slow=8.6,SNR=4.0
KURBB Kurchatov Arra 72.11 329 P P 09 50 17.0 +0.9
comp=Z,15nm,0.5s,baz=127,slow=5.0,SNR=21
DZA Taraz 72.29 319 *eP* **P 09 50 17.9 +0.5**
baz=319
VNDA Vanda 72.74 173 P P 09 50 20.1 +0.7
comp=Z,2.2nm,0.7s,baz=316,slow=7.6,SNR=6.6
VNDA LR LR 10 20 30.4
comp=Z,58nm,19.8s,baz=314,slow=34
VNDA Vanda 72.74 173 P P 09 50 20.4 +1.0
IUG Iuzhnay 72.81 318 *eP* **P 09 50 20.7 +0.1**
comp=Z,10nm,1.1s,baz=318
KK31 Karatay Array 72.92 319 P P 09 50 22.3 +1.2
KK31 IAmb IAmb 09 50 23.4
comp=Z,33nm,1.4s
KKAR Karatay Array 72.92 319 P P 09 50 22.3 +1.2
KKAR IAmb IAmb 09 50 23.4
comp=Z,33nm,1.4s
KKAR Karatay Array 72.92 319 P P 09 50 22.1 +0.9
BRZS Berezniki 74.91 326 *eP* **P 09 50 33.1 +0.5**
comp=Z,5.0nm,0.5s,baz=326
WBK Wadi Bani Khal 74.99 295 P P 09 50 36.0 +2.5
WSAR Wadi Sarin 75.44 296 P P 09 50 36.5 +0.4
comp=Z,16nm,0.9s,baz=166,slow=2.9,SNR=4.5
MHTO MHTO 75.51 294 P P 09 50 37.1 +0.6
SNR=7.4
HRA Herat 75.53 308 P P 09 50 37.4 +0.8
DQM DQM 75.67 292 P P 09 50 36.0 -1.5
SMDO Samad 75.92 296 P P 09 50 40.5 +1.6
BIDO Bidbid 75.96 296 P P 09 50 41.0 +2.0
BSY Bisya 76.61 295 P P 09 50 43.4 +0.7
HOQ Hoqain 76.70 296 P P 09 50 45.3 +2.1
ARQ Araqi 77.35 296 P P 09 50 48.6 +1.8
SOHO SOHO 77.52 296 P P 09 50 48.0 +0.2
SOCY Socotra 77.52 284 P P 09 50 48.0 -0.1
SOCY IAmb IAmb 09 50 49.5
comp=Z,24nm,1.3s
SOCY Socotra 77.52 284 P P 09 50 48.3 +0.2
SNR=33
DMTO DMTO 77.61 290 P P 09 50 48.9 +0.5
BVAR Borovoye Array 77.67 328 P P 09 50 48.5 +0.5
comp=Z,3.3nm,0.4s,baz=144,slow=5.5,SNR=36
BRVK Borovoye 77.74 328 P P 09 50 48.6 +0.3
BRVK IAmb IAmb 09 50 50.3
comp=Z,18nm,1.0s
BRVK Borovoye 77.74 328 P P 09 50 49.3 +0.9
ASHO Ashiyiah 78.07 297 P P 09 50 52.7 +1.8
BANOM Banah 78.14 298 P P 09 50 51.1 -0.1
TIXI Tiksi 78.24 360 P P 09 50 50.6 -0.1
TIXI IAmb IAmb 09 50 52.0
comp=Z,12nm,0.4s
RBK Rabkut 78.27 289 P P 09 50 52.6 +0.6
SHME Shamm 78.31 298 P P 09 50 53.4 +1.3
FAQ Al Faqa, Dubai 78.49 297 P P 09 50 54.2 +1.0
DOK Doka 78.55 290 P P 09 50 53.9 +0.3
SNR=12
ASUD Al Ashush, Dub 78.70 297 P P 09 50 55.6 +1.4
WHFO Wadi Hawf 78.75 290 P P 09 50 55.0 +0.3
SNR=8.6
ABTO Aybut 79.09 289 P P 09 50 57.2 +0.6
SNR=7.0
GEYT Alibeck 79.78 310 P P 09 51 00.2 +0.3
comp=Z,3.7nm,0.4s,baz=113,slow=3.3,SNR=7.4
GEYT Alibeck 79.78 310 P P 09 51 00.6 +0.7
ABKAR Akbulak array 82.10 322 P P 09 51 12.3 +0.5
ABKAR Akbulak array 82.10 322 P P 09 51 12.3 +0.5
ABKAR IAmb IAmb 09 51 14.9
comp=Z,23nm,1.1s
QSPA South Pole Gui 83.22 180 P P 09 51 18.3 +0.7
AKTO Aktyubinsk 83.66 322 P P 09 51 20.8 +0.9
comp=Z,6.9nm,0.3s,baz=101,slow=5.7,SNR=31
ARU Arti 85.31 328 P P 09 51 28.6 +0.6
comp=Z,4.7nm,0.5s,baz=132,slow=2.4,SNR=15
ARU Arti 85.31 328 P P 09 51 28.0 0.0
RAYN Ar Rayn 87.33 294 P P 09 51 38.9 +0.3
GNI Garni 90.42 310 P P 09 51 54.2 +1.3
comp=Z,3.6nm,0.5s,baz=169,slow=8.3,SNR=3.3
BELG Belogornoye 90.45 323 P P 09 51 53.8 +1.3
comp=Z,5.5nm,0.3s,baz=95,slow=4.2,SNR=5.3
A21K Barrow 91.20 18 P P 09 51 56.3 +0.7
A21K IAmb IAmb 09 51 56.7
comp=Z,4.0nm,0.6s
GEVA Gevas 91.47 308 P P 09 51 58.3 +0.4
SML Sawmill 92.14 28 P P 09 51 59.2 -1.0
KMBO Kilima Mbogo 92.25 269 P P 09 52 03.2 +1.1
comp=Z,1.5nm,0.4s,baz=89,slow=3.4,SNR=4.2
KBZ Khabaz 92.27 314 P P 09 52 02.2 +1.0
comp=Z,1.2nm,0.5s,baz=116,slow=4.7,SNR=3.7
I23K Minto, Yukon-K 92.30 25 P P 09 52 01.5 +0.7
I23K IAmb IAmb 09 52 01.9
comp=Z,4.1nm,0.6s
COLD Coldfoot 92.37 23 P P 09 52 01.7 +0.5
CCB Clear Creek Bu 92.86 25 P P 09 52 03.1 -0.4
CCB IAmb IAmb 09 52 03.7
comp=Z,12nm,1.4s
ILAR Eielson Array 93.27 25 P P 09 52 04.3 -1.0
comp=Z,0.9nm,0.4s,baz=249,slow=4.7,SNR=17
ILAR Eielson Array 93.27 25 P P 09 52 04.1 -1.3
DOT Dot Lake 94.35 27 P P 09 52 09.5 -0.8
BMAR Burnt Mountain 94.56 23 P P 09 52 11.2 -0.1
BCAR Beaver Creek A 95.32 27 P P 09 52 15.6 +0.8
SNAA Sanae 95.82 194 P P 09 52 18.5 +1.4
DAWY Dawson 96.44 26 P P 09 52 20.8 +0.9
DAWY IAmb IAmb 09 52 21.7
comp=Z,4.1nm,1.0s
VNA2 Neumayer--Watz 97.39 193 P Pdif 09 52 25.9 +1.8
VNA3 Neumayer Olymp 97.65 192 P Pdif 09 52 25.8 +0.5
VNA1 Neumayer--Stat 97.79 193 P Pdif 09 52 26.8 +0.9
BRTR Keskin Array B 98.89 309 P P 09 52 30.5 -1.0
comp=Z,0.8nm,0.4s,baz=305,slow=37,SNR=1.8
ARCES ARCESS Array B 101.22 340 P Pdif 09 52 40.5 -0.6
comp=Z,16nm,1.3s,baz=80,slow=5.8,SNR=8.9
ARCES PKiKP **PKiKP 09 57 05.6 +0.8**
comp=Z,3.4nm,0.8s,baz=96,slow=1.2,SNR=1.7
AKASG Malin Array Be 101.79 320 P Pdif 09 52 43.1 -0.9
comp=Z,0.3nm,0.3s,baz=64,slow=26,SNR=5.2
FINES FINESS Array B 102.38 331 P Pdif 09 52 45.2 -1.2
comp=Z,3.2nm,1.1s,baz=22,slow=2.1,SNR=3.9
FINES PKiKP **PKiKP 09 57 07.3 +0.2**
comp=Z,1.8nm,0.7s,baz=90,slow=3.8,SNR=6.0
YKA Yellowknife Ar 107.68 26 Pdiff Pdif 09 53 07.4 -2.5
comp=Z,0.1nm,0.4s,baz=57,slow=42,SNR=1.8
YKA PKiKP **PKiKP 09 57 16.8 0.0**
comp=Z,0.4nm,0.5s,baz=297,slow=0.8,SNR=16
YKA PKKPbc **PKKPbc 10 08 30.4 -3.5**
comp=Z,0.1nm,0.3s,baz=95,slow=3.2,SNR=3.9
NVAR Mina Array Bea 111.41 51 PKiKP PKiKP 09 57 25.9 +1.1
comp=Z,0.2nm,0.4s,baz=65,slow=18,SNR=5.5
GERES GERESS Array B 112.01 320 PKiKP PKiKP 09 57 25.8 +0.2
comp=Z,0.9nm,0.4s,baz=90,slow=2.7,SNR=6.6
PDAR Pinedale Array 116.96 45 PKP PKPdf 09 57 35.2 -0.2
comp=Z,0.7nm,0.5s,baz=5.7,slow=1.5,SNR=7.7
PDAR Pinedale Array 116.96 45 PKPdf PKiKP 09 57 36.1 +0.7
ULM Lac du Bonnet 122.43 33 PKP PKPdf 09 57 44.9 -0.5
comp=Z,3.1nm,0.4s,baz=312,slow=2.2,SNR=16
TXAR Lajitas Array 125.10 59 PKP PKPdf 09 57 51.9 +0.6
comp=Z,0.6nm,0.3s,baz=198,slow=3.0,SNR=19
ESDC Sonseca Array 127.08 316 PKP PKPdf 09 57 55.1 +0.4
comp=Z,0.7nm,1.0s,baz=339,slow=3.7,SNR=4.6
TORD Torodi Ar. Bea 128.42 281 PKP PKPdf 09 57 58.2 +0.4
comp=Z,3.8nm,0.8s,baz=63,slow=2.9,SNR=22
TORD SKPbc SKiKP 10 01 00.6 -17
comp=Z,1.7nm,1.0s,baz=77,slow=5.6,SNR=5.2
PLCA Paso Flores 129.23 160 PKP PKPdf 09 57 59.5 +0.6
comp=Z,3.1nm,1.1s,baz=167,slow=2.5,SNR=10
PLCA PP **PP 10 00 12.1 +3.8**
comp=Z,1.4nm,1.0s,baz=55,slow=1.5,SNR=2.9
PLCA SKPbc SKPab 10 01 03.5 +0.5
comp=Z,1.8nm,0.6s,baz=198,slow=2.7,SNR=11
KIC Kosan Boka 134.70 272 *e*PKP1 **PKiKP 09 58 11.1 -0.1**
comp=Z,3.9nm,0.4s
DBIC Dimbokro 134.83 273 PKP PKPdf 09 58 10.1 +0.2
comp=Z,3.2nm,0.4s,baz=7.3,slow=2.0,SNR=8.2
DBIC SKPbc **SKPbc 10 01 22.7 -1.1**
comp=Z,4.0nm,0.7s,baz=106,slow=2.4,SNR=4.1
LIC Lamto 134.97 272 *e*PKP1 **PKiKP 09 58 12.1 +0.3**
comp=Z,11nm,0.3s
TIC Toumodi 134.99 273 *e*PKP1 **PKiKP 09 58 12.0 +0.2**
CPUP Villa Florida 146.43 169 PKPbc PKPbc 09 58 32.6 +0.6
comp=Z,10nm,0.9s,baz=190,slow=2.5,SNR=10
CPUP SKPbc **SKPbc 10 01 54.2 +0.1**
comp=Z,2.0nm,0.4s,baz=157,slow=3.5,SNR=4.3
LPAZ La Paz 151.13 143 PKPbc PKiKP 09 58 46.9 +1.3
comp=Z,7.1nm,0.3s,baz=30,slow=2.7,SNR=37

NNC 11 09:44:01.3±2.1, 53°.23N×88°.73E, h0km, mb3.7, mpv3.3, 2C-6D Error ellipse: s-maj=17.7km s-min=10.7km az=68.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**2.44**	**289**	⇓Pn	Pn	09 44 42.8	+0.5
ZAA0				⇑Lg	Lg	09 45 17.9	
	4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**6.83**	**252**	⇑Pn	Pn	09 45 41.5	-1.1
KURBB	1.8nm,0.7s			⇓Sn	Sn	09 47 03.4	+2.4
KURBB	6.6nm,0.7s			⇓Lg	Lg	09 47 38.3	
	5.2nm,0.7s						
MK31	**Makanchi Array**	**7.66**	**215**	⇓Pn	Pn	09 45 54.1	-0.1
	1.2nm,0.8s,baz=33,slow=9.4,SNR=8.4						
MK31				⇓Sn	Sn	09 47 22.7	+1.1
	0.5nm,0.5s,baz=38,slow=25,SNR=4.8						
MK31				⇓Lg	Lg	09 48 04.4	
	1.1nm,0.7s,baz=358,slow=7.8,SNR=2.5						

NEIC ***11*** *10:10:11.7±1.1, 30°.24S±0°.05×177°.6W±0°.2, h10km±1km, mb4.5/18, Error ellipse: s-maj=30.4km s-min=4.2km az=74.0*
IDC ***11*** *10:10:13.1±3.7, 30°.02S×177°.57W, h15km±21km, mb4.2/8, mb1 4.3/8, mb1mx4. 1/25, mbtmp4.2/8, MS3.8/6, Ms1 3.8/6, ms1mx3.3/37, Error ellipse: s-maj=25.7km s-min=24.3km az=98.0*

ISC 11 10:10:15.8±0.6, 30°.31S±0°.05×177°.7W±0°.1, h33km, n82, σ1s86/73, mb4.5/14, MS3.8/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.07**	**350**		**Pn**	**10 10 33.4**	**-1.0**
RAO				Sn	**Sn**	**10 10 46.7**	**-1.4**
OUZ	**Omahuta**	**8.80**	**234**		Pn	10 12 27.6	+7.0
TKGZ	**Te Karaka**	**8.90**	**203**	P	**Sn**	**10 13 59.7**	**-1.3**
MWZ	**Matawai**	**8.92**	**205**	P	**Sn**	**10 14 00.5**	**-1.1**
URZ	**Urewera**	**9.01**	**207**	Pn	**Pn**	**10 12 20.2**	**-3.3**
	0.8nm,0.3s,baz=346,slow=8.3,SNR=2.7						
URZ				Sn	**Sn**	**10 13 58.2**	**-5.6**
	1.7nm,0.3s,baz=344,slow=20,SNR=1.6						
URZ	**Urewera**	**9.01**	**207**	P	**Sn**	**10 14 02.8**	**-0.9**
RAGZ	**Rawiri**	**9.10**	**205**	P	**Sn**	**10 14 05.0**	**-1.2**
RIGZ	**Rimuhau**	**9.17**	**203**	P	**Sn**	**10 14 06.2**	**-1.6**
RTZ	**Ruatahuna**	**9.37**	**206**	P	**Sn**	**10 14 10.6**	**-2.2**
SNGZ	**Shannon Statio**	**9.38**	**204**	P	**Sn**	**10 14 09.8**	**-3.2**
MHGZ	**Mahia Peninsul**	**9.53**	**201**	P	**Sn**	**10 14 13.3**	**-3.2**
RAHZ	**Arahi**	**9.59**	**205**	P	**Sn**	**10 14 16.8**	**-1.4**
MTHZ	**Maungataniwha**	**9.63**	**206**	P	**Sn**	**10 14 16.3**	**-2.8**
LTZ	**Lake Taylor**	**14.81**	**210**	P	**Pn**	**10 13 40.8**	**-1.9**
INZ	**Inchbonnie**	**15.13**	**212**	P	**Pn**	**10 13 48.5**	**+1.4**
OXZ	**Oxford**	**15.35**	**209**	P	**Pn**	**10 13 45.4**	**-4.5**
WVZ	**Waitaha Valley**	**15.73**	**213**	P	**P**	**10 13 58.6**	**+0.2**
RPZ	**Rata Peaks**	**16.09**	**211**	Pn	**Pn**	**10 13 55.5**	**-3.9**
	1.0nm,0.3s,baz=360,slow=14,SNR=7.9						
RPZ				Sn	Sn	10 16 39.4	-17
	0.3nm,0.3s,baz=81,slow=18,SNR=1.4						
RPZ	**Rata Peaks**	**16.09**	**211**	P	**Pn**	**10 13 59.0**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**16.11**	**213**	P	**Pn**	**10 14 00.1**	**+0.5**
ARCZ	**Arundel**	**16.22**	**210**	P	**Pn**	**10 14 01.1**	**0.0**
DZM	**Mont Dzumac**	**16.40**	**296**	*e*LR	LR	10 17 43.4	
	comp=Z,422nm,24.9s						
DZM	**Mont Dzumac**	**16.40**	**296**	Pn	**P**	**10 14 10.9**	**+4.7**
	0.3nm,0.3s,baz=124,slow=18,SNR=2.4						
DZM				LR	LR	10 19 08.9	
	comp=Z,250nm,19.2s,baz=108,slow=33						
TMZ	**Timaru**	**16.64**	**209**	P	**Pn**	**10 14 04.5**	**-2.0**
ODZ	**Otahua Downs**	**17.33**	**209**	P	**P**	**10 14 16.7**	**+0.5**
JCZ	**Jackson Bay**	**17.41**	**214**	P	**Pn**	**10 14 14.5**	**-1.7**
SANVU	**Saraoutou**	**20.26**	**314**	P	**P**	**10 14 44.2**	**-4.3**
TBI	**Tubuai**	**26.10**	**81**	*e*LR	LR	10 22 11.9	
	comp=Z,191nm,28.2s						
TBI	**Tubuai**	**26.10**	**81**	*e*T	T	10 43 06.3	
	5.6nm,0.3s						
ARMA	**Armidale**	**26.42**	**262**	P	**P**	**10 15 49.5**	**-0.1**
EIDS	**Eidsvold**	**27.98**	**272**	P	**P**	**10 16 03.2**	**-0.3**
EIDS				IAmb	IAmb	10 16 04.2	
	comp=Z,8.3nm,1.0s						
CAN	**Canberra**	**28.34**	**251**	P	**P**	**10 16 06.5**	**-0.3**
PAE	**Paea**	**28.53**	**70**	*e*T	T	10 45 59.5	
	comp=Z,1.9nm,0.3s						
PPT2	**Papeete2**	**28.57**	**70**	*e*T	T	10 46 03.0	
	comp=Z,1.4nm,0.3s						
PPT	**Papeete**	**28.59**	**70**	LR	LR	10 26 12.1	
	comp=Z,41nm,18.5s,baz=212,slow=34						
MCQ	**Macquarie Isla**	**29.42**	**208**	P	**P**	**10 16 18.3**	**+2.3**
VAH	**Vaihoa**	**31.41**	**68**	*e*T	T	10 49 32.7	

	comp=Z,11nm,0.3s							
CTAO	**Charters Tower**	**34.03**	**279**	P		**P**	**10 16 59.1**	**+2.2**
STKA	**Stephens Creek**	**34.74**	**257**	P		**P**	**10 17 05.5**	**+2.5**
	comp=Z,6.1nm,0.7s,baz=111,slow=11,SNR=12							
STKA				LR		LR	10 30 28.4	
	comp=Z,121nm,18.3s,baz=27,slow=35							
STKA	**Stephens Creek**	**34.74**	**257**	P		**P**	**10 17 02.8**	**-0.2**
BBOO	**Buckleboo**	**39.23**	**254**			**P**	**10 17 42.2**	**+1.0**
AS31	**Alice Springs**	**43.36**	**267**	P		**P**	**10 18 15.5**	**+0.3**
ASAR	**Alice Springs**	**43.36**	**267**	P		**P**	**10 18 15.7**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=104,slow=6.8,SNR=40							
ASAR				PcP		**PcP**	**10 20 03.3**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=108,slow=5.4,SNR=1.7							
ASAR				ScP		**ScP**	**10 23 54.2**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=120,slow=4.5,SNR=5.6							
ASAR				LR		LR	10 36 28.7	
	comp=Z,155nm,18.1s,baz=117,slow=36							
ASAR	**Alice Springs**	**43.36**	**267**	P		**P**	**10 18 15.5**	**+0.3**
WR0	**Warramunga Arr**	**44.16**	**272**	P		**P**	**10 18 21.3**	**-0.3**
WR0				IAmb		IAmb	10 18 38.3	
	comp=Z,4.5nm,0.7s							
WB2	**Warramunga Arr**	**44.33**	**272**	P		**P**	**10 18 23.1**	**+0.1**
WB2				IAmb		IAmb	10 18 40.2	
	comp=Z,6.6nm,0.8s							
WRAB	**Tennant Creek**	**44.34**	**272**	P		**P**	**10 18 22.6**	**-0.4**
WRAB				IAmb		IAmb	10 18 40.1	
	comp=Z,6.4nm,0.7s							
WRA	**Warramunga Arr**	**44.34**	**272**	P		**P**	**10 18 23.4**	**+0.4**
	comp=Z,4.2nm,0.4s,baz=110,slow=7.9,SNR=50							
WRA				ScP		**ScP**	**10 23 59.8**	**+3.3**
	comp=Z,0.4nm,0.6s,baz=105,slow=4.0,SNR=2.1							
WRA				LR		LR	10 35 43.7	
	comp=Z,126nm,18.3s,baz=145,slow=34							
FORT	**Forrest**	**46.31**	**255**	P		**P**	**10 18 38.2**	**-0.3**
VNDA	**Vanda**	**48.21**	**186**	P		**P**	**10 18 55.8**	**+3.1**
	comp=Z,0.4nm,0.6s,baz=8.3,slow=5.8,SNR=1.4							
VNDA	**Vanda**	**48.21**	**186**	P		**P**	**10 18 52.9**	**+0.3**
VNDA				IAmb		IAmb	10 19 03.5	
	comp=Z,5.1nm,1.2s							
FITZ	**Fitzroy Crossi**	**52.61**	**270**	P		**P**	**10 19 27.3**	**+0.5**
FITZ				IAmb		IAmb	10 19 36.3	
	comp=Z,7.1nm,1.1s							
BATI	**Baumata**	**57.88**	**277**	LR		LR	10 45 35.2	
	comp=Z,226nm,18.3s,baz=111,slow=37							
QSPA	**South Pole Qui**	**59.80**	**180**	P		**P**	**10 20 19.2**	**+1.6**
	comp=Z,2.8nm,0.7s,baz=356,slow=5.8,SNR=18							
QSPA	**South Pole Qui**	**59.80**	**180**	P		**P**	**10 20 19.2**	**+1.6**
GIRL	**Giralia**	**60.60**	**260**	P		**P**	**10 20 24.3**	**+0.8**
SNAA	**Sanae**	**78.24**	**178**	P		**P**	**10 22 11.3**	**-0.5**
SNAA	**Sanae**	**78.24**	**178**	P		**P**	**10 22 12.4**	**+0.6**
SNAA				IAmb		IAmb	10 22 39.2	
	comp=Z,4.2nm,0.9s							
VNA3	**Neumayer Olymp**	**78.38**	**176**	P		**P**	**10 22 12.2**	**-0.3**
VNA2	**Neumayer--Watz**	**78.82**	**177**	P		**P**	**10 22 14.7**	**-0.2**
	baz=174,slow=4.9							
VNA1	**Neumayer--Stat**	**79.04**	**176**	P		**P**	**10 22 17.6**	**+1.5**
H03S2	**Juan Fernandez**	**80.31**	**123**	T		T	11 51 49.1	
	baz=238,slow=74,SNR=6.6							
H03S1	**Juan Fernandez**	**80.32**	**123**	T		T	11 51 56.1	
	baz=238,slow=74,SNR=6.4							
H03S3	**Juan Fernandez**	**80.33**	**123**	T		T	11 52 05.7	
	baz=238,slow=74,SNR=6.6							
H03N3	**Juan Fernandez**	**80.50**	**123**	T		T	11 52 07.2	
	baz=229							
H03N2	**Juan Fernandez**	**80.50**	**123**	T		T	11 51 59.3	
	baz=229							
H03N1	**Juan Fernandez**	**80.52**	**123**	T		T	11 52 00.8	
	baz=229							
PETK	**Petropavlovsk-**	**85.79**	**345**	P		**P**	**10 22 48.7**	**-2.6**
	comp=Z,2.8nm,0.6s,baz=119,slow=8.9,SNR=1.8							
USRK	**Ussuriysk Ar.**	**87.22**	**326**	P		**P**	**10 22 59.3**	**+0.8**
	comp=Z,2.4nm,0.9s,baz=110,slow=6.3,SNR=2.1							
NVAR	**Mina Array Bea**	**88.00**	**43**	P		**P**	**10 23 02.4**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=221,slow=7.8,SNR=5.2							
MKAR	**Makanchi Array**	**117.90**	**310**	PKP		**PKPdf**	**10 28 57.5**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=115,slow=1.8,SNR=4.5							
ARCES	**ARCESS Array B**	**138.55**	**348**	PKP		**PKPdf**	**10 29 36.7**	**-0.5**
	comp=Z,4.9nm,1.0s,baz=34,slow=3.8,SNR=1.7							
ARCES	**ARCESS Array B**	**138.55**	**348**			**PKPdf**	**10 29 37.0**	**-0.2**
FINES	**FINESS Array B**	**145.15**	**340**	PKP		**PKPbc**	**10 29 47.9**	**-0.8**
	comp=Z,10nm,0.7s,baz=48,slow=4.3,SNR=22							
FINES	**FINESS Array B**	**145.15**	**340**			**PKPbc**	**10 29 47.7**	**-1.0**
KBZ	**Khabaz**	**145.27**	**304**	PKPbc		**PKPbc**	**10 29 49.6**	**0.0**
	comp=Z,3.7nm,1.0s,baz=180,slow=3.0,SNR=4.2							
NB2	**NORSAR Subarra**	**148.70**	**352**	PKP		**PKPbc**	**10 29 58.5**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=13,slow=2.7							
NOA	**NORSAR Array B**	**148.70**	**352**	PKPbc		**PKPbc**	**10 29 58.3**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=14,slow=4.3,SNR=6.8							
AKASG	**Malin Array Be**	**151.38**	**323**	PKPbc		**PKPbc**	**10 30 05.1**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=53,slow=3.1,SNR=7.4							
AKASG	**Malin Array Be**	**151.38**	**323**			**PKPbc**	**10 30 04.9**	**-0.8**
AKASG				PKPab		**sPKPdf**	**10 30 13.1**	**+0.5**
BRTR	**Keskin Array B**	**152.77**	**299**	PKPbc		**PKPbc**	**10 30 09.2**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=82,slow=3.2,SNR=4.3							
TORD	**Torodi Ar. Bea**	**162.91**	**178**	PKPab		**PKPab**	**10 31 05.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=170,slow=3.8,SNR=4.9							

*IDC **11** 10:36:09.4±0.7, 19.°00N×120.°47E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/50, mbtmp4.0/12, ML3.5/1, MS3.0/5, Ms1 3.1/5, ms1mx2.8/42, Error ellipse: s-maj=29.7km s-min=15.0km az=78.0*

*NEIC **11** 10:36:09.9±2.4, 18.°98N±0.°01×120.°3E±0.°1, h10km±1km, mb4.2/7, Error ellipse: s-maj=17.6km s-min=3.0km az=269.0*

*MAN **11** 10:36:16.5, 18.°83N×120.°46E, h16km, MS3.7*

ISC 11 10:36:09.7±1.5, 18.°99N±0.°03×120.°34E±0.°06, h6km±10km, n41, σ1ş20/52, mb4.2/14, MS3.1/4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ABRA	**Dolores**	**1.38**	**165**	*e*P		**Pg**	**10 36 36.6**	**+0.4**
ABRA				*e*S		**Sg**	**10 36 54.3**	**+0.2**
APYP	**Conner**	**1.41**	**143**	*e*P		**Pg**	**10 36 38.2**	**+1.4**
APYP				*e*S		**Sb**	**10 36 52.7**	**-2.0**
SZP	**Santa**	**1.44**	**176**			**Pb**	**10 36 36.7**	**-0.2**
SZP				Sn		**Sb**	**10 36 53.9**	**-1.5**
SGCP	**Mt. Cagua**	**1.78**	**115**	*e*P		**Pg**	**10 36 44.1**	**+0.3**
SGCP				*e*S		**Sb**	**10 37 05.3**	**0.0**
CVP	**Callao Caves**	**1.90**	**132**	↑*i*P		**Pg**	**10 36 46.0**	**-0.2**
CVP				*i* S		**Sg**	**10 37 12.2**	**+1.3**
BBP	**Basco**	**2.10**	**46**	*e*P		**Pg**	**10 36 51.8**	**+1.9**
BBP				*e*S		**Sn**	**10 37 11.0**	**-0.8**
CAUP	**Cauayan**	**2.48**	**145**	*e*P		**Pb**	**10 36 55.1**	**+0.5**
CAUP				*e*S		**Sb**	**10 37 23.9**	**-1.4**
BOLP	**Bolinao**	**2.63**	**189**	*e*P		**Pb**	**10 36 57.0**	**-0.2**
BOLP				*e*S		**Sn**	**10 37 27.6**	**+2.7**
BALP	**Baler**	**3.44**	**160**	*e*P		**Pb**	**10 37 08.1**	**-3.0**
BALP				*e*S		**Sn**	**10 37 43.8**	**-1.1**
TWG	**Pinlang**	**3.87**	**10**			**Pn**	**10 37 08.3**	**-1.4**
TWG				Sn		**Sn**	**10 37 52.9**	**-2.6**
TPUB	**Ta-pu**	**4.29**	**4**			**Pn**	**10 37 13.3**	**-2.2**
YULB	**Yu-li**	**4.47**	**11**			**Pn**	**10 37 16.0**	**-2.0**
SSLB	**Suanglung**	**4.80**	**7**			**Pn**	**10 37 21.0**	**-1.6**
YHNB	**Yeheng**	**5.73**	**9**			**Pn**	**10 37 34.9**	**-0.4**
QIZ	**Qiongzhong**	**9.93**	**272**	Pn		**Pn**	**10 38 31.3**	**-1.7**
XAN	**Xi'an**	**18.12**	**328**	P		**P**	**10 40 22.6**	**+0.2**
KSRS	**Korea Array**	**19.55**	**18**	P		**Pn**	**10 40 39.0**	**-0.3**
	0.2nm,0.3s,baz=210,slow=12,SNR=6.8							
KSRS				LR		LR	10 49 15.9	
	comp=Z,40nm,18.8s,baz=201,slow=40							
CMAR	**Chiang Mai Arr**	**20.28**	**272**	P		Pn	10 40 48.3	+0.1
	0.8nm,0.4s,baz=81,slow=8.4,SNR=6.2							
CMAR				PcP		**PcP**	**10 45 01.4**	**+1.3**
	0.7nm,0.3s,baz=266,slow=0.4,SNR=4.3							
CMAR				LR		LR	10 47 44.5	
	comp=Z,18nm,19.2s,baz=115,slow=34							
BJT	**Baijiatuau**	**21.26**	**351**	P		**P**	**10 40 56.4**	**-0.2**
BJT				IAmb		IAmb	10 41 09.6	
	comp=Z,13nm,1.0s							
USRK	**Ussuriysk Ar.**	**26.96**	**19**	P		**P**	**10 41 51.6**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=196,slow=12,SNR=2.1							
SONM	**Songino Array**	**30.93**	**342**	P		**P**	**10 42 28.1**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=148,slow=8.3,SNR=3.2							
SONM				LR		LR	10 54 33.8	
	comp=Z,39nm,18.3s,baz=189,slow=36							
FITZ	**Fitzroy Crossi**	**37.23**	**172**	P		**P**	**10 43 21.5**	**-0.6**
FITZ				IAmb		IAmb	10 43 26.0	
	comp=Z,2.0nm,0.8s							
WB0	**Warramunga Arr**	**40.91**	**160**	P		**P**	**10 43 52.4**	**-0.6**
WRA	**Warramunga Arr**	**41.06**	**160**	P		**P**	**10 43 53.8**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=334,slow=10,SNR=26							
WRA				PcP		**PcP**	**10 45 54.7**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=343,slow=3.1,SNR=6.8							
WRA				LR		LR	11 01 15.5	
	comp=Z,25nm,20.9s,baz=125,slow=37							
WB2	**Warramunga Arr**	**41.06**	**160**	P		**P**	**10 43 53.9**	**-0.3**
WB2				IAmb		IAmb	10 44 20.0	
	comp=Z,9.9nm,1.4s							
WR0	**Warramunga Arr**	**41.14**	**159**	P		**P**	**10 43 54.3**	**-0.6**
WR0				IAmb		IAmb	10 44 15.0	
	comp=Z,6.0nm,1.2s							
MKAR	**Makanchi Array**	**41.67**	**320**	PcP		**PcP**	**10 45 56.1**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=108,slow=4.7,SNR=3.4							
ZALV	**Zalesovo Beam**	**44.26**	**331**	P		**P**	**10 44 20.5**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=108,slow=7.7,SNR=2.2							
ASAR	**Alice Springs**	**44.42**	**162**	P		**P**	**10 44 22.1**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=341,slow=7.4,SNR=28							
ASAR				PcP		**PcP**	**10 46 05.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=355,slow=3.9,SNR=1.3							
KURK	**Kurchatov**	**45.68**	**324**	P		**P**	**10 44 32.2**	**+1.0**
KURBB	**Kurchatov Arra**	**45.68**	**324**	P		**P**	**10 44 32.2**	**+0.9**
	comp=Z,1.5nm,0.2s,baz=124,slow=8.0,SNR=5.2							
SEY	**Seymchan**	**49.11**	**19**	P		**P**	**10 44 59.1**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=207,slow=11,SNR=2.1							
BBOO	**Buckleboo**	**53.66**	**164**	P		**P**	**10 45 33.1**	**+0.9**
STKA	**Stephens Creek**	**54.53**	**158**	P		**P**	**10 45 39.4**	**+0.8**
	comp=Z,3.2nm,0.7s,baz=321,slow=5.7,SNR=7.2							
ABKAR	**Akbulak array**	**56.59**	**317**	P		**P**	**10 45 53.6**	**+0.4**
IMAR	**Indian Mountai**	**71.17**	**26**	P		**P**	**10 47 29.0**	**0.0**
ILAR	**Eielson Array**	**74.17**	**26**	P		**P**	**10 47 46.3**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=265,slow=4.3,SNR=4.2							
BCAR	**Beaver Creek A**	**76.76**	**28**	P		**P**	**10 48 01.5**	**-0.4**
NOA	**NORSAR Array B**	**82.43**	**332**	LR		LR	11 26 22.6	
	comp=Z,17nm,21.7s,baz=355,slow=36							
YKA	**Yellowknife Ar**	**88.04**	**22**	P		**P**	**10 49 01.1**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=320,slow=4.0,SNR=20							
TXAR	**Lajitas Array**	**115.88**	**42**	PKP		**PKPdf**	**10 54 54.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=357,slow=1.8,SNR=2.8							

*KRNET **11** 10:42:27.3±0.1, 43.°68N×69.°20E, mb2.9*

*SOME **11** 10:42:27.3, 43.°72N×69.°78E*

*NNC **11** 10:42:28.2±0.8, 43.°70N×69.°80E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=4.1km s-min=2.4km az=130.0, Suspected Mining explosion.*

ISC 11 10:42:32.2±2.2, 43.°51N±0.°07×69.°78E±0.°10, h0km, n17, σ1ş75/27, 19C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**0.67**	**127**	P		**Pg**	**10 42 43.5**	**-1.5**
	0.8nm,0.3s,baz=322,slow=17,SNR=83							
KK31				S		**Sg**	**10 42 54.8**	**+1.1**
	1.0nm,0.2s,baz=319,slow=35,SNR=85							
TRKS	**Terek-Say**	**2.22**	**153**	↑*i*P		**Pn**	**10 43 12.3**	**+1.9**
	baz=46							
TRKS				↑*i*S		**Sg**	**10 43 44.9**	**+1.4**
	baz=46							
MNAS	**Manas**	**2.24**	**116**	↓*i*P		**Pb**	**10 43 12.7**	**-1.0**
	baz=15							
MNAS				↓*i*S		**Sg**	**10 43 46.1**	**+1.9**
	baz=15							
EKS2	**Erkin-Say**	**3.05**	**105**	↑*i*P		**Pn**	**10 43 24.2**	**+2.5**
	baz=5.0							
EKS2				↑*i*S		**Sb**	**10 44 05.5**	**+0.4**
	baz=5.0							
AML	**Almayashu**	**3.19**	**114**	↑*i*P		**Pn**	**10 43 26.0**	**+2.0**
	baz=14							
AML				↑*i*S		**Sb**	**10 44 08.5**	**-1.0**
	baz=14							
ARSB	**Arslanbob**	**3.22**	**132**	↑*i*P		**Pn**	**10 43 26.1**	**+1.9**
	baz=29							
ARSB				↑*i*S		**Sb**	**10 44 09.2**	**-1.0**
	baz=29							
BTLS	**Baital**	**3.42**	**62**	Pg		**Pb**	**10 43 32.9**	**-0.7**
	6.9nm,0.6s							
BTLS				Lg		Lg	10 44 20.4	
	2.5nm,0.5s							
USP	**Ospenovka**	**3.45**	**92**	↑*i*P		**Pn**	**10 43 29.3**	**+2.1**
	baz=94							
USP				↑*i*S		**Sb**	**10 44 14.6**	**-2.0**
	baz=94							
BTK	**Batken**	**3.54**	**167**	↑*i*P		**Pn**	**10 43 28.1**	**-0.3**
	baz=61							
BTK				↑*i*S		**Sn**	**10 44 12.7**	**+1.7**
	baz=61							
AAK	**Ala-Archa**	**3.56**	**103**	↑*i*P		**Pn**	**10 43 30.9**	**+2.1**
	baz=3.0							
AAK				↑*i*S		**Sb**	**10 44 17.9**	**-2.0**
	baz=3.0							
AAK	**Ala-Archa**	**3.56**	**103**	↓Pg		**Pb**	**10 43 34.0**	**-2.1**
	2.2nm,0.6s							
AAK				↑Lg		Lg	10 44 22.4	
	6.4nm,0.5s							
UCH	**Uchtor**	**3.71**	**109**	↑*i*P		**Pn**	**10 43 33.4**	**+2.3**
	baz=9.0							
UCH				↑*i*S		**Sb**	**10 44 21.9**	**-2.5**
	baz=9.0							
TKM2	**Tokmak 2**	**4.29**	**96**	↑Pg		**Pb**	**10 43 47.2**	**-1.3**
	2.7nm,0.8s							
TKM2				↑Lg		Lg	10 44 45.0	
	6.3nm,0.6s							
DGS	**Degeres**	**4.37**	**91**	Pg		**Pb**	**10 43 48.8**	**-1.1**
	1.9nm,0.4s							
DGS				Lg		Lg	10 44 47.9	
	5.9nm,0.7s							
KST	**Kastek**	**4.54**	**94**	Pg		**Pb**	**10 43 52.5**	**-0.3**
	3.2nm,0.6s							
KST				Lg		Lg	10 44 54.1	
	7.2nm,0.3s							
KUU	**Kurty**	**4.77**	**83**	Pg		**Pb**	**10 43 54.6**	**-2.0**
	1.0nm,0.1s							
KUU				Lg		Lg	10 44 57.3	
	8.3nm,0.5s							
KTBS	**Karatobe**	**5.01**	**85**	Pg		**Pb**	**10 44 00.1**	**-0.7**
	1.1nm,0.3s							
KTBS				Lg		Lg	10 45 06.7	
	10nm,0.6s							

*IDC **11** 10:44:13.7±8.4, 14.°08S×167.°15E, h122km±75km, mb3.7/3, mb1 3.9/4, mb1mx3.3/47, mbtmp4.1/4, MS4.0/1, Ms1 4.0/1, ms1mx2.8/34, Error ellipse: s-maj=64.2km s-min=47.9km az=169.0*

*NEIC **11** 10:44:16.0±0.6, 14.°09S±0.°04×167.°3E±0.°2, h155km±12km, mb4.2/10, Error ellipse: s-maj=25.1km s-min=4.8km az=95.0*

*NOU **11** 10:44:31.7, 15.°32S×167.°52E, h78km, MLv4.6, Vanuatu Islands*

ISC 11 10:44:16.4±1.3, 14.°2S±0.°1×167.°3E±0.°1, h150km, n24, σ1ş32/25, mb4.2/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANVU	**Saraoutou**	**1.23**	**184**			**Pn**	**10 44 45.3**	**+2.0**
SANVU				Sn		**Sn**	**10 45 05.5**	**+1.7**
SANVU	**Saraoutou**	**1.23**	**184**	P		**Pn**	**10 44 45.4**	**+2.1**
KOUNC	**Koumac, New Ca**	**6.92**	**204**	P		**Pn**	**10 45 58.5**	**+3.1**
YATNC	**Mamie plateau,**	**7.81**	**183**	P		**Pn**	**10 46 07.8**	**+0.5**
DZM	**Mont Dzumac**	**7.86**	**186**	P		**Pn**	**10 46 08.3**	**+0.3**
	1.4nm,0.3s,baz=77,slow=14,SNR=19							
DZM				S		**Sn**	**10 47 33.0**	**-2.6**
	0.1nm,0.3s,baz=305,slow=17,SNR=1.5							
DZM	**Mont Dzumac**	**7.86**	**186**			**Pn**	**10 46 08.8**	**+0.9**
DZM	**Mont Dzumac**	**7.86**	**186**	P		**Pn**	**10 46 08.4**	**+0.4**
NOUC	**Port Laguerre**	**7.90**	**187**	P		**Pn**	**10 46 09.8**	**+1.3**
EIDS	**Eidsvold**	**18.84**	**231**	P		**P**	**10 48 25.1**	**+0.2**
EIDS				IAmb		IAmb	10 48 32.3	
	comp=Z,23nm,1.4s							
NIUE	**Niue**	**22.35**	**106**	P		**P**	**10 49 02.2**	**-0.1**
STKA	**Stephens Creek**	**29.34**	**229**	P		**P**	**10 50 05.6**	**+0.4**
	comp=Z,2.0nm,0.4s,baz=53,slow=9.5,SNR=11							
STKA	**Stephens Creek**	**29.34**	**229**	P		**P**	**10 50 04.8**	**-0.3**
WR0	**Warramunga Arr**	**31.78**	**255**	P		**P**	**10 50 26.0**	**-0.8**
WR0				IAmb		IAmb	10 50 54.0	
	comp=Z,1.1nm,0.9s							
WB0	**Warramunga Arr**	**31.90**	**255**	P		**P**	**10 50 27.3**	**-0.6**
WB2	**Warramunga Arr**	**31.96**	**255**	P		**P**	**10 50 27.7**	**-0.7**
WB2				IAmb		IAmb	10 50 47.0	
	comp=Z,9.0nm,1.5s							
WRA	**Warramunga Arr**	**31.97**	**255**	P		**P**	**10 50 27.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=84,slow=8.6,SNR=12							
AS31	**Alice Springs**	**32.87**	**248**	P		**P**	**10 50 35.6**	**-0.8**
ASAR	**Alice Springs**	**32.87**	**248**	P		**P**	**10 50 35.3**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=71,slow=9.7,SNR=46							
ASAR	**Alice Springs**	**32.87**	**248**	P		**P**	**10 50 35.6**	**-0.8**
BBOO	**Buckleboo**	**33.91**	**232**	P		**P**	**10 50 44.9**	**-0.3**
BBOO				IAmb		IAmb	10 51 05.7	
	comp=Z,9.5nm,1.1s							
FORT	**Forrest**	**39.57**	**239**	P		**P**	**10 51 32.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**40.13**	**259**	P		**P**	**10 51 36.5**	**-1.3**
FITZ				IAmb		IAmb	10 51 49.2	
	comp=Z,5.5nm,1.2s							
JNU	**Nakatsue**	**58.52**	**324**	LR		LR	11 18 31.5	
	comp=Z,122nm,18.8s,baz=269,slow=35							
ARCES	**ARCESS Array B**	**119.76**	**345**	PKP		**PKiKP**	**11 02 47.9**	**-0.4**
	comp=Z,3.6nm,1.0s,baz=37,slow=4.6,SNR=1.1							

*IDC **11** 10:54:35.9±0.7, 32.°53N×141.°83E, h0km, mb3.9/20, mb1 4.1/22, mb1mx4.0/56, mbtmp3.9/22, ML2.8/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/35, Error ellipse: s-maj=19.8km s-min=16.5km az=50.0*

*NIED **11** 10:54:36.0, 32.°62N×142.°08E, h31km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}6.83; $M_{\theta\theta}$0.30; $M_{\phi\phi}$-7.12; $M_{r\theta}$1.76; $M_{\theta\phi}$1.47; $M_{r\phi}$3.06; Fault plane solution: $M_0$7.96000×10^{14} NP1:ϕ$_s$6.00000°, δ58.00000°, λ109.00000°. NP2:ϕ$_s$153.00000°, δ37.00000°, λ62.00000°.*

*JMA **11** 10:54:36.0±0.2, 32.°62N×142.°08E, h31km, M4.1*

*NEIC **11** 10:54:39.4±2.1, 32.°62N±0.°10×141.°85E±0.°09, h24km±6km, mb4.4/11, Error ellipse: s-maj=14.8km s-min=10.9km az=159.0*

ISC 11 10:54:41.1±0.6, 32.°64N±0.°06×141.°94E±0.°06, h39km, n70, σ1ş75/75, mb4.1/27, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAOM	**Aogashimamukai**	**1.84**	**265**	P		**Pn**	**10 55 08.3**	**-1.9**
JHJ2	**Mitsune**	**1.85**	**285**	P		**Pn**	**10 55 08.2**	**-2.0**
JHJ2				*e*S		**Sn**	**10 55 32.3**	**0.0**
JHJ2	**Mitsune**	**1.85**	**285**	Pn		**Pn**	**10 55 08.7**	**-1.5**
JHJ2				Sn		**Sn**	**10 55 30.4**	**-1.9**
JHJ	**Hachijo jima 2**	**1.88**	**285**	Pn		**Pn**	**10 55 08.3**	**-2.3**
	82nm,0.3s,baz=144,slow=18,SNR=25							
JHJ				Sn		**Sn**	**10 55 30.6**	**-2.4**
	108nm,0.3s,baz=53,slow=23,SNR=6.9							
JYT	**Yasato**	**3.86**	**339**			**Pn**	**10 55 37.1**	**-0.7**
JHO	**Hitachi**	**4.12**	**344**	P		**Pn**	**10 55 39.3**	**-2.2**
JRY	**Ryogami san**	**4.21**	**324**	P		**Pn**	**10 55 42.1**	**-0.6**
JRY				*e*S		**Sn**	**10 56 30.8**	**+0.3**
JAG	**Ashikaga**	**4.30**	**332**	P		**Pn**	**10 55 42.6**	**-1.3**
JFK	**Kawauchi**	**4.80**	**350**	*e*S		**Sn**	**10 56 41.0**	**-4.2**
JGF	**Kuroka**	**4.81**	**309**	Pn		**Pn**	**10 55 51.4**	**+0.4**
INU	**Inuyama**	**4.90**	**305**	Pn		**Pn**	**10 55 50.0**	**-2.2**
MJAR	**Matsushiro Arr**	**4.96**	**323**	Pn		**Pn**	**10 55 52.4**	**-0.7**
	1.1nm,0.3s,baz=155,slow=12,SNR=33							
MJAR				Sn		**Sn**	**10 56 49.7**	**+0.5**
	0.3nm,0.3s,baz=93,slow=22,SNR=1.6							
MJAR	**Matsushiro Arr**	**4.96**	**323**			**Pn**	**10 55 51.8**	**-1.3**
MAJO	**Matsushiro**	**4.96**	**323**			**Pn**	**10 55 52.9**	**-0.1**
MAT	**Matsushiro**	**4.96**	**323**	P		**Pn**	**10 55 52.6**	**-0.5**
MAT				S		**Sn**	**10 56 48.0**	**-1.2**
MAT	**Matsushiro**	**4.96**	**323**	P		**Pn**	**10 55 52.4**	**-0.7**
MAT				*e*S		**Sn**	**10 56 49.6**	**+0.4**
JFT	**Otama**	**5.04**	**345**	P		**Pn**	**10 55 53.0**	**-1.2**
JFT				*e*S		**Sn**	**10 56 48.4**	**-2.8**
JMM	**Marumori**	**5.30**	**350**			**Pn**	**10 55 55.5**	**-2.1**
JCJ	**Chichijima**	**5.53**	**178**	Sn		**Sn**	**10 56 57.5**	**-5.6**
	33nm,0.3s,baz=276,slow=21,SNR=2.1							
JWT	**Wachi**	**6.04**	**298**	Pn		**Pn**	**10 56 06.6**	**-1.2**
JMK	**

*IDC **11** 10:55:58.6±2.3,23°.86S×66°.82W,h190km±20km,mb3.1/2, mb1 3.3/6,mb1mx3.1/28,mbtmp3.6/6,Error ellipse: s-maj=35.2km s-min=23.7km az=163.0*
*GUC **11** 10:55:59.9±0.7,23°.98S×67°.33W,h228km±9km,ML3.9*
ISC 11 10:55:57.9±1.1,24°.00S±0°.06×67°.0W±0°.1,h203km±13km, n23,σ1°.02/32,4C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.24 308**		P	**Pn**	**10 56 40.4**	**+0.8**
	21nm,0.3s,baz=135,slow=8.9,SNR=334						
LVC				S	**S**	**10 57 12.1**	**+0.7**
	15nm,0.3s,baz=96,slow=19,SNR=22						
LVC	**Limon Verde**	**2.24 308**	⇑	*i*P	**Pn**	**10 56 40.4**	**+0.8**
LVC				*e*S	**S**	**10 57 11.8**	**+0.5**
PB15	**IPOC Station P**	**2.41 288**	⇑	*i*P	**Pn**	**10 56 42.1**	**+0.8**
PB15				*e*S	**S**	**10 57 14.4**	**+0.1**
GO02	**Mina Guanaco**	**2.64 243**	⇓	*i*P	**Pn**	**10 56 44.2**	**+0.3**
GO02				*e*S	**S**	**10 57 19.2**	**+0.1**
PB06	**IPOC Station P**	**2.70 298**	⇑	*i*P	**Pn**	**10 56 45.1**	**+0.7**
PB06				*e*S	**S**	**10 57 19.6**	**-0.4**
PB06				IAML		10 57 21.6	
	comp=N,336nm,0.4s						
PB09	**IPOC Station P**	**3.02 316**	⇑	*i*P	**Pn**	**10 56 49.2**	**+1.0**
PB05	**IPOC Station P**	**3.17 290**		*e*P	**Pn**	**10 56 50.2**	**+0.4**
PB05				*e*S	**S**	**10 57 28.0**	**-1.7**
PB05				IAML		10 57 31.6	
	comp=E,115nm,0.2s						
PB14	**IPOC Station P**	**3.18 258**		*e*P	**Pn**	**10 56 50.2**	**+0.1**
PB14				*e*S	**S**	**10 57 28.8**	**-1.6**
PB10	**IPOC Station P**	**3.30 278**		*e*P	**Pn**	**10 56 51.8**	**+0.4**
PB04	**IPOC Station P**	**3.35 299**		*e*P	**Pn**	**10 56 52.5**	**+0.5**
PB04				*e*S	**S**	**10 57 32.5**	**-1.2**
AC02	**Maricunga**	**3.43 214**		*e*P	**Pn**	**10 56 53.4**	**+0.1**
PB07	**IPOC Station P**	**3.50 310**		*e*P	**Pn**	**10 56 54.1**	**+0.2**
PB01	**IPOC Station P**	**3.74 321**		*e*P	**Pn**	**10 56 56.6**	**-0.1**
AC01	**Pan de Azucar**	**3.92 233**		*e*P	**Pn**	**10 56 57.6**	**-1.2**
PB08	**IPOC Station P**	**4.33 332**		*e*P	**Pn**	**10 57 05.0**	**+0.6**
HMBC	**Humberstone**	**4.57 323**		*e*P	**Pn**	**10 57 05.7**	**-1.4**
GO03	**Copiap**	**4.63 219**		*e*P	**Pn**	**10 57 06.2**	**-1.5**
LPAZ	**La Paz**	**7.74 352**		P	**Pn**	**10 57 48.8**	**+0.3**
	comp=E,0.5nm,0.3s,baz=171,slow=11,SNR=4.6						
LPAZ				S	**S**	**10 59 14.5**	**-1.8**
	comp=E,0.1nm,0.3s,baz=58,slow=18,SNR=1.6						
SIV	**San Ignacio**	**9.71 36**		P	**Pn**	**10 58 11.3**	**-2.2**
	baz=193,slow=11						
BDFB	**Brasilia**	**19.67 69**		P	**P**	**11 00 11.5**	**-0.3**
	comp=E,0.4nm,0.3s,baz=219,slow=13,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.56 69**		P	**P**	**11 07 27.0**	**+0.7**
	comp=E,0.3nm,0.6s,baz=255,slow=5.7,SNR=1.9						
YKA	**Yellowknife Ar**	**94.12 340**		P	**P**	**11 08 54.4**	**+1.5**
	comp=E,0.1nm,0.4s,baz=131,slow=5.6,SNR=5.5						
MKAR	**Makanchi Array**	**146.51 40**		PKPbc	**PKPab**	**11 15 16.7**	**+0.1**
	comp=E,0.4nm,0.7s,baz=280,slow=3.6,SNR=3.8						

*IDC **11** 10:57:14.6±1.2,18°.70N×146°.63E,h0km,mb3.7/9, mb1 3.9/10,mb1mx3.7/54,mbtmp3.7/10,ML3.3/1,Error ellipse: s-maj=35.5km s-min=28.4km az=84.0*
ISC 11 10:57:23.0±1.0,18°.7N±0°.2×146°.5E±0°.2,h64km,n13, σ0°.83/10,mb3.6/9,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**19.12**	**87**	T	T	11 21 14.8	
	baz=275,slow=74,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**19.13**	**87**	T	T	11 21 07.4	
	baz=275,slow=74,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**19.14**	**87**	T	T	11 21 16.5	
	baz=275,slow=74,SNR=4.4						
MJAR	**Matsushiro Arr**	**19.21 339**		P	**P**	**11 01 40.8**	**-1.0**
	0.1nm,0.3s,baz=182,slow=8.5,SNR=2.3						
KLR	**Kul'dur**	**32.69 342**		P	**P**	**11 03 49.7**	**+0.5**
	1.9nm,0.5s,baz=157,slow=7.3,SNR=9.4						
WRA	**Warramunga Arr**	**40.23 198**		P	**P**	**11 04 53.4**	**-0.3**
	1.4nm,0.9s,baz=12,slow=8.4,SNR=1.4						
SONM	**Songino Array**	**43.62 321**		P	**P**	**11 05 21.6**	**+0.4**
	0.2nm,0.4s,baz=141,slow=8.8,SNR=1.8						
ZALV	**Zalesovo Beam**	**58.48 322**		P	**P**	**11 07 12.8**	**+0.4**
	0.6nm,0.4s,baz=108,slow=7.7,SNR=2.0						
MKAR	**Makanchi Array**	**59.01 314**		P	**P**	**11 07 16.9**	**+0.7**
	0.1nm,0.4s,baz=93,slow=8.7,SNR=3.2						
ILAR	**Eielson Array**	**63.29 26**		P	**P**	**11 07 44.0**	**-0.9**
	0.2nm,0.6s,baz=270,slow=4.5,SNR=1.5						
YKA	**Yellowknife Ar**	**77.61 28**		P	**P**	**11 09 12.4**	**+0.3**
	0.4nm,0.6s,baz=288,slow=5.0,SNR=6.8						
NVAR	**Mina Array Bea**	**82.52 52**		P	**P**	**11 09 40.2**	**+0.8**
	0.6nm,0.8s,baz=268,slow=3.5,SNR=1.0						
FINES	**FINESS Array B**	**87.19 335**		P	**P**	**11 10 01.1**	**-1.0**
	2.1nm,0.9s,baz=58,slow=3.4,SNR=4.2						

IDC 11 11:00:04.9±3.1,30°.51S×178°.25W,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.6/28,mbtmp3.6/3,ML2.9/1,Error ellipse: s-maj=70.8km s-min=37.3km az=108.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.62 205**		Pn	Pn	11 02 09.0	-1.9
	0.1nm,0.3s,baz=55,slow=16,SNR=1.9						
URZ				Sn	Sn	11 03 50.7	+1.7
	0.5nm,0.3s,baz=243,slow=17,SNR=1.4						
ASAR	**Alice Springs**	**42.88 267**		P	P	11 08 05.2	-0.2
	0.1nm,0.4s,baz=108,slow=7.4,SNR=2.1						
WRA	**Warramunga Arr**	**43.88 272**		P	P	11 08 13.5	+0.1
	0.5nm,0.3s,baz=109,slow=8.0,SNR=16						
FINES	**FINESS Array B**	**145.17 340**		PKPbc	PKPbc	11 19 42.6	-0.6
	2.1nm,0.8s,baz=64,slow=6.3,SNR=5.2						

*GUC **11** 11:24:16.1±0.7,18°.47S×69°.20W,h129km±6km,ML3.2*
*IDC **11** 11:24:27.9±1.1,16°.75S×68°.44W,h192km±8km,mb3.2/2, mb1 3.4/5,mb1mx3.2/28,mbtmp3.9/5,Error ellipse: s-maj=28.2km s-min=24.8km az=27.0*
ISC 11 11:24:14.4±1.0,18°.45S±0°.07×69°.2W±0°.1,h133km±10km, n12,σ1°.26/16,3C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minye Minye**	**0.78 210**	⇑	*i*P	**Pn**	**11 24 36.7**	**+0.7**
MNMC				*i*S	**Sn**	**11 24 52.6**	**+0.2**
PSGC	**Pisagua**	**1.44 218**	⇑	*i*P	**Pn**	**11 24 42.2**	**0.0**
PSGC				*i*S	**Sn**	**11 25 02.8**	**-0.5**
PSGC				IAML		11 25 04.2	
	comp=E,410nm,0.3s						
PB08	**IPOC Station P**	**1.68 179**	⇑	*i*P	**Pn**	**11 24 46.7**	**+1.5**
PB08				*i*S	**Sn**	**11 25 09.2**	**+0.6**
PB08				IAML		11 25 14.8	
	comp=E,180nm,0.3s						
HMBC	**Humberstone**	**1.93 200**		*e*P	**Pn**	**11 24 48.0**	**+0.2**
HMBC				*i*S	**Sn**	**11 25 13.1**	**-0.4**
HMBC				IAML		11 25 17.3	
	comp=N,344nm,0.3s						
TA01	**Diego Aracena**	**2.30 204**		*e*P	**Pn**	**11 24 52.5**	**+0.3**
TA01				*i*S	**Sn**	**11 25 19.2**	**-2.1**
LPAZ	**La Paz**	**2.38 25**		P	**Pn**	**11 24 55.5**	**+1.7**
	comp=N,4.0nm,0.3s,baz=206,slow=8.7,SNR=13						
LPAZ				S	**Sn**	**11 25 22.3**	**-1.7**
	comp=N,0.8nm,0.3s,baz=2.4,slow=12,SNR=2.2						
LPAZ	**La Paz**	**2.38 25**		*i*P	**Pn**	**11 24 55.3**	**+1.5**
LVC	**Limon Verde**	**4.14 176**		P	Sn	11 25 53.1	-11
	comp=N,3.0nm,0.3s,baz=353,slow=13,SNR=10						
SIV	**San Ignacio**	**8.13 74**		P	**Pn**	**11 26 07.9**	**-1.7**
	comp=N,1.3nm,0.3s,baz=272,slow=12,SNR=16						
BDFB	**Brasilia**	**20.43 85**		P	Pn	11 28 44.3	-0.7
	comp=N,0.6nm,0.3s,baz=254,slow=7.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**76.60 71**		P	**P**	**11 35 50.4**	**-0.4**
	comp=N,0.2nm,0.3s,baz=253,slow=5.5,SNR=1.4						
YKA	**Yellowknife Ar**	**88.24 341**		P	**P**	**11 36 50.4**	**+0.3**
	comp=N,0.3nm,0.5s,baz=131,slow=5.1,SNR=8.9						

*IDC **11** 11:25:14.1±1.2,2°.96S×141°.90E,h0km,mb4.0/4, mb1 4.3/6,mb1mx3.9/36,mbtmp4.1/6,ML4.3/2,MS3.4/5, Ms1 3.4/5,ms1mx3.0/31,Error ellipse: s-maj=22.6km s-min=16.2km az=102.0*
*NEIC **11** 11:25:16.4±1.6,2°.98S±0°.10×141°.88E±0°.09,h35km±2km, mb4.1/12,Error ellipse: s-maj=18.3km s-min=12.8km az=213.0*
ISC 11 11:25:16.6±0.8,3°.09S±0°.08×141°.87E±0°.07,h30km,n35, σ1°.40/29,mb4.2/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.30 296**		Pn	**Pb**	**11 25 39.8**	**-0.6**
	12nm,0.3s,baz=128,slow=8.5,SNR=41						
JAY				Sn	**Sb**	**11 25 56.8**	**0.0**
	28nm,0.3s,baz=341,slow=16,SNR=5.1						
JAY				LR	LR	11 26 17.6	
	comp=Z,1μm,18.4s,baz=67,slow=50						
MANU	**Manus Island**	**5.58 79**		Pn	**Pn**	**11 26 36.6**	**-1.2**
PMG	**Port Moresby**	**8.19 140**		LR	LR	11 31 13.9	
	comp=Z,331nm,19.2s,baz=330,slow=44						
PMG	**Port Moresby**	**8.19 140**		Pn	**Pn**	**11 27 11.3**	**-2.2**
FAKI	**Fak Fak**	**9.61 271**		Pn	**Pn**	**11 27 31.5**	**-1.5**
SIJI	**Sorong**	**10.83 282**		LR	LR	11 32 24.4	
	comp=Z,232nm,19.5s,baz=46,slow=40						
COEN	**Coen**	**10.88 173**		Pn	**Pn**	**11 27 51.6**	**+1.2**
CTAO	**Charters Tower**	**17.43 166**		P	**P**	**11 29 18.1**	**-0.7**
CTAO				IAmb	IAmb	11 29 22.1	
	comp=Z,32nm,1.5s						
WB0	**Warramunga Arr**	**18.12 203**		P	**P**	**11 29 26.0**	**-0.4**
WB0				IAmb	IAmb	11 29 50.1	
	comp=Z,10nm,0.8s						
WR0	**Warramunga Arr**	**18.23 203**		P	**P**	**11 29 29.4**	**+1.8**
WR0				IAmb	IAmb	11 29 46.2	
	comp=Z,22nm,1.0s						
WRAB	**Tennant Creek**	**18.28 203**		P	**P**	**11 29 28.8**	**+0.6**
WRAB				IAmb	IAmb	11 29 53.8	
	comp=Z,11nm,1.1s						
WB2	**Warramunga Arr**	**18.29 203**		P	**P**	**11 29 29.2**	**+0.9**
WB2				IAmb	IAmb	11 29 44.9	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**18.30 203**		P	**P**	**11 29 30.6**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=22,slow=12,SNR=27						
WRA				S	**Sn**	**11 32 49.5**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=26,slow=23,SNR=1.8						
WRA				LR	LR	11 37 17.1	
	comp=Z,68nm,20.1s,baz=35,slow=39						
SOEI	**Soe**	**18.70 248**		P	**Pn**	**11 29 33.5**	**+0.1**
BATI	**Baumata**	**19.41 248**		P	**Pn**	**11 29 43.8**	**+1.9**
	comp=Z,4.7nm,0.3s,baz=208,slow=1.0,SNR=5.2						
FITZ	**Fitzroy Crossi**	**21.81 226**		P	**P**	**11 30 08.5**	**+2.0**
	comp=Z,7.6nm,1.0s,baz=47,slow=12,SNR=5.9						
FITZ				S	**S**	**11 34 06.8**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=178,slow=12,SNR=1.7						
FITZ				LR	LR	11 39 17.5	
	comp=Z,101nm,18.1s,baz=34,slow=38						
FITZ	**Fitzroy Crossi**	**21.81 226**		P	**P**	**11 30 06.6**	**+0.1**
FITZ				IAmb	IAmb	11 30 13.3	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**21.86 200**		P	**P**	**11 30 07.7**	**+0.6**
ASAR	**Alice Springs**	**21.86 200**		P	**P**	**11 30 09.7**	**+2.6**
	comp=Z,1.4nm,0.8s,baz=29,slow=11,SNR=14						
ASAR				S	Sn	11 34 15.0	-2.8
	comp=Z,0.8nm,0.9s,baz=12,slow=28,SNR=3.9						
ASAR	**Alice Springs**	**21.86 200**		P	**P**	**11 30 07.0**	**0.0**
EIDS	**Eidsvold**	**23.86 159**		P	**P**	**11 30 27.6**	**0.0**
MYLDM	**Lahad Datu**	**24.75 289**		P	**P**	**11 30 34.5**	**-1.4**
STKA	**Stephens Creek**	**28.64 180**		P	**P**	**11 31 10.6**	**-0.1**
FORT	**Forrest**	**30.48 204**		P	**P**	**11 31 28.2**	**+1.2**
H11S3	**WAKE ISLAND Hy**	**32.51**	**48**	T	T	12 05 48.3	
	baz=231,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**32.52**	**48**	T	T	12 05 49.5	
	baz=231,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**32.53**	**48**	T	T	12 05 50.7	
	baz=231						
H11N1	**WAKE ISLAND Hy**	**33.43**	**46**	T	T	12 07 05.5	
	baz=229,slow=76,SNR=16						
H11N2	**WAKE ISLAND Hy**	**33.45**	**46**	T	T	12 07 01.2	
	baz=229,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**33.45**	**46**	T	T	12 06 58.8	
	baz=229,slow=76,SNR=9.7						
ILAR	**Eielson Array**	**84.88 24**		P	**P**	**11 37 49.8**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=262,slow=4.6,SNR=16						
ILAR	**Eielson Array**	**84.88 24**		P	P	**11 37 49.1**	**+0.8**
AKTO	**Aktyubinsk**	**88.44 321**		LR	LR	12 17 37.7	
	comp=Z,20nm,22.0s,baz=17,slow=36						
YKA	**Yellowknife Ar**	**98.96 27**		P	**Pdif**	**11 38 55.6**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=270,slow=3.5,SNR=3.8						
LPAZ	**La Paz**	**144.65 124**		PKP	**PKiKP**	**11 44 54.8**	**-1.2**
	comp=Z,4.4nm,0.8s,baz=282,slow=2.1,SNR=8.7						

*IDC **11** 11:27:21.3±6.6,79°.15N×4°.41E,h0km,mb3.7/3,mb1 3.8/5, mb1mx3.4/48,mbtmp3.7/5,ML2.9/2,Error ellipse: s-maj=110.7km s-min=39.6km az=101.0*
*BER **11** 11:27:24.0±1.5,78°.76N×5°.03E,h29km±16km,ML2.7, ML3.0(DNK),Confirmed Earthquake*
*IEPN **11** 11:27:25.0,78°.62N×5°.82E,h10km*
ISC 11 11:27:18.9±0.7,78°.58N±0°.06×4°.80E±0°.04,h10km,n24, σ3°.04/37,mb3.6/3,2C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.44**	**72**	*e*P	**Pb**	**11 27 45.4**	**-0.4**
KBS				*e*S	**Sb**	**11 28 00.3**	**-3.9**
KBS				IAML		11 28 03.1	
	comp=Z,370nm,0.4s						
KBS	**Kingsbay**	**1.44**	**72**	⇑ *i*P	**Pb**	**11 27 45.4**	**-0.4**
KBS				*e*S	**Sb**	**11 27 59.9**	**-4.3**
KBS	**Kingsbay**	**1.44**	**72**	⇑ *i*P	**Pb**	**11 27 45.5**	**-0.4**
KBS				*i*S	**Sb**	**11 28 01.2**	**-3.0**
KBS				IAML		11 28 03.4	
	comp=Z,721nm,0.3s						
BRBA	**Barentsburg A**	**1.98**	**101**	*e*P	**Pb**	**11 27 53.9**	**-1.1**
BRBA				*e*S	**Sn**	**11 28 15.9**	**-1.5**
BRBA				IAML		11 28 19.6	
	comp=Z,353nm,0.3s						
HSPB	**Hornsund (broa**	**2.77**	**119**	*e*P	**Pb**	**11 28 06.3**	**-2.2**
HSPB				*e*S	**Sn**	**11 28 37.2**	**+0.5**
HSPB				IAML		11 28 39.1	
	comp=Z,109nm,0.4s						
HSPB	**Hornsund (broa**	**2.77**	**119**	*e*P	**Pb**	**11 28 06.0**	**-2.5**
HSPB				*e*S	**Sn**	**11 28 35.8**	**-1.0**
NOR	**Nord**	**4.76**	**320**	*e*P	**Pn**	**11 28 30.3**	**-0.2**
NOR				*e*S	**Sn**	**11 29 20.7**	**-4.9**
HOPEN	**Hopen**	**4.82**	**105**	*e*P	**Pn**	**11 28 33.1**	**+1.7**
HOPEN				*e*S	**Sn**	**11 29 24.9**	**-2.3**
HOPEN				IAML		11 29 27.4	
	comp=Z,119nm,0.3s						
HOPEN	**Hopen**	**4.82**	**105**	*e*P	**Pn**	**11 28 33.0**	**+1.6**
HOPEN				*e*S	**Sn**	**11 29 24.3**	**-2.9**
BJO1	**Bjornoya**	**5.25**	**134**	P	**Pn**	**11 28 36.5**	**-0.8**
DAG	**Danmarks Havn**	**5.31**	**262**	*i*P	**Pn**	**11 28 40.2**	**+2.0**
DAG				*i*S	**Sn**	**11 29 35.8**	**-3.5**
DAG	**Danmarks Havn**	**5.31**	**262**	*i*P	**Pn**	**11 28 40.1**	**+2.0**
DAG				*e*S	**Sn**	**11 29 36.2**	**-3.0**
DAG				IAML		11 29 42.6	
	comp=Z,4.1nm,0.3s						
DAG	**Danmarks Havn**	**5.31**	**262**	*i*P	**Pn**	**11 28 40.3**	**+2.0**
DAG				*i*S	**Sn**	**11 29 35.8**	**-3.5**
DAG				IAML		11 29 42.6	
	comp=Z,4.1nm,0.3s						
DBG	**Daneborg**	**7.21**	**247**	*e*P	**Pn**	**11 29 06.4**	**+2.3**
DBG				*e*S	**Sn**	**11 30 20.9**	**-5.0**
DBG				IAML		11 30 35.0	
	comp=Z,1.7nm,0.3s						
DBG	**Daneborg**	**7.21**	**247**	*i*P	**Pn**	**11 29 06.4**	**+2.3**
DBG				*i*S	**Sn**	**11 30 23.3**	**-2.6**
DBG				IAML		11 30 35.0	
	comp=Z,1.7nm,0.3s						
ZFI	**Zemlya Franca-**	**7.83**	**53**	*e*P	**Pn**	**11 29 14.1**	**+1.5**
ZFI				*e*S	**Sn**	**11 30 33.6**	**-7.5**
ARCES	**ARCESS Array B**	**10.61**	**138**	Pn	Pn	11 29 58.3	+7.6
	baz=345,slow=13,SNR=1.7						
ARCES				Sn	**Sn**	**11 31 47.0**	**-2.3**
	baz=348,slow=20,SNR=2.1						
SUMG	**Summit**	**12.00**	**263**	*i*P	**Pn**	**11 30 12.4**	**+2.3**
SUMG	**Summit**	**12.00**	**263**	*i*P	**Pn**	**11 30 12.4**	**+2.3**
SUMG	**Summit**	**12.00**	**263**	*i*P	**Pn**	**11 30 12.4**	**+2.3**
NOA	**NORSAR Array B**	**17.74**	**170**	P	P	11 31 36.5	+10
	comp=Z,0.0nm,0.3s,baz=350,slow=13,SNR=3.3						
BVAR	**Borovoye Array**	**33.83**	**99**	P	**P**	**11 34 05.3**	**+4.5**
	comp=Z,0.5nm,0.6s,baz=305,slow=5.1,SNR=4.2						
KURBB	**Kurchatov Arra**	**37.72**	**92**	P	P	11 34 38.9	+4.8
	comp=Z,0.8nm,0.4s,baz=336,slow=8.0,SNR=4.6						
MKAR	**Makanchi Array**	**42.12**	**90**	P	**P**	**11 35 15.6**	**+4.8**
	comp=Z,0.6nm,0.7s,baz=349,slow=7.4,SNR=5.5						

*ANF **11** 11:53:35.4±3.1,30°.36N×114°.15W,h0km,ML4.2/6,Error ellipse: s-maj=34.7km s-min=12.1km az=19.0,Hypocentre not reviewed by the ISC*
*MEX **11** 11:53:40.7±0.3,30°.32N×113°.81W,h10km±6km,MD4.5*

*ECX **11** 11:53:41.3±0.8,30°.49N×113°.94W,h20km±11km,MD3.8, ML3.9,Fault plane solution: NP1:φ138.33000°, δ90.00000°,λ30.00000°.*
*IDC **11** 11:53:41.5±2.4,30°.56N×113°.77W,h0km,mb3.5/2, mb1 3.6/9,mb1mx3.4/48,mbtmp3.3/9,ML3.3/7,MS3.6/16, Ms1 3.6/16,ms1mx3.4/32,Error ellipse: s-maj=39.8km s-min=10.2km az=31.0*
ISC 11 11:53:39.1±0.9,30°.33N±0°.06×113°.90W±0°.04,h10km,n37, σ2°.34/38,MS3.6/9,2C-3D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**1.08**	**311**	⇓ *e*P	**Pg**	**11 53 57.6**	**-2.4**
SFX				*e*S	**Sg**	**11 54 10.8**	**-3.3**
PIX	**Pinacate**	**1.28**	**17**	⇓ *e*P	**Pn**	**11 54 00.7**	**-2.4**
PIX				*e*S	**Sb**	**11 54 16.4**	**-3.5**
ECBX	**El Chinero**	**1.51**	**319**	*e*P	**Pn**	**11 54 05.7**	**-0.6**
ECBX				*e*S	**Sn**	**11 54 24.1**	**-2.0**
SPX	**San Pedro Mart**	**1.53**	**298**	*e*P	**Pn**	**11 54 05.3**	**-1.5**
SPX				*e*S	**Sn**	**11 54 24.6**	**-2.2**
SPX				IAML		11 54 39.0	
	comp=E,2μm,1.1s						
SPX				⇑ *e*		11 54 39.0	
SPIG	**San Pedro Mart**	**1.53**	**298**	*e*P	**Pn**	**11 54 06.0**	**-0.9**
SPIG				*i*S	**Sn**	**11 54 25.4**	**-1.5**
SPIG	**San Pedro Mart**	**1.53**	**298**	*e*P	**Pn**	**11 54 05.3**	**-1.5**
SPIG				*e*S	**Sn**	**11 54 24.6**	**-2.3**
SQX	**San Quintin**	**1.73**	**279**	⇑ *e*P	**Pn**	**11 54 09.1**	**-0.2**
214A	**Organ Pipe Nat**	**1.87**	**30**	P		11 54 09.6	
	baz=216,SNR=202						
214A				S		11 54 37.0	
	baz=216						
SJX	**San Joaquin**	**2.28**	**309**	*e*P	**Pn**	**11 54 17.7**	**+1.0**
CPBX	**Cerro Prieto**	**2.41**	**330**	IAML		11 55 42.6	
	comp=E,2μm,1.5s						
CPBX				⇓ *e*		11 55 42.6	
HSIG		**2.88**	**116**	*e*P	**Pn**	**11 54 22.6**	**-2.4**
HSIG				*i*S	**Sn**	**11 54 55.5**	**-4.2**
HSIG		**2.88**	**116**	*e*P	**Pn**	**11 54 27.0**	**+2.0**
CBX	**Cerro Bola**	**3.09**	**311**	*e*P	**Pn**	**11 54 27.9**	**-0.2**
CBX				IAML		11 55 26.7	
	comp=E,494nm,0.6s						
TJIG	**Tijuana**	**3.17**	**312**	*e*P	**Pn**	**11 54 28.2**	**-0.9**
TJIG				*i*S	**Sn**	**11 55 06.3**	**-0.7**
TUC	**Tucson**	**3.31**	**53**	*e*P	**Pn**	**11 54 29.3**	**-1.9**
TUC				*i*S	**Sn**	**11 55 08.0**	**-2.7**
TUC	**Tucson**	**3.31**	**53**	P		11 54 29.9	
	baz=237						
TUC				Sb		11 55 23.3	
	baz=237						
GUYB	**Guaymas**	**3.58**	**132**	*e*P	**Pn**	**11 54 32.9**	**-1.8**
GUYB				*i*S	**Sn**	**11 55 14.2**	**-3.0**
109C	**Camp Elliot, M**	**3.74**	**314**	Sg		11 55 32.9	
	baz=134						
NZIG	**Nacozari, Sono**	**3.75**	**88**	*i*P	**Pn**	**11 54 34.6**	**-2.6**
PFO	**Pinyon Flats O**	**3.93**	**327**	Pn	**Pn**	**11 54 39.5**	**-0.1**
	comp=E,0.2nm,0.3s,baz=146,slow=12,SNR=2.5						
PFO				Pg	**Pg**	**11 54 52.7**	**-1.8**
	comp=E,1.0nm,0.3s,baz=141,slow=14,SNR=8.3						
PFO				Lg	Lg	11 55 52.6	
	comp=E,4.4nm,0.3s,baz=256,slow=9.5,SNR=4.8						
PFO				LR	LR	11 56 13.4	
	comp=E,558nm,19.5s,baz=159,slow=40						
GMRC	**Granite Mounta**	**4.69**	**342**	P		11 54 48.2	
	baz=164						
CIS	**Catalina Islan**	**4.92**	**310**	Sg		11 56 10.4	
	baz=129						
BFSC	**Mount Baldy Ra**	**5.04**	**322**	Sg		11 56 14.6	
	baz=142						
CGIG		**5.12**	**88**	*e*P	**Pn**	**11 54 54.0**	**-2.0**
CGIG				*e*S	**Sn**	**11 55 52.2**	**-2.9**
WUAZ	**Wupatki**	**5.59**	**22**	P		11 55 02.8	
	baz=205,SNR=15						
121A	**Cookes Peak, D**	**5.67**	**66**	P		11 55 04.5	
	baz=250,SNR=14						
W18A	**Petrified Fore**	**5.92**	**35**	P		11 55 07.9	
	baz=219						
LPIG	**La Paz**	**6.97**	**152**	LR	LR	11 58 12.3	
	comp=E,338nm,19.0s,baz=343,slow=38						
MNTX	**Cornudas Mount**	**7.43**	**77**	P		11 55 29.3	
	baz=262,SNR=11						
ANMO	**Albuquerque**	**7.78**	**52**	Pn	**Pn**	**11 55 33.5**	**+0.9**
	comp=E,0.2nm,0.3s,baz=231,slow=10,SNR=5.4						
ANMO				Lg	Lg	11 57 46.3	
	comp=E,0.4nm,0.3s,baz=170,slow=20,SNR=1.6						
ANMO	**Albuquerque**	**7.78**	**52**	P		11 55 33.4	
	baz=237						
MVCO	**Mesa Verde**	**8.20**	**32**	P		11 55 38.8	
	ba

	comp=Z,99nm,0.8s								
IBZA	**Bozab**	**1.77**	**10**	*e*Pg		**Pn**	**11 57 37.8**	**+1.6**
IBZA				*e*			11 58 07.0	
	comp=Z,99nm,0.6s								
IGHG	**Ghaleghazi**	**1.77**	**335**	*e*Pn		**Pb**	**11 57 38.0**	**0.0**
IGHG				*e*			11 58 13.3	
	comp=Z,99nm,0.6s								
NSR	**Nassriya**	**2.05**	**214**	*e*Pn		**Pn**	**11 57 40.0**	**+0.3**
NSR				*e*Sn		**Sn**	**11 58 05.0**	**-0.3**
IDHR	**Dehrash**	**2.17**	**336**	*e*Pn		**Pn**	**11 57 43.3**	**+1.6**
IDHR				*e*			11 58 21.5	
	comp=Z,99nm,0.4s								
ILIN	**Lien**	**2.23**	**349**	*e*Pn		**Pn**	**11 57 43.2**	**+0.7**
ILIN				*e*			11 58 20.9	
	comp=Z,99nm,0.4s								
HAGD	**Aghdareh**	**2.51**	**33**	*e*Pn		**Pn**	**11 57 47.7**	**+1.3**
HAGD				*e*			11 57 55.0	
	comp=Z,99nm,0.3s								
BHD	**Baghdad**	**2.66**	**283**	*e*Pn		**Pn**	**11 57 49.0**	**+0.9**
BHD				*e*Sn		**Sb**	**11 58 23.0**	**-2.6**
IPIR	**Pirpir**	**2.88**	**90**	*e*Pn		**Pn**	**11 57 53.3**	**+1.8**
IPIR				*e*			11 58 46.7	
	comp=Z,99nm,0.5s								
IRAZ	**Razeghan**	**3.36**	**37**	*e*Pn		**Pn**	**11 57 59.6**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.45**	**30**	*e*Pn		**Pn**	**11 57 58.8**	**-0.5**
QAM	**Ghamsar**	**3.48**	**72**	*e*Pn		**Pn**	**11 58 01.6**	**+2.0**
IKLH	**Kolahrood**	**3.50**	**79**	*e*			11 58 03.2	
	comp=Z,99nm,0.2s								
IKLH				*e*Pn		**Pn**	**11 58 01.5**	**+1.6**
KLNJ	**Kolanjah**	**3.90**	**115**	*e*Pn		**Pn**	**11 58 06.0**	**+0.5**
KLNJ				*e*			11 59 07.3	
	comp=Z,99nm,0.5s								
IZEF	**Zefreh**	**4.09**	**86**	*e*Pn		**Pn**	**11 58 09.2**	**+1.1**
KRSH	**Karshahi**	**4.09**	**71**	*e*Pn		**Pn**	**11 58 09.2**	**+1.1**
IRAM	**Ramesheh**	**4.25**	**101**	*e*Pn		**Pn**	**11 58 10.4**	**+0.1**
ISFB	**Sefidab**	**4.30**	**66**	*e*Pn		**Pn**	**11 58 11.7**	**+0.9**

IDC ***11*** *12:07:29.5±2.5, 7°.23N×125°.66E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/44, mbtmp3.6/4, MS3.1/2, Ms1 3.2/2, ms1mx2.6/42, Error ellipse: s-maj=162.5km s-min=28.6km az=68.0*

MAN ***11*** *12:07:32.5, 6°.76N×124°.97E, h10km, MS3.5*

MAN INTENSITY II - KIDAPAWAN CITY.

ISC 11 12:07:32.9±1.3, 6.78N±0.05×124.98E±0.04, h14km±9km, n13, σ1§50/16, mb3.5/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.25**	**26**	*i* P	**Pg**	**12 07 38.5**	**+0.2**
KCP				*i* S	Sn	12 07 51.8	+3.7
SKMP	**Bagumbayan, Su**	**0.51**	**239**	*e*P	**Pg**	**12 07 42.8**	**0.0**
SKMP				*e*S	**Sn**	**12 07 53.8**	**-0.4**
DDMP	**Don Marcelino,**	**0.99**	**133**	*e*P	**Pb**	**12 07 51.1**	**-0.8**
DDMP				*e*S	**Sn**	**12 08 06.9**	**+0.7**
MATI	**Mati**	**1.28**	**83**	*e*P	**Pn**	**12 07 55.0**	**-1.4**
MATI				*e*S	**Sn**	**12 08 14.7**	**+1.3**
CGP	**Cagayan de Oro**	**1.69**	**350**	*e*P	**Pn**	**12 07 59.6**	**-2.4**
CGP				*e*S	**Sg**	**12 08 27.8**	**+0.6**
PAGZ	**Pagadian**	**1.90**	**304**	*e*P	**Pn**	**12 08 05.5**	**+0.5**
PAGZ				*e*S	**Sb**	**12 08 30.4**	**-0.7**
BUTP	**Butuan**	**2.26**	**16**	*e*P	**Pb**	**12 08 14.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.73**	**178**	P	**P**	**12 12 57.7**	**+3.6**
	2.6nm,0.8s,baz=9.5,slow=12,SNR=2.5						
CMAR	**Chiang Mai Arr**	**27.88**	**297**	LR	LR	12 23 50.4	
	comp=Z,19nm,21.5s,baz=65,slow=35						
WRA	**Warramunga Arr**	**28.11**	**161**	P	**P**	**12 13 25.3**	**+0.7**
	0.4nm,0.6s,baz=339,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**31.49**	**164**	P	**P**	**12 13 54.7**	**+0.2**
	0.5nm,0.6s,baz=345,slow=7.5,SNR=10						
SONM	**Songino Array**	**43.87**	**342**	LR	LR	12 37 34.1	
	comp=Z,41nm,18.1s,baz=159,slow=41						
MKAR	**Makanchi Array**	**54.07**	**325**	P	**P**	**12 16 56.1**	**-1.1**
	0.2nm,0.8s,baz=124,slow=7.8,SNR=1.9						

GCG ***11*** *12:12:45.9±0.5, 13°.66N×90°.84W, h68km±32km, MD4.0*

SNET ***11*** *12:12:47.0±0.8, 13°.85N×90°.72W, h84km±13km, ML3.3*

ISC 11 12:12:46.3±3.6, 13.7N±0.1×90.8W±0.1, h85km±25km, n18, σ0§58/25, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.69**	**16**	*i* P	**Pn**	**12 13 02.2**	**-0.5**
FUG	**Fuego 3**	**0.72**	**357**	*i* P	**Pn**	**12 13 02.3**	**-0.6**
NBG	**Las Nubes**	**0.97**	**27**	*e*P	**Pn**	**12 13 06.1**	**+0.5**
NBG				*e*S	**Sn**	**12 13 21.3**	**+1.2**
RTR	**El Retiro**	**1.14**	**81**	*e*P	**Pn**	**12 13 07.7**	**+0.1**
RTR				*e*S	**Sn**	**12 13 24.0**	**+0.5**
CEVE	**Cerro Verde**	**1.16**	**85**	*e*P	**Pn**	**12 13 07.5**	**-0.3**
SBLS	**San Blas**	**1.16**	**84**	*e*P	**Pn**	**12 13 07.6**	**-0.3**
SBLS				*e*S	**Sn**	**12 13 24.0**	**+0.1**
SNJE	**San Jose**	**1.18**	**83**	*e*P	**Pn**	**12 13 08.0**	**-0.1**
SNJE				*e*S	**Sn**	**12 13 24.8**	**+0.4**
JAYA	**Jayaque - finc**	**1.32**	**93**	*e*P	**Pn**	**12 13 09.9**	**+0.1**
TACO	**Tacachico**	**1.44**	**80**	*e*P	**Pn**	**12 13 10.4**	**-0.7**
TACO				*e*S	**Sn**	**12 13 28.6**	**-1.1**
PMON	**Piamonte**	**1.45**	**90**	*e*P	**Pn**	**12 13 10.9**	**-0.4**
LALI	**Alcalda de L**	**1.47**	**99**	*e*P	**Pn**	**12 13 11.7**	**+0.3**
BOQS	**Boqueron**	**1.49**	**89**	*e*P	**Pn**	**12 13 12.2**	**+0.3**
BOQS				*e*S	**Sn**	**12 13 31.7**	**+0.5**
ESQI	**Esquipulas**	**1.65**	**60**	*e*P	**Pn**	**12 13 13.4**	**-0.5**
ESQI				*e*S	**Sn**	**12 13 33.7**	**-1.1**
ESQI				IAML		12 13 40.5	
	comp=Z,152nm,0.6s						
LFRS	**El Faro**	**1.70**	**93**	*e*P	**Pn**	**12 13 14.7**	**+0.2**
MRL	**Marmol**	**1.74**	**39**	*e*P	**Pn**	**12 13 15.7**	**+0.5**
COEG	**Centro de Oper**	**1.88**	**93**	*e*P	**Pn**	**12 13 17.1**	**+0.3**
COEG				IAML		12 13 46.7	
	comp=Z,519nm,0.4s						
PQSS	**Presa 15 de Se**	**2.19**	**92**	*e*P	**Pn**	**12 13 20.6**	**-0.3**
COEB	**Comit de Eme**	**2.23**	**95**	*e*P	**Pn**	**12 13 21.6**	**+0.1**
COEB				IAML		12 13 52.7	
	comp=Z,182nm,0.4s						

IDC 11 12:30:07.5±1.9, 1°.31S×132°.66E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/30, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=37.1km s-min=16.4km az=35.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.46**	**288**	Pg	Pn	12 30 32.5	-2.6
	6.3nm,0.3s,baz=163,slow=19,SNR=45						
SIJI				Lg	Lg	12 30 54.5	
	10nm,0.3s,baz=136,slow=23,SNR=15						
WRA	**Warramunga Arr**	**18.59**	**175**	P	Pn	12 34 26.6	0.0
	0.1nm,0.3s,baz=356,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**22.26**	**177**	P	P	12 35 06.4	+0.1
	0.3nm,0.4s,baz=355,slow=10.0,SNR=5.3						
SONM	**Songino Array**	**54.04**	**338**	P	P	12 39 34.6	+0.8
	0.1nm,0.4s,baz=140,slow=5.6,SNR=1.7						

IDC 11 12:57:04.6±2.2, 6.67S×129.67E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=78.9km s-min=33.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.95**	**161**	Pn	Pn	13 00 24.4	+0.7
	0.2nm,0.3s,baz=341,slow=15,SNR=16						
WRA				Sn	Sn	13 02 47.5	-12
	0.3nm,0.3s,baz=325,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**17.38**	**167**	P	Pn	13 01 08.2	-0.6
	0.1nm,0.3s,baz=336,slow=11,SNR=10						
ASAR				S	Sn	13 04 07.9	-15
	0.1nm,0.3s,baz=332,slow=14,SNR=4.0						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	13 08 04.4	+0.1
	0.1nm,0.4s,baz=126,slow=7.3,SNR=1.9						

ANF ***11*** *13:05:38.9±0.3, 37°.06N×97°.90W, h10km, ML3.6/14, Error ellipse: s-maj=3.5km s-min=2.9km az=40.0*

NEIC ***11*** *13:05:38.5±0.3, 37°.07N±0°.01×97°.89W±0°.01, h11km±3km, mb_Lg2.9/56, Error ellipse: s-maj=2.4km s-min=0.9km az=151.0*

ISC 11 13:05:38.8±0.9, 37.06N±0.02×97.89W±0.02, h9km±7km, n74, σ0§54/59, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.12**	**211**	Pg	**Pg**	**13 05 41.6**	**+0.1**
KAN01	**Argonia South**	**0.14**	**47**	Pg	**Pg**	**13 05 41.6**	**-0.3**
KAN10	**Anthony SW Sta**	**0.18**	**292**	Pg	**Pg**	**13 05 42.3**	**-0.3**
KAN08	**Anthony NE Sta**	**0.18**	**339**	Pg	**Pg**	**13 05 42.3**	**-0.4**
GC02	**Grant County #**	**0.21**	**174**	Pg	**Pg**	**13 05 43.2**	**+0.2**
GC02				Sg	**Sg**	**13 05 46.3**	**+0.4**
KAN09	**Caldwell North**	**0.23**	**70**	Pg	**Pg**	**13 05 43.4**	**-0.1**
KAN09				Sg	**Sg**	**13 05 46.3**	**-0.3**
KAN12	**Harper NE Stat**	**0.26**	**340**	Pg	**Pg**	**13 05 43.5**	**-0.4**
KS20	**Mayfield South**	**0.32**	**57**	Pg	**Pg**	**13 05 44.9**	**-0.2**
KAN13	**South Haven SW**	**0.33**	**97**	Pg	**Pg**	**13 05 45.4**	**0.0**
KAN13				Sg	**Sg**	**13 05 49.6**	**-0.1**
OK032	**Salt Plains WL**	**0.36**	**226**	Pg	**Pg**	**13 05 45.9**	**0.0**
CROK	**Carrier**	**0.56**	**188**	Pg	**Pg**	**13 05 49.6**	**0.0**
T35A	**Sooner Cattle**	**1.11**	**97**		**Pg**	**13 05 59.5**	**-0.6**
T35B	**Sooner Cattle**	**1.11**	**97**	P	**Pg**	**13 05 59.4**	**-0.7**
	baz=278,SNR=215						
T35B				S	**Sg**	**13 06 14.1**	**-0.4**
	baz=278						
T35B	**Sooner Cattle**	**1.11**	**97**	P		13 05 59.4	
	baz=278,SNR=215						
T35B				S		13 06 14.1	
	baz=278						
U32A	**Winter Ranch,**	**1.12**	**233**	Pn	**Pg**	**13 05 59.5**	**-0.8**
U32A	**Winter Ranch,**	**1.12**	**233**	P	**Pg**	**13 05 59.7**	**-0.6**
	baz=52,SNR=16						
U32A				S	**Sb**	**13 06 15.6**	**+0.5**
	baz=52						
U32A	**Winter Ranch,**	**1.12**	**233**	P		13 05 59.7	
	baz=52,SNR=16						
U32A				S		13 06 15.6	
	baz=52						
QUOK	**Quay**	**1.30**	**133**		**Pn**	**13 06 02.9**	**-0.2**
OK029	**Liberty Lake**	**1.30**	**164**		**Pn**	**13 06 03.0**	**-0.2**
OK031	**S. Brethren Rd**	**1.39**	**142**		**Pn**	**13 06 04.4**	**0.0**
BCOK	**Bluff Creek, N**	**1.42**	**171**	Pn	**Pb**	**13 06 05.1**	**-0.2**
R32A	**Long Quarter,**	**1.51**	**335**	Pn	**Pn**	**13 06 06.1**	**+0.1**
R32A	**Long Quarter,**	**1.51**	**335**	P	**Pn**	**13 06 06.2**	**+0.1**
	baz=154,SNR=75						
R32A				S	**Sn**	**13 06 25.8**	**-0.1**
	baz=154						
R32A	**Long Quarter,**	**1.51**	**335**	P		13 06 06.2	
	baz=154,SNR=75						
R32A				S		13 06 25.8	
	baz=154						
OK025	**Westminster Rd**	**1.54**	**163**		**Pb**	**13 06 07.3**	**-0.1**
OKCFA	**Oklahoma City**	**1.68**	**168**		**Pb**	**13 06 09.8**	**0.0**
OKCFA	**Oklahoma City**	**1.68**	**168**	Sb	**Sg**	**13 06 32.5**	**-0.1**
	baz=348						
OKCFA	**Oklahoma City**	**1.68**	**168**	Sb		13 06 32.5	
	baz=348						
OKCSW	**OKLAHOMA CITY**	**1.69**	**167**		**Pb**	**13 06 09.5**	**-0.5**
FNO	**Franklin**	**1.84**	**167**		**Pb**	**13 06 11.8**	**-0.8**
TUL1	**Leonard**	**2.04**	**123**	P	**Pn**	**13 06 14.2**	**+0.9**
	baz=305,SNR=26						
TUL1				Sb	**Sb**	**13 06 42.6**	**+1.1**
	baz=305						
TUL1	**Leonard**	**2.04**	**123**	P		13 06 14.2	
	baz=305,SNR=26						
TUL1				Sb		13 06 42.6	
	baz=305						
KSU1	**Kansas State U**	**2.28**	**26**		**Pn**	**13 06 17.4**	**+0.8**
KSU1	**Kansas State U**	**2.28**	**26**	P	**Pn**	**13 06 17.4**	**+0.8**
	baz=207						
KSU1	**Kansas State U**	**2.28**	**26**	P		13 06 17.4	
	baz=207						
CBKS	**Cedar Bluff**	**2.28**	**321**	Pn	**Pn**	**13 06 17.3**	**+0.7**
CBKS	**Cedar Bluff**	**2.28**	**321**	P	**Pn**	**13 06 17.4**	**+0.7**
	baz=140,SNR=16						
CBKS				Sb	**Sb**	**13 06 49.7**	**+1.1**
	baz=140						
CBKS	**Cedar Bluff**	**2.28**	**321**	P		13 06 17.4	
	baz=140,SNR=16						
CBKS				Sb		13 06 49.7	
	baz=140						
WMOK	**Wichita Mounta**	**2.42**	**198**	Pn	**Pn**	**13 06 18.3**	**-0.3**
U38A	**Gravette**	**2.88**	**101**		**Pn**	**13 06 24.4**	**-0.4**
U38A	**Gravette**	**2.88**	**101**	P	**Pn**	**13 06 25.9**	**+1.0**
	baz=284,SNR=30						
U38A	**Gravette**	**2.88**	**101**	P		13 06 25.9	
	baz=284,SNR=30						
X37A	**Clayton**	**3.20**	**140**	IAmb_Lg		13 07 22.8	
	comp=Z,26nm,0.8s						
X37A	**Clayton**	**3.20**	**140**	P	**Pn**	**13 06 30.4**	**+1.1**
	baz=321,SNR=16						
X37A	**Clayton**	**3.20**	**140**	P		13 06 30.4	
	baz=321,SNR=16						
N33B	**J Bar K, Exete**	**3.69**	**5**	S	**Sn**	**13 07 19.6**	**-0.1**
	baz=186						
N33B	**J Bar K, Exete**	**3.69**	**5**	S		13 07 19.6	
	baz=186						
S39A	**Bolivar**	**3.69**	**79**		**Pn**	**13 06 36.0**	**0.0**
S39A	**Bolivar**	**3.69**	**79**	P	**Pn**	**13 06 36.3**	**+0.3**
	baz=262,SNR=25						
S39A	**Bolivar**	**3.69**	**79**	P		13 06 36.3	
	baz=262,SNR=25						
N33A	**J Bar K, Exete**	**3.69**	**5**	Pn	**Pn**	**13 06 35.6**	**-0.5**
N33A				IAmb_Lg		13 07 37.9	
	comp=Z,25nm,0.9s						
AMTX	**Amarillo**	**3.76**	**236**	IAmb_Lg		13 07 45.0	
	comp=Z,26nm,0.8s						
W39A	**Magazine**	**3.81**	**118**		**Pn**	**13 06 36.9**	**-0.6**
U40A	**Yellville**	**4.11**	**98**		**Pn**	**13 06 41.2**	**-0.5**
U40A	**Yellville**	**4.11**	**98**	P	**Pn**	**13 06 42.4**	**+0.7**
	baz=282						
U40A	**Yellville**	**4.11**	**98**	P		13 06 42.4	
	baz=282						
U40A				P		13 06 42.4	
	baz=282						
N35A	**Tabor**	**4.18**	**24**	Pn	**Pn**	**13 06 42.5**	**-0.2**
N35A	**Tabor**	**4.18**	**24**	P	**Pn**	**13 06 43.1**	**+0.3**
	baz=206						
N35A	**Tabor**	**4.18**	**24**	P		13 06 43.1	
	baz=206						
P38A	**Dawn**	**4.28**	**52**	P	**Pn**	**13 06 45.0**	**+0.9**
	baz=235						
P38A	**Dawn**	**4.28**	**52**	P		13 06 45.0	
	baz=235						
MIAR	**Mount Ida**	**4.31**	**124**	Pn	**Pn**	**13 06 44.8**	**+0.3**
MIAR				IAmb_Lg		13 07 57.6	
	comp=Z,21nm,0.8s						
Z38A	**Mt. Pleasant**	**4.47**	**147**	IAmb_Lg		13 08 12.8	
	comp=Z,25nm,0.7s						
MGMO	**Mountain Grove**	**4.49**	**87**		**Pn**	**13 06 46.6**	**-0.5**
R40A	**Maddies Statio**	**4.62**	**73**		**Pn**	**13 06 49.0**	**+0.2**
R40A				IAmb_Lg		13 08 04.8	
	comp=Z,17nm,0.7s						
R40A	**Maddies Statio**	**4.62**	**73**	P	**Pn**	**13 06 49.5**	**+0.6**
	baz=256,SNR=9.4						
R40A	**Maddies Statio**	**4.62**	**73**	P		13 06 49.5	
	baz=256,SNR=9.4						
FCAR	**Ozark Folk Cen**	**4.79**	**102**	Pn	**Pn**	**13 06 50.9**	**-0.2**
FCAR				IAmb_Lg		13 08 09.2	
	comp=Z,19nm,0.8s						
X40A	**Basin Creek Fa**	**4.84**	**120**	Pn	**Pn**	**13 06 51.4**	**-0.4**
X40A				IAmb_Lg		13 08 16.0	
	comp=Z,19nm,0.7s						
N38A	**Joes South For**	**5.20**	**43**	IAmb_Lg		13 08 26.1	
	comp=Z,26nm,1.0s						
T25A	**Trinidad**	**5.21**	**273**	IAmb_Lg		13 08 28.4	
	comp=Z,22nm,0.9s						
T42A	**Van Buren**	**5.44**	**88**	IAmb_Lg		13 08 37.5	
	comp=Z,15nm,0.8s						
K31A	**O'Neill**	**5.60**	**353**	IAmb_Lg		13 08 37.7	
	comp=Z,24nm,0.7s						
FVM	**French Village**	**6.00**	**79**	IAmb_Lg		13 08 51.6	
	comp=Z,20nm,1.0s						
SCIA	**State Center**	**6.04**	**35**	IAmb_Lg		13 08 59.7	
	comp=Z,14nm,0.8s						
435B	**Jarrell**	**6.26**	**178**	IAmb_Lg		13 09 15.6	
	comp=Z,18nm,1.0s						
N41A	**Harden Midland**	**6.59**	**54**	IAmb_Lg		13 09 16.1	
	comp=Z,14nm,0.8s						
JCT	**Junction City**	**6.75**	**194**	IAmb_Lg		13 09 32.1	
	comp=Z,10nm,0.9s						
K38A	**Parkersburg**	**6.83**	**34**	IAmb_Lg		13 09 29.2	
	comp=Z,13nm,0.8s						
S44A	**Carbondale**	**6.90**	**82**	IAmb_Lg		13 09 20.8	
	comp=Z,14nm,0.7s						
SIUC	**Southern Illin**	**6.94**	**82**	IAmb_Lg		13 09 22.3	
	comp=Z,20nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.06**	**66**	IAmb_Lg		13 09 25.2	
	comp=Z,18nm,0.8s						
HDIL	**Hopedale**	**7.56**	**60**	IAmb_Lg		13 09 40.0	
	comp=Z,15nm,0.7s						
I37A	**Lemond, Waseca**	**7.74**	**25**	IAmb_Lg		13 09 46.5	
	comp=Z,8.5nm,0.9s						
O44A	**Mansfield**	**8.00**	**64**	IAmb_Lg		13 09 55.7	
	comp=Z,14nm,0.8s						
WVT	**Waverly**	**8.14**	**94**	IAmb_Lg		13 09 55.3	
	comp=Z,12nm,1.2s						
JFWS	**Jewell Farm**	**8.28**	**43**	IAmb_Lg		13 10 01.3	
	comp=Z,10nm,0.7s						
T47A	**Sharon Grove**	**8.62**	**87**	IAmb_Lg		13 10 27.2	
	comp=Z,8.8nm,0.9s						
P46A	**Rosedale**	**8.77**	**70**	IAmb_Lg		13 10 20.4	
	comp=Z,14nm,0.8s						

JMA 11 13:25:51.1, 35.17N×135.60E, h12km±1km, M2.9, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.20**	**305**	P	Pg	13 25 55.4	0.0
JWT				S	Sg	13 25 58.2	-0.2
JHE	**Heguri**	**0.52**	**172**	P	Pg	13 26 01.3	0.0
JHE				S	Sg	13 26 08.2	0.0
JKY	**Yasaka**	**0.61**	**319**	P	Pg	13 26 02.8	-0.2
JKY				S	Sg	13 26 10.9	-0.2
JKS	**Kasai**	**0.65**	**253**	P	Pg	13 26 03.3	-0.4
TSUJ	**Tsu 2**	**0.81**	**124**	P	Pg	13 26 06.4	-0.5
TSUJ				S	Sg	13 26 17.2	-0.3
JKSM	**Kasumi**	**0.87**	**299**	P	Pg	13 26 07.3	-0.6
JKSM				S	Sg	13 26 18.6	-0.7
JAWN	**Awajishima-nag**	**0.89**	**220**	P	Pg	13 26 08.1	-0.2
JAWN				S	Sg	13 26 19.8	-0.2
JWY	**Kouya**	**0.95**	**180**	P	Pg	13 26 08.9	-0.5
JYTA	**Yamagatataniai**	**1.02**	**65**	P	Pb	13 26 10.3	-0.4
JYTA				S	Sb	13 26 23.4	-0.6
MAT	**Matsushiro**	**2.52**	**56**	P	Pn	13 26 34.0	+2.1
MAT				*e*S	Sb	13 27 05.0	-2.3

IDC 11 13:29:04.9±4.1, 31.03N×141.00E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/62, mbtmp3.3/4, ML2.4/1, Error ellipse: s-maj=164.8km s-min=27.1km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.97**	**338**	Pn	Pn	13 30 33.4	-1.2
	0.1nm,0.3s,baz=155,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**47.23**	**307**	P	P	13 37 40.0	+0.3
	0.1nm,0.4s,baz=90,slow=10.0,SNR=4.4						
WRA	**Warramunga Arr**	**51.08**	**188**	P	P	13 38 09.4	+0.2
	0.3nm,0.5s,baz=3.8,slow=7.5,SNR=1.8						
ASAR	**Alice Springs**	**54.81**	**188**	P	P	13 38 36.2	-0.5
	0.3nm,0.8s,baz=0.9,slow=7.6,SNR=5.9						

IDC 11 13:30:10.4±543.0, 57.79N×32.30E, h0km, Error ellipse: s-maj=208.6km s-min=76.5km az=111.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.88**	**110**	*i*		13 49 04.4	
	baz=295,slow=317,SNR=4.2						
I26DE	**FREYUNG INFRAS**	**14.22**	**239**	*i*		14 56 30.0	
	baz=47,slow=335,SNR=1.6						
I31KZ	**AKTYUBINSK INF**	**16.73**	**105**	*i*		15 14 21.3	
	baz=307,slow=327,SNR=1.0						

IDC ***11*** *13:31:40.3±1.6, 22°.76N×12°.19W, h0km, mb3.9/6, mb1 3.9/10, mb1mx3.6/56, mbtmp3.8/10, ML3.9/4, Error ellipse: s-maj=48.3km s-min=22.9km az=76.0*

ISC 11 13:31:41.4±1.4, 22.7N±0.1×12.1W±0.2, h10km, n13, σ0§99/13, mb3.9/6, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	**Kowa**	**11.17**	**135**	Pn	**Pn**	**13 34 22.5**	**+1.3**
	1.0nm,0.3s,baz=320,slow=10,SNR=16						
KOWA				Sn	**Sn**	**13 36 24.2**	**-2.0**
	0.5nm,0.3s,baz=164,slow=16,SNR=8.5						
TORD	**Torodi Ar. Bea**	**16.18**	**123**	Pn	**Pn**	**13 35 29.0**	**0.0**
	0.3nm,0.3s,baz=307,slow=12,SNR=12						
TORD				Sn	Sn	13 38 18.3	-10
	0.1nm,0.3s,baz=301,slow=17,SNR=2.7						
DBIC	**Dimbokro**	**17.37**	**155**	P	**Pn**	**13 35 44.2**	**+0.2**
	0.3nm,0.3s,baz=318,slow=14,SNR=2.5						
ESDC	**Sonseca Array**	**18.32**	**20**	P	**P**	**13 35 55.4**	**-0.4**
	0.1nm,0.3s,baz=209,slow=12,SNR=5.0						
I48TN	**KESRA INFRASON**	**22.77**	**50**	*i*		15 54 10.0	
	baz=239,slow=316,SNR=1.5						
GERES	**GERESS Array B**	**33.19**	**32**	P	**P**	**13 38 17.9**	**-0.3**
	1.2nm,0.7s,baz=217,slow=6.5,SNR=6.8						
HFS	**Hagfors**	**41.60**	**19**	P	**P**	**13 39 28.2**	**-1.0**
	2.2nm,0.7s,baz=195,slow=11,SNR=6.2						
FINES	**FINESS Array B**	**46.78**	**24**	P	**P**	**13 40 10.6**	**-0.2**
	0.8nm,0.5s,baz=224,slow=5.3,SNR=6.3						
AKTO	**Aktyubinsk**	**60.31**	**44**	P	**P**	**13 41 51.2**	**+0.9**
	0.4nm,0.4s,baz=232,slow=8.8,SNR=3.6						
YKA	**Yellowknife Ar**	**75.73**	**332**	P	**P**	**13 43 26.1**	**-0.8**
	0.3nm,0.6s,baz=70,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**76.73**	**45**	P	**P**	**13 43 33.9**	**+0.9**
	0.7nm,0.5s,baz=287,slow=5.4,SNR=12						
WRA	**Warramunga Arr**	**148.66**	**91**	PKPbc	**PKiKP**	**13 51 31.0**	**-0.1**
	0.9nm,0.7s,baz=290,slow=2.7,SNR=7.3						
ASAR	**Alice Springs**	**148.

PAU	**Pauzhetka**	**5.44**	**27**	*eP*		**Pn**	**13 34 19.2**	**+1.2**
PAU					AMB	AMB	13 34 23.1	
	comp=N,40nm,0.5s							
PAU				*eS*		**Sn**	**13 35 19.3**	**+0.1**
PAU				A		A	13 35 21.8	
	comp=N,150nm,0.3s							
PAU				A		A	13 35 21.8	
	comp=N,110nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**5.62**	**245**	*eP*		**Pn**	**13 34 21.0**	**+0.4**
YUK					AMB	AMB	13 34 24.1	
	comp=N,20nm,0.2s							
YUK				*eS*		**Sn**	**13 35 23.6**	**-0.2**
YUK				A		A	13 35 31.2	
	comp=N,410nm,0.9s							
YUK				A		A	13 35 31.2	
	comp=N,440nm,0.9s							
NMR	**Nemuro--Hokkai**	**6.07**	**240**	*eP*		**Pn**	**13 34 24.9**	**-1.8**
MTVR	**Mutnovka**	**6.75**	**29**	*eS*		**Sn**	**13 35 49.1**	**-2.5**
GRL	**Gorelyy**	**6.77**	**28**	*eS*		**Sn**	**13 35 50.9**	**-1.2**
RUS	**Russkaya**	**6.82**	**30**	*eP*		Pn	13 35 01.7	+25
RUS				*eS*		**Sn**	**13 35 50.3**	**-2.8**
YSS	**Yuzh-Sakhalins**	**6.97**	**276**	*e*PN		Pn	13 34 45.1	+6.0
YSS				pmax		pmax		
	comp=Z,20nm,0.8s							
YSS	**Yuzh-Sakhalins**	**6.97**	**276**	Pn		**Pn**	**13 34 41.3**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.97**	**276**	*eP*		**Pn**	**13 34 41.3**	**+2.2**
YSS					AMB	AMB	13 34 45.8	
	comp=Z,10.0nm,0.7s							
YSS				*eS*		**Sn**	**13 35 57.3**	**+0.4**
YSS				A		A	13 36 02.5	
	comp=Z,20nm,0.4s							
YSS				A		A	13 36 02.5	
	comp=Z,20nm,0.4s							
PEA0B	**Petropavlovsk-**	**7.14**	**24**	PN		**Pn**	**13 34 42.0**	**+0.6**
PEA0B	**Petropavlovsk-**	**7.14**	**24**	Pn		**Pn**	**13 34 42.0**	**+0.6**
PETK	**Petropavlovsk-**	**7.14**	**24**	P		**Pn**	**13 34 41.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=179,slow=12,SNR=1.6							
PET	**Petropavlovsk**	**7.36**	**28**	PN		**Pn**	**13 34 44.8**	**+0.5**
PET	**Petropavlovsk**	**7.36**	**28**	Pn		**Pn**	**13 34 44.8**	**+0.5**
PET	**Petropavlovsk**	**7.36**	**28**	*eP*		**Pn**	**13 34 44.8**	**+0.5**
PET					AMB	AMB	13 34 49.2	
	comp=Z,70nm,1.0s							
JKA	**Kamikawa-asahi**	**7.69**	**254**			**Pn**	**13 34 49.7**	**+0.8**
JKA	**Kamikawa-asahi**	**7.69**	**254**	*eP*		**Pn**	**13 34 50.8**	**+1.9**
ASAJ	**Asahikawa**	**7.69**	**254**	P		**Pn**	**13 34 50.8**	**+1.8**
	comp=Z,1.4nm,0.3s,baz=83,slow=17,SNR=8.2							
TYV	**Tymovskoe**	**7.96**	**305**	*eP*		**Pn**	**13 34 54.9**	**+2.3**
TYV					AMB	AMB	13 34 55.8	
	comp=Z,10.0nm,0.8s							
NKL	**Nikolayevsk**	**10.20**	**314**	*eP*		**Pn**	**13 35 24.8**	**+1.7**
NKL					AMB	AMB	13 35 28.2	
	comp=Z,40nm,1.0s							
JTM	**Tenmabayashi**	**10.39**	**240**	Pn		**Pn**	**13 35 22.6**	**-3.3**
MA2	**Magadan**	**12.98**	**355**	P		**Pn**	**13 36 02.1**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=167,slow=9.7,SNR=6.6							
MA2					LR	LR	13 41 52.1	
	comp=Z,46nm,18.2s,baz=114,slow=41							
JSD	**Sado**	**13.83**	**237**	Pn		**Pn**	**13 36 13.2**	**+0.3**
EKMR	**Ekimchan**	**14.35**	**304**	*eP*		**Pn**	**13 36 18.0**	**-1.7**
KLR	**Kul'dur**	**14.40**	**288**	LR		LR	13 42 05.9	
	comp=Z,9.6nm,18.6s,baz=103,slow=38							
USA0B	**Ussuriysk Arra**	**14.89**	**268**	P		**Pn**	**13 36 27.2**	**+0.4**
USA0B	**Ussuriysk Arra**	**14.89**	**268**	Pn		**Pn**	**13 36 27.2**	**+0.4**
USRK	**Ussuriysk Ar.**	**14.89**	**268**	P		**Pn**	**13 36 26.9**	**+0.1**
	baz=67,slow=12,SNR=14							
MAJO	**Matsushiro**	**14.92**	**233**	P		**P**	**13 36 32.6**	**+0.6**
MAJO	**Matsushiro**	**14.92**	**233**	P		**P**	**13 36 32.6**	**+0.6**
MJAR	**Matsushiro Arr**	**14.92**	**233**	P		**Pn**	**13 36 29.3**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=35,slow=9.5,SNR=7.5							
SEY	**Seymchan**	**16.30**	**359**	P		**P**	**13 36 46.4**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=179,slow=2.9,SNR=25							
ZEA	**Zeya**	**17.81**	**303**	*eP*		**Pn**	**13 37 02.3**	**-1.3**
KROS	**Kirovskiy**	**18.14**	**305**	*eP*		**Pn**	**13 37 09.7**	**+2.1**
KROS					AMB	AMB	13 37 10.3	
	comp=Z,6.0nm,0.8s							
YAK	**Yakutsk**	**20.31**	**328**	P		**P**	**13 37 31.1**	**+0.1**
	comp=Z,3.3nm,0.3s,baz=228,slow=1.1,SNR=2.0							
YAK					LR	LR	13 44 21.5	
	comp=Z,34nm,21.6s,baz=87,slow=34							
YAK	**Yakutsk**	**20.31**	**328**	P		**P**	**13 37 31.1**	**+0.1**
YAK					pmax	pmax		
	comp=Z,16nm,0.7s							
YAK	**Yakutsk**	**20.31**	**328**	IAmb		IAmb	13 37 37.1	
	comp=Z,16nm,0.7s							
KSRS	**Korea Array**	**20.64**	**252**	P		**P**	**13 37 35.6**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=53,slow=11,SNR=8.1							
H11N2	**WAKE ISLAND Hy**	**29.22**	**152**	T		T	14 10 21.4	
	baz=340,slow=76,SNR=605							
H11N1	**WAKE ISLAND Hy**	**29.23**	**152**	T		T	14 10 22.4	
	baz=340,slow=76,SNR=443							
H11N3	**WAKE ISLAND Hy**	**29.24**	**152**	T		T	14 10 24.6	
	baz=340,slow=76,SNR=357							
H11S1	**WAKE ISLAND Hy**	**30.30**	**153**	T		T	14 11 46.3	
	baz=340,slow=76,SNR=584							
H11S3	**WAKE ISLAND Hy**	**30.31**	**153**	T		T	14 11 42.2	
	baz=340,slow=76,SNR=441							
H11S2	**WAKE ISLAND Hy**	**30.32**	**153**	T		T	14 11 41.2	
	baz=340,slow=76,SNR=442							
IMAR	**Indian Mountai**	**33.91**	**36**	P		**P**	**13 39 38.2**	**+0.9**
A21K	**Barrow**	**34.14**	**26**	P		**P**	**13 39 40.4**	**+1.2**
A21K					IAmb	IAmb	13 39 41.0	
	comp=Z,5.6nm,0.9s							
HOM	**Homer**	**34.61**	**47**	P		**P**	**13 39 42.7**	**-0.7**
BPAW	**Bear Paw Mtn.**	**34.90**	**40**	P		**P**	**13 39 47.0**	**+1.0**
BPAW					IAmb	IAmb	13 40 10.5	
	comp=Z,4.1nm,1.3s							
KTH	**Kantishna Hill**	**34.91**	**41**	P		**P**	**13 39 45.6**	**-0.5**
KTH					IAmb	IAmb	13 39 49.1	
	comp=Z,5.7nm,1.2s							
BRLK	**Bradley Lake**	**34.99**	**47**	P		**P**	**13 39 47.1**	**+0.4**
COLD	**Coldfoot**	**35.47**	**34**	P		**P**	**13 39 51.2**	**+0.4**
COLD					IAmb	IAmb	13 39 56.6	
	comp=Z,4.9nm,1.5s							
TOLK	**Toolik Lake Re**	**35.88**	**32**	P		**P**	**13 39 54.1**	**-0.2**
ILAR	**Eielson Array**	**36.70**	**38**	P		**P**	**13 40 02.0**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=256,slow=7.6,SNR=2.1							
ILAR	**Eielson Array**	**36.70**	**38**	P		**P**	**13 40 02.0**	**+0.7**
K27K	**Chicken**	**38.82**	**40**	P		**P**	**13 40 20.3**	**+1.1**
CTGM	**Chitina Glacie**	**39.56**	**44**	P		**P**	**13 40 26.9**	**+1.3**
CTGM					IAmb	IAmb	13 40 48.2	
	comp=Z,7.1nm,1.4s							
INK	**Inuvik**	**41.79**	**32**	P		**P**	**13 40 44.4**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=247,slow=6.7,SNR=3.5							
INK	**Inuvik**	**41.79**	**32**	P		**P**	**13 40 44.4**	**+0.8**
INK					pmax	pmax		
	comp=Z,5.0nm,1.4s							
INK	**Inuvik**	**41.79**	**32**	IAmb		IAmb	13 40 46.2	
	comp=Z,4.5nm,1.4s							
ZALV	**Zalesovo Beam**	**42.54**	**306**	P		**P**	**13 40 47.5**	**-2.5**
	comp=Z,0.6nm,0.4s,baz=49,slow=8.8,SNR=3.6							
ZALV					PcP	**PcP**	**13 42 41.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=64,slow=3.4,SNR=3.9							
C36M	**Paulatuk**	**44.95**	**30**	P		**P**	**13 41 10.0**	**+0.9**
MK31	**Makanchi Array**	**46.85**	**297**	P		**P**	**13 41 22.7**	**-1.7**
MK31					pmax	pmax		
	comp=Z,1.0nm,1.1s							
MK31	**Makanchi Array**	**46.85**	**297**	P		**P**	**13 41 22.6**	**-1.7**
MKAR	**Makanchi Array**	**46.85**	**297**	P		**P**	**13 41 22.8**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=67,slow=7.4,SNR=22							
MKAR					PcP	**PcP**	**13 42 56.6**	**0.0**
	comp=Z,0.9nm,0.8s,baz=61,slow=5.2,SNR=8.0							
MKAR					LR	LR	14 01 51.4	
	comp=Z,53nm,18.4s,baz=303,slow=37							
EUNU	**Eureka**	**49.23**	**11**	P		**P**	**13 41 41.7**	**-0.7**
EUNU					IAmb	IAmb	13 41 52.5	
	comp=Z,8.5nm,1.5s							
LSA	**Lhasa**	**50.13**	**273**	P		**P**	**13 41 49.4**	**-1.0**
LSA	**Lhasa**	**50.13**	**273**			**P**	**13 41 49.4**	**-1.0**
LSA					IAmb	IAmb	13 41 52.3	
	comp=Z,6.0nm,0.7s							
YKA	**Yellowknife Ar**	**51.07**	**37**	P		**P**	**13 41 57.6**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=296,slow=6.5,SNR=4.2							
CMAR	**Chiang Mai Arr**	**52.21**	**256**	P		**P**	**13 42 06.8**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=34,slow=8.3,SNR=6.1							
ARCES	**ARCESS Array B**	**57.88**	**341**	P		**P**	**13 42 44.6**	**-1.1**
	comp=Z,4.7nm,1.0s,baz=39,slow=7.9,SNR=3.6							
ABKAR	**Akbulak array**	**58.36**	**310**	P		**P**	**13 42 48.0**	**-1.4**
AKTO	**Aktyubinsk**	**58.67**	**312**	P		**P**	**13 42 52.1**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=92,slow=6.6,SNR=1.7							
AKTO					LR	LR	14 08 17.4	
	comp=Z,30nm,19.4s,baz=19,slow=36							
FCC	**Fort Churchill**	**61.40**	**33**	P		**P**	**13 43 10.7**	**+0.6**
FCC					pmax	pmax		
	comp=Z,2.0nm,0.6s							
FCC	**Fort Churchill**	**61.40**	**33**	P		**P**	**13 43 10.7**	**+0.6**
FCC					IAmb	IAmb	13 43 11.3	
	comp=Z,1.8nm,0.6s							
NVAR	**Mina Array Bea**	**62.59**	**62**	P		**P**	**13 43 19.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=298,slow=7.7,SNR=1.9							
NVAR	**Mina Array Bea**	**62.59**	**62**	P		**P**	**13 43 19.7**	**+1.0**
FIA1	**FINESS Array S**	**64.04**	**335**	P		**P**	**13 43 26.6**	**-1.0**
FIA1					IAmb	IAmb	13 43 54.4	
	comp=Z,20nm,1.4s							
FINES	**FINESS Array B**	**64.05**	**335**	P		**P**	**13 43 26.9**	**-0.6**
	comp=Z,2.2nm,0.4s,baz=29,slow=8.0,SNR=21							
FINES	**FINESS Array B**	**64.05**	**335**	P		**P**	**13 43 27.0**	**-0.6**
FINES	**FINESS Array B**	**64.05**	**335**	P		**P**	**13 43 26.8**	**-0.9**
PDAR	**Pinedale Array**	**64.91**	**54**	P		**P**	**13 43 35.0**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=348,slow=41,SNR=1.8							
NC405	**NORSAR Array S**	**68.07**	**341**	P		**P**	**13 43 52.7**	**-0.8**
NC405					IAmb	IAmb	13 44 17.8	
	comp=Z,9.5nm,1.0s							
NC204	**NORSAR Array S**	**68.14**	**341**	P		**P**	**13 43 53.7**	**-0.3**
WB0	**Warramunga Arr**	**68.22**	**199**	P		**P**	**13 43 54.4**	**-0.4**
WB0					IAmb	IAmb	13 43 55.3	
	comp=Z,10.0nm,1.4s							
NB201	**NORSAR Array S**	**68.22**	**341**	P		**P**	**13 43 54.1**	**-0.4**
NB2	**NORSAR Subarra**	**68.25**	**341**	P		**P**	**13 43 54.1**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.25**	**341**	P		**P**	**13 43 54.5**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=30,slow=6.6,SNR=9.3							
WB2	**Warramunga Arr**	**68.39**	**199**	P		**P**	**13 43 54.6**	**-1.4**
WB2					IAmb	IAmb	13 44 11.6	
	comp=Z,4.7nm,1.1s							
WRA	**Warramunga Arr**	**68.40**	**199**	P		**P**	**13 43 55.6**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=21,slow=7.0,SNR=2.3							
HFS	**Hagfors**	**68.47**	**339**	P		**P**	**13 43 55.6**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=56,slow=5.9,SNR=22							
AKASG	**Malin Array Be**	**71.53**	**326**	P		**P**	**13 44 14.0**	**-0.9**
	comp=Z,3.1nm,0.5s,baz=36,slow=6.2,SNR=8.1							
AS31	**Alice Springs**	**72.09**	**198**	P		**P**	**13 44 19.3**	**+0.8**
ASAR	**Alice Springs**	**72.09**	**198**	P		**P**	**13 44 19.3**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=11,slow=5.6,SNR=16							
319A	**Douglas**	**72.80**	**63**	P		**P**	**13 44 21.9**	**-1.1**
GC02	**Grant County #**	**75.46**	**51**	P		**P**	**13 44 39.7**	**+1.5**
BUR08	**Bucovina Ar. S**	**75.55**	**326**	P		**P**	**13 44 38.7**	**0.0**
BUR08					IAmb	IAmb	13 44 39.6	
	comp=Z,3.9nm,1.0s							
BURAR	**Bucovina Array**	**75.57**	**326**	P		**P**	**13 44 38.3**	**-0.5**
WSAR	**Wadi Sarin**	**76.27**	**289**	LR		LR	14 21 30.5	
	comp=Z,55nm,18.4s,baz=126,slow=38							
CLL	**Collm**	**76.47**	**335**	*eP*		**P**	**13 44 43.0**	**-0.7**
MLR	**Muntele Rosu**	**77.04**	**325**	P		**P**	**13 44 48.4**	**+1.2**
MLR					pmax	pmax		
	comp=Z,6.0nm,1.3s							
MLR	**Muntele Rosu**	**77.04**	**325**	P		**P**	**13 44 48.4**	**+1.2**
MLR					IAmb	IAmb	13 44 49.3	
	comp=Z,6.4nm,1.3s							
TXAR	**Lajitas Array**	**77.65**	**60**	P		**P**	**13 44 51.8**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=335,slow=4.1,SNR=3.2							
BRTR	**Keskin Array B**	**78.34**	**317**	P		**P**	**13 44 55.1**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=51,slow=11,SNR=3.1							
GERES	**GERESS Array B**	**78.46**	**334**	P		**P**	**13 44 54.9**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=22,slow=6.5,SNR=4.6							
GERES	**GERESS Array B**	**78.46**	**334**	P		**P**	**13 44 54.6**	**-0.4**
H03N2	**Juan Fernandez**	**138.89**	**90**	T		T	16 27 39.7	
	baz=307,slow=77,SNR=55							
H03N1	**Juan Fernandez**	**138.91**	**90**	T		T	16 27 44.9	
	baz=307,slow=77,SNR=58							
H03N3	**Juan Fernandez**	**138.91**	**90**	T		T	16 27 41.8	
	baz=307,slow=77,SNR=41							

IDC 11 13:56:32.7±5.3, 5.04S×129.79E, h192km±72km, mb3.0/2, mb1 2.9/5, mb1mx2.8/41, mbtmpb3.4/5, Error ellipse: s-maj=134.2km s-min=17.4km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.39**	**20**	P		Pn	13 57 41.1	+1.9
	2.0nm,0.3s,baz=238,slow=22,SNR=32							
SIJI				S		Sn	13 58 31.1	-0.5
	5.3nm,0.3s,baz=258,slow=23,SNR=20							
WRA	**Warramunga Arr**	**15.46**	**164**	P		Pn	13 59 59.2	-1.8
	0.0nm,0.3s,baz=344,slow=13,SNR=1.9							
WRA				S		S	14 02 44.5	-8.6
	0.3nm,0.3s,baz=347,slow=23,SNR=9.6							
ASAR	**Alice Springs**	**18.94**	**168**	P		P	14 00 39.6	+0.2
	0.1nm,0.3s,baz=346,slow=10,SNR=11							
MKAR	**Makanchi Array**	**66.48**	**326**	P		P	14 07 01.6	-0.1
	0.4nm,0.8s,baz=114,slow=6.5,SNR=3.2							
KURBB	**Kurchatov Arra**	**70.74**	**328**	P		P	14 07 27.8	0.0
	0.3nm,0.6s,baz=118,slow=4.3,SNR=2.7							

*SOME **11** 14:06:10.4, 40.92N×83.95E, h10km*
*IDC **11** 14:06:16.3±3.3, 40.80N×83.56E, h0km, mb1 3.3/5, mb1mx3.2/57, mbtmp3.3/5, ML2.9/5, Error ellipse: s-maj=31.3km s-min=25.7km az=160.0*
*NNC **11** 14:06:16.0±2.0, 40.91N×83.64E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=14.4km s-min=9.6km az=159.0*

ISC 11 14:06:23.5±1.3, 41.21N±0.07×83.51E±0.05, h10km, n42, σ1.9 s76/64, 6C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.24**	**315**	*eP*		**Pb**	**14 07 19.1**	**-2.1**
	6.0nm,0.3s							
KTMS					*eS*	**Sg**	**14 08 08.8**	**+1.4**
	59nm,0.3s							
KTMS	**Ketmen**	**3.24**	**315**	Pg		**Pb**	**14 07 19.1**	**-2.1**
	6.0nm,0.3s							
KTMS					Lg	Lg	14 08 08.8	
	59nm,0.3s							
SHLS	**Shalkode**	**3.58**	**304**	*eP*		**Pn**	**14 07 21.5**	**+2.3**
	9.8nm,0.3s							
SHLS					*eS*	**Sb**	**14 08 12.7**	**+2.0**
	318nm,0.5s							
SHLS	**Shalkode**	**3.58**	**304**	Pg		**Pn**	**14 07 21.5**	**+2.3**
	9.8nm,0.3s							
SHLS					Lg	Lg	14 08 12.7	
	318nm,0.5s							
PDGK	**Podgornoye**	**3.66**	**307**	Pg		**Pb**	**14 07 25.1**	**-3.3**
	4.0nm,0.5s							
PDGK					Lg	Lg	14 08 19.0	
	52nm,0.7s							
PDGK	**Podgornoye**	**3.66**	**307**	⇑Pn		**Pn**	**14 07 23.7**	**+3.3**
	6.4nm,0.4s							
PDGK					⇑Pg	**Pb**	**14 07 29.3**	**+0.9**
	18nm,0.5s							
PDGK					⇓Sn	**Sn**	**14 08 05.8**	**+2.2**
	33nm,0.4s							
PDGK					⇓Lg	Lg	14 08 20.6	
	2.7nm,0.7s							
UZB	**Uzynbulak**	**3.86**	**302**	*eP*		**Pb**	**14 07 30.2**	**-1.5**
	7.6nm,0.4s							
UZB					*eS*	**Sg**	**14 08 27.9**	**+0.5**
	76nm,0.7s							
UZB	**Uzynbulak**	**3.86**	**302**	Pg		**Pb**	**14 07 30.2**	**-1.5**
	7.6nm,0.4s							
UZB					Lg	Lg	14 08 27.9	
	76nm,0.7s							
SATY	**Saty**	**4.22**	**298**	*eP*		**Pb**	**14 07 37.0**	**-0.9**
	8.6nm,0.6s							
SATY					*eS*	**Sg**	**14 08 39.6**	**+0.5**
	58nm,0.6s							
SATY	**Saty**	**4.22**	**298**	Pg		**Pb**	**14 07 37.0**	**-0.9**
	8.6nm,0.6s							
SATY					Lg	Lg	14 08 39.6	
	58nm,0.6s							
KPKS	**Kokpek**	**4.23**	**304**	*eP*		**Pb**	**14 07 36.4**	**-1.6**
	16nm,0.3s							
KPKS					*eS*	**Sg**	**14 08 38.6**	**-0.7**
	94nm,0.6s							
KURS	**Kuram**	**4.57**	**302**	*eP*		**Pb**	**14 07 44.0**	**+0.2**
	2.2nm,0.3s							
KURS					*eS*	**Sg**	**14 08 51.0**	**+0.9**
	31nm,0.5s							
KURS	**Kuram**	**4.57**	**302**	Pg		**Pb**	**14 07 44.0**	**+0.2**
	2.2nm,0.3s							
KURS					Lg	Lg	14 08 51.0	
	31nm,0.5s							
MNBS	**Baschi**	**4.74**	**309**	*eP*		**Pb**	**14 07 46.7**	**0.0**
	8.2nm,0.5s							
MNBS					*eS*	**Sg**	**14 08 56.1**	**+0.6**
	48nm,0.7s							
MNBS	**Baschi**	**4.74**	**309**	Pg		**Pb**	**14 07 46.7**	**0.0**
	8.2nm,0.5s							
MNBS					Lg	Lg	14 08 56.1	
	48nm,0.7s							
KAPS	**Kapalarasan**	**5.08**	**325**	*eP*		**Pb**	**14 07 52.3**	**-0.2**
	11nm,0.4s							
KAPS					*eS*	**Sg**	**14 09 05.5**	**-1.0**
	32nm,0.8s							
KAPS	**Kapalarasan**	**5.08**	**325**	Pg		**Pb**	**14 07 52.3**	**-0.2**
	11nm,0.4s							
KAPS					Lg	Lg	14 09 05.5	
	32nm,0.8s							
ARXS	**Arharly**	**5.15**	**307**	*eP*		**Pb**	**14 07 54.0**	**+0.2**
	6.3nm,0.6s							
ARXS					*eS*	**Sg**	**14 09 08.4**	**-0.5**
	21nm,0.8s							
ARXS	**Arharly**	**5.15**	**307**	Pg		**Pb**	**14 07 54.0**	**+0.2**
	6.3nm,0.6s							
ARXS					Lg	Lg	14 09 08.4	
	21nm,0.8s							
KOTS	**Kotyrbulak**	**5.17**	**295**	*eP*		**Pb**	**14 07 52.8**	**-1.2**
	18nm,0.3s							
KOTS					*eS*	**Sg**	**14 09 06.5**	**-2.8**
	48nm,0.5s							
KOTS	**Kotyrbulak**	**5.17**	**295**	Pg		**Pb**	**14 07 52.8**	**-1.2**
	18nm,0.3s							
KOTS					Lg	Lg	14 09 06.5	
	48nm,0.5s							
MDOK	**Medeo**	**5.18**	**294**	*eP*		**Pb**	**14 07 54.4**	**+0.1**
	5.7nm,0.3s							
MDOK					*eS*	**Sg**	**14 09 09.3**	**-0.6**
	31nm,0.7s							
MDOK	**Medeo**	**5.18**	**294**	Pg		**Pb**	**14 07 54.4**	**+0.1**
	5.7nm,0.3s							
MDOK					Lg	Lg	14 09 09.3	
	31nm,0.7s							
TNSS	**Tian-Shan**	**5.21**	**293**	*eP*		**Pb**	**14 07 55.7**	**+0.7**
	3.6nm,0.5s							
TNSS					*eS*	**Sg**	**14 09 11.7**	**+0.8**
	28nm,0.5s							
TNSS	**Tian-Shan**	**5.21**	**293**	Pg		**Pb**	**14 07 55.7**	**+0.7**
	3.6nm,0.5s							
TNSS					Lg	Lg	14 09 11.7	
	28nm,0.5s							
IZV	**Izvestkoviy**	**5.45**	**292**	*eP*		**Pb**	**14 08 00.3**	**+1.5**
	3.1nm,0.3s							
IZV					*eS*	**Sg**	**14 09 19.4**	**+1.1**
	50nm,0.3s							
IZV	**Izvestkoviy**	**5.45**	**292**	Pg		**Pb**	**14 08 00.3**	**+1.5**
	3.1nm,0.3s							
IZV					Lg	Lg	14 09 19.4	
	50nm,0.3s							
KTBS	**Karatobe**	**5.64**	**299**	*eP*		**Pb**	**14 08 02.9**	**+0.9**
	3.4nm,0.8s							
KTBS					*eS*	**Sg**	**14 09 23.5**	**-0.9**
	24nm,0.8s							
KTBS	**Karatobe**	**5.64**	**299**	Pg		**Pb**	**14 08 02.9**	**+0.9**
	3.4nm,0.8s							
KTBS					Lg	Lg	14 09 23.5	
	24nm,0.8s							
MKAR	**Makanchi Array**	**5.65**	**351**	Pn		**Pn**	**14 07 50.0**	**+2.4**
	0.2nm,0.3s,baz=168,slow=12,SNR=17							
MKAR					Pg	**Pg**	**14 08 08.1**	**-3.6**
	1.0nm,0.3s,baz=170,slow=16,SNR=11							
MKAR					Sn	**Sn**	**14 08 54.1**	**+1.7**
	2.1nm,0.3s,baz=164,slow=25,SNR=8.0							
MKAR					Lg	Lg	14 09 26.3	
	3.4nm,0.3s,baz=168,slow=30,SNR=5.4							
MK31	**Makanchi Array**	**5.65**	**351**	⇑Pn		**Pn**	**14 07 47.5**	**0.0**
	0.4nm,0.3s,baz=198,slow=22,SNR=67							
MK31					Pg	**Pb**	**14 08 04.5**	**+2.3**
	5.3nm,0.6s,baz=174,slow=15,SNR=9.0							
MK31					⇑Sn	**Sn**	**14 08 53.6**	**+1.1**
	7.4nm,0.6s,baz=169,slow=17,SNR=4.0							
MK31					Lg	Lg	14 09 26.5	
	65nm,0.8s,baz=157,slow=28,SNR=3.8							
MAKZ	**Makanchi**	**5.70**	**349**	⇑Pn		**Pn**	**14 07 50.6**	**+2.3**
	0.3nm,0.2s							
MAKZ					⇑Sn	**Sn**	**14 08 55.6**	**+1.9**
	12nm,0.7s							
MAKZ					⇓Lg	Lg	14 09 28.4	
	29nm,0.8s							
KST	**Kastek**	**5.91**	**291**	Pg		**Pb**	**14 08 06.4**	**-0.2**
	2.7nm,0.1s							
KST					Lg	Lg	14 09 29.3	
	33nm,0.5s							
KUU	**Kurty**	**5.94**	**299**	Pg		**Pb**	**14 08 08.3**	**+1.2**
	1.1nm,0.1s							
KUU					Lg	Lg	14 09 33.5	
	13nm,

IDC 11 14:14:49.9±466.0, 53°09N×33°26E, h0km, Error ellipse: s-maj=181.6km s-min=89.6km az=31.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 4.29**	**31**	*i*			14 42 40.0	
	baz=213,slow=319,SNR=2.5						
I26DE	**FREYUNG INFRAS13.02**	**259**	*i*			15 33 50.0	
	baz=59,slow=334,SNR=0.8						
I31KZ	**AKTYUBINSK INF 15.55**	**90**	*i*			15 48 40.0	
	baz=289,slow=320,SNR=4.0						
I34MN	**SONGINO INFRAS 45.01**	**66**	*i*			18 52 00.0	
	baz=304,slow=328,SNR=0.5						

*NEIC **11** 14:24:04.4±1.2, 55°.3S±0°.2×28°.6W±0°.3, h10km±10km, mb4.1/4, Error ellipse: s-maj=28.3km s-min=16.5km az=49.0*
*IDC **11** 14:24:04.7±2.2, 54°.91S×28°.71W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.6/24, mbtmp4.0/1, Error ellipse: s-maj=118.7km s-min=73.7km az=141.0*
ISC 11 14:24:04.8±1.0, 55°.3S±0°.1×28°.6W±0°.2, h10km, n12, σ2§13/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.67**	**279**	Pn	**Pn**	**14 25 15.5**	**+0.2**
VNA1	**Neumayer--Stat**	**17.83**	**158**	P	**P**	**14 28 19.1**	**+5.8**
VNA3	**Neumayer Olymp**	**18.00**	**160**	P	**Pn**	**14 28 14.6**	**-0.2**
VNA2	**Neumayer--Watz**	**18.23**	**158**	P	**Pn**	**14 28 16.6**	**-0.9**
	baz=314,slow=12						
SNAA	**Sanae**	**19.79**	**156**	P	**P**	**14 28 33.8**	**-1.1**
SNAA	**Sanae**	**19.79**	**156**	P	**P**	**14 28 33.7**	**-1.2**
QSPA	**South Pole Qui**	**34.99**	**180**	P	**P**	**14 30 55.6**	**-1.4**
QSPA				IAmb	IAmb	14 30 57.4	
	comp=Z,6.2nm,1.4s						
TOA0	**Torodi Ar. Sit**	**72.78**	**31**	P	**P**	**14 35 32.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**72.78**	**31**	P	**P**	**14 35 33.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=197,slow=6.1,SNR=8.0						
TORD	**Torodi Ar. Bea**	**72.78**	**31**	P	**P**	**14 35 32.9**	**-0.3**
TORD				IAmb	IAmb	14 35 44.9	
	comp=Z,1.3nm,0.9s						
ILAR	**Eielson Array**	**148.99**	**313**	PKPbc	**PKPbc**	**14 43 51.8**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=130,slow=2.6,SNR=7.5						
SONM	**Songino Array**	**151.48**	**86**	PKPbc	**PKiKP**	**14 43 59.5**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=252,slow=1.2,SNR=2.2						

*INET **11** 14:39:55.1, 9°.98N×86°.74W, h15km, MW3.8*
UCR 11 14:39:58.3±2.7, 10°.52N×86°.68W, h1km±16km, MW4.1, 3C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUAI	**GUAI**	**1.17**	**102**	*i* S	Sn	14 40 40.2	+1.7
GRZA	**Playa Garza**	**1.19**	**120**	*e*P	Pg	14 40 20.7	-0.4
GBS3	**Finca Las Img**	**1.23**	**78**	*i* P	Pg	14 40 21.5	-0.4
BUEV	**Buena Vista**	**1.28**	**77**	*i* P	Pg	14 40 22.2	-0.6
GPS2	**Hotel Rincn d**	**1.32**	**80**	*e*P	Pg	14 40 22.9	-0.7
GPS2				*e*S	Sb	14 40 41.2	-0.2
INDI	**Punta indio, G**	**1.32**	**119**	*e*P	Pg	14 40 22.5	-1.2
BUAI	**Buenos Aires**	**1.37**	**75**	*i* P	Pg	14 40 22.9	-1.7
BUAI				*i* S	Sn	14 40 43.7	+0.4
LIM1	**Limonal**	**1.41**	**83**	*i* P	Pn	14 40 24.2	-0.9
CUI	**Cuipilapa**	**1.49**	**85**	*i* P	Pn	14 40 24.6	-1.7
ACAL	**Aguas Claras**	**1.62**	**86**	*i* P	Pn	14 40 27.5	-0.5
LAFE	**Finca La Fe, P**	**1.88**	**112**	*e*P	Pn	14 40 30.3	-1.2
CEDE	**Laguna Cedeo**	**1.94**	**91**	*e*P	Pn	14 40 31.0	-1.4
JACO	**JACO, Garabito**	**2.16**	**113**	*e*P	Pb	14 40 37.2	-1.0
COVE	**Coope Vega, Sa**	**2.24**	**85**	*e*P	Pn	14 40 37.2	+0.6
CDM	**Cerro de Muert**	**3.02**	**108**	*e*P	Pn	14 40 48.4	+0.7

*BJI **11** 14:46:30.0±0.0, 0°.76N×126°.33E, h52km, mB5.2/30, mb4.8/54, Ms4.8/7, Ms7 4.5/7*
*DJA **11** 14:46:33.3±0.7, 1°N±2°×12°6E±°, h31km±10km, M4.7/18, mb5.0/16, mB5.0/6, MLv4.8/18, Mw(mB)4.4/6, MwMwp4.5/1, Mwp4.9/1*
*NEIC **11** 14:46:33.1±1.8, 1°.25N±0°.07×126°.34E±0°.05, h44km±5km, mb4.9/87, Error ellipse: s-maj=11.0km s-min=7.6km az=197.0*
*IDC **11** 14:46:34.7±2.4, 1°.18N×126°.30E, h54km±21km, mb4.4/20, mb1 4.5/22, mb1mx4.4/28, mbtmp4.6/22, ML4.4/2, MS3.5/11, Ms1 3.5/11, ms1mx3.3/34, Error ellipse: s-maj=19.7km s-min=8.3km az=72.0*
ISC 11 14:46:33.7±0.3, 1°.28N±0°.04×126°.40E±0°.04, h47km, n197, σ1§41/208, mb4.8/87, MS3.7/7, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.09**	**118**	Pn	**Pn**	**14 46 51.8**	**-0.8**
TNTI	**Ternate**	**1.09**	**118**	P	**Pn**	**14 46 51.7**	**-0.8**
TNTI				S	**Sn**	**14 47 08.5**	**+1.9**
KMSI	**Cibinong**	**2.52**	**254**	P	**Pn**	**14 47 11.7**	**-0.5**
KMSI				S	**Sn**	**14 47 41.7**	**0.0**
SGSI	**Sangihe**	**2.54**	**340**	P	**Pn**	**14 47 12.3**	**-0.2**
SGSI				S	**Sn**	**14 47 42.4**	**+0.1**
SANI	**Sanana**	**3.33**	**187**	P	**Pn**	**14 47 23.0**	**-0.4**
SANI				S	**Sn**	**14 48 00.3**	**-1.0**
GTOI	**Gorontalo**	**3.45**	**259**	P	**Pn**	**14 47 25.7**	**+0.7**
GTOI				S	**Sn**	**14 48 12.4**	**+7.8**
LUWI	**Luwuk**	**4.30**	**238**	Pn	**Pn**	**14 47 35.5**	**-1.1**
LUWI	**Luwuk**	**4.30**	**238**	P	**Pn**	**14 47 38.4**	**+1.8**
LUWI				S	**Sn**	**14 48 30.6**	**+5.0**
MRSI	**Marisa**	**4.53**	**260**	P	**Pn**	**14 47 40.0**	**+0.2**
MRSI				S	**Sn**	**14 48 28.2**	**-3.1**
NLAI	**Namlea**	**4.54**	**171**	P	**Pn**	**14 47 40.4**	**+0.4**
APSI	**Ampana**	**5.23**	**245**	P	**Pn**	**14 47 50.5**	**+1.1**
	1.6nm5μm532nm,0.6s						
APSI				S	**Sn**	**14 48 51.5**	**+3.1**
	1.6nm5μm532nm,0.6s						
SWI	**Sorong**	**5.30**	**114**	P	**Pn**	**14 47 52.1**	**+1.7**
	0.3nm2μm1μm54nm,0.7s						
SIJI	**Sorong**	**5.31**	**114**	P	**Pn**	**14 47 51.8**	**+1.2**
	7.4nm,0.3s,baz=210,slow=22,SNR=16						
SIJI				LR	LR	14 50 21.2	
	comp=Z,805nm,19.9s,baz=326,slow=42						
TOLI2	**Tolitoli**	**5.62**	**268**	Pn	**Pn**	**14 47 53.3**	**-1.5**
BNDI	**Bandanaira**	**6.75**	**149**	P	Pn	14 48 05.4	-4.8
	0.8nm141nm,1.4s						
FAKI	**Fak Fak**	**7.18**	**126**	Pn	**Pn**	**14 48 16.5**	**+0.3**
FAKI	**Fak Fak**	**7.18**	**126**	P	**Pn**	**14 48 17.1**	**+0.9**
	0.5nm138nm,0.9s						
TTSI	**Tana Toraja**	**7.86**	**237**	P	**Pn**	**14 48 26.0**	**+0.5**
	0.4nm1μm130nm,0.8s						
SPSI	**Sidrap Palu**	**8.43**	**232**	P	**Pn**	**14 48 34.8**	**+1.4**
	1μm118nm,0.9s						
SPSI				S	**Sn**	**14 50 07.3**	**+0.1**
	1μm118nm,0.9s						
BNSI	**Bone**	**8.45**	**228**	P	**Pn**	**14 48 34.9**	**+1.3**
	889nm50nm,0.6s						
BNSI				S	**Sn**	**14 50 07.7**	**0.0**
	889nm50nm,0.6s						
MYLDM	**Lahad Datu**	**8.79**	**296**	Pn	**Pn**	**14 48 38.3**	**+0.1**
BKSI	**Bulukumba**	**9.08**	**224**	P	**Pn**	**14 48 44.4**	**+2.2**
	54nm,0.6s						
KAPI	**Kappang**	**9.12**	**227**	P	**Pn**	**14 48 46.8**	**+4.0**
	6.2nm,0.3s,baz=358,slow=2.0,SNR=4.2						
KAPI				LR	LR	14 52 20.1	
	comp=Z,192nm,20.7s,baz=66,slow=38						
KAPI	**Kappang**	**9.12**	**227**		**Pn**	**14 48 43.3**	**+0.4**
BAKI	**Biak**	**10.01**	**104**	P	Pn	14 49 04.7	+10
SOEI	**Soe**	**11.17**	**191**	Pn	**Pn**	**14 49 10.3**	**-0.6**
SOEI	**Soe**	**11.17**	**191**	P	**Pn**	**14 49 13.1**	**+2.1**
	77nm,1.0s						
KKM	**Kota Kinabalu**	**11.21**	**295**	Pn	**Pn**	**14 49 11.1**	**-0.4**
BATI	**Baumata**	**11.73**	**193**	P	Pn	14 49 24.4	+5.8
	1.1nm,0.3s,baz=50,slow=2.2,SNR=5.7						
BATI				LR	LR	14 54 34.4	
	comp=Z,184nm,22.0s,baz=349,slow=41						
BATI	**Baumata**	**11.73**	**193**	P	**Pn**	**14 49 19.3**	**+0.7**
PLAI	**Plampang**	**13.22**	**220**	P	**P**	**14 49 44.7**	**-2.9**
	57nm,1.0s						
TWSI	**Taliwang, Sumb**	**13.75**	**223**	P	**Pn**	**14 49 49.1**	**+3.0**
	49nm,1.1s						
SBUM	**Sibu**	**14.22**	**275**		**P**	**14 49 57.8**	**-0.9**
JAY	**Jayapura**	**14.79**	**105**	LR	LR	14 55 32.2	
	comp=Z,237nm,18.3s,baz=202,slow=36						
KMMI	**Kalianget**	**14.91**	**236**	P	**P**	**14 50 07.1**	**+0.6**
JAGI	**Jajag, Banyuwa**	**15.59**	**231**	P	**P**	**14 50 13.8**	**-0.2**
JAGI				IAmb	IAmb	14 50 17.6	
	comp=Z,82nm,1.5s						
SZP	**Santa**	**17.19**	**340**	P	**P**	**14 50 32.2**	**+0.6**
SZP				IAmb	IAmb	14 50 33.9	
	comp=Z,60nm,0.8s						
UGM	**Wanagama**	**18.28**	**240**	P	**P**	**14 50 42.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**19.27**	**182**	P	**P**	**14 50 53.1**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=4.2,slow=8.9,SNR=21						
FITZ				LR	LR	14 59 10.6	
	comp=Z,92nm,18.6s,baz=12,slow=39						
FITZ	**Fitzroy Crossi**	**19.27**	**182**		**P**	**14 50 53.7**	**-0.9**
CISI	**Cisompet, Garu**	**20.51**	**244**	P	**P**	**14 51 07.4**	**-0.9**
CISI				IAmb	IAmb	14 51 19.1	
	comp=Z,64nm,1.2s						
DLV	**T Lat**	**20.69**	**302**	P	**P**	**14 51 10.3**	**0.0**
TWG	**Pinlang**	**22.03**	**347**	P	**P**	**14 51 22.4**	**-1.9**
TWG				IAmb	IAmb	14 51 28.1	
	comp=Z,41nm,1.0s						
WB0	**Warramunga Arr**	**22.34**	**160**	P	**P**	**14 51 26.5**	**-1.3**
WB0				IAmb	IAmb	14 51 32.4	
	comp=Z,60nm,1.0s						
WRAB	**Tennant Creek**	**22.48**	**160**	P	**P**	**14 51 28.3**	**-0.9**
WRAB				IAmb	IAmb	14 51 33.5	
	comp=Z,58nm,0.8s						
COEN	**Coen**	**22.48**	**133**	P	**P**	**14 51 28.3**	**-1.1**
WRA	**Warramunga Arr**	**22.48**	**160**	P	**P**	**14 51 28.4**	**-0.9**
	comp=Z,40nm,0.5s,baz=339,slow=11,SNR=255						
WRA				S	**S**	**14 55 31.5**	**-1.6**
	comp=Z,5.2nm,0.9s,baz=328,slow=20,SNR=5.1						
WB2	**Warramunga Arr**	**22.49**	**160**	P	**P**	**14 51 28.2**	**-1.2**
YULB	**Yu-li**	**22.53**	**348**	P	**P**	**14 51 27.8**	**-1.9**
YULB				IAmb	IAmb	14 51 37.9	
	comp=Z,30nm,1.0s						
WR0	**Warramunga Arr**	**22.57**	**160**	P	**P**	**14 51 29.2**	**-1.0**
WR0				IAmb	IAmb	14 51 36.7	
	comp=Z,27nm,0.7s						
TPUB	**Ta-pu**	**22.59**	**346**	P	**P**	**14 51 28.8**	**-1.6**
SSLB	**Suanglung**	**22.99**	**347**	P	**P**	**14 51 33.0**	**-1.6**
SSLB				IAmb	IAmb	14 51 41.8	
	comp=Z,75nm,1.4s						
NACB	**Ninganchiao**	**23.23**	**349**	P	**P**	**14 51 36.4**	**-0.5**
NACB				IAmb	IAmb	14 51 57.7	
	comp=Z,29nm,1.0s						
PMG	**Port Moresby**	**23.24**	**118**	P	**P**	**14 51 36.5**	**-0.7**
PMG				IAmb	IAmb	14 51 56.6	
	comp=Z,67nm,1.4s						
PSA00	**Pilbara Seismi**	**23.60**	**195**	P	**P**	**14 51 40.3**	**-0.2**
PSA00				IAmb	IAmb	14 52 08.9	
	comp=Z,44nm,1.4s						
XMIS	**Christmas Isla**	**23.72**	**240**	P	**P**	**14 51 39.9**	**-1.8**
YHNB	**Yeheng**	**23.75**	**349**	P	**P**	**14 51 40.6**	**-1.3**
YHNB				IAmb	IAmb	14 52 01.1	
	comp=Z,44nm,1.2s						
QIZ	**Qiongzhong**	**23.97**	**318**	P	**P**	**14 51 41.5**	**-2.4**
QIZ				IAmb	IAmb	14 51 51.0	
	comp=Z,57nm,1.4s						
UBPT	**Khong Chiam**	**24.91**	**305**	P	**P**	**14 51 52.0**	**-0.5**
JOW	**Kunigami**	**25.47**	**4**	P	**P**	**14 51 59.6**	**+2.1**
	comp=Z,57nm,0.9s,baz=188,slow=7.0,SNR=9.6						
JOW	**Kunigami**	**25.47**	**4**	P	**P**	**14 51 57.1**	**-0.4**
JOW				IAmb	IAmb	14 52 00.7	
	comp=Z,47nm,0.9s						
IPM	**Ipoh**	**25.54**	**278**	P	**P**	**14 51 57.5**	**-0.9**
AS31	**Alice Springs**	**25.85**	**164**	P	**P**	**14 52 00.3**	**-0.7**
ASAR	**Alice Springs**	**25.85**	**164**	P	**P**	**14 52 00.6**	**-0.4**
	comp=Z,7.3nm,0.6s,baz=346,slow=7.9,SNR=174						
ASAR				S	**S**	**14 56 26.8**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=335,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**25.85**	**164**	P	**P**	**14 52 00.5**	**-0.6**
KULM	**Kulim**	**26.01**	**279**	P	**P**	**14 52 02.4**	**-0.2**
RPSI	**Rantau Prapat**	**27.50**	**273**	P	**P**	**14 52 15.8**	**-0.1**
PSI	**Prapat**	**27.50**	**274**	P	**P**	**14 52 15.8**	**-0.3**
	comp=Z,11nm,1.0s,baz=4.8,slow=0.9,SNR=5.4						
CHAI	**Chaiyaphum**	**28.11**	**302**	P	**P**	**14 52 21.0**	**-0.5**
	comp=Z,24nm,0.8s						
CTA	**Charters Tower**	**28.81**	**139**	P	**P**	**14 52 28.5**	**+0.9**
	comp=Z,9.4nm,1.1s,baz=340,slow=12,SNR=2.0						
GSI	**Gunungsitoli**	**28.82**	**270**	P	**P**	**14 52 24.5**	**-3.2**
GSI				IAmb	IAmb	14 52 27.4	
	comp=Z,23nm,0.9s						
UTHA	**Uthaitani**	**30.14**	**300**	P	**P**	**14 52 39.1**	**-0.3**
	comp=Z,23nm,0.7s						
JSU	**Suzuyama**	**30.30**	**7**	P	**P**	**14 52 41.6**	**+0.9**
JSU				IAmb	IAmb	14 52 55.0	
	comp=Z,34nm,1.2s						
SUKH	**Sukhothai**	**30.85**	**303**	P	**P**	**14 52 45.9**	**+0.2**
	comp=Z,17nm,0.7s						
NJ2	**Nanjing**	**31.42**	**348**	*e*P	**P**	**14 52 52.3**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MORW	**Morawa**	**31.77**	**197**	P	**P**	**14 52 52.9**	**-0.7**
MORW				IAmb	IAmb	14 52 57.8	
	comp=Z,30nm,1.4s						
CM35	**Chiang Mai Arr**	**31.83**	**305**	P	**P**	**14 52 54.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**31.89**	**304**	P	**P**	**14 52 55.1**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=127,slow=7.9,SNR=10						
CMAR				PcP	**PcP**	**14 55 46.8**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=186,slow=1.8,SNR=4.4						
FORT	**Forrest**	**31.92**	**177**	P	**P**	**14 52 55.0**	**+0.1**
FORT				IAmb	IAmb	14 52 58.0	
	comp=Z,18nm,0.7s						
JNU	**Nakatsue**	**31.95**	**7**	P	**P**	**14 52 55.9**	**+0.6**
JNU				IAmb	IAmb	14 52 57.0	
	comp=Z,24nm,1.0s						
CMMT	**Chiang Mai**	**32.06**	**305**	P	**P**	**14 52 55.0**	**-1.4**
	comp=Z,2.6nm,0.6s						
CHTO	**Chiang Mai**	**32.07**	**305**	P	**P**	**14 52 56.0**	**-0.4**
PATS	**Pohnpei**	**32.29**	**79**	P	**P**	**14 52 57.9**	**-0.5**
MHMT	**Maesarieng**	**32.60**	**303**	P	**P**	**14 53 01.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**35.11**	**193**	P	**P**	**14 53 21.4**	**-1.3**
NWAO				IAmb	IAmb	14 53 25.5	
	comp=Z,28nm,1.3s						
BBOO	**Buckleboo**	**35.12**	**166**	P	**P**	**14 53 22.0**	**-0.8**
BBOO				IAmb	IAmb	14 53 23.9	
	comp=Z,10nm,0.7s						
INU	**Inuyama**	**35.30**	**15**	P	**P**	**14 53 25.2**	**+0.9**
JGF	**Kuroka**	**35.63**	**15**	P	**P**	**14 53 27.2**	**0.0**
JGF				IAmb	IAmb	14 53 34.7	
	comp=Z,32nm,1.4s						
STKA	**Stephens Creek**	**35.99**	**158**	P	**P**	**14 53 30.3**	**+0.1**
	comp=Z,11nm,0.6s,baz=331,slow=8.5,SNR=40						
STKA	**Stephens Creek**	**35.99**	**158**	P	**P**	**14 53 29.6**	**-0.7**
KSRS	**Korea Array**	**36.02**	**2**	P	**P**	**14 53 32.1**	**+1.7**
	comp=Z,3.2nm,0.6s,baz=179,slow=9.6,SNR=16						
CD2	**Chengdu**	**36.45**	**326**	P	**P**	**14 53 33.3**	**-1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CD2				LR	LR		
	comp=Z,440nm,6.3s						
CD2				LR	LR		
	comp=Z,360nm,8.2s						
CD2				LR	LR		
	comp=Z,230nm,12.3s						
XAN	**Xi'an**	**36.46**	**335**	P	**P**	**14 53 37.1**	**+2.8**
XAN				pP	sP	14 53 50.9	-0.9
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MAJO	**Matsushiro**	**36.75**	**16**	P	**P**	**14 53 36.5**	**-0.2**
MAJO				IAmb	IAmb	14 53 38.8	
	comp=Z,26nm,1.1s						
MAT	**Matsushiro**	**36.75**	**16**	P	**P**	**14 53 36.8**	**+0.1**
MJAR	**Matsushiro Arr**	**36.75**	**16**	P	**P**	**14 53 36.9**	**+0.2**
	comp=Z,8.3nm,0.6s,baz=182,slow=9.5,SNR=23						
MJAR				LR	LR	15 10 00.9	
	comp=Z,25nm,19.6s,baz=25,slow=38						
MJAR	**Matsushiro Arr**	**36.75**	**16**	P	**P**	**14 53 36.2**	**-0.5**
DL2	**Dalian**	**37.70**	**354**	*i* P	**P**	**14 53 46.1**	**+1.4**
DL2				pmax	pmax		
	comp=Z,39nm,0.6s						
JMM	**Marumori**	**38.74**	**18**	P	**P**	**14 53 54.3**	**+0.9**
ARMA	**Armidale**	**39.64**	**145**	P	**P**	**14 54 01.8**	**+0.5**
BJI	**Beijing**	**39.69**	**348**	P	**P**	**14 54 01.4**	**+0.1**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SHL	**Shillong**	**41.10**	**309**	P	**P**	**14 54 12.1**	**-1.4**
SHL				IAmb	IAmb	14 54 15.4	
	comp=Z,16nm,1.0s						
JTM	**Tenmabayashi**	**41.51**	**17**	P	**P**	**14 54 16.8**	**+0.5**
HHC	**Hu-ho-hao-te**	**41.62**	**343**	*e*P	**P**	**14 54 18.2**	**+0.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,5.8s						
CAN	**Canberra**	**42.10**	**152**	P	**P**	**14 54 21.9**	**+0.5**
CAN				IAmb	IAmb	14 54 34.4	
	comp=Z,32nm,1.3s						
TOO	**Toolangi**	**42.51**	**157**	P	**P**	**14 54 24.8**	**+0.2**
USA0B	**Ussuriysk Arra**	**43.02**	**6**	P	**P**	**14 54 29.5**	**+0.9**
USA0B				IAmb	IAmb	14 54 31.1	
	comp=Z,28nm,0.9s						
USRK	**Ussuriysk Ar.**	**43.02**	**6**	P	**P**	**14 54 30.3**	**+1.7**
	comp=Z,10nm,0.7s,baz=188,slow=6.1,SNR=18						
USRK	**Ussuriysk Ar.**	**43.02**	**6**	P	**P**	**14 54 29.5**	**+0.9**
MDJ	**Mudanjiang**	**43.24**	**3**	P	**P**	**14 54 32.2**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,37nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,670nm,3.9s						
MDJ	**Mudanjiang**	**43.24**	**3**	P	**P**	**14 54 30.2**	**-0.2**
MDJ				IAmb	IAmb	14 54 33.3	
	comp=Z,26nm,0.8s						
WAKE	**Wake Island**	**43.28**	**63**	P	**P**	**14 54 30.9**	**-0.2**
LSA	**Lhasa**	**43.84**	**314**	P	**P**	**14 54 36.8**	**+0.7**
JKA	**Kamikawa-asahi**	**45.02**	**17**	P	**P**	**14 54 45.0**	**+0.3**
GTA	**Gaotai**	**45.04**	**331**	*e*P	**P**	**14 54 45.9**	**+0.8**
GTA				pP	pP	14 54 58.4	+1.0
GTA				sP	sP	14 55 03.0	+0.2
GTA				PcP	**PcP**	**14 56 27.6**	**+2.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TAPN	**Taplejung**	**45.23**	**308**	*e*P	**P**	**14 54 45.9**	**-1.1**
	comp=Z,7.1nm,0.4s						
ODAN	**Odare**	**45.26**	**308**	*e*P	**P**	**14 54 46.2**	**-0.9**
	comp=Z,14nm,0.5s						
DZM	**Mont Dzumac**	**45.44**	**123**	P	**P**	**14 54 48.1**	**-0.4**
DZM				IAmb	IAmb	14 54 52.2	
	comp=Z,26nm,1.3s						
RAMN	**Ramite**	**45.92**	**307**	*e*P	**P**	**14 54 51.6**	**-0.8**
	comp=Z,12nm,0.5s						
GUN	**Gumba**	**46.93**	**308**	*e*P	**P**	**14 54 59.3**	**-1.1**
	comp=Z,24nm,0.4s						
PKIN	**Phulchoki**	**47.16**	**307**	*e*P	**P**	**14 55 00.5**	**-1.6**
	comp=Z,7.6nm,0.4s						
GKN	**Gorkha**	**47.95**	**308**	*e*P	**P**	**14 55 07.1**	**-1.1**
	comp=Z,8.1nm,0.4s						
HIA	**Hailar**	**48.14**	**354**	P	**P**	**14 55 09.3**	**+0.2**
HIA				IAmb	IAmb	14 55 12.6	
	comp=Z,13nm,1.2s						
ULN	**Ulaanbaatar**	**49.34**	**343**	P	**P**	**14 55 17.9**	**-0.6**
SONM	**Songino Array**	**49.51**	**342**	P	**P**	**14 55 20.1**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=155,slow=4.9,SNR=14						
SONM				PcP	**PcP**	**14 56 42.0**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=155,slow=3.5,SNR=2.2						
SONM				LR	LR	15 17 17.6	
	comp=Z,62nm,20.5s,baz=175,slow=37						
SONM	**Songino Array**	**49.51**	**342**	P	**P**	**14 55 19.4**	**-0.3**
HYB	**Hyderabad**	**49.67**	**292**	*i* P	**P**	**14 55 20.0**	**-1.3**
WMQ	**Urumqi**	**54.55**	**326**	*e*P	**P**	**14 55 59.1**	**+1.9**
WMQ				pP	pP	14 56 09.9	0.0
WMQ				sP	sP	14 56 15.8	+0.6
WMQ				pmax	pmax		
	comp=Z,27nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,280nm,5.1s						
PEA0B	**Petropavlovsk-**	**57.81**	**22**	P	**P**	**14 56 21.4**	**+1.2**
PETK	**Petropavlovsk-**	**57.81**	**22**	P	**P**	**14 56 22.4**	**+2.2**
	comp=Z,14nm,0.8s,baz=188,slow=4.9,SNR=8.4						
PETK	**Petropavlovsk-**	**57.81**	**22**	P	**P**	**14 56 20.9**	**+0.6**
ZSN	**Zaisan**	**58.38**	**328**	*e*P	**P**	**14 56 24.0**	**-0.4**
	baz=328						
SHLS	**Shalkode**	**59.03**	**321**	*e*P	**P**	**14 56 26.7**	**-2.4**
	comp=Z,4.3nm,0.9s,baz=322						
NIL	**Nilore**	**59.18**	**309**	P	**P**	**14 56 29.3**	**-0.9**
UZB	**Uzynbulak**	**59.30**	**321**	*e*P	**P**	**14 56 30.2**	**-0.8**
	baz=321						
MK31	**Makanchi Array**	**59.38**	**326**	P	**P**	**14 56 30.6**	**-0.7**
MK31				IAmb	IAmb	14 56 34.4	
	comp=Z,5.7nm,0.5s						
MKAR	**Makanchi Array**	**59.38**	**326**	P	**P**	**14 56 30.9**	**-0.4**
	comp=Z,5.0nm,0.5s,baz=119,slow=8.1,SNR=132						
MKAR				LR	LR	15 22 19.9	
	comp=Z,72nm,21.4s,baz=104,slow=36						
MKAR	**Makanchi Array**	**59.38**	**326**	P	**P**	**14 56 30.6**	**-0.7**
KSH	**Kashi**	**59.55**	**316**	P	**P**	**14 56 35.1**	**+2.3**
KSH				S	**S**	**15 04 38.0**	**-1.5**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,220nm,6.1s						
KSH				LR	LR		
	comp=Z,160nm,5.6s						
KSH				LR	LR		
	comp=Z,210nm,5.0s						
KSH				LR	LR		
	comp=Z,220nm,7.8s						
MAKZ	**Makanchi**	**59.56**	**326**	P	**P**	**14 56 31.8**	**-0.8**
MAKZ				IAmb	IAmb	14 56 32.9	
	comp=Z,5.5nm,0.6s						
SATY	**Saty**	**59.64**	**321**	*e*P	**P**	**14 56 32.8**	**-0.5**
	comp=Z,9.0nm,1.2s,baz=321						
KPKS

I23K					IAmb	IAmb	14 59 13.6		
	comp=Z,4.6nm,0.8s								
TOLK	**Toolik Lake Re**	**86.63**	**21**	P	**P**	**P**	**14 59 12.6**	**+0.6**
TOLK					IAmb	IAmb	14 59 15.5		
	comp=Z,5.6nm,0.8s								
CCB	**Clear Creek Bu**	**87.04**	**25**	P	**P**	**P**	**14 59 14.0**	**+0.1**
CCB					IAmb	IAmb	14 59 15.3		
	comp=Z,5.0nm,1.0s								
KLMR	**Klimovskoe**	**87.36**	**331**	*e*P		**P**	**14 59 16.7**	**+1.1**
KLMR					AMP		14 59 20.7		
	comp=Z,13nm,0.6s								
ILAR	**Eielson Array**	**87.44**	**25**	P	**P**	**P**	**14 59 15.8**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=250,slow=4.8,SNR=13								
KMBO	**Kilima Mbogo**	**89.17**	**269**	P		**P**	**14 59 28.2**	**+2.7**
	comp=Z,1.5nm,0.3s,baz=107,slow=7.2,SNR=4.1								
SYO	**Syowa Base**	**90.04**	**201**⇑	*e*X		P	14 59 33.0	+5.0	
BRTR	**Keskin Array B**	**91.32**	**310**	LR		LR	15 47 16.6		
	comp=Z,33nm,18.4s,baz=72,slow=40								
ARCES	**ARCESS Array B**	**92.62**	**340**	P		**P**	**14 59 40.4**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=90,slow=4.0,SNR=5.8								
ARCES					LR	LR	15 50 40.1		
	comp=Z,27nm,18.1s,baz=315,slow=42								
AKASG	**Malin Array Be**	**93.57**	**321**	P		**P**	**14 59 47.7**	**+2.9**
	comp=Z,1.7nm,0.5s,baz=69,slow=4.8,SNR=7.0								
AKASG	**Malin Array Be**	**93.57**	**321**	IAmb		IAmb	14 59 52.2		
	comp=Z,1.0nm,0.7s								
FINES	**FINESS Array B**	**93.82**	**332**	P		**P**	**14 59 44.5**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=53,slow=5.4,SNR=17								
C36M	**Paulatuk**	**95.61**	**20**	P		**P**	**14 59 53.7**	**0.0**
BURAR	**Bucovina Array**	**96.59**	**318**	P		**P**	**14 59 58.5**	**-0.4**
BUR08	**Bucovina Ar. S**	**96.60**	**318**	P		**P**	**14 59 56.9**	**-2.0**
BUR08					IAmb	IAmb	15 00 07.7		
	comp=Z,6.7nm,1.2s								
NOA	**NORSAR Array B**	**100.82**	**333**	P		**Pdif**	**15 00 15.7**	**-1.7**	
	comp=Z,0.4nm,0.7s,baz=68,slow=4.4,SNR=1.6								
YKA	**Yellowknife Ar**	**101.85**	**25**	P		**Pdif**	**15 00 22.9**	**+1.1**	
	comp=Z,0.4nm,0.8s,baz=303,slow=3.8,SNR=5.1								
YKA				PP		**PKiKP**	**15 04 39.5**	**-5.2**	
	comp=Z,0.1nm,0.5s,baz=303,slow=7.6,SNR=4.4								
TORD	**Torodi Ar. Bea**	**123.33**	**287**	PKP		**PKPdf**	**15 05 26.2**	**-0.4**	
	comp=Z,0.5nm,0.6s,baz=58,slow=1.7,SNR=4.4								
TORD				PKKPbc		**PKKPab**	**15 15 16.6**	**+0.2**	
	comp=Z,0.5nm,0.7s,baz=285,slow=4.4,SNR=3.9								
TXAR	**Lajitas Array**	**123.33**	**53**	PKP		**PKiKP**	**15 05 26.9**	**+0.3**	
	comp=Z,0.2nm,0.6s,baz=343,slow=2.8,SNR=2.0								
CPUP	**Villa Florida**	**154.84**	**172**	PKPab		**PKPab**	**15 06 47.2**	**+1.5**	
	comp=Z,1.9nm,0.8s,baz=162,slow=6.4,SNR=2.9								

IDC 11 15:22:10.2±3.5, 6.00S×146.99E, h208km±51km, mb3.0/3, mb1 3.2/5, mb1mx2.9/39, mbtmp3.6/5, Error ellipse: s-maj=89.0km s-min=32.8km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.39**	**177**	P	Pn	15 23 03.7	-1.1
	0.3nm,0.3s,baz=38,slow=19,SNR=1.6						
PMG				S	S	15 23 48.6	+1.3
	2.3nm,0.3s,baz=144,slow=19,SNR=7.1						
WRA	**Warramunga Arr**	**18.53**	**220**	P	P	15 26 11.7	+0.4
	0.7nm,0.3s,baz=47,slow=12,SNR=44						
ASAR	**Alice Springs**	**21.61**	**214**	P	P	15 26 44.5	+0.3
	0.9nm,0.6s,baz=46,slow=8.6,SNR=21						
FITZ	**Fitzroy Crossi**	**24.06**	**238**	P	P	15 27 05.9	-0.7
	2.0nm,0.4s,baz=52,slow=9.7,SNR=11						
MKAR	**Makanchi Array**	**77.49**	**320**	P	P	15 33 43.3	+0.4
	0.2nm,0.6s,baz=126,slow=3.7,SNR=1.7						

*GUC **11** 15:25:54.3±0.7, 20.61S×70.65W, h27km±4km, ML3.8*
*NEIC **11** 15:25:56.8±1.7, 20.63S±0.04×70.46W±0.05, h25km±7km, mb4.0/2, Error ellipse: s-maj=6.6km s-min=5.5km az=94.0*
*IDC **11** 15:25:56.8±3.1, 20.65S×70.75W, h45km±25km, mb4.0/6, mb1 4.1/9, mb1mx3.8/28, mbtmp4.2/9, ML3.9/3, MS2.9/5, Ms1 2.9/5, ms1mx2.8/29, Error ellipse: s-maj=39.3km s-min=14.8km az=79.0*

ISC 11 15:25:53.0±1.8, 20.61S±0.03×70.70W±0.07, h13km±11km, n46, σ1°05/43, mb4.3/5, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TA01	**Diego Aracena**	**0.49**	**85**	*i* P	**Pg**	**15 26 03.0**	**+0.3**
TA01	**Diego Aracena**	**0.49**	**85**		**Pg**	**15 26 02.9**	**+0.3**
PSGC	**Pisagua**	**1.15**	**28**⇑	*i* P	**Pb**	**15 26 13.9**	**-0.8**
PSGC				*e*S	**Sb**	**15 26 28.8**	**-0.8**
PSGC				IAML		15 26 32.8	
	comp=N,4μm,0.4s						
PSGCX	**Pisagua**	**1.15**	**28**		**Pb**	**15 26 14.6**	**-0.1**
PSGCX				Sn	**Sn**	**15 26 31.1**	**+0.6**
PB01	**IPOC Station P**	**1.21**	**111**	*i* P	**Pn**	**15 26 15.0**	**-0.8**
PB01				*e*S	**Sb**	**15 26 30.1**	**-1.3**
PB01				IAML		15 26 33.5	
	comp=N,6μm,0.3s						
PB01	**IPOC Station P**	**1.21**	**111**	Pn	**Pn**	**15 26 15.2**	**-0.5**
PB07	**IPOC Station P**	**1.34**	**146**	*e*P	**Pn**	**15 26 16.8**	**-0.9**
PB07				*e*S	**Sb**	**15 26 34.5**	**-0.9**
PB07				IAML		15 26 39.4	
	comp=E,4μm,0.8s						
PB07	**IPOC Station P**	**1.34**	**146**	Pn	**Pn**	**15 26 17.2**	**-0.5**
PB08	**IPOC Station P**	**1.52**	**72**	*e*P	**Pn**	**15 26 20.2**	**-0.1**
PB08				*e*S	**Sn**	**15 26 40.0**	**-0.2**
PB08				IAML		15 26 43.3	
	comp=E,3μm,0.5s						
PB08	**IPOC Station P**	**1.52**	**72**	Pn	**Pn**	**15 26 20.3**	**-0.1**
PB03	**IPOC Station P**	**1.68**	**149**	*e*P	**Pn**	**15 26 21.2**	**-1.1**
PB04	**IPOC Station P**	**1.79**	**163**	Pn	**Pb**	**15 26 25.3**	**-0.5**
PB09	**IPOC Station P**	**1.80**	**131**	*e*P	**Pn**	**15 26 24.6**	**+0.7**
PB09				*e*S	**Sb**	**15 26 47.7**	**-0.8**
PB09				IAML		15 26 55.3	
	comp=N,2μm,0.6s						
PB09	**IPOC Station P**	**1.80**	**131**	Pn	**Pb**	**15 26 25.2**	**-0.7**
MNMC	**Minye Minye**	**1.80**	**35**	*e*P	**Pn**	**15 26 24.4**	**+0.3**
MNMC				*i* S	**Sb**	**15 26 48.0**	**-0.7**
MNMC	**Minye Minye**	**1.80**	**35**	Pn	**Pn**	**15 26 24.7**	**+0.6**
AP01	**Chacalluta**	**2.26**	**9**	Pn	**Pb**	**15 26 33.0**	**-0.6**
PB05	**IPOC Station P**	**2.28**	**168**	*e*S	**Sb**	**15 27 00.4**	**-1.8**
PB05				IAML		15 27 11.4	
	comp=E,554nm,0.7s						
PB06	**IPOC Station P**	**2.33**	**154**	*e*S	**Sb**	**15 27 02.4**	**-1.4**
PB06				IAML		15 27 07.7	
	comp=E,678nm,0.3s						
PB16	**IPOC Station P**	**2.53**	**27**	Pn	**Pn**	**15 26 36.2**	**+1.9**
LVC	**Limon Verde**	**2.59**	**140**	P	**Pn**	**15 26 34.9**	**-0.1**
	comp=E,18nm,0.3s,baz=345,slow=12,SNR=21						
LVC				S	**Sn**	**15 27 07.9**	**+1.4**
	comp=E,34nm,0.3s,baz=230,slow=23,SNR=17						
LVC				LR	LR	15 27 52.6	
	comp=E,165nm,19.3s,baz=298,slow=45						
LVC	**Limon Verde**	**2.59**	**140**	*e*P	**Pn**	**15 26 34.9**	**-0.1**
LVC				*e*S	**Sn**	**15 27 08.6**	**+2.1**
LPAZ	**La Paz**	**4.94**	**30**	P	Pn	15 27 11.6	+4.0
	comp=E,2.5nm,0.3s,baz=222,slow=5.2,SNR=30						
LPAZ				LR	LR	15 29 05.6	
	comp=E,102nm,19.5s,baz=203,slow=38						
LPAZ	**La Paz**	**4.94**	**30**	Pn	Pn	15 27 12.4	+4.8
AC05	**El Transito**	**8.20**	**177**	Pn	**Pn**	**15 27 55.0**	**+3.1**
SIV	**San Ignacio**	**10.23**	**65**	P	**Pn**	**15 28 20.3**	**+0.6**
	comp=E,1.6nm,0.3s,baz=258,slow=11,SNR=35						
SIV				LR	LR	15 32 55.0	
	comp=E,61nm,18.1s,baz=240,slow=41						
CPUP	**Villa Florida**	**13.52**	**117**	LR	LR	15 34 54.1	
	comp=E,43nm,21.0s,baz=306,slow=40						
BO02	**Sierra Bellavi**	**14.13**	**180**	P	**P**	**15 29 22.1**	**+1.5**
H03N1	**Juan Fernandez**	**14.71**	**208**	T	T	15 44 26.6	
	baz=33,slow=72,SNR=266						
H03N2	**Juan Fernandez**	**14.72**	**208**	T	T	15 44 29.2	
	baz=33,slow=72,SNR=202						
H03N3	**Juan Fernandez**	**14.73**	**208**	T	T	15 44 26.4	
	baz=33,slow=72,SNR=235						
PLCA	**Paso Flores**	**20.06**	**180**	P	**P**	**15 30 25.0**	**-1.1**
	comp=E,2.2nm,0.8s,baz=352,slow=14,SNR=4.6						
PLCA	**Paso Flores**	**20.06**	**180**	P	**P**	**15 30 25.6**	**-0.5**
PLCA				IAmb	IAmb	15 30 36.1	
	comp=Z,5.8nm,1.1s						
PTGA	**Pitinga**	**22.37**	**29**	P	**P**	**15 30 51.6**	**+0.5**
	comp=Z,8.7nm,0.7s,baz=209,slow=12,SNR=16						
PTGA				LR	LR	15 40 13.6	
	comp=Z,59nm,19.2s,baz=328,slow=38						
PTGA	**Pitinga**	**22.37**	**29**	P	**P**	**15 30 51.7**	**+0.5**
PTGA				IAmb	IAmb	15 30 53.9	
	comp=Z,7.9nm,0.7s						
ROSC	**El Rosal**	**25.54**	**352**	P	**P**	**15 31 21.9**	**-0.2**
	comp=Z,9.5nm,0.3s,baz=144,slow=23,SNR=1.9						
TORD	**Torodi Ar. Bea**	**78.64**	**71**	P	**P**	**15 37 53.8**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=256,slow=4.9,SNR=14						
YKA	**Yellowknife Ar**	**89.81**	**341**	P	**P**	**15 38 50.7**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=126,slow=6.2,SNR=1.9						
KEST	**Kesra**	**94.11**	**53**	P	**P**	**15 39 12.3**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=243,slow=2.3,SNR=1.4						
H11S2	**WAKE ISLAND Hyd**	**126.10**	**278**	T	T	18 03 56.1	
	baz=102,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hyd**	**126.11**	**278**	T	T	18 03 54.0	
	baz=102,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hyd**	**126.12**	**278**	T	T	18 03 48.1	
	baz=102,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hyd**	**126.17**	**280**	T	T	18 03 58.1	
	baz=102,slow=75,SNR=8.7						
H11N2	**WAKE ISLAND Hyd**	**126.18**	**280**	T	T	18 04 01.1	
	baz=102,slow=75,SNR=8.9						
H11N1	**WAKE ISLAND Hyd**	**126.18**	**280**	T	T	18 03 59.1	
	baz=102,slow=75,SNR=5.1						
MKAR	**Makanchi Array**	**145.86**	**34**	PKPbc	**PKPdf**	**15 45 31.6**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=317,slow=3.4,SNR=9.9						

*IDC **11** 15:59:09.3±4.2, 21.14S×176.49W, h129km±34km, mb3.5/7, mb1 3.6/9, mb1mx3.5/25, mbtmp3.9/9, Error ellipse: s-maj=33.5km s-min=23.4km az=80.0*
*NEIC **11** 15:59:10.8±1.4, 21.11S±0.08×176.66W±0.1, h142km±9km, mb4.3/13, Error ellipse: s-maj=18.5km s-min=11.0km az=71.0*

ISC 11 15:59:11.4±0.7, 21.1S±0.1×176.5W±0.1, h150km, n28, σ1°06/29, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.10**	**302**	P	**Pn**	**16 00 38.0**	**-1.5**
	3.0nm,0.3s,baz=272,slow=23,SNR=10						
MSVF	**Nonsavu**	**6.10**	**302**		**Pn**	**16 00 38.7**	**-0.8**
NIUE	**Niue**	**6.52**	**73**	Pn	**Pn**	**16 00 44.8**	**-0.2**
URZ	**Urewera**	**17.98**	**196**	P	**P**	**16 03 07.7**	**-2.6**
	0.6nm,0.3s,baz=50,slow=11,SNR=2.0						
URZ	**Urewera**	**17.98**	**196**	P	**P**	**16 03 08.4**	**-1.9**
URZ				IAmb	IAmb	16 03 22.4	
	comp=Z,19nm,1.3s						
BKZ	**Black Stump Fm**	**19.00**	**197**	P	**P**	**16 03 20.1**	**-1.4**
BKZ				IAmb	IAmb	16 03 28.9	
	comp=Z,21nm,1.5s						
QRZ	**Quartz Range**	**21.77**	**203**	P	**P**	**16 03 50.7**	**-0.4**
NNZ	**Nelson**	**21.82**	**201**	P	**P**	**16 03 53.2**	**+1.6**
THZ	**Tophouse**	**22.47**	**201**	P	**P**	**16 03 58.2**	**+0.1**
LTZ	**Lake Taylor**	**23.59**	**201**	P	**P**	**16 04 08.1**	**-0.3**
LTZ				IAmb	IAmb	16 04 19.7	
	comp=Z,13nm,1.3s						
OXZ	**Oxford**	**24.15**	**201**	P	**P**	**16 04 14.9**	**+1.4**
OXZ				IAmb	IAmb	16 04 16.2	
	comp=Z,19nm,1.5s						
RPZ	**Rata Peaks**	**24.83**	**202**	P	**P**	**16 04 19.3**	**-0.4**
	comp=Z,2.2nm,0.4s,baz=66,slow=22,SNR=2.1						
RPZ	**Rata Peaks**	**24.83**	**202**	P	**P**	**16 04 19.4**	**-0.2**
FOZ	**Fox Glacier**	**25.12**	**204**	P	**P**	**16 04 21.6**	**-0.7**
FOZ				IAmb	IAmb	16 04 36.6	
	comp=Z,20nm,1.4s						
CTA	**Charters Tower**	**34.80**	**265**	P	**P**	**16 05 50.0**	**+2.0**
	comp=Z,1.7nm,0.6s,baz=106,slow=7.4,SNR=2.0						
STKA	**Stephens Creek**	**38.78**	**245**	P	**P**	**16 06 21.2**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=85,slow=12,SNR=3.1						
AS31	**Alice Springs**	**45.72**	**257**	P	**P**	**16 07 18.8**	**+1.0**
ASAR	**Alice Springs**	**45.72**	**257**	P	**P**	**16 07 17.7**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=89,slow=8.6,SNR=18						
ASAR				PcP	**PcP**	**16 08 52.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=103,slow=3.9,SNR=5.4						
ASAR	**Alice Springs**	**45.72**	**257**	P	**P**	**16 07 17.4**	**-0.5**
WB0	**Warramunga Arr**	**45.86**	**263**	P	**P**	**16 07 18.9**	**0.0**
WB2	**Warramunga Arr**	**45.87**	**262**	P	**P**	**16 07 19.4**	**+0.4**
WRA	**Warramunga Arr**	**45.88**	**262**	P	**P**	**16 07 18.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=93,slow=7.7,SNR=10						
VNDA	**Vanda**	**57.46**	**185**	P	**P**	**16 08 44.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=45,slow=4.3,SNR=7.2						
VNDA	**Vanda**	**57.46**	**185**	P	**P**	**16 08 45.4**	**+1.3**
VNDA				IAmb	IAmb	16 08 48.8	
	comp=Z,5.5nm,1.4s						
QSPA	**South Pole Qui**	**68.99**	**180**	P	**P**	**16 09 59.9**	**-0.4**
QSPA				IAmb	IAmb	16 10 00.5	
	comp=Z,7.1nm,1.1s						
ILAR	**Eielson Array**	**88.58**	**12**	P	**P**	**16 11 47.4**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=201,slow=5.9,SNR=4.5						
BRTR	**Keskin Array B**	**148.24**	**313**	PKPbc	**PKPbc**	**16 18 39.8**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=149,slow=3.4,SNR=3.5						
BRTR	**Keskin Array B**	**148.24**	**313**		**PKPbc**	**16 18 40.2**	**+0.1**

WEL 11 16:04:19.6±1.0, 35°S±16°×17°9W±1°8, h193km±25km, M3.8/16, MLv3.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=128.1, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.02**	**217**	P	Pn	16 05 07.9	-1.1
MXZ				S	Sn	16 05 46.6	-1.2
WMGZ	**Waiomatatini S**	**3.17**	**213**	P	Pn	16 05 11.0	+0.1
WMGZ				S	Sn	16 05 51.9	+0.8
PKGZ	**Pakihiroa**	**3.39**	**216**	P	Pn	16 05 13.0	-0.6
PKGZ				S	Sn	16 05 55.6	-0.2
HAZ	**Te Kaha**	**3.43**	**220**	P	Pn	16 05 13.1	-1.0
HAZ				S	Sn	16 05 59.3	+2.5
RUGZ	**Raukumara Rang**	**3.65**	**219**	P	Pn	16 05 16.3	-0.5
RUGZ				S	Sn	16 06 02.9	+1.2
TWGZ	**Tauwhareparae**	**3.66**	**214**	P	Pn	16 05 16.7	-0.2
TWGZ				S	Sn	16 06 02.0	0.0
CNGZ	**Carnagh Statio**	**3.82**	**209**	P	Pn	16 05 19.3	+0.5
CNGZ				S	Sn	16 06 08.7	+3.3
TKGZ	**Te Karaka**	**3.94**	**213**	P	Pn	16 05 19.6	-0.6
TKGZ				S	Sn	16 06 08.2	+0.2
MWZ	**Matawai**	**4.00**	**217**	P	Pn	16 05 21.1	-0.1
URZ	**Urewera**	**4.16**	**221**	P	Pn	16 05 22.2	-0.9
URZ				S	Sn	16 06 13.5	+0.5
RAGZ	**Rawiri**	**4.18**	**216**	P	Pn	16 05 23.3	-0.2
RAGZ				S	Sn	16 06 13.8	+0.1
RIGZ	**Rimuhau**	**4.20**	**212**	P	Pn	16 05 23.7	+0.1
RIGZ				S	Sn	16 06 14.6	+0.7
MARZ	**Manawahe**	**4.22**	**227**	P	Pn	16 05 23.2	-0.7
PRGZ	**Paritu Road**	**4.33**	**209**	P	Pn	16 05 27.1	+1.9
SNGZ	**Shannon Statio**	**4.45**	**215**	P	Pn	16 05 27.3	+0.6
SNGZ				S	Sn	16 06 21.2	+1.6
KNZ	**Kokohu**	**4.50**	**210**	S	Sn	16 06 14.6	-6.1
MUGZ	**Murupara**	**4.50**	**222**	P	Pn	16 05 27.1	-0.3
MUGZ				S	Sn	16 06 18.5	-2.4
RAHZ	**Arahi**	**4.67**	**216**	P	Pn	16 05 30.5	+0.9
RAHZ				S	Sn	16 06 25.7	+0.9
MTHZ	**Maungataniwha**	**4.75**	**218**	P	Pn	16 05 31.2	+0.6
MTHZ				S	Sn	16 06 29.0	+2.5
TOZ	**Tahuroa Road**	**4.83**	**237**	P	Pn	16 05 31.9	+0.3
OTVZ	**Oturere**	**5.60**	**223**	P	Pn	16 05 41.9	+0.2

NNC 11 16:07:37.8±2.2, 38.67N×69.74E, h9km±8km, mb3.9, mpv3.6, 8C-8D, Error ellipse: s-maj=16.8km s-min=11.2km az=3.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.47**	**7**	⇓Pn	Pn	16 08 45.8	+0.1
	1.3nm,0.3s,baz=0.0,slow=0.1,SNR=31						
KK31				⇑Pg	Pg	16 09 01.2	-2.2
	5.5nm,0.6s,baz=194,slow=16,SNR=4.3						
KK31				⇑Sn	Sn	16 09 39.0	+1.2
	4.0nm,0.5s						
KK31				⇑Lg	Lg	16 09 57.8	
	7.8nm,0.4s						
AAK	**Ala-Archa**	**5.37**	**41**	⇓Pn	Pn	16 08 59.1	+0.9
	2.8nm,0.4s						
AAK				⇓Pg	Pb	16 09 14.3	+2.5
	4.8nm,0.6s						
AAK				⇓Sn	Sn	16 10 00.7	+0.6
	8.1nm,0.8s						
AAK				⇑Lg	Lg	16 10 27.2	
	13nm,0.8s						
TKM2	**Tokmak 2**	**6.15**	**44**	⇑Pn	Pn	16 09 08.6	-0.3
	7.6nm,0.8s						
TKM2				⇓Pg	Pb	16 09 29.2	+4.0
	8.7nm,0.8s						
TKM2				⇑Sn	Sn	16 10 20.8	+1.3
	15nm,0.8s						
TKM2				⇑Lg	Lg	16 10 51.3	
	13nm,1.0s						
AB31	**Akbulak array**	**12.71**	**330**	⇓P	Pn	16 10 35.6	-3.0
	0.4nm,0.3s,baz=153,slow=11,SNR=33						
AB31				⇓S	Sn	16 13 00.6	+0.5
	1.0nm,0.5s,baz=148,slow=23,SNR=4.9						
AKTO	**Aktyubinsk**	**14.41**	**329**	⇑P	Pn	16 11 02.3	+0.5
	2.3nm,0.6s						
AKTO				⇓S	Sn	16 13 43.3	+1.8
	1.9nm,0.8s						

IDC 11 16:07:46.3±999.0, 50.75N×52.28E, h0km, Error ellipse: s-maj=477.0km s-min=80.2km az=92.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**3.68**	**93**	*i*		16 30 10.0	
	baz=278,slow=323,SNR=7.4						
I46RU	**ZALESOVO INFRA**	**20.03**	**68**	*i*		18 13 50.0	
	baz=276,slow=339,SNR=1.9						
I34MN	**SONGINO INFRAS**	**34.78**	**73**	*i*		19 41 00.0	
	baz=294,slow=329,SNR=1.3						

*UPA **11** 16:23:14.8±19.0, 12.94N×87.31W, h0km±999km, MW5.2*
*INET **11** 16:23:35.2, 10.47N×86.77W, h1km, MW5.1*
*IDC **11** 16:23:37.7±0.4, 11.22N×85.84W, h0km, mb4.7/26, mb1 4.9/29, mb1mx4.8/37, mbtmp4.7/29, ML4.1/3, MS4.8/21, Ms1 4.8/21, ms1mx4.7/30, Error ellipse: s-maj=22.1km s-min=9.4km az=52.0*
*NEIC **11** 16:23:37.9±2.7, 10.66N±0.02×86.40W±0.06, h12km±1km, mb5.3/465, Ms_20 4.9/374, Mwb5.2/46, Mwr5.3(UCR), Error ellipse: s-maj=9.6km s-min=2.7km az=260.0*
*UCR **11** 16:23:38.9±1.8, 10.61N×86.48W, h6km±10km, MW5.3, mb5.2(NEIC), Fault plane solution: NP1:ϕs103.60000°, δ75.00000°, λ90.00000°.*
*NEIC **11** 16:23:39.3, 10.61N×86.45W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 7.49; Mθθ -2.54; Mϕϕ -4.95; Mrθ 4.52; Mθϕ 2.96; Mϕr -2.94; Fault plane solution: Mo 9.02000×10^16 NP1:ϕs133.36000°, δ63.40000°, λ79.37000°. NP2:ϕs336.11000°, δ28.50000°, λ110.22000°. Principal axes: T 9.4351, Plg70.0000°, Azm21.0000°; N -0.9067, Plg9.0000°, Azm138.0000°; P -8.5284, Plg18.0000°, Azm231.0000°;*
*GCMT **11** 16:23:42.9±0.1, 10.50N±0.01×86.66W±0.01, h19km, MW5.4/140, Moment Tensor Solution. s110,c171; s140,c225; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr 0.90±.02; Mθθ -0.63±.02; Mϕϕ -0.27±.02; Mrθ 0.76±.04; Mrϕ 0.50±.01; Mθr -0.66±.04; Best double couple: Mo 1.37900×10^17 NP1:ϕs300.00000°, δ22.00000°, λ81.00000°. NP2:ϕs130.00000°, δ69.00000°, λ93.00000°. Principal axes: T 1.3440, Plg66.0000°, Azm46.0000°; N 0.0680, Plg3.0000°, Azm308.0000°; P -1.4130, Plg23.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SNET **11** 16:23:42.5±0.8, 10.77N×86.71W, h15km±317km, ML4.8*
*GCG **11** 16:23:45.1±3.0, 10.90N×86.33W, h50km, MD5.2*
*BGR **11** 16:23:55.1±0.0, 10.27N×85.58W, h33km, mb5.0*

ISC 11 16:23:40.0±0.9, 10.67N±0.04×86.46W±0.04, h24km±6km, n706, σ1°74/469, mb5.3/246, MS4.9/212, 24C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HZTE	**Horizontes, Gu**	**0.85**	**87**⇑	*i* P	**Pn**	**16 23 56.8**	**+0.4**
SAJU	**San Juanillo,**	**0.95**	**129**⇓	*e*P	**Pb**	**16 23 55.9**	**-1.9**
GBS3	**Finca Las Img**	**0.99**	**84**⇑	*i* P	**Pn**	**16 23 58.5**	**+0.1**
GBS3				*i* S	**Sn**	**16 24 12.5**	**+0.8**
ORTG	**Ortega, Santa**	**1.03**	**107**	*e*P	**Pb**	**16 23 58.2**	**-1.0**
ORTG	**Ortega, Santa**	**1.03**	**107**		**Pb**	**16 23 58.2**	**-1.0**
BUEV	**Buena Vista**	**1.04**	**83**	*i* P	**Pn**	**16 23 59.2**	**0.0**
GB1A	**Borinquen Arri**	**1.05**	**82**⇑	*i* P	**Pn**	**16 23 59.5**	**+0.2**
GPS2	**Hotel Rincn d**	**1.09**	**86**⇑	*i* P	**Pn**	**16 23 59.7**	**-0.1**
GRZA	**Playa Garza**	**1.10**	**133**⇓	*i* P	**Pn**	**16 23 58.0**	**-2.0**
BUAI	**Buenos Aires**	**1.12**	**80**	*i* P	**Pb**	**16 24 00.1**	**-0.7**
LIM1	**Limonal**	**1.18**	**89**⇑	*i* P	**Pb**	**16 24 01.0**	**-0.8**
GUAB	**Guayabo de Bag**	**1.21**	**88**⇑	*i* P	**Pb**	**16 24 01.3**	**-0.9**
INDI	**Punta indio, G**	**1.23**	**130**⇓	*e*P	**Pn**	**16 23 59.9**	**-1.8**
HORNC	**Hornillas**	**1.26**	**88**⇑	*i* P	**Pb**	**16 24 02.1**	**-1.0**
CUI	**Cuipilapa**	**1.27**	**91**⇑	*i* P	**Pn**	**16 24 01.7**	**-0.6**
CUI				*e*S	**Sb**	**16 24 20.

CDITO Canoas 4.10 120 *eP* **Pn** **16 24 42.1 +0.8**
BOQS Boqueron 4.11 318 *eP* **Pn** **16 24 42.4 +0.9**
CCOL Caracol de Cor 4.11 123 *eP* **Pn** **16 24 42.9 +1.6**
PMON Piamonte 4.11 318 *eP* **Pn** **16 24 41.9 +0.4**
PMON *eS* **Sn** **16 25 28.7 -0.3**
BRU2 Volcan 4.16 116 *eP* Pb 16 24 47.0 -5.5
BRU2 *eS* Sb 16 26 08.4 +26
JAYA Jayaque - finc 4.16 316 *eP* **Pn** **16 24 42.1 -0.1**
JAYA *eS* **Sn** **16 25 28.6 -1.7**
BCO2 Palmira 4.33 116 *eP* **Pn** **16 24 48.3 +3.8**
SNJE San Jose 4.42 316 *eP* **Pn** **16 24 46.2 +0.4**
MTO3 Montecristo 4.66 323 **Pn** **16 24 50.4 +1.2**
ESQI Esquipulas 4.78 324 **Pn** **16 24 51.5 +0.9**
MRL Marmol 5.39 325 *eP* Pn 16 25 04.8 +5.6
NBG Las Nubes 5.43 316 *eP* **Pn** **16 25 04.1 +4.3**
PCG Pacaya 5.48 313 *eP* **Pn** **16 25 04.1 +3.7**
PRVC Isla de Provid 5.66 61 *eP* **Pb** **16 25 21.6 +3.5**
FUG Fuego 3 5.69 312 *eP* **Pn** **16 25 06.5 +3.2**
APG El Apazote 5.81 318 Pn **Pn** **16 25 07.6 +2.7**
comp=Z,5.9nm,0.3s,baz=151,slow=14,SNR=18
GMAL Guarumal, Vera 5.91 119 *eP* Pb 16 25 16.5 -5.9
GMAL *eS* Sb 16 26 43.5 +11
CACAO El Cacao, Vera 6.44 120 *eP* **Pn** **16 25 15.4 +2.0**
CACAO *eS* **Sb** **16 26 48.9 +0.9**
BCIP Isla Barro Col 6.69 102 *eP* **Pn** **16 25 21.1 +4.3**
AZU Azuero 6.74 115 *eP* Pb 16 25 31.4 -5.2
AZU *eS* **Sb** **16 26 50.0 -6.6**
PETF Flores 7.03 332 Pn **Pn** **16 25 22.3 +0.8**
CCIG Comitan 7.85 316 **Pn** **16 25 34.1 +1.3**
TEIG Tepich 9.66 350 Pn **Pn** **16 26 00.8 +3.2**
comp=Z,2.0nm,0.3s,baz=165,slow=20,SNR=20
TEIG LR LR 16 30 06.5
comp=Z,9µm,19.9s,baz=163,slow=42
TEIG Tepich 9.66 350 Pn **Pn** **16 26 00.3 +2.8**
CMIG Matias Romero 10.37 309 Pn **Pn** **16 26 09.4 +2.1**
comp=Z,5.1nm,0.3s,baz=135,slow=10,SNR=65
DBBC Dabeiba 10.76 109 *eP* Pn 16 26 17.9 +5.2
MOTC Monteria, Cord 10.80 99 *eP* **Pn** **16 26 14.4 +1.1**
MONA Monteria 10.81 99 *eP* **Pn** **16 26 15.0 +1.6**
CBCY The Bluff, Cay 11.09 35 **Pn** **16 26 17.9 +0.8**
UREC San Jos de Ur 11.17 104 *eP* **Pn** **16 26 20.6 +2.3**
PLBC San Jos del P 11.59 119 *eP* **Pn** **16 26 26.7 +2.5**
TUMC Tumaco 11.67 138 *eP* **Pn** **16 26 28.4 +3.2**
HELC Santa Helena 11.69 112 *eP* Pn 16 26 33.7 +8.0
YOTC Yotoco, Valle 12.03 123 *eP* **Pn** **16 26 31.3 +1.2**
GUY2C Guyana, Caldas 12.24 115 *eP* **Pn** **16 26 35.8 +2.3**
RREF El Recreo 12.41 117 *eP* Pn 16 26 26.2 -10
NORC Norcasia 12.54 113 *eP* P 16 26 42.3 -6.2
BBAC Balboa, Cauca 12.55 133 *eP* **Pn** **16 26 41.2 +3.8**
PTBC PUERTO BERRIO, 12.55 108 *eP* Pn 16 26 29.8 -7.5
ANIL Santa Ana 12.56 118 *eP* **P** **16 26 47.6 -1.3**
TOLC Tolima 12.58 118 *eP* **Pn** **16 26 41.3 +3.4**
POPC Popayan, Colom 12.63 129 *eP* **Pn** **16 26 40.8 +2.3**
SOTA Rioblanco 12.95 130 *eP* **Pn** **16 26 46.1 +3.1**
PCON Cinco Dias 12.98 129 *eP* **Pn** **16 26 45.6 +2.1**
ORTC Ortega, Tolima 12.99 120 *eP* **P** **16 26 48.8 -4.7**
MARP Paez Belalcaza 13.01 126 *eP* **Pn** **16 26 46.6 +3.0**
GCUF Volcan Galeras 13.04 135 *eP* Pn 16 26 48.8 +4.5
OTAV Otavalo 13.07 142 Pn **Pn** **16 26 44.3 -0.4**
OTAV Otavalo 13.07 142 *eP* Pn 16 26 49.1 +4.4
OTAV Otavalo 13.07 142 *eP* **Pn** **16 26 47.5 +2.8**
BRRC Barranca, Sant 13.08 105 *eP* **Pn** **16 26 43.5 -0.9**
SPBC San Pablo de B 13.23 111 *eP* **Pn** **16 26 48.7 +2.1**
ROSC El Rosal 13.35 115 Pn **Pn** **16 26 50.8 +2.4**
comp=Z,1.3nm,0.3s,baz=270,slow=18,SNR=1.1
ROSC LR LR 16 32 06.9
comp=Z,3µm,19.1s,baz=318,slow=39
ROSC El Rosal 13.35 115 *eP* **P** **16 27 02.0 +4.2**
PRAC Prado 13.40 120 *eP* **Pn** **16 26 50.9 +2.1**
BETC Betania 13.51 125 *eP* **Pn** **16 26 53.2 +2.9**
TLIG Tlapa 13.59 302 Pn **Pn** **16 26 55.2 +3.7**
BARC Barichara 13.73 106 *eP* **Pn** **16 26 56.0 +2.5**
GARC Garzon, Huila 13.77 127 *eP* **Pn** **16 26 56.3 +2.2**
PAMC Pamplona, Colo 13.98 103 *eP* **P** **16 27 08.3 +3.3**
RUSC La Rusia 14.06 109 *eP* **Pn** **16 26 59.4 +1.1**
TAMC Tame, Arauca 15.10 105 *eP* **P** **16 27 19.5 +2.5**
MACC Macarena, Meta 15.12 123 *eP* **P** **16 27 19.6 +2.5**
PTLC Puerto Leguiza 15.60 131 *eP* **P** **16 27 28.6 +6.1**
SDV Santo Domingo 15.70 95 Pn **Pn** **16 27 20.4 +0.5**
comp=Z,1.3nm,0.3s,baz=288,slow=5.7,SNR=42
SDV PcP **PcP** **16 32 20.2 0.0**
comp=Z,0.1nm,0.3s,baz=72,slow=3.0,SNR=4.8
SDV LR LR 16 35 27.0
comp=Z,4µm,18.4s,baz=257,slow=47
SDV Santo Domingo 15.70 95 Pn **Pn** **16 27 19.4 -0.5**
SDV P **P** **16 27 23.6 -0.1**
SDV IAmb IAmb 16 27 27.1
comp=Z,71nm,0.9s
SDV Santo Domingo 15.70 95 *eP* **Pn** **16 27 18.7 -1.2**
SDV Santo Domingo 15.70 95 *eP* **Pn** **16 27 20.8 +0.9**
MOIG Morelia 16.79 304 P **P** **16 27 38.3 +2.4**
MOIG IAmb IAmb 16 27 56.8
comp=Z,200nm,1.0s
DWPF Disney Wildern 17.98 15 P **P** **16 27 49.3 +0.6**
DWPF Disney Wildern 17.98 15 P 16 27 50.2
baz=196
656A Willston 18.96 11 IAmb IAmb 16 28 25.8
comp=Z,253nm,1.4s
ATAH Atahualpa 19.43 155 P **Pn** **16 28 08.3 +1.9**
comp=Z,0.2nm,0.3s,baz=114,slow=8.5,SNR=6.7
ATAH LR LR 16 33 57.2
comp=Z,2µm,21.8s,baz=334,slow=32
553A Crawfordville 19.51 5 IAmb IAmb 16 28 13.7
comp=Z,249nm,0.9s
451A Vernon 19.86 2 P **P** **16 28 09.4 +0.1**
451A IAmb IAmb 16 28 16.7
comp=Z,294nm,1.1s
456A Hilliard 20.37 11 IAMs_20 IAMs_20 16 36 23.3
comp=Z,4µm,19.0s
BRAL Brewton 20.40 359 **P** **16 28 16.2 +1.0**
BRAL Brewton 20.40 359 P 16 28 17.0
baz=178
AOPR Arecibo Observ 20.53 66 Pn 16 28 18.6 -0.5
AOPR IAmb IAmb 16 28 20.6
comp=Z,67nm,0.8s
346A Big Creek Wild 20.80 353 IAmb IAmb 16 28 38.7
comp=Z,313nm,1.4s
TIGA Tifton 20.83 7 P 16 28 21.0
baz=188,SNR=18
735A Kenedy 20.98 331 IAmb IAmb 16 28 38.0
comp=Z,178nm,0.8s
SJG San Juan 21.00 67 P **P** **16 28 21.9 +0.1**
comp=Z,35nm,0.6s,baz=280,slow=4.7,SNR=10
SJG San Juan 21.00 67 P **P** **16 28 21.7 -0.1**
HKT Hockley 21.08 337 P **P** **16 28 23.4 +0.9**
HKT IAmb IAmb 16 28 25.3
comp=Z,307nm,1.4s
250A Grady 21.20 0 IAmb IAmb 16 28 44.2
comp=Z,209nm,1.1s
342A Flagon Creek P 21.31 346 IAmb IAmb 16 28 32.0
comp=Z,158nm,0.9s
833A Chaparral WMA, 21.34 327 P 16 28 25.7
baz=143,SNR=12
PCRV Puerto La Cruz 21.47 89 P **P** **16 28 27.7 +0.7**
comp=Z,80nm,0.9s,baz=259,slow=4.3,SNR=18
255A Hazlehurst 21.47 9 IAmb IAmb 16 28 43.3
comp=Z,332nm,1.4s
255A IAMs_20 IAMs_20 16 37 14.3
comp=Z,4µm,19.0s
MTP Monte Pirata 21.54 68 P **P** **16 28 27.6 -0.1**
VBMS Vicksburg 21.77 351 IAmb IAmb 16 28 33.2
comp=Z,177nm,0.8s
VBMS Vicksburg 21.77 351 P 16 28 30.5
baz=169,SNR=8.0
257A Skidaway Islan 21.79 13 IAmb IAmb 16 28 44.1
comp=Z,171nm,1.1s
257A IAMs_20 IAMs_20 16 37 16.6
comp=Z,5µm,18.0s
154A Montrose 22.05 8 IAMs_20 IAMs_20 16 37 49.8
comp=Z,4µm,18.0s
LRAL Lakeview Retre 22.26 359 P **P** **16 28 35.6 +0.3**
LRAL IAmb IAmb 16 28 45.9
comp=Z,144nm,0.9s
LRAL Lakeview Retre 22.26 359 P 16 28 36.2
baz=178,SNR=47
NATX Nacogdoches 22.32 341 P **P** **16 28 35.7 -0.2**
NATX Nacogdoches 22.32 341 P 16 28 36.3
baz=158,SNR=14
143A Socs Landing, 22.39 349 IAmb IAmb 16 28 45.2
comp=Z,148nm,1.1s
Z47A Carrollton 22.47 356 IAmb IAmb 16 28 40.1
comp=Z,142nm,0.8s
435B Jarrell 22.52 334 P 16 28 37.4
baz=150,SNR=14
435B Jarrell 22.52 334 IAmb IAmb 16 28 42.8
comp=Z,156nm,0.9s
Z51A Franklin 22.57 3 IAmb IAmb 16 28 48.9
comp=Z,155nm,1.0s
GOGA Godfrey 22.80 6 P **P** **16 28 41.7 +0.7**
GOGA IAmb IAmb 16 28 43.5
comp=Z,222nm,1.2s
GOGA Godfrey 22.80 6 P 16 28 41.3
baz=187,SNR=45
CZSB Cruzeiro do Su 22.84 143 *eP* **P** **16 28 44.5 +2.9**
CSU Charleston Sou 22.97 14 P **P** **16 28 43.4 +0.6**
NHSC New Hope 23.06 14 P **P** **16 28 44.5 +0.8**
NHSC IAMs_20 IAMs_20 16 38 06.4
comp=Z,5µm,18.0s
NHSC New Hope 23.06 14 P 16 28 43.6
baz=196,SNR=6.7
Y49A Blount Mountai 23.08 0 P **P** **16 28 44.0 +0.1**
Y49A IAmb IAmb 16 28 46.0
comp=Z,152nm,0.8s
Z41A Richland Creek 23.22 346 P 16 28 44.2
baz=164,SNR=7.0
JCT Junction City 23.29 330 P 16 28 45.2
baz=145,SNR=21
JCT Junction City 23.29 330 IAmb IAmb 16 29 00.8
comp=Z,129nm,1.4s
WHTX Lake Whitney, 23.52 336 P 16 28 47.7
baz=152,SNR=38
X48A Hartselle 23.68 359 IAmb IAmb 16 28 51.3
comp=Z,77nm,0.9s
HODGE Hodges 23.76 9 P **P** **16 28 50.6 -0.1**
HODGE IAmb IAmb 16 28 52.1
comp=Z,122nm,0.7s
FPAL Fort Paine 23.77 2 IAmb IAmb 16 28 53.2
comp=Z,83nm,0.8s
X51A Calhoun 23.83 3 IAmb IAmb 16 28 53.1
comp=Z,85nm,0.8s
Y57A Sumter 23.89 13 IAMs_20 IAMs_20 16 38 32.4
comp=Z,4µm,19.0s
Y58A Scotn 23.95 14 IAMs_20 IAMs_20 16 38 34.8
comp=Z,4µm,20.0s
JSC Jenkinsville 23.98 11 IAmb IAmb 16 28 54.3
comp=Z,85nm,0.7s
X43A Marvell 24.08 351 P 16 28 52.7
baz=169
PLAL Pickwick Lake 24.24 357 IAmb IAmb 16 28 56.4
comp=Z,108nm,0.8s
HPIG 24.28 314 IAMs_20 IAMs_20 16 39 56.5
comp=Z,4µm,22.0s
GRGR Grenville 24.36 84 P **P** **16 28 55.9 -0.5**
PAULI Pauline 24.41 9 P **P** **16 28 56.6 0.0**
PAULI IAMs_20 IAMs_20 16 38 54.1
comp=Z,3µm,20.0s
X40A Basin Creek Fa 24.41 347 IAmb IAmb 16 29 03.8
comp=Z,50nm,0.9s
X40A Basin Creek Fa 24.41 347 P 16 28 55.7
baz=165,SNR=19
W52A Murphy 24.42 5 P **P** **16 28 57.1 +0.3**
BG3 Lake Jocassee 24.42 7 IAmb IAmb 16 28 58.4
comp=Z,113nm,0.8s
SWET Sewanee 24.44 1 IAmb IAmb 16 28 59.0
comp=Z,142nm,1.1s
BIRD Birdtown, Kers 24.48 12 IAMs_20 IAMs_20 16 38 58.0
comp=Z,4µm,18.0s
TX32 Lajitas Array 24.56 322 IAmb IAmb 16 29 21.7
comp=Z,74nm,0.9s
TXAR Lajitas Array 24.56 322 P **P** **16 28 59.4 +1.2**
comp=Z,54nm,0.8s,baz=137,slow=10.0,SNR=237
TXAR PcP **PcP** **16 32 39.1 +3.0**
comp=Z,5.7nm,0.7s,baz=138,slow=4.5,SNR=4.9
TXAR ScP **ScP** **16 36 21.4 +7.9**
comp=Z,1.6nm,0.8s,baz=142,slow=6.1,SNR=4.3
TXAR Lajitas Array 24.56 322 P **P** **16 28 58.7 +0.5**
TXAR **PcP** **16 32 37.2 +1.1**
MIAR Mount Ida 24.64 346 P 16 28 57.6
baz=163,SNR=66
MIAR Mount Ida 24.64 346 P **P** **16 28 57.4 -1.3**
MIAR IAmb IAmb 16 29 05.8
comp=Z,86nm,0.8s
X58A Rowland 24.64 14 IAMs_20 IAMs_20 16 38 55.3
comp=Z,4µm,20.0s
KMSC Kings Mountain 24.80 10 P 16 29 00.3
baz=192,SNR=47
W56A Indian Trail 24.93 11 P 16 29 01.2
baz=194,SNR=28
W41B Gary Mavity, V 24.95 349 P 16 29 00.4
baz=166,SNR=47
V48A Smith Brothers 24.96 359 P **P** **16 29 01.0 -0.6**
V48A IAmb IAmb 16 29 04.7
comp=Z,59nm,0.8s
TKL Tuckaleechee C 24.99 5 P **P** **16 29 02.1 +0.1**
comp=Z,80nm,1.0s,baz=178,slow=9.4,SNR=56
TKL LR LR 16 39 34.3
comp=Z,3µm,18.3s,baz=276,slow=39
TKL Tuckaleechee C 24.99 5 IAmb IAmb 16 29 05.2
comp=Z,119nm,1.0s
ABTX Abilene, Hawle 25.00 333 P 16 29 01.4
baz=148,SNR=28
X60A Albert Glenn T 25.02 17 P 16 29 01.9
baz=200
W57A Gilead 25.07 13 P **P** **16 29 02.2 -0.4**
W57A IAMs_20 IAMs_20 16 39 26.6
comp=Z,4µm,18.0s
V53A Saluda 25.10 7 P **P** **16 29 02.9 -0.1**
V53A IAmb IAmb 16 29 13.0
comp=Z,73nm,0.8s
X37A Clayton 25.16 342 IAmb IAmb 16 29 12.4
comp=Z,110nm,0.9s
V52A Sevierville 25.19 5 IAmb IAmb 16 29 05.0
comp=Z,65nm,0.9s
CLTN Cedars of Leba 25.30 0 IAmb IAmb 16 29 07.7
comp=Z,92nm,0.8s
W39A Magazine 25.31 346 IAmb IAmb 16 29 05.7
comp=Z,84nm,0.9s
W39A IAMs_20 IAMs_20 16 40 13.4
comp=Z,3µm,22.0s
W39A Magazine 25.31 346 P 16 29 04.4
baz=163,SNR=46
WVT Waverly 25.37 357 P 16 29 04.1
baz=177
WVT Waverly 25.37 357 P **P** **16 29 03.5 -1.9**
WVT IAmb IAmb 16 29 08.4
comp=Z,42nm,1.0s
GNAR Gosnell 25.39 353 P **P** **16 29 04.3 -1.2**
GNAR IAmb IAmb 16 29 13.8
comp=Z,100nm,0.8s
LNXT Lenox 25.46 354 P **P** **16 29 04.8 -1.4**
V55A Taylorsville 25.51 10 P **P** **16 29 06.7 0.0**
V55A IAmb IAmb 16 29 10.3
comp=Z,91nm,0.7s
V55A IAMs_20 IAMs_20 16 39 48.4
comp=Z,4µm,19.0s
V56A Mocksville 25.60 11 P 16 29 07.6
baz=194,SNR=24
GLAT Glass 25.61 355 P **P** **16 29 06.4 -1.1**
LCAR Lake Charles 25.64 351 IAmb IAmb 16 29 14.2
comp=Z,81nm,0.9s
CNNC Cliffs of the 25.67 16 IAMs_20 IAMs_20 16 39 56.4
comp=Z,4µm,18.0s
U49A Red Boiling Sp 25.73 1 P **P** **16 29 08.1 -0.5**
U49A IAmb IAmb 16 29 12.1
comp=Z,139nm,1.2s
V57A Coltrane Farms 25.82 13 P 16 29 09.3
baz=195,SNR=34
SLBS Sierra La Lagu 25.85 303 IAMs_20 IAMs_20 16 40 39.1
comp=Z,2µm,18.0s
V58A Windy Hill, Pi 25.88 14 P **P** **16 29 10.1 +0.2**
V58A IAMs_20 IAMs_20 16 39 53.1
comp=Z,4µm,19.0s
V59A Middlesex 26.07 15 P 16 29 11.4
baz=198,SNR=16
U54A Nelsons Funny 26.07 9 IAMs_20 IAMs_20 16 40 06.2
comp=Z,3µm,19.0s
U54A Nelsons Funny 26.07 9 P 16 29 11.6
baz=190,SNR=34
U56A King 26.14 11 IAmb IAmb 16 29 13.5
comp=Z,54nm,0.8s
U56A IAMs_20 IAMs_20 16 39 50.1
comp=Z,4µm,18.0s
U56A King 26.14 11 P 16 29 12.8
baz=194,SNR=12
T47A Sharon Grove 26.21 359 P **P** **16 29 11.8 -1.1**
T47A IAmb IAmb 16 29 13.2
comp=Z,111nm,0.9s
U40A Yellville 26.22 348 IAmb IAmb 16 29 20.4
comp=Z,98nm,0.8s
U40A Yellville 26.22 348 P 16 29 11.7
baz=166,SNR=62
PBMO Poplar Bluff 26.24 353 IAmb IAmb 16 29 13.2
comp=Z,85nm,1.2s
T50A Nancy 26.27 3 P **P** **16 29 12.7 -0.8**
T50A IAmb IAmb 16 29 13.7
comp=Z,36nm,0.8s
LPIG La Paz 26.33 304 P **P** **16 29 16.8 +2.6**
comp=Z,28nm,0.3s,baz=344,slow=2.8,SNR=4.8
LPIG LR LR 16 40 57.4
comp=Z,2µm,18.3s,baz=114,slow=39
V60A Jim Taylor Roa 26.34 17 IAmb IAmb 16 29 15.4
comp=Z,48nm,0.7s
V60A IAMs_20 IAMs_20 16 39 58.1
comp=Z,3µm,20.0s
V60A Jim Taylor Roa 26.34 17 P 16 29 13.8
baz=200
HHAR Hobbs 26.38 346 IAmb IAmb 16 29 21.1
comp=Z,56nm,0.8s
U57A Blanch 26.44 13 P 16 29 14.8
baz=196,SNR=34
WMOK Wichita Mounta 26.46 337 P 16 29 16.1
baz=152,SNR=129
WMOK Wichita Mounta 26.46 337 P **P** **16 29 14.8 -0.5**
TUL1 Leonard 26.51 343 P 16 29 14.5
baz=159,SNR=21
T42A Van Buren 26.57 352 IAmb IAmb 16 29 23.0
comp=Z,68nm,0.8s
U58A Oxford 26.59 14 P 16 29 15.7
baz=197,SNR=13
U38A Gravette 26.64 346 IAmb IAmb 16 29 23.4
comp=Z,63nm,0.8s
OK025 Westminster Rd 26.70 340 P **P** **16 29 16.3 -1.0**
OK025 IAmb IAmb 16 29 38.6
comp=Z,92nm,1.0s
U59A Littleton 26.74 16 IAmb IAmb 16 29 18.4
comp=Z,77nm,1.4s
U59A IAMs_20 IAMs_20 16 40 37.8
comp=Z,4µm,18.0s
OK031 S. Brethren Rd 26.87 341 P **P** **16 29 17.5 -1.4**
T56A Rocky Mt 26.87 11 P 16 29 19.3
baz=194,SNR=16
MGMO Mountain Grove 26.88 350 IAmb IAmb 16 29 19.3
comp=Z,41nm,0.9s
OK029 Liberty Lake 26.93 340 IAmb IAmb 16 29 26.4
comp=Z,72nm,0.7s
S51A Beattyville 26.97 5 IAmb IAmb 16 29 20.6
comp=Z,90nm,0.8s
BLA Blacksburg 26.98 11 IAmb IAmb 16 29 21.6
comp=Z,135nm,1.2s
BLA IAMs_20 IAMs_20 16 40 43.1
comp=Z,4µm,18.0s
BLA Blacksburg 26.98 11 P 16 29 20.1
baz=193,SNR=16
T57A Hurt 27.00 13 IAmb IAmb 16 29 21.3
comp=Z,67nm,0.8s
T57A IAMs_20 IAMs_20 16 40 25.8
comp=Z,3µm,19.0s
T57A Hurt 27.00 13 P 16 29 19.9
baz=196,SNR=22
S44A Carbondale 27.02 355 P **P** **16 29 18.9 -1.3**
S44A IAmb IAmb 16 29 27.1
comp=Z,89nm,0.8s
U60A Pendleton 27.03 17 P 16 29 20.2
baz=200
SIUC Southern Illin 27.04 355 IAmb IAmb 16 29 20.6
comp=Z,84nm,0.8s
T58A Grand View Acr 27.12 14 P 16 29 20.6
baz=197,SNR=12
USIN University of 27.20 358 P **P** **16 29 20.9 -0.9**
USIN IAmb IAmb 16 29 21.5
comp=Z,61nm,0.8s
MNTX Cornudas Mount 27.28 323 P 16 29 22.7
baz=136,SNR=27
T59A Double "B" Far 27.39 16 IAmb IAmb 16 29 24.9
comp=Z,54nm,1.0s
T59A IAMs_20 IAMs_20 16 40 48.9
comp=Z,3µm,18.0s
S54A Dingess, Beckl 27.40 9 P **P** **16 29 22.9 -0.9**
S54A IAmb IAmb 16 29 24.2
comp=Z,54nm,0.8s
S54A IAMs_20 IAMs_20 16 40 56.4
comp=Z,3µm,18.0s
S54A Dingess, Beckl 27.40 9 P 16 29 23.4
baz=191,SNR=7.5
WCI Wyandotte Cave 27.44 0 P 16 29 23.2
baz=180
WCI Wyandotte Cave 27.44 0 P **P** **16 29 22.3 -1.7**
R49A Shelbyville 27.52 2 IAmb IAmb 16 29 24.6
comp=Z,68nm,0.8s
R50A Paris 27.56 4 IAmb IAmb 16 29 25.3
comp=Z,52nm,0.8s
S56A Natural Bridge 27.59 12 P 16 29 25.3
baz=195,SNR=13
S39A Bolivar 27.60 348 IAmb IAmb 16 29 32.4
comp=Z,70nm,0.8s
CCM Cathedral Cave 27.60 352 P **P** **16 29 23.3 -2.2**
CCM IAmb IAmb 16 29 25.3
comp=Z,62nm,0.9s
CCM Cathedral Cave 27.60 352 P 16 29 24.0
baz=170
T35A Sooner Cattle 27.66 342 IAmb IAmb 16 29 36.5
comp=Z,41nm,0.9s
T60A Surry 27.77 17 P 16 29 26.8
baz=201
T60A Surry 27.77 17 P **P** **16 29 26.9 -0.1**
T60A IAmb IAmb 16 29 28.2
comp=Z,63nm,1.0s
T60A IAMs_20 IAMs_20 16 41 28.0
comp=Z,3µm,18.0s
S57A Dark Hollow, R 27.80 13 P 16 29 26.7
baz=196,SNR=16
S57A Dark Hollow, R 27.80 13 IAmb IAmb 16 29 28.1
comp=Z,35nm,0.7s
S57A IAMs_20 IAMs_20 16 40 41.9
comp=Z,3µm,19.0s
AMTX Amarillo 27.81 332 P 16 29 26.9
baz=146
AMTX Amarillo 27.81 332 IAmb IAmb 16 29 43.1
comp=Z,93nm,1.1s
R54A Victor 27.82 9 P 16 29 27.1
baz=191,SNR=11
R53A Hurricane 27.84 8 IAMs_20 IAMs_20 16 41 11.9
comp=Z,3µm,18.0s
S58A Poland Farm, P 27.87 14 P 16 29 27.5
baz=198,SNR=13
S58A Poland Farm, P 27.87 14 IAmb IAmb 16 29 28.8
comp=Z,39nm,0.7s
S58A IAMs_20 IAMs_20 16 41 02.6
comp=Z,4µm,19.0s
OLIL Olney 27.98 357 IAmb IAmb 16 29 29.2
comp=Z,78nm,0.8s
R40A Maddies Statio 27.99 350 P **P** **16 29 26.9 -2.0**
R40A IAmb IAmb 16 29 35.0
comp=Z,26nm,0.7s
U32A Winter Ranch, 28.00 338 IAmb IAmb 16 29 33.9
comp=Z,64nm,0.9s
R55A Marlinton 28.07 11 P **P** **16 29 29.7 -0.1**
R55A IAmb IAmb 16 29 38.0
comp=Z,83nm,0.9s
R55A IAMs_20 IAMs_20 16 41 18.1
comp=Z,4µm,18.0s
OK032 Salt Plains WL 28.10 340 IAmb IAmb 16 29 41.8
comp=Z,39nm,0.9s
S59A Mechanicsville 28.20 15 P 16 29 30.6
baz=199
Q44A Meyer Farm, Va 28.20 356 P **P** **16 29 29.6 -1.2**
R58B Mineral 28.24 14 IAmb IAmb 16 29 32.6
comp=Z,72nm,1.4s
R58B Mineral 28.24 14 P 16 29 30.9
baz=198,SNR=8.6
KS20 Mayfield South 28.27 341 IAmb IAmb 16 29 42.2
comp=Z,43nm,1.1s
S60A Water View 28.32 17 P 16 29 32.0
baz=200,SNR=6.6
R56A Bull Pasture M 28.33 12 P 16 29 32.2
baz=195,SNR=20
KAN10 Anthony SW Sta 28.35 340 P **P** **16 29 31.4 -0.8**
Q51A Peebles 28.37 5 IAMs_20 IAMs_20 16 41 28.1
comp=Z,3µm,19.0s
BLO Bloomington 28.38 360 IAmb IAmb 16 29 39.1
comp=Z,74nm,0.8s
R57A Stanardsville 28.41 13 P 16 29 32.8
baz=196,SNR=28
Q53A Leroy 28.41 8 P 16 29 32.3
baz=190,SNR=32
Q52A Bidwell 28.42 7 P **P** **16 29 32.2 -0.5**
Q52A IAMs_20 IAMs_20 16 41 39.3
comp=Z,3µm,18.0s
R58A Rapidan 28.53 14 P 16 29 33.8

baz=197,SNR=12
S61A Accomac 28.59 18 IAMs_20 IAMs_20 16 41 29.6
comp=Z,3µm,20.0s
CBN Corbin Frederi 28.60 15 IAMs_20 IAMs_20 16 41 26.0
comp=Z,4µm,19.0s
CBN Corbin Frederi 28.60 15 P 16 29 34.5
baz=199
ETMB Extrema 28.63 135 eP P **16 29 35.5 +0.6**
Q54A Coxs Mills 28.64 9 IAMs_20 IAMs_20 16 41 36.1
comp=Z,3µm,19.0s
R59A King George, V 28.66 15 P 16 29 35.1
baz=199
PTGA Pitinga 28.68 112 P P **16 29 36.5 +1.2**
comp=Z,17nm,0.9s,baz=308,slow=7.7,SNR=21
PTGA LR LR 16 41 57.5
comp=Z,3µm,18.6s,baz=294,slow=39
PTGA Pitinga 28.68 112 P P **16 29 35.6 +0.3**
PTGA IAMs_20 IAMs_20 16 41 47.2
comp=Z,3µm,19.0s
PTGA Pitinga 28.68 112 eP P **16 29 36.7 +1.4**
P49A Miami Univ. Ec 28.78 3 IAmb IAmb 16 29 35.3
comp=Z,56nm,0.8s
P49A Miami Univ. Ec 28.78 3 P 16 29 34.7
baz=183,SNR=19
P46A Rosedale 28.83 359 IAmb IAmb 16 29 36.3
comp=Z,86nm,0.8s
P51A Williamsport 28.85 5 P P **16 29 35.4 -1.2**
P51A IAMs_20 IAMs_20 16 41 52.8
comp=Z,3µm,18.0s
R60A Leonardtown, M 28.87 16 P 16 29 36.9
baz=200
P43A Skaggs, Pawnee 28.98 355 IAmb IAmb 16 29 44.4
comp=Z,51nm,0.9s
Q56A Snyder Ridge, 28.98 12 IAMs_20 IAMs_20 16 41 28.3
comp=Z,3µm,19.0s
Q56A Snyder Ridge, 28.98 12 P 16 29 38.4
baz=195,SNR=24
P53A Whipple 29.05 8 P P **16 29 37.8 -0.5**
P53A IAMs_20 IAMs_20 16 41 59.0
comp=Z,2µm,18.0s
P52A Corning 29.10 7 P 16 29 38.3
baz=189,SNR=55
P52A Corning 29.10 7 IAMs_20 IAMs_20 16 42 00.3
comp=Z,3µm,18.0s
MACA Manacapuru-AM 29.10 117 eP P **16 29 39.9 +0.8**
Q57A Strasburg 29.14 13 P 16 29 39.1
baz=196,SNR=8.7
Q58A Fox Den Farm, 29.22 14 P 16 29 39.7
baz=198,SNR=14
R61A Willards 29.29 18 IAMs_20 IAMs_20 16 41 51.1
comp=Z,3µm,20.0s
121A Cookes Peak, D 29.32 321 P 16 29 42.5
baz=133
SRIG Santa Rosalia 29.37 308 IAMs_20 IAMs_20 16 42 46.1
comp=Z,2µm,21.0s
Q59A Harwood 29.41 16 P 16 29 41.5
baz=200
O49A Covington 29.45 3 P P **16 29 40.3 -1.6**
O49A IAmb IAmb 16 29 42.1
comp=Z,78nm,1.0s
O49A IAMs_20 IAMs_20 16 42 12.9
comp=Z,2µm,19.0s
MCWV Mont Chateau 29.46 10 P 16 29 41.7
baz=193,SNR=6.4
MCWV Mont Chateau 29.46 10 IAmb IAmb 16 29 43.0
comp=Z,27nm,0.8s
BBSR BB Station 29.48 40 IAMs_20 IAMs_20 16 41 13.7
comp=Z,2µm,19.0s
P56A Dayton Farm, R 29.50 12 P 16 29 42.7
baz=195,SNR=23
319A Douglas 29.52 318 IAmb IAmb 16 30 10.0
comp=Z,59nm,1.4s
SFIN Lafayette 29.59 359 P 16 29 41.7
baz=179,SNR=30
ACSO Alum Creek Sta 29.60 5 P P **16 29 42.2 -1.1**
ACSO IAMs_20 IAMs_20 16 42 06.6
comp=Z,3µm,18.0s
ACSO Alum Creek Sta 29.60 5 P 16 29 42.6
baz=187,SNR=21
O52A Adamsville 29.61 7 IAMs_20 IAMs_20 16 42 16.8
comp=Z,2µm,18.0s
P57A Homestead Farm 29.66 13 IAmb IAmb 16 29 45.6
comp=Z,81nm,0.8s
P57A IAMs_20 IAMs_20 16 42 08.1
comp=Z,3µm,18.0s
P57A Homestead Farm 29.66 13 P 16 29 44.2
baz=197,SNR=30
KSU1 Kansas State U 29.72 344 P 16 29 42.9
baz=160,SNR=8.5
KSU1 Kansas State U 29.72 344 IAmb IAmb 16 29 54.7
comp=Z,87nm,1.0s
R32A Long Quarter, 29.73 340 IAmb IAmb 16 29 55.1
comp=Z,66nm,1.4s
Q61A Milford 29.80 18 P 16 29 44.4
baz=202
O53A New Philadelph 29.82 8 P 16 29 44.6
baz=190,SNR=53
O53A New Philadelph 29.82 8 P P **16 29 44.7 -0.5**
O53A IAMs_20 IAMs_20 16 42 40.4
comp=Z,3µm,18.0s
HDIL Hopedale 29.87 356 P 16 29 44.2
baz=174,SNR=19
SDMD Soldier's Deli 29.87 15 IAmb IAmb 16 29 46.9
comp=Z,28nm,0.8s
O54A Avella 29.88 9 IAmb IAmb 16 29 56.4
comp=Z,47nm,0.9s
LENM Lemitar 29.98 324 P P **16 29 48.2 +1.2**
N47A Urbana 30.09 1 IAmb IAmb 16 29 53.4
comp=Z,52nm,1.3s
N41A Harden Midland 30.17 353 IAMs_20 IAMs_20 16 43 17.9
comp=Z,2µm,18.0s
P59A Jarrettsville 30.17 16 P 16 29 48.1
baz=200,SNR=9.4
N49A Columbus Grove 30.20 3 IAMs_20 IAMs_20 16 42 44.4
comp=Z,2µm,18.0s
ANMO Albuquerque 30.27 326 P P **16 29 50.9 +1.5**
comp=Z,21nm,0.9s,baz=142,slow=6.6,SNR=27
ANMO PcP PcP **16 32 50.3 +0.5**
comp=Z,8.4nm,1.0s,baz=128,slow=4.3,SNR=4.5
ANMO LR LR 16 45 20.6
comp=Z,638nm,18.2s,baz=130,slow=43
ANMO Albuquerque 30.27 326 P P **16 29 49.8 +0.4**
ANMO Albuquerque 30.27 326 P 16 29 50.2
baz=138
SAML Samuel 30.27 129 P P **16 29 48.6 -0.8**
SAML Samuel 30.27 129 IAMs_20 IAMs_20 16 42 24.2
comp=Z,3µm,18.0s
SAML Samuel 30.27 129 eP P **16 29 49.7 +0.3**
O56A Blue Knob Stat 30.29 12 P 16 29 49.4
baz=195,SNR=17
O56A Blue Knob Stat 30.29 12 IAmb IAmb 16 29 58.3
comp=Z,60nm,1.1s
O56A IAMs_20 IAMs_20 16 42 08.9
comp=Z,3µm,20.0s
N51A Ashland 30.34 6 IAmb IAmb 16 29 49.9
comp=Z,61nm,0.8s
N51A IAMs_20 IAMs_20 16 42 40.2
comp=Z,3µm,18.0s
N53A Lisbon 30.42 8 IAMs_20 IAMs_20 16 42 42.3
comp=Z,2µm,18.0s
CBKS Cedar Bluff 30.43 339 P P **16 29 50.4 -0.2**
CBKS Cedar Bluff 30.43 339 P 16 29 49.6
baz=154
O57A Amberson 30.44 13 P 16 29 50.7
baz=197,SNR=16
O58A Lewisberry 30.52 14 P 16 29 51.7
baz=198,SNR=14
MVL Millersville 30.55 15 IAmb IAmb 16 29 53.3
comp=Z,63nm,1.1s
P60A Greenville 30.57 17 P 16 29 51.4
baz=201
N38A Joes South For 30.59 350 IAmb IAmb 16 29 58.2
comp=Z,58nm,0.7s
M44A Midewin, Midew 30.63 358 IAmb IAmb 16 29 51.5
comp=Z,73nm,1.1s
PAGS Pennsylvania G 30.67 15 P P **16 29 52.3 -0.4**
PAGS IAMs_20 IAMs_20 16 42 48.9
comp=Z,2µm,18.0s
P61A Hammonton 30.69 18 IAMs_20 IAMs_20 16 43 03.2
comp=Z,3µm,18.0s
N54A Moraine State 30.70 10 IAmb IAmb 16 30 12.2
comp=Z,41nm,1.1s
N54A IAMs_20 IAMs_20 16 42 50.8
comp=Z,3µm,18.0s
N54A Moraine State 30.70 10 P 16 29 52.1
baz=192,SNR=5.1
M50A Fremont 30.76 5 IAMs_20 IAMs_20 16 43 01.3
comp=Z,3µm,19.0s

M51A Elyria 30.77 6 P 16 29 52.4
baz=188
O59A Robesonia 30.89 15 P 16 29 54.7
baz=200,SNR=20
T25A Trinidad 30.92 331 P 16 29 55.7
baz=144,SNR=11
N56A West Decatur 30.97 12 P 16 29 55.3
baz=196,SNR=18
N57A Milroy 30.98 13 P 16 29 54.9
baz=197,SNR=11
M53A WI Miller and 31.06 8 P 16 29 55.7
baz=191,SNR=56
M53A WI Miller and 31.07 8 IAMs_20 IAMs_20 16 43 12.4
comp=Z,3µm,18.0s
M52A Chesterland 31.07 7 IAmb IAmb 16 30 07.8
comp=Z,47nm,0.9s
M52A IAMs_20 IAMs_20 16 43 02.6
comp=Z,2µm,19.0s
TUC Tucson 31.10 318 P P **16 29 57.7 +1.0**
TUC Tucson 31.10 318 IAMs_20 IAMs_20 16 43 36.0
comp=Z,2µm,21.0s
O60A Telford 31.11 16 P 16 29 56.4
baz=201
N35A Tabor 31.14 346 IAMs_20 IAMs_20 16 44 48.9
comp=Z,2µm,21.0s
O61A Allentown 31.15 18 P 16 29 56.7
baz=203
N58A Sunbury 31.25 14 P P **16 29 56.9 -0.9**
N58A IAmb IAmb 16 29 59.0
comp=Z,57nm,0.8s
N58A IAMs_20 IAMs_20 16 42 48.3
comp=Z,2µm,20.0s
N58A Sunbury 31.25 14 P 16 29 57.8
baz=198,SNR=21
M54A Oil Creek Stat 31.29 10 P 16 29 57.5
baz=193,SNR=14
M54A Oil Creek Stat 31.29 10 IAmb IAmb 16 29 58.1
comp=Z,36nm,0.9s
M54A IAMs_20 IAMs_20 16 43 10.3
comp=Z,3µm,18.0s
LUPA Lehigh Univers 31.38 16 IAmb IAmb 16 29 59.8
comp=Z,42nm,1.0s
L44A Lake County Fo 31.41 358 P 16 29 57.2
baz=177
M55A Ridgway 31.41 11 IAmb IAmb 16 30 07.4
comp=Z,98nm,1.4s
M55A IAMs_20 IAMs_20 16 42 53.5
comp=Z,3µm,19.0s
M56A Emporium 31.54 12 P 16 29 59.9
baz=196,SNR=22
M56A Emporium 31.54 12 IAMs_20 IAMs_20 16 42 56.9
comp=Z,3µm,19.0s
N59A State Game Lan 31.57 16 P 16 30 00.7
baz=200,SNR=16
N59A State Game Lan 31.57 16 P P **16 30 00.5 -0.2**
AAM Ann Arbor 31.60 4 IAmb IAmb 16 30 02.1
comp=Z,93nm,1.3s
AAM IAMs_20 IAMs_20 16 43 10.7
comp=Z,2µm,19.0s
AAM Ann Arbor 31.60 4 P 16 29 59.8
baz=185
M57A Sunshine Farm, 31.63 13 IAMs_20 IAMs_20 16 43 18.2
comp=Z,3µm,18.0s
M57A Sunshine Farm, 31.63 13 P 16 30 01.1
baz=198,SNR=18
L53A Girard 31.63 9 P 16 30 00.3
baz=192,SNR=63
SCIA State Center 31.67 350 P 16 30 00.1
baz=167,SNR=7.4
N60A Cedar Hill Far 31.70 17 P 16 30 01.6
baz=201,SNR=5.4
M58A Price's Panora 31.82 14 P 16 30 02.7
baz=199,SNR=12
N61A South Mountain 31.83 18 P 16 30 02.8
baz=203
ERPA Erie 31.83 9 P 16 30 02.2
baz=192,SNR=19
SDCO Great Sand Dun 31.93 331 P 16 30 04.6
baz=143,SNR=52
SDCO Great Sand Dun 31.93 331 P P **16 30 04.1 -0.1**
SDCO IAmb IAmb 16 30 06.7
comp=Z,21nm,0.8s
X18A Snowflake 32.00 322 P P **16 30 05.9 +1.2**
X18A IAmb IAmb 16 30 19.7
comp=Z,26nm,1.0s
X18A IAMs_20 IAMs_20 16 44 13.8
comp=Z,2µm,20.0s
K50A Casco 32.15 5 IAMs_20 IAMs_20 16 43 45.3
comp=Z,2µm,18.0s
KSPA Keystone Colle 32.17 15 IAmb IAmb 16 30 06.5
comp=Z,52nm,1.0s
PAL Palisades 32.18 18 IAmb IAmb 16 30 07.0
comp=Z,27nm,0.9s
PAL Palisades 32.18 18 P 16 30 05.8
baz=204
M59A Waymart 32.24 16 P 16 30 06.3
baz=200,SNR=12
214A Organ Pipe Nat 32.26 315 P 16 30 09.0
baz=125,SNR=8.1
M60A Port Jervis 32.26 17 P 16 30 06.4
baz=202,SNR=9.0
W18A Petrified Fore 32.27 323 P 16 30 08.7
baz=133,SNR=8.1
JFWS Jewell Farm 32.29 355 P 16 30 05.2
baz=173,SNR=22
JFWS Jewell Farm 32.29 355 P P **16 30 05.1 -1.9**
L56A Greenwood 32.30 12 P 16 30 06.3
baz=196,SNR=14
BGNE Belgrade 32.30 343 P 16 30 05.8
baz=158
L56A Greenwood 32.30 12 P P **16 30 05.7 -1.4**
L56A IAmb IAmb 16 30 07.8
comp=Z,77nm,1.1s
L56A IAMs_20 IAMs_20 16 43 20.9
comp=Z,3µm,20.0s
L57A Andrews Acres 32.32 13 P 16 30 06.8
baz=198,SNR=10
LPAZ La Paz 32.35 146 P P **16 30 10.3 +1.9**
comp=Z,1.8nm,0.8s,baz=326,slow=5.9,SNR=5.6
LPAZ PcP PcP **16 32 57.9 +1.7**
comp=Z,2.5nm,0.9s,baz=141,slow=5.4,SNR=2.3
LPAZ LR LR 16 43 43.3
comp=Z,2µm,18.0s,baz=330,slow=37
LPAZ La Paz 32.35 146 P P **16 30 07.7 -0.7**
LPAZ La Paz 32.35 146 eP P **16 30 10.4 +2.1**
WVNY West Valley, N 32.35 11 IAmb IAmb 16 30 15.4
comp=Z,57nm,1.1s
L34A Svendsen Farm, 32.36 346 IAMs_20 IAMs_20 16 45 37.2
comp=Z,2µm,21.0s
J47A Sunmer 32.47 2 IAmb IAmb 16 30 14.3
comp=Z,50nm,0.8s
M61A Granite Spring 32.50 18 P 16 30 08.3
baz=204
WSPT Westport, CT 32.51 19 IAMs_20 IAMs_20 16 43 27.3
comp=Z,3µm,20.0s
S22A 4UR Ranch, Cre 32.58 329 P 16 30 10.1
baz=141,SNR=27
L58A Harry Jones Me 32.60 15 P 16 30 09.6
baz=199,SNR=11
BINY Binghamton 32.72 14 P P **16 30 10.2 -0.6**
BINY IAmb IAmb 16 30 11.1
comp=Z,65nm,0.9s
BINY IAMs_20 IAMs_20 16 42 59.0
comp=Z,1µm,18.0s
BINY Binghamton 32.72 14 P 16 30 10.3
baz=199,SNR=15
Q24A Divide 32.74 332 P 16 30 11.2
baz=144
YLE Yale 32.76 19 IAMs_20 IAMs_20 16 44 26.1
comp=Z,3µm,19.0s
K56A Middlesex 32.88 12 P 16 30 11.5
baz=196,SNR=14
M62A Hamden 32.89 19 P 16 30 11.8
baz=205
L59A Walton 32.95 16 P 16 30 12.6
baz=201,SNR=9.4
L59A Walton 32.95 16 IAmb IAmb 16 30 13.3
comp=Z,58nm,0.9s
L59A IAMs_20 IAMs_20 16 44 27.1
comp=Z,2µm,18.0s
L60A Shokan 32.99 17 P 16 30 13.1
baz=202,SNR=6.3
MVCO Mesa Verde 33.05 327 P 16 30 14.7
baz=138,SNR=15
MVCO Mesa Verde 33.05 327 IAmb IAmb 16 30 16.8
comp=Z,23nm,0.8s
K57A Scipio Center 33.09 13 P 16 30 13.2
baz=198,SNR=6.1

MEDO Medina 33.11 11 P P **16 30 13.3 -0.8**
MEDO IAmb IAmb 16 30 21.0
comp=Z,48nm,1.1s
M63A Gales Ferry 33.13 20 P 16 30 14.3
baz=206
OGNE Ogallala 33.14 338 P 16 30 14.1
baz=151
OGNE Ogallala 33.14 338 P P **16 30 15.0 +0.5**
OGNE IAmb IAmb 16 30 24.3
comp=Z,36nm,0.8s
J54A Appleton 33.18 10 P P **16 30 13.2 -1.5**
J54A IAmb IAmb 16 30 15.0
comp=Z,41nm,0.9s
J54A IAMs_20 IAMs_20 16 44 00.4
comp=Z,3µm,20.0s
PB16 IPOC Station P 33.33 150 P P **16 30 18.0 +1.1**
PB16 IAmb IAmb 16 30 40.8
comp=Z,36nm,1.4s
J55A Hilton 33.33 12 IAmb IAmb 16 30 34.6
comp=Z,30nm,0.9s
K58A Earlville 33.33 15 P 16 30 15.1
baz=199,SNR=12
K58A Earlville 33.33 15 IAmb IAmb 16 30 16.1
comp=Z,52nm,0.9s
I51A Listowel 33.34 7 P 16 30 14.9
baz=190,SNR=41
L61A Hillsdale 1, H 33.37 18 P 16 30 16.2
baz=203
L62A Suffield 33.50 19 P 16 30 17.0
baz=205
L62A Suffield 33.50 19 IAMs_20 IAMs_20 16 44 47.6
comp=Z,3µm,19.0s
WUAZ Wupatki 33.52 322 IAmb IAmb 16 30 23.8
comp=Z,32nm,0.9s
WUAZ Wupatki 33.52 322 P 16 30 19.5
baz=132,SNR=26
J56A Wolcott 33.54 13 P P **16 30 16.6 -1.2**
J56A IAMs_20 IAMs_20 16 44 19.7
comp=Z,3µm,19.0s
J56A Wolcott 33.54 13 P 16 30 16.8
baz=197,SNR=22
K59A Cooperstown 33.55 16 P 16 30 17.2
baz=201,SNR=11
M64A Tiverton 33.55 21 P 16 30 17.6
baz=208
K31A O'Neill 33.59 343 IAMs_20 IAMs_20 16 45 23.7
comp=Z,2µm,22.0s
ISCO Idaho Springs 33.63 333 P 16 30 18.9
baz=144,SNR=7.3
K60A Five Rivers En 33.66 17 P 16 30 18.9
baz=202
L63A North Scituate 33.69 20 IAMs_20 IAMs_20 16 45 14.6
comp=Z,3µm,19.0s
H43A Windswept, Lux 33.69 358 P P **16 30 16.8 -2.4**
H43A IAMs_20 IAMs_20 16 44 43.1
comp=Z,1µm,18.0s
M65A Busby, Falmout 33.76 22 IAMs_20 IAMs_20 16 45 18.5
comp=Z,2µm,20.0s
BRYW Bryant College 33.76 20 IAMs_20 IAMs_20 16 45 17.5
comp=Z,3µm,19.0s
QUA2 Belchertown 33.82 19 IAMs_20 IAMs_20 16 44 58.1
comp=Z,3µm,19.0s
TRY Troy 33.83 17 P P **16 30 20.3 -0.1**
TRY IAmb IAmb 16 30 21.6
comp=Z,55nm,0.9s
J57A Williamstown 33.86 14 P 16 30 19.3
baz=198,SNR=14
J57A Williamstown 33.86 14 IAmb IAmb 16 30 38.8
comp=Z,60nm,1.1s
J57A IAMs_20 IAMs_20 16 44 19.2
comp=Z,3µm,20.0s
L61B Northampton 33.87 18 P 16 30 20.0
baz=205
PV15 Paradox Valley 33.88 328 IAmb IAmb 16 30 34.5
comp=Z,21nm,0.8s
K61A Williamstown 33.89 18 P 16 30 21.1
baz=204
PV02 Paradox Valley 33.91 328 IAmb IAmb 16 30 36.8
comp=Z,26nm,0.9s
PV13 Radium Mtn., P 33.92 327 IAmb IAmb 16 30 32.5
comp=Z,27nm,0.7s
PV03 Paradox Valley 34.01 328 IAmb IAmb 16 30 31.5
comp=Z,33nm,0.7s
PV05 Paradox Valley 34.01 327 P P **16 30 22.7 +0.4**
PV05 IAmb IAmb 16 30 31.3
comp=Z,31nm,0.7s
PV12 Saucer Basin, 34.03 328 IAmb IAmb 16 30 31.9
comp=Z,48nm,0.8s
PV07 Paradox Valley 34.04 328 IAmb IAmb 16 30 37.9
comp=Z,27nm,1.1s
ITTB Itaituba 34.04 114 eP P **16 30 22.9 +0.3**
PV11 David Mesa, Pa 34.05 328 P P **16 30 23.0 +0.3**
GLMI Grayling 34.06 2 IAMs_20 IAMs_20 16 45 05.9
comp=Z,2µm,18.0s
GLMI Grayling 34.06 2 P 16 30 20.7
baz=183
PV16 Nyswonger Mesa 34.09 328 IAmb IAmb 16 30 37.5
comp=Z,36nm,0.7s
ECSD EROS Data Cent 34.10 347 P 16 30 20.5
baz=162,SNR=36
ECSD EROS Data Cent 34.10 347 IAMs_20 IAMs_20 16 46 28.0
comp=Z,2µm,21.0s
ECSD EROS Data Cent 34.10 347 IAmb IAmb 16 30 28.6
comp=Z,41nm,0.8s
PV19 Morning Glory 34.12 328 IAmb IAmb 16 30 34.5
comp=Z,35nm,0.6s
PV20 West Nyswonger 34.13 328 IAmb IAmb 16 30 32.4
comp=Z,27nm,0.7s
PECO Prince Edward 34.14 12 IAmb IAmb 16 30 41.3
comp=Z,40nm,1.0s
PECO IAMs_20 IAMs_20 16 44 47.6
comp=Z,3µm,19.0s
PV04 Paradox Valley 34.14 328 IAmb IAmb 16 30 37.0
comp=Z,33nm,0.8s
PV14 Lion Creek, Pa 34.19 328 P P **16 30 23.9 0.0**
PV14 IAmb IAmb 16 30 34.8
comp=Z,31nm,0.7s
PV10 Paradox Valley 34.20 328 IAmb IAmb 16 30 37.8
comp=Z,59nm,0.8s
K62A Royalston 34.20 19 IAMs_20 IAMs_20 16 44 59.3
comp=Z,3µm,20.0s
K62A Royalston 34.20 19 P 16 30 23.2
baz=205
WES Weston 34.25 20 IAMs_20 IAMs_20 16 44 50.5
comp=Z,3µm,20.0s
J59A Piesco 34.28 16 P 16 30 23.3
baz=201,SNR=6.4
HRV Adam Dziewonsk 34.28 20 IAMs_20 IAMs_20 16 44 51.3
comp=Z,3µm,20.0s
GLA Glamis 34.28 315 P P **16 30 26.9 +2.4**
GLA IAmb IAmb 16 30 36.3
comp=Z,65nm,1.4s
GLA Glamis 34.28 315 P 16 30 27.0
baz=124
MALB Monte Alegre 34.36 109 eP P **16 30 25.6 +0.3**
I58A Old Forge 34.37 15 P 16 30 24.2
baz=200,SNR=12
J60A Lant Hill Farm 34.37 17 P 16 30 24.8
baz=203,SNR=8.0
I57A Carthage 34.44 14 P 16 30 24.7
baz=199,SNR=7.9
H53A Bobcaygeon 34.45 10 P 16 30 24.4
baz=194,SNR=24
K63A Dunstable 34.45 20 P 16 30 25.4
baz=206
K63A Dunstable 34.45 20 IAMs_20 IAMs_20 16 45 06.9
comp=Z,2µm,20.0s
PDMCI Parker Dam,Lak 34.54 317 P 16 30 27.8
baz=126,SNR=12
SADO Sadowa 34.55 9 P P **16 30 24.3 -2.3**
comp=Z,40nm,0.8s,baz=213,slow=8.4,SNR=41
SADO Sadowa 34.55 9 IAmb IAmb 16 30 26.4
comp=Z,47nm,0.8s
SADO IAMs_20 IAMs_20 16 44 52.7
comp=Z,2µm,19.0s
DELO Deloro Mine 34.57 11 IAmb IAmb 16 30 45.2
comp=Z,42nm,1.4s
G40A Rib Lake 34.62 355 IAmb IAmb 16 30 26.6
comp=Z,40nm,0.9s
N23A Red Feather La 34.67 334 P 16 30 28.1
baz=145,SNR=11
J61A Chester 34.72 18 P 16 30 27.9
baz=204
I59A Olmsteadville 34.76 16 P 16 30 27.4
baz=202,SNR=11
PHWY Pilot Hill 34.79 335 P P **16 30 28.9 -0.3**
J62A Henniker 34.84 19 P 16 30 29.2
baz=206

W13A Hualapai Mount 34.84 319 IAMs_20 IAMs_20 16 47 18.2
comp=Z,1µm,21.0s
SPMN Marine on St. 34.86 352 P 16 30 26.9
baz=169,SNR=9.6
SWSC Sam W. Stewart 34.91 314 P 16 30 32.3
baz=123,SNR=5.5
I60A Shoreham 34.96 17 P 16 30 29.6
baz=203
CCX Cicese 34.97 312 IAMs_20 IAMs_20 16 46 48.6
comp=Z,1µm,20.0s
IKP In-Ko-Pah, Jac 34.97 313 P 16 30 32.9
baz=122,SNR=13
H57A Richville 34.99 14 P 16 30 29.2
baz=199,SNR=9.5
PB08 IPOC Station P 35.04 151 IAMs_20 IAMs_20 16 46 09.6
comp=Z,2µm,19.0s
BC3 Big Chuckawall 35.06 315 P 16 30 33.7
baz=124,SNR=15
VILB Vilhena 35.08 131 eP P **16 30 33.5 +1.9**
FFD Franklin Falls 35.12 19 IAMs_20 IAMs_20 16 45 37.3
comp=Z,3µm,19.0s
O20A White River Ci 35.12 330 P 16 30 32.7
baz=141,SNR=7.7
IRM Iron Mountain 35.13 316 P 16 30 33.9
baz=125,SNR=6.2
NEE2 Needles Airpor 35.13 318 P 16 30 33.6
baz=126
J63A Strafford 35.13 20 P 16 30 31.3
baz=207
HNH Hanover 35.13 18 IAmb IAmb 16 30 52.7
comp=Z,46nm,1.4s
PLVO Plevna 35.18 12 IAmb IAmb 16 30 50.4
comp=Z,40nm,1.1s
PLVO IAMs_20 IAMs_20 16 45 12.2
comp=Z,3µm,19.0s
H58A Gabriels 35.25 15 P 16 30 31.5
baz=201,SNR=8.3
MONP2 Monument Peak 35.32 313 P 16 30 36.3
baz=122,SNR=6.4
SUSD Miller 35.34 344 P 16 30 31.3
baz=158
G54A Lake Saint Pet 35.34 10 P 16 30 31.9
baz=194,SNR=20
LONY Lake Ozonia 35.34 15 P 16 30 32.2
baz=200,SNR=12
LONY Lake Ozonia 35.34 15 P P **16 30 31.4 -2.0**
LONY IAmb IAmb 16 30 51.7
comp=Z,61nm,1.0s
COWI Conover 35.38 357 IAmb IAmb 16 30 32.8
comp=Z,30nm,0.8s
COWI IAMs_20 IAMs_20 16 46 02.7
comp=Z,1µm,18.0s
I62A Tamworth 35.58 19 IAMs_20 IAMs_20 16 45 51.6
comp=Z,3µm,19.0s
I62A Tamworth 35.58 19 P 16 30 35.0
baz=206
E43A Lone Tree Farm 35.58 359 IAmb IAmb 16 30 45.3
comp=Z,55nm,0.9s
F36A Milaca 35.58 352 IAmb IAmb 16 30 41.5
comp=Z,49nm,0.9s
H59A Cadyville 35.59 16 P 16 30 34.2
baz=202,SNR=6.2
NPGB Novo Progresso 35.61 118 eP P **16 30 36.0 -0.1**
E46A Sault Ste Mari 35.62 3 IAMs_20 IAMs_20 16 46 03.0
comp=Z,2µm,18.0s
BELC Belle Mtn. Jos 35.62 315 P 16 30 37.9
baz=124,SNR=10
G57A Newington 35.70 14 P 16 30 35.1
baz=199,SNR=6.3
LBNH Lisbon 35.73 18 P P **16 30 36.1 -0.7**
LBNH IAmb IAmb 16 30 37.1
comp=Z,49nm,1.4s
LBNH Lisbon 35.73 18 P 16 30 36.5
baz=205
TPFO Pinon Flats 35.73 314 P 16 30 39.6
baz=123,SNR=6.4
XPFO Pion Flat 35.73 314 IAMs_20 IAMs_20 16 45 48.7
comp=Z,2µm,22.0s
PFO Pinyon Flats O 35.73 314 P 16 30 39.3
baz=123,SNR=6.3
PFO Pinyon Flats O 35.73 314 P P **16 30 39.2 +2.1**
comp=Z,6.0nm,0.9s,baz=121,slow=12,SNR=14
PFO PcP PcP **16 33 08.0 +3.0**
comp=Z,4.4nm,1.0s,baz=117,slow=0.7,SNR=4.6
PFO Pinyon Flats O 35.73 314 IAMs_20 IAMs_20 16 45 49.7
comp=Z,2µm,21.0s
H60A Morristown 35.79 17 P 16 30 36.5
baz=203
109C Camp Elliot, M 35.81 313 P 16 30 39.7
baz=121
GMRC Granite Mounta 35.84 317 P 16 30 40.1
baz=125,SNR=9.4
RWWY Rawlins 35.87 333 IAmb IAmb 16 30 47.6
comp=Z,32nm,1.0s
ALGO Algonquin Park 35.88 10 P 16 30 36.4
baz=194,SNR=18
MCPB Macapa, AP 35.92 106 eP P **16 30 39.4 +0.6**
G58A Ormstown 35.97 15 P 16 30 37.5
baz=201,SNR=6.4
I63A Otisfield 35.98 20 IAmb IAmb 16 30 39.5
comp=Z,38nm,1.1s
I63A IAMs_20 IAMs_20 16 46 03.2
comp=Z,2µm,20.0s
I63A Otisfield 35.98 20 P 16 30 38.5
baz=207
H61A Lyndonville 35.99 18 P 16 30 39.3
baz=205
MSU Marysvale 36.02 325 P P **16 30 40.7 +1.1**
MVU Marysvale 36.03 325 IAmb IAmb 16 30 59.8
comp=Z,70nm,1.1s
F33A 5 Mile Ranch, 36.04 348 IAMs_20 IAMs_20 16 47 14.4
comp=Z,1µm,20.0s
E38A The Farm, Brul 36.07 354 IAmb IAmb 16 30 49.4
comp=Z,52nm,0.9s
MURC Murrieta 36.25 314 P 16 30 44.0
baz=122
H62A Milan 36.26 19 P 16 30 40.6
baz=206
D41A Chassel 36.31 358 IAmb IAmb 16 30 41.0
comp=Z,56nm,1.1s
D41A IAMs_20 IAMs_20 16 46 31.3
comp=Z,1µm,18.0s
HEC Hector,Ludlow 36.32 316 P 16 30 44.3
baz=124,SNR=6.4
K22A Casper 36.35 335 P 16 30 42.0
baz=145,SNR=6.2
G60A Masonville 36.38 17 P 16 30 41.4
baz=204,SNR=6.5
BBRC Big Bear Solar 36.41 315 P 16 30 45.9
baz=123
PB09 IPOC Station P 36.42 152 IAmb IAmb 16 31 11.9
comp=Z,44nm,1.4s
F57A Harrington 36.43 14 P 16 30 41.3
baz=200
SIV San Ignacio 36.51 136 P P **16 30 45.4 +1.5**
comp=Z,14nm,0.7s,baz=316,slow=8.1,SNR=55
SIV PcP PcP **16 33 10.2 +2.8**
comp=Z,9.1nm,0.7s,baz=260,slow=3.7,SNR=8.6
SHPR Sheep Range 36.52 319 P P **16 30 43.0 -0.9**
MOQ Mont Orford 36.60 17 P P **16 30 43.5 -0.9**
RSSD Black Hills 36.63 339 P 16 30 44.2
baz=150
RSSD Black Hills 36.63 339 P P **16 30 42.0 -2.8**
H63A New Sharon 36.70 20 P 16 30 44.6
baz=208
E55A Montcerf-Lytto 36.74 12 P 16 30 43.9
baz=197
WVL Waterville 36.74 20 IAMs_20 IAMs_20 16 47 15.4
comp=Z,2µm,18.0s
G61A St-Isidore-de- 36.79 18 P 16 30 45.6
baz=205
SHOC Shoshone, Teco 36.89 318 P 16 30 48.2
baz=126
GSC Goldstone, Bar 36.90 317 IAMs_20 IAMs_20 16 48 44.7
comp=Z,1µm,20.0s
GSC Goldstone, Bar 36.90 317 P 16 30 48.8
baz=124
SCI2 San Clemente I 36.90 312 P 16 30 48.8
baz=120
BFSC Mount Baldy Ra 36.91 314 P 16 30 49.2
baz=122,SNR=5.3
F59A Saint Guilaume 36.95 16 P 16 30 45.7
baz=203
H64A Troy 36.96 21 P 16 30 46.7
baz=209
PSUT Pine Spring 37.01 323 P P **16 30 49.1 +1.1**
PRN Pahroc Range 37.01 321 IAMs_20 IAMs_20 16 46 52.5
comp=Z,2µm,22.0s

CIS Catalina Islan 37.02 313 P 16 30 50.4
baz=120
G62A West of Eustis 37.04 19 P 16 30 47.8
baz=206,SNR=10
G62A West of Eustis 37.04 19 IAmb IAmb 16 30 48.9
comp=Z,42nm,0.8s
E56A St. Veronique 37.05 13 P 16 30 46.4
baz=195,SNR=5.6
G63A Kingsbury 37.24 20 P 16 30 49.2
baz=208
CLDB Colider 37.25 124 eP P **16 30 50.6 +0.5**
LVC Limon Verde 37.28 153 P P **16 30 53.1 +2.5**
comp=Z,5.9nm,0.8s,baz=356,slow=4.0,SNR=5.3
LVC Limon Verde 37.28 153 IAMs_20 IAMs_20 16 48 08.0
comp=Z,1µm,20.0s
LVC Limon Verde 37.28 153 eP P **16 30 52.7 +2.1**
F60A Warwick 37.29 17 P 16 30 48.6
baz=204,SNR=6.5
E58A La Victoria 37.30 15 P 16 30 48.7
baz=202,SNR=8.5
H65A Eastbrook 37.35 22 P 16 30 50.2
baz=210
EYMN Ely 37.39 354 P 16 30 48.4
baz=172
DECC Green Verdugo 37.39 314 P 16 30 53.4
baz=121
D55A Sainte-Anne-du 37.40 12 P 16 30 49.1
baz=198,SNR=19
D32A Dogwood Acres, 37.42 348 IAMs_20 IAMs_20 16 47 57.1
comp=Z,1µm,20.0s
PKME Peaks-Kenny Pk 37.48 20 IAmb IAmb 16 30 52.6
comp=Z,34nm,0.8s
PKME Peaks-Kenny Pk 37.48 20 P 16 30 51.5
baz=208
EDW2 Edwards Air Fo 37.49 315 P 16 30 53.8
baz=122,SNR=9.8
TPNV Topopah Spring 37.49 319 P P **16 30 53.9 +1.8**
TPNV IAMs_20 IAMs_20 16 48 46.2
comp=Z,1µm,20.0s
TPNV Topopah Spring 37.49 319 P 16 30 54.3
baz=127,SNR=20
PTLB Pontes e Lacer 37.49 133 eP P **16 30 52.9 +0.8**
DUG Dugway, Tooele 37.54 326 IAMs_20 IAMs_20 16 48 00.5
comp=Z,1µm,18.0s
DUG Dugway, Tooele 37.54 326 P 16 30 53.2
baz=134,SNR=9.1
F61A St Evariste 37.58 18 P 16 30 51.5
baz=205
D56A ZEC Mazanza, M 37.59 13 P 16 30 51.0
baz=199
SPR3 Spring Creek 3 37.59 323 P P **16 30 53.8 +0.7**
LRMC Laurel Mtn Rad 37.59 316 P 16 30 55.0
baz=123,SNR=9.9
FURC Furnace Creek, 37.60 318 P 16 30 55.1
baz=126,SNR=6.8
EMMW East Machias 37.66 22 IAMs_20 IAMs_20 16 48 05.5
comp=Z,2µm,18.0s
G64A Maxfield 37.66 21 P 16 30 52.8
baz=209
SNCC San Nicolas Is 37.75 312 IAMs_20 IAMs_20 16 44 39.2
comp=Z,1µm,19.0s
E28A Huff 37.77 344 IAmb IAmb 16 31 00.6
comp=Z,51nm,1.1s
E28A IAMs_20 IAMs_20 16 49 16.3
comp=Z,1µm,19.0s
BW06 Boulder Array 37.79 332 P 16 30 54.1
baz=141,SNR=12
PDAR Pinedale Array 37.79 332 P P **16 30 54.5 -0.1**
comp=Z,8.5nm,0.7s,baz=129,slow=8.9,SNR=63
PDAR PcP PcP **16 33 12.2 +1.1**
comp=Z,3.2nm,0.8s,baz=137,slow=3.6,SNR=5.1
PDAR ScP ScP **16 36 59.8 +2.4**
comp=Z,3.8nm,1.1s,baz=120,slow=5.3,SNR=9.0
PDAR Pinedale Array 37.79 332 P P **16 30 53.3 -1.3**
PDAR PcP **16 33 11.3 +0.1**
E60A Ste Agathe de 37.80 17 P 16 30 53.3
baz=204
OSI Osito Audit: C 37.86 314 P 16 30 56.9
baz=121
HWUT Hardware Ranch 37.89 329 P P **16 30 55.0 -0.5**
HWUT IAmb IAmb 16 30 57.7
comp=Z,41nm,0.9s
R11A Troy Canyon, C 37.93 321 P 16 30 56.9
baz=129
F63A Nahmakanta, Br 37.93 20 P 16 30 54.7
baz=208
G65A Princeton 38.03 22 IAmb IAmb 16 30 57.4
comp=Z,35nm,0.8s
G65A IAMs_20 IAMs_20 16 47 15.6
comp=Z,2µm,19.0s
G65A Princeton 38.03 22 P 16 30 56.0
baz=211
D58A Chemin du LacG 38.08 15 P 16 30 55.5
baz=202,SNR=10
BGU Big Grassy Mou 38.17 327 P P **16 30 58.4 +0.6**
SCZ2 Santa Cruz Isl 38.20 313 P 16 30 59.4
baz=120
ARVC Arvin 38.20 315 P 16 31 00.4
baz=122
GGN Saint George 38.23 23 IAMs_20 IAMs_20 16 47 33.0
comp=Z,2µm,20.0s
ISA Isabella, Lake 38.24 316 P 16 31 00.1
baz=123,SNR=6.8
ISA Isabella, Lake 38.24 316 IAMs_20 IAMs_20 16 48 51.1
comp=Z,1µm,21.0s
GRAC Grapevine Rang 38.24 318 P 16 31 00.9
baz=125,SNR=8.9
AGMN Agassiz Nation 38.33 350 P 16 30 56.6
baz=165,SNR=16
AGMN Agassiz Nation 38.33 350 IAmb IAmb 16 31 04.6
comp=Z,70nm,1.2s
AGMN IAMs_20 IAMs_20 16 48 51.8
comp=Z,1µm,19.0s
F64A Sherman 38.33 20 IAmb IAmb 16 30 59.0
comp=Z,36nm,1.0s
F64A Sherman 38.33 20 P 16 30 58.1
baz=209,SNR=6.9
LATQ La Tuque 38.37 15 P 16 30 57.6
baz=202,SNR=11
CWC Cottonwood Cre 38.40 317 P 16 31 01.9
baz=124
D60A Saint Jean D'O 38.45 17 P 16 30 59.1
baz=205
MDND Maddock 38.67 346 P 16 31 00.4
baz=159,SNR=7.4
VES Vestal, Richgr 38.75 316 P 16 31 05.0
baz=122,SNR=6.0
PKM Mcpherson Peak 38.77 314 P 16 31 05.4
baz=120,SNR=6.9
E63A Oxbow 38.79 20 P 16 31 02.1
baz=209,SNR=5.2
E63A Oxbow 38.79 20 P P **16 31 01.9 -0.8**
REDW Red Top Meadow 38.85 331 IAmb IAmb 16 31 16.6
comp=Z,47nm,0.9s
SNOW Snow King Moun 38.88 331 IAmb IAmb 16 31 06.1
comp=Z,38nm,0.8s
D61A St Aubert, Com 38.92 18 P 16 31 02.9
baz=206
E64A Bridgewater 38.99 21 P 16 31 03.9
baz=210
LSQQ Lebel-sur-Quev 39.07 10 P 16 31 03.1
baz=195
SMMC Simmler 39.11 314 P 16 31 08.5
baz=121,SNR=6.1
ELK Elko 39.27 325 P P **16 31 07.9 +0.8**
ELK PcP **16 33 16.6 +0.8**
D63A Stockholm 39.43 20 P 16 31 07.4
baz=209
PAGB Antelope Grade 39.50 315 IAmb IAmb 16 31 14.3
comp=Z,63nm,1.3s
PAGB IAMs_20 IAMs_20 16 48 11.6
comp=Z,2µm,22.0s
RLMT Red Lodge 39.52 334 P 16 31 08.8
baz=143,SNR=10
H17A Grant Village 39.52 333 P 16 31 10.2
baz=141
MLAC Mammoth, Mammo 39.56 318 P 16 31 11.2
baz=124
NV11 Mina Array Sit 39.58 320 IAmb IAmb 16 31 14.0
comp=Z,58nm,1.1s
NV11 IAMs_20 IAMs_20 16 49 00.6
comp=Z,2µm,20.0s
LAO LASA Array 39.62 339 P 16 31 09.0
baz=149,SNR=8.3
LMN Caledonia Moun 39.63 24 P P **16 31 08.8 -1.0**
LMN IAmb IAmb 16 31 10.2
comp=Z,52nm,0.8s
MATQ Matagami 39.65 9 P 16 31 07.7
baz=194,SNR=20
NVAR Mina Array Bea 39.67 320 P P **16 31 13.0 +2.5**
comp=Z,22nm,0.8s,baz=137,slow=7.0,SNR=122
NVAR PcP PcP **16 33 19.2 +2.1**
comp=Z,24nm,0.7s,baz=131,slow=3.8,SNR=35
NVAR LR LR 16 49 12.4
comp=Z,2µm,20.3s,baz=134,slow=39
NVAR Mina Array Bea 39.67 320 P P **16 31 11.7 +1.2**
LHV Little Huntoon 39.70 319 IAmb IAmb 16 31 15.2
comp=Z,46nm,0.9s
LHV IAMs_20 IAMs_20 16 48 41.8
comp=Z,2µm,21.0s
KVN Kaiserville 39.91 320 IAMs_20 IAMs_20 16 49 17.3
comp=Z,1µm,21.0s
PMPB Monarch Peak 40.13 315 IAmb IAmb 16 31 19.0
comp=Z,68nm,1.4s
PMPB IAMs_20 IAMs_20 16 48 31.3
comp=Z,2µm,22.0s
PRPB Parauapebas 40.14 113 eP P **16 31 13.8 -0.6**
ULM Lac du Bonnet 40.22 351 P P **16 31 11.8 -2.7**
comp=Z,19nm,0.8s,baz=165,slow=9.0,SNR=44
ULM PcP PcP **16 33 18.3 0.0**
comp=Z,9.9nm,0.7s,baz=131,slow=3.0,SNR=6.1
ULM ScP ScP **16 37 08.1 +1.9**
comp=Z,1.6nm,0.5s,baz=200,slow=1.3,SNR=3.3
ULM LR LR 16 49 17.6
comp=Z,892nm,18.1s,baz=166,slow=39
ULM Lac du Bonnet 40.22 351 P P **16 31 11.1 -3.4**
ULM **PcP 16 33 18.3 0.0**
GCMT Greycliff 40.22 335 P P **16 31 14.1 -0.8**
TMAB Tom-Au,PA,Br 40.31 107 eP P **16 31 14.7 -1.1**
BATG Bathurst New B 40.35 22 P P **16 31 14.3 -1.4**
BATG IAMs_20 IAMs_20 16 48 45.8
comp=Z,2µm,19.0s
WAKR Walker 40.45 319 IAmb IAmb 16 31 21.3
comp=Z,41nm,1.0s
DGMT Dagmar 40.50 342 IAMs_20 IAMs_20 16 49 43.6
comp=Z,1µm,21.0s
DGMT Dagmar 40.50 342 IAmb IAmb 16 31 24.3
comp=Z,57nm,0.8s
YERR Yerington 40.59 320 IAMs_20 IAMs_20 16 51 15.4
comp=Z,1µm,21.0s
BCYI Bear Canyon 40.79 330 P P **16 31 19.9 +0.2**
SAO San Andreas Ge 40.86 315 P P **16 31 20.9 +0.8**
SAO IAMs_20 IAMs_20 16 49 03.5
comp=Z,1µm,21.0s
PNTR Pine Nut 40.88 319 IAMs_20 IAMs_20 16 50 47.1
comp=Z,1µm,20.0s
BOZ Bozeman (W) 40.92 333 P 16 31 20.7
baz=140,SNR=16
VCNR Virginia City 41.03 320 IAMs_20 IAMs_20 16 50 53.0
comp=Z,1µm,20.0s
PAHR Pah Rah Range 41.10 320 IAMs_20 IAMs_20 16 50 03.9
comp=Z,1µm,22.0s
RUBR Rubicon Trail 41.22 319 IAMs_20 IAMs_20 16 49 54.9
comp=Z,2µm,21.0s
SNDB Serra Nova Dou 41.55 122 eP P **16 31 26.6 +0.5**
AFDM Forest Hills D 41.69 318 P P **16 31 28.7 +1.8**
BEKR Beckworth 41.81 320 IAMs_20 IAMs_20 16 50 06.6
comp=Z,1µm,22.0s
PP1B Ponte de Pedra 41.98 132 eP P **16 31 31.2 +1.7**
EGMT Eagleton 42.06 337 P 16 31 29.4
baz=145,SNR=12
EGMT Eagleton 42.06 337 P P **16 31 29.2 -0.6**
WVOR Wild Horse Val 42.30 324 IAmb IAmb 16 31 46.7
comp=Z,34nm,0.9s
ORV Oroville 42.37 319 IAmb IAmb 16 31 36.5
comp=Z,48nm,1.1s
ORV IAMs_20 IAMs_20 16 50 14.3
comp=Z,1µm,22.0s
MCCM Marconi Confer 42.54 316 IAmb IAmb 16 31 37.4
comp=Z,56nm,1.1s
MCCM IAMs_20 IAMs_20 16 49 44.0
comp=Z,1µm,22.0s
GDXM Geysers 42.82 317 IAMs_20 IAMs_20 16 50 07.4
comp=Z,2µm,21.0s
MSO Missoula 42.90 332 P 16 31 36.3
baz=138,SNR=8.9
MOD Modoc Plateau 42.96 322 IAMs_20 IAMs_20 16 51 13.9
comp=Z,1µm,20.0s
O03E Paynes Creek 42.97 320 P 16 31 37.9
baz=124,SNR=9.4
HOPS Hopland Field 43.10 317 IAMs_20 IAMs_20 16 50 16.9
comp=Z,2µm,22.0s
BMO Blue Mountains 43.15 328 P P **16 31 37.8 -1.0**
ARAG Araguaiana, MT 43.17 127 eP P **16 31 40.0 +0.8**
SMTB Santa Maria do 43.27 115 eP P **16 31 39.5 -0.5**
AQDB Aquidauana 43.28 136 eP P **16 31 41.1 +1.0**
O02D Mt. Diablo Mer 43.53 319 P 16 31 42.0
baz=122,SNR=7.2
KCPM Cahto Peak 43.80 318 P P **16 31 46.5 +2.4**
KCPM IAmb IAmb 16 31 55.8
comp=Z,56nm,1.1s
M04C Macdoel 43.82 321 P 16 31 44.9
baz=125,SNR=9.0
I07A Izee 43.84 325 P P **16 31 43.7 -0.7**
N02D Trinity Center 43.91 320 P 16 31 45.8
baz=123
PEXB Peixe 44.14 120 eP P **16 31 47.2 +0.1**
KMRM Mail Ridge 44.16 318 P P **16 31 47.1 +0.1**
KMRM IAmb IAmb 16 31 50.5
comp=Z,66nm,1.1s
KMRM IAMs_20 IAMs_20 16 50 30.5
comp=Z,1µm,21.0s
M02C Callahan 44.23 320 P 16 31 47.3
baz=123
ROSB Rosrio 44.24 105 eP P **16 31 47.0 -0.9**
YBH Yreka Blue Hor 44.33 321 P P **16 31 48.1 -0.2**
comp=Z,7.4nm,1.0s,baz=140,slow=5.6,SNR=9.3
YBH Yreka Blue Hor 44.33 321 P P **16 31 47.9 -0.5**
YBH IAMs_20 IAMs_20 16 52 51.3
comp=Z,2µm,22.0s
J05D Fort Rock, OR 44.33 323 P 16 31 48.6
baz=127
L04D Klamath Falls 44.35 322 P 16 31 48.4
baz=125,SNR=8.2
H03N2 Juan Fernandez 44.45 171 T T 17 19 15.5
baz=349,slow=76,SNR=12
H03N1 Juan Fernandez 44.45 171 T T 17 19 22.4
baz=349,slow=76,SNR=10
H03N3 Juan Fernandez 44.47 171 T T 17 19 21.2
baz=349,slow=76,SNR=11
PINE Pine Mountain 44.47 324 P P **16 31 49.4 -0.1**
KHMM Horse Mountain 44.51 319 P P **16 31 49.0 -0.9**
KHMM IAmb IAmb 16 31 53.0
comp=Z,36nm,1.0s
KHMM IAMs_20 IAMs_20 16 51 46.2
comp=Z,2µm,21.0s
E09A Wood Farm, Sta 44.71 329 P P **16 31 51.5 +0.4**
J04D Umpqua Nationa 44.82 323 P 16 31 52.6
baz=126,SNR=9.0
HUMO Hull Mountain 44.97 322 IAMs_20 IAMs_20 16 53 38.3
comp=Z,2µm,21.0s
I05D Terrebonne, OR 45.03 325 P 16 31 55.4
baz=127
I04A Tendick Farm, 45.33 323 P 16 31 56.3
baz=126,SNR=10.0
HAWA Hanford 45.34 328 P P **16 31 55.6 -0.6**
HAWA IAmb IAmb 16 31 57.7
comp=Z,27nm,0.9s
HAWA IAMs_20 IAMs_20 16 54 30.9
comp=Z,1µm,21.0s
DRLN Deer Lake 45.37 26 P P **16 31 54.2 -2.1**
DRLN IAmb IAmb 16 31 58.5
comp=Z,33nm,0.9s
NEW Newport 45.42 331 P 16 31 56.2
baz=135
NEW Newport 45.43 331 P P **16 31 56.2 -0.7**
comp=Z,4.7nm,0.8s,baz=131,slow=12,SNR=5.9
NEW PcP PcP **16 33 36.3 +0.5**
comp=Z,6.3nm,1.0s,baz=114,slow=4.7,SNR=4.0
NEW Newport 45.43 331 IAMs_20 IAMs_20 16 53 39.1
comp=Z,967nm,21.0s
K02D Willamette Mer 45.45 321 P 16 31 57.4
baz=124
D08A Wollman Farm, 45.47 329 IAmb IAmb 16 31 58.9
comp=Z,28nm,1.1s
G05D Wamic, OR 45.57 326 P 16 31 59.2
baz=128,SNR=6.0
E07A Sunnyside 45.62 328 IAmb IAmb 16 32 00.8
comp=Z,57nm,0.9s
FFC Flin Flon 45.63 347 P P **16 31 56.3 -2.0**
FFC Flin Flon 45.63 347 IAMs_20 IAMs_20 16 54 14.1
comp=Z,1µm,18.0s
H04A Detroit Lake 45.72 324 IAmb IAmb 16 32 09.9
comp=Z,20nm,0.7s
I03D Drain, OR 45.82 323 P 16 32 00.3

baz=125
J01E Myrtle Point 45.88 322 P 16 32 01.5
baz=124,SNR=5.7
H04D Lebanon 45.94 324 P 16 32 01.4
baz=126
BDFB Brasilia 46.18 124 P **P** **16 32 03.6 +0.3**
comp=Z,28nm,0.8s,baz=291,slow=9.7,SNR=31
BDFB LR LR 16 52 02.7
comp=Z,3µm,18.3s,baz=305,slow=37
BDFB Brasilia 46.18 124 P **P** **16 32 03.8 +0.5**
BDFB IAmb IAmb 16 32 04.9
comp=Z,39nm,0.9s
I02D Swisshome 46.35 323 P 16 32 05.1
baz=124
CPUP Villa Florida 46.42 143 P **P** **16 32 07.4 +2.5**
comp=Z,5.1nm,0.7s,baz=327,slow=8.5,SNR=11
CPUP PcP **PcP** **16 33 42.0 +2.4**
comp=Z,5.2nm,1.0s,baz=312,slow=4.8,SNR=3.1
CPUP LR LR 16 52 21.0
comp=Z,709nm,18.7s,baz=328,slow=37
LTY Liberty 46.50 328 IAmb IAmb 16 32 07.1
comp=Z,22nm,1.2s
ITRB Iturama 46.64 130 *e*P **P** **16 32 07.4 +0.6**
G03D McMinnville, O 46.65 324 P 16 32 06.9
baz=126
LON Longmire 46.78 327 P **P** **16 32 07.3 -0.3**
LON IAmb IAmb 16 32 17.9
comp=Z,16nm,0.8s
LON IAMs_20 IAMs_20 16 55 02.9
comp=Z,939nm,21.0s
C06D Leavenworth 47.05 329 P 16 32 09.6
baz=131
PCMB Pacaembu 47.15 133 *e*P **P** **16 32 11.4 +0.7**
SDBA SAO DESIDERIO 47.21 118 *e*P **P** **16 32 10.6 -0.8**
IPMB Ipameri, GO 47.29 127 *e*P **P** **16 32 12.5 +0.5**
B06A Marblemount 47.73 329 IAmb IAmb 16 32 16.1
comp=Z,37nm,0.8s
B05A Bryant 47.88 328 P 16 32 15.6
baz=130
D03D Eldon 47.95 327 P 16 32 16.4
baz=128,SNR=6.0
BB19B Bebedouro 48.83 130 *e*P **P** **16 32 25.1 +1.3**
JANB Januaria 48.96 121 *e*P **P** **16 32 24.6 -0.3**
ITAB Concordia 50.28 139 *e*P **P** **16 32 36.0 +1.3**
DIAM Diamantina, MG 51.10 124 *e*P **P** **16 32 41.3 0.0**
GDU01 Guandu, BA 52.44 117 *e*P **P** **16 32 50.4 -0.8**
PLTB Pedras Altas 52.63 144 *e*P **P** **16 32 52.9 +0.7**
NBIT Itapeh - BA 53.09 118 *e*P **P** **16 32 56.0 +0.1**
PLCA Paso Flores 53.22 165 P **P** **16 32 57.7 +1.2**
comp=Z,7.5nm,0.9s,baz=348,slow=9.3,SNR=12
PLCA LR LR 16 51 13.6
comp=Z,427nm,18.6s,baz=12,slow=31
PLCA Paso Flores 53.22 165 P **P** **16 32 56.7 +0.2**
PLCA Paso Flores 53.22 165 *e*P **P** **16 32 57.5 +1.0**
SJMB Sao Joao De Ma 53.34 123 *e*P **P** **16 32 57.9 +0.1**
BSFB Barra de Sao F 53.69 123 *e*P **P** **16 33 00.5 +0.3**
NBAN Anadia - AL 53.85 110 *e*P **P** **16 33 00.7 -0.9**
RIB01 Linhares ES 54.30 123 *e*P **P** **16 33 04.5 -0.2**
ALF01 Guarapari-ES 54.67 125 *e*P **P** **16 33 07.9 +0.5**
YKA Yellowknife Ar 55.57 345 P **P** **16 33 11.4 -1.9**
comp=Z,7.8nm,0.9s,baz=135,slow=7.9,SNR=94
YKA PcP **PcP** **16 34 13.2 +0.4**
comp=Z,2.2nm,0.7s,baz=142,slow=4.5,SNR=12
YKA ScP **ScP** **16 38 12.6 +2.1**
comp=Z,1.0nm,0.7s,baz=140,slow=4.7,SNR=6.5
DLBC Dease Lake 57.92 335 IAmb IAmb 16 33 38.6
comp=Z,25nm,0.9s
RKT Rikitea 58.16 234 *e*S **S** **16 41 31.5 -1.1**
RKT *e*LQ LQ 16 48 09.5
comp=Z,1µm,26.5s
RKT *e*LR LR 16 50 36.0
comp=Z,663nm,25.5s
SFJD Kangerlussuaq 61.16 15 P **P** **16 33 48.9 -3.2**
comp=Z,4.7nm,0.7s,baz=223,slow=10,SNR=3.6
WHY Whitehorse 61.22 335 IAMs_20 IAMs_20 17 04 56.7
comp=Z,795nm,19.0s
BCPM Bancas Point 62.91 333 IAMs_20 IAMs_20 17 06 14.3
comp=Z,952nm,18.0s
PINM Pinnacle 63.25 333 P 16 34 06.7
baz=117
PCA Pinnacle 63.25 333 IAMs_20 IAMs_20 17 06 00.3
comp=Z,839nm,19.0s
TABL Table Mountain 63.80 333 IAmb IAmb 16 34 19.0
comp=Z,20nm,0.9s
TABL IAMs_20 IAMs_20 17 06 06.9
comp=Z,866nm,19.0s
MESA MESA 64.04 333 P 16 34 12.0
baz=116
CTGM Chitina Glacie 64.12 334 P **P** **16 34 12.0 -0.2**
CTGM IAMs_20 IAMs_20 17 07 23.4
comp=Z,1000nm,20.0s
CTG Chitna Glacier 64.12 334 P 16 34 12.3
baz=117
RES Resolute Bay 64.17 358 IAMs_20 IAMs_20 17 03 14.9
comp=Z,650nm,20.0s
TGL Tana Glacier 64.69 333 IAMs_20 IAMs_20 17 06 46.3
comp=Z,987nm,20.0s
DAWY Dawson 64.80 337 IAMs_20 IAMs_20 17 05 59.2
comp=Z,971nm,20.0s
CRQE Cirque 64.80 333 P 16 34 16.8
baz=115
SUCK Suckling Hills 64.83 332 IAMs_20 IAMs_20 17 05 16.2
comp=Z,1µm,20.0s
MCARA McCarthy VSAT 65.04 334 IAmb IAmb 16 34 37.7
comp=Z,24nm,1.2s
MCARA IAMs_20 IAMs_20 17 07 52.7
comp=Z,1µm,22.0s
MCARA McCarthy VSAT 65.04 334 P 16 34 18.4
baz=115
EPYK Eagle Plains 65.06 340 P **P** **16 34 17.4 -0.8**
EPYK IAmb IAmb 16 34 25.5
comp=Z,21nm,1.0s
EPYK IAMs_20 IAMs_20 17 05 15.9
comp=Z,898nm,21.0s
EPYK Eagle Plains 65.06 340 P 16 34 17.4
baz=124,SNR=9.2
INK Inuvik 65.18 343 P **P** **16 34 18.1 -0.8**
comp=Z,12nm,1.0s,baz=113,slow=7.3,SNR=23
INK ScP 16 38 57.0
comp=Z,2.6nm,1.0s,baz=234,slow=6.7,SNR=5.6
INK Inuvik 65.18 343 IAmb IAmb 16 34 19.3
comp=Z,21nm,1.1s
BMRM Bremner River 65.56 333 P 16 34 21.5
baz=114
ICESG Greenland Ices 65.59 17 *i*P **P** **16 34 17.8 -4.1**
ICESG IAmb IAmb 16 34 20.3
comp=Z,17nm,0.8s
EGAK Eagle 65.82 337 P **P** **16 34 22.1 -0.9**
EGAK Eagle 65.82 337 P 16 34 21.9
baz=118,SNR=6.9
N25K Chitina, Valde 65.82 334 IAMs_20 IAMs_20 17 08 16.3
comp=Z,704nm,21.0s
N25K Chitina, Valde 65.82 334 P 16 34 22.5
baz=114
K27K Chicken 65.82 337 IAmb IAmb 16 34 31.2
comp=Z,16nm,1.1s
K27K IAMs_20 IAMs_20 17 06 42.2
comp=Z,979nm,20.0s
EYAK Cordova Ski Ar 65.92 332 P **P** **16 34 23.3 -0.4**
EYAK IAmb IAmb 16 34 34.2
comp=Z,50nm,1.4s
EYAK Cordova Ski Ar 65.92 332 P 16 34 23.8
baz=112
MENT Mentasta 66.00 335 P **P** **16 34 23.9 -0.3**
KLU Klutina 66.36 333 IAmb IAmb 16 34 35.2
comp=Z,38nm,1.4s
KLU IAMs_20 IAMs_20 17 05 43.5
comp=Z,752nm,22.0s
KLU Klutina 66.36 333 P 16 34 26.3
baz=112
DOT Dot Lake 66.44 336 IAmb IAmb 16 34 35.0
comp=Z,18nm,0.9s
SCRK Sand Creek 66.55 336 IAMs_20 IAMs_20 17 08 23.4
comp=Z,944nm,20.0s
SCRK Sand Creek 66.55 336 P 16 34 27.7
baz=115,SNR=7.8
M24K Tolsona, Glenn 66.70 334 IAmb IAmb 16 34 31.2
comp=Z,25nm,1.1s
M24K Tolsona, Glenn 66.70 334 P 16 34 29.7
baz=112
PAX Paxson 66.74 335 P **P** **16 34 28.2 -0.9**
PAX IAMs_20 IAMs_20 17 06 12.6
comp=Z,1µm,22.0s
PAX Paxson 66.74 335 P 16 34 28.8
baz=114
PMOZ Porto Moniz, M 66.90 59 *e*LR LR 16 58 12.3
comp=Z,668nm,18.0s
KNK Knik Glacier 67.46 333 IAmb IAmb 16 34 41.5
comp=Z,22nm,1.0s
KNK Knik Glacier 67.46 333 P 16 34 33.4
baz=110
SEW Seward 67.49 331 P 16 34 33.6
baz=108
SML Sawmill 67.54 333 P **P** **16 34 34.0 -0.2**
SML IAmb IAmb 16 34 42.4
comp=Z,52nm,1.4s
SML Sawmill 67.54 333 P 16 34 33.7
baz=110
O22K Cooper Landing 67.74 331 IAMs_20 IAMs_20 17 09 04.1
comp=Z,815nm,19.0s
GHO Glory Hole Cre 67.80 333 P **P** **16 34 34.9 -0.9**
GHO IAmb IAmb 16 34 36.2
comp=Z,17nm,0.9s
PRP Porcupine Dome 67.80 337 P 16 34 35.2
baz=114
PMR Palmer 67.83 333 IAMs_20 IAMs_20 17 08 37.4
comp=Z,992nm,20.0s
PMR Palmer 67.83 333 P 16 34 35.3
baz=109
HDA Harding Lake 67.91 336 P 16 34 35.8
baz=113,SNR=17
HDA P 16 34 35.8
baz=113,SNR=17
RC01 Rabbit Creek A 67.94 332 IAMs_20 IAMs_20 17 07 48.2
comp=Z,836nm,19.0s
RC01 Rabbit Creek A 67.94 332 P 16 34 35.9
baz=109
BRSE Bradley Lake S 68.00 331 P 16 34 36.8
baz=107
IL31 68.03 336 IAmb IAmb 16 34 45.2
comp=Z,23nm,1.2s
ILAR Eielson Array 68.03 336 P **P** **16 34 36.5 -0.7**
comp=Z,7.6nm,0.8s,baz=115,slow=4.5,SNR=70
ILAR LR LR 17 08 22.1
comp=Z,1µm,19.9s,baz=124,slow=40
ILAR Eielson Array 68.03 336 P **P** **16 34 36.3 -0.8**
WAT2 Susitna Watana 68.06 334 P 16 34 37.1
baz=110,SNR=13
SUMG Summit 68.06 14 *i*P **P** **16 34 34.0 -3.7**
comp=Z,21nm,0.8s
SUMG Summit 68.06 14 *i*P **P** **16 34 34.0 -3.7**
SUMG IAmb IAmb 16 34 36.6
comp=Z,21nm,0.8s
BRLK Bradley Lake 68.07 331 IAMs_20 IAMs_20 17 04 09.2
comp=Z,867nm,21.0s
FYU Fort Yukon 68.13 338 IAmb IAmb 16 34 38.8
comp=Z,30nm,1.4s
FYU IAMs_20 IAMs_20 17 07 05.3
comp=Z,608nm,21.0s
CNPM China Poot 68.17 330 IAMs_20 IAMs_20 17 07 20.7
comp=Z,700nm,18.0s
RND Reindeer 68.33 335 P **P** **16 34 38.8 -0.3**
PPT Papeete 68.36 246 LR LR 16 57 13.0
comp=Z,613nm,18.7s,baz=60,slow=29
PPT2 Papeete2 68.37 246 *e*S **S** **16 43 39.1 -1.4**
comp=Z,1µm,27.8s
PPT2 Papeete2 68.37 246 *e*LR LR 16 55 19.7
comp=Z,953nm,25.0s
POKR Poker Plat Res 68.38 337 P 16 34 38.8
baz=112,SNR=5.9
KDAK Kodiak Island 68.38 328 P 16 34 39.4
baz=105
HOM Homer 68.41 330 P 16 34 39.6
baz=106
COLA College 68.45 336 P 16 34 39.3
baz=112
TCOL CIGO, UAF Yank 68.45 336 IAmb IAmb 16 34 46.8
comp=Z,15nm,0.8s
TCOL CIGO, UAF Yank 68.45 336 P 16 34 38.9
baz=112
MCK McKinley 68.48 335 P 16 34 39.5
baz=110,SNR=15
SUA Susitna One 68.52 332 P 16 34 40.4
baz=108
CUT Chulitna 68.60 333 P 16 34 40.0
baz=109,SNR=5.6
OHAK Old Harbor 68.61 328 P 16 34 40.1
baz=104
MDM Murphy Dome 68.63 336 IAmb IAmb 16 34 48.8
comp=Z,34nm,1.4s
NEA2 Nenana 68.83 336 P 16 34 41.1
baz=111,SNR=14
TRF Thorofare Moun 68.95 334 P **P** **16 34 42.2 -0.9**
TRF IAmb IAmb 16 34 54.1
comp=Z,39nm,1.2s
TRF Thorofare Moun 68.95 334 P 16 34 42.6
baz=109,SNR=10.0
SKT Skwentna 69.03 333 P **P** **16 34 43.0 -0.5**
SKT IAmb IAmb 16 34 43.8
comp=Z,19nm,1.0s
SKT IAMs_20 IAMs_20 17 09 23.3
comp=Z,915nm,20.0s
SKT Skwentna 69.03 333 P 16 34 43.2
baz=107,SNR=8.6
I23K Minto, Yukon-K 69.15 336 IAmb IAmb 16 34 51.8
comp=Z,40nm,1.2s
I23K Minto, Yukon-K 69.15 336 P 16 34 43.6
baz=110,SNR=15
EUNU Eureka 69.38 0 P **P** **16 34 43.6 -1.8**
BPAW Bear Paw Mtn. 69.45 335 P **P** **16 34 45.1 -1.0**
BPAW IAmb IAmb 16 34 46.6
comp=Z,27nm,0.9s
BPAW IAMs_20 IAMs_20 17 07 11.3
comp=Z,785nm,20.0s
BPAW Bear Paw Mtn. 69.45 335 P 16 34 45.3
baz=109,SNR=18
CHIR Chirikof Islan 69.56 326 P 16 34 47.0
baz=101
PPLA Purkeypile 69.60 334 IAmb IAmb 16 34 54.3
comp=Z,19nm,1.0s
PPLA IAMs_20 IAMs_20 17 07 18.2
comp=Z,960nm,22.0s
PPLA Purkeypile 69.60 334 P 16 34 45.8
baz=107
COLD Coldfoot 70.20 338 P **P** **16 34 50.1 -0.5**
COLD IAmb IAmb 16 34 52.4
comp=Z,20nm,1.1s
COLD IAMs_20 IAMs_20 17 11 01.9
comp=Z,758nm,19.0s
COLD Coldfoot 70.20 338 P 16 34 50.8
baz=110,SNR=13
TBI Tubuai 70.27 240 *e*S **S** **16 44 01.3 -1.4**
comp=Z,781nm,26.8s
TBI Tubuai 70.27 240 *e*LR LR 16 56 13.6
comp=Z,889nm,25.2s,baz=64
TOLK Toolik Lake Re 70.48 340 P 16 34 51.7
baz=112
A21K Barrow 73.64 342 P 16 35 10.2
baz=106
FALS False Pass 73.84 324 P **P** **16 35 13.9 +1.3**
FALS False Pass 73.84 324 P 16 35 12.1
baz=94
PCAS Casmilo, Conde 74.02 51 *e*P **P** **16 35 12.0 -2.0**
comp=Z,32nm,1.8s
MESJ Messejana 74.27 54 *e*P **P** **16 35 14.1 -1.4**
comp=Z,17nm,1.5s
PVIS Viseu 74.47 51 *e*P **P** **16 35 14.3 -2.4**
comp=Z,14nm,2.2s
DAG Danmarks Havn 74.66 13 *i*P **P** **16 35 13.0 -4.0**
comp=Z,3.8nm,0.7s
DAG Danmarks Havn 74.66 13 *i*P **P** **16 35 13.0 -4.0**
DAG IAmb IAmb 16 35 14.2
comp=Z,3.8nm,0.7s
PVAQ Vaqueiros 74.68 54 *e*LR LR 16 58 43.4
comp=Z,905nm,18.0s
MTE Manteigas 74.74 51 *e*P **P** **16 35 16.3 -2.0**
comp=Z,14nm,1.8s
MTE Manteigas 74.74 51 *e*LR LR 17 04 09.7
comp=Z,619nm,18.0s
MTE Manteigas 74.74 51 IAMs_20 IAMs_20 17 07 26.8
comp=Z,856nm,20.0s
PCBR Castelo Branco 74.81 52 *e*P **P** **16 35 16.2 -2.3**
comp=Z,14nm,1.4s
PMRV Marv??o 74.88 52 *e*LR LR 16 59 02.1
comp=Z,518nm,20.0s
RDOG Red Dog Mine 75.10 338 P **P** **16 35 18.7 -1.0**
RDOG IAMs_20 IAMs_20 17 14 23.5
comp=Z,658nm,20.0s
RDOG Red Dog Mine 75.10 338 P 16 35 19.3
baz=98,SNR=5.4
MVO Moncorvo 75.12 50 *e*P **P** **16 35 18.2 -2.2**
comp=Z,19nm,1.9s
PBAR Barrancos 75.19 53 *e*P **P** **16 35 18.6 -2.2**
comp=Z,13nm,1.9s
PBRG Braganca 75.32 50 *e*P **P** **16 35 19.3 -2.2**
comp=Z,16nm,1.8s
ESDC Sonseca Array 77.52 52 P **P** **16 35 31.8 -2.3**
comp=Z,3.9nm,0.8s,baz=281,slow=5.8,SNR=29
ESDC LR LR 17 08 08.7
comp=Z,562nm,18.5s,baz=265,slow=35
ESDC Sonseca Array 77.52 52 P **P** **16 35 31.0 -3.1**
ESBB Sonseca Array 77.52 52 P **P** **16 35 31.3 -2.8**
SPIA Saint Paul Isl 77.75 326 P 16 35 35.9
baz=89
KOWA Kowa 80.15 77 P **P** **16 35 46.3 -2.6**
TIC Toumodi 80.41 85 *e*P **P** **16 35 48.2 -2.1**
LIC Lamto 80.48 85 *e*P **P** **16 35 48.6 -2.1**
comp=Z,37nm,0.7s
DBIC Dimbokro 80.57 85 P **P** **16 35 49.2 -1.9**
comp=Z,5.1nm,0.8s,baz=300,slow=5.8,SNR=6.2
DBIC Dimbokro 80.57 85 P **P** **16 35 49.8 -1.4**
KIC Kosan Boka 80.73 85 *e*P **P** **16 35 50.1 -2.0**
comp=Z,15nm,0.7s
ADK Adak 81.84 321 P **P** **16 35 58.8 +1.7**
NOA NORSAR Array B 84.44 29 P **P** **16 36 07.8 -2.6**
comp=Z,1.5nm,0.9s,baz=287,slow=5.2,SNR=3.9
NOA LR LR 17 12 14.3
comp=Z,358nm,19.5s,baz=270,slow=35
TOA3 Torodi Ar. Sit 85.84 77 IAMs_20 IAMs_20 17 12 07.5
comp=Z,528nm,22.0s
TOA0 Torodi Ar. Sit 85.84 77 P **P** **16 36 14.9 -3.4**
TORD Torodi Ar. Bea 85.84 77 P **P** **16 36 15.6 -2.8**
comp=Z,2.8nm,0.7s,baz=288,slow=5.1,SNR=18
TORD Torodi Ar. Bea 85.84 77 P **P** **16 36 15.0 -3.4**
TOC4 Torodi Ar. Sit 85.85 77 IAMs_20 IAMs_20 17 20 40.7
comp=Z,478nm,19.0s
GRF Grafenberg Arr 86.87 40 *e*P P 16 36 44.3 +22
comp=Z,24nm,1.8s,baz=275,slow=5.4
ARCES ARCESS Array B 87.54 19 P **P** **16 36 23.9 -1.7**
comp=Z,8.7nm,1.1s,baz=294,slow=6.8,SNR=1.9
CLL Collm 87.60 38 *e*P **P** **16 36 24.0 -2.2**
comp=Z,5.0nm,1.0s
CLL *e*(S) **S** **16 47 02.0 -4.5**
CLL *e*PS **PnS** **16 48 10.0 +0.8**
CLL *e*SS **SS** **16 52 55.0 +2.9**
CLL *e*SSS SSS 16 56 36.0
CLL LmV 17 13 00.0
comp=Z,400nm,19.9s
TAM Tamanrasset 87.73 67 IAMs_20 IAMs_20 17 11 47.4
comp=Z,362nm,18.0s
AFI Afiamalu 88.06 256 LR LR 17 08 21.9
comp=Z,649nm,18.3s,baz=84,slow=30
GERES GERESS Array B 88.65 41 P **P** **16 36 29.0 -2.4**
comp=Z,0.7nm,0.7s,baz=298,slow=2.9,SNR=4.6
GERES LR LR 17 15 33.6
comp=Z,260nm,18.4s,baz=280,slow=36
FINES FINESS Array B 91.12 26 P **P** **16 36 39.9 -2.6**
comp=Z,2.4nm,0.9s,baz=336,slow=3.0,SNR=2.3
PAOL Paolisi 91.25 48 IAMs_20 IAMs_20 17 23 57.6
comp=Z,495nm,20.0s
SCTE Santa Cesarea 94.37 48 IAMs_20 IAMs_20 17 22 18.2
comp=Z,348nm,19.0s
TIXI Tiksi 94.56 349 P **P** **16 36 56.6 -1.6**
TIXI IAmb IAmb 16 36 59.2
comp=Z,5.7nm,0.7s
VNA3 Neumayer Olymp 95.82 162 P **P** **16 37 07.4 +3.5**
VNA1 Neumayer--Stat 96.11 161 P **P** **16 37 04.6 -0.5**
PETK Petropavlovsk- 96.40 327 LR LR 17 24 15.8
comp=Z,102nm,19.6s,baz=51,slow=38
VNA2 Neumayer--Watz 96.46 161 P **P** **16 37 06.5 -0.3**
baz=311,slow=5.8
SNAA Sanae 98.05 161 P Pdif 16 37 14.7 +0.7
DZM Mont Dzumac 109.68 250 *e*LR LR 17 14 31.6
comp=Z,312nm,23.7s
SYO Syowa Base 112.34 162 || *e*Pdiff **Pdif** **16 38 14.2 -3.4**
BOSA Boshof 114.04 117 PKiKP **PKiKP** **16 42 18.4 +0.4**
comp=Z,5.3nm,0.7s,baz=282,slow=2.9,SNR=13
BOSA Boshof 114.04 117 **PKiKP** **16 42 18.7 +0.7**
ZAA0 Zalesovo Array 115.20 6 IAMs_20 IAMs_20 17 40 58.4
comp=Z,357nm,20.0s
ZALV Zalesovo Beam 115.20 6 PKP **PKiKP** **16 42 19.0 -0.3**
comp=Z,1.8nm,0.6s,baz=271,slow=2.0,SNR=9.9
ZALV Zalesovo Beam 115.20 6 **PKiKP** **16 42 19.0 -0.3**
SONM Songino Array 120.64 350 PKP **PKiKP** **16 42 30.3 0.0**
comp=Z,1.8nm,0.7s,baz=332,slow=2.0,SNR=11
SONM Songino Array 120.64 350 PKPdf **PKPdf** **16 42 29.9 -0.3**
GEYT Alibeck 121.38 32 PKP **PKiKP** **16 42 32.1 +0.2**
comp=Z,7.1nm,0.6s,baz=289,slow=4.5,SNR=13
GEYT Alibeck 121.38 32 **PKPdf** **16 42 31.7 0.0**
GYA0B ALIBECK ARRAY 121.38 32 IAMs_20 IAMs_20 17 39 29.9
comp=Z,361nm,20.0s
MAKZ Makanchi 121.85 9 PKPdf **PKPdf** **16 42 31.3 -1.1**
MKAR Makanchi Array 121.91 9 PKP **PKPdf** **16 42 32.1 -0.4**
comp=Z,1.4nm,0.7s,baz=2.2,slow=2.2,SNR=19
MKAR Makanchi Array 121.91 9 PKPdf **PKPdf** **16 42 31.8 -0.8**
KSRS Korea Array 122.29 328 PKP **PKiKP** **16 42 34.0 +0.4**
comp=Z,9.9nm,0.7s,baz=8.7,slow=1.2,SNR=25
KSAR Wonju Array Be 122.31 328 **PKiKP** **16 42 33.9 +0.3**
KKAR Karatay Array 122.50 20 PKPdf **PKPdf** **16 42 33.5 -0.3**
AAK Ala-Archa 124.15 17 **PKiKP** **16 42 37.5 +0.1**
BJI Beijing 125.35 339 PKP **PKPdf** **16 42 38.8 -0.4**
WMQ Urumqi 125.51 5 *e*PKP **PKPdf** **16 42 39.1 -0.5**
WMQ LR LR
comp=Z,1µm,20.7s
WMQ LR LR
comp=Z,680nm,20.9s
WMQ LR LR
comp=Z,1µm,22.1s
HHC Hu-ho-hao-te 126.10 343 *e*PKP **PKPdf** **16 42 37.3 -3.5**
KSH Kashi 127.46 17 PKP **PKiKP** **16 42 45.2 +1.2**
KSH PP **PP** **16 44 45.8 +3.3**
KSH PKS **PKSdf** **16 46 19.9 -0.3**
KSH AMB AMB
comp=Z,200nm,5.3s
KSH LR LR
comp=Z,170nm,6.1s
KSH LR LR
comp=Z,200nm,6.5s
KSH LR LR
comp=Z,410nm,7.1s
TIA Tai'an 128.34 336 PKP **PKiKP** **16 42 45.6 -0.1**
KBL Kabul 129.38 26 **PKPdf** **16 42 46.4 -1.1**
KBL IAMs_20 IAMs_20 17 41 01.3
comp=Z,274nm,21.0s
GTA Gaotai 129.83 354 ⇑PKP **PKPdf** **16 42 48.4 +0.4**
GTA LR LR
comp=Z,440nm,21.1s
GTA LR LR
comp=Z,270nm,18.5s
GTA LR LR
comp=Z,550nm,20.7s
STKA Stephens Creek 130.97 237 PKP **PKiKP** **16 42 51.6 +0.5**
comp=Z,2.8nm,0.7s,baz=129,slow=5.0,SNR=8.4
NJ2 Nanjing 131.10 331 *e*PKP **PKPdf** **16 42 49.2 -1.2**
NIL Nilore 131.88 23 PKPdf **PKPdf** **16 42 52.2 +0.3**
LZH Lanzhou 132.49 349 *e*PKP **PKiKP** **16 42 54.3 0.0**
LZH LR LR
comp=Z,480nm,17.3s
LZH LR LR
comp=Z,310nm,15.7s
LZH LR LR
comp=Z,470nm,19.5s
XAN Xi'an 133.19 342 PKP **PKiKP** **16 42 55.2 -0.4**
XAN AMB AMB
comp=Z,380nm,7.8s
XAN LR LR
comp=Z,500nm,20.6s
XAN LR LR
comp=Z,320nm,17.4s
XAN LR LR
comp=Z,580nm,18.8s
ENH Enshi 136.50 340 PKPdf **PKPdf** **16 43 00.1 -0.5**
CD2 Chengdu 137.51 347 *e*PKP **PKPdf** **16 43 03.3 +0.7**
CD2 PP **PP** **16 45 53.8 +7.0**
CD2 PKS **PKSdf** **16 46 38.3 -0.6**
CD2 AMB AMB
comp=Z,320nm,8.6s
CD2 LR LR
comp=Z,590nm,20.1s
CD2 LR LR
comp=Z,380nm,19.1s
CD2 LR LR
comp=Z,660nm,16.9s
AS31 Alice Springs 139.48 246 PKPdf **PKPdf** **16 43 04.8 -1.5**
ASAR Alice Springs 139.48 246 PKhKP PKPpre 16 42 57.6
comp=Z,1.0nm,0.7s,baz=118,slow=2.5,SNR=7.7
ASAR PKP **PKiKP** **16 43 10.3 +1.7**
comp=Z,3.2nm,0.6s,baz=108,slow=2.6,SNR=9.8
ASAR Alice Springs 139.48 246 PKPdf **PKPdf** **16 43 05.5 -0.8**
WB2 Warramunga Arr 139.67 252 PKPdf **PKPdf** **16 43 05.7 -1.0**

WRA	**Warramunga Arr**	**139.68**	**252**		PKhKP	PKPpre	16 42 59.0		
	comp=Z,0.6nm,0.7s,baz=111,slow=2.8,SNR=9.3								
WRA					PKP	**PKiKP**	**16 43 11.0**	**+1.9**	
	comp=Z,4.2nm,0.6s,baz=94,slow=2.4,SNR=28								
LSA	**Lhasa**	**139.79**	**3**			**PKPdf**	**16 43 07.4**	**+0.1**	
GKN	**Gorkha**	**140.60**	**12**	*eP*		**PKPdf**	**16 43 08.5**	**+0.1**	
	comp=Z,66nm,1.1s								
KKN	**Kakani**	**140.94**	**12**	*eP*		**PKPdf**	**16 43 09.5**	**+0.4**	
	comp=Z,12nm,0.5s								
GYA	**Guiyang**	**140.95**	**341**	*e*	PKP	**PKPdf**	**16 43 04.7**	**-4.4**	
GYA					PP	**PP**	**16 46 10.9**	**+2.7**	
GYA					SKKS		16 53 03.2		
GYA					AMB	AMB			
	comp=Z,170nm,6.9s								
DMN	**Daman**	**141.08**	**12**	*eP*		**PKPdf**	**16 43 09.5**	**+0.1**	
	comp=Z,19nm,0.9s								
PKIN	**Phulchoki**	**141.16**	**12**	*eP*		**PKPdf**	**16 43 09.4**	**-0.2**	
	comp=Z,13nm,0.7s								
PKI	**Pulchoki**	**141.17**	**12**	*eP*		**PKPdf**	**16 43 09.1**	**-0.6**	
	comp=Z,17nm,0.9s								
TAPN	**Taplejung**	**141.78**	**8**	*eP*		**PKPdf**	**16 43 10.6**	**-0.2**	
	comp=Z,25nm,1.1s								
RAMN	**Ramite**	**142.00**	**10**	*eP*		**PKPdf**	**16 43 10.9**	**-0.2**	
	comp=Z,20nm,0.6s								
ODAN	**Odare**	**142.22**	**9**	*eP*		**PKPdf**	**16 43 11.4**	**-0.1**	
	comp=Z,12nm,0.8s								
KMI	**Kunming**	**143.31**	**346**	⇑	PKP	**PKPdf**	**16 43 13.6**	**+0.2**	
KMI					pPKP	pPKPdf	16 43 19.7	-1.7	
KMI					sPKP		16 43 21.9		
KMI					PP	**PP**	**16 46 28.2**	**+5.6**	
KMI					LR	LR			
	comp=Z,310nm,15.1s								
KMI					LR	LR			
	comp=Z,360nm,19.8s								
KMI					LR	LR			
	comp=Z,390nm,15.9s								
POO	**Poona**	**145.08**	**34**	*ex*		**PKPbc**	**16 43 13.0**	**-2.8**	
QIZ	**Qiongzhong**	**146.39**	**331**		PKPbc	**PKPdf**	**16 43 15.9**	**-2.7**	
QIZ					PP	**PP**	**16 46 39.5**	**-1.6**	
QIZ					SS	SS	17 05 36.4	-0.2	
QIZ					LR	LR			
	comp=Z,180nm,7.4s								
QIZ					LR	LR			
	comp=Z,310nm,10.9s								
QIZ					LR	LR			
	comp=Z,300nm,11.0s								
SLVN	**Son La**	**146.60**	**342**			**PKPbc**	**16 43 20.7**	**+0.2**	
FITZ	**Fitzroy Crossi**	**148.08**	**253**			**PKiKP**	**16 43 25.8**	**-0.6**	
HYB	**Hyderabad**	**148.40**	**28**	*i*	PKP	**PKPdf**	**16 43 22.0**	**0.0**	
CHTO	**Chiang Mai**	**150.22**	**350**		PKPdf	**PKPdf**	**16 43 24.4**	**-0.5**	
CHTO					PKPbc	**PKPbc**	**16 43 30.0**	**0.0**	
CM31	**Chiang Mai Arr**	**150.57**	**350**			**PKPdf**	**16 43 26.2**	**+0.8**	
CM31					PKPbc	**PKiKP**	**16 43 31.5**	**0.0**	
CMAR	**Chiang Mai Arr**	**150.57**	**350**		PKPbc	**PKPdf**	**16 43 26.4**	**+0.9**	
	comp=Z,19nm,0.9s,baz=313,slow=1.7,SNR=29								
CMAR	**Chiang Mai Arr**	**150.57**	**350**		PKPdf	**PKPdf**	**16 43 25.2**	**-0.2**	
CMAR					PKPbc	**pPKPdf**	**16 43 31.8**	**-1.7**	
UBPT	**Khong Chiam**	**151.64**	**335**			**PKiKP**	**16 43 34.1**	**+0.4**	
KKM	**Kota Kinabalu**	**151.98**	**305**		IAMs_20	IAMs_20	17 43 12.4		
	comp=Z,205nm,20.0s								
DLV	**T Lat**	**153.07**	**326**		PKPbc	**PKiKP**	**16 43 37.8**	**+0.8**	
KULM	**Kulim**	**162.63**	**336**			**PKPdf**	**16 43 42.4**	**+1.4**	

UCR ***11*** *16:26:28.4±1.0, 10.°69N×86.°63W, h10km, MW5.0, mb4.9(NEIC)*
INET ***11*** *16:26:28.0, 10.°32N×86.°47W, h15km, MW4.1*
NEIC ***11*** *16:26:28.9±2.4, 10.°60N±0.°03×86.°53W±0.°08, h10km±1km, mb4.9/44, Error ellipse: s-maj=14.2km s-min=4.4km az=252.0*
IDC ***11*** *16:26:29.9±0.6, 11.°61N×85.°70W, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.2/37, mbtmp4.3/12, MS4.7/3, Ms1 4.7/3, ms1mx4.2/27, Error ellipse: s-maj=37.0km s-min=10.7km az=58.0*

ISC 11 16:26:31.3±0.5, 10.°74N±0.°06×86.°41W±0.°06, h23km, n98, σ1ᵖ35/99, mb4.8/31, MS4.7/3, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	**Finca Las Img**	**0.94**	**87**	*i* P	**Pb**	**16 26 49.8**	**+0.8**
LAPC	**Finca la Perla**	**0.96**	**88**	*i* P	**Pn**	**16 26 48.8**	**-0.6**
LAPC				*i* S	**Sn**	**16 27 04.1**	**+1.7**
BUEV	**Buena Vista**	**0.99**	**87**	*i* P	**Pb**	**16 26 50.5**	**+0.7**
GB1A	**Borinquen Arri**	**1.00**	**85**	*i* P	**Pb**	**16 26 50.7**	**+0.7**
GUAI	**GUAI**	**1.00**	**118**	*i* P	**Pb**	**16 26 49.4**	**-0.6**
GUAI				*i* S	**Sb**	**16 27 02.4**	**-0.4**
ORTG	**Ortega, Santa**	**1.01**	**112**	Pn	**Pn**	**16 26 49.5**	**-0.6**
GPS2	**Hotel Rincn d**	**1.04**	**89**	*i* P	**Pb**	**16 26 51.1**	**+0.4**
LIM1	**Limonal**	**1.14**	**92**	*i* P	**Pb**	**16 26 52.6**	**+0.3**
GUAB	**Guayabo de Bag**	**1.16**	**91**	*i* P	**Pb**	**16 26 52.8**	**+0.1**
COLC	**Colonia**	**1.19**	**93**	*i* P	**Pb**	**16 26 53.4**	**+0.2**
HORNC	**Hornillas**	**1.21**	**91**	*i* P	**Pb**	**16 26 53.7**	**+0.1**
CUI	**Cuipilapa**	**1.23**	**94**	*i* P	**Pn**	**16 26 53.1**	**0.0**
ACAL	**Aguas Claras**	**1.36**	**94**	*i* P	**Pb**	**16 26 56.2**	**+0.2**
JTS	**Las Juntas de**	**1.50**	**107**	Pg	**Pn**	**16 26 57.2**	**+0.3**
	129nm,0.3s,baz=5.3,slow=21,SNR=5.8						
JTS				Lg	Lg	16 27 20.1	
	234nm,0.3s,baz=76,slow=22,SNR=3.5						
JTS	**Las Juntas de**	**1.50**	**107**		**Pn**	**16 26 57.0**	**+0.2**
CAO2	**Cobano, Puntar**	**1.66**	**129**	Pn	**Pn**	**16 26 58.3**	**-0.6**
ACON	**Acoyapa**	**1.72**	**45**	Pn	**Pb**	**16 27 01.6**	**-0.6**
BOAB	**BOACO BROADBAN**	**1.85**	**23**	Pn	**Pb**	**16 27 03.6**	**-0.9**
COVE	**Coope Vega, Sa**	**1.98**	**90**	Pn	**Pb**	**16 27 06.7**	**+0.2**
CRIN	**San Cristobal**	**2.05**	**342**	Pn	**Pb**	**16 27 06.1**	**-1.7**
HDC	**Heredia**	**2.38**	**108**	Pn	**Pb**	**16 27 12.1**	**-1.4**
TGUH	**Tegucigalpa,Un**	**3.40**	**346**	Pn	**Pn**	**16 27 25.9**	**+2.8**
RIOS	**Rincon, Osa**	**3.50**	**125**	Pn	**Pn**	**16 27 26.1**	**+1.7**
SDV	**Santo Domingo**	**15.66**	**95**	Pn	**Pn**	**16 30 12.1**	**+1.3**
	0.5nm,0.3s,baz=40,slow=10,SNR=1.8						
SDV	**Santo Domingo**	**15.66**	**95**	P	**P**	**16 30 16.2**	**+1.5**
441A	**DeRidder**	**20.88**	**343**	P	Pn	16 31 14.5	+0.1
441A				IAmb	IAmb	16 31 19.4	
	comp=Z,79nm,0.9s						
344A	**Westbrook Farm**	**21.00**	**350**	P	**P**	**16 31 17.6**	**+4.5**
344A				IAmb	IAmb	16 31 18.6	
	comp=Z,85nm,1.1s						
PCRV	**Puerto La Cruz**	**21.42**	**89**	P	**P**	**16 31 12.9**	**-5.0**
	comp=Z,13nm,0.9s,baz=261,slow=7.9,SNR=3.2						
PCRV				LR	LR	16 40 00.9	
	comp=Z,2μm,18.9s,slow=39						
152A	**Waverly Hall**	**21.88**	**4**	P	**P**	**16 31 24.8**	**+2.1**
LRAL	**Lakeview Retre**	**22.20**	**359**	P	**P**	**16 31 27.4**	**+1.4**
NATX	**Nacogdoches**	**22.27**	**341**	P	**P**	**16 31 29.3**	**+2.5**
NATX				IAmb	IAmb	16 31 30.3	
	comp=Z,49nm,0.8s						
Z51A	**Franklin**	**22.50**	**3**	P	**P**	**16 31 30.9**	**+1.7**
GOGA	**Godfrey**	**22.73**	**6**	P	**P**	**16 31 33.3**	**+1.7**
GOGA				IAmb	IAmb	16 31 34.5	
	comp=Z,38nm,1.2s						
Y49A	**Blount Mountai**	**23.01**	**0**	P	**P**	**16 31 35.4**	**+0.8**
Y52A	**Lilburn**	**23.12**	**5**	P	**P**	**16 31 36.8**	**+1.0**
Y52A				IAmb	IAmb	16 31 37.9	
	comp=Z,28nm,0.8s						
WLAR	**White Oak Lake**	**23.65**	**346**	P	**P**	**16 31 41.4**	**+0.4**
WLAR				IAmb	IAmb	16 31 42.5	
	comp=Z,42nm,1.0s						
HODGE	**Hodges**	**23.69**	**9**	P	**P**	**16 31 42.0**	**+0.6**
JSC	**Jenkinsville**	**23.90**	**11**	P	**P**	**16 31 44.3**	**+0.9**
PLAL	**Pickwick Lake**	**24.18**	**357**	P	**P**	**16 31 46.5**	**+0.6**
PLAL				IAmb	IAmb	16 31 47.4	
	comp=Z,20nm,0.8s						
PAULI	**Pauline**	**24.34**	**9**	P	**P**	**16 31 48.1**	**+0.7**
PAULI				IAmb	IAmb	16 31 49.2	
	comp=Z,32nm,1.0s						
W52A	**Murphy**	**24.35**	**5**	P	**P**	**16 31 48.3**	**+0.7**
W52A				IAmb	IAmb	16 31 49.3	
	comp=Z,23nm,0.8s						
BG3	**Lake Jocassee**	**24.35**	**7**	P	**P**	**16 31 48.5**	**+1.0**
BG3				IAmb	IAmb	16 31 49.5	
	comp=Z,20nm,0.8s						
W50A	**Signal Mountai**	**24.37**	**2**	P	**P**	**16 31 49.2**	**+1.4**
W50A				IAmb	IAmb	16 31 50.1	
	comp=Z,67nm,1.4s						
BIRD	**Birdtown, Kers**	**24.41**	**12**	P	**P**	**16 31 48.9**	**+0.9**
BIRD				IAmb	IAmb	16 31 49.6	
	comp=Z,28nm,0.8s						
TX32	**Lajitas Array**	**24.54**	**321**	P	**P**	**16 31 50.2**	**+0.8**
TXAR	**Lajitas Array**	**24.54**	**321**	P	**P**	**16 31 49.8**	**+0.3**
	comp=Z,9.0nm,0.8s,baz=135,slow=9.0,SNR=7.2						
TXAR				PcP	**PcP**	**16 35 28.9**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=142,slow=4.7,SNR=4.9						
TXAR	**Lajitas Array**	**24.54**	**321**	P	**P**	**16 31 50.2**	**+0.8**
TX31	**Lajitas Ar. Si**	**24.54**	**321**	P	**P**	**16 31 50.6**	**+1.2**
TX31				IAmb	IAmb	16 32 07.7	
	comp=Z,48nm,1.2s						
W57A	**Gilead**	**25.00**	**13**	P	**P**	**16 31 52.0**	**-1.3**
W57A				IAmb	IAmb	16 31 55.1	
	comp=Z,22nm,0.8s						
WHAR	**Wooly Hollow**	**25.02**	**349**	P	**P**	**16 31 53.2**	**-0.4**
WHAR				IAmb	IAmb	16 31 53.9	
	comp=Z,25nm,0.9s						
W39A	**Magazine**	**25.25**	**346**	P	**P**	**16 31 56.2**	**+0.5**
W39A				IAmb	IAmb	16 31 57.3	
	comp=Z,30nm,1.1s						
T47A	**Sharon Grove**	**26.14**	**359**	P	**P**	**16 32 03.5**	**-0.2**
T47A				IAmb	IAmb	16 32 04.3	
	comp=Z,25nm,1.0s						
U40A	**Yellville**	**26.16**	**348**	P	**P**	**16 32 04.1**	**+0.1**
U40A				IAmb	IAmb	16 32 04.8	
	comp=Z,24nm,1.0s						
T42A	**Van Buren**	**26.52**	**352**	P	**P**	**16 32 06.1**	**-1.0**
Q51A	**Peebles**	**28.30**	**5**	P	**P**	**16 32 23.1**	**0.0**
Q52A	**Bidwell**	**28.35**	**7**	P	**P**	**16 32 23.9**	**+0.4**
PTGA	**Pitinga**	**28.66**	**112**	P	**P**	**16 32 25.3**	**-1.4**
	comp=Z,3.7nm,0.7s,baz=291,slow=12,SNR=3.2						
P53A	**Whipple**	**28.98**	**8**	P	**P**	**16 32 29.4**	**+0.2**
P52A	**Corning**	**29.03**	**7**	P	**P**	**16 32 29.7**	**+0.1**
ACSO	**Alum Creek Sta**	**29.53**	**5**	P	**P**	**16 32 33.9**	**-0.1**
ACSO				IAmb	IAmb	16 32 34.8	
	comp=Z,23nm,0.8s						
O53A	**New Philadelph**	**29.75**	**8**	P	**P**	**16 32 36.2**	**+0.2**
N49A	**Columbus Grove**	**30.13**	**3**	P	**P**	**16 32 38.4**	**-0.9**
ANMO	**Albuquerque**	**30.24**	**326**	P	**P**	**16 32 40.5**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=154,slow=20,SNR=2.5						
N53A	**Lisbon**	**30.35**	**8**	P	**P**	**16 32 41.1**	**-0.2**
N53A				IAmb	IAmb	16 32 42.0	
	comp=Z,19nm,0.7s						
L42A	**Oliver, Polo**	**31.27**	**355**	P	**P**	**16 32 48.3**	**-1.2**
ERPA	**Erie**	**31.76**	**9**	P	**P**	**16 32 54.1**	**+0.4**
X18A	**Snowflake**	**31.97**	**321**	P	**P**	**16 32 57.0**	**+1.1**
K38A	**Parkersburg**	**32.27**	**351**	P	**P**	**16 32 56.0**	**-2.2**
SADO	**Sadowa**	**34.48**	**9**	P	**P**	**16 33 13.0**	**-4.4**
	comp=Z,6.1nm,0.7s,baz=244,slow=5.2,SNR=3.2						
SIV	**San Ignacio**	**36.53**	**136**	P	P	16 33 39.6	+4.2
	comp=Z,3.4nm,0.7s,baz=332,slow=5.5,SNR=1.8						
SIV				PcP	**PcP**	**16 36 00.8**	**+1.9**
	comp=Z,1.9nm,0.7s,baz=312,slow=5.3,SNR=4.1						
PDAR	**Pinedale Array**	**37.75**	**332**	P	**P**	**16 33 46.1**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=122,slow=6.9,SNR=1.2						
PDAR				PcP	**PcP**	**16 36 03.6**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=153,slow=3.0,SNR=3.4						
D62A	**Allapoint, All**	**39.09**	**19**	P	**P**	**16 33 56.8**	**+0.2**
NVAR	**Mina Array Bea**	**39.65**	**319**	PcP	**PcP**	**16 36 10.6**	**+2.1**
	comp=Z,4.5nm,0.7s,baz=137,slow=4.4,SNR=11						
ULM	**Lac du Bonnet**	**40.16**	**351**	P	**P**	**16 34 02.2**	**-3.3**
	comp=Z,2.2nm,0.5s,baz=203,slow=13,SNR=1.3						
ULM				PcP	**PcP**	**16 36 10.1**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=0.0,slow=1.0,SNR=2.8						
BDFB	**Brasilia**	**46.18**	**124**	P	**P**	**16 34 55.2**	**+0.4**
	comp=Z,7.4nm,0.7s,baz=285,slow=9.0,SNR=4.2						
BDFB	**Brasilia**	**46.18**	**124**	P	**P**	**16 34 54.9**	**+0.1**
BDFB				IAmb	IAmb	16 34 56.6	
	comp=Z,8.5nm,0.8s						
PLCA	**Paso Flores**	**53.27**	**165**	P	P	16 35 55.9	+7.5
	comp=Z,2.9nm,0.9s,baz=24,slow=20,SNR=2.5						
YKA	**Yellowknife Ar**	**55.52**	**345**	P	**P**	**16 36 02.4**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=138,slow=7.8,SNR=3.9						
YKA				LR	LR	17 02 53.5	
	comp=Z,605nm,18.6s,baz=0.0,slow=40						
BCAR	**Beaver Creek A**	**65.22**	**336**	P	**P**	**16 37 11.0**	**+0.2**
IL31		**67.99**	**336**	P	**P**	**16 37 27.9**	**-0.3**
IL31				IAmb	IAmb	16 37 28.6	
	comp=Z,12nm,1.4s						
ILAR	**Eielson Array**	**67.99**	**336**	P	**P**	**16 37 27.5**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=130,slow=4.5,SNR=4.6						
ILAR	**Eielson Array**	**67.99**	**336**	P	**P**	**16 37 27.2**	**-1.1**
BPAW	**Bear Paw Mtn.**	**69.41**	**335**	P	**P**	**16 37 37.1**	**-0.1**
IMAR	**Indian Mountai**	**71.10**	**336**	P	**P**	**16 37 46.8**	**-0.7**
ADK	**Adak**	**81.81**	**321**	P	**P**	**16 38 50.3**	**+1.8**
TORD	**Torodi Ar. Bea**	**85.79**	**77**	LR	LR	17 14 26.1	
	comp=Z,410nm,19.8s,baz=285,slow=34						
ZALV	**Zalesovo Beam**	**115.14**	**6**	PKP	**PKPdf**	**16 45 10.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=333,slow=0.6,SNR=2.2						
SONM	**Songino Array**	**120.58**	**350**	PKP	**PKiKP**	**16 45 21.6**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=50,slow=2.3,SNR=1.7						
GEYT	**Alibeck**	**121.30**	**32**	PKP	**PKiKP**	**16 45 23.2**	**0.0**
	comp=Z,1.3nm,0.5s,baz=225,slow=5.9,SNR=2.6						
MKAR	**Makanchi Array**	**121.84**	**9**	PKPdf	**PKiKP**	**16 45 23.5**	**-0.5**
KSRS	**Korea Array**	**122.25**	**328**	PKP	**PKiKP**	**16 45 25.3**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=304,slow=2.3,SNR=4.8						
KSAR	**Wonju Array Be**	**122.28**	**328**	PKPdf	**PKiKP**	**16 45 26.8**	**+1.7**
ASAR	**Alice Springs**	**139.54**	**246**	PKhKP	PKPpre	16 45 57.1	
	comp=Z,0.7nm,0.6s,baz=94,slow=1.6,SNR=5.7						
ASAR				PKP	pPKPdf	16 46 01.9	-3.5
	comp=Z,0.7nm,0.6s,baz=95,slow=2.0,SNR=5.3						
ASAR	**Alice Springs**	**139.54**	**246**	PKPdf	**PKPdf**	**16 45 57.3**	**-0.6**
WRA	**Warramunga Arr**	**139.74**	**252**	PKhKP	PKPpre	16 45 58.5	
	comp=Z,0.8nm,0.6s,baz=94,slow=2.2,SNR=3.7						
WRA				PKP	pPKPdf	16 46 02.4	-3.5
	comp=Z,0.8nm,0.6s,baz=93,slow=2.3,SNR=5.6						
CMAR	**Chiang Mai Arr**	**150.51**	**350**	PKP	**PKPdf**	**16 46 17.1**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=267,slow=2.7,SNR=2.9						
CMAR				PKPbc	**PKPbc**	**16 46 21.2**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=342,slow=3.1,SNR=6.5						
UBPT	**Khong Chiam**	**151.59**	**335**	PKPbc	**PKiKP**	**16 46 26.2**	**+1.1**

NEIC ***11*** *16:36:21.4±2.3, 10.°62N±0.°07×86.°47W±0.°06, h10km±1km, mb4.4/29, Mwr4.4(UCR), Error ellipse: s-maj=13.4km s-min=7.3km az=221.0*
IDC ***11*** *16:36:21.6±0.6, 11.°56N×85.°67W, h0km, mb3.7/9, mb1 4.1/11, mb1mx3.9/39, mbtmp3.8/11, ML3.3/2, MS4.2/1, Ms1 4.2/1, ms1mx3.6/26, Error ellipse: s-maj=34.4km s-min=10.8km az=59.0*
UCR ***11*** *16:36:21.5±1.3, 10.°57N×86.°55W, h10km, MW4.6, mb4.4(NEIC)*
INET ***11*** *16:36:22.0, 10.°49N×86.°59W, h15km, MW4.1*
SNET ***11*** *16:36:28.3±0.9, 10.°83N×86.°82W, h67km±560km, ML3.6*

ISC 11 16:36:23.2±0.5, 10.°64N±0.°05×86.°50W±0.°05, h23km, n106, σ1ᵖ44/110, mb4.3/25, 12C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.89**	**85**	⇑*iP*	**Pb**	**16 36 40.0**	**-0.1**
SAJU	**San Juanillo,**	**0.96**	**126**	⇑*eP*	**Pb**	**16 36 39.1**	**-2.2**
SAJU				*eS*	**Sb**	**16 36 51.2**	**-2.4**
LAPC	**Finca la Perla**	**1.06**	**83**	⇑*iP*	**Pb**	**16 36 40.8**	**-2.1**
LAPC				*iS*	**Sn**	**16 36 56.0**	**-0.7**
ORTG	**Ortega, Santa**	**1.06**	**105**	*eP*	**Pn**	**16 36 41.5**	**-1.3**
ORTG	**Ortega, Santa**	**1.06**	**105**		**Pn**	**16 36 41.5**	**-1.3**
BUEV	**Buena Vista**	**1.09**	**82**	⇑*iP*	**Pn**	**16 36 42.5**	**-0.7**
GRZA	**Playa Garza**	**1.11**	**130**	*eP*	**Pn**	**16 36 41.3**	**-2.2**
GRZA				*eS*	**Sb**	**16 36 54.7**	**-3.3**
GPS2	**Hotel Rincn d**	**1.14**	**84**	⇑*eP*	**Pn**	**16 36 43.2**	**-0.6**
DUNO	**Dulce Nombre,**	**1.14**	**119**	*eP*	**Pn**	**16 36 42.1**	**-1.7**
BUAI	**Buenos Aires**	**1.17**	**78**	⇑*iP*	**Pn**	**16 36 43.2**	**-1.1**
LIM1	**Limonal**	**1.23**	**87**	⇑*iP*	**Pn**	**16 36 44.5**	**-0.6**
INDI	**Punta indio, G**	**1.25**	**128**	*eP*	**Pn**	**16 36 43.2**	**-2.1**
GUAB	**Guayabo de Bag**	**1.25**	**87**	⇑*iP*	**Pn**	**16 36 44.6**	**-0.8**
COLC	**Colonia**	**1.28**	**89**	⇑*iP*	**Pn**	**16 36 45.1**	**-0.6**
CUI	**Cuipilapa**	**1.31**	**89**	⇑*iP*	**Pn**	**16 36 45.0**	**-1.3**
ACAL	**Aguas Claras**	**1.44**	**90**	⇑*iP*	**Pn**	**16 36 48.0**	**0.0**
JTS	**Las Juntas de**	**1.56**	**103**	Pg	**Pn**	**16 36 48.9**	**-0.8**
	64nm,0.3s,baz=5.8,slow=20,SNR=39						
JTS				Lg	Lg	16 37 07.8	
	139nm,0.3s,baz=24,slow=21,SNR=6.9						
JTS	**Las Juntas de**	**1.56**	**103**	*eP*	**Pn**	**16 36 48.8**	**-0.8**
JTS	**Las Juntas de**	**1.56**	**103**	Pn	**Pn**	**16 36 48.7**	**-0.9**
CAO2	**Cobano, Puntar**	**1.67**	**124**		**Pb**	**16 36 53.4**	**+0.2**
ARE1	**Arenal 1**	**1.76**	**96**	*eP*	**Pn**	**16 36 52.7**	**+0.3**
LAFE	**Finca La Fe, P**	**1.77**	**118**	⇑*eP*	**Pn**	**16 36 50.6**	**-1.9**
CEDE	**Laguna Cedeo**	**1.77**	**95**	*eP*	**Pn**	**16 36 52.0**	**-0.6**
ACON	**Acoyapa**	**1.85**	**44**	*eP*	**Pn**	**16 36 53.6**	**-0.1**
ACON	**Acoyapa**	**1.85**	**44**		**Pn**	**16 36 53.5**	**-0.1**
CNGN	**Cerro Negro**	**1.86**	**354**	*eP*	**Pn**	**16 36 53.8**	**+0.1**
BOAB	**BOACO BROADBAN**	**1.98**	**24**		**Pn**	**16 36 55.5**	**+0.2**
JACO	**JACO, Garabito**	**2.06**	**118**	*eP*	**Pn**	**16 36 56.3**	**-0.1**
SRA1	**San Ramn**	**2.06**	**105**	*eP*	**Pn**	**16 37 01.0**	**+0.9**
COVE	**Coope Vega, Sa**	**2.06**	**88**	*eP*	**Pn**	**16 36 58.1**	**+1.6**
COVE	**Coope Vega, Sa**	**2.06**	**88**		**Pb**	**16 36 58.9**	**-1.1**
CRIN	**San Cristobal**	**2.12**	**345**	*eP*	**Pn**	**16 36 57.7**	**+0.3**
CRIN	**San Cristobal**	**2.12**	**345**		**Pn**	**16 36 57.4**	**+0.1**
MATN	**Matagalpa**	**2.34**	**14**		**Pb**	**16 37 03.4**	**-1.5**
HDC	**Heredia**	**2.43**	**105**	*eP*	**Pn**	**16 37 02.5**	**+0.8**
HDC	**Heredia**	**2.43**	**105**	Pn	**Pn**	**16 37 03.1**	**+1.3**
CSGN	**Cosiguina Volc**	**2.54**	**336**	*eP*	**Pn**	**16 37 06.1**	**+2.9**
CSGN	**Cosiguina Volc**	**2.54**	**336**		**Pb**	**16 37 06.4**	**-1.9**
LCR2	**La Lucha 2**	**2.62**	**110**	*eP*	**Pn**	**16 37 04.5**	**+0.2**
ESPN	**Las Esperanzas**	**2.66**	**54**	*eP*	**Pn**	**16 37 05.2**	**+0.6**
ESPN	**Las Esperanzas**	**2.66**	**54**		**Pn**	**16 37 05.3**	**+0.7**
RIMA	**Rio Macho**	**2.74**	**108**	*eP*	**Pn**	**16 37 06.5**	**+0.5**
VTUC	**Crater, Volcan**	**2.76**	**103**	*eP*	**Pn**	**16 37 07.4**	**+0.9**
CVTR	**Volcan Turrial**	**2.77**	**103**	*eP*	**Pn**	**16 37 07.1**	**+0.5**
CNCH	**Conchagua**	**2.93**	**334**	*eP*	**Pn**	**16 37 08.8**	**+0.2**
PACA	**Pacayal**	**3.33**	**328**	*eP*	**Pn**	**16 37 14.5**	**+0.4**
PACA				*eS*	**Sn**	**16 37 50.9**	**-2.1**
PACA				IAML		16 37 58.6	
	comp=Z,86nm,0.2s						
TECA	**Tecapa**	**3.45**	**326**	*eP*	**Pn**	**16 37 16.0**	**+0.3**
TGUH	**Tegucigalpa,Un**	**3.48**	**348**		**Pn**	**16 37 17.3**	**+1.2**
RIOS	**Rincon, Osa**	**3.52**	**123**	*eP*	**Pn**	**16 37 16.9**	**+0.4**
RIOS	**Rincon, Osa**	**3.52**	**123**		**Pn**	**16 37 17.5**	**+1.0**
COEG	**Centro de Oper**	**3.77**	**322**	*eP*	**Pn**	**16 37 20.2**	**+0.2**
COEG				*eS*	**Sn**	**16 38 00.3**	**-3.4**
JAYA	**Jayaque - finc**	**4.16**	**316**	*eP*	**Pn**	**16 37 25.6**	**+0.2**
JAYA				*eS*	**Sn**	**16 38 08.8**	**-4.7**
JAYA				IAML		16 38 17.6	
	comp=Z,166nm,0.2s						
TACO	**Tacachico**	**4.33**	**320**	*eP*	**Pn**	**16 37 27.4**	**-0.3**
MTO3	**Montecristo**	**4.66**	**324**	Pn	**Pn**	**16 37 34.8**	**+2.3**
CMIG	**Matias Romero**	**10.36**	**309**	Pn	**Pn**	**16 38 51.6**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=132,slow=10,SNR=8.4						
SDV	**Santo Domingo**	**15.74**	**95**	Pn	Pn	16 39 53.5	-10
	comp=Z,0.3nm,0.3s,baz=286,slow=7.4,SNR=3.6						
152A	**Waverly Hall**	**21.99**	**4**	P	**P**	**16 41 17.7**	**+1.9**
152A				IAmb	IAmb	16 41 18.5	
	comp=Z,15nm,1.1s						
LRAL	**Lakeview Retre**	**22.29**	**359**	P	**P**	**16 41 21.5**	**+2.5**
GOGA	**Godfrey**	**22.84**	**7**	P	**P**	**16 41 25.4**	**+0.6**
Y49A	**Blount Mountai**	**23.11**	**0**	P	**P**	**16 41 27.8**	**+0.1**
Y49A				IAmb	IAmb	16 41 28.9	
	comp=Z,18nm,1.1s						
Y52A	**Lilburn**	**23.22**	**5**	P	**P**	**16 41 29.1**	**+0.3**
HODGE	**Hodges**	**23.80**	**9**	P	**P**	**16 41 34.3**	**-0.1**
H

FRF				*e*Sn		**Sn**	**16 47 03.9**	**-2.4**
	5.2nm,0.4s							
SBF	**Sospel**	**7.61**	**4**	*e*Pn		**Pn**	**16 45 48.8**	**+0.2**
SBF				*e*Sn		**Sn**	**16 47 11.7**	**-2.8**
	18nm,0.5s							
SMRF	**Simiane la Rot**	**7.74**	**354**	*e*Pn		**Pn**	**16 45 50.6**	**+0.3**
SMRF				*e*Sn		**Sn**	**16 47 14.8**	**-2.8**
	0.5nm,0.2s							
MTLF	**Montolieu**	**7.83**	**336**	*e*Pn		**Pn**	**16 45 51.8**	**+0.3**
MTLF				*e*Sn		**Sn**	**16 47 17.7**	**-2.1**
	0.9nm,0.3s							
LASF	**Ste Croix**	**8.08**	**346**	*e*Pn		**Pn**	**16 45 55.9**	**+1.0**
LASF				*e*Sn		**Sn**	**16 47 23.7**	**-2.2**
	2.0nm,0.4s							
EPF	**Esparros**	**8.30**	**326**	*e*Pn		**Pn**	**16 46 02.1**	**+4.0**
EPF				*e*Sn		**Sn**	**16 47 29.3**	**-2.3**
	0.7nm,0.2s							
MBDF	**Montbardon**	**8.45**	**1**	*e*Pn		**Pn**	**16 45 59.9**	**-0.3**
MBDF				*e*Sn		**Sn**	**16 47 31.9**	**-3.3**
	1.4nm,0.3s							
ETSF	**Etsaut**	**8.63**	**322**	*e*Pn		**Pn**	**16 46 07.1**	**+4.5**
VIVF	**Saint-Julien-l**	**8.70**	**351**	*e*Pn		**Pn**	**16 46 04.0**	**+0.5**
VIVF				*e*Sn		**Sn**	**16 47 38.5**	**-2.8**
	3.9nm,0.5s							
ESDC	**Sonseca Array**	**9.02**	**295**	Pn		**Pn**	**16 46 10.5**	**+2.6**
	0.7nm,0.3s,baz=111,slow=13,SNR=16							
SJPF	**Ste Jean**	**9.12**	**321**	*e*Pn		**Pn**	**16 46 13.9**	**+4.7**
SJPF				*e*Sn		**Sn**	**16 47 48.6**	**-2.9**
	1.0nm,0.3s							
LPL	**La Plagne**	**9.24**	**1**	*e*Pn		**Pn**	**16 46 10.9**	**-0.1**
LPL				*e*Sn		**Sn**	**16 47 51.0**	**-3.7**
	2.8nm,0.5s							
CAF	**Calviac**	**9.31**	**340**	*e*Pn		**Pn**	**16 46 12.0**	**+0.1**
MDT	**Midelt**	**9.88**	**253**	Pn		**Pn**	**16 46 20.8**	**+1.0**
	0.1nm,0.3s,baz=90,slow=19,SNR=3.4							
DAVOX	**Davos/Dischmat**	**10.78**	**12**	Pn		**Pn**	**16 46 35.9**	**+3.8**
	0.2nm,0.3s,baz=190,slow=12,SNR=2.5							
GERES	**GERESS Array B**	**13.60**	**20**	Pn		**Pn**	**16 47 12.6**	**+2.1**
	0.2nm,0.3s,baz=198,slow=11,SNR=1.6							
BRTR	**Keskin Array B**	**21.54**	**73**	P		**P**	**16 48 48.5**	**+1.5**
	2.4nm,0.9s,baz=257,slow=10.0,SNR=6.0							
TORD	**Torodi Ar. Bea**	**23.45**	**192**	P		**P**	**16 49 04.9**	**-2.2**
	2.8nm,0.6s,baz=6.4,slow=11,SNR=17							
KOWA	**Kowa**	**23.68**	**206**	P		**P**	**16 49 08.5**	**-0.9**
	1.5nm,0.4s,baz=41,slow=8.4,SNR=4.5							
NOA	**NORSAR Array B**	**24.96**	**5**	P		**P**	**16 49 22.6**	**+1.8**
	0.6nm,0.7s,baz=185,slow=10,SNR=2.9							
MKAR	**Makanchi Array**	**55.57**	**54**	P		**P**	**16 53 32.7**	**-0.3**
	0.4nm,0.5s,baz=273,slow=4.5,SNR=10							
ULM	**Lac du Bonnet**	**70.16**	**318**	P		**P**	**16 55 10.5**	**+0.5**
	2.2nm,0.7s,baz=53,slow=8.9,SNR=5.3							
YKA	**Yellowknife Ar**	**70.90**	**335**	P		**P**	**16 55 15.5**	**+1.3**
	0.3nm,0.5s,baz=54,slow=6.3,SNR=6.2							
PDAR	**Pinedale Array**	**82.18**	**318**	P		**P**	**16 56 18.6**	**-0.2**
	0.4nm,0.7s,baz=72,slow=4.8,SNR=3.8							

IDC ***11*** *17:06:44.1±61.0,20.96S×177.78W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.8/22,mbtmp4.2/3,MS3.8/2,Ms1 3.8/2, ms1mx3.2/41,Error ellipse: s-maj=1118.0km s-min=163.2km az=84.0*

NEIC ***11*** *17:07:52.8±1.4,23.0S±0.2×179.5W±0.2,h600km±20km, mb4.3/18,Error ellipse: s-maj=32.3km s-min=24.4km az=74.0*

ISC 11 17:07:51.7±1.3,23.0S±0.1×179.3W±0.2,h600km,n28, σ1s34/26,mb4.1/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.80**	**334**	P	**P**	**17 09 31.9**	**+0.5**
FUNA	**Funafuti**	**14.46**	**354**	P	**P**	**17 10 53.9**	**-1.1**
URZ	**Urewera**	**15.53**	**191**	P	**P**	**17 11 01.4**	**-3.1**
URZ				IAmb	IAmb	17 11 15.8	
	comp=Z,25nm,1.2s						
BKZ	**Black Stump Fm**	**16.52**	**192**	P	**P**	**17 11 10.2**	**-3.4**
BKZ				IAmb	IAmb	17 11 14.1	
	comp=Z,14nm,1.3s						
NNZ	**Nelson**	**19.19**	**197**	P	**P**	**17 11 37.4**	**-0.5**
TUWZ	**Tuamarina**	**19.24**	**196**	P	**P**	**17 11 39.1**	**+0.8**
LTZ	**Lake Taylor**	**20.95**	**198**	P	**P**	**17 11 52.0**	**-1.8**
LTZ				IAmb	IAmb	17 12 17.1	
	comp=Z,8.4nm,1.3s						
WHZ	**Wether Hill Ro**	**25.09**	**201**	P	**P**	**17 12 30.6**	**+0.1**
CAN	**Canberra**	**30.16**	**239**	P	**P**	**17 13 15.0**	**+0.2**
CAN				IAmb	IAmb	17 13 30.1	
	comp=Z,15nm,1.4s						
CTAO	**Charters Tower**	**32.14**	**269**	P	**P**	**17 13 32.4**	**+0.6**
TOO	**Toolangi**	**33.49**	**236**	P	**P**	**17 13 43.0**	**0.0**
TOO				IAmb	IAmb	17 14 01.5	
	comp=Z,16nm,1.3s						
STKA	**Stephens Creek**	**35.67**	**247**	P	**P**	**17 14 00.8**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=67,slow=8.7,SNR=4.6						
STKA	**Stephens Creek**	**35.67**	**247**	P	**P**	**17 14 00.7**	**-0.4**
BBOO	**Buckleboo**	**40.40**	**246**	P	**P**	**17 14 38.6**	**-0.8**
BBOO				IAmb	IAmb	17 14 40.7	
	comp=Z,21nm,1.4s						
AS31	**Alice Springs**	**42.83**	**259**	P	**P**	**17 14 58.2**	**-0.5**
ASAR	**Alice Springs**	**42.83**	**259**	P	**P**	**17 14 58.8**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=98,slow=7.1,SNR=57						
ASAR	**Alice Springs**	**42.83**	**259**	P	**P**	**17 14 57.9**	**-0.8**
WR0	**Warramunga Arr**	**42.94**	**265**	P	**P**	**17 14 59.3**	**-0.2**
WR0				IAmb	IAmb	17 15 07.8	
	comp=Z,9.8nm,1.4s						
WB0	**Warramunga Arr**	**43.12**	**265**	P	**P**	**17 15 00.6**	**-0.3**
WB0				IAmb	IAmb	17 15 12.1	
	comp=Z,6.5nm,1.2s						
WB2	**Warramunga Arr**	**43.12**	**265**	P	**P**	**17 15 00.6**	**-0.3**
WRA	**Warramunga Arr**	**43.13**	**265**	P	**P**	**17 14 60.0**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=93,slow=8.4,SNR=61						
WRA	**Warramunga Arr**	**43.13**	**265**	P	**P**	**17 14 60.0**	**-1.0**
FORT	**Forrest**	**47.24**	**249**	P	**P**	**17 15 31.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**51.56**	**265**	LR	LR	17 37 28.8	
	comp=Z,73nm,21.8s,baz=70,slow=35						
FITZ	**Fitzroy Crossi**	**51.56**	**265**	P	**P**	**17 16 05.0**	**+1.1**
FITZ				IAmb	IAmb	17 16 34.1	
	comp=Z,9.6nm,1.2s						
MORW	**Morawa**	**57.80**	**249**	P	**P**	**17 16 47.8**	**+0.6**
QSPA	**South Pole Qui**	**67.09**	**180**	P	**P**	**17 17 49.3**	**+2.8**
QSPA				IAmb	IAmb	17 18 02.9	
	comp=Z,8.3nm,1.5s						
ELK	**Elko**	**86.91**	**43**	LR	LR	17 52 49.8	
	comp=Z,58nm,18.4s,baz=62,slow=33						

INET ***11*** *17:27:56.5,10.11N×86.75W,h15km,MW3.5*

UCR 11 17:28:01.5±1.1,10.57N×86.52W,h6km±14km,MW4.2,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAJU	**San Juanillo,**	**0.94**	**122**	*e*P	Pg	17 28 19.2	-0.3
SAJU				*e*S	Sg	17 28 30.1	-1.6
GUAI	**GUAI**	**1.03**	**107**	*e*P	Pg	17 28 20.6	-0.8
GBS3	**Finca Las Img**	**1.06**	**78**	*i* P	Pg	17 28 21.7	-0.3
GRZA	**Playa Garza**	**1.08**	**127**	*e*P	Pg	17 28 21.2	-1.1
LAPC	**Finca la Perla**	**1.08**	**79**	*i* P	Pg	17 28 20.7	-1.6
GPS2	**Hotel Rincn d**	**1.16**	**81**	*e*P	Pg	17 28 22.7	-1.1
BUAI	**Buenos Aires**	**1.20**	**75**	*i* P	Pg	17 28 23.1	-1.6
INDI	**Punta indio, G**	**1.22**	**125**	*e*P	Pg	17 28 23.2	-1.7
LIM1	**Limonal**	**1.25**	**84**	*i* P	Pg	17 28 24.1	-1.4
LIM1				*i* S	Sb	17 28 42.3	+0.4
COLC	**Colonia**	**1.29**	**86**	*i* P	Pn	17 28 25.1	-1.0
CUI	**Cuipilapa**	**1.33**	**86**	*i* P	Pn	17 28 24.8	-1.9
ACAL	**Aguas Claras**	**1.46**	**87**	*i* P	Pn	17 28 27.9	-0.6
ACAL				*i* S	Sn	17 28 47.3	-0.6
JTS	**Las Juntas de**	**1.56**	**100**	*e*P	Pn	17 28 28.8	-1.1
ARE1	**Arenal 1**	**1.77**	**93**	*e*P	Pn	17 28 32.5	-0.2
CEDE	**Laguna Cedeo**	**1.79**	**92**	*e*P	Pn	17 28 32.3	-0.6
RIMA	**Rio Macho**	**2.73**	**107**	*e*P	Pn	17 28 46.2	+0.1
CDM	**Cerro de Muert**	**2.89**	**110**	*e*P	Pn	17 28 48.2	-0.3

NEIC ***11*** *18:02:14.4±1.7,17.4S±0.1×178.8W±0.1,h513km±7km, mb4.7/45,Error ellipse: s-maj=20.9km s-min=15.8km az=143.0*

NOU ***11*** *18:02:15.2,17.25S×178.79W,h528km,mb4.9,Fiji Islands Region*

IDC ***11*** *18:02:15.2±1.3,17.49S×178.86W,h519km±14km, mb3.6/13,mb1 3.8/15,mb1mx3.5/43,mbtmp4.5/15,Error ellipse: s-maj=19.2km s-min=12.8km az=126.0*

ISC 11 18:02:16.6±0.4,17.37S±0.07×178.86W±0.06,h539km, n138,σ1s47/142,mb4.6/40,4C-10D,Fault plane solution:

NP1:ϕs115.75951°,δ70.00917°,λ1.89621°. **NP2:** ϕ25.11105°,δ88.21808°,λ159.99908°. **Principal axes:** T Plg15.2913°, Azm338.6499°; N Plg69.9231°, Azm200.2281°; P Plg12.6944°, Azm72.1808°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.98**	**263**	P	**P**	**18 03 29.6**	**-1.1**
	32nm,0.3s,baz=137,slow=2.7,SNR=141						
MSVF				S	**S**	**18 04 32.6**	**+1.7**
	baz=3.1,slow=22,SNR=12						
MSVF	**Nonsavu**	**2.98**	**263**	P	**P**	**18 03 30.7**	**+0.1**
MSVF	**Nonsavu**	**2.98**	**263**	P	**P**	**18 03 30.8**	**+0.1**
AFI	**Afiamalu**	**7.64**	**64**	P	P	18 04 05.9	-4.7
	18nm,0.3s,baz=44,slow=3.1,SNR=17						
AFI	**Afiamalu**	**7.64**	**64**	P	**P**	**18 04 06.4**	**-4.2**
AFI	**Afiamalu**	**7.64**	**64**	P	**P**	**18 04 06.7**	**-3.9**
NIUE	**Niue**	**8.65**	**103**	P	**P**	**18 04 19.8**	**-0.8**
	baz=8.5,SNR=17						
NIUE				S	**S**	**18 05 59.8**	**-2.5**
	baz=8.5						
NIUE	**Niue**	**8.65**	**103**	P	**P**	**18 04 19.8**	**-0.8**
NIUE	**Niue**	**8.65**	**103**	P	**P**	**18 04 19.8**	**-0.8**
FUNA	**Funafuti**	**8.99**	**348**	P	**P**	**18 04 21.9**	**-2.3**
MARNC	**Mare, Loyalty**	**13.03**	**250**	P	**P**	**18 05 04.6**	**-1.2**
SANVU	**Saraoutou**	**13.51**	**276**	P	**P**	**18 05 08.2**	**-2.7**
OUENC	**Ouen Island, N**	**14.36**	**247**	P	**P**	**18 05 19.4**	**-0.2**
DZM	**Mont Dzumac**	**14.61**	**249**	*e*P	**P**	**18 05 20.8**	**-1.5**
	141nm,1.1s						
DZM	**Mont Dzumac**	**14.61**	**249**	P	**P**	**18 05 20.9**	**-1.5**
	3.3nm,0.3s,baz=69,slow=18,SNR=27						
DZM	**Mont Dzumac**	**14.61**	**249**	P	**P**	**18 05 20.4**	**-2.0**
DZM	**Mont Dzumac**	**14.61**	**249**	P	**P**	**18 05 20.9**	**-1.5**
ONTNC	**Ouen Toro**	**14.67**	**248**	P	**P**	**18 05 21.8**	**-1.0**
NOUC	**Port Laguerre**	**14.74**	**249**	P	**P**	**18 05 22.2**	**-1.4**
KOUNC	**Koumac, New Ca**	**16.26**	**256**	P	**P**	**18 05 38.2**	**-0.8**
OUZ	**Omahuta**	**19.01**	**199**	P	**P**	**18 06 06.7**	**+2.6**
URZ	**Urewera**	**21.11**	**189**	P	**P**	**18 06 20.5**	**-2.6**
	11nm,0.6s,baz=247,slow=2.0,SNR=12						
URZ				S	**S**	**18 09 44.2**	**+1.8**
	9.3nm,0.8s,baz=204,slow=20,SNR=4.3						
URZ	**Urewera**	**21.11**	**189**	P	**P**	**18 06 21.0**	**-2.1**
URZ				IAmb	IAmb	18 06 26.0	
	comp=Z,25nm,1.2s						
BKZ	**Black Stump Fm**	**22.09**	**190**	P	**P**	**18 06 29.3**	**-2.7**
BKZ				IAmb	IAmb	18 06 44.4	
	comp=Z,25nm,1.4s						
BFZ	**Birch Farm**	**23.61**	**189**	P	**P**	**18 06 42.8**	**-2.7**
SNZO	**South Karori**	**24.49**	**192**	P	**P**	**18 06 51.4**	**-1.9**
QRZ	**Quartz Range**	**24.53**	**196**	P	**P**	**18 06 53.1**	**-0.5**
QRZ				IAmb	IAmb	18 06 58.0	
	comp=Z,41nm,1.3s						
PLWZ	**Palliser**	**24.64**	**191**	P	**P**	**18 06 51.3**	**-3.4**
TUWZ	**Tuamarina**	**24.76**	**193**	P	**P**	**18 06 52.8**	**-2.9**
THZ	**Tophouse**	**25.32**	**195**	P	**P**	**18 06 59.3**	**-1.3**
KHZ	**Kahutara**	**25.80**	**193**	P	**P**	**18 07 03.1**	**-1.6**
LTZ	**Lake Taylor**	**26.43**	**195**	P	**P**	**18 07 08.3**	**-2.2**
LTZ				IAmb	IAmb	18 07 10.8	
	comp=Z,14nm,0.8s						
OXZ	**Oxford**	**27.00**	**195**	P	**P**	**18 07 13.6**	**-1.8**
OXZ				IAmb	IAmb	18 07 14.7	
	comp=Z,24nm,0.7s						
MQZ	**McQueen's Vall**	**27.22**	**194**	P	**P**	**18 07 15.4**	**-1.9**
RPZ	**Rata Peaks**	**27.62**	**196**	P	**P**	**18 07 19.1**	**-1.7**
	comp=Z,5.3nm,0.5s,baz=211,slow=0.5,SNR=8.2						
RPZ	**Rata Peaks**	**27.62**	**196**	P	**P**	**18 07 19.3**	**-1.5**
RPZ				IAmb	IAmb	18 07 20.5	
	comp=Z,26nm,1.5s						
FOZ	**Fox Glacier**	**27.79**	**198**	P	**P**	**18 07 21.3**	**-1.0**
FOZ				IAmb	IAmb	18 07 22.5	
	comp=Z,20nm,0.8s						
PPT2	**Papeete2**	**27.92**	**95**	*e*P	**P**	**18 07 24.4**	**+0.6**
	comp=Z,25nm,1.5s						
LBZ	**Lake Benmore**	**28.47**	**197**	P	**P**	**18 07 26.0**	**-2.3**
EIDS	**Eidsvold**	**29.06**	**249**	P	**P**	**18 07 32.9**	**-0.7**
	baz=29,SNR=5.8						
EIDS	**Eidsvold**	**29.06**	**249**	P	**P**	**18 07 32.1**	**-1.5**
EIDS				IAmb	IAmb	18 07 33.4	
	comp=Z,16nm,0.8s						
WKZ	**Wanaka**	**29.21**	**198**	P	**P**	**18 07 33.2**	**-1.4**
WKZ				IAmb	IAmb	18 07 46.4	
	comp=Z,28nm,1.0s						
ARMA	**Armidale**	**29.85**	**239**	P	**P**	**18 07 40.9**	**+0.4**
	baz=30,SNR=34						
ARMA	**Armidale**	**29.85**	**239**	P	**P**	**18 07 40.9**	**+0.4**
ARMA				IAmb	IAmb	18 07 41.8	
	comp=Z,31nm,0.7s						
MLZ	**Mavora Lakes**	**29.96**	**199**	P	**P**	**18 07 41.2**	**0.0**
MLZ				IAmb	IAmb	18 07 41.7	
	comp=Z,36nm,0.8s						
DCZ	**Deep Cove**	**30.35**	**200**	P	**P**	**18 07 43.2**	**-1.3**
DCZ				IAmb	IAmb	18 07 47.9	
	comp=Z,15nm,0.9s						
WHZ	**Wether Hill Ro**	**30.49**	**198**	P	**P**	**18 07 45.5**	**-0.2**
MGCD	**Mangrove Creek**	**31.26**	**234**	P	**P**	**18 07 53.0**	**+0.6**
	baz=32,SNR=28						
RMQ	**Roma**	**31.31**	**247**	P	**P**	**18 07 53.3**	**+0.2**
	baz=32,SNR=64						
CTAO	**Charters Tower**	**33.12**	**260**	P	**P**	**18 08 07.6**	**-0.9**
CTAO				IAmb	IAmb	18 08 10.6	
	comp=Z,37nm,1.2s						
CNB	**Canberra Magne**	**33.42**	**231**	P	**P**	**18 08 11.4**	**+0.5**
	baz=34,SNR=10						
CAN	**Canberra**	**33.70**	**232**	P	**P**	**18 08 13.0**	**-0.2**
CAN				IAmb	IAmb	18 08 14.4	
	comp=Z,17nm,0.8s						
YNG	**Young**	**33.76**	**234**	P	**P**	**18 08 14.4**	**+0.6**
	baz=34						
MTSU	**Mount Surprise**	**35.05**	**263**	P	**P**	**18 08 24.3**	**-0.5**
	baz=35,SNR=9.7						
CMSA	**Cobar Meteorol**	**35.05**	**240**	P	**P**	**18 08 24.5**	**-0.1**
	baz=35,SNR=73						
QLP	**Quilpie**	**35.33**	**248**	P	**P**	**18 08 26.5**	**-0.5**
	baz=36,SNR=23						
COEN	**Coen**	**36.68**	**270**	P	**P**	**18 08 38.3**	**0.0**
COEN				IAmb	IAmb	18 08 40.3	
	comp=Z,34nm,1.2s						
TOO	**Toolangi**	**37.18**	**230**	P	**P**	**18 08 42.5**	**+0.4**
	baz=37,SNR=32						
TOO	**Toolangi**	**37.18**	**230**	P	**P**	**18 08 42.0**	**-0.1**
TAU	**Tasmania Unive**	**38.36**	**221**	P	**P**	**18 08 51.6**	**+0.1**
STKA	**Stephens Creek**	**38.52**	**240**	P	**P**	**18 08 53.4**	**+0.3**
	comp=Z,34nm,0.8s,baz=88,slow=9.2,SNR=68						
STKA	**Stephens Creek**	**38.52**	**240**	P	**P**	**18 08 53.4**	**+0.3**
	baz=39,SNR=43						
STKA	**Stephens Creek**	**38.52**	**240**	P	**P**	**18 08 53.4**	**+0.3**
ARPS	**Mount Arapiles**	**39.63**	**233**	P	**P**	**18 09 02.0**	**+0.1**
	baz=40,SNR=13						
HTT	**Hallett**	**41.05**	**239**	P	**P**	**18 09 13.6**	**+0.2**
	baz=41,SNR=27						
BBOO	**Buckleboo**	**43.30**	**240**	P	**P**	**18 09 30.8**	**-0.2**
	baz=44,SNR=26						
BBOO	**Buckleboo**	**43.30**	**240**	P	**P**	**18 09 30.9**	**-0.1**
HMH	**Humu'ula Sheep**	**43.33**	**33**	P	**P**	**18 09 31.3**	**-0.4**
WR0	**Warramunga Arr**	**44.12**	**259**	P	**P**	**18 09 36.3**	**-1.4**
WR0				IAmb	IAmb	18 09 36.7	
	comp=Z,25nm,1.5s						
WB0	**Warramunga Arr**	**44.28**	**259**	P	**P**	**18 09 37.6**	**-1.2**
WB0				IAmb	IAmb	18 09 38.6	
	comp=Z,19nm,1.1s						
WC3	**Warramunga Arr**	**44.28**	**259**	P	**P**	**18 09 37.3**	**-1.6**
	baz=44						
WB2	**Warramunga Arr**	**44.30**	**259**	P	**P**	**18 09 37.6**	**-1.4**
WRA	**Warramunga Arr**	**44.31**	**259**	P	**P**	**18 09 37.7**	**-1.4**
	comp=Z,3.4nm,0.3s,baz=95,slow=7.8,SNR=107						
WRA				ScP	**ScP**	**18 14 15.4**	**+3.0**
	comp=Z,2.1nm,1.0s,baz=88,slow=4.1,SNR=4.8						
AS31	**Alice Springs**	**44.53**	**254**	P	**P**	**18 09 40.0**	**-0.8**
AS31				IAmb	IAmb	18 09 41.0	
	comp=Z,18nm,0.7s						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**18 09 40.2**	**-0.6**
	comp=Z,68nm,0.7s,baz=87,slow=8.2,SNR=959						
ASAR				PcP	**PcP**	**18 11 12.9**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=105,slow=3.8,SNR=4.7						
ASAR				ScP	**ScP**	**18 14 16.4**	**+3.1**
	comp=Z,2.6nm,0.9s,baz=105,slow=3.8,SNR=8.0						
ASAR				S	**S**	**18 15 33.9**	**-3.4**
	comp=Z,3.0nm,1.1s,baz=83,slow=16,SNR=8.9						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**18 09 39.2**	**-1.5**
ASAR					**PcP**	**18 11 12.8**	**+0.4**
ASPA	**Alice Springs**	**44.53**	**254**	P	**P**	**18 09 39.8**	**-1.0**
	baz=45						
KDU	**Kakadu**	**47.14**	**269**	P	**P**	**18 10 00.3**	**-0.4**
	baz=47,SNR=40						
WRKA	**Warakurna**	**49.61**	**252**	P	**P**	**18 10 18.7**	**-0.2**
	baz=50,SNR=206						
FORT	**Forrest**	**49.85**	**244**	P	**P**	**18 10 19.9**	**-0.7**
	baz=50,SNR=20						
FORT	**Forrest**	**49.85**	**244**	P	**P**	**18 10 20.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**52.70**	**260**	P	**P**	**18 10 41.6**	**+0.2**
	baz=53,SNR=34						
FITZ	**Fitzroy Crossi**	**52.70**	**260**	P	**P**	**18 10 41.7**	**+0.3**
PSA00	**Pilbara Seismi**	**57.63**	**255**	P	**P**	**18 11 14.2**	**-1.6**
PSA00	**Pilbara Seismi**	**57.63**	**255**	P	**P**	**18 11 15.3**	**-0.5**
PSA00				IAmb	IAmb	18 11 16.3	
	comp=Z,36nm,0.8s						
KLBR	**Kellerberrin**	**58.69**	**243**	P	**P**	**18 11 22.1**	**-0.7**
	baz=59,SNR=17						
BLDU	**Ballidu**	**59.63**	**244**	P	**P**	**18 11 28.3**	**-0.8**
	baz=60,SNR=12						
MORW	**Morawa**	**60.31**	**246**	P	**P**	**18 11 33.0**	**-0.6**
	baz=60,SNR=11						
MORW	**Morawa**	**60.31**	**246**	P	**P**	**18 11 32.9**	**-0.7**
MORW				IAmb	IAmb	18 11 33.9	
	comp=Z,36nm,1.4s						
TOLI2	**Tolitoli**	**62.20**	**281**	P	**P**	**18 11 46.6**	**+0.4**
GIRL	**Giralia**	**62.64**	**253**	P	**P**	**18 11 47.8**	**-1.2**
	baz=63,SNR=3.6						
GIRL	**Giralia**	**62.64**	**253**	P	**P**	**18 11 49.3**	**+0.3**
JAGI	**Jajag, Banyuwa**	**65.63**	**268**	P	**P**	**18 12 07.1**	**-1.0**
JAGI				IAmb	IAmb	18 12 08.2	
	comp=Z,41nm,1.1s						
MJAR	**Matsushiro Arr**	**67.22**	**323**	P	**P**	**18 12 17.5**	**0.0**
	comp=Z,4.4nm,0.7s,baz=155,slow=6.3,SNR=9.0						
MAT	**Matsushiro**	**67.23**	**323**	P	**P**	**18 12 17.3**	**-0.2**
MAT				*e*S	**S**	**18 20 32.2**	**+2.2**
KKM	**Kota Kinabalu**	**68.20**	**284**	P	**P**	**18 12 24.7**	**+0.7**
KKM				IAmb	IAmb	18 12 37.1	
	comp=Z,20nm,1.1s						
UGM	**Wanagama**	**69.24**	**268**	P	**P**	**18 12 30.3**	**0.0**
PETK	**Petropavlovsk-**	**73.06**	**345**	P	**P**	**18 12 51.1**	**-0.6**
	comp=Z,8.8nm,0.9s,baz=124,slow=5.9,SNR=3.2						
NJ2	**Nanjing**	**77.27**	**310**	*e*P	**P**	**18 13 16.9**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
YBH	**Yreka Blue Hor**	**78.38**	**39**	P	**P**	**18 13 22.2**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=237,slow=6.6,SNR=4.2						
NVAR	**Mina Array Bea**	**79.33**	**44**	P	**P**	**18 13 28.4**	**+1.5**
	comp=Z,0.4nm,0.2s,baz=228,slow=10,SNR=6.9						
NVAR	**Mina Array Bea**	**79.33**	**44**	P	**P**	**18 13 27.1**	**+0.2**
KVN	**Kaiserville**	**79.80**	**44**	P	**P**	**18 13 29.3**	**0.0**
IPM	**Ipoh**	**81.93**	**277**	P	**P**	**18 13 41.1**	**+0.4**
IPM				IAmb	IAmb	18 13 42.9	
	comp=Z,15nm,0.8s						
BELA	**Belgrano 2**	**82.75**	**173**	P	**P**	**18 13 43.6**	**0.0**
SEY	**Seymchan**	**83.16**	**347**	P	**P**	**18 13 45.5**	**-0.1**
	comp=Z,2.6nm,0.4s,baz=168,slow=5.8,SNR=13						
ILAR	**Eielson Array**	**85.46**	**13**	P	**P**	**18 13 57.0**	**0.0**
	comp=Z,0.5nm,0.7s,baz=220,slow=5.4,SNR=2.7						
XAN	**Xi'an**	**85.60**	**308**	P	**P**	**18 14 01.6**	**+3.2**
XAN				pP	pP	18 15 53.5	-1.8
XAN				pmax	pmax		
	comp=Z,8.0nm,2.1s						
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**18 14 03.2**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=243,slow=4.0,SNR=4.3						
HHC	**Hu-ho-hao-te**	**86.59**	**315**	*e*P	**P**	**18 14 02.3**	**-0.8**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,90nm,5.3s						
HHC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,66nm,5.9s						
KMI	**Kunming**	**87.21**	**297**	⇑P	**P**	**18 14 08.9**	**+2.5**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PDAR	**Pinedale Array**	**87.26**	**44**	P	**P**	**18 14 07.0**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=204,slow=3.3,SNR=3.6						
PDAR	**Pinedale Array**	**87.26**	**44**	P	**P**	**18 14 06.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**88.30**	**290**	P	**P**	**18 14 13.5**	**+2.1**
	comp=Z,

KRSR	**Krestovskiy**	**1.18**	**299**	*e*P		**Pn**	**18 07 05.1**	**-0.5**
KRSR				*e*S		**Sn**	**18 07 20.6**	**-0.4**
KLY	**Klyuchi**	**1.19**	**304**	PN		**Pn**	**18 07 04.0**	**-1.6**
KLY				S		**Sn**	**18 07 18.9**	**-2.0**
KLY	**Klyuchi**	**1.19**	**304**	*i* P		**Pn**	**18 07 04.0**	**-1.6**
KLY				*e*S		**Sn**	**18 07 18.9**	**-2.0**
KIRR	**Kirishev**	**1.21**	**285**	PN		**Pn**	**18 07 06.1**	**+0.1**
KIRR				S		**Sn**	**18 07 22.6**	**+0.9**
KIRR	**Kirishev**	**1.21**	**285**	*i* P		**Pn**	**18 07 06.1**	**+0.1**
KIRR				*e*S		**Sn**	**18 07 22.6**	**+0.9**
SRKR	**Sorokina**	**1.22**	**325**	PN		**Pn**	**18 07 06.2**	**+0.2**
SRKR				S		**Sn**	**18 07 23.1**	**+1.4**
SRKR	**Sorokina**	**1.22**	**325**	*e*P		**Pn**	**18 07 06.2**	**+0.2**
SRKR				*e*S		**Sn**	**18 07 23.1**	**+1.4**
KMNR	**Kamenistaya**	**1.24**	**275**	PN		**Pn**	**18 07 06.4**	**0.0**
KMNR				S		**Sn**	**18 07 24.1**	**+1.8**
KMNR	**Kamenistaya**	**1.24**	**275**	*e*P		**Pn**	**18 07 06.4**	**0.0**
KMNR				*e*S		**Sn**	**18 07 24.1**	**+1.8**
TUMD	**Tumrok D**	**1.24**	**249**	*i* P		**Pn**	**18 07 06.0**	**-0.3**
TUMD				*e*S		**Sn**	**18 07 21.9**	**-0.4**
KZV	**Kizimen**	**1.33**	**246**	PN		**Pn**	**18 07 07.3**	**-0.4**
KZV	**Kizimen**	**1.33**	**246**	*e*P		**Pn**	**18 07 07.3**	**-0.4**
TUMR	**Tumrok**	**1.35**	**255**	PN		**Pn**	**18 07 08.1**	**+0.2**
TUMR				S		**Sn**	**18 07 25.9**	**+0.9**
TUMR	**Tumrok**	**1.35**	**255**	*i* P		**Pn**	**18 07 08.1**	**+0.2**
TUMR				*e*S		**Sn**	**18 07 25.9**	**+0.9**
KOZ	**Kozyrevsk**	**1.49**	**286**	PN		**Pn**	**18 07 10.3**	**+0.7**
KOZ				S		**Sn**	**18 07 30.3**	**+2.1**
KOZ	**Kozyrevsk**	**1.49**	**286**	*i* P		**Pn**	**18 07 10.3**	**+0.7**
KOZ				*e*S		**Sn**	**18 07 30.3**	**+2.1**
SRDR	**Sredinnyy**	**1.66**	**294**	PN		**Pn**	**18 07 12.3**	**+0.4**
SRDR				S		**Sn**	**18 07 33.5**	**+1.3**
SRDR	**Sredinnyy**	**1.66**	**294**	*e*P		**Pn**	**18 07 12.3**	**+0.4**
SRDR				*e*S		**Sn**	**18 07 33.5**	**+1.3**
BKI	**Bering**	**2.07**	**101**	PN		**Pn**	**18 07 17.5**	**+0.1**
BKI				S		**Sn**	**18 07 41.9**	**-0.3**
BKI	**Bering**	**2.07**	**101**	*e*P		**Pn**	**18 07 17.5**	**+0.1**
BKI				*e*S		**Sn**	**18 07 41.9**	**-0.3**
ESO	**Esso**	**2.12**	**279**	PN		**Pn**	**18 07 18.2**	**+0.1**
ESO	**Esso**	**2.12**	**279**	*e*P		**Pn**	**18 07 18.2**	**+0.1**
KII	**Karymskiy**	**2.37**	**228**	PN		**Pn**	**18 07 21.8**	**+0.2**
KII	**Karymskiy**	**2.37**	**228**	*e*P		**Pn**	**18 07 21.8**	**+0.2**
SPN	**Mys Shipunski**	**2.93**	**210**	PN		**Pn**	**18 07 28.2**	**-0.9**
SPN				S		**Sn**	**18 08 00.1**	**-3.0**
SPN	**Mys Shipunski**	**2.93**	**210**	*e*P		**Pn**	**18 07 28.2**	**-0.9**
SPN				*e*S		**Sn**	**18 08 00.1**	**-3.0**
NLC	**Nalytchevo**	**3.08**	**217**	PN		**Pn**	**18 07 31.8**	**+0.7**
NLC				S		**Sn**	**18 08 06.3**	**-0.4**
NLC	**Nalytchevo**	**3.08**	**217**	*e*P		**Pn**	**18 07 31.8**	**+0.7**
NLC				*e*S		**Sn**	**18 08 06.3**	**-0.4**
SDLR	**Sedlovina**	**3.16**	**222**	PN		**Pn**	**18 07 33.2**	**+0.8**
SDLR	**Sedlovina**	**3.16**	**222**	*e*P		**Pn**	**18 07 33.2**	**+0.8**
KRX	**Arik**	**3.19**	**225**	PN		**Pn**	**18 07 34.2**	**+1.4**
KRX	**Arik**	**3.19**	**225**	*e*P		**Pn**	**18 07 34.2**	**+1.4**
KRER	**Koryakskii**	**3.19**	**224**	PN		**Pn**	**18 07 34.6**	**+1.7**
KRER	**Koryakskii**	**3.19**	**224**	*e*P		**Pn**	**18 07 34.6**	**+1.7**
SMAR	**Somma**	**3.20**	**223**	PN		**Pn**	**18 07 34.1**	**+1.1**
SMAR	**Somma**	**3.20**	**223**	*e*P		**Pn**	**18 07 34.1**	**+1.1**
AVH	**Avacha**	**3.23**	**223**	PN		**Pn**	**18 07 34.2**	**+1.0**
AVH	**Avacha**	**3.23**	**223**	*e*P		**Pn**	**18 07 34.2**	**+1.0**
UGLR	**Uglovaya**	**3.24**	**222**	PN		**Pn**	**18 07 34.7**	**+1.3**
UGLR	**Uglovaya**	**3.24**	**222**	*e*P		**Pn**	**18 07 34.7**	**+1.3**
KOK	**Koryaka**	**3.25**	**224**	PN		**Pn**	**18 07 35.0**	**+1.5**
KOK	**Koryaka**	**3.25**	**224**	*e*P		**Pn**	**18 07 35.0**	**+1.5**
GNL	**Ganaly**	**3.27**	**235**	PN		**Pn**	**18 07 34.7**	**+0.9**
GNL	**Ganaly**	**3.27**	**235**	*e*P		**Pn**	**18 07 34.7**	**+0.9**
DALK	**Dalny**	**3.40**	**221**	PN		**Pn**	**18 07 35.8**	**+0.3**
DALK	**Dalny**	**3.40**	**221**	*e*P		**Pn**	**18 07 35.8**	**+0.3**
PET	**Petropavlovsk**	**3.44**	**221**	PN		**Pn**	**18 07 37.2**	**+1.1**
PET				S		**Sn**	**18 08 16.5**	**+0.8**
PET	**Petropavlovsk**	**3.44**	**221**	*e*P		**Pn**	**18 07 37.2**	**+1.1**
PET				*e*S		**Sn**	**18 08 16.5**	**+0.8**
PET	**Petropavlovsk**	**3.44**	**221**	Pn		**Pn**	**18 07 37.3**	**+1.1**
PET				Sn		**Sn**	**18 08 17.4**	**+1.7**
OSSR	**Ossora**	**3.61**	**5**	PN		**Pn**	**18 07 38.6**	**+0.2**
OSSR				S		**Sn**	**18 08 19.7**	**0.0**
OSSR	**Ossora**	**3.61**	**5**	*e*P		**Pn**	**18 07 38.6**	**+0.2**
OSSR				*e*S		**Sn**	**18 08 19.7**	**0.0**
PALN	**Palana**	**3.68**	**340**	PN		**Pn**	**18 07 39.9**	**+0.6**
PALN	**Palana**	**3.68**	**340**	*e*P		**Pn**	**18 07 39.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**3.77**	**229**	PN		**Pn**	**18 07 40.9**	**+0.3**
PEA0B	**Petropavlovsk-**	**3.77**	**229**			**Pn**	**18 07 40.9**	**+0.3**
PETK	**Petropavlovsk-**	**3.77**	**229**	P		**Pn**	**18 07 41.9**	**+1.3**
	3.7nm,0.3s,baz=63,slow=17,SNR=30							
PETK				S		**Sn**	**18 08 29.4**	**+5.8**
	5.8nm,0.3s,baz=91,slow=22,SNR=2.4							
PETK				LR		LR	18 09 20.7	
	comp=Z,145nm,21.7s,baz=21,slow=42							
PETK	**Petropavlovsk-**	**3.77**	**229**			**Pn**	**18 07 40.9**	**+0.4**
KRMR	**Karymshinskiy**	**3.79**	**223**	PN		**Pn**	**18 07 42.9**	**+2.0**
KRMR				S		**Sn**	**18 08 26.0**	**+1.8**
KRMR	**Karymshinskiy**	**3.79**	**223**	*e*P		**Pn**	**18 07 42.9**	**+2.0**
KRMR				*e*S		**Sn**	**18 08 26.0**	**+1.8**
RUS	**Russkaya**	**3.97**	**217**	PN		**Pn**	**18 07 44.7**	**+1.4**
RUS	**Russkaya**	**3.97**	**217**	*e*P		**Pn**	**18 07 44.7**	**+1.4**
GRL	**Gorelyy**	**4.03**	**221**	PN		**Pn**	**18 07 46.4**	**+2.1**
GRL	**Gorelyy**	**4.03**	**221**	*e*P		**Pn**	**18 07 46.4**	**+2.1**
MTVR	**Mutnovka**	**4.05**	**220**	PN		**Pn**	**18 07 46.0**	**+1.5**
MTVR				S		**Sn**	**18 08 31.8**	**+1.1**
MTVR	**Mutnovka**	**4.05**	**220**	*e*P		**Pn**	**18 07 46.0**	**+1.5**
MTVR				*e*S		**Sn**	**18 08 31.8**	**+1.1**
APC	**Apacha**	**4.13**	**231**	PN		**Pn**	**18 07 47.1**	**+1.6**
APC	**Apacha**	**4.13**	**231**	*e*P		**Pn**	**18 07 47.1**	**+1.6**
ASAK	**Asacha**	**4.23**	**221**	PN		**Pn**	**18 07 49.0**	**+2.0**
ASAK	**Asacha**	**4.23**	**221**	*e*P		**Pn**	**18 07 49.0**	**+2.0**
KDTR	**Khodutka, Kamc**	**4.64**	**216**	S		**Sn**	**18 08 47.2**	**+2.1**
MIPR	**Malaya Ipel'ka**	**4.76**	**227**	PN		**Pn**	**18 07 55.8**	**+1.6**
MIPR	**Malaya Ipel'ka**	**4.76**	**227**	P		**Pn**	**18 07 55.8**	**+1.6**
TILK	**Tilichiki**	**5.19**	**21**	PN		**Pn**	**18 08 01.5**	**+1.6**
TILK				S		**Sn**	**18 08 57.9**	**-0.4**
TILK	**Tilichiki**	**5.19**	**21**	*e*P		**Pn**	**18 08 01.5**	**+1.6**
TILK				*e*S		**Sn**	**18 08 57.9**	**-0.4**
PAU	**Pauzhetka**	**5.37**	**221**	PN		**Pn**	**18 08 04.1**	**+1.6**
PAU	**Pauzhetka**	**5.37**	**221**	P		**Pn**	**18 08 04.1**	**+1.6**
ALID	**Alaid**	**6.33**	**223**	PN		**Pn**	**18 08 16.4**	**+0.7**
ALID	**Alaid**	**6.33**	**223**	P		**Pn**	**18 08 16.4**	**+0.7**
KMSK	**Kamenskaya**	**7.10**	**14**	PN		**Pn**	**18 08 28.1**	**+2.1**
KMSK				S		**Sn**	**18 09 45.9**	**+0.9**
KMSK	**Kamenskaya**	**7.10**	**14**	*e*P		**Pn**	**18 08 28.1**	**+2.1**
KMSK				*e*S		**Sn**	**18 09 45.9**	**+0.9**
MA2	**Magadan**	**7.38**	**307**	P		**Pn**	**18 08 31.8**	**+1.8**
	0.4nm,0.3s,baz=144,slow=19,SNR=1.3							
YAK	**Yakutsk**	**17.95**	**304**	P		**P**	**18 10 48.5**	**-1.1**
	0.1nm,0.3s,baz=346,slow=1.9,SNR=1.6							
KLR	**Kul'dur**	**19.66**	**264**	P		**P**	**18 11 07.8**	**-0.7**
	0.2nm,0.3s,baz=64,slow=12,SNR=6.7							
TIXI	**Tiksi**	**21.39**	**331**	P		**P**	**18 11 27.2**	**+0.3**
	3.4nm,0.5s,baz=313,slow=12,SNR=5.3							
TIXI	**Tiksi**	**21.39**	**331**	P		**P**	**18 11 25.6**	**-1.2**
MAT	**Matsushiro**	**25.22**	**231**	P		**P**	**18 12 04.2**	**-0.5**
MJAR	**Matsushiro Arr**	**25.22**	**231**	P		**P**	**18 12 04.0**	**-0.7**
	5.1nm,0.9s,baz=26,slow=8.1,SNR=6.5							
CCB	**Clear Creek Bu**	**25.68**	**49**	IAmb		IAmb	18 12 52.9	
	comp=Z,6.3nm,1.0s							
ILAR	**Eielson Array**	**26.06**	**49**	P		**P**	**18 12 16.7**	**+4.6**
	comp=Z,0.4nm,0.5s,baz=254,slow=6.5,SNR=2.6							
SONM	**Songino Array**	**34.69**	**281**	P		**P**	**18 13 28.0**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=57,slow=8.3,SNR=5.1							
SONM	**Songino Array**	**34.69**	**281**	P		**P**	**18 13 28.0**	**-0.5**
HHC	**Hu-ho-hao-te**	**36.08**	**268**	*e*P		P	18 13 35.5	-4.9
YKA	**Yellowknife Ar**	**40.36**	**45**	P		**P**	**18 14 18.0**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=300,slow=7.5,SNR=3.5							
YKA	**Yellowknife Ar**	**40.36**	**45**	P		**P**	**18 14 18.0**	**+2.0**
WMQ	**Urumqi**	**47.42**	**289**	*e*P		**P**	**18 15 10.4**	**-2.5**
WMQ	**Urumqi**	**47.42**	**289**	*e*P		P	18 15 24.1	+11
WMQ				pmax		pmax		
	comp=Z,9.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,110nm,4.7s							
MK31	**Makanchi Array**	**48.29**	**295**	P		**P**	**18 15 15.6**	**-3.9**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MK31	**Makanchi Array**	**48.29**	**295**	P		**P**	**18 15 15.6**	**-3.9**
MKAR	**Makanchi Array**	**48.29**	**295**	P		**P**	**18 15 17.7**	**-1.8**
	comp=Z,0.9nm,0.4s,baz=56,slow=6.7,SNR=34							
MKAR	**Makanchi Array**	**48.29**	**295**	P		**P**	**18 15 17.3**	**-2.2**
BRVK	**Borovoye**	**49.90**	**308**	P		**P**	**18 15 30.1**	**-1.5**
BRVK	**Borovoye**	**49.90**	**308**	P		**P**	**18 15 30.1**	**-1.5**
NV11	**Mina Array Sit**	**53.72**	**73**	IAmb		IAmb	18 16 31.9	
	comp=Z,1.9nm,0.6s							
KK31	**Karatay Array**	**56.83**	**299**	P		**P**	**18 16 21.1**	**-1.5**
KK31	**Karatay Array**	**56.83**	**299**	P		**P**	**18 16 21.1**	**-1.5**
KK31				IAmb		IAmb	18 16 23.0	
	comp=Z,5.1nm,1.4s							
KKAR	**Karatay Array**	**56.83**	**299**	P		**P**	**18 16 21.2**	**-1.4**
KKAR	**Karatay Array**	**56.83**	**299**	P		**P**	**18 16 20.2**	**-2.4**
KKAR	**Karatay Array**	**56.83**	**299**	P		**P**	**18 16 21.2**	**-1.4**
KKAR				IAmb		IAmb	18 16 23.0	
	comp=Z,5.1nm,1.4s							
ABKAR	**Akbulak array**	**57.16**	**310**	P		**P**	**18 16 24.1**	**-0.8**
ABKAR				IAmb		IAmb	18 16 25.2	
	comp=Z,2.1nm,0.5s							
ABKAR	**Akbulak array**	**57.16**	**310**	P		**P**	**18 16 24.0**	**-0.8**
FINES	**FINESS Array B**	**58.29**	**337**	P		**P**	**18 16 32.8**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=43,slow=7.9,SNR=12							
CMAR	**Chiang Mai Arr**	**60.04**	**259**	P		**P**	**18 16 44.8**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=22,slow=6.5,SNR=2.8							
CMAR				PcP		**PcP**	**18 17 30.3**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=5.1,slow=3.3,SNR=6.1							
NOA	**NORSAR Array B**	**61.44**	**345**	P		**P**	**18 16 55.1**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=18,slow=7.0,SNR=1.6							
AKASG	**Malin Array Be**	**67.09**	**330**	P		**P**	**18 17 30.9**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=28,slow=6.7,SNR=9.1							
TXAR	**Lajitas Array**	**68.42**	**70**	P		**P**	**18 17 42.4**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=258,slow=4.5,SNR=2.6							
BRTR	**Keskin Array B**	**75.48**	**322**	P		**P**	**18 18 21.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=38,slow=2.6,SNR=4.1							
WRA	**Warramunga Arr**	**78.99**	**207**	P		**P**	**18 18 42.1**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=4.7,slow=5.9,SNR=9.6							
ASAR	**Alice Springs**	**82.67**	**206**	P		**P**	**18 19 02.4**	**+1.0**
	comp=Z,1.3nm,1.0s,baz=18,slow=4.4,SNR=15							

*IDC **11** 18:11:56.7±0.7, 13.˚15N×145.˚58E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/40, mbtmp4.0/13, MS3.5/2, Ms1 3.5/2, ms1mx2.9/34, Error ellipse: s-maj=27.4km s-min=17.4km az=100.0*

*NEIC **11** 18:11:58.4±1.6, 13.˚10N±0.˚08×145.˚57E±0.˚08, h10km±1km, mb4.8/43, Error ellipse: s-maj=13.8km s-min=12.5km az=153.0*

ISC 11 18:12:02.8±0.5, 13.˚08N±0.˚07×145.˚5E±0.˚1, h43km, n76, σ0996/73, mb4.6/36, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.79**	**310**	Pn	**Pn**	**18 12 17.5**	**0.0**
ANA2	**Anatahan**	**3.25**	**4**	Pn	**Pn**	**18 12 51.4**	**+0.1**
PATS	**Pohnpei**	**14.06**	**115**	Pn	Pn	18 15 13.8	-5.7
JCJ	**Chichijima**	**14.29**	**348**	Pn	**Pn**	**18 15 24.6**	**+2.2**
MJAR	**Matsushiro Arr**	**24.26**	**346**	P	**P**	**18 17 14.5**	**-1.4**
	1.2nm,0.6s,baz=234,slow=4.1,SNR=1.0						
MJAR	**Matsushiro Arr**	**24.26**	**346**	P	**P**	**18 17 14.4**	**-1.5**
YHNB	**Yeheng**	**25.52**	**300**	IAmb	IAmb	18 17 35.3	
	comp=Z,48nm,1.2s						
KSAR	**Wonju Array Be**	**28.91**	**330**	P	**P**	**18 17 54.5**	**-3.2**
KS19	**Wonju Array Si**	**28.97**	**330**	P	**P**	**18 17 56.2**	**-2.0**
KS19				IAmb	IAmb	18 18 18.4	
	comp=Z,26nm,1.3s						
CTAO	**Charters Tower**	**32.97**	**179**	P	**P**	**18 18 33.7**	**0.0**
USRK	**Ussuriysk Ar.**	**33.10**	**342**	LR	LR	18 30 36.1	
	comp=Z,57nm,20.3s,baz=218,slow=34						
MDJ	**Mudanjiang**	**34.24**	**340**	P	**P**	**18 18 44.1**	**-0.4**
MDJ				IAmb	IAmb	18 18 45.7	
	comp=Z,28nm,1.4s						
WB0	**Warramunga Arr**	**34.42**	**199**	P	**P**	**18 18 46.6**	**+0.3**
WB0				IAmb	IAmb	18 19 14.6	
	comp=Z,8.2nm,1.3s						
WR0	**Warramunga Arr**	**34.55**	**198**	P	**P**	**18 18 46.0**	**-1.5**
WR0				IAmb	IAmb	18 19 03.4	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**34.60**	**199**	P	**P**	**18 18 48.1**	**+0.3**
WB2				IAmb	IAmb	18 18 48.6	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**34.60**	**199**	P	**P**	**18 18 48.1**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=22,slow=9.4,SNR=18						
FITZ	**Fitzroy Crossi**	**36.65**	**213**	P	**P**	**18 19 06.4**	**+0.9**
FITZ				IAmb	IAmb	18 19 09.7	
	comp=Z,15nm,1.4s						
KLR	**Kul'dur**	**37.79**	**345**	P	**P**	**18 19 14.9**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=170,slow=7.7,SNR=5.4						
AS31	**Alice Springs**	**38.24**	**197**	P	**P**	**18 19 19.7**	**+0.8**
ASAR	**Alice Springs**	**38.24**	**197**	P	**P**	**18 19 19.5**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=30,slow=7.5,SNR=54						
ASAR	**Alice Springs**	**38.24**	**197**	P	**P**	**18 19 18.9**	**0.0**
CMAR	**Chiang Mai Arr**	**45.02**	**283**	P	**P**	**18 20 14.3**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=82,slow=6.5,SNR=6.6						
CMAR				PcP	**PcP**	**18 21 56.8**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=98,slow=1.6,SNR=2.6						
MNAI	**Manna**	**45.66**	**250**	P	**P**	**18 20 19.5**	**-0.1**
BBOO	**Buckleboo**	**46.51**	**191**	P	**P**	**18 20 26.7**	**+0.7**
BBOO				IAmb	IAmb	18 20 47.2	
	comp=Z,22nm,1.4s						
SONM	**Songino Array**	**47.49**	**325**	P	**P**	**18 20 35.0**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=130,slow=7.2,SNR=4.9						
GSI	**Gunungsitoli**	**48.85**	**260**	P	**P**	**18 20 43.4**	**-1.2**
MORW	**Morawa**	**50.65**	**214**	P	**P**	**18 20 58.7**	**+0.8**
MORW				IAmb	IAmb	18 21 16.1	
	comp=Z,18nm,1.3s						
BKZ	**Black Stump Fm**	**59.48**	**152**	P	**P**	**18 22 01.9**	**+0.3**
TUWZ	**Tuamarina**	**60.27**	**156**	P	**P**	**18 22 06.5**	**-0.3**
MK31	**Makanchi Array**	**62.28**	**316**	P	**P**	**18 22 21.0**	**+0.4**
MKAR	**Makanchi Array**	**62.28**	**316**	P	**P**	**18 22 21.1**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=94,slow=8.3,SNR=22						
MKAR	**Makanchi Array**	**62.28**	**316**	P	**P**	**18 22 21.0**	**+0.5**
MAKZ	**Makanchi**	**62.49**	**316**	P	**P**	**18 22 22.7**	**+0.8**
BRLK	**Bradley Lake**	**65.61**	**30**	P	**P**	**18 22 40.8**	**-1.3**
PPLA	**Purkeypile**	**65.97**	**26**	P	**P**	**18 22 45.3**	**+0.7**
PPLA				IAmb	IAmb	18 23 05.3	
	comp=Z,6.6nm,1.0s						
SUA	**Susitna One**	**66.17**	**28**	P	**P**	**18 22 46.0**	**+0.2**
SUA				IAmb	IAmb	18 22 48.0	
	comp=Z,6.7nm,1.4s						
IMAR	**Indian Mountai**	**66.42**	**23**	P	**P**	**18 22 47.1**	**-0.2**
BPAW	**Bear Paw Mtn.**	**66.87**	**25**	P	**P**	**18 22 50.4**	**+0.2**
BPAW				IAmb	IAmb	18 23 02.2	
	comp=Z,9.9nm,1.1s						
TRF	**Thorofare Moun**	**66.96**	**26**	P	**P**	**18 22 51.2**	**+0.3**
TRF				IAmb	IAmb	18 23 02.5	
	comp=Z,9.4nm,1.0s						
KNK	**Knik Glacier**	**67.21**	**28**	P	**P**	**18 22 52.0**	**-0.4**
KNK				IAmb	IAmb	18 23 04.6	
	comp=Z,7.9nm,1.0s						
SML	**Sawmill**	**67.37**	**28**	P	**P**	**18 22 54.6**	**+1.2**
SCM	**Sheep Creek Mo**	**67.84**	**28**	P	**P**	**18 22 57.1**	**+0.7**
I23K	**Minto, Yukon-K**	**67.86**	**24**	P	**P**	**18 22 57.3**	**+0.9**
I23K				IAmb	IAmb	18 23 08.6	
	comp=Z,18nm,1.4s						
WRH	**Wood River Hil**	**68.19**	**25**	P	**P**	**18 22 58.7**	**+0.2**
WRH				IAmb	IAmb	18 23 10.1	
	comp=Z,4.2nm,0.8s						
KLU	**Klutina**	**68.41**	**29**	P	**P**	**18 23 00.7**	**+0.7**
KLU				IAmb	IAmb	18 23 09.3	
	comp=Z,10.0nm,1.3s						
IL31		**68.77**	**25**	P	**P**	**18 23 00.8**	**-1.3**
IL31				IAmb	IAmb	18 23 13.2	
	comp=Z,10nm,1.4s						
ILAR	**Eielson Array**	**68.77**	**25**	P	**P**	**18 23 00.9**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=246,slow=5.9,SNR=11						
ILAR	**Eielson Array**	**68.77**	**25**	P	**P**	**18 23 01.9**	**-0.2**
TOLK	**Toolik Lake Re**	**68.87**	**21**	P	**P**	**18 23 03.1**	**+0.4**
TOLK				IAmb	IAmb	18 23 21.6	
	comp=Z,4.7nm,1.2s						
PAX	**Paxson**	**68.94**	**27**	P	**P**	**18 23 03.8**	**+0.5**
PAX				IAmb	IAmb	18 23 16.7	
	comp=Z,3.4nm,0.8s						
SCRK	**Sand Creek**	**69.81**	**26**	P	**P**	**18 23 08.2**	**-0.5**
KK31	**Karatay Array**	**70.24**	**311**	P	**P**	**18 23 11.2**	**-0.5**
KKAR	**Karatay Array**	**70.24**	**311**	P	**P**	**18 23 11.1**	**-0.5**
BMAR	**Burnt Mountain**	**70.33**	**23**	P	**P**	**18 23 12.8**	**+1.1**
CTGM	**Chitina Glacie**	**70.50**	**30**	P	**P**	**18 23 13.2**	**+0.2**
CTGM				IAmb	IAmb	18 23 22.6	
	comp=Z,5.8nm,0.8s						
TABL	**Table Mountain**	**70.51**	**30**	P	**P**	**18 23 13.6**	**+0.5**
BCAR	**Beaver Creek A**	**70.61**	**27**	P	**P**	**18 23 11.6**	**-2.0**
K27K	**Chicken**	**70.65**	**26**	P	**P**	**18 23 14.7**	**+1.0**
K27K				IAmb	IAmb	18 23 29.9	
	comp=Z,7.4nm,1.4s						
BRVK	**Borovoye**	**70.77**	**322**		**P**	**18 23 14.6**	**0.0**
INK	**Inuvik**	**74.60**	**22**	P	**P**	**18 23 37.4**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=272,slow=7.8,SNR=2.0						
ABKAR	**Akbulak array**	**77.33**	**318**	P	**P**	**18 23 52.7**	**-0.3**
C36M	**Paulatuk**	**78.02**	**21**	P	**P**	**18 23 56.3**	**-0.1**
YKA	**Yellowknife Ar**	**83.03**	**27**	P	**P**	**18 24 23.3**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=287,slow=4.5,SNR=8.3						
YKA				LR	LR	19 02 03.2	
	comp=Z,34nm,19.0s,baz=0.0,slow=36						
NVAR	**Mina Array Bea**	**86.76**	**51**	P	**P**	**18 24 43.9**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=263,slow=5.0,SNR=4.1						
ARCES	**ARCESS Array B**	**87.75**	**342**	P	**P**	**18 24 46.6**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=68,slow=8.1,SNR=4.1						
ARCES	**ARCESS Array B**	**87.75**	**342**	P	**P**	**18 24 46.7**	**-0.2**
YHL	**Hebgen Lake**	**90.10**	**44**	P	**P**	**18 24 56.8**	**-2.0**
YHL				IAmb	IAmb	18 24 59.1	
	comp=Z,4.1nm,0.5s						
FINES	**FINESS Array B**	**91.88**	**335**	P	**P**	**18 25 04.7**	**-1.6**
	comp=Z,2.1nm,0.9s,baz=44,slow=5.8,SNR=5.0						
FINES	**FINESS Array B**	**91.88**	**335**	P	**P**	**18 25 05.0**	**-1.3**
PV22	**Blue Mesa, Par**	**93.87**	**49**	P	**P**	**18 25 15.9**	**-0.4**
DBIC	**Dimbokro**	**144.61**	**302**	PKP	PKPbc	18 31 35.0	+0.4
	comp=Z,3.2nm,0.4s,baz=28,slow=2.0,SNR=9.5						
KIC	**Kosan Boka**	**144.68**	**301**	*e*PKP1	**PKPdf**	**18 31 35.3**	**-0.6**
	comp=Z,5.4nm,0.4s						
TIC	**Toumodi**	**144.75**	**302**	*e*PKP1	**PKPdf**	**18 31 35.5**	**-0.6**
LIC	**Lamto**	**144.99**	**301**	*e*PKP1	**PKPdf**	**18 31 36.2**	**-0.2**
	comp=Z,86nm,1.5s						
LPAZ	**La Paz**	**147.34**	**100**	PKPbc	**PKPbc**	**18 31 43.9**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=245,slow=4.6,SNR=2.1						
LPAZ	**La Paz**	**147.34**	**100**		**PKPab**	**18 31 44.5**	**-0.9**

TAP 11 18:17:14.2, 24.˚81N×121.˚94E, h6km, ML2.2, 2C-2D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.11**	**296**	*e*P	Pg	18 17 17.9	+1.4
	baz=296						
ILA	**Ilan**	**0.17**	**256**	*e*S	Sg	18 17 21.5	+1.4
	baz=255						
TIPB	**Shuangxi**	**0.19**	**329**	⇑ *i* P	Pg	18 17 19.3	+1.2
	baz=328						
TIPB				*i

baz=231
WHF Hehuan Shan 0.90 223 P Pb 18 17 32.5 +0.1
baz=222
WHF S Sn 18 17 46.6 -0.7
baz=222
CHGB Renai 1.02 223 *e*P Pn 18 17 34.8 -0.4
baz=222
CHGB *e*S Sn 18 17 49.3 -0.6
baz=222
WHP Taichung City 1.04 240 *e*P Pn 18 17 35.2 -0.3
baz=239
WHP *e*S Sn 18 17 49.7 -0.7
baz=239
ESL Shilin 1.09 205 *e*P Pn 18 17 35.9 -0.1
baz=204
ESL *e*S Sb 18 17 50.7 +0.7
baz=204
WCS Beigang Elemen 1.20 232 *e*P Pn 18 17 37.4 -0.1
baz=231
WCS *e*S Sn 18 17 54.6 +0.6
baz=231
SMLT Sun Moon Lake 1.32 226 *e*P Pg 18 17 39.6 0.0
baz=225
TYC Yuchr 1.33 228 *e*P Pn 18 17 38.5 -0.9
baz=227
SSLB Suanglung 1.35 222 *e*P Pb 18 17 40.0 0.0
baz=221
HGSD Ruisui 1.39 200 *e*P Pg 18 17 40.8 -0.1
baz=199
YULB Yu-li 1.52 203 *e*P Pb 18 17 43.1 +0.2
baz=202
CHN5 Tsauling 1.66 224 *e*P Pb 18 17 44.9 -0.5
baz=223

MOS ***11*** *18:25:23.4±1.7,43.˚32N×145.˚39E, h90km, mb4.5/1, Error ellipse: s-maj=19.3km s-min=12.1km az=69.9*
JMA ***11*** *18:25:24.4±0.1,43.˚26N×145.˚36E, h73km±1km, M3.8*
JMA Felt I J1.
SKHL ***11*** *18:25:24.4±0.3,43.˚30N×145.˚40E, h91km±5km, mb4.7/4, msha5.9/3*
IDC ***11*** *18:25:27.1±2.5,43.˚29N×145.˚15E, h101km±21km, mb3.3/8, mb1 3.5/10, mb1mx3.2/33, mbtmp3.6/10, Error ellipse: s-maj=23.9km s-min=21.5km az=103.0*
ISC 11 18:25:24.2±0.8, 43˚25N±0.˚05×145˚33E±0.˚04, h70km±6km, n42, σ1§17/49, mb3.7/7, 4C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.21**	**218**	⇑P	**Pn**	**18 25 35.7**	**+0.9**
JKHN				*e*S	**Sn**	**18 25 44.0**	**+1.4**
NMR	**Nemuro--Hokkai**	**0.31**	**67**	⇓*i*PN	**Pn**	**18 25 36.0**	**+0.6**
NMR				*i* S	**Sn**	**18 25 44.0**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.31**	**67**	*i* P	**Pn**	**18 25 36.0**	**+0.6**
NEM2	**Nemuro 2**	**0.32**	**68**	⇓P	**Pn**	**18 25 35.9**	**+0.4**
NEM2				*e*S	**Sn**	**18 25 44.2**	**+0.5**
JAK	**Akkeshi**	**0.53**	**242**	⇑P	**Pn**	**18 25 38.0**	**+0.8**
JAK				*e*S	**Sn**	**18 25 47.6**	**+0.7**
JNK	**Nakash**	**0.56**	**307**	⇑P	**Pn**	**18 25 37.5**	**-0.1**
JNSB	**Nemuroshibetsu**	**0.58**	**336**	⇑P	**Pn**	**18 25 38.1**	**+0.3**
JRA	**Rausu**	**0.71**	**347**	P	**Pn**	**18 25 39.6**	**+0.5**
JRA				*e*S	**Sn**	**18 25 50.5**	**+0.3**
GRPR	**Tuman**	**0.81**	**23**	*e*PN	**Pn**	**18 25 40.6**	**+0.3**
GRPR				*i* S	**Sn**	**18 25 52.4**	**+0.1**
GRPR	comp=N,224nm,0.2s			pmax	pmax		
GRPR	comp=E,167nm,0.2s			pmax	pmax		
GRPR	comp=Z,543nm,0.2s			pmax	pmax		
GRPR	comp=N,5μm,0.2s			smax	smax		
GRPR	comp=E,3μm,0.2s			smax	smax		
GRPR	**Tuman**	**0.81**	**23**	*e*P	**Pn**	**18 25 40.7**	**+0.4**
GRPR	comp=E,540nm,0.2s			AMB	AMB	18 25 41.5	
GRPR				*i* S	**Sn**	**18 25 52.6**	**+0.3**
GRPR	comp=E,5μm,0.3s			A	A	18 25 53.0	
GRPR	comp=E,3μm,0.3s			A	A	18 25 53.0	
RUSJ	**Misakicho**	**0.86**	**356**	*e*PN	**Pn**	**18 25 41.6**	**+0.7**
RUSJ				*i* S	**Sn**	**18 25 55.0**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**0.87**	**26**	*e*PN	**Pn**	**18 25 41.5**	**+0.4**
YUK				*i* S	**Sn**	**18 25 54.2**	**+0.6**
YUK	comp=Z,983μm,0.2s			pmax	pmax		
YUK	comp=N,324μm,0.1s			pmax	pmax		
YUK	comp=E,497μm,0.2s			pmax	pmax		
YUK	comp=N,3μm,0.3s			smax	smax		
YUK	comp=E,4μm,0.3s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**0.87**	**26**	*e*P	**Pn**	**18 25 41.7**	**+0.6**
YUK	comp=E,980nm,0.3s			AMB	AMB	18 25 42.0	
YUK				*i* S	**Sn**	**18 25 54.4**	**+0.8**
YUK	comp=E,3μm,0.3s			A	A	18 25 54.7	
YUK	comp=E,4μm,0.3s			A	A	18 25 54.7	
JAR	**Ashorobuto**	**1.14**	**273**	P	**Pn**	**18 25 45.3**	**+0.8**
JAR				*e*S	**Sn**	**18 26 00.6**	**+1.0**
JOB	**Onbets**	**1.15**	**253**	P	**Pn**	**18 25 45.6**	**+1.1**
JOB				*e*S	**Sn**	**18 26 01.2**	**+1.4**
JTKR	**Abashiri--Toko**	**1.26**	**305**	⇓P	**Pn**	**18 25 46.8**	**+0.8**
JTKR				*e*S	**Sn**	**18 26 02.8**	**+0.5**
JCH	**Churui**	**1.58**	**247**	P	**Pn**	**18 25 50.8**	**+0.6**
JCH				*e*S	**Sn**	**18 26 10.6**	**+0.8**
JMP	**Maruseppu**	**1.62**	**299**	P	**Pn**	**18 25 51.8**	**+1.0**
ERM	**Erimo**	**2.02**	**233**	*i* PN	Pn	18 26 01.0	+4.9
JKA	**Kamikawa-asahi**	**2.17**	**295**	*e*P	**Pn**	**18 25 59.9**	**+1.9**
ASAJ	**Asahikawa**	**2.17**	**295**	P	**Pn**	**18 25 59.9**	**+1.9**
ASAJ	comp=E,36nm,0.3s,baz=113,slow=11,SNR=139			S	**Sn**	**18 26 25.9**	**+2.0**
KUR	comp=E,15nm,0.3s,baz=39,slow=32,SNR=8.1 **Kuril'sk**	**2.69**	**42**	*e*PN	**Pn**	**18 26 07.2**	**+2.1**
KUR				*e*S	**Sn**	**18 26 39.4**	**+2.8**
KUR	comp=Z,36nm,0.4s			pmax	pmax		
KUR	comp=N,122nm,0.7s			smax	smax		
KUR	comp=E,292nm,0.7s			smax	smax		
KUR	**Kuril'sk**	**2.69**	**42**	*e*P	**Pn**	**18 26 07.1**	**+2.0**
KUR				AMB	AMB	18 26 11.0	
KUR	comp=E,30nm,0.3s			*i* S	**Sn**	**18 26 37.9**	**+1.3**
KUR				A	A	18 26 44.0	
KUR	comp=E,320nm,0.4s			A	A	18 26 44.0	
YSS	comp=E,350nm,0.4s **Yuzh-Sakhalins**	**4.13**	**335**	*e*P	**Pn**	**18 26 26.1**	**+1.4**
YSS				AMB	AMB	18 26 27.6	
MJAR	comp=E,10.0nm,0.3s **Matsushiro Arr**	**8.65**	**222**	P	**Pn**	**18 27 26.7**	**+0.2**
SEY	comp=E,0.1nm,0.3s,baz=32,slow=13,SNR=4.7 **Seymchan**	**20.14**	**9**	P	**P**	**18 29 51.0**	**-1.3**
SONM	comp=E,0.9nm,0.7s,baz=143,slow=20,SNR=4.3 **Songino Array**	**27.45**	**293**	P	**P**	**18 31 01.9**	**-1.5**
TLY	comp=E,0.3nm,0.5s,baz=78,slow=8.0,SNR=4.7 **Talaya**	**29.08**	**302**	P	**P**	**18 31 15.6**	**-2.2**
H11N2	comp=E,1.5nm,0.7s,baz=298,slow=23,SNR=3.7 **WAKE ISLAND Hy 29.63**	**136**		T	T	19 02 24.7	
H11N1	baz=328,slow=76,SNR=256 **WAKE ISLAND Hy 29.64**	**136**		T	T	19 02 28.1	
H11N3	baz=328,slow=76,SNR=172 **WAKE ISLAND Hy 29.64**	**136**		T	T	19 02 26.6	
H11S1	baz=328,slow=76,SNR=177 **WAKE ISLAND Hy 30.56**	**137**		T	T	19 03 33.6	
H11S3	baz=329,slow=76,SNR=299 **WAKE ISLAND Hy 30.56**	**137**		T	T	19 03 34.0	
H11S2	baz=329,slow=76,SNR=195 **WAKE ISLAND Hy 30.57**	**137**		T	T	19 03 35.7	
ILAR	baz=329,slow=76,SNR=162 **Eielson Array**	**42.67**	**36**	P	**P**	**18 33 13.3**	**-0.1**
FINES	comp=E,1.4nm,1.1s,baz=263,slow=7.1,SNR=7.9 **FINESS Array B**	**64.71**	**332**	P	**P**	**18 35 53.1**	**-1.2**
ASAR	comp=E,1.4nm,0.9s,baz=56,slow=7.8,SNR=4.6 **Alice Springs**	**67.41**	**191**	P	**P**	**18 36 12.2**	**+0.1**
NVAR	comp=E,0.3nm,0.8s,baz=31,slow=11,SNR=2.2 **Mina Array Bea**	**68.96**	**57**	P	**P**	**18 36 23.2**	**+1.1**
NOA	comp=E,0.3nm,0.6s,baz=314,slow=5.8,SNR=1.5 **NORSAR Array B**	**69.58**	**338**	P	**P**	**18 36 24.6**	**-0.7**
H03N2	comp=E,0.9nm,0.9s,baz=8.7,slow=5.4,SNR=1.7 **Juan Fernandez**	**144.29**	**89**	T	T	21 26 04.5	
H03N3	baz=302,slow=77,SNR=12 **Juan Fernandez**	**144.30**	**89**	T	T	21 25 54.3	
H03N1	baz=302,slow=77,SNR=11 **Juan Fernandez**	**144.31**	**89**	T	T	21 26 02.9	
	baz=302,slow=77,SNR=11						

IDC ***11*** *18:41:03.8±3.2,26.˚64N×128.˚45E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/34, mbtmp3.5/3, Error ellipse: s-maj=165.6km s-min=11.0km az=60.0*
JMA ***11*** *18:41:07.0±0.1,26.˚67N×128.˚69E, h17km±2km, M3.5*
ISC 11 18:41:03.4±1.3, 26˚61N±0.˚05×128˚85E±0.˚03, h8km±11km, n14, σ1§31/24, mb3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**0.55**	**320**	P	**Pb**	**18 41 15.2**	**-0.1**
JYRO				S	**Sg**	**18 41 20.9**	**-0.3**
JOW	**Kunigami**	**0.56**	**294**	Pn	**Pb**	**18 41 15.1**	**-0.4**
JOW	99nm,0.3s,baz=115,slow=23,SNR=1439			Sn	**Sg**	**18 41 20.7**	**-0.9**
JOW	472nm,0.3s,baz=135,slow=19,SNR=89 **Kunigami**	**0.56**	**294**	P	**Pb**	**18 41 15.2**	**-0.3**
JOW				S	**Sg**	**18 41 21.0**	**-0.6**
JNTH	**Nagotoyohara**	**0.74**	**264**	P	**Pg**	**18 41 18.7**	**+1.0**
JNTH				*e*S	**Sb**	**18 41 26.5**	**-2.4**
JOKE	**Okinoerabujima**	**0.79**	**342**	P	**Pn**	**18 41 20.1**	**-0.8**
JOKE				S	**Sg**	**18 41 29.2**	**+0.2**
JIH	**Iheya**	**0.90**	**299**	P	**Pg**	**18 41 21.1**	**+0.5**
JIH				S	**Sb**	**18 41 31.1**	**-2.2**
JJT3	**Tamagusuku3**	**1.06**	**245**	P	**Pg**	**18 41 25.5**	**+1.8**
JJT3				S	**Sb**	**18 41 37.9**	**-0.1**
JTK	**Tokunoshima**	**1.18**	**4**	P	**Pg**	**18 41 27.7**	**+1.7**
JAGN	**Aguni-jima**	**1.44**	**270**	P	**Pg**	**18 41 31.0**	**0.0**
JAGN				S	**Sb**	**18 41 47.8**	**-1.1**
JMZ	**Minamidaito 2**	**2.27**	**110**	P	**Pb**	**18 41 43.1**	**-1.5**
JMZ				*e*S	**Sb**	**18 42 11.3**	**-1.6**
JKDJ	**Kitadaitoujima**	**2.29**	**106**	P	**Pb**	**18 41 43.7**	**-1.3**
JKDJ				S	**Sb**	**18 42 12.8**	**-0.7**
MKAR	**Makanchi Array**	**41.70**	**311**	P	**P**	**18 48 53.0**	**+0.3**
	0.5nm,0.9s,baz=99,slow=8.9,SNR=3.1						
WRA	**Warramunga Arr**	**46.58**	**173**	P	**P**	**18 49 33.5**	**+1.5**
	0.6nm,0.6s,baz=354,slow=8.3,SNR=6.9						
ASAR	**Alice Springs**	**50.22**	**174**	P	**P**	**18 50 01.9**	**+2.0**
	0.5nm,0.6s,baz=6.9,slow=13,SNR=13						

NOU ***11*** *18:53:12.7,30.˚50S×175.˚50W, h0km, mb5.0, Kermadec Islands Region*
IDC ***11*** *18:53:22.7±0.6,30.˚17S×177.˚26W, h0km, mb4.5/13, mb1 4.7/14, mb1mx4.6/23, mbtmp4.5/14, ML5.3/1, MS4.3/30, Ms1 4.3/30, ms1mx4.2/42, Error ellipse: s-maj=21.4km s-min=20.7km az=151.0*
BJI ***11*** *18:53:22.0±0.0,29.˚99S×176.˚79W, h13km, mB5.4/1, mb5.3/17, Ms5.3/2, Ms7 5.0/2*
NEIC ***11*** *18:53:23.9±1.7,30.˚30S±0.˚06×177.˚4W±0.˚1, h10km±1km, mb4.9/77, Error ellipse: s-maj=18.2km s-min=10.4km az=89.0*
GCMT ***11*** *18:53:27.9±0.2,30.˚20S±0.˚03×177.˚02W±0.˚01, h23km, MW5.1/96, Moment Tensor Solution. s46,c63; s96,c136; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr6.04±.28; Mθθ-0.31±.18; Mϕϕ-5.73±.17; Mrθ-0.14±.34; Mθϕ-0.26±.11; Mϕr1.61±.22; Best double couple: M₀6.10900×10¹⁶ NP1:ϕs185.00000°, δ37.00000°, λ.93.00000°. NP2: ϕs1.00000°, δ53.00000°, λ.88.00000°. Principal axes: T 6.2610, Plg82.0000°, Azm259.0000°; N -0.3020, Plg2.0000°, Azm2.0000°; P -5.9570, Plg8.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 18:53:26.7±0.3, 30˚46S±0.˚03×177˚36W±0.˚04, h33km, n264, σ2§08/246, mb4.9/51, MS4.3/31, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.28**	**338**	P	**Pn**	**18 53 44.5**	**-3.8**
GLKZ				S	**Sn**	**18 54 00.1**	**-4.3**
RAO	**Raoul Island**	**1.29**	**338**	P	**Pn**	**18 53 44.9**	**-3.5**
RIZ	**Raoul Island**	**1.30**	**338**	P	**Pn**	**18 53 44.9**	**-3.7**
RIZ				S	**Sn**	**18 54 02.2**	**-2.6**
MXZ	**Matakaoa Point**	**7.95**	**206**	Pn	**Pn**	**18 55 19.8**	**-0.1**
MXZ	**Matakaoa Point**	**7.95**	**206**	P	**Pn**	**18 55 19.9**	**0.0**
MXZ				S	**Sn**	**18 56 52.3**	**+3.7**
WMGZ	**Waiomatatini S**	**8.14**	**204**	P	**Pn**	**18 55 21.6**	**-0.9**
WMGZ				S	**Sn**	**18 56 57.4**	**+4.1**
HAZ	**Te Kaha**	**8.32**	**208**	P	**Pn**	**18 55 24.5**	**-0.4**
HAZ				S	**Sn**	**18 57 03.7**	**+6.0**
PKGZ	**Pakihiroa**	**8.32**	**206**	P	**Pn**	**18 55 24.1**	**-0.9**
PKGZ				S	**Sn**	**18 57 01.6**	**+3.7**
PUZ	**Puketiti**	**8.42**	**204**	P	**Pn**	**18 55 25.0**	**-1.4**
PUZ				S	**Sn**	**18 57 03.7**	**+3.5**
RUGZ	**Raukumara Rang**	**8.54**	**207**	P	**Pn**	**18 55 26.6**	**-1.5**
RUGZ				S	**Sn**	**18 57 06.3**	**+2.8**
TWGZ	**Tauwhareparae**	**8.61**	**205**	P	**Pn**	**18 55 28.8**	**-0.3**
TWGZ				S	**Sn**	**18 57 09.2**	**+4.2**
CNGZ	**Carnagh Statio**	**8.80**	**203**	P	**Pn**	**18 55 31.3**	**-0.3**
CNGZ				S	**Sn**	**18 57 14.3**	**+4.6**
WCZ	**Waipu Caves**	**8.84**	**230**	P	Pn	18 55 44.4	+12
TKGZ	**Te Karaka**	**8.89**	**205**	P	**Pn**	**18 55 32.1**	**-0.7**
TKGZ				S	**Sn**	**18 57 14.7**	**+2.9**
MWZ	**Matawai**	**8.92**	**207**	P	**Pn**	**18 55 31.3**	**-2.0**
MWZ				S	**Sn**	**18 57 17.2**	**+4.6**
OUZ	**Omahuta**	**8.97**	**236**	Pn	**Pn**	**18 55 33.0**	**-0.9**
OUZ	**Omahuta**	**8.97**	**236**	P	Pn	18 55 43.5	+10
URZ	**Urewera**	**9.02**	**209**	Pn	**Pn**	**18 55 34.0**	**-0.6**
URZ	1.9nm,0.3s,baz=265,slow=2.8,SNR=9.4			Sn	**Sn**	**18 57 18.8**	**+3.7**
URZ	14nm,0.3s,baz=242,slow=20,SNR=11 **Urewera**	**9.02**	**209**	P	**Pn**	**18 55 32.3**	**-2.3**
URZ	**Urewera**	**9.02**	**209**	P	Pn	18 55 31.3	-3.4
URZ				S	**Sn**	**18 57 17.7**	**+2.6**
RAGZ	**Rawiri**	**9.10**	**207**	P	**Pn**	**18 55 33.0**	**-2.8**
RAGZ				S	**Sn**	**18 57 21.5**	**+4.3**
RIGZ	**Rimuhau**	**9.16**	**205**	P	**Pn**	**18 55 35.1**	**-1.4**
RIGZ				S	**Sn**	**18 57 22.7**	**+4.3**
BKZ	**Black Stump Fm**	**10.05**	**208**	Pn	**Pn**	**18 55 48.8**	**+0.1**
HIZ	**Hauiti**	**10.28**	**217**	Pn	**Pn**	**18 55 52.9**	**+1.0**
HIZ	**Hauiti**	**10.28**	**217**	P	**Pn**	**18 55 54.2**	**+2.3**
OTVZ	**Oturere**	**10.40**	**212**	P	**Pn**	**18 55 53.6**	**-0.1**
OTVZ				S	**Sn**	**18 57 52.2**	**+3.0**
BFZ	**Birch Farm**	**11.45**	**205**	Pn	**Pn**	**18 56 05.4**	**-2.4**
BFZ	**Birch Farm**	**11.45**	**205**	P	**Pn**	**18 56 05.8**	**-2.1**
BFZ				S	**Sn**	**18 58 12.7**	**-1.9**
MRZ	**Mangatainoka R**	**11.69**	**207**	P	Pn	18 56 08.0	-3.1
MRZ				S	**Sn**	**18 58 16.2**	**-4.2**
HOWZ	**Holdsworth Sta**	**11.91**	**207**	P	**Pn**	**18 56 12.1**	**-2.2**
HOWZ				S	Sn	18 58 19.4	-6.6
TMWZ	**Te Maipa**	**11.95**	**205**	P	Pn	18 56 11.1	-3.6
TMWZ				S	**Sn**	**18 58 24.3**	**-2.6**
OGWZ	**Otaki Gorge**	**11.98**	**208**	P	Pn	18 56 11.8	-3.3
OGWZ				S	**Sn**	**18 58 21.6**	**-6.0**
KIW	**Kapiti Island**	**12.13**	**209**	P	Pn	18 56 13.8	-3.3
KIW				S	**Sn**	**18 58 29.5**	**-1.7**
MSWZ	**Moikau Station**	**12.46**	**207**	Pn	Pn	18 56 17.4	-4.3
SNZO	**South Karori**	**12.59**	**208**	Pn	Pn	18 56 19.7	-3.7
PLWZ	**Palliser**	**12.59**	**206**	Pn	**Pn**	**18 56 21.3**	**-2.2**
BHW	**Baring Head**	**12.61**	**208**	Pn	**Pn**	**18 56 24.8**	**+1.2**
TUWZ	**Tuamarina**	**13.01**	**210**		Pn	18 56 25.1	-4.0
NNZ	**Nelson**	**13.10**	**212**	Pn	**Pn**	**18 56 28.7**	**-1.6**
QRZ	**Quartz Range**	**13.21**	**216**	Pn	**Pn**	**18 56 28.9**	**-3.0**
BSWZ	**Blackbirch Sta**	**13.27**	**210**	Pn	**Pn**	**18 56 30.1**	**-2.7**
MSVF	**Nonsavu**	**13.34**	**341**	Pn	**Pn**	**18 56 31.7**	**-2.1**
MSVF	0.6nm,0.3s,baz=131,slow=18,SNR=2.3			LR	LR	19 00 50.4	
MSVF	comp=Z,2μm,18.2s,baz=150,slow=34 **Nonsavu**	**13.34**	**341**		**Pn**	**18 56 30.7**	**-3.1**
THZ	**Tophouse**	**13.74**	**212**	Pn	**Pn**	**18 56 39.4**	**+0.1**
KHZ	**Kahutara**	**13.99**	**209**		Pn	18 56 38.0	-4.5
LTZ	**Lake Taylor**	**14.84**	**211**		**Pn**	**18 56 53.4**	**-0.7**
OXZ	**Oxford**	**15.37**	**210**		**Pn**	**18 56 59.7**	**-1.5**
OXZ	comp=Z,54nm,0.6s			IAmb	IAmb	18 57 09.7	
MQZ	**McQueen's Vall**	**15.42**	**208**		**Pn**	**18 56 60.0**	**-1.8**
RPZ	**Rata Peaks**	**16.12**	**212**	Pn	**Pn**	**18 57 10.1**	**-0.6**
RPZ	comp=Z,2.0nm,0.3s,baz=76,slow=3.6,SNR=10			Sn	**Sn**	**19 00 05.7**	**-2.7**
RPZ	comp=Z,2.5nm,0.3s,baz=330,slow=6.5,SNR=5.0 **Rata Peaks**	**16.12**	**212**	Pn	**Pn**	**18 57 08.8**	**-2.0**
OUENC	**Ouen Island, N**	**16.24**	**296**	P	**P**	**18 57 19.8**	**+4.6**
YATNC	**Mamie plateau,**	**16.40**	**297**	P	**P**	**18 57 23.0**	**+6.0**
FOZ	**Fox Glacier**	**16.57**	**214**		**Pn**	**18 57 15.9**	**-0.5**
DZM	**Mont Dzumac**	**16.74**	**296**	*e*Pn	**P**	**18 57 23.2**	**+2.4**
DZM	comp=Z,308nm,1.6s			*e*LQ	LQ	19 00 33.5	
DZM	comp=Z,1μm,26.2s			*e*LR	LR	19 01 11.8	
DZM	comp=Z,2μm,24.8s **Mont Dzumac**	**16.74**	**296**	Pn	**P**	**18 57 22.7**	**+1.8**
DZM	comp=Z,0.5nm,0.3s,baz=109,slow=11,SNR=11 **Mont Dzumac**	**16.74**	**296**		**Pn**	**18 57 16.1**	**-2.8**
DZM	comp=Z,170nm,1.4s			IAmb	IAmb	18 57 31.7	
DZM	**Mont Dzumac**	**16.74**	**296**	P	**P**	**18 57 27.4**	**+6.6**
NOUC	**Port Laguerre**	**16.83**	**296**	P	**P**	**18 57 27.3**	**+5.5**
LBZ	**Lake Benmore**	**17.04**	**212**	Pn	**Pn**	**18 57 18.9**	**-3.4**
AFI	**Afiamalu**	**17.25**	**19**	LR	LR	19 04 51.0	
ODZ	comp=Z,481nm,19.7s,baz=200,slow=41 **Otahua Downs**	**17.35**	**210**	Pn	**Pn**	**18 57 22.0**	**-4.2**
WKZ	**Wanaka**	**17.91**	**213**	Pn	Pn	18 57 26.5	-6.7
RAR	**Rarotonga**	**18.29**	**64**	LR	LR	19 03 41.2	
RAR	comp=Z,400nm,19.8s,baz=280,slow=34 **Rarotonga**	**18.29**	**64**	Pn	**Pn**	**18 57 33.0**	**-4.9**
RAR	comp=Z,99nm,1.3s			IAmb	IAmb	18 57 52.5	
MLZ	**Mavora Lakes**	**18.74**	**213**	P	**P**	**18 57 42.9**	**+0.2**
WHZ	**Wether Hill Ro**	**19.21**	**213**	P	**P**	**18 57 48.6**	**+0.9**
DCZ	**Deep Cove**	**19.28**	**215**	P	**P**	**18 57 47.6**	**-0.9**
LHI	**Lord Howe Isla**	**20.24**	**261**	P	Pn	18 58 05.8	+4.6
TBI	baz=21,SNR=3.7 **Tubuai**	**25.82**	**81**	*e*S	**S**	**19 03 26.2**	**+3.6**
TBI	comp=Z,307nm,29.5s			*e*LR	LR	19 05 15.0	
ARMA	comp=Z,1μm,27.5s,baz=245 **Armidale**	**26.70**	**262**	P	**P**	**18 59 06.5**	**+3.4**
ARMA	baz=28,SNR=12 **Armidale**	**26.70**	**262**	P	**P**	**18 59 02.3**	**-0.8**
MGCD	**Mangrove Creek**	**26.88**	**256**	P	**P**	**18 59 07.5**	**+3.0**
CNB	baz=28,SNR=4.7 **Canberra Magne**	**28.28**	**251**	P	**P**	**18 59 20.9**	**+3.7**
EIDS	baz=29,SNR=8.0 **Eidsvold**	**28.29**	**273**	P	**P**	**18 59 20.7**	**+3.4**
EIDS	baz=29,SNR=4.2 **Eidsvold**	**28.29**	**273**	P	**P**	**18 59 19.5**	**+2.3**
EIDS	comp=Z,18nm,0.9s			IAmb	IAmb	18 59 34.8	
PAE	**Paea**	**28.30**	**70**	*e*T	T	19 28 11.1	
PPT2	comp=Z,5.1nm,0.3s **Papeete2**	**28.34**	**70**	*e*S	**S**	**19 04 04.4**	**+2.0**
PPT2	comp=Z,172nm,24.2s			*e*LR	LR	19 06 24.2	
PPT	comp=Z,1μm,25.5s,baz=231 **Papeete**	**28.35**	**69**	LR	LR	19 07 48.5	
CAN	comp=Z,404nm,19.7s,baz=248,slow=31 **Canberra**	**28.58**	**251**	P	**P**	**18 59 23.3**	**+3.5**
MEH	**Mehetia**	**29.42**	**72**	*e*T	T	19 29 38.1	
HNR	comp=Z,8.5nm,0.3s **Honiara**	**29.76**	**310**	LR	LR	19 09 37.9	
RMQ	comp=Z,336nm,18.2s,baz=177,slow=33 **Roma**	**29.98**	**269**	P	**P**	**18 59 36.6**	**+4.4**
VAH	baz=31,SNR=16 **Vaihoa**	**31.18**	**68**	*e*T	T	19 31 45.4	
TOO	comp=Z,19nm,0.3s **Toolangi**	**31.45**	**247**	P	**P**	**18 59 49.0**	**+3.8**
TOO	baz=32,SNR=4.6 **Toolangi**	**31.45**	**247**	P	**P**	**18 59 48.3**	**+3.1**
CMSA	comp=Z,17nm,0.9s **Cobar Meteorol**	**31.60**	**258**	P	**P**	**18 59 50.2**	**+3.8**
QLP	baz=32,SNR=11 **Quilpie**	**33.86**	**267**	P	**P**	**19 00 09.5**	**+3.2**
CTA	baz=35,SNR=12 **Charters Tower**	**34.35**	**279**	LR	LR	19 12 52.4	
CTAO	comp=Z,1μm,18.6s,baz=136,slow=34 **Charters Tower**	**34.35**	**279**	P	**P**	**19 00 11.3**	**+0.7**
STKA	**Stephens Creek**	**35.00**	**257**	P	**P**	**19 00 19.8**	**+3.6**
STKA	comp=Z,11nm,0.6s,baz=101,slow=11,SNR=37			LR	LR	19 13 45.5	
STKA	comp=Z,1μm,18.0s,baz=96,slow=35 **Stephens Creek**	**35.00**	**257**	P	**P**	**19 00 20.0**	**+3.8**
STKA	baz=36,SNR=24 **Stephens Creek**	**35.00**	**257**	P	**P**	**19 00 19.0**	**+2.8**
MTSU	**Mount Surprise**	**36.85**	**280**	P	**P**	**19 00 35.6**	**+3.5**
HTT	baz=38,SNR=5.7 **Hallett**	**37.02**	**254**	P	**P**	**19 00 36.4**	**+2.9**
RKT	baz=38,SNR=15 **Rikitea**	**38.37**	**89**	*e*LR	LR	19 11 09.9	
PMG	comp=Z,759nm,30.8s **Port Moresby**	**39.13**	**295**	LR	LR	19 13 42.7	
BBOO	comp=Z,440nm,20.0s,baz=128,slow=31 **Buckleboo**	**39.48**	**254**	P	**P**	**19 00 56.1**	**+2.0**
BBOO	baz=40,SNR=28 **Buckleboo**	**39.48**	**254**	P	**P**	**19 00 55.0**	**+0.9**
BBOO	comp=Z,23nm,0.7s			IAmb	IAmb	19 00 57.7	
QIS	**Mount Isa**	**39.87**	**274**	P	P	19 01 02.2	+4.7
AS31	baz=41,SNR=5.0 **Alice Springs**	**43.66**	**267**	P	**P**	**19 01 28.8**	**+0.2**
ASAR	**Alice Springs**	**43.66**	**267**	P	**P**	**19 01 29.1**	**+0.5**
ASAR	comp=Z,4.9nm,0.5s,baz=105,slow=6.4,SNR=37			PcP	**PcP**	**19 03 17.4**	**+2.0**
ASAR	comp=Z,2.6nm,0.7s,baz=113,slow=3.5,SNR=5.5			LR	LR	19 19 18.7	
ASAR	comp=Z,2μm,18.3s,baz=108,slow=36 **Alice Springs**	**43.66**	**267**	P	**P**	**19 01 27.8**	**-0.7**
ASPA	**Alice Springs**	**43.66**	**267**	P	**P**	**19 01 29.4**	**+0.8**
WR0	baz=45 **Warramunga Arr**	**44.47**	**272**	P	**P**	**19 01 35.3**	**+0.3**
WR0				IAmb	IAmb	19 01 53.8	
WB2	comp=Z,15nm,0.7s **Warramunga Arr**	**44.64**	**272**	P	**P**	**19 01 37.1**	**+0.7**
WB2	baz=46 **Warramunga Arr**	**44.64**	**272**	P	**P**	**19 01 36.5**	**+0.2**
WRAB	**Tennant Creek**	**44.64**	**272**	P	**P**	**19 01 37.4**	**+0.9**
WRA	**Warramunga Arr**	**44.65**	**272**	P	**P**	**19 01 37.0**	**+0.6**
WRA	comp=Z,21nm,0.8s,baz=113,slow=7.5,SNR=107			LR	LR	19 19 19.2	
WB0	comp=Z,747nm,18.4s,baz=105,slow=35 **Warramunga Arr**	**44.67**	**272**	P	**P**	**19 01 37.2**	**+0.6**
FORT	**Forrest**	**46.56**	**255**	P	**P**	**19 01 52.6**	**+1.1**
WRKA	**Warakurna**	**48.02**	**263**	P	**P**	**19 02 03.2**	**+0.2**
VNDA	baz=49,SNR=30 **Vanda**	**48.10**	**186**	P	**P**	**19 02 06.5**	**+3.7**
VNDA	comp=Z,2.3nm,0.7s,baz=16,sl

comp=Z,2.3nm,0.7s,baz=152,slow=5.9,SNR=3.4
MJAR LR LR 19 34 44.6
comp=Z,94nm,21.9s,baz=135,slow=32
MJAR Matsushiro Arr 78.60 325 P P 19 05 24.8 -0.2
MAT Matsushiro 78.60 325 P P 19 05 25.3 +0.3
VNA2 Neumayer--Watz 78.65 177 P P 19 05 27.4 +2.5
baz=168,slow=4.5
VNA1 Neumayer--Stat 78.88 176 P P 19 05 28.2 +2.1
H03S2 Juan Fernandez 79.97 123 T T 20 35 08.4
baz=238,slow=74,SNR=9.9
H03S1 Juan Fernandez 79.99 123 T T 20 35 09.6
baz=238,slow=74,SNR=8.7
H03S3 Juan Fernandez 79.99 123 T T 20 35 08.5
baz=238,slow=74,SNR=9.2
H03N3 Juan Fernandez 80.17 123 T T 20 33 07.8
baz=235,slow=71,SNR=26
H03N2 Juan Fernandez 80.17 123 T T 20 33 05.1
baz=235,slow=71,SNR=19
H03N1 Juan Fernandez 80.18 123 T T 20 33 08.1
baz=235,slow=71,SNR=22
PLCA Paso Flores 82.07 133 P P 19 05 45.2 +1.2
comp=Z,3.5nm,0.9s,baz=212,slow=4.8,SNR=6.2
PLCA Paso Flores 82.07 133 IAmb IAmb 19 05 48.3
comp=Z,11nm,1.1s
LPIG La Paz 84.10 58 LR LR 19 38 14.4
comp=Z,303nm,18.2s,baz=214,slow=32
KSRS Korea Array 84.75 319 P P 19 05 58.8 +1.4
comp=Z,1.1nm,0.6s,baz=137,slow=6.0,SNR=4.7
KSRS LR LR 19 41 14.1
comp=Z,79nm,19.3s,baz=156,slow=34
YSS Yuzh-Sakhalins 85.04 334 P P 19 05 59.6 +1.0
ESJX Sierra Juarez 85.12 48 P P 19 06 00.1 +0.4
RMX La Rumorosa 85.42 48 P P 19 06 00.4 -0.8
RMX IAmb IAmb 19 06 04.2
comp=Z,11nm,1.3s
PFO Pinyon Flats O 85.84 47 LR LR 19 35 06.3
comp=Z,61nm,22.0s,baz=241,slow=29
PFO Pinyon Flats O 85.84 47 P P 19 06 03.1 0.0
XPFO Pion Flat 85.84 47 P P 19 06 02.9 -0.3
XPFO IAmb IAmb 19 06 04.6
comp=Z,11nm,1.3s
ISA Isabella, Lake 85.95 44 P P 19 06 04.5 +0.9
ISA IAmb IAmb 19 06 06.8
comp=Z,12nm,1.2s
PETK Petropavlovsk- 86.00 345 P P 19 06 03.7 +0.4
comp=Z,7.7nm,0.9s,baz=108,slow=8.2,SNR=7.9
PETK LR LR 19 38 19.1
comp=Z,146nm,20.0s,baz=145,slow=31
PETK Petropavlovsk- 86.00 345 P P 19 06 03.3 0.0
CMB Columbia Colle 86.44 42 P P 19 06 06.4 +0.5
CMB IAmb IAmb 19 06 08.4
comp=Z,8.6nm,1.1s
NJ2 Nanjing 86.70 310 *e*P **P 19 06 08.2 +1.0**
NJ2 pmax pmax
comp=Z,13nm,0.5s
GSC Goldstone, Bar 86.73 46 P P 19 06 08.2 +0.7
GSC IAmb IAmb 19 06 10.5
comp=Z,9.2nm,1.1s
AFDM Forest Hills D 86.73 41 P P 19 06 07.8 +0.5
AFDM IAmb IAmb 19 06 08.9
comp=Z,16nm,1.4s
ORV Oroville 86.86 40 P P 19 06 06.4 -1.4
ORV IAmb IAmb 19 06 10.6
comp=Z,11nm,1.4s
WDC Whiskeytown Da 87.01 39 P P 19 06 09.4 +0.8
WDC IAmb IAmb 19 06 22.7
comp=Z,9.4nm,1.2s
WAKR Walker 87.30 42 P P 19 06 11.8 +1.5
USRK Ussuriysk Ar. 87.51 326 P P 19 06 12.0 +1.1
comp=Z,4.6nm,0.7s,baz=156,slow=4.1,SNR=6.8
USRK LR LR 19 37 36.4
comp=Z,64nm,21.1s,baz=131,slow=30
USRK Ussuriysk Ar. 87.51 326 P P 19 06 09.3 -1.6
LHV Little Huntoon 87.67 42 P P 19 06 12.4 +0.7
LHV IAmb IAmb 19 06 13.5
comp=Z,8.6nm,1.1s
YBH Yreka Blue Hor 87.74 38 LR LR 19 41 45.1
comp=Z,126nm,18.1s,baz=227,slow=33
YERR Yerington 87.74 41 P P 19 06 12.1 -0.3
YERR IAmb IAmb 19 06 13.4
comp=Z,6.9nm,1.1s
NVAR Mina Array Bea 87.91 42 P P 19 06 13.4 +0.2
comp=Z,2.2nm,0.8s,baz=221,slow=8.4,SNR=12
NVAR LR LR 19 39 19.4
comp=Z,270nm,18.6s,baz=206,slow=31
NVAR Mina Array Bea 87.91 42 P P 19 06 12.6 -0.6
RYN Ryan 87.91 42 P P 19 06 14.4 +1.3
NV11 Mina Array Sit 87.99 42 P P 19 06 14.3 +0.7
NV11 IAmb IAmb 19 06 14.7
comp=Z,10nm,1.4s
TPNV Topopah Spring 88.15 45 P P 19 06 14.7 +0.4
TPNV IAmb IAmb 19 06 28.5
comp=Z,7.6nm,1.0s
TPH Tonopah 88.30 43 P P 19 06 15.5 +0.4
W13A Hualapai Mount 88.42 47 P P 19 06 16.9 +1.1
KVN Kaiserville 88.44 42 P P 19 06 15.8 +0.1
KVN IAmb IAmb 19 06 18.2
comp=Z,8.0nm,1.3s
SHPR Sheep Range 88.53 45 P P 19 06 16.7 +0.5
SHPR IAmb IAmb 19 06 18.1
comp=Z,8.2nm,1.3s
TUC Tucson 88.72 51 P P 19 06 17.6 +0.6
TUC IAmb IAmb 19 06 19.1
comp=Z,12nm,1.4s
MDJ Mudanjiang 88.98 325 P P 19 06 18.8 +0.9
MDJ pmax pmax
comp=Z,19nm,1.6s
PRN Pahroc Range 89.17 45 P P 19 06 20.8 +1.7
LCMT Little Creek M 90.03 46 P P 19 06 24.2 +1.0
LCMT IAmb IAmb 19 06 26.8
comp=Z,7.7nm,1.3s
PINE Pine Mountain 90.11 37 P P 19 06 23.1 -0.3
PINE IAmb IAmb 19 06 37.8
comp=Z,13nm,1.2s
U15A North Rim 90.27 47 P P 19 06 25.3 +0.8
U15A IAmb IAmb 19 06 28.1
comp=Z,14nm,1.2s
WUAZ Wupatki 90.29 48 P P 19 06 25.0 +0.5
WUAZ IAmb IAmb 19 06 27.9
comp=Z,10nm,1.1s
CCUT Cedar City 90.30 46 P P 19 06 25.9 +1.4
CCUT IAmb IAmb 19 06 42.8
comp=Z,8.2nm,1.4s
KNB Kanab 90.30 46 P P 19 06 23.9 -0.6
WVOR Wild Horse Val 90.41 39 P P 19 06 25.6 +0.8
WVOR IAmb IAmb 19 06 26.6
comp=Z,13nm,1.4s
CN2 Changchun 90.52 323 ⇓P **P 19 06 25.5 +0.4**
CN2 pmax pmax
comp=Z,20nm,1.2s
PKCU Pink Cliffs 90.88 46 P P 19 06 27.9 +0.5
MTPU Mount Pierson 91.33 46 P P 19 06 30.4 +0.9
MTPU IAmb IAmb 19 06 44.6
comp=Z,14nm,1.5s
TXAR Lajitas Array 91.95 57 P P 19 06 33.2 +1.0
comp=Z,1.2nm,1.1s,baz=190,slow=6.4,SNR=6.0
TXAR LR LR 19 43 18.8
comp=Z,209nm,18.0s,baz=0.0,slow=33
TXAR Lajitas Array 91.95 57 P P 19 06 31.0 -1.2
MNTX Cornudas Mount 92.06 54 P P 19 06 32.3 -0.3
ENH Enshi 92.09 304 P P 19 06 33.2 +0.4
G08A Pilot Rock 92.17 37 P P 19 06 33.2 +0.4
G08A IAmb IAmb 19 06 37.4
comp=Z,11nm,1.4s
BMO Blue Mountains 92.75 38 P P 19 06 35.2 -0.3
SRU San Rafael Swe 93.02 46 P P 19 06 37.3 +0.3
SRU IAmb IAmb 19 06 39.6
comp=Z,6.7nm,1.2s
ANMO Albuquerque 93.18 51 P P 19 06 37.7 -0.2
ANMO IAmb IAmb 19 06 40.1
comp=Z,7.4nm,1.4s
HVU Hansel Valley 93.30 43 P P 19 06 38.5 +0.3
CMAR Chiang Mai Arr 93.94 289 P P 19 06 43.0 +1.5
comp=Z,0.6nm,0.7s,baz=148,slow=4.2,SNR=6.7
CMAR LR LR 19 51 55.5
comp=Z,29nm,18.5s,baz=190,slow=37
CMAR Chiang Mai Arr 93.94 289 P P 19 06 41.7 +0.2
PDAR Pinedale Array 95.80 43 LR LR 19 44 41.9
comp=Z,183nm,18.2s,baz=238,slow=32
YHL Hebgen Lake 96.11 41 P P 19 06 52.3 +1.1
YHH Holmes Hill 96.26 41 P P 19 06 53.0 +1.1
YHH IAmb IAmb 19 06 55.0
comp=Z,5.2nm,1.4s
HHC Hu-ho-hao-te 96.67 314 *e*P **P 19 06 54.1 +0.5**
HHC pmax pmax
comp=Z,8.0nm,1.1s
YNE Yellowstone No 96.87 41 P P 19 06 55.5 +0.9
YNE IAmb IAmb 19 07 08.7
comp=Z,4.4nm,1.2s
LPAZ La Paz 97.62 114 LR LR 19 42 18.4
comp=Z,39nm,21.5s,baz=202,slow=30
ILAR Eielson Array 97.86 13 P Pdif 19 06 58.0 -0.3
comp=Z,0.3nm,0.8s,baz=212,slow=4.9,SNR=2.1
ILAR LR LR 19 45 46.5
comp=Z,83nm,19.3s,baz=182,slow=32
TEIG Tepich 99.23 72 LR LR 19 43 39.2
comp=Z,55nm,19.0s,baz=127,slow=30
CPUP Villa Florida 99.52 128 LR LR 19 48 30.7
comp=Z,74nm,18.2s,baz=220,slow=33
WMQ Urumqi 113.69 308 *e*PKP **PKiKP 19 12 01.9 +0.2**
MK31 Makanchi Array 118.23 310 PKPdf PKiKP 19 12 09.8 -0.4
MKAR Makanchi Array 118.23 310 PKP **PKiKP 19 12 10.2 0.0**
comp=Z,0.5nm,0.6s,baz=228,slow=1.6,SNR=8.3
MKAR Makanchi Array 118.23 310 PKPdf PKiKP 19 12 09.8 -0.4
LONY Lake Ozonia 119.30 53 PKPdf **PKiKP 19 12 12.4 0.0**
KSH Kashi 120.74 300 PKP **PKiKP 19 12 16.0 +0.5**
AAK Ala-Archa 122.60 304 PKP **PKiKP 19 12 19.5 +0.4**
comp=Z,1.2nm,0.9s,baz=149,slow=4.9,SNR=5.6
AAK Ala-Archa 122.60 304 PKiKP 19 12 20.2 +1.1
KK31 Karatay Array 125.56 303 PKiKP 19 12 25.2 +0.4
KKAR Karatay Array 125.56 303 PKPdf 19 12 24.2 -0.2
KKAR Karatay Array 125.56 303 PKPdf 19 12 24.3 -0.2
AKTO Aktyubinsk 134.54 312 PKP **PKiKP 19 12 42.0 -0.6**
comp=Z,1.2nm,0.6s,baz=51,slow=6.5,SNR=4.4
H10N3 ASCENSION HYDR 138.52 154 T T 21 48 47.3
baz=204,slow=75,SNR=16
H10N1 ASCENSION HYDR 138.53 154 T T 21 48 51.7
baz=204,slow=75,SNR=16
H10N2 ASCENSION HYDR 138.54 154 T T 21 48 50.2
baz=204,slow=75,SNR=15
ARCES ARCESS Array B 138.76 348 PKP **PKPdf 19 12 47.5 -1.0**
comp=Z,5.7nm,0.9s,baz=72,slow=3.1,SNR=2.3
BELG Belogornoye 140.61 317 PKP **PKPdf 19 12 50.9 -1.4**
comp=Z,3.1nm,0.7s,baz=239,slow=5.9
GNI Garni 144.59 298 PKP **PKPdf 19 12 59.4 -0.6**
comp=Z,5.3nm,0.6s,baz=245,slow=1.6,SNR=5.5
GNI Garni 144.59 298 PKPdf 19 12 59.9 -0.1
FIA1 FINESS Array S 145.38 340 PKPdf 19 13 00.1 -0.3
FINES FINESS Array B 145.38 340 PKPbc **PKPbc 19 12 59.9 -0.5**
comp=Z,24nm,0.6s,baz=56,slow=3.2,SNR=136
OBN Obninsk 145.53 325 PKPbc 19 13 00.7 -0.3
KBZ Khabaz 145.60 304 PKPbc **PKPab 19 13 01.9 0.0**
comp=Z,4.7nm,0.7s,baz=177,slow=3.0,SNR=14
KIV Kislovodsk 145.71 304 PKPbc 19 13 01.8 -0.4
GEVA Gevas 145.95 294 PKPab 19 13 04.1 +0.4
VSU Vasula 147.50 336 *e*P **PKPbc 19 13 07.3 +0.6**
AAL Aland 148.08 344 *e*P **PKPbc 19 13 07.5 -0.7**
NB2 NORSAR Subarra 148.89 352 PKP **PKPbc 19 13 09.8 -0.6**
comp=Z,12nm,0.9s,baz=12,slow=4.4
NOA NORSAR Array B 148.89 352 PKPbc **PKPbc 19 13 10.1 -0.3**
comp=Z,3.1nm,0.6s,baz=15,slow=4.3,SNR=14
IDID Didziasalis 149.81 332 *e*P **PKPbc 19 13 12.5 -0.3**
ISAL Salakas 149.87 333 *e*P **PKiKP 19 13 14.2 +0.4**
IIGN Ignalina 149.99 333 *e*P **PKiKP 19 13 13.7 -0.4**
NACGM Naroch 150.09 332 *i* PKP **PKiKP 19 13 14.2 -0.1**
NACGM *i* PKP **PKiKP 19 13 14.2 -0.1**
NACGM *i* PKP **PKiKP 19 13 14.2 -0.1**
NACGM *i* PP PP 19 17 35.1 +47
NACGM *i* PPP PPP 19 20 38.5
NACGM *i* SKKS 19 23 55.2
NACGM *i* SS SS 19 36 58.8 +54
NACGM *i* SSS SSS 19 41 54.8
NACGM *i* LQ LQ 20 04 33.9
NACGM *i* LR LR 20 10 37.7
PABE Paberze 150.74 335 *e*P **PKPbc 19 13 14.6 -0.4**
AKASG Malin Array Be 151.68 323 PKPbc **PKiKP 19 13 17.3 -0.4**
comp=Z,5.1nm,0.6s,baz=48,slow=2.3,SNR=16
AKASG Malin Array Be 151.68 323 PKPbc 19 13 17.1 -0.2
SUW Suwalki 152.17 334 *e*P **PKiKP 19 13 19.2 +0.5**
BRTR Keskin Array B 153.11 299 PKPbc **PKiKP 19 13 22.4 +1.2**
comp=Z,1.7nm,0.6s,baz=177,slow=4.8,SNR=7.3
BRTR Keskin Array B 153.11 299 PKPbc 19 13 20.6 -0.5
BURAR Bucovina Array 155.62 321 PKPdf 19 13 14.2 -2.7
DPC Dobruska-Polom 157.63 337 *e*PKPAB **PKPab 19 13 52.7 +1.2**
KRLC Kraliky 157.70 335 *e*PKPAB **PKPab 19 13 52.8 +0.9**
CLL Collm 157.79 343 *i* PKPab **PKPab 19 13 52.0 -0.1**
CLL L L 20 22 00.0
comp=Z,100nm,19.9s
VTS Vitosha 159.54 312 PKPab 19 14 00.9 +0.7
KHC Kasperske Hory 159.58 339 *e*PKPAB **PKPab 19 14 01.0 +1.0**
KHC *ex* x 19 14 13.4
CKRC Cesky Krumlov 159.62 337 *e*PKPAB **PKPab 19 14 00.8 +0.6**
GERES GERESS Array B 159.79 338 PKPab **PKPab 19 14 00.5 -0.6**
comp=Z,1.5nm,0.9s,baz=46,slow=5.8,SNR=8.0
GERES GERESS Array B 159.79 338 PKPab 19 14 01.3 +0.3
CONA Conrad Observa 159.81 334 *e*P **PKPab 19 14 02.0 +0.9**
comp=Z,1.0nm,0.6s
SOKA Soboth 161.16 333 *e*P **PKPab 19 14 07.3 +0.2**
comp=Z,11nm,1.3s
WTTA Wattenberg 161.83 340 *e*P **PKPab 19 14 11.2 +1.1**
comp=Z,10nm,1.0s
MOTA Moosalm 161.91 341 *e*P **PKPab 19 14 11.2 +0.9**
comp=Z,14nm,1.4s
TORD Torodi Ar. Bea 162.75 177 PKP **PKPdf 19 13 27.6 +1.6**
comp=Z,2.0nm,1.1s,baz=269,slow=2.4,SNR=6.2
TORD PKPab **PKPab 19 14 16.9 +2.3**
comp=Z,1.6nm,0.6s,baz=185,slow=3.3,SNR=10
TORD Torodi Ar. Bea 162.75 177 PKPdf 19 13 26.3 +0.3
TORD PKPab **PKPab 19 14 13.8 -0.8**
KOWA Kowa 162.98 157 PKPdf 19 13 27.4 +1.1
ESDC Sonseca Array 169.33 29 PKP **PKPdf 19 13 32.1 +1.4**
comp=Z,0.5nm,1.0s,baz=287,slow=5.6,SNR=4.0

JMA ***11*** *18:59:05.2,24°.18N×121°.70E,h54km±1km,M2.6*
TAP ***11*** *18:59:06.3,24°.23N×121°.75E,h45km,ML3.3,B*
ISC 11 18:59:07.1±1.2,24°.22N±0°.02×121°.76E±0°.02,h42km±5km,
n119,σ0§67/212,5C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
NACB	**Ninganchiao**	**0.16**	**253**	⇑P	**Pn**	**18 59 14.1**	**-0.3**
NACB	baz=248			S	**Sn**	**18 59 19.7**	**+0.3**
TWD	baz=248 **Chiawan**	**0.21**	**228**	⇑*i*P	**Pn**	**18 59 14.4**	**-0.2**
TWD	baz=221			S	**Sn**	**18 59 20.2**	**+0.2**
ENA	baz=221 **Nanau**	**0.21**	**354**	P	**Pn**	**18 59 14.8**	**+0.1**
ENA				*i* S	**Sn**	**18 59 20.2**	**+0.2**
ETLH	**Xiulin Townshi**	**0.26**	**267**	P	**Pn**	**18 59 14.8**	**-0.5**
ETLH	baz=264			S	**Sn**	**18 59 20.8**	**-0.2**
HWA	baz=264 **Hwalien**	**0.28**	**211**	*i* P	**Pn**	**18 59 15.6**	**+0.2**
HWA	baz=205			*e*S	**Sn**	**18 59 21.6**	**+0.5**
TWC	baz=205 **Suao**	**0.40**	**11**	*i* P	**Pn**	**18 59 16.8**	**+0.2**
TWC	baz=15			S	**Sn**	**18 59 24.8**	**+1.5**
NNSB	baz=15 **Datong**	**0.40**	**301**	P	**Pn**	**18 59 16.2**	**-0.7**
NNSB	baz=300			S	**Sn**	**18 59 23.9**	**+0.2**
NNSH	baz=300 **Datong**	**0.40**	**301**	*i* P	**Pn**	**18 59 16.2**	**-0.6**
NNSH	baz=300			S	**Sn**	**18 59 24.0**	**+0.3**
NDS	baz=300 **Dongshan**	**0.41**	**354**	P	**Pn**	**18 59 16.5**	**-0.4**
NDS	baz=356			S	**Sn**	**18 59 24.6**	**+0.9**
NNS	baz=356 **Nan Shan**	**0.42**	**302**	*i* P	**Pn**	**18 59 16.3**	**-0.7**
NNS	baz=301			S	**Sn**	**18 59 24.2**	**+0.2**
NDT	baz=301 **Datong Townshi**	**0.44**	**329**	*i* P	**Pn**	**18 59 16.7**	**-0.6**
NDT	baz=330			*i* S	**Sn**	**18 59 24.6**	**+0.2**
ENTT	baz=330 **Nioudou**	**0.46**	**337**	*i* P	**Pn**	**18 59 16.8**	**-0.6**
ENTT	baz=338			S	**Sn**	**18 59 25.0**	**+0.4**
WHF	baz=338 **Hehuan Shan**	**0.46**	**261**	*i* P	**Pn**	**18 59 17.1**	**-0.7**
WHF	baz=258			*i* S	**Sn**	**18 59 24.9**	**-0.5**
	baz=258						
FUSS	**Fushou**	**0.47**	**273**	*i* P	**Pn**	**18 59 17.4**	**-0.4**
FUSS	baz=272			S	**Sn**	**18 59 25.4**	**0.0**
ESL	baz=272 **Shilin**	**0.51**	**217**	*i* P	**Pn**	**18 59 16.7**	**-1.3**
ESL	baz=213			*i* S	**Sn**	**18 59 25.1**	**-0.5**
TWE	baz=213 **Neicheng**	**0.51**	**350**	*i* P	**Pn**	**18 59 17.6**	**-0.4**
TWE	baz=353			S	**Sn**	**18 59 25.5**	**-0.2**
TWT	baz=353 **Tachien**	**0.54**	**274**	*i* P	**Pn**	**18 59 18.4**	**-0.2**
TWT	baz=272			*i* S	**Sn**	**18 59 27.0**	**+0.2**
ILA	baz=272 **Ilan**	**0.54**	**358**	P	**Pn**	**18 59 19.3**	**+0.8**
ILA				*i* S	**Sn**	**18 59 28.6**	**+2.1**
TDCB	**Techi**	**0.55**	**274**	⇑P	**Pn**	**18 59 18.4**	**-0.3**
TDCB	baz=272			S	**Sn**	**18 59 26.5**	**-0.5**
YHNB	baz=272 **Yeheng**	**0.57**	**322**	⇑P	**Pn**	**18 59 18.2**	**-0.8**
YHNB	baz=322			S	**Sn**	**18 59 26.6**	**-0.8**
NSK	baz=322 **Sanguang**	**0.58**	**321**	⇑*i*P	**Pn**	**18 59 18.3**	**-0.8**
NSK	baz=321			S	**Sn**	**18 59 27.0**	**-0.7**
NWLT	baz=321 **Wulai**	**0.60**	**337**	*i* P	**Pn**	**18 59 18.6**	**-0.7**
NWLT	baz=337			S	**Sn**	**18 59 27.5**	**-0.5**
EGFH	baz=337 **Guangfu**	**0.63**	**209**	P	**Pn**	**18 59 18.1**	**-1.5**
EGFH	baz=207			*e*S	**Sn**	**18 59 27.4**	**-1.2**
NTC	baz=207 **Toucheng**	**0.63**	**5**	*e*P	**Pn**	**18 59 20.2**	**+0.5**
VWDT	baz=6.0 **VWDT**	**0.73**	**231**	P	**Pn**	**18 59 20.5**	**-0.5**
VWDT	baz=229			S	**Sn**	**18 59 30.5**	**-0.6**
WHP	baz=229 **Taichung City**	**0.75**	**275**	*i* P	**Pn**	**18 59 21.2**	**-0.1**
WHP	baz=273			*e*S	**Sn**	**18 59 31.9**	**+0.3**
TIPB	baz=273 **Shuangxi**	**0.75**	**4**	P	**Pn**	**18 59 21.6**	**+0.3**
TIPB	baz=5.0			S	**Sn**	**18 59 32.5**	**+0.9**
WPL	baz=5.0 **Puli Township**	**0.77**	**254**	P	**Pn**	**18 59 21.0**	**-0.4**
WPL	baz=253			*e*S	**Sn**	**18 59 32.4**	**+0.5**
NHDH	baz=253 **Xindian Distri**	**0.77**	**344**	*e*P	**Pn**	**18 59 21.1**	**-0.5**
NHDH	baz=344			*e*S	**Sn**	**18 59 31.6**	**-0.4**
TWA	baz=344 **Mucha**	**0.77**	**348**	P	**Pn**	**18 59 21.2**	**-0.4**
TWA	baz=349			S	**Sn**	**18 59 32.1**	**0.0**
DPDB	baz=349 **Guoxing**	**0.79**	**256**	P	**Pn**	**18 59 21.5**	**-0.3**
DPDB	baz=255			*e*S	**Sn**	**18 59 33.0**	**+0.6**
HGSD	baz=255 **Ruisui**	**0.79**	**203**	P	**Pn**	**18 59 21.3**	**-0.5**
HGSD	baz=201			S	**Sn**	**18 59 34.3**	**+1.9**
TATO	baz=201 **Taipei**	**0.79**	**342**	*e*P	**Pn**	**18 59 21.1**	**-0.8**
TATO	baz=343			*e*S	**Sn**	**18 59 31.9**	**-0.7**
WCS	baz=343 **Beigang Elemen**	**0.80**	**258**	P	**Pn**	**18 59 21.6**	**-0.2**
WCS	baz=257			*e*S	**Sn**	**18 59 33.0**	**+0.4**
NJD	baz=257 **Zhudong**	**0.80**	**310**	P	**Pn**	**18 59 22.1**	**+0.1**
NJD	baz=310			S	**Sn**	**18 59 33.8**	**+1.0**
LIOB	baz=310 **Emei**	**0.80**	**302**	P	**Pn**	**18 59 21.5**	**-0.5**
LIOB	baz=302			*e*S	**Sn**	**18 59 33.3**	**+0.5**
NSTT	baz=302 **Nanjuang**	**0.81**	**301**	*e*P	**Pn**	**18 59 21.9**	**-0.1**
NSTT	baz=300			*i* S	**Sn**	**18 59 32.8**	**-0.1**
TWB1	baz=300 **Santiao Chiao**	**0.81**	**15**	*i* P	**Pn**	**18 59 22.5**	**+0.4**
TWB1	baz=16			*i* S	**Sn**	**18 59 34.4**	**+1.4**
EHY	baz=16 **Hungye**	**0.82**	**210**	P	**Pn**	**18 59 22.0**	**-0.2**
EHY	baz=207			S	**Sn**	**18 59 33.1**	**0.0**
BACT	baz=207 **New Taipei Cit**	**0.83**	**339**	P	**Pn**	**18 59 21.7**	**-0.6**
BACT	baz=340			S	**Sn**	**18 59 33.9**	**+0.6**
NWF	baz=340 **Wu-fen Shan**	**0.85**	**1**	P	**Pn**	**18 59 22.6**	**-0.1**
NWF	baz=2.0			S	**Sn**	**18 59 34.5**	**+0.5**
WFSB	baz=2.0 **Wu-fen Shan**	**0.85**	**1**	P	**Pn**	**18 59 22.2**	**-0.4**
WFSB	baz=2.0			S	**Sn**	**18 59 34.4**	**+0.5**
TAP	baz=2.0 **Taipei**	**0.85**	**344**	S	**Sn**	**18 59 33.8**	**-0.1**
SSLB	baz=345 **Suanglung**	**0.86**	**240**	P	**Pn**	**18 59 21.8**	**-0.9**
SSLB	baz=238			S	**Sn**	**18 59 33.9**	**-0.2**
SMLT	baz=238 **Sun Moon Lake**	**0.86**	**247**	*i* P	**Pn**	**18 59 22.4**	**-0.4**
SMLT	baz=245			S	**Sn**	**18 59 34.4**	**+0.1**
HSN1	baz=245 **Hsinchu**	**0.88**	**309**	*e*P	**Pn**	**18 59 22.9**	**-0.1**
HSN1	baz=309			*e*S	**Sn**	**18 59 35.1**	**+0.5**
NTY	baz=309 **Taoyuan**	**0.88**	**331**	P	**Pn**	**18 59 23.1**	**0.0**
NTY	baz=331			S	**Sn**	**18 59 35.0**	**+0.2**
TYC	baz=331 **Yuchr**	**0.89**	**249**	P	**Pn**	**18 59 22.9**	**-0.2**
TYC	baz=248			S	**Sn**	**18 59 34.7**	**-0.1**
SBCB	baz=248 **Hsinchu**	**0.91**	**309**	*e*S	**Sn**	**18 59 35.4**	**0.0**
NCU	baz=309 **National Centr**	**0.91**	**325**	*i* P	**Pn**	**18 59 22.8**	**-0.7**
NCU	baz=325			S	**Sn**	**18 59 36.1**	**+0.6**
NCUH	baz=325 **Zhongli**	**0.91**	**325**	P	**Pn**	**18 59 22.8**	**-0.7**
NCUH	baz=325			S	**Sn**	**18 59 36.1**	**+0.6**
TWQ1	baz=325 **Liyutan**	**0.91**	**278**	*i* P	**Pn**	**18 59 23.0**	**-0.5**
TWQ1	baz=277			*i* S	**Sn**	**18 59 35.6**	**+0.1**
TNOU	baz=277 **National Taiwa**	**0.93**	**1**	P	**Pn**	**18 59 24.1**	**+0.4**
TNOU	baz=1.0			S	**Sn**	**18 59 36.0**	**+0.3**
HSN	baz=1.0 **Hsinchu**	**0.93**	**309**	*e*S	**Sn**	**18 59 35.3**	**-0.5**
YULB	baz=311 **Yu-li**	**0.93**	**207**	*e*P	**Pn**	**18 59 23.1**	**-0.7**
TWS1	baz=206 **Kuangyinshan**	**0.93**	**340**	*i* P	**Pn**	**18 59 22.8**	**-0.9**
TWS1	baz=341			*i* S	**Sn**	**18 59 35.4**	**-0.5**
NSY	baz=341 **Sanyi**	**0.94**	**282**	P	**Pn**	**18 59 23.3**	**-0.5**
NSY	baz=281			S	**Sn**	**18 59 36.6**	**+0.5**
NJN	baz=281 **Zhunan**	**0.94**	**300**	*e*P	**Pn**	**18 59 23.7**	**-0.1**
NJN	baz=299			S	**Sn**	**18 59 35.7**	**-0.3**
	baz=299						

YM01	**YM01** baz=350	**0.94**	**349**	P		**Pn**	**18 59 22.0**	**-1.9**
NMLH	**Miaoli** baz=289	**0.94**	**290**	*e*P		**Pn**	**18 59 24.7**	**+0.8**
NMLH	baz=289			*e*S		**Sn**	**18 59 36.7**	**+0.5**
YM10	**YM10** baz=349	**0.95**	**349**	P		**Pn**	**18 59 23.2**	**-0.9**
YM10	baz=349			*e*S		**Sn**	**18 59 36.4**	**-0.1**
YM04	**YM04** baz=348	**0.95**	**348**	P		**Pn**	**18 59 23.3**	**-0.8**
YM04	baz=348			*e*S		**Sn**	**18 59 35.4**	**-1.1**
YM05	**YM05** baz=349	**0.96**	**349**	*e*P		**Pn**	**18 59 22.8**	**-1.4**
YM05	baz=349			*e*S		**Sn**	**18 59 37.1**	**+0.4**
YM11	**YM11** baz=350	**0.96**	**350**	P		**Pn**	**18 59 23.8**	**-0.4**
YM11	baz=350			*e*S		**Sn**	**18 59 37.8**	**+1.1**
EYUL	**Yuli** baz=204	**0.96**	**205**	*e*P		**Pn**	**18 59 24.1**	**0.0**
TWF1	**Yuli** baz=204	**0.96**	**206**	P		**Pn**	**18 59 23.3**	**-0.9**
TWF1	baz=204			S		**Sn**	**18 59 37.1**	**+0.4**
YM03	**YM03** baz=348	**0.98**	**348**	*e*P		**Pn**	**18 59 23.9**	**-0.5**
YM08	**YM08** baz=351	**0.98**	**351**	*e*P		**Pn**	**18 59 22.8**	**-1.6**
YM08	baz=351			*e*S		**Sn**	**18 59 36.9**	**-0.2**
NTST	**Danshui** baz=343	**0.98**	**343**	*e*S		**Sn**	**18 59 36.9**	**-0.3**
WHYT	**Xinyi Township** baz=237	**0.98**	**238**	*i* P		**Pn**	**18 59 25.2**	**+0.7**
WHYT	baz=237			*i* S		**Sn**	**18 59 39.1**	**+1.9**
WWF	**Wufeng** baz=259	**0.99**	**260**	P		**Pn**	**18 59 24.6**	**+0.1**
TCU	**Taichung** baz=265	**1.00**	**266**	*e*P		**Pn**	**18 59 24.4**	**-0.2**
NHW	**Xinwu Township** baz=320	**1.02**	**320**	*e*P		**Pn**	**18 59 24.3**	**-0.6**
NHW	baz=320			S		**Sn**	**18 59 37.5**	**-0.5**
WJS	**Zhushan** baz=246	**1.03**	**247**	*e*P		**Pn**	**18 59 25.4**	**+0.4**
WJS	baz=246			*e*S		**Sn**	**18 59 39.3**	**+1.1**
WDJ	**Dajia District** baz=276	**1.03**	**277**	P		**Pn**	**18 59 24.6**	**-0.5**
WDJ	baz=276			S		**Sn**	**18 59 38.8**	**+0.4**
WNT1	**Nantou City** baz=251	**1.04**	**253**	*e*P		**Pn**	**18 59 25.3**	**+0.1**
WNT	**Mingjian** baz=250	**1.04**	**251**	P		**Pn**	**18 59 25.5**	**+0.2**
WNT	baz=250			*e*S		**Sn**	**18 59 39.3**	**+0.6**
TWY	**Chenhua** baz=353	**1.06**	**352**	*e*P		**Pn**	**18 59 25.2**	**-0.3**
TWY	baz=353			S		**Sn**	**18 59 39.7**	**+0.6**
JYNG	**Yonagunijimaku**	**1.10**	**78**	P		**Pn**	**18 59 25.7**	**-0.3**
JYNG				*e*S		**Sn**	**18 59 40.5**	**+0.4**
FULB	**Fuli** baz=202	**1.10**	**203**	*e*P		**Pn**	**18 59 26.3**	**+0.2**
FULB	baz=202			*e*S		**Sn**	**18 59 41.0**	**+0.8**
WCHH	**Zhanghua** baz=262	**1.11**	**263**	*e*P		**Pn**	**18 59 25.7**	**-0.5**
WCHH	baz=262			*e*S		**Sn**	**18 59 41.4**	**+1.1**
ALS	**Alishan** baz=229	**1.13**	**231**	P		**Pn**	**18 59 26.9**	**+0.3**
ALS	baz=229			S		**Sn**	**18 59 42.0**	**+0.8**
YOJ	**Yonaguni jima** baz=78	**1.16**	**78**	*e*P		**Pn**	**18 59 26.6**	**-0.3**
YOJ	baz=78			*e*S		**Sn**	**18 59 42.7**	**+1.2**
YOJ	**Yonaguni jima**	**1.16**	**78**	P		**Pn**	**18 59 26.5**	**-0.3**
YOJ				*e*S		**Sn**	**18 59 42.0**	**+0.4**
CHN5	**Tsauling** baz=237	**1.17**	**238**	*i* P		**Pn**	**18 59 27.5**	**+0.4**
CHN5	baz=237			*i* S		**Sn**	**18 59 43.4**	**+1.5**
CHKT	**Chengkung** baz=196	**1.17**	**198**	*e*P		**Pn**	**18 59 27.8**	**+0.7**
CHKT	baz=196			*e*S		**Sn**	**18 59 41.8**	**-0.1**
WGK	**Gukeng** baz=243	**1.22**	**244**	P		**Pn**	**18 59 28.1**	**+0.4**
ELDTW	**Lidau** baz=212	**1.23**	**214**	*i* P		**Pn**	**18 59 26.9**	**-1.1**
ELDTW	baz=212			*e*S		**Sn**	**18 59 43.8**	**+0.3**
WDLH	**Douliu** baz=244	**1.24**	**245**	*e*P		**Pn**	**18 59 28.4**	**+0.4**
WDLH	baz=244			*e*S		**Sn**	**18 59 44.0**	**+0.6**
EDH	**Donghe** baz=197	**1.31**	**199**	P		**Pn**	**18 59 29.9**	**+0.9**
EDH	baz=197			*e*S		**Sn**	**18 59 46.2**	**+0.9**
RLNB	**Erlin** baz=255	**1.32**	**256**	*e*P		**Pn**	**18 59 29.3**	**+0.2**
WTK	**Tuku** baz=246	**1.36**	**247**	*e*P		**Pn**	**18 59 29.6**	**0.0**
WTK	baz=246			*e*S		**Sn**	**18 59 46.9**	**+0.4**
CHN4	**Tsaushan** baz=230	**1.38**	**231**	P		**Pn**	**18 59 30.7**	**+0.8**
CHN4	baz=230			S		**Sn**	**18 59 47.1**	**+0.2**
STYH	**Taoyuan** baz=220	**1.38**	**221**	*e*P		**Pn**	**18 59 30.4**	**+0.5**
TPUB	**Ta-pu** baz=227	**1.39**	**229**	*e*P		**Pn**	**18 59 30.2**	**+0.2**
TPUB	baz=227			*e*S		**Sn**	**18 59 47.4**	**+0.3**
STYT	**Tauyuan** baz=220	**1.40**	**221**	P		**Pn**	**18 59 30.5**	**+0.3**
STYT	baz=220			*e*S		**Sn**	**18 59 48.4**	**+0.9**
WTCT	**Ta-ch'eng** baz=254	**1.40**	**256**	*e*P		**Pn**	**18 59 30.0**	**-0.1**
WTCT	baz=254			*e*S		**Sn**	**18 59 46.5**	**-0.9**
CHY	**Chiayi** baz=238	**1.42**	**240**	*e*P		**Pn**	**18 59 30.0**	**-0.4**
CHY	baz=238			*e*S		**Sn**	**18 59 47.9**	**-0.1**
PCYT	**Pengchaiyu** baz=12	**1.43**	**11**	*e*P		**Pn**	**18 59 31.0**	**+0.4**
PCYT	baz=12			*e*S		**Sn**	**18 59 48.6**	**+0.4**
WTP	**Ta-pu** baz=226	**1.43**	**228**	*e*P		**Pn**	**18 59 30.8**	**+0.1**
WTP	baz=226			*e*S		**Sn**	**18 59 49.0**	**+0.7**
TWK	**Hsinying** baz=229	**1.51**	**231**	*e*P		**Pn**	**18 59 31.9**	**+0.3**
WSF	**Szhu** baz=246	**1.52**	**248**	*e*S		**Sn**	**18 59 51.3**	**+0.8**
SNST	**Tainan City** baz=228	**1.53**	**230**	*e*S		**Sn**	**18 59 52.0**	**+1.4**
CHN1	**Nanshi** baz=227	**1.53**	**228**	*e*P		**Pn**	**18 59 32.7**	**+0.7**
CHN1	baz=227			*e*S		**Sn**	**18 59 50.5**	**-0.2**
TWGBT	**Beinan** baz=203	**1.53**	**204**	*e*P		**Pn**	**18 59 30.2**	**-1.8**
LDUT	**Ludao** baz=189	**1.56**	**190**	*e*P		**Pn**	**18 59 31.4**	**-1.0**
LDUT	baz=189			*e*S		**Sn**	**18 59 50.5**	**-0.9**
SGST	**Jiashian** baz=222	**1.57**	**224**	*e*P		**Pn**	**18 59 31.5**	**-0.9**
SGST	baz=222			*e*S		**Sn**	**18 59 52.0**	**+0.5**
SLGT	**Liugui** baz=219	**1.59**	**220**	*e*P		**Pn**	**18 59 33.8**	**+1.0**
ICHU	**Yijhu** baz=237	**1.61**	**238**	*e*P		**Pn**	**18 59 33.2**	**+0.3**
CHN8	**Yiju** baz=237	**1.67**	**239**	*e*P		**Pn**	**18 59 34.2**	**+0.4**
SCST	**Cishan** baz=220	**1.77**	**222**	*e*P		**Pn**	**18 59 35.9**	**+0.7**
IRIF	**Iriomote-Funau**	**1.80**	**86**	P		**Pn**	**18 59 35.0**	**-0.6**
IRIF				S		**Sn**	**18 59 56.7**	**-0.5**
SSD	**Sandimen** baz=214	**1.80**	**216**	*e*P		**Pn**	**18 59 35.9**	**+0.3**
HATJ	**Hateruma jima**	**1.87**	**95**	P		**Pn**	**18 59 36.7**	**+0.1**
MASBT	**Mashibuluo** baz=212	**1.91**	**213**	*e*P		**Pn**	**18 59 36.9**	**-0.3**
JKRS	**Kuro-shima**	**2.05**	**89**	P		**Pn**	**18 59 39.0**	**-0.1**
JKRS				*e*S		**Sn**	**19 00 03.6**	**+0.2**
JIJ	**Ishigaki jima**	**2.18**	**86**	P		**Pn**	**18 59 40.2**	**-0.6**
JIJ				S		**Sn**	**19 00 05.7**	**-0.8**
JISG	**Ishigakijimahi**	**2.35**	**81**	P		**Pn**	**18 59 42.3**	**-0.9**
JISG				*e*S		**Sn**	**19 00 09.6**	**-1.2**
JTJ	**Tarama**	**2.71**	**81**	P		**Pn**	**18 59 48.0**	**-0.1**
JTJ				S		**Sn**	**19 00 19.8**	**+0.1**

IDC 11 19:12:01.8±3.4, 32.12S×68.88W, h0km, mb3.8/1, mb1 3.9/2, mb1mx3.6/27, mbtmp3.8/2, ML3.9/1, Error ellipse: s-maj=129.0km s-min=74.7km az=74.0, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**15.77**	**3**	Pn	Pn	19 15 46.0	0.0
	0.2nm,0.3s,baz=171,slow=13,SNR=4.7						
TORD	**Torodi Ar. Bea**	**81.06**	**68**	P	P	19 24 19.1	0.0
	0.1nm,0.4s,baz=242,slow=4.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**151.21**	**33**	PKPbc	PKPbc	19 31 56.4	-0.2
	0.8nm,0.4s,baz=321,slow=3.9,SNR=3.8						
MKAR	**Makanchi Array**	**153.53**	**48**	PKPbc	PKPbc	19 32 02.0	-0.1
	0.3nm,0.7s,baz=299,slow=3.0,SNR=2.6						

*IDC **11** 19:14:33.4±2.8,36.18N×71.17E,h67km±25km,mb3.8/21, mb1 3.9/26,mb1mx3.7/66,mbtmp4.1/26,MS2.8/1, Ms1 2.8/1,ms1mx2.3/38,Error ellipse: s-maj=19.7km s-min=12.5km az=8.0*

*BJI **11** 19:14:35.7±0.0,36.52N×70.98E,h99km,mB5.0/17, mb4.5/23*

*NEIC **11** 19:14:37.5±1.2,36.49N±0.06×71.14E±0.10,h89km±7km, mb4.4/28,Error ellipse: s-maj=11.9km s-min=8.9km az=67.0*

*NNC **11** 19:14:39.0±1.9,36.63N×70.99E,h109km±18km,mb4.0, mpv4.9,Error ellipse: s-maj=15.3km s-min=13.2km az=3.0*

ISC 11 19:14:36.9±0.5, 36.35N±0.05×71.25E±0.05, h100km, n122, σ1193/127, mb4.2/29, 7C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.55**	**226**		**Pn**	**19 15 17.6**	**+0.8**
NIL	**Nilore**	**3.16**	**148**	Pn	**Pn**	**19 15 27.7**	**+2.9**
THW	**Thamme Wali**	**3.57**	**173**	P	**Pn**	**19 15 32.1**	**+1.8**
KSH	**Kashi**	**4.89**	**48**	P	**Pn**	**19 15 44.7**	**-3.5**
KSH				S	**Sn**	**19 16 35.7**	**-8.0**
KSH	comp=N,1μm,0.7s			*s*max	*s*max		
KSH	comp=E,820nm,0.5s			*s*max	*s*max		
THN	**Thein Dam**	**5.38**	**135**	*e*P	**Pn**	**19 15 56.5**	**+1.8**
THN				*e*S	**Sn**	**19 16 55.0**	**-0.3**
DHRM	**DHARAMSHALA**	**5.85**	**133**	*e*P	**Pn**	**19 16 01.8**	**+0.5**
DHRM				*e*S	**Sn**	**19 17 05.3**	**-1.8**
DHRM	comp=N,727nm,0.7s			IAML		19 17 08.9	
DHRM	comp=E,904nm,0.7s			IAML		19 17 09.4	
AML	**Almayashu** SNR=117	**6.08**	**17**	P	**Pn**	**19 16 04.5**	**0.0**
UCH	**Uchtor** SNR=33	**6.39**	**22**	P	**Pn**	**19 16 08.8**	**-0.1**
BHK	**Bhakra**	**6.53**	**137**	*ex*	Pn	19 16 14.2	+3.8
BHK				*ex*	**Sn**	**19 17 25.4**	**+1.9**
EKS2	**Erkin-Say** SNR=79	**6.60**	**16**	P	**Pn**	**19 16 11.6**	**+0.2**
AAK	**Ala-Archa**	**6.76**	**21**	P	**Pn**	**19 16 14.1**	**+0.5**
	comp=E,35nm,0.3s,baz=193,slow=4.5,SNR=329						
AAK				S	**Sn**	**19 17 27.7**	**-1.4**
	comp=E,3.2nm,0.3s,baz=147,slow=22,SNR=7.2						
AAK	**Ala-Archa** SNR=116	**6.76**	**21**	P	**Pn**	**19 16 14.2**	**+0.5**
AAK	**Ala-Archa** comp=E,42nm,0.4s	**6.76**	**21**	⇓P	**Pn**	**19 16 13.8**	**+0.2**
AAK	comp=E,45nm,1.0s			⇓S	**Sn**	**19 17 28.1**	**-1.0**
KK31	**Karatay Array**	**6.77**	**355**	⇑P	**Pn**	**19 16 12.1**	**-1.4**
	comp=E,58nm,0.5s,baz=183,slow=13,SNR=330						
KK31				⇑S	**Sn**	**19 17 24.0**	**-5.1**
	comp=E,28nm,0.5s,baz=188,slow=22,SNR=8.6						
KK31	**Karatay Array**	**6.77**	**355**		**Pn**	**19 16 12.2**	**-1.3**
KKAR	**Karatay Array**	**6.77**	**355**		**Pn**	**19 16 12.2**	**-1.4**
KKAR	**Karatay Array**	**6.77**	**355**		**Pn**	**19 16 12.2**	**-1.4**
KBK	**Karagaybulak** SNR=22	**6.92**	**23**	P	**Pn**	**19 16 16.6**	**+0.8**
ULHL	**Ulahol** SNR=11	**7.04**	**32**	P	**Pn**	**19 16 18.1**	**+0.6**
CHMS	**Chumysh** SNR=36	**7.17**	**21**	P	**Pn**	**19 16 19.2**	**+0.2**
SMLA	**Simla**	**7.17**	**135**	*e*S	**Sn**	**19 17 37.9**	**-1.1**
SMLA	comp=E,222nm,0.5s			IAML		19 17 39.7	
SMLA	comp=N,308nm,0.3s			IAML		19 17 40.3	
USP	**Ospenovka** SNR=19	**7.35**	**19**	P	**Pn**	**19 16 20.9**	**-0.6**
TKM2	**Tokmak 2** SNR=21	**7.37**	**26**	P	**Pn**	**19 16 22.3**	**+0.4**
TKM2	**Tokmak 2** comp=N,29nm,0.5s	**7.37**	**26**	⇓P	**Pn**	**19 16 22.1**	**+0.2**
TKM2	comp=N,21nm,0.9s			⇓S	**Sn**	**19 17 43.0**	**-1.0**
HRA	**Herat**	**7.61**	**258**	Pn	**Pn**	**19 16 24.4**	**-0.8**
NDI	**New Delhi**	**9.15**	**145**	*e*P	Pn	19 17 01.0	+15
NDI				*e*S	**Sn**	**19 18 25.0**	**-2.3**
KUDL	**Kundal**	**9.30**	**150**	*e*P	**Pn**	**19 16 46.5**	**-1.6**
KUDL				*e*S	**Sn**	**19 18 24.7**	**-6.3**
PDGK	**Podgornoye** comp=N,9.1nm,0.8s	**9.42**	**40**	⇓P	**Pn**	**19 16 49.6**	**-0.1**
SONA	**Sohna**	**9.46**	**147**	*e*P	**Pn**	**19 16 50.4**	**+0.2**
SONA				*e*S	**Sn**	**19 18 30.5**	**-4.3**
GEYT	**Alibeck**	**10.60**	**282**	P	Pn	19 17 00.6	-5.1
	comp=N,2.6nm,0.3s,baz=129,slow=9.3,SNR=30						
GEYT				S	Sn	19 18 50.4	-12
	comp=N,5.5nm,0.3s,baz=297,slow=33,SNR=12						
GEYT				LR	LR	19 22 43.2	
	comp=N,43nm,18.6s,baz=60,slow=46						
GYA0B	**ALIBECK ARRAY**	**10.60**	**282**		Pn	19 17 00.4	-5.4
MAKZ	**Makanchi** comp=N,6.3nm,0.8s	**13.16**	**34**	⇓P	**Pn**	**19 17 39.0**	**-0.8**
MAKZ	**Makanchi**	**13.16**	**34**	Pn	**Pn**	**19 17 38.2**	**-1.6**
MK31	**Makanchi Array**	**13.30**	**35**	⇑P	**Pn**	**19 17 40.7**	**-0.9**
	comp=N,4.6nm,0.8s,baz=221,slow=14,SNR=15						
MK31	**Makanchi Array**	**13.30**	**35**		**Pn**	**19 17 40.9**	**-0.6**
MKAR	**Makanchi Array**	**13.30**	**35**	P	**Pn**	**19 17 40.5**	**-1.0**
	comp=N,0.2nm,0.3s,baz=222,slow=13,SNR=14						
MKAR	**Makanchi Array**	**13.30**	**35**	Pn	**Pn**	**19 17 41.3**	**-0.3**
GKN	**Gorkha**	**14.05**	**123**	*e*Pn	**Pn**	**19 17 49.0**	**-2.7**
GKN	**Gorkha** comp=N,30nm,0.4s	**14.05**	**123**	*e*P	**Pn**	**19 17 49.2**	**-2.5**
BHPL	**Bhopal**	**14.12**	**156**	*e*P	**Pn**	**19 17 49.6**	**-2.8**
BHPL				*ex*	x	19 20 16.2	
BHPL	comp=N,106nm,0.7s			IAML		19 20 20.9	
BHPL	comp=E,138nm,0.2s			IAML		19 20 21.8	
WMQ	**Urumqi**	**14.62**	**54**	*e*P	**P**	**19 18 01.3**	**-1.0**
WMQ	comp=E,15nm,0.7s			*p*max	*p*max		
WMQ	comp=E,190nm,4.5s			*p*max	*p*max		
DMN	**Daman**	**14.62**	**123**	*e*Pn	**Pn**	**19 17 57.1**	**-2.0**
DMN	**Daman** comp=E,18nm,0.4s	**14.62**	**123**	*e*P	**Pn**	**19 17 57.1**	**-2.0**
KKN	**Kakani**	**14.63**	**122**	*e*Pn	**Pn**	**19 17 56.9**	**-2.2**
KKN				*e*Sn	Sn	19 20 29.5	-11
	comp=E,33nm,0.6s						
KKN	**Kakani** comp=E,18nm,0.4s	**14.63**	**122**	*e*P	**Pn**	**19 17 57.1**	**-2.0**
PKIN	**Phulchoki**	**14.84**	**122**	*e*Pn	**Pn**	**19 17 59.7**	**-2.2**
PKIN	comp=E,40nm,0.4s			*e*Sn	Sn	19 20 33.4	-12
PKIN	**Phulchoki** comp=E,18nm,0.4s	**14.84**	**122**	*e*P	**Pn**	**19 17 59.6**	**-2.3**
PKI	**Pulchoki**	**14.86**	**122**	*e*Pn	**Pn**	**19 17 59.4**	**-2.7**
PKI	comp=E,48nm,0.7s			*e*Sn	Sn	19 20 35.0	-11
PKI	**Pulchoki** comp=E,12nm,0.4s	**14.86**	**122**	*e*P	**Pn**	**19 18 00.0**	**-2.1**
GUN	**Gumba**	**14.97**	**120**	*e*Pn	**Pn**	**19 17 59.9**	**-3.6**
GUN	**Gumba** comp=E,22nm,0.5s	**14.97**	**120**	*e*P	**Pn**	**19 18 01.1**	**-2.4**
KURBB	**Kurchatov Arra**	**15.20**	**18**	P	**Pn**	**19 18 06.2**	**+0.3**
	comp=E,0.2nm,0.3s,baz=206,slow=11,SNR=2.7						
KURBB	**Kurchatov Arra** comp=E,4.1nm,0.5s	**15.20**	**18**	⇑P	**Pn**	**19 18 06.9**	**+0.9**
AB31	**Akbulak array**	**15.31**	**331**	P	**Pn**	**19 18 03.8**	**-3.6**
	comp=E,9.0nm,0.6s,baz=141,slow=12,SNR=317						
AB31				⇓S	Sn	19 20 41.1	-15
	comp=E,2.5nm,0.5s,baz=156,slow=23,SNR=4.3						
ABKAR	**Akbulak array**	**15.31**	**331**	Pn	**Pn**	**19 18 03.9**	**-3.5**
ABKAR	**Akbulak array**	**15.31**	**331**	Pn	**Pn**	**19 18 03.6**	**-3.8**
ABKAR	comp=Z,13nm,0.5s			IAmb	IAmb	19 18 06.0	
RAMN	**Ramite**	**16.07**	**121**	*e*Pn	**Pn**	**19 18 14.2**	**-3.0**
RAMN	comp=Z,31nm,0.5s			*e*Sn	Sn	19 21 02.9	-12
RAMN	**Ramite** comp=Z,13nm,0.4s	**16.07**	**121**	*e*P	**Pn**	**19 18 14.9**	**-2.3**
TAPN	**Taplejung**	**16.60**	**118**	*e*Pn	**Pn**	**19 18 21.5**	**-2.3**
TAPN	comp=Z,65nm,0.9s			*e*Sn	Sn	19 21 13.9	-14
TAPN	**Taplejung** comp=Z,9.5nm,0.3s	**16.60**	**118**	*e*P	**Pn**	**19 18 21.7**	**-2.1**
ODAN	**Odare**	**16.67**	**120**	*e*Pn	**Pn**	**19 18 22.5**	**-2.2**
ODAN	comp=Z,38nm,0.7s			*e*Sn	Sn	19 21 16.4	-13
ODAN	**Odare** comp=Z,14nm,0.4s	**16.67**	**120**	*e*P	**Pn**	**19 18 22.1**	**-2.6**
BVAR	**Borovoye Array**	**16.68**	**358**	P	**Pn**	**19 18 23.0**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=123,slow=12,SNR=21						
BRVK	**Borovoye** comp=Z,7.4nm,0.5s	**16.72**	**358**	⇓P	**Pn**	**19 18 23.1**	**-1.6**
BRVK	**Borovoye**	**16.72**	**358**	Pn	**Pn**	**19 18 23.2**	**-1.6**
BRVK	comp=Z,13nm,0.6s			IAmb	IAmb	19 18 31.0	
AKTO	**Aktyubinsk** comp=Z,2.2nm,0.3s,baz=139,slow=13,SNR=40	**17.01**	**330**	P	**Pn**	**19 18 26.7**	**-1.7**
AKTO				S	Sn	19 21 28.3	-9.0
	comp=Z,0.3nm,0.3s,baz=209,slow=19,SNR=2.5						
AKTO	**Aktyubinsk** comp=Z,14nm,0.7s	**17.01**	**330**	⇑P	**Pn**	**19 18 26.3**	**-2.1**
LSA	**Lhasa**	**17.94**	**106**	P	**Pn**	**19 18 42.4**	**+2.0**
LSA	comp=Z,8.0nm,1.6s			*p*max	*p*max		
ZAA0	**Zalesovo Array** comp=Z,1.4nm,0.6s	**19.97**	**24**	⇑P	**P**	**19 19 00.7**	**-0.3**
ZAA0	**Zalesovo Array**	**19.97**	**24**	P	**P**	**19 19 00.7**	**-0.3**
ZAA0	comp=Z,18nm,1.1s			IAmb	IAmb	19 19 03.6	
ZALV	**Zalesovo Beam**	**19.97**	**24**	P	**P**	**19 19 01.0**	**0.0**
	comp=Z,9.0nm,0.4s,baz=217,slow=11,SNR=36						
ZALV	**Zalesovo Beam**	**19.97**	**24**	P	**P**	**19 19 00.6**	**-0.3**
SHL	**Shillong**	**20.66**	**116**	P	Pn	19 19 10.7	-1.4
GNI	**Garni** comp=Z,6.8nm,0.5s,baz=312,slow=6.6,SNR=4.7	**21.13**	**288**	P	**P**	**19 19 14.4**	**+0.6**
GNI	**Garni** comp=Z,16nm,1.1s	**21.13**	**288**	IAmb	IAmb	19 19 21.4	
ARU	**Arti**	**21.84**	**341**	P	**P**	**19 19 22.5**	**+1.6**
	comp=Z,2.6nm,0.5s,baz=141,slow=10,SNR=12						
ARU	**Arti** comp=Z,16nm,1.1s	**21.84**	**341**	P	**P**	**19 19 21.2**	**+0.2**
ARU				IAmb	IAmb	19 19 26.4	
GTA	**Gaotai**	**22.71**	**74**	⇑P	**P**	**19 19 33.9**	**+3.5**
GTA				*p*P	*s*P	19 19 57.8	-6.3
GTA				*s*P	*p*P	19 20 09.4	+18
GTA	comp=Z,10.0nm,1.0s			*p*max	*p*max		
KBZ	**Khabaz** comp=Z,2.0nm,0.9s,baz=127,slow=8.0,SNR=4.5	**22.85**	**298**	P	**P**	**19 19 31.6**	**+0.1**
BELG	**Belogornoye** comp=Z,8.6nm,0.6s,baz=7.5,slow=1.6,SNR=10	**23.13**	**321**	P	**P**	**19 19 33.9**	**-0.2**
SONM	**Songino Array** comp=Z,0.8nm,0.8s,baz=258,slow=8.9,SNR=8.1	**28.26**	**55**	P	**P**	**19 20 22.0**	**+1.4**
SONM	**Songino Array**	**28.26**	**55**	P	**P**	**19 20 21.8**	**+1.2**
BRTR	**Keskin Array B**	**29.67**	**288**	P	**P**	**19 20 33.3**	**0.0**
	comp=Z,0.4nm,0.5s,baz=116,slow=6.6,SNR=1.6						
OBN	**Obninsk** comp=Z,3.0nm,0.5s,baz=124,slow=20,SNR=4.5	**30.18**	**319**	P	**P**	**19 20 38.2**	**+0.8**
OBN	**Obninsk** comp=Z,0.3nm,0.5s,baz=304,slow=9.7,SNR=1.8	**30.18**	**319**	P	**P**	**19 20 39.2**	**+1.9**
CMAR	**Chiang Mai Arr** comp=Z,0.3nm,0.5s,baz=304,slow=9.7,SNR=1.8	**30.21**	**119**	P	**P**	**19 20 38.5**	**+0.5**
HHC	**Hu-ho-hao-te**	**31.63**	**69**	*e*P	**P**	**19 20 53.5**	**+3.1**
HHC	comp=Z,6.0nm,1.0s			*p*max	*p*max		
HHC	comp=Z,220nm,5.9s			*p*max	*p*max		
AKASG	**Malin Array Be** comp=Z,1.0nm,0.5s,baz=83,slow=7.0,SNR=5.7	**33.20**	**309**	P	**P**	**19 21 04.5**	**+0.7**
AKASG	**Malin Array Be**	**33.20**	**309**	P	**P**	**19 21 04.6**	**+0.7**
AKBB	**Malin Array Si**	**33.20**	**309**	P	**P**	**19 21 04.0**	**+0.1**
MLR	**Muntele Rosu** comp=Z,2.2nm,0.8s,baz=346,slow=2.0,SNR=4.4	**35.03**	**299**	P	**P**	**19 21 20.5**	**+0.6**
MLR	**Muntele Rosu** comp=Z,12nm,1.5s	**35.03**	**299**	P	**P**	**19 21 21.0**	**+1.1**
MLR				IAmb	IAmb	19 21 27.3	
FIA1	**FINESS Array S**	**37.72**	**326**	P	**P**	**19 21 43.4**	**+1.0**
FINES	**FINESS Array B** comp=Z,4.2nm,0.6s,baz=116,slow=8.3,SNR=15	**37.72**	**326**	P	**P**	**19 21 43.4**	**+1.0**
NJ2	**Nanjing**	**39.30**	**82**	*e*P	**P**	**19 21 58.2**	**+2.2**
NJ2	comp=Z,10.0nm,0.5s			*p*max	*p*max		
ARCES	**ARCESS Array B** comp=Z,3.3nm,0.6s,baz=112,slow=8.3,SNR=20	**41.36**	**338**	P	**P**	**19 22 13.8**	**+1.2**
ARCES	**ARCESS Array B**	**41.36**	**338**	P	**P**	**19 22 14.0**	**+1.5**
ARCES	comp=Z,14nm,1.2s			IAmb	IAmb	19 22 24.0	
NC303	**NORSAR Array S**	**44.56**	**323**	P	**P**	**19 22 39.9**	**+1.4**
NB201	**NORSAR Array S**	**44.58**	**323**	P	**P**	**19 22 39.2**	**+0.5**
NB2	**NORSAR Subarra** comp=Z,1.9nm,0.5s,baz=97,slow=7.9	**44.62**	**323**	P	**P**	**19 22 39.1**	**+0.1**
NOA	**NORSAR Array B** comp=Z,2.8nm,0.5s,baz=96,slow=7.8,SNR=17	**44.62**	**323**	P	**P**	**19 22 39.5**	**+0.5**
NBO00	**NORSAR Array S**	**44.83**	**323**	P	**P**	**19 22 41.4**	**+0.8**
NC204	**NORSAR Array S**	**44.86**	**323**	P	**P**	**19 22 41.3**	**+0.4**
KLR	**Kul'dur** comp=Z,0.6nm,0.4s,baz=269,slow=8.7,SNR=5.3	**45.07**	**54**	P	**P**	**19 22 43.6**	**+1.0**
TIXI	**Tiksi**	**45.84**	**22**	P	**P**	**19 22 49.3**	**+0.9**
TOA0	**Torodi Ar. Sit**	**65.92**	**269**	P	**P**	**19 25 10.7**	**-1.7**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.5s,baz=48,slow=6.1,SNR=11	**65.92**	**269**	P	**P**	**19 25 11.2**	**-1.2**
TORD	**Torodi Ar. Bea**	**65.92**	**269**	P	**P**	**19 25 11.1**	**-1.3**
TOLK	**Toolik Lake Re**	**71.02**	**15**	P	**P**	**19 25 44.6**	**+1.2**
TOLK	comp=Z,7.0nm,1.4s			IAmb	IAmb	19 26 11.0	
INK	**Inuvik** comp=Z,1.6nm,0.6s,baz=297,slow=5.9,SNR=4.2	**74.02**	**9**	P	**P**	**19 26 02.8**	**+1.6**
INK	**Inuvik**	**74.02**	**9**	P	**P**	**19 26 02.5**	**+1.3**
INK	comp=Z,3.1nm,0.8s			IAmb	IAmb	19 26 29.9	
ILAR	**Eielson Array** comp=Z,0.7nm,0.9s,baz=304,slow=3.5,SNR=5.1	**74.87**	**16**	P	**P**	**19 26 06.8**	**+0.6**
ILAR	**Eielson Array**	**74.87**	**16**	P	**P**	**19 26 06.6**	**+0.4**
PPLA	**Purkeypile**	**75.

*IDC **11** 19:17:13.1±4.9,24˚.93S×69˚.26W,h0km,mb4.2/1, mb1 4.1/2,mb1mx3.6/32,mbtmp4.0/2,ML4.0/1,Error ellipse: s-maj=148.2km s-min=58.7km az=76.0*
*GUC **11** 19:17:24.9±0.7,23˚.75S×69˚.44W,h75km±5km,ML3.8*
ISC 11 19:17:25.8±1.0,23.76S±0.03×69.49W±0.07,h76km±9km, n19,σ1§80/33,5C-5D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.55**	**1**	**⇓***iP*	**Pn**	**19 17 39.5**	**-0.5**
PB15				*i* S	**Sn**	**19 17 50.1**	**-0.2**
PB10	**IPOC Station P**	**1.01**	**284**	**⇑***iP*	**Pn**	**19 17 45.3**	**+0.5**
PB10				*e*S	**Sn**	**19 17 59.7**	**+0.7**
PB10				IAML		19 18 04.4	
	comp=N,3μm,0.5s						
PB06	**IPOC Station P**	**1.05**	**356**	**⇓***iP*	**Pn**	**19 17 45.1**	**-0.3**
PB06				*i* S	**Sn**	**19 17 59.6**	**-0.5**
PB06				IAML		19 18 01.1	
	comp=N,3μm,0.4s						
PB14	**IPOC Station P**	**1.20**	**224**	**⇑***iP*	**Pn**	**19 17 47.8**	**+0.3**
PB14				*i* S	**Sn**	**19 18 05.2**	**+1.5**
PB14				IAML		19 18 09.7	
	comp=N,1μm,0.3s						
LVC	**Limon Verde**	**1.26**	**25**	**⇓***iP*	**Pn**	**19 17 47.8**	**-0.5**
LVC				*i* S	**Sn**	**19 18 05.0**	**-0.1**
GO02	**Mina Guanaco**	**1.40**	**184**	**⇑***iP*	**Pn**	**19 17 49.9**	**-0.1**
GO02				*i* S	**Sn**	**19 18 08.7**	**+0.5**
GO02				IAML		19 18 14.4	
	comp=N,3μm,0.1s						
PB04	**IPOC Station P**	**1.54**	**337**	**⇑***iP*	**Pn**	**19 17 51.5**	**-0.3**
PB04				*i* S	**Sn**	**19 18 11.7**	**+0.4**
PB04				IAML		19 18 17.7	
	comp=N,1μm,0.3s						
PB03	**IPOC Station P**	**1.72**	**352**	**⇓***iP*	**Pn**	**19 17 54.0**	**-0.1**
PB03				*e*S	**Sn**	**19 18 16.2**	**+0.7**
PB03				IAML		19 18 20.3	
	comp=E,1μm,0.2s						
PB09	**IPOC Station P**	**1.97**	**7**	**⇑***iP*	**Pn**	**19 17 57.8**	**+0.4**
PB09				*e*S	**Sn**	**19 18 23.5**	**+2.2**
PB09				IAML		19 18 30.0	
	comp=N,974nm,0.3s						
PB07	**IPOC Station P**	**2.06**	**350**	***e*P**	**Pn**	**19 17 58.4**	**-0.2**
PB07				IAML		19 18 32.6	
	comp=E,791nm,0.3s						
AC01	**Pan de Azucar**	**2.58**	**203**	***e*P**	**Pn**	**19 18 04.7**	**-0.8**
AC01				*e*S	**Sn**	**19 18 37.2**	**+1.3**
PB01	**IPOC Station P**	**2.70**	**360**	**⇓***iP*	**Pn**	**19 18 06.8**	**-0.4**
PB01				*e*S	**Sn**	**19 18 39.6**	**+0.6**
AC02	**Maricunga**	**3.08**	**174**	*i* P	**Pn**	**19 18 14.0**	**+1.4**
AC02				*i* S	**Sn**	**19 18 52.5**	**+3.8**
TA01	**Diego Aracena**	**3.24**	**348**	***e*P**	**Pn**	**19 18 13.6**	**-0.9**
TA01				*e*S	**Sn**	**19 18 54.3**	**+2.3**
TA01				IAML		19 19 07.0	
	comp=E,339nm,0.3s						
PB08	**IPOC Station P**	**3.61**	**5**	***e*P**	**Pn**	**19 18 18.9**	**-1.0**
PB08				*i* S	**Sn**	**19 19 08.8**	**+7.2**
GO03	**Copiap**	**3.88**	**190**	***e*P**	**Pn**	**19 18 21.1**	**-2.0**
GO03				*e*S	**Sn**	**19 19 07.8**	**+0.2**
LPAZ	**La Paz**	**7.54**	**10**	Pn	Pn	19 19 20.4	+6.7
	comp=E,0.8nm,0.3s,baz=200,slow=9.3,SNR=9.5						
TORD	**Torodi Ar. Bea**	**78.62**	**70**	P	**P**	**19 29 18.5**	**-1.4**
	comp=E,1.1nm,0.5s,baz=253,slow=5.0,SNR=9.2						
MKAR	**Makanchi Array**	**147.75**	**38**	PKPbc	**PKPbc**	**19 37 01.3**	**-0.6**
	comp=E,0.4nm,0.9s,baz=303,slow=1.4,SNR=2.5						

*ECX **11** 19:32:36.9±11.0,30˚.45N×113˚.95W,h10km±285km,ML3.4*
*MEX **11** 19:32:49.1±0.4,30˚.23N×114˚.16W,h15km±8km,MD4.3*
ISC 11 19:32:37.4±1.1,30.45N±0.07×114.00W±0.04,h10km,n8, σ2§97/13,2C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.94**	**309**	***e*P**	**Pg**	**19 32 53.7**	**-1.7**
SFX				*e*S	**Sn**	**19 33 09.6**	**-0.5**
PIX	**Pinacate**	**1.20**	**23**	***e*P**	**Pn**	**19 32 57.7**	**-2.6**
PIX				*e*S	**Sb**	**19 33 11.9**	**-3.9**
SPX	**San Pedro Mart**	**1.39**	**295**	***e*P**	**Pn**	**19 33 02.0**	**-1.2**
SPX				**⇑***e*		19 33 49.3	
SPX				IAML		19 33 49.3	
	comp=N,769nm,0.6s						
SPX				IAML		19 33 51.5	
	comp=E,494nm,1.2s						
SPX				*e*		19 33 51.5	
SPIG	**San Pedro Mart**	**1.39**	**296**	***e*P**	Pg	19 33 10.9	+6.7
SPIG				*e*S	**Sg**	**19 33 27.3**	**+5.0**
CBX	**Cerro Bola**	**2.94**	**310**	***e*P**	**Pn**	**19 33 22.4**	**-1.9**
CBX				IAML		19 34 41.4	
	comp=N,203nm,0.7s						
CBX				**⇓***e*		19 34 41.4	
CBX				**⇑***e*		19 34 44.6	
CBX				IAML		19 34 44.6	
	comp=E,206nm,0.8s						
HSIG		**3.01**	**117**	*i* P	**Pg**	**19 33 33.9**	**-1.2**
HSIG				*e*S	**Sb**	**19 34 08.9**	**+0.9**
TJIG	**Tijuana**	**3.02**	**312**	*i* P	**Pg**	**19 33 35.2**	**-0.1**
TJIG				*i* S	**Sb**	**19 34 09.7**	**+1.4**
TUC	**Tucson**	**3.32**	**55**	***e*P**	**Pg**	**19 33 42.0**	**+1.0**
TUC				*i* S	**Sb**	**19 34 22.2**	**+5.3**

*IDC **11** 19:40:41.4±3.7,5˚.14S×145˚.29E,h90km±33km,mb3.0/2, mb1 3.3/5,mb1mx3.1/30,mbtmp3.6/5,Error ellipse: s-maj=67.2km s-min=20.8km az=54.0*
ISC 11 19:40:41.8±2.2,5.1S±0.2×145.3E±0.3,h100km,n6, σ0§79/7,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.64**	**157**	P	**Pn**	**19 41 50.0**	**+0.3**
	1.8nm,0.3s,baz=302,slow=4.9,SNR=8.0						
PMG				S	**Sn**	**19 42 41.5**	**-0.9**
	1.5nm,0.3s,baz=42,slow=18,SNR=2.0						
JAY	**Jayapura**	**5.26**	**299**	P	**Pn**	**19 41 57.6**	**-0.6**
	0.8nm,0.3s,baz=97,slow=18,SNR=1.3						
WRA	**Warramunga Arr**	**18.18**	**215**	P	**P**	**19 44 46.2**	**-0.6**
	0.2nm,0.3s,baz=41,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.46**	**210**	P	**P**	**19 45 22.9**	**+0.6**
	1.2nm,0.9s,baz=38,slow=9.4,SNR=9.4						
FITZ	**Fitzroy Crossi**	**23.13**	**235**	P	**P**	**19 45 40.2**	**+0.7**
	1.7nm,0.6s,baz=46,slow=11,SNR=1.6						
TORD	**Torodi Ar. Bea**	**143.23**	**285**	PKP	**PKPdf**	**20 00 05.5**	**+0.2**
	0.2nm,0.4s,baz=86,slow=3.5,SNR=4.2						

*IDC **11** 19:51:08.4±0.8,6.80N×73.02W,h159km±12km,mb3.1/4, mb1 3.5/6,mb1mx3.2/27,mbtmp3.7/6,MS3.1/1,Ms1 3.1/1, ms1mx2.3/15,Error ellipse: s-maj=37.9km s-min=8.4km az=131.0*
*RSNC **11** 19:51:09.6±0.9,6.82N×73.16W,h150km±4km,ML3.5, Mw3.8,Fault plane solution: NP1:φs138.00000°, δ74.00000°,λ-162.00000°.*
ISC 11 19:51:08.2±0.8,6.83N±0.03×73.11W±0.04,h158km±5km, n38,σ1§27/68,mb3.4/4,4C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**197**	**⇓***iP*	**Pn**	**19 51 29.7**	**-0.2**
BARC				*e*S	**Sn**	**19 51 44.9**	**-1.5**
BARC				*i*		19 51 47.5	
	comp=Z,1μm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**39**	**⇑***iP*	**Pn**	**19 51 32.4**	**+0.6**
PAMC				*e*S	**Sn**	**19 51 49.7**	**-0.2**
PAMC				*i*		19 51 52.2	
	comp=Z,359nm,0.4s						
BRRC	**Barranca, Sant**	**0.66**	**295**	**⇑***iP*	**Pn**	**19 51 31.5**	**+0.2**
BRRC				*e*S	**Sn**	**19 51 48.6**	**-0.4**
BRRC				*i*		19 51 52.6	
	comp=Z,676nm,0.2s						
RUSC	**La Rusia**	**0.93**	**178**	**⇓***eP*	**Pn**	**19 51 33.6**	**-0.2**
RUSC				*e*S	**Sn**	**19 51 52.4**	**-0.9**
RUSC				*i*		19 51 53.8	
	comp=Z,378nm,0.3s						
TAMC	**Tame, Arauca**	**1.37**	**107**	**⇑***iP*	**Pn**	**19 51 38.0**	**+1.0**
TAMC				*i*		19 51 59.1	
	comp=Z,226nm,0.3s						
TAMC				*e*S	**Sn**	**19 51 59.9**	**+0.7**
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	***e*P**	**Pn**	**19 51 36.2**	**-0.8**
PTBC				*e*S	**Sn**	**19 51 57.3**	**-1.9**
PTBC				*i*		19 52 04.1	
	comp=Z,382nm,0.4s						
OCAC	**Ocana**	**1.41**	**351**	***e*P**	**Pn**	**19 51 37.8**	**+0.1**
OCAC				*e*S	**Sn**	**19 51 59.6**	**-0.8**
OCAC				*i*		19 52 03.2	
	comp=Z,350nm,0.3s						
OCAC				*e*		20 01 26.1	
SPBC	**San Pablo de B**	**1.51**	**219**	***e*P**	**Pn**	**19 51 38.5**	**-0.1**
SPBC				*e*S	**Sn**	**19 52 01.0**	**-1.0**
SPBC				*i*		19 52 05.6	
	comp=Z,623nm,0.2s						
NORC	**Norcasia**	**2.16**	**234**	***e*P**	**Pn**	**19 51 45.4**	**-0.3**
NORC				*e*S	**Sn**	**19 52 14.1**	**-0.5**
NORC				*i*		19 52 19.3	
	comp=Z,275nm,0.2s						
SMLC	**San Martn de**	**2.18**	**334**	***e*P**	**Pn**	**19 51 45.8**	**-0.1**
SMLC				*e*S	**Sn**	**19 52 14.3**	**-0.7**
SMLC				*i*		19 52 16.7	
	comp=Z,321nm,0.3s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**19 51 49.4**	**+1.4**
	comp=Z,69nm,0.3s,baz=127,slow=15,SNR=79						
ROSC				S	**Sn**	**19 52 19.4**	**+0.9**
	comp=Z,57nm,0.3s,baz=225,slow=22,SNR=11						
ROSC	**El Rosal**	**2.32**	**211**	***e*P**	**Pn**	**19 51 49.1**	**+1.2**
ROSC				*e*S	**Sn**	**19 52 19.5**	**+0.9**
ROSC				*i*		19 52 24.2	
	comp=Z,696nm,0.5s						
HELC	**Santa Helena**	**2.49**	**255**	***e*P**	**Pn**	**19 51 50.0**	**0.0**
HELC				*e*S	**Sn**	**19 52 21.7**	**-0.4**
HELC				*i*		19 52 27.8	
	comp=Z,170nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.75**	**235**	***e*P**	**Pn**	**19 51 53.5**	**+0.2**
GUY2C				*e*S	**Sn**	**19 52 31.8**	**+3.7**
GUY2C				*i*		19 52 35.9	
	comp=Z,279nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.79**	**160**	***e*P**	**Pn**	**19 51 52.8**	**-0.5**
PTGC				*e*S	**Sn**	**19 52 26.3**	**-1.9**
PTGC				*i*		19 52 29.3	
	comp=Z,103nm,0.2s						
RREF	**El Recreo**	**2.94**	**229**	***e*P**	**Pn**	**19 51 55.7**	**-0.1**
RREF				*e*S	**Sn**	**19 52 34.4**	**+1.9**
RREF				*i*		19 52 36.9	
	comp=Z,244nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.04**	**252**	***e*P**	**Pn**	**19 51 57.2**	**+0.6**
CBOC				*e*S	**Sn**	**19 52 32.9**	**-1.2**
CBOC				*i*		19 52 39.5	
	comp=Z,56nm,0.5s						
DBBC	**Dabeiba**	**3.08**	**274**	**⇑***eP*	**Pn**	**19 51 57.0**	**0.0**
DBBC				*e*S	**Sn**	**19 52 33.2**	**-1.7**
TOLC	**Tolima**	**3.13**	**225**	***e*P**	**Pn**	**19 51 58.1**	**+0.1**
TOLC				*e*S	**Sn**	**19 52 37.3**	**+0.9**
TOLC				*i*		19 52 44.4	
	comp=Z,193nm,0.4s						
MOTC	**Monteria, Cord**	**3.19**	**308**	***e*P**	**Pn**	**19 51 56.8**	**-1.5**
MOTC				*e*S	**Sn**	**19 52 35.4**	**-1.8**
MOTC				*i*		19 52 37.5	
	comp=Z,84nm,0.4s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**19 51 59.1**	**+0.6**
	comp=Z,56nm,0.3s,baz=194,slow=3.4,SNR=202						
SDV				S	**Sn**	**19 52 36.8**	**-0.6**
	comp=Z,9.0nm,0.3s,baz=277,slow=16,SNR=5.6						
SDV	**Santo Domingo**	**3.19**	**50**	***e*P**	**Pn**	**19 51 59.0**	**+0.5**
SDV				*e*S	**Sn**	**19 52 35.5**	**-1.9**
ARGC	**Ariguani, Magd**	**3.21**	**340**	***e*P**	**Pn**	**19 51 59.7**	**+1.1**
ARGC				*e*S	**Sn**	**19 52 39.1**	**+1.3**
ARGC				*i*		19 52 46.4	
	comp=Z,89nm,0.4s						
ANIL	**Santa Ana**	**3.26**	**225**	***e*P**	**Pn**	**19 52 00.5**	**+1.0**
ANIL				*e*S	**Sn**	**19 52 40.2**	**+1.0**
ANIL				*i*		19 52 44.0	
	comp=Z,53nm,0.3s						
PRAC	**Prado**	**3.57**	**210**	***e*P**	**Pn**	**19 52 02.5**	**-0.7**
PRAC				*e*S	**Sn**	**19 52 44.6**	**-1.3**
PRAC				*i*		19 52 51.9	
	comp=Z,304nm,0.4s						
ORTC	**Ortega, Tolima**	**3.60**	**216**	***e*P**	**Pn**	**19 52 03.9**	**+0.3**
ORTC				*e*S	**Sn**	**19 52 47.0**	**+0.4**
ORTC				*i*		19 52 53.4	
	comp=Z,125nm,0.7s						
PLMC	**San Jos del P**	**3.69**	**239**	***e*P**	**Pn**	**19 52 05.1**	**+0.3**
PLMC				*e*S	**Sn**	**19 52 47.5**	**-1.3**
PLMC				*i*		19 52 51.6	
	comp=Z,46nm,0.2s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	***e*P**	**Pn**	**19 52 12.0**	**-0.5**
YOTC				*e*S	**Sn**	**19 53 02.4**	**-0.3**
SMRC	**Santa Marta, M**	**4.44**	**346**	***e*P**	**Pn**	**19 52 14.4**	**-0.1**
SMRC				*e*S	**Sn**	**19 53 02.7**	**-3.5**
SMRC				*i*		19 53 07.1	
	comp=Z,54nm,0.3s						
MACC	**Macarena, Meta**	**4.71**	**189**	***e*P**	**Pn**	**19 52 16.6**	**-1.5**
MACC				*e*S	**Sn**	**19 53 08.7**	**-3.9**
MACC				*i*		19 53 14.0	
	comp=Z,72nm,0.8s						
MARP	**Paez Belalcaza**	**4.87**	**216**	***e*P**	**Pn**	**19 52 20.5**	**+0.1**
MARP				*e*S	**Sn**	**19 53 13.9**	**-2.8**
SIV	**San Ignacio**	**25.62**	**152**	LR	LR	20 07 30.4	
	comp=Z,48nm,20.7s,baz=310,slow=38						
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**19 57 59.4**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=126,slow=9.1,SNR=2.4						
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**19 59 25.1**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=145,slow=4.3,SNR=2.1						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**19 59 32.8**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=101,slow=8.6,SNR=1.6						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**20 01 20.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=129,slow=7.3,SNR=9.4						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**20 10 38.7**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=123,slow=3.4,SNR=2.6						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**20 10 41.4**	**-0.4**
	comp=Z,0.7nm,1.1s,baz=106,slow=2.9,SNR=4.6						

JMA 11 20:43:36.0,36.76N×140.59E,h8km,M1.5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.15**	**186**	P	Pg	20 43 39.2	0.0
JHO				S	Sg	20 43 41.6	+0.3
JFFD	**Fukushimafurud**	**0.33**	**356**	P	Pg	20 43 42.7	+0.2
JFFD				S	Sg	20 43 47.1	+0.1
JYT	**Yasato**	**0.62**	**211**	P	Pg	20 43 47.9	-0.1
JYT				S	Sg	20 43 56.5	+0.5
JFK	**Kawauchi**	**0.65**	**21**	S	Sg	20 43 56.9	-0.1

IDC 11 20:43:49.2±9.5,30.25N×139.86E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.1/50,mbtmp3.4/3,Error ellipse: s-maj=359.4km s-min=34.9km az=66.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.92**	**307**	P	P	20 52 21.5	+40
	0.1nm,0.5s,baz=93,slow=9.9,SNR=2.1						
WRA	**Warramunga Arr**	**50.19**	**187**	P	P	20 52 46.7	-33
	0.4nm,0.3s,baz=5.0,slow=7.5,SNR=9.5						
ASAR	**Alice Springs**	**53.91**	**187**	P	P	20 53 14.4	-32
	0.2nm,0.4s,baz=1.6,slow=5.7,SNR=6.3						

*ASRS **11** 20:45:20.6±0.2,50˚.1˚×8˚.8E±˚,h10km,MLh3.1/13, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*
*NNC **11** 20:45:24.0±1.2,50˚.14N×87˚.53E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=12.3km s-min=3.7km az=100.0*
ISC 11 20:45:21.3±0.8,50.08N±0.03×87.86E±0.03,h10km,n22, σ1§96/42,5C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**0.32**	**86**	Pg	**Pg**	**20 45 25.2**	**-2.5**
CUR				Sg	**Sg**	**20 45 29.4**	**-2.5**
CHBI	**Chibit, Altay**	**0.33**	**316**	Pg	**Pg**	**20 45 26.7**	**-1.3**
CHBI				Sg	**Sg**	**20 45 31.5**	**-0.8**
DGZ	**Jazzator, Alta**	**0.47**	**217**	Pg	**Pg**	**20 45 27.8**	**-2.6**
DGZ				Sg	**Sg**	**20 45 33.1**	**-3.6**
ULGR	**Ulagan, Altay**	**0.55**	**7**	Pg	**Pg**	**20 45 30.4**	**-1.6**
ULGR				Sg	**Sg**	**20 45 38.2**	**-1.1**
ARTR	**Artybash**	**1.76**	**348**	Pg	**Pn**	**20 45 52.5**	**+0.6**
ARTR				Sg	**Sg**	**20 46 16.8**	**-1.1**
TEL	**Teeli**	**1.77**	**57**	Pg	**Pn**	**20 45 52.1**	**+0.1**
TEL				Sg	**Sn**	**20 46 15.1**	**+0.6**
UKR	**Ust'-Kan**	**2.15**	**295**	Pg	**Pb**	**20 45 59.6**	**-0.8**
UKR				Sg	**Sg**	**20 46 29.9**	**-0.5**
GALT	**Gorno-Altaysk,**	**2.24**	**328**	Pg	**Pb**	**20 46 01.7**	**-0.1**
GALT				Sg	**Sg**	**20 46 32.3**	**-0.9**
TASR	**Tashtagol**	**2.69**	**0**	Pg	**Pb**	**20 46 09.1**	**-0.4**
TASR				Sg	**Sg**	**20 46 45.5**	**-2.0**
ELT	**Eltsovka**	**3.35**	**343**	Pg	**Pb**	**20 46 20.8**	**+0.1**
ELT				Sg	**Sg**	**20 47 06.0**	**-2.6**
DJO	**Djoy, Khakassi**	**3.43**	**36**	Pg	**Pb**	**20 46 23.6**	**+1.6**
DJO				Sg	**Sg**	**20 47 09.9**	**-1.4**
LUZB	**Luzhba, Kemero**	**3.65**	**10**	Pg	**Pb**	**20 46 26.2**	**+0.4**
LUZB				Sg	**Sg**	**20 47 16.8**	**-1.5**
BLRR	**Bol'shaya Rech**	**4.11**	**42**	Pg	**Pb**	**20 46 36.2**	**+2.4**
BLRR				Sg	**Sg**	**20 47 29.9**	**-3.3**
ARDR	**Aradan**	**4.30**	**52**	Pg	**Pb**	**20 46 40.9**	**+4.0**
ARDR				Sg	**Sg**	**20 47 37.2**	**-2.0**
ZAA0	**Zalesovo Array**	**4.31**	**335**	**⇓**Sn	**Sn**	**20 47 19.3**	**+2.2**
	1.1nm,0.7s						
ZAA0				**⇓**Lg	Lg	20 47 34.6	
	1.4nm,0.6s						
SALR	**Pechorkino, Sa**	**4.54**	**344**	Pg	**Pg**	**20 46 46.8**	**-1.4**
SALR				Sg	**Sg**	**20 47 46.7**	**-0.4**
SHRR	**Shira**	**4.64**	**17**	Sg	**Sg**	**20 47 48.8**	**-1.4**
MK31	**Makanchi Array**	**4.95**	**231**	**⇑**Pn	**Pn**	**20 46 37.9**	**+2.2**
	2.7nm,0.7s,baz=58,slow=12,SNR=93						
MK31				Sn	**Sn**	**20 47 36.4**	**+3.4**
	1.3nm,0.4s,baz=60,slow=19,SNR=5.8						
MK31				**⇑**Lg	Lg	20 47 56.1	
	4.3nm,0.5s,baz=46,slow=28,SNR=4.7						
MKAR	**Makanchi Array**	**4.95**	**231**	Pn	**Pn**	**20 46 37.9**	**+2.2**
MKAR				Sg	**Sg**	**20 47 58.5**	**-1.8**
MAKZ	**Makanchi**	**5.10**	**232**	Pn	**Pn**	**20 46 40.0**	**+2.2**
MAKZ				Sg	**Sg**	**20 48 02.5**	**-2.5**
MAKZ	**Makanchi**	**5.10**	**232**	**⇓**Pn	**Pn**	**20 46 39.7**	**+2.0**
	1.2nm,0.5s						
MAKZ				**⇑**Sn	**Sn**	**20 47 38.8**	**+2.1**
	1.2nm,0.3s						
MAKZ				**⇓**Lg	Lg	20 48 00.7	
	4.2nm,0.8s						
KURBB	**Kurchatov Arra**	**6.00**	**279**	**⇑**Pn	**Pn**	**20 46 50.9**	**+0.8**
	1.6nm,0.3s						
KURBB				**⇓**Sn	**Sn**	**20 47 59.3**	**+0.6**
	5.6nm,0.5s						
KURBB				**⇑**Lg	Lg	20 48 27.8	
	9.6nm,0.6s						

*IDC **11** 20:51:28.2±1.3,46˚.16N×154˚.80E,h0km,mb3.6/6, mb1 3.8/10,mb1mx3.5/59,mbtmp3.6/10,ML3.8/4,MS2.8/2, Ms1 2.8/2,ms1mx2.3/40,Error ellipse: s-maj=28.6km s-min=22.6km az=116.0*
*MOS **11** 20:51:30.0±1.2,46˚.06N×154˚.76E,h27km,mb4.0/1,Error ellipse: s-maj=19.0km s-min=11.8km az=84.7*
*SKHL **11** 20:51:32.5±0.2,46˚.30N×154˚.50E,h45km±4km,mb4.3/3*
ISC 11 20:51:33.5±1.0,46.2N±0.1×154.50E±0.10,h35km,n21, σ2§01/25,mb3.5/6,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.59**	**13**	***e*PN**	**Pn**	**20 52 40.8**	**+0.4**
SKR				pmax	pmax		
	comp=Z,61nm,0.8s						
SKR	**Severo-Kuril's**	**4.59**	**13**	***e*P**	**Pn**	**20 52 40.5**	**+0.1**
SKR				AMB	AMB	20 52 43.3	
	comp=Z,30nm,0.5s						
SKR				*e*S	**Sn**	**20 53 29.3**	**-3.2**
SKR				A	A	20 53 30.5	
	comp=Z,70nm,0.4s						
SKR				A	A	20 53 30.5	
	comp=Z,90nm,0.4s						
KUR	**Kuril'sk**	**4.75**	**260**	***e*PN**	**Pn**	**20 52 44.3**	**+1.8**
KUR				pmax	pmax		
	comp=Z,29nm,0.4s						
KUR	**Kuril'sk**	**4.75**	**260**	***e*P**	**Pn**	**20 52 44.2**	**+1.8**
KUR				AMB	AMB	20 52 50.6	
	comp=Z,20nm,0.5s						
KUR				*i* S	**Sn**	**20 53 36.2**	**-0.1**
KUR				A	A	20 53 41.2	
	comp=Z,100nm,0.6s						
KUR				A	A	20 53 41.2	
	comp=Z,80nm,0.6s						
PAU	**Pauzhetka**	**5.47**	**15**	***e*P**	**Pn**	**20 52 51.7**	**-0.7**
PAU				AMB	AMB	20 52 53.5	
	comp=Z,20nm,0.5s						
PAU				*e*S	**Sn**	**20 53 51.0**	**-3.0**
PAU				A	A	20 53 52.5	
	comp=Z,40nm,0.3s						
PAU				A	A	20 53 52.5	
	comp=Z,30nm,0.3s						
GRPR	**Tuman**	**6.56**	**253**	*i* S	**Sn**	**20 54 18.0**	**-3.0**
NMR	**Nemuro--Hokkai**	**6.86**	**249**	***e*PN**	**Pn**	**20 53 11.0**	**-0.5**
NMR	**Nemuro--Hokkai**	**6.86**	**249**	***e*P**	**Pn**	**20 53 11.0**	**-0.5**
NMR				*i* S	**Sn**	**20 54 25.0**	**-3.3**
PETK	**Petropavlovsk-**	**7.20**	**16**	Pn	**Pn**	**20 53 16.2**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=190,slow=11,SNR=36						
PETK				Sn	**Sn**	**20 54 40.2**	**+3.6**
	comp=Z,0.4nm,0.3s,baz=92,slow=27,SNR=1.3						
PET	**Petropavlovsk**	**7.33**	**20**	***e*P**	**Pn**	**20 53 18.7**	**+0.9**
MA2	**Magadan**	**13.56**	**352**	Pn	**Pn**	**20 54 45.7**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=133,slow=19,SNR=1.4						
MA2				LR	LR	21 00 15.4	
	comp=Z,36nm,20.3s,baz=125,slow=39						
KLR	**Kul'dur**	**15.59**	**289**	Pn	**P**	**20 55 13.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=62,slow=15,SNR=1.4						
KLR	**Kul'dur**	**15.59**	**289**	***e*P**	**Pn**	**20 55 07.6**	**-2.8**
SEY	**Seymchan**	**16.79**	**357**	Pn	**P**	**20 55 27.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=144,slow=19,SNR=1.4						
KSRS	**Korea Array**	**21.57**	**256**	LR	LR	21

SNET ***11*** *21:31:50.5±1.0, 13°.20N×89°.78W, h30km±2km, ML3.7*
GCG ***11*** *21:31:51.4±0.8, 13°.71N×90°.34W, h156km±32km, MD3.8*
ISC 11 21:31:50.3±2.2,**13°.14N**±0°.09×**89°.80W**±0°.05,**h27**km±13km,
n37,σ0s**71**/45,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalde de L**	**0.57**	**53**	*e*P	**Pb**	**21 32 01.7**	**-0.1**
LALI				*e*S	**Sb**	**21 32 09.7**	**0.0**
JAYA	**Jayaque - finc**	**0.61**	**34**	*e*P	**Pb**	**21 32 02.4**	**-0.1**
JAYA				*e*S	**Sb**	**21 32 10.8**	**0.0**
JAYA				IAML		21 32 12.7	
	comp=Z,7μm,0.2s						
CEVE	**Cerro Verde**	**0.70**	**14**	*e*P	Pb	21 32 03.7	-0.4
CEVE				*e*S	**Sb**	**21 32 13.3**	**-0.1**
SBLS	**San Blas**	**0.71**	**14**	*e*P	Pb	21 32 03.8	-0.5
SBLS				*e*S	**Sb**	**21 32 14.5**	**+0.7**
PMON	**Piamonte**	**0.73**	**40**	*e*P	Pn	21 32 04.0	-1.0
PMON				*e*S	**Sb**	**21 32 14.7**	**+0.4**
SNJE	**San Jose**	**0.74**	**14**	*e*P	Pn	21 32 04.2	-1.0
SNJE				*e*S	**Sb**	**21 32 15.1**	**+0.4**
CEDA	**San Andres**	**0.76**	**31**	*e*P	Pn	21 32 04.4	-0.9
CEDA				*e*S	**Sb**	**21 32 14.9**	**-0.1**
CEDA				IAML		21 32 23.4	
	comp=Z,2μm,0.4s						
RTR	**El Retiro**	**0.76**	**11**	*e*P	Pn	21 32 04.4	-1.0
SNET	**Serv Nac Est T**	**0.77**	**45**	*e*P	Pn	21 32 04.0	-1.4
SNET				*e*S	**Sb**	**21 32 15.0**	**-0.3**
BOQS	**Boqueron**	**0.77**	**40**	*e*P	Pn	21 32 04.8	-0.9
BOQS				*e*S	**Sb**	**21 32 16.5**	**+1.0**
UEES	**Universidad Ev**	**0.79**	**43**	*e*P	Pn	21 32 04.6	-1.1
OPAM	**Oficina de Pla**	**0.81**	**46**	*e*P	**Pn**	**21 32 05.2**	**-0.9**
UDBS	**Universidad Do**	**0.84**	**48**	*e*P	**Pn**	**21 32 05.7**	**-0.8**
QUEZ	**Alcaldia de Qu**	**0.85**	**36**	*e*P	Pn	21 32 05.6	-1.0
LFRS	**El Faro**	**0.86**	**56**	*e*P	Pn	21 32 05.5	-1.2
LFRS				*e*S	**Sb**	**21 32 17.9**	**0.0**
AEIL	**Aeropuerto Ilo**	**0.86**	**50**	*e*P	**Pn**	**21 32 05.9**	**-0.8**
AEIL				*e*S	**Sn**	**21 32 18.1**	**-0.3**
LFIJ	**La Fuente**	**0.90**	**48**	*e*P	**Pn**	**21 32 06.6**	**-0.6**
TACO	**Tacachico**	**0.93**	**28**	*e*P	Pn	21 32 06.7	-0.9
TACO				*e*S	**Sn**	**21 32 19.2**	**-0.8**
LBRS	**Las Brisas**	**0.94**	**51**	*e*P	**Pn**	**21 32 07.2**	**-0.7**
LBRS				*e*S	**Sn**	**21 32 20.4**	**0.0**
COEG	**Centro de Oper**	**1.01**	**62**	*e*P	**Pn**	**21 32 08.1**	**-0.6**
COEG				IAML		21 32 26.5	
	comp=Z,2μm,0.5s						
UESV	**Universidad de**	**1.10**	**63**	*e*P	**Pn**	**21 32 09.4**	**-0.5**
UESV				*e*S	**Sn**	**21 32 24.0**	**-0.2**
ALJI	**Alcalda de J**	**1.21**	**81**	*e*P	**Pn**	**21 32 10.7**	**-0.7**
COEB	**Comit de Eme**	**1.28**	**74**	*e*P	**Pn**	**21 32 11.9**	**-0.6**
COEB				IAML		21 32 33.9	
	comp=Z,1μm,0.4s						
PQSS	**Presa 15 de Se**	**1.29**	**68**	*e*P	**Pn**	**21 32 12.4**	**-0.2**
TECA	**Tecapa**	**1.31**	**74**	*e*P	**Pn**	**21 32 12.4**	**-0.6**
TECA				*e*S	**Sn**	**21 32 29.6**	**0.0**
MTO3	**Montecristo**	**1.32**	**19**	*e*P	**Pn**	**21 32 12.7**	**-0.5**
PACA	**Pacayal**	**1.47**	**77**	*e*P	**Pn**	**21 32 15.5**	**+0.4**
PCG	**Pacaya**	**1.47**	**328**	*e*P	**Pn**	**21 32 15.2**	**0.0**
ESQI	**Esquipulas**	**1.48**	**17**	*e*P	**Pn**	**21 32 15.1**	**-0.1**
LCY	**Lacayo**	**1.49**	**79**	*e*P	**Pn**	**21 32 15.6**	**+0.3**
LCY				*e*S	**Sn**	**21 32 34.6**	**+0.6**
VSM	**San Miguel**	**1.51**	**79**	*e*P	**Pn**	**21 32 15.9**	**+0.1**
VSM				*e*S	**Sn**	**21 32 36.1**	**+1.4**
JUCU	**Jucuar¡n**	**1.51**	**86**	*e*P	**Pn**	**21 32 15.0**	**-0.6**
JUCU				IAML		21 32 39.1	
	comp=Z,1μm,0.4s						
NBG	**Las Nubes**	**1.53**	**340**	*e*P	**Pn**	**21 32 17.1**	**+1.0**
NBG				*e*S	**Sn**	**21 32 37.0**	**+1.6**
FUG	**Fuego 3**	**1.65**	**322**	*e*P	**Pn**	**21 32 17.0**	**-0.6**
FUG				*e*S	**Sn**	**21 32 36.1**	**-2.0**
LCND	**La Caada**	**1.86**	**85**	*e*P	**Pn**	**21 32 20.2**	**-0.2**
LCND				IAML		21 32 47.8	
	comp=Z,854nm,0.5s						
CNCH	**Conchagua**	**1.91**	**86**	*e*P	**Pn**	**21 32 21.0**	**-0.2**
CNCH				*e*S	**Sn**	**21 32 45.8**	**+1.3**
MRL	**Marmol**	**1.93**	**3**	*e*P	**Pn**	**21 32 22.4**	**+0.8**

IDC 11 21:49:29.4±2.1,**6°.77S**×**129°.42E**,**h0**km,**mb4.0**/1,
mb1 4.1/3,**mb1mx3.7**/21,**mbtmpg3.9**/3,**ML3.8**/2,**Error ellipse: s-maj=145.0km s-min=30.4km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.94**	**160**	P	Pn	21 52 47.8	-0.6
	0.4nm,0.3s,baz=343,slow=13,SNR=10						
WRA				Sn	Sn	21 55 09.4	-15
	1.1nm,0.3s,baz=331,slow=23,SNR=16						
ASAR	**Alice Springs**	**17.34**	**166**	P	Pn	21 53 33.5	+0.5
	0.4nm,0.3s,baz=341,slow=9.1,SNR=23						
ASAR				S	Sn	21 56 33.9	-13
	0.2nm,0.3s,baz=346,slow=25,SNR=5.0						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	22 00 28.8	0.0
	0.7nm,0.3s,baz=111,slow=7.9,SNR=22						

NSSP ***11*** *22:57:08.3, 38°.48N×43°.85E, h5km, Ms2.9*
ISK ***11*** *22:57:10.0, 38°.58N×44°.09E, h5km, ML2.9/14*
DDA ***11*** *22:57:11.7, 38°.59N×44°.05E, h3km±2km, ML2.6*
ISC 11 22:57:12.9±1.1,**38°.57N**±0°.03×**43°.94E**±0°.03,**h8**km±9km,
n32,σ1s**51**/43,**1C-1D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.10**	**26**	*i* P	**Pg**	**22 57 13.9**	**-1.5**
OZAP				IAML		22 57 16.0	
	comp=N,4μm,0.2s						
OZAP				IAML		22 57 18.0	
	comp=E,8μm,0.4s						
TVAN	**Van**	**0.42**	**264**	*i* P	**Pb**	**22 57 22.0**	**-0.7**
VANB	**Van**	**0.43**	**273**	PG	**Pb**	**22 57 21.9**	**-0.9**
VMUR	**Van-Muradiye**	**0.51**	**326**	*i* P	**Pb**	**22 57 23.2**	**-0.9**
VMUR				IAML		22 57 37.0	
	comp=N,565nm,0.4s						
VMUR				IAML		22 57 40.0	
	comp=E,671nm,0.5s						
BASK	**Baskale_VAN**	**0.52**	**174**	*i* P	**Pb**	**22 57 22.9**	**-1.5**
BASK				IAML		22 57 37.0	
	comp=N,497nm,0.8s						
BASK				IAML		22 57 39.0	
	comp=E,772nm,0.5s						
CLDR	**Caldiran**	**0.57**	**358**	PG	**Pg**	**22 57 22.3**	**-1.7**
CLDR				SG	**Sg**	**22 57 31.5**	**0.0**
CLDR	**Caldiran**	**0.57**	**358**	*i* P	**Pg**	**22 57 22.2**	**-1.7**
CLDR				IAML		22 57 35.0	
	comp=E,384nm,0.4s						
CLDR				IAML		22 57 36.0	
	comp=N,361nm,0.4s						
ERCV	**ERCIS-VAN**	**0.65**	**314**	PG	**Pg**	**22 57 25.5**	**+0.1**
ERCV				SG	**Sb**	**22 57 36.6**	**+0.8**
GEVA	**Gevas**	**0.74**	**250**	*i* P	**Pg**	**22 57 26.9**	**-0.1**
GEVA				*i* S	**Sn**	**22 57 40.2**	**-1.1**
GEVA				IAML		22 57 43.0	
	comp=E,164nm,0.3s						
GEVA				IAML		22 57 44.0	
	comp=N,244nm,0.6s						
AKDM	**Akdamar-Van**	**0.79**	**252**	PG	**Pb**	**22 57 28.2**	**-0.8**
AKDM				SG	**Sn**	**22 57 42.3**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.98**	**284**	*i* P	**Pn**	**22 57 32.2**	**-0.9**
DYDN	**Diyadin**	**0.99**	**349**	*i* P	**Pg**	**22 57 30.7**	**-1.2**
DYDN				*i* S	**Sn**	**22 57 46.6**	**-1.0**
DYDN				IAML		22 57 51.0	
	comp=N,106nm,0.3s						
DYDN				IAML		22 57 51.0	
	comp=E,137nm,0.4s						
YOVA	**Hakkari_Yksek**	**1.02**	**164**	*i* P	**Pb**	**22 57 31.8**	**-1.1**
YOVA				IAML		22 57 56.0	
	comp=E,140nm,0.6s						
HAKT	**HAKKARI**	**1.03**	**190**	*i* P	**Pb**	**22 57 32.1**	**-1.0**
MLAZ	**Malazgirt-MUS**	**1.22**	**298**	PN	**Pg**	**22 57 36.6**	**+0.3**
AGRB	**Hanur-Agry**	**1.24**	**324**	PN	**Pg**	**22 57 36.3**	**-0.4**
PERV	**Siirt/Pervari-**	**1.26**	**241**	*i* P	**Pg**	**22 57 36.9**	**-0.2**
IGDI	**IGDIR**	**1.30**	**5**	*i* P	**Pb**	**22 57 36.9**	**-0.7**
IGDI				*i* S	**Sg**	**22 57 56.2**	**+1.6**
IGDI				IAML		22 58 00.0	
	comp=N,77nm,0.5s						
IGDI				IAML		22 58 06.0	
	comp=E,116nm,0.5s						
CUKT	**Cukurca**	**1.35**	**191**	PN	**Pb**	**22 57 37.4**	**-1.1**
KOTA	**Agri, Merkez-K**	**1.35**	**335**	*i* P	**Pg**	**22 57 38.2**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.43**	**9**	PN	**Pn**	**22 57 38.1**	**-1.1**
GURO	**Guroymak-BITLI**	**1.49**	**270**	PN	**Pg**	**22 57 40.9**	**-0.6**
VNNZ	**Vanand**	**1.53**	**357**	*i* P	**Pg**	**22 57 42.4**	**+0.2**
VNNZ				*i* S	**Sg**	**22 58 06.0**	**+3.9**
NRKZ	**NAREK**	**1.53**	**21**	*i* P	**Pg**	**22 57 41.1**	**-1.2**
NRKZ				*i* S	**Sg**	**22 58 04.1**	**+2.0**
GNI	**Garni**	**1.69**	**21**	*i* P	**Pg**	**22 57 44.4**	**-1.0**
GNI				*i* S	**Sg**	**22 58 09.6**	**+2.2**
KAPZ	**Kaputan**	**1.84**	**18**	*i* P	**Pb**	**22 57 46.2**	**-0.8**
KAPZ				*i* S	**Sg**	**22 58 13.5**	**+1.3**
VRTB	**Varto-Mus**	**2.02**	**288**	PN	**Pb**	**22 57 48.5**	**-1.5**
GRS	**Goris**	**2.08**	**63**	⇓*i* P	**Pg**	**22 57 53.0**	**+0.2**
GRS				⇑*i* S	**Sg**	**22 58 25.0**	**+5.2**
KOPR	**Koprukoy-ERZUR**	**2.15**	**312**	PN	**Pn**	**22 57 49.8**	**+0.6**
SVAN	**Silvan-Diyarba**	**2.19**	**260**	PN	**Pb**	**22 57 51.1**	**-1.7**
SENK	**Senkaya-Erzuru**	**2.33**	**329**	PN	**Pn**	**22 57 52.4**	**+0.6**
BNGB	**Bingl**	**2.58**	**280**	PN	**Pn**	**22 57 56.3**	**+1.2**

JMA ***11*** *23:02:33.7±0.2, 24°.74N×121°.79E, h94km±2km, M3.8*
IDC ***11*** *23:02:33.5±4.0, 24°.78N×121°.86E, h93km±38km, mb3.5/9, mb1 3.6/10, mb1mx3.4/50, mbtmp3.8/10, MS2.8/2, Ms1 2.8/2, ms1mx2.5/34, Error ellipse: s-maj=28.1km s-min=17.4km az=64.0*
TAP ***11*** *23:02:34.3, 24°.76N×121°.82E, h93km, ML4.5, B*
ISC 11 23:02:33.9±0.6,**24°.80N**±0°.03×**121°.82E**±0°.02,**h99**km±4km,
n163,σ0s**85**/290,**mb3.6**/10,**45C-6D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.06**	**9**	*e*P	**Pn**	**23 02 47.8**	**+0.1**
NTC	baz=26			*e*S	**Sn**	**23 02 58.0**	**+0.1**
	baz=26						
ILA	**Ilan**	**0.07**	**246**	⇑*i*P	**Pn**	**23 02 48.2**	**+0.6**
ILA	baz=263			S	**Sn**	**23 02 58.6**	**+0.6**
	baz=263						
TWE	**Neicheng**	**0.16**	**242**	⇑*i*P	**Pn**	**23 02 48.1**	**+0.2**
TWE	baz=266			*e*S	**Sn**	**23 02 58.4**	**+0.2**
	baz=266						
TIPB	**Shuangxi**	**0.18**	**2**	⇓*i*P	**Pn**	**23 02 48.0**	**0.0**
TIPB	baz=6.0			S	**Sn**	**23 02 57.8**	**-0.6**
	baz=6.0						
NDS	**Dongshan**	**0.19**	**210**	⇑P	**Pn**	**23 02 48.3**	**+0.3**
NDS	baz=222			*e*S	**Sn**	**23 02 59.1**	**+0.7**
	baz=222						
TWC	**Suao**	**0.19**	**172**	⇑*i*P	**Pn**	**23 02 48.3**	**+0.3**
TWC	baz=158			S	**Sn**	**23 02 58.3**	**-0.1**
	baz=158						
TWB1	**Santiao Chiao**	**0.26**	**36**	⇓*i*P	**Pn**	**23 02 48.2**	**0.0**
TWB1	baz=42			*i* S	**Sn**	**23 02 58.2**	**-0.7**
	baz=42						
NWF	**Wu-fen Shan**	**0.28**	**353**	⇓*i*P	**Pn**	**23 02 48.4**	**0.0**
NWF	baz=4.0			S	**Sn**	**23 02 58.7**	**-0.5**
	baz=4.0						
WFSB	**Wu-fen Shan**	**0.28**	**353**	⇓*i*P	**Pn**	**23 02 48.4**	**+0.1**
WFSB	baz=4.0			*i* S	**Sn**	**23 02 58.8**	**-0.3**
	baz=4.0						
ENTT	**Nioudou**	**0.28**	**236**	⇑*i*P	**Pn**	**23 02 48.4**	**+0.1**
ENTT	baz=252			S	**Sn**	**23 02 58.6**	**-0.4**
	baz=252						
TWA	**Mucha**	**0.28**	**311**	⇑*i*P	**Pn**	**23 02 48.4**	**0.0**
TWA	baz=309			S	**Sn**	**23 02 59.0**	**-0.1**
	baz=309						
NWLT	**Wulai**	**0.29**	**267**	⇑*i*P	**Pn**	**23 02 48.1**	**-0.3**
NWLT	baz=273			*e*S	**Sn**	**23 02 57.7**	**-1.5**
	baz=273						
NHDH	**Xindian Distri**	**0.32**	**302**	⇑*i*P	**Pn**	**23 02 48.4**	**-0.1**
NHDH	baz=295			*i* S	**Sn**	**23 02 58.9**	**-0.4**
	baz=295						
NDT	**Datong Townshi**	**0.34**	**236**	⇑*i*P	**Pn**	**23 02 48.6**	**0.0**
NDT	baz=250			*e*S	**Sn**	**23 02 58.6**	**-1.0**
	baz=250						
TATO	**Taipei**	**0.35**	**301**	⇑*i*P	**Pn**	**23 02 48.5**	**-0.2**
TATO	baz=296			S	**Sn**	**23 02 59.1**	**-0.5**
	baz=296						
TNOU	**National Taiwa**	**0.36**	**353**	⇓*i*P	**Pn**	**23 02 48.6**	**-0.1**
TNOU	baz=2.0			S	**Sn**	**23 02 59.1**	**-0.6**
	baz=2.0						
ENA	**Nanau**	**0.37**	**191**	⇑*e*P	**Pn**	**23 02 48.6**	**-0.2**
ENA	baz=197			*e*S	**Sn**	**23 03 00.3**	**+0.4**
	baz=197						
TAP	**Taipei**	**0.38**	**311**	P	**Pn**	**23 02 48.7**	**-0.1**
TAP	baz=309			S	**Sn**	**23 02 59.9**	**0.0**
	baz=309						
BACT	**New Taipei Cit**	**0.40**	**301**	*e*P	**Pn**	**23 02 49.0**	**0.0**
BACT	baz=301			*e*S	**Sn**	**23 02 60.0**	**-0.1**
	baz=301						
YM01	**YM01**	**0.42**	**327**	⇑*i*P	**Pn**	**23 02 48.1**	**-1.0**
YM01	baz=323			S	**Sn**	**23 02 59.0**	**-1.5**
	baz=323						
YHNB	**Yeheng**	**0.42**	**253**	⇑*i*P	**Pn**	**23 02 48.8**	**-0.4**
YHNB	baz=256			*e*S	**Sn**	**23 02 58.5**	**-2.1**
	baz=256						
YM10	**YM10**	**0.43**	**327**	⇑*i*P	**Pn**	**23 02 49.1**	**-0.1**
YM10	baz=325			*e*S	**Sn**	**23 03 00.3**	**-0.4**
	baz=325						
YM11	**YM11**	**0.43**	**329**	⇑*i*P	**Pn**	**23 02 49.4**	**+0.1**
YM11	baz=327			S	**Sn**	**23 03 00.2**	**-0.5**
	baz=327						
YM05	**YM05**	**0.43**	**328**	⇑*i*P	**Pn**	**23 02 49.1**	**-0.2**
YM05	baz=325			S	**Sn**	**23 03 00.2**	**-0.5**
	baz=325						
NSK	**Sanguang**	**0.44**	**254**	⇑*i*P	**Pn**	**23 02 48.8**	**-0.4**
NSK	baz=257			*e*S	**Sn**	**23 02 59.0**	**-1.7**
	baz=257						
YM04	**YM04**	**0.44**	**324**	⇑*i*P	**Pn**	**23 02 49.1**	**-0.1**
YM04	baz=321			*e*S	**Sn**	**23 02 59.8**	**-0.9**
	baz=321						
YM08	**YM08**	**0.44**	**332**	⇑*e*P	**Pn**	**23 02 49.0**	**-0.3**
YM08	baz=329			*e*S	**Sn**	**23 03 00.0**	**-0.7**
	baz=329						
ANP	**Anpu**	**0.47**	**325**	⇑P	**Pn**	**23 02 49.4**	**-0.2**
ANP	baz=323			*e*S	**Sn**	**23 03 00.3**	**-1.0**
	baz=323						
TWS1	**Kuangyinshan**	**0.47**	**310**	⇑*i*P	**Pn**	**23 02 49.6**	**+0.1**
TWS1	baz=303			S	**Sn**	**23 03 01.0**	**0.0**
	baz=303						
NTY	**Taoyuan**	**0.52**	**293**	*e*P	**Pn**	**23 02 49.6**	**-0.1**
TWY	**Chenhua**	**0.52**	**337**	P	**Pn**	**23 02 50.0**	**+0.3**
TWY	baz=333			*i* S	**Sn**	**23 03 02.0**	**+0.4**
	baz=333						
NNS	**Nan Shan**	**0.54**	**229**	⇑*i*P	**Pn**	**23 02 50.1**	**0.0**
NNS	baz=230			*i* S	**Sn**	**23 03 01.6**	**-0.5**
	baz=230						
NNSB	**Datong**	**0.54**	**228**	⇑*i*P	**Pn**	**23 02 50.1**	**0.0**
NNSB	baz=229			*i* S	**Sn**	**23 03 01.5**	**-0.6**
	baz=229						
NNSH	**Datong**	**0.54**	**228**	⇑*i*P	**Pn**	**23 02 50.1**	**0.0**
NNSH	baz=233			S	**Sn**	**23 03 01.5**	**-0.6**
	baz=233						
NCU	**National Centr**	**0.60**	**287**	P	**Pn**	**23 02 50.4**	**+0.1**
NCU	baz=289			S	**Sn**	**23 03 02.4**	**-0.3**
	baz=289						
NCUH	**Zhongli**	**0.60**	**287**	*e*P	**Pn**	**23 02 50.5**	**0.0**
NCUH	baz=289			*e*S	**Sn**	**23 03 02.6**	**-0.1**
	baz=289						
NACB	**Ninganchiao**	**0.65**	**198**	⇑*i*P	**Pn**	**23 02 49.9**	**-1.0**
NACB	baz=204			*e*S	**Sn**	**23 03 01.9**	**-1.6**
	baz=204						
ETLH	**Xiulin Townshi**	**0.66**	**208**	⇑*i*P	**Pn**	**23 02 50.6**	**-0.5**
ETLH	baz=215			*e*S	**Sn**	**23 03 03.6**	**-0.2**
	baz=215						
NJD	**Zhudong**	**0.67**	**265**	*e*P	**Pn**	**23 02 50.7**	**-0.2**
NJD	baz=261			S	**Sn**	**23 03 03.5**	**-0.2**
	baz=261						
HSN1	**Hsinchu**	**0.73**	**269**	⇑P	**Pn**	**23 02 51.7**	**+0.2**
HSN1	baz=270			*e*S	**Sn**	**23 03 04.4**	**-0.3**
	baz=270						
TWD	**Chiawan**	**0.74**	**196**	⇑*i*P	**Pn**	**23 02 50.8**	**-0.9**
TWD	baz=202			*e*S	**Sn**	**23 03 03.7**	**-1.2**
	baz=202						
LIOB	**Emei**	**0.75**	**259**	⇑*i*P	**Pn**	**23 02 51.8**	**0.0**
LIOB	baz=252			S	**Sn**	**23 03 04.6**	**-0.5**
	baz=252						
FUSS	**Fushou**	**0.76**	**224**	⇑*i*P	**Pn**	**23 02 52.6**	**+0.6**
FUSS	baz=223			S	**Sn**	**23 03 05.6**	**0.0**
	baz=223						
SBCB	**Hsinchu**	**0.76**	**270**	⇑*e*P	**Pn**	**23 02 51.9**	**+0.2**
SBCB	baz=271			*e*S	**Sn**	**23 03 04.6**	**-0.6**
	baz=271						
NSTT	**Nanjuang**	**0.76**	**258**	⇑*e*P	**Pn**	**23 02 51.8**	**-0.1**
NSTT	baz=252			S	**Sn**	**23 03 04.5**	**-0.8**
	baz=252						
HSN	**Hsinchu**	**0.77**	**271**	*e*P	**Pn**	**23 02 51.5**	**-0.4**
HSN	baz=267			*e*S	**Sn**	**23 03 04.5**	**-0.9**
	baz=267						
TWT	**Tachien**	**0.80**	**228**	⇑*i*P	**Pn**	**23 02 53.1**	**+0.8**
TWT	baz=221			S	**Sn**	**23 03 06.6**	**+0.4**
	baz=221						
TDCB	**Techi**	**0.81**	**228**	⇑*i*P	**Pn**	**23 02 53.1**	**+0.6**
TDCB	baz=227			*i* S	**Sn**	**23 03 05.9**	**-0.4**
	baz=227						
WHF	**Hehuan Shan**	**0.82**	**218**	⇑*i*P	**Pn**	**23 02 53.0**	**+0.1**
WHF	baz=211			S	**Sn**	**23 03 06.5**	**-0.6**
	baz=211						
HWA	**Hwalien**	**0.84**	**194**	⇑P	**Pn**	**23 02 52.2**	**-0.4**
HWA	baz=199			*e*S	**Sn**	**23 03 06.7**	**+0.2**
	baz=199						
NJN	**Zhunan**	**0.87**	**263**	*e*P	**Pn**	**23 02 53.2**	**+0.3**
NJN	baz=260			*e*S	**Sn**	**23 03 06.7**	**-0.4**
	baz=260						
CHGB	**Renai**	**0.94**	**219**	⇑*i*P	**Pn**	**23 02 54.4**	**+0.5**
CHGB	baz=217			S	**Sn**	**23 03 08.0**	**-0.8**
	baz=217						
WHP	**Taichung City**	**0.95**	**237**	⇑*i*P	**Pn**	**23 02 54.4**	**+0.5**
WHP	baz=236			S	**Sn**	**23 03 08.3**	**-0.4**
	baz=236						
NMLH	**Miaoli**	**0.97**	**255**	⇑*i*P	**Pn**	**23 02 54.2**	**+0.3**
NMLH	baz=255			S	**Sn**	**23 03 09.0**	**0.0**
	baz=255						
NSY	**Sanyi**	**1.03**	**249**	⇑P	**Pn**	**23 02 55.2**	**+0.5**
NSY	baz=248			S	**Sn**	**23 03 10.4**	**+0.1**
	baz=248						
ESL	**Shilin**	**1.04**	**200**	⇑*i*P	**Pn**	**23 02 53.4**	**-1.4**
ESL	baz=193			*e*S	**Sn**	**23 03 08.5**	**-1.9**
	baz=193						
TWQ1	**Liyutan**	**1.05**	**245**	⇑*i*P	**Pn**	**23 02 55.1**	**+0.2**
TWQ1	baz=244			S	**Sn**	**23 03 10.1**	**-0.5**
	baz=244						
JYNG	**Yonagunijimaku**	**1.08**	**108**	P	**Pn**	**23 02 55.0**	**-0.1**
JYNG				S	**Sn**	**23 03 10.0**	**-1.1**
WCS	**Beigang Elemen**	**1.11**	**229**	⇑*i*P	**Pn**	**23 02 56.1**	**+0.6**
WCS	baz=233			*e*S	**Sn**	**23 03 11.9**	**+0.2**
	baz=233						
WPL	**Puli Township**	**1.11**	**225**	*e*P	**Pn**	**23 02 56.1**	**+0.6**
WPL	baz=231			*e*S	**Sn**	**23 03 11.7**	**0.0**
	baz=231						
DPDB	**Guoxing**	**1.11**	**227**	*e*P	**Pn**	**23 02 56.2**	**+0.6**
DPDB	baz=233			*e*S	**Sn**	**23 03 12.8**	**+0.8**
	baz=233						
YOJ	**Yonaguni jima**	**1.13**	**107**	P	**Pn**	**23 02 55.4**	**-0.3**
YOJ	baz=105			S	**Sn**	**23 03 10.5**	**-1.7**
	baz=105						
YOJ	**Yonaguni jima**	**1.13**	**107**	P	**Pn**	**23 02 55.6**	**-0.2**
YOJ				*e*S	**Sn**	**23 03 11.0**	**-1.2**
WDJ	**Dajia District**	**1.16**	**248**	*e*P	**Pn**	**23 02 56.5**	**+0.4**
WDJ	baz=241			*i* S	**Sn**	**23 03 12.9**	**+0.1**
	baz=241						
EGFH	**Guangfu**	**1.18**	**198**	*e*P	**Pn**	**23 02 56.4**	**+0.1**
EGFH	baz=196			*e*S	**Sn**	**23 03 12.0**	**-1.2**
	baz=196						
VWDT	**VWDT**	**1.21**	**211**	⇑*i*P	**Pn**	**23 02 57.2**	**+0.5**
VWDT	baz=205			*e*S	**Sn**	**23 03 14.3**	**+0.6**
	baz=205						
TCU	**Taichung**	**1.23**	**238**	*e*P	**Pn**	**23 02 57.1**	**+0.3**
TCU	baz=237			*e*S	**Sn**	**23 03 14.3**	**+0.1**
	baz=237						
WWF	**Wufeng**	**1.27**	**234**	*e*P	**Pn**	**23 02 57.8**	**+0.4**
WWF	baz=232			*e*S	**Sn**	**23 03 15.6**	**+0.6**
	baz=232						
SSLB	**Suanglung**	**1.28**	**218**	⇑*e*P	**Pn**	**23 02 57.9**	**+0.4**
SSLB	baz=225			*e*S	**Sn**	**23 03 15.4**	**+0.1**
	baz=225						
HGSD	**Ruisui**	**1.35**	**196**	*e*P	**Pn**	**23 02 58.1**	**-0.2**
HGSD	baz=199			*e*S	**Sn**	**23 03 17.3**	**+0.6**
	baz=199						
WCHH	**Zhanghua**	**1.35**	**238**	*e*P	**Pn**	**23 02 58.6**	**+0.3**
WCHH	baz=237			*e*S	**Sn**	**23 03 16.7**	**-0.1**
	baz=237						
EHY	**Hungye**	**1.36**	**200**	*e*P	**Pn**	**23 02 58.7**	**+0.2**
EHY	baz=190			*e*S	**Sn**	**23 03 15.3**	**-1.7**
	baz=190						
WNT1	**Nantou City**	**1.36**	**230**	*e*P	**Pn**	**23 02 59.2**	**+0.7**
WNT1	baz=236			*e*S	**Sn**	**23 03 17.4**	**+0.4**
	baz=236						
WNT	**Mingjian**	**1.38**	**229**	*e*P	**Pn**	**23 02 58.9**	**+0.2**
WNT	baz=236			*e*S	**Sn**	**23 03 17.8**	**+0.4**
	baz=236						
WJS	**Zhushan**	**1.39**	**226**	*e*P	**Pn**	**23 02 59.4**	**+0.6**
WJS	baz=234			*e*S	**

TWF1	**Yuli**	**1.51**	**199**	*eP*	**Pn**	**23 02 59.0**	**-1.4**
	baz=195								
TWF1				*eS*	**Sn**	**23 03 19.4**	**-1.0**
	baz=195								
YUS	**Yu-Shan**	**1.52**	**212**	P	**Pn**	**23 03 01.9**	**+0.9**
	baz=219								
YUS				*eS*	**Sn**	**23 03 22.4**	**+1.1**
	baz=219								
ALS	**Alishan**	**1.58**	**216**	P	**Pn**	**23 03 02.0**	**+0.5**
	baz=222								
ALS				*eS*	**Sn**	**23 03 23.1**	**+0.8**
	baz=222								
CHN5	**Tsauling**	**1.58**	**221**	*eP*	**Pn**	**23 03 01.8**	**+0.5**
	baz=219								
CHN5				*eS*	**Sn**	**23 03 23.5**	**+1.5**
	baz=219								
WRL	**Guolierlin Hig**	**1.59**	**236**	*eP*	**Pn**	**23 03 00.9**	**-0.3**
	baz=235								
WRL				*eS*	**Sn**	**23 03 21.0**	**-1.0**
	baz=235								
WGK	**Gukeng**	**1.59**	**226**	*eP*	**Pn**	**23 03 02.2**	**+0.9**
	baz=234								
WGK				*eS*	**Sn**	**23 03 23.1**	**+1.1**
	baz=234								
RLNB	**Erlin**	**1.61**	**236**	*eP*	**Pn**	**23 03 01.2**	**-0.2**
	baz=236								
WDLH	**Douliu**	**1.61**	**227**	*eP*	**Pn**	**23 03 02.1**	**+0.6**
	baz=234								
WDLH				*eS*	**Sn**	**23 03 22.8**	**+0.4**
	baz=234								
FULB	**Fuli**	**1.66**	**197**	*eP*	**Pn**	**23 03 01.5**	**-0.7**
	baz=194								
FULB				*eS*	**Sn**	**23 03 25.2**	**+1.6**
	baz=194								
WTCT	**Ta-ch'eng**	**1.68**	**237**	*eS*	**Sn**	**23 03 23.8**	**-0.2**
	baz=235								
WTK	**Tuku**	**1.71**	**230**	P	**Pn**	**23 03 03.2**	**+0.4**
	baz=228								
WTK				*eS*	**Sn**	**23 03 24.3**	**-0.3**
	baz=228								
CHKT	**Chengkung**	**1.74**	**194**	*eP*	**Pn**	**23 03 02.8**	**-0.4**
	baz=182								
CHKT				*eS*	**Sn**	**23 03 24.0**	**-1.3**
	baz=182								
CHN2	**Minshiung**	**1.76**	**225**	*eP*	**Pn**	**23 03 04.2**	**+0.9**
	baz=231								
CHN2				*eS*	**Sn**	**23 03 27.3**	**+1.6**
	baz=231								
ELDTW	**Lidau**	**1.76**	**205**	*eP*	**Pn**	**23 03 03.2**	**-0.3**
	baz=193								
ELDTW				*eS*	**Sn**	**23 03 25.6**	**-0.4**
	baz=193								
IRIF	**Iriomote-Funau**	**1.80**	**104**	P	**Pn**	**23 03 03.6**	**-0.3**
IRIF				S	**Sn**	**23 03 25.6**	**-1.1**
CHY	**Chiayi**	**1.81**	**225**	*eP*	**Pn**	**23 03 04.7**	**+0.6**
	baz=231								
CHY				*eS*	**Sn**	**23 03 27.3**	**+0.3**
	baz=231								
CHN4	**Tsaushan**	**1.82**	**218**	*eP*	**Pn**	**23 03 05.1**	**+0.8**
	baz=215								
CHN4				*eS*	**Sn**	**23 03 27.9**	**+0.6**
	baz=215								
TPUB	**Ta-pu**	**1.84**	**216**	*eP*	**Pn**	**23 03 05.0**	**+0.5**
	baz=213								
TPUB				*eS*	**Sn**	**23 03 27.6**	**-0.2**
	baz=213								
WSF	**Szhu**	**1.86**	**232**	*eP*	**Pn**	**23 03 04.8**	**+0.2**
	baz=230								
WSF				*eS*	**Sn**	**23 03 28.8**	**+0.8**
	baz=230								
EDH	**Donghe**	**1.88**	**195**	*eP*	**Pn**	**23 03 04.4**	**-0.5**
	baz=183								
EDH				*eS*	**Sn**	**23 03 28.0**	**-0.4**
	baz=183								
STYH	**Taoyuan**	**1.88**	**211**	*eP*	**Pn**	**23 03 05.6**	**+0.7**
	baz=210								
WTP	**Ta-pu**	**1.90**	**216**	*eP*	**Pn**	**23 03 05.6**	**+0.4**
	baz=223								
TWK	**Hsinying**	**1.95**	**219**	*eP*	**Pn**	**23 03 06.1**	**+0.2**
	baz=216								
TWK				*eS*	**Sn**	**23 03 30.5**	**+0.3**
	baz=216								
HATJ	**Hateruma jima**	**1.95**	**112**	P	**Pn**	**23 03 06.0**	**+0.1**
HATJ				S	**Sn**	**23 03 30.1**	**-0.1**
SNST	**Tainan City**	**1.98**	**218**	*eP*	**Pn**	**23 03 06.6**	**+0.3**
	baz=215								
SNST				*eS*	**Sn**	**23 03 31.5**	**+0.6**
	baz=215								
LONT	**Longtian**	**1.98**	**199**	*eP*	**Pn**	**23 03 05.6**	**-0.7**
	baz=186								
LONT				*eS*	**Sn**	**23 03 29.4**	**-1.5**
	baz=186								
CHN1	**Nanshi**	**1.99**	**217**	*eP*	**Pn**	**23 03 06.9**	**+0.5**
	baz=213								
CHN1				*eS*	**Sn**	**23 03 30.4**	**-0.7**
	baz=213								
ICHU	**Yijhu**	**2.00**	**225**	*eP*	**Pn**	**23 03 07.2**	**+0.6**
	baz=233								
ICHU				*eS*	**Sn**	**23 03 31.0**	**-0.5**
	baz=233								
SGST	**Jiashian**	**2.05**	**214**	*eP*	**Pn**	**23 03 06.9**	**-0.2**
	baz=218								
SGST				*eS*	**Sn**	**23 03 30.6**	**-1.9**
	baz=218								
CHN8	**Yiju**	**2.06**	**226**	*eP*	**Pn**	**23 03 07.6**	**+0.4**
	baz=233								
CHN8				*eS*	**Sn**	**23 03 33.6**	**+0.9**
	baz=233								
JKRS	**Kuro-shima**	**2.07**	**105**	P	**Pn**	**23 03 07.5**	**+0.1**
JKRS				S	**Sn**	**23 03 32.4**	**-0.5**
TWG	**Pinlang**	**2.08**	**199**	*eP*	**Pn**	**23 03 06.5**	**-1.1**
	baz=186								
TWG				*eS*	**Sn**	**23 03 31.4**	**-1.8**
	baz=186								
TWGBT	**Beinan**	**2.08**	**199**	*eP*	**Pn**	**23 03 05.5**	**-2.1**
	baz=186								
TWGBT				*eS*	**Sn**	**23 03 31.4**	**-1.8**
	baz=186								
SLGT	**Liugui**	**2.09**	**211**	*eP*	**Pn**	**23 03 07.8**	**+0.1**
	baz=218								
SLGT				*eS*	**Sn**	**23 03 34.3**	**+0.9**
	baz=218								
LDUT	**Ludao**	**2.14**	**189**	*eP*	**Pn**	**23 03 07.4**	**-0.8**
	baz=179								
LDUT				*eS*	**Sn**	**23 03 32.0**	**-2.5**
	baz=179								
JIJ	**Ishigaki jima**	**2.16**	**101**	P	**Pn**	**23 03 08.3**	**-0.2**
JIJ				S	**Sn**	**23 03 33.7**	**-1.3**
VWUC	**VWUC**	**2.16**	**276**	*eP*	**Pn**	**23 03 08.0**	**-0.5**
	baz=275								
MATB	**Ma-tsu**	**2.17**	**309**	*eP*	**Pn**	**23 03 08.0**	**-0.6**
	baz=307								
MSUT	**Lienchiang**	**2.19**	**309**	*eP*	**Pn**	**23 03 08.4**	**-0.6**
	baz=307								
SCST	**Cishan**	**2.25**	**213**	*eP*	**Pn**	**23 03 10.8**	**+1.0**
	baz=212								
JISG	**Ishigakijimahi**	**2.27**	**95**	P	**Pn**	**23 03 10.3**	**+0.3**
JISG				*eS*	**Sn**	**23 03 36.7**	**-1.0**
SSD	**Sandimen**	**2.31**	**208**	*eP*	**Pn**	**23 03 11.8**	**+1.2**
	baz=204								
SSD				*eS*	**Sn**	**23 03 39.2**	**+0.6**
	baz=204								
ECL	**Taimali**	**2.33**	**200**	P	**Pn**	**23 03 10.2**	**-0.5**
	baz=189								
ECL				*eS*	**Sn**	**23 03 38.4**	**-0.6**
	baz=189								
TSMG	**Majia**	**2.34**	**208**	*eP*	**Pn**	**23 03 10.9**	**-0.1**
	baz=204								
TSMG				*eS*	**Sn**	**23 03 39.6**	**+0.3**
	baz=204								
PNG	**Penghu**	**2.40**	**240**	P	**Pn**	**23 03 11.1**	**-0.6**
	baz=239								
PNG				*eS*	**Sn**	**23 03 39.2**	**-1.5**
	baz=239								
PHUB	**P'eng-hu**	**2.42**	**239**	*eP*	**Pn**	**23 03 10.9**	**-1.0**
	baz=238								
PHUB				*eS*	**Sn**	**23 03 37.7**	**-3.3**
	baz=238								
MASBT	**Mashibuluo**	**2.43**	**207**	P	**Pn**	**23 03 12.4**	**+0.3**
	baz=203								
MASBT				*eS*	**Sn**	**23 03 41.0**	**-0.4**
	baz=203								
PTMZ	**Houxiangcun**	**2.46**	**276**	*eP*	**Pn**	**23 03 12.1**	**-0.4**
	baz=275								
WDGT	**Dungji**	**2.50**	**233**	*eP*	**Pn**	**23 03 12.8**	**-0.2**
	baz=231								
WDGT				*eS*	**Sn**	**23 03 39.9**	**-3.0**
	baz=231								

LYJJ	**Jianjiangzhen**	**2.55**	**314**	*eP*	**Pn**	**23 03 13.3**	**-0.4**
	baz=312								
EAST	**Anshuo**	**2.56**	**201**	*eP*	**Pn**	**23 03 13.5**	**-0.4**
	baz=191								
TAW	**Tawu**	**2.57**	**199**	*eP*	**Pn**	**23 03 14.3**	**+0.3**
	baz=187								
TAW				*eS*	**Sn**	**23 03 43.5**	**-1.1**
	baz=187								
SSPT	**Xinbi**	**2.57**	**207**	*eP*	**Pn**	**23 03 15.3**	**+1.3**
	baz=205								
XPSS	**Dashiqiu**	**2.58**	**326**	*eP*	**Pn**	**23 03 13.8**	**-0.3**
	baz=323								
JTJ	**Tarama**	**2.63**	**93**	P	**Pn**	**23 03 15.2**	**+0.5**
JTJ				S	**Sn**	**23 03 46.7**	**+0.7**
SCZT	**Fangliau**	**2.65**	**205**	*eP*	**Pn**	**23 03 15.6**	**+0.6**
	baz=201								
SCZT				*eS*	**Sn**	**23 03 45.5**	**-1.1**
	baz=201								
SLIU	**Shizi**	**2.73**	**200**	*eP*	**Pn**	**23 03 17.2**	**+1.1**
	baz=199								
LAY	**Lan-yu**	**2.75**	**185**	*eP*	**Pn**	**23 03 15.3**	**-1.1**
	baz=176								
LAY				*eS*	**Sn**	**23 03 45.1**	**-4.0**
	baz=176								
MHZQ	**Yeshan**	**2.84**	**298**	*eP*	**Pn**	**23 03 16.8**	**-0.7**
	baz=296								
QZH	**Quanzhou**	**2.94**	**274**	⇓ *i* Pn	**Pn**	**23 03 18.4**	**-0.4**
QZH				Sn	**Sn**	**23 03 50.5**	**-2.8**
QZH				smax	smax		
	comp=N,240nm,0.5s						
QZH				smax	smax		
	comp=E,120nm,0.4s						
HEN	**Hengchun**	**2.95**	**200**	*eP*	**Pn**	**23 03 19.7**	**+0.7**
	baz=207								
TWK1	**Hengchun**	**2.99**	**198**	*eP*	**Pn**	**23 03 19.8**	**+0.3**
	baz=197								
TWKBT	**Hengchun**	**2.99**	**198**	*eP*	**Pn**	**23 03 19.9**	**+0.4**
	baz=195								
TWKBT				*eS*	**Sn**	**23 03 55.2**	**+0.6**
	baz=195								
JIRB	**Irabujima**	**3.05**	**89**	P	**Pn**	**23 03 21.6**	**+1.3**
JIRB				S	**Sn**	**23 03 55.6**	**-0.4**
KNM	**Kinmen**	**3.10**	**264**	*eP*	**Pn**	**23 03 21.8**	**+0.7**
	baz=262								
KNMB	**Chin-men Tao**	**3.14**	**265**	*eP*	**Pn**	**23 03 20.8**	**-0.7**
	baz=263								
JMJ	**Miyako jima 2**	**3.16**	**89**	*eP*	**Pn**	**23 03 23.2**	**+1.5**
	baz=91								
JMJ2	**Miyako jima3**	**3.19**	**90**	P	**Pn**	**23 03 23.4**	**+1.2**
JMJ2				*eS*	**Sn**	**23 03 59.7**	**+0.3**
JOGS	**Gusukube**	**3.26**	**90**	P	**Pn**	**23 03 24.3**	**+1.2**
AXDP	**Jialang**	**3.50**	**273**	*eP*	**Pn**	**23 03 26.3**	**-0.1**
	baz=271								
ZPLA	**Ao Xicun**	**3.81**	**258**	*eP*	**Pn**	**23 03 30.1**	**-0.5**
	baz=255								
JOW	**Kunigami**	**6.16**	**69**	P	**Pn**	**23 04 01.9**	**-0.5**
	comp=E,3.3nm,0.3s,baz=112,slow=19,SNR=9.2								
JOW				S	**Sn**	**23 05 10.3**	**-1.2**
	comp=E,1.7nm,0.3s,baz=132,slow=19,SNR=1.4								
JOW	**Kunigami**	**6.16**	**69**	*eP*	**Pn**	**23 04 02.0**	**-0.4**
	baz=72								
KSRS	**Korea Array**	**13.65**	**21**	P	**P**	**23 05 47.7**	**-1.0**
	comp=E,0.4nm,0.3s,baz=199,slow=12,SNR=16								
KSRS				LR	LR	23 12 06.5	
	comp=E,13nm,18.5s,baz=115,slow=42								
USRK	**Ussuriysk Ar.**	**21.06**	**21**	P	**P**	**23 07 12.7**	**+2.7**
	comp=E,1.7nm,0.8s,baz=221,slow=15,SNR=2.7								
KLR	**Kul'dur**	**25.60**	**15**	P	**P**	**23 07 55.0**	**+1.2**
	comp=E,1.3nm,0.7s,baz=210,slow=8.1,SNR=6.7								
SONM	**Songino Array**	**26.04**	**336**	P	**P**	**23 07 58.5**	**+0.5**
	comp=E,1.0nm,0.6s,baz=151,slow=9.5,SNR=7.5								
MKAR	**Makanchi Array**	**38.31**	**315**	P	**P**	**23 09 45.4**	**+0.5**
	comp=E,0.5nm,0.6s,baz=101,slow=8.5,SNR=7.7								
MKAR				pP	**pP**	**23 10 07.7**	**+0.1**
	comp=E,0.3nm,0.6s,baz=105,slow=9.9,SNR=2.5								
ZALV	**Zalesovo Beam**	**40.05**	**326**	P	**P**	**23 09 59.1**	**-0.1**
	comp=E,0.8nm,0.5s,baz=115,slow=9.0,SNR=4.4								
ZALV				pP	**pP**	**23 10 21.4**	**-0.7**
	comp=E,0.7nm,0.5s,baz=98,slow=8.1,SNR=2.7								
FITZ	**Fitzroy Crossi**	**42.80**	**175**	LR	LR	23 29 23.3	
	comp=E,34nm,18.7s,baz=90,slow=38								
WRA	**Warramunga Arr**	**46.11**	**164**	P	**P**	**23 10 48.0**	**-0.4**
	comp=E,1.2nm,0.8s,baz=345,slow=8.3,SNR=4.6								
ASAR	**Alice Springs**	**49.58**	**165**	P	**P**	**23 11 15.5**	**+0.3**
	comp=E,0.6nm,0.8s,baz=344,slow=7.4,SNR=4.5								
FINES	**FINESS Array B**	**71.21**	**330**		**P**	**23 13 42.0**	**0.0**
	comp=E,1.5nm,0.8s,baz=54,slow=7.1,SNR=4.9								
YKA	**Yellowknife Ar**	**82.18**	**23**	P	**P**	**23 14 43.1**	**-0.5**
	comp=E,0.3nm,0.6s,baz=319,slow=4.7,SNR=6.8								
NVAR	**Mina Array Bea**	**95.59**	**43**	P	**P**	**23 15 49.7**	**+1.1**
	comp=E,0.5nm,0.7s,baz=286,slow=4.1,SNR=4.5								

DNK 11 23:04:13.8±2.2, 73°20N×23°70W, h10km±34km, ML3.0, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBG	**Daneborg**	**1.48**	**40**	*i* P	Pn	23 04 40.0	-0.4
DBG				*i* S	Sn	23 04 59.8	0.0
SCO	**Scoresbysund**	**2.79**	**168**	*i* P	Pn	23 04 58.2	-0.1
SCO				*i* S	Sn	23 05 31.4	-0.5
SCO	**Scoresbysund**	**2.79**	**168**	*i* P	Pn	23 04 58.2	-0.1
SCO				*i* S	Sn	23 05 31.4	-0.5
SCO				IAML		23 05 44.6	
	comp=Z,33nm,0.4s						
DAG	**Danmarks Havn**	**3.82**	**18**	*e*	Pn	23 05 10.3	-2.2
	baz=209,slow=14						
DAG				*i* P	Pb	23 05 11.7	-9.4
DAG				IAML		23 06 11.9	
	comp=Z,53nm,0.3s						
SUMG	**Summit**	**4.40**	**269**	*i* P	Pn	23 05 21.6	+0.8
SUMG	**Summit**	**4.40**	**269**	*i* P	Pn	23 05 21.7	+0.9
SUMG				IAML		23 06 29.4	
	comp=Z,81nm,0.4s						
ICESG	**Greenland Ices**	**6.60**	**239**	*i* P	Pn	23 05 50.3	-0.6
SFJD	**Kangerlussuaq**	**10.98**	**249**	*i* P	Pn	23 06 49.1	-1.5
SFJD	**Kangerlussuaq**	**10.98**	**249**	*i* P	Pn	23 06 49.1	-1.5
SFJD				IAML		23 09 09.7	
	comp=Z,0.1nm,0.3s						
TULEG	**Thule**	**11.98**	**307**	*eP*	Pn	23 06 59.7	-4.5
TULEG				IAML		23 09 06.4	
	comp=Z,2.1nm,0.4s						

*IDC **11** 23:05:05.2±2.1, 9.79S×118.92E, h0km, mb3.2/1, mb1 3.8/5, mb1mx3.6/33, mbtmp3.7/5, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/18, Error ellipse: s-maj=74.4km s-min=26.3km az=46.0*

ISC 11 23:05:08.7±1.5, 9.84S±0.09×119.0E±0.1, h35km, n6, σ3$01/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.63**	**95**	Pn	**Pn**	**23 06 18.2**	**+2.0**
	26nm,0.3s,baz=274,slow=16,SNR=18						
BATI				Sn	**Sn**	**23 07 08.2**	**-0.6**
	2.4nm,0.3s,baz=13,slow=19,SNR=5.8						
KAPI	**Kappang**	**4.85**	**9**	Sn	**Sn**	**23 07 10.6**	**-3.6**
	1.9nm,0.3s,baz=189,slow=19,SNR=1.8						
FITZ	**Fitzroy Crossi**	**10.45**	**140**	Pn	**Pn**	**23 07 37.3**	**+1.2**
	0.2nm,0.3s,baz=327,slow=12,SNR=6.4						
FITZ				Sn	**Sn**	**23 09 27.1**	**-4.9**
	0.5nm,0.3s,baz=183,slow=23,SNR=11						
WRA	**Warramunga Arr**	**17.91**	**126**	P	**Pn**	**23 09 15.8**	**+0.6**
	0.1nm,0.3s,baz=304,slow=14,SNR=6.8						
WRA				S	Sn	23 12 22.9	-11
	0.1nm,0.3s,baz=318,slow=22,SNR=1.8						
ASAR	**Alice Springs**	**19.81**	**136**	P	**Pn**	**23 09 38.7**	**+0.6**
	0.1nm,0.3s,baz=315,slow=10,SNR=11						
ASAR				LR	LR	23 18 19.3	
	comp=Z,46nm,18.2s,baz=104,slow=40						
MKAR	**Makanchi Array**	**65.19**	**333**	P	**P**	**23 15 47.8**	**+1.4**
	0.1nm,0.5s,baz=130,slow=7.8,SNR=2.2						

*RSNC **11** 23:06:44.6±1.4, 5.90N×72.33W, h0km±6km, ML2.9, Mw3.2*
*FUNV **11** 23:06:45.7, 5.99N×72.36W, h9km, MW3.5*

ISC 11 23:06:44.7±1.2, 5.91N±0.04×72.33W±0.03, h24km±13km, n20, σ1$52/38, 2C, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUSC	**La Rusia**	**0.75**	**269**	⇑ *i* P	**Pb**	**23 06 59.0**	**-0.3**
RUSC				*eS*	**Sn**	**23 07 09.5**	**-1.5**
RUSC	**La Rusia**	**0.75**	**269**	⇑ *i* P	**Pb**	**23 06 59.0**	**-0.3**
RUSC				*eS*	**Sb**	**23 07 08.7**	**-0.6**
TAMC	**Tame, Arauca**	**0.75**	**46**	*eP*	**Pb**	**23 06 59.0**	**-0.2**
TAMC				*eS*	**Sb**	**23 07 09.8**	**+0.8**
TAMC				*i*		23 07 15.2	
	comp=Z,317nm,0.2s						
BARC	**Barichara**	**1.09**	**309**	*eP*	**Pb**	**23 07 05.0**	**+0.1**
BARC				*eS*	**Sn**	**23 07 19.5**	**+0.5**
BARC				*i*		23 07 20.2	
	comp=Z,435nm,0.3s						
PAMC	**Pamplona, Colo**	**1.47**	**346**	*eP*	**Pb**	**23 07 11.1**	**-0.5**
PAMC				*eS*	**Sb**	**23 07 31.0**	**+0.9**
PAMC				*i*		23 07 32.8	
	comp=Z,537nm,0.3s						
PTGC	**Puerto Gaitan,**	**1.71**	**173**	*eP*	**Pn**	**23 07 13.2**	**+0.2**
PTGC				*eS*	**Sb**	**23 07 37.1**	**+0.7**
SPBC	**San Pablo de B**	**1.75**	**262**	*eP*	**Pb**	**23 07 15.2**	**-1.0**
SPBC				*eS*	**Sb**	**23 07 39.5**	**+1.7**
BRRC	**Barranca, Sant**	**1.82**	**311**	*eP*	**Pb**	**23 07 16.0**	**-1.3**
BRRC				*eS*	**Sb**	**23 07 40.4**	**+0.8**
BRRC				*i*		23 07 45.3	
	comp=Z,94nm,0.3s						
CAPV	**Capacho**	**1.94**	**0**	*eP*	**Pb**	**23 07 17.9**	**-1.7**
CAPV				*eS*	**Sn**	**23 07 40.5**	**+0.3**
PTBC	**PUERTO BERRIO,**	**2.21**	**287**	*eP*	**Pn**	**23 07 19.8**	**0.0**
PTBC				*eS*	**Sb**	**23 07 48.9**	**-2.0**
PTBC				*i*		23 07 55.7	
	comp=Z,57nm,0.4s						
NORC	**Norcasia**	**2.55**	**262**	*eP*	**Pn**	**23 07 26.3**	**+1.8**
NORC				*eS*	**Sb**	**23 08 00.1**	**-0.7**
NORC				*i*		23 08 05.5	
	comp=Z,48nm,0.5s						
SOCV	**Socops**	**2.78**	**32**	*eP*	**Pn**	**23 07 28.1**	**+0.4**
SOCV				*eS*	**Sn**	**23 08 01.2**	**+0.7**
ELOV	**Elorza**	**3.03**	**69**	*eP*	**Pn**	**23 07 33.4**	**+2.3**
ELOV				*eS*	**Sn**	**23 08 07.6**	**+0.9**
GUY2C	**Guyana, Caldas**	**3.10**	**257**	*eP*	**Pn**	**23 07 34.1**	**+1.6**
GUY2C				*eS*	**Sn**	**23 08 07.0**	**-2.0**
GUY2C				*i*		23 08 27.6	
	comp=Z,22nm,0.5s						
SDV	**Santo Domingo**	**3.41**	**30**	*eP*	**Pn**	**23 07 38.1**	**+1.6**
SDV				*eS*	**Sn**	**23 08 15.3**	**-0.9**
MOTC	**Monteria, Cord**	**4.37**	**311**	*eP*	**Pn**	**23 07 50.8**	**+1.2**
MOTC				*eS*	**Sn**	**23 08 43.5**	**+3.8**
SANV	**Sanarito**	**4.52**	**38**	*eP*	**Pn**	**23 07 51.9**	**+0.2**
CURV	**Curarigua**	**4.71**	**30**	*eP*	**Pn**	**23 07 54.9**	**+0.6**
BAUV	**El Baul**	**5.21**	**54**	*eP*	**Pn**	**23 08 01.6**	**+0.4**
BAUV				*eS*	**Sn**	**23 08 57.9**	**-2.7**
DABV	**Dabajuro**	**5.26**	**18**	*eP*	**Pn**	**23 08 02.3**	**+0.5**
DABV				*eS*	**Sn**	**23 08 57.7**	**-3.9**

IDC 11 23:11:15.5±2.4, 10.69S×160.30E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/30, mbtmp4.0/5, ML3.7/1, Error ellipse: s-maj=49.2km s-min=19.3km az=90.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.30**	**345**	Pn	Pb	23 11 40.8	0.0
	64nm,0.3s,baz=162,slow=5.6,SNR=8.3						
HNR				Sn	Sn	23 12 00.5	+1.4
	121nm,0.3s,baz=48,slow=21,SNR=7.3						
DZM	**Mont Dzumac**	**12.75**	**153**	Pn	Pn	23 14 18.0	-0.4
	0.4nm,0.3s,baz=31,slow=12,SNR=22						
DZM				Sn	Sn	23 16 35.9	-5.3
	0.2nm,0.3s,baz=105,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**26.64**	**247**	P	P	23 16 56.3	+0.2
	1.1nm,0.6s,baz=75,slow=9.5,SNR=5.8						
STKA	**Stephens Creek**	**27.26**	**217**	P	P	23 17 02.1	+0.5
	1.4nm,0.7s,baz=38,slow=12,SNR=1.9						
ASAR	**Alice Springs**	**28.26**	**239**	P	P	23 17 10.5	-0.2
	0.6nm,0.8s,baz=75,slow=11,SNR=4.6						
FITZ	**Fitzroy Crossi**	**34.32**	**254**	P	P	23 18 03.6	-0.5
	1.9nm,0.7s,baz=73,slow=11,SNR=1.6						

*NEIC **11** 23:12:40.6±2.7, 52.3N±0.2×173.5W±0.2, h64km±5km, mb3.8/9, ML3.5(AEIC), Error ellipse: s-maj=35.7km s-min=7.0km az=160.0*

AEIC 11 23:12:40±6.2, 52.1N±0.1×173.22W±0.02, h38km±9km, Error ellipse: s-maj=19.8km s-min=1.8km az=178.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.58**	**292**		Pn	23 12 52.9	+1.0
ATKA	**Atka Island**	**0.62**	**284**		Pn	23 12 52.5	+0.2
ATKA	**Atka Island**	**0.62**	**284**	Sn	Sn	23 13 00.0	-0.9
KOKL	**Mount Kliuchef**	**0.66**	**294**		Pn	23 12 53.6	+0.7
KOWE	**Korovin West**	**0.70**	**296**		Pn	23 12 54.1	+0.6
ADK	**Adak**	**2.15**	**267**		Pn	23 13 12.9	-0.3
ADK				Sn	Sn	23 13 37.9	-0.7
NIKH	**Nikolski High**	**2.82**	**69**		Pn	23 13 23.8	+1.3
OKSO	**Okmok South**	**3.34**	**65**		Pn	23 13 30.9	+1.2
OKRE	**Okmok R'deer P**	**3.40**	**63**		Pn	23 13 33.2	+2.8
OKFG	**Magazine Ridge**	**3.50**	**65**		Pn	23 13 34.5	+2.7
MAPS	**Pakushin South**	**4.18**	**63**		Pn	23 13 42.6	+1.4
MGOD	**Makushin Gods**	**4.22**	**63**		Pn	23 13 43.2	+1.5
MREP	**Makushin Rep't**	**4.29**	**63**		Pn	23 13 44.7	+2.0
MSW	**Makushin Switc**	**4.31**	**62**		Pn	23 13 44.5	+1.5
ZRO	**Akutan Zero**	**4.82**	**62**		Pn	23 13 52.1	+2.1
CNPM	**China Poot**	**14.40**	**50**	Pn	Pn	23 16 00.1	-0.8
BRLK	**Bradley Lake**	**14.65**	**50**	Pn	Pn	23 16 02.4	-1.9
GHO	**Glory Hole Cre**	**16.34**	**44**	Pn	Pn	23 16 24.7	-1.6
GHO				IAmb	IAmb	23 16 38.5	
	comp=Z,16nm,1.4s						
KLU	**Klutina**	**17.56**	**47**		Pn	23 16 37.9	-3.6
KLU				IAmb	IAmb	23 16 56.9	

GCG ***11*** *23:29:18.6±0.5, 13°.39N×90°.04W, h65km±80km, MD3.8*
NEIC ***11*** *23:29:19.1±0.7, 13°.43N±0°.07×89°.98W±0°.06, h36km±67km, Error ellipse: s-maj=13.2km s-min=2.2km az=222.0*
INET ***11*** *23:29:19.2, 13°.42N×89°.98W, h44km, MW3.2*
ISC 11 23:29:18.9±1.7, 13°.36N±0°.07×90°.01W±0°.05, h30km±12km, n31, σ0°.78/40, 3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEVE	**Cerro Verde**	**0.60**	**39**	⇓*i* P	**Pb**	**23 29 31.0**	**-0.1**
CEVE				*e*S	**Sn**	**23 29 40.7**	**+0.3**
CEVE				IAML		23 29 42.9	
	comp=Z,14μm,0.5s						
SBLS	**San Blas**	**0.61**	**38**	⇓*i* P	**Pb**	**23 29 31.1**	**-0.2**
JAYA	**Jayaque - finc**	**0.62**	**62**	*e*P	**Pb**	**23 29 30.9**	**-0.5**
JAYA				IAML		23 29 42.6	
	comp=Z,7μm,0.2s						
SNJE	**San Jose**	**0.64**	**38**	⇓*i* P	**Pb**	**23 29 31.5**	**-0.3**
RTR	**El Retiro**	**0.64**	**33**	*e*P	**Pb**	**23 29 31.5**	**-0.3**
LALI	**Alcalda de L**	**0.68**	**79**	*e*P	**Pn**	**23 29 31.6**	**-0.9**
LALI				*e*S	**Sb**	**23 29 41.8**	**+0.3**
CEDA	**San Andres**	**0.74**	**53**	*e*P	**Pn**	**23 29 32.9**	**-0.5**
CEDA				*e*S	**Sb**	**23 29 43.9**	**+0.7**
CEDA				IAML		23 29 48.3	
	comp=Z,3μm,0.2s						
BOQS	**Boqueron**	**0.80**	**62**	*e*P	**Pn**	**23 29 33.7**	**-0.6**
SNET	**Serv Nac Est T**	**0.82**	**67**	*e*P	**Pn**	**23 29 33.8**	**-0.7**
SNET				*e*S	**Sb**	**23 29 46.5**	**+0.9**
SNET				IAML		23 29 48.9	
	comp=Z,2μm,0.2s						
SNET	**Serv Nac Est T**	**0.82**	**67**	Pn	**Pn**	**23 29 33.5**	**-1.0**
UEES	**Universidad Ev**	**0.83**	**64**	*e*P	**Pn**	**23 29 34.0**	**-0.6**
UEES				*e*S	**Sn**	**23 29 46.0**	**+0.1**
UEES				IAML		23 29 49.8	
	comp=Z,2μm,0.2s						
OPAM	**Oficina de Pla**	**0.86**	**66**	*e*P	**Pn**	**23 29 34.8**	**-0.2**
OPAM				IAML		23 29 50.4	
	comp=Z,2μm,0.1s						
TACO	**Tacachico**	**0.88**	**46**	*e*P	**Pn**	**23 29 34.2**	**-1.0**
TACO				*e*S	**Sn**	**23 29 47.2**	**+0.2**
LFU	**La Fuente**	**0.95**	**66**	*e*P	**Pn**	**23 29 36.1**	**-0.2**
LFRS	**El Faro**	**0.96**	**74**	*e*P	**Pn**	**23 29 35.8**	**-0.5**
LBRS	**Las Brisas**	**1.01**	**68**	*e*P	**Pn**	**23 29 37.0**	**-0.1**
COEG	**Centro de Oper**	**1.13**	**77**	*e*P	**Pn**	**23 29 38.2**	**-0.4**
COEG				*e*S	**Sn**	**23 29 53.7**	**+0.5**
COEG				IAML		23 30 02.2	
	comp=Z,1μm,0.3s						
PCG	**Pacaya**	**1.18**	**331**	*e*P	**Pn**	**23 29 39.5**	**-0.1**
MTO3	**Montecristo**	**1.21**	**31**	Pn	**Pn**	**23 29 38.5**	**-1.5**
NBG	**Las Nubes**	**1.27**	**345**	*e*P	**Pn**	**23 29 41.1**	**+0.4**
NBG				*e*S	**Sn**	**23 29 58.2**	**+1.3**
FUG	**Fuego 3**	**1.35**	**323**	*e*P	**Pn**	**23 29 41.6**	**-0.2**
ESQI	**Esquipulas**	**1.36**	**28**	Pn	**Pn**	**23 29 40.8**	**-1.0**
COEB	**Comit de Eme**	**1.45**	**84**	*e*P	**Pn**	**23 29 42.9**	**-0.2**
COEB				*e*S	**Sn**	**23 30 01.5**	**+0.4**
TECA	**Tecapa**	**1.47**	**85**	*e*P	**Pn**	**23 29 43.4**	**-0.1**
MRL	**Marmol**	**1.74**	**10**	*e*P	**Pn**	**23 29 47.2**	**-0.1**
RTAL	**Retalhuleu**	**2.01**	**306**	Pn	**Pn**	**23 29 50.4**	**-0.3**
CRIN	**San Cristobal**	**2.96**	**102**	Pn	**Pn**	**23 30 04.4**	**+0.5**
CCIG	**Comitan**	**3.56**	**325**	Pn	**Pn**	**23 30 09.5**	**-2.7**
BOAB	**BOACO BROADBAN**	**3.33**	**102**	Pn	**Pn**	**23 30 21.5**	**-1.2**
JTS	**Las Juntas de**	**5.81**	**121**	Pn	**Pn**	**23 30 43.2**	**+0.1**
TEIG	**Tepich**	**7.03**	**13**	Pn	**Pn**	**23 30 59.3**	**-0.5**

DDA ***11*** *23:40:25.9, 35°.29N×27°.47E, h5km±2km, MW4.0*
IDC ***11*** *23:40:30.8±0.9, 35°.53N×27°.81E, h0km, mb3.9/13, mb1 4.0/21, mb1mx3.9/45, mbtmp3.9/21, ML3.7/8, MS2.8/4, Ms1 2.8/4, ms1mx2.6/34, Error ellipse: s-maj=18.0km s-min=12.6km az=174.0*
HLW ***11*** *23:40:31.1, 35°.65N×27°.91E, h13km±10km, Md3.9*
NIC ***11*** *23:40:31.5±0.0, 35°.52N×27°.79E, h8km±2km, Ml4.3/5*
ISK ***11*** *23:40:32.3, 35°.61N×27°.72E, h11km, ML3.7/25*
THE ***11*** *23:40:33.0, 35°.61N×27°.73E, h0km±1km, ML3.5/6, Error ellipse: s-maj=3.0km s-min=0.9km az=140.0*
ATH ***11*** *23:40:33.7, 35°.70N×27°.61E, h15km±2km, ML3.5/8, Error ellipse: s-maj=4.5km s-min=1.1km az=141.0*
ISC 11 23:40:32.4±0.8, 35°.49N±0°.03×27°.76E±0°.02, h10km±5km, n177, σ1°.43/210, mb3.9/13, 15C-10D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.49**	**276**	P	**Pg**	**23 40 41.7**	**-0.4**
KARP				S	**Sg**	**23 40 47.3**	**-1.3**
KARP				AML	AML	23 40 51.9	
	comp=E,10235μm,0.7s						
KARP				AML	AML	23 40 55.5	
	comp=N,10834μm,0.6s						
KARP	**Karpathos**	**0.49**	**276**	P	**Pg**	**23 40 41.7**	**-0.4**
KARP				S	**Sb**	**23 40 50.1**	**-0.5**
	comp=N,5μm,0.5s						
KARP	**Karpathos**	**0.49**	**276**	PG	**Pg**	**23 40 41.7**	**-0.4**
KARP				SG	**Sg**	**23 40 48.8**	**+0.2**
KARP	**Karpathos**	**0.49**	**276**	⇑P	**Pg**	**23 40 41.6**	**-0.4**
KARP				S	**Sb**	**23 40 49.6**	**-0.9**
KARP				AML	AML	23 40 50.4	
	comp=N,11nm,0.5s						
KARP				AML	AML	23 40 50.4	
	comp=N,11nm,0.5s						
KARP				AML	AML	23 40 55.4	
	comp=N,12nm,0.5s						
KARP				AML	AML	23 40 55.4	
	comp=N,12nm,0.5s						
ARG	**Arkhangelos**	**0.78**	**22**	P	**Pg**	**23 40 46.1**	**-1.3**
ARG				S	**Sg**	**23 40 55.3**	**-2.3**
ARG				AML	AML	23 41 02.5	
	comp=N,6617μm,0.6s						
ARG				AML	AML	23 41 03.7	
	comp=E,8207μm,0.6s						
ARG	**Arkhangelos**	**0.78**	**22**	P	**Pg**	**23 40 46.2**	**-1.3**
ARG				S	**Sb**	**23 40 57.2**	**-1.5**
	comp=E,4μm,0.4s						
ARG	**Arkhangelos**	**0.78**	**22**	PG	**Pg**	**23 40 46.1**	**-1.3**
ARG	**Arkhangelos**	**0.78**	**22**	⇑P	**Pg**	**23 40 46.1**	**-1.3**
ARG				S	**Sg**	**23 40 57.1**	**-0.5**
NISR	**Nisiros**	**1.23**	**335**	P	**Pg**	**23 40 52.5**	**-3.5**
NISR				AML	AML	23 41 16.0	
	comp=N,3082μm,0.6s						
NISR				AML	AML	23 41 17.1	
	comp=E,5916μm,0.4s						
MRSB	**Marmaris-Mugla**	**1.27**	**16**	PN	**Pg**	**23 40 55.1**	**-1.7**
ZKR	**Zakros**	**1.32**	**254**	P	**Pg**	**23 40 56.8**	**-1.0**
ZKR				AML	AML	23 41 25.6	
	comp=E,13546μm,0.9s						
ZKR				AML	AML	23 41 29.1	
	comp=N,3553μm,0.9s						
ZKR	**Zakros**	**1.32**	**254**	P	**Pg**	**23 40 56.9**	**-0.8**
ZKR	**Zakros**	**1.32**	**254**	PN	**Pg**	**23 40 56.5**	**-1.2**
ZKR	**Zakros**	**1.32**	**254**	P	**Pg**	**23 40 56.8**	**-1.0**
ZKR				AML	AML	23 41 23.9	
	comp=N,13nm,0.9s						
ZKR				AML	AML	23 41 27.9	
	comp=N,3.5nm,0.9s						
TURN	**Turunc**	**1.34**	**17**	PN	**Pg**	**23 40 55.5**	**-2.6**
TURN	**Turunc**	**1.34**	**17**	*i* P	**Pg**	**23 40 56.3**	**-1.8**
TURN				*i* S	**Sn**	**23 41 18.4**	**+3.5**
TURN				IAML		23 41 20.0	
	comp=E,1μm,0.4s						
TURN				IAML		23 41 23.0	
	comp=N,1μm,0.6s						
STIA	**Sitia Lasithi**	**1.40**	**258**	P	**Pn**	**23 40 57.7**	**-0.3**
STIA				S	**Sn**	**23 41 17.4**	**+0.9**
KOSK	**Kos Island**	**1.41**	**333**	P	**Pn**	**23 40 57.4**	**-0.7**
KOSK				S	**Sg**	**23 41 15.2**	**-2.5**
	comp=N,1μm,0.5s						
KOSK	**Kos Island**	**1.41**	**333**	PN	**Pn**	**23 40 57.1**	**-1.0**
DALY	**Dalyan (Mula)**	**1.50**	**28**	PN	**Pn**	**23 40 58.8**	**-0.6**
DALY	**Dalyan (Mula)**	**1.50**	**28**	*i* P	**Pn**	**23 40 59.1**	**-0.4**
DALY				*i* S	**Sg**	**23 41 25.4**	**+4.6**
DALY				IAML		23 41 33.0	
	comp=N,751nm,0.8s						
DALY				IAML		23 41 33.0	
	comp=E,751nm,0.6s						
FETY	**Fethiye**	**1.56**	**43**	P	**Pn**	**23 40 59.4**	**-0.8**
FETY				S	**Sn**	**23 41 20.7**	**+0.1**
FETY	**Fethiye**	**1.56**	**43**	PN	**Pn**	**23 40 59.5**	**-0.8**
BDRM	**Kayabasi**	**1.59**	**351**	*i* P	**Pn**	**23 40 59.7**	**-0.9**
BDRM				*i* S	**Sn**	**23 41 20.6**	**-0.8**
BDRM				IAML		23 41 25.0	
	comp=N,996nm,0.4s						
BDRM				IAML		23 41 25.0	
	comp=E,751nm,0.7s						
BODT	**Bodrum**	**1.61**	**347**	P	**Pn**	**23 40 59.2**	**-1.7**
BODT				S	**Sn**	**23 41 20.8**	**-0.9**
BODT	**Bodrum**	**1.61**	**347**	PN	**Pn**	**23 40 59.1**	**-1.8**
AKAS	**Kas**	**1.67**	**63**	PN	**Pn**	**23 41 01.3**	**-0.5**
AKAS	**Kas**	**1.67**	**63**	*i* P	**Pn**	**23 41 01.0**	**-0.8**
AKAS				IAML		23 41 52.0	
	comp=E,260nm,0.8s						
AKAS				IAML		23 41 53.0	
	comp=N,434nm,0.6s						
YER	**Yerkesik**	**1.69**	**14**	PN	**Pn**	**23 41 02.0**	**-0.1**
FRMA	**Ierapetra Chan**	**1.73**	**255**	P	**Pn**	**23 41 02.4**	**-0.1**
NPS	**Neapolis**	**1.77**	**263**	P	**Pn**	**23 41 04.1**	**+1.0**
NPS				AML	AML	23 41 36.8	
	comp=N,2767μm,0.7s						
NPS				AML	AML	23 41 39.5	
	comp=E,3440μm,0.7s						
NPS	**Neapolis**	**1.77**	**263**	P	**Pn**	**23 41 04.0**	**+0.8**
NPS				S	**Sn**	**23 41 26.5**	**+0.7**
	comp=E,1μm,0.8s						
MULA	**Mugla, Merkez-**	**1.82**	**14**	*i* P	**Pb**	**23 41 05.4**	**-0.4**
MULA				*i* S	**Sg**	**23 41 33.0**	**+2.2**
MULA				IAML		23 41 38.0	
	comp=E,647nm,0.5s						
MULA				IAML		23 41 45.0	
	comp=N,376nm,0.6s						
LAST	**Lasithi**	**1.90**	**261**	P	**Pb**	**23 41 06.3**	**-0.9**
LAST				AML	AML	23 41 39.8	
	comp=N,1644μm,0.6s						
LAST				AML	AML	23 41 50.5	
	comp=E,2487μm,0.9s						
LAST	**Lasithi**	**1.90**	**261**	P	**Pn**	**23 41 05.2**	**+0.3**
LAST				S	**Sn**	**23 41 28.9**	**-0.1**
	comp=E,988nm,0.6s						
DDIM	**Aydin, Didim**	**2.00**	**348**	*i* P	**Pn**	**23 41 06.1**	**-0.2**
DDIM				*i* S	**Sn**	**23 41 31.7**	**+0.2**
DDIM				IAML		23 41 38.0	
	comp=E,628nm,0.8s						
DDIM				IAML		23 41 43.0	
	comp=N,786nm,0.7s						
CAEL	**Denizli, Camel**	**2.06**	**37**	*i* P	**Pb**	**23 41 08.4**	**-1.5**
CAEL				IAML		23 41 56.0	
	comp=N,880nm,1.2s						
CAEL				IAML		23 42 01.0	
	comp=E,803nm,0.9s						
SANT	**Santorini**	**2.07**	**296**	P	**Pn**	**23 41 06.8**	**-0.4**
SANT				AML	AML	23 41 38.4	
	comp=E,2415μm,0.5s						
SANT				AML	AML	23 41 41.1	
	comp=N,951μm,0.6s						
SANT	**Santorini**	**2.07**	**296**	PN	**Pn**	**23 41 06.6**	**-0.6**
THR8	**Santorini-Mono**	**2.07**	**297**	P	**Pn**	**23 41 06.5**	**-0.7**
THR6	**Thira Island,**	**2.10**	**295**	P	**Pn**	**23 41 07.5**	**-0.2**
THR2	**Thira island,**	**2.12**	**297**	P	**Pn**	**23 41 07.5**	**-0.4**
THR2	**Thira island,**	**2.12**	**297**	P	**Pn**	**23 41 07.6**	**-0.3**
THT2	**Imerovigli**	**2.12**	**297**	PN	**Pn**	**23 41 07.4**	**-0.5**
THR3	**Thira Island,**	**2.12**	**296**	P	**Pn**	**23 41 07.5**	**-0.4**
ELL	**Elmali**	**2.14**	**54**	PN	**Pn**	**23 41 08.6**	**+0.3**
TAVA	**DENIZLI_Tavas**	**2.17**	**25**	*i* P	**Pn**	**23 41 09.8**	**+1.0**
TAVA				*i* S	**Sg**	**23 41 45.4**	**+3.1**
TAVA				IAML		23 41 51.0	
	comp=N,414nm,0.5s						
TAVA				IAML		23 41 53.0	
	comp=E,438nm,0.5s						
HRKL	**Herakleio**	**2.18**	**266**	P	**Pn**	**23 41 10.3**	**+1.5**
HRKL				S	**Sb**	**23 41 38.2**	**-0.9**
	comp=E,139μm,0.8s						
HRKL	**Herakleio**	**2.18**	**266**	PN	**Pn**	**23 41 09.5**	**+0.7**
KSTL	**Kastelli Herak**	**2.21**	**266**	P	**Pn**	**23 41 07.8**	**-1.3**
KSTL				S	**Sn**	**23 41 32.8**	**-3.7**
GCAM	**G?zelcaml?**	**2.24**	**349**	PN	**Pn**	**23 41 09.1**	**-0.5**
GCAM	**G?zelcaml?**	**2.24**	**349**	*i* P	**Pn**	**23 41 08.0**	**-1.6**
GCAM				IAML		23 41 40.0	
	comp=E,279nm,0.4s						
GCAM				IAML		23 41 51.0	
	comp=N,238nm,0.6s						
AKUM	**Antalya-Kumluc**	**2.25**	**68**	*i* P	**Pn**	**23 41 10.3**	**+0.6**
AKUM				IAML		23 42 10.0	
	comp=N,113nm,1.1s						
AKUM				IAML		23 42 20.0	
	comp=E,88nm,1.0s						
GOLH	**Golhisar**	**2.27**	**39**	*i* P	**Pb**	**23 41 11.7**	**-1.8**
GOLH				IAML		23 42 01.0	
	comp=N,456nm,0.7s						
GOLH				IAML		23 42 04.0	
	comp=E,221nm,0.5s						
IDI	**Anoyia**	**2.36**	**266**	Pn	**Pn**	**23 41 11.9**	**+0.7**
	comp=E,20nm,0.3s,baz=79,slow=14,SNR=154						
IDI				Sn	**Sb**	**23 41 43.1**	**-1.1**
	comp=E,27nm,0.3s,baz=294,slow=22,SNR=4.7						
IDI	**Anoyia**	**2.36**	**266**	P	**Pn**	**23 41 12.1**	**+0.8**
IDI	**Anoyia**	**2.36**	**266**	P	**Pn**	**23 41 11.9**	**+0.7**
IDI	**Anoyia**	**2.36**	**266**	PN	**Pn**	**23 41 11.5**	**+0.3**
APE	**Apeiranthos**	**2.39**	**312**	P	**Pn**	**23 41 11.1**	**-0.7**
APE	**Apeiranthos**	**2.39**	**312**	PN	**Pn**	**23 41 10.9**	**-0.8**
APE	**Apeiranthos**	**2.39**	**312**	⇑P	**Pn**	**23 41 11.0**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**2.45**	**2**	PN	**Pn**	**23 41 11.9**	**-0.7**
SIVA	**Sivas**	**2.46**	**260**	P	**Pb**	**23 41 15.6**	**-1.1**
SIVA				AML	AML	23 42 10.9	
	comp=N,1996μm,0.7s						
SIVA				AML	AML	23 42 12.0	
	comp=E,2692μm,0.9s						
SIVA	**Sivas**	**2.46**	**260**	P	**Pb**	**23 41 15.3**	**-1.5**
TMBK	**Timbaki Herakl**	**2.49**	**261**	P	**Pb**	**23 41 15.5**	**-1.7**
KORT	**Korkueli**	**2.58**	**54**	PN	**Pn**	**23 41 15.6**	**+1.3**
DGB	**zmir**	**2.65**	**345**	*i* P	**Pn**	**23 41 14.4**	**-0.8**
DGB				IAML		23 41 51.0	
	comp=N,70nm,0.7s						
DGB				IAML		23 42 11.0	
	comp=E,75nm,0.8s						
ANTB	**Antalya**	**2.73**	**58**	PN	**Pn**	**23 41 17.5**	**+1.3**
BRDR	**BURDUR-Merkez**	**2.87**	**39**	*i* P	**Pn**	**23 41 19.4**	**+1.0**
BRDR				IAML		23 42 15.0	
	comp=N,97nm,0.8s						
BRDR				IAML		23 42 19.0	
	comp=E,209nm,1.1s						
BUCA	**Burdur, Bucak-**	**2.90**	**50**	*i* P	**Pn**	**23 41 20.9**	**+2.1**
BUCA				IAML		23 42 09.0	
	comp=N,90nm,0.7s						
BUCA				IAML		23 42 14.0	
	comp=E,111nm,0.5s						
ZEYE	**Izmir, Urla-Ze**	**2.92**	**340**	*i* P	**Pn**	**23 41 18.2**	**-0.7**
ZEYE				IAML		23 41 59.0	
	comp=E,98nm,0.3s						
ZEYE				IAML		23 42 00.0	
	comp=N,126nm,0.7s						
BLCB	**Balcova**	**2.94**	**349**	PN	**Pn**	**23 41 18.5**	**-0.7**
URLA	**Izmir**	**3.01**	**342**	PN	**Pn**	**23 41 18.7**	**-1.5**
URLA	**Izmir**	**3.01**	**342**	*i* P	**Pn**	**23 41 18.3**	**-1.9**
URLA				IAML		23 42 10.0	
	comp=E,70nm,0.9s						
URLA				IAML		23 42 22.0	
	comp=N,76nm,0.7s						
BASM	**Basmaki-Afyon**	**3.04**	**37**	PN	**Pn**	**23 41 20.7**	**+0.1**
MANT	**Manisa**	**3.06**	**12**	*i* P	**Pn**	**23 41 21.0**	**0.0**
MANT				IAML		23 42 05.0	
	comp=E,67nm,0.5s						
MANT				IAML		23 42 07.0	
	comp=N,59nm,0.9s						
GVDS	**Gavdos**	**3.08**	**259**	PN	**Pn**	**23 41 23.5**	**+2.4**
GVD	**Gavdhos**	**3.08**	**259**	PN	**Pn**	**23 41 23.2**	**+2.1**
IMMV	**Iera Moni Meta**	**3.09**	**270**	PN	**Pn**	**23 41 22.7**	**+1.5**
KULA	**Kula-Manisa**	**3.10**	**13**	PN	**Pn**	**23 41 21.9**	**+0.4**
KHAL	**Karahalli**	**3.19**	**25**	*i* P	**Pn**	**23 41 22.9**	**+0.2**
KHAL				IAML		23 42 23.0	
	comp=E,73nm,0.8s						
KHAL				IAML		23 42 26.0	
	comp=N,54nm,0.8s						
CHOS	**Chios island**	**3.20**	**335**	PN	**Pn**	**23 41 22.9**	**+0.1**
ISP	**Isparta**	**3.21**	**43**	PN	**Pn**	**23 41 23.6**	**+0.6**
KNDR	**Palaiochora Ch**	**3.34**	**267**	PN	**Pn**	**23 41 26.8**	**+2.1**
KZIL	**AFYON_Kizioren**	**3.35**	**34**	*i* P	**Pn**	**23 41 25.1**	**+0.1**
KZIL				IAML		23 42 32.0	
	comp=E,94nm,0.9s						
KZIL				IAML		23 42 39.0	
	comp=N,93nm,1.1s						
USAK	**Uak-Merkez**	**3.37**	**17**	*i* P	**Pn**	**23 41 25.1**	**0.0**
USAK				IAML		23 43 38.0	
	comp=E,38nm,4.2s						
AKHS	**Akhisar**	**3.38**	**1**	*i* P	**Pn**	**23 41 25.4**	**+0.2**
AKHS				IAML		23 42 13.0	
	comp=E,47nm,0.8s						
BAGO	**Egridir - ISPA**	**3.48**	**43**	*i* P	**Pn**	**23 41 27.5**	**+0.8**
ZEDA	**zmir-Bergama**	**3.51**	**351**	*i* P	**Pn**	**23 41 26.6**	**-0.5**
ZEDA				IAML		23 42 33.0	
	comp=E,60nm,0.7s						
ZEDA				IAML		23 42 34.0	
	comp=N,42nm,0.8s						
OSC1	**CSNet OBS 1**	**3.52**	**123**	P	**Pn**	**23 41 26.3**	**-0.8**
OSC1				S	**Sn**	**23 42 10.7**	**+2.0**
DEMI	**Demirci**	**3.62**	**12**	*i* P	**Pn**	**23 41 28.9**	**+0.2**
DEMI				IAML		23 42 20.0	
	comp=N,65nm,0.7s						
DEMI				IAML		23 42 20.0	
	comp=E,104nm,0.8s						
DKL	**Dikili**	**3.64**	**349**	PN	**Pn**	**23 41 28.7**	**-0.1**
SIMA	**Simav-Kutahya**	**3.71**	**15**	PN	**Pn**	**23 41 29.4**	**-0.5**
AKMS	**Akamas**	**3.77**	**96**	P	**Pn**	**23 41 30.0**	**-0.7**
AKMS				S	**Sn**	**23 42 15.6**	**+0.5**
AKMS				AML	AML	23 42 17.0	
	comp=E,1.4nm,0.5s						
AKMS				AML	AML	23 42 17.0	
	comp=E,1.4nm,0.5s						
AKMS				AML	AML	23 42 21.2	
	comp=E,1.4nm,0.7s						
AKMS				AML	AML	23 42 21.2	
	comp=E,1.4nm,0.7s						
GDZ	**Gediz**	**3.84**	**20**	*i* P	**Pn**	**23 41 31.1**	**-0.7**
GDZ				IAML		23 42 52.0	
	comp=E,24nm,1.2s						
GDZ				IAML		23 42 56.0	
	comp=N,29nm,1.1s						
STEP	**BALIKESIR_Sava**	**3.88**	**359**	*i* P	**Pn**	**23 41 32.5**	**+0.4**
STEP				IAML		23 42 26.0	
	comp=E,102nm,0.5s						
STEP				IAML		23 42 49.0	
	comp=N,116nm,0.7s						
KTHA	**Kythira Island**	**3.89**	**283**	PN	**Pn**	**23 41 32.9**	**+0.6**
ALFC	**Alefka**	**3.97**	**93**	⇑P	**Pn**	**23 41 32.8**	**-0.6**
ALFC				S	**Sn**	**23 42 20.3**	**+0.3**
ALFC				AML	AML	23 42 22.0	
	comp=N,1.2nm,0.5s						
ALFC				AML	AML	23 42 22.0	
	comp=N,1.2nm,0.5s						
ALFC				AML	AML	23 42 22.9	
	comp=N,1.2nm,0.4s						
ALFC				AML	AML	23 42 22.9	
	comp=N,1.2nm,0.4s						
NATA	**Nata**	**4.00**	**99**	P	**Pn**	**23 41 33.3**	**-0.5**
NATA				S	**Sn**	**23 42 21.9**	**+1.0**
SIGR	**SIGRI**	**4.01**	**338**	PN	**Pn**	**23 41 33.8**	**-0.1**
MATC	**Matruh**	**4.16**	**186**	P	**Pn**	**23 41 36.9**	**+0.9**
	baz=188						
LEF	**Lefka**	**4.21**	**94**	⇑P	**Pn**	**23 41 35.4**	**-1.3**
SZAC	**Souni**	**4.26**	**98**	P	**Pn**	**23 41 36.8**	**-0.6**
SZAC				S	**Sn**	**23 42 27.3**	**+0.1**
SZAC				AML	AML	23 42 29.9	
	comp=N,1.2nm,0.8s						
SZAC				AML	AML	23 42 29.9	
	comp=N,1.2nm,0.8s						
SZAC				AML	AML	23 42 30.2	
	comp=N,1.5nm,0.4s						
SZAC				AML	AML	23 42 30.2	
	comp=N,1.5nm,0.4s						
OSC2	**CSNet OBS 4**	**4.44**	**122**	P	**Pn**	**23 41 39.9**	**+0.1**
SLUM	**Salum**	**4.53**	**209**	P	**Pn**	**23 41 41.7**	**+0.7**
	baz=210						
ASGA	**Asgata**	**4.55**	**97**	P	**Pn**	**23 41 40.5**	**-0.8**
CSS	**Mathiatis**	**4.59**	**95**	⇓P	**Pn**	**23 41 40.7**	**-1.1**
ATHAL	**Athalassa**	**4.62**	**93**	P	**Pn**	**23 41 42.1**	**-0.2**
MVOU	**Mavrovouni**	**4.83**	**94**	⇓P	**Pn**	**23 41 44.2**	**-0.9**
HMYD	**Mayadein**	**6.23**	**155**	P	**Pn**	**23 42 03.9**	**-0.5**
	baz=156						
BRTR	**Keskin Array B**	**6.29**	**46**	Pn	**Pn**	**23 42 06.5**	**+1.1**
	comp=N,0.5nm,0.3s,baz=312,slow=6.0,SNR=15						
BRTR				Sn	**Sn**	**23 43 17.8**	**+0.3**
	comp=N,0.4nm,0.3s,baz=216,slow=28,SNR=4.4						
KOT	**Kottamia**	**6.52**	**147**	P	**Pn**	**23 42 07.6**	**-0.9**
	baz=148						
KOT				S	**Sn**	**23 43 18.1**	**-4.8**
	baz=148						
SWA2		**6.53**	**198**	P	**Pn**	**23 42 09.2**	**+0.6**
	baz=199						
SWA2				S	**Sn**	**23 43 21.3**	**-1.8**
	baz=199						
HHAG	**Hagoal**	**6.62**	**145**	P	**Pn**	**23 42 09.0**	**-0.9**
	baz=147						
HSAF	**As Saff**	**6.67**	**150**	P	**Pn**	**23 42 09.8**	**-0.8**
	baz=151						
DQRL	**Deir Qamar**	**6.68**	**103**	*e*P	**Pn**	**23 42 10.3**	**-0.4**
RYAN	**Fayoum**	**6.74**	**161**	P	**Pn**	**23 42 11.5**	**+0.1**
	baz=162						
GLL	**Jalalah**	**6.77**	**149**	P	**Pn**	**23 42 11.2**	**-0.8**
	baz=151						
MMAI	**Mount Meron Ar**	**6.79**	**109**	Pn	**Pn**	**23 42 10.5**	**-1.7**
	comp=N,12nm,0.3s,baz=310,slow=13,SNR=104						
MMAI				Sn	**Sn**	**23 43 28.5**	**-1.2**
	comp=N,3.9nm,0.3s,baz=300,slow=21,SNR=5.1						
MMAI				LR	LR	23 46 18.0	
	comp=N,71nm,20.8s,baz=255,slow=51						
QRWL	**Qaraoun**	**6.82**	**104**	*e*P	**Pn**	**23 42 11.0**	**-1.6**
RCY	**Rachaya**	**6.96**	**104**	*e*P	**Pn**	**23 42 13.1**	**-1.5**
SUZ	**Suez**	**7.07**	**141**	P	**Pn**	**23 42 15.4**	**-0.6**
	baz=143						
VTS	**Vitosha**	**7.94**	**335**	⇓P	**Pn**	**23 42 31.4**	**+3.5**
PLVB	**Pleven**	**8.25**	**344**	⇓P	**Pn**	**23 42 34.9**	**+2.8**
HFRF	**Wahat Farafira**	**8.33**	**177**	P	**Pn**	**23 42 33.3**	**0.0**
	baz=177						
EIL	**Elat**	**8.39**	**132**	Pn	**Pn**	**23

comp=N,3.4nm,0.5s
CLL Collm 19.04 331 *i* P **Pn** **23 44 56.0 +0.7**
CLL *i* sP **sP** **23 44 59.3 +1.2**
comp=E,8.0nm,1.5s
CLL *e* 23 45 04.0
BELG Belogornoye 22.01 34 P **P** **23 45 25.9 -0.8**
comp=E,8.7nm,0.7s,baz=217,slow=15,SNR=3.3
GEYT Allbeck 24.40 75 P **P** **23 45 50.7 -0.3**
comp=E,1.3nm,0.4s,baz=270,slow=10,SNR=2.1
ESDC Sonseca Array 25.41 289 P **P** **23 45 59.9 -0.3**
comp=E,3.0nm,0.7s,baz=82,slow=9.3,SNR=22
FINES FINESS Array B 25.99 358 P **P** **23 46 03.3 -1.8**
comp=E,0.8nm,0.7s,baz=153,slow=9.4,SNR=4.7
HFS Hagfors 26.29 344 P **P** **23 46 06.8 -1.0**
comp=E,3.0nm,0.7s,baz=153,slow=12,SNR=5.9
AKTO Aktyubinsk 26.47 46 P **P** **23 46 09.8 +0.2**
comp=E,1.4nm,0.5s,baz=256,slow=11,SNR=4.5
NOA NORSAR Array B 27.67 343 P **P** **23 46 18.8 -1.5**
comp=E,1.3nm,1.1s,baz=144,slow=9.5,SNR=1.5
NOA LR LR 23 59 17.0
comp=E,30nm,18.7s,baz=310,slow=41
TORD Torodi Ar. Bea 32.36 233 P **P** **23 47 02.6 +0.4**
comp=E,1.9nm,0.4s,baz=34,slow=8.3,SNR=36
ARCES ARCESS Array B 34.12 359 P **P** **23 47 14.9 -2.1**
comp=E,2.9nm,0.9s,baz=168,slow=8.3,SNR=6.4
MKAR Makanchi Array 41.81 57 P **P** **23 48 22.0 -0.2**
comp=E,0.8nm,0.8s,baz=270,slow=8.4,SNR=14
SONM Songino Array 57.62 51 P **P** **23 50 22.3 -0.4**
comp=E,0.6nm,0.6s,baz=286,slow=7.4,SNR=6.7
YKA Yellowknife Ar 77.77 343 P **P** **23 52 29.5 +0.2**
comp=E,0.1nm,0.3s,baz=41,slow=5.8,SNR=2.9
ILAR Eielson Array 79.98 358 P **P** **23 52 42.7 +1.2**
comp=E,0.2nm,0.5s,baz=341,slow=4.8,SNR=4.4

PGC 11 23:41:48.1±1.2, 50.70N×130.52W, h10km, MLSn3.2/16, Mw3.8/16, 218km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.52**	**91**	Pn	Pn	23 42 13.3	-2.0
HOLB				Sn	Sn	23 42 31.2	-4.0
HG4B	**Hotspring**	**1.66**	**345**	Pn	Pn	23 42 14.0	-3.2
HG4B				Sn	Sn	23 42 34.1	-4.5
PHC	**Port Hardy**	**1.96**	**88**	Pn	Pn	23 42 19.7	-1.7
PHC				Sn	Sn	23 42 42.1	-3.9
BNB	**Barry Inlet**	**2.03**	**338**	Pn	Pn	23 42 19.8	-2.6
BNB				Sn	Sn	23 42 43.6	-4.4
BBB	**Bella Bella**	**2.12**	**44**	Pn	Pn	23 42 21.5	-2.0
BBB				Sn	Sn	23 42 46.4	-3.5
MAYB	**Maynard**	**2.15**	**97**	Pn	Pn	23 42 22.5	-1.6
FHRB	**Fair Harbour**	**2.27**	**105**	Pn	Pn	23 42 24.1	-1.5
EDB	**Eliza Dome**	**2.33**	**109**	Pn	Pn	23 42 24.7	-1.7
EDB				Sn	Sn	23 42 50.8	-4.2
WOSB	**Woss**	**2.58**	**100**	Pn	Pn	23 42 28.8	-1.2
MOBC	**Moresby Island**	**2.61**	**340**	Sn	Sn	23 42 58.5	-3.7
DIB	**Dawson Inlet,**	**2.79**	**335**	Pn	Pn	23 42 31.0	-1.8
DIB				Sn	Sn	23 43 03.7	-2.7
VIB	**Van Inlet**	**2.85**	**335**	Pn	Pn	23 42 31.8	-2.0
NCRB	**Newcastle Ridg**	**2.86**	**94**	Pn	Pn	23 42 32.4	-1.5
GDR	**Gold River**	**3.02**	**106**	Pn	Pn	23 42 34.5	-1.5
GRNB	**Grenville Isla**	**3.17**	**6**	Pn	Pn	23 42 36.6	-1.5
CBB	**Campbell River**	**3.36**	**99**	Pn	Pn	23 42 40.0	-0.7
CBB				Sn	Sn	23 43 17.5	-3.2
BTB	**Buttle Lake**	**3.44**	**109**	Pn	Pn	23 42 40.4	-1.6
KITB	**Kitimat**	**3.58**	**18**	Pn	Pn	23 42 41.8	-1.8
TXB	**Texada**	**4.03**	**102**	Pn	Pn	23 42 49.2	-0.6
MGB	**Mount Grey**	**4.13**	**112**	Pn	Pn	23 42 50.6	-0.8
SHB	**Sechelt**	**4.41**	**102**	Sn	Sn	23 43 44.1	-2.5
UBRB	**Upper Baezaeko**	**4.56**	**59**	Pn	Pn	23 42 57.0	-0.2
UBRB				Sn	Sn	23 43 48.7	-1.5
FSB	**Fort Saint Jam**	**5.34**	**42**	Pn	Pn	23 43 07.7	-0.2
MBW	**Mount Baker**	**5.90**	**106**	Pn	Pn	23 43 17.4	+1.6
JCW	**Jim Creek**	**6.13**	**111**	Pn	Pn	23 43 20.1	+1.4
B06A	**Marblemount**	**6.26**	**107**	Pn	Pn	23 43 21.6	+1.2
RPW	**Rockport**	**6.27**	**108**	Pn	Pn	23 43 22.3	+1.6
LON	**Longmire**	**6.98**	**121**	Pn	Pn	23 43 32.2	+1.8
BMBC	**Bull Mountain**	**7.34**	**40**	Pn	Pn	23 43 35.8	+0.5
NBC5	**NorthernBC 5**	**8.24**	**31**	Pn	Pn	23 43 47.9	+0.2

*ATH **11** 23:45:01.8, 41°.43N×20°.39E, h10km±5km, ML2.5/2, Error ellipse: s-maj=9.8km s-min=1.2km az=12.0*
*TIR **11** 23:45:01.9, 41°.31N×20°.31E, h2km±2km, Md2.8*
*SKO **11** 23:45:02.1, 41°.22N×20°.26E, h20km*
ISC 11 23:45:03.1±1.2, 41°.31N±0°.02×20°.30E±0°.03, h15km±10km, n22, σ1§20/33, 1C, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.33**	**276**	P	**Pb**	**23 45 09.5**	**-1.1**
TIR				S	**Sb**	**23 45 15.2**	**-0.5**
TIR				AML	AML	23 45 15.8	
	comp=N,2785μm,0.3s						
TIR				AML	AML	23 45 16.7	
	comp=E,1781μm,0.2s						
TIR	**Tirane**	**0.33**	**276**	P	**Pb**	**23 45 09.5**	**-1.1**
	baz=276						
TIR				S	**Sb**	**23 45 15.3**	**-0.4**
	baz=276						
TIR	**Tirane**	**0.33**	**276**	⇑*i* Pg	**Pg**	**23 45 09.3**	**-0.5**
PHP	**Peshkopia**	**0.39**	**16**	P	**Pb**	**23 45 10.4**	**-1.3**
	baz=14						
PHP				S	**Sb**	**23 45 16.3**	**-1.2**
	baz=14						
OHR	**Ohrid**	**0.43**	**118**	*i* Pg	**Pb**	**23 45 11.0**	**-1.3**
OHR				*i* Sg	**Sb**	**23 45 17.9**	**-0.7**
OHR				*e*Lg	Lg	23 45 17.9	
	comp=N,122nm,0.4s						
OHR				*e*Lg	Lg	23 45 18.2	
	comp=E,149nm,0.6s						
KBN	**Korca**	**0.78**	**152**	P	**Pb**	**23 45 18.3**	**-0.1**
	baz=152						
KBN				S	**Sn**	**23 45 30.5**	**-0.6**
	baz=152						
PUK	**Puka**	**0.79**	**338**	P	**Pb**	**23 45 18.1**	**-0.4**
	baz=337						
PUK				S	**Sn**	**23 45 31.0**	**-0.4**
	baz=337						
FNA	**Florina**	**0.97**	**123**	P	**Pg**	**23 45 20.4**	**-1.4**
FNA				S	**Sb**	**23 45 33.9**	**-0.3**
FNA				AML	AML	23 45 37.9	
	comp=N,639μm,0.3s						
FNA				AML	AML	23 45 38.0	
	comp=E,313μm,0.3s						
FNA	**Florina**	**0.97**	**123**	*i* Pg	**Pb**	**23 45 20.9**	**-0.7**
FNA				*i* Sg	**Sn**	**23 45 35.1**	**-0.6**
ULC	**Ulcinj**	**1.02**	**310**	*i* Pg	**Pg**	**23 45 21.2**	**-1.6**
NEST	**Nestorio**	**1.06**	**147**	P	**Pn**	**23 45 22.7**	**-0.7**
BCI	**Bajram Curri**	**1.07**	**351**	P	**Pn**	**23 45 24.4**	**+0.9**
	baz=351						
BCI				S	**Sn**	**23 45 40.3**	**+2.2**
	baz=351						
SKO	**Skopje**	**1.08**	**52**	*i* Pn	**Pn**	**23 45 24.9**	**+1.3**
LSK	**Leskovik**	**1.18**	**169**	P	**Pg**	**23 45 25.2**	**-0.6**
	baz=169						
LSK				S	**Sn**	**23 45 43.2**	**+2.3**
	baz=169						
PENT	**Pentalofos**	**1.28**	**150**	P	**Pg**	**23 45 27.5**	**-0.3**
PEJK	**Peje**	**1.33**	**359**	*i* Pn	**Pg**	**23 45 29.1**	**+0.5**
PDG	**Podgorica**	**1.36**	**325**	*i* Pn	**Pb**	**23 45 27.6**	**-0.6**
GJIK	**Gjilan**	**1.43**	**36**	*i* Pn	**Pg**	**23 45 29.4**	**-1.1**
SRN	**Sarande**	**1.45**	**189**	P	**Pg**	**23 45 31.0**	**+0.1**
	baz=190						
SRN				S	**Sg**	**23 45 52.8**	**+3.1**
	baz=190						
STIP	**Stip**	**1.47**	**74**	*i* Pn	**Pg**	**23 45 32.0**	**+0.7**
KPRO	**Kipourio**	**1.58**	**149**	P	**Pb**	**23 45 30.7**	**-1.3**
SMRK	**Smrekonice**	**1.63**	**17**	*i* Pn	**Pg**	**23 45 34.2**	**-0.2**

*IDC **11** 23:56:34.8±1.4, 6°.46S×128°.10E, h335km±16km, mb3.4/5, mb1 3.5/10, mb1mx3.3/29, mbtmp4.2/10, Error ellipse: s-maj=21.9km s-min=9.5km az=76.0*
ISC 11 23:56:35.4±0.7, 6°.47S±0°.07×128°.1E±0°.1, h353km, n10, σ1§47/14, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.74**	**229**	P	**Pn**	**23 58 03.1**	**-0.4**
	35nm,0.3s,baz=73,slow=2.2,SNR=36						
BATI				S	**S**	**23 59 12.4**	**-2.4**
	7.8nm,0.3s,baz=96,slow=21,SNR=9.7						
SIJI	**Sorong**		**6.40 30**	P	**Pn**	**23 58 08.5**	**-2.5**
	1.3nm,0.3s,baz=221,slow=22,SNR=6.8						
SIJI				S	S	23 59 18.4	-10
	1.3nm,0.3s,baz=233,slow=20,SNR=2.4						
FITZ	**Fitzroy Crossi**		**11.80 191**	P	**P**	**23 59 14.8**	**0.0**
	0.5nm,0.3s,baz=30,slow=9.1,SNR=11						
FITZ				S	**S**	**00 01 26.7**	**+0.4**
	0.2nm,0.3s,baz=298,slow=17,SNR=2.2						
WRA	**Warramunga Arr**		**14.71 156**	P	**Pn**	**23 59 47.6**	**-1.2**
	1.8nm,0.3s,baz=336,slow=13,SNR=37						
WRA				S	**S**	**00 02 24.1**	**-1.3**
	0.4nm,0.3s,baz=336,slow=20,SNR=9.7						
ASAR	**Alice Springs**		**17.99 162**	P	**P**	**00 00 23.6**	**+1.4**
	2.4nm,0.3s,baz=338,slow=9.3,SNR=90						
ASAR				S	**S**	**00 03 31.1**	**+0.9**
	0.3nm,0.3s,baz=351,slow=25,SNR=13						
STKA	**Stephens Creek**		**28.25 155**	P	**P**	**00 01 58.8**	**+1.4**
	2.0nm,0.5s,baz=337,slow=8.8,SNR=7.2						
KSRS	**Korea Array**		**43.69 360**	P	**P**	**00 04 07.5**	**+0.8**
	1.1nm,0.5s,baz=180,slow=9.8,SNR=2.4						
SONM	**Songino Array**		**57.36 343**	P	**P**	**00 05 49.2**	**+1.2**
	1.2nm,0.6s,baz=165,slow=7.4,SNR=10						
MKAR	**Makanchi Array**		**66.75 328**	P	**P**	**00 06 50.8**	**+1.0**
	1.1nm,0.5s,baz=121,slow=8.1,SNR=33						
ZALV	**Zalesovo Beam**		**70.28 335**	P	**P**	**00 07 11.6**	**+0.4**
	0.5nm,0.4s,baz=126,slow=7.5,SNR=4.1						

*IDC **12** 00:02:05.3±1.3, 12°.03N×86°.45W, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.5/39, mbtmp3.5/6, ML3.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/33, Error ellipse: s-maj=74.2km s-min=14.6km az=52.0*
*INET **12** 00:02:06.8, 11°.23N×87°.02W, h8km, MW3.6*
*UCR **12** 00:02:10.4±0.9, 10°.70N×86°.87W, h16km±9km, MW3.4*
ISC 12 00:02:06.1±1.1, 11°.1N±0°.1×87°.13W±0°.10, h30km, n16, σ1§79/17, mb3.4/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HZTE	**Horizontes, Gu**	**1.55**	**104**	*e*P	**Pn**	**00 02 32.7**	**+1.0**
SAJU	**San Juanillo,**	**1.73**	**127**	*e*P	**Pn**	**00 02 33.4**	**-0.8**
GRZA	**Playa Garza**	**1.89**	**129**	*e*P	**Pn**	**00 02 35.3**	**-1.0**
PLVR	**Palo Verde**	**1.90**	**113**	*e*P	**Pn**	**00 02 37.4**	**+0.8**
CUI	**Cuipilapa**	**1.98**	**103**	*e*P	**Pn**	**00 02 38.5**	**+0.9**
JTS	**Las Juntas de**	**2.29**	**111**	Pn	**Pn**	**00 02 42.6**	**+0.9**
	1.5nm,0.3s,baz=313,slow=19,SNR=5.3						
JTS				Sn	**Sn**	**00 03 08.4**	**-0.6**
	6.7nm,0.3s,baz=192,slow=23,SNR=3.7						
JTS				Lg	Lg	00 03 18.4	
	5.8nm,0.3s,baz=237,slow=22,SNR=3.9						
JTS	**Las Juntas de**	**2.29**	**111**	*e*P	**Pn**	**00 02 42.7**	**+0.9**
LAFE	**Finca La Fe, P**	**2.53**	**120**	*e*P	**Pn**	**00 02 45.2**	**0.0**
ESPN	**Las Esperanzas**	**2.97**	**68**	*e*P	**Pb**	**00 02 58.1**	**-0.3**
RIMA	**Rio Macho**	**3.48**	**112**	*e*P	**Pn**	**00 03 00.8**	**+2.4**
CMIG	**Matias Romero**	**9.59**	**309**	Pn	**Pn**	**00 04 23.6**	**+1.4**
	0.4nm,0.3s,baz=122,slow=13,SNR=2.0						
TXAR	**Lajitas Array**	**23.81**	**322**	P	**P**	**00 07 17.5**	**+0.9**
	1.0nm,0.9s,baz=134,slow=9.3,SNR=6.5						
TXAR				PcP	**PcP**	**00 11 03.5**	**+3.8**
	0.3nm,0.7s,baz=108,slow=2.9,SNR=2.6						
LPIG	**La Paz**	**25.55**	**303**	LR	LR	00 18 12.6	
	comp=Z,34nm,21.4s,baz=210,slow=38						
PDAR	**Pinedale Array**	**37.10**	**332**	P	**P**	**00 09 13.9**	**-0.2**
	0.3nm,0.4s,baz=129,slow=9.4,SNR=4.4						
ULM	**Lac du Bonnet**	**39.69**	**351**	P	**P**	**00 09 31.6**	**-3.8**
	1.7nm,0.6s,baz=173,slow=5.8,SNR=4.8						
YKA	**Yellowknife Ar**	**54.98**	**345**	P	**P**	**00 11 33.4**	**-0.9**
	0.3nm,0.8s,baz=131,slow=8.8,SNR=6.4						

*IDC **12** 00:20:13.3±4.8, 33°.95N×69°.39E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/47, mbtmp3.6/4, ML3.4/1, MS3.8/4, Ms1 3.8/4, ms1mx3.0/40, Error ellipse: s-maj=114.2km s-min=67.2km az=151.0*
*NDI **12** 00:20:14.7±1.8, 33°.81N×69°.20E, h33km, ML3.9*
ISC 12 00:20:13.6±1.2, 33°.50N±0°.06×69°.3E±0°.1, h26km, n21, σ2§42/23, mb3.6/3, MS3.9/3, 1C-3D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.46**	**100**	*e*P	Pn	00 21 40.0	+6.6
THN				*e*S	**Sn**	**00 22 39.5**	**+4.1**
DHRM	**DHARAMSHALA**	**5.99**	**100**	*e*P	**Pn**	**00 21 43.1**	**+2.3**
DHRM				*e*S	**Sn**	**00 22 49.3**	**+0.7**
SMLA	**Simla**	**7.04**	**108**	*e*P	**Pn**	**00 21 58.6**	**+3.7**
SMLA				IAML		00 24 08.6	
	comp=N,111nm,0.9s						
SMLA				IAML		00 24 16.3	
	comp=E,85nm,1.1s						
KUDL	**Kundal**	**8.14**	**129**	*e*P	**Pn**	**00 22 13.4**	**+3.3**
KUDL				*e*S	**Sn**	**00 23 40.8**	**-0.6**
KK31	**Karatay Array**	**9.63**	**5**	⇓Pn	**Pn**	**00 22 30.9**	**+0.3**
	comp=E,1.2nm,0.5s,baz=195,slow=14,SNR=17						
KK31				⇑Sn	**Sn**	**00 24 16.5**	**-1.3**
	comp=E,4.6nm,0.8s,baz=198,slow=22,SNR=4.1						
AAK	**Ala-Archa**	**9.98**	**22**	⇓Pn	**Pn**	**00 22 36.0**	**+0.5**
	comp=E,4.8nm,0.7s						
AAK				⇓Sn	**Sn**	**00 24 24.8**	**-1.8**
	comp=E,24nm,1.1s						
BHUJ	**Bhuj**	**10.21**	**178**	*e*S	**Sn**	**00 24 31.4**	**-0.9**
BHPL	**Bhopal**	**12.45**	**143**	*e*P	**Pn**	**00 23 12.0**	**+2.8**
BHPL				*e*S	**Sn**	**00 25 21.6**	**-5.5**
KKN	**Kakani**	**14.85**	**108**	*e*P	**Pn**	**00 23 40.6**	**-1.5**
	comp=E,28nm,0.5s						
PKIN	**Phulchoki**	**15.04**	**109**	*e*P	**Pn**	**00 23 43.2**	**-1.5**
	comp=E,11nm,0.4s						
PKI	**Pulchoki**	**15.05**	**109**	*e*P	**Pn**	**00 23 43.2**	**-1.7**
	comp=E,23nm,0.6s						
GUN	**Gumba**	**15.27**	**107**	*e*P	**Pn**	**00 23 45.8**	**-2.1**
RAMN	**Ramite**	**16.27**	**109**	*e*P	**Pn**	**00 23 59.3**	**-1.4**
	comp=E,10nm,0.5s						
MKAR	**Makanchi Array**	**16.53**	**33**	Pn	**Pn**	**00 24 01.9**	**-1.7**
	comp=E,0.1nm,0.3s,baz=217,slow=14,SNR=17						
MKAR				LR	LR	00 31 05.3	
	comp=E,95nm,21.7s,baz=212,slow=40						
TAPN	**Taplejung**	**16.98**	**106**	*e*P	**Pn**	**00 24 08.3**	**-1.4**
ZALV	**Zalesovo Beam**	**23.20**	**24**	P	**P**	**00 25 16.6**	**-1.7**
	comp=E,0.9nm,0.3s,baz=213,slow=11,SNR=2.8						
SONM	**Songino Array**	**31.21**	**52**	P	**P**	**00 26 31.6**	**+0.7**
	comp=E,0.4nm,0.9s,baz=267,slow=10,SNR=2.8						
KEST	**Kesra**	**48.75**	**290**	LR	LR	00 50 40.7	
	comp=E,136nm,21.2s,baz=18,slow=38						
ESDC	**Sonseca Array**	**57.68**	**299**	LR	LR	01 01 02.8	
	comp=E,53nm,18.5s,baz=330,slow=43						
DBIC	**Dimbokro**	**73.18**	**267**	LR	LR	01 07 41.1	
	comp=E,167nm,18.0s,baz=10,slow=39						
YKA	**Yellowknife Ar**	**84.28**	**2**	P	**P**	**00 32 44.4**	**+1.6**
	comp=E,0.4nm,0.9s,baz=354,slow=6.1,SNR=4.0						

*NAO **12** 00:20:11.7±2.1, 72°.23N×1°.78E, ML3.4*
*IDC **12** 00:20:13.7±0.8, 72°.29N×2°.19E, h0km, mb3.5/7, mb1 3.7/13, mb1mx3.5/42, mbtmp3.6/13, ML3.1/6, MS3.2/14, Ms1 3.2/14, ms1mx3.0/50, Error ellipse: s-maj=20.3km s-min=13.5km az=63.0*
*BER **12** 00:20:15.0±3.4, 72°.38N×1°.60E, h10km, ML2.4, ML2.7(DNK), Confirmed Earthquake*
*DNK **12** 00:20:17.0±1.5, 72°.70N×0°.81E, h0km±39km, ML2.7*
ISC 12 00:20:14.1±0.6, 72°.32N±0°.06×2°.38E±0°.06, h10km, n66, σ2§20/71, mb3.5/7, MS3.3/7, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**3.69**	**254**	LR	LR	00 22 01.6	
	comp=Z,61nm,20.1s,baz=76,slow=30						
BJO1	**Bjornoya**	**5.23**	**58**	Pn	**Pn**	**00 21 32.9**	**+0.7**
BJO1	**Bjornoya**	**5.23**	**58**	*e*P	**Pn**	**00 21 32.9**	**+0.7**
LOF	**Lofoten**	**5.66**	**133**	*e*P	**Pn**	**00 21 40.3**	**+2.2**
LOF				*e*S	**Sn**	**00 22 40.2**	**-2.7**
LOF				IAML		00 22 50.2	
	comp=Z,7.9nm,1.0s						
HSPB	**Hornsund (broa**	**5.84**	**30**	Pn	**Pn**	**00 21 41.0**	**+0.5**
HSPB	**Hornsund (broa**	**5.84**	**30**	*e*P	**Pn**	**00 21 40.6**	**+0.1**
TRO	**Tromso**	**6.04**	**109**	*e*P	**Pn**	**00 21 44.8**	**+1.6**
TRO				IAML		00 22 50.6	
	comp=Z,13nm,0.4s						
STEI	**Steigen**	**6.21**	**129**	*e*P	**Pn**	**00 21 47.5**	**+1.8**
STEI				*e*S	**Sn**	**00 22 54.0**	**-2.5**
STEI				IAML		00 22 58.1	
	comp=Z,5.8nm,0.5s						
BRBA	**Barentsburg A**	**6.49**	**22**	Pn	**Pn**	**00 21 51.2**	**+1.7**
BRBA	**Barentsburg A**	**6.49**	**22**	*e*P	**Pn**	**00 21 48.6**	**-0.9**
JETT	**Jettan, Norway**	**6.51**	**106**	*e*P	**Pn**	**00 21 50.9**	**+1.0**
JETT				*e*S	**Sn**	**00 23 00.1**	**-3.9**
BRBB	**Barentsburg B**	**6.52**	**22**	Pn	**Pn**	**00 21 51.9**	**+2.0**
BRBB	**Barentsburg B**	**6.52**	**22**	*e*P	**Pn**	**00 21 50.4**	**+0.5**
FAUS	**Fauske**	**6.66**	**132**	*e*P	**Pn**	**00 21 52.8**	**+1.0**
FAUS				*e*S	**Sn**	**00 23 01.9**	**-5.7**
FAUS				IAML		00 23 11.1	
	comp=Z,5.4nm,0.5s						
DBG	**Daneborg**	**6.78**	**298**	Pn	**Pn**	**00 21 49.0**	**-4.4**
DBG				Sn	Sn	00 22 55.9	-15
DBG	**Daneborg**	**6.78**	**298**	*e*P	**Pn**	**00 21 48.7**	**-4.6**
DBG				*e*S	Sn	00 22 55.2	-15
DBG				IAML		00 23 14.5	
	comp=Z,1.5nm,0.3s						
DBG	**Daneborg**	**6.78**	**298**	*e*	Pn	00 21 47.2	-6.2
	baz=101,slow=10						
DBG				*i* P	**Pn**	**00 21 48.8**	**-4.6**
DBG				*i* S	Sn	00 22 56.3	-14
DBG				IAML		00 23 14.5	
	comp=Z,1.5nm,0.3s						
SPA0	**Spitsbergen Ar**	**6.85**	**25**	Pn	**Pn**	**00 21 54.2**	**-0.2**
	baz=201,slow=22						
SPA0	**Spitsbergen Ar**	**6.85**	**25**	Pn	**Pn**	**00 21 54.2**	**-0.2**
	baz=201,slow=22						
SPITS	**Spitsbergen Ar**	**6.85**	**25**	Pn	**Pn**	**00 21 54.5**	**0.0**
	baz=210,slow=16,SNR=47						
SPITS				Sn	**Sn**	**00 23 10.2**	**-2.1**
	baz=172,slow=19,SNR=1.7						
SPITS				LR	LR	00 23 50.4	
	comp=Z,134nm,18.6s,baz=260,slow=31						
KIF	**Kilpisjarvi**	**6.95**	**110**	Pn	**Pn**	**00 21 56.7**	**+1.0**
KIF				Sn	**Sn**	**00 23 10.3**	**-4.4**
KIF	**Kilpisjarvi**	**6.95**	**110**	*e*P	**Pn**	**00 21 56.9**	**+1.2**
KONS	**Konsvik**	**6.96**	**142**	*e*P	**Pn**	**00 21 57.6**	**+1.7**
KONS				IAML		00 23 12.6	
	comp=Z,7.7nm,0.9s						
HAMF	**Hammerfest**	**6.97**	**94**	Pn	**Pn**	**00 21 55.8**	**-0.3**
HAMF	**Hammerfest**	**6.97**	**94**	*e*P	**Pn**	**00 21 55.9**	**-0.2**
HAMF				IAML		00 23 21.7	
	comp=Z,6.1nm,0.6s						
KBS	**Kingsbay**	**7.04**	**15**	Pn	**Pn**	**00 21 58.6**	**+1.6**
KBS	**Kingsbay**	**7.04**	**15**	*e*P	**Pn**	**00 21 56.3**	**-0.6**
KBS	**Kingsbay**	**7.04**	**15**	*i* P	**Pn**	**00 21 57.3**	**+0.3**
STOK	**Stokkvaagen**	**7.09**	**143**	*e*P	**Pn**	**00 21 56.9**	**-0.8**
DAG	**Danmarks Havn**	**7.13**	**318**	*i* P	**Pn**	**00 21 53.4**	**-4.8**
DAG				*i* S	Sn	00 23 04.5	-15
DAG	**Danmarks Havn**	**7.13**	**318**	*e*P	**Pn**	**00 21 53.7**	**-4.5**
DAG				*e*S	Sn	00 23 04.0	-15
DAG				IAML		00 23 07.7	
	comp=Z,10.0nm,0.4s						
DAG	**Danmarks Havn**	**7.13**	**318**	*i* P	**Pn**	**00 21 53.5**	**-4.8**
DAG				*i* S	Sn	00 23 04.6	-15
DAG				IAML		00 23 07.7	
	comp=Z,10.0nm,0.4s						
HOPEN	**Hopen**	**7.35**	**45**	*e*P	**Pn**	**00 22 02.3**	**+1.0**
MOR8	**Moi Rana**	**7.50**	**139**	*e*P	**Pn**	**00 22 05.4**	**+2.0**
MOR8				IAML		00 23 27.6	
	comp=Z,7.9nm,0.4s						
KTK1	**Kautokeino**	**7.65**	**106**	*e*P	**Pn**	**00 22 07.4**	**+2.0**
KTK1				IAML		00 23 30.0	
	comp=Z,2.7nm,0.6s						
SCO	**Scoresbysund**	**7.96**	**268**	*i* P	**Pn**	**00 22 07.1**	**-2.5**
SCO	**Scoresbysund**	**7.96**	**268**	*i* P	**Pn**	**00 22 07.1**	**-2.5**
SCO	**Scoresbysund**	**7.96**	**268**	*i* P	**Pn**	**00 22 07.1**	**-2.5**
ARCES	**ARCESS Array B**	**8.04**	**99**	Pn	**Pn**	**00 22 11.2**	**+0.5**
	baz=305,slow=11,SNR=27						
ARCES				Sn	**Sn**	**00 23 38.0**	**-3.6**
	baz=305,slow=19,SNR=1.4						
ARCES				LR	LR	00 25 12.0	
	comp=Z,79nm,21.0s,baz=260,slow=37						
ARA0	**ARCESS Array S**	**8.04**	**99**	Pn	**Pn**	**00 22 11.3**	**+0.6**
	baz=304,slow=11						
ARA0				Sn	**Sn**	**00 23 38.9**	**-2.7**
	baz=292,slow=18						
ARA0	**ARCESS Array S**	**8.04**	**99**	Pn	**Pn**	**00 22 11.3**	**+0.6**
	baz=304,slow=11						
ARA0				Sn	**Sn**	**00 23 38.9**	**-2.7**
	baz=292,slow=18						
ARA0				IAML		00 23 53.8	
	comp=Z,2.1nm,0.8s						
HEFF	**Hetta**	**8.14**	**108**	*e*P	**Pn**	**00 22 13.3**	**+1.2**
NSS	**Namsos**	**8.57**	**151**	*e*P	**Pn**	**00 22 18.9**	**+0.8**
NSS				IAML		00 23 53.9	
	comp=Z,4.4nm,0.4s						
APA0	**Apatity Array**	**11.40**	**99**	Pn	**Pn**	**00 22 56.2**	**-0.6**
	baz=324,slow=22						
APA0	**Apatity Array**	**11.40**	**99**	Pn	**Pn**	**00 22 56.2**	**-0.6**
	baz=324,slow=22						
NOA	**NORSAR Array B**	**11.84**	**159**	Pn	**Pn**	**00 23 04.2**	**+1.4**
	comp=Z,0.0nm,0.3s,baz=334,slow=14,SNR=2.4						
NOA				Sn	**Sn**	**00 25 13.7**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=24,slow

URZ				S	**S**	**00 27 13.1**	**-2.9**		
	0.5nm,0.3s,baz=302,slow=19,SNR=1.8								
URZ	**Urewera**	**12.48 190**		P	**P**	**00 25 01.2**	**+0.3**		
DZM	**Mont Dzumac**	**12.90 285**		P	**P**	**00 25 07.7**	**+2.0**		
	0.9nm,0.3s,baz=95,slow=11,SNR=8.8								
DZM	**Mont Dzumac**	**12.90 285**		P	**P**	**00 25 07.0**	**+1.2**		
BKZ	**Black Stump Fm**	**13.47 191**		P	**P**	**00 25 12.6**	**+1.0**		
QRZ	**Quartz Range**	**16.04 201**		P	**P**	**00 25 39.2**	**+0.6**		
QRZ				IAmb	IAmb	00 25 40.3			
	comp=Z,14nm,0.6s								
LHI	**Lord Howe Isla**	**19.09 248**		P	**P**	**00 26 11.2**	**+2.3**		
RPZ	**Rata Peaks**	**19.12 200**		P	**P**	**00 26 10.0**	**+1.0**		
	comp=Z,0.6nm,0.3s,baz=55,slow=23,SNR=2.9								
RPZ				S	**S**	**00 29 17.7**	**-0.3**		
	comp=Z,0.4nm,0.3s,baz=21,slow=22,SNR=2.1								
RPZ	**Rata Peaks**	**19.12 200**		P	**P**	**00 26 09.1**	**+0.1**		
RPZ				IAmb	IAmb	00 26 13.4			
	comp=Z,26nm,1.4s								
ARMA	**Armidale**	**25.28 253**		P	**P**	**00 27 05.6**	**+0.7**		
ARMA				IAmb	IAmb	00 27 07.5			
	comp=Z,8.3nm,0.8s								
EIDS	**Eidsvold**	**25.97 265**		P	**P**	**00 27 11.6**	**+0.7**		
TOO	**Toolangi**	**31.30 240**		P	**P**	**00 27 58.2**	**+0.9**		
TOO				IAmb	IAmb	00 28 07.1			
	comp=Z,17nm,1.3s								
CTA	**Charters Tower**	**31.46 274**		P	**P**	**00 27 59.6**	**+0.7**		
	comp=Z,17nm,0.7s,baz=108,slow=12								
CTAO	**Charters Tower**	**31.46 274**		P	**P**	**00 27 59.8**	**+0.8**		
CTAO				IAmb	IAmb	00 28 00.6			
	comp=Z,20nm,0.8s								
STKA	**Stephens Creek**	**33.92 251**		P	**P**	**00 28 20.2**	**+0.4**		
	comp=Z,3.4nm,0.8s,baz=78,slow=10,SNR=8.0								
STKA	**Stephens Creek**	**33.92 251**		P	**P**	**00 28 20.1**	**+0.4**		
COEN	**Coen**	**36.41 282**		P	**P**	**00 28 41.2**	**+0.4**		
COEN				IAmb	IAmb	00 28 42.2			
	comp=Z,7.4nm,0.8s								
BBOO	**Buckleboo**	**38.60 249**		P	**P**	**00 28 57.6**	**-0.9**		
BBOO				IAmb	IAmb	00 29 06.2			
	comp=Z,15nm,1.2s								
AS31	**Alice Springs**	**41.65 263**		P	**P**	**00 29 23.1**	**-0.2**		
ASAR	**Alice Springs**	**41.66 263**		P	**P**	**00 29 23.1**	**-0.2**		
	comp=Z,5.6nm,0.4s,baz=89,slow=7.5,SNR=66								
ASAR				ScP	**ScP**	**00 34 14.0**	**+0.1**		
	comp=Z,0.2nm,0.4s,baz=108,slow=3.0,SNR=3.0								
ASAR				S	**S**	**00 35 04.5**	**-0.4**		
	comp=Z,1.3nm,1.1s,baz=97,slow=17,SNR=6.3								
ASAR	**Alice Springs**	**41.66 263**		P	**P**	**00 29 22.7**	**-0.7**		
WR0	**Warramunga Arr**	**42.04 268**		P	**P**	**00 29 25.7**	**-0.7**		
WR0				IAmb	IAmb	00 29 41.4			
	comp=Z,19nm,1.5s								
WB2	**Warramunga Arr**	**42.21 268**		P	**P**	**00 29 27.1**	**-0.7**		
WB2				IAmb	IAmb	00 29 27.1			
	comp=Z,16nm,1.4s								
WRA	**Warramunga Arr**	**42.22 268**		P	**P**	**00 29 27.1**	**-0.8**		
	comp=Z,3.4nm,0.3s,baz=99,slow=7.2,SNR=50								
WRA				S	**S**	**00 35 09.2**	**-4.0**		
	comp=Z,1.7nm,0.9s,baz=97,slow=15,SNR=5.1								
FORT	**Forrest**	**45.54 251**		P	**P**	**00 29 52.5**	**-1.1**		
FITZ	**Fitzroy Crossi**	**50.62 267**		P	**P**	**00 30 31.6**	**-0.1**		
	comp=Z,5.4nm,0.7s,baz=120,slow=6.7,SNR=12								
FITZ	**Fitzroy Crossi**	**50.62 267**		P	**P**	**00 30 31.2**	**-0.6**		
MORW	**Morawa**	**56.11 251**		P	**P**	**00 31 10.0**	**-0.9**		
GIRL	**Giralia**	**59.38 258**		P	**P**	**00 31 33.4**	**+0.1**		
TOLI2	**Tolitoli**	**63.03 286**		P	**P**	**00 31 57.6**	**+0.2**		
TOLI2				IAmb	IAmb	00 32 13.7			
	comp=Z,16nm,1.1s								
QSPA	**South Pole Qui**	**64.13 180**		P	**P**	**00 32 04.9**	**+1.1**		
JWT	**Wachi**	**74.05 323**		P	**P**	**00 33 02.9**	**-1.0**		
KSRS	**Korea Array**	**79.77 320**		P	**P**	**00 33 34.9**	**-0.3**		
	comp=Z,1.0nm,0.5s,baz=134,slow=6.1,SNR=4.9								
SNAA	**Sanae**	**82.61 179**		P	**P**	**00 33 49.5**	**0.0**		
NVAR	**Mina Array Bea**	**86.29 44**		P	**P**	**00 34 08.3**	**+0.1**		
	comp=Z,0.6nm,0.7s,baz=221,slow=5.9,SNR=4.9								
CMAR	**Chiang Mai Arr**	**90.16 290**		P	**P**	**00 34 27.6**	**+1.1**		
	comp=Z,1.5nm,0.3s,baz=114,slow=2.2,SNR=2.6								
TXAR	**Lajitas Array**	**91.59 58**		P	**P**	**00 34 33.4**	**+0.3**		
	comp=Z,0.1nm,0.6s,baz=205,slow=5.5,SNR=4.5								
MARD	**Mardin**	**143.66 298**			PKPbc	00 40 56.3	-0.1		
NB2	**NORSAR Subarra1**	**144.10 351**		PKP	PKPbc	00 40 55.6	-1.3		
	comp=Z,1.6nm,0.9s,baz=18,slow=3.2								
NOA	**NORSAR Array B**	**144.10 351**		PKP	PKPbc	00 40 55.2	-1.7		
	comp=Z,1.0nm,0.6s,baz=19,slow=2.7,SNR=3.6								
HFS	**Hagfors**	**144.54 348**		PKP	PKPbc	00 40 56.7	-1.6		
	comp=Z,3.3nm,0.9s,baz=64,slow=3.4,SNR=13								
AKASG	**Malin Array Be**	**146.63 326**		PKPbc	**PKPdf**	**00 41 02.1**	**-0.1**		
	comp=Z,0.8nm,0.4s,baz=50,slow=4.1,SNR=2.0								
EKA	**Eskdalemuir Ar**	**150.57 4**		PKPbc	**PKPbc**	**00 41 12.9**	**-1.5**		
	comp=Z,0.3nm,0.4s,baz=338,slow=2.2,SNR=5.0								

DDA **12** *00:39:17.1,35.34N×27.55E,h7km±2km,MW4.5*
HLW **12** *00:39:19.8,35.88N×27.94E,h32km±41km,Md4.3,Ml4.0*
SGS **12** *00:39:20.6,36.25N×28.58E,h8km,Ml3.5*
NIC **12** *00:39:20.5±0.0,35.51N×27.80E,h2km±1km,Ml4.9/5*
ISK **12** *00:39:21.9,35.57N×27.74E,h13km,ML4.5/29*
ATH **12** *00:39:21.5,35.48N×27.82E,h8km×3km,ML4.2/4,Error ellipse: s-maj=3.6km s-min=1.3km az=120.0*
NEIC **12** *00:39:21.1±1.8,35.46N±0.04×27.81E±0.04,h4km±4km, Error ellipse: s-maj=5.8km s-min=4.2km az=167.0*
MED_RC **12** *00:39:22.0±0.5,35.44N×27.73E,h17km±1km, MW4.7/22, Moment Tensor Solution.Mantle waves: s22,c35; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr=0.15±.09; Mθθ-1.12±.06; Mϕϕ1.27±.07; Mrθ0.36±.17; Mθϕ0.12±.05; Mrϕ0.08±.11; Best double couple: M0 1.26000×10^16 NP1:ϕs319.00000°,δ74.00000°, λ-170.00000°. NP2:ϕs226.00000°,δ80.00000°, λ-16.00000°. Principal axes: T 1.2800, Plg4.0000°, Azm273.0000°; N -0.0400, Plg71.0000°, Azm16.0000°; P -1.2400, Plg18.0000°, Azm182.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
MOS **12** *00:39:23.1±1.1,35.51N×27.81E,h31km,mb4.7/26 Error ellipse: s-maj=6.0km s-min=3.5km az=90.6*
THE **12** *00:39:23.0,35.59N×27.74E,h2km±1km,ML4.0/10,Error ellipse: s-maj=2.2km s-min=0.8km az=141.0*
IDC **12** *00:39:26.9±1.6,35.68N×27.64E,h45km±15km,mb4.1/30, mb1 4.1/36,mb1mx4.0/50,mbtmp4.3/36,ML3.9/5,MS3.8/26, Ms1 3.8/26,ms1mx3.6/54,Error ellipse: s-maj=15.3km s-min=8.5km az=152.0*

ISC 12 00:39:21.9±0.6,35.50N±0.03×27.80E±0.02,h11km±3km, n590,σ1²45/648,mb4.5/88,MS3.8/22,52C-37D,Fault plane solution: NP1:ϕs256.70517°,δ87.65221°, λ-21.06522°. **NP2:ϕs347.60913°,δ68.95330°,** λ-177.48428°. **Principal axes:** T Plg13.0014°, Azm304.0789°; N Plg68.8103°, Azm70.6342°; P Plg16.4339°, Azm210.1738°; **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.52**	**276**	Op P		**Pg**	**00 39 31.7**	**-0.4**
KARP				S		**Sg**	**00 39 39.4**	**+0.4**
KARP				AML		AML	00 39 46.8	
	comp=E,29504μm,0.4s							
KARP				AML		AML	00 39 50.0	
	comp=N,27237μm,0.4s							
KARP	**Karpathos**	**0.52**	**276**	P		**Pg**	**00 39 31.6**	**-0.5**
KARP				S		**Sg**	**00 39 39.0**	**0.0**
	comp=N,16μm,0.5s							
KARP	**Karpathos**	**0.52**	**276**	PG		**Pg**	**00 39 31.4**	**-0.7**
KARP				SG		**Sg**	**00 39 39.4**	**+0.4**
KARP	**Karpathos**	**0.52**	**276**	Pg		**Pg**	**00 39 31.5**	**-0.7**
KARP				Sg		**Sg**	**00 39 39.8**	**+0.7**
KARP	**Karpathos**	**0.52**	**276**	↑P		**Pg**	**00 39 31.5**	**-0.7**
KARP				S		**Sb**	**00 39 40.2**	**-0.4**
ARG	**Arkhangelos**	**0.77**	**20**	P		**Pg**	**00 39 36.2**	**-0.6**
ARG				S		**Sg**	**00 39 46.4**	**-0.3**
ARG				AML		AML	00 39 53.7	
	comp=E,57526μm,0.4s							
ARG				AML		AML	00 39 58.8	
	comp=N,51919μm,0.6s							
ARG	**Arkhangelos**	**0.77**	**20**	P		**Pg**	**00 39 35.9**	**-0.8**
ARG				S		**Sg**	**00 39 46.6**	**-0.2**
	comp=N,27μm,0.6s							
ARG	**Arkhangelos**	**0.77**	**20**	PG		**Pg**	**00 39 36.0**	**-0.8**
ARG				SG		**Sg**	**00 39 46.9**	**+0.1**
ARG	**Arkhangelos**	**0.77**	**20**	P		**Pg**	**00 39 36.2**	**-0.6**
ARG				S		**Sb**	**00 39 48.4**	**+0.7**
ARG	**Arkhangelos**	**0.77**	**20**			**Pg**	**00 39 36.2**	**-0.6**
ARG						**Sg**	**00 39 46.4**	**-0.3**
ARG	**Arkhangelos**	**0.77**	**20**	↑P		**Pg**	**00 39 36.0**	**-0.7**
ARG				S		**Sg**	**00 39 47.2**	**+0.5**
NISR	**Nisiros**	**1.24**	**334**	P		**Pn**	**00 39 44.8**	**-0.3**
NISR				S		**Sn**	**00 40 01.7**	**-0.1**
NISR				AML		AML	00 40 14.5	
	comp=E,31070μm,0.6s							
NISR				AML		AML	00 40 15.4	
	comp=N,17150μm,0.8s							
NISR	**Nisiros**	**1.24**	**334**	P		**Pn**	**00 39 44.1**	**-1.0**
NISR				S		**Sb**	**00 40 00.5**	**-0.7**
NISR	**Nisiros**	**1.24**	**334**			**Pn**	**00 39 44.8**	**-0.3**
NISR						**Sn**	**00 40 01.7**	**-0.1**
MRSB	**Marmaris-Mugla**	**1.26**	**15**	PN		**Pn**	**00 39 44.9**	**-0.6**
MRSB				SN		**Sb**	**00 40 01.7**	**-0.2**
TURN	**Turunc**	**1.32**	**16**	PN		**Pn**	**00 39 45.9**	**-0.4**
TURN				SN		**Sb**	**00 40 03.5**	**-0.3**
TURN	**Turunc**	**1.32**	**16**	*i* P		**Pn**	**00 39 46.2**	**-0.2**
TURN				*i* S		**Sn**	**00 40 04.2**	**+0.3**
TURN				IAML			00 40 10.0	
	comp=N,8μm,0.5s							
TURN				IAML			00 40 13.0	
	comp=E,7μm,0.4s							
ZKR	**Zakros**	**1.35**	**254**	P		**Pn**	**00 39 46.9**	**+0.3**
ZKR				S		**Sg**	**00 40 05.3**	**0.0**
ZKR				AML		AML	00 40 15.7	
	comp=E,24066μm,0.9s							
ZKR				AML		AML	00 40 17.2	
	comp=N,7999μm,1.0s							
ZKR	**Zakros**	**1.35**	**254**	P		**Pn**	**00 39 46.4**	**-0.3**
ZKR				S		**Sn**	**00 40 04.8**	**+0.3**
	comp=N,8μm,0.8s							
ZKR	**Zakros**	**1.35**	**254**	PN		**Pn**	**00 39 46.7**	**0.0**
ZKR	**Zakros**	**1.35**	**254**			**Pn**	**00 39 47.0**	**+0.3**
ZKR						**Sg**	**00 40 05.3**	**0.0**
ZKR	**Zakros**	**1.35**	**254**	P		**Pn**	**00 39 46.6**	**-0.1**
ZKR				AML		AML	00 40 14.1	
	comp=N,24nm,0.8s							
ZKR				AML		AML	00 40 18.5	
	comp=N,8.1nm,0.8s							
KOSK	**Kos Island**	**1.42**	**332**	P		**Pn**	**00 39 47.1**	**-0.5**
KOSK				S		**Sn**	**00 40 06.1**	**-0.1**
	comp=N,4μm,0.9s							
KOSK	**Kos Island**	**1.42**	**332**	PN		**Pn**	**00 39 46.7**	**-0.9**
STIA	**Sitia Lasithi**	**1.43**	**259**	P		**Pn**	**00 39 47.6**	**-0.1**
DALY	**Dalyan (Mula)**	**1.49**	**28**	PN		**Pn**	**00 39 48.5**	**-0.1**
DALY	**Dalyan (Mula)**	**1.49**	**28**	*i* P		**Pn**	**00 39 48.9**	**+0.3**
DALY				*i* S		**Sg**	**00 40 10.1**	**+0.3**
DALY				IAML			00 40 17.0	
	comp=N,5μm,0.5s							
DALY				IAML			00 40 18.0	
	comp=E,5μm,0.8s							
FETY	**Fethiye**	**1.54**	**42**	P		**Pn**	**00 39 49.1**	**-0.3**
FETY				S		**Sb**	**00 40 10.3**	**+0.3**
FETY	**Fethiye**	**1.54**	**42**	PN		**Pn**	**00 39 49.4**	**0.0**
BDRM	**Kayabasi**	**1.59**	**350**	*i* P		**Pn**	**00 39 49.9**	**-0.2**
BDRM				*i* S		**Sn**	**00 40 10.3**	**-0.2**
BDRM				IAML			00 40 15.0	
	comp=E,3μm,0.3s							
BDRM				IAML			00 40 20.0	
	comp=N,4μm,0.6s							
BODT	**Bodrum**	**1.61**	**346**	P		**Pn**	**00 39 48.9**	**-1.4**
BODT				S		**Sn**	**00 40 09.6**	**-1.5**
BODT	**Bodrum**	**1.61**	**346**	PN		**Pn**	**00 39 49.5**	**-0.8**
AKAS	**Kas**	**1.64**	**63**	PN		**Pn**	**00 39 51.2**	**+0.3**
AKAS	**Kas**	**1.64**	**63**	*i* P		**Pn**	**00 39 51.2**	**+0.3**
AKAS				IAML			00 40 32.0	
	comp=E,1μm,0.7s							
AKAS				IAML			00 40 44.0	
	comp=N,3μm,0.7s							
AKAS	**Kas**	**1.64**	**63**	Pn		**Pn**	**00 39 51.1**	**+0.3**
AKAS				Sn		**Sb**	**00 40 13.7**	**+0.6**
YER	**Yerkesik**	**1.68**	**13**	PN		**Pn**	**00 39 51.2**	**-0.1**
FRMA	**Ierapetra Chan**	**1.76**	**255**	P		**Pn**	**00 39 52.2**	**-0.1**
NPS	**Neapolis**	**1.80**	**263**	P		**Pb**	**00 39 54.0**	**-0.9**
MULA	**Mugla, Merkez-**	**1.81**	**13**	*i* P		**Pb**	**00 39 54.9**	**-0.1**
MULA				*i* S		**Sg**	**00 40 24.7**	**+4.7**
MULA				IAML			00 40 34.0	
	comp=E,5μm,0.5s							
MULA				IAML			00 40 35.0	
	comp=N,2μm,0.9s							
DEMR	**Demre-Antalya**	**1.86**	**66**	PN		**Pn**	**00 39 54.5**	**+0.7**
LAST	**Lasithi**	**1.93**	**261**	P		**Pb**	**00 39 56.2**	**-0.8**
LAST	**Lasithi**	**1.93**	**261**	P		**Pn**	**00 39 55.4**	**+0.7**
LAST				S		**Sn**	**00 40 19.7**	**+0.8**
	comp=N,3μm,0.9s							
LAST	**Lasithi**	**1.93**	**261**			**Pb**	**00 39 56.2**	**-0.8**
DDIM	**Aydin, Didim**	**2.00**	**347**	*i* P		**Pn**	**00 39 56.1**	**+0.4**
DDIM				IAML			00 40 35.0	
	comp=E,5μm,1.1s							
DDIM				IAML			00 40 42.0	
	comp=N,4μm,1.0s							
CAEL	**Denizli, Camel**	**2.04**	**37**	*i* P		**Pb**	**00 39 58.3**	**-0.7**
CAEL				IAML			00 40 47.0	
	comp=N,7μm,1.7s							
CAEL				IAML			00 40 53.0	
	comp=E,9μm,0.9s							
SANT	**Santorini**	**2.09**	**295**	P		**Pn**	**00 39 56.7**	**-0.2**
SANT				S		**Sn**	**00 40 21.2**	**-1.7**
	comp=E,3μm,0.6s							
SANT	**Santorini**	**2.09**	**295**	PN		**Pn**	**00 39 56.6**	**-0.3**
SANT	**Santorini**	**2.09**	**295**	Pn		**Pn**	**00 39 56.5**	**-0.4**
THR8	**Santorini-Mono**	**2.09**	**296**	P		**Pn**	**00 39 56.5**	**-0.3**
ELL	**Elmali**	**2.12**	**53**	PN		**Pn**	**00 39 57.8**	**+0.4**
ELL	**Elmali**	**2.12**	**53**	P		**Pb**	**00 39 59.3**	**-1.1**
ELL	**Elmali**	**2.12**	**53**			**Pb**	**00 39 59.3**	**-1.1**
THR6	**Thira Island,**	**2.13**	**294**	P		**Pn**	**00 39 57.5**	**+0.1**
SNT1	**Gialos, Santor**	**2.13**	**296**	P		**Pn**	**00 39 57.0**	**-0.4**
SNT1				S		**Sn**	**00 40 23.8**	**0.0**
	comp=E,3μm,0.8s							
SFIR	**Foira Santorin**	**2.13**	**296**	P		**Pn**	**00 39 57.7**	**+0.2**
THR7	**Fira-Santorini**	**2.13**	**296**	P		**Pn**	**00 39 57.5**	**0.0**
THR2	**Thira island,**	**2.14**	**297**	P		**Pn**	**00 39 57.5**	**0.0**
THT2	**Imerovigli**	**2.14**	**297**	P		**Pn**	**00 39 57.7**	**+0.1**
THT2				S		**Sn**	**00 40 22.9**	**-1.3**
	comp=E,3μm,0.9s							
THT2	**Imerovigli**	**2.14**	**297**	PN		**Pn**	**00 39 57.4**	**-0.2**
THR3	**Thira Island,**	**2.15**	**296**	P		**Pn**	**00 39 57.6**	**0.0**
SNT5	**Nea Kammeni, S**	**2.15**	**296**	P		**Pn**	**00 39 57.6**	**-0.1**
TAVA	**DENIZLI_Tavas**	**2.16**	**24**	*i* P		**Pb**	**00 39 59.7**	**-1.4**
TAVA				*i* S		**Sg**	**00 40 30.5**	**-0.9**
TAVA				IAML			00 40 40.0	
	comp=E,3μm,0.6s							
TAVA				IAML			00 40 42.0	
	comp=N,2μm,0.5s							
THR5	**Thira Island,**	**2.19**	**295**	P		**Pn**	**00 39 58.6**	**+0.4**
SAP3	**Santorini-Thir**	**2.20**	**296**	P		**Pn**	**00 39 58.2**	**-0.2**
HRKL	**Herakleio**	**2.21**	**266**	PN		**Pn**	**00 39 59.2**	**+0.7**
AKUM	**Antalya-Kumluc**	**2.23**	**68**	*i* P		**Pn**	**00 39 59.8**	**+1.1**
AKUM				IAML			00 41 06.0	
	comp=E,705nm,1.0s							
AKUM				IAML			00 41 07.0	
	comp=N,1μm,1.9s							
GCAM	**G?zelcaml?**	**2.24**	**349**	PN		**Pn**	**00 39 58.6**	**-0.4**
GCAM	**G?zelcaml?**	**2.24**	**349**	*i* P		**Pn**	**00 39 59.1**	**+0.1**
GCAM				IAML			00 40 41.0	
	comp=N,1μm,0.9s							
GCAM				IAML			00 40 41.0	
	comp=E,2μm,0.8s							
GOLH	**Golhisar**	**2.25**	**39**	*i* P		**Pb**	**00 40 01.5**	**-1.1**
GOLH				*i* S		**Sg**	**00 40 33.9**	**-0.2**
GOLH				IAML			00 40 52.0	
	comp=N,4μm,1.5s							
GOLH				IAML			00 41 15.0	
	comp=E,4μm,2.0s							
IDI	**Anoyia**	**2.38**	**266**	P		**Pn**	**00 40 01.9**	**+0.9**
	comp=E,32nm,0.3s,baz=74,slow=16,SNR=121							
IDI	**Anoyia**	**2.38**	**266**	P		**Pb**	**00 40 03.5**	**-1.4**
IDI	**Anoyia**	**2.38**	**266**	P		**Pn**	**00 40 01.4**	**+0.4**
IDI				S		**Sn**	**00 40 30.1**	**-0.1**
	comp=E,925nm,0.4s							
IDI	**Anoyia**	**2.38**	**266**	PN		**Pn**	**00 40 01.1**	**+0.1**
IDI	**Anoyia**	**2.38**	**266**			**Pn**	**00 40 01.6**	**+0.7**
APE	**Apeiranthos**	**2.41**	**311**	P		**Pn**	**00 40 00.8**	**-0.5**
APE				S		**Sn**	**00 40 29.8**	**-1.0**
	comp=E,1μm,0.5s							
APE	**Apeiranthos**	**2.41**	**311**	PN		**Pn**	**00 40 00.9**	**-0.5**
APE	**Apeiranthos**	**2.41**	**311**	P		**Pn**	**00 40 00.8**	**-0.5**
APE				S		**Sn**	**00 40 30.9**	**+0.1**
APE	**Apeiranthos**	**2.41**	**311**	P		**Pn**	**00 40 01.9**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**2.44**	**2**	PN		**Pn**	**00 40 01.9**	**0.0**
SIVA	**Sivas**	**2.49**	**260**	P		**Pb**	**00 40 05.4**	**-1.3**
SIVA	**Sivas**	**2.49**	**260**			**Pb**	**00 40 05.4**	**-1.3**
KEMT	**Kemer-ANTALYA**	**2.49**	**63**	PN		**Pn**	**00 40 03.5**	**+1.1**
KORT	**Korkueli**	**2.55**	**53**	PN		**Pn**	**00 40 04.3**	**+0.9**
KORT	**Korkueli**	**2.55**	**53**	*i* P		**Pb**	**00 40 06.0**	**-1.8**
KORT				IAML			00 40 50.0	
	comp=N,2μm,0.6s							
KORT				IAML			00 40 58.0	
	comp=E,2μm,0.6s							
ANTB	**Antalya**	**2.70**	**58**	PN		**Pn**	**00 40 07.2**	**+1.9**
BRDR	**BURDUR-Merkez**	**2.85**	**39**	*i* P		**Pn**	**00 40 09.3**	**+1.8**
BRDR				IAML			00 41 03.0	
	comp=N,825nm,0.6s							
BRDR				IAML			00 41 09.0	
	comp=E,1μm,1.0s							
BUCA	**Burdur, Bucak-**	**2.88**	**50**	*i* P		**Pb**	**00 40 10.8**	**-2.6**
BUCA				IAML			00 40 59.0	
	comp=N,724nm,0.6s							
BUCA				IAML			00 41 06.0	
	comp=E,840nm,1.1s							
ZEYE	**Izmir, Urla-Ze**	**2.92**	**340**	*i* P		**Pn**	**00 40 08.3**	**0.0**
ZEYE				IAML			00 41 06.0	
	comp=N,408nm,0.9s							
ZEYE				IAML			00 41 06.0	
	comp=E,377nm,1.2s							
VAM	**Vamos**	**2.94**	**269**	P		**Pn**	**00 40 09.4**	**+0.9**
BLCB	**Balcova**	**2.94**	**348**	P		**Pn**	**00 40 08.4**	**-0.2**
BLCB	**Balcova**	**2.94**	**348**	PN		**Pn**	**00 40 08.8**	**+0.2**
BCK	**Bucak**	**2.98**	**48**	PN		**Pn**	**00 40 10.9**	**+1.7**
MHLO	**Agia Marina, M**	**3.00**	**294**	P		**Pn**	**00 40 10.1**	**+0.8**
URLA	**Izmir**	**3.01**	**342**	PN		**Pn**	**00 40 08.9**	**-0.7**
URLA	**Izmir**	**3.01**	**342**	*i* P		**Pn**	**00 40 08.7**	**-1.0**
URLA				IAML			00 41 03.0	
	comp=E,396nm,0.9s							
URLA				IAML			00 41 07.0	
	comp=N,511nm,1.1s							
BASM	**Basmaki-Afyon**	**3.02**	**36**	PN		**Pn**	**00 40 10.6**	**+0.9**
MANT	**Manisa**	**3.05**	**11**	*i* P		**Pn**	**00 40 11.4**	**+1.2**
MANT				IAML			00 40 57.0	
	comp=N,477nm,0.6s							
MANT				IAML			00 41 05.0	
	comp=E,526nm,0.7s							
MANT	**Manisa**	**3.05**	**11**	Pn		**Pn**	**00 40 10.7**	**+0.5**
KULA	**Kula-Manisa**	**3.09**	**13**	P		**Pn**	**00 40 11.4**	**+0.7**
KULA	**Kula-Manisa**	**3.09**	**13**	PN		**Pn**	**00 40 11.3**	**+0.6**
GVDS	**Gavdos**	**3.10**	**259**	PN		**Pn**	**00 40 12.2**	**+1.4**
GVD	**Gavdhos**	**3.11**	**259**	PN		**Pn**	**00 40 12.3**	**+1.4**
IMMV	**Iera Moni Meta**	**3.11**	**270**	P		**Pn**	**00 40 11.3**	**+0.3**
IMMV	**Iera Moni Meta**	**3.11**	**270**	PN		**Pn**	**00 40 11.6**	**+0.6**
KHL	**Karahalli**	**3.14**	**26**	PN		**Pn**	**00 40 11.6**	**+0.2**
KHAL	**Karahalli**	**3.17**	**25**	*i* P		**Pn**	**00 40 12.7**	**+0.8**
KHAL				IAML			00 41 10.0	
	comp=E,471nm,0.8s							
KHAL				IAML			00 41 11.0	
	comp=N,425nm,0.6s							
ISP	**Isparta**	**3.19**	**43**	PN		**Pn**	**00 40 13.4**	**+1.3**
ISP	**Isparta**	**3.19**	**43**	P		**Pn**	**00 40 13.5**	**+1.3**
ISP	**Isparta**	**3.19**	**43**	Pn		**Pn**	**00 40 13.5**	**+1.4**
CHOS	**Chios island**	**3.20**	**335**	P		**Pn**	**00 40 12.3**	**0.0**
CHOS	**Chios island**	**3.20**	**335**	PN		**Pn**	**00 40 13.1**	**+0.8**
GOMA	**Golmarmara-Man**	**3.21**	**2**	PN		**Pn**	**00 40 12.6**	**+0.4**
FOCM	**Foa**	**3.32**	**345**	PN		**Pn**	**00 40 14.1**	**+0.3**
KZIL	**AFYON_Kizioren**	**3.33**	**34**	*i* P		**Pn**	**00 40 15.1**	**+1.0**
KZIL				IAML			00 41 22.0	
	comp=E,531nm,1.1s							
KZIL				IAML			00 41 29.0	
	comp=N,650nm,1.4s							
USAK	**Uak-Merkez**	**3.35**	**17**	*i* P		**Pn**	**00 40 15.4**	**+1.1**
USAK				IAML			00 41 23.0	
	comp=E,395nm,1.6s							
USAK				IAML			00 42 02.0	
	comp=N,0.8nm,0.5s							
KNDR	**Palaiochora Ch**	**3.37**	**267**	PN		**Pn**	**00 40 16.3**	**+1.8**
AKHS	**Akhisar**	**3.37**	**0**	*i* P		**Pn**	**00 40 15.4**	**+0.9**
AKHS				IAML			00 41 03.0	
	comp=E,223nm,0.9s							
AKHS				IAML			00 41 06.0	
	comp=N,0.3nm,0.6s							
BAGO	**Egridir - ISPA**	**3.46**	**43**	*i* P		**Pn**

BR131 Keskin Array S 6.27 46 P **Pn** **00 40 55.9 +1.4**
BR131 Keskin Array S 6.27 46 Pn **Pn** **00 40 55.9 +1.4**
BRTR Keskin Array B 6.27 46 P **Pn** **00 40 56.1 +1.6**
comp=N,1.0nm,0.3s,baz=338,slow=31,SNR=41
BRTR S **Sn** **00 42 07.0 +0.8**
comp=N,1.9nm,0.3s,baz=214,slow=12,SNR=3.9
BRTR Keskin Array B 6.27 46 **Pn** **00 40 55.8 +1.3**
HNAT Natroun 6.31 157 P **Pn** **00 40 55.5 +0.5**
baz=159
KOT Kottamia 6.51 147 P **Pn** **00 40 57.6 -0.1**
baz=150
KOT AMP 00 42 00.0
baz=150
KOT S **Sn** **00 42 08.1 -3.9**
baz=150
SWA2 6.54 198 P **Pn** **00 40 59.4 +1.3**
baz=199
SWA2 AMP 00 42 00.0
baz=199
SWA2 S **Sn** **00 42 13.1 +0.4**
baz=199
HHAG Hagoal 6.61 146 P **Pn** **00 40 59.1 0.0**
baz=148
HHAG AMP 00 42 00.0
baz=148
HHAG S **Sn** **00 42 10.3 -4.1**
baz=148
DQRL Deir Qamar 6.66 103 *e*P **Pn** **00 41 00.4 +0.7**
BHL Bhannes 6.67 102 *e*P **Pn** **00 40 59.4 -0.4**
HSAF As Saff 6.67 151 P **Pn** **00 40 59.9 +0.1**
baz=153
RYAN Fayoum 6.73 161 P **Pn** **00 41 01.0 +0.3**
baz=163
RYAN AMP 00 42 00.0
baz=163
RYAN S **Sn** **00 42 16.2 -1.2**
baz=163
GLL Jalalah 6.76 150 P **Pn** **00 41 01.1 -0.1**
baz=152
MMAI Mount Meron Ar 6.77 109 P **Pn** **00 40 59.9 -1.4**
comp=N,22nm,0.3s,baz=311,slow=12,SNR=182
MMAI S **Sn** **00 42 16.9 -1.4**
comp=N,21nm,0.3s,baz=310,slow=25,SNR=8.2
QRWL Qaraoun 6.79 104 *e*P **Pn** **00 41 00.9 -0.7**
RCY Rachaya 6.93 104 *e*P **Pn** **00 41 02.9 -0.7**
SUZ Suez 7.06 142 P **Pn** **00 41 05.0 -0.2**
baz=144
ILGA Ilgaz 7.24 38 Pn **Pn** **00 41 08.8 +1.0**
FNA Florina 7.31 318 P **Pn** **00 41 11.2 +2.6**
FNA Florina 7.31 318 **Pn** **00 41 11.2 +2.6**
STIP Stip 7.58 326 *i* P **Pn** **00 41 16.2 +3.9**
GAZ Gaziantep 7.78 75 Pn **Pn** **00 41 14.9 -0.2**
VTS Vitosha 7.94 335 ⇓P **Pn** **00 41 19.7 +2.2**
VTS Vitosha 7.94 335 P **Pn** **00 41 20.7 +3.2**
VTS Vitosha 7.94 335 P 00 41 20.9
VTS Vitosha 7.94 335 Pn **Pn** **00 41 20.7 +3.2**
BZK Bozkurt 8.07 35 ⇑P **Pn** **00 41 21.0 +2.0**
RAZG Razgrad 8.12 353 ⇓P **Pn** **00 41 22.0 +2.3**
SKO Skopje 8.15 324 *i* P Pn 00 41 25.6 +5.5
PLVB Pleven 8.25 344 ⇓P **Pn** **00 41 24.6 +3.1**
HFRF Wahat Farafira 8.34 177 P **Pn** **00 41 22.3 -0.4**
baz=177
GRB Gharib 8.36 148 P **Pn** **00 41 22.5 -0.6**
baz=150
ZIMR 8.36 348 ⇑P **Pn** **00 41 25.0 +2.0**
EIL Elat 8.38 132 P **Pn** **00 41 23.0 -0.3**
comp=N,4.2nm,0.3s,baz=314,slow=2.7,SNR=70
EIL S **Sn** **00 42 53.8 -4.1**
comp=N,5.6nm,0.3s,baz=85,slow=5.9,SNR=6.2
TOKA Tokat 8.38 52 **Pn** **00 41 26.3 +2.9**
SCTE Santa Cesarea 8.68 304 Pn **Pn** **00 41 27.4 +0.1**
HQLS 8.71 133 S **Sn** **00 43 02.8 -3.3**
HQLS 8.71 133 P **Pn** **00 41 28.0 +0.1**
HKAT Jabal Katrina 8.72 141 P **Pn** **00 41 28.0 -0.1**
baz=143
RASA Rasa 8.72 357 ⇓P **Pn** **00 41 29.3 +1.4**
HAQS Haql 8.81 135 S **Sn** **00 43 04.5 -4.1**
HAQS Haql 8.81 135 P **Pn** **00 41 29.1 -0.2**
COPA Copaceanca 8.85 348 ⇑P **Pn** **00 41 32.2 +2.5**
VLAD Vladila 8.88 344 ⇓P **Pn** **00 41 32.9 +2.8**
TIRR Tirgusor 8.96 3 ⇓P **Pn** **00 41 31.8 +0.6**
TIRR Tirgusor 8.96 3 P **Pn** **00 41 32.1 +0.9**
TIRR Tirgusor 8.96 3 Pn **Pn** **00 41 32.1 +0.9**
LEHL Lehliu 9.00 356 ⇑P **Pn** **00 41 34.1 +2.4**
TLBR Topalu 9.04 1 ⇓P **Pn** **00 41 34.2 +1.9**
HARR Harsova 9.18 1 ⇓P **Pn** **00 41 35.2 +0.9**
HUMR Humele 9.27 347 ⇑P **Pn** **00 41 37.7 +2.2**
JURR Jurilovca 9.29 5 ⇓P **Pn** **00 41 38.3 +2.5**
RSHS 9.32 138 P **Pn** **00 41 36.2 0.0**
TPGR Topolog 9.36 3 ⇑P **Pn** **00 41 38.4 +1.7**
BDAS Al Bad' 9.38 137 P **Pn** **00 41 36.7 -0.4**
PGOR Pogoanele 9.42 356 ⇑P **Pn** **00 41 39.4 +2.0**
DRME Dracevica, Mon 9.47 317 *e*Pn **Pn** **00 41 42.6 +4.4**
TIP Timpagrande 9.53 296 ⇑P **Pn** **00 41 39.1 0.0**
TIP Timpagrande 9.53 296 Pn **Pn** **00 41 39.2 +0.2**
PDG Podgorica 9.60 319 *e*Pn **Pn** **00 41 42.7 +2.8**
PDG Podgorica 9.60 319 **Pn** **00 41 42.2 +2.3**
ISR Istrita 9.66 355 ⇑P **Pn** **00 41 42.6 +1.8**
CFR Carcaliu 9.67 1 ⇓P **Pn** **00 41 41.4 +0.5**
TLCR 9.71 4 ⇑P **Pn** **00 41 44.7 +3.3**
GRER 9.89 357 ⇓P **Pn** **00 41 46.3 +2.4**
NEHR Nehoiu 9.98 354 ⇑P **Pn** **00 41 47.0 +1.7**
HCY Herceg Novi 10.03 317 *e*Pn **Pn** **00 41 48.5 +2.7**
BISRR Bisoca 10.07 356 ⇑P **Pn** **00 41 49.5 +2.9**
MLR Muntele Rosu 10.08 353 P **Pn** **00 41 48.3 +1.6**
comp=N,0.4nm,0.3s,baz=161,slow=5.0,SNR=49
MLR LR LR 00 46 28.5
comp=N,363nm,18.5s,baz=182,slow=43
MLR Muntele Rosu 10.08 353 ⇓P **Pn** **00 41 49.5 +2.8**
WTBKS WTBKS 10.11 135 P **Pn** **00 41 47.0 -0.2**
VOIR 10.14 349 ⇑P **Pn** **00 41 49.6 +2.1**
ARR Arges 10.15 347 ⇓P **Pn** **00 41 49.5 +1.9**
HERR Herculane 10.23 338 ⇓P **Pn** **00 41 50.6 +1.9**
ODBI Odobesti 10.27 357 ⇑P **Pn** **00 41 53.1 +4.0**
TREB Trebinje 10.28 317 *e*Pn **Pn** **00 41 50.3 +1.0**
BRY Bratogost 10.30 319 *e*Pn **Pn** **00 41 51.6 +1.8**
UPM Unac-Piva 10.32 321 *e*Pn **Pn** **00 41 53.5 +3.5**
DBRK Dubrovnik 10.36 317 *i* Pn **Pn** **00 41 50.7 +0.3**
DBRK Sn **Sn** **00 43 44.0 -2.5**
MDVR Moldovita 10.37 335 ⇓P **Pn** **00 41 53.9 +3.3**
PLOR Plostina 10.38 356 ⇑P **Pn** **00 41 53.1 +2.4**
VRI Vrincioaia 10.39 356 ⇑P **Pn** **00 41 52.9 +2.1**
RUDO Rudo 10.39 324 *e*Pn **Pn** **00 41 52.8 +2.0**
VARL Varlezi 10.39 0 P **Pn** **00 41 54.3 +3.5**
DIVS Divibare 10.47 327 *e*Pn **Pn** **00 41 55.9 +3.9**
BBLS Lazići 10.56 325 *e*Pn Pn 00 41 58.7 +5.5
GZR Gura Zlata 10.60 340 ⇑P **Pn** **00 41 55.3 +1.6**
SIM Simferopol' 10.60 25 *e*P **Pn** **00 41 55.4 +1.7**
SIM S **Sn** **00 43 55.0 +2.7**
SIM pmax pmax
comp=Z,23nm,1.3s
SIM smax smax
comp=N,40µm,0.4s
DOPR Dopca 10.62 351 ⇑P **Pn** **00 41 55.8 +1.9**
MARD Mardin 10.62 76 Pn **Pn** **00 41 54.5 +0.3**
OZUR 10.70 352 ⇑P **Pn** **00 41 56.9 +1.8**
STON Ston 10.75 316 *e*Pn **Pn** **00 41 54.8 -0.9**
HAPS Han Pijesak,BI 10.94 324 *e*Pn **Pn** **00 42 01.0 +2.5**
VAE Valguarnera 10.96 284 P **Pn** **00 41 58.9 +0.2**
comp=N,0.6nm,0.3s,baz=103,slow=11,SNR=1.6
VAE S **Sn** **00 43 59.2 -2.0**
comp=N,1.0nm,0.3s,baz=295,slow=9.1,SNR=1.9
RAFF Raffo Rosso 10.97 283 **Pn** **00 41 57.6 -1.2**
TESR Tescani 11.04 356 ⇑P **Pn** **00 42 01.0 +1.4**
BZS Buzias 11.14 337 ⇓P **Pn** **00 42 04.0 +2.9**
SGRT San Giovanni R 11.30 307 Pn **Pn** **00 42 02.5 -0.9**
MAKA Makarska 11.39 316 *e*Pn **Pn** **00 42 06.3 +1.8**
RICI Ricice 11.46 317 *e*Pn **Pn** **00 42 07.3 +1.8**
RICI Sn **Sn** **00 44 12.1 -1.4**
BIZ Bicaz 11.50 354 ⇓P **Pn** **00 42 06.8 +0.7**
HVAR Hvar 11.65 315 *i* Pn **Pn** **00 42 07.9 -0.2**
ANN Anapa 11.85 35 *e*P **Pn** **00 42 08.5 -2.3**
ANN *e*S **Sn** **00 44 22.0 -0.9**
ANN pmax pmax
comp=Z,26nm,1.2s
ANN MLR MLR
comp=Z,166nm,7.0s
ANN MLR MLR
comp=N,85nm,6.0s
ANN MLR MLR
comp=E,362nm,7.0s
ARCR ARCALIA 11.86 348 ⇓P **Pn** **00 42 14.2 +3.2**
DRGR 11.91 343 ⇓P **Pn** **00 42 15.1 +3.4**

SOC Sochi 12.23 45 *e*P **Pn** **00 42 13.9 -2.1**
SOC *e* 00 44 32.6
SOC MLR MLR
comp=Z,413nm,12.0s
BURAR Bucovina Array 12.26 352 ⇓P **Pn** **00 42 19.3 +2.9**
BURAR Bucovina Array 12.26 352 Pn **Pn** **00 42 16.9 +0.4**
BUR08 Bucovina Ar. S 12.29 352 Pn **Pn** **00 42 18.1 +1.2**
BLY Banja Luka 12.29 322 *e*Pn **Pn** **00 42 19.7 +2.9**
ZIRJ Zirje 12.41 315 *e*Pn **Pn** **00 42 19.3 +0.9**
MORI Morici 12.50 316 *e*Pn **Pn** **00 42 20.2 +0.6**
GEVA Gevas 12.54 73 Pn **Pn** **00 42 21.0 +0.6**
INTR Introdacqua 12.64 305 Pn **Pn** **00 42 21.6 -0.1**
MORH Mrgy, Hungar 12.74 330 *e*Pn **Pn** **00 42 25.5 +2.6**
DUGI Dugi Otok 12.95 315 *e*Pn **Pn** **00 42 25.4 -0.4**
NVLJ Novalja 13.40 316 *i* Pn **Pn** **00 42 31.8 -0.2**
PSZ Piszkesteto 13.73 337 P **Pn** **00 42 38.1 +1.6**
PSZ Piszkesteto 13.73 337 **Pn** **00 42 38.1 +1.6**
UZH Uzhgorod 13.74 344 *e*P **P** **00 42 44.4 -0.8**
NEY Neytrino 13.89 52 *e*P **Pn** **00 42 38.7 -0.1**
CRES Cresnjev 13.92 322 *e*Pn **Pn** **00 42 39.3 +0.3**
KOLS Kolonicke sedl 14.03 345 *e*P **Pn** **00 42 44.0 +3.5**
KOLS pmax pmax
comp=Z,39nm,2.1s
KOLS Kolonicke sedl 14.03 345 *e* **Pn** **00 42 44.0 +3.5**
KOLS Kolonicke sedl 14.03 345 *e*P **P** **00 42 49.7 +1.2**
GNI Garni 14.17 66 P **P** **00 42 46.5 -3.8**
comp=Z,0.1nm,0.3s,baz=130,slow=10,SNR=3.0
GNI Garni 14.17 66 P **Pn** **00 42 45.2 +2.5**
GNI Garni 14.17 66 **Pn** **00 42 45.2 +2.5**
KIV Kislovodsk 14.22 49 *e*P **Pn** **00 42 44.1 +0.9**
KIV pmax pmax
comp=Z,31nm,1.1s
KIV MLR MLR
comp=Z,271nm,12.0s
KIV Kislovodsk 14.22 49 **P** **00 42 48.0 -2.7**
KBZ Khabaz 14.23 50 P **P** **00 42 53.2 +2.5**
comp=Z,0.5nm,0.3s,baz=235,slow=8.7,SNR=14
KBZ LR LR 00 49 28.8
comp=Z,194nm,18.2s,baz=245,slow=42
KBZ Khabaz 14.23 50 *i* P **Pn** **00 42 43.5 +0.2**
CEY Cerknica 14.39 319 *e*Pn **Pn** **00 42 45.9 +0.3**
ZEI Tsey 14.45 55 *e*P **P** **00 42 50.7 -2.7**
ZEI pmax pmax
comp=Z,25nm,1.3s
LJU Ljubljana 14.54 320 *e*Pn **Pn** **00 42 49.8 +2.2**
LVV L'vov 14.57 350 *e*P **Pn** **00 42 49.2 +1.2**
LVV *e*S **Sn** **00 45 31.4 +2.0**
LVV pmax pmax
comp=Z,50nm,1.4s
LVV MLR MLR
comp=N,600nm,8.0s
LVV MLR MLR
comp=E,500nm,8.0s
LVV MLR MLR
comp=Z,800nm,8.0s
VYHS Vyhne 14.58 336 *e*P **P** **00 42 56.0 +1.4**
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 14.58 336 *e*P **P** **00 42 56.0 +1.4**
SOKA Soboth 14.72 323 *i* Pn **Pn** **00 42 52.9 +2.8**
comp=Z,6.4nm,0.6s,SNR=4.9
OBKA Obir 14.84 322 *e*Pn **Pn** **00 42 53.0 +1.2**
comp=Z,5.6nm,0.5s
ARSA Arzberg 14.90 326 *i* Pn **Pn** **00 42 53.8 +1.3**
comp=Z,4.9nm,0.7s
LANS Liptovska Anna 14.95 338 *e*P **P** **00 43 01.1 +2.3**
LANS pmax pmax
comp=Z,7.0nm,0.8s
LANS Liptovska Anna 14.95 338 *e*P **P** **00 43 01.1 +2.3**
NIE Niedzica 14.96 341 *e*P **P** **00 42 57.7 -1.1**
ZST Bratislava 14.96 331 *e*P **P** **00 43 01.5 +2.7**
ZST Bratislava 14.96 331 *e*P **P** **00 43 01.5 +2.7**
CASP Castiglione de 15.01 304 **Pn** **00 42 56.1 +2.2**
CASP IAmb IAmb 00 43 03.4
comp=Z,20nm,0.8s
KEST Kesra 15.01 276 P **Pn** **00 42 54.7 +0.6**
baz=32,slow=11,SNR=1.8
KEST Kesra 15.01 276 **Pn** **00 42 55.3 +1.2**
KEST IAmb IAmb 00 43 06.0
comp=Z,19nm,1.0s
GOF Gofitskoye 15.03 46⇑ *e*P P 00 43 07.4 +7.8
MODS Modra-Piesok 15.04 332 *e*P **P** **00 42 59.8 +0.1**
MODS pmax pmax
comp=Z,12nm,0.8s
MODS Modra-Piesok 15.04 332 *e* **P** **00 42 59.8 +0.1**
MODS Modra-Piesok 15.04 332 *e*P **P** **00 43 04.2 +4.5**
OSSC Osservatorio P 15.06 307 P **P** **00 42 58.0 -1.9**
OSSC IAmb IAmb 00 43 17.1
comp=Z,9.7nm,0.9s
AKASG Malin Array Be 15.23 3 P **Pn** **00 42 56.5 -0.3**
comp=Z,1.9nm,0.3s,baz=189,slow=10,SNR=14
AKASG LR LR 00 49 15.6
comp=Z,178nm,19.1s,baz=185,slow=39
AKASG Malin Array Be 15.23 3 *i* P **Pn** **00 42 58.0 +1.2**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 15.23 3 **Pn** **00 42 57.9 +1.1**
AKBB Malin Array Si 15.23 3 P **Pn** **00 42 58.3 +1.5**
AKBB pmax pmax
comp=Z,15nm,1.1s
AKBB Malin Array Si 15.23 3 **Pn** **00 42 58.3 +1.5**
AKBB IAmb IAmb 00 43 06.7
comp=Z,16nm,1.1s
JAVC Velka Javorina 15.30 334 *e*PN **P** **00 43 07.3 +4.7**
MYKA Terra Mystica 15.39 321 *i* Pn **P** **00 43 07.1 +3.5**
comp=Z,11nm,1.1s
STAL STALIGIAL 15.65 318 **Pn** **00 43 02.4 0.0**
ZOU Zoufplan 15.69 319 **Pn** **00 43 03.5 +0.5**
ZOU IAmb IAmb 00 43 10.3
comp=Z,20nm,0.9s
TEOL Teolo 15.71 314 **Pn** **00 43 03.1 -0.1**
TEOL IAmb IAmb 00 43 14.6
comp=Z,33nm,0.9s
OJC Ojcow 15.82 341 *e*P **P** **00 43 09.0 +0.6**
OJC Ojcow 15.82 341 P **P** **00 43 06.7 -1.7**
OJC pmax pmax
comp=Z,49nm,1.5s
OJC Ojcow 15.82 341 **P** **00 43 06.7 -1.7**
OJC IAmb IAmb 00 43 10.7
comp=Z,49nm,1.5s
KBA Koelnbreinsper 15.84 321 *e*Pn **P** **00 43 07.2 -1.6**
comp=Z,38nm,1.1s,SNR=8.6
MOA Molln 15.92 325 *i* Pn **P** **00 43 09.9 +0.4**
comp=Z,12nm,1.1s
KRUC Moravsky 15.94 332 *e*PN **P** **00 43 09.9 +0.3**
ABTA Abfaltersbach 16.06 319 *i* Pn **Pn** **00 43 08.3 +0.6**
comp=Z,17nm,1.5s,SNR=5.5
VRAC Vranov 16.06 333 P **P** **00 43 11.0 -0.1**
comp=Z,0.5nm,0.3s,baz=129,slow=10,SNR=7.7
VRAC Vranov 16.06 333 *e*PN **P** **00 43 11.2 +0.1**
CTI Castel Tesino 16.11 316 P **Pn** **00 43 09.2 +0.8**
CTI pmax pmax
comp=Z,22nm,0.8s
CTI Castel Tesino 16.11 316 **Pn** **00 43 09.2 +0.8**
CTI IAmb IAmb 00 43 23.9
comp=Z,22nm,0.8s
MORC Moravsky Berou 16.12 335 *e*PN **P** **00 43 11.2 -0.5**
MORC Moravsky Berou 16.12 335 P **Pn** **00 43 09.5 +1.1**
MORC pmax pmax
comp=Z,20nm,1.1s
MORC Moravsky Berou 16.12 335 **Pn** **00 43 09.5 +1.1**
TREC Trest 16.48 331 *e*P **P** **00 43 16.3 +0.6**
TREC Trest 16.48 331 *e*P **P** **00 43 16.3 +0.6**
MSSA Maissana 16.53 308 Pn **Pn** **00 43 14.5 +0.7**
CKRC Cesky Krumlov 16.61 327 *e*P **P** **00 43 16.7 -0.5**
CKRC AMS AMS 00 49 21.9
comp=Z,600nm,14.0s
KRLC Kraliky 16.63 335 *e*P **P** **00 43 19.1 +1.7**
KRLC Kraliky 16.63 335 *e*P **P** **00 43 19.1 +1.7**
WTTA Wattenberg 16.85 319 *e*Pn **P** **00 43 21.3 +1.3**
comp=Z,10nm,0.7s
GEC2 GERESS Array S 16.90 326 **Pn** **00 43 19.3 +0.8**
GERES GERESS Array B 16.90 326 P **P** **00 43 19.9 -0.5**
comp=Z,0.3nm,0.3s,baz=144,slow=11,SNR=38
GERES LR LR 00 50 21.6
comp=Z,268nm,19.4s,baz=142,slow=39
GERES GERESS Array B 16.90 326 P **Pn** **00 43 19.2 +0.8**
GERES GERESS Array B 16.90 326 **Pn** **00 43 19.2 +0.8**
WATA Walderalm 16.93 319 *i* Pn **P** **00 43 21.8 +1.1**
comp=Z,33nm,1.3s
DPC Dobruska-Polom 17.02 334 *e*P **P** **00 43 22.4 +0.7**
DPC Dobruska-Polom 17.02 334 *e*P **P** **00 43 22.4 +0.7**
SQTA Sankt Quirin 17.05 318 *i* Pn **P** **00 43 21.4 -0.7**
comp=Z,15nm,1.2s,SNR=4.3

KHC Kasperske Hory 17.17 327 P **P** **00 43 22.7 -0.6**
KHC pmax pmax
comp=Z,14nm,0.9s
KHC Kasperske Hory 17.17 327 *e*P **P** **00 43 23.8 +0.5**
KHC *ex* x 00 43 56.0
KHC Kasperske Hory 17.17 327 P **P** **00 43 22.7 -0.6**
MOTA Moosalm 17.18 319 *i* Pn **Pn** **00 43 22.9 +0.8**
comp=Z,12nm,1.6s
FETA Feichten 17.20 317 *i* Pn **P** **00 43 24.8 +1.0**
comp=Z,20nm,0.8s,SNR=12
OSTC Ostas 17.23 334 *e*P **P** **00 43 25.2 +1.2**
CHVC Chvalec 17.32 334 *e*P **P** **00 43 25.6 +0.7**
PRU Pruhonice 17.41 330 *e*P **P** **00 43 26.3 +0.4**
PRU Pruhonice 17.41 330 *e*P **P** **00 43 26.3 +0.4**
PRU AMS AMS 00 50 30.7
comp=Z,600nm,11.3s
KSP Ksiaz 17.45 335 *e*P **P** **00 43 27.8 +1.4**
RETA Reutte 17.46 319 *i* Pn **P** **00 43 26.0 -0.5**
comp=Z,13nm,1.6s
PRA Prague 17.52 330 *e*P **P** **00 43 28.0 +0.9**
PRA Prague 17.52 330 *e*P **P** **00 43 28.0 +0.9**
DAVOX Davos/Dischmat 17.54 315 P **P** **00 43 28.0 +0.4**
DAVOX LR LR 00 50 23.8
comp=Z,562nm,19.0s,baz=117,slow=38
TUE Stuetta 17.68 314 **P** **00 43 28.9 -0.3**
VSR Storozhevoye 17.72 24 *e*P **P** **00 43 29.5 +0.2**
VSR pmax pmax
comp=Z,20nm,1.1s
DAVA Damuels 17.82 317 Pn **P** **00 43 30.4 -0.2**
comp=Z,7.7nm,0.6s,SNR=7.5
PVCC Panska Ves 17.82 332 *e*P **P** **00 43 34.1 +3.6**
PVCC Panska Ves 17.82 332 *e*P **P** **00 43 34.1 +3.6**
BRG Berggiesshubel 18.34 331 *e*P **P** **00 43 37.8 +1.6**
BRG Amp 00 43 44.9
comp=Z,6.9nm,0.8s
BRG *ex* x 00 43 51.1
BRG Amp 00 43 52.3
comp=Z,7.0nm,1.0s
BRG Amp 00 49 58.0
comp=N,0.7nm,7.7s
BRG Amp 00 50 06.0
comp=E,0.8nm,18.5s
BRG Amp 00 51 36.0
comp=Z,0.5nm,9.9s
NKC Novy Kostel 18.48 328 *e*P **Pn** **00 43 38.6 +0.8**
NKC Novy Kostel 18.48 328 *e*P **Pn** **00 43 38.6 +0.8**
NKC AMS AMS 00 51 09.0
comp=Z,700nm,13.5s
VRH Novokhopyorsk 18.63 28 *e*P **Pn** **00 43 40.9 +1.3**
VRH pmax pmax
comp=Z,20nm,0.6s
GRA1 Grafenberg Arr 18.65 325 P **Pn** **00 43 40.1 +0.1**
GRF Grafenberg Arr 18.65 325 P **Pn** **00 43 40.1 +0.1**
GRF pmax pmax
comp=Z,13nm,1.0s
GRF Grafenberg Arr 18.65 325 *e*P **Pn** **00 43 40.5 +0.6**
comp=Z,13nm,1.1s,baz=133,slow=12
GRFO Grafenberg 18.65 325 P **P** **00 43 39.8 +0.2**
GRFO pmax pmax
comp=Z,13nm,1.0s
GRFO Grafenberg 18.65 325 P **P** **00 43 39.8 +0.2**
BNI Bardonecchia 18.68 307 P **P** **00 43 40.1 0.0**
BNI pmax pmax
comp=Z,8.0nm,1.1s
BNI Bardonecchia 18.68 307 P **P** **00 43 40.1 0.0**
SUW Suwalki 18.79 352 *e*P **Pn** **00 43 42.0 +0.4**
SUW Suwalki 18.79 352 P **P** **00 43 41.2 +0.1**
SUW pmax pmax
comp=Z,38nm,1.0s
SUW Suwalki 18.79 352 P **P** **00 43 41.1 +0.1**
SUW IAmb IAmb 00 43 57.0
comp=Z,38nm,1.0s
LPSR Galich'ya Gora 18.84 21 *e*P **P** **00 43 40.9 -0.7**
LPSR pmax pmax
comp=Z,40nm,1.2s
SENIN Lac Senin/Sane 18.86 311 P **P** **00 43 41.4 -0.7**
SENIN IAmb IAmb 00 43 51.8
comp=Z,13nm,0.8s
MNK Minsk 19.00 0 *e*P **P** **00 43 42.0 -1.4**
MNK Minsk 19.00 0 *i* P **P** **00 43 43.2 -0.2**
comp=E,2.0nm,1.1s
MNK *i* P **P** **00 43 43.2 -0.2**
comp=N,44nm,1.4s
MNK *i* P **P** **00 43 43.2 -0.2**
comp=Z,27nm,1.2s
MNK *i* PP **PnPn** **00 43 56.9 +0.3**
MNK *i* S **S** **00 47 19.7 +0.8**
MNK *i* SS **SnSn** **00 47 35.9 +5.2**
MNK *i* PcP **PcP** **00 48 06.1 -2.2**
MNK *i* LQ LQ 00 49 29.4
MNK *i* LR LR 00 50 17.0
MNK *i* LRM MLR 00 50 33.0
comp=E,16nm,13.3s
MNK *i* LRM MLR 00 50 35.5
comp=N,219nm,18.9s
MNK *i* LRM MLR 00 50 56.0
comp=Z,135nm,17.2s
CLL Collm 19.05 331 *i* P **Pn** **00 43 44.9 +0.2**
comp=Z,10.0nm,0.8s
CLL LmV 00 50 00.0
comp=Z,300nm,19.0s
CLL Collm 19.05 331 *i* P **Pn** **00 43 44.9 +0.2**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL MLR MLR
comp=Z,300nm,19.0s
CLL Collm 19.05 331 P **P** **00 43 44.4 +0.4**
GKP Gorka Klasztor 19.27 341 *e*P **Pn** **00 43 48.0 +0.7**
GKP Gorka Klasztor 19.27 341 *e*P **P** **00 43 46.7 +0.4**
BFO Black Forest 19.28 318 P **P** **00 43 46.5 0.0**
BFO pmax pmax
comp=Z,10.0nm,0.8s
BFO Black Forest 19.28 318 P **P** **00 43 46.5 0.0**
NACGM Naroch 19.42 358 *i* P **P** **00 43 47.1 -0.8**
NACGM *i* P **P** **00 43 47.1 -0.8**
NACGM *i* P **P** **00 43 47.1 -0.8**
NACGM *i* PP **PnPn** **00 44 00.5 -1.8**
NACGM *i* S **Sn** **00 47 18.3 -8.4**
NACGM *i* SS **SnSn** **00 47 34.8 -6.1**
NACGM *i* LQ LQ 00 49 51.4
NACGM *i* LR LR 00 50 47.0
RAYN Ar Rayn 19.45 123 P **Pn** **00 43 49.4 -0.5**
RAYN pmax pmax
comp=Z,10.0nm,1.1s
RAYN Ar Rayn 19.45 123 P **Pn** **00 43 49.4 -0.5**
IDID Didziasalis 19.83 358 *e*P **P** **00 43 52.4 0.0**
IIGN Ignalina 19.88 357 *e*P **P** **00 43 53.8 +0.8**
ISAL Salakas 20.11 357 *e*P Pn 00 43 56.6 -0.7
SSB Saint Sauveur 20.17 306 P **P** **00 43 56.0 -0.3**
SSB pmax pmax
comp=Z,4.0nm,0.9s
SSB Saint Sauveur 20.17 306 P **P** **00 43 56.0 -0.3**
PABE Paberze 20.18 354 *e*P Pn 00 43 57.7 -0.4
OBN Obninsk 20.53 14 P **P** **00 43 58.8 -1.2**
comp=Z,2.8nm,0.3s,baz=215,slow=1.7,SNR=5.1
OBN LR LR 00 52 27.6
comp=Z,63nm,21.1s,baz=176,slow=38
OBN Obninsk 20.53 14⇓ *e*P **P** **00 43 58.5 -1.6**
OBN *e* 00 44 17.3
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN MLR MLR
comp=Z,189nm,18.0s
OBN Obninsk 20.53 14 P **P** **00 43 59.4 -0.6**
OBN IAmb IAmb 00 44 08.1
comp=Z,22nm,0.6s
WLF Walferdange 21.21 319 *d*P **P** **00 44 09.3 +1.8**
WLF Walferdange 21.21 319 P **P** **00 44 08.3 +0.8**
WLF pmax pmax
comp=Z,18nm,1.1s
WLF Walferdange 21.21 319 P **P** **00 44 08.3 +0.8**
WLF IAmb IAmb 00 44 20.7
comp=Z,18nm,1.1s
MOS Moscow 21.34 15 *e*P **P** **00 44 09.4 +0.7**
MOS *e* 00 44 30.9
MOS pmax pmax
comp=Z,60nm,1.4s
MOS MLR MLR
comp=Z,500nm,7.0s
MEM Membach 21.83 320 *d*P **P** **00 44 14.6 +0.5**
BELG Belogornoye 22.00 34 P **P** **00 44 15.5 -0.3**
comp=Z,65nm,0.9s,baz=139,slow=0.6,SNR=25
BELG Belogornoye 22.00 34 *i* P **P** **00 44 14.6 -1.2**
BELG pmax pmax

comp=Z,14nm,1.0s
BCLA Clavier 22.09 319 *d*P **P 00 44 18.5 +1.6**
BGES Gesves 22.18 319 *d*P **P 00 44 19.4 +1.5**
DOU Dourbes 22.29 318 *d*P **P 00 44 21.2 +2.1**
SLIT Slitere, Latvi 22.44 352 *e*P **P 00 44 21.4 +0.8**
LLD Lille Linde 22.55 336 *i*P **P 00 44 22.3 +0.5**
LLD Lille Linde 22.55 336 *i*P **P 00 44 22.3 +0.5**
LLD Lille Linde 22.55 336 *i*P **P 00 44 22.3 +0.5**
VSU Vasula 22.98 359 *e*P **P 00 44 26.1 -0.2**
VSU Vasula 22.98 359 *i*P **P 00 44 27.4 +1.1**
TAM Tamanrasset 23.15 243 P **P 00 44 29.3 +0.8**
TAM pmax pmax
comp=Z,13nm,1.4s
TAM Tamanrasset 23.15 243 P **P 00 44 29.3 +0.8**
TAM IAmb IAmb 00 44 40.3
comp=Z,13nm,1.4s
AAL Aland 25.21 351 *e*P **P 00 44 46.1 -1.2**
ESBB Sonseca Array 25.44 289 P **P 00 44 49.2 -0.5**
ESBB IAmb IAmb 00 44 54.3
comp=Z,16nm,0.8s
ESDC Sonseca Array 25.44 289 P **P 00 44 49.5 -0.3**
comp=Z,14nm,0.8s,baz=81,slow=9.1,SNR=35
ESDC Sonseca Array 25.44 289 P **P 00 44 48.6 -1.1**
PAB San Pablo 25.74 289 P **P 00 44 52.5 0.0**
PAB pmax pmax
comp=Z,10.0nm,1.0s
PAB San Pablo 25.74 289 P **P 00 44 52.5 0.0**
PAB IAmb IAmb 00 44 58.6
comp=Z,10nm,1.0s
FINES FINESS Array B 25.99 358 P **P 00 44 52.7 -1.7**
comp=Z,3.9nm,0.7s,baz=162,slow=11,SNR=17
FINES LR LR 00 55 21.9
comp=Z,250nm,18.2s,baz=196,slow=37
FINES FINESS Array B 25.99 358 P **P 00 44 53.0 -1.4**
FINES FINESS Array B 25.99 358 P **P 00 44 53.0 -1.4**
FIA1 FINESS Array S 25.99 358 P **P 00 44 53.4 -1.0**
FIA1 IAmb IAmb 00 44 57.8
comp=Z,7.6nm,1.0s
HFS Hagfors 26.29 344 P **P 00 44 55.7 -1.4**
comp=Z,11nm,0.9s,baz=149,slow=12,SNR=12
HFS LR LR 00 55 47.6
comp=Z,283nm,18.6s,baz=168,slow=38
AKTO Aktyubinsk 26.45 46 P **P 00 44 59.1 +0.4**
comp=Z,10nm,0.9s,baz=248,slow=9.1,SNR=12
KLMR Klimovskoe 26.46 13 *e*P **P 00 44 56.8 -1.9**
KLMR pmax pmax
comp=Z,36nm,1.3s
KLMR Klimovskoe 26.46 13 *e*P **P 00 44 56.8 -1.9**
KLMR AMP 00 45 14.0
comp=Z,36nm,1.3s
MDT Midelt 26.88 274 P **P 00 45 02.9 0.0**
comp=Z,1.7nm,0.7s,baz=96,slow=10,SNR=5.7
MDT LR LR 00 57 47.7
comp=Z,112nm,20.0s,baz=18,slow=41
KIRV Kirov 27.16 25 P **P 00 45 04.0 -0.9**
comp=Z,4.9nm,0.4s,baz=301,slow=3.5,SNR=2.3
ABKAR Akbulak array 27.20 50 P **P 00 45 04.4 -1.1**
ABKAR Akbulak array 27.20 50 P **P 00 45 04.6 -0.9**
ABKAR IAmb IAmb 00 45 22.1
comp=Z,4.3nm,0.7s
ATD Arta Tunnel 27.49 147 LR LR 00 57 04.1
comp=Z,109nm,19.7s,baz=342,slow=38
PBRG Braganca 27.57 294 *ep*P **pP 00 45 10.8 -1.2**
PBRG A A 00 45 25.8
comp=Z,19nm,1.6s
NB2 NORSAR Subarra 27.67 343 P **P 00 45 07.7 -1.9**
comp=Z,13nm,1.4s,baz=150,slow=9.3
NOA NORSAR Array B 27.67 343 P **P 00 45 08.1 -1.5**
comp=Z,3.3nm,0.9s,baz=146,slow=8.7,SNR=6.8
NOA LR LR 00 57 16.3
comp=Z,300nm,18.1s,baz=155,slow=39
MVO Moncorvo 27.77 292 *e*P **P 00 45 10.7 -0.1**
comp=Z,13nm,1.9s
MVO *ep*P **sP 00 45 14.9 -0.4**
PBAR Barrancos 27.91 286 *e*P **P 00 45 10.4 -1.6**
comp=Z,14nm,1.3s
PBAR *ep*P **pP 00 45 15.8 +0.8**
PMRV Marv??o 28.09 289 *e*P **P 00 45 12.5 -1.1**
comp=Z,20nm,1.3s
PMRV *ep*P **pP 00 45 16.7 0.0**
PCBR Castelo Branco 28.14 289 *e*P **P 00 45 16.0 +2.0**
comp=Z,14nm,2.4s
MTE Manteigas 28.17 291 *e*P **P 00 45 15.1 +0.7**
comp=Z,16nm,1.7s
POLO Lamas de Olo 28.35 293 *e*P **P 00 45 19.8 +3.8**
comp=Z,11nm,1.4s
PVIS Viseu 28.43 291 *e*P **P 00 45 16.4 -0.3**
comp=Z,22nm,1.5s
PVIS *ep*P **sP 00 45 21.1 0.0**
PRGR Permogore 28.50 18 *e*P **P 00 45 14.9 -2.0**
PRGR pmax pmax
comp=Z,31nm,1.4s
PCAB Cabril 28.53 293 *e*P **P 00 45 19.8 +2.3**
comp=Z,16nm,1.5s
PVAQ Vaqueiros 28.53 284 *e*P **P 00 45 17.1 -0.4**
comp=Z,30nm,1.1s
PVAQ *ep*P **pP 00 45 20.6 +0.1**
PVAQ Vaqueiros 28.53 284 P **P 00 45 17.3 -0.2**
comp=Z,43nm,1.3s
PBDV *ep*P **pP 00 45 22.9 +0.6**
PCVE Castro Verde 28.76 285 *e*P **P 00 45 22.8 +3.3**
comp=Z,21nm,1.5s
PMTG Montargil 28.76 288 *e*P **P 00 45 19.0 -0.6**
comp=Z,11nm,1.7s
PMTG *ep*P **pP 00 45 22.7 +0.1**
MESJ Messejana 28.87 285 *e*P **P 00 45 20.5 0.0**
comp=Z,19nm,1.3s
MESJ *ep*P **pP 00 45 24.2 +0.6**
PCAS Casmilo, Conde 28.91 290 *e*P **P 00 45 23.2 +2.3**
comp=Z,27nm,1.8s
EKA Eskdalemuir Ar 29.04 323 P **P 00 45 21.7 -0.2**
comp=Z,0.9nm,0.6s,baz=118,slow=10,SNR=1.9
WSAR Wadi Sarin 29.39 106 LR LR 01 00 33.3
comp=Z,132nm,19.6s,baz=318,slow=43
ARU Arti 29.52 35 P **P 00 45 25.2 -0.9**
comp=Z,0.8nm,0.4s,baz=226,slow=12,SNR=6.5
ARU Arti 29.52 35 *c i*P **P 00 45 26.3 +0.2**
ARU 00 46 18.5
ARU S **S 00 50 21.6 +1.2**
ARU SS **SnSn 00 51 48.5 +0.7**
ARU Arti 29.52 35 P **P 00 45 25.8 -0.2**
ARU IAmb IAmb 00 45 42.9
comp=Z,4.9nm,0.7s
PMAFR Mafra 29.59 288 *e*P **P 00 45 30.7 +3.8**
comp=Z,58nm,1.9s
SVE Sverdlovsk 30.71 36 *e*P **P 00 45 37.5 +0.9**
SVE pmax pmax
comp=Z,12nm,1.5s
TOA0 Torodi Ar. Sit 32.39 233 P **P 00 45 52.2 +0.5**
TOA0 IAmb IAmb 00 46 07.8
comp=Z,5.8nm,0.8s
TORD Torodi Ar. Bea 32.39 233 P **P 00 45 52.1 +0.3**
comp=Z,6.8nm,0.7s,baz=36,slow=8.5,SNR=15
TORD Torodi Ar. Bea 32.39 233 P **P 00 45 51.8 +0.1**
TORD IAmb IAmb 00 45 56.9
comp=Z,6.3nm,0.9s
KK31 Karatay Array 33.62 64 P **P 00 46 00.6 -1.8**
KK31 pmax pmax
comp=Z,5.0nm,1.2s
KK31 Karatay Array 33.62 64 P **P 00 46 00.6 -1.8**
KK31 IAmb IAmb 00 46 10.4
comp=Z,5.4nm,1.1s
KKAR Karatay Array 33.62 64 P **P 00 46 00.9 -1.5**
KKAR Karatay Array 33.62 64 P **P 00 46 00.4 -1.9**
KKAR IAmb IAmb 00 46 10.4
comp=Z,5.4nm,1.1s
ARCES ARCESS Array B 34.12 359 P **P 00 46 05.0 -1.3**
comp=Z,4.2nm,0.8s,baz=177,slow=8.3,SNR=22
ARCES LR LR 01 00 21.8
comp=Z,185nm,19.0s,baz=170,slow=37
BRVK Borovoye 34.50 46 P **P 00 46 09.9 +0.1**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 34.50 46 P **P 00 46 09.9 +0.1**
BRVK IAmb IAmb 00 46 18.0
comp=Z,8.8nm,1.3s
BVAR Borovoye Array 34.56 46 P **P 00 46 10.6 +0.3**
comp=Z,1.2nm,0.8s,baz=210,slow=8.6,SNR=7.9
KOWA Kowa 35.37 242 P **P 00 46 18.4 +0.7**
comp=Z,3.9nm,0.7s,baz=52,slow=8.2,SNR=13
KOWA Kowa 35.37 242 P **P 00 46 18.1 +0.4**
KOWA IAmb IAmb 00 46 23.5
comp=Z,4.6nm,0.8s
AAK Ala-Archa 36.57 64 P **P 00 46 29.7 +1.7**
comp=Z,1.8nm,0.6s,baz=291,slow=7.5,SNR=6.4
AAK Ala-Archa 36.57 64 *i*P **P 00 46 27.8 -0.2**
AAK pmax pmax
comp=Z,18nm,1.4s
AAK Ala-Archa 36.57 64 P **P 00 46 28.8 +0.9**
AAK IAmb IAmb 00 46 37.7
comp=Z,11nm,1.4s
NIL Nilore 37.22 79 P **P 00 46 33.8 +0.3**
NIL pmax pmax
comp=Z,11nm,0.6s
NIL Nilore 37.22 79 P **P 00 46 33.8 +0.3**
KMBO Kilima Mbogo 37.49 164 LR LR 01 04 06.9
comp=Z,109nm,19.4s,baz=102,slow=39
KSH Kashi 38.07 69 P **P 00 46 40.7 0.0**
KSH pP sP 00 46 50.4 +5.3
KURBB Kurchatov Arra 39.23 51 P **P 00 46 50.5 +0.4**
comp=Z,3.0nm,0.7s,baz=276,slow=8.9,SNR=12
KURK Kurchatov 39.29 51 P **P 00 46 50.5 -0.1**
KURK Kurchatov 39.29 51 P **P 00 46 50.5 -0.1**
BORG Borgarnes 41.30 331 LR LR 01 06 28.7
comp=Z,105nm,18.2s,baz=117,slow=40
DBIC Dimbokro 41.48 234 P **P 00 47 08.7 -0.5**
comp=Z,2.7nm,0.5s,baz=26,slow=11,SNR=7.2
DBIC Dimbokro 41.48 234 P **P 00 47 08.5 -0.6**
DBIC pmax pmax
comp=Z,5.0nm,0.9s
DBIC Dimbokro 41.48 234 P **P 00 47 08.5 -0.6**
DBIC IAmb IAmb 00 47 23.9
comp=Z,5.1nm,0.8s
MAKZ Makanchi 41.57 57 P **P 00 47 10.5 +0.9**
MAKZ pmax pmax
comp=Z,2.0nm,1.0s
MAKZ Makanchi 41.57 57 P **P 00 47 10.5 +0.9**
TIC Toumodi 41.61 234 *e*P **P 00 47 10.0 -0.2**
KIC Kosan Boka 41.64 234 *e*P **P 00 47 10.3 -0.1**
comp=Z,5.7nm,0.4s
MK31 Makanchi Array 41.79 57 P **P 00 47 11.7 +0.4**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 41.79 57 P **P 00 47 11.7 +0.4**
MKAR Makanchi Array 41.79 57 P **P 00 47 11.9 +0.5**
comp=Z,3.6nm,0.8s,baz=272,slow=7.6,SNR=44
MKAR LR LR 01 06 40.1
comp=Z,142nm,18.5s,baz=273,slow=39
LIC Lamto 41.93 234 *e*P **P 00 47 12.7 -0.1**
comp=Z,27nm,1.2s
SPA0 Spitsbergen Ar 43.06 357 P **P 00 47 21.0 -0.3**
SPITS Spitsbergen Ar 43.06 357 P **P 00 47 20.4 -0.9**
comp=Z,6.4nm,1.0s,baz=152,slow=18,SNR=17
ZAA0 Zalesovo Array 43.21 46 P **P 00 47 22.7 0.0**
ZAA0 IAmb IAmb 00 47 30.0
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 43.21 46 P **P 00 47 22.6 -0.2**
comp=Z,2.1nm,0.4s,baz=269,slow=8.2,SNR=12
ZALV LR LR 01 07 40.7
comp=Z,91nm,19.9s,baz=5.5,slow=39
ZALV Zalesovo Beam 43.21 46 P **P 00 47 22.8 0.0**
ZALV Zalesovo Beam 43.21 46 P **P 00 47 22.8 0.0**
DGZ Jazzator, Alta 44.97 52 *i*P **P 00 47 36.1 -1.0**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
WMQ Urumqi 45.97 61 *e*P **P 00 47 47.3 +2.3**
HYB Hyderabad 48.33 98 *i*P **P 00 48 04.0 +0.3**
GKN Gorkha 48.34 82 *e*P **P 00 48 04.6 +0.7**
comp=Z,25nm,0.7s
DMN Daman 48.88 82 *e*P **P 00 48 08.9 +0.7**
comp=Z,50nm,1.0s
KKN Kakani 48.95 82 *e*P **P 00 48 09.4 +0.8**
comp=Z,29nm,0.9s
PKIN Phulchoki 49.13 82 *e*P **P 00 48 10.6 +0.5**
comp=Z,38nm,1.0s
PKI Pulchoki 49.15 82 *e*P **P 00 48 10.7 +0.5**
comp=Z,30nm,1.0s
GUN Gumba 49.39 82 *e*P **P 00 48 12.8 +0.7**
comp=Z,27nm,0.9s
SUMG Summit 49.44 339 P **P 00 48 11.8 -0.1**
SUMG pmax pmax
comp=Z,1.0nm,0.8s
SUMG Summit 49.44 339 P **P 00 48 11.8 -0.1**
RAMN Ramite 50.37 82 *e*P **P 00 48 19.7 +0.2**
comp=Z,26nm,1.0s
ODAN Odare 51.04 82 *e*P **P 00 48 26.0 +1.4**
comp=Z,19nm,1.0s
TAPN Taplejung 51.10 81 *e*P **P 00 48 26.9 +1.9**
comp=Z,27nm,0.9s
SFJD Kangerlussuaq 53.42 331 LR LR 01 14 46.2
comp=Z,118nm,18.4s,baz=91,slow=40
TLY Talaya 54.79 48 P **P 00 48 52.2 +0.6**
TLY pmax pmax
comp=Z,5.0nm,1.1s
TLY Talaya 54.79 48 P **P 00 48 52.2 +0.6**
TLY IAmb IAmb 00 49 09.6
comp=Z,5.3nm,1.1s
ZAK Zakamensk 54.90 49 *e*P **P 00 48 53.6 +1.1**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
SHL Shillong 55.24 81 P **P 00 48 55.6 +0.2**
SHL pmax pmax
comp=Z,10.0nm,1.1s
SHL Shillong 55.24 81 P **P 00 48 55.6 +0.2**
GTA Gaotai 55.90 63 ⇑P **P 00 49 02.2 +2.3**
GTA pP sP 00 49 07.6 +3.1
GTA sP pP 00 49 11.1 +8.0
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,91nm,5.1s
GTA LR LR
comp=N,140nm,18.2s
GTA LR LR
comp=E,170nm,18.5s
GTA LR LR
comp=Z,150nm,17.1s
SONM Songino Array 57.60 51 P **P 00 49 13.1 +1.3**
comp=Z,3.3nm,0.7s,baz=285,slow=7.6,SNR=14
SONM LR LR 01 17 01.2
comp=Z,101nm,19.2s,baz=304,slow=39
SONM Songino Array 57.60 51 P **P 00 49 12.0 +0.2**
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 57.60 51 P **P 00 49 12.0 +0.2**
SONM IAmb IAmb 00 49 18.1
comp=Z,2.6nm,0.7s
ULN Ulaanbaatar 58.01 51 P **P 00 49 15.4 +0.6**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 58.01 51 P **P 00 49 15.3 +0.6**
ULN IAmb IAmb 00 49 23.1
comp=Z,5.2nm,0.9s
LZH Lanzhou 60.11 65 *e*P **P 00 49 33.7 +4.2**
LZH sP sP 00 49 41.8 +7.7
LZH pmax pmax
comp=Z,19nm,1.1s
LBTB Lobatse 60.22 182 P **P 00 49 30.8 +0.7**
LBTB pmax pmax
comp=Z,12nm,1.3s
LBTB Lobatse 60.22 182 P **P 00 49 30.8 +0.7**
DRLN Deer Lake 61.28 312 P **P 00 49 38.1 +1.0**
HHC Hu-ho-hao-te 63.65 57 *e*P **P 00 49 57.2 +4.0**
BOSA Boshof 63.81 182 P **P 00 49 55.4 +1.2**
comp=Z,4.0nm,1.0s,baz=336,slow=8.2,SNR=3.8
BOSA Boshof 63.81 182 P **P 00 49 54.3 +0.1**
BOSA pmax pmax
comp=Z,17nm,1.4s
BOSA Boshof 63.81 182 P **P 00 49 54.3 +0.1**
CM31 Chiang Mai Arr 64.39 85 P **P 00 49 59.2 +0.9**
CMAR Chiang Mai Arr 64.39 85 P **P 00 49 59.4 +1.1**
comp=Z,3.4nm,0.6s,baz=294,slow=7.8,SNR=16
CMAR Chiang Mai Arr 64.39 85 P **P 00 49 58.0 -0.3**
XAN Xi'an 64.75 65 P **P 00 50 01.0 +0.6**
XAN Xi'an 64.75 65 P **P 00 50 01.0 +0.6**
BATG Bathurst New B 67.29 313 P **P 00 50 16.7 +0.1**
SUR Sutherland 67.84 186 P **P 00 50 20.7 +0.5**
WHN Wuhan 70.45 66 ⇑P P 00 50 45.2 +8.7
KLR Kul'dur 72.09 42 LR LR 01 28 07.7
comp=Z,36nm,18.8s,baz=304,slow=41
KLR Kul'dur 72.09 42 *i*P **P 00 50 46.4 +0.3**
KLR pmax pmax
comp=Z,3.0nm,1.0s
USA0B Ussuriysk Arra 75.06 46 P **P 00 51 03.6 0.0**
USA0B pmax pmax
comp=Z,14nm,1.2s
USA0B Ussuriysk Arra 75.06 46 P **P 00 51 03.6 0.0**
USRK Ussuriysk Ar. 75.06 46 P **P 00 51 03.7 0.0**
comp=Z,4.0nm,0.7s,baz=303,slow=4.5,SNR=12
USRK Ussuriysk Ar. 75.06 46 P **P 00 51 03.5 -0.1**
KSRS Korea Array 76.36 54 P **P 00 51 11.3 +0.1**
comp=Z,1.8nm,0.7s,baz=312,slow=5.4,SNR=4.8
KSRS LR LR 01 28 10.1
comp=Z,85nm,18.5s,baz=306,slow=38
BMAR Burnt Mountain 77.23 357 P **P 00 51 15.6 -0.1**
EPYK Eagle Plains 77.76 354 P **P 00 51 19.0 +0.4**
EPYK IAmb IAmb 00 51 28.8
comp=Z,7.3nm,1.4s
YKA Yellowknife Ar 77.77 343 P **P 00 51 17.6 -1.1**
comp=Z,1.4nm,0.9s,baz=38,slow=5.6,SNR=11
IMAR Indian Mountai 78.84 1 P **P 00 51 24.6 +0.1**
EGAK Eagle 79.68 355 P **P 00 51 29.9 +0.7**
EGAK IAmb IAmb 00 51 31.9
comp=Z,6.7nm,1.4s
G45A Suttons Bay 79.78 319 P **P 00 51 30.9 +0.9**
MDM Murphy Dome 79.82 358 P **P 00 51 30.0 0.0**
MDM IAmb IAmb 00 51 37.4
comp=Z,7.7nm,1.3s
ILAR Eielson Array 79.97 358 P **P 00 51 29.9 -0.8**
comp=Z,0.9nm,0.8s,baz=346,slow=4.2,SNR=6.9
ILAR Eielson Array 79.97 358 P **P 00 51 30.4 -0.4**
ILAR Eielson Array 79.97 358 P **P 00 51 30.4 -0.4**
WRH Wood River Hil 80.31 358 P **P 00 51 31.7 -0.9**
WRH IAmb IAmb 00 51 36.1
comp=Z,3.9nm,0.8s
ULM Lac du Bonnet 81.21 327 P **P 00 51 36.0 -1.6**
comp=Z,2.2nm,0.6s,baz=69,slow=6.1,SNR=6.4
ULM LR LR 01 27 55.2
comp=Z,106nm,18.6s,baz=44,slow=36
PETK Petropavlovsk- 81.62 28 LR LR 01 30 27.2
comp=Z,114nm,18.7s,baz=290,slow=38
PPLA Purkeypile 81.94 360 P **P 00 51 41.3 -0.2**
L40A Anamosa 84.77 319 P **P 00 51 56.5 +0.3**
KDAK Kodiak Island 87.07 0 LR LR 01 34 13.9
comp=Z,31nm,18.2s,baz=58,slow=38
CCM Cathedral Cave 87.58 316 P **P 00 52 11.8 +1.6**
CCM pmax pmax
comp=Z,5.0nm,0.7s
CCM Cathedral Cave 87.58 316 P **P 00 52 11.8 +1.6**
BDFB Brasilia 87.83 249 LR LR 01 34 10.0
comp=Z,86nm,18.2s,baz=99,slow=37
PDAR Pinedale Array 92.92 330 P **P 00 52 35.3 0.0**
comp=Z,0.2nm,0.6s,baz=56,slow=7.1,SNR=2.2
NVAR Mina Array Bea 100.03 334 LR LR 01 42 43.0
comp=Z,82nm,18.8s,baz=0.0,slow=38

IDC **12** *00:42:27.6±0.8,38°.37N×48°.92E,h0km,mb4.1/17, mb1 4.2/29,mb1mx4.0/50,mbtmp4.1/29,ML3.6/8,MS3.5/4, Ms1 3.5/4,ms1mx2.9/52 Error ellipse: s-maj=16.3km s-min=8.3km az=5.0*
MOS **12** *00:42:31.0±1.4,38°.40N×49°.19E,h33km,mb4.6/23,Error ellipse: s-maj=5.3km s-min=3.7km az=122.0*
NEIC **12** *00:42:31.7±2.0,38°.39N±0°.08×49°.12E±0°.08,h27km±5km, mb4.5/44,Error ellipse: s-maj=11.6km s-min=9.1km az=184.0*
TEH **12** *00:42:33.8,38°.44N×49°.16E,h30km,ML4.7*
THR **12** *00:42:34.9±0.4,38°.24N×49°.06E,h14km±7km, ML4.8*
AZER **12** *00:42:35.7±0.1,38°.50N×48°.94E,h49km,ml4.7/34,Error ellipse: s-maj=1.9km s-min=1.7km az=279.0*
DSN **12** *00:42:36.1±1.1,38°.27N×48°.95E,h45km,mb4.9/2,Error ellipse: s-maj=20.7km s-min=12.7km az=55.0*

ISC 12 00:42:32.6±0.5,38°.45N±0°.02×49°.11E±0°.02,h31km±2km, n383,σ1§99/411,mb4.4/55,17C-21D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASTR	**Astara**	**0.28**	**293**	P	**Pn**	**00 42 44.5**	**+3.8**
ASTR	SNR=959						
				S	**Sn**	**00 42 51.4**	**+5.6**
ASTR	**Astara**	**0.28**	**293**	*e*Pg	**Pn**	**00 42 44.4**	**+3.8**
LKRN	**Lenkeran, Azer**	**0.37**	**315**	PG	**Pn**	**00 42 45.2**	**+3.3**
LKRN	**Lenkeran, Azer**	**0.37**	**315**	P	**Pn**	**00 42 45.2**	**+3.3**
LKRN	SNR=7292						
				S	**Sn**	**00 42 52.6**	**+4.6**
LKRN	**Lenkeran, Azer**	**0.37**	**315**	*e*Pg	**Pn**	**00 42 45.2**	**+3.3**
LRK	**Lerik**	**0.64**	**288**	P	**Pn**	**00 42 48.3**	**+2.5**
LRK	SNR=4711						
				S	**Sn**	**00 42 57.6**	**+2.7**
LRK	**Lerik**	**0.64**	**288**	*e*Pg	**Pn**	**00 42 48.2**	**+2.5**
YRD	**Yardimli**	**0.82**	**304**	P	**Pb**	**00 42 50.5**	**+1.9**
YRD				S	**Sb**	**00 43 01.9**	**+2.4**
YRD	**Yardimli**	**0.82**	**304**	*e*Pg	**Pb**	**00 42 50.5**	**+1.9**
ISRB	**Sarab**	**1.30**	**242**	*e*Pg	**Pb**	**00 42 57.6**	**+1.0**
ISRB				*e*		00 43 16.8	
	comp=Z,99nm,0.4s						
ALIB	**Äli-Bayra**	**1.51**	**357**	P	**Pb**	**00 43 02.0**	**+2.1**
ALIB	SNR=159						
				S	**Sb**	**00 43 20.4**	**+1.8**
ALIB	**Äli-Bayra**	**1.51**	**357**	*e*Pg	**Pb**	**00 43 02.0**	**+2.1**
SAAT	**Saatly**	**1.51**	**339**	Pn	**Pb**	**00 43 00.9**	**+1.0**
SAAT	SNR=1018						
				Sn	**Sb**	**00 43 21.3**	**+2.7**
SAAT	**Saatly**	**1.51**	**339**	*e*Pn	**Pb**	**00 43 00.9**	**+1.0**
IHRS	**Heris**	**1.63**	**266**	*e*Pg	**Pb**	**00 43 01.7**	**-0.6**
IHRS				*e*		00 43 26.1	
	comp=Z,99nm,0.4s						
QRD	**Qoradiz**	**1.72**	**306**	Pn	**Pb**	**00 43 02.5**	**-1.2**
QRD	SNR=213						
				Sn	**Sb**	**00 43 23.3**	**-1.6**
QRD	**Qoradiz**	**1.72**	**306**	*e*Pn	**Pb**	**00 43 02.4**	**-1.2**
BLQ	**Beylaqan**	**1.75**	**317**	Pn	**Pb**	**00 43 03.2**	**-1.0**
BLQ	SNR=609						
				Sn	**Sb**	**00 43 24.5**	**-1.2**
BLQ	**Beylaqan**	**1.75**	**317**	*e*Pn	**Pb**	**00 43 03.1**	**-1.0**
ZNJK	**Zanjan**	**1.81**	**191**	*e*Pg	**Pb**	**00 43 04.1**	**-1.2**
ZNJK				*e*Sg	**Sb**	**00 43 25.6**	**-2.0**
IHSH	**Hashtrud**	**1.86**	**233**	*e*Pn	**Pb**	**00 43 04.8**	**-1.3**
GOBA	**Gobu**	**2.00**	**14**	Pn	**Pb**	**00 43 09.7**	**+1.3**
GOBA	SNR=18						
				Sn	**Sb**	**00 43 35.1**	**+2.1**
GOBA	**Gobu**	**2.00**	**14**	*e*Pn	**Pb**	**00 43 09.7**	**+1.3**
KDMR	**Kurdemir**	**2.05**	**340**	Pn	**Pb**	**00 43 07.7**	**-1.5**
KDMR	SNR=125						
				Sn	**Sb**	**00 43 32.9**	**-1.4**
KDMR	**Kurdemir**	**2.05**	**340**	*e*Pn	**Pb**	**00 43 07.7**	**-1.5**
GBS	**Qobustan**	**2.08**	**356**	Pn	**Pb**	**00 43 09.7**	**-0.2**
GBS	SNR=30						
				Sn	**Sb**	**00 43 33.7**	**-1.6**
GBS	**Qobustan**	**2.08**	**356**	*e*Pn	**Pb**	**00 43 09.6**	**-0.2**
GALA	**Gala**	**2.12**	**22**	Pn	**Pb**	**00 43 11.1**	**+0.8**
GALA				Sn	**Sb**	**00 43 38.1**	**+2.0**
GALA	**Gala**	**2.12**	**22**	*e*Pn	**Pb**	**00 43 11.1**	**+0.8**
ZRD	**Zardab**	**2.13**	**329**	Pn	**Pb**	**00 43 09.1**	**-1.6**
ZRD	SNR=248						
				Sn	**Sb**	**00 43 34.9**	**-1.7**
ZRD	**Zardab**	**2.13**	**329**	*e*Pn	**Pb**	**00 43 09.0**	**-1.6**
NDR	**Nardaran**	**2.23**	**17**	Pn	**Pb**	**00 43 12.0**	**-0.3**
NDR	SNR=29						
				Sn	**Sb**	**00 43 40.9**	**+1.4**
IGZV	**Ghazvin**	**2.24**	**157**	*e*Pn	**Pb**	**00 43 10.2**	**-2.4**
AGDM	**Agdam**	**2.27**	**317**	Pn	**Pn**	**00 43 10.2**	**+2.2**
AGDM	SNR=139						
				Sn	**Sn**	**00 43 35.3**	**+0.2**
ITBZ	**Tabriz**	**2.34**	**266**	*e*Pn	**Pn**	**00 43 10.9**	**+1.7**
BRDA	**Brd**	**2.35**	**321**	Pn	**Pb**	**00 43 12.4**	**-1.9**
BRDA	SNR=393						
				Sn	**Sn**	**00 43 39.7**	**+2.8**
QALM	**Alamut, Qazvin**	**2.36**	**148**	*e*Pn	**Pn**	**00 43 10.6**	**+1.1**
PQL	**Pirkuli**	**2.37**	**350**	Pn	**Pb**	**00 43 12.7**	**-2.0**
PQL				Sn	**Sb**	**00 43 41.0**	**-2.5**
ATGJ	**Altiaghaj**	**2.41**	**357**	Pn	**Pb**	**00 43 13.7**	**-1.7**
ATGJ	SNR=48						
				Sn	**Sb**	**00 43 43.6**	**-1.1**
IML	**Ismayilli**	**2.45**	**343**	Pn	**Pn**	**00 43 13.0**	**+2.5**
IML	SNR=588						
				Sn	**Sn**	**00 43 41.8**	**+2.4**
ORD	**Ordubad**	**2.49**	**282**	Pn	**Pb**	**00 43 14.0**	**-2.7**
ORD	SNR=43						
				Sn	**Sn**	**00 43 42.1**	**+1.6**
SIZA	**Siyzn**	**2.63**	**356**	Pn	**Pb**	**00 43 16.3**	**-2.8**
SIZA	SNR=14						
				Sn	**Sn**	**00 43 46.5**	**+2.6**
QBL	**Gabala**	**2.68**	**339**	Pn	**Pn**	**00 43 16.1**	**+2.4**
QBL	SNR=294						
				Sn	**Sn**	**00 43 47.0**	**+1.9**
IMRD	**Marand**	**2.69**	**277**	*e*Pn	**Pb**	**00 43 16.8**	**-3.3**
IMRD				*e*		00 44 11.9	
	comp=Z,99nm,0.6s						
QABG	**Abgarm-Qazvin**	**2.76**	**172**	*e*Pn	**Pn**	**00 43 15.4**	**+0.3**
QABG				*e*		00 43 52.0	
	comp=Z,99nm,0.4s						

MNGR	**Mingechevir, A**	**2.80**	**327**	PN	**Pn**	**00 43 18.0**	**+2.7**
MNGR	**Mingechevir, A**	**2.80**	**327**	Pn	**Pn**	**00 43 18.0**	**+2.7**
	SNR=27						
MNGR				Sn	**Sn**	**00 43 51.3**	**+3.3**
XNQ	**Khinaliq**	**2.82**	**345**	Pn	**Pn**	**00 43 18.1**	**+2.3**
	SNR=100						
XNQ				Sn	**Sn**	**00 43 51.1**	**+2.3**
THKV	**Tehran--Karaj**	**2.90**	**150**	*e*Pn	**Pb**	**00 43 21.6**	**-2.2**
THKV				IAML		00 44 01.6	
	comp=N,3µm,0.6s						
NAX	**Nakhchivan**	**2.92**	**285**	PN	**Pb**	**00 43 20.5**	**-3.5**
NAX	**Nakhchivan**	**2.92**	**285**	Pn	**Pb**	**00 43 20.6**	**-3.5**
	SNR=42						
NAX				Sn	**Sn**	**00 43 51.9**	**+0.8**
SBZ	**Shahbuz**	**2.93**	**290**	Pn	**Pn**	**00 43 20.1**	**+2.9**
	SNR=32						
SBZ				Sn	**Sn**	**00 43 54.5**	**+3.0**
QUBA	**Quba, Azerbaij**	**2.94**	**351**	Pn	**Pn**	**00 43 20.6**	**+3.4**
	SNR=49						
QUBA				Sn	**Sn**	**00 43 54.5**	**+2.9**
CHTH	**Charan**	**3.00**	**147**	*e*Pn	**Pb**	**00 43 22.1**	**-3.4**
CHTH	**Charan**	**3.00**	**147**	*e*Pn	**Pb**	**00 43 22.2**	**-3.4**
IMHD	**Mahdasht**	**3.03**	**155**	*e*Pn	**Pn**	**00 43 21.9**	**+3.3**
GANJ	**Ganja**	**3.08**	**316**	PN	**Pn**	**00 43 20.8**	**+1.6**
GANJ	**Ganja**	**3.08**	**316**	Pn	**Pn**	**00 43 20.7**	**+1.6**
	SNR=118						
GANJ				Sn	**Sn**	**00 43 55.3**	**+0.4**
IRAZ	**Razeghan**	**3.11**	**168**	*e*Pn	**Pn**	**00 43 22.2**	**+2.4**
IRAZ				*e*		00 44 05.0	
	comp=Z,99nm,0.6s						
SEKA	**Sheki**	**3.12**	**332**	PN	**Pn**	**00 43 21.7**	**+1.9**
SEKA	**Sheki**	**3.12**	**332**	Pn	**Pn**	**00 43 21.7**	**+1.9**
	SNR=922						
SEKA				Sn	**Sn**	**00 43 57.2**	**+1.1**
QSAR	**Qusar**	**3.13**	**348**	Pn	**Pn**	**00 43 23.0**	**+3.1**
	SNR=37						
QSAR				Sn	**Sn**	**00 43 58.5**	**+2.3**
MAHB	**Mahabad**	**3.19**	**239**	*e*Pn	**Pn**	**00 43 23.5**	**+2.7**
AKT	**Akhty**	**3.21**	**341**	⇑*i*PN	**Pn**	**00 43 23.6**	**+2.6**
AKT				*e*		00 43 30.9	
AKT				*e*S	**Sb**	**00 44 08.6**	**+1.0**
AKT				*e*		00 44 19.5	
AKT				pmax	pmax		
	comp=Z,603nm,0.9s						
AKT				MLR	MLR		
	comp=Z,180nm,2.0s						
TEH	**Tehran**	**3.26**	**146**	*e*Pn	**Pn**	**00 43 24.8**	**+3.0**
IPRN	**Peran**	**3.39**	**130**	*e*Pn	**Pn**	**00 43 26.2**	**+2.7**
GDB	**GEDABAY**	**3.44**	**312**	Pn	**Pn**	**00 43 26.8**	**+2.4**
	SNR=44						
GDB				Sn	**Sn**	**00 44 05.1**	**+0.9**
IHSB	**Hasanabad**	**3.47**	**149**	*e*Pn	**Pn**	**00 43 28.3**	**+3.6**
HYR	**Heyderabad**	**3.55**	**292**	Pn	**Pn**	**00 43 28.8**	**+3.1**
	SNR=9.7						
HYR				Sn	**Sn**	**00 44 08.8**	**+2.2**
HAGD	**Aghdareh**	**3.62**	**180**	*e*Pn	**Pn**	**00 43 29.4**	**+2.5**
DAMV	**Damavand**	**3.63**	**140**	*e*Pn	Pn	00 43 31.2	+4.2
DAMV	**Damavand**	**3.63**	**140**	*e*Pn	Pn	00 43 31.2	+4.2
IALM	**Almalolaq**	**3.66**	**192**	*e*Pn	**Pn**	**00 43 30.8**	**+3.3**
ZKTA	**Zakatala**	**3.71**	**330**	PN	**Pn**	**00 43 30.2**	**+2.3**
ZKTA	**Zakatala**	**3.71**	**330**	Pn	**Pn**	**00 43 30.2**	**+2.3**
	SNR=571						
ZKTA				Sn	**Sn**	**00 44 11.8**	**+1.2**
DDFL	**Dedoflistskaro**	**3.77**	**323**	PN	**Pn**	**00 43 32.3**	**+3.5**
GNI	**Garni**	**3.79**	**298**	Pn	**Pn**	**00 43 28.8**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=124,slow=12,SNR=3.4						
GNI				Pg	**Pb**	**00 43 36.3**	**-2.6**
	comp=Z,7.2nm,0.3s,baz=42,slow=2.1,SNR=16						
GNI				Lg	Lg	00 44 26.9	
	comp=Z,33nm,0.3s,baz=188,slow=23,SNR=6.0						
GNI				LR	LR	00 45 07.6	
	comp=Z,488nm,21.1s,baz=83,slow=43						
GNI	**Garni**	**3.79**	**298**	P	**Pn**	**00 43 32.8**	**+3.7**
GNI	**Garni**	**3.79**	**298**	Pn	**Pn**	**00 43 31.8**	**+2.6**
QZX	**Qazax, Azerbai**	**3.88**	**313**	Pn	**Pn**	**00 43 33.0**	**+2.7**
	SNR=14						
QZX				Sn	**Sn**	**00 44 16.7**	**+1.9**
ILIN	**Lien**	**3.93**	**207**	*e*Pn	**Pn**	**00 43 34.7**	**+3.6**
ASAO	**Ashtian**	**3.96**	**169**	*e*Pn	**Pn**	**00 43 34.7**	**+3.1**
ASAO	**Ashtian**	**3.96**	**169**	*e*Pn	**Pn**	**00 43 34.9**	**+3.3**
LGD	**Lagodekhi**	**4.03**	**328**	PN	**Pn**	**00 43 34.9**	**+2.6**
IFIR	**Firoozkooh**	**4.04**	**133**	*e*Pn	Pn	00 43 37.0	+4.3
IFIR				*e*		00 44 27.0	
	comp=Z,99nm,0.3s						
IBZA	**Bozab**	**4.10**	**195**	*e*Pn	**Pn**	**00 43 37.2**	**+3.7**
IGLO	**Ghaloghah**	**4.23**	**116**	*e*Pn	**Pn**	**00 43 37.5**	**+2.3**
HSAM	**Samen**	**4.25**	**186**	*e*Pn	**Pn**	**00 43 38.9**	**+3.3**
IDHR	**Dehrash**	**4.34**	**211**	*e*Pn	Pn	00 43 40.5	+3.8
ILAS	**Lasjerd**	**4.34**	**134**	*e*Pn	Pn	00 43 42.0	+5.2
KER	**Kermanshah**	**4.36**	**202**	*e*Pn	**Pn**	**00 43 40.5**	**+3.6**
KCHF	**Cheshme Sefid,**	**4.49**	**202**	*e*Pn	Pn	00 43 42.9	+4.1
IGHG	**Ghaleghazi**	**4.60**	**207**	*e*Pn	**Pn**	**00 43 44.0**	**+3.7**
IGHG				*e*		00 44 16.2	
	comp=Z,99nm,0.6s						
KZRT	**Kazreti**	**4.66**	**310**	PN	Pb	00 43 48.0	-5.7
MAK	**Makhachkala**	**4.67**	**345**	⇑*i*PN	Pn	00 43 45.1	+4.1
MAK				*e*S	**Sn**	**00 44 36.5**	**+2.5**
MAK				smax	smax		
	comp=Z,1µm,0.8s						
MAK				smax	smax		
	comp=E,2µm,0.6s						
MAK				smax	smax		
	comp=E,2µm,0.6s						
MAK				MLR	MLR		
	comp=Z,249nm,5.0s						
IDOB	**Doab**	**4.72**	**190**	*e*Pn	Pn	00 43 46.1	+4.2
BTLR	**Botlikh**	**4.75**	**333**	*c i*PN	Pn	00 43 45.3	+3.1
KHMZ	**Khomeyn**	**4.75**	**171**	*e*Pn	**Pn**	**00 43 46.0**	**+3.5**
GEVA	**Gevas**	**4.76**	**270**	Pn	**Pn**	**00 43 46.2**	**+3.8**
ISFB	**Sefidab**	**4.81**	**147**	*e*Pn	**Pn**	**00 43 46.6**	**+3.6**
IANJ	**Anjilo**	**4.86**	**126**	*e*Pn	Pn	00 43 48.6	+4.7
IKMR	**Kamar-syah**	**4.96**	**187**	*e*Pn	Pn	00 43 48.9	+3.9
IKFM	**Kafar-mosalman**	**5.02**	**192**	*e*Pn	Pn	00 43 50.1	+4.2
QAM	**Ghamsar**	**5.05**	**157**	*e*Pn	**Pn**	**00 43 49.6**	**+3.2**
KRSH	**Karshahi**	**5.10**	**150**	*e*Pn	**Pn**	**00 43 50.3**	**+3.2**
IMND	**Minoodasht**	**5.12**	**102**	*e*Pn	**Pn**	**00 43 48.5**	**+1.3**
GROC	**Groznyy**	**5.37**	**333**	*e*P	**Pn**	**00 43 53.4**	**+2.8**
GROC				*e*S	**Sn**	**00 44 54.0**	**+2.6**
GROC				pmax	pmax		
	comp=Z,237nm,0.5s						
GROC				smax	smax		
	comp=N,219nm,0.7s						
GROC				smax	smax		
	comp=N,203nm,0.8s						
GROC				smax	smax		
	comp=E,109nm,0.6s						
GROC				MLR	MLR		
	comp=Z,6.0nm,2.0s						
IKLH	**Kolahrood**	**5.50**	**158**	*e*Pn	**Pn**	**00 43 54.1**	**+1.4**
ZEI	**Tsey**	**5.87**	**319**	*e*P	**Pn**	**00 44 00.1**	**+2.4**
ZEI				pmax	pmax		
	comp=Z,45nm,0.6s						
DHL1	**Dehloran**	**5.95**	**195**	*e*Pn	Pn	00 44 02.4	+3.8
SHGR	**Shooshtar-Gavs**	**6.33**	**182**	*e*Pn	**Pn**	**00 44 07.1**	**+3.2**
SHGR	**Shooshtar-Gavs**	**6.33**	**182**	*e*Pn	**Pn**	**00 44 07.5**	**+3.6**
ANAR	**Anarak**	**6.45**	**143**	*e*Pn	Pn	00 44 09.8	+4.1
MARD	**Mardin**	**6.69**	**263**		**Pn**	**00 44 11.2**	**+2.3**
NEY	**Neytrino**	**6.81**	**317**	*i* P	**Pn**	**00 44 12.9**	**+2.3**
KBZ	**Khabaz**	**7.06**	**320**	Pn	**Pn**	**00 44 14.6**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=208,slow=2.1,SNR=21						
KBZ	**Khabaz**	**7.06**	**320**	*i* P	**Pn**	**00 44 16.6**	**+2.8**
SBZV	**Sabzevar**	**7.07**	**104**	*e*Pn	**Pn**	**00 44 16.5**	**+2.3**
GEYT	**Alibeck**	**7.11**	**91**	Pn	**Pn**	**00 44 15.6**	**+1.0**
	comp=Z,34nm,0.3s,baz=263,slow=19,SNR=835						
GEYT				Sn	**Sn**	**00 45 29.4**	**-5.0**
	comp=Z,5.5nm,0.3s,baz=247,slow=14,SNR=1.9						
GEYT				LR	LR	00 48 33.1	
	comp=Z,148nm,18.1s,baz=5.0,slow=50						
GEYT	**Alibeck**	**7.11**	**91**		**Pn**	**00 44 15.0**	**+0.4**
GYA0B	**ALIBECK ARRAY**	**7.11**	**91**		**Pn**	**00 44 15.4**	**+0.8**
ASHT	**Ashkhabad**	**7.32**	**91**	P	**Pn**	**00 44 18.8**	**+1.4**
ASHT	**Ashkhabad**	**7.32**	**91**	Pn	**Pn**	**00 44 18.8**	**+1.4**
KVAR	**Kislovodsk Arr**	**7.32**	**321**	Pn	**Pn**	**00 44 16.7**	**-0.9**
	baz=6.4,slow=18,SNR=1.4						
KIV	**Kislovodsk**	**7.33**	**321**	*e*P	**Pn**	**00 44 21.2**	**+3.6**
KIV				pmax	pmax		
	comp=Z,109nm,1.0s						
KIV	**Kislovodsk**	**7.33**	**321**		**Pn**	**00 44 20.7**	**+3.1**
ISAD	**Sadrabad**	**7.52**	**149**	*e*Pn	Pn	00 44 24.7	+4.2
YZKH	**Yazd**	**7.52**	**142**	*e*Pn	Pn	00 44 24.5	+4.2
TNSJ	**Nastanj**	**7.53**	**124**	*e*Pn	**Pn**	**00 44 24.2**	**+3.7**
ICHK	**Chekchek**	**7.55**	**143**	*e*Pn	Pn	00 44 24.8	+3.9
IAKL	**Akhelmad**	**7.88**	**101**	*e*Pn	**Pn**	**00 44 27.9**	**+2.5**
GOF	**Gofitskoye**	**8.01**	**327**	⇑*e*P	**Pn**	**00 44 28.7**	**+1.9**
GOF				*e*S	**Sn**	**00 45 52.7**	**-3.6**
GOF				pmax	pmax		
	comp=Z,63nm,0.5s						
GOF				smax	smax		
	comp=N,52nm,0.4s						
GOF				smax	smax		
	comp=E,98nm,0.8s						
TKDS	**Koohdasht(Taba**	**8.09**	**124**	*e*Pn	**Pn**	**00 44 31.5**	**+3.4**
IPAY	**Payeh**	**8.11**	**101**	*e*Pn	**Pn**	**00 44 31.1**	**+2.6**
TPRV	**Parvadeh(Tabas**	**8.20**	**129**	*e*Pn	**Pn**	**00 44 33.3**	**+3.7**
IMEH	**Mehriz**	**8.37**	**146**	*e*Pn	**Pn**	**00 44 35.1**	**+3.1**
IKRD	**Kardeh**	**8.42**	**98**	*e*Pn	**Pn**	**00 44 35.2**	**+2.4**
IBAF	**Bafgh**	**8.65**	**140**	*e*Pn	Pn	00 44 39.9	+4.0
SOC	**Sochi**	**8.76**	**309**	*e*P	**Pn**	**00 44 36.0**	**-1.1**
SOC				*e*		00 46 14.6	
SOC				MLR	MLR		
	comp=Z,470nm,14.0s						
IMYA	**Miami**	**9.00**	**100**	*e*Pn	**Pn**	**00 44 43.0**	**+2.4**
AFRZ	**Afriz**	**9.46**	**119**	*e*Pn	**Pn**	**00 44 50.2**	**+3.2**
ITEG	**Tejag**	**9.60**	**122**	*e*Pn	**Pn**	**00 44 52.5**	**+3.6**
IMON	**Monand**	**10.05**	**118**	*e*Pn	Pn	00 44 59.5	+4.4
IKOO	**Kooshah**	**10.06**	**124**	*e*Pn	**Pn**	**00 44 58.2**	**+2.9**
ANN	**Anapa**	**10.79**	**310**	*e*P	**Pn**	**00 45 05.0**	**0.0**
ANN				*e*S	**Sn**	**00 47 06.9**	**+2.2**
ANN				pmax	pmax		
	comp=Z,19nm,0.9s						
HRA	**Herat**	**11.33**	**107**	Pn	**Pn**	**00 45 12.4**	**-0.2**
BR131	**Keskin Array S**	**12.09**	**281**	*i* P	**Pn**	**00 45 24.6**	**+1.6**
BRTR	**Keskin Array B**	**12.09**	**281**	Pn	**Pn**	**00 45 23.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=108,slow=14,SNR=1.6						
BRTR				LR	LR	00 50 45.5	
	comp=Z,384nm,20.8s,baz=352,slow=42						
BRTR	**Keskin Array B**	**12.09**	**281**	P	**Pn**	**00 45 24.3**	**+1.3**
BRTR	**Keskin Array B**	**12.09**	**281**		**Pn**	**00 45 24.2**	**+1.3**
MMAI	**Mount Meron Ar**	**12.39**	**248**	Pn	Pn	00 45 20.8	-6.1
	baz=78,slow=13,SNR=1.9						
MMAI				Sn	Sn	00 47 25.1	-19
	comp=Z,16nm,0.3s,baz=311,slow=16,SNR=24						
AB31	**Akbulak array**	**13.31**	**32**	P	**Pn**	**00 45 37.4**	**-2.0**
ABKAR	**Akbulak array**	**13.31**	**32**	Pn	**Pn**	**00 45 38.0**	**-1.5**
AKTO	**Aktyubinsk**	**13.55**	**25**	Pn	**Pn**	**00 45 40.7**	**-1.9**
	comp=Z,2.2nm,0.3s,baz=207,slow=11,SNR=18						
AKTO				Sn	Sn	00 47 59.5	-12
	comp=Z,1.8nm,0.3s,baz=174,slow=12,SNR=4.6						
VRH	**Novokhopyorsk**	**13.78**	**340**	*e*P	**Pn**	**00 45 43.6**	**-2.1**
VRH				pmax	pmax		
	comp=Z,140nm,1.8s						
BANOM	**Banah**	**13.89**	**152**	P	**Pn**	**00 45 49.4**	**+2.0**
BELG	**Belogornoye**	**13.98**	**356**	Pn	**Pn**	**00 45 46.0**	**-2.5**
	comp=Z,12nm,0.3s,baz=175,slow=23,SNR=40						
BELG				Sn	Sn	00 48 09.4	-13
	comp=Z,5.7nm,0.3s,baz=5.8,slow=23,SNR=10						
BELG	**Belogornoye**	**13.98**	**356**	P	**Pn**	**00 45 46.0**	**-2.5**
MSFE	**Esma-Masafi**	**14.35**	**153**	P	**Pn**	**00 45 55.6**	**+1.8**
VSR	**Storozhevoye**	**14.56**	**334**	*e*P	**Pn**	**00 45 54.9**	**-1.5**
VSR				pmax	pmax		
	comp=Z,20nm,0.5s						
UOSS	**Minazif**	**14.75**	**154**	Pn	**Pn**	**00 45 59.2**	**+0.1**
ASUD	**Al Ashush, Dub**	**14.76**	**157**	P	**Pn**	**00 46 01.4**	**+2.1**
ASHO	**Ashiyiah**	**14.94**	**155**	P	**Pn**	**00 46 03.0**	**+1.2**
RAYN	**Ar Rayn**	**15.20**	**193**	P	**Pn**	**00 46 02.7**	**-2.4**
RAYN	**Ar Rayn**	**15.20**	**193**	P	**Pn**	**00 46 03.1**	**-2.0**
RAYN				pmax	pmax		
	comp=Z,16nm,0.9s						
RAYN	**Ar Rayn**	**15.20**	**193**		**Pn**	**00 46 03.1**	**-2.0**
RAYN				IAmb	IAmb	00 46 04.0	
	comp=Z,16nm,0.9s						
ALNE	**Al Ain**	**15.43**	**157**	P	**Pn**	**00 46 09.5**	**+1.4**
SOHO	**SOHO**	**15.61**	**154**	P	**P**	**00 46 14.9**	**+0.5**
LPSR	**Galich'ya Gora**	**15.82**	**337**	*e*P	**Pn**	**00 46 11.5**	**-1.5**
LPSR				pmax	pmax		
	comp=Z,190nm,0.8s						
MANT	**Manisa**	**16.10**	**277**	P	**P**	**00 46 19.7**	**-0.3**
MANT				IAmb	IAmb	00 46 22.0	
	comp=Z,54nm,1.1s						
BRLS	**Borolday**	**16.35**	**67**	*e*P	**Pn**	**00 46 17.7**	**-2.2**
	baz=68						
BRLS	**Borolday**	**16.35**	**67**	*e*P	**Pn**	**00 46 17.7**	**-2.2**
IUG	**luzhnay**	**16.37**	**70**	*e*P	**Pn**	**00 46 19.3**	**-1.0**
	baz=70						
IUG	**luzhnay**	**16.37**	**70**	*e*P	**Pn**	**00 46 19.2**	**-1.0**
KBL	**Kabul**	**16.49**	**98**	P	**P**	**00 46 23.4**	**-1.0**
KBL				pmax	pmax		
	comp=Z,20nm,0.9s						
KBL	**Kabul**	**16.49**	**98**	P	**P**	**00 46 23.4**	**-1.0**
TLCR		**16.54**	**300**	⇓P	**P**	**00 46 24.9**	**+0.4**
TIRR	**Tirgusor**	**16.62**	**298**	⇓P	**P**	**00 46 24.6**	**-0.8**
TIRR	**Tirgusor**	**16.62**	**298**	P	**P**	**00 46 25.6**	**+0.2**
TIRR				pmax	pmax		
	comp=Z,29nm,0.7s						
TIRR	**Tirgusor**	**16.62**	**298**		**P**	**00 46 25.6**	**+0.2**
TIRR				IAmb	IAmb	00 46 26.9	
	comp=Z,29nm,0.7s						
TPGR	**Topolog**	**16.72**	**299**	⇑P	**P**	**00 46 26.2**	**-0.3**
KK31	**Karatay Array**	**16.85**	**67**	P	**Pn**	**00 46 25.7**	**-0.5**
KK31				pmax	pmax		
	comp=Z,31nm,1.0s						
KK31	**Karatay Array**	**16.85**	**67**		**Pn**	**00 46 25.7**	**-0.5**
KK31				IAmb	IAmb	00 46 28.6	
	comp=Z,31nm,1.0s						
KKAR	**Karatay Array**	**16.85**	**67**	P	**Pn**	**00 46 25.7**	**-0.5**
KKAR	**Karatay Array**	**16.85**	**67**	Pn	**Pn**	**00 46 25.7**	**-0.5**
KKAR	**Karatay Array**	**16.85**	**67**		**Pn**	**00 46 25.7**	**-0.5**
KKAR				IAmb	IAmb	00 46 28.6	
	comp=Z,31nm,1.0s						
TLBR	**Topalu**	**16.89**	**298**	⇑P	**P**	**00 46 28.9**	**+0.4**
ICOR	**Ion Corvin**	**16.97**	**296**	⇓P	**P**	**00 46 31.3**	**+2.0**
CFR	**Carcaliu**	**17.00**	**300**	⇓P	**P**	**00 46 29.7**	**+0.1**
HARR	**Harsova**	**17.01**	**298**	⇑P	**P**	**00 46 30.5**	**+0.7**
WSAR	**Wadi Sarin**	**17.21**	**149**	P	**Pn**	**00 46 29.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=43,slow=1.7,SNR=2.4						
DZA	**Taraz**	**17.41**	**68**	*e*P	**Pn**	**00 46 32.5**	**-0.7**
	baz=68						
DZA	**Taraz**	**17.41**	**68**	*e*P	**Pn**	**00 46 32.5**	**-0.7**
KARP	**Karpathos**	**17.77**	**267**		**P**	**00 46 37.7**	**-0.5**
RAZG	**Razgrad**	**17.79**	**294**	⇑P	**P**	**00 46 39.3**	**+0.9**
ODBI	**Odobesti**	**17.89**	**301**	⇑P	**P**	**00 46 42.0**	**+2.6**
SORM	**Soroca**	**17.90**	**309**	⇓P	**Pn**	**00 46 38.8**	**-0.3**
ALN	**Alexandroupoli**	**17.92**	**285**	P	**P**	**00 46 40.5**	**+0.7**
ALN				pmax	pmax		
	comp=Z,13nm,1.2s						
ALN	**Alexandroupoli**	**17.92**	**285**	P	**P**	**00 46 40.5**	**+0.7**
PLOR	**Plostina**	**18.19**	**301**	⇓P	**P**	**00 46 43.9**	**+1.1**
NEHR	**Nehoiu**	**18.32**	**300**	⇓P	**Pn**	**00 46 45.6**	**+1.3**
MLR	**Muntele Rosu**	**18.57**	**300**	P	**Pn**	**00 46 48.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=228,slow=13,SNR=4.4						
MLR	**Muntele Rosu**	**18.57**	**300**	P	**Pn**	**00 46 48.2**	**+0.7**
MLR				pmax	pmax		
	comp=Z,13nm,1.3s						
MLR	**Muntele Rosu**	**18.57**	**300**		**Pn**	**00 46 48.2**	**+0.7**
AKASG	**Malin Array Be**	**18.66**	**317**	P	**P**	**00 46 47.0**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=124,slow=12,SNR=14						
AKASG	**Malin Array Be**	**18.66**	**317**	*i* P	**P**	**00 46 47.5**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKASG	**Malin Array Be**	**18.66**	**317**	P	**Pn**	**00 46 48.6**	**+0.3**
AKBB	**Malin Array Si**	**18.66**	**317**	P	**P**	**00 46 47.5**	**-0.3**
AKBB				pmax	pmax		
	comp=Z,21nm,1.4s						
AKBB	**Malin Array Si**	**18.66**	**317**	P	**P**	**00 46 47.5**	**-0.3**
APE	**Apeiranthos**	**18.69**	**273**	*i* P	**P**	**00 46 47.4**	**-1.0**
APE				pmax	pmax		
	comp=Z,23nm,1.1s						
OBN	**Obninsk**	**18.70**	**337**	P	**P**	**00 46 46.2**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=127,slow=23,SNR=8.1						
OBN	**Obninsk**	**18.70**	**337**	⇑P	**P**	**00 46 46.8**	**-1.5**
OBN	**Obninsk**	**18.70**	**337**	⇓*i*P	**P**	**00 46 46.3**	**-2.0**
OBN				*e*S	**Sn**	**00 50 10.5**	**-6.4**
OBN				pmax	pmax		
	comp=Z,40nm,1.0s						
OBN				MLR	MLR		
	comp=Z,189nm,18.0s						
OBN	**Obninsk**	**18.70**	**337**	P	**P**	**00 46 47.6**	**-0.7**
BIZ	**Bicaz**	**18.87**	**304**	⇑P	**Pn**	**00 46 50.6**	**-0.3**
MOS	**Moscow**	**18.93**	**340**	*e*P	**P**	**00 46 49.4**	**-1.4**
MOS				*e*S	Sn	00 50 09.5	-13
MOS				pmax	pmax		
	comp=Z,125nm,1.0s						
ARU	**Arti**	**19.05**	**16**	P	**P**	**00 46 51.0**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=209,slow=7.6,SNR=14						
ARU				S	Sn	00 50 03.1	-22
	comp=Z,0.0nm,0.3s,baz=262,slow=21,SNR=1.9						
ARU	**Arti**	**19.05**	**16***d*	*i*P	**P**	**00 46 51.0**	**-1.2**
ARU				S	**Sn**	**00 50 25.1**	**-0.4**
ARU				pmax	pmax		
	comp=Z,15nm,0.7s						
ARU	**Arti**	**19.05**	**16**	P	**P**	**00 46 50.8**	**-1.4**
ARU				IAmb	IAmb	00 47 07.7	
	comp=Z,20nm,0.6s						
DOPR	**Dopca**	**19.07**	**301**	⇑P	**Pn**	**00 46 52.8**	**-0.6**
AML	**Almayashu**	**19.09**	**71**	P	**Pn**	**00 46 56.5**	**+2.5**
	SNR=6.8						
MTUR	**Matau**	**19.11**	**298**	⇓P	**Pn**	**00 46 53.7**	**-0.3**
PLVB	**Pleven**	**19.13**	**293**	⇓P	**Pn**	**00 46 53.7**	**-0.3**
VOIR		**19.17**	**299**	⇓P	**Pn**	**00 46 55.8**	**+1.1**
EKS2	**Erkin-Say**	**19.18**	**70**	P	**Pn**	**00 46 56.2**	**+1.2**
	SNR=9.8						
IDI	**Anoyia**	**19.62**	**268**	P	**P**	**00 46 57.6**	**-1.1**
	comp=Z,3.4nm,0.3s,baz=48,slow=12,SNR=13						
IDI	**Anoyia**	**19.62**	**268**	⇓P	**P**	**00 46 56.8**	**-1.9**
IDI	**Anoyia**	**19.62**	**268**	P	**P**	**00 46 57.9**	**-0.7**
BURAR	**Bucovina Array**	**19.66**	**305**	⇓P	**P**	**00 46 58.8**	**-0.2**
BURAR	**Bucovina Array**	**19.66**	**305**	P	**P**	**00 46 59.1**	**+0.1**
BURAR				IAmb	IAmb	00 47 00.4	
	comp=Z,15nm,0.7s						
BUR08	**Bucovina Ar. S**	**19.68**	**306**	P	**Pn**	**00 46 59.8**	**-0.9**
BUR08				IAmb	IAmb	00 47 00.3	
	comp=Z,15nm,0.8s						
BTLS	**Baital**	**19.69**	**63**	*e*P	**P**	**00 46 58.7**	**-0.6**
	baz=62						
BTLS	**Baital**	**19.69**	**63**	*e*P	**P**	**00 46 58.6**	**-0.6**
AAK	**Ala-Archa**	**19.71**	**70**	P	**Pn**	**00 47 01.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=247,slow=12,SNR=15						
AAK	**Ala-Archa**	**19.71**	**70**	P	**Pn**	**00 47 03.0**	**+1.8**
	SNR=10						
AAK	**Ala-Archa**	**19.71**	**70**	P	**Pn**	**00 47 02.0**	**+0.7**
AAK	**Ala-Archa**	**19.71**	**70**	*i* P	**P**	**00 46 57.7**	**-2.0**
AAK				pmax	pmax		
	comp=Z,86nm,0.9s						
AAK	**Ala-Archa**	**19.71**	**70**	Pn	**Pn**	**00 47 01.2**	**-0.1**
USP	**Ospenovka**	**19.76**	**68**	P	**P**	**00 46 58.4**	**-1.8**
	SNR=6.5						
SGDS	**Sogindy**	**19.88**	**67**	*e*P	**P**	**00 47 01.1**	**-0.3**
	baz=67						
SGDS	**Sogindy**	**19.88**	**67**	*e*P	**P**	**00 47 01.0**	**-0.3**
SVE	**Sverdlovsk**	**19.91**	**19**	*e*P	**Pn**	**00 47 03.9**	**+0.7**
SVE				pmax	pmax		
	comp=Z,20nm,0.6s						
CHMS	**Chumysh**	**19.92**	**69**	P	**Pn**	**00 47 03.8**	**+0.1**
	SNR=25						
KBK	**Karagaybulak**	**20.05**	**70**	P	Pn	00 47 06.1	+0.8
	SNR=6.4						
LOT	**Lotru**	**20.05**	**299**	⇓P	Pn	00 47 04.7	-0.5
VTS	**Vitosha**	**20.07**	**290**	⇓P	Pn	00 47 04.7	-0.9
VTS	**Vitosha**	**20.07**	**290**	P	Pn	00 47 04.5	-1.0
VTS				pmax	pmax		
	comp=Z,11nm,0.8s						
VTS	**Vitosha**	**20.07**	**290**	P	Pn	00 47 04.5	-1.0
NIL	**Nilore**	**20.08**	**96**	P	**P**	**00 47 04.2**	**+0.6**
NIL				pmax	pmax		
	comp=Z,25nm,1.0s						
NIL	**Nilore**	**20.08**	**96**	P	**P**	**00 47 04.2**	**+0.6**
NIL				IAmb	IAmb	00 47 10.9	
	comp=Z,25nm,

NACGM				*i* S	S	00 51 32.1	+1.0
NACGM				*i* SS	SnSn	00 51 56.8	-3.0
NACGM				*i* LQ	LQ	00 54 38.1	
NACGM				*i* LR	LR	00 55 24.6	
CRVS	Cervenica-Dubn	22.44	307	*e*P	P	00 47 30.7	+1.8
CRVS				*e*		00 47 41.7	
CRVS				pmax	pmax		
	comp=Z,101nm,1.6s						
CRVS	Cervenica-Dubn	22.44	307	*e*P	P	00 47 30.7	+1.8
CRVS	Cervenica-Dubn	22.44	307	*e*PN	P	00 47 41.7	+13
TDK	Taldyqorghan	22.74	64	*e*P	P	00 47 31.7	-0.5
	comp=Z,9.8nm,0.6s,baz=64						
TDK	Taldyqorghan	22.74	64	*e*P	P	00 47 31.6	-0.5
TDK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KPKS	Kokpek	22.82	68	*e*P	P	00 47 32.6	-0.5
	comp=Z,9.9nm,1.3s,baz=68						
KPKS	Kokpek	22.82	68	*e*P	P	00 47 32.5	-0.5
KPKS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PDG	Podgorica	23.01	289	⇑P	P	00 47 33.6	-1.3
KLMR	Klimovskoe	23.22	348	*e*P	P	00 47 34.7	-2.1
KLMR				pmax	pmax		
	comp=Z,64nm,1.0s						
KLMR	Klimovskoe	23.22	348	*e*P	P	00 47 34.7	-2.1
KLMR				AMP		00 47 52.5	
	comp=Z,64nm,1.0s						
PRGR	Permogore	23.31	356	*e*P	P	00 47 35.4	-2.3
PRGR				*e*S	S	00 51 44.7	-3.3
PRGR				pmax	pmax		
	comp=Z,43nm,0.8s						
SHLS	Shalkode	23.38	69	*e*P	P	00 47 41.5	+2.7
	baz=69						
SHLS	Shalkode	23.38	69	*e*P	P	00 47 41.4	+2.7
SUW	Suwalki	23.56	320	P	P	00 47 40.1	-0.1
SUW				pmax	pmax		
	comp=Z,28nm,0.9s						
SUW	Suwalki	23.56	320	P	P	00 47 40.1	-0.1
OJC	Ojcow	23.88	309	P	P	00 47 42.9	-0.5
OJC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OJC	Ojcow	23.88	309	P	P	00 47 42.9	-0.5
OJC				IAmb	IAmb	00 47 57.5	
	comp=Z,10nm,1.0s						
VYHS	Vyhne	24.01	304	*e*P	P	00 47 44.7	+0.1
VYHS				*e*		00 47 59.8	
VYHS				pmax	pmax		
	comp=Z,29nm,2.9s						
VYHS	Vyhne	24.01	304	*e*P	P	00 47 44.7	+0.1
VYHS	Vyhne	24.01	304	*e*PN	P	00 47 59.8	+15
KURBB	Kurchatov Arra	24.07	50	P	P	00 47 46.5	+1.4
	comp=Z,9.9nm,0.8s,baz=255,slow=9.8,SNR=23						
KURBB				S	S	00 52 07.2	+6.8
	comp=Z,0.2nm,0.3s,baz=291,slow=42,SNR=1.6						
KURK	Kurchatov	24.16	50	P	P	00 47 46.5	+0.6
KURK				S	S	00 52 07.2	+5.4
KOLL	Kolacno	24.31	305	*e*P	P	00 47 48.2	+0.9
SMOL	Smolenice	24.93	304	*e*P	P	00 47 53.6	+0.6
SMOL				pmax	pmax		
	comp=Z,18nm,1.8s						
SMOL	Smolenice	24.93	304	*e*P	P	00 47 53.6	+0.6
MORC	Moravsky Berou	25.15	307	*e*P	P	00 47 55.7	+0.7
TIP	Timpagrande	25.15	282	⇓P	P	00 47 54.8	-0.3
MAKZ	Makanchi	25.43	60	P	P	00 47 58.4	+0.9
MAKZ				pmax	pmax		
	comp=Z,14nm,0.9s						
MAKZ	Makanchi	25.43	60	P	P	00 47 58.4	+0.9
MAKZ				IAmb	IAmb	00 48 17.3	
	comp=Z,14nm,0.9s						
MK31	Makanchi Array	25.65	60	P	P	00 48 00.1	+0.6
MK31				pmax	pmax		
	comp=Z,12nm,0.8s						
MK31	Makanchi Array	25.65	60	P	P	00 48 00.1	+0.6
MK31				IAmb	IAmb	00 48 04.1	
	comp=Z,12nm,0.8s						
MKAR	Makanchi Array	25.65	60	P	P	00 48 00.7	+1.2
	comp=Z,10nm,0.8s,baz=260,slow=7.3,SNR=14						
MKAR				S	S	00 52 39.1	+13
	comp=Z,0.5nm,0.8s,baz=338,slow=26,SNR=1.4						
MKAR	Makanchi Array	25.65	60	P	P	00 47 59.5	0.0
MKAR	Makanchi Array	25.65	60	P	P	00 47 59.5	0.0
KRLC	Kraliky	25.70	307	*e*P	P	00 48 00.0	0.0
KRLC				*e*		00 48 14.7	
KRLC	Kraliky	25.70	307	*e*P	P	00 48 00.0	0.0
KRLC				*e*x	x	00 48 14.7	
KRUC	Moravsky	25.71	305	*e*P	P	00 48 00.0	0.0
ARSA	Arzberg	25.98	301	*i* P	P	00 48 03.0	+0.5
	comp=Z,1.2nm,0.4s						
DPC	Dobruska-Polom	26.05	308	*e*P	P	00 48 03.3	+0.1
DPC				*e*		00 48 15.4	
DPC	Dobruska-Polom	26.05	308	*e*P	P	00 48 03.3	+0.1
DPC				*e*pP	sP	00 48 15.4	-0.3
OSTC	Ostas	26.17	308	*e*P	P	00 48 04.8	+0.6
SOKA	Soboth	26.25	299	*e*P	P	00 48 05.3	+0.3
	comp=Z,2.6nm,0.7s						
CHVC	Chvalec	26.28	308	*e*P	P	00 48 05.0	-0.2
CHVC				*e*x	x	00 48 21.5	
SOCY	Socotra	26.52	169	P	P	00 48 04.2	-3.4
SOCY				IAmb	IAmb	00 48 05.5	
	comp=Z,18nm,1.0s						
CKRC	Cesky Krumlov	27.02	304	*e*P	P	00 48 11.7	-0.2
CKRC				*e*x	x	00 48 24.9	
FINES	FINESS Array B	27.09	336	P	P	00 48 11.8	-0.4
	comp=Z,4.2nm,1.1s,baz=128,slow=13,SNR=2.2						
GEC2	GERESS Array S	27.42	304	P	P	00 48 15.4	-0.1
GEC2				IAmb	IAmb	00 48 31.0	
	comp=Z,10.0nm,1.4s						
GERES	GERESS Array B	27.42	304	P	P	00 48 14.3	-1.3
	comp=Z,1.0nm,0.7s,baz=99,slow=9.4,SNR=8.7						
GERES	GERESS Array B	27.42	304	P	P	00 48 15.0	-0.6
GERES	GERESS Array B	27.42	304	P	P	00 48 15.0	-0.6
KHC	Kasperske Hory	27.55	304	*i* P	P	00 48 17.7	+1.1
KHC				pmax	pmax		
	comp=Z,6.0nm,1.7s						
KHC	Kasperske Hory	27.55	304	*e*P	P	00 48 15.4	-1.2
ZOU	Zoufplan	27.65	299		P	00 48 17.4	-0.4
CLL	Collm	28.33	309	*i* P	P	00 48 23.7	+0.2
	comp=Z,9.0nm,1.0s						
CLL	Collm	28.33	309	*i* P	P	00 48 23.7	+0.2
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CLL	Collm	28.33	309	P	P	00 48 23.3	-0.2
CLL				IAmb	IAmb	00 48 24.3	
	comp=Z,7.5nm,0.9s						
ZALV	Zalesovo Beam	28.79	46	P	P	00 48 27.1	-0.5
	comp=Z,0.8nm,0.4s,baz=262,slow=10.0,SNR=1.6						
ZALV	Zalesovo Beam	28.79	46	P	P	00 48 26.6	-1.0
MOTA	Moosalm	28.98	300	*e*P	P	00 48 28.2	-1.4
	comp=Z,2.5nm,0.7s						
FETA	Feichten	29.22	300	*e*P	P	00 48 30.7	-1.0
	comp=Z,2.3nm,0.6s						
WMQ	Urumqi	29.36	67	*e*P	P	00 48 35.2	+2.4
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,150nm,5.3s						
DGZ	Jazzator, Alta	29.43	55	*i* P	P	00 48 32.4	-1.1
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DAVOX	Davos/Dischmat	29.79	299	P	P	00 48 35.7	-1.1
	comp=Z,5.9nm,0.7s,baz=106,slow=8.3,SNR=13						
DAVA	Damuels	29.81	300	*i* P	P	00 48 35.7	-1.2
	comp=Z,3.3nm,0.6s,SNR=5.1						
MSSA	Maissana	30.06	294	P	P	00 48 37.3	-1.8
TUE	Stuetta	30.15	298	P	P	00 48 39.0	-1.0
TUE				IAmb	IAmb	00 48 41.1	
	comp=Z,5.6nm,0.8s						
HFS	Hagfors	31.09	326	P	P	00 48 48.0	+0.2
	comp=Z,3.2nm,0.8s,baz=127,slow=12,SNR=6.0						
SENIN	Lac Senin/Sane	31.57	298	P	P	00 48 51.0	-1.5
SENIN				IAmb	IAmb	00 48 53.1	
	comp=Z,5.3nm,0.7s						
NC405	NORSAR Array S	32.41	327	P	P	00 48 58.6	-0.9
NB2	NORSAR Subarra	32.59	326	P	P	00 49 00.7	-0.4
	comp=Z,5.5nm,0.6s,baz=117,slow=9.3						
NOA	NORSAR Array B	32.59	326	P	P	00 49 00.7	-0.4
	comp=Z,0.8nm,0.8s,baz=155,slow=13,SNR=1.6						
SSB	Saint Sauveur	33.54	296	P	P	00 49 08.0	-1.6
SSB				pmax	pmax		
	comp=Z,12nm,1.3s						
SSB	Saint Sauveur	33.54	296	P	P	00 49 08.0	-1.6
ARCES	ARCESS Array B	33.62	345	P	P	00 49 10.0	+0.1
	comp=Z,5.9nm,1.0s,baz=134,slow=10,SNR=2.5						
EKA	Eskdalemuir Ar	38.48	313	P	P	00 49 50.7	-1.0
	comp=Z,2.2nm,0.6s,baz=98,slow=9.4,SNR=8.9						
ESK	Eskdalemuir	38.51	313	P	P	00 49 51.1	-0.8
ESK				pmax	pmax		
	comp=Z,49nm,1.5s						
ESK	Eskdalemuir	38.51	313	P	P	00 49 51.1	-0.8
GTA	Gaotai	39.03	72	*e*P	P	00 49 58.4	+1.8
GTA				pP	sP	00 50 10.5	+1.3
GTA				sP	pP	00 50 15.1	+10
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TAM	Tamanrasset	40.24	260	P	P	00 50 06.6	-0.3
TAM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TAM	Tamanrasset	40.24	260	P	P	00 50 06.6	-0.3
ESDC	Sonseca Array	40.73	289	P	P	00 50 08.9	-1.7
	comp=Z,1.2nm,1.0s,baz=62,slow=8.1,SNR=5.5						
ESDC	Sonseca Array	40.73	289	P	P	00 50 08.8	-1.8
ULN	Ulaanbaatar	42.40	58	P	P	00 50 25.0	+0.7
ULN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ULN	Ulaanbaatar	42.40	58	P	P	00 50 25.0	+0.7
KMI	Kunming	46.88	90	⇑P	P	00 50 59.6	-0.8
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC	Hu-ho-hao-te	47.24	66	*e*P	P	00 51 01.5	-1.4
CMAR	Chiang Mai Arr	47.50	100	P	P	00 51 04.7	-0.3
	comp=Z,0.8nm,0.3s,baz=307,slow=7.5,SNR=1.3						
XAN	Xi'an	47.71	76	P	P	00 51 15.5	+8.9
XAN				pP	sP	00 51 25.0	+5.7
XAN				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TORD	Torodi Ar. Bea	48.89	252	P	P	00 51 13.0	-2.8
	comp=Z,0.9nm,0.5s,baz=33,slow=8.9,SNR=2.7						
KOWA	Kowa	52.38	258	P	P	00 51 40.3	-1.9
KOWA				IAmb	IAmb	00 51 41.2	
	comp=Z,3.7nm,0.8s						
NJ2	Nanjing	56.09	74	*e*P	P	00 52 06.8	-2.2
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
KSRS	Korea Array	60.25	64	P	P	00 52 39.9	+1.9
	comp=Z,1.0nm,0.7s,baz=292,slow=6.1,SNR=1.2						
MA2	Magadan	63.10	34	LR	LR	01 24 53.9	
	comp=Z,50nm,18.9s,baz=308,slow=40						
LBTB	Lobatse	66.87	203	P	P	00 53 21.1	-0.7
LBTB	Lobatse	66.87	203	P	P	00 53 21.1	-0.7
BOSA	Boshof	70.35	202	P	P	00 53 42.7	-0.8
BOSA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BOSA	Boshof	70.35	202	P	P	00 53 42.7	-0.8
BOSA				IAmb	IAmb	00 53 47.1	
	comp=Z,5.5nm,1.1s						
ILAR	Eielson Array	76.34	7	P	P	00 54 19.3	+1.0
	comp=Z,0.4nm,1.0s,baz=330,slow=5.2,SNR=1.9						
YKA	Yellowknife Ar	78.55	352	P	P	00 54 30.1	-0.6
	comp=Z,0.2nm,0.5s,baz=29,slow=6.6,SNR=3.9						

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*UPP **12** 00:56:26.6±0.1, 67°.83N×20°.22E, h0km, ML2.8, Explosion*
HEL 12 00:56:25.8, 67°.90N×20°.07E, h0km, ML1.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.12	61	P	Pg	00 56 29.5	+1.5
KUA				S	Sg	00 56 31.2	+1.8
KUA	Kurravaara	0.12	61	*i* S	Sg	00 56 31.2	+1.8
KUA	Kurravaara	0.12	61	*i* P	Pg	00 56 29.5	+1.5
RATU	Laukkuluspa	0.20	248	P	Pg	00 56 31.4	+1.8
RATU	Laukkuluspa	0.20	248	*i* P	Pg	00 56 31.4	+1.8
KOVU	Salmi	0.33	6	P	Pb	00 56 34.3	-0.2
KOVU	Salmi	0.33	6	*i* P	Pb	00 56 34.3	-0.2
NIKU	Nikkaluokta	0.39	266	P	Pb	00 56 35.4	-0.2
NIKU	Nikkaluokta	0.39	266	*i* P	Pb	00 56 35.4	-0.2
LANU	Lannavaara	0.74	77	*e*S	Sg	00 56 49.6	+0.2
LANU	Lannavaara	0.74	77	*e*P	Pg	00 56 39.2	-0.7
KIF	Kilpisjarvi	1.14	13	*e*P	Pn	00 56 49.1	+0.1
KIF	Kilpisjarvi	1.14	13	*e*SB	Sn	00 57 05.6	+0.3
KIF	Kilpisjarvi	1.14	13	*e*PB	Pn	00 56 49.8	+0.8
KIF	Kilpisjarvi	1.14	13	MSG		00 57 01.6	
	comp=Z,3.9nm,0.2s						
HEF	Hetta	1.44	67	*e*P	Pn	00 56 52.4	-0.7
HEF	Hetta	1.44	67	MSG		00 57 09.1	
	comp=Z,7.5nm,0.2s						
HEF	Hetta	1.44	67	*e*PG	Pn	00 56 52.7	-0.4
PAJU	Pajala	1.47	125	P	Pn	00 56 52.1	-1.3
PAJU	Pajala	1.47	125	*e*SB	Sg	00 57 10.8	-2.0
PAJU	Pajala	1.47	125	*e*P	Pn	00 56 52.0	-1.5
	baz=304						
TOF	Tornio	2.48	136	MSG		00 57 38.9	
	comp=Z,3.3nm,0.2s						
TOF	Tornio	2.48	136	*e*PB	Pn	00 57 08.6	+1.3
SGF	Sodankyl	2.51	98	*e*PB	Pb	00 57 09.8	-1.8
	baz=285						
ARA0	ARCESS Array S	2.58	48	*e*S	Sn	00 57 38.7	-2.0
ARA0	ARCESS Array S	2.58	48	*e*P	Pb	00 57 11.0	-1.8
RNF	Rovaniemi	2.65	117	*e*SG	Sb	00 57 46.3	-0.7
RNF	Rovaniemi	2.65	117	*e*PB	Pn	00 57 11.5	+1.8
KU6	Riekki	4.29	111	*e*SG	Sg	00 58 39.2	-4.3

UPP 12 00:56:53.4±0.2, 67°.82N×20°.21E, h0km, ML1.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	20	P	Pg	00 56 56.4	+0.3
KUA				S	Sg	00 56 58.4	+0.4
RATU	Laukkuluspa	0.23	271	P	Pg	00 56 58.1	+0.2
KOVU	Salmi	0.40	357	P	Pg	00 57 01.1	0.0
NIKU	Nikkaluokta	0.45	276	P	Pg	00 57 02.1	+0.2

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*NAO **12** 01:02:07.9±0.9, 67°.82N×20°.41E, ML2.6*
*HEL **12** 01:02:08.6±0.1, 67°.85N×20°.20E, h0km, ML2.1, ML2.1(UPP), Explosion*
*UPP **12** 01:02:08.1±0.1, 67°.85N×20°.20E, h0km, ML2.1, Explosion*
*BER **12** 01:02:09.7±4.5, 67°.82N×20°.36E, h0km, ML2.0, ML2.1(UPP), Suspected explosion*
*IDC **12** 01:02:09.3±0.8, 67°.81N×20°.75E, h0km, mb1 3.4/5, mb1mx3.0/46, mbtmp3.4/5, ML2.3/5, Error ellipse: s-maj=14.2km s-min=6.7km az=112.0*
ISC 12 01:02:07.0±0.7**, 67°.79N**±0°.02×**20°.23E**±0°.03**, h0km, n46, σ1s75**/76**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	Laukkuluspa	0.24	279	P	Pg	01 02 12.7	+1.0
RATU	Laukkuluspa	0.24	279	*i* P	Pg	01 02 12.7	+1.0
KOVU	Salmi	0.44	357	P	Pg	01 02 15.3	-0.1
KOVU				S	Sg	01 02 20.7	-0.5
KOVU	Salmi	0.44	357	*i* P	Pg	01 02 15.3	-0.1
KOVU				*i* S	Sg	01 02 20.7	-0.5
NIKU	Nikkaluokta	0.46	281	P	Pg	01 02 16.6	+0.8
NIKU	Nikkaluokta	0.46	281	*i* P	Pg	01 02 16.6	+0.8
LANU	Lannavaara	0.72	67	P	Pg	01 02 21.4	+0.6
LANU	Lannavaara	0.72	67	*e*P	Pg	01 02 21.2	+0.4
LANU				*e*S	Sg	01 02 31.0	+1.0
MASU	Masugnsbyn	0.76	115	P	Pb	01 02 23.1	0.0
MASU	Masugnsbyn	0.76	115	*i* P	Pb	01 02 23.1	0.0
KIF	Kilpisjarvi	1.24	10	Pg	Pg	01 02 30.4	-0.4
KIF				Lg	Lg	01 02 46.7	
KIF	Kilpisjarvi	1.24	10	Pg	Pg	01 02 30.4	-0.4
KIF				Sg	Sg	01 02 46.7	-0.2
KIF	Kilpisjarvi	1.24	10	*e*P	Pg	01 02 30.2	-0.7
	baz=189						
KIF				MSG		01 02 45.4	
	comp=Z,30nm,0.2s						
KIF				*e*S	Sg	01 02 46.5	-0.4
PAJU	Pajala	1.35	123	P	Pn	01 02 33.6	+0.5
PAJU	Pajala	1.35	123	*e*P	Pg	01 02 33.4	+0.5
	baz=305						
PAJU				*e*SB	Sn	01 02 52.4	+0.6
HEF	Hetta	1.43	63	*e*P	Pn	01 02 33.9	-0.4
	baz=246						
HEF				MSG		01 02 51.6	
	comp=Z,13nm,0.2s						
KTK1	Kautokeino	1.66	41	Pn	Pn	01 02 37.6	+0.2
KTK1				Sn	Sn	01 02 59.5	+0.1
KTK1	Kautokeino	1.66	41	*e*P	Pn	01 02 37.7	+0.2
KTK1				*e*S	Sn	01 02 59.2	-0.3
KTK1				IAML		01 03 03.0	
	comp=Z,23nm,0.2s						
TRO	Tromso	1.92	346	*e*P	Pn	01 02 42.0	+1.1
TRO				IAML		01 03 09.5	
	comp=Z,28nm,0.3s						
TOF	Tornio	2.35	135	*e*PB	Pb	01 02 49.9	-0.3
TOF				MSG		01 03 19.6	
	comp=Z,11nm,0.2s						
TOF				*e*SG	Sg	01 03 22.7	+0.2
SGF	Sodankyl	2.44	95	*e*P	Pn	01 02 50.0	+2.0
SGF				*e*SB	Sb	01 03 21.7	-0.5
RNF	Rovaniemi	2.55	115	*e*PB	Pb	01 02 52.7	-0.8
RNF				*e*SG	Sg	01 03 27.3	-1.4
ARA0	ARCESS Array S	2.61	45	Pn	Pn	01 02 51.6	+1.2
	baz=227,slow=14						
ARA0				Sn	Sn	01 03 23.4	+0.6
	baz=230,slow=28						
ARA0				Lg	Lg	01 03 27.2	
	baz=227,slow=28						
ARA0	ARCESS Array S	2.61	45	Pn	Pn	01 02 51.6	+1.2
	baz=227,slow=14						
ARA0				Sn	Sn	01 03 23.4	+0.6
	baz=230,slow=28						
ARA0				Sg	Sb	01 03 27.2	0.0
	baz=227,slow=28						
ARA0	ARCESS Array S	2.61	45	*e*SG	Sg	01 03 29.7	-1.1
ARCES	ARCESS Array B	2.61	45	Pn	Pn	01 02 51.6	+1.2
	baz=227,slow=15,SNR=67						
ARCES				Lg	Lg	01 03 25.8	
	baz=231,slow=23,SNR=3.8						
BURU	Burvik	3.25	171	*e*P	Pn	01 03 02.9	+3.7
OUL	Oulu	3.54	137	*e*PG	Pg	01 03 14.5	-0.3
	baz=325						
VRF	Varrio	3.57	86	*e*P	Pn	01 03 06.5	+2.9
OLKF	Oulanka, Finla	3.88	108	*e*P	Pn	01 03 10.1	+2.2
MSF	Maaselka	3.96	114	*e*P	Pn	01 03 11.5	+2.6
	baz=306						
KU6	Riekki	4.20	110	*e*P	Pn	01 03 14.4	+2.2
	baz=302						
APA0	Apatity Array	4.87	86	Pn	Pn	01 03 21.5	+0.1
	baz=284,slow=14						
APA0				Pg	Pb	01 03 34.3	+1.2
	baz=279,slow=14						
APA0				Sn	Sn	01 04 17.1	-1.3
	baz=286,slow=28						
APA0				Lg	Lg	01 04 36.1	
	baz=279,slow=28						
APA0	Apatity Array	4.87	86	Pn	Pn	01 03 21.5	+0.1
	baz=284,slow=14						
APA0				Pg	Pb	01 03 34.3	+1.2
	baz=279,slow=14						
APA0				Sn	Sn	01 04 17.1	-1.3
	baz=286,slow=28						
APA0				Sg	Sb	01 04 36.1	+4.1
	baz=279,slow=28						
FIA0	FINESS Array S	6.84	156	Pn	Pn	01 03 50.0	+1.5
	baz=352,slow=11						
FIA0				Sn	Sn	01 05 07.8	+0.8
	baz=352,slow=28						
FIA0				Lg	Lg	01 05 41.7	
	baz=346,slow=37						
FIA0	FINESS Array S	6.84	156	Pn	Pn	01 03 50.0	+1.5
	baz=352,slow=11						
FIA0				Sn	Sn	01 05 07.8	+0.8
	baz=352,slow=28						
FIA0				Sg	Sg	01 05 41.7	-4.8
	baz=346,slow=37						
FINES	FINESS Array B	6.84	156	Pn	Pn	01 03 51.0	+2.5
	comp=Z,0.1nm,0.3s,baz=342,slow=16,SNR=5.2						
FINES				Sn	Sn	01 05 05.8	-1.2
	comp=Z,0.3nm,0.3s,baz=346,slow=24,SNR=1.8						
FINES				Lg	Lg	01 05 40.3	
	comp=Z,0.3nm,0.3s,baz=345,slow=26,SNR=2.7						
NB2	NORSAR Subarra	7.80	214	Pn	Pn	01 04 04.2	+2.4
NB2				Sn	Sn	01 05 30.5	-0.2
NB2				Lg	Lg	01 06 14.2	
NB2	NORSAR Subarra	7.80	214	Pn	Pn	01 04 04.2	+2.4
NB2				Sn	Sn	01 05 30.5	-0.2
NB2				Sg	Sg	01 06 14.2	-3.2
NOA	NORSAR Array B	7.80	214	Pn	Pn	01 04 04.5	+2.8
	comp=Z,0.0nm,0.3s,baz=21,slow=11,SNR=1.4						
NOA				Sn	Sn	01 05 31.6	+0.9
	comp=Z,0.0nm,0.3s,baz=35,slow=18,SNR=1.3						
NOA				Lg	Lg	01 06 13.7	
	comp=Z,0.0nm,0.3s,baz=56,slow=19,SNR=3.3						
NRA0	NORESS Array S	8.01	212	Lg	Lg	01 06 21.3	
	baz=9.9,slow=28						
NRA0	NORESS Array S	8.01	212	Sg	Sg	01 06 21.3	-2.7
	baz=9.9,slow=28						
HFS	Hagfors	8.20	204	Pn	Pn	01 04 07.5	+0.5
	comp=Z,0.1nm,0.3s,baz=37,slow=14,SNR=1.4						
HFS				Sn	Sn	01 05 39.9	-0.4
	comp=Z,0.1nm,0.3s,baz=28,slow=23,SNR=1.6						
HFS				Lg	Lg	01 06 21.3	
	comp=Z,0.3nm,0.3s,baz=16,slow=34,SNR=1.5						
HFS	Hagfors	8.20	204	Pn	Pn	01 04 08.2	+1.2
	baz=34,slow=16						
HFS				Sn	Sn	01 05 37.1	-3.1
	baz=21,slow=28						
HFS				Lg	Lg	01 06 22.0	
	baz=10.0,slow=37						
HFS	Hagfors	8.20	204	Pn	Pn	01 04 08.2	+1.2
	baz=34,slow=16						
HFS				Sn	Sn	01 05 37.1	-3.1
	baz=21,slow=28						
HFS				Sg	Sg	01 06 22.0	-7.9
	baz=10.0,slow=37						
SPITS	Spitsbergen Ar	10.51	356	Pn	Pn	01 04 39.8	+1.2
	baz=175,slow=18,SNR=1.3						
SPITS				Sn	Sn	01 06 30.5	-6.3
	baz=183,slow=23,SNR=1.4						

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*NIC **12** 01:04:03.4±0.0, 35°.55N×27°.85E, h2km±1km, Ml3.6/2*
*ISK **12** 01:04:04.5, 35°.60N×27°.76E, h13km, ML3.0/23*
*THE **12** 01:04:05.6, 35°.68N×27°.71E, h0km±1km, ML2.9/5, Error ellipse: s-maj=4.6km s-min=0.9km az=140.0*
*ATH **12** 01:04:06.3, 35°.74N×27°.63E, h15km±3km, ML2.9/3, Error ellipse: s-maj=4.9km s-min=1.3km az=132.0*
*DDA **12** 01:04:24.7, 36°.64N×28°.33E, h7km±3km, ML2.0*
ISC 12 01:04:04.8±1.2**, 35°.60N**±0°.03×**27°.80E**±0°.03**, h9**km±10km**, n74, σ0s86**/90**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.52	264	P	Pg	01 04 14.4	-0.5
KARP				S	Sg	01 04 21.2	-0.6
KARP				AML	AML	01 04 24.5	
	comp=N,3835µm,0.4s						
KARP				AML	AML	01 04 25.8	
	comp=E,4097µm,0.2s						
KARP	Karpathos	0.52	264	P	Pg	01 04 14.4	-0.5
KARP				S	Sg	01 04 22.7	+1.0
	comp=E,2µm,0.4s						
KARP	Karpathos	0.52	264	PG	Pg	01 04 14.5	-0.5
KARP	Karpathos	0.52	264	P	Pg	01 04 14.4	-0.5
KARP				S	Sb	01 04 23.4	-0.4
ARG	Arkhangelos	0.67	23	P	Pb	01 04 18.3	-0.4
ARG				S	Sb	01 04 26.8	-1.4
ARG				AML	AML	01 04 34.5	
	comp=N,1272µm,0.3s						
ARG				AML	AML	01 04 35.9	
	comp=E,2715µm,0.3s						
ARG	Arkhangelos	0.67	23	P	Pb	01 04 18.2	-0.5
ARG				S	Sb	01 04 28.6	+0.5
	comp=E,1µm,0.3s						
ARG	Arkhangelos	0.67	23	PG	Pb	01 04 18.2	-0.5
ARG				SG	Sb	01 04 28.6	+0.5
ARG	Arkhangelos	0.67	23	P	Pb	01 04 18.2	-0.5
ARG				S	Sb	01 04 28.7	+0.5
MRSB	Marmaris-Mugla	1.16	16	PN	Pn	01 04 27.3	0.0
TURN	Turunc	1.23	17	PN	Pg	01 04 27.9	-0.5
TURN	Turunc	1.23	17	*i* P	Pn	01 04 28.2	0.0
TURN				IAML		01 04 53.0	
	comp=E,246nm,0.4s						
TURN				IAML		01 04 56.0	
	comp=N,224nm,0.3s						
KOSK	Kos Island	1.33	330	PN	Pg	01 04 29.4	-0.9
ZKR	Zakros	1.38	250	P	Pn	01 04 29.6	-0.6
ZKR				AML	AML	01 04 55.7	
	comp=N,644µm,0.5s						
ZKR				AML	AML	01 04 58.8	
	comp=E,1743µm,0.9s						
ZKR	Zakros	1.38	250	P	Pn	01 04 29.7	-0.6
ZKR				S	Sg	01 04 50.3	+1.2
	comp=E,608nm,0.8s						
ZKR	Zakros	1.38	250	PN	Pn	01 04 29.7	-0.6
ZKR	Zakros	1.38	250	P	Pn	01 04 29.7	-0.6

ZKR					S	**Sg**	**01 04 50.8**	**+1.7**
ZKR					AML	AML	01 04 57.6	
	comp=E,1.7nm,1.0s							
ZKR					AML	AML	01 04 57.6	
	comp=E,1.7nm,1.0s							
DALY	**Dalyan (Mula)**	**1.40**	**29**		PN	**Pb**	**01 04 31.0**	**-0.1**
DALY	**Dalyan (Mula)**	**1.40**	**29**	*i*	P	**Pb**	**01 04 31.0**	**-0.1**
DALY					IAML		01 05 00.0	
	comp=N,103nm,0.3s							
FETY	**Fethiye**	**1.47**	**45**		P	**Pn**	**01 04 31.6**	**+0.1**
FETY	**Fethiye**	**1.47**	**45**		PN	**Pn**	**01 04 31.6**	**+0.1**
BDRM	**Kayabasi**	**1.49**	**349**	*i*	P	**Pb**	**01 04 31.9**	**-0.8**
BDRM				*i*	S	**Sg**	**01 04 52.5**	**-0.3**
BDRM					IAML		01 04 57.0	
	comp=E,107nm,0.3s							
BDRM					IAML		01 05 01.0	
	comp=N,186nm,0.4s							
BODT	**Bodrum**	**1.51**	**345**		P	**Pn**	**01 04 31.4**	**-0.7**
BODT					S	**Sb**	**01 04 50.3**	**-2.1**
BODT	**Bodrum**	**1.51**	**345**		PN	**Pn**	**01 04 31.3**	**-0.8**
YER	**Yerkesik**	**1.58**	**14**		PN	**Pn**	**01 04 33.1**	**0.0**
AKAS	**Kas**	**1.60**	**66**		PN	**Pn**	**01 04 33.1**	**-0.3**
MULA	**Mugla, Merkez-**	**1.71**	**14**	*i*	P	**Pg**	**01 04 37.3**	**-0.3**
MULA					IAML		01 05 10.0	
	comp=N,44nm,0.5s							
MULA					IAML		01 05 13.0	
	comp=E,108nm,0.7s							
FRMA	**Ierapetra Chan**	**1.78**	**252**		P	**Pn**	**01 04 35.7**	**-0.1**
NPS	**Neapolis**	**1.81**	**260**		P	**Pn**	**01 04 37.3**	**+1.0**
NPS	**Neapolis**	**1.81**	**260**		P	**Pn**	**01 04 36.8**	**+0.5**
NPS					S	**Sn**	**01 04 59.5**	**+0.1**
	comp=E,325nm,0.6s							
LAST	**Lasithi**	**1.94**	**258**		P	**Pn**	**01 04 39.2**	**+1.1**
LAST	**Lasithi**	**1.94**	**258**		P	**Pn**	**01 04 38.8**	**+0.7**
THR8	**Santorini-Mono**	**2.04**	**294**		P	**Pn**	**01 04 39.4**	**0.0**
SANT	**Santorini**	**2.04**	**293**		P	**Pn**	**01 04 39.6**	**+0.1**
SANT	**Santorini**	**2.04**	**293**		PN	**Pn**	**01 04 39.1**	**-0.4**
ELL	**Elmali**	**2.06**	**56**		PN	**Pn**	**01 04 40.3**	**+0.6**
TAVA	**DENIZLI_Tavas**	**2.07**	**25**	*i*	P	**Pb**	**01 04 41.9**	**-0.7**
TAVA				*i*	S	**Sg**	**01 05 15.0**	**+3.7**
TAVA					IAML		01 05 19.0	
	comp=N,67nm,0.3s							
TAVA					IAML		01 05 20.0	
	comp=E,96nm,0.5s							
SNT1	**Gialos, Santor**	**2.08**	**294**		P	**Pn**	**01 04 40.0**	**+0.1**
SNT1	**Gialos, Santor**	**2.08**	**294**		P	**Pn**	**01 04 40.0**	**+0.1**
THR2	**Thira island,**	**2.09**	**295**		P	**Pn**	**01 04 39.8**	**-0.3**
THT2	**Imerovigli**	**2.10**	**294**		P	**Pn**	**01 04 40.3**	**+0.1**
THT2	**Imerovigli**	**2.10**	**294**		PN	**Pn**	**01 04 39.7**	**-0.5**
THR3	**Thira Island,**	**2.10**	**293**		P	**Pn**	**01 04 40.3**	**+0.1**
SNT5	**Nea Kammeni, S**	**2.10**	**293**		P	**Pn**	**01 04 40.4**	**+0.2**
SNT5	**Nea Kammeni, S**	**2.10**	**293**		P	**Pn**	**01 04 39.4**	**-0.8**
GCAM	**G?zelcaml?**	**2.15**	**348**		PN	**Pn**	**01 04 40.9**	**+0.1**
SAP3	**Santorini-Thir**	**2.15**	**294**		P	**Pn**	**01 04 42.0**	**+1.1**
HRKL	**Herakleio**	**2.22**	**263**		PN	**Pn**	**01 04 41.6**	**-0.2**
APE	**Apeiranthos**	**2.34**	**309**		P	**Pn**	**01 04 43.5**	**-0.2**
APE	**Apeiranthos**	**2.34**	**309**		P	**Pn**	**01 04 43.4**	**-0.2**
APE					S	**Sn**	**01 05 12.3**	**-0.2**
	comp=E,112nm,0.5s							
APE	**Apeiranthos**	**2.34**	**309**		PN	**Pn**	**01 04 44.1**	**+0.5**
APE	**Apeiranthos**	**2.34**	**309**		P	**Pn**	**01 04 44.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.34**	**2**		PN	**Pn**	**01 04 44.0**	**+0.3**
IDI	**Anoyia**	**2.39**	**263**		P	**Pn**	**01 04 45.5**	**+1.3**
IDI	**Anoyia**	**2.39**	**263**		P	**Pn**	**01 04 44.3**	**0.0**
IDI	**Anoyia**	**2.39**	**263**		PN	**Pn**	**01 04 44.1**	**-0.2**
KORT	**Korkueli**	**2.49**	**55**		PN	**Pn**	**01 04 46.5**	**+0.8**
SIVA	**Sivas**	**2.51**	**257**		P	**Pn**	**01 04 48.7**	**+2.9**
ANTB	**Antalya**	**2.65**	**60**		PN	**Pn**	**01 04 48.9**	**+1.2**
BLCB	**Balcova**	**2.85**	**348**		PN	**Pn**	**01 04 50.5**	**+0.1**
URLA	**Izmir**	**2.92**	**341**		PN	**Pn**	**01 04 51.8**	**+0.3**
BASM	**Basmaki-Afyon**	**2.94**	**37**		PN	**Pn**	**01 04 51.7**	**-0.1**
KULA	**Kula-Manisa**	**2.99**	**13**		PN	**Pn**	**01 04 53.4**	**+0.9**
CHOS	**Chios island**	**3.11**	**334**		PN	**Pn**	**01 04 54.6**	**+0.4**
IMMV	**Iera Moni Meta**	**3.11**	**269**		PN	**Pn**	**01 04 54.7**	**+0.6**
KNDR	**Palaiochora Ch**	**3.38**	**265**		PN	**Pn**	**01 04 59.3**	**+1.6**
DKL	**Dikili**	**3.54**	**349**		PN	**Pn**	**01 05 00.2**	**+0.3**
OSC1	**CSNet OBS 1**	**3.56**	**125**		P	**Pn**	**01 04 59.3**	**-0.8**
AKMS	**Akamas**	**3.76**	**98**		P	**Pn**	**01 05 02.5**	**-0.5**
AKMS					S	**Sn**	**01 05 47.9**	**+0.5**
AKMS					AML	AML	01 05 50.0	
	comp=E,0.3nm,0.7s							
AKMS					AML	AML	01 05 50.0	
	comp=E,0.3nm,0.7s							
AKMS					AML	AML	01 05 51.1	
	comp=E,0.3nm,0.7s							
AKMS					AML	AML	01 05 51.1	
	comp=E,0.3nm,0.7s							
KTHA	**Kythira Island**	**3.90**	**281**		PN	**Pn**	**01 05 06.4**	**+1.5**
VLI	**Veliai**	**4.09**	**287**		P	**Pn**	**01 05 08.7**	**+1.2**
SZAC	**Souni**	**4.25**	**100**		P	**Pn**	**01 05 09.0**	**-0.8**
SZAC					S	**Sn**	**01 06 00.4**	**+0.9**
ASGA	**Asgata**	**4.54**	**99**		P	**Pn**	**01 05 13.1**	**-0.6**
CSS	**Mathiatis**	**4.57**	**96**		P	**Pn**	**01 05 13.5**	**-0.7**
MVOU	**Mavrovouni**	**4.81**	**95**		P	**Pn**	**01 05 16.5**	**-0.9**

IDC ***12*** *01:04:13.6±0.9,30°.57N×143°.01E,h0km,mb3.7/7, mb1 3.9/9,mb1mx3.6/41,mbtmp3.7/9,ML3.2/2,Error ellipse: s-maj=31.4km s-min=19.2km az=79.0*

ISC 12 01:04:19.0±0.9,30°.6N±0°.1×142°.8E±0°.2,h35km,n10, σ1$57/11,mb3.7/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JHJ	**Hachijo jima 2**	**3.55**	**315**	Pn	**Pn**	**01**	**05**	**10.3**	**-1.2**
	6.8nm,0.3s,baz=40,slow=22,SNR=2.1								
JHJ				Sn	**Sn**	**01**	**05**	**50.0**	**-2.3**
	5.7nm,0.3s,baz=73,slow=22,SNR=0.9								
MJAR	**Matsushiro Arr**	**7.01**	**328**	Pn	**Pn**	**01**	**05**	**59.8**	**+0.6**
	0.2nm,0.3s,baz=159,slow=11,SNR=5.8								
SONM	**Songino Array**	**32.62**	**312**	P	**P**	**01**	**10**	**49.4**	**+2.0**
	0.8nm,0.7s,baz=113,slow=9.6,SNR=5.8								
MKAR	**Makanchi Array**	**48.69**	**307**	P	**P**	**01**	**13**	**01.1**	**+1.4**
	0.4nm,0.7s,baz=90,slow=9.0,SNR=5.1								
WRA	**Warramunga Arr**	**50.94**	**190**	P	**P**	**01**	**13**	**16.3**	**-0.8**
	2.2nm,0.6s,baz=10,slow=7.8,SNR=16								
ILAR	**Eielson Array**	**54.37**	**30**	P	**P**	**01**	**13**	**41.5**	**-0.4**
	0.3nm,0.8s,baz=268,slow=6.9,SNR=4.3								
ASAR	**Alice Springs**	**54.66**	**190**	P	**P**	**01**	**13**	**44.1**	**-0.4**
	1.3nm,0.6s,baz=9.9,slow=7.5,SNR=19								
YKA	**Yellowknife Ar**	**68.79**	**29**	P	**P**	**01**	**15**	**18.6**	**-0.6**
	0.4nm,0.7s,baz=292,slow=5.9,SNR=3.6								
AKASG	**Malin Array Be**	**80.08**	**324**	P	**P**	**01**	**16**	**26.3**	**+1.3**
	0.4nm,0.2s,baz=55,slow=5.5,SNR=1.9								
LPAZ	**La Paz**	**148.38**	**70**	PKPbc	**PKiKP**	**01**	**24**	**02.7**	**-2.0**
	0.7nm,0.9s,baz=333,slow=2.3,SNR=2.1								

ANF ***12*** *01:19:19.8±0.4,32°.92N×88°.03W,h4km±3km,ML3.6/19, Error ellipse: s-maj=2.4km s-min=2.1km az=145.0*

SLM ***12*** *01:19:20.1±1.1,32°.97N±0°.03×88°.06W±0°.03,h0km±6km, Md3.0/8,mb_Lg3.1/140(NEIC),Error ellipse: s-maj=4.9km s-min=3.3km az=196.0*

NEIC ***12*** *01:19:20.1±1.2,32°.92N±0°.03×88°.07W±0°.03,h6km±6km, Error ellipse: s-maj=5.1km s-min=3.6km az=201.0*

ISC 12 01:19:20.0±1.2,32°.94N±0°.03×88°.05W±0°.02,h5km±10km, n124,σ0°61/93,Mississippi

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
Z47A	**Carrollton**	**0.26**	**356**	Pg	**Pg**	**01**	**19**	**25.0**	**-0.1**
Z47A				Sg	**Sg**	**01**	**19**	**29.5**	**+0.9**
Z47A	**Carrollton**	**0.26**	**356**	P	**Pg**	**01**	**19**	**24.7**	**-0.4**
	baz=177,SNR=431								
Z47A				S	**Sg**	**01**	**19**	**29.1**	**+0.6**
	baz=177								
Z47A	**Carrollton**	**0.26**	**356**	P		01	19	24.7	
	baz=177,SNR=431								
Z47A				S		01	19	29.1	
	baz=177								
LRAL	**Lakeview Retre**	**0.89**	**83**	Pg	**Pg**	**01**	**19**	**36.2**	**-0.9**
LRAL				Sg	**Sg**	**01**	**19**	**49.3**	**+0.8**
LRAL	**Lakeview Retre**	**0.89**	**83**	P	**Pg**	**01**	**19**	**36.1**	**-0.9**
	baz=266,SNR=72								
LRAL	**Lakeview Retre**	**0.89**	**83**	P		01	19	36.1	
	baz=266,SNR=72								
146A	**Union**	**0.90**	**251**		**Pg**	**01**	**19**	**36.4**	**-0.9**
146A				Sg	**Sg**	**01**	**19**	**48.6**	**-0.3**
146A	**Union**	**0.90**	**251**	P	**Pg**	**01**	**19**	**37.0**	**-0.2**
	baz=68,SNR=36								
146A				S	**Sb**	**01**	**19**	**50.6**	**+0.3**
	baz=68								
146A	**Union**	**0.90**	**251**	P		01	19	37.0	
	baz=68,SNR=36								
146A				S		01	19	50.6	
	baz=68								
Y45A	**Yeager Farm, C**	**1.56**	**307**	Pn	**Pn**	**01**	**19**	**47.0**	**-1.3**
Y45A				Sg	**Sg**	**01**	**20**	**09.9**	**0.0**
Y45A	**Yeager Farm, C**	**1.56**	**307**	S	**Sg**	**01**	**20**	**10.1**	**+0.2**
	baz=125								
Y45A	**Yeager Farm, C**	**1.56**	**307**	S		01	20	10.1	
	baz=125								
Y49A	**Blount Mountai**	**1.65**	**56**		**Pn**	**01**	**19**	**49.2**	**-0.4**
Y49A				Sn	**Sn**	**01**	**20**	**10.8**	**-0.4**
Y49A	**Blount Mountai**	**1.65**	**56**	P	**Pn**	**01**	**19**	**49.2**	**-0.4**
	baz=238,SNR=106								
Y49A				S	**Sn**	**01**	**20**	**11.4**	**+0.2**
	baz=238								
Y49A	**Blount Mountai**	**1.65**	**56**	P		01	19	49.2	
	baz=238,SNR=106								
Y49A				S		01	20	11.4	
	baz=238								
X48A	**Hartselle**	**1.73**	**29**	Pn	**Pn**	**01**	**19**	**49.8**	**-0.9**
X48A				Sn	**Sn**	**01**	**20**	**12.1**	**-1.0**
X48A	**Hartselle**	**1.73**	**29**	P	**Pn**	**01**	**19**	**49.8**	**-0.9**
	baz=210,SNR=68								
X48A	**Hartselle**	**1.73**	**29**	P		01	19	49.8	
	baz=210,SNR=68								
250A	**Grady**	**1.78**	**122**	Pn	**Pn**	**01**	**19**	**51.7**	**+0.3**
250A				Sn	**Sn**	**01**	**20**	**14.4**	**-0.1**
250A	**Grady**	**1.78**	**122**	P	**Pn**	**01**	**19**	**52.0**	**+0.6**
	baz=304,SNR=65								
250A				Sb	**Sb**	**01**	**20**	**16.6**	**+0.8**
	baz=304								
250A	**Grady**	**1.78**	**122**	P		01	19	52.0	
	baz=304,SNR=65								
250A				Sb		01	20	16.6	
	baz=304								
BRAL	**Brewton**	**1.96**	**154**		**Pn**	**01**	**19**	**53.1**	**-0.7**
BRAL				Sn	**Sn**	**01**	**20**	**18.2**	**-0.5**
346A	**Big Creek Wild**	**1.96**	**218**	Pn	**Pn**	**01**	**19**	**53.0**	**-0.8**
346A				IAmb_Lg		01	20	27.6	
	comp=E,78nm,0.8s								
346A	**Big Creek Wild**	**1.96**	**218**	Sb	**Sb**	**01**	**20**	**21.0**	**+0.3**
	baz=37								
346A	**Big Creek Wild**	**1.96**	**218**	Sb		01	20	21.0	
	baz=37								
PWLA	**Pickwick Lake**	**2.04**	**360**		**Pn**	**01**	**19**	**55.7**	**+0.7**
PWLA					**Sn**	**01**	**20**	**22.1**	**+1.4**
PLAL	**Pickwick Lake**	**2.04**	**359**		**Pn**	**01**	**19**	**55.1**	**+0.2**
PLAL				IAmb_Lg		01	20	28.9	
	comp=E,74nm,0.7s								
VBMS	**Vicksburg**	**2.20**	**252**	Pn	**Pn**	**01**	**19**	**57.9**	**+0.7**
W45A	**Hickory Valley**	**2.41**	**337**	Pn	**Pn**	**01**	**20**	**00.3**	**+0.3**
W45A	**Hickory Valley**	**2.41**	**337**	P	**Pn**	**01**	**20**	**01.3**	**+1.3**
	baz=156								
W45A	**Hickory Valley**	**2.41**	**337**	P		01	20	01.3	
	baz=156								
Z51A	**Franklin**	**2.44**	**80**	Pn	**Pn**	**01**	**20**	**01.0**	**+0.6**
Z51A	**Franklin**	**2.44**	**80**	P	**Pn**	**01**	**20**	**01.2**	**+0.7**
	baz=263,SNR=32								
Z51A	**Franklin**	**2.44**	**80**	P		01	20	01.2	
	baz=263,SNR=32								
EBZ	**Ebenezer Churc**	**2.45**	**334**		**Pn**	**01**	**20**	**02.0**	**+1.5**
MET	**Memphis—Engin**	**2.68**	**325**	IAmb_Lg		01	20	50.5	
	comp=E,88nm,0.7s								
344A	**Westbrook Farm**	**2.71**	**238**	Pn	**Pn**	**01**	**20**	**05.2**	**+1.0**
152A	**Waverly Hall**	**2.82**	**95**		**Pn**	**01**	**20**	**06.5**	**+0.9**
152A				IAmb_Lg		01	20	56.2	
	comp=E,48nm,0.7s								
143A	**Socs Landing,**	**2.83**	**266**		**Pn**	**01**	**20**	**06.3**	**+0.4**
143A	**Socs Landing,**	**2.83**	**266**	P	**Pn**	**01**	**20**	**06.8**	**+0.9**
	baz=84,SNR=6.7								
143A	**Socs Landing,**	**2.83**	**266**	P		01	20	06.8	
	baz=84,SNR=6.7								
SWET	**Sewanee**	**2.87**	**37**		**Pn**	**01**	**20**	**06.3**	**-0.2**
SWET				IAmb_Lg		01	20	50.6	
	comp=E,58nm,0.7s								
SFTN	**Shelby Forest**	**2.92**	**326**		**Pn**	**01**	**20**	**08.1**	**+1.2**
V48A	**Smith Brothers**	**2.98**	**20**		**Pn**	**01**	**20**	**08.0**	**+0.1**
V48A				IAmb_Lg		01	20	52.6	
	comp=E,55nm,0.7s								
352A	**Blakely**	**3.02**	**118**	Pn	**Pn**	**01**	**20**	**09.2**	**+0.8**
CMGA	**Chestnut Mount**	**3.03**	**55**		**Pn**	**01**	**20**	**08.7**	**+0.1**
RCG	**Rock City**	**3.03**	**47**		**Pn**	**01**	**20**	**09.4**	**+0.9**
451A	**Vernon**	**3.03**	**139**	P	**Pn**	**01**	**20**	**08.4**	**-0.2**
	baz=321								
451A				S	**Sn**	**01**	**20**	**45.6**	**+0.4**
	baz=321								
451A	**Vernon**	**3.03**	**139**	P		01	20	08.4	
	baz=321								
451A				S		01	20	45.6	
	baz=321								
X51A	**Calhoun**	**3.12**	**58**		**Pn**	**01**	**20**	**10.2**	**+0.4**
X51A	**Calhoun**	**3.12**	**58**	P	**Pn**	**01**	**20**	**10.0**	**+0.3**
	baz=240,SNR=12								
X51A	**Calhoun**	**3.12**	**58**	P		01	20	10.0	
	baz=240,SNR=12								
X51A				P		01	20	10.0	
	baz=240,SNR=12								
HALT	**Halls**	**3.15**	**341**	IAmb_Lg		01	20	58.2	
	comp=E,35nm,0.7s								
WVT	**Waverly**	**3.19**	**3**	Pn	**Pn**	**01**	**20**	**11.0**	**+0.2**
W50A	**Signal Mountai**	**3.20**	**44**		**Pn**	**01**	**20**	**11.0**	**0.0**
W50A				IAmb_Lg		01	21	07.4	
	comp=E,82nm,0.9s								
W50A	**Signal Mountai**	**3.20**	**44**	P	**Pn**	**01**	**20**	**10.9**	**-0.1**
	baz=226,SNR=21								
W50A	**Signal Mountai**	**3.20**	**44**	P		01	20	10.9	
	baz=226,SNR=21								
LPAR	**Lepanto**	**3.25**	**326**	Pn	**Pn**	**01**	**20**	**11.7**	**+0.2**
CCAR	**Cane Creek**	**3.26**	**288**	IAmb_Lg		01	21	11.0	
	comp=E,37nm,1.0s								
LNXT	**Lenox**	**3.38**	**340**	Pn	**Pn**	**01**	**20**	**13.1**	**-0.2**
LNXT				IAmb_Lg		01	21	11.6	
	comp=E,73nm,0.8s								
HBAR	**Harrisburg**	**3.39**	**321**	Pn	**Pn**	**01**	**20**	**13.6**	**+0.1**
HBAR				IAmb_Lg		01	21	14.1	
	comp=E,48nm,0.9s								
GMG	**Grassy Mountai**	**3.40**	**55**		**Pn**	**01**	**20**	**14.2**	**+0.4**
CLTN	**Cedars of Leba**	**3.45**	**24**	Pn	**Pn**	**01**	**20**	**14.8**	**+0.4**
Y52A	**Lilburn**	**3.46**	**73**		**Pn**	**01**	**20**	**15.1**	**+0.6**
Y52A				IAmb_Lg		01	21	17.2	
	comp=E,38nm,0.8s								
PEBM	**Pemiscott Bayo**	**3.50**	**335**	IAmb_Lg		01	21	13.7	
	comp=E,61nm,0.8s								
HICK	**Hickman**	**3.73**	**345**	Pn	**Pn**	**01**	**20**	**18.6**	**+0.5**
CPCT	**Cooper Cave**	**3.85**	**48**		**Pn**	**01**	**20**	**19.7**	**-0.2**
GOGA	**Godfrey**	**3.87**	**82**	Pn	**Pn**	**01**	**20**	**20.6**	**+0.4**
GOGA				IAmb_Lg		01	21	29.3	
	comp=E,30nm,0.8s								
GOGA	**Godfrey**	**3.87**	**82**	P	**Pn**	**01**	**20**	**20.3**	**+0.2**
	baz=265								
GOGA	**Godfrey**	**3.87**	**82**	P		01	20	20.3	
	baz=265								
HENM	**Henderson Moun**	**3.95**	**343**	IAmb_Lg		01	21	34.0	
	comp=E,65nm,0.8s								
PARMO	**Parma**	**3.97**	**340**	IAmb_Lg		01	21	33.6	
	comp=Z,40nm,0.7s								
U49A	**Red Boiling Sp**	**4.03**	**27**	Pn	**Pn**	**01**	**20**	**22.5**	**+0.2**
U49A				IAmb_Lg		01	21	31.9	
	comp=E,41nm,0.8s								
U49A	**Red Boiling Sp**	**4.03**	**27**	P	**Pn**	**01**	**20**	**22.7**	**+0.4**
	baz=208								
U49A	**Red Boiling Sp**	**4.03**	**27**	P		01	20	22.7	
	baz=208								
LCAR	**Lake Charles**	**4.04**	**322**	Pn	**Pn**	**01**	**20**	**22.7**	**+0.2**
W52A	**Murphy**	**4.04**	**57**	IAmb_Lg		01	21	31.3	
	comp=Z,32nm,0.8s								
T45A	**Paducah**	**4.10**	**353**	Pn	**Pn**	**01**	**20**	**22.7**	**-0.6**
T47A	**Sharon Grove**	**4.12**	**11**	Pn	**Pn**	**01**	**20**	**23.4**	**0.0**
T47A				IAmb_Lg		01	21	36.6	
	comp=E,41nm,0.8s								
154A	**Montrose**	**4.18**	**93**	IAmb_Lg		01	21	34.5	
	comp=E,45nm,0.8s								
V51A	**Loudon**	**4.19**	**46**	Pn	**Pn**	**01**	**20**	**24.3**	**-0.1**
WHAR	**Wooly Hollow**	**4.23**	**305**	Pn	**Pn**	**01**	**20**	**24.9**	**-0.2**
WHAR				IAmb_Lg		01	21	36.0	
	comp=Z,28nm,1.1s								
PBMO	**Poplar Bluff**	**4.30**	**334**		**Pn**	**01**	**20**	**26.2**	**+0.1**
WLAR	**White Oak Lake**	**4.30**	**281**	Pn	**Pn**	**01**	**20**	**26.4**	**+0.3**
WLAR				IAmb_Lg		01	21	40.3	
	comp=Z,28nm,0.7s								
TKL	**Tuckaleechee C**	**4.46**	**51**	Pn	**Pn**	**01**	**20**	**27.9**	**-0.3**
TKL				IAmb_Lg		01	21	45.3	
	comp=E,53nm,1.0s								
TKL	**Tuckaleechee C**	**4.46**	**51**	P	**Pn**	**01**	**20**	**28.0**	**-0.2**
	baz=234								
TKL	**Tuckaleechee C**	**4.46**	**51**	P		01	20	28.0	
	baz=234								
FCAR	**Ozark Folk Cen**	**4.47**	**312**		**Pn**	**01**	**20**	**28.1**	**-0.4**
V52A	**Sevierville**	**4.69**	**51**	Pn	**Pn**	**01**	**20**	**31.0**	**-0.4**
V52A				IAmb_Lg		01	21	57.2	
	comp=Z,41nm,0.8s								
V52A	**Sevierville**	**4.69**	**51**	P	**Pn**	**01**	**20**	**30.9**	**-0.4**
	baz=233								
V52A	**Sevierville**	**4.69**	**51**	P		01	20	30.9	
	baz=233								
BG3	**Lake Jocassee**	**4.72**	**63**	Pn	**Pn**	**01**	**20**	**32.2**	**+0.4**
T42A	**Van Buren**	**4.79**	**329**	Pn	**Pn**	**01**	**20**	**32.7**	**0.0**
T42A	**Van Buren**	**4.79**	**329**	P	**Pn**	**01**	**20**	**32.9**	**+0.2**
	baz=148								
T42A	**Van Buren**	**4.79**	**329**	P		01	20	32.9	
	baz=148								
S44A	**Carbondale**	**4.85**	**349**		**Pn**	**01**	**20**	**33.4**	**-0.1**
S44A	**Carbondale**	**4.85**	**349**	P	**Pn**	**01**	**20**	**33.6**	**0.0**
	baz=168,SNR=7.9								
S44A	**Carbondale**	**4.85**	**349**	P		01	20	33.6	
	baz=168,SNR=7.9								
T50A	**Nancy**	**4.85**	**32**	Pn	**Pn**	**01**	**20**	**32.7**	**-0.9**
T50A				IAmb_Lg		01	22	00.7	
	comp=Z,44nm,0.7s								
SIUC	**Southern Illin**	**4.86**	**349**		**Pn**	**01**	**20**	**33.9**	**+0.1**
SIUC				Sn	**Sn**	**01**	**21**	**28.9**	**-1.5**
SIUC				IAmb_Lg		01	21	54.1	
	comp=Z,30nm,0.9s								
MIAR	**Mount Ida**	**4.88**	**291**	IAmb_Lg		01	22	04.8	
	comp=Z,26nm,0.9s								
HODGE	**Hodges**	**5.00**	**73**	Pn	**Pn**	**01**	**20**	**34.6**	**-1.0**
HODGE				IAmb_Lg		01	22	10.7	
	comp=Z,22nm,1.0s								
V53A	**Saluda**	**5.12**	**56**	Pn	**Pn**	**01**	**20**	**37.5**	**+0.1**
V53A				IAmb_Lg		01	22	03.2	
	comp=Z,29nm,0.9s								
U40A	**Yellville**	**5.23**	**312**	Pn	**Pn**	**01**	**20**	**39.6**	**+0.9**
MGMO	**Mountain Grove**	**5.45**	**322**	Pn	**Pn**	**01**	**20**	**42.3**	**+0.5**
WCI	**Wyandotte Cave**	**5.47**	**15**	IAmb_Lg		01	22	14.9	
	comp=Z,54nm,0.7s								
PAULI	**Pauline**	**5.52**	**68**	Pn	**Pn**	**01**	**20**	**43.4**	**+0.7**
PAULI				IAmb_Lg		01	22	17.9	
	comp=Z,19nm,0.8s								
CCM	**Cathedral Cave**	**5.74**	**334**	Pn	**Pn**	**01**	**20**	**45.8**	**+0.1**
Q44A	**Meyer Farm, Va**	**6.01**	**353**	IAmb_Lg		01	22	45.1	
	comp=Z,19nm,0.8s								
R50A	**Paris**	**6.13**	**29**	IAmb_Lg		01	22	36.6	
	comp=Z,40nm,0.7s								
BLO	**Bloomington**	**6.34**	**11**	IAmb_Lg		01	22	52.8	
	comp=Z,31nm,0.7s								
Y57A	**Sumter**	**6.49**	**78**	IAmb_Lg		01	22	52.6	
	comp=Z,25nm,0.8s								
BIRD	**Birdtown, Kers**	**6.54**	**73**	IAmb_Lg		01	22	49.6	
	comp=Z,20nm,0.7s								
P43A	**Skaggs, Pawnee**	**6.80**	**350**	IAmb_Lg		01	22	57.6	
	comp=Z,27nm,1.0s								
P48A	**Milroy**	**6.85**	**17**	IAmb_Lg		01	23	00.2	
	comp=Z,31nm,1.1s								
W57A	**Gilead**	**7.04**	**69**	IAmb_Lg		01	23	10.4	
	comp=Z,16nm,0.8s								
P49A	**Miami Univ. Ec**	**7.11**	**21**	IAmb_Lg		01	23	08.2	
	comp=Z,32nm,0.9s								
U56A	**King**	**7.17**	**60**	IAmb_Lg		01	23	19.6	
	comp=Z,18nm,0.9s								
O44A	**Mansfield**	**7.21**	**357**	IAmb_L

BO02					*e*S		**Sn**	**01 49 32.0**	**-1.0**
BO02					IAML			01 49 34.3	
	comp=N,2μm,0.3s								
BO02	**Sierra Bellavi**	**2.39**	**102**				**Pn**	**01 49 04.4**	**+1.0**
BO02					Sn		**Sn**	**01 49 32.0**	**-1.0**
BI03	**Tigo**	**2.55**	**169**	⇑	*i*P		**Pn**	**01 49 05.6**	**+0.1**
BI03					IAML			01 49 37.0	
	comp=E,1μm,0.3s								
BI03	**Tigo**	**2.55**	**169**				**Pn**	**01 49 05.7**	**+0.1**
BI03					Sn		**Sn**	**01 49 33.6**	**-3.3**
ROCH	**El Roble**	**2.57**	**59**	*e*P			**Pn**	**01 49 06.1**	**+0.2**
ROCH					IAML			01 49 43.4	
	comp=N,527nm,0.3s								
MT05	**Renca**	**2.58**	**69**	IAML				01 49 41.4	
	comp=E,699nm,0.3s								
MT05	**Renca**	**2.58**	**69**				**Pn**	**01 49 06.7**	**+0.8**
MT05					Sn		**Sn**	**01 49 36.7**	**-0.9**
PEL	**Peldehue**	**2.72**	**65**	*e*P			**Pn**	**01 49 08.9**	**+1.0**
PEL					IAML			01 49 42.5	
	comp=N,718nm,0.6s								
PEL	**Peldehue**	**2.72**	**65**				**Pn**	**01 49 08.9**	**+1.0**
PEL					Sn		**Sn**	**01 49 40.5**	**-0.5**
MT03	**Universidad Ad**	**2.72**	**73**	⇑ *e*P			**Pn**	**01 49 08.7**	**+0.7**
MT03					IAML			01 49 45.6	
	comp=N,634nm,0.1s								
LMEL	**Las Melosas**	**2.88**	**81**	⇑ *i*P			**Pn**	**01 49 11.3**	**+1.1**
LMEL					IAML			01 49 49.6	
	comp=N,379nm,0.2s								
VA03	**San Esteban**	**3.00**	**59**	*e*P			**Pn**	**01 49 12.5**	**+0.6**
VA03					IAML			01 49 48.7	
	comp=E,745nm,0.2s								
VA03	**San Esteban**	**3.00**	**59**				**Pn**	**01 49 12.4**	**+0.6**
BI02	**San Fabin de**	**3.01**	**141**	⇑ *i*P			**Pn**	**01 49 13.1**	**+1.1**
BI02					IAML			01 49 49.0	
	comp=N,150nm,0.3s								
BI02	**San Fabin de**	**3.01**	**141**		Pn		**Pn**	**01 49 12.8**	**+0.8**
CO02	**Combarbal**	**3.82**	**36**	*e*P			**Pn**	**01 49 23.7**	**+0.5**
CO02	**Combarbal**	**3.82**	**36**				**Pn**	**01 49 23.6**	**+0.4**
CO03	**El Pedregal**	**4.27**	**36**	⇓ *i*P			**Pn**	**01 49 30.1**	**+0.7**
CO03	**El Pedregal**	**4.27**	**36**		Pn		**Pn**	**01 49 29.8**	**+0.5**
H03S1	**Juan Fernandez**	**4.41**	**275**		T		T	01 54 05.2	
	baz=96,slow=73,SNR=4.9								
H03S3	**Juan Fernandez**	**4.42**	**275**		T		T	01 54 02.9	
	baz=96,slow=73,SNR=5.5								
H03S2	**Juan Fernandez**	**4.43**	**275**		T		T	01 54 02.9	
	baz=96,slow=73,SNR=5.1								
GO04	**Tololo Observa**	**4.79**	**31**				**Pn**	**01 49 35.8**	**-0.7**
ZON	**Zonda**	**5.00**	**58**		Pn		**Pn**	**01 49 40.2**	**+1.0**
CO01	**Juntas del Tor**	**5.27**	**36**				**Pn**	**01 49 43.4**	**+0.2**
LCO	**Las Campanas**	**5.86**	**26**		Pn		**Pn**	**01 49 50.6**	**-0.7**
AC05	**El Transito**	**6.18**	**28**		Pn		**Pn**	**01 49 54.8**	**-0.7**
AC04	**Llanos de Chal**	**6.49**	**20**		Pn		**Pn**	**01 49 59.1**	**-0.5**
PLCA	**Paso Flores**	**6.84**	**160**		Pn		**Pn**	**01 50 06.8**	**+2.2**
	comp=N,2.1nm,0.3s,baz=326,slow=11,SNR=42								
PLCA					LR		LR	01 52 43.8	
	comp=N,194nm,20.3s,baz=344,slow=38								
PLCA	**Paso Flores**	**6.84**	**160**		Pn		**Pn**	**01 50 05.6**	**+1.1**
GO03	**Copiap**	**7.32**	**24**		Pn		**Pn**	**01 50 10.7**	**-0.4**
LL01	**San Ignacio de**	**8.09**	**174**		Pn		**Pn**	**01 50 21.4**	**-0.2**
AC02	**Maricunga**	**8.41**	**29**		Pn		**Pn**	**01 50 25.4**	**-1.1**
AC01	**Pan de Azucar**	**8.56**	**19**		Pn		**Pn**	**01 50 26.1**	**-2.1**
GO07	**Milladeo Hill,**	**8.77**	**180**				**Pn**	**01 50 31.2**	**+0.3**
PB14	**IPOC Station P**	**10.07**	**17**		Pn		**Pn**	**01 50 47.6**	**-1.5**
LVC	**Limon Verde**	**12.39**	**21**		LR		LR	01 55 54.0	
	comp=N,41nm,18.9s,baz=244,slow=36								
MNMC	**Minye Minye**	**15.56**	**14**		Pn		**Pn**	**01 52 03.5**	**-0.4**
MNMC					IAmb		IAmb	01 52 13.9	
	comp=Z,7.8nm,0.7s								
PB16	**IPOC Station P**	**16.35**	**14**		Pn		**Pn**	**01 52 12.7**	**-1.7**
PB16					IAmb		IAmb	01 52 26.4	
	comp=Z,9.0nm,1.1s								
LPAZ	**La Paz**	**18.63**	**17**		P		**Pn**	**01 52 45.5**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=174,slow=6.2,SNR=7.1								
LPAZ	**La Paz**	**18.63**	**17**		P		**P**	**01 52 41.2**	**-1.5**
SIV	**San Ignacio**	**21.47**	**35**		P		**P**	**01 53 14.3**	**+1.4**
	comp=Z,4.5nm,0.8s,baz=228,slow=9.2,SNR=20								
NNA	**Nana**	**22.44**	**352**		LR		LR	02 00 40.6	
	comp=Z,76nm,18.6s,baz=167,slow=33								
ATAH	**Atahualpa**	**27.42**	**350**		LR		LR	02 02 59.5	
	comp=Z,45nm,19.0s,baz=264,slow=32								
BDFB	**Brasilia**	**29.61**	**57**		P		**P**	**01 54 29.4**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=334,slow=5.2,SNR=3.0								
BDFB	**Brasilia**	**29.61**	**57**		P		**P**	**01 54 27.3**	**-2.5**
BDFB					IAmb		IAmb	01 54 39.0	
	comp=Z,6.0nm,1.2s								
BOAB	**BOACO BROADBAND**	**47.91**	**344**		P		**P**	**01 57 02.8**	**+0.1**
SNAA	**Sanae**	**51.78**	**158**		P		**P**	**01 57 31.6**	**-0.1**
SNAA					IAmb		IAmb	01 57 43.0	
	comp=Z,4.1nm,0.7s								
QSPA	**South Pole Qui**	**55.90**	**180**		P		**P**	**01 58 01.8**	**-0.3**
TXAR	**Lajitas Array**	**69.40**	**332**		P		P	01 59 35.8	+3.3
	comp=Z,1.1nm,0.5s,baz=155,slow=6.8,SNR=5.3								
DBIC	**Dimbokro**	**76.53**			P		**P**	**02 00 15.9**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=212,slow=3.6,SNR=4.2								
DBIC	**Dimbokro**	**76.53**	**72**		P		**P**	**02 00 13.6**	**-1.4**
DBIC					IAmb		IAmb	02 00 19.9	
	comp=Z,5.5nm,1.0s								
PDAR	**Pinedale Array**	**83.48**	**334**		P		**P**	**02 00 55.0**	**+2.9**
	comp=Z,0.3nm,0.8s,baz=137,slow=8.1,SNR=2.2								
TORD	**Torodi Ar. Bea**	**85.56**	**71**		P		**P**	**02 01 03.8**	**+0.8**
	comp=Z,5.9nm,1.1s,baz=236,slow=3.6,SNR=7.5								
WRA	**Warramunga Arr**	**119.82**	**211**		PKP		**PKiKP**	**02 07 16.7**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=171,slow=1.1,SNR=1.7								
MKAR	**Makanchi Array**	**157.97**	**48**		PKPab		**PKPab**	**02 08 55.5**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=299,slow=3.4,SNR=3.9								

*IDC **12** 02:18:41.5±1.4,34.˚40S×73.˚54W,h0km,mb3.7/4,*
mb1 4.0/6,mb1mx3.8/24,mbtmp3.7/6,ML3.7/2,MS3.1/4,
Ms1 3.1/4,ms1mx2.8/21,Error ellipse: s-maj=42.0km
s-min=30.7km az=75.0
*GUC **12** 02:18:43.4±0.7,34.˚10S×73.˚51W,h19km±4km,ML3.4*
ISC 12 02:18:47.0±1.1,34.˚25S±0.˚07×73.˚41W±0.˚09,h35km,n27,
σ1s39/35,mb3.8/4,8C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**1.23**	**102**	⇑ *i*P		**Pn**	**02 19 05.8**	**-1.9**
BO03				*i* S		**Sn**	**02 19 22.8**	**-0.2**
VA05	**Santo Domingo**	**1.61**	**69**	⇑ *i*P		**Pn**	**02 19 11.0**	**-1.9**
VA05				*i* S		**Sn**	**02 19 31.4**	**-1.0**
VA05				IAML			02 19 33.6	
	comp=N,382nm,0.6s							
MT09	**Talagante**	**2.07**	**78**	⇑ *i*P		**Pn**	**02 19 17.8**	**-1.6**
MT09				*i* S		**Sn**	**02 19 42.8**	**-1.3**
MT09				IAML			02 19 46.5	
	comp=N,232nm,0.1s							
MT02	**Curacav**	**2.14**	**63**	⇑ *i*P		**Pn**	**02 19 18.7**	**-1.5**
MT02				*i* S		**Sn**	**02 19 45.1**	**-0.4**
BO02	**Sierra Bellavi**	**2.24**	**105**	⇑ *i*P		**Pn**	**02 19 20.1**	**-1.6**
BO02				*i* S		**Sn**	**02 19 48.3**	**+0.1**
BO02				IAML			02 19 50.4	
	comp=N,741nm,0.3s							
ROCH	**El Roble**	**2.37**	**58**	⇑ *i*P		**Pn**	**02 19 22.2**	**-1.5**
ROCH				*i* S		**Sn**	**02 19 51.6**	**-0.1**
ROCH				IAML			02 19 56.1	
	comp=E,156nm,0.5s							
MT05	**Renca**	**2.38**	**70**	*e*P		**Pn**	**02 19 24.5**	**+0.8**
MT05				*e*S		**Sn**	**02 19 52.3**	**+0.5**
MT05				IAML			02 19 58.0	
	comp=E,204nm,0.3s							
PEL	**Peldehue**	**2.53**	**65**	*e*P		**Pn**	**02 19 25.4**	**-0.2**
PEL				*e*S		**Sn**	**02 19 56.5**	**+1.3**
PEL				IAML			02 20 02.0	
	comp=N,179nm,0.5s							
MT03	**Universidad Ad**	**2.53**	**74**	*e*P		**Pn**	**02 19 24.9**	**-0.8**
MT03				*e*S		**Sn**	**02 19 56.4**	**+1.0**
MT03				IAML			02 20 03.0	
	comp=E,162nm,0.5s							
LMEL	**Las Melosas**	**2.69**	**82**	*e*P		**Pn**	**02 19 27.4**	**-0.7**
LMEL				*e*S		**Sn**	**02 20 00.9**	**+1.4**
LMEL				IAML			02 20 06.3	
	comp=E,109nm,0.2s							
VA03	**San Esteban**	**2.81**	**59**	*e*P		**Pn**	**02 19 28.9**	**-0.7**
VA03				*e*S		**Sn**	**02 20 03.7**	**+1.4**
VA03				IAML			02 20 05.3	
	comp=E,203nm,0.3s							
CO02	**Combarbal**	**3.65**	**35**	⇑ *i*P		**Pn**	**02 19 39.4**	**-1.8**
CO02				*i* S		**Sn**	**02 20 21.4**	**-1.7**
CO02				IAML			02 20 31.4	
	comp=E,142nm,0.6s							
CO03	**El Pedregal**	**4.10**	**35**	⇑ *i*P		**Pn**	**02 19 45.1**	**-2.2**
CO03				*i* S		**Sn**	**02 20 31.4**	**-2.8**
H03S1	**Juan Fernandez**	**4.58**	**273**		T	T	02 24 19.8	
	baz=97,slow=73,SNR=10							
H03S3	**Juan Fernandez**	**4.58**	**274**		T	T	02 24 19.3	
	baz=97,slow=73,SNR=8.0							
H03S2	**Juan Fernandez**	**4.59**	**274**		T	T	02 24 21.4	
	baz=97,slow=73,SNR=8.2							
GO04	**Tololo Observa**	**4.63**	**29**	*e*P		**Pn**	**02 19 52.9**	**-1.8**
CO01	**Juntas del Tor**	**5.10**	**34**	*e*P		**Pn**	**02 20 00.9**	**-0.3**
PLCA	**Paso Flores**	**6.86**	**161**		Pn	**Pn**	**02 20 23.1**	**-2.1**
	comp=E,0.4nm,0.3s,baz=317,slow=11,SNR=8.5							
PLCA					LR	LR	02 22 47.2	
	comp=E,125nm,20.0s,baz=334,slow=36							
LVC	**Limon Verde**	**12.25**	**20**		LR	LR	02 25 45.9	
	comp=E,55nm,20.1s,baz=212,slow=34							
LPAZ	**La Paz**	**18.50**	**16**		P	**Pn**	**02 23 03.0**	**+1.7**
	comp=E,0.1nm,0.3s,baz=181,slow=7.7,SNR=6.1							
SIV	**San Ignacio**	**21.30**	**34**		P	**P**	**02 23 32.0**	**+1.2**
	comp=E,4.3nm,1.0s,baz=234,slow=10,SNR=12							
NNA	**Nana**	**22.38**	**351**		LR	LR	02 30 03.5	
	comp=E,55nm,19.7s,baz=189,slow=30							
TXAR	**Lajitas Array**	**69.40**	**332**		P	**P**	**02 29 52.5**	**+1.0**
	comp=E,0.6nm,0.5s,baz=155,slow=7.7,SNR=12							
TXAR					LR	LR	02 55 08.1	
	comp=E,18nm,19.0s,baz=0.0,slow=32							
NVAR	**Mina Array Bea**	**83.44**	**326**		P	**P**	**02 31 10.5**	**-0.5**
	comp=E,0.2nm,0.5s,baz=160,slow=2.9,SNR=2.1							
TORD	**Torodi Ar. Bea**	**85.37**	**71**		P	**P**	**02 31 21.4**	**+0.4**
	comp=E,0.2nm,0.3s,baz=215,slow=3.2,SNR=1.4							
MKAR	**Makanchi Array**	**157.78**	**48**		PKPab	**PKPab**	**02 39 12.0**	**-0.3**
	comp=E,0.3nm,0.7s,baz=318,slow=3.5,SNR=3.1							

*IDC **12** 02:33:13.2±4.3,4.˚69S×126.˚18E,h436km±57km,mb3.1/3,*
mb1 3.4/6,mb1mx2.9/36,mbtmp4.0/6,Error ellipse:
s-maj=76.9km s-min=25.0km az=55.0
ISC 12 02:33:10.4±1.1,4.˚7S±0.˚1×126.˚5E±0.˚2,h400km,n6,
σ2s70/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.22**	**207**	P		**Pn**	**02 34 47.7**	**+2.2**
	9.4nm,0.3s,baz=122,slow=3.0,SNR=4.3							
BATI					S	**S**	**02 36 01.3**	**-1.6**
	4.5nm,0.3s,baz=203,slow=4.5,SNR=14							
FITZ	**Fitzroy Crossi**	**13.40**	**184**	P		**P**	**02 36 05.7**	**+0.2**
	0.3nm,0.3s,baz=360,slow=9.0,SNR=10							
WRA	**Warramunga Arr**	**17.00**	**154**	P		**P**	**02 36 46.8**	**+2.4**
	1.2nm,0.3s,baz=330,slow=11,SNR=48							
WRA					S	**S**	**02 39 39.8**	**-1.7**
	0.0nm,0.3s,baz=316,slow=22,SNR=2.7							
ASAR	**Alice Springs**	**20.20**	**160**	P		**P**	**02 37 18.6**	**+1.8**
	4.9nm,0.3s,baz=343,slow=11,SNR=109							
ASAR					S	**S**	**02 40 33.2**	**-4.8**
	0.2nm,0.3s,baz=331,slow=17,SNR=2.0							
MKAR	**Makanchi Array**	**64.40**	**328**	P		**P**	**02 43 04.2**	**-1.2**
	0.2nm,0.8s,baz=134,slow=8.3,SNR=1.8							
ILAR	**Eielson Array**	**92.70**	**25**	P		**P**	**02 45 37.5**	**-0.4**
	0.2nm,0.6s,baz=250,slow=5.3,SNR=2.0							

*IDC **12** 03:02:38.4±1.4,24.˚2N×127.˚85E,h0km,mb3.5/3,*
mb1 3.7/3,mb1mx3.4/42,mbtmp3.5/3,Error ellipse:
s-maj=63.6km s-min=23.2km az=83.0
*JMA **12** 03:02:41.2±0.2,24.˚90N×127.˚83E,h64km,M3.1*
ISC 12 03:02:38.5±2.4,24.˚84N±0.˚05×127.˚90E±0.˚04,h11km±16km,
n25,σ1s90/46,mb3.6/3,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.30**	**356**	P		**Pb**	**03 03 03.1**	**+0.1**
JJT3				S		**Sg**	**03 03 19.0**	**-1.5**
JNTH	**Nagotoyohara**	**1.68**	**4**	P		**Pn**	**03 03 07.7**	**-0.1**
JNTH				S		**Sn**	**03 03 27.1**	**-2.2**
JKE	**Kume jima 2**	**1.79**	**326**	P		**Pn**	**03 03 09.7**	**+0.4**
JKE				S		**Sn**	**03 03 30.2**	**-1.9**
JAGN	**Aguni-jima**	**1.84**	**341**	P		**Pn**	**03 03 10.4**	**+0.3**
JAGN				S		**Sn**	**03 03 31.3**	**-2.0**
JOW	**Kunigami**	**2.01**	**10**	Pn		**Pn**	**03 03 12.7**	**+0.2**
	9.1nm,0.3s,baz=96,slow=24,SNR=26							
JOW					Sn	**Sn**	**03 03 35.4**	**-2.2**
	13nm,0.3s,baz=102,slow=23,SNR=7.1							
JOW	**Kunigami**	**2.01**	**10**	P		**Pn**	**03 03 12.7**	**+0.2**
JOW				S		**Sn**	**03 03 36.9**	**-0.8**
JIH	**Iheya**	**2.19**	**2**	P		**Pn**	**03 03 16.3**	**+1.5**
JIH				S		**Sn**	**03 03 40.9**	**-1.0**
JYRO	**Yoronjima**	**2.23**	**13**	P		**Pn**	**03 03 15.6**	**+0.1**
JYRO				eS		**Sn**	**03 03 41.0**	**-2.4**
JOGS	**Gusukube**	**2.26**	**269**	P		**Pn**	**03 03 16.6**	**+0.7**
JOGS				S		**Sn**	**03 03 42.6**	**-1.2**
JMJ2	**Miyako jima3**	**2.34**	**268**	P		**Pn**	**03 03 16.9**	**0.0**
JMJ2				S		**Sn**	**03 03 44.1**	**-1.5**
JIKM	**Ikemajima**	**2.41**	**273**	P		**Pn**	**03 03 17.9**	**+0.1**
JIKM				eS		**Sn**	**03 03 44.5**	**-2.8**
JIRB	**Irabujima**	**2.47**	**270**	P		**Pn**	**03 03 19.0**	**+0.2**
JIRB				S		**Sn**	**03 03 45.9**	**-3.1**
JOKE	**Okinoerabujima**	**2.58**	**13**	P		**Pn**	**03 03 21.1**	**+0.8**
JOKE				S		**Sn**	**03 03 50.6**	**-1.1**
JTJ	**Tarama**	**2.91**	**267**	P		**Pn**	**03 03 25.2**	**+0.4**
JTJ				S		**Sn**	**03 03 57.2**	**-2.6**
JTK	**Tokunoshima**	**3.08**	**18**	P		**Pn**	**03 03 28.6**	**+1.4**
JTK				eS		**Sn**	**03 04 02.6**	**-1.5**
JMZ	**Minamidaito 2**	**3.16**	**71**	P		**Pn**	**03 03 27.6**	**-0.6**
JMZ				eS		**Sn**	**03 04 02.5**	**-3.5**
JKDJ	**Kitadaitoujima**	**3.27**	**70**	P		**Pn**	**03 03 29.3**	**-0.4**
JKDJ				S		**Sn**	**03 04 05.2**	**-3.4**
JISG	**Ishigakijimahi**	**3.27**	**266**	S		**Pn**	**03 04 04.6**	**-4.0**
JIJ	**Ishigaki jima**	**3.45**	**263**	P		**Pn**	**03 03 32.1**	**-0.1**
JIJ				eS		**Sn**	**03 04 08.9**	**-4.2**
JAMN	**Amaminishikomi**	**3.58**	**18**	P		**Pn**	**03 03 35.6**	**+1.6**
JAMN				S		**Sn**	**03 04 14.8**	**-1.4**
JKRS	**Kuro-shima**	**3.59**	**261**	P		**Pn**	**03 03 35.8**	**+1.7**
JKRS				S		**Sn**	**03 04 15.2**	**-1.3**
JAM	**Amami Oshima**	**3.87**	**23**	P		**Pn**	**03 03 39.2**	**+1.2**
JAM				S		**Sn**	**03 04 20.7**	**-2.8**
MKAR	**Makanchi Array**	**42.25**	**313**	P		**P**	**03 10 32.6**	**+0.8**
	0.2nm,0.6s,baz=98,slow=10,SNR=2.3							
WRA	**Warramunga Arr**	**44.95**	**171**	P		**P**	**03 10 55.3**	**+1.6**
	0.8nm,0.7s,baz=352,slow=8.6,SNR=6.8							
ASAR	**Alice Springs**	**48.57**	**173**	P		**P**	**03 11 25.0**	**+2.9**
	0.3nm,0.6s,baz=4.4,slow=13,SNR=4.2							

*NEIC **12** 03:24:55.4±1.7,6.˚24S×130.˚39E±0.˚09,h146km±9km,*
mb4.4/8,Error ellipse: s-maj=13.4km s-min=8.4km
az=95.0
*IDC **12** 03:24:58.6±2.4,6.˚14S×130.˚28E,h158km±22km,mb3.8/4,*
mb1 3.9/7,mb1mx3.6/27,mbtmp4.3/7,Error ellipse:
s-maj=38.2km s-min=22.3km az=100.0
*DJA **12** 03:24:59.4±0.4,6.˚5±2.˚×13.˚0E±.˚,h113km±10km,M4.7/12,*
mb4.6/8,mB5.3/6,MLv4.6/12,Mw(mB)4.7/6
ISC 12 03:24:55.6±0.6,6.˚25S±0.˚04×130.˚35E±0.˚06,h150km,n43,
σ2s36/56,mb4.3/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.78**	**346**	P		**Pn**	**03 25 26.8**	**-1.4**
SAUI	**Saumlaki**	**1.96**	**151**	Pn		**Pn**	**03 25 30.9**	**+0.6**
SAUI				Sn		**Sn**	**03 25 55.8**	**-1.2**
SAUI	**Saumlaki**	**1.96**	**151**	P		Pn	03 25 36.1	+5.8
SAUI				S		**Sn**	**03 26 04.1**	**+7.1**
FAKI	**Fak Fak**	**3.82**	**30**	Pn		**Pn**	**03 25 53.2**	**-0.4**
FAKI				Sn		**Sn**	**03 26 35.9**	**-2.6**
FAKI	**Fak Fak**	**3.82**	**30**	P		**Pn**	**03 25 54.5**	**+1.0**
NLAI	**Namlea**	**4.41**	**313**	P		**Pn**	**03 25 59.8**	**-1.5**
SIJI	**Sorong**	**5.43**	**10**	P		**Pn**	**03 26 16.5**	**+1.8**
	5.8nm,0.3s,baz=219,slow=23,SNR=27							
SIJI					S	**Sn**	**03 27 13.2**	**-3.4**
	13nm,0.3s,baz=234,slow=21,SNR=18							
SWI	**Sorong**	**5.43**	**10**	P		**Pn**	**03 26 15.1**	**+0.3**
	0.8nm2μm24nm,0.5s							
SWI					S	**Sn**	**03 27 12.7**	**-4.0**
	0.8nm2μm24nm,0.5s							
SANI	**Sanana**	**6.03**	**314**	P		**Pn**	**03 26 23.4**	**+0.6**
	0.3nm1μm72nm,0.7s							
RKPI	**Ransiki, Papua**	**6.07**	**39**	P		**Pn**	**03 26 26.1**	**+2.8**
	1.9nm4μm237nm,0.9s							
RKPI					S	**Sn**	**03 27 31.4**	**-0.4**
	1.9nm4μm237nm,0.9s							
SOEI	**Soe**	**6.96**	**240**	Pn		**Pn**	**03 26 35.3**	**+0.1**
SOEI						**Sn**	**03 27 53.0**	**-0.2**
SOEI	**Soe**	**6.96**	**240**	P		**Pn**	**03 26 39.2**	**+4.0**
	0.5nm48nm,0.7s							
SOEI					S	**Sn**	**03 27 54.5**	**+1.2**
	0.5nm48nm,0.7s							

BAKI	**Biak**	**7.63**	**49**		P		**Pn**	**03 26 47.5**	**+3.3**
BATI	**Baumata**	**7.69**	**239**		P		**Pn**	**03 26 48.1**	**+3.0**
	9.3nm,0.3s,baz=84,slow=1.4,SNR=7.2								
BATI					S		**Sn**	**03 28 07.7**	**-3.2**
	11nm,0.3s,baz=139,slow=20,SNR=4.6								
BATI	**Baumata**	**7.69**	**239**		P		**Pn**	**03 26 48.7**	**+3.7**
	0.3nm27nm,0.6s								
LUWI	**Luwuk**	**9.16**	**304**		P		**Pn**	**03 27 05.0**	**+0.4**
	5μm53nm,0.8s								
KMSI	**Cibinong**	**9.30**	**317**		P		**Pn**	**03 27 06.3**	**-0.1**
KNRA	**Kununurra**	**9.49**	**189**		Pn		**Pn**	**03 27 10.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**12.64**	**201**		P		**Pn**	**03 27 50.7**	**+0.5**
	1.0nm,0.3s,baz=29,slow=9.6,SNR=53								
FITZ					S		**Sn**	**03 30 02.5**	**-7.5**
	4.3nm,0.3s,baz=80,slow=19,SNR=10								
FITZ	**Fitzroy Crossi**	**12.64**	**201**		Pn		**Pn**	**03 27 50.0**	**-0.1**
WB0	**Warramunga Arr**	**14.00**	**164**		Pn		**Pn**	**03 28 07.6**	**0.0**
WRAB	**Tennant Creek**	**14.14**	**164**		Pn		**Pn**	**03 28 08.4**	**-1.0**
WRA	**Warramunga Arr**	**14.15**	**164**		P		**Pn**	**03 28 09.4**	**0.0**
	1.3nm,0.3s,baz=354,slow=12,SNR=39								
WRA					S		**Sn**	**03 30 40.9**	**-5.6**
	3.5nm,0.3s,baz=347,slow=24,SNR=13								
WB2	**Warramunga Arr**	**14.15**	**164**		Pn		**Pn**	**03 28 09.4**	**-0.1**
WR0	**Warramunga Arr**	**14.22**	**164**		Pn		**Pn**	**03 28 10.4**	**0.0**
COEN	**Coen**	**14.76**	**122**		Pn		**Pn**	**03 28 16.3**	**-0.9**
AS31	**Alice Springs**	**17.65**	**169**		Pn		**Pn**	**03 28 54.0**	**+1.6**
AS31					IAmb		IAmb	03 28 56.6	
	comp=Z,4.1nm,0.2s								
AS31					Sn		**Sn**	**03 32 09.0**	**-1.2**
ASAR	**Alice Springs**	**17.65**	**169**		P		**Pn**	**03 28 55.0**	**+2.7**
	comp=Z,0.9nm,0.3s,baz=347,slow=10,SNR=33								
ASAR					S		**S**	**03 32 03.7**	**-3.3**
	comp=Z,0.7nm,0.3s,baz=353,slow=28,SNR=8.4								
ASAR	**Alice Springs**	**17.65**	**169**		Pn		**Pn**	**03 28 52.9**	**+0.5**
ASAR					S		**S**	**03 32 05.6**	**-1.3**
PSA00	**Pilbara Seismi**	**18.31**	**213**		P		**P**	**03 28 58.5**	**+0.2**
SBUM	**Sibu**	**20.06**	**295**		P		**P**	**03 29 16.7**	**-0.7**
SBUM					IAmb		IAmb	03 29 21.6	
	comp=Z,20nm,1.0s								
CMAR	**Chiang Mai Arr**	**39.53**	**309**		P		**P**	**03 32 13.3**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=139,slow=7.4,SNR=12								
CMAR	**Chiang Mai Arr**	**39.53**	**309**		P		**P**	**03 32 12.4**	**+0.3**
CHTO	**Chiang Mai**	**39.73**	**309**		P		**P**	**03 32 14.5**	**+0.6**
CHTO					IAmb		IAmb	03 32 15.8	
	comp=Z,5.5nm,0.9s								
SONM	**Songino Array**	**57.85**	**341**		P		**P**	**03 34 33.3**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=156,slow=6.1,SNR=7.0								
SONM	**Songino Array**	**57.85**	**341**		P		**P**	**03 34 32.9**	**+1.2**
MK31	**Makanchi Array**	**67.80**	**326**		P		**P**	**03 35 38.4**	**+1.0**
MK31					IAmb		IAmb	03 35 39.4	
	comp=Z,3.0nm,0.6s								
MKAR	**Makanchi Array**	**67.80**	**326**		P		**P**	**03 35 39.0**	**+1.6**
	comp=Z,3.7nm,0.4s,baz=117,slow=6.9,SNR=92						

UCR 12 03:37:52.7±2.0, 10.54N×86.94W, h10km, MW4.2, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAJU	**San Juanillo,**	**1.30**	**111**	*e*P	Pn	03 38 15.9	-1.0
GRZA	**Playa Garza**	**1.43**	**115**	*e*P	Pn	03 38 18.2	-0.5
GUAI	**GUAI**	**1.43**	**100**	*i* P	Pn	03 38 17.6	-1.1
INDI	**Punta indio, G**	**1.57**	**115**	*e*P	Pn	03 38 20.1	-0.5
PLVR	**Palo Verde**	**1.58**	**97**	*e*P	Pn	03 38 18.7	-2.2
BUAI	**Buenos Aires**	**1.62**	**78**	*i* P	Pn	03 38 20.4	-0.9
LIM1	**Limonal**	**1.67**	**84**	*i* P	Pn	03 38 20.9	-1.2
GUAB	**Guayabo de Bag**	**1.69**	**84**	*i* P	Pn	03 38 21.0	-1.4
COLC	**Colonia**	**1.71**	**86**	*i* P	Pn	03 38 21.6	-1.1
HORNC	**Hornillas**	**1.74**	**84**	*i* P	Pn	03 38 21.7	-1.4
CUI	**Cuipilapa**	**1.75**	**86**	*i* P	Pn	03 38 22.1	-1.2
CUI				*i* S	Sb	03 38 47.2	0.0
PTEN	**Parque Tenorio**	**1.93**	**85**	*i* P	Pn	03 38 25.2	-0.5
JTS	**Las Juntas de**	**1.97**	**97**	*e*P	Pn	03 38 25.5	-0.7
LAFE	**Finca La Fe, P**	**2.13**	**110**	*e*P	Pn	03 38 27.3	-1.0
ARE1	**Arenal 1**	**2.19**	**92**	*e*P	Pn	03 38 29.5	+0.3
ACON	**Acoyapa**	**2.24**	**50**	*e*P	Pn	03 38 29.0	-0.9
SRA1	**San Ramn**	**2.46**	**100**	*e*P	Pn	03 38 34.1	+1.0
LCR2	**La Lucha 2**	**3.00**	**105**	*e*P	Pn	03 38 41.7	+1.2
ESPN	**Las Esperanzas**	**3.07**	**57**	*e*P	Pn	03 38 40.3	-1.0
RIMA	**Rio Macho**	**3.13**	**104**	*e*P	Pn	03 38 42.9	+0.6
CVTR	**Volcan Turrial**	**3.17**	**99**	*e*P	Pn	03 38 44.5	+1.4
CDM	**Cerro de Muert**	**3.28**	**107**	*e*P	Pn	03 38 45.7	+1.1

*JMA **12** 03:40:28.9±0.1, 24.41N×121.81E, h23km±4km*
*TAP **12** 03:40:28.6, 24.44N×121.85E, h20km, ML3.0, C*
ISC 12 03:40:28.4±0.9, 24.44N±0.01×121.87E±0.02, h19km±2km, n89, σ1°02/158, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.12**	**266**	*i* P	**Pg**	**03 40 32.5**	**0.0**
ENA	baz=259			*i* S	**Sg**	**03 40 35.2**	**0.0**
TWC	**Suao**	**0.17**	**353**	*i* P	**Pg**	**03 40 33.4**	**+0.3**
TWC	baz=10.0			*i* S	**Sg**	**03 40 36.5**	**+0.1**
NDS	**Dongshan**	**0.24**	**324**	*i* P	**Pg**	**03 40 34.3**	**+0.2**
NDS	baz=328			*i* S	**Sg**	**03 40 38.0**	**-0.1**
TWE	**Neicheng**	**0.34**	**326**	*i* P	**Pb**	**03 40 35.9**	**0.0**
TWE	baz=331			*i* S	**Sb**	**03 40 40.2**	**-0.8**
ENTT	**Nioudou**	**0.34**	**306**	*i* P	**Pb**	**03 40 35.9**	**-0.2**
ENTT	baz=308			*i* S	**Sg**	**03 40 40.8**	**-0.1**
ILA	**Ilan**	**0.35**	**341**	*i* P	**Pb**	**03 40 36.4**	**+0.4**
ILA	baz=341			*i* S	**Sb**	**03 40 41.9**	**+0.8**
NACB	**Ninganchiao**	**0.36**	**224**	P	**Pg**	**03 40 35.7**	**-0.4**
NACB	baz=221			S	**Sg**	**03 40 41.0**	**-0.4**
NDT	**Datong Townshi**	**0.37**	**297**	*i* P	**Pb**	**03 40 36.1**	**-0.3**
NDT	baz=298			*i* S	**Sb**	**03 40 41.1**	**-0.7**
NTC	**Toucheng**	**0.42**	**355**	*i* P	**Pb**	**03 40 37.4**	**+0.2**
NTC	baz=357			*i* S	**Sb**	**03 40 43.3**	**+0.1**
ETLH	**Xiulin Townshi**	**0.42**	**237**	*e*P	**Pg**	**03 40 36.9**	**-0.3**
ETLH	baz=236			*e*S	**Sg**	**03 40 42.5**	**-0.6**
TWD	**Chiawan**	**0.44**	**216**	*i* P	**Pg**	**03 40 37.4**	**0.0**
TWD	baz=216			*e*S	**Sb**	**03 40 44.4**	**+0.7**
NNSB	**Datong**	**0.45**	**269**	P	**Pb**	**03 40 37.6**	**-0.2**
NNSB	baz=269			S	**Sb**	**03 40 43.5**	**-0.7**
NNSH	**Datong**	**0.45**	**269**	*i* P	**Pb**	**03 40 37.6**	**-0.2**
NNSH	baz=269			*i* S	**Sb**	**03 40 43.5**	**-0.6**
NNS	**Nan Shan**	**0.46**	**270**	*i* P	**Pg**	**03 40 37.6**	**-0.2**
NNS	baz=270			*i* S	**Sg**	**03 40 43.6**	**-0.5**
NWLT	**Wulai**	**0.48**	**315**	*i* P	**Pg**	**03 40 38.0**	**-0.1**
NWLT	baz=313			*i* S	**Sg**	**03 40 44.4**	**-0.4**
YHNB	**Yeheng**	**0.51**	**297**	P	**Pg**	**03 40 38.7**	**0.0**
YHNB	baz=298			S	**Sg**	**03 40 45.2**	**-0.5**
HWA	**Hwalien**	**0.52**	**208**	P	**Pn**	**03 40 40.2**	**-0.6**
HWA	baz=211			*e*S	**Sn**	**03 40 49.2**	**+0.1**
NSK	**Sanguang**	**0.53**	**297**	*i* P	**Pg**	**03 40 39.0**	**0.0**
NSK	baz=298			*i* S	**Sb**	**03 40 45.5**	**-0.7**
TIPB	**Shuangxi**	**0.53**	**355**	*i* P	**Pg**	**03 40 39.6**	**+0.4**
TIPB	baz=5.0			*i* S	**Sb**	**03 40 46.4**	**0.0**
TWB1	**Santiao Chiao**	**0.58**	**10**	*i* P	**Pb**	**03 40 40.0**	**+0.2**
TWB1	baz=13			*i* S	**Sg**	**03 40 48.0**	**+0.2**
FUSS	**Fushou**	**0.60**	**252**	*i* P	**Pb**	**03 40 40.1**	**-0.3**
FUSS	baz=251			*i* S	**Sg**	**03 40 48.7**	**0.0**
NHDH	**Xindian Distri**	**0.61**	**329**	P	**Pn**	**03 40 41.5**	**-0.6**
NHDH	baz=323			S	**Sg**	**03 40 49.0**	**+0.2**
WHF	**Hehuan Shan**	**0.63**	**242**	*i* P	**Pb**	**03 40 40.8**	**-0.1**
WHF	baz=249			*i* S	**Sb**	**03 40 48.9**	**-0.5**
NWF	**Wu-fen Shan**	**0.64**	**352**	*i* P	**Pg**	**03 40 41.6**	**+0.5**
NWF	baz=345			*i* S	**Sg**	**03 40 50.7**	**+1.0**
WFSB	**Wu-fen Shan**	**0.64**	**352**	P	**Pg**	**03 40 41.6**	**+0.5**
WFSB	baz=347			S	**Sg**	**03 40 50.6**	**+1.0**
TATO	**Taipei**	**0.64**	**327**	P	**Pn**	**03 40 42.3**	**-0.2**
TATO	baz=328			S	**Sg**	**03 40 50.2**	**+0.4**
TWT	**Tachien**	**0.66**	**254**	*i* P	**Pn**	**03 40 42.6**	**-0.2**
TWT	baz=249			S	**Sn**	**03 40 51.2**	**-1.6**
TDCB	**Techi**	**0.68**	**254**	P	**Pg**	**03 40 41.8**	**0.0**
TDCB	baz=250			S	**Sg**	**03 40 50.8**	**-0.2**
ESL	**Shilin**	**0.74**	**213**	P	**Pg**	**03 40 43.3**	**+0.3**
ESL	baz=216			S	**Sn**	**03 40 54.0**	**-0.5**
CHGB	**Renai**	**0.74**	**240**	P	**Pg**	**03 40 42.8**	**-0.2**
CHGB	baz=246			S	**Sn**	**03 40 53.9**	**-0.9**
YM01	**YM01**	**0.76**	**339**	P	**Pb**	**03 40 43.0**	**0.0**
YM01	baz=334			S	**Sb**	**03 40 52.5**	**-0.4**
YM10	**YM10**	**0.77**	**338**	P	**Pn**	**03 40 44.2**	**0.0**
YM10	baz=333			S	**Sg**	**03 40 54.0**	**+0.2**
YM11	**YM11**	**0.78**	**340**	P	**Pn**	**03 40 44.5**	**+0.2**
	baz=335						
YM11				S	**Sn**	**03 40 54.5**	**-1.0**
YM04	**YM04**	**0.78**	**337**	P	**Pn**	**03 40 44.1**	**-0.2**
	baz=338						
YM04				S	**Sg**	**03 40 54.2**	**+0.2**
TWS1	**Kuangyinshan**	**0.78**	**328**	*i* P	**Pn**	**03 40 44.4**	**0.0**
	baz=329						
TWS1				S	**Sn**	**03 40 55.7**	**+0.2**
YM08	**YM08**	**0.79**	**341**	P	**Pn**	**03 40 44.6**	**+0.1**
	baz=336						
YM08				S	**Sg**	**03 40 54.5**	**0.0**
YM03	**YM03**	**0.80**	**338**	P	**Pn**	**03 40 44.8**	**+0.1**
	baz=338						
YM03				S	**Sn**	**03 40 55.4**	**-0.7**
LIOB	**Emei**	**0.81**	**285**	*i* P	**Pn**	**03 40 45.1**	**+0.3**
	baz=278						
LIOB				S	**Sn**	**03 40 55.1**	**-1.1**
NSTT	**Nanjuang**	**0.82**	**284**	P	**Pn**	**03 40 45.8**	**+0.9**
	baz=277						
NSTT				S	**Sn**	**03 40 55.4**	**-1.1**
WHP	**Taichung City**	**0.86**	**260**	*i* P	**Pn**	**03 40 45.9**	**+0.4**
	baz=260						
WHP				S	**Sg**	**03 40 56.6**	**0.0**
TWY	**Chenhua**	**0.87**	**343**	*i* P	**Pn**	**03 40 46.4**	**+0.8**
	baz=344						
TWY				*i* S	**Sn**	**03 40 57.3**	**-0.5**
WPL	**Puli Township**	**0.94**	**243**	P	**Pg**	**03 40 47.4**	**+0.7**
	baz=244						
WPL				S	**Sn**	**03 40 59.0**	**-0.4**
DPDB	**Guoxing**	**0.95**	**245**	*e*P	**Pg**	**03 40 48.0**	**+1.0**
	baz=246						
DPDB				*e*S	**Sn**	**03 40 59.8**	**0.0**
VWDT	**VWDT**	**0.95**	**225**	P	**Pg**	**03 40 47.3**	**+0.3**
	baz=230						
VWDT				S	**Sn**	**03 40 59.8**	**0.0**
WCS	**Beigang Elemen**	**0.96**	**247**	*e*P	**Pg**	**03 40 48.6**	**+1.6**
	baz=254						
WCS				*e*S	**Sn**	**03 41 00.2**	**+0.4**
TWQ1	**Liyutan**	**1.01**	**265**	P	**Pg**	**03 40 49.6**	**+1.6**
	baz=266						
TWQ1				*e*S	**Sg**	**03 41 02.7**	**+1.4**
NSY	**Sanyi**	**1.01**	**269**	P	**Pg**	**03 40 49.7**	**+1.6**
	baz=270						
NSY				*e*S	**Sg**	**03 41 03.8**	**+2.2**
HGSD	**Ruisui**	**1.03**	**204**	P	**Pn**	**03 40 47.8**	**+0.1**
	baz=222						
HGSD				*e*S	**Sg**	**03 41 03.9**	**+2.0**
YOJ	**Yonaguni jima**	**1.04**	**88**	P	**Pg**	**03 40 49.1**	**+0.5**
	baz=222			S	**Sg**	**03 41 02.9**	**+0.7**
YOJ							
SMLT	**Sun Moon Lake**	**1.05**	**238**	*e*P	**Pg**	**03 40 50.1**	**+1.4**
	baz=243						
SMLT				*e*S	**Sg**	**03 41 04.0**	**+1.4**
EHY	**Hungye**	**1.05**	**209**	*e*P	**Pg**	**03 40 49.2**	**+0.3**
	baz=207						
SSLB	**Suanglung**	**1.06**	**233**	P	**Pg**	**03 40 48.8**	**-0.3**
	baz=237						
SSLB				S	**Sg**	**03 41 03.4**	**+0.4**
TYC	**Yuchr**	**1.07**	**240**	*i* P	**Pg**	**03 40 49.2**	**+0.1**
	baz=241						
TYC				*e*S	**Sg**	**03 41 04.3**	**+1.1**
WDJ	**Dajia District**	**1.13**	**266**	*e*P	**Pg**	**03 40 52.5**	**+2.2**
	baz=267						
WDJ				*e*S	**Sg**	**03 41 07.7**	**+2.6**
TCU	**Taichung**	**1.13**	**255**	*i* P	**Pg**	**03 40 50.0**	**-0.4**
	baz=257						
TCU				*e*S	**Sg**	**03 41 06.0**	**+0.8**
WWF	**Wufeng**	**1.14**	**250**	*e*P	**Pg**	**03 40 52.9**	**+2.4**
	baz=248						
WWF				*e*S	**Sg**	**03 41 09.4**	**+3.8**
YULB	**Yu-li**	**1.17**	**207**	*e*P	**Pb**	**03 40 50.4**	**+0.5**
	baz=217						
WHYT	**Xinyi Township**	**1.19**	**232**	*e*P	**Pb**	**03 40 50.2**	**-0.1**
	baz=231						
EYUL	**Yuli**	**1.20**	**205**	*e*P	**Pn**	**03 40 50.0**	**-0.2**
	baz=218						
TWF1	**Yuli**	**1.20**	**206**	*e*P	**Pn**	**03 40 49.0**	**-1.1**
	baz=217						
WNT1	**Nantou City**	**1.21**	**244**	*e*P	**Pg**	**03 40 53.2**	**+1.4**
	baz=260						
WNT1				*e*S	**Sg**	**03 41 12.2**	**+4.5**
WJS	**Zhushan**	**1.21**	**240**	*e*S	**Sg**	**03 41 10.9**	**+3.1**
	baz=238						
WNT	**Mingjian**	**1.22**	**243**	*e*S	**Sg**	**03 41 10.6**	**+2.5**
	baz=241						
FULB	**Fuli**	**1.34**	**203**	*e*P	**Pn**	**03 40 52.4**	**+0.3**
	baz=219						
FULB				*e*S	**Sg**	**03 41 12.6**	**+0.7**
ALS	**Alishan**	**1.34**	**227**	*e*P	**Pg**	**03 40 54.3**	**-0.2**
	baz=215						
ALS				*e*S	**Sg**	**03 41 13.3**	**+1.3**
CHN5	**Tsauling**	**1.38**	**233**	*e*P	**Pg**	**03 40 54.9**	**-0.1**
	baz=235						
CHN5				*e*S	**Sg**	**03 41 14.8**	**+1.8**
CHKT	**Chengkung**	**1.41**	**199**	*e*S	**Sg**	**03 41 13.2**	**-0.8**
	baz=215						
WDLH	**Douliu**	**1.43**	**239**	*e*S	**Sg**	**03 41 16.3**	**+1.6**
	baz=252						
WRL	**Guolierlin Hig**	**1.47**	**249**	*e*S	**Sg**	**03 41 15.8**	**0.0**
	baz=264						
ELDTW	**Lidau**	**1.47**	**212**	*e*P	**Pn**	**03 40 53.5**	**-0.4**
	baz=213						
ELDTW				*e*S	**Sg**	**03 41 14.8**	**-1.1**
EDH	**Donghe**	**1.55**	**200**	*e*S	**Sn**	**03 41 14.6**	**+0.2**
	baz=187						
WTK	**Tuku**	**1.55**	**242**	*e*P	**Pg**	**03 40 58.2**	**0.0**
	baz=242						
CHN4	**Tsaushan**	**1.59**	**228**	P	**Pg**	**03 40 58.3**	**-0.8**
	baz=217						
CHN4				*e*S	**Sg**	**03 41 20.6**	**+0.7**
TPUB	**Ta-pu**	**1.60**	**225**	*e*P	**Pn**	**03 40 55.1**	**-0.7**
	baz=215						
TPUB				S	**Sg**	**03 41 19.9**	**-0.4**
STYH	**Taoyuan**	**1.61**	**219**	*i* P	**Pb**	**03 40 57.8**	**+0.2**
	baz=221						
STYH				S	**Sg**	**03 41 20.5**	**0.0**
CHY	**Chiayi**	**1.62**	**235**	*e*S	**Sg**	**03 41 21.6**	**+0.7**
	baz=237						
STYT	**Tauyuan**	**1.63**	**219**	*e*P	**Pn**	**03 40 55.2**	**-0.9**
	baz=221						
STYT				S	**Sg**	**03 41 20.6**	**-0.5**
WTP	**Ta-pu**	**1.65**	**224**	*e*P	**Pb**	**03 40 58.0**	**-0.3**
	baz=226						
WTP				*e*S	**Sg**	**03 41 22.0**	**+0.2**
TWK	**Hsinying**	**1.72**	**228**	*i* P	**Pg**	**03 41 00.6**	**-1.0**
	baz=230						
TWK				S	**Sg**	**03 41 24.3**	**+0.3**
CHN1	**Nanshi**	**1.75**	**225**	*e*P	**Pb**	**03 41 00.2**	**+0.2**
	baz=227						
CHN1				*e*S	**Sg**	**03 41 23.5**	**-1.5**
TWGBT	**Beinan**	**1.77**	**204**	*e*S	**Sb**	**03 41 22.8**	**+0.8**
	baz=206						
SGST	**Jiashian**	**1.79**	**221**	*e*P	**Pb**	**03 41 01.5**	**+0.9**
	baz=222						
TSMG	**Majia**	**2.06**	**213**	*e*S	**Sb**	**03 41 31.8**	**+1.4**
	baz=216						
MASBT	**Mashibuluo**	**2.14**	**212**	P	**Pb**	**03 41 05.5**	**-1.1**
	baz=215						
MASBT				S	**Sb**	**03 41 34.2**	**+1.4**
VWUC	**VWUC**	**2.27**	**285**	P	**Pn**	**03 41 05.1**	**+0.2**
	baz=286						
VWUC				*e*S	**Sb**	**03 41 34.5**	**-1.9**
PHUB	**P'eng-hu**	**2.30**	**247**	*e*S	**Sb**	**03 41 35.1**	**-2.1**
	baz=250						
WDGT	**Dungji**	**2.34**	**240**	*e*P	**Pn**	**03 41 06.6**	**+0.8**
	baz=250						
SLIU	**Shizi**	**2.42**	**204**	*e*P	**Pb**	**03 41 10.1**	**-1.2**
	baz=194						
MATB	**Ma-tsu**	**2.44**	**315**	*e*S	**Sb**	**03 41 38.7**	**-2.6**
	baz=315						

*IDC **12** 03:47:39.2±4.5, 51.51N×175.39W, h0km, mb3.4/2, mb1 3.9/4, mb1mx3.4/62, mbtmp3.6/4, ML4.0/2, Error ellipse: s-maj=101.1km s-min=48.4km az=122.0*
*NEIC **12** 03:47:51.0±0.7, 51.9N±0.2×175.7W±0.1, h105km±6km, Error ellipse: s-maj=36.8km s-min=5.7km az=166.0*
*AEIC **12** 03:47:52.4±1.5, 51.8N±0.2×175.67W±0.10, h89km±6km, ML3.6/21, mb3.8/4(NEIC), Error ellipse: s-maj=32.6km s-min=5.4km az=167.0*
ISC 12 03:47:50.6±1.0, 52.0N±0.2×175.76W±0.07, h100km, n37, σ1°27/34, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.59**	**255**	Pn	**Pn**	**03 48 08.6**	**+1.6**
ADK				Sn	**Sn**	**03 48 19.4**	**+0.1**
ATKA	**Atka Island**	**0.98**	**80**		**Pn**	**03 48 11.1**	**+0.4**
ATKA	**Atka Island**	**0.98**	**80**	Sn	**Sn**	**03 48 26.5**	**+0.6**
KOWE	**Korovin West**	**0.99**	**70**		**Pn**	**03 48 11.6**	**+0.8**
KOKL	**Mount Kliuchef**	**1.00**	**73**		**Pn**	**03 48 11.9**	**+0.9**
KOKL					**Sn**	**03 48 28.2**	**+1.7**
KOFP	**Korovin Flat P**	**1.05**	**76**		**Pn**	**03 48 12.4**	**+0.8**
KOFP					**Sn**	**03 48 29.0**	**+1.5**
CERAA	**Semis' Rag'd T**	**2.82**	**269**		**Pn**	**03 48 35.3**	**+1.4**
CEAP	**Semis' Anvil P**	**2.88**	**271**		**Pn**	**03 48 36.1**	**+1.4**
CESW	**Semis' Southwe**	**2.89**	**269**		**Pn**	**03 48 35.8**	**+1.0**
AMKA	**Amchitka**	**3.14**	**260**		**Pn**	**03 48 39.0**	**+0.8**
LSPA	**Little Sitkin**	**3.50**	**271**		**Pn**	**03 48 44.6**	**+1.6**
LSNW	**Little Sitkin**	**3.54**	**271**		**Pn**	**03 48 44.8**	**+1.4**
NIKH	**Nikolski High**	**4.32**	**75**		**Pn**	**03 48 54.2**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**4.88**	**71**		**Pn**	**03 49 02.9**	**+1.2**
MAPS	**Pakushin South**	**5.62**	**68**		**Pn**	**03 49 12.4**	**+0.8**
MGOD	**Makushin Gods**	**5.66**	**68**		**Pn**	**03 49 12.9**	**+0.8**
MREP	**Makushin Rep't**	**5.74**	**68**		**Pn**	**03 49 14.0**	**+0.8**
MSW	**Makushin Switc**	**5.74**	**67**		**Pn**	**03 49 14.4**	**+1.1**
MNAT	**Makushin Natee**	**5.79**	**68**		**Pn**	**03 49 14.6**	**+0.7**
SDPT	**Sand Point**	**9.65**	**64**	Pn	**Pn**	**03 50 06.1**	**-0.2**
KDAK	**Kodiak Island** 1.6nm,0.3s,baz=196,slow=3.3,SNR=30	**14.48**	**57**	Pn	**Pn**	**03 51 06.8**	**-3.5**
KDAK				Sn	**Sn**	**03 53 48.3**	**-1.4**
CNPM	**China Poot** 0.2nm,0.3s,baz=274,slow=12,SNR=1.5	**15.63**	**52**	Pn	**Pn**	**03 51 23.9**	**-1.1**
IL31		**19.55**	**38**	P	**P**	**03 52 11.2**	**+1.3**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=225,slow=9.9,SNR=16	**19.55**	**38**	P	**P**	**03 52 11.5**	**+1.5**
ILAR	**Eielson Array**	**19.55**	**38**	P	**P**	**03 52 11.3**	**+1.3**
TGL	**Tana Glacier**	**20.01**	**51**	P	Pn	03 52 16.8	-0.9
TGL				IAmb	IAmb	03 52 21.6	
H11N2	comp=Z,11nm,1.2s **WAKE ISLAND Hy** baz=18,slow=76,SNR=22	**34.98**	**209**	T	T	04 31 22.4	
H11N3	**WAKE ISLAND Hy** baz=18,slow=76,SNR=22	**34.99**	**209**	T	T	04 31 23.0	
H11N1	**WAKE ISLAND Hy** baz=18,slow=76,SNR=20	**35.00**	**209**	T	T	04 31 27.2	
H11S1	**WAKE ISLAND Hy** baz=18,slow=76,SNR=5.4	**36.19**	**209**	T	T	04 32 53.2	
H11S2	**WAKE ISLAND Hy** baz=18,slow=76,SNR=3.9	**36.21**	**209**	T	T	04 32 58.6	
H11S3	**WAKE ISLAND Hy** baz=18,slow=76,SNR=2.2	**36.21**	**209**	T	T	04 32 58.0	
PD31	**Pinedale Array**	**44.31**	**75**	P	**P**	**03 55 48.9**	**-1.6**
PD31				IAmb	IAmb	03 55 51.2	
PDAR	comp=Z,1.1nm,1.0s **Pinedale Array** comp=Z,0.7nm,0.5s,baz=323,slow=2.9,SNR=8.6	**44.31**	**75**	P	**P**	**03 55 50.1**	**-0.4**
PDAR	**Pinedale Array**	**44.31**	**75**	P	**P**	**03 55 50.3**	**-0.2**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.6s,baz=318,slow=7.2,SNR=2.2	**56.69**	**84**	P	**P**	**03 57 23.4**	**-0.2**
TXAR	**Lajitas Array**	**56.69**	**84**	P	**P**	**03 57 23.2**	**-0.5**

*IDC **12** 03:57:53.9±5.9, 16.01N×61.47W, h138km±43km, mb3.3/5, mb1 3.6/8, mb1mx3.2/44, mbtmp3.9/8, Error ellipse: s-maj=74.0km s-min=16.9km az=63.0*
*TRN **12** 03:57:54.0, 16.04N×61.59W, h145km, MD4.1*
ISC 12 03:57:54.7±0.8, 16.01N±0.04×61.59W±0.07, h147km±6km, n62, σ0°88/89, mb3.6/5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBE	**Ff, Capester**	**0.06**	**348**	*e*P	**Pn**	**03 58 14.8**	**+0.4**
CBE				*e*S	**Sn**	**03 58 29.9**	**+0.4**
TBG	**Guadaloupe-3**	**0.16**	**198**	*e*P	**Pn**	**03 58 15.3**	**+0.7**
TDBA	**Terre de Bas,**	**0.16**	**194**	*e*P	**Pn**	**03 58 15.2**	**+0.6**
MAGL	**Barre de l'ile**	**0.31**	**101**	*e*P	**Pn**	**03 58 15.4**	**+0.5**
MAGL				*e*S	**Sn**	**03 58 30.1**	**0.0**
ABD	**La Joyeuse, An**	**0.47**	**12**	*i* P	**Pn**	**03 58 16.1**	**+0.5**
ABD				*e*S	**Sn**	**03 58 31.4**	**-0.1**
DLPL	**La Plaine**	**0.75**	**154**	*e*P	**Pn**	**03 58 17.8**	**+0.5**
DLPL				*e*S	**Sn**	**03 58 35.4**	**+0.9**
ANBD	**Bethesda, Anti**	**1.05**	**351**	*i* P	**Pn**	**03 58 20.0**	**+0.4**
ANBD				*e*S	**Sn**	**03 58 38.0**	**-0.6**
BPA	**Boggy Peak**	**1.06**	**346**	*e*P	**Pn**	**03 58 20.0**	**+0.2**
BPA				*e*S	**Sn**	**03 58 37.7**	**-1.2**
SVN	**Savane Anatole**	**1.23**	**160**	*e*P	**Pn**	**03 58 21.5**	**+0.1**
PCM	**Pelee Case Pet**	**1.24**	**163**	*e*P	**Pn**	**03 58 21.4**	**-0.1**
PCM	**Pelee Case Pet**	**1.24**	**163**	*e*P	**Pn**	**03 58 23.0**	**+1.5**
CXM	**Morne La Croix**	**1.26**	**161**	*e*P	**Pn**	**03 58 22.4**	**+0.6**
BAMF	**Morne Balai**	**1.26**	**160**	*e*P	**Pn**	**03 58 22.0**	**+0.3**
GBMF	**Grand Be**	**1.27**	**161**	*e*P	**Pn**	**03 58 22.0**	**+0.2**
PML	**Morne Lenard**	**1.28**	**162**	*e*P	**Pn**	**03 58 22.2**	**+0.3**
FDF	**Fort de France**	**1.34**	**161**	*e*P	**Pn**	**03 58 22.6**	**+0.1**
FDF				*e*S	**Sn**	**03 58 43.5**	**-0.1**
ILAM	**Ilet Lapin Mar**	**1.41**	**150**	*i* P	**Pn**	**03 58 23.1**	**0.0**
ILAM				*e*S	**Sn**	**03 58 44.6**	**-0.2**
ZAM	**Aeronautique**	**1.53**	**159**	*e*P	**Pn**	**03 58 24.5**	**+0.2**
LPMF	**Morne Lapointe**	**1.55**	**157**	*e*P	**Pn**	**03 58 24.4**	**-0.1**
TRMF	**Trois Ilets**	**1.56**	**160**	*e*P	**Pn**	**03 58 24.8**	**+0.1**
BIM	**Bigot**	**1.57**	**161**	*e*P	**Pn**	**03 58 24.8**	**0.0**
BIM				*e*S	**Sn**	**03 58 48.6**	**+0.8**
MVM	**Montagne Vaucl**	**1.60**	**155**	*e*P	**Pn**	**03 58 25.4**	**+0.3**
ANWB	**Willy Bob**	**1.66**	**354**	*e*P	**Pn**	**03 58 26.2**	**+0.4**
ANWB				*e*S	**Sn**	**03 58 48.9**	**-0.7**
SKOC	**St. Kitts, UWI**	**1.68**	**320**	*e*P	**Pn**	**03 58 26.3**	**+0.3**
SKOC				*e*S	**Sn**	**03 58 49.8**	**-0.1**
MPOM	**Morne Pois Mar**	**1.71**	**155**	*i* P	**Pn**	**03 58 26.3**	**0.0**
MPOM				*e*S	**Sn**	**03 58 50.3**	**-0.2**
SKI	**Saint Kitts**	**1.71**	**320**	*i* P	**Pn**	**03 58 26.8**	**+0.4**
SKI				*e*S	**Sn**	**03 58 50.2**	**-0.5**
SEUS	**St. Eustatius**	**1.99**	**318**	*e*P	**Pn**	**03 58 29.9**	**+0.4**
SEUS				*e*S	**Sn**	**03 58 56.3**	**+0.1**
SLBI	**Saint Lucia, B**	**2.06**	**163**	*e*P	**Pn**	**03 58 30.1**	**-0.3**
SLBI				*e*S	**Sn**	**03 58 57.1**	**-0.8**
SLW	**Petit Monier**	**2.08**	**162**	*e*P	**Pn**	**03 58 31.4**	**+0.8**
SLW				*e*S	**Sn**	**03 58 58.9**	**+0.7**
SLB	**Belfond**	**2.23**	**166**	*e*P	**Pn**	**03 58 33.7**	**+1.1**
SLB				*e*S	**Sn**	**03 59 02.3**	**+0.7**
SLPA	**Patience**	**2.24**	**163**	*e*P	**Pn**	**03 58 33.5**	**+0.9**
SLPA				*e*S	**Sn**	**03 59 02.9**	**+1.2**
SLDE	**Delcer**	**2.25**	**167**	*e*P	**Pn**	**03 58 33.6**	**+0.9**
SLDE				*e*S	**Sn**	**03 59 01.0**	**-1.0**
MCLT	**Moule a Chique**	**2.37**	**164**	*e*P	**Pn**	**03 58 34.7**	**+0.6**
MCLT				*e*S	**Sn**	**03 59 04.8**	**+0.3**
SVV	**Soufriere Volc**	**2.70**	**172**	*e*P	**Pn**	**03 58 39.7**	**+1.5**
SVV				*e*S	**Sn**	**03 59 11.9**	**+0.1**
SVB	**Belmont**	**2.74**	**173**	*e*P	**Pn**	**03 58 38.8**	**0.0**
SVB				*e*S	**Sn**	**03 59 13.2**	**+0.5**
SVOC	**Richmond Hill,**	**2.86**	**173**	*e*P	**Pn**	**03 58 41.2**	**+1.0**
SVOC				*e*S	**Sn**	**03 59 16.5**	**+1.1**
BCHC	**Barbados, Cave**	**3.43**	**146**	*e*P	**Pn**	**03 58 48.7**	**+1.2**
BCHC				*e*S	**Sn**	**03 59 29.2**	**+0.8**
BBGH	**Gun Hill**	**3.46**	**145**

CDVI	**St. Croix**	**3.50**	**300**	*e*P		**Pn**	**03 58 47.9**	**-0.4**
GCMP	**Grenada, Carri**	**3.51**	**177**	*e*P		**Pn**	**03 58 49.8**	**+1.4**
BBSP	**Saint Philip**	**3.55**	**144**	*e*P		**Pn**	**03 58 49.1**	**+0.1**
BBSP				*e*S		**Sn**	**03 59 32.0**	**+0.8**
GRGR	**Grenville**	**3.85**	**181**	*e*P		**Pn**	**03 58 52.7**	**-0.3**
SJG	**San Juan**	**4.83**	**296**	P		**Pn**	**03 59 05.6**	**-0.3**
	8.4nm,0.3s,baz=90,slow=17,SNR=17							
SJG				S		**Sn**	**04 00 04.5**	**+3.3**
	2.4nm,0.3s,baz=20,slow=23,SNR=1.4							
TRN	**Trinidad (W)**	**5.33**	**178**	*e*P		**Pn**	**03 59 13.4**	**+0.9**
TRN	**Trinidad (W)**	**5.33**	**178**	*e*S		**Sn**	**04 00 09.6**	**-3.6**
AOPR	**Arecibo Observ**	**5.45**	**296**	*e*P		**Pn**	**03 59 14.1**	**0.0**
SDDR	**Presa de Saban**	**9.71**	**289**	*e*P		**Pn**	**04 00 10.5**	**-0.5**
SDV	**Santo Domingo**	**11.31**	**232**	P		**Pn**	**04 00 32.0**	**-0.3**
	0.4nm,0.3s,baz=57,slow=7.8,SNR=5.9							
RUSC	**La Rusia**	**15.10**	**230**	*e*P		**P**	**04 01 22.7**	**-0.1**
SPBC	**San Pablo de B**	**15.99**	**231**	*e*P		**Pn**	**04 01 31.1**	**-0.6**
PTGA	**Pitinga**	**16.71**	**174**	P		**P**	**04 01 39.6**	**-0.6**
	baz=344,slow=10,SNR=5.7							
GUY2C	**Guyana, Caldas**	**17.25**	**233**	*e*P		**Pn**	**04 01 47.5**	**+0.2**
TOLC	**Tolima**	**17.62**	**231**	*e*P		**P**	**04 01 48.6**	**-2.0**
PRAC	**Prado**	**17.89**	**228**	*e*P		**P**	**04 01 52.5**	**-0.7**
ORTC	**Ortega, Tolima**	**18.02**	**230**	*e*P		**Pn**	**04 01 56.1**	**0.0**
PLMC	**San Jos del P**	**18.16**	**234**	*e*P		**P**	**04 01 54.3**	**-1.8**
MACC	**Macarena, Meta**	**18.32**	**222**	*e*P		**P**	**04 01 57.2**	**-0.6**
SIV	**San Ignacio**	**31.80**	**179**	P		**P**	**04 04 06.1**	**+0.6**
	1.9nm,0.6s,baz=16,slow=8.1,SNR=9.5							
LPAZ	**La Paz**	**32.73**	**192**	P		**P**	**04 04 14.9**	**+0.7**
	0.5nm,0.4s,baz=25,slow=6.5,SNR=1.9							
TXAR	**Lajitas Array**	**40.81**	**296**	P		**P**	**04 05 22.2**	**+0.3**
	0.2nm,0.4s,baz=113,slow=8.7,SNR=5.8							
CPUP	**Villa Florida**	**42.29**	**174**	P		**P**	**04 05 33.0**	**-0.8**
	1.2nm,0.6s,baz=23,slow=7.7,SNR=2.0							
PDAR	**Pinedale Array**	**48.73**	**313**	P		**P**	**04 06 25.8**	**+1.1**
	0.3nm,0.5s,baz=118,slow=11,SNR=3.6							

IDC 12 04:16:51.9±1.5, 6°02'S×129°21'E, h269km±22km, mb2.7/1, mb1 2.9/4, mb1mx2.7/37, mbtmp3.5/4, Error ellipse: s-maj=29.3km s-min=14.3km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.51**	**22**	P	Pn	04 18 15.8	+1.2
	1.4nm,0.3s,baz=211,slow=23,SNR=11						
SIJI				S	S	04 19 19.4	-1.5
	1.7nm,0.3s,baz=264,slow=23,SNR=1.8						
BATI	**Baumata**	**6.89**	**232**	P	Pn	04 18 30.2	-1.3
	11nm,0.3s,baz=88,slow=2.7,SNR=4.8						
WRA	**Warramunga Arr**	**14.71**	**161**	P	Pn	04 20 09.4	+1.4
	0.1nm,0.3s,baz=340,slow=12,SNR=8.5						
WRA				S	S	04 22 49.0	-0.9
	0.1nm,0.3s,baz=341,slow=18,SNR=2.0						
ASAR	**Alice Springs**	**18.12**	**166**	P	Pn	04 20 46.5	-1.5
	0.2nm,0.3s,baz=345,slow=11,SNR=10.0						
ASAR				S	S	04 23 57.0	-1.2
	0.1nm,0.3s,baz=351,slow=22,SNR=3.3						
SONM	**Songino Array**	**57.27**	**342**	P	P	04 26 11.8	-0.1
	0.3nm,0.7s,baz=162,slow=5.6,SNR=1.5						

IDC 12 04:28:44.9±7.7, 51°.68N×177°.51W, h0km, mb3.4/4, mb1 4.0/5, mb1mx3.5/34, mbtmp3.6/5, ML4.3/1, Error ellipse: s-maj=148.9km s-min=58.9km az=98.0
NEIC 12 04:28:57.1±1.8, 51°.9N±0°.2×175°.19W±0°.06, h28km±9km, mb3.8/9, Error ellipse: s-maj=23.9km s-min=3.2km az=168.0
ISC 12 04:28:58.8±0.9, 52°.0N±0°.1×175°.25W±0°.06, h35km, n30, σ1s51/24, mb3.6/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.68**	**74**		**Pn**	**04 29 09.8**	**-2.0**
ATKA				Sg	**Sn**	**04 29 19.4**	**-1.8**
ADK	**Adak**	**0.90**	**262**		**Pn**	**04 29 14.0**	**-0.9**
ADK				Sn	**Sn**	**04 29 26.1**	**-0.5**
AMKA	**Amchitka**	**3.45**	**261**	Pn	**Pn**	**04 29 49.3**	**-0.6**
AMKA				Sn	**Sn**	**04 30 30.3**	**+0.8**
NIKH	**Nikolski High**	**4.02**	**74**	Pn	**Pn**	**04 29 56.9**	**-1.0**
SPIA	**Saint Paul Isl**	**5.93**	**27**	Pn	**Pn**	**04 30 24.3**	**+0.4**
KDAK	**Kodiak Island**	**14.22**	**57**	Pn	**P**	**04 32 25.7**	**+1.4**
	1.2nm,0.3s,baz=270,slow=10,SNR=12						
CNPM	**China Poot**	**15.39**	**51**		**P**	**04 32 36.0**	**-1.3**
BRLK	**Bradley Lake**	**15.64**	**51**	Pn	**Pn**	**04 32 35.4**	**-0.9**
BRLK				IAmb	IAmb	04 32 36.9	
	comp=Z,7.7nm,1.0s						
PEA0B	**Petropavlovsk-**	**16.45**	**284**	Pn	**Pn**	**04 32 43.9**	**-2.7**
IL31		**19.37**	**38**	P	**P**	**04 33 21.0**	**0.0**
ILAR	**Eielson Array**	**19.37**	**38**	P	**Pn**	**04 33 23.9**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=230,slow=10,SNR=13						
MENT	**Mentasta**	**19.94**	**45**	P	**P**	**04 33 25.3**	**-2.0**
MENT				IAmb	IAmb	04 33 27.5	
	comp=Z,6.6nm,1.2s						
DOT	**Dot Lake**	**20.03**	**42**	P	**P**	**04 33 28.9**	**+0.5**
SCRK	**Sand Creek**	**20.18**	**42**	P	**P**	**04 33 28.9**	**-1.2**
SCRK				IAmb	IAmb	04 33 40.1	
	comp=Z,2.7nm,0.7s						
K27K	**Chicken**	**20.99**	**42**	P	**P**	**04 33 37.1**	**-1.5**
K27K				IAmb	IAmb	04 33 52.2	
	comp=Z,4.2nm,1.1s						
EGAK	**Eagle**	**21.62**	**41**	P	**P**	**04 33 44.3**	**-1.1**
DAWY	**Dawson**	**22.13**	**43**	P	**P**	**04 33 51.3**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**35.12**	**210**	T	T	05 12 34.8	
	baz=18,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.13**	**210**	T	T	05 12 30.1	
	baz=18,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.14**	**210**	T	T	05 12 32.9	
	baz=18,slow=76						
H11S1	**WAKE ISLAND Hy**	**36.33**	**210**	T	T	05 14 22.5	
	baz=18,slow=76						
H11S2	**WAKE ISLAND Hy**	**36.35**	**210**	T	T	05 14 21.4	
	baz=18,slow=76						
H11S3	**WAKE ISLAND Hy**	**36.35**	**210**	T	T	05 14 21.5	
	baz=18,slow=76						
NVAR	**Mina Array Bea**	**41.29**	**86**	P	**P**	**04 36 43.6**	**+2.8**
	comp=Z,0.7nm,0.8s,baz=293,slow=7.8,SNR=3.9						
TPNV	**Topopah Spring**	**43.49**	**86**	P	**P**	**04 36 58.2**	**-0.5**
TPNV				IAmb	IAmb	04 37 02.5	
	comp=Z,2.0nm,0.8s						
PDAR	**Pinedale Array**	**44.01**	**75**	P	**P**	**04 37 04.4**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=316,slow=5.0,SNR=5.2						
TXAR	**Lajitas Array**	**56.38**	**84**	P	**P**	**04 38 38.5**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=303,slow=5.9,SNR=10.0						
H03N2	**Juan Fernandez**	**119.22**	**108**	T	T	06 58 14.9	
	baz=317,slow=77						
H03N1	**Juan Fernandez**	**119.23**	**108**	T	T	06 58 17.4	
	baz=317,slow=77						
H03N3	**Juan Fernandez**	**119.23**	**108**	T	T	06 58 16.9	
	baz=317,slow=77						

MOS 12 04:38:58.4±1.2, 47°.15N×154°.04E, h41km, mb4.4/9, Error ellipse: s-maj=11.7km s-min=7.9km az=90.5
IDC 12 04:38:59.1±5.4, 47°.16N×154°.00E, h33km±40km, mb3.8/17, mb1 4.0/20, mb1mx3.8/44, mbtmp4.0/20, ML3.0/3, MS3.3/5, Ms1 3.3/5, ms1mx2.8/39, Error ellipse: s-maj=25.2km s-min=15.2km az=150.0
SKHL 12 04:39:00.7±0.8, 47°.00N×154°.20E, h68km±7km, mb4.4/5
ISC 12 04:39:02.1±0.8, 47°.36N±0°.09×153°.83E±0°.08, h50km, n97, σ1s67/96, mb4.1/26, MS3.6/4, 17C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.65**	**23**	*e*PN	**Pn**	**04 39 54.9**	**-1.1**
SKR	**Severo-Kuril's**	**3.65**	**23**	*e*P	**Pn**	**04 39 58.6**	**+2.6**
SKR				AMB	AMB	04 39 59.9	
	40nm,0.5s						
SKR				*e*S	**Sn**	**04 40 41.4**	**+3.7**
SKR				A	A	04 40 42.5	
	100nm,0.3s						
SKR				A	A	04 40 42.5	
	80nm,0.3s						
KUR	**Kuril'sk**	**4.65**	**245**	PN	**Pn**	**04 40 09.5**	**-0.2**
KUR				*e*S	**Sn**	**04 41 03.3**	**+0.9**
KUR				pmax	pmax		
	comp=Z,71nm,0.6s						
KUR				smax	smax		
	comp=E,140nm,0.6s						
KUR				smax	smax		
	comp=N,60nm,0.5s						
KUR	**Kuril'sk**	**4.65**	**245**	*e*P	**Pn**	**04 40 09.5**	**-0.2**
KUR				AMB	AMB	04 40 12.2	
	comp=N,70nm,0.8s						
KUR				*e*S	**Sn**	**04 41 01.7**	**-0.7**
KUR				A	A	04 41 12.2	
	comp=N,80nm,0.5s						
KUR				A	A	04 41 12.2	
	comp=N,140nm,0.5s						
PEA0B	**Petropavlovsk-**	**6.26**	**22**	*e*PN	**Pn**	**04 40 32.0**	**+0.1**
PETK	**Petropavlovsk-**	**6.26**	**22**	Pn	**Pn**	**04 40 31.6**	**-0.2**
	comp=N,0.5nm,0.3s,baz=180,slow=10,SNR=8.2						
PETK				Sn	**Sn**	**04 41 36.2**	**-5.9**
	baz=160,slow=13,SNR=1.2						
PETK				LR	LR	04 43 11.8	
	comp=N,232nm,18.7s,baz=139,slow=39						
PET	**Petropavlovsk**	**6.46**	**27**	*e*P	**Pn**	**04 40 38.3**	**+3.8**
PET				AMB	AMB	04 40 41.6	
	comp=N,30nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.56**	**271**	*e*PN	**Pn**	**04 40 54.1**	**+4.4**
YSS	**Yuzh-Sakhalins**	**7.56**	**271**	*e*P	**Pn**	**04 40 52.6**	**+2.9**
YSS				AMB	AMB	04 40 55.8	
	comp=N,30nm,1.0s						
TYV	**Tymovskoe**	**8.13**	**300**	*e*P	Pn	04 41 02.7	+5.3
TYV				AMB	AMB	04 41 03.1	
	comp=N,10.0nm,0.5s						
ASAJ	**Asahikawa**	**8.50**	**252**	Pn	**Pn**	**04 41 01.1**	**-1.4**
	comp=N,0.7nm,0.3s,baz=85,slow=11,SNR=1.8						
MA2	**Magadan**	**12.37**	**353**	LR	LR	04 45 41.0	
	comp=N,59nm,21.9s,baz=143,slow=32						
EKMR	**Ekimchan**	**14.52**	**301**	*e*P	**Pn**	**04 42 26.0**	**+1.6**
KLR	**Kul'dur**	**14.81**	**285**	*e*P	**P**	**04 42 33.8**	**+0.6**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.7s						
USRK	**Ussuriysk Ar.**	**15.56**	**266**	Pn	**Pn**	**04 42 37.7**	**-0.3**
	baz=64,slow=13,SNR=3.0						
SEY	**Seymchan**	**15.63**	**358**	*e*P	**P**	**04 42 42.2**	**+0.1**
BMKR	**Bomnak**	**17.29**	**304**	*e*P	**P**	**04 43 01.2**	**+0.6**
BMKR				AMB	AMB	04 43 05.0	
	comp=Z,6.0nm,0.8s						
KROS	**Kirovskiy**	**18.29**	**303**	*e*P	**Pn**	**04 43 14.1**	**+2.2**
KROS				AMB	AMB	04 43 15.8	
	comp=Z,7.0nm,0.8s						
KSRS	**Korea Array**	**21.45**	**252**	P	**P**	**04 43 45.3**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=55,slow=9.5,SNR=4.6						
KSRS	**Korea Array**	**21.45**	**252**	*e*P	**P**	**04 43 49.2**	**+3.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.55**	**154**	T	T	05 15 36.8	
	baz=342,slow=74						
H11N1	**WAKE ISLAND Hy**	**29.56**	**154**	T	T	05 15 38.4	
	baz=342,slow=74						
H11N3	**WAKE ISLAND Hy**	**29.56**	**154**	T	T	05 15 45.7	
	baz=342						
H11S1	**WAKE ISLAND Hy**	**30.65**	**156**	T	T	05 17 01.8	
	baz=343,slow=75						
H11S3	**WAKE ISLAND Hy**	**30.66**	**156**	T	T	05 17 04.3	
	baz=343,slow=75						
H11S2	**WAKE ISLAND Hy**	**30.67**	**156**	T	T	05 17 01.0	
	baz=343,slow=75						
SONM	**Songino Array**	**31.60**	**289**	P	**P**	**04 45 19.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=72,slow=9.3,SNR=2.5						
SONM				LR	LR	04 59 44.3	
	comp=Z,59nm,18.8s,baz=56,slow=39						
ILAR	**Eielson Array**	**35.76**	**39**	P	**P**	**04 45 55.0**	**-0.8**
	comp=Z,0.7nm,1.0s,baz=246,slow=8.0,SNR=5.6						
ILAR	**Eielson Array**	**35.76**	**39**	*e*P	**P**	**04 45 55.6**	**-0.2**
INK	**Inuvik**	**40.87**	**33**	P	**P**	**04 46 38.5**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=295,slow=2.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**42.66**	**305**	P	**P**	**04 46 52.8**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=68,slow=7.1,SNR=7.0						
DGZ	**Jazzator, Alta**	**42.74**	**299**	*e*P	**P**	**04 46 55.1**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,7.0nm,2.7s						
MK31	**Makanchi Array**	**47.10**	**297**	*de*P	**P**	**04 47 28.3**	**-0.6**
MKAR	**Makanchi Array**	**47.10**	**297**	P	**P**	**04 47 28.4**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=64,slow=8.1,SNR=19						
MKAR				PcP	**PcP**	**04 49 00.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=51,slow=2.8,SNR=2.6						
MKAR				LR	LR	05 10 16.5	
	comp=Z,41nm,18.7s,baz=354,slow=40						
MKAR	**Makanchi Array**	**47.10**	**297**	*e*P	**P**	**04 47 28.7**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.14**	**37**	P	**P**	**04 47 51.8**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=296,slow=6.7,SNR=7.1						
YKA	**Yellowknife Ar**	**50.14**	**37**	*e*P	**P**	**04 47 52.6**	**+0.7**
BRVK	**Borovoye**	**50.89**	**309**	*e*P	**P**	**04 47 57.3**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	**Borovoye**	**50.89**	**309**	*e*P	**P**	**04 47 57.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**52.99**	**257**	P	**P**	**04 48 13.9**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=28,slow=8.1,SNR=4.6						
AAK	**Ala-Archa**	**54.00**	**296**	*e*P	**P**	**04 48 20.6**	**-0.5**
AAK	**Ala-Archa**	**54.00**	**296**	*e*P	**P**	**04 48 20.6**	**-0.5**
ARU	**Arti**	**54.90**	**317**	*d*P	**P**	**04 48 26.2**	**-1.0**
ARU				S	**S**	**04 56 01.6**	**-3.0**
ARU	**Arti**	**54.90**	**317**	*e*P	**P**	**04 48 27.0**	**-0.2**
ARCES	**ARCESS Array B**	**57.44**	**341**	P	**P**	**04 48 46.4**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=27,slow=8.2,SNR=1.0						
FINES	**FINESS Array B**	**63.70**	**335**	P	**P**	**04 49 28.0**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=33,slow=7.7,SNR=31						
FINES				LR	LR	05 22 27.9	
	comp=Z,55nm,19.4s,baz=308,slow=41						
FINES	**FINESS Array B**	**63.70**	**335**	*i* P	**P**	**04 49 28.5**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NB2	**NORSAR Suarra**	**67.81**	**341**	P	**P**	**04 49 54.9**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.81**	**341**	P	**P**	**04 49 54.9**	**+0.5**
	comp=Z,5.6nm,0.9s,baz=26,slow=6.4,SNR=11						
NOA	**NORSAR Array B**	**67.81**	**341**	*e*P	**P**	**04 49 55.2**	**+0.8**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NACGM	**Naroch**	**68.77**	**330**	*i* P	**P**	**04 50 00.5**	**+0.1**
NACGM				*i* P	**P**	**04 50 00.5**	**+0.1**
NACGM				*i* P	**P**	**04 50 00.5**	**+0.1**
NACGM				*i* PP	**PP**	**04 52 29.7**	**-2.4**
NACGM				*i* PPP	PPP	04 54 10.0	
NACGM				*i* S	**S**	**04 58 55.9**	**-3.9**
NACGM				*i* SS	**SS**	**05 03 20.2**	**-4.1**
NACGM				*i* SSS	SSS	05 06 32.3	
NACGM				*i* LR	LR	05 18 49.7	
KBZ	**Khabaz**	**70.79**	**314**	P	**P**	**04 50 13.4**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=66,slow=9.8,SNR=4.9						
KBZ	**Khabaz**	**70.79**	**314**	*e*P	**P**	**04 50 14.8**	**+1.8**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**70.79**	**314**	*e*P	**P**	**04 50 14.8**	**+1.8**
AKASG	**Malin Array Be**	**71.31**	**326**	P	**P**	**04 50 15.9**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=33,slow=6.8,SNR=8.0						
ASAR	**Alice Springs**	**72.94**	**199**	P	**P**	**04 50 23.9**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=11,slow=5.3,SNR=5.5						
SORM	**Soroca**	**73.73**	**325**	P	**P**	**04 50 30.9**	**+0.4**
SORM	**Soroca**	**73.73**	**325**	P	**P**	**04 50 30.9**	**+0.4**
BURAR	**Bucovina Array**	**75.35**	**327**	P	**P**	**04 50 40.9**	**+0.9**
BURAR	**Bucovina Array**	**75.35**	**327**	P	**P**	**04 50 40.9**	**+0.9**
BIZ	**Bicaz**	**75.58**	**326**	P	**P**	**04 50 42.7**	**+1.4**
TESR	**Tescani**	**75.72**	**325**	P	**P**	**04 50 43.0**	**+0.9**
CHVC	**Chvalec**	**75.87**	**334**	*e*P	**P**	**04 50 44.4**	**+1.5**
DPC	**Dobruska-Polom**	**76.00**	**334**	*e*P	**P**	**04 50 45.6**	**+2.0**
DPC	**Dobruska-Polom**	**76.00**	**334**	*e*P	**P**	**04 50 45.6**	**+2.0**
KRLC	**Kraliky**	**76.10**	**333**	*e*P	**P**	**04 50 45.8**	**+1.6**
KRLC	**Kraliky**	**76.10**	**333**	*e*P	**P**	**04 50 45.8**	**+1.6**
CLL	**Collm**	**76.11**	**336**	*i* P	**P**	**04 50 45.3**	**+1.1**
	comp=Z,11nm,1.0s						
CLL				*i* PcP	**PcP**	**04 50 56.5**	**+0.3**
CLL				Lm	MLR	07 09 00.0	
	comp=N,300nm,20.8s						
CLL				Lm	MLR	07 09 00.0	
	comp=E,500nm,19.0s						
CLL				Lm	MLR	07 09 00.0	
	comp=Z,800nm,18.4s						
CLL				LmV		07 59 00.0	
	comp=Z,200nm,19.7s						
CLL	**Collm**	**76.11**	**336**	*i* P	**P**	**04 50 45.3**	**+1.1**
CFR	**Carcaliu**	**76.24**	**324**	P	P	04 50 38.4	-6.6
CFR	**Carcaliu**	**76.24**	**324**	P	P	04 50 38.4	-6.6
TXAR	**Lajitas Array**	**76.76**	**61**	P	**P**	**04 50 46.8**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=294,slow=4.3,SNR=11						
MLR	**Muntele Rosu**	**76.85**	**325**	P	**P**	**04 50 49.9**	**+1.3**
MLR	**Muntele Rosu**	**76.85**	**325**	P	**P**	**04 50 49.9**	**+1.3**
VOIR		**77.24**	**326**	P	**P**	**04 50 51.7**	**+0.9**
VOIR		**77.24**	**326**	P	**P**	**04 50 51.7**	**+0.9**
ARR	**Arges**	**77.45**	**326**	P	**P**	**04 50 54.6**	**+2.7**
KHC	**Kasperske Hory**	**77.90**	**335**	*e*P	**P**	**04 50 55.3**	**+1.0**
KHC	**Kasperske Hory**	**77.90**	**335**	*e*P	**P**	**04 50 55.3**	**+1.0**
GERES	**GERESS Array B**	**78.12**	**334**	P	**P**	**04 50 55.7**	**0.0**
	comp=Z,1.1nm,0.8s,baz=27,slow=6.6,SNR=7.9						
GZR	**Gura Zlata**	**78.13**	**327**	P	**P**	**04 50 56.3**	**+0.6**
BRTR	**Keskin Array B**	**78.28**	**317**	P	**P**	**04 50 58.3**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=126,slow=2.2,SNR=9.6						
BRTR	**Keskin Array B**	**78.28**	**317**	*e*P	**P**	**04 50 58.5**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BZS	**Buzias**	**78.36**	**328**	P	**P**	**04 50 56.6**	**-0.2**
BZS	**Buzias**	**78.36**	**328**	P	**P**	**04 50 56.6**	**-0.2**
SOKA	**Soboth**	**79.65**	**333**	*e*P	**P**	**04 51 06.1**	**+2.0**
	comp=Z,5.6nm,1.5s						
KBA	**Koelnbreinsper**	**79.81**	**334**	*e*P	**P**	**04 51 06.7**	**+1.6**
	comp=Z,2.8nm,0.7s						
WATA	**Walderalm**	**80.10**	**335**	*i* P	**P**	**04 51 09.0**	**+2.4**
	comp=Z,2.2nm,0.3s						
WTTA	**Wattenberg**	**80.15**	**335**	*i* P	**P**	**04 51 09.5**	**+2.7**
	comp=Z,2.9nm,0.5s						
MOTA	**Moosalm**	**80.23**	**335**	*e*P	**P**	**04 51 08.6**	**+1.4**
	comp=Z,1.4nm,0.5s						
VTS	**Vitosha**	**80.32**	**325**	P	**P**	**04 51 08.6**	**+0.8**
VTS	**Vitosha**	**80.32**	**325**	P	**P**	**04 51 08.6**	**+0.8**
DAVA	**Damuels**	**80.62**	**336**	*e*P	**P**	**04 51 11.5**	**+2.2**
	comp=Z,1.2nm,0.5s						
H03N2	**Juan Fernandez**	**138.26**	**90**	T	T	07 31 50.4	
	baz=308,slow=77						
H03N1	**Juan Fernandez**	**138.28**	**90**	T	T	07 31 50.3	
	baz=308,slow=77						
H03N3	**Juan Fernandez**	**138.28**	**90**	T	T	07 31 53.3	
	baz=308,slow=77						

NEIC 12 05:08:58.4±2.0, 7°.01S±0°.08×129°.7E±0°.1, h138km±5km, mb4.3/5, Error ellipse: s-maj=17.4km s-min=10.5km az=76.0
IDC 12 05:08:59.1±2.1, 7°.04S×129°.66E, h137km±23km, mb3.5/3, mb1 3.7/8, mb1mx3.4/37, mbtmp4.1/8, MS3.0/1, Ms1 3.2/1, ms1mx2.4/32, Error ellipse: s-maj=34.0km s-min=16.6km az=82.0
ISC 12 05:08:58.0±0.6, 7°.03S±0°.06×129°.67E±0°.07, h139km, n29, σ2s20/32, mb3.9/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.87**	**120**		**Pn**	**05 09 32.9**	**+2.0**
FAKI	**Fak Fak**	**4.83**	**32**	Pn	**Pn**	**05 10 10.0**	**+1.0**
FAKI				Sn	**Sn**	**05 11 02.4**	**-1.9**
MTN	**Manton Dam**	**5.95**	**166**		**Pn**	**05 10 27.7**	**+3.7**
SIJI	**Sorong**	**6.33**	**15**	P	**Pn**	**05 10 29.8**	**+0.7**
	2.2nm,0.3s,baz=227,slow=23,SNR=21						
SIJI				S	**Sn**	**05 11 36.1**	**-4.2**
	3.9nm,0.3s,baz=210,slow=22,SNR=4.3						
BATI	**Baumata**	**6.73**	**242**	P	**Pn**	**05 10 36.4**	**+2.0**
	7.4nm,0.3s,baz=102,slow=14,SNR=2.4						
BATI				S	**Sn**	**05 11 47.5**	**-2.4**
	14nm,0.3s,baz=54,slow=20,SNR=9.3						
TNTI	**Ternate**	**8.09**	**343**	Pn	**Pn**	**05 10 52.0**	**-0.7**
KNRA	**Kununurra**	**8.64**	**186**	Pn	**Pn**	**05 11 01.9**	**+1.9**
FITZ	**Fitzroy Crossi**	**11.68**	**199**	P	**Pn**	**05 11 40.3**	**-0.2**
	1.1nm,0.3s,baz=20,slow=10,SNR=19						
FITZ				S	Sn	05 13 39.7	-10
	0.6nm,0.3s,baz=240,slow=20,SNR=2.4						
FITZ	**Fitzroy Crossi**	**11.68**	**199**	Pn	**Pn**	**05 11 40.6**	**+0.1**
WB0	**Warramunga Arr**	**13.46**	**161**	Pn	**Pn**	**05 12 04.2**	**+0.6**
WRAB	**Tennant Creek**	**13.60**	**161**	Pn	**Pn**	**05 12 05.3**	**-0.1**
WRA	**Warramunga Arr**	**13.61**	**161**	P	**Pn**	**05 12 05.5**	**0.0**
	1.3nm,0.3s,baz=332,slow=13,SNR=42						
WRA				S	Sn	05 14 27.6	-8.4
	1.8nm,0.3s,baz=336,slow=19,SNR=9.1						
WB2	**Warramunga Arr**	**13.61**	**161**	Pn	**Pn**	**05 12 05.5**	**0.0**
WR0	**Warramunga Arr**	**13.69**	**160**	Pn	**Pn**	**05 12 07.2**	**+0.7**
COEN	**Coen**	**14.95**	**118**	Pn	**Pn**	**05 12 21.2**	**-1.2**
AS31	**Alice Springs**	**17.03**	**167**	P	**P**	**05 12 47.1**	**-0.4**
ASAR	**Alice Springs**	**17.03**	**167**	P	**Pn**	**05 12 50.5**	**+2.5**
	1.2nm,0.3s,baz=338,slow=9.7,SNR=60				

baz=34,slow=72,SNR=58
PLCA Paso Flores 20.04 180 P **P** **05 20 49.3 +0.2**
comp=E,0.1nm,0.3s,baz=348,slow=9.2,SNR=3.6
PTGA Pitinga 22.40 29 P **P** **05 21 14.8 +0.2**
comp=E,1.9nm,0.3s,baz=329,slow=20,SNR=1.1
ROSC El Rosal 25.55 352 P **P** **05 21 48.3 +3.0**
comp=E,4.1nm,0.4s,baz=296,slow=23,SNR=2.9
TORD Torodi Ar. Bea 78.68 71 P **P** **05 28 17.4 -1.3**
comp=E,0.8nm,0.5s,baz=253,slow=5.4,SNR=2.7
YKA Yellowknife Ar 89.81 341 P **P** **05 29 13.9 -0.2**
comp=E,0.3nm,0.9s,baz=131,slow=4.8,SNR=2.7
H11S2 WAKE ISLAND Hyd 26.07 278 T T 07 54 24.2
baz=102,slow=74,SNR=16
H11S1 WAKE ISLAND Hyd 26.08 278 T T 07 54 18.3
baz=102,slow=74,SNR=13
H11S3 WAKE ISLAND Hyd 26.08 278 T T 07 54 25.3
baz=102,slow=74,SNR=10
H11N3 WAKE ISLAND Hyd 26.13 280 T T 07 54 30.3
baz=112
H11N2 WAKE ISLAND Hyd 26.15 280 T T 07 54 36.2
baz=112
H11N1 WAKE ISLAND Hyd 26.15 280 T T 07 54 34.6
baz=112
ZALV Zalesovo Beam 141.86 23 PKP **PKPdf** **05 35 46.7 -0.8**
comp=E,0.6nm,0.5s,baz=308,slow=7.2,SNR=1.4
MKAR Makanchi Array 145.90 34 PKPbc **PKPbc** **05 35 55.4 0.0**
comp=E,0.7nm,0.6s,baz=316,slow=2.8,SNR=8.6

BJI ***12*** *06:03:35.7±0.0, 12.82N×145.95E, h30km, mB5.3/45, mb4.8/49, Ms5.1/48, Ms7 4.8/46*
IDC ***12*** *06:03:36.5±0.4, 13.15N×145.60E, h0km, mb4.6/36, mb1 4.7/38, mb1mx4.7/48, mbtmp4.6/38, ML4.2/2, Error ellipse: s-maj=14.6km s-min=9.6km az=100.0*
DJA ***12*** *06:03:38.6±1.0, 13.4N×14.6E×, h35km, 9km, M5.5/54, mb5.2/54, mB5.9/16, MLv5.5/1, Mw(mB)5.5/16, MwMwp5.1/1, Mwp5.4/1*
NEIC ***12*** *06:03:40.6±1.2, 13.11N±0.08×145.4E±0.1, h23km±4km, mb5.1/176, Error ellipse: s-maj=14.7km s-min=11.0km az=88.0*
MOS ***12*** *06:03:41.4±1.1, 13.18N×145.41E, h43km, mb5.1/67, MS4.8/6, Error ellipse: s-maj=8.6km s-min=5.3km az=103.7*
GCMT ***12*** *06:03:43.6±0.3, 13.01N±0.02×145.72E±0.02, h29km, MW5.2/109, Moment Tensor Solution. s57,c74; s109,c154; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr6.43±.29; Mθθ-0.86±.19; Mϕϕ-5.57±.21; Mrθ-0.76±.31; Mθϕ-2.75±.14; Mrϕ3.32±.30; Best double couple: M=7.46300×10^16 NP1:ϕ=220.00000°, δ=36.00000°, λ=116.00000° NP2:ϕ=9.00000°, δ=58.00000°, λ=72.00000°. Principal axes: T 7.5420, Plg71.0000°, Azm237.0000°; N -0.1610, Plg15.0000°, Azm18.0000°; P -7.3850, Plg11.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 06:03:43.2±0.3, 13.14N±0.04×145.43E±0.05, h43km, n448, σ=1.59/456, **mb5.0**/207, **MS4.9**/22, **2D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.70**	**309**	P		**Pn**	**06 03 56.8**	**0.0**
GUMO	**Guam**	**0.70**	**309**	Pn		**Pn**	**06 03 56.8**	**0.0**
GUMO	**Guam**	**0.70**	**309**	P		**Pn**	**06 03 58.2**	**+1.4**
ANA2	**Anatahan**	**3.19**	**5**			**Pn**	**06 04 30.7**	**-0.2**
ANA2	**Anatahan**	**3.19**	**5**	P		**Pn**	**06 04 33.8**	**+2.9**
SARN	**Sarigan**	**3.55**	**5**	P		**Pn**	**06 04 38.1**	**+2.2**
JAY	**Jayapura**	**16.25**	**197**	Pn		**Pn**	**06 07 29.1**	**+0.5**
	0.7nm,0.3s,baz=22,slow=5.1,SNR=6.5							
JAY	**Jayapura**	**16.25**	**197**	P		**Pn**	**06 07 29.4**	**+0.8**
	32nm,1.0s							
JMZ	**Minamidaito 2**	**18.37**	**315**	P		**P**	**06 07 53.0**	**-1.5**
RABL	**Rabaul**	**18.48**	**158**	P		**P**	**06 07 54.5**	**-1.2**
RABL					IAmb	IAmb	06 08 20.1	
	comp=Z,129nm,0.6s							
SIJI	**Sorong**	**19.78**	**226**	P		**Pn**	**06 08 11.7**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=28,slow=12,SNR=6.8							
SWI	**Sorong**	**19.78**	**226**	P		**Pn**	**06 08 12.2**	**+0.5**
	comp=Z,3μmcomp=Z,48nm,1.1s							
JHJ2	**Mitsune**	**20.53**	**346**	P		**P**	**06 08 16.2**	**-1.7**
FAKI	**Fak Fak**	**20.64**	**220**	P		**P**	**06 08 18.1**	**-1.2**
FAKI					IAmb	IAmb	06 08 42.9	
	comp=Z,115nm,1.0s							
FAKI	**Fak Fak**	**20.64**	**220**	P		Pn	06 08 20.8	-1.1
	comp=Z,2μmcomp=Z,118nm,1.2s							
JOW	**Kunigami**	**21.07**	**313**	P		**P**	**06 08 25.4**	**+1.6**
	comp=Z,22nm,0.7s,baz=141,slow=12,SNR=4.4							
JOW	**Kunigami**	**21.07**	**313**	P		**P**	**06 08 22.9**	**-0.9**
H11S3	**WAKE ISLAND Hyd**	**21.13**	**73**	T		T	06 30 26.2	
	baz=243,slow=76,SNR=12							
H11S1	**WAKE ISLAND Hyd**	**21.14**	**73**	T		T	06 30 37.7	
	baz=243							
H11S2	**WAKE ISLAND Hyd**	**21.14**	**73**	T		T	06 30 35.2	
	baz=243,slow=76,SNR=9.9							
WAKE	**Wake Island**	**21.27**	**71**	P		**P**	**06 08 25.3**	**-0.7**
H11N1	**WAKE ISLAND Hyd**	**21.59**	**70**	T		T	06 31 27.3	
	baz=258,slow=73,SNR=11							
H11N2	**WAKE ISLAND Hyd**	**21.59**	**70**	T		T	06 31 29.0	
	baz=258,slow=73,SNR=13							
H11N3	**WAKE ISLAND Hyd**	**21.60**	**70**	T		T	06 31 26.7	
	baz=258,slow=73,SNR=12							
TNTI	**Ternate**	**21.71**	**237**	P		**P**	**06 08 30.2**	**-0.7**
TNTI					IAmb	IAmb	06 08 46.3	
	comp=Z,192nm,1.5s							
PMG	**Port Moresby**	**22.47**	**176**	*i* P		**P**	**06 08 40.1**	**+1.1**
PMG					pmax	pmax		
	comp=Z,45nm,1.0s							
PMG	**Port Moresby**	**22.47**	**176**	P		**P**	**06 08 38.0**	**-0.9**
PMG					IAmb	IAmb	06 08 47.6	
	comp=Z,74nm,1.1s							
JMN	**Monobe**	**23.03**	**335**	P		**P**	**06 08 42.0**	**-2.7**
JMN					IAmb	IAmb	06 09 06.5	
	comp=Z,106nm,1.2s							
MSAI	**Masohi**	**23.17**	**226**	P		**P**	**06 08 41.1**	**-5.2**
BNDI	**Bandanaira**	**23.36**	**222**	P		**P**	**06 08 49.8**	**+1.7**
	comp=Z,239nm,1.0s							
INU	**Inuyama**	**23.38**	**342**	P		**P**	**06 08 48.4**	**+0.3**
INU					IAmb	IAmb	06 08 49.0	
	comp=Z,104nm,1.4s							
JGF	**Kuroka**	**23.52**	**343**	P		**P**	**06 08 47.8**	**-1.7**
JGF					IAmb	IAmb	06 08 50.0	
	comp=Z,84nm,1.2s							
TGY	**Tagaytay City**	**23.82**	**275**	P		**P**	**06 08 52.8**	**+0.2**
	comp=Z,114nm,0.3s,baz=36,slow=19,SNR=1.1							
JWT	**Wachi**	**23.83**	**339**	P		**P**	**06 08 50.4**	**-2.0**
JNU	**Nakatsue**	**23.91**	**329**	P		**P**	**06 08 53.2**	**0.0**
	comp=Z,13nm,0.8s,baz=169,slow=9.7,SNR=5.1							
JNU	**Nakatsue**	**23.91**	**329**	P		**P**	**06 08 53.6**	**+0.4**
JNU					IAmb	IAmb	06 09 11.5	
	comp=Z,109nm,1.3s							
MJAR	**Matsushiro Arr**	**24.18**	**346**	P		**P**	**06 08 54.1**	**-1.5**
	comp=Z,12nm,0.8s,baz=169,slow=10,SNR=13							
MJAR	**Matsushiro Arr**	**24.18**	**346**	P		**P**	**06 08 54.3**	**-1.4**
MJAR					pmax	pmax		
	comp=Z,11nm,0.8s							
MJAR	**Matsushiro Arr**	**24.18**	**346**	P		**P**	**06 08 54.3**	**-1.4**
MAJO	**Matsushiro**	**24.18**	**346**	*i* P		**P**	**06 08 53.3**	**-2.4**
MAJO					pmax	pmax		
	comp=Z,34nm,1.0s							
MAJO	**Matsushiro**	**24.18**	**346**	P		**P**	**06 08 55.5**	**-0.1**
MAJO					IAmb	IAmb	06 09 12.1	
	comp=Z,80nm,1.4s							
MAT	**Matsushiro**	**24.18**	**346**	P		**P**	**06 08 55.1**	**-0.6**
MAT				S		**S**	**06 13 12.4**	**+1.4**
JHS	**Saijyo**	**24.45**	**335**	P		**P**	**06 08 58.7**	**+0.7**
KMSI	**Cibinong**	**24.65**	**241**	P		P	06 09 12.8	+13
JMM	**Marumori**	**24.96**	**351**	P		**P**	**06 09 02.8**	**+0.1**
JMM					IAmb	IAmb	06 09 31.5	
	comp=Z,35nm,0.8s							
SAUI	**Saumlaki**	**25.25**	**215**	P		**P**	**06 09 07.1**	**+1.6**
	comp=Z,410nm,1.0s							
GTOI	**Gorontalo**	**25.45**	**243**	P		**P**	**06 09 10.1**	**+2.7**
	comp=Z,808nmcomp=Z,34nm,1.5s							
SSLB	**Suanglung**	**25.47**	**298**	P		**P**	**06 09 07.5**	**-0.1**
SSLB					IAmb	IAmb	06 09 25.0	
	comp=Z,68nm,1.1s							
MRSI	**Marisa**	**26.46**	**243**	P		**P**	**06 09 18.0**	**+1.5**
	comp=Z,2μmcomp=Z,139nm,1.1s							
LUWI	**Luwuk**	**26.53**	**240**	P		**P**	**06 09 15.9**	**-1.2**
LUWI	**Luwuk**	**26.53**	**240**	P		**P**	**06 09 19.4**	**+2.3**
	comp=Z,147nm,0.7s							
COEN	**Coen**	**27.02**	**185**			**P**	**06 09 20.8**	**-0.7**
TOLI2	**Tolitoli**	**27.18**	**246**	P		**P**	**06 09 23.4**	**+0.4**
TOLI2					IAmb	IAmb	06 09 30.3	
	comp=Z,47nm,1.0s							
APSI	**Ampana**	**27.41**	**241**	P		**P**	**06 09 27.6**	**+2.6**
	comp=Z,653nmcomp=Z,68nm,1.2s							
JTM	**Tenmabayashi**	**27.80**	**353**	P		**P**	**06 09 27.7**	**-0.6**
SSE	**Sheshan**	**28.59**	**313**	P		**P**	**06 09 35.9**	**+0.5**
SSE				S		**S**	**06 14 22.9**	**+2.0**
SSE					pmax	pmax		
	comp=Z,9.0nm,0.5s							
SSE					pmax	pmax		
	comp=Z,130nm,4.8s							
SSE					LR	LR		
	comp=Z,190nm,13.3s							
SSE					LR	LR		
	comp=Z,550nm,16.1s							
KSRS	**Korea Array**	**28.82**	**330**	P		**P**	**06 09 38.4**	**+1.0**
	comp=Z,2.6nm,0.6s,baz=145,slow=9.2,SNR=9.5							
BNSI	**Bone**	**30.60**	**237**	P		**P**	**06 09 54.9**	**+1.5**
	comp=Z,24nm,1.5s							
NJ2	**Nanjing**	**30.78**	**312**	*e*P		**P**	**06 09 55.5**	**+0.7**
NJ2					pmax	pmax		
	comp=Z,12nm,0.5s							
NJ2					LR	LR		
	comp=Z,960nm,19.9s							
NJ2					LR	LR		
	comp=Z,1μm,17.1s							
NJ2					LR	LR		
	comp=Z,2μm,16.2s							
ASAJ	**Asahikawa**	**30.96**	**356**	P		**P**	**06 09 57.0**	**+0.8**
	comp=Z,16nm,1.0s,baz=132,slow=12,SNR=2.0							
SOEI	**Soe**	**30.97**	**224**	P		**P**	**06 09 56.2**	**-0.6**
SOEI					IAmb	IAmb	06 10 07.6	
	comp=Z,29nm,0.7s							
SOEI	**Soe**	**30.97**	**224**	P		**P**	**06 09 56.9**	**+0.1**
	comp=Z,42nm,0.8s							
SMKI	**Samarinda**	**31.07**	**246**	P		**P**	**06 09 58.4**	**+0.9**
	comp=Z,12μmcomp=Z,260nm,0.4s							
KAPI	**Kappang**	**31.24**	**236**	P		**P**	**06 10 00.0**	**+1.0**
	comp=Z,57nm,0.4s,baz=55,slow=4.5,SNR=3.6							
BKB	**Balikpapan**	**31.71**	**245**	P		**P**	**06 10 01.4**	**-1.9**
USA0B	**Ussuriysk Arra**	**33.02**	**342**	*i* P		**P**	**06 10 14.4**	**0.0**
USRK	**Ussuriysk Ar.**	**33.02**	**342**	P		**P**	**06 10 14.4**	**+0.1**
	comp=Z,7.5nm,0.8s,baz=156,slow=8.8,SNR=11							
USRK	**Ussuriysk Ar.**	**33.02**	**342**	P		**P**	**06 10 14.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**33.02**	**342**	P		**P**	**06 10 14.6**	**+0.2**
CTA	**Charters Tower**	**33.03**	**179**	P		**P**	**06 10 14.1**	**-0.7**
	comp=Z,4.5nm,0.8s,baz=5.2,slow=11,SNR=3.2							
CTAO	**Charters Tower**	**33.03**	**179**	P		**P**	**06 10 14.0**	**-0.7**
CTAO					pmax	pmax		
	comp=Z,42nm,1.5s							
CTAO	**Charters Tower**	**33.03**	**179**	P		**P**	**06 10 14.0**	**-0.7**
CTAO					IAmb	IAmb	06 10 17.8	
	comp=Z,42nm,1.5s							
WB0	**Warramunga Arr**	**34.46**	**199**	P		**P**	**06 10 27.1**	**0.0**
SBUM	**Sibu**	**34.52**	**255**	P		**P**	**06 10 29.3**	**+1.6**
SBUM					IAmb	IAmb	06 10 34.2	
	comp=Z,44nm,1.3s							
WR0	**Warramunga Arr**	**34.60**	**198**	P		**P**	**06 10 28.2**	**-0.1**
WR0					IAmb	IAmb	06 10 40.4	
	comp=Z,34nm,1.1s							
WRAB	**Tennant Creek**	**34.63**	**199**	*i* P		**P**	**06 10 28.5**	**-0.1**
WRAB					pmax	pmax		
	comp=Z,23nm,1.0s							
WB2	**Warramunga Arr**	**34.64**	**199**	P		**P**	**06 10 28.4**	**-0.2**
WB2					IAmb	IAmb	06 10 40.8	
	comp=Z,24nm,0.9s							
WRA	**Warramunga Arr**	**34.64**	**199**	P		**P**	**06 10 28.4**	**-0.3**
	comp=Z,12nm,0.7s,baz=22,slow=9.6,SNR=77							
QIZ	**Qiongzhong**	**34.65**	**284**	P		**P**	**06 10 28.1**	**-0.7**
QIZ				S		**S**	**06 15 55.5**	**-0.2**
QIZ					LR	LR		
	comp=Z,840nm,15.2s							
QIZ					LR	LR		
	comp=Z,2μm,21.1s							
QIZ					LR	LR		
	comp=Z,2μm,19.7s							
CN2	**Changchun**	**35.04**	**334**	*e*P		P	06 10 39.1	+7.2
CN2				*e*S		**S**	**06 16 07.5**	**+6.3**
CN2					LR	LR		
	comp=N,2μm,17.0s							
CN2					LR	LR		
	comp=E,1μm,17.0s							
CN2					LR	LR		
	comp=Z,1μm,15.0s							
TWSI	**Taliwang, Sumb**	**35.73**	**234**	P		**P**	**06 10 39.8**	**+1.7**
	comp=Z,11nm,0.9s							
KSM	**Kuching**	**36.65**	**254**	P		**P**	**06 10 45.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**36.67**	**213**	P		**P**	**06 10 46.5**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=45,slow=12,SNR=6.4							
FITZ	**Fitzroy Crossi**	**36.67**	**213**	P		**P**	**06 10 46.2**	**+0.1**
PBKI	**Pangkalan Bun**	**37.02**	**247**	P		**P**	**06 10 50.8**	**+1.6**
	comp=Z,14μmcomp=Z,230nm,0.6s							
DNP	**Denpasar**	**37.02**	**236**	P		**P**	**06 10 50.5**	**+1.3**
BJT	**Baijiatuau**	**37.12**	**322**	P		**P**	**06 10 49.2**	**-0.5**
BJT					pmax	pmax		
	comp=Z,8.0nm,0.8s							
BJT	**Baijiatuau**	**37.12**	**322**	P		**P**	**06 10 49.2**	**-0.5**
BJI	**Beijing**	**37.13**	**322**	P		**P**	**06 10 49.7**	**-0.1**
BJI				PcP		**PcP**	**06 13 10.5**	**+1.0**
BJI				S		**S**	**06 16 35.4**	**+2.2**
BJI				SS		**SS**	**06 19 18.2**	**+1.2**
BJI					pmax	pmax		
	comp=Z,6.0nm,1.0s							
BJI					pmax	pmax		
	comp=Z,130nm,5.4s							
BJI					LR	LR		
	comp=Z,810nm,18.9s							
BJI					LR	LR		
	comp=Z,730nm,16.0s							
BJI					LR	LR		
	comp=Z,730nm,21.5s							
KMMI	**Kalianget**	**37.14**	**239**	P		**P**	**06 10 52.0**	**+1.8**
	comp=Z,80nm,1.3s							
KLR	**Kul'dur**	**37.71**	**345**	P		**P**	**06 10 53.7**	**-0.9**
	comp=Z,5.9nm,0.7s,baz=141,slow=13,SNR=16							
KLR	**Kul'dur**	**37.71**	**345**	*i* P		**P**	**06 10 53.1**	**-1.5**
KLR					pmax	pmax		
	comp=Z,9.0nm,0.8s							
JAGI	**Jajag, Banyuwa**	**37.76**	**237**	P		**P**	**06 10 55.8**	**+0.3**
	comp=Z,2μmcomp=Z,42nm,1.0s							
AS31	**Alice Springs**	**38.28**	**197**	P		**P**	**06 10 59.5**	**-0.2**
ASAR	**Alice Springs**	**38.28**	**197**	P		**P**	**06 10 59.5**	**-0.2**
	comp=Z,6.9nm,0.5s,baz=27,slow=7.8,SNR=119							
ASAR	**Alice Springs**	**38.28**	**197**	P		**P**	**06 10 59.1**	**-0.6**
ASAR	**Alice Springs**	**38.28**	**197**	P		**P**	**06 10 59.1**	**-0.6**
SKR	**Severo-Kuril's**	**38.44**	**11**	*e*P		**P**	**06 10 57.9**	**-2.7**
SKR				*e*S		**S**	**06 16 57.1**	**+4.4**
SKR					pmax	pmax		
	comp=Z,500nm,6.9s							
SKR					MLR	MLR		
	comp=Z,500nm,17.0s							
GYA	**Guiyang**	**38.64**	**296**	*e*P		**P**	**06 11 03.6**	**+0.7**
GYA				sP		sP	06 11 21.7	+3.0
GYA				PcP		**PcP**	**06 13 16.4**	**+1.8**
GYA				S		S	06 17 06.8	+10
GYA					pmax	pmax		
	comp=Z,200nm,4.3s							
GYA					LR	LR		
	comp=Z,760nm,18.2s							
GYA					LR	LR		
	comp=Z,2μm,17.5s							
GYA					LR	LR		
	comp=Z,2μm,18.2s							
XAN	**Xi'an**	**39.10**	**308**	P		P	06 10 55.6	-11
XAN				pP		pP	06 11 07.5	-10
XAN				PP		**PP**	**06 12 31.7**	**-5.0**
XAN				S		S	06 17 13.5	+10
XAN				SS		**SnSn**	**06 20 04.8**	**+6.6**
XAN					pmax	pmax		
	comp=Z,19nm,1.1s							
XAN					pmax	pmax		
	comp=Z,320nm,9.3s							
XAN					AMB	AMB		
	comp=Z,360nm,10.3s							
XAN					LR	LR		
	comp=N,690nm,19.5s							
XAN					LR	LR		
	comp=E,1μm,19.5s							
XAN					LR	LR		
	comp=Z,2μm,19.5s							
PANO	**Nakornpanom**	**39.55**	**281**	P		**P**	**06 11 08.0**	**-2.5**
	comp=Z,69nmcomp=Z,1.4nm,1.0s							
SMRI	**Semarang**	**40.13**	**242**	P		**P**	**06 11 16.1**	**+0.8**
	comp=Z,181nm,1.6s							
HHC	**Hu-ho-hao-te**	**40.46**	**319**	*e*P		**P**	**06 11 16.8**	**-1.1**
HHC				S		**S**	**06 17 18.3**	**-5.4**
HHC					pmax	pmax		
	comp=Z,12nm,0.9s							
HHC					pmax	pmax		
	comp=Z,110nm,4.7s							
HHC					LR	LR		
	comp=Z,910nm,15.3s							
HHC					LR	LR		
	comp=Z,2μm,19.6s							
HHC					LR	LR		
	comp=Z,2μm,19.6s							
UGM	**Wanagama**	**40.49**	**241**	P		**P**	**06 11 19.8**	**+1.4**
UGM	**Wanagama**	**40.49**	**241**	P		**P**	**06 11 19.1**	**+0.8**
	comp=Z,206nm,1.4s							
DZM	**Mont Dzumac**	**40.62**	**149**	*e*LR		LR	06 22 35.9	
	comp=Z,1μm,26.8s							
PEA0B	**Petropavlovsk-**	**41.05**	**11**	P		**P**	**06 11 22.1**	**-0.3**
PEA0B					pmax	pmax		
	comp=Z,50nm,1.1s							
PEA0B	**Petropavlovsk-**	**41.05**	**11**	P		**P**	**06 11 22.1**	**-0.3**
PEA0B					IAmb	IAmb	06 11 43.3	
	comp=Z,50nm,1.1s							
PETK	**Petropavlovsk-**	**41.05**	**11**	P		**P**	**06 11 21.8**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=170,slow=7.2,SNR=11							
PETK	**Petropavlovsk-**	**41.05**	**11**	P		**P**	**06 11 22.4**	**0.0**
PETK	**Petropavlovsk-**	**41.05**	**11**	P		**P**	**06 11 22.4**	**0.0**
PET	**Petropavlovsk**	**41.16**	**12**	*i* P		**P**	**06 11 21.6**	**-1.6**
PET					pmax	pmax		
	comp=Z,273nm,1.4s							
PET	**Petropavlovsk**	**41.16**	**12**	P		**P**	**06 11 22.9**	**-0.3**
HIA	**Hailar**	**41.77**	**335**	P		**P**	**06 11 28.1**	**-0.3**
HIA					pmax	pmax		
	comp=Z,15nm,0.9s							
HIA	**Hailar**	**41.77**	**335**	P		**P**	**06 11 28.1**	**-0.3**
PPBI	**Pangkal Pinang**	**41.85**	**252**	P		**P**	**06 11 30.9**	**+1.4**
	comp=Z,55μmcomp=Z,26nm,0.9s							
CHAI	**Chaiyaphum**	**42.09**	**279**	P		**P**	**06 11 34.7**	**+3.3**
SRAK	**Srakaew**	**42.14**	**276**	P		**P**	**06 11 33.5**	**+1.7**
	comp=Z,3μmcomp=Z,123nm,1.2s							
LEM	**Lembang**	**42.48**	**244**	P		**P**	**06 11 34.4**	**-0.4**
	comp=Z,46nm,0.3s,baz=286,slow=4.3,SNR=6.3							
LEM	**Lembang**	**42.48**	**244**	P		**P**	**06 11 35.7**	**+0.9**
	comp=Z,42nm,1.5s							
CISI	**Cisompet, Garu**	**42.65**	**243**	P		**P**	**06 11 34.8**	**-1.2**
CISI	**Cisompet, Garu**	**42.65**	**243**	P		**P**	**06 11 36.3**	**+0.3**
	comp=Z,3μmcomp=Z,59nm,1.1s							
PSA00	**Pilbara Seismi**	**42.67**	**216**	P		**P**	**06 11 36.5**	**+0.5**
PSA00					IAmb	IAmb	06 11 57.3	
	comp=Z,27nm,0.7s							
ZEA	**Zeya**	**42.98**	**344**	*e*P		**P**	**06 11 37.6**	**-0.5**
ZEA				*e*			06 21 37.6	
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.7s							
ZEA					MLR	MLR		
	comp=E,400nm,16.0s							
ZEA					MLR	MLR		
	comp=Z,500nm,14.0s							
UTTA	**Uttaradit**	**43.42**	**282**	P		**P**	**06 11 44.8**	**+2.6**
	comp=Z,14nm,0.8s							
LZH	**Lanzhou**	**43.72**	**309**	*e*P		**P**	**06 11 47.2**	**+2.6**
LZH				pP		pP	06 11 57.5	+1.8
LZH				S		**S**	**06 18 15.5**	**+3.4**
LZH				sS		sS	06 18 38.4	+8.7
LZH				SS		**SS**	**06 21 24.8**	**-3.9**
LZH					pmax	pmax		
	comp=Z,24nm,1.3s							
LZH					pmax	pmax		
	comp=Z,240nm,6.0s							
LZH					LR	LR		
	comp=Z,740nm,13.6s							
LZH					LR	LR		
	comp=Z,1μm,14.1s							
LZH					LR	LR		
	comp=Z,800nm,14.6s							
KLSI		**44.13**	**249**	P		**P**	**06 11 48.6**	**+0.7**
	comp=Z,287nmcomp=Z,16nm,1.7s							
MSVF	**Nonsavu**	**44.48**	**133**	P		**P**	**06 11 50.3**	**-0.4**
	comp=Z,4.7nm,0.6s,baz=128,slow=19,SNR=2.2							
UTHA	**Uthaitani**	**44.55**	**279**	P		**P**	**06 11 53.6**	**+2.3**
	comp=Z,16nm,0.8s							
IPM	**Ipoh**	**44.65**	**263**	P		**P**	**06 11 51.7**	**-0.5**
KASI	**Kota Agung**	**44.69**	**248**	P		**P**	**06 11 53.7**	**+1.3**
KULM	**Kulim**	**44.83**	**264**	P		**P**	**06 11 52.5**	**-1.0**
KULM					IAmb	IAmb	06 12 06.3	
	comp=Z,41nm,1.2s							
LWLI	**Liwa**	**44.88**	**249**	P		**P**	**06 11 54.7**	**+0.7**
LHSI	**Lahat**	**44.89**	**251**	P		**P**	**06 11 55.3**	**+1.3**
	comp=Z,79nm,1.0s							
CM09	**Chiang Mai Arr**	**44.90**	**283**	P		**P**	**06 11 56.8**	**+2.7**
	comp=Z,7.2nm,0.7s							
CM04	**Chiang Mai Arr**	**44.91**	**283**	P		**P**	**06 11 55.5**	**+1.3**
	comp=Z,135nmcomp=Z,12nm,1.0s							
STKA	**Stephens Creek**	**44.91**	**185**	P		**P**	**06 11 52.9**	**-1.0**
	comp=Z,3.6nm,0.7s,baz=3.8,slow=9.3,SNR=4.8							
STKA	**Stephens Creek**	**44.91**	**185**	P		**P**	**06 11 53.1**	**-0.8**
STKA					pmax	pmax		
	comp=Z,2.0nm,1.1s							
STKA	**Stephens Creek**	**44.91**	**185**	P		**P**	**06 11 53.1**	**-0.8**
CM01	**Chiang Mai Arr**	**44.93**	**283**	P		**P**	**06 11 56.6**	**+2.3**
	comp=Z,11nm,0.9s							
CM02	**Chiang Mai Arr**	**44.94**	**283**	P		**P**	**06 11 55.0**	**+0.6**
	comp=Z,95nmcomp=Z,10nm,0.9s							
CM05	**Chiang Mai Arr**	**44.95**	**283**	P		**P**	**06 11 55.8**	**+1.3**
	comp=Z,95nmcomp=Z,8.6nm,0.6s							
CM31	**Chiang Mai Arr**	**44.95**	**283**	P		**P**	**06 11 55.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**44.95**	**283**	P		**P**	**06 11 55.4**	**+1.0**
	comp=Z,4.5nm,0.6s,baz=83,slow=6.4,SNR=22							
CMAR	**Chiang Mai Arr**	**44.95**	**283**	P		**P**	**06 11 54.6**	**+0.1**
CM15	**Chiang Mai Arr**	**44.97**	**283**	P		**P**	**06 11 56.0**	**+1.4**
	comp=Z,9.3nm,0.7s							
CM13	**Chiang Mai Arr**	**44.98**	**283**	P		**P**	**06 11 55.0**	**+0.3**
	comp=Z,96nmcomp=Z,9.2nm,0.8s							
UMPA	**Umpang Tak**	**45.08**	**280**	P		**P**	**06 11 58.7**	**

GSI	**Gunungsitoli**	**48.81**	**260**	P		**P**		**06 12 24.4**	**-0.2**
	comp=Z,21nm,1.7s								
SEY	**Seymchan**	**49.96**	**4**	P		**P**		**06 12 31.6**	**-1.1**
	comp=Z,6.2nm,0.7s,baz=180,slow=5.9,SNR=13								
SEY	**Seymchan**	**49.96**	**4**	*i* P		**P**		**06 12 30.7**	**-2.0**
BSI	**Banda Aceh**	**49.98**	**266**	P		**P**		**06 12 34.7**	**+1.1**
	comp=Z,2μm,0.6s								
YAK	**Yakutsk**	**50.11**	**350**	*i* P		**P**		**06 12 31.4**	**-2.4**
YAK				pmax	pmax				
	comp=Z,20nm,0.8s								
YAK	**Yakutsk**	**50.11**	**350**	P		**P**		**06 12 33.6**	**-0.2**
ZAK	**Zakamensk**	**50.51**	**326**	*e*P		**P**		**06 12 37.9**	**+0.7**
ZAK				pmax	pmax				
	comp=Z,7.0nm,1.2s								
BOD	**Bodaibo**	**50.52**	**339**	*e*P		**P**		**06 12 36.3**	**-0.7**
BOD				pmax	pmax				
	comp=Z,11nm,1.5s								
MORW	**Morawa**	**50.67**	**214**	P		**P**		**06 12 38.2**	**-0.3**
MORW				IAmb	IAmb			06 12 43.6	
	comp=Z,50nm,1.5s								
TLY	**Talaya**	**51.02**	**328**	*e*P		**P**		**06 12 42.3**	**+1.4**
TLY				*e*S		**S**		**06 19 58.6**	**+3.5**
TLY				pmax	pmax				
	comp=Z,24nm,1.5s								
TLY				MLR	MLR				
	comp=Z,2μm,18.0s								
TLY	**Talaya**	**51.02**	**328**	P		**P**		**06 12 41.0**	**+0.1**
SHL	**Shillong**	**51.70**	**292**	P		**P**		**06 12 46.3**	**-0.3**
SHL				pmax	pmax				
	comp=Z,17nm,0.8s								
SHL	**Shillong**	**51.70**	**292**	P		**P**		**06 12 46.3**	**-0.3**
SHL				IAmb	IAmb			06 13 08.6	
	comp=Z,17nm,0.8s								
LSA	**Lhasa**	**52.68**	**297**	P		**P**		**06 12 55.8**	**+1.6**
LSA				pmax	pmax				
	comp=Z,18nm,1.4s								
LSA	**Lhasa**	**52.68**	**297**	P		**P**		**06 12 54.5**	**+0.3**
LSA				pmax	pmax				
	comp=Z,13nm,1.2s								
LSA	**Lhasa**	**52.68**	**297**	P		**P**		**06 12 54.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**53.14**	**210**	P		**P**		**06 12 56.7**	**-0.2**
	comp=Z,8.0nm,0.7s,baz=62,slow=5.5,SNR=7.0								
NWAO	**Narrogin (SRO)**	**53.14**	**210**	P		**P**		**06 12 55.0**	**-1.9**
NWAO				pmax	pmax				
	comp=Z,26nm,1.2s								
NWAO	**Narrogin (SRO)**	**53.14**	**210**	P		**P**		**06 12 55.0**	**-1.9**
NWAO				IAmb	IAmb			06 13 01.7	
	comp=Z,26nm,1.2s								
TAPN	**Taplejung**	**55.53**	**294**	*e*P		**P**		**06 13 15.0**	**+0.2**
ODAN	**Odare**	**55.79**	**294**	*e*P		**P**		**06 13 16.7**	**+0.1**
RAMN	**Ramite**	**56.50**	**294**	*e*P		**P**		**06 13 21.9**	**+0.2**
	comp=Z,7.0nm,0.4s								
GUN	**Gumba**	**57.17**	**295**	*e*P		**P**		**06 13 26.7**	**+0.1**
	comp=Z,27nm,0.7s								
PKI	**Pulchoki**	**57.58**	**294**	*e*P		**P**		**06 13 28.9**	**-0.5**
	comp=Z,12nm,0.5s								
PKIN	**Phulchoki**	**57.59**	**294**	*e*P		**P**		**06 13 29.2**	**-0.2**
	comp=Z,8.3nm,0.3s								
WMQ	**Urumqi**	**57.84**	**314**	*e*P		**P**		**06 13 32.3**	**+1.6**
WMQ				pP	pP			06 13 42.2	0.0
WMQ				sP	sP			06 13 48.4	+1.6
WMQ				pmax	pmax				
	comp=Z,20nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,76nm,5.1s								
WMQ				LR	LR				
	comp=Z,1μm,23.5s								
WMQ				LR	LR				
	comp=Z,970nm,19.1s								
WMQ				LR	LR				
	comp=Z,2μm,21.9s								
WMQ	**Urumqi**	**57.84**	**314**	P		**P**		**06 13 31.2**	**+0.5**
WMQ				pmax	pmax				
	comp=Z,26nm,1.4s								
WMQ	**Urumqi**	**57.84**	**314**	P		**P**		**06 13 31.2**	**+0.5**
WMQ				IAmb	IAmb			06 13 33.4	
	comp=Z,26nm,1.4s								
DMN	**Daman**	**57.85**	**294**	*e*P		**P**		**06 13 31.4**	**+0.1**
	comp=Z,16nm,0.7s								
GKN	**Gorkha**	**58.27**	**295**	*e*P		**P**		**06 13 33.8**	**-0.3**
	comp=Z,19nm,0.6s								
URZ	**Urewera**	**59.12**	**151**	P		**P**		**06 13 38.9**	**-0.5**
TIXI	**Tiksi**	**59.33**	**354**	*i* P		**P**		**06 13 38.0**	**-2.4**
TIXI	**Tiksi**	**59.33**	**354**	P		**P**		**06 13 38.9**	**-1.5**
DGZ	**Jazzator, Alta**	**59.53**	**320**	*i* P		**P**		**06 13 42.4**	**-0.1**
DGZ				pmax	pmax				
	comp=Z,8.0nm,1.0s								
THZ	**Tophouse**	**60.22**	**157**	P		**P**		**06 13 46.6**	**-0.5**
THZ				IAmb	IAmb			06 13 49.6	
	comp=Z,14nm,0.9s								
TUWZ	**Tuamarina**	**60.35**	**156**	P		**P**		**06 13 46.5**	**-1.4**
SNZO	**South Karori**	**60.56**	**155**	P		**P**		**06 13 48.8**	**-0.5**
ZSN	**Zaisan**	**60.60**	**317**	*e*P		**P**		**06 13 50.4**	**+0.7**
	baz=317								
ZSN	**Zaisan**	**60.60**	**317**	*e*P		**P**		**06 13 50.3**	**+0.7**
LTZ	**Lake Taylor**	**60.86**	**158**	P		**P**		**06 13 51.2**	**-0.1**
LTZ				IAmb	IAmb			06 13 53.8	
	comp=Z,14nm,0.9s								
RPZ	**Rata Peaks**	**61.23**	**159**	P		**P**		**06 13 53.5**	**-0.4**
OXZ	**Oxford**	**61.24**	**158**	P		**P**		**06 13 52.5**	**-1.4**
LBZ	**Lake Benmore**	**61.53**	**160**	P		**P**		**06 13 56.9**	**+1.1**
LBZ				IAmb	IAmb			06 14 17.0	
	comp=Z,17nm,1.0s								
MK31	**Makanchi Array**	**62.19**	**316**	P		**P**		**06 14 00.4**	**0.0**
MK31				pmax	pmax				
	comp=Z,9.0nm,1.1s								
MK31	**Makanchi Array**	**62.19**	**316**	P		**P**		**06 14 00.4**	**0.0**
MKAR	**Makanchi Array**	**62.19**	**316**	P		**P**		**06 14 01.2**	**+0.8**
	comp=Z,3.7nm,0.4s,baz=88,slow=8.3,SNR=56								
MKAR	**Makanchi Array**	**62.19**	**316**	P		**P**		**06 14 00.2**	**-0.2**
ZAA0	**Zalesovo Array**	**62.30**	**324**	P		**P**		**06 13 59.8**	**-1.2**
ZALV	**Zalesovo Beam**	**62.30**	**324**	P		**P**		**06 14 01.4**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=90,slow=8.9,SNR=9.0								
ZALV	**Zalesovo Beam**	**62.30**	**324**	*i* P		**P**		**06 14 03.5**	**+2.6**
ZALV				pmax	pmax				
	comp=Z,4.0nm,0.6s								
ZALV	**Zalesovo Beam**	**62.30**	**324**	P		**P**		**06 14 00.7**	**-0.3**
MAKZ	**Makanchi**	**62.40**	**316**	P		**P**		**06 14 01.7**	**-0.1**
MAKZ				pmax	pmax				
	comp=Z,8.0nm,0.7s								
MAKZ	**Makanchi**	**62.40**	**316**	P		**P**		**06 14 01.7**	**-0.1**
RDOG	**Red Dog Mine**	**64.12**	**19**	P		**P**		**06 14 12.4**	**-0.3**
RDOG				IAmb	IAmb			06 14 15.6	
	comp=Z,14nm,0.7s								
RDOG	**Red Dog Mine**	**64.12**	**19**	P				06 14 12.7	
	baz=238								
KDAK	**Kodiak Island**	**64.16**	**32**	P		**P**		**06 14 13.4**	**+0.2**
	comp=Z,12nm,0.8s,baz=106,slow=4.0,SNR=8.9								
KDAK	**Kodiak Island**	**64.16**	**32**	P		**P**		**06 14 13.4**	**+0.2**
KDAK				pmax	pmax				
	comp=Z,58nm,1.4s								
KDAK	**Kodiak Island**	**64.16**	**32**	IAmb	IAmb			06 14 18.5	
	comp=Z,58nm,1.4s								
HYB	**Hyderabad**	**64.38**	**283**	*i* P		**P**		**06 14 15.0**	**-0.4**
TDK	**Taldyqorghan**	**64.59**	**314**	*e*P		**P**		**06 14 16.9**	**+0.6**
	comp=Z,8.7nm,0.6s,baz=314								
TDK	**Taldyqorghan**	**64.59**	**314**	*e*P		**P**		**06 14 16.9**	**+0.6**
TDK				pmax	pmax				
	comp=Z,9.0nm,0.6s								
SKT	**Skwentna**	**65.94**	**27**	P				06 14 26.1	
	baz=252								
PPLA	**Purkeypile**	**65.94**	**26**	P				06 14 26.5	
	baz=251								
KSH	**Kashi**	**65.94**	**308**	P		P		06 14 30.4	+5.1
KSH				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KSH				pmax	pmax				
	comp=Z,96nm,6.1s								
KUU	**Kurty**	**65.95**	**312**	*e*P		**P**		**06 14 25.5**	**+0.3**
	comp=Z,9.6nm,1.0s,baz=312								
KUU	**Kurty**	**65.95**	**312**	*e*P		**P**		**06 14 25.5**	**+0.3**
KUU				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CHUM	**Lake Minchumin**	**66.21**	**25**	P				06 14 27.8	
	baz=250								
O22K	**Cooper Landing**	**66.34**	**29**	P		**P**		**06 14 28.1**	**+0.8**
O22K	**Cooper Landing**	**66.34**	**29**	P				06 14 27.4	
	baz=254								
RC01	**Rabbit Creek A**	**66.50**	**29**	P				06 14 28.1	
	baz=254								
CUT	**Chulitna**	**66.63**	**27**	P				06 14 29.1	
	baz=253								
BPAW	**Bear Paw Mtn.**	**66.84**	**25**	P		**P**		**06 14 30.0**	**-0.4**
BPAW				IAmb	IAmb			06 14 49.3	
	comp=Z,17nm,0.9s								
BPAW	**Bear Paw Mtn.**	**66.84**	**25**	P				06 14 30.5	
	baz=252								
PMR	**Palmer**	**66.92**	**28**	P		**P**		**06 14 30.2**	**-0.7**
PMR				pmax	pmax				
	comp=Z,42nm,1.4s								
PMR	**Palmer**	**66.92**	**28**	P		**P**		**06 14 30.2**	**-0.7**
PMR	**Palmer**	**66.92**	**28**	P				06 14 30.5	
	baz=254								
TRF	**Thorofare Moun**	**66.93**	**26**	P		**P**		**06 14 31.4**	**+0.2**
TRF				IAmb	IAmb			06 14 49.9	
	comp=Z,17nm,0.9s								
TRF	**Thorofare Moun**	**66.93**	**26**	P				06 14 31.2	
	baz=252								
KNK	**Knik Glacier**	**67.18**	**28**	P				06 14 32.3	
	baz=255								
SML	**Sawmill**	**67.34**	**28**	P				06 14 34.1	
	baz=255								
WAT2	**Susitna Watana**	**67.53**	**27**	P				06 14 34.4	
	baz=254								
RND	**Reindeer**	**67.54**	**26**	P		**P**		**06 14 35.3**	**+0.3**
RND				pmax	pmax				
	comp=Z,12nm,0.8s								
RND	**Reindeer**	**67.54**	**26**	P		**P**		**06 14 35.3**	**+0.3**
RND				IAmb	IAmb			06 14 50.3	
	comp=Z,12nm,0.8s								
A21K	**Barrow**	**67.64**	**17**	P		**P**		**06 14 35.0**	**-0.3**
A21K	**Barrow**	**67.64**	**17**	P				06 14 35.1	
	baz=243								
BTLS	**Baital**	**67.68**	**313**	*e*P		**P**		**06 14 34.8**	**-1.3**
	baz=313								
BTLS	**Baital**	**67.68**	**313**	*e*P		**P**		**06 14 34.8**	**-1.3**
NEA2	**Nenana**	**67.78**	**25**	P		**P**		**06 14 36.5**	**+0.2**
NEA2	**Nenana**	**67.78**	**25**	P				06 14 36.4	
	baz=253								
SCM	**Sheep Creek Mo**	**67.81**	**28**	P		**P**		**06 14 37.1**	**+0.4**
SCM				pmax	pmax				
	comp=Z,55nm,1.0s								
SCM	**Sheep Creek Mo**	**67.81**	**28**	P		**P**		**06 14 37.1**	**+0.4**
I23K	**Minto, Yukon-K**	**67.83**	**24**	P		**P**		**06 14 36.7**	**+0.1**
I23K	**Minto, Yukon-K**	**67.83**	**24**	P				06 14 36.8	
	baz=253								
FID	**Port Fidalgo**	**67.95**	**29**	P		**P**		**06 14 37.6**	**+0.1**
COLD	**Coldfoot**	**68.15**	**22**	P				06 14 38.9	
	baz=251								
CCB	**Clear Creek Bu**	**68.32**	**25**	P		**P**		**06 14 38.7**	**-1.0**
CCB				IAmb	IAmb			06 14 53.3	
	comp=Z,19nm,1.4s								
COLA	**College**	**68.36**	**25**	*i* P		**P**		**06 14 38.9**	**-1.1**
COLA				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KLU	**Klutina**	**68.38**	**29**	P		**P**		**06 14 41.4**	**+1.1**
KLU				IAmb	IAmb			06 15 05.8	
	comp=Z,23nm,0.9s								
IL31		**68.73**	**25**	P		**P**		**06 14 41.4**	**-0.9**
IL31				IAmb	IAmb			06 14 56.4	
	comp=Z,13nm,0.9s								
ILAR	**Eielson Array**	**68.73**	**25**	P		**P**		**06 14 40.6**	**-1.7**
	comp=Z,7.0nm,0.8s,baz=251,slow=5.3,SNR=61								
ILAR	**Eielson Array**	**68.73**	**25**	P		**P**		**06 14 41.0**	**-1.3**
ILAR	**Eielson Array**	**68.73**	**25**	P		**P**		**06 14 41.0**	**-1.3**
TOLK	**Toolik Lake Re**	**68.83**	**21**	P		**P**		**06 14 43.1**	**+0.2**
TOLK				IAmb	IAmb			06 14 59.2	
	comp=Z,22nm,1.1s								
TOLK	**Toolik Lake Re**	**68.83**	**21**	P				06 14 43.5	
	baz=251								
PAX	**Paxson**	**68.91**	**27**	P		**P**		**06 14 44.5**	**+0.9**
PAX				pmax	pmax				
	comp=Z,15nm,0.7s								
PAX	**Paxson**	**68.91**	**27**	P		**P**		**06 14 44.5**	**+0.9**
PAX				IAmb	IAmb			06 14 59.1	
	comp=Z,15nm,0.7s								
PAX	**Paxson**	**68.92**	**27**	P				06 14 43.8	
	baz=257								
BRZS	**Berezniki**	**68.96**	**319**	*e*P		**P**		**06 14 43.6**	**-0.4**
	baz=319								
BRZS	**Berezniki**	**68.96**	**319**	*e*P		**P**		**06 14 43.6**	**-0.4**
CRQM	**Cirque**	**69.56**	**30**	P		**P**		**06 14 48.8**	**+1.1**
CRQE	**Cirque**	**69.59**	**30**	P				06 14 48.1	
	baz=260								
DOT	**Dot Lake**	**69.68**	**27**	P		**P**		**06 14 48.2**	**0.0**
DOT				IAmb	IAmb			06 15 02.2	
	comp=Z,17nm,0.9s								
TGL	**Tana Glacier**	**69.71**	**30**	P		**P**		**06 14 48.4**	**-0.2**
MCARA	**McCarthy VSAT**	**69.73**	**29**	P		**P**		**06 14 50.0**	**+1.4**
SCRK	**Sand Creek**	**69.78**	**26**	P				06 14 49.8	
	baz=256								
FYU	**Fort Yukon**	**69.84**	**23**	P		**P**		**06 14 49.9**	**+0.8**
MESA	**MESA**	**70.05**	**30**	P		**P**		**06 14 51.7**	**+0.9**
MESA	**MESA**	**70.05**	**30**	P				06 14 51.2	
	baz=262								
KK31	**Karatay Array**	**70.15**	**311**	P		**P**		**06 14 52.3**	**+0.7**
KK31				pmax	pmax				
	comp=Z,13nm,1.1s								
KK31	**Karatay Array**	**70.15**	**311**	P		**P**		**06 14 52.3**	**+0.7**
KKAR	**Karatay Array**	**70.15**	**311**	P		**P**		**06 14 52.0**	**+0.4**
KKAR				pmax	pmax				
	comp=Z,13nm,1.1s								
KKAR	**Karatay Array**	**70.15**	**311**	P		**P**		**06 14 52.0**	**+0.4**
KKAR	**Karatay Array**	**70.15**	**311**	P		**P**		**06 14 52.3**	**+0.7**
YAH	**Yahtse**	**70.18**	**30**	P		**P**		**06 14 51.3**	**-0.4**
BMAR	**Burnt Mountain**	**70.30**	**23**	P		**P**		**06 14 52.6**	**+0.6**
CTG	**Chitna Glacier**	**70.47**	**30**	P				06 14 54.2	
	baz=262								
CTGM	**Chitina Glacie**	**70.47**	**30**	P		**P**		**06 14 54.1**	**+0.8**
TABL	**Table Mountain**	**70.49**	**30**	P		**P**		**06 14 54.2**	**+0.7**
IUG	**Iuzhnay**	**70.51**	**310**	*e*P		**P**		**06 14 54.6**	**+0.8**
	comp=Z,5.8nm,1.3s,baz=310								
IUG	**Iuzhnay**	**70.51**	**310**	*e*P		**P**		**06 14 54.6**	**+0.8**
IUG				pmax	pmax				
	comp=Z,6.0nm,1.3s								
BCAR	**Beaver Creek A**	**70.58**	**27**	P		**P**		**06 14 53.8**	**-0.1**
K27K	**Chicken**	**70.62**	**26**	P		**P**		**06 14 54.4**	**+0.4**
K27K	**Chicken**	**70.62**	**26**	P				06 14 54.6	
	baz=260								
BRVK	**Borovoye**	**70.68**	**322**	P		**P**		**06 14 54.7**	**+0.2**
BRVK				pmax	pmax				
	comp=Z,18nm,0.8s								
BRVK	**Borovoye**	**70.68**	**322**	P		**P**		**06 14 54.7**	**+0.2**
BRVK				IAmb	IAmb			06 14 55.6	
	comp=Z,18nm,0.8s								
PPT2	**Papeete2**	**71.04**	**114**	*e*S		**S**		**06 24 17.8**	**+6.8**
	comp=Z,777nm,27.2s								
PPT2	**Papeete2**	**71.04**	**114**	*e*LR		LR		06 36 36.2	
	comp=Z,2μm,24.0s,baz=295								
EGAK	**Eagle**	**71.14**	**26**	P		**P**		**06 14 57.8**	**+0.7**
EGAK				IAmb	IAmb			06 15 13.6	
	comp=Z,17nm,0.9s								
DAWY	**Dawson**	**71.79**	**27**	P		**P**		**06 15 01.3**	**+0.2**
EPYK	**Eagle Plains**	**73.18**	**24**	P		**P**		**06 15 07.1**	**-2.2**
EPYK				IAmb	IAmb			06 15 33.7	
	comp=Z,34nm,1.1s								
EPYK	**Eagle Plains**	**73.18**	**24**	P				06 15 07.2	
	baz=264								
TBI	**Tubuai**	**73.28**	**119**	*e*S		**SKiKP**		**06 24 45.3**	**+6.4**
	comp=Z,226nm,28.0s								
TBI	**Tubuai**	**73.28**	**119**	*e*LR		LR		06 37 30.6	
	comp=Z,624nm,24.2s,baz=305								
WHY	**Whitehorse**	**73.59**	**30**	P		**P**		**06 15 12.4**	**+0.5**
WHY				IAmb	IAmb			06 15 32.7	
	comp=Z,30nm,1.3s								
INK	**Inuvik**	**74.57**	**22**	P		**P**		**06 15 16.9**	**-0.4**
INK				pmax	pmax				
	comp=Z,15nm,0.9s								
INK	**Inuvik**	**74.57**	**22**	P		**P**		**06 15 16.9**	**-0.4**
INK				IAmb	IAmb			06 15 27.4	
	comp=Z,15nm,0.8s								
DLBC	**Dease Lake**	**76.06**	**33**	P		**P**		**06 15 27.2**	**+1.0**
ABKAR	**Akbulak array**	**77.24**	**318**	P		**P**		**06 15 33.2**	**+0.3**
ARU	**Arti**	**77.44**	**325**	*d* iP		**P**		**06 15 33.3**	**-0.6**
ARU				S		**S**		**06 25 23.6**	**+2.2**
ARU				pmax	pmax				
	comp=Z,31nm,1.7s								
ARU				MLR	MLR				
	comp=Z,753nm,19.0s								
ARU	**Arti**	**77.44**	**325**	P		**P**		**06 15 34.4**	**+0.5**
ARU				IAmb	IAmb			06 15 34.6	
	comp=Z,12nm,0.6s								
C36M	**Paulatuk**	**77.98**	**21**	P		**P**		**06 15 36.0**	**-0.7**
C36M				IAmb	IAmb			06 15 48.0	
	comp=Z,37nm,1.4s								
C36M	**Paulatuk**	**77.98**	**21**	P				06 15 36.0	
	baz=275								
GEYT	**Alibeck**	**79.95**	**307**	P		**P**		**06 15 48.8**	**+0.6**
	comp=Z,5.0nm,0.7s,baz=64,slow=6.8,SNR=6.2								
GEYT	**Alibeck**	**79.95**	**307**	P		**P**		**06 15 48.4**	**+0.1**
KIRV	**Kirov**	**82.01**	**328**	*i* P		**P**		**06 15 58.2**	**-0.4**
KHMM	**Horse Mountain**	**82.16**	**50**	P		**P**		**06 16 00.9**	**+0.9**
HUMO	**Hull Mountain**	**82.41**	**48**	P		**P**		**06 16 02.8**	**+1.6**
HUMO				IAmb	IAmb			06 16 08.4	
	comp=Z,35nm,1.5s								
M02C	**Callahan**	**82.71**	**49**	P				06 16 03.6	
	baz=281								
J04D	**Umpqua Nationa**	**82.90**	**47**	P				06 16 04.0	
	baz=281								
N02D	**Trinity Center**	**82.90**	**50**	P				06 16 04.5	
	baz=281								
L04D	**Klamath Falls**	**82.95**	**48**	P				06 16 04.6	
	baz=281								
O02D	**Mt. Diablo Mer**	**82.99**	**50**	P				06 16 05.4	
	baz=281								
YKA	**Yellowknife Ar**	**83.00**	**27**	P		**P**		**06 16 03.3**	**-0.4**
	comp=Z,6.0nm,0.6s,baz=286,slow=4.6,SNR=114								
YKA	**Yellowknife Ar**	**83.00**	**27**	*i* P		**P**		**06 16 03.2**	**-0.5**
YKA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
LTY	**Liberty**	**83.09**	**43**	P		**P**		**06 16 04.9**	**+0.2**
LTY				IAmb	IAmb			06 16 24.2	
	comp=Z,11nm,0.8s								
WDC	**Whiskeytown Da**	**83.10**	**50**	P		**P**		**06 16 05.4**	**+0.6**
WDC				pmax	pmax				
	comp=Z,15nm,1.2s								
WDC	**Whiskeytown Da**	**83.10**	**50**	P		**P**		**06 16 05.4**	**+0.6**
PRGR	**Permogore**	**83.15**	**332**	*e*P		**P**		**06 16 04.1**	**-0.4**
PRGR				pmax	pmax				
	comp=Z,36nm,0.8s								
EUNU	**Eureka**	**83.23**	**8**	P		**P**		**06 16 05.6**	**+0.9**
J05D	**Fort Rock, OR**	**83.51**	**47**	P				06 16 07.3	
	baz=282								
PINE	**Pine Mountain**	**83.62**	**47**	P		**P**		**06 16 08.1**	**+0.5**
B08A	**Colville Reser**	**83.74**	**42**	P		**P**		**06 16 07.8**	**-0.1**
B08A				IAmb	IAmb			06 16 15.2	
	comp=Z,12nm,0.8s								
E07A	**Sunnyside**	**83.78**	**44**	P		**P**		**06 16 08.8**	**+0.7**
E07A				IAmb	IAmb			06 16 19.1	
	comp=Z,9.5nm,0.8s								
K05A	**Summer Lake**	**83.87**	**48**	P		**P**		**06 16 08.9**	**0.0**
HAWA	**Hanford**	**84.04**	**44**	P		**P**		**06 16 10.1**	**+0.7**
HAWA				IAmb	IAmb			06 16 19.0	
	comp=Z,8.2nm,0.8s								
ORV	**Oroville**	**84.09**	**51**	P		**P**		**06 16 09.9**	**+0.1**
ORV				pmax	pmax				
	comp=Z,19nm,1.4s								
ORV	**Oroville**	**84.09**	**51**	P		**P**		**06 16 09.9**	**+0.1**
ORV				IAmb	IAmb			06 16 33.6	
	comp=Z,19nm,1.4s								
D08A	**Wollman Farm,**	**84.30**	**43**	P		**P**		**06 16 10.5**	**-0.2**
BELG	**Belogornoye**	**84.41**	**322**	*i* P		**P**		**06 16 10.4**	**-0.7**
BELG				pmax	pmax				
	comp=Z,12nm,1.5s								
MOD	**Modoc Plateau**	**84.48**	**48**	P		**P**		**06 16 12.3**	**+0.3**
MOD				IAmb	IAmb			06 16 35.8	
	comp=Z,15nm,1.1s								
C09A	**Chrisman Ranch**	**84.56**	**42**	P		**P**		**06 16 12.2**	**+0.1**
I07A	**Izee**	**84.57**	**46**	P		**P**		**06 16 12.0**	**-0.3**
AFDM	**Forest Hills D**	**84.62**	**51**	P		**P**		**06 16 13.1**	**+0.5**
AFDM				IAmb	IAmb			06 16 36.5	
	comp=Z,12nm,1.1s								
RES	**Resolute Bay**	**84.85**	**13**	P		**P**		**06 16 13.3**	**+0.3**
RES				pmax	pmax				
	comp=Z,10.0nm,0.9s								
RES	**Resolute Bay**	**84.85**	**13**	P		**P**		**06 16 13.2**	**+0.3**
RES				IAmb	IAmb			06 16 18.5	
	comp=Z,9.6nm,0.8s								
BEKR	**Beckworth**	**84.88**	**50**	P		**P**		**06 16 14.3**	**+0.2**
BEKR				IAmb	IAmb			06 16 24.2	
	comp=Z,8.0nm,0.8s								
NEW	**Newport**	**85.20**	**42**	P		**P**		**06 16 15.2**	**-0.1**
NEW				pmax	pmax				
	comp=Z,15nm,1.1s								
NEW	**Newport**	**85.20**	**42**	P		**P**		**06 16 15.2**	**-0.1**
NEW				IAmb	IAmb			06 16 32.1	
	comp=Z,15nm,1.1s								
NEW	**Newport**	**85.20**	**42**	P				06 16 15.7	
	baz=284								
CMB	**Columbia Colle**	**85.27**	**52**	P		**P**		**06 16 15.9**	**0.0**
CMB				pmax	pmax				
	comp=Z,15nm,1.1s								
CMB	**Columbia Colle**	**85.27**	**52**	P		**P**		**06 16 15.9**	**0.0**
CMB				IAmb	IAmb			06 16 31.1	
	comp=Z,15nm,1.1s								
J08A	**Circle Bar Ran**	**85.46**	**47**	P		**P**		**06 16 15.8**	**-1.0**
VCNR	**Virginia City**	**85.54**	**51**	P		**P**		**06 16 17.7**	**+0.3**
WVOR	**Wild Horse Val**	**85.56**	**48**	P		**P**		**06 16 17.7**	**+0.3**
WVOR				pmax	pmax				
	comp=Z,15nm,1.3s								
WVOR	**Wild Horse Val**	**85.56**	**48**	P		**P**		**06 16 17.7**	**+0.3**
WVOR				IAmb	IAmb			06 16 33.5	
	comp=Z,15nm,1.3s								
PNTR	**Pine Nut**	**85.63**	**51**	P		**P**		**06 16 17.0**	**-0.8**
PNTR				IAmb	IAmb			06 16 42.6	
	comp=Z,9.4nm,0.8s								
PAHR	**Pah Rah Range**	**85.65**	**50**	P		**P**		**06 16 17.4**	**-0.5**
PAHR				IAmb	IAmb			06 16 33.1	
	comp=Z,14nm,1.3s								
F10A	**Beach Ranch, E**	**85.69**	**44**	P		**P**		**06 16 17.8**	**-0.1**
F10A				IAmb	IAmb			06 16 35.5	
	comp=Z,18nm,1.4s								
RKT	**Rikitea**	**85.77**	**115**	*e*S		**

ARCES	**ARCESS Array B**	**87.67**	**342**	P		**P**		**06 16 26.4**	**-0.5**
	comp=Z,5.3nm,0.6s,baz=57,slow=4.5,SNR=20								
ARCES	**ARCESS Array B**	**87.67**	**342**	P		**P**		**06 16 26.7**	**-0.3**
ARCES				pmax		pmax			
	comp=Z,30nm,1.4s								
ARCES	**ARCESS Array B**	**87.67**	**342**	P		**P**		**06 16 26.7**	**-0.3**
TPH	**Tonopah**	**87.68**	**52**	P		**P**		**06 16 28.2**	**+0.3**
TPH				pmax		pmax			
	comp=Z,67nm,1.3s								
TPH	**Tonopah**	**87.68**	**52**	P		**P**		**06 16 28.2**	**+0.3**
LRMC	**Laurel Mtn Rad**	**87.98**	**54**	P				06 16 29.6	
	baz=285								
VRH	**Novokhopyorsk**	**88.26**	**322**	*e*P		**P**		**06 16 27.8**	**-2.2**
VRH				pmax		pmax			
	comp=Z,20nm,0.7s								
FURC	**Furnace Creek,**	**88.37**	**53**	P				06 16 31.4	
	baz=285								
ELK	**Elko**	**88.46**	**49**	P		**P**		**06 16 31.9**	**+0.3**
ELK				pmax		pmax			
	comp=Z,16nm,1.1s								
ELK	**Elko**	**88.46**	**49**	P		**P**		**06 16 31.9**	**+0.3**
ELK				IAmb		IAmb		06 16 47.0	
	comp=Z,16nm,1.1s								
GSC	**Goldstone, Bar**	**88.72**	**54**	P		**P**		**06 16 32.8**	**+0.1**
GSC				pmax		pmax			
	comp=Z,13nm,0.9s								
GSC	**Goldstone, Bar**	**88.72**	**54**	P		**P**		**06 16 32.8**	**+0.1**
GSC				IAmb		IAmb		06 16 48.1	
	comp=Z,13nm,0.9s								
GSC	**Goldstone, Bar**	**88.72**	**54**	P				06 16 32.8	
	baz=285								
TPNV	**Topopah Spring**	**88.72**	**52**	P		**P**		**06 16 32.5**	**-0.3**
TPNV				pmax		pmax			
	comp=Z,16nm,1.0s								
TPNV	**Topopah Spring**	**88.72**	**52**	P		**P**		**06 16 32.5**	**-0.3**
TPNV				IAmb		IAmb		06 16 55.8	
	comp=Z,16nm,1.0s								
TPNV	**Topopah Spring**	**88.72**	**52**	P				06 16 33.0	
	baz=286								
BCYI	**Bear Canyon**	**88.75**	**45**	P		**P**		**06 16 32.9**	**+0.1**
R11A	**Troy Canyon, C**	**88.86**	**51**	P				06 16 33.2	
	baz=286								
LRM	**Limekiln Ridge**	**88.94**	**43**	P		**P**		**06 16 33.0**	**-0.7**
MCMT	**McKenzie Canyo**	**88.97**	**44**	P		**P**		**06 16 33.2**	**-0.8**
MOS	**Moscow**	**88.97**	**327**	*e*P		**P**		**06 16 30.9**	**-2.4**
MOS				*e*S		**SKSac**		**06 26 56.7**	**-2.8**
SHOC	**Shoshone, Teco**	**88.98**	**53**	P				06 16 34.3	
	baz=286								
DLMT	**Dillon**	**88.98**	**44**	P		**P**		**06 16 34.8**	**+0.9**
DLMT				IAmb		IAmb		06 16 47.8	
	comp=Z,13nm,1.4s								
109C	**Camp Elliot, M**	**89.11**	**57**	P		**P**		**06 16 34.3**	**-0.1**
LPSR	**Galich'ya Gora**	**89.41**	**324**	*e*P		**P**		**06 16 34.0**	**-1.4**
LPSR				pmax		pmax			
	comp=Z,30nm,0.9s								
PFO	**Pinyon Flats O**	**89.44**	**56**	P		**P**		**06 16 35.8**	**-0.4**
PFO				pmax		pmax			
	comp=Z,10.0nm,1.1s								
PFO	**Pinyon Flats O**	**89.44**	**56**	P		**P**		**06 16 35.8**	**-0.4**
PFO	**Pinyon Flats O**	**89.44**	**56**	P				06 16 37.8	
	baz=285								
XPFO	**Pion Flat**	**89.44**	**56**	P		**P**		**06 16 36.2**	**0.0**
TPFO	**Pinon Flats**	**89.44**	**56**	P				06 16 38.1	
	baz=285								
ZEI	**Tsey**	**89.45**	**314**	*e*P		**P**		**06 16 34.5**	**-1.6**
ZEI				pmax		pmax			
	comp=Z,14nm,1.3s								
PRN	**Pahroc Range**	**89.52**	**52**	P		**P**		**06 16 36.6**	**0.0**
PRN				IAmb		IAmb		06 16 52.4	
	comp=Z,10nm,1.0s								
BOZ	**Bozeman (W)**	**89.56**	**43**	P		**P**		**06 16 35.9**	**-0.6**
BOZ				pmax		pmax			
	comp=Z,9.0nm,1.2s								
BOZ	**Bozeman (W)**	**89.56**	**43**	P		**P**		**06 16 35.9**	**-0.6**
BOZ	**Bozeman (W)**	**89.56**	**43**	P				06 16 37.7	
	baz=288								
SPR3	**Spring Creek 3**	**89.62**	**50**	P		**P**		**06 16 38.4**	**+1.2**
SPR3				IAmb		IAmb		06 16 53.0	
	comp=Z,19nm,1.2s								
GNI	**Garni**	**89.62**	**311**	*i* P		**P**		**06 16 36.2**	**-0.7**
GNI				pmax		pmax			
	comp=Z,10.0nm,1.1s								
MONP2	**Monument Peak**	**89.66**	**56**	P				06 16 37.2	
	baz=285								
SHPR	**Sheep Range**	**89.69**	**53**	P		**P**		**06 16 38.4**	**+1.0**
SHPR				IAmb		IAmb		06 16 53.2	
	comp=Z,15nm,1.2s								
BELC	**Belle Mtn. Jos**	**89.71**	**55**	P				06 16 37.6	
	baz=286								
GMRC	**Granite Mounta**	**89.76**	**54**	P				06 16 37.8	
	baz=286								
VSR	**Storozhevoye**	**89.77**	**323**	*e*P		**P**		**06 16 35.0**	**-2.1**
VSR				pmax		pmax			
	comp=Z,5.0nm,0.6s								
OBN	**Obninsk**	**89.77**	**327**	*i* P		**P**		**06 16 35.9**	**-1.1**
OBN				*e*				06 20 11.1	
OBN				*e*S		**SKSac**		**06 27 01.4**	**-2.8**
OBN				pmax		pmax			
	comp=Z,14nm,1.3s								
OBN				MLR		MLR			
	comp=Z,530nm,20.0s								
VORD	**Divnogorie**	**89.78**	**323**	*e*P		**P**		**06 16 35.4**	**-1.8**
VORD				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KBZ	**Khabaz**	**89.86**	**315**	P		**P**		**06 16 36.4**	**-1.3**
	comp=Z,3.9nm,0.9s,baz=252,slow=6.8,SNR=3.9								
KBZ	**Khabaz**	**89.86**	**315**	*i* P		**P**		**06 16 36.1**	**-1.6**
KBZ				pmax		pmax			
	comp=Z,7.0nm,1.2s								
KIV	**Kislovodsk**	**89.94**	**315**	*e*P		**P**		**06 16 36.5**	**-1.8**
KIV				pmax		pmax			
	comp=Z,34nm,1.1s								
KIV	**Kislovodsk**	**89.94**	**315**	P		**P**		**06 16 37.5**	**-0.8**
KIV				IAmb		IAmb		06 16 46.2	
	comp=Z,10nm,0.9s								
IKP	**In-Ko-Pah, Jac**	**89.98**	**57**	P				06 16 38.8	
	baz=286								
PSUT	**Pine Spring**	**90.11**	**50**	P		**P**		**06 16 38.5**	**-0.9**
PSUT				IAmb		IAmb		06 16 52.0	
	comp=Z,14nm,1.0s								
YHB	**Horse Butte**	**90.12**	**44**	P		**P**		**06 16 38.5**	**-0.7**
YHB				IAmb		IAmb		06 16 56.0	
	comp=Z,14nm,1.1s								
NEY	**Neytrino**	**90.13**	**315**	*i* P		**P**		**06 16 38.8**	**-0.5**
NEY				pmax		pmax			
	comp=Z,2.0nm,1.1s								
BC3	**Big Chuckawall**	**90.24**	**55**	P				06 16 40.2	
	baz=286								
ESJX	**Sierra Juarez**	**90.28**	**57**	P		**P**		**06 16 38.6**	**-1.6**
YMR	**Madison River**	**90.30**	**44**	P		**P**		**06 16 39.4**	**-0.7**
YMR				IAmb		IAmb		06 16 54.5	
	comp=Z,8.0nm,0.8s								
YHH	**Holmes Hill**	**90.34**	**44**	P		**P**		**06 16 39.6**	**-0.8**
IRM	**Iron Mountain**	**90.34**	**55**	P				06 16 40.5	
	baz=286								
DUG	**Dugway, Tooele**	**90.39**	**49**	P		**P**		**06 16 40.9**	**+0.4**
DUG				pmax		pmax			
	comp=Z,11nm,1.1s								
DUG	**Dugway, Tooele**	**90.39**	**49**	P		**P**		**06 16 40.9**	**+0.4**
DUG				IAmb		IAmb		06 16 55.9	
	comp=Z,11nm,1.1s								
DUG	**Dugway, Tooele**	**90.39**	**49**	P				06 16 41.0	
	baz=288								
FLWY	**Flagg Ranch**	**90.67**	**44**	P		**P**		**06 16 42.9**	**+1.1**
CCUT	**Cedar City**	**90.77**	**51**	P		**P**		**06 16 43.4**	**+1.0**
CCUT				IAmb		IAmb		06 16 58.5	
	comp=Z,16nm,1.3s								
PDMCI	**Parker Dam,Lak**	**91.10**	**55**	P				06 16 44.5	
	baz=287								
GEVA	**Gevas**	**91.41**	**310**	P		**P**		**06 16 44.9**	**-0.5**
GEVA				IAmb		IAmb		06 16 45.9	
	comp=Z,10nm,1.0s								
FINES	**FINESS Array B**	**91.79**	**335**	P		**P**		**06 16 45.2**	**-1.2**
	comp=Z,3.0nm,0.5s,baz=66,slow=4.8,SNR=23								
FINES	**FINESS Array B**	**91.79**	**335**	*i* P		**P**		**06 16 45.5**	**-0.8**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.5s								
BW06	**Boulder Array**	**91.89**	**45**	P				06 16 47.9	
	baz=290								
PDAR	**Pinedale Array**	**91.89**	**45**	P		**P**		**06 16 46.9**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=239,slow=3.7,SNR=9.2								
U15A	**North Rim**	**91.92**	**52**	P		**P**		**06 16 48.8**	**+0.9**
U15A				IAmb		IAmb		06 17 03.8	
	comp=Z,13nm,1.2s								
Q16A	**Castle Valley**	**91.99**	**49**	P		**P**		**06 16 48.3**	**+0.3**
Q16A				IAmb		IAmb		06 16 54.7	
	comp=Z,15nm,1.5s								
WUAZ	**Wupatki**	**92.91**	**53**	P		**P**		**06 16 51.0**	**-1.3**
WUAZ				IAmb		IAmb		06 17 15.8	
	comp=Z,11nm,0.9s								
WUAZ	**Wupatki**	**92.91**	**53**	P				06 16 52.8	
	baz=288								
PV14	**Lion Creek, Pa**	**93.76**	**49**	P		**P**		**06 16 55.9**	**-0.4**
PV14				IAmb		IAmb		06 17 17.7	
	comp=Z,9.9nm,1.1s								
PV17	**East Wray Mesa**	**93.84**	**49**	P		**P**		**06 16 56.4**	**-0.2**
PV17				IAmb		IAmb		06 17 11.5	
	comp=Z,11nm,1.2s								
MNK	**Minsk**	**94.54**	**329**	*i* P		**P**		**06 16 54.6**	**-4.6**
	comp=E,3.0nm,0.8s								
MNK				*i* P		**P**		**06 16 54.6**	**-4.6**
	comp=N,14nm,0.7s								
MNK				*i* P		**P**		**06 16 54.6**	**-4.6**
	comp=Z,5.0nm,0.6s								
MNK				*i* PP		**PP**		**06 20 42.1**	**-4.7**
MNK				*i* PPP		PPP		06 22 43.5	
MNK				*i* S		**SKSac**		**06 27 26.0**	**-5.0**
MNK				*i* PS		**PS**		**06 29 24.8**	**-4.5**
MNK				*i* SS		**SS**		**06 34 27.5**	**-3.5**
MNK				*i* SSS		SSS		06 38 20.3	
MNK				*i* LQ		LQ		06 53 38.6	
MNK				*i* LR		LR		06 58 42.1	
MNK				*i* LRM		MLR		07 01 23.8	
	comp=E,57nm,13.0s								
MNK				*i* LRM		MLR		07 01 25.7	
	comp=N,485nm,13.8s								
MNK				*i* LRM		MLR		07 01 29.5	
	comp=Z,372nm,17.4s								
NACGM	**Naroch**	**94.89**	**329**	*i* P		P		06 16 49.5	-11
NACGM				*i* P		P		06 16 49.5	-11
NACGM				*i* P		P		06 16 49.5	-11
NACGM				*i* PP		PP		06 20 18.6	-31
NACGM				*i* PPP		PPP		06 22 20.8	
NACGM				*i* SKS				06 27 09.8	
NACGM				*i* SKS		SKSac		06 27 12.9	-20
NACGM				*i* S		**SKSac**		**06 27 32.8**	**-0.1**
NACGM				*i* S		**SKSac**		**06 27 34.3**	**+1.4**
NACGM				*i* PS		PS		06 29 01.3	-32
NACGM				*i* PS		PS		06 29 01.3	-32
NACGM				*i* SS		SS		06 35 45.2	+69
NACGM				*i* SSS		SSS		06 38 42.7	
NACGM				*i* LQ		LQ		06 52 17.5	
NACGM				*i* LR		LR		07 00 59.2	
AKASG	**Malin Array Be**	**95.69**	**325**	P		**P**		**06 17 03.0**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=45,slow=4.2,SNR=5.3								
ANMO	**Albuquerque**	**96.89**	**52**	*i* P		**P**		**06 17 07.7**	**-2.9**
ANMO				pmax		pmax			
	comp=Z,4.0nm,1.4s								
ULM	**Lac du Bonnet**	**97.30**	**35**	P		**P**		**06 17 10.2**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=298,slow=5.1,SNR=3.6								
NOA	**NORSAR Array B**	**97.66**	**339**	P		**P**		**06 17 12.0**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=47,slow=4.7,SNR=2.4								
BRTR	**Keskin Array B**	**97.76**	**314**	P		**P**		**06 17 13.7**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=56,slow=3.1,SNR=9.4								
BRTR	**Keskin Array B**	**97.76**	**314**	P		**P**		**06 17 13.2**	**-1.1**
MNTX	**Cornudas Mount**	**98.90**	**55**	P				06 17 19.3	
	baz=292								
BURAR	**Bucovina Array**	**99.51**	**324**			**Pdif**		**06 17 21.5**	**-0.4**
TXAR	**Lajitas Array**	**101.15**	**56**	P		**Pdif**		**06 17 28.0**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=225,slow=1.1,SNR=2.4								
NVL	**N'lazarevskaya**	**115.84**	**195**	*e*P		**Pdif**		**06 18 43.2**	**+9.4**
NVL				pmax		pmax			
	comp=Z,12nm,0.8s								
SNAA	**Sanae**	**118.46**	**191**	PKPdf		**PKPdf**		**06 22 25.5**	**-0.1**
LSZ	**Lusaka**	**119.31**	**260**	PKIKP		**PKiKP**		**06 22 29.8**	**+0.8**
LSZ	**Lusaka**	**119.31**	**260**	PKPdf		**PKiKP**		**06 22 29.8**	**+0.8**
VNA2	**Neumayer--Watz**	**119.89**	**190**	PKPdf		**PKiKP**		**06 22 28.7**	**+0.2**
VNA3	**Neumayer Olymp**	**119.98**	**189**	PKPdf		**PKiKP**		**06 22 28.5**	**-0.2**
ESDC	**Sonseca Array**	**120.22**	**333**	PKP		**PKPdf**		**06 22 29.4**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=12,slow=1.3,SNR=3.0								
ESDC				PP		**PP**		**06 23 54.3**	**-0.6**
	comp=Z,2.3nm,1.2s,baz=28,slow=7.1,SNR=5.8								
BOSA	**Boshof**	**122.56**	**244**	PKP		**PKPdf**		**06 22 34.4**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=117,slow=4.5,SNR=1.7								
TORD	**Torodi Ar. Bea**	**135.56**	**305**	PKP		**PKPdf**		**06 22 58.3**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=65,slow=1.3,SNR=3.7								
TORD	**Torodi Ar. Bea**	**135.56**	**305**			**PKPdf**		**06 22 59.4**	**-0.4**
PLCA	**Paso Flores**	**138.24**	**138**	PKhKP		PKPpre		06 22 55.9	
	comp=Z,0.5nm,0.6s,baz=210,slow=4.9,SNR=4.2								
PLCA				PKP		**PKPdf**		**06 23 02.2**	**-2.0**
	comp=Z,1.3nm,0.6s,baz=6.6,slow=1.8,SNR=3.5								
PB14	**IPOC Station P**	**144.33**	**114**	PKPdf		**PKPab**		**06 23 13.8**	**-0.1**
DBIC	**Dimbokro**	**144.52**	**302**	PKP		PKPbc		06 23 15.3	+0.6
	comp=Z,36nm,0.7s,baz=40,slow=3.3,SNR=43								
DBIC	**Dimbokro**	**144.52**	**302**	PKIKP		**PKPdf**		**06 23 15.6**	**-0.5**
DBIC	**Dimbokro**	**144.52**	**302**	PKPdf		**PKPdf**		**06 23 15.6**	**-0.5**
KIC	**Kosan Boka**	**144.59**	**301**	*e*PKP1		PKPbc		06 23 15.4	+0.4
	comp=Z,127nm,1.0s								
TIC	**Toumodi**	**144.67**	**302**	*e*PKP1		PKPbc		06 23 15.4	+0.2
LIC	**Lamto**	**144.91**	**301**	*e*PKP1		PKPbc		06 23 16.2	+0.2
	comp=Z,147nm,0.6s								
AC02	**Maricunga**	**144.91**	**118**	PKPdf		**PKPab**		**06 23 15.8**	**-0.4**
GO02	**Mina Guanaco**	**144.93**	**115**	PKPdf		**PKPab**		**06 23 15.1**	**-1.0**
PB01	**IPOC Station P**	**145.77**	**108**			**PKPdf**		**06 23 18.0**	**-0.2**
MNMC	**Minye Minye**	**145.88**	**105**			**PKPab**		**06 23 19.9**	**+0.2**
PB16	**IPOC Station P**	**146.02**	**103**			**PKPdf**		**06 23 17.9**	**-1.4**
LVC	**Limon Verde**	**146.06**	**111**	PKP2		**PKPab**		**06 23 20.5**	**0.0**
LVC	**Limon Verde**	**146.06**	**111**			**PKPab**		**06 23 20.5**	**0.0**
LPAZ	**La Paz**	**147.41**	**100**	PKPbc		**PKPbc**		**06 23 23.4**	**-0.8**
	comp=Z,2.8nm,0.5s,baz=266,slow=4.8,SNR=8.3								
SAML	**Samuel**	**151.62**	**85**	PKPab		**PKPab**		**06 23 43.5**	**+0.8**
CPUP	**Villa Florida**	**154.94**	**125**	PKPab		**PKPab**		**06 23 53.3**	**-3.0**
	comp=Z,2.0nm,0.8s,baz=294,slow=2.9,SNR=3.1								

IDC ***12*** *06:04:15.6±1.1, 13.˚15N×145.˚48E, h0km, mb4.6/10, mb1 4.9/11, mb1mx4.4/49, mbtmp4.7/11, ML4.0/1, MS4.3/3, Ms1 4.3/3, ms1mx3.9/19, Error ellipse: s-maj=38.9km s-min=19.9km az=105.0*

ISC 12 06:04:21.6±0.9, 13.˚1N±0.˚1×145.˚5E±0.˚2, h43km, n15, σ0^{s}70/13, mb4.7/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**16.25**	**197**	Pn		**Pn**	**06 08 07.8**	**+0.7**
	0.6nm,0.3s,baz=1.4,slow=4.5,SNR=4.5							
JAY				LR		LR	06 13 47.7	
	comp=Z,1μm,20.2s,baz=1.0,slow=35							
JNU	**Nakatsue**	**23.93**	**329**	LR		LR	06 18 03.9	
	comp=Z,914nm,19.8s,baz=148,slow=35							
MJAR	**Matsushiro Arr**	**24.19**	**346**	P		**P**	**06 09 34.5**	**+0.4**
	19nm,1.1s,baz=165,slow=10,SNR=1.7							
WRA	**Warramunga Arr**	**34.65**	**199**	P		**P**	**06 11 06.6**	**-0.5**
	15nm,0.7s,baz=19,slow=9.7,SNR=3.8							
ASAR	**Alice Springs**	**38.29**	**197**	P		**P**	**06 11 38.2**	**0.0**
	7.0nm,0.6s,baz=24,slow=10,SNR=3.0							
CMAR	**Chiang Mai Arr**	**44.97**	**283**	P		**P**	**06 12 33.0**	**0.0**
	3.4nm,0.5s,baz=80,slow=6.8,SNR=2.3							
MA2	**Magadan**	**46.52**	**4**	LR		LR	06 29 22.1	
	comp=Z,334nm,20.8s,baz=195,slow=32							
PSI	**Prapat**	**47.13**	**262**	P		**P**	**06 12 50.0**	**-0.1**
	6.3nm,0.5s,baz=0.5,slow=2.9,SNR=2.3							
SEY	**Seymchan**	**49.96**	**4**	P		**P**	**06 13 10.5**	**-0.6**
	3.1nm,0.4s,baz=281,slow=13,SNR=2.1							
ZALV	**Zalesovo Beam**	**62.31**	**324**	P		**P**	**06 14 40.3**	**+0.9**
	4.9nm,0.6s,baz=123,slow=4.1,SNR=4.4							
ILAR	**Eielson Array**	**68.72**	**25**	P		**P**	**06 15 21.8**	**+1.2**
	4.6nm,0.7s,baz=246,slow=5.8,SNR=1.7							
YKA	**Yellowknife Ar**	**82.99**	**27**	P		**P**	**06 16 41.6**	**-0.5**
	3.0nm,0.6s,baz=286,slow=4.7,SNR=2.2							
FINES	**FINESS Array B**	**91.80**	**335**	P		**P**	**06 17 24.1**	**-0.7**
	1.7nm,0.5s,baz=68,slow=4.4,SNR=1.3							
TORD	**Torodi Ar. Bea**	**135.59**	**305**	PKP		**PKiKP**	**06 23 39.7**	**-0.1**
	1.0nm,0.7s,baz=103,slow=1.9,SNR=1.5							
DBIC	**Dimbokro**	**144.54**	**302**	PKP		**PKPdf**	**06 23 53.7**	**-0.8**
	31nm,0.9s,baz=334,slow=1.4,SNR=3.5							

IDC ***12*** *06:05:10.4±0.6, 13.˚2ON×145.˚65E, h0km, mb4.7/28, mb1 4.8/29, mb1mx4.7/47, mbtmp4.7/29, MS4.8/1, Ms1 4.8/1, ms1mx3.9/26, Error ellipse: s-maj=18.8km s-min=13.8km az=104.0*

NEIC ***12*** *06:05:11.8±1.3, 13.˚23N±0.˚06×145.˚54E±0.˚10, h10km±1km, mb5.1/59, Error ellipse: s-maj=18.5km s-min=5.3km az=239.0*

MOS ***12*** *06:05:12.3±1.0, 13.˚23N×145.˚55E, h25km, mb5.2/13, Error ellipse: s-maj=12.8km s-min=7.5km az=112.0*

ISC 12 06:05:15.8±0.3, 13.˚20N±0.˚06×145.˚65E±0.˚07, h43km, n143, σ1^{s}49/143, mb5.0/63, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PATS	**Pohnpei**	**13.98**	**116**	Pn		**Pn**	**06 08 27.2**	**-4.1**
MANU	**Manus Island**	**15.23**	**173**	Pn		**Pn**	**06 08 46.3**	**-1.7**
MANU				IAmb		IAmb	06 08 51.0	
	comp=Z,71nm,1.2s							
JMZ	**Minamidaito 2**	**18.49**	**315**	P		**P**	**06 09 24.4**	**-3.9**
SIJI	**Sorong**	**19.97**	**227**	P		**Pn**	**06 09 46.2**	**-0.3**
	baz=47,slow=13,SNR=2.6							
JHJ2	**Mitsune**	**20.53**	**346**	P		**P**	**06 09 48.8**	**-1.7**
FAKI	**Fak Fak**	**20.81**	**221**	P		**P**	**06 09 52.7**	**-1.0**
FAKI				IAmb		IAmb	06 09 58.9	
	comp=Z,102nm,1.0s							
WAKE	**Wake Island**	**21.05**	**71**	P		**P**	**06 09 51.9**	**-4.4**
JOW	**Kunigami**	**21.19**	**312**	P		**P**	**06 09 58.0**	**+0.3**
	comp=Z,46nm,0.9s,baz=159,slow=9.7,SNR=2.4							
JOW	**Kunigami**	**21.19**	**312**	P		**P**	**06 09 53.4**	**-4.3**
INU	**Inuyama**	**23.39**	**342**	P		**P**	**06 10 20.1**	**-0.7**
INU				IAmb		IAmb	06 10 23.1	
	comp=Z,108nm,1.2s							
JGF	**Kuroka**	**23.53**	**343**	P		**P**	**06 10 21.0**	**-1.1**
JNU	**Nakatsue**	**23.98**	**328**	P		**P**	**06 10 27.4**	**+1.0**
	comp=Z,20nm,0.9s,baz=221,slow=20,SNR=1.9							
TGY	**Tagaytay City**	**24.03**	**275**	P		**P**	**06 10 27.1**	**0.0**
	comp=Z,147nm,0.3s,baz=132,slow=16,SNR=1.6							
MJAR	**Matsushiro Arr**	**24.19**	**345**	P		**P**	**06 10 28.4**	**+0.1**
	comp=Z,10nm,0.8s,baz=171,slow=10,SNR=2.5							
MJAR	**Matsushiro Arr**	**24.19**	**345**	P		**P**	**06 10 27.1**	**-1.1**
MJAR				pmax		pmax		
	comp=Z,11nm,1.0s							
MJAR	**Matsushiro Arr**	**24.19**	**345**	P		**P**	**06 10 27.1**	**-1.1**
MAT	**Matsushiro**	**24.19**	**345**	P		**P**	**06 10 28.0**	**-0.2**
MJB9	**Matsu-Tunnel**	**24.19**	**345**	P		**P**	**06 10 29.6**	**+1.3**
JHS	**Saijyo**	**24.49**	**335**	P		**P**	**06 10 30.5**	**-0.5**
JHS				IAmb		IAmb	06 10 34.6	
	comp=Z,66nm,1.1s							
LUWI	**Luwuk**	**26.73**	**240**	P		**P**	**06 10 51.0**	**-0.5**
COEN	**Coen**	**27.09**	**185**	P		**P**	**06 10 54.8**	**+0.2**
TOLI2	**Tolitoli**	**27.39**	**246**	P		**P**	**06 10 57.6**	**+0.2**
TOLI2				IAmb		IAmb	06 11 04.3	
	comp=Z,42nm,0.9s							
KSRS	**Korea Array**	**28.88**	**330**	P		**P**	**06 11 10.6**	**+0.2**
	comp=Z,6.9nm,0.9s,baz=146,slow=9.7,SNR=1.3							
KSRS				PcP		**PcP**	**06 14 21.6**	**+2.5**
	comp=Z,4.2nm,0.9s,baz=153,slow=2.2,SNR=5.5							
KSAR	**Wonju Array Be**	**28.89**	**330**	P		**P**	**06 11 07.5**	**-3.0**
KSAR	**Wonju Array Be**	**28.89**	**330**	P		**P**	**06 11 07.5**	**-3.0**
KS19	**Wonju Array Si**	**28.95**	**330**	P		**P**	**06 11 10.2**	**-0.9**
KS19				IAmb		IAmb	06 11 17.4	
	comp=Z,35nm,1.4s							
USA0B	**Ussuriysk Arra**	**33.04**	**342**	P		**P**	**06 11 46.4**	**-0.6**
USA0B				pmax		pmax		
	comp=Z,17nm,1.0s							
USA0B	**Ussuriysk Arra**	**33.04**	**342**	P		**P**	**06 11 46.4**	**-0.6**
USA0B				IAmb		IAmb	06 11 50.0	
	comp=Z,16nm,0.9s							
USRK	**Ussuriysk Ar.**	**33.04**	**342**	P		**P**	**06 11 46.0**	**-1.0**
	comp=Z,14nm,0.9s,baz=158,slow=9.8,SNR=7.3							
USRK	**Ussuriysk Ar.**	**33.04**	**342**	P		**P**	**06 11 47.3**	**+0.2**
WB0	**Warramunga Arr**	**34.58**	**199**	P		**P**	**06 12 00.5**	**-0.2**
WB0				IAmb		IAmb	06 12 06.8	
	comp=Z,17nm,0.8s							
WR0	**Warramunga Arr**	**34.71**	**199**	P		**P**	**06 12 02.2**	**+0.4**
WR0				IAmb		IAmb	06 12 02.4	
	comp=Z,16nm,0.9s							
SBUM	**Sibu**	**34.74**	**255**	P		**P**	**06 12 01.6**	**-0.6**
SBUM				IAmb		IAmb	06 12 04.3	
	comp=Z,21nm,0.9s							
WRAB	**Tennant Creek**	**34.75**	**199**	P		**P**	**06 12 01.8**	**-0.3**
WRAB				pmax		pm

comp=Z,6.8nm,0.8s
MKAR Makanchi Array 62.30 316 P **P** 06 15 35.2 +1.5
comp=Z,7.4nm,0.7s,baz=95,slow=8.7,SNR=3.8
MKAR PcP **PcP** 06 16 14.7 +1.6
comp=Z,7.0nm,0.8s,baz=93,slow=6.2,SNR=4.1
MKAR Makanchi Array 62.30 316 P **P** 06 15 33.8 +0.2
ZALV Zalesovo Beam 62.38 324 P **P** 06 15 35.0 +1.0
comp=Z,7.3nm,0.8s,baz=108,slow=6.0,SNR=3.6
ZALV PcP **PcP** 06 16 14.7 +1.4
comp=Z,11nm,0.8s,baz=110,slow=3.9,SNR=7.5
ZALV Zalesovo Beam 62.38 324 P **P** 06 15 34.4 +0.4
MAKZ Makanchi 62.51 316 P **P** 06 15 35.0 -0.1
MAKZ pmax pmax
comp=Z,12nm,0.8s
MAKZ Makanchi 62.51 316 P **P** 06 15 35.0 -0.1
MAKZ IAmb IAmb 06 15 38.0
comp=Z,12nm,0.8s
RDOG Red Dog Mine 64.00 19 P **P** 06 15 45.4 +0.9
PALK Pallekele 64.04 272 P **P** 06 15 46.2 +0.3
comp=Z,10nm,0.9s,baz=159,slow=4.8,SNR=3.5
PALK Pallekele 64.04 272 P **P** 06 15 46.1 +0.3
PALK pmax pmax
comp=Z,22nm,1.2s
PALK Pallekele 64.04 272 P **P** 06 15 46.1 +0.3
PALK IAmb IAmb 06 15 46.9
comp=Z,22nm,1.1s
HYB Hyderabad 64.57 283 *i* P **P** 06 15 49.5 +0.3
IMAR Indian Mountai 66.26 23 P **P** 06 16 00.9 +1.7
RC01 Rabbit Creek A 66.35 29 P **P** 06 16 01.3 +1.4
A21K Barrow 67.53 17 P **P** 06 16 09.5 +2.3
ILAR Eielson Array 68.60 25 P **P** 06 16 15.3 +1.3
comp=Z,5.2nm,0.6s,baz=248,slow=7.3,SNR=1.5
ILAR Eielson Array 68.60 25 P **P** 06 16 14.3 +0.3
BRVK Borovoye 70.77 322 P **P** 06 16 28.5 +0.9
BRVK pmax pmax
comp=Z,21nm,0.7s
BRVK Borovoye 70.77 322 P **P** 06 16 28.5 +0.9
INK Inuvik 74.44 22 P **P** 06 16 50.4 +1.3
INK pmax pmax
comp=Z,31nm,1.1s
INK Inuvik 74.44 22 P **P** 06 16 50.4 +1.3
INK IAmb IAmb 06 16 52.7
comp=Z,31nm,1.1s
ABKAR Akbulak array 77.34 318 P **P** 06 17 06.8 +0.8
ABKAR IAmb IAmb 06 17 09.4
comp=Z,13nm,0.8s
ARU Arti 77.52 325 P **P** 06 17 07.2 +0.3
ARU Arti 77.52 325 P **P** 06 17 05.9 -1.0
ARU IAmb IAmb 06 17 09.9
comp=Z,32nm,1.3s
C36M Paulatuk 77.86 21 P **P** 06 17 09.5 +1.0
GEYT Alibeck 80.09 307 P **P** 06 17 22.9 +1.4
comp=Z,9.1nm,0.9s,baz=57,slow=5.5,SNR=4.6
YKA Yellowknife Ar 82.86 27 P **P** 06 17 37.6 +2.1
comp=Z,4.4nm,0.5s,baz=285,slow=4.3,SNR=6.9
RES Resolute Bay 84.76 13 P **P** 06 17 46.4 +1.4
RES pmax pmax
comp=Z,29nm,1.3s
RES Resolute Bay 84.76 13 P **P** 06 17 46.4 +1.4
J08A Circle Bar Ran 85.27 47 P **P** 06 17 49.6 +1.2
NVAR Mina Array Bea 86.57 51 P **P** 06 17 57.9 +2.8
comp=Z,2.0nm,0.6s,baz=275,slow=5.1,SNR=2.1
ARCES ARCESS Array B 87.69 342 P **P** 06 18 00.5 +1.0
comp=Z,5.7nm,0.7s,baz=78,slow=7.6,SNR=6.9
VRH Novokhopyorsk 88.35 322 *eP* **P** 06 18 02.0 -1.0
VRH pmax pmax
comp=Z,40nm,0.8s
LPSR Galich'ya Gora 89.49 324 *eP* **P** 06 18 08.4 +0.1
LPSR pmax pmax
comp=Z,60nm,0.8s
ZEI Tsey 89.57 314 *eP* **P** 06 18 07.9 -1.3
ZEI pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 89.85 323 *eP* **P** 06 18 09.1 -1.0
VSR pmax pmax
comp=Z,40nm,0.8s
VORD Divnogorie 89.87 323 *eP* **P** 06 18 09.3 -0.8
VORD pmax pmax
comp=Z,20nm,0.8s
KBZ Khabaz 89.97 315 P **P** 06 18 12.2 +1.4
comp=Z,5.4nm,1.0s,baz=22,slow=6.1,SNR=5.8
KIV Kislovodsk 90.05 315 *eP* **P** 06 18 10.4 -0.9
KIV pmax pmax
comp=Z,44nm,1.0s
KIV Kislovodsk 90.05 315 P **P** 06 18 10.6 -0.7
PDAR Pinedale Array 91.70 45 P **P** 06 18 20.9 +1.7
comp=Z,0.4nm,0.5s,baz=282,slow=1.7,SNR=1.2
FINES FINESS Array B 91.83 335 P **P** 06 18 19.2 +0.1
comp=Z,3.2nm,0.6s,baz=86,slow=6.1,SNR=5.1
FINES FINESS Array B 91.83 335 P **P** 06 18 17.9 -1.2
MARD Mardin 93.57 309 P **P** 06 18 26.6 -1.3
AKASG Malin Array Be 95.77 325 P **P** 06 18 36.6 -0.8
comp=Z,0.5nm,0.3s,baz=47,slow=4.3,SNR=6.6
NOA NORSAR Array B 97.68 339 P Pdif 06 18 45.4 -0.6
comp=Z,2.2nm,0.9s,baz=45,slow=5.7,SNR=3.7
BR131 Keskin Array S 97.88 314 P Pdif 06 18 46.6 -0.9
BR131 pmax pmax
comp=Z,8.0nm,0.9s
BR131 Keskin Array S 97.88 314 P Pdif 06 18 46.6 -0.9
BRTR Keskin Array B 97.88 314 P Pdif 06 18 47.8 +0.4
comp=Z,3.8nm,0.9s,baz=52,slow=6.6,SNR=8.5
BRTR Keskin Array B 97.88 314 P Pdif 06 18 46.6 -0.9
BUR08 Bucovina Ar. S 99.59 324 P **Pdif** **06 18 54.6 -0.2**
BUR08 IAmb IAmb 06 18 56.7
comp=Z,6.0nm,0.9s
BURAR Bucovina Array 99.60 324 P **Pdif** **06 18 55.6 +0.7**
TXAR Lajitas Array 100.94 56 P **Pdif** **06 19 00.4 -0.9**
comp=Z,0.3nm,0.8s,baz=116,slow=2.5,SNR=1.5
LSZ Lusaka 119.53 260 PKIKP **PKiKP** **06 24 04.6 +2.7**
LSZ Lusaka 119.53 260 **PKiKP** **06 24 04.6 +2.7**
TORD Torodi Ar. Bea 135.71 305 PKP **PKiKP** **06 24 33.4 -0.8**
comp=Z,2.9nm,0.8s,baz=3.7,slow=3.5,SNR=2.2
TORD SKPbc **SKiKP** **06 28 08.7 +1.7**
comp=Z,1.0nm,0.8s,baz=43,slow=2.3,SNR=2.0
PLCA Paso Flores 138.13 138 PKP **PKiKP** **06 24 38.4 -0.1**
comp=Z,3.0nm,0.9s,baz=219,slow=2.1,SNR=3.9
DBIC Dimbokro 144.67 302 PKP **PKiKP** **06 24 49.3 -3.3**
comp=Z,62nm,0.8s,baz=33,slow=4.6,SNR=9.7
DBIC Dimbokro 144.67 302 PKIKP **PKiKP** **06 24 49.6 -3.0**
DBIC Dimbokro 144.67 302 **PKiKP** **06 24 49.6 -3.0**
KIC Kosan Boka 144.75 302 *eP* **PKPdf** **06 24 49.0 0.0**
comp=Z,134nm,0.9s
TIC Toumodi 144.82 302 *eP* **PKiKP** **06 24 49.5 -3.4**
LIC Lamto 145.06 302 *eP* **PKiKP** **06 24 50.4 -3.0**
comp=Z,294nm,0.9s
LPAZ La Paz 147.21 100 PKPbc **PKPab** **06 24 56.3 -1.6**
comp=Z,2.3nm,0.8s,baz=280,slow=6.1,SNR=1.3
CPUP Villa Florida 154.79 125 PKPab **PKPab** **06 25 27.8 -0.5**
comp=Z,2.1nm,0.9s,baz=225,slow=7.1,SNR=1.7

IDC ***12*** *06:08:57.3±1.0, 13°.06N×145°.83E, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.8/47, mbtmp3.8/8, Error ellipse: s-maj=42.1km s-min=22.2km az=110.0*
ISC 12 06:09:04.1±0.9, 13°.0N±0°.2×145°.8E±0°.2, h50km, n9, σ1§05/9, mb3.8/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**19.91**	**227**	P	**P**	**06 13 31.2**	**-0.6**
	5.5nm,0.5s,baz=150,slow=24,SNR=1.6						
WRA	**Warramunga Arr**	**34.61**	**199**	P	**P**	**06 15 48.8**	**+0.2**
	1.2nm,0.7s,baz=22,slow=9.4,SNR=2.6						
ASAR	**Alice Springs**	**38.24**	**198**	P	**P**	**06 16 20.5**	**+0.9**
	0.8nm,0.6s,baz=23,slow=11,SNR=2.0						
SONM	**Songino Array**	**47.71**	**325**	P	**P**	**06 17 37.7**	**+1.6**
	0.7nm,0.7s,baz=116,slow=6.6,SNR=1.3						
MKAR	**Makanchi Array**	**62.51**	**316**	P	**P**	**06 19 21.5**	**-1.2**
	1.1nm,0.8s,baz=96,slow=8.5,SNR=3.4						
ILAR	**Eielson Array**	**68.73**	**25**	P		**06 20 01.7**	**-0.7**
	0.6nm,0.6s,baz=249,slow=5.5,SNR=5.2						
YKA	**Yellowknife Ar**	**82.98**	**27**	P	**P**	**06 21 24.1**	**+0.4**
	0.2nm,0.5s,baz=286,slow=4.5,SNR=2.2						
NVAR	**Mina Array Bea**	**86.61**	**51**	P	**P**	**06 21 42.9**	**+0.1**
	0.2nm,0.6s,baz=280,slow=5.2,SNR=1.4						
DBIC	**Dimbokro**	**144.87**	**302**	PKP	**PKPdf**	**06 28 35.9**	**-0.8**
	4.6nm,0.8s,baz=189,slow=21,SNR=2.6						

IDC 12 06:13:31.4±1.2, 13°.20N×145°.48E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.6/40, mbtmp3.5/5, Error ellipse: s-maj=57.1km s-min=25.2km az=105.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.71**	**199**	P	P	06 20 23.0	-0.3
	0.6nm,0.9s,baz=8.4,slow=8.5,SNR=2.3						
ASAR	**Alice Springs**	**38.35**	**197**	P	P	06 20 54.4	0.0
	0.3nm,0.5s,baz=17,slow=15,SNR=2.0						
MKAR	**Makanchi Array**	**62.18**	**316**	P	P	06 23 55.3	+0.6
	0.3nm,0.5s,baz=92,slow=8.6,SNR=5.4						
ILAR	**Eielson Array**	**68.66**	**25**	P	P	06 24 36.6	+0.2
	0.3nm,0.4s,baz=252,slow=5.4,SNR=7.1						
YKA	**Yellowknife Ar**	**82.93**	**27**	P	P	06 25 57.0	-1.0
	0.4nm,0.6s,baz=286,slow=4.7,SNR=3.6						

IDC ***12*** *06:15:39.6±0.8, 31°.08N×142°.07E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.9/37, mbtmp3.7/11, ML2.9/1, Error ellipse: s-maj=26.8km s-min=20.1km az=75.0*
JMA ***12*** *06:15:47.3±0.2, 31°.70N×142°.51E, h86km, M3.7*
ISC 12 06:15:43.6±0.9, 31°.2N±0°.1×142°.1E±0°.2, h24km, n17, σ0§98/18, mb3.9/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**3.55**	**345**	P	**Pn**	**06 16 36.5**	**-0.2**
JHU	**Hanno**	**5.18**	**334**	*eS*	**Sn**	**06 17 57.3**	**-1.2**
JRY	**Ryogami san**	**5.47**	**332**	P	**Pn**	**06 17 04.6**	**+1.0**
JRY				*eS*	**Sn**	**06 18 04.5**	**-1.3**
JHO	**Hitachi**	**5.53**	**347**	P	**Pn**	**06 17 03.4**	**-0.9**
JAG	**Ashikaga**	**5.64**	**338**	P	**Pn**	**06 17 06.0**	**+0.2**
MJAR	**Matsushiro Arr**	**6.21**	**330**	Pn	**Pn**	**06 17 13.9**	**+0.1**
	0.3nm,0.3s,baz=160,slow=11,SNR=9.6						
MAT	**Matsushiro**	**6.21**	**330**	P	**Pn**	**06 17 15.0**	**+1.2**
SONM	**Songino Array**	**31.79**	**312**	P	**P**	**06 22 06.1**	**0.0**
	1.4nm,0.6s,baz=114,slow=8.0,SNR=7.9						
ZALV	**Zalesovo Beam**	**46.38**	**317**	P	**P**	**06 24 08.7**	**+1.0**
	1.3nm,0.7s,baz=95,slow=9.1,SNR=4.1						
MKAR	**Makanchi Array**	**47.86**	**307**	P	**P**	**06 24 19.8**	**+0.3**
	1.6nm,0.8s,baz=86,slow=9.4,SNR=8.6						
WRA	**Warramunga Arr**	**51.40**	**189**	P	**P**	**06 24 44.9**	**-1.7**
	0.6nm,0.5s,baz=6.8,slow=7.6,SNR=12						
ILAR	**Eielson Array**	**54.18**	**30**	P	**P**	**06 25 06.1**	**-0.5**
	0.4nm,0.8s,baz=266,slow=4.7,SNR=2.6						
ASAR	**Alice Springs**	**55.13**	**189**	P	**P**	**06 25 12.9**	**-1.1**
	0.4nm,0.5s,baz=5.4,slow=5.4,SNR=7.3						
NVAR	**Mina Array Bea**	**78.07**	**52**	P	**P**	**06 27 41.6**	**+0.9**
	0.3nm,0.5s,baz=291,slow=5.8,SNR=4.2						
PDAR	**Pinedale Array**	**81.37**	**45**	P	**P**	**06 27 59.4**	**+0.8**
	0.3nm,0.7s,baz=336,slow=2.0,SNR=2.5						
BRTR	**Keskin Array B**	**83.15**	**313**	P	**P**	**06 28 08.4**	**+0.6**
	1.0nm,0.8s,baz=162,slow=0.4,SNR=4.1						
TXAR	**Lajitas Array**	**93.21**	**53**	P	**P**	**06 28 57.0**	**+0.6**
	0.4nm,0.7s,baz=305,slow=4.4,SNR=5.1						

DJA ***12*** *06:28:01.2±0.8, 14°.4N×146°.6E±°, h47km±7km, M5.5/58, mb5.0/58, mB6.4/7, MLv5.1/1, Mw(mB)6.1/7, MwMwp5.8/1, Mwp5.9/1*
BJI ***12*** *06:28:03.2±0.0, 12°.74N×146°.11E, h40km, mB5.5/18, mb4.9/31, Ms4.8/8, Ms7 4.5/7*
IDC ***12*** *06:28:04.5±0.4, 13°.24N×145°.52E, h0km, mb4.6/38, mb1 4.7/39, mb1mx4.6/56, mbtmp4.6/39, ML4.4/1, MS3.9/6, Ms1 4.0/6, ms1mx3.5/57, Error ellipse: s-maj=15.8km s-min=10.9km az=81.0*
MOS ***12*** *06:28:08.2±1.0, 13°.14N×145°.39E, h38km, mb5.0/41, Error ellipse: s-maj=11.5km s-min=6.6km az=104.6*
NEIC ***12*** *06:28:10.6±1.2, 13°.15N±0°.07×145°.41E±0°.08, h42km±6km, mb5.0/90, Error ellipse: s-maj=11.9km s-min=9.8km az=79.0*
ISC 12 06:28:10.9±0.8, 13°.22N±0°.05×145°.38E±0°.06, h44km±6km, n297, σ1§54/299, mb4.9/129, 9C-10D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.62**	**307**	P	**Pn**	**06 28 23.8**	**+0.5**
GUMO						06 28 32.7	
GUMO	**Guam**	**0.62**	**307**		**Pn**	**06 28 23.8**	**+0.5**
GUMO				Sn	**Sn**	**06 28 32.7**	**+0.5**
GUMO	**Guam**	**0.62**	**307**	P	**Pn**	**06 28 24.4**	**+1.1**
ANA2	**Anatahan**	**3.12**	**6**		**Pn**	**06 28 59.3**	**+1.7**
ANA2	**Anatahan**	**3.12**	**6**	P	**Pn**	**06 28 59.9**	**+2.3**
SARN	**Sarigan**	**3.48**	**6**	P	**Pn**	**06 29 06.5**	**+3.9**
JAY	**Jayapura**	**16.30**	**197**	Pn	**P**	**06 31 59.1**	**-0.2**
	0.3nm,0.3s,baz=6.5,slow=12,SNR=2.1						
JAY				LR	LR	06 38 43.6	
	comp=Z,282nm,18.1s,baz=10.0,slow=39						
JAY	**Jayapura**	**16.30**	**197**	P	**P**	**06 32 03.7**	**+4.4**
	17nm,1.3s						
SMPI	**Sarmi**	**16.50**	**204**	P	**P**	**06 32 07.3**	**+5.9**
	40nm,1.3s						
GENI	**Genyem**	**16.54**	**199**	P	**P**	**06 32 06.7**	**+4.8**
	56nm,1.9s						
SIJI	**Sorong**	**19.79**	**226**	P	**Pn**	**06 32 39.5**	**-0.1**
	1.0nm,0.3s,baz=266,slow=23,SNR=2.1						
SIJI				LR	LR	06 38 52.4	
	comp=Z,359nm,19.7s,baz=37,slow=32						
SWI	**Sorong**	**19.79**	**226**	P	**Pn**	**06 32 39.6**	**+0.1**
	43nm,1.1s						
FAKI	**Fak Fak**	**20.66**	**220**	P	**P**	**06 32 46.2**	**-0.9**
FAKI				IAmb	IAmb	06 32 58.0	
	comp=Z,84nm,1.1s						
FAKI	**Fak Fak**	**20.66**	**220**	P	Pn	06 32 50.7	+0.9
	comp=Z,67nm,0.9s						
JOW	**Kunigami**	**20.98**	**313**	P	Pn	06 32 52.3	-1.2
	comp=Z,27nm,0.8s,baz=167,slow=9.8,SNR=5.6						
JOW	**Kunigami**	**20.98**	**313**	P	**P**	**06 32 50.5**	**0.0**
H11S3	**WAKE ISLAND Hy**	**21.15**	**73**	T	T	06 54 43.3	
	baz=326,slow=77,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**21.17**	**73**	T	T	06 54 40.1	
	baz=326,slow=77,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**21.17**	**73**	T	T	06 54 48.0	
	baz=326,slow=77,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**21.61**	**70**	T	T	06 56 00.5	
	baz=258,slow=74,SNR=18						
H11N2	**WAKE ISLAND Hy**	**21.62**	**70**	T	T	06 55 59.9	
	baz=258,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**21.63**	**70**	T	T	06 56 02.3	
	baz=258,slow=74,SNR=17						
TNTI	**Ternate**	**21.71**	**237**	P	**P**	**06 32 57.7**	**-0.7**
INU	**Inuyama**	**23.29**	**343**	P	**P**	**06 33 15.9**	**+1.0**
INU				IAmb	IAmb	06 33 16.2	
	comp=Z,95nm,1.4s						
BNDI	**Bandanaira**	**23.38**	**222**	P	**P**	**06 33 17.5**	**+1.6**
JGF	**Kuroka**	**23.43**	**343**	P	**P**	**06 33 17.2**	**+0.9**
JWT	**Wachi**	**23.74**	**339**	P	**P**	**06 33 21.1**	**+1.9**
JWT				IAmb	IAmb	06 33 38.7	
	comp=Z,81nm,1.5s						
TGY	**Tagaytay City**	**23.76**	**275**	P	**P**	**06 33 17.5**	**-2.1**
	comp=Z,110nm,0.3s,baz=250,slow=3.2,SNR=4.0						
TGY				LR	LR	06 43 18.4	
	comp=Z,174nm,18.7s,baz=94,slow=38						
JNU	**Nakatsue**	**23.82**	**329**	P	**P**	**06 33 20.8**	**+0.8**
	comp=Z,14nm,0.7s,baz=68,slow=2.3,SNR=6.0						
JNU	**Nakatsue**	**23.82**	**329**	P	**P**	**06 33 21.3**	**+1.4**
JNU				IAmb	IAmb	06 33 37.4	
	comp=Z,68nm,1.4s						
MJAR	**Matsushiro Arr**	**24.10**	**346**	P	**P**	**06 33 21.1**	**-1.3**
	comp=Z,5.7nm,0.8s,baz=175,slow=10,SNR=4.4						
MJAR	**Matsushiro Arr**	**24.10**	**346**	P	**P**	**06 33 22.0**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MJAR	**Matsushiro Arr**	**24.10**	**346**	P	**P**	**06 33 22.0**	**-0.4**
MAJO	**Matsushiro**	**24.10**	**346**	*eP*	**P**	**06 33 21.5**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,42nm,1.5s						
MAT	**Matsushiro**	**24.10**	**346**	P	**P**	**06 33 21.3**	**-1.2**
NLAI	**Namlea**	**24.43**	**229**	P	**P**	**06 33 27.6**	**+2.0**
	comp=Z,5µmcomp=Z,17nm,1.1s						
SANI	**Sanana**	**24.50**	**233**	P	**P**	**06 33 26.9**	**+0.6**
	comp=Z,17nm,0.9s						
SSLB	**Suanglung**	**25.39**	**298**	P	**P**	**06 33 34.8**	**+0.4**
GTOI	**Gorontalo**	**25.44**	**242**	P	**P**	**06 33 34.1**	**-0.7**
	comp=Z,14nm,0.8s						
MRSI	**Marisa**	**26.45**	**243**	P	**P**	**06 33 44.1**	**+0.1**
LUWI	**Luwuk**	**26.52**	**239**	P	**P**	**06 33 43.7**	**-0.9**
	comp=Z,2µmcomp=Z,125nm,0.8s						
TOLI2	**Tolitoli**	**27.16**	**246**	P	**P**	**06 33 51.6**	**+1.2**
TOLI2				IAmb	IAmb	06 33 57.5	
	comp=Z,26nm,0.9s						
APSI	**Ampana**	**27.40**	**241**	P	**P**	**06 33 53.0**	**+0.5**
	comp=Z,34nm,1.6s						
KSRS	**Korea Array**	**28.73**	**330**	P	**P**	**06 34 04.4**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=143,slow=8.8,SNR=6.4						
KSRS				PcP	**PcP**	**06 37 15.9**	**+2.3**
	comp=Z,3.2nm,1.0s,baz=119,slow=2.5,SNR=5.9						
TTSI	**Tana Toraja**	**30.08**	**239**	P	**P**	**06 34 16.7**	**+0.3**
BNSI	**Bone**	**30.60**	**237**	P	**P**	**06 34 21.3**	**+0.4**
	comp=Z,24nm,1.7s						
NJ2	**Nanjing**	**30.69**	**312**	*eP*	**P**	**06 34 22.7**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
SOEI	**Soe**	**30.99**	**224**	P	**P**	**06 34 24.4**	**-0.1**
	comp=Z,30nm,0.7s						
BKSI	**Bulukumba**	**31.12**	**235**	P	**P**	**06 34 27.3**	**+1.8**
	comp=Z,15nm,0.5s						
BATI	**Baumata**	**31.72**	**224**	P	**P**	**06 34 31.5**	**+0.6**
	comp=Z,31nm,0.8s						
USA0B	**Ussuriysk Arra**	**32.94**	**342**	*eP*	**P**	**06 34 43.1**	**+1.9**
USRK	**Ussuriysk Ar.**	**32.94**	**342**	P	**P**	**06 34 40.4**	**-0.7**
	comp=Z,5.0nm,0.8s,baz=170,slow=13,SNR=7.2						
USRK	**Ussuriysk Ar.**	**32.94**	**342**	P	**P**	**06 34 39.9**	**-1.3**
USRK	**Ussuriysk Ar.**	**32.94**	**342**	P	**P**	**06 34 39.9**	**-1.3**
WHN	**Wuhan**	**33.40**	**306**	P	**P**	**06 34 50.0**	**+4.6**
SBUM	**Sibu**	**34.49**	**255**	P	**P**	**06 34 55.2**	**+0.1**
SBUM				IAmb	IAmb	06 34 56.9	
	comp=Z,12nm,0.7s						
WB0	**Warramunga Arr**	**34.52**	**198**	P	**P**	**06 34 54.1**	**-1.1**
WB0				IAmb	IAmb	06 35 07.8	
	comp=Z,17nm,1.1s						
WR0	**Warramunga Arr**	**34.65**	**198**	P	**P**	**06 34 55.2**	**-1.2**
WR0				IAmb	IAmb	06 35 15.8	
	comp=Z,21nm,1.4s						
WRAB	**Tennant Creek**	**34.69**	**198**	*iP*	**P**	**06 34 55.5**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,32nm,2.0s						
WB2	**Warramunga Arr**	**34.69**	**198**	P	**P**	**06 34 55.8**	**-0.9**
WB2				IAmb	IAmb	06 35 01.6	
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**34.70**	**198**	P	**P**	**06 34 55.8**	**-1.0**
	comp=Z,3.6nm,0.5s,baz=21,slow=9.6,SNR=37						
WRA	**Warramunga Arr**	**34.70**	**198**	*i* P	**P**	**06 34 55.0**	**-1.7**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PLAI	**Plampang**	**35.09**	**233**	P	**P**	**06 35 00.4**	**+0.2**
	comp=Z,34nm,1.3s						
SRBI	**Singaraja**	**36.68**	**236**	P	**P**	**06 35 14.2**	**+0.4**
	comp=Z,40nm,0.9s						
FITZ	**Fitzroy Crossi**	**36.71**	**213**	P	**P**	**06 35 13.1**	**-0.8**
DNP	**Denpasar**	**37.02**	**236**	P	**P**	**06 35 16.5**	**-0.2**
BJI	**Beijing**	**37.04**	**322**	P	**P**	**06 35 17.9**	**+1.3**
BJI				S	**S**	**06 40 59.9**	**+0.5**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KMMI	**Kalianget**	**37.13**	**239**	P	**P**	**06 35 18.0**	**+0.3**
KLR	**Kul'dur**	**37.63**	**345**	P	**P**	**06 35 20.8**	**-0.6**
	comp=Z,3.8nm,0.6s,baz=169,slow=7.3,SNR=7.9						
KLR				PcP	**PcP**	**06 37 39.0**	**+0.7**
	comp=Z,4.5nm,0.9s,baz=230,slow=2.2,SNR=5.1						
KLR	**Kul'dur**	**37.63**	**345**	*iP*	**P**	**06 35 20.6**	**-0.8**
KLR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KLR	**Kul'dur**	**37.63**	**345**		**PcP**	**06 37 39.0**	**+0.7**
AS31	**Alice Springs**	**38.34**	**197**	P	**P**	**06 35 26.3**	**-1.4**
ASAR	**Alice Springs**	**38.34**	**197**	P	**P**	**06 35 26.9**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=26,slow=9.2,SNR=37						
ASAR	**Alice Springs**	**38.34**	**197**	P	**P**	**06 35 27.1**	**-0.6**
ASAR	**Alice Springs**	**38.34**	**197**	P	**P**	**06 35 27.1**	**-0.6**
HHC	**Hu-ho-hao-te**	**40.37**	**319**	*eP*	**P**	**06 35 46.2**	**+1.5**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,280nm,5.4s						
UGM	**Wanagama**	**40.48**	**241**	P	**P**	**06 35 46.6**	**+0.8**
UGM	**Wanagama**	**40.48**	**241**	P	**P**	**06 35 44.7**	**-1.1**
	comp=Z,196nm,1.5s						
PETK	**Petropavlovsk-**	**40.99**	**11**	P	**P**	**06 35 48.5**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=151,slow=3.3,SNR=6.7						
PETK				PcP	**PcP**	**06 37 49.0**	**+0.1**
	comp=Z,6.1nm,0.9s,baz=164,slow=6.0,SNR=3.9						
PETK	**Petropavlovsk-**	**40.99**	**11**	P	**P**	**06 35 49.6**	**+0.2**
PETK	**Petropavlovsk-**	**40.99**	**11**	P	**P**	**06 35 49.6**	**+0.2**
HIA	**Hailar**	**41.69**	**335**	*eP*	**P**	**06 35 57.4**	**+2.1**
HIA				pmax	pmax		
	comp=Z,11nm,1.4s						
PBKT	**Sadao Pong**	**42.98**	**280**		**S**	**06 42 30.7**	**+1.9**
KLSI		**44.11**	**249**	P	**P**	**06 36 13.4**	**-1.9**
	comp=Z,9.8nm,0.8s						
UTHA	**Uthaitani**	**44.49**	**279**	P	**P**	**06 36 20.9**	**+2.6**
KASI	**Kota Agung**	**44.67**	**248**	P	**P**	**06 36 17.2**	**-2.6**
	comp=Z,52nm,0.4s						
CM34	**Chiang Mai Arr**	**44.68**	**283**	P	**P**	**06 36 22.0**	**+2.1**
CM36	**Chiang Mai Arr**	**44.74**	**283**	P	**P**	**06 36 22.0**	**+1.7**
KULM	**Kulim**	**44.78**	**264**	P	**P**	**06 36 20.9**	**+0.2**
KULM				IAmb	IAmb	06 36 27.6	
	comp=Z,33nm,1.5s						
CM04	**Chiang Mai Arr**	**44.85**	**283**	P	**P**	**06 36 22.7**	**+1.5**
LWLI	**Liwa**	**44.85**	**249**	P	**P**	**06 36 19.3**	**-2.1**
	comp=Z,13µmcomp=Z,79nm,0.6s						
CM01	**Chiang Mai Arr**	**44.87**	**283**	P	**P**	**06 36 23.3**	**+1.9**
CM02	**Chiang Mai Arr**	**44.88**	**283**	P	**P**	**06 36 23.0**	**+1.6**
CM05	**Chiang Mai Arr**	**44.88**	**283**	P	**P**	**06 36 22.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**44.88**	**283**	P	**P**	**06 36 22.9**	**+1.4**
	comp=Z,4.8nm,0.6s,baz=86,slow=6.3,SNR=12						
CMAR				PcP	**PP**	**06 38 05.0**	**-2.0**
	comp=Z,3.8nm,0.6s,baz=91,slow=1.9,SNR=8.9						
CMAR				LR	LR	06 56 05.9	
	comp=Z,144nm,18.2s,baz=112,slow=37						
CMAR	**Chiang Mai Arr**	**44.88**	**283**	P	**P**	**06 36 22.7**	**+1.2**
CM15	**Chiang Mai Arr**	**44.90**	**283**	P	**P**	**06 36 23.0**	**+1.4**
CM13	**Chiang Mai Arr**	**44.91**	**283**	P	**P**	**06 36 23.1**	**+1.4**
STKA	**Stephens Creek**	**44.98

AFI Afiamalu 50.28 121 LR LR 06 57 02.9
comp=E,207nm,18.1s,baz=326,slow=35

BOD Bodaibo 50.44 339 *e*P **P** **06 37 04.1 +0.2**
BOD pmax pmax
comp=Z,11nm,1.6s

MORW Morawa 50.70 214 P **P** **06 37 06.2 -0.1**
MORW IAmb IAmb 06 37 06.3
comp=Z,11nm,0.8s

LSA Lhasa 52.60 297 P **P** **06 37 23.2 +2.0**
LSA pmax pmax
comp=Z,6.0nm,1.0s

LSA Lhasa 52.60 297 IAmb IAmb 06 37 29.1
comp=Z,6.2nm,1.0s

LSA Lhasa 52.60 297 P **P** **06 37 23.1 +2.0**

WMQ Urumqi 57.75 314 *e*P **P** **06 38 00.0 +2.4**
WMQ pmax pmax
comp=Z,33nm,0.9s

WMQ pmax pmax
comp=Z,220nm,7.1s

WMQ LR LR
comp=Z,430nm,25.1s

WMQ LR LR
comp=Z,350nm,23.3s

URZ Urewera 59.21 151 P **P** **06 38 06.7 -0.9**
comp=Z,6.8nm,0.7s,baz=301,slow=2.9,SNR=5.4

TIXI Tiksi 59.25 354 P **P** **06 38 06.6 -0.8**
comp=Z,2.1nm,0.2s,baz=116,slow=20,SNR=2.5

DGZ Jazzator, Alta 59.44 320⇓ *e*P **P** **06 38 10.7 +1.3**
DGZ pmax pmax
comp=Z,7.0nm,0.9s

BKZ Black Stump Fm 59.66 152 P **P** **06 38 09.8 -1.0**
BKZ IAmb IAmb 06 38 10.9
comp=Z,9.1nm,0.6s

RPZ Rata Peaks 61.32 159 P **P** **06 38 21.8 -0.2**
comp=Z,8.8nm,0.7s,baz=303,slow=2.1,SNR=6.0

MK31 Makanchi Array 62.10 316 P **P** **06 38 28.4 +1.0**
MK31 pmax pmax
comp=Z,6.0nm,1.2s

MK31 Makanchi Array 62.10 316 P **P** **06 38 28.4 +1.0**

MKAR Makanchi Array 62.10 316 P **P** **06 38 28.0 +0.7**
comp=Z,3.9nm,0.4s,baz=90,slow=8.5,SNR=34

MKAR PcP **PcP** **06 39 07.8 +0.5**
comp=Z,2.7nm,0.6s,baz=89,slow=6.0,SNR=5.2

MKAR Makanchi Array 62.10 316 P **P** **06 38 28.3 +0.9**

MKAR Makanchi Array 62.10 316 P **P** **06 38 28.3 +0.9**

ZALV Zalesovo Beam 62.21 324 P **P** **06 38 28.4 +0.4**
comp=Z,2.4nm,0.6s,baz=117,slow=6.9,SNR=4.5

ZALV PcP **PcP** **06 39 07.5 -0.1**
comp=Z,5.4nm,0.6s,baz=108,slow=4.8,SNR=8.6

ZALV Zalesovo Beam 62.21 324 P **P** **06 38 27.1 -0.8**

ZALV Zalesovo Beam 62.21 324 P **P** **06 38 27.1 -0.8**

MAKZ Makanchi 62.31 316 P **P** **06 38 29.6 +0.8**
MAKZ pmax pmax
comp=Z,8.0nm,0.6s

MAKZ Makanchi 62.31 316 P **P** **06 38 29.6 +0.8**
MAKZ IAmb IAmb 06 38 30.5
comp=Z,8.2nm,0.6s

RDOG Red Dog Mine 64.06 19 P **P** **06 38 39.6 -0.4**
RDOG IAmb IAmb 06 38 41.0
comp=Z,17nm,0.9s

RDOG Red Dog Mine 64.06 19 P 06 38 39.9
baz=238

KDAK Kodiak Island 64.12 32 P **P** **06 38 40.2 -0.3**
comp=Z,8.6nm,0.7s,baz=343,slow=7.5,SNR=8.0

HYB Hyderabad 64.31 283 *i*P **P** **06 38 42.0 -0.5**

KURK Kurchatov 65.18 320 P **P** **06 38 48.7 +1.1**

KURK Kurchatov 65.18 320 P **P** **06 38 48.7 +1.1**

KURBB Kurchatov Arra 65.22 320 P **P** **06 38 48.7 +0.9**

CNPM China Poot 65.30 30 P **P** **06 38 48.1 -0.1**

BRSE Bradley Lake S 65.60 30 P 06 38 52.1
baz=254

KSH Kashi 65.86 307 P **P** **06 38 52.7 +0.4**
KSH S **S** **06 47 33.1 -3.3**
KSH pmax pmax
comp=Z,23nm,1.8s

KSH pmax pmax
comp=Z,340nm,5.7s

KSH LR LR
comp=Z,270nm,6.7s

KSH LR LR
comp=Z,250nm,5.5s

KSH LR LR
comp=Z,260nm,7.1s

PPLA Purkeypile 65.89 26 P **P** **06 38 53.1 +1.0**

PPLA Purkeypile 65.89 26 P 06 38 53.3
baz=251

O22K Cooper Landing 66.30 29 P **P** **06 38 54.4 -0.1**

O22K Cooper Landing 66.30 29 P 06 38 54.5
baz=254

SEW Seward 66.33 30 P 06 38 54.6
baz=255

IMAR Indian Mountai 66.34 23 P **P** **06 38 54.5 -0.2**

RC01 Rabbit Creek A 66.46 29 P 06 38 55.4
baz=254

CUT Chulitna 66.59 27 P 06 38 56.1
baz=253

BPAW Bear Paw Mtn. 66.79 25 P **P** **06 38 58.2 +0.5**

BPAW Bear Paw Mtn. 66.79 25 P 06 38 57.6
baz=252

PMR Palmer 66.88 28 P **P** **06 38 58.5 +0.3**
PMR pmax pmax
comp=Z,11nm,1.0s

PMR Palmer 66.88 28 P **P** **06 38 58.5 +0.3**
PMR IAmb IAmb 06 39 17.5
comp=Z,11nm,1.0s

PMR Palmer 66.88 28 P 06 38 58.3
baz=254

TRF Thorofare Moun 66.89 26 P 06 38 58.8
baz=252

KNK Knik Glacier 67.14 29 P **P** **06 39 00.5 +0.6**

KNK Knik Glacier 67.14 29 P 06 39 00.1
baz=255

SML Sawmill 67.30 28 P **P** **06 39 01.8 +0.8**

SML Sawmill 67.30 28 P 06 39 01.5
baz=255

WAT2 Susitna Watana 67.49 27 P 06 39 01.9
baz=254

RND Reindeer 67.49 26 P **P** **06 39 02.5 +0.2**
RND pmax pmax
comp=Z,27nm,1.5s

RND Reindeer 67.49 26 P **P** **06 39 02.5 +0.2**
RND IAmb IAmb 06 39 03.9
comp=Z,27nm,1.5s

A21K Barrow 67.58 17 P **P** **06 39 02.8 +0.3**

A21K Barrow 67.58 17 P 06 39 02.5
baz=243

SCM Sheep Creek Mo 67.77 28 P **P** **06 39 04.5 +0.5**
SCM pmax pmax
comp=Z,25nm,0.9s

SCM Sheep Creek Mo 67.77 28 P **P** **06 39 04.5 +0.5**

I23K Minto, Yukon-K 67.78 24 P **P** **06 39 04.3 +0.4**
I23K IAmb IAmb 06 39 09.3
comp=Z,25nm,1.3s

I23K Minto, Yukon-K 67.78 24 P 06 39 04.7
baz=253

NIL Nilore 68.00 301 P **P** **06 39 05.6 -0.3**
NIL pmax pmax
comp=Z,13nm,0.8s

NIL Nilore 68.00 301 P **P** **06 39 05.6 -0.3**

COLD Coldfoot 68.10 22 P **P** **06 39 06.3 +0.4**
COLD IAmb IAmb 06 39 07.4
comp=Z,20nm,1.3s

COLD Coldfoot 68.10 22 P 06 39 06.3
baz=251

WRH Wood River Hil 68.11 25 P **P** **06 39 05.7 -0.3**
WRH IAmb IAmb 06 39 16.9
comp=Z,13nm,0.9s

MDM Murphy Dome 68.19 25 P **P** **06 39 07.5 +1.0**

CCB Clear Creek Bu 68.28 25 P **P** **06 39 06.7 -0.3**
CCB IAmb IAmb 06 39 10.3
comp=Z,18nm,1.4s

COLA College 68.32 25⇑ *i*P **P** **06 39 07.5 +0.3**
COLA pmax pmax
comp=Z,9.0nm,1.4s

KLU Klutina 68.34 29 P **P** **06 39 09.2 +1.6**
KLU IAmb IAmb 06 39 29.0
comp=Z,20nm,1.2s

KLU Klutina 68.34 29 P 06 39 08.4
baz=257

HDA Harding Lake 68.57 26 P **P** **06 39 08.8 -0.1**

HDA Harding Lake 68.57 26 P 06 39 09.1
baz=255

HDA P 06 39 09.1
baz=255

IL31 68.69 25 P **P** **06 39 08.8 -0.7**
IL31 IAmb IAmb 06 39 13.4
comp=Z,23nm,1.4s

ILAR Eielson Array 68.69 25 P **P** **06 39 08.5 -1.1**
comp=Z,3.6nm,0.5s,baz=248,slow=5.8,SNR=50

ILAR Eielson Array 68.69 25 P **P** **06 39 09.1 -0.5**

ILAR Eielson Array 68.69 25 P **P** **06 39 09.1 -0.5**

TOLK Toolik Lake Re 68.78 21 P **P** **06 39 11.0 +0.8**
TOLK IAmb IAmb 06 39 11.7
comp=Z,9.0nm,0.6s

TOLK Toolik Lake Re 68.78 21 P 06 39 10.5
baz=251

PAX Paxson 68.87 27 P **P** **06 39 09.9 -1.0**
PAX pmax pmax
comp=Z,11nm,1.0s

PAX Paxson 68.87 27 P 06 39 11.5
baz=257

CRQM Cirque 69.53 30 P **P** **06 39 16.2 +1.1**
CRQM IAmb IAmb 06 39 18.3
comp=Z,13nm,0.7s

CRQE Cirque 69.55 30 P 06 39 15.7
baz=260

DOT Dot Lake 69.64 27 P **P** **06 39 16.1 +0.6**
DOT IAmb IAmb 06 39 25.0
comp=Z,12nm,0.8s

SCRK Sand Creek 69.74 26 P 06 39 17.0
baz=258

FYU Fort Yukon 69.80 24 P **P** **06 39 17.3 +0.9**

MESA MESA 70.02 31 P 06 39 19.1
baz=262

TABL Table Mountain 70.45 30 P **P** **06 39 22.0 +1.2**

BVAR Borovoye Array 70.52 322 P **P** **06 39 21.1 -0.1**
comp=Z,13nm,0.5s,baz=198,slow=14,SNR=50

K27K Chicken 70.57 26 P 06 39 23.3
baz=260

BRVK Borovoye 70.59 322 P **P** **06 39 22.3 +0.8**
BRVK pmax pmax
comp=Z,17nm,0.7s

BRVK Borovoye 70.59 322 P **P** **06 39 22.3 +0.8**

EGAK Eagle 71.09 26 P 06 39 25.4
baz=261

PPT2 Papeete2 71.12 114 *e*LR LR 07 01 04.9
comp=Z,251nm,22.8s

DAWY Dawson 71.75 27 P **P** **06 39 28.8 +0.4**

EPYK Eagle Plains 73.13 24 P **P** **06 39 37.2 +0.7**
EPYK IAmb IAmb 06 39 51.3
comp=Z,8.9nm,0.8s

EPYK Eagle Plains 73.13 24 P 06 39 37.6
baz=264

TBI Tubuai 73.36 119 *e*LR LR 07 01 42.2
comp=Z,105nm,32.5s

WHY Whitehorse 73.55 30 P **P** **06 39 40.2 +1.0**

INK Inuvik 74.52 22 P **P** **06 39 43.8 -0.8**
comp=Z,11nm,1.0s,baz=255,slow=6.5,SNR=17

INK Inuvik 74.52 22 P **P** **06 39 44.7 +0.1**
INK pmax pmax
comp=Z,19nm,1.2s

INK Inuvik 74.52 22 P **P** **06 39 44.7 +0.1**
INK IAmb IAmb 06 39 45.4
comp=Z,19nm,1.2s

DLBC Dease Lake 76.03 33 P **P** **06 39 54.4 +0.8**
DLBC IAmb IAmb 06 40 10.1
comp=Z,21nm,1.2s

HRA Herat 77.05 303 P **P** **06 40 00.8 +0.7**

ARU Arti 77.35 325 P **P** **06 40 00.9 0.0**
comp=Z,2.9nm,0.3s,baz=118,slow=3.0,SNR=9.0

ARU Arti 77.35 325 *c i*P **P** **06 40 01.0 +0.2**
ARU 06 42 51.4
ARU S **S** **06 49 50.4 +2.5**
ARU SS **SS** **06 54 50.7 +4.1**
ARU pmax pmax
comp=Z,12nm,0.7s

ARU Arti 77.35 325 P **P** **06 40 01.0 0.0**
ARU IAmb IAmb 06 40 01.8
comp=Z,12nm,0.6s

C36M Paulatuk 77.93 21 P 06 40 03.8
baz=275

AKTO Aktyubinsk 78.27 319 P **P** **06 40 06.0 -0.2**
comp=Z,5.0nm,0.7s,baz=93,slow=10,SNR=5.9

GEYT Alibeck 79.87 307 P **P** **06 40 16.7 +1.4**
comp=Z,1.5nm,0.3s,baz=354,slow=3.0,SNR=4.7

GEYT Alibeck 79.87 307 P **P** **06 40 14.2 -1.1**

KIRV Kirov 81.92 328 P **P** **06 40 26.5 +0.8**
comp=Z,21nm,0.5s,baz=71,slow=0.9,SNR=5.7

KIRV Kirov 81.92 328 *de*P **P** **06 40 26.8 +1.1**

YBH Yreka Blue Hor 82.74 49 LR LR 07 12 23.7
comp=Z,72nm,18.4s,baz=296,slow=32

YKA Yellowknife Ar 82.96 27 P **P** **06 40 30.8 -0.3**
comp=Z,2.6nm,0.7s,baz=287,slow=4.4,SNR=24

PRGR Permogore 83.06 332 *e*P **P** **06 40 31.1 -0.5**
PRGR pmax pmax
comp=Z,16nm,0.6s

EUNU Eureka 83.16 8 P **P** **06 40 32.3 +0.3**

J05D Fort Rock, OR 83.50 47 P 06 40 35.2
baz=282

PINE Pine Mountain 83.60 47 P **P** **06 40 35.0 -0.1**
PINE IAmb IAmb 06 40 41.1
comp=Z,18nm,1.0s

O03E Paynes Creek 83.70 50 P 06 40 36.3
baz=282

B08A Colville Reser 83.72 42 P **P** **06 40 36.0 +0.6**

K05A Summer Lake 83.86 48 P **P** **06 40 36.8 +0.4**
K05A IAmb IAmb 06 41 02.3
comp=Z,11nm,1.0s

ORV Oroville 84.08 51 P **P** **06 40 37.5 +0.2**
ORV pmax pmax
comp=Z,7.0nm,1.1s

ORV Oroville 84.08 51 P **P** **06 40 37.5 +0.2**

BELG Belogornoye 84.31 322 P **P** **06 40 38.0 -0.2**
comp=Z,20nm,0.9s,baz=330,slow=1.6,SNR=5.2

BELG Belogornoye 84.31 322⇑ *e*P **P** **06 40 38.2 0.0**
BELG pmax pmax
comp=Z,7.0nm,1.5s

MOD Modoc Plateau 84.47 48 P **P** **06 40 39.3 -0.1**
MOD IAmb IAmb 06 40 54.4
comp=Z,13nm,1.5s

AFDM Forest Hills D 84.61 51 P **P** **06 40 40.4 +0.3**

RES Resolute Bay 84.79 13 P **P** **06 40 40.5 +0.3**
RES pmax pmax
comp=Z,17nm,1.5s

RES Resolute Bay 84.79 13 P **P** **06 40 40.5 +0.3**
RES IAmb IAmb 06 40 41.7
comp=Z,17nm,1.4s

BEKR Beckworth 84.87 50 P **P** **06 40 42.2 +0.6**

NEW Newport 85.17 42 P **P** **06 40 42.8 +0.1**
NEW pmax pmax
comp=Z,8.0nm,0.8s

NEW Newport 85.17 42 P **P** **06 40 42.8 +0.1**
NEW IAmb IAmb 06 40 57.1
comp=Z,7.8nm,0.8s

NEW Newport 85.18 42 P 06 40 43.2
baz=284

CMB Columbia Colle 85.26 52 P **P** **06 40 43.0 -0.4**
CMB pmax pmax
comp=Z,5.0nm,1.0s

CMB Columbia Colle 85.26 52 P **P** **06 40 43.0 -0.4**

VCNR Virginia City 85.54 51 P **P** **06 40 44.8 -0.2**

PNTR Pine Nut 85.62 51 P **P** **06 40 45.3 -0.1**
PNTR IAmb IAmb 06 41 02.5
comp=Z,5.4nm,0.7s

RKT Rikitea 85.85 115 *e*LR LR 07 07 53.3
comp=Z,207nm,24.0s

BMO Blue Mountains 85.90 45 P **P** **06 40 46.7 +0.2**
BMO pmax pmax
comp=Z,9.0nm,0.9s

BMO Blue Mountains 85.90 45 P **P** **06 40 46.7 +0.2**
BMO IAmb IAmb 06 41 01.8
comp=Z,9.0nm,0.9s

YERR Yerington 85.92 51 P **P** **06 40 47.0 +0.1**

APA Apatity 85.99 339⇓ *i*P P 06 40 57.0 +11
APA pmax pmax
comp=Z,8.0nm,1.0s

KLMR Klimovskoe 86.11 332 *e*P **P** **06 40 43.6 -3.4**
KLMR pmax pmax
comp=Z,14nm,1.2s

KLMR Klimovskoe 86.11 332 *e*P **P** **06 40 43.7 -3.3**
KLMR AMP 06 40 50.4
comp=Z,14nm,1.2s

NVAR Mina Array Bea 86.76 51 P **P** **06 40 51.2 +0.2**
comp=Z,3.3nm,0.8s,baz=261,slow=6.0,SNR=19

NVAR Mina Array Bea 86.76 51 P **P** **06 40 50.7 -0.3**

NV11 Mina Array Sit 86.88 51 P **P** **06 40 50.9 -0.6**

WALA Waterton Lakes 87.02 40 P **P** **06 40 52.4 +0.5**
WALA IAmb IAmb 06 40 58.8
comp=Z,11nm,0.9s

KEV Kevo 87.02 342 P **P** **06 40 50.6 -0.7**
KEV pmax pmax
comp=Z,57nm,1.5s

KEV Kevo 87.02 342 P **P** **06 40 50.6 -0.7**

MFID Camas Ranch 87.30 46 P **P** **06 40 53.1 -0.3**
MFID IAmb IAmb 06 41 08.5
comp=Z,10nm,0.9s

CWC Cottonwood Cre 87.43 53 P 06 40 54.3
baz=284

ARCES ARCESS Array B 87.59 342 P **P** **06 40 53.8 -0.3**
comp=Z,4.8nm,0.7s,baz=65,slow=6.9,SNR=12

GRAC Grapevine Rang 87.84 53 P 06 40 57.7
baz=285

LRMC Laurel Mtn Rad 87.98 54 P 06 40 57.5
baz=285

VRH Novokhopyorsk 88.17 322 *e*P **P** **06 40 55.5 -1.7**
VRH pmax pmax
comp=Z,20nm,0.7s

FURC Furnace Creek, 88.37 53 P 06 40 59.4
baz=285

ELK Elko 88.45 49 P **P** **06 40 59.8 +0.7**
ELK pmax pmax
comp=Z,5.0nm,0.8s

ELK Elko 88.45 49 P **P** **06 40 59.8 +0.7**
ELK IAmb IAmb 06 41 08.8
comp=Z,4.6nm,0.8s

GSC Goldstone, Bar 88.72 54 P **P** **06 40 59.3 -1.0**
GSC pmax pmax
comp=Z,6.0nm,1.1s

GSC Goldstone, Bar 88.72 54 P **P** **06 40 59.3 -1.0**
GSC IAmb IAmb 06 41 05.8
comp=Z,6.0nm,1.1s

TPNV Topopah Spring 88.72 52 P **P** **06 40 59.4 -1.0**
TPNV pmax pmax
comp=Z,9.0nm,1.0s

TPNV Topopah Spring 88.72 52 P **P** **06 40 59.4 -1.0**
TPNV IAmb IAmb 06 41 05.9
comp=Z,9.0nm,1.0s

TPNV Topopah Spring 88.72 52 P 06 41 00.6
baz=285

GSC Goldstone, Bar 88.72 54 P 06 41 01.0
baz=285

BCYI Bear Canyon 88.73 45 P **P** **06 41 00.4 +0.1**

R11A Troy Canyon, C 88.85 51 P 06 41 01.1
baz=286

HRY Holter Researc 89.06 42 P **P** **06 41 02.2 +0.6**

LPSR Galich'ya Gora 89.32 324 *e*P **P** **06 41 01.5 -1.1**
LPSR pmax pmax
comp=Z,40nm,0.7s

GNI Garni 89.53 311⇑ *e*P **P** **06 41 06.4 +2.3**
GNI pmax pmax
comp=Z,22nm,1.8s

MONP2 Monument Peak 89.66 56 P 06 41 04.8
baz=285

VSR Storozhevoye 89.67 323 *e*P **P** **06 41 02.4 -1.9**
VSR pmax pmax
comp=Z,20nm,0.6s

OBN Obninsk 89.68 327⇑ *e*P **P** **06 41 02.6 -1.6**
OBN *e* 06 44 44.0
OBN pmax pmax
comp=Z,77nm,2.9s

OBN MLR MLR
comp=Z,189nm,19.0s

GMRC Granite Mounta 89.76 54 P 06 41 05.4
baz=286

KBZ Khabaz 89.77 315 P **P** **06 41 03.9 -0.9**
comp=Z,6.4nm,1.0s,baz=80,slow=1.9,SNR=6.4

KBZ Khabaz 89.77 315⇑ *e*P **P** **06 41 04.0 -0.9**
KBZ pmax pmax
comp=Z,9.0nm,1.0s

KIV Kislovodsk 89.85 315 *e*P **P** **06 41 05.9 +0.5**
KIV pmax pmax
comp=Z,35nm,1.1s

QLMT Earthquake Lak 89.91 44 P **P** **06 41 05.8 0.0**

NEY Neytrino 90.04 315⇓ *e*P **P** **06 41 06.8 +0.4**
NEY pmax pmax
comp=Z,3.0nm,1.3s

PSUT Pine Spring 90.10 50 P **P** **06 41 07.1 +0.2**
PSUT IAmb IAmb 06 41 12.3
comp=Z,7.8nm,1.0s

IRM Iron Mountain 90.34 55 P 06 41 08.7
baz=286

DUG Dugway, Tooele 90.38 49 P **P** **06 41 08.3 +0.2**
DUG pmax pmax
comp=Z,5.0nm,0.9s

DUG Dugway, Tooele 90.38 49 P **P** **06 41 08.2 +0.2**
DUG IAmb IAmb 06 41 23.1
comp=Z,4.7nm,0.9s

DUG Dugway, Tooele 90.38 49 P 06 41 09.3
baz=288

KNB Kanab 91.33 52 P **P** **06 41 12.7 +0.1**
KNB pmax pmax
comp=Z,10.0nm,1.2s

KNB Kanab 91.33 52 P **P** **06 41 12.7 +0.1**
KNB IAmb IAmb 06 41 18.7
comp=Z,10nm,1.2s

FINES FINESS Array B 91.70 335 P **P** **06 41 12.1 -1.3**
comp=Z,3.6nm,0.5s,baz=70,slow=4.8,SNR=16

FFC Flin Flon 91.86 32 P **P** **06 41 14.7 +0.4**
FFC pmax pmax
comp=Z,5.0nm,0.9s

FFC Flin Flon 91.86 32 P **P** **06 41 14.7 +0.4**
FFC IAmb IAmb 06 41 27.7
comp=Z,4.7nm,0.8s

PDAR Pinedale Array 91.87 45 P **P** **06 41 15.1 +0.1**
comp=Z,0.3nm,0.5s,baz=230,slow=2.2,SNR=3.2

PDAR Pinedale Array 91.87 45 P **P** **06 41 14.7 -0.4**

MNK Minsk 94.45 329 *i*P **P** **06 41 22.7 -3.6**
comp=E,2.0nm,0.9s

MNK *i*P **P** **06 41 22.7 -3.6**
comp=N,39nm,0.9s

MNK *i*P **P** **06 41 22.7 -3.6**
comp=Z,7.0nm,0.6s

MNK *i*PP **PP** **06 45 11.0 -2.6**

MNK *i*PPP PPP 06 47 25.1

MNK *i*SKS SKSac 06 51 36.2 -22

MNK *i*S **SKSac** **06 51 54.4 -3.6**

MNK *i*PS **PS** **06 53 48.5 -7.4**

MNK *i*SS **SS** **06 58 58.1 +0.9**

MNK *i*SSS SSS 07 02 53.4

MNK *i*LR LR 07 21 47.4

MNK *i*LRM MLR 07 24 48.8
comp=Z,147nm,18.8s

MNK *i*LRM MLR 07 25 06.7
comp=N,220nm,17.4s

MNK *i*LRM MLR 07 25 09.3
comp=E,15nm,15.9s

AKASG Malin Array Be 95.60 325 *i*P **P** **06 41 34.5 +2.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s

ANMO Albuquerque 96.88 52⇓ *e*P **P** **06 41 38.6 +0.5**
ANMO pmax pmax
comp=Z,16nm,5.4s

ULM Lac du Bonnet 97.27 35 P Pdif 06 41 39.5 +0.2
comp=Z,0.6nm,0.3s,baz=337,slow=8.6,SNR=4.9

ULM Lac du Bonnet 97.27 35 P Pdif 06 41 39.5 +0.2
ULM pmax pmax
comp=Z,3.0nm,1.0s

ULM Lac du Bonnet 97.27 35 IAmb IAmb 06 41 43.5
comp=Z,2.5nm,0.9s

NOA NORSAR Array B 97.57 339 P **P** **06 41 39.4 -1.0**
comp=Z,1.1nm,0.8s,baz=48,slow=4.6,SNR=4.0

BRTR Keskin Array B 97.67 314 P **P** **06 41 40.9 -0.6**
comp=Z,1.9nm,0.8s,baz=70,slow=1.8,SNR=8.3

BRTR Keskin Array B 97.67 314 P **P** **06 41 40.0 -1.5**

BRTR Keskin Array B 97.67 314 P **P** **06 41 40.0 -1.5**

BUR08 Bucovina Ar. S 99.42 324 P **Pdif** **06 41 48.8 -0.3**

KOLS Kolonicke sedl 100.36 326 *e*P **Pdif** **06 41 53.9 +0.8**

KOLS Kolonicke sedl 100.36 326 *e*PDIFF **Pdif** **06 41 53.9 +0.8**

TXAR Lajitas Array 101.15 56 P **Pdif** **06 41 58.1 +1.0**
comp=Z,0.1nm,0.5s,baz=315,slow=34,SNR=2.4

VYHS Vyhne 102.48 327 *e*P **Pdif** **06 42 02.7 +0.1**

VYHS Vyhne 102.48 327 *e*PDIFF **Pdif** **06 42 02.7 +0.1**

SNAA Sanae 118.52 191 PKPdf **PKPdf** **06 46 52.3 -1.1**

VNA2 Neumayer--Watz 119.95 190 PKPdf **PKPdf** **06 46 55.9 -0.2**

VNA3 Neumayer Olymp 120.04 189 PKPdf **PKPdf** **06 46 54.9 -1.4**

TORD Torodi Ar. Bea 135.48 305 PKP **PKPdf** **06 47 28.0 +0.8**
comp=Z,1.8nm,0.8s,baz=19,slow=2.1,SNR=5.4

PLCA Paso Flores 138.33 138 PKP **PKPdf** **06 47 31.9 +0.1**
comp=Z,1.4nm,1.0s,baz=136,slow=2.6,SNR=3.9

DBIC Dimbokro 144.44 302 PKP PKPbc 06 47 42.6 +0.6
comp=Z,47nm,0.8s,baz=33,slow=4.2,SNR=43

LVC Limon Verde 146.14 111 PKPbc **PKPab** **06 47 48.9 +0.6**
comp=Z,4.4nm,0.6s,baz=243,slow=4.2,SNR=5.0

LPAZ La Paz 147.47 100 PKPbc **PKPbc** **06 47 51.2 -0.6**
comp=Z,0.6nm,0.5s,baz=0.0,slow=5.1,SNR=2.3

PTGA Pitinga 152.00 66 PKPbc **PKiKP** **06 48 02.7 0.0**
comp=Z,1.7nm,0.3s,baz=230,slow=4.2,SNR=4.2

SIV	**San Ignacio**	**154.26**	**99**	PKPbc	**PKPbc**	**06 48 06.4**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=329,slow=5.9,SNR=2.1						

IDC ***12*** *06:29:19.8±0.6,31˚.12N×142˚.03E,h0km,mb4.1/18, mb1 4.2/21,mb1mx4.1/55,mbtmp4.1/21,ML3.3/3,Error ellipse: s-maj=20.8km s-min=14.5km az=67.0*
NEIC ***12*** *06:29:20.3±1.7,31˚.01N±0˚.06×142˚.04E±0˚.09,h10km±1km, mb4.5/21,Error ellipse: s-maj=14.7km s-min=7.9km az=52.0*

ISC 12 06:29:23.1±0.5,31˚.09N±0˚.05×142˚.03E±0˚.08,h24km,n68, σ1§74/74,mb4.3/26,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.75**	**318**	Pn	**Pn**	**06 30 05.7**	**0.0**
JHJ	**Hachijo jima 2**	**2.77**	**317**	Pn	**Pn**	**06 30 04.8**	**-1.3**
	11nm,0.3s,baz=69,slow=16,SNR=1.8						
JHJ				Sn	**Sn**	**06 30 34.7**	**-4.1**
	28nm,0.3s,baz=248,slow=22,SNR=5.8						
JCJ	**Chichijima**	**3.99**	**178**	Sn	**Sn**	**06 31 07.2**	**-1.6**
	24nm,0.3s,baz=123,slow=23,SNR=2.0						
JCJ	**Chichijima**	**3.99**	**178**	Pn	**Pn**	**06 30 19.3**	**-3.4**
JSG	**Sagara**	**4.81**	**319**	Pn	**Pn**	**06 30 32.7**	**-1.4**
JYT	**Yasato**	**5.34**	**344**	Pn	**Pn**	**06 30 40.6**	**-0.8**
JGF	**Kuroka**	**5.96**	**320**	Pn	**Pn**	**06 30 49.1**	**-0.7**
MJAR	**Matsushiro Arr**	**6.29**	**331**	Pn	**Pn**	**06 30 54.9**	**+0.4**
	0.4nm,0.3s,baz=155,slow=11,SNR=25						
MJAR				Sn	**Sn**	**06 32 04.8**	**-0.8**
	0.3nm,0.3s,baz=159,slow=16,SNR=4.7						
MJAR	**Matsushiro Arr**	**6.29**	**331**		**Pn**	**06 30 54.2**	**-0.2**
MAJO	**Matsushiro**	**6.29**	**331**	Pn	**Pn**	**06 30 54.9**	**+0.4**
MAT	**Matsushiro**	**6.29**	**331**	P	**Pn**	**06 30 55.2**	**+0.7**
MAT				*e*S	**Sn**	**06 32 01.0**	**-4.6**
JMM	**Marumori**	**6.83**	**352**		**Pn**	**06 30 60.0**	**-1.9**
JWT	**Wachi**	**6.95**	**309**	Pn	**Pn**	**06 31 02.9**	**-0.6**
JNU	**Nakatsue**	**9.67**	**285**	Pn	**Pn**	**06 31 40.9**	**+0.1**
JEW	**Eniwo**	**11.73**	**358**	Pn	**Pn**	**06 32 08.1**	**-0.8**
KSRS	**Korea Array**	**13.27**	**302**	Pn	**Pn**	**06 32 32.7**	**+2.7**
	0.2nm,0.3s,baz=121,slow=14,SNR=2.7						
GUMO	**Guam**	**17.62**	**171**		**Pn**	**06 33 24.7**	**-2.4**
YHNB	**Yeheng**	**19.33**	**256**	P	**Pn**	**06 33 47.7**	**-0.3**
KLR	**Kul'dur**	**19.71**	**340**	P	**P**	**06 33 50.0**	**-0.7**
	0.1nm,0.3s,baz=142,slow=11,SNR=9.1						
BJT	**Baijiatuau**	**22.78**	**300**	P	**P**	**06 34 21.8**	**-2.1**
BJT				IAmb	IAmb	06 34 23.9	
	comp=Z,9.5nm,0.9s						
HIA	**Hailar**	**24.73**	**324**	P	**P**	**06 34 43.1**	**+0.5**
XAN	**Xi'an**	**27.99**	**285**	P	**P**	**06 35 18.2**	**+6.1**
XAN				pP	pwP	06 35 28.9	+3.9
XAN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
XAN				LR	LR		
	comp=N,240nm,15.2s						
XAN				LR	LR		
	comp=E,340nm,14.1s						
XAN				LR	LR		
	comp=Z,380nm,15.2s						
XAN	**Xi'an**	**27.99**	**285**	P	**P**	**06 35 10.9**	**-1.2**
XAN				IAmb	IAmb	06 35 11.7	
	comp=Z,5.1nm,0.7s						
ULN	**Ulaanbaatar**	**31.43**	**312**	P	**P**	**06 35 42.6**	**0.0**
ULN				IAmb	IAmb	06 35 46.5	
	comp=Z,6.7nm,1.0s						
SONM	**Songino Array**	**31.84**	**312**	P	**P**	**06 35 46.9**	**+0.7**
	comp=Z,4.7nm,0.9s,baz=112,slow=7.9,SNR=18						
SONM	**Songino Array**	**31.84**	**312**	P	**P**	**06 35 46.5**	**+0.3**
TNTI	**Ternate**	**33.20**	**208**	P	**P**	**06 35 56.5**	**-1.7**
GTA	**Gaotai**	**35.20**	**295**	*e*P	**P**	**06 36 16.3**	**+0.8**
GTA				pP	pwP	06 36 27.8	-0.6
GTA				sP	sP	06 36 32.9	+10
GTA				PcP	**PP**	**06 37 43.5**	**+8.0**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WMQ	**Urumqi**	**44.22**	**303**	P	**P**	**06 37 30.1**	**-0.4**
WMQ				IAmb	IAmb	06 37 43.7	
	comp=Z,4.0nm,0.7s						
ZAA0	**Zalesovo Array**	**46.44**	**317**	P	**P**	**06 37 49.0**	**+1.3**
ZAA0				IAmb	IAmb	06 37 52.0	
	comp=Z,11nm,1.4s						
ZALV	**Zalesovo Beam**	**46.44**	**317**	P	**P**	**06 37 48.2**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=102,slow=6.0,SNR=10						
ZALV	**Zalesovo Beam**	**46.44**	**317**	P	**P**	**06 37 48.8**	**+1.0**
MK31	**Makanchi Array**	**47.90**	**307**	P	**P**	**06 37 59.2**	**-0.2**
MK31				IAmb	IAmb	06 38 13.8	
	comp=Z,2.9nm,0.8s						
MKAR	**Makanchi Array**	**47.90**	**307**	P	**P**	**06 37 59.5**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=92,slow=7.6,SNR=22						
MKAR	**Makanchi Array**	**47.90**	**307**	P	**P**	**06 37 58.2**	**-1.1**
KURK	**Kurchatov**	**50.15**	**312**	P	**P**	**06 38 16.9**	**+0.5**
KURBB	**Kurchatov Arra**	**50.21**	**312**	P	**P**	**06 38 16.9**	**0.0**
	comp=Z,4.8nm,1.0s,baz=88,slow=7.5,SNR=17						
WRA	**Warramunga Arr**	**51.28**	**189**	P	**P**	**06 38 25.4**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=5.8,slow=7.8,SNR=20						
IL31		**54.30**	**30**	P	**P**	**06 38 47.0**	**-0.1**
ILAR	**Eielson Array**	**54.30**	**30**	P	**P**	**06 38 47.1**	**0.0**
	comp=Z,1.3nm,0.8s,baz=263,slow=5.9,SNR=12						
ILAR	**Eielson Array**	**54.30**	**30**	P	**P**	**06 38 46.8**	**-0.3**
ASAR	**Alice Springs**	**55.00**	**189**	P	**P**	**06 38 52.5**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=1.5,slow=6.0,SNR=6.8						
ASAR	**Alice Springs**	**55.00**	**189**	P	**P**	**06 38 53.2**	**+0.6**
BVAR	**Borovoye Array**	**55.05**	**316**	P	**P**	**06 38 53.4**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=106,slow=11,SNR=9.7						
BMRM	**Bremner River**	**55.36**	**35**	P	**P**	**06 38 53.7**	**-1.2**
BCAR	**Beaver Creek A**	**56.58**	**32**	P	**P**	**06 39 03.8**	**+0.2**
KK31	**Karatay Array**	**56.69**	**304**	P	**P**	**06 39 04.7**	**0.0**
KKAR	**Karatay Array**	**56.69**	**304**	P	**P**	**06 39 05.0**	**+0.3**
KKAR	**Karatay Array**	**56.69**	**304**	P	**P**	**06 39 04.8**	**+0.1**
INK	**Inuvik**	**59.48**	**25**	P	**P**	**06 39 23.8**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=316,slow=5.2,SNR=4.4						
INK	**Inuvik**	**59.48**	**25**	P	**P**	**06 39 23.4**	**-0.3**
ARU	**Arti**	**61.21**	**321**	P	**P**	**06 39 35.6**	**-0.2**
	comp=Z,2.0nm,0.2s,baz=106,slow=1.7,SNR=3.7						
ARU	**Arti**	**61.21**	**321**	P	**P**	**06 39 35.0**	**-0.8**
ABKAR	**Akbulak array**	**62.25**	**313**	P	**P**	**06 39 42.9**	**0.0**
STKA	**Stephens Creek**	**62.63**	**180**	P	**P**	**06 39 47.0**	**+1.6**
	comp=Z,2.1nm,0.9s,baz=0.0,slow=13,SNR=2.5						
AKTO	**Aktyubinsk**	**63.11**	**315**	P	**P**	**06 39 50.0**	**+1.4**
	comp=Z,2.2nm,0.9s,baz=96,slow=15,SNR=4.7						
YKA	**Yellowknife Ar**	**68.71**	**29**	P	**P**	**06 40 24.8**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=290,slow=5.9,SNR=8.6						
YKA	**Yellowknife Ar**	**68.71**	**29**	P	**P**	**06 40 24.8**	**+0.4**
FINES	**FINESS Array B**	**74.32**	**333**	P	**P**	**06 40 58.4**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=122,slow=5.2,SNR=1.6						
NACGM	**Naroch**	**77.98**	**328**	*i* P	**P**	**06 41 20.6**	**+1.5**
NACGM				*i* P	**P**	**06 41 20.6**	**+1.5**
NACGM				*i* P	**P**	**06 41 20.6**	**+1.5**
NACGM				*i* PPP	PPP	06 46 54.5	
NACGM				*i* SKS	S	06 50 51.7	-19
NACGM				*i* S	ScS	06 51 48.3	+11
NACGM				*i* SS	SSS	07 02 56.9	
NACGM				*i* LQ	LQ	07 16 28.9	
NACGM				*i* LR	LR	07 24 04.8	
NVAR	**Mina Array Bea**	**78.17**	**52**	P	**P**	**06 41 21.1**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=272,slow=4.5,SNR=3.6						
AKASG	**Malin Array Be**	**79.33**	**323**	P	**P**	**06 41 26.3**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=47,slow=5.3,SNR=2.7						
NB2	**NORSAR Subarra**	**79.86**	**338**	P	**P**	**06 41 28.4**	**-1.1**
	comp=Z,6.3nm,0.9s,baz=40,slow=5.3						
NOA	**NORSAR Array B**	**79.86**	**338**	P	**P**	**06 41 29.4**	**0.0**
	comp=Z,0.7nm,0.8s,baz=52,slow=9.0,SNR=2.4						
RAYN	**Ar Rayn**	**83.43**	**293**	P	**P**	**06 41 48.2**	**-0.8**
RAYN				IAmb	IAmb	06 42 06.3	
	comp=Z,6.6nm,1.1s						
TX31	**Lajitas Ar. Si**	**93.32**	**53**	P	**P**	**06 42 37.9**	**+1.4**
TXAR	**Lajitas Array**	**93.32**	**53**	P	**P**	**06 42 38.0**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=310,slow=2.9,SNR=9.4						
PLCA	**Paso Flores**	**152.05**	**119**	PKPbc	**PKiKP**	**06 49 17.6**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=10,slow=4.8,SNR=3.2						

IDC ***12*** *06:50:12.3±0.8,29˚.67N×141˚.28E,h0km,mb3.9/15, mb1 4.0/17,mb1mx3.9/52,mbtmp3.8/17,ML3.1/2,Error ellipse: s-maj=26.3km s-min=17.2km az=74.0*

ISC 12 06:50:20.2±0.6,29˚.57N±0˚.08×141˚.2E±0˚.2,h67km,n21, σ1§49/19,mb4.0/14,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.62**	**160**	Pn	**Pn**	**06 50 58.7**	**-1.5**
	14nm,0.3s,baz=330,slow=5.3,SNR=3.8						
JCJ				Sn	**Sn**	**06 51 29.1**	**-1.9**
	44nm,0.3s,baz=70,slow=20,SNR=4.3						
MJAR	**Matsushiro Arr**	**7.38**	**341**	Pn	**Pn**	**06 52 01.2**	**-4.0**
	0.1nm,0.3s,baz=164,slow=12,SNR=2.4						
KLR	**Kul'dur**	**20.91**	**343**	P	**P**	**06 54 57.1**	**+0.2**
	1.4nm,0.7s,baz=166,slow=8.8,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**25.30**	**107**	T	T	07 21 39.8	
	baz=297						
H11N1	**WAKE ISLAND Hy**	**25.31**	**107**	T	T	07 21 35.7	
	baz=297						
H11N3	**WAKE ISLAND Hy**	**25.32**	**107**	T	T	07 21 40.4	
	baz=297						
SONM	**Songino Array**	**32.33**	**314**	P	**P**	**06 56 43.8**	**+0.8**
	0.3nm,0.6s,baz=120,slow=9.9,SNR=0.9						
SEY	**Seymchan**	**34.15**	**9**	P	**P**	**06 56 58.3**	**-0.2**
	0.7nm,0.3s,baz=17,slow=19,SNR=1.5						
MKAR	**Makanchi Array**	**48.23**	**308**	P	**P**	**06 58 53.4**	**-0.8**
	0.4nm,0.8s,baz=105,slow=8.5,SNR=2.0						
WRA	**Warramunga Arr**	**49.66**	**188**	P	**P**	**06 59 06.5**	**+1.2**
	1.2nm,0.6s,baz=5.5,slow=7.5,SNR=6.4						
ILAR	**Eielson Array**	**55.99**	**29**	P	**P**	**06 59 50.6**	**-0.8**
	0.6nm,0.7s,baz=276,slow=6.7,SNR=7.0						
YKA	**Yellowknife Ar**	**70.40**	**29**	P	**P**	**07 01 26.3**	**-0.4**
	0.3nm,0.6s,baz=297,slow=6.0,SNR=6.6						
ARCES	**ARCESS Array B**	**70.92**	**340**	P	**P**	**07 01 31.1**	**+1.3**
	3.1nm,0.9s,baz=51,slow=7.9,SNR=3.5						
FINES	**FINESS Array B**	**75.34**	**333**	P	**P**	**07 01 57.0**	**+1.1**
	1.0nm,0.5s,baz=64,slow=6.3,SNR=11						
NVAR	**Mina Array Bea**	**79.69**	**52**	P	**P**	**07 02 22.2**	**+1.2**
	0.8nm,0.6s,baz=292,slow=5.2,SNR=6.3						
PDAR	**Pinedale Array**	**83.08**	**44**	P	**P**	**07 02 38.9**	**0.0**
	0.3nm,0.7s,baz=267,slow=3.4,SNR=2.6						
BRTR	**Keskin Array B**	**83.67**	**312**	P	**P**	**07 02 43.2**	**+1.3**
	2.1nm,0.7s,baz=124,slow=3.3,SNR=8.6						
FRB	**Frobisher Bay**	**84.07**	**13**	P	**P**	**07 02 43.5**	**+0.4**
	0.8nm,0.4s,baz=336,slow=4.4,SNR=3.4						
ULM	**Lac du Bonnet**	**85.86**	**33**	P	**P**	**07 02 52.9**	**+0.4**
	0.4nm,0.3s,baz=227,slow=6.7,SNR=3.9						
TXAR	**Lajitas Array**	**94.83**	**52**	P	**P**	**07 03 36.8**	**+1.7**
	0.4nm,0.7s,baz=280,slow=3.7,SNR=4.1						
LPAZ	**La Paz**	**150.05**	**70**	PKPbc	**PKiKP**	**07 10 05.9**	**+0.5**
	0.6nm,0.5s,baz=44,slow=5.7,SNR=3.7						

IDC ***12*** *06:50:37.3±0.5,13˚.18N×145˚.47E,h0km,mb4.4/38, mb1 4.5/39,mb1mx4.5/57,mbtmp4.4/39,ML4.4/1,MS4.2/27, Ms1 4.2/27,ms1mx4.1/46,Error ellipse: s-maj=15.9km s-min=11.9km az=92.0*
NEIC ***12*** *06:50:43.7±1.5,13˚.17N±0˚.06×145˚.29E±0˚.07,h47km±6km, mb4.8/65,Error ellipse: s-maj=10.6km s-min=9.0km az=59.0*
DJA ***12*** *06:50:44.6±1.0,13˚.N±4˚.×14˚.5E±˚,h25km±7km,M5.4/67, mB6.2/13,mb5.0/67,MLv4.5/1,Mw(mB)5.9/13*
BJI ***12*** *06:50:44.7±0.0,13˚.42N×145˚.21E,h44km,mB5.3/24, mb4.7/30,Ms4.7/14,Ms7 4.5/16*
GCMT ***12*** *06:50:45.7±0.4,12˚.98N±0˚.03×145˚.54E±0˚.03,h23km±1km, MW4.9/70,Moment Tensor Solution. s21,c25; s70,c94; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.55±.32; Mθθ-0.24±.18; Mφφ-2.31±.20; Mrθ0.06±.30; Mθφ-2.03±.13; Mφr0.53±.26; Best double couple: Mo3.10600×10^16^ NP1:φs220.00000°,δ41.00000°,λ102.00000°. NP2: φs24.00000°,δ50.00000°,λ80.00000°. Principal axes: T 2.6200, Plg81.0000°, Azm240.0000°; N 0.9700, Plg8.0000°, Azm31.0000°; P -3.5920, Plg5.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 06:50:43.6±0.4,13˚.21N±0˚.05×145˚.32E±0˚.07,h43km,n204, σ1§64/192,mb4.8/108,MS4.3/34,1C,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.58**	**311**		**Pn**	**06 50 55.8**	**+0.2**
GUMO				Sn	**Sn**	**06 51 04.3**	**+0.2**
ANA2	**Anatahan**	**3.14**	**7**		**Pn**	**06 51 31.4**	**+0.8**
JAY	**Jayapura**	**16.28**	**197**	LR	LR	07 00 18.2	
	comp=Z,365nm,19.4s,baz=12,slow=36						
RKPI	**Ransiki, Papua**	**18.33**	**218**	P	**P**	**06 54 52.8**	**-1.7**
	7µm93nm,0.8s						
SIJI	**Sorong**	**19.75**	**226**	P	**Pn**	**06 55 11.2**	**-0.5**
	1.0nm,0.3s,baz=284,slow=23,SNR=1.5						
SIJI				LR	LR	07 03 45.9	
	comp=Z,478nm,18.7s,baz=0.5,slow=40						
SWI	**Sorong**	**19.75**	**226**	P	**P**	**06 55 07.9**	**-2.0**
	3µm28nm,1.0s						
FAKI	**Fak Fak**	**20.62**	**220**	P	**P**	**06 55 18.3**	**-1.1**
FAKI	**Fak Fak**	**20.62**	**220**	P	Pn	06 55 20.8	-1.2
	73nm,1.2s						
JOW	**Kunigami**	**20.95**	**313**	P	Pn	06 55 27.1	+1.3
	24nm,0.9s,baz=167,slow=17,SNR=4.1						
JOW				LR	LR	07 02 29.4	
	comp=Z,941nm,19.0s,baz=127,slow=34						
JOW	**Kunigami**	**20.95**	**313**	P	**P**	**06 55 21.2**	**-1.8**
JOW				IAmb	IAmb	06 55 44.1	
	comp=Z,68nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**21.21**	**73**	T	T	07 17 11.0	
	baz=276						
H11S1	**WAKE ISLAND Hy**	**21.22**	**73**	T	T	07 17 11.0	
	baz=276						
H11S2	**WAKE ISLAND Hy**	**21.22**	**73**	T	T	07 17 12.1	
	baz=276						
TNTI	**Ternate**	**21.66**	**237**	P	**P**	**06 55 31.3**	**+0.7**
	comp=Z,45nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**21.66**	**70**	T	T	07 18 20.5	
	baz=257,slow=74,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**21.67**	**70**	T	T	07 18 21.6	
	baz=257,slow=74,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**21.68**	**70**	T	T	07 18 19.3	
	baz=257,slow=74,SNR=8.9						
PMG	**Port Moresby**	**22.54**	**175**	P	**P**	**06 55 40.2**	**+0.2**
	comp=Z,12nm,0.5s,baz=40,slow=16,SNR=1.5						
PMG	**Port Moresby**	**22.54**	**175**	P	**P**	**06 55 39.8**	**-0.2**
MSAI	**Masohi**	**23.14**	**226**	P	**P**	**06 55 46.7**	**+0.4**
	comp=Z,4µm,0.9s						
INU	**Inuyama**	**23.29**	**343**	P	**P**	**06 55 48.0**	**+0.4**
INU				IAmb	IAmb	06 56 07.0	
	comp=Z,56nm,1.2s						
BNDI	**Bandanaira**	**23.34**	**222**	P	**P**	**06 55 49.0**	**+0.8**
	comp=Z,410nm,1.0s						
JGF	**Kuroka**	**23.43**	**343**	P	**P**	**06 55 48.9**	**-0.1**
JGF				IAmb	IAmb	06 55 51.9	
	comp=Z,47nm,1.0s						
TGY	**Tagaytay City**	**23.71**	**275**	LR	LR	07 05 05.3	
	comp=Z,530nm,18.7s,baz=134,slow=36						
JNU	**Nakatsue**	**23.81**	**329**	P	**P**	**06 55 52.6**	**0.0**
	comp=Z,14nm,0.9s,baz=95,slow=2.4,SNR=4.6						
JNU				LR	LR	07 03 01.1	
	comp=Z,295nm,21.7s,baz=143,slow=31						
MJAR	**Matsushiro Arr**	**24.10**	**346**	P	**P**	**06 55 51.5**	**-3.8**
	comp=Z,3.9nm,0.7s,baz=159,slow=10,SNR=5.5						
MJAR	**Matsushiro Arr**	**24.10**	**346**	P	**P**	**06 55 53.3**	**-1.9**
MAJO	**Matsushiro**	**24.10**	**346**	P	**P**	**06 55 55.4**	**+0.1**
MAT	**Matsushiro**	**24.10**	**346**	P	**P**	**06 55 53.2**	**-2.0**
NLAI	**Namlea**	**24.38**	**229**	P	**P**	**06 55 59.0**	**+1.1**
	comp=Z,4µmcomp=Z,9.7nm,0.5s						
SANI	**Sanana**	**24.45**	**233**	P	**P**	**06 55 59.0**	**+0.4**
	comp=Z,16nm,1.0s						
KMSI	**Cibinong**	**24.59**	**241**	P	**P**	**06 56 01.7**	**+1.8**
SAUI	**Saumlaki**	**25.24**	**214**	P	**P**	**06 56 06.8**	**+1.0**
	comp=Z,355nm,0.8s						
GTOI	**Gorontalo**	**25.39**	**242**	P	**P**	**06 56 10.5**	**+3.4**
	comp=Z,22nm,1.1s						
JSD	**Sado**	**25.52**	**347**	P	**P**	**06 56 07.5**	**-0.5**
MRSI	**Marisa**	**26.39**	**243**	P	**P**	**06 56 17.8**	**+1.6**
	comp=Z,1µmcomp=Z,36nm,0.7s						
LUWI	**Luwuk**	**26.47**	**239**	P	**P**	**06 56 17.1**	**+0.2**
	comp=Z,4µmcomp=Z,200nm,0.8s						
HNR	**Honiara**	**26.77**	**146**	LR	LR	07 07 49.9	
	comp=Z,730nm,18.1s,baz=315,slow=39						
APSI	**Ampana**	**27.35**	**241**	P	**P**	**06 56 25.5**	**+0.7**
	comp=Z,27nm,1.2s						
KSRS	**Korea Array**	**28.71**	**330**	P	**P**	**06 56 38.5**	**+1.7**
	comp=Z,2.9nm,0.8s,baz=140,slow=10,SNR=6.3						
KSRS				LR	LR	07 06 54.7	
	comp=Z,349nm,19.5s,baz=140,slow=34						
PCI	**Palu**	**28.90**	**243**	P	**P**	**06 56 40.0**	**+1.3**
	comp=Z,142nmcomp=Z,3.9nm,0.8s						
KKM	**Kota Kinabalu**	**29.55**	**259**	P	**P**	**06 56 43.6**	**-1.0**
KKM				IAmb	IAmb	06 56 51.4	
	comp=Z,17nm,1.0s						
TTSI	**Tana Toraja**	**30.03**	**239**	P	**P**	**06 56 50.7**	**+2.0**
BNSI	**Bone**	**30.55**	**237**	P	**P**	**06 56 53.2**	**-0.1**
	comp=Z,18nm,1.1s						
SPSI	**Sidrap Palu**	**30.57**	**238**	P	**P**	**06 56 54.9**	**+1.4**
	comp=Z,7.8nm,0.8s						
NJ2	**Nanjing**	**30.66**	**312**	*e*P	**P**	**06 56 55.1**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SOEI	**Soe**	**30.94**	**224**	P	**P**	**06 56 55.7**	**-1.1**
SOEI	**Soe**	**30.94**	**224**	P	**P**	**06 56 56.5**	**-0.4**
	comp=Z,51nm,0.8s						
SMKI	**Samarinda**	**31.00**	**246**	P	**P**	**06 56 59.7**	**+2.4**
BKSI	**Bulukumba**	**31.07**	**235**	P	**P**	**06 57 00.0**	**+2.1**
	comp=Z,17nm,1.0s						
BSSI	**Bau Bau, Buton**	**31.27**	**234**	P	**P**	**06 57 00.7**	**+1.0**
MMRI	**Maumere**	**31.57**	**228**	P	**P**	**06 57 04.3**	**+2.0**
	comp=Z,116nm,0.7s						
BKB	**Balikpapan**	**31.65**	**245**	P	**P**	**06 57 04.0**	**+1.0**
	comp=Z,66nm,0.8s						
BATI	**Baumata**	**31.68**	**224**	P	**P**	**06 57 04.0**	**+0.8**
	comp=Z,20nm,0.8s						
USRK	**Ussuriysk Ar.**	**32.94**	**342**	P	**P**	**06 57 13.5**	**-0.4**
	comp=Z,4.4nm,0.8s,baz=175,slow=10,SNR=6.1						
USRK				LR	LR	07 08 23.4	
	comp=Z,284nm,21.9s,baz=147,slow=32						
USRK	**Ussuriysk Ar.**	**32.94**	**342**	P	**P**	**06 57 13.6**	**-0.3**
KBKI	**Kotabaru**	**33.27**	**242**	P	**P**	**06 57 18.7**	**+1.5**
	comp=Z,18nm,0.9s						
MTKI	**Muara Teweh, K**	**33.29**	**247**	P	**P**	**06 57 19.3**	**+1.9**
SBUM	**Sibu**	**34.44**	**255**	P	**P**	**06 57 25.5**	**-1.9**
SBUM				IAmb	IAmb	06 57 47.5	
	comp=Z,15nm,1.0s						
WB0	**Warramunga Arr**	**34.49**	**198**	P	**P**	**06 57 26.3**	**-1.4**
QIZ	**Qiongzhong**	**34.53**	**284**	P	**P**	**06 57 27.5**	**-0.7**
QIZ				S	**S**	**07 02 53.8**	**-0.5**
QIZ				LR	LR		
	comp=Z,290nm,13.0s						
QIZ				LR	LR		
	comp=Z,680nm,21.6s						
QIZ				LR	LR		
	comp=Z,740nm,18.6s						
WR0	**Warramunga Arr**	**34.62**	**198**	P	**P**	**06 57 27.1**	**-1.8**
WR0				IAmb	IAmb	06 57 43.3	
	comp=Z,14nm,0.9s						
WB2	**Warramunga Arr**	**34.66**	**198**	P	**P**	**06 57 28.3**	**-0.9**
WRA	**Warramunga Arr**	**34.67**	**198**	P	**P**	**06 57 28.5**	**-0.8**
	comp=Z,5.6nm,0.7s,baz=22,slow=9.6,SNR=26						
WRA				LR	LR	07 13 58.5	
	comp=Z,163nm,18.9s,baz=55,slow=40						
SRBI	**Singaraja**	**36.63**	**236**	P	**P**	**06 57 47.3**	**+1.1**
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**36.67**	**212**	P	**P**	**06 57 45.2**	**-1.2**
PBKI	**Pangkalan Bun**	**36.95**	**247**	P	**P**	**06 57 50.6**	**+1.7**
	comp=Z,9µmcomp=Z,122nm,1.2s						
DNP	**Denpasar**	**36.97**	**236**	P	**P**	**06 57 50.1**	**+1.0**
	comp=Z,253nm,0.7s						
BJT	**Baijiatuau**	**37.01**	**322**	P	**P**	**06 57 47.2**	**-1.9**
BJI	**Beijing**	**37.02**	**322**	P	**P**	**06 57 50.9**	**+1.7**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJI				LR	LR		
	comp=Z,300nm,15.5s						
BJI				LR	LR		
	comp=Z,190nm,15.9s						
KMMI	**Kalianget**	**37.08**	**239**	P	**P**	**06 57 51.7**	**+1.7**
	comp=Z,88nm,1.8s						
ENH	**Enshi**	**37.17**	**303**	P	**P**	**06 57 48.1**	**-2.5**
KLR	**Kul'dur**	**37.63**	**345**	P	**P**	**06 57 53.4**	**-0.8**
	comp=Z,3.6nm,0.7s,baz=139,slow=4.4,SNR=10						
KLR				PcP	**PcP**	**07 00 12.2**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=131,slow=19,SNR=3.8						
JAGI	**Jajag, Banyuwa**	**37.71**	**237**	P	**P**	**06 57 56.6**	**+1.2**
	comp=Z,68nm,0.7s						
AS31	**Alice Springs**	**38.31**	**197**	P	**P**	**06 58 00.0**	**-0.3**
ASAR	**Alice Springs**	**38.31**	**197**	P	**P**	**06 57 59.8**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=27,slow=9.1,SNR=31						
ASAR				LR	LR	07 14 02.1	
	comp=Z,196nm,19.9s,baz=12,slow=37						
ASAR	**Alice Springs**	**38.31**	**197**	P	**P**	**06 57 59.

comp=Z,11nm,1.1s
WMQ Urumqi 57.72 314 *e*P **P** **07 00 32.8 +2.6**
WMQ pP pwP 07 00 43.9 -1.3
WMQ sP sP 07 00 50.4 +4.0
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ pmax pmax
comp=Z,110nm,5.3s
WMQ LR LR
comp=Z,450nm,18.5s
WMQ LR LR
comp=Z,470nm,20.9s
WMQ Urumqi 57.72 314 P **P** **07 00 30.4 +0.2**
WMQ IAmb IAmb 07 00 52.0
comp=Z,12nm,1.2s
URZ Urewera 59.22 151 P **P** **07 00 39.3 -1.2**
RPZ Rata Peaks 61.33 159 P **P** **07 00 53.3 -1.5**
comp=Z,5.7nm,0.8s,baz=206,slow=18,SNR=1.9
MK31 Makanchi Array 62.07 316 P **P** **07 00 59.4 -0.6**
MKAR Makanchi Array 62.07 316 P **P** **07 01 01.6 +1.7**
comp=Z,3.0nm,0.7s,baz=91,slow=8.8,SNR=21
MKAR LR LR 07 29 24.9
comp=Z,177nm,18.2s,baz=82,slow=37
MKAR Makanchi Array 62.07 316 P **P** **07 01 00.3 +0.4**
ZAA0 Zalesovo Array 62.19 324 P **P** **07 01 00.8 +0.3**
ZALV Zalesovo Beam 62.19 324 P **P** **07 01 01.6 +1.1**
comp=Z,2.3nm,0.7s,baz=108,slow=4.8,SNR=5.1
ZALV LR LR 07 28 43.1
comp=Z,206nm,20.5s,baz=104,slow=37
ZALV Zalesovo Beam 62.19 324 P **P** **07 01 00.1 -0.4**
MAKZ Makanchi 62.29 316 P **P** **07 01 02.4 +1.0**
MAKZ IAmb IAmb 07 01 05.4
comp=Z,7.5nm,0.9s
RDOG Red Dog Mine 64.09 19 P **P** **07 01 13.3 +0.4**
RDOG IAmb IAmb 07 01 14.1
comp=Z,14nm,1.1s
KDAK Kodiak Island 64.16 32 P **P** **07 01 13.5 -0.1**
comp=Z,6.4nm,0.9s,baz=2.4,slow=18,SNR=1.3
HYB Hyderabad 64.26 283 *i*P **P** **07 01 15.0 0.0**
KURK Kurchatov 65.16 320 P **P** **07 01 21.6 +1.4**
KURBB Kurchatov Arra 65.20 320 P **P** **07 01 21.6 +1.1**
comp=Z,111nm,0.7s,baz=103,slow=6.7,SNR=46
SUA Susitna One 66.13 28 P **P** **07 01 26.9 +0.5**
SUA IAmb IAmb 07 01 41.5
comp=Z,16nm,1.4s
IMAR Indian Mountai 66.37 23 P **P** **07 01 27.9 +0.2**
BPAW Bear Paw Mtn. 66.83 25 P **P** **07 01 30.9 +0.2**
BPAW IAmb IAmb 07 01 32.7
comp=Z,7.8nm,1.0s
PMR Palmer 66.91 28 P **P** **07 01 31.4 +0.2**
PMR IAmb IAmb 07 01 52.2
comp=Z,9.1nm,0.9s
RND Reindeer 67.53 26 P **P** **07 01 35.2 0.0**
RND IAmb IAmb 07 01 55.4
comp=Z,18nm,1.5s
A21K Barrow 67.61 17 P **P** **07 01 35.5 0.0**
I23K Minto, Yukon-K 67.81 24 P **P** **07 01 37.3 +0.4**
I23K IAmb IAmb 07 01 58.8
comp=Z,14nm,1.2s
COLD Coldfoot 68.13 22 P **P** **07 01 39.7 +0.8**
COLD IAmb IAmb 07 01 55.6
comp=Z,8.7nm,1.0s
WRH Wood River Hil 68.14 25 P **P** **07 01 39.0 0.0**
WRH IAmb IAmb 07 01 42.0
comp=Z,12nm,1.1s
MDM Murphy Dome 68.22 25 P **P** **07 01 40.3 +0.8**
MDM IAmb IAmb 07 01 44.0
comp=Z,11nm,1.3s
CCB Clear Creek Bu 68.31 25 P **P** **07 01 40.5 +0.5**
HDA Harding Lake 68.61 26 P **P** **07 01 41.6 -0.3**
HDA IAmb IAmb 07 02 04.2
comp=Z,7.8nm,1.0s
IL31 68.72 25 P **P** **07 01 41.2 -1.3**
ILAR Eielson Array 68.72 25 P **P** **07 01 41.1 -1.5**
comp=Z,3.6nm,0.9s,baz=254,slow=5.0,SNR=29
TOLK Toolik Lake Re 68.81 21 P **P** **07 01 41.5 -1.6**
TOLK IAmb IAmb 07 01 59.9
comp=Z,7.7nm,0.8s
DOT Dot Lake 69.67 27 P **P** **07 01 49.0 +0.5**
DOT IAmb IAmb 07 01 52.3
comp=Z,9.4nm,1.0s
FYU Fort Yukon 69.83 24 P **P** **07 01 50.5 +1.2**
BMAR Burnt Mountain 70.28 23 P **P** **07 01 51.7 -0.6**
CTGM Chitina Glacie 70.47 30 P **P** **07 01 54.7 +1.1**
BVAR Borovoye Array 70.50 322 P **P** **07 01 54.3 +0.5**
comp=Z,6.4nm,0.6s,baz=201,slow=7.9,SNR=34
BRVK Borovoye 70.57 322 P **P** **07 01 54.3 +0.1**
BRVK IAmb IAmb 07 01 56.0
comp=Z,9.8nm,0.8s
BCAR Beaver Creek A 70.58 27 P **P** **07 01 54.6 +0.4**
PPT Papeete 71.15 114 LR LR 07 25 59.8
comp=Z,279nm,19.4s,baz=302,slow=30
PPT2 Papeete2 71.16 114 *e*LR LR 07 23 35.3
comp=Z,312nm,22.8s,baz=308
DAWY Dawson 71.78 27 P **P** **07 02 00.6 -0.8**
EPYK Eagle Plains 73.16 24 P **P** **07 02 10.5 +1.0**
EPYK IAmb IAmb 07 02 28.8
comp=Z,8.1nm,0.8s
TBI Tubuai 73.40 119 *e*S **SKiKP** **07 11 45.8 +6.3**
comp=Z,115nm,25.8s
TBI Tubuai 73.40 119 *e*LR LR 07 24 12.9
comp=Z,249nm,32.5s
INK Inuvik 74.55 22 P **P** **07 02 17.9 +0.4**
comp=Z,5.9nm,1.0s,baz=262,slow=8.1,SNR=9.3
INK Inuvik 74.55 22 P **P** **07 02 18.5 +1.0**
INK IAmb IAmb 07 02 19.1
comp=Z,16nm,1.1s
DLBC Dease Lake 76.06 33 P **P** **07 02 27.0 +0.4**
comp=Z,5.1nm,0.8s,baz=318,slow=7.0,SNR=5.9
DLBC Dease Lake 76.06 33 P **P** **07 02 27.0 +0.4**
ABKAR Akbulak array 77.12 318 P **P** **07 02 33.4 +0.7**
ABKAR IAmb IAmb 07 02 34.0
comp=Z,7.2nm,0.9s
ABKAR Akbulak array 77.12 318 P **P** **07 02 33.3 +0.7**
ARU Arti 77.33 325 P **P** **07 02 34.1 +0.4**
comp=Z,3.2nm,0.2s,baz=286,slow=18,SNR=1.5
ARU Arti 77.33 325 IAmb IAmb 07 02 35.0
comp=Z,12nm,1.0s
C36M Paulatuk 77.96 21 P **P** **07 02 36.9 0.0**
C36M IAmb IAmb 07 02 37.0
comp=Z,14nm,1.2s
AKTO Aktyubinsk 78.24 319 P **P** **07 02 39.4 +0.5**
comp=Z,2.4nm,0.7s,baz=90,slow=11
AKTO LR LR 07 38 17.3
comp=Z,265nm,19.8s,baz=79,slow=36
GEYT Alibeck 79.83 307 P **P** **07 02 48.6 +0.7**
comp=Z,2.1nm,0.6s,baz=40,slow=7.7,SNR=2.4
GEYT LR LR 07 40 27.9
comp=Z,116nm,21.1s,baz=15,slow=37
GEYT Alibeck 79.83 307 P **P** **07 02 47.0 -0.9**
YBH Yreka Blue Hor 82.79 49 P **P** **07 03 04.8 +1.3**
comp=Z,3.2nm,1.0s,baz=0.0,slow=2.0,SNR=3.0
YKA Yellowknife Ar 82.99 27 P **P** **07 03 03.6 -0.4**
comp=Z,1.4nm,0.5s,baz=288,slow=4.8,SNR=18
YKA LR LR 07 38 39.3
comp=Z,138nm,20.3s,baz=0.0,slow=35
BELG Belogormoye 84.29 322 P **P** **07 03 11.6 +0.7**
baz=347,slow=3.9
AFDM Forest Hills D 84.66 51 P **P** **07 03 13.5 +0.4**
RES Resolute Bay 84.82 13 P **P** **07 03 13.0 -0.1**
comp=Z,1.8nm,0.6s,baz=17,slow=2.0,SNR=6.9
RES Resolute Bay 84.82 13 P **P** **07 03 13.1 -0.1**
RES IAmb IAmb 07 03 14.4
comp=Z,14nm,1.3s
NEW Newport 85.22 42 P **P** **07 03 15.8 0.0**
comp=Z,3.6nm,0.9s,baz=226,slow=3.1,SNR=8.1
CMB Columbia Colle 85.31 52 P **P** **07 03 17.4 +1.0**
CMB IAmb IAmb 07 03 37.5
comp=Z,12nm,1.5s
RKT Rikitea 85.89 115 *e*LR LR 07 30 19.4
comp=Z,288nm,24.8s
KLMR Klimovskoe 86.10 332 *e*P **P** **07 03 18.7 -1.0**
KLMR AMP 07 03 22.4
comp=Z,16nm,1.1s
NVAR Mina Array Bea 86.81 51 P **P** **07 03 24.7 +0.6**
comp=Z,1.9nm,0.7s,baz=274,slow=5.0,SNR=10
NVAR LR LR 07 38 33.4
comp=Z,50nm,18.7s,baz=266,slow=33
NVAR Mina Array Bea 86.81 51 P **P** **07 03 22.9 -1.1**
KVN Kaiserville 86.81 51 P **P** **07 03 24.3 +0.3**
WALA Waterton Lakes 87.06 40 P **P** **07 03 25.4 +0.5**
MFID Camas Ranch 87.35 46 P **P** **07 03 27.1 +0.6**
ARCES ARCESS Array B 87.58 342 P **P** **07 03 27.1 +0.2**
comp=Z,4.8nm,0.8s,baz=69,slow=6.6,SNR=7.3
ARCES LR LR 07 45 42.6
comp=Z,114nm,19.5s,baz=215,slow=38
ARCES ARCESS Array B 87.58 342 IAmb IAmb 07 03 27.8
comp=Z,40nm,1.5s
ELK Elko 88.50 49 P **P** **07 03 32.6 +0.5**
comp=Z,1.2nm,0.8s,baz=334,slow=8.6,SNR=4.9
ELK Elko 88.50 49 P **P** **07 03 31.2 -0.9**
BCYI Bear Canyon 88.78 45 P **P** **07 03 32.5 -0.8**
LRM Limekiln Ridge 88.97 43 P **P** **07 03 31.5 -2.7**
PFO Pinyon Flats O 89.49 56 P **P** **07 03 35.8 -0.9**
comp=Z,2.1nm,0.8s,baz=255,slow=2.5,SNR=3.8
KBZ Khabaz 89.75 315 P **P** **07 03 37.8 +0.2**
comp=Z,2.5nm,0.9s,baz=34,slow=3.6,SNR=2.2
VNDA Vanda 91.06 176 LR LR 07 44 29.6
comp=Z,55nm,18.0s,baz=352,slow=36
FINES FINESS Array B 91.69 335 P **P** **07 03 46.0 -0.3**
comp=Z,1.8nm,0.6s,baz=69,slow=5.4,SNR=6.4
FINES LR LR 07 45 08.3
comp=Z,95nm,18.2s,baz=9.0,slow=36
PDAR Pinedale Array 91.92 45 P **P** **07 03 48.2 +0.2**
comp=Z,0.2nm,0.4s,baz=273,slow=1.5,SNR=2.5
PDAR LR LR 07 41 37.5
comp=Z,129nm,19.5s,baz=310,slow=33
MNK Minsk 94.44 329 *i*P **P** **07 03 58.4 -0.6**
comp=E,4.0nm,1.0s
MNK *i*P **P** **07 03 58.4 -0.6**
comp=N,22nm,1.1s
MNK *i*P **P** **07 03 58.4 -0.6**
comp=Z,9.0nm,0.8s
MNK *i*PP **PP** **07 07 46.3 -0.1**
MNK *i*PPP PPP 07 09 47.8
MNK *i*SKS **SKSac** **07 14 23.3 -7.5**
MNK *i*S **SKKSac** **07 14 57.0 +4.8**
MNK *i*PS **PS** **07 16 18.4 -10**
MNK *i*SS **SS** **07 21 26.6 -3.2**
MNK *i*SSS SSS 07 24 58.4
MNK *i*LR LR 07 46 19.1
MNK *i*LRM MLR 07 47 26.5
comp=E,18nm,12.7s
MNK *i*LRM MLR 07 47 27.8
comp=N,362nm,16.5s
MNK *i*LRM MLR 07 47 27.8
comp=Z,198nm,18.4s
AKASG Malin Array Be 95.58 325 P **P** **07 04 03.6 -0.8**
comp=Z,0.4nm,0.4s,baz=48,slow=4.6,SNR=1.2
AKASG LR LR 07 49 30.5
comp=Z,164nm,18.2s,baz=305,slow=37
NOA NORSAR Array B 97.56 339 LR LR 07 49 42.2
comp=Z,119nm,20.5s,baz=45,slow=36
BRTR Keskin Array B 97.64 314 P Pdif 07 04 14.3 +0.1
comp=Z,1.2nm,0.8s,baz=93,slow=2.5,SNR=4.4
BRTR LR LR 07 52 49.8
comp=Z,82nm,20.4s,baz=34,slow=38
TORD Torodi Ar. Bea 135.44 305 PKP **PKPdf** **07 09 58.8 -1.2**
comp=Z,0.9nm,0.8s,baz=129,slow=2.0,SNR=3.5
PLCA Paso Flores 138.35 138 PKP **PKPdf** **07 10 05.7 +0.9**
comp=Z,1.6nm,0.9s,baz=203,slow=3.9,SNR=4.8
DBIC Dimbokro 144.40 302 PKP **PKPdf** **07 10 15.6 -0.6**
comp=Z,19nm,0.7s,baz=25,slow=3.9,SNR=19
KIC Kosan Boka 144.47 301 *e*PKP1 **PKPdf** **07 10 15.6 -0.8**
comp=Z,58nm,1.0s
TIC Toumodi 144.55 302 *e*PKP1 PKPbc 07 10 15.7 +0.5
LIC Lamto 144.79 301 *e*PKP1 **PKPdf** **07 10 16.7 -0.2**
comp=Z,88nm,1.0s
LPAZ La Paz 147.52 100 PKPbc **PKPdf** **07 10 23.2 +1.0**
comp=Z,0.8nm,0.7s,baz=354,slow=9.2,SNR=1.9

*NNC **12** 07:09:14.4±0.5, 50.00N×78.77E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=10.4km s-min=2.6km az=78.0, Suspected Mining explosion.*
ISC 12 07:09:14.2±0.7, 49.90N±0.03×78.58E±0.05, h0km, n30, σ1s65/50, 7C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.69**	**356**	P	**Pg**	**07 09 26.2**	**-1.2**
KUR07				S	**Sg**	**07 09 35.4**	**-0.9**
KUR06	**Kurchatov Arra**	**0.70**	**357**	P	**Pg**	**07 09 26.5**	**-1.2**
KUR06				S	**Sg**	**07 09 35.2**	**-1.7**
KUR14	**Kurchatov Arra**	**0.72**	**0**	P	**Pg**	**07 09 26.5**	**-1.4**
KUR14				S	**Sg**	**07 09 35.3**	**-2.0**
KUR15	**Kurchatov Arra**	**0.72**	**359**	P	**Pg**	**07 09 26.7**	**-1.3**
KUR15				S	**Sg**	**07 09 36.0**	**-1.4**
KURBB	**Kurchatov Arra**	**0.72**	**357**	⇑P	**Pg**	**07 09 26.9**	**-1.2**
KURBB	41nm,0.3s			⇑S	**Sg**	**07 09 35.9**	**-1.6**
	174nm,0.7s						
KUR16	**Kurchatov Arra**	**0.73**	**356**	P	**Pg**	**07 09 26.9**	**-1.3**
KUR16				S	**Sg**	**07 09 36.0**	**-1.7**
KUR17	**Kurchatov Arra**	**0.74**	**354**	P	**Pg**	**07 09 26.9**	**-1.5**
KUR17				S	**Sg**	**07 09 36.7**	**-1.2**
KUR05	**Kurchatov Arra**	**0.74**	**358**	P	**Pg**	**07 09 27.1**	**-1.4**
KUR05				S	**Sg**	**07 09 36.1**	**-2.0**
KUR04	**Kurchatov Arra**	**0.76**	**358**	P	**Pg**	**07 09 27.6**	**-1.3**
BRZS	**Berezniki**	**3.82**	**273**	Pg	**Pg**	**07 10 27.2**	**-0.1**
	10nm,0.4s						
BRZS				Lg	Lg	07 11 17.8	
	10nm,0.6s						
MAKZ	**Makanchi**	**3.83**	**143**	P	**Pn**	**07 10 15.7**	**+1.2**
MAKZ				S	**Sn**	**07 10 58.3**	**-1.9**
MAKZ	**Makanchi**	**3.83**	**143**	⇑Pn	**Pn**	**07 10 11.1**	**-3.3**
	1.3nm,0.7s						
MAKZ				⇓Pg	**Pb**	**07 10 20.7**	**-2.0**
	4.4nm,0.8s						
MAKZ				⇑Lg	Lg	07 11 14.6	
	16nm,0.7s						
MK31	**Makanchi Array**	**3.97**	**140**	⇓Pn	**Pn**	**07 10 19.1**	**+2.8**
	0.3nm,0.2s,baz=277,slow=6.8,SNR=69						
MK31				⇑Pg	**Pb**	**07 10 27.8**	**+2.7**
	0.5nm,0.2s,baz=335,slow=15,SNR=9.2						
MK31				⇓Lg	Lg	07 11 19.7	
	23nm,0.7s,baz=328,slow=26,SNR=35						
MKAR	**Makanchi Array**	**3.97**	**140**	P	**Pn**	**07 10 19.4**	**+3.0**
MKAR				S	**Sn**	**07 11 04.3**	**+0.7**
UKR	**Ust'-Kan**	**4.09**	**73**	P	**Pn**	**07 10 19.2**	**+1.1**
UKR				S	**Sn**	**07 11 07.1**	**+0.4**
KAPS	**Kapalarasan**	**4.65**	**173**	Pg	**Pg**	**07 10 40.6**	**-2.7**
	2.3nm,0.3s						
KAPS				Lg	Lg	07 11 42.4	
	26nm,0.6s						
DJR	**Jarkent**	**5.63**	**171**	Pg	**Pg**	**07 10 59.6**	**-2.5**
	3.2nm,0.4s						
DJR				Lg	Lg	07 12 13.7	
	5.8nm,0.4s						
ARXS	**Arharly**	**5.71**	**185**	Pg	**Pg**	**07 11 02.1**	**-1.6**
	3.5nm,0.3s						
ARXS				Lg	Lg	07 12 17.7	
	12nm,0.5s						
DGZ	**Jazzator, Alta**	**5.73**	**89**	P	**Pn**	**07 10 43.4**	**+2.7**
DGZ				S	**Sn**	**07 11 48.8**	**+1.6**
CHBI	**Chibit, Altay**	**5.75**	**82**	P	**Pn**	**07 10 42.4**	**+1.4**
CHBI				S	**Sn**	**07 11 48.7**	**+1.0**
MNBS	**Baschi**	**5.82**	**181**	Pg	**Pg**	**07 11 04.2**	**-1.6**
	3.3nm,0.4s						
MNBS				Lg	Lg	07 12 21.4	
	29nm,0.7s						
ARTR	**Artybash**	**5.83**	**68**	P	**Pn**	**07 10 42.9**	**+1.1**
ARTR				S	**Sn**	**07 11 49.8**	**+0.4**
ULGR	**Ulagan, Altay**	**6.06**	**80**	P	**Pn**	**07 10 46.4**	**+1.2**
ULGR				S	**Sn**	**07 11 54.2**	**-0.9**
BRVK	**Borovoye**	**6.07**	**305**	⇓Pn	**Pn**	**07 10 46.1**	**+0.8**
	1.1nm,0.7s						
BRVK				⇑Pg	**Pb**	**07 11 01.8**	**+1.0**
	2.4nm,1.0s						
BRVK				⇓Sn	**Sn**	**07 11 54.1**	**-1.2**
	3.3nm,0.8s						
BRVK				⇑Lg	Lg	07 12 28.0	
	3.0nm,0.6s						
KUU	**Kurty**	**6.20**	**195**	Pg	**Pg**	**07 11 11.9**	**-1.1**
	0.9nm,0.1s						
KUU				Lg	Lg	07 12 34.4	
	12nm,0.7s						
CUR	**Chagan-Uzun**	**6.30**	**84**	P	**Pn**	**07 10 49.5**	**+1.0**
CUR				S	**Sn**	**07 12 02.8**	**+1.5**
KTBS	**Karatobe**	**6.33**	**193**	Pg	**Pg**	**07 11 15.0**	**-0.3**
	3.4nm,1.4s						
KTBS				Lg	Lg	07 12 40.2	
	18nm,0.4s						
KURS	**Kuram**	**6.42**	**183**	Pg	**Pg**	**07 11 16.7**	**-0.5**
	6.3nm,0.8s						
KURS				Lg	Lg	07 12 43.0	
	6.2nm,0.6s						
KRBS	**Karabastau**	**6.52**	**199**	Pg	**Pg**	**07 11 19.4**	**+0.3**
	1.7nm,0.5s						
KRBS				Lg	Lg	07 12 47.7	
	6.2nm,0.5s						
DGS	**Degeres**	**6.94**	**197**	Pg	**Pg**	**07 11 25.3**	**-1.7**
	4.0nm,0.3s						
DGS				Lg	Lg	07 12 59.4	
	9.9nm,0.6s						

*IDC **12** 07:14:04.4±0.9, 13.12N×145.79E, h0km, mb3.5/6, mb1 3.9/6, mb1mx3.7/28, mbtmp3.5/6, Error ellipse: s-maj=40.1km s-min=21.7km az=103.0*
ISC 12 07:14:11.2±0.9, 13.1N±0.2×145.8E±0.3, h50km, n8, σ0s42/8, mb3.6/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.68**	**199**	P	**P**	**07 20 56.1**	**-0.2**
	0.7nm,0.7s,baz=22,slow=9.6,SNR=7.9						
ASAR	**Alice Springs**	**38.31**	**198**	P	**P**	**07 21 27.7**	**+0.4**
	0.7nm,0.8s,baz=28,slow=8.0,SNR=6.1						
MKAR	**Makanchi Array**	**62.47**	**316**	P	**P**	**07 24 29.1**	**-0.4**
	0.2nm,0.4s,baz=84,slow=9.1,SNR=5.6						
KURBB	**Kurchatov Arra**	**65.58**	**320**	P	**P**	**07 24 50.1**	**+0.3**
	0.8nm,0.4s,baz=97,slow=7.6,SNR=3.6						
ILAR	**Eielson Array**	**68.66**	**25**	P	**P**	**07 25 09.4**	**+0.2**
	0.3nm,0.5s,baz=241,slow=5.4,SNR=9.1						
YKA	**Yellowknife Ar**	**82.92**	**27**	P	**P**	**07 26 30.8**	**+0.3**
	0.3nm,0.6s,baz=284,slow=5.1,SNR=4.5						
NVAR	**Mina Array Bea**	**86.56**	**51**	P	**P**	**07 26 49.2**	**-0.5**
	0.1nm,0.4s,baz=254,slow=5.3,SNR=1.8						
DBIC	**Dimbokro**	**144.84**	**302**	PKP	**PKPdf**	**07 33 43.6**	**-0.1**
	3.7nm,0.8s,baz=45,slow=1.9,SNR=2.0						

*IDC **12** 07:20:48.7±0.6, 13.15N×145.49E, h0km, mb4.4/26, mb1 4.5/26, mb1mx4.4/43, mbtmp4.3/26, MS3.6/4, Ms1 3.6/4, ms1mx3.2/44, Error ellipse: s-maj=21.5km s-min=14.5km az=93.0*
*NEIC **12** 07:20:55.4±1.5, 13.11N±0.08×145.26E±0.09, h44km±3km, mb4.7/38, ML4.1/6, Error ellipse: s-maj=13.5km s-min=9.2km az=53.0*
*BJI **12** 07:20:56.2±0.0, 13.45N×144.96E, h32km, mB5.3/16, mb4.7/22, Ms4.6/3, Ms7 4.4/3*
ISC 12 07:20:55.2±0.5, 13.10N±0.07×145.31E±0.09, h43km, n100, σ0s86/92, mb4.6/48, MS3.8/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
GUMO	**Guam**	**0.65**	**319**		**Pn**	**07 21 08.7**	**+0.7**
GUMO					Sn	**Sn**	**07 21 16.1**	**-1.1**
GUMO					IAML		07 21 28.0	
	10μm,0.8s							
GUMO	**Guam**	**0.65**	**319**		IAML		07 21 32.7	
	9μm,0.9s							
ANA2	**Anatahan**	**3.25**	**7**		Pn	**Pn**	**07 21 45.0**	**+1.3**
JOW	**Kunigami**	**21.01**	**313**		LR	LR	07 32 19.7	
	comp=Z,313nm,19.6s,baz=158,slow=33							
H11S3	**WAKE ISLAND Hy**	**21.25**	**73**		T	T	07 47 30.9	
	baz=231,slow=74,SNR=7.0							
H11S1	**WAKE ISLAND Hy**	**21.27**	**73**		T	T	07 47 29.8	
	baz=231,slow=74,SNR=4.9							
H11S2	**WAKE ISLAND Hy**	**21.27**	**73**		T	T	07 47 26.9	
	baz=231							
H11N1	**WAKE ISLAND Hy**	**21.71**	**70**		T	T	07 47 58.2	
	baz=268,slow=74							
H11N2	**WAKE ISLAND Hy**	**21.72**	**69**		T	T	07 48 00.9	
	baz=268,slow=74							
H11N3	**WAKE ISLAND Hy**	**21.73**	**70**		T	T	07 48 02.7	
	baz=268							
JGF	**Kuroka**	**23.53**	**344**		P	**P**	**07 26 00.1**	**-1.4**
MJAR	**Matsushiro Ar**	**24.20**	**346**		P	**P**	**07 26 05.9**	**-1.9**
	2.9nm,0.7s,baz=160,slow=9.0,SNR=4.5							
JHS	**Saijyo**	**24.44**	**335**		P	**P**	**07 26 12.0**	**+2.0**
JHS					IAmb	IAmb	07 26 23.0	
	comp=Z,28nm,1.1s							
YULB	**Yu-li**	**24.96**	**298**		P	**P**	**07 26 15.4**	**+0.6**
YULB					IAmb	IAmb	07 26 35.3	
	comp=Z,23nm,1.1s							
KSRS	**Korea Array**	**28.80**	**330**		P	**P**	**07 26 49.2**	**0.0**
	comp=Z,1.6nm,0.6s,baz=145,slow=9.6,SNR=4.6							
KSRS					LR	LR	07 37 03.8	
	comp=Z,87nm,19.3s,baz=140,slow=34							
NJ2	**Nanjing**	**30.73**	**312**	*e*P		**P**	**07 27 05.3**	**-1.0**
NJ2					pmax	pmax		
	comp=Z,9.0nm,0.6s							
ASAJ	**Asahikawa**	**31.00**	**356**		LR	LR	07 39 07.9	
	comp=Z,92nm,20.8s,baz=36,slow=36							
USRK	**Ussuriysk Ar.**	**33.03**	**342**		P	**P**	**07 27 26.4**	**0.0**
	comp=Z,1.6nm,0.7s,baz=161,slow=9.0,SNR=4.5							
USRK	**Ussuriysk Ar.**	**33.03**	**342**		P	**P**	**07 27 26.1**	**-0.3**
WB0	**Warramunga Arr**	**34.38**	**198**		P	**P**	**07 27 38.3**	**0.0**
WB0					IAmb	IAmb	07 27 51.2	
	comp=Z,11nm,1.3s							
WB2	**Warramunga Arr**	**34.56**	**198**		P	**P**	**07 27 39.9**	**0.0**
WB2					IAmb	IAmb	07 27 58.1	
	comp=Z,8.1nm,0.9s							
WRA	**Warramunga Arr**	**34.56**	**198**		P	**P**	**07 27 39.8**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=22,slow=9.6,SNR=23							
FITZ	**Fitzroy Crossi**	**36.57**	**212**		P	**P**	**07 27 58.3**	**+1.2**
FITZ					IAmb	IAmb	07 28 18.0	
	comp=Z,9.3nm,1.4s							
AS31	**Alice Springs**	**38.20**	**197**		P	**P**	**07 28 11.1**	**+0.1**
ASAR	**Alice Springs**	**38.20**	**197**		P	**P**	**07 28 11.2**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=21,slow=10.0,SNR=21							
ASAR	**Alice Springs**	**38.20**	**197**		P	**P**	**07 28 10.5**	**-0.5**
HHC	**Hu-ho-hao-te**	**40.42**	**319**	*e*P		**P**	**07 28 31.1**	**+1.6**
PETK	**Petropavlovsk-**	**41.12**	**11**		P	**P**	**07 28 33.8**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=187,slow=3.9,SNR=4.1							
PETK	**Petropavlovsk-**	**41.12**	**11**		P	**P**	**07 28 35.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**44.84**	**283**		P	**P**	**07 29 07.2**	**+1.7**
	comp=Z,2.6nm,0.5s,baz=84,slow=6.3,SNR=7.8							
CMAR					PcP	**PP**	**07 30 49.1**	**-1.7**
	comp=Z,1.8nm,0.5s,baz=76,slow=2.4,SNR=7.4							
CMAR	**Chiang Mai Arr**	**44.84**	**283**		P	**P**	**07 29 05.6**	**0.0**
STKA	**Stephens Creek**	**44.86**	**184**		P	**P**	**07 29 04.4**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=354,slow=10,SNR=1.7							
MNAI	**Manna**	**45.49**	**250**		P	**P**	**07 29 11.1**	**+0.4**
BBOO	**Buckleboo**	**46.49**	**191**		P	**P**	**07 29 17.8**	**-0.5**
BBOO					IAmb	IAmb	07 29 47.3	
	comp=Z,8.8nm,1.0s							
MA2	**Magadan**	**46.57**	**4**		P	**P**	**07 29 18.4**	**-0.1**
	comp=Z,9.5nm,0.8s,baz=157,slow=12,SNR=4.4							
MA2	**Magadan**	**46.57**	**4**		P	**P**	**07 29 19.8**	**+1.2**
MA2					IAmb	IAmb	07 29 32.3	
	comp=Z,13nm,1.0s							
PSI	**Prapat**	**46.98**	**262**		LR	LR	07 50 38.7	
	comp=Z,56nm,21.4s,baz=91,slow=38							
SONM	**Songino Array**	**47.38**	**325**		P	**P**	**07 29 26.1**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=137,slow=8.4,SNR=6.3							
SONM					PcP	**PcP**	**07 30 56.4**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=159,slow=4.2,SNR=7.0							
SONM	**Songino Array**	**47.38**	**325**		P	**P**	**07 29 25.9**	**+0.6**
GTA	**Gaotai**	**47.82**	**312**	*e*P		**P**	**07 29 28.7**	**-0.1**
GTA					pP	pwP	07 29 42.0	-1.5
GTA					sP	sP	07 29 47.1	+2.3
GTA					PcP	**PcP**	**07 30 59.0**	**+1.8**
GTA					pmax	pmax		
	comp=Z,2.0nm,0.8s							
WMQ	**Urumqi**	**57.79**	**314**	*e*P		**P**	**07 30 44.5**	**+2.3**
WMQ					pmax	pmax		
	comp=Z,20nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,160nm,5.3s							
WMQ					LR	LR		
	comp=Z,320nm,18.1s							
WMQ					LR	LR		
	comp=Z,280nm,17.9s							
QRZ	**Quartz Range**	**59.28**	**156**		P	**P**	**07 30 53.0**	**+0.5**
MK31	**Makanchi Array**	**62.14**	**316**		P	**P**	**07 31 13.0**	**+1.0**
MKAR	**Makanchi Array**	**62.14**	**316**		P	**P**	**07 31 12.8**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=88,slow=8.4,SNR=38							
ZALV	**Zalesovo Beam**	**62.27**	**324**		P	**P**	**07 31 12.4**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=108,slow=9.3,SNR=2.4							
ZAL

comp=Z,8.3nm,1.1s
PMR Palmer 67.02 28 P **P** **07 31 42.5 -1.0**
PMR IAmb IAmb 07 32 07.0
comp=Z,14nm,1.2s
GHO Glory Hole Cre 67.16 28 P **P** **07 31 44.2 -0.3**
GHO IAmb IAmb 07 32 02.2
comp=Z,11nm,1.0s
SCM Sheep Creek Mo 67.91 28 P **P** **07 31 49.9 +0.7**
I23K Minto, Yukon-K 67.92 24 P **P** **07 31 49.8 +0.6**
COLD Coldfoot 68.24 22 P **P** **07 31 50.9 -0.2**
COLD IAmb IAmb 07 31 55.9
comp=Z,12nm,1.3s
WRH Wood River Hil 68.25 25 P **P** **07 31 50.6 -0.7**
WRH IAmb IAmb 07 31 53.2
comp=Z,12nm,1.2s
IL31 68.83 25 P **P** **07 31 53.7 -1.1**
IL31 IAmb IAmb 07 31 57.6
comp=Z,11nm,1.4s
ILAR Eielson Array 68.83 25 P **P** **07 31 52.9 -1.9**
comp=Z,1.7nm,0.5s,baz=251,slow=5.8,SNR=31
ILAR Eielson Array 68.83 25 P **P** **07 31 53.2 -1.6**
DOT Dot Lake 69.78 27 P **P** **07 32 00.5 -0.3**
DOT IAmb IAmb 07 32 11.5
comp=Z,6.0nm,0.8s
BMAR Burnt Mountain 70.39 23 P **P** **07 32 04.5 0.0**
BVAR Borovoye Array 70.58 322 P **P** **07 32 05.4 -0.5**
comp=Z,5.9nm,0.5s,baz=200,slow=12,SNR=38
BRVK Borovoye 70.64 322 P **P** **07 32 06.7 +0.5**
BRVK IAmb IAmb 07 32 07.3
comp=Z,7.6nm,0.6s
BCAR Beaver Creek A 70.68 27 P **P** **07 32 05.9 -0.4**
PPT2 Papeete2 71.13 114 *e*LR LR 07 53 56.7
comp=Z,133nm,25.2s
DAWY Dawson 71.89 27 P **P** **07 32 14.3 +0.7**
DAWY IAmb IAmb 07 32 15.3
comp=Z,15nm,1.4s
TBI Tubuai 73.36 119 *e*LR LR 07 54 57.7
comp=Z,69nm,24.5s
INK Inuvik 74.66 22 P **P** **07 32 29.6 -0.1**
comp=Z,3.6nm,0.8s,baz=267,slow=7.4,SNR=4.0
ABKAR Akbulak array 77.19 128 P **P** **07 32 44.5 -0.1**
ARU Arti 77.41 325 P **P** **07 32 45.7 0.0**
comp=Z,2.7nm,0.2s,baz=132,slow=7.1,SNR=6.8
AKTO Aktyubinsk 78.32 319 P **P** **07 32 50.8 -0.1**
comp=Z,2.1nm,0.8s,baz=68,slow=6.2,SNR=6.2
YBH Yreka Blue Hor 82.87 49 P **P** **07 33 16.8 +1.2**
YKA Yellowknife Ar 83.10 27 P **P** **07 33 15.0 -1.2**
comp=Z,2.1nm,0.8s,baz=288,slow=4.9,SNR=21
EUNU Eureka 83.30 8 P **P** **07 33 16.7 -0.3**
PINE Pine Mountain 83.74 47 P **P** **07 33 20.9 +0.7**
K05A Summer Lake 84.00 48 P **P** **07 33 22.1 +0.6**
K05A IAmb IAmb 07 33 31.9
comp=Z,6.7nm,1.1s
BELG Belogornoye 84.37 322 P **P** **07 33 22.8 0.0**
comp=Z,7.2nm,0.6s,baz=75,slow=2.9,SNR=4.1
RES Resolute Bay 84.93 13 P **P** **07 33 25.7 +0.4**
RES IAmb IAmb 07 33 39.1
comp=Z,6.4nm,1.4s
BEKR Beckworth 85.00 50 P **P** **07 33 27.1 +0.5**
RKT Rikitea 85.86 115 *e*LR LR 08 00 46.2
comp=Z,160nm,30.5s
NVAR Mina Array Bea 86.89 51 P **P** **07 33 36.0 -0.1**
comp=Z,1.0nm,0.7s,baz=265,slow=5.5,SNR=8.4
NVAR Mina Array Bea 86.89 51 P **P** **07 33 36.8 +0.7**
MFID Camas Ranch 87.43 46 P **P** **07 33 38.8 +0.3**
MFID IAmb IAmb 07 33 44.8
comp=Z,5.9nm,1.1s
ARCES ARCESS Array B 87.68 342 P **P** **07 33 38.2 -0.7**
comp=Z,2.4nm,0.6s,baz=42,slow=3.8,SNR=8.4
ARCES ARCESS Array B 87.68 342 P **P** **07 33 38.5 -0.4**
FINES FINESS Array B 91.79 335 P **P** **07 33 56.8 -1.5**
comp=Z,1.9nm,0.6s,baz=67,slow=6.4,SNR=6.2
PDAR Pinedale Array 92.01 45 P **P** **07 34 00.4 +0.3**
comp=Z,0.2nm,0.6s,baz=282,slow=4.2,SNR=2.4
PDAR Pinedale Array 92.01 45 P **P** **07 33 59.4 -0.6**
NOA NORSAR Array B 97.66 339 P **P** **07 34 24.3 -0.9**
comp=Z,1.1nm,0.9s,baz=51,slow=4.3,SNR=1.7
BRTR Keskin Array B 97.71 314 P **P** **07 34 25.2 -0.9**
comp=Z,0.3nm,0.4s,baz=5.2,slow=1.6,SNR=3.6
TORD Torodi Ar. Bea 135.50 304 PKP **PKiKP** **07 40 12.3 -0.9**
comp=Z,0.5nm,0.5s,baz=20,slow=2.5,SNR=4.1
DBIC Dimbokro 144.45 302 PKP **PKPdf** **07 40 27.0 -0.9**
comp=Z,23nm,0.8s,baz=52,slow=3.6,SNR=21
KIC Kosan Boka 144.52 301 *e*PKP1 **PKPdf** **07 40 27.2 -0.8**
comp=Z,45nm,0.9s
TIC Toumodi 144.59 302 *e*PKP1 **PKPdf** **07 40 27.4 -0.8**
LIC Lamto 144.83 301 *e*PKP1 **PKPdf** **07 40 28.2 -0.4**
comp=Z,105nm,0.8s
LPAZ La Paz 147.52 100 PKPbc **PKPbc** **07 40 36.7 +0.3**
comp=Z,1.1nm,0.7s,baz=297,slow=2.9,SNR=3.7

*SJA **12** 07:24:02.3±0.8,27.56S×63.63W,h644km±15km,ML4.1, MW3.9*
*IDC **12** 07:24:10.4±1.1,27.65S×63.31W,h564km±11km,mb3.1/8, mb1 3.2/14,mb1mx3.1/30,mbtmp4.0/14,Error ellipse: s-maj=17.6km s-min=13.7km az=44.0*
*VAO **12** 07:24:14.1±1.2,27.61S×62.90W,h580km±9km,mb4.1*
ISC 12 07:24:10.4±0.5,**27.62S**±0.06×**63.30W**±0.07,**h562**km,**n51**, σ1§**19**/63,**mb3.7**/8,**Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**2.00**	**294**	*i* P		**P**	**07 25 22.6**	**+1.3**
AHML				*i* S		**S**	**07 26 19.3**	**+0.5**
AHML				IAML			07 26 23.4	
	comp=Z,8.6nm,2.8s							
FSA	**Cafayete**	**2.83**	**302**	*i* P		**P**	**07 25 26.7**	**+1.1**
SLA	**San Lorenzo**	**3.50**	**325**	*i* P		**P**	**07 25 31.2**	**+1.3**
SLA				*e*S		**S**	**07 26 35.7**	**+1.1**
SLA				IAML			07 26 38.6	
	comp=Z,11nm,1.2s							
CPUP	**Villa Florida**	**5.48**	**78**	P		**P**	**07 25 46.6**	**+1.6**
	comp=Z,4.8nm,0.3s,baz=248,slow=8.9,SNR=85							
CPUP				S		**S**	**07 27 02.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=90,slow=16,SNR=1.3							
RTLL	**Cerro Villicun**	**5.83**	**229**	*i* P		**P**	**07 25 49.4**	**+1.3**
RTLL				*e*S		**S**	**07 27 08.2**	**+0.3**
RTLL				IAML			07 27 20.2	
	comp=Z,16nm,0.6s							
ACCO	**Cerro Coronel**	**5.85**	**238**	*i* P		**P**	**07 25 50.1**	**+1.6**
ACCO				*e*S		**S**	**07 27 10.7**	**+2.0**
ACCO				IAML			07 27 13.6	
	comp=Z,26nm,1.0s							
ITQB	**Itaqui**	**6.21**	**111**	*e*P		**P**	**07 25 53.4**	**+2.1**
RTCV	**Cerro Valdivia**	**6.22**	**226**	*i* P		**P**	**07 25 52.5**	**+1.1**
RTCV				*e*S		**S**	**07 27 14.8**	**+0.5**
RTCV				IAML			07 27 31.5	
	comp=Z,16nm,2.0s							
ASAL	**Salagasta**	**6.89**	**223**	*i* P		**P**	**07 25 59.3**	**+1.5**
ASAL				*e*S		**S**	**07 27 25.4**	**-0.4**
ASAL				IAML			07 27 28.9	
	comp=Z,16nm,3.0s							
AUSP	**Usapallata**	**7.00**	**228**	*e*P		**P**	**07 26 00.4**	**+1.4**
GO04	**Tololo Observa**	**7.05**	**247**	*e*P		**P**	**07 26 00.5**	**+1.0**
LVC	**Limon Verde**	**7.12**	**313**	P		**P**	**07 26 01.7**	**+1.2**
	comp=Z,12nm,0.3s,baz=91,slow=5.2,SNR=86							
LVC				S		**S**	**07 27 29.1**	**-1.4**
	comp=Z,4.7nm,0.3s,baz=172,slow=4.9,SNR=6.5							
ARCO	**CERRO ARCO**	**7.13**	**222**	*e*P		**P**	**07 26 01.4**	**+1.3**
ARCO				*e*S		**S**	**07 27 30.9**	**+0.9**
ARCO				IAML			07 27 37.9	
	comp=Z,16nm,0.8s							
AAGR	**Agrelo**	**7.25**	**220**	*e*P		**P**	**07 26 02.4**	**+1.3**
AAGR				*e*S		**S**	**07 27 33.0**	**+1.1**
AAGR				IAML			07 27 45.3	
	comp=Z,12nm,0.7s							
RFA	**San Rafael**	**8.39**	**211**	*i* P		**P**	**07 26 13.5**	**+1.3**
RFA				IAML			07 28 01.4	
	comp=Z,8.5nm,1.0s							
CPSB	**Cacapava Do Su**	**9.06**	**110**	*e*P		**P**	**07 26 20.0**	**+1.0**
PLTB	**Pedras Altas**	**9.38**	**118**	*e*P		**P**	**07 26 22.5**	**+0.3**
ITAB	**Concordia**	**9.93**	**90**	*e*P		**P**	**07 26 28.3**	**+0.5**
AQDB	**Aquidauana**	**9.94**	**46**	*e*P		**P**	**07 26 29.3**	**+1.4**
PTGB	**Pitanga**	**10.49**	**77**	*e*P		**P**	**07 26 34.7**	**+1.0**
TRCB	**Terra Rica**	**10.78**	**66**	*e*P		**P**	**07 26 37.4**	**+0.8**
CNLB	**Canela**	**11.08**	**102**	*e*P		**P**	**07 26 40.1**	**+0.6**
SIV	**San Ignacio**	**11.76**	**11**	P		**P**	**07 26 48.9**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=257,slow=8.9,SNR=2.0							
LPAZ	**La Paz**	**12.13**	**337**	P		**P**	**07 26 51.2**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=151,slow=4.6,SNR=14							
LPAZ				S		**S**	**07 29 02.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=227,slow=19,SNR=1.4							
PCMB	**Pacaembu**	**12.47**	**64**	*e*P		**P**	**07 26 54.5**	**+0.6**
TER01	**Tubaro-SC**	**12.54**	**97**	*e*P		**P**	**07 26 54.8**	**+0.3**
PTLB	**Pontes e Lacer**	**12.71**	**19**	*e*P		**P**	**07 26 59.0**	**+2.6**
FRTB	**Fartura**	**13.11**	**74**	*e*P		**P**	**07 27 01.0**	**+0.5**
ITRB	**Iturama**	**14.23**	**59**	*e*P		**P**	**07 27 12.1**	**+0.2**
PLCA	**Paso Flores**	**14.38**	**203**	P		**P**	**07 27 11.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=16,slow=10,SNR=7.9							
BB19B	**Bebedouro**	**14.95**	**67**	*e*P		**P**	**07 27 18.8**	**-0.5**
VAO	**Valinhos**	**15.46**	**76**	*e*P		**P**	**07 27 24.5**	**+0.1**
BDFB	**Brasilia**	**18.52**	**53**	P		**P**	**07 27 52.6**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=230,slow=3.9,SNR=6.4							
SNDB	**Serra Nova Dou**	**19.21**	**38**	*e*P		**P**	**07 27 59.0**	**+0.2**
JANB	**Januaria**	**21.62**	**59**	*e*P		**P**	**07 28 20.9**	**+0.2**
MACA	**Manacapuru-AM**	**24.45**	**6**	*e*P		**P**	**07 28 48.7**	**+2.9**
PTGA	**Pitinga**	**26.93**	**7**	P		**P**	**07 29 07.0**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=326,slow=22,SNR=1.3							
NBLA	**Lagarto - SE**	**29.11**	**60**	*e*P		**P**	**07 29 26.9**	**+0.3**
NBPB	**Pedra_Branca-C**	**31.47**	**50**	*e*P		**P**	**07 29 46.9**	**0.0**
SNAA	**Sanae**	**54.84**	**160**	P		**P**	**07 32 47.3**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=198,slow=1.6,SNR=10							
DBIC	**Dimbokro**	**65.92**	**68**	P		**P**	**07 34 00.9**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=218,slow=5.9,SNR=5.2							
TXAR	**Lajitas Array**	**68.56**	**323**	P		**P**	**07 34 17.5**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=138,slow=5.9,SNR=3.5							
TORD	**Torodi Ar. Bea**	**74.86**	**66**	P		**P**	**07 34 54.2**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=278,slow=7.3,SNR=20							
BOSA	**Boshof**	**76.15**	**115**	P		**P**	**07 35 01.0**	**-0.6**
	comp=Z,6.8nm,1.1s,baz=230,slow=2.2,SNR=6.6							
PDAR	**Pinedale Array**	**81.97**	**327**	P		**P**	**07 35 31.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=127,slow=10,SNR=1.9							
ESDC	**Sonseca Array**	**86.79**	**42**	P		**P**	**07 35 55.2**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=261,slow=5.0,SNR=1.9							
ASAR	**Alice Springs**	**126.38**	**200**	PKP		**PKiKP**	**07 42 09.6**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=149,slow=1.7,SNR=10							
WRA	**Warramunga Arr**	**129.73**	**202**	PKP		**PKiKP**	**07 42 16.6**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=168,slow=1.6,SNR=14							
WRA				SKPbc	SKPbc		07 44 44.6	-2.4
	comp=Z,0.5nm,0.5s,baz=155,slow=3.3,SNR=9.3							
KURBB	**Kurchatov Arra**	**143.12**	**41**	PKP		**PKPdf**	**07 42 38.8**	**-1.6**
	comp=Z,2.9nm,0.6s,baz=294,slow=3.8,SNR=14							
ZALV	**Zalesovo Beam**	**144.82**	**33**	PKP		**PKPab**	**07 42 43.9**	**-0.8**
	comp=Z,2.0nm,0.4s,baz=311,slow=5.0,SNR=12							
MKAR	**Makanchi Array**	**146.93**	**45**	PKP		**PKPbc**	**07 42 48.0**	**-2.1**
	comp=Z,2.9nm,0.6s,baz=302,slow=2.7,SNR=27							
MKAR				PKPbc		**PKiKP**	**07 42 50.1**	**-1.9**
	comp=Z,2.8nm,0.6s,baz=274,slow=2.6,SNR=29							
MKAR				pPKPbc	pPKPab		07 45 01.5	+2.2
	comp=Z,0.8nm,0.8s,baz=311,slow=3.5,SNR=5.9							

*TAP **12** 07:30:43.0,23.77N×122.56E,h26km,ML4.0,D*
*JMA **12** 07:30:42.8±0.1,23.77N×122.49E,h21km,M3.5*
*IDC **12** 07:30:45.4±1.1,23.87N×122.65E,h39km±8km,mb3.4/5, mb1 3.6/7,mb1mx3.3/51,mbtmp3.7/7,ML3.6/2,MS3.7/3, Ms1 3.7/3,ms1mx2.9/45,Error ellipse: s-maj=27.2km s-min=21.1km az=60.0*
ISC 12 07:30:42.7±0.7,**23.70N**±0.02×**122.52E**±0.02,**h23**km±6km, **n147**,σ0§**95**/272,**mb3.6**/5,**MS3.5**/3,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.85**	**27**	P		**Pb**	**07 30 57.8**	**-1.0**
JYNG				S		**Sb**	**07 31 07.1**	**-2.7**
HWA	**Hwalien**	**0.88**	**289**	P		**Pn**	**07 30 59.2**	**-0.5**
	baz=270							
HWA				S		**Sn**	**07 31 11.5**	**-0.3**
	baz=270							
YOJ	**Yonaguni jima**	**0.89**	**31**	P		**Pb**	**07 30 58.6**	**-0.8**
	baz=30							
YOJ				*e*S		**Sb**	**07 31 10.8**	**0.0**
	baz=30							
YOJ	**Yonaguni jima**	**0.89**	**31**	P		**Pb**	**07 30 58.5**	**-0.9**
YOJ				*e*S		**Sb**	**07 31 08.7**	**-2.2**
TWD	**Chiawan**	**0.93**	**295**	*i* P		**Pb**	**07 30 59.4**	**-0.7**
	baz=275							
TWD				S		**Sb**	**07 31 11.3**	**-0.7**
	baz=275							
NACB	**Ninganchiao**	**0.97**	**300**	P		**Pb**	**07 30 59.9**	**-0.9**
	baz=281							
EGFH	**Guangfu**	**1.00**	**269**	P		**Pn**	**07 31 00.9**	**-0.4**
	baz=263							
EGFH				*e*S		**Sn**	**07 31 14.5**	**-0.2**
	baz=263							
ESL	**Shilin**	**1.00**	**277**	*i* P		**Pb**	**07 31 00.5**	**-0.9**
	baz=271							
ESL				S		**Sn**	**07 31 14.0**	**-0.8**
	baz=271							
EWUT	**Wuta**	**1.01**	**318**	P		**Pn**	**07 31 00.6**	**-0.8**
	baz=311							
EWUT				S		**Sn**	**07 31 15.3**	**+0.4**
	baz=311							
ENA	**Nanau**	**1.02**	**316**	*i* P		**Pb**	**07 31 01.2**	**-0.5**
	baz=309							
ENA				S		**Sn**	**07 31 15.4**	**+0.2**
	baz=309							
HGSD	**Ruisui**	**1.02**	**259**	*i* P		**Pb**	**07 31 01.3**	**-0.5**
	baz=254							
HGSD				S		**Sn**	**07 31 14.3**	**-1.0**
	baz=254							
ETLH	**Xiulin Townshi**	**1.07**	**299**	*i* P		**Pn**	**07 31 01.7**	**-0.7**
	baz=292							
ETLH				S		**Sb**	**07 31 15.4**	**-1.0**
	baz=292							
TWC	**Suao**	**1.10**	**326**	*i* P		**Pn**	**07 31 02.0**	**-0.6**
	baz=320							
TWC				*e*S		**Sn**	**07 31 17.0**	**-0.1**
	baz=320							
EHY	**Hungye**	**1.11**	**261**	*i* P		**Pb**	**07 31 03.1**	**-0.2**
	baz=255							
EHY				S		**Sn**	**07 31 17.5**	**0.0**
	baz=255							
EYUL	**Yuli**	**1.15**	**253**	*e*P		**Pb**	**07 31 03.9**	**-0.1**
	baz=248							
EYUL				*e*S		**Sn**	**07 31 18.8**	**+0.2**
	baz=248							
YULB	**Yu-li**	**1.16**	**255**	P		**Pb**	**07 31 03.7**	**-0.4**
	baz=251							
YULB				S		**Sn**	**07 31 18.1**	**-0.6**
	baz=251							
NDS	**Dongshan**	**1.19**	**322**	P		**Pb**	**07 31 04.1**	**-0.5**
	baz=315							
NDS				S		**Sb**	**07 31 20.9**	**+1.4**
	baz=315							
CHKT	**Chengkung**	**1.21**	**241**	*e*P		**Pb**	**07 31 04.2**	**-0.8**
	baz=238							
CHKT				*e*S		**Sn**	**07 31 18.9**	**-1.1**
	baz=238							
FULB	**Fuli**	**1.23**	**247**	*e*P		**Pb**	**07 31 04.5**	**-0.8**
	baz=231							
FULB				*e*S		**Sn**	**07 31 19.6**	**-0.8**
	baz=231							
WHF	**Hehuan Shan**	**1.23**	**292**	*i* P		**Pn**	**07 31 04.3**	**-0.6**
	baz=273							
WHF				S		**Sn**	**07 31 19.9**	**-1.1**
	baz=273							
HATJ	**Hateruma jima**	**1.23**	**73**	P		**Pn**	**07 31 04.7**	**+0.1**
HATJ				S		**Sb**	**07 31 21.8**	**+1.0**
VWDT	**VWDT**	**1.26**	**273**	P		**Pb**	**07 31 05.3**	**-0.5**
	baz=267							
VWDT				S		**Sb**	**07 31 21.1**	**-0.6**
	baz=267							
EGS		**1.26**	**335**	*e*P		**Pb**	**07 31 05.2**	**-0.7**
	baz=315							
EGS				*e*S		**Sb**	**07 31 22.6**	**+0.9**
	baz=315							
NNSB	**Datong**	**1.27**	**305**	*i* P		**Pn**	**07 31 04.9**	**-0.3**
	baz=298							
NNSB				*i* S		**Sb**	**07 31 21.1**	**-0.9**
	baz=298							
NNSH	**Datong**	**1.27**	**305**	*e*P		**Pn**	**07 31 04.9**	**-0.3**
	baz=291							
ILA	**Ilan**	**1.28**	**327**	*e*P		**Pb**	**07 31 05.5**	**-0.6**
	baz=308							
ILA				*e*S		**Sb**	**07 31 23.0**	**+0.9**
	baz=308							
ENTT	**Nioudou**	**1.28**	**318**	P		**Pb**	**07 31 05.4**	**-0.8**
	baz=297							
ENTT				S		**Sb**	**07 31 23.8**	**+1.6**
	baz=297							
IRIF	**Iriomote-Funau**	**1.28**	**60**	P		**Pb**	**07 31 06.0**	**-0.1**
IRIF				S		**Sb**	**07 31 22.2**	**+0.1**
CHGB	**Renai**	**1.28**	**287**	*i* P		**Pb**	**07 31 05.3**	**-1.0**
	baz=271							
CHGB				*e*S		**Sn**	**07 31 21.2**	**-0.8**
	baz=271							
NNS	**Nan Shan**	**1.28**	**306**	*i* P		**Pn**	**07 31 05.1**	**-0.3**
	baz=290							
TWE	**Neicheng**	**1.28**	**323**	P		**Pb**	**07 31 05.6**	**-0.6**
	baz=317							
TWE				*e*S		**Sb**	**07 31 23.2**	**+1.0**
	baz=317							
NDT	**Datong Townshi**	**1.29**	**315**	P		**Pb**	**07 31 05.5**	**-0.8**
	baz=308							
NDT				S		**Sb**	**07 31 21.8**	**-0.6**
	baz=308							
FUSS	**Fushou**	**1.29**	**296**	*i* P		**Pb**	**07 31 05.5**	**-0.9**
	baz=288							
FUSS				S		**Sb**	**07 31 21.7**	**-1.0**
	baz=288							
NTC	**Toucheng**	**1.31**	**332**	P		**Pb**	**07 31 05.8**	**-0.9**
	baz=325							
NTC				S		**Sb**	**07 31 24.6**	**+1.5**
	baz=325							
EDH	**Donghe**	**1.33**	**237**	*e*P		**Pn**	**07 31 05.7**	**-0.2**
	baz=235							
EDH				*e*S		**Sn**	**07 31 22.1**	**-0.6**
	baz=235							
TWT	**Tachien**	**1.35**	**295**	P		**Pb**	**07 31 06.7**	**-0.7**
	baz=276							
TWT				*e*S		**Sb**	**07 31 24.1**	**-0.2**
	baz=276							
TDCB	**Techi**	**1.36**	**294**	P		**Pb**	**07 31 06.6**	**-1.0**
	baz=277							
TDCB				*e*S		**Sn**	**07 31 23.3**	**-0.6**
	baz=277							
TWB1	**Santiao Chiao**	**1.39**	**340**	P		**Pn**	**07 31 06.4**	**-0.4**
	baz=351							
TWB1				*e*S		**Sb**	**07 31 24.6**	**-0.8**
	baz=351							
LDUT	**Ludao**	**1.40**	**224**	*e*P		**Pn**	**07 31 06.7**	**-0.2**
	baz=222							
LDUT				*e*S		**Sn**	**07 31 23.4**	**-1.2**
	baz=222							
TIPB	**Shuangxi**	**1.42**	**334**	P		**Pn**	**07 31 07.0**	**-0.2**
	baz=327							
TIPB				S		**Sb**	**07 31 26.8**	**+0.6**
	baz=327							
NWLT	**Wulai**	**1.42**	**320**	P		**Pb**	**07 31 07.4**	**-1.1**
	baz=312							
NWLT				*e*S		**Sb**	**07 31 26.1**	**-0.1**
	baz=312							
YHNB	**Yeheng**	**1.42**	**313**	P		**Pb**	**07 31 07.4**	**-1.2**
	baz=295							
YHNB				*e*S		**Sb**	**07 31 25.4**	**-1.0**
	baz=295							
SSLB	**Suanglung**	**1.44**	**274**	P		**Pb**	**07 31 07.6**	**-1.2**
	baz=268							
SSLB				S		**Sb**	**07 31 25.6**	**-1.1**
	baz=268							
NSK	**Sanguang**	**1.44**	**313**	P		**Pn**	**07 31 07.5**	**+0.1**
	baz=305							
NSK				*e*S		**Sb**	**07 31 26.9**	**+0.1**
	baz=305							
YUS	**Yu-Shan**	**1.45**	**262**	P		**Pb**	**07 31 08.5**	**-0.8**
	baz=256							
YUS				*e*S		**Sb**	**07 31 26.9**	**-0.6**
	baz=256							
WPL	**Puli Township**	**1.46**	**283**	P		**Pb**	**07 31 08.2**	**-1.1**
	baz=266							
WPL				*e*S		**Sn**	**07 31 25.7**	**-0.4**
	baz=266							
ELDTW	**Lidau**	**1.47**	**250**	*e*P		**Pb**	**07 31 08.1**	**-1.3**
	baz=246							
ELDTW				*e*S		**Sn**	**07 31 26.0**	**-0.5**
	baz=246							
JKRS	**Kuro-shima**	**1.47**	**68**	P		**Pb**	**07 31 09.4**	**+0.1**
JKRS				S		**Sb**	**07 31 28.3**	**+0.7**
SMLT	**Sun Moon Lake**	**1.49**	**278**	P		**Pb**	**07 31 08.9**	**-0.9**
	baz=271							
SMLT				S		**Sb**	**07 31 27.4**	**-1.0**
	baz=271							
DPDB	**Guoxing**	**1.49**	**283**	P		**Pb**	**07 31 08.9**	**-0.9**
	baz=267							
DPDB				*e*S		**Sb**	**07 31 28.2**	**-0.2**
	baz=267							
LONT	**Longtian**	**1.50**	**239**	*e*P		**Pb**	**07 31 08.7**	**-1.2**
	baz=226							
LONT				*e*S		**Sb**	**07 31 27.2**	**-1.2**
	baz=226							
WCS	**Beigang Elemen**	**1.51**	**284**	P		**Pb**	**07 31 09.1**	**-1.0**
	baz=268							
WCS				*e*S		**Sb**	**07 31 27.5**	**-1.4**
	baz=268							
NWF	**Wu-fen Shan**	**1.53**	**334**	P		**Pn**	**07 31 08.6**	**0.0**
	baz=327							
NWF				*e*S		**Sb**	**07 31 29.2**	**-0.1**
	baz=327							
WFSB	**Wu-fen Shan**	**1.53**	**334**	P		**Pn**	**07 31 08.3**	**-0.3**
	baz=327							
WFSB				*e*S		**Sb**	**07 31 29.1**	**-0.2**
	baz=327							
TYC	**Yuchr**	**1.53**	**278**	P		**Pb**	**07 31 09.2**	**-1.3**
	baz=272							
TYC				*e*S		**Sb**	**07 31 28.1**	**-1.4**
	baz=272							
TWA	**Mucha**	**1.54**	**327**	P		**Pb**	**07 31 09.8**	**-0.7**
	baz=319							
TWA				*e*S		**Sb**	**07 31 28.7**	**-0.9**
	baz=319							
WHP	**Taichung City**	**1.55**	**292**	*e*P		**Pb**	**07 31 11.3**	**+0.5**
	baz=285							
WHP				*e*S		**Sb**	**07 31 29.2**	**-0.8**
	baz=285							
NHDH	**Xindian Distri**	**1.55**	**325**	*e*P		**Pb**	**07 31 10.2**	**-0.6**
	baz=318							
NHDH				*e*S		**Sb**	**07 31 29.4**	**-0.7**
	baz=318							
ALS	**Alishan**	**1.58**	**264**	*e*P		**Pb**	**07 31 10.8**	**-0.6**
	baz=258							
ALS				*e*S		**Sb**	**07 31 30.8**	**-0.4**
	baz=258							
TATO	**Taipei**	**1.58**	**324**	*e*P		**Pb**	**07 31 10.1**	**-1.2**
	baz=316							
TATO				*e*S		**Sb**	**07 31 29.7**	**-1.2**
	baz=316							
TWGBT	**Beinan**	**1.58**	**237**	*e*P		**Pn**	**07 31 09.6**	**+0.2**
	baz=225							
TWGBT				*e*S		**Sn**	**07 31 29.0**	**-0.2**
	baz=225							
TNOU	**National Taiwa**	**1.60**	**335**	*e*P		**Pn**	**07 31 09.2**	**-0.4**
	baz=328							
TNOU				*e*S		**Sn**	**07 31 29.1**	**-0.4**
	baz=328							
JIJ	**Ishigaki jima**	**1.63**	**66**	P		**Pn**	**07 31 10.1**	**+0.1**
JIJ				*e*S		**Sn**	**07 31 31.2**	**+0.9**
WJS	**Zhushan**	**1.64**	**275**	*e*P	

YM11			eS	Sn	07 31 32.6	+0.5
	baz=322					
STYT	**Tauyuan**	**1.70 252**	eP	Pb	07 31 12.4	-1.0
	baz=248					
STYT			eS	Sb	07 31 34.0	-0.3
	baz=248					
WWF	**Wufeng**	**1.70 282**	eP	Pb	07 31 13.5	+0.2
	baz=268					
WWF			eS	Sb	07 31 35.2	+1.0
	baz=268					
YM05	**YM05**	**1.70 330**	eP	Pn	07 31 10.9	-0.2
	baz=322					
YM05			eS	Sn	07 31 32.3	+0.1
	baz=322					
YM04	**YM04**	**1.71 329**	eP	Pn	07 31 11.1	0.0
	baz=338					
YM04			eS	Sn	07 31 32.2	0.0
	baz=338					
YM08	**YM08**	**1.71 331**	eP	Pn	07 31 11.8	+0.6
	baz=323					
YM08			eS	Sn	07 31 32.1	-0.2
	baz=323					
TWS1	**Kuangyinshan**	**1.72 325**	eP	Pb	07 31 12.2	-1.5
	baz=317					
TWS1			eS	Sb	07 31 35.4	+0.6
	baz=317					
YM03	**YM03**	**1.73 329**	eP	Pn	07 31 12.1	+0.7
	baz=322					
YM03			eS	Sb	07 31 33.6	-1.5
	baz=322					
HSN1	**Hsinchu**	**1.74 309**	eP	Pb	07 31 13.2	-0.8
	baz=318					
TCU	**Taichung**	**1.74 285**	eP	Pb	07 31 13.9	-0.1
	baz=277					
TCU			eS	Sb	07 31 36.9	+1.4
	baz=277					
NCUH	**Zhongli**	**1.76 316**	eP	Pn	07 31 10.9	-0.8
	baz=308					
NCUH			eS	Sb	07 31 35.9	+0.1
	baz=308					
NSY	**Sanyi**	**1.76 294**	P	Pb	07 31 13.9	-0.4
	baz=286					
NSY			eS	Sb	07 31 36.0	0.0
	baz=286					
SBCB	**Hsinchu**	**1.77 308**	eP	Pb	07 31 13.7	-0.9
	baz=299					
SBCB			eS	Sb	07 31 35.9	-0.5
	baz=299					
TPUB	**Ta-pu**	**1.78 258**	eP	Pb	07 31 14.1	-0.6
	baz=246					
TPUB			eS	Sb	07 31 36.7	+0.2
	baz=246					
NMLH	**Miaoli**	**1.79 298**	eP	Pb	07 31 14.1	-0.7
	baz=290					
NMLH			eS	Sb	07 31 37.4	+0.6
	baz=290					
HSN	**Hsinchu**	**1.79 308**	eP	Pb	07 31 14.2	-0.7
	baz=301					
HSN			eS	Sb	07 31 36.8	-0.1
	baz=301					
WGK	**Gukeng**	**1.79 270**	eP	Pb	07 31 14.4	-0.5
	baz=263					
WGK			eS	Sb	07 31 37.0	+0.2
	baz=263					
CHN4	**Tsaushan**	**1.80 259**	eP	Pb	07 31 14.7	-0.3
	baz=247					
CHN4			eS	Sb	07 31 38.6	+1.5
	baz=247					
WTP	**Ta-pu**	**1.80 256**	P	Pb	07 31 14.5	-0.6
	baz=251					
WTP			eS	Sb	07 31 37.7	+0.5
	baz=251					
ECL	**Taimali**	**1.81 233**	eP	Pn	07 31 13.2	+0.7
	baz=242					
ECL			eS	Sn	07 31 34.7	+0.1
	baz=242					
WDLH	**Douliu**	**1.81 270**	eP	Pb	07 31 14.8	-0.4
	baz=263					
WDLH			eS	Sb	07 31 37.4	-0.1
	baz=263					
WDJ	**Dajia District**	**1.83 291**	eP	Pb	07 31 14.6	-1.0
	baz=283					
WDJ			eS	Sb	07 31 37.4	-0.7
	baz=283					
SLGT	**Liugui**	**1.85 248**	eP	Pb	07 31 14.9	-1.0
	baz=239					
SLGT			eS	Sb	07 31 37.4	-1.3
	baz=239					
JISG	**Ishigakijimahi**	**1.86 61**	P	Pn	07 31 14.0	+0.8
JISG			eS	Sb	07 31 37.8	-1.2
LAY	**Lan-yu**	**1.87 209**	eP	Pn	07 31 13.0	-0.4
	baz=209					
LAY			eS	Sn	07 31 36.7	+0.4
	baz=209					
SGST	**Jiashian**	**1.88 251**	eP	Pb	07 31 14.6	-1.8
	baz=247					
SGST			eS	Sb	07 31 40.3	+0.9
	baz=247					
CHN1	**Nanshi**	**1.90 255**	eP	Pb	07 31 16.3	-0.4
	baz=250					
CHN1			eS	Sb	07 31 40.3	+0.4
	baz=250					
TWK	**Hsinying**	**1.91 258**	P	Pb	07 31 16.1	-0.8
	baz=252					
TWK			S	Sb	07 31 40.4	0.0
	baz=252					
CHY	**Chiayi**	**1.93 265**	eP	Pb	07 31 17.1	-0.1
	baz=258					
CHY			eS	Sb	07 31 41.1	+0.3
	baz=258					
WTK	**Tuku**	**1.95 270**	eP	Pb	07 31 16.9	-0.6
	baz=263					
WTK			eS	Sb	07 31 41.7	+0.2
	baz=263					
PCYT	**Pengchaiyu**	**1.97 348**	eP	Pn	07 31 14.6	-0.1
	baz=344					
WRL	**Guolierlin Hig**	**1.97 276**	eP	Pb	07 31 17.0	-0.9
	baz=259					
WRL			eS	Sb	07 31 42.8	+0.8
	baz=259					
SSD	**Sandimen**	**1.97 242**	eP	Pb	07 31 17.1	-0.9
	baz=234					
SSD			eS	Sn	07 31 39.3	+0.5
	baz=234					
TSMG	**Majia**	**1.98 241**	eP	Pb	07 31 17.1	-1.0
	baz=232					
TSMG			eS	Sb	07 31 41.4	-1.1
	baz=232					
TAW	**Tawu**	**2.00 229**	eP	Pn	07 31 16.1	+1.0
	baz=236					
TAW			eS	Sn	07 31 38.2	-1.2
	baz=236					
EAST	**Anshuo**	**2.02 230**	eP	Pn	07 31 15.9	+0.5
	baz=237					
EAST			eS	Sn	07 31 40.1	+0.2
	baz=237					
SCST	**Cishan**	**2.03 247**	eP	Pb	07 31 19.2	+0.3
	baz=234					
SCST			eS	Sb	07 31 45.1	+1.4
	baz=234					
MASBT	**Mashibuluo**	**2.04 239**	P	Pn	07 31 16.6	+0.9
	baz=231					
MASBT			eS	Sb	07 31 41.6	-2.5
	baz=231					
CHN3	**Shinhua**	**2.07 253**	eP	Pb	07 31 18.9	-0.7
	baz=248					
CHN3			eS	Sb	07 31 45.9	+1.0
	baz=248					
ICHU	**Yijhu**	**2.08 261**	eP	Pb	07 31 18.5	-1.3
	baz=255					
ICHU			eS	Sb	07 31 45.5	+0.3
	baz=255					
TWM1	**Shoushan**	**2.11 246**	eS	Sb	07 31 48.5	+2.3
	baz=244					
CHN8	**Yiju**	**2.14 261**	eP	Pb	07 31 18.8	-2.1
	baz=255					
CHN8			eS	Sb	07 31 47.1	0.0
	baz=255					
SLIU	**Shizi**	**2.16 227**	eP	Pn	07 31 18.1	+0.8
	baz=227					
SSPT	**Xinbi**	**2.16 236**	eP	Pb	07 31 19.1	-2.0
	baz=235					
SSPT			eS	Sb	07 31 44.9	-2.7
	baz=235					
SCZT	**Fangliau**	**2.19 233**	eP	Pn	07 31 18.6	+0.9
	baz=232					
SCZT			eS	Sn	07 31 44.9	+0.8
	baz=232					
JTJ	**Tarama**	**2.21 64**	P	Pn	07 31 18.6	+0.6
SNJT	**Kaohsiung City**	**2.21 245**	eP	Pb	07 31 21.8	-0.2
	baz=240					
SNJT			eS	Sb	07 31 51.4	+2.3
	baz=240					
TWKBT	**Hengchun**	**2.35 222**	eP	Pb	07 31 22.1	-2.2
	baz=222					
TWKBT			eS	Sb	07 31 50.0	-2.9
	baz=222					
TWK1	**Hengchun**	**2.35 223**	eP	Pb	07 31 22.4	-2.0
	baz=222					
TWK1			eS	Sb	07 31 51.2	-1.8
	baz=222					
WLCH	**Liuqiu**	**2.38 236**	eP	Pb	07 31 24.0	-0.9
	baz=230					
WLCH			eS	Sb	07 31 54.6	+0.8
	baz=230					
WDGT	**Dungji**	**2.66 261**	eP	Pn	07 31 25.9	+1.7
	baz=255					
WDGT			eS	Sn	07 31 56.9	+1.2
	baz=255					
PHUB	**P'eng-hu**	**2.71 267**	eP	Pn	07 31 26.3	+1.4
	baz=250					
PHUB			eS	Sn	07 31 58.1	+1.2
	baz=250					
PNG	**Penghu**	**2.72 268**	eP	Pn	07 31 26.4	+1.5
	baz=250					
PNG			eS	Sn	07 31 58.7	+1.6
	baz=250					
VWUC	**VWUC**	**3.08 295**	eP	Pn	07 31 30.5	+0.5
	baz=273					
VWUC			eS	Sn	07 32 07.4	+1.3
	baz=273					
PTMZ	**Houxiangcun**	**3.37 294**	eP	Pn	07 31 35.8	+1.8
	baz=271					
PTMZ			eS	Sn	07 32 14.0	+0.6
	baz=271					
MATB	**Ma-tsu**	**3.38 317**	eP	Pn	07 31 33.5	-0.6
	baz=310					
MSUT	**Lienchiang**	**3.41 317**	eP	Pn	07 31 34.0	-0.5
	baz=311					
LYJJ	**Jianjiangzhen**	**3.79 319**	eP	Pn	07 31 39.0	-0.6
	baz=313					
KNM	**Kinmen**	**3.80 282**	eP	Pn	07 31 42.1	+2.2
	baz=270					
KNM			eS	Sn	07 32 25.8	+1.9
	baz=270					
XPSS	**Dashiqiu**	**3.85 327**	eP	Pn	07 31 40.3	-0.2
	baz=332					
KNMB	**Chin-men Tao**	**3.85 282**	eP	Pn	07 31 40.7	+0.2
	baz=271					
KNMB			eS	Sn	07 32 23.3	-1.8
	baz=271					
MHZQ	**Yeshan**	**3.97 308**	P	Pn	07 31 41.8	-0.4
	baz=296					
MHZQ			eS	Sn	07 32 27.9	-0.2
	baz=296					
AXDP	**Jialang**	**4.32 287**	eP	Pn	07 31 47.5	+0.5
	baz=275					
AXDP			eS	Sn	07 32 37.0	+0.4
	baz=275					
ZPLA	**Ao Xicun**	**4.37 274**	eP	Pn	07 31 48.7	+1.0
	baz=263					
ZPLA			eS	Sn	07 32 37.6	-0.4
	baz=263					
JOW	**Kunigami**	**6.08 58**	Pn	Pn	07 32 09.4	-1.8
	3.3nm,0.3s,baz=130,slow=14,SNR=9.5					
JOW			Sn	Sn	07 33 17.5	-2.5
	0.2nm,0.3s,baz=56,slow=25,SNR=1.6					
KSRS	**Korea Array**	**14.48 17**	Pn	Pn	07 34 05.6	-0.6
	0.3nm,0.3s,baz=201,slow=11,SNR=2.6					
SONM	**Songino Array**	**27.30 336**	P	P	07 36 24.1	-1.6
	0.4nm,0.3s,baz=155,slow=9.9,SNR=4.6					
SONM			pP	pwP	07 36 35.9	+0.1
	2.1nm,0.8s,baz=150,slow=9.2,SNR=4.6					
BRDH	**Bariadhala**	**28.37 274**	LR	LR	07 48 42.4	
	comp=Z,80nm,19.0s,baz=136,slow=38					
TLY	**Talaya**	**31.49 337**	LR	LR	07 52 12.9	
	comp=Z,86nm,18.1s,baz=231,slow=41					
MKAR	**Makanchi Array**	**39.54 316**	P	P	07 38 12.6	+0.7
	1.0nm,0.4s,baz=107,slow=9.9,SNR=14					
MKAR			pP	pwP	07 38 23.1	+0.7
	1.0nm,0.5s,baz=96,slow=11,SNR=8.1					
WRA	**Warramunga Ar**	**44.88 164**	P	P	07 38 57.1	+1.5
	0.5nm,1.0s,baz=336,slow=10.0,SNR=1.7					
ASAR	**Alice Springs**	**48.36 166**	P	P	07 39 24.3	+1.5
	0.2nm,0.5s,baz=343,slow=9.1,SNR=2.2					
AKASG	**Malin Array Be**	**74.04 319**	LR	LR	08 16 12.7	
	comp=Z,81nm,18.3s,baz=320,slow=37					
YKA	**Yellowknife Ar**	**82.94 23**	P	P	07 43 05.1	-0.5
	0.5nm,0.7s,baz=316,slow=4.4,SNR=9.3					
YKA			pP	pwP	07 43 17.0	+0.8
	0.4nm,0.8s,baz=314,slow=4.4,SNR=4.7					

IDC 12 07:34:39.7±1.6, 13°.19N×145°.55E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.5/47, mbtmp3.4/5, Error ellipse: s-maj=186.3km s-min=25.2km az=113.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.73**	**199**	P	P		07 41 31.7	-0.1
	0.5nm,0.9s,baz=21,slow=9.6,SNR=1.7							
ASAR	**Alice Springs**	**38.36**	**197**	P	P		07 42 02.7	-0.1
	0.2nm,0.3s,baz=26,slow=9.3,SNR=4.3							
ILAR	**Eielson Array**	**68.64**	**25**	P	P		07 45 44.0	-0.5
	0.1nm,0.5s,baz=257,slow=5.9,SNR=1.2							
YKA	**Yellowknife Ar**	**82.90**	**27**	P	P		07 47 06.8	+0.6
	0.2nm,0.6s,baz=287,slow=4.8,SNR=4.7							
NVAR	**Mina Array Bea**	**86.65**	**51**	P	P		07 47 25.8	-0.1
	0.1nm,0.3s,baz=270,slow=5.0,SNR=1.8							

IDC 12 07:44:45.5±5.4, 2°.89S×129°.53E, h26km±36km, mb3.7/4, mb1 4.0/7, mb1mx3.7/36, mbtmp4.0/7, ML3.8/3, Error ellipse: s-maj=34.6km s-min=13.8km az=79.0
DJA 12 07:44:47.1±0.9, 3°.S±2°×12°.9E±°, h24km±8km, M4.2/12, mb4.6/1, MLv4.0/12
ISC 12 07:44:42.4±0.7, 2°.70S±0°.05×129°.55E±0°.06, h10km, n16, σ2°.31/22, mb4.0/4, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BNDI	**Bandanaira**	**1.84**	**169**	P	P		**07 45 19.7**	**+1.8**
BNDI				S	S		**07 45 44.7**	**+2.9**
SIJI	**Sorong**	**2.50**	**43**	Pn	Pb		**07 45 26.8**	**-0.7**
	75nm,0.3s,baz=243,slow=13,SNR=101							
SIJI				Sn	Sb		**07 45 57.2**	**-1.2**
	21nm,0.3s,baz=346,slow=13,SNR=9.4							
SWI	**Sorong**	**2.50**	**43**	P	Pb		**07 45 26.9**	**-0.6**
SWI				S	Sb		**07 45 57.8**	**-0.5**
NLAI	**Namlea**	**2.50**	**258**	P	Pn		**07 45 24.8**	**+1.5**
NLAI				S	Sn		**07 45 54.0**	**+0.1**
FAKI	**Fak Fak**	**2.70**	**95**	P	Pb		**07 45 30.9**	**-0.1**
SANI	**Sanana**	**3.62**	**280**	P	Pn		**07 45 38.8**	**+0.2**
TNTI	**Ternate**	**4.08**	**328**	P	Pn		**07 45 45.3**	**+0.3**
RKPI	**Ransiki, Papua**	**4.77**	**76**	P	Pn		**07 45 58.9**	**+4.4**
APSI	**Ampana**	**8.10**	**283**	P	Pn		**07 46 40.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**15.78**	**194**	Pn	Pn		**07 48 23.2**	**-1.7**
	0.1nm,0.3s,baz=4.8,slow=12,SNR=1.6							
WRA	**Warramunga Arr**	**17.76**	**165**	P	Pn		**07 48 47.6**	**-2.4**
	0.4nm,0.3s,baz=334,slow=12,SNR=21							
WRA				S	Sn		**07 52 01.4**	**-6.8**
	0.1nm,0.3s,baz=344,slow=21,SNR=1.7							
ASAR	**Alice Springs**	**21.26**	**169**	P	P		**07 49 29.5**	**+0.4**
	4.2nm,0.6s,baz=347,slow=9.2,SNR=65							
ASAR				S	S		**07 53 22.7**	**-2.8**
	1.3nm,0.8s,baz=351,slow=19,SNR=6.9							
STKA	**Stephens Creek**	**31.16**	**160**	P	P		**07 51 01.8**	**+0.1**
	0.5nm,0.4s,baz=342,slow=19,SNR=1.2							
MKAR	**Makanchi Array**	**64.42**	**326**	P	P		**07 55 20.2**	**+1.2**
	0.6nm,0.7s,baz=116,slow=7.3,SNR=6.9							
ZALV	**Zalesovo Beam**	**67.56**	**333**	P	P		**07 55 39.4**	**+0.4**
	0.7nm,0.4s,baz=132,slow=9.9,SNR=2.3							
CPUP	**Villa Florida**	**150.38**	**167**	PKPbc	**PKiKP**		**08 04 36.1**	**+0.3**
	13nm,1.4s,baz=197,slow=15,SNR=3.1							

IDC 12 07:45:15.9±1.1, 24°.55N×127°.49E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/41, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=45.9km s-min=21.5km az=81.0
JMA 12 07:45:18.4±0.2, 24°.59N×127°.51E, h55km, M3.4
ISC 12 07:45:19.1±1.0, 24°.52N±0°.06×127°.59E±0°.04, h47km, n26, σ2°.31/38, mb3.6/5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JJT3	**Tamagusuku3**	**1.63**	**6**	P	P		**07 45 44.3**	**-1.0**
JJT3				eS	S		**07 46 04.0**	**-1.1**
JKE	**Kume jima 2**	**1.94**	**338**	P	Pn		**07 45 49.1**	**-0.5**
JKE				eS	S		**07 46 10.2**	**-2.7**
JOGS	**Gusukube**	**2.01**	**277**	eS	Sn		**07 46 12.7**	**-1.6**
JNTH	**Nagotoyohara**	**2.03**	**11**	P	Pn		**07 45 49.7**	**-1.1**
JNTH				eS	Sn		**07 46 12.9**	**-2.1**
JMJ2	**Miyako jima3**	**2.08**	**277**	P	Pn		**07 45 50.6**	**-0.8**
JMJ2				eS	Sn		**07 46 14.1**	**-1.9**
JIKM	**Ikemajima**	**2.17**	**281**	P	Pn		**07 45 52.0**	**-0.7**
JIKM				eS	Sn		**07 46 16.0**	**-2.4**
JIRB	**Irabujima**	**2.23**	**279**	P	Pn		**07 45 52.5**	**-1.0**
JIRB				eS	Sn		**07 46 16.6**	**-3.1**
JOW	**Kunigami**	**2.39**	**15**	Pn	Pn		**07 45 55.6**	**-0.1**
	15nm,0.3s,baz=129,slow=26,SNR=76							
JOW				Sn	Sn		**07 46 20.9**	**-2.9**
	24nm,0.3s,baz=4.2,slow=28,SNR=9.3							
JOW	**Kunigami**	**2.39**	**15**	P	Pn		**07 45 55.6**	**-0.1**
JIH	**Iheya**	**2.53**	**8**	P	Pn		**07 45 57.5**	**-0.2**
JIH				S	Sn		**07 46 25.7**	**-1.6**
JYRO	**Yoronjima**	**2.62**	**17**	P	Pn		**07 45 58.9**	**+0.1**
JTJ	**Tarama**	**2.64**	**273**	P	Pn		**07 45 58.1**	**-1.0**
JTJ				S	Sn		**07 46 26.6**	**-3.3**
JOKE	**Okinoerabujima**	**2.97**	**17**	P	Pn		**07 46 03.9**	**+0.2**
JISG	**Ishigakijimahi**	**2.99**	**272**	P	Pn		**07 46 02.7**	**-1.3**
JISG				S	Sn		**07 46 33.6**	**-5.0**
JIJ	**Ishigaki jima**	**3.15**	**268**	P	Pn		**07 46 04.9**	**-1.3**
JIJ				eS	Sn		**07 46 38.7**	**-3.8**
JKRS	**Kuro-shima**	**3.28**	**266**	P	Pn		**07 46 07.5**	**-0.5**
JTK	**Tokunoshima**	**3.48**	**20**	P	Pn		**07 46 10.6**	**-0.1**
JMZ	**Minamidaito 2**	**3.53**	**68**	P	Pn		**07 46 09.2**	**-2.2**
JMZ				S	Sn		**07 46 47.5**	**-4.5**
JKDJ	**Kitadaitoujima**	**3.65**	**66**	P	Pn		**07 46 11.2**	**-1.8**
JKDJ				S	Sn		**07 46 50.8**	**-3.9**
JAMN	**Amaminishikomi**	**3.97**	**21**	P	Pn		**07 46 18.0**	**+0.5**
JAM	**Amami Oshima**	**4.28**	**24**	P	Pn		**07 46 21.7**	**+0.1**
JAM				eS	Sn		**07 47 07.0**	**-3.3**
MKAR	**Makanchi Array**	**42.27**	**313**	P	P		**07 53 09.5**	**+1.6**
	0.2nm,0.5s,baz=96,slow=9.4,SNR=4.5							
ZALV	**Zalesovo Beam**	**43.28**	**324**	P	P		07 53 19.2	+3.4
	0.5nm,0.4s,baz=111,slow=11,SNR=1.9							
WRA	**Warramunga Arr**	**44.68**	**171**	P	P		**07 53 30.7**	**+3.3**
	1.9nm,0.7s,baz=351,slow=8.5,SNR=7.1							
ASAR	**Alice Springs**	**48.29**	**172**	P	P		**07 53 59.4**	**+3.7**
	0.6nm,0.8s,baz=355,slow=10,SNR=2.1							
YKA	**Yellowknife Ar**	**80.32**	**25**	P	P		07 57 28.8	+4.0
	0.3nm,0.9s,baz=304,slow=5.0,SNR=4.3							

IDC 12 07:49:57.3±0.4, 13°.21N×145°.57E, h0km, mb4.8/41, mb1 4.9/43, mb1mx4.8/51, mbtmp4.8/43, ML4.2/2, MS4.5/33, Ms1 4.5/33, ms1mx4.4/40, Error ellipse: s-maj=14.6km s-min=9.7km az=97.0
NEIC 12 07:49:59.6±1.3, 13°.09N±0°.07×145°.51E±0°.08, h15km, mb5.3/139, Ms_20 4.8/94, Error ellipse: s-maj=12.7km s-min=7.2km az=49.0
MOS 12 07:50:00.8±0.9, 13°.16N×145°.58E, h37km, mb5.3/50, MS4.8/8, Error ellipse: s-maj=12.5km s-min=5.4km az=115.8
GCMT 12 07:50:03.6±0.2, 12°.97N±0°.01×145°.62E±0°.02, h18km, MW5.2/109, Moment Tensor Solution. s67,c92; s109,c178; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.59±.24; Mθθ-2.69±.16; Mϕϕ-2.89±.17; Mrθ0.78±.40; Mθϕ-4.26±.13; Mϕr1.71±.42; Best double couple: M6.60800×10^16 NP1:ϕs233.00000°, δ38.00000°, λ103.00000°. NP2:ϕs37.00000°, δ53.00000°, λ80.00000°. Principal axes: T 5.9220, Plg79.0000°, Azm268.0000°; N 1.3820, Plg8.0000°, Azm43.0000°; P -7.2950, Plg8.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
DJA 12 07:50:06.2±0.6, 13°.N±3°×14°.5E±°, h42km±5km, M5.2/63, mb5.2/63, mB5.8/18, MLv4.8/1, Mw(mB)5.4/18, MwMwp5.7/1, Mwp5.8/1
ISC 12 07:50:01.8±1.0, 13°.20N±0°.04×145°.50E±0°.05, h28km±6km, n454, σ1°.49/430, mb5.2/193, MS4.7/102, 14C-24D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GUMO	**Guam**	**0.73**	**302**	P	Pn		**07 50 17.8**	**+1.6**
GUMO	**Guam**	**0.73**	**302**		Pn		**07 50 17.8**	**+1.6**
GUMO	**Guam**	**0.73**	**302**	P	Pn		**07 50 18.2**	**+1.9**
ANA2	**Anatahan**	**3.13**	**4**		Pn		**07 50 50.8**	**+1.5**
ANA2	**Anatahan**	**3.13**	**4**	P	Pb		**07 50 54.4**	**-2.4**
SARN	**Sarigan**	**3.49**	**4**	P	Pn		**07 50 57.6**	**+3.3**
PATS	**Pohnpei**	**14.11**	**115**	Pn	Pn		07 53 13.5	-6.3
JAY	**Jayapura**	**16.32**	**197**	Pn	Pn		**07 53 50.0**	**+0.8**
	0.4nm,0.3s,baz=316,slow=23,SNR=2.7							
JAY				LR	LR		07 59 47.0	
	comp=Z,962nm,18.4s,baz=16,slow=36							
JAY	**Jayapura**	**16.32**	**197**	P	Pn		**07 53 48.6**	**-0.6**
JAY	**Jayapura**	**16.32**	**197**	P	P		**07 53 50.5**	**-1.4**
	667nm32nm,1.0s							
GENI	**Genyem**	**16.56**	**199**	P	P		**07 53 55.6**	**+1.1**
	4μm92nm,1.0s							
JMZ	**Minamidaito 2**	**18.39**	**315**	P	P		**07 54 14.1**	**-0.5**
SIJI	**Sorong**	**19.87**	**226**	P	Pn		**07 54 32.6**	**-0.1**
	1.9nm,0.3s,baz=44,slow=8.3,SNR=5.2							
SIJI				LR	LR		08 01 04.7	
	comp=Z,1μm,20.4s,baz=36,slow=34							
SWI	**Sorong**	**19.87**	**226**	P	Pn		**07 54 33.4**	**+0.7**
	2μm78nm,1.2s							
JHJ	**Hachijo jima 2**	**20.51**	**346**	LR	LR		08 01 37.8	
	comp=Z,1μm,19.6s,baz=138,slow=34							
FAKI	**Fak Fak**	**20.73**	**220**		P		**07 54 39.4**	**-0.9**
FAKI					IAmb	IAmb	07 54 50.9	
	comp=Z,158nm,1.1s							
FAKI	**Fak Fak**	**20.73**	**220**	P	Pn		07 54 42.8	+0.1
	comp=Z,2μmcomp=Z,138nm,1.1s							
JOW	**Kunigami**	**21.08**	**313**	P	P		**07 54 45.5**	**+1.5**
	comp=Z,47nm,0.8s,baz=134,slow=9.7,SNR=7.7							
JOW					LR	LR	08 01 59.6	
	comp=Z,2μm,18.9s,baz=142,slow=34							
JOW	**Kunigami**	**21.08**	**313**	P	P		**07 54 46.5**	**+2.4**
JOW					IAmb	IAmb	07 55 03.5	
	comp=Z,145nm,1.1s							
H11N1	**WAKE ISLAND Hy**	**21.50**	**70**	T	T		08 17 56.6	
	baz=258,slow=74,SNR=14							
H11N2	**WAKE ISLAND Hy**	**21.51**	**70**	T	T		08 17 58.9	
	baz=258,slow=74,SNR=10							
H11N3	**WAKE ISLAND Hy**	**21.52**	**70**	T	T		08 17 59.9	
	baz=258,slow=74,SNR=12							
JSG	**Sagara**	**22.39**	**344**	P	P		**07 54 58.8**	**+0.9**
PMG	**Port Moresby**	**22.52**	**176**	P	P		**07 54 58.6**	**-0.9**
	comp=Z,29nm,0.8s,baz=326,slow=11,SNR=4.0							
PMG					LR	LR	08 03 30.3	
	comp=Z,808nm,18.5s,baz=321,slow=36							
PMG	**Port Moresby**	**22.52**	**176**	eP	P		**07 54 58.9**	**-0.6**
JMN	**Monobe**	**23.01**	**335**	P	P		**07 55 05.8**	**+1.2**
JMN					IAmb	IAmb	07 55 08.4	
	comp=Z,169nm,1.3s							
INU	**Inuyama**	**23.35**	**342**	P	P		**07 55 07.6**	**-0.3**
JYT	**Yasato**	**23.42**	**349**	P	P		**07 55 08.6**	**0.0**
JYT					IAmb	IAmb	07 55 10.8	
	comp=Z,42nm,0.6s							
BNDI	**Bandanaira**	**23.45**	**222**	P	P		**07 55 12.6**	**+3.5**
	comp=Z,12μmcomp=Z,442nm,1.5s							
JGF	**Kuroka**	**23.48**	**343**	P	P		**07 55 09.0**	**-0.3**
JWT	**Wachi**	**23.81**	**339**	P	P		**07 55 13.1**	**+0.8**
JWT					IAmb	IAmb	07 55 41.5	
	comp=Z,103nm,1.4s							
TGY	**Tagaytay City**	**23.89**	**275**	P	P	

MAJO pmax pmax
comp=Z,67nm,0.9s
MAJO Matsushiro 24.15 346 P **P** **07 55 15.2 -0.3**
MAJO IAmb IAmb 07 55 17.3
comp=Z,54nm,0.9s
MAJO Matsushiro 24.15 346 IAMs_20 IAMs_20 08 04 09.2
comp=Z,2μm,20.0s
MAT Matsushiro 24.15 346 P **P** **07 55 14.1 -1.5**
MAT S **S** **07 59 33.0 +1.1**
JHS Saijyo 24.43 335 P **P** **07 55 18.5 +0.3**
SZP Santa 24.53 283 IAMs_20 IAMs_20 08 04 30.4
comp=Z,3μm,18.0s
YULB Yu-li 25.08 297 P **P** **07 55 23.6 -0.6**
YULB IAmb IAmb 07 55 52.4
comp=Z,81nm,1.4s
TWG Pinlang 25.09 296 IAMs_20 IAMs_20 08 04 22.7
comp=Z,2μm,19.0s
SAUI Saumlaki 25.34 215 P **P** **07 55 28.8 +2.3**
comp=Z,527nm,0.9s
YHNB Yeheng 25.47 300 IAMs_20 IAMs_20 08 04 48.0
comp=Z,3μm,20.0s
TATO Taipei 25.49 301 IAMs_20 IAMs_20 08 05 08.4
comp=Z,3μm,20.0s
SSLB Suanglung 25.51 298 P **P** **07 55 28.4 +0.3**
SSLB IAmb IAmb 07 55 46.3
comp=Z,52nm,0.9s
SSLB IAMs_20 IAMs_20 08 04 21.0
comp=Z,2μm,20.0s
GTOI Gorontalo 25.54 243 P **P** **07 55 29.2 +0.8**
comp=Z,534nmcomp=Z,30nm,1.4s
TPUB Ta-pu 25.63 297 IAMs_20 IAMs_20 08 04 41.2
comp=Z,3μm,20.0s
MRSI Marisa 26.55 243 P **P** **07 55 37.6 +0.1**
comp=Z,2μmcomp=Z,72nm,1.1s
HNR Honiara 26.67 147 LR LR 08 06 11.2
comp=Z,2μm,19.9s,baz=318,slow=37
TOLI2 Tolitoli 27.27 246 P **P** **07 55 43.8 -0.3**
APSI Ampana 27.50 241 P **P** **07 55 48.1 +2.0**
comp=Z,41nm,1.5s
MYLDM Lahad Datu 27.80 256 P **P** **07 55 49.5 +0.7**
MYLDM IAmb IAmb 07 56 12.8
comp=Z,95nm,1.1s
QZH Quanzhou 27.93 299 *e*P P 07 55 57.7 +7.9
QZH S S 08 00 52.2 +20
QZH LR LR
comp=N,740nm,19.8s
QZH LR LR
comp=E,650nm,16.1s
QZH LR LR
comp=Z,680nm,19.4s
TJN Taejon 28.25 328⇓ *e*P **P** **07 55 52.2 -0.3**
SSE Sheshan 28.61 312 P P 07 56 02.3 +6.5
SSE pmax pmax
comp=Z,19nm,0.7s
SSE pmax pmax
comp=Z,120nm,4.3s
SSE LR LR
comp=Z,200nm,16.2s
SSE LR LR
comp=Z,400nm,16.8s
KSRS Korea Array 28.81 330 P **P** **07 55 56.9 -0.6**
comp=Z,5.5nm,0.8s,baz=141,slow=11,SNR=10.0
KSRS PcP **PcP** **07 59 09.0 +2.1**
comp=Z,8.4nm,1.1s,baz=145,slow=1.7,SNR=9.5
KSAR Wonju Array Be 28.82 330 P **P** **07 55 58.0 +0.4**
KSAR Wonju Array Be 28.82 330 P **P** **07 55 58.0 +0.4**
INCN Inchon 29.47 328 IAMs_20 IAMs_20 08 09 01.8
comp=Z,1μm,18.0s
BNSI Bone 30.69 237 P **P** **07 56 15.8 +1.4**
comp=Z,40nm,1.2s
SPSI Sidrap Palu 30.72 238 P **P** **07 56 16.7 +2.0**
comp=Z,548nmcomp=Z,20nm,1.4s
NJ2 Nanjing 30.80 312 *e*P **P** **07 56 15.2 0.0**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 LR LR
comp=Z,990nm,16.4s
NJ2 LR LR
comp=Z,540nm,16.2s
NJ2 LR LR
comp=Z,930nm,19.1s
SOEI Soe 31.06 224 P **P** **07 56 16.7 -1.1**
SOEI IAmb IAmb 07 56 39.0
comp=Z,43nm,1.0s
SOEI Soe 31.06 224 P **P** **07 56 19.2 +1.4**
comp=Z,43nm,0.9s
BSSI Bau Bau, Buton 31.41 234 P **P** **07 56 21.5 +0.7**
comp=Z,29nm,0.8s
BKB Balikpapan 31.80 245 P **P** **07 56 22.6 -1.7**
USA0B Ussuriysk Arra 32.99 342⇓ *e*P **P** **07 56 34.8 +0.5**
USRK Ussuriysk Ar. 32.99 342 P **P** **07 56 33.0 -1.3**
comp=Z,15nm,1.0s,baz=151,slow=8.0,SNR=15
USRK LR LR 08 09 12.7
comp=Z,804nm,18.5s,baz=146,slow=35
USRK Ussuriysk Ar. 32.99 342 P **P** **07 56 33.9 -0.5**
CTA Charters Tower 33.09 179 P **P** **07 56 34.7 -0.7**
comp=Z,15nm,1.0s,baz=6.6,slow=19,SNR=4.0
CTAO Charters Tower 33.09 179 P **P** **07 56 34.2 -1.2**
CTAO pmax pmax
comp=Z,27nm,1.1s
CTAO Charters Tower 33.09 179 P **P** **07 56 34.2 -1.2**
DL2 Dalian 33.20 325 P P 07 56 41.6 +5.4
DL2 pmax pmax
comp=Z,370nm,5.8s
DL2 LR LR
comp=Z,670nm,15.6s
DL2 LR LR
comp=Z,710nm,13.6s
DL2 LR LR
comp=Z,980nm,16.3s
YSS Yuzh-Sakhalins 33.73 357 *e*P **P** **07 56 40.2 -0.5**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,800nm,19.0s
YSS MLR MLR
comp=E,800nm,14.0s
YSS Yuzh-Sakhalins 33.73 357 IAMs_20 IAMs_20 08 10 15.7
comp=Z,1μm,19.0s
MDJ Mudanjiang 34.13 340 IAMs_20 IAMs_20 08 08 04.3
comp=Z,1μm,22.0s
WB0 Warramunga Arr 34.54 199 P **P** **07 56 46.9 -1.1**
WB0 IAmb IAmb 07 56 52.9
comp=Z,75nm,1.5s
SBUM Sibu 34.61 255 P **P** **07 56 49.1 +0.4**
SBUM IAmb IAmb 07 56 50.9
comp=Z,56nm,1.2s
BBKI Banjar Baru 34.65 244 P **P** **07 56 50.9 +1.8**
comp=Z,2μmcomp=Z,14nm,0.4s
QIZ Qiongzhong 34.70 284 P **P** **07 56 49.2 -0.4**
QIZ S **S** **08 02 17.1 -1.0**
QIZ LR LR
comp=Z,500nm,22.4s
QIZ LR LR
comp=Z,1μm,19.4s
QIZ LR LR
comp=Z,1μm,18.5s
QIZ Qiongzhong 34.70 284 IAMs_20 IAMs_20 08 09 40.0
comp=Z,2μm,20.0s
WRAB Tennant Creek 34.71 199⇓ *e*P **P** **07 56 48.7 -0.8**
WRAB pmax pmax
comp=Z,79nm,1.7s
WB2 Warramunga Arr 34.72 199 P **P** **07 56 48.8 -0.8**
WB2 IAmb IAmb 07 56 54.5
comp=Z,55nm,1.2s
WRA Warramunga Arr 34.72 199 P **P** **07 56 48.7 -0.9**
comp=Z,10nm,0.6s,baz=22,slow=9.6,SNR=58
WRA LR LR 08 12 31.0
comp=Z,255nm,18.6s,baz=5.0,slow=39
CN2 Changchun 35.02 334 *e*P **P** **07 56 55.6 +3.6**
CN2 *e*S **S** **08 02 25.0 +2.6**
CN2 LR LR
comp=Z,750nm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
KSM Kuching 36.73 254 P **P** **07 57 06.4 -0.7**
KSM IAmb IAmb 07 57 08.2
comp=Z,59nm,1.1s
FITZ Fitzroy Crossi 36.76 213 P **P** **07 57 06.8 -0.3**
comp=Z,7.0nm,1.1s,baz=14,slow=12,SNR=4.7
FITZ Fitzroy Crossi 36.76 213 P **P** **07 57 06.2 -0.9**
PBKI Pangkalan Bun 37.11 247 P **P** **07 57 11.5 +1.3**
comp=Z,7μmcomp=Z,293nm,1.1s
BJT Baijiatuau 37.12 321 P **P** **07 57 10.7 +0.7**
BJT pmax pmax
comp=Z,13nm,1.0s
BJT Baijiatuau 37.12 321 P **P** **07 57 10.1 +0.1**
BJI Beijing 37.13 321 P **P** **07 57 10.5 +0.4**
BJI PP **PnPn** **07 58 36.2 +0.7**
BJI S **S** **08 02 59.1 +4.3**
BJI ScP **ScP** **08 03 13.4 -1.9**
BJI PcS **PcS** **08 03 19.0 +0.8**
BJI pmax pmax
comp=Z,11nm,1.0s
BJI pmax pmax
comp=Z,170nm,5.4s
BJI LR LR
comp=Z,650nm,16.9s
BJI LR LR
comp=Z,500nm,14.1s
BJI LR LR
comp=Z,450nm,19.0s
ENH Enshi 37.32 303 IAMs_20 IAMs_20 08 12 24.8
comp=Z,1μm,19.0s
KLR Kul'dur 37.68 345 PcP **PcP** **07 59 32.3 +0.7**
baz=183,slow=6.1
KLR LR LR 08 12 01.3
comp=Z,641nm,18.1s,baz=154,slow=35
KLR Kul'dur 37.68 345⇑ *e*P **P** **07 57 13.6 -1.0**
KLR pmax pmax
comp=Z,23nm,1.2s
AS31 Alice Springs 38.35 197 P **P** **07 57 19.4 -1.2**
ASAR Alice Springs 38.36 197 P **P** **07 57 19.8 -0.8**
comp=Z,4.7nm,0.6s,baz=24,slow=9.1,SNR=53
ASAR LR LR 08 12 29.1
comp=Z,433nm,21.7s,baz=14,slow=35
ASAR Alice Springs 38.36 197 P **P** **07 57 19.7 -0.9**
SKR Severo-Kuril's 38.37 11 *e*P P 07 57 32.1 +12
SKR pmax pmax
comp=Z,600nm,5.2s
SKR MLR MLR
comp=Z,500nm,16.0s
GYA Guiyang 38.69 296⇓ P **P** **07 57 22.2 -1.4**
GYA PcP **PcP** **07 59 36.9 +1.6**
GYA S **S** **08 03 18.3 -0.7**
GYA pmax pmax
comp=Z,140nm,3.9s
GYA LR LR
comp=Z,580nm,20.0s
GYA LR LR
comp=Z,1μm,17.4s
GYA LR LR
comp=Z,2μm,17.9s
XAN Xi'an 39.12 308 P **P** **07 57 31.0 +4.0**
XAN pP pwP 07 57 42.9 +4.6
XAN pmax pmax
comp=Z,6.0nm,1.4s
XAN LR LR
comp=Z,600nm,17.4s
XAN LR LR
comp=Z,960nm,19.5s
XAN LR LR
comp=Z,1μm,20.6s
XAN Xi'an 39.12 308 IAMs_20 IAMs_20 08 14 12.6
comp=Z,1μm,20.0s
SLVN Son La 40.44 287 P **P** **07 57 37.8 -0.4**
SLVN IAMs_20 IAMs_20 08 13 43.1
comp=Z,2μm,20.0s
HHC Hu-ho-hao-te 40.47 319 *e*P **P** **07 57 37.7 -0.5**
HHC PP **PnPn** **07 59 17.6 +2.0**
HHC S **S** **08 03 43.8 -1.5**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,320nm,4.7s
HHC LR LR
comp=Z,570nm,17.0s
HHC LR LR
comp=Z,880nm,18.7s
HHC LR LR
comp=Z,1μm,19.6s
UGM Wanagama 40.58 241 P **P** **07 57 40.4 +1.0**
comp=Z,232nm,1.4s
DZM Mont Dzumac 40.63 149 *e*S **S** **08 03 47.6 -0.3**
comp=Z,330nm,29.4s
DZM *e*LR LR 08 08 44.0
comp=Z,905nm,22.9s
DZM Mont Dzumac 40.63 149 P **P** **07 57 43.9 +4.3**
PEA0B Petropavlovsk- 40.98 11 P **P** **07 57 43.1 +1.0**
PEA0B IAmb IAmb 07 57 43.3
comp=Z,61nm,1.2s
PETK Petropavlovsk- 40.98 11 P **P** **07 57 41.4 -0.7**
comp=Z,25nm,1.1s,baz=184,slow=6.2,SNR=9.0
PETK PcP **PcP** **07 59 41.9 0.0**
comp=Z,7.3nm,0.9s,baz=105,slow=3.4,SNR=4.9
PET Petropavlovsk 41.09 12 *e*P **P** **07 57 42.0 -0.9**
PET *e*S **S** **08 03 53.3 -0.6**
PET pmax pmax
comp=Z,17nm,1.0s
PET MLR MLR
comp=Z,600nm,18.0s
HIA Hailar 41.76 335 *de*P **P** **07 57 49.9 +1.3**
HIA pmax pmax
comp=Z,13nm,0.9s
HIA Hailar 41.76 335 P **P** **07 57 49.0 +0.4**
HIA Hailar 41.76 335 IAMs_20 IAMs_20 08 14 36.0
comp=Z,960nm,19.0s
JCJI Jatiwangi 41.84 244 P **P** **07 57 52.0 +2.4**
KMI Kunming 41.93 293⇓ *e*P **P** **07 57 50.0 -0.6**
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI LR LR
comp=Z,270nm,14.9s
KMI LR LR
comp=Z,590nm,25.2s
KMI LR LR
comp=Z,750nm,21.1s
PPBI Pangkal Pinang 41.94 252 P **P** **07 57 51.3 +0.8**
CD2 Chengdu 42.22 302 P **P** **07 57 52.2 -0.5**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 LR LR
comp=Z,620nm,16.5s
CD2 LR LR
comp=Z,640nm,17.3s
CD2 LR LR
comp=Z,910nm,20.8s
LEM Lembang 42.57 244 P **P** **07 57 56.1 +0.3**
comp=Z,37nm,0.8s,baz=104,slow=7.5,SNR=5.8
LEM Lembang 42.57 244 P **P** **07 57 56.8 +1.0**
comp=Z,42nm,1.1s
MYKOM Kota Tinggi 42.75 258 P **P** **07 57 57.1 +0.1**
MYKOM IAmb IAmb 07 58 05.6
comp=Z,45nm,0.9s
ZEA Zeya 42.95 344 *e*P **P** **07 57 57.8 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
DBJI Dramaga 43.21 245 P **P** **07 58 00.8 0.0**
comp=Z,86nm,1.2s
PMBI Palembang 43.49 251 P **P** **07 58 05.2 +2.1**
LZH Lanzhou 43.74 309 *e*P **P** **07 58 06.9 +1.8**
LZH pP pwP 07 58 20.4 +3.9
LZH sP sP 07 58 27.8 +12
LZH sS sS 08 04 58.1 +12
LZH pmax pmax
comp=Z,13nm,1.1s
LZH pmax pmax
comp=Z,230nm,4.9s
LZH LR LR
comp=Z,490nm,13.2s
LZH LR LR
comp=Z,790nm,14.3s
LZH LR LR
comp=Z,860nm,16.5s
ARMA Armidale 43.76 172 P **P** **07 58 04.6 -0.5**
KLSI 44.22 249 P **P** **07 58 09.2 +0.2**
comp=Z,21nm,0.9s
KASI Kota Agung 44.77 248 P **P** **07 58 12.6 -0.8**
comp=Z,65nm,1.2s
CM35 Chiang Mai Arr 44.80 283 P P 07 58 23.0 +9.4
CM34 Chiang Mai Arr 44.81 283 P **P** **07 58 14.0 +0.3**
KULM Kulim 44.90 264 IAMs_20 IAMs_20 08 15 57.5
comp=Z,696nm,20.0s
CM09 Chiang Mai Arr 44.96 283 P **P** **07 58 16.4 +1.5**
comp=Z,128nmcomp=Z,13nm,0.9s
LWLI Liwa 44.96 249 P **P** **07 58 15.3 +0.3**
comp=Z,98nm,1.0s
CM04 Chiang Mai Arr 44.97 283 P **P** **07 58 16.2 +1.3**
comp=Z,14nm,1.1s
STKA Stephens Creek 44.98 185 P **P** **07 58 15.9 +1.2**
comp=Z,8.3nm,1.0s,baz=0.7,slow=9.4,SNR=8.7
STKA LR LR 08 19 02.2
comp=Z,508nm,18.6s,baz=3.7,slow=39
STKA Stephens Creek 44.98 185⇓ *e*P **P** **07 58 14.6 -0.1**
STKA Stephens Creek 44.98 185 P **P** **07 58 13.4 -1.2**
LHSI Lahat 44.98 251 P **P** **07 58 15.3 +0.3**
comp=Z,97nm,1.0s
CM01 Chiang Mai Arr 44.99 283 P **P** **07 58 16.0 +0.9**
comp=Z,115nmcomp=Z,13nm,1.1s
CM33 Chiang Mai Arr 45.00 283 P P 07 58 20.0 +4.8
CM02 Chiang Mai Arr 45.00 283 P **P** **07 58 16.0 +0.8**
comp=Z,90nmcomp=Z,9.3nm,1.1s
CM05 Chiang Mai Arr 45.01 283 P **P** **07 58 16.5 +1.3**
comp=Z,94nmcomp=Z,10nm,1.1s
CM31 Chiang Mai Arr 45.01 283 P **P** **07 58 15.2 0.0**
CMAR Chiang Mai Arr 45.01 283 P **P** **07 58 16.1 +0.9**
comp=Z,4.4nm,0.6s,baz=92,slow=6.1,SNR=28
CMAR PcP **PcP** **07 59 56.9 +0.8**
comp=Z,6.4nm,0.8s,baz=85,slow=1.9,SNR=7.4
CMAR LR LR 08 16 58.4
comp=Z,556nm,19.1s,baz=125,slow=36
CMAR Chiang Mai Arr 45.01 283 P **P** **07 58 15.0 -0.2**
SRDT SRDT 45.01 277 P **P** **07 58 16.9 +1.7**
CM15 Chiang Mai Arr 45.02 283 P **P** **07 58 17.0 +1.6**
comp=Z,10nm,0.7s
CM13 Chiang Mai Arr 45.04 283 P **P** **07 58 16.8 +1.2**
comp=Z,98nmcomp=Z,10nm,1.0s
UMPA Umpang Tak 45.14 280 P **P** **07 58 18.4 +2.1**
comp=Z,5μmcomp=Z,22nm,1.1s
MNAI Manna 45.71 250 P **P** **07 58 19.1 -1.8**
MNAI Manna 45.71 250 P **P** **07 58 20.8 0.0**
comp=Z,291nm,1.2s
KSI Kapahiang 45.77 251 P **P** **07 58 22.0 +0.6**
comp=Z,101nm,0.5s
BKNI Bangkinang 45.87 257 P **P** **07 58 22.4 +0.3**
XMIS Christmas Isla 46.02 241 P **P** **07 58 22.2 -1.1**
MA2 Magadan 46.46 4 P **P** **07 58 25.9 -0.2**
MA2 Magadan 46.46 4 *de*P **P** **07 58 25.7 -0.4**
MA2 pmax pmax
comp=Z,48nm,1.3s
MA2 Magadan 46.46 4 P **P** **07 58 26.4 +0.4**
MA2 IAmb IAmb 07 58 26.9
comp=Z,46nm,1.1s
BBOO Buckleboo 46.63 191 P **P** **07 58 26.4 -1.3**
BBOO IAmb IAmb 07 58 32.5
comp=Z,24nm,0.9s
ULN Ulaanbaatar 47.05 325⇓ *e*P **P** **07 58 32.0 +0.9**
ULN pmax pmax
comp=Z,13nm,1.3s
ULN Ulaanbaatar 47.05 325 IAMs_20 IAMs_20 08 21 01.0
comp=Z,979nm,18.0s
PSI Prapat 47.19 261 P **P** **07 58 31.9 -0.6**
comp=Z,7.0nm,0.7s,baz=178,slow=2.9,SNR=7.2
RPSI Rantau Prapat 47.21 261 P **P** **07 58 31.9 -0.7**
SONM Songino Array 47.40 325 P **P** **07 58 33.8 0.0**
comp=Z,0.8nm,0.4s,baz=144,slow=7.6,SNR=10
SONM PcP **PcP** **08 00 05.4 +1.2**
comp=Z,3.9nm,0.6s,baz=144,slow=3.9,SNR=7.0
SONM LR LR 08 18 40.0
comp=Z,894nm,20.1s,baz=122,slow=36
SONM Songino Array 47.40 325 P **P** **07 58 33.0 -0.8**
GTA Gaotai 47.89 312⇑ P **P** **07 58 37.9 +0.1**
GTA pP pwP 07 58 49.4 +0.2
GTA sP sP 07 58 54.1 +5.8
GTA PcP **PcP** **08 00 07.4 +1.3**
GTA S **S** **08 05 34.7 +1.2**
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,230nm,6.4s
GTA LR LR
comp=Z,380nm,17.1s
GTA LR LR
comp=Z,560nm,20.4s
GTA LR LR
comp=Z,580nm,17.4s
LHMI Lhok Sumawe 48.51 265 P **P** **07 58 44.5 +1.8**
comp=Z,142nm,1.2s
TPTI 48.75 263 P **P** **07 58 43.8 -0.7**
comp=Z,12nm,1.3s
GSI Gunungsitoli 48.89 260 P **P** **07 58 44.6 -1.0**
GSI IAmb IAmb 07 58 51.8
comp=Z,24nm,1.0s
GSI Gunungsitoli 48.89 260 P **P** **07 58 44.3 -1.3**
comp=Z,33nm,1.1s
SEY Seymchan 49.90 4 P **P** **07 58 52.4 -0.1**
BSI Banda Aceh 50.05 266 P **P** **07 58 55.6 +1.1**
comp=Z,82μmcomp=Z,3μm,0.8s
YAK Yakutsk 50.07 350⇓ *e*P **P** **07 58 54.6 +0.8**
YAK pmax pmax
comp=Z,16nm,0.6s
YAK Yakutsk 50.07 350 P **P** **07 58 53.4 -0.5**
YAK IAmb IAmb 07 59 05.2
comp=Z,33nm,0.9s
BOD Bodaibo 50.50 339 *e*P **P** **07 58 57.4 +0.2**
BOD pmax pmax
comp=Z,15nm,1.1s
ZAK Zakamensk 50.50 326 *e*P **P** **07 58 58.7 +1.2**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
TLY Talaya 51.01 328 P **P** **07 59 02.0 +0.8**
comp=Z,1.7nm,0.4s,baz=139,slow=7.6,SNR=20
TLY Talaya 51.01 328 *e*P **P** **07 59 03.3 +2.1**
TLY *e*S S 08 06 27.4 +11
TLY pmax pmax
comp=Z,37nm,1.3s
TLY MLR MLR
comp=Z,1μm,17.0s
TLY Talaya 51.01 328 P **P** **07 59 02.6 +1.4**
TLY IAMs_20 IAMs_20 08 21 20.7
comp=Z,693nm,20.0s
SHL Shillong 51.75 292 P **P** **07 59 07.0 -0.3**
SHL pmax pmax
comp=Z,26nm,1.2s
SHL Shillong 51.75 292 P **P** **07 59 07.0 -0.3**
MOY Mondy 52.41 327 *e*P **P** **07 59 13.3 +1.6**
MOY pmax pmax
comp=Z,22nm,1.8s
LSA Lhasa 52.72 297 P **P** **07 59 16.1 +1.2**
AKUT Akutan 55.84 32 P **P** **07 59 37.2 +0.7**
WMQ Urumqi 57.85 314 P **P** **07 59 53.3 +2.1**
WMQ pP pwP 08 00 03.0 -0.3
WMQ sP sP 08 00 12.7 +11
WMQ pmax pmax
comp=Z,35nm,1.1s
WMQ pmax pmax
comp=Z,460nm,5.9s
WMQ LR LR
comp=Z,780nm,19.1s
WMQ LR LR
comp=Z,1μm,19.1s
WMQ LR LR
comp=Z,1μm,21.1s
WMQ Urumqi 57.85 314 IAMs_20 IAMs_20 08 24 30.4
comp=Z,617nm,20.0s
TIXI Tiksi 59.28 354 P **P** **08 00 00.2 -0.4**
comp=Z,1.3nm,0.3s,baz=106,slow=9.3,SNR=2.1
TIXI Tiksi 59.28 354⇑ *e*P **P** **08 00 03.3 +2.8**
TIXI Tiksi 59.28 354 IAMs_20 IAMs_20 08 26 50.9
comp=Z,404nm,18.0s
QRZ Quartz Range 59.30 156 P **P** **08 00 00.6 -0.4**
DGZ Jazzator, Alta 59.54 320 *d* P **P** **08 00 04.0 +1.1**
DGZ pmax pmax
comp=Z,29nm,1.3s
BKZ Black Stump Fm 59.58 152 P **P** **08 00 02.2 -0.9**
BKZ IAmb IAmb 08 00 22.9
comp=Z,24nm,1.1s
TUWZ Tuamarina 60.37 156 P **P** **08 00 07.0 -1.4**
ZSN Zaisan 60.61 317 *e*P **P** **08 00 10.8 +0.7**
comp=Z,4.4nm,1.1s,baz=317
ZSN *i* PP **PP** **08 02 24.7 +0.9**
baz=317
ZSN *i* S **S** **08 08 24.7 +0.1**
baz=317
ZSN Zaisan 60.61 317 *e*P **P** **08 00 10.8 +0.7**
ZSN pmax pmax
comp=Z,4.0nm,1.1s
RPZ Rata Peaks 61.26 159 P **P** **08 00 12.9 -1.5**
RPZ IAmb IAmb 08 00 18.5
comp=Z,28nm,1.0s
MK31 Makanchi Array 62.20 316 *i* P **P** **08 00 21.7 +0.8**
MK31 pmax pmax
comp=Z,6.0nm,0.5s
MK31 Makanchi Array 62.20 316 P **P** **08 00 21.3 +0.4**
MK31 IAmb IAmb 08 00 23.3
comp=Z,18nm,1.2s

MKAR Makanchi Array 62.20 316 P **P** **08 00 21.9 +1.0**
comp=Z,6.2nm,0.4s,baz=93,slow=8.7,SNR=150
MKAR PcP **PcP** **08 01 00.3 -0.4**
comp=Z,16nm,1.0s,baz=86,slow=4.8,SNR=7.5
MKAR LR LR 08 28 37.5
comp=Z,386nm,18.9s,baz=94,slow=37
MKAR PKP2bc 08 29 36.3
comp=Z,0.6nm,0.9s,baz=347,slow=5.0,SNR=3.8
MKAR PKP2ab 08 29 44.1
comp=Z,1.2nm,1.1s,baz=329,slow=4.2,SNR=3.8
MKAR Makanchi Array 62.20 316 *ce*P **P** **08 00 21.8 +0.9**
MKAR pmax pmax
comp=Z,6.0nm,0.4s
MKAR Makanchi Array 62.20 316 P **P** **08 00 20.9 0.0**
ZAA0 Zalesovo Array 62.30 324 P **P** **08 00 21.3 -0.1**
ZALV Zalesovo Beam 62.30 324 P **P** **08 00 22.0 +0.6**
comp=Z,2.1nm,0.5s,baz=107,slow=5.0,SNR=13
ZALV PcP **PcP** **08 01 01.0 0.0**
comp=Z,11nm,0.7s,baz=116,slow=5.1,SNR=11
ZALV LR LR 08 28 13.2
comp=Z,598nm,19.8s,baz=103,slow=37
ZALV Zalesovo Beam 62.30 324 *i* P **P** **08 00 22.0 +0.6**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 62.30 324 P **P** **08 00 20.8 -0.5**
MAKZ Makanchi 62.41 316 P **P** **08 00 22.5 +0.2**
MAKZ IAmb IAmb 08 00 24.2
comp=Z,38nm,1.3s
MAKZ IAMs_20 IAMs_20 08 30 14.3
comp=Z,735nm,18.0s
OHAK Old Harbor 63.54 32 P **P** **08 00 30.9 +1.4**
OHAK IAmb IAmb 08 00 33.1
comp=Z,31nm,1.0s
SHLS Shalkode 63.64 312 *e*P **P** **08 00 29.1 -1.5**
baz=312
SHLS Shalkode 63.64 312 *e*P **P** **08 00 29.1 -1.5**
PALK Pallekele 63.90 272‖ *e*P **P** **08 00 33.2 +0.4**
PALK pmax pmax
comp=Z,20nm,1.0s
UZB Uzynbulak 63.96 312 *e*P **P** **08 00 33.0 +0.2**
baz=312
UZB Uzynbulak 63.96 312 *e*P **P** **08 00 33.0 +0.2**
RDOG Red Dog Mine 64.04 19 P **P** **08 00 33.6 +0.9**
RDOG Red Dog Mine 64.04 19 P 08 00 33.2
baz=238,SNR=21
KDAK Kodiak Island 64.07 32 P **P** **08 00 33.5 +0.4**
comp=Z,18nm,1.1s,baz=342,slow=4.9,SNR=9.8
KDAK Kodiak Island 64.07 32 P **P** **08 00 34.0 +1.0**
KPKS Kokpek 64.24 312 *e*P **P** **08 00 34.9 +0.4**
baz=312
KPKS Kokpek 64.24 312 *e*P **P** **08 00 34.9 +0.4**
SATY Saty 64.40 312 *e*P **P** **08 00 36.2 +0.5**
comp=Z,13nm,1.5s,baz=312
SATY Saty 64.40 312 *e*P **P** **08 00 36.1 +0.5**
SATY pmax pmax
comp=Z,13nm,1.5s
HYB Hyderabad 64.43 283 *i* P **P** **08 00 35.0 -1.2**
TDK Taldyqorghan 64.61 314 *e*P **P** **08 00 38.0 +1.2**
baz=314
TDK Taldyqorghan 64.61 314 *e*P **P** **08 00 38.0 +1.2**
KURK Kurchatov 65.28 320 P **P** **08 00 41.8 +0.8**
KURBB Kurchatov Arra 65.32 320 P **P** **08 00 41.8 +0.5**
comp=Z,46nm,0.9s,baz=100,slow=6.6,SNR=159
BRLK Bradley Lake 65.50 30 P **P** **08 00 42.2 -0.1**
SKT Skwentna 65.85 27 IAMs_20 IAMs_20 08 27 04.6
comp=Z,704nm,20.0s
SKT Skwentna 65.86 27 P 08 00 44.7
baz=252
PPLA Purkeypile 65.86 26 P **P** **08 00 45.3 +0.6**
PPLA Purkeypile 65.86 26 P 08 00 45.1
baz=251
KSH Kashi 65.97 307 P **P** **08 00 50.3 +4.4**
KSH S **S** **08 09 32.3 +0.3**
KSH pmax pmax
comp=Z,15nm,1.5s
KSH pmax pmax
comp=Z,500nm,7.1s
KSH LR LR
comp=Z,350nm,9.8s
KSH LR LR
comp=Z,870nm,5.9s
KSH LR LR
comp=Z,710nm,12.0s
KUU Kurty 65.97 312 *e*P **P** **08 00 45.1 -0.6**
comp=Z,12nm,1.1s,baz=312
KUU Kurty 65.97 312 *e*P **P** **08 00 45.9 +0.2**
KUU pmax pmax
comp=Z,12nm,1.1s
SUA Susitna One 66.05 28 P **P** **08 00 45.7 -0.3**
SUA IAmb IAmb 08 01 02.0
comp=Z,27nm,1.2s
SUA Susitna One 66.05 28 P 08 00 46.1
baz=253
CHUM Lake Minchumin 66.13 25 P 08 00 47.2
baz=250
O22K Cooper Landing 66.25 29 P 08 00 47.2
baz=254
SEW Seward 66.28 30 P **P** **08 00 47.4 0.0**
SEW Seward 66.28 30 P 08 00 47.5
baz=255
IMAR Indian Mountai 66.31 23 P **P** **08 00 48.2 +0.8**
RC01 Rabbit Creek A 66.42 29 P 08 00 47.8
baz=254,SNR=9.1
CUT Chulitna 66.55 27 IAMs_20 IAMs_20 08 26 57.1
comp=Z,701nm,21.0s
BPAW Bear Paw Mtn. 66.76 25 P **P** **08 00 50.5 +0.1**
BPAW IAmb IAmb 08 01 06.7
comp=Z,34nm,1.1s
BPAW IAMs_20 IAMs_20 08 26 17.6
comp=Z,869nm,21.0s
BPAW Bear Paw Mtn. 66.76 25 P 08 00 50.5
baz=252,SNR=14
PMR Palmer 66.83 28 P 08 00 50.5
baz=254
TRF Thorofare Moun 66.85 26 P **P** **08 00 51.0 -0.2**
TRF Thorofare Moun 66.85 26 P 08 00 50.8
baz=252
GHO Glory Hole Cre 66.98 28 P **P** **08 00 50.8 -1.1**
GHO IAmb IAmb 08 01 15.5
comp=Z,27nm,1.0s
KNK Knik Glacier 67.10 28 P **P** **08 00 53.0 +0.5**
KNK IAMs_20 IAMs_20 08 31 52.5
comp=Z,741nm,21.0s
KNK Knik Glacier 67.10 28 P 08 00 52.7
baz=255
AAK Ala-Archa 67.23 311 P **P** **08 00 54.4 +0.4**
comp=Z,1.3nm,0.4s,baz=205,slow=6.4,SNR=4.3
AAK LR LR 08 33 01.5
comp=Z,540nm,18.8s,baz=92,slow=38
AAK Ala-Archa 67.23 311‖ *e*P **P** **08 00 55.2 +1.2**
AAK pmax pmax
comp=Z,23nm,1.1s
AAK Ala-Archa 67.23 311 IAMs_20 IAMs_20 08 34 30.9
comp=Z,652nm,18.0s
SML Sawmill 67.26 28 P **P** **08 00 53.6 0.0**
SML Sawmill 67.26 28 P 08 00 53.6
baz=255
WAT2 Susitna Watana 67.45 27 P 08 00 54.1
baz=254,SNR=9.6
RND Reindeer 67.46 26 P **P** **08 00 54.8 -0.1**
RND IAmb IAmb 08 01 11.0
comp=Z,28nm,1.2s
RND IAMs_20 IAMs_20 08 27 54.9
comp=Z,678nm,19.0s
MCK McKinley 67.51 26 IAMs_20 IAMs_20 08 29 17.5
comp=Z,838nm,21.0s
A21K Barrow 67.56 17 P **P** **08 00 55.0 -0.2**
A21K Barrow 67.56 17 P 08 00 55.6
baz=243,SNR=26
BTLS Baital 67.69 313 *e*P **P** **08 00 57.0 +0.4**
baz=313
BTLS Baital 67.69 313 *e*P **P** **08 00 57.0 +0.4**
NEA2 Nenana 67.70 25 IAMs_20 IAMs_20 08 29 11.6
comp=Z,761nm,21.0s
NEA2 Nenana 67.70 25 P 08 00 55.9
baz=253
SCM Sheep Creek Mo 67.73 28 P **P** **08 00 56.6 0.0**
I23K Minto, Yukon-K 67.75 24 P **P** **08 00 58.0 +1.5**
I23K IAMs_20 IAMs_20 08 26 11.8
comp=Z,796nm,21.0s
I23K Minto, Yukon-K 67.75 24 P 08 00 57.1
baz=253,SNR=17
COLD Coldfoot 68.07 22 P **P** **08 00 59.5 +0.9**
COLD IAmb IAmb 08 01 00.8
comp=Z,26nm,1.0s
COLD Coldfoot 68.07 22 P 08 00 59.4
baz=251,SNR=20
WRH Wood River Hil 68.08 25 P **P** **08 00 58.7 0.0**
WRH IAmb IAmb 08 01 15.4
comp=Z,35nm,1.2s
WRH IAMs_20 IAMs_20 08 27 08.4
comp=Z,592nm,21.0s
MDM Murphy Dome 68.15 25 P **P** **08 00 59.9 +0.7**
MDM IAmb IAmb 08 01 15.5
comp=Z,18nm,1.0s
MDM IAMs_20 IAMs_20 08 30 05.4
comp=Z,750nm,20.0s
EYAK Cordova Ski Ar 68.18 30 P 08 00 59.6
baz=258
CCB Clear Creek Bu 68.24 25 P **P** **08 01 00.0 +0.3**
TCOL CIGO, UAF Yank 68.28 25 IAMs_20 IAMs_20 08 29 48.8
comp=Z,793nm,21.0s
TCOL CIGO, UAF Yank 68.28 25 P 08 00 59.3
baz=254
COLA College 68.28 25‖ *e*P **P** **08 00 59.1 -0.8**
COLA College 68.28 25 IAMs_20 IAMs_20 08 29 48.8
comp=Z,750nm,21.0s
COLA College 68.28 25 P 08 00 59.3
baz=254
KLU Klutina 68.30 29 P **P** **08 01 01.2 +0.9**
KLU IAmb IAmb 08 01 13.8
comp=Z,23nm,1.1s
KLU Klutina 68.30 29 P 08 01 00.4
baz=257
M24K Tolsona, Glenn 68.32 28 P **P** **08 01 01.9 +1.5**
M24K Tolsona, Glenn 68.32 28 P 08 01 00.5
baz=257
POKR Poker Plat Res 68.52 25 IAMs_20 IAMs_20 08 30 17.2
comp=Z,729nm,20.0s
POKR Poker Plat Res 68.52 25 P 08 01 00.9
baz=254
HDA Harding Lake 68.54 26 P **P** **08 01 00.8 -0.8**
HDA IAmb IAmb 08 01 16.7
comp=Z,24nm,1.0s
HDA IAMs_20 IAMs_20 08 28 05.6
comp=Z,629nm,20.0s
HDA Harding Lake 68.54 26 P 08 01 02.2
baz=255,SNR=10
HDA P 08 01 02.2
baz=255,SNR=10
IL31 68.65 25 P **P** **08 01 01.1 -1.1**
IL31 IAmb IAmb 08 01 17.1
comp=Z,39nm,1.2s
ILAR Eielson Array 68.65 25 P **P** **08 01 00.9 -1.4**
comp=Z,7.6nm,0.7s,baz=252,slow=5.2,SNR=104
ILAR LR LR 08 29 21.5
comp=Z,438nm,20.6s,baz=270,slow=34
ILAR Eielson Array 68.65 25 P **P** **08 01 01.2 -1.1**
KAIM Kayak Island 68.71 31 P 08 01 02.8
baz=259
POO Poona 68.75 285 *ex* **P** **08 01 00.0 -3.7**
TOLK Toolik Lake Re 68.76 21 P **P** **08 01 03.7 +0.8**
TOLK Toolik Lake Re 68.76 21 P 08 01 03.7
baz=251,SNR=26
BMRM Bremner River 68.81 29 P 08 01 03.9
baz=259
PAX Paxson 68.83 27 P **P** **08 01 03.8 +0.2**
PAX pmax pmax
comp=Z,27nm,1.1s
PAX Paxson 68.83 27 P **P** **08 01 03.8 +0.2**
PAX IAmb IAmb 08 01 19.8
comp=Z,28nm,1.1s
PAX Paxson 68.83 27 P 08 01 03.8
baz=257
N25K Chitina, Valde 68.94 29 P **P** **08 01 05.3 +1.1**
N25K IAmb IAmb 08 01 19.9
comp=Z,23nm,1.1s
N25K IAMs_20 IAMs_20 08 28 37.3
comp=Z,528nm,19.0s
N25K Chitina, Valde 68.94 29 P 08 01 04.6
baz=258
BRZS Berezniki 68.97 319 *e*P **P** **08 01 04.3 -0.3**
comp=Z,14nm,1.2s,baz=319
BRZS Berezniki 68.97 319 *e*P **P** **08 01 04.2 -0.3**
BRZS pmax pmax
comp=Z,14nm,1.2s
PRP Porcupine Dome 69.40 25 IAMs_20 IAMs_20 08 27 00.4
comp=Z,714nm,22.0s
CRQM Cirque 69.48 30 P **P** **08 01 08.5 +0.8**
CRQM IAmb IAmb 08 01 25.5
comp=Z,21nm,0.8s
CRQE Cirque 69.50 30 P 08 01 08.0
baz=260
DOT Dot Lake 69.60 27 P **P** **08 01 08.6 +0.3**
DOT IAmb IAmb 08 01 24.3
comp=Z,20nm,0.8s
MCARA McCarthy VSAT 69.64 29 P 08 01 08.6
baz=260,SNR=6.1
SCRK Sand Creek 69.70 26 IAMs_20 IAMs_20 08 29 05.2
comp=Z,772nm,20.0s
SCRK Sand Creek 69.70 26 P 08 01 08.7
baz=258,SNR=13
FYU Fort Yukon 69.77 23 IAMs_20 IAMs_20 08 27 48.1
comp=Z,468nm,19.0s
MESA MESA 69.97 30 P 08 01 10.9
baz=261
KK31 Karatay Array 70.17 311 *e*P **P** **08 01 12.9 +0.8**
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KKAR Karatay Array 70.17 311 P **P** **08 01 12.5 +0.4**
BMAR Burnt Mountain 70.22 23 P **P** **08 01 13.0 +1.0**
CTG Chitna Glacier 70.38 30 P 08 01 13.8
baz=262,SNR=8.3
CTGM Chitina Glacie 70.39 30 P **P** **08 01 13.9 +0.7**
CTGM IAmb IAmb 08 01 17.2
comp=Z,21nm,0.8s
TABL Table Mountain 70.41 30 P **P** **08 01 14.0 +0.6**
BCAR Beaver Creek A 70.50 27 P **P** **08 01 14.1 +0.3**
IUG Iuzhnay 70.53 310 *e*P **P** **08 01 15.2 +0.7**
baz=310
IUG Iuzhnay 70.53 310 *e*P **P** **08 01 15.1 +0.7**
BVAR Borovoye Array 70.61 322 P **P** **08 01 14.3 -0.3**
comp=Z,13nm,0.4s,baz=197,slow=14,SNR=90
BRVK Borovoye 70.68 322 *c i* P **P** **08 01 14.6 -0.4**
BRVK pmax pmax
comp=Z,46nm,1.0s
BRVK Borovoye 70.68 322 P **P** **08 01 15.9 +1.0**
PCA Pinnacle 70.80 31 P **P** **08 01 16.3 +0.6**
PCA IAmb IAmb 08 01 19.1
comp=Z,29nm,0.9s
PINM Pinnacle 70.80 31 P 08 01 16.1
baz=263
PPT Papeete 70.99 114 LR LR 08 28 20.4
comp=Z,525nm,19.6s,baz=290,slow=32
PPT2 Papeete2 71.00 114 *e*S **S** **08 10 31.2 -1.1**
comp=Z,151nm,24.0s
PPT2 Papeete2 71.00 114 *e*LR LR 08 22 38.3
comp=Z,744nm,22.5s,baz=296
EGAK Eagle 71.06 26 P **P** **08 01 18.6 +1.5**
EGAK IAmb IAmb 08 01 18.8
comp=Z,50nm,1.4s
EGAK Eagle 71.06 26 P 08 01 17.0
baz=260,SNR=9.6
DAWY Dawson 71.71 27 P **P** **08 01 22.0 +0.9**
DAWY IAmb IAmb 08 01 34.6
comp=Z,33nm,1.4s
EPYK Eagle Plains 73.10 24 P **P** **08 01 29.7 +0.4**
EPYK IAMs_20 IAMs_20 08 30 24.2
comp=Z,652nm,20.0s
EPYK Eagle Plains 73.10 24 P 08 01 29.8
baz=264,SNR=15
TBI Tubuai 73.24 120 *e*S **S** **08 10 55.8 -1.9**
comp=Z,243nm,27.5s
TBI Tubuai 73.24 120 *e*LR LR 08 23 33.3
comp=Z,496nm,32.0s,baz=304
WHY Whitehorse 73.50 30 P **P** **08 01 33.4 +1.5**
WHY IAmb IAmb 08 01 33.6
comp=Z,31nm,1.4s
INK Inuvik 74.49 22 P **P** **08 01 37.4 +0.1**
INK Inuvik 74.49 22 P **P** **08 01 37.6 +0.3**
DLBC Dease Lake 75.97 33 P **P** **08 01 47.3 +1.1**
DLBC IAmb IAmb 08 01 48.7
comp=Z,34nm,0.9s
SVE Sverdlovsk 76.27 326 *e*P **P** **08 01 48.6 +0.8**
SVE pmax pmax
comp=Z,39nm,1.2s
HRA Herat 77.17 303 P **P** **08 01 53.8 +0.2**
AB31 Akbulak array 77.24 318 *e*P **P** **08 01 53.2 -0.3**
AB31 pmax pmax
comp=Z,30nm,1.0s
ABKAR Akbulak array 77.24 318 P **P** **08 01 53.7 +0.3**
ABKAR IAmb IAmb 08 01 55.0
comp=Z,25nm,1.1s
ARU Arti 77.44 325 P **P** **08 01 54.6 +0.2**
comp=Z,5.8nm,0.6s,baz=125,slow=3.3,SNR=21
ARU Arti 77.44 325 *c i* P **P** **08 01 54.3 -0.1**
ARU 08 04 45.9
ARU S **S** **08 11 44.0 +0.8**
ARU SS **SS** **08 16 37.1 -4.8**
ARU pmax pmax
comp=Z,21nm,0.7s
ARU MLR MLR
comp=Z,519nm,20.0s
C36M Paulatuk 77.90 21 P **P** **08 01 56.7 0.0**
C36M Paulatuk 77.90 21 P 08 01 56.7
baz=275
AKTO Aktyubinsk 78.36 319 P **P** **08 01 59.1 -0.5**
comp=Z,12nm,1.0s,baz=96,slow=8.0,SNR=13
AKTO LR LR 08 37 47.9
comp=Z,492nm,19.8s,baz=78,slow=37
GEYT Alibeck 79.98 307 P **P** **08 02 08.4 -0.4**
comp=Z,11nm,1.0s,baz=288,slow=0.9,SNR=10
GEYT LR LR 08 39 58.0
comp=Z,220nm,20.5s,baz=45,slow=38
GEYT Alibeck 79.98 307 P **P** **08 02 10.2 +1.4**
GYA0B ALIBECK ARRAY 79.98 307 P **P** **08 02 10.2 +1.4**
GYA0B IAmb IAmb 08 02 24.7
comp=Z,31nm,1.2s
KIRV Kirov 82.00 328 P **P** **08 02 20.1 +1.0**
comp=Z,15nm,0.5s,baz=84,slow=4.2,SNR=9.7
KIRV LR LR 08 41 29.8
comp=Z,787nm,18.5s,baz=71,slow=38
KIRV Kirov 82.00 328‖ *i* P **P** **08 02 19.9 +0.8**
KHMM Horse Mountain 82.06 50 P **P** **08 02 21.2 +1.2**
KHMM IAmb IAmb 08 02 26.0
comp=Z,27nm,1.0s
H04A Detroit Lake 82.47 46 P **P** **08 02 22.4 +0.4**
I04A Tendick Farm, 82.48 47 P 08 02 22.2
baz=281
M02C Callahan 82.62 49 P 08 02 22.6
baz=281,SNR=5.8
YBH Yreka Blue Hor 82.66 49 P **P** **08 02 23.3 +0.3**
YBH IAmb IAmb 08 02 25.3
comp=Z,18nm,1.1s
F05D White Salmon 82.74 45 P 08 02 23.7
baz=281
J04D Umpqua Nationa 82.81 47 P 08 02 23.9
baz=281
N02D Trinity Center 82.81 50 P 08 02 24.2
baz=281
L04D Klamath Falls 82.86 48 P 08 02 24.8
baz=281,SNR=5.1
O02D Mt. Diablo Mer 82.90 51 P 08 02 25.1
baz=281
YKA Yellowknife Ar 82.92 27 P **P** **08 02 23.6 -0.2**
comp=Z,8.7nm,0.7s,baz=286,slow=4.5,SNR=102
YKA LR LR 08 38 48.9
comp=Z,382nm,20.0s,baz=0.0,slow=35
WDC Whiskeytown Da 83.01 50 P **P** **08 02 25.8 +1.0**
PRGR Permogore 83.13 332 *e*P **P** **08 02 23.5 -1.4**
PRGR pmax pmax
comp=Z,30nm,0.8s
I05D Terrebonne, OR 83.13 46 P 08 02 25.4
baz=282
EUNU Eureka 83.17 8 P **P** **08 02 25.1 +0.2**
EUNU IAmb IAmb 08 02 27.9
comp=Z,14nm,0.8s
K04D Chiloquin, OR 83.18 48 P 08 02 25.8
baz=282
M04C Macdoel 83.29 49 P 08 02 27.0
baz=282,SNR=12
J05D Fort Rock, OR 83.42 47 P 08 02 27.9
baz=282,SNR=8.2
PINE Pine Mountain 83.53 47 P **P** **08 02 27.8 +0.2**
O03E Paynes Creek 83.62 50 P 08 02 28.3
baz=282,SNR=9.3
B08A Colville Reser 83.65 42 P **P** **08 02 28.1 +0.1**
B08A IAmb IAmb 08 02 51.1
comp=Z,24nm,1.1s
ORV Oroville 84.00 51 P **P** **08 02 29.9 0.0**
ORV IAmb IAmb 08 02 50.8
comp=Z,22nm,1.4s
MOD Modoc Plateau 84.39 48 P **P** **08 02 32.1 +0.1**
MOD IAmb IAmb 08 02 33.7
comp=Z,15nm,1.1s
BELG Belogornoye 84.41 322 *ce*P **P** **08 02 31.3 -0.3**
BELG pmax pmax
comp=Z,19nm,1.0s
C09A Chrisman Ranch 84.47 42 P **P** **08 02 31.8 -0.3**
I07A Izee 84.48 46 P **P** **08 02 33.0 +0.6**
SPITS Spitsbergen Ar 84.53 351 P **P** **08 02 32.1 +0.2**
comp=Z,9.9nm,0.9s,baz=137,slow=12,SNR=7.0
KBS Kingsbay 84.67 352‖ *e*P **P** **08 02 33.7 +1.2**
KBS pmax pmax
comp=Z,21nm,1.3s
RES Resolute Bay 84.78 13 P **P** **08 02 33.8 +0.7**
E09A Wood Farm, Sta 84.85 44 P **P** **08 02 34.3 +0.3**
E09A IAmb IAmb 08 02 52.8
comp=Z,16nm,1.2s
NOR Nord 84.95 357 *i* P **P** **08 02 34.2 +0.3**
comp=Z,5.5nm,1.0s
NOR Nord 84.95 357 *i* P **P** **08 02 34.2 +0.3**
NOR pmax pmax
comp=Z,6.0nm,1.0s
NOR Nord 84.95 357 *i* P **P** **08 02 34.2 +0.3**
NOR IAmb IAmb 08 02 36.0
comp=Z,5.5nm,1.0s
NEW Newport 85.11 42 P **P** **08 02 35.5 +0.1**
NEW IAmb IAmb 08 02 53.7
comp=Z,12nm,0.8s
NEW Newport 85.11 42 P 08 02 35.6
baz=284
CMB Columbia Colle 85.18 52 P **P** **08 02 35.6 -0.3**
CMB IAmb IAmb 08 02 57.0
comp=Z,16nm,1.2s
VCNR Virginia City 85.45 51 P **P** **08 02 38.1 +0.6**
PNTR Pine Nut 85.54 51 P **P** **08 02 38.9 +1.0**
PNTR IAmb IAmb 08 02 58.6
comp=Z,17nm,1.0s
PAHR Pah Rah Range 85.56 50 P **P** **08 02 37.2 -0.7**
F10A Beach Ranch, E 85.60 44 P **P** **08 02 36.5 -1.4**
RKT Rikitea 85.73 115 *e*S **S** **08 13 10.9 +0.8**
comp=Z,283nm,26.5s
RKT Rikitea 85.73 115 *e*LR LR 08 29 23.4
comp=Z,592nm,23.5s
BMO Blue Mountains 85.83 45 P **P** **08 02 38.9 -0.2**
BMO IAmb IAmb 08 02 48.5
comp=Z,27nm,1.3s
YERR Yerington 85.83 51 P **P** **08 02 39.3 -0.1**
APA Apatity 86.05 339‖ *i* P **P** **08 02 37.1 -2.5**
APA pmax pmax
comp=Z,13nm,1.0s
SMMC Simmler 86.10 55 P 08 02 40.9
baz=283
KLMR Klimovskoe 86.18 332 *e*P **P** **08 02 36.9 -3.4**
KLMR pmax pmax
comp=Z,32nm,1.2s
KLMR Klimovskoe 86.18 332 *e*P **P** **08 02 36.9 -3.4**
KLMR AMP 08 02 40.7
comp=Z,32nm,1.2s
PKM Mcpherson Peak 86.34 55 P 08 02 42.4
baz=283
MLAC Mammoth, Mammo 86.46 52 P 08 02 43.3
baz=284
RYN Ryan 86.46 51 P **P** **08 02 42.5 +0.1**
LHV Little Huntoon 86.57 52 P **P** **08 02 42.6 -0.1**
LHV IAmb IAmb 08 03 00.4
comp=Z,22nm,1.4s
NVAR Mina Array Bea 86.68 51 P **P** **08 02 44.1 +0.5**
comp=Z,4.8nm,0.9s,baz=266,slow=5.6,SNR=24
NVAR LR LR 08 34 23.9
comp=Z,133nm,21.3s,baz=272,slow=31
NVAR Mina Array Bea 86.68 51 P **P** **08 02 43.3 -0.3**
VES Vestal, Richgr 86.70 54 P 08 02 43.0
baz=284
MAK Makhachkala 86.87 313 *e*P **P** **08 02 42.9 -1.2**
MAK *e* 08 06 05.6
MAK *e*PPP PPP 08 07 59.2
MAK *e* 08 13 05.9
MAK *e*SS SS 08 19 01.0 -1.6
MAK pmax pmax
comp=Z,271nm,1.1s
WALA Waterton Lakes 86.95 40 P **P** **08 02 43.6 -0.9**
WALA IAmb IAmb 08 02 55.0
comp=Z,30nm,1.2s
TIN Tinemaha, Big 87.07 53 P 08 02 45.8
baz=284
AKT Akhty 87.09 312 *e*P **P** **08 02 47.0 +1.6**

AKT					pmax		pmax		
	comp=Z,36nm,1.2s								
ISA	**Isabella, Lake**	**87.22**	**54**		P			08 02 46.1	
	baz=284,SNR=6.4								
CWC	**Cottonwood Cre**	**87.34**	**53**		P			08 02 46.7	
	baz=284								
MSO	**Missoula**	**87.57**	**43**		P			08 02 47.6	
	baz=287								
ARCES	**ARCESS Array B**	**87.64**	**342**		P		**P**	**08 02 47.4**	**+0.1**
	comp=Z,8.9nm,0.7s,baz=59,slow=6.1,SNR=26								
EDW2	**Edwards Air Fo**	**87.79**	**55**		P			08 02 49.3	
	baz=284,SNR=5.7								
DVE	**Vedeno**	**87.85**	**314**	⇑	*e*P		**P**	**08 02 48.3**	**-0.6**
LRMC	**Laurel Mtn Rad**	**87.89**	**54**		P			08 02 49.9	
	baz=285								
BFSC	**Mount Baldy Ra**	**88.22**	**55**		P			08 02 50.7	
	baz=285								
VRH	**Novokhopyorsk**	**88.26**	**322**		*e*P		**P**	**08 02 48.7**	**-1.9**
VRH					pmax		pmax		
	comp=Z,40nm,0.7s								
FURC	**Furnace Creek,**	**88.28**	**53**		P			08 02 51.7	
	baz=285,SNR=12								
GSC	**Goldstone, Bar**	**88.63**	**54**		P			08 02 53.3	
	baz=285,SNR=11								
TPNV	**Topopah Spring**	**88.63**	**52**		IAMs_20		IAMs_20	08 41 13.7	
	comp=Z,240nm,20.0s								
TPNV	**Topopah Spring**	**88.63**	**52**		P			08 02 52.9	
	baz=285,SNR=14								
MURC	**Murrieta**	**88.76**	**56**		P			08 02 53.5	
	baz=285								
R11A	**Troy Canyon, C**	**88.76**	**51**		P			08 02 54.2	
	baz=286,SNR=9.7								
BBRC	**Big Bear Solar**	**88.81**	**55**		P			08 02 53.9	
	baz=285								
MCMT	**McKenzie Canyo**	**88.88**	**44**		P		**P**	**08 02 53.8**	**-0.3**
SHOC	**Shoshone, Teco**	**88.89**	**53**		P			08 02 54.4	
	baz=285,SNR=7.4								
MOS	**Moscow**	**88.97**	**327**		*e*P		**P**	**08 02 52.7**	**-1.1**
109C	**Camp Elliot, M**	**89.01**	**57**		P			08 02 54.9	
	baz=285								
HEC	**Hector,Ludlow**	**89.13**	**55**		P			08 02 55.4	
	baz=285								
PFO	**Pinyon Flats O**	**89.35**	**56**	⇑	*e*P		**P**	**08 02 56.5**	**+0.2**
PFO					pmax		pmax		
	comp=Z,18nm,1.0s								
PFO	**Pinyon Flats O**	**89.35**	**56**		P			08 02 56.6	
	baz=285,SNR=6.4								
XPFO	**Pion Flat**	**89.35**	**56**		P		**P**	**08 02 56.0**	**-0.3**
TPFO	**Pinon Flats**	**89.35**	**56**		P			08 02 56.5	
	baz=285,SNR=5.4								
LPSR	**Galich'ya Gora**	**89.41**	**324**		*e*P		**P**	**08 02 54.6**	**-1.4**
LPSR					pmax		pmax		
	comp=Z,70nm,0.8s								
PRN	**Pahroc Range**	**89.43**	**52**		P		**P**	**08 02 55.9**	**-0.8**
PRN					IAmb		IAmb	08 03 22.5	
	comp=Z,15nm,1.1s								
ZEI	**Tsey**	**89.46**	**314**		*e*P		**P**	**08 02 55.3**	**-1.4**
ZEI					pmax		pmax		
	comp=Z,16nm,1.3s								
BOZ	**Bozeman (W)**	**89.47**	**43**		P			08 02 57.1	
	baz=288								
SPR3	**Spring Creek 3**	**89.53**	**50**		P		**P**	**08 02 57.0**	**-0.3**
SPR3					IAmb		IAmb	08 03 11.7	
	comp=Z,20nm,1.2s								
MONP2	**Monument Peak**	**89.57**	**56**		P			08 02 57.6	
	baz=285,SNR=8.4								
SHPR	**Sheep Range**	**89.59**	**53**		P		**P**	**08 02 57.6**	**+0.2**
SHPR					IAmb		IAmb	08 03 19.2	
	comp=Z,17nm,1.1s								
BELC	**Belle Mtn. Jos**	**89.61**	**55**		P			08 02 57.6	
	baz=286,SNR=5.5								
GNI	**Garni**	**89.64**	**311**	⇓	*i*P		**P**	**08 02 57.9**	**+0.3**
GNI					pmax		pmax		
	comp=Z,28nm,1.3s								
GMRC	**Granite Mounta**	**89.67**	**54**		P			08 02 58.3	
	baz=286,SNR=8.9								
DAG	**Danmarks Havn**	**89.71**	**356**		*i* P		**P**	**08 02 55.5**	**-1.4**
	comp=Z,7.5nm,0.9s								
DAG	**Danmarks Havn**	**89.71**	**356**		*i* P		**P**	**08 02 55.5**	**-1.4**
DAG					pmax		pmax		
	comp=Z,8.0nm,0.9s								
DAG	**Danmarks Havn**	**89.71**	**356**		*i* P		**P**	**08 02 55.5**	**-1.4**
DAG					IAmb		IAmb	08 02 57.4	
	comp=Z,7.5nm,0.9s								
OBN	**Obninsk**	**89.76**	**327**	⇓	*e*P		**P**	**08 02 56.8**	**-0.7**
OBN					*e*			08 06 33.8	
OBN					*e*S		**SKSac**	**08 13 22.9**	**-3.3**
OBN					pmax		pmax		
	comp=Z,42nm,1.3s								
OBN					MLR		MLR		
	comp=Z,710nm,19.0s								
VSR	**Storozhevoye**	**89.77**	**323**		*e*P		**P**	**08 02 55.9**	**-1.8**
VSR					pmax		pmax		
	comp=Z,40nm,0.8s								
VORD	**Divnogorie**	**89.78**	**323**		*e*P		**P**	**08 02 56.1**	**-1.6**
VORD					pmax		pmax		
	comp=Z,30nm,0.8s								
VALR	**Valaam**	**89.81**	**334**		*i* P		**P**	**08 02 57.0**	**-0.6**
VALR					pmax		pmax		
	comp=Z,33nm,1.4s								
QLMT	**Earthquake Lak**	**89.84**	**44**		P		**P**	**08 02 59.1**	**+0.6**
HVU	**Hansel Valley**	**89.85**	**47**		P		**P**	**08 02 58.5**	**0.0**
HVU					IAmb		IAmb	08 03 09.2	
	comp=Z,18nm,1.3s								
KBZ	**Khabaz**	**89.87**	**315**		P		**P**	**08 02 58.0**	**-0.4**
	comp=Z,9.8nm,1.0s,baz=27,slow=3.1,SNR=9.0								
KBZ					LR		LR	08 45 37.5	
	comp=Z,165nm,20.5s,baz=57,slow=37								
KBZ	**Khabaz**	**89.87**	**315**	⇓	*i* P		**P**	**08 02 57.7**	**-0.6**
KBZ					pmax		pmax		
	comp=Z,23nm,1.3s								
IKP	**In-Ko-Pah, Jac**	**89.89**	**57**		P			08 02 59.1	
	baz=286								
EGMT	**Eagleton**	**89.90**	**40**		P			08 02 59.1	
	baz=290								
KIV	**Kislovodsk**	**89.95**	**315**		*e*P		**P**	**08 02 58.2**	**-0.6**
KIV					pmax		pmax		
	comp=Z,63nm,1.0s								
KIV					MLR		MLR		
	comp=Z,843nm,20.0s								
PSUT	**Pine Spring**	**90.02**	**50**		P		**P**	**08 02 59.8**	**+0.4**
PSUT					IAmb		IAmb	08 03 20.7	
	comp=Z,12nm,1.0s								
YHB	**Horse Butte**	**90.03**	**44**		P		**P**	**08 02 59.9**	**+0.5**
YHB					IAmb		IAmb	08 03 21.4	
	comp=Z,13nm,1.0s								
SWSC	**Sam W. Stewart**	**90.06**	**56**		P			08 02 59.2	
	baz=286								
BC3	**Big Chuckawall**	**90.14**	**55**		P			08 03 00.5	
	baz=286,SNR=7.3								
NEY	**Neytrino**	**90.14**	**315**	⇓	*e*P		**P**	**08 03 01.3**	**+1.4**
NEY					pmax		pmax		
	comp=Z,5.0nm,1.2s								
YMR	**Madison River**	**90.21**	**44**		P		**P**	**08 03 00.3**	**+0.1**
YMR					IAmb		IAmb	08 03 27.4	
	comp=Z,15nm,1.0s								
IRM	**Iron Mountain**	**90.25**	**55**		P			08 03 00.9	
	baz=286,SNR=5.6								
DUG	**Dugway, Tooele**	**90.30**	**49**		IAMs_20		IAMs_20	08 35 05.8	
	comp=Z,312nm,19.0s								
DUG	**Dugway, Tooele**	**90.30**	**49**		P			08 03 01.2	
	baz=286								
PAF	**Port-aux-Franc**	**90.57**	**219**		P		**P**	**08 03 01.3**	**+0.1**
YMP	**Mirror Lake Pl**	**90.73**	**44**		P		**P**	**08 03 03.0**	**+0.3**
GLA	**Glamis**	**90.81**	**56**		P			08 03 03.6	
	baz=286								
PDMCI	**Parker Dam,Lak**	**91.01**	**55**		P			08 03 04.2	
	baz=287,SNR=12								
VNDA	**Vanda**	**91.04**	**176**		P		**P**	**08 03 02.8**	**-0.1**
	comp=Z,2.8nm,1.2s,baz=347,slow=5.1,SNR=3.5								
VNDA					LR		LR	08 44 36.5	
	comp=Z,117nm,18.8s,baz=352,slow=36								
MTPU	**Mount Pierson**	**91.42**	**51**		P		**P**	**08 03 05.7**	**-0.4**
TMUT	**Trail Mountain**	**91.75**	**49**		P		**P**	**08 03 07.5**	**-0.1**
FINES	**FINESS Array B**	**91.77**	**335**		P		**P**	**08 03 05.9**	**-0.8**
	comp=Z,4.5nm,0.6s,baz=69,slow=5.0,SNR=36								
FINES					LR		LR	08 44 18.9	
	comp=Z,88nm,18.3s,baz=50,slow=36								
FINES	**FINESS Array B**	**91.77**	**335**		P		**P**	**08 03 05.6**	**-1.2**
PDAR	**Pinedale Array**	**91.80**	**45**		P		**P**	**08 03 08.0**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=239,slow=1.6,SNR=7.4								
PDAR					LR		LR	08 41 57.5	
	comp=Z,302nm,19.0s,baz=326,slow=34								
SOC	**Sochi**	**92.10**	**316**		*e*P		**P**	**08 03 07.6**	**-1.1**
SOC					*e*			08 06 49.0	
SOC					*e*S		**SKSac**	**08 13 36.9**	**-3.2**
SOC					*e*SS		**SS**	**08 20 18.5**	**+0.1**
SOC					MLR		MLR		
	comp=Z,600nm,21.0s								
DBG	**Daneborg**	**92.21**	**356**		*i* P		**P**	**08 03 06.7**	**-1.9**
DBG					IAmb		IAmb	08 03 08.7	
	comp=Z,4.1nm,1.1s								
LAO	**LASA Array**	**92.62**	**41**		P			08 03 11.5	
	baz=292								
214A	**Organ Pipe Nat**	**92.76**	**56**		P			08 03 12.4	
	baz=287								
WUAZ	**Wupatki**	**92.82**	**53**		P			08 03 13.1	
	baz=288								
VSU	**Vasula**	**93.06**	**333**	⇓	*e*P		**P**	**08 03 11.5**	**-1.3**
VSU					pmax		pmax		
	comp=Z,101nm,1.4s								
DGMT	**Dagmar**	**93.18**	**39**		P			08 03 13.6	
	baz=294								
MARD	**Mardin**	**93.46**	**309**		P		**P**	**08 03 14.7**	**-0.6**
RAYN	**Ar Rayn**	**93.74**	**295**		P		**P**	**08 03 16.1**	**-0.7**
RAYN					pmax		pmax		
	comp=Z,10.0nm,1.3s								
RAYN	**Ar Rayn**	**93.74**	**295**		P		**P**	**08 03 15.8**	**-1.0**
TUC	**Tucson**	**94.29**	**56**		P			08 03 19.2	
	baz=288								
SUMG	**Summit**	**94.38**	**1**		*i* P		**P**	**08 03 19.1**	**0.0**
	comp=Z,8.0nm,0.9s								
SUMG	**Summit**	**94.38**	**1**		*i* P		**P**	**08 03 19.1**	**0.0**
SUMG					pmax		pmax		
	comp=Z,8.0nm,0.9s								
SUMG	**Summit**	**94.38**	**1**		*i* P		**P**	**08 03 19.1**	**0.0**
SUMG					IAmb		IAmb	08 03 23.8	
	comp=Z,8.0nm,0.9s								
MVCO	**Mesa Verde**	**94.45**	**50**		P			08 03 20.2	
	baz=290								
MNK	**Minsk**	**94.53**	**329**		*i* P		**P**	**08 03 16.2**	**-3.4**
	comp=E,10.0nm,0.5s								
MNK					*i* P		**P**	**08 03 16.2**	**-3.4**
	comp=N,43nm,0.6s								
MNK					*i* P		**P**	**08 03 16.2**	**-3.4**
	comp=Z,40nm,0.5s								
MNK					*i* PP		**PP**	**08 07 03.6**	**-3.5**
MNK					*i* PPP		PPP	08 09 05.9	
MNK					*i* SKS		**SKSac**	**08 13 47.5**	**-5.6**
MNK					*i* S		**SKKSac**	**08 14 21.3**	**+6.7**
MNK					*i* PS		**PS**	**08 15 47.4**	**-1.7**
MNK					*i* SS		**SS**	**08 20 50.7**	**-1.8**
MNK					*i* SSS		SSS	08 24 33.1	
MNK					*i* LQ		LQ	08 40 04.4	
MNK					*i* LR		LR	08 44 49.8	
MNK					*i* LRM		MLR	08 47 19.2	
	comp=N,231nm,17.2s								
MNK					*i* LRM		MLR	08 47 22.4	
	comp=E,17nm,13.4s								
MNK					*i* LRM		MLR	08 47 48.6	
	comp=Z,425nm,21.7s								
NACGM	**Naroch**	**94.88**	**329**		*i* P		P	08 03 14.7	-6.5
NACGM					*i* P		P	08 03 14.7	-6.5
NACGM					*i* P		P	08 03 14.7	-6.5
NACGM					*i* PP		PP	08 06 58.8	-11
NACGM					*i* PPP		PPP	08 08 59.2	
NACGM					*i* SKS			08 13 10.5	
NACGM					*i* SKS			08 13 10.5	
NACGM					*i* S		**SKSac**	**08 14 01.0**	**+6.1**
NACGM					*i* PS		**PS**	**08 15 38.9**	**-14**
NACGM					*i* PS		PS	08 16 15.6	+23
NACGM					*i* SS		SS	08 20 28.1	-29
NACGM					*i* SSS		SSS	08 24 31.3	
NACGM					*i* LQ		LQ	08 39 29.4	
NACGM					*i* LR		LR	08 46 26.3	
N23A	**Red Feather La**	**94.99**	**46**		P			08 03 22.7	
	baz=292								
PHWY	**Pilot Hill**	**95.17**	**46**		IAMs_20		IAMs_20	08 43 45.9	
	comp=Z,377nm,20.0s								
S22A	**4UR Ranch, Cre**	**95.51**	**49**		P			08 03 25.2	
	baz=291								
AKASG	**Malin Array Be**	**95.69**	**325**		P		**P**	**08 03 23.8**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=52,slow=4.6,SNR=6.7								
AKASG					LR		LR	08 49 00.6	
	comp=Z,396nm,18.6s,baz=60,slow=37								
AKASG	**Malin Array Be**	**95.69**	**325**		*ce*P		**P**	**08 03 23.7**	**-1.3**
AKASG					pmax		pmax		
	comp=Z,3.0nm,0.7s								
AKBB	**Malin Array Si**	**95.69**	**325**	⇓	*e*P		**P**	**08 03 23.6**	**-1.4**
SDCO	**Great Sand Dun**	**96.49**	**49**		IAMs_20		IAMs_20	08 52 08.7	
	comp=Z,250nm,18.0s								
121A	**Cookes Peak, D**	**96.61**	**55**		P			08 03 30.7	
	baz=290								
ANMO	**Albuquerque**	**96.80**	**52**	⇓	*e*P		**P**	**08 03 32.1**	**+1.4**
ULM	**Lac du Bonnet**	**97.21**	**35**	⇑	*e*P		**P**	**08 03 31.4**	**-0.5**
	comp=Z,4.9nm,1.2s,baz=341,slow=5.4,SNR=4.2								
ULM	**Lac du Bonnet**	**97.21**	**35**	⇑	*e*P		**P**	**08 03 31.2**	**-0.8**
NB2	**NORSAR Subarra**	**97.63**	**339**		P		**P**	**08 03 32.0**	**-1.7**
	comp=Z,32nm,1.4s,baz=43,slow=5.1								
NB2	**NORSAR Subarra**	**97.63**	**339**		P		**P**	**08 03 32.0**	**-1.7**
	baz=43,slow=5.1								
NOA	**NORSAR Array B**	**97.63**	**339**		P		**P**	**08 03 32.7**	**-1.0**
	comp=Z,3.5nm,0.9s,baz=52,slow=4.4,SNR=6.8								
NOA					LR		LR	08 51 39.2	
	comp=Z,189nm,18.4s,baz=35,slow=38								
OGNE	**Ogallala**	**97.69**	**45**		IAMs_20		IAMs_20	08 46 23.4	
	comp=Z,403nm,18.0s								
BR131	**Keskin Array S**	**97.78**	**314**		P		**P**	**08 03 33.8**	**-1.1**
BRTR	**Keskin Array B**	**97.78**	**314**		P		**P**	**08 03 34.0**	**-1.0**
	comp=Z,7.5nm,1.1s,baz=77,slow=2.7,SNR=19								
BRTR	**Keskin Array B**	**97.78**	**314**		*ce*P		**P**	**08 03 34.0**	**-1.0**
BRTR					pmax		pmax		
	comp=Z,5.0nm,0.9s								
BRTR	**Keskin Array B**	**97.78**	**314**		P		**P**	**08 03 33.6**	**-1.4**
MNTX	**Cornudas Mount**	**98.81**	**55**		P		**P**	**08 03 39.1**	**-0.5**
MNTX					IAmb		IAmb	08 04 00.7	
	comp=Z,8.2nm,1.4s								
MNTX	**Cornudas Mount**	**98.81**	**55**		P			08 03 40.3	
	baz=291								
MDUB	**Mudurnu**	**99.16**	**315**		P		**Pdif**	**08 03 39.1**	**-2.0**
MAW	**Mawson**	**99.31**	**203**		LR		LR	08 44 27.5	
	comp=Z,187nm,19.6s,baz=56,slow=33								
VRI	**Vrincioaia**	**99.51**	**322**		P		**Pdif**	**08 03 42.2**	**-0.2**
VRI					pmax		pmax		
	comp=Z,10.0nm,0.9s								
DRGR		**101.39**	**324**		P		**Pdif**	**08 03 50.4**	**-0.4**
DRGR					pmax		pmax		
	comp=Z,13nm,0.9s								
OK032	**Salt Plains WL**	**102.17**	**47**		IAMs_20		IAMs_20	08 43 57.1	
	comp=Z,464nm,22.0s								
VYHS	**Vyhne**	**102.56**	**327**		*e*P		**Pdif**	**08 03 52.9**	**-3.0**
VYHS	**Vyhne**	**102.56**	**327**		*e*PDIFF		**Pdif**	**08 03 52.9**	**-3.0**
JCT	**Junction City**	**103.69**	**54**		IAMs_20		IAMs_20	08 51 09.6	
	comp=Z,336nm,20.0s								
VNA2	**Neumayer--Watz**	**119.95**	**190**		PKPdf		**PKPdf**	**08 08 47.9**	**-1.2**
VNA3	**Neumayer Olymp**	**120.04**	**189**		PKPdf		**PKPdf**	**08 08 49.0**	**-0.3**
ESDC	**Sonseca Array**	**120.21**	**333**		PP		PP	08 10 13.8	-1.3
	comp=Z,3.2nm,1.1s,baz=26,slow=7.2,SNR=7.8								
MVO	**Moncorvo**	**120.24**	**336**		*e*PKPdf		**PKiKP**	**08 08 52.4**	**+1.6**
POLO	**Lamas de Olo**	**120.36**	**337**		*e*PKPdf		**PKiKP**	**08 08 52.2**	**+1.1**
MTE	**Manteigas**	**121.10**	**336**		*e*PKPdf		**PKiKP**	**08 08 52.6**	**+0.1**
PCBR	**Castelo Branco**	**121.55**	**336**		*e*PKPdf		**PKPdf**	**08 08 51.7**	**-1.4**
PMRV	**Marv??o**	**121.87**	**335**		*e*PKPdf		**PKiKP**	**08 08 54.9**	**+0.9**
PMTG	**Montargil**	**122.51**	**336**		*e*PKPdf		**PKiKP**	**08 08 55.9**	**+0.7**
TOA0	**Torodi Ar. Sit**	**135.59**	**305**		PKPdf		**PKPdf**	**08 09 21.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**135.59**	**305**		PKP		**PKPdf**	**08 09 20.9**	**+0.4**
	comp=Z,7.0nm,1.1s,baz=58,slow=3.5,SNR=9.8								
TORD	**Torodi Ar. Bea**	**135.59**	**305**				**PKPdf**	**08 09 20.6**	**+0.2**
PLCA	**Paso Flores**	**138.23**	**138**		PKP		**PKPdf**	**08 09 24.7**	**0.0**
	comp=Z,3.5nm,1.0s,baz=211,slow=7.8,SNR=6.5								
PB14	**IPOC Station P**	**144.29**	**114**		PKPdf		PKPbc	08 09 34.9	+0.2
DBIC	**Dimbokro**	**144.55**	**302**		PKP		PKPbc	08 09 35.8	+0.4
	comp=Z,33nm,0.4s,baz=50,slow=3.6,SNR=50								
DBIC	**Dimbokro**	**144.55**	**302**		PKPdf		**PKPdf**	**08 09 36.3**	**-0.4**
KIC	**Kosan Boka**	**144.63**	**302**		*e*PKP1		PKPbc	08 09 35.8	+0.2
	comp=Z,251nm,1.2s								
TIC	**Toumodi**	**144.70**	**302**		*e*PKP1		PKPbc	08 09 36.1	+0.2
AC02	**Maricunga**	**144.88**	**118**				PKPbc	08 09 36.9	+0.2
LIC	**Lamto**	**144.94**	**302**		*e*PKP1		PKPbc	08 09 36.9	+0.3
	comp=Z,437nm,1.2s								
MNMC	**Minye Minye**	**145.82**	**105**				**PKPbc**	**08 09 39.7**	**+0.1**
LPAZ	**La Paz**	**147.35**	**100**		PKPbc		**PKPdf**	**08 09 43.3**	**+1.1**
	comp=Z,3.2nm,0.8s,baz=356,slow=4.6,SNR=9.9								
SAML	**Samuel**	**151.54**	**84**				**PKPdf**	**08 09 48.0**	**-0.2**
PTGA	**Pitinga**	**151.89**	**66**		PKPdf		**PKPdf**	**08 09 49.1**	**+0.4**

IDC ***12*** *07:55:49.5±0.9, 13°.11N×145°.62E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.7/51, mbtmp3.9/8, Error ellipse: s-maj=38.1km s-min=21.4km az=98.0*

ISC 12 07:55:55.6±0.9, 13°.1N±0°.2×145°.6E±0°.3, h43km, n9, σ0§43/9, mb3.9/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.62**	**199**	P		**P**	**08 02 40.6**	**-0.3**
	1.3nm,0.7s,baz=22,slow=9.5,SNR=6.3							
ASAR	**Alice Springs**	**38.25**	**197**	P		**P**	**08 03 12.2**	**+0.4**
	0.9nm,0.6s,baz=27,slow=8.4,SNR=10.0							
MKAR	**Makanchi Array**	**62.34**	**316**	P		**P**	**08 06 14.5**	**+0.6**
	0.6nm,0.5s,baz=90,slow=8.1,SNR=5.9							
KURBB	**Kurchatov Arra**	**65.47**	**320**	P		**P**	**08 06 34.2**	**-0.1**
	2.0nm,0.7s,baz=101,slow=6.7,SNR=6.4							
ILAR	**Eielson Array**	**68.75**	**25**	P		**P**	**08 06 54.8**	**0.0**
	0.5nm,0.7s,baz=251,slow=5.7,SNR=2.8							
BVAR	**Borovoye Array**	**70.76**	**322**	P		**P**	**08 07 07.3**	**-0.2**
	1.3nm,0.6s,baz=193,slow=12,SNR=6.2							
YKA	**Yellowknife Ar**	**83.00**	**27**	P		**P**	**08 08 15.9**	**-0.2**
	0.5nm,0.5s,baz=286,slow=4.4,SNR=8.5							
NVAR	**Mina Array Bea**	**86.71**	**51**	P		**P**	**08 08 35.9**	**+0.3**
	0.3nm,0.5s,baz=284,slow=3.6,SNR=2.8							
DBIC	**Dimbokro**	**144.69**	**302**	PKP		**PKPdf**	**08 15 28.2**	**-0.6**
	3.7nm,0.8s,baz=42,slow=7.4,SNR=3.0							

IDC ***12*** *07:59:57.7±1.1, 13°.12N×145°.62E, h0km, mb3.4/8, mb1 3.7/8, mb1mx3.5/46, mbtmp3.4/8, Error ellipse: s-maj=42.3km s-min=24.9km az=101.0*

ISC 12 08:00:03.9±1.0, 13°.1N±0°.2×145°.6E±0°.3, h43km, n8, σ1§04/8, mb3.4/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.63**	**199**	P		**P**	**08 06 49.2**	**-0.1**
	0.6nm,1.0s,baz=20,slow=9.6,SNR=1.8							
ASAR	**Alice Springs**	**38.27**	**197**	P		**P**	**08 07 20.2**	**-0.1**
	0.5nm,1.0s,baz=30,slow=7.7,SNR=3.2							
MKAR	**Makanchi Array**	**62.35**	**316**	P		**P**	**08 10 23.0**	**+0.8**
	0.2nm,0.6s,baz=97,slow=8.2,SNR=2.3							
KURBB	**Kurchatov Arra**	**65.47**	**320**	P		**P**	**08 10 43.2**	**+0.7**
	0.3nm,0.5s,baz=104,slow=6.7,SNR=3.2							
ILAR	**Eielson Array**	**68.72**	**25**	P		**P**	**08 11 01.9**	**-1.1**
	0.2nm,0.5s,baz=276,slow=9.0,SNR=1.4							
BVAR	**Borovoye Array**	**70.76**	**322**	P		**P**	**08 11 14.3**	**-1.5**
	0.8nm,0.7s,baz=130,slow=13,SNR=1.7							
YKA	**Yellowknife Ar**	**82.98**	**27**	P		**P**	**08 12 24.8**	**+0.5**
	0.1nm,0.4s,baz=286,slow=4.5,SNR=2.2							
NVAR	**Mina Array Bea**	**86.68**	**51**	P		**P**	**08 12 44.5**	**+0.7**
	0.4nm,0.9s,baz=268,slow=4.2,SNR=1.6							

NNC 12 08:19:05.4±7.6, 53°.85N×90°.40E, h0km, mb3.5, mpv3.3, 7C-3D, Error ellipse: s-maj=57.6km s-min=37.4km az=53.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.30**	**274**	⇑	Pg	Pb	08 20 04.5	-0.2
	2.4nm,0.8s							
ZAA0				⇑	Lg	Lg	08 20 54.8	
	6.9nm,0.8s							
KURBB	**Kurchatov Arra**	**7.97**	**251**	⇑	Pn	Pn	08 21 02.1	-0.3
	3.1nm,0.8s							
KURBB				⇑	Sn	Sn	08 22 31.9	-1.2
	11nm,0.6s							
KURBB				⇓	Lg	Lg	08 23 21.3	
	59nm,0.9s							
MK31	**Makanchi Array**	**8.76**	**220**		Pn	Pn	08 21 11.4	-1.8
	0.5nm,0.5s,baz=43,slow=15,SNR=13							
MK31				⇓	Sn	Sn	08 22 49.2	-3.4
	1.5nm,0.7s,baz=41,slow=25,SNR=4.3							
MK31				⇓	Lg	Lg	08 23 42.9	
	7.1nm,0.9s,baz=31,slow=28,SNR=6.2							
MAKZ	**Makanchi**	**8.87**	**221**	⇑	Pn	Pn	08 21 17.9	+3.1
	1.3nm,0.8s							
MAKZ				⇑	Sn	Sn	08 23 00.4	+5.1
	2.0nm,0.6s							
MAKZ				⇑	Lg	Lg	08 23 44.2	
	14nm,1.4s							

IDC ***12*** *08:34:21.0±0.7, 13°.18N×145°.60E, h0km, mb4.1/16, mb1 4.3/16, mb1mx4.1/47, mbtmp4.1/16, MS3.6/2, Ms1 3.6/2, ms1mx2.9/48, Error

comp=Z,2.1nm,0.2s,baz=66,slow=8.7,SNR=4.1
ARU Arti 77.61 325 IAmb IAmb 08 46 25.1
comp=Z,5.3nm,1.0s
YKA Yellowknife Ar 82.95 27 P **P** **08 46 47.8 +0.8**
comp=Z,1.7nm,0.6s,baz=288,slow=4.8,SNR=24
NVAR Mina Array Bea 86.64 51 P **P** **08 47 07.7 +1.3**
comp=Z,0.8nm,0.6s,baz=270,slow=5.5,SNR=9.3
NVAR Mina Array Bea 86.64 51 P **P** **08 47 08.6 +2.2**
ARCES ARCESS Array B 87.79 342 P **P** **08 47 10.7 -0.3**
comp=Z,2.6nm,0.7s,baz=30,slow=2.9,SNR=4.9
PDAR Pinedale Array 91.78 45 P **P** **08 47 31.4 +0.9**
comp=Z,0.1nm,0.4s,baz=266,slow=4.4,SNR=1.9
FINES FINESS Array B 91.93 335 P **P** **08 47 29.1 -1.4**
comp=Z,0.8nm,0.5s,baz=66,slow=4.6,SNR=4.9
FINES FINESS Array B 91.93 335 P **P** **08 47 29.9 -0.6**
PLCA Paso Flores 138.06 138 PKP **PKiKP** **08 53 49.8 +0.5**
comp=Z,0.7nm,0.9s,baz=214,slow=3.6,SNR=3.1
PB14 IPOC Station P 144.11 114 PKPdf **PKPdf** **08 53 59.4 +0.4**
DBIC Dimbokro 144.73 302 PKP **PKPdf** **08 54 00.0 +0.1**
comp=Z,6.3nm,0.6s,baz=30,slow=3.6,SNR=8.1
DBIC Dimbokro 144.73 302 **PKPdf** **08 54 00.2 +0.3**
PSGCX Pisagua 145.12 105 PKPbc **PKPbc** **08 54 00.3 +0.2**

*IDC **12** 09:06:16.4±0.9, 13°.16N×145°.56E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/41, mbtmp3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.6/47, Error ellipse: s-maj=38.2km s-min=20.3km az=102.0*
*NEIC **12** 09:06:18.1±0.9, 13°.1N±0°.2×145°.7E±0°.1, h14km±6km, mb4.1/5, Error ellipse: s-maj=24.6km s-min=13.3km az=213.0*
ISC 12 09:06:21.7±0.8, **13°.0N**±0°.1×**145°.7E**±0°.1, **h43**km, **n18**, σ1§**11**/**17**, **mb3.8**/**11**, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.96**	**305**		**Pn**	**09 06 37.0**	**-1.8**
PATS	**Pohnpei**	**13.88**	**115**	Pn	**Pn**	**09 09 33.7**	**-2.3**
JNU	**Nakatsue**	**24.14**	**328**	LR	LR	09 18 33.0	
comp=Z,41nm,21.6s,baz=190,slow=31							
WB0	**Warramunga Arr**	**34.43**	**199**	P	**P**	**09 13 06.1**	**+0.7**
WR0	**Warramunga Arr**	**34.56**	**199**	P	**P**	**09 13 06.8**	**+0.3**
WR0				IAmb	IAmb	09 13 14.9	
comp=Z,3.2nm,1.0s							
WB2	**Warramunga Arr**	**34.61**	**199**	P	**P**	**09 13 07.0**	**+0.2**
WRA	**Warramunga Arr**	**34.61**	**199**	P	**P**	**09 13 07.9**	**+1.0**
comp=Z,0.7nm,0.6s,baz=21,slow=9.6,SNR=8.8							
ASAR	**Alice Springs**	**38.24**	**198**	P	**P**	**09 13 39.2**	**+1.4**
comp=Z,0.6nm,0.5s,baz=27,slow=8.4,SNR=16							
MK31	**Makanchi Array**	**62.44**	**316**	P	**P**	**09 16 40.4**	**-0.1**
MK31				IAmb	IAmb	09 16 45.1	
comp=Z,1.4nm,1.4s							
MKAR	**Makanchi Array**	**62.44**	**316**	P	**P**	**09 16 40.9**	**+0.3**
comp=Z,0.3nm,0.4s,baz=92,slow=8.4,SNR=6.8							
KURK	**Kurchatov**	**65.51**	**320**	P	**P**	**09 17 00.6**	**-0.1**
KURBB	**Kurchatov Arra**	**65.56**	**320**	P	**P**	**09 17 00.6**	**-0.3**
comp=Z,1.2nm,0.5s,baz=103,slow=6.6,SNR=2.2							
IL31		**68.74**	**25**	P	**P**	**09 17 21.2**	**+0.4**
IL31				IAmb	IAmb	09 17 33.0	
comp=Z,1.6nm,0.9s							
ILAR	**Eielson Array**	**68.74**	**25**	P	**P**	**09 17 21.1**	**+0.2**
comp=Z,0.5nm,0.6s,baz=251,slow=5.8,SNR=9.5							
BVAR	**Borovoye Array**	**70.85**	**322**	P	**P**	**09 17 33.8**	**-0.3**
comp=Z,0.6nm,0.4s,baz=201,slow=12,SNR=3.4							
YKA	**Yellowknife Ar**	**82.99**	**27**	P	**P**	**09 18 43.0**	**+0.8**
comp=Z,0.4nm,0.5s,baz=285,slow=4.6,SNR=9.1							
NVAR	**Mina Array Bea**	**86.66**	**51**	P	**P**	**09 19 03.4**	**+2.0**
comp=Z,0.3nm,0.7s,baz=280,slow=7.4,SNR=2.6							
DBIC	**Dimbokro**	**144.78**	**302**	PKP	**PKPdf**	**09 25 55.0**	**-0.1**
comp=Z,1.6nm,0.6s,baz=45,slow=2.9,SNR=2.0							

*NEIC **12** 09:19:25.5±2.0, 21°.3S±0°.1×178°.8W±0°.1, h534km±9km, mb4.5/28, Error ellipse: s-maj=22.0km s-min=14.4km az=133.0*
*IDC **12** 09:19:25.7±2.1, 21°.31S×178°.71W, h533km±26km, mb3.4/16, mb1 3.6/18, mb1mx3.5/34, mbtmp4.4/18, Error ellipse: s-maj=16.3km s-min=12.7km az=143.0*
ISC 12 09:19:25.8±0.5, **21°.28S**±0°.09×**178.72W**±0°.09, **h536**km, **n68**, σ1§**31**/**65**, **mb4.3**/**26**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.55**	**77**	P	**P**	**09 21 28.9**	**+0.2**
AFI	**Afiamalu**	**9.88**	**43**	P	**P**	**09 21 42.3**	**-0.2**
4.3nm,0.3s,baz=58,slow=12,SNR=9.3							
AFI				S	**S**	**09 23 32.7**	**-2.0**
1.1nm,0.3s,baz=270,slow=20,SNR=3.2							
HAZ	**Te Kaha**	**16.70**	**190**	P	**P**	**09 22 52.0**	**-0.2**
PUZ	**Puketiti**	**16.94**	**188**	P	**P**	**09 22 54.8**	**+0.3**
TGRZ	**Tauranga**	**16.96**	**194**	P	**P**	**09 22 55.9**	**+1.2**
TWGZ	**Tauwhareparae**	**17.08**	**189**	P	**P**	**09 22 56.7**	**+0.8**
TOZ	**Tahuroa Road**	**17.14**	**196**	P	**P**	**09 22 58.6**	**+2.3**
URZ	**Urewera**	**17.30**	**191**	P	**P**	**09 22 55.6**	**-2.2**
1.4nm,0.3s,baz=358,slow=4.5,SNR=7.2							
URZ	**Urewera**	**17.30**	**191**	P	**P**	**09 22 55.8**	**-2.0**
URZ	**Urewera**	**17.30**	**191**	P	**P**	**09 22 55.7**	**-2.0**
MWZ	**Matawai**	**17.30**	**190**	P	**P**	**09 22 55.7**	**-2.2**
RAGZ	**Rawiri**	**17.48**	**190**	P	**P**	**09 22 58.7**	**-0.9**
RIGZ	**Rimuhau**	**17.63**	**189**	P	**P**	**09 23 00.4**	**-0.4**
HIZ	**Hauiti**	**18.04**	**196**	P	**P**	**09 23 07.3**	**+2.7**
BKZ	**Black Stump Fm**	**18.29**	**192**	P	**P**	**09 23 04.1**	**-2.9**
BKZ				IAmb	IAmb	09 23 16.9	
comp=Z,9.5nm,0.9s							
BKZ	**Black Stump Fm**	**18.29**	**192**	P	**P**	**09 23 04.3**	**-2.6**
KWHZ	**Kaweka Forest**	**18.56**	**192**	P	**P**	**09 23 08.9**	**-0.4**
BFZ	**Birch Farm**	**19.81**	**191**	P	**P**	**09 23 18.2**	**-2.4**
NNZ	**Nelson**	**20.97**	**197**	P	**P**	**09 23 30.8**	**-0.3**
NNZ				IAmb	IAmb	09 23 31.7	
comp=Z,25nm,1.3s							
TUWZ	**Tuamarina**	**21.02**	**196**	P	**P**	**09 23 29.4**	**-2.2**
LTZ	**Lake Taylor**	**22.73**	**197**	P	**P**	**09 23 44.4**	**-2.6**
LTZ				IAmb	IAmb	09 23 49.0	
comp=Z,8.8nm,0.7s							
OXZ	**Oxford**	**23.30**	**197**	P	**P**	**09 23 50.6**	**-1.5**
OXZ				IAmb	IAmb	09 24 03.6	
comp=Z,9.3nm,0.7s							
RPZ	**Rata Peaks**	**23.93**	**198**	P	**P**	**09 23 56.6**	**-1.1**
comp=Z,6.1nm,0.6s,baz=9.3,slow=4.9,SNR=6.2							
RPZ	**Rata Peaks**	**23.93**	**198**	IAmb	IAmb	09 23 57.7	
comp=Z,19nm,1.4s							
FOZ	**Fox Glacier**	**24.16**	**201**	P	**P**	**09 23 57.7**	**-2.0**
FOZ				IAmb	IAmb	09 24 07.1	
comp=Z,17nm,1.2s							
WKZ	**Wanaka**	**25.57**	**200**	P	**P**	**09 24 10.8**	**-1.4**
WHZ	**Wether Hill Ro**	**26.87**	**201**	P	**P**	**09 24 24.4**	**+0.8**
EIDS	**Eidsvold**	**27.99**	**256**	P	**P**	**09 24 34.7**	**+0.9**
EIDS				IAmb	IAmb	09 24 42.4	
comp=Z,25nm,1.4s							
ARMA	**Armidale**	**28.12**	**245**	P	**P**	**09 24 36.1**	**+1.2**
ARMA				IAmb	IAmb	09 24 53.8	
comp=Z,18nm,1.5s							
CTA	**Charters Tower**	**32.75**	**266**	P	**P**	**09 25 15.3**	**+0.6**
comp=Z,2.7nm,0.3s,baz=104,slow=9.9,SNR=2.0							
CTAO	**Charters Tower**	**32.75**	**266**	P	**P**	**09 25 15.7**	**+1.0**
CTAO				IAmb	IAmb	09 25 40.5	
comp=Z,24nm,1.4s							
TOO	**Toolangi**	**34.89**	**234**	P	**P**	**09 25 31.9**	**-0.7**
TOO				IAmb	IAmb	09 25 34.1	
comp=Z,9.6nm,0.8s							
STKA	**Stephens Creek**	**36.84**	**245**	P	**P**	**09 25 49.7**	**+0.9**
comp=Z,3.2nm,0.5s,baz=91,slow=8.4,SNR=12							
STKA	**Stephens Creek**	**36.84**	**245**	P	**P**	**09 25 49.1**	**+0.4**
BBOO	**Buckleboo**	**41.60**	**244**	P	**P**	**09 26 27.3**	**+0.2**
BBOO				IAmb	IAmb	09 26 40.6	
comp=Z,14nm,1.2s							
WR0	**Warramunga Arr**	**43.64**	**263**	P	**P**	**09 26 42.7**	**-0.6**
JAY	**Jayapura**	**43.66**	**290**	P	**P**	**09 26 43.6**	**0.0**
comp=Z,18nm,0.9s,baz=154,slow=8.0,SNR=4.5							
AS31	**Alice Springs**	**43.69**	**258**	P	**P**	**09 26 43.6**	**0.0**
ASAR	**Alice Springs**	**43.69**	**258**	P	**P**	**09 26 44.1**	**+0.5**
comp=Z,2.8nm,0.5s,baz=96,slow=7.8,SNR=49							
ASAR				S	**S**	**09 32 32.1**	**-2.8**
comp=Z,1.5nm,0.8s,baz=94,slow=16,SNR=8.3							
WB0	**Warramunga Arr**	**43.81**	**263**	P	**P**	**09 26 44.3**	**-0.3**
WB2	**Warramunga Arr**	**43.82**	**263**	P	**P**	**09 26 44.2**	**-0.4**
WRAB	**Tennant Creek**	**43.82**	**263**	P	**P**	**09 26 44.2**	**-0.5**
WRA	**Warramunga Arr**	**43.83**	**263**	P	**P**	**09 26 44.7**	**-0.1**
comp=Z,0.9nm,0.3s,baz=96,slow=7.6,SNR=45							
SIJI	**Sorong**	**52.79**	**286**	P	**P**	**09 27 50.4**	**-1.2**
comp=Z,11nm,0.6s,baz=44,slow=1.0,SNR=12							
VNDA	**Vanda**	**57.08**	**185**	P	**P**	**09 28 21.4**	**+0.9**
comp=Z,1.1nm,0.6s,baz=358,slow=7.4,SNR=7.1							
QSPA	**South Pole Qui**	**68.79**	**180**	P	**P**	**09 29 36.7**	**+0.5**
QSPA				IAmb	IAmb	09 29 37.3	
comp=Z,5.6nm,0.8s							
MJAR	**Matsushiro Arr**	**70.44**	**324**	P	**P**	**09 29 46.8**	**+0.5**
comp=Z,1.6nm,0.6s,baz=158,slow=5.1,SNR=3.2							
ADK	**Adak**	**72.87**	**1**	P	**P**	**09 30 00.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**76.85**	**346**	P	**P**	**09 30 22.2**	**-0.1**
PETK	**Petropavlovsk-**	**76.85**	**346**	P	**P**	**09 30 22.9**	**+0.6**
comp=Z,2.2nm,0.6s,baz=137,slow=3.2,SNR=6.6							
PETK	**Petropavlovsk-**	**76.85**	**346**	P	**P**	**09 30 22.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**79.23**	**326**	P	**P**	**09 30 36.9**	**+1.6**
comp=Z,2.3nm,0.7s,baz=126,slow=2.9,SNR=5.1							
KMRM	**Mail Ridge**	**79.78**	**40**	P	**P**	**09 30 38.8**	**+0.3**
KMRM				IAmb	IAmb	09 30 48.0	
comp=Z,28nm,1.4s							
PNTR	**Pine Nut**	**81.61**	**42**	P	**P**	**09 30 48.2**	**0.0**
NVAR	**Mina Array Bea**	**82.06**	**44**	P	**P**	**09 30 51.4**	**+0.9**
comp=Z,1.4nm,0.8s,baz=223,slow=8.4,SNR=12							
NVAR	**Mina Array Bea**	**82.06**	**44**	P	**P**	**09 30 51.0**	**+0.5**
TRF	**Thorofare Moun**	**87.35**	**12**	P	**P**	**09 31 15.3**	**-0.3**
TRF				IAmb	IAmb	09 31 16.2	
comp=Z,9.2nm,0.9s							
JLU	**Jordanelle**	**87.68**	**45**		pwP	09 33 17.3	-0.4
TXAR	**Lajitas Array**	**88.05**	**58**	P	**P**	**09 31 20.3**	**+0.8**
comp=Z,1.0nm,0.9s,baz=232,slow=6.1,SNR=8.5							
ILAR	**Eielson Array**	**89.22**	**13**	P	**P**	**09 31 23.6**	**-0.4**
comp=Z,1.2nm,0.9s,baz=220,slow=5.6,SNR=10							
CMAR	**Chiang Mai Arr**	**89.74**	**290**	P	**P**	**09 31 28.2**	**+0.7**
comp=Z,0.5nm,0.3s,baz=98,slow=2.1,SNR=4.4							
PDAR	**Pinedale Array**	**89.99**	**43**	P	**P**	**09 31 28.5**	**0.0**
comp=Z,0.9nm,0.8s,baz=231,slow=2.6,SNR=7.6							
CSGN	**Cosiguina Volc**	**95.68**	**78**		pP	09 33 48.3	-4.4
ARCES	**ARCESS Array B**	**129.56**	**349**	PKP	**PKPdf**	**09 37 32.3**	**-0.8**
comp=Z,2.8nm,0.7s,baz=19,slow=5.1,SNR=4.8							
HFS	**Hagfors**	**140.20**	**350**	PKhKP	PKPpre	09 37 45.8	
comp=Z,0.7nm,0.4s,baz=350,slow=4.4,SNR=6.7							
AKASG	**Malin Array Be**	**143.36**	**330**	PKP	PKPab	09 37 56.4	-0.8
comp=Z,2.3nm,0.6s,baz=40,slow=4.3,SNR=13							
EKA	**Eskdalemuir Ar**	**145.84**	**5**	PKPbc	**PKPbc**	**09 38 04.5**	**-0.3**
comp=Z,1.8nm,0.7s,baz=27,slow=3.7,SNR=3.9							
GERES	**GERESS Array B**	**150.76**	**343**	PKPbc	**PKPbc**	**09 38 16.0**	**-1.7**
comp=Z,0.9nm,0.7s,baz=46,slow=3.9,SNR=4.0							

IDC 12 09:23:32.7±1.1, **13°.10N**×**145°.69E**, **h0**km, **mb3.4**/5, **mb1 3.7**/5, **mb1mx3.5**/42, **mbtmp3.4**/5, **MS3.2**/2, **Ms1 3.2**/2, **ms1mx2.7**/29, **Error ellipse: s-maj=57.1km s-min=23.7km az=106.0**, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**21.29**	**313**	LR	LR	09 35 09.5	
comp=Z,49nm,19.3s,baz=122,slow=33							
WRA	**Warramunga Arr**	**34.68**	**199**	P	P	09 30 24.2	-0.2
0.4nm,0.6s,baz=22,slow=9.5,SNR=4.9							
ASAR	**Alice Springs**	**38.32**	**198**	P	P	09 30 55.4	0.0
0.5nm,0.9s,baz=24,slow=9.5,SNR=4.9							
TLY	**Talaya**	**51.19**	**328**	LR	LR	09 52 21.0	
comp=Z,33nm,18.2s,baz=42,slow=34							
MKAR	**Makanchi Array**	**62.40**	**316**	P	P	09 33 57.5	-0.1
0.2nm,0.3s,baz=92,slow=8.5,SNR=4.9							
ILAR	**Eielson Array**	**68.67**	**25**	P	P	09 34 37.5	-0.2
0.3nm,0.5s,baz=247,slow=5.1,SNR=7.0							
YKA	**Yellowknife Ar**	**82.92**	**27**	P	P	09 35 59.6	+0.4
0.2nm,0.5s,baz=286,slow=4.5,SNR=4.5							

*TIF **12** 09:35:10.4, 41°.96N×46°.12E, h18km±1km*
*NORS **12** 09:35:10.5±0.0, 41°.91N×46°.13E, h8km, MPVA3.5*
*MOS **12** 09:35:10.9±0.0, 41°.92N×46°.14E, h10km, MPVA3.6*
*DRS **12** 09:35:11.6±0.0, 41°.91N×46°.04E, h16km, ML2.4/6*
ISC 12 09:35:11.3±1.2, **41°.91N**±0°.03×**46°.09E**±0°.02, **h16**km±10km, **n23**, σ1§**24**/**44**, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.14**	**121**	P	**Pb**	**09 35 15.1**	**-0.4**
LGD				S	**Sb**	**09 35 18.2**	**-0.1**
DDFL	**Dedoflistskaro**	**0.46**	**177**	P	**Pn**	**09 35 23.9**	**+0.6**
DDFL				S	**Sn**	**09 35 34.4**	**+3.3**
BTLR	**Botlikh**	**0.77**	**8**	*i* Pg	**Pb**	**09 35 25.5**	**-0.7**
56nm,0.5s							
BTLR				*e*Sg	**Sg**	**09 35 36.2**	**-0.1**
68nm,0.5s							
GNBR	**Gunib**	**0.81**	**53**	*e*Pg	**Pb**	**09 35 26.4**	**-0.7**
52nm,0.4s							
GNBR				*e*Sg	**Sg**	**09 35 37.6**	**-0.2**
185nm,0.4s							
ARKR	**Arakani**	**0.97**	**44**	*i* Pg	**Pb**	**09 35 29.3**	**-0.5**
66nm,0.4s							
ARKR				*e*Sg	**Sb**	**09 35 41.6**	**-0.7**
85nm,0.6s							
BTNK	**Botanikuri**	**0.99**	**257**	P	**Pb**	**09 35 29.9**	**-0.1**
BTNK				S	**Sn**	**09 35 44.2**	**+0.1**
DVE	**Vedeno**	**1.05**	**2**	*e*Pg	**Pb**	**09 35 30.9**	**-0.2**
DVE				*e*Sg	**Sn**	**09 35 45.6**	**-0.2**
KRNR	**Karanay**	**1.10**	**33**	*e*Pg	**Pb**	**09 35 31.4**	**-0.7**
20nm,0.3s							
KRNR				*e*Sg	**Sb**	**09 35 45.1**	**-1.2**
54nm,1.0s							
DBC	**Dubki**	**1.24**	**26**	*e*Pg	**Pb**	**09 35 34.0**	**-0.4**
25nm,0.5s							
DBC				*e*Sg	**Sg**	**09 35 51.1**	**-0.4**
30nm,0.5s							
AKT	**Akhty**	**1.30**	**108**	*i* Pg	**Pb**	**09 35 35.2**	**-0.2**
22nm,0.2s							
AKT				*e*Sg	**Sg**	**09 35 52.9**	**-0.5**
106nm,0.6s							
PNSH	**Pansheti**	**1.31**	**304**	P	**Pn**	**09 35 35.0**	**-0.1**
PNSH				S	**Sb**	**09 35 52.8**	**+0.5**
GROC	**Groznyy**	**1.31**	**351**	*e*Pg	**Pg**	**09 35 38.0**	**+1.4**
GROC				*e*Sg	**Sg**	**09 35 56.0**	**+2.2**
GUDG	**Gudauri**	**1.32**	**296**	P	**Pb**	**09 35 36.3**	**+0.5**
GUDG				S	**Sb**	**09 35 53.4**	**+0.9**
KZRT	**Kazreti**	**1.37**	**248**	P	Pn	09 35 30.0	-5.7
KZRT				S	**Sn**	**09 35 49.3**	**-4.3**
DMNI	**Dmanisi**	**1.53**	**249**	P	**Pn**	**09 35 37.5**	**-0.5**
DMNI				S	**Sb**	**09 35 58.5**	**-0.1**
LACR	**Lac**	**1.61**	**305**	*e*Pg	**Pb**	**09 35 40.8**	**0.0**
BRNG	**Burnasheti**	**1.71**	**261**	P	**Pb**	**09 35 41.9**	**-0.6**
BRNG				S	**Sb**	**09 36 05.4**	**+1.6**
ZEI	**Tsey**	**1.84**	**299**	*e*Pg	**Pb**	**09 35 45.0**	**+0.3**
ZEI				*e*Sg	**Sg**	**09 36 09.7**	**-1.0**
BKRG	**Bakuriani**	**1.92**	**267**	P	**Pn**	**09 35 43.1**	**-0.4**
BKRG				S	**Sb**	**09 36 10.7**	**+0.9**
ONI	**Oni**	**2.07**	**290**	P	**Pb**	**09 35 47.3**	**-1.2**
ONI				S	**Sb**	**09 36 14.9**	**+0.9**
ONI	**Oni**	**2.07**	**290**	*e*Pg	**Pg**	**09 35 49.9**	**-1.1**
ONI				*e*Sg	**Sg**	**09 36 16.4**	**-1.5**
DIGR	**Digorskoe uzhe**	**2.10**	**299**	*e*Pg	**Pb**	**09 35 48.7**	**-0.5**
DIGR				*e*Sg	**Sb**	**09 36 17.3**	**+2.1**
ABS	**Abastumani**	**2.45**	**268**	P	**Pn**	**09 35 52.7**	**+2.0**
ABS				S	**Sb**	**09 36 25.0**	**0.0**

*SJA **12** 09:50:28.2±0.8, 36°.78S×74°.27W, h23km±59km, ML4.4, MW4.6*
*IDC **12** 09:50:41.3±0.8, 36°.18S×72°.87W, h0km, mb4.2/6, mb1 4.3/8, mb1mx4.1/30, mbtmp4.2/8, ML4.3/2, MS3.9/9, Ms1 3.9/9, ms1mx3.7/16, Error ellipse: s-maj=32.7km s-min=23.2km az=75.0*
*GUC **12** 09:50:43.6±0.8, 36°.18S×73°.08W, h14km±6km, ML4.6*
*NEIC **12** 09:50:44.1±2.0, 36°.18S±0°.05×73°.0W±0°.1, h19km±5km, Error ellipse: s-maj=16.0km s-min=7.9km az=91.0*
ISC 12 09:50:43.1±1.7, **36°.20S**±0°.03×**73°.10W**±0°.05, **h13**km±11km, **n85**, σ1§**44**/**91**, **mb4.5**/10, **MS4.0**/7, **4C-3D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.64**	**175**	⇓*i* P	**Pb**	**09 50 56.1**	**-0.1**
BI03				*i* S	**Sg**	**09 51 04.7**	**+0.5**
BI03				IAML		09 51 08.1	
comp=N,162μm,0.4s							
BI03	**Tigo**	**0.64**	**175**		**Pb**	**09 50 56.2**	**-0.1**
LAJA	**Laja**	**1.12**	**164**	⇑*i* P	**Pn**	**09 51 02.6**	**-1.9**
LAJA				*i* S	**Sb**	**09 51 17.5**	**-1.4**
BI02	**San Fabin de**	**1.54**	**108**	⇓*e*P	**Pn**	**09 51 09.2**	**-1.3**
BI02				*i* S	**Sn**	**09 51 28.8**	**-1.6**
BI02				IAML		09 51 31.3	
comp=N,6μm,0.7s							
BI02	**San Fabin de**	**1.54**	**108**	Pn	**Pn**	**09 51 09.7**	**-0.7**
BO03	**Pichilemu**	**1.94**	**29**	*i* P	**Pn**	**09 51 15.1**	**-0.7**
BO03				*i* S	**Sn**	**09 51 38.8**	**-1.3**
BI04	**Isla Mocha**	**2.29**	**196**	IAML		09 52 22.1	
comp=E,4μm,0.4s							
BO02	**Sierra Bellavi**	**2.36**	**54**	⇑*i* P	**Pn**	**09 51 21.8**	**+0.2**
BO02				*i* S	**Sn**	**09 51 51.5**	**+1.0**
BO02				IAML		09 52 01.3	
comp=N,4μm,0.2s							
BO02	**Sierra Bellavi**	**2.36**	**54**		**Pn**	**09 51 21.8**	**+0.2**
VA05	**Santo Domingo**	**2.82**	**26**	⇑*i* P	**Pn**	**09 51 27.9**	**0.0**
VA05				⇓*i* S	**Sn**	**09 52 00.8**	**-0.8**
VA05				IAML		09 52 18.4	
comp=E,1μm,0.4s							
MT09	**Talagante**	**2.98**	**36**	IAML		09 52 28.6	
comp=N,5μm,0.9s							
PUMA	**Malargue**	**3.05**	**78**	*e*P	**Pn**	**09 51 33.9**	**+2.8**
PUMA				*e*S	**Sg**	**09 52 21.7**	**+0.7**
COIS	**El Sosneado**	**3.06**	**70**	*e*P	**Pn**	**09 51 33.5**	**+2.3**
COIS				*e*S	**Sb**	**09 52 15.4**	**+0.7**
LMEL	**Las Melosas**	**3.34**	**46**	⇑*i* P	**Pn**	**09 51 36.1**	**+0.9**
LMEL				*i* S	**Sn**	**09 52 15.9**	**+1.0**
LMEL				IAML		09 52 31.2	
comp=N,993nm,0.7s							
MT02	**Curacav**	**3.35**	**29**	*e*P	**Pn**	**09 51 34.2**	**-1.0**
MT02				*e*S	**Sn**	**09 52 16.8**	**+1.9**
MT02	**Curacav**	**3.35**	**29**	Pn	**Pn**	**09 51 34.7**	**-0.5**
MT05	**Renca**	**3.41**	**35**	*e*P	**Pn**	**09 51 36.3**	**+0.2**
MT05	**Renca**	**3.41**	**35**		**Pn**	**09 51 37.0**	**+0.9**
LAMA	**Las Malvinas**	**3.41**	**69**	*i* P	**Pn**	**09 51 38.8**	**+2.7**
MT03	**Universidad Ad**	**3.44**	**39**	*i* P	**Pn**	**09 51 36.9**	**+0.4**
PEL	**Peldehue**	**3.64**	**34**	*e*P	**Pn**	**09 51 40.3**	**+1.0**
PEL				*e*S	**Sn**	**09 52 25.8**	**+3.6**
PEL	**Peldehue**	**3.64**	**34**		**Pn**	**09 51 40.2**	**+0.9**
PEL	**Peldehue**	**3.64**	**34**	*i* P	**Pn**	**09 51 41.2**	**+1.9**
PEL				*e*S	**Sg**	**09 52 36.8**	**-3.3**
ROC1	**El Roble**	**3.65**	**29**	*i* P	**Pn**	**09 51 40.3**	**+0.8**
ROC1				*i* S	**Sb**	**09 52 34.7**	**+2.8**
ROCH	**El Roble**	**3.65**	**29**	*e*P	**Pn**	**09 51 39.5**	**-0.1**
ROCH				*e*S	**Sn**	**09 52 23.3**	**+0.6**
VA03	**San Esteban**	**4.02**	**32**	*e*P	**Pn**	**09 51 44.8**	**+0.1**
VA03				*e*S	**Sn**	**09 52 31.6**	**-0.1**
VA03	**San Esteban**	**4.02**	**32**		**Pn**	**09 51 44.9**	**+0.1**
RFA	**San Rafael**	**4.04**	**71**	*i* P	**Pn**	**09 51 46.9**	**+2.1**
RFA				IAML		09 53 11.5	
comp=Z,146nm,0.7s							
AAGR	**Agrelo**	**4.70**	**50**	*i* P	**Pn**	**09 51 56.9**	**+3.1**
AAGR				IAML		09 53 39.2	
comp=Z,173nm,1.9s							
ARCO	**CERRO ARCO**	**4.80**	**47**	*i* P	**Pn**	**09 51 58.6**	**+3.2**
ARCO				IAML		09 53 27.7	
comp=Z,122nm,1.2s							
PLCA	**Paso Flores**	**4.95**	**157**	Pn	**Pn**	**09 51 58.4**	**+1.2**
comp=Z,3.0nm,0.3s,baz=327,slow=11,SNR=64							
PLCA				Lg	Lg	09 53 09.9	
comp=Z,3.8nm,0.3s,baz=313,slow=5.6,SNR=3.1							
PLCA				LR	LR	09 53 47.9	
comp=Z,534nm,19.6s,baz=340,slow=38							
PLCA	**Paso Flores**	**4.95**	**157**	Pn	**Pn**	**09 51 58.6**	**+1.4**
AUSP	**Uspallata**	**5.02**	**39**	*i* P	**Pn**	**09 51 59.9**	**+1.4**
ASAL	**Salagasta**	**5.04**	**46**	*i* P	**Pn**	**09 52 01.5**	**+3.0**
ASAL				IAML		09 53 34.0	
comp=Z,128nm,1.2s							
CO02	**Combarbal**	**5.28**	**20**		**Pn**	**09 52 01.4**	**-0.5**
H03S1	**Juan Fernandez**	**5.31**	**295**	Pn	**Pn**	**09 52 02.6**	**+0.7**
H03S1				T	T	09 57 19.8	
baz=113,slow=76,SNR=874							
H03S3	**Juan Fernandez**	**5.32**	**295**	Pn	**Pn**	**09 52 02.6**	**+0.5**
H03S3				T	T	09 57 45.0	
baz=113,slow=76,SNR=803							
H03S2	**Juan Fernandez**	**5.33**	**295**	Pn	**Pn**	**09 52 02.5**	**+0.3**
H03S2				T	T	09 57 41.3	
baz=113

	comp=Z,0.6nm,0.9s,baz=289,slow=2.0,SNR=3.9									
MKAR					PKPab	**PKPab**	**10 11 16.1**	**-0.3**		
	comp=Z,0.3nm,0.6s,baz=295,slow=3.2,SNR=3.5									

IDC ***12*** *09:55:06.8±1.1, 13.°02N×145.°73E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/44, mbtmp3.5/5, Error ellipse: s-maj=54.2km s-min=22.5km az=104.0*

ISC 12 09:55:12.9±1.1, 13.°0N±0.°2×145.°7E±0.°4, h43km, n6, σ0§57/6, mb3.5/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.58**	**199**	P	**P**	**10 01 58.3**	**+0.5**
	0.5nm,0.6s,baz=23,slow=9.5,SNR=3.2						
ASAR	**Alice Springs**	**38.21**	**198**	P	**P**	**10 02 28.4**	**-0.4**
	0.3nm,0.8s,baz=27,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**62.48**	**316**	P	**P**	**10 05 32.2**	**+0.1**
	0.3nm,0.4s,baz=93,slow=9.4,SNR=8.0						
ILAR	**Eielson Array**	**68.77**	**25**	P	**P**	**10 06 11.9**	**-0.3**
	0.3nm,0.5s,baz=248,slow=5.7,SNR=5.8						
YKA	**Yellowknife Ar**	**83.02**	**27**	P	**P**	**10 07 34.0**	**+0.5**
	0.2nm,0.4s,baz=283,slow=4.6,SNR=5.9						
DBIC	**Dimbokro**	**144.83**	**302**	PKP	**PKPdf**	**10 14 45.9**	**-0.4**
	2.0nm,0.5s,baz=67,slow=1.7,SNR=5.0						

ANF ***12*** *10:40:26.1±0.3, 36.°85N×98.°08W, h2km±2km, ML3.7/15, Error ellipse: s-maj=1.8km s-min=1.5km az=70.0*
NEIC ***12*** *10:40:26.9±1.4, 36.°85N±0.°02×98.°07W±0.°05, h10km±6km, Error ellipse: s-maj=5.7km s-min=2.2km az=96.0*
TUL ***12*** *10:40:26.1±0.6, 36.°87N±0.°01×98.°12W±0.°04, h5km±6km, ML3.1, mb_Lg2.9/51(NEIC), Error ellipse: s-maj=4.2km s-min=1.7km az=97.0*

ISC 12 10:40:26.4±0.9, 36.°85N±0.°02×98.°10W±0.°03, h7km±7km, n69, σ0§68/61, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK032	**Salt Plains WL**	**0.10**	**242**	Pg	**Pg**	**10 40 28.6**	**-0.3**
OK032				Sg	**Sg**	**10 40 30.3**	**-0.2**
GC02	**Grant County #**	**0.19**	**90**		**Pg**	**10 40 30.7**	**+0.4**
GC02				Sg	**Sg**	**10 40 33.8**	**+0.9**
KAN10	**Anthony SW Sta**	**0.27**	**0**		**Pg**	**10 40 31.6**	**-0.2**
CROK	**Carrier**	**0.36**	**165**		**Pg**	**10 40 33.8**	**+0.3**
CROK				Sg	**Sg**	**10 40 39.0**	**+0.8**
KAN08	**Anthony NE Sta**	**0.39**	**15**		**Pg**	**10 40 33.9**	**-0.1**
KAN08				Sg	**Sg**	**10 40 39.0**	**-0.1**
KAN01	**Argonia South**	**0.40**	**42**		**Pg**	**10 40 34.3**	**0.0**
KAN01				Sg	**Sg**	**10 40 39.1**	**-0.5**
KAN12	**Harper NE Stat**	**0.45**	**10**		**Pg**	**10 40 35.0**	**-0.2**
KAN09	**Caldwell North**	**0.47**	**53**		**Pg**	**10 40 35.7**	**0.0**
KAN13	**South Haven SW**	**0.52**	**72**		**Pg**	**10 40 36.7**	**+0.2**
KS20	**Mayfield South**	**0.57**	**49**		**Pg**	**10 40 37.4**	**-0.1**
U32A	**Winter Ranch,**	**0.87**	**237**	Pg	**Pg**	**10 40 42.6**	**-0.5**
U32A	**Winter Ranch,**	**0.87**	**237**	P	**Pg**	**10 40 42.6**	**-0.5**
	baz=59,SNR=52						
U32A	**Winter Ranch,**	**0.87**	**237**	P		10 40 42.6	
	baz=59,SNR=52						
OK029	**Liberty Lake**	**1.18**	**154**		**Pg**	**10 40 48.4**	**-0.5**
BCOK	**Bluff Creek, N**	**1.26**	**162**	Pn	**Pg**	**10 40 49.6**	**-0.9**
T35A	**Sooner Cattle**	**1.27**	**87**		**Pg**	**10 40 50.1**	**-0.7**
T35B	**Sooner Cattle**	**1.27**	**87**	P	**Pg**	**10 40 50.1**	**-0.7**
	baz=267,SNR=68						
T35B				S	**Sn**	**10 41 07.5**	**-0.4**
	baz=267						
T35B	**Sooner Cattle**	**1.27**	**87**	P		10 40 50.1	
	baz=267,SNR=68						
T35B				S		10 41 07.5	
	baz=267						
QUOK	**Quay**	**1.31**	**121**	Pn	**Pn**	**10 40 50.8**	**-0.3**
OK031	**S. Brethren Rd**	**1.35**	**131**		**Pn**	**10 40 51.6**	**-0.1**
OK030	**Cody Creek RV**	**1.41**	**131**		**Pn**	**10 40 52.5**	**+0.1**
OK025	**Westminster Rd**	**1.41**	**154**		**Pn**	**10 40 52.5**	**0.0**
OKCFA	**Oklahoma City**	**1.53**	**160**	Pn	**Pb**	**10 40 54.5**	**-0.5**
OKCFA	**Oklahoma City**	**1.53**	**160**	P	**Pn**	**10 40 54.4**	**+0.3**
	baz=341,SNR=8.6						
OKCFA				S	**Sg**	**10 41 15.3**	**-0.2**
	baz=341						
OKCFA	**Oklahoma City**	**1.53**	**160**	P		10 40 54.4	
	baz=341,SNR=8.6						
OKCFA				S		10 41 15.3	
	baz=341						
OKCSW	**OKLAHOMA CITY**	**1.54**	**160**		**Pb**	**10 40 55.2**	**-0.1**
R32A	**Long Quarter,**	**1.64**	**343**		**Pn**	**10 40 56.0**	**+0.3**
R32A	**Long Quarter,**	**1.64**	**343**	P	**Pn**	**10 40 55.9**	**+0.3**
	baz=162,SNR=107						
R32A	**Long Quarter,**	**1.64**	**343**	P		10 40 55.9	
	baz=162,SNR=107						
FNO	**Franklin**	**1.69**	**160**		**Pb**	**10 40 57.6**	**-0.2**
TUL1	**Leonard**	**2.08**	**116**	P	**Pn**	**10 41 02.3**	**+0.5**
	baz=298,SNR=46						
TUL1				Sb	**Sg**	**10 41 31.9**	**-1.4**
	baz=298						
TUL1	**Leonard**	**2.08**	**116**	P		10 41 02.3	
	baz=298,SNR=46						
TUL1				Sb		10 41 31.9	
	baz=298						
WMOK	**Wichita Mounta**	**2.18**	**195**	Pn	**Pn**	**10 41 03.6**	**+0.5**
WMOK	**Wichita Mounta**	**2.18**	**195**	P	**Pn**	**10 41 03.6**	**+0.5**
	baz=15,SNR=84						
WMOK	**Wichita Mounta**	**2.18**	**195**	P		10 41 03.6	
	baz=15,SNR=84						
CBKS	**Cedar Bluff**	**2.35**	**327**	Pn	**Pn**	**10 41 06.3**	**+0.8**
CBKS	**Cedar Bluff**	**2.35**	**327**	P	**Pn**	**10 41 06.3**	**+0.8**
	baz=146,SNR=26						
CBKS				S	**Sb**	**10 41 36.7**	**-1.6**
	baz=146						
CBKS	**Cedar Bluff**	**2.35**	**327**	P		10 41 06.3	
	baz=146,SNR=26						
CBKS				S		10 41 36.7	
	baz=146						
KSU1	**Kansas State U**	**2.53**	**27**	Pn	**Pn**	**10 41 08.2**	**+0.3**
KSU1	**Kansas State U**	**2.53**	**27**	P	**Pn**	**10 41 08.4**	**+0.5**
	baz=207,SNR=15						
KSU1				S	**Sn**	**10 41 40.3**	**+1.4**
	baz=207						
KSU1	**Kansas State U**	**2.53**	**27**	P		10 41 08.4	
	baz=207,SNR=15						
KSU1				S		10 41 40.3	
	baz=207						
U38A	**Gravette**	**3.01**	**97**		**Pn**	**10 41 15.4**	**+0.9**
X37A	**Clayton**	**3.17**	**135**		**Pn**	**10 41 17.6**	**+1.0**
X37A	**Clayton**	**3.17**	**135**	P	**Pn**	**10 41 17.5**	**+0.9**
	baz=317,SNR=19						
X37A	**Clayton**	**3.17**	**135**	P		10 41 17.5	
	baz=317,SNR=19						
HHAR	**Hobbs**	**3.39**	**98**		**Pn**	**10 41 20.5**	**+0.8**
HHAR				lAmb_Lg		10 42 17.6	
	comp=Z,34nm,0.8s						
AMTX	**Amarillo**	**3.51**	**237**		**Pn**	**10 41 23.1**	**+1.6**
Z35A	**Perchaven, San**	**3.58**	**169**		**Pn**	**10 41 23.1**	**+0.8**
Z35A				lAmb_Lg		10 42 23.8	
	comp=Z,33nm,1.1s						
Z35A	**Perchaven, San**	**3.58**	**169**	P	**Pn**	**10 41 23.1**	**+0.8**
	baz=350,SNR=11						
Z35A				S	**Sn**	**10 42 06.0**	**+1.2**
	baz=350						
Z35A	**Perchaven, San**	**3.58**	**169**	P		10 41 23.1	
	baz=350,SNR=11						
Z35A				S		10 42 06.0	
	baz=350						
W39A	**Magazine**	**3.87**	**114**	Pn	**Pn**	**10 41 27.5**	**+1.3**
W39A	**Magazine**	**3.87**	**114**	P	**Pn**	**10 41 26.9**	**+0.7**
	baz=297,SNR=6.2						
W39A	**Magazine**	**3.87**	**114**	P		10 41 26.9	
	baz=297,SNR=6.2						
S39A	**Bolivar**	**3.90**	**76**		**Pn**	**10 41 27.2**	**+0.6**
S39A	**Bolivar**	**3.90**	**76**	P	**Pn**	**10 41 27.3**	**+0.6**
	baz=259,SNR=15						
S39A	**Bolivar**	**3.90**	**76**	P		10 41 27.3	
	baz=259,SNR=15						
N33A	**J Bar K, Exete**	**3.91**	**7**	lAmb_Lg		10 42 30.5	
	comp=Z,26nm,0.8s						
U40A	**Yellville**	**4.25**	**95**	Pn	**Pn**	**10 41 32.1**	**+0.6**
U40A				lAmb_Lg		10 42 49.2	
	comp=Z,24nm,0.7s						
U40A	**Yellville**	**4.25**	**95**	P	**Pn**	**10 41 31.9**	**+0.4**
	baz=278,SNR=9.5						
U40A	**Yellville**	**4.25**	**95**	P		10 41 31.9	
	baz=278,SNR=9.5						
U40A				P		10 41 31.9	
	baz=278,SNR=9.5						
Z38A	**Mt. Pleasant**	**4.40**	**144**	lAmb_Lg		10 42 48.6	
	comp=Z,22nm,0.8s						
P38A	**Dawn**	**4.54**	**51**	lAmb_Lg		10 43 01.1	
	comp=Z,23nm,0.9s						
BGNE	**Belgrade**	**4.55**	**359**	P	**Pn**	**10 41 36.0**	**+0.4**
	baz=179,SNR=5.4						
BGNE	**Belgrade**	**4.55**	**359**	P		10 41 36.0	
	baz=179,SNR=5.4						
R40A	**Maddies Statio**	**4.85**	**71**		**Pn**	**10 41 39.9**	**+0.2**
R40A	**Maddies Statio**	**4.85**	**71**	P	**Pn**	**10 41 39.8**	**+0.1**
	baz=254,SNR=13						
R40A	**Maddies Statio**	**4.85**	**71**	P		10 41 39.8	
	baz=254,SNR=13						
WHTX	**Lake Whitney,**	**4.88**	**174**	P	**Pn**	**10 41 40.4**	**+0.2**
	baz=354,SNR=18						
WHTX	**Lake Whitney,**	**4.88**	**174**	P		10 41 40.4	
	baz=354,SNR=18						
X40A	**Basin Creek Fa**	**4.89**	**117**	lAmb_Lg		10 43 15.5	
	comp=Z,18nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.91**	**100**	lAmb_Lg		10 43 10.0	
	comp=Z,17nm,0.9s						
WHAR	**Wooly Hollow**	**4.96**	**107**	lAmb_Lg		10 43 00.5	
	comp=Z,28nm,1.1s						
WLAR	**White Oak Lake**	**5.16**	**126**	lAmb_Lg		10 43 25.2	
	comp=Z,13nm,0.8s						
L34A	**Svendsen Farm,**	**5.28**	**14**	lAmb_Lg		10 43 11.1	
	comp=Z,17nm,0.7s						
P40A	**Paris**	**5.46**	**59**	lAmb_Lg		10 43 23.2	
	comp=Z,28nm,1.0s						
N38A	**Joes South For**	**5.47**	**42**	lAmb_Lg		10 43 27.8	
	comp=Z,26nm,0.7s						
CCM	**Cathedral Cave**	**5.58**	**76**	lAmb_Lg		10 43 32.0	
	comp=Z,12nm,0.7s						
435B	**Jarrell**	**6.07**	**176**	lAmb_Lg		10 43 42.7	
	comp=Z,19nm,0.8s						
SCIA	**State Center**	**6.30**	**35**	lAmb_Lg		10 43 52.6	
	comp=Z,23nm,0.9s						
K38A	**Parkersburg**	**7.09**	**34**	lAmb_Lg		10 44 30.5	
	comp=Z,19nm,0.8s						
L40A	**Anamosa**	**7.44**	**44**	lAmb_Lg		10 44 26.3	
	comp=Z,19nm,1.2s						
Q44A	**Meyer Farm, Va**	**7.47**	**71**	lAmb_Lg		10 44 30.2	
	comp=Z,13nm,0.9s						
O44A	**Mansfield**	**8.24**	**64**	lAmb_Lg		10 44 45.0	
	comp=Z,14nm,0.9s						
JFWS	**Jewell Farm**	**8.54**	**42**	lAmb_Lg		10 45 11.7	
	comp=Z,10nm,0.7s						
T47A	**Sharon Grove**	**8.80**	**86**	lAmb_Lg		10 45 15.1	
	comp=Z,9.4nm,1.0s						

IDC 12 10:44:10.1±2.9, 6.°30S×130.°21E, h10km±41km, mb2.9/1, mb1 3.3/5, mb1mx3.1/26, mbtmp3.6/5, Error ellipse: s-maj=80.0km s-min=22.0km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.49**	**11**	P	Pn	10 45 29.9	+0.2
	5.5nm,0.3s,baz=175,slow=23,SNR=28						
SIJI				S	Sn	10 46 25.8	-5.9
	2.5nm,0.3s,baz=241,slow=23,SNR=12						
FITZ	**Fitzroy Crossi**	**12.55**	**200**	P	Pn	10 47 04.7	-0.2
	0.1nm,0.3s,baz=27,slow=12,SNR=1.4						
FITZ				S	Sn	10 49 15.4	-7.5
	0.1nm,0.3s,baz=340,slow=15,SNR=1.6						
WRA	**Warramunga Arr**	**14.15**	**164**	P	Pn	10 47 24.1	-1.6
	0.3nm,0.3s,baz=335,slow=14,SNR=19						
WRA				S	Sn	10 49 54.0	-7.7
	0.1nm,0.3s,baz=344,slow=22,SNR=3.7						
ASAR	**Alice Springs**	**17.63**	**169**	P	Pn	10 48 09.9	+0.9
	0.1nm,0.3s,baz=348,slow=9.9,SNR=11						
MKAR	**Makanchi Array**	**67.75**	**327**	P	P	10 54 55.9	-0.2
	0.4nm,0.9s,baz=110,slow=8.1,SNR=4.0						

HEL ***12*** *11:00:16.5±0.2, 64.°81N×30.°94E, h0km, ML2.5, Explosion*
KOLA ***12*** *11:00:16.8, 64.°73N×30.°68E, h0km, ML2.5, Kostomuksha, Karelia*
IDC ***12*** *11:00:17.4±2.6, 64.°69N×31.°03E, h0km, mb1 3.0/3, mb1mx2.8/50, mbtmp2.9/3, ML2.1/3, Error ellipse: s-maj=37.6km s-min=9.9km az=102.0*
BER ***12*** *11:00:18.5±2.9, 64.°73N×30.°99E, h0km, ML1.8, ML2.5(NAO), Suspected explosion*
NAO ***12*** *11:00:18.0±1.6, 64.°81N×30.°49E, ML2.5*

ISC 12 11:00:16.2±1.0, 64.°80N±0.°03×30.°61E±0.°05, h0km, n26, σ1§40/48, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.27**	**347**	*eP*	**Pg**	**11 00 40.0**	**-0.5**
MSF	**Maaselka**	**1.30**	**330**	*eP*	**Pg**	**11 00 40.8**	**-0.3**
MSF				*eS*	**Sn**	**11 00 59.2**	**-0.5**
OLKF	**Oulanka, Finla**	**1.61**	**342**	*eP*	**Pn**	**11 00 46.0**	**+0.2**
OLKF				*eS*	**Sn**	**11 01 06.5**	**-0.9**
JOF	**Joensuu**	**1.91**	**170**	*eP*	**Pn**	**11 00 50.0**	**+0.1**
OUL	**Oulu**	**2.03**	**280**	*eP*	**Pb**	**11 00 53.7**	**-0.1**
OUL				*eS*	**Sg**	**11 01 20.4**	**-0.9**
OUL				MSG		11 01 25.0	
	comp=Z,29nm,0.1s						
OBF4	**Vikkela, Lumij**	**2.36**	**273**	*eP*	**Pb**	**11 00 58.4**	**-1.0**
OBF4				*eS*	**Sb**	**11 01 29.1**	**+0.1**
OBF4				MSG		11 01 34.9	
	comp=Z,18nm,0.1s						
OUF	**Merijarvi**	**2.57**	**263**	*eP*	**Pn**	**11 01 00.8**	**+1.8**
OUF				*eS*	**Sb**	**11 01 34.7**	**-0.5**
OUF				MSG		11 01 39.6	
	comp=Z,21nm,0.2s						
RNF	**Rovaniemi**	**2.63**	**316**	*eP*	**Pn**	**11 01 01.0**	**+1.1**
RNF				*eS*	**Sb**	**11 01 34.9**	**-2.1**
OBF0	**Syolatti, Pyha**	**2.76**	**267**	*eP*	**Pn**	**11 01 04.1**	**+2.6**
OBF0				*eS*	**Sb**	**11 01 38.2**	**-2.3**
APA0	**Apatity Array**	**2.98**	**18**	Pn	**Pn**	**11 01 05.5**	**+0.8**
	baz=197,slow=12						
APA0				Sn	**Sn**	**11 01 40.8**	**-0.3**
	baz=211,slow=28						
APA0				Lg	Lg	11 01 52.6	
	baz=193,slow=37						
APA0	**Apatity Array**	**2.98**	**18**	Pn	**Pn**	**11 01 05.5**	**+0.8**
	baz=197,slow=12						
APA0				Sn	**Sn**	**11 01 40.8**	**-0.3**
	baz=211,slow=28						
APA0				Sg	**Sg**	**11 01 52.6**	**+0.7**
	baz=193,slow=37						
APA0	**Apatity Array**	**2.98**	**18**	P	**Pn**	**11 01 05.5**	**+0.8**
APA0				S	**Sn**	**11 01 42.0**	**+0.9**
APA	**Apatity**	**3.01**	**21**	P	**Pn**	**11 01 05.8**	**+0.8**
APA				S	**Sn**	**11 01 42.5**	**+0.8**
FIA0	**FINESS Array S**	**3.94**	**214**	Pn	**Pn**	**11 01 19.0**	**+1.2**
	baz=30,slow=14						
FIA0				Sn	**Sn**	**11 02 05.8**	**+1.0**
	baz=37,slow=22						
FIA0				Lg	Lg	11 02 21.3	
	baz=36,slow=28						
FIA0	**FINESS Array S**	**3.94**	**214**	Pn	**Pn**	**11 01 19.0**	**+1.2**
	baz=30,slow=14						
FIA0				Sn	**Sn**	**11 02 05.8**	**+1.0**
	baz=37,slow=22						
FIA0				Sg	**Sg**	**11 02 21.3**	**-1.4**
	baz=36,slow=28						
FINES	**FINESS Array B**	**3.94**	**214**	Pn	**Pn**	**11 01 18.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=36,slow=14,SNR=11						
FINES				Lg	Lg	11 02 19.4	
	comp=Z,2.4nm,0.3s,baz=29,slow=27,SNR=11						
HEF	**Hetta**	**4.56**	**326**	*eP*	**Pn**	**11 01 29.6**	**+3.2**
HEF				*eS*	**Sn**	**11 02 22.6**	**+2.5**
KTK1	**Kautokeino**	**5.13**	**329**	*eP*	**Pn**	**11 01 37.0**	**+2.9**
KTK1				*eS*	**Sn**	**11 02 33.8**	**-0.2**
KTK1				IAML		11 02 50.2	
	comp=Z,3.1nm,0.8s						
ARA0	**ARCESS Array S**	**5.16**	**340**	Pn	**Pn**	**11 01 34.9**	**+0.4**
	baz=158,slow=12						
ARA0				Sn	**Sn**	**11 02 33.6**	**-1.1**
	baz=158,slow=28						
ARA0				Lg	Lg	11 02 53.7	
	baz=152,slow=37						
ARA0	**ARCESS Array S**	**5.16**	**340**	Pn	**Pn**	**11 01 34.9**	**+0.4**
	baz=158,slow=12						
ARA0				Sn	**Sn**	**11 02 33.6**	**-1.1**
	baz=158,slow=28						
ARA0				IAML		11 02 55.8	
	comp=Z,3.0nm,0.5s						
ARCES	**ARCESS Array B**	**5.16**	**340**	Pn	**Pn**	**11 01 34.9**	**+0.3**
	baz=156,slow=14,SNR=8.6						
ARCES				Sn	**Sn**	**11 02 34.7**	**0.0**
	baz=158,slow=24,SNR=3.9						
ARCES				Lg	Lg	11 02 56.2	
	baz=153,slow=32,SNR=7.0						
KEV	**Kevo**	**5.17**	**346**	*eP*	**Pn**	**11 01 34.6**	**-0.1**
KEV				*eS*	**Sn**	**11 02 32.4**	**-2.6**
KIF	**Kilpisjarvi**	**5.72**	**322**	*eP*	**Pn**	**11 01 45.5**	**+3.3**
KIF				*eS*	**Sn**	**11 02 49.1**	**+0.7**
NB2	**NORSAR Subarra**	**9.60**	**256**	Pn	**Pn**	**11 02 36.8**	**+1.4**
	baz=63,slow=16						
NB2	**NORSAR Subarra**	**9.60**	**256**	Pn	**Pn**	**11 02 36.8**	**+1.4**
	baz=63,slow=16						
NOA	**NORSAR Array B**	**9.60**	**256**	Pn	**Pn**	**11 02 36.1**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=54,slow=12,SNR=3.3						

BJI ***12*** *11:02:37.6±0.0, 37.°27N×141.°64E, h50km, mB5.2/49, mb5.1/83, Ms4.5/74, Ms7 4.4/69*
MOS ***12*** *11:02:38.3±1.0, 37.°39N×141.°55E, h39km, mb5.4/75, MS4.6/4, Error ellipse: s-maj=5.8km s-min=3.8km az=107.8*
JMA Felt III J1.
NIED ***12*** *11:02:39.5, 37.°33N×141.°59E, h46km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.87; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$-1.65; $M_{r\theta}$1.15; $M_{\theta\phi}$-0.72; $M_{\phi r}$2.53; Fault plane solution: M_o3.37000×10^{16} NP1:ϕ_s24.00000°, δ73.00000°, λ91.00000°. NP2:ϕ_s201.00000°, δ17.00000°, λ87.00000°.*
NEIC ***12*** *11:02:40.4, 37.°33N×141.°56E, h40km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.06; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$-0.83; $M_{r\theta}$0.94; $M_{\theta\phi}$-0.54; $M_{\phi r}$2.36; Fault plane solution: M_o2.77000×10^{16} NP1:ϕ_s220.13000°, δ12.20000°, λ107.41000°. NP2:ϕ_s22.34000°, δ78.37000°, λ86.30000°. Principal axes: T 2.7382, Plg56.0000°, Azm288.00000°; N 0.0564, Plg4.0000°, Azm23.00000°; P -2.7946, Plg33.0000°, Azm115.0000°;*
NEIC ***12*** *11:02:40.2±1.7, 37.°32N±0.°05×141.°51E±0.°09, h41km±5km, mb5.0/279, Mwr4.9/25 Error ellipse: s-maj=11.2km s-min=5.8km az=114.0*
IDC ***12*** *11:02:40.5±1.5, 37.°33N×141.°56E, h44km±13km, mb4.6/33, mb1 4.7/41, mb1mx4.6/48, mbtmp4.8/41, ML3.8/8, MS4.1/37, Ms1 4.2/37, ms1mx4.0/50, Error ellipse: s-maj=12.5km s-min=9.1km az=116.0*
GCMT ***12*** *11:02:43.2±0.3, 37.°40N±0.°02×141.°64E±0.°02, h43km±1km, MW5.0/105, Moment Tensor Solution. s49,c64; s105,c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.93±.18; $M_{\theta\theta}$-0.94±.13; $M_{\phi\phi}$-3.00±.11; $M_{r\theta}$1.09±.10; $M_{\theta\phi}$-1.12±.07; $M_{\phi r}$2.54±.10; Best double couple: M_o4.62700×10^{16} NP1:ϕ_s204.00000°, δ27.00000°, λ90.00000°. NP2:ϕ_s23.00000°, δ63.00000°, λ90.00000°. Principal axes: T 4.8460, Plg72.0000°, Azm293.0000°; N -0.4450, Plg0.0000°, Azm24.0000°; P -4.4070, Plg18.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***12*** *11:02:43.8±0.0, 37.°39N×141.°78E, h43km, mb5.5*

ISC 12 11:02:40.2±0.3, 37.°34N±0.°03×141.°60E±0.°04, h44km±2km, h44km: pP-P, n745, σ1§35/748, mb5.0/316, MS4.3/53, 43C-101D, Fault plane solution: NP1:ϕ_s358.33051°, δ74.91011°, λ68.61138°. **NP2:**ϕ_s234.71919°, δ25.97024°, λ143.52298°. **Principal axes:** T Plg55.0636°, Azm241.5671°; N Plg20.6168°, Azm4.1525°; P Plg26.8477°, Azm105.1304°; **Fault plane solution: NP1:**ϕ_s105.29919°, δ23.95989°, λ-11.68717°. **NP2:**ϕ_s206.00360°, δ85.28139°, λ-113.51758°. **Principal axes:** T Plg36.0157°, Azm316.4197°; N Plg23.4331°, Azm208.0538°; P Plg44.7765°, Azm92.5827°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.58**	**273**	||P	**Pn**	**11 02 51.3**	**-0.9**
JFK				S	**Sn**	**11 02 59.6**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.68**	**250**	||P	**Pn**	**11 02 52.7**	**-0.9**
ONAJ				S	**Sn**	**11 03 01.9**	**-1.3**
JMST	**Minamisoumatoc**	**0.68**	**304**	||P	**Pn**	**11 02 52.7**	**-0.8**
JMST				S	**Sn**	**11 03 02.2**	**-0.9**
JMM	**Marumori**	**0.83**	**310**	||P	**Pn**	**11 02 54.8**	**-0.6**
JMM				S	**Sn**	**11 03 05.8**	**-0.8**
JMM	**Marumori**	**0.83**	**310**		**Pn**	**11 02 54.9**	**-0.6**
JFFD	**Fukushimafurud**	**0.86**	**254**	||P	**Pn**	**11 02 55.2**	**-0.8**
JFFD				S	**Sn**	**11 03 06.3**	**-1.2**
JIKH	**Ishinomakikobu**	**0.97**	**354**	||P	**Pn**	**11 02 56.6**	**-0.8**
JFT	**Otama**	**1.02**	**280**	||P	**Pn**	**11 02 58.3**	**+0.2**
JFT				S	**Sn**	**11 03 11.3**	**0.0**
JHO	**Hitachi**	**1.10**	**229**	||P	**Pn**	**11 02 58.0**	**-1.2**
JHO				S	**Sn**	**11 03 11.5**	**-1.7**
JIO	**Ouri**	**1.13**	**350**	||P	**Pn**	**11 02 59.0**	**-0.6**
JIO				S	**Sn**	**11 03 12.5**	**-1.4**
JOU	**Okura**	**1.26**	**324**	||P	**Pn**	**11 03 01.2**	**-0.2**
JOU				*e*S	**Sn**	**11 03 17.5**	**+0.3**
JYAR	**Yonezawaarcadi**	**1.29**	**297**	||P	**Pn**	**11 03 01.8**	**+0.1**
JOFO	**Osakifurukawao**	**1.37**	**337**	||P	**Pn**	**11 03 03.0**	**+0.1**
JSB	**Shiboa**	**1.39**	**255**	P	**Pn**	**11 03 03.5**	**+0.3**
JSB				S	**Sn**	**11 03 21.3**	**+0.9**
JKMT	**Kesennumamotoy**	**1.47**	**356**	||P	**Pn**	**11 03 03.8**	**-0.4**
JYS	**Shirataka**	**1.50**	**306**	||P	**Pn**	**11 03 04.9**	**+0.3**
JFY	**Yanaizu**	**1.51**	**273**	||P	**Pn**	**11 03 05.0**	**+0.2**
JYT	**Yasato**	**1.58**	**226**		**Pn**	**11 03 05.0**	**-0.8**
JMK	**Ichinoseki**	**1.64**	**350**	||P	**Pn**	**11 03 06.5**	**0.0**
JMK				*e*S	**Sn**	**11 03 26.4**	**+0.1**
OFUJ	**Ofunato**	**1.74**	**2**	||P	**Pn**	**11 03 07.5**	**-0.4**
JYK	**Kaneyama**	**1.85**	**329**	||P	**Pn**	**11 03 09.8**	**+0.3**
JNS	**Sasagawa**	**1.87**	**285**	P	**Pn**	**11 03 10.0**	**+0.2**
JYA	**Atsumi**	**1.94**	**311**	||P	**Pn**	**11 03 11.3**	**+0.6**
JAG	**Ashikaga**

ERM	**Erimo**	**4.82**	**14**	Pn		**Pn**	**11 03 50.6**	**+0.4**
ERM						**Sn**	**11 04 47.5**	**+2.8**
JFM	**Mihama**	**4.88**	**250**	P		**Pn**	**11 03 53.5**	**+2.5**
JWT	**Wachi**	**5.41**	**250**	Pn		**Pn**	**11 03 59.7**	**+1.4**
JEW	**Eniwo**	**5.49**	**359**	Pn		**Pn**	**11 04 01.8**	**+2.3**
NMR	**Nemuro--Hokkai**	**6.80**	**26**	*e*P		**Pn**	**11 04 14.6**	**-2.7**
NMR				*i* S		**Sn**	**11 05 25.4**	**-7.9**
JKA	**Kamikawa-asahi**	**6.81**	**6**			**Sn**	**11 05 30.6**	**-3.1**
JKA	**Kamikawa-asahi**	**6.81**	**6**			**Pn**	**11 04 17.7**	**+0.2**
ASAJ	**Asahikawa**	**6.81**	**6**	P		**Pn**	**11 04 16.7**	**-0.8**
	3.8nm,0.3s,baz=228,slow=8.0,SNR=22							
ASAJ				S		**Sn**	**11 05 30.6**	**-3.1**
	baz=255,slow=20,SNR=1.0							
JHS	**Saijyo**	**7.25**	**254**			**Pn**	**11 04 26.2**	**+2.7**
JMN	**Monobe**	**7.25**	**242**			**Pn**	**11 04 24.3**	**+0.6**
RUSJ	**Misakicho**	**7.30**	**21**	*e*P		**Pn**	**11 04 22.9**	**-1.3**
RUSJ				*i* S		**Sn**	**11 05 41.0**	**-4.7**
GRPR	**Tuman**	**7.36**	**24**	*e*P		**Pn**	**11 04 23.4**	**-1.6**
GRPR				*i* S		**Sn**	**11 05 39.1**	**-8.1**
GRPR				pmax	pmax			
	comp=Z,218nm,0.3s							
GRPR				pmax	pmax			
	comp=N,94nm,0.1s							
GRPR				pmax	pmax			
	comp=E,140nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**7.43**	**24**‖	*e*P		**Pn**	**11 04 26.5**	**+0.6**
TEY	**Ternei**	**8.56**	**335**	*e*P		**Pn**	**11 04 44.8**	**+3.4**
TEY				pmax	pmax			
	comp=N,180nm,0.7s							
TEY				pmax	pmax			
	comp=E,100nm,0.7s							
TEY				pmax	pmax			
	comp=Z,160nm,0.7s							
KUR	**Kuril'sk**	**9.19**	**29**	*e*P		**Pn**	**11 04 50.8**	**+0.8**
KUR				*e*S		**Sn**	**11 06 26.7**	**-5.2**
KUR				pmax	pmax			
	comp=Z,88nm,0.6s							
KUR				pmax	pmax			
	comp=N,45nm,0.5s							
KUR				pmax	pmax			
	comp=E,29nm,0.5s							
KUR				smax	smax			
	comp=E,166nm,0.4s							
KUR				smax	smax			
	comp=N,82nm,0.2s							
MSHR	**Mys Shultsa**	**9.57**	**306**‖	*e*P		**Pn**	**11 04 57.3**	**+2.0**
YSS	**Yuzh-Sakhalins**	**9.64**	**5**	*e*P		**Pn**	**11 04 56.6**	**+0.3**
YSS				*e*S		**Sn**	**11 06 43.3**	**+0.1**
YSS				pmax	pmax			
	comp=Z,60nm,1.1s							
YSS				MLR	MLR			
	comp=Z,900nm,13.0s							
YSS				MLR	MLR			
	comp=N,600nm,10.0s							
YSS	**Yuzh-Sakhalins**	**9.64**	**5**	Pn		**Pn**	**11 04 56.3**	**+0.1**
JNU	**Nakatsue**	**9.73**	**248**	P		**Pn**	**11 04 58.4**	**+0.9**
	comp=N,1.3nm,0.3s,baz=57,slow=7.7,SNR=24							
JNU				LR	LR		11 08 58.2	
	comp=N,2μm,21.8s,baz=64,slow=39							
USA0B	**Ussuriysk Arra**	**10.00**	**316**⇑	*e*P		**Pn**	**11 05 02.4**	**+1.2**
USA0B	**Ussuriysk Arra**	**10.00**	**316**			**Pn**	**11 05 03.0**	**+1.9**
USRK	**Ussuriysk Ar.**	**10.00**	**316**	P		**Pn**	**11 05 03.1**	**+2.0**
	baz=124,slow=16,SNR=35							
USRK				LR	LR		11 08 39.2	
	comp=N,2μm,19.4s,baz=123,slow=36							
USRK	**Ussuriysk Ar.**	**10.00**	**316**	Pn		**Pn**	**11 05 04.0**	**+2.9**
KSRS	**Korea Array**	**10.88**	**275**	P		**Pn**	**11 05 17.1**	**+3.8**
	comp=N,0.7nm,0.3s,baz=89,slow=13,SNR=71							
KSRS				LR	LR		11 09 09.4	
	comp=N,2μm,19.4s,baz=88,slow=36							
KSAR	**Wonju Array Be**	**10.91**	**275**	P		**Pn**	**11 05 16.0**	**+2.3**
KSAR	**Wonju Array Be**	**10.91**	**275**			**Pn**	**11 05 15.9**	**+2.3**
KS19	**Wonju Array Si**	**10.92**	**275**			**Pn**	**11 05 17.3**	**+3.5**
TJN	**Taejon**	**11.45**	**269**‖	*e*P		**Pn**	**11 05 25.0**	**+4.0**
MDJ	**Mudanjiang**	**11.62**	**312**	P		Pn	11 05 28.4	+5.1
MDJ				pmax	pmax			
	comp=N,43nm,0.9s							
MDJ				LR	LR			
	comp=N,1μm,21.7s							
MDJ				LR	LR			
	comp=N,1μm,22.0s							
MDJ				LR	LR			
	comp=N,2μm,21.4s							
MDJ	**Mudanjiang**	**11.62**	**312**	Pn		**Pn**	**11 05 26.8**	**+3.5**
UGL	**Uglegorsk**	**11.74**	**2**	*e*P		Pn	11 05 34.8	+10
UGL				pmax	pmax			
	comp=Z,70nm,1.1s							
TYV	**Tymovskoe**	**13.54**	**3**	*e*P		**P**	**11 05 58.4**	**+0.9**
TYV				pmax	pmax			
	comp=Z,59nm,0.8s							
CN2	**Changchun**	**13.86**	**303**	*e*P		**Pn**	**11 05 54.8**	**+0.9**
CN2				*e*S		**Sn**	**11 08 27.0**	**+0.7**
CN2				pmax	pmax			
	comp=Z,20nm,1.2s							
CN2				LR	LR			
	comp=Z,690nm,15.0s							
CN2				LR	LR			
	comp=Z,1μm,15.0s							
CN2				LR	LR			
	comp=Z,1μm,18.0s							
KLR	**Kul'dur**	**13.86**	**332**	P		**Pn**	**11 05 53.4**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=141,slow=14,SNR=10							
KLR				LR	LR		11 11 12.9	
	comp=Z,1μm,18.1s,baz=147,slow=37							
KLR	**Kul'dur**	**13.86**	**332**‖	*e*P		**Pn**	**11 05 53.9**	**0.0**
KLR				pmax	pmax			
	comp=Z,11nm,0.7s							
GRNR	**Gornyy**	**13.93**	**346**⇑	*i*P		**Pn**	**11 05 53.0**	**-1.8**
GRNR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
GRNR				MLR	MLR			
	comp=E,480nm,14.0s							
GRNR				MLR	MLR			
	comp=N,550nm,16.0s							
GRNR				MLR	MLR			
	comp=Z,900nm,14.0s							
SNY	**Shenyang**	**14.60**	**293**	⇑P		**Pn**	**11 06 04.3**	**+0.5**
SNY				pmax	pmax			
	comp=Z,10.0nm,0.6s							
SNY				LR	LR			
	comp=Z,1μm,15.7s							
SNY				LR	LR			
	comp=Z,2μm,18.8s							
SNY				LR	LR			
	comp=Z,3μm,19.2s							
JOW	**Kunigami**	**15.39**	**231**	P		**Pn**	**11 06 13.2**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=38,slow=12,SNR=3.2							
JOW				LR	LR		11 11 58.3	
	comp=Z,502nm,21.0s,baz=69,slow=36							
JOW	**Kunigami**	**15.39**	**231**	IAmb	IAmb		11 06 19.1	
	comp=Z,52nm,1.0s							
DL2	**Dalian**	**15.80**	**282**	P		**Pn**	**11 06 20.3**	**+0.8**
DL2				*e*S		**Sn**	**11 09 15.9**	**+2.5**
DL2				sS		**S**	**11 09 27.4**	**+1.1**
DL2				pmax	pmax			
	comp=Z,110nm,1.0s							
DL2				pmax	pmax			
	comp=Z,440nm,5.5s							
DL2				LR	LR			
	comp=Z,490nm,12.2s							
DL2				LR	LR			
	comp=Z,840nm,15.2s							
DL2				LR	LR			
	comp=Z,1μm,18.4s							
SSE	**Sheshan**	**17.98**	**256**	P		**P**	**11 06 48.3**	**+1.4**
SSE				S		**Sn**	**11 10 06.3**	**-0.1**
SSE				pmax	pmax			
	comp=Z,26nm,0.8s							
SSE				pmax	pmax			
	comp=Z,110nm,4.5s							
ZEA	**Zeya**	**19.17**	**333**	*e*P		**P**	**11 06 58.5**	**-1.3**
ZEA				pmax	pmax			
	comp=N,30nm,0.7s							
ZEA				pmax	pmax			
	comp=E,10.0nm,0.7s							
ZEA				pmax	pmax			
	comp=Z,60nm,0.7s							
ZEA				MLR	MLR			
	comp=N,900nm,19.0s							
ZEA				MLR	MLR			
	comp=E,500nm,19.0s							
ZEA				MLR	MLR			
	comp=Z,500nm,16.0s							
PEA0B	**Petropavlovsk-**	**19.35**	**30**	P		**P**	**11 07 02.0**	**+0.3**
PEA0B				pmax	pmax			
	comp=Z,83nm,1.4s							
PEA0B	**Petropavlovsk-**	**19.35**	**30**	P		**P**	**11 07 02.0**	**+0.3**
PEA0B				IAmb	IAmb		11 07 23.1	
	comp=Z,82nm,1.4s							
PETK	**Petropavlovsk-**	**19.35**	**30**	P		**P**	**11 07 02.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=213,slow=5.1,SNR=11							
PETK	**Petropavlovsk-**	**19.35**	**30**	P		**P**	**11 07 01.6**	**-0.1**
NJ2	**Nanjing**	**19.42**	**261**	*e*P		**P**	**11 07 02.0**	**-0.6**
NJ2				pP		**pP**	**11 07 11.6**	**-1.6**
NJ2				S		**Sn**	**11 10 40.8**	**-0.2**
NJ2				pmax	pmax			
	comp=Z,24nm,0.8s							
NJ2				LR	LR			
	comp=Z,560nm,16.1s							
NJ2				LR	LR			
	comp=Z,440nm,14.2s							
NJ2				LR	LR			
	comp=Z,950nm,19.9s							
TIA	**Tai'an**	**19.63**	**274**	P		**P**	**11 07 04.0**	**-1.0**
TIA				pmax	pmax			
	comp=Z,41nm,1.1s							
PET	**Petropavlovsk**	**19.68**	**32**	*e*P		**Pn**	**11 07 08.0**	**+1.0**
PET				*e*S		**Sn**	**11 10 46.8**	**-0.2**
PET				pmax	pmax			
	comp=Z,81nm,1.2s							
PET				MLR	MLR			
	comp=Z,300nm,18.0s							
BJI	**Beijing**	**20.01**	**286**	P		**P**	**11 07 08.1**	**-0.9**
BJI				sP		**sP**	**11 07 24.8**	**-0.5**
BJI				S		**S**	**11 10 50.7**	**-0.8**
BJI				pmax	pmax			
	comp=Z,21nm,0.8s							
BJI				LR	LR			
	comp=Z,510nm,12.7s							
BJI				LR	LR			
	comp=Z,170nm,11.8s							
BJT	**Baijiatuau**	**20.02**	**286**	P		**P**	**11 07 07.5**	**-1.6**
BJT				pmax	pmax			
	comp=Z,29nm,0.8s							
BJT	**Baijiatuau**	**20.02**	**286**	P		**P**	**11 07 07.5**	**-1.6**
YHNB	**Yeheng**	**21.39**	**240**	P		**P**	**11 07 21.6**	**-2.6**
YHNB				IAmb	IAmb		11 07 42.3	
	comp=Z,64nm,1.2s							
NACB	**Ninganchiao**	**21.57**	**238**	P		**P**	**11 07 25.2**	**-0.8**
SSLB	**Suanglung**	**22.26**	**238**	P		**P**	**11 07 30.9**	**-2.6**
YULB	**Yu-li**	**22.30**	**237**	P		**P**	**11 07 31.6**	**-2.3**
TPUB	**Ta-pu**	**22.81**	**238**	P		**P**	**11 07 37.1**	**-2.2**
TPUB				IAmb	IAmb		11 07 50.3	
	comp=Z,55nm,1.0s							
MA2	**Magadan**	**23.02**	**12**	P		**P**	**11 07 41.6**	**+0.5**
	comp=Z,32nm,0.9s,baz=194,slow=9.8,SNR=20							
MA2	**Magadan**	**23.02**	**12**	*de*P		**P**	**11 07 41.0**	**-0.1**
MA2				pmax	pmax			
	comp=Z,32nm,0.9s							
MA2	**Magadan**	**23.02**	**12**	P		**P**	**11 07 41.6**	**+0.5**
MA2				IAmb	IAmb		11 08 09.1	
	comp=Z,53nm,1.1s							
TIY	**Taiyuan**	**23.10**	**280**	*e*P		**P**	**11 07 40.2**	**-2.0**
TIY				pmax	pmax			
	comp=Z,38nm,0.8s							
TIY				LR	LR			
	comp=Z,290nm,12.1s							
TIY				LR	LR			
	comp=Z,560nm,12.1s							
TIY				LR	LR			
	comp=Z,1μm,19.6s							
QZH	**Quanzhou**	**23.18**	**244**⇑	*i*P		**P**	**11 07 40.8**	**-2.2**
QZH				pmax	pmax			
	comp=Z,54nm,0.8s							
HHC	**Hu-ho-hao-te**	**23.52**	**288**	*e*P		**P**	**11 07 44.2**	**-2.1**
HHC				S		S	11 11 45.4	-12
HHC				pmax	pmax			
	comp=Z,17nm,0.8s							
HHC				pmax	pmax			
	comp=Z,220nm,6.0s							
HHC				LR	LR			
	comp=Z,480nm,12.8s							
HHC				LR	LR			
	comp=Z,560nm,14.2s							
HHC				LR	LR			
	comp=Z,460nm,13.5s							
WHN	**Wuhan**	**23.55**	**261**	⇑P		**P**	**11 07 46.4**	**-0.1**
WHN				S		**S**	**11 11 52.3**	**-5.1**
WHN				pmax	pmax			
	comp=Z,170nm,0.9s							
WHN				LR	LR			
	comp=Z,1μm,14.2s							
WHN				LR	LR			
	comp=Z,1μm,16.4s							
WHN				LR	LR			
	comp=Z,2μm,17.9s							
KNMB	**Chin-men Tao**	**23.62**	**244**	P		**P**	**11 07 44.9**	**-2.3**
CIT	**Chita**	**24.56**	**316**	*e*P		**P**	**11 07 55.8**	**+0.1**
CIT				*e*			11 08 03.4	
CIT				*e*			11 08 08.4	
CIT				*e*			11 08 32.2	
CIT				pmax	pmax			
	comp=Z,175nm,1.3s							
BTO	**Baotou**	**24.70**	**287**	P		**P**	**11 07 57.3**	**+0.2**
YAK	**Yakutsk**	**25.80**	**347**	P		**P**	**11 08 06.5**	**-0.3**
	comp=Z,75nm,0.7s,baz=351,slow=3.1,SNR=35							
YAK				LR	LR		11 18 40.5	
	comp=Z,842nm,18.5s,baz=160,slow=37							
YAK	**Yakutsk**	**25.80**	**347**	*e*P		**P**	**11 08 06.2**	**-0.5**
YAK				*e**PP		**pP**	**11 08 20.8**	**+2.3**
YAK				*e*			11 08 46.1	
YAK				*e*S		**S**	**11 12 30.9**	**-1.9**
YAK				pmax	pmax			
	comp=Z,153nm,1.0s							
YAK				pmax	pmax			
	comp=N,42nm,1.0s							
YAK				pmax	pmax			
	comp=E,18nm,1.0s							
YAK				pmax	pmax			
	comp=Z,118nm,2.5s							
YAK				pmax	pmax			
	comp=N,66nm,2.2s							
YAK				smax	smax			
	comp=E,75nm,1.5s							
YAK				smax	smax			
	comp=N,74nm,1.4s							
YAK	**Yakutsk**	**25.80**	**347**	P		**P**	**11 08 06.3**	**-0.5**
SEY	**Seymchan**	**26.46**	**11**	P		**P**	**11 08 13.8**	**+1.1**
	comp=N,15nm,0.9s,baz=192,slow=7.8,SNR=28							
SEY				LR	LR		11 20 19.2	
	comp=N,272nm,19.1s,baz=156,slow=40							
SEY	**Seymchan**	**26.46**	**11**⇑	*e*P		**P**	**11 08 13.4**	**+0.7**
XAN	**Xi'an**	**26.67**	**273**	P		**P**	**11 08 14.3**	**-0.8**
XAN				pP		pP	**11 08 22.8**	**-3.9**
XAN				S		**S**	**11 12 43.3**	**-3.9**
XAN				pmax	pmax			
	comp=N,61nm,0.8s							
XAN				pmax	pmax			
	comp=N,410nm,4.9s							
XAN				LR	LR			
	comp=N,740nm,17.4s							
XAN				LR	LR			
	comp=N,580nm,16.3s							
XAN				LR	LR			
	comp=N,680nm,19.5s							
XAN	**Xi'an**	**26.67**	**273**	P		**P**	**11 08 14.2**	**-0.8**
XAN				pmax	pmax			
	comp=Z,38nm,0.8s							
XAN	**Xi'an**	**26.67**	**273**	P		**P**	**11 08 14.2**	**-0.8**
XAN				IAmb	IAmb		11 08 15.6	
	comp=Z,38nm,0.8s							
ULN	**Ulaanbaatar**	**27.31**	**304**⇑	*e*P		**P**	**11 08 20.6**	**-0.1**
ULN				pmax	pmax			
	comp=Z,28nm,0.9s							
ULN	**Ulaanbaatar**	**27.31**	**304**	P		**P**	**11 08 19.7**	**-1.0**
ULN				IAmb	IAmb		11 08 22.6	
	comp=Z,24nm,0.8s							
BOD	**Bodaibo**	**27.35**	**327**	*e*P		**P**	**11 08 19.8**	**-1.0**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.1s							
ENH	**Enshi**	**27.51**	**265**	P		**P**	**11 08 21.9**	**-0.6**
SONM	**Songino Array**	**27.74**	**303**	P		**P**	**11 08 24.2**	**-0.4**
	comp=Z,26nm,0.8s,baz=103,slow=8.4,SNR=86							
SONM				PcP		**PcP**	**11 11 41.1**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=134,slow=3.4,SNR=3.9							
SONM				LR	LR		11 19 41.7	
	comp=Z,494nm,19.0s,baz=93,slow=37							
SONM	**Songino Array**	**27.74**	**303**	P		**P**	**11 08 24.1**	**-0.4**
SONM				pmax	pmax			
	comp=Z,19nm,0.9s							
SONM	**Songino Array**	**27.74**	**303**	P		**P**	**11 08 24.1**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**28.18**	**122**	T		T	11 38 06.4	
	baz=314,slow=75,SNR=796							
H11N1	**WAKE ISLAND Hy**	**28.19**	**122**	T		T	11 38 06.9	
	baz=314,slow=75,SNR=848							
H11N3	**WAKE ISLAND Hy**	**28.20**	**122**	T		T	11 38 07.7	
	baz=314,slow=75,SNR=629							
H11S1	**WAKE ISLAND Hy**	**28.90**	**124**	T		T	11 38 54.3	
	baz=316,slow=76,SNR=502							
H11S3	**WAKE ISLAND Hy**	**28.91**	**124**	T		T	11 39 01.0	
	baz=316,slow=76,SNR=467							
H11S2	**WAKE ISLAND Hy**	**28.92**	**124**	T		T	11 38 57.6	
	baz=316,slow=76,SNR=385							
TGY	**Tagaytay City**	**29.57**	**224**	P		**P**	**11 08 40.4**	**-0.5**
	comp=Z,125nm,0.5s,baz=307,slow=3.7,SNR=5.5							
LZH	**Lanzhou**	**30.16**	**279**	*e*P		**P**	**11 08 46.1**	**-0.1**
LZH				pP		pP	11 08 59.2	+1.1
LZH				sP		sP	11 09 04.9	+1.6
LZH				pmax	pmax			
	comp=Z,55nm,1.3s							
LZH				pmax	pmax			
	comp=Z,130nm,4.3s							
LZH				LR	LR			
	comp=Z,340nm,13.2s							
LZH				LR	LR			
	comp=Z,970nm,14.2s							
LZH				LR	LR			
	comp=Z,730nm,15.6s							
ZAK	**Zakamensk**	**30.20**	**308**	*e*P		**P**	**11 08 46.4**	**+0.1**
ZAK				pmax	pmax			
	comp=Z,21nm,1.1s							
TLY	**Talaya**	**30.24**	**311**	P		**P**	**11 08 47.4**	**+0.8**
	comp=Z,11nm,0.7s,baz=114,slow=7.3,SNR=17							
TLY	**Talaya**	**30.24**	**311**	*e*P		**P**	**11 08 46.6**	**0.0**
TLY				pmax	pmax			
	comp=Z,61nm,1.3s							
TLY				MLR	MLR			
	comp=Z,2μm,18.0s							
TLY	**Talaya**	**30.24**	**311**	P		**P**	**11 08 46.6**	**0.0**
TLY				IAmb	IAmb		11 08 48.0	
	comp=Z,17nm,0.8s							
GYA	**Guiyang**	**31.42**	**260**	‖P		**P**	**11 08 57.0**	**-0.3**
GYA				pP		pP	11 09 10.0	+0.8
GYA				S		**S**	**11 14 01.7**	**-0.4**
GYA				pmax	pmax			
	comp=Z,120nm,0.9s							
GYA				LR	LR			
	comp=Z,740nm,22.3s							
CD2	**Chengdu**	**31.82**	**270**	P		**P**	**11 08 59.5**	**-1.3**
CD2				S		**S**	**11 14 09.6**	**+1.4**
CD2				pmax	pmax			
	comp=Z,70nm,0.9s							
CD2				LR	LR			
	comp=Z,540nm,15.8s							
CD2				LR	LR			
	comp=Z,860nm,18.0s							
CD2				LR	LR			
	comp=Z,1μm,18.7s							
MOY	**Mondy**	**31.85**	**310**	*e*P		**P**	**11 09 01.1**	**+0.2**
MOY				pmax	pmax			
	comp=Z,21nm,1.1s							
GTA	**Gaotai**	**32.62**	**287**	⇑P		**P**	**11 09 07.0**	**-0.7**
GTA				pP		pP	11 09 19.3	-0.3
GTA				sP		sP	11 09 24.6	-0.3
GTA				PcP		**PcP**	**11 11 54.0**	**+0.9**
GTA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,140nm,6.0s							
GTA				LR	LR			
	comp=Z,440nm,18.5s							
GTA				LR	LR			
	comp=Z,420nm,21.8s							
GTA				LR	LR			
	comp=Z,640nm,21.1s							
QIZ	**Qiongzhong**	**33.19**	**245**	P		**P**	**11 09 12.1**	**-0.7**
QIZ				S		**S**	**11 14 29.9**	**+0.4**
QIZ				LR	LR			
	comp=Z,250nm,5.0s							
TIXI	**Tiksi**	**35.00**	**353**	P		**P**	**11 09 27.4**	**-0.5**
	comp=Z,3.7nm,0.4s,baz=138,slow=9.7,SNR=8.5							
TIXI	**Tiksi**	**35.00**	**353**	*i* P		**P**	**11 09 27.3**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,21nm,0.7s							
TIXI	**Tiksi**	**35.00**	**353**	P		**P**	**11 09 27.2**	**-0.7**
KMI	**Kunming**	**35.16**	**261**	⇑P		**P**	**11 09 29.6**	**-0.4**
KMI				pP		pP	11 09 41.9	-0.1
KMI				sP		sP	11 09 48.0	+0.8
KMI				PP		**PnPn**	**11 10 47.5**	**-1.0**
KMI				S		**S**	**11 14 56.5**	**-3.7**
KMI				sS		sS	11 15 18.6	-1.5
KMI				pmax	pmax			
	comp=Z,120nm,1.0s							
KMI				pmax	pmax			
	comp=Z,230nm,3.5s							
KMI				LR	LR			
	comp=Z,460nm,15.0s							
KMI				LR	LR			
	comp=Z,600nm,20.6s							
KMI				LR	LR			
	comp=Z,840nm,20.9s							
KMI	**Kunming**	**35.16**	**261**	P		**P**	**11 09 28.2**	**-1.8**
KMI				pmax	pmax			
	comp=Z,113nm,1.0s							
KMI	**Kunming**	**35.16**	**261**	P		**P**	**11 09 28.2**	**-1.8**
SLVN	**Son La**	**36.25**	**255**	P		**P**	**11 09 38.0**	**-1.3**
SLVN				IAmb	IAmb		11 09 40.6	
	comp=Z,19nm,1.0s							
MYLDM	**Lahad Datu**	**38.34**	**219**	P		**P**	**11 09 56.0**	**-0.9**
MYLDM				IAmb	IAmb		11 10 16.4	
	comp=Z,43nm,1.1s							
NONG	**Nongkai**	**38.75**	**251**	P		**P**	**11 10 01.0**	**+0.7**
	comp=Z,80nm,0.8s							
UBPT	**Khong Chiam**	**38.79**	**245**	P		**P**	**11 10 02.7**	**+2.0**
	comp=Z,18nm,1.3s							
UBPT	**Khong Chiam**	**38.79**	**245**	P		**P**	**11 10 01.5**	**+0.8**
UBPT				IAmb	IAmb		11 10 14.4	
	comp=Z,54nm,1.3s							
DLV	**T Lat**	**38.97**	**238**	P		**P**	**11 10 03.5**	**+1.1**
SWI	**Sorong**	**39.20**	**196**	P		**P**	**11 10 06.5**	**+2.4**
	comp=Z,1μmcomp=Z,24nm,0.8s							
SIJI	**Sorong**	**39.21**	**196**	P		**P**	**11 10 03.1**	**-1.1**
	comp=Z,6.2nm,0.5s,baz=96,slow=19,SNR=2.9							
SIJI				LR	LR		11 23 26.8	
	comp=Z,228nm,21.9s,baz=14,slow=32							
SRPI	**Serui, Papua**	**39.33**	**188**	P		**P**	**11 10 08.2**	**+3.1**
	comp=Z,7μmcomp=Z,104nm,0.4s							
JAY	**Jayapura**	**39.66**	**181**	LR	LR		11 24 07.2	
	comp=Z,161nm,18.9s,baz=357,slow=32							
KMSI	**Cibinong**	**40.04**	**208**	P		**P**	**11 10 13.0**	**+1.9**
	comp=Z,4μmcomp=Z,114nm,0.8s							
DGZ	**Jazzator, Alta**	**40.33**	**306***c*	*i*P		**P**	**11 10 14.2**	**+0.8**
DGZ				pmax	pmax			
	comp=Z,212nm,0.8s							
GTOI	**Gorontalo**	**40.36**	**209**	P		**P**	**11 10 13.9**	**+0.2**
	comp=Z,522nmcomp=Z,56nm,1.1s							
WMQ	**Urumqi**	**40.83**	**297**	P		**P**	**11 10 18.8**	**+1.3**
WMQ				pP		pP	11 10 30.3	+0.7
WMQ				sP		sP	11 10 35.5	+0.7
WMQ				pmax	pmax			
	comp=Z,77nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,550nm,5.7s							
WMQ				LR	LR			
	comp=Z,850nm,19.9s							
WMQ				LR	LR			
	comp=Z,960nm,23.7s							
WMQ	**Urumqi**	**40.83**	**297**	P		**P**	**11 10 18.3**	**+0.8**
WMQ				pmax	pmax			
	comp=Z,56nm,1.0s							
WMQ	**Urumqi**	**40.83**	**297**	P		**P**	**11 10 18.3**	**+0.8**
MRSI	**Marisa**	**40.93**	**211**	P		**P**	**11 10 19.7**	**+1.3**
	comp=Z,978nmcomp=Z,65nm,1.3s							
CHAI	**Chaiyaphum**	**40.95**	**249**	P		**P**	**11 10 19.6**	**+0.9**
	comp=Z,56nm,0.9s							
FAKI	**Fak Fak**	**40.99**	**194**	P		**P**	**11 10 22.5**	**+3.6**
	comp=Z,51nm,1.7s			

comp=Z,17nm,1.2s
CHTO Chiang Mai 41.51 256 P **P** **11 10 23.0 -0.2**
CM36 Chiang Mai Arr 41.56 255 P **P** **11 10 24.0 +0.3**
CM32 Chiang Mai Arr 41.68 255 P **P** **11 10 25.0 +0.4**
CM09 Chiang Mai Arr 41.69 255 P **P** **11 10 25.0 +0.3**
comp=Z,98nmcomp=Z,9.3nm,0.8s
CM31 Chiang Mai Arr 41.72 255 P **P** **11 10 27.4 +2.4**
CM31 Chiang Mai Arr 41.72 255 P **P** **11 10 25.4 +0.5**
CMAR Chiang Mai Arr 41.72 255 P **P** **11 10 25.6 +0.7**
comp=Z,6.9nm,0.8s,baz=47,slow=5.2,SNR=39
CMAR PcP **PcP** **11 12 22.1 +1.2**
comp=Z,4.3nm,0.9s,baz=19,slow=3.3,SNR=7.7
CMAR ScP **ScP** **11 16 08.3 +0.9**
comp=Z,0.5nm,0.3s,baz=49,slow=3.1,SNR=5.5
CMAR LR LR 11 28 45.1
comp=Z,295nm,20.1s,baz=110,slow=38
CMAR Chiang Mai Arr 41.72 255 P **P** **11 10 24.9 -0.1**
CMAR **PcP** **11 12 21.8 +0.9**
CM04 Chiang Mai Arr 41.72 255 P **P** **11 10 26.0 +1.0**
comp=Z,132nmcomp=Z,16nm,0.9s
CM01 Chiang Mai Arr 41.73 255 P **P** **11 10 26.2 +1.2**
comp=Z,99nmcomp=Z,12nm,0.9s
CM02 Chiang Mai Arr 41.73 255 P **P** **11 10 26.0 +1.0**
comp=Z,92nmcomp=Z,14nm,0.9s
CM15 Chiang Mai Arr 41.73 255 P **P** **11 10 26.4 +1.4**
comp=Z,13nm,0.8s
CM05 Chiang Mai Arr 41.75 255 P **P** **11 10 26.0 +0.8**
comp=Z,93nmcomp=Z,11nm,0.9s
SUKH Sukhothai 41.77 253 P **P** **11 10 26.0 +0.7**
comp=Z,104nmcomp=Z,42nm,0.9s
CM13 Chiang Mai Arr 41.77 255 P **P** **11 10 26.4 +1.0**
comp=Z,104nmcomp=Z,13nm,0.8s
SANI Sanana 41.78 204 P **P** **11 10 26.6 +1.2**
comp=Z,64nm,0.8s
ZAA0 Zalesovo Array 41.82 312 P **P** **11 10 25.6 +0.2**
ZALV Zalesovo Beam 41.82 312 P **P** **11 10 25.0 -0.3**
comp=Z,41nm,0.9s,baz=90,slow=7.4,SNR=106
ZALV PcP **PcP** **11 12 20.7 +0.1**
comp=Z,6.7nm,0.8s,baz=110,slow=4.5,SNR=4.2
ZALV LR LR 11 28 38.9
comp=Z,577nm,18.5s,baz=82,slow=37
ZALV Zalesovo Beam 41.82 312 *i* P **P** **11 10 25.7 +0.4**
ZALV pmax pmax
comp=Z,41nm,0.9s
ZALV Zalesovo Beam 41.82 312 P **P** **11 10 25.3 0.0**
LUWI Luwuk 41.98 209 P **P** **11 10 26.9 -0.2**
comp=Z,3µmcomp=Z,140nm,0.9s
SRAK Srakaew 42.12 247 P **P** **11 10 25.7 -2.5**
comp=Z,416nm,0.9s
APSI Ampana 42.31 210 P **P** **11 10 30.0 +0.3**
comp=Z,78nm,1.3s
NLAI Namlea 42.57 202 P **P** **11 10 34.4 +2.6**
comp=Z,30nm,1.4s
MHMT Maesarieng 42.66 256 P **P** **11 10 32.0 -0.6**
comp=Z,46nm,1.1s
BNDI Bandanaira 43.05 197 P **P** **11 10 37.5 +1.8**
comp=Z,394nm,1.0s
UTHA Uthaitani 43.07 251 P **P** **11 10 37.3 +1.3**
comp=Z,395nmcomp=Z,23nm,1.0s
UMPA Umpang Tak 43.12 253 P **P** **11 10 38.4 +2.1**
comp=Z,3µmcomp=Z,45nm,1.0s
RDOG Red Dog Mine 43.16 27 P **P** **11 10 37.5 +1.4**
RDOG IAmb IAmb 11 10 38.8
comp=Z,27nm,1.1s
RDOG Red Dog Mine 43.16 27 P 11 10 37.6
baz=254,SNR=8.7
SHL Shillong 43.56 269 P **P** **11 10 39.5 -0.5**
SHL pmax pmax
comp=Z,38nm,0.9s
SHL Shillong 43.56 269 P **P** **11 10 39.5 -0.5**
SHL IAmb IAmb 11 10 43.5
comp=Z,38nm,0.9s
SBUM Sibu 43.98 225 P **P** **11 10 43.5 +0.2**
SBUM IAmb IAmb 11 11 00.1
comp=Z,36nm,1.4s
SBUM Sibu 43.98 225 P **P** **11 10 44.0 +0.7**
SRDT SRDT 44.07 250 P **P** **11 10 45.2 +1.2**
comp=Z,12nm,1.0s
MK31 Makanchi Array 44.08 302*c i* P **P** **11 10 43.7 -0.1**
MK31 Makanchi Array 44.08 302 IAmb IAmb 11 10 44.9
comp=Z,23nm,0.8s
MKAR Makanchi Array 44.08 302 P **P** **11 10 43.9 +0.1**
comp=Z,25nm,0.7s,baz=88,slow=9.8,SNR=261
MKAR LR LR 11 30 21.5
comp=Z,314nm,18.0s,baz=82,slow=38
MKAR Makanchi Array 44.08 302 P **P** **11 10 43.5 -0.3**
MAKZ Makanchi 44.29 302 P **P** **11 10 45.7 +0.2**
MAKZ pmax pmax
comp=Z,44nm,1.2s
MAKZ Makanchi 44.29 302 P **P** **11 10 45.7 +0.2**
MAKZ IAmb IAmb 11 11 00.3
comp=Z,44nm,1.1s
PHET Kaeng Krachan 44.61 248 P **P** **11 10 50.0 +1.6**
comp=Z,686nmcomp=Z,50nm,0.7s
SVW2 Sparrevohn 45.19 38 P **P** **11 10 54.2 +1.8**
SVW2 IAmb IAmb 11 11 08.2
comp=Z,16nm,1.0s
MTKI Muara Teweh, K 45.41 219 P **P** **11 10 56.2 +1.6**
comp=Z,37nm,0.8s
SPSI Sidrap Palu 45.84 211 P **P** **11 10 58.7 +0.7**
comp=Z,26nm,1.1s
KURK Kurchatov 45.86 308 P **P** **11 10 58.3 +0.5**
KURK Kurchatov 45.86 308 P **P** **11 10 58.3 +0.5**
KSM Kuching 45.87 226 P **P** **11 10 58.2 -0.1**
KSM IAmb IAmb 11 11 13.0
comp=Z,32nm,1.0s
KSM Kuching 45.87 226 P **P** **11 10 58.0 -0.3**
KURBB Kurchatov Arra 45.93 308 P **P** **11 10 58.3 -0.1**
comp=Z,58nm,0.7s,baz=83,slow=8.1,SNR=386
TAPN Taplejung 46.07 274 *eP* **P** **11 11 00.7 +0.6**
comp=Z,63nm,0.8s
BNSI Bone 46.10 210 P **P** **11 11 01.4 +1.4**
comp=Z,52nm,1.1s
A21K Barrow 46.12 23 P **P** **11 11 01.2 +1.7**
A21K Barrow 46.12 23 P 11 11 00.9
baz=257,SNR=30
IMAR Indian Mountai 46.31 31 P **P** **11 11 01.8 +0.6**
OHAK Old Harbor 46.43 43 P **P** **11 11 03.6 +1.4**
OHAK IAmb IAmb 11 11 17.4
comp=Z,31nm,1.1s
OHAK Old Harbor 46.43 43 P 11 11 03.2
baz=274
ODAN Odare 46.54 273 *eP* **P** **11 11 04.1 +0.3**
comp=Z,103nm,0.9s
RSO Redoubt South 46.57 38 P **P** **11 11 04.7 +1.2**
PDGK Podgornoye 46.76 298 *i* P **P** **11 11 05.0 -0.2**
PDGK pmax pmax
comp=Z,47nm,1.1s
KDAK Kodiak Island 46.77 42 P **P** **11 11 04.3 -0.5**
comp=Z,18nm,0.7s,baz=274,slow=3.0,SNR=7.1
KDAK Kodiak Island 46.77 42‖ *eP* **P** **11 11 04.8 -0.1**
KDAK pmax pmax
comp=Z,217nm,2.5s
KDAK Kodiak Island 46.77 42 P **P** **11 11 05.0 +0.2**
KDAK Kodiak Island 46.77 42 P 11 11 05.1
baz=274
CHUM Lake Minchumin 46.80 34 P 11 11 06.6
baz=268,SNR=5.2
KAPI Kappang 46.80 211 LR LR 11 30 57.6
comp=Z,85nm,19.9s,baz=52,slow=36
SHLS Shalkode 46.83 297 *eP* **P** **11 11 02.8 -2.9**
comp=Z,20nm,1.0s,baz=297
SHLS Shalkode 46.83 297 *eP* **P** **11 11 02.8 -2.9**
SHLS pmax pmax
comp=Z,20nm,1.0s
PPLA Purkeypile 46.83 35 P **P** **11 11 07.1 +1.6**
PPLA IAmb IAmb 11 11 35.3
comp=Z,13nm,1.0s
PPLA Purkeypile 46.83 35 P 11 11 07.1
baz=269
TDK Taldyqorghan 47.10 300 *eP* **P** **11 11 07.8 0.0**
comp=Z,26nm,0.6s,baz=300
TDK Taldyqorghan 47.10 300 *eP* **P** **11 11 07.7 0.0**
TDK pmax pmax
comp=Z,26nm,0.6s
RAMN Ramite 47.13 274 *eP* **P** **11 11 08.7 +0.3**
comp=Z,174nm,0.9s
SKT Skwentna 47.14 36 P 11 11 09.2
baz=271
UZB Uzynbulak 47.14 298 *eP* **P** **11 11 07.7 -0.5**
comp=Z,17nm,1.0s,baz=298
UZB Uzynbulak 47.14 298 *eP* **P** **11 11 07.7 -0.5**
UZB pmax pmax
comp=Z,17nm,1.0s
GUN Gumba 47.27 275 *eP* **P** **11 11 10.0 +0.4**
comp=Z,165nm,0.9s

KPKS Kokpek 47.29 298 *eP* **P** **11 11 09.0 -0.3**
comp=Z,12nm,0.7s,baz=298
KPKS Kokpek 47.29 298 *eP* **P** **11 11 09.0 -0.3**
KPKS pmax pmax
comp=Z,12nm,0.7s
BPAW Bear Paw Mtn. 47.39 33 P **P** **11 11 11.0 +1.4**
BPAW Bear Paw Mtn. 47.39 33 P 11 11 11.2
baz=269
SUA Susitna One 47.52 37 P **P** **11 11 11.1 +0.3**
SUA IAmb IAmb 11 11 14.6
comp=Z,21nm,1.1s
SUA Susitna One 47.52 37 P 11 11 11.8
baz=272
SATY Saty 47.60 298 *eP* **P** **11 11 11.5 -0.2**
baz=298
SATY Saty 47.60 298 *eP* **P** **11 11 11.5 -0.2**
BBKI Banjar Baru 47.61 217 P **P** **11 11 12.3 +0.4**
comp=Z,38nm,1.0s
TRF Thorofare Moun 47.70 34 P **P** **11 11 12.7 +0.5**
TRF IAmb IAmb 11 11 30.8
comp=Z,13nm,1.0s
TRF Thorofare Moun 47.70 34 P 11 11 13.1
baz=270
CUT Chulitna 47.72 36 P 11 11 12.5
baz=272
RNTT Ranong 47.78 246 P P 11 11 08.2 -5.0
PKI Pulchoki 47.80 275 *eP* **P** **11 11 13.4 -0.3**
comp=Z,78nm,1.1s
KKN Kakani 47.80 276 *eP* **P** **11 11 14.4 +0.8**
comp=Z,82nm,1.0s
PKIN Phulchoki 47.80 275 *eP* **P** **11 11 13.5 -0.2**
comp=Z,51nm,0.9s
COLD Coldfoot 47.81 29 P **P** **11 11 14.4 +1.6**
COLD Coldfoot 47.81 29 P 11 11 14.1
baz=267
TRTT Trang 47.97 243 P **P** **11 11 15.0 +0.3**
comp=Z,15nm,1.0s
DMN Daman 48.02 276 *eP* **P** **11 11 15.6 +0.3**
comp=Z,69nm,0.9s
RC01 Rabbit Creek A 48.03 38 P **P** **11 11 15.3 +0.7**
RC01 IAmb IAmb 11 11 28.7
comp=Z,18nm,0.9s
RC01 Rabbit Creek A 48.03 38 P 11 11 15.6
baz=273
I23K Minto, Yukon-K 48.10 32 P 11 11 16.0
baz=270
TOLK Toolik Lake Re 48.13 27 IAmb IAmb 11 11 30.1
comp=Z,19nm,1.1s
TOLK Toolik Lake Re 48.13 27 P 11 11 16.8
baz=266,SNR=10
GKN Gorkha 48.22 276 *eP* **P** **11 11 17.1 +0.4**
comp=Z,305nm,1.0s
NEA2 Nenana 48.22 33 P **P** **11 11 17.1 +1.0**
NEA2 IAmb IAmb 11 11 31.2
comp=Z,16nm,1.1s
NEA2 Nenana 48.22 33 P 11 11 17.4
baz=271,SNR=6.8
PMR Palmer 48.29 37 IAmb IAmb 11 11 31.4
comp=Z,17nm,1.0s
PMR Palmer 48.29 37 P 11 11 17.1
baz=273
MCK McKinley 48.30 34 P 11 11 17.4
baz=271
RND Reindeer 48.34 34 IAmb IAmb 11 11 30.6
comp=Z,18nm,1.1s
GHO Glory Hole Cre 48.38 37 P **P** **11 11 17.9 +0.5**
GHO IAmb IAmb 11 11 31.6
comp=Z,22nm,1.0s
WAT2 Susitna Watana 48.48 35 P 11 11 18.7
baz=272,SNR=5.7
MDOK Medeo 48.53 298 *eP* **P** **11 11 18.9 0.0**
baz=298
MDOK Medeo 48.53 298 *eP* **P** **11 11 18.8 -0.1**
MDM Murphy Dome 48.58 32 P **P** **11 11 19.9 +1.1**
MDM IAmb IAmb 11 11 33.9
comp=Z,18nm,1.0s
AAA Alma-Ata 48.61 298 *eP* **P** **11 11 19.9 +0.4**
comp=Z,9.5nm,0.5s,baz=298
AAA Alma-Ata 48.61 298 *eP* **P** **11 11 19.8 +0.4**
AAA pmax pmax
comp=Z,9.0nm,0.5s
KNK Knik Glacier 48.62 37 P 11 11 20.1
baz=274
WRH Wood River Hil 48.65 33 P **P** **11 11 20.3 +1.0**
SML Sawmill 48.66 36 P 11 11 19.9
baz=274
TCOL CIGO, UAF Yank 48.74 32 P 11 11 21.0
baz=271
COLA College 48.74 32‖ *i* P **P** **11 11 21.6 +1.6**
COLA pmax pmax
comp=Z,10.0nm,1.2s
COLA College 48.74 32 P **P** **11 11 20.7 +0.7**
COLA College 48.74 32 P 11 11 21.1
baz=271
KUU Kurty 48.82 299 *eP* **P** **11 11 20.5 -0.6**
comp=Z,25nm,0.8s,baz=299
KUU Kurty 48.82 299 *eP* **P** **11 11 20.4 -0.6**
KUU pmax pmax
comp=Z,25nm,0.8s
JRMM Jerantut 48.88 237 P **P** **11 11 23.0 +1.3**
PKDT Phuket 48.90 244 P **P** **11 11 23.1 +1.2**
POKR Poker Plat Res 48.91 32 P **P** **11 11 21.8 +0.5**
POKR Poker Plat Res 48.91 32 P 11 11 23.0
baz=272,SNR=16
KULM Kulim 49.10 240 P **P** **11 11 23.8 +0.4**
KULM IAmb IAmb 11 11 37.6
comp=Z,24nm,1.3s
KULM Kulim 49.10 240 P **P** **11 11 24.0 +0.6**
HDA Harding Lake 49.15 33 P **P** **11 11 23.1 -0.1**
HDA IAmb IAmb 11 11 24.7
comp=Z,15nm,1.0s
HDA Harding Lake 49.15 33 P 11 11 23.5
baz=273,SNR=7.4
HDA P 11 11 23.5
baz=273,SNR=7.4
IL31 49.16 32 IAmb IAmb 11 11 36.7
comp=Z,16nm,1.1s
ILAR Eielson Array 49.16 32 P **P** **11 11 23.8 +0.5**
comp=Z,9.7nm,0.9s,baz=268,slow=6.2,SNR=45
ILAR LR LR 11 33 21.8
comp=Z,94nm,21.1s,baz=289,slow=37
ILAR Eielson Array 49.16 32 P **P** **11 11 22.8 -0.4**
GLI Glacier Island 49.33 38 P 11 11 25.2
baz=276
IPM Ipoh 49.43 239 P **P** **11 11 25.5 -0.5**
IPM IAmb IAmb 11 11 27.0
comp=Z,24nm,1.0s
IPM pP **pP** **11 11 36.1 -2.2**
SOEI Soe 49.59 203 P **P** **11 11 27.9 +0.7**
SOEI Soe 49.59 203 P **P** **11 11 29.7 +2.5**
comp=Z,86nm,1.0s
HNR Honiara 49.60 156 LR LR 11 29 05.6
comp=Z,267nm,21.5s,baz=340,slow=32
TKM2 Tokmak 2 49.62 298 P **P** **11 11 28.2 +0.9**
SNR=37
M24K Tolsona, Glenn 49.65 36 P 11 11 27.5
baz=275
PRP Porcupine Dome 49.70 31 P **P** **11 11 28.9 +1.4**
PRP pP **pP** **11 11 42.1 +2.3**
PRP Porcupine Dome 49.70 31 P 11 11 28.7
baz=273,SNR=6.2
BRZS Berezniki 49.74 308 *eP* **P** **11 11 27.4 -0.6**
comp=Z,17nm,0.7s,baz=308
BRZS Berezniki 49.74 308 *eP* **P** **11 11 27.3 -0.6**
BRZS pmax pmax
comp=Z,17nm,0.7s
KLU Klutina 49.83 37 P **P** **11 11 29.8 +1.3**
KLU IAmb IAmb 11 11 42.8
comp=Z,18nm,1.0s
KLU Klutina 49.83 37 P 11 11 29.9
baz=276
BMAR Burnt Mountain 49.99 29 P **P** **11 11 30.7 +1.1**
BTLS Baital 50.08 301 *eP* **P** **11 11 30.0 -0.6**
comp=Z,11nm,0.8s,baz=301
BTLS Baital 50.08 301 *eP* **P** **11 11 29.9 -0.6**
BTLS pmax pmax
comp=Z,11nm,0.8s
SGDS Sogindy 50.13 299 *eP* **P** **11 11 30.7 -0.4**
comp=Z,9.1nm,1.1s,baz=299
SGDS Sogindy 50.13 299 *eP* **P** **11 11 30.6 -0.4**
SGDS pmax pmax
comp=Z,9.0nm,1.1s
KBK Karagaybulak 50.15 298 P **P** **11 11 32.0 +0.7**
SNR=33
CHMS Chumysh 50.18 299 P **P** **11 11 31.6 +0.2**
SNR=7.0

BATI Baumata 50.20 203 LR LR 11 30 58.1
comp=Z,108nm,20.7s,baz=42,slow=34
BATI Baumata 50.20 203 P **P** **11 11 33.9 +2.2**
comp=Z,37nm,1.0s
USP Ospenovka 50.28 299 P **P** **11 11 32.4 +0.2**
SNR=12
KSH Kashi 50.42 294 P **P** **11 11 37.7 +4.4**
KSH pP sP 11 11 49.4 -1.5
KSH sP pP 11 12 00.1 +14
KSH S **S** **11 18 44.9 +1.2**
KSH pmax pmax
comp=Z,13nm,0.7s
KSH pmax pmax
comp=Z,340nm,4.5s
KSH LR LR
comp=Z,2µm,15.6s
SCRK Sand Creek 50.47 33 P 11 11 34.1
baz=276,SNR=9.4
AAK Ala-Archa 50.47 298 P **P** **11 11 33.9 +0.1**
SNR=12
AAK Ala-Archa 50.47 298*c i* P **P** **11 11 33.9 +0.1**
AAK pmax pmax
comp=Z,40nm,1.0s
AAK Ala-Archa 50.47 298 P **P** **11 11 33.3 -0.5**
AAK IAmb IAmb 11 11 46.6
comp=Z,16nm,0.8s
BRVK Borovoye 50.53 312*c i* P **P** **11 11 34.0 +0.2**
BRVK pmax pmax
comp=Z,33nm,0.9s
BRVK Borovoye 50.53 312 P **P** **11 11 33.2 -0.6**
UCH Uchtor 50.59 298 P **P** **11 11 36.1 +1.2**
SNR=10.0
MENT Mentasta 50.70 35 P **P** **11 11 36.2 +1.2**
MENT IAmb IAmb 11 11 52.6
comp=Z,16nm,1.0s
TPI Tanjungpandan 50.84 226 P **P** **11 11 36.0 -0.5**
comp=Z,28nm,1.1s
EKS2 Erkin-Say 50.97 298 P **P** **11 11 37.7 +0.2**
SNR=9.7
PLAI Plampang 51.06 211 P **P** **11 11 39.3 +1.1**
comp=Z,31nm,0.9s
KMMI Kalianget 51.16 216 P **P** **11 11 39.1 +0.2**
comp=Z,64nm,1.1s
AML Almayashu 51.20 298 P **P** **11 11 40.4 +0.9**
SNR=41
MCARA McCarthy VSAT 51.23 37 P 11 11 39.9
baz=278
PPBI Pangkal Pinang 51.24 228 P **P** **11 11 40.0 +0.4**
comp=Z,3µmcomp=Z,18nm,1.5s
BASI Baing, Sumba 51.26 207 P **P** **11 11 39.5 -0.1**
comp=Z,41nm,1.1s
CRQE Cirque 51.29 38 P 11 11 40.8
baz=279
TWSI Taliwang, Sumb 51.35 212 P **P** **11 11 39.7 -0.6**
comp=Z,20nm,1.1s
SRBI Singaraja 51.50 214 P **P** **11 11 43.1 +1.7**
comp=Z,42nm,0.9s
BCAR Beaver Creek A 51.56 34 P **P** **11 11 42.9 +1.4**
LHMI Lhok Sumawe 51.73 243 P **P** **11 11 42.5 -0.8**
comp=Z,128nm,1.0s
TSI Tuntungan 51.82 240 P **P** **11 11 43.3 -0.6**
comp=Z,108nm,0.4s
BKNI Bangkinang 52.49 235 P **P** **11 11 50.2 +1.3**
comp=Z,3µmcomp=Z,79nm,0.6s
DZA Taraz 52.60 299 *eP* **P** **11 11 49.3 -0.3**
comp=Z,11nm,0.6s,baz=300
DZA Taraz 52.60 299 *eP* **P** **11 11 49.2 -0.3**
DZA pmax pmax
comp=Z,11nm,0.6s
PMBI Palembang 52.66 229 P **P** **11 11 50.6 +0.4**
comp=Z,41µmcomp=Z,219nm,0.6s
TPTI 52.95 241 P **P** **11 11 50.2 -2.1**
comp=Z,8.9nm,1.2s
KK31 Karatay Array 53.10 300 P **P** **11 11 52.9 -0.3**
KK31 pmax pmax
comp=Z,39nm,1.0s
KK31 Karatay Array 53.10 300 P **P** **11 11 52.9 -0.3**
KKAR Karatay Array 53.10 300 P **P** **11 11 52.7 -0.4**
KKAR pmax pmax
comp=Z,39nm,1.0s
KKAR Karatay Array 53.10 300 P **P** **11 11 52.9 -0.3**
KKAR Karatay Array 53.10 300 P **P** **11 11 52.7 -0.4**
KKAR IAmb IAmb 11 12 06.5
comp=Z,39nm,0.9s
MNSI Mandailing Nat 53.10 237 P **P** **11 11 53.4 0.0**
comp=Z,18nm,0.6s
EPYK Eagle Plains 53.19 30 P 11 11 55.2
baz=280,SNR=27
IUG Iuzhnay 53.76 299 *eP* **P** **11 11 58.0 -0.2**
comp=Z,12nm,0.9s,baz=299
IUG Iuzhnay 53.76 299 *eP* **P** **11 11 57.9 -0.2**
IUG pmax pmax
comp=Z,12nm,0.9s
INK Inuvik 54.05 27 P **P** **11 12 00.1 +0.5**
comp=Z,14nm,0.9s,baz=279,slow=6.9,SNR=26
INK Inuvik 54.05 27 IAmb IAmb 11 12 02.0
comp=Z,16nm,0.9s
GSI Gunungsitoli 54.09 239 P **P** **11 11 59.9 -0.7**
GSI Gunungsitoli 54.09 239 P **P** **11 12 00.5 -0.1**
comp=Z,3µmcomp=Z,75nm,0.8s
KLSI 54.09 228 P **P** **11 12 01.4 +0.7**
comp=Z,11nm,1.4s
LHSI Lahat 54.13 229 P **P** **11 12 01.6 +0.7**
comp=Z,58nm,1.1s
LEM Lembang 54.20 223 P **P** **11 12 02.4 +0.8**
comp=Z,33nm,0.9s
MDSI Maura Dua 54.26 228 P **P** **11 12 02.6 +0.8**
comp=Z,33nm,1.1s
NIL Nilore 54.66 288 P **P** **11 12 05.4 +0.7**
NIL pmax pmax
comp=Z,48nm,0.9s
NIL Nilore 54.66 288 P **P** **11 12 05.4 +0.7**
LWLI Liwa 54.75 228 P **P** **11 12 05.1 -0.5**
comp=Z,63nm,0.5s
SVE Sverdlovsk 55.02 318‖ *eP* **P** **11 12 07.5 +0.6**
SVE pmax pmax
comp=Z,93nm,0.9s
ARU Arti 56.23 318*d i* P **P** **11 12 15.5 0.0**
ARU *PP **pP** **11 12 27.0 -1.1**
ARU S **S** **11 20 04.6 +2.8**
ARU SS **SS** **11 23 42.8 -5.5**
ARU pmax pmax
comp=Z,98nm,1.0s
ARU MLR MLR
comp=Z,657nm,19.0s
ARU Arti 56.23 318 P **P** **11 12 15.6 0.0**
C36M Paulatuk 57.09 25 IAmb IAmb 11 12 23.5
comp=Z,18nm,0.9s
C36M Paulatuk 57.09 25 P 11 12 22.4
baz=289,SNR=17
FITZ Fitzroy Crossi 57.16 198 LR LR 11 34 55.2
comp=Z,63nm,21.6s,baz=19,slow=34
WRAB Tennant Creek 57.38 188‖ *i* P **P** **11 12 23.8 -0.2**
WRAB pmax pmax
comp=Z,46nm,2.6s
WR0 Warramunga Arr 57.38 188 P **P** **11 12 24.0 -0.1**
WR0 IAmb IAmb 11 12 39.7
comp=Z,22nm,1.1s
WB2 Warramunga Arr 57.38 188 P **P** **11 12 23.2 -0.8**
WB2 IAmb IAmb 11 12 39.6
comp=Z,20nm,1.2s
WRA Warramunga Arr 57.38 188 P **P** **11 12 23.8 -0.3**
comp=Z,5.5nm,0.6s,baz=5.8,slow=7.1,SNR=87
WRA LR LR 11 37 20.1
comp=Z,69nm,18.9s,baz=80,slow=36
WRA Warramunga Arr 57.38 188 *i* P **P** **11 12 24.0 -0.1**
WRA pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 57.44 291 P **P** **11 12 24.3 -0.5**
KBL pmax pmax
comp=Z,44nm,1.2s
KBL Kabul 57.44 291 P **P** **11 12 24.3 -0.5**
AB31 Akbulak array 57.85 310 *eP* **P** **11 12 26.6 -0.6**
AB31 pmax pmax
comp=Z,22nm,0.7s
DLBC Dease Lake 58.29 38 P **P** **11 12 32.1 +1.9**
comp=Z,7.3nm,0.9s,baz=313,slow=6.3,SNR=7.2
HYB Hyderabad 58.36 268 *i* P **P** **11 12 30.0 -1.2**
AKTO Aktyubinsk 58.58 312 LR LR 11 38 56.3
comp=Z,375nm,19.2s,baz=80,slow=37
EUNU Eureka 59.86 9 P **P** **11 12 40.4 -0.3**
EUNU IAmb IAmb 11 12 42.1
comp=Z,18nm,0.9s
KIRV Kirov 60.09 323 LR LR 11 41 30.5
comp=Z,210nm,18.6s,baz=64,slow=39
KIRV Kirov 60.09 323*c i* P **P** **11 12 42.7 +0.2**

SPITS Spitsbergen Ar 60.25 349 LR LR 11 40 29.8
comp=Z,257nm,19.1s,baz=65,slow=38

PRGR Permogore 60.59 327 *eP* **P 11 12 45.6 -0.2**
PRGR pmax pmax
comp=Z,57nm,1.1s

NOR Nord 60.76 356 *i* P **P 11 12 47.0 +0.3**
comp=Z,6.3nm,0.8s

NOR Nord 60.76 356 *i* P **P 11 12 47.0 +0.3**
NOR pmax pmax
comp=Z,6.0nm,0.8s

NOR Nord 60.76 356 *i* P **P 11 12 47.1 +0.3**
NOR IAmb IAmb 11 12 47.7
comp=Z,6.3nm,0.8s

AS31 Alice Springs 61.11 188 P **P 11 12 50.1 +0.3**
ASAR Alice Springs 61.11 188 P **P 11 12 49.8 -0.1**
comp=Z,3.3nm,0.8s,baz=14,slow=8.6,SNR=32
ASAR LR LR 11 38 58.7
comp=Z,80nm,20.9s,baz=5.5,slow=36
ASAR PKP2ab 11 42 25.6
comp=Z,0.6nm,0.7s,baz=225,slow=1.1,SNR=4.9

ASAR Alice Springs 61.11 188 P **P 11 12 49.2 -0.6**
POO Poona 61.50 272 *eP* **P 11 12 49.5 -3.3**
RES Resolute Bay 62.27 14 P **P 11 12 57.0 0.0**
RES pmax pmax
comp=Z,18nm,1.1s

RES Resolute Bay 62.27 14 P **P 11 12 57.0 0.0**
RES IAmb IAmb 11 12 58.4
comp=Z,18nm,1.1s

APA Apatity 62.47 336⇓ *i* P **P 11 12 58.2 -0.2**
APA pmax pmax
comp=Z,20nm,1.8s

HRA Herat 62.53 294 P **P 11 12 59.4 -0.2**
HRA IAmb IAmb 11 13 13.3
comp=Z,12nm,0.9s

PALK Pallekele 62.58 258⇓ *eP* **P 11 13 00.2 +0.2**
PALK pmax pmax
comp=Z,33nm,1.5s

YKA Yellowknife Ar 63.47 30 P **P 11 13 05.6 +0.4**
comp=Z,6.1nm,0.9s,baz=297,slow=6.1,SNR=63
YKA LR LR 11 40 17.1
comp=Z,46nm,20.9s,baz=0.0,slow=36
YKA PKPPKP **P'P'df 11 42 04.3 -2.4**
comp=Z,0.2nm,0.6s,baz=92,slow=2.4,SNR=4.3

DZM Mont Dzumac 63.56 154 *e* LR LR 11 32 01.7
comp=Z,435nm,21.3s

KLMR Klimovskoe 63.58 328 *eP* **P 11 13 01.9 -3.9**
KLMR *e* 11 15 21.6
KLMR pmax pmax
comp=Z,46nm,1.2s

KLMR Klimovskoe 63.58 328 *eP* **P 11 13 02.0 -3.9**
KLMR AMP 11 13 19.7
comp=Z,46nm,1.2s

KLMR *e*PP **PP 11 15 21.7 -3.9**

BELG Belogornoye 63.68 317 LR LR 11 42 46.6
comp=Z,413nm,18.3s,baz=79,slow=38

BELG Belogornoye 63.68 317⇑ *eP* **P 11 13 06.7 0.0**
BELG pmax pmax
comp=Z,14nm,1.1s

ARCES ARCESS Array B 63.76 339 P **P 11 13 07.2 +0.2**
comp=Z,10.0nm,0.8s,baz=59,slow=4.7,SNR=13
ARCES LR LR 11 43 43.0
comp=Z,191nm,20.0s,baz=45,slow=39

ARCES ARCESS Array B 63.76 339 P **P 11 13 07.2 +0.2**
ARCES pmax pmax
comp=Z,16nm,1.0s

ARCES ARCESS Array B 63.76 339 IAmb IAmb 11 13 08.5
comp=Z,16nm,0.9s

GEYT Alibeck 63.82 299 P **P 11 13 08.3 +0.4**
comp=Z,8.4nm,0.8s,baz=192,slow=4.1,SNR=10.0
GEYT LR LR 11 41 41.1
comp=Z,136nm,19.6s,baz=40,slow=37

GEYT Alibeck 63.82 299 P **P 11 13 08.3 +0.4**
GEYT IAmb IAmb 11 13 21.9
comp=Z,22nm,1.0s

GYA0B ALIBECK ARRAY 63.82 299 P **P 11 13 08.0 +0.1**
GYA0B **pP 11 13 20.0 -0.7**

TULEG Thule 64.78 8 *i* P **P 11 13 12.9 -0.7**
TULEG IAmb IAmb 11 13 14.5
comp=Z,9.4nm,1.0s

DAG Danmarks Havn 65.48 355 *i* P **P 11 13 18.1 0.0**
comp=Z,14nm,1.0s
DAG *i* 11 13 30.8

DAG Danmarks Havn 65.48 355 *i* P **P 11 13 18.1 0.0**
DAG *i* 11 13 30.8
DAG pmax pmax
comp=Z,14nm,1.0s

DAG Danmarks Havn 65.48 355 *i* P **P 11 13 18.1 0.0**
DAG IAmb IAmb 11 13 19.1
comp=Z,14nm,1.0s

DAG *i* 11 13 30.8

VALR Valaam 66.83 331 *i* P **P 11 13 26.9 0.0**
VALR pmax pmax
comp=Z,29nm,1.1s

MOS Moscow 67.09 323 *eP* **P 11 13 28.3 -0.4**
MOS *e* 11 13 39.0
MOS pmax pmax
comp=Z,63nm,1.0s

VRH Novokhopyorsk 67.45 318 *eP* **P 11 13 29.7 -1.4**
VRH *e**SP **pP 11 13 42.1 -1.8**
VRH pmax pmax
comp=Z,20nm,0.5s

E04D Cinebar 67.59 48 P 11 13 33.6
baz=301

OBN Obninsk 67.94 323⇓ *eP* **P 11 13 34.4 +0.4**
OBN *e* 11 16 07.0
OBN *e*S S 11 22 46.2 +17
OBN pmax pmax
comp=Z,46nm,1.2s
OBN MLR MLR
comp=Z,275nm,18.0s

DBG Daneborg 67.97 355 *i* P **P 11 13 33.3 -0.7**
DBG IAmb IAmb 11 13 34.9
comp=Z,4.2nm,1.1s

LPSR Galich'ya Gora 68.16 320 *eP* **P 11 13 35.1 -0.4**
LPSR *e**SP **pP 11 13 47.2 -1.1**
LPSR pmax pmax
comp=Z,30nm,0.9s

B08A Colville Reser 68.52 45 P **P 11 13 36.0 -1.9**
B08A **pP 11 13 49.4 -1.3**
B08A IAmb IAmb 11 13 52.8
comp=Z,17nm,1.5s

I03D Drain, OR 68.60 51 P 11 13 38.6
baz=302

FIA1 FINESS Array S 68.61 332 P **P 11 13 37.7 -0.4**
FINES FINESS Array B 68.61 332 P **P 11 13 38.4 +0.3**
comp=Z,16nm,0.7s,baz=57,slow=7.7,SNR=38

FINES FINESS Array B 68.61 332 P **P 11 13 38.1 -0.1**
H04A Detroit Lake 68.79 50 P **P 11 13 40.8 +1.1**
H04A IAmb IAmb 11 13 54.6
comp=Z,14nm,1.0s

VSR Storozhevoye 68.80 319 *eP* **P 11 13 38.4 -1.1**
VSR *e**SP **pP 11 13 51.2 -1.2**
VSR pmax pmax
comp=Z,20nm,0.7s

STKA Stephens Creek 68.86 180 P **P 11 13 40.7 +0.7**
comp=Z,1.9nm,0.7s,baz=332,slow=6.6,SNR=4.2

STKA Stephens Creek 68.86 180 P **P 11 13 40.5 +0.6**
STKA *PP **pP 11 13 53.3 +0.5**
STKA pmax pmax
comp=Z,2.0nm,1.1s

STKA Stephens Creek 68.86 180 P **P 11 13 40.5 +0.6**
STKA pP **pP 11 13 53.3 +0.5**

VORD Divnogorie 68.87 319 *eP* **P 11 13 39.2 -0.8**
VORD *e**SP **pP 11 13 51.7 -1.1**
VORD pmax pmax
comp=Z,10.0nm,0.7s

K02D Willamette Mer 68.93 52 P 11 13 40.3
baz=302

FORT Forrest 68.94 192 P **P 11 13 40.4 -0.1**
AKT Akhty 69.01 307 *eP* **P 11 13 40.5 -0.7**
AKT *e* 11 14 04.2
AKT pmax pmax
comp=Z,31nm,0.8s

I04A Tendick Farm, 69.13 50 P 11 13 42.1
baz=302

C09A Chrisman Ranch 69.42 45 P **P 11 13 44.2 +0.7**
D08A Wollman Farm, 69.45 46 P **P 11 13 43.8 +0.1**
D08A **pP 11 13 58.2 +1.7**

I05D Terrebonne, OR 69.49 49 P 11 13 45.5
baz=302

J04D Umpqua Nationa 69.61 51 P 11 13 46.2
baz=302

NEW Newport 69.81 44 P **P 11 13 47.0 +1.1**
NEW pmax pmax
comp=Z,4.0nm,0.9s

NEW Newport 69.81 44 P **P 11 13 47.0 +1.1**
baz=304

GOF Gofitskoye 70.00 312⇑ *eP* **P 11 13 47.6 +0.5**
PINE Pine Mountain 70.03 50 IAmb IAmb 11 14 03.1
comp=Z,21nm,0.8s

L04D Klamath Falls 70.03 52 P 11 13 49.0
baz=303,SNR=6.1

YBH Yreka Blue Hor 70.04 52 P **P 11 13 48.1 +0.6**
YBH *PP **pP 11 13 59.9 -0.4**
YBH pmax pmax
comp=Z,15nm,1.4s

YBH Yreka Blue Hor 70.04 52 P **P 11 13 48.0 +0.6**
YBH **pP 11 13 59.9 -0.4**

J05D Fort Rock, OR 70.12 50 P
baz=303,SNR=6.4
11 13 49.5

M02C Callahan 70.13 53 P
baz=303
11 13 50.2

E09A Wood Farm, Sta 70.19 46 P **P 11 13 49.5 +1.3**
VSU Vasula 70.26 330 *eP* **P 11 13 48.7 +0.3**
VSU Vasula 70.26 330⇑ *eP* **P 11 13 48.4 0.0**
VSU pmax pmax
comp=Z,229nm,3.7s

SUMG Summit 70.38 0 *i* P **P 11 13 50.4 +1.0**
comp=Z,28nm,0.9s

SUMG Summit 70.38 0 *i* P **P 11 13 50.4 +1.0**
SUMG pmax pmax
comp=Z,28nm,0.9s

SUMG Summit 70.38 0 P **P 11 13 50.6 +1.2**
SUMG IAmb IAmb 11 14 04.4
comp=Z,27nm,1.1s

SUMG Summit 70.38 0 *i* P **P 11 13 50.4 +1.0**
SUMG IAmb IAmb 11 13 52.5
comp=Z,28nm,0.9s

G08A Pilot Rock 70.40 48 pP pP 11 14 02.2 -0.3
M04C Macdoel 70.56 52 P 11 13 52.3
baz=303

K05A Summer Lake 70.64 51 IAmb IAmb 11 14 06.8
comp=Z,19nm,1.0s

ZEI Tsey 70.72 309 *eP* **P 11 13 49.4 -2.4**
ZEI pmax pmax
comp=Z,30nm,1.4s

WDC Whiskeytown Da 70.77 53 P **P 11 13 54.1 +2.3**
WDC pmax pmax
comp=Z,9.0nm,1.2s

WDC Whiskeytown Da 70.77 53 P **P 11 13 54.1 +2.3**
KBZ Khabaz 70.81 311 P **P 11 13 52.5 +0.5**
comp=Z,17nm,0.9s,baz=49,slow=3.1,SNR=21
KBZ LR LR 11 47 31.3
comp=Z,140nm,18.1s,baz=52,slow=38

KBZ Khabaz 70.81 311 *c* *i* P **P 11 13 52.6 +0.5**
KBZ pmax pmax
comp=Z,25nm,0.9s

KIV Kislovodsk 70.82 311⇓ P **P 11 13 53.2 +1.0**
KIV Kislovodsk 70.82 311 *eP* **P 11 13 52.6 +0.4**
KIV pmax pmax
comp=Z,144nm,1.1s
KIV MLR MLR
comp=Z,444nm,18.0s

KIV Kislovodsk 70.82 311 P **P 11 13 53.2 +1.0**
O02D Mt. Diablo Mer 70.83 54 P 11 13 53.1
baz=303

NEY Neytrino 71.19 310⇓ *eP* **P 11 13 55.9 +1.3**
NEY pmax pmax
comp=Z,3.0nm,0.9s

MTSE Matsula 71.26 331 *eP* **P 11 13 51.2 -3.2**
O03E Paynes Creek 71.40 53 P 11 13 56.9
baz=304

GNI Garni 71.64 307 LR LR 11 48 04.9
comp=Z,189nm,18.4s,baz=64,slow=38

GNI Garni 71.64 307⇑ *eP* **P 11 13 58.5 +1.1**
GNI pmax pmax
comp=Z,16nm,1.3s

GNI Garni 71.64 307 P **P 11 13 57.1 -0.3**
AKH Akhalkalaki 71.73 308⇓ P **P 11 13 58.6 +0.7**
J08A Circle Bar Ran 71.76 49 IAmb IAmb 11 14 13.2
comp=Z,12nm,1.0s

SCO Scoresbysund 71.82 354 *i* P **P 11 13 57.3 -0.4**
comp=Z,5.6nm,1.0s

SCO Scoresbysund 71.82 354 *i* P **P 11 13 57.3 -0.4**
SCO pmax pmax
comp=Z,6.0nm,1.0s

SCO Scoresbysund 71.82 354 *i* P **P 11 13 57.3 -0.4**
SCO IAmb IAmb 11 14 00.8
comp=Z,5.6nm,1.0s

ORV Oroville 72.00 54 pP pP 11 14 08.0 -4.1
IDID Didziasalis 72.30 327 *eP* **P 11 14 01.4 +0.6**
MNK Minsk 72.32 326 *i* P **P 11 14 02.1 +1.2**
comp=E,4.0nm,1.0s

MNK *i* P **P 11 14 02.1 +1.2**
comp=N,32nm,1.0s

MNK *i* P **P 11 14 02.1 +1.2**
comp=Z,37nm,1.0s

MNK *i* PcP **sP 11 14 19.8 +0.9**
MNK *i* PP **PP 11 16 42.9 +1.4**
MNK *i* PPP PPP 11 18 27.2
MNK *i* S **S 11 23 21.9 +1.2**
MNK *i* SS **SS 11 28 02.2 +3.8**
MNK *i* SSS SSS 11 31 22.6
MNK *i* LR LR 11 46 27.6
MNK *i* LRM MLR 11 48 08.3
comp=N,986nm,21.7s

MNK *i* LRM MLR 11 48 21.9
comp=E,43nm,22.8s

MNK *i* LRM MLR 11 49 08.0
comp=Z,282nm,18.4s

MSO Missoula 72.40 44 P 11 14 02.7
baz=306

ISAL Salakas 72.40 327 *eP* **P 11 14 02.1 +0.8**
IIGN Ignalina 72.50 327 *eP* **P 11 14 02.6 +0.6**
NACGM Naroch 72.55 327 *i* P **P 11 14 03.1 +0.8**
NACGM *i* P **P 11 14 03.1 +0.8**
NACGM *i* P **P 11 14 03.1 +0.8**
NACGM *i* pP **pP 11 14 15.5 +0.3**
NACGM *i* PP **PP 11 16 47.1 +3.7**
NACGM *i* PPP PPP 11 18 27.6
NACGM *i* S **S 11 23 21.5 -1.7**
NACGM *i* pS **sS 11 23 48.9 +4.0**
NACGM *i* sS **SKSac 11 23 56.7 -6.7**
NACGM *i* SS **SS 11 28 06.5 +4.7**
NACGM *i* SSS SSS 11 30 55.5

BEKR Beckworth 72.55 53 P **P 11 14 03.2 +0.4**
UPP Uppsala 72.74 334 *eP* **P 11 14 03.3 0.0**
PABE Paberze 73.36 328 *eP* **P 11 14 07.5 +0.4**
FFC Flin Flon 73.37 33 P **P 11 14 07.8 +0.7**
FFC pmax pmax
comp=Z,18nm,1.0s

FFC Flin Flon 73.37 33 P **P 11 14 07.8 +0.7**
FFC IAmb IAmb 11 14 08.9
comp=Z,18nm,1.0s

ANN Anapa 73.42 314 *eP* **P 11 14 05.7 -1.9**
ANN *e**PP **pP 11 14 17.3 -3.3**
ANN *e* 11 14 21.2
ANN *e*S **S 11 23 32.3 -1.2**
ANN pmax pmax
comp=Z,35nm,1.1s

PNTR Pine Nut 73.48 53 P **P 11 14 09.4 +1.0**
PNTR **pP 11 14 20.6 -0.7**

FCC Fort Churchill 73.66 27 IAmb IAmb 11 14 10.2
comp=Z,26nm,1.1s

NC303 NORSAR Array S 73.77 337 IAmb IAmb 11 14 22.9
comp=Z,20nm,0.9s

ICESG Greenland Ices 73.88 0 *i* P **P 11 14 11.1 +0.8**
ICESG IAmb IAmb 11 14 12.7
comp=Z,8.9nm,1.0s

ICESG *i* 11 14 24.4

EGMT Eagleton 73.94 41 P **P 11 14 11.1 +0.4**
EGMT IAmb IAmb 11 14 12.9
comp=Z,19nm,1.1s

EGMT Eagleton 73.94 41 P 11 14 11.6
baz=308,SNR=7.8

NB2 NORSAR Subarra 73.96 337 P **P 11 14 10.4 -0.2**
comp=Z,36nm,1.1s,baz=39,slow=6.2

NB2 NORSAR Subarra 73.96 337 P **P 11 14 10.4 -0.2**
baz=39,slow=6.2

NOA NORSAR Array B 73.96 337 P **P 11 14 10.7 +0.1**
comp=Z,10nm,0.9s,baz=39,slow=5.8,SNR=22
NOA LR LR 11 49 02.0
comp=Z,310nm,21.8s,baz=45,slow=38

DLMT Dillon 74.02 45 IAmb IAmb 11 14 14.6
comp=Z,12nm,0.9s

AKASG Malin Array Be 74.14 322 P **P 11 14 11.6 -0.2**
comp=Z,21nm,0.7s,baz=47,slow=6.1,SNR=41

AKASG Malin Array Be 74.14 322 P **P 11 14 11.3 -0.5**
AKASG IAmb IAmb 11 14 25.3
comp=Z,18nm,1.2s

AKBB Malin Array Si 74.14 322⇑ *i* P **P 11 14 11.4 -0.3**
AKBB Malin Array Si 74.14 322 IAmb IAmb 11 14 25.0
comp=Z,30nm,0.9s

BOZ Bozeman (W) 74.42 44 P 11 14 14.9
baz=308,SNR=18

RYN Ryan 74.43 53 P **P 11 14 15.2 +1.3**
LHV Little Huntoon 74.66 54 IAmb IAmb 11 14 30.8
comp=Z,20nm,1.1s

NVAR Mina Array Bea 74.69 53 P **P 11 14 16.8 +1.4**
comp=Z,4.7nm,0.9s,baz=284,slow=6.0,SNR=23
NVAR LR LR 11 40 29.9
comp=Z,65nm,20.3s,baz=280,slow=30

NVAR Mina Array Bea 74.69 53 P **P 11 14 16.2 +0.8**
SUW Suwalki 74.71 327 *eP* **P 11 14 15.3 +0.3**
PAGB Antelope Grade 74.98 57 P **P 11 14 17.0 +0.1**
PAGB IAmb IAmb 11 14 32.1
comp=Z,20nm,1.0s

QLMT Earthquake Lak 75.00 45 P **P 11 14 18.5 +1.4**
YHB Horse Butte 75.18 45 IAmb IAmb 11 14 33.4
comp=Z,10nm,0.8s

YNR Norris Junctio 75.49 45 P **P 11 14 21.7 +1.7**
TPH Tonopah 75.58 53 P **P 11 14 21.6 +1.0**
TPH pmax pmax
comp=Z,52nm,1.0s

TPH Tonopah 75.58 53 P **P 11 14 21.6 +1.0**
VES Vestal, Richgr 75.69 56 P 11 14 21.9
baz=306

YPP Pitchstone Pla 75.70 45 P **P 11 14 22.6 +1.4**
LKWY Lake 75.74 45 IAmb IAmb 11 14 38.2
comp=Z,18nm,1.2s

H17A Grant Village 75.75 45 P 11 14 24.0
baz=309,SNR=16

FLWY Flagg Ranch 75.87 45 IAmb IAmb 11 14 38.3
comp=Z,33nm,1.5s

CWC Cottonwood Cre 75.99 55 P 11 14 24.0
baz=306

RLMT Red Lodge 76.02 44 P **P 11 14 23.9 +0.9**
RLMT IAmb IAmb 11 14 38.3
comp=Z,23nm,1.4s

RLMT Red Lodge 76.02 44 P 11 14 23.9
baz=309

ISA Isabella, Lake 76.19 56 pP 11 14 37.4 +0.5
ISA Isabella, Lake 76.19 56 P 11 14 24.3
baz=306

LOHW Long Hollow 76.22 45 P **P 11 14 24.8 +0.7**
SORM Soroca 76.25 321⇓ P **P 11 14 24.1 +0.2**
R11A Troy Canyon, C 76.46 52 P 11 14 26.7
baz=307,SNR=7.6

DGMT Dagmar 76.51 39 P **P 11 14 25.6 +0.1**
DGMT IAmb IAmb 11 14 27.4
comp=Z,20nm,1.1s

DGMT Dagmar 76.51 39 P 11 14 26.0
baz=312,SNR=6.6

DIKM Dikmen 76.59 312⇓ P **P 11 14 27.3 +1.3**
LAO LASA Array 76.64 41 IAmb IAmb 11 14 43.8
comp=Z,24nm,1.1s

LAO LASA Array 76.65 41 P 11 14 27.5
baz=311

FURC Furnace Creek, 76.77 54 P 11 14 28.4
baz=307

LRMC Laurel Mtn Rad 76.82 55 P 11 14 28.4
baz=307

TPNV Topopah Spring 76.87 54 P **P 11 14 28.8 +0.9**
TPNV pmax pmax
comp=Z,18nm,1.1s

TPNV Topopah Spring 76.87 54 P **P 11 14 28.8 +0.9**
TPNV IAmb IAmb 11 14 42.9
comp=Z,18nm,1.1s

TPNV Topopah Spring 76.88 54 P 11 14 29.0
baz=307,SNR=7.1

HWUT Hardware Ranch 76.91 47 IAmb IAmb 11 14 44.2
comp=Z,23nm,1.4s

EDW2 Edwards Air Fo 76.97 56 P 11 14 29.1
baz=307

DUG Dugway, Tooele 77.04 49 IAmb IAmb 11 14 44.0
comp=Z,16nm,1.2s

DUG Dugway, Tooele 77.04 49 P 11 14 29.6
baz=308,SNR=6.4

BZK Bozkurt 77.14 313⇓ P **P 11 14 29.9 +0.9**
LVV L'vov 77.22 324 *eP* **P 11 14 29.3 -0.1**
TCUT Toone Canyon 77.31 48 P **P 11 14 31.2 +0.8**
TCUT IAmb IAmb 11 14 45.5
comp=Z,11nm,0.9s

BW06 Boulder Array 77.35 46 P 11 14 31.3
baz=310

PDAR Pinedale Array 77.35 46 P **P 11 14 31.2 +0.7**
comp=Z,2.4nm,0.8s,baz=282,slow=2.9,SNR=8.1

PRN Pahroc Range 77.36 53 P **P 11 14 31.6 +1.1**
PRN IAmb IAmb 11 14 45.9
comp=Z,12nm,1.0s

PSUT Pine Spring 77.42 51 P **P 11 14 31.7 +0.7**
GSC Goldstone, Bar 77.50 55 P 11 14 32.7
baz=307

VASR Vaslui 77.52 320⇓ P **P 11 14 31.4 +0.3**
JLU Jordanelle 77.61 48 P **P 11 14 32.3 +0.3**
JLU IAmb IAmb 11 14 47.3
comp=Z,15nm,1.3s

SHPR Sheep Range 77.84 53 P **P 11 14 34.7 +1.4**
SHPR IAmb IAmb 11 14 48.7
comp=Z,16nm,1.1s

MPU Maple Canyon 77.86 49 P **P 11 14 34.3 +0.9**
MPU IAmb IAmb 11 14 48.5
comp=Z,9.7nm,0.9s

ILGA Ilgaz 77.87 313 P **P 11 14 34.6 +1.1**
TLCR 77.95 318⇓ P **P 11 14 34.1 +0.6**
KWP Kalwaria Pacla 77.97 324 *eP* **P 11 14 34.5 +1.0**
BUR08 Bucovina Ar. S 78.15 322 IAmb IAmb 11 14 48.9
comp=Z,22nm,1.1s

GAZ Gaziantep 78.16 308 P **P 11 14 35.3 +0.4**
BURAR Bucovina Array 78.16 322⇑ P **P 11 14 35.6 +0.8**
BURAR Bucovina Array 78.16 322 P **P 11 14 35.1 +0.3**
BIZ Bicaz 78.18 321⇓ P **P 11 14 35.9 +1.1**
TESR Tescani 78.19 320⇓ P **P 11 14 34.9 0.0**
JURR Jurilovca 78.19 318⇓ P **P 11 14 35.4 +0.5**
TCRU Three Creeks R 78.25 50 IAmb IAmb 11 14 51.1
comp=Z,16nm,1.1s

CFR Carcaliu 78.31 319⇓ P **P 11 14 35.9 +0.4**
CCUT Cedar City 78.33 52 P **P 11 14 37.5 +1.3**
TPGR Topolog 78.38 318⇓ P **P 11 14 36.7 +0.8**
MVU Marysvale 78.45 50 P **P 11 14 37.7 +0.9**
MSU Marysvale 78.47 50 P **P 11 14 38.4 +1.5**
MSU Marysvale 78.47 50 P **P 11 14 38.4 +1.5**
ODBI Odobesti 78.49 319⇓ P **P 11 14 38.6 +2.1**
GMRC Granite Mounta 78.56 55 P 11 14 38.4
baz=308

VRI Vrincioaia 78.59 320⇓ P **P 11 14 38.8 +1.7**
PLOR Plostina 78.64 320⇓ P **P 11 14 38.5 +1.1**
TIRR Tirgusor 78.65 318⇓ P **P 11 14 38.0 +0.6**
TIRR Tirgusor 78.65 318 pP pP 11 14 50.0 -0.4
KOLS Kolonicke sedl 78.66 324 *eP* **P 11 14 37.9 +0.5**
KOLS pmax pmax
comp=Z,11nm,1.0s

KOLS Kolonicke sedl 78.66 324 *eP* **P 11 14 37.9 +0.5**
P17A Butcher Ranch, 78.74 49 IAmb IAmb 11 14 53.5
comp=Z,18nm,1.1s

PFO Pinyon Flats O 78.75 56 P **P 11 14 39.2 +0.9**
PFO pmax pmax
comp=Z,12nm,1.2s

PFO Pinyon Flats O 78.75 56 P **P 11 14 39.2 +0.9**
PFO Pinyon Flats O 78.75 56 P 11 14 39.5
baz=308

HARR Harsova 78.75 318⇓ P **P 11 14 38.3 +0.4**
XPFO Pion Flat 78.75 56 P **P 11 14 39.6 +1.3**
BR131 Keskin Array S 78.76 312 P **P 11 14 37.7 -0.6**
BR131 *PP **pP 11 14 51.8 +0.5**
BR131 pmax pmax
comp=Z,30nm,1.2s

BR131 Keskin Array S 78.76 312 P **P 11 14 37.7 -0.6**
BR131 pP **pP 11 14 51.8 +0.5**
BR131 IAmb IAmb 11 14 52.3
comp=Z,30nm,1.1s

BRTR Keskin Array B 78.76 312 P **P 11 14 38.8 +0.5**
comp=Z,8.9nm,1.1s,baz=86,slow=5.1,SNR=21
BRTR LR LR 11 55 27.5
comp=Z,151nm,18.2s,baz=50,slow=40

BRTR Keskin Array B 78.76 312 P **P 11 14 37.9 -0.4**
MTPU Mount Pierson 78.76 51 P **P 11 14 40.1 +1.5**
BISRR Bisoca 78.81 319⇓ P **P 11 14 39.9 +1.6**
Q16A Castle Valley 78.83 49 IAmb IAmb 11 14 55.1
comp=Z,18nm,1.3s

UZH Uzhgorod 78.86 324 *eP* **P 11 14 40.3 +1.8**
UZH *e* 11 14 45.3
UZH *i* 11 14 51.4
OJC Ojcow 78.87 326 *eP* **P 11 14 39.0 +0.5**

OJC Ojcow 78.87 326 IAmb IAmb 11 14 40.3
comp=Z,28nm,0.9s
OZUR 78.92 320 ⇓P P **11 14 39.9 +1.0**
KNB Kanab 79.00 52 IAmb IAmb 11 14 55.5
comp=Z,24nm,1.3s
CRVS Cervenica-Dubn 79.06 324 *e*P P **11 14 40.3 +0.7**
CRVS pmax pmax
comp=Z,41nm,1.4s
CRVS Cervenica-Dubn 79.06 324 *e*P P **11 14 40.3 +0.7**
SRU San Rafael Swe 79.10 49 IAmb IAmb 11 14 55.2
comp=Z,15nm,1.0s
K22A Casper 79.13 44 P 11 14 41.3
baz=311
ULM Lac du Bonnet 79.17 33 P P **11 14 40.2 +0.1**
comp=Z,5.6nm,0.8s,baz=313,slow=6.9,SNR=10.0
ULM LR LR 11 50 50.4
comp=Z,63nm,20.8s,baz=312,slow=36
ULM Lac du Bonnet 79.17 33 P P **11 14 39.8 -0.3**
ULM *e*P **11 14 53.9 +0.7**
MDND Maddock 79.18 37 P 11 14 41.5
baz=315
ISR Istrita 79.19 319 ⇓P P **11 14 42.1 +1.7**
ICOR Ion Corvin 79.20 318 ⇓P P **11 14 41.8 +1.4**
DOPR Dopca 79.20 320 ⇓P P **11 14 42.1 +1.6**
MONP2 Monument Peak 79.21 57 P 11 14 41.9
baz=308
NIE Niedzica 79.22 325 *e*P P **11 14 41.9 +1.4**
NIE *e*pP **pP 11 14 54.4 +0.8**
MLR Muntele Rosu 79.25 320 ⇓P P **11 14 41.6 +0.8**
MLR Muntele Rosu 79.25 320 IAmb IAmb 11 14 55.7
comp=Z,36nm,1.3s
IRM Iron Mountain 79.28 55 P 11 14 42.5
baz=308
BC3 Big Chuckawall 79.39 56 P 11 14 42.7
baz=308
RSSD Black Hills 79.50 42 P P **11 14 43.0 +0.6**
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 79.50 42 P P **11 14 43.0 +0.6**
RSSD Black Hills 79.50 42 P 11 14 42.8
baz=312
IKP In-Ko-Pah, Jac 79.56 57 P 11 14 44.0
baz=308
CJR Cluj-Napoca 79.58 322 ⇓P P **11 14 44.2 +1.7**
U15A North Rim 79.70 52 PcP **11 14 52.7 +1.3**
U15A IAmb IAmb 11 14 59.3
comp=Z,19nm,1.2s
VOIR 79.74 320 ⇓P P **11 14 44.1 +0.6**
LANS Liptovska Anna 79.79 326 *e*P P **11 14 44.9 +1.3**
LANS pmax pmax
comp=Z,10.0nm,1.0s
LANS Liptovska Anna 79.79 326 *e*P P **11 14 44.9 +1.3**
O20A White River Ci 79.79 47 P 11 14 45.1
baz=311
PDMCI Parker Dam,Lak 79.85 55 P 11 14 45.3
baz=308
KSP Ksiaz 79.92 328 *e*P P **11 14 45.3 +1.1**
KSP *e*pP **PcP 11 14 54.4 +2.7**
DRGR 79.96 322 ⇓P P **11 14 45.5 +0.8**
ARR Arges 80.00 320 ⇓P P **11 14 46.7 +1.8**
ESJX Sierra Juarez 80.06 57 IAmb IAmb 11 15 00.7
comp=Z,14nm,1.1s
OSTC Ostas 80.17 328 *e*P P **11 14 47.1 +1.5**
MORC Moravsky Berou 80.18 327 ⇓P P **11 14 46.7 +1.0**
MORC Moravsky Berou 80.18 327 *e*P P **11 14 46.2 +0.5**
MORC *e* 11 14 58.7
MORC Moravsky Berou 80.18 327 IAmb IAmb 11 14 47.6
comp=Z,16nm,0.9s
CHVC Chvalec 80.21 328 *e*P P **11 14 46.7 +0.9**
DPC Dobruska-Polom 80.28 328 *e*P P **11 14 46.9 +0.7**
DPC *e**PP **pP 11 14 59.3 0.0**
DPC Dobruska-Polom 80.28 328 *e*P P **11 14 46.9 +0.7**
DPC *e*pP **pP 11 14 59.3 0.0**
KRLC Kraliky 80.29 328 *e*P P **11 14 47.2 +0.9**
KRLC *e**PP **pP 11 14 59.3 -0.1**
KRLC Kraliky 80.29 328 *e*P P **11 14 47.2 +0.9**
KRLC *e*pP **pP 11 14 59.3 -0.1**
UPC Upice 80.29 328 *e*P P **11 14 47.2 +1.0**
UPC Upice 80.29 328 *e*P P **11 14 47.2 +1.0**
LOT Lotru 80.38 321 ⇓P P **11 14 47.7 +0.7**
PV14 Lion Creek, Pa 80.47 49 IAmb IAmb 11 15 03.5
comp=Z,38nm,1.2s
PSZ Piszkesteto 80.49 325 ⇓P P **11 14 48.8 +1.3**
PSZ Piszkesteto 80.49 325 P P **11 14 47.7 +0.2**
PSZ IAmb IAmb 11 14 49.6
comp=Z,29nm,1.0s
PSZ pP **pP 11 15 01.2 +0.6**
PV22 Blue Mesa, Par 80.51 49 IAmb IAmb 11 15 03.7
comp=Z,18nm,1.2s
PV04 Paradox Valley 80.53 49 IAmb IAmb 11 15 04.0
comp=Z,29nm,1.3s
PV19 Morning Glory 80.54 49 IAmb IAmb 11 15 03.2
comp=Z,18nm,0.9s
VYHS Vyhne 80.56 325 *e*P P **11 14 48.6 +0.9**
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 80.56 325 *e*P P **11 14 48.6 +0.9**
PV17 East Wray Mesa 80.57 49 IAmb IAmb 11 15 03.4
comp=Z,30nm,1.1s
PV16 Nyswonger Mesa 80.58 49 P P **11 14 49.2 +1.0**
PV16 IAmb IAmb 11 15 03.4
comp=Z,16nm,1.0s
AGMN Agassiz Nation 80.60 35 P 11 14 48.3
baz=317
PV11 David Mesa, Pa 80.61 49 IAmb IAmb 11 15 04.4
comp=Z,32nm,1.1s
N23A Red Feather La 80.61 45 P 11 14 49.8
baz=312
PV18 Skein Mesa, Pa 80.62 49 pP pP 11 15 01.1 -0.4
PV12 Saucer Basin, 80.64 49 IAmb IAmb 11 15 10.2
comp=Z,16nm,1.0s
PV03 Paradox Valley 80.65 49 IAmb IAmb 11 15 09.4
comp=Z,14nm,1.1s
RAYN Ar Rayn 80.68 292 P P **11 14 49.1 +0.3**
RAYN pmax pmax
comp=Z,27nm,1.3s
RAYN Ar Rayn 80.68 292 P P **11 14 49.1 +0.3**
RAYN IAmb IAmb 11 15 03.3
comp=Z,26nm,1.2s
PV13 Radium Mtn., P 80.73 49 IAmb IAmb 11 15 05.1
comp=Z,44nm,1.4s
JAVC Velka Javorina 80.81 326 *e*P P **11 14 50.7 +1.6**
JAVC *e* 11 15 03.1
SOCY Socotra 80.84 278 P P **11 14 48.0 -1.8**
WUAZ Wupatki 80.86 52 IAmb IAmb 11 15 05.8
comp=Z,20nm,1.2s
WUAZ Wupatki 80.86 52 P 11 14 50.9
baz=310
BRG Berggiesshubel 80.86 329 *e*P P **11 14 49.5 +0.3**
BRG Amp 11 14 51.4
comp=Z,21nm,1.0s
BRG pP **pP 11 15 02.6 +0.2**
BRG Amp 11 15 06.1
comp=Z,12nm,0.9s
PVCC Panska Ves 80.87 329 *e*P P **11 14 50.6 +1.3**
PVCC Panska Ves 80.87 329 *e*P P **11 14 50.6 +1.3**
CLL Collm 80.90 330⇑ *i*P P **11 14 49.5 0.0**
comp=Z,33nm,1.0s
CLL *i* PcP **PcP 11 14 58.5 +2.6**
CLL *i* pP **pP 11 15 02.1 -0.5**
comp=Z,21nm,1.0s
CLL *i* (sP) **sP 11 15 05.2 -2.4**
comp=Z,17nm,0.9s
CLL L L 11 58 00.0
comp=Z,200nm,19.3s
CLL Collm 80.90 330⇑ *i*P P **11 14 49.5 0.0**
CLL *i* 11 15 02.1
CLL pmax pmax
comp=Z,33nm,1.0s
CLL Collm 80.90 330 P P **11 14 48.6 -0.9**
CLL IAmb IAmb 11 14 51.2
comp=Z,26nm,0.9s
CLL pP **pP 11 15 02.1 -0.5**
GZR Gura Zlata 80.92 321 ⇓P P **11 14 49.8 0.0**
VRAC Vranov 80.94 327 ⇓P P **11 14 51.0 +1.3**
VRAC Vranov 80.94 327 *e*P P **11 14 50.4 +0.6**
VRAC *e* 11 15 03.0
SMCO Snowmass 81.16 47 IAmb IAmb 11 15 10.2
comp=Z,18nm,1.5s
SMOL Smolenice 81.17 326 *e*P P **11 14 52.6 +1.6**
SMOL Smolenice 81.17 326 *e*P P **11 14 52.6 +1.6**
KRUC Moravsky 81.22 327 *e*P P **11 14 51.7 +0.5**
KRUC *e* 11 15 04.2
SRO Srobarova 81.30 325 *e*P P **11 14 53.4 +1.8**
SRO Srobarova 81.30 325 *e*P P **11 14 53.4 +1.8**
PRU Pruhonice 81.30 329 *e*P P **11 14 52.2 +0.6**
PRU *e**PP **pP 11 15 05.3 +0.6**
PRU Pruhonice 81.30 329 *e*P P **11 14 52.2 +0.6**
PRU *e*pP **pP 11 15 05.3 +0.6**
BZS Buzias 81.33 322 ⇓P P **11 14 51.8 -0.1**
MODS Modra-Piesok 81.34 326 *e*P P **11 14 52.1 +0.2**
MODS pmax pmax
comp=Z,21nm,1.0s
MODS Modra-Piesok 81.34 326 *e*P P **11 14 52.1 +0.2**
HERR Herculane 81.46 321 ⇓P P **11 14 52.9 +0.3**
B35A Bob, Littlefor 81.51 34 IAmb IAmb 11 14 54.0
comp=Z,16nm,1.1s
ISCO Idaho Springs 81.53 46 P 11 14 54.0
baz=312
MVCO Mesa Verde 81.54 49 IAmb IAmb 11 15 11.2
comp=Z,23nm,1.4s
MVCO Mesa Verde 81.54 49 P 11 14 53.8
baz=311
MDVR Moldovita 81.88 321 ⇓P P **11 14 55.2 +0.4**
NKC Novy Kostel 81.96 330 *e*P P **11 14 55.4 +0.3**
NKC Novy Kostel 81.96 330 *e*P P **11 14 55.4 +0.3**
PIX Pinacate 82.00 56 P P **11 14 54.5 -1.2**
S22A 4UR Ranch, Cre 82.19 48 P 11 14 58.3
baz=312,SNR=7.0
F33A 5 Mile Ranch, 82.20 37 P P **11 14 56.6 +0.1**
F33A IAmb IAmb 11 14 58.6
comp=Z,19nm,1.1s
CKRC Cesky Krumlov 82.29 328 *e*P P **11 14 57.5 +0.6**
CKRC *e*pP **pP 11 15 10.3 +0.3**
CONA Conrad Observa 82.30 327 *i* P P **11 14 58.1 +1.0**
comp=Z,18nm,1.0s,SNR=7.2
CONA *e*P **pP 11 15 11.2 +1.0**
comp=Z,28nm,1.6s
MORH Mrgy, Hungar 82.32 324 ⇓P P **11 14 57.4 +0.3**
KHC Kasperske Hory 82.36 329⇑ *i*P P **11 14 57.7 +0.4**
KHC pmax pmax
comp=Z,49nm,0.9s
KHC Kasperske Hory 82.36 329 *e*P P **11 14 58.1 +0.8**
KHC *e*pP **pP 11 15 11.1 +0.7**
KHC Kasperske Hory 82.36 329 IAmb IAmb 11 14 59.0
comp=Z,23nm,1.0s
Q24A Divide 82.36 46 P 11 14 58.4
baz=312
GEC2 GERESS Array S 82.53 328 IAmb IAmb 11 14 59.5
comp=Z,14nm,1.1s
GEC2 pP pP 11 15 11.4 +0.1
GERES GERESS Array B 82.53 328 P P **11 14 58.3 +0.1**
comp=Z,8.1nm,0.9s,baz=40,slow=5.2,SNR=38
GERES GERESS Array B 82.53 328 P P **11 14 58.2 0.0**
FRGS Fruska Gora 82.54 323 ⇓P P **11 14 58.5 +0.3**
VTS Vitosha 82.65 319 ⇓P P **11 15 00.5 +1.4**
VTS Vitosha 82.65 319 IAmb IAmb 11 15 01.0
comp=Z,17nm,0.9s
EYMN Ely 82.80 33 IAmb IAmb 11 15 01.4
comp=Z,18nm,1.0s
EYMN Ely 82.80 33 P 11 14 59.8
baz=320,SNR=5.6
GRF Grafenberg Arr 82.88 330 *e*P P **11 15 00.7 +0.8**
comp=Z,32nm,1.0s,baz=42,slow=4.6
GRF *e*pP **pP 11 15 13.1 0.0**
GRFO Grafenberg 82.88 330 P P **11 15 00.1 +0.2**
GRFO pmax pmax
comp=Z,41nm,1.1s
GRFO Grafenberg 82.88 330 P P **11 15 00.1 +0.2**
ARSA Arzberg 82.97 326 *e*P P **11 15 01.3 +0.9**
comp=Z,11nm,1.1s
MOA Moh 83.06 327 *e*P P **11 15 02.3 +1.4**
comp=Z,13nm,1.2s
DIVS Divibare 83.23 322 IAmb IAmb 11 15 16.7
comp=Z,17nm,1.1s
TUC Tucson 83.28 54 P 11 15 03.5
baz=310
ECSD EROS Data Cent 83.58 38 IAmb IAmb 11 15 05.1
comp=Z,8.6nm,0.9s
ECSD EROS Data Cent 83.58 38 P 11 15 03.9
baz=317,SNR=6.8
PERS Pernice 83.62 326 *i* P P **11 15 04.2 +0.3**
SOKA Soboth 83.62 326 *e*P P **11 15 04.4 +0.5**
comp=Z,34nm,1.1s,SNR=12
KSCO Kaye Shedlock' 83.76 45 P 11 15 05.5
baz=314
OBKA Obir 83.97 326 P P **11 15 06.1 +0.4**
comp=Z,7.4nm,0.9s
T25A Trinidad 84.02 47 IAmb IAmb 11 15 21.4
comp=Z,12nm,1.0s
T25A Trinidad 84.02 47 P 11 15 07.3
baz=313,SNR=6.3
KBA Koelnbreinsper 84.05 327 *e*P P **11 15 06.4 +0.2**
comp=Z,9.3nm,0.8s
LEGS Legarje 84.05 326 *i* P P **11 15 05.9 -0.1**
MEM Membach 84.10 333 *d*P P **11 15 06.2 +0.1**
PDKS Podkum 84.11 326 *e*P P **11 15 06.2 -0.1**
MYKA Terra Mystica 84.27 327 *e*P P **11 15 06.8 -0.4**
comp=Z,9.7nm,1.0s
MYKA *i* P **pP 11 15 20.3 -0.1**
comp=Z,22nm,1.6s
ANMO Albuquerque 84.28 50 P P **11 15 09.5 +1.9**
ANMO pmax pmax
comp=Z,11nm,1.1s
ANMO Albuquerque 84.28 50 P P **11 15 09.5 +1.9**
ANMO IAmb IAmb 11 15 23.8
comp=Z,11nm,1.1s
ANMO Albuquerque 84.28 50 P 11 15 08.0
baz=312
SPMN Marine on St. 84.29 35 P 11 15 07.8
baz=320
PRED Cave del Predi 84.45 327 IAmb IAmb 11 15 22.2
comp=Z,9.1nm,0.9s
LENM Lemitar 84.48 51 P P **11 15 09.1 +0.5**
BGNE Belgrade 84.50 41 P 11 15 08.9
baz=316
BCLA Clavier 84.51 334 *d*P P **11 15 08.3 +0.1**
WATA Walderalm 84.60 328 *e*P P **11 15 09.3 +0.3**
comp=Z,7.0nm,0.9s
WATA *e*P **pP 11 15 23.5 +1.4**
comp=Z,14nm,1.3s
BGES Gesves 84.62 334 *d*P P **11 15 09.7 +0.9**
WTTA Wattenberg 84.63 328 *e*P P **11 15 10.1 +0.9**
comp=Z,11nm,1.0s
WTTA *e*P **pP 11 15 22.5 +0.2**
comp=Z,10nm,1.1s
PPT Papeete 84.64 117 LR LR 11 44 24.5
comp=Z,117nm,21.7s,baz=324,slow=30
PPT2 Papeete2 84.65 117 *e*LR LR 11 41 44.5
comp=Z,509nm,29.2s
PPT2 Papeete2 84.65 117 *e*T T 12 48 02.8
comp=Z,3.0nm,0.3s
ABTA Abfaltersbach 84.67 328 *e*P P **11 15 08.5 -0.7**
comp=Z,9.6nm,1.1s
ABTA *e*P **pP 11 15 21.2 -1.2**
comp=Z,9.8nm,1.1s
MOTA Moosalm 84.79 329 *i* P P **11 15 10.5 +0.6**
comp=Z,22nm,1.2s,SNR=5.5
MOTA *e*P **pP 11 15 23.2 +0.2**
comp=Z,16nm,1.1s
SNF Seneffe 84.79 334 *d*P P **11 15 09.9 +0.3**
BMRD Maredsous 84.80 334 *d*P P **11 15 09.7 0.0**
BMRD *d*pP **pP 11 15 22.6 -0.3**
RETA Reutte 84.81 329 *e*P P **11 15 10.3 +0.4**
comp=Z,31nm,1.1s,SNR=10
RETA *e*P **pP 11 15 22.6 -0.5**
comp=Z,25nm,0.9s
PDG Podgorica 84.82 321 ⇓P P **11 15 10.5 +0.6**
WLF Walferdange 84.83 333 *d*sP sP 11 15 24.9 -3.2
SQTA Sankt Quirin 84.84 329 *e*P P **11 15 10.3 +0.2**
comp=Z,10nm,1.3s
SQTA *e*P **pP 11 15 22.4 -0.9**
comp=Z,12nm,1.2s
319A Douglas 84.86 54 IAmb IAmb 11 15 26.3
comp=Z,25nm,1.3s
STAL STALIGIAL 84.96 327 IAmb IAmb 11 15 23.2
comp=Z,15nm,0.9s
DOU Dourbes 85.03 334 *d*P P **11 15 10.7 -0.2**
DOU *d*PcP **PcP 11 15 14.1 +0.1**
CIMO Cimolais 85.04 327 IAmb IAmb 11 15 10.7
comp=Z,9.0nm,1.1s
121A Cookes Peak, D 85.06 53 P 11 15 12.8
baz=312
BFO Black Forest 85.11 331 P P **11 15 10.9 -0.4**
BFO pmax pmax
comp=Z,42nm,1.1s
BFO Black Forest 85.11 331 P P **11 15 10.9 -0.4**
FETA Feichten 85.20 329 *e*P P **11 15 11.5 -0.5**
comp=Z,12nm,0.9s
FETA *e*P **pP 11 15 25.7 +0.5**
comp=Z,10nm,0.9s
COWI Conover 85.25 33 IAmb IAmb 11 15 13.7
comp=Z,9.1nm,1.0s
DAVA Damuels 85.33 329 *i* P P **11 15 12.9 +0.2**
comp=Z,28nm,1.0s,SNR=6.9
DAVA *e*P **pP 11 15 26.3 +0.5**
comp=Z,22nm,0.9s
G40A Rib Lake 85.44 34 IAmb IAmb 11 15 14.4
comp=Z,12nm,0.9s
CBKS Cedar Bluff 85.51 43 P 11 15 13.9
baz=316
CTI Castel Tesino 85.58 328 IAmb IAmb 11 15 13.9
comp=Z,16nm,1.1s
DAVOX Davos/Dischmat 85.74 329 P P **11 15 14.8 +0.1**
comp=Z,9.4nm,0.9s,baz=161,slow=1.3,SNR=9.0
MEH Mehetia 85.92 116 *e*T T 12 49 37.2
comp=Z,18nm,0.3s
E43A Lone Tree Farm 85.94 31 IAmb IAmb 11 15 17.2
comp=Z,14nm,1.1s
MATQ Matagami 86.60 24 P 11 15 19.0
baz=330
KSU1 Kansas State U 86.98 41 IAmb IAmb 11 15 35.3
comp=Z,12nm,0.8s
KSU1 Kansas State U 86.98 41 P 11 15 21.2
baz=317
E46A Sault Ste Mari 87.04 30 P P **11 15 20.9 +0.1**
I42A Draeger Farm, 87.08 34 IAmb IAmb 11 15 22.7
comp=Z,14nm,1.1s
MNTX Cornudas Mount 87.12 52 P 11 15 22.1
baz=313
MSTX Muleshoe 87.17 49 P 11 15 22.8
baz=314
AMTX Amarillo 87.18 47 IAmb IAmb 11 15 36.9
comp=Z,12nm,0.9s
AMTX Amarillo 87.18 47 P 11 15 22.7
baz=315
JFWS Jewell Farm 87.25 35 IAmb IAmb 11 15 35.9
comp=Z,10nm,1.0s
JFWS Jewell Farm 87.25 35 P 11 15 22.2
baz=321
LSQQ Lebel-sur-Quev 87.42 24 P 11 15 22.7
baz=330
L40A Anamosa 87.45 36 IAmb IAmb 11 15 37.7
comp=Z,14nm,1.0s
OK032 Salt Plains WL 87.79 44 P P **11 15 25.1 +0.5**
P38A Dawn 88.18 39 IAmb IAmb 11 15 41.6
comp=Z,14nm,1.0s
L42A Oliver, Polo 88.22 36 IAmb IAmb 11 15 40.7
comp=Z,16nm,1.1s
TBI Tubuai 88.56 121 *e*LR LR 11 43 27.2
comp=Z,334nm,26.0s
TBI Tubuai 88.56 121 *e*T T 12 52 54.3
comp=Z,34nm,0.3s
WMOK Wichita Mounta 88.96 46 IAmb IAmb 11 15 45.0
comp=Z,11nm,1.3s
WMOK Wichita Mounta 88.96 46 P 11 15 30.9
baz=316
M44A Midewin, Midew 89.46 35 IAmb IAmb 11 15 47.5
comp=Z,13nm,0.9s
HDIL Hopedale 89.53 36 P 11 15 33.2
baz=322
D55A Sainte-Anne-du 89.69 24 P 11 15 33.7
baz=331
ALGO Algonquin Park 89.74 26 P 11 15 33.9
baz=330
S39A Bolivar 89.75 40 P P **11 15 33.0 -0.9**
S39A IAmb IAmb 11 15 47.7
comp=Z,9.6nm,1.1s
TUL1 Leonard 89.77 43 P 11 15 34.5
baz=318
TX31 Lajitas Ar. Si 89.82 52 IAmb IAmb 11 15 49.7
comp=Z,17nm,1.1s
TXAR Lajitas Array 89.82 52 P P **11 15 35.5 +1.1**
comp=Z,2.7nm,0.8s,baz=298,slow=3.2,SNR=14
TXAR LR LR 11 49 57.2
comp=Z,84nm,21.8s,baz=0.0,slow=32
TXAR Lajitas Array 89.82 52 P P **11 15 35.1 +0.7**
R40A Maddies Statio 89.83 39 IAmb IAmb 11 15 48.5
comp=Z,17nm,1.3s
D56A ZEC Mazanza, M 89.90 24 P 11 15 35.0
baz=332
ABTX Abilene, Hawle 89.97 48 P 11 15 35.4
baz=316
U38A Gravette 90.13 42 IAmb IAmb 11 15 50.4
comp=Z,7.2nm,1.0s
G54A Lake Saint Pet 90.20 27 P 11 15 36.1
baz=330
LATQ La Tuque 90.22 23 P 11 15 36.2
baz=333
E56A St. Veronique 90.25 24 P 11 15 36.2
baz=332
D58A Chemin du LacG 90.45 23 P 11 15 37.3
baz=333
I51A Listowel 90.46 29 P 11 15 37.4
baz=328
HHAR Hobbs 90.49 42 IAmb IAmb 11 15 51.4
comp=Z,8.0nm,1.1s
CCM Cathedral Cave 90.53 39 P P **11 15 38.4 +0.9**
CCM pmax pmax
comp=Z,18nm,1.3s
CCM Cathedral Cave 90.53 39 P P **11 15 38.4 +0.9**
CCM Cathedral Cave 90.53 39 P 11 15 37.5
baz=321
H53A Bobcaygeon 90.73 27 P 11 15 38.5
baz=329
Z35A Perchaven, San 90.85 46 P P **11 15 39.2 +0.1**
E58A La Victoria 90.97 23 P 11 15 39.8
baz=333
U40A Yellville 91.01 41 P 11 15 39.9
baz=320,SNR=11
D60A Saint Jean D'O 91.20 22 P 11 15 40.8
baz=335
G57A Newington 91.54 25 P 11 15 42.6
baz=332
F59A Saint Guilaume 91.59 23 P 11 15 42.7
baz=333
WHTX Lake Whitney, 91.71 47 P 11 15 44.0
baz=317
FCAR Ozark Folk Cen 91.74 41 IAmb IAmb 11 15 57.2
comp=Z,11nm,1.0s
D63A Stockholm 91.89 20 P 11 15 44.2
baz=337
PBMO Poplar Bluff 91.93 39 IAmb IAmb 11 15 58.5
comp=Z,11nm,1.1s
MIAR Mount Ida 91.99 43 P 11 15 45.3
baz=319
F61A St Evariste 92.03 22 P 11 15 45.2
baz=335
G59A Clarenceville 92.15 24 P 11 15 45.0
baz=333
W41B Gary Mavity, V 92.23 41 P 11 15 46.0
baz=320
L53A Girard 92.32 30 P 11 15 46.1
baz=328
I57A Carthage 92.33 26 P 11 15 46.2
baz=331
H59A Cadyville 92.37 24 P 11 15 46.0
baz=333
H58A Gabriels 92.41 25 P 11 15 46.7
baz=332
X40A Basin Creek Fa 92.44 42 P 11 15 47.5
baz=320
M53A WI Miller and 92.59 30 P 11 15 47.7
baz=328
ACSO Alum Creek Sta 92.64 33 P 11 15 48.1
baz=326
G62A West of Eustis 92.85 22 P 11 15 48.7
baz=335
M54A Oil Creek Stat 92.94 30 P 11 15 49.4
baz=328
ESDC Sonseca Array 97.08 334 P Pdif 11 16 07.7 0.0
comp=Z,1.5nm,0.9s,baz=26,slow=3.5,SNR=9.4
ESDC LR LR 12 04 30.7
comp=Z,313nm,20.6s,baz=10.0,slow=38
ESDC Sonseca Array 97.08 334 P P **11 16 07.2 -0.4**
ESDC IAmb IAmb 11 16 08.1
comp=Z,9.0nm,1.2s
W56A Indian Trail 97.94 34 P 11 16 11.4
baz=327
RKT Rikitea 98.73 112 *e*LR LR 11 48 19.5
comp=Z,327nm,24.5s
TORD Torodi Ar. Bea 117.22 315 PKP **PKPdf 11 21 20.0 -1.1**
comp=Z,1.0nm,0.9s,baz=2.9,slow=1.8,SNR=4.4
TORD PP **PP 11 22 27.9 -3.2**
comp=Z,4.6nm,1.1s,baz=28,slow=7.7,SNR=8.3
BOSA Boshof 126.78 260 PKP **PKPdf 11 21 39.3 +0.2**
comp=Z,3.9nm,0.8s,baz=115,slow=2.4,SNR=5.2

*IDC **12** 11:04:54.4±0.7,51°.69N×176°.27W,h0km,mb3.8/10, mb1 4.1/11,mb1mx3.8/48,mbtmp3.8/11,ML3.7/1,MS3.1/1, Ms1 3.1/1,ms1mx2.5/40 Error ellipse: s-maj=35.7km s-min=14.9km az=160.0*

*NEIC **12** 11:05:01.3±1.5,51°.7N±0°.1×176°.3W±0°.1,h48km±7km, mb4.0/37,Error ellipse: s-maj=18.9km s-min=9.1km az=162.0*

ISC 12 11:05:01.1±0.7,51°.7N±0°.1×176°.20W±0°.06,h47km,n72, σ0s82/64,mb4.0/15,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.38**	**307**		**Pn**	**11 05 11.7**	**+0.9**
ATKA	**Atka Island**	**1.36**	**66**		**Pn**	**11 05 23.0**	**-0.5**
AMKA	**Amchitka**	**2.82**	**266**		**Pn**	**11 05 44.5**	**+0.8**
NIKH	**Nikolski High**	**4.70**	**71**	Pn	**Pn**	**11 06 11.5**	**+2.2**
SPIA	**Saint Paul Isl**	**6.53**	**30**		**Pn**	**11 06 34.6**	**+0.2**
AKUT	**Akutan**	**6.78**	**64**	Pn	**Pn**	**11 06 39.0**	**+1.1**
OHAK	**Old Harbor**	**14.41**	**58**	Pn	**Pn**	**11 08 21.6**	**-0.4**
SVW2	**Sparrevohn**	**14.76**	**42**		**P**	**11 08 29.9**	**-1.8**
KDAK	**Kodiak Island**	**14.91**	**57**	Pn	**Pn**	**11 08 27.0**	**-1.6**
KDAK	0.3nm,0.3s,baz=124,slow=11,SNR=9.3			LR	LR	11 14 32.0	
	comp=Z,78nm,19.1s,baz=240,slow=39						
CNPM	**China Poot**	**16.08**	**51**	Pn	**Pn**	**11 08 43.8**	**+0.1**
BRLK	**Bradley Lake**	**16.32**	**50**		**Pn**	**11 08 47.6**	**+0.8**
SKT	**Skwentna**	**16.89**	**43**		**P**	**11 08 55.1**	**-0.2**
SKT				IAmb	IAmb	11 08 56.1	
	comp=Z,9.1nm,0.9s						
SUA	**Susitna One**	**17.00**	**45**		**P**	**11 08 56.7**	**0.0**
SUA				IAmb	IAmb	11 09 13.6	
	comp=Z,13nm,1.4s						
SEW	**Seward**	**17.11**	**50**	Pn	**Pn**	**11 08 55.0**	**-1.6**
RC01	**Rabbit Creek A**	**17.31**	**47**		**P**	**11 08 59.8**	**-0.2**
RC01				IAmb	IAmb	11 09 20.9	
	comp=Z,12nm,1.2s						
GHO	**Glory Hole Cre**	**17.93**	**45**		**Pn**	**11 09 06.0**	**-0.7**
KNK	**Knik Glacier**	**18.00**	**46**		**Pn**	**11 09 07.2**	**-0.5**
KNK				IAmb	IAmb	11 09 20.2	
	comp=Z,14nm,1.2s						
TRF	**Thorofare Moun**	**18.08**	**39**		**Pn**	**11 09 10.0**	**+1.4**
SML	**Sawmill**	**18.20**	**45**		**P**	**11 09 09.8**	**-0.1**
SML				IAmb	IAmb	11 09 38.6	
	comp=Z,9.5nm,1.1s						
IMAR	**Indian Mountai**	**18.30**	**30**	Pn	**Pn**	**11 09 12.2**	**+1.0**
RND	**Reindeer**	**18.63**	**40**	P	**P**	**11 09 14.1**	**-0.5**
RND				IAmb	IAmb	11 09 16.1	
	comp=Z,7.3nm,0.6s						
SCM	**Sheep Creek Mo**	**18.66**	**46**	P	**P**	**11 09 14.6**	**-0.3**
MCK	**McKinley**	**18.75**	**39**	P	**P**	**11 09 15.7**	**-0.1**
NEA2	**Nenana**	**19.11**	**37**	P	**P**	**11 09 19.0**	**-0.7**
NEA2				IAmb	IAmb	11 09 40.7	
	comp=Z,8.3nm,1.2s						
I23K	**Minto, Yukon-K**	**19.28**	**35**	P	**P**	**11 09 21.8**	**+0.2**
I23K				IAmb	IAmb	11 09 40.2	
	comp=Z,4.8nm,0.7s						
WRH	**Wood River Hil**	**19.42**	**38**	P	**P**	**11 09 22.4**	**-0.7**
MDM	**Murphy Dome**	**19.60**	**37**	P	**P**	**11 09 24.8**	**-0.3**
CCB	**Clear Creek Bu**	**19.61**	**38**	P	**P**	**11 09 24.3**	**-0.8**
N25K	**Chitina, Valde**	**19.82**	**48**	P	**P**	**11 09 28.5**	**+0.9**
N25K				IAmb	IAmb	11 09 29.8	
	comp=Z,10nm,1.3s						
HDA	**Harding Lake**	**19.83**	**39**	P	**P**	**11 09 28.2**	**+0.6**
PAX	**Paxson**	**19.86**	**43**	P	**P**	**11 09 28.4**	**+0.3**
IL31		**20.02**	**38**	P	**P**	**11 09 30.1**	**+0.6**
ILAR	**Eielson Array**	**20.02**	**38**	P	**P**	**11 09 27.4**	**-2.2**
	comp=Z,1.3nm,0.5s,baz=236,slow=8.5,SNR=36						
ILAR	**Eielson Array**	**20.02**	**38**	P	**P**	**11 09 29.4**	**-0.2**
COLD	**Coldfoot**	**20.19**	**30**	P	**P**	**11 09 32.1**	**+0.7**
COLD				IAmb	IAmb	11 09 39.1	
	comp=Z,5.5nm,1.0s						
MCARA	**McCarthy VSAT**	**20.50**	**49**	P	**P**	**11 09 34.1**	**-0.8**
MCARA				IAmb	IAmb	11 09 48.4	
	comp=Z,12nm,1.0s						
DOT	**Dot Lake**	**20.70**	**42**	P	**P**	**11 09 36.8**	**-0.2**
DOT				IAmb	IAmb	11 09 49.8	
	comp=Z,5.0nm,0.7s						
SCRK	**Sand Creek**	**20.84**	**41**	P	**P**	**11 09 38.0**	**-0.6**
SCRK				IAmb	IAmb	11 09 39.5	
	comp=Z,8.9nm,0.8s						
TOLK	**Toolik Lake Re**	**21.27**	**27**	P	**P**	**11 09 42.5**	**-0.6**
TOLK				IAmb	IAmb	11 10 03.4	
	comp=Z,9.2nm,1.3s						
BMAR	**Burnt Mountain**	**22.12**	**33**	P	**P**	**11 09 52.0**	**-0.3**
EGAK	**Eagle**	**22.28**	**40**	P	**P**	**11 09 53.8**	**-0.1**
EGAK				IAmb	IAmb	11 10 17.4	
	comp=Z,6.7nm,0.9s						
DAWY	**Dawson**	**22.79**	**43**	P	**P**	**11 09 59.8**	**+0.3**
YKA	**Yellowknife Ar**	**33.86**	**47**	P	**P**	**11 11 39.1**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=284,slow=7.2,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**34.52**	**209**	T	T	11 48 20.5	
	baz=18,slow=76,SNR=183						
H11N3	**WAKE ISLAND Hy**	**34.52**	**209**	T	T	11 48 29.4	
	baz=18,slow=76,SNR=220						
H11N1	**WAKE ISLAND Hy**	**34.53**	**209**	T	T	11 48 30.1	
	baz=18,slow=76,SNR=241						
H11S1	**WAKE ISLAND Hy**	**35.73**	**209**	T	T	11 49 52.6	
	baz=18,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy**	**35.74**	**209**	T	T	11 49 46.0	
	baz=18,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**35.74**	**209**	T	T	11 49 52.3	
B08A	**Colville Reser**	**35.91**	**72**	P	**P**	**11 11 57.2**	**+0.6**
B08A					**pP**	**11 12 08.4**	**-0.5**
NEW	**Newport**	**37.26**	**71**	P	**P**	**11 12 07.9**	**-0.1**
PNTR	**Pine Nut**	**40.70**	**85**	P	**P**	**11 12 38.0**	**+0.8**
KSRS	**Korea Array**	**41.25**	**272**	P	**P**	**11 12 42.3**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=46,slow=8.0,SNR=4.9						
MCMT	**McKenzie Canyo**	**41.55**	**74**	P	**P**	**11 12 44.4**	**+0.4**
BOZ	**Bozeman (W)**	**41.85**	**72**	P	**P**	**11 12 46.6**	**+0.1**
BOZ				IAmb	IAmb	11 13 09.1	
	comp=Z,6.7nm,1.5s						
NVAR	**Mina Array Bea**	**41.91**	**85**	P	**P**	**11 12 46.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=301,slow=7.0,SNR=1.8						
YHH	**Holmes Hill**	**42.76**	**72**	P	**P**	**11 12 54.1**	**+0.1**
YHH				IAmb	IAmb	11 13 07.8	
	comp=Z,2.2nm,0.7s						
DUG	**Dugway, Tooele**	**44.22**	**79**	P	**P**	**11 13 06.9**	**+1.3**
BW06	**Boulder Array**	**44.67**	**74**	P	**P**	**11 13 08.8**	**-0.6**
BW06				IAmb	IAmb	11 13 23.2	
	comp=Z,2.7nm,0.7s						
PD31	**Pinedale Array**	**44.67**	**74**	P	**P**	**11 13 08.9**	**-0.5**
PD31				IAmb	IAmb	11 13 28.4	
	comp=Z,2.3nm,0.8s						
PDAR	**Pinedale Array**	**44.67**	**74**	P	**P**	**11 13 09.2**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=304,slow=4.6,SNR=13						
PDAR	**Pinedale Array**	**44.67**	**74**	P	**P**	**11 13 07.7**	**-1.7**
TXAR	**Lajitas Array**	**57.01**	**83**	P	**P**	**11 14 42.3**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=296,slow=4.5,SNR=7.4						
MKAR	**Makanchi Array**	**61.12**	**310**	P	**P**	**11 15 09.0**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=56,slow=11,SNR=2.4						
SIJI	**Sorong**	**68.46**	**239**	P	**P**	**11 15 58.2**	**-0.2**
	comp=Z,11nm,0.8s,baz=37,slow=5.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**72.59**	**278**	P	**P**	**11 16 23.5**	**0.0**
	comp=Z,1.5nm,0.7s,baz=30,slow=7.6,SNR=7.8						
WRA	**Warramunga Arr**	**83.36**	**226**	P	**P**	**11 17 22.2**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=32,slow=5.8,SNR=5.3						
ASAR	**Alice Springs**	**86.81**	**225**	P	**P**	**11 17 40.6**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=23,slow=5.0,SNR=8.3						
H03N2	**Juan Fernandez**	**119.67**	**107**	T	T	13 35 05.1	
	baz=317,slow=77,SNR=98						
H03N1	**Juan Fernandez**	**119.68**	**107**	T	T	13 35 06.0	
	baz=317,slow=77,SNR=121						
H03N3	**Juan Fernandez**	**119.69**	**107**	T	T	13 35 05.3	
	baz=317,slow=77,SNR=111						
BOSA	**Boshof**	**151.93**	**317**	PKPbc	**PKPbc**	**11 24 50.0**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=7.9,slow=2.8,SNR=10						

*IDC **12** 11:14:57.4±8.9, 13°.94N×144°.92E,h170km±86km, mb3.4/11,mb1 3.6/11,mb1mx3.5/32,mbtmp3.9/11,Error ellipse: s-maj=35.4km s-min=12.1km az=88.0*

*NEIC **12** 11:15:01.0±2.0, 13°.86N±0°.09×144°.7E±0°.2,h199km±5km, mb4.3/15, Error ellipse: s-maj=25.0km s-min=11.1km az=106.0*

ISC 12 11:15:01.0±0.6,13°.95N±0°.09×144°.6E±0°.2,h200km,n30, σ1s33/27,mb4.0/16,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.44**	**145**	Pn	**Pn**	**11 15 27.6**	**-0.4**
GUMO				Sn	**Sn**	**11 15 47.2**	**-1.5**
JOW	**Kunigami**	**19.94**	**313**	P	**Pn**	**11 19 20.1**	**-2.0**
	8.7nm,0.7s,baz=166,slow=8.3,SNR=4.1						
JOW	**Kunigami**	**19.94**	**313**	IAmb	IAmb	11 19 36.7	
	comp=Z,16nm,1.0s						
JGF	**Kuroka**	**22.52**	**344**	P	**P**	**11 19 45.2**	**+1.1**
JNU	**Nakatsue**	**22.82**	**329**	P	**P**	**11 19 47.4**	**+0.6**
	comp=Z,9.2nm,0.9s,baz=102,slow=2.6,SNR=5.4						
JNU	**Nakatsue**	**22.82**	**329**	P	**P**	**11 19 47.2**	**+0.5**
MJAR	**Matsushiro Arr**	**23.22**	**347**	P	**P**	**11 19 49.8**	**-0.5**
	comp=Z,4.3nm,0.9s,baz=180,slow=12,SNR=6.1						
MJAR	**Matsushiro Arr**	**23.22**	**347**	IAmb	IAmb	11 19 51.5	
	comp=Z,3.4nm,0.9s						
USA0B	**Ussuriysk Arra**	**32.02**	**343**	P	**P**	**11 21 11.4**	**+2.8**
USA0B				IAmb	IAmb	11 21 16.9	
	comp=Z,5.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**32.02**	**343**	P	**P**	**11 21 11.0**	**+2.4**
CTAO	**Charters Tower**	**33.86**	**177**	P	**P**	**11 21 24.6**	**-0.3**
WB0	**Warramunga Arr**	**34.98**	**197**	P	**P**	**11 21 33.0**	**-1.4**
WB0				IAmb	IAmb	11 21 51.4	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**35.12**	**197**	P	**P**	**11 21 35.8**	**+0.2**
WRAB	**Tennant Creek**	**35.15**	**197**	P	**P**	**11 21 36.0**	**+0.2**
WRAB				IAmb	IAmb	11 22 04.5	
	comp=Z,5.0nm,1.2s						
WB2	**Warramunga Arr**	**35.16**	**197**	P	**P**	**11 21 36.2**	**+0.2**
WB2				IAmb	IAmb	11 21 42.3	
	comp=Z,21nm,1.5s						
WRA	**Warramunga Arr**	**35.16**	**197**	P	**P**	**11 21 35.9**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=7.9,slow=8.6,SNR=32						
FITZ	**Fitzroy Crossi**	**36.93**	**211**	P	**P**	**11 21 50.3**	**-0.7**
	baz=32,slow=15						
ASAR	**Alice Springs**	**38.82**	**196**	P	**P**	**11 22 06.7**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=12,slow=7.6,SNR=8.4						
DZM	**Mont Dzumac**	**41.71**	**149**	P	**P**	**11 22 32.9**	**+2.3**
	comp=Z,6.2nm,0.5s,baz=293,slow=7.7,SNR=2.6						
STKA	**Stephens Creek**	**45.66**	**184**	P	**P**	**11 23 01.9**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=346,slow=9.6,SNR=3.3						
STKA	**Stephens Creek**	**45.66**	**184**	IAmb	IAmb	11 23 05.7	
	comp=Z,2.3nm,1.4s						
SONM	**Songino Array**	**46.29**	**325**	P	**P**	**11 23 07.5**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=130,slow=7.7,SNR=4.9						
SONM	**Songino Array**	**46.29**	**325**	IAmb	IAmb	11 23 10.0	
	comp=Z,1.1nm,1.0s						
MK31	**Makanchi Array**	**61.06**	**316**	P	**P**	**11 24 52.0**	**-1.7**
MKAR	**Makanchi Array**	**61.06**	**316**	P	**P**	**11 24 54.6**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=92,slow=9.2,SNR=12						
ILAR	**Eielson Array**	**68.35**	**25**	P	**P**	**11 25 38.2**	**-2.3**
	comp=Z,0.3nm,0.4s,baz=247,slow=5.7,SNR=10						
YKA	**Yellowknife Ar**	**82.66**	**27**	P	**P**	**11 27 00.4**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=287,slow=4.4,SNR=6.0						
NVAR	**Mina Array Bea**	**86.89**	**51**	P	**P**	**11 27 24.1**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=263,slow=5.9,SNR=14						
TPNV	**Topopah Spring**	**88.87**	**52**	P	**P**	**11 27 32.6**	**-0.5**
TPNV				IAmb	IAmb	11 27 34.3	
	comp=Z,3.2nm,0.8s						
RLMT	**Red Lodge**	**91.25**	**43**	P	**P**	**11 27 44.7**	**+0.7**

IDC 12 11:22:40.4±8.4,4°.87S×146°.57E,h143km±89km,mb3.6/3, mb1 3.9/5,mb1mx3.3/33,mbtmp4.1/5,Error ellipse: s-maj=118.9km s-min=27.8km az=138.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.54**	**173**	P	Pn	11 23 47.6	0.0
	4.0nm,0.3s,baz=13,slow=8.1,SNR=36						
PMG				S	Sn	11 24 32.2	-7.7
	10nm,0.3s,baz=162,slow=21,SNR=12						
WRA	**Warramunga Arr**	**19.13**	**217**	P	P	11 26 53.0	+0.5
	1.9nm,0.3s,baz=46,slow=12,SNR=95						
ASAR	**Alice Springs**	**22.32**	**212**	P	P	11 27 26.1	-0.3
	4.4nm,0.8s,baz=38,slow=8.1,SNR=84						
FITZ	**Fitzroy Crossi**	**24.32**	**236**	P	P	11 27 44.8	-0.1
	6.7nm,0.5s,baz=47,slow=9.0,SNR=26						
ILAR	**Eielson Array**	**84.62**	**23**	P	P	11 34 57.5	+0.1
	0.2nm,0.8s,baz=264,slow=4.5,SNR=4.4						

*TAP **12** 11:37:46.0,24°.72N×122°.08E,h64km,ML4.2,B*
*JMA **12** 11:37:45.3±0.2,24°.69N×122°.08E,h70km±4km,M3.5*

ISC 12 11:37:46.0±1.2,24°.73N±0°.03×122°.11E±0°.02,h63km±5km, n144,σ1s04/251,20C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.20**	**306**	P	**Pn**	**11 37 56.2**	**+0.3**
	baz=308						
EGS				*e*S	**Sn**	**11 38 02.3**	**-0.6**
	baz=308						
TWC	**Suao**	**0.27**	**244**	⇑*i*P	**Pn**	**11 37 56.1**	**-0.1**
	baz=241						
TWC				S	**Sn**	**11 38 04.0**	**+0.5**
	baz=241						
NTC	**Toucheng**	**0.29**	**296**	*e*P	**Pn**	**11 37 56.1**	**-0.2**
	baz=310						
NTC				*e*S	**Sn**	**11 38 04.1**	**+0.3**
	baz=310						
TWB1	**Santiao Chiao**	**0.30**	**338**	⇑*i*P	**Pn**	**11 37 56.6**	**+0.1**
	baz=341						
TWB1				S	**Sn**	**11 38 03.9**	**-0.1**
	baz=341						
ILA	**Ilan**	**0.33**	**277**	⇑*i*P	**Pn**	**11 37 57.0**	**+0.4**
	baz=286						
ILA				*e*S	**Sn**	**11 38 04.9**	**+0.5**
	baz=286						
TIPB	**Shuangxi**	**0.36**	**313**	⇑*i*P	**Pn**	**11 37 57.1**	**+0.1**
	baz=322						
TIPB				S	**Sn**	**11 38 04.5**	**-0.4**
	baz=322						
NDS	**Dongshan**	**0.37**	**256**	⇑*i*P	**Pn**	**11 37 57.4**	**+0.3**
	baz=255						
NDS				S	**Sn**	**11 38 05.1**	**+0.1**
	baz=255						
TWE	**Neicheng**	**0.41**	**269**	⇑*i*P	**Pn**	**11 37 57.6**	**+0.3**
	baz=277						
TWE				S	**Sn**	**11 38 05.8**	**+0.3**
	baz=277						
ENA	**Nanau**	**0.45**	**229**	⇑*i*P	**Pn**	**11 37 58.0**	**+0.3**
	baz=226						
ENA				*e*S	**Sn**	**11 38 07.6**	**+1.4**
	baz=226						
NWF	**Wu-fen Shan**	**0.46**	**319**	⇑*i*P	**Pn**	**11 37 58.0**	**+0.1**
	baz=314						
NWF				S	**Sn**	**11 38 06.3**	**-0.2**
	baz=314						
WFSB	**Wu-fen Shan**	**0.46**	**319**	⇑*i*P	**Pn**	**11 37 58.0**	**+0.2**
	baz=316						
WFSB				S	**Sn**	**11 38 06.3**	**0.0**
	baz=316						
ENTT	**Nioudou**	**0.51**	**260**	⇑*i*P	**Pn**	**11 37 58.7**	**+0.4**
	baz=263						
ENTT				*e*S	**Sn**	**11 38 07.4**	**+0.2**
	baz=263						
TNOU	**National Taiwa**	**0.52**	**324**	⇑*i*P	**Pn**	**11 37 58.5**	**0.0**
	baz=321						
TNOU				*e*S	**Sn**	**11 38 07.2**	**-0.3**
	baz=321						
TWA	**Mucha**	**0.54**	**298**	*e*P	**Pn**	**11 37 58.7**	**0.0**
	baz=300						
TWA				S	**Sn**	**11 38 07.5**	**-0.4**
	baz=300						
NWLT	**Wulai**	**0.56**	**275**	P	**Pn**	**11 37 58.9**	**0.0**
	baz=285						
NWLT				*e*S	**Sn**	**11 38 07.5**	**-0.8**
	baz=285						
NDT	**Datong Townshi**	**0.56**	**257**	⇑*i*P	**Pn**	**11 37 59.4**	**+0.6**
	baz=260						
NDT				*e*S	**Sn**	**11 38 09.8**	**+1.5**
	baz=260						
NHDH	**Xindian Distri**	**0.58**	**294**	⇓*i*P	**Pn**	**11 37 59.1**	**0.0**
	baz=296						
NHDH				S	**Sn**	**11 38 08.1**	**-0.6**
	baz=296						
TATO	**Taipei**	**0.62**	**294**	P	**Pn**	**11 37 59.2**	**-0.3**
	baz=295						
TATO				*i* S	**Sn**	**11 38 08.6**	**-0.7**
	baz=295						
TAP1	**Taipei**	**0.62**	**300**	*e*P	**Pn**	**11 37 59.8**	**+0.3**
	baz=301						
TAP1				*e*S	**Sn**	**11 38 09.1**	**-0.3**
	baz=301						
TAP	**Taipei**	**0.63**	**300**	*e*P	**Pn**	**11 37 59.6**	**-0.1**
	baz=301						
TAP				*e*S	**Sn**	**11 38 08.9**	**-0.7**
	baz=301						
YM01	**YM01**	**0.65**	**310**	⇓*i*P	**Pn**	**11 37 58.8**	**-1.1**
	baz=312						
YM01				S	**Sn**	**11 38 08.3**	**-1.7**
	baz=312						
YM11	**YM11**	**0.66**	**312**	*e*P	**Pn**	**11 37 60.0**	**-0.1**
	baz=306						
YM11				S	**Sn**	**11 38 09.5**	**-0.7**
	baz=306						
YM10	**YM10**	**0.66**	**311**	⇓*i*P	**Pn**	**11 37 59.9**	**-0.1**
	baz=305						
YM10				*e*S	**Sn**	**11 38 09.6**	**-0.7**
	baz=305						
YM05	**YM05**	**0.66**	**311**	⇓*i*P	**Pn**	**11 37 59.9**	**-0.2**
	baz=305						
YM05				*e*S	**Sn**	**11 38 09.7**	**-0.6**
	baz=305						
YM08	**YM08**	**0.66**	**314**	⇓*i*P	**Pn**	**11 37 59.7**	**-0.3**
	baz=308						
YM08				*e*S	**Sn**	**11 38 09.2**	**-1.1**
	baz=308						
BACT	**New Taipei Cit**	**0.67**	**294**	*e*P	**Pn**	**11 38 00.1**	**0.0**
	baz=295						
BACT				*e*S	**Sn**	**11 38 10.4**	**+0.1**
	baz=295						
YHNB	**Yeheng**	**0.67**	**265**	⇑*i*P	**Pn**	**11 38 00.4**	**+0.1**
	baz=271						
YHNB				S	**Sn**	**11 38 10.5**	**-0.1**
	baz=271						
YM04	**YM04**	**0.68**	**309**	⇓*i*P	**Pn**	**11 38 00.0**	**-0.2**
	baz=311						
YM04				*e*S	**Sn**	**11 38 09.6**	**-1.0**
	baz=311						
NSK	**Sanguang**	**0.69**	**266**	*e*P	**Pn**	**11 38 00.5**	**+0.1**
	baz=270						
NSK				*e*S	**Sn**	**11 38 11.3**	**+0.4**
	baz=270						
YM03	**YM03**	**0.69**	**311**	*e*P	**Pn**	**11 38 00.1**	**-0.3**
	baz=305						
YM03				*e*S	**Sn**	**11 38 09.9**	**-1.0**
	baz=305						
ANP	**Anpu**	**0.71**	**311**	*e*P	**Pn**	**11 38 00.2**	**-0.4**
	baz=305						
ANP				*e*S	**Sn**	**11 38 10.8**	**-0.6**
	baz=305						
NACB	**Ninganchiao**	**0.72**	**221**	*e*P	**Pn**	**11 38 00.2**	**-0.6**
	baz=210						
NACB				*e*S	**Sn**	**11 38 11.0**	**-0.5**
	baz=210						
NNSB	**Datong**	**0.73**	**246**	⇑*i*P	**Pn**	**11 38 01.3**	**+0.4**
	baz=239						
NNSB				*e*S	**Sn**	**11 38 12.4**	**+0.6**
	baz=239						
NNSH	**Datong**	**0.73**	**246**	⇑P	**Pn**	**11 38 01.4**	**+0.5**
	baz=240						
NNSH				*e*S	**Sn**	**11 38 12.8**	**+1.0**
	baz=240						
NNS	**Nan Shan**	**0.73**	**247**	⇑*i*P	**Pn**	**11 38 01.4**	**+0.5**
	baz=240						
NNS				S	**Sn**	**11 38 12.6**	**+0.7**
	baz=240						
TWS1	**Kuangyinshan**	**0.73**	**301**	⇓*i*P	**Pn**	**11 38 01.0**	**+0.1**
	baz=307						
TWS1				*e*S	**Sn**	**11 38 11.7**	**0.0**
	baz=307						
NTST	**Danshui**	**0.74**	**306**	*i* P	**Pn**	**11 38 01.1**	**+0.1**
	baz=313						
NTST				*e*S	**Sn**	**11 38 12.5**	**+0.6**
	baz=313						
ETLH	**Xiulin Townshi**	**0.77**	**228**	*e*P	**Pn**	**11 38 01.2**	**-0.2**
	baz=235						
ETLH				*e*S	**Sn**	**11 38 13.1**	**+0.4**
	baz=235						
NTY	**Taoyuan**	**0.79**	**290**	*e*P	**Pn**	**11 38 01.6**	**+0.1**
	baz=291						
NTY				*e*S	**Sn**	**11 38 13.2**	**+0.3**
	baz=291						
TWD	**Chiawan**	**0.80**	**216**	*e*P	**Pn**	**11 38 01.4**	**-0.3**
	baz=227						
TWD				*e*S	**Sn**	**11 38 13.9**	**+0.8**
	baz=227						
JYNG	**Yonaguniijimaku**	**0.81**	**110**	P	**Pn**	**11 38 01.7**	**0.0**
JYNG				*e*S	**Sn**	**11 38 13.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.86**	**108**	*e*P	**Pn**	**11 38 02.6**	**+0.2**
	baz=101						
YOJ				*e*S	**Sn**	**11 38 14.8**	**+0.3**
	baz=101						
YOJ	**Yonaguni jima**	**0.86**	**108**	P	**Pn**	**11 38 02.6**	**+0.2**
YOJ				*e*S	**Sn**	**11 38 15.0**	**+0.6**
NCU	**National Centr**	**0.88**	**286**	*e*P	**Pn**	**11 38 02.7**	**+0.1**
	baz=286						
NCU				S	**Sn**	**11 38 14.9**	**+0.1**
	baz=286						
NCUH	**Zhongli**	**0.88**	**286**	*e*P	**Pn**	**11 38 02.7**	**+0.1**
	baz=286						
NCUH				*e*S	**Sn**	**11 38 15.0**	**+0.1**
	baz=286						
HWA	**Hwalien**	**0.88**	**212**	*e*P	**Pn**	**11 38 02.5**	**-0.1**
	baz=199						
HWA				*e*S	**Sn**	**11 38 15.6**	**+0.8**
	baz=199						
PCYT	**Pengchaiyu**	**0.90**	**358**	⇓*i*P	**Pn**	**11 38 03.3**	**+0.4**
	baz=351						
PCYT				*e*S	**Sn**	**11 38 16.4**	**+1.1**
	baz=351						
FUSS	**Fushou**	**0.92**	**239**	P	**Pn**	**11 38 03.9**	**+0.4**
	baz=232						
FUSS				*e*S	**Sn**	**11 38 17.0**	**+0.7**
	baz=232						
NJD	**Zhudong**	**0.93**	**271**	*e*P	**Pn**	**11 38 04.0**	**+0.7**
	baz=271						
NJD				*e*S	**Sn**	**11 38 16.1**	**0.0**
	baz=271						
WHF	**Hehuan Shan**	**0.96**	**233**	⇑*i*P	**Pn**	**11 38 04.0**	**-0.1**
	baz=232						
WHF				*e*S	**Sn**	**11 38 17.2**	**-0.3**
	baz=232						
TWT	**Tachien**	**0.97**	**241**	⇑*i*P	**Pn**	**11 38 04.8**	**+0.7**
	baz=232						
TWT				S	**Sn**	**11 38 18.2**	**

NSY			S		Sn	11 38 25.3	+1.3
	baz=256						
WPL	**Puli Township**	**1.27 236**	P		Pn	11 38 08.4	+0.6
	baz=226						
WPL			*eS*		Sn	11 38 24.1	+0.1
	baz=226						
WCS	**Beigang Elemen**	**1.28 239**	*eP*		Pn	11 38 08.9	+1.0
	baz=229						
WCS			*eS*		Sn	11 38 24.5	+0.2
	baz=229						
DPDB	**Guoxing**	**1.28 238**	P		Pn	11 38 08.8	+0.9
	baz=228						
DPDB			*eS*		Sn	11 38 25.3	+1.0
	baz=228						
VWDT	**VWDT**	**1.31 223**	*eP*		Pn	11 38 08.3	0.0
	baz=212						
VWDT			*eS*		Sn	11 38 23.9	-1.1
	baz=212						
HGSD	**Ruisui**	**1.38 207**	*eP*		Pn	11 38 08.3	-0.9
	baz=214						
HGSD			*eS*		Sn	11 38 27.6	+1.1
	baz=214						
SMLT	**Sun Moon Lake**	**1.39 233**	*eP*		Pn	11 38 10.0	+0.6
	baz=232						
SMLT			*eS*		Sn	11 38 28.6	+1.7
	baz=232						
WDJ	**Dajia District**	**1.39 255**	*eP*		Pn	11 38 09.9	+0.5
	baz=254						
WDJ			S		Sn	11 38 28.1	+1.2
	baz=254						
TYC	**Yuchr**	**1.41 235**	*eP*		Pn	11 38 10.2	+0.7
	baz=226						
TYC			*eS*		Sn	11 38 28.4	+1.1
	baz=226						
SSLB	**Suanglung**	**1.41 229**	*eP*		Pn	11 38 09.6	-0.1
	baz=220						
SSLB			*eS*		Sn	11 38 28.8	+1.4
	baz=220						
EHY	**Hungye**	**1.41 211**	*eP*		Pn	11 38 07.9	-1.7
	baz=208						
EHY			*eS*		Sn	11 38 25.2	-2.1
	baz=208						
TCU	**Taichung**	**1.43 247**	*eP*		Pn	11 38 10.2	+0.4
	baz=246						
WWF	**Wufeng**	**1.46 242**	*eP*		Pn	11 38 11.4	+1.2
	baz=242						
WWF			*eS*		Sn	11 38 29.1	+0.7
	baz=242						
YULB	**Yu-li**	**1.52 209**	P		Pn	11 38 09.7	-1.5
	baz=208						
IRIF	**Iriomote-Funau**	**1.52 104**	P		Pn	11 38 11.2	+0.1
IRIF			*eS*		Sn	11 38 30.2	+0.2
WHYT	**Xinyi Township**	**1.54 229**	*eP*		Pn	11 38 12.4	+1.0
	baz=219						
WHYT			*eS*		Sn	11 38 32.5	+2.0
	baz=219						
WNT1	**Nantou City**	**1.54 238**	*eP*		Pn	11 38 13.5	+2.2
	baz=250						
WJS	**Zhushan**	**1.55 235**	*eP*		Pn	11 38 12.6	+1.1
	baz=247						
WJS			*eS*		Sn	11 38 32.5	+1.8
	baz=247						
EYUL	**Yuli**	**1.55 208**	*eP*		Pn	11 38 10.5	-1.1
	baz=215						
EYUL			*eS*		Sn	11 38 31.0	+0.2
	baz=215						
WNT	**Mingjian**	**1.55 237**	*eP*		Pn	11 38 12.3	+0.8
	baz=249						
WNT			*eS*		Sn	11 38 32.2	+1.5
	baz=249						
WCHH	**Zhanghua**	**1.56 246**	*eP*		Pn	11 38 12.4	+0.9
	baz=246						
WCHH			*eS*		Sn	11 38 30.6	-0.2
	baz=246						
TWF1	**Yuli**	**1.56 209**	*eP*		Pn	11 38 10.2	-1.4
	baz=207						
HATJ	**Hateruma jima**	**1.68 113**	P		Pn	11 38 13.4	+0.2
FULB	**Fuli**	**1.69 206**	*eP*		Pn	11 38 12.4	-1.1
	baz=212						
FULB			*eS*		Sn	11 38 33.9	-0.3
	baz=212						
ALS	**Alishan**	**1.70 225**	*eP*		Pn	11 38 14.6	+0.8
	baz=214						
ALS			*eS*		Sn	11 38 37.0	+2.3
	baz=214						
CHN5	**Tsauling**	**1.73 230**	*eP*		Pn	11 38 14.9	+1.0
	baz=240						
CHN5			*eS*		Sn	11 38 37.2	+2.2
	baz=240						
WGK	**Gukeng**	**1.75 234**	*eP*		Pn	11 38 15.2	+1.0
	baz=246						
WGK			*eS*		Sn	11 38 37.1	+1.5
	baz=246						
CHKT	**Chengkung**	**1.76 203**	*eP*		Pn	11 38 12.8	-1.5
	baz=212						
WDLH	**Douliu**	**1.77 235**	*eP*		Pn	11 38 14.8	+0.3
	baz=247						
WDLH			*eS*		Sn	11 38 37.6	+1.6
	baz=247						
WRL	**Guolierlin Hig**	**1.78 243**	*eP*		Pn	11 38 15.4	+0.8
	baz=243						
WRL			*eS*		Sn	11 38 35.6	-0.7
	baz=243						
JKRS	**Kuro-shima**	**1.79 105**	P		Pn	11 38 15.1	+0.3
JKRS			*eS*		Sn	11 38 37.0	+0.5
ELDTW	**Lidau**	**1.83 213**	*eP*		Pn	11 38 14.6	-0.7
	baz=205						
ELDTW			*eS*		Sn	11 38 34.9	-2.7
	baz=205						
WTK	**Tuku**	**1.88 237**	*eP*		Pn	11 38 16.2	+0.3
	baz=237						
WTK			*eS*		Sn	11 38 39.5	+0.8
	baz=237						
JIJ	**Ishigaki jima**	**1.88 101**	P		Pn	11 38 15.9	-0.1
JIJ			S		Sn	11 38 38.7	0.0
EDH	**Donghe**	**1.90 203**	*eP*		Pn	11 38 15.3	-0.9
	baz=211						
CHN2	**Minshiung**	**1.91 232**	*eP*		Pn	11 38 18.6	+2.2
	baz=243						
CHN4	**Tsaushan**	**1.95 226**	P		Pn	11 38 18.2	+1.3
	baz=238						
CHN4			*eS*		Sn	11 38 42.6	+2.3
	baz=238						
TPUB	**Ta-pu**	**1.96 224**	*eP*		Pn	11 38 18.3	+1.2
	baz=236						
TPUB			*eS*		Sn	11 38 42.6	+1.9
	baz=236						
CHY	**Chiayi**	**1.97 232**	*eP*		Pn	11 38 17.8	+0.7
	baz=243						
CHY			*eS*		Sn	11 38 42.6	+1.8
	baz=243						
STYH	**Taoyuan**	**1.97 219**	*eP*		Pn	11 38 18.3	+1.1
	baz=207						
STYH			*eS*		Sn	11 38 41.6	+0.7
	baz=207						
STYT	**Tauyuan**	**1.99 219**	*eP*		Pn	11 38 18.3	+0.8
	baz=207						
STYT			*eS*		Sn	11 38 43.9	+2.5
	baz=207						
JISG	**Ishigakijimahi**	**2.00 94**	P		Pn	11 38 17.9	+0.3
WTP	**Ta-pu**	**2.01 223**	P		Pn	11 38 19.0	+1.2
	baz=235						
WTP			*eS*		Sn	11 38 42.2	+0.3
	baz=235						
LONT	**Longtian**	**2.02 207**	*eP*		Pn	11 38 16.2	-1.7
	baz=204						
LONT			*eS*		Sn	11 38 39.3	-2.8
	baz=204						
WSF	**Szhu**	**2.04 238**	*eS*		Sn	11 38 42.4	-0.1
	baz=238						
TWK	**Hsinying**	**2.08 226**	*eP*		Pn	11 38 19.5	+0.8
	baz=238						
TWK			*eS*		Sn	11 38 44.4	+0.8
	baz=238						
SNST	**Tainan City**	**2.10 225**	*eP*		Pn	11 38 20.8	+1.8
	baz=237						
SNST			*eS*		Sn	11 38 45.7	+1.6
	baz=237						
CHN1	**Nanshi**	**2.11 224**	*eP*		Pn	11 38 20.3	+1.2
	baz=236						
CHN1			*eS*		Sn	11 38 45.3	+1.0
	baz=236						
TWG	**Pinlang**	**2.12 207**	*eP*		Pn	11 38 17.5	-1.8
	baz=197						
TWG			*eS*		Sn	11 38 41.4	-3.1
	baz=197						
TWGBT	**Beinan**	**2.12 207**	*eP*		Pn	11 38 17.4	-1.9
	baz=197						
TWGBT			*eS*		Sn	11 38 41.2	-3.3
	baz=197						
LDUT	**Ludao**	**2.13 196**	*eP*		Pn	11 38 17.7	-1.6
	baz=189						
LDUT			*eS*		Sn	11 38 40.4	-4.2
	baz=189						
SGST	**Jiashian**	**2.15 221**	*eP*		Pn	11 38 20.0	+0.3
	baz=233						
SGST			*eS*		Sn	11 38 46.1	+0.8
	baz=233						
ICHU	**Yijhu**	**2.16 231**	*eP*		Pn	11 38 20.3	+0.6
	baz=231						
ICHU			*eS*		Sn	11 38 45.7	+0.3
	baz=231						
SLGT	**Liugui**	**2.19 218**	*eP*		Pn	11 38 21.2	+1.1
	baz=207						
SLGT			*eS*		Sn	11 38 48.1	+2.0
	baz=207						
JTJ	**Tarama**	**2.36 92**	P		Pn	11 38 23.5	+1.1
SCST	**Cishan**	**2.36 219**	*eP*		Pn	11 38 22.8	+0.3
	baz=219						
ECL	**Taimali**	**2.37 207**	*eP*		Pn	11 38 21.0	-1.6
	baz=199						
SSD	**Sandimen**	**2.39 215**	*eP*		Pn	11 38 24.2	+1.3
	baz=205						
MATB	**Ma-tsu**	**2.42 306**	*eP*		Pn	11 38 22.1	-1.1
	baz=313						
VWUC	**VWUC**	**2.43 277**	*eP*		Pn	11 38 22.9	-0.5
	baz=277						
MSUT	**Lienchiang**	**2.45 306**	*eP*		Pn	11 38 22.6	-1.0
	baz=313						
TWM1	**Shoushan**	**2.45 220**	*eP*		Pn	11 38 26.1	+2.4
	baz=218						
MASBT	**Mashibuluo**	**2.50 213**	*eP*		Pn	11 38 24.4	0.0
	baz=213						
EAST	**Anshuo**	**2.60 207**	*eP*		Pn	11 38 25.5	-0.3
	baz=200						
PNG	**Penghu**	**2.61 244**	*eP*		Pn	11 38 25.2	-0.6
	baz=244						
PHUB	**P'eng-hu**	**2.62 243**	*eP*		Pn	11 38 24.6	-1.4
	baz=242						
SSPT	**Xinbi**	**2.64 213**	*eP*		Pn	11 38 28.4	+2.1
	baz=212						
SCZT	**Fangliau**	**2.71 211**	*eP*		Pn	11 38 28.5	+1.2
	baz=210						
LAY	**Lan-yu**	**2.72 191**	*eP*		Pn	11 38 26.1	-1.4
	baz=183						
PTMZ	**Houxiangcun**	**2.74 277**	*eP*		Pn	11 38 26.9	-0.6
	baz=277						
SLIU	**Shizi**	**2.77 206**	*eP*		Pn	11 38 27.9	-0.3
	baz=205						
JIRB	**Irabujima**	**2.78 87**	*eS*		Sn	11 39 02.1	+1.5
LYJJ	**Jianjiangzhen**	**2.79 311**	*eP*		Pn	11 38 27.4	-0.9
	baz=310						
XPSS	**Dashiqiu**	**2.80 322**	*eP*		Pn	11 38 27.3	-1.1
	baz=320						
JMJ	**Miyako jima 2**	**2.89 88**	*eP*		Pn	11 38 31.4	+1.7
	baz=89						
TWKBT	**Hengchun**	**3.02 204**	*eP*		Pn	11 38 30.8	-0.7
	baz=216						
MHZQ	**Yeshan**	**3.10 297**	*eP*		Pn	11 38 31.7	-0.9
	baz=296						
KNM	**Kinmen**	**3.36 266**	*eP*		Pn	11 38 37.1	+0.9
	baz=265						
KNMB	**Chin-men Tao**	**3.40 266**	*eP*		Pn	11 38 35.3	-1.4
	baz=266						
AXDP	**Jialang**	**3.77 273**	*eP*		Pn	11 38 41.0	-0.7
	baz=273						
ZPLA	**Ao Xicun**	**4.06 260**	*eP*		Pn	11 38 44.2	-1.4
	baz=258						

SNET **12** *12:02:55.9±1.1, 14°.37N×92°.41W, h30km±735km, ML4.4*
MEX **12** *12:02:55.8±0.7, 14°.64N×92°.47W, h85km±8km, MD4.1*
IDC **12** *12:02:56.8±2.8, 14°.72N×92°.61W, h80km±22km, mb3.4/3, mb1 3.7/7, mb1mx3.4/41, mbtmp3.8/7, MS3.1/1, Ms1 3.1/1, ms1mx2.5/25, Error ellipse: s-maj=42.3km s-min=17.3km az=14.0*
GCG **12** *12:02:58.1±0.6, 14°.64N×92°.50W, h50km±999km, MD4.0*

ISC 12 12:02:56.5±1.1, 14°.70N±0°.07×92°.57W±0°.06, h73km±8km, n25, σ1°41/37, mb3.7/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.36**	**55**	*i* P		**Pn**		**12 03 07.3**	**-1.1**
THIG				*i* S		**Sn**		**12 03 16.7**	**-0.5**
PCIG		**1.18**	**328**	*i* P		**Pn**		**12 03 17.1**	**-0.3**
PCIG				*i* S		**Sn**		**12 03 33.4**	**+0.3**
CCIG	**Comitan**	**1.62**	**15**	*eP*		**Pn**		**12 03 25.4**	**+2.0**
CCIG				*i* S		**Sn**		**12 03 46.5**	**+2.8**
FUG	**Fuego 3**	**1.69**	**98**	*eP*		**Pn**		**12 03 24.7**	**+0.5**
PCG	**Pacaya**	**1.92**	**99**	*eP*		**Pn**		**12 03 28.2**	**+0.8**
PCG				*eS*		**Sn**		**12 03 51.9**	**+1.0**
APG	**El Apazote**	**2.06**	**81**	P		**Pn**		**12 03 29.7**	**+0.5**
	24nm,0.3s,baz=305,slow=23,SNR=154								
APG				S		**Sn**		**12 03 56.4**	**+2.3**
	68nm,0.3s,baz=167,slow=19,SNR=13								
TGIG		**2.13**	**346**	*eP*		**Pn**		**12 03 30.0**	**-0.1**
TGIG				*eS*		**Sn**		**12 03 56.5**	**+0.8**
NBG	**Las Nubes**	**2.15**	**93**	*eP*		**Pn**		**12 03 32.1**	**+1.6**
MRL	**Marmol**	**2.81**	**82**	*eP*		**Pn**		**12 03 40.7**	**+1.3**
CEVE	**Cerro Verde**	**2.98**	**107**	*eP*		**Pn**		**12 03 42.0**	**+0.2**
CEVE				*eS*		**Sn**		**12 04 18.0**	**+1.4**
CEVE				IAML				12 04 25.4	
	comp=Z,1μm,0.5s								
JAYA	**Jayaque - finc**	**3.20**	**109**	*eP*		**Pn**		**12 03 44.4**	**-0.2**
JAYA				*eS*		**Sn**		**12 04 20.7**	**-1.1**
TACO	**Tacachico**	**3.20**	**103**	*eP*		**Pn**		**12 03 44.0**	**-0.6**
TACO				*eS*		**Sn**		**12 04 23.3**	**+1.8**
CMIG	**Matias Romero**	**3.26**	**317**	P		**Pn**		**12 03 45.4**	**+0.1**
	comp=Z,14nm,0.3s,baz=137,slow=12,SNR=49								
CMIG				S		**Sn**		**12 04 26.7**	**+3.8**
	comp=Z,31nm,0.3s,baz=216,slow=12,SNR=7.9								
CMIG	**Matias Romero**	**3.26**	**317**	*eP*		**Pn**		**12 03 45.8**	**+0.4**
CMIG				*eS*		**Sn**		**12 04 23.6**	**+0.6**
LALI	**Alcalda de L**	**3.37**	**111**	*eP*		**Pn**		**12 03 46.8**	**-0.1**
LALI				*eS*		**Sn**		**12 04 25.7**	**-0.1**
COEG	**Centro de Oper**	**3.73**	**106**	*eP*		**Pn**		**12 03 51.8**	**-0.1**
COEG				*eS*		**Sn**		**12 04 36.1**	**+1.4**
COEB	**Comit de Eme**	**4.09**	**106**	*eP*		**Pn**		**12 03 57.6**	**+0.7**
TEIG	**Tepich**	**6.85**	**36**	P		**Pn**		**12 04 33.2**	**-1.2**
	comp=Z,32nm,0.3s,baz=226,slow=6.1,SNR=88								
TEIG				S		**Sn**		**12 05 47.8**	**-3.1**
	comp=Z,5.7nm,0.3s,baz=21,slow=22,SNR=8.4								
JTS	**Las Juntas de**	**8.63**	**120**	P		**Pn**		**12 04 59.1**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=306,slow=17,SNR=4.4								
TXAR	**Lajitas Array**	**17.81**	**327**	P		**Pn**		**12 07 00.2**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=162,slow=12,SNR=4.0								
LPIG	**La Paz**	**19.15**	**302**	LR		LR		12 15 21.0	
	comp=Z,55nm,20.2s,baz=92,slow=39								
NVAR	**Mina Array Bea**	**32.78**	**321**	P		P		12 09 26.3	+3.2
	comp=Z,0.6nm,0.7s,baz=140,slow=8.4,SNR=7.5								
YKA	**Yellowknife Ar**	**50.22**	**347**	P		**P**		**12 11 44.2**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=151,slow=7.7,SNR=8.1								
INK	**Inuvik**	**59.61**	**344**	P		**P**		**12 12 50.4**	**-2.1**
	comp=Z,1.0nm,0.4s,baz=114,slow=7.0,SNR=6.8								
ILAR	**Eielson Array**	**61.98**	**337**	P		**P**		**12 13 09.3**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=122,slow=5.0,SNR=5.8								

IDC **12** *12:05:09.4±2.3, 50°.67N×157°.83E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.3/47, mbtmp3.3/5, ML2.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/37, Error ellipse: s-maj=52.1km s-min=33.9km az=1.0*
KRSC **12** *12:05:14.9±1.1, 50°.98N×158°.04E, h41km±16km, ML4.1*
MOS **12** *12:05:15.1±0.5, 50°.85N×158°.11E, h39km, mb3.7/1, Error ellipse: s-maj=16.8km s-min=4.2km az=85.4*

ISC 12 12:05:15.0±2.3, 50°.93N±0°.06×158°.02E±0°.05, h25km±16km, n73, σ1°42/97, mb3.2/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.88**	**2**	PN		**Pn**		**12 05 31.6**	**-0.2**
KDTR				S		**Sb**		**12 05 41.6**	**-1.3**
KDTR	**Khodutka, Kamc**	**0.88**	**2**	*eP*		**Pn**		**12 05 31.6**	**-0.2**
KDTR				*eS*		**Sb**		**12 05 41.6**	**-1.3**
PAU	**Pauzhetka**	**0.93**	**306**	PN		**Pn**		**12 05 32.9**	**+0.4**
PAU				S		**Sb**		**12 05 44.5**	**+0.1**
PAU	**Pauzhetka**	**0.93**	**306**	*eP*		**Pn**		**12 05 32.9**	**+0.4**
PAU				*eS*		**Sb**		**12 05 44.5**	**+0.1**
SKR	**Severo-Kuril's**	**1.23**	**259**	PN		**Pn**		**12 05 37.2**	**+0.6**
SKR				S		**Sn**		**12 05 52.3**	**-0.1**
SKR	**Severo-Kuril's**	**1.23**	**259**	*eP*		**Pn**		**12 05 37.2**	**+0.6**
SKR				*eS*		**Sn**		**12 05 52.3**	**-0.1**
ASAK	**Asacha**	**1.46**	**357**	PN		**Pn**		**12 05 39.9**	**+0.1**
ASAK				S		**Sn**		**12 05 56.9**	**-1.2**
ASAK	**Asacha**	**1.46**	**357**	*eP*		**Pn**		**12 05 39.9**	**+0.1**
ASAK				*eS*		**Sn**		**12 05 56.9**	**-1.2**
RUS	**Russkaya**	**1.54**	**11**	PN		**Pn**		**12 05 40.5**	**-0.3**
RUS				S		**Sn**		**12 05 58.1**	**-1.8**
RUS	**Russkaya**	**1.54**	**11**	*eP*		**Pn**		**12 05 40.5**	**-0.3**
RUS				*eS*		**Sn**		**12 05 58.1**	**-1.8**
MTVR	**Mutnovka**	**1.56**	**4**	PN		**Pn**		**12 05 41.4**	**+0.2**
MTVR				S		**Sn**		**12 05 59.6**	**-1.1**
MTVR	**Mutnovka**	**1.56**	**4**	*eP*		**Pn**		**12 05 41.4**	**+0.2**
MTVR				*eS*		**Sn**		**12 05 59.6**	**-1.1**
MIPR	**Malaya Ipel'ka**	**1.56**	**330**	PN		**Pn**		**12 05 41.9**	**+0.7**
MIPR				S		**Sn**		**12 06 00.8**	**+0.2**
MIPR	**Malaya Ipel'ka**	**1.56**	**330**	*eP*		**Pn**		**12 05 41.9**	**+0.7**
MIPR				*eS*		**Sn**		**12 06 00.8**	**+0.2**
ALID	**Alaid**	**1.57**	**269**	PN		**Pn**		**12 05 42.3**	**+0.9**
ALID				S		**Sn**		**12 06 01.0**	**+0.1**
ALID	**Alaid**	**1.57**	**269**	*eP*		**Pn**		**12 05 42.3**	**+0.9**
ALID				*eS*		**Sn**		**12 06 01.0**	**+0.1**
GRL	**Gorelyy**	**1.62**	**1**	PN		**Pn**		**12 05 42.6**	**+0.5**
GRL				S		**Sn**		**12 06 01.5**	**-0.8**
GRL	**Gorelyy**	**1.62**	**1**	*eP*		**Pn**		**12 05 42.6**	**+0.5**
GRL				*eS*		**Sn**		**12 06 01.5**	**-0.8**
KRMR	**Karymshinskiy**	**1.90**	**2**	PN		**Pn**		**12 05 47.8**	**+2.0**
KRMR				S		**Sn**		**12 06 10.5**	**+1.5**
KRMR	**Karymshinskiy**	**1.90**	**2**	*eP*		**Pn**		**12 05 47.8**	**+2.0**
KRMR				*eS*		**Sn**		**12 06 10.5**	**+1.5**
APC	**Apacha**	**2.07**	**345**	PN		**Pn**		**12 05 49.1**	**+1.0**
APC				S		**Sn**		**12 06 13.2**	**+0.2**
APC	**Apacha**	**2.07**	**345**	*eP*		**Pn**		**12 05 49.1**	**+1.0**
APC				*eS*		**Sn**		**12 06 13.2**	**+0.2**
PET	**Petropavlovsk**	**2.13**	**10**	*e*PN		**Pn**		**12 05 49.8**	**+0.8**
PET				*eS*		**Sn**		**12 06 14.0**	**-0.6**
PET				pmax		pmax			
	comp=Z,56nm,0.4s								
PET				smax		smax			
	comp=E,191nm,0.5s								
PET				smax		smax			
	comp=N,289nm,0.5s								
PET	**Petropavlovsk**	**2.13**	**10**	*eP*		**Pn**		**12 05 49.6**	**+0.6**
PET				*eS*		**Sn**		**12 06 13.5**	**-1.1**
DALK	**Dalny**	**2.15**	**12**	PN		**Pn**		**12 05 49.5**	**+0.3**
DALK				S		**Sn**		**12 06 14.0**	**-1.1**
DALK	**Dalny**	**2.15**	**12**	*eP*		**Pn**		**12 05 49.5**	**+0.3**
DALK				*eS*		**Sn**		**12 06 14.0**	**-1.1**
PETK	**Petropavlovsk-**	**2.19**	**355**	Pn		**Pn**		**12 05 50.9**	**+1.1**
	comp=N,6.7nm,0.3s,baz=141,slow=16,SNR=236								
PETK				Sn		**Sn**		**12 06 17.8**	**+1.7**
	comp=N,4.6nm,0.3s,baz=102,slow=18,SNR=5.5								
UGLR	**Uglovaya**	**2.33**	**12**	PN		**Pn**		**12 05 52.9**	**+1.0**
UGLR	**Uglovaya**	**2.33**	**12**	*eP*		**Pn**		**12 05 52.9**	**+1.0**
AVH	**Avacha**	**2.38**	**10**	PN		**Pn**		**12 05 53.9**	**+1.4**
AVH	**Avacha**	**2.38**	**10**	*eP*		**Pn**		**12 05 53.9**	**+1.4**
SMAR	**Somma**	**2.38**	**11**	PN		**Pn**		**12 05 53.7**	**+1.0**
SMAR	**Somma**	**2.38**	**11**	*eP*		**Pn**		**12 05 53.7**	**+1.0**
NLC	**Nalytchevo**	**2.39**	**19**	PN		**Pn**		**12 05 52.6**	**+0.1**
NLC	**Nalytchevo**	**2.39**	**19**	*eP*		**Pn**		**12 05 52.6**	**+0.1**
KOK	**Koryaka**	**2.39**	**9**	PN		**Pn**		**12 05 54.4**	**+1.7**
KOK	**Koryaka**	**2.39**	**9**	*eP*		**Pn**		**12 05 54.4**	**+1.7**
SDLR	**Sedlovina**	**2.41**	**12**	PN		**Pn**		**12 05 53.4**	**+0.5**
SDLR	**Sedlovina**	**2.41**	**12**	*eP*		**Pn**		**12 05 53.4**	**+0.5**
KRER	**Koryakskii**	**2.42**	**10**	PN		**Pn**		**12 05 54.5**	**+1.4**
KRER	**Koryakskii**	**2.42**	**10**	*eP*		**Pn**		**12 05 54.5**	**+1.4**
KRX	**Arik**	**2.46**	**9**	PN		**Pn**		**12 05 55.8**	**+2.1**
KRX				S		**Sn**		**12 06 24.2**	**+1.2**
KRX	**Arik**	**2.46**	**9**	*eP*		**Pn**		**12 05 55.8**	**+2.1**
KRX				*eS*		**Sn**		**12 06 24.2**	**+1.2**
SPN	**Mys Shipunski**	**2.50**	**29**	PN		**Pn**		**12 05 55.6**	**+1.6**
SPN				S		**Sn**		**12 06 24.3**	**+0.7**
SPN	**Mys Shipunski**	**2.50**	**29**	*eP*		**Pn**		**12 05 55.6**	**+1.6**
SPN				*eS*		**Sn**		**12 06 24.3**	**+0.7**
GNL	**Ganaly**	**2.77**	**359**	PN		**Pn**		**12 05 59.1**	**+1.2**
GNL	**Ganaly**	**2.77**	**359**	*eP*		**Pn**		**12 05 59.1**	**+1.2**
KII	**Karymskiy**	**3.23**	**15**	PN		**Pn**		**12 06 06.3**	**+2.1**
KII	**Karymskiy**	**3.23**	**15**	*eP*		**Pn**		**12 06 06.3**	**+2.1**
MKZ	**Mys Kozlova**	**4.27**	**30**	PN		**Pn**		**12 06 19.2**	**+0.8**
MKZ	**Mys Kozlova**	**4.27**	**30**	*eP*		**Pn**		**12 06 19.2**	**+0.8**
KZV	**Kizimen**	**4.41**	**17**	PN		**Pn**		**12 06 23.8**	**+3.4**
KZV	**Kizimen**	**4.41**	**17**	*eP*		**Pn**		**12 06 23.8**	**+3.4**
TUMD	**Tumrok D**	**4.51**	**18**	*eP*		**Pn**		**12 06 24.1**	**+2.4**
TUMR	**Tumrok**	**4.54**	**16**	PN		**Pn**		**12 06 25.6**	**+3.4**
TUMR	**Tumrok**	**4.54**	**16**	*eP*		**Pn**		**12 06 25.6**	**+3.4**
KMNR	**Kamenistaya**	**5.01**	**14**	PN		**Pn**		**12 06 30.7**	**+2.1**
KMNR	**Kamenistaya**	**5.01**	**14**	*eP*		**Pn**		**12 06 30.7**	**+2.1**
ESO	**Esso**	**5.02**	**4**	PN		**Pn**		**12 06 32.0**	**+3.3**
ESO	**Esso**	**5.02**	**4**	*eP*		**Pn**		**12 06 32.0**	**+3.3**
KBTR	**Krutoberegovo**	**6.01**	**27**	PN		**Pn**		**12 06 43.8**	**+1.6**
KBTR	**Krutoberegovo**	**6.01**	**27**	*eP*		**Pn**		**12 06 43.8**	**+1.6**
ILAR	**Eielson Array**	**31.26**	**43**	P		**P**		**12 11 32.9**	**+0.5**
	comp=N,0.1nm,0.4s,baz=266,slow=6.7,SNR=4.3								
H11N2	**WAKE ISLAND Hy**	**31.92**	**164**	T		T		12 45 37.2	
	baz=349,slow=76,SNR=33								
H11N3	**WAKE ISLAND Hy**	**31.93**	**164**	T		T		12 45 30.0	
	baz=349,slow=76,SNR=23								
H11N1	**WAKE ISLAND Hy**	**31.93**	**164**	T		T		12 45 38.9	
	baz=349,slow=76,SNR=16								
H11S1	**WAKE

*NNC **12** 12:11:48.8±1.5,39.51N×76.07E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=11.0km s-min=9.2km az=152.0*
ISC 12 12:11:44.0±1.7,39.35N±0.08×76.00E±0.04,h10km,n49,
σ2.29/75,17C-10D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.04**	**290**	⇑*i*	**Pn**	**12 12 17.8**	**-0.8**
	baz=4.0						
SFK				⇑*i*	**Sb**	**12 12 48.2**	**+1.4**
	baz=4.0						
ULHL	**Ulahol**	**2.89**	**4**	⇑*i*	**Pn**	**12 12 32.7**	**+2.3**
	baz=0.0						
ULHL				⇑*i*	**Sg**	**12 13 14.7**	**-2.3**
	baz=0.0						
KDJ	**Kajisay**	**2.91**	**18**	⇑*i*	**Pn**	**12 12 32.3**	**+1.7**
	baz=12						
KDJ				⇑*i*	**Sb**	**12 13 13.5**	**+1.5**
	baz=12						
UCH	**Uchtor**	**3.08**	**339**	⇑*e*	**Pn**	**12 12 35.4**	**+2.2**
	baz=41						
UCH				⇑*i*	**Sb**	**12 13 19.8**	**+2.7**
	baz=41						
BOOM	**Boomskoye usch**	**3.13**	**359**	⇑*e*	**Pn**	**12 12 35.8**	**+2.2**
	baz=57						
BOOM				⇑*i*	**Sb**	**12 13 20.4**	**+2.1**
	baz=57						
AML	**Almayashu**	**3.28**	**328**	⇓*i*	**Pn**	**12 12 37.9**	**+2.0**
	baz=32						
AML				⇓*i*	**Sb**	**12 13 24.4**	**+1.7**
	baz=32						
KBK	**Karagaybulak**	**3.39**	**347**	⇓*e*	**Pn**	**12 12 39.7**	**+2.5**
	baz=47						
KBK				⇓*i*	**Sb**	**12 13 26.9**	**+1.1**
	baz=47						
AAK	**Ala-Archa**	**3.47**	**341**	⇑*i*	**Pn**	**12 12 40.8**	**+2.5**
	baz=42						
AAK				⇑*i*	**Sb**	**12 13 28.8**	**+0.8**
	baz=42						
AAK	**Ala-Archa**	**3.47**	**341**	⇓Pn	**Pn**	**12 12 41.3**	**+3.0**
	2.7nm,0.4s						
AAK				⇓Pg	**Pg**	**12 12 50.0**	**-0.6**
	16nm,0.7s						
AAK				⇑Lg	Lg	12 13 33.9	
	33nm,0.8s						
TKM2	**Tokmak 2**	**3.58**	**355**	⇓*e*	**Pn**	**12 12 42.3**	**+2.5**
	baz=54						
TKM2				⇓*i*	**Sb**	**12 13 31.5**	**+0.5**
	baz=54						
TKM2	**Tokmak 2**	**3.58**	**355**	⇑Pg	**Pg**	**12 12 50.6**	**-1.9**
	10nm,0.6s						
TKM2				⇑Lg	Lg	12 13 38.1	
	15nm,0.6s						
KST	**Kastek**	**3.69**	**360**	*e*P	**Pb**	**12 12 50.5**	**+1.2**
	18nm,0.6s						
KST				*e*S	**Sg**	**12 13 41.8**	**-0.6**
	23nm,0.7s						
KST	**Kastek**	**3.69**	**360**	Pg	**Pg**	**12 12 53.0**	**-1.7**
	18nm,0.6s						
KST				Lg	Lg	12 13 41.1	
	23nm,0.7s						
IZV	**Izvestkoviy**	**3.71**	**7**	*e*P	**Pb**	**12 12 51.1**	**+1.4**
	10nm,0.5s						
IZV				*e*S	**Sg**	**12 13 42.4**	**-0.7**
	28nm,0.9s						
IZV	**Izvestkoviy**	**3.71**	**7**	Pg	**Pg**	**12 12 54.8**	**-0.2**
	14nm,0.6s						
IZV				Lg	Lg	12 13 44.6	
	28nm,0.9s						
TNSS	**Tian-Shan**	**3.75**	**11**	*e*P	**Pb**	**12 12 50.3**	**-0.2**
	8.7nm,0.6s						
TNSS				*e*S	**Sg**	**12 13 41.4**	**-3.0**
	14nm,0.7s						
TNSS	**Tian-Shan**	**3.75**	**11**	Pg	**Pg**	**12 12 53.3**	**-2.6**
	13nm,0.6s						
TNSS				Lg	Lg	12 13 42.4	
	14nm,0.7s						
MTBS	**Maitube**	**3.79**	**5**	*e*P	**Pb**	**12 12 52.1**	**+1.1**
	8.9nm,0.4s						
MTBS				*e*S	**Sg**	**12 13 44.5**	**-1.1**
	15nm,0.4s						
MTBS	**Maitube**	**3.79**	**5**	Pg	**Pg**	**12 12 55.4**	**-1.2**
	8.9nm,0.4s						
MTBS				Lg	Lg	12 13 44.5	
	15nm,0.4s						
MDOK	**Medeo**	**3.89**	**11**	*e*P	**Pb**	**12 12 52.3**	**-0.5**
	10nm,0.5s						
MDOK				*e*S	**Sg**	**12 13 44.4**	**-4.4**
	37nm,0.9s						
MDOK	**Medeo**	**3.89**	**11**	Pg	**Pb**	**12 12 54.1**	**+1.3**
MDOK				Lg	Lg	12 13 46.8	
MDOK	**Medeo**	**3.89**	**11**	Pg	**Pg**	**12 12 56.1**	**-2.4**
	10nm,0.5s						
MDOK				Lg	Lg	12 13 46.3	
	37nm,0.9s						
DGS	**Degeres**	**3.89**	**358**	*e*P	**Pb**	**12 12 55.2**	**+2.5**
	20nm,0.8s						
DGS				*e*S	**Sg**	**12 13 49.7**	**+0.8**
	21nm,0.6s						
DGS	**Degeres**	**3.89**	**358**	Pg	**Pg**	**12 12 57.3**	**-1.2**
	20nm,0.8s						
DGS				Lg	Lg	12 13 49.7	
	21nm,0.6s						
KOTS	**Kotyrbulak**	**3.96**	**12**	*e*P	**Pb**	**12 12 54.3**	**+0.2**
	14nm,0.8s						
KOTS				*e*S	**Sg**	**12 13 48.3**	**-3.1**
	68nm,0.7s						
KOTS	**Kotyrbulak**	**3.96**	**12**	Pg	**Pg**	**12 12 57.5**	**-2.5**
	25nm,0.5s						
KOTS				Lg	Lg	12 13 49.3	
	68nm,0.7s						
SATY	**Saty**	**4.12**	**25**	*e*P	**Pb**	**12 12 57.5**	**+0.7**
	9.8nm,0.7s						
SATY				*e*S	**Sg**	**12 13 53.8**	**-2.5**
	18nm,0.7s						
SATY	**Saty**	**4.12**	**25**	Pg	**Pg**	**12 13 01.7**	**-1.2**
	9.8nm,0.7s						
SATY				Lg	Lg	12 13 55.8	
	18nm,0.7s						
KRBS	**Karabastau**	**4.34**	**357**	*e*P	**Pb**	**12 13 02.4**	**+1.9**
	11nm,0.6s						
KRBS				*e*S	**Sg**	**12 14 01.9**	**-1.6**
	11nm,0.7s						
KRBS	**Karabastau**	**4.34**	**357**	Pg	**Pg**	**12 13 05.1**	**-2.1**
	11nm,0.6s						
KRBS				Lg	Lg	12 14 01.9	
	11nm,0.7s						
KTBS	**Karatobe**	**4.38**	**6**	*e*P	**Pb**	**12 13 01.8**	**+0.6**
	5.7nm,0.5s						
KTBS				*e*S	**Sg**	**12 14 00.9**	**-3.9**
	30nm,0.8s						
KTBS	**Karatobe**	**4.38**	**6**	Pg	**Pg**	**12 13 05.4**	**-2.6**
	7.4nm,0.5s						
KTBS				Lg	Lg	12 14 02.4	
	30nm,0.8s						
UZB	**Uzynbulak**	**4.42**	**30**	*e*P	**Pg**	**12 13 04.7**	**-4.0**
	4.3nm,0.3s						
UZB				*e*S	**Sg**	**12 14 05.9**	**-0.1**
	20nm,1.2s						
UZB	**Uzynbulak**	**4.42**	**30**	Pg	**Pg**	**12 13 08.3**	**-0.4**
	5.5nm,0.3s						
UZB				Lg	Lg	12 14 07.1	
	20nm,1.2s						
KURS	**Kuram**	**4.44**	**21**	*e*P	**Pb**	**12 13 02.5**	**+0.4**
	7.0nm,0.5s						
KURS				*e*S	**Sg**	**12 14 02.2**	**-4.4**
	9.1nm,1.0s						
KURS	**Kuram**	**4.44**	**21**	Pg	**Pg**	**12 13 06.9**	**-2.2**
	7.0nm,0.5s						
KURS				Lg	Lg	12 14 04.6	
	9.1nm,1.0s						
KPKS	**Kokpek**	**4.58**	**25**	*e*P	**Pb**	**12 13 05.2**	**+0.7**
	11nm,0.5s						
KPKS				*e*S	**Sg**	**12 14 07.1**	**-3.8**
	20nm,0.6s						
SHLS	**Shalkode**	**4.61**	**33**	*e*P	**Pg**	**12 13 10.6**	**-1.7**
	7.7nm,0.6s						
SHLS				*e*S	**Sg**	**12 14 15.8**	**+3.8**
	22nm,0.5s						
SHLS	**Shalkode**	**4.61**	**33**	Pg	**Pg**	**12 13 13.4**	**+1.1**
	7.2nm,0.4s						
SHLS				Lg	Lg	12 14 15.8	
	22nm,0.5s						
PDGK	**Podgornoye**	**4.76**	**32**	Pg	**Pg**	**12 13 11.9**	**-3.3**
	1.7nm,0.5s						
PDGK				Lg	Lg	12 14 13.2	
	6.8nm,0.6s						
PDGK	**Podgornoye**	**4.76**	**32**	⇑Pg	**Pg**	**12 13 15.8**	**+0.6**
	3.6nm,0.6s						
PDGK				⇓Lg	Lg	12 14 12.1	
	14nm,0.7s						
ARXS	**Arharly**	**5.04**	**15**	Pg	**Pg**	**12 13 16.9**	**-3.7**
	21nm,0.7s						
ARXS				Lg	Lg	12 14 22.7	
	16nm,0.6s						
MNBS	**Baschi**	**5.05**	**20**	*e*P	**Pb**	**12 13 14.3**	**+1.7**
	10.0nm,0.6s						
MNBS				*e*S	**Sg**	**12 14 22.1**	**-4.0**
	14nm,0.7s						
MNBS	**Baschi**	**5.05**	**20**	Pg	**Pg**	**12 13 18.4**	**-2.4**
	10.0nm,0.6s						
MNBS				Lg	Lg	12 14 24.5	
	14nm,0.7s						
KTMS	**Ketmen**	**5.24**	**37**	*e*P	**Pb**	**12 13 17.8**	**+2.1**
	1.4nm,0.3s						
KTMS				*e*S	**Sg**	**12 14 28.4**	**-3.7**
	10nm,0.7s						
KTMS	**Ketmen**	**5.24**	**37**	Pg	**Pg**	**12 13 20.7**	**-3.6**
	0.7nm,0.2s						
KTMS				Lg	Lg	12 14 28.4	
	10nm,0.7s						
KK31	**Karatay Array**	**5.58**	**314**	⇓Pg	**Pg**	**12 13 27.4**	**-3.5**
	0.7nm,0.5s,baz=128,slow=15,SNR=3.7						
KK31				⇑Lg	Lg	12 14 48.4	
	5.8nm,0.7s,baz=124,slow=25,SNR=3.8						
BTLS	**Baital**	**5.87**	**346**	Pg	**Pg**	**12 13 34.1**	**-2.2**
	3.0nm,0.6s						
BTLS				Lg	Lg	12 14 51.9	
	10nm,0.7s						
KAPS	**Kapalarasan**	**6.43**	**22**	Pg	**Pg**	**12 13 44.4**	**-2.7**
	3.0nm,0.8s						
KAPS				Lg	Lg	12 15 09.6	
	4.1nm,0.8s						

IDC 12 12:25:55.3±1.9,13.96N×143.23E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.4/44,mbtmp3.5/4,Error ellipse: s-maj=301.5km s-min=23.7km az=109.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.80**	**195**	P	P	12 32 47.8	-0.2
	1.2nm,1.2s,baz=14,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**38.48**	**194**	P	P	12 33 19.5	+0.1
	0.5nm,0.8s,baz=31,slow=7.6,SNR=5.3						
ILAR	**Eielson Array**	**68.92**	**26**	P	P	12 37 02.2	+0.3
	0.4nm,0.8s,baz=231,slow=5.7,SNR=3.2						
YKA	**Yellowknife Ar**	**83.27**	**27**	P	P	12 38 23.2	-0.5
	0.2nm,0.6s,baz=285,slow=4.6,SNR=4.3						

KRSC 12 12:31:56.5±1.7,49.95N×156.13E,h120km±13km,ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.73**	**359**	*e*P	Pn	12 32 17.0	+1.0
SKR				*e*S	Sn	12 32 31.9	+1.1
ALID	**Alaid**	**0.99**	**338**	*e*P	Pn	12 32 18.6	0.0
ALID				*e*S	Sn	12 32 34.8	-0.5
PAU	**Pauzhetka**	**1.58**	**16**	*e*P	Pn	12 32 26.2	+1.4
PAU				*e*S	Sn	12 32 48.3	+2.0
KDTR	**Khodutka, Kamc**	**2.23**	**33**	*e*P	Pn	12 32 34.6	+1.8
KDTR				*e*S	Sn	12 33 01.7	+1.1
MIPR	**Malaya Ipel'ka**	**2.36**	**9**	*e*P	Pn	12 32 35.3	+0.8
ASAK	**Asacha**	**2.68**	**24**	*e*P	Pn	12 32 40.7	+2.1
MTVR	**Mutnovka**	**2.85**	**26**	*e*P	Pn	12 32 43.1	+2.3
MTVR				*e*S	Sn	12 33 17.5	+2.5
GRL	**Gorelyy**	**2.88**	**24**	*e*P	Pn	12 32 43.8	+2.6
GRL				*e*S	Sn	12 33 18.8	+3.1
RUS	**Russkaya**	**2.90**	**30**	*e*P	Pn	12 32 42.5	+1.1
RUS				*e*S	Sn	12 33 16.2	+0.2
APC	**Apacha**	**3.05**	**12**	*e*P	Pn	12 32 44.3	+1.0
KRMR	**Karymshinskiy**	**3.14**	**23**	*e*P	Pn	12 32 47.3	+2.7
KRMR				*e*S	Sn	12 33 24.8	+3.1
DALK	**Dalny**	**3.49**	**27**	*e*P	Pn	12 32 50.9	+1.7
DALK				*e*S	Sn	12 33 31.3	+1.4
UGLR	**Uglovaya**	**3.67**	**26**	*e*P	Pn	12 32 53.4	+1.7
KOK	**Koryaka**	**3.69**	**24**	*e*P	Pn	12 32 54.8	+2.9
AVH	**Avacha**	**3.70**	**25**	*e*P	Pn	12 32 54.8	+2.8
SMAR	**Somma**	**3.71**	**26**	*e*P	Pn	12 32 55.0	+2.7
SDLR	**Sedlovina**	**3.75**	**26**	*e*P	Pn	12 32 54.7	+2.0
KRX	**Arik**	**3.76**	**24**	*e*P	Pn	12 32 55.4	+2.6
GNL	**Ganaly**	**3.92**	**16**	*e*P	Pn	12 32 56.5	+1.6
SPN	**Mys Shipunski**	**3.98**	**36**	*e*S	Sn	12 33 42.3	+0.8
MKZ	**Mys Kozlova**	**5.75**	**35**	*e*P	Pn	12 33 20.1	+0.7
TUMD	**Tumrok D**	**5.87**	**25**	*e*P	Pn	12 33 23.7	+2.7
TUMR	**Tumrok**	**5.87**	**23**	*e*P	Pn	12 33 24.3	+3.1
KMNR	**Kamenistaya**	**6.33**	**22**	*e*P	Pn	12 33 30.2	+2.9

*NEIC **12** 13:20:22.3±3.0,13.01N±0.05×57.9E±0.1,h10km±1km, mb4.1/12,Error ellipse: s-maj=20.8km s-min=7.9km az=98.0*
*IDC **12** 13:20:25.1±0.8,13.01N×57.93E,h0km,mb4.0/10, mb1 4.2/11,mb1mx3.8/49,mbtmp4.0/11,ML3.9/1,MS3.4/14, Ms1 3.4/14,ms1mx3.2/60,Error ellipse: s-maj=23.1km s-min=18.1km az=130.0*
ISC 12 13:20:25.1±0.8,13.1N±0.1×57.9E±0.1,h10km,n42,
σ2.56/30,mb4.1/15,MS3.5/13,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**3.88**	**256**		**Pn**	**13 21 21.9**	**-3.1**
WSAR	**Wadi Sarin**	**10.08**	**4**	Pn	**Pn**	**13 22 52.0**	**+1.9**
	1.1nm,0.3s,baz=237,slow=9.6,SNR=8.4						
WSAR				LR	LR	13 26 24.3	
	comp=Z,466nm,19.9s,baz=203,slow=35						
RAYN	**Ar Rayn**	**15.62**	**313**	P	**Pn**	**13 24 08.2**	**+2.6**
RAYN				IAmb	IAmb	13 24 09.3	
	comp=Z,11nm,1.4s						
HRA	**Herat**	**21.54**	**10**	P	**P**	**13 25 15.0**	**+0.2**
KBL	**Kabul**	**23.61**	**24**	P	**P**	**13 25 36.0**	**-0.6**
KBL				IAmb	IAmb	13 25 52.5	
	comp=Z,8.5nm,1.2s						
GEYT	**Alibeck**	**24.70**	**1**	LR	LR	13 35 16.1	
	comp=Z,35nm,19.4s,baz=250,slow=36						
KMBO	**Kilima Mbogo**	**24.86**	**237**	P	**P**	**13 25 50.2**	**+1.8**
	comp=Z,1.5nm,0.3s,baz=32,slow=11,SNR=12						
KMBO				LR	LR	13 35 27.8	
	comp=Z,99nm,19.8s,baz=90,slow=36						
EIL	**Elat**	**26.85**	**311**	LR	LR	13 36 39.2	
	comp=Z,87nm,21.1s,baz=113,slow=36						
GNI	**Garni**	**29.28**	**339**	LR	LR	13 38 18.6	
	comp=Z,49nm,18.4s,baz=186,slow=36						
KK31	**Karatay Array**	**31.81**	**18**	P	**P**	**13 26 50.2**	**+0.3**
KK31				IAmb	IAmb	13 26 55.5	
	comp=Z,3.2nm,1.1s						
KKAR	**Karatay Array**	**31.81**	**18**	P	**P**	**13 26 46.4**	**-3.5**
AAK	**Ala-Archa**	**32.75**	**23**	P	**P**	**13 26 54.9**	**-3.5**
KBZ	**Khabaz**	**33.09**	**340**	LR	LR	13 41 35.6	
	comp=Z,104nm,20.8s,baz=181,slow=38						
BRTR	**Keskin Array B**	**34.01**	**326**	LR	LR	13 44 25.7	
	comp=Z,79nm,19.1s,baz=122,slow=42						
ABKAR	**Akbulak array**	**36.06**	**2**	P	**P**	**13 27 25.9**	**-0.9**
MAKZ	**Makanchi**	**39.22**	**26**	P	**P**	**13 27 52.1**	**-1.5**
MK31	**Makanchi Array**	**39.34**	**27**	P	**P**	**13 27 51.3**	**-3.3**
MKAR	**Makanchi Array**	**39.34**	**27**	P	**P**	**13 27 57.6**	**+3.0**
	comp=Z,1.1nm,0.7s,baz=210,slow=8.5,SNR=14						
MKAR				LR	LR	13 45 12.6	
	comp=Z,96nm,18.1s,baz=220,slow=38						
MKAR	**Makanchi Array**	**39.34**	**27**	P	**P**	**13 27 51.9**	**-2.8**
CMAR	**Chiang Mai Arr**	**39.83**	**77**	P	**P**	**13 28 00.4**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=291,slow=7.6,SNR=1.2						
CMAR				LR	LR	13 43 21.1	
	comp=Z,18nm,20.5s,baz=260,slow=35						
TIRR	**Tirgusor**	**40.08**	**327**	P	**P**	**13 27 58.2**	**-2.6**
BRVK	**Borovoye**	**41.05**	**11**	P	**P**	**13 28 05.6**	**-3.0**
BRVK				IAmb	IAmb	13 28 23.3	
	comp=Z,2.2nm,1.0s						
MLR	**Muntele Rosu**	**42.09**	**326**	LR	LR	13 47 00.6	
	comp=Z,58nm,19.9s,baz=348,slow=38						
MLR	**Muntele Rosu**	**42.09**	**326**	P	**P**	**13 28 15.7**	**-1.7**
MLR				IAmb	IAmb	13 28 31.7	
	comp=Z,4.0nm,1.3s						
BURAR	**Bucovina Array**	**43.84**	**328**	P	**P**	**13 28 30.4**	**-1.2**
BUR08	**Bucovina Ar. S**	**43.87**	**328**	P	**P**	**13 28 28.0**	**-3.9**
MATP	**Matopo**	**44.10**	**221**	P	**P**	**13 28 36.6**	**+2.6**
	comp=Z,2.3nm,0.8s,baz=39,slow=8.1,SNR=6.1						
ZALV	**Zalesovo Beam**	**45.95**	**22**	P	**P**	**13 28 50.8**	**+2.6**
	comp=Z,2.3nm,0.6s,baz=210,slow=6.8,SNR=11						
ZALV				LR	LR	13 49 54.2	
	comp=Z,111nm,18.5s,baz=166,slow=38						
ZALV	**Zalesovo Beam**	**45.95**	**22**	P	**P**	**13 28 44.9**	**-3.3**
VRAC	**Vranov**	**49.46**	**325**	LR	LR	13 51 42.7	
	comp=Z,42nm,18.7s,baz=72,slow=38						
BOSA	**Boshof**	**52.11**	**217**	LR	LR	13 49 36.6	
	comp=Z,70nm,20.1s,baz=12,slow=34						
SONM	**Songino Array**	**53.04**	**39**	P	**P**	**13 29 44.8**	**+2.2**
	comp=Z,0.5nm,0.9s,baz=252,slow=8.9,SNR=3.9						
FINES	**FINESS Array B**	**53.42**	**342**	P	**P**	**13 29 47.5**	**+2.5**
	comp=Z,2.6nm,0.7s,baz=142,slow=9.6,SNR=6.7						
NOA	**NORSAR Array B**	**58.48**	**335**	LR	LR	13 59 37.7	
	comp=Z,17nm,20.8s,baz=330,slow=40						
ESDC	**Sonseca Array**	**60.09**	**308**	P	**P**	**13 30 34.1**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=84,slow=6.0,SNR=13						
H01W3	**Cape Leeuwin H**	**71.58**	**134**	T	T	14 49 46.4	
	baz=302,slow=75,SNR=87						
H01W2	**Cape Leeuwin H**	**71.58**	**134**	T	T	14 49 49.8	
	baz=302,slow=75,SNR=88						
H01W1	**Cape Leeuwin H**	**71.59**	**134**	T	T	14 49 52.5	
	baz=302,slow=75,SNR=101						
WRA	**Warramunga Arr**	**82.09**	**113**	P	**P**	**13 32 46.7**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=298,slow=4.3,SNR=9.0						
WRAB	**Tennant Creek**	**82.10**	**113**	P	**P**	**13 32 42.3**	**-4.2**
WRAB				IAmb	IAmb	13 32 51.5	
	comp=Z,2.8nm,1.1s						
ASAR	**Alice Springs**	**82.81**	**116**	P	**P**	**13 32 50.5**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=290,slow=5.0,SNR=12						
ASAR	**Alice Springs**	**82.81**	**116**	P	**P**	**13 32 47.8**	**-2.4**

*DDA **12** 13:21:58.7,35.84N×31.48E,h5km±4km,ML2.0*
*ISK **12** 13:22:01.7,35.93N×31.58E,h15km,ML2.9/11*
*NIC **12** 13:22:01.7±0.0,35.79N×31.63E,h20km±31km,Ml2.8/2*
ISC 12 13:21:59.5±1.4,35.80N±0.03×31.50E±0.03,h10km±11km, n27,σ1.22/42,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZI	**Gazipasa**	**0.79**	**56**	P	**Pg**	**13 22 15.2**	**+0.5**
GAZI				S	**Sg**	**13 22 25.1**	**+0.1**
GAZI	**Gazipasa**	**0.79**	**56**	*i* P	**Pg**	**13 22 14.7**	**0.0**
GAZI				*i* S	**Sg**	**13 22 24.3**	**-0.7**
GAZI				IAML		13 22 30.0	
	comp=E,52nm,0.5s						
GAZI				IAML		13 22 31.0	
	comp=N,86nm,0.6s						
ALAN	**Alanya-ANTALYA**	**0.87**	**29**	PG	**Pg**	**13 22 16.6**	**+0.4**
ALAN				SG	**Sg**	**13 22 26.8**	**-0.8**
AKMS	**Akamas**	**1.03**	**139**	P	**Pb**	**13 22 17.5**	**-2.0**
AKMS				S	**Sb**	**13 22 33.3**	**+0.1**
AKMS				AML	AML	13 22 35.9	
	comp=N,1.0nm,0.4s						
AKMS				AML	AML	13 22 35.9	
	comp=N,1.0nm,0.4s						
AKMS				AML	AML	13 22 36.2	
	comp=N,1.3nm,0.4s						
AKMS				AML	AML	13 22 36.2	
	comp=N,1.3nm,0.4s						
AKUM	**Antalya-Kumluc**	**1.08**	**299**	*i* P	**Pb**	**13 22 18.6**	**-1.6**
AKUM				*i* S	**Sb**	**13 22 33.8**	**-0.6**
AKUM				IAML		13 22 36.0	
	comp=E,40nm,0.7s						
AKUM				IAML		13 22 37.0	
	comp=N,74nm,0.4s						
ALFC	**Alefka**	**1.10**	**125**	P	**Pb**	**13 22 21.4**	**+0.8**
ALFC				S	**Sn**	**13 22 36.9**	**+0.6**
ALFC				AML	AML	13 22 40.9	
	comp=N,0.7nm,0.3s						
ALFC				AML	AML	13 22 40.9	
	comp=N,0.7nm,0.3s						
ALFC				AML	AML	13 22 41.9	
	comp=N,1.0nm,0.2s						
ALFC				AML	AML	13 22 41.9	
	comp=N,1.0nm,0.2s						
KEPZ	**Antalya-Kepez**	**1.10**	**4**	*i* P	**Pb**	**13 22 19.1**	**-1.6**
KEPZ				*i* S	**Sb**	**13 22 34.5**	**-0.7**
KEPZ				IAML		13 22 39.0	
	comp=E,52nm,0.4s						
KEPZ				IAML		13 22 41.0	
	comp=N,30nm,0.3s						
LEF	**Lefka**	**1.32**	**121**	PN	**Pb**	**13 22 25.9**	**+1.5**
NATA	**Nata**	**1.34**	**139**	P	**Pn**	**13 22 22.7**	**-1.6**
NATA				S	**Sn**	**13 22 40.2**	**-2.0**
TEKE	**Tekeli-Mersin**	**1.35**	**75**	PN	**Pn**	**13 22 24.6**	**+0.2**
TEKE				SN	**Sg**	**13 22 42.6**	**-0.3**
BERE	**Bereket-Mersin**	**1.50**	**68**	PN	**Pn**	**13 22 27.1**	**+0.5**
BERE				SN	**Sb**	**13 22 45.9**	**-0.7**
KORT	**Korkueli**	**1.52**	**323**	PN	**Pn**	**13 22 28.3**	**+1.4**
KORT	**Korkueli**	**1.52**	**323**	*i* P	**Pn**	**13 22 25.3**	**-1.5**
KORT				IAML		13 22 58.0	
	comp=N,25nm,0.8s						
KORT				IAML		13 22 59.0	
	comp=E,27nm,0.7s						
ELL	**Elmali**	**1.60**	**307**	P	**Pn**	**13 22 30.1**	**+2.1**
SEDI	**Konya, Seydise**	**1.66**	**7**	*i* S	**Sg**	**13 22 53.3**	**+0.4**
TEVE	**Tevekalti-Mers**	**1.69**	**67**	PN	**Pn**	**13 22 33.0**	**+1.1**
GULN	**MERSIN_Gulnar**	**1.70**	**76**	*i* P	**Pn**	**13 22 29.2**	**0.0**
GULN				*i* S	**Sb**	**13 22 51.1**	**-1.1**
GULN				IAML		13 22 55.0	
	comp=N,36nm,0.8s						
GULN				IAML		13 22 59.0	
	comp=E,23nm,0.9s						
AKKU	**Akkuyu-Mersin**	**1.70**	**77**	PN	**Pn**	**13 22 30.3**	**+1.1**
CSS	**Mathiatis**	**1.71**	**119**	PN	**Pb**	**13 22 32.0**	**+1.0**
KKBE	**Karaman, Kazim**	**1.83**	**39**	*i* P	**Pb**	**13 22 32.9**	**-0.3**
KKBE				*i* S	**Sg**	**13 22 57.9**	**-0.5**
KKBE				IAML		13 23 05.0	
	comp=N,34nm,0.6s						
KKBE				IAML		13 23 07.0	
	comp=E,31nm,0.6s						
KEBE	**Keben-Mersin**	**1.90**	**69**	PN	**Pn**	**13 22 33.1**	**+1.0**
MVOU	**Mavrovouni**	**1.91**	**114**	P	**Pn**	**13 22 29.9**	**-2.1**
KIZK	**Mersin**	**2.24**	**72**	PN	**Pn**	**13 22 38.1**	**+1.4**
BAGO	**Egridir - ISPA**	**2.26**	**346**	*i* P	**Pn**	**13 22 38.7**	**+1.7**
BAGO				*i* S	**Sb**	**13 23 08.8**	**+0.2**
OSC1	**CSNet OBS 1**	**2.30**	**185**	P	**Pn**	**13 22 40.2**	**+2.7**
YVAC	**Isparta, Yalva**	**2.48**	**355**	*i* P	**Pn**	**13 22 41.0**	**+1.0**
Y

USRK	**Ussuriysk Ar.**	**50.28**	**4**	P		**P**	**13 46 40.2**	**-0.5**
	1.7nm,0.8s,baz=180,slow=6.9,SNR=4.3							
SONM	**Songino Array**	**57.07**	**343**	P		**P**	**13 47 30.0**	**+0.5**
	0.4nm,0.6s,baz=162,slow=6.6,SNR=3.6							
PETK	**Petropavlovsk-**	**64.18**	**19**	P		**P**	**13 48 17.2**	**+0.5**
	1.3nm,0.5s,baz=178,slow=4.5,SNR=9.8							
MKAR	**Makanchi Array**	**66.48**	**328**	P		**P**	**13 48 31.8**	**+0.3**
	0.4nm,0.4s,baz=118,slow=8.6,SNR=9.2							
ZALV	**Zalesovo Beam**	**70.00**	**334**	P		**P**	**13 48 52.3**	**-0.5**
	0.6nm,0.5s,baz=106,slow=9.2,SNR=3.1							

*NOU **12** 13:57:54.5, 37.53S × 179.00E, h143km, MLv4.1, Off E. Coast of N. Island, N.Z.*
*WEL **12** 13:58:07.6, 38.2S × 17.8E, h73km ± 2km, M3.2/36, ML3.4/36, MLv3.2/36, Error ellipse: s-maj=0.0km s-min=0.0km az=89.3*
ISC 12 13:58:08.1 ± 1.8, 37.83S ± 0.05 × 177.96E ± 0.05, h75 km ± 10 km, n106, σ 0 92/119, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PKGZ	**Pakihiroa**	**0.11**	**124**	P	**Pn**	**13 58 38.3**	**-0.7**
HAZ	**Te Kaha**	**0.15**	**296**	P	**Pn**	**13 58 18.3**	**-0.7**
RUGZ	**Raukumara Rang**	**0.26**	**238**	P	**Pn**	**13 58 18.7**	**-1.0**
PUZ	**Puketiti**	**0.34**	**136**	P	**Pn**	**13 58 19.9**	**-0.2**
PUZ				S	**Sn**	**13 58 28.4**	**-0.5**
TWGZ	**Tauwhareparae**	**0.35**	**177**	P	**Pn**	**13 58 20.4**	**+0.2**
TWGZ				S	**Sn**	**13 58 30.0**	**+0.9**
WMGZ	**Waiomatatini S**	**0.36**	**89**	P	**Pn**	**13 58 20.3**	**+0.1**
WMGZ				S	**Sn**	**13 58 29.9**	**+0.8**
MXZ	**Matakaoa Point**	**0.38**	**47**	P	**Pn**	**13 58 20.3**	**0.0**
MXZ				S	**Sn**	**13 58 29.4**	**+0.1**
MWZ	**Matawai**	**0.61**	**214**	P	**Pn**	**13 58 22.4**	**0.0**
MWZ				S	**Sn**	**13 58 33.2**	**+0.1**
TKGZ	**Te Karaka**	**0.62**	**188**	P	**Pn**	**13 58 22.6**	**+0.2**
TKGZ				S	**Sn**	**13 58 33.9**	**+0.8**
CNGZ	**Carnagh Statio**	**0.69**	**163**	P	**Pn**	**13 58 23.8**	**+0.6**
WHRZ	**Whale Island**	**0.78**	**267**	P	**Pn**	**13 58 24.0**	**-0.2**
RAGZ	**Rawiri**	**0.80**	**212**	P	**Pn**	**13 58 24.7**	**+0.2**
RAGZ				S	**Sn**	**13 58 37.5**	**+0.9**
URZ	**Urewera**	**0.80**	**237**	P	**Pn**	**13 58 23.9**	**-0.5**
URZ				S	**Sn**	**13 58 35.5**	**-0.9**
RIGZ	**Rimuhau**	**0.89**	**190**	P	**Pn**	**13 58 25.8**	**+0.2**
RIGZ				S	**Sn**	**13 58 39.2**	**+0.6**
EDRZ	**Edgecumbe**	**1.00**	**253**	P	**Pn**	**13 58 26.6**	**-0.3**
EDRZ				S	**Sn**	**13 58 40.1**	**-0.8**
MARZ	**Manawahe**	**1.03**	**261**	P	**Pn**	**13 58 26.5**	**-0.7**
MARZ				S	**Sn**	**13 58 40.2**	**-1.2**
SNGZ	**Shannon Statio**	**1.07**	**207**	P	**Pn**	**13 58 28.2**	**+0.5**
SNGZ				S	**Sn**	**13 58 44.0**	**+1.6**
PRGZ	**Paritu Road**	**1.10**	**183**	P	**Pn**	**13 58 27.9**	**-0.2**
RTZ	**Ruatahuna**	**1.10**	**224**	P	**Pn**	**13 58 28.0**	**-0.2**
OPRZ	**Ohinepanea**	**1.11**	**269**	P	**Pn**	**13 58 27.4**	**-0.7**
OPRZ				S	**Sn**	**13 58 41.3**	**-1.9**
MUGZ	**Murupara**	**1.14**	**235**	P	**Pn**	**13 58 28.4**	**-0.1**
KNZ	**Kokohu**	**1.22**	**190**	P	**Pn**	**13 58 29.2**	**-0.3**
TARZ	**Mount Tarawera**	**1.22**	**250**	P	**Pn**	**13 58 29.2**	**0.0**
MKRZ	**Makatiti**	**1.22**	**255**	P	**Pn**	**13 58 29.5**	**-0.1**
RRRZ	**Republican Roa**	**1.25**	**245**	P	**Pn**	**13 58 29.8**	**-0.1**
LIRZ	**Lichensteins R**	**1.26**	**261**	P	**Pn**	**13 58 29.9**	**-0.1**
OMRZ	**Omania**	**1.28**	**257**	P	**Pn**	**13 58 30.7**	**+0.3**
RAHZ	**Arahi**	**1.29**	**212**	P	**Pn**	**13 58 30.7**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.33**	**182**	P	**Pn**	**13 58 30.9**	**0.0**
HLRZ	**Highlands Stat**	**1.34**	**251**	P	**Pn**	**13 58 31.1**	**+0.1**
TGRZ	**Tauranga**	**1.35**	**274**	P	**Pn**	**13 58 30.5**	**-0.7**
MTHZ	**Maungataniwha**	**1.35**	**220**	P	**Pn**	**13 58 31.5**	**+0.3**
KARZ	**Kaharoa**	**1.37**	**261**	P	**Pn**	**13 58 31.2**	**-0.3**
WHHZ	**Waihua**	**1.37**	**204**	P	**Pn**	**13 58 32.0**	**+0.5**
PRRZ	**Plateau Road**	**1.41**	**241**	P	**Pn**	**13 58 31.8**	**-0.1**
HRRZ	**Handcock Road**	**1.44**	**246**	P	**Pn**	**13 58 32.4**	**0.0**
HSRZ	**Hossack Road**	**1.44**	**250**	P	**Pn**	**13 58 32.9**	**+0.5**
ALRZ	**Allen Road**	**1.47**	**239**	P	**Pn**	**13 58 32.7**	**-0.1**
GRRZ	**Galatos Road**	**1.55**	**250**	P	**Pn**	**13 58 34.1**	**+0.2**
NMHZ	**Naumai**	**1.56**	**215**	P	**Pn**	**13 58 34.7**	**+0.6**
MRHZ	**Matea Rd**	**1.57**	**230**	P	**Pn**	**13 58 34.5**	**+0.3**
WPRZ	**Whakapapatarin**	**1.58**	**243**	P	**Pn**	**13 58 34.5**	**+0.3**
KMRZ	**Kaimai**	**1.60**	**269**	P	**Pn**	**13 58 33.9**	**-0.5**
ARHZ	**Aropaoanui**	**1.62**	**207**	P	**Pn**	**13 58 35.0**	**+0.2**
BKZ	**Black Stump Fm**	**1.77**	**220**	P	**Pn**	**13 58 36.8**	**+0.1**
KUTZ	**Kaahu Road**	**1.81**	**248**	P	**Pn**	**13 58 37.5**	**+0.2**
HATZ	**Hinemaiaia**	**1.81**	**233**	P	**Pn**	**13 58 37.4**	**+0.1**
MCHZ	**McNeill Hill**	**1.90**	**211**	P	**Pn**	**13 58 38.5**	**+0.1**
TOZ	**Tahuroa Road**	**1.95**	**272**	P	**Pn**	**13 58 38.7**	**-0.4**
CKHZ	**Cape Kidnapper**	**1.96**	**200**	P	**Pn**	**13 58 38.6**	**-0.6**
WATZ	**Wairara**	**1.96**	**243**	P	**Pn**	**13 58 39.5**	**+0.2**
TLZ	**Tolley Road**	**1.98**	**254**	P	**Pn**	**13 58 39.5**	**0.0**
KWHZ	**Kaweka Forest**	**2.00**	**216**	P	**Pn**	**13 58 39.5**	**-0.3**
RATZ	**Rangitukua**	**2.01**	**238**	P	**Pn**	**13 58 40.4**	**+0.5**
RITZ	**Rihia Road**	**2.01**	**234**	P	**Pn**	**13 58 40.7**	**+0.8**
KUZ	**Kuaotunu**	**2.08**	**300**	P	**Pn**	**13 58 40.2**	**-0.7**
KATZ	**Kakaramea**	**2.12**	**236**	P	**Pn**	**13 58 42.2**	**+0.7**
KAHZ	**Kahuranaki**	**2.13**	**203**	P	**Pn**	**13 58 41.0**	**-0.7**
TMTZ	**Te Maari**	**2.19**	**233**	P	**Pn**	**13 58 42.6**	**+0.2**
ETVZ	**East Tongariro**	**2.20**	**233**	P	**Pn**	**13 58 42.7**	**+0.1**
KRVZ	**Karewarewa**	**2.22**	**234**	P	**Pn**	**13 58 43.1**	**+0.3**
BHHZ	**Black Hill Sta**	**2.23**	**221**	P	**Pn**	**13 58 42.9**	**-0.1**
OTVZ	**Oturere**	**2.24**	**233**	P	**Pn**	**13 58 43.2**	**+0.1**
WTVZ	**West Tongariro**	**2.26**	**235**	P	**Pn**	**13 58 43.9**	**+0.5**
NGZ	**Ngauruhoe**	**2.29**	**233**	P	**Pn**	**13 58 44.0**	**+0.2**
TUVZ	**Tukino**	**2.31**	**231**	P	**Pn**	**13 58 44.2**	**+0.1**
TWVZ	**Taurewa**	**2.34**	**237**	P	**Pn**	**13 58 45.1**	**+0.7**
MKAZ	**Moumakai**	**2.34**	**287**	P	**Pn**	**13 58 44.3**	**0.0**
MOVZ	**Moawhango**	**2.34**	**227**	P	**Pn**	**13 58 44.1**	**-0.4**
WHVZ	**Whangaehu Hut**	**2.36**	**231**	P	**Pn**	**13 58 44.9**	**+0.1**
PXZ	**Pawanui**	**2.36**	**201**	P	**Pn**	**13 58 43.1**	**-1.5**
FWVZ	**Far West T-bar**	**2.37**	**232**	P	**Pn**	**13 58 45.0**	**+0.1**
WNVZ	**Wahianoa**	**2.38**	**230**	P	**Pn**	**13 58 45.0**	**-0.1**
TRVZ	**Turoa**	**2.40**	**231**	P	**Pn**	**13 58 45.4**	**+0.1**
WIAZ	**Waiheke Island**	**2.48**	**294**	P	**Pn**	**13 58 46.1**	**0.0**
MTVZ	**Mangateitei**	**2.49**	**231**	P	**Pn**	**13 58 45.6**	**-0.5**
PNHZ	**Pukenui**	**2.50**	**213**	P	**Pn**	**13 58 45.1**	**-1.4**
PKVZ	**Pokaka**	**2.52**	**234**	P	**Pn**	**13 58 47.2**	**+0.4**
WPHZ	**Waipukurau**	**2.53**	**207**	P	**Pn**	**13 58 45.6**	**-1.3**
HIZ	**Hauiti**	**2.54**	**253**	P	**Pn**	**13 58 48.0**	**+1.0**
GRZ	**Great Barrier**	**2.54**	**307**	P	**Pn**	**13 58 47.0**	**-0.1**
ETAZ	**East Tamaki Re**	**2.56**	**289**	P	**Pn**	**13 58 47.8**	**+0.4**
PRHZ	**Porangahau**	**2.65**	**202**	P	**Pn**	**13 58 46.8**	**-1.8**
MBAZ	**Motutapu North**	**2.66**	**292**	P	**Pn**	**13 58 49.0**	**+0.4**
TSZ	**Takapari Road**	**2.72**	**214**	P	**Pn**	**13 58 47.8**	**-1.7**
EPAZ	**Eden Park BICE**	**2.73**	**289**	P	**Pn**	**13 58 50.5**	**+0.8**
AWAZ	**Awhitu Peninsu**	**2.75**	**285**	P	**Pn**	**13 58 50.6**	**+0.8**
HBAZ	**Herne Bay Bore**	**2.75**	**290**	P	**Pn**	**13 58 50.7**	**+0.9**
VRZ	**Vera Road**	**2.83**	**242**	P	**Pn**	**13 58 52.1**	**+1.1**
DVHZ	**Dannevirke**	**2.84**	**209**	P	**Pn**	**13 58 48.9**	**-2.2**
ANWZ	**Angora Road**	**2.87**	**203**	P	**Pn**	**13 58 50.2**	**-1.4**
RVAZ	**Riverhead Bore**	**2.89**	**290**	P	**Pn**	**13 58 52.6**	**+0.7**
WAZ	**Wanganui**	**3.02**	**229**	P	**Pn**	**13 58 54.0**	**+0.5**
POWZ	**Post Office Ro**	**3.08**	**213**	P	**Pn**	**13 58 52.4**	**-2.0**
PRWZ	**Pori Road**	**3.13**	**209**	P	**Pn**	**13 58 53.0**	**-2.1**
BFZ	**Birch Farm**	**3.15**	**204**	P	**Pn**	**13 58 53.0**	**-2.3**
PREZ	**Palmer Road**	**3.34**	**242**	P	**Pn**	**13 59 00.1**	**+2.2**
NEZ	**North Egmont**	**3.35**	**243**	P	**Pn**	**13 59 00.1**	**+1.9**
TIWZ	**Tintock**	**3.36**	**208**	P	**Pn**	**13 58 55.8**	**-2.4**
CPWZ	**Castlepoint**	**3.37**	**203**	P	**Pn**	**13 58 56.4**	**-1.9**
PKE	**Pukeiti**	**3.40**	**245**	P	**Pn**	**13 59 00.5**	**+1.8**
KHEZ	**Kahui Hut**	**3.42**	**243**	P	**Pn**	**13 59 01.4**	**+2.3**
WCZ	**Waipu Caves**	**3.45**	**302**	P	**Pn**	**13 58 59.9**	**+0.4**
NBEZ	**Newall Road No**	**3.52**	**245**	P	**Pn**	**13 59 03.1**	**+2.8**
OUZ	**Omahuta**	**4.37**	**305**	P	**Pn**	**13 59 12.9**	**+1.0**
CTZ	**Chatham Island**	**7.20**	**147**	P	**Pn**	**13 59 51.6**	**+1.1**

*IDC **12** 13:59:14.1 ± 2.4, 5.48N × 126.23E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/53, mbtmp3.4/3, Error ellipse: s-maj=182.1km s-min=28.3km az=65.0*
ISC 12 13:59:14.4 ± 1.9, 5.8N ± 0.3 × 126.8E ± 0.3, h10 km, n4, σ 1 89/5, mb3.5/3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**2.10**	**305**	*eP*	**Pg**	**13 59 53.2**	**-1.6**
KCP				*eS*	**Sg**	**14 00 23.7**	**+1.6**
WRA	**Warramunga Arr**	**26.62**	**164**	P	**P**	**14 04 52.3**	**-1.0**
	0.7nm,0.6s,baz=342,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**30.08**	**167**	P	**P**	**14 05 25.0**	**+0.8**
	0.3nm,0.9s,baz=346,slow=7.1,SNR=3.0						
MKAR	**Makanchi Array**	**55.93**	**324**	P	**P**	**14 08 53.4**	**+0.6**
	0.3nm,0.7s,baz=129,slow=8.9,SNR=3.8						

*IDC **12** 14:34:26.2 ± 1.8, 5.22N × 127.19E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/42, mbtmp3.6/5, Error ellipse: s-maj=100.8km s-min=23.1km az=68.0*
*MAN **12** 14:34:33.2, 4.84N × 126.85E, h14km, MS1.9*
ISC 12 14:34:30.4 ± 0.8, 4.83N ± 0.08 × 126.7E ± 0.1, h10 km, n10, σ 1 9 35/13, mb3.6/5, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.59**	**323**	*eP*	**Pg**	**14 35 01.8**	**+0.8**
DDMP				*eS*	**Sg**	**14 35 20.9**	**+0.7**
MATI	**Mati**	**2.14**	**349**	*eP*	**Pb**	**14 35 09.4**	**+0.1**
MATI				*eS*	**Sb**	**14 35 36.8**	**+0.8**
KCP	**Kidapawan**	**2.68**	**324**	*eP*	**Pb**	**14 35 18.6**	**0.0**
SKMP	**Bagumbayan, Su**	**2.71**	**308**	*eP*	**Pb**	**14 35 18.6**	**-0.5**
SKMP				*eS*	**Sb**	**14 35 53.9**	**+1.5**
SIJI	**Sorong**	**7.28**	**141**	Pn	**Pn**	**14 36 18.6**	**+1.7**
	0.9nm,0.3s,baz=95,slow=22,SNR=7.9						
FITZ	**Fitzroy Crossi**	**22.81**	**183**	P	**P**	**14 39 34.3**	**+0.8**
	1.8nm,0.9s,baz=4.1,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**25.74**	**163**	P	**P**	**14 40 00.8**	**-0.5**
	0.9nm,0.4s,baz=344,slow=10,SNR=17						
ASAR	**Alice Springs**	**29.19**	**166**	P	**P**	**14 40 32.8**	**+0.6**
	0.3nm,0.5s,baz=358,slow=7.9,SNR=16						
STKA	**Stephens Creek**	**39.17**	**160**	P	**P**	**14 41 57.2**	**-1.4**
	0.6nm,0.4s,baz=6.7,slow=6.5,SNR=4.0						
MKAR	**Makanchi Array**	**56.63**	**325**	P	**P**	**14 44 10.9**	**-2.8**
	0.4nm,0.8s,baz=132,slow=8.3,SNR=3.6						

*MDD **12** 14:44:49.6 ± 3.9, 32.2N × 7.62W, h0km, mb3.8/2, Error ellipse: s-maj=61.2km s-min=30.9km az=102.0, PRXIMO*
*INMG **12** 14:44:51.8 ± 1.1, 32.36N × 7.67W, h10km, ML2.5, Error ellipse: s-maj=11.6km s-min=4.5km az=37.0*
ISC 12 14:44:53.6 ± 4.5, 32.6N ± 0.2 × 7.6W ± 0.2, h10 km, n14, σ 0 85/24, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVAQ	**Vaqueiros**	**4.83**	**358**	P	**Pn**	**14 46 07.0**	**+0.7**
PVAQ				S	**Sn**	**14 47 02.7**	**+0.3**
	3.3nm,0.6s						
PVAQ	**Vaqueiros**	**4.83**	**358**	*e*Pn	**Pn**	**14 46 07.0**	**+0.7**
PVAQ				*e*Sn	**Sn**	**14 47 02.7**	**+0.3**
PVAQ				A	A	14 47 03.8	
	3.3nm,0.6s						
EGRO	**El Granado**	**4.96**	**1**	P	**Pn**	**14 46 11.0**	**+2.9**
	0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**14 47 06.3**	**+0.8**
	0.2nm,0.0s,SNR=7.9						
PCVE	**Castro Verde**	**5.07**	**356**	P	**Pn**	**14 46 09.8**	**+0.1**
PCVE				S	**Sn**	**14 47 07.8**	**-0.5**
PCVE	**Castro Verde**	**5.07**	**356**	*e*Pn	**Pn**	**14 46 09.8**	**+0.1**
PCVE				*e*Sn	**Sn**	**14 47 07.8**	**-0.5**
EMIN	**Mina Concepcio**	**5.24**	**8**	P	**Pn**	**14 46 12.3**	**+0.3**
	1.0nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**14 47 12.1**	**-0.5**
	0.3nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.59**	**352**	P	**Pn**	**14 46 16.3**	**-0.5**
PNCL				S	**Sn**	**14 47 21.0**	**-0.1**
PNCL	**Nicolau / Gran**	**5.59**	**352**	*e*Pn	**Pn**	**14 46 16.3**	**-0.5**
PNCL				*e*Sn	**Sn**	**14 47 21.0**	**-0.1**
PBAR	**Barrancos**	**5.62**	**4**	P	**Pn**	**14 46 17.3**	**+0.2**
PBAR				S	**Sn**	**14 47 22.0**	**+0.3**
PBAR	**Barrancos**	**5.62**	**4**	*e*Pn	**Pn**	**14 46 17.3**	**+0.2**
PBAR				*e*Sn	**Sn**	**14 47 22.0**	**+0.3**
ECAB	**El Cabril**	**5.77**	**17**	S	**Sn**	**14 47 25.0**	**-0.6**
	0.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.10**	**23**	S	**Sn**	**14 47 33.1**	**-0.6**
	0.1nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**6.85**	**1**	P	**Pn**	**14 46 33.0**	**-1.1**
PMRV	**Marv??o**	**6.85**	**1**	*e*Pn	**Pn**	**14 46 33.0**	**-1.1**

*NEIC **12** 14:49:38.5 ± 2.6, 61.41S ± 0.09 × 153.7E ± 0.1, h10km ± 1km, mb4.5/13, Error ellipse: s-maj=16.1km s-min=7.2km az=26.0*
*IDC **12** 14:49:39.0 ± 4.0, 61.61S × 153.63E, h0km, mb4.0/3, mb1 4.2/4, mb1mx4.0/23, mbtmp4.0/4, ML4.1/1, MS3.9/17, Ms1 3.9/17, ms1mx3.8/25, Error ellipse: s-maj=283.4km s-min=38.0km az=77.0*
*GCMT **12** 14:49:44.5 ± 0.4, 61.31S ± 0.02 × 153.97E ± 0.06, h13km ± 2km, MW4.9/69, Moment Tensor Solution. s8,c9; s69,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.25±.18; $M_{\theta\theta}$2.12±.14; $M_{\phi\phi}$-1.86±.14; $M_{r\theta}$-0.18±.29; $M_{\theta\phi}$-1.73±.12; $M_{\phi r}$1.23±.50; Best double couple: M_o2.92300×10^{16} NP1:$\phi_1$247.00000°, δ66.00000°, λ-172.00000°. NP2: $\phi_2$154.00000°, δ83.00000°, λ-24.00000°. Principal axes: T 2.8880, Plg12.0000°, Azm203.0000°; N 0.0770, Plg65.0000°, Azm318.0000°; P -2.9570, Plg22.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 14:49:39.1 ± 0.7, 61.45S ± 0.08 × 153.8E ± 0.2, h10 km, n46, σ 1 9 63/19, mb4.5/7, MS3.9/19, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**7.48**	**24**	Pn	**Pn**	**14 51 29.8**	**+1.7**
VNDA	**Vanda**	**16.36**	**174**	Pn	**Pn**	**14 53 27.8**	**-0.7**
	0.6nm,0.3s,baz=344,slow=15,SNR=18						
VNDA				LR	LR	14 59 05.8	
	comp=Z,784nm,20.0s,baz=356,slow=35						
VNDA	**Vanda**	**16.36**	**174**		**Pn**	**14 53 27.8**	**-0.7**
WHZ	**Wether Hill Ro**	**17.62**	**34**	Pn	**Pn**	**14 53 43.3**	**-1.1**
WHZ				IAmb	IAmb	14 53 57.1	
	comp=Z,30nm,1.3s						
FOZ	**Fox Glacier**	**20.31**	**35**	P	**P**	**14 54 15.2**	**+0.4**
FOZ				IAmb	IAmb	14 54 17.6	
	comp=Z,30nm,1.3s						
RPZ	**Rata Peaks**	**20.49**	**38**	LR	LR	15 00 52.9	
	comp=Z,489nm,19.8s,baz=184,slow=33						
RPZ	**Rata Peaks**	**20.49**	**38**	P	**P**	**14 54 17.5**	**+0.5**
RPZ				IAmb	IAmb	14 54 22.0	
	comp=Z,26nm,1.4s						
BKZ	**Black Stump Fm**	**26.32**	**42**	P	**P**	**14 55 12.9**	**-1.9**
BKZ				IAmb	IAmb	14 55 20.3	
	comp=Z,26nm,1.4s						
CAN	**Canberra**	**26.33**	**351**	P	**P**	**14 55 12.8**	**-2.1**
STKA	**Stephens Creek**	**30.64**	**339**	P	**P**	**14 55 55.9**	**+2.6**
	comp=Z,3.0nm,1.0s,baz=152,slow=17,SNR=2.4						
STKA				LR	LR	15 05 51.6	
	comp=Z,151nm,18.9s,baz=165,slow=32						
STKA	**Stephens Creek**	**30.64**	**339**	P	**P**	**14 55 53.6**	**+0.3**
EIDS	**Eidsvold**	**36.11**	**356**	P	**P**	**14 56 40.0**	**-1.1**
MAW	**Mawson**	**36.20**	**220**	LR	LR	15 11 41.6	
	comp=Z,439nm,18.1s,baz=90,slow=37						
H01W1	**Cape Leeuwin H**	**36.54**	**298**	T	T	15 35 50.1	
	baz=148,slow=75,SNR=571						
H01W2	**Cape Leeuwin H**	**36.55**	**298**	T	T	15 35 50.1	
	baz=148,slow=75,SNR=640						
H01W3	**Cape Leeuwin H**	**36.56**	**298**	T	T	15 35 51.2	
	baz=148,slow=75,SNR=538						
ASAR	**Alice Springs**	**40.16**	**331**	P	**P**	**14 57 17.8**	**+2.6**
	comp=Z,1.4nm,0.9s,baz=162,slow=8.8,SNR=8.6						
ASAR				LR	LR	15 11 12.0	
	comp=Z,115nm,20.6s,baz=150,slow=32						
ASAR	**Alice Springs**	**40.16**	**331**	P	**P**	**14 57 14.1**	**-1.1**
DZM	**Mont Dzumac**	**40.31**	**18**	eLR	LR	15 08 17.4	
	comp=Z,512nm,26.2s						
BELA	**Belgrano 2**	**40.82**	**177**	P	**P**	**14 57 21.9**	**+1.8**
WB2	**Warramunga Arr**	**43.66**	**333**	P	**P**	**14 57 42.1**	**-1.6**
WB2				IAmb	IAmb	14 57 44.1	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**43.66**	**333**	P	**P**	**14 57 45.3**	**+1.5**
	comp=Z,2.4nm,1.0s,baz=166,slow=7.2,SNR=7.4						
WRA				LR	LR	15 15 31.5	
	comp=Z,116nm,18.1s,baz=150,slow=36						
SNAA	**Sanae**	**46.18**	**190**	P	**P**	**14 58 03.0**	**-0.4**
SNAA				IAmb	IAmb	14 58 05.1	
	comp=Z,7.3nm,1.4s						
FITZ	**Fitzroy Crossi**	**47.66**	**323**	P	**P**	**14 58 15.8**	**+0.4**
FITZ				IAmb	IAmb	14 58 18.4	
	comp=Z,8.1nm,1.1s						
TBI	**Tubuai**	**53.98**	**72**	eLR	LR	15 14 13.7	
	comp=Z,118nm,31.0s,baz=200						
TBI	**Tubuai**	**53.98**	**72**	*e*T	T	15 56 42.8	
	comp=Z,45nm,0.3s						
BATI	**Baumata**	**55.72**	**323**	LR	LR	15 22 45.1	
	comp=Z,104nm,18.8s,baz=214,slow=36						
SOEI	**Soe**	**55.97**	**324**	P	**P**	**14 59 15.6**	**-2.0**

PAE	**Paea**	**58.89**	**68**	*e*T	T	16 02 47.4		
	comp=Z,1.3nm,0.3s							
PPT2	**Papeete2**	**58.95**	**68**	*e*LR	LR	15 16 49.0		
	comp=Z,112nm,24.2s							
PPT2	**Papeete2**	**58.95**	**68**	*e*T	T	16 02 52.9		
	comp=Z,2.2nm,0.3s							
PPT	**Papeete**	**58.97**	**68**	LR	LR	15 21 15.7		
	comp=Z,61nm,18.6s,baz=162,slow=32							
MEH	**Mehetia**	**59.38**	**70**	*e*T	T	16 03 25.7		
	comp=Z,9.3nm,0.2s							
JAY	**Jayapura**	**59.62**	**345**	LR	LR	15 23 39.9		
	comp=Z,132nm,21.0s,baz=285,slow=34							
KAPI	**Kappang**	**61.80**	**321**	LR	LR	15 24 18.8		
	comp=Z,88nm,21.2s,baz=157,slow=34							
VAH	**Vaihoa**	**61.90**	**69**	*e*T	T	16 06 33.2		
	comp=Z,33nm,0.2s							
LEM	**Lembang**	**64.30**	**307**	LR	LR	15 24 02.0		
	comp=Z,53nm,21.2s,baz=224,slow=32							
PSI	**Prapat**	**76.51**	**303**	LR	LR	15 29 17.6		
	comp=Z,76nm,21.6s,baz=92,slow=31							
H08S2	**Diego Garcia H**	**79.18**	**274**	T	T	16 29 16.7		
	baz=151,slow=76,SNR=27							
H08S1	**Diego Carcia H**	**79.19**	**274**	T	T	16 29 24.4		
	baz=151,slow=76,SNR=10							
H08S3	**Diego Garcia H**	**79.20**	**274**	T	T	16 29 23.9		
	baz=151,slow=76,SNR=45							
PALK	**Pallekele**	**88.39**	**288**	LR	LR	15 35 58.8		
	comp=Z,43nm,20.5s,baz=346,slow=32							
JOW	**Kunigami**	**90.37**	**337**	LR	LR	15 41 05.7		
	comp=Z,54nm,18.6s,baz=176,slow=34							
CMAR	**Chiang Mai Arr**	**90.78**	**309**	LR	LR	15 42 17.1		
	comp=Z,34nm,19.7s,baz=214,slow=35							
TSUM	**Tsumeb**	**92.36**	**221**	LR	LR	15 41 48.4		
	comp=Z,78nm,21.3s,baz=150,slow=34							
MJAR	**Matsushiro Arr**	**98.47**	**347**	LR	LR	15 47 05.3		
	comp=Z,22nm,18.2s,baz=75,slow=35							

*IDC **12** 14:55:50.7 ± 1.2, 25.73S × 68.39W, h0km, mb4.3/1, mb1 4.0/3, mb1mx3.6/30, mbtmp4.0/3, ML3.7/2, MS3.0/2, Ms1 3.0/2, ms1mx2.7/30, Error ellipse: s-maj=55.9km s-min=34.7km az=106.0*
*GUC **12** 14:56:03.3 ± 0.7, 25.00S × 68.99W, h110km ± 5km, ML3.4*
ISC 12 14:56:03.8 ± 1.0, 25.00S ± 0.04 × 69.00W ± 0.09, h117 km ± 9 km, n24, σ 0 81/29, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.56**	**253**	*e*P	**Pn**	**14 56 21.8**	**-0.4**
GO02				*i* S	**Sn**	**14 56 35.4**	**-0.6**
GO02				IAML		14 56 36.9	
	comp=E,3μm,0.2s						
PB14	**IPOC Station P**	**1.33**	**286**	*e*P	**Pn**	**14 56 29.7**	**+0.3**
PB14				*i* S	**Sn**	**14 56 49.4**	**+0.7**
PB14				IAML		14 56 54.7	
	comp=E,327nm,0.3s						
PB15	**IPOC Station P**	**1.83**	**346**	*e*P	**Pn**	**14 56 35.5**	**+0.3

KKM				IAmb	IAmb	15 20 38.0	
	comp=Z,16nm,1.0s						
TOLI2	**Tolitoli**	**16.56**	**62**		**Pn**	**15 20 34.2**	**+0.5**
TOLI2				IAmb	IAmb	15 20 41.9	
	comp=Z,14nm,1.4s						
BATI	**Baumata**	**17.54**	**102**	P	**Pn**	**15 20 45.8**	**+0.3**
	comp=Z,3.6nm,0.3s,baz=292,slow=8.9,SNR=7.0						
SOEI	**Soe**	**18.06**	**100**	P	**P**	**15 20 51.3**	**+0.9**
H01W3	**Cape Leeuwin H**	**28.78**	**166**	T	T	15 53 28.7	
	baz=345,slow=76,SNR=4.8						
H01W1	**Cape Leeuwin H**	**28.79**	**166**	T	T	15 53 29.0	
	baz=345,slow=76,SNR=4.6						
H01W2	**Cape Leeuwin H**	**28.79**	**166**	T	T	15 53 30.0	
	baz=345,slow=76,SNR=5.5						
WB0	**Warramunga Arr**	**30.17**	**118**	P	**P**	**15 22 48.1**	**+1.5**
WB0				IAmb	IAmb	15 22 52.5	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**30.18**	**118**	P	**P**	**15 22 47.8**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=284,slow=12,SNR=13						
WB2	**Warramunga Arr**	**30.20**	**118**	P	**P**	**15 22 48.1**	**+1.2**
WB2				IAmb	IAmb	15 23 27.8	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**30.37**	**118**	P	**P**	**15 22 49.6**	**+1.3**
AS31	**Alice Springs**	**31.36**	**125**	P	**P**	**15 22 58.1**	**+1.0**
ASAR	**Alice Springs**	**31.36**	**125**	P	**P**	**15 22 58.9**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=299,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**31.36**	**125**	P	**P**	**15 22 58.7**	**+1.6**
H08S2	**Diego Garcia H**	**33.48**	**267**	T	T	15 59 04.5	
	baz=91,slow=74						
H08S3	**Diego Garcia H**	**33.48**	**267**	T	T	15 59 09.9	
	baz=91,slow=74						
H08S1	**Diego Garcia H**	**33.49**	**267**	T	T	15 59 15.7	
	baz=91						
PMG	**Port Moresby**	**40.57**	**96**	P	**P**	**15 24 16.0**	**+0.4**
STKA	**Stephens Creek**	**41.27**	**132**	P	**P**	**15 24 22.5**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=311,slow=7.1,SNR=4.6						
STKA	**Stephens Creek**	**41.27**	**132**	P	**P**	**15 24 23.8**	**+2.8**
MK31	**Makanchi Array**	**57.55**	**341**	P	**P**	**15 26 21.8**	**-2.5**
MK31				IAmb	IAmb	15 26 30.9	
	comp=Z,2.0nm,1.4s						
MKAR	**Makanchi Array**	**57.55**	**341**	P	**P**	**15 26 22.0**	**-2.3**
	comp=Z,0.2nm,0.5s,baz=146,slow=8.7,SNR=6.3						
ZALV	**Zalesovo Beam**	**63.26**	**346**	P	**P**	**15 27 00.5**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=153,slow=5.9,SNR=3.3						
ABKAR	**Akbulak array**	**68.95**	**330**	P	**P**	**15 27 37.7**	**-1.6**
ABKAR	**Akbulak array**	**68.95**	**330**	P	**P**	**15 27 38.2**	**-1.1**

*IDC **12** 15:18:34.8±1.2,72.06N×92.47W,h0km,mb3.4/5, mb1 3.8/9,mb1mx3.5/78,mbtmp3.5/9,ML3.6/4,MS3.5/2, Ms1 3.5/2,ms1mx2.7/41,Error ellipse: s-maj=27.0km s-min=16.1km az=98.0*

*OTT **12** 15:18:36.7±0.1,71.95N×92.18W,h18km,MN3.9/9,72km east from Fort Ross, Nu Boothia Ungava Seismic Zone.*

ISC 12 15:18:32.0±0.6,71.83N±0.05×92.12W±0.05,h10km,n24, σ3.381/35,mb3.6/4,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**2.98**	**346**	Pn	**Pn**	**15 19 19.8**	**+0.6**
	2.8nm,0.3s,baz=168,slow=11,SNR=58						
RES				Pg	**Pb**	**15 19 25.1**	**0.0**
	16nm,0.3s,baz=164,slow=15,SNR=25						
RES				Sn	**Sn**	**15 19 53.4**	**-1.6**
	18nm,0.3s,baz=137,slow=20,SNR=4.2						
RES				Lg	Lg	15 19 58.4	
	90nm,0.3s,baz=85,slow=19,SNR=57						
RES	**Resolute Bay**	**2.98**	**346**	PN	**Pn**	**15 19 19.8**	**+0.6**
RES				SN	**Sn**	**15 19 53.8**	**-1.2**
RES				Trac		15 19 59.4	
	comp=Z,552nm,0.5s						
RES				LG	Lg	15 20 03.5	
CLRN	**Clyde River**	**7.71**	**89**	PN	**Pn**	**15 20 27.1**	**+3.0**
CLRN				SN	**Sn**	**15 21 48.9**	**-2.5**
CLRN				LG	Lg	15 22 35.7	
CLRN				Trac		15 22 45.5	
	comp=Z,71nm,0.4s						
TULEG	**Thule**	**7.86**	**43**	PN	**Pn**	**15 20 26.9**	**+0.7**
TULEG				SN	**Sn**	**15 21 46.7**	**-8.3**
TULEG				SN	**Sn**	**15 21 49.7**	**-5.3**
TULEG				Trac		15 21 55.5	
	comp=Z,22nm,0.3s						
EUNU	**Eureka**	**8.38**	**7**	PN	**Pn**	**15 20 34.0**	**+0.7**
EUNU				SN	**Sn**	**15 22 01.9**	**-5.8**
EUNU				Trac		15 23 00.4	
	comp=Z,1μm,4.5s						
KUKN	**Kugluktuk,NWT**	**8.86**	**254**	PN	**Pn**	**15 20 42.0**	**+2.2**
KUKN				SN	**Sn**	**15 22 15.6**	**-3.8**
KUKN				LG	Lg	15 23 12.9	
KUKN				Trac		15 23 15.9	
	comp=Z,50nm,0.5s						
DHRN	**Dharma Camp**	**10.69**	**257**	PN	**Pn**	**15 21 06.6**	**+1.8**
DHRN				SN	**Sn**	**15 22 59.3**	**-5.0**
DHRN				Trac		15 24 02.9	
	comp=Z,59nm,1.1s						
DHRN				LG	Lg	15 24 08.5	
C36M	**Paulatuk**	**10.83**	**272**	PN	**Pn**	**15 21 07.8**	**+1.0**
C36M				SN	**Sn**	**15 23 02.2**	**-5.6**
C36M				LG	Lg	15 24 13.2	
C36M				Trac		15 24 19.1	
	comp=Z,33nm,0.6s						
FRB	**Frobisher Bay**	**11.95**	**121**	Pn	**Pn**	**15 21 25.0**	**+2.9**
	0.5nm,0.3s,baz=319,slow=12,SNR=2.9						
FRB				Sn	**Sn**	**15 23 32.1**	**-3.1**
	2.6nm,0.3s,baz=55,slow=17,SNR=11						
FRB				Lg	Lg	15 24 41.2	
	1.2nm,0.3s,baz=33,slow=22,SNR=1.5						
FRB	**Frobisher Bay**	**11.95**	**121**	PN	**Pn**	**15 21 25.2**	**+3.2**
FRB				SN	**Sn**	**15 23 31.2**	**-4.0**
FRB				Trac		15 25 16.5	
	comp=Z,26nm,0.4s						
YKA	**Yellowknife Ar**	**12.70**	**234**	Pn	**Pn**	**15 21 32.0**	**-0.2**
	0.6nm,0.3s,baz=25,slow=9.5,SNR=26						
YKA				Sn	**Sn**	**15 23 46.4**	**-7.0**
	0.6nm,0.3s,baz=24,slow=19,SNR=5.9						
YKA				Lg	Lg	15 24 57.9	
	1.0nm,0.3s,baz=30,slow=26,SNR=2.4						
FCC	**Fort Churchill**	**13.15**	**185**	PN	**Pn**	**15 21 41.1**	**+2.6**
FCC				SN	**Sn**	**15 24 01.1**	**-3.4**
FCC				LG	Lg	15 25 31.9	
FCC				Trac		15 25 35.9	
	comp=Z,88nm,0.9s						
INK	**Inuvik**	**14.32**	**276**	Pn	**Pn**	**15 21 53.6**	**-0.8**
	0.2nm,0.3s,baz=97,slow=6.3,SNR=2.2						
INK				Sn	Sn	15 24 19.8	-13
	0.3nm,0.3s,baz=152,slow=15,SNR=3.3						
INK				Lg	Lg	15 25 45.6	
	0.3nm,0.3s,baz=333,slow=18,SNR=2.1						
INK	**Inuvik**	**14.32**	**276**	PN	**Pn**	**15 21 55.6**	**+1.2**
INK				SN	Sn	15 24 23.4	-10
INK				Trac		15 25 45.8	
	comp=Z,192nm,3.0s						
KAJQ	**Kangiqsualujju**	**16.90**	**128**	PN	**P**	**15 22 30.4**	**+0.2**
KAJQ				SN	**Sn**	**15 25 30.4**	**-5.3**
KAJQ				LG	Lg	15 27 31.1	
KAJQ				Trac		15 27 38.1	
	comp=Z,4.3nm,0.2s						
SILO	**Sutton Inlier**	**17.69**	**166**	PN	**P**	**15 22 43.4**	**+4.4**
SILO				SN	**Sn**	**15 25 49.3**	**-5.6**
SILO				LG	Lg	15 27 52.6	
SILO				Trac		15 28 26.4	
	comp=Z,287nm,2.8s						
VIMO	**Victor Mine**	**19.44**	**165**	Pn	**Pn**	**15 23 04.1**	**+4.8**
ILAR	**Eielson Array**	**20.70**	**278**	P	Pn	15 23 14.5	+0.4
	0.3nm,0.6s,baz=40,slow=11,SNR=7.6						
ILAR				Lg	Lg	15 29 29.2	
	0.2nm,0.6s,baz=5.3,slow=30,SNR=4.3						
PDAR	**Pinedale Array**	**30.37**	**206**	P	P	15 24 49.7	+5.8
	0.6nm,0.5s,baz=40,slow=6.5,SNR=6.4						
NVAR	**Mina Array Bea**	**36.02**	**216**	P	P	15 25 38.5	+5.4
	0.4nm,0.6s,baz=359,slow=6.5,SNR=2.8						
PETK	**Petropavlovsk-**	**46.19**	**308**	LR	LR	15 51 21.3	
	comp=Z,56nm,18.5s,baz=133,slow=43						
SONM	**Songino Array**	**59.92**	**346**	P	**P**	**15 28 40.9**	**+3.2**
	0.2nm,0.4s,baz=15,slow=6.0,SNR=2.0						
MKAR	**Makanchi Array**	**61.62**	**4**	P	**P**	**15 28 51.3**	**+2.2**
	0.8nm,1.0s,baz=15,slow=6.0,SNR=3.8						
MJAR	**Matsushiro Arr**	**66.32**	**317**	LR	LR	16 00 27.1	
	comp=Z,26nm,18.2s,baz=140,slow=38						

*DRS **12** 15:21:06.1±0.0,43.02N×45.53E,h9km,ML2.1/5*
*MOS **12** 15:21:10.7±0.0,42.91N×45.80E,h8km,MPVA3.5*
*NORS **12** 15:21:12.5±0.0,42.87N×45.79E,h12km,MPVA3.7*

*TIF **12** 15:21:12.4,42.91N×45.79E,h13km±2km*

ISC 12 15:21:12.5±1.0,42.92N±0.03×45.77E±0.02,h11km±9km, n31,σ1.804/61,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.26**	**81**	*i* Pg	**Pg**	**15 21 17.9**	**-0.1**
	48nm,0.1s						
DVE				*e*Sg	**Sb**	**15 21 22.9**	**-1.0**
	203nm,0.2s						
GROC	**Groznyy**	**0.29**	**4**	*i* Pg	**Pg**	**15 21 18.4**	**+0.1**
	262nm,0.1s						
GROC				*e*Sg	**Sb**	**15 21 24.0**	**-0.6**
	574nm,0.2s						
BTLR	**Botlikh**	**0.42**	**127**	*e*Pg	**Pg**	**15 21 20.1**	**-0.7**
	26nm,0.3s						
BTLR				*e*Sg	**Sb**	**15 21 28.1**	**-0.2**
	63nm,0.3s						
KMGR	**Komgaron**	**0.68**	**282**	*e*Pg	**Pn**	**15 21 27.9**	**-0.3**
KMGR				*e*Sg	**Sn**	**15 21 37.9**	**-0.9**
DBC	**Dubki**	**0.78**	**82**	*e*Pg	**Pb**	**15 21 27.8**	**-0.4**
	11nm,0.4s						
DBC				*e*Sg	**Sb**	**15 21 38.6**	**-0.3**
	29nm,0.5s						
KRNR	**Karanay**	**0.84**	**96**	*e*Pg	**Pg**	**15 21 28.2**	**-0.5**
	9.0nm,0.5s						
KRNR				*e*Sg	**Sn**	**15 21 41.9**	**-1.0**
	43nm,0.5s						
PNSH	**Pansheti**	**0.90**	**252**	P	**Pg**	**15 21 29.0**	**-0.8**
PNSH				S	**Sb**	**15 21 42.0**	**-0.3**
MTEO	**Meteo**	**0.94**	**256**	P	**Pb**	**15 21 31.1**	**-0.1**
MTEO				S	**Sn**	**15 21 44.7**	**-1.1**
ARKR	**Arakani**	**0.95**	**109**	*e*Pg	**Pb**	**15 21 30.9**	**-0.2**
	16nm,0.5s						
ARKR				*e*Sg	**Sn**	**15 21 45.8**	**+0.2**
	42nm,0.3s						
GNBR	**Gunib**	**1.02**	**120**	*i* Pg	**Pn**	**15 21 33.3**	**+0.3**
	25nm,0.4s						
GNBR				*e*Sg	**Sn**	**15 21 47.9**	**+0.5**
	86nm,0.2s						
GUDG	**Gudauri**	**1.05**	**245**	P	**Pg**	**15 21 33.0**	**+0.2**
GUDG				S	**Sg**	**15 21 46.7**	**+0.1**
LACR	**Lac**	**1.09**	**266**	*e*Pg	**Pb**	**15 21 32.6**	**-0.9**
	39nm,0.2s						
LACR				*e*Sg	**Sg**	**15 21 48.0**	**+0.4**
	100nm,0.3s						
TRKR	**Terskaya**	**1.11**	**317**	*e*Pg	**Pg**	**15 21 35.3**	**+1.5**
	81nm,0.2s						
TRKR				*e*Sg	**Sn**	**15 21 51.7**	**+2.4**
	387nm,0.4s						
LGD	**Lagodekhi**	**1.13**	**162**	P	**Pg**	**15 21 34.7**	**+0.4**
LGD				S	**Sn**	**15 21 49.8**	**-0.2**
KORR	**Kora**	**1.26**	**278**	*e*Pg	**Pg**	**15 21 36.5**	**-0.2**
	19nm,0.4s						
KORR				*e*Sg	**Sg**	**15 21 55.8**	**+2.7**
	85nm,0.4s						
STDR	**Stavd-Durt**	**1.33**	**291**	*e*Pg	**Pg**	**15 21 38.0**	**-0.1**
	18nm,0.3s						
STDR				*e*Sg	**Sg**	**15 21 57.5**	**+2.1**
	43nm,0.4s						
ZEI	**Tsey**	**1.38**	**265**	*e*Pg	**Pn**	**15 21 37.4**	**-0.6**
	16nm,0.1s						
ZEI				*e*Sg	**Sn**	**15 21 56.0**	**-0.4**
	109nm,0.2s						
BTNK	**Botanikuri**	**1.43**	**211**	P	**Pb**	**15 21 39.3**	**+0.1**
BTNK				S	**Sg**	**15 21 58.6**	**+0.2**
DDFL	**Dedoflistskaro**	**1.49**	**170**	P	**Pg**	**15 21 45.4**	**+4.3**
DIGR	**Digorskoe uzhe**	**1.61**	**270**	*e*Pg	**Pb**	**15 21 41.5**	**-0.9**
DIGR				*e*Sg	**Sb**	**15 22 02.8**	**-0.1**
ONI	**Oni**	**1.74**	**260**	P	**Pb**	**15 21 44.3**	**-0.2**
ONI				S	**Sg**	**15 22 07.6**	**-0.8**
ONI	**Oni**	**1.74**	**260**	*e*Pg	**Pb**	**15 21 44.8**	**+0.3**
ONI				*e*Sg	**Sg**	**15 22 07.9**	**-0.6**
TRLG	**Trialeti**	**1.85**	**223**	P	**Pb**	**15 21 46.6**	**+0.1**
TRLG				S	**Sg**	**15 22 11.6**	**-0.5**
BRNG	**Burnasheti**	**1.94**	**229**	P	**Pb**	**15 21 48.4**	**+0.4**
BRNG				S	**Sg**	**15 22 14.5**	**-0.2**
KBTC	**Kuba-Taba**	**1.94**	**298**	*e*Pg	**Pb**	**15 21 47.5**	**-0.5**
KBTC				*e*Sg	**Sb**	**15 22 12.9**	**+0.6**
DMNI	**Dmanisi**	**1.97**	**217**	P	**Pb**	**15 21 48.2**	**-0.3**
DMNI				S	**Sg**	**15 22 14.7**	**-1.2**
BKRG	**Bakuriani**	**2.03**	**236**	P	**Pb**	**15 21 48.3**	**-1.2**
BKRG				S	**Sg**	**15 22 16.4**	**-1.3**
KBZ	**Khabaz**	**2.25**	**292**	*e*Pn	**Pn**	**15 21 50.6**	**+1.0**
KBZ				*e*Sn	**Sb**	**15 22 20.2**	**-0.8**
NEY	**Neytrino**	**2.26**	**280**	*e*Pn	**Pn**	**15 21 50.8**	**+0.8**
NEY				*e*Sn	**Sb**	**15 22 20.2**	**-1.3**
SHA1	**Shidzhatmaz**	**2.42**	**291**	*e*Pn	**Pn**	**15 21 53.0**	**+0.7**
SHA1				*e*Sn	**Sb**	**15 22 24.5**	**-1.6**
KIV	**Kislovodsk**	**2.48**	**296**	*e*Pn	**Pn**	**15 21 52.7**	**-0.2**
KIV				*e*Sn	**Sn**	**15 22 23.6**	**+0.4**

*IDC **12** 15:21:12.7±2.1,7.65S×128.57E,h130km±26km,mb3.3/2, mb1 3.7/7,mb1mx3.3/50,mbtmp4.1/7,Error ellipse: s-maj=30.5km s-min=19.6km az=87.0*

*NEIC **12** 15:21:13.3±2.8,7.62S±0.08×128.40E±0.08,h132km±10km, mb4.4/6,Error ellipse: s-maj=12.7km s-min=11.3km az=146.0*

ISC 12 15:21:13.7±0.7,7.80S±0.06×128.48E±0.07,h150km,n24, σ2.967/29,mb4.0/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.80**	**94**	Pn	**Pn**	**15 22 00.3**	**+1.7**
SOEI	**Soe**	**4.59**	**245**		**Pn**	**15 22 22.6**	**+0.6**
BATI	**Baumata**	**5.33**	**243**	P	**Pn**	**15 22 31.7**	**+0.2**
	18nm,0.3s,baz=123,slow=4.0,SNR=28						
BATI				S	**Sn**	**15 23 29.8**	**-2.4**
	12nm,0.3s,baz=140,slow=20,SNR=8.3						
MTN	**Manton Dam**	**5.65**	**153**		**Pn**	**15 22 37.9**	**+2.1**
FAKI	**Fak Fak**	**6.13**	**38**	Pn	**Pn**	**15 22 39.5**	**-2.7**
MMRI	**Maumere**	**6.23**	**262**	Pn	**Pn**	**15 22 43.7**	**+0.1**
SIJI	**Sorong**	**7.42**	**22**	P	**Pn**	**15 22 57.4**	**-2.1**
	2.4nm,0.3s,baz=208,slow=22,SNR=21						
SIJI				S	**Sn**	**15 24 21.9**	**-0.6**
	0.4nm,0.3s,baz=205,slow=23,SNR=1.3						
KNRA	**Kununurra**	**7.84**	**178**	Pn	**Pn**	**15 23 06.7**	**+1.7**
KAPI	**Kappang**	**9.10**	**287**	Pn	**Pn**	**15 23 20.1**	**-1.8**
FITZ	**Fitzroy Crossi**	**10.61**	**195**	P	**Pn**	**15 23 42.2**	**+0.5**
	0.5nm,0.3s,baz=22,slow=14,SNR=9.8						
FITZ				S	**Sn**	**15 25 33.3**	**-5.8**
	2.0nm,0.3s,baz=102,slow=23,SNR=10						
FITZ	**Fitzroy Crossi**	**10.61**	**195**	Pn	**Pn**	**15 23 43.0**	**+1.2**
WB0	**Warramunga Arr**	**13.21**	**155**		**Pn**	**15 24 15.7**	**0.0**
WRAB	**Tennant Creek**	**13.34**	**155**	Pn	**Pn**	**15 24 17.5**	**+0.2**
WRA	**Warramunga Arr**	**13.34**	**155**	P	**Pn**	**15 24 17.4**	**0.0**
	1.6nm,0.3s,baz=340,slow=12,SNR=50						
WRA				S	**Sn**	**15 26 38.4**	**-6.8**
	1.2nm,0.3s,baz=329,slow=23,SNR=12						
WB2	**Warramunga Arr**	**13.35**	**155**	Pn	**Pn**	**15 24 17.2**	**-0.2**
WR0	**Warramunga Arr**	**13.44**	**155**	Pn	**Pn**	**15 24 18.4**	**-0.3**
PSA00	**Pilbara Seismi**	**16.03**	**210**	P	**P**	**15 24 52.7**	**+1.3**
PSA00				IAmb	IAmb	15 25 23.4	
	comp=Z,48nm,1.4s						
AS31	**Alice Springs**	**16.61**	**162**	P	**Pn**	**15 25 01.0**	**+2.9**
AS31				IAmb	IAmb	15 25 04.9	
	comp=Z,2.6nm,0.5s						
ASAR	**Alice Springs**	**16.61**	**162**	P	**Pn**	**15 25 00.7**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=345,slow=12,SNR=32						
ASAR				S	**S**	**15 27 58.8**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=322,slow=20,SNR=7.1						
BBOO	**Buckleboo**	**25.86**	**165**	P	**P**	**15 26 35.4**	**+3.8**
BBOO				IAmb	IAmb	15 27 08.0	
	comp=Z,50nm,1.6s						
STKA	**Stephens Creek**	**26.89**	**155**	P	**P**	**15 26 43.0**	**+2.2**
	comp=Z,0.9nm,0.4s,baz=337,slow=9.0,SNR=4.3						
MKAR	**Makanchi Array**	**68.08**	**328**	P	**P**	**15 31 57.6**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=113,slow=7.6,SNR=2.9						
MAW	**Mawson**	**73.66**	**201**	P	**P**	**15 32 31.9**	**+1.4**
QSPA	**South Pole Qui**	**82.19**	**180**	P	**P**	**15 33 21.9**	**+4.1**
QSPA				IAmb	IAmb	15 33 27.5	
	comp=Z,9.4nm,1.6s						

*BGR **12** 15:23:22.3±0.0,7.18N×39.82W,h33km,mb5.1*

*IDC **12** 15:23:24.2±0.4,8.20N×39.63W,h0km,mb4.6/48, mb1 4.7/50,mb1mx4.6/73,mbtmp4.6/50,ML4.7/2,MS4.2/31, Ms1 4.2/31,ms1mx4.1/34,Error ellipse: s-maj=12.6km s-min=9.2km az=156.0*

*MOS **12** 15:23:24.1±1.0,8.12N×39.67W,h9km,mb5.1/49,Error ellipse: s-maj=7.9km s-min=5.6km az=60.7*

*NEIC **12** 15:23:25.7±1.6,8.06N±0.08×39.56W±0.08,h9km±2km, mb5.0/237,Error ellipse: s-maj=11.6km s-min=11.4km az=204.0*

*GCMT **12** 15:23:28.7±0.2,8.17N±0.02×39.44W±0.01,h15km±1km, MW5.0/102,Moment Tensor Solution. s31,c35; s102,c139; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.44±.24; $M_{\theta\theta}$-1.03±.14; $M_{\phi\phi}$3.48±.17; $M_{r\theta}$-0.19±.34; $M_{\theta\phi}$-2.58±.13; $M_{r\phi}$0.93±.29; Best double couple: M_o3.71300×10^{16} NP1:ϕ_s310.00000°,δ43.00000°, λ-127.00000°. NP2:ϕ_s177.00000°,δ57.00000°, λ-60.00000°. Principal axes: T 4.7690, Plg7.0000°, Azm246.0000°; N -2.1030, Plg25.0000°, Azm339.0000°; P -2.6560, Plg64.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 15:23:26.7±0.3,8.17N±0.05×39.60W±0.05,h14km,n498, σ1.932/443,mb5.0/215,MS4.2/32,23C-21D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBMO	**Morrinhos-CE**	**11.42**	**182**	*e*P	**Pn**	**15 26 07.9**	**-1.6**
ROSB	**Rosrio**	**11.89**	**203**	*e*P	**Pn**	**15 26 15.3**	**-0.7**
NBCL	**Cascavel-CE**	**12.38**	**174**	*e*P	**Pn**	**15 26 22.0**	**-0.7**
MDP	**Montagnes des**	**13.31**	**258**	Pn	**Pn**	**15 26 32.5**	**-3.0**
	1.9nm,0.3s,baz=59,slow=14,SNR=31						
MDP				Sn	Sn	15 28 44.6	-19
	2.2nm,0.3s,baz=94,slow=13,SNR=2.4						
MDP				LR	LR	15 30 57.1	
	comp=Z,1μm,21.1s,baz=55,slow=34						
TMAB	**Tom-Au,PA,Br**	**13.47**	**219**	*e*P	**Pn**	**15 26 37.0**	**-0.7**
NBPA	**Parau_RN**	**14.05**	**170**	*e*P	**Pn**	**15 26 44.8**	**-0.7**
RCBR	**Riachuelo**	**14.39**	**165**	Pn	**Pn**	**15 26 48.5**	**-1.7**
	7.5nm,0.3s,baz=341,slow=14,SNR=37						
RCBR				Sn	Sn	15 29 15.0	-15
	0.7nm,0.3s,baz=354,slow=9.8,SNR=1.2						
RCBR				LR	LR	15 31 05.0	
	comp=Z,1μm,18.4s,baz=336,slow=32						
RCBR	**Riachuelo**	**14.39**	**165**		**Pn**	**15 26 47.8**	**-2.4**
RCBR	**Riachuelo**	**14.39**	**165**	*e*P	**Pn**	**15 26 50.3**	**+0.1**
MCPB	**Macapa, AP**	**15.04**	**236**	*e*P	**Pn**	**15 26 57.3**	**-1.7**
NBPV	**Pedro Velho**	**15.12**	**163**	*e*P	**Pn**	**15 26 59.0**	**-1.0**
NBLI	**Livramento-PB**	**15.66**	**170**	*e*P	**Pn**	**15 27 08.2**	**+1.0**
SACV	**Santiago Islan**	**17.05**	**65**	Pn	**Pn**	**15 27 19.3**	**-5.6**
NBRF	**Rio Formoso -**	**17.32**	**165**	*e*P	**P**	**15 27 29.6**	**-0.1**
PRPB	**Parauapebas**	**17.52**	**216**	*e*P	**Pn**	**15 27 30.6**	**-0.2**
MALB	**Monte Alegre**	**17.70**	**236**	*e*P	**Pn**	**15 27 32.2**	**-0.8**
NBAN	**Anadia - AL**	**18.03**	**169**	*e*P	**Pn**	**15 27 37.1**	**0.0**
SMTB	**Santa Maria do**	**18.70**	**205**	*e*P	**P**	**15 27 44.9**	**-0.1**
NBLA	**Lagarto - SE**	**19.12**	**175**	*e*P	**Pn**	**15 27 50.9**	**+0.5**
ITTB	**Itaituba**	**20.36**	**233**	*e*P	**P**	**15 28 03.1**	**+0.1**
SDBA	**SAO DESIDERIO**	**21.12**	**195**	*e*P	**P**	**15 28 11.4**	**+0.2**
BOAV	**Boa Vista**	**21.61**	**256**	*e*P	**P**	**15 28 17.0**	**+0.5**
H05S1	**Guadeloupe/Mar**	**21.73**	**289**	T	T	15 53 45.8	
NPGB	**Novo Progresso**	**21.81**	**227**	*e*P	**P**	**15 28 18.1**	**-0.5**
PEXB	**Peixe**	**21.93**	**203**	*e*P	**P**	**15 28 20.3**	**+0.4**
FDF	**Fort de France**	**22.10**	**289**	P	**P**	**15 28 23.3**	**+1.4**
FDF				pmax	pmax		
	comp=Z,112nm,1.0s						
FDF	**Fort de France**	**22.10**	**289**	P	**P**	**15 28 23.2**	**+1.4**
PTGA	**Pitinga**	**22.15**	**247**	P	**P**	**15 28 21.5**	**-0.9**
	comp=Z,34nm,1.0s,baz=69,slow=11,SNR=24						
PTGA				LR	LR	15 37 12.0	
	comp=Z,767nm,19.8s,baz=92,slow=37						
PTGA	**Pitinga**	**22.15**	**247**	P	**P**	**15 28 22.2**	**-0.2**
PTGA				IAmb	IAmb	15 28 28.5	
	comp=Z,83nm,1.0s						
PTGA	**Pitinga**	**22.15**	**247**	*e*P	**P**	**15 28 22.6**	**+0.2**
H05N1	**Guadeloupe/Mar**	**22.46**	**293**	T	T	15 51 44.4	
NBIT	**Itapeh - BA**	**22.95**	**180**	*e*P	**P**	**15 28 31.8**	**+0.9**
MBO	**M'Bour**	**23.04**	**72**	P	**P**	**15 28 31.2**	**-0.5**
SNDB	**Serra Nova Dou**	**23.15**	**210**	*e*P	**P**	**15 28 33.4**	**+0.5**
JANB	**Januaria**	**23.55**	**191**	*e*P	**P**	**15 28 36.9**	**-0.1**
MACA	**Manacapuru-AM**	**23.86**	**243**	*e*P	**P**	**15 28 40.8**	**+0.9**
CLDB	**Colider**	**24.86**	**221**	*e*P	**P**	**15 28 50.3**	**+1.2**
BDFB	**Brasilia**	**25.09**	**199**	P	**P**	**15 28 50.8**	**-0.5**
	comp=Z,16nm,0.9s,baz=14,slow=16,SNR=14						
BDFB				LR	LR	15 38 14.0	
	comp=Z,573nm,19.8s,baz=14,slow=36						
BDFB	**Brasilia**	**25.09**	**199**	P	**P**	**15 28 49.6**	**-1.6**
BDFB				pmax	pmax		
	comp=Z,29nm,1.1s						
BDFB	**Brasilia**	**25.09**	**199**	P	**P**	**15 28 49.6**	**-1.6**
BDFB				IAmb	IAmb	15 28 55.5	
	comp=Z,29nm,1.1s						
ARAG	**Araguaiana, MT**	**26.63**	**207**	*e*P	**P**	**15 29 06.2**	**+1.1**
SJMB	**Sao Joao De Ma**	**

PCON Cinco Dias 37.09 263 *e*P P 15 30 38.7 +1.1
ITAB Concordia 37.23 199 *e*P P 15 30 39.6 +1.6
BBAC Balboa, Cauca 37.98 263 *e*P P 15 30 44.0 -0.8
GCUF Volcan Galeras 38.22 262 *e*P P 15 30 49.1 +1.9
CPUP Villa Florida 38.38 206 LR LR 15 46 38.3
comp=Z,755nm,18.0s,baz=26,slow=36
CPUP Villa Florida 38.38 206 P P 15 30 46.1 -1.6
CPUP pmax pmax
comp=Z,21nm,1.6s
CPUP Villa Florida 38.38 206 P P 15 30 46.1 -1.6
CPUP Villa Florida 38.38 206 *e*P P 15 30 47.6 -0.1
OTAV Otavalo 39.51 260 P P 15 30 54.8 -3.2
OTAV pmax pmax
comp=Z,11nm,1.0s
OTAV Otavalo 39.51 260 P P 15 30 54.8 -3.2
OTAV Otavalo 39.51 260 *e*P P 15 30 59.7 +1.8
OTAV Otavalo 39.51 260 *e*P P 15 30 58.0 0.0
PB16 IPOC Station P 39.56 228 P P 15 30 54.9 -3.6
MNMC Minye Minye 40.13 227 P P 15 31 00.2 -2.6
MDT Midelt 40.61 48 P P 15 31 05.9 -0.5
comp=Z,7.1nm,0.8s,baz=252,slow=3.1,SNR=17
MDT LR LR 15 44 39.5
comp=Z,400nm,21.3s,baz=253,slow=31
PBDV Barranco-do-Ve 40.75 40 *e*P P 15 31 10.9 +3.4
comp=Z,27nm,1.3s
PSGCX Pisagua 40.81 227 P P 15 31 05.9 -2.3
PSGCX IAmb IAmb 15 31 07.5
comp=Z,39nm,1.5s
TOA0 Torodi Ar. Sit 40.84 79 P P 15 31 07.1 -1.3
TORD Torodi Ar. Bea 40.84 79 P P 15 31 07.3 -1.2
comp=Z,17nm,0.8s,baz=275,slow=9.1,SNR=29
TORD PP PP 15 32 44.6 +1.9
comp=Z,2.6nm,0.9s,baz=265,slow=9.0,SNR=2.6
TORD LR LR 15 46 51.9
comp=Z,265nm,18.6s,baz=270,slow=34
TORD Torodi Ar. Bea 40.84 79 P P 15 31 07.0 -1.4
PNCL Nicolau / Gran 40.91 38 *e*P P 15 31 10.4 +1.7
comp=Z,37nm,1.2s
PVAQ Vaqueiros 40.99 40 *e*LR LR 15 42 24.9
comp=Z,464nm,20.0s
ITQB Itaqui 41.04 203 *e*P P 15 31 10.8 +1.0
PB01 IPOC Station P 41.30 225 P P 15 31 11.2 -1.0
EVO Evora 41.49 38 *e*P P 15 31 14.6 +1.1
comp=Z,42nm,1.5s
PBAR Barrancos 41.88 39 *e*P P 15 31 19.9 +3.2
comp=Z,38nm,1.6s
LVC Limon Verde 41.95 223 P P 15 31 17.1 -0.7
comp=Z,3.7nm,0.7s,baz=70,slow=9.6,SNR=4.9
LVC Limon Verde 41.95 223 P P 15 31 16.6 -1.3
LVC pmax pmax
comp=Z,23nm,1.5s
LVC Limon Verde 41.95 223 P P 15 31 16.6 -1.3
LVC Limon Verde 41.95 223 *e*P P 15 31 17.7 -0.2
PB07 IPOC Station P 42.02 224 P P 15 31 17.0 -1.2
PMRV Marv??o 42.43 38 *e*P P 15 31 23.0 +1.8
comp=Z,33nm,1.6s
PB06 IPOC Station P 42.47 223 P P 15 31 19.2 -2.6
PCBR Castelo Branco 42.63 37 *e*P P 15 31 25.8 +3.0
comp=Z,24nm,1.6s
PB15 IPOC Station P 42.74 222 P P 15 31 22.7 -1.4
PVIS Viseu 42.95 36 *e*P P 15 31 27.1 +1.7
comp=Z,33nm,1.5s
MTE Manteigas 42.95 36 *e*P P 15 31 28.4 +3.0
comp=Z,31nm,1.5s
MTE Manteigas 42.95 36 *e*LR LR 15 42 59.3
comp=Z,267nm,22.0s
MTE Manteigas 42.95 36 P P 15 31 26.9 +1.4
POLO Lamas de Olo 43.43 35 *e*P P 15 31 30.1 +0.8
comp=Z,17nm,1.3s
PGAV Gavieira, Arco 43.55 34 *e*P P 15 31 31.1 +0.8
comp=Z,61nm,1.3s
DRLN Deer Lake 43.62 343 P P 15 31 30.4 -0.2
DRLN IAmb IAmb 15 31 48.4
comp=Z,39nm,1.4s
GO02 Mina Guanaco 44.17 221 P P 15 31 34.7 -1.1
GO02 IAmb IAmb 15 31 46.5
comp=Z,19nm,0.8s
PBRG Braganca 44.31 35 *e*P P 15 31 35.7 -0.7
comp=Z,33nm,1.7s
PB14 IPOC Station P 44.33 222 P P 15 31 35.4 -1.6
U59A Littleton 44.65 315 P P 15 31 40.1 +1.0
U59A IAmb IAmb 15 31 41.2
comp=Z,30nm,1.4s
ESDC Sonseca Array 44.70 40 P P 15 31 38.7 -0.9
comp=Z,2.3nm,0.9s,baz=242,slow=8.6,SNR=3.1
ESDC LR LR 15 47 17.2
comp=Z,392nm,19.2s,baz=235,slow=32
ESDC Sonseca Array 44.70 40 P P 15 31 39.0 -0.6
ESBB Sonseca Array 44.70 40 P P 15 31 41.2 +1.6
BATG Bathurst New B 45.02 335 P P 15 31 42.4 +0.5
AC02 Maricunga 45.07 218 P P 15 31 43.0 -0.1
AC02 IAmb IAmb 15 31 45.1
comp=Z,25nm,1.2s
WUPA West Chester U 45.09 320 P P 15 31 43.2 +0.7
N60A Cedar Hill Far 45.31 322 P 15 31 45.7
baz=126
LUPA Lehigh Univers 45.32 321 P P 15 31 45.0 +0.7
V58A Windy Hill, Pi 45.33 313 P P 15 31 45.2 +0.7
V58A IAmb IAmb 15 31 46.2
comp=Z,49nm,1.8s
R58B Mineral 45.51 317 P 15 31 47.3
baz=121
R58B Mineral 45.52 317 P P 15 31 45.8 -0.1
R58B IAmb IAmb 15 31 48.1
comp=Z,23nm,1.2s
SDMD Soldier's Deli 45.59 319 P P 15 31 46.6 +0.2
MVL Millersville 45.60 320 P P 15 31 47.8 +1.2
MVL IAmb IAmb 15 31 49.0
comp=Z,17nm,1.1s
TRY Troy 45.60 325 P P 15 31 47.2 +0.7
TAM Tamanrasset 45.65 66 P P 15 31 47.2 -0.2
TAM pmax pmax
comp=Z,10.0nm,1.2s
TAM Tamanrasset 45.65 66 P P 15 31 47.2 -0.2
W57A Gilead 45.67 312 P P 15 31 47.9 +0.7
W57A IAmb IAmb 15 31 49.4
comp=Z,27nm,1.2s
U57A Blanch 45.78 314 P 15 31 49.5
baz=118
BIRD Birdtown, Kers 45.80 311 P P 15 31 49.5 +1.2
BIRD IAmb IAmb 15 31 50.5
comp=Z,16nm,1.0s
H61A Lyndonville 45.82 328 P 15 31 50.3
baz=132
V57A Coltrane Farms 45.84 313 P 15 31 50.3
baz=117
KSPA Keystone Colle 46.12 322 P P 15 31 49.9 -0.8
S57A Dark Hollow, R 46.15 316 P P 15 31 52.3 +1.3
S57A IAmb IAmb 15 31 54.1
comp=Z,25nm,1.2s
S57A Dark Hollow, R 46.15 316 P 15 31 52.6
baz=120
GO03 Copiap 46.30 219 P P 15 31 50.2 -2.1
GO03 IAmb IAmb 15 32 05.0
comp=Z,10nm,0.8s
V56A Mocksville 46.33 313 P 15 31 54.0
baz=116
E61A Lac Etchemin 46.40 331 P 15 31 53.6
baz=136
G60A Masonville 46.41 328 P 15 31 54.3
baz=132
R56A Bull Pasture M 46.78 316 P 15 31 57.8
baz=120
M57A Sunshine Farm, 46.84 321 P P 15 31 56.1 -0.2
V55A Taylorsville 46.88 312 P P 15 31 57.6 +0.9
V55A IAmb IAmb 15 31 59.3
comp=Z,17nm,1.0s
PAULI Pauline 46.88 311 P P 15 31 58.0 +1.2
PAULI IAmb IAmb 15 31 59.1
comp=Z,12nm,1.0s
FRNY Flat Rock 46.90 327 P P 15 31 57.0 +0.3
BLA Blacksburg 46.91 314 P P 15 31 58.1 +1.1
BLA pmax pmax
comp=Z,21nm,1.1s
BLA Blacksburg 46.91 314 P P 15 31 58.1 +1.1
BLA IAmb IAmb 15 31 59.6
comp=Z,21nm,1.1s
BLA Blacksburg 46.91 314 P 15 31 58.8
baz=118
HODGE Hodges 46.98 310 P P 15 31 58.3 +0.7
HODGE IAmb IAmb 15 31 59.9
comp=Z,13nm,1.0s
O56A Blue Knob Stat 47.17 319 P P 15 32 00.5 +1.5
O56A IAmb IAmb 15 32 01.2
comp=Z,16nm,1.1s
O56A Blue Knob Stat 47.17 319 P 15 32 00.7
baz=122
R55A Marlinton 47.21 316 P P 15 32 00.8 +1.4
AC05 El Transito 47.22 218 P P 15 31 59.5 0.0
AC05 IAmb IAmb 15 32 10.2
comp=Z,15nm,1.1s
AC04 Llanos de Chal 47.25 219 P P 15 31 58.9 -0.9
L56A Greenwood 47.55 322 P P 15 32 03.1 +1.2
L56A IAmb IAmb 15 32 05.2
comp=Z,16nm,1.1s
GOGA Godfrey 47.60 308 P P 15 32 03.3 +1.0
GOGA pmax pmax
comp=Z,47nm,1.8s
GOGA Godfrey 47.60 308 P P 15 32 03.3 +1.0
U54A Nelsons Funny 47.61 313 P P 15 32 02.9 +0.4
U54A IAmb IAmb 15 32 05.0
comp=Z,24nm,1.1s
E58A La Victoria 47.76 329 P 15 32 04.3
baz=132
BG3 Lake Jocassee 47.79 310 P P 15 32 05.7 +1.8
BG3 IAmb IAmb 15 32 06.8
comp=Z,15nm,1.0s
S54A Dingess, Beckl 47.81 315 P P 15 32 05.3 +1.3
S54A IAmb IAmb 15 32 06.5
comp=Z,13nm,0.8s
CO01 Juntas del Tor 47.94 216 P P 15 32 05.1 -0.2
CO01 IAmb IAmb 15 32 17.6
comp=Z,9.5nm,0.9s
V53A Saluda 47.98 311 P P 15 32 06.5 +1.1
V53A IAmb IAmb 15 32 07.7
comp=Z,11nm,1.0s
D58A Chemin du LacG 48.05 330 P 15 32 06.5
baz=133
MMNY Mt. Morris Dam 48.10 322 P P 15 32 06.4 +0.3
LATQ La Tuque 48.19 330 P 15 32 07.7
baz=134
LATQ La Tuque 48.19 330 P P 15 32 05.6 -1.1
LATQ IAmb IAmb 15 32 07.8
comp=Z,13nm,1.1s
Y52A Lilburn 48.23 309 P P 15 32 07.9 +0.7
Y52A IAmb IAmb 15 32 27.0
comp=Z,22nm,1.2s
PECO Prince Edward 48.25 324 P P 15 32 08.1 +0.9
ZON Zonda 48.31 214 P P 15 32 08.2 +0.3
ZON pmax pmax
comp=Z,32nm,1.3s
ZON Zonda 48.31 214 P P 15 32 08.2 +0.3
TRQ Mont Tremblant 48.32 328 P P 15 32 08.2 +0.4
GO04 Tololo Observa 48.50 217 P P 15 32 08.7 -1.0
R53A Hurricane 48.50 315 P P 15 32 10.1 +0.8
TEIG Tepich 48.52 290 P P 15 32 08.9 -0.8
comp=Z,5.8nm,0.7s,baz=115,slow=9.9,SNR=1.6
TEIG LR LR 15 50 34.9
comp=Z,101nm,19.7s,baz=112,slow=34
M54A Oil Creek Stat 48.53 320 P P 15 32 10.4 +0.9
M54A Oil Creek Stat 48.53 320 P 15 32 10.7
baz=122
P53A Whipple 48.65 317 P P 15 32 11.8 +1.4
P53A IAmb IAmb 15 32 12.6
comp=Z,17nm,1.1s
TKL Tuckaleechee C 48.69 311 LR LR 15 48 09.9
comp=Z,247nm,20.8s,baz=114,slow=30
E56A St. Veronique 48.78 328 P 15 32 11.9
baz=130
O53A New Philadelph 48.90 318 P P 15 32 13.0 +0.6
O53A IAmb IAmb 15 32 14.5
comp=Z,17nm,1.0s
O53A New Philadelph 48.90 318 P 15 32 13.5
baz=119
CO03 El Pedregal 48.92 216 P P 15 32 13.0 +0.3
N53A Lisbon 48.93 318 P P 15 32 12.8 +0.2
N53A IAmb IAmb 15 32 14.8
comp=Z,25nm,1.1s
Q52A Bidwell 49.01 316 P P 15 32 13.5 +0.3
Q52A IAmb IAmb 15 32 15.1
comp=Z,20nm,1.0s
ERPA Erie 49.05 320 P 15 32 14.8
baz=122
ERPA Erie 49.06 320 P P 15 32 14.0 +0.5
MTO3 Montecristo 49.12 282 P P 15 32 14.8 +0.1
MTO3 IAmb IAmb 15 32 26.0
comp=Z,9.6nm,0.8s
M53A WI Miller and 49.14 319 P 15 32 15.2
baz=121
CPCT Cooper Cave 49.17 310 P P 15 32 15.2 +0.7
O52A Adamsville 49.26 317 P P 15 32 14.8 -0.3
W50A Signal Mountai 49.67 310 P P 15 32 19.6 +1.2
W50A IAmb IAmb 15 32 20.9
comp=Z,15nm,0.9s
Q51A Peebles 49.79 315 P P 15 32 20.1 +0.9
Q51A IAmb IAmb 15 32 21.3
comp=Z,18nm,0.9s
SADO Sadowa 49.99 324 P P 15 32 19.9 -0.7
comp=Z,7.9nm,1.0s,baz=109,slow=6.9,SNR=3.9
SADO LR LR 15 48 53.4
comp=Z,218nm,20.4s,baz=142,slow=31
SADO Sadowa 49.99 324 P P 15 32 20.3 -0.3
T50A Nancy 50.02 312 P P 15 32 20.9 0.0
T50A IAmb IAmb 15 32 37.9
comp=Z,12nm,0.8s
SWET Sewanee 50.15 310 P P 15 32 22.8 +0.7
SWET IAmb IAmb 15 32 24.3
comp=Z,16nm,1.1s
LRAL Lakeview Retre 50.25 306 P P 15 32 23.6 +0.9
LRAL Lakeview Retre 50.25 306 P 15 32 24.5
baz=109
LFF La Frestale 50.55 37 *e*P P 15 32 26.8 +2.0
LFF pmax pmax
comp=Z,19nm,0.9s
X48A Hartselle 50.75 308 P P 15 32 27.5 +1.0
R49A Shelbyville 50.77 313 P P 15 32 27.2 +0.6
R49A IAmb IAmb 15 32 39.7
comp=Z,24nm,0.8s
P49A Miami Univ. Ec 50.97 315 P 15 32 29.4
baz=116
MFF Saint Martin d 51.00 34 *e*P P 15 32 29.8 +1.6
MFF pmax pmax
comp=Z,27nm,1.3s
V48A Smith Brothers 51.02 310 P P 15 32 29.8 +1.2
V48A IAmb IAmb 15 32 30.7
comp=Z,19nm,1.1s
LSQQ Lebel-sur-Quev 51.41 329 P 15 32 31.8
baz=130
T47A Sharon Grove 51.68 311 IAmb IAmb 15 32 35.6
comp=Z,26nm,1.1s
H09W1 TRISTAN DA CUN 51.77 152 T T 16 28 22.2
SNR=4.0
L48A N Adams 51.85 318 IAmb IAmb 15 32 36.4
comp=Z,20nm,0.9s
CCIG Comitan 51.86 284 P P 15 32 36.5 +1.2
BO02 Sierra Bellavi 51.92 213 P P 15 32 35.0 -0.3
WVT Waverly 51.92 310 P P 15 32 36.0 +0.7
WVT pmax pmax
comp=Z,12nm,0.9s
WVT Waverly 51.92 310 P P 15 32 36.0 +0.7
WVT Waverly 51.92 310 P 15 32 36.2
baz=110
MATQ Matagami 52.18 330 P 15 32 37.4
baz=130
KEST Kesra 52.33 51 P P 15 32 38.3 -0.1
comp=Z,18nm,1.0s,baz=195,slow=5.4,SNR=8.8
KEST LR LR 15 54 35.1
comp=Z,324nm,19.4s,baz=202,slow=36
KEST Kesra 52.33 51 P P 15 32 39.4 +1.0
KEST IAmb IAmb 15 32 42.5
comp=Z,22nm,1.0s
Y45A Yeager Farm, C 52.53 307 P P 15 32 41.2 +1.4
W45A Hickory Valley 52.64 308 P P 15 32 41.2 +0.5
SFIN Lafayette 52.98 315 P 15 32 44.2
baz=114
SSB Saint Sauveur 53.01 38 P P 15 32 44.7 +1.4
SSB pmax pmax
comp=Z,30nm,1.4s
SSB Saint Sauveur 53.01 38 P P 15 32 44.7 +1.4
SSB IAmb IAmb 15 32 48.3
comp=Z,30nm,1.4s
S44A Carbondale 53.53 311 IAmb IAmb 15 32 48.9
comp=Z,27nm,1.1s
BI02 San Fabin de 53.60 212 IAmb IAmb 15 32 58.4
comp=Z,22nm,0.9s
BNI Bardonecchia 54.22 39 P P 15 32 53.3 +1.0
BNI pmax pmax
comp=Z,26nm,1.1s
BNI Bardonecchia 54.22 39 P P 15 32 53.3 +1.0
BNI IAmb IAmb 15 32 56.4
comp=Z,26nm,1.1s
LPL La Plagne 54.47 39 *e*P P 15 32 56.6 +2.4
LPL pmax pmax
comp=Z,26nm,1.4s
FVM French Village 54.50 311 IAmb IAmb 15 32 55.6
comp=Z,14nm,0.9s
T42A Van Buren 54.70 310 P P 15 32 55.3 -0.4
W41B Gary Mavity, V 55.04 307 P 15 32 58.7
baz=106
WHAR Wooly Hollow 55.10 308 IAmb IAmb 15 32 59.8
comp=Z,25nm,1.2s
CCM Cathedral Cave 55.14 311 P P 15 32 59.0 +0.1
CCM pmax pmax
comp=Z,14nm,1.0s
CCM Cathedral Cave 55.14 311 P P 15 32 59.0 +0.1
CCM IAmb IAmb 15 33 00.0
comp=Z,14nm,1.0s
CCM Cathedral Cave 55.14 311 P 15 32 59.2
baz=109
EKA Eskdalemuir Ar 55.18 24 P P 15 32 58.8 -0.1
comp=Z,6.3nm,1.0s,baz=224,slow=4.0,SNR=4.2
SENIN Lac Senin/Sane 55.23 38 IAmb IAmb 15 33 03.4
comp=Z,26nm,1.2s
X40A Basin Creek Fa 55.32 306 P 15 33 00.9
baz=106
MGMO Mountain Grove 55.63 310 P P 15 33 02.5 +0.1
MGMO IAmb IAmb 15 33 03.6
comp=Z,17nm,1.1s
I42A Draeger Farm, 55.66 318 P P 15 33 03.0 +0.5
I42A IAmb IAmb 15 33 13.1
comp=Z,12nm,0.8s
U40A Yellville 55.85 309 IAmb IAmb 15 33 04.7
comp=Z,15nm,1.0s
U40A Yellville 55.85 309 P 15 33 04.1
baz=107
MIAR Mount Ida 55.93 306 P P 15 33 04.1 -0.5
MIAR pmax pmax
comp=Z,11nm,1.2s
MIAR Mount Ida 55.93 306 P P 15 33 04.1 -0.5
MIAR Mount Ida 55.93 306 P 15 33 04.7
baz=105
R40A Maddies Statio 55.98 311 IAmb IAmb 15 33 05.8
comp=Z,13nm,0.9s
BGES Gesves 56.01 33 *d*pP pP 15 33 06.9 -1.0
JFWS Jewell Farm 56.16 317 P P 15 33 06.1 0.0
JFWS pmax pmax
comp=Z,20nm,0.7s
JFWS Jewell Farm 56.16 317 P P 15 33 06.1 0.0
JFWS Jewell Farm 56.16 317 P 15 33 06.8
baz=113
W39A Magazine 56.26 307 P 15 33 07.8
baz=105
W39A Magazine 56.26 307 IAmb IAmb 15 33 08.7
comp=Z,24nm,1.1s
PLCA Paso Flores 56.40 208 P P 15 33 07.7 -0.2
comp=Z,10nm,0.9s,baz=31,slow=10,SNR=18
PLCA LR LR 15 58 25.9
comp=Z,436nm,18.4s,baz=34,slow=37
PLCA Paso Flores 56.40 208 IAmb IAmb 15 33 18.9
comp=Z,25nm,1.1s
PLCA Paso Flores 56.40 208 *e*P P 15 33 08.1 +0.2
L40A Anamosa 56.50 316 IAmb IAmb 15 33 09.4
comp=Z,23nm,1.1s
OSSC Osservatorio P 56.52 43 P P 15 33 09.8 +1.1
TUE Stuetta 56.53 39 P P 15 33 08.8 -0.1
TUE IAmb IAmb 15 33 20.1
comp=Z,43nm,1.8s
S39A Bolivar 56.59 310 P P 15 33 09.2 -0.1
S39A IAmb IAmb 15 33 09.8
comp=Z,14nm,1.0s
MEM Membach 56.62 33 *d*pP pP 15 33 11.8 -0.5
BTNL Ternell 56.68 33 *d*pP pP 15 33 11.9 -0.8
BFO Black Forest 56.78 36 P P 15 33 11.0 +0.5
BFO pmax pmax
comp=Z,15nm,0.8s
BFO Black Forest 56.78 36 P P 15 33 11.0 +0.5
BFO IAmb IAmb 15 33 14.2
comp=Z,15nm,0.8s
HKT Hockley 56.79 300⇑ *e*P P 15 33 11.4 +0.6
HKT pmax pmax
comp=Z,19nm,1.5s
DAVOX Davos/Dischmat 57.00 39 P P 15 33 12.4 +0.1
comp=Z,9.8nm,0.8s,baz=253,slow=4.5,SNR=13
G40A Rib Lake 57.06 319 IAmb IAmb 15 33 23.5
comp=Z,14nm,0.9s
DAVA Damuels 57.22 38 *i* P P 15 33 14.5 +0.7
comp=Z,30nm,1.0s,SNR=5.1
X37A Clayton 57.37 306 P P 15 33 15.3 +0.4
N38A Joes South For 57.48 314 IAmb IAmb 15 33 16.2
comp=Z,16nm,0.8s
FETA Feichten 57.63 39 *e*P P 15 33 16.9 +0.2
comp=Z,13nm,0.9s
RETA Reutte 57.85 38 *e*P P 15 33 18.5 +0.4
comp=Z,31nm,1.4s
MOTA Moosalm 58.00 38 *i* P P 15 33 19.4 +0.1
comp=Z,29nm,1.2s,SNR=5.1
SQTA Sankt Quirin 58.01 39 *i* P P 15 33 19.5 +0.2
comp=Z,26nm,0.7s,SNR=6.9
TUL1 Leonard 58.02 307 P 15 33 19.8
baz=104
WATA Walderalm 58.28 39 *i* P P 15 33 22.2 +0.9
comp=Z,23nm,1.2s
WTTA Wattenberg 58.29 39 *i* P P 15 33 21.6 +0.3
comp=Z,25nm,0.9s,SNR=7.0
STAL STALIGIAL 58.55 40 P P 15 33 23.2 +0.2
STAL IAmb IAmb 15 33 25.6
comp=Z,12nm,0.8s
ABTA Abfaltersbach 58.62 39 *i* P P 15 33 25.7 +2.2
comp=Z,17nm,0.8s,SNR=6.2
SPMN Marine on St. 58.74 319 P 15 33 24.6
baz=112
T35A Sooner Cattle 58.83 308 IAmb IAmb 15 33 25.8
comp=Z,16nm,0.9s
ZOU Zoufplan 58.84 40 IAmb IAmb 15 33 28.5
comp=Z,18nm,0.9s
GRF Grafenberg Arr 59.10 36 *e*P P 15 33 26.5 -0.2
comp=Z,20nm,1.0s,baz=242,slow=6.9
SFJD Kangerlussuaq 59.22 355 P P 15 33 26.6 -0.6
comp=Z,6.3nm,0.7s,baz=146,slow=8.1,SNR=5.5
SFJD Kangerlussuaq 59.22 355 P P 15 33 27.1 -0.1
SFJD pmax pmax
comp=Z,37nm,1.4s
SFJD Kangerlussuaq 59.22 355 P P 15 33 27.1 -0.1
FRB Frobisher Bay 59.22 345 P P 15 33 27.2 0.0
comp=Z,13nm,0.9s,baz=135,slow=8.2,SNR=14
KBA Koelnbreinsper 59.28 39 *i* P P 15 33 30.1 +1.9
comp=Z,23nm,1.1s,SNR=6.6
MYKA Terra Mystica 59.29 40 *i* P P 15 33 30.4 +2.2
comp=Z,22nm,0.8s,SNR=7.2
KAN13 South Haven SW 59.61 308 IAmb IAmb 15 33 31.4
comp=Z,18nm,1.0s
KS20 Mayfield South 59.72 308 P P 15 33 31.0 -0.2
OBKA Obir 59.83 40 *e*P P 15 33 34.4 +2.5
comp=Z,22nm,0.9s
KAN01 Argonia South 59.86 308 P P 15 33 32.5 +0.3
NKC Novy Kostel 60.05 36 *e*P P 15 33 35.7 +2.4
NKC Novy Kostel 60.05 36 *e*P P 15 33 35.7 +2.4
WMOK Wichita Mounta 60.15 305 P 15 33 33.9
baz=102
MOA Molln 60.16 39 *i* P P 15 33 35.7 +1.6
comp=Z,16nm,0.9s,SNR=5.5
SOKA Soboth 60.20 40 *e*P P 15 33 34.4 0.0
comp=Z,16nm,1.7s
GEC2 GERESS Array S 60.21 38 IAmb IAmb 15 33 57.5
comp=Z,19nm,1.7s
GERES GERESS Array B 60.21 38 P P 15 33 34.8 +0.3
comp=Z,2.8nm,0.9s,baz=269,slow=11,SNR=14
GERES LR LR 15 58 47.2
comp=Z,135nm,18.1s,baz=252,slow=35
GERES GERESS Array B 60.21 38 P P 15 33 33.8 -0.7
KHC Kasperske Hory 60.25 37⇑ *e*P P 15 33 34.8 +0.1
KHC Kasperske Hory 60.25 37 *e*P P 15 33 35.1 +0.4
KHC *ex* x 15 33 51.0
KHC Kasperske Hory 60.25 37 IAmb IAmb 15 33 37.4
comp=Z,11nm,1.1s
JCT Junction City 60.27 300 P P 15 33 34.2 -1.0
JCT pmax pmax
comp=Z,16nm,1.1s
JCT Junction City 60.27 300 P P 15 33 34.2 -1.0
JCT IAmb IAmb 15 33 36.1
comp=Z,16nm,1.1s
JCT Junction City 60.27 300 P 15 33 34.9
baz=98
CKRC Cesky Krumlov 60.56 38 *e*P P 15 33 38.6 +1.8
ARSA Arzberg 60.72 40 *e*P P 15 33 38.9 +0.9
comp=Z,9.3nm,0.7s

ECSD **EROS Data Cent** 60.80 316 IAmb IAmb 15 33 39.6
comp=Z,111nm,0.9s
ECSD **EROS Data Cent** 60.80 316 P 15 33 38.2
baz=108
CLL **Collm** 60.83 35 *e*P **P** **15 33 40.0 +1.5**
comp=Z,7.0nm,1.1s
CLL *e*S **S** **15 41 57.0 +1.4**
CLL *e*SSS SSS 15 48 44.0
CLL LmV 15 58 00.0
comp=Z,300nm,18.3s
CLL **Collm** 60.83 35 *e*P **P** **15 33 41.0 +2.5**
CLL *e*S **S** **15 41 57.0 +1.4**
CLL pmax pmax
comp=Z,7.0nm,1.1s
ICESG **Greenland Ices** 60.84 360 *i* P **P** **15 33 37.9 -0.9**
ICESG IAmb IAmb 15 33 40.8
comp=Z,25nm,0.8s
CONA **Conrad Observa** 61.18 39 *e*P **P** **15 33 43.2 +2.0**
comp=Z,11nm,1.0s
BRG **Berggiesshubel** 61.18 36 *e*P **P** **15 33 43.1 +2.1**
BRG Amp 15 33 44.4
comp=Z,21nm,1.6s
BGNE **Belgrade** 61.21 313 P 15 33 41.3
baz=106
PDG **Podgorica** 61.70 46 ⇑P **P** **15 33 45.5 +0.9**
CBKS **Cedar Bluff** 61.76 310 P 15 33 45.6
baz=103
KRUC **Moravsky** 61.93 38 *e*P **P** **15 33 46.1 +0.1**
VRAC **Vranov** 62.14 38 P **P** **15 33 47.6 +0.2**
comp=Z,12nm,1.0s,baz=244,slow=7.2,SNR=7.5
VRAC **Vranov** 62.14 38 *e*P **P** **15 33 47.8 +0.3**
MODS **Modra-Piesok** 62.23 39 *e*P **P** **15 33 49.0 +0.9**
MODS **Modra-Piesok** 62.23 39 *e*P **P** **15 33 49.0 +0.9**
UPC **Upice** 62.24 37 *e*P **P** **15 33 50.9 +2.8**
UPC **Upice** 62.24 37 *e*P **P** **15 33 50.9 +2.8**
DPC **Dobruska-Polom** 62.37 37 *e*P **P** **15 33 51.4 +2.4**
DPC **Dobruska-Polom** 62.37 37 *e*P **P** **15 33 51.4 +2.4**
OSTC **Ostas** 62.38 37 *e*P **P** **15 33 51.1 +2.0**
KRLC **Kraliky** 62.53 37 *e*P **P** **15 33 51.3 +1.2**
KRLC **Kraliky** 62.53 37 *e*P **P** **15 33 51.3 +1.2**
ULM **Lac du Bonnet** 62.54 323 P **P** **15 33 49.0 -1.0**
comp=Z,10nm,0.8s,baz=91,slow=6.1,SNR=8.4
ULM LR LR 15 56 28.8
comp=Z,143nm,21.4s,baz=102,slow=32
ULM **Lac du Bonnet** 62.54 323 P **P** **15 33 49.1 -1.0**
ULM pmax pmax
comp=Z,14nm,0.9s
ULM **Lac du Bonnet** 62.54 323 P **P** **15 33 49.1 -1.0**
ULM IAmb IAmb 15 33 50.0
comp=Z,14nm,0.9s
TSUM **Tsumeb** 62.55 117 P **P** **15 33 51.6 +0.8**
comp=Z,3.1nm,0.9s,baz=334,slow=7.1,SNR=3.8
TSUM **Tsumeb** 62.55 117 IAmb IAmb 15 34 01.4
comp=Z,28nm,1.8s
DIVS **Divbare** 62.68 44 IAmb IAmb 15 33 55.0
comp=Z,10nm,0.9s
FNA **Florina** 62.83 48 IAmb IAmb 15 33 56.4
comp=Z,15nm,1.1s
SCO **Scoresbysund** 63.25 7 *i* P **P** **15 33 54.8 +0.4**
comp=Z,7.1nm,1.1s
SCO **Scoresbysund** 63.25 7 *i* P **P** **15 33 54.8 +0.4**
SCO pmax pmax
comp=Z,7.0nm,1.1s
SCO **Scoresbysund** 63.25 7 *i* P **P** **15 33 54.8 +0.4**
SCO IAmb IAmb 15 33 58.5
comp=Z,7.1nm,1.1s
TXAR **Lajitas Array** 63.46 299 P **P** **15 33 56.8 0.0**
comp=Z,1.0nm,0.7s,baz=113,slow=6.1,SNR=11
TXAR **Lajitas Array** 63.46 299 P **P** **15 33 57.0 +0.2**
TXAR **Lajitas Array** 63.46 299 P **P** **15 33 57.0 +0.2**
TX31 **Lajitas Ar. Si** 63.46 299 P **P** **15 33 57.2 +0.5**
TX32 **Lajitas Array** 63.46 299 IAmb IAmb 15 33 58.3
comp=Z,17nm,1.9s
MDVR **Moldovita** 64.05 44 ⇓P **P** **15 34 02.0 +1.7**
BZS **Buzias** 64.20 43 ⇑P **P** **15 34 02.4 +1.2**
BZS **Buzias** 64.20 43 ⇑P **P** **15 34 02.4 +1.2**
SUMG **Summit** 64.35 0 *i* P **P** **15 34 02.1 -0.1**
comp=Z,74nm,0.8s
SUMG **Summit** 64.35 0 *i* P **P** **15 34 02.1 -0.1**
SUMG pmax pmax
comp=Z,74nm,0.8s
SUMG **Summit** 64.35 0 P **P** **15 34 02.5 +0.4**
SUMG **Summit** 64.35 0 *i* P **P** **15 34 02.1 -0.1**
SUMG IAmb IAmb 15 34 05.5
comp=Z,74nm,0.8s
HERR **Herculane** 64.56 44 ⇓P **P** **15 34 04.1 +0.6**
NOA **NORSAR Array B** 64.67 25 P **P** **15 34 04.1 +0.1**
comp=Z,4.1nm,0.9s,baz=234,slow=6.8,SNR=6.4
NOA LR LR 15 58 18.7
comp=Z,160nm,19.7s,baz=235,slow=32
GZR **Gura Zlata** 64.93 44 ⇓P **P** **15 34 07.2 +1.1**
T25A **Trinidad** 65.07 307 IAmb IAmb 15 34 09.4
comp=Z,20nm,1.2s
T25A **Trinidad** 65.07 307 P 15 34 08.3
baz=99
FCC **Fort Churchill** 65.15 332 P **P** **15 34 06.6 -0.5**
FCC pmax pmax
comp=Z,37nm,1.2s
FCC **Fort Churchill** 65.15 332 P **P** **15 34 06.6 -0.5**
MNTX **Cornudas Mount** 65.17 301 IAmb IAmb 15 34 18.8
comp=Z,8.7nm,0.9s
MNTX **Cornudas Mount** 65.17 301 P 15 34 08.0
baz=96
DRGR 65.25 42 ⇓P **P** **15 34 11.2 +3.1**
DRGR 65.25 42 ⇓P **P** **15 34 11.2 +3.1**
HFS **Hagfors** 65.26 26 P **P** **15 34 07.5 -0.4**
comp=Z,5.4nm,0.9s,baz=235,slow=5.2,SNR=12
KOLS **Kolonicke sedl** 65.55 40 *e*P **P** **15 34 12.4 +2.5**
KOLS **Kolonicke sedl** 65.55 40 *e*P **P** **15 34 12.4 +2.5**
SDCO **Great Sand Dun** 66.02 308 P 15 34 14.6
baz=99
ARR **Arges** 66.20 44 ⇑P **P** **15 34 15.1 +0.8**
ANMO **Albuquerque** 66.42 304 P **P** **15 34 15.6 -0.5**
comp=Z,1.4nm,0.9s,baz=93,slow=5.1,SNR=3.8
ANMO **Albuquerque** 66.42 304 P **P** **15 34 16.5 +0.5**
ANMO pmax pmax
comp=Z,12nm,1.7s
ANMO **Albuquerque** 66.42 304 P **P** **15 34 16.5 +0.5**
ANMO **Albuquerque** 66.42 304 P 15 34 16.8
baz=97
ISCO **Idaho Springs** 66.42 310 IAmb IAmb 15 34 18.3
comp=Z,12nm,1.1s
ISCO **Idaho Springs** 66.42 310 P 15 34 17.2
baz=99
VOIR 66.50 44 ⇓P **P** **15 34 18.5 +2.3**
VOIR 66.50 44 ⇓P **P** **15 34 18.5 +2.3**
N23A **Red Feather La** 66.85 311 P 15 34 20.0
baz=100
DBG **Daneborg** 67.04 6 *i* P **P** **15 34 18.8 -0.2**
DBG IAmb IAmb 15 34 22.9
comp=Z,6.4nm,0.8s
S22A **4UR Ranch, Cre** 67.06 307 P 15 34 21.4
baz=98
BUR08 **Bucovina Ar. S** 67.10 42 IAmb IAmb 15 34 25.9
comp=Z,29nm,1.6s
BURAR **Bucovina Array** 67.11 42 ⇓P **P** **15 34 21.4 +1.3**
BURAR **Bucovina Array** 67.11 42 ⇓P **P** **15 34 21.4 +1.3**
BURAR **Bucovina Array** 67.11 42 P **P** **15 34 20.6 +0.6**
MLR **Muntele Rosu** 67.13 44 P **P** **15 34 20.4 +0.2**
comp=Z,16nm,0.9s,baz=239,slow=4.4,SNR=15
MLR **Muntele Rosu** 67.13 44 ⇑P **P** **15 34 21.2 +0.9**
MLR **Muntele Rosu** 67.13 44 ⇑P **P** **15 34 21.2 +0.9**
DGMT **Dagmar** 67.17 319 P 15 34 21.3
baz=104
BIZ **Bicaz** 67.54 43 ⇑P **P** **15 34 24.5 +1.8**
FFC **Flin Flon** 67.59 326 P **P** **15 34 22.5 -0.4**
FFC pmax pmax
comp=Z,37nm,1.3s
FFC **Flin Flon** 67.59 326 P **P** **15 34 22.4 -0.4**
PLOR **Plostina** 67.68 44 ⇑P **P** **15 34 25.1 +1.4**
PLOR **Plostina** 67.68 44 ⇑P **P** **15 34 25.1 +1.4**
VRI **Vrincioaia** 67.74 44 ⇓P **P** **15 34 24.5 +0.5**
VRI **Vrincioaia** 67.74 44 ⇓P **P** **15 34 24.5 +0.5**
MVCO **Mesa Verde** 68.31 307 IAmb IAmb 15 34 30.3
comp=Z,28nm,1.8s
MVCO **Mesa Verde** 68.31 307 P 15 34 29.3
baz=96
HARR **Harsova** 68.35 45 ⇓P **P** **15 34 26.8 -1.0**
HARR **Harsova** 68.35 45 ⇓P **P** **15 34 26.8 -1.0**
319A **Douglas** 68.46 300 IAmb IAmb 15 34 41.2
comp=Z,12nm,0.9s
O20A **White River Ci** 68.47 310 P 15 34 29.9
baz=98
PV02 **Paradox Valley** 68.61 308 IAmb IAmb 15 34 32.1
comp=Z,9.8nm,1.2s

TIRR **Tirgusor** 68.65 45 ⇓P **P** **15 34 30.6 +0.9**
TIRR **Tirgusor** 68.65 45 ⇓P **P** **15 34 30.6 +0.9**
PV13 **Radium Mtn., P** 68.67 308 P **P** **15 34 31.2 +0.9**
PV13 IAmb IAmb 15 34 32.5
comp=Z,12nm,1.2s
TPGR **Topolog** 68.72 45 ⇑P **P** **15 34 30.0 -0.2**
PV17 **East Wray Mesa** 68.80 308 IAmb IAmb 15 34 33.2
comp=Z,14nm,1.4s
PV05 **Paradox Valley** 68.88 308 IAmb IAmb 15 34 33.1
comp=Z,13nm,1.2s
X18A **Snowflake** 69.24 304 IAmb IAmb 15 34 36.1
comp=Z,9.4nm,1.1s
SORM **Soroca** 69.28 42 ⇑P **P** **15 34 32.8 -0.7**
SORM **Soroca** 69.28 42 ⇑P **P** **15 34 32.8 -0.7**
DAG **Danmarks Havn** 69.49 5 *i* P **P** **15 34 34.4 +0.1**
comp=Z,7.5nm,0.7s
DAG **Danmarks Havn** 69.49 5 *i* P **P** **15 34 34.4 +0.1**
DAG pmax pmax
comp=Z,8.0nm,0.7s
DAG **Danmarks Havn** 69.49 5 *i* P **P** **15 34 34.5 +0.1**
DAG IAmb IAmb 15 34 37.2
comp=Z,7.5nm,0.7s
RDMU **Red Mountain** 69.53 310 IAmb IAmb 15 34 37.0
comp=Z,14nm,1.1s
TUC **Tucson** 69.79 301 P **P** **15 34 38.1 +0.9**
TUC pmax pmax
comp=Z,5.0nm,1.0s
TUC **Tucson** 69.79 301 P **P** **15 34 38.1 +0.9**
TUC **Tucson** 69.79 301 P 15 34 38.2
baz=93
BW06 **Boulder Array** 69.80 313 P 15 34 37.5
baz=98
PDAR **Pinedale Array** 69.80 313 P **P** **15 34 36.4 -0.8**
comp=Z,1.6nm,1.0s,baz=118,slow=5.2,SNR=3.9
PDAR LR LR 16 01 41.4
comp=Z,174nm,21.5s,baz=111,slow=33
PDAR **Pinedale Array** 69.80 313 P **P** **15 34 37.0 -0.2**
NACGM **Naroch** 69.86 34 *i* P **P** **15 34 37.5 +0.6**
NACGM *i* P **P** **15 34 37.5 +0.6**
NACGM *i* P **P** **15 34 37.5 +0.6**
NACGM *i* PcP **PcP** **15 35 00.5 +1.1**
NACGM *i* PP **PP** **15 37 14.8 +3.3**
NACGM *i* PPP PPP 15 38 51.9
NACGM *i* S **S** **15 43 43.0 -3.2**
NACGM *i* PS PnS 15 44 50.3 +38
NACGM *i* SS **SS** **15 48 11.5 -3.4**
NACGM *i* SSS SSS 15 52 13.6
NACGM *i* LQ LQ 16 00 18.2
NACGM *i* LR LR 16 06 35.7
SRU **San Rafael Swe** 70.10 309 IAmb IAmb 15 34 48.7
comp=Z,16nm,1.5s
MDUB **Mudurnu** 70.14 50 P **P** **15 34 39.4 +0.3**
AKASG **Malin Array Be** 70.34 39 P **P** **15 34 39.6 -0.4**
comp=Z,6.7nm,0.7s,baz=253,slow=6.9,SNR=15
AKASG LR LR 16 02 52.8
comp=Z,146nm,21.1s,baz=290,slow=34
AKASG **Malin Array Be** 70.34 39 *ce*P **P** **15 34 39.2 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG **Malin Array Be** 70.34 39 P **P** **15 34 38.4 -1.6**
AKBB **Malin Array Si** 70.34 39 ⇓*e*P **P** **15 34 39.7 -0.3**
AKBB pmax pmax
comp=Z,19nm,1.7s
AKBB **Malin Array Si** 70.34 39 P **P** **15 34 40.0 0.0**
MNK **Minsk** 70.37 35 *i* P **P** **15 34 37.5 -2.7**
comp=E,3.0nm,0.9s
MNK *i* P **P** **15 34 37.5 -2.7**
comp=N,14nm,0.9s
MNK *i* P **P** **15 34 37.5 -2.7**
comp=Z,19nm,1.0s
MNK *i* PcP **PcP** **15 34 57.9 -3.7**
MNK *i* PP **PP** **15 37 14.1 -1.8**
MNK *i* PPP PPP 15 38 56.8
MNK *i* S **S** **15 43 51.4 -0.9**
MNK *i* ScS **SKSac** **15 44 41.1 -0.3**
MNK *i* SS **SS** **15 48 25.3 +2.4**
MNK *i* SSS SSS 15 51 45.2
MNK *i* LR LR 16 05 53.7
MNK *i* LRM MLR 16 08 51.9
comp=N,230nm,20.8s
MNK *i* LRM MLR 16 08 55.5
comp=E,43nm,17.2s
MNK *i* LRM MLR 16 09 07.3
comp=Z,173nm,15.4s
WUAZ **Wupatki** 70.47 305 IAmb IAmb 15 34 54.5
comp=Z,11nm,0.8s
WUAZ **Wupatki** 70.47 305 P 15 34 43.2
baz=94
EGMT **Eagleton** 70.72 318 P 15 34 43.3
baz=100
FLWY **Flagg Ranch** 70.79 314 IAmb IAmb 15 34 45.2
comp=Z,20nm,1.1s
REDW **Red Top Meadow** 70.81 313 P **P** **15 34 43.6 +0.2**
REDW IAmb IAmb 15 34 44.9
comp=Z,17nm,1.4s
JLU **Jordanelle** 70.95 310 IAmb IAmb 15 34 58.2
comp=Z,17nm,1.3s
TCUT **Toone Canyon** 70.97 311 IAmb IAmb 15 34 45.9
comp=Z,14nm,0.9s
HWUT **Hardware Ranch** 71.14 311 P **P** **15 34 45.8 +0.5**
HWUT IAmb IAmb 15 34 56.3
comp=Z,15nm,0.9s
YHB **Horse Butte** 71.23 314 P **P** **15 34 46.8 +0.9**
YHB IAmb IAmb 15 34 48.3
comp=Z,14nm,0.9s
FINES **FINESS Array B** 71.35 28 P **P** **15 34 45.5 -0.4**
comp=Z,4.1nm,0.7s,baz=300,slow=8.6,SNR=11
FINES LR LR 16 01 45.4
comp=Z,177nm,20.9s,baz=276,slow=32
NLU **North Lily Min** 71.37 309 P **P** **15 34 47.5 +0.7**
BR131 **Keskin Array S** 71.93 51 P **P** **15 34 51.5 +1.4**
BR131 pmax pmax
comp=Z,12nm,0.9s
BR131 **Keskin Array S** 71.93 51 P **P** **15 34 51.5 +1.4**
BR131 IAmb IAmb 15 34 53.4
comp=Z,12nm,0.9s
BRTR **Keskin Array B** 71.93 51 P **P** **15 34 49.3 -0.8**
comp=Z,4.0nm,0.7s,baz=239,slow=5.6,SNR=17
BRTR LR LR 16 08 22.7
comp=Z,75nm,19.0s,baz=251,slow=38
BRTR **Keskin Array B** 71.93 51 *ce*P **P** **15 34 52.5 +2.4**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR **Keskin Array B** 71.93 51 P **P** **15 34 50.2 +0.1**
DUG **Dugway, Tooele** 71.96 310 IAmb IAmb 15 34 52.4
comp=Z,32nm,1.9s
DUG **Dugway, Tooele** 71.96 310 P 15 34 51.0
baz=95
SZCU **Shurtz Canyon** 71.99 307 IAmb IAmb 15 34 52.7
comp=Z,18nm,1.6s
HVU **Hansel Valley** 72.06 311 P **P** **15 34 51.0 +0.1**
HVU pmax pmax
comp=Z,15nm,1.4s
HVU **Hansel Valley** 72.06 311 P **P** **15 34 51.0 +0.1**
HVU IAmb IAmb 15 34 52.4
comp=Z,15nm,1.4s
BGU **Big Grassy Mou** 72.18 310 IAmb IAmb 15 34 53.5
comp=Z,22nm,1.1s
BOSA **Boshof** 72.39 123 P **P** **15 34 53.4 +0.5**
comp=Z,5.4nm,1.0s,baz=222,slow=7.9,SNR=3.9
BOSA LR LR 16 00 00.8
comp=Z,150nm,21.4s,baz=320,slow=30
BOSA **Boshof** 72.39 123 P **P** **15 34 53.4 +0.5**
BOSA pmax pmax
comp=Z,19nm,1.1s
BOSA **Boshof** 72.39 123 IAmb IAmb 15 35 03.1
comp=Z,19nm,1.1s
W13A **Hualapai Mount** 72.50 304 P **P** **15 34 54.9 +1.2**
PSUT **Pine Spring** 72.65 308 P **P** **15 34 55.0 +0.5**
RES **Resolute Bay** 73.39 347 P **P** **15 34 57.0 -0.9**
comp=Z,8.5nm,0.9s,baz=90,slow=2.9,SNR=7.5
RES **Resolute Bay** 73.39 347 P **P** **15 34 57.0 -0.9**
RES **Resolute Bay** 73.39 347 IAmb IAmb 15 34 59.4
comp=Z,16nm,1.1s
IRM **Iron Mountain** 73.51 303 P 15 35 01.1
baz=91
PRN **Pahroc Range** 73.54 307 P **P** **15 35 01.0 +1.3**
VALR **Valaam** 73.55 28 *e*P **P** **15 34 58.9 -0.2**
VALR pmax pmax
comp=Z,19nm,1.2s
WALA **Waterton Lakes** 73.60 319 IAmb IAmb 15 35 01.0
comp=Z,15nm,1.1s
JTMT **Jette** 73.70 317 P **P** **15 35 01.1 +0.7**
BC3 **Big Chuckawall** 73.76 303 P 15 35 02.7
baz=91

ARCES **ARCESS Array B** 73.81 19 P **P** **15 34 60.0 -0.5**
comp=Z,12nm,0.8s,baz=305,slow=4.3,SNR=9.8
ARCES LR LR 16 02 05.7
comp=Z,147nm,21.0s,baz=295,slow=32
ARCES **ARCESS Array B** 73.81 19 P **P** **15 35 00.0 -0.5**
ELK **Elko** 73.84 310 P **P** **15 35 00.4 -1.2**
comp=Z,3.3nm,0.9s,baz=62,slow=4.1,SNR=10
GMRC **Granite Mounta** 73.95 304 P 15 35 03.6
baz=91
NOR **Nord** 74.11 3 *i* P **P** **15 35 01.8 -0.2**
comp=Z,7.0nm,1.0s
NOR **Nord** 74.11 3 *i* P **P** **15 35 01.8 -0.2**
NOR pmax pmax
comp=Z,7.0nm,1.0s
NOR **Nord** 74.11 3 *i* P **P** **15 35 01.8 -0.2**
NOR IAmb IAmb 15 35 03.2
comp=Z,7.0nm,1.0s
IKP **In-Ko-Pah, Jac** 74.30 302 P 15 35 05.7
baz=90
PFO **Pinyon Flats O** 74.60 303 ⇑*e*P **P** **15 35 05.8 -0.2**
PFO pmax pmax
comp=Z,7.0nm,1.1s
EUNU **Eureka** 75.12 352 P **P** **15 35 08.7 +0.7**
EUNU IAmb IAmb 15 35 09.7
comp=Z,21nm,1.0s
NEW **Newport** 75.64 318 P **P** **15 35 10.3 -1.3**
comp=Z,6.8nm,0.9s,baz=118,slow=3.9,SNR=6.3
NEW **Newport** 75.64 318 P **P** **15 35 11.7 +0.1**
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW **Newport** 75.64 318 P **P** **15 35 11.7 +0.1**
NEW **Newport** 75.64 318 P 15 35 11.9
baz=94
YKA **Yellowknife Ar** 75.88 332 P **P** **15 35 11.9 -0.7**
comp=Z,3.1nm,0.8s,baz=100,slow=6.5,SNR=22
YKA LR LR 16 06 59.0
comp=Z,171nm,19.0s,baz=0.0,slow=34
APA **Apatity** 76.03 22 ⇓*i* P **P** **15 35 12.3 -1.0**
APA pmax pmax
comp=Z,10.0nm,0.8s
MOS **Moscow** 76.09 35 *e*P **P** **15 35 14.9 +1.0**
MOS pmax pmax
comp=Z,45nm,0.7s
NVAR **Mina Array Bea** 76.13 308 P **P** **15 35 15.0 +0.1**
comp=Z,1.8nm,1.0s,baz=90,slow=5.5,SNR=9.3
NVAR LR LR 16 05 29.1
comp=Z,44nm,21.1s,baz=96,slow=33
NVAR **Mina Array Bea** 76.13 308 P **P** **15 35 14.8 0.0**
LHV **Little Huntoon** 76.29 307 IAmb IAmb 15 35 36.5
comp=Z,21nm,1.3s
WVOR **Wild Horse Val** 76.45 312 IAmb IAmb 15 35 18.5
comp=Z,16nm,1.4s
LPSR **Galich'ya Gora** 76.58 38 *e*P **P** **15 35 16.4 -0.3**
LPSR pmax pmax
comp=Z,40nm,1.6s
VSR **Storozhevoye** 76.64 39 *e*P **P** **15 35 17.5 +0.4**
VSR pmax pmax
comp=Z,10.0nm,1.2s
E08A **Dider Farm, El** 76.87 316 P **P** **15 35 18.8 +0.3**
E08A IAmb IAmb 15 35 19.7
comp=Z,14nm,1.0s
KMBO **Kilima Mbogo** 77.15 93 P **P** **15 35 23.4 +2.4**
comp=Z,1.0nm,0.2s,baz=248,slow=4.9,SNR=3.4
KMBO LR LR 16 05 45.6
comp=Z,131nm,20.4s,baz=90,slow=33
KMBO **Kilima Mbogo** 77.15 93 *ce*P P 15 35 32.4 +11
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KLMR **Klimovskoe** 77.60 29 *e*P **P** **15 35 21.8 -0.5**
KLMR pmax pmax
comp=Z,40nm,1.3s
KLMR **Klimovskoe** 77.60 29 *e*P **P** **15 35 21.9 -0.4**
KLMR AMP 15 35 40.6
comp=Z,40nm,1.3s
MOD **Modoc Plateau** 77.68 311 IAmb IAmb 15 35 25.9
comp=Z,15nm,1.0s
K05A **Summer Lake** 78.12 312 IAmb IAmb 15 35 49.9
comp=Z,17nm,1.2s
VRH **Novokhopyorsk** 78.24 39 *e*P **P** **15 35 26.4 +0.4**
VRH pmax pmax
comp=Z,40nm,1.3s
KIV **Kislovodsk** 78.83 47 *e*P **P** **15 35 30.8 +1.2**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,247nm,19.0s
M04C **Macdoel** 78.83 311 P 15 35 31.0
baz=89
KBZ **Khabaz** 78.99 47 P **P** **15 35 30.4 0.0**
comp=Z,6.7nm,1.0s,baz=172,slow=2.1,SNR=5.6
KBZ LR LR 16 11 45.7
comp=Z,45nm,19.2s,baz=262,slow=37
KBZ **Khabaz** 78.99 47 *ce*P **P** **15 35 33.2 +2.9**
J04D **Umpqua Nationa** 79.01 312 P 15 35 32.1
baz=89
YBH **Yreka Blue Hor** 79.49 311 P **P** **15 35 32.7 -0.6**
comp=Z,1.1nm,0.8s,baz=205,slow=10,SNR=2.0
M02C **Callahan** 79.60 311 P 15 35 34.5
baz=88
L02E **Cave Junction** 80.14 311 P 15 35 37.8
baz=88
K02D **Willamette Mer** 80.17 312 P 15 35 38.1
baz=88
GNI **Garni** 80.47 51 P **P** **15 35 38.8 +0.1**
comp=Z,2.6nm,0.4s,baz=258,slow=16,SNR=1.7
GNI **Garni** 80.47 51 *ce*P **P** **15 35 43.2 +4.5**
GNI pmax pmax
comp=Z,24nm,1.7s
PRGR **Permogore** 80.59 29 *e*P **P** **15 35 38.2 -0.4**
PRGR pmax pmax
comp=Z,27nm,0.7s
VNA1 **Neumayer--Stat** 81.45 170 P **P** **15 35 46.3 +3.4**
VNA3 **Neumayer Olymp** 81.72 171 P **P** **15 35 47.3 +2.8**
VNA2 **Neumayer--Watz** 81.83 170 P **P** **15 35 46.7 +1.7**
BELG **Belogornoye** 81.89 38 P **P** **15 35 45.8 +0.1**
comp=Z,11nm,0.9s,baz=116,slow=14,SNR=2.2
KIRV **Kirov** 82.57 32 *ce*P **P** **15 35 50.2 +1.0**
SNAA **Sanae** 83.28 169 P **P** **15 35 54.2 +1.6**
SNAA **Sanae** 83.28 169 P **P** **15 35 53.0 +0.3**
SNAA pmax pmax
comp=Z,35nm,2.0s
SNAA **Sanae** 83.28 169 P **P** **15 35 53.0 +0.3**
DLBC **Dease Lake** 83.33 328 P **P** **15 35 53.0 -0.2**
comp=Z,6.2nm,0.9s,baz=337,slow=6.2,SNR=5.3
INK **Inuvik** 83.92 338 P **P** **15 35 55.7 -0.2**
comp=Z,14nm,1.1s,baz=80,slow=6.3,SNR=16
EPYK **Eagle Plains** 85.42 336 IAmb IAmb 15 36 05.7
comp=Z,20nm,1.2s
EPYK **Eagle Plains** 85.43 336 P 15 36 04.8
baz=80
BELA **Belgrano 2** 85.96 179 P **P** **15 36 06.3 +0.3**
BELA IAmb IAmb 15 36 16.8
comp=Z,10nm,1.0s
DAWY **Dawson** 86.97 334 IAmb IAmb 15 36 13.3
comp=Z,14nm,1.2s
ARU **Arti** 87.74 33 P **P** **15 36 15.2 0.0**
comp=Z,2.0nm,0.8s,baz=232,slow=5.1,SNR=6.9
ARU **Arti** 87.74 33 *d* *i* P **P** **15 36 16.3 +1.1**
ARU 15 39 38.4
ARU S **SKSac** **15 46 43.4 +0.5**
ARU pmax pmax
comp=Z,15nm,1.1s
ARU **Arti** 87.74 33 P **P** **15 36 16.6 +1.4**
ARU IAmb IAmb 15 36 19.2
comp=Z,15nm,1.1s
BMAR **Burnt Mountain** 88.20 338 P **P** **15 36 17.6 +0.4**
BCAR **Beaver Creek A** 88.25 334 P **P** **15 36 18.1 +0.6**
AKTO **Aktyubinsk** 88.58 39 P **P** **15 36 20.1 +0.8**
comp=Z,3.6nm,0.9s,baz=307,slow=6.3,SNR=8.7
SCRK **Sand Creek** 88.96 335 P 15 36 21.5
baz=74
PRP **Porcupine Dome** 89.13 336 P 15 36 22.9
baz=72
TOLK **Toolik Lake Re** 89.57 340 IAmb IAmb 15 36 25.9
comp=Z,7.3nm,0.9s
TOLK **Toolik Lake Re** 89.57 340 P 15 36 24.6
baz=68
ILAR **Eielson Array** 89.92 336 P **P** **15 36 25.0 -0.3**
comp=Z,3.8nm,0.9s,baz=61,slow=3.7,SNR=28
ILAR LR LR 16 13 36.6
comp=Z,77nm,20.5s,baz=86,slow=34
ILAR **Eielson Array** 89.92 336 P **P** **15 36 25.0 -0.3**
ABKAR **Akbulak array** 90.05 40 P **P** **15 36 26.9 +0.8**
ABKAR **Akbulak array** 90.05 40 IAmb IAmb 15 36 30.5
comp=Z,10nm,1.2s
HDA **Harding Lake** 90.06 336 P 15 36 26.8

baz=71
HDA P 15 36 26.8
baz=71
SOCY Socotra 91.77 78 P P 15 36 34.9 -0.1
BPAW Bear Paw Mtn. 91.82 336 P 15 36 34.1
baz=67
IMAR Indian Mountai 92.12 338 P P 15 36 35.9 +0.4
ZALV Zalesovo Beam 102.52 30 PP PP 15 41 34.8 -0.4
comp=Z,0.5nm,0.5s,baz=303,slow=6.3,SNR=4.0
MKAR Makanchi Array 104.87 37 PKKPbc PKKPbc 15 53 15.9 -1.9
comp=Z,0.3nm,0.8s,baz=108,slow=4.7,SNR=2.4
GTA Gaotai 119.54 35 ⇑PKP **PKPdf 15 42 16.0 -0.7**
GTA LR LR
comp=Z,220nm,18.5s
GTA LR LR
comp=Z,160nm,17.4s
KLR Kul'dur 122.34 7*c iPKIKP* **PKiKP 15 42 24.8 +3.0**
HHC Hu-ho-hao-te 124.46 26 *eP* **PKPdf 15 42 19.0 -7.1**
CD2 Chengdu 127.62 40 PKP **PKPdf 15 42 31.0 -1.4**
CMAR Chiang Mai Arr 131.28 57 PKP **PKPdf 15 42 39.6 0.0**
comp=Z,0.2nm,0.4s,baz=318,slow=1.2,SNR=1.1
NJ2 Nanjing 135.02 26 *e*PKP **PKPdf 15 42 44.8 -1.4**
ASAR Alice Springs 163.38 159 PKPab **PKPab 15 44 19.8 -0.8**
comp=Z,0.6nm,0.7s,baz=198,slow=4.2,SNR=8.2

ATH 12 15:32:34.7, 38.66N×23.14E, h22km±2km, ML1.2/2, Error ellipse: s-maj=4.1km s-min=1.6km az=33.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAL	**Atalanti**	**0.10**	**292**	P	Pb	15 32 38.8	-0.1
ATAL				S	Sb	15 32 41.7	0.0
ATAL				AML	AML	15 32 42.8	
	comp=E,74μm,0.1s						
ATAL				AML	AML	15 32 44.2	
	comp=N,120μm,0.4s						
LKR	**Lokris**	**0.11**	**267**	P	Pb	15 32 38.5	-1.5
LKR				S	Sb	15 32 42.1	-1.6
LKR				AML	AML	15 32 42.8	
	comp=N,430μm,0.2s						
LKR				AML	AML	15 32 44.2	
	comp=E,430μm,0.2s						
AXAR	**Agios Charalam**	**0.39**	**287**	P	Pb	15 32 42.9	0.0
VIL2	**Platees**	**0.46**	**167**	P	Pb	15 32 44.5	+0.5
VIL2				S	Sn	15 32 52.2	-1.2
DSF	**Desfina**	**0.54**	**243**	P	Pb	15 32 44.7	-0.7
DSF				S	Sb	15 32 52.6	-0.2
VLMS	**Volimes, Zakyn**	**2.10**	**249**	P	Pb	15 33 12.1	+0.1

*IDC **12** 15:41:17.5±2.1, 7.46S×128.83E, h168km±26km, mb2.8/1, mb1 3.2/6, mb1mx3.0/28, mbtmp3.6/6, Error ellipse: s-maj=24.8km s-min=20.5km az=113.0*
ISC 12 15:41:15.4±0.9, 7.57S±0.06×129.03E±0.10, h131km, n6, σ2ₛ95/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.91**	**243**	P	**Pn**	**15 42 42.6**	**+1.8**
	2.4nm,0.3s,baz=77,slow=3.0,SNR=4.9						
BATI				S	**Sn**	**15 43 47.3**	**-0.2**
	3.2nm,0.3s,baz=24,slow=15,SNR=5.8						
SIJI	**Sorong**	**7.02**	**19**	P	**Pn**	**15 42 57.9**	**+2.1**
	0.2nm,0.3s,baz=198,slow=20,SNR=2.1						
SIJI				S	**Sn**	**15 44 11.7**	**-2.6**
	0.5nm,0.3s,baz=246,slow=17,SNR=2.5						
FITZ	**Fitzroy Crossi**	**10.97**	**197**	P	**Pn**	**15 43 50.1**	**+1.4**
	0.3nm,0.3s,baz=13,slow=10,SNR=18						
FITZ				S	**Sn**	**15 45 45.7**	**-4.0**
	0.3nm,0.3s,baz=307,slow=23,SNR=2.3						
WRA	**Warramunga Arr**	**13.33**	**159**	P	**Pn**	**15 44 21.7**	**+2.1**
	0.3nm,0.3s,baz=339,slow=13,SNR=23						
WRA				S	**Sn**	**15 46 44.5**	**-2.2**
	0.3nm,0.3s,baz=337,slow=24,SNR=6.3						
ASAR	**Alice Springs**	**16.67**	**164**	P	**P**	**15 45 04.4**	**+2.9**
	0.2nm,0.3s,baz=336,slow=9.3,SNR=31						
ASAR				S	**Sn**	**15 48 04.5**	**-2.8**
	0.1nm,0.3s,baz=350,slow=27,SNR=0.6						
MKAR	**Makanchi Array**	**68.18**	**327**	P	**P**	**15 51 58.2**	**-3.4**
	0.1nm,0.4s,baz=122,slow=6.8,SNR=5.4						

*IDC **12** 17:04:37.5±0.9, 2.20S×125.18E, h0km, mb3.7/7, mb1 4.0/12, mb1mx3.8/44, mbtmp3.9/12, ML4.0/5, MS3.2/2, Ms1 3.4/2, ms1mx2.6/45, Error ellipse: s-maj=29.6km s-min=16.7km az=68.0*
*DJA **12** 17:04:38.9±0.2, 2.25S×123.45E±°, h10km, M4.4/21, mb4.5/11, mB5.0/4, MLv4.4/21, Mw(mB)4.4/4*
*NEIC **12** 17:04:42.0±2.0, 2.24S±0.07×125.17E±0.07, h44km±12km, mb4.1/8, Error ellipse: s-maj=10.6km s-min=9.8km az=212.0*
ISC 12 17:04:38.4±0.6, 2.26S±0.07×125.16E±0.05, h10km, n53, σ1ₛ30/54, mb4.0/10, 1D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.85**	**76**	P	**Pb**	**17 04 54.9**	**-0.5**
SANI				S	**Sg**	**17 05 05.1**	**-1.0**
NLAI	**Namlea**	**2.17**	**117**	P	**Pn**	**17 05 15.6**	**+0.9**
LUWI	**Luwuk**	**2.67**	**297**		**Pn**	**17 05 20.3**	**-1.3**
LUWI	**Luwuk**	**2.67**	**297**	P	**Pn**	**17 05 20.7**	**-0.8**
KMSI	**Cibinong**	**3.05**	**337**	P	**Pn**	**17 05 25.3**	**-1.4**
TNTI	**Ternate**	**3.73**	**36**		**Pn**	**17 05 35.3**	**-0.8**
TNTI	**Ternate**	**3.73**	**36**	P	**Pn**	**17 05 35.6**	**-0.5**
APSI	**Ampana**	**3.75**	**291**	P	**Pn**	**17 05 36.7**	**+0.3**
MRSI	**Marisa**	**4.21**	**310**	P	**Pn**	**17 05 42.9**	**+0.2**
TTSI	**Tana Toraja**	**5.39**	**262**	P	**Pn**	**17 05 58.8**	**-0.2**
	0.3nm24nm,0.7s						
BNSI	**Bone**	**5.47**	**247**	P	**Pn**	**17 06 00.2**	**+0.1**
	0.2nm14nm,0.6s						
TOLI2	**Tolitoli**	**5.51**	**307**	Pn	**Pn**	**17 06 00.7**	**+0.2**
SPSI	**Sidrap Palu**	**5.64**	**252**	P	**Pn**	**17 06 03.2**	**+0.8**
	0.7nm2μm59nm,0.5s						
BSSI	**Bau Bau, Buton**	**6.05**	**230**	P	**Pn**	**17 06 08.9**	**+0.9**
	0.2nm1μm50nm,0.6s						
KAPI	**Kappang**	**6.05**	**243**	Pn	**Pn**	**17 06 09.6**	**+1.5**
	6.2nm,0.3s,baz=39,slow=6.2,SNR=41						
KAPI				Sn	**Sn**	**17 07 12.5**	**-5.0**
	2.4nm,0.3s,baz=218,slow=21,SNR=1.9						
KAPI	**Kappang**	**6.05**	**243**		**Pn**	**17 06 09.2**	**+1.2**
SWI	**Sorong**	**6.25**	**77**	P	**Pn**	**17 06 10.9**	**+0.1**
	0.2nm23nm,0.6s						
SIJI	**Sorong**	**6.26**	**77**	Pn	**Pn**	**17 06 12.2**	**+1.3**
	1.6nm,0.3s,baz=267,slow=23,SNR=12						
SIJI				Sn	**Sn**	**17 07 20.5**	**-2.1**
	2.0nm,0.3s,baz=354,slow=23,SNR=9.0						
MMRI	**Maumere**	**6.97**	**205**		**Pn**	**17 06 20.9**	**+0.1**
MMRI	**Maumere**	**6.97**	**205**	P	**Pn**	**17 06 21.6**	**+0.9**
FAKI	**Fak Fak**	**7.11**	**95**	Pn	**Pn**	**17 06 22.3**	**-0.4**
FAKI	**Fak Fak**	**7.11**	**95**	P	**Pn**	**17 06 24.0**	**+1.3**
	0.3nm42nm,1.2s						
SOEI	**Soe**	**7.50**	**187**		**Pn**	**17 06 27.5**	**-0.6**
SOEI	**Soe**	**7.50**	**187**	P	**Pn**	**17 06 30.0**	**+1.9**
	0.2nm39nm,0.8s						
BATI	**Baumata**	**8.04**	**191**	Pn	**Pn**	**17 06 38.2**	**+2.8**
	3.0nm,0.3s,baz=252,slow=2.8,SNR=11						
BATI	**Baumata**	**8.04**	**191**	P	Pn	17 06 42.2	+6.8
BKB	**Balikpapan**	**8.32**	**277**	Pn	**Pn**	**17 06 41.0**	**+1.8**
MYLDM	**Lahad Datu**	**9.94**	**318**	Pn	**Pn**	**17 07 03.8**	**+2.3**
KKM	**Kota Kinabalu**	**12.15**	**313**	Pn	**Pn**	**17 07 33.9**	**+2.1**
JAGI	**Jajag, Banyuwa**	**12.57**	**240**	Pn	**Pn**	**17 07 37.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.75**	**178**	Pn	**Pn**	**17 08 21.1**	**+0.5**
	0.1nm,0.3s,baz=8.1,slow=14,SNR=2.3						
FITZ	**Fitzroy Crossi**	**15.75**	**178**	Pn	**Pn**	**17 08 20.5**	**0.0**
WB0	**Warramunga Arr**	**19.61**	**153**		**P**	**17 09 07.1**	**0.0**
WB0				IAmb	IAmb	17 09 10.3	
	comp=Z,8.2nm,0.6s						
WRAB	**Tennant Creek**	**19.73**	**154**	P	**P**	**17 09 08.5**	**+0.1**
WRA	**Warramunga Arr**	**19.74**	**154**	P	**P**	**17 09 08.8**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=336,slow=11,SNR=64						
WB2	**Warramunga Arr**	**19.74**	**154**		**P**	**17 09 08.4**	**-0.2**
WB2				IAmb	IAmb	17 09 11.0	
	comp=Z,7.7nm,0.7s						
WR0	**Warramunga Arr**	**19.84**	**153**	P	**P**	**17 09 07.9**	**-1.7**
AS31	**Alice Springs**	**22.91**	**159**	P	**P**	**17 09 42.9**	**+0.2**
AS31				IAmb	IAmb	17 09 50.3	
	comp=Z,3.6nm,0.6s						
ASAR	**Alice Springs**	**22.91**	**159**	P	**P**	**17 09 43.1**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=348,slow=14,SNR=39						
ASAR	**Alice Springs**	**22.91**	**159**	P	**P**	**17 09 42.7**	**0.0**
CMAR	**Chiang Mai Arr**	**33.01**	**310**	P	**P**	**17 11 14.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=138,slow=7.3,SNR=5.1						
CMAR				LR	LR	17 25 49.2	
	comp=Z,43nm,18.1s,baz=225,slow=39						
CMAR	**Chiang Mai Arr**	**33.01**	**310**	P	**P**	**17 11 13.6**	**-0.4**
KMI	**Kunming**	**34.83**	**323**	⇓P	**P**	**17 11 28.9**	**-1.2**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**44.66**	**345**	*e*P	**P**	**17 12 51.2**	**-0.3**
SONM	**Songino Array**	**52.51**	**344**	P	**P**	**17 13 51.2**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=155,slow=7.5,SNR=2.0						
SONM	**Songino Array**	**52.51**	**344**	P	**P**	**17 13 50.5**	**-1.4**
WMQ	**Urumqi**	**56.83**	**328**	*e*P	**P**	**17 14 24.5**	**+1.2**
MK31	**Makanchi Array**	**61.65**	**328**	P	**P**	**17 14 55.6**	**-1.0**
MK31				IAmb	IAmb	17 14 58.0	
	comp=Z,1.1nm,1.1s						
MKAR	**Makanchi Array**	**61.65**	**328**	P	**P**	**17 14 56.4**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=120,slow=9.0,SNR=14						
MA2	**Magadan**	**64.85**	**14**	LR	LR	17 46 39.8	
	comp=Z,19nm,20.1s,baz=234,slow=39						
ZALV	**Zalesovo Beam**	**65.25**	**335**	P	**P**	**17 15 21.8**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=151,slow=3.3,SNR=1.8						
KURBB	**Kurchatov Arra**	**65.98**	**330**	P	**P**	**17 15 25.6**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=130,slow=5.5,SNR=1.9						
BVAR	**Borovoye Array**	**71.52**	**329**	P	**P**	**17 16 00.8**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=113,slow=2.2,SNR=2.0						

*STR **12** 17:13:28.5±0.7, 46°N±4°, h5km, MLv1.9/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*LDG **12** 17:13:28.3±0.0, 45.97N×6.40E, h2km, Md2.7/2, Ml2.7/25, Error ellipse: s-maj=0.8km s-min=0.6km az=73.0*
ISC 12 17:13:27.2±1.0, 45.98N±0.01×6.39E±0.02, h15km±8km, n55, σ1ₛ20/100, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSL	**Roselend**	**0.33**	**150**	Pg	**Pb**	**17 13 34.7**	**-0.2**
RSL				Sg	**Sg**	**17 13 38.9**	**0.0**
MRGE	**Morge**	**0.51**	**113**	P	**Pb**	**17 13 38.2**	**+0.2**
MRGE				S	**Sb**	**17 13 44.9**	**-0.4**
MRGE				END			
LPL	**La Plagne**	**0.52**	**152**	*e*Pg	**Pb**	**17 13 38.1**	**0.0**
LPL				*e*Sg	**Sg**	**17 13 44.3**	**-0.2**
	31nm,0.2s						
LPG	**La Plagne**	**0.54**	**152**	*e*Pg	**Pb**	**17 13 38.5**	**0.0**
LPG				*e*Sg	**Sg**	**17 13 45.1**	**-0.1**
	28nm,0.3s						
OG35	**Corcelles**	**0.57**	**277**	Pg	**Pb**	**17 13 39.7**	**+0.7**
OG35				Sg	**Sb**	**17 13 47.5**	**+0.5**
OGSM	**Saint Maurice**	**0.61**	**233**	Pg	**Pb**	**17 13 40.1**	**+0.6**
OGSM				Sg	**Sg**	**17 13 47.8**	**+0.7**
CABF	**La Chapelle**	**0.67**	**342**	*e*Pg	**Pb**	**17 13 41.2**	**+0.6**
CABF				*e*Sg	**Sb**	**17 13 50.0**	**+0.2**
	32nm,0.3s						
DIX	**Grande Dixence**	**0.72**	**81**	P	**Pb**	**17 13 42.1**	**+0.6**
DIX				S	**Sb**	**17 13 51.3**	**0.0**
DIX				END			
GDM	**Grand'Maison**	**0.80**	**194**	Pg	**Pb**	**17 13 43.0**	**+0.2**
GDM				Sg	**Sb**	**17 13 54.6**	**+1.2**
OGMO	**Fort Saint-Gob**	**0.80**	**165**	Pg	**Pb**	**17 13 43.6**	**+0.9**
OGMO				Sg	**Sb**	**17 13 54.5**	**+1.2**
GRN	**Grenoble**	**0.86**	**212**	Pg	**Pn**	**17 13 45.1**	**+0.3**
CIRO	**Champorcher**	**0.91**	**114**	P	**Pb**	**17 13 45.1**	**+0.4**
TRAV	**Traversella**	**1.06**	**115**	P	**Pn**	**17 13 46.0**	**+0.5**
RRL	**Rocca Remolon**	**1.09**	**165**	P	**Pn**	**17 13 49.1**	**+0.9**
ORIF	**Oris-en-Rattie**	**1.12**	**199**	*e*Pg	**Pb**	**17 13 48.5**	**+0.3**
ORIF	**Oris-en-Rattie**	**1.12**	**199**	*e*P	**Pn**	**17 13 50.7**	**+2.3**
ORIF				*e*Sg	**Sg**	**17 14 03.7**	**+0.4**
	52nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.12**	**199**	P	**Pn**	**17 13 49.2**	**+0.9**
ORIF				S	**Sn**	**17 14 04.2**	**+0.7**
ORIF				END			
MBDF	**Montbardon**	**1.28**	**168**	*e*Pg	**Pg**	**17 13 52.2**	**+0.4**
MBDF				*e*Sg	**Sn**	**17 14 08.3**	**+0.7**
	15nm,0.5s						
BHB	**Bricherasio**	**1.29**	**151**	P	**Pg**	**17 13 52.5**	**+0.5**
OGAG	**Argentiere**	**1.52**	**176**	Pg	**Pn**	**17 13 50.6**	**-3.4**
OGAG				Sg	**Sn**	**17 14 06.8**	**-6.9**
SURF	**Saint Ours**	**1.52**	**169**	Pn	**Pg**	**17 13 56.7**	**+0.2**
SURF				Sn	**Sg**	**17 14 16.4**	**+0.1**
PZZ	**Stroppo**	**1.56**	**160**	P	**Pg**	**17 13 57.4**	**+0.3**
VIVF	**Saint-Julien-l**	**1.65**	**228**	*e*Pg	**Pg**	**17 13 58.4**	**-0.4**
VIVF				*e*Sg	**Sg**	**17 14 20.4**	**+0.2**
	20nm,0.2s						
HINF	**Hinteralfeld**	**1.87**	**10**	*e*Pn	**Pn**	**17 13 59.4**	**+0.7**
HINF	**Hinteralfeld**	**1.87**	**10**	*e*Pg	**Pg**	**17 14 02.9**	**-0.2**
HINF				*e*Sn	**Sn**	**17 14 21.7**	**-0.3**
HINF				*e*Sg	**Sg**	**17 14 26.7**	**-0.6**
	6.5nm,0.2s						
SMF	**Signal de Mont**	**1.89**	**292**	*e*Pn	**Pb**	**17 14 00.3**	**-1.1**
SMF	**Signal de Mont**	**1.89**	**292**	*e*Pg	**Pg**	**17 14 03.6**	**+0.2**
SMF				*e*Sg	**Sg**	**17 14 28.2**	**+0.3**
	15nm,0.2s						
HAU	**Haudompre**	**2.03**	**359**	*e*Pn	**Pn**	**17 14 02.1**	**+1.2**
HAU	**Haudompre**	**2.03**	**359**	*e*Pg	**Pg**	**17 14 06.0**	**-0.2**
HAU				*e*Sn	**Sn**	**17 14 26.2**	**+0.2**
HAU				*e*Sg	**Sg**	**17 14 31.8**	**-0.7**
	17nm,0.3s						
SMRF	**Simiane la Rot**	**2.08**	**196**	*e*Pg	**Pg**	**17 14 07.3**	**+0.2**
SMRF				*e*Sg	**Sg**	**17 14 33.6**	**-0.5**
	4.2nm,0.4s						
TURF	**col de Turini**	**2.12**	**160**	Pn	**Pb**	**17 14 05.2**	**-0.2**
LOR	**Lormes**	**2.17**	**307**	*e*Pg	**Pg**	**17 14 08.5**	**-0.3**
	baz=126						
LOR				*e*Sg	**Sg**	**17 14 36.6**	**-0.4**
	6.8nm,0.2s						
SBF	**Sospel**	**2.24**	**160**	*e*Pn	**Pn**	**17 14 04.8**	**+1.0**
SBF				*e*Sn	**Sn**	**17 14 30.7**	**-0.5**
SBF				*e*Sg	**Sg**	**17 14 37.7**	**-1.4**
	14nm,0.4s						
AVF	**Avril sur Loir**	**2.25**	**292**	*e*Pn	**Pn**	**17 14 05.2**	**+1.3**
AVF	**Avril sur Loir**	**2.25**	**292**	*e*Pg	**Pg**	**17 14 10.6**	**+0.2**
AVF				*e*Sn	**Sn**	**17 14 31.1**	**-0.3**
AVF				*e*Sg	**Sg**	**17 14 38.3**	**-1.3**
	6.4nm,0.2s						
SSF	**Saint Saulge**	**2.27**	**300**	*e*Pn	**Pn**	**17 14 05.4**	**+1.3**
SSF	**Saint Saulge**	**2.27**	**300**	*e*Pg	**Pg**	**17 14 10.6**	**-0.1**
SSF				*e*Sn	**Sn**	**17 14 31.0**	**-0.8**
SSF				*e*Sg	**Sg**	**17 14 38.4**	**-1.7**
	5.5nm,0.2s						
SFTF	**Sexfontaines**	**2.41**	**338**	*e*Pg	**Pg**	**17 14 12.8**	**-0.7**
SFTF				*e*Sg	**Sg**	**17 14 44.5**	**-0.3**
	6.7nm,0.2s						
FRF	**La Foret Royal**	**2.42**	**176**	*e*Pg	**Pg**	**17 14 12.7**	**-0.9**
FRF				*e*Sn	**Sn**	**17 14 35.6**	**0.0**
FRF				*e*Sg	**Sg**	**17 14 43.7**	**-1.3**
	5.2nm,0.3s						
CDF	**Champ du Feu**	**2.51**	**14**	*e*Pn	**Pn**	**17 14 08.2**	**+0.6**
CDF				*e*Sg	**Sg**	**17 14 46.9**	**-1.0**
	4.6nm,0.3s						
BGF	**Bois d'Agland**	**2.52**	**285**	*e*Pn	**Pn**	**17 14 08.8**	**+1.1**
BGF	**Bois d'Agland**	**2.52**	**285**	*e*Pg	**Pg**	**17 14 15.7**	**+0.1**
BGF				*e*Sn	**Sn**	**17 14 38.4**	**+0.2**
BGF				*e*Sg	**Sg**	**17 14 48.3**	**0.0**
	8.2nm,0.3s						
LASF	**Ste Croix**	**2.61**	**224**	*e*Pg	**Pg**	**17 14 16.5**	**-0.8**
LASF				*e*Sn	**Sn**	**17 14 40.2**	**-0.1**
	8.0nm,0.3s						
PAGF	**Fort de Pagny**	**2.62**	**350**	*e*Pg	**Pg**	**17 14 17.1**	**-0.3**
	baz=170						
PAGF				*e*Sn	**Sn**	**17 14 39.7**	**-0.8**
PAGF				*e*Sg	**Sg**	**17 14 50.7**	**-0.7**
	3.7nm,0.3s						
LMR	**La Mourre**	**2.64**	**178**	*e*Pn	**Pn**	**17 14 10.4**	**+1.2**
LMR	**La Mourre**	**2.64**	**178**	*e*Pg	**Pg**	**17 14 16.9**	**-0.9**
LMR				*e*Sn	**Sn**	**17 14 41.6**	**+0.6**
LMR				*e*Sg	**Sg**	**17 14 49.8**	**-2.3**
	2.1nm,0.3s						
MEZF	**Maizieres J'vi**	**2.69**	**341**	*e*Pg	**Pg**	**17 14 17.9**	**-0.8**
MEZF				*e*Sn	**Sn**	**17 14 41.6**	**-0.5**
MEZF				*e*Sg	**Sg**	**17 14 53.4**	**-0.1**
	9.9nm,0.4s						
TCF	**Toulx Ste Croi**	**2.92**	**278**	*e*Pn	**Pn**	**17 14 13.9**	**+0.8**
TCF	**Toulx Ste Croi**	**2.92**	**278**	*e*Pg	**Pg**	**17 14 22.5**	**-0.7**
TCF				*e*Sn	**Sn**	**17 14 47.9**	**-0.1**
TCF				*e*Sg	**Sg**	**17 15 00.7**	**-0.3**
	4.0nm,0.3s						
GRAM	**Graiana**	**2.99**	**118**	S	**Sn**	**17 14 52.0**	**+2.3**
GRAM	**Graiana**	**2.99**	**118**	S	**Sn**	**17 14 52.0**	**+2.3**
CAF	**Calviac**	**3.22**	**253**	*e*Sg	**Sg**	**17 15 09.8**	**-0.8**
	2.5nm,0.2s						
FIU	**Minerbio Fiu**	**3.84**	**109**	⇑P	**Pg**	**17 14 42.7**	**+2.0**
MTLF	**Montolieu**	**3.97**	**230**	*e*Sn	**Sn**	**17 15 12.6**	**-1.3**
MTLF				*e*Sg	**Sg**	**17 15 33.1**	**-1.6**
	2.6nm,0.3s						
TRI	**Trieste**	**5.16**	**90**	P	**Pg**	**17 15 02.8**	**-3.2**

*IDC **12** 17:15:27.6±2.1, 6.71S×130.26E, h118km±22km, mb3.5/7, mb1 3.7/12, mb1mx3.4/52, mbtmp4.0/12, MS3.3/1, Ms1 3.3/1, ms1mx2.5/28, Error ellipse: s-maj=20.2km s-min=14.9km az=70.0*
*NEIC **12** 17:15:28.7±0.9, 6.60S±0.05×130.13E±0.1, h131km±8km, mb4.0/8, Error ellipse: s-maj=14.9km s-min=6.7km az=92.0*
ISC 12 17:15:29.2±0.6, 6.83S±0.06×130.28E±0.08, h150km, n40, σ1ₛ96/41, mb4.1/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.53**	**139**	Pn	**Pn**	**17 15 59.1**	**0.0**
FAKI	**Fak Fak**	**4.35**	**27**	Pn	**Pn**	**17 16 29.9**	**-4.2**
SIJI	**Sorong**	**6.00**	**10**	P	**Pn**	**17 16 52.1**	**-3.9**
	2.2nm,0.3s,baz=273,slow=23,SNR=16						
SIJI				S	Sn	17 17 52.4	-11
	7.6nm,0.3s,baz=149,slow=23,SNR=7.3						
MTN	**Manton Dam**	**6.04**	**172**		**Pn**	**17 16 58.0**	**+1.6**
SOEI	**Soe**	**6.62**	**244**		**Pn**	**17 17 05.7**	**+1.4**
BATI	**Baumata**	**7.35**	**242**	P	**Pn**	**17 17 14.9**	**+0.9**
	12nm,0.3s,baz=114,slow=2.9,SNR=20						
BATI				S	**Sn**	**17 18 36.1**	**-0.1**
	8.8nm,0.3s,baz=89,slow=23,SNR=10						
FITZ	**Fitzroy Crossi**	**12.08**	**202**	P	**Pn**	**17 18 15.5**	**-1.1**
	0.5nm,0.3s,baz=35,slow=11,SNR=24						
FITZ				S	**Sn**	**17 20 24.1**	**-6.1**
	2.1nm,0.3s,baz=231,slow=17,SNR=7.0						
FITZ	**Fitzroy Crossi**	**12.08**	**202**		**Pn**	**17 18 16.4**	**-0.1**
WB0	**Warramunga Arr**	**13.47**	**163**	Pn	**Pn**	**17 18 35.2**	**+0.7**
WRA	**Warramunga Arr**	**13.62**	**164**	P	**Pn**	**17 18 35.7**	**-0.7**
	0.8nm,0.3s,baz=344,slow=13,SNR=26						
WRA				S	Sn	17 20 59.8	-7.5
	2.0nm,0.3s,baz=338,slow=22,SNR=12						
WB2	**Warramunga Arr**	**13.62**	**164**	Pn	**Pn**	**17 18 37.2**	**+0.8**
WR0	**Warramunga Arr**	**13.70**	**163**	Pn	**Pn**	**17 18 38.1**	**+0.8**
COEN	**Coen**	**14.53**	**120**	Pn	**Pn**	**17 18 49.0**	**+1.1**
AS31	**Alice Springs**	**17.10**	**169**	P	**Pn**	**17 19 22.1**	**+2.7**
ASAR	**Alice Springs**	**17.10**	**169**	P	**Pn**	**17 19 20.2**	**+0.8**
	0.8nm,0.3s,baz=347,slow=8.9,SNR=53						
ASAR				S	**S**	**17 22 24.5**	**-4.9**
	0.6nm,0.3s,baz=357,slow=27,SNR=7.4						
ASAR				LR	LR	17 25 18.2	
	comp=Z,119nm,21.1s,baz=32,slow=34						
ASAR	**Alice Springs**	**17.10**	**169**	P	**Pn**	**17 19 21.7**	**+2.3**
SBUM	**Sibu**	**20.24**	**296**	P	Pn	17 19 54.4	-2.1
SBUM				IAmb	IAmb	17 19 56.4	
	comp=Z,6.3nm,0.8s						
CTA	**Charters Tower**	**20.35**	**132**	P	Pn	17 19 57.2	-0.6
	comp=Z,4.5nm,0.7s,baz=306,slow=12,SNR=5.1						
STKA	**Stephens Creek**	**27.07**	**158**	P	**P**	**17 21 00.4**	**+2.6**
	comp=Z,1.1nm,0.4s,baz=355,slow=8.4,SNR=5.0						
STKA	**Stephens Creek**	**27.07**	**158**	P	**P**	**17 21 00.0**	**+2.2**
TWG	**Pinlang**	**30.81**	**343**	P	**P**	**17 21 28.9**	**-2.0**
CMAR	**Chiang Mai Arr**	**39.83**	**310**	P	**P**	**17 22 48.7**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=134,slow=5.7,SNR=4.8						
CHTO	**Chiang Mai**	**40.04**	**310**	P	**P**	**17 22 49.7**	**-0.2**
CHTO				IAmb	IAmb	17 22 51.6	
	comp=Z,4.1nm,1.4s						
LSA	**Lhasa**	**52.26**	**316**	P	**P**	**17 24 26.7**	**+0.9**
TAPN	**Taplejung**	**53.38**	**311**	*e*P	**P**	**17 24 34.4**	**+0.5**
	comp=Z,9.4nm,0.4s						
RAMN	**Ramite**	**53.99**	**310**	*e*P	**P**	**17 24 39.3**	**+1.0**
	comp=Z,22nm,0.5s						
GUN	**Gumba**	**55.05**	**311**	*e*P	**P**	**17 24 46.8**	**+0.8**
	comp=Z,16nm,0.5s						
PKI	**Pulchoki**	**55.22**	**310**	*e*P	**P**	**17 24 47.6**	**+0.3**
	comp=Z,3.9nm,0.5s						
PKIN	**Phulchoki**	**55.23**	**310**	*e*P	**P**	**17 24 47.4**	**+0.1**
	comp=Z,2.7nm,0.4s						
KKN	**Kakani**	**55.43**	**310**	*e*P	**P**	**17 24 49.1**	**+0.5**
	comp=Z,5.6nm,0.5s						
GKN	**Gorkha**	**56.03**	**310**	*e*P	**P**	**17 24 53.6**	**+0.8**
	comp=Z,11nm,0.4s						
SONM	**Songino Array**	**58.37**	**341**	P	**P**	**17 25 10.2**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=161,slow=7.1,SNR=8.7						

SIJI	**Sorong**	**6.26**	**13**	P		Pn	17 55 42.9	+0.3
	0.4nm,0.3s,baz=177,slow=23,SNR=13							
SIJI				S		Sn	17 56 46.9	-5.9
	0.5nm,0.3s,baz=186,slow=20,SNR=1.5							
FITZ	**Fitzroy Crossi**	**11.76**	**200**	P		Pn	17 56 56.6	-0.3
	0.1nm,0.3s,baz=25,slow=11,SNR=6.6							
FITZ				S		Sn	17 58 58.6	-7.7
	0.2nm,0.3s,baz=164,slow=18,SNR=6.0							
WRA	**Warramunga Arr**	**13.58**	**162**	P		Pn	17 57 19.1	-1.7
	0.2nm,0.3s,baz=345,slow=12,SNR=14							
WRA				S		Sn	17 59 44.4	-6.1
	0.2nm,0.3s,baz=335,slow=24,SNR=5.4							
ASAR	**Alice Springs**	**17.02**	**167**	P		P	17 58 05.8	+1.6
	0.1nm,0.3s,baz=351,slow=11,SNR=9.2							
ASAR				S		Sn	18 01 04.2	-9.3
	0.0nm,0.3s,baz=289,slow=35,SNR=1.3							
MKAR	**Makanchi Array**	**68.14**	**327**	P		P	18 05 00.8	-0.1
	0.1nm,0.4s,baz=109,slow=8.0,SNR=1.5							

*HEL **12** 18:01:32.8±0.3,67.09N×21.10E,h0km,ML2.1,Explosion*
*IDC **12** 18:01:33.3±1.0,67.04N×21.25E,h0km,mb1 3.0/4,*
mb1mx2.8/60,mbtmp2.9/4,ML2.0/4,Error ellipse:
s-maj=18.2km s-min=8.9km az=114.0

ISC 12 18:01:31.7±0.9,67.04N±0.03×21.02E±0.05,h0km,n20,
σ1s33/28,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**1.08**	**20**	PG	**Pg**	**18 01 51.4**	**-1.0**
LANU				SN	**Sn**	**18 02 08.4**	**-1.3**
KALU	**Kalix**	**1.51**	**141**	PG	**Pg**	**18 02 00.1**	**-0.5**
	baz=324						
KALU				SG	**Sg**	**18 02 19.0**	**-1.2**
TOF	**Tornio**	**1.64**	**125**	PG	**Pg**	**18 02 02.4**	**-0.6**
TOF				MSG		18 02 22.1	
	comp=Z,15nm,0.2s						
TOF				SN	**Sg**	**18 02 25.0**	**+0.8**
HEF	**Hetta**	**1.70**	**35**	*e*P	**Pb**	**18 02 03.0**	**-0.8**
HEF	**Hetta**	**1.70**	**35**	PG	**Pb**	**18 02 02.6**	**-1.2**
	baz=221						
HEF				MSG		18 02 22.1	
	comp=Z,14nm,0.2s						
KIF	**Kilpisjarvi**	**1.97**	**358**	*e*P	**Pb**	**18 02 08.1**	**-0.4**
KIF	**Kilpisjarvi**	**1.97**	**358**	PG	**Pb**	**18 02 07.5**	**-0.9**
KIF				MSG		18 02 31.1	
	comp=Z,22nm,0.2s						
KIF				SG	**Sg**	**18 02 35.2**	**+0.2**
RNF	**Rovaniemi**	**2.02**	**100**	PG	**Pb**	**18 02 08.5**	**-0.8**
SGF	**Sodankyl**	**2.18**	**77**	PG	**Pb**	**18 02 10.8**	**-1.2**
BURU	**Burvik**	**2.47**	**176**	PN	**Pb**	**18 02 14.8**	**-2.2**
OUL	**Oulu**	**2.79**	**132**	PB	**Pb**	**18 02 20.4**	**-2.0**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**18 02 21.4**	**+0.8**
	baz=210,slow=14,SNR=7.9						
ARCES				Sn	**Sn**	**18 02 58.6**	**+1.3**
	baz=210,slow=23,SNR=2.3						
OUF	**Merijarvi**	**3.09**	**149**	PN	**Pn**	**18 02 23.4**	**+1.8**
OUF				MSG		18 03 04.5	
	comp=Z,2.3nm,0.2s						
OLKF	**Oulanka, Finla**	**3.41**	**98**	PN	**Pn**	**18 02 27.9**	**+1.8**
KU6	**Riekki**	**3.69**	**102**	PN	**Pn**	**18 02 31.1**	**+1.2**
	baz=287						
HUSU	**Husum**	**3.79**	**192**	PN	**Pn**	**18 02 32.7**	**+1.4**
HUSU				SN	**Sn**	**18 03 18.8**	**+2.3**
VAF	**Ylistaro**	**4.08**	**169**	PN	**Pn**	**18 02 36.9**	**+1.7**
	baz=354						
FINES	**FINESS Array B**	**6.04**	**156**	Pn	**Pn**	**18 03 03.8**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=348,slow=13,SNR=8.1						
FINES				Sn	**Sn**	**18 04 12.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=342,slow=20,SNR=6.2						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 03 21.7**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=35,slow=15,SNR=2.3						
NOA				Sn	**Sn**	**18 04 44.5**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=282,slow=17,SNR=1.3						
NOA				Lg	Lg	18 05 20.6	
	comp=Z,0.0nm,0.3s,baz=197,slow=20,SNR=1.3						
HFS	**Hagfors**	**7.66**	**209**	Pn	**Pn**	**18 03 24.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=1.1						
HFS				Lg	Lg	18 05 33.5	
	comp=Z,0.1nm,0.3s,baz=18,slow=24,SNR=1.7						

*IDC **12** 18:07:04.6±1.5,43.67N×105.43W,h0km,mb3.9/1,*
mb1 3.7/6,mb1mx3.4/60,mbtmp3.5/6,ML3.4/5,Error
ellipse: s-maj=39.9km s-min=8.3km az=149.0
*ANF **12** 18:07:05.5±0.3,43.73N×105.33W,h0km,ML3.5/15,Error*
ellipse: s-maj=5.2km s-min=2.9km az=116.0,Hypocentre
not reviewed by the ISC
*NEIC **12** 18:07:05.1±1.2,43.78N±0.05×105.27W±0.08,h0km±2km,*
ML3.4/58,Error ellipse: s-maj=10.1km s-min=9.2km
az=260.0

ISC 12 18:07:04.8±0.8,43.77N±0.06×105.26W±0.06,h0km,n89,
σ0s83/88,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.95**	**68**	Pg	**Pg**	**18 07 23.5**	**+0.4**
RSSD	**Black Hills**	**0.95**	**68**	P		18 07 23.8	
	baz=247						
K22A	**Casper**	**1.45**	**220**	P		18 07 30.7	
	baz=39,SNR=242						
K22A				S		18 07 51.9	
	baz=39						
PHWY	**Pilot Hill**	**2.47**	**183**		**Pn**	**18 07 46.7**	**0.0**
RWWY	**Rawlins**	**2.53**	**215**	Pn	**Pn**	**18 07 48.0**	**+0.7**
RWWY				IAML		18 08 26.1	
	276nm,0.9s						
RWWY				IAML		18 08 27.2	
	261nm,0.9s						
N23A	**Red Feather La**	**2.92**	**190**	P		18 07 53.5	
	baz=9.0,SNR=36						
N23A				Sb		18 08 34.6	
	baz=9.0						
LAO	**LASA Array**	**3.00**	**347**		**Pn**	**18 07 54.3**	**+0.7**
LAO	**LASA Array**	**3.00**	**347**	P		18 07 54.4	
	baz=168						
LAO				Sb		18 08 37.7	
	baz=168						
RLMT	**Red Lodge**	**3.17**	**297**	Pn	**Pn**	**18 07 56.1**	**0.0**
RLMT				IAML		18 08 54.2	
	63nm,0.7s						
RLMT				IAML		18 09 02.2	
	63nm,1.1s						
RLMT	**Red Lodge**	**3.17**	**297**	P		18 07 56.0	
	baz=115,SNR=12						
BW06	**Boulder Array**	**3.29**	**254**		**Pn**	**18 07 57.9**	**0.0**
BW06	**Boulder Array**	**3.29**	**254**	P		18 07 57.4	
	baz=71,SNR=40						
BW06				Sb		18 08 45.1	
	baz=71						
PD31	**Pinedale Array**	**3.29**	**254**		**Pn**	**18 07 57.9**	**+0.1**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**18 07 58.7**	**+0.8**
	4.0nm,0.3s,baz=77,slow=15,SNR=44						
PDAR				Lg	Lg	18 08 42.8	
	13nm,0.3s,baz=75,slow=31,SNR=11						
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**18 07 58.2**	**+0.3**
YNE	**Yellowstone No**	**3.62**	**292**		**Pn**	**18 08 02.4**	**0.0**
YNE				IAML		18 08 58.7	
	comp=N,65nm,0.7s						
YNE				IAML		18 09 15.0	
	comp=E,50nm,0.9s						
YMP	**Mirror Lake PI**	**3.65**	**287**		**Pn**	**18 08 02.9**	**+0.1**
YMP				IAML		18 09 11.1	
	comp=E,88nm,0.8s						
YMP				IAML		18 09 13.0	
	comp=N,88nm,0.7s						
OGNE	**Ogallala**	**3.70**	**139**		**Pn**	**18 08 03.9**	**+0.5**
OGNE	**Ogallala**	**3.70**	**139**	P		18 08 03.8	
	baz=320						
LKWY	**Lake**	**3.78**	**284**		**Pn**	**18 08 05.6**	**+1.0**
LKWY				IAML		18 08 31.6	
	comp=N,56nm,0.6s						
LOHW	**Long Hollow**	**3.88**	**270**		**Pn**	**18 08 07.3**	**+1.4**
H17A	**Grant Village**	**3.88**	**281**	P		18 08 06.7	
	baz=98,SNR=7.0						
FLWY	**Flagg Ranch**	**3.94**	**276**		**Pn**	**18 08 07.2**	**+0.5**
FLWY				IAML		18 09 16.4	
	comp=N,70nm,2.1s						
FLWY				IAML		18 09 16.9	
	comp=N,32nm,1.9s						
ISCO	**Idaho Springs**	**3.98**	**184**		**Pn**	**18 08 08.2**	**+0.9**
ISCO				IAML		18 09 14.3	
	comp=N,32nm,0.9s						
ISCO	**Idaho Springs**	**3.98**	**184**	P		18 08 07.9	
	baz=3.0,SNR=7.0						
ISCO				Sb		18 09 06.3	
	baz=3.0						
SNOW	**Snow King Moun**	**4.00**	**267**		**Pn**	**18 08 08.6**	**+0.9**
SNOW				IAML		18 09 18.0	
	comp=N,45nm,1.0s						
SNOW				IAML		18 09 29.2	
	comp=N,52nm,1.2s						
YNR	**Norris Junctio**	**4.01**	**286**		**Pn**	**18 08 08.0**	**+0.3**
YPP	**Pitchstone Pla**	**4.03**	**279**		**Pn**	**18 08 08.2**	**+0.2**
REDW	**Red Top Meadow**	**4.08**	**266**		**Pn**	**18 08 09.6**	**+0.9**
REDW				IAML		18 09 21.3	
	comp=N,53nm,1.2s						
REDW				IAML		18 09 29.9	
	comp=N,47nm,1.1s						
YHH	**Holmes Hill**	**4.14**	**286**		**Pn**	**18 08 11.2**	**+1.6**
YHH				IAML		18 09 22.3	
	comp=N,32nm,1.0s						
YMR	**Madison River**	**4.20**	**284**		**Pn**	**18 08 11.3**	**+1.0**
YMR				IAML		18 09 41.9	
	comp=E,44nm,1.1s						
YMR				IAML		18 09 49.4	
	comp=N,52nm,1.1s						
O20A	**White River Ci**	**4.26**	**212**	P		18 08 11.7	
	baz=30						
O20A				Sb		18 09 15.9	
	baz=30						
YHB	**Horse Butte**	**4.37**	**285**		**Pn**	**18 08 10.1**	**-2.6**
YHB				IAML		18 09 32.6	
	comp=N,23nm,1.1s						
AHID	**Auburn Hatcher**	**4.38**	**259**		**Pn**	**18 08 11.6**	**-1.2**
AHID				IAML		18 09 26.1	
	comp=N,56nm,1.2s						
AHID				IAML		18 09 41.2	
	comp=E,41nm,1.2s						
YHL	**Hebgen Lake**	**4.38**	**286**		**Pb**	**18 08 21.0**	**-1.9**
YHL				IAML		18 09 31.1	
	comp=E,44nm,0.9s						
YHL				IAML		18 09 43.4	
	comp=N,31nm,1.0s						
ECR	**Eagle Creek**	**4.51**	**263**		**Pn**	**18 08 12.8**	**-1.8**
RDMU	**Red Mountain**	**4.52**	**227**		**Pn**	**18 08 14.4**	**-0.4**
RDMU				IAML		18 09 33.5	
	comp=E,37nm,1.1s						
RDMU				IAML		18 09 36.7	
	comp=N,40nm,0.9s						
QLMT	**Earthquake Lak**	**4.55**	**286**		**Pn**	**18 08 15.1**	**0.0**
SUSD	**Miller**	**4.59**	**79**	P		18 08 16.5	
	baz=263						
DGMT	**Dagmar**	**4.76**	**9**		**Pn**	**18 08 19.4**	**+1.6**
DGMT	**Dagmar**	**4.76**	**9**	P		18 08 19.4	
	baz=190						
DGMT				Sb		18 09 32.7	
	baz=190						
SMCO	**Snowmass**	**4.76**	**196**		**Pn**	**18 08 17.7**	**-0.5**
SMCO				IAML		18 09 39.9	
	comp=N,29nm,1.0s						
SMCO				IAML		18 09 44.1	
	comp=N,36nm,1.0s						
Q24A	**Divide**	**4.80**	**179**	P		18 08 18.5	
	baz=358						
BOZ	**Bozeman (W)**	**4.89**	**294**	Pn	**Pn**	**18 08 20.4**	**+0.6**
BOZ				IAML		18 09 38.6	
	comp=N,19nm,1.4s						
BOZ				IAML		18 09 59.5	
	comp=N,15nm,1.3s						
K31A	**O'Neill**	**4.89**	**101**	Pn	**Pn**	**18 08 19.5**	**-0.1**
BOZ	**Bozeman (W)**	**4.89**	**294**	Sb		18 09 34.0	
	baz=110						
HWUT	**Hardware Ranch**	**5.12**	**247**	Pn	**Pn**	**18 08 22.6**	**-0.4**
KSCO	**Kaye Shedlock'**	**5.15**	**156**	P		18 08 23.6	
	baz=338						
TCUT	**Toone Canyon**	**5.26**	**242**		**Pn**	**18 08 24.4**	**-0.6**
EGMT	**Eagleton**	**5.29**	**325**		**Pn**	**18 08 25.2**	**+0.2**
DLMT	**Dillon**	**5.48**	**289**		**Pb**	**18 08 43.6**	**+2.2**
HRY	**Holter Researc**	**5.49**	**305**		**Pn**	**18 08 27.9**	**-0.1**
LRM	**Limekiln Ridge**	**5.51**	**294**		**Pn**	**18 08 28.4**	**+0.1**
MCMT	**McKenzie Canyo**	**5.55**	**284**		**Pn**	**18 08 29.1**	**+0.2**
JLU	**Jordanelle**	**5.58**	**238**	Pn	**Pn**	**18 08 29.2**	**-0.1**
MDND	**Maddock**	**5.68**	**42**	P		18 08 31.8	
	baz=226						
MDND				Sb		18 10 00.2	
	baz=226						
CTU	**Camp Tracy**	**5.71**	**240**	Pn	**Pn**	**18 08 31.0**	**-0.1**
SPUT	**South Promonto**	**5.85**	**248**		**Pn**	**18 08 33.2**	**+0.6**
PV22	**Blue Mesa, Par**	**5.87**	**208**		**Pn**	**18 08 32.7**	**-0.5**
HVU	**Hansel Valley**	**5.88**	**253**		**Pn**	**18 08 33.4**	**+0.1**
BCYI	**Bear Canyon**	**5.89**	**278**	Pn	**Pn**	**18 08 34.4**	**+0.8**
PV07	**Paradox Valley**	**5.91**	**207**		**Pn**	**18 08 34.2**	**+0.4**
P17A	**Butcher Ranch,**	**5.94**	**226**		**Pn**	**18 08 35.5**	**+1.3**
PV15	**Paradox Valley**	**5.94**	**205**		**Pn**	**18 08 34.7**	**+0.4**
SDCO	**Great Sand Dun**	**6.02**	**182**	Pn	**Pn**	**18 08 35.7**	**+0.3**
PV04	**Paradox Valley**	**6.03**	**208**		**Pn**	**18 08 33.5**	**-1.9**
MPU	**Maple Canyon**	**6.05**	**234**		**Pn**	**18 08 35.6**	**-0.2**
PV12	**Saucer Basin,**	**6.07**	**207**		**Pn**	**18 08 36.6**	**+0.6**
PV14	**Lion Creek, Pa**	**6.09**	**209**		**Pn**	**18 08 37.2**	**+0.9**
PV10	**Paradox Valley**	**6.10**	**209**	Pn	**Pn**	**18 08 37.8**	**+1.4**
SRU	**San Rafael Swe**	**6.11**	**222**		**Pn**	**18 08 35.3**	**-1.2**
PV11	**David Mesa, Pa**	**6.11**	**208**		**Pn**	**18 08 36.5**	**-0.1**
PV16	**Nyswonger Mesa**	**6.11**	**208**		**Pn**	**18 08 37.2**	**+0.6**
PV19	**Morning Glory**	**6.14**	**209**	Pn	**Pn**	**18 08 37.0**	**+0.1**
PV03	**Paradox Valley**	**6.14**	**207**		**Pn**	**18 08 37.6**	**+0.6**
PV02	**Paradox Valley**	**6.15**	**206**		**Pn**	**18 08 37.9**	**+0.9**
PV17	**East Wrav Mesa**	**6.16**	**208**		**Pn**	**18 08 37.8**	**+0.6**
PV01	**Paradox Valley**	**6.16**	**205**		**Pn**	**18 08 38.0**	**+0.7**
PV18	**Skein Mesa, Pa**	**6.17**	**208**	Pn	**Pn**	**18 08 37.5**	**+0.2**
PV13	**Radium Mtn., P**	**6.22**	**207**		**Pn**	**18 08 38.2**	**+0.2**
ECSD	**EROS Data Cent**	**6.26**	**87**	Pn	**Pn**	**18 08 39.1**	**+0.7**
TMUT	**Trail Mountain**	**6.31**	**227**		**Pn**	**18 08 40.1**	**+0.6**
NLU	**North Lily Min**	**6.36**	**235**	Pn	**Pn**	**18 08 39.4**	**-0.5**
PV05	**Paradox Valley**	**6.38**	**208**		**Pn**	**18 08 39.9**	**-0.5**
BGU	**Big Grassy Mou**	**6.42**	**246**	Pn	**Pn**	**18 08 40.6**	**-0.2**
Q16A	**Castle Valley**	**6.58**	**225**		**Pn**	**18 08 43.0**	**+0.1**
T25A	**Trinidad**	**6.66**	**174**	Pn	**Pn**	**18 08 43.1**	**-0.9**
DUG	**Dugway, Tooele**	**6.66**	**240**	Pn	**Pn**	**18 08 44.3**	**+0.2**
F33A	**5 Mile Ranch,**	**6.71**	**69**		**Pn**	**18 08 42.9**	**-1.6**
MVCO	**Mesa Verde**	**7.00**	**202**	Pn	**Pn**	**18 08 50.1**	**+1.3**
MSU	**Marysvale**	**7.40**	**227**	Pn	**Pn**	**18 08 54.3**	**0.0**
MVU	**Marysvale**	**7.43**	**227**	Pn	**Pn**	**18 08 54.1**	**-0.5**
JTMT	**Jette**	**7.46**	**305**	Pn	**Pn**	**18 08 55.7**	**+0.7**
MTPU	**Mount Pierson**	**7.76**	**225**		**Pn**	**18 08 59.4**	**+0.1**
AGMN	**Agassiz Nation**	**7.95**	**52**	Pn	**Pn**	**18 09 01.6**	**0.0**
ELK	**Elko**	**7.99**	**251**	Pn	**Pn**	**18 09 03.0**	**+0.6**
	comp=N,0.5nm,0.3s,baz=72,slow=9.7,SNR=6.8						
ELK				Lg	Lg	18 11 15.4	
	comp=N,0.1nm,0.3s,baz=162,slow=21,SNR=1.3						
PSUT	**Pine Spring**	**8.33**	**234**	Pn	**Pn**	**18 09 07.0**	**0.0**
CCUT	**Cedar City**	**8.74**	**227**	Pn	**Pn**	**18 09 13.1**	**+0.4**
I10CA	**LAC DU BONNET**	**9.01**	**41**	*i*		19 01 20.0	
	baz=223,slow=330,SNR=1.4						
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**Pn**	**18 09 17.4**	**-0.1**
	comp=N,1.2nm,0.3s,baz=235,slow=13,SNR=12						
ULM				Pg		18 09 47.0	
	comp=N,1.0nm,0.3s,baz=225,slow=15,SNR=3.6						
ULM				Lg	Lg	18 11 49.0	
	comp=N,0.7nm,0.3s,baz=135,slow=19,SNR=2.1						
B35A	**Bob, Littlefor**	**9.24**	**56**	Pn	**Pn**	**18 09 18.0**	**-1.2**
WUAZ	**Wupatki**	**9.49**	**212**	Pn	**Pn**	**18 09 22.9**	**0.0**
NVAR	**Mina Array Bea**	**11.19**	**246**	Pn	**Pn**	**18 09 46.3**	**+0.1**
	comp=N,0.1nm,0.3s,baz=56,slow=13,SNR=2.7						
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**Pn**	**18 11 34.8**	**-0.1**
	comp=N,0.1nm,0.3s,baz=163,slow=13,SNR=5.6						
MKAR	**Makanchi Array**	**89.57**	**355**	P	**P**	**18 20 03.5**	**-0.6**
	comp=N,0.6nm,0.8s,baz=18,slow=5.1,SNR=5.5						

*IDC **12** 18:14:51.5±2.1,37.71N×144.91E,h0km,mb3.4/3,*
mb1 3.6/5,mb1mx3.3/35,mbtmp3.4/5,ML3.2/2,MS2.9/1,
Ms1 2.9/1,ms1mx2.2/25,Error ellipse: s-maj=58.5km
s-min=27.8km az=71.0
*JMA **12** 18:14:56.3±0.2,37.81N×144.55E,h49km,M3.6*
*NIED **12** 18:14:56.3,37.81N×144.55E,h49km,MW3.7,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm;
M_{rr}-2.21; $M_{\theta\theta}$0.82; $M_{\phi\phi}$1.39; $M_{r\theta}$1.99; $M_{\theta\phi}$0.93; $M_{r\phi}$2.18;
Fault plane solution: $M_0$3.65000×10^{14} NP1:
ϕ_s221.00000°,δ72.00000°,λ-87.00000°. NP2:ϕ_s32.00000°,
δ18.00000°,λ-98.00000°.

ISC 12 18:14:54.6±1.3,37.86N±0.07×144.76E±0.08,h26km,n22,
σ1s91/25,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.64**	**281**	S	**Sn**	**18 16 04.6**	**-2.0**
OFUJ	**Ofunato**	**2.71**	**298**	P	**Pn**	**18 15 36.9**	**+0.4**
JIO	**Ouri**	**2.75**	**284**	P	**Pn**	**18 15 37.2**	**+0.2**
JIO				S	**Sn**	**18 16 08.1**	**-1.3**
JKMT	**Kesennumamotoy**	**2.75**	**291**	P	**Pn**	**18 15 37.3**	**+0.3**
JKMT				S	**Sn**	**18 16 08.2**	**-1.2**
JMK	**Ichinoseki**	**2.99**	**293**	P	**Pn**	**18 15 41.3**	**+1.1**
JOM	**Ohasama**	**3.16**	**302**	P	**Pn**	**18 15 43.7**	**+1.1**
JFT	**Otama**	**3.52**	**266**	S	**Sn**	**18 16 26.8**	**-1.7**
JANG	**Nango**	**3.56**	**316**	P	**Pn**	**18 15 49.4**	**+1.3**
JOT	**Ohata**	**4.54**	**322**	P	**Pn**	**18 16 03.8**	**+2.3**
JCH	**Churui**	**4.87**	**348**	P	**Pn**	**18 16 06.8**	**+0.7**
JCH				*e*S	**Sn**	**18 16 59.7**	**-1.9**
JRY	**Ryogami san**	**5.04**	**250**	P	**Pn**	**18 16 08.2**	**-0.3**
JRY				S	**Sn**	**18 17 01.5**	**-4.4**
MJAR	**Matsushiro Arr**	**5.39**	**258**	Pn	**Pn**	**18 16 14.7**	**+1.3**
	0.1nm,0.3s,baz=91,slow=14,SNR=6.5						
MJAR				Sn	Sn	18 17 05.0	-9.5
	baz=56,slow=11,SNR=1.3						
NEM2	**Nemuro 2**	**5.55**	**7**	P	**Pn**	**18 16 14.4**	**-1.0**
NEM2				*e*S	**Sn**	**18 17 14.4**	**-3.9**
JTKR	**Abashiri--Toko**	**6.14**	**354**	P	**Pn**	**18 16 24.1**	**+0.6**
JTKR				*e*S	**Sn**	**18 17 30.0**	**-2.8**
ASAJ	**Asahikawa**	**6.46**	**346**	Pn	**Pn**	**18 16 29.9**	**+2.0**
	0.9nm,0.3s,baz=169,slow=16,SNR=5.6						
ASAJ				Sn	**Sn**	**18 17 39.8**	**-1.0**
	0.3nm,0.3s,baz=67,slow=15,SNR=2.8						
KLR	**Kul'dur**	**14.74**	**325**	LR	LR	18 25 10.5	
	comp=Z,40nm,18.6s,baz=286,slow=41						
H11N2	**WAKE ISLAND Hy**	**26.39**	**127**	T	T	18 47 46.0	
	baz=318						
H11N1	**WAKE ISLAND Hy**	**26.41**	**127**	T	T	18 47 46.0	
	baz=318						
H11N3	**WAKE ISLAND Hy**	**26.41**	**127**	T	T	18 47 54.9	
	baz=318						
MKAR	**Makanchi Array**	**45.94**	**302**	P	**P**	**18 23 17.4**	**+2.3**
	0.2nm,0.7s,baz=76,slow=6.5,SNR=2.1						
WRA	**Warramunga Arr**	**58.32**	**192**	P	**P**	**18 24 47.1**	**-0.2**
	0.8nm,0.9s,baz=10,slow=7.3,SNR=6.6						
ASAR	**Alice Springs**	**62.04**	**191**	P	**P**	**18 25 13.1**	**+0.4**
	0.3nm,0.8s,baz=6.3,slow=7.5,SNR=5.4						

*INET **12** 18:20:23.5,10.06N×86.72W,h7km,MW3.5*

UCR 12 18:20:30.9±1.6,10.48N×86.43W,h0km±18km,MW4.0,
5C-2D,Fault plane solution: NP1:ϕ_s**248.18000°,**
δ64.34000°,λ56.31000°.,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAJU	**San Juanillo,**	**0.82**	**120**	*e*P		18 20 47.8	-0.2
SAJU				*e*S		18 21 00.6	+1.0
GRZA	**Playa Garza**	**0.96**	**126**	*e*P		18 20 49.8	+0.4
GRZA				*e*S		18 21 03.9	+0.1
GBS3	**Finca Las Img**	**1.00**	**73**	*i* P		18 20 50.5	+0.4
LAPC	**Finca la Perla**	**1.02**	**74**	*i* P		18 20 49.7	-0.7
PLVR	**Palo Verde**	**1.07**	**97**	*e*P		18 20 50.9	-0.5
GPS2	**Hotel Rincn d**	**1.09**	**76**	*e*P		18 20 52.6	-0.1
INDI	**Punta indio, G**	**1.10**	**124**	*e*P		18 20 51.4	-0.6
INDI				*e*S		18 21 07.4	-0.2
BUAI	**Buenos Aires**	**1.15**	**70**	*i* P		18 20 52.1	-0.8
COLC	**Colonia**	**1.22**	**81**	*i* S		18 21 12.3	-0.1
CUI	**Cuipilapa**	**1.25**	**82**	*e*P		18 20 53.8	-1.2
ACAL	**Aguas Claras**	**1.38**	**84**	*i* P		18 20 56.9	-0.5
ACAL				*i* S		18 21 17.0	+0.5
JTS	**Las Juntas de**	**1.46**	**97**	*e*P		18 20 57.7	-0.9
LAFE	**Finca La Fe, P**	**1.64**	**114**	*e*P		18 20 59.3	-1.7
ARE1	**Arenal 1**	**1.68**	**91**	*e*P		18 21 01.7	0.0
ACON	**Acoyapa**	**1.92**	**40**	*e*P		18 21 02.4	-2.5
JACO	**JACO, Garabito**	**1.92**	**115**	*e*P		18 21 05.2	+0.3
LCR2	**La Lucha 2**	**2.50**	**107**	*e*P		18 21 13.9	+0.8
RIMA	**Rio Macho**	**2.62**	**106**	*e*P		18 21 15.5	+0.8
CDM	**Cerro de Muert**	**2.78**	**109**	*e*P		18 21 17.2	0.0
RIOS	**Rincon, Osa**	**3.38**	**121**	*e*P		18 21 25.6	+0.7

*OSPL **12** 18:22:20.8±0.5,18.97N×66.78W,h18km±13km,ML2.8*
*RSPR **12** 18:22:21.0,19.04N×66.78W,h47km±4km,MD2.9/12*
*NEIC **12** 18:22:22±2.4,18.92N±0.07×66.76W±0.03,h35km±56km,*
Error ellipse: s-maj=10.2km s-min=2.6km az=162.0

ISC 12 18:22:19.4±1.3,19.03N±0.06×66.79W±0.03,h29km,n46,
σ0s52/60,11C-2D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0.60**	**155**	*e*P	**Pn**	**18 22 32.3**	**+0.3**
EMPR	**Esperanza - Ma**	**0.60**	**155**	*e*S	**Sn**	**18 22 41.9**	**+1.2**
EMPR	**Esperanza - Ma**	**0.60**	**155**		**Pn**	**18 22 32.3**	**+0.3**
EMPR					**Sn**	**18 22 41.9**	**+1.2**
AGPR	**Aguadilla, PR**	**0.63**	**208**	*e*P	**Pb**	**18 22 31.7**	**-0.3**
AGPR	**Aguadilla, PR**	**0.63**	**208**	*e*S	**Sb**	**18 22 40.6**

RSSD	**Black Hills**	**0.92**	**87**	Pg	**Pb**	**18 32 31.4**	**-0.4**
LAO	**LASA Array**	**2.68**	**347**	Pn	**Pn**	**18 32 56.8**	**-0.5**
LAO				IAML		18 33 40.8	
	81nm,0.8s						
LAO				IAML		18 33 45.3	
	98nm,1.4s						
RWWY	**Rawlins**	**2.77**	**211**	Pn	**Pn**	**18 33 00.2**	**+1.5**
RWWY				IAML		18 33 50.3	
	50nm,1.5s						
RWWY				IAML		18 33 54.6	
	50nm,1.1s						
PHWY	**Pilot Hill**	**2.78**	**182**	Pn	**Pn**	**18 32 59.0**	**+0.1**
RLMT	**Red Lodge**	**3.01**	**292**	Pn	**Pn**	**18 33 03.2**	**+1.3**
RLMT				IAML		18 33 58.7	
	34nm,1.9s						
PD31	**Pinedale Array**	**3.36**	**248**	Pn	**Pn**	**18 33 07.6**	**+0.8**
PDAR	**Pinedale Array**	**3.36**	**248**	Pn	**Pn**	**18 33 07.5**	**+0.7**
	0.7nm,0.3s,baz=69,slow=16,SNR=32						
PDAR				Lg	Lg	18 33 53.9	
	6.1nm,0.3s,baz=66,slow=34,SNR=17						
BW06	**Boulder Array**	**3.36**	**248**	Pn	**Pn**	**18 33 07.0**	**+0.2**
BW06				IAML		18 33 56.0	
	35nm,1.1s						
YNE	**Yellowstone No**	**3.48**	**287**	Pn	**Pn**	**18 33 09.0**	**+0.5**
YNE				IAML		18 34 08.6	
	comp=N,23nm,0.6s						
YMP	**Mirror Lake Pl**	**3.53**	**282**	Pn	**Pn**	**18 33 10.3**	**+1.1**
YMP				IAML		18 34 15.2	
	comp=E,30nm,0.7s						
YMP				IAML		18 34 20.6	
	comp=N,26nm,0.6s						
LOHW	**Long Hollow**	**3.85**	**265**		**Pn**	**18 33 12.7**	**-0.9**
LOHW				IAML		18 34 43.4	
	comp=N,20nm,3.4s						
FLWY	**Flagg Ranch**	**3.88**	**272**	Pn	**Pn**	**18 33 15.5**	**+1.6**
FLWY				IAML		18 34 21.3	
	comp=N,46nm,2.1s						
FLWY				IAML		18 34 35.8	
	comp=N,49nm,1.7s						
YNR	**Norris Junctio**	**3.90**	**281**	Pn	**Pn**	**18 33 14.7**	**+0.6**
YPP	**Pitchstone Pla**	**3.95**	**275**		**Pn**	**18 33 16.7**	**+1.7**
YPP				IAML		18 35 13.9	
	comp=E,20nm,4.8s						
OGNE	**Ogallala**	**3.97**	**141**	Pn	**Pn**	**18 33 14.2**	**-0.7**
SNOW	**Snow King Moun**	**3.99**	**263**	Pn	**Pn**	**18 33 16.2**	**+0.7**
SNOW				IAML		18 35 25.5	
	comp=E,31nm,4.0s						
YHH	**Holmes Hill**	**4.03**	**282**		**Pn**	**18 33 17.5**	**+1.5**
REDW	**Red Top Meadow**	**4.08**	**262**		**Pn**	**18 33 18.5**	**+1.9**
REDW				IAML		18 34 24.8	
	comp=E,31nm,2.0s						
REDW				IAML		18 34 44.1	
	comp=E,44nm,1.6s						
E28A	**Huff**	**4.10**	**51**	Pn	**Pn**	**18 33 16.0**	**-0.8**
YHB	**Horse Butte**	**4.26**	**281**	Pn	**Pn**	**18 33 20.8**	**+1.6**
YHB				IAML		18 34 40.6	
	comp=E,13nm,3.9s						
YHB				IAML		18 35 08.1	
	comp=N,16nm,4.1s						
YHL	**Hebgen Lake**	**4.27**	**282**		**Pn**	**18 33 19.7**	**+0.3**
YHL				IAML		18 34 44.2	
	comp=E,18nm,2.3s						
YHL				IAML		18 35 39.8	
	comp=N,23nm,4.4s						
ISCO	**Idaho Springs**	**4.29**	**183**	Pn	**Pn**	**18 33 20.2**	**+0.6**
ISCO				IAML		18 34 29.8	
	comp=N,12nm,2.1s						
AHID	**Auburn Hatcher**	**4.42**	**255**	Pn	**Pn**	**18 33 20.7**	**-0.5**
AHID				IAML		18 34 54.9	
	comp=E,19nm,0.9s						
QLMT	**Earthquake Lak**	**4.44**	**282**	Pn	**Pn**	**18 33 21.2**	**-0.4**
DGMT	**Dagmar**	**4.46**	**10**	Pn	**Pn**	**18 33 22.6**	**+1.0**
ECR	**Eagle Creek**	**4.52**	**259**	Pn	**Pn**	**18 33 22.9**	**+0.2**
RDMU	**Red Mountain**	**4.72**	**223**		**Pn**	**18 33 26.6**	**+1.2**
RDMU				IAML		18 34 41.2	
	comp=E,23nm,3.9s						
RDMU				IAML		18 34 53.0	
	comp=N,15nm,1.5s						
EGMT	**Eagleton**	**5.01**	**323**		**Pn**	**18 33 27.2**	**-2.0**
SMCO	**Snowmass**	**5.06**	**195**	Pn	**Pn**	**18 33 30.2**	**-0.1**
SMCO				IAML		18 35 02.5	
	comp=N,19nm,2.2s						
SMCO				IAML		18 35 45.5	
	comp=N,16nm,2.0s						
HWUT	**Hardware Ranch**	**5.22**	**244**	Pn	**Pn**	**18 33 31.1**	**-1.1**
LRM	**Limekiln Ridge**	**5.35**	**291**	Pn	**Pn**	**18 33 35.0**	**+0.8**
TCUT	**Toone Canyon**	**5.39**	**239**	Pn	**Pn**	**18 33 36.0**	**+1.4**
JLU	**Jordanelle**	**5.72**	**235**	Pn	**Pn**	**18 33 38.5**	**-0.7**
SPUT	**South Promonto**	**5.94**	**245**	Pn	**Pn**	**18 33 40.7**	**-1.5**
PV22	**Blue Mesa, Par**	**6.13**	**206**	Pn	**Pn**	**18 33 43.1**	**-1.7**
P17A	**Butcher Ranch,**	**6.14**	**223**	Pn	**Pn**	**18 33 43.6**	**-1.2**
PV15	**Paradox Valley**	**6.21**	**204**	Pn	**Pn**	**18 33 47.0**	**+1.0**
SRU	**San Rafael Swe**	**6.32**	**220**	Pn	**Pn**	**18 33 45.6**	**-1.8**
PV13	**Radium Mtn., P**	**6.48**	**205**	Pn	**Pn**	**18 33 50.3**	**+0.6**
TMUT	**Trail Mountain**	**6.51**	**225**	Pn	**Pn**	**18 33 50.8**	**+0.7**
PV05	**Paradox Valley**	**6.65**	**207**	Pn	**Pn**	**18 33 50.5**	**-1.4**
MSO	**Missoula**	**6.66**	**297**	Pn	**Pn**	**18 33 52.6**	**+0.6**
JTMT	**Jette**	**7.25**	**303**	Pn	**Pn**	**18 33 58.3**	**-1.7**
MVCO	**Mesa Verde**	**7.28**	**200**	Pn	**Pn**	**18 33 58.6**	**-2.1**
TCRU	**Three Creeks R**	**7.66**	**227**	Pn	**Pn**	**18 34 07.9**	**+2.1**
I10CA	**LAC DU BONNET**	**8.80**	**43**	*i*		19 24 20.0	
	baz=225,slow=324,SNR=11						
ULM	**Lac du Bonnet**	**8.90**	**43**	Pn	**Pn**	**18 34 22.9**	**+0.2**
	comp=N,0.5nm,0.3s,baz=226,slow=11,SNR=3.0						
ULM				Lg	Lg	18 36 50.6	
	comp=N,0.2nm,0.3s,baz=307,slow=16,SNR=1.7						

NEIC ***12*** *18:46:43.5±2.3,3°.21S±0°.08×129°.72E±0°.08, h10km±1km, mb4.0/10, Error ellipse: s-maj=14.4km s-min=11.6km az=138.0*

IDC ***12*** *18:46:44.1±1.5,3°.25S×129°.92E, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.6/28, mbtmp3.8/5, ML3.6/3, Error ellipse: s-maj=37.7km s-min=24.8km az=88.0*

ISC 12 18:46:44.5±0.7, 3°.25S±0°.08×129°.50E±0°.08, h10km, n34, σ1s72/31, mb4.1/6, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**2.39**	**270**	P	**Pb**	**18 47 26.3**	**-1.4**
FAKI	**Fak Fak**	**2.77**	**83**		**Pn**	**18 47 30.0**	**+1.0**
SIJI	**Sorong**	**2.95**	**37**	Pn	**Pn**	**18 47 28.3**	**-3.2**
	6.3nm,0.3s,baz=218,slow=17,SNR=43						
SANI	**Sanana**	**3.70**	**289**	P	**Pn**	**18 47 38.5**	**-3.3**
TNTI	**Ternate**	**4.53**	**332**	Pn	**Pn**	**18 47 52.3**	**-0.8**
TNTI	**Ternate**	**4.53**	**332**	P	**Pn**	**18 47 51.4**	**-1.8**
LUWI	**Luwuk**	**7.07**	**288**	Pn	**Pn**	**18 48 27.9**	**-0.3**
GTOI	**Gorontalo**	**7.55**	**301**	P	**Pn**	**18 48 34.8**	**+0.1**
	0.1nm19nm,1.0s						
APSI	**Ampana**	**8.18**	**286**	P	**Pn**	**18 48 42.0**	**-1.4**
	0.3nm1µm106nm,1.0s						
SOEI	**Soe**	**8.29**	**219**	Pn	**Pn**	**18 48 48.0**	**+2.9**
SOEI	**Soe**	**8.29**	**219**	P	Pg	18 49 15.2	-8.2
MRSI	**Marisa**	**8.41**	**296**	P	**Pn**	**18 48 43.8**	**-2.8**
	0.1nm42nm,1.0s						
TOLI2	**Tolitoli**	**9.73**	**296**		**Pn**	**18 49 02.4**	**-2.3**
KAPI	**Kappang**	**9.88**	**259**	Pn	Pn	18 49 13.1	+6.4
	1.0nm,0.3s,baz=60,slow=8.1,SNR=5.4						
KAPI	**Kappang**	**9.88**	**259**		Pn	18 49 10.2	+3.5
WB0	**Warramunga Arr**	**17.10**	**164**	Pn	**Pn**	**18 50 42.9**	**-1.0**
WRA	**Warramunga Arr**	**17.25**	**164**	P	**Pn**	**18 50 45.5**	**-0.2**
	0.2nm,0.3s,baz=346,slow=12,SNR=7.8						
WB2	**Warramunga Arr**	**17.25**	**164**	Pn	**Pn**	**18 50 43.7**	**-2.1**
WB2				IAmb	IAmb	18 50 44.1	
	comp=Z,6.3nm,1.2s						
WR0	**Warramunga Arr**	**17.32**	**164**		**Pn**	**18 50 45.6**	**-1.1**
AS31	**Alice Springs**	**20.74**	**169**	P	**P**	**18 51 24.4**	**-1.1**
ASAR	**Alice Springs**	**20.74**	**169**	P	**P**	**18 51 25.6**	**0.0**
	comp=Z,1.7nm,0.6s,baz=350,slow=12,SNR=41						
ASAR	**Alice Springs**	**20.74**	**169**	P	**P**	**18 51 25.0**	**-0.5**
MDSI	**Maura Dua**	**25.29**	**266**	P	**P**	**18 52 13.9**	**+2.4**
MORW	**Morawa**	**28.69**	**205**	P	**P**	**18 52 41.6**	**-0.2**
LSA	**Lhasa**	**49.19**	**315**	P	**P**	**18 55 35.3**	**+1.6**
LSA				IAmb	IAmb	18 55 41.7	
	comp=Z,2.3nm,1.1s						
SONM	**Songino Array**	**54.75**	**341**	P	**P**	**18 56 14.4**	**0.0**
MK31	**Makanchi Array**	**64.84**	**326**	P	**P**	**18 57 23.2**	**-0.6**
MK31				IAmb	IAmb	18 57 27.0	
	comp=Z,0.7nm,0.9s						
MKAR	**Makanchi Array**	**64.84**	**326**	P	**P**	**18 57 26.9**	**+3.1**
	comp=Z,0.5nm,0.8s,baz=133,slow=7.6,SNR=6.6						
MKAR	**Makanchi Array**	**64.84**	**326**	P	**P**	**18 57 23.1**	**-0.7**
KK31	**Karatay Array**	**70.22**	**318**	P	**P**	**18 57 57.5**	**-0.4**
KK31				IAmb	IAmb	18 58 03.5	
	comp=Z,2.3nm,1.3s						
KKAR	**Karatay Array**	**70.22**	**318**	P	**P**	**18 57 59.5**	**+1.6**
KKAR	**Karatay Array**	**70.22**	**318**	P	**P**	**18 57 58.2**	**+0.3**
KKAR				IAmb	IAmb	18 58 03.5	
	comp=Z,2.3nm,1.3s						
BRVK	**Borovoye**	**74.72**	**327**	P	**P**	**18 58 25.5**	**+1.0**
BRVK				IAmb	IAmb	18 58 33.2	
	comp=Z,1.5nm,0.7s						
TIXI	**Tiksi**	**74.76**	**360**	P	**P**	**18 58 24.2**	**-0.1**

DJA ***12*** *18:46:54.4±1.0,3°S±3°×12°9E±°, h22km±10km, M4.3/12, mb4.4/9, mB5.0/1, MLv4.2/12, Mw(mB)4.3/1*

IDC ***12*** *18:46:59.3±2.6,3°.09S×129°.53E, h39km±25km, mb3.8/6, mb1 4.2/10, mb1mx3.9/29, mbtmp4.2/10, ML4.2/4, Error ellipse: s-maj=27.0km s-min=11.0km az=81.0*

NEIC ***12*** *18:47:00.2±1.6,3°.14S±0°.05×129°.36E±0°.06, h51km±9km, mb4.2/11, Error ellipse: s-maj=10.4km s-min=6.0km az=121.0*

ISC 12 18:46:59.0±0.6, 3°.09S±0°.05×129°.36E±0°.07, h35km, n36, σ1s50/39, mb4.0/7, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.53**	**159**	P	Pn	18 47 30.0	+6.2
FAKI	**Fak Fak**	**2.89**	**87**		**Pn**	**18 47 45.5**	**+2.9**
FAKI	**Fak Fak**	**2.89**	**87**	P	**Pn**	**18 47 46.7**	**+4.1**
SIJI	**Sorong**	**2.91**	**41**	Pn	**Pn**	**18 47 41.3**	**-1.6**
	48nm,0.3s,baz=214,slow=22,SNR=29						
SIJI				Sn	**Sn**	**18 48 16.0**	**-0.7**
	34nm,0.3s,baz=207,slow=23,SNR=16						
SWI	**Sorong**	**2.91**	**41**	P	**Pn**	**18 47 41.1**	**-1.8**
SWI				S	**Sn**	**18 48 16.7**	**+0.1**
TNTI	**Ternate**	**4.32**	**332**		**Pn**	**18 48 03.6**	**+1.4**
SAUI	**Saumlaki**	**5.23**	**158**	Pn	**Pn**	**18 48 14.2**	**-0.6**
SOEI	**Soe**	**8.34**	**217**	Pn	**Pn**	**18 48 58.1**	**+0.5**
BATI	**Baumata**	**9.06**	**218**	Pn	**Pn**	**18 49 10.0**	**+2.6**
	1.5nm,0.3s,baz=65,slow=5.7,SNR=5.2						
BATI	**Baumata**	**9.06**	**218**	P	**Pn**	**18 49 03.7**	**-3.7**
	21nm,1.0s						
MYLDM	**Lahad Datu**	**13.61**	**307**	Pn	**Pn**	**18 50 11.9**	**+2.2**
FITZ	**Fitzroy Crossi**	**15.36**	**193**	Pn	**Pn**	**18 50 33.8**	**+0.5**
	0.3nm,0.3s,baz=22,slow=10,SNR=10						
FITZ	**Fitzroy Crossi**	**15.36**	**193**		**Pn**	**18 50 34.6**	**+1.3**
FITZ				IAmb	IAmb	18 50 41.9	
	comp=Z,20nm,1.2s						
WB0	**Warramunga Arr**	**17.29**	**164**	P	**Pn**	**18 50 57.1**	**-0.8**
WB0				IAmb	IAmb	18 51 08.1	
	comp=Z,22nm,1.1s						
WRAB	**Tennant Creek**	**17.44**	**164**	Pn	**Pn**	**18 50 58.2**	**-1.5**
WRA	**Warramunga Arr**	**17.45**	**164**	P	**Pn**	**18 50 59.1**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=345,slow=12,SNR=40						
WRA				S	**Sn**	**18 54 11.5**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=333,slow=20,SNR=2.5						
WB2	**Warramunga Arr**	**17.45**	**164**	P	**Pn**	**18 50 59.0**	**-0.8**
WB2				IAmb	IAmb	18 51 07.6	
	comp=Z,40nm,1.4s						
WR0	**Warramunga Arr**	**17.52**	**164**	P	**Pn**	**18 51 00.4**	**-0.2**
AS31	**Alice Springs**	**20.93**	**168**	P	**P**	**18 51 38.2**	**-0.7**
AS31				IAmb	IAmb	18 51 39.9	
	comp=Z,11nm,0.7s						
ASAR	**Alice Springs**	**20.93**	**168**	P	**P**	**18 51 38.5**	**-0.3**
	comp=Z,24nm,0.7s,baz=349,slow=11,SNR=71						
ASAR				S	**S**	**18 55 30.1**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=352,slow=23,SNR=7.7						
ASAR	**Alice Springs**	**20.93**	**168**	P	**P**	**18 51 38.6**	**-0.2**
STKA	**Stephens Creek**	**30.87**	**159**	P	**P**	**18 53 11.4**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=333,slow=6.8,SNR=2.9						
STKA	**Stephens Creek**	**30.87**	**159**	P	**P**	**18 53 10.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**36.82**	**307**	P	**P**	**18 54 06.2**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=154,slow=8.8,SNR=5.2						
CMAR	**Chiang Mai Arr**	**36.82**	**307**	P	**P**	**18 54 03.9**	**-0.1**
MJAR	**Matsushiro Arr**	**40.28**	**11**	P	**P**	**18 54 32.1**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=193,slow=9.6,SNR=5.0						
MJAR	**Matsushiro Arr**	**40.28**	**11**	P	**P**	**18 54 31.7**	**-1.1**
MJAR				IAmb	IAmb	18 54 50.4	
	comp=Z,3.1nm,1.0s						
USRK	**Ussuriysk Ar.**	**47.13**	**3**	P	**P**	**18 55 27.1**	**-0.7**
USA0B	**Ussuriysk Arra**	**47.13**	**3**	P	**P**	**18 55 27.8**	**+0.1**
MKAR	**Makanchi Array**	**64.63**	**326**	P	**P**	**18 57 32.4**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=127,slow=8.0,SNR=15						
MAKZ	**Makanchi**	**64.81**	**326**	P	**P**	**18 57 34.2**	**-0.1**
MAKZ				IAmb	IAmb	18 57 35.0	
	comp=Z,2.2nm,1.0s						
ZALV	**Zalesovo Beam**	**67.82**	**333**	P	**P**	**18 57 53.1**	**-0.3**
KKAR	**Karatay Array**	**70.01**	**318**	P	**P**	**18 58 06.6**	**-0.7**
BRVK	**Borovoye**	**74.51**	**327**	P	**P**	**18 58 33.8**	**-0.2**
BRVK				IAmb	IAmb	18 58 35.1	
	comp=Z,4.1nm,0.8s						
ABKAR	**Akbulak array**	**79.07**	**321**	P	**P**	**18 58 59.4**	**-0.3**
ILAR	**Eielson Array**	**90.10**	**25**	P	**P**	**18 59 56.6**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=254,slow=5.9,SNR=2.6						

BER ***12*** *19:02:34.1±2.6, 77°.55N×7°.68E, h10km, ML2.6, Confirmed Earthquake*

ISC 12 19:02:34.6±1.4, 77°.5N±0°.1×8°.40E±0°.05, h10km, n9, σ1s80/16, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRBA	**Barentsburg A**	**1.36**	**63**	*eP*	**Pn**	**19 02 57.1**	**-2.5**
BRBA				*ePg*	**Pg**	**19 03 01.0**	**+0.3**
BRBA				*eS*	**Sb**	**19 03 17.4**	**-0.2**
BRBA				*eSg*	**Sg**	**19 03 21.5**	**+3.1**
KBS	**Kingsbay**	**1.61**	**25**	*eP*	**Pn**	**19 03 00.8**	**-2.3**
KBS				*ePg*	**Pb**	**19 03 03.9**	**-0.5**
KBS				*eS*	**Sn**	**19 03 21.1**	**-2.8**
KBS				IAML		19 03 36.9	
	comp=Z,64nm,0.4s						
KBS	**Kingsbay**	**1.61**	**25**	*i* P	**Pb**	**19 03 04.0**	**-0.5**
SPA0	**Spitsbergen Ar**	**1.82**	**64**	*ePg*	**Pb**	**19 03 08.6**	**+0.6**
SPA0				*eS*	**Sn**	**19 03 29.8**	**+0.7**
SPA0				*eSg*	**Sb**	**19 03 32.1**	**+1.2**
SPA0				IAML		19 03 41.9	
	comp=Z,137nm,0.3s						
DAG	**Danmarks Havn**	**6.05**	**276**	*i* P	**Pn**	**19 04 02.3**	**-1.6**
DAG	**Danmarks Havn**	**6.05**	**276**	*i* P	**Pn**	**19 04 02.4**	**-1.6**
NOR	**Nord**	**6.08**	**324**	*i* P	**Pn**	**19 04 05.8**	**+1.5**
NOR	**Nord**	**6.08**	**324**	*eP*	**Pn**	**19 04 05.9**	**+1.5**
DBG	**Daneborg**	**7.61**	**260**	*eP*	**Pn**	**19 04 25.1**	**-0.2**

NAO ***12*** *19:03:08.7±2.6, 77°.66N×8°.59E, h1km±22km, ML3.2*

IDC ***12*** *19:03:09.1±1.1, 77°.84N×7°.40E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.5/37, mbtmp3.6/8, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/41, Error ellipse: s-maj=19.7km s-min=15.0km az=167.0*

BER ***12*** *19:03:09.2±4.6, 77°.57N×7°.97E, h15km±22km, ML2.6, ML3.2(NAO), Confirmed Earthquake*

IEPN ***12*** *19:03:12.0, 77°.70N×8°.75E, h10km*

ISC 12 19:03:10.1±3.1, 77°.70N±0°.06×7°.98E±0°.05, h16km±21km, n33, σ2s66/44, mb3.5/7, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRBA	**Barentsburg A**	**1.37**	**71**	Pg	**Pn**	**19 03 33.5**	**-1.0**
BRBA				Lg	Lg	19 03 49.0	
BRBA	**Barentsburg A**	**1.37**	**71**	*eP*	**Pn**	**19 03 33.2**	**-1.2**
BRBA				IAML		19 03 48.8	
	comp=Z,136nm,0.2s						
BRBA				*eS*	**Sn**	**19 03 49.8**	**-2.4**
KBS	**Kingsbay**	**1.48**	**31**	Pg	**Pn**	**19 03 36.2**	**+0.2**
KBS				Lg	Lg	19 03 53.4	
KBS	**Kingsbay**	**1.48**	**31**	*eP*	**Pn**	**19 03 36.2**	**+0.2**
KBS				*eS*	**Sn**	**19 03 52.9**	**-2.1**
KBS				IAML		19 04 00.6	
	comp=Z,109nm,0.4s						
KBS	**Kingsbay**	**1.48**	**31**	*eP*	**Pn**	**19 03 36.1**	**+0.1**
KBS				*eS*	**Sn**	**19 03 53.0**	**-1.9**
HSPB	**Hornsund (broa**	**1.80**	**109**	Lg	Lg	19 03 57.3	
SPA0	**Spitsbergen Ar**	**1.83**	**71**	Pg	**Pn**	**19 03 41.0**	**+0.1**
	baz=234,slow=16						
SPA0				Lg	Lg	19 04 03.4	
SPA0	**Spitsbergen Ar**	**1.83**	**71**	Pg	**Pn**	**19 03 41.0**	**+0.1**
	baz=234,slow=16						
SPA0				Sg	**Sn**	**19 04 03.4**	**-0.3**
SPA0	**Spitsbergen Ar**	**1.83**	**71**	*eP*	**Pn**	**19 03 41.0**	**+0.1**
SPA0				*eS*	**Sn**	**19 04 02.0**	**-1.7**
SPITS	**Spitsbergen Ar**	**1.83**	**71**	Pn	**Pn**	**19 03 41.2**	**+0.3**
	baz=235,slow=14,SNR=30						
SPITS				Sn	**Sb**	**19 04 04.7**	**-1.0**
	baz=266,slow=20,SNR=6.0						
HOPEN	**Hopen**	**3.99**	**99**	Pn	**Pn**	**19 04 09.5**	**-1.0**
HOPEN				Pg	**Pb**	**19 04 19.6**	**-0.3**
HOPEN				Sn	**Sn**	**19 04 51.6**	**-5.3**
HOPEN	**Hopen**	**3.99**	**99**	IAML		19 04 23.1	
	comp=Z,26nm,0.5s						
HOPEN	**Hopen**	**3.99**	**99**	*eP*	**Pn**	**19 04 09.3**	**-1.2**
HOPEN				*eS*	**Sn**	**19 04 51.9**	**-5.0**
HOPEN				IAML		19 05 08.1	
	comp=Z,33nm,0.6s						
HOPEN	**Hopen**	**3.99**	**99**	*eP*	**Pn**	**19 04 09.3**	**-1.2**
HOPEN				*eS*	**Sn**	**19 04 51.4**	**-5.4**
HOPEN	**Hopen**	**3.99**	**99**	*eS*	**Pb**	**19 04 19.3**	**-0.6**
NOR	**Nord**	**5.86**	**323**	Pn	**Pn**	**19 04 34.7**	**-1.4**
NOR				Sn	**Sn**	**19 05 40.0**	**-2.8**
NOR	**Nord**	**5.86**	**323**	Pn	**Pn**	**19 04 34.7**	**-1.4**
NOR				Sn	**Sn**	**19 05 40.0**	**-2.8**
DAG	**Danmarks Havn**	**5.94**	**274**	*eP*	**Pn**	**19 04 34.2**	**-3.1**
DAG				*eS*	**Sn**	**19 05 36.2**	**-8.6**
ZFI	**Zemlya Franca-**	**7.88**	**49**	*eP*	**Pn**	**19 05 04.4**	**+0.7**
ZFI				*eS*	**Sn**	**19 06 27.4**	**-5.0**
ARA0	**ARCESS Array S**	**9.51**	**140**	Pn	**Pn**	**19 05 23.6**	**-2.6**
	baz=318,slow=12						
ARA0	**ARCESS Array S**	**9.51**	**140**	Pn	**Pn**	**19 05 23.6**	**-2.6**
	baz=318,slow=12						
ARCES	**ARCESS Array B**	**9.51**	**140**	Pn	**Pn**	**19 05 28.3**	**+2.2**
	baz=332,slow=11,SNR=5.6						
AMDE	**Amderma**	**16.29**	**90**	*eP*	**Pn**	**19 06 57.6**	**-0.1**
	comp=Z,2.6nm,0.7s						
LSH	**Leshukonskoye**	**17.13**	**117**	*eP*	**P**	**19 07 10.4**	**+0.4**
	comp=Z,79nm,2.4s						
FINES	**FINESS Array B**	**17.34**	**150**	P	**Pn**	**19 07 11.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=4.8,slow=12,SNR=5.0						
KIRV	**Kirov**	**23.62**	**120**	LR	LR	19 18 31.9	
	comp=Z,61nm,19.4s,baz=327,slow=39						
ZALV	**Zalesovo Beam**	**35.24**	**86**	P	**P**	**19 10 06.3**	**+3.0**
	comp=Z,1.1nm,0.7s,baz=345,slow=10,SNR=2.2						
ZALV				LR	LR	19 26 35.4	
	comp=Z,43nm,18.0s,baz=342,slow=40						
ILAR	**Eielson Array**	**36.94**	**342**	P	**P**	**19 10 17.9**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=7.8,slow=7.3,SNR=3.7						
ESDC	**Sonseca Array**	**38.46**	**195**	P	**P**	**19 10 31.4**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=9.9,slow=8.2,SNR=3.3						
BRTR	**Keskin Array B**	**39.57**	**148**	P	**P**	**19 10 43.3**	**+3.1**
	comp=Z,0.9nm,0.9s,baz=348,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**41.45**	**92**	P	**P**	**19 10 57.7**	**+2.1**
	comp=Z,0.9nm,0.7s,baz=335,slow=6.4,SNR=9.5						
SONM	**Songino Array**	**45.52**	**69**	P	**P**	**19 11 30.3**	**+1.8**
	comp=Z,0.2nm,0.8s,baz=331,slow=8.6,SNR=2.5						
TXAR	**Lajitas Array**	**65.98**	**297**	P	**P**	**19 13 55.9**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=23,slow=4.9,SNR=3.1						

IDC ***12*** *19:07:25.9±8.5,20°.50S×69°.64W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/17, mbtmp4.0/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/34, Error ellipse: s-maj=360.1km s-min=47.4km az=13.0*

GUC ***12*** *19:07:37.3±0.7,20°.87S×69°.18W, h109km±3km, ML3.6*

ISC 12 19:07:38.9±0.9,20°.88S±0°.04×69°.26W±0°.09, h105km±7km, n27, σ0s70/24, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.27**	**234**	*eP*	**Pn**	**19 07 53.5**	**-0.5**
PB01				*i* S	**Sn**	**19 08 05.3**	**0.0**
PB08	**IPOC Station P**	**0.75**	**7**	*eP*	**Pn**	**19 07 57.1**	**-0.5**
PB08				*i* S	**Sn**	**19 08 11.7**	**+0.1**
PB08				IAML		19 08 13.2	
	comp=E,2µm,0.1s						
PB09	**IPOC Station P**	**0.91**	**179**	*eP*	**Pn**	**19 07 58.7**	**-0.2**
PB09				*i* S	**Sn**	**19 08 14.4**	**+0.4**
PB09				IAML		19 08 18.3	
	comp=E,2µm,0.2s						
TA01	**Diego Aracena**	**0.92**	**290**	*eP*	**Pn**	**19 07 58.7**	**-0.1**
TA01				*i* S	**Sn**	**19 08 14.7**	**+0.9**
TA01				IAML		19 08 16.1	
	comp=E,2µm,0.2s						
TA02	**Huaiquique**	**1.02**	**307**	*eP*	**Pn**	**19 07 59.6**	**-0.2**
TA02				*i* S	**

HSPB	**Hornsund (broa**	**1.73**	**110**	*eP*		**Pn**	**19 29 18.5**	**-1.7**
HSPB				*eS*		**Sn**	**19 29 37.3**	**-5.2**
SPA0	**Spitsbergen Ar**	**1.76**	**70**	Pg		**Pb**	**19 29 22.0**	**-0.3**
	baz=215,slow=22							
SPA0				Lg		Lg	19 29 44.4	
	baz=224,slow=28							
SPA0	**Spitsbergen Ar**	**1.76**	**70**	Pg		**Pb**	**19 29 22.0**	**-0.3**
	baz=215,slow=22							
SPA0				Sg		**Sb**	**19 29 44.4**	**-0.3**
	baz=224,slow=28							
SPA0	**Spitsbergen Ar**	**1.76**	**70**	*iP*		**Pb**	**19 29 22.0**	**-0.3**
SPA0				*iS*		**Sn**	**19 29 41.9**	**-1.6**
SPITS	**Spitsbergen Ar**	**1.76**	**70**	Pn		**Pb**	**19 29 22.4**	**0.0**
	baz=235,slow=14,SNR=892							
SPITS				Sn		**Sb**	**19 29 45.2**	**+0.5**
	baz=224,slow=29,SNR=18							
HOPEN	**Hopen**	**3.91**	**99**	Pn		**Pn**	**19 29 50.6**	**+0.4**
HOPEN				Sn		**Sn**	**19 30 32.6**	**-3.7**
HOPEN	**Hopen**	**3.91**	**99**	*eP*		**Pn**	**19 29 50.3**	**+0.2**
HOPEN				*eS*		**Sn**	**19 30 31.8**	**-4.6**
HOPEN				IAML			19 30 35.7	
	comp=Z,18nm,0.2s							
HOPEN	**Hopen**	**3.91**	**99**	*eP*		**Pn**	**19 29 50.1**	**-0.1**
HOPEN				*eS*		**Sn**	**19 30 31.7**	**-4.6**
NOR	**Nord**	**5.92**	**323**	*iP*		**Pn**	**19 30 15.8**	**-1.9**
NOR	**Nord**	**5.92**	**323**	Pn		**Pn**	**19 30 15.8**	**-1.9**
NOR				Sn		**Sn**	**19 31 21.1**	**-4.6**
NOR	**Nord**	**5.92**	**323**	Pn		**Pn**	**19 30 15.8**	**-1.9**
NOR				Sn		**Sn**	**19 31 21.1**	**-4.6**
NOR				IAML			19 31 25.0	
	comp=Z,1.1nm,0.3s							
NOR	**Nord**	**5.92**	**323**	*iP*		**Pn**	**19 30 15.9**	**-1.9**
NOR				IAML			19 31 25.0	
	comp=Z,1.1nm,0.3s							
DAG	**Danmarks Havn**	**6.02**	**275**	*iP*		**Pn**	**19 30 14.9**	**-4.1**
DAG				*iS*		Sn	19 31 13.6	-15
DAG	**Danmarks Havn**	**6.02**	**275**	*eP*		**Pn**	**19 30 16.0**	**-3.1**
DAG				*eS*		Sn	19 31 17.3	-11
DAG				IAML			19 31 19.2	
	comp=Z,3.9nm,0.4s							
DAG	**Danmarks Havn**	**6.02**	**275**	*iP*		**Pn**	**19 30 15.0**	**-4.1**
DAG				*iS*		Sn	19 31 13.7	-15
DAG				IAML			19 31 19.2	
	comp=Z,3.9nm,0.4s							
DBG	**Daneborg**	**7.63**	**258**	*eP*		**Pn**	**19 30 37.1**	**-4.1**
DBG				*eS*		Sn	19 31 54.7	-13
DBG				IAML			19 32 06.0	
	comp=Z,1.6nm,0.4s							
DBG	**Daneborg**	**7.63**	**258**	*iP*		**Pn**	**19 30 37.0**	**-4.2**
DBG				IAML			19 32 06.0	
	comp=Z,1.6nm,0.4s							
ZFI	**Zemlya Franca-**	**7.83**	**48**	*eP*		**Pn**	**19 30 45.6**	**+1.7**
ZFI				*eS*		**Sn**	**19 32 05.1**	**-7.6**
ARA0	**ARCESS Array S**	**9.45**	**141**	Pn		**Pn**	**19 31 04.9**	**-1.2**
	baz=339,slow=14							
ARA0	**ARCESS Array S**	**9.45**	**141**	Pn		**Pn**	**19 31 04.9**	**-1.2**
	baz=339,slow=14							
ARCES	**ARCESS Array B**	**9.45**	**141**	Pn		**Pn**	**19 31 06.9**	**+0.8**
	baz=323,slow=12,SNR=5.7							
AMDE	**Amderma**	**16.21**	**90**	P		**P**	**19 32 41.0**	**+0.2**
	comp=Z,6.5nm,1.0s							
FINES	**FINESS Array B**	**17.29**	**150**	P		**P**	**19 32 54.7**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=343,slow=14,SNR=2.4							
SFJD	**Kangerlussuaq**	**19.68**	**270**	LR		LR	19 40 57.5	
	comp=Z,64nm,20.1s,baz=9.0,slow=37							
ZALV	**Zalesovo Beam**	**35.17**	**86**	P		P	19 35 47.7	+4.0
	comp=Z,0.6nm,0.5s,baz=322,slow=9.1,SNR=2.1							
YKA	**Yellowknife Ar**	**35.83**	**318**	P		**P**	**19 35 50.6**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=20,slow=8.3,SNR=5.0							
ILAR	**Eielson Array**	**36.98**	**343**	P		**P**	**19 36 01.8**	**+2.6**
	comp=Z,0.3nm,0.4s,baz=358,slow=8.1,SNR=4.1							
BRTR	**Keskin Array B**	**39.52**	**149**	P		**P**	**19 36 23.7**	**+2.8**
	comp=Z,0.4nm,0.7s,baz=352,slow=8.0,SNR=3.7							
MKAR	**Makanchi Array**	**41.37**	**93**	P		**P**	**19 36 38.9**	**+2.9**
	comp=Z,1.1nm,0.8s,baz=350,slow=6.2,SNR=9.0							
TORD	**Torodi Ar. Bea**	**64.62**	**187**	P		**P**	**19 39 29.0**	**+1.3**
	comp=Z,1.5nm,0.4s,baz=358,slow=6.1,SNR=2.0							
TXAR	**Lajitas Array**	**66.06**	**298**	P		**P**	**19 39 37.3**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=39,slow=5.8,SNR=2.4							

*IDC **12** 19:32:14.7±2.8, 56.68N×157.06W, h67km±24km, mb3.6/13, mb1 3.7/17, mb1mx3.4/55, mbtmp3.8/17, Error ellipse: s-maj=32.9km s-min=17.3km az=172.0*

*NEIC **12** 19:32:15.4±1.8, 56.51N±0.03×156.95W±0.05, h85km±7km, Error ellipse: s-maj=6.0km s-min=2.0km az=217.0*

*AEIC **12** 19:32:17±1.6, 56.52N±0.04×156.92W±0.07, h80km±5km, ML3.6, mb3.6/4(NEIC), ML3.7/18(NEIC), Error ellipse: s-maj=6.1km s-min=5.5km az=150.0*

ISC 12 19:32:16.1±0.8, 56.58N±0.06×156.88W±0.05, h86km±8km, n116, σt1s12/117, mb3.7/13, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHGN	**Chignik**	**0.90**	**252**			**Pn**	**19 32 32.8**	**-1.4**
CHGN						**Sn**	**19 32 45.2**	**-2.6**
CHGN	**Chignik**	**0.90**	**252**	IAML			19 32 45.8	
	comp=E,2μm,0.2s							
CHGN				IAML			19 32 48.3	
	comp=N,3μm,0.1s							
CHIR	**Chirikof Islan**	**1.04**	**137**			**Pn**	**19 32 35.4**	**-0.5**
CHIR						**Sn**	**19 32 50.4**	**-0.4**
PLK3	**Peulik 3**	**1.16**	**17**			**Sn**	**19 32 55.5**	**+2.1**
PLK1	**Peulik 1**	**1.23**	**7**			**Pn**	**19 32 39.2**	**+1.0**
PLK5	**Peulik 5**	**1.42**	**0**			**Pn**	**19 32 41.7**	**+1.2**
SII	**Sitkinak Islan**	**1.49**	**90**			**Pn**	**19 32 41.5**	**0.0**
SII						**Sn**	**19 33 00.2**	**-0.6**
KJL	**Kejulik**	**1.64**	**25**			**Pn**	**19 32 44.4**	**+1.0**
CAHL	**Cahill**	**1.70**	**30**			**Pn**	**19 32 45.1**	**+0.9**
CAHL						**Sn**	**19 33 06.5**	**+0.8**
KABR	**Katmai Barrier**	**1.87**	**33**			**Pn**	**19 32 47.2**	**+0.8**
KABR						**Sn**	**19 33 10.7**	**+1.2**
KABU	**Katmai Buttres**	**1.90**	**26**			**Pn**	**19 32 48.1**	**+1.3**
KELA	**Mount Kelaz**	**1.96**	**18**			**Pn**	**19 32 48.4**	**+0.8**
KELA						**Sn**	**19 33 12.1**	**+0.4**
KVTA	**Katmai Vly 10**	**2.00**	**25**			**Pn**	**19 32 49.0**	**+0.9**
OHAK	**Old Harbor**	**2.07**	**71**			**Pn**	**19 32 49.1**	**+0.1**
OHAK	**Old Harbor**	**2.07**	**71**			**Sn**	**19 33 14.3**	**+0.1**
OHAK	**Old Harbor**	**2.07**	**71**	IAML			19 33 14.3	
	comp=N,298nm,0.3s							
KAHC	**Katmai Hardscr**	**2.30**	**25**			**Pn**	**19 32 53.2**	**+1.0**
SDPT	**Sand Point**	**2.37**	**240**			**Pn**	**19 32 52.1**	**-0.9**
SDPT						**Sn**	**19 33 19.3**	**-1.9**
SDPT	**Sand Point**	**2.37**	**240**	IAML			19 33 24.0	
	comp=E,265nm,0.9s							
KDAK	**Kodiak Island**	**2.63**	**61**	P		**Pn**	**19 32 56.6**	**+0.2**
	comp=E,35nm,0.3s,baz=252,slow=9.5,SNR=1351							
KDAK				S		**Sn**	**19 33 26.6**	**-0.9**
	comp=E,47nm,0.3s,baz=148,slow=23,SNR=9.2							
KDAK	**Kodiak Island**	**2.63**	**61**	IAML			19 33 28.0	
	comp=E,374nm,0.3s							
KDAK				IAML			19 33 28.2	
	comp=E,400nm,0.3s							
PVV	**Pavlof Volcano**	**3.01**	**248**			**Pn**	**19 33 00.7**	**-0.9**
PS4A	**Pavlof South-4**	**3.06**	**248**			**Pn**	**19 33 01.4**	**-0.9**
AUW	**Augustine West**	**3.33**	**32**			**Pn**	**19 33 06.8**	**+1.0**
AUCH	**Augustine Cone**	**3.33**	**32**			**Pn**	**19 33 07.4**	**+1.4**
DT1	**Dutton Round H**	**3.38**	**246**			**Pn**	**19 33 05.3**	**-1.3**
ILS	**Iliamna Low So**	**3.94**	**29**			**Pn**	**19 33 15.6**	**+1.4**
IVE	**Iliamna Volcan**	**4.00**	**29**			**Pn**	**19 33 16.4**	**+1.3**
FALS	**False Pass**	**4.08**	**248**			**Pn**	**19 33 15.5**	**-0.5**
CNPM	**China Poot**	**4.21**	**43**			**Pn**	**19 33 18.4**	**+0.6**
CNPM	**China Poot**	**4.21**	**43**	IAML			19 34 32.1	
	comp=N,49nm,1.8s							
CNPM				IAML			19 35 02.2	
	comp=E,57nm,2.9s							
BRPK	**Brown Peak**	**4.35**	**246**			**Pn**	**19 33 18.6**	**-1.1**
RED	**Redoubt Volcan**	**4.41**	**28**			**Pn**	**19 33 21.9**	**+1.3**
RDSO	**Redoubt South**	**4.45**	**27**			**Pn**	**19 33 22.0**	**+0.9**
BRLK	**Bradley Lake**	**4.50**	**42**			**Pn**	**19 33 21.7**	**-0.1**
BRLK	**Bradley Lake**	**4.50**	**42**	IAML			19 34 10.8	
	comp=N,45nm,1.1s							
BRLK				IAML			19 34 11.5	
	comp=E,54nm,0.5s							
BRSE	**Bradley Lake S**	**4.54**	**43**			**Pn**	**19 33 22.5**	**+0.2**
SVW2	**Sparrevohn**	**4.58**	**8**	Pn		**Pn**	**19 33 23.7**	**+0.9**
DFR	**Drift River**	**4.58**	**27**			**Pn**	**19 33 24.0**	**+1.1**
SLKM	**Skilak Lake**	**5.26**	**39**			**Pn**	**19 33 32.0**	**0.0**
SEW	**Seward**	**5.27**	**45**	Pn		**Pn**	**19 33 31.4**	**-0.8**
STLK	**Strandline Lak**	**5.58**	**26**			**Pn**	**19 33 37.1**	**+0.7**
SUA	**Susitna One**	**5.83**	**30**			**Pn**	**19 33 40.6**	**+0.7**
RC01	**Rabbit Creek A**	**5.84**	**36**			**Pn**	**19 33 40.5**	**+0.5**
PWL	**Port Wells**	**6.18**	**43**			**Pn**	**19 33 44.1**	**-0.5**
MNAT	**Makushin Natee**	**6.22**	**248**			**Pn**	**19 33 43.9**	**-1.3**
MSW	**Makushin Switc**	**6.26**	**249**			**Pn**	**19 33 44.3**	**-1.4**
MAPS	**Pakushin South**	**6.39**	**248**			**Pn**	**19 33 46.3**	**-1.2**
KNK	**Knik Glacier**	**6.51**	**38**			**Pn**	**19 33 48.9**	**-0.1**
GHO	**Glory Hole Cre**	**6.62**	**35**			**Pn**	**19 33 50.2**	**-0.4**
HIN	**Hinchinbrook I**	**6.65**	**51**			**Pn**	**19 33 50.8**	**-0.2**
GLI	**Glacier Island**	**6.67**	**46**			**Pn**	**19 33 50.1**	**-1.1**
SML	**Sawmill**	**6.83**	**36**			**Pn**	**19 33 52.9**	**-0.6**
FID	**Port Fidalgo**	**6.84**	**48**			**Pn**	**19 33 52.1**	**-1.5**
JPK	**Jack Peak**	**6.97**	**46**			**Pn**	**19 33 55.0**	**-0.4**
EYAK	**Cordova Ski Ar**	**7.05**	**51**			**Pn**	**19 33 56.0**	**-0.3**
SCM	**Sheep Creek Mo**	**7.19**	**39**			**Pn**	**19 33 58.0**	**-0.4**
SPIA	**Saint Paul Isl**	**7.35**	**280**	Pn		**Pn**	**19 34 01.5**	**+1.0**
KAIM	**Kayak Island**	**7.38**	**58**			**Pn**	**19 34 01.9**	**+1.0**
RAGM	**Ragged Mountai**	**7.44**	**54**			**Pn**	**19 34 01.6**	**-0.2**
KLU	**Klutina**	**7.49**	**44**			**Pn**	**19 34 02.2**	**-0.3**
GOAT	**Goat Mountain**	**7.51**	**53**			**Pn**	**19 34 02.6**	**-0.1**
HMT	**Hamilton**	**7.61**	**55**			**Pn**	**19 34 03.9**	**-0.2**
TRF	**Thorofare Moun**	**7.63**	**23**			**Pn**	**19 34 04.5**	**0.0**
WAT2	**Susitna Watana**	**7.64**	**30**			**Pn**	**19 34 03.8**	**-0.8**
NICHA	**Nichawak Mount**	**7.70**	**56**			**Pn**	**19 34 05.3**	**0.0**
SUCK	**Suckling Hills**	**7.73**	**58**	Pn		**Pn**	**19 34 07.4**	**+1.7**
BMRM	**Bremner River**	**7.74**	**50**			**Pn**	**19 34 05.6**	**-0.3**
M24K	**Tolsona, Glenn**	**7.78**	**40**			**Pn**	**19 34 06.9**	**+0.5**
BERG	**Berg Lake**	**7.89**	**56**			**Pn**	**19 34 07.5**	**-0.3**
RND	**Reindeer**	**7.93**	**27**	Pn		**Pn**	**19 34 09.6**	**+1.1**
GRIN	**Grindle Hills**	**8.02**	**57**			**Pn**	**19 34 09.3**	**-0.4**
N25K	**Chitina, Valde**	**8.08**	**46**			**Pn**	**19 34 10.1**	**-0.3**
BPAW	**Bear Paw Mtn.**	**8.08**	**19**	Pn		**Pn**	**19 34 11.0**	**+0.5**
MCK	**McKinley**	**8.19**	**26**	Pn		**Pn**	**19 34 13.1**	**+1.2**
CRQM	**Cirque**	**8.29**	**54**			**Pn**	**19 34 13.4**	**-0.1**
TGL	**Tana Glacier**	**8.43**	**54**			**Pn**	**19 34 15.0**	**-0.3**
MCARA	**McCarthy VSAT**	**8.62**	**50**	Pn		**Pn**	**19 34 18.7**	**+0.5**
MESA	**MESA**	**8.63**	**59**	Pn		**Pn**	**19 34 19.0**	**+0.9**
PTPK	**Patty Peak**	**8.77**	**52**			**Pn**	**19 34 20.1**	**+0.1**
YAH	**Yahtse**	**8.78**	**58**	Pn		**Pn**	**19 34 21.1**	**+0.8**
GRNC	**Granite Creek**	**8.91**	**56**			**Pn**	**19 34 21.9**	**0.0**
CHX	**Chaix Hills**	**8.99**	**61**			**Pn**	**19 34 22.7**	**-0.2**
WRH	**Wood River Hil**	**9.01**	**25**	Pn		**Pn**	**19 34 21.4**	**-1.7**
TABL	**Table Mountain**	**9.09**	**58**			**Pn**	**19 34 24.4**	**0.0**
CTGM	**Chitina Glacie**	**9.18**	**55**			**Pn**	**19 34 25.6**	**0.0**
CCB	**Clear Creek Bu**	**9.23**	**25**	Pn		**Pn**	**19 34 24.7**	**-1.3**
LOGN	**Logan Glacier**	**9.28**	**56**			**Pn**	**19 34 25.8**	**-1.2**
MDM	**Murphy Dome**	**9.40**	**23**	Pn		**Pn**	**19 34 26.7**	**-1.7**
PCA	**Pinnacle**	**9.42**	**61**			**Pn**	**19 34 28.7**	**-0.1**
IL31		**9.55**	**27**			**Pn**	**19 34 29.6**	**-0.8**
ILAR	**Eielson Array**	**9.55**	**27**	P		**Pn**	**19 34 29.2**	**-1.2**
	comp=E,0.2nm,0.3s,baz=220,slow=13,SNR=11							
ILAR				S		**Sn**	**19 36 09.2**	**-6.7**
	comp=E,0.4nm,0.3s,baz=196,slow=19,SNR=9.8							
IMAR	**Indian Mountai**	**9.55**	**8**	Pn		**Pn**	**19 34 31.9**	**+1.4**
BCPM	**Bancas Point**	**9.69**	**62**	Pn		**Pn**	**19 34 33.3**	**+0.9**
YUK2	**White River**	**9.73**	**51**			**Pn**	**19 34 33.2**	**+0.2**
PNL	**Peninsula**	**9.75**	**64**			**Pn**	**19 34 32.9**	**-0.3**
BC03		**9.98**	**43**			**Pn**	**19 34 35.8**	**-0.5**
BCAR	**Beaver Creek A**	**9.98**	**43**	Pn		**Pn**	**19 34 36.3**	**-0.1**
DLBC	**Dease Lake**	**14.51**	**71**	P		**Pn**	**19 35 38.5**	**+1.6**
	comp=E,0.2nm,0.3s,baz=309,slow=14,SNR=1.9							
INK	**Inuvik**	**15.82**	**33**	P		**Pn**	**19 35 54.4**	**+1.1**
	comp=E,0.3nm,0.3s,baz=218,slow=9.7,SNR=5.3							
INK	**Inuvik**	**15.82**	**33**	IAmb		IAmb	19 36 00.9	
	comp=Z,6.4nm,1.5s							
C36M	**Paulatuk**	**19.30**	**36**	P		**P**	**19 36 34.6**	**+0.9**
C36M				IAmb		IAmb	19 36 40.3	
	comp=Z,2.3nm,0.5s							
YKA	**Yellowknife Ar**	**21.90**	**57**	P		**P**	**19 37 02.6**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=269,slow=10,SNR=5.6							
PETK	**Petropavlovsk-**	**26.01**	**282**	P		**P**	**19 37 39.5**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=77,slow=11,SNR=6.4							
KLR	**Kul'dur**	**41.85**	**291**	P		**P**	**19 39 56.5**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=42,slow=9.0,SNR=5.1							
SPITS	**Spitsbergen Ar**	**45.43**	**2**	P		**P**	**19 40 25.4**	**-0.1**
	comp=Z,11nm,0.9s,baz=55,slow=5.5,SNR=5.7							
TXAR	**Lajitas Array**	**45.95**	**103**	P		**P**	**19 40 31.8**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=312,slow=5.7,SNR=4.0							
KSRS	**Korea Array**	**51.91**	**282**	P		**P**	**19 41 16.0**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=46,slow=6.8,SNR=1.8							
SONM	**Songino Array**	**55.12**	**305**	P		**P**	**19 41 39.1**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=47,slow=7.6,SNR=9.8							
SONM	**Songino Array**	**55.12**	**305**	IAmb		IAmb	19 41 39.8	
	comp=Z,1.0nm,0.9s							
FINES	**FINESS Array B**	**62.29**	**358**	P		**P**	**19 42 28.4**	**+0.1**
	comp=Z,3.3nm,1.1s,baz=15,slow=6.0,SNR=3.8							
HFS	**Hagfors**	**63.39**	**5**	P		**P**	**19 42 36.2**	**+0.6**
	comp=Z,2.9nm,1.0s,baz=46,slow=4.3,SNR=6.1							
MKAR	**Makanchi Array**	**65.77**	**320**	P		**P**	**19 42 50.8**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=23,slow=4.3,SNR=6.4							
AKASG	**Malin Array Be**	**72.96**	**356**	P		**P**	**19 43 35.2**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=7.4,slow=5.7,SNR=2.9							
GERES	**GERESS Array B**	**74.65**	**6**	P		**P**	**19 43 46.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=353,slow=5.6,SNR=3.8							
CMAR	**Chiang Mai Rar**	**82.33**	**292**	P		**P**	**19 44 27.9**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=13,slow=5.2,SNR=4.7							

*MOS **12** 19:47:12.8±0.9, 52.78N×162.95W, h10km, mb5.8/72, Error ellipse: s-maj=6.8km s-min=4.2km az=105.9*

*IDC **12** 19:47:13.3±0.4, 52.78N×163.01W, h0km, mb5.2/33, mb1 5.3/34, mb1mx5.2/42, mbtmp5.1/34, ML4.2/1, MS4.2/36, Ms1 4.2/36, ms1mx4.0/51, Error ellipse: s-maj=15.1km s-min=9.2km az=8.0*

*BJI **12** 19:47:13.8±0.0, 53.02N×163.36W, h11km, mB5.5/54, mb5.5/80, Ms5.1/54, Ms7 4.8/52*

*NEIC **12** 19:47:14.2±0.2, 52.87N±0.04×162.91W±0.07, h10km±1km, mb5.3/464, Mwb5.1/42, Mww5.3, ML5.0(AEIC), Error ellipse: s-maj=7.0km s-min=6.1km az=276.0*

*NEIC **12** 19:47:14.5, 52.86N×162.88W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=4.29; Mθθ=4.09; Mθφ=0.20; Mrθ=0.33; Mφφ=1.75; Mrφ=1.82; Fault plane solution: Mo=4.91000×10^16 NP1:φs=230.51000°, δ=54.08000°, λ=-113.82000°. NP2:φs=87.46000°, δ=42.19000°, λ=-60.86000°. Principal axes: T 4.8673, Plg6.0000°, Azm337.0000°; N 0.0749, Plg19.0000°, Azm245.0000°; P -4.9422, Plg70.0000°, Azm85.0000°;*

*ANF **12** 19:47:17.5±1.1, 53.12N×163.03W, h25km±7km, ML5.1/5 Error ellipse: s-maj=4.6km s-min=3.7km az=40.0, Hypocentre not reviewed by the ISC*

*AEIC **12** 19:47:17±2.3, 52.87N±0.06×162.91W±0.07, h35km±3km, Error ellipse: s-maj=8.6km s-min=6.3km az=162.0*

*GCMT **12** 19:47:18.2±0.1, 52.84N±0.01×162.90W±0.02, h12km, MW5.2/142, Moment Tensor Solution. s92,c137; s142,c253; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.80±.01; Mθθ=0.65±.01; Mφφ=0.14±.01; Mrθ=0.12±.03; Mrφ=0.34±.01; Mθφ=0.08±.03; Best double couple: Mo=0.82500×10^17 NP1:φs=235.00000°, δ=43.00000°, λ=-103.00000°. NP2:φs=72.00000°, δ=48.00000°, λ=-78.00000°. Principal axes: T 0.8260, Plg2.0000°, Azm154.0000°; N -0.0020, Plg9.0000°, Azm244.0000°; P -0.8240, Plg81.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **12** 19:47:19, 52.76N×163.05W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=8.18; Mθθ=5.93; Mφφ=2.25; Mrθ=4.67; Mθφ=4.68; Mrφ=1.59; Fault plane solution: Mo=9.99000×10^16 NP1:φs=215.00000°, δ=40.00000°, λ=-125.00000°. NP2:φs=78.00000°, δ=59.00000°, λ=-64.00000°. Principal axes: T 9.6577, Plg10.0000°, Azm150.0000°; N 0.6382, Plg22.0000°, Azm244.0000°; P -10.2959, Plg66.0000°, Azm36.0000°;*

*BGR **12** 19:47:21.9±0.0, 53.45N×162.84W, h33km, mb5.7, Ms4.4*

ISC 12 19:47:14.7±0.4, 52.87N±0.04×162.92W±0.03, h12km±2km, h12km:pP-P, n1316, σ1s37/1401, mb5.4/482, MS4.5/57, 67C-87D, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRPK	**Brown Peak**	**1.84**	**345**			**Pn**	**19 47 45.6**	**-0.5**
BRPK						**Sn**	**19 48 08.1**	**-1.4**
WESP	**Westdahl Peak**	**1.95**	**327**			**Pn**	**19 47 47.1**	**-0.5**
WESP						**Sn**	**19 48 10.9**	**-1.1**
SSLS	**Shishaldin Sou**	**1.95**	**341**			**Pn**	**19 47 47.5**	**-0.2**
FALS	**False Pass**	**2.01**	**352**			**Pn**	**19 47 47.9**	**-0.5**
FALS	**False Pass**	**2.01**	**352**			**Sn**	**19 48 12.9**	**-0.6**
FALS	**False Pass**	**2.01**	**352**	P			19 47 48.0	
	baz=171,SNR=122							
FALS				Sb			19 48 12.3	
	baz=171							
SSLW	**Shishaldin Wes**	**2.04**	**340**			**Pn**	**19 47 48.5**	**-0.3**
SSBA	**Shishaldin**	**2.04**	**340**			**Pn**	**19 47 48.4**	**-0.5**
SSBA						**Sn**	**19 48 13.3**	**-1.0**
WEBT	**Westdahl Beart**	**2.04**	**328**			**Pn**	**19 47 48.5**	**-0.4**
SSLN	**Shishaldin Nor**	**2.05**	**342**			**Pn**	**19 47 49.3**	**+0.3**
SSLN						**Sn**	**19 48 14.3**	**-0.2**
AKSA	**Akutan Strait**	**2.09**	**309**			**Pn**	**19 47 49.0**	**-0.5**
AKSA	**Akutan Strait**	**2.09**	**309**			**Pn**	**19 47 49.0**	**-0.5**
AKSA						**Sn**	**19 48 14.1**	**-1.3**
AKUT	**Akutan**	**2.12**	**308**			**Pn**	**19 47 49.7**	**-0.3**
AKUT	**Akutan**	**2.12**	**308**			**Sn**	**19 48 15.0**	**-1.2**
WTUG	**Tugumak**	**2.16**	**337**			**Pn**	**19 47 50.5**	**-0.1**
AKBBA	**Akutan Broad B**	**2.18**	**306**			**Pn**	**19 47 50.3**	**-0.4**
ZRO	**Akutan Zero**	**2.20**	**305**			**Pn**	**19 47 50.8**	**-0.2**
AKMO	**Akutan Morgan**	**2.22**	**305**			**Pn**	**19 47 51.1**	**-0.2**
AKMO						**Sn**	**19 48 17.4**	**-1.1**
HSB	**Akutan Spr's B**	**2.22**	**308**			**Pn**	**19 47 51.1**	**-0.3**
AKLV	**Akutan Long Va**	**2.23**	**307**			**Pn**	**19 47 51.1**	**-0.4**
AKLV						**Sn**	**19 48 17.3**	**-1.6**
AKRB	**Akutan Reef Bi**	**2.27**	**305**			**Pn**	**19 47 51.8**	**-0.1**
AKRB						**Sn**	**19 48 19.1**	**-0.7**
AKGG	**Akutan Green G**	**2.27**	**307**			**Pn**	**19 47 51.0**	**-1.0**
DT1	**Dutton Round H**	**2.27**	**9**			**Pn**	**19 47 51.2**	**-0.9**
MNAT	**Makushin Natee**	**2.47**	**296**			**Pn**	**19 47 54.6**	**-0.2**
MNAT						**Sn**	**19 48 23.4**	**-1.5**
MREP	**Makushin Rep't**	**2.48**	**294**			**Pn**	**19 47 54.6**	**-0.3**
MSW	**Makushin Switc**	**2.54**	**296**			**Pn**	**19 47 55.7**	**-0.1**
MGOD	**Makushin Gods**	**2.54**	**293**			**Pn**	**19 47 55.5**	**-0.4**
PS4A	**Pavlof South-4**	**2.56**	**14**			**Pn**	**19 47 56.3**	**+0.3**
MAPS	**Pakushin South**	**2.59**	**293**			**Pn**	**19 47 56.0**	**-0.3**
PVV	**Pavlof Volcano**	**2.60**	**14**			**Pn**	**19 47 56.7**	**+0.2**
SDPT	**Sand Point**	**2.87**	**29**			**Pn**	**19 48 00.2**	**-0.2**
SDPT	**Sand Point**	**2.87**	**29**			**Sn**	**19 48 32.4**	**-2.3**
SDPT	**Sand Point**	**2.87**	**29**	P			19 48 00.1	
	baz=210,SNR=17							
SDPT				S			19 48 32.5	
	baz=210							
OKFG	**Magazine Ridge**	**3.06**	**282**			**Pn**	**19 48 01.5**	**-1.3**
OKSO	**Okmok South**	**3.19**	**281**			**Pn**	**19 48 03.2**	**-1.5**
OKSP	**Okmok Steeple**	**3.26**	**279**			**Pn**	**19 48 05.1**	**-0.6**
NIKH	**Nikolski High**	**3.59**	**274**	Pn		**Pn**	**19 48 09.7**	**-0.5**
NIKH	**Nikolski High**	**3.59**	**274**	P			19 48 09.7	
	baz=90,SNR=49							
NIKH				S			19 48 48.0	
	baz=90							
CHGN	**Chignik**	**4.32**	**36**			**Pn**	**19 48 20.2**	**0.0**
CHGN	**Chignik**	**4.32**	**36**	P			19 48 20.0	
	baz=218,SNR=45							

baz=214,SNR=18
M24K Tolsona, Glenn 12.87 37 Pn 19 50 16.3 -1.0
M24K Tolsona, Glenn 12.87 37 P 19 50 16.2
baz=231,SNR=30
RND Reindeer 12.88 29 P Pn 19 50 15.4 -2.0
RND Reindeer 12.88 29 Pn 19 50 15.4 -2.0
MCK McKinley 13.10 28 P 19 50 18.1
baz=220
N25K Chitina, Valde 13.18 41 Pn 19 50 20.7 -0.9
N25K Chitina, Valde 13.19 41 P 19 50 20.3
baz=236,SNR=15
CRQM Cirque 13.36 46 Pn 19 50 23.7 -0.4
CRQE Cirque 13.38 46 P 19 50 22.9
baz=242,SNR=5.6
TGL Tana Glacier 13.50 46 Pn 19 50 24.6 -1.3
MESA MESA 13.65 49 Pn 19 50 28.1 +0.1
MESA MESA 13.65 49 P 19 50 28.2
baz=247
PAX Paxson 13.67 35 P Pn 19 50 26.7 -1.6
PAX Paxson 13.67 35 Pn 19 50 26.7 -1.6
PAX Paxson 13.67 35 P 19 50 27.0
baz=230,SNR=21
MCARA McCarthy VSAT 13.71 44 Pn 19 50 29.0 +0.3
MCARA McCarthy VSAT 13.71 44 P 19 50 27.9
baz=240
NEA2 Nenana 13.73 26 P 19 50 25.9
baz=218
YAH Yahtse 13.82 49 Pn 19 50 29.2 -1.1
WRH Wood River Hil 13.91 27 Pn 19 50 26.8 -4.5
IMAR Indian Mountai 13.93 16 Pn 19 50 31.2 -0.5
GRNC Granite Creek 13.96 47 Pn **Pn 19 50 31.4 -1.0**
I23K Minto, Yukon-K 14.11 24 Pn 19 50 31.4 -2.7
I23K Minto, Yukon-K 14.11 24 P 19 50 31.8
baz=216,SNR=5.8
CCB Clear Creek Bu 14.12 27 Pn 19 50 29.9 -4.4
TABL Table Mountain 14.12 49 Pn 19 50 34.4 -0.1
HDA Harding Lake 14.19 29 P 19 50 31.3
baz=223,SNR=13
HDA P 19 50 31.3
baz=223,SNR=13
CTG Chitna Glacier 14.25 47 P 19 50 35.7
baz=245,SNR=11
MDM Murphy Dome 14.25 26 Pn 19 50 32.1 -3.9
CTGM Chitina Glacie 14.25 47 Pn 19 50 36.1 -0.1
TCOL CIGO, UAF Yank 14.28 27 Pn 19 50 32.1 -4.4
COLA College 14.28 27⇑ *e*P **Pn 19 50 36.3 -0.2**
COLA pmax pmax
comp=Z,86nm,3.3s
COLA College 14.28 27 Pn 19 50 31.7 -4.8
MENT Mentasta 14.28 38 Pn 19 50 36.1 -0.5
PCA Pinnacle 14.41 51 Pn 19 50 37.9 -0.4
PINM Pinnacle 14.41 51 P 19 50 38.1
baz=250,SNR=8.2
IL31 14.47 28 Pn Pn 19 50 34.4 -4.7
ILAR Eielson Array 14.47 28 Pn Pn 19 50 34.5 -4.7
comp=Z,1.1nm,0.3s,baz=224,slow=13,SNR=45
ILAR Sn Sn 19 53 08.4 -11
comp=Z,0.5nm,0.3s,baz=232,slow=22,SNR=2.4
ILAR PcP **PcP 19 55 53.5 0.0**
comp=Z,0.2nm,0.3s,baz=278,slow=2.7,SNR=6.7
ILAR LR LR 19 56 38.3
comp=Z,502nm,20.5s,baz=240,slow=39
ILAR Eielson Array 14.47 28 P **Pn 19 50 35.2 -3.9**
ILAR Eielson Array 14.47 28 Pn **Pn 19 50 35.2 -3.9**
POKR Poker Plat Res 14.58 27 Pn Pn 19 50 35.5 -5.1
POKR Poker Plat Res 14.58 27 P 19 50 36.2
baz=220
DOT Dot Lake 14.60 35 Pn 19 50 38.8 -2.0
BCPM Bancas Point 14.65 52 Pn 19 50 40.4 -1.2
SCRK Sand Creek 14.83 34 P 19 50 41.3
baz=230,SNR=13
BCAR Beaver Creek A 15.08 39 Pn 19 50 45.4 -2.1
RDOG Red Dog Mine 15.24 0 Pn 19 50 50.3 +1.0
PRP Porcupine Dome 15.41 28 P **Pn 19 50 48.7 -3.2**
PRP Porcupine Dome 15.41 28 P 19 50 49.0
baz=223,SNR=8.9
COLD Coldfoot 15.68 18 Pn 19 50 54.1 -1.1
COLD IAmb IAmb 19 51 06.1
comp=Z,112nm,1.0s
COLD Coldfoot 15.68 18 P 19 50 53.8
baz=209,SNR=51
EGAK Eagle 16.29 34 P **Pn 19 51 00.3 -2.7**
EGAK IAmb IAmb 19 51 13.5
comp=Z,112nm,0.7s
EGAK Eagle 16.29 34 P 19 51 00.4
baz=233,SNR=8.2
SIT Sitka 16.33 64 P **Pn 19 51 00.9 -2.7**
SIT pmax pmax
comp=Z,87nm,1.1s
SIT Sitka 16.33 64 Pn **Pn 19 51 00.9 -2.7**
DAWY Dawson 16.53 38 Pn 19 51 04.2 -1.9
DAWY IAmb IAmb 19 51 14.1
comp=Z,212nm,0.9s
SKAG Skagway 16.64 56 Pn 19 51 05.6 -1.8
BESE Bessie Mountai 16.73 59 P **Pn 19 51 07.4 -1.3**
JIS Juneau Island 16.94 60 P **Pn 19 51 09.7 -1.6**
TOLK Toolik Lake Re 17.04 17 P **Pn 19 51 11.9 -0.6**
TOLK IAmb IAmb 19 51 19.9
comp=Z,205nm,0.9s
TOLK Toolik Lake Re 17.04 17 P 19 51 12.1
baz=208,SNR=162
WHY Whitehorse 17.12 52 P **P 19 51 15.8 +0.4**
WHY IAmb IAmb 19 51 21.8
comp=Z,112nm,1.0s
WRAK Wrangell Islan 17.97 66 P **P 19 51 24.8 +0.3**
WRAK Wrangell Islan 17.97 66 P 19 51 25.0
baz=271
EPYK Eagle Plains 18.72 34 P **P 19 51 32.5 -0.4**
EPYK Eagle Plains 18.72 34 P 19 51 32.7
baz=236,SNR=214
A21K Barrow 18.73 6 P **P 19 51 31.6 -1.3**
A21K Barrow 18.73 6 P 19 51 32.2
baz=192,SNR=59
DLBC Dease Lake 19.24 60 P **Pn 19 51 40.9 +1.2**
comp=Z,0.3nm,0.3s,baz=280,slow=12,SNR=14
DLBC LR LR 19 57 57.3
comp=Z,443nm,20.9s,baz=272,slow=33
DLBC Dease Lake 19.24 60 P **P 19 51 37.3 -1.4**
INK Inuvik 20.83 31 P **P 19 51 55.8 +0.1**
comp=Z,14nm,0.6s,baz=216,slow=8.1,SNR=45
INK LR LR 20 01 12.0
comp=Z,522nm,18.5s,baz=236,slow=40
INK Inuvik 20.83 31 P **P 19 51 54.6 -1.1**
INK pmax pmax
comp=Z,56nm,0.9s
INK Inuvik 20.83 31 P **P 19 51 54.6 -1.1**
INK IAmb IAmb 19 52 02.7
comp=Z,56nm,0.8s
BBB Bella Bella 21.07 78 P **P 19 52 01.2 +2.8**
comp=Z,42nm,1.1s,baz=269,slow=14,SNR=3.6
BBB LR LR 19 58 01.8
comp=Z,540nm,20.1s,baz=282,slow=31
BBB Bella Bella 21.07 78 IAmb IAmb 19 52 19.9
comp=Z,110nm,1.2s
PET Petropavlovsk 22.97 286 *e*P **P 19 52 20.1 +1.3**
PET *e*S **S 19 56 24.3 -4.3**
PET pmax pmax
comp=Z,381nm,0.9s
PET pmax pmax
comp=Z,900nm,9.4s
PET MLR MLR
comp=Z,700nm,18.0s
PET Petropavlovsk 22.97 286 P **P 19 52 17.2 -1.5**
PEA0B Petropavlovsk- 23.51 286 P **P 19 52 24.1 -0.1**
PEA0B pmax pmax
comp=Z,406nm,0.9s
PEA0B Petropavlovsk- 23.51 286 P **P 19 52 24.1 -0.1**
PETK Petropavlovsk- 23.51 286 P **P 19 52 24.6 +0.4**
comp=Z,280nm,0.8s,baz=84,slow=12,SNR=159
PETK PcP **PcP 19 56 10.4 +1.0**
comp=Z,7.2nm,0.9s,baz=64,slow=3.4,SNR=4.9
PETK LR LR 20 00 34.0
comp=Z,406nm,21.7s,baz=88,slow=34
PETK Petropavlovsk- 23.51 286 P **P 19 52 23.9 -0.3**
PETK 19 56 10.4
PETK Petropavlovsk- 23.51 286 P **P 19 52 23.9 -0.3**
C36M Paulatuk 24.35 33 P **P 19 52 30.9 -1.0**
C36M IAmb IAmb 19 52 34.2
comp=Z,186nm,1.4s
C36M Paulatuk 24.35 33 P 19 52 31.2
baz=247,SNR=67
J28D J28D 24.55 94 S S 19 57 17.7 +24
J20D J20D 24.94 95 S **S 19 57 08.8 +9.0**
J27D J27D 25.16 94 S S 19 57 17.0 +14
SKR Severo-Kuril's 25.20 282 *e*P **P 19 52 39.3 -0.5**

SKR *e*S **S 19 57 04.6 0.0**
SKR pmax pmax
comp=Z,166nm,0.8s
SKR MLR MLR
comp=Z,300nm,15.0s
SEY Seymchan 25.27 311 P **P 19 52 40.8 +0.5**
comp=Z,21nm,0.8s,baz=93,slow=9.2,SNR=33
SEY PcP **PcP 19 56 13.9 +0.9**
comp=Z,13nm,0.8s,baz=164,slow=3.7,SNR=7.6
SEY LR LR 20 03 27.2
comp=Z,640nm,20.8s,baz=84,slow=38
J19D J19D 25.54 95 S S 19 57 20.8 +11
A05A Maple Falls 25.77 82 P **P 19 52 42.2 -2.9**
G37D G37D 25.80 99 S S 19 57 24.6 +11
J11D J11D 25.84 96 S S 19 57 27.1 +13
G29D G29D 25.86 100 S S 19 57 31.6 +17
G22D G22D 26.09 102 S S 19 57 32.2 +14
G36D G36D 26.14 99 S **S 19 57 28.4 +10**
MA2 Magadan 26.14 303 P **P 19 52 49.1 +0.7**
comp=Z,23nm,0.7s,baz=82,slow=11,SNR=21
MA2 Magadan 26.14 303⇓ *i*P **P 19 52 49.0 +0.7**
MA2 pmax pmax
comp=Z,37nm,1.3s
MA2 MLR MLR
comp=Z,341nm,18.0s
MA2 Magadan 26.14 303 P **P 19 52 48.8 +0.5**
MA2 IAmb IAmb 19 52 49.9
comp=Z,24nm,0.7s
G35D G35D 26.38 98 S S 19 57 36.6 +14
G13D G13D 26.56 103 S S 19 57 42.3 +17
G21D G21D 26.61 102 S S 19 57 47.7 +21
D05A Enumclaw 26.62 86 P **P 19 52 50.8 -2.0**
D05A IAmb IAmb 19 53 04.5
comp=Z,61nm,1.3s
G20D G20D 26.76 101 S S 19 57 42.9 +14
YKA Yellowknife Ar 26.93 50 P **P 19 52 56.7 +1.3**
comp=Z,19nm,0.6s,baz=270,slow=9.2,SNR=169
YKA PcP **PcP 19 56 17.5 +0.7**
comp=Z,3.2nm,0.8s,baz=281,slow=2.2,SNR=5.1
YKA PKiKP **PKiKP 20 03 52.8 -1.4**
comp=Z,0.5nm,0.7s,baz=284,slow=0.8,SNR=5.6
YKA LR LR 20 05 25.8
comp=Z,939nm,18.1s,baz=0.0,slow=40
G05D7 G05D7 27.01 104 S S 19 57 54.3 +22
J01E Myrtle Point 27.52 95 P 19 53 02.2
baz=304
I03D Drain, OR 27.57 93 P 19 53 03.2
baz=304
B08A Colville Reser 27.70 82 P **P 19 53 02.6 +0.1**
B08A **PcP 19 56 19.2 +0.2**
H04A Detroit Lake 27.75 91 P **P 19 53 03.5 +0.5**
H04A PcP **PcP 19 56 19.4 +0.2**
K02D Willamette Mer 27.95 95 P 19 53 06.5
baz=305
G10D G10D 27.95 101 S S 19 58 08.2 +21
G05D Wamic, OR 27.98 89 P 19 53 06.4
baz=301
I04A Tendick Farm, 28.09 92 P 19 53 07.7
baz=303
L02E Cave Junction 28.29 96 P 19 53 09.3
baz=306,SNR=5.2
HUMO Hull Mountain 28.42 95 P **P 19 53 09.2 +0.2**
HUMO **PcP 19 56 21.4 +0.5**
I05D Terrebonne, OR 28.44 91 P 19 53 10.7
baz=302
HAWA Hanford 28.48 85 P **P 19 53 08.4 -1.1**
D08A Wollman Farm, 28.54 84 P **P 19 53 08.4 -1.5**
D08A **PcP 19 56 21.7 +0.7**
J04D Umpqua Nationa 28.58 93 P 19 53 10.4
baz=304
C09A Chrisman Ranch 28.58 82 P **P 19 53 10.6 +0.2**
E08A Dider Farm, El 28.72 85 P **P 19 53 09.0 -2.6**
E08A **PcP 19 56 21.6 +0.1**
PINE Pine Mountain 28.98 91 P **P 19 53 16.7 +2.5**
PINE PcP **PcP 19 56 22.4 -0.1**
KHMM Horse Mountain 28.98 99 P **P 19 53 14.1 -0.1**
KHMM IAmb IAmb 19 53 17.9
comp=Z,28nm,0.9s
L04D Klamath Falls 29.04 95 P 19 53 14.7
baz=306
NEW Newport 29.06 80 P **P 19 53 16.9 +2.3**
baz=299,slow=8.9,SNR=17
NEW PcP **PcP 19 56 23.0 +0.6**
comp=Z,2.9nm,0.8s,baz=12,slow=4.3,SNR=3.6
NEW LR LR 20 02 28.7
comp=Z,458nm,18.9s,baz=302,slow=31
NEW Newport 29.06 80 P **P 19 53 14.9 +0.2**
NEW 19 56 23.0
NEW pmax pmax
comp=Z,17nm,0.9s
NEW Newport 29.06 80 P **P 19 53 14.8 +0.2**
NEW Newport 29.06 80 P 19 53 14.4
baz=296,SNR=13
J05D Fort Rock, OR 29.08 92 P 19 53 16.9
baz=304,SNR=7.1
YBH Yreka Blue Hor 29.08 96 P **P 19 53 17.3 +2.3**
comp=Z,4.4nm,0.6s,baz=330,slow=7.3,SNR=16
YBH PcP **PcP 19 56 23.1 +0.5**
comp=Z,3.6nm,0.8s,baz=50,slow=4.3,SNR=7.0
YBH LR LR 20 02 40.0
comp=Z,626nm,18.5s,baz=300,slow=32
YBH Yreka Blue Hor 29.08 96 P **P 19 53 16.4 +1.5**
YBH **PcP 19 56 22.9 +0.3**
M02C Callahan 29.20 97 P 19 53 18.3
baz=307,SNR=13
E09A Wood Farm, Sta 29.26 84 P **P 19 53 16.3 -0.1**
G08A Pilot Rock 29.38 87 P **P 19 53 18.9 +1.2**
KMRM Mail Ridge 29.40 100 P **P 19 53 20.9 +3.1**
KMRM IAmb IAmb 19 53 21.8
comp=Z,25nm,0.7s
N02D Trinity Center 29.54 97 P 19 53 21.0
baz=308,SNR=9.9
M04C Macdoel 29.58 95 P 19 53 20.5
baz=306
K05A Summer Lake 29.60 93 P **P 19 53 22.0 +2.3**
K05A PcP **PcP 19 56 24.0 -0.1**
I07A Izee 29.69 90 P **P 19 53 21.8 +1.4**
I07A PcP **PcP 19 56 23.0 -1.2**
KCPM Cahto Peak 29.81 100 P **P 19 53 22.4 +0.9**
KCPM IAmb IAmb 19 53 24.8
comp=Z,18nm,0.8s
WDC Whiskeytown Da 29.88 98 P **P 19 53 23.0 +1.1**
WDC PcP **PcP 19 56 23.8 -0.8**
O02D Mt. Diablo Mer 29.98 99 P 19 53 23.5
baz=309,SNR=20
F10A Beach Ranch, E 30.09 85 P **P 19 53 24.2 +0.4**
F10A PcP **PcP 19 56 24.4 -0.8**
MOD Modoc Plateau 30.44 94 P **P 19 53 29.4 +2.3**
MOD IAmb IAmb 19 53 31.3
comp=Z,37nm,1.4s
MOD PcP **PcP 19 56 24.2 -2.1**
O03E Paynes Creek 30.50 98 P 19 53 27.6
baz=308,SNR=15
HOPS Hopland Field 30.56 101 P **P 19 53 28.6 +0.7**
HOPS IAmb IAmb 19 53 33.4
comp=Z,58nm,1.4s
BMO Blue Mountains 30.61 87 P **P 19 53 29.2 +0.7**
BMO Blue Mountains 30.61 87 P **P 19 53 29.2 +0.7**
WALA Waterton Lakes 30.62 77 P **P 19 53 26.0 -2.5**
WALA IAmb IAmb 19 53 33.0
comp=Z,36nm,1.5s
GDXM Geysers 30.85 101 P **P 19 53 32.1 +1.5**
GDXM IAmb IAmb 19 53 34.8
comp=Z,46nm,1.3s
JTMT Jette 30.99 80 P **P 19 53 33.0 +1.2**
WVOR Wild Horse Val 31.14 92 P **P 19 53 35.0 +1.8**
WVOR pmax pmax
comp=Z,14nm,1.3s
WVOR Wild Horse Val 31.14 92 P **P 19 53 35.0 +1.8**
ORV Oroville 31.14 99 P **P 19 53 34.1 +1.0**
ORV 19 56 27.4
ORV pmax pmax
comp=Z,11nm,1.0s
ORV Oroville 31.14 99 P **P 19 53 34.1 +1.0**
ORV PcP **PcP 19 56 27.4 -0.5**
BEKR Beckworth 31.63 97 P **P 19 53 37.5 -0.1**
MSO Missoula 31.64 81 P **P 19 53 37.2 -0.3**
MSO PcP **PcP 19 56 28.5 -0.8**
MSO Missoula 31.64 81 P 19 53 37.4
baz=299,SNR=6.4
AFDM Forest Hills D 31.84 99 P **P 19 53 40.1 +0.8**
AFDM IAmb IAmb 19 53 42.2
comp=Z,35nm,1.5s
MFID Camas Ranch 32.28 88 P **P 19 53 41.8 -1.5**

PAHR Pah Rah Range 32.32 96 P **P 19 53 45.8 +2.1**
PAHR IAmb IAmb 19 53 46.8
comp=Z,41nm,1.2s
VCNR Virginia City 32.42 97 P **P 19 53 46.0 +1.4**
VCNR IAmb IAmb 19 53 48.0
comp=Z,37nm,1.1s
PNTR Pine Nut 32.58 97 P **P 19 53 48.3 +2.4**
PNTR IAmb IAmb 19 53 49.5
comp=Z,45nm,1.0s
CMB Columbia Colle 32.78 100 P **P 19 53 48.8 +1.2**
CMB pmax pmax
comp=Z,23nm,1.3s
CMB Columbia Colle 32.78 100 P **P 19 53 48.8 +1.2**
CMB IAmb IAmb 19 53 50.8
comp=Z,23nm,1.2s
YERR Yerington 32.86 97 P **P 19 53 50.5 +2.1**
YERR IAmb IAmb 19 53 51.8
comp=Z,44nm,1.0s
HRY Holter Researc 32.96 80 P **P 19 53 50.0 +0.9**
TYV Tymovskoe 32.99 289 *e*P **P 19 53 50.6 +1.4**
TYV *e*S **S 19 59 11.5 +4.5**
TYV pmax pmax
comp=Z,500nm,2.5s
TYV pmax pmax
comp=Z,70nm,0.8s
TYV smax smax
comp=E,500nm,3.4s
TYV smax smax
comp=E,15nm,1.5s
SAO San Andreas Ge 33.00 102 P **P 19 53 47.7 -1.7**
SAO pmax pmax
comp=Z,32nm,1.4s
SAO San Andreas Ge 33.00 102 P **P 19 53 47.7 -1.7**
SAO IAmb IAmb 19 54 06.6
comp=Z,32nm,1.4s
LRM Limekiln Ridge 33.04 82 P **P 19 53 47.4 -2.5**
DLMT Dillon 33.19 82 P **P 19 53 49.4 -1.7**
DLMT **PcP 19 56 33.7 +0.1**
BCYI Bear Canyon 33.26 85 P **P 19 53 50.9 -1.0**
MCMT McKenzie Canyo 33.32 83 P **P 19 53 53.0 +0.6**
KVN Kaiserville 33.51 96 P **P 19 53 56.1 +2.1**
KVN IAmb IAmb 19 53 57.2
comp=Z,29nm,1.1s
KVN PcP **PcP 19 56 33.1 -1.6**
RYN Ryan 33.52 97 P **P 19 53 55.9 +1.7**
RYN IAmb IAmb 19 53 57.4
comp=Z,33nm,1.1s
POHA Pohakuloa 33.54 167 P **P 19 53 53.7 -0.8**
BOZ Bozeman (W) 33.65 81 P **P 19 53 54.7 -0.5**
BOZ pmax pmax
comp=Z,10.0nm,1.0s
BOZ Bozeman (W) 33.65 81 P **P 19 53 54.6 -0.5**
BOZ Bozeman (W) 33.65 81 P 19 53 54.7
baz=301,SNR=17
HMH Humu'ula Sheep 33.70 167 P **P 19 53 57.5 +1.6**
PMPB Monarch Peak 33.75 103 P **P 19 53 53.4 -2.7**
PMPB IAmb IAmb 19 54 07.7
comp=Z,40nm,1.2s
LHV Little Huntoon 33.77 98 P **P 19 53 58.7 +2.7**
LHV IAmb IAmb 19 53 59.9
comp=Z,54nm,1.2s
NVAR Mina Array Bea 33.78 97 P **P 19 53 58.7 +2.3**
comp=Z,16nm,0.9s,baz=294,slow=8.7,SNR=79
NVAR PcP **PcP 19 56 36.2 +0.7**
comp=Z,4.3nm,0.7s,baz=306,slow=2.6,SNR=8.4
NVAR ScP **ScP 20 00 20.8 +1.1**
comp=Z,0.8nm,0.9s,baz=308,slow=2.1,SNR=4.1
NVAR LR LR 20 05 02.9
comp=Z,276nm,20.9s,baz=290,slow=32
NVAR Mina Array Bea 33.78 97 P **P 19 53 57.8 +1.4**
MLH Mauna Loa 33.82 167 P **P 19 53 57.9 +1.0**
NV11 Mina Array Sit 33.87 97 P **P 19 53 58.5 +1.3**
NV11 IAmb IAmb 19 54 00.3
comp=Z,25nm,1.1s
AIN Ainahou 33.93 167 P **P 19 53 59.0 +1.2**
HLP Hilina Pali 34.03 167 P **P 19 53 57.5 -1.0**
UGL Uglegorsk 34.13 286 *e*P **P 19 53 59.8 +0.7**
UGL pmax pmax
comp=Z,360nm,1.0s
QLMT Earthquake Lak 34.17 82 P **P 19 53 59.2 -0.6**
ELK Elko 34.19 91 P **P 19 54 00.1 +0.1**
ELK PcP **PcP 19 56 36.5 -0.1**
RES Resolute Bay 34.21 26 P **P 19 54 00.3 +0.8**
RES pmax pmax
comp=Z,19nm,0.8s
RES Resolute Bay 34.21 26 P **P 19 54 00.2 +0.8**
RES IAmb IAmb 19 54 12.0
comp=Z,19nm,0.8s
YHL Hebgen Lake 34.31 82 P **P 19 54 01.4 +0.3**
TIXI Tiksi 34.35 329⇑ *e*P **P 19 54 01.2 +0.5**
TIXI pmax pmax
comp=Z,226nm,2.5s
TIXI Tiksi 34.35 329 P **P 19 54 00.1 -0.6**
TIXI PcP **PcP 19 56 35.7 -0.5**
YHB Horse Butte 34.35 82 P **P 19 54 02.1 +0.7**
PAGB Antelope Grade 34.41 103 P **P 19 54 02.9 +1.2**
PAGB IAmb IAmb 19 54 05.0
comp=Z,36nm,1.1s
YUK Yuzh-Kuril'sk 34.44 276 *de*P **P 19 54 02.4 +0.6**
YMR Madison River 34.54 82 P **P 19 54 04.0 +1.1**
YMR IAmb IAmb 19 54 05.5
comp=Z,26nm,1.1s
YHH Holmes Hill 34.54 82 P **P 19 54 03.6 +0.5**
YHH IAmb IAmb 19 54 05.4
comp=Z,26nm,1.1s
TPH Tonopah 34.66 97 P **P 19 54 05.5 +1.5**
TPH pmax pmax
comp=Z,134nm,1.1s
TPH Tonopah 34.66 97 P **P 19 54 05.5 +1.5**
YNR Norris Junctio 34.68 82 P **P 19 54 06.0 +1.7**
YNR IAmb IAmb 19 54 07.8
comp=Z,28nm,1.0s
TIN Tinemaha, Big 34.72 99 P 19 54 05.9
baz=312
YSS Yuzh-Sakhalins 34.76 283 *e*P **P 19 54 05.7 +1.2**
YSS *e* 19 59 34.8
YSS *e* 20 02 11.3
YSS pmax pmax
comp=Z,40nm,0.9s
YSS MLR MLR
comp=Z,600nm,19.0s
YSS Yuzh-Sakhalins 34.76 283 P **P 19 54 04.1 -0.4**
YSS IAmb IAmb 19 54 07.8
comp=Z,90nm,1.4s
H17A Grant Village 34.92 83 P 19 54 06.2
baz=303,SNR=13
YNE Yellowstone No 34.93 81 P **P 19 54 06.7 +0.4**
YMP Mirror Lake Pl 34.98 82 P **P 19 54 07.9 +1.0**
FLWY Flagg Ranch 35.02 83 P **P 19 54 08.9 +1.8**
VES Vestal, Richgr 35.02 101 P 19 54 07.9
baz=313,SNR=11
FFC Flin Flon 35.05 62 P **P 19 54 06.8 -0.3**
FFC pmax pmax
comp=Z,40nm,1.3s
FFC Flin Flon 35.05 62 P **P 19 54 06.8 -0.3**
FFC IAmb IAmb 19 54 09.1
comp=Z,40nm,1.3s
HVU Hansel Valley 35.07 88 P **P 19 54 09.1 +1.6**
HVU 19 56 39.1
HVU pmax pmax
comp=Z,17nm,1.2s
HVU Hansel Valley 35.07 88 P **P 19 54 09.1 +1.6**
HVU **PcP 19 56 39.1 0.0**
CWC Cottonwood Cre 35.22 100 P 19 54 10.2
baz=312
PKM Mcpherson Peak 35.25 103 P 19 54 10.9
baz=314,SNR=6.8
GRAC Grapevine Rang 35.28 98 P 19 54 09.4
baz=312
RLMT Red Lodge 35.31 81 P **P 19 54 09.8 +0.2**
RLMT IAmb IAmb 19 54 12.3
comp=Z,29nm,1.1s
RLMT Red Lodge 35.31 81 P 19 54 10.8
baz=302,SNR=19
REDW Red Top Meadow 35.32 84 P **P 19 54 09.7 -0.1**
SNOW Snow King Moun 35.33 84 P **P 19 54 09.2 -0.6**
LOHW Long Hollow 35.33 84 P **P 19 54 10.4 +0.6**
BGU Big Grassy Mou 35.42 89 P **P 19 54 11.2 +0.7**
R11A Troy Canyon, C 35.47 95 P 19 54 11.8
baz=310,SNR=18
ISA Isabella, Lake 35.51 101 P **P 19 54 12.2 +0.9**
ISA pmax pmax
comp=Z,41nm,1.2s
ISA Isabella, Lake 35.51 101 P **P 19 54 12.2 +0.9**

ISA IAmb IAmb 19 54 13.8
comp=Z,41nm,1.1s
ISA Isabella, Lake 35.51 101 P 19 54 12.5
baz=313,SNR=18
AHID Auburn Hatcher 35.51 85 P **P** **19 54 11.1 -0.3**
SPUT South Promonto 35.54 88 P **P** **19 54 12.7 +1.1**
SPUT PcP **PcP** **19 56 40.2 -0.3**
ARVC Arvin 35.66 102 P 19 54 13.3
baz=314
YAK Yakutsk 35.79 312 *e*P **P** **19 54 12.9 -0.3**
YAK *e**PP **pwP** **19 54 20.8 -2.2**
YAK *e* 19 55 38.8
YAK *e* 19 56 40.0
YAK *e*S **S** **19 59 51.7 +1.9**
YAK *e*SS **SnSn** **20 02 06.8 -5.0**
YAK *e*SSS SSS 20 02 40.1
YAK pmax pmax
comp=Z,113nm,0.9s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,44nm,1.0s
YAK pmax pmax
comp=Z,245nm,4.4s
YAK pmax pmax
comp=N,206nm,4.2s
YAK pmax pmax
comp=E,147nm,3.5s
YAK smax smax
comp=E,213nm,3.8s
YAK smax smax
comp=N,200nm,3.5s
YAK MLR MLR
comp=Z,954nm,15.0s
YAK MLR MLR
comp=E,611nm,13.0s
YAK Yakutsk 35.79 312 P **P** **19 54 12.2 -1.1**
YAK PcP **PcP** **19 56 40.3 -0.2**
HWUT Hardware Ranch 35.90 87 P **P** **19 54 14.2 -0.5**
HWUT PcP **PcP** **19 56 41.2 -0.3**
FURC Furnace Creek, 35.93 98 P 19 54 16.6
baz=312,SNR=20
SCZ2 Santa Cruz Isl 35.98 104 P 19 54 16.1
baz=315
TPNV Topopah Spring 35.98 97 P **P** **19 54 17.1 +1.7**
TPNV pmax pmax
comp=Z,54nm,1.0s
TPNV Topopah Spring 35.98 97 P **P** **19 54 17.1 +1.7**
TPNV IAmb IAmb 19 54 18.6
comp=Z,54nm,1.0s
TPNV Topopah Spring 35.98 97 P 19 54 16.2
baz=311,SNR=19
DUG Dugway, Tooele 35.99 90 P **P** **19 54 16.3 +0.9**
DUG pmax pmax
comp=Z,17nm,1.1s
DUG Dugway, Tooele 35.99 90 P **P** **19 54 16.3 +0.9**
DUG Dugway, Tooele 35.99 90 P 19 54 16.4
baz=308,SNR=7.4
OSI Osito Audit: C 36.08 103 P **P** **19 54 17.1 +0.9**
OSI IAmb IAmb 19 54 19.9
comp=Z,28nm,1.1s
OSI Osito Audit: C 36.08 103 P 19 54 17.1
baz=314
EUNU Eureka 36.12 17 P **P** **19 54 17.4 +1.4**
EUNU IAmb IAmb 19 54 31.9
comp=Z,32nm,0.8s
TCUT Toone Canyon 36.29 88 P **P** **19 54 17.7 -0.4**
TCUT PcP **PcP** **19 56 42.2 -0.6**
LAO LASA Array 36.29 76 P **P** **19 54 16.7 -1.2**
LAO LASA Array 36.30 76 P 19 54 18.4
baz=301
EDW2 Edwards Air Fo 36.33 101 P 19 54 19.4
baz=314,SNR=9.7
CTU Camp Tracy 36.34 89 P **P** **19 54 17.0 -1.4**
JKA Kamikawa-asahi 36.35 279 P **P** **19 54 18.6 +0.3**
JKA IAmb IAmb 19 54 20.1
comp=Z,64nm,0.9s
ASAJ Asahikawa 36.35 279 P **P** **19 54 18.6 +0.3**
ASAJ pmax pmax
comp=Z,64nm,0.9s
PSUT Pine Spring 36.40 93 P **P** **19 54 18.4 -0.6**
PRN Pahroc Range 36.40 96 P **P** **19 54 19.3 +0.4**
PRN IAmb IAmb 19 54 22.8
comp=Z,53nm,1.1s
PRN PcP **PcP** **19 56 43.6 +0.6**
BW06 Boulder Array 36.44 84 P **P** **19 54 19.3 -0.1**
BW06 Boulder Array 36.44 84 P 19 54 20.1
baz=305,SNR=16
PD31 Pinedale Array 36.44 84 P **P** **19 54 19.5 +0.1**
PDAR Pinedale Array 36.44 84 P **P** **19 54 20.2 +0.8**
comp=Z,6.8nm,0.6s,baz=302,slow=4.2,SNR=45
PDAR LR LR 20 07 24.1
comp=Z,322nm,18.1s,baz=311,slow=33
PDAR Pinedale Array 36.44 84 P **P** **19 54 18.8 -0.6**
SNCC San Nicolas Is 36.57 105 P 19 54 21.4
baz=316
JLU Jordanelle 36.57 88 P **P** **19 54 22.0 +1.4**
DGMT Dagmar 36.58 73 P **P** **19 54 20.5 +0.2**
DGMT IAmb IAmb 19 54 21.5
comp=Z,30nm,1.2s
DGMT Dagmar 36.58 73 P 19 54 20.7
baz=300
GRNR Gornyy 36.58 292 ⇓*i*P **P** **19 54 20.6 +0.4**
GRNR *e*S **S** **20 00 05.5 +3.2**
GRNR pmax pmax
comp=N,30nm,1.2s
GRNR pmax pmax
comp=E,30nm,1.2s
GRNR pmax pmax
comp=Z,80nm,1.0s
GRNR smax smax
comp=N,4.0nm,0.7s
NLU North Lily Min 36.59 90 P **P** **19 54 21.0 +0.3**
NLU PcP **PcP** **19 56 42.5 -1.2**
SHOC Shoshone, Teco 36.66 99 P 19 54 22.4
baz=312,SNR=6.6
PASC Pasadena Art C 36.71 103 P **P** **19 54 22.0 +0.5**
MWC Mount Wilson 36.75 102 P **P** **19 54 22.1 +0.1**
MWC pmax pmax
comp=Z,64nm,1.5s
MWC Mount Wilson 36.75 102 P **P** **19 54 22.1 +0.1**
MWC IAmb IAmb 19 54 24.8
comp=Z,64nm,1.4s
GSC Goldstone, Bar 36.75 100 P **P** **19 54 22.1 +0.2**
GSC pmax pmax
comp=Z,59nm,1.1s
GSC Goldstone, Bar 36.75 100 P **P** **19 54 22.1 +0.2**
GSC IAmb IAmb 19 54 25.5
comp=Z,59nm,1.1s
GSC Goldstone, Bar 36.75 100 P 19 54 23.4
baz=313,SNR=32
MPU Maple Canyon 36.82 89 P **P** **19 54 22.2 -0.3**
SHPR Sheep Range 36.93 97 P **P** **19 54 24.8 +1.3**
RRX Edison Barstow 36.93 101 P 19 54 24.6
baz=314
BFSC Mount Baldy Ra 36.97 102 P 19 54 25.4
baz=314,SNR=8.7
CIS Catalina Islan 37.12 104 P 19 54 25.8
baz=315
TCRU Three Creeks R 37.20 92 P **P** **19 54 26.6 +0.7**
ERM Erimo 37.22 275 ⇓*e*P **P** **19 54 26.1 +0.5**
ERM pmax pmax
comp=Z,125nm,1.0s
CCUT Cedar City 37.33 94 P **P** **19 54 28.1 +1.2**
SCI2 San Clemente I 37.34 104 P 19 54 26.8
baz=316
HEC Hector,Ludlow 37.35 100 P 19 54 28.5
baz=314,SNR=5.3
BBRC Big Bear Solar 37.40 101 P 19 54 28.6
baz=314
MVU Marysvale 37.41 92 P **P** **19 54 29.1 +1.4**
MVU IAmb IAmb 19 54 43.1
comp=Z,38nm,0.9s
MVU PcP **PcP** **19 56 46.3 +0.1**
MSU Marysvale 37.43 92 P **P** **19 54 29.0 +1.2**
MSU Marysvale 37.43 92 P **P** **19 54 29.0 +1.2**
MSU PcP **PcP** **19 56 47.0 +0.7**
SZCU Shurtz Canyon 37.46 94 P **P** **19 54 24.1 -4.0**
TMUT Trail Mountain 37.52 90 P **P** **19 54 30.0 +1.4**
FCC Fort Churchill 37.55 53 P **P** **19 54 28.1 -0.2**
FCC pmax pmax
comp=Z,69nm,1.1s
FCC Fort Churchill 37.55 53 P **P** **19 54 28.1 -0.2**
FCC IAmb IAmb 19 54 30.1
comp=Z,69nm,1.1s

MURC Murrieta 37.70 102 P 19 54 31.2
baz=315
P17A Butcher Ranch, 37.70 89 P **P** **19 54 31.3 +1.3**
MTPU Mount Pierson 37.72 92 P **P** **19 54 31.7 +1.3**
RDMU Red Mountain 37.73 87 P **P** **19 54 29.8 -0.6**
RDMU IAmb IAmb 19 54 45.2
comp=Z,27nm,1.1s
LCMT Little Creek M 37.75 95 P **P** **19 54 32.0 +1.5**
LCMT IAmb IAmb 19 54 33.8
comp=Z,49nm,1.3s
Q16A Castle Valley 37.78 90 P **P** **19 54 32.2 +1.5**
GMRC Granite Mounta 37.79 99 P 19 54 31.7
baz=314,SNR=25
KNB Kanab 38.00 94 P **P** **19 54 34.1 +1.5**
KNB pmax pmax
comp=Z,45nm,1.4s
KNB Kanab 38.00 94 P **P** **19 54 34.1 +1.5**
KNB IAmb IAmb 19 54 36.0
comp=Z,45nm,1.4s
PKCU Pink Cliffs 38.03 93 P **P** **19 54 34.4 +1.3**
PKCU IAmb IAmb 19 54 36.4
comp=Z,47nm,1.4s
SRU San Rafael Swe 38.05 90 P **P** **19 54 34.3 +1.3**
SRU pmax pmax
comp=Z,35nm,1.4s
SRU San Rafael Swe 38.05 90 P **P** **19 54 34.3 +1.3**
PFO Pinyon Flats O 38.12 102 *d*iP **P** **19 54 34.8 +1.2**
PFO pmax pmax
comp=Z,63nm,1.2s
PFO Pinyon Flats O 38.12 102 P **P** **19 54 34.7 +1.1**
PFO IAmb IAmb 19 54 36.2
comp=Z,38nm,1.1s
PFO Pinyon Flats O 38.12 102 P 19 54 34.3
baz=315,SNR=7.5
XPFO Pion Flat 38.13 102 P **P** **19 54 32.4 -1.2**
XPFO IAmb IAmb 19 54 36.2
comp=Z,35nm,1.1s
BELC Belle Mtn. Jos 38.13 101 P 19 54 34.4
baz=314,SNR=11
TPFO Pinon Flats 38.13 102 P 19 54 34.4
baz=315,SNR=13
109C Camp Elliot, M 38.25 103 P **P** **19 54 33.9 -0.6**
109C IAmb IAmb 19 54 37.6
comp=Z,63nm,1.2s
109C Camp Elliot, M 38.25 103 P 19 54 36.0
baz=316
K22A Casper 38.34 82 P 19 54 35.6
baz=306,SNR=6.7
NEE2 Needles Airpor 38.42 98 P 19 54 36.4
baz=313
RWWY Rawlins 38.49 84 P **P** **19 54 36.6 -0.1**
IRM Iron Mountain 38.53 100 P 19 54 38.0
baz=314,SNR=36
W13A Hualapai Mount 38.64 97 P **P** **19 54 38.8 +0.7**
W13A IAmb IAmb 19 54 40.9
comp=Z,38nm,0.9s
MONP2 Monument Peak 38.65 102 P 19 54 39.7
baz=315,SNR=13
BC3 Big Chuckawall 38.69 101 P 19 54 39.3
baz=314,SNR=10.0
U15A North Rim 38.71 94 P **P** **19 54 39.8 +1.1**
U15A IAmb IAmb 19 54 42.7
comp=Z,65nm,1.2s
TKX Tecate 38.77 103 **P** **19 54 39.6 +0.7**
O20A White River Ci 38.80 87 P 19 54 39.7
baz=308,SNR=7.7
CBX Cerro Bola 38.92 103 P **P** **19 54 40.4 +0.1**
RSSD Black Hills 38.98 79 P **P** **19 54 39.4 -1.4**
RSSD pmax pmax
comp=Z,10.0nm,1.1s
RSSD Black Hills 38.98 79 P **P** **19 54 39.4 -1.4**
RSSD Black Hills 38.98 79 P 19 54 40.7
baz=304
SWSC Sam W. Stewart 38.98 102 P 19 54 41.8
baz=315,SNR=6.3
IKP In-Ko-Pah, Jac 39.01 102 P 19 54 42.6
baz=316,SNR=12
PDMCI Parker Dam,Lak 39.03 99 P 19 54 42.0
baz=314,SNR=11
RMX La Rumorosa 39.06 102 P **P** **19 54 42.4 +0.9**
RMX IAmb IAmb 19 54 44.9
comp=Z,35nm,1.0s
TEY Ternei 39.41 284 ⇑*i*P **P** **19 54 44.1 0.0**
TEY pmax pmax
comp=Z,60nm,1.1s
TEY pmax pmax
comp=N,20nm,1.4s
TEY pmax pmax
comp=E,30nm,1.5s
PV10 Paradox Valley 39.42 89 P **P** **19 54 45.1 +0.5**
PV10 IAmb IAmb 19 54 59.3
comp=Z,34nm,1.0s
PV10 **PcP** **19 56 52.9 +0.4**
PV14 Lion Creek, Pa 39.43 89 P **P** **19 54 44.5 -0.2**
PV22 Blue Mesa, Par 39.47 89 P **P** **19 54 45.0 +0.1**
PV20 West Nyswonger 39.48 89 P **P** **19 54 45.6 +0.6**
PV04 Paradox Valley 39.49 89 P **P** **19 54 45.9 +0.9**
GLA Glamis 39.49 101 P **P** **19 54 45.6 +0.7**
GLA pmax pmax
comp=Z,66nm,1.3s
GLA Glamis 39.49 101 P **P** **19 54 45.6 +0.7**
GLA IAmb IAmb 19 54 47.7
comp=Z,66nm,1.2s
GLA Glamis 39.49 101 P 19 54 46.3
baz=315,SNR=9.0
PV19 Morning Glory 39.49 89 P **P** **19 54 45.9 +0.8**
PV17 East Wray Mesa 39.52 89 P **P** **19 54 46.2 +0.8**
PV16 Nyswonger Mesa 39.53 89 P **P** **19 54 45.6 +0.1**
MDND Maddock 39.54 71 P 19 54 45.4
baz=302,SNR=5.5
ESJX Sierra Juarez 39.56 103 P **P** **19 54 47.2 +1.4**
ESJX IAmb IAmb 19 54 48.9
comp=Z,30nm,0.9s
PV11 David Mesa, Pa 39.57 89 P **P** **19 54 46.1 +0.4**
PV05 Paradox Valley 39.57 90 P **P** **19 54 46.6 +0.8**
PV18 Skein Mesa, Pa 39.58 89 P **P** **19 54 46.4 +0.6**
E28A Huff 39.59 73 P **P** **19 54 45.2 -0.4**
E28A IAmb IAmb 19 54 48.4
comp=Z,84nm,1.4s
PV12 Saucer Basin, 39.60 89 P **P** **19 54 46.6 +0.6**
PV03 Paradox Valley 39.61 89 P **P** **19 54 46.4 +0.3**
PV03 **PcP** **19 56 52.2 -0.8**
PV07 Paradox Valley 39.61 89 P **P** **19 54 46.7 +0.6**
PV13 Radium Mtn., P 39.69 90 P **P** **19 54 47.3 +0.5**
PV13 IAmb IAmb 19 55 01.1
comp=Z,45nm,1.0s
PV02 Paradox Valley 39.71 89 P **P** **19 54 47.5 +0.5**
PV02 IAmb IAmb 19 55 01.2
comp=Z,30nm,1.0s
N23A Red Feather La 39.73 84 P 19 54 47.8
baz=307,SNR=11
PV15 Paradox Valley 39.78 89 P **P** **19 54 47.6 +0.1**
PV15 IAmb IAmb 19 55 01.1
comp=Z,55nm,1.4s
PV01 Paradox Valley 39.85 89 P **P** **19 54 48.3 +0.1**
WUAZ Wupatki 39.87 95 P **P** **19 54 48.4 +0.1**
WUAZ IAmb IAmb 19 54 51.4
comp=Z,67nm,1.3s
WUAZ Wupatki 39.87 95 P 19 54 49.5
baz=312
KLR Kul'dur 39.96 292 *d*iP **P** **19 54 48.4 -0.3**
KLR pmax pmax
comp=Z,85nm,1.2s
SMCO Snowmass 40.16 87 P **P** **19 54 51.0 +0.1**
ZEA Zeya 40.19 300 *e*P **P** **19 54 50.3 -0.2**
ZEA *e* 19 56 46.1
ZEA *e*S **S** **20 00 51.0 -5.7**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA pmax pmax
comp=E,200nm,5.5s
ZEA pmax pmax
comp=Z,300nm,7.3s
ZEA smax smax
comp=E,300nm,5.4s
ZEA smax smax
comp=Z,200nm,5.4s
ZEA smax smax
comp=N,400nm,5.0s
ZEA MLR MLR
comp=Z,400nm,13.0s
TULEG Thule 40.27 21 P **P** **19 54 51.0 +0.1**
TULEG IAmb IAmb 19 54 52.9

comp=Z,48nm,1.2s
TULEG Thule 40.27 21 *i*P **P** **19 54 51.9 +1.0**
TULEG IAmb IAmb 19 54 52.6
comp=Z,11nm,0.6s
ULM Lac du Bonnet 40.40 66 P **P** **19 54 52.6 +0.3**
comp=Z,12nm,0.6s,baz=296,slow=9.0,SNR=25
ULM PcP **PcP** **19 56 55.1 0.0**
comp=Z,6.8nm,0.9s,baz=302,slow=2.6,SNR=3.8
ULM LR LR 20 10 25.8
comp=Z,322nm,19.7s,baz=304,slow=34
ULM Lac du Bonnet 40.40 66 P **P** **19 54 51.5 -0.8**
ULM pmax pmax
comp=Z,32nm,1.1s
ULM Lac du Bonnet 40.40 66 P **P** **19 54 51.5 -0.8**
H11N2 WAKE ISLAND Hy 40.49 227 T T 20 38 06.8
baz=28
MVCO Mesa Verde 40.49 90 P **P** **19 54 54.2 +0.8**
MVCO Mesa Verde 40.49 90 P 19 54 54.3
baz=311
H11N3 WAKE ISLAND Hy 40.49 227 T T 20 38 04.0
baz=28
H11N1 WAKE ISLAND Hy 40.51 227 T T 20 38 07.1
baz=28
SPX San Pedro Mart 40.55 103 P **P** **19 54 54.1 +0.1**
ISCO Idaho Springs 40.60 85 P **P** **19 54 55.1 +0.7**
ISCO **PcP** **19 56 54.9 -1.4**
ISCO Idaho Springs 40.60 85 P 19 54 55.2
baz=308
SFX San Felipe 40.91 103 P **P** **19 54 56.7 +0.1**
W18A Petrified Fore 41.13 94 P 19 54 59.9
baz=312,SNR=6.4
S22A 4UR Ranch, Cre 41.16 88 P 19 54 60.0
baz=310
JMM Marumori 41.20 272 P **P** **19 54 59.2 +0.2**
JMM IAmb IAmb 19 55 00.2
comp=Z,77nm,1.1s
PIX Pinacate 41.36 101 P **P** **19 55 00.4 +0.1**
X18A Snowflake 41.40 95 P **P** **19 55 02.6 +1.7**
X18A IAmb IAmb 19 55 04.1
comp=Z,39nm,1.2s
Q24A Divide 41.40 86 P 19 55 00.7
baz=309
AGMN Agassiz Nation 41.43 68 P **P** **19 55 00.2 -0.6**
AGMN Agassiz Nation 41.43 68 P 19 54 59.7
baz=302
214A Organ Pipe Nat 41.46 100 P 19 55 01.9
baz=316
H11S1 WAKE ISLAND Hy 41.65 226 T T 20 39 31.1
baz=29
H11S2 WAKE ISLAND Hy 41.66 226 T T 20 39 35.7
baz=29
H11S3 WAKE ISLAND Hy 41.67 226 T T 20 39 37.1
baz=29
SUSD Miller 41.79 75 P 19 55 02.7
baz=305
SDCO Great Sand Dun 41.96 87 P **P** **19 55 06.1 +0.5**
SDCO Great Sand Dun 41.96 87 P 19 55 05.8
baz=310
OGNE Ogallala 42.05 81 P **P** **19 55 06.3 +0.3**
OGNE IAmb IAmb 19 55 07.5
comp=Z,48nm,1.4s
OGNE Ogallala 42.05 81 P 19 55 06.7
baz=308
TUC Tucson 42.43 98 P **P** **19 55 09.4 +0.2**
TUC pmax pmax
comp=Z,43nm,1.1s
TUC Tucson 42.43 98 P **P** **19 55 09.4 +0.2**
TUC IAmb IAmb 19 55 12.2
comp=Z,43nm,1.1s
TUC Tucson 42.43 98 P 19 55 10.9
baz=315
B35A Bob, Littlefor 42.59 67 P **P** **19 55 09.4 -0.8**
USA0B Ussuriysk Arra 42.59 285 ⇓*e*P **P** **19 55 09.0 -1.3**
USRK Ussuriysk Ar. 42.59 285 P **P** **19 55 10.3 0.0**
comp=Z,7.2nm,0.7s,baz=55,slow=9.3,SNR=15
USRK PcP **PcP** **19 57 02.6 +0.3**
comp=Z,8.6nm,0.9s,baz=75,slow=2.2,SNR=7.2
USRK Ussuriysk Ar. 42.59 285 P **P** **19 55 09.5 -0.8**
USRK Ussuriysk Ar. 42.59 285 P **P** **19 55 09.5 -0.8**
JYT Yasato 42.63 270 P **P** **19 55 10.7 0.0**
JYT IAmb IAmb 19 55 12.1
comp=Z,88nm,0.9s
KSCO Kaye Shedlock' 42.89 84 P 19 55 13.0
baz=309
T25A Trinidad 43.02 87 P **P** **19 55 15.1 +1.0**
T25A IAmb IAmb 19 55 17.7
comp=Z,65nm,1.2s
T25A Trinidad 43.02 87 P 19 55 15.1
baz=311
ANMO Albuquerque 43.23 91 *d*iP **P** **19 55 16.9 +1.0**
ANMO pmax pmax
comp=Z,37nm,1.7s
ANMO Albuquerque 43.23 91 P **P** **19 55 16.8 +1.0**
ANMO IAmb IAmb 19 55 18.4
comp=Z,42nm,1.5s
ANMO Albuquerque 43.23 91 P 19 55 15.9
baz=312
LENM Lemitar 43.44 93 P **P** **19 55 19.5 +1.9**
Y22D IRIS PASSCAL I 43.54 93 P 19 55 19.8
baz=313
ECSD EROS Data Cent 43.58 74 P **P** **19 55 16.9 -1.4**
ECSD EROS Data Cent 43.58 74 P 19 55 17.4
baz=306
MAJO Matsushiro 43.63 272 P **P** **19 55 19.4 +0.6**
MAJO pmax pmax
comp=Z,114nm,1.2s
MAJO Matsushiro 43.63 272 P **P** **19 55 19.4 +0.6**
MAJO IAmb IAmb 19 55 20.6
comp=Z,114nm,1.2s
MAT Matsushiro 43.63 272 P **P** **19 55 19.4 +0.6**
MAT *e*S **S** **20 01 46.2 -1.7**
MJAR Matsushiro Arr 43.63 272 P **P** **19 55 19.4 +0.7**
comp=Z,21nm,0.7s,baz=45,slow=6.7,SNR=42
MJAR PcP **PcP** **19 57 06.3 +0.3**
comp=Z,12nm,1.0s,baz=58,slow=2.9,SNR=7.1
MJAR LR LR 20 12 05.0
comp=Z,189nm,21.8s,baz=60,slow=34
BNM Barren Site 43.66 92 P **P** **19 55 19.7 +0.3**
MDJ Mudanjiang 43.74 287 P **P** **19 55 19.6 0.0**
MDJ pmax pmax
comp=Z,17nm,0.8s
MDJ pmax pmax
comp=Z,260nm,3.3s
MDJ Mudanjiang 43.74 287 P **P** **19 55 18.8 -0.8**
319A Douglas 43.99 97 P **P** **19 55 22.7 +0.8**
MSHR Mys Shultsa 44.04 284 *d*iP **P** **19 55 23.0 +1.0**
MSHR pmax pmax
comp=Z,57nm,0.8s
EYMN Ely 44.06 66 P **P** **19 55 22.0 -0.1**
EYMN IAmb IAmb 19 55 23.2
comp=Z,25nm,1.0s
EYMN Ely 44.06 66 P 19 55 21.6
baz=304
BGNE Belgrade 44.08 78 P 19 55 21.6
baz=308
121A Cookes Peak, D 44.08 95 P 19 55 23.8
baz=314
F36A Milaca 44.11 70 P **P** **19 55 21.7 -0.8**
NOR Nord 44.56 7 *i*P **P** **19 55 26.8 +1.1**
comp=Z,41nm,0.9s
NOR Nord 44.56 7 *i*P **P** **19 55 26.8 +1.1**
NOR pmax pmax
comp=Z,41nm,0.9s
NOR Nord 44.56 7 *i*P **P** **19 55 26.8 +1.1**
NOR IAmb IAmb 19 55 28.3
comp=Z,41nm,0.9s
BOD Bodaibo 44.69 311 *e*P **P** **19 55 26.6 -0.4**
BOD *e* 20 02 02.9
BOD pmax pmax
comp=Z,109nm,1.5s
HSIG 44.69 101 P **P** **19 55 28.1 +0.7**
HSIG IAmb IAmb 19 55 29.8
comp=Z,32nm,1.1s
CBKS Cedar Bluff 44.76 82 P **P** **19 55 28.0 +0.1**
CBKS pmax pmax
comp=Z,20nm,0.7s
CBKS Cedar Bluff 44.76 82 **P** **19 55 28.0 +0.1**
CBKS IAmb IAmb 19 55 29.9
comp=Z,20nm,0.7s
CBKS Cedar Bluff 44.76 82 P 19 55 27.9
baz=310
JGF Kuroka 44.77 272 P **P** **19 55 27.6 -0.3**
JGF IAmb IAmb 19 55 30.5
comp=Z,55nm,0.8s
L34A Svendsen Farm, 44.78 76 P **P** **19 55 27.5 -0.5**
L34A IAmb IAmb 19 55 39.9

comp=Z,32nm,0.9s
E38A The Farm, Brul 44.80 68 P P 19 55 27.9 -0.1
E38A IAmb IAmb 19 55 28.6
comp=Z,32nm,1.1s
SPMN Marine on St. 44.90 70 P 19 55 28.6
baz=306
UPNV Upernavik 45.00 24 *i* P **P 19 55 29.5 +0.2**
SRIG Santa Rosalia 45.18 104 P P 19 55 30.9 -0.4
SRIG IAmb IAmb 19 55 33.6
comp=Z,34nm,1.1s
I37A Lemond, Waseca 45.27 72 P P 19 55 31.4 -0.4
I37A IAmb IAmb 19 55 32.8
comp=Z,40nm,1.1s
N35A Tabor 45.90 77 P P 19 55 37.1 +0.2
N35A IAmb IAmb 19 55 39.7
comp=Z,37nm,0.9s
CPRX Cap Rock 46.10 91 P P 19 55 39.6 +0.9
MNTX Cornudas Mount 46.12 94 P P 19 55 39.4 +0.8
MNTX IAmb IAmb 19 55 41.5
comp=Z,59nm,1.2s
MNTX Cornudas Mount 46.12 94 P 19 55 39.2
baz=315
MSTX Muleshoe 46.12 89 P 19 55 38.9
baz=313
JWT Wachi 46.16 273 P P 19 55 39.4 +0.4
JWT IAmb IAmb 19 55 40.9
comp=Z,62nm,1.0s
AMTX Amarillo 46.16 88 P P 19 55 39.1 0.0
AMTX IAmb IAmb 19 55 41.2
comp=Z,80nm,1.5s
AMTX Amarillo 46.17 88 P 19 55 40.1
baz=313
D41A Chassel 46.20 66 P P 19 55 38.3 -0.8
D41A IAmb IAmb 19 55 41.9
comp=Z,23nm,1.1s
G40A Rib Lake 46.35 69 P P 19 55 39.7 -0.6
G40A IAmb IAmb 19 55 41.0
comp=Z,16nm,0.9s
GDL2 Guadalupe Moun 46.38 92 P P 19 55 41.5 +0.6
COWI Conover 46.45 67 P P 19 55 40.5 -0.6
COWI IAmb IAmb 19 55 41.0
comp=Z,34nm,1.5s
HIA Hailar 46.53 298 P P 19 55 41.4 -0.3
HIA pmax pmax
comp=Z,30nm,0.8s
HIA Hailar 46.53 298 P P 19 55 41.4 -0.3
HIA IAmb IAmb 19 55 43.1
comp=Z,30nm,0.8s
CN2 Changchun 46.62 289 *e*P **P 19 55 42.8 +0.4**
CN2 pmax pmax
comp=Z,50nm,1.1s
SCIA State Center 46.67 74 P 19 55 41.5
baz=309
I40A Norwalk 46.95 70 P P 19 55 43.0 -2.0
I40A IAmb IAmb 19 55 45.6
comp=Z,20nm,1.0s
KAN01 Argonia South 47.02 82 P P 19 55 44.7 -1.0
KAN01 IAmb IAmb 19 56 06.3
comp=Z,44nm,1.3s
F42A Maple Grove Fa 47.21 67 P P 19 55 46.7 -0.4
F42A IAmb IAmb 19 55 48.1
comp=Z,49nm,1.1s
N38A Joes South For 47.36 75 P P 19 55 47.6 -0.7
N38A IAmb IAmb 19 55 50.1
comp=Z,15nm,0.8s
E43A Lone Tree Farm 47.47 66 P P 19 55 48.8 -0.3
E43A IAmb IAmb 19 55 51.5
comp=Z,17nm,0.8s
JHS Saijyo 47.74 275 P P 19 55 51.2 -0.1
JFWS Jewell Farm 47.76 71 P P 19 55 50.3 -1.1
JFWS pmax pmax
comp=Z,14nm,0.9s
JFWS Jewell Farm 47.76 71 P P 19 55 50.3 -1.1
JFWS IAmb IAmb 19 55 51.1
comp=Z,14nm,0.8s
JFWS Jewell Farm 47.76 71 P 19 55 49.9
baz=309
I42A Draeger Farm, 47.92 69 P P 19 55 52.0 -0.6
I42A IAmb IAmb 19 55 53.1
comp=Z,16nm,0.8s
T35A Sooner Cattle 47.93 82 P P 19 55 52.0 -0.8
T35A IAmb IAmb 19 55 54.8
comp=Z,27nm,1.4s
P38A Dawn 47.93 77 P P 19 55 52.1 -0.7
P38A IAmb IAmb 19 55 54.2
comp=Z,11nm,0.7s
WMOK Wichita Mounta 48.02 86 P P 19 55 52.9 -0.6
WMOK pmax pmax
comp=Z,25nm,1.1s
WMOK Wichita Mounta 48.02 86 P P 19 55 52.9 -0.6
WMOK IAmb IAmb 19 55 55.2
comp=Z,25nm,1.1s
WMOK Wichita Mounta 48.02 86 P 19 55 53.0
baz=313
CIT Chita 48.12 304 *e*P **P 19 55 54.7 +0.6**
CIT *e* 19 55 58.9
CIT *e* 19 57 20.0
CIT *e* 19 57 51.1
CIT pmax pmax
comp=Z,159nm,1.2s
H43A Windswept, Lux 48.20 68 P P 19 55 54.2 -0.6
H43A IAmb IAmb 19 55 55.3
comp=Z,27nm,0.9s
QUOK Quay 48.30 83 P P 19 55 54.9 -0.7
QUOK IAmb IAmb 19 55 56.6
comp=Z,24nm,1.2s
OK031 S. Brethren Rd 48.37 83 P P 19 55 56.6 +0.4
OK031 IAmb IAmb 19 55 57.3
comp=Z,38nm,1.1s
KBS Kingsbay 48.43 1 *d i*P **P 19 55 58.1 +2.0**
KBS pmax pmax
comp=Z,258nm,2.5s
KBS Kingsbay 48.43 1 P P 19 55 57.1 +1.0
KBS Kingsbay 48.43 1 *i* P **P 19 55 58.2 +2.2**
KBS IAmb IAmb 19 55 58.9
comp=Z,324nm,1.0s
ILULI Ilulissat 48.51 26 P P 19 55 56.9 +0.1
ILULI pmax pmax
comp=Z,22nm,0.9s
ILULI Ilulissat 48.51 26 P P 19 55 56.9 +0.1
ILULI IAmb IAmb 19 55 58.8
comp=Z,22nm,0.9s
DAG Danmarks Havn 48.66 10 ⇓ *i*P **P 19 55 58.9 +1.1**
comp=Z,62nm,0.6s
DAG Danmarks Havn 48.66 10 ⇓ *i*P **P 19 55 58.9 +1.1**
DAG pmax pmax
comp=Z,62nm,0.6s
DAG Danmarks Havn 48.66 10 *i* P **P 19 55 58.0 +0.2**
DAG *i* P **P 19 55 58.0 +0.2**
DAG ⇓ *i*P **P 19 55 58.9 +1.1**
DAG IAmb IAmb 19 55 59.8
comp=Z,62nm,0.6s
N41A Harden Midland 48.81 74 P P 19 55 58.1 -1.3
N41A IAmb IAmb 19 56 02.9
comp=Z,14nm,0.8s
TX31 Lajitas Ar. Si 48.83 95 P P 19 56 00.3 +0.4
TX32 Lajitas Array 48.83 95 P P 19 56 00.1 +0.2
TXAR Lajitas Array 48.83 95 P P 19 56 01.3 +1.4
comp=Z,57nm,0.8s,baz=300,slow=5.4,SNR=398
TXAR PcP **PcP 19 57 25.2 +0.7**
comp=Z,7.5nm,0.8s,baz=254,slow=1.2,SNR=5.3
TXAR LR LR 20 15 00.9
comp=Z,176nm,18.7s,baz=0.0,slow=34
TXAR Lajitas Array 48.83 95 P P 19 55 59.7 -0.3
TXAR Lajitas Array 48.83 95 P P 19 55 59.6 -0.3
P40A Paris 48.87 76 P P 19 55 58.1 -1.8
P40A IAmb IAmb 19 56 01.4
comp=Z,19nm,0.8s
ABTX Abilene, Hawle 48.95 88 P 19 56 00.7
baz=314
E46A Sault Ste Mari 48.96 64 P P 19 55 59.3 -1.2
E46A IAmb IAmb 19 56 03.4
comp=Z,18nm,0.8s
TUL1 Leonard 49.03 82 P 19 56 00.5
baz=312
SUMG Summit 49.08 19 *i* P **P 19 56 03.1 +1.5**
comp=Z,206nm,0.8s
SUMG Summit 49.08 19 *i* P **P 19 56 03.1 +1.5**
SUMG pmax pmax
comp=Z,210nm,0.8s
SUMG Summit 49.08 19 P P 19 56 02.0 +0.4
SUMG Summit 49.08 19 *i* P **P 19 56 03.1 +1.5**
SUMG IAmb IAmb 19 56 04.5
comp=Z,207nm,0.8s
KSRS Korea Array 49.21 281 P P 19 56 04.1 +1.5
comp=Z,48nm,0.9s,baz=53,slow=7.2,SNR=105
KSRS PcP **PcP 19 57 26.9 +1.3**
comp=Z,5.0nm,0.8s,baz=60,slow=3.3,SNR=2.8
KSRS LR LR 20 15 31.8
comp=Z,113nm,21.5s,baz=53,slow=34
KS19 Wonju Array Si 49.22 281 P P 19 56 03.3 +0.7
SPA0 Spitsbergen Ar 49.22 0 P P 19 56 02.1 0.0
SPA0 IAmb IAmb 19 56 20.9
comp=Z,71nm,1.1s
KSAR Wonju Array Be 49.24 281 P P 19 56 01.7 -1.1
KSAR Wonju Array Be 49.24 281 P P 19 56 01.7 -1.1
SLBS Sierra La Lagu 49.28 105 P P 19 56 04.0 +0.6
SLBS IAmb IAmb 19 56 05.8
comp=Z,52nm,1.4s
S39A Bolivar 49.32 79 P P 19 56 01.4 -2.1
S39A IAmb IAmb 19 56 02.4
comp=Z,21nm,1.4s
HPIG 49.38 98 P P 19 56 05.0 +0.7
HPIG IAmb IAmb 19 56 06.6
comp=Z,61nm,1.3s
U38A Gravette 49.52 81 P P 19 56 03.8 -1.2
U38A IAmb IAmb 19 56 17.9
comp=Z,17nm,1.1s
R40A Maddies Statio 49.55 77 P P 19 56 02.9 -2.3
R40A IAmb IAmb 19 56 05.5
comp=Z,13nm,0.8s
L44A Lake County Fo 49.57 71 P 19 56 03.8
baz=310
GLMI Grayling 49.74 66 P 19 56 05.2
baz=309
HDIL Hopedale 49.81 73 P P 19 56 06.3 -0.9
HDIL IAmb IAmb 19 56 07.4
comp=Z,62nm,0.9s
HDIL Hopedale 49.81 73 P 19 56 05.4
baz=310
HHAR Hobbs 49.89 80 P P 19 56 06.2 -1.7
Z35A Perchaven, San 49.91 86 P P 19 56 07.6 -0.3
Z35A IAmb IAmb 19 56 09.5
comp=Z,93nm,1.4s
INCN Inchon 49.96 282 P P 19 56 08.6 +0.3
INCN pmax pmax
comp=Z,73nm,1.0s
INCN Inchon 49.96 282 P P 19 56 08.6 +0.3
M44A Midewin, Midew 50.00 71 P P 19 56 07.7 -0.9
M44A IAmb IAmb 19 56 08.8
comp=Z,46nm,1.1s
SFJD Kangerlussuaq 50.14 28 *i* P **P 19 56 11.0 +1.7**
comp=Z,4.1nm,0.8s
SFJD Kangerlussuaq 50.14 28 P P 19 56 10.1 +0.8
SFJD pmax pmax
comp=Z,70nm,0.8s
SFJD Kangerlussuaq 50.14 28 P P 19 56 10.1 +0.8
SFJD Kangerlussuaq 50.14 28 *i* P **P 19 56 10.3 +1.0**
SFJD *i* P **P 19 56 11.0 +1.7**
SFJD IAmb IAmb 19 56 11.8
comp=Z,4.1nm,0.8s
X37A Clayton 50.18 83 P P 19 56 09.7 -0.3
X37A IAmb IAmb 19 56 24.6
comp=Z,28nm,1.2s
TJN Taejon 50.27 280 *d* iP **P 19 56 11.4 +0.8**
P43A Skaggs, Pawnee 50.28 74 P P 19 56 09.6 -1.1
P43A IAmb IAmb 19 56 10.9
comp=Z,56nm,1.2s
MGMO Mountain Grove 50.30 78 P P 19 56 09.1 -1.9
CCM Cathedral Cave 50.31 77 P P 19 56 08.7 -2.3
CCM pmax pmax
comp=Z,13nm,1.1s
CCM Cathedral Cave 50.31 77 P P 19 56 08.7 -2.3
CCM Cathedral Cave 50.31 77 P 19 56 09.6
baz=312
JCT Junction City 50.36 90 P P 19 56 11.3 -0.2
JCT pmax pmax
comp=Z,119nm,1.0s
JCT Junction City 50.36 90 P P 19 56 11.3 -0.2
JCT Junction City 50.36 90 P 19 56 11.2
baz=316
JNU Nakatsue 50.37 274 P P 19 56 12.3 +0.8
MATQ Matagami 50.38 57 P 19 56 10.2
baz=308
U40A Yellville 50.49 80 P P 19 56 10.5 -1.9
U40A IAmb IAmb 19 56 12.1
comp=Z,24nm,1.2s
U40A Yellville 50.49 80 P 19 56 10.8
baz=312
SLM Saint Louis 50.52 76 P P 19 56 10.7 -1.8
SLM pmax pmax
comp=Z,72nm,1.5s
SLM Saint Louis 50.52 76 P P 19 56 10.7 -1.8
SLM IAmb IAmb 19 56 12.8
comp=Z,72nm,1.4s
O44A Mansfield 50.55 73 P P 19 56 11.9 -0.9
O44A IAmb IAmb 19 56 12.4
comp=Z,67nm,1.5s
DBG Daneborg 50.65 12 *i* P **P 19 56 13.8 +0.8**
DBG IAmb IAmb 19 56 15.0
comp=Z,37nm,0.8s
WHTX Lake Whitney, 50.71 87 P 19 56 14.4
baz=315
W39A Magazine 50.72 81 P P 19 56 13.6 -0.5
W39A IAmb IAmb 19 56 15.9
comp=Z,28nm,1.2s
W39A Magazine 50.72 81 P 19 56 13.7
baz=313
FVM French Village 50.84 76 P P 19 56 13.4 -1.6
FVM pmax pmax
comp=Z,18nm,1.2s
FVM French Village 50.84 76 P P 19 56 13.4 -1.6
T42A Van Buren 51.08 78 P P 19 56 12.9 -3.9
LSQQ Lebel-sur-Quev 51.15 57 P 19 56 15.7
baz=309
SFIN Lafayette 51.20 72 P 19 56 16.8
baz=311
FCAR Ozark Folk Cen 51.24 80 P P 19 56 15.4 -2.5
FCAR IAmb IAmb 19 56 17.4
comp=Z,21nm,1.1s
MIAR Mount Ida 51.28 82 P P 19 56 17.2 -1.2
MIAR pmax pmax
comp=Z,12nm,1.0s
MIAR Mount Ida 51.28 82 P P 19 56 17.1 -1.2
MIAR Mount Ida 51.29 82 P 19 56 17.7
baz=313
Z38A Mt. Pleasant 51.32 84 P P 19 56 18.8 +0.2
Z38A IAmb IAmb 19 56 40.9
comp=Z,14nm,0.7s
ICESG Greenland Ices 51.47 23 *i* P **P 19 56 20.5 +0.8**
ICESG IAmb IAmb 19 56 23.1
comp=Z,90nm,0.8s
435B Jarrell 51.48 88 P P 19 56 20.0 +0.1
435B IAmb IAmb 19 56 21.9
comp=Z,59nm,1.1s
435B Jarrell 51.48 88 P 19 56 19.5
baz=315
VLDQ Val d'Or 51.51 59 P P 19 56 17.3 -2.5
VLDQ IAmb IAmb 19 56 18.9
comp=Z,49nm,1.3s
P46A Rosedale 51.64 73 P P 19 56 20.3 -0.6
P46A IAmb IAmb 19 56 46.1
comp=Z,13nm,0.8s
PBMO Poplar Bluff 51.64 78 P P 19 56 19.4 -1.6
W41B Gary Mavity, V 51.65 80 P 19 56 19.6
baz=313
N47A Urbana 51.67 70 P P 19 56 19.4 -1.8
N47A IAmb IAmb 19 56 20.8
comp=Z,21nm,0.9s
L48A N Adams 51.69 69 P P 19 56 19.3 -2.0
L48A IAmb IAmb 19 56 21.5
comp=Z,51nm,1.4s
LCAR Lake Charles 51.69 79 P P 19 56 19.5 -1.8
237A Washetta, Mont 51.70 86 P P 19 56 20.3 -1.2
237A IAmb IAmb 19 56 23.4
comp=Z,82nm,1.4s
S44A Carbondale 51.72 76 P P 19 56 20.0 -1.6
SIUC Southern Illin 51.73 76 P P 19 56 20.2 -1.4
JSU Suzuyama 51.76 273 P P 19 56 21.8 -0.1
JSU IAmb IAmb 19 56 23.6
comp=Z,57nm,0.9s
NUUK Nuuk 51.76 31 *i* P **P 19 56 23.5 +2.1**
NUUK IAmb IAmb 19 56 24.7
comp=Z,44nm,0.9s
DL2 Dalian 51.96 286 P P 19 56 23.9 +0.6
DL2 S **S 20 03 48.0 +2.1**
DL2 pmax pmax
comp=Z,75nm,0.7s
DL2 pmax pmax
comp=Z,420nm,5.1s
DL2 LR LR
comp=Z,330nm,18.0s
DL2 LR LR
comp=Z,350nm,16.1s
DL2 LR LR
comp=Z,470nm,22.7s
833A Chaparral WMA, 52.15 92 P 19 56 25.7
baz=317
WLAR White Oak Lake 52.15 82 P P 19 56 24.8 -0.1
WLAR IAmb IAmb 19 56 26.1
comp=Z,36nm,0.9s
I51A Listowel 52.38 65 P 19 56 26.3
baz=311
USIN University of 52.47 75 P P 19 56 26.0 -1.1
USIN IAmb IAmb 19 56 28.1
comp=Z,35nm,0.8s
IRK Irkutsk 52.49 309 *e*P **P 19 56 26.7 -0.4**
IRK *e*S **S 20 03 54.0 +1.0**
IRK pmax pmax
comp=Z,178nm,2.4s
N49A Columbus Grove 52.51 70 P P 19 56 25.8 -1.5
NATX Nacogdoches 52.56 85 P P 19 56 28.5 +0.6
NATX Nacogdoches 52.57 85 P 19 56 27.9
baz=315
ALGO Algonquin Park 52.58 61 P 19 56 26.9
baz=311
735A Kenedy 52.73 90 P P 19 56 29.7 +0.6
P48A Milroy 52.77 72 P P 19 56 28.0 -1.4
P48A IAmb IAmb 19 56 52.6
comp=Z,31nm,1.4s
SADO Sadowa 52.77 63 P P 19 56 28.0 -1.2
CCAR Cane Creek 52.80 81 P P 19 56 29.6 0.0
CCAR IAmb IAmb 19 56 32.0
comp=Z,75nm,1.0s
G54A Lake Saint Pet 52.93 62 P 19 56 29.4
baz=311
WCI Wyandotte Cave 53.09 73 P 19 56 30.4
baz=312
HKT Hockley 53.14 88 *d i*P **P 19 56 32.4 +0.3**
HKT pmax pmax
comp=Z,106nm,1.5s
HKT Hockley 53.14 88 P P 19 56 32.9 +0.8
HKT IAmb IAmb 19 56 34.5
comp=Z,107nm,1.4s
TLY Talaya 53.15 309 *e*P **P 19 56 33.7 +1.7**
TLY *e*S **S 20 03 58.2 -3.8**
TLY pmax pmax
comp=Z,292nm,0.9s
TLY MLR MLR
comp=Z,1μm,12.0s
TLY Talaya 53.15 309 P P 19 56 32.9 +0.9
H53A Bobcaygeon 53.20 63 P 19 56 31.8
baz=311
D55A Sainte-Anne-du 53.24 59 P 19 56 32.1
baz=311
E55A Montcerf-Lytto 53.31 59 P 19 56 32.1
baz=311
T47A Sharon Grove 53.46 75 P P 19 56 32.6 -1.8
T47A IAmb IAmb 19 56 34.8
comp=Z,29nm,1.1s
D56A ZEC Mazanza, M 53.59 58 P 19 56 34.5
baz=311
WVT Waverly 53.62 76 P P 19 56 34.9 -0.7
WVT pmax pmax
comp=Z,24nm,1.0s
WVT Waverly 53.62 76 P P 19 56 34.9 -0.7
WVT IAmb IAmb 19 56 36.0
comp=Z,24nm,1.0s
WVT Waverly 53.62 76 P 19 56 35.1
baz=313
PLVO Plevna 53.70 61 P P 19 56 35.1 -1.0
PLVO IAmb IAmb 19 56 37.1
comp=Z,39nm,1.0s
DELO Deloro Mine 53.76 62 P P 19 56 36.2 -0.3
DELO IAmb IAmb 19 56 37.5
comp=Z,21nm,1.1s
E56A St. Veronique 53.78 59 P 19 56 35.5
baz=311
SCO Scoresbysund 53.79 15 P P 19 56 36.8 +0.4
SCO pmax pmax
comp=Z,34nm,0.8s
SCO Scoresbysund 53.79 15 P P 19 56 36.8 +0.4
SCO IAmb IAmb 19 56 38.8
comp=Z,34nm,0.8s
143A Socs Landing, 53.87 82 P P 19 56 37.6 +0.2
ULN Ulaanbaatar 54.00 304 *d i*P **P 19 56 39.1 +0.6**
ULN pmax pmax
comp=Z,112nm,0.8s
ULN Ulaanbaatar 54.00 304 P P 19 56 38.0 -0.5
L53A Girard 54.02 66 P 19 56 37.3
baz=312
J54A Appleton 54.03 64 P P 19 56 37.5 -1.0
J54A IAmb IAmb 19 56 39.3
comp=Z,28nm,0.8s
ERPA Erie 54.06 66 P 19 56 36.8 -2.0
ERPA IAmb IAmb 19 56 40.3
comp=Z,44nm,1.4s
ZAK Zakamensk 54.18 308 *e*P **P 19 56 38.6 -1.1**
ZAK *e* 19 57 41.6
ZAK pmax pmax
comp=Z,32nm,1.3s
R50A Paris 54.20 72 P P 19 56 38.2 -1.6
MEDO Medina 54.20 64 P P 19 56 38.8 -1.0
MEDO IAmb IAmb 19 56 40.7
comp=Z,32nm,1.0s
TRQ Mont Tremblant 54.24 59 P P 19 56 38.9 -1.3
Q51A Peebles 54.25 71 P P 19 56 39.4 -0.9
Q51A IAmb IAmb 19 56 40.5
comp=Z,37nm,0.9s
PLAL Pickwick Lake 54.26 78 P P 19 56 38.5 -1.9
PLAL IAmb IAmb 19 56 41.6
comp=Z,46nm,1.4s
ALLY Alegheny Colle 54.29 66 P P 19 56 39.4 -1.1
ALLY IAmb IAmb 19 56 42.1
comp=Z,29nm,0.7s
BJT Baijiatuau 54.34 291 P P 19 56 40.0 -0.9
BJT pmax pmax
comp=Z,37nm,1.4s
BJT Baijiatuau 54.34 291 P P 19 56 40.0 -0.9
BJT IAmb IAmb 19 56 42.9
comp=Z,37nm,1.4s
SONM Songino Array 54.35 304 P P 19 56 42.2 +1.2
comp=Z,61nm,1.0s,baz=44,slow=7.0,SNR=320
SONM PcP **PcP 19 57 45.8 +1.0**
comp=Z,12nm,0.7s,baz=74,slow=2.1,SNR=7.9
SONM LR LR 20 22 48.4
comp=Z,370nm,19.0s,baz=42,slow=39
SONM Songino Array 54.35 304 P P 19 56 41.7 +0.7
SONM pmax pmax
comp=Z,68nm,1.0s
SONM Songino Array 54.35 304 P P 19 56 41.7 +0.7
ZAIG Zacatecas 54.35 99 P P 19 56 40.7 -0.8
ZAIG IAmb IAmb 19 56 43.6
comp=Z,41nm,1.0s
O52A Adamsville 54.38 69 P P 19 56 39.6 -1.6
O52A IAmb IAmb 19 56 41.0
comp=Z,44nm,1.2s
LATQ La Tuque 54.38 57 P 19 56 39.7
baz=312
MOY Mondy 54.40 310 *e*P **P 19 56 42.1 +0.9**
MOY pmax pmax
comp=Z,99nm,1.7s
D58A Chemin du LacG 54.52 57 P 19 56 40.5
baz=312
CLTN Cedars of Leba 54.53 75 P P 19 56 40.9 -1.4
CLTN IAmb IAmb 19 56 44.0
comp=Z,26nm,1.2s
U49A Red Boiling Sp 54.56 75 P P 19 56 41.8 -0.7
U49A IAmb IAmb 19 56 43.9
comp=Z,16nm,1.1s
WVNY West Valley, N 54.63 65 P P 19 56 41.4 -1.5
ANGG Ammassalik, Gr 54.68 25 P P 19 56 43.3 +0.4
ANGG IAmb IAmb 19 56 44.3
comp=Z,40nm,0.9s
VBMS Vicksburg 54.74 82 P P 19 56 43.5 -0.3
VBMS IAmb IAmb 19 56 45.9
comp=Z,69nm,1.1s
T50A Nancy 54.76 73 P P 19 56 43.0 -0.9
T50A IAmb IAmb 19 56 45.2
comp=Z,19nm,1.1s
G57A Newington 54.76 60 P 19 56 42.8
baz=312
E58A La Victoria 54.80 58 P 19 56 42.7
baz=312
N54A Moraine State 54.84 67 P P 19 56 42.7 -1.8
N54A IAmb IAmb 19 56 43.8

comp=Z,43nm,1.5s
N54A Moraine State 54.84 67 P 19 56 43.0
baz=313
H57A Richville 54.98 61 P 19 56 44.5
baz=312
J56A Wolcott 55.00 63 P 19 56 44.6
baz=312
K56A Middlesex 55.13 64 P 19 56 45.8
baz=313
I57A Carthage 55.19 62 P 19 56 46.0
baz=312
G58A Ormstown 55.22 59 P 19 56 46.4
baz=312
LONY Lake Ozonia 55.30 60 P **P** **19 56 46.3 -1.5**
LONY IAmb IAmb 19 56 48.0
comp=Z,57nm,1.4s
LONY Lake Ozonia 55.30 60 P 19 56 46.6
baz=313
146A Union 55.32 80 P **P** **19 56 47.5 -0.5**
146A IAmb IAmb 19 57 10.8
comp=Z,45nm,0.8s
J57A Williamstown 55.37 62 P **P** **19 56 45.9 -2.4**
J57A IAmb IAmb 19 57 05.6
comp=Z,49nm,1.4s
J57A Williamstown 55.37 62 P 19 56 47.8
baz=313
L56A Greenwood 55.39 64 P 19 56 48.0
baz=313
F59A Saint Guilaume 55.41 58 P 19 56 47.7
baz=313
M56A Emporium 55.49 65 P 19 56 47.8
baz=313
D60A Saint Jean D'O 55.63 56 P 19 56 48.2
baz=313
H58A Gabriels 55.65 60 P 19 56 49.3
baz=313
FRNY Flat Rock 55.68 59 P **P** **19 56 48.5 -1.9**
FRNY IAmb IAmb 19 56 50.2
comp=Z,14nm,0.8s
I58A Old Forge 55.73 61 P 19 56 50.3
baz=313
E60A Ste Agathe de 55.74 57 P 19 56 49.9
baz=313
H59A Cadyville 55.75 60 P 19 56 50.0
baz=313
F60A Warwick 55.75 58 P 19 56 49.4
baz=313
D61A St Aubert, Com 55.80 55 P 19 56 50.3
baz=313
MCWV Mont Chateau 55.81 68 P 19 56 51.2
baz=313
NCB Newcomb 55.93 61 P **P** **19 56 52.0 -0.4**
NCB IAmb IAmb 19 56 53.1
comp=Z,51nm,1.2s
NRS Narsarsuaq 55.96 31 P **P** **19 56 52.7 +0.5**
NRS pmax pmax
comp=Z,86nm,1.2s
NRS Narsarsuaq 55.96 31 P **P** **19 56 52.7 +0.5**
346A Big Creek Wild 55.96 82 P **P** **19 56 52.5 -0.1**
346A IAmb IAmb 19 57 20.8
comp=Z,32nm,0.6s
FPAL Fort Paine 56.03 76 P **P** **19 56 51.7 -1.5**
FPAL IAmb IAmb 19 56 54.0
comp=Z,31nm,1.1s
MOQ Mont Orford 56.04 58 P **P** **19 56 51.9 -1.3**
O56A Blue Knob Stat 56.11 67 P 19 56 52.2
baz=313
J59A Piesco 56.13 61 P **P** **19 56 53.1 -0.6**
J59A IAmb IAmb 19 56 54.4
comp=Z,24nm,0.8s
J59A Piesco 56.13 61 P 19 56 52.7
baz=313
G60A Masonville 56.15 59 P 19 56 52.4
baz=313
E61A Lac Etchemin 56.18 56 P 19 56 52.8
baz=313
BINY Binghamton 56.20 63 P **P** **19 56 53.0 -1.3**
BINY Binghamton 56.20 63 P 19 56 53.5
baz=313
I59A Olmsteadville 56.23 61 P 19 56 53.3
baz=313
F61A St Evariste 56.24 57 P 19 56 53.7
baz=313
V52A Sevierville 56.30 74 P **P** **19 56 53.6 -1.4**
V52A IAmb IAmb 19 57 22.2
comp=Z,17nm,1.1s
H60A Morristown 56.33 59 P 19 56 53.3
baz=313
HHC Hu-ho-hao-te 56.35 295 *e*P **P** **19 56 55.9 +0.4**
HHC S **S** **20 04 45.6 +0.1**
HHC pmax pmax
comp=Z,50nm,1.2s
HHC pmax pmax
comp=Z,450nm,6.2s
HHC LR LR
comp=Z,410nm,17.9s
HHC LR LR
comp=Z,430nm,19.6s
HHC LR LR
comp=Z,320nm,19.6s
K59A Cooperstown 56.41 62 P 19 56 56.2
baz=313
JOW Kunigami 56.43 271 P **P** **19 56 56.2 +0.1**
G61A St-Isidore-de- 56.44 58 P 19 56 55.0
baz=313
P56A Dayton Farm, R 56.48 67 P 19 56 56.0
baz=314
ACCN Adirondack Com 56.63 61 P **P** **19 56 56.2 -1.0**
ACCN IAmb IAmb 19 56 59.3
comp=Z,46nm,1.2s
O57A Amberson 56.66 66 P 19 56 57.3
baz=314
L59A Walton 56.71 63 P **P** **19 56 57.5 -0.4**
J60A Lant Hill Farm 56.85 61 P 19 56 58.9
baz=314
U54A Nelsons Funny 56.85 72 P 19 56 59.2
baz=314
D63A Stockholm 56.95 54 P 19 56 59.3
baz=314
LBNH Lisbon 56.95 59 P 19 56 59.7
baz=314
P57A Homestead Farm 56.95 67 P **P** **19 56 59.0 -0.6**
P57A IAmb IAmb 19 57 01.1
comp=Z,19nm,0.8s
P57A Homestead Farm 56.95 67 P 19 56 58.7
baz=314
G62A West of Eustis 56.99 57 P 19 56 59.5
baz=314
H62A Milan 57.12 58 P 19 57 00.1
baz=314
E63A Oxbow 57.22 55 P 19 57 00.1
baz=314
J61A Chester 57.24 60 P 19 57 01.3
baz=314
K61A Williamstown 57.33 61 P 19 57 01.7
baz=314
S56A Natural Bridge 57.34 69 P 19 57 01.6
baz=314
BTO Baotou 57.36 295 P **P** **19 57 03.5 +0.8**
F63A Nahmakanta, Br 57.38 56 P 19 57 01.2
baz=314
R57A Stanardsville 57.49 68 P 19 57 03.1
baz=314
L61A Hillsdale 1, H 57.51 62 P 19 57 03.3
baz=314
Q58A Fox Den Farm, 57.52 67 P 19 57 03.0
baz=314
E64A Bridgewater 57.52 55 P 19 57 02.6
baz=314
G63A Kingsbury 57.53 57 P 19 57 02.7
baz=314
MOIG Morelia 57.54 100 P **P** **19 57 04.2 0.0**
BRAL Brewton 57.56 80 P 19 57 04.7
baz=316
SSE Sheshan 57.62 280 P **P** **19 57 05.4 +1.0**
SSE pmax pmax
comp=Z,49nm,1.2s
SSE pmax pmax
comp=Z,200nm,6.4s
SSE Sheshan 57.62 280 P **P** **19 57 04.6 +0.2**
F64A Sherman 57.65 56 P **P** **19 57 03.0 -1.4**
F64A IAmb IAmb 19 57 04.5
comp=Z,49nm,1.1s
F64A Sherman 57.65 56 P 19 57 03.4
baz=314
ARA0 ARCESS Array S 57.75 357 *e*P **P** **19 57 04.3 -0.5**
ARCES ARCESS Array B 57.75 357 P **P** **19 57 05.8 +0.9**
comp=Z,22nm,0.8s,baz=20,slow=6.8,SNR=20
ARCES LR LR 20 23 37.8
comp=Z,341nm,18.1s,baz=315,slow=38
BATG Bathurst New B 57.78 53 P **P** **19 57 04.4 -0.9**
BATG IAmb IAmb 19 57 05.8
comp=Z,35nm,0.9s
R58A Rapidan 57.78 68 P 19 57 04.4
baz=314
TRO Tromso 57.80 359 *e*P **P** **19 57 06.3 +1.2**
JETT Jettan, Norway 57.86 359 *e*P **P** **19 57 06.9 +1.3**
KSCT Kent School, K 57.87 62 P **P** **19 57 05.7 -0.3**
KSCT IAmb IAmb 19 57 08.2
comp=Z,32nm,0.9s
K62A Royalston 57.88 61 P **P** **19 57 05.6 -0.6**
K62A IAmb IAmb 19 57 15.3
comp=Z,53nm,1.4s
K62A Royalston 57.88 61 P
baz=314 19 57 06.0
TIY Taiyuan 58.04 291 *e*P **P** **19 57 09.1 +1.7**
H64A Troy 58.06 57 P 19 57 07.3
baz=315
GOGA Godfrey 58.08 76 P 19 57 06.6
baz=316
R58B Mineral 58.09 68 P 19 57 06.3
baz=315
Q59A Harwood 58.14 67 P 19 57 06.5
baz=315
PAL Palisades 58.15 63 P 19 57 06.8
baz=314
K63A Dunstable 58.24 60 P 19 57 07.2
baz=315
S58A Poland Farm, P 58.24 68 P 19 57 08.2
baz=315
NJ2 Nanjing 58.33 282 *e*P **P** **19 57 09.6 +0.2**
NJ2 pP **sP** **19 57 14.4 +2.4**
NJ2 sP **pwP** **19 57 18.2 -1.2**
NJ2 pmax pmax
comp=Z,58nm,0.8s
U57A Blanch 58.34 70 P 19 57 09.4
baz=315
KTK1 Kautokeino 58.35 357 *e*P **P** **19 57 10.0 +1.0**
HRV Adam Dziewonsk 58.35 60 P 19 57 08.3
baz=315
R59A King George, V 58.35 67 P 19 57 09.3
baz=315
M62A Hamden 58.39 62 P 19 57 08.7
baz=315
T58A Grand View Acr 58.44 69 P 19 57 09.4
baz=315
UCCT U. Connecticut 58.50 61 P **P** **19 57 09.2 -1.3**
UCCT IAmb IAmb 19 57 24.6
comp=Z,28nm,1.0s
S59A Mechanicsville 58.56 68 P 19 57 10.4
baz=315
LVZ Lovozero 58.84 352 *c i*P **P** **19 57 13.4 +0.9**
LVZ pmax pmax
comp=Z,198nm,1.0s
LVZ Lovozero 58.84 352 P **P** **19 57 12.9 +0.4**
M63A Gales Ferry 58.87 61 P 19 57 13.3
baz=315
T59A Double "B" Far 58.97 69 P **P** **19 57 12.7 -1.1**
T59A IAmb IAmb 19 57 15.4
comp=Z,11nm,0.7s
M64A Tiverton 59.21 61 P 19 57 15.8
baz=315
APA Apatity 59.26 353 ⇓*i*P **P** **19 57 15.1 -0.2**
APA *i* 19 57 59.0
APA *i* S **S** **20 05 21.0 -1.6**
APA *i* PS **PnS** **20 05 37.0 +2.5**
APA pmax pmax
comp=Z,20nm,0.7s
APA MLR MLR
comp=Z,2μm,12.0s
STEI Steigen 59.51 1 *e*P **P** **19 57 17.8 +0.8**
N2SV S rvÿgen 59.52 2 *e*P **P** **19 57 17.6 +0.5**
ZAA0 Zalesovo Array 59.62 321 P **P** **19 57 18.1 +0.1**
ZAA0 IAmb IAmb 19 57 19.9
comp=Z,30nm,0.8s
ZALV Zalesovo Beam 59.62 321 P **P** **19 57 18.9 +0.9**
comp=Z,30nm,0.8s,baz=39,slow=7.0,SNR=108
ZALV PcP **PcP** **19 58 05.8 +0.7**
comp=Z,6.2nm,0.7s,baz=32,slow=4.4,SNR=4.0
ZALV LR LR 20 24 24.8
comp=Z,350nm,20.0s,baz=38,slow=37
ZALV Zalesovo Beam 59.62 321 *i*P **P** **19 57 18.8 +0.8**
ZALV pmax pmax
comp=Z,30nm,0.8s
FAUS Fauske 60.06 1 *e*P **P** **19 57 21.6 +0.8**
NBB28 Valnes 60.25 1 *e*P **P** **19 57 23.1 +1.0**
NBB05 Inndyr 60.40 1 *e*P **P** **19 57 23.9 +0.7**
NBB30 Finnes 60.45 2 *e*P **P** **19 57 24.4 +0.9**
NBB29 Rokland skole 60.46 1 *e*P **P** **19 57 24.6 +1.0**
TLIG Tlapa 60.74 100 P **P** **19 57 25.7 -0.6**
KONS Konsvik 60.92 2 *e*P **P** **19 57 27.1 +0.4**
STOK Stokkvaagen 61.09 2 *e*P **P** **19 57 30.1 +2.2**
DGZ Jazzator, Alta 61.80 316 *d i*P **P** **19 57 34.0 +0.8**
DGZ pmax pmax
comp=Z,62nm,1.3s
WHN Wuhan 62.07 284 ⇑P **P** **19 57 35.8 +0.7**
WHN pmax pmax
comp=Z,170nm,0.7s
XAN Xi'an 62.66 291 P **P** **19 57 39.4 +0.4**
XAN pP sP 19 57 42.5 +0.8
XAN S **S** **20 06 01.7 -5.3**
XAN pmax pmax
comp=Z,63nm,0.9s
XAN pmax pmax
comp=Z,560nm,3.4s
XAN LR LR
comp=Z,400nm,19.5s
XAN LR LR
comp=Z,410nm,18.4s
XAN LR LR
comp=Z,460nm,17.3s
XAN Xi'an 62.66 291 P **P** **19 57 38.3 -0.7**
XAN pmax pmax
comp=Z,46nm,0.9s
XAN Xi'an 62.66 291 P **P** **19 57 38.2 -0.7**
NSS Namsos 62.87 2 *e*P **P** **19 57 40.8 +1.0**
SSLB Suanglung 63.12 274 P **P** **19 57 42.0 -0.2**
YULB Yu-li 63.21 274 P **P** **19 57 42.5 -0.2**
CMIG Matias Romero 63.31 97 LR LR 20 21 30.5
comp=Z,132nm,21.2s,baz=301,slow=32
PRGR Permogore 63.61 345 *e*P **P** **19 57 43.7 -1.1**
PRGR pmax pmax
comp=Z,157nm,0.9s
GTA Gaotai 63.67 301 ⇓P **P** **19 57 45.9 +0.1**
GTA pP sP 19 57 50.6 +2.2
GTA sP pwP 19 57 53.0 -2.8
GTA S **S** **20 06 21.0 +1.3**
GTA pmax pmax
comp=Z,54nm,1.2s
GTA pmax pmax
comp=Z,200nm,7.1s
GTA LR LR
comp=Z,540nm,17.1s
GTA LR LR
comp=Z,490nm,17.4s
GTA LR LR
comp=Z,600nm,17.4s
LZH Lanzhou 63.98 296 *e*P **P** **19 57 49.0 +1.1**
LZH pP pwP 19 57 55.8 -2.2
LZH sP sP 19 57 59.7 +9.1
LZH S **S** **20 06 23.2 -0.5**
LZH sS sS 20 06 35.7 +8.8
LZH pmax pmax
comp=Z,35nm,1.2s
LZH pmax pmax
comp=Z,150nm,4.3s
LZH LR LR
comp=Z,710nm,13.6s
LZH LR LR
comp=Z,480nm,14.6s
LZH LR LR
comp=Z,840nm,16.3s
ZSN Zaisan 64.62 316 ⇓*i*P **P** **19 57 53.1 +1.3**
comp=Z,41nm,0.9s,baz=316
ZSN Zaisan 64.62 316 *d i*P **P** **19 57 53.1 +1.3**
ZSN pmax pmax
comp=Z,41nm,0.9s
MOL Molde 64.66 5 *e*P **P** **19 57 51.9 +0.2**
TEIG Tepich 64.91 89 LR LR 20 26 51.4
comp=Z,58nm,18.4s,baz=290,slow=37
TEIG Tepich 64.91 89 P **P** **19 57 53.5 -0.4**
SVE Sverdlovsk 64.99 335 *e*P **P** **19 57 55.5 +1.6**
SVE pmax pmax
comp=Z,142nm,1.1s
AKN Aaknes 65.02 5 *e*P **P** **19 57 55.6 +1.5**
ENH Enshi 65.11 288 P **P** **19 57 54.8 -0.4**
KLMR Klimovskoe 65.22 348 *e*P **P** **19 57 53.9 -1.4**
KLMR pmax pmax
comp=Z,93nm,1.1s
KLMR Klimovskoe 65.22 348 *e*P **P** **19 57 54.0 -1.4**
KLMR AMP 19 57 56.9
comp=Z,93nm,1.1s
DOMB Dombas 65.26 4 *e*P **P** **19 57 56.6 +1.0**
BRVK Borovoye 65.48 328 *d i*P **P** **19 57 58.3 +1.1**
BRVK pmax pmax
comp=Z,145nm,1.7s
BRVK Borovoye 65.48 328 P **P** **19 57 57.7 +0.5**
VALR Valaam 65.59 353 *i* P **P** **19 57 58.1 +0.4**
VALR pmax pmax
comp=Z,111nm,1.1s
CCIG Comitan 65.59 95 P **P** **19 57 58.6 0.0**
FIA1 FINESS Array S 65.81 355 P **P** **19 57 59.3 +0.2**
FINES FINESS Array B 65.81 355 P **P** **19 57 59.7 +0.5**
comp=Z,46nm,0.8s,baz=17,slow=8.1,SNR=93
FINES FINESS Array B 65.81 355 *i* P **P** **19 57 59.5 +0.3**
FINES pmax pmax
comp=Z,46nm,0.8s
FINES FINESS Array B 65.81 355 P **P** **19 57 59.1 -0.1**
KIRV Kirov 65.85 342 *d i*P **P** **19 58 00.3 +0.9**
ARU Arti 65.86 336 *d i*P **P** **19 58 00.0 +0.4**
ARU 19 58 30.2
ARU S **S** **20 06 48.0 +2.2**
ARU SS **SS** **20 10 59.0 -0.4**
ARU pmax pmax
comp=Z,148nm,1.2s
ARU Arti 65.86 336 P **P** **19 57 59.7 +0.1**
HYA Hoyanger 65.98 6 *e*P **P** **19 58 01.0 +0.8**
NC204 NORSAR Array S 66.09 3 P **P** **19 58 00.9 -0.2**
SOR Soroa 66.15 83 P **P** **19 58 01.6 -0.4**
SOR pmax pmax
comp=Z,47nm,0.9s
SOR Soroa 66.15 83 P **P** **19 58 01.6 -0.4**
NC303 NORSAR Array S 66.16 3 P **P** **19 58 01.6 +0.1**
MK31 Makanchi Array 66.22 317 P **P** **19 58 01.8 -0.3**
MK31 pmax pmax
comp=Z,17nm,0.8s
MK31 Makanchi Array 66.22 317 P **P** **19 58 01.8 -0.3**
MK31 IAmb IAmb 19 58 03.5
comp=Z,17nm,0.8s
MKAR Makanchi Array 66.22 317 P **P** **19 58 02.6 +0.5**
comp=Z,14nm,0.6s,baz=46,slow=6.5,SNR=216
MKAR LR LR 20 29 21.0
comp=Z,376nm,19.0s,baz=24,slow=38
MKAR Makanchi Array 66.22 317 P **P** **19 58 01.1 -1.0**
WMQ Urumqi 66.23 312 P **P** **19 58 03.7 +1.4**
WMQ sP pwP 19 58 15.6 +3.3
WMQ PcP **PcP** **19 58 33.4 +1.1**
WMQ pmax pmax
comp=Z,71nm,1.1s
WMQ pmax pmax
comp=Z,460nm,4.5s
WMQ LR LR
comp=Z,690nm,21.1s
WMQ LR LR
comp=Z,590nm,22.1s
WMQ LR LR
comp=Z,860nm,22.1s
WMQ Urumqi 66.23 312 P **P** **19 58 03.0 +0.7**
WMQ pmax pmax
comp=Z,44nm,1.0s
WMQ Urumqi 66.23 312 P **P** **19 58 03.0 +0.7**
WMQ IAmb IAmb 19 58 04.7
comp=Z,44nm,1.0s
NC405 NORSAR Array S 66.29 3 P **P** **19 58 02.6 +0.3**
NB201 NORSAR Array S 66.34 3 P **P** **19 58 02.9 +0.3**
NBO00 NORSAR Array S 66.34 3 P **P** **19 58 02.0 -0.6**
MAKZ Makanchi 66.34 317 P **P** **19 58 01.8 -1.0**
MAKZ pmax pmax
comp=Z,62nm,1.3s
MAKZ Makanchi 66.34 317 P **P** **19 58 01.8 -1.0**
NB2 NORSAR Subarra 66.34 3 P **P** **19 58 03.0 +0.3**
comp=Z,8.4nm,0.7s,baz=357,slow=6.2
NB2 NORSAR Subarra 66.34 3 P **P** **19 58 03.0 +0.3**
baz=357,slow=6.2
NOA NORSAR Array B 66.34 3 P **P** **19 58 03.5 +0.8**
comp=Z,24nm,0.9s,baz=357,slow=6.5,SNR=48
NOA LR LR 20 27 32.7
comp=Z,136nm,19.7s,baz=355,slow=36
PETF Flores 66.48 93 P **P** **19 58 02.9 -1.1**
PETF IAmb IAmb 19 58 05.3
comp=Z,47nm,1.2s
NAO01 NORSAR Array S 66.53 3 P **P** **19 58 04.4 +0.6**
SKAR Skarsla 66.58 5 *e*P **P** **19 58 05.5 +1.3**
ASK Askoy 66.60 6 *e*P **P** **19 58 05.5 +1.3**
NC602 NORSAR Array S 66.66 3 P **P** **19 58 04.8 +0.1**
NC602 NORSAR Array S 66.66 3 *e*P **P** **19 58 05.4 +0.8**
BER Bergen 66.70 6 *e*P **P** **19 58 06.4 +1.5**
AFI Afiamalu 66.94 189 P **P** **19 58 06.8 -0.1**
AFI pmax pmax
comp=Z,54nm,1.0s
AFI Afiamalu 66.94 189 P **P** **19 58 06.8 -0.1**
PUL Pulkovo 67.20 353 ⇓*e*P **P** **19 58 10.0 +1.9**
PUL pmax pmax
comp=Z,134nm,0.6s
ODD1 Odda 67.26 6 *e*P **P** **19 58 09.7 +1.2**
BRZS Berezniki 67.28 325 *e*P **P** **19 58 09.5 +0.7**
comp=Z,20nm,1.0s,baz=325
BRZS Berezniki 67.28 325 *e*P **P** **19 58 09.4 +0.7**
BRZS pmax pmax
comp=Z,20nm,1.0s
AAL Aland 67.28 358 *e*P **P** **19 58 08.2 -0.3**
OSL Oslo 67.43 3 *e*P **P** **19 58 11.1 +1.6**
UPP Uppsala 67.62 360 *e*P **P** **19 58 11.4 +0.6**
KONO Kongsberg 67.67 4 *ce*P **P** **19 58 12.6 +1.5**
KONO pmax pmax
comp=Z,72nm,1.1s
KONO Kongsberg 67.67 4 P **P** **19 58 12.1 +1.0**
KONO Kongsberg 67.67 4 *e*P **P** **19 58 12.5 +1.5**
BLS5 Blasjo 67.73 6 *e*P **P** **19 58 13.0 +1.5**
CD2 Chengdu 67.89 292 P **P** **19 58 14.1 +1.1**
CD2 S **S** **20 07 06.1 -5.2**
CD2 pmax pmax
comp=Z,120nm,1.1s
CD2 LR LR
comp=Z,390nm,12.2s
CD2 LR LR
comp=Z,520nm,5.8s
CD2 LR LR
comp=Z,370nm,9.3s
SZP Santa 68.15 270 P **P** **19 58 14.4 -0.2**
ESQI Esquipulas 68.62 94 P **P** **19 58 17.1 -0.6**
MTSE Matsula 68.64 356 *e*P **P** **19 58 14.7 -2.4**
MTO3 Montecristo 68.73 94 P **P** **19 58 17.9 -0.7**
MTO3 IAmb IAmb 19 58 19.0
comp=Z,42nm,1.2s
VSU Vasula 68.75 355 *e*P **P** **19 58 18.4 +0.6**
VSU Vasula 68.75 355 *de*P **P** **19 58 18.7 +0.9**
VSU pmax pmax
comp=Z,280nm,0.9s
SNART Snartemo 68.86 6 *e*P **P** **19 58 19.9 +1.4**
HOMB Homborsund 69.00 5 *e*P **P** **19 58 20.8 +1.4**
TDK Taldyqorghan 69.26 318 *e*P **P** **19 58 22.2 +0.9**
comp=Z,49nm,0.9s,baz=318
TDK Taldyqorghan 69.26 318 *e*P **P** **19 58 22.2 +0.9**
TDK pmax pmax
comp=Z,49nm,0.9s
GYA Guiyang 69.60 287 ⇑P **P** **19 58 24.9 +1.1**
GYA S **S** **20 07 35.8 +4.0**
GYA SKS **SKiKP** **20 08 14.6 +3.0**
GYA pmax pmax
comp=Z,66nm,1.1s
SLIT Slitere, Latvi 69.78 357 *e*P **P** **19 58 25.2 +1.0**
PDGK Podgornoye 70.19 317 *i* P **P** **19 58 27.9 +0.7**
PDGK pmax pmax
comp=Z,95nm,1.1s
TGUH Tegucigalpa,Un 70.26 93 P **P** **19 58 28.0 +0.1**
SHLS Shalkode 70.34 316 ⇓*e*P **P** **19 58 28.3 +0.2**
comp=Z,73nm,1.2s,baz=316
SHLS Shalkode 70.34 316 *de*P **P** **19 58 28.3 +0.2**
SHLS pmax pmax
comp=Z,73nm,1.2s
KPKS Kokpek 70.41 317 ⇓*e*P **P** **19 58 29.9 +1.3**
comp=Z,36nm,0.8s,baz=317
KPKS Kokpek 70.41 317 *de*P **P** **19 58 29.8 +1.3**
KPKS pmax pmax
comp=Z,36nm,0.8s

MOS Moscow 70.44 348 *e*P **P** **19 58 27.8 -0.5**
MOS *e* 19 58 46.9
MOS *e* 20 01 03.8
MOS pmax pmax
comp=Z,104nm,0.9s
UZB Uzynbulak 70.53 317 *e*P **P** **19 58 30.2 +0.9**
comp=Z,17nm,0.9s,baz=317
UZB Uzynbulak 70.53 317 *e*P **P** **19 58 30.2 +0.9**
UZB pmax pmax
comp=Z,17nm,0.9s
SATY Saty 70.86 317⇓ *e*P **P** **19 58 32.5 +1.1**
comp=Z,25nm,1.1s,baz=317
SATY Saty 70.86 317 *de*P **P** **19 58 32.4 +1.1**
SATY pmax pmax
comp=Z,25nm,1.1s
BTLS Baital 70.94 321⇓ *e*P **P** **19 58 32.7 +1.2**
comp=Z,34nm,0.7s,baz=321
BTLS Baital 70.94 321 *de*P **P** **19 58 32.7 +1.2**
BTLS pmax pmax
comp=Z,34nm,0.7s
KUU Kurty 71.01 319 *e*P **P** **19 58 32.3 +0.3**
comp=Z,61nm,1.4s,baz=319
KUU Kurty 71.01 319 *e*P **P** **19 58 32.3 +0.3**
KUU pmax pmax
comp=Z,61nm,1.4s
PPT Papeete 71.09 167 LR LR 20 22 41.9
comp=Z,288nm,21.2s,baz=342,slow=30
PPT2 Papeete2 71.11 167 *e*S **S** **20 07 45.4 -3.7**
comp=Z,222nm,30.5s
PPT2 Papeete2 71.11 167 *e*LR LR 20 19 57.6
comp=Z,937nm,23.8s,baz=348
OBN Obninsk 71.18 348 LR LR 20 30 22.4
comp=Z,103nm,21.3s,baz=350,slow=36
OBN Obninsk 71.18 348 *ce*P **P** **19 58 33.1 +0.3**
OBN *e* 19 58 56.9
OBN *e* 20 01 09.2
OBN *e*S **SKiKP** **20 08 17.4 +4.5**
OBN pmax pmax
comp=Z,117nm,1.0s
OBN Obninsk 71.18 348 P **P** **19 58 32.4 -0.3**
MDOK Medeo 71.33 318 *e*P **P** **19 58 35.0 +0.8**
baz=318
MDOK Medeo 71.33 318 *e*P **P** **19 58 34.9 +0.8**
AAA Alma-Ata 71.35 318 *e*P **P** **19 58 35.3 +1.2**
comp=Z,46nm,1.2s,baz=318
AAA Alma-Ata 71.35 318 *e*P **P** **19 58 35.3 +1.2**
AAA pmax pmax
comp=Z,46nm,1.2s
PBUR Paburge 71.40 357 *e*P **P** **19 58 34.9 +0.8**
AKTO Aktyubinsk 71.42 334 LR LR 20 32 55.4
comp=Z,260nm,20.2s,baz=18,slow=38
TNSS Tian-Shan 71.48 318 *e*P **P** **19 58 36.2 +0.8**
baz=318
TNSS Tian-Shan 71.48 318 *e*P **P** **19 58 36.1 +0.8**
ISAL Salakas 71.67 355 *e*P **P** **19 58 36.7 +1.0**
PABE Paberze 71.84 356 *e*P **P** **19 58 37.8 +1.1**
IIGN Ignalina 71.88 355 *e*P **P** **19 58 38.2 +1.1**
IDID Didziasalis 71.89 354 *e*P **P** **19 58 38.2 +1.1**
ABKAR Akbulak array 71.96 332 P **P** **19 58 38.1 +0.5**
BELG Belogornoye 72.03 341 LR LR 20 33 03.8
comp=Z,315nm,20.0s,baz=352,slow=38
BELG Belogornoye 72.03 341 *d i*P **P** **19 58 38.6 +0.7**
BELG pmax pmax
comp=Z,26nm,0.9s
SGDS Sogindy 72.05 320 *e*P **P** **19 58 39.6 +1.2**
comp=Z,16nm,0.8s,baz=320
SGDS Sogindy 72.05 320 *e*P **P** **19 58 39.6 +1.2**
SGDS pmax pmax
comp=Z,16nm,0.8s
TKM2 Tokmak 2 72.12 319 P **P** **19 58 40.1 +1.2**
SNR=30
USP Ospenovka 72.26 320 P **P** **19 58 40.9 +1.2**
SNR=64
NACGM Naroch 72.29 354 *i*P **P** **19 58 40.0 +0.5**
NACGM *i*P **P** **19 58 40.0 +0.5**
NACGM *i*P **P** **19 58 40.0 +0.5**
NACGM *i* PcP PcP 19 59 08.8 +11
NACGM *i* PP PP 20 01 09.7 -10
NACGM *i* PPP PPP 20 03 00.6
NACGM *i* S S 20 07 42.8 -19
NACGM *i* PS PnS 20 09 27.2 +56
NACGM *i* SS SS 20 12 09.7 -29
NACGM *i* SSS SSS 20 15 09.2
NACGM *i* LQ LQ 20 24 08.7
NACGM *i* LR LR 20 30 00.3
CHMS Chumysh 72.39 319 P **P** **19 58 42.4 +2.0**
SNR=47
ULHL Ulahol 72.42 318 P **P** **19 58 42.4 +1.5**
SNR=12
JAY Jayapura 72.50 241 LR LR 20 25 41.6
comp=Z,98nm,21.5s,baz=37,slow=32
KBK Karagaybulak 72.60 319 P **P** **19 58 42.6 +0.8**
SNR=60
MNK Minsk 72.62 353 *e*P **P** **19 58 43.0 +1.5**
MNK pmax pmax
comp=Z,450nm,1.0s
MNK Minsk 72.62 353 *i*P **P** **19 58 42.8 +1.4**
comp=E,5.0nm,1.0s
MNK *i*P **P** **19 58 42.8 +1.4**
comp=N,94nm,1.1s
MNK *i*P **P** **19 58 42.8 +1.4**
comp=Z,137nm,1.0s
MNK *i* PcP **PcP** **19 58 59.7 +0.7**
MNK *i* PP **PP** **20 01 24.7 +2.5**
MNK *i* PPP PPP 20 03 09.1
MNK *i* S **S** **20 08 09.7 +4.1**
MNK *i* ScS ScS 20 08 59.4 +11
MNK *i* SS **SS** **20 12 50.8 +7.3**
MNK *i* SSS SSS 20 16 03.5
MNK *i* LQ LQ 20 25 48.3
MNK *i* LR LR 20 29 42.4
MNK *i* LRM MLR 20 33 06.3
comp=Z,50nm,9.5s
MNK *i* LRM MLR 20 33 11.7
comp=N,240nm,12.7s
MNK *i* LRM MLR 20 33 15.4
comp=E,40nm,19.0s
AAK Ala-Archa 72.79 319 P **P** **19 58 44.1 +1.1**
SNR=65
AAK Ala-Archa 72.79 319 *d i*P **P** **19 58 44.2 +1.3**
AAK pmax pmax
comp=Z,228nm,0.9s
AAK Ala-Archa 72.79 319 P **P** **19 58 43.5 +0.6**
GENI Genyem 72.85 241 P **P** **19 58 44.1 +0.8**
comp=Z,63nm,0.8s
KMI Kunming 72.89 289⇓ P **P** **19 58 44.2 +0.4**
KMI pP sP 19 58 46.1 -0.4
KMI PcP **PcP** **19 59 02.3 +1.4**
KMI PP **PP** **20 01 25.1 -0.6**
KMI S **S** **20 08 06.7 -3.4**
KMI SS **SS** **20 12 43.3 -6.4**
KMI pmax pmax
comp=Z,31nm,1.2s
KMI pmax pmax
comp=Z,220nm,5.1s
KMI LR LR
comp=Z,250nm,18.3s
KMI LR LR
comp=Z,220nm,13.0s
KMI LR LR
comp=Z,250nm,16.0s
KMI Kunming 72.89 289 P **P** **19 58 44.5 +0.7**
KMI pmax pmax
comp=Z,34nm,1.1s
KMI Kunming 72.89 289 P **P** **19 58 44.5 +0.7**
KMI IAmb IAmb 19 58 45.4
comp=Z,34nm,1.1s
RGN Rugen 72.91 2 *e*P **P** **19 58 44.7 +1.6**
comp=Z,207nm,1.3s,baz=356,slow=5.7
EKS2 Erkin-Say 73.05 320 P **P** **19 58 45.8 +1.4**
SNR=80
UCH Uchtor 73.13 319 P **P** **19 58 47.4 +2.0**
SNR=27
LPSR Galich'ya Gora 73.32 346 *e*P **P** **19 58 45.3 -0.3**
LPSR pmax pmax
comp=Z,100nm,0.9s
SUW Suwalki 73.37 356 *e*P **P** **19 58 46.1 +0.2**
SUW Suwalki 73.37 356 *e*P **P** **19 58 46.2 +0.3**
SUW Suwalki 73.37 356 P **P** **19 58 46.0 +0.2**
SUW pmax pmax
comp=Z,153nm,1.0s
SUW Suwalki 73.37 356 P **P** **19 58 46.0 +0.1**
BSEG Bad Segeberg 73.42 4 *e*P **P** **19 58 47.6 +1.4**
comp=Z,92nm,1.4s,baz=356,slow=5.7
AML Almayashu 73.54 320 P **P** **19 58 49.2 +1.5**
SNR=79
DZA Taraz 73.80 322 *e*P **P** **19 58 49.5 +0.8**
comp=Z,16nm,1.1s,baz=322
DZA Taraz 73.80 322 *e*P **P** **19 58 49.5 +0.8**
DZA pmax pmax
comp=Z,16nm,1.1s
KK31 Karatay Array 73.92 322 P **P** **19 58 49.7 +0.3**
KK31 pmax pmax
comp=Z,50nm,0.9s
KK31 Karatay Array 73.92 322 P **P** **19 58 49.7 +0.3**
KK31 IAmb IAmb 19 58 51.3
comp=Z,50nm,0.8s
KKAR Karatay Array 73.92 322 P **P** **19 58 49.5 +0.1**
KKAR pmax pmax
comp=Z,50nm,0.9s
KKAR Karatay Array 73.92 322 P **P** **19 58 49.5 +0.1**
KKAR IAmb IAmb 19 58 51.3
comp=Z,50nm,0.8s
KKAR Karatay Array 73.92 322 P **P** **19 58 49.2 -0.2**
VORR Voronezh 74.18 346 *e*P **P** **19 58 50.0 -0.7**
VORR pmax pmax
comp=Z,350nm,1.2s
GKP Gorka Klasztor 74.23 360 *e*P **P** **19 58 52.3 +1.3**
GKP Gorka Klasztor 74.23 360 *e*P **P** **19 58 52.2 +1.3**
VRH Novokhopyorsk 74.24 344 *e*P **P** **19 58 50.7 -0.4**
VRH pmax pmax
comp=Z,40nm,0.7s
VSR Storozhevoye 74.63 346 *e*P **P** **19 58 53.3 0.0**
VSR pmax pmax
comp=Z,80nm,0.7s
KSH Kashi 74.83 317 P **P** **19 58 58.9 +4.0**
KSH PcP **PcP** **19 59 12.9 +4.0**
KSH PP PP 20 01 50.7 +9.1
KSH S **S** **20 08 35.0 +3.6**
KSH SKS **SKKSac** **20 09 04.3 +0.7**
KSH pmax pmax
comp=Z,69nm,1.0s
KSH pmax pmax
comp=Z,430nm,4.1s
KSH LR LR
comp=Z,1μm,10.9s
KSH LR LR
comp=Z,840nm,9.0s
KSH LR LR
comp=Z,3μm,10.8s
NRDL Niedersach Rie 74.84 4 *e*P **P** **19 58 55.7 +1.2**
comp=Z,76nm,1.2s,baz=356,slow=5.7
VORD Divnogorie 74.86 346 *e*P **P** **19 58 54.4 -0.2**
VORD pmax pmax
comp=Z,70nm,0.9s
IBBN Ibbenburen 74.90 6 *e*P **P** **19 58 56.2 +1.3**
comp=Z,133nm,1.3s,baz=356,slow=5.7
IUG Iuzhnay 74.92 322 *e*P **P** **19 58 56.6 +1.2**
comp=Z,24nm,0.9s,baz=322
IUG Iuzhnay 74.92 322 *e*P **P** **19 58 56.6 +1.2**
IUG pmax pmax
comp=Z,24nm,0.9s
RUE Ruedersdorf 74.99 2 *e*P **P** **19 58 56.6 +1.2**
comp=Z,149nm,1.2s,baz=356,slow=5.7
FLTG Flechtingen 75.06 4 *e*P **P** **19 58 56.4 +0.6**
comp=Z,75nm,1.2s,baz=356,slow=5.7
SLVN Son La 75.15 286 P **P** **19 58 56.1 -0.7**
SLVN IAmb IAmb 19 58 58.9
comp=Z,40nm,0.8s
PMG Port Moresby 75.17 231 *de*P **P** **19 58 56.5 -0.3**
PMG pmax pmax
comp=Z,95nm,0.8s
PMG Port Moresby 75.17 231 P **P** **19 58 57.8 +1.0**
ASSE Asse, Remlinge 75.23 4 *e*P **P** **19 58 58.0 +1.2**
comp=Z,69nm,1.3s,baz=356,slow=5.7
CLZ Clausthal 75.51 4 *e*P **P** **19 58 60.0 +1.5**
comp=Z,113nm,1.3s,baz=356,slow=5.7
BEL Belsk 75.62 358 *e*P **P** **19 59 00.8 +1.8**
LSA Lhasa 75.68 300 P **P** **19 59 01.8 +1.4**
LSA pmax pmax
comp=Z,250nm,0.9s
LSA Lhasa 75.68 300 P **P** **19 59 00.6 +0.3**
LSA pmax pmax
comp=Z,47nm,0.8s
LSA Lhasa 75.68 300 P **P** **19 59 00.6 +0.3**
BUG Bochum--Univer 75.74 6 *e*P **P** **19 59 00.6 +0.9**
comp=Z,113nm,1.4s,baz=356,slow=5.7
GTTG Gottingen 75.79 5 *e*P **P** **19 59 01.4 +1.4**
comp=Z,112nm,1.3s,baz=356,slow=5.7
KASTN Kahler Asten 76.05 6 *e*P **P** **19 59 02.8 +1.2**
comp=Z,73nm,1.5s,baz=356,slow=5.7
SDDR Presa de Saban 76.07 77 P **P** **19 58 59.8 -2.3**
SDDR Presa de Saban 76.07 77 *e*P **P** **19 58 59.6 -2.5**
CLL Collm 76.14 3 *i*P **P** **19 59 03.3 +1.3**
comp=Z,68nm,1.3s
CLL *i* 19 59 11.3
comp=Z,36nm,1.2s
CLL Collm 76.14 3 *i*P **P** **19 59 03.3 +1.3**
CLL pmax pmax
comp=Z,68nm,1.3s
CLL Collm 76.14 3 P **P** **19 59 02.0 0.0**
CLL IAmb IAmb 19 59 04.0
comp=Z,63nm,1.2s
CLL Collm 76.14 3 *e*P **P** **19 59 02.8 +0.8**
comp=Z,68nm,1.3s,baz=356,slow=5.7
UCC Uccle 76.15 8 P **P** **19 59 02.5 +0.5**
UCC pmax pmax
comp=Z,71nm,1.5s
UCC Uccle 76.15 8 P **P** **19 59 02.5 +0.5**
UCC IAmb IAmb 19 59 04.9
comp=Z,71nm,1.5s
NEUB Neuenburg 76.20 3 *e*P **P** **19 59 03.6 +1.2**
comp=Z,147nm,1.4s,baz=356,slow=5.7
BEBN Eben Emael 76.26 7 *d*P **P** **19 59 03.9 +1.2**
AKASG Malin Array Be 76.30 352 P **P** **19 59 03.3 +0.3**
comp=Z,36nm,0.5s,baz=12,slow=5.9,SNR=99
AKASG LR LR 20 33 50.2
comp=Z,170nm,21.0s,baz=340,slow=37
AKASG Malin Array Be 76.30 352 *i*P **P** **19 59 03.2 +0.3**
AKASG pmax pmax
comp=Z,30nm,0.5s
AKASG Malin Array Be 76.30 352 P **P** **19 59 01.8 -1.1**
AKASG IAmb IAmb 19 59 03.6
comp=Z,9.5nm,0.7s
AKBB Malin Array Si 76.30 352 *d i*P **P** **19 59 03.0 +0.1**
AKBB pmax pmax
comp=Z,78nm,0.8s
AKBB Malin Array Si 76.30 352 P **P** **19 59 02.2 -0.7**
SWI Sorong 76.33 250 P **P** **19 59 04.2 +0.7**
comp=Z,904nmcomp=Z,85nm,1.4s
SNF Seneffe 76.43 8 *bP* **P** **19 59 04.9 +1.3**
MEM Membach 76.47 7 *bP* **P** **19 59 05.3 +1.4**
comp=Z,37nm,0.0s
BTNL Ternell 76.50 7 *dP* **P** **19 59 05.5 +1.3**
UBBA Unterbreizbach 76.51 5 *eP* **P** **19 59 05.3 +1.3**
comp=Z,68nm,1.6s,baz=356,slow=5.7
FBE Freiberg 76.54 2 *eP* **P** **19 59 05.7 +1.4**
comp=Z,106nm,1.2s,baz=356,slow=5.7
MOKO MOKOCHONG 76.56 296 *eP* **P** **19 59 04.6 -0.4**
MOKO IAmb IAmb 19 59 09.0
comp=Z,84nm,1.1s
BRG Berggiesshubel 76.60 2⇑ *iP* **P** **19 59 06.0 +1.4**
BRG Amp 19 59 06.9
comp=Z,69nm,1.3s
BRG *ex* x 19 59 16.2
BRG Amp 19 59 17.9
comp=Z,52nm,1.4s
BRG Berggiesshubel 76.60 2 *eP* **P** **19 59 05.7 +1.0**
comp=Z,69nm,1.3s,baz=356,slow=5.7
BCLA Clavier 76.61 8 *bP* **P** **19 59 05.9 +1.3**
comp=Z,28nm,1.8s
AHRW Bad Neuenahr-A 76.62 7 *eP* **P** **19 59 06.1 +1.4**
comp=Z,120nm,1.8s,baz=356,slow=5.7
BGES Gesves 76.62 8 *bP* **P** **19 59 05.9 +1.1**
comp=Z,24nm,1.3s
KSP Ksiaz 76.66 1 *eP* **P** **19 59 06.4 +1.4**
BMRD Maredsous 76.68 8 *dP* **P** **19 59 06.5 +1.4**
comp=Z,36nm,1.5s
RIOS Rincon, Osa 76.72 93 P **P** **19 59 06.5 +0.7**
RIOS IAmb IAmb 19 59 08.1
comp=Z,45nm,1.0s
BHOU Houvegnez 76.73 7 *d* PcP **PcP** **19 59 14.9 -1.9**
MOX Moxa 76.76 4 *eP* **P** **19 59 06.8 +1.2**
comp=Z,96nm,1.4s,baz=356,slow=5.7
TBI Tubuai 76.80 167 *eS* **S** **20 08 52.9 +0.2**
comp=Z,567nm,31.5s
TBI Tubuai 76.80 167 *e*LR LR 20 22 25.9
comp=Z,955nm,33.0s,baz=344
DOU Dourbes 76.87 8 *bP* **P** **19 59 07.2 +1.1**
comp=Z,21nm,1.6s
CHVC Chvalec 76.91 1 *eP* **P** **19 59 07.7 +1.2**
PLN Plauen 76.94 3 *eP* **P** **19 59 07.8 +1.2**
comp=Z,42nm,1.4s,baz=356,slow=5.7
OSTC Ostas 76.95 1 *eP* **P** **19 59 08.2 +1.6**
PVCC Panska Ves 76.95 2 *eP* **P** **19 59 08.2 +1.5**
PVCC *e* 19 59 11.0
PVCC Panska Ves 76.95 2 *eP* **P** **19 59 08.2 +1.5**
PVCC *ep*P **sP** **19 59 11.0 +1.7**
WERD Werda 76.98 3 *eP* **P** **19 59 08.0 +1.1**
comp=Z,27nm,1.5s,baz=356,slow=5.7
UPC Upice 76.99 1 *eP* **P** **19 59 08.3 +1.4**
UPC Upice 76.99 1 *eP* **P** **19 59 08.3 +1.4**
TANN Tannenbergstha 77.02 3 *eP* **P** **19 59 08.5 +1.4**
comp=Z,65nm,1.5s,baz=356,slow=5.7
TNS Taunus Mts 77.02 6 *eP* **P** **19 59 08.3 +1.2**
comp=Z,79nm,1.5s,baz=356,slow=5.7
BANI BANI 77.07 77 P **P** **19 59 08.9 +1.0**
WERN Wernitzgruen 77.14 3 *eP* **P** **19 59 09.2 +1.4**
comp=Z,68nm,1.3s,baz=356,slow=5.7
DPC Dobruska-Polom 77.15 0 *eP* **P** **19 59 09.3 +1.5**
DPC Dobruska-Polom 77.15 0 *eP* **P** **19 59 09.3 +1.5**
NKC Novy Kostel 77.20 3 *eP* **P** **19 59 09.5 +1.4**
NKC Novy Kostel 77.20 3 *eP* **P** **19 59 09.5 +1.4**
TNTI Ternate 77.24 254 P **P** **19 59 08.6 -0.1**
comp=Z,35nm,1.3s
KOHI KOHIMA 77.26 296 *eP* **P** **19 59 08.5 -0.4**
KOHI IAmb IAmb 19 59 18.6
comp=Z,41nm,0.6s
OJC Ojcow 77.26 358 *eP* **P** **19 59 09.8 +1.4**
OJC Ojcow 77.26 358 P **P** **19 59 08.8 +0.4**
OJC pmax pmax
comp=Z,43nm,1.1s
OJC Ojcow 77.26 358 P **P** **19 59 08.8 +0.4**
OJC IAmb IAmb 19 59 13.0
comp=Z,43nm,1.1s
WLF Walferdange 77.42 7 *dP* **P** **19 59 10.9 +1.6**
comp=Z,44nm,1.7s
WLF Walferdange 77.42 7 P **P** **19 59 10.6 +1.3**
WLF pmax pmax
comp=Z,93nm,1.4s
WLF Walferdange 77.42 7 P **P** **19 59 10.6 +1.3**
WLF Walferdange 77.42 7 *eP* **P** **19 59 10.9 +1.6**
comp=Z,110nm,1.5s,baz=356,slow=5.7
KRLC Kraliky 77.43 0 *eP* **P** **19 59 10.6 +1.2**
KRLC Kraliky 77.43 0 *eP* **P** **19 59 10.6 +1.2**
MANZ Manzenberg 77.43 3 *eP* **P** **19 59 10.7 +1.3**
comp=Z,54nm,1.4s,baz=356,slow=5.7
PRU Pruhonice 77.50 2 *eP* **P** **19 59 11.0 +1.3**
PRU Pruhonice 77.50 2 *eP* **P** **19 59 11.0 +1.3**
LVV L'vov 77.52 355 *eP* **P** **19 59 10.4 +0.6**
LVV *e* 19 59 20.5
LVV *eS* **S** **20 08 58.0 -2.3**
LVV pmax pmax
comp=Z,220nm,1.2s
LVV MLR MLR
comp=E,500nm,19.0s
LVV MLR MLR
comp=Z,300nm,18.0s
ROTZ Rotzenmuhle 77.66 3 *eP* **P** **19 59 12.1 +1.5**
comp=Z,78nm,1.4s,baz=356,slow=5.7
GRA1 Grafenberg Arr 77.69 4 P **P** **19 59 11.7 +0.9**
GRF Grafenberg Arr 77.69 4 P **P** **19 59 11.7 +0.9**
GRF pmax pmax
comp=Z,72nm,1.2s
GRF Grafenberg Arr 77.69 4 *eP* **P** **19 59 12.4 +1.6**
comp=Z,119nm,1.6s,baz=356,slow=5.7
GRF *eL* L 20 26 53.0
comp=Z,218nm,22.0s
GRFO Grafenberg 77.69 4 P **P** **19 59 11.7 +0.9**
GRFO pmax pmax
comp=Z,60nm,1.1s
GRFO Grafenberg 77.69 4 P **P** **19 59 11.7 +0.9**
GRFO IAmb IAmb 19 59 13.5
comp=Z,60nm,1.1s
MORC Moravsky Berou 77.73 360⇓ P **P** **19 59 12.6 +1.6**
MORC Moravsky Berou 77.73 360 *eP* **P** **19 59 12.5 +1.4**
MORC Moravsky Berou 77.73 360 P **P** **19 59 11.4 +0.3**
MORC pmax pmax
comp=Z,58nm,1.3s
MORC Moravsky Berou 77.73 360 P **P** **19 59 11.4 +0.3**
MORC IAmb IAmb 19 59 13.4
comp=Z,58nm,1.3s
KWP Kalwaria Pacla 77.76 356 *eP* **P** **19 59 12.8 +1.5**
KWP Kalwaria Pacla 77.76 356 P **P** **19 59 12.3 +1.1**
KWP pmax pmax
comp=Z,171nm,1.0s
KWP Kalwaria Pacla 77.76 356 P **P** **19 59 12.3 +1.1**
PBCC Pribram 77.79 2 *eP* **P** **19 59 12.9 +1.6**
NIE Niedzica 78.05 358 *eP* **P** **19 59 15.0 +2.2**
GUWA GUWAHATI 78.19 298 *eP* **P** **19 59 13.4 -0.6**
GUWA IAmb IAmb 19 59 16.5
comp=Z,21nm,0.6s
VRAC Vranov 78.20 0⇑ P **P** **19 59 14.9 +1.3**
VRAC Vranov 78.20 0 *eP* **P** **19 59 15.0 +1.3**
WET Wettzell 78.30 3 *eP* **P** **19 59 15.9 +1.6**
comp=Z,70nm,1.4s,baz=356,slow=5.7
KHC Kasperske Hory 78.33 2 *d iP* **P** **19 59 15.6 +1.2**
KHC pmax pmax
comp=Z,176nm,1.4s
KHC Kasperske Hory 78.33 2 *eP* **P** **19 59 15.7 +1.3**
KHC *ep*P **PcP** **19 59 20.5 -3.2**
KHC Kasperske Hory 78.33 2 P **P** **19 59 15.5 +1.0**
LANS Liptovska Anna 78.34 358 *eP* **P** **19 59 16.9 +2.5**
LANS pmax pmax
comp=Z,52nm,1.2s
LANS Liptovska Anna 78.34 358 *eP* **P** **19 59 16.9 +2.5**
KRUC Moravsky 78.44 0 *eP* **P** **19 59 16.3 +1.3**
KOLS Kolonicke sedl 78.48 357 *eP* **P** **19 59 16.8 +1.6**
KOLS pmax pmax
comp=Z,58nm,1.2s
KOLS Kolonicke sedl 78.48 357 *eP* **P** **19 59 16.8 +1.6**
STU Stuttgart 78.51 5 P **P** **19 59 16.2 +0.8**
STU pmax pmax
comp=Z,42nm,1.0s
STU Stuttgart 78.51 5 P **P** **19 59 16.2 +0.8**
STU IAmb IAmb 19 59 17.6
comp=Z,42nm,1.0s
STU Stuttgart 78.51 5 *eP* **P** **19 59 16.5 +1.1**
comp=Z,34nm,0.9s,baz=356,slow=5.7
CRVS Cervenica-Dubn 78.54 357 *eP* **P** **19 59 17.5 +2.0**
CRVS pmax pmax
comp=Z,406nm,2.2s
CRVS Cervenica-Dubn 78.54 357 *eP* **P** **19 59 17.5 +2.0**
SHL Shillong 78.59 297 P **P** **19 59 15.6 -0.8**
SHL pmax pmax
comp=Z,47nm,1.0s
SHL Shillong 78.59 297 *eP* **P** **19 59 15.6 -0.8**
SHL IAmb IAmb 19 59 21.2
comp=Z,12nm,0.7s
SHL Shillong 78.59 297 P **P** **19 59 15.6 -0.8**
SHL IAmb IAmb 19 59 18.8
comp=Z,46nm,1.0s
GEC2 GERESS Array S 78.62 2 P **P** **19 59 16.4 +0.3**
GEC2 IAmb IAmb 19 59 18.4
comp=Z,69nm,1.5s
GEC2 GERESS Array S 78.62 2 *eP* **P** **19 59 17.4 +1.3**
comp=Z,75nm,1.6s,baz=356,slow=5.7
GERES GERESS Array B 78.62 2 P **P** **19 59 17.2 +1.1**
comp=Z,7.0nm,0.7s,baz=7.6,slow=4.0,SNR=48
GERES GERESS Array B 78.62 2 P **P** **19 59 15.7 -0.4**
GERES GERESS Array B 78.62 2 P **P** **19 59 15.7 -0.4**
JAVC Velka Javorina 78.65 360 *eP* **P** **19 59 18.9 +2.7**
CKRC Cesky Krumlov 78.66 2 *eP* **P** **19 59 17.5 +1.3**
CLF Chambon-Foret 78.69 10 P **P** **19 59 16.5 +0.2**
UZH Uzhgorod 78.78 356⇑ *iP* **P** **19 59 16.6 -0.2**
UZH *i* 19 59 20.7
UZH *i* 19 59 21.8
UZH *i* 19 59 29.2
BFO Black Forest 78.90 6 P **P** **19 59 18.4 +0.8**
BFO pmax pmax
comp=Z,50nm,1.4s
BFO Black Forest 78.90 6 P **P** **19 59 18.4 +0.8**
BFO IAmb IAmb 19 59 20.8
comp=Z,50nm,1.4s
BFO Black Forest 78.90 6 *eP* **P** **19 59 18.7 +1.1**
comp=Z,129nm,1.9s,baz=356,slow=5.7
SORM Soroca 78.92 352⇑ P **P** **19 59 18.0 +0.4**
KOLL Kolacno 78.92 359 *eP* **P** **19 59 19.6 +2.0**
GTK Tadong 78.92 301 *eP* **P** **19 59 18.8 +0.6**
GTK IAmb IAmb 19 59 25.5
comp=Z,32nm,0.9s
UBPT Khong Chiam 78.94 281 P **P** **19 59 17.7 -0.5**
KECS Kecovo 78.98 358 *eP* **P** **19 59 19.7 +1.7**
KECS pmax pmax
comp=Z,37nm,1.0s

KECS **Kecovo** 78.98 358 *e*P P 19 59 19.7 +1.7
SMOL **Smolenice** 78.99 360 *e*P P 19 59 20.4 +2.4
SMOL pmax pmax
comp=Z,35nm,1.2s
SMOL **Smolenice** 78.99 360 *e*P P 19 59 20.4 +2.4
MYLDM **Lahad Datu** 79.00 264 P P 19 59 19.4 +0.9
VYHS **Vyhne** 79.00 359 *e*P P 19 59 19.9 +1.8
VYHS pmax pmax
comp=Z,18nm,1.3s
VYHS **Vyhne** 79.00 359 *e*P P 19 59 19.9 +1.8
MODS **Modra-Piesok** 79.13 360 *e*P P 19 59 19.9 +1.1
MODS pmax pmax
comp=Z,109nm,1.3s
MODS **Modra-Piesok** 79.13 360 *e*P P 19 59 19.9 +1.1
FUR **Furstenfeldbru** 79.22 4 *e*P P 19 59 20.7 +1.4
comp=Z,182nm,1.6s,baz=356,slow=5.7
DHUB **DHUBRI** 79.24 299 *e*P P 19 59 18.9 -0.8
DHUB IAmb IAmb 19 59 31.5
comp=Z,50nm,1.6s
DZM **Mont Dzumac** 79.24 209 *e*LR LR 20 23 57.3
comp=Z,238nm,21.6s
ZST **Bratislava** 79.31 360 *e*P P 19 59 21.9 +2.2
ZST **Bratislava** 79.31 360 *e*P P 19 59 21.8 +2.1
TAPN **Taplejung** 79.36 301 *e*P P 19 59 21.0 +0.2
comp=Z,284nm,1.1s
RKT **Rikitea** 79.48 154 *e*LR LR 20 23 56.7
comp=Z,349nm,31.2s
OBIP **Obispado Ponce** 79.55 74 P P 19 59 19.9 -1.6
PSZ **Piszkesteto** 79.56 358 ⇑P P 19 59 23.2 +1.9
PSZ **Piszkesteto** 79.56 358 P P 19 59 22.2 +1.0
PSZ pmax pmax
comp=Z,87nm,1.1s
PSZ **Piszkesteto** 79.56 358 P P 19 59 22.2 +1.0
CONA **Conrad Observa** 79.57 1 *i* P P 19 59 23.4 +2.0
comp=Z,20nm,0.9s,SNR=21
BUR08 **Bucovina Ar. S** 79.62 354 P P 19 59 21.9 +0.2
BUR08 IAmb IAmb 19 59 23.8
comp=Z,38nm,0.9s
MOA **Molin** 79.63 2 *i* P P 19 59 23.1 +1.5
comp=Z,7.8nm,1.0s,SNR=8.7
GCPR **Guaynabo City** 79.64 74 P P 19 59 21.6 -0.4
UBR **Ueberruh** 79.65 5 *e*P P 19 59 23.1 +1.3
comp=Z,37nm,1.2s,baz=356,slow=5.7
BURAR **Bucovina Array** 79.65 354 ⇓P P 19 59 22.6 +0.9
BURAR **Bucovina Array** 79.65 354 P P 19 59 21.8 0.0
BMR **Baia Mare** 79.69 356 ⇑P P 19 59 23.6 +1.8
SRO **Srobarova** 79.69 359 *e*P P 19 59 23.9 +2.1
SRO pmax pmax
comp=Z,83nm,1.5s
SRO **Srobarova** 79.69 359 *e*P P 19 59 23.9 +2.1
KKM **Kota Kinabalu** 79.69 266 P P 19 59 22.5 0.0
KKM IAmb IAmb 19 59 24.3
comp=Z,71nm,1.0s
RJOB **Jochberg** 79.70 3 *e*P P 19 59 23.3 +1.3
comp=Z,170nm,1.0s,baz=356,slow=5.7
ICMP **Isla Caja de M** 79.72 74 P P 19 59 22.7 +0.3
SJG **San Juan** 79.76 74 P P 19 59 22.0 -0.6
SJG pmax pmax
comp=Z,57nm,0.9s
SJG **San Juan** 79.76 74 P P 19 59 22.0 -0.6
SJG IAmb IAmb 19 59 24.2
comp=Z,57nm,0.9s
PRAR **RASCA** 79.84 354 ⇓P P 19 59 22.7 +0.1
GUN **Gumba** 79.84 303 *e*P P 19 59 24.1 +0.7
comp=Z,455nm,1.1s
RETA **Reutte** 79.88 4 *i* P P 19 59 24.6 +1.7
comp=Z,43nm,1.5s,SNR=7.7
PDPR **Patillas Dam,** 79.91 74 P P 19 59 23.0 -0.4
PDPR IAmb IAmb 19 59 24.4
comp=Z,83nm,1.4s
HUMP **Col San Antoni** 79.91 73 P P 19 59 22.8 -0.6
HUMP IAmb IAmb 19 59 24.4
comp=Z,46nm,0.8s
GTOI **Gorontalo** 79.91 258 P P 19 59 19.2 -4.3
IAS **Iasi** 79.91 353 ⇓P P 19 59 24.2 +1.2
ODAN **Odare** 79.92 301 *e*P P 19 59 23.8 +0.1
comp=Z,180nm,1.2s
GOF **Gofitskoye** 79.94 342 ⇑*i*P P 19 59 25.2 +2.0
GOF pmax pmax
comp=Z,354nm,0.9s
CHTO **Chiang Mai** 80.00 288 P P 19 59 23.0 -1.0
CHTO pmax pmax
comp=Z,17nm,1.0s
CHTO **Chiang Mai** 80.00 288 P P 19 59 23.0 -1.0
CHTO IAmb IAmb 19 59 24.4
comp=Z,17nm,0.9s
DAVA **Damuels** 80.03 5 *i* P P 19 59 25.4 +1.5
comp=Z,28nm,1.6s,SNR=5.1
MOTA **Moosalm** 80.03 4 *i* P P 19 59 25.6 +1.7
comp=Z,69nm,1.1s,SNR=16
LTVH **Ltavrtes, Hu** 80.04 357 ⇑P P 19 59 25.7 +2.0
WATA **Walderalm** 80.06 4 *i* P P 19 59 25.5 +1.5
comp=Z,57nm,1.1s,SNR=17
MTP **Monte Pirata** 80.12 73 P P 19 59 24.9 +0.3
WTTA **Wattenberg** 80.14 4 *i* P P 19 59 26.1 +1.6
comp=Z,50nm,0.8s,SNR=22
SQTA **Sankt Quirin** 80.16 4 *i* P P 19 59 26.1 +1.6
comp=Z,86nm,1.1s,SNR=25
BSZH **Besenyszog** 80.17 358 ⇑P P 19 59 25.3 +0.9
ARCR **ARCALIA** 80.23 355 ⇑P P 19 59 26.8 +2.0
KKN **Kakani** 80.25 303 *e*P P 19 59 25.9 +0.4
comp=Z,375nm,1.3s
ARSA **Arzberg** 80.25 1 *i* P P 19 59 27.0 +2.1
comp=Z,17nm,0.9s,SNR=18
RAMN **Ramite** 80.26 302 *e*P P 19 59 25.8 +0.2
comp=Z,375nm,0.9s
BIZ **Bicaz** 80.27 354 ⇑P P 19 59 26.4 +1.4
CM31 **Chiang Mai Arr** 80.28 288 P P 19 59 24.7 -0.7
CM31 IAmb IAmb 19 59 27.0
comp=Z,72nm,1.1s
CMAR **Chiang Mai Arr** 80.28 288 P P 19 59 26.2 +0.7
comp=Z,42nm,1.1s,baz=19,slow=5.2,SNR=163
CMAR PKKPbc **PKKPbc** 20 18 07.0 +1.8
comp=Z,0.9nm,0.7s,baz=227,slow=3.7,SNR=8.0
CMAR LR LR 20 37 50.2
comp=Z,96nm,19.5s,baz=69,slow=38
CMAR **Chiang Mai Arr** 80.28 288 P P 19 59 24.1 -1.4
SANI **Sanana** 80.32 254 P P 19 59 25.0 -0.7
comp=Z,50nm,1.1s
FETA **Feichten** 80.34 4 *i* P P 19 59 27.2 +1.7
comp=Z,54nm,1.1s,SNR=19
PKI **Pulchoki** 80.36 303 *e*P P 19 59 26.4 +0.2
comp=Z,350nm,1.2s
PKIN **Phulchoki** 80.36 303 *e*P P 19 59 26.2 +0.1
KBA **Koelnbreinsper** 80.38 3 *i* P P 19 59 27.5 +1.7
comp=Z,48nm,0.8s,SNR=41
GKN **Gorkha** 80.40 304 *e*P P 19 59 26.6 +0.4
comp=Z,377nm,1.0s
VASR **Vaslui** 80.44 353 ⇓P P 19 59 27.4 +1.5
SAIH **SAIHA** 80.45 295 *e*P P 19 59 25.8 -0.7
SAIH IAmb IAmb 19 59 30.5
comp=Z,49nm,0.7s
DMN **Daman** 80.48 303 *e*P P 19 59 27.4 +0.6
comp=Z,294nm,1.1s
DAVOX **Davos/Dischmat** 80.54 5 LR LR 20 35 22.6
comp=Z,51nm,20.4s,baz=350,slow=36
DRGR 80.60 356 ⇑P P 19 59 28.4 +1.5
CJR **Cluj-Napoca** 80.64 355 ⇑P P 19 59 28.7 +1.7
TESR **Tescani** 80.66 353 ⇑P P 19 59 27.7 +0.6
MRSI **Marisa** 80.67 258 P P 19 59 27.2 -0.4
comp=Z,797nmcomp=Z,70nm,1.3s
ABTA **Abfaltersbach** 80.68 3 *i* P P 19 59 28.8 +1.5
comp=Z,60nm,1.2s,SNR=20
SENIN **Lac Senin/Sane** 80.79 7 P P 19 59 28.6 +0.5
SENIN IAmb IAmb 19 59 33.5
comp=Z,18nm,1.1s
SOKA **Soboth** 80.81 1 *i* P P 19 59 29.7 +1.7
comp=Z,115nm,1.3s,SNR=40
TUE **Stuetta** 80.81 5 P P 19 59 28.3 +0.1
TUE IAmb IAmb 19 59 32.1
comp=Z,71nm,1.3s
DHRM **DHARAMSHALA** 80.82 312 *e*P P 19 59 27.4 -1.1
DHRM IAmb IAmb 19 59 32.2
comp=Z,55nm,0.5s
MYKA **Terra Mystica** 80.83 2 *i* P P 19 59 29.6 +1.4
comp=Z,49nm,1.6s,SNR=8.2
TOLI2 **Tolitoli** 80.86 260 P P 19 59 26.7 -1.9
TOLI2 IAmb IAmb 19 59 28.8
comp=Z,30nm,0.8s
PERS **Pernice** 80.86 1 *i* P P 19 59 29.4 +1.2
ZOU **Zoufplan** 80.89 3 P P 19 59 29.1 +0.6
ZOU IAmb IAmb 19 59 31.4
comp=Z,29nm,0.9s
NIL **Nilore** 80.96 315 P P 19 59 29.5 +0.5
NIL pmax pmax
comp=Z,155nm,0.9s
NIL **Nilore** 80.96 315 P P 19 59 29.5 +0.5
OBKA **Obir** 80.98 2 *i* P P 19 59 30.4 +1.5
comp=Z,73nm,0.8s,SNR=16
MAK **Makhachkala** 81.01 338 *e*P P 19 59 24.5 -4.5
MAK *e* 20 02 29.7
MAK *e*S S 20 09 32.8 -4.8
MAK *e*SS SS 20 14 50.8 +0.4
MAK *e*SSS SSS 20 18 21.7
MAK pmax pmax
comp=Z,702nm,1.4s
KIV **Kislovodsk** 81.07 342 ⇑P P 19 59 31.5 +2.0
KIV **Kislovodsk** 81.07 342 *e*P P 19 59 30.9 +1.5
KIV pmax pmax
comp=Z,217nm,1.1s
KIV **Kislovodsk** 81.07 342 P P 19 59 29.4 0.0
OZUR 81.13 354 ⇑P P 19 59 31.1 +1.5
ANN **Anapa** 81.15 345 *e*P P 19 59 28.1 -1.6
ANN *e**PP pP 19 59 30.7 -1.0
ANN *e*PPP PPP 20 04 22.8
ANN *e*S S 20 09 37.3 -1.7
ANN *e*SSS SSS 20 18 19.8
ANN pmax pmax
comp=Z,40nm,0.9s
GROC **Groznyy** 81.16 339 *e*P P 19 59 29.0 -0.8
GROC *e* 19 59 36.1
GROC *e* 20 02 36.5
GROC pmax pmax
comp=Z,64nm,1.4s
SIRR **Siria** 81.16 357 ⇓P P 19 59 31.6 +1.8
VARL **Varlezi** 81.18 352 ⇓P P 19 59 31.6 +1.8
STAL **STALIGIAL** 81.18 3 P P 19 59 29.8 -0.2
STAL IAmb IAmb 19 59 36.3
comp=Z,28nm,1.2s
ROBS **Robic** 81.22 3 *e*P P 19 59 30.3 +0.2
CADS **Cadrg** 81.24 2 *e*P P 19 59 30.6 +0.4
KBZ **Khabaz** 81.25 341 P P 19 59 32.1 +1.8
comp=Z,34nm,0.9s,baz=7.0,slow=0.3,SNR=35
KBZ LR LR 20 38 32.7
comp=Z,252nm,21.6s,baz=12,slow=38
KBZ **Khabaz** 81.25 341 *d*iP P 19 59 32.0 +1.8
KBZ pmax pmax
comp=Z,61nm,1.0s
DOPR **Dopca** 81.28 354 ⇑P P 19 59 32.2 +1.8
MORH **Mrgy, Hungar** 81.28 359 ⇑P P 19 59 31.8 +1.4
MORH **Mrgy, Hungar** 81.28 359 ⇓*i*P P 19 59 31.1 +0.7
VRI **Vrincioaia** 81.30 353 ⇑P P 19 59 31.4 +0.9
PLOR **Plostina** 81.32 353 ⇑P P 19 59 31.7 +1.1
NCK **Nalchik** 81.33 341 *de*P P 19 59 32.7 +1.9
NCK pmax pmax
comp=Z,183nm,0.9s
CTI **Castel Tesino** 81.35 4 P P 19 59 30.0 -0.9
CTI pmax pmax
comp=Z,32nm,1.1s
CTI **Castel Tesino** 81.35 4 P P 19 59 30.0 -0.9
CTI IAmb IAmb 19 59 32.7
comp=Z,32nm,1.1s
ODBI **Odobesti** 81.37 353 ⇓P P 19 59 32.4 +1.5
SMLA **Simla** 81.38 311 *e*P P 19 59 31.2 +0.1
SMLA IAmb IAmb 19 59 37.4
comp=Z,60nm,0.8s
LUWI **Luwuk** 81.40 257 P P 19 59 30.4 -1.0
LUWI **Luwuk** 81.40 257 P P 19 59 30.8 -0.6
comp=Z,4µmcomp=Z,1µmcomp=Z,139nm,1.1s
MOTC **Monteria, Cord** 81.42 87 *e*P P 19 59 30.8 -0.8
LJU **Ljubljana** 81.44 2 *e*P P 19 59 31.4 +0.1
SIM **Simferopol'** 81.47 348 P P 19 59 31.6 +0.2
SCHL **Schela** 81.58 352 ⇑P P 19 59 33.5 +1.6
BISRR **Bisoca** 81.61 353 ⇑P P 19 59 34.0 +1.7
SSB **Saint Sauveur** 81.64 9 P P 19 59 32.4 0.0
SSB pmax pmax
comp=Z,42nm,1.1s
SSB **Saint Sauveur** 81.64 9 P P 19 59 32.4 0.0
SSB IAmb IAmb 19 59 34.7
comp=Z,42nm,1.1s
DDI **Dehra Dun** 81.65 310 *e*P P 19 59 32.7 0.0
CRES **Cresnjev** 81.67 1 *e*P P 19 59 33.5 +1.0
MLR **Muntele Rosu** 81.72 354 ⇑P P 19 59 34.7 +1.8
MLR **Muntele Rosu** 81.72 354 P P 19 59 32.9 0.0
MLR pmax pmax
comp=Z,51nm,1.3s
MLR **Muntele Rosu** 81.72 354 P P 19 59 32.9 0.0
MLR IAmb IAmb 19 59 35.5
comp=Z,51nm,1.3s
SALO **Salr** 81.73 5 P P 19 59 32.7 -0.2
NEY **Neytrino** 81.74 341 *de*P P 19 59 34.4 +1.3
NEY pmax pmax
comp=Z,24nm,1.8s
CEY **Cerknica** 81.74 2 ⇓*i*P P 19 59 33.5 +0.6
TLCR 81.80 352 ⇑P P 19 59 34.3 +1.2
BZS **Buzias** 81.81 357 ⇑P P 19 59 34.3 +1.1
VOIR 81.83 354 ⇑P P 19 59 34.9 +1.5
CFR **Carcaliu** 81.87 352 ⇑P P 19 59 34.2 +0.7
KBL **Kabul** 81.92 319 P P 19 59 33.5 -0.8
KBL pmax pmax
comp=Z,42nm,1.0s
KBL **Kabul** 81.92 319 P P 19 59 33.5 -0.8
KBL IAmb IAmb 19 59 34.9
comp=Z,42nm,0.9s
ARR **Arges** 81.93 355 ⇑P P 19 59 35.9 +2.0
ZEI **Tsey** 81.95 340 *e*P P 19 59 34.8 +0.5
ZEI pmax pmax
comp=Z,68nm,1.5s
APSI **Ampana** 81.96 258 P P 19 59 34.0 -0.4
comp=Z,37nm,1.0s
SOC **Sochi** 81.97 344 *d*iP P 19 59 34.2 +0.1
SOC *e* 20 02 40.7
SOC *e*PPP PPP 20 04 31.0
SOC *e*S S 20 09 48.1 +0.6
SOC *e*SS SS 20 15 05.2 +0.6
SOC *e*SSS SSS 20 18 28.7
GZR **Gura Zlata** 81.99 356 ⇑P P 19 59 35.4 +1.1
TEOL **Teolo** 82.04 4 P P 19 59 34.8 +0.3
BNI **Bardonecchia** 82.05 7 P P 19 59 35.5 +0.8
BNI pmax pmax
comp=Z,80nm,1.2s
BNI **Bardonecchia** 82.05 7 P P 19 59 35.5 +0.8
BANR **Banloc** 82.06 357 ⇑P P 19 59 36.3 +1.8
TPGR **Topolog** 82.17 352 ⇑P P 19 59 35.9 +0.8
SECR 82.17 354 ⇑P P 19 59 35.7 +0.5
JURR **Jurilovca** 82.22 352 ⇓P P 19 59 36.7 +1.4
PGOR **Pogoanele** 82.23 353 ⇓P P 19 59 36.0 +0.6
UREC **San Jos de Ur** 82.30 87 *e*P P 19 59 33.6 -2.7
FRGS **Fruska Gora** 82.32 358 ⇑P P 19 59 37.2 +1.3
FRGS **Fruska Gora** 82.32 358 ⇓*i*P P 19 59 36.7 +0.8
AKT **Akhty** 82.36 337 *e*P P 19 59 38.0 +1.7
AKT *e* 19 59 42.6
AKT *e* 20 02 48.8
AKT pmax pmax
comp=Z,81nm,0.8s
SMLC **San Martn de** 82.36 86 *e*P P 19 59 35.7 -0.8
HARR **Harsova** 82.37 352 ⇑P P 19 59 37.4 +1.2
CHVG **Ch'k'valeri** 82.38 342 ⇓P P 19 59 38.3 +2.0
DBBC **Dabeiba** 82.47 88 *e*P P 19 59 37.2 0.0
TLBR **Topalu** 82.51 352 ⇓P P 19 59 38.0 +1.1
SULR 82.51 353 ⇑P P 19 59 37.8 +0.9
HERR **Herculane** 82.52 356 ⇓P P 19 59 37.9 +1.0
TIRR **Tirgusor** 82.56 352 ⇓P P 19 59 37.6 +0.5
TIRR **Tirgusor** 82.56 352 P P 19 59 36.8 -0.3
TIRR pmax pmax
comp=Z,125nm,0.8s
TIRR **Tirgusor** 82.56 352 P P 19 59 36.8 -0.3
PRMA **PARMA** 82.57 5 P P 19 59 36.6 -0.5
MDVR **Moldovita** 82.65 357 ⇑P P 19 59 38.9 +1.2
BLY **Banja Luka** 82.76 360 ⇓*i*P P 19 59 38.3 +0.1
DABV **Dabajuro** 82.76 82 *e*P P 19 59 37.6 -1.1
GEYT **Alibeck** 82.81 328 P P 19 59 39.9 +1.3
comp=Z,39nm,0.8s,baz=318,slow=4.1,SNR=71
GEYT LR LR 20 42 22.6
comp=Z,205nm,18.8s,baz=305,slow=40
GEYT **Alibeck** 82.81 328 P P 19 59 38.3 -0.3
GYA0B **ALIBECK ARRAY** 82.81 328 P P 19 59 38.8 +0.2
TEKS **Tekeris** 82.94 358 ⇑*i*P P 19 59 41.0 +1.8
ICOR **Ion Corvin** 82.95 352 ⇑P P 19 59 40.5 +1.4
MSSA **Maissana** 82.97 5 P P 19 59 39.6 +0.2
MSSA IAmb IAmb 20 00 02.1
comp=Z,23nm,1.0s
SGRR **Singureni** 82.98 354 ⇑P P 19 59 40.1 +0.7
ZCCA **Zocca** 83.02 4 P P 19 59 41.0 +1.4
PGAV **Gavieira, Arco** 83.03 19 *e*P P 19 59 41.5 +1.7
comp=Z,89nm,1.2s
PGAV *e*pP pwP 19 59 52.0 +2.2
MGRS **Mrkonjic Grad** 83.09 360 *e*P P 19 59 41.8 +1.8
PUNG **Punghina** 83.10 356 ⇑P P 19 59 40.7 +0.8
COPA **Copaceanca** 83.12 354 ⇓P P 19 59 40.6 +0.5
VLC **Villacollemand** 83.18 5 P P 19 59 41.4 +1.0
VLC IAmb IAmb 19 59 43.1
comp=Z,38nm,0.9s
MANR **Mangalia** 83.18 352 ⇑P P 19 59 41.6 +1.3
BOK **Bokaro** 83.20 301 *e*P P 19 59 40.5 -0.3
BOK IAmb IAmb 19 59 42.8
comp=Z,28nm,1.0s
BOK *i* x x 19 59 52.2
OCAC **Ocana** 83.26 85 *e*P P 19 59 41.0 -0.4
PCAB **Cabril** 83.33 19 *e*P P 19 59 43.1 +1.9
comp=Z,98nm,1.5s
PCAB *e*pP pwP 19 59 54.0 +2.8
AKH **Akhalkalaki** 83.36 340 ⇓P P 19 59 43.6 +2.0
DIVS **Divibare** 83.38 358 ⇓*i*P P 19 59 41.9 +0.4
DIVS **Divibare** 83.38 358 P P 19 59 41.5 0.0
HAPS **Han Pijesak,Bl** 83.41 359 ⇓*i*P P 19 59 42.4 +0.7
PBRG **Braganca** 83.48 18 *e*P P 19 59 43.3 +1.3
comp=Z,64nm,1.6s
PBRG *e*pP pwP 19 59 54.3 +2.3
CBOC **Ciudad Bolivar** 83.50 89 *e*P P 19 59 41.5 -1.2
HELC **Santa Helena** 83.53 88 *e*P P 19 59 41.1 -1.9
ZIMR 83.59 354 ⇑P P 19 59 43.2 +0.7
RAZG **Razgrad** 83.60 353 ⇑P P 19 59 43.3 +0.7
BBLS **Lazi?i** 83.62 358 ⇓*i*P P 19 59 44.0 +1.2
POLO **Lamas de Olo** 83.70 19 *e*P P 19 59 45.0 +1.8
comp=Z,56nm,1.8s
PTO **Porto** 83.77 19 *e*P P 19 59 45.4 +2.0
comp=Z,151nm,1.1s
PTO *e*pP pwP 19 59 55.6 +2.2
BOVS **Bovan** 83.79 357 ⇑P P 19 59 44.3 +0.8
PVRL **Vila Real** 83.81 19 *e*P P 19 59 45.4 +1.7
comp=Z,100nm,1.6s
PVRL *e*pP pwP 19 59 56.6 +2.9
OSSC **Osservatorio P** 83.85 4 P P 19 59 44.4 +0.5
PLVE **Pleven** 83.90 354 ⇑P P 19 59 44.8 +0.7
PTBC **PUERTO BERRIO,** 83.91 87 *e*P P 19 59 43.2 -1.4
BRRC **Barranca, Sant** 83.91 86 *e*P P 19 59 44.0 -0.6
MVO **Moncorvo** 84.05 18 *e*P P 19 59 46.1 +1.1
comp=Z,58nm,2.0s
PLMC **San Jos del P** 84.09 90 *e*P P 19 59 44.6 -0.9
PLE **Pljevlja** 84.16 358 ⇓*i*P P 19 59 46.5 +0.9
UPM **Unac-Piva** 84.29 359 ⇑*i*P P 19 59 47.4 +1.1
UPM **Unac-Piva** 84.29 359 ⇓*i*P P 19 59 46.7 +0.4
GNI **Garni** 84.31 339 *d*iP P 19 59 48.6 +2.2
GNI pmax pmax
comp=Z,70nm,1.0s
GNI **Garni** 84.31 339 P P 19 59 47.2 +0.7
PVIS **Viseu** 84.31 19 *e*P P 19 59 47.9 +1.6
comp=Z,135nm,1.1s
PVIS *e*pP pwP 19 59 59.0 +2.7
PAMC **Pamplona, Colo** 84.34 85 *e*P P 19 59 46.8 -0.6
SDV **Santo Domingo** 84.37 83 P P 19 59 45.7 -1.4
SDV IAmb IAmb 19 59 47.7
comp=Z,45nm,1.1s
SDV **Santo Domingo** 84.37 83 *e*P P 19 59 46.2 -0.9
SDV **Santo Domingo** 84.37 83 *e*P P 19 59 46.6 -0.5
GUY2C **Guyana, Caldas** 84.39 89 *e*P P 19 59 46.8 -0.8
NORC **Norcasia** 84.43 88 *e*P P 19 59 46.4 -0.9
KTUT **Trabzon** 84.48 343 ⇑P P 19 59 49.0 +1.9
DIKM **Dikmen** 84.55 346 ⇑P P 19 59 49.6 +2.1
CASP **Castiglione de** 84.57 5 P P 19 59 47.8 +0.3
BRY **Bratogost** 84.60 359 ⇑*i*P P 19 59 48.8 +1.0
BRY **Bratogost** 84.60 359 ⇓*i*P P 19 59 48.2 +0.4
IVA **Berane** 84.61 358 ⇓*i*P P 19 59 48.7 +0.9
NRCA **Norcia** 84.61 3 P P 19 59 48.5 +0.6
HRA **Herat** 84.63 324 P P 19 59 47.7 -0.6
KOME **Kolasin** 84.63 358 *e*P P 19 59 48.5 +0.5
BARC **Barichara** 84.64 86 *e*P P 19 59 48.3 -0.2
RREF **El Recreo** 84.66 89 *e*P P 19 59 49.4 +0.3
MTE **Manteigas** 84.69 19 *e*P P 19 59 49.6 +1.4
comp=Z,64nm,1.8s
MTE **Manteigas** 84.69 19 P P 19 59 48.4 +0.1
MTE IAmb IAmb 19 59 50.5
comp=Z,30nm,0.9s
COI **Coimbra** 84.70 19 P P 19 59 48.9 +0.7
COI pmax pmax
comp=Z,79nm,1.1s
COI **Coimbra** 84.70 19 *e*P P 19 59 50.8 +2.6
comp=Z,116nm,1.3s
COI **Coimbra** 84.70 19 P P 19 59 48.9 +0.7
NKME **Niksic** 84.73 359 ⇓*i*P P 19 59 48.7 +0.3
VTS **Vitosha** 84.74 355 ⇑P P 19 59 49.1 +0.6
VTS **Vitosha** 84.74 355 P P 19 59 48.7 +0.1
VTS pmax pmax
comp=Z,30nm,0.9s
VTS **Vitosha** 84.74 355 P P 19 59 48.7 +0.1
VTS IAmb IAmb 19 59 50.3
comp=Z,30nm,0.9s
TTSI **Tana Toraja** 84.75 258 P P 19 59 48.3 -0.4
comp=Z,46nm,1.4s
YOTC **Yotoco, Valle** 84.78 90 *e*P P 19 59 47.0 -2.1
LATE **Laterza** 84.78 4 P P 19 59 48.7 0.0
TREB **Trebinje** 84.78 359 *e*P P 19 59 49.0 +0.4
PCAS **Casmilo, Conde** 84.83 19 *e*P P 19 59 50.1 +1.2
comp=Z,117nm,1.4s
PCAS *e*pP pwP 20 00 01.4 +2.5
SPBC **San Pablo de B** 84.84 88 *e*P P 19 59 46.9 -2.5
TOLC **Tolima** 84.92 89 *e*P P 19 59 50.3 +0.2
CEME **Cevo** 84.95 359 *e*P P 19 59 49.9 +0.4
SBUM **Sibu** 84.95 267 P P 19 59 49.7 -0.1
TUMC **Tumaco** 85.04 94 *e*P P 19 59 50.5 +0.2
HCY **Herceg Novi** 85.05 359 ⇑*i*P P 19 59 50.5 +0.5
HCY **Herceg Novi** 85.05 359 *e*P P 19 59 50.1 +0.1
PDG **Podgorica** 85.06 358 ⇑P P 19 59 50.9 +0.9
PDG **Podgorica** 85.06 358 ⇓*i*P P 19 59 50.3 +0.3
PDG **Podgorica** 85.06 358 P P 19 59 49.4 -0.6
TTG **Podgorica** 85.06 358 *e*P P 19 59 50.7 +0.7
AQU **L'Aquila** 85.10 3 P P 19 59 50.7 +0.4
AQU pmax pmax
comp=Z,93nm,1.1s
AQU **L'Aquila** 85.10 3 *e*P P 19 59 51.4 +1.1
AQU **L'Aquila** 85.10 3 P P 19 59 50.7 +0.4
BUM **Brajici-Budva** 85.19 359 *e*P P 19 59 51.3 +0.5
PCBR **Castelo Branco** 85.24 19 *e*P P 19 59 52.0 +1.1
comp=Z,33nm,1.6s
RUSC **La Rusia** 85.25 87 *e*P P 19 59 51.0 -1.0
PSBE **So Bento** 85.29 20 *e*P P 19 59 52.8 +1.6
comp=Z,126nm,1.6s
DRME **Dracevica, Mon** 85.30 358 ⇓*i*P P 19 59 51.6 +0.4
DRME **Dracevica, Mon** 85.30 358 *e*P P 19 59 51.6 +0.4
ILGA **Ilgaz** 85.35 347 P P 19 59 53.1 +1.4
ILGA IAmb IAmb 19 59 54.9
comp=Z,30nm,0.9s
INTR **Introdacqua** 85.46 2 P P 19 59 52.0 -0.1
SKO **Skopje** 85.46 357 *i* P P 19 59 53.4 +1.4
ORTC **Ortega, Tolima** 85.50 89 *e*P P 19 59 50.9 -1.7
SPSI **Sidrap Palu** 85.51 257 P P 19 59 51.6 -1.0
comp=Z,29nm,1.1s
PMRV **Marv??o** 85.66 19 *e*P P 19 59 54.2 +1.2
comp=Z,26nm,2.0s
PMRV *e*pP pwP 20 00 03.6 +0.6
BNSI **Bone** 85.66 257 P P 19 59 52.9 -0.4
TOKA **Tokat** 85.67 345 P P 19 59 54.5 +1.3
TOKA IAmb IAmb 19 59 56.2
comp=Z,30nm,0.8s
STIP **Stip** 85.71 356 *i* P P 19 59 53.9 +0.7
POPC **Popayan, Colom** 85.72 91 *e*P P 19 59 52.7 -1.2
PMAFR **Mafra** 85.73 20 *e*P P 19 59 54.7 +1.3
comp=Z,162nm,1.3s
BBAC **Balboa, Cauca** 85.78 92 *e*P P 19 59 54.2 0.0
PMTG **Montargil** 85.84 19 *e*P P 19 59 54.7 +0.8
comp=Z,21nm,2.2s
PRAC **Prado** 85.88 89 *e*P P 19 59 50.1 -4.4
MTKI **Muara Teweh, K** 86.02 263 P P 19 59 54.8 -0.3
ESBB **Sonseca Array** 86.04 16 P P 19 59 54.2 -0.8
ESBB IAmb IAmb 19 59 56.6
comp=Z,20nm,0.9s
ESDC **Sonseca Array** 86.04 16 P P 19 59 55.9 +0.9
comp=Z,12nm,0.8s,baz=341,slow=4.5,SNR=74
ESDC PP PP 20 03 14.3 +0.2
comp=Z,0.9nm,0.8s,baz=348,slow=8.3,SNR=4.6
ESDC **Sonseca Array** 86.04 16 P P 19 59 54.5 -0.6
PCON **Cinco Dias** 86.05 91 *e*P P 19 59 55.4 -0.6
VAY **Valandovo** 86.07 356 *i* P P 19 59 56.3 +1.3
SOTA **Rioblanco** 86.08 92 *e*P P 19 59 55.7 -0.4
PAB **San Pablo** 86.10 16 P P 19 59 54.3 -1.0
PAB pmax pmax
comp=Z,9.0nm,0.8s
PAB **San Pablo** 86.10 16 P P 19 59 54.3 -1.0
PAB IAmb IAmb 19 59 56.8
comp=Z,8.8nm,0.8s

TIR	**Tirane**	**86.13**	**358**		P	**P**	**19 59 54.9**	**-0.4**
TIR					pmax	pmax			
	comp=Z,52nm,0.8s								
TIR	**Tirane**	**86.13**	**358**		P	**P**	**19 59 54.9**	**-0.4**
PESTR	**Estremoz**	**86.16**	**19**		P	**P**	**19 59 55.3**	**-0.3**
PESTR					IAmb	IAmb	19 59 56.8		
	comp=Z,11nm,0.9s								
MDUB	**Mudurnu**	**86.23**	**349**		P	**P**	**19 59 56.1**	**+0.1**
ALN	**Alexandroupoli**	**86.29**	**353**		P	**P**	**19 59 55.0**	**-1.1**
ALN					pmax	pmax			
	comp=Z,75nm,1.0s								
ALN	**Alexandroupoli**	**86.29**	**353**		P	**P**	**19 59 55.0**	**-1.1**
OHR	**Ohrid**	**86.34**	**357**	*i*	P	**P**	**19 59 57.3**	**+0.8**
KAPI	**Kappang**	**86.36**	**257**		P	**P**	**19 59 55.6**	**-1.2**
KAPI					pmax	pmax			
	comp=Z,88nm,1.1s								
KAPI	**Kappang**	**86.36**	**257**		P	**P**	**19 59 55.6**	**-1.2**
EVO	**Evora**	**86.40**	**19**	*eP*		**P**	**19 59 57.4**	**+0.7**
	comp=Z,22nm,1.0s								
GEVA	**Gevas**	**86.43**	**340**		P	**P**	**19 59 57.5**	**+0.5**
PAOL	**Paolisi**	**86.45**	**2**		P	**P**	**19 59 56.9**	**0.0**
OTAV	**Otavalo**	**86.46**	**94**	*eP*		**P**	**19 59 57.1**	**-0.8**
OTAV	**Otavalo**	**86.46**	**94**	*eP*		**P**	**19 59 59.5**	**+1.7**
FNA	**Florina**	**86.65**	**357**		P	**P**	**19 59 58.2**	**+0.2**
FNA					pmax	pmax			
	comp=Z,46nm,0.8s								
FNA	**Florina**	**86.65**	**357**		P	**P**	**19 59 58.2**	**+0.2**
BR131	**Keskin Array S**	**86.67**	**347**		P	**P**	**19 59 58.7**	**+0.5**
BR131					pmax	pmax			
	comp=Z,42nm,0.9s								
BR131	**Keskin Array S**	**86.67**	**347**		P	**P**	**19 59 58.7**	**+0.5**
BRTR	**Keskin Array B**	**86.67**	**347**		P	**P**	**19 59 59.4**	**+1.2**
	comp=Z,22nm,0.8s,baz=49,slow=2.6,SNR=101								
BRTR					LR	LR	20 41 32.3		
	comp=Z,179nm,22.0s,baz=13,slow=38								
BRTR	**Keskin Array B**	**86.67**	**347**		P	**P**	**19 59 58.0**	**-0.2**
PNCL	**Nicolau / Gran**	**86.70**	**20**	*eP*		**P**	**19 59 59.0**	**+0.8**
	comp=Z,44nm,1.1s								
PNCL					*ep*	**pwP**	**20 00 09.3**	**+1.2**	
KSM	**Kuching**	**86.88**	**268**		P	**P**	**19 59 58.1**	**-1.2**
PBEJ	**Beja**	**86.92**	**19**	*eP*		**P**	**20 00 00.4**	**+1.1**
	comp=Z,6.3nm,1.0s								
PBAR	**Barrancos**	**86.94**	**19**	*eP*		**P**	**20 00 00.0**	**+0.7**
	comp=Z,51nm,1.3s								
PBAR					*ep*	**pwP**	**20 00 09.9**	**+0.6**	
MESJ	**Messejana**	**87.02**	**20**	*eP*		**P**	**20 00 00.1**	**+0.3**
	comp=Z,27nm,1.5s								
PCVE	**Castro Verde**	**87.26**	**20**	*eP*		**P**	**20 00 01.9**	**+1.0**
	comp=Z,39nm,1.8s								
LIT	**Litokhoron**	**87.29**	**356**		P	**P**	**20 00 00.8**	**-0.2**
LIT					pmax	pmax			
	comp=Z,42nm,0.9s								
LIT	**Litokhoron**	**87.29**	**356**		P	**P**	**20 00 00.8**	**-0.2**
MORF	**Marmelete**	**87.45**	**20**	*eP*		**P**	**20 00 03.5**	**+1.6**
	comp=Z,61nm,1.4s								
PVAQ	**Vaqueiros**	**87.55**	**20**	*eP*		**P**	**20 00 01.8**	**-0.5**
	comp=Z,31nm,1.4s								
SOEI	**Soe**	**87.55**	**250**		P	**P**	**20 00 01.4**	**-1.3**
SOEI					IAmb	IAmb	20 00 15.8		
	comp=Z,29nm,1.0s								
PFVI	**Vila Bisbo**	**87.58**	**20**	*eP*		**P**	**20 00 03.3**	**+0.8**
	comp=Z,89nm,1.6s								
PBDV	**Barranco-do-Ve**	**87.66**	**20**	*eP*		**P**	**20 00 04.3**	**+1.4**
	comp=Z,60nm,1.6s								
MACC	**Macarena, Meta**	**87.74**	**89**	*eP*		**P**	**20 00 01.8**	**-1.8**
MMRI	**Maumere**	**87.82**	**253**		P	**P**	**20 00 01.0**	**-2.8**
MARD	**Mardin**	**87.85**	**341**		P	**P**	**20 00 04.9**	**+1.0**
BHPL	**Bhopal**	**87.93**	**307**	*eP*		**P**	**20 00 02.8**	**-1.6**
BHPL					IAmb	IAmb	20 00 05.5		
	comp=Z,48nm,0.8s								
BHPL				*i*	pP	**pwP**	**20 00 14.2**	**-0.4**	
DGPR	**DIGLIPUR**	**87.95**	**289**	*eP*		**P**	**20 00 04.5**	**0.0**
DGPR				*i*	x	x	20 00 15.2		
AGG	**Agios Georgios**	**88.37**	**356**		P	**P**	**20 00 05.5**	**-0.7**
AGG					pmax	pmax			
	comp=Z,23nm,0.9s								
AGG	**Agios Georgios**	**88.37**	**356**		P	**P**	**20 00 05.5**	**-0.7**
AGG					IAmb	IAmb	20 00 07.0		
	comp=Z,23nm,0.9s								
MANT	**Manisa**	**88.47**	**351**		P	**P**	**20 00 06.9**	**-0.1**
GAZ	**Gaziantep**	**88.63**	**344**		P	**P**	**20 00 07.7**	**+0.1**
GAZ					IAmb	IAmb	20 00 10.2		
	comp=Z,23nm,1.0s								
PTLC	**Puerto Leguiza**	**88.73**	**91**	*eP*		**P**	**20 00 09.0**	**+0.8**
PMPS	**Porto Santo**	**89.61**	**28**	*eP*		**P**	**20 00 12.5**	**+0.4**
	comp=Z,109nm,1.6s								
ITM	**Ithomi**	**90.22**	**356**		P	**P**	**20 00 14.7**	**-0.3**
WB0	**Warramunga Arr**	**90.31**	**237**		P	**P**	**20 00 13.9**	**-1.5**
WB0					IAmb	IAmb	20 00 15.5		
	comp=Z,29nm,1.4s								
WR0	**Warramunga Arr**	**90.40**	**237**		P	**P**	**20 00 14.0**	**-1.7**
WR0					IAmb	IAmb	20 00 15.8		
	comp=Z,19nm,1.1s								
WRAB	**Tennant Creek**	**90.47**	**237⇑**	*i*	P	**P**	**20 00 15.5**	**-0.6**
WRAB					pmax	pmax			
	comp=Z,25nm,1.2s								
WB2	**Warramunga Arr**	**90.48**	**237**		P	**P**	**20 00 14.9**	**-1.3**
WB2					IAmb	IAmb	20 00 16.3		
	comp=Z,25nm,1.1s								
WRA	**Warramunga Arr**	**90.48**	**237**		P	**P**	**20 00 15.4**	**-0.8**
	comp=Z,11nm,1.0s,baz=33,slow=5.8,SNR=35								
WRA	**Warramunga Arr**	**90.48**	**237**	*i*	P	**P**	**20 00 15.1**	**-1.1**
WRA					pmax	pmax			
	comp=Z,12nm,1.0s								
KEST	**Kesra**	**91.51**	**6**		P	**P**	**20 00 22.1**	**+1.1**
	comp=Z,15nm,1.0s,baz=18,slow=1.7,SNR=7.9								
KEST					LR	LR	20 40 48.3		
	comp=Z,62nm,21.9s,baz=299,slow=35								
TPI	**Tanjungpandan**	**91.83**	**268**		P	**P**	**20 00 22.7**	**+0.1**
	comp=Z,42nm,1.2s								
ARMA	**Armidale**	**91.91**	**218**		P	**P**	**20 00 22.9**	**+0.2**
ARMA					IAmb	IAmb	20 00 24.9		
	comp=Z,26nm,1.1s								
HYB	**Hyderabad**	**92.28**	**303**	*i*	P	**P**	**20 00 24.0**	**-0.8**
HYB	**Hyderabad**	**92.28**	**303**	*eP*		**P**	**20 00 22.8**	**-2.0**
HYB					IAmb	IAmb	20 00 27.9		
	comp=Z,23nm,1.0s								
ATAH	**Atahualpa**	**92.33**	**99**		P	**P**	**20 00 26.6**	**+1.2**
	comp=Z,9.2nm,0.8s,baz=347,slow=3.3								
FITZ	**Fitzroy Crossi**	**93.56**	**245**		P	**P**	**20 00 29.6**	**-0.8**
FITZ					IAmb	IAmb	20 00 31.2		
	comp=Z,12nm,0.9s								
AS31	**Alice Springs**	**93.82**	**235**		P	**P**	**20 00 30.6**	**-1.0**
ASAR	**Alice Springs**	**93.82**	**235**		P	**P**	**20 00 31.4**	**-0.2**
	comp=Z,10.0nm,0.7s,baz=29,slow=3.7,SNR=102								
ASAR					PKKPbc	**PKKPbc**	**20 17 34.1**	**+0.3**	
	comp=Z,0.4nm,0.4s,baz=208,slow=2.1,SNR=9.2								
ASAR					LR	LR	20 38 38.5		
	comp=Z,144nm,19.6s,baz=19,slow=33								
ASAR	**Alice Springs**	**93.82**	**235**		P	**P**	**20 00 29.9**	**-1.7**
ASAR	**Alice Springs**	**93.82**	**235**		P	**P**	**20 00 29.9**	**-1.7**
CZSB	**Cruzeiro do Su**	**96.23**	**95**	*eP*		**P**	**20 00 43.6**	**+0.8**
STKA	**Stephens Creek**	**97.22**	**225**		P	Pdif	20 00 47.4	+0.5	
	comp=Z,4.3nm,0.8s,baz=315,slow=5.0,SNR=6.7								
STKA					LR	LR	20 39 55.9		
	comp=Z,144nm,19.9s,baz=27,slow=33								
STKA	**Stephens Creek**	**97.22**	**225**	⇓ *i*	P	**P**	**20 00 46.7**	**-0.2**
PTGA	**Pitinga**	**98.39**	**80**		P	**P**	**20 00 51.8**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=323,slow=9.4								
PTGA	**Pitinga**	**98.39**	**80**	*eP*		Pdif	20 00 53.4	+0.7	
MACA	**Manacapuru-AM**	**99.90**	**82**	*eP*		**Pdif**	**20 00 59.2**	**-0.1**
H03N2	**Juan Fernandez**	**112.53**	**116**		T	T	22 08 04.5		
	baz=315,slow=76								
H03N1	**Juan Fernandez**	**112.54**	**116**		T	T	22 08 02.0		
	baz=315,slow=76								
H03N3	**Juan Fernandez**	**112.54**	**116**		T	T	22 08 04.4		
	baz=315								
TORD	**Torodi Ar. Bea**	**112.93**	**16**		PKiKP	**PKiKP**	**20 05 51.3**	**-0.4**	
	comp=Z,0.7nm,0.3s,baz=321,slow=1.8,SNR=2.2								
TORD					PKKPbc	**PKKPbc**	**20 16 35.7**	**-0.8**	
	comp=Z,2.6nm,0.6s,baz=165,slow=1.9,SNR=8.9								
CPUP	**Villa Florida**	**119.81**	**95**		PKP	**PKPdf**	**20 06 03.8**	**-0.7**	
	comp=Z,0.7nm,0.3s,baz=327,slow=2.4,SNR=7.2								
PTGB	**Pitanga**	**121.80**	**90**	*eP*		**PKiKP**	**20 06 09.8**	**+1.1**	
DIAM	**Diamantina, MG**	**121.98**	**78**	*eP*		**PKiKP**	**20 06 09.4**	**+0.2**	
FRTB	**Fartura**	**122.29**	**87**	*eP*		**PKiKP**	**20 06 09.7**	**+0.1**	
PLCA	**Paso Flores**	**122.41**	**116**		PKP	**PKPdf**	**20 06 08.9**	**-0.2**	
	comp=Z,6.0nm,0.8s,baz=325,slow=0.8,SNR=10								
PLCA	**Paso Flores**	**122.41**	**116**		PKIKP	**PKPdf**	**20 06 08.3**	**-0.8**	
PLCA	**Paso Flores**	**122.41**	**116**		PKPdf	**PKPdf**	**20 06 08.3**	**-0.8**	
PLCA	**Paso Flores**	**122.41**	**116**	*eP*		**PKiKP**	**20 06 09.9**	**+0.6**	
LL01	**San Ignacio de**	**122.55**	**118**			**PKPdf**	**20 06 07.9**	**-1.3**	
BSCB	**Bom Sucesso**	**123.40**	**81**	*eP*		**PKiKP**	**20 06 12.4**	**+0.5**	
SJMB	**Sao Joao De Ma**	**123.76**	**76**	*eP*		**PKiKP**	**20 06 13.0**	**+0.5**	
CPSB	**Cacapava Do Su**	**125.11**	**95**	*eP*		**PKiKP**	**20 06 15.5**	**+0.6**	
VAS01	**Vassouras-RJ**	**125.18**	**81**	*eP*		**PKiKP**	**20 06 16.4**	**+1.0**	
MAN01	**Angra dos Reis**	**125.31**	**81**	*eP*		**PKiKP**	**20 06 16.1**	**+0.6**	
KMBO	**Kilima Mbogo**	**125.76**	**335**		PKP	**PKiKP**	**20 06 17.8**	**+0.7**	
	comp=Z,6.3nm,0.9s,baz=18,slow=4.6,SNR=14								
PLTB	**Pedras Altas**	**125.97**	**97**	*eP*		**PKiKP**	**20 06 16.6**	**0.0**	
VNDA	**Vanda**	**131.95**	**190**		PKP	**PKPdf**	**20 06 26.1**	**-0.1**	
	comp=Z,1.6nm,1.0s,baz=141,slow=1.7,SNR=4.5								
VNDA					SKPbc	**SKPbc**	**20 09 51.2**	**-0.4**	
	comp=Z,0.8nm,0.8s,baz=344,slow=2.5,SNR=3.7								
VNDA	**Vanda**	**131.95**	**190**		PKIKP	**PKPdf**	**20 06 25.8**	**-0.3**	
VNDA	**Vanda**	**131.95**	**190**			**PKPdf**	**20 06 25.8**	**-0.3**	
LSZ	**Lusaka**	**141.47**	**343**		PKIKP	**PKPdf**	**20 06 40.8**	**-5.0**	
LSZ	**Lusaka**	**141.47**	**343**			PKPpre	20 06 40.8		
QSPA	**South Pole Qui**	**142.64**	**180**			PKPpre	20 06 39.9		
TSUM	**Tsumeb**	**146.40**	**359**		PKPdf	**PKPdf**	**20 06 54.4**	**+0.1**	
BELA	**Belgrano 2**	**148.95**	**161**		PKPdf	**PKPdf**	**20 06 57.2**	**+0.6**	
LBTB	**Lobatse**	**151.45**	**344**		PKIKP	**PKPdf**	**20 07 02.1**	**-0.2**	
LBTB	**Lobatse**	**151.45**	**344**		PKPdf	**PKPdf**	**20 07 02.1**	**-0.2**	
BOSA	**Boshof**	**155.02**	**343**		PKP	**PKPdf**	**20 07 07.2**	**-0.2**	
	comp=Z,5.1nm,0.8s,baz=93,slow=2.8,SNR=5.3								
BOSA					PKPab	**pPKPab**	**20 07 32.5**	**-1.2**	
	comp=Z,9.5nm,0.7s,baz=8.4,slow=4.1,SNR=9.7								
BOSA	**Boshof**	**155.02**	**343**		PKIKP	**PKPdf**	**20 07 06.3**	**-1.0**	
BOSA	**Boshof**	**155.02**	**343**		PKPdf	**PKPdf**	**20 07 06.3**	**-1.0**	
VNA3	**Neumayer Olymp**	**158.07**	**157**		PKPab	**PKPab**	**20 07 44.9**	**+1.3**	
VNA3	**Neumayer Olymp**	**158.07**	**157**		PKPdf	**PKPdf**	**20 07 07.7**	**-2.1**	
VNA1	**Neumayer--Stat**	**158.82**	**157**		PKPab	**PKPab**	**20 07 45.8**	**-0.9**	
VNA1	**Neumayer--Stat**	**158.82**	**157**		PKPdf	**PKPdf**	**20 07 06.3**	**-4.4**	
VNA2	**Neumayer--Watz**	**158.83**	**158**		PKPab	**PKPab**	**20 07 45.6**	**-1.2**	
VNA2	**Neumayer--Watz**	**158.83**	**158**		PKPdf	**PKPdf**	**20 07 07.2**	**-3.5**	
SNAA	**Sanae**	**159.19**	**162**		PKPab	**PKPab**	**20 07 47.1**	**-1.3**	
SNAA	**Sanae**	**159.19**	**162**		PKPdf	**PKPdf**	**20 07 08.4**	**-2.8**	
SNAA	**Sanae**	**159.19**	**162**		PKP	**PKPdf**	**20 07 08.8**	**-2.4**	
	comp=Z,5.3nm,1.0s,baz=270,slow=4.0,SNR=7.9								
SNAA					PKPab	**PKPab**	**20 07 47.2**	**-1.3**	
	comp=Z,9.1nm,1.0s,baz=211,slow=5.2,SNR=11								
SNAA	**Sanae**	**159.19**	**162**		PKIKP	**PKPdf**	**20 07 08.1**	**-3.1**	
SNAA	**Sanae**	**159.19**	**162**			**PKPdf**	**20 07 08.1**	**-3.1**	
SYO	**Syowa Base**	**160.68**	**205⇑**	*e*	PKPdf	**PKPdf**	**20 07 13.0**	**+0.2**	

IDC ***12*** *20:24:07.8±0.8, 35°.58N±.27°.80E, h0km, mb3.9/18, mb1 4.0/26, mb1mx3.9/62, mbtmp3.9/26, ML3.7/8, MS2.7/2, Ms1 2.7/2, ms1mx2.4/49, Error ellipse: s-maj=17.4km s-min=12.5km az=167.0*

NIC ***12*** *20:24:09.8±0.0, 35°.55N±.27°.82E, h9km±3km, Ml4.1/4*

MOS ***12*** *20:24:09.8±1.8, 35°.55N±.27°.88E, h13km, mb4.4/10, Error ellipse: s-maj=8.2km s-min=3.9km az=101.0*

NEIC ***12*** *20:24:09.5±1.5, 35°.45N±0°.08±27°.82E±0°.05, h10km±6km, mb4.0/21, ML3.9(ISK), Error ellipse: s-maj=11.5km s-min=6.1km az=174.0*

ISK ***12*** *20:24:09.5, 35°.53N±27°.82E, h8km, ML3.9/36*

DDA ***12*** *20:24:10.9, 35°.52N±27°.59E, h15km±2km, MW4.2*

ATH ***12*** *20:24:10.7, 35°.57N±27°.77E, h30km±6km, ML3.8/11, Error ellipse: s-maj=8.3km s-min=1.5km az=322.0*

THE ***12*** *20:24:11.1, 35°.65N±27°.74E, h2km±1km, ML3.7/6, Error ellipse: s-maj=3.3km s-min=0.8km az=137.0*

HLW ***12*** *20:24:16.1, 35°.24N±27°.83E, h32km±16km, Md4.0, Ml4.1*

ISC 12 20:24:10.3±0.9, 35°.51N±0°.03±27°.83E±0°.02, h16km±6km, n319, σ1°72/380, mb4.1/27, 17C-22D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.54**	**275**	P	**Pg**	**20 24 20.3**	**-0.8**
KARP				S	**Sg**	**20 24 28.6**	**+0.2**
KARP				AML	AML	20 24 33.4	
	comp=N,28054µm,0.6s						
KARP				AML	AML	20 24 35.3	
	comp=E,22736µm,0.5s						
KARP	**Karpathos**	**0.54**	**275**	P	**Pg**	**20 24 20.1**	**-1.0**
KARP				S	**Sg**	**20 24 28.0**	**-0.4**
	comp=E,13µm,0.6s						
KARP	**Karpathos**	**0.54**	**275**	PG	**Pg**	**20 24 20.5**	**-0.6**
KARP				SG	**Sg**	**20 24 28.1**	**-0.4**
KARP	**Karpathos**	**0.54**	**275**	Pg	**Pg**	**20 24 20.1**	**-1.0**
KARP	**Karpathos**	**0.54**	**275**	P	**Pg**	**20 24 20.4**	**-0.8**
KARP				S	**Sg**	**20 24 28.3**	**-0.1**
KARP				AML	AML	20 24 32.7	
	comp=E,28nm,0.6s						
KARP				AML	AML	20 24 32.7	
	comp=E,28nm,0.6s						
KARP				AML	AML	20 24 34.9	
	comp=E,22nm,0.5s						
KARP				AML	AML	20 24 34.9	
	comp=E,22nm,0.5s						
ARG	**Arkhangelos**	**0.75**	**19**	P	**Pg**	**20 24 23.9**	**-1.1**
ARG				S	**Sg**	**20 24 34.3**	**-0.6**
ARG				AML	AML	20 24 41.0	
	comp=E,9542µm,0.6s						
ARG				AML	AML	20 24 46.1	
	comp=N,9383µm,0.7s						
ARG	**Arkhangelos**	**0.75**	**19**	P	**Pg**	**20 24 23.8**	**-1.1**
ARG				S	**Sg**	**20 24 33.2**	**-1.7**
	comp=N,5µm,0.6s						
ARG	**Arkhangelos**	**0.75**	**19**	PG	**Pg**	**20 24 23.9**	**-1.1**
ARG				SG	**Sg**	**20 24 34.6**	**-0.3**
ARG	**Arkhangelos**	**0.75**	**19**	P	**Pg**	**20 24 24.0**	**-1.0**
ARG				S	**Sg**	**20 24 33.2**	**-1.7**
ARG	**Arkhangelos**	**0.75**	**19**	⇑P	**Pg**	**20 24 23.8**	**-1.1**
NISR	**Nisiros**	**1.24**	**333**	P	**Pn**	**20 24 32.2**	**-0.8**
NISR				AML	AML	20 25 01.3	
	comp=E,9658µm,1.0s						
NISR				AML	AML	20 25 03.2	
	comp=N,4775µm,0.8s						
MRSB	**Marmaris-Mugla**	**1.24**	**14**	PN	**Pn**	**20 24 33.1**	**0.0**
MRSB				SN	**Sg**	**20 24 51.5**	**+0.9**
DATC	**Datca-Mugla**	**1.26**	**354**	PN	**Pn**	**20 24 33.3**	**+0.1**
DATC				SN	**Sg**	**20 24 50.9**	**-0.1**
TURN	**Turunc**	**1.31**	**15**	PN	**Pn**	**20 24 34.2**	**-0.4**
TURN				SN	**Sg**	**20 24 52.6**	**-0.1**
TURN	**Turunc**	**1.31**	**15**	*i* P	**Pn**	**20 24 33.5**	**-0.4**
TURN				*i* S	**Sb**	**20 24 49.4**	**-1.8**
ZKR	**Zakros**	**1.37**	**254**	P	**Pb**	**20 24 35.6**	**0.0**
ZKR				S	**Sn**	**20 24 52.3**	**-0.4**
ZKR				AML	AML	20 25 04.2	
	comp=N,4705µm,0.6s						
ZKR				AML	AML	20 25 05.0	
	comp=E,14424µm,0.8s						
ZKR	**Zakros**	**1.37**	**254**	P	**Pb**	**20 24 35.5**	**-0.1**
ZKR				S	**Sg**	**20 24 54.6**	**0.0**
	comp=E,5µm,0.7s						
ZKR	**Zakros**	**1.37**	**254**	PN	**Pn**	**20 24 35.3**	**+0.5**
ZKR				SN	**Sg**	**20 24 54.8**	**+0.1**
ZKR	**Zakros**	**1.37**	**254**	P	**Pb**	**20 24 35.5**	**-0.1**
ZKR				S	**Sg**	**20 24 54.7**	**0.0**
ZKR				AML	AML	20 25 03.0	
	comp=E,4.4nm,0.7s						
ZKR				AML	AML	20 25 03.0	
	comp=E,4.4nm,0.7s						
ZKR				AML	AML	20 25 03.4	
	comp=E,14nm,0.8s						
ZKR				AML	AML	20 25 03.4	
	comp=E,14nm,0.8s						
KOSK	**Kos Island**	**1.42**	**331**	P	**Pn**	**20 24 35.2**	**-0.3**
KOSK	**Kos Island**	**1.42**	**331**	PN	**Pn**	**20 24 35.5**	**0.0**
KOSK				SN	**Sb**	**20 24 54.8**	**+0.5**
STIA	**Sitia Lasithi**	**1.45**	**258**	P	**Pn**	**20 24 36.1**	**+0.2**
DALY	**Dalyan (Mula)**	**1.47**	**27**	PN	**Pb**	**20 24 36.7**	**-0.6**
DALY				SN	**Sg**	**20 24 57.0**	**-0.8**
DALY	**Dalyan (Mula)**	**1.47**	**27**	*i* P	**Pb**	**20 24 36.6**	**-0.6**
DALY				*i* S	**Sg**	**20 24 57.9**	**+0.1**
FETY	**Fethiye**	**1.52**	**42**	P	**Pn**	**20 24 36.8**	**-0.1**
FETY	**Fethiye**	**1.52**	**42**	PN	**Pn**	**20 24 37.2**	**+0.3**
FETY				SN	**Sb**	**20 24 57.6**	**+0.4**
BDRM	**Kayabasi**	**1.59**	**349**	*i* P	**Pn**	**20 24 37.8**	**0.0**
BDRM				*i* S	**Sn**	**20 24 52.2**	**-5.8**
BODT	**Bodrum**	**1.61**	**345**	P	**Pn**	**20 24 36.8**	**-1.3**
BODT				S	**Sn**	**20 24 57.0**	**-1.5**
BODT	**Bodrum**	**1.61**	**345**	PN	**Pn**	**20 24 38.0**	**-0.1**
AKAS	**Kas**	**1.62**	**63**	PN	**Pb**	**20 24 39.2**	**-0.7**
AKAS				SN	**Sb**	**20 25 00.3**	**+0.2**
AKAS	**Kas**	**1.62**	**63**	*i* P	**Pn**	**20 24 38.9**	**+0.6**
AKAS				*i* S	**Sn**	**20 24 57.2**	**-1.6**
AKAS	**Kas**	**1.62**	**63**		**Pn**	**20 24 38.4**	**+0.1**
YER	**Yerkesik**	**1.67**	**13**	PN	**Pn**	**20 24 39.0**	**+0.1**
YER				SN	**Sb**	**20 25 00.9**	**-0.6**
YER	**Yerkesik**	**1.67**	**13**	P	**Pn**	**20 24 39.0**	**+0.1**
YER				S	**Sb**	**20 25 00.8**	**-0.7**
MULA	**Mugla, Merkez-**	**1.79**	**13**	*i* P	**Pb**	**20 24 42.9**	**0.0**
MULA				*i* S	**Sn**	**20 25 03.5**	**+0.4**
NPS	**Neapolis**	**1.82**	**263**	P	**Pb**	**20 24 42.8**	**-0.5**
NPS				S	**Sb**	**20 25 06.0**	**0.0**
NPS				AML	AML	20 25 21.9	
	comp=E,6566µm,0.8s						
NPS				AML	AML	20 25 25.6	
	comp=N,7054µm,0.9s						
NPS	**Neapolis**	**1.82**	**263**	P	**Pb**	**20 24 43.0**	**-0.3**
NPS				S	**Sn**	**20 25 04.6**	**+0.7**
	comp=N,6µm,0.8s						
LAST	**Lasithi**	**1.95**	**261**	P	**Pb**	**20 24 45.2**	**-0.3**
LAST				AML	AML	20 25 28.5	
	comp=E,3699µm,0.7s						
LAST				AML	AML	20 25 34.1	
	comp=N,2792µm,0.7s						
LAST	**Lasithi**	**1.95**	**261**	P	**Pb**	**20 24 44.4**	**-1.1**
LAST				S	**Sn**	**20 25 07.4**	**+0.4**
	comp=N,888nm,0.8s						
DDIM	**Aydin, Didim**	**2.00**	**347**	*i* P	**Pn**	**20 24 43.3**	**-0.2**
DDIM				*i* S	**Sn**	**20 25 07.6**	**-0.6**
CAEL	**Denizli, Camel**	**2.02**	**36**	*i* P	**Pb**	**20 24 46.1**	**-0.5**
CAEL				*i* S	**Sb**	**20 25 12.8**	**+1.3**
SANT	**Santorini**	**2.11**	**295**	P	**Pn**	**20 24 45.4**	**+0.5**
SANT				AML	AML	20 25 18.0	
	comp=E,3692µm,0.4s						
SANT				AML	AML	20 25 18.0	
	comp=N,1710µm,0.5s						
SANT	**Santorini**	**2.11**	**295**	⇓P	**Pb**	**20 24 47.3**	**-0.8**
SANT				⇑S	**Sb**	**20 25 14.0**	**-0.1**
SANT	**Santorini**	**2.11**	**295**	PN	**Pn**	**20 24 45.9**	**+0.9**
SANT	**Santorini**	**2.11**	**295**		**Pn**	**20 24 44.9**	**-0.1**
TAVA	**DENIZLI_Tavas**	**2.14**	**24**	*i* P	**Pb**	**20 24 47.7**	**-1.2**
TAVA				*i* S	**Sn**	**20 25 13.1**	**+1.2**
SNT1	**Gialos, Santor**	**2.15**	**296**	P	**Pn**	**20 24 45.8**	**+0.3**
THT2	**Imerovigli**	**2.16**	**296**	PN	**Pn**	**20 24 46.5**	**+0.8**
SNT5	**Nea Kammeni, S**	**2.17**	**295**	P	**Pn**	**20 24 46.2**	**+0.4**
AKUM	**Antalya-Kumluc**	**2.20**	**68**	*i* P	**Pn**	**20 24 47.7**	**+1.5**
AKUM				*i* S	**Sn**	**20 25 12.5**	**-0.6**
GOLH	**Golhisar**	**2.22**	**39**	*i* P	**Pb**	**20 24 49.4**	**-0.8**
GOLH				*i* S	**Sn**	**20 25 12.6**	**-1.3**
HRKL	**Herakleio**	**2.23**	**266**	PN	**Pn**	**20 24 48.3**	**+1.6**
GCAM	**G?zelcaml?**	**2.24**	**348**	PN	**Pn**	**20 24 47.7**	**+0.9**
GCAM	**G?zelcaml?**	**2.24**	**348**	*i* P	**Pn**	**20 24 46.4**	**-0.3**
GCAM				*i* S	**Sn**	**20 25 09.0**	**-5.1**
SMG	**Samos**	**2.34**	**340**	P	**Pn**	**20 24 47.9**	**-0.2**
IDI	**Anoyia**	**2.41**	**266**	Pn	**Pn**	**20 24 49.9**	**+0.7**
	comp=N,18nm,0.3s,baz=70,slow=16,SNR=61						
IDI				LR	LR	20 25 19.0	
	comp=N,130nm,19.8s,baz=116,slow=30						
IDI				Sn	**Sb**	**20 25 20.8**	**-2.0**
	comp=N,24nm,0.3s,baz=316,slow=21,SNR=2.3						
IDI	**Anoyia**	**2.41**	**266**	P	**Pn**	**20 24 51.4**	**+2.2**
IDI				AML	AML	20 25 34.1	
	comp=N,1331µm,0.5s						
IDI				AML	AML	20 25 35.2	
	comp=E,1791µm,0.6s						
**IDI

	baz=212									
SLUM					S		Sn	20 26 07.1	-4.3	
	baz=212									
CIFT	**Cifteler, Eski**	**4.63**	**33**		PN		**Pn**	20 25 21.6	+1.9	
TEVE	**Tevekalti-Mers**	**4.65**	**77**		PN		**Pn**	20 25 22.6	+2.6	
KRMN	**Karaman**	**4.69**	**68**		PN		**Pn**	20 25 22.7	+2.1	
AUBOZ	**BOZOYUK**	**4.73**	**21**		PN		**Pn**	20 25 23.1	+2.0	
ULDT	**Uludag**	**4.74**	**12**	*i*	P		**Pn**	20 25 22.6	+1.3	
MVOU	**Mavrovouni**	**4.78**	**94**	⇑	P		**Pn**	20 25 22.1	+0.5	
BORA	**Eskisehir**	**4.84**	**25**		PN		**Pn**	20 25 24.4	+1.8	
SRCK	**Saricakaya, Es**	**5.04**	**25**	*i*	P		**Pn**	20 25 26.9	+1.7	
ITM	**Ithomi**	**5.05**	**291**		Pn		**Pn**	20 25 27.6	+2.2	
KERG	**Konya-Eregli**	**5.42**	**68**	*i*	P		**Pn**	20 25 33.7	+3.0	
ALN	**Alexandroupoli**	**5.56**	**346**		P		**Pn**	20 25 32.9	+0.5	
ALN	**Alexandroupoli**	**5.56**	**346**		Pn		**Pn**	20 25 32.9	+0.5	
AGG	**Agios Georgios**	**5.62**	**310**		P		**Pn**	20 25 35.1	+1.9	
AGG	**Agios Georgios**	**5.62**	**310**		Pn		**Pn**	20 25 35.1	+1.9	
MDUB	**Mudurnu**	**5.63**	**27**		Pn		**Pn**	20 25 32.5	-0.9	
BR231	**Keskin MP Arra**	**5.84**	**41**		Pn		**Pn**	20 25 37.2	+0.9	
ANTO	**Ankara**	**5.87**	**41**		P		**Pn**	20 25 34.9	-1.8	
ANTO	**Ankara**	**5.87**	**41**		Pn		**Pn**	20 25 34.9	-1.8	
BR131	**Keskin Array S**	**6.25**	**46**	*ce*	P		**Pn**	20 25 44.8	+2.8	
BR131	**Keskin Array S**	**6.25**	**46**		Pn		**Pn**	20 25 42.2	+0.2	
BRTR	**Keskin Array B**	**6.25**	**46**		Pn		**Pn**	20 25 41.7	-0.3	
	comp=E,0.3nm,0.3s,baz=222,slow=14,SNR=16									
BRTR					Sn		**Sn**	20 26 54.0	+1.0	
	comp=E,0.5nm,0.3s,baz=206,slow=28,SNR=6.8									
BRTR	**Keskin Array B**	**6.25**	**46**		Pn		**Pn**	20 25 42.2	+0.2	
KOT	**Kottamia**	**6.50**	**148**		P		**Pn**	20 25 47.2	+1.7	
	baz=146									
SWA2		**6.56**	**198**		P		**Pn**	20 25 48.2	+2.1	
	baz=200									
SWA2					S		**Sn**	20 26 55.6	-4.9	
	baz=200									
SWA2					AMP			20 27 00.0		
	baz=200									
HHAG	**Hagoal**	**6.60**	**146**		P		**Pn**	20 25 50.2	+3.5	
	baz=144									
HSAF	**As Saff**	**6.66**	**151**		P		**Pn**	20 25 48.1	+0.6	
	baz=149									
MMAI	**Mount Meron Ar**	**6.75**	**109**		Pn		**Pn**	20 25 48.5	-0.3	
	comp=E,3.3nm,0.3s,baz=313,slow=12,SNR=20									
MMAI					Sn		**Sn**	20 27 05.0	-0.3	
	comp=E,3.5nm,0.3s,baz=296,slow=30,SNR=2.4									
MMAI					LR		LR	20 29 09.0		
	comp=E,87nm,19.4s,baz=330,slow=44									
GLL	**Jalalah**	**6.76**	**150**		P		**Pn**	20 25 49.7	+0.7	
	baz=148									
SUZ	**Suez**	**7.05**	**142**		P		**Pn**	20 25 55.3	+2.4	
	baz=140									
ILGA	**Ilgaz**	**7.22**	**38**		Pn		**Pn**	20 25 56.5	+1.1	
FNA	**Florina**	**7.32**	**318**		P		**Pn**	20 25 55.1	-1.5	
FNA	**Florina**	**7.32**	**318**		Pn		**Pn**	20 25 55.1	-1.5	
GAZ	**Gaziantep**	**7.75**	**75**		Pn		**Pn**	20 26 02.4	-0.2	
VTS	**Vitosha**	**7.95**	**335**	⇑	P		**Pn**	20 26 07.6	+2.3	
VTS	**Vitosha**	**7.95**	**335**		P		**Pn**	20 26 08.5	+3.2	
VTS	**Vitosha**	**7.95**	**335**		Pn		**Pn**	20 26 08.5	+3.2	
PLVB	**Pleven**	**8.25**	**343**	⇓	P		**Pn**	20 26 11.4	+2.1	
GRB	**Gharib**	**8.35**	**148**		P		**Pn**	20 26 12.3	+1.5	
	baz=147									
EIL	**Elat**	**8.36**	**132**		Pn		**Pn**	20 26 11.8	+0.9	
	comp=E,0.8nm,0.3s,baz=353,slow=4.4,SNR=9.5									
EIL					Sn		**Sn**	20 27 41.5	-3.6	
	comp=E,1.8nm,0.3s,baz=44,slow=16,SNR=3.0									
TIRR	**Tirgusor**	**8.95**	**3**	⇑	P		**Pn**	20 26 20.4	+1.5	
TIRR	**Tirgusor**	**8.95**	**3**		P		**Pn**	20 26 19.5	+0.6	
TIRR	**Tirgusor**	**8.95**	**3**		Pn		**Pn**	20 26 19.5	+0.6	
HARR	**Harsova**	**9.17**	**0**	⇓	P		**Pn**	20 26 23.6	+1.7	
TIP	**Timpagrande**	**9.54**	**296**	⇑	P		**Pn**	20 26 27.8	+0.6	
TIP	**Timpagrande**	**9.54**	**296**		Pn		**Pn**	20 26 28.9	-0.3	
CFR	**Carcaliu**	**9.66**	**1**	⇓	P		**Pn**	20 26 29.4	+0.7	
BISRR	**Bisoca**	**10.07**	**356**	⇓	P		**Pn**	20 26 35.9	+1.6	
MLR	**Muntele Rosu**	**10.08**	**352**		Pn		**Pn**	20 26 35.5	+1.0	
	comp=E,0.2nm,0.3s,baz=165,slow=6.4,SNR=23									
MLR	**Muntele Rosu**	**10.08**	**352**	⇓	P		**Pn**	20 26 35.8	+1.3	
MLR	**Muntele Rosu**	**10.08**	**352**		P		**Pn**	20 26 35.6	+1.2	
VOIR		**10.14**	**349**	⇓	P		**Pn**	20 26 36.8	+1.4	
VOIR		**10.14**	**349**		P		**Pn**	20 26 36.7	+1.4	
ARR	**Arges**	**10.15**	**347**	⇑	P		**Pn**	20 26 37.4	+2.0	
HERR	**Herculane**	**10.23**	**338**	⇑	P		**Pn**	20 26 39.0	+2.5	
PLOR	**Plostina**	**10.37**	**355**	⇓	P		**Pn**	20 26 40.5	+2.0	
MDVR	**Moldovita**	**10.38**	**335**	⇓	P		**Pn**	20 26 40.6	+2.1	
VRI	**Vrincioaia**	**10.38**	**356**	⇓	P		**Pn**	20 26 40.6	+2.0	
VRI	**Vrincioaia**	**10.38**	**356**		P		**Pn**	20 26 43.2	+4.7	
DIVS	**Divibare**	**10.48**	**327**		Pn		**Pn**	20 26 41.4	+1.4	
GZR	**Gura Zlata**	**10.60**	**340**	⇑	P		**Pn**	20 26 42.5	+1.0	
DOPR	**Dopca**	**10.61**	**351**	⇓	P		**Pn**	20 26 43.4	+1.8	
BZS	**Buzias**	**11.14**	**337**	⇓	P		**Pn**	20 26 50.5	+1.6	
BIZ	**Bicaz**	**11.50**	**354**	⇓	P		**Pn**	20 26 56.3	+2.6	
BURAR	**Bucovina Array**	**12.25**	**352**	⇓	P		**Pn**	20 27 05.4	+1.1	
BURAR	**Bucovina Array**	**12.25**	**352**		Pn		**Pn**	20 27 05.7	+1.4	
BUR08	**Bucovina Ar. S**	**12.29**	**352**		Pn		**Pn**	20 27 07.3	+2.7	
KOLS	**Kolonicke sedl**	**14.03**	**345**	*eP*			**P**	20 27 37.6	+1.4	
KOLS	**Kolonicke sedl**	**14.03**	**345**	*eP*			**P**	20 27 37.6	+1.4	
KBZ	**Khabaz**	**14.21**	**50**		Pn		**P**	20 27 38.6	+0.4	
	comp=E,0.1nm,0.3s,baz=243,slow=8.7,SNR=6.6									
VYHS	**Vyhne**	**14.58**	**336**	*eP*			**P**	20 27 43.9	+1.6	
VYHS	**Vyhne**	**14.58**	**336**	*eP*			**P**	20 27 43.9	+1.6	
SOKA	**Soboth**	**14.73**	**323**	*ePn*			**P**	20 27 41.7	-2.3	
	comp=E,2.1nm,0.5s									
TRI	**Trieste**	**14.74**	**318**		P		**P**	20 27 42.7	-1.4	
TRI	**Trieste**	**14.74**	**318**		P		**P**	20 27 42.6	-1.4	
OBKA	**Obir**	**14.85**	**322**	*ePn*			**P**	20 27 46.7	+1.3	
	comp=E,2.3nm,0.5s									
ARSA	**Arzberg**	**14.91**	**326**	*ePn*			**P**	20 27 46.9	+0.9	
	comp=E,3.2nm,0.8s									
LANS	**Liptovska Anna**	**14.96**	**338**	*eP*			**P**	20 27 48.8	+2.3	
LANS	**Liptovska Anna**	**14.96**	**338**	*eP*			**P**	20 27 48.8	+2.3	
KEST	**Kesra**	**15.04**	**276**		Pn		**P**	20 27 48.1	+0.6	
	comp=E,0.3nm,0.3s,baz=344,slow=1.8,SNR=6.5									
KEST	**Kesra**	**15.04**	**276**		P		**P**	20 27 47.4	-0.1	
AKASG	**Malin Array Be**	**15.22**	**3**		Pn		**Pn**	20 27 44.2	-0.2	
	comp=E,0.4nm,0.3s,baz=194,slow=11,SNR=1.5									
AKASG	**Malin Array Be**	**15.22**	**3**		P		**P**	20 27 48.8	-0.6	
AKBB	**Malin Array Si**	**15.22**	**3**		P		**P**	20 27 48.6	-0.8	
AKBB					pmax		pmax			
	comp=Z,4.0nm,0.8s									
AKBB	**Malin Array Si**	**15.22**	**3**		P		**P**	20 27 48.6	-0.8	
AKBB					IAmb		IAmb	20 27 58.0		
	comp=Z,4.1nm,0.8s									
JAVC	**Velka Javorina**	**15.30**	**334**	*eP*			**P**	20 27 55.0	+4.7	
MYKA	**Terra Mystica**	**15.40**	**321**	*ePn*			**P**	20 27 53.3	+1.8	
	comp=Z,2.3nm,0.5s									
ZOU	**Zoufplan**	**15.70**	**319**		P		**P**	20 27 55.0	0.0	
ZOU					IAmb		IAmb	20 28 03.4		
	comp=Z,13nm,1.1s									
TEOL	**Teolo**	**15.73**	**314**		Pn		**Pn**	20 27 50.8	-0.3	
OJC	**Ojcow**	**15.82**	**341**		P		**P**	20 27 56.6	+0.5	
OJC					pmax		pmax			
	comp=Z,28nm,1.4s									
OJC	**Ojcow**	**15.82**	**341**				**P**	20 27 56.6	+0.5	
KBA	**Koelnbreinsper**	**15.85**	**321**	*ePn*			**P**	20 27 57.1	+0.5	
	comp=Z,7.2nm,0.6s									
MOA	**Molln**	**15.93**	**325**	*i*	Pn		**P**	20 27 59.8	+2.5	
	comp=Z,1.1nm,0.5s									
KRUC	**Moravsky**	**15.94**	**332**	*eP*			**P**	20 27 57.6	+0.2	
ABTA	**Abfaltersbach**	**16.07**	**319**	*ePn*			**P**	20 28 00.5	+1.6	
	comp=Z,5.9nm,0.7s									
VRAC	**Vranov**	**16.07**	**333**		Pn		**P**	20 27 58.6	-0.2	
	comp=Z,0.1nm,0.3s,baz=113,slow=14,SNR=4.4									
VRAC	**Vranov**	**16.07**	**333**	*eP*			**P**	20 27 59.7	+0.9	
MORC	**Moravsky Berou**	**16.12**	**335**	*eP*			**P**	20 28 00.5	+1.0	
MORC	**Moravsky Berou**	**16.12**	**335**		P		**P**	20 28 00.4	+1.0	
MORC					pmax		pmax			
	comp=Z,11nm,0.9s									
MORC	**Moravsky Berou**	**16.12**	**335**				**P**	20 28 00.4	+1.0	
MORC					IAmb		IAmb	20 28 01.5		
	comp=Z,11nm,0.9s									
CTI	**Castel Tesino**	**16.12**	**316**		P		**P**	20 27 59.9	+0.3	
CTI					pmax		pmax			
	comp=Z,15nm,0.9s									
CTI	**Castel Tesino**	**16.12**	**316**				**P**	20 27 59.9	+0.3	
CTI					IAmb		IAmb	20 28 04.6		
	comp=Z,15nm,0.9s									
CKRC	**Cesky Krumlov**	**16.62**	**327**	*eP*			**P**	20 28 05.5	+0.6	
KRLC	**Kraliky**	**16.64**	**334**	*eP*			**P**	20 28 06.6	+1.5	
KRLC	**Kraliky**	**16.64**	**334**	*eP*			**P**	20 28 06.6	+1.5	
WTTA	**Wattenberg**	**16.86**	**319**	*ePn*			**P**	20 28 08.9	+1.1	
	comp=Z,4.8nm,0.6s									
GEC2	**GERESS Array S**	**16.91**	**326**				**Pn**	20 28 06.1	-0.2	
GEC2					IAmb		IAmb	20 28 14.1		
	comp=Z,19nm,1.4s									
GERES	**GERESS Array B**	**16.91**	**326**		Pn		**Pn**	20 28 06.9	+0.6	
	comp=Z,0.1nm,0.3s,baz=140,slow=11,SNR=31									
GERES	**GERESS Array B**	**16.91**	**326**		P		**Pn**	20 28 07.2	+0.9	
GERES	**GERESS Array B**	**16.91**	**326**				**Pn**	20 28 07.2	+0.9	
WATA	**Walderalm**	**16.94**	**319**		Pn		**P**	20 28 11.4	+2.8	
	comp=Z,7.0nm,0.6s									
DPC	**Dobruska-Polom**	**17.03**	**334**	*eP*			**P**	20 28 10.8	+1.3	
DPC	**Dobruska-Polom**	**17.03**	**334**	*eP*			**P**	20 28 10.8	+1.3	
SQTA	**Sankt Quirin**	**17.06**	**318**	*ePn*			**P**	20 28 13.6	+3.7	
	comp=Z,3.1nm,0.5s									
KHC	**Kasperske Hory**	**17.18**	**327**	*eP*			**P**	20 28 11.3	+0.2	
KHC	**Kasperske Hory**	**17.18**	**327**	*eP*			**P**	20 28 11.3	+0.2	
KHC				*ex*			x	20 29 02.0		
KHC	**Kasperske Hory**	**17.18**	**327**		P		**P**	20 28 11.1	0.0	
MOTA	**Moosalm**	**17.20**	**319**	*ePn*			**P**	20 28 12.3	+0.8	
	comp=Z,5.6nm,0.7s									
FETA	**Feichten**	**17.21**	**317**	*ePn*			**P**	20 28 13.5	+1.9	
	comp=Z,8.1nm,0.9s									
CHVC	**Chvalec**	**17.32**	**334**	*eP*			**P**	20 28 13.4	+0.7	
PRU	**Pruhonice**	**17.41**	**330**	*eP*			**P**	20 28 14.3	+0.6	
PRU	**Pruhonice**	**17.41**	**330**	*eP*			**P**	20 28 14.3	+0.6	
RETA	**Reutte**	**17.47**	**318**	*i*	Pn		**P**	20 28 15.1	+0.7	
	comp=Z,1.3nm,0.3s									
DAVOX	**Davos/Dischmat**	**17.55**	**315**		P		**Pn**	20 28 14.3	-0.1	
	comp=Z,0.1nm,0.3s,baz=140,slow=18,SNR=2.0									
TUE	**Stuetta**	**17.69**	**314**		P		**P**	20 28 17.1	+0.1	
DAVA	**Damuels**	**17.83**	**317**	*ePn*			**P**	20 28 20.4	+1.9	
	comp=Z,3.0nm,0.5s									
BRG	**Berggiesshubel**	**18.34**	**331**	*eP*			**P**	20 28 26.4	+2.5	
BRG					Amp			20 28 27.3		
	comp=Z,3.7nm,0.7s									
GRA1	**Grafenberg Arr**	**18.66**	**325**		P		**Pn**	20 28 27.9	+0.1	
GRA1					IAmb		IAmb	20 28 53.7		
	comp=Z,25nm,1.5s									
GRF	**Grafenberg Arr**	**18.66**	**325**		P		**Pn**	20 28 27.9	+0.1	
GRF					pmax		pmax			
	comp=Z,25nm,1.5s									
GRFO	**Grafenberg**	**18.66**	**325**		P		**Pn**	20 28 28.1	+0.3	
GRFO					pmax		pmax			
	comp=Z,7.0nm,0.8s									
GRFO	**Grafenberg**	**18.66**	**325**		P		**Pn**	20 28 28.1	+0.3	
GRFO					IAmb		IAmb	20 28 45.5		
	comp=Z,6.8nm,0.8s									
SUW	**Suwalki**	**18.79**	**351**		P		**Pn**	20 28 29.4	+0.1	
SUW					pmax		pmax			
	comp=Z,37nm,1.4s									
SUW	**Suwalki**	**18.79**	**351**		P		**Pn**	20 28 29.4	+0.1	
SENIN	**Lac Senin/Sane**	**18.87**	**311**		P		**P**	20 28 29.9	-0.1	
SENIN					IAmb		IAmb	20 28 34.9		
	comp=Z,6.3nm,0.6s									
MNK	**Minsk**	**19.00**	**0**	*i*	P		**P**	20 28 29.7	-1.3	
	comp=E,3.0nm,1.1s									
MNK				*i*	P		**P**	20 28 29.7	-1.3	
	comp=N,14nm,1.1s									
MNK				*i*	P		**P**	20 28 29.7	-1.3	
	comp=Z,10.0nm,0.8s									
MNK				*i*	PP		**PnPn**	20 28 42.5	-1.8	
MNK				*i*	PPP		PPP	20 28 50.3		
MNK				*i*	S		**Sn**	20 32 02.1	-1.9	
MNK				*i*	SS		**SnSn**	20 32 17.5	-0.6	
MNK				*i*	SSS		SSS	20 32 30.4		
MNK				*i*	LQ		LQ	20 33 49.7		
MNK				*i*	LR		LR	20 35 34.4		
MNK				*i*	LRM		MLR	20 37 05.1		
	comp=Z,123nm,20.2s									
MNK				*i*	LRM		MLR	20 37 05.8		
	comp=N,444nm,17.4s									
MNK				*i*	LRM		MLR	20 37 18.8		
	comp=E,86nm,24.6s									
MNK				*i*	ScS		**ScS**	20 40 13.2	+1.1	
CLL	**Collm**	**19.06**	**331**	*i*	P		**P**	20 28 32.1	+0.4	
	comp=Z,10.0nm,1.1s									
CLL	**Collm**	**19.06**	**331**	*i*	P		**P**	20 28 32.1	+0.4	
CLL					pmax		pmax			
	comp=Z,10.0nm,1.1s									
CLL	**Collm**	**19.06**	**331**		P		**P**	20 28 31.3	-0.4	
CLL					IAmb		IAmb	20 28 38.5		
	comp=Z,7.9nm,1.1s									
MOX	**Moxa**	**19.15**	**327**		P		**Pn**	20 28 35.3	+1.6	
MOX					pmax		pmax			
	comp=Z,10.0nm,1.0s									
BFO	**Black Forest**	**19.29**	**318**		P		**Pn**	20 28 35.5	+0.1	
BFO					pmax		pmax			
	comp=Z,6.0nm,0.9s									
BFO	**Black Forest**	**19.29**	**318**		P		**Pn**	20 28 35.5	+0.1	
NACGM	**Naroch**	**19.41**	**358**	*i*	P		**Pn**	20 28 39.6	+2.8	
NACGM				*i*	P		**Pn**	20 28 39.6	+2.8	
NACGM				*i*	P		**Pn**	20 28 39.6	+2.8	
NACGM				*i*	PP		**PnPn**	20 28 55.1	+5.1	
NACGM				*i*	S		**S**	20 32 20.2	+5.7	
NACGM				*i*	SS		**SnSn**	20 32 37.6	+9.3	
NACGM				*i*	LQ		LQ	20 34 38.3		
NACGM				*i*	LR		LR	20 36 08.1		
OBN	**Obninsk**	**20.52**	**14**	⇑	*eP*		Pn	20 28 52.0	+2.2	
OBN					*e*			20 29 08.9		
OBN					*eS*		**S**	20 32 32.0	-4.5	
OBN					pmax		pmax			
	comp=Z,31nm,1.3s									
OBN					MLR		MLR			
	comp=Z,290nm,14.0s									
CAF	**Calviac**	**21.73**	**303**	*eP*			**P**	20 29 02.9	+2.0	
CAF					pmax		pmax			
	comp=Z,14nm,1.4s									
BELG	**Belogornoye**	**21.98**	**34**		P		**P**	20 29 03.4	+0.1	
	comp=Z,15nm,0.8s,baz=94,slow=0.8,SNR=8.8									
BELG	**Belogornoye**	**21.98**	**34**	⇓	*eP*		**P**	20 29 05.6	+2.3	
BELG					pmax		pmax			
	comp=Z,5.0nm,1.3s									
VSU	**Vasula**	**22.98**	**359**	⇑	*eP*		**P**	20 29 16.0	+2.1	
VSU					pmax		pmax			
	comp=Z,264nm,5.6s									
MFF	**Saint Martin d**	**23.71**	**306**	*eP*			**P**	20 29 23.5	+2.1	
MFF					pmax		pmax			
	comp=Z,29nm,1.7s									
ESDC	**Sonseca Array**	**25.46**	**289**		P		**P**	20 29 37.1	-0.5	
	comp=Z,3.3nm,0.6s,baz=82,slow=9.1,SNR=15									
PAB	**San Pablo**	**25.76**	**289**		P		**P**	20 29 41.3	+1.0	
PAB					pmax		pmax			
	comp=Z,4.0nm,0.8s									
PAB	**San Pablo**	**25.76**	**289**		P		**P**	20 29 41.3	+1.0	
PAB					IAmb		IAmb	20 29 45.9		
	comp=Z,4.5nm,0.8s									
FINES	**FINESS Array B**	**25.98**	**358**		P		**P**	20 29 40.5	-1.5	
	comp=Z,1.2nm,0.5s,baz=164,slow=10,SNR=10									
HFS	**Hagfors**	**26.29**	**344**		P		**P**	20 29 43.7	-1.1	
	comp=Z,3.7nm,0.8s,baz=141,slow=9.6,SNR=7.4									
AKTO	**Aktyubinsk**	**26.43**	**46**		P		**P**	20 29 46.2	+0.1	
	comp=Z,0.9nm,0.5s,baz=264,slow=13,SNR=3.6									
KLMR	**Klimovskoe**	**26.45**	**13**	*eP*			**P**	20 29 45.4	-0.8	
KLMR					pmax		pmax			
	comp=Z,18nm,1.1s									
KLMR	**Klimovskoe**	**26.45**	**13**	*eP*			**P**	20 29 45.5	-0.8	
KLMR					AMP			20 29 51.7		
	comp=Z,18nm,1.1s									
MDT	**Midelt**	**26.91**	**274**		P		**P**	20 29 51.6	+0.8	
	comp=Z,1.7nm,0.8s,baz=30,slow=8.1,SNR=3.1									
NB2	**NORSAR Subarra**	**27.67**	**343**		P		**P**	20 29 55.8	-1.5	
	comp=Z,0.6nm,0.7s,baz=150,slow=9.3									
NOA	**NORSAR Array B**	**27.67**	**343**		P		**P**	20 29 55.8	-1.5	
	comp=Z,0.4nm,0.7s,baz=143,slow=8.6,SNR=1.4									
TORD	**Torodi Ar. Bea**	**32.41**	**233**		P		**P**	20 30 39.3	-0.3	
	comp=Z,2.0nm,0.4s,baz=33,slow=8.6,SNR=13									
ARCES	**ARCESS Array B**	**34.11**	**359**		P		**P**	20 30 52.3	-1.6	
	comp=Z,4.5nm,1.0s,baz=171,slow=9.1,SNR=5.8									
KSH	**Kashi**	**38.04**	**69**		P		**P**	20 31 27.8	-0.3	
KSH					PcP		**PcP**	20 33 36.4	-6.9	
KSH					S		**S**	20 37 16.1	-3.9	
KSH					pmax		pmax			
	comp=Z,3.0nm,0.4s									
KSH					pmax		pmax			
	comp=Z,640nm,5.4s									
MK31	**Makanchi Array**	**41.76**	**57**		P		**P**	20 32 00.7	+1.9	
MK31					pmax		pmax			
	comp=Z,2.0nm,1.3s									
MK31	**Makanchi Array**	**41.76**	**57**		P		**P**	20 32 00.7	+1.9	
MKAR	**Makanchi Array**	**41.76**	**57**		P		**P**	20 31 59.4	+0.6	
	comp=Z,0.5nm,0.5s,baz=276,slow=8.3,SNR=4.4									
MKAR	**Makanchi Array**	**41.76**	**57**		P		**P**	20 31 60.0	+1.2	
ZALV	**Zalesovo Beam**	**43.19**	**46**		P		**P**	20 32 10.3	+0.1	
	comp=Z,0.6nm,0.4s,baz=266,slow=5.9,SNR=4.0									
ZALV	**Zalesovo Beam**	**43.19**	**46**	*i*	P		**P**	20 32 10.8	+0.6	
ZALV					pmax		pmax			
	comp=Z,1.0nm,0.4s									
ZALV	**Zalesovo Beam**	**43.19**	**46**		P		**P**	20 32 10.6	+0.4	
ZAK	**Zakamensk**	**54.88**	**49**	*eP*			**P**	20 33 35.4	-4.6	
ZAK					pmax		pmax			
	comp=Z,3.0nm,1.1s									
SONM	**Songino Array**	**57.57**	**51**		P		**P**	20 33 59.3	0.0	
	comp=Z,0.5nm,0.8s,baz=284,slow=9.5,SNR=5.7									
SONM	**Songino Array**	**57.57**	**51**		P		**P**	20 34 00.2	+0.9	
SONM					pmax		pmax			
	comp=Z,1.0nm,0.7s									
SONM	**Songino Array**	**57.57**	**51**		P		**P**	20 34 00.2	+0.9	
SONM					IAmb		IAmb	20 34 06.4		
	comp=Z,1.0nm,0.7s									
ULN	**Ulaanbaatar**	**57.98**	**51**	⇓	*eP*		**P**	20 34 05.6	+3.4	
ULN					pmax		pmax			
	comp=Z,2.0nm,1.1s									
TIXI	**Tiksi**	**60.07**	**21**		P		**P**	20 34 16.0	-0.1	
	comp=Z,0.6nm,0.5s,baz=308,slow=5.4,SNR=3.8									
TIXI	**Tiksi**	**60.07**	**21**		P		**P**	20 34 15.7	-0.4	
CMAR	**Chiang Mai Arr**	**64.37**	**85**		P		**P**	20 34 46.1	+0.4	
	comp=Z,0.8nm,0.9s,baz=297,slow=8.8,SNR=3.3									
CMAR	**Chiang Mai Arr**	**64.37**	**85**	*i*	P		P	20 34 50.9	+5.2	
CMAR					pmax		pmax			
	comp=Z,1.0nm,0.7s									
YAK	**Yakutsk**	**64.48**	**31**	⇓	*eP*		**P**	20 34 49.8	+4.1	
YAK					pmax		pmax			
	comp=Z,4.0nm,0.6s									
USRK	**Ussuriysk Ar.**	**75.04**	**46**		P		**P**	20 35 51.3	+0.1	
	comp=Z,1.2nm,0.7s,baz=312,slow=4.0,SNR=2.4									
YKA	**Yellowknife Ar**	**77.77**	**343**		P		**P**	20 36 04.7	-1.6	
	comp=Z,0.3nm,0.8s,baz=40,slow=5.9,SNR=5.1									
YKA	**Yellowknife Ar**	**77.77**	**343**	*i*	P		P	20 36 08.6	+2.4	
YKA					pmax		pmax			
	comp=Z,1.0nm,0.8s									
ILAR	**Eielson Array**	**79.97**	**358**		P		**P**	20 36 17.6	-0.7	
	comp=Z,0.3nm,0.6s,baz=321,slow=2.8,SNR=5.4									
ILAR	**Eielson Array**	**79.97**	**358**		P		**P**	20 36 18.6	+0.3	
ILAR	**Eielson Array**	**79.97**	**358**		P		**P**	20 36 18.6	+0.3	
ULM	**Lac du Bonnet**	**81.22**	**327**		P		**

U38A	**Gravette**	**2.63**	**93**	P			20 34 46.3	
	baz=275,SNR=120							
CBKS	**Cedar Bluff**	**2.74**	**323**			**Pn**	**20 34 47.3**	**+1.0**
CBKS				IAmb_Lg			20 35 33.5	
	comp=Z,366nm,0.7s							
CBKS	**Cedar Bluff**	**2.74**	**323**	P			20 34 47.5	
	baz=142							
CBKS				S			20 35 24.8	
	baz=142							
X37A	**Clayton**	**2.75**	**137**			**Pn**	**20 34 47.9**	**+1.6**
X37A				IAmb_Lg			20 35 35.3	
	comp=Z,701nm,0.9s							
X37A	**Clayton**	**2.75**	**137**	P		**Pn**	**20 34 47.9**	**+1.6**
	baz=318,SNR=32							
X37A	**Clayton**	**2.75**	**137**	P			20 34 47.9	
	baz=318,SNR=32							
HHAR	**Hobbs**	**3.01**	**95**			**Pn**	**20 34 51.4**	**+1.5**
HHAR				IAmb_Lg			20 35 42.9	
	comp=Z,407nm,0.8s							
HHAR	**Hobbs**	**3.01**	**95**	P		**Pn**	**20 34 51.8**	**+1.9**
	baz=278,SNR=17							
HHAR	**Hobbs**	**3.01**	**95**	P			20 34 51.8	
	baz=278,SNR=17							
Z35A	**Perchaven, San**	**3.30**	**174**			**Pn**	**20 34 55.0**	**+1.0**
W39A	**Magazine**	**3.44**	**113**			**Pn**	**20 34 57.5**	**+1.7**
W39A				IAmb_Lg			20 35 57.5	
	comp=Z,533nm,0.8s							
W39A	**Magazine**	**3.44**	**113**	S		**Sn**	**20 35 38.5**	**+1.8**
	baz=296							
W39A	**Magazine**	**3.44**	**113**	P			20 34 57.0	
	baz=296,SNR=106							
W39A	**Magazine**	**3.44**	**113**	S			20 35 38.5	
	baz=296							
S39A	**Bolivar**	**3.61**	**72**			**Pn**	**20 34 59.4**	**+1.2**
S39A				IAmb_Lg			20 36 01.4	
	comp=Z,824nm,0.8s							
S39A	**Bolivar**	**3.61**	**72**	P		**Pn**	**20 34 59.4**	**+1.2**
	baz=254,SNR=38							
S39A	**Bolivar'**	**3.61**	**72**	P			20 34 59.4	
	baz=254,SNR=38							
AMTX	**Amarillo**	**3.71**	**243**			**Pn**	**20 35 00.9**	**+1.2**
AMTX				IAmb_Lg			20 36 09.4	
	comp=Z,310nm,0.8s							
AMTX	**Amarillo**	**3.71**	**243**	P		**Pn**	**20 35 00.9**	**+1.2**
	baz=61,SNR=16							
AMTX				S		**Sn**	**20 35 44.8**	**+1.3**
	baz=61							
AMTX	**Amarillo**	**3.71**	**243**	P			20 35 00.9	
	baz=61							
AMTX				Sb			20 35 57.6	
	baz=61							
AMTX	**Amarillo**	**3.71**	**243**	P			20 35 00.9	
	baz=61,SNR=16							
AMTX				S			20 35 44.8	
	baz=61							
U40A	**Yellville**	**3.87**	**93**			**Pn**	**20 35 03.0**	**+1.3**
U40A				IAmb_Lg			20 36 09.4	
	comp=Z,950nm,0.8s							
U40A	**Yellville**	**3.87**	**93**	P		**Pn**	**20 35 03.1**	**+1.3**
	baz=275,SNR=54							
U40A	**Yellville**	**3.87**	**93**	P			20 35 02.9	
	baz=275,SNR=72							
U40A	**Yellville**	**3.87**	**93**	P			20 35 03.1	
	baz=275,SNR=54							
U40A				P			20 35 03.1	
	baz=275,SNR=54							
MIAR	**Mount Ida**	**3.91**	**121**			**Pn**	**20 35 03.7**	**+1.4**
MIAR				IAmb_Lg			20 36 08.4	
	comp=Z,609nm,0.9s							
MIAR	**Mount Ida**	**3.91**	**121**	P		**Pn**	**20 35 04.0**	**+1.6**
	baz=303,SNR=16							
MIAR	**Mount Ida**	**3.91**	**121**	P			20 35 03.2	
	baz=303							
MIAR	**Mount Ida**	**3.91**	**121**	P			20 35 04.0	
	baz=303,SNR=16							
Z38A	**Mt. Pleasant**	**4.01**	**146**			**Pn**	**20 35 04.2**	**+0.6**
N33B	**J Bar K, Exete**	**4.11**	**2**	P		**Pn**	**20 35 05.4**	**+0.4**
	baz=182,SNR=11							
N33B	**J Bar K, Exete**	**4.11**	**2**	P			20 35 05.4	
	baz=182,SNR=11							
N33A	**J Bar K, Exete**	**4.11**	**2**	Pn		**Pn**	**20 35 05.4**	**+0.4**
N33A				IAmb_Lg			20 36 21.0	
	comp=Z,261nm,0.8s							
MGMO	**Mountain Grove**	**4.34**	**81**			**Pn**	**20 35 09.8**	**+1.5**
MGMO				IAmb_Lg			20 36 21.1	
	comp=Z,988nm,0.8s							
P38A	**Dawn**	**4.41**	**46**			**Pn**	**20 35 10.3**	**+1.1**
P38A				IAmb_Lg			20 36 25.9	
	comp=Z,529nm,0.8s							
P38A	**Dawn**	**4.41**	**46**	P		**Pn**	**20 35 10.4**	**+1.1**
	baz=229,SNR=14							
P38A	**Dawn**	**4.41**	**46**	P			20 35 10.4	
	baz=229,SNR=14							
X40A	**Basin Creek Fa**	**4.47**	**117**			**Pn**	**20 35 10.7**	**+0.8**
X40A				IAmb_Lg			20 36 32.2	
	comp=Z,594nm,1.2s							
X40A	**Basin Creek Fa**	**4.47**	**117**	P			20 35 11.1	
	baz=300,SNR=7.0							
N35A	**Tabor**	**4.51**	**20**			**Pn**	**20 35 12.0**	**+1.5**
N35A				IAmb_Lg			20 36 33.0	
	comp=Z,992nm,0.7s							
N35A	**Tabor**	**4.51**	**20**	P		**Pn**	**20 35 12.0**	**+1.5**
	baz=201,SNR=8.0							
N35A	**Tabor**	**4.51**	**20**	P			20 35 12.0	
	baz=201,SNR=8.0							
FCAR	**Ozark Folk Cen**	**4.52**	**98**			**Pn**	**20 35 11.6**	**+0.9**
FCAR				IAmb_Lg			20 36 31.5	
	comp=Z,295nm,0.7s							
WHAR	**Wooly Hollow**	**4.55**	**105**			**Pn**	**20 35 11.8**	**+0.7**
WHAR				IAmb_Lg			20 36 31.4	
	comp=Z,514nm,0.8s							
R40A	**Maddies Statio**	**4.59**	**67**			**Pn**	**20 35 12.6**	**+0.9**
R40A				IAmb_Lg			20 36 27.4	
	comp=Z,768nm,0.7s							
R40A	**Maddies Statio**	**4.59**	**67**	P		**Pn**	**20 35 12.7**	**+1.1**
	baz=250,SNR=30							
R40A	**Maddies Statio**	**4.59**	**67**	P			20 35 12.7	
	baz=250,SNR=30							
KSCO	**Kaye Shedlock'**	**4.61**	**303**	P		**Pn**	**20 35 13.0**	**+1.0**
	baz=120,SNR=17							
KSCO	**Kaye Shedlock'**	**4.61**	**303**	P			20 35 12.9	
	baz=120							
KSCO				Sb			20 36 24.1	
	baz=120							
KSCO	**Kaye Shedlock'**	**4.61**	**303**	P			20 35 13.0	
	baz=120,SNR=17							
WHTX	**Lake Whitney,**	**4.63**	**178**	P		**Pn**	**20 35 12.9**	**+0.8**
	baz=358,SNR=22							
WHTX	**Lake Whitney,**	**4.63**	**178**	P			20 35 12.6	
	baz=358							
WHTX	**Lake Whitney,**	**4.63**	**178**	P			20 35 12.9	
	baz=358,SNR=22							
WLAR	**White Oak Lake**	**4.73**	**127**			**Pn**	**20 35 14.5**	**+0.9**
WLAR				IAmb_Lg			20 36 35.7	
	comp=Z,285nm,0.8s							
BGNE	**Belgrade**	**4.79**	**355**	P		**Pn**	**20 35 15.2**	**+0.8**
	baz=175,SNR=15							
BGNE	**Belgrade**	**4.79**	**355**	P			20 35 15.0	
	baz=175							
BGNE				Sb			20 36 30.4	
	baz=175							
BGNE	**Belgrade**	**4.79**	**355**	P			20 35 15.2	
	baz=175,SNR=15							
237A	**Washetta, Mont**	**4.86**	**161**	Pn		**Pn**	**20 35 16.0**	**+0.7**
237A				IAmb_Lg			20 36 49.3	
	comp=Z,281nm,0.9s							
MSTX	**Muleshoe**	**4.96**	**239**	P			20 35 17.0	
	baz=56							
Z41A	**Richland Creek**	**5.21**	**129**	P		**Pn**	**20 35 20.7**	**+0.6**
	baz=312							
Z41A	**Richland Creek**	**5.21**	**129**	S			20 36 19.4	
	baz=312							
Z41A	**Richland Creek**	**5.21**	**129**	P			20 35 20.7	
	baz=312							
Z41A				P			20 35 20.7	
	baz=312							
LCAR	**Lake Charles**	**5.27**	**94**			**Pn**	**20 35 21.7**	**+0.7**
LCAR				IAmb_Lg			20 36 51.7	
	comp=Z,462nm,0.7s							
T42A	**Van Buren**	**5.27**	**84**			**Pn**	**20 35 22.6**	**+1.6**
T42A				IAmb_Lg			20 36 53.2	
	comp=Z,445nm,0.9s							
P40A	**Paris**	**5.28**	**55**			**Pn**	**20 35 21.8**	**+0.7**
CCM	**Cathedral Cave**	**5.30**	**72**			**Pn**	**20 35 22.4**	**+1.1**
CCM	**Cathedral Cave**	**5.30**	**72**	P			20 35 22.0	
	baz=256							
CCM				S			20 36 23.2	
	baz=256							
N38A	**Joes South For**	**5.40**	**38**			**Pn**	**20 35 23.1**	**+0.3**
N38A				IAmb_Lg			20 36 55.1	
	comp=Z,704nm,0.7s							
N38A	**Joes South For**	**5.40**	**38**	P		**Pn**	**20 35 23.1**	**+0.3**
	baz=221,SNR=11							
N38A	**Joes South For**	**5.40**	**38**	P			20 35 23.1	
	baz=221,SNR=11							
L34A	**Svendsen Farm,**	**5.42**	**10**			**Pn**	**20 35 23.6**	**+0.5**
L34A				IAmb_Lg			20 37 08.4	
	comp=Z,463nm,0.8s							
T25A	**Trinidad**	**5.45**	**277**			**Pn**	**20 35 23.9**	**+0.3**
T25A				IAmb_Lg			20 37 08.0	
	comp=Z,309nm,0.9s							
T25A	**Trinidad**	**5.45**	**277**	P			20 35 24.0	
	baz=93							
NATX	**Nacogdoches**	**5.45**	**152**	IAmb_Lg			20 37 00.2	
	comp=Z,206nm,0.8s							
OGNE	**Ogallala**	**5.51**	**323**			**Pn**	**20 35 24.6**	**+0.3**
OGNE				IAmb_Lg			20 37 08.2	
	comp=Z,374nm,0.8s							
OGNE	**Ogallala**	**5.51**	**323**	P			20 35 26.0	
	baz=140							
OGNE				S			20 36 29.8	
	baz=140							
CCAR	**Cane Creek**	**5.51**	**118**			**Pn**	**20 35 25.2**	**+0.8**
CCAR				IAmb_Lg			20 37 09.5	
	comp=Z,221nm,0.9s							
PBMO	**Poplar Bluff**	**5.80**	**86**	Pn		**Pn**	**20 35 28.7**	**+0.5**
PBMO				IAmb_Lg			20 37 11.1	
	comp=Z,548nm,0.8s							
435B	**Jarrell**	**5.83**	**179**	Pn		**Pn**	**20 35 28.8**	**+0.1**
435B				IAmb_Lg			20 37 13.1	
	comp=Z,271nm,1.0s							
435B	**Jarrell**	**5.83**	**179**	P			20 35 28.5	
	baz=359							
FVM	**French Village**	**5.91**	**75**	Pn		**Pn**	**20 35 30.5**	**+0.6**
K31A	**O'Neill**	**6.05**	**352**			**Pn**	**20 35 32.2**	**+0.5**
K31A	**O'Neill**	**6.05**	**352**	P		**Pn**	**20 35 32.1**	**+0.4**
	baz=172,SNR=7.7							
K31A	**O'Neill**	**6.05**	**352**	P			20 35 32.1	
	baz=172,SNR=7.7							
SCIA	**State Center**	**6.29**	**32**			**Pn**	**20 35 35.9**	**+0.9**
SCIA				IAmb_Lg			20 37 26.0	
	comp=Z,549nm,0.8s							
SCIA	**State Center**	**6.29**	**32**	P			20 35 36.1	
	baz=215							
SDCO	**Great Sand Dun**	**6.37**	**282**			**Pn**	**20 35 36.6**	**+0.2**
SDCO	**Great Sand Dun**	**6.37**	**282**	P			20 35 37.6	
	baz=98							
Q24A	**Divide**	**6.38**	**294**	P			20 35 37.1	
	baz=109							
JCT	**Junction City**	**6.39**	**197**			**Pn**	**20 35 36.1**	**-0.3**
JCT				IAmb_Lg			20 37 30.6	
	comp=Z,286nm,1.1s							
JCT	**Junction City**	**6.39**	**197**	P			20 35 36.4	
	baz=16							
MET	**Memphis--Engin**	**6.44**	**101**	IAmb_Lg			20 37 37.4	
	comp=Z,478nm,0.9s							
143A	**Socs Landing,**	**6.46**	**125**	IAmb_Lg			20 37 38.3	
	comp=Z,220nm,0.9s							
N41A	**Harden Midland**	**6.70**	**50**			**Pn**	**20 35 41.5**	**+0.9**
S44A	**Carbondale**	**6.79**	**78**			**Pn**	**20 35 43.0**	**+1.2**
SIUC	**Southern Illin**	**6.82**	**78**			**Pn**	**20 35 42.8**	**+0.6**
342A	**Flagon Creek P**	**6.85**	**138**	IAmb_Lg			20 37 47.4	
	comp=Z,114nm,1.0s							
W45A	**Hickory Valley**	**7.02**	**100**	IAmb_Lg			20 37 49.0	
	comp=Z,496nm,0.8s							
ISCO	**Idaho Springs**	**7.03**	**299**			**Pn**	**20 35 45.9**	**+0.5**
ISCO	**Idaho Springs**	**7.03**	**299**	P			20 35 45.8	
	baz=114							
P43A	**Skaggs, Pawnee**	**7.08**	**62**			**Pn**	**20 35 46.5**	**+0.8**
K38A	**Parkersburg**	**7.09**	**31**			**Pn**	**20 35 47.1**	**+1.2**
K38A				IAmb_Lg			20 37 56.5	
	comp=Z,414nm,0.8s							
ECSD	**EROS Data Cent**	**7.14**	**6**			**Pn**	**20 35 46.3**	**-0.4**
ECSD				IAmb_Lg			20 37 48.8	
	comp=Z,217nm,1.2s							
ECSD	**EROS Data Cent**	**7.14**	**6**	P		**Pn**	**20 35 45.9**	**-0.8**
	baz=187,SNR=17							
ECSD	**EROS Data Cent**	**7.14**	**6**	P			20 35 46.0	
	baz=187,SNR=17							
ECSD	**EROS Data Cent**	**7.14**	**6**	P			20 35 45.9	
	baz=187,SNR=17							
Y45A	**Yeager Farm, C**	**7.18**	**110**	Pn		**Pn**	**20 35 46.8**	**-0.4**
Y45A				IAmb_Lg			20 38 02.5	
	comp=Z,188nm,0.8s							
VBMS	**Vicksburg**	**7.35**	**125**	IAmb_Lg			20 38 14.0	
	comp=Z,121nm,1.2s							
ANMO	**Albuquerque**	**7.35**	**259**	Pn		**Pn**	**20 35 52.2**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=165,slow=7.8,SNR=2.1							
ANMO				Pg		Pb	20 36 15.7	+5.7
	comp=Z,1.0nm,0.3s,baz=76,slow=16,SNR=8.3							
ANMO				Lg		Lg	20 37 50.7	
	comp=Z,9.1nm,0.3s,baz=221,slow=6.8,SNR=8.6							
L40A	**Anamosa**	**7.36**	**41**			**Pn**	**20 35 50.2**	**+0.5**
L40A				IAmb_Lg			20 38 02.2	
	comp=Z,437nm,0.9s							
HDIL	**Hopedale**	**7.63**	**57**			**Pn**	**20 35 54.2**	**+0.9**
HDIL	**Hopedale**	**7.63**	**57**	P			20 35 53.8	
	baz=242							
PHWY	**Pilot Hill**	**7.67**	**310**	Pn		**Pn**	**20 35 53.7**	**-0.4**
PHWY				IAmb_Lg			20 38 09.1	
	comp=Z,91nm,0.9s							
BNM	**Barren Site**	**7.74**	**254**	Pn		**Pn**	**20 35 54.9**	**-0.2**
735A	**Kenedy**	**7.75**	**181**	IAmb_Lg			20 38 20.1	
	comp=Z,166nm,1.1s							
WVT	**Waverly**	**7.93**	**91**	Pn		**Pn**	**20 35 57.9**	**+0.3**
WVT				IAmb_Lg			20 38 17.7	
	comp=Z,149nm,0.8s							
PLAL	**Pickwick Lake**	**7.95**	**99**	IAmb_Lg			20 38 28.7	
	comp=Z,132nm,0.8s							
Y22D	**IRIS PASSCAL I**	**7.99**	**254**	IAmb_Lg			20 38 31.6	
	comp=Z,195nm,0.8s							
O44A	**Mansfield**	**8.02**	**61**	Pn		**Pn**	**20 35 58.8**	**+0.1**
I37A	**Lemond, Waseca**	**8.06**	**22**	IAmb_Lg			20 38 23.7	
	comp=Z,203nm,1.0s							
MNTX	**Cornudas Mount**	**8.08**	**235**			**Pn**	**20 35 59.6**	**+0.1**
MNTX	**Cornudas Mount**	**8.08**	**235**	P		**Pn**	**20 35 59.4**	**-0.2**
	baz=50,SNR=6.6							
MNTX	**Cornudas Mount**	**8.08**	**235**	P			20 35 59.4	
	baz=50							
MNTX	**Cornudas Mount**	**8.08**	**235**	P			20 35 59.4	
	baz=50,SNR=6.6							
146A	**Union**	**8.12**	**117**	IAmb_Lg			20 38 37.2	
	comp=Z,102nm,1.0s							
L42A	**Oliver, Polo**	**8.19**	**47**			**Pn**	**20 36 01.4**	**+0.3**
L42A				IAmb_Lg			20 38 23.7	
	comp=Z,448nm,0.8s							
T47A	**Sharon Grove**	**8.46**	**84**	Pn		**Pn**	**20 36 06.1**	**+1.2**
JFWS	**Jewell Farm**	**8.47**	**40**			**Pn**	**20 36 04.9**	**0.0**
JFWS				IAmb_Lg			20 38 34.8	
	comp=Z,253nm,0.8s							
JFWS	**Jewell Farm**	**8.47**	**40**	P			20 36 04.7	
	baz=225							
Z47A	**Carrollton**	**8.58**	**111**	IAmb_Lg			20 38 55.1	
	comp=Z,82nm,0.9s							
P46A	**Rosedale**	**8.75**	**67**	Pn		**Pn**	**20 36 09.6**	**+0.8**
V48A	**Smith Brothers**	**8.80**	**93**	IAmb_Lg			20 38 42.6	
	comp=Z,190nm,0.9s							
TX32	**Lajitas Array**	**8.86**	**217**			**Pn**	**20 36 10.0**	**-0.3**
TXAR	**Lajitas Array**	**8.86**	**217**	Pn		**Pn**	**20 36 09.8**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=36,slow=11,SNR=21							
TXAR				Pg		Pg	20 36 39.2	-13
	comp=Z,0.8nm,0.3s,baz=41,slow=16,SNR=5.2							
TXAR				Lg		Lg	20 38 36.9	
	comp=Z,4.1nm,0.3s,baz=28,slow=19,SNR=7.5							
TXAR				LR		LR	20 39 47.8	
	comp=Z,218nm,18.7s,baz=0.0,slow=39							
M44A	**Midewin, Midew**	**8.86**	**55**	IAmb_Lg			20 38 44.7	
	comp=Z,385nm,0.9s							
X48A	**Haselle**	**8.91**	**101**	IAmb_Lg			20 38 43.1	
	comp=Z,155nm,1.0s							
RSSD	**Black Hills**	**8.93**	**329**	IAmb_Lg			20 39 01.6	
	comp=Z,194nm,1.0s							
RWWY	**Rawlins**	**8.98**	**307**	IAmb_Lg			20 39 07.9	
	comp=Z,127nm,1.1s							
I40A	**Norwalk**	**9.03**	**34**			**Pn**	**20 36 12.4**	**-0.2**
I40A				IAmb_Lg			20 39 05.3	
	comp=Z,129nm,0.8s							
CLTN	**Cedars of Leba**	**9.14**	**90**	IAmb_Lg			20 39 04.7	
	comp=Z,199nm,0.9s							
F33A	**5 Mile Ranch,**	**9.26**	**6**	IAmb_Lg			20 38 54.9	
	comp=Z,87nm,0.9s							
K43A	**Burlington**	**9.40**	**47**	IAmb_Lg			20 38 58.8	
	comp=Z,373nm,0.9s							
LRAL	**Lakeview Retre**	**9.46**	**109**	IAmb_Lg			20 39 19.6	
	comp=Z,91nm,1.1s							
U49A	**Red Boiling Sp**	**9.55**	**87**	IAmb_Lg			20 39 06.2	
	comp=Z,184nm,0.8s							
Y49A	**Blount Mountai**	**9.60**	**103**	IAmb_Lg			20 39 19.2	
	comp=Z,114nm,0.8s							
SWET	**Sewanee**	**9.61**	**95**	IAmb_Lg			20 39 17.9	
	comp=Z,119nm,0.8s							
F36A	**Milaca**	**9.73**	**17**	IAmb_Lg			20 39 26.8	
	comp=Z,100nm,1.3s							
I42A	**Draeger Farm,**	**9.85**	**40**	IAmb_Lg			20 39 17.6	
	comp=Z,118nm,0.7s							
PDAR	**Pinedale Array**	**11.03**	**307**	Pn		**Pn**	**20 36 39.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=121,slow=14,SNR=2.5							
PDAR				Pg			20 37 23.3	
	comp=Z,0.5nm,0.3s,baz=110,slow=17,SNR=6.1							
PDAR				Lg		Lg	20 39 43.8	
	comp=Z,0.7nm,0.3s,baz=104,slow=31,SNR=3.0							
TKL	**Tuckaleechee C**	**11.26**	**91**	Pn		**Pn**	**20 36 44.3**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=243,slow=10,SNR=4.8							
TKL				Sn		**Sn**	**20 38 46.2**	**-2.7**
	comp=Z,1.4nm,0.3s,baz=241,slow=11,SNR=2.2							
TKL				Lg		Lg	20 39 51.9	
	comp=Z,5.1nm,0.3s,baz=12,slow=19,SNR=20							
TKL				LR		LR	20 41 02.9	
	comp=Z,206nm,18.2s,baz=300,slow=37							
ULM	**Lac du Bonnet**	**13.68**	**5**	Pn		Pn	20 37 10.8	-5.3
	comp=Z,0.5nm,0.3s,baz=180,slow=8.9,SNR=4.0							
ULM				Lg		Lg	20 41 04.4	
	comp=Z,1.2nm,0.3s,baz=64,slow=23,SNR=3.1							
ULM				LR		LR	20 42 37.2	
	comp=Z,195nm,20.0s,baz=32,slow=38							
ELK	**Elko**	**14.34**	**292**	LR		LR	20 43 11.4	
	comp=Z,219nm,18.6s,baz=84,slow=38							
PFO	**Pinyon Flats O**	**15.69**	**264**	LR		LR	20 43 20.2	
	comp=Z,117nm,18.2s,baz=206,slow=36							
SADO	**Sadowa**	**16.20**	**54**	Pn		**Pn**	**20 37 47.0**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=88,slow=9.4,SNR=1.2							
SADO				Sn		**Sn**	**20 40 39.9**	**-9.4**
	comp=Z,1.1nm,0.3s,baz=275,slow=13,SNR=2.0							
SADO				Lg		Lg	20 42 23.9	
	comp=Z,1.4nm,0.3s,baz=11,slow=21,SNR=9.5							
NVAR	**Mina Array Bea**	**16.49**	**282**	Pn		**Pn**	**20 37 55.0**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=68,slow=25,SNR=1.6							
NVAR				LR		LR	20 44 14.0	
	comp=Z,101nm,19.1s,baz=138,slow=38							
NEW	**Newport**	**18.43**	**315**	LR		LR	20 46 42.9	
	comp=Z,99nm,18.6s,baz=102,slow=42							
YBH	**Yreka Blue Hor**	**20.06**	**292**	LR		LR	20 47 17.9	
	comp=Z,52nm,20.8s,baz=90,slow=40							
YKA	**Yellowknife Ar**	**27.95**	**343**	P		**P**	**20 39 53.1**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=142,slow=10,SNR=2.7							
FRB	**Frobisher Bay**	**32.37**	**24**	LR		LR	20 53 49.7	
	comp=Z,101nm,21.4s,baz=242,slow=37							
ILAR	**Eielson Array**	**40.38**	**330**	P		**P**	**20 41 40.7**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=112,slow=7.1,SNR=7.2							
FINES	**FINESS Array B**	**72.16**	**25**	P		**P**	**20 45 28.6**	**+2.0**
	comp=Z,1.3nm,0.9s,baz=340,slow=12,SNR=1.6							
CMAR	**Chiang Mai Arr**	**123.02**	**341**	PKP		**PKiKP**	**20 53 01.1**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=38,slow=5.1,SNR=3.3							

RSPR ***12*** *20:35:31.7, 19.15N×66.85W, h21km±18km, MD3.2/10*
NEIC ***12*** *20:35:33.0±2.3, 18.97N±0.06×66.83W±0.03, h36km±55km,*
Error ellipse: s-maj=9.9km s-min=2.2km az=155.0
OSPL ***12*** *20:35:34.8±0.6, 18.82N×66.86W, h41km±10km, ML3.1*
ISC 12 20:35:31.2±1.4, 19.04N±0.06×66.82W±0.03, h29km, n75,
σ0.67/84, 24C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0.62**	**154**	*eP*		**Pn**	**20 35 44.3**	**+0.2**
EMPR	**Esperanza - Ma**	**0.62**	**154**	*eS*		**Sn**	**20 35 54.1**	**+1.1**
EMPR	**Esperanza - Ma**	**0.62**	**154**	*eP*		**Pn**	**20 35 44.3**	**+0.2**
EMPR	**Esperanza - Ma**	**0.62**	**154**	*eS*		**Sn**	**20 35 53.8**	**+0.8**
EMPR	**Esperanza - Ma**	**0.62**	**154**			**Pn**	**20 35 44.3**	**+0.2**
EMPR						**Sn**	**20 35 54.1**	**+1.1**
AGPR	**Aguadilla, PR**	**0.63**	**206**	*eP*		**Pb**	**20 35 43.7**	**0.0**
AGPR	**Aguadilla, PR**	**0.63**	**206**	*eS*		**Sn**	**20 35 53.3**	**0.0**
AGPR	**Aguadilla, PR**	**0.63**	**206**	*eP*		**Pb**	**20 35 43.7**	**0.0**
AGPR	**Aguadilla, PR**	**0.63**	**206**	*eS*		**Sn**	**20 35 53.7**	**+0.4**
AGPR	**Aguadilla, PR**	**0.63**	**206**			**Pb**	**20 35 43.7**	**0.0**
AGPR						**Sn**	**20 35 53.3**	**0.0**
AGPR	**Aguadilla, PR**	**0.63**	**206**	*i* P		**Pb**	**20 35 43.6**	**-0.2**
AGPR				*eS*		**Sb**	**20 35 50.8**	**-1.5**
AGPR				IAML			20 35 55.8	
	comp=Z,616nm,0.2s							
AOPR	**Arecibo Observ**	**0.69**	**175**	*eP*		**Pb**	**20 35 44.8**	**+0.1**
AOPR	**Arecibo Observ**	**0.69**	**175**	*eS*		**Sn**	**20 35 55.6**	**+0.8**
AOPR	**Arecibo Observ**	**0.69**	**175**	*eP*		**Pb**	**20 35 44.8**	**+0.1**
AOPR	**Arecibo Observ**	**0.69**	**175**	*eS*		**Sn**	**20 35 55.4**	**+0.7**
AOPR	**Arecibo Observ**	**0.69**	**175**			**Pb**	**20 35 44.8**	**+0.1**
AOPR						**Sn**	**20 35 55.6**	**+0.8**
MPR	**Mayaguez**	**0.87**	**200**			**Pn**	**20 35 47.2**	**-0.4**
MPR				IAML			20 36 02.0	
	comp=N,842nm,0.4s							
MPR	**

MTP	**Monte Pirata**	**1.52**	**128**		**Pn**	**20 35 56.5**	**0.0**
MTP					**Sb**	**20 36 16.7**	**-1.0**
CUPR	**Culebra, Puert**	**1.63**	**116**⇑	*eP*	**Pn**	**20 35 57.3**	**-0.6**
CUPR	**Culebra, Puert**	**1.63**	**116**	*eS*	**Sb**	**20 36 19.4**	**-1.3**
CUPR	**Culebra, Puert**	**1.63**	**116**⇑	*eP*	**Pn**	**20 35 57.3**	**-0.6**
CUPR	**Culebra, Puert**	**1.63**	**116**		**Pn**	**20 35 57.3**	**-0.6**
CUPR					**Sb**	**20 36 19.4**	**-1.3**
DR12	**Loma Pena Alta**	**2.44**	**265**	Pn	**Pn**	**20 36 09.5**	**+0.4**
SDDR	**Presa de Saban**	**4.23**	**270**		**Pn**	**20 36 34.6**	**+0.8**
SDDR	**Presa de Saban**	**4.23**	**270**	*i* P	**Pn**	**20 36 35.1**	**+1.3**
SDDR				IAML		20 37 55.3	

comp=Z,43nm,0.6s

IDC ***12*** *20:59:51.4±1.2,9°.95N×60°.02W, h0km, mb3.7/6, mb1 4.1/9, mb1mx3.8/38, mbtmp3.9/9, ML3.9/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/29, Error ellipse: s-maj=36.2km s-min=24.2km az=40.0*

TRN ***12*** *20:59:58.5, 10°.06N×60°.23W, h82km, MD4.1*

ISC 12 20:59:52.7±0.7, 10°.04N±0°.06×60°.03W±0°.07, h10km, n35, σ2s26/41, mb3.8/6, Trinidad

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.48**	**294**	*eP*		**Pg**		**21 00 21.7**	**+0.6**
TRN				*eS*		**Sn**		**21 00 38.4**	**-0.3**
GRGR	**Grenville**	**2.62**	**323**	*eP*		**Pb**		**21 00 38.1**	**-1.6**
GRGR				*eS*		**Sn**		**21 01 06.4**	**-0.5**
GCMP	**Grenada, Carri**	**2.79**	**331**	*eP*		**Pn**		**21 00 39.4**	**+2.0**
GCMP				*eS*		**Sn**		**21 01 09.2**	**-1.9**
SVB	**Belmont**	**3.42**	**340**	*e*		**Pb**		**21 00 52.1**	**-1.4**
SVB				*eS*		**Sn**		**21 01 25.6**	**-1.3**
SVV	**Soufriere Volc**	**3.45**	**340**	*eP*		**Pn**		**21 00 49.7**	**+3.0**
SVV				*eS*		**Sn**		**21 01 27.1**	**-0.5**
MCLT	**Moule a Chique**	**3.75**	**346**	*eP*		**Pn**		**21 00 53.6**	**+2.9**
MCLT				*eS*		**Sn**		**21 01 33.4**	**-1.5**
SLB	**Belfond**	**3.89**	**345**	*e*		**Pb**		**21 00 58.0**	**-3.5**
SLB				*eS*		**Sn**		**21 01 37.7**	**-0.7**
SLBI	**Saint Lucia, B**	**4.06**	**347**	*e*		**Pb**		**21 00 59.7**	**-4.7**
SLBI				*eS*		**Sn**		**21 01 40.5**	**-2.0**
MPOM	**Morne Pois Mar**	**4.45**	**350**	*eP*		**Pn**		**21 01 03.3**	**+3.0**
MPOM	**Morne Pois Mar**	**4.45**	**350**	*eS*		**Sn**		**21 01 50.9**	**-1.3**
PCRV	**Puerto La Cruz**	**4.54**	**272**	Pn		**Pn**		**21 01 01.9**	**+0.4**
	1.1nm,0.3s,baz=50,slow=18,SNR=1.4								
PCRV					Sn		Sn	21 01 43.9	-11
	2.0nm,0.3s,baz=344,slow=9.9,SNR=1.7								
BIM	**Bigot**	**4.56**	**347**	*eP*		**Pn**		**21 01 04.3**	**+2.5**
BIM	**Bigot**	**4.56**	**347**	*eS*		**Sn**		**21 01 52.5**	**-2.5**
FDF	**Fort de France**	**4.79**	**347**	*eP*		**Pn**		**21 01 07.8**	**+2.8**
FDF	**Fort de France**	**4.79**	**347**	*eS*		**Sn**		**21 01 58.9**	**-1.7**
DSLB	**Salisbury**	**5.53**	**346**	*eP*		**Pn**		**21 01 18.7**	**+3.5**
DSLB	**Salisbury**	**5.53**	**346**	*eS*		**Sn**		**21 02 16.3**	**-2.6**
MAGL	**Barre de l'ile**	**6.00**	**348**	*eP*		**Pn**		**21 01 24.9**	**+3.3**
MAGL	**Barre de l'ile**	**6.00**	**348**	*eS*		**Sn**		**21 02 28.1**	**-2.2**
CBE	**Ff, Capester**	**6.18**	**346**	*eP*		**Pn**		**21 01 25.9**	**+1.7**
ANBD	**Bethesda, Anti**	**7.16**	**347**	*eP*		**Pn**		**21 01 40.2**	**+2.6**
BPA	**Boggy Peak**	**7.18**	**346**	*eP*		**Pn**		**21 01 40.9**	**+3.0**
BPA	**Boggy Peak**	**7.18**	**346**	*eS*		**Sn**		**21 02 54.9**	**-4.7**
BAUV	**El Baul**	**7.98**	**263**	*eP*		**Pn**		**21 01 48.5**	**-0.3**
BAUV	**El Baul**	**7.98**	**263**	*eS*		Sn		21 03 10.7	-8.5
MDP	**Montagnes des**	**8.82**	**123**	Pn		**Pn**		**21 01 59.2**	**-1.1**
	0.9nm,0.3s,baz=324,slow=15,SNR=14								
MDP					Sn		Sn	21 03 30.8	-9.1
	2.3nm,0.3s,baz=66,slow=20,SNR=9.1								
SDV	**Santo Domingo**	**10.52**	**265**	Sn		Sn		21 04 12.2	-10
	0.9nm,0.3s,baz=243,slow=24,SNR=2.2								
PTGA	**Pitinga**	**10.70**	**180**	Pn		**Pn**		**21 02 25.2**	**-1.0**
	7.0nm,0.3s,baz=355,slow=17,SNR=33								
PTGA					LR		LR	21 07 05.7	
	comp=Z,51nm,19.1s,baz=248,slow=41								
TXAR	**Lajitas Array**	**45.02**	**302**	P		**P**		**21 08 09.3**	**+0.4**
	0.2nm,0.5s,baz=118,slow=11,SNR=4.2								
ULM	**Lac du Bonnet**	**49.81**	**331**	P		**P**		**21 08 46.0**	**+0.3**
	1.3nm,0.6s,baz=126,slow=8.6,SNR=3.1								
PDAR	**Pinedale Array**	**53.99**	**316**	P		**P**		**21 09 17.6**	**+0.2**
	0.6nm,0.5s,baz=113,slow=10,SNR=8.0								
YKA	**Yellowknife Ar**	**65.26**	**335**	P		**P**		**21 10 35.5**	**+1.2**
	0.8nm,0.7s,baz=108,slow=8.3,SNR=12								
GERES	**GERESS Array B**	**71.80**	**42**	P		**P**		**21 11 17.0**	**+1.3**
	0.5nm,0.8s,baz=273,slow=9.5,SNR=2.8								
ILAR	**Eielson Array**	**79.65**	**334**	P		**P**		**21 12 02.0**	**+1.8**
	0.3nm,0.5s,baz=102,slow=5.4,SNR=5.2								
CMAR	**Chiang Mai Arr**	**144.89**	**36**	PKP		**PKPab**		**21 19 29.1**	**-1.0**
	0.4nm,0.8s,baz=316,slow=2.5,SNR=1.9								

JMA ***12*** *21:03:00.9±0.1, 24°.26N×123°.76E, h17km±1km, M4.5*
JMA Felt III J1.

NIED ***12*** *21:03:00.9, 24°.26N×123°.76E, h17km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=2.12; Mθθ=2.34; Mφφ=0.22; Mrθ=0.74; Mθφ=-0.62; Mφr=0.39; Fault plane solution: M0=2.46000×10^15 NP1: φs=88.00000°, δ55.00000°, λ=-109.00000°. NP2: φs=298.00000°, δ39.00000°, λ=-66.00000°.*

NEIC ***12*** *21:03:00.9±1.4, 24°.29N±0°.07×123°.77E±0°.06, h19km±4km, mb4.6/37 Error ellipse: s-maj=10.3km s-min=8.0km az=176.0*

BJI ***12*** *21:03:02.0±0.0, 24°.30N×123°.70E, h22km, mB4.6/22, mb4.3/30, ML4.2/1, Ms4.1/12, Ms7 3.8/13*

IDC ***12*** *21:03:04.1±2.6, 24°.35N×123°.69E, h44km±26km, mb3.9/20, mb1 4.0/23, mb1mx3.8/43, mbtmp4.1/23, ML3.4/3, MS3.2/2, Ms1 3.3/2, ms1mx2.9/28, Error ellipse: s-maj=17.4km s-min=12.5km az=63.0*

ISC 12 21:03:00.7±0.8, 24°.24N±0°.03×123°.75E±0°.03, h18km±3km, n114, σ0s87/120, mb4.4/48, 1C-3D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**349**	P		**Pg**		**21 03 04.2**	**-0.2**
IRIF				S		**Sg**		**21 03 06.7**	**-0.1**
HATJ	**Hateruma jima**	**0.19**	**165**	P		**Pb**		**21 03 05.5**	**+0.1**
HATJ				S		**Sg**		**21 03 09.0**	**+0.2**
JKRS	**Kuro-shima**	**0.24**	**91**	P		**Pg**		**21 03 06.4**	**+0.2**
JKRS				S		**Sg**		**21 03 10.1**	**+0.1**
JIJ	**Ishigaki jima**	**0.38**	**71**	P		**Pg**		**21 03 08.3**	**-0.4**
JIJ				S		**Sg**		**21 03 13.6**	**-0.4**
JISG	**Ishigakijimahi**	**0.62**	**56**	P		**Pb**		**21 03 12.4**	**-0.6**
JISG				S		**Sb**		**21 03 21.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.71**	**288**	P		**Pb**		**21 03 14.6**	**0.0**
YOJ				S		**Sb**		**21 03 24.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.71**	**288**			**Pb**		**21 03 14.8**	**+0.3**
JYNG	**Yonagunijimaku**	**0.76**	**286**	P		**Pb**		**21 03 15.5**	**0.0**
JYNG				S		**Sb**		**21 03 25.8**	**+0.2**
JTJ	**Tarama**	**0.95**	**65**	P		**Pb**		**21 03 18.6**	**-0.2**
JTJ				S		**Sb**		**21 03 31.0**	**-0.1**
NACB	**Ninganchiao**	**1.97**	**268**			**Pn**		**21 03 34.0**	**+0.7**
TATO	**Taipei**	**2.19**	**290**			**Pn**		**21 03 36.4**	**+0.2**
YHNB	**Yeheng**	**2.21**	**282**			**Pn**		**21 03 36.3**	**-0.2**
YULB	**Yu-li**	**2.40**	**250**			**Pn**		**21 03 39.1**	**-0.1**
SSLB	**Suanglung**	**2.60**	**261**			**Pn**		**21 03 42.8**	**+0.9**
TWG	**Pinlang**	**2.83**	**241**			**Pn**		**21 03 44.6**	**-0.5**
TPUB	**Ta-pu**	**3.01**	**252**			**Pn**		**21 03 49.5**	**+1.9**
QZH	**Quanzhou**	**4.75**	**280**	*eP*		**Pn**		**21 04 11.7**	**+0.3**
QZH				Sn		**Sn**		**21 05 03.0**	**-3.0**
JOW	**Kunigami**	**4.83**	**57**	P		**Pn**		**21 04 13.3**	**+0.7**
	7.0nm,0.3s,baz=152,slow=14,SNR=18								
JOW				S		**Sn**		**21 05 08.9**	**+0.7**
	5.1nm,0.3s,baz=159,slow=29,SNR=1.4								
JOW	**Kunigami**	**4.83**	**57**			**Pn**		**21 04 12.6**	**0.0**
KNMB	**Chin-men Tao**	**4.89**	**274**	Pn		**Pn**		**21 04 13.8**	**+0.3**
CVP	**Callao Caves**	**6.75**	**196**⇓	*eP*		**Pn**		**21 04 38.1**	**-0.9**
JMZ	**Minamidaito 2**	**6.96**	**75**	Pn		**Pn**		**21 04 42.3**	**+0.5**
NJ2	**Nanjing**	**8.90**	**332**	*eP*		**Pn**		**21 05 09.7**	**+1.3**
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.5s								
WHN	**Wuhan**	**10.45**	**309**	⇓P		**Pn**		**21 05 31.7**	**+2.1**
KSRS	**Korea Array**	**13.65**	**14**	P		**Pn**		**21 06 14.9**	**+1.6**
	0.2nm,0.3s,baz=203,slow=12,SNR=5.2								
GYA	**Guiyang**	**15.61**	**282**	⇓P		**P**		**21 06 46.6**	**+2.5**
GYA				pmax		pmax			
	comp=Z,8.0nm,0.7s								
GYA				LR		LR			
	comp=Z,250nm,6.5s								
XAN	**Xi'an**	**16.20**	**310**	P		**P**		**21 06 49.2**	**-1.5**
XAN				pP		pP		21 06 55.4	-0.3
XAN				S		**Sn**		**21 09 49.1**	**+2.1**
XAN				pmax		pmax			
	comp=Z,7.0nm,0.9s								
XAN				LR		LR			
	comp=N,420nm,15.8s								
XAN				LR		LR			
	comp=E,290nm,18.4s								
XAN				LR		LR			
	comp=Z,520nm,14.1s								
MJAR	**Matsushiro Arr**	**17.46**	**42**	P		**P**		**21 07 05.9**	**+1.3**
	0.0nm,0.3s,baz=230,slow=9.1,SNR=2.8								
HHC	**Hu-ho-hao-te**	**19.45**	**331**	*eP*		**P**		**21 07 26.4**	**-0.1**
CN2	**Changchun**	**19.56**	**4**	*eP*		**Pn**		**21 07 31.0**	**+2.1**
LZH	**Lanzhou**	**20.83**	**309**	*eP*		Pn		21 07 43.1	-0.9
LZH				pP		sP		21 07 48.9	0.0
LZH				sP		pP		21 07 52.6	+6.0
LZH				pmax		pmax			
	comp=Z,14nm,1.0s								
LZH				pmax		pmax			
	comp=Z,120nm,4.8s								
TOLI2	**Tolitoli**	**23.17**	**188**	P		**P**		**21 08 06.2**	**-0.3**
TOLI2				IAmb		IAmb		21 08 09.1	
	comp=Z,11nm,0.9s								
CHTO	**Chiang Mai**	**23.68**	**262**	P		**P**		**21 08 11.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**23.79**	**261**	P		**P**		**21 08 12.7**	**0.0**
	comp=Z,1.7nm,0.8s,baz=59,slow=8.0,SNR=13								
CMAR				LR		LR		21 18 10.9	
	comp=Z,47nm,21.4s,baz=159,slow=38								
CMAR	**Chiang Mai Arr**	**23.79**	**261**	P		**P**		**21 08 13.3**	**+0.6**
GTA	**Gaotai**	**25.24**	**313**	⇑P		**P**		**21 08 26.4**	**+0.5**
GTA				pP		sP		21 08 34.8	+1.3
GTA				sP		pP		21 08 38.7	+7.4
GTA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
GTA				pmax		pmax			
	comp=Z,63nm,4.4s								
GTA				LR		LR			
	comp=Z,140nm,14.5s								
GTA				LR		LR			
	comp=Z,200nm,12.0s								
GTA				LR		LR			
	comp=Z,140nm,13.1s								
KLR	**Kul'dur**	**25.72**	**12**	P		**P**		**21 08 29.4**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=156,slow=20,SNR=2.8								
CMAR	**Chiang Mai Arr**	**23.79**	**261**	P		**P**		**21 08 13.3**	**+0.6**
GTA	**Gaotai**	**25.24**	**313**	⇑P		**P**		**21 08 26.4**	**+0.5**
GTA				pP		sP		21 08 34.8	+1.3
GTA				sP		pP		21 08 38.7	+7.4
GTA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
GTA				pmax		pmax			
	comp=Z,63nm,4.4s								
GTA				LR		LR			
	comp=Z,140nm,14.5s								
GTA				LR		LR			
	comp=Z,200nm,12.0s								
GTA				LR		LR			
	comp=Z,140nm,13.1s								
KLR	**Kul'dur**	**25.72**	**12**	P		**P**		**21 08 29.4**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=156,slow=20,SNR=2.8								
KSM	**Kuching**	**26.11**	**212**	P		**P**		**21 08 33.9**	**+0.2**
KSM				IAmb		IAmb		21 08 39.7	
	comp=Z,17nm,1.1s								
ULN	**Ulaanbaatar**	**27.05**	**335**	P		**P**		**21 08 41.8**	**-0.4**
SONM	**Songino Array**	**27.28**	**334**	P		**P**		**21 08 43.8**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=152,slow=9.9,SNR=12								
SONM	**Songino Array**	**27.28**	**334**	P		**P**		**21 08 43.6**	**-0.7**
SHL	**Shillong**	**28.90**	**279**	P		**P**		**21 08 58.5**	**-0.5**
SHL				IAmb		IAmb		21 09 00.2	
	comp=Z,5.6nm,0.7s								
LSA	**Lhasa**	**29.50**	**288**	P		**P**		**21 09 04.4**	**-0.2**
LSA				IAmb		IAmb		21 09 06.7	
	comp=Z,3.3nm,0.8s								
TAPN	**Taplejung**	**32.53**	**283**	*eP*		**P**		**21 09 31.9**	**+0.7**
	comp=Z,14nm,0.7s								
MMRI	**Maumere**	**32.71**	**183**	P		**P**		**21 09 31.2**	**-1.2**
ODAN	**Odare**	**32.84**	**282**	*eP*		**P**		**21 09 34.5**	**+0.7**
	comp=Z,22nm,0.9s								
MNSI	**Mandailing Nat**	**33.03**	**229**	P		**P**		**21 09 36.1**	**+0.8**
RAMN	**Ramite**	**33.54**	**283**	*eP*		**P**		**21 09 40.5**	**+0.6**
	comp=Z,6.5nm,0.6s								
GUN	**Gumba**	**34.12**	**284**	*eP*		**P**		**21 09 45.5**	**+0.4**
	comp=Z,10nm,0.5s								
PKI	**Pulchoki**	**34.56**	**284**	*eP*		**P**		**21 09 48.7**	**-0.2**
	comp=Z,3.4nm,0.4s								
PKIN	**Phulchoki**	**34.57**	**284**	*eP*		**P**		**21 09 48.8**	**-0.1**
	comp=Z,5.2nm,0.5s								
KKN	**Kakani**	**34.66**	**284**	*eP*		**P**		**21 09 50.0**	**+0.4**
	comp=Z,17nm,0.8s								
DMN	**Daman**	**34.82**	**284**	*eP*		**P**		**21 09 51.6**	**+0.5**
	comp=Z,12nm,0.7s								
GKN	**Gorkha**	**35.22**	**285**	*eP*		**P**		**21 09 54.8**	**+0.4**
	comp=Z,10nm,0.5s								
WMQ	**Urumqi**	**35.32**	**313**	*eP*		**P**		**21 09 56.5**	**+1.5**
WMQ				pmax		pmax			
	comp=Z,14nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,120nm,5.5s								
PETK	**Petropavlovsk-**	**38.53**	**33**	LR		LR		21 26 51.3	
	comp=Z,49nm,19.3s,baz=264,slow=37								
MK31	**Makanchi Array**	**39.94**	**315**	P		**P**		**21 10 33.4**	**-0.6**
MKAR	**Makanchi Array**	**39.94**	**315**	P		**P**		**21 10 33.1**	**-0.9**
	comp=Z,2.9nm,0.5s,baz=101,slow=9.8,SNR=56								
MKAR	**Makanchi Array**	**39.94**	**315**	P		**P**		**21 10 33.2**	**-0.8**
H11N1	**WAKE ISLAND Hy**	**40.14**	**88**	T		T		21 53 19.0	
	baz=283,slow=74,SNR=8.8								
H11N2	**WAKE ISLAND Hy**	**40.15**	**88**	T		T		21 53 19.3	
	baz=283,slow=74,SNR=9.5								
MAKZ	**Makanchi**	**40.15**	**315**	P		**P**		**21 10 35.0**	**-0.7**
MAKZ				IAmb		IAmb		21 10 35.5	
	comp=Z,4.3nm,0.6s								
H11N3	**WAKE ISLAND Hy**	**40.16**	**88**	T		T		21 53 21.0	
	baz=283,slow=74,SNR=7.5								
PMG	**Port Moresby**	**40.51**	**143**	P		**P**		**21 10 38.1**	**-0.8**
PMG				IAmb		IAmb		21 10 40.9	
	comp=Z,40nm,1.0s								
ZAA0	**Zalesovo Array**	**41.49**	**326**	P		**P**		**21 10 45.5**	**-1.1**
ZALV	**Zalesovo Beam**	**41.49**	**326**	P		**P**		**21 10 44.5**	**-2.1**
	comp=Z,1.8nm,0.6s,baz=114,slow=7.7,SNR=7.3								
ZALV	**Zalesovo Beam**	**41.49**	**326**	P		**P**		**21 10 45.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**42.12**	**177**	P		**P**		**21 10 51.7**	**-0.4**
FITZ				IAmb		IAmb		21 10 52.6	
	comp=Z,7.5nm,0.9s								
COEN	**Coen**	**42.44**	**151**	P		**P**		**21 10 55.4**	**+0.6**
COEN				IAmb		IAmb		21 10 58.2	
	comp=Z,7.6nm,0.9s								
KURK	**Kurchatov**	**43.57**	**319**	P		**P**		**21 11 02.9**	**-0.7**
KURBB	**Kurchatov Arra**	**43.59**	**319**	P		**P**		**21 11 02.9**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=120,slow=7.8,SNR=36								
AAK	**Ala-Archa**	**44.34**	**307**	P		**P**		**21 11 09.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=116,slow=7.6,SNR=4.7								
AAK	**Ala-Archa**	**44.34**	**307**	P		**P**		**21 11 10.0**	**-0.1**
WB0	**Warramunga Ar**	**44.95**	**166**	P		**P**		**21 11 15.1**	**+0.2**
WB0				IAmb		IAmb		21 11 16.2	
	comp=Z,24nm,1.1s								
WRA	**Warramunga Arr**	**45.11**	**166**	P		**P**		**21 11 16.6**	**+0.5**
	comp=Z,19nm,0.8s,baz=348,slow=8.9,SNR=89								
WB2	**Warramunga Arr**	**45.12**	**166**	P		**P**		**21 11 17.0**	**+0.8**
WR0	**Warramunga Arr**	**45.17**	**166**	P		**P**		**21 11 17.4**	**+0.7**
PSA00	**Pilbara Seismi**	**45.70**	**185**	P		**P**		**21 11 20.3**	**-0.5**
SMY	**Shemya**	**47.28**	**40**	P		**P**		**21 11 33.3**	**+0.4**
KK31	**Karatay Array**	**47.30**	**307**	P		**P**		**21 11 33.0**	**-0.3**
KKAR	**Karatay Array**	**47.30**	**307**	P		**P**		**21 11 33.6**	**+0.2**
KKAR	**Karatay Array**	**47.30**	**307**	P		**P**		**21 11 33.5**	**+0.2**
KKAR				IAmb		IAmb		21 11 38.1	
	comp=Z,1.0nm,0.8s								
GIRL	**Giralia**	**47.51**	**192**	P		**P**		**21 11 35.7**	**+0.8**
KBL	**Kabul**	**48.26**	**295**	P		**P**		**21 11 41.2**	**+0.2**
KBL				IAmb		IAmb		21 11 42.8	
	comp=Z,2.8nm,0.7s								
AS31	**Alice Springs**	**48.63**	**168**	P		**P**		**21 11 44.2**	**+0.5**
AS31				IAmb		IAmb		21 11 45.3	
	comp=Z,3.0nm,0.5s								
ASAR	**Alice Springs**	**48.63**	**168**	P		**P**		**21 11 44.6**	**+0.9**
	comp=Z,5.7nm,0.6s,baz=351,slow=6.6,SNR=89								
ASAR	**Alice Springs**	**48.63**	**168**	P		**P**		**21 11 44.1**	**+0.4**
BVAR	**Borovoye Array**	**49.12**	**320**	P		**P**		**21 11 45.8**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=206,slow=9.9,SNR=8.6								
BRVK	**Borovoye**	**49.19**	**320**	P		**P**		**21 11 46.8**	**-0.9**
BRVK				IAmb		IAmb		21 11 51.3	
	comp=Z,2.2nm,0.7s								
FORT	**Forrest**	**54.86**	**175**	P		**P**		**21 12 30.6**	**+0.6**
ABKAR	**Akbulak array**	**55.08**	**314**	P		**P**		**21 12 31.1**	**-0.4**
ABKAR				IAmb		IAmb		21 12 31.6	
	comp=Z,3.5nm,0.8s								
ABKAR	**Akbulak array**	**55.08**	**314**	P		**P**		**21 12 30.8**	**-0.8**
EIDS	**Eidsvold**	**55.97**	**150**	P		**P**		**21 12 38.8**	**+0.7**
EIDS				IAmb		IAmb		21 12 45.8	
	comp=Z,12nm,1.2s								
ARU	**Arti**	**56.48**	**323**	P		**P**		**21 12 40.0**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=105,slow=4.0,SNR=4.7								
ARU	**Arti**	**56.48**	**323**	P		**P**		**21 12 40.5**	**-1.0**
ARU				IAmb		IAmb		21 12 40.7	
	comp=Z,4.9nm,1.2s								
NWAO	**Narrogin (SRO)**	**57.19**	**187**	P		**P**		**21 12 46.7**	**0.0**
NWAO				IAmb		IAmb		21 12 53.9	
	comp=Z,10nm,1.1s								
NWAO	**Narrogin (SRO)**	**57.19**	**187**	P		**P**		**21 12 46.5**	**-0.1**
NWAO				IAmb		IAmb		21 12 53.9	
	comp=Z,13nm,1.1s								
BBOO	**Buckleboo**	**57.94**	**168**	P		**P**		**21 12 52.1**	**+0.2**
BBOO				IAmb		IAmb		21 13 03.6	
	comp=Z,22nm,1.3s								
STKA	**Stephens Creek**	**58.35**	**162**	P		**P**		**21 12 55.6**	**+0.7**
	comp=Z,7.4nm,0.7s,baz=338,slow=6.6,SNR=16								
STKA	**Stephens Creek**	**58.35**	**162**	P		**P**		**21 12 55.6**	**+0.7**
LHI	**Lord Howe Isla**	**64.93**	**147**	P		**P**		**21 13 39.6**	**+0.3**
KBZ	**Khabaz**	**67.27**	**309**	P		**P**		**21 13 53.6**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=94,slow=7.5,SNR=4.1								
ILAR	**Eielson Array**	**68.08**	**28**	P		**P**		**21 13 58.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=250,slow=5.3,SNR=6.3								
MARD	**Mardin**	**70.40**	**303**	P		**P**		**21 14 14.8**	**+0.7**
FINES	**FINESS Array B**	**72.57**	**330**	P		**P**		**21 14 25.9**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=59,slow=6.4,SNR=11								
AKASG	**Malin Array Be**	**74.38**	**319**	P		**P**		**21 14 36.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=139,slow=23,SNR=4.2								
BRTR	**Keskin Array B**	**75.02**	**307**	P		**P**		**21 14 41.3**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=99,slow=4.7,SNR=8.7								
BRTR	**Keskin Array B**	**75.02**	**307**	P		**P**		**21 14 41.1**	**-0.5**
NB2	**NORSAR Subarra**	**79.26**	**333**	P		**P**		**21 15 03.4**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=56,slow=5.3								
NOA	**NORSAR Array B**	**79.26**	**333**	P		**P**		**21 15 03.4**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=73,slow=6.5,SNR=8.1								
YKA	**Yellowknife Ar**	**82.00**	**24**	P		**P**		**21 15 19.4**	**0.0**
	comp=Z,1.4nm,0.5s,baz=307,slow=4.7,SNR=31								
GERES	**GERESS Array B**	**84.27**	**321**	P		**P**		**21 15 31.0**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=52,slow=5.4,SNR=19								
GERES	**GERESS Array B**	**84.27**	**321**	P		**P**		**21 15 31.2**	**-0.3**
NVAR	**Mina Array Bea**	**94.78**	**44**	P		**P**		**21 16 21.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=307,slow=5.4,SNR=3.9								

TAP 12 21:13:20.6, 24°.29N×121°.83E, h15km, ML1.8, 1C-1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.16**	**330**	P		**Pb**		**21 13 25.3**	**-0.1**
	baz=332								
ENA				*i* S		Sb		21 13 28.9	+0.3
	baz=332								
NACB	**Ninganchiao**	**0.24**	**243**	P		Pb		21 13 26.6	-0.2
	baz=242								
NACB				S		Sb		21 13 31.1	+0.2
	baz=242								
TWD	**Chiawan**	**0.30**	**226**	P		Pb		21 13 27.3	-0.3
	baz=225								
TWD				S		Sb		21 13 32.8	+0.5
	baz=225								
TWC	**Suao**	**0.32**	**3**	*i* P		Pb		21 13 27.9

KBL Sn **Sn** **21 56 46.4 +0.2**
NIL Nilore 3.63 135 PN **Pn** **21 56 40.7 +0.6**
NIL Nilore 3.63 135 Pn **Pn** **21 56 40.7 +0.6**
KSH Kashi 5.62 53 P **Pn** **21 57 02.6 -3.7**
KSH S **Sn** **21 58 01.3 -8.8**
KSH pmax pmax
comp=Z,230nm,4.4s
KSH smax smax
comp=N,310nm,0.4s
KSH smax smax
comp=E,200nm,0.4s
IUG luzhnay 5.88 359 *e*P **Pn** **21 57 09.2 -0.6**
baz=358
IUG *e*S **Sn** **21 58 13.8 -2.6**
baz=358
IUG luzhnay 5.88 359 *e*PN **Pn** **21 57 09.1 -0.6**
IUG *e*S **Sn** **21 58 13.8 -2.6**
THN Thein Dam 5.96 128 *e*P **Pn** **21 57 10.5 -0.3**
THN *e*S **Sn** **21 58 14.5 -3.7**
DHRM DHARAMSHALA 6.46 127 *e*P **Pn** **21 57 16.3 -1.4**
DHRM *e*S **Sn** **21 58 25.9 -4.6**
DHRM IAML **21 58 29.1**
comp=N,175nm,0.8s
DHRM IAML **21 58 30.4**
comp=E,185nm,0.6s
AML Almayashu 6.47 24 P **Pn** **21 57 17.4 -0.5**
SNR=127
DZA Taraz 6.68 7 *e*P **Pn** **21 57 19.7 -0.8**
comp=E,42nm,0.6s,baz=6.7
DZA *e*S **Sn** **21 58 33.7 -1.8**
baz=6.7
DZA Taraz 6.68 7 *e*PN **Pn** **21 57 19.6 -0.8**
DZA *e*S **Sn** **21 58 33.7 -1.8**
DZA pmax pmax
comp=Z,42nm,0.6s
HRA Herat 6.75 256 P **Pn** **21 57 20.6 -1.0**
KK31 Karatay Array 6.84 2 ⇑P **Pn** **21 57 21.8 -0.7**
comp=Z,17nm,0.3s,baz=184,slow=12,SNR=266
KK31 ⇓S **Sn** **21 58 35.7 -3.4**
comp=Z,15nm,0.3s,baz=182,slow=21,SNR=13
KK31 Karatay Array 6.84 2 PN **Pn** **21 57 22.0 -0.5**
KK31 Karatay Array 6.84 2 Pn **Pn** **21 57 22.0 -0.5**
KK31 Sn **Sn** **21 58 35.8 -3.4**
KKAR Karatay Array 6.84 2 PN **Pn** **21 57 22.0 -0.5**
KKAR Karatay Array 6.84 2 **Pn** **21 57 22.0 -0.5**
KKAR Sn **Sn** **21 58 35.9 -3.3**
KKAR Karatay Array 6.84 2 Pn **Pn** **21 57 21.9 -0.5**
KKAR **Sn** **21 58 35.4 -3.8**
UCH Uchtor 6.84 28 P **Pn** **21 57 22.4 -0.5**
SNR=62
EKS2 Erkin-Say 6.97 22 P **Pn** **21 57 24.1 -0.3**
SNR=48
AAK Ala-Archa 7.19 26 P **Pn** **21 57 27.3 0.0**
comp=Z,8.6nm,0.3s,baz=194,slow=6.4,SNR=144
AAK S **Sn** **21 58 44.0 -3.8**
comp=Z,4.6nm,0.3s,baz=7.6,slow=22,SNR=12
AAK Ala-Archa 7.19 26 P **Pn** **21 57 27.1 -0.1**
SNR=45
AAK Ala-Archa 7.19 26 ⇓P **Pn** **21 57 27.2 -0.1**
comp=Z,14nm,0.5s
AAK ⇓S **Sn** **21 58 46.6 -1.2**
comp=Z,23nm,0.6s
AAK Ala-Archa 7.19 26 PN **Pn** **21 57 27.2 -0.1**
AAK S **Sn** **21 58 46.6 -1.2**
AAK Ala-Archa 7.19 26 Pn **Pn** **21 57 27.1 -0.1**
KBK Karagaybulak 7.37 29 P **Pn** **21 57 29.5 -0.2**
SNR=39
CHMS Chumysh 7.60 26 P **Pn** **21 57 32.4 -0.2**
SNR=20
ULHL Ulahol 7.60 36 P **Pn** **21 57 32.5 -0.4**
SNR=13
USP Ospenovka 7.75 24 P **Pn** **21 57 34.3 -0.3**
SNR=28
SMLA Simla 7.75 129 *e*P **Pn** **21 57 34.5 -0.2**
SMLA *e*S **Sn** **21 58 55.9 -5.2**
SMLA IAML **21 59 02.4**
comp=E,60nm,0.6s
SMLA IAML **21 59 03.1**
comp=N,52nm,0.1s
TKM2 Tokmak 2 7.86 30 P **Pn** **21 57 36.2 0.0**
SNR=8.2
TKM2 Tokmak 2 7.86 30 ⇑P **Pn** **21 57 35.5 -0.7**
comp=N,13nm,0.6s
TKM2 ⇑S **Sn** **21 59 02.2 -1.6**
comp=N,12nm,0.8s
TKM2 Tokmak 2 7.86 30 PN **Pn** **21 57 35.5 -0.7**
SGDS Sogindy 7.95 24 *e*P **Pn** **21 57 36.0 -1.4**
comp=N,9.2nm,0.7s,baz=24
SGDS Sogindy 7.95 24 *e*PN **Pn** **21 57 36.0 -1.4**
SGDS pmax pmax
comp=Z,9.0nm,0.7s
AAA Alma-Ata 8.66 35 *e*P **Pn** **21 57 46.4 -0.4**
comp=Z,2.9nm,0.4s,baz=35
AAA Alma-Ata 8.66 35 *e*PN **Pn** **21 57 46.4 -0.4**
AAA pmax pmax
comp=Z,3.0nm,0.4s
MDOK Medeo 8.69 35 *e*P **Pn** **21 57 47.0 -0.3**
baz=36
MDOK Medeo 8.69 35 ⇓P **Pn** **21 57 47.4 +0.1**
comp=Z,7.4nm,0.6s
MDOK Medeo 8.69 35 *e*PN **Pn** **21 57 47.0 -0.3**
KUU Kurty 8.96 30 *e*P **Pn** **21 57 49.5 -1.4**
comp=Z,3.3nm,0.7s,baz=30
KUU Kurty 8.96 30 *e*PN **Pn** **21 57 49.4 -1.4**
KUU pmax pmax
comp=Z,3.0nm,0.7s
BTLS Baital 9.25 17 *i* P **Pn** **21 57 53.3 -1.3**
comp=Z,2.9nm,0.6s,baz=17
BTLS Baital 9.25 17 *i* P **Pn** **21 57 53.3 -1.3**
BTLS pmax pmax
comp=Z,3.0nm,0.6s
KUDL Kundal 9.70 145 *e*P **Pn** **21 57 58.6 -2.1**
KUDL *e*S Sn **21 59 38.0 -10**
KPKS Kokpek 9.72 40 *e*P **Pn** **21 57 59.5 -1.4**
baz=40
KPKS Kokpek 9.72 40 *e*P **Pn** **21 57 59.5 -1.4**
GEYT Alibeck 9.78 283 P **Pn** **21 58 00.5 -1.2**
comp=Z,0.8nm,0.3s,baz=132,slow=12,SNR=8.1
GEYT S **Sn** **21 59 45.3 -4.7**
comp=Z,1.5nm,0.3s,baz=96,slow=13,SNR=2.9
GEYT Alibeck 9.78 283 Pn **Pn** **21 58 01.9 +0.1**
GYA0B ALIBECK ARRAY 9.78 283 Pn **Pn** **21 58 01.1 -0.6**
SHLS Shalkode 9.92 43 *e*P **Pn** **21 58 05.6 +1.9**
baz=45
SHLS Shalkode 9.92 43 *e*P **Pn** **21 58 05.6 +1.9**
MAKZ Makanchi 13.73 36 P **Pn** **21 58 53.3 +0.2**
MAKZ Makanchi 13.73 36 Pn **Pn** **21 58 53.3 +0.2**
BRZS Berezniki 13.83 7 *e*P **Pn** **21 58 54.0 -0.4**
baz=6.5
BRZS Berezniki 13.83 7 *e*P **Pn** **21 58 53.9 -0.4**
MK31 Makanchi Array 13.88 37 ⇓P **Pn** **21 58 54.9 0.0**
MK31 Makanchi Array 13.88 37 **Pn** **21 58 54.3 -0.6**
MKAR Makanchi Array 13.88 37 P **Pn** **21 58 53.9 -1.0**
comp=Z,0.4nm,0.3s,baz=221,slow=12,SNR=16
MKAR Makanchi Array 13.88 37 P **Pn** **21 58 55.0 +0.1**
MKAR Makanchi Array 13.88 37 Pn **Pn** **21 58 55.0 +0.1**
GKN Gorkha 14.75 120 *e*P **Pn** **21 59 04.7 -1.4**
AB31 Akbulak array 14.99 333 P **Pn** **21 59 08.5 -0.2**
comp=Z,3.5nm,0.3s,baz=152,slow=12,SNR=188
AB31 Akbulak array 14.99 333 *i* P **Pn** **21 59 08.6 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.3s
ABKAR Akbulak array 14.99 333 Pn **Pn** **21 59 08.5 -0.2**
ABKAR Akbulak array 14.99 333 Pn **Pn** **21 59 08.5 -0.2**
DMN Daman 15.31 120 *e*P **Pn** **21 59 12.7 -0.6**
KKN Kakani 15.33 119 *e*P **Pn** **21 59 10.9 -2.5**
WMQ Urumqi 15.38 55 *e*P **P** **21 59 14.5 -0.4**
WMQ sP sP **21 59 52.4 -8.7**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,120nm,4.9s
WMQ Urumqi 15.38 55 P **P** **21 59 14.6 -0.4**
WMQ pmax pmax
comp=Z,4.0nm,0.8s
WMQ Urumqi 15.38 55 **P** **21 59 14.6 -0.4**
PKIN Phulchoki 15.54 120 *e*P **Pn** **21 59 15.4 -0.6**
comp=Z,25nm,0.5s
PKI Pulchoki 15.55 120 *e*P **Pn** **21 59 15.4 -0.8**
comp=Z,23nm,0.5s
KURBB Kurchatov Arra 15.57 20 P **Pn** **21 59 14.4 -1.4**
comp=Z,0.2nm,0.3s,baz=210,slow=10,SNR=14
KURK Kurchatov 15.68 20 P **Pn** **21 59 14.4 -2.8**
KURK Kurchatov 15.68 20 P **Pn** **21 59 14.4 -2.8**
GUN Gumba 15.68 118 *e*P **P** **21 59 18.5 -0.3**
comp=Z,14nm,0.3s
UOSS Minazif 16.47 231 **P** **21 59 27.2 0.0**
UOSS IAmb IAmb **21 59 44.9**
comp=Z,15nm,1.1s
AKTO Aktyubinsk 16.67 332 P **P** **21 59 28.9 -0.2**
comp=Z,0.6nm,0.3s,baz=163,slow=8.7,SNR=11
AKTO S **S** **22 02 25.1 -9.4**
comp=Z,0.3nm,0.3s,baz=339,slow=24,SNR=3.9
AKTO Aktyubinsk 16.67 332 ⇑P **Pn** **21 59 29.7 +0.4**
comp=Z,2.6nm,0.5s
BVAR Borovoye Array 16.76 0 P **P** **21 59 30.0 -0.1**
comp=Z,0.8nm,0.3s,baz=170,slow=27,SNR=20
BVAR Borovoye Array 16.76 0 P **P** **21 59 30.0 -0.1**
RAMN Ramite 16.77 119 *e*P **P** **21 59 30.4 -0.3**
comp=Z,16nm,0.5s
BRVK Borovoye 16.80 0 ⇓P **Pn** **21 59 31.2 +0.4**
comp=Z,4.4nm,0.7s
BRVK Borovoye 16.80 0 ⇓*e*P **Pn** **21 59 31.4 +0.6**
BRVK Borovoye 16.80 0 **Pn** **21 59 30.8 0.0**
TAPN Taplejung 17.33 116 *e*P **Pn** **21 59 37.3 -0.5**
comp=Z,20nm,0.4s
ODAN Odare 17.38 118 *e*P **P** **21 59 37.0 -0.4**
comp=Z,13nm,0.6s
DGZ Jazzator, Alta 18.37 38 *de*P **Pn** **21 59 50.5 +0.7**
DGZ pmax pmax
comp=Z,11nm,1.2s
LSA Lhasa 18.75 104 P **Pn** **21 59 54.2 -0.6**
LSA pmax pmax
comp=Z,3.0nm,0.7s
LSA Lhasa 18.75 104 P **Pn** **21 59 54.2 -0.6**
GNI Garni 20.34 289 P **P** **22 00 11.6 +2.3**
comp=Z,2.8nm,0.5s,baz=341,slow=17,SNR=2.8
GNI Garni 20.34 289 ⇓*e*P Pn **22 00 12.7 -0.3**
GNI pmax pmax
comp=Z,9.0nm,1.1s
GNI Garni 20.34 289 P **P** **22 00 11.7 +2.4**
GNI IAmb IAmb **22 00 15.7**
comp=Z,8.1nm,1.1s
ZAA0 Zalesovo Array 20.41 25 P **P** **22 00 11.1 +1.4**
ZALV Zalesovo Beam 20.41 25 P **P** **22 00 11.0 +1.3**
comp=Z,7.5nm,0.4s,baz=215,slow=10,SNR=24
ZALV Zalesovo Beam 20.41 25 P **P** **22 00 10.9 +1.2**
SHL Shillong 21.41 114 P **P** **22 00 21.9 +1.0**
SHL pmax pmax
comp=Z,13nm,1.1s
SHL Shillong 21.41 114 P **P** **22 00 21.9 +1.0**
SHL IAmb IAmb **22 00 24.6**
comp=Z,13nm,1.1s
ARU Arti 21.65 342 P **P** **22 00 24.3 +1.3**
comp=Z,0.8nm,0.5s,baz=160,slow=3.3,SNR=6.6
ARU Arti 21.65 342 *c i*P **P** **22 00 25.8 +2.8**
ARU **22 00 59.6**
ARU S **S** **22 04 18.5 +5.7**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 21.65 342 P **P** **22 00 24.8 +1.9**
ARU IAmb IAmb **22 00 27.3**
comp=Z,9.6nm,1.1s
BELG Belogornoye 22.67 322 P **P** **22 00 34.7 +1.6**
comp=Z,8.7nm,0.8s,baz=136,slow=3.2,SNR=4.3
BELG Belogornoye 22.67 322 ⇓*e*P **P** **22 00 34.4 +1.4**
BELG pmax pmax
comp=Z,2.0nm,0.9s
GTA Gaotai 23.57 73 *e*P **P** **22 00 45.7 +4.1**
GTA pmax pmax
comp=Z,2.0nm,0.8s
SOCY Socotra 28.07 215 P **P** **22 01 19.2 -3.0**
SOCY IAmb IAmb **22 01 30.3**
comp=Z,5.3nm,1.1s
SONM Songino Array 29.02 55 P **P** **22 01 32.0 +1.5**
comp=Z,0.3nm,0.5s,baz=273,slow=6.9,SNR=2.7
SONM Songino Array 29.02 55 P **P** **22 01 32.0 +1.5**
HHC Hu-ho-hao-te 32.47 69 *e*P **P** **22 02 04.4 +3.6**
MLR Muntele Rosu 34.32 300 P **P** **22 02 16.3 -0.6**
MLR pmax pmax
comp=Z,4.0nm,1.0s
MLR Muntele Rosu 34.32 300 P **P** **22 02 16.3 -0.6**
MLR IAmb IAmb **22 02 22.5**
comp=Z,3.6nm,1.0s
FINES FINESS Array B 37.31 327 P **P** **22 02 43.8 +1.8**
comp=Z,1.5nm,0.7s,baz=101,slow=8.1,SNR=5.7
FINES FINESS Array B 37.31 327 P **P** **22 02 43.5 +1.5**
ARCES ARCESS Array B 41.12 338 P **P** **22 03 15.6 +2.1**
comp=Z,3.3nm,0.8s,baz=324,slow=19,SNR=3.7
KULM Kulim 41.62 131 P **P** **22 03 19.2 +1.1**
KULM IAmb IAmb **22 03 31.1**
comp=Z,10nm,1.1s
GSI Gunungsitoli 43.05 138 P **P** **22 03 31.7 +2.0**
GSI IAmb IAmb **22 03 32.7**
comp=Z,6.6nm,0.7s
NC602 NORSAR Array S 43.98 323 P **P** **22 03 36.5 -0.2**
NC303 NORSAR Array S 44.12 324 P **P** **22 03 38.9 +1.2**
NB201 NORSAR Array S 44.14 323 P **P** **22 03 38.9 +1.0**
NOA NORSAR Array B 44.17 323 P **P** **22 03 39.2 +1.0**
comp=Z,0.5nm,0.5s,baz=99,slow=8.0,SNR=3.5
NBO00 NORSAR Array S 44.38 323 P **P** **22 03 41.0 +1.2**
NC204 NORSAR Array S 44.42 324 P **P** **22 03 41.9 +1.8**
PRMA PARMA 45.39 300 P **P** **22 03 48.4 +0.4**
TIXI Tiksi 46.24 22 ⇑*e*P **P** **22 03 55.9 +1.6**
TIXI Tiksi 46.24 22 P **P** **22 03 55.5 +1.2**
TIXI IAmb IAmb **22 03 56.2**
comp=Z,3.2nm,0.4s
KEST Kesra 48.48 288 P **P** **22 04 13.5 +1.3**
KEST IAmb IAmb **22 04 15.3**
comp=Z,4.7nm,1.1s
JOW Kunigami 49.75 84 P **P** **22 04 21.6 -0.3**
COCO West Island 54.36 147 *i* P P **22 05 02.1 +6.2**
EUNU Eureka 63.20 356 P **P** **22 05 54.2 -2.0**
TORD Torodi Ar. Bea 65.05 268 P **P** **22 06 08.6 -0.6**
comp=Z,0.4nm,0.4s,baz=50,slow=5.9,SNR=8.5
TORD Torodi Ar. Bea 65.05 268 IAmb IAmb **22 06 10.7**
comp=Z,0.9nm,1.0s
INK Inuvik 74.25 9 P **P** **22 07 05.3 +0.7**
comp=Z,1.0nm,0.5s,baz=320,slow=5.5,SNR=4.0
INK Inuvik 74.25 9 P **P** **22 07 05.9 +1.3**
ILAR Eielson Array 75.19 15 P **P** **22 07 10.4 +0.3**
comp=Z,0.2nm,0.5s,baz=308,slow=4.9,SNR=4.5
YKA Yellowknife Ar 81.51 2 P **P** **22 07 45.2 +0.3**
comp=Z,0.3nm,0.7s,baz=353,slow=5.1,SNR=8.4
YKA Yellowknife Ar 81.51 2 *i* P **P** **22 07 46.2 +1.3**
WRA Warramunga Arr 82.43 121 P **P** **22 07 49.2 -1.1**
comp=Z,0.9nm,0.5s,baz=323,slow=4.9,SNR=13
ASAR Alice Springs 84.66 124 P **P** **22 08 01.3 -0.4**
comp=Z,0.6nm,0.5s,baz=308,slow=5.3,SNR=7.8

IDC ***12*** *22:08:54.6±0.8, 22.4°48S×170.2°25E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.3/31, mbtmp4.2/14, ML3.7/2, MS3.8/14, Ms1 3.8/14, ms1mx3.6/33, Error ellipse: s-maj=22.4km s-min=19.8km az=101.0*
NEIC ***12*** *22:08:55.8±1.8, 22.4°44S±0.1°09×170.3°3E±0.1°1, h8km±5km, mb4.7/32, Error ellipse: s-maj=16.7km s-min=8.7km az=131.0*
ISC 12 22:08:56.1±0.4, 22.4°49S±0.1°07×170.5°30E±0.1°07, h10km, n99, σ1s13/87, mb4.5/24, MS3.9/10, 1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.60**	**276**	*e*Pn		**Pn**	**22 09 51.9**	**-0.2**
DZM	14nm,0.2s			*e*LR		LR	22 10 32.9	
	comp=Z,902nm,25.6s							
DZM	**Mont Dzumac**	**3.60**	**276**	Pn		**Pn**	**22 09 52.0**	**0.0**
DZM	4.4nm,0.3s,baz=128,slow=17,SNR=49			Sn		**Sn**	**22 10 32.9**	**-1.8**
	12nm,0.3s,baz=36,slow=19,SNR=3.9			LR		LR	22 11 19.7	
DZM	comp=Z,1μm,19.3s,baz=198,slow=41							
DZM	**Mont Dzumac**	**3.60**	**276**	Pn		**Pn**	**22 09 51.7**	**-0.4**
SANVU	**Saraoutou**	**7.59**	**337**	Pn		**Pn**	**22 10 45.8**	**-1.1**
MSVF	**Nonsavu**	**8.68**	**58**	LR		LR	22 13 41.5	
	comp=Z,782nm,18.4s,baz=302,slow=33							
MSVF	**Nonsavu**	**8.68**	**58**	Pn		**Pn**	**22 11 01.7**	**-0.2**
OUZ	**Omahuta**	**13.01**	**168**	Pn		**Pn**	**22 12 00.9**	**-0.1**
HIZ	**Hauiti**	**16.44**	**167**			**Pn**	**22 12 48.1**	**+1.1**
HIZ	comp=Z,83nm,1.1s			IAmb		IAmb	22 12 52.6	
MXZ	**Matakaoa Point**	**16.53**	**157**	Pn		**Pn**	**22 12 48.0**	**-0.1**
URZ	**Urewera**	**16.77**	**161**	Pn		**P**	**22 12 52.7**	**-0.7**
URZ	comp=Z,0.4nm,0.3s,baz=24,slow=9.9,SNR=8.0			LR		LR	22 17 44.6	
	comp=Z,232nm,21.2s,baz=31,slow=32							
URZ	**Urewera**	**16.77**	**161**	Pn		**Pn**	**22 12 50.5**	**-0.6**
URZ				IAmb		IAmb	22 13 08.5	
	comp=Z,42nm,1.1s							
BKZ	**Black Stump Fm**	**17.44**	**164**	Pn		**Pn**	**22 12 59.9**	**+0.2**
BKZ				IAmb		IAmb	22 13 15.8	
	comp=Z,40nm,1.1s							
QRZ	**Quartz Range**	**18.38**	**175**	P		**Pn**	**22 13 11.5**	**+0.4**
ARMA	**Armidale**	**18.47**	**241**			**Pn**	**22 13 12.7**	**+0.2**
BFZ	**Birch Farm**	**18.82**	**166**			**P**	**22 13 16.2**	**+0.2**
BFZ				IAmb		IAmb	22 13 17.6	
	comp=Z,47nm,1.3s							
NNZ	**Nelson**	**18.85**	**173**	P		**Pn**	**22 13 17.3**	**+0.5**
NNZ				IAmb		IAmb	22 13 29.2	
	comp=Z,34nm,1.1s							
AFI	**Afiamalu**	**19.03**	**66**	LR		LR	22 18 43.5	
	comp=Z,356nm,19.5s,baz=60,slow=31							
SNZO	**South Karori**	**19.13**	**170**	P		**Pn**	**22 13 20.4**	**+0.2**
TUWZ	**Tuamarina**	**19.13**	**172**	P		**P**	**22 13 19.2**	**-0.2**
BHW	**Baring Head**	**19.25**	**170**	P		**Pn**	**22 13 22.2**	**+0.5**
MSWZ	**Moikau Station**	**19.33**	**169**	P		**P**	**22 13 21.9**	**+0.3**
THZ	**Tophouse**	**19.34**	**174**	P		**Pn**	**22 13 23.1**	**+0.3**
BSWZ	**Blackbirch Sta**	**19.40**	**172**	P		**Pn**	**22 13 23.7**	**+0.2**
KHZ	**Kahutara**	**20.05**	**173**	P		**P**	**22 13 30.1**	**+0.7**
KHZ				IAmb		IAmb	22 13 41.2	
	comp=Z,30nm,1.0s							
LTZ	**Lake Taylor**	**20.30**	**176**			**P**	**22 13 33.2**	**+1.0**
LTZ				IAmb		IAmb	22 13 45.2	
	comp=Z,24nm,0.9s							
OXZ	**Oxford**	**20.83**	**176**	P		**P**	**22 13 38.4**	**+0.5**
OXZ				IAmb		IAmb	22 13 57.3	
	comp=Z,33nm,0.9s							
FOZ	**Fox Glacier**	**20.99**	**181**			**P**	**22 13 40.3**	**+0.8**
FOZ				IAmb		IAmb	22 13 46.7	
	comp=Z,53nm,1.1s							
RPZ	**Rata Peaks**	**21.18**	**178**	P		**P**	**22 13 40.7**	**-1.0**
	comp=Z,9.8nm,0.8s,baz=160,slow=18,SNR=5.3							
RPZ				LR		LR	22 20 30.2	
	comp=Z,308nm,19.2s,baz=10.0,slow=33							
RPZ	**Rata Peaks**	**21.18**	**178**	P		**P**	**22 13 41.4**	**-0.2**
RPZ				IAmb		IAmb	22 13 52.5	
	comp=Z,34nm,1.0s							
WHZ	**Wether Hill Ro**	**23.43**	**184**	P		**P**	**22 14 02.9**	**-2.4**
WHZ				IAmb		IAmb	22 14 04.1	
	comp=Z,37nm,1.4s							
TOO	**Toolangi**	**26.11**	**229**	P		**P**	**22 14 28.8**	**-1.5**
TOO				IAmb		IAmb	22 14 35.0	
	comp=Z,20nm,1.1s							
STKA	**Stephens Creek**	**27.13**	**244**	P		**P**	**22 14 38.5**	**-1.0**
	comp=Z,5.4nm,0.9s,baz=97,slow=12,SNR=6.1							
STKA				LR		LR	22 24 51.9	
	comp=Z,151nm,19.0s,baz=36,slow=35							
STKA	**Stephens Creek**	**27.13**	**244**	P		**P**	**22 14 38.9**	**-0.6**
BBOO	**Buckleboo**	**31.90**	**244**	P		**P**	**22 15 21.9**	**0.0**
AS31	**Alice Springs**	**33.45**	**261**	P		**P**	**22 15 34.5**	**-1.1**
ASAR	**Alice Springs**	**33.45**	**261**	P		**P**	**22 15 35.2**	**-0.4**
	comp=Z,8.0nm,0.8s,baz=87,slow=8.9,SNR=29							
ASAR				LR		LR	22 28 20.4	
	comp=Z,171nm,21.9s,baz=90,slow=35							
ASAR	**Alice Springs**	**33.45**	**261**	P		**P**	**22 15 34.7**	**-0.9**
WB0	**Warramunga Arr**	**33.55**	**268**	P		**P**	**22 15 36.5**	**0.0**
WB0				IAmb		IAmb	22 15 46.6	
	comp=Z,14nm,1.1s							
WRA	**Warramunga Arr**	**33.57**	**268**	P		**P**	**22 15 36.0**	**-0.6**
	comp=Z,3.4nm,1.1s,baz=101,slow=9.2,SNR=5.5							
WRA				LR		LR	22 28 43.0	
	comp=Z,168nm,20.4s,baz=105,slow=36							
FORT	**Forrest**	**38.47**	**248**	P		**P**	**22 16 17.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**42.00**	**268**	P		**P**	**22 16 48.4**	**+0.5**
FITZ				IAmb		IAmb	22 16 58.8	
	comp=Z,20nm,1.1s							
VNDA	**Vanda**	**55.23**	**182**	P		**P**	**22 18 30.1**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=9.5,slow=6.1,SNR=2.1							
VNDA				LR		LR	22 38 20.2	
	comp=Z,90nm,20.0s,baz=344,slow=32							
VNDA	**Vanda**	**55.23**	**182**	P		**P**	**22 18 30.3**	**+1.3**
SBA	**Scott Base**	**55.44**	**181**	P		**P**	**22 18 31.8**	**+1.4**
CISI	**Cisompet, Garu**	**61.75**	**273**	P		**P**	**22 19 14.7**	**-0.7**
MJAR	**Matsushiro Arr**	**66.08**	**332**	P		**P**	**22 19 43.3**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=176,slow=9.4,SNR=3.1							
KSRS	**Korea Array**	**71.74**	**326**	P		**P**	**22 20 19.5**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=39,slow=47,SNR=2.3							
NJ2	**Nanjing**	**73.22**	**316**	*e*P		**P**	**22 20 30.1**	**+2.6**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**75.06**	**333**	P		**P**	**22 20 39.0**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=257,slow=41,SNR=1.7							
PETK	**Petropavlovsk-**	**76.07**	**352**	P		**P**	**22 20 42.5**	**-1.0**
	comp=Z,2.5nm,0.4s,baz=152,slow=7.6,SNR=5.9							
PETK				LR		LR	22 48 02.3	
	comp=Z,75nm,21.6s,baz=134,slow=31							
CN2	**Changchun**	**77.74**	**328**	*e*P		P	22 21 04.1	+11
CMAR	**Chiang Mai Arr**	**80.74**	**294**	P		**P**	**22 21 09.1**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=135,slow=6.0,SNR=9.5							
KMI	**Kunming**	**80.83**	**302**	⇓P		**P**	**22 21 15.1**	**+4.3**
KMI				pP		pwP	22 21 20.3	+0.9
KMI				sP		PcP	22 21 22.7	+5.3
KMI				pmax		pmax		
	comp=Z,9.0nm,0.9s							
CHTO	**Chiang Mai**	**80.90**	**295**	P		**P**	**22 21 11.5**	**+0.4**
CHTO				IAmb		IAmb	22 21 23.9	
	comp=Z,8.5nm,1.0s							
XAN	**Xi'an**	**81.03**	**312**	P		P	22 21 17.6	+6.1
XAN				pP		pwP	22 21 22.4	+2.3
XAN				pmax		pmax		
	comp=Z,11nm,0.9s							
HHC	**Hu-ho-hao-te**	**83.32**	**319**	*e*P		**P**	**22 21 24.0**	**+0.6**
SNAA	**Sanae**	**85.97**	**182**	P		**P**	**22 21 34.7**	**-1.7**
SNAA	**Sanae**	**85.97**	**182**	sP		sP	22 21 44.0	+5.9
VNA3	**Neumayer Olymp**	**86.52**	**180**	P		**P**	**22 21 38.8**	**-0.2**
VNA3	**Neumayer Olymp**	**86.52**	**180**	sP		sP	22 21 47.5	+6.7
VNA2	**Neumayer--Watz**	**86.83**	**181**	P		**P**	**22 21 39.9**	**-0.6**
	baz=182,slow=3.1							
VNA2	**Neumayer--Watz**	**86.83**	**181**	sP		sP	22 21 46.9	+4.7
VNA1	**Neumayer--Stat**	**87.11**	**180**	P		**P**	**22 21 41.3**	**-0.5**
VNA1	**Neumayer--Stat**	**87.11**	**180**	sP		sP	22 21 47.2	+3.7
SHL	**Shillong**	**89.74**	**298**	P		**P**	**22 21 56.2**	**+0.9**
ULN	**Ulaanbaatar**	**90.05**	**323**	P		**P**	**22 21 57.1**	**+0.9**
ULN				IAmb		IAmb	22 22 09.6	
	comp=Z,3.8nm,1.1s							
GTA	**Gaotai**	**90.07**	**313**	*e*P		P	22 22 06.9	+10
GTA				pP		pwP	22 22 10.7	+5.6
GTA				sP		sP	22 22 13.0	+14
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
GTA	**Gaotai**	**90.07**	**313**	*e*P		**P**	**22 21 58.7**	**+2.2**
GTA				pP		pwP	22 22 07.0	+1.9
GTA				sP		sP	22 22 10.7	+12
GTA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
NVAR	**Mina Array Bea**	**90.21**	**48**	P		**P**	**22 21 56.2**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=228,slow=8.5,SNR=7.0							
NVAR				LR		LR	23 00 15.0	
	comp=Z,54nm,18.1s,baz=288,slow=34							
NVAR	**Mina Array Bea**	**90.21**	**48**	P		**P**	**22 21 56.9**	**-0.4**
YAK	**Yakutsk**	**90.25**	**342**	LR		LR	22 56 15.7	
	comp=Z,52nm,21.7s,baz=90,slow=32							
SONM	**Songino Array**	**90.40**	**323**	P		**P**	**22 21 58.2**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=142,slow=6.6,SNR=5.0							
PRN	**Pahroc Range**	**92.01**	**50**	P		**P**	**22 22 05.4**	**-0.1**
PRN				IAmb		IAmb	22 22 08.1	
	comp=Z,4.6nm,1.1s							
ILAR	**Eielson Array**	**93.03**	**17**	P		**P**	**22 22 06.4**	**-3.0**
	comp=Z,1.3nm,0.8s,baz=236,slow=5.6,SNR=9.7							
ILAR	**Eielson Array**	**93.03**	**17**	P		**P**	**22 22 08.3**	**-1.1**
TXAR	**Lajitas Array**	**97.44**	**61**	LR		LR	22 57 18.3	
	comp=Z,46nm,21.2s,baz=0.0,slow=30							
PDAR	**Pinedale Array**	**98.09**	**47**	LR		LR	23 01 48.4	
	comp=Z,50nm,18.2s,baz=354,slow=32							
WMQ	**Urumqi**	**100.15**	**313**	*e*P		**Pdif**	**22 22 44.4**	**+2.1**
BRTR	**Keskin Array B**	**139.54**	**305**	PKP		**PKPdf**	**22 28 24.5**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=98,slow=6.4,SNR=4.2							
OSTC	**Ostas**	**145.44**	**331**	*e*PKP		**PKPab**	**22 28 34.7**	**

CLL				*i*			22 28 48.0	
	comp=Z,14nm,1.1s							
KRUC	**Moravsky**	**146.39**	**328**	*e*PKP	**PKPab**		**22 28 37.9**	**-0.2**
PRU	**Pruhonice**	**146.60**	**331**	*e*PKP	**PKiKP**		**22 28 39.8**	**-0.8**
CKRC	**Cesky Krumlov**	**147.54**	**330**	*e*PKP	**PKPab**		**22 28 41.7**	**-0.9**
KHC	**Kasperske Hory**	**147.65**	**331**	*e*PKP	**PKPbc**		**22 28 41.2**	**+0.3**
KHC				*ex*	x		22 28 51.3	
GERES	**GERESS Array B**	**147.80**	**331**	PKPbc	**PKPbc**		**22 28 42.0**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=46,slow=3.9,SNR=11							
GRF	**Grafenberg Arr**	**148.24**	**334**	*e*PKP	PKPab		22 28 54.9	+10
	baz=39,slow=1.9							
KBA	**Koelnbreispener**	**149.24**	**328**	*e*P	**PKPbc**		**22 28 44.8**	**-0.5**
	comp=Z,7.1nm,1.2s							
WTTA	**Wattenberg**	**149.91**	**330**	*i* P	**PKPab**		**22 28 51.9**	**-0.5**
	comp=Z,12nm,1.1s							
FETA	**Feichten**	**150.50**	**331**	*e*P	**PKPab**		**22 28 51.7**	**-3.1**
	comp=Z,11nm,1.1s							
ESDC	**Sonseca Array**	**162.19**	**345**	PKPab	**PKPab**		**22 29 45.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=182,slow=4.0,SNR=2.0							
TORD	**Torodi Ar. Bea**	**165.73**	**231**	PKPab	**PKPab**		**22 30 00.4**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=128,slow=2.4,SNR=3.6							

TIR **12** *22:17:48.3,40.69N×20.32E,h2km±5km,Md2.9,Ml2.7*
THE **12** *22:17:49.1,40.72N×20.34E,h0km±3km,ML2.4/9,Error ellipse: s-maj=3.2km s-min=0.8km az=345.0*
ATH **12** *22:17:49.1,40.76N×20.34E,h12km±5km,ML2.3/7,Error ellipse: s-maj=5.6km s-min=1.7km az=38.0*
PDG **12** *22:17:49.4±0.4,40.75N×20.35E,h9km,ML2.5/11,Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
SKO **12** *22:17:50.6,40.73N×20.46E,h18km*

ISC 12 22:17:49.0±1.1,40.73N±0.02×20.34E±0.02,h6km±10km, n48,σ0s88/81,6C-4D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBN	**Korca**	**0.36**	**107**	P		**Pg**	**22 17 56.1**	**+0.1**
KBN				S		**Sb**	**22 18 02.3**	**-1.4**
	2µm,0.5s							
KBN	**Korca**	**0.36**	**107**	P		**Pg**	**22 17 56.2**	**+0.1**
	baz=100							
KBN				S		**Sb**	**22 18 02.8**	**-0.9**
	baz=100							
KBN				AMP				
	comp=N,5.1nm,0.5s,baz=100							
OHR	**Ohrid**	**0.52**	**42**	*i* Pg		**Pg**	**22 17 58.9**	**-0.1**
OHR				*i* Sg		**Sb**	**22 18 08.2**	**-0.1**
OHR				*e*Lg		Lg	22 18 08.4	
	comp=E,149nm,0.5s							
OHR				*e*Lg		Lg	22 18 08.6	
	comp=N,97nm,0.5s							
LSK	**Leskovik**	**0.61**	**161**	P		**Pg**	**22 17 59.3**	**-1.4**
LSK				S		**Sg**	**22 18 08.9**	**+0.2**
	comp=N,352nm,0.6s							
LSK	**Leskovik**	**0.61**	**161**	P		**Pg**	**22 18 00.1**	**-0.6**
	baz=158							
LSK				S		**Sg**	**22 18 08.7**	**0.0**
	baz=158							
LSK				AMP				
	comp=N,1.5nm,0.6s,baz=158							
NEST	**Nestorio**	**0.63**	**120**	P		**Pg**	**22 18 01.0**	**0.0**
NEST				S		**Sb**	**22 18 10.7**	**-0.7**
NEST				AML	AML		22 18 15.3	
	comp=N,414µm,0.3s							
NEST				AML	AML		22 18 17.6	
	comp=E,506µm,0.3s							
NEST	**Nestorio**	**0.63**	**120**	P		**Pg**	**22 18 00.6**	**-0.5**
NEST				S		**Sb**	**22 18 10.5**	**-0.9**
	comp=E,180nm,0.2s							
VLO	**Vlora**	**0.69**	**248**	P		**Pg**	**22 18 01.8**	**-0.4**
VLO				S		**Sb**	**22 18 13.0**	**-0.1**
	comp=E,702nm,0.3s							
TIR	**Tirane**	**0.71**	**330**	P		**Pg**	**22 18 02.3**	**-0.5**
TIR				AML	AML		22 18 22.7	
	comp=E,462µm,0.5s							
TIR				AML	AML		22 18 24.5	
	comp=N,444µm,0.5s							
TIR	**Tirane**	**0.71**	**330**	P		**Pg**	**22 18 02.4**	**-0.3**
TIR				S		**Sb**	**22 18 14.1**	**+0.2**
TIR	**Tirane**	**0.71**	**330**	P		**Pg**	**22 18 02.4**	**-0.3**
	baz=333							
TIR				S		**Sb**	**22 18 13.7**	**-0.2**
	baz=333							
FNA	**Florina**	**0.79**	**86**	P		**Pg**	**22 18 03.8**	**-0.4**
FNA				S		**Sb**	**22 18 15.5**	**-0.7**
FNA				AML	AML		22 18 17.4	
	comp=N,1857µm,0.6s							
FNA				AML	AML		22 18 19.0	
	comp=E,1715µm,0.3s							
FNA	**Florina**	**0.79**	**86**	P		**Pg**	**22 18 03.5**	**-0.7**
FNA				S		**Sb**	**22 18 16.3**	**+0.1**
	comp=E,880nm,0.5s							
FNA	**Florina**	**0.79**	**86**	*i* Pg		**Pg**	**22 18 03.6**	**-0.6**
FNA				*i* Sg		**Sb**	**22 18 16.5**	**+0.3**
PENT	**Pentalofos**	**0.81**	**131**	P		**Pg**	**22 18 04.1**	**-0.4**
PENT				AML	AML		22 18 17.9	
	comp=N,240µm,0.5s							
PENT				AML	AML		22 18 22.5	
	comp=E,170µm,0.3s							
SRN	**Sarande**	**0.88**	**197**	P		**Pg**	**22 18 05.8**	**-0.1**
SRN				S		**Sb**	**22 18 19.4**	**+0.7**
	comp=E,822nm,0.5s							
SRN	**Sarande**	**0.88**	**197**	P		**Pg**	**22 18 05.6**	**-0.3**
	baz=197							
SRN				S		**Sb**	**22 18 19.2**	**+0.5**
	baz=197							
PHP	**Peshkopia**	**0.96**	**5**	P		**Pg**	**22 18 06.8**	**-0.7**
	baz=5.0							
PHP				S		**Sn**	**22 18 22.1**	**-1.0**
	baz=5.0							
KEK	**Kerkira**	**1.09**	**202**	P		**Pb**	**22 18 10.3**	**0.0**
KEK				AML	AML		22 18 32.4	
	comp=N,242µm,0.3s							
KEK				AML	AML		22 18 33.7	
	comp=E,245µm,0.4s							
KEK	**Kerkira**	**1.09**	**202**	P		**Pg**	**22 18 09.2**	**-0.7**
KEK				S		**Sn**	**22 18 26.2**	**0.0**
	comp=E,122nm,0.3s							
KPRO	**Kipourio**	**1.10**	**134**	P		**Pg**	**22 18 09.4**	**-0.7**
KPRO				AML	AML		22 18 31.4	
	comp=E,317µm,0.5s							
KPRO				AML	AML		22 18 35.9	
	comp=N,231µm,0.5s							
KPRO	**Kipourio**	**1.10**	**134**	P		**Pg**	**22 18 08.8**	**-1.3**
KZN	**Kozani**	**1.17**	**111**	P		**Pb**	**22 18 10.7**	**-0.9**
KZN	**Kozani**	**1.17**	**111**	P		**Pb**	**22 18 10.9**	**-0.8**
KZN				S		**Sn**	**22 18 29.2**	**+0.9**
	comp=N,100nm,0.4s							
IGT	**Igoumenitsa**	**1.19**	**180**	P		**Pb**	**22 18 12.0**	**0.0**
IGT				AML	AML		22 18 31.6	
	comp=E,234µm,0.7s							
IGT				AML	AML		22 18 32.1	
	comp=N,153µm,0.5s							
IGT	**Igoumenitsa**	**1.19**	**180**	P		**Pb**	**22 18 11.6**	**-0.4**
IGT				S		**Sn**	**22 18 29.6**	**+0.9**
	comp=N,95nm,0.7s							
IGT	**Igoumenitsa**	**1.19**	**180**	*i* Pg		**Pg**	**22 18 12.3**	**+0.4**
IGT				*i* Sg		**Sn**	**22 18 31.0**	**+2.3**
PUK	**Puka**	**1.36**	**346**	P		**Pb**	**22 18 14.9**	**+0.1**
	baz=347							
PUK				S		**Sg**	**22 18 35.0**	**+2.4**
	baz=347							
KTI	**Kastanea**	**1.40**	**103**	P		**Pn**	**22 18 15.0**	**-0.1**
ULC	**Ulcinj**	**1.48**	**327**	⇓*i* Pg		**Pn**	**22 18 16.2**	**0.0**
ULC				*i* Sg		**Sg**	**22 18 38.6**	**+1.9**
PRZK	**Prizren**	**1.52**	**12**	*i* Pg		**Pg**	**22 18 17.9**	**-0.2**
PRZK				*i* Sg		**Sg**	**22 18 40.2**	**+2.5**
GRG	**Griva**	**1.58**	**81**	*i* Pn		**Pb**	**22 18 18.5**	**-0.1**
DRME	**Dracevica, Mon**	**1.70**	**330**	⇑*i* Pn		**Pn**	**22 18 19.2**	**+0.1**
DRME				*i* Sn		**Sg**	**22 18 44.1**	**+0.6**
STIP	**Stip**	**1.70**	**55**	*i* Pn		**Pg**	**22 18 21.7**	**+0.2**
THL	**Klokotos Trika**	**1.73**	**132**	P		**Pb**	**22 18 20.8**	**-0.4**
ZATK	**Zatriq**	**1.73**	**7**	*i* Pn		**Pb**	**22 18 21.1**	**-0.2**
LIT	**Litokhoron**	**1.76**	**110**	*i* Pn		**Pn**	**22 18 20.5**	**+0.5**
TTG	**Podgorica**	**1.89**	**335**	⇓*i* Pn		**Pb**	**22 18 22.6**	**-1.2**
TTG				*i* Sn		**Sg**	**22 18 48.7**	**-0.8**
BUM	**Brajici-Budva**	**1.91**	**326**	⇑*i* Pn		**Pn**	**22 18 21.7**	**-0.4**
BUM				*i* Sn		**Sg**	**22 18 49.4**	**-0.9**
PEJK	**Peje**	**1.91**	**359**	*i* Pn		**Pb**	**22 18 24.3**	**0.0**
GJIK	**Gjilan**	**1.92**	**25**	*i* Pn		**Pn**	**22 18 22.5**	**+0.3**
CEME	**Cevo**	**2.11**	**330**	⇑*i* Pn		**Pn**	**22 18 24.2**	**-0.6**
CEME				*i* Sn		**Sb**	**22 18 54.0**	**0.0**
IVA	**Berane**	**2.17**	**351**	⇓*i* Pn		**Pn**	**22 18 26.2**	**+0.5**
IVA				*i* Sn		**Sb**	**22 18 55.5**	**-0.3**
HCY	**Herceg Novi**	**2.21**	**322**	⇓*i* Pn		**Pn**	**22 18 25.0**	**-1.1**
HCY				*i* Sn		**Sb**	**22 18 56.8**	**0.0**
KOME	**Kolasin**	**2.21**	**344**	*e*Pn		**Pn**	**22 18 26.7**	**+0.5**
KOME				*i* Sn		**Sb**	**22 18 56.6**	**-0.4**
NKME	**Niksic**	**2.29**	**334**	⇑*i* Pn		**Pn**	**22 18 28.0**	**+0.7**
NKME				*i* Sn		**Sb**	**22 18 58.5**	**-0.7**
BRY	**Bratogost**	**2.55**	**329**	⇑*i* Pn		**Pn**	**22 18 31.8**	**+0.8**
BRY				*i* Sn		**Sb**	**22 19 05.0**	**-2.0**
PLE	**Pljevlja**	**2.69**	**345**	⇑*i* Pn		**Pn**	**22 18 33.7**	**+0.8**
PLE				*e*Sn		**Sb**	**22 19 08.2**	**-2.8**

ISK **12** *22:41:08.6,36.85N×44.23E,h5km,ML3.3/11*
TEH **12** *22:41:09.7,37.02N×44.44E,h6km,ML3.4*
ISN **12** *22:41:11.1±1.8,36.81N×43.71E,h19km±35km,ML3.3*
DDA **12** *22:41:12.2,37.10N×44.23E,h7km±3km,ML3.4*

ISC 12 22:41:09.4±1.2,36.96N±0.02×44.30E±0.03,h4km±10km, n64,σ1s49/84,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CUKT	**Cukurca**	**0.62**	**297**	PG		**Pg**	**22 41 21.9**	**+0.6**
CUKT				SG		**Sb**	**22 41 31.8**	**-0.2**
CUKT	**Cukurca**	**0.62**	**297**	*i* P		**Pg**	**22 41 22.0**	**+0.8**
CUKT				*i* S		**Sb**	**22 41 30.6**	**-1.4**
CUKT				IAML			22 41 36.0	
	comp=N,3µm,0.7s							
CUKT				IAML			22 41 38.0	
	comp=E,6µm,0.4s							
CUKT	**Cukurca**	**0.62**	**297**	*e*Pg		**Pg**	**22 41 22.1**	**+0.8**
YOVA	**Hakkari_Yksek**	**0.62**	**359**	*i* P		**Pg**	**22 41 21.4**	**+0.1**
YOVA				*i* S		**Sg**	**22 41 26.7**	**-2.8**
HAKT	**HAKKARI**	**0.76**	**322**	*i* P		**Pb**	**22 41 25.1**	**-0.2**
HAKT				*i* S		**Sg**	**22 41 32.9**	**-0.8**
HAKT	**HAKKARI**	**0.76**	**322**	*e*Pg		**Pb**	**22 41 25.0**	**-0.2**
BASK	**Baskale_VAN**	**1.11**	**348**	*i* P		**Pg**	**22 41 30.9**	**+0.1**
BASK				*i* S		**Sg**	**22 41 44.3**	**-0.9**
BASK	**Baskale_VAN**	**1.11**	**348**	*e*Pg		**Pg**	**22 41 30.8**	**+0.1**
MAHB	**Mahabad**	**1.15**	**99**	*e*Pg		**Pg**	**22 41 29.1**	**-2.2**
MAHB				*e*			22 41 51.6	
	comp=Z,99nm,0.4s							
SIRN	**Sirnak**	**1.59**	**290**	*i* P		**Pg**	**22 41 41.0**	**+1.1**
SIRN				*i* S		**Sg**	**22 41 60.0**	**-0.6**
SIRN				IAML			22 42 10.0	
	comp=N,495nm,0.8s							
SIRN				IAML			22 42 10.0	
	comp=E,550nm,0.6s							
SIRN	**Sirnak**	**1.59**	**290**	*e*Pg		**Pg**	**22 41 41.0**	**+1.1**
GEVA	**Gevas**	**1.67**	**324**	*i* P		**Pb**	**22 41 41.0**	**+0.3**
GEVA				*i* S		**Sn**	**22 42 00.7**	**-0.8**
GEVA	**Gevas**	**1.67**	**324**	*e*Pg		**Pb**	**22 41 41.0**	**+0.3**
PERV	**Siirt/Pervari-**	**1.71**	**306**	*i* P		**Pb**	**22 41 41.0**	**-0.3**
PERV				*i* S		**Sn**	**22 42 01.6**	**-0.8**
PERV				IAML			22 42 12.0	
	comp=N,502nm,0.6s							
PERV				IAML			22 42 19.0	
	comp=E,463nm,0.5s							
OZAP	**Van, Ozalp-Mer**	**1.71**	**352**	*i* P		**Pb**	**22 41 41.7**	**+0.2**
OZAP				*i* S		**Sb**	**22 42 03.6**	**+0.1**
TVAN	**Van**	**1.71**	**336**	*i* P		**Pg**	**22 41 42.7**	**+0.5**
TVAN				*i* S		**Sn**	**22 42 02.1**	**-0.6**
TVAN	**Van**	**1.71**	**336**	*e*Pg		**Pg**	**22 41 42.7**	**+0.5**
AKDM	**Akdamar-Van**	**1.72**	**323**	PN		**Pb**	**22 41 41.7**	**+0.1**
AKDM				SN		**Sg**	**22 42 06.1**	**+1.5**
AKDM	**Akdamar-Van**	**1.72**	**323**	*e*Pg		**Pg**	**22 41 43.6**	**+1.3**
VANB	**Van**	**1.78**	**336**	PN		**Pn**	**22 41 41.7**	**+0.7**
VANB				SN		**Sg**	**22 42 06.2**	**-0.4**
VANB	**Van**	**1.78**	**336**	*e*Pn		**Pg**	**22 41 43.6**	**+0.1**
ITBZ	**Tabriz**	**1.94**	**49**	*e*Pn		**Pn**	**22 41 42.8**	**-0.5**
ITBZ				*e*			22 42 13.0	
	comp=Z,99nm,0.5s							
IMRD	**Marand**	**2.07**	**32**	*e*Pn		**Pn**	**22 41 45.5**	**+0.4**
IMRD				*e*			22 42 25.2	
	comp=Z,99nm,0.4s							
VMUR	**Van-Muradiye**	**2.10**	**344**	*i* P		**Pb**	**22 41 48.7**	**+0.5**
VMUR				*i* S		**Sn**	**22 42 11.8**	**-0.4**
VMUR	**Van-Muradiye**	**2.10**	**344**	*e*Pn		**Pb**	**22 41 48.7**	**+0.5**
CLDR	**Caldiran**	**2.20**	**352**	*i* P		**Pn**	**22 41 48.2**	**+1.3**
CLDR				*i* S		**Sn**	**22 42 15.0**	**+0.4**
CLDR	**Caldiran**	**2.20**	**352**	*e*Pn		**Pn**	**22 41 48.1**	**+1.3**
ADCV	**BITLIS_Adilcev**	**2.22**	**326**	*i* P		**Pb**	**22 41 51.1**	**+0.8**
ADCV				*i* S		**Sb**	**22 42 17.3**	**-0.9**
ADCV	**BITLIS_Adilcev**	**2.22**	**326**	*e*Pn		**Pb**	**22 41 51.0**	**+0.8**
BLIS	**Bitlis-Merkez**	**2.26**	**311**	*i* P		**Pg**	**22 41 52.7**	**+0.1**
MIDY	**Mardin/Midyat-**	**2.36**	**282**	*i* P		**Pb**	**22 41 51.7**	**-0.7**
MIDY				IAML			22 42 33.0	
	comp=N,193nm,0.7s							
MIDY				IAML			22 42 37.0	
	comp=E,181nm,1.1s							
GURO	**Guroymak-BITLI**	**2.40**	**312**	PN		**Pn**	**22 41 50.9**	**+1.4**
IHSH	**Hashtrud**	**2.40**	**81**	*e*Pn		**Pn**	**22 41 50.1**	**+0.4**
IHRS	**Heris**	**2.56**	**57**	*e*		**Pg**	**22 42 02.4**	**+3.8**
	comp=Z,99nm,0.4s							
MLAZ	**Malazgirt-MUS**	**2.58**	**328**	PN		**Pb**	**22 41 54.2**	**-2.0**
BTMN	**Batman**	**2.58**	**292**	*i* P		**Pg**	**22 41 58.1**	**-0.7**
BTMN				*i* S		**Sn**	**22 42 21.8**	**-2.1**
BTMN				IAML			22 42 44.0	
	comp=E,180nm,1.1s							
DYDN	**Diyadin**	**2.62**	**350**	*i* P		**Pb**	**22 41 57.3**	**+0.3**
SVAN	**Silvan-Diyarba**	**2.73**	**297**	PN		**Pn**	**22 41 55.4**	**+1.4**
AGRB	**Hanur-Agry**	**2.80**	**339**	PN		**Pn**	**22 41 57.3**	**+2.1**
ISRB	**Sarab**	**2.82**	**71**	*e*Pn		**Pn**	**22 41 56.0**	**+0.6**
ISRB				*e*			22 42 40.1	
	comp=Z,99nm,0.3s							
MUSM	**Mu-Merkez**	**2.82**	**309**	*i* P		**Pb**	**22 42 00.7**	**+0.4**
MUSM				*i* S		**Sn**	**22 42 25.3**	**-4.5**
IDHR	**Dehrash**	**2.83**	**142**	*e*Pn		**Pn**	**22 41 57.7**	**+2.2**
IDHR				*e*			22 42 43.1	
	comp=Z,99nm,0.3s							
MARD	**Mardin**	**2.83**	**278**	*i* P		**Pg**	**22 42 04.0**	**+0.3**
MARD				*i* S		**Sn**	**22 42 31.1**	**+1.0**
MARD				IAML			22 42 48.0	
	comp=E,187nm,0.6s							
MARD				IAML			22 42 50.0	
	comp=N,338nm,0.8s							
IGDI	**IGDIR**	**2.91**	**357**	*i* P		**Pn**	**22 41 59.0**	**+2.6**
KOTA	**Agri, Merkez-K**	**2.96**	**344**	*i* P		**Pb**	**22 42 00.2**	**-2.6**
TASB	**TASBURUN-IGDIR**	**3.02**	**359**	PN		**Pn**	**22 42 00.9**	**+2.9**
VRTB	**Varto-Mus**	**3.14**	**315**	PN		**Pn**	**22 42 00.7**	**+1.0**
GNI	**Garni**	**3.20**	**6**	PN		**Pn**	**22 42 03.2**	**+2.6**
IGHG	**Ghaleghazi**	**3.21**	**144**	*e*		Sg	22 43 07.1	+14
	comp=Z,99nm,0.7s							
DYBB	**Diyarbakir**	**3.45**	**288**	PN		**Pn**	**22 42 05.1**	**+1.1**
KER	**Kermanshah**	**3.46**	**137**	*e*Pn		**Pn**	**22 42 05.8**	**+1.7**
KCHF	**Cheshme Sefid,**	**3.49**	**139**	*e*Pn		**Pn**	**22 42 06.0**	**+1.4**
KCHF				*e*			22 43 14.0	
	comp=Z,99nm,0.6s							
BNGB	**Bingl**	**3.50**	**306**	PN		**Pn**	**22 42 07.1**	**+2.4**
BHD	**Baghdad**	**3.69**	**179**	*e*Pg		**Pb**	**22 42 13.0**	**-2.0**
BHD				*e*Sg		**Sb**	**22 42 59.0**	**-1.0**
BHD				AML	AML		22 43 16.5	
	comp=E,130nm,0.5s							
IBDR	**Badra**	**4.07**	**160**	*e*Pn		**Pn**	**22 42 14.4**	**+2.0**
IBDR				*e*Sn		**Sn**	**22 43 01.0**	**+0.5**
IBDR				AML	AML		22 43 05.2	
	comp=N,42nm,0.9s							
IBDR				AML	AML		22 43 25.2	
	comp=E,63nm,0.5s							
QABG	**Abgarm-Qazvin**	**4.45**	**105**	*e*Pn		**Pn**	**22 42 17.9**	**+0.1**
HSAM	**Samen**	**4.46**	**127**	*e*Pn		**Pn**	**22 42 20.1**	**+2.2**
HSAM				*e*			22 43 17.3	
	comp=Z,99nm,0.4s							
IDOB	**Doab**	**4.48**	**134**	*e*Pn		**Pn**	**22 42 20.0**	**+1.7**
IKFM	**Kafar-mosalman**	**4.50**	**139**	*e*Pn		**Pn**	**22 42 19.9**	**+1.7**
IKFM				*e*			22 43 12.8	
	comp=Z,99nm,0.3s							
IKMR	**Kamar-syah**	**4.79**	**135**	*e*Pn		**Pn**	**22 42 25.0**	**+2.7**
IKMR				*e*			22 43 23.5	
	comp=Z,99nm,0.3s							
QALM	**Alamut, Qazvin**	**5.13**	**94**	*e*Pn		**Pn**	**22 42 27.5**	**+0.3**
NSR	**Nassriya**	**6.13**	**165**	*e*Pn		**Pn**	**22 42 44.0**	**+3.3**
NSR				*e*Sn		**Sn**	**22 43 51.0**	**-0.3**
NSR				AML	AML		22 43 51.1	
	comp=E,54nm,0.3s							
IPIR	**Pirpir**	**6.90**	**126**	*e*Pn		**Pn**	**22 42 52.9**	**+1.3**
MIB	**Mutribah**	**7.58**	**160**	*e*P			22 43 00.3	
UMR	**Umm Al-Rimmam**	**7.92**	**158**	*e*P			22 43 05.0	
RDF	**Al-Radifah**	**8.47**	**160**	*e*P			22 43 12.9	
KLNJ	**Kolanjah**	**8.48**	**132**	*e*Pn		**Pn**	**22 43 14.3**	**+1.0**

INET **12** *22:48:49.7,8.91N×84.03W,h17km,MW2.6*

UPA 12 22:48:48.3±1.1,8.88N×84.00W,h0km±15km,MW4.2,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PIRO	**Carate, Puerto**	**0.81**	**126**	*e*P		Pb	22 49 05.2	-0.1
PIRO				*e*S		Sb	22 49 17.5	+0.8
DRK0	**Durika**	**0.83**	**63**	*e*P		Pb	22 49 06.0	+0.2
DRK0				*e*S		Sb	22 49 18.7	+1.1
BRU2	**Volcan**	**1.30**	**94**	*e*P		Pg	22 49 13.2	0.0
BRU2				*e*S		Sn	22 49 32.2	+0.3
BCO2	**Palmira**	**1.46**	**96**	*e*P		Pg	22 49 16.4	0.0

IDC 12 23:07:30.1±4.8,4.22S×143.93E,h0km,mb3.3/3, mb1 3.7/4,mb1mx3.5/29,mbtmp3.5/4,ML3.9/1,Error ellipse: s-maj=137.2km s-min=33.6km az=100.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**18.21**	**210**	P		Pn	23 11 44.5	0.0
	0.4nm,0.3s,baz=30,slow=12,SNR=13							
ASAR	**Alice Springs**	**21.62**	**206**	P		P	23 12 22.1	+0.1
	0.6nm,0.7s,baz=36,slow=5.7,SNR=7.1							
FITZ	**Fitzroy Crossi**	**22.59**	**231**	P		P	23 12 32.3	-0.2
	1.4nm,0.6s,baz=59,slow=12,SNR=6.9							
MKAR	**Makanchi Array**	**74.19**	**321**	P		P	23 19 08.9	+0.1
	0.1nm,0.3s,baz=95,slow=7.6,SNR=2.0							

KRNET **12** *23:11:41.5±0.1,41.68N×71.75E,h12km,mb2.6*
SOME **12** *23:11:42.2,41.70N×71.77E,h0km*
NNC **12** *23:11:47.3±2.1,41.98N×71.74E,h0km,mb3.0,mpv2.8, Error ellipse: s-maj=22.1km s-min=10.7km az=1.0*

ISC 12 23:11:41.0±1.1,41.68N±0.02×71.78E±0.02,h14km±11km, n32,σ1s35/58,30C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TRKS	**Terek-Say**	**0.50**	**253**	⇑*i* P		**Pb**	**23 11 51.0**	**-0.7**
	baz=43							
TRKS				⇑*i* S		**Sb**	**23 11 57.9**	**-1.0**
	baz=43							
ARSB	**Arslanbob**	**0.97**	**111**	⇑*i* P		**Pn**	**23 12 00.5**	**+0.1**
	baz=11							
ARSB				⇑*i* S		**Sn**	**23 12 14.3**	**+0.2**
	baz=11							
MNAS	**Manas**	**0.97**	**34**	⇑*i* P		**Pn**	**23 12 00.7**	**+0.2**
	baz=35							
MNAS				⇑*i* S		**Sn**	**23 12 14.2**	**0.0**
	baz=35							
OHH	**Osh**	**1.38**	**146**	⇑*i* P		**Pg**	**23 12 08.1**	**+0.5**
	baz=45							
OHH				⇑*i* S		**Sg**	**23 12 27.3**	**+1.7**
	baz=45							
IUG	**Iuzhnay**	**1.38**	**290**	*e*P		**Pg**	**23 12 07.8**	**+0.2**
	5.2nm,0.1s							
IUG				*e*S		**Sg**	**23 12 26.3**	**+0.6**
	75nm,0.4s							
AML	**Almayashu**	**1.50**	**72**	⇑*i* P		**Pg**	**23 12 10.3**	**+0.4**
	baz=72							
AML				⇑*i* S		**Sg**	**23 12 31.3**	**+1.8**
	baz=72							
KK31	**Karatay Array**	**1.71**	**327**	⇓P		**Pg**	**23 12 13.3**	**-0.4**
	1.1nm,0.2s,baz=143,slow=17,SNR=30							
KK31				⇑S		**Sg**	**23 12 34.5**	**-1.4**
	3.7nm,0.3s,baz=139,slow=31,SNR=14							
BTK	**Batken**	**1.77**	**204**	⇑*i* P		**Pg**	**23 12 14.5**	**-0.6**
	baz=4.0							
BTK				⇑*i* S		**Sg**	**23 12 38.7**	**+0.6**
	baz=4.0							
EKS2	**Erkin-Say**	**1.78**	**56**	⇑*i* P		**Pg**	**23 12 15.2**	**-0.1**
	baz=56							
EKS2				⇑*i* S		**Sg**	**23 12 39.8**	**+1.4**
	baz=56							
UCH	**Uchtor**	**2.12**	**74**	⇓*i* P		**Pg**	**23 12 20.9**	**-0.7**
	baz=74							
UCH				⇓*i* S		**Sg**	**23 12 49.6**	**+0.5**
	baz=74							
SFK	**Sufi-Kurgan**	**2.12**	**141**	⇑*i* P		**Pg**	**23 12 20.7**	**-0.9**
	baz=41							
SFK				⇑*i* S		**Sg**	**23 12 48.9**	**-0.2**
	baz=41							
DRK	**Karamyk**	**2.19**	**180**	⇑*i* P		**Pb**	**23 12 21.7**	**+1.0**
	baz=79							
DRK				⇑*i* S		**Sg**	**23 12 50.8**	**-0.8**
	baz=79							
AAK	**Ala-Archa**	**2.24**	**64**	⇑*i* P		**Pb**	**23 12 22.3

IDC ***12*** *23:16:55.2±0.7, 13.°15N×145.°58E, h0km, mb4.1/16, mb1 4.3/16, mb1mx4.1/48, mbtmp4.1/16, MS3.1/3, Ms1 3.1/3, ms1mx2.9/38, Error ellipse: s-maj=25.6km s-min=17.3km az=105.0*

NEIC ***12*** *23:17:02.4±1.3, 13.09N±0.°09×145.°58E±0.°08, h47km±7km, mb4.3/14, Error ellipse: s-maj=12.9km s-min=11.5km az=194.0*

ISC 12 23:17:01.1±0.5, **13.°05N**±0.°08×**145.°63E**±0.°09, **h43**km, **n44**, σ1§**18**/43, **mb4.2**/21, **MS3.0**/3, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.91**	**306**			**Pn**	**23 17 17.3**	**-0.2**
ANA2	**Anatahan**	**3.27**	**1**	Pn		**Pn**	**23 17 50.7**	**+0.8**
PATS	**Pohnpei**	**13.94**	**115**	Pn		**Pn**	**23 20 13.4**	**-2.7**
FAKI	**Fak Fak**	**20.69**	**221**	P		Pn	23 21 40.3	-0.1
FAKI				IAmb	IAmb	IAmb	23 21 54.2	
	comp=Z,21nm,1.1s							
JOW	**Kunigami**	**21.27**	**313**	P		**P**	**23 21 44.8**	**+0.9**
JOW				IAmb	IAmb	IAmb	23 22 03.0	
	comp=Z,19nm,1.0s							
KSRS	**Korea Array**	**28.99**	**330**	P		**P**	**23 22 57.1**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=142,slow=9.3,SNR=2.9							
KSRS				LR		LR	23 33 12.5	
	comp=Z,37nm,18.9s,baz=105,slow=34							
WB0	**Warramunga Arr**	**34.44**	**199**	P		**P**	**23 23 45.8**	**+1.0**
WR0	**Warramunga Arr**	**34.57**	**199**	P		**P**	**23 23 47.0**	**+1.1**
WR0				IAmb	IAmb	IAmb	23 24 00.2	
	comp=Z,2.2nm,0.7s							
WB2	**Warramunga Arr**	**34.61**	**199**	P		**P**	**23 23 47.5**	**+1.2**
WRA	**Warramunga Arr**	**34.62**	**199**	P		**P**	**23 23 46.5**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=22,slow=9.7,SNR=16							
FITZ	**Fitzroy Crossi**	**36.70**	**213**	P		**P**	**23 24 06.0**	**+1.8**
KLR	**Kul'dur**	**37.85**	**345**	P		**P**	**23 24 12.2**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=150,slow=5.4,SNR=5.1							
ASAR	**Alice Springs**	**38.25**	**198**	P		**P**	**23 24 18.3**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=25,slow=9.0,SNR=18							
STKA	**Stephens Creek**	**44.84**	**185**	LR		LR	23 45 19.3	
	comp=Z,41nm,20.5s,baz=20,slow=38							
CMAR	**Chiang Mai Arr**	**45.16**	**283**	P		**P**	**23 25 13.9**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=88,slow=6.3,SNR=8.8							
CMAR				PcP		**PP**	**23 26 55.5**	**-4.7**
	comp=Z,1.0nm,0.4s,baz=79,slow=1.4,SNR=6.1							
CMAR				LR		LR	23 41 17.0	
	comp=Z,12nm,20.8s,baz=290,slow=32							
BBOO	**Buckleboo**	**46.51**	**191**	P		**P**	**23 25 25.1**	**+0.7**
BBOO				IAmb	IAmb	IAmb	23 25 38.9	
	comp=Z,6.9nm,1.0s							
SONM	**Songino Array**	**47.59**	**325**	P		**P**	**23 25 32.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=160,slow=30,SNR=2.7							
SONM				PcP		**PcP**	**23 27 02.8**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=172,slow=5.4,SNR=5.3							
MORW	**Morawa**	**50.70**	**214**	P		**P**	**23 25 57.5**	**+0.9**
MK31	**Makanchi Array**	**62.39**	**316**	P		**P**	**23 27 20.3**	**+0.7**
MKAR	**Makanchi Array**	**62.39**	**316**	P		**P**	**23 27 19.6**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=92,slow=8.7,SNR=38							
MKAR				PcP		**PcP**	**23 27 57.9**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=79,slow=6.3,SNR=4.5							
MKAR	**Makanchi Array**	**62.39**	**316**	P		**P**	**23 27 20.1**	**+0.5**
ZALV	**Zalesovo Beam**	**62.49**	**324**	P		**P**	**23 27 19.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=24,slow=27,SNR=2.3							
ZALV				PcP		**PcP**	**23 27 59.0**	**0.0**
	comp=Z,0.8nm,0.4s,baz=104,slow=4.7,SNR=5.1							
MAKZ	**Makanchi**	**62.60**	**316**	P		**P**	**23 27 21.8**	**+0.8**
MAKZ				IAmb	IAmb	IAmb	23 27 23.1	
	comp=Z,2.2nm,0.7s							
IL31		**68.74**	**25**	P		**P**	**23 28 00.5**	**+0.3**
IL31				IAmb	IAmb	IAmb	23 28 03.5	
	comp=Z,2.9nm,1.0s							
ILAR	**Eielson Array**	**68.74**	**25**	P		**P**	**23 28 00.6**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=250,slow=5.7,SNR=46							
ILAR	**Eielson Array**	**68.74**	**25**	P		**P**	**23 28 00.3**	**+0.1**
TOLK	**Toolik Lake Re**	**68.85**	**21**	P		**P**	**23 28 02.5**	**+1.6**
TOLK				IAmb	IAmb	IAmb	23 28 21.4	
	comp=Z,2.9nm,0.9s							
BMAR	**Burnt Mountain**	**70.31**	**23**	P		**P**	**23 28 11.4**	**+1.4**
BRVK	**Borovoye**	**70.87**	**322**	P		**P**	**23 28 14.1**	**+0.5**
INK	**Inuvik**	**74.58**	**22**	P		**P**	**23 28 35.0**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=256,slow=6.6,SNR=5.4							
INK	**Inuvik**	**74.58**	**22**	IAmb		IAmb	23 28 42.6	
	comp=Z,2.0nm,0.9s							
DLBC	**Dease Lake**	**76.03**	**33**	P		**P**	**23 28 45.1**	**+1.2**
	comp=Z,1.9nm,0.5s,baz=327,slow=5.0,SNR=4.7							
DLBC	**Dease Lake**	**76.03**	**33**	IAmb		IAmb	23 29 01.4	
	comp=Z,5.1nm,1.0s							
YKA	**Yellowknife Ar**	**82.99**	**27**	P		**P**	**23 29 21.4**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=288,slow=4.7,SNR=13							
ARCES	**ARCESS Array B**	**87.82**	**342**	P		**P**	**23 29 45.0**	**-0.6**
	comp=Z,1.1nm,1.1s,baz=66,slow=6.8,SNR=4.9							
ARCES	**ARCESS Array B**	**87.82**	**342**	P		**P**	**23 29 45.3**	**-0.2**
ELK	**Elko**	**88.38**	**49**	P		**P**	**23 29 50.2**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=197,slow=14,SNR=2.5							
FINES	**FINESS Array B**	**91.96**	**335**	P		**P**	**23 30 03.7**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=68,slow=5.4,SNR=15							
BRTR	**Keskin Array B**	**97.96**	**314**	P		Pdif	23 30 32.6	-0.5
	comp=Z,0.3nm,0.5s,baz=70,slow=4.7,SNR=2.1							
DBIC	**Dimbokro**	**144.73**	**302**	PKP		**PKPdf**	**23 36 33.7**	**-0.6**
	comp=Z,6.8nm,0.5s,baz=43,slow=3.5,SNR=14							
DBIC	**Dimbokro**	**144.73**	**302**			**PKPdf**	**23 36 34.3**	**0.0**
KIC	**Kosan Boka**	**144.81**	**301**	*e*PKP1		**PKPdf**	**23 36 34.5**	**0.0**
	comp=Z,25nm,0.8s							
TIC	**Toumodi**	**144.88**	**302**	*e*PKP1		**PKPdf**	**23 36 34.4**	**-0.2**
LIC	**Lamto**	**145.12**	**302**	*e*PKP1		**PKPdf**	**23 36 35.2**	**+0.2**
	comp=Z,38nm,0.5s							

NNC ***12*** *23:41:45.9±3.5, 43.°76N×88.°00E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=33.1km s-min=27.3km az=96.0*

IDC ***12*** *23:41:47.2±0.8, 43.°99N×87.°82E, h0km, mb3.6/11, mb1 3.7/17, mb1mx3.5/66, mbtmp3.5/17, ML2.9/5, MS3.4/2, Ms1 3.4/2, ms1mx2.8/40, Error ellipse: s-maj=21.7km s-min=11.5km az=41.0*

ISC 12 23:41:49.9±0.8, **44.°1N**±0.°1×**87.°84E**±0.°08, **h18**km, **n24**, σ1§**23**/24, **mb3.6**/11, **7C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.76**	**307**	⇑Pn		**Pn**	**23 43 02.7**	**+1.9**
	3.9nm,0.6s,baz=122,slow=13,SNR=107							
MK31				Lg		Lg	23 44 22.7	
	19nm,0.7s,baz=130,slow=27,SNR=4.0							
MKAR	**Makanchi Array**	**4.76**	**307**	Pn		**Pn**	**23 43 02.4**	**+1.6**
	1.4nm,0.3s,baz=120,slow=15,SNR=99							
MKAR				Sn		**Sn**	**23 43 55.5**	**-0.2**
	0.9nm,0.3s,baz=140,slow=26,SNR=5.9							
MKAR				Lg		Lg	23 44 20.6	
	1.3nm,0.3s,baz=118,slow=30,SNR=5.6							
MKAR				LR		LR	23 45 05.2	
	comp=Z,84nm,20.5s,baz=345,slow=41							
MAKZ	**Makanchi**	**4.95**	**306**	⇓Pn		**Pn**	**23 43 05.2**	**+1.7**
	5.4nm,0.6s							
MAKZ				⇑Pg		**Pg**	**23 43 23.7**	**-1.0**
	7.4nm,0.7s							
MAKZ				⇑Lg		Lg	23 44 35.2	
	66nm,1.4s							
PDGK	**Podgornoye**	**6.09**	**266**	⇑Pn		**Pn**	**23 43 19.4**	**+0.2**
	8.4nm,0.7s							
PDGK				⇓Lg		Lg	23 44 58.2	
	36nm,1.0s							
MDOK	**Medeo**	**7.88**	**267**	⇑Pn		**Pn**	**23 43 43.3**	**-0.5**
	4.3nm,0.6s							
MDOK				⇑Lg		Lg	23 46 02.1	
	26nm,1.3s							
KURBB	**Kurchatov Arra**	**9.11**	**319**	Pn		**Pn**	**23 44 00.6**	**+0.3**
	0.3nm,0.3s,baz=134,slow=12,SNR=27							
KURBB				Lg		Lg	23 46 40.4	
	0.1nm,0.3s,baz=138,slow=28,SNR=3.2							
KURBB	**Kurchatov Arra**	**9.11**	**319**	⇓Pn		**Pn**	**23 44 00.6**	**+0.3**
	2.9nm,0.7s							
KURBB				⇑Lg		Lg	23 46 48.6	
	54nm,1.5s							
AAK	**Ala-Archa**	**9.82**	**266**	Pn		**Pn**	**23 44 10.0**	**-0.4**
	0.1nm,0.3s,baz=187,slow=16,SNR=1.4							
ZALV	**Zalesovo Beam**	**10.09**	**350**	Pn		**Pn**	**23 44 14.7**	**+0.8**
	baz=165,slow=12,SNR=4.1							
ZALV				Lg		Lg	23 47 11.4	
	0.1nm,0.3s,baz=24,slow=26,SNR=2.6							
TLY	**Talaya**	**13.05**	**49**	Lg		Lg	23 48 43.1	
	0.0nm,0.3s,baz=310,slow=24,SNR=3.7							
SONM	**Songino Array**	**13.45**	**67**	Pn		**Pn**	**23 44 58.7**	**-1.2**
	0.0nm,0.3s,baz=222,slow=42,SNR=2.1							
SONM				Lg		Lg	23 48 59.0	
	0.1nm,0.3s,baz=63,slow=40,SNR=3.1							
BVAR	**Borovoye Array**	**14.60**	**314**	Pn		**Pn**	**23 45 11.4**	**-4.0**
	0.0nm,0.3s,baz=40,slow=31,SNR=1.8							
AKTO	**Aktyubinsk**	**21.13**	**298**	P		**P**	**23 46 33.6**	**0.0**
	0.8nm,0.5s,baz=124,slow=20,SNR=2.6							
ARU	**Arti**	**22.24**	**314**	P		**P**	**23 46 45.7**	**+0.2**
	1.5nm,0.6s,baz=125,slow=7.3,SNR=9.1							
CMAR	**Chiang Mai Arr**	**27.18**	**156**	P		**P**	**23 47 32.6**	**+0.2**
	0.6nm,0.3s,baz=330,slow=10,SNR=4.3							
FINES	**FINESS Array B**	**39.49**	**318**	P		**P**	**23 49 20.0**	**+1.0**
	0.6nm,0.6s,baz=90,slow=9.5,SNR=4.2							
BRTR	**Keskin Array B**	**39.97**	**283**	P		**P**	**23 49 24.1**	**+0.7**
	0.7nm,0.7s,baz=90,slow=7.3,SNR=5.0							
NOA	**NORSAR Array B**	**46.64**	**319**	P		**P**	**23 50 17.4**	**+0.5**
	0.5nm,0.6s,baz=74,slow=8.0,SNR=3.7							
ILAR	**Eielson Array**	**63.40**	**23**	P		**P**	**23 52 18.7**	**+0.9**
	0.4nm,0.8s,baz=312,slow=4.1,SNR=4.7							
SFJD	**Kangerlussuaq**	**64.84**	**343**	LR		LR	00 25 08.7	
	comp=Z,133nm,18.1s,baz=80,slow=40							
ESDC	**Sonseca Array**	**64.96**	**302**	P		**P**	**23 52 28.7**	**+0.2**
	0.4nm,0.6s,baz=52,slow=5.8,SNR=4.5							
YKA	**Yellowknife Ar**	**72.28**	**11**	P		**P**	**23 53 13.4**	**-0.3**
	0.1nm,0.5s,baz=337,slow=5.3,SNR=4.1							
WRA	**Warramunga Arr**	**76.59**	**135**	P		**P**	**23 53 39.2**	**-0.1**
	0.6nm,0.7s,baz=324,slow=3.6,SNR=6.9							
ASAR	**Alice Springs**	**79.51**	**138**	P		**P**	**23 53 55.6**	**+0.1**
	0.5nm,0.5s,baz=333,slow=5.6,SNR=6.0							

IDC ***12*** *23:45:11.4±2.1, 1.°18N×126.°57E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/43, mbtmp3.6/3, Error ellipse: s-maj=175.2km s-min=25.8km az=65.0*

DJA ***12*** *23:45:16.7±1.0, 1.°1N±6.°×12.°6E±.°, h14km±11km, M3.3/6, MLv3.3/6*

ISC 12 23:45:17.6±1.4, **1.°3N**±0.°2×**126.°6E**±0.°1, **h35**km, **n5**, σ2§**79**/6, **mb3.6**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.92**	**127**	P		**Pn**	**23 45 35.2**	**+1.1**
TNTI				S		**Sn**	**23 45 48.3**	**+2.2**
GTOI	**Gorontalo**	**3.68**	**259**	P		**Pn**	**23 46 13.8**	**+1.7**
WRA	**Warramunga Arr**	**22.45**	**161**	P		**P**	**23 50 11.3**	**-2.5**
	2.4nm,0.5s,baz=339,slow=11,SNR=14							
ASAR	**Alice Springs**	**25.83**	**165**	P		**P**	**23 50 43.1**	**-2.8**
	0.4nm,0.6s,baz=347,slow=11,SNR=2.1							
MKAR	**Makanchi Array**	**59.47**	**326**	P		**P**	**23 55 16.9**	**-0.3**
	0.2nm,0.4s,baz=122,slow=8.3,SNR=6.9							

IDC ***13*** *00:14:19.9±3.9, 38.°32N×74.°50E, h0km, mb3.7/3, mb1 3.6/5, mb1mx3.3/58, mbtmp3.6/5, ML2.9/2, Error ellipse: s-maj=81.1km s-min=22.9km az=137.0*

KRNET ***13*** *00:14:20.6±0.1, 39.°28N×74.°63E, mb3.8*

NNC ***13*** *00:14:31.0±2.7, 39.°53N×74.°30E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=24.3km s-min=13.8km az=166.0*

ISC 13 00:14:23.0±1.5, **39.°24N**±0.°04×**74.°57E**±0.°04, **h4**km±10km, **n42**, σ1§**90**/64, **mb3.6**/3, **28C-26D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.12**	**313**	⇓*i*P		**Pg**	**00 14 42.3**	**-2.3**
SFK	baz=11			⇓*i*S		**Sg**	**00 14 58.4**	**-0.8**
OHH	**Osh**	**1.87**	**314**	⇓*i*P		**Pn**	**00 14 56.0**	**0.0**
OHH	baz=12			⇓*i*S		**Sb**	**00 15 21.3**	**-0.5**
DRK	**Karamyk**	**2.16**	**277**	⇑*i*P		**Pn**	**00 15 00.6**	**+0.5**
DRK	baz=76			⇑*i*S		**Sb**	**00 15 30.0**	**-0.1**
ARSB	**Arslanbob**	**2.40**	**330**	⇑*i*P		**Pn**	**00 15 03.4**	**0.0**
ARSB	baz=29			⇑*i*S		**Sb**	**00 15 34.7**	**-2.4**
AML	**Almayashu**	**2.96**	**347**	⇓*i*P		**Pn**	**00 15 11.0**	**-0.2**
AML	baz=46			⇓*i*S		**Sn**	**00 15 47.5**	**+0.1**
AML	**Almayashu**	**2.96**	**347**	P		**Pb**	**00 15 16.2**	**-0.4**
	SNR=25							
UCH	**Uchtor**	**2.98**	**359**	⇓*i*P		**Pn**	**00 15 11.1**	**-0.5**
UCH	baz=58			⇓*i*S		**Sn**	**00 15 47.8**	**-0.2**
	baz=58							
UCH	**Uchtor**	**2.98**	**359**	P		**Pb**	**00 15 17.7**	**+0.6**
	SNR=28							
BTK	**Batken**	**3.00**	**287**	⇑*i*P		**Pn**	**00 15 12.5**	**+0.9**
BTK	baz=86			⇑*i*S		**Sn**	**00 15 49.7**	**+1.6**
	baz=86							
ULHL	**Ulahol**	**3.26**	**22**	⇓*i*P		**Pn**	**00 15 14.5**	**-0.7**
ULHL	baz=22			⇓*i*S		**Sn**	**00 15 54.2**	**-0.3**
ULHL	**Ulahol**	**3.26**	**22**	P		**Pg**	**00 15 27.2**	**+1.7**
	SNR=11							
AAK	**Ala-Archa**	**3.39**	**359**	⇑*i*P		**Pn**	**00 15 16.8**	**-0.2**
AAK	baz=58			⇑*i*S		**Sn**	**00 15 57.9**	**+0.2**
	baz=58							
AAK	**Ala-Archa**	**3.39**	**359**	P		**Pb**	**00 15 22.9**	**-0.9**
	SNR=21							
AAK	**Ala-Archa**	**3.39**	**359**	⇑Pn		**Pb**	**00 15 22.7**	**-1.2**
AAK	40nm,0.8s			⇑Lg		Lg	00 16 09.9	
	70nm,0.9s							
BOOM	**Boomskoye usch**	**3.41**	**17**	⇑*i*P		**Pn**	**00 15 16.8**	**-0.4**
BOOM	baz=17			⇑*i*S		**Sn**	**00 15 58.1**	**0.0**
KBK	**Karagaybulak**	**3.42**	**5**	⇓*i*P		**Pn**	**00 15 17.0**	**-0.4**
KBK	baz=4.0			⇓*i*S		**Sn**	**00 15 58.1**	**-0.4**
	baz=4.0							
KBK	**Karagaybulak**	**3.42**	**5**	P		**Pb**	**00 15 23.7**	**-0.6**
	SNR=22							
EKS2	**Erkin-Say**	**3.47**	**350**	⇓*i*P		**Pn**	**00 15 17.9**	**-0.1**
EKS2	baz=50			⇓*i*S		**Sn**	**00 15 59.9**	**+0.4**
	baz=50							
EKS2	**Erkin-Say**	**3.47**	**350**	P		**Pb**	**00 15 24.5**	**-0.6**
	SNR=25							
TRKS	**Terek-Say**	**3.47**	**312**	⇑*i*P		**Pn**	**00 15 17.8**	**-0.3**
TRKS	baz=11			⇑*i*S		**Sn**	**00 15 59.1**	**-0.6**
	baz=11							
KDJ	**Kajisay**	**3.50**	**34**	⇑*i*P		**Pn**	**00 15 18.0**	**-0.5**
KDJ	baz=34			⇑*i*S		**Sn**	**00 15 59.9**	**-0.6**
	baz=34							
MNAS	**Manas**	**3.60**	**335**	⇓*i*P		**Pn**	**00 15 20.0**	**+0.2**
MNAS	baz=34			⇓*i*S		**Sn**	**00 16 03.5**	**+0.7**
	baz=34							
CHMS	**Chumysh**	**3.75**	**2**	⇑*i*P		**Pn**	**00 15 21.6**	**-0.2**
CHMS	baz=1.0			⇑*i*S		**Sn**	**00 16 05.9**	**-0.6**
	baz=1.0							
TKM2	**Tokmak 2**	**3.75**	**12**	⇓*i*P		**Pn**	**00 15 21.6**	**-0.4**
TKM2	baz=11			⇓*i*S		**Sn**	**00 16 06.2**	**-0.6**
	baz=11							
TKM2	**Tokmak 2**	**3.75**	**12**	P		**Pb**	**00 15 28.3**	**-1.8**
	SNR=10							
TKM2	**Tokmak 2**	**3.75**	**12**	⇑Pn		**Pb**	**00 15 28.2**	**-1.9**
TKM2	8.2nm,0.5s			⇑Lg		Lg	00 16 25.1	
	44nm,0.8s							
USP	**Ospenovka**	**4.02**	**359**	⇓*i*P		**Pn**	**00 15 25.3**	**-0.2**
USP	baz=59			⇓*i*S		**Sn**	**00 16 12.6**	**-0.5**
	baz=59							
USP	**Ospenovka**	**4.02**	**359**	P		**Pb**	**00 15 32.4**	**-2.1**
	SNR=6.9							
MDOK	**Medeo**	**4.34**	**25**	⇓Pg		**Pg**	**00 15 46.7**	**+0.5**
MDOK	34nm,0.6s			⇑Lg		Lg	00 16 45.8	
	24nm,0.7s							
KNDC	**Almaty**	**4.36**	**24**	⇑Pg		**Pg**	**00 15 47.7**	**+1.1**
KNDC	104nm,0.8s			⇑Lg		Lg	00 16 47.7	
	83nm,0.6s							
KK31	**Karatay Array**	**4.92**	**323**	Pn		**Pn**	**00 15 40.5**	**+2.7**
	2.3nm,0.3s,baz=131,slow=13,SNR=45							
KK31				⇑Pg		**Pb**	**00 15 50.6**	**+0.8**
	3.0nm,0.4s,baz=147,slow=17,SNR=5.8							
KK31				⇓Sn		**Sn**	**00 16 38.0**	**+2.8**
	3.0nm,0.4s,baz=138,slow=24,SNR=3.7							
KK31				⇑Lg		Lg	00 16 55.6	
	13nm,0.6s,baz=138,slow=29,SNR=5.3							
PDGK	**Podgornoye**	**5.51**	**41**	⇑Pn		Pb	00 15 52.9	-7.1
	4.4nm,1.1s							
PDGK				⇑Pg		**Pg**	**00 16 07.1**	**-1.6**
	13nm,0.8s							
PDGK				⇑Lg		Lg	00 17 23.9	
	20nm,0.8s							
DHRM	**DHARAMSHALA**	**7.12**	**168**	*e*P		**Pn**	**00 16 12.7**	**+4.4**
DHRM				*e*S		**Sn**	**00 17 21.7**	**-8.1**
DHRM				IAML			00 17 40.1	
	comp=E,55nm,0.6s							
DHRM				IAML			00 17 40.4	
	comp=N,44nm,1.1s							
SMLA	**Simla**	**8.37**	**164**	*e*P		**Pn**	**00 16 28.0**	**+2.8**
SMLA				*e*S		**Sn**	**00 17 58.8**	**-1.4**
SMLA				IAML			00 18 08.1	
	comp=N,32nm,1.4s							
SMLA				IAML			00 18 08.5	
	comp=E,23nm,0.3s							
MKAR	**Makanchi Array**	**9.43**	**34**	Pn		Pn	00 16 47.1	+7.4
	comp=E,0.1nm,0.3s,baz=222,slow=14,SNR=8.6							
MKAR				Lg		Lg	00 19 45.9	
	comp=E,0.0nm,0.3s,baz=219,slow=30,SNR=4.2							
KURBB	**Kurchatov Arra**	**11.72**	**13**	Pn		Pn	00 17 21.6	+11
	baz=198,slow=12							
AB31	**Akbulak array**	**14.46**	**319**	⇓Pn		**P**	**00 17 52.1**	**-3.3**
	comp=E,1.2nm,0.7s,baz=315,slow=2.3,SNR=26							
AB31				⇓Sn		**Sn**	**00 20 27.3**	**-2.0**
	comp=E,1.5nm,0.8s							
AKTO	**Aktyubinsk**	**16.17**	**319**	⇓Pn		**P**	**00 18 14.1**	**-0.3**
	comp=E,3.8nm,1.0s							
AKTO				⇓Sn		**Sn**	**00 21 12.3**	**+1.5**
	comp=E,1.0nm,1.1s							
ZALV	**Zalesovo Beam**	**16.28**	**22**	P		**P**	**00 18 21.3**	**+5.7**
	comp=E,0.2nm,0.3s,baz=223,slow=9.9,SNR=2.9							
FINES	**FINESS Array B**	**36.88**	**323**	P		**P**	**00 21 35.1**	**+2.8**
	comp=E,0.6nm,0.5s,baz=109,slow=8.7,SNR=7.0							
NOA	**NORSAR Array B**	**43.95**	**321**	P		**P**	**00 22 32.6**	**+1.7**
	comp=E,0.5nm,0.8s,baz=93,slow=7.6,SNR=1.5							
TORD	**Torodi Ar. Bea**	**68.58**	**270**	P		**P**	**00 25 25.5**	**-1.9**
	comp=E,1.5nm,0.8s,baz=54,slow=5.8,SNR=2.0							

BJI ***13*** *00:18:19.7±0.0, 56.°40N×114.°40E, h9km, mB4.6/12, mb4.0/18, Ms4.5/12, Ms7 4.1/9*

MOS ***13*** *00:18:21.9±1.4, 55.°99N×114.°04E, h7km, mb4.5/17, Error ellipse: s-maj=7.4km s-min=5.3km az=59.4*

MOS Felt (II-III) at Severomuysk.

BYKL ***13*** *00:18:22.6±0.1, 56.°08N×113.°92E, h9km±2km, Mw4.4/8(IEC), #STATIONS MA2 PET MAJO INCN XAN WMQ AAK KURK FELT I=II-III MSK at Severomuisk*

IDC ***13*** *00:18:22.4±0.6, 55.°94N×113.°96E, h0km, mb3.8/19, mb1 4.1/24, mb1mx3.9/61, mbtmp3.9/24, ML3.2/4, MS3.5/14, Ms1 3.5/14, ms1mx3.3/47, Error ellipse: s-maj=14.5km s-min=11.3km az=150.0*

NEIC ***13*** *00:18:34.0±2.3, 58.°09N±0.°10×111.°9E±0.°2, h10km±1km, mb4.2/21, Error ellipse: s-maj=20.6km s-min=5.3km az=140.0*

ISC 13 00:18:23.4±0.9, **56.°13N**±0.°03×**113.°94E**±0.°02, **h7**km±6km, **n181**, σ2§**76**/249, **mb4.2**/37, **MS3.6**/11, **11C-23D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.21**	**268**	⇓*i*Pg		**Pg**	**00 18 26.7**	**-1.0**
SVKR				Pmax			00 18 27.1	
	14μm,0.2s							
SVKR				*e*Sg		**Sg**	**00 18 30.2**	**-0.4**
SVKR				Smax			00 18 30.5	
	182μm,1.0s							
SVKR	**Severomuysk**	**0.21**	**268**	*e*PG		**Pg**	**00 18 26.7**	**-1.0**
SVKR				*e*S		**Sg**	**00 18 30.0**	**-0.6**
UKT	**Uakit**	**0.66**	**195**	⇑*i*Pg		**Pg**	**00 18 34.0**	**-2.2**
UKT				Pmax			00 18 34.5	
	3μm,0.7s							
UKT				*e*Sg		**Sg**	**00 18 42.5**	**-2.3**
UKT				Smax			00 18 42.8	
	12μm,1.0s							
UKT	**Uakit**	**0.66**	**195**	⇑*i*PG		**Pg**	**00 18 34.0**	**-2.2**
UKT				*e*			00 18 42.7	
UKT				pmax	pmax			
	comp=Z,3μm,0.6s							
UKT				smax	smax			
	comp=N,11μm,0.6s							
NLYR	**Nelyaty**	**1.05**	**69**	⇑*i*Pg		**Pg**	**00 18 42.0**	**-1.6**
NLYR				*e*Pb		**Pb**	**00 18 44.6**	**+0.7**
NLYR				max			00 18 44.8	
	comp=N,4μm,0.6s							
NLYR				*e*Sg		**Sg**	**00 18 56.6**	**-0.6**
NLYR				Smax			00 18 57.6	
	comp=N,20μm,1.1s							
NLYR				*e*Sb		**Sn**	**00 19 00.6**	**+1.2**
NLYR	**Nelyaty**	**1.05**	**69**	⇑*i*PG		**Pg**	**00 18 42.0**	**-1.6**
NLYR				*e*			00 18 56.0	
NLYR				pmax	pmax			
	comp=Z,4μm,0.7s		

NIZ e 00 19 37.5
NIZ pmax pmax
comp=Z,949nm,1.4s
NIZ smax smax
comp=N,4μm,1.0s
CRS Chara 2.52 70⇓ *i*Pn **Pn 00 19 04.9 +0.1**
CRS ⇑ *i*Pg **Pb 00 19 09.2 +0.2**
CRS Pmax 00 19 09.6
comp=N,7μm,0.9s
CRS *e*Sg **Sb 00 19 42.2 +2.0**
CRS *e*SgSg **SnSn 00 19 49.0 +2.6**
CRS max 00 19 50.7
comp=N,10μm,1.0s
CRS Chara 2.52 70⇓ *i*PN **Pn 00 19 04.9 +0.1**
CRS *e* 00 19 08.8
CRS *e* 00 19 41.4
CRS pmax pmax
comp=Z,7μm,0.8s
CRS smax smax
comp=E,9μm,0.9s
SYVR Suvo 3.36 224⇑ *i*Pn **Pn 00 19 15.7 -0.6**
SYVR *e* 00 19 19.3
SYVR *e*Pg **Pb 00 19 22.8 -0.5**
SYVR Pmax 00 19 30.2
comp=E,343nm,0.9s
SYVR *e*Sn **Sn 00 19 54.2 -2.2**
SYVR *e*Sg **Sb 00 20 05.7 +1.4**
SYVR *e* 00 20 16.6
SYVR max 00 20 17.2
comp=E,6μm,1.5s
SYVR Suvo 3.36 224⇑ *i*PN **Pn 00 19 15.6 -0.7**
SYVR *e* 00 19 22.8
SYVR *e* 00 20 04.5
SYVR pmax pmax
comp=Z,349nm,0.8s
SYVR smax smax
comp=N,6μm,1.3s
VTMR Vitim 3.41 348 *e*Pn **Pn 00 19 16.5 -0.4**
VTMR *e*Pg **Pb 00 19 24.3 +0.3**
VTMR *e* 00 19 46.3
VTMR *e*Sn **Sn 00 19 56.3 -1.1**
VTMR *e*Sg **Sb 00 20 08.1 +2.6**
KHNR Khani 3.44 74⇓ *i*Pn **Pn 00 19 16.8 -0.6**
KHNR *e*Pg **Pb 00 19 24.0 -0.6**
KHNR *e*Sg **Sb 00 20 09.0 +2.4**
TUP Tupik 3.84 114⇓ *i*Pn **Pn 00 19 22.1 -0.8**
TUP *e* 00 19 24.4
TUP *e*Pg **Pb 00 19 31.7 +0.2**
TUP Pmax 00 19 33.0
comp=N,626nm,0.5s
TUP *e* 00 19 49.6
TUP *e*Sn **Sn 00 20 06.2 -2.0**
TUP *e*Sg **Sb 00 20 20.8 +2.7**
TUP Smax 00 20 29.6
comp=N,3μm,1.3s
TUP Tupik 3.84 114⇓ *i*PN **Pn 00 19 22.1 -0.8**
TUP *e* 00 19 31.5
TUP *e*S **Sn 00 20 06.3 -2.0**
TUP *e* 00 20 21.2
TUP pmax pmax
comp=Z,626nm,0.4s
TUP smax smax
comp=E,3μm,1.0s
CIT Chita 4.12 183 *e*Pn **Pn 00 19 25.4 -1.4**
CIT *e* 00 19 31.2
CIT *e*Pg **Pb 00 19 35.8 -0.4**
CIT Pmax 00 19 37.2
comp=E,650nm,1.1s
CIT *e*Sg **Sb 00 20 29.5 +3.3**
CIT Smax 00 20 32.5
comp=E,3μm,1.5s
CIT Chita 4.12 183 *e*PN **Pn 00 19 24.8 -2.0**
CIT *e* 00 19 35.3
CIT *e*S **Sn 00 20 12.9 -2.3**
CIT *e* 00 20 28.7
CIT pmax pmax
comp=Z,652nm,1.0s
CIT smax smax
comp=N,3μm,1.3s
MXMB Maximikha 4.16 229 *e*Pn **Pn 00 19 27.2 -0.1**
MXMB *e*Pg **Pb 00 19 36.6 -0.3**
MXMB *e* 00 19 40.3
MXMB *e* 00 20 02.5
MXMB *e*Sn **Sn 00 20 13.7 -2.4**
MXMB *e*Sg **Sb 00 20 30.4 +3.1**
MXMB *e* 00 20 37.2
YKLR Yuktali 4.32 81 *e*Pn **Pn 00 19 29.2 -0.2**
YKLR *e* 00 19 37.5
YKLR *e*Pg **Pb 00 19 39.6 0.0**
YKLR *e* 00 20 01.5
YKLR *e*Sg **Sb 00 20 36.2 +4.4**
OGRR Ongureny 4.43 238⇓ *i*Pn **Pn 00 19 31.4 +0.5**
OGRR *e*Pg **Pb 00 19 41.7 +0.3**
OGRR *e* 00 19 44.0
OGRR max 00 19 44.8
comp=N,392nm,1.7s
OGRR *e* 00 20 06.7
OGRR *e*Sg **Sb 00 20 38.2 +3.2**
OGRR Smax 00 20 45.3
comp=N,2μm,2.0s
OGRR Ongureny 4.43 238⇓ *i*PN **Pn 00 19 31.4 +0.5**
OGRR *e* 00 19 43.0
OGRR *e* 00 20 39.6
OGRR pmax pmax
comp=Z,392nm,1.7s
OGRR smax smax
comp=N,2μm,2.0s
ZRHB Zarechye 5.34 231 *e*Pn **Pn 00 19 42.9 -0.6**
ZRHB *e* 00 19 46.9
ZRHB *e*Pg **Pb 00 19 57.6 +0.6**
ZRHB Pmax 00 20 27.0
comp=N,322nm,0.8s
ZRHB *e*Sg **Sb 00 21 07.3 +6.0**
ZRHB Smax 00 21 29.8
comp=N,4μm,1.3s
TRG Tyrgan 5.56 236 *e*Pn **Pn 00 19 46.2 -0.4**
TRG *e* 00 19 59.0
TRG *e*Pg **Pb 00 20 01.6 +0.8**
TRG Pmax 00 20 07.0
comp=N,108nm,0.9s
TRG *e*Sn **Sn 00 20 47.4 -3.3**
TRG *e* 00 21 05.3
TRG *e*Sg **Sb 00 21 13.4 +5.7**
TRG Smax 00 21 29.1
comp=N,1μm,1.8s
TRG Tyrgan 5.56 236 *e*PN **Pn 00 19 45.8 -0.8**
TRG *e* 00 20 01.5
TRG *e*S **Sn 00 20 47.9 -2.8**
TRG *e* 00 21 10.8
TRG pmax pmax
comp=Z,109nm,0.8s
TRG smax smax
comp=N,1μm,1.8s
UUDB Ulan-Yde 5.65 224 *e*Pn **Pn 00 19 47.1 -0.6**
UUDB *e*Pg **Pb 00 20 03.5 +1.3**
UUDB Pmax 00 20 11.5
comp=N,182nm,0.9s
UUDB *e*Sg **Sg 00 21 17.0 -7.6**
UUDB Smax 00 21 22.7
comp=N,4μm,1.5s
FFNB Fofonovo 5.87 229 *e*Pn **Pn 00 19 50.1 -0.7**
FFNB *e*Pg **Pb 00 20 07.8 +1.7**
FFNB *e*Sn **Sn 00 20 54.7 -3.6**
FFNB *e*Sg **Sb 00 21 22.4 +5.8**
KAB Kabansk 5.92 229 *e*Pg **Pb 00 20 09.4 +2.6**
KAB Pmax 00 20 24.9
comp=N,425nm,1.1s
KAB *e*Sg **Sb 00 21 25.1 +7.3**
KAB Smax 00 22 00.4
comp=N,5μm,1.4s
STDB Stepnoy Dvoret 5.96 231 *e*Pg **Pb 00 20 09.3 +1.8**
STDB *e*Sn **Sn 00 20 57.1 -3.3**
STDB *e*Sg **Sb 00 21 26.0 +7.0**
IENR Iengra 6.10 85 *e*Pn **Pn 00 19 53.8 -0.2**
IENR *e*Pg **Pb 00 20 12.4 +2.4**
IENR *e*Sn **Sn 00 21 01.5 -2.5**
IENR *e*Sg **Sg 00 21 32.1 -7.0**
HRMR Khuramsha 6.11 225 *e*Pn **Pn 00 19 53.8 -0.3**
HRMR *e* 00 20 04.4
HRMR *e*Pg **Pb 00 20 12.7 +2.6**
HRMR Pmax 00 20 24.6
comp=N,257nm,0.7s
HRMR *e*Sg **Sb 00 21 30.7 +7.3**
HRMR Smax 00 21 47.4
comp=N,3μm,0.9s
CLNS Chul'man 6.11 79 *e*Pn **Pn 00 19 54.0 -0.1**
CLNS *e* 00 20 05.3
CLNS *e*Pg **Pb 00 20 12.8 +2.7**
CLNS *e*Sn **Sn 00 21 01.8 -2.4**
CLNS *e* 00 21 20.9
CLNS *e*Sg **Sb 00 21 31.7 +8.3**
BGT Bolshoye Golou 6.47 234 *e*Pn **Pn 00 19 57.0 -2.0**
BGT *e* 00 20 10.1
BGT *e*Pg **Pb 00 20 18.0 +1.8**
BGT *e* 00 20 20.3
BGT max 00 20 38.1
comp=N,58nm,1.2s
BGT *e*Sg **Sb 00 21 41.6 +7.9**
BGT Smax 00 21 53.2
comp=N,631nm,1.1s
KPC Khapcheranga 6.50 189 *e*Pn **Pn 00 19 57.1 -2.4**
KPC *e* 00 20 06.2
KPC *e*Pg **Pb 00 20 19.4 +2.6**
KPC Pmax 00 20 23.6
comp=N,50nm,1.0s
KPC *e* 00 21 00.1
KPC *e*Sg **Sb 00 21 42.2 +7.5**
KPC Smax 00 21 53.1
comp=N,980nm,1.7s
KPC Khapcheranga 6.50 189 *e*PN **Pn 00 19 57.2 -2.3**
KPC *e* 00 20 17.6
KPC *e* 00 21 41.1
KPC pmax pmax
comp=Z,50nm,1.0s
KPC smax smax
comp=E,954nm,1.6s
LSTR Listvyanka 6.85 235 *e*Pn **Pn 00 20 03.1 -1.1**
LSTR *e* 00 20 16.4
LSTR *e*Pg **Pb 00 20 25.0 +2.3**
LSTR Pmax 00 20 27.8
comp=E,65nm,1.9s
LSTR *e*Sn **Sn 00 21 17.4 -5.0**
LSTR *e*Sg **Sb 00 21 53.2 +8.5**
LSTR Smax 00 22 00.3
comp=E,1μm,1.6s
IRK Irkutsk 6.88 240 *e*Sg **Sb 00 21 53.9 +8.5**
IRK Smax 00 22 03.0
comp=E,1μm,1.1s
IRK Irkutsk 6.88 240 *e*PG **Pb 00 20 27.7 +4.6**
IRK *e* 00 21 54.1
IRK pmax pmax
comp=Z,145nm,0.1s
IRK smax smax
comp=N,138nm,0.8s
TLY Talaya 7.53 238 Pn **Pn 00 20 11.8 -1.8**
comp=N,0.0nm,0.3s,baz=62,slow=6.7,SNR=3.4
TLY Pg Pb 00 20 25.4 -8.9
comp=N,0.0nm,0.3s,baz=53,slow=9.0,SNR=4.3
TLY Lg Lg 00 22 13.0
comp=N,0.1nm,0.3s,baz=174,slow=14,SNR=8.9
TLY LR LR 00 23 02.1
comp=N,484nm,21.9s,baz=40,slow=38
TLY Talaya 7.53 238 *e*Pn **Pn 00 20 12.9 -0.7**
TLY *e* 00 20 23.5
TLY *e*Pg **Pb 00 20 37.8 +3.5**
TLY Pmax 00 20 45.3
comp=N,43nm,0.9s
TLY *e* 00 21 47.2
TLY *e*Sg Sb 00 22 13.8 +10
TLY Smax 00 22 24.0
comp=N,478nm,1.4s
TLY Talaya 7.53 238 Pn **Pb 00 20 31.3 -3.0**
HIA Hailar 7.72 150⇓ *e*PN **Pn 00 20 14.5 -1.7**
ARS Arshan 7.98 243 *e*Pn **Pn 00 20 19.2 -0.5**
ARS *e*Pg **Pb 00 20 46.0 +4.1**
ARS Pmax 00 20 59.6
comp=N,85nm,0.6s
ARS *e*Sn **Sn 00 21 44.4 -5.8**
ARS *e*Sg Sb 00 22 26.7 +10
ARS Smax 00 22 36.9
comp=N,1μm,1.2s
ARS Arshan 7.98 243 *e*PN **Pn 00 20 23.5 +3.8**
ZEA Zeya 8.03 102 *e*PN **Pn 00 20 20.8 +0.4**
ZEA *e* 00 20 47.4
ZEA *e*S **Sn 00 21 50.4 -1.0**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA pmax pmax
comp=Z,30nm,0.6s
ZEA smax smax
comp=E,300nm,2.3s
ZEA smax smax
comp=N,330nm,1.0s
ZAK Zakamensk 8.59 232 *e*Pn **Pn 00 20 27.7 -0.5**
ZAK *e*Pg Pg 00 20 57.1 -11
ZAK Pmax 00 21 03.1
comp=N,29nm,1.2s
ZAK *e*Sg Sg 00 22 47.3 -12
ZAK Smax 00 23 31.6
comp=N,608nm,1.7s
ZAK Zakamensk 8.59 232 *e*PN **Pn 00 20 31.6 +3.4**
ZAK *e* 00 20 56.3
ZAK *e* 00 22 47.6
ZAK pmax pmax
comp=Z,29nm,0.8s
ZAK smax smax
comp=N,607nm,1.8s
MOY Mondy 8.85 245 *e*Pn **Pn 00 20 31.1 -0.6**
MOY *e* 00 20 43.4
MOY max 00 21 29.2
comp=N,74nm,1.1s
MOY *e*Sn **Sn 00 22 05.9 -5.7**
MOY *e*Sg Sg 00 22 55.2 -12
MOY Smax 00 23 14.6
comp=N,979nm,1.7s
MOY Mondy 8.85 245 *e*PN **Pn 00 20 31.8 +0.1**
MOY *e* 00 21 00.6
MOY *e* 00 22 54.4
MOY pmax pmax
comp=Z,65nm,1.5s
MOY smax smax
comp=N,976nm,1.6s
ORL Orlik 9.00 252 *e*Pn **Pn 00 20 33.4 -0.4**
ORL max 00 21 19.4
comp=N,65nm,1.2s
ORL *e*Sn **Sn 00 22 10.2 -5.1**
ORL *e*Sg Sg 00 23 01.0 -11
ORL Smax 00 23 07.7
comp=N,584nm,1.4s
ORL Orlik 9.00 252 *e*P **Pn 00 20 33.4 -0.4**
ORL *e*S **Sn 00 22 09.9 -5.4**
ORL pmax pmax
comp=Z,65nm,1.0s
ORL smax smax
comp=N,584nm,1.4s
ULN Ulaanbaatar 9.29 210⇓ *e*P **Pn 00 20 38.1 +0.3**
ULN Ulaanbaatar 9.29 210 Pn Pn 00 21 07.5 +30
SONM Songino Array 9.51 212 Pn **Pn 00 20 38.3 -2.5**
comp=N,0.7nm,0.3s,baz=27,slow=12,SNR=32
SONM Lg Lg 00 23 18.3
comp=N,6.8nm,0.3s,baz=27,slow=30,SNR=15
SONM Songino Array 9.51 212 Pn Pn 00 21 07.6 +27
YAK Yakutsk 10.02 47 Lg Lg 00 23 29.4
comp=N,0.4nm,0.3s,baz=317,slow=20,SNR=18
YAK LR LR 00 24 15.9
comp=N,98nm,21.2s,baz=264,slow=35
YAK Yakutsk 10.02 47 *de*P **Pn 00 20 48.9 +1.4**
YAK Yakutsk 10.02 47 Pn Pn 00 20 53.9 +6.4
KLR Kul'dur 12.80 115 Pn **Pn 00 21 24.1 -1.5**
comp=N,1.1nm,0.3s,baz=309,slow=14,SNR=23
KLR Sn Sn 00 23 35.1 -13
comp=N,0.9nm,0.3s,baz=2.1,slow=20,SNR=3.8
KLR Lg Lg 00 25 03.8
comp=N,1.3nm,0.3s,baz=42,slow=20,SNR=11
KLR LR LR 00 26 51.0
comp=N,116nm,20.9s,baz=314,slow=40
KLR Kul'dur 12.80 115⇓ *i*P **Pn 00 21 24.9 -0.7**
KLR pmax pmax
comp=Z,4.0nm,0.6s
KLR MLR MLR
comp=Z,279nm,9.0s
USRK Ussuriysk Ar. 16.56 129 Lg Lg 00 27 02.5
baz=313,slow=28,SNR=5.9
ZAA0 Zalesovo Array 16.77 275 Pn **Pn 00 22 14.7 -3.8**
ZALV Zalesovo Beam 16.77 275 Pn **Pn 00 22 17.1 -1.4**
comp=Z,0.2nm,0.3s,baz=74,slow=12,SNR=17
ZALV Zalesovo Beam 16.77 275 *i*P **Pn 00 22 18.3 -0.2**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
ZALV Zalesovo Beam 16.77 275 Pn **Pn 00 22 14.5 -4.1**
TIXI Tiksi 16.82 16 Pn **Pn 00 22 13.0 -5.9**
comp=Z,2.8nm,0.3s,baz=204,slow=7.4,SNR=25
TIXI Sn Sn 00 25 11.6 -14
comp=Z,1.4nm,0.3s,baz=120,slow=22,SNR=6.8
TIXI Lg Lg 00 27 22.6
comp=Z,0.2nm,0.3s,baz=328,slow=11,SNR=3.3
TIXI LR LR 00 28 40.0
comp=Z,168nm,18.8s,baz=232,slow=36
TIXI Tiksi 16.82 16 P **Pn 00 22 13.5 -5.4**
DGZ Jazzator, Alta 17.16 259⇓ *i*P **Pn 00 22 23.4 -0.2**
DGZ pmax pmax
comp=Z,7.0nm,0.8s
GTA Gaotai 19.16 215 ⇑P **Pn 00 22 53.0 +4.8**
GTA pP sP 00 22 56.8 +5.8
GTA sP pP 00 22 59.8 +10
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA pmax pmax
comp=Z,120nm,6.2s
GTA LR LR
comp=Z,450nm,10.9s
GTA LR LR
comp=Z,1μm,10.9s
MA2 Magadan 19.73 65 LR LR 00 31 36.6
comp=Z,31nm,18.9s,baz=266,slow=40
ZSN Zaisan 19.84 256 *e*P **P 00 22 55.1 +0.5**
baz=256
ZSN *e*S **Sn 00 26 39.4 +0.4**
baz=256
ZSN Zaisan 19.84 256 *e*P **Pn 00 22 55.9 -0.2**
ZSN *e*S **Sn 00 26 39.4 +0.4**
SEY Seymchan 20.39 55⇓ *e*P **P 00 22 59.8 -0.5**
WMQ Urumqi 20.74 245 P Pn 00 23 09.5 +2.7
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ Urumqi 20.74 245 P Pn 00 23 09.5 +2.7
WMQ IAmb IAmb 00 23 10.9
comp=Z,10nm,1.0s
KSAR Wonju Array Be 20.91 147 P Pn 00 23 40.6 +32
KSRS Korea Array 20.91 147 P **P 00 23 06.2 0.0**
comp=Z,0.8nm,0.4s,baz=340,slow=10,SNR=5.6
KSRS Lg Lg 00 29 19.3
comp=Z,0.8nm,0.3s,baz=341,slow=38,SNR=2.1
KSRS LR LR 00 30 54.1
comp=Z,127nm,19.5s,baz=344,slow=36
KURK Kurchatov 21.56 270 P **P 00 23 16.1 +3.0**
MK31 Makanchi Array 21.64 258 P **P 00 23 13.7 -0.3**
MK31 pmax pmax
comp=Z,16nm,0.9s
MK31 Makanchi Array 21.64 258 P **P 00 23 13.7 -0.3**
MK31 IAmb IAmb 00 23 19.8
comp=Z,16nm,0.8s
MKAR Makanchi Array 21.64 258 P **P 00 23 13.9 -0.2**
comp=Z,15nm,0.9s,baz=55,slow=9.3,SNR=27
MKAR LR LR 00 32 05.6
comp=Z,275nm,19.3s,baz=22,slow=38
MKAR Makanchi Array 21.64 258 *i* P **P 00 23 13.8 -0.3**
MKAR pmax pmax
comp=Z,15nm,0.9s
MKAR Makanchi Array 21.64 258 P **P 00 23 13.6 -0.4**
KURBB Kurchatov Arra 21.66 270 P **P 00 23 16.1 +2.0**
comp=Z,13nm,0.8s,baz=67,slow=11,SNR=22
KURBB Lg Lg 00 29 50.8
comp=Z,5.3nm,1.2s,baz=60,slow=31,SNR=5.5
MAKZ Makanchi 21.80 258 P **P 00 23 15.9 +0.1**
MAKZ pmax pmax
comp=Z,17nm,0.9s
MAKZ Makanchi 21.80 258 P **P 00 23 15.9 +0.1**
TDK Taldyqorghan 24.88 259 *e*P **P 00 23 48.2 +1.7**
comp=Z,17nm,0.7s,baz=258
TDK Taldyqorghan 24.88 259 *e*P **P 00 23 48.1 +1.7**
TDK pmax pmax
comp=Z,17nm,0.7s
BVAR Borovoye Array 25.12 281 P **P 00 23 50.2 +1.7**
comp=Z,4.6nm,0.8s,baz=108,slow=9.5,SNR=14
BRVK Borovoye 25.16 281⇑ *e*P **P 00 23 50.9 +2.0**
BRVK pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 25.16 281 P **P 00 23 47.4 -1.5**
BRVK IAmb IAmb 00 24 02.1
comp=Z,9.2nm,0.8s
PETK Petropavlovsk- 25.20 78 P **P 00 23 49.3 0.0**
comp=Z,1.9nm,0.7s,baz=346,slow=3.0,SNR=2.6
PETK LR LR 00 34 30.9
comp=Z,157nm,18.7s,baz=299,slow=38
BRZS Berezniki 25.25 273 *e*P **P 00 23 51.2 +1.5**
comp=Z,4.0nm,0.9s,baz=273
BRZS *e*S **S 00 28 17.3 +1.9**
baz=273
BRZS Berezniki 25.25 273 *e*P **P 00 23 51.1 +1.4**
BRZS *e*S **S 00 28 17.2 +1.9**
BRZS pmax pmax
comp=Z,4.0nm,0.9s
SHLS Shalkode 25.52 254 *e*P **P 00 23 51.8 -0.6**
comp=Z,7.2nm,0.7s,baz=253
SHLS Shalkode 25.52 254 *e*P **P 00 23 51.8 -0.6**
SHLS pmax pmax
comp=Z,7.0nm,0.7s
MJAR Matsushiro Arr 25.54 130 LR LR 00 35 00.2
comp=Z,47nm,20.2s,baz=345,slow=39
WHN Wuhan 25.57 179 ⇑P **P 00 23 55.7 +2.9**
KPKS Kokpek 25.73 255 *e*P **P 00 23 56.2 +1.9**
comp=Z,5.7nm,1.1s,baz=255
KPKS Kokpek 25.73 255 *e*P **P 00 23 56.1 +1.9**
KPKS pmax pmax
comp=Z,6.0nm,1.1s
UZB Uzynbulak 25.76 255 *e*P **P 00 23 55.9 +1.2**
baz=254
UZB Uzynbulak 25.76 255 *e*P **P 00 23 55.8 +1.2**
JNU Nakatsue 25.83 146 LR LR 00 34 09.3
comp=Z,98nm,19.9s,baz=1.5,slow=37
SATY Saty 26.15 255 *e*P **P 00 23 59.5 +1.4**
baz=255
SATY Saty 26.15 255 *e*P **P 00 23 59.5 +1.4**
KUU Kurty 26.73 259 *e*P **P 00 24 04.7 +1.4**
baz=259
KUU Kurty 26.73 259 *e*P **P 00 24 04.6 +1.4**
MDOK Medeo 26.82 257 *e*P **P 00 24 05.3 +1.0**
baz=257
MDOK Medeo 26.82 257 *e*P **P 00 24 05.2 +1.0**
AAA Alma-Ata 26.86 257 *e*P **P 00 24 06.4 +1.9**
baz=257
AAA Alma-Ata 26.86 257 *e*P **P 00 24 06.4 +1.9**
BTLS Baital 27.26 263 *e*P **P 00 24 09.2 +1.2**
comp=Z,4.3nm,0.7s,baz=263
BTLS Baital 27.26 263 *e*P **P 00 24 09.2 +1.2**
BTLS pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 28.57 259 LR LR 00 35 56.1
comp=Z,148nm,18.6s,baz=60,slow=37
AAK Ala-Archa 28.57 259⇓ *e*P **P 00 24 22.3 +2.4**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 28.57 259 P **P 00 24 23.1 +3.3**
AAK IAmb IAmb 00 24 26.8
comp=Z,2.4nm,0.8s
KSH Kashi 29.94 252 P P 00 24 38.9 +6.9
KSH pmax pmax
comp=Z,21nm,1.6s
KSH pmax pmax
comp=Z,780nm,7.3s
ARU Arti 30.04 294 LR LR 00 38 22.5
comp=Z,198nm,20.4s,baz=344,slow=40
DZA Taraz 30.14 262 *e*P **P 00 24 34.8 +1.1**
baz=262
DZA Taraz 30.14 262 *e*P **P 00 24 34.8 +1.1**
KK31 Karatay Array 30.46 263 P **P 00 24 39.3 +2.8**
KK31 pmax pmax
comp=Z,2.0nm,1.0s
KK31 Karatay Array 30.46 263 P **P 00 24 39.3 +2.8**
KK31 IAmb IAmb 00 24 42.0
comp=Z,2.3nm,1.0s
KKAR Karatay Array 30.46 263 P **P 00 24 39.2 +2.7**
KKAR pmax pmax
comp=Z,2.0nm,1.0s
KKAR Karatay Array 30.46 263 P **P 00 24 38.7 +2.3**
KKAR Karatay Array 30.46 263 P **P 00 24 39.1 +2.7**
KKAR IAmb IAmb 00 24 42.0
comp=Z,2.3nm,1.0s
IUG Iuzhnay 31.36 262 *e*P **P 00 24 46.5 +1.9**
baz=262
IUG Iuzhnay 31.36 262 *e*P **P 00 24 46.4 +1.9**
ABKAR Akbulak array 32.69 281 P **P 00 24 54.4 -1.6**

ABKAR					IAmb	IAmb	00 24 59.3	
	comp=Z,1.4nm,0.8s							
ABKAR	**Akbulak array**	**32.69**	**281**		P	**P**	**00 24 55.1**	**-0.9**
AKTO	**Aktyubinsk**	**33.11**	**284**		LR	LR	00 38 03.5	
	comp=Z,138nm,20.3s,baz=330,slow=36							
GEYT	**Alibeck**	**40.89**	**268**		P	**P**	**00 26 08.7**	**+2.8**
OBN	**Obninsk**	**41.54**	**302**	*eP*		**P**	**00 26 10.6**	**-0.4**
OBN					pmax	pmax		
	comp=Z,4.0nm,1.0s							
COLD	**Coldfoot**	**42.19**	**35**		P	**P**	**00 26 19.2**	**+3.1**
FINES	**FINESS Array B**	**42.55**	**315**		P	**P**	**00 26 21.1**	**+1.9**
	comp=Z,2.2nm,0.6s,baz=75,slow=7.0,SNR=8.2							
FINES	**FINESS Array B**	**42.55**	**315**		P	P	00 26 12.5	-6.7
BMAR	**Burnt Mountain**	**43.84**	**33**		P	**P**	**00 26 31.8**	**+2.2**
TCOL	**CIGO, UAF Yank**	**44.35**	**37**		P	**P**	**00 26 37.6**	**+4.1**
TCOL					IAmb	IAmb	00 26 44.9	
	comp=Z,5.9nm,0.8s							
COLA	**College**	**44.35**	**37**	*eP*		**P**	**00 26 35.5**	**+1.9**
COLA					pmax	pmax		
	comp=Z,6.0nm,0.9s							
COLA	**College**	**44.35**	**37**		P	**P**	**00 26 37.3**	**+3.7**
COLA					IAmb	IAmb	00 26 44.8	
	comp=Z,5.9nm,0.8s							
WRH	**Wood River Hil**	**44.52**	**38**		P	**P**	**00 26 39.0**	**+4.0**
IL31		**44.74**	**37**		P	**P**	**00 26 39.8**	**+3.1**
ILAR	**Eielson Array**	**44.74**	**37**		P	**P**	**00 26 38.8**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=303,slow=9.9,SNR=14							
ILAR	**Eielson Array**	**44.74**	**37**		P	**P**	**00 26 39.6**	**+2.9**
ILAR	**Eielson Array**	**44.74**	**37**		P	**P**	**00 26 39.6**	**+2.9**
KIV	**Kislovodsk**	**45.33**	**286**	*eP*		**P**	**00 26 41.5**	**-0.3**
KIV					pmax	pmax		
	comp=Z,16nm,1.0s							
KIV					MLR	MLR		
	comp=Z,299nm,16.0s							
KIV	**Kislovodsk**	**45.33**	**286**		P	**P**	**00 26 38.4**	**-3.4**
KIV					IAmb	IAmb	00 26 53.2	
	comp=Z,4.9nm,0.9s							
MNK	**Minsk**	**45.93**	**306**	*i*	P	P	00 26 41.1	-5.2
	comp=E,3.0nm,0.9s							
MNK				*i*	P	P	00 26 41.1	-5.2
	comp=N,11nm,0.8s							
MNK				*i*	P	P	00 26 41.1	-5.2
	comp=Z,8.0nm,1.0s							
MNK				*i*	PcP	**PcP**	**00 28 18.3**	**-4.8**
MNK				*i*	PP	**PP**	**00 28 28.6**	**-4.9**
MNK				*i*	PPP	PPP	00 29 08.8	
MNK				*i*	S	**S**	**00 33 23.6**	**-7.2**
MNK				*i*	SS	**SS**	**00 36 51.2**	**-3.6**
MNK				*i*	SSS	SSS	00 37 37.0	
MNK				*i*	LQ	LQ	00 41 47.0	
MNK				*i*	LR	LR	00 43 36.2	
MNK				*i*	LRM	MLR	00 47 52.0	
	comp=E,16nm,14.2s							
MNK				*i*	LRM	MLR	00 47 52.3	
	comp=N,338nm,17.6s							
MNK				*i*	LRM	MLR	00 47 54.0	
	comp=Z,72nm,10.2s							
INK	**Inuvik**	**46.42**	**28**		P	**P**	**00 26 52.3**	**+2.4**
	comp=Z,1.4nm,0.8s,baz=346,slow=7.0,SNR=2.7							
GNI	**Garni**	**46.80**	**281**	*eP*		**P**	**00 26 55.8**	**+2.3**
GNI					pmax	pmax		
	comp=Z,12nm,1.7s							
GNI	**Garni**	**46.80**	**281**		P	**P**	**00 26 52.9**	**-0.7**
GNI					IAmb	IAmb	00 27 04.4	
	comp=Z,4.7nm,0.9s							
KLU	**Klutina**	**47.18**	**40**		P	**P**	**00 27 00.2**	**+4.1**
BCAR	**Beaver Creek A**	**47.57**	**37**		P	**P**	**00 27 02.0**	**+2.9**
N25K	**Chitina, Valde**	**47.58**	**39**		P	**P**	**00 27 03.0**	**+3.8**
AKASG	**Malin Array Be**	**47.76**	**301**		P	**P**	**00 27 01.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=45,slow=9.3,SNR=1.8							
C36M	**Paulatuk**	**47.98**	**24**		P	**P**	**00 27 01.3**	**-0.8**
HFS	**Hagfors**	**48.13**	**319**		P	**P**	**00 27 03.7**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=72,slow=9.3,SNR=3.2							
NB2	**NORSAR Subarra**	**48.41**	**321**		P	**P**	**00 27 06.4**	**+0.8**
	comp=Z,12nm,1.2s,baz=48,slow=7.9							
NOA	**NORSAR Array B**	**48.41**	**321**		P	**P**	**00 27 06.5**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=52,slow=7.8,SNR=3.9							
BRTR	**Keskin Array B**	**53.12**	**288**		P	**P**	**00 27 43.3**	**+1.8**
	comp=Z,0.8nm,1.0s,baz=8.9,slow=10,SNR=2.8							
BRTR					LR	LR	00 54 43.0	
	comp=Z,76nm,18.6s,baz=22,slow=41							
BRTR	**Keskin Array B**	**53.12**	**288**		P	**P**	**00 27 38.9**	**-2.6**
DPC	**Dobruska-Polom**	**53.94**	**308**	*eP*		**P**	**00 27 51.1**	**+3.8**
DPC	**Dobruska-Polom**	**53.94**	**308**	*eP*		**P**	**00 27 51.1**	**+3.8**
YKA	**Yellowknife Ar**	**55.83**	**25**		P	**P**	**00 28 00.2**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=334,slow=6.6,SNR=8.1							
YKA	**Yellowknife Ar**	**55.83**	**25**	*i*	P	**P**	**00 28 01.9**	**+1.2**
YKA					pmax	pmax		
	comp=Z,1.0nm,0.8s							
CKRC	**Cesky Krumlov**	**55.95**	**308**	*eP*		**P**	**00 28 06.3**	**+4.5**
KHC	**Kasperske Hory**	**56.04**	**309**	*eP*		**P**	**00 28 05.3**	**+2.8**
KHC	**Kasperske Hory**	**56.04**	**309**	*eP*		**P**	**00 28 05.3**	**+2.8**
GERES	**GERESS Array B**	**56.20**	**309**		P	**P**	**00 28 02.9**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=48,slow=4.5,SNR=2.3							
ESDC	**Sonseca Array**	**71.06**	**314**		P	**P**	**00 29 41.9**	**0.0**
	comp=Z,2.8nm,0.8s,baz=27,slow=6.4,SNR=19							
PDAR	**Pinedale Array**	**74.85**	**32**		P	**P**	**00 30 05.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=56,slow=4.8,SNR=1.9							
WRA	**Warramunga Arr**	**77.71**	**160**		P	**P**	**00 30 18.7**	**-1.8**
	comp=Z,1.1nm,0.9s,baz=349,slow=6.5,SNR=3.7							
ASAR	**Alice Springs**	**81.27**	**162**		P	**P**	**00 30 39.1**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=357,slow=5.6,SNR=1.5							
TXAR	**Lajitas Array**	**89.06**	**32**		P	**P**	**00 31 21.8**	**+2.6**
	comp=Z,0.1nm,0.4s,baz=324,slow=5.6,SNR=2.1							

NEIC ***13*** *00:22:01.4±2.5,32.78S±0.03×71.74W±0.09, h19km±10km, Error ellipse: s-maj=11.1km s-min=4.2km az=92.0*
GUC ***13*** *00:22:02.9±0.7,32.70S×71.48W, h34km±3km, ML3.9*
ISC 13 00:22:02.3±1.2, 32.70S±0.03×71.59W±0.05, h28km±13km, n28, σ1°11/42, 1C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.56**	**119**	*eP*	**Pn**	**00 22 14.4**	**-0.2**
ROCH				*i* S	**Sn**	**00 22 22.6**	**-0.5**
MT02	**Curacav**	**0.68**	**146**	⇓ *i* P	**Pn**	**00 22 16.0**	**0.0**
MT02				*i* S	**Sn**	**00 22 25.4**	**-0.2**
MT02	**Curacav**	**0.68**	**146**		**Pn**	**00 22 16.2**	**+0.2**
MT02					**Sb**	**00 22 23.2**	**-1.4**
VA03	**San Esteban**	**0.88**	**94**	⇓ *i* P	**Pn**	**00 22 19.4**	**+0.5**
VA03				*i* S	**Sn**	**00 22 31.3**	**+0.5**
VA03				IAML		00 22 31.9	
	comp=E,11μm,0.2s						
VA03	**San Esteban**	**0.88**	**94**		**Pn**	**00 22 19.5**	**+0.7**
VA03				Sg	**Sn**	**00 22 31.6**	**+0.8**
PEL	**Peldehue**	**0.88**	**120**		**Pn**	**00 22 19.7**	**+0.9**
PEL				Sg	**Sn**	**00 22 31.9**	**+1.1**
VA05	**Santo Domingo**	**0.95**	**181**	*eP*	**Pb**	**00 22 20.6**	**+0.4**
VA05				*i* S	**Sn**	**00 22 32.9**	**+0.5**
VA05				IAML		00 22 34.8	
	comp=E,7μm,0.4s						
MT05	**Renca**	**0.99**	**134**	⇓ *i* P	**Pb**	**00 22 21.2**	**+0.3**
MT05				*i* S	**Sn**	**00 22 35.0**	**+1.4**
MT05				IAML		00 22 35.7	
	comp=E,7μm,0.4s						
MT05	**Renca**	**0.99**	**134**	Sg	**Sn**	**00 22 35.0**	**+1.4**
MT09	**Talagante**	**1.19**	**155**	⇓ *i* P	**Pb**	**00 22 24.2**	**0.0**
MT09				*i* S	**Sb**	**00 22 40.2**	**+0.9**
MT03	**Universidad Ad**	**1.21**	**131**	⇓ *i* P	**Pb**	**00 22 24.4**	**-0.2**
MT03				*i* S	**Sb**	**00 22 40.3**	**+0.6**
MT03				IAML		00 22 43.2	
	comp=E,2μm,0.2s						
CO02	**Combarbal**	**1.57**	**19**	*eP*	**Pb**	**00 22 30.4**	**-0.4**
CO02				*i* S	**Sb**	**00 22 51.7**	**+1.4**
CO02				IAML		00 22 53.7	
	comp=E,5μm,0.1s						
CO02	**Combarbal**	**1.57**	**19**		**Pb**	**00 22 30.5**	**-0.3**
CO02					**Sb**	**00 22 52.0**	**+1.6**
LMEL	**Las Melosas**	**1.63**	**135**	⇑ *i* P	**Pb**	**00 22 31.2**	**-0.7**
LMEL				*i* S	**Sb**	**00 22 52.3**	**+0.3**
BO03	**Pichilemu**	**1.82**	**190**	*eP*	**Pn**	**00 22 31.7**	**+0.1**
BO03				*i* S	**Sb**	**00 22 59.0**	**+1.8**
CO03	**El Pedregal**	**2.01**	**23**	Pn	**Pn**	**00 22 35.5**	**+1.2**
BO02	**Sierra Bellavi**	**2.19**	**162**		**Pn**	**00 22 36.7**	**-0.2**
ZON	**Zonda**	**2.73**	**66**	Pn	**Pb**	**00 22 48.1**	**-2.3**
CO01	**Juntas del Tor**	**3.00**	**26**		**Pn**	**00 22 51.1**	**+2.9**
LCO	**Las Campanas**	**3.76**	**12**	Pn	**Pn**	**00 23 00.2**	**+1.6**
BI02	**San Fabin de**	**3.96**	**176**		**Pn**	**00 23 02.6**	**+1.3**
BI03	**Tigo**	**4.30**	**196**		**Pn**	**00 23 05.6**	**-0.2**
AC04	**Llanos de Chal**	**4.50**	**6**	Pn	**Pn**	**00 23 09.1**	**+0.4**
AC02	**Maricunga**	**6.22**	**21**	Pn	**Pn**	**00 23 34.2**	**+1.5**
AC01	**Pan de Azucar**	**6.59**	**8**	Pn	**Pn**	**00 23 36.0**	**-1.3**
PLCA	**Paso Flores**	**8.06**	**174**	Pn	**Pn**	**00 23 56.3**	**-1.2**
PB10	**IPOC Station P**	**9.20**	**6**	Pn	**Pn**	**00 24 12.4**	**-0.7**
PB01	**IPOC Station P**	**11.76**	**10**	Pn	**Pn**	**00 24 47.1**	**-1.2**

IDC ***13*** *00:26:50.2±2.0,50.11N×170.34W, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.3/48, mbtmp3.3/7, ML3.1/2, Error ellipse: s-maj=55.2km s-min=23.8km az=6.0*
AEIC ***13*** *00:27:05.1±1.5,51.87N±0.07×170.38W±0.09, h33km±7km, ML2.8, Error ellipse: s-maj=11.5km s-min=5.6km az=147.0*
NEIC ***13*** *00:27:05.1±1.2,51.9N±0.1×170.32W±0.09, h36km±12km, Error ellipse: s-maj=15.8km s-min=5.9km az=155.0*
ISC 13 00:27:04.3±1.5, 51.8N±0.2×170.37W±0.07, h31km, n23, σ1°99/22, mb3.4/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.49**	**38**		**Sn**	**00 27 45.4**	**-1.9**
NIKH	**Nikolski High**	**1.49**	**38**		**Pn**	**00 27 28.1**	**-0.8**
OKSO	**Okmok South**	**2.05**	**40**		**Sn**	**00 28 00.2**	**-1.1**
OKTU	**Okmok Mt. Tuli**	**2.12**	**41**		**Pn**	**00 27 37.5**	**-0.1**
OKFG	**Magazine Ridge**	**2.19**	**42**		**Pn**	**00 27 37.8**	**-0.8**
KOFP	**Korovin Flat P**	**2.35**	**283**		**Pn**	**00 27 40.8**	**0.0**
ATKA	**Atka Island**	**2.40**	**281**		**Pn**	**00 27 40.8**	**-0.6**
ATKA					**Sn**	**00 28 10.4**	**+0.7**
MAPS	**Pakushin South**	**2.89**	**45**		**Pn**	**00 27 47.4**	**-0.8**
MGOD	**Makushin Gods**	**2.91**	**45**		**Pn**	**00 27 47.6**	**-0.8**
MSW	**Makushin Switc**	**3.03**	**44**		**Pn**	**00 27 49.9**	**-0.2**
MNAT	**Makushin Natee**	**3.05**	**46**		**Pn**	**00 27 50.5**	**+0.1**
AKUT	**Akutan**	**3.62**	**48**	Pn	**Pn**	**00 27 59.2**	**+1.0**
ADK	**Adak**	**3.92**	**274**	Pn	**Pn**	**00 28 02.3**	**0.0**
SPIA	**Saint Paul Isl**	**5.38**	**1**	Pn	**Pn**	**00 28 23.1**	**+0.8**
SDPT	**Sand Point**	**6.87**	**55**	Pn	**Pn**	**00 28 39.7**	**-3.1**
ILAR	**Eielson Array**	**17.76**	**34**	P	**P**	**00 31 15.9**	**+6.4**
	0.1nm,0.3s,baz=240,slow=7.9,SNR=4.7						
PETK	**Petropavlovsk-**	**19.42**	**286**	P	**P**	**00 31 24.6**	**-3.2**
	0.4nm,0.3s,baz=93,slow=14,SNR=1.6						
YKA	**Yellowknife Ar**	**31.07**	**48**	P	**P**	**00 33 20.6**	**+1.4**
	0.7nm,1.1s,baz=273,slow=7.4,SNR=4.9						
NVAR	**Mina Array Bea**	**38.28**	**89**	P	P	00 34 13.6	-8.3
	0.2nm,0.6s,baz=284,slow=5.3,SNR=1.3						
FRB	**Frobisher Bay**	**49.79**	**35**	P	**P**	**00 35 53.3**	**-0.2**
	baz=324,slow=10						
TXAR	**Lajitas Array**	**53.38**	**88**	P	P	00 36 10.9	-10
	0.1nm,0.7s,baz=302,slow=5.2,SNR=1.8						
MKAR	**Makanchi Array**	**63.74**	**313**	P	**P**	**00 37 31.2**	**-1.6**
	0.4nm,0.8s,baz=48,slow=5.8,SNR=4.1						
AKTO	**Aktyubinsk**	**70.18**	**329**	P	**P**	**00 38 13.2**	**-0.5**
	0.8nm,0.6s,baz=52,slow=18,SNR=2.4						

SJA ***13*** *00:44:02.6±0.8,23.03S×70.23W, h47km±4km, ML4.4, MW4.2*
IDC ***13*** *00:44:06.6±3.0,23.06S×70.08W, h73km±26km, mb3.4/3, mb1 3.7/5, mb1mx3.4/19, mbtmp3.8/5, MS2.9/3, Ms1 2.9/3, ms1mx2.8/9, Error ellipse: s-maj=38.3km s-min=32.1km az=114.0*
ISC 13 00:44:04.7±0.8, 23.04S±0.04×70.26W±0.05, h46km±7km, n44, σ2°16/42, mb3.8/3, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB05	**IPOC Station P**	**0.19**	**17**	*eP*	**Pn**	**00 44 11.5**	**-1.3**
PB05				*eS*	**Sn**	**00 44 17.6**	**-0.8**
PB10	**IPOC Station P**	**0.54**	**209**	*eP*	**Pn**	**00 44 15.1**	**-1.2**
PB10				*eS*	**Sn**	**00 44 24.8**	**+0.2**
PB04	**IPOC Station P**	**0.71**	**9**	*eP*	**Pn**	**00 44 17.5**	**-1.1**
PB04				*eS*	**Sn**	**00 44 27.8**	**-0.8**
PB04				IAML		00 44 30.3	
	comp=Z,15μm,0.2s						
PB06	**IPOC Station P**	**0.72**	**63**	*eP*	**Pn**	**00 44 16.5**	**-2.2**
PB06				*eS*	**Sn**	**00 44 27.7**	**-1.1**
PB06				IAML		00 44 29.0	
	comp=Z,7μm,0.2s						
PB15	**IPOC Station P**	**0.75**	**103**	*eP*	**Pn**	**00 44 18.0**	**-1.2**
PB15				*eS*	**Sn**	**00 44 28.6**	**-1.0**
PB15				IAML		00 44 29.8	
	comp=Z,27μm,0.2s						
PB03	**IPOC Station P**	**1.09**	**26**	*eP*	**Pn**	**00 44 22.9**	**-0.9**
PB03				*eS*	**Sn**	**00 44 37.0**	**-0.9**
PB03				IAML		00 44 38.7	
	comp=Z,7μm,0.3s						
LVC	**Limon Verde**	**1.32**	**71**	P	**Pn**	**00 44 26.7**	**-0.4**
	comp=Z,380nm,0.3s,baz=250,slow=10,SNR=1076						
LVC				*eS*	**Sn**	**00 44 43.6**	**-0.1**
	comp=Z,451nm,0.3s,baz=40,slow=15,SNR=27						
LVC				LR	LR	00 45 09.6	
	comp=Z,360nm,18.4s,baz=170,slow=54						
LVC	**Limon Verde**	**1.32**	**71**	*eP*	**Pn**	**00 44 26.6**	**-0.4**
LVC				*eS*	**Sn**	**00 44 44.0**	**+0.4**
PB07	**IPOC Station P**	**1.35**	**15**	*eP*	**Pn**	**00 44 26.8**	**-0.6**
PB07				*eS*	**Sn**	**00 44 45.3**	**+1.1**
PB07				IAML		00 44 47.3	
	comp=Z,5μm,0.6s						
PB09	**IPOC Station P**	**1.56**	**38**	*eP*	**Pn**	**00 44 30.1**	**-0.1**
PB09				*eS*	**Sn**	**00 44 50.6**	**+1.4**
PB09				IAML		00 44 54.8	
	comp=Z,3μm,0.2s						
PB14	**IPOC Station P**	**1.59**	**185**	*eP*	**Pn**	**00 44 29.7**	**-1.0**
PB14				*eS*	**Sn**	**00 44 52.1**	**+1.9**
PB14				IAML		00 44 53.9	
	comp=Z,3μm,0.2s						
PB01	**IPOC Station P**	**2.11**	**20**	*eP*	**Pn**	**00 44 37.4**	**-0.3**
PB01				*eS*	**Sn**	**00 45 05.8**	**+3.0**
PB01				IAML		00 45 18.8	
	comp=Z,2μm,0.8s						
PB08	**IPOC Station P**	**3.06**	**20**	*eP*	**Pn**	**00 44 50.8**	**-0.2**
PB08				*eS*	**Sn**	**00 45 34.1**	**+7.5**
PB08				IAML		00 45 42.7	
	comp=Z,781nm,1.0s						
PSGCX	**Pisagua**	**3.43**	**2**	*eP*	**Pn**	**00 44 53.7**	**-2.1**
PSGCX				*eS*	Sn	00 45 46.2	+11
MNMCX	**Minye Minye**	**3.94**	**9**	*eP*	**Pn**	**00 45 01.9**	**-1.0**
YJA	**Yavi**	**4.47**	**80**	*eP*	Pn	00 45 15.4	+4.9
SLA	**San Lorenzo**	**4.67**	**112**	*eP*	Pn	00 45 17.7	+4.8
PB16	**IPOC Station P**	**4.73**	**9**	*eP*	**Pn**	**00 45 13.4**	**-0.7**
PB16				IAML		00 46 35.1	
	comp=Z,190nm,0.7s						
AHML	**Horco Molle**	**5.83**	**131**	*eP*	**Pn**	**00 45 31.1**	**+2.5**
VCA	**Vinchina**	**5.97**	**162**	*eP*	**Pn**	**00 45 31.7**	**+1.0**
VCA				*eS*	Sn	00 46 54.6	+17
VCA				IAML		00 46 56.7	
	comp=Z,112nm,1.0s						
AGUA	**GUANDACOL**	**6.62**	**166**	*eP*	**Pn**	**00 45 39.7**	**+0.1**
AGUA				IAML		00 47 15.1	
	comp=Z,249nm,1.2s						
ACLC	**CERRO LA CRUZ**	**7.02**	**156**	*eP*	**Pn**	**00 45 44.5**	**-0.7**
ACLC				IAML		00 47 16.1	
	comp=Z,47nm,0.9s						
GO04	**Tololo Observa**	**7.12**	**184**	*eP*	Pn	00 45 33.4	-13
AROD	**Rodeo**	**7.13**	**174**	*eP*	Pn	00 45 42.0	-4.9
RTLL	**Cerro Villicun**	**8.41**	**169**	*eP*	**Pn**	**00 46 02.8**	**-1.3**
RTLL				IAML		00 47 58.6	
	comp=Z,56nm,1.0s						
ZON	**Zonda**	**8.59**	**171**	*eP*	Pn	00 46 18.0	+11
ZON				IAML		00 48 05.9	
	comp=Z,30nm,1.4s						
TCA	**Tanti**	**9.68**	**150**	*eP*	**Pn**	**00 46 19.3**	**-2.3**
TCA				IAML		00 48 15.1	
	comp=Z,7.3nm,1.2s						
MRA	**San Martin**	**10.17**	**158**	*eS*	**Sn**	**00 48 28.0**	**+6.9**
MRA				IAML		00 48 57.6	
	comp=Z,8.2nm,0.6s						
SIV	**San Ignacio**	**11.14**	**53**	P	**Pn**	**00 46 40.4**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=254,slow=10,SNR=33						
SIV				LR	LR	00 50 57.3	
	comp=Z,37nm,18.3s,baz=253,slow=37						
CPUP	**Villa Florida**	**12.21**	**108**	LR	LR	00 52 14.6	
	comp=Z,99nm,19.7s,baz=252,slow=40						
NNA	**Nana**	**12.65**	**329**	LR	LR	00 51 31.0	
	comp=Z,49nm,20.9s,baz=184,slow=35						
H03N1	**Juan Fernandez**	**12.86**	**214**	T	T	00 59 37.3	
	baz=41,slow=72,SNR=72						
H03N2	**Juan Fernandez**	**12.87**	**214**	T	T	00 59 30.3	
	baz=41,slow=72,SNR=80						
H03N3	**Juan Fernandez**	**12.88**	**214**	T	T	00 59 29.2	
	baz=41,slow=72,SNR=51						
PLCA	**Paso Flores**	**17.64**	**181**	P	**P**	**00 48 07.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=3.5,slow=17,SNR=2.9						
TXAR	**Lajitas Array**	**61.20**	**327**	P	**P**	**00 54 15.4**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=150,slow=9.3,SNR=2.0						
TORD	**Torodi Ar. Bea**	**79.05**	**71**	P	**P**	**00 56 02.9**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=242,slow=3.1,SNR=3.5						
YKA	**Yellowknife Ar**	**92.22**	**341**	P	**P**	**00 57 07.4**	**-1.8**
	comp=Z,0.2nm,0.8s,baz=133,slow=5.2,SNR=2.6						
YKA				pP	**pP**	**00 57 26.2**	**+3.2**
	comp=Z,0.3nm,0.8s,baz=135,slow=5.9,SNR=4.3						
H11S2	**WAKE ISLAND Hyl**	**26.81**	**276**	T	T	03 22 24.3	
	baz=106,slow=75,SNR=90						
H11S1	**WAKE ISLAND Hyl**	**26.82**	**276**	T	T	03 22 28.7	
	baz=106,slow=75,SNR=105						
H11S3	**WAKE ISLAND Hyl**	**26.83**	**276**	T	T	03 22 27.4	
	baz=106,slow=75,SNR=90						
H11N3	**WAKE ISLAND Hyl**	**26.94**	**278**	T	T	03 22 35.0	
	baz=104,slow=75,SNR=45						
H11N1	**WAKE ISLAND Hyl**	**26.95**	**278**	T	T	03 22 36.4	
	baz=104,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hyl**	**26.95**	**278**	T	T	03 22 35.2	
	baz=104,slow=75,SNR=53						

ISK ***13*** *00:51:13.2, 35.68N×28.59E, h20km, ML2.8/18*
ATH ***13*** *00:51:14.1, 35.96N×28.21E, h77km±2km, ML2.8/2, Error ellipse: s-maj=7.0km s-min=1.8km az=132.0*
NIC ***13*** *00:51:15.1±0.0, 35.74N×28.57E, h32km±20km, Ml3.5/2*
THE ***13*** *00:51:16.2, 35.76N×28.53E, h42km±10km, ML2.7/2, Error ellipse: s-maj=11.1km s-min=2.1km az=321.0*
DDA ***13*** *00:51:18.3, 36.05N×28.63E, h38km±10km, ML2.5*
ISC 13 00:51:15.2±1.1, 35.73N±0.03×28.58E±0.03, h32km±11km, n65, σ1°41/86, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.61**	**323**	P	**Pb**	**00 51 27.1**	**-0.4**
ARG				S	**Sb**	**00 51 35.9**	**0.0**
ARG				AML	AML	00 51 37.0	
	comp=E,2916μm,0.3s						
ARG				AML	AML	00 51 37.1	
	comp=N,2272μm,0.4s						
ARG	**Arkhangelos**	**0.61**	**323**	P	**Pb**	**00 51 27.1**	**-0.4**
ARG				S	**Sb**	**00 51 36.2**	**+0.2**
	comp=N,1μm,0.5s						
ARG	**Arkhangelos**	**0.61**	**323**	PG	**Pb**	**00 51 27.2**	**-0.4**
ARG				SG	**Sb**	**00 51 36.2**	**+0.2**
ARG	**Arkhangelos**	**0.61**	**323**	P	**Pb**	**00 51 27.1**	**-0.4**
ARG				S	**Sb**	**00 51 36.4**	**+0.4**
AKAS	**Kas**	**0.97**	**59**	PG	**Pn**	**00 51 32.8**	**0.0**
AKAS				SG	**Sn**	**00 51 46.4**	**+0.8**
AKAS	**Kas**	**0.97**	**59**	*i* P	**Pn**	**00 51 33.0**	**+0.2**
AKAS				*i* S	**Sn**	**00 51 40.8**	**-4.8**
FETY	**Fethiye**	**0.99**	**24**	P	**Pn**	**00 51 32.3**	**-0.7**
FETY				S	**Sn**	**00 51 49.5**	**+3.6**
FETY	**Fethiye**	**0.99**	**24**	PG	**Pn**	**00 51 32.4**	**-0.6**
FETY	**Fethiye**	**0.99**	**24**	*i* P	Pn	00 51 31.8	-1.1
FETY				*i* S	**Sn**	**00 51 44.2**	**-1.7**
MRSB	**Marmaris-Mugla**	**1.03**	**343**	PN	**Pn**	**00 51 33.8**	**+0.3**
TURN	**Turunc**	**1.08**	**346**	PN	**Pn**	**00 51 34.6**	**+0.5**
TURN				SN	**Sn**	**00 51 50.2**	**+2.3**
TURN	**Turunc**	**1.08**	**346**	*i* P	**Pn**	**00 51 34.3**	**+0.2**
TURN				*i* S	**Sn**	**00 51 45.3**	**-2.6**
DALY	**Dalyan (Mula)**	**1.09**	**3**	PN	**Pn**	**00 51 34.6**	**+0.4**
DALY				SN	**Sn**	**00 51 50.1**	**+1.9**
DALY	**Dalyan (Mula)**	**1.09**	**3**	*i* P	**Pn**	**00 51 34.3**	**+0.1**
DALY				*i* S	**Sn**	**00 51 44.9**	**-3.3**
KARP	**Karpathos**	**1.17**	**262**	P	**Pn**	**00 51 34.9**	**-0.4**
KARP				S	**Sn**	**00 51 49.6**	**-0.6**
KARP				AML	AML	00 51 54.5	
	comp=N,409μm,0.3s						
KARP				AML	AML	00 51 56.2	
	comp=E,455μm,0.5s						
KARP	**Karpathos**	**1.17**	**262**	P	**Pn**	**00 51 35.1**	**-0.3**
KARP				S	**Sn**	**00 51 49.6**	**-0.6**
	comp=E,212nm,0.4s						
KARP	**Karpathos**	**1.17**	**262**	PN	**Pn**	**00 51 35.0**	**-0.4**
KARP				SN	**Sn**	**00 51 50.5**	**+0.3**
KARP	**Karpathos**	**1.17**	**262**	P	**Pn**	**00 51 35.1**	**-0.3**
KARP				S	**Sn**	**00 51 50.2**

IDC ***13*** *00:54:52.2±0.5,0.˚39N×98.˚83E,h0km,mb4.4/21, mb1 4.5/24,mb1mx4.3/41,mbtmp4.4/24,ML4.1/3,MS3.4/6, Ms1 3.5/6,ms1mx3.2/33,Error ellipse: s-maj=16.2km s-min=11.8km az=59.0*

DJA ***13*** *00:54:56.9±0.5,0.˚N±2˚×.9˚9E±˚,h34km±5km,M4.9/29, mB5.3/9,mb4.9/29,MLv5.2/19,Mw(mB)4.8/9*

NEIC ***13*** *00:54:57.8±2.0,0.˚39N±0.˚06×98.˚63E±0.˚05,h39km±5km, mb4.8/45,Error ellipse: s-maj=9.4km s-min=7.4km az=206.0*

KLM ***13*** *00:54:59,0.˚41N×98.˚57E,h34km,mb5.0*

ISC 13 00:54:57.7±0.4,0.˚33N±0.˚05×98.˚62E±0.˚05,h35km,n209, σ1ᵍ41/215,mb4.6/66,MS3.9/12,16C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**1.07**	**64**	P	**Pn**	**00 55 13.7**	**-2.5**
MNSI				S	**Sn**	**00 55 27.3**	**-2.6**
SBSI	**Sibolga**	**1.24**	**13**	P	**Pn**	**00 55 17.9**	**-0.8**
SBSI				S	**Sn**	**00 55 34.8**	**+0.6**
GSI	**Gunungsitoli**	**1.42**	**313**	Pn	**Pn**	**00 55 19.6**	**-1.5**
GSI	**Gunungsitoli**	**1.42**	**313**	P	**Pn**	**00 55 19.6**	**-1.5**
RPSI	**Rantau Prapat**	**2.37**	**7**		**Pn**	**00 55 32.5**	**-1.7**
RPSI	**Rantau Prapat**	**2.37**	**7**	Pn	**Pn**	**00 55 32.8**	**-1.4**
BKNI	**Bangkinang**	**2.42**	**90**	Pn	**Pn**	**00 55 34.2**	**-0.7**
BKNI	**Bangkinang**	**2.42**	**90**	P	**Pn**	**00 55 34.4**	**-0.5**
PSI	**Prapat**	**2.48**	**7**	Pn	**Pn**	**00 55 32.5**	**-3.2**
	31nm,0.3s,baz=360,slow=3.5,SNR=36						
PSI				Sn	**Sn**	**00 56 02.9**	**-1.9**
	137nm,0.3s,baz=180,slow=13,SNR=6.0						
SDSI	**Sungai Dareh**	**3.08**	**114**	P	**Pn**	**00 55 44.3**	**+0.4**
TSI	**Tuntungan**	**3.15**	**359**	P	**Pn**	**00 55 43.6**	**-1.3**
TPTI		**3.25**	**334**	P	**Pn**	**00 55 44.7**	**-1.5**
KRJI	**Kerinci**	**3.72**	**130**	P	**Pn**	**00 55 53.9**	**+1.0**
MLSI	**Meulaboh, Aceh**	**4.49**	**331**	P	**Pn**	**00 56 02.4**	**-1.0**
IPM	**Ipoh**	**4.77**	**30**	Pn	**Pn**	**00 56 06.7**	**-0.5**
IPM	**Ipoh**	**4.77**	**30**	P	**Pn**	**00 56 11.0**	**+3.7**
LHMI	**Lhok Sumawe**	**5.14**	**341**	Pn	**Pn**	**00 56 12.6**	**+0.2**
LHMI	**Lhok Sumawe**	**5.14**	**341**	P	**Pn**	**00 56 11.4**	**-0.9**
KULM	**Kulim**	**5.33**	**22**	Pn	**Pn**	**00 56 15.9**	**+1.0**
KULM	**Kulim**	**5.33**	**22**	P	**Pn**	**00 56 17.0**	**+2.1**
MYKOM	**Kota Tinggi**	**5.43**	**74**	Pn	**Pn**	**00 56 17.6**	**+1.3**
KSI	**Kapahiang**	**5.61**	**135**	P	**Pn**	**00 56 18.6**	**-0.1**
	1.8nm222nm,0.7s						
DSRI	**Dabo**	**6.01**	**98**	P	**Pn**	**00 56 23.9**	**-0.4**
	0.8nm67nm,0.9s						
MNAI	**Manna**	**6.36**	**137**	Pn	**Pn**	**00 56 29.4**	**+0.3**
MNAI	**Manna**	**6.36**	**137**	P	**Pn**	**00 56 28.9**	**-0.2**
	1.8nm4μm291nm,0.6s						
LHSI	**Lahat**	**6.41**	**130**	P	**Pn**	**00 56 30.1**	**+0.4**
	1.4nm2μm121nm,0.7s						
MDSI	**Maura Dua**	**7.33**	**131**	P	**Pn**	**00 56 42.2**	**-0.2**
	0.4nm1μm126nm,0.8s						
PKDT	**Phuket**	**7.52**	**358**	P	Pn	00 56 56.2	+11
KLSI		**7.88**	**129**	P	**Pn**	**00 56 50.2**	**+0.2**
	0.1nm26nm,0.8s						
KASI	**Kota Agung**	**8.26**	**135**	P	**Pn**	**00 56 54.0**	**-1.2**
	1μm156nm,0.8s						
TPI	**Tanjungpandan**	**9.54**	**109**	P	**Pn**	**00 57 13.6**	**+0.9**
	32nm,1.0s						
DBJI	**Dramaga**	**10.61**	**130**	P	**Pn**	**00 57 27.6**	**+0.2**
	8μm60nm,0.8s						
CISI	**Cisompet, Garu**	**12.06**	**131**	Pn	**Pn**	**00 57 47.0**	**-0.3**
CISI	**Cisompet, Garu**	**12.06**	**131**	P	**Pn**	**00 57 44.0**	**-3.3**
	54nm,0.9s						
XMIS	**Christmas Isla**	**12.82**	**147**	Pn	**Pn**	**00 57 57.5**	**-0.1**
SBUM	**Sibu**	**13.76**	**81**		**Pn**	**00 58 10.4**	**-0.1**
SBUM	**Sibu**	**13.76**	**81**	P	**P**	**00 58 18.0**	**-0.5**
SRAK	**Srakaew**	**14.01**	**14**	P	**P**	**00 58 21.6**	**+0.3**
	2μm228nm,0.9s						
UGM	**Wanagama**	**14.42**	**125**	P	**Pn**	**00 58 18.4**	**-1.1**
	76nm,1.1s						
UTHA	**Uthaitani**	**15.15**	**3**	P	**P**	**00 58 35.0**	**+1.0**
	354nm19nm,0.8s						
BBKI	**Banjar Baru**	**16.65**	**103**	P	**Pn**	**00 58 48.7**	**+0.2**
	30nm,1.2s						
PHIT	**Phitsanulok**	**16.85**	**6**	P	**P**	**00 58 55.8**	**+3.0**
	91nm,0.7s						
KMMI	**Kalianget**	**16.98**	**116**	P	**Pn**	**00 58 52.2**	**-0.5**
	74nm,1.4s						
SUKH	**Sukhothai**	**17.07**	**3**	P	**P**	**00 58 57.6**	**+2.3**
	25nm,0.8s						
UTTA	**Uttaradit**	**17.41**	**6**	P	**P**	**00 59 01.7**	**+2.7**
	28nm,0.8s						
MHMT	**Maesarieng**	**17.75**	**358**	P	**P**	**00 59 07.4**	**+4.6**
	22nm,0.8s						
KBKI	**Kotabaru**	**17.91**	**102**	P	**Pn**	**00 59 03.3**	**-0.9**
	28nm,0.9s						
CM04	**Chiang Mai Arr**	**17.96**	**1**	P	**P**	**00 59 07.0**	**+1.9**
	131nm11nm,0.7s						
CM05	**Chiang Mai Arr**	**17.96**	**1**	P	**P**	**00 59 07.1**	**+1.9**
	4.7nm,0.8s						
CM01	**Chiang Mai Arr**	**17.98**	**1**	P	**P**	**00 59 08.2**	**+2.8**
	144nm13nm,0.7s						
CM13	**Chiang Mai Arr**	**17.98**	**1**	P	**P**	**00 59 07.2**	**+1.8**
	77nm8.8nm,0.7s						
CM02	**Chiang Mai Arr**	**18.00**	**1**	P	**P**	**00 59 08.4**	**+2.9**
	89nm12nm,0.8s						
CM09	**Chiang Mai Arr**	**18.01**	**1**	P	**P**	**00 59 08.0**	**+2.3**
	15nm,0.8s						
CM15	**Chiang Mai Arr**	**18.01**	**1**	P	**P**	**00 59 08.4**	**+2.7**
	14nm,0.7s						
CMAR	**Chiang Mai Arr**	**18.02**	**1**	P	**Pn**	**00 59 04.7**	**-0.8**
	0.4nm,0.3s,baz=190,slow=10,SNR=22						
CMAR				LR	LR	01 07 25.7	
	comp=Z,85nm,18.2s,baz=225,slow=42						
CMAR	**Chiang Mai Arr**	**18.02**	**1**	P	**Pn**	**00 59 04.6**	**-1.0**
CM36	**Chiang Mai Arr**	**18.08**	**1**	P	**P**	**00 59 08.0**	**+1.5**
CM32	**Chiang Mai Arr**	**18.21**	**1**	P	**Pn**	**00 59 11.0**	**+3.1**
SPMM	**Sapulut**	**18.35**	**76**	P	**Pn**	**00 59 13.0**	**+3.3**
CMMT	**Chiang Mai**	**18.37**	**1**	P	**Pn**	**00 59 12.3**	**+2.4**
	2.6nm,0.9s						
CHTO	**Chiang Mai**	**18.37**	**1**		**P**	**00 59 09.2**	**-0.5**
CM33	**Chiang Mai Arr**	**18.38**	**1**	P	**Pn**	**00 59 13.0**	**+3.1**
CM34	**Chiang Mai Arr**	**18.41**	**2**	P	**Pn**	**00 59 14.0**	**+3.6**
KKM	**Kota Kinabalu**	**18.46**	**72**		**P**	**00 59 10.1**	**-0.7**
KKM				IAmb	IAmb	00 59 13.5	
	comp=Z,29nm,0.5s						
PALK	**Pallekele**	**19.15**	**292**	P	**Pn**	**00 59 20.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=197,slow=14,SNR=2.2						
TTSI	**Tana Toraja**	**21.46**	**99**	P	**P**	**00 59 43.8**	**+0.5**
	comp=Z,2μmcomp=Z,40nm,1.1s						
SLVN	**Son La**	**21.51**	**14**	P	**P**	**00 59 43.7**	**-0.1**
QIZ	**Qiongzhong**	**21.60**	**30**	P	**P**	**00 59 45.4**	**+0.6**
QIZ				S	**S**	**01 03 44.7**	**+2.3**
QIZ				LR	LR		
	comp=Z,200nm,10.4s						
QIZ				LR	LR		
	comp=Z,230nm,11.1s						
BNSI	**Bone**	**21.98**	**103**	P	**P**	**00 59 48.1**	**-0.8**
	comp=Z,32nm,1.6s						
TOLI2	**Tolitoli**	**22.18**	**88**	P	**P**	**00 59 50.5**	**-0.6**
BKSI	**Bulukumba**	**22.20**	**105**	P	**P**	**00 59 50.8**	**-0.5**
	comp=Z,1μmcomp=Z,27nm,1.2s						
MRSI	**Marisa**	**23.32**	**90**	P	**P**	**01 00 02.5**	**-0.5**
	comp=Z,68nm,0.8s						
LUWI	**Luwuk**	**24.19**	**93**	P	**P**	**01 00 10.5**	**-0.7**
LUWI	**Luwuk**	**24.19**	**93**	P	**P**	**01 00 11.3**	**+0.1**
KMI	**Kunming**	**24.97**	**9**	⇑P	**P**	**01 00 21.0**	**+2.6**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KMI				LR	LR		
	comp=Z,180nm,8.2s						
KMI				LR	LR		
	comp=Z,190nm,11.6s						
KMI				LR	LR		
	comp=Z,200nm,11.3s						
SHL	**Shillong**	**25.92**	**346**	P	**P**	**01 00 26.6**	**-0.3**
HYB	**Hyderabad**	**26.04**	**312**	*i* P	**P**	**01 00 31.0**	**+3.0**
GYA	**Guiyang**	**27.11**	**16**	⇑P	**P**	**01 00 39.7**	**+2.0**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GYA				LR	LR		
	comp=Z,190nm,10.5s						
H08S2	**Diego Garcia H**	**27.23**	**253**	T	T	01 28 13.0	
	baz=73,slow=76,SNR=26						
H08S3	**Diego Garcia H**	**27.23**	**253**	T	T	01 28 10.6	
	baz=73,slow=76,SNR=372						
H08S1	**Diego Carcia H**	**27.25**	**253**	T	T	01 28 16.4	
	baz=73,slow=76,SNR=5.6						
SOEI	**Soe**	**27.43**	**112**	P	**P**	**01 00 40.8**	**+0.2**
SOEI				IAmb	IAmb	01 00 49.6	
	comp=Z,30nm,1.1s						
ODAN	**Odare**	**28.50**	**339**	*e*P	**P**	**01 00 53.3**	**+3.1**
	comp=Z,18nm,0.7s						
TAPN	**Taplejung**	**28.84**	**340**	*e*P	**P**	**01 00 54.7**	**+1.4**
	comp=Z,26nm,1.0s						
RAMN	**Ramite**	**28.88**	**337**	*e*P	**P**	**01 00 55.9**	**+2.3**
	comp=Z,11nm,0.5s						
PKI	**Pulchoki**	**29.91**	**336**	*e*P	**P**	**01 01 03.7**	**+0.9**
GUN	**Gumba**	**30.02**	**337**	*e*P	**P**	**01 01 03.8**	**0.0**
	comp=Z,74nm,1.2s						
PSA00	**Pilbara Seismi**	**30.06**	**138**	P	**P**	**01 01 03.4**	**-0.4**
LSA	**Lhasa**	**30.06**	**347**	P	**P**	**01 01 03.8**	**-0.5**
DMN	**Daman**	**30.07**	**336**	*e*P	**P**	**01 01 05.2**	**+1.1**
GKN	**Gorkha**	**30.61**	**335**	*e*P	**P**	**01 01 08.4**	**-0.4**
	comp=Z,6.9nm,0.3s						
ENH	**Enshi**	**31.52**	**18**	P	**P**	**01 01 15.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**32.27**	**126**	P	**P**	**01 01 20.9**	**-2.5**
	comp=Z,3.5nm,0.8s,baz=333,slow=9.0,SNR=8.9						
FITZ	**Fitzroy Crossi**	**32.27**	**126**	P	**P**	**01 01 21.6**	**-1.8**
FITZ				IAmb	IAmb	01 01 26.1	
	comp=Z,24nm,1.4s						
MORW	**Morawa**	**33.64**	**152**	P	**P**	**01 01 36.7**	**+1.5**
XAN	**Xi'an**	**34.90**	**15**	P	**P**	**01 01 44.9**	**-1.2**
XAN				pP	pP	01 01 56.2	-0.1
XAN				pmax	pmax		
	comp=Z,35nm,0.9s						
XAN				LR	LR		
	comp=Z,160nm,14.1s						
XAN				LR	LR		
	comp=Z,350nm,16.3s						
XAN				LR	LR		
	comp=Z,320nm,14.1s						
XAN	**Xi'an**	**34.90**	**15**	P	**P**	**01 01 45.1**	**-1.0**
LZH	**Lanzhou**	**35.91**	**7**	*e*P	**P**	**01 01 56.4**	**+1.5**
LZH				pP	pP	01 02 04.7	-0.4
LZH				sP	sP	01 02 09.4	+0.1
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,75nm,5.4s						
NJ2	**Nanjing**	**36.90**	**29**	*e*P	**P**	**01 02 03.7**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GTA	**Gaotai**	**38.91**	**1**	⇑P	**P**	**01 02 22.5**	**+2.2**
GTA				pP	sP	01 02 34.0	-0.7
GTA				sP	pP	01 02 39.2	+8.7
GTA				PcP	**PcP**	**01 04 31.5**	**+0.9**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,82nm,5.5s						
GTA				LR	LR		
	comp=Z,250nm,16.4s						
GTA				LR	LR		
	comp=Z,330nm,17.4s						
GTA				LR	LR		
	comp=Z,160nm,17.1s						
WB0	**Warramunga Arr**	**40.34**	**122**	P	**P**	**01 02 30.6**	**-1.8**
WRA	**Warramunga Arr**	**40.38**	**122**	P	**P**	**01 02 30.1**	**-2.5**
	comp=Z,5.4nm,0.5s,baz=304,slow=8.9,SNR=57						
WRA				PcP	**PcP**	**01 04 35.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=314,slow=2.6,SNR=6.0						
WRA				S	**S**	**01 08 39.5**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=269,slow=16,SNR=4.7						
WRA				LR	LR	01 22 20.6	
	comp=Z,74nm,18.3s,baz=40,slow=41						
WB2	**Warramunga Arr**	**40.38**	**122**	P	**P**	**01 02 30.9**	**-1.8**
WB2				IAmb	IAmb	01 02 37.6	
	comp=Z,43nm,1.6s						
WR0	**Warramunga Arr**	**40.55**	**122**	P	**P**	**01 02 32.1**	**-1.9**
WR0				IAmb	IAmb	01 02 37.5	
	comp=Z,24nm,1.1s						
NIL	**Nilore**	**40.81**	**327**	P	**P**	**01 02 35.7**	**-0.3**
NIL				IAmb	IAmb	01 02 52.2	
	comp=Z,11nm,0.7s						
FORT	**Forrest**	**41.70**	**141**	P	**P**	**01 02 43.6**	**+0.2**
AS31	**Alice Springs**	**41.74**	**127**	P	**P**	**01 02 41.5**	**-2.3**
ASAR	**Alice Springs**	**41.74**	**127**	P	**P**	**01 02 42.5**	**-1.4**
	comp=Z,3.7nm,0.6s,baz=300,slow=7.8,SNR=39						
ASAR				PcP	**PcP**	**01 04 40.0**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=300,slow=3.8,SNR=6.5						
ASAR				S	**S**	**01 09 00.8**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=303,slow=15,SNR=5.7						
ASAR				LR	LR	01 22 17.6	
	comp=Z,84nm,19.1s,baz=331,slow=40						
ASAR	**Alice Springs**	**41.74**	**127**	P	**P**	**01 02 42.2**	**-1.7**
HHC	**Hu-ho-hao-te**	**42.01**	**15**	*e*P	**P**	**01 02 44.2**	**-1.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,90nm,7.5s						
BJT	**Baijiatuan**	**42.62**	**20**	P	**P**	**01 02 50.2**	**-0.5**
BJT				IAmb	IAmb	01 02 55.8	
	comp=Z,26nm,1.0s						
BJI	**Beijing**	**42.64**	**20**	P	**P**	**01 02 51.2**	**+0.4**
BJI				pmax	pmax		
	comp=Z,21nm,0.8s						
KSH	**Kashi**	**44.15**	**335**	P	**P**	**01 03 04.7**	**+1.5**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,290nm,5.0s						
WMQ	**Urumqi**	**44.39**	**349**	*e*P	**P**	**01 03 06.2**	**+1.2**
WMQ				pP	pP	01 03 13.4	-1.9
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,400nm,5.9s						
WMQ				LR	LR		
	comp=Z,2μm,28.9s						
WMQ				LR	LR		
	comp=Z,2μm,29.1s						
WMQ				LR	LR		
	comp=Z,160nm,22.7s						
JNU	**Nakatsue**	**44.54**	**40**	P	**P**	**01 03 05.0**	**-1.4**
	comp=Z,7.4nm,0.7s,baz=266,slow=1.2,SNR=4.6						
KSAR	**Wonju Array Be**	**45.75**	**33**	P	**P**	**01 03 15.1**	**-0.7**
KSRS	**Korea Array**	**45.78**	**33**	P	**P**	**01 03 14.4**	**-1.6**
	comp=Z,2.8nm,0.7s,baz=222,slow=8.1,SNR=11						
KSRS				LR	LR	01 22 50.8	
	comp=Z,41nm,18.7s,baz=325,slow=37						
SHLS	**Shalkode**	**45.96**	**340**	*e*P	**P**	**01 03 16.8**	**-0.8**
	comp=Z,3.0nm,0.7s,baz=341						
UZB	**Uzynbulak**	**46.10**	**340**	*e*P	**P**	**01 03 18.2**	**-0.5**
	baz=340						
SATY	**Saty**	**46.24**	**339**	*e*P	**P**	**01 03 20.1**	**+0.3**
	comp=Z,7.1nm,1.2s,baz=339						
KPKS	**Kokpek**	**46.50**	**340**	*e*P	**P**	**01 03 22.4**	**+0.7**
	baz=340						
TNSS	**Tian-Shan**	**46.75**	**338**	*e*P	**P**	**01 03 23.8**	**-0.2**
	baz=338						
MDOK	**Medeo**	**46.82**	**338**	*e*P	**P**	**01 03 24.4**	**+0.1**
	baz=338						
AAA	**Alma-Ata**	**46.91**	**338**	*e*P	**P**	**01 03 25.2**	**+0.3**
	baz=338						
AAK	**Ala-Archa**	**47.37**	**336**	P	**P**	**01 03 30.2**	**+1.6**
KUU	**Kurty**	**47.71**	**338**	*e*P	**P**	**01 03 31.2**	**+0.1**
	comp=Z,5.0nm,0.9s,baz=338						
SONM	**Songino Array**	**47.80**	**7**	P	**P**	**01 03 32.2**	**+0.4**
	comp=Z,7.5nm,0.6s,baz=189,slow=9.4,SNR=35						
SONM				PcP	**PcP**	**01 05 00.5**	**+0.1**
	comp=Z,4.9nm,0.7s,baz=187,slow=4.0,SNR=8.5						
SONM	**Songino Array**	**47.80**	**7**	P	**P**	**01 03 31.9**	**0.0**
ULN	**Ulaanbaatar**	**47.91**	**8**	P	**P**	**01 03 33.5**	**+0.7**
TDK	**Taldyqorghan**	**47.95**	**341**	*e*P	**P**	**01 03 33.1**	**+0.2**
	baz=340						
MK31	**Makanchi Array**	**48.43**	**345**	P	**P**	**01 03 36.4**	**-0.3**
MK31				IAmb	IAmb	01 03 53.4	
	comp=Z,4.8nm,0.8s						
MKAR	**Makanchi Array**	**48.43**	**345**	P	**P**	**01 03 36.5**	**-0.2**
	comp=Z,6.0nm,0.7s,baz=156,slow=8.7,SNR=62						
MKAR	**Makanchi Array**	**48.43**	**345**	P	**P**	**01 03 36.0**	**-0.7**
ZSN	**Zaisan**	**48.44**	**348**	*e*P	**P**	**01 03 36.8**	**+0.1**
	baz=347						
MAKZ	**Makanchi**	**48.53**	**345**	P	**P**	**01 03 37.3**	**-0.1**
MAKZ				IAmb	IAmb	01 03 41.3	
	comp=Z,5.1nm,0.8s						
DZA	**Taraz**	**48.93**	**333**	*e*P	**P**	**01 03 40.6**	**+0.1**
	baz=333						
IUG	**Iuzhnay**	**48.94**	**332**	*e*P	**P**	**01 03 41.4**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=332						
CN2	**Changchun**	**49.46**	**25**	*e*P	**P**	**01 03 42.9**	**-1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KK31	**Karatay Array**	**49.47**	**333**	IAmb	IAmb	01 04 45.3	
	comp=Z,17nm,1.9s						
KKAR	**Karatay Array**	**49.47**	**333**	P	**P**	**01 03 44.5**	**-0.1**
KKAR				IAmb	IAmb	01 04 45.3	
	comp=Z,17nm,1.9s						
KKAR	**Karatay Array**	**49.47**	**333**	P	**P**	**01 03 44.6**	**0.0**
BTLS	**Baital**	**49.55**	**337**	*e*P	**P**	**01 03 45.3**	**+0.1**
	comp=Z,4.9nm,1.0s,baz=337						
JCJ	**Chichijima**	**49.57**	**54**	LR	LR	01 26 07.5	
	comp=Z,22nm,18.1s,baz=12,slow=38						
MJAR	**Matsushiro Arr**	**51.39**	**41**	P	**P**	**01 03 56.8**	**-2.6**
	comp=Z,1.4nm,0.6s,baz=211,slow=6.9,SNR=2.4						
STKA	**Stephens Creek**	**51.73**	**132**	P	**P**	**01 04 01.5**	**-0.4**
	comp=Z,5.2nm,0.5s,baz=312,slow=7.1,SNR=24						
STKA				LR	LR	01 29 08.0	
	comp=Z,48nm,19.2s,baz=3.2,slow=40						
HIA	**Hailar**	**52.02**	**17**	P	**P**	**01 04 03.3**	**-0.5**
HIA				IAmb	IAmb	01 04 07.4	
	comp=Z,24nm,1.5s						
GEYT	**Alibeck**	**52.79**	**320**	P	**P**	**01 04 10.5**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=101,slow=8.0,SNR=3.9						
GEYT	**Alibeck**	**52.79**	**320**	P	**P**	**01 04 09.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**52.80**	**30**	P	**P**	**01 04 08.1**	**-1.5**
	comp=Z,4.7nm,0.7s,baz=234,slow=3.5,SNR=13						
USRK	**Ussuriysk Ar.**	**52.80**	**30**	P	**P**	**01 04 08.9**	**-0.7**
BRZS	**Berezniki**	**54.21**	**340**	*e*P	**P**	**01 04 20.4**	**+0.5**
	baz=340						
ZAA0	**Zalesovo Array**	**54.65**	**350**	P	**P**	**01 04 23.1**	**+0.2**
ZAA0				IAmb	IAmb	01 04 28.6	
	comp=Z,14nm,1.1s						
ZALV	**Zalesovo Beam**	**54.65**	**350**	P	**P**	**01 04 22.4**	**-0.6**
	comp=Z,4.5nm,0.4s,baz=168,slow=7.3,SNR=24						
ZALV	**Zalesovo Beam**	**54.65**	**350**	P	**P**	**01 04 23.1**	**+0.2**
RAYN	**Ar Rayn**	**56.41**	**298**	P	**P**	**01 04 34.9**	**-1.4**
RAYN				IAmb	IAmb	01 04 41.1	
	comp=Z,9.8nm,1.2s						
BRVK	**Borovoye**	**57.60**	**340**	P	**P**	**01 04 43.2**	**-0.9**
BRVK				IAmb	IAmb	01 04 48.8	
	comp=Z,7.3nm,0.9s						
ABKAR	**Akbulak array**	**58.95**	**331**	P	**P**	**01 04 52.5**	**-1.1**
ABKAR				IAmb	IAmb	01 04 57.1	
	comp=Z,4.4nm,0.8s						
ABKAR	**Akbulak array**	**58.95**	**331**	P	**P**	**01 04 51.8**	**-1.8**
KMBO	**Kiiima Mbogo**	**61.38**	**269**	P	**P**	**01 05 13.3**	**+2.1**
	comp=Z,2.9nm,0.8s,baz=62,slow=8.1,SNR=11						
MARD	**Mardin**	**64.67**	**312**	P	**P**	**01 05 31.7**	**-0.8**
MARD				IAmb	IAmb	01 05 37.1	
	comp=Z,10nm,0.9s						
KBZ	**Khabaz**	**65.66**	**319**	P	**P**	**01 05 38.6**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=137,slow=4.4,SNR=7.1						
GAZ	**Gaziantep**	**67.31**	**311**	P	**P**	**01 05 48.7**	**-0.7**
GAZ				IAmb	IAmb	01 05 54.6	
	comp=Z,14nm,1.0s						
BR131	**Keskin Array S**	**70.74**	**312**	P	**P**	**01 06 09.3**	**-1.4**
BRTR	**Keskin Array B**	**70.74**	**312**	P	**P**	**01 06 09.8**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=127,slow=6.8,SNR=15						
BRTR	**Keskin Array B**	**70.74**	**312**	P	**P**	**01 06 09.3**	**-1.4**
PETK	**Petropavlovsk-**	**71.68**	**33**	P	**P**	**01 06 13.6**	**-2.4**
	comp=Z,2.7nm,0.7s,baz=176,slow=5.9,SNR=4.7						
MDUB	**Mudurnu**	**72.75**	**312**	P	**P**	**01 06 21.2**	**-1.5**
TIXI	**Tiksi**	**73.80**	**10**	P	**P**	**01 06 26.7**	**-1.5**
TIXI				IAmb	IAmb	01 06 32.7	
	comp=Z,6.6nm,0.9s						
BOSA	**Boshof**	**75.58**	**240**	P	**P**	**01 06 40.7**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=102,slow=6.2,SNR=5.4						
SORM	**Soroca**	**76.68**	**320**	⇑P	**P**	**01 06 44.4**	**-0.8**
AKASG	**Malin Array Be**	**76.81**	**322**	P	**P**	**01 06 45.3**	**-0.6**
	comp=Z,2.8nm,0.6s,baz=89,slow=4.6,SNR=6.4						
AKASG	**Malin Array Be**	**76.81**	**322**	P	**P**	**01 06 44.3**	**-1.6**
VRI	**Vrincioaia**	**77.22**	**317**	⇑P	**P**	**01 06 49.0**	**+0.7**
PLOR	**Plostina**	**77.27**	**317**	⇑P	**P**	**01 06 49.1**	**+0.5**
TESR	**Tescani**	**77.41**	**318**	⇑P	**P**	**01 06 49.6**	**+0.2**
MLR	**Muntele Rosu**	**77.67**	**317**	⇑P	**P**	**01 06 52.1**	**+1.1**
MLR	**Muntele Rosu**	**77.67**	**317**	P	**P**	**01 06 50.6**	**-0.4**
MLR				IAmb	IAmb	01 06 57.7	
	comp=Z,7.1nm,0.9s						
ARR	**Arges**	**78.55**	**316**	⇑P	**P**	**01 06 55.4**	**-0.4**
BURAR	**Bucovina Array**	**78.61**	**319**	⇑P	**P**	**01 06 57.2**	**+1.1**
BUR08	**Bucovina Ar. S**	**78.63**	**319**	P	**P**	**01 06 56.5**	**+0.2**
BUR08				IAmb	IAmb	01 07 01.5	
	comp=Z,7.8nm,1.0s						
MNK	**Minsk**	**78.63**	**326**	*i* P	**P**	**01 06 54.1**	**-1.9**
	comp=E,2.0nm,0.8s						
MNK				*i* P	**P**	**01 06 54.1**	**-1.9**
	comp=N,29nm,1.1s						
MNK				*i* P	**P**	**01 06 54.1**	**-1.9**
	comp=Z,8.0nm,0.7s						
MNK				*i* PP	**PP**	**01 09 51.9**	**-2.3**
MNK				*i* PPP	PPP	01 11 40.3	
MNK				*i* S	**S**	**

KIF				*e*SN	Sn	01 22 17.0	+0.7	
PAJU	**Pajala**	**1.39**	**124**	P	Pg	01 22 00.7	-1.2	
PAJU	**Pajala**	**1.39**	**124**	P	Pb	01 22 03.7	+1.6	
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	01 22 00.4	-1.4	
	baz=305							
PAJU				*e*SB	Sg	01 22 19.3	-0.5	
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	01 22 01.0	-1.4	
HEF	**Hetta**	**1.42**	**64**	MSG		01 22 20.6		
	comp=Z,4.4nm,0.2s							
TOF	**Tornio**	**2.39**	**135**	MSG		01 22 44.2		
	comp=Z,7.2nm,0.2s							

UPP 13 01:21:38.4±0.1, 67°83N×20°20E, h0km, ML2.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**23**	P	Pg	01 21 41.1	+0.2
KUA				S	Sg	01 21 43.1	+0.5

THE 13 01:38:51.0, 36°50N×25°52E, h7km±4km, ML1.5/5, Error ellipse: s-maj=4.9km s-min=1.2km az=210.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	**Thira island,**	**0.09**	**233**	P	Pg	01 38 53.2	+0.1
THR8	**Santorini-Mono**	**0.10**	**201**	P	Pg	01 38 53.4	+0.1
SFIR	**Foira Santorin**	**0.11**	**224**	P	Pg	01 38 53.9	+0.5
SFIR				S	Sg	01 38 56.0	+0.9
	758nm,0.1s						
SNT1	**Gialos, Santor**	**0.11**	**222**	P	Pg	01 38 53.4	-0.1
SNT1				S	Sg	01 38 55.1	-0.1
	192nm,0.3s						
THR3	**Thira Island,**	**0.13**	**227**	P	Pg	01 38 54.1	+0.3
SANT	**Santorini**	**0.14**	**202**	P	Pg	01 38 54.1	+0.1
SANT				S	Sg	01 38 56.5	+0.5
	168nm,0.1s						
SNT5	**Nea Kammeni, S**	**0.14**	**227**	P	Pg	01 38 54.1	+0.1
SNT5				S	Sg	01 38 56.5	+0.5
	320nm,0.2s						
SAP3	**Santorini-Thir**	**0.16**	**246**	P	Pg	01 38 54.3	+0.1
SAP3				S	Sg	01 38 57.2	+0.8
	740nm,0.7s						
THR5	**Thira Island,**	**0.16**	**239**	P	Pg	01 38 54.4	0.0
THR6	**Thira Island,**	**0.18**	**215**	P	Pg	01 38 54.8	+0.2

ATH 13 01:39:33.0, 34°81N×25°55E, h9km±6km, ML1.8/4, Error ellipse: s-maj=7.0km s-min=1.3km az=4.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.35**	**350**	P	Pg	01 39 39.5	-0.5
LAST				S	Sg	01 39 45.2	+0.5
LAST				AML	AML	01 39 48.0	
	comp=N,369μm,0.6s						
LAST				AML	AML	01 39 53.4	
	comp=E,247μm,0.5s						
NPS	**Neapolis**	**0.45**	**6**	P	Pg	01 39 41.0	-0.8
NPS				AML	AML	01 39 50.6	
	comp=N,256μm,0.8s						
NPS				AML	AML	01 39 56.4	
	comp=E,284μm,0.5s						
ZKR	**Zakros**	**0.62**	**61**	P	Pg	01 39 44.6	-0.5
ZKR				S	Sg	01 39 53.9	+0.7
ZKR				AML	AML	01 39 55.0	
	comp=E,301μm,0.5s						
ZKR				AML	AML	01 39 55.2	
	comp=N,145μm,0.5s						
SIVA	**Sivas**	**0.65**	**289**	P	Pg	01 39 45.0	-0.5
SIVA				S	Sg	01 39 54.4	+0.5
SIVA				AML	AML	01 39 58.5	
	comp=N,511μm,0.6s						
SIVA				AML	AML	01 40 01.4	
	comp=E,620μm,0.6s						
IDI	**Anoyia**	**0.72**	**311**	P	Pg	01 39 46.3	-0.6
GVD	**Gavdhos**	**1.21**	**272**	P	Pn	01 39 56.0	0.0
VAM	**Vamos**	**1.26**	**298**	P	Pn	01 39 56.1	-0.6
IMMV	**Iera Moni Meta**	**1.44**	**297**	P	Pn	01 39 59.2	0.0

IDC ***13*** *02:03:08.7±1.9, 17°97N×57°54E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.6/75, mbtmp3.9/12, ML4.0/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/48, Error ellipse: s-maj=38.1km s-min=21.3km az=133.0*

DSN ***13*** *02:03:10.9±3.2, 18°02N×57°46E, h15km, ML4.2/9, Error ellipse: s-maj=36.8km s-min=5.4km az=145.0*

NEIC ***13*** *02:03:10.3±0.8, 18°01N±0°04×57°4E±0°2, h10km±2km, mb4.2/10, Error ellipse: s-maj=26.7km s-min=4.6km az=99.0*

OMAN ***13*** *02:03:13.3±0.3, 18°05N×57°50E, h54km±13km, mb4.5/4, Error ellipse: s-maj=6.4km s-min=1.8km az=308.0*

KISR ***13*** *02:03:17.8±0.5, 19°93N×57°53E, h0km±999km, ML5.6, Hypocentre not reviewed by the ISC*

ISC 13 02:03:10.6±1.0, 18°05N±0°08×57°47E±0°07, h10km, n77, σ0°77/86, mb4.1/11, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAO	**Shalim**	**1.75**	**269**	*e*P	**Pn**	**02 03 41.4**	**+0.2**
	SNR=450						
SHAO				S	**Sn**	**02 04 03.6**	**+0.1**
SHAO	**Shalim**	**1.75**	**269**	P	**Pn**	**02 03 41.3**	**+0.2**
	SNR=449						
SHAO				S	**Sn**	**02 04 03.6**	**+0.1**
	SNR=8.8						
SHAO	**Shalim**	**1.75**	**269**	P	**Pn**	**02 03 41.3**	**+0.2**
	SNR=449						
SHAO				S	**Sn**	**02 04 03.6**	**+0.1**
	SNR=8.8						
DQM	**DQM**	**1.87**	**2**	P	**Pn**	**02 03 42.4**	**-0.3**
	SNR=86						
DQM				S	**Sn**	**02 04 06.6**	**+0.3**
	SNR=12						
DQM	**DQM**	**1.87**	**2**	P	**Pn**	**02 03 42.4**	**-0.3**
	SNR=86						
DQM				S	**Sn**	**02 04 06.6**	**+0.3**
	SNR=12						
DMTO	**DMTO**	**2.42**	**262**	P	**Pn**	**02 03 50.7**	**+0.4**
	SNR=433						
DMTO				S	**Sn**	**02 04 19.8**	**-0.2**
DMTO	**DMTO**	**2.42**	**262**	P	**Pn**	**02 03 50.7**	**+0.4**
	SNR=433						
DMTO				S	**Sn**	**02 04 19.8**	**-0.2**
MHTO	**MHTO**	**2.96**	**9**	P	**Pn**	**02 03 57.1**	**-0.6**
	SNR=117						
MHTO				S	**Sn**	**02 04 32.6**	**-0.6**
MHTO	**MHTO**	**2.96**	**9**	P	**Pn**	**02 03 57.1**	**-0.6**
	SNR=117						
MHTO				S	**Sn**	**02 04 32.6**	**-0.6**
RBK	**Rabkut**	**3.16**	**261**	P	**Pn**	**02 04 01.0**	**+0.5**
	SNR=28						
RBK	**Rabkut**	**3.16**	**261**	P	**Pn**	**02 04 01.0**	**+0.5**
	SNR=28						
DOK	**Doka**	**3.22**	**281**	P	**Pn**	**02 04 02.1**	**+0.8**
	SNR=32						
DOK	**Doka**	**3.22**	**281**	P	**Pn**	**02 04 02.1**	**+0.8**
	SNR=32						
WHFO	**Wadi Hawf**	**3.52**	**268**	P	**Pn**	**02 04 06.1**	**+0.6**
	SNR=27						
WHFO	**Wadi Hawf**	**3.52**	**268**	P	**Pn**	**02 04 06.1**	**+0.6**
	SNR=27						
ABTO	**Aybut**	**4.04**	**261**	P	**Pn**	**02 04 13.1**	**+0.5**
	SNR=96						
ABTO	**Aybut**	**4.04**	**261**	P	**Pn**	**02 04 13.1**	**+0.5**
	SNR=96						
JMDO	**Jabal Madar**	**4.34**	**8**	P	**Pn**	**02 04 17.0**	**+0.3**
JMDO	**Jabal Madar**	**4.34**	**8**	P	**Pn**	**02 04 17.0**	**+0.3**
JLN	**Jalan Bani Buh**	**4.47**	**24**	P	**Pn**	**02 04 18.4**	**-0.1**
	SNR=19						
JLN	**Jalan Bani Buh**	**4.47**	**24**	P	**Pn**	**02 04 18.4**	**-0.1**
	SNR=19						
WBK	**Wadi Bani Khal**	**4.75**	**17**	P	**Pn**	**02 04 22.5**	**+0.2**
	SNR=194						
WBK				S	**Sn**	**02 05 17.2**	**-0.3**
WBK	**Wadi Bani Khal**	**4.75**	**17**	P	**Pn**	**02 04 22.5**	**+0.2**
	SNR=194						
WBK				S	**Sn**	**02 05 17.2**	**-0.3**
SMDO	**Samad**	**5.01**	**6**	P	**Pn**	**02 04 26.6**	**+0.5**
	SNR=57						
SMDO	**Samad**	**5.01**	**6**	P	**Pn**	**02 04 26.6**	**+0.5**
	SNR=57						
WSAR	**Wadi Sarin**	**5.28**	**12**	Pn	**Pn**	**02 04 29.7**	**+0.1**
	3.1nm,0.3s,baz=232,slow=6.0,SNR=71						
WSAR				Pg	**Pb**	**02 04 45.6**	**+2.6**
	4.2nm,0.3s,baz=218,slow=7.2,SNR=7.7						
WSAR				Sn	**Sn**	**02 05 30.9**	**+0.4**
	5.4nm,0.3s,baz=258,slow=19,SNR=2.0						
WSAR				Lg	Lg	02 05 58.2	
	6.7nm,0.3s,baz=73,slow=14,SNR=3.8						
WSAR	**Wadi Sarin**	**5.28**	**12**		**Pn**	**02 04 29.7**	**+0.1**
ARQ	**Araqi**	**5.33**	**351**	P	**Pn**	**02 04 31.0**	**+0.6**
	SNR=11						
ARQ				S	**Sn**	**02 05 31.5**	**-0.4**
ARQ	**Araqi**	**5.33**	**351**	P	**Pn**	**02 04 31.0**	**+0.6**
	SNR=11						
ARQ				S	**Sn**	**02 05 31.5**	**-0.4**
BIDO	**Bidbid**	**5.48**	**6**	P	**Pn**	**02 04 33.0**	**+0.7**
	SNR=12						
BIDO	**Bidbid**	**5.48**	**6**	P	**Pn**	**02 04 33.0**	**+0.7**
	SNR=12						
HOQ	**Hoqain**	**5.50**	**359**	P	**Pn**	**02 04 33.0**	**+0.3**
	SNR=26						
HOQ	**Hoqain**	**5.50**	**359**	P	**Pn**	**02 04 33.0**	**+0.3**
	SNR=26						
SOHO	**SOHO**	**6.11**	**352**	*i* P	**Pn**	**02 04 41.3**	**+0.2**
	SNR=11						
ALNE	**Al Ain**	**6.18**	**345**	P	**Pn**	**02 04 42.7**	**+0.6**
ASHO	**Ashiyiah**	**6.73**	**349**	*i* P	**Pn**	**02 04 49.8**	**+0.2**
	SNR=42						
ASHO	**Ashiyiah**	**6.73**	**349**	P	**Pn**	**02 04 49.8**	**+0.2**
	SNR=42						
ASHO	**Ashiyiah**	**6.73**	**349**	P	**Pn**	**02 04 49.8**	**+0.2**
	SNR=42						
SOCY	**Socotra**	**6.73**	**210**	Pn	Pn	02 04 44.4	-5.2
ASUD	**Al Ashush, Dub**	**6.84**	**343**	*i* P	**Pn**	**02 04 52.1**	**+1.0**
	SNR=9.0						
HATD	**Hatta, Dubai**	**6.85**	**350**	P	**Pn**	**02 04 52.0**	**+0.7**
FAQ	**Al Faqa, Dubai**	**6.88**	**346**	P	**Pn**	**02 04 52.6**	**+0.9**
UOSS	**Minazif**	**6.96**	**350**	*i* P	**Pn**	**02 04 53.3**	**+0.6**
	SNR=9.9						
UOSS	**Minazif**	**6.96**	**350**		**Pn**	**02 04 52.9**	**+0.2**
NAZ	**Nazwa, Dubai**	**7.10**	**347**	P	**Pn**	**02 04 55.4**	**+0.7**
BANOM	**Banah**	**7.91**	**352**	P	**Pn**	**02 05 05.4**	**-0.4**
RAYN	**Ar Rayn**	**12.44**	**298**	*i* P	**Pn**	**02 06 05.0**	**-2.9**
	SNR=13						
RAYN	**Ar Rayn**	**12.44**	**298**		**Pn**	**02 06 04.8**	**-3.1**
QRN	**Al-Qurain**	**13.78**	**322**	*e*P		02 06 24.1	
RDF	**Al-Radifah**	**14.13**	**322**	*e*P		02 06 28.8	
RDF				*e*S		02 08 52.6	
RDF				IAML		02 08 56.0	
	comp=Z,36nm,0.6s						
MIB	**Mutribah**	**14.91**	**324**	*e*P		02 06 38.8	
GEYT	**Alibeck**	**19.81**	**2**	P	**P**	**02 07 42.2**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=206,slow=13,SNR=13						
GEYT	**Alibeck**	**19.81**	**2**	P	**P**	**02 07 40.7**	**-0.7**
GEYT				IAmb	IAmb	02 07 44.6	
	comp=Z,6.0nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**19.81**	**2**	P	**P**	**02 07 40.9**	**-0.5**
GYA0B				IAmb	IAmb	02 07 44.6	
	comp=Z,9.5nm,0.7s						
MARD	**Mardin**	**24.15**	**326**	P	**P**	**02 08 27.0**	**-0.1**
MARD				IAmb	IAmb	02 08 35.4	
	comp=Z,4.0nm,0.6s						
GNI	**Garni**	**24.61**	**336**	P	**P**	**02 08 33.5**	**+2.2**
	comp=Z,6.3nm,0.8s,baz=189,slow=12,SNR=5.3						
GNI	**Garni**	**24.61**	**336**	P	**P**	**02 08 30.3**	**-1.0**
GNI				IAmb	IAmb	02 08 35.7	
	comp=Z,9.2nm,0.8s						
MMAI	**Mount Meron Ar**	**24.79**	**311**	P	**P**	**02 08 34.2**	**+1.2**
	comp=Z,7.6nm,1.2s,baz=116,slow=16,SNR=2.6						
MMAI				LR	LR	02 18 40.5	
	comp=Z,50nm,18.2s,baz=45,slow=37						
MMAI	**Mount Meron Ar**	**24.79**	**311**	P	**P**	**02 08 34.2**	**+1.2**
KVAR	**Kiryat Shmona Arr**	**28.67**	**337**	LR	LR	02 22 25.0	
	comp=Z,131nm,20.2s,baz=186,slow=40						
AKTO	**Aktyubinsk**	**32.31**	**1**	P	**P**	**02 09 39.9**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=162,slow=7.9,SNR=4.8						
AKTO	**Aktyubinsk**	**32.31**	**1**	P	**P**	**02 09 39.9**	**+0.2**
MK31	**Makanchi Array**	**35.21**	**30**	P	**P**	**02 10 05.2**	**+0.1**
MKAR	**Makanchi Array**	**35.21**	**30**	P	**P**	**02 10 04.5**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=221,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**35.21**	**30**	P	**P**	**02 10 04.5**	**-0.6**
AKASG	**Malin Array Be**	**39.59**	**332**	P	**P**	**02 10 42.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=136,slow=7.3,SNR=1.9						
AKASG	**Malin Array Be**	**39.59**	**332**	P	**P**	**02 10 42.1**	**+0.1**
ZALV	**Zalesovo Beam**	**41.59**	**24**	P	**P**	**02 10 58.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=202,slow=14,SNR=2.3						
FIA1	**FINESS Array S**	**48.67**	**341**	P	**P**	**02 11 55.0**	**+0.3**
FINES	**FINESS Array B**	**48.67**	**341**	P	**P**	**02 11 54.6**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=137,slow=7.6,SNR=15						
FINES	**FINESS Array B**	**48.67**	**341**	P	**P**	**02 11 54.7**	**-0.1**
SONM	**Songino Array**	**49.55**	**42**	P	**P**	**02 12 02.2**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=233,slow=9.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**53.78**	**273**	P	**P**	**02 12 33.6**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=272,slow=9.3,SNR=2.5						
ESDC	**Sonseca Array**	**56.84**	**306**	P	**P**	**02 12 55.1**	**-0.5**
	comp=Z,1.0nm,1.1s,baz=89,slow=6.2,SNR=3.3						
ESDC	**Sonseca Array**	**56.84**	**306**	P	**P**	**02 12 55.1**	**-0.5**
ESDC	**Sonseca Array**	**56.84**	**306**	IAmb	IAmb	02 13 06.6	
	comp=Z,5.6nm,1.4s						
KOWA	**Kowa**	**58.90**	**276**	P	**P**	**02 13 10.1**	**-0.3**
H01W3	**Cape Leeuwin H**	**75.26**	**135**	T	T	03 36 44.6	
	baz=305,slow=75,SNR=18						
H01W2	**Cape Leeuwin H**	**75.27**	**135**	T	T	03 36 44.9	
	baz=305,slow=75,SNR=20						
H01W1	**Cape Leeuwin H**	**75.28**	**135**	T	T	03 36 45.2	
	baz=305,slow=75,SNR=23						

DJA ***13*** *02:07:14.2±0.3, 3°S±4°×13°8E±°, h53km±11km, M4.6/12, mB5.0/2, mb4.7/12, MLv4.6/7, Mw(mB)4.3/2*

NEIC ***13*** *02:07:14.7±1.6, 3°31S±0°10×137°72E±0°06, h61km±6km, mb4.3/16, Error ellipse: s-maj=13.9km s-min=8.8km az=189.0*

IDC ***13*** *02:07:14.4±0.9, 3°26S×137°75E, h54km±7km, mb3.7/9, mb1 4.1/14, mb1mx3.8/55, mbtmp4.2/14, MS3.1/5, Ms1 3.1/5, ms1mx2.9/27, Error ellipse: s-maj=21.6km s-min=15.9km az=100.0*

ISC 13 02:07:13.5±0.5, 3°35S±0°05×137°75E±0°05, h50km, n48, σ1°61/53, mb4.0/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.66**	**35**	P	**Pn**	**02 07 39.5**	**-0.7**
SMPI				S	**Sn**	**02 07 59.7**	**-0.7**
SRPI	**Serui, Papua**	**2.11**	**314**	P	**Pn**	**02 07 47.5**	**+1.1**
GENI	**Genyem**	**2.53**	**73**	P	**Pn**	**02 07 52.9**	**+0.7**
BAKI	**Biak**	**2.70**	**323**	P	**Pn**	**02 07 54.6**	**0.0**
JAY	**Jayapura**	**3.07**	**74**	P	**Pn**	**02 08 00.3**	**+0.8**
	15nm,0.3s,baz=249,slow=11,SNR=39						
JAY				S	**Sn**	**02 08 34.6**	**-0.4**
	29nm,0.3s,baz=127,slow=20,SNR=5.4						
JAY				LR	LR	02 08 53.4	
	comp=Z,239nm,18.1s,baz=19,slow=32						
JAY	**Jayapura**	**3.07**	**74**	P	**Pn**	**02 08 00.0**	**+0.4**
RKPI	**Ransiki, Papua**	**4.01**	**297**	P	**Pn**	**02 08 13.5**	**+1.0**
FAKI	**Fak Fak**	**5.51**	**274**		**Pn**	**02 08 34.6**	**+1.5**
FAKI	**Fak Fak**	**5.51**	**274**	P	**Pn**	**02 08 34.7**	**+1.6**
	0.5nm115nm,0.6s						
SIJI	**Sorong**	**6.93**	**291**	P	**Pn**	**02 08 53.1**	**+0.4**
	5.6nm,0.3s,baz=230,slow=22,SNR=11						
SIJI				S	**Sn**	**02 10 10.3**	**+0.1**
	1.7nm,0.3s,baz=162,slow=13,SNR=1.1						
SWI	**Sorong**	**6.94**	**291**	P	**Pn**	**02 08 54.0**	**+1.3**
	0.2nm47nm,0.5s						
COEN	**Coen**	**11.82**	**153**	Pn	**Pn**	**02 10 00.8**	**+1.3**
SANI	**Sanana**	**11.82**	**276**	P	**Pn**	**02 10 00.5**	**+1.0**
	35nm,0.7s						
SOEI	**Soe**	**14.82**	**244**		**Pn**	**02 10 41.3**	**+1.1**
SOEI	**Soe**	**14.82**	**244**	P	**Pn**	**02 10 41.4**	**+1.1**
	66nm,1.1s						
BATI	**Baumata**	**15.55**	**243**	P	**Pn**	**02 10 50.6**	**+0.9**
	9.3nm,0.3s,baz=49,slow=1.9,SNR=4.6						
APSI	**Ampana**	**16.27**	**278**	P	**Pn**	**02 10 59.1**	**+0.3**
	35nm,0.8s						
MMRI	**Maumere**	**16.29**	**251**	Pn	**Pn**	**02 10 58.6**	**-0.4**
WB0	**Warramunga Arr**	**16.64**	**191**		**Pn**	**02 11 02.7**	**-0.8**
WB0				IAmb	IAmb	02 11 13.7	
	comp=Z,14nm,0.7s						
WR0	**Warramunga Arr**	**16.80**	**190**	Pn	**Pn**	**02 11 05.1**	**-0.4**
WR0				IAmb	IAmb	02 11 14.9	
	comp=Z,18nm,1.1s						
WB2	**Warramunga Arr**	**16.82**	**191**	Pn	**Pn**	**02 11 05.8**	**+0.1**
WB2				IAmb	IAmb	02 11 12.3	
	comp=Z,22nm,0.6s						
WRA	**Warramunga Arr**	**16.82**	**191**	P	**Pn**	**02 11 05.8**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=16,slow=12,SNR=27						
WRA				S	Sn	02 14 01.9	-10
	comp=Z,0.4nm,0.3s,baz=14,slow=22,SNR=5.4						
WRA				LR	LR	02 18 27.7	
	comp=Z,92nm,21.8s,baz=40,slow=40						
TOLI2	**Tolitoli**	**17.53**	**284**		**P**	**02 11 15.2**	**0.0**
TOLI2				IAmb	IAmb	02 11 17.8	
	comp=Z,23nm,0.7s						
KAPI	**Kappang**	**18.03**	**264**	LR	LR	02 18 28.5	
	comp=Z,41nm,19.1s,baz=84,slow=37						
FITZ	**Fitzroy Crossi**	**18.86**	**218**	P	**Pn**	**02 11 31.8**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=53,slow=8.5,SNR=24						
FITZ				S	**Sn**	**02 14 51.4**	**-10**
	comp=Z,1.4nm,0.3s,baz=168,slow=12,SNR=7.4						
FITZ	**Fitzroy Crossi**	**18.86**	**218**	P	**Pn**	**02 11 31.3**	**+0.7**
FITZ				IAmb	IAmb	02 11 36.7	
	comp=Z,1.1nm,0.9s						
AS31	**Alice Springs**	**20.53**	**190**	P	**P**	**02 11 49.8**	**+1.8**
AS31				IAmb	IAmb	02 11 52.5	
	comp=Z,1.1nm,0.9s						
ASAR	**Alice Springs**	**20.53**	**190**	P	Pn	02 11 50.5	0.0
	comp=Z,21nm,0.8s,baz=21,slow=9.7,SNR=82						
ASAR				S	**S**	**02 15 36.6**	**+1.5**
	comp=Z,25nm,0.8s,baz=11,slow=23,SNR=21						
ASAR				LR	LR	02 20 33.3	
	comp=Z,128nm,18.5s,baz=347,slow=39						
ASAR	**Alice Springs**	**20.53**	**190**	P	**P**	**02 11 49.7**	**+1.8**
PSA00	**Pilbara Seismi**	**25.11**	**222**	P	**P**	**02 12 34.6**	**+0.7**
FORT	**Forrest**	**28.77**	**198**	P	**P**	**02 13 07.1**	**+0.4**
NWAO	**Narrogin (SRO)**	**35.14**	**211**	P	**P**	**02 14 02.6**	**+0.1**
KSRS	**Korea Array**	**41.62**	**348**	LR	LR	02 31 21.8	
	comp=Z,13nm,20.2s,baz=305,slow=35						
CMAR	**Chiang Mai Arr**	**43.94**	**301**	P	**P**	**02 15 16.1**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=122,slow=6.3,SNR=5.8						
CHTO	**Chiang Mai**	**44.09**	**301**	P	**P**	**02 15 16.8**	**-0.4**
CHTO				IAmb	IAmb	02 15 17.7	
	comp=Z,3.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**47.62**	**354**	P	**P**	**02 15 44.6**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=167,slow=9.0,SNR=2.2						
KLR	**Kul'dur**	**52.63**	**355**	P	**P**	**02 16 22.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=167,slow=10,SNR=4.4						
KLR				pP	**pP**	**02 16 37.7**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=198,slow=6.6,SNR=2.8						
SHL	**Shillong**	**52.92**	**306**	P	**P**	**02 16 24.3**	**-1.0**
SHL				IAmb	IAmb	02 16 26.0	
	comp=Z,6.2nm,1.0s						
PETK	**Petropavlovsk-**	**58.71**	**14**	P	**P**	**02 17 06.5**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=177,slow=5.9,SNR=3.8						
MK31	**Makanchi Array**	**69.72**	**323**	P	**P**	**02 18 18.0**	**-0.3**
MKAR	**Makanchi Array**	**69.72**	**323**	P	**P**	**02 18 18.3**	**0.0**
	comp=Z,0.8nm,0.7s,baz=114,slow=7.3,SNR=6.7						
MKAR				pP	**pP**	**02 18 32.6**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=106,slow=7.5,SNR=3.5						
NIL	**Nilore**	**70.94**	**307**	P	**P**	**02 18 25.8**	**-0.3**
ZALV	**Zalesovo Beam**	**72.01**	**330**	P	**P**	**02 18 30.6**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=122,slow=6.1,SNR=3.6						
VNDA	**Vanda**	**75.23**	**175**	P	**P**	**02 18 51.4**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=331,slow=6.8,SNR=6.1						
KK31	**Karatay Array**	**75.92**	**316**	P	**P**	**02 18 54.8**	**-0.4**
KKAR	**Karatay Array**	**75.92**	**316**	P	**P**	**02 18 54.5**	**-0.7**
ABKAR	**Akbulak array**	**84.59**	**320**	P	**P**	**02 19 41.1**	**-0.5**
ILAR	**Eielson Array**	**86.81**	**25**	P	**P**	**02 19 51.3**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=232,slow=4.4,SNR=6.5						
ILAR				pP	**pP**	**02 20 07.6**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=266,slow=4.5,SNR=6.5						

IDC ***13*** *02:08:00.3±1.0, 26°93N×130°14E, h0km, mb3.9/17, mb1 4.1/19, mb1mx3.8/71, mbtmp3.9/19, ML4.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/32, Error ellipse: s-maj=24.9km s-min=20.5km az=144.0*

NIED ***13*** *02:08:04.6, 27°07N×130°06E, h57km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr~0.94; Mθθ0.57; Mφφ0.37; Mrθ~0.23; Mθφ0.73; Mrφ0.13; Fault plane solution: M₀1.12000×10¹⁵ NP1:φs66.00000°, δ50.00000°, λ-66.00000°. NP2:φs212.00000°, δ45.00000°, λ-116.00000°.*

JMA ***13*** *02:08:04.5±0.1, 27°07N×130°06E, h57km, M4.1*

NEIC ***13*** *02:08:05.0±1.3, 27°01N±0°07×130°08E±0°06, h28km±6km, mb4.3/11, Error ellipse: s-maj=10.2km s-min=7.7km az=203.0*

ISC 13 02:08:05.0±0.5, 27°05N±0°03×130°11E±0°04, h29km, n58, σ1°22/76, mb4.0/21, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.26**	**306**	P	**Pn**	**02 08 25.6**	**-1.1**
JTK				S	**Sn**	**02 08 40.6**	**-2.1**
JZK	**Kikaishima**	**1.27**	**355**	P	**Pn**	**02 08 26.9**	**+0.1**
JZK				S	**Sn**	**02 08 42.6**	**-0.2**
JOKE	**Okinoerabujima**	**1.40**	**283**	P	**Pn**	**02 08 27.9**	**-0.7**
JOKE				S	**Sn**	**02 08 45.2**	**-1.0**
JAM	**Amami Oshima**	**1.43**	**342**	P	**Pn**	**02 08 28.0**	**-1.0**
JAM				S	**Sn**	**02 08 45.2**	**-1.6**
JAMN	**Amaminishikomi**	**1.45**	**325**	P	**Pn**	**02 08 27.9**	**-1.4**
JAMN				S	**Sn**	**02 08 45.5**	**-1.8**
JYRO	**Yoronjima**	**1.48**	**269**	P	**Pn**	**02 08 29.1**	**-0.5**
JYRO				S	**Sn**	**02 08 46.9**	**-1.1**
JKDJ	**Kitadaitoujima**	**1.53**	**135**	P	**Pn**	**02 08 30.3**	**-0.1**
JKDJ				S	**Sb**	**02 08 49.9**	**-1.8**
JMZ

comp=Z,2.2nm,0.7s,baz=354,slow=8.3,SNR=1.0
KBL Kabul 52.30 294 P **P** **02 17 14.8 +0.4**
KBL IAmb IAmb 02 18 47.8
comp=Z,2.8nm,0.9s
ABKAR Akbulak array 57.31 313 P **P** **02 17 50.6 +0.5**
ABKAR IAmb IAmb 02 17 52.3
comp=Z,3.1nm,1.0s
AKTO Aktyubinsk 58.46 314 P **P** **02 17 59.3 +1.1**
comp=Z,1.1nm,0.8s,baz=37,slow=6.5,SNR=3.9
IMAR Indian Mountai 59.99 27 P **P** **02 18 09.8 +1.3**
BRLK Bradley Lake 61.56 34 P **P** **02 18 18.6 -0.8**
ILAR Eielson Array 62.92 29 P **P** **02 18 28.1 -0.3**
comp=Z,0.5nm,0.7s,baz=265,slow=5.1,SNR=4.9
INK Inuvik 67.47 24 P **P** **02 18 58.1 +0.4**
comp=Z,1.1nm,0.6s,baz=329,slow=3.3,SNR=1.9
INK Inuvik 67.47 24 IAmb IAmb 02 20 33.0
comp=Z,12nm,1.8s
KBZ Khabaz 69.94 310 P **P** **02 19 14.7 +1.1**
comp=Z,3.9nm,0.9s,baz=62,slow=4.4,SNR=3.5
C36M Paulatuk 70.33 21 P **P** **02 19 16.6 +1.1**
C36M IAmb IAmb 02 19 18.0
comp=Z,5.8nm,0.8s
FINES FINESS Array B 72.97 331 P **P** **02 19 31.6 0.0**
comp=Z,1.2nm,0.7s,baz=49,slow=5.8,SNR=7.6
AKASG Malin Array Be 75.99 320 P **P** **02 19 49.1 -0.2**
comp=Z,0.3nm,0.2s,baz=62,slow=5.0,SNR=1.9
AKASG Malin Array Be 75.99 320 IAmb IAmb 02 22 36.2
comp=Z,3.5nm,1.6s
YKA Yellowknife Ar 77.07 26 P **P** **02 19 56.8 +1.6**
comp=Z,0.7nm,0.8s,baz=302,slow=5.0,SNR=9.9
BRTR Keskin Array B 77.85 308 P **P** **02 20 00.2 0.0**
comp=Z,1.1nm,0.7s,baz=78,slow=5.7,SNR=5.9
BRTR Keskin Array B 77.85 308 P **P** **02 20 00.1 -0.1**
NB2 NORSAR Subarra 79.31 334 P **P** **02 20 07.7 0.0**
comp=Z,1.0nm,0.6s,baz=48,slow=5.6
NOA NORSAR Array B 79.31 334 P **P** **02 20 07.4 -0.3**
comp=Z,1.4nm,1.0s,baz=50,slow=5.3,SNR=3.9
CLL Collm 84.43 326 *eP* **P** **02 20 36.0 +1.2**
GERES GERESS Array B 85.55 324 P **P** **02 20 40.2 -0.4**
comp=Z,0.4nm,0.6s,baz=43,slow=7.3,SNR=2.1
PDAR Pinedale Array 91.47 39 P **P** **02 21 10.6 +1.5**
comp=Z,0.3nm,0.7s,baz=343,slow=4.6,SNR=4.2

IDC 13 02:37:03.4±1.9, 1°77′N×126°65′E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/30, mbtmp3.5/4, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/34, Error ellipse: s-maj=115.5km s-min=24.1km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.77**	**183**	P	P	02 41 35.7	+0.4
	0.1nm,0.3s,baz=14,slow=13,SNR=1.1						
WRA	**Warramunga Arr**	**22.86**	**161**	P	P	02 42 08.9	+0.3
	1.1nm,0.4s,baz=340,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.25**	**165**	P	P	02 42 40.0	-0.5
	0.3nm,0.4s,baz=351,slow=14,SNR=2.0						
PSI	**Prapat**	**27.72**	**273**	LR	LR	02 54 06.9	
	comp=Z,176nm,19.8s,baz=271,slow=37						
MKAR	**Makanchi Array**	**59.11**	**326**	P	P	02 47 05.8	-0.1
	0.2nm,0.4s,baz=122,slow=7.9,SNR=7.3						

IDC 13 02:43:17.1±1.7, 1°98′S×139°50′E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/25, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=30.1km s-min=18.8km az=20.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.32**	**114**	Pg	Pn	02 43 42.9	0.0
	5.0nm,0.3s,baz=119,slow=4.9,SNR=10.0						
JAY				Lg	Lg	02 43 58.8	
	7.0nm,0.3s,baz=19,slow=18,SNR=6.2						
WRA	**Warramunga Arr**	**18.55**	**195**	P	P	02 47 35.7	0.0
	0.1nm,0.3s,baz=14,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**22.23**	**194**	P	P	02 48 16.1	+0.4
	0.3nm,0.7s,baz=23,slow=12,SNR=2.1						
ILAR	**Eielson Array**	**84.84**	**24**	P	P	02 55 53.0	-0.5
	0.4nm,0.7s,baz=266,slow=5.0,SNR=6.5						

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*DNK **13** 03:19:58.7±0.8, 51°55N×15°74E, h0km, ML1.8(UPP), Suspected explosion*
*IPEC **13** 03:20:00.1±0.4, 51°60N×16°17E, h1km±2km, ML2.9/4, Error ellipse: s-maj=4.0km s-min=1.7km az=51.0*
*IDC **13** 03:20:00.6±0.6, 51°58N×15°96E, h0km, mb3.4/2, mb1 3.6/9, mb1mx3.3/44, mbtmp3.4/9, ML3.1/7, MS2.3/1, Ms1 2.3/1, ms1mx2.1/46, Error ellipse: s-maj=13.4km s-min=6.3km az=106.0*
*LDG **13** 03:20:01.1±0.5, 51°48N×16°04E, h1km, Ml3.2/7, Error ellipse: s-maj=11.4km s-min=5.6km az=27.0, Suspected Mining induced.*
*UPP **13** 03:20:01.5±0.5, 51°54N×16°09E, h1km, ML3.3/12, Error ellipse: s-maj=4.4km s-min=2.2km az=25.0*
*PRU **13** 03:20:02.8±0.0, 51°50N×16°11E, h0km*
ISC 13 03:19:59.2±0.6, 51°64N±0°03×16°12E±0°02, h0km, n101, σ1§65/189, 3C-18D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.81**	**172**	*i* Pg	**Pg**	**03 20 15.1**	**+0.4**
KSP				*i* Sg	**Sg**	**03 20 25.0**	**-0.1**
KSP	**Ksiaz**	**0.81**	**172**	*e*Pg	**Pg**	**03 20 15.1**	**+0.4**
KSP				*e*Sg	**Sg**	**03 20 25.2**	**+0.1**
CHVC	**Chvalec**	**1.05**	**182**	⇓*i*Pg	**Pg**	**03 20 19.9**	**+0.5**
CHVC				*e*SG	**Sg**	**03 20 32.6**	**-0.5**
	comp=Z,135nm,0.4s						
OSTC	**Ostas**	**1.09**	**177**	⇓*e*PG	**Pg**	**03 20 20.5**	**+0.5**
OSTC				*e*SG	**Sg**	**03 20 33.7**	**-0.4**
	comp=Z,190nm,0.7s						
UPC	**Upice**	**1.14**	**184**	⇓*i*PG	**Pg**	**03 20 21.1**	**+0.1**
UPC				*e*SG	**Sg**	**03 20 35.2**	**-0.5**
DPC	**Dobruska-Polom**	**1.30**	**174**	⇓*i*PG	**Pg**	**03 20 23.9**	**-0.2**
DPC				*e*SG	**Sg**	**03 20 39.5**	**-1.4**
	comp=Z,265nm,0.8s						
DPC	**Dobruska-Polom**	**1.30**	**174**	*e*Pg	**Pg**	**03 20 23.9**	**-0.2**
DPC				*e*Sg	**Sg**	**03 20 40.1**	**-0.8**
PVCC	**Panska Ves**	**1.48**	**222**	⇓*e*PG	**Pn**	**03 20 27.1**	**-0.1**
PVCC				*e*SG	**Sg**	**03 20 47.1**	**+0.2**
	comp=Z,352nm,0.3s						
BRG	**Berggiesshubel**	**1.57**	**242**	Pn	**Pn**	**03 20 28.1**	**-0.3**
BRG				Pg	**Pg**	**03 20 29.6**	**+0.3**
BRG				Sg	**Sg**	**03 20 50.0**	**+0.4**
BRG				Amp		03 20 50.3	
	comp=Z,322nm,0.4s						
BRG	**Berggiesshubel**	**1.57**	**242**	*e*Pn	**Pn**	**03 20 28.1**	**-0.3**
BRG				*e*Pg	**Pg**	**03 20 29.7**	**+0.4**
BRG				*e*Sg	**Sg**	**03 20 50.2**	**+0.6**
KRLC	**Kraliky**	**1.62**	**165**	⇓*i*PG	**Pn**	**03 20 29.0**	**-0.1**
KRLC				*e*SG	**Sn**	**03 20 50.2**	**-0.5**
	comp=Z,166nm,0.6s						
FBE	**Freiberg**	**1.88**	**249**	*e*Pg	**Pg**	**03 20 35.1**	**-0.2**
FBE				*e*Sg	**Sg**	**03 20 59.8**	**+0.2**
PRA	**Prague**	**1.90**	**215**	⇓*e*PG	**Pb**	**03 20 34.8**	**0.0**
PRU	**Pruhonice**	**1.94**	**212**	⇓*e*PN	**Pn**	**03 20 33.0**	**-0.4**
PRU				*e*PG	**Pb**	**03 20 35.0**	**-0.4**
PRU				*e*SG	**Sn**	**03 20 59.3**	**+0.9**
	comp=Z,116nm,0.7s						
CLL	**Collm**	**1.98**	**262**	*i* Pn	**Pn**	**03 20 34.1**	**+0.1**
	comp=Z,42nm,0.5s						
CLL				*i* Pg	**Pg**	**03 20 37.0**	**-0.2**
CLL				*i*		03 20 41.0	
CLL				*i* Sg	**Sg**	**03 21 03.5**	**+0.7**
	comp=Z,75nm,0.6s						
CLL	**Collm**	**1.98**	**262**	*e*Pn	**Pn**	**03 20 34.0**	**0.0**
CLL				*e*Pg	**Pg**	**03 20 37.1**	**0.0**
CLL				*e*Sg	**Sg**	**03 21 02.4**	**-0.4**
MORC	**Moravsky Berou**	**2.07**	**154**	⇓P	**Pn**	**03 20 35.3**	**0.0**
MORC				⇓S	**Sb**	**03 21 05.1**	**+1.1**
MORC	**Moravsky Berou**	**2.07**	**154**	*e*PN	**Pn**	**03 20 35.1**	**-0.2**
MORC				*e*SG	**Sn**	**03 21 03.7**	**+1.8**
MORC	**Moravsky Berou**	**2.07**	**154**	*e*Pn	**Pn**	**03 20 35.1**	**-0.2**
	baz=335						
MORC				*e*Sg	**Sn**	**03 21 03.6**	**+1.7**
	comp=Z,78nm,0.5s,baz=335						
MORC	**Moravsky Berou**	**2.07**	**154**	*e*Pn	**Pn**	**03 20 35.3**	**0.0**
MORC				*e*Sg	**Sb**	**03 21 05.4**	**+1.4**
OKC	**Ostrava-Krasne**	**2.22**	**144**	⇓*e*SG	**Sb**	**03 21 08.2**	**+0.1**
	comp=Z,109nm,0.6s						
OKC	**Ostrava-Krasne**	**2.22**	**144**	*e*Pg	**Pg**	**03 20 41.6**	**-0.1**
OKC				*e*Sg	**Sb**	**03 21 08.6**	**+0.5**
VRAC	**Vranov**	**2.35**	**172**	Pn	**Pn**	**03 20 39.5**	**+0.2**
	comp=Z,8.6nm,0.3s,baz=338,slow=15,SNR=42						
VRAC				Lg	Lg	03 21 12.1	
	comp=Z,11nm,0.3s,baz=72,slow=23,SNR=8.2						
VRAC	**Vranov**	**2.35**	**172**	⇑P	**Pn**	**03 20 39.4**	**+0.2**
VRAC				⇑S	**Sb**	**03 21 13.0**	**+0.9**
VRAC	**Vranov**	**2.35**	**172**	*e*PN	**Pn**	**03 20 39.4**	**+0.2**
VRAC				*e*SG	**Sb**	**03 21 12.5**	**+0.3**
VRAC	**Vranov**	**2.35**	**172**	*e*Pn	**Pn**	**03 20 39.3**	**+0.2**
	baz=354						
VRAC				*e*Sg	**Sb**	**03 21 12.4**	**+0.3**
	comp=Z,52nm,0.4s,baz=354						
PBCC	**Pribram**	**2.38**	**215**	⇓*e*SG	**Sb**	**03 21 14.1**	**+1.3**
TREC	**Trest**	**2.38**	**190**	⇓*e*PN	**Pn**	**03 20 39.9**	**+0.3**
TREC				*e*PG	**Pb**	**03 20 43.6**	**+0.6**
KRUC	**Moravsky**	**2.59**	**176**	*e*PN	**Pn**	**03 20 42.6**	**+0.2**
KRUC				*e*SG	**Sb**	**03 21 19.7**	**+0.9**
KRUC	**Moravsky**	**2.59**	**176**	*e*Pn	**Pn**	**03 20 42.5**	**+0.2**
	baz=357						
KRUC				*e*Sg	**Sb**	**03 21 19.6**	**+0.8**
	comp=Z,49nm,0.5s,baz=357						
TANN	**Tannenbergstha**	**2.62**	**243**	*e*Pn	**Pn**	**03 20 43.2**	**+0.4**
TANN				*e*Pg	**Pg**	**03 20 49.6**	**+0.2**
TANN				*e*Sg	**Sg**	**03 21 22.1**	**-1.2**
WERD	**Werda**	**2.69**	**245**	*e*Pn	**Pn**	**03 20 44.0**	**+0.3**
WERD				*e*Pg	**Pg**	**03 20 50.0**	**-0.8**
WERD				*e*Sg	**Sg**	**03 21 24.0**	**-1.6**
NKC	**Novy Kostel**	**2.72**	**240**	⇓*e*PN	**Pn**	**03 20 44.7**	**+0.5**
NKC				*e*PG	**Pg**	**03 20 50.9**	**-0.4**
NKC				*e*SG	**Sg**	**03 21 26.1**	**-0.4**
	comp=Z,157nm,0.5s						
OJC	**Ojcow**	**2.73**	**120**	*e*Pn	**Pn**	**03 20 43.2**	**-1.1**
OJC				*e*Pg	**Pg**	**03 20 53.0**	**+1.5**
OJC				*e*Sg	**Sg**	**03 21 28.2**	**+1.4**
JAVC	**Velka Javorina**	**2.96**	**160**	*e*PN	**Pn**	**03 20 47.6**	**+0.1**
JAVC				*e*SG	**Sb**	**03 21 31.3**	**+1.8**
JAVC	**Velka Javorina**	**2.96**	**160**	*e*Pn	**Pn**	**03 20 47.6**	**+0.1**
	baz=341						
JAVC				*e*Sg	**Sb**	**03 21 31.3**	**+1.8**
	comp=Z,53nm,0.7s,baz=341						
KHC	**Kasperske Hory**	**2.99**	**214**	⇓*e*PN	**Pn**	**03 20 47.9**	**-0.1**
KHC				*e*PG	**Pb**	**03 20 54.0**	**+0.6**
KHC				*e*SG	**Sg**	**03 21 34.1**	**-1.3**
	comp=Z,30nm,0.4s						
MOX	**Moxa**	**3.01**	**252**	*e*Pn	**Pn**	**03 20 48.4**	**+0.3**
MOX				*e*Pg	**Pg**	**03 20 57.2**	**+0.3**
MANZ	**Manzenberg**	**3.04**	**239**	*e*Pn	**Pn**	**03 20 49.2**	**+0.6**
MANZ				*e*Pg	**Pg**	**03 20 57.7**	**+0.2**
MANZ				*e*Sg	**Sg**	**03 21 36.2**	**-0.5**
CKRC	**Cesky Krumlov**	**3.06**	**203**	⇓*e*PN	**Pn**	**03 20 49.5**	**+0.7**
CKRC				*e*SG	**Sg**	**03 21 35.9**	**-1.4**
	comp=Z,46nm,0.5s						
GEC2	**GERESS Array S**	**3.20**	**210**	*e*Pn	**Pn**	**03 20 51.1**	**+0.2**
GEC2				*e*Pg	**Pg**	**03 20 59.9**	**-0.6**
GEC2				*e*Sg	**Sb**	**03 21 38.9**	**+2.3**
GERES	**GERESS Array B**	**3.20**	**210**	Pn	**Pn**	**03 20 50.8**	**-0.1**
	comp=Z,4.2nm,0.3s,baz=31,slow=13,SNR=109						
GERES				Pg	**Pb**	**03 20 57.8**	**+0.8**
	comp=Z,12nm,0.3s,baz=32,slow=16,SNR=32						
GERES				Sn	**Sn**	**03 21 27.2**	**-2.5**
	comp=Z,5.5nm,0.3s,baz=43,slow=24,SNR=5.6						
GERES				Lg	Lg	03 21 39.3	
	comp=Z,13nm,0.3s,baz=33,slow=27,SNR=12						
SMOL	**Smolenice**	**3.24**	**164**	*e*PG	**Pg**	**03 21 00.9**	**-0.4**
SMOL				*e*SG	**Sg**	**03 21 44.7**	**+1.4**
SMOL				*e*LG	Lg	03 21 48.2	
LANS	**Liptovska Anna**	**3.29**	**138**	*e*PN	**Pn**	**03 20 52.7**	**+0.7**
LANS				*e*PG	**Pg**	**03 21 01.5**	**-0.7**
LANS				*e*SG	**Sg**	**03 21 44.2**	**-0.5**
LANS				*e*LG	Lg	03 21 56.9	
MODS	**Modra-Piesok**	**3.35**	**167**	*e*PN	**Pn**	**03 20 52.7**	**-0.2**
MODS				*e*PG	**Pg**	**03 21 02.4**	**-1.1**
MODS				*e*SG	**Sg**	**03 21 46.1**	**-0.8**
MODS				*e*LG	Lg	03 21 52.8	
NIE	**Niedzica**	**3.47**	**128**	*e*Pn	**Pn**	**03 20 55.5**	**+1.0**
NIE				*e*Pg	**Pg**	**03 21 07.1**	**+1.4**
NIE				*e*Sg	**Sg**	**03 21 51.9**	**+1.2**
ZST	**Bratislava**	**3.51**	**169**	*e*PG	**Pg**	**03 21 05.4**	**-1.0**
ZST				*e*SG	**Sg**	**03 21 51.5**	**-0.3**
ZST				*e*LG	Lg	03 21 55.0	
CLZ	**Clausthal**	**3.58**	**275**	*e*Pn	**Pn**	**03 20 57.6**	**+1.6**
CLZ				*e*Sg	**Sg**	**03 21 55.9**	**+1.7**
VYHS	**Vyhne**	**3.60**	**150**	*e*PN	**Pn**	**03 20 56.2**	**-0.1**
VYHS				*e*PG	**Pg**	**03 21 09.7**	**+1.5**
VYHS				*e*SG	**Sg**	**03 21 56.1**	**+1.2**
CONA	**Conrad Observa**	**3.72**	**183**	*i* Pn	**Pn**	**03 20 58.6**	**+0.7**
	comp=Z,7.1nm,0.4s,SNR=19						
CONA				*i* Pg	**Pg**	**03 21 09.7**	**-0.8**
	comp=Z,15nm,0.3s						
CONA				*i* Sg	**Sg**	**03 21 58.9**	**+0.2**
	comp=Z,37nm,0.5s						
MOA	**Molln**	**3.98**	**198**	*i* Pn	**Pn**	**03 21 02.0**	**+0.5**
	comp=Z,23nm,0.3s,SNR=67						
MOA				*e*Sg	**Sg**	**03 22 05.1**	**-2.0**
	comp=Z,28nm,0.5s						
LUNU	**Lund**	**4.30**	**339**	P	**Pn**	**03 21 05.7**	**-0.2**
LUNU				S	**Sn**	**03 21 54.8**	**-1.9**
CRVS	**Cervenica-Dubn**	**4.39**	**127**	*e*PN	**Pn**	**03 21 09.1**	**+2.0**
CRVS				*e*PG	**Pg**	**03 21 24.6**	**+1.4**
ARSA	**Arzberg**	**4.41**	**185**	*i* Pn	**Pn**	**03 21 09.0**	**+1.5**
	comp=Z,6.0nm,0.3s						
ARSA				*i* Pg	**Pg**	**03 21 22.2**	**-1.6**
	comp=Z,8.3nm,0.3s						
ARSA				*e*Sg	**Sg**	**03 22 17.1**	**-3.8**
	comp=Z,28nm,0.6s						
KOLS	**Kolonicke sedl**	**4.78**	**122**	*e*PN	**Pn**	**03 21 12.6**	**+0.1**
KOLS				*e*PG	**Pg**	**03 21 33.9**	**+3.0**
KOLS				*e*SG	**Sg**	**03 22 33.1**	**+0.3**
BJUU	**Bjuv**	**4.81**	**339**	P	**Pn**	**03 21 12.5**	**-0.3**
BJUU				S	**Sn**	**03 22 07.3**	**-1.8**
KBA	**Koelnbreinsper**	**4.91**	**203**	*i* Pn	**Pn**	**03 21 15.2**	**+0.8**
	comp=Z,12nm,0.4s,SNR=28						
KBA				*e*Sg	**Sg**	**03 22 40.0**	**+3.0**
	comp=Z,35nm,0.8s						
DEL	**Delary**	**5.02**	**346**	P	**Pn**	**03 21 16.0**	**+0.3**
DEL				S	**Sn**	**03 22 12.4**	**-1.9**
SOKA	**Soboth**	**5.02**	**189**	*i* Pn	**Pn**	**03 21 17.5**	**+1.7**
	comp=Z,2.1nm,0.3s,SNR=5.4						
SOKA				*e*Pg	**Pg**	**03 21 32.8**	**-2.6**
	comp=Z,5.0nm,0.4s						
SOKA				*e*Sg	**Sg**	**03 22 38.8**	**-1.6**
	comp=Z,12nm,0.5s						
WATA	**Walderalm**	**5.23**	**216**	*i* Pn	**Pn**	**03 21 20.0**	**+1.3**
	comp=Z,2.6nm,0.3s						
WATA				*e*Sg	**Sb**	**03 22 35.5**	**+0.6**
	comp=Z,7.7nm,0.4s						
OBKA	**Obir**	**5.24**	**192**	*i* Pn	**Pn**	**03 21 19.7**	**+0.8**
	comp=Z,1.6nm,0.4s						
OBKA				*e*Sg	**Sg**	**03 22 48.0**	**+0.5**
	comp=Z,22nm,0.8s						
WTTA	**Wattenberg**	**5.27**	**215**	*i* Pn	**Pn**	**03 21 20.9**	**+1.6**
	comp=Z,2.6nm,0.3s,SNR=4.1						
WTTA				*e*Sg	**Sb**	**03 22 41.3**	**+5.2**
	comp=Z,17nm,0.5s						
MYKA	**Terra Mystica**	**5.27**	**199**	*e*Pn	**Pn**	**03 21 21.1**	**+1.8**
	comp=Z,1.7nm,0.4s						
MYKA				*e*Sg	**Sb**	**03 22 41.3**	**+5.2**
	comp=Z,6.5nm,0.5s						
MOTA	**Moosalm**	**5.40**	**219**	*i* Pn	**Pn**	**03 21 21.2**	**+0.1**
	comp=Z,2.3nm,0.3s						
MOTA				*e*Sg	**Sg**	**03 22 47.3**	**-5.4**
	comp=Z,12nm,0.8s						
RETA	**Reutte**	**5.43**	**222**	*i* Pn	**Pn**	**03 21 21.4**	**0.0**
	comp=Z,1.8nm,0.4s,SNR=6.1						
RETA				*e*Sg	**Sg**	**03 22 54.2**	**+0.7**
	comp=Z,19nm,0.7s						
ABTA	**Abfaltersbach**	**5.44**	**207**	*i* Pn	**Pn**	**03 21 22.6**	**+0.9**
	comp=Z,2.3nm,0.4s,SNR=6.1						
ABTA				*i* Pg	**Pb**	**03 21 33.3**	**-1.8**
	comp=Z,5.9nm,0.4s						
ABTA				*e*Sg	**Sg**	**03 22 56.6**	**+2.7**
	comp=Z,21nm,0.8s						
SQTA	**Sankt Quirin**	**5.46**	**218**	*i* Pn	**Pn**	**03 21 23.4**	**+1.5**
	comp=Z,3.4nm,0.2s,SNR=6.4						
FETA	**Feichten**	**5.81**	**219**	*i* Pn	**Pn**	**03 21 29.3**	**+2.5**
	comp=Z,2.1nm,0.6s						
FETA				*e*Sg	**Sg**	**03 23 06.9**	**+1.0**
	comp=Z,6.6nm,0.8s						
GNOU	**Gnosjoe**	**5.83**	**347**	P	**Pn**	**03 21 27.6**	**+0.7**
GNOU	**Gnosjoe**	**5.83**	**347**	P	**Pn**	**03 21 27.6**	**+0.7**
DAVA	**Damuels**	**5.96**	**225**	*i* Pn	**Pn**	**03 21 28.5**	**-0.3**
	comp=Z,1.5nm,0.2s						
DAVA				*e*Sg	**Sg**	**03 23 15.7**	**+5.1**
	comp=Z,30nm,1.0s						
DAVOX	**Davos/Dischmat**	**6.35**	**222**	Pn	**Pn**	**03 21 35.1**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=39,slow=18,SNR=6.8						
DRGR		**6.49**	**136**	⇓P	**Pn**	**03 21 36.9**	**+0.9**
CDF	**Champ du Feu**	**6.55**	**244**	*e*Pn	**Pn**	**03 21 36.7**	**-0.2**
CDF				*e*Sg	**Sb**	**03 23 20.4**	**+7.5**
	comp=Z,40nm,1.0s						
BZS	**Buzias**	**7.04**	**147**	⇓P	**Pn**	**03 21 45.1**	**+1.6**
HINF	**Hinteralfeld**	**7.12**	**241**	*e*Pn	**Pn**	**03 21 44.1**	**-0.6**
HINF	**Hinteralfeld**	**7.12**	**241**	*e*P	**Pn**	03 21 49.5	+4.8
HINF				*e*Sg	**Sb**	**03 23 33.9**	**+4.7**
	comp=Z,19nm,0.8s						
BURAR	**Bucovina Array**	**7.15**	**121**	⇑P	**Pn**	**03 21 45.8**	**+0.7**
HAU	**Haudompre**	**7.29**	**244**	*e*Pn	**Pn**	**03 21 46.5**	**-0.5**
HAU				*e*Sg	**Sb**	**03 23 38.2**	**+4.0**
	comp=Z,23nm,0.8s						
GIVF	**Givet**	**7.32**	**262**	*e*P	**Pn**	**03 21 51.2**	**+3.9**
PAGF	**Fort de Pagny**	**7.37**	**249**	*e*Pn	**Pn**	**03 21 47.5**	**-0.5**
	baz=72						
BAIF	**Baives**	**7.71**	**263**	*e*P	**Pn**	**03 21 56.9**	**+4.3**
SFTF	**Sexfontaines**	**7.94**	**249**	*e*Sg	**Sb**	**03 23 53.4**	**+0.8**
	comp=Z,2.1nm,0.3s						
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**03 21 59.6**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=280,slow=12,SNR=7.6						
HFS	**Hagfors**	**8.62**	**352**	Pn	**Pn**	**03 22 04.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=164,slow=14,SNR=7.4						
LPL	**La Plagne**	**8.73**	**229**	*e*Pn	**Pn**	**03 22 05.6**	**-1.3**
LPL				*e*Sg	Sg	03 24 28.2	-11
	comp=Z,0.7nm,0.2s						
LPG	**La Plagne**	**8.74**	**229**	*e*Pn	**Pn**	**03 22 05.8**	**-1.2**
LPG				*e*Sg	Sg	03 24 28.6	-11
	comp=Z,0.4nm,0.2s						
LOR	**Lormes**	**9.11**	**246**	*e*Pn	**Pn**	**03 22 11.3**	**-0.5**
	baz=73						
MBDF	**Montbardon**	**9.31**	**226**	*e*Pn	**Pn**	**03 22 12.3**	**-2.5**
MBDF	**Montbardon**	**9.31**	**226**	*e*P	**Pn**	**03 22 18.1**	**+3.3**
MBDF				*e*Sg	Sn	03 24 46.4	+46
	comp=Z,0.2nm,0.2s						
SSF	**Saint Saulge**	**9.42**	**246**	*e*Pn	**Pn**	**03 22 15.4**	**-0.7**
ORIF	**Oris-en-Rattie**	**9.58**	**229**	*e*Pn	**Pn**	**03 22 17.6**	**-0.8**
SBF	**Sospel**	**9.73**	**220**	*e*Pn	**Pn**	**03 22 16.9**	**-3.5**
SBF	**Sospel**	**9.73**	**220**	*e*P	**Pn**	**03 22 21.4**	**+1.0**
NOA	**NORSAR Array B**	**9.80**	**346**	Pn	**Pn**	**03 22 19.2**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=161,slow=12,SNR=5.4						
FRF	**La Foret Royal**	**10.30**	**222**	*e*P	**Pn**	**03 22 30.1**	**+1.9**
FINES	**FINESS Array B**	**11.24**	**25**	Pn	**Pn**	**03 22 39.4**	**-1.6**
	comp=Z,2.0nm,0.3s,baz=212,slow=11,SNR=11						
FINES				Sn	**Sn**	**03 24 42.7**	**-4.5**
	comp=Z,0.6nm,0.3s,baz=216,slow=22,SNR=7.1						
EKA	**Eskdalemuir Ar**	**12.06**	**295**	Pn	**Pn**	**03 22 49.2**	**-2.9**
	baz=101,slow=14,SNR=5.1						
ASF	**Jabal al Asfar**	**24.69**	**134**	LR	LR	03 36 54.3	
	comp=Z,7.1nm,19.4s,baz=38,slow=41						
YKA	**Yellowknife Ar**	**59.74**	**336**	P	**P**	**03 30 06.9**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=34,slow=6.6,SNR=7.2						
PDAR	**Pinedale Array**	**74.84**	**322**	P	**P**	**03 31 42.7**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=58,slow=6.8,SNR=2.5						

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*IDC **13** 03:33:32.9±2.5, 19°69S×177°73W, h360km±30km, mb3.4/8, mb1 3.6/10, mb1mx3.3/30, mbtmp4.2/10, Error ellipse: s-maj=22.2km s-min=15.5km az=133.0*
ISC 13 03:33:34.3±0.9, 19°6S±0°2×177°5W±0°2, h400km, n10, σ1§61/9, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.83**	**45**	P	**P**	**03 35 28.7**	**+0.7**
	5.2nm,0.3s,baz=180,slow=3.0,SNR=2.3						
AFI				S	**S**	**03 36 57.8**	**-2.3**
	8.5nm,0.3s,baz=42,slow=18,SNR=5.7						
URZ	**Urewera**	**19.21**	**193**	P	**P**	**03 37 29.8**	**-1.4**
	1.2nm,0.3s,baz=263,slow=1.8,SNR=8.5						
CTA	**Charters Tower**	**34.11**	**263**	P	**P**	**03 39 43.9**	**+0.2**
	11nm,0.5s,baz=94,slow=9.7,SNR=19						
STKA	**Stephens Creek**	**38.66**	**243**	P	**P**	**03 40 20.5**	**-1.0**
	2.1nm,0.4s,baz=91,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**45.24**	**256**	P	**P**	**03 41 13.6**	**-0.6**
	4.8nm,0.5s,baz=96,slow=8.4,SNR=90						
WRA	**Warramunga Arr**	**45.25**	**261**	P	**P**	**03 41 13.4**	**-0

ONI	**Oni**	**1.61**	**274**	P	**Pg**	**03 37 53.5**	**-0.8**
BKRG	**Bakuriani**	**1.74**	**245**	P	**Pg**	**03 37 56.4**	**-0.3**
BKRG				S	**Sg**	**03 38 20.0**	**+0.7**
TKB	**Tkibuli**	**1.96**	**266**	P	**Pg**	**03 37 59.8**	**-1.2**
TKB				S	**Sg**	**03 38 25.4**	**-0.9**
BGD	**Bogdanovka**	**1.96**	**231**	P	**Pb**	**03 37 57.6**	**-1.4**
BGD				S	**Sg**	**03 38 26.1**	**-0.4**
KBTC	**Kuba-Taba**	**2.09**	**309**	*e*Pg	**Pg**	**03 38 02.0**	**-1.3**
KBTC				*e*Sg	**Sg**	**03 38 28.3**	**-2.1**
ABS	**Abastumani**	**2.23**	**251**	P	**Pb**	**03 38 04.2**	**+0.7**
ABS				S	**Sg**	**03 38 33.5**	**-1.5**
NEY	**Neytrino**	**2.26**	**290**	*e*Pn	**Pb**	**03 38 04.4**	**+0.3**
NEY				*e*Sn	**Sg**	**03 38 34.0**	**-2.1**

JMA ***13*** *03:51:34.0±0.1, 38°.69N×142°.27E, h38km±1km, M4.0*
JMA Felt I J1.
IDC ***13*** *03:51:34.8±0.8, 38°.61N×142°.24E, h47km±8km, mb3.5/15, mb1 3.7/19, mb1mx3.6/34, mbtmp3.8/19, ML3.2/4, MS3.1/5, Ms1 3.1/5, ms1mx2.8/44, Error ellipse: s-maj=18.1km s-min=15.5km az=104.0*
NIED ***13*** *03:51:34.0, 38°.70N×142°.27E, h38km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.83; $M_{\theta\theta}$0.38; $M_{\phi\phi}$-4.21; $M_{r\theta}$5.92; $M_{\theta\phi}$-1.93; $M_{r\phi}$4.72; Fault plane solution: $M_0$8.79000×10^{14} NP1:ϕ_s47.00000°, δ77.00000°, λ106.00000°. NP2:ϕ_s175.00000°, δ21.00000°, λ40.00000°.*

ISC 13 03:51:33.8±0.8, 38°.67N±0°.04×142°.24E±0°.06, h33km±2km, n38, σ1§18/45, mb3.8/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.61**	**313**	P		**Pb**	**03 51 46.2**	**0.0**
OFUJ				S		**Sn**	**03 51 54.7**	**-0.1**
JKMT	**Kesennumamotoy**	**0.62**	**284**	P		**Pb**	**03 51 46.5**	**+0.2**
JKMT				S		**Sn**	**03 51 55.0**	**0.0**
JIKH	**Ishinomakikobu**	**0.71**	**240**	P		**Pb**	**03 51 47.9**	**+0.1**
JIKH				S		**Sb**	**03 51 57.6**	**+0.3**
JIO	**Ouri**	**0.73**	**253**	P		**Pb**	**03 51 48.2**	**0.0**
JIO				S		**Sb**	**03 51 58.0**	**0.0**
JMK	**Ichinoseki**	**0.85**	**290**	P		**Pb**	**03 51 49.9**	**-0.3**
JMK				S		**Sb**	**03 52 01.2**	**-0.1**
JOM	**Ohasama**	**1.09**	**318**	P		**Pn**	**03 51 53.3**	**+0.5**
JOM				S		**Sb**	**03 52 07.3**	**-1.0**
JOU	**Okura**	**1.27**	**257**	P		**Pb**	**03 51 56.3**	**-1.0**
JOU				S		**Sb**	**03 52 12.8**	**-0.6**
JTH	**Tanohata**	**1.30**	**347**	P		**Pn**	**03 51 55.6**	**-0.1**
JTH				*e*S		**Sn**	**03 52 12.1**	**+0.1**
JMM	**Marumori**	**1.39**	**235**	P		**Pn**	**03 51 57.7**	**+0.8**
JMM				S		**Sb**	**03 52 14.8**	**-2.0**
JRG	**Rokugo**	**1.45**	**301**	P		**Pn**	**03 51 58.6**	**+0.9**
JYK	**Kaneyama**	**1.49**	**280**	P		**Pb**	**03 51 59.3**	**-1.7**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=34,slow=14,SNR=27	**3.84**	**238**	P		**Pn**	**03 52 31.6**	**+0.9**
MJAR	0.5nm,0.3s,baz=54,slow=30,SNR=4.9			S		**Sb**	**03 53 25.5**	**-1.5**
MJAR	comp=Z,78nm,21.2s,baz=95,slow=41			LR		LR	03 54 09.9	
MAT	**Matsushiro**	**3.84**	**238**	P		**Pn**	**03 52 34.8**	**+4.2**
MAT				S		**Sn**	**03 53 14.6**	**-0.1**
ASAJ	**Asahikawa** 2.0nm,0.3s,baz=208,slow=18,SNR=16	**5.45**	**3**	P		**Pn**	**03 52 53.6**	**+0.9**
ASAJ	comp=Z,127nm,19.5s,baz=141,slow=42			LR		LR	03 55 27.2	
USRK	**Ussuriysk Ar.** baz=118,slow=14,SNR=14	**9.48**	**309**	P		**Pn**	**03 53 51.0**	**+3.1**
KSRS	**Korea Array** comp=Z,41nm,20.5s,baz=274,slow=37	**11.36**	**268**	LR		LR	03 58 34.6	
KLR	**Kul'dur** 0.1nm,0.3s,baz=135,slow=7.1,SNR=2.1	**12.97**	**328**	P		**Pn**	**03 54 37.4**	**+1.7**
KLR	comp=Z,150nm,18.3s,baz=78,slow=36			LR		LR	03 59 30.5	
SEY	**Seymchan** 2.9nm,0.7s,baz=207,slow=7.3,SNR=8.3	**25.07**	**11**	P		**P**	**03 56 55.1**	**+0.3**
SONM	**Songino Array** 0.4nm,0.6s,baz=94,slow=9.4,SNR=2.7	**27.46**	**301**	P		**P**	**03 57 17.0**	**+0.2**
SONM	comp=Z,137nm,18.3s,baz=342,slow=38			LR		LR	04 09 09.5	
H11N2	**WAKE ISLAND Hy** baz=317,slow=75,SNR=224	**28.47**	**124**	T		T	04 27 52.2	
H11N1	**WAKE ISLAND Hy** baz=317,slow=75,SNR=201	**28.48**	**125**	T		T	04 27 52.9	
H11N3	**WAKE ISLAND Hy** baz=317,slow=75,SNR=77	**28.49**	**124**	T		T	04 27 53.1	
H11S1	**WAKE ISLAND Hy** baz=318,slow=76,SNR=16	**29.25**	**126**	T		T	04 28 43.2	
H11S3	**WAKE ISLAND Hy** baz=318,slow=76,SNR=22	**29.25**	**127**	T		T	04 28 52.2	
H11S2	**WAKE ISLAND Hy** baz=318,slow=76,SNR=15	**29.26**	**126**	T		T	04 28 52.8	
ZALV	**Zalesovo Beam** 1.9nm,0.5s,baz=90,slow=9.7,SNR=7.6	**41.32**	**311**	P		**P**	**03 59 16.0**	**-0.1**
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=83,slow=10,SNR=12	**43.83**	**301**	P		**P**	**03 59 36.5**	**-0.1**
ILAR	**Eielson Array** 0.4nm,0.6s,baz=260,slow=6.3,SNR=7.0	**47.77**	**33**	P		**P**	**04 00 06.8**	**-0.6**
ILAR	0.7nm,0.8s,baz=268,slow=6.0,SNR=4.1			pP		**sP**	**04 00 20.9**	**-0.1**
WRA	**Warramunga Ar** 0.5nm,0.7s,baz=7.0,slow=7.1,SNR=3.1	**58.77**	**189**	P		**P**	**04 01 27.6**	**-1.1**
WRA	1.7nm,1.0s,baz=6.5,slow=7.0,SNR=4.5			pP		**pP**	**04 01 40.3**	**+1.7**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=14,slow=8.7,SNR=2.3	**62.50**	**189**	P		**P**	**04 01 53.7**	**-0.3**
ASAR	0.5nm,0.7s,baz=16,slow=6.8,SNR=3.5			pP		**pP**	**04 02 05.7**	**+1.6**
FINES	**FINESS Array B** 1.8nm,0.8s,baz=54,slow=7.1,SNR=2.4	**67.68**	**332**	P		**P**	**04 02 26.2**	**-1.0**
KBZ	**Khabaz** 2.3nm,0.9s,baz=23,slow=6.2,SNR=2.6	**70.34**	**311**	P		**P**	**04 02 43.5**	**-0.6**
NOA	**NORSAR Array B** 0.8nm,0.6s,baz=40,slow=5.9,SNR=2.6	**72.94**	**337**	P		**P**	**04 02 58.5**	**-1.0**
AKASG	**Malin Array Be** 0.6nm,0.4s,baz=43,slow=5.8,SNR=7.0	**73.41**	**322**	P		**P**	**04 03 01.2**	**-1.1**
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=240,slow=8.7,SNR=4.2	**73.49**	**54**	P		**P**	**04 03 04.2**	**+0.8**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=349,slow=1.5,SNR=3.8	**76.06**	**46**	P		**P**	**04 03 17.2**	**-0.9**
BRTR	**Keskin Array B** 0.2nm,0.4s,baz=80,slow=2.8,SNR=2.2	**78.26**	**312**	P		**P**	**04 03 29.9**	**-0.6**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=258,slow=2.7,SNR=2.5	**88.61**	**53**	P		**P**	**04 04 24.1**	**+0.3**

MOS ***13*** *04:11:05.0±0.8, 56°.02N×113°.95E, h8km, mb3.6/1, Error ellipse: s-maj=14.1km s-min=8.8km az=63.3*
IDC ***13*** *04:11:05.9±1.9, 55°.92N×114°.13E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.3/46, mbtmp3.4/6, ML2.9/2, Error ellipse: s-maj=49.8km s-min=21.2km az=135.0*
BYKL ***13*** *04:11:06.1±0.2, 56°.12N×113°.91E, h10km±3km*

ISC 13 04:11:06.3±0.6, 56°.04N±0°.02×113°.90E±0°.02, h10km, n49, σ2§59/93, mb3.4/4, 9C-2D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.20**	**291**	⇑*i*P		**Pg**	**04 11 10.0**	**-0.5**
SVKR				*e*Sg		**Sg**	**04 11 13.2**	**-0.2**
SVKR	2μm,0.2s			Pmax				
SVKR	21μm,0.7s			Smax				
SVKR	**Severomuysk**	**0.20**	**291**	⇑*i*PG		**Pg**	**04 11 10.0**	**-0.5**
SVKR				eS		**Sg**	**04 11 12.8**	**-0.7**
UKT	**Uakit**	**0.58**	**195**	⇑*i*Pg		**Pg**	**04 11 17.0**	**-0.5**
UKT				*e*Sg		**Sg**	**04 11 25.3**	**+0.3**
UKT	273nm,0.5s			Pmax				
UKT	900nm,0.3s			Smax				
UKT	**Uakit**	**0.58**	**195**	⇑*i*PG		**Pg**	**04 11 17.0**	**-0.5**
UKT				eS		**Sg**	**04 11 25.4**	**+0.4**
NLYR	**Nelyaty**	**1.10**	**65**	⇑*i*Pg		**Pg**	**04 11 25.4**	**-2.0**
NLYR				*e*Pb		**Pn**	**04 11 27.3**	**-0.5**
NLYR				*e*Sg		**Sg**	**04 11 39.9**	**-1.9**
NLYR	655nm,0.3s			max				
NLYR	1μm,0.8s			Smax				
NLYR	**Nelyaty**	**1.10**	**65**	⇑*i*PG		**Pg**	**04 11 25.4**	**-2.0**
NLYR				*e*			04 11 39.7	
NLYR	comp=Z,651nm,0.3s			pmax		pmax		
NLYR	comp=N,1μm,1.0s			smax		smax		
YOA	**Uoyan**	**1.22**	**275**	*e*Pg		**Pn**	**04 11 28.2**	**-1.2**
YOA				*e*Sg		**Sb**	**04 11 44.4**	**-0.8**
YOA				*e*			04 11 51.7	
YOA				Pmax				
YOA	comp=N,2μm,0.5s			max				
YOA	**Uoyan**	**1.22**	**275**	*e*PG		**Pn**	**04 11 28.1**	**-1.3**
YOA				*e*			04 11 45.1	
YOA	comp=Z,429nm,0.2s			pmax		pmax		
YOA	comp=N,2μm,0.6s			smax		smax		
KMO	**Kumora**	**1.52**	**265**	*e*Pg		**Pn**	**04 11 33.5**	**0.0**
KMO				*e*Pb		**Pg**	**04 11 34.8**	**-0.7**
KMO				*e*			04 11 37.2	
KMO				*e*Sg		**Sn**	**04 11 53.6**	**+0.2**
KMO				*e*Sb		**Sg**	**04 11 55.3**	**+0.1**
KMO	comp=N,456nm,0.5s			max				
KMO	comp=N,2μm,0.8s			smax				
KMO	**Kumora**	**1.52**	**265**	*e*PG		**Pn**	**04 11 33.3**	**-0.2**
KMO				*e*			04 11 53.9	
KMO	comp=Z,302nm,0.4s			pmax		pmax		
KMO	comp=N,2μm,0.9s			smax		smax		
BOD	**Bodaibo**	**1.78**	**2**	⇑*i*Pg		**Pn**	**04 11 37.0**	**-0.1**
BOD				*e*Sg		**Sb**	**04 11 59.8**	**-1.5**
BOD	comp=N,229nm,0.3s			Pmax				
BOD	comp=N,793nm,0.5s			Smax				
BOD	**Bodaibo**	**1.78**	**2**	⇑*i*PN		**Pn**	**04 11 37.0**	**-0.1**
BOD				*e*			04 12 00.4	
BOD	comp=Z,221nm,0.2s			pmax		pmax		
BOD	comp=E,739nm,0.4s			smax		smax		
YLYR	**Ulyunkhan**	**1.95**	**234**	*e*Pn		**Pn**	**04 11 38.9**	**-0.5**
YLYR				*e*Pg		**Pb**	**04 11 41.5**	**-0.3**
YLYR				*e*Sg		**Sg**	**04 12 08.2**	**-0.6**
YLYR	comp=E,135nm,0.4s			Pmax				
YLYR	comp=E,683nm,0.4s			Smax				
YLYR	**Ulyunkhan**	**1.95**	**234**	*e*PN		**Pn**	**04 11 38.7**	**-0.7**
YLYR				*e*			04 11 41.0	
YLYR				*e*S		**Sb**	**04 12 05.6**	**-0.5**
YLYR				*e*			04 12 08.5	
YLYR	comp=E,104nm,0.2s			pmax		pmax		
YLYR	comp=E,684nm,0.3s			smax		smax		
NIZ	**Nizh Angarsk**	**2.47**	**266**	*e*Pn		**Pn**	**04 11 47.3**	**+0.8**
NIZ				*e*Pg		**Pb**	**04 11 50.7**	**+0.1**
NIZ				*e*			04 12 20.2	
NIZ				*e*Sg		**Sg**	**04 12 23.6**	**-1.8**
NIZ	comp=E,55nm,0.4s			Pmax				
NIZ	comp=E,316nm,0.7s			Smax				
NIZ	**Nizh Angarsk**	**2.47**	**266**	*e*PN		**Pb**	**04 11 49.4**	**-1.2**
NIZ				*e*			04 12 23.7	
NIZ	comp=Z,46nm,0.5s			pmax		pmax		
NIZ	comp=N,246nm,0.5s			smax		smax		
CRS	**Chara**	**2.57**	**69**	⇓*i*Pn		**Pn**	**04 11 48.1**	**+0.1**
CRS				⇓*i*Pg		**Pb**	**04 11 52.2**	**-0.3**
CRS				*e*Sg		**Sg**	**04 12 25.5**	**-3.3**
CRS	comp=N,576nm,0.6s			Pmax				
CRS	comp=N,391nm,0.6s			Smax				
CRS	**Chara**	**2.57**	**69**	*e*PN		**Pn**	**04 11 48.0**	**+0.1**
CRS				*e*			04 11 52.1	
CRS				*e*			04 12 25.1	
CRS	comp=Z,184nm,0.6s			pmax		pmax		
CRS	comp=E,383nm,0.7s			smax		smax		
SYVR	**Suvo**	**3.29**	**225**	*e*Pn		**Pn**	**04 11 58.6**	**+0.9**
SYVR				*e*Pg		**Pb**	**04 12 06.1**	**+1.5**
SYVR				*e*Sg		**Sg**	**04 12 49.2**	**-2.5**
SYVR	comp=E,61nm,1.3s			Pmax				
SYVR	comp=E,344nm,1.2s			Smax				
SYVR	**Suvo**	**3.29**	**225**	*e*PN		**Pn**	**04 11 58.8**	**+1.1**
SYVR				eS		**Sg**	**04 12 48.7**	**-3.0**
SYVR	comp=N,350nm,1.2s			smax		smax		
VTMR	**Vitim**	**3.48**	**349**	*e*Pn		**Pn**	**04 11 59.9**	**-0.5**
VTMR				*e*Pg		**Pb**	**04 12 06.5**	**-1.4**
VTMR				*e*Sg		**Sb**	**04 12 50.3**	**+0.1**
KHNR	**Khani**	**3.49**	**73**	*e*Pn		**Pn**	**04 12 00.2**	**-0.3**
KHNR				*e*Pg		**Pb**	**04 12 07.1**	**-0.9**
KHNR				*e*Sg		**Sb**	**04 12 51.6**	**+1.2**
TUP	**Tupik**	**3.83**	**113**	*e*Pn		**Pn**	**04 12 05.4**	**+0.2**
TUP				*e*Pg		**Pb**	**04 12 14.6**	**+0.7**
TUP				*e*Sn		**Sn**	**04 12 49.2**	**-1.0**
TUP				*e*Sg		**Sg**	**04 13 04.1**	**-5.0**
TUP				*e*			04 13 18.4	
TUP	comp=N,36nm,0.6s			Pmax				
TUP	comp=N,360nm,0.6s			Smax				
TUP	**Tupik**	**3.83**	**113**	⇑*i*PN		**Pn**	**04 12 05.5**	**+0.2**
TUP				*e*			04 12 14.6	
TUP				*e*S		**Sn**	**04 12 49.3**	**-1.0**
TUP				*e*			04 13 03.4	
TUP	comp=Z,25nm,0.4s			pmax		pmax		
TUP	comp=E,362nm,0.7s			smax		smax		
CIT	**Chita**	**4.04**	**183**	*e*Pg		**Pg**	**04 12 20.3**	**-3.2**
CIT				*e*Sg		**Sg**	**04 13 13.9**	**-1.9**
CIT	comp=E,65nm,0.3s			Pmax				
CIT	comp=E,191nm,0.4s			Smax				
MXMB	**Maximikha**	**4.09**	**229**	*e*Pn		**Pn**	**04 12 09.9**	**+1.1**
MXMB				*e*Pg		**Pb**	**04 12 20.5**	**+2.2**
MXMB				*e*Sg		**Sg**	**04 13 14.5**	**-2.9**
YKLR	**Yuktali**	**4.36**	**80**	*e*		**Pb**	**04 12 22.6**	**-0.2**
YKLR				*e*			04 13 18.8	
YKLR				*e*Sg		**Sg**	**04 13 21.5**	**-4.5**
OGRR	**Ongureny**	**4.36**	**239**	*e*Pn		**Pn**	**04 12 14.0**	**+1.4**
OGRR				*e*Pg		**Pb**	**04 12 25.3**	**+2.3**
OGRR				*e*Sg		**Sg**	**04 13 23.0**	**-3.3**
OGRR	comp=E,24nm,1.0s			Pmax				
OGRR	comp=E,103nm,1.1s			Smax				
OGRR	**Ongureny**	**4.36**	**239**	*e*PN		**Pn**	**04 12 14.5**	**+1.9**
OGRR				*e*			04 12 25.9	
OGRR				*e*			04 13 21.9	
OGRR	comp=Z,22nm,0.6s			pmax		pmax		
OGRR	comp=N,102nm,1.8s			smax		smax		
KELR	**Kotokel**	**4.73**	**228**	*e*Pg		**Pb**	**04 12 32.0**	**+2.8**
KELR				*e*Sg		**Sg**	**04 13 34.6**	**-3.4**
TRG	**Tyrgan**	**5.50**	**236**	*e*		Pn	04 12 33.0	+4.8
TRG				*e*Pg		**Pb**	**04 12 45.5**	**+3.2**
TRG				*e*			04 12 49.1	
TRG				*e*Sg		**Sg**	**04 13 57.2**	**-5.5**
TRG	comp=N,10.0nm,0.5s			max				
TRG	comp=N,59nm,1.1s			Smax				
TRG	**Tyrgan**	**5.50**	**236**	*e*PN		**Pn**	**04 12 28.4**	**+0.2**
TRG				*e*			04 12 44.4	
TRG				*e*S		**Sn**	**04 13 30.1**	**-1.4**
TRG				*e*			04 13 54.7	
TRG	comp=Z,10.0nm,0.5s			pmax		pmax		
TRG	comp=N,58nm,0.9s			smax		smax		
FFNB	**Fofonovo**	**5.80**	**229**	*e*		**Pg**	**04 12 56.3**	**-1.0**
FFNB				*e*Sg		**Sg**	**04 14 08.1**	**-4.3**
STDB	**Stepnoy Dvoret**	**5.89**	**232**	*e*Sg		**Sg**	**04 14 10.3**	**-4.8**
HRMR	**Khuramsha**	**6.04**	**226**	*e*Pn		**Pn**	**04 12 38.6**	**+3.1**
HRMR				*e*Pg		Pb	04 12 56.1	+4.7
HRMR				*e*Sn		**Sn**	**04 13 42.6**	**-2.0**
HRMR				*e*Sg		**Sg**	**04 14 15.1**	**-4.8**
HRMR	comp=N,30nm,0.5s			Pmax				
HRMR	comp=N,315nm,0.9s			Smax				
CLNS	**Chul'man**	**6.15**	**78**	*e*			04 14 04.7	
CLNS				*e*Sg		**Sg**	**04 14 17.2**	**-6.4**
BGT	**Bolshoye Golou**	**6.41**	**235**	*e*Sg		Sn	04 13 35.6	-18
BGT				*e*Sg		**Sg**	**04 14 27.1**	**-4.6**
BGT	comp=N,36nm,0.8s			Smax				
KPC	**Khapcheranga**	**6.42**	**189**	*e*Pn		**Pn**	**04 12 41.7**	**+0.9**
KPC				*e*Pg		Pb	04 13 02.4	+4.4
KPC				*e*Sg		**Sg**	**04 14 26.9**	**-5.2**
KPC	comp=N,15nm,1.0s			Pmax				
KPC	comp=N,116nm,1.2s			Smax				
LSTR	**Listvyanka**	**6.79**	**236**	*e*		**Pg**	**04 13 14.1**	**-2.0**
LSTR				*e*Sg		**Sg**	**04 14 36.5**	**-7.5**
LSTR	comp=N,70nm,1.5s			Smax				
TLY	**Talaya**	**7.47**	**238**	*e*PG		**Pb**	**04 13 20.2**	**+4.3**
TLY				*e*			04 14 56.7	
TLY	comp=Z,17nm,3.8s			pmax		pmax		
TLY	comp=E,27nm,1.2s			smax		smax		
ARS	**Arshan**	**7.92**	**243**	*e*		Pg	04 13 32.5	-5.3
ARS				*e*			04 14 45.1	
ARS				*e*Sg		**Sg**	**04 15 12.3**	**-8.0**
ARS	comp=E,100nm,0.7s			Smax				
ZAK	**Zakamensk**	**8.52**	**233**	*e*		**Pg**	**04 13 50.5**	**+1.2**
ZAK				*e*Sg		**Sg**	**04 15 32.8**	**-6.8**
ZAK	comp=E,34nm,1.3s			Smax				
SONM	**Songino Array** comp=E,0.2nm,0.3s,baz=21,slow=12,SNR=2.4	**9.43**	**212**	Pn		**Pn**	**04 13 23.1**	**+0.9**
SONM	comp=E,0.9nm,0.3s,baz=21,slow=22,SNR=17			Lg		Lg	04 16 01.9	
ZALV	**Zalesovo Beam** comp=E,0.2nm,0.3s,baz=64,slow=10,SNR=1.9	**16.76**	**275**	Pn		**P**	**04 15 04.9**	**+1.8**
MKAR	**Makanchi Array** comp=E,2.1nm,0.9s,baz=56,slow=10.0,SNR=13	**21.60**	**258**	P		**P**	**04 15 59.0**	**+3.0**
FINES	**FINESS Array B** comp=E,2.8nm,1.0s,baz=75,slow=12,SNR=1.9	**42.59**	**315**	P		**P**	**04 19 03.2**	**+1.3**
ILAR	**Eielson Array** comp=E,0.2nm,0.7s,baz=305,slow=5.6,SNR=2.1	**44.82**	**37**	P		**P**	**04 19 20.6**	**+0.8**
YKA	**Yellowknife Ar** comp=E,0.2nm,0.8s,baz=330,slow=6.4,SNR=3.6	**55.91**	**25**	P		**P**	**04 20 46.0**	**+2.3**
YKA	**Yellowknife Ar**	**55.91**	**25**	P		**P**	**04 20 46.0**	**+2.3**

IDC 13 04:15:42.0±4.7, 3°.96S×141°.61E, h91km±28km, mb3.5/3, mb1 3.7/4, mb1mx3.3/36, mbtmp3.9/4, Error ellipse: s-maj=78.5km s-min=18.9km az=87.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 28nm,0.3s,baz=175,slow=9.0,SNR=78	**1.69**	**328**	P		Pn	04 16 11.6	+1.2
JAY	13nm,0.3s,baz=160,slow=14,SNR=6.0			S		Sn	04 16 31.7	-0.2
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=32,slow=12,SNR=33	**17.40**	**203**	P		P	04 19 37.7	-1.4
ASAR	**Alice Springs** 1.3nm,0.5s,baz=27,slow=11,SNR=16	**20.96**	**200**	P		P	04 20 17.1	-0.8
FITZ	**Fitzroy Crossi** 1.2nm,0.4s,baz=38,slow=12,SNR=9.8	**21.02**	**227**	P		P	04 20 19.8	+1.2
MKAR	**Makanchi Array** 1.9nm,0.9s,baz=107,slow=7.7,SNR=7.8	**72.55**	**322**	P		P	04 26 59.3	0.0

NDI ***13*** *04:17:20.4±2.8, 9°.70N×92°.04E, h116km±108km, ML3.7, mb4.1(NEIC)*
NEIC ***13*** *04:17:24.1±1.1, 10°.0N±0°.1×93°.5E±0°.1, h88km±8km, mb4.1/9, Error ellipse: s-maj=24.2km s-min=5.8km az=50.0*
IDC ***13*** *04:17:24.7±3.2, 9°.87N×93°.46E, h102km±27km, mb3.7/12, mb1 3.8/14, mb1mx3.6/47, mbtmp4.0/14, Error ellipse: s-maj=35.0km s-min=12.7km az=57.0*

ISC 13 04:17:24.5±0.5, 9°.89N±0°.06×93°.4E±0°.1, h100km, n46, σ1§12/46, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.88**	**339**	*e*P		Pn	04 17 54.6	-1.0
PBA				eS		Sn	04 18 19.0	-0.2
PBA	comp=N,792nm,0.5s			IAML			04 18 25.1	
PBA	comp=E,543nm,0.0s			IAML			04 18 27.1	
PBA	**Port Blair**	**1.88**	**339**			Pn	04 17 53.4	-2.1
CMBY	**CAMPBELL BAY**	**2.91**	**170**	*e*P		**Pn**	**04 18 06.1**	**-3.0**
CMBY				*e*S		**Sn**	**04 18 43.6**	**+0.2**
CMBY	comp=N,510nm,0.5s			IAML			04 18 46.1	
DGPR	**DIGLIPUR**	**3.30**	**352**	*e*P		**Pn**	**04 18 15.4**	**+1.0**
DGPR				*e*S		**Sn**	**04 18 52.0**	**-0.8**
DGPR	comp=N,203nm,1.0s			IAML			04 18 57.3	
LHMI	**Lhok Sumawe**	**5.80**	**143**			**Pn**	**04 18 50.4**	**+2.2**
PSI	**Prapat** comp=N,1.4nm,0.3s,baz=360,slow=12,SNR=11	**8.92**	**142**	P		**Pn**	**04 19 31.6**	**+0.9**
RPSI	**Rantau Prapat**	**9.00**	**142**			**Pn**	**04 19 32.5**	**+0.8**
RPSI	**Rantau Prapat**	**9.00**	**142**			**Pn**	**04 19 31.6**	**-0.1**
CM31	**Chiang Mai Arr**	**10.06**	**32**	Pn		**Pn**	**04 19 45.0**	**-1.1**
CMAR	**Chiang Mai Arr** comp=N,1.2nm,0.3s,baz=226,slow=15,SNR=29	**10.06**	**32**	P		**Pn**	**04 19 47.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**10.06**	**32**			**Pn**	**04 19 42.6**	**-3.5**
SLVN	**Son La**	**15.20**	**40**			**P**	**04 20 56.2**	**-0.4**
SLVN	comp=Z,9.9nm,0.8s			IAmb		IAmb	04 20 59.7	
SHL	**Shillong**	**15.66**	**355**	Pn		**Pn**	**04 20 58.0**	**-1.8**
RAMN	**Ramite**	**18.15**	**340**	*e*P		**Pn**	**04 21 31.7**	**+1.3**
TAPN	**Taplejung** comp=Z,32nm,0.3s	**18.18**	**344**	*e*P		**Pn**	**04 21 31.3**	**+0.5**
PKI	**Pulchoki**	**19.14**	**338**	*e*P		**P**	**04 21 41.3**	**+1.0**
PKIN	**Phulchoki** comp=Z,104nm,0.6s	**19.15**	**338**	*e*P		**P**	**04 21 41.5**	**+1.2**
GUN	**Gumba**	**19.28**	**339**	*e*P		**Pn**	**04 21 43.3**	**-0.6**
DMN	**Daman** comp=Z,50nm,0.6s	**19.29**	**337**	*e*P		**P**	**04 21 42.6**	**+0.8**
GKN	**Gorkha** comp=Z,64nm,0.3s	**19.82**	**337**	*e*P		**P**	**04 21 48.3**	**+0.8**
H08S3	**Diego Garcia H** baz=51,slow=76,SNR=88	**27.16**	**231**	T		T	04 50 08.0	
H08S2	**Diego Garcia H** baz=51,slow=76,SNR=12	**27.16**	**231**	T		T	04 49 56.0	
H08S1	**Diego Garcia H** baz=51,slow=76,SNR=3.8	**27.18**	**231**	T		T	04 49 58.9	
MK31	**Makanchi Array** comp=Z,4.4nm,1.6s	**37.98**	**348**	P		**P**	**04 24 32.5**	**-0.1**
MK31				IAmb		IAmb	04 24 32.7	
MKAR	**Makanchi Array** comp=Z,0.4nm,0.3s,baz=171,slow=9.5,SNR=8.4	**37.98**	**348**	P		**P**	**04 24 32.1**	**-0.6**
MKAR	comp=Z,0.4nm,0.4s,baz=203,slow=3.9,SNR=6.7			PcP		**PcP**	**04 26 47.1**	**+0.7**
KK31	**Karatay Array** comp=Z,1.2nm,0.6s	**38.65**	**333**	P		**P**	**04 24 39.0**	**+0.7**
KK31				IAmb		IAmb	04 24 39.9	
KKAR	**Karatay Array**	**38.65**	**333**	P		**P**	**04 24 39.2**	**+0.8**
SONM	**Songino Array** comp=Z,0.6nm,0.5s,baz=197,slow=9.1,SNR=4.8	**39.37**	**14**	P		**P**	**04 24 44.3**	**-0.1**
SONM	comp=Z,0

WRA	**Warramunga Arr**	**50.02**	**126**	P	**P**	**04 26 08.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=300,slow=9.8,SNR=5.9						
WRA				PcP	**PcP**	**04 27 28.2**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=316,slow=3.0,SNR=7.8						
ASAR	**Alice Springs**	**51.76**	**131**	P	**P**	**04 26 21.2**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=304,slow=6.9,SNR=12						
ASAR				PcP	**PcP**	**04 27 34.0**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=316,slow=3.8,SNR=6.2						
BRTR	**Keskin Array B**	**60.59**	**310**	P	**P**	**04 27 23.9**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=134,slow=5.3,SNR=4.2						
STKA	**Stephens Creek**	**62.01**	**134**	P	**P**	**04 27 34.5**	**0.0**
	comp=Z,0.7nm,0.4s,baz=265,slow=5.7,SNR=3.7						
STKA	**Stephens Creek**	**62.01**	**134**	IAmb	IAmb	04 27 35.6	
	comp=Z,1.4nm,1.2s						
FINES	**FINESS Array B**	**70.61**	**332**	P	**P**	**04 28 28.2**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=100,slow=5.8,SNR=4.6						
ARCES	**ARCESS Array B**	**73.14**	**340**	P	**P**	**04 28 44.1**	**+0.2**
	comp=Z,6.6nm,1.0s,baz=97,slow=6.2,SNR=5.8						
GERES	**GERESS Array B**	**75.86**	**318**	P	**P**	**04 29 00.6**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=86,slow=6.8,SNR=5.7						
A21K	**Barrow**	**86.95**	**18**	P	**P**	**04 29 58.7**	**+0.6**
IMAR	**Indian Mountai**	**90.04**	**22**	P	**P**	**04 30 13.0**	**+0.2**
ILAR	**Eielson Array**	**93.15**	**22**	P	**P**	**04 30 26.5**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=302,slow=4.5,SNR=9.5						
PDAR	**Pinedale Array**	**123.54**	**20**	PKP	**PKPdf**	**04 36 09.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=104,slow=2.8,SNR=5.2						
TXAR	**Lajitas Array**	**137.66**	**22**	PKP	**PKPdf**	**04 36 39.0**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=311,slow=0.6,SNR=4.3						

JMA 13 04:32:51.3±0.5, 46°03'N×150°17'E, h223km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**4.13**	**231**	P	Pn	04 33 55.8	+0.3
NEM2				*e*S	S	04 34 46.6	+0.7
JNK	**Nakash**	**4.58**	**240**	P	Pn	04 34 02.0	+0.9
JTKR	**Abashiri--Toko**	**4.89**	**247**	P	Pn	04 34 05.4	+0.5
JAK	**Akkeshi**	**4.95**	**234**	P	Pn	04 34 05.9	+0.3
JAK				*e*S	S	04 35 04.4	+0.1
JAR	**Ashorobuto**	**5.32**	**241**	P	Pn	04 34 11.7	+1.4
JOB	**Onbets**	**5.51**	**238**	P	Pn	04 34 13.1	+0.5
JOB				*e*S	S	04 35 15.9	-1.1
JKK2	**Kamakawa 2**	**5.69**	**250**	P	Pn	04 34 15.5	+0.5
ASAJ	**Asahikawa**	**5.69**	**253**	P	Pn	04 34 15.6	+0.6
JCH	**Churui**	**5.96**	**237**	P	Pn	04 34 18.3	0.0
JCH				*e*S	S	04 35 25.5	-1.9
JNBK	**Urakawa-nobuka**	**6.52**	**238**	P	Pn	04 34 24.3	-1.2
JNB	**Noboribetsu**	**7.46**	**245**	*e*S	S	04 36 00.1	-2.3
JKB	**Kayabe**	**7.78**	**241**	P	Pn	04 34 39.8	-1.9
JKB				*e*S	S	04 36 03.2	-6.8
JYM2	**Yakumo 2**	**8.07**	**244**	P	Pn	04 34 44.0	-1.3
JTM	**Tenmabayashi**	**8.45**	**235**	P	Pn	04 34 48.8	-1.4

*IDC **13** 04:51:36.9±0.8, 63°.78N×145°.87E, h0km, mb3.5/9, mb1 3.8/12, mb1mx3.6/49, mbtmp3.6/12, ML4.6/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/39, Error ellipse: s-maj=18.2km s-min=11.3km az=41.0*
*NERS **13** 04:51:37.1±0.0, 63°.96N×145°.98E, h12km*
*YARS **13** 04:51:37.5±0.0, 63°.99N×146°.00E, h13km*

ISC 13 04:51:37.3±0.5, 63°.89N±0°.03×145°.90E±0°.03, h10km, n38, σ2s42/92, mb3.6/9, 2C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKR	**Artyk**	**0.45**	**312**	*i* Pg	**Pg**	**04 51 45.5**	**-0.7**
	628nm,0.1s						
ATKR				*i* Pg	**Pg**	**04 51 45.5**	**-0.7**
	260nm,0.1s						
ATKR				*i* Pg	**Pg**	**04 51 45.5**	**-0.7**
	172nm,0.1s						
ATKR				*e*Sg	**Sg**	**04 51 51.0**	**-1.0**
	2μm,0.2s						
ATKR				*e*Sg	**Sg**	**04 51 51.0**	**-1.0**
	3μm,0.2s						
ATKR	**Artyk**	**0.45**	**312**	*i* Pg	**Pg**	**04 51 45.4**	**-0.7**
	151nm,0.1s						
ATKR				*e*Sg	**Sg**	**04 51 51.2**	**-0.8**
	439nm,0.1s						
UNR	**Ust'-Nera**	**1.35**	**302**	*i* Pg	**Pb**	**04 52 01.6**	**-1.1**
	60nm,0.8s						
UNR				*i* Pg	**Pb**	**04 52 01.6**	**-1.1**
	73nm,0.9s						
UNR				*i* Pg	**Pb**	**04 52 01.6**	**-1.1**
	32nm,0.9s						
UNR				*e*Sg	**Sg**	**04 52 20.4**	**-0.5**
	124nm,1.3s						
UNR				*e*Sg	**Sg**	**04 52 20.4**	**-0.5**
	43nm,0.5s						
UNR	**Ust'-Nera**	**1.35**	**302**	*i* Pg	**Pb**	**04 52 01.6**	**-1.1**
UNR				*i* Pg	**Pb**	**04 52 01.6**	**-1.1**
UNR				*i* Pg	**Pb**	**04 52 01.6**	**-1.1**
UNR				*e*Sg	**Sg**	**04 52 19.7**	**-1.1**
	219nm,0.5s						
UNR				*e*Sg	**Sg**	**04 52 19.7**	**-1.1**
	106nm,0.5s						
SUUS	**Susuman**	**1.51**	**136**	*i* Pg	**Pg**	**04 52 05.4**	**-0.9**
SUUS				Pgmax		04 52 06.7	
	1μm,0.3s						
SUUS				Pgmax		04 52 06.7	
	2μm,0.3s						
SUUS				*e*Sg	**Sg**	**04 52 26.1**	**+0.3**
SUUS				Sgmax		04 52 28.8	
	6μm,0.3s						
SUUS				Sgmax		04 52 28.8	
	1μm,0.2s						
SUUS	**Susuman**	**1.51**	**136**	*i* Pg	**Pg**	**04 52 05.4**	**-0.9**
	2μm,0.3s						
SUUS				*e*Sg	**Sg**	**04 52 26.1**	**+0.3**
	6μm,0.3s						
OCHR	**Omchak**	**2.41**	**157**	*i*P	**Pb**	**04 52 18.4**	**-2.3**
OCHR				*e*Pg	**Pg**	**04 52 23.0**	**-0.4**
OCHR				Pgmax		04 52 35.2	
	20nm,0.3s						
OCHR				Pgmax		04 52 35.2	
	20nm,0.3s						
OCHR				Pgmax		04 52 35.2	
	200nm,0.3s						
OCHR				*e*Sg	**Sg**	**04 52 55.0**	**+0.5**
OCHR				Sgmax		04 52 57.6	
	500nm,0.4s						
OCHR				Sgmax		04 52 57.6	
	800nm,0.4s						
OCHR	**Omchak**	**2.41**	**157**	*i* Pn	**Pb**	**04 52 18.4**	**-2.3**
OCHR				*i* Pn	**Pb**	**04 52 18.4**	**-2.3**
OCHR				*i* Pn	**Pb**	**04 52 18.4**	**-2.3**
OCHR				*e*Pg	**Pg**	**04 52 23.0**	**-0.4**
	200nm,0.3s						
OCHR				*e*Sg	**Sg**	**04 52 55.0**	**+0.5**
	800nm,0.4s						
SEY	**Seymchan**	**3.07**	**105**	Pn	**Pn**	**04 52 26.2**	**+0.4**
	11nm,0.3s,baz=110,slow=19,SNR=76						
SEY				Pg	**Pb**	**04 52 32.6**	**+0.6**
	29nm,0.3s,baz=306,slow=19,SNR=28						
SEY				Sn	**Sn**	**04 53 02.7**	**+0.2**
	44nm,0.3s,baz=219,slow=18,SNR=5.9						
SEY				Lg	Lg	04 53 12.0	
	63nm,0.3s,baz=354,slow=18,SNR=3.7						
SEY	**Seymchan**	**3.07**	**105**	*e*P	**Pn**	**04 52 26.2**	**+0.4**
SEY				*e*Pg	**Pg**	**04 52 34.2**	**-1.9**
SEY				Pgmax		04 52 34.5	
	70nm,0.3s						
SEY				Pgmax		04 52 34.5	
	90nm,0.3s						
SEY				*e*Sg	**Sg**	**04 53 12.2**	**-3.6**
SEY				Sgmax		04 53 22.1	
	500nm,0.3s						
SEY	**Seymchan**	**3.07**	**105**	*e*Pn	**Pn**	**04 52 26.2**	**+0.4**
SEY				*e*Pg	**Pg**	**04 52 34.2**	**-1.9**
	90nm,0.3s						
SEY				*e*Sg	**Sg**	**04 53 12.2**	**-3.6**
	500nm,0.3s						
TLAR	**Talaya**	**4.09**	**130**	*e*P	**Pn**	**04 52 40.6**	**+0.7**
TLAR				*e*Pg	**Pg**	**04 52 52.4**	**-3.2**
TLAR				Pgmax		04 52 53.6	
	80nm,0.3s						
TLAR				Pgmax		04 52 53.6	
	50nm,0.3s						
TLAR				*e*Sg	**Sg**	**04 53 47.8**	**-0.7**
TLAR				Sgmax		04 53 53.0	
	600nm,0.3s						
TLAR				Sgmax		04 53 53.0	
	500nm,0.3s						
TLAR	**Talaya**	**4.09**	**130**	*e*Pn	**Pn**	**04 52 40.6**	**+0.7**
TLAR				*e*Pg	**Pg**	**04 52 52.4**	**-3.2**
TLAR				Pgmax		04 52 53.6	
	50nm,0.3s						
TLAR				*e*Sg	**Sg**	**04 53 47.8**	**-0.7**
	600nm,0.3s						
MGD	**Magadan 1**	**4.48**	**147**	*e*Pg	**Pg**	**04 52 59.5**	**-3.5**
MGD				Pgmax		04 53 00.9	
	20nm,0.2s						
MGD				*e*Sg	**Sg**	**04 53 58.0**	**-2.9**
MGD				Sgmax		04 54 07.1	
	300nm,0.3s						
MGD				Sgmax		04 54 07.1	
	40nm,0.3s						
MGD	**Magadan 1**	**4.48**	**147**	*i* Pg	**Pg**	**04 52 59.5**	**-3.5**
	20nm,0.2s						
MGD				*e*Sg	**Sg**	**04 53 58.0**	**-2.9**
	300nm,0.3s						
OKHR	**Okhotsk**	**4.71**	**197**	*e*	Pb	04 52 53.9	-6.0
OKHR				*e*S	**Sb**	**04 53 54.5**	**-2.1**
OKHR				Sgmax		04 54 02.8	
	700nm,0.4s						
MA2	**Magadan**	**4.91**	**150**	Pn	**Pn**	**04 52 50.0**	**-1.0**
	1.8nm,0.3s,baz=292,slow=9.7,SNR=6.7						
MA2				Pg	**Pb**	**04 53 00.7**	**-2.5**
	3.4nm,0.3s,baz=197,slow=15,SNR=4.2						
MA2				Sn	**Sn**	**04 53 48.3**	**+0.5**
	7.8nm,0.3s,baz=340,slow=21,SNR=3.6						
MA2				Lg	Lg	04 54 12.3	
	20nm,0.3s,baz=23,slow=18,SNR=13						
MA2	**Magadan**	**4.91**	**150**	*e*P	**Pn**	**04 52 52.1**	**+1.1**
MA2				*e*Pg	**Pg**	**04 53 07.4**	**-3.8**
MA2				*e*Sg	**Sg**	**04 54 13.8**	**-0.8**
MA2				Pgmax		04 54 19.4	
	100nm,0.3s						
MA2				Sgmax		04 54 19.5	
	100nm,0.3s						
MA2				Sgmax		04 54 19.5	
	200nm,0.3s						
MA2	**Magadan**	**4.91**	**150**	*e*Pn	**Pn**	**04 52 52.1**	**+1.1**
MA2				*e*Pg	**Pg**	**04 53 07.4**	**-3.8**
	100nm,0.3s						
MA2				*e*Sg	**Sg**	**04 54 13.8**	**-0.8**
	200nm,0.3s						
DEPR	**Deputatskiy**	**6.02**	**339**	*i* Pn	**Pn**	**04 53 06.6**	**+0.3**
	0.9nm,0.5s						
DEPR				*i* Pg	**Pb**	**04 53 25.0**	**+2.8**
	5.2nm,0.5s						
DEPR				*i* Sg	**Sg**	**04 54 43.2**	**-7.1**
	65nm,0.7s						
DEPR	**Deputatskiy**	**6.02**	**339**	*e*Pn	**Pn**	**04 53 03.8**	**-2.5**
DEPR				*e*Pg	**Pb**	**04 53 23.5**	**+1.3**
	4.7nm,0.1s						
DEPR				*e*Sn	**Sn**	**04 54 09.8**	**-5.3**
DEPR				*e*Sn	**Sn**	**04 54 09.8**	**-5.3**
DEPR				*e*Sg	**Sg**	**04 54 42.0**	**-8.3**
	32nm,0.5s						
EVEN	**Evensk**	**6.40**	**102**	*e*S		04 56 03.6	
EVEN				Sgmax		04 56 05.0	
	200nm,0.6s						
YAK	**Yakutsk**	**7.62**	**263**	Lg	Lg	04 55 37.4	
	0.2nm,0.3s,baz=243,slow=19,SNR=1.4						
YAK	**Yakutsk**	**7.62**	**263**	*i* Pn	**Pn**	**04 53 30.5**	**+2.3**
	9.8nm,0.8s						
YAK				*i* Pg	Pg	04 53 56.1	-6.9
	10nm,0.9s						
YAK				*i* Sn	**Sn**	**04 54 55.8**	**+1.3**
YAK				*i* Sg	**Sg**	**04 55 37.6**	**-3.9**
	143nm,1.1s						
YAK				*i* Sg	**Sg**	**04 55 37.6**	**-3.9**
	51nm,0.7s						
YAK	**Yakutsk**	**7.62**	**263**	*e*Pn	**Pn**	**04 53 28.3**	**+0.1**
YAK				*e*Pg	Pg	04 53 55.4	-7.6
	3.5nm,0.2s						
YAK				*e*Sn	**Sn**	**04 54 53.0**	**-1.5**
YAK				*e*Sn	**Sn**	**04 54 53.0**	**-1.5**
YAK				*e*Sg	**Sg**	**04 55 37.0**	**-4.5**
	13nm,0.3s						
TBGR	**Tabaga**	**7.72**	**262**	*i* Pn	**Pn**	**04 53 31.7**	**+2.2**
	57nm,0.8s						
TBGR				*i* Pg	Pg	04 53 57.1	-7.8
	39nm,0.4s						
TBGR				*i* Sn	**Sn**	**04 54 58.2**	**+1.3**
TBGR				*i* Sg	**Sg**	**04 55 40.7**	**-4.0**
	280nm,0.8s						
TBGR				*i* Sg	**Sg**	**04 55 40.7**	**-4.0**
	228nm,0.8s						
TBGR	**Tabaga**	**7.72**	**262**	*e*Pn	**Pn**	**04 53 29.8**	**+0.3**
TBGR				*e*Pg	Pg	04 53 57.5	-7.4
	5.8nm,0.2s						
TBGR				*e*Sn	**Sn**	**04 54 55.4**	**-1.5**
TBGR				*e*Sn	**Sn**	**04 54 55.4**	**-1.5**
TBGR				*e*Sg	**Sg**	**04 55 40.5**	**-4.2**
	12nm,0.2s						
TIXI	**Tiksi**	**10.07**	**328**	Pn	**Pn**	**04 54 02.4**	**+0.7**
	0.6nm,0.3s,baz=128,slow=9.1,SNR=3.3						
TIXI				Lg	Lg	04 56 51.1	
	0.6nm,0.3s,baz=44,slow=16,SNR=4.6						
SONM	**Songino Array**	**26.78**	**252**	P	**P**	**04 57 19.7**	**+2.5**
	0.3nm,0.6s,baz=39,slow=9.3,SNR=2.3						
ILAR	**Eielson Array**	**27.91**	**58**	P	**P**	**04 57 28.6**	**+1.5**
	0.1nm,0.4s,baz=297,slow=7.8,SNR=1.5						
MKAR	**Makanchi Array**	**38.12**	**274**	LR	LR	05 15 08.2	
	comp=Z,84nm,18.7s,baz=350,slow=37						
YKA	**Yellowknife Ar**	**40.51**	**45**	P	**P**	**04 59 18.2**	**+2.5**
	0.4nm,0.7s,baz=315,slow=7.4,SNR=8.1						
FINES	**FINESS Array B**	**47.10**	**325**	P	**P**	**05 00 09.9**	**+1.1**
	2.4nm,0.9s,baz=13,slow=13,SNR=2.7						
NOA	**NORSAR Array B**	**50.81**	**333**	P	**P**	**05 00 38.7**	**+1.4**
	0.6nm,0.6s,baz=25,slow=7.5,SNR=3.4						
PDAR	**Pinedale Array**	**58.34**	**57**	P	**P**	**05 01 34.0**	**+1.6**
	0.1nm,0.3s,baz=3.2,slow=6.4,SNR=1.9						
BRTR	**Keskin Array B**	**63.80**	**307**	P	**P**	**05 02 11.2**	**+1.8**
	0.7nm,0.7s,baz=40,slow=3.3,SNR=4.2						
WRA	**Warramunga Arr**	**84.04**	**191**	P	**P**	**05 04 07.0**	**-0.7**
	0.2nm,0.5s,baz=1.2,slow=5.6,SNR=1.3						
ASAR	**Alice Springs**	**87.77**	**191**	P	**P**	**05 04 25.6**	**-0.4**
	0.2nm,0.5s,baz=3.4,slow=4.6,SNR=1.4						

ISC 13 04:56:00.0±1.1, 45°.14N±0°.03×14°.80E±0°.04, h10km±11km, n9, σ0s77/17, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIY	**Rijeka**	**0.29**	**310**	*e*Pg	**Pg**	**04 56 05.7**	**-0.2**
RIY				Sg	**Sg**	**04 56 10.7**	**+0.8**
GBRS	**Gornja Briga**	**0.39**	**1**	*i* Pg	**Pg**	**04 56 07.9**	**+0.1**
GBRS				*i* Sg	**Sg**	**04 56 13.9**	**+0.9**
GBRS				IAML		04 56 15.8	
	comp=Z,3.3nm,0.1s						
BOJS	**Bojanci**	**0.48**	**41**	*i* Pg	**Pg**	**04 56 09.3**	**-0.1**
BOJS				*i* Sg	**Sb**	**04 56 16.6**	**-1.2**
BOJS				IAML		04 56 17.3	
	comp=Z,2.1nm,0.1s						
KNDS	**Knezji Dol**	**0.49**	**323**	*i* Pg	**Pg**	**04 56 09.3**	**-0.3**
KNDS				*i* Sg	**Sb**	**04 56 18.0**	**-0.2**
KNDS				IAML		04 56 18.8	
	comp=Z,3.5nm,0.1s						
NVLJ	**Novalja**	**0.58**	**175**	*e*Pg	**Pg**	**04 56 10.8**	**-0.4**
NVLJ				Sg	**Sg**	**04 56 19.4**	**+0.7**
CEY	**Cerknica**	**0.66**	**336**	*e*Sg	**Sb**	**04 56 23.1**	**+0.2**
CEY				IAML		04 56 26.4	
	comp=Z,2.4nm,0.1s						
VISS	**Visnje**	**0.67**	**2**	*e*Pg	**Pg**	**04 56 12.8**	**-0.1**
VISS				*i* Sg	**Sg**	**04 56 21.8**	**+0.2**
VISS				IAML		04 56 24.3	
	comp=Z,1.6nm,0.1s						
SKDS	**Skadanscina**	**0.69**	**307**	*i* Pg	**Pg**	**04 56 12.5**	**-0.8**
SKDS				*i* Sg	**Sb**	**04 56 23.5**	**-0.3**
SKDS				IAML		04 56 24.2	
	comp=Z,0.8nm,0.1s						
DUGI	**Dugi Otok**	**1.16**	**171**	*i* Pg	**Pb**	**04 56 21.5**	**-0.7**
DUGI				Sg	**Sn**	**04 56 39.9**	**+1.6**

*WEL **13** 04:58:46.9, 40°S±1°×17°4E±°, h34km±5km, M4.3/45, ML4.6/45, MLv4.3/45, Error ellipse: s-maj=0.0km s-min=0.0km az=71.7*
*NOU **13** 04:58:46.5, 40°.45S×174°.46E, h17km, MLv4.0, Cook Strait, New Zealand*
*IDC **13** 04:58:47.0±2.9, 40°.48S×174°.49E, h40km±30km, mb3.3/3, mb1 3.6/5, mb1mx3.5/21, mbtmp3.6/5, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/10, Error ellipse: s-maj=32.0km s-min=22.5km az=128.0*

*NEIC **13** 04:58:47.4±1.4, 40°.49S±0°.03×174°.49E±0°.07, h50km±20km, Error ellipse: s-maj=7.6km s-min=4.3km az=102.0*

ISC 13 04:58:46.9±0.9, 40°.48S±0°.03×174°.48E±0°.03, h35km, n175, σ1s31/176, mb3.5/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.51**	**139**	P	**Pn**	**04 58 57.9**	**+0.2**
KIW				S	**Sn**	**04 59 04.9**	**-0.3**
DUWZ	**D'Urville Isla**	**0.53**	**232**	P	**Pn**	**04 58 58.2**	**+0.1**
OGWZ	**Otaki Gorge**	**0.63**	**123**	P	**Pn**	**04 58 59.8**	**+0.5**
OGWZ				S	**Sn**	**04 59 08.7**	**+0.6**
OHWZ	**Ohakea**	**0.70**	**67**	P	**Pn**	**04 59 00.6**	**+0.3**
TCW	**Tory Channel**	**0.75**	**192**	P	**Pn**	**04 59 01.6**	**+0.6**
TCW				S	**Sn**	**04 59 12.0**	**+0.9**
CAW	**Cannon Point**	**0.77**	**145**	P	**Pn**	**04 59 02.1**	**+0.8**
WAZ	**Wanganui**	**0.82**	**29**	P	**Pn**	**04 59 02.0**	**0.0**
WEL	**Wellington**	**0.84**	**165**	P	**Pn**	**04 59 03.2**	**+1.0**
SNZO	**South Karori**	**0.85**	**168**		**Pn**	**04 59 02.6**	**+0.3**
MRZ	**Mangatainoka R**	**0.86**	**103**	P	**Pn**	**04 59 03.4**	**+0.8**
HOWZ	**Holdsworth Sta**	**0.90**	**118**	P	**Pn**	**04 59 04.2**	**+1.1**
BHW	**Baring Head**	**0.98**	**162**		**Pn**	**04 59 04.9**	**+0.8**
BHW	**Baring Head**	**0.98**	**162**	P	**Pn**	**04 59 05.1**	**+0.9**
POWZ	**Post Office Ro**	**0.99**	**85**	P	**Pn**	**04 59 05.3**	**+0.9**
LREZ	**Lake Rotokare**	**1.02**	**357**	P	**Pn**	**04 59 05.2**	**+0.6**
TUWZ	**Tuamarina**	**1.03**	**203**		**Pn**	**04 59 05.2**	**+0.3**
TUWZ	**Tuamarina**	**1.03**	**203**	P	**Pn**	**04 59 05.5**	**+0.6**
MTW	**Mount Morrison**	**1.03**	**131**	P	**Pn**	**04 59 06.4**	**+1.5**
MSWZ	**Moikau Station**	**1.11**	**148**		**Pn**	**04 59 07.0**	**+1.1**
MSWZ	**Moikau Station**	**1.11**	**148**	P	**Pn**	**04 59 07.5**	**+1.5**
MSWZ				P	**Pn**	**04 59 07.6**	**+1.6**
NNZ	**Nelson**	**1.11**	**228**		**Pn**	**04 59 06.7**	**+0.7**
NNZ	**Nelson**	**1.11**	**228**	P	**Pn**	**04 59 06.9**	**+0.9**
TIWZ	**Tintock**	**1.11**	**106**	P	**Pn**	**04 59 07.2**	**+1.2**
PRWZ	**Pori Road**	**1.14**	**94**	P	**Pn**	**04 59 08.0**	**+1.6**
PAWZ	**Paruwai Farm**	**1.16**	**142**	P	**Pn**	**04 59 07.8**	**+1.1**
NMEZ	**Namu Road**	**1.16**	**336**	P	**Pn**	**04 59 07.7**	**+1.2**
PREZ	**Palmer Road**	**1.16**	**348**	P	**Pn**	**04 59 07.5**	**+0.9**
TSZ	**Takapari Road**	**1.21**	**70**	P	**Pn**	**04 59 08.2**	**+0.8**
KHEZ	**Kahui Hut**	**1.23**	**343**	P	**Pn**	**04 59 08.7**	**+1.0**
NEZ	**North Egmont**	**1.24**	**346**	P	**Pn**	**04 59 08.5**	**+0.7**
PLWZ	**Palliser**	**1.24**	**152**	Pn	**Pn**	**04 59 07.9**	**+0.1**
PLWZ	**Palliser**	**1.24**	**152**	P	**Pn**	**04 59 09.1**	**+1.3**
TMWZ	**Te Maipa**	**1.25**	**121**	P	**Pn**	**04 59 08.7**	**+0.8**
CMWZ	**Cape Campbell**	**1.29**	**189**		**Pn**	**04 59 10.7**	**+2.3**
CMWZ	**Cape Campbell**	**1.29**	**189**	P	**Pn**	**04 59 11.7**	**+3.4**
NBEZ	**Newall Road No**	**1.29**	**339**	P	**Pn**	**04 59 09.7**	**+1.2**
TRWZ	**Traveller**	**1.30**	**135**	P	**Pn**	**04 59 10.5**	**+1.9**
DVHZ	**Dannevirke**	**1.30**	**83**	P	**Pn**	**04 59 09.7**	**+1.1**
BSWZ	**Blackbirch Sta**	**1.32**	**200**		**Pn**	**04 59 09.5**	**+0.6**
BSWZ	**Blackbirch Sta**	**1.32**	**200**	P	**Pn**	**04 59 10.1**	**+1.3**
MTVZ	**Mangateitei**	**1.33**	**35**	P	**Pn**	**04 59 09.3**	**+0.2**
PKE	**Pukeiti**	**1.34**	**343**	P	**Pn**	**04 59 10.1**	**+1.0**
PKVZ	**Pokaka**	**1.36**	**30**	P	**Pn**	**04 59 09.5**	**0.0**
BFZ	**Birch Farm**	**1.36**	**99**	Pn	**Pn**	**04 59 09.5**	**0.0**
BFZ	**Birch Farm**	**1.36**	**99**	P	**Pn**	**04 59 10.2**	**+0.7**
VRZ	**Vera Road**	**1.37**	**9**	P	**Pn**	**04 59 10.2**	**+0.7**
CPWZ	**Castlepoint**	**1.38**	**109**	P	**Pn**	**04 59 10.4**	**+1.3**
MHEZ	**Mangahewa**	**1.40**	**355**	P	**Pn**	**04 59 11.3**	**+1.3**
PNHZ	**Pukenui**	**1.44**	**67**	P	**Pn**	**04 59 11.6**	**+1.1**
TRVZ	**Turoa**	**1.44**	**35**	P	**Pn**	**04 59 10.8**	**+0.1**
WNVZ	**Wahianoa**	**1.44**	**37**	P	**Pn**	**04 59 10.7**	**+0.1**
MOVZ	**Moawhango**	**1.45**	**43**	P	**Pn**	**04 59 10.7**	**-0.1**
DRZ	**Dome Shelter**	**1.46**	**35**	P	**Pn**	**04 59 11.4**	**+0.2**
WHVZ	**Whangaehu Hut**	**1.47**	**36**	P	**Pn**	**04 59 11.2**	**+0.1**
FWVZ	**Far West T-bar**	**1.48**	**35**	P	**Pn**	**04 59 11.3**	**+0.1**
TUVZ	**Tukino**	**1.51**	**37**	P	**Pn**	**04 59 12.0**	**+0.3**
QRZ	**Quartz Range**	**1.52**	**256**		**Pn**	**04 59 12.5**	**+0.9**
QRZ	**Quartz Range**	**1.52**	**256**	P	**Pn**	**04 59 12.8**	**+1.2**
ANWZ	**Angora Road**	**1.53**	**90**	P	**Pn**	**04 59 12.8**	**+1.1**
WPHZ	**Waipukurau**	**1.56**	**75**	P	**Pn**	**04 59 13.4**	**+1.2**
NGZ	**Ngauruhoe**	**1.56**	**34**	P	**Pn**	**04 59 12.5**	**+0.2**
BHHZ	**Black Hill Sta**	**1.57**	**52**	P	**Pn**	**04 59 12.3**	**-0.1**
TWVZ	**Taurewa**	**1.59**	**28**	P	**Pn**	**04 59 12.5**	**-0.1**
OTVZ	**Oturere**	**1.60**	**35**	P	**Pn**	**04 59 13.0**	**+0.2**
WTVZ	**West Tongariro**	**1.61**	**33**	P	**Pn**	**04 59 13.0**	**0.0**
ETVZ	**East Tongariro**	**1.64**	**36**	P	**Pn**	**04 59 13.9**	**+0.4**
KRVZ	**Karewarewa**	**1.65**	**33**	P	**Pn**	**04 59 13.6**	**+0.1**
TMVZ	**Te Maari**	**1.66**	**35**	P	**Pn**	**04 59 13.5**	**-0.1**
PRHZ	**Porangahau**	**1.66**	**83**	P	**Pn**	**04 59 14.7**	**+1.1**
THZ	**Tophouse**	**1.75**	**222**	Pn	**Pn**	**04 59 16.1**	**+1.3**
THZ	**Tophouse**	**1.75**	**222**	P	**Pn**	**04 59 15.7**	**+0.9**
KATZ	**Kakaramea**	**1.77**	**32**	P	**Pn**	**04 59 15.6**	**+0.5**
KWHZ	**Kaweka Forest**	**1.83**	**56**	P	**Pn**	**04 59 17.1**	**+1.

RVAZ	Riverhead Bore	3.70	1	P		Pn	04 59 42.0	+0.5	
WIAZ	Waiheke Island	3.71	8	P		Pn	04 59 42.6	+0.9	
MBAZ	Motutapu North	3.72	5	P		Pn	04 59 42.8	+1.0	
HAZ	Te Kaha	3.74	44	P		Pn	04 59 41.2	-1.0	
PKGZ	Pakihiroa	3.81	48	P		Pn	04 59 42.6	-0.5	
WVZ	Waitaha Valley	3.81	226	P		Pn	04 59 44.3	+1.2	
KUZ	Kuaotunu	3.85	15	P		Pn	04 59 44.1	+0.4	
ABAZ	Army Bay	3.88	4	P		Pn	04 59 44.9	+0.9	
WACZ	Wakanui South	3.98	209	P		Pn	04 59 47.1	+1.7	
WMGZ	Waiomatatini S	4.05	50	P		Pn	04 59 45.4	-1.0	
RPZ	Rata Peaks	4.12	217	Pn		Pn	04 59 47.8	+0.5	
	6.7nm,0.3s,baz=356,slow=2.9,SNR=16								
RPZ				Sn		Sn	05 00 33.0	-1.3	
	12nm,0.3s,baz=313,slow=22,SNR=8.2								
RPZ	Rata Peaks	4.12	217			Pn	04 59 47.1	-0.2	
RPZ	Rata Peaks	4.12	217	P		Pn	04 59 48.0	+0.7	
GCSZ	Gaunt Creek Bo	4.20	226	P		Pn	04 59 49.7	+1.3	
ARCZ	Arundel	4.25	214	P		Pn	04 59 49.2	+0.1	
WCZ	Waipu Caves	4.53	359	P		Pn	04 59 53.3	+0.3	
FOZ	Fox Glacier	4.62	227			Pn	04 59 54.1	-0.1	
FOZ	Fox Glacier	4.62	227	P		Pn	04 59 54.7	+0.5	
TMZ	Timaru	4.67	212	P		Pn	04 59 54.7	-0.2	
LBZ	Lake Benmore	5.03	218	P		Pn	04 59 59.2	-0.7	
OUZ	Omahuta	5.29	352	P		Pn	05 00 04.0	+0.5	
ODZ	Otahua Downs	5.36	210	P		Pn	05 00 04.4	0.0	
JCZ	Jackson Bay	5.54	228	P		Pn	05 00 07.0	0.0	
WKZ	Wanaka	5.92	221	P		Pn	05 00 13.1	+1.0	
MLZ	Mavora Lakes	6.75	222	P		Pn	05 00 24.7	+1.1	
WHZ	Wether Hill Ro	7.21	219	P		Pn	05 00 36.0	+6.2	
CTZ	Chatham Island	7.38	119	P		Pn	05 00 31.6	-0.4	
ASAR	Alice Springs	37.87	284	P		P	05 06 00.6	0.0	
	0.3nm,0.5s,baz=128,slow=7.1,SNR=4.0								
WRA	Warramunga Arr	39.84	289	P		P	05 06 16.3	-0.7	
	0.4nm,0.4s,baz=126,slow=8.3,SNR=7.1								
QSPA	South Pole Qui	49.65	180	P		P	05 07 34.3	-0.6	
	1.0nm,1.0s,baz=72,slow=3.2,SNR=1.7								
TORD	Torodi Ar. Bea	152.05	195	PKPbc		PKPbc	05 18 38.2	-0.6	
	0.2nm,0.3s,baz=184,slow=2.7,SNR=1.1								

ANF ***13*** *05:26:24.3±0.2, 60°.84N×150°.10W, h38km±6km, ML3.0/23, Error ellipse: s-maj=2.6km s-min=2.1km az=116.0, Hypocentre not reviewed by the ISC*

NEIC ***13*** *05:26:24.4±1.6, 60°.85N±0°.02×150°.10W±0°.06, h37km±8km, Error ellipse: s-maj=4.2km s-min=3.6km az=85.0*

AEIC 13 05:26:24.8±1.5, 60°.82N±0°.02×150°.05W±0°.04, h44km±5km, ML2.8/85, ML3.1/82(NEIC), Error ellipse: s-maj=4.2km s-min=1.3km az=135.0, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.31	29		Pn	05 26 32.5	-1.0
RC01					Sn	05 26 39.0	-0.7
RC01	Rabbit Creek A	0.31	29	IAML		05 26 39.5	
	comp=E,2µm,0.2s						
RC01				IAML		05 26 39.6	
	comp=N,2µm,0.4s						
RC01	Rabbit Creek A	0.31	29	P		05 26 32.6	
	baz=209,SNR=244						
RC01				S		05 26 38.7	
	baz=209						
SLKM	Skilak Lake	0.32	195		Pn	05 26 32.9	-0.7
SLKM					Sn	05 26 39.3	-0.6
FIS	Fire Island	0.34	346		Pn	05 26 33.0	-0.7
FIS					Sn	05 26 40.8	+0.7
FIS	Fire Island	0.34	346	IAML		05 26 41.0	
	comp=E,2µm,0.7s						
FIS				IAML		05 26 41.4	
	comp=N,2µm,0.6s						
O22K	Cooper Landing	0.37	154		Pn	05 26 33.6	-0.5
O22K					Sn	05 26 40.9	+0.2
O22K	Cooper Landing	0.37	154	IAML		05 26 42.0	
	comp=E,1µm,0.5s						
O22K				IAML		05 26 45.5	
	comp=N,2µm,0.4s						
O22K	Cooper Landing	0.37	154	P		05 26 33.6	
	baz=335,SNR=46						
O22K				S		05 26 40.8	
	baz=335						
CAPN	Captain Cook N	0.54	265		Pn	05 26 36.1	0.0
CAPN	Captain Cook N	0.54	265	P		05 26 36.2	
	baz=84,SNR=8.8						
CAPN				S		05 26 43.7	
	baz=84						
SUA	Susitna One	0.73	333		Pn	05 26 37.1	-1.7
SUA					Sn	05 26 47.3	-1.7
SUA	Susitna One	0.73	333	P		05 26 37.1	
	baz=152,SNR=31						
SUA				S		05 26 46.5	
	baz=152						
SEW	Seward	0.77	157		Pn	05 26 38.6	-0.7
SEW	Seward	0.77	157	S		05 26 50.5	
	baz=338						
PWL	Port Wells	0.84	86		Pn	05 26 39.9	-0.3
PWL	Port Wells	0.84	86	IAML		05 26 53.7	
	comp=N,451nm,0.3s						
PMR	Palmer	0.90	29		Pn	05 26 39.6	-1.4
PMR				IAML		05 26 53.7	
	comp=N,364nm,0.4s						
PMR				IAML		05 26 54.3	
	comp=E,361nm,0.4s						
PMR	Palmer	0.90	29		Sn	05 26 52.1	-0.6
PMR	Palmer	0.90	29	P		05 26 40.0	
	baz=210,SNR=22						
PMR				S		05 26 52.0	
	baz=210						
KNK	Knik Glacier	0.98	52		Pn	05 26 41.6	-0.5
KNK				IAML		05 26 56.7	
	comp=E,712nm,0.5s						
KNK				IAML		05 26 57.0	
	comp=N,727nm,0.5s						
KNK	Knik Glacier	0.98	52		Sn	05 26 55.5	+0.7
KNK	Knik Glacier	0.98	52	P		05 26 41.7	
	baz=233,SNR=54						
KNK				S		05 26 55.2	
	baz=233						
CGLM	Capps Glacier	1.07	298		Pn	05 26 42.0	-1.4
GHO	Glory Hole Cre	1.10	29		Pn	05 26 43.2	-0.6
GHO					Sn	05 26 58.6	+0.7
GHO	Glory Hole Cre	1.10	29	IAML		05 27 01.1	
	comp=N,375nm,0.5s						
STLK	Strandline Lak	1.10	309		Pn	05 26 42.5	-1.3
SPCN	Chakachatna No	1.12	292		Pn	05 26 42.7	-1.3
SPCP	Crater Peak Br	1.12	295		Pn	05 26 42.9	-1.2
BRSE	Bradley Lake S	1.13	198		Pn	05 26 43.8	-0.3
BRSE	Bradley Lake S	1.13	198	P		05 26 43.8	
	baz=17						
BRSE				S		05 26 58.7	
	baz=17						
BRLK	Bradley Lake	1.14	202		Pn	05 26 44.0	-0.2
BRLK	Bradley Lake	1.14	202	IAML		05 27 01.0	
	comp=E,307nm,0.4s						
BGL	Barrier Glacie	1.23	293		Pn	05 26 44.5	-1.0
SML	Sawmill	1.29	39		Pn	05 26 46.2	-0.2
SML	Sawmill	1.29	39	IAML		05 27 04.6	
	comp=E,240nm,0.6s						
SML				IAML		05 27 06.0	
	comp=N,215nm,0.5s						
SML	Sawmill	1.29	39	P		05 26 46.0	
	baz=220,SNR=18						
SPWE	Spurr West	1.30	292		Pn	05 26 45.7	-0.9
DFR	Drift River	1.32	261		Pn	05 26 45.3	-1.4
DFR					Sn	05 27 03.8	+0.6
SKT	Skwentna	1.37	329		Pn	05 26 46.0	-1.4
SKT	Skwentna	1.37	329	P		05 26 46.5	
	baz=148,SNR=23						
SKT				S		05 27 03.7	
	baz=148						
RDSO	Redoubt South	1.38	256		Pn	05 26 46.5	-1.1
RSO	Redoubt South	1.38	256		Pn	05 26 46.7	-1.0
HOM	Homer	1.41	215		Pn	05 26 46.8	-1.1
HOM	Homer	1.41	215	S		05 27 05.9	
	baz=34						
CNPM	China Poot	1.42	205		Pn	05 26 48.1	0.0
CNPM	China Poot	1.42	205	IAML		05 27 10.1	
	comp=N,214nm,0.4s						
CNPM				IAML		05 27 10.3	
	comp=E,175nm,0.6s						
GLI	Glacier Island	1.45	86		Pn	05 26 47.6	-0.9
GLI	Glacier Island	1.45	86	IAML		05 27 11.6	
	comp=E,235nm,0.3s						
GLI				IAML		05 27 11.8	
	comp=N,202nm,0.7s						
GLI	Glacier Island	1.45	86	P		05 26 47.5	
	baz=269						
GLI				S		05 27 07.1	
	baz=269						
CUT	Chulitna	1.60	356		Pn	05 26 49.7	-0.8
CUT					Sn	05 27 11.5	+1.6
CUT	Chulitna	1.60	356	IAML		05 27 12.1	
	comp=N,226nm,0.4s						
CUT				IAML		05 27 16.1	
	comp=E,320nm,0.4s						
CUT	Chulitna	1.60	356	P		05 26 49.9	
	baz=176						
CUT				S		05 27 09.7	
	baz=176						
SCM	Sheep Creek Mo	1.66	51		Pn	05 26 51.4	-0.1
SCM	Sheep Creek Mo	1.66	51	IAML		05 27 25.1	
	comp=N,141nm,0.8s						
IVE	Iliamna Volcan	1.68	243		Pn	05 26 51.2	-0.5
ILS	Iliamna Low So	1.73	241		Pn	05 26 52.2	-0.2
FID	Port Fidalgo	1.75	91		Pn	05 26 51.3	-1.3
FID	Port Fidalgo	1.75	91	IAML		05 27 21.0	
	comp=E,134nm,0.4s						
FID				IAML		05 27 21.1	
	comp=N,146nm,0.3s						
HIN	Hinchinbrook I	1.80	102		Pn	05 26 52.6	-0.7
HIN	Hinchinbrook I	1.80	102	IAML		05 27 23.4	
	comp=E,155nm,0.9s						
HIN				IAML		05 27 26.7	
	comp=N,134nm,2.2s						
VMT	TAPS Tl Valdez	1.82	80		Pn	05 26 52.9	-0.6
DIV	Divide	2.11	80		Pn	05 26 57.2	-0.4
KLU	Klutina	2.11	69		Pn	05 26 57.5	-0.1
KLU	Klutina	2.11	69	P		05 26 57.5	
	baz=253,SNR=13						
KLU				S		05 27 22.8	
	baz=253						
EYAK	Cordova Ski Ar	2.13	95		Pn	05 26 56.9	-0.9
EYAK	Cordova Ski Ar	2.13	95	P		05 26 56.9	
	baz=279						
WAT1	Susitna Watana	2.14	19		Pn	05 26 58.2	+0.2
WAT2	Susitna Watana	2.26	17		Pn	05 27 00.6	+0.8
WAT2	Susitna Watana	2.26	17	P		05 27 00.2	
	baz=198,SNR=6.8						
M24K	Tolsona, Glenn	2.27	53		Pn	05 27 00.0	+0.3
M24K	Tolsona, Glenn	2.27	53	IAML		05 27 35.0	
	comp=E,121nm,0.9s						
M24K				IAML		05 27 46.4	
	comp=N,85nm,1.2s						
M24K	Tolsona, Glenn	2.27	53	P		05 27 00.1	
	baz=237,SNR=17						
PPLA	Purkeypile	2.32	335		Pn	05 27 00.9	+0.3
PPLA	Purkeypile	2.32	335	P		05 27 01.1	
	baz=153						
PS12	TAPS Pump St12	2.47	72		Pn	05 27 02.4	-0.1
PS11	TAPS Pump St11	2.54	58		Pn	05 27 03.5	+0.1
GOAT	Goat Mountain	2.63	93		Pn	05 27 03.8	-0.9
TRF	Thorofare Moun	2.65	358		Pn	05 27 06.7	+1.6
RND	Reindeer	2.66	12		Pn	05 27 05.7	+0.6
BMRM	Bremner River	2.67	84		Pn	05 27 04.3	-0.9
BMRM	Bremner River	2.67	84	IAML		05 27 57.8	
	comp=N,56nm,3.6s						
BMRM	Bremner River	2.67	84	P		05 27 04.2	
	baz=269						
RAGM	Ragged Mountai	2.69	97		Pn	05 27 04.1	-1.4
RAGM	Ragged Mountai	2.69	97	IAML		05 27 33.9	
	comp=E,103nm,3.0s						
SVW2	Sparrevohn	2.71	278		Pn	05 27 04.5	-1.3
N25K	Chitina, Valde	2.75	71		Pn	05 27 06.4	-0.1
N25K	Chitina, Valde	2.75	71	P		05 27 06.4	
	baz=256,SNR=8.4						
MCK	McKinley	2.97	10		Pn	05 27 10.0	+0.6
PAX	Paxson	3.06	43		Pn	05 27 11.0	+0.4
PAX	Paxson	3.06	43	P		05 27 10.8	
	baz=227						
KDAK	Kodiak Island	3.31	204		Pn	05 27 12.8	-1.1
KDAK	Kodiak Island	3.31	204	IAML		05 27 51.3	
	comp=E,43nm,3.0s						
KDAK				IAML		05 28 13.9	
	comp=E,36nm,3.8s						
BPAW	Bear Paw Mtn.	3.33	353		Pn	05 27 13.6	-0.6
GRIN	Grindle Hills	3.37	96		Pn	05 27 13.2	-1.6
CRQM	Cirque	3.39	88		Pn	05 27 14.4	-0.8
CRQM	Cirque	3.39	88	IAML		05 28 08.3	
	comp=E,46nm,4.4s						
CRQM				IAML		05 28 17.0	
	comp=N,67nm,4.0s						
CRQE	Cirque	3.41	88	P		05 27 14.2	
	baz=274						
MCARA	McCarthy VSAT	3.46	77		Pn	05 27 15.8	-0.2
MCARA	McCarthy VSAT	3.46	77	IAML		05 28 20.3	
	comp=E,34nm,0.9s						
MCARA				IAML		05 28 45.2	
	comp=N,55nm,4.4s						
MCARA	McCarthy VSAT	3.46	77	P		05 27 15.7	
	baz=264						
TT01	Tatalina	3.52	309		Pn	05 27 16.4	-0.5
TGL	Tana Glacier	3.54	88		Pn	05 27 16.2	-1.1
TGL	Tana Glacier	3.54	88	IAML		05 27 49.4	
	comp=N,43nm,4.0s						
TGL				IAML		05 28 09.9	
	comp=E,38nm,3.5s						
KULT	Kultieth River	3.67	96		Pn	05 27 17.2	-1.7
PTPK	Patty Peak	3.71	81		Pn	05 27 19.5	-0.2
GRNC	Granite Creek	4.07	88		Pn	05 27 23.6	-1.0
GRNC	Granite Creek	4.07	88	IAML		05 28 47.6	
	comp=E,26nm,3.9s						
GRNC				IAML		05 29 50.9	
	comp=N,34nm,4.0s						
YAH	Yahtse	4.12	93	Pn	Pn	05 27 24.1	-1.2
IL31		4.23	19		Pn	05 27 26.4	-0.1
CTG	Chitna Glacier	4.26	84	P		05 27 26.8	
	baz=272						
CTGM	Chitina Glacie	4.26	84		Pn	05 27 26.9	-0.2
CTGM	Chitina Glacie	4.26	84	IAML		05 28 04.4	
	comp=E,26nm,3.5s						
CTGM				IAML		05 29 26.8	
	comp=N,33nm,4.7s						
RKAV	Rock Avalanche	4.33	93		Pn	05 27 27.4	-0.7
I23K	Minto, Yukon-K	4.36	4		Pn	05 27 29.3	+1.0
TABL	Table Mountain	4.40	91		Pn	05 27 27.9	-1.3
LOGN	Logan Glacier	4.43	86		Pn	05 27 28.9	-0.6
POKR	Poker Plat Res	4.48	14		Pn	05 27 30.0	0.0
BC03		4.51	56		Pn	05 27 30.6	+0.3
YUK2	White River	4.55	74		Pn	05 27 31.0	0.0
YUK3	Moose Creek	4.72	74		Pn	05 27 33.6	0.0
PRP	Porcupine Dome	5.14	22		Pn	05 27 39.8	+0.6
IM03		5.45	344		Pn	05 27 42.8	-0.4
IMAR	Indian Mountai	5.45	344	Pn	Pn	05 27 44.0	+0.8
DAWY	Dawson	5.92	52		Pn	05 27 49.6	-0.3
BM03	Burnt Mountain	7.04	17		Pn	05 28 04.7	-0.5
WHY	Whitehorse	7.44	85		Pn	05 28 10.1	-0.6

IDC ***13*** *05:29:06.6±1.0, 63°.98N×149°.29W, h112km±10km, mb3.3/6, mb1 3.5/9, mb1mx3.2/51, mbtmp3.6/9, Error ellipse: s-maj=17.8km s-min=13.6km az=133.0*

ANF ***13*** *05:29:08.2±0.2, 64°.01N×148°.88W, h124km±2km, ML3.5/36, Error ellipse: s-maj=1.9km s-min=1.4km az=130.0, Hypocentre not reviewed by the ISC*

NEIC ***13*** *05:29:08.1±0.9, 64°.02N±0°.03×148°.93W±0°.10, h127km±2km, Error ellipse: s-maj=6.4km s-min=4.8km az=109.0*

AEIC ***13*** *05:29:08.5±1.0, 64°.00N±0°.03×148°.89W±0°.09, h125km±3km, ML3.3/108, mb3.6/5(NEIC), ML3.6/109(NEIC), Error ellipse: s-maj=6.1km s-min=4.6km az=87.0*

ISC 13 05:29:08.6±0.7, 64°.01N±0°.03×148°.91W±0°.04, h127km±5km, n151, σ0.86/136, mb3.5/9, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCK	McKinley	0.28	182		Pn	05 29 25.9	-0.4
MCK				IAML		05 29 40.1	
	comp=E,562nm,1.3s						
MCK				IAML		05 29 40.9	
	comp=N,696nm,1.1s						
MCK	McKinley	0.28	182		Sn	05 29 39.8	+0.1
MCK	McKinley	0.28	182	P		05 29 26.3	
	baz=4.1,SNR=51						
MCK				S		05 29 39.6	
	baz=4.1						
WRH	Wood River Hil	0.59	37		Pn	05 29 27.8	0.0
WRH					Sn	05 29 42.1	-0.3
WRH	Wood River Hil	0.59	37	IAML		05 29 42.5	
	comp=E,512nm,0.8s						
NEA2	Nenana	0.59	353		Pn	05 29 27.6	-0.3
NEA2					Sn	05 29 41.9	-0.6
NEA2	Nenana	0.59	353	P		05 29 27.5	
	baz=173,SNR=182						
NEA2				S		05 29 41.8	
	baz=173						
RND	Reindeer	0.61	177		Pn	05 29 27.9	-0.2
RND					Sn	05 29 42.4	-0.4
RND	Reindeer	0.61	177	IAML		05 29 43.4	
	comp=N,706nm,0.8s						
CCB	Clear Creek Bu	0.80	37		Pn	05 29 29.2	-0.2
CCB					Sn	05 29 44.7	-0.5
CCB	Clear Creek Bu	0.80	37	IAML		05 29 45.0	
	comp=E,656nm,0.6s						
TRF	Thorofare Moun	0.83	228		Pn	05 29 29.9	0.0
TRF	Thorofare Moun	0.83	228	P		05 29 29.8	
	baz=48						
TRF				S		05 29 45.3	
	baz=48						
BPAW	Bear Paw Mtn.	0.92	277		Pn	05 29 30.1	-0.4
BPAW	Bear Paw Mtn.	0.92	277	P		05 29 30.1	
	baz=95,SNR=247						
BPAW				S		05 29 46.3	
	baz=95						
HDA	Harding Lake	0.95	64		Pn	05 29 30.4	-0.3
HDA					Sn	05 29 47.2	-0.3
HDA	Harding Lake	0.95	64	P		05 29 30.5	
	baz=245,SNR=52						
HDA				P		05 29 30.5	
	baz=245,SNR=52						
HDA				S		05 29 46.5	
	baz=245						
HDA				S		05 29 46.5	
	baz=245						
TCOL	CIGO, UAF Yank	0.98	27		Pn	05 29 30.7	-0.3
TCOL	CIGO, UAF Yank	0.98	27		Sn	05 29 47.1	-0.9
TCOL				IAML		05 29 48.1	
	comp=N,380nm,0.5s						
TCOL				IAML		05 29 48.2	
	comp=E,526nm,0.7s						
TCOL	CIGO, UAF Yank	0.98	27	P		05 29 30.7	
	baz=208,SNR=38						
TCOL				S		05 29 47.1	
	baz=208						
COLA	College	0.98	27		Pn	05 29 30.6	-0.3
COLA					Sn	05 29 47.2	-0.8
COLA	College	0.98	27	IAML		05 29 48.0	
	comp=E,456nm,0.5s						
COLA				IAML		05 29 48.1	
	comp=E,610nm,0.7s						
COLA	College	0.98	27	P		05 29 30.7	
	baz=208						
COLA				S		05 29 47.0	
	baz=208						
MDM	Murphy Dome	1.00	17		Pn	05 29 30.8	-0.4
KTH	Kantishna Hill	1.00	244		Pn	05 29 31.3	0.0
PS08	TAPS Pump Stn8	1.06	59		Pn	05 29 31.3	-0.4
PS08					Sn	05 29 48.6	-0.7
WAT2	Susitna Watana	1.06	172		Pn	05 29 31.6	-0.3
WAT2					Sn	05 29 49.9	+0.3
WAT2	Susitna Watana	1.06	172	P		05 29 31.7	
	baz=353,SNR=75						
HUR	Hurricane	1.09	198		Pn	05 29 31.9	-0.2
I23K	Minto, Yukon-K	1.16	351		Pn	05 29 32.4	-0.3
I23K	Minto, Yukon-K	1.16	351	P		05 29 32.4	
	baz=170,SNR=56						
I23K				S		05 29 50.2	
	baz=170						
IL31		1.17	48		Pn	05 29 32.1	-0.6
ILAR	Eielson Array	1.17	48	P	Pn	05 29 31.9	-0.9
	comp=E,6.8nm,0.3s,baz=231,slow=10,SNR=66						
ILAR				S	Sn	05 29 50.0	-1.2
	comp=E,13nm,0.3s,baz=236,slow=18,SNR=20						
ILAR	Eielson Array	1.17	48		Pn	05 29 32.9	+0.1
WAT1	Susitna Watana	1.20	172		Pn	05 29 32.8	-0.4
POKR	Poker Plat Res	1.28	29		Pn	05 29 33.8	-0.2
POKR					Sn	05 29 52.7	-0.7
POKR	Poker Plat Res	1.28	29	IAML		05 29 53.6	
	comp=N,103nm,1.1s						
POKR				IAML		05 29 57.3	
	comp=E,120nm,0.8s						
POKR	Poker Plat Res	1.28	29	P		05 29 33.8	
	baz=210,SNR=23						
POKR				S		05 29 52.5	
	baz=210						
CHUM	Lake Minchumin	1.51	267		Pn	05 29 36.2	-0.3
CHUM	Lake Minchumin	1.51	267	P		05 29 36.2	
	baz=84,SNR=75						
CHUM				S		05 29 57.0	
	baz=84						
CUT	Chulitna	1.73	201		Pn	05 29 38.1	-0.9
CUT				IAML		05 30 09.9	
	comp=N,812nm,0.6s						
CUT	Chulitna	1.73	201	P		05 29 38.7	
	baz=20,SNR=24						
PPLA	Purkeypile	1.85	234		Pn	05 29 40.5	-0.2
PPLA	Purkeypile	1.85	234	P		05 29 40.4	
	baz=52,SNR=40						
PPLA				S		05 30 04.8	
	baz=52						
PAX	Paxson	1.86	123		Pn	05 29 40.6	-0.2
PAX	Paxson	1.86	123	P		05 29 40.6	
	baz=306,SNR=135						
PS06	TAPS Pump Stn6	1.89	350		Pn	05 29 40.6	-0.3
PRP	Porcupine Dome	2.10	42		Pn	05 29 43.1	-0.6
PRP	Porcupine Dome	2.10	42	IAML		05 30 10.7	
	comp=N,79nm,0.5s						
PRP				IAML		05 30 12.7	
	comp=E,54nm,0.5s						
PRP	Porcupine Dome	2.10	42	P		05 29 43.1	
	baz=225,SNR=12						
PRP				S		05 30 09.2	
	baz=225						
SCRK	Sand Creek	2.17	89		Pn	05 29 44.1	-0.5
SCRK	Sand Creek	2.17	89	IAML		05 30 12.2	
	comp=E,162nm,0.9s						
SCRK	Sand Creek	2.17	89	P		05 29 44.0	
	baz=273,SNR=55						
SCRK				S		05 30 11.0	
	baz=273						
DOT	Dot Lake	2.18	97		Pn	05 29 43.9	-0.7
SML	Sawmill	2.23	173		Pn	05 29 45.1	-0.1
SML	Sawmill	2.23	173	IAML		05 30 20.7	
	comp=N,612nm,0.5s						
SML				IAML		05 30 21.6	
	comp=E,382nm,0.4s						
SML	Sawmill	2.23	173	P		05 29 45.1	
	baz=354,SNR=24						
GHO	Glory Hole Cre	2.25	180		Pn	05 29 45.2	-0.3
GHO	Glory Hole Cre	2.25	180	IAML		05 30 22.4	
	comp=N,639nm,0.4s						
M24K	Tolsona, Glenn	2.28	146		Pn	05 29 45.8	-0.1
M24K	Tolsona, Glenn	2.28	146	IAML		05 30 26.9	
	comp=N,301nm,0.8s						
M24K				IAML		05 30 28.5	
	comp=E,371nm,0.8s						
M24K	Tolsona, Glenn	2.28	146	P		05 29 45.7	
	baz=328,SNR=18						
SCM	Sheep Creek Mo	2.30	161		Pn	05 29 45.7	-0.5
SCM	Sheep Creek Mo	2.30	161	IAML		05 30 24.0	
	comp=E,425nm,0.7s						
SKT	Skwentna	2.36	212		Pn	05 29 46.2	-0.6
SKT				IAML		05 30 25.5	
	comp=N,284nm,0.3s						
SKT				IAML		05 30 25.6	
	comp=E,191nm,0.3s						
SKT	Skwentna	2.36	212	P		05 29 46.0	
	baz=30						
PMR	Palmer	2.43	182		Pn	05 29 47.9	+0.2
PMR	Palmer	2.43	182	IAML		05 30 24.8	
	comp=N,293nm,0.5s						
PMR				IAML		05 30 26.2	
	comp=E,262nm,0.3s						
PMR	Palmer	2.43	182	P		05 29 47.0	
	baz=2.5,S

comp=E,240nm,0.7s
SUA IAML 05 30 33.1
comp=N,252nm,0.7s
SUA Susitna One 2.69 199 P 05 29 51.1
baz=18,SNR=28
IM03 2.85 316 Pn 05 29 52.5 -0.6
IMAR Indian Mountai 2.85 316 Pn 05 29 52.0 -1.1
STLK Strandline Lak 2.86 209 Pn 05 29 52.7 -0.6
KLU Klutina 2.88 150 Pn 05 29 53.5 0.0
KLU Klutina 2.88 150 IAML 05 30 42.4
comp=N,128nm,0.7s
KLU IAML 05 30 43.8
comp=E,103nm,0.4s
KLU Klutina 2.88 150 P 05 29 52.6
baz=333,SNR=13
PS05 TAPS Pump Stn5 2.91 346 Pn 05 29 53.1 -0.6
RC01 Rabbit Creek A 2.96 188 Pn 05 29 54.4 0.0
RC01 Rabbit Creek A 2.96 188 IAML 05 30 38.7
comp=N,363nm,0.9s
RC01 Rabbit Creek A 2.96 188 P 05 29 54.4
baz=7.2,SNR=15
FYU Fort Yukon 3.00 29 Pn **Pn 05 29 53.8 -1.1**
FYU IAML 05 31 08.5
comp=N,68nm,4.1s
K27K Chicken 3.01 87 Pn 05 29 54.5 -0.6
K27K Chicken 3.01 87 IAML 05 30 31.9
comp=N,82nm,0.8s
K27K Chicken 3.01 87 P 05 29 54.5
baz=273
K27K S 05 30 30.0
baz=273
CGLM Capps Glacier 3.06 209 Pn 05 29 55.9 -0.1
PS12 TAPS Pump St12 3.08 144 Pn 05 29 55.5 -0.6
N25K Chitina, Valde 3.12 139 Pn 05 29 56.6 -0.1
N25K Chitina, Valde 3.12 139 P 05 29 56.4
baz=323,SNR=8.0
N25K S 05 30 33.3
baz=323
SPCP Crater Peak Br 3.13 210 Pn 05 29 57.2 +0.2
JPK Jack Peak 3.15 159 Pn 05 29 56.2 -0.9
PWL Port Wells 3.17 175 Pn 05 29 56.9 -0.5
SPCN Chakachatna No 3.18 210 Pn 05 29 57.9 +0.5
DIV Divide 3.24 152 Pn 05 29 57.5 -0.7
GLI Glacier Island 3.25 164 Pn 05 29 57.3 -1.1
GLI Glacier Island 3.25 164 P 05 29 57.3
baz=346
COLD Coldfoot 3.28 351 Pn 05 29 58.0 -0.5
COLD Coldfoot 3.28 351 P 05 29 57.9
baz=170
BC03 3.33 103 Pn 05 29 58.2 -1.0
BCAR Beaver Creek A 3.33 103 Pn 05 29 57.8 -1.5
TT01 Tatalina 3.38 254 Pn 05 29 59.3 -0.6
CAPN Captain Cook N 3.42 199 Pn 05 30 00.4 -0.1
EGAK Eagle 3.46 74 Pn 05 30 00.3 -0.6
EGAK Eagle 3.46 74 IAML 05 30 42.2
comp=N,97nm,0.8s
EGAK IAML 05 30 42.3
comp=N,72nm,0.8s
EGAK Eagle 3.46 74 P 05 29 59.9
baz=260,SNR=13
EGAK S 05 30 39.7
baz=260
FID Port Fidalgo 3.46 160 Pn 05 30 00.0 -1.1
FID IAML 05 30 57.9
comp=N,217nm,0.4s
O22K Cooper Landing 3.56 186 Pn 05 30 01.9 -0.4
O22K Cooper Landing 3.56 186 P 05 30 01.6
baz=5.9
O22K S 05 30 43.6
baz=5.9
SLKM Skilak Lake 3.57 190 Pn 05 30 02.1 -0.4
BMRM Bremner River 3.65 145 Pn 05 30 02.5 -1.1
BMRM Bremner River 3.65 145 IAML 05 30 46.4
comp=E,79nm,0.8s
BMRM IAML 05 31 05.8
comp=N,77nm,0.9s
BMRM Bremner River 3.65 145 P 05 30 02.5
baz=329,SNR=5.8
EYAK Cordova Ski Ar 3.77 156 Pn 05 30 04.5 -0.7
EYAK Cordova Ski Ar 3.77 156 P 05 30 04.2
baz=338,SNR=5.4
MCARA McCarthy VSAT 3.78 132 Pn 05 30 05.9 +0.6
MCARA McCarthy VSAT 3.78 132 IAML 05 31 19.6
comp=E,54nm,0.7s
MCARA IAML 05 31 30.0
comp=N,44nm,0.7s
HIN Hinchinbrook I 3.80 162 Pn 05 30 04.6 -0.9
HIN Hinchinbrook I 3.80 162 IAML 05 31 06.8
comp=E,196nm,1.0s
DFR Drift River 3.86 209 Pn 05 30 06.1 -0.3
BM03 Burnt Mountain 3.86 26 Pn 05 30 05.7 -0.6
BMAR Burnt Mountain 3.87 26 Pn 05 30 05.5 -1.0
SEW Seward 3.93 184 Pn 05 30 06.8 -0.3
SEW Seward 3.93 184 P 05 30 06.4
baz=3.6
SEW S 05 30 51.4
baz=3.6
GOAT Goat Mountain 3.96 149 Pn 05 30 06.7 -0.9
BVCY Beaver Creek 3.98 110 Pn 05 30 07.0 -1.0
RSO Redoubt South 3.99 209 Pn 05 30 08.2 0.0
PTPK Patty Peak 4.11 131 Pn 05 30 09.4 -0.4
RAGM Ragged Mountai 4.14 149 Pn 05 30 09.9 -0.2
DAWY Dawson 4.19 85 Pn 05 30 10.2 -0.5
CRQM Cirque 4.23 138 Pn 05 30 10.8 -0.6
CRQM Cirque 4.23 138 IAML 05 31 02.1
comp=E,48nm,2.5s
CRQM IAML 05 31 30.6
comp=N,61nm,1.1s
CRQE Cirque 4.25 138 P 05 30 10.7
baz=323
SVW2 Sparrevohn 4.25 230 Pn 05 30 11.2 -0.3
HMT Hamilton 4.28 147 Pn **Pn 05 30 11.5 -0.4**
HMT IAML 05 31 26.6
comp=N,140nm,0.4s
YUK2 White River 4.31 117 Pn 05 30 12.0 -0.4
TGL Tana Glacier 4.32 136 Pn 05 30 11.4 -1.2
TGL Tana Glacier 4.32 136 IAML 05 31 30.3
comp=E,35nm,0.6s
TGL IAML 05 31 44.9
comp=N,47nm,2.4s
BRLK Bradley Lake 4.36 193 Pn 05 30 13.2 +0.2
BRLK IAML 05 31 06.2
comp=E,64nm,0.4s
BRLK IAML 05 31 22.9
comp=N,62nm,0.6s
BRSE Bradley Lake S 4.37 192 Pn 05 30 12.7 -0.4
BRSE Bradley Lake S 4.37 192 P 05 30 12.7
baz=11
BERG Berg Lake 4.37 144 Pn 05 30 12.1 -1.0
BERG Berg Lake 4.37 144 IAML 05 31 06.5
comp=N,73nm,1.6s
BERG IAML 05 31 39.0
comp=E,92nm,1.5s
NICHA Nichawak Mount 4.44 146 Pn 05 30 13.4 -0.7
IVE Iliamna Volcan 4.45 208 Pn 05 30 13.8 -0.4
ILS Iliamna Low So 4.51 208 Pn 05 30 15.2 0.0
HOM Homer 4.55 198 Pn **Pn 05 30 16.8 +1.3**
KAIM Kayak Island 4.61 151 Pn 05 30 15.6 -0.8
SUCK Suckling Hills 4.63 146 Pn 05 30 16.1 -0.5
SUCK Suckling Hills 4.63 146 IAML 05 32 15.1
comp=E,106nm,4.2s
CNPM China Poot 4.63 195 Pn 05 30 16.0 -0.6
CNPM China Poot 4.63 195 IAML 05 31 25.9
comp=N,98nm,0.5s
CNPM IAML 05 31 25.9
comp=E,110nm,0.8s
CTGM Chitina Glacie 4.66 128 Pn 05 30 16.3 -0.8
CTGM IAML 05 31 13.2
comp=N,36nm,3.4s
CTGM IAML 05 31 40.6
comp=E,27nm,3.6s
TOLK Toolik Lake Re 4.66 357 Pn 05 30 17.2 +0.3
TOLK Toolik Lake Re 4.66 357 P 05 30 17.4
baz=176,SNR=7.9
GRNC Granite Creek 4.68 131 Pn **Pn 05 30 19.4 +1.9**
GRNC IAML 05 32 27.0
comp=N,37nm,3.4s
GRNC IAML 05 33 20.2
comp=E,27nm,4.2s
KULT Kultieth River 4.76 140 Pn 05 30 17.9 -0.5
SNH Sunshine Point 4.79 141 Pn 05 30 18.0 -0.7
OPT Oil Point 4.83 207 Pn 05 30 19.2 0.0
YAH Yahtse 4.96 134 Pn 05 30 22.2 +1.0
YAH IAML 05 33 14.2
comp=E,66nm,3.9s

MESA MESA 5.05 136 Pn 05 30 21.2 -1.1
EPYK Eagle Plains 5.65 60 Pn **Pn 05 30 29.8 -0.4**
EPYK Eagle Plains 5.65 60 P 05 30 29.0
baz=251,SNR=13
KDAK Kodiak Island 6.50 198 P **Pn 05 30 38.7 -2.9**
comp=E,0.4nm,0.3s,baz=64,slow=8.5,SNR=6.6
KDAK S **Sn 05 31 50.2 -4.2**
comp=E,1.1nm,0.3s,baz=217,slow=22,SNR=7.0
KDAK Kodiak Island 6.50 198 Pn 05 30 40.9 -0.7
WHY Whitehorse 7.34 111 Pn 05 30 51.2 -1.8
INK Inuvik 7.57 49 P **Pn 05 30 55.5 -0.4**
comp=E,0.3nm,0.3s,baz=236,slow=17,SNR=9.9
INK Inuvik 7.57 49 Pn 05 30 55.2 -0.7
A21K Barrow 7.90 342 Pn 05 30 59.1 -1.3
YKA Yellowknife Ar 15.41 80 P **Pn 05 32 39.2 +0.4**
comp=E,0.1nm,0.3s,baz=292,slow=11,SNR=6.5
AMKA Amchitka 20.89 248 P **P 05 33 41.4 +1.0**
RES Resolute Bay 20.90 37 P **P 05 33 40.6 +0.4**
SEY Seymchan 25.45 295 P **P 05 34 22.1 -2.0**
comp=E,1.5nm,0.5s,baz=75,slow=13,SNR=4.0
EGMT Eagleton 26.53 108 P **P 05 34 34.7 +0.6**
K05A Summer Lake 26.69 130 P **P 05 34 36.5 +0.8**
K05A IAmb IAmb 05 34 37.3
comp=E,2.6nm,1.1s
YNE Yellowstone No 28.84 113 P **P 05 34 56.5 +1.6**
YNE IAmb IAmb 05 35 08.3
comp=E,1.0nm,1.0s
TIXI Tiksi 29.50 320 P **P 05 35 02.1 +2.0**
TIXI IAmb IAmb 05 35 07.8
comp=E,1.8nm,1.1s
ULM Lac du Bonnet 30.87 91 P **P 05 35 11.9 -0.4**
comp=Z,1.6nm,0.8s,baz=304,slow=5.8,SNR=3.9
PDAR Pinedale Array 30.88 115 P **P 05 35 14.8 +1.9**
comp=Z,0.4nm,0.5s,baz=350,slow=6.6,SNR=4.5
NVAR Mina Array Bea 31.41 130 P **P 05 35 17.9 +0.4**
comp=Z,0.4nm,0.7s,baz=340,slow=8.2,SNR=3.8
KLR Kul'dur 43.00 289 P **P 05 36 53.1 -1.7**
comp=Z,0.6nm,0.6s,baz=63,slow=11,SNR=3.6
TXAR Lajitas Array 44.89 119 P **P 05 37 10.7 +0.4**
comp=Z,0.3nm,0.7s,baz=335,slow=5.5,SNR=4.1
TXAR Lajitas Array 44.89 119 P **P 05 37 10.9 +0.7**

IDC ***13*** *05:35:51.6±1.4,38°.31N×110°.05E,h0km,mb3.4/6, mb1 3.6/7,mb1mx3.4/43,mbtmp3.4/7,ML3.5/1,MS3.4/1, Ms1 3.4/1,ms1mx2.6/46,Error ellipse: s-maj=46.9km s-min=18.0km az=65.0*

ISC 13 05:35:56.4±1.3,38.4N±0.1×110.0E±0.3,h35km,n7, σ1°25/7,mb3.4/6,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.83**	**345**			**Pn**	**Pn**	**05 38 14.6**	**-0.8**
	0.4nm,0.3s,baz=169,slow=14,SNR=3.6								
SONM					Lg	Lg		05 41 05.8	
	0.1nm,0.3s,baz=154,slow=25,SNR=4.4								
MKAR	**Makanchi Array**	**22.01**	**301**			**P**	**P**	**05 40 48.0**	**+0.4**
	0.4nm,0.6s,baz=101,slow=11,SNR=4.7								
MKAR						LR	LR	05 50 19.3	
	comp=Z,97nm,18.5s,baz=319,slow=39								
CMAR	**Chiang Mai Arr**	**22.07**	**209**			**P**	**P**	**05 40 47.9**	**-0.4**
	0.6nm,0.3s,baz=14,slow=9.8,SNR=6.3								
ZALV	**Zalesovo Beam**	**23.23**	**320**			**P**	**P**	**05 41 02.4**	**+2.2**
	0.4nm,0.3s,baz=116,slow=16,SNR=1.7								
KURBB	**Kurchatov Arra**	**25.39**	**309**			**P**	**P**	**05 41 19.6**	**-0.7**
	0.8nm,0.9s,baz=107,slow=11,SNR=6.2								
WRA	**Warramunga Arr**	**62.33**	**154**			**P**	**P**	**05 46 15.4**	**+0.1**
	0.8nm,0.9s,baz=326,slow=4.5,SNR=2.7								
ASAR	**Alice Springs**	**65.64**	**156**			**P**	**P**	**05 46 37.4**	**+0.3**
	0.6nm,0.8s,baz=338,slow=6.3,SNR=4.5								

IDC ***13*** *06:00:31.7±1.1,27°.52N×57°.37E,h0km,mb3.8/11, mb1 3.8/12,mb1mx3.7/51,mbtmp3.8/12,ML4.0/1,MS3.8/2, Ms1 3.8/2,ms1mx2.8/61,Error ellipse: s-maj=24.5km s-min=20.1km az=128.0*
DSN ***13*** *06:00:34.7±1.9,27°.36N×57°.82E,h10km,ML4.4/10,Error ellipse: s-maj=34.7km s-min=11.0km az=153.0*
TEH ***13*** *06:00:34.3,27°.54N×57°.44E,h20km,ML4.3*
THR ***13*** *06:00:36.5±0.3,27°.62N×57°.36E,h14km±11km,ML4.0*
OMAN ***13*** *06:00:36.6,27°.39N×57°.63E,h10km,mb5.3/3,ml3.8/13, ms2.6/1*

ISC 13 06:00:34.0±1.2,27°.51N±0°.04×57°.47E±0°.04,h14km±8km, n93,σ1°78/106,mb3.6/10,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.49**	**25**	*e*Pg		**Pg**		**06 00 44.4**	**+0.7**
GENO	**Geno**	**1.16**	**265**	*e*Pg		**Pb**		**06 00 56.3**	**+0.3**
GENO				*e*				06 01 13.3	
	comp=Z,99nm,0.2s								
BNDS	**Bandar-Abbas**	**1.16**	**265**	*e*Pg		**Pg**		**06 00 56.6**	**+0.2**
BNDS				*e*Sg		**Sb**		**06 01 11.6**	**+0.5**
BNDS				IAML				06 01 12.6	
	comp=N,4μm,0.5s								
BNDS	**Bandar-Abbas**	**1.16**	**265**	*e*Pg		**Pg**		**06 00 56.6**	**+0.2**
KBAM	**BAM**	**1.84**	**28**	*e*				06 01 37.3	
	comp=Z,99nm,0.3s								
KBAM				*e*Pg		**Pn**		**06 01 07.2**	**+1.9**
SHME	**Shamm**	**1.88**	**220**	*e*P		**Pn**		**06 01 07.8**	**+2.1**
	SNR=136								
SHME				S		**Sg**		**06 01 33.7**	**-0.7**
SHME	**Shamm**	**1.88**	**220**	*e*Pn		**Pn**		**06 01 07.8**	**+2.1**
SHME	**Shamm**	**1.88**	**220**	P		**Pb**		**06 01 08.3**	**+0.2**
	SNR=123								
SHME				S		**Sg**		**06 01 33.8**	**-0.7**
BANOM	**Banah**	**1.89**	**214**	*e*P		**Pn**		**06 01 07.9**	**+1.8**
	SNR=76								
BANOM				S		**Sg**		**06 01 34.9**	**-0.1**
BANOM	**Banah**	**1.89**	**214**	*e*Pn		**Pb**		**06 01 08.3**	**-0.1**
BANOM	**Banah**	**1.89**	**214**	P		**Pb**		**06 01 08.4**	**-0.1**
	SNR=218								
BANOM				S		**Sg**		**06 01 34.7**	**-0.3**
NGRK	**Negar Kerman**	**2.23**	**343**	*e*Pn		**Pn**		**06 01 12.4**	**+1.5**
CHMN	**Cheshme madani**	**2.35**	**1**	*e*Pn		**Pn**		**06 01 14.4**	**+1.8**
CHMN				*e*				06 01 51.8	
	comp=Z,99nm,0.8s								
MASF	**Masafi**	**2.43**	**209**	P		**Pb**		**06 01 17.2**	**-0.4**
	SNR=14								
MASF				S		**Sg**		**06 01 51.1**	**-1.1**
MDH	**Madha**	**2.44**	**206**	P		**Pn**		**06 01 14.6**	**+1.1**
MDH	**Madha**	**2.44**	**206**	*e*Pn		**Pn**		**06 01 15.6**	**+2.1**
MDH	**Madha**	**2.44**	**206**	P		**Pn**		**06 01 15.4**	**+1.9**
MDH				S		**Sn**		**06 01 44.1**	**+1.0**
MSFE	**Esma-Masafi**	**2.44**	**209**	*e*P		**Pn**		**06 01 15.1**	**+1.5**
	SNR=11								
MSFE	**Esma-Masafi**	**2.44**	**209**	*e*Pn		**Pn**		**06 01 16.6**	**+3.0**
KRBR	**Kerman**	**2.54**	**346**	*e*Pn		**Pn**		**06 01 17.8**	**+2.6**
KRBR				IAML				06 02 01.3	
	comp=N,664nm,0.5s								
KRBR	**Kerman**	**2.54**	**346**	*e*Pn		**Pn**		**06 01 17.8**	**+2.6**
TVBK	**TV Kerman**	**2.55**	**346**	*e*Pn		**Pn**		**06 01 18.0**	**+2.7**
TVBK				*e*				06 01 19.6	
	comp=Z,99nm,0.2s								
LAR1	**LAR**	**2.75**	**274**	*e*Pn		**Pn**		**06 01 17.7**	**-0.2**
LAR1				*e*				06 02 12.4	
	comp=Z,99nm,0.4s								
UOSS	**Minazif**	**2.79**	**204**	P		**Pn**		**06 01 19.2**	**+0.8**
UOSS	**Minazif**	**2.79**	**204**	*e*Pn		**Pn**		**06 01 20.8**	**+2.4**
UOSS	**Minazif**	**2.79**	**204**	P		**Pn**		**06 01 20.5**	**+2.2**
HATD	**Hatta, Dubai**	**2.93**	**205**	P		**Pn**		**06 01 22.4**	**+2.1**
HATD	**Hatta, Dubai**	**2.93**	**205**	*e*Pn		**Pn**		**06 01 22.5**	**+2.3**
NAZ	**Nazwa, Dubai**	**2.99**	**213**	*e*Pn		**Pn**		**06 01 22.3**	**+1.2**
KHGB	**Koh Gabri**	**2.99**	**343**	*e*Pn		**Pn**		**06 01 24.1**	**+2.8**
KHGB				*e*				06 01 31.4	
	comp=Z,99nm,0.3s								
ASHO	**Ashiyiah**	**3.08**	**205**	*i* P		**Pn**		**06 01 24.4**	**+2.0**
	SNR=9.8								
ASHO	**Ashiyiah**	**3.08**	**205**	*e*Pn		**Pn**		**06 01 24.5**	**+2.1**
ASHO	**Ashiyiah**	**3.08**	**205**	P		**Pn**		**06 01 25.9**	**+3.5**
	SNR=13								
FAQ	**Al Faqa, Dubai**	**3.23**	**212**	P		**Pn**		**06 01 27.9**	**+3.5**
FAQ	**Al Faqa, Dubai**	**3.23**	**212**	*e*Pn		**Pn**		**06 01 27.8**	**+3.5**
CHBR	**Chabahar**	**3.30**	**125**	*e*Pn		**Pb**		**06 01 31.8**	**-0.6**
CHBR	**Chabahar**	**3.30**	**125**	*e*Pn		**Pb**		**06 01 31.8**	**-0.6**
ASUD	**Al Ashush, Dub**	**3.46**	**214**	*i* P		**Pn**		**06 01 31.4**	**+3.9**
	SNR=24								
ASUD	**Al Ashush, Dub**	**3.46**	**214**	P		**Pn**		**06 01 31.3**	**+3.8**
	SNR=25								
SOHO	**SOHO**	**3.46**	**194**	P		**Pn**		**06 01 27.6**	**0.0**
SOHO	**SOHO**	**3.46**	**194**	*e*Pn		**Pn**		**06 01 28.9**	**+1.3**
AJN	**Ajban**	**3.69**	**218**	*i* P		**Pn**		**06 01 32.7**	**+2.1**
	SNR=5.9								
AJN	**Ajban**	**3.69**	**218**	*e*Pn		**Pn**		**06 01 31.2**	**+0.6**
AJN	**Ajban**	**3.69**	**218**	P		**Pn**		**06 01 33.3**	**+2.7**
	SNR=6.1								
AJN				S		**Sn**		**06 02 16.4**	**+2.5**
HOQ	**Hoqain**	**3.91**	**182**	P		**Pn**		**06 01 34.9**	**+1.1**
HOQ				S		**Sn**		**06 02 21.5**	**+2.0**
	SNR=20								
BIDO	**Bidbid**	**4.01**	**171**	*e*Pn		**Pn**		**06 01 36.4**	**+1.3**
BIDO	**Bidbid**	**4.01**	**171**	P		**Pn**		**06 01 36.6**	**+1.4**
	SNR=8.0								
QIR1	**Qir**	**4.03**	**285**	*e*Pn		**Pn**		**06 01 35.5**	**0.0**
QIR1				*e*				06 02 34.1	
	comp=Z,99nm,0.1s								
ARQ	**Araqi**	**4.24**	**192**	P		**Pn**		**06 01 42.0**	**+3.7**
	SNR=52								
ARQ				S		**Sn**		**06 02 31.0**	**+3.4**
WSAR	**Wadi Sarin**	**4.38**	**166**	Pn		**Pn**		**06 01 41.8**	**+1.6**
	comp=Z,8.0nm,0.3s,baz=348,slow=4.5,SNR=150								
WSAR				Sn		**Sn**		**06 02 30.6**	**-0.4**
	comp=Z,9.1nm,0.3s,baz=231,slow=12,SNR=4.9								
SMDO	**Samad**	**4.46**	**173**	P		**Pn**		**06 01 43.7**	**+2.3**
	SNR=13								
SMDO				S		**Sn**		**06 02 34.9**	**+1.7**
NHDN	**Nehbandan**	**4.48**	**30**	*e*Pn		**Pn**		**06 01 42.6**	**+0.9**
IMEH	**Mehriz**	**4.60**	**328**	*e*Pn		**Pn**		**06 01 44.1**	**+0.6**
BSRN	**Basiran**	**4.67**	**18**	*e*Pn		**Pn**		**06 01 47.7**	**+3.4**
BSRN	**Basiran**	**4.67**	**18**	*e*Pn		**Pn**		**06 01 47.7**	**+3.4**
WBK	**Wadi Bani Khal**	**5.06**	**164**	P		**Pn**		**06 01 51.6**	**+2.0**
	SNR=5.5								
WBK				S		**Sn**		**06 02 47.3**	**-0.6**
IKOO	**Kooshah**	**5.08**	**15**	*e*Pn		**Pn**		**06 01 50.7**	**+0.7**
JMDO	**Jabal Madar**	**5.15**	**173**	P		**Pn**		**06 01 53.6**	**+2.9**
ICHK	**Chekchek**	**5.42**	**331**	*e*Pn		**Pn**		**06 01 55.7**	**+1.0**
ITEG	**Tejag**	**5.49**	**11**	*e*Pn		**Pn**		**06 01 57.8**	**+2.3**
ISAD	**Sadrabad**	**5.49**	**324**	*e*Pn		**Pn**		**06 01 56.8**	**+1.1**
TPRV	**Parvadeh(Tabas**	**5.55**	**353**	*e*Pn		**Pn**		**06 01 57.9**	**+1.6**
JLN	**Jalan Banì Buh**	**5.62**	**161**	P		**Pn**		**06 01 58.9**	**+1.7**
JLN				S		**Sn**		**06 03 01.1**	**-0.4**
IMQN	**Monand**	**5.98**	**18**	*e*Pn		Pn		06 02 07.5	+5.2
AFRZ	**Afriz**	**6.05**	**12**	*e*Pn		**Pn**		**06 02 05.8**	**+2.6**
TKDS	**Koohdasht(Taba**	**6.09**	**357**	*e*Pn		**Pn**		**06 02 05.9**	**+2.0**
IRAM	**Ramesheh**	**6.17**	**315**	*e*Pn		**Pn**		**06 02 04.8**	**-0.1**
KLNJ	**Kolanjah**	**6.21**	**306**	*e*Pn		**Pn**		**06 02 05.4**	**-0.3**
TNSJ	**Nastanj**	**6.48**	**354**	*e*Pn		**Pn**		**06 02 09.5**	**+0.4**
MHTO	**MHTO**	**6.51**	**176**	P		**Pn**		**06 02 12.2**	**+2.8**
MHTO				S		**Sn**		**06 03 24.0**	**+0.6**
ANAR	**Anarak**	**6.52**	**331**	*e*Pn		**Pn**		**06 02 10.0**	**+0.2**
IGAR	**Gharneh**	**6.78**	**317**	*e*Pn		**Pn**		**06 02 13.4**	**0.0**
IZEF	**Zefreh**	**6.97**	**322**	*e*Pn		**Pn**		**06 02 15.5**	**-0.6**
DQM	**DQM**	**7.54**	**180**	P		**Pn**		**06 02 25.1**	**+1.4**
IPIR	**Pirpir**	**7.69**	**314**	*e*Pn		**Pn**		**06 02 25.3**	**-0.6**
IKLH	**Kolahrood**	**7.71**	**320**	*e*Pn		**Pn**		**06 02 25.6**	**-0.6**
ISFB	**Sefidab**	**8.17**	**328**	*e*Pn		**Pn**		**06 02 32.4**	**+0.1**
UMR	**Umm Al-Rimmam**	**8.82**	**286**	*e*P				06 02 38.8	
RDF	**Al-Radifah**	**8.87**	**281**	*e*P				06 02 38.6	
MIB	**Mutribah**	**9.19**	**287**	*e*P				06 02 43.7	
DMTO	**DMTO**	**10.02**	**194**	P		**Pn**		**06 02 56.7**	**-0.9**
	SNR=9.4								
WHFO	**Wadi Hawf**	**10.13**	**200**	P		**Pn**		**06 02 59.2**	**0.0**
	SNR=24								
WHFO				P		**Pn**		**06 02 59.2**	**0.0**
	SNR=24								
IGHG	**Ghaleghazi**	**11.57**	**309**	*e*Pn		**Pn**		**06 03 17.5**	**-1.5**
EIL	**Elat**	**19.89**	**282**	LR		LR		06 14 31.2	
	comp=Z,39nm,19.6s,baz=173,slow=42								
AAK	**Ala-Archa**	**20.48**	**38**	P		**P**		**06 05 12.4**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=219,slow=9.0,SNR=3.8								
AKTO	**Aktyubinsk**	**22.90**	**1**	P		**P**		**06 05 37.6**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=184,slow=9.9,SNR=8.6								
BRTR	**Keskin Array B**	**23.21**	**308**	P		**P**		**06 05 40.5**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=126,slow=11,SNR=9.3								
BVAR	**Borovoye Array**	**27.24**	**17**	P		**P**		**06 06 18.3**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=170,slow=4.2,SNR=5.4								
MKAR	**Makanchi Array**	**27.41**	**39**	P		**P**		**06 06 19.2**	**0.0**
	comp=Z,0.8nm,0.8s,baz=220,slow=7.3,SNR=4.4								
KURBB	**Kurchatov Arra**	**28.10**	**29**	P		**P**		**06 06 24.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=239,slow=8.6,SNR=4.2								
ZALV	**Zalesovo Beam**	**33.18**	**30**	P		**P**		**06 07 09.2**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=229,slow=8.4,SNR=8.1								
FINES	**FINESS Array B**	**39.90**	**337**	P		**P**		**06 08 05.6**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=156,slow=15,SNR=3.3								
SONM	**Songino Array**	**42.89**	**48**	P		**P**		**06 08 32.7**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=258,slow=7.2,SNR=2.1								
TORD	**Torodi Ar. Bea**	**53.81**	**266**	P		**P**		**06 09 55.1**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=64,slow=7.6,SNR=9.1								
JNU	**Nakatsue**	**62.44**	**65**	LR		LR		06 39 51.7	
	comp=Z,490nm,22.0s,baz=241,slow=38								
YKA	**Yellowknife Ar**	**90.09**	**356**	P		**P**		**06 13 33.5**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=3.8,slow=4.5,SNR=4.4								

NOU 13 06:17:15.4,17°.54S×168°.65E,h63km,MLv4.4,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.48**	**247**	P		P	Pn	06 17 28.9	+1.5
MARNC	**Mare, Loyalty**	**3.96**	**188**	P		P	Pn	06 18 13.5	-0.2
DZM	**Mont Dzumac**	**4.96**	**204**	P		P	Pn	06 18 27.1	-0.4
NOUC	**Port Laguerre**	**5.05**	**206**	P		P	Pn	06 18 28.7	+0.1
OUENC	**Ouen Island, N**	**5.14**	**199**	P		P	Pn	06 18 30.9	+1.0
ONTNC	**Ouen Toro**	**5.17**	**203**	P		P	Pn	06 18 29.9	-0.4

MAN ***13*** *06:21:02.8,13°.55N×120°.32E,h33km,mb4.5,ML3.3, MS3.5*
IDC ***13*** *06:21:03.8±4.5,13°.48N×120°.40E,h54km±46km,mb3.4/3, mb1 3.6/3,mb1mx3.1/38,mbtmp3.6/3,Error ellipse: s-maj=72.1km s-min=24.0km az=73.0*

ISC 13 06:21:02.9±1.0,13.53N±0°.04×120°.28E±0°.06,h47km±9km, n14,σ1°01/24,mb3.5/3,2C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.20**	**350**	*e*P		**P**	**Pn**	**06 21 11.0**	**0.0**
LUBP				*e*S			**Sn**	**06 21 16.8**	**+0.2**
PGP	**Puerto Galera**	**0.66**	**92**	*e*P		**P**	**Pn**	**06 21 15.4**	**-0.5**
PGP				*i* S			**Sn**	**06 21 23.7**	**-1.7**
MACP	**Maragondon, Ca**	**0.84**	**30**	*e*P		**P**	**Pn**	**06 21 17.8**	**-0.7**
MACP				*e*S			**Sn**	**06 21 28.8**	**-1.0**
TGY	**Tagaytay City**	**0.85**	**48**	P		**P**	**Pn**	**06 21 19.8**	**+1.2**
	631nm,0.3s,baz=237,slow=3.4,SNR=22								
TGY				S			**Sn**	**06 21 31.6**	**+1.5**
	714nm,0.3s,baz=142,slow=22,SNR=39								
TGY	**Tagaytay City**	**0.85**	**48**	*e*P		**P**	**Pn**	**06 21 19.9**	**+1.2**
TGY				*e*S			**Sn**	**06 21 31.6**	**+1.5**
SJMP	**San Jose**	**1.34**	**142**	*e*P		**P**	**Pn**	**06 21 26.8**	**+1.6**
SJMP				*

MSLP	**Maasin**	**1.54**	**273**	*e*P		**Pn**	**06 24 55.2**	**+0.4**
MSLP				*e*S		**Sn**	**06 25 15.2**	**+0.7**
BESP	**Borongan**	**1.82**	**328**	*e*P		**Pn**	**06 24 59.6**	**+1.0**
CGP	**Cagayan de Oro**	**2.33**	**227**⇓	*e*P		**Pn**	**06 25 07.2**	**+1.7**
CGP				*e*S		**Sn**	**06 25 34.8**	**+0.9**
LLP	**Lapu-Lapu**	**2.43**	**277**⇓	*e*P		**Pn**	**06 25 09.3**	**+2.2**
LLP				*e*S		**Sn**	**06 25 39.2**	**+2.7**
KCP	**Kidapawan**	**3.29**	**204**⇓	*i*P		**Pn**	**06 25 22.3**	**+3.3**
KCP				*i* S		Pn	06 25 25.4	+6.4
PAGZ	**Pagadian**	**3.71**	**234**	*e*P		**Pn**	**06 25 25.6**	**+1.0**
PAGZ				*e*S		Sn	06 25 56.6	-12
CNOP	**Candoni, Negro**	**3.73**	**267**	*e*P		**Pn**	**06 25 25.9**	**+1.0**
CNOP				*e*S		**Sn**	**06 26 07.3**	**-1.3**
GUIM	**Jordan**	**3.81**	**279**	*e*P		**Pn**	**06 25 28.6**	**+2.6**
SIJI	**Sorong**	**11.87**	**156**	LR		LR	06 33 37.8	
	comp=Z,73nm,18.4s,baz=80,slow=46							
SBUM	**Sibu**	**16.00**	**243**	Pn		**Pn**	**06 28 12.7**	**+0.2**
SBUM				IAmb		IAmb	06 28 20.7	
	comp=Z,7.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**27.88**	**291**	P		**P**	**06 30 16.0**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=101,slow=7.3,SNR=5.5							
CMAR				LR		LR	06 41 35.4	
	comp=Z,42nm,19.8s,baz=155,slow=37							
FITZ	**Fitzroy Crossi**	**27.98**	**182**	P		**P**	**06 30 17.9**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=39,slow=5.0,SNR=5.9							
XAN	**Xi'an**	**28.77**	**329**	P		**P**	**06 30 24.5**	**-0.6**
XAN				IAmb		IAmb	06 30 25.2	
	comp=Z,6.4nm,0.5s							
WRA	**Warramunga Arr**	**30.81**	**165**	P		**P**	**06 30 41.3**	**-1.9**
	comp=Z,0.8nm,1.0s,baz=329,slow=11,SNR=2.8							
WR0	**Warramunga Arr**	**30.87**	**165**	P		**P**	**06 30 42.5**	**-1.3**
WR0				IAmb		IAmb	06 31 08.0	
	comp=Z,6.6nm,1.2s							
ASAR	**Alice Springs**	**34.30**	**168**	P		**P**	**06 31 12.0**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=354,slow=7.4,SNR=2.7							
ASAR	**Alice Springs**	**34.30**	**168**	P		**P**	**06 31 15.0**	**+1.1**
KLR	**Kul'dur**	**39.31**	**6**	LR		LR	06 51 00.0	
	comp=Z,44nm,18.1s,baz=99,slow=40							
H11N1	**WAKE ISLAND Hy**	**40.19**	**71**	T		T	07 15 27.7	
	baz=264,slow=74,SNR=44							
H11N2	**WAKE ISLAND Hy**	**40.20**	**71**	T		T	07 15 24.9	
	baz=264,slow=74,SNR=35							
H11N3	**WAKE ISLAND Hy**	**40.20**	**71**	T		T	07 15 28.7	
	baz=264,slow=74,SNR=41							
FORT	**Forrest**	**40.62**	**178**	P		**P**	**06 32 07.3**	**+0.1**
SONM	**Songino Array**	**41.28**	**340**	P		**P**	**06 32 12.4**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=163,slow=16,SNR=6.0							
SONM	**Songino Array**	**41.28**	**340**	IAmb		IAmb	06 32 14.2	
	comp=Z,1.3nm,0.8s							
BBOO	**Buckleboo**	**43.60**	**168**	P		**P**	**06 32 31.0**	**-0.5**
BBOO				IAmb		IAmb	06 32 34.0	
	comp=Z,23nm,1.4s							
NWAO	**Narrogin (SRO)**	**43.62**	**191**	P		**P**	**06 32 31.7**	**-0.1**
STKA	**Stephens Creek**	**44.15**	**161**	P		**P**	**06 32 37.5**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=331,slow=16,SNR=3.0							
MK31	**Makanchi Array**	**52.29**	**323**	P		**P**	**06 33 38.5**	**-0.3**
MK31				IAmb		IAmb	06 33 39.5	
	comp=Z,2.3nm,0.7s							
MKAR	**Makanchi Array**	**52.29**	**323**	P		**P**	**06 33 37.9**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=121,slow=8.2,SNR=34							
MKAR	**Makanchi Array**	**52.29**	**323**	P		**P**	**06 33 38.7**	**-0.1**
MAKZ	**Makanchi**	**52.48**	**323**	P		**P**	**06 33 39.9**	**-0.3**
MAKZ				IAmb		IAmb	06 33 40.2	
	comp=Z,1.7nm,0.6s							
ZALV	**Zalesovo Beam**	**54.89**	**331**	P		**P**	**06 33 56.4**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=128,slow=3.7,SNR=3.1							
ABKAR	**Akbulak array**	**67.14**	**319**	P		**P**	**06 35 19.7**	**-1.3**
ILAR	**Eielson Array**	**79.57**	**26**	P		**P**	**06 36 35.9**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=238,slow=6.0,SNR=3.0							
FINES	**FINESS Array B**	**86.15**	**332**	P		**P**	**06 37 07.0**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=64,slow=4.4,SNR=7.5							
AKASG	**Malin Array Be**	**86.83**	**321**	P		**P**	**06 37 10.5**	**-1.3**
	comp=Z,0.1nm,0.2s,baz=67,slow=4.2,SNR=1.5							
YKA	**Yellowknife Ar**	**93.90**	**24**	P		**P**	**06 37 47.1**	**+2.4**
	comp=Z,0.5nm,0.8s,baz=304,slow=4.2,SNR=10							
PLCA	**Paso Flores**	**145.95**	**157**			**PKPdf**	**06 44 06.3**	**-0.4**

IDC 13 06:39:59.1±8.2, 49°01'N×104°20'E, h0km, Error ellipse: s-maj=46.6km s-min=36.3km az=131.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**1.88**	**128**	Pg	Pn	06 40 33.2	+0.6
	10nm,0.3s,baz=305,slow=17,SNR=123						
SONM				Lg	Lg	06 40 59.2	
	17nm,0.3s,baz=302,slow=25,SNR=31						
SONM				*i*		06 52 03.3	
	0.5nm,0.3s,baz=23,slow=19,SNR=4.0						
I34MN	**SONGINO INFRAS**	**1.91**	**129**	*i*		06 51 58.8	
	baz=311,slow=328,SNR=1.4						
I45RU	**USSURIYSK INFR**	**19.63**	**94**	*i*		08 40 00.0	
	baz=292,slow=333,SNR=1.8						

NNC 13 06:45:00.0±2.0, 54°44'N×86°06'E, h0km, mb3.7, mpv2.9, 7C-4D, Error ellipse: s-maj=26.1km s-min=10.4km az=155.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.88**	**236**	⇑P	Pg	06 45 16.6	-0.2
	0.2nm,0.3s						
ZAA0				⇓S	Sb	06 45 29.3	-1.1
	1.6nm,0.3s						
KURBB	**Kurchatov Arra**	**5.97**	**233**	⇑Pn	Pn	06 46 32.1	+2.5
	2.6nm,0.5s						
KURBB				⇑Sn	Sn	06 47 40.6	+2.0
	1.9nm,0.7s						
KURBB				⇑Lg	Lg	06 48 07.8	
	3.0nm,0.8s						
MK31	**Makanchi Array**	**8.02**	**199**	⇓Pn	Pn	06 46 59.4	+1.7
	0.7nm,0.6s,baz=26,slow=13,SNR=16						
MK31				⇑Sn	Sn	06 48 28.8	-0.3
	0.2nm,0.6s						
MK31				⇑Lg	Lg	06 49 10.6	
	0.6nm,0.8s,baz=19,slow=25,SNR=3.9						
MAKZ	**Makanchi**	**8.07**	**200**	⇓Pn	Pn	06 47 00.5	+2.2
	1.2nm,0.8s						
MAKZ				⇑Sn	Sn	06 48 31.7	+1.4
	0.5nm,0.7s						
MAKZ				⇓Lg	Lg	06 49 18.5	
	1.1nm,0.9s						

KRSC ***13*** *06:46:13.6±1.9, 51°.92N×160°.78E, h76km±30km, ML5.3*
BJI ***13*** *06:46:15.9±0.0, 52°.44N×160°.20E, h23km, mB5.1/28, mb4.7/41, Ms4.5/5, Ms7 4.2/1*
MOS ***13*** *06:46:17.8±0.9, 52°.06N×160°.54E, h62km, mb4.7/29, Error ellipse: s-maj=6.1km s-min=3.2km az=99.6*
NEIC ***13*** *06:46:17.0±1.9, 51°.94N±0°.09×160°.64E±0°.08, h34km±5km, mb4.7/59, Error ellipse: s-maj=12.5km s-min=7.4km az=186.0*
IDC ***13*** *06:46:20.8±0.6, 52°.19N×160°.45E, h60km±5km, mb4.0/25, mb1 4.1/30, mb1mx4.1/45, mbtmp4.3/30, MS3.6/7, Ms1 3.6/7, ms1mx3.2/41, Error ellipse: s-maj=15.0km s-min=9.4km az=157.0*

ISC 13 06:46:16.9±0.4, 51°.94N±0°.04×160°.73E±0°.04, h36km±2km, h37km:pP-P, n288, σ1°34/336, mb4.6/81, MS4.1/8, 11C-5D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.23**	**340**	PN	**Pn**	**06 46 36.5**	**-1.1**
SPN				S	**Sn**	**06 46 51.2**	**-1.8**
SPN	**Mys Shipunski**	**1.23**	**340**	*e*P	**Pn**	**06 46 36.5**	**-1.1**
SPN				*e*S	**Sn**	**06 46 51.2**	**-1.8**
RUS	**Russkaya**	**1.45**	**291**	PN	**Pn**	**06 46 39.8**	**-0.7**
RUS	**Russkaya**	**1.45**	**291**	*e*P	**Pn**	**06 46 39.8**	**-0.7**
DALK	**Dalny**	**1.63**	**313**	PN	**Pn**	**06 46 42.9**	**0.0**
DALK				S	**Sn**	**06 47 02.5**	**-0.1**
DALK	**Dalny**	**1.63**	**313**	*e*P	**Pn**	**06 46 42.9**	**0.0**
DALK				*e*S	**Sn**	**06 47 02.5**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.65**	**266**	PN	**Pn**	**06 46 42.8**	**-0.4**
KDTR				S	**Sn**	**06 47 01.8**	**-1.4**
KDTR	**Khodutka, Kamc**	**1.65**	**266**	*e*P	**Pn**	**06 46 42.8**	**-0.4**
KDTR				*e*S	**Sn**	**06 47 01.8**	**-1.4**
MTVR	**Mutnovka**	**1.66**	**290**	PN	**Pn**	**06 46 43.4**	**-0.1**
MTVR	**Mutnovka**	**1.66**	**290**	*e*P	**Pn**	**06 46 43.4**	**-0.1**
PET	**Petropavlovsk**	**1.67**	**311**	⇑*i*PN	**Pn**	**06 46 43.5**	**-0.1**
PET				*e*S	**Sn**	**06 47 03.1**	**-0.5**
PET				pmax	pmax		
	comp=Z,3μm,0.5s						
PET				smax	smax		
	comp=E,7μm,0.6s						
PET				smax	smax		
	comp=N,7μm,0.5s						
PET	**Petropavlovsk**	**1.67**	**311**	*e*P	**Pn**	**06 46 43.4**	**-0.1**
PET				*e*S	**Sn**	**06 47 03.3**	**-0.3**
PET	**Petropavlovsk**	**1.67**	**311**		**Pn**	**06 46 43.1**	**-0.4**
PET				Sn	**Sn**	**06 47 03.1**	**-0.5**
UGLR	**Uglovaya**	**1.72**	**318**	PN	**Pn**	**06 46 44.6**	**+0.3**
UGLR	**Uglovaya**	**1.72**	**318**	*e*P	**Pn**	**06 46 44.6**	**+0.3**
GRL	**Gorelyy**	**1.74**	**292**	PN	**Pn**	**06 46 45.1**	**+0.4**
GRL	**Gorelyy**	**1.74**	**292**	*e*P	**Pn**	**06 46 45.1**	**+0.4**
SDLR	**Sedlovina**	**1.75**	**321**	PN	**Pn**	**06 46 44.5**	**-0.2**
SDLR	**Sedlovina**	**1.75**	**321**	*e*P	**Pn**	**06 46 44.5**	**-0.2**
SMAR	**Somma**	**1.77**	**319**	PN	**Pn**	**06 46 44.8**	**-0.3**
SMAR	**Somma**	**1.77**	**319**	*e*P	**Pn**	**06 46 44.8**	**-0.3**
AVH	**Avacha**	**1.80**	**318**	PN	**Pn**	**06 46 45.8**	**+0.4**
AVH	**Avacha**	**1.80**	**318**	*e*P	**Pn**	**06 46 45.8**	**+0.4**
ASAK	**Asacha**	**1.80**	**285**	PN	**Pn**	**06 46 45.6**	**+0.2**
ASAK	**Asacha**	**1.80**	**285**	*e*P	**Pn**	**06 46 45.6**	**+0.2**
KRER	**Koryakskii**	**1.82**	**319**	PN	**Pn**	**06 46 46.3**	**+0.5**
KRER				S	**Sn**	**06 47 10.0**	**+2.3**
KRER	**Koryakskii**	**1.82**	**319**	*e*P	**Pn**	**06 46 46.3**	**+0.5**
KRER				*e*S	**Sn**	**06 47 10.0**	**+2.3**
KRMR	**Karymshinskiy**	**1.82**	**300**	PN	**Pn**	**06 46 46.6**	**+1.0**
KRMR				S	**Sn**	**06 47 08.9**	**+1.4**
KRMR	**Karymshinskiy**	**1.82**	**300**	*e*P	**Pn**	**06 46 46.6**	**+1.0**
KRMR				*e*S	**Sn**	**06 47 08.9**	**+1.4**
KOK	**Koryaka**	**1.86**	**317**	PN	**Pn**	**06 46 46.5**	**+0.3**
KOK				S	**Sn**	**06 47 11.0**	**+2.5**
KOK	**Koryaka**	**1.86**	**317**	*e*P	**Pn**	**06 46 46.5**	**+0.3**
KOK				*e*S	**Sn**	**06 47 11.0**	**+2.5**
KRX	**Arik**	**1.90**	**319**	PN	**Pn**	**06 46 47.0**	**+0.1**
KRX				S	**Sn**	**06 47 10.8**	**+1.2**
KRX	**Arik**	**1.90**	**319**	*e*P	**Pn**	**06 46 47.0**	**+0.1**
KRX				*e*S	**Sn**	**06 47 10.8**	**+1.2**
PEA0B	**Petropavlovsk-**	**2.19**	**303**	*c i*PN	**Pn**	**06 46 51.2**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.19**	**303**		**Pn**	**06 46 51.4**	**+0.7**
PETK	**Petropavlovsk-**	**2.19**	**303**	P	**Pn**	**06 46 50.5**	**-0.2**
	comp=N,287nm,0.3s,baz=123,slow=19,SNR=2085						
PETK				S	**Sn**	**06 47 18.6**	**+2.0**
	comp=N,209nm,0.3s,baz=248,slow=19,SNR=2.7						
PETK				LR	LR	06 48 06.8	
	comp=N,983nm,18.1s,baz=145,slow=55						
PETK	**Petropavlovsk-**	**2.19**	**303**	PN	**Pn**	**06 46 50.9**	**+0.2**
PETK	**Petropavlovsk-**	**2.19**	**303**		**Pn**	**06 46 50.9**	**+0.2**
KII	**Karymskiy**	**2.23**	**340**	PN	**Pn**	**06 46 51.5**	**+0.1**
KII				S	**Sn**	**06 47 18.2**	**+0.5**
KII	**Karymskiy**	**2.23**	**340**	*e*P	**Pn**	**06 46 51.5**	**+0.1**
KII				*e*S	**Sn**	**06 47 18.2**	**+0.5**
APC	**Apacha**	**2.40**	**296**	PN	**Pn**	**06 46 54.7**	**+1.2**
APC	**Apacha**	**2.40**	**296**	*e*P	**Pn**	**06 46 54.7**	**+1.2**
GNL	**Ganaly**	**2.44**	**317**	PN	**Pn**	**06 46 55.3**	**+1.1**
GNL				S	**Sn**	**06 47 25.0**	**+2.2**
GNL	**Ganaly**	**2.44**	**317**	*e*P	**Pn**	**06 46 55.3**	**+1.1**
GNL				*e*S	**Sn**	**06 47 25.0**	**+2.2**
MIPR	**Malaya Ipel'ka**	**2.47**	**279**	PN	**Pn**	**06 46 55.1**	**+0.5**
MIPR	**Malaya Ipel'ka**	**2.47**	**279**	*e*P	**Pn**	**06 46 55.1**	**+0.5**
PAU	**Pauzhetka**	**2.48**	**260**	PN	**Pn**	**06 46 54.7**	**0.0**
PAU				S	**Sn**	**06 47 24.2**	**+0.4**
PAU	**Pauzhetka**	**2.48**	**260**	*e*P	**Pn**	**06 46 54.7**	**0.0**
PAU				*e*S	**Sn**	**06 47 24.2**	**+0.4**
MKZ	**Mys Kozlova**	**2.69**	**13**	PN	**Pn**	**06 46 56.5**	**-1.0**
MKZ				S	**Sn**	**06 47 26.3**	**-2.4**
MKZ	**Mys Kozlova**	**2.69**	**13**	*e*P	**Pn**	**06 46 56.5**	**-1.0**
MKZ				*e*S	**Sn**	**06 47 26.3**	**-2.4**
SKR	**Severo-Kuril's**	**3.16**	**248**	*e*PN	**Pn**	**06 47 04.2**	**+0.2**
SKR				*e*S	**Sn**	**06 47 38.4**	**-1.9**
SKR				pmax	pmax		
	comp=Z,294nm,0.4s						
SKR				smax	smax		
	comp=N,2μm,0.3s						
SKR				smax	smax		
	comp=E,3μm,0.4s						
SKR	**Severo-Kuril's**	**3.16**	**248**	*e*P	**Pn**	**06 47 04.1**	**+0.1**
SKR				*e*S	**Sn**	**06 47 38.2**	**-2.1**
KZV	**Kizimen**	**3.19**	**355**	PN	**Pn**	**06 47 05.0**	**+0.5**
KZV				S	**Sn**	**06 47 40.2**	**-1.1**
KZV	**Kizimen**	**3.19**	**355**	*e*P	**Pn**	**06 47 05.0**	**+0.5**
KZV				*e*S	**Sn**	**06 47 40.2**	**-1.1**
TUMD	**Tumrok D**	**3.27**	**357**	*e*P	**Pn**	**06 47 05.7**	**+0.1**
TUMD				*e*S	**Sn**	**06 47 41.9**	**-1.3**
TUMR	**Tumrok**	**3.36**	**354**	PN	**Pn**	**06 47 08.0**	**+1.1**
TUMR				S	**Sn**	**06 47 45.8**	**+0.2**
TUMR	**Tumrok**	**3.36**	**354**	*e*P	**Pn**	**06 47 08.0**	**+1.1**
TUMR				*e*S	**Sn**	**06 47 45.8**	**+0.2**
ALID	**Alaid**	**3.42**	**254**	PN	**Pn**	**06 47 08.1**	**+0.4**
ALID				S	**Sn**	**06 47 45.9**	**-1.1**
ALID	**Alaid**	**3.42**	**254**	*e*P	**Pn**	**06 47 08.1**	**+0.4**
ALID				*e*S	**Sn**	**06 47 45.9**	**-1.1**
KMNR	**Kamenistaya**	**3.83**	**356**	PN	**Pn**	**06 47 14.7**	**+1.4**
KMNR	**Kamenistaya**	**3.83**	**356**	*e*P	**Pn**	**06 47 14.7**	**+1.4**
BZMR	**Bezymyannaya**	**4.00**	**358**	PN	**Pn**	**06 47 17.3**	**+1.6**
BZMR	**Bezymyannaya**	**4.00**	**358**	*e*P	**Pn**	**06 47 17.3**	**+1.6**
KIRR	**Kirishev**	**4.03**	**357**	PN	**Pn**	**06 47 17.2**	**+1.2**
KIRR	**Kirishev**	**4.03**	**357**	*e*P	**Pn**	**06 47 17.2**	**+1.2**
BZWR	**Bezymyannyi-We**	**4.03**	**358**	PN	**Pn**	**06 47 17.5**	**+1.4**
BZWR	**Bezymyannyi-We**	**4.03**	**358**	*e*P	**Pn**	**06 47 17.5**	**+1.4**
ZLN	**Zelenaya**	**4.08**	**1**	PN	**Pn**	**06 47 18.0**	**+1.2**
ZLN	**Zelenaya**	**4.08**	**1**	*e*P	**Pn**	**06 47 18.0**	**+1.2**
LGNR	**Loginova**	**4.15**	**360**	PN	**Pn**	**06 47 19.5**	**+1.7**
LGNR	**Loginova**	**4.15**	**360**	*e*P	**Pn**	**06 47 19.5**	**+1.7**
KOZ	**Kozyrevsk**	**4.15**	**353**	PN	**Pn**	**06 47 19.0**	**+1.3**
KOZ	**Kozyrevsk**	**4.15**	**353**	*e*P	**Pn**	**06 47 19.0**	**+1.3**
ESO	**Esso**	**4.17**	**344**	PN	**Pn**	**06 47 19.6**	**+1.8**
ESO	**Esso**	**4.17**	**344**	*e*P	**Pn**	**06 47 19.6**	**+1.8**
CIRR	**Tsirk**	**4.18**	**0**	PN	**Pn**	**06 47 19.8**	**+1.6**
CIRR	**Tsirk**	**4.18**	**0**	*e*P	**Pn**	**06 47 19.8**	**+1.6**
KRSR	**Krestovskiy**	**4.28**	**359**	PN	**Pn**	**06 47 20.3**	**+0.8**
KRSR	**Krestovskiy**	**4.28**	**359**	*e*P	**Pn**	**06 47 20.3**	**+0.8**
KLY	**Klyuchi**	**4.38**	**359**	PN	**Pn**	**06 47 21.5**	**+0.8**
KLY				S	**Sn**	**06 48 10.0**	**-0.4**
KLY	**Klyuchi**	**4.38**	**359**	*e*P	**Pn**	**06 47 21.5**	**+0.8**
KLY				*e*S	**Sn**	**06 48 10.0**	**-0.4**
SRDR	**Sredinnyy**	**4.42**	**353**	PN	**Pn**	**06 47 22.0**	**+0.6**
SRDR	**Sredinnyy**	**4.42**	**353**	*e*P	**Pn**	**06 47 22.0**	**+0.6**
KBTR	**Krutoberegovo**	**4.45**	**15**	PN	**Pn**	**06 47 21.4**	**-0.3**
KBTR				S	**Sn**	**06 48 10.6**	**-1.5**
KBTR	**Krutoberegovo**	**4.45**	**15**	*e*P	**Pn**	**06 47 21.4**	**-0.3**
KBTR				*e*S	**Sn**	**06 48 10.6**	**-1.5**
KBG	**Krutoberegovo**	**4.47**	**14**	PN	**Pn**	**06 47 22.1**	**+0.1**
KBG	**Krutoberegovo**	**4.47**	**14**	*e*P	**Pn**	**06 47 22.1**	**+0.1**
BKI	**Bering**	**4.52**	**42**	PN	**Pn**	**06 47 21.9**	**-0.7**
BKI	**Bering**	**4.52**	**42**	*e*P	**Pn**	**06 47 21.9**	**-0.7**
BKI				*e*S	**Sn**	**06 48 08.4**	**-5.5**
BDR	**Baidarnaya**	**4.64**	**3**	PN	**Pn**	**06 47 25.2**	**+0.8**
BDR	**Baidarnaya**	**4.64**	**3**	*e*P	**Pn**	**06 47 25.2**	**+0.8**
SMKR	**Semkarok**	**4.67**	**5**	PN	**Pn**	**06 47 25.4**	**+0.6**
SMKR	**Semkarok**	**4.67**	**5**	*e*P	**Pn**	**06 47 25.4**	**+0.6**
SRKR	**Sorokina**	**4.73**	**3**	PN	**Pn**	**06 47 26.2**	**+0.6**
SRKR	**Sorokina**	**4.73**	**3**	*e*P	**Pn**	**06 47 26.2**	**+0.6**
PALN	**Palana**	**7.18**	**357**	PN	**Pn**	**06 48 00.7**	**+1.6**
PALN	**Palana**	**7.18**	**357**	*e*P	**Pn**	**06 48 00.7**	**+1.6**
OSSR	**Ossora**	**7.44**	**9**	PN	**Pn**	**06 48 02.4**	**-0.3**
OSSR	**Ossora**	**7.44**	**9**	*e*P	**Pn**	**06 48 02.4**	**-0.3**
SMY	**Shemya**	**8.23**	**79**	PN	**Pn**	**06 48 14.4**	**+0.9**
SMY	**Shemya**	**8.23**	**79**		**Pn**	**06 48 14.4**	**+0.9**
MA2	**Magadan**	**9.48**	**328**	P	**Pn**	**06 48 30.7**	**0.0**
	comp=E,0.6nm,0.3s,baz=4.9,slow=13,SNR=1.2						
MA2				LR	LR	06 52 36.6	
	comp=E,143nm,19.0s,baz=140,slow=41						
AMKA	**Amchitka**	**11.55**	**85**	Pn	**Pn**	**06 49 00.7**	**+1.7**
SEY	**Seymchan**	**11.89**	**341**	P	**Pn**	**06 49 03.6**	**0.0**
	baz=144,slow=12,SNR=5.2						
SEY	**Seymchan**	**11.89**	**341**	⇑*e*PN	**Pn**	**06 49 05.4**	**+1.9**
YSS	**Yuzh-Sakhalins**	**12.71**	**254**	⇑*i*PN	**Pn**	**06 49 16.8**	**+2.0**
YSS				pmax	pmax		
	comp=Z,66nm,2.5s						
JKA	**Kamikawa-asahi**	**14.41**	**244**		**Pn**	**06 49 37.2**	**-0.9**
ASAJ	**Asahikawa**	**14.41**	**244**	P	**Pn**	**06 49 39.6**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=74,slow=15,SNR=5.0						
ASAJ				LR	LR	06 54 38.6	
	comp=Z,100nm,19.3s,baz=9.0,slow=35						
ASAJ	**Asahikawa**	**14.41**	**244**	P	**Pn**	**06 49 37.2**	**-0.9**
GRNR	**Gornyy**	**15.22**	**275**	*e*P	**Pn**	**06 49 49.2**	**+0.3**
GRNR				MLR	MLR		
	comp=E,200nm,14.0s						
GRNR				MLR	MLR		
	comp=N,230nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,260nm,17.0s						
ERM	**Erimo**	**15.53**	**237**⇑	*e*P	**Pn**	**06 49 53.2**	**+0.2**
ERM	**Erimo**	**15.53**	**237**	Pn	**Pn**	**06 49 49.4**	**-3.6**
TEY	**Ternei**	**17.37**	**256**	*e*P	**P**	**06 50 17.2**	**-0.1**
KLR	**Kul'dur**	**18.55**	**273**	P	**P**	**06 50 29.8**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=62,slow=12,SNR=21						
KLR	**Kul'dur**	**18.55**	**273**	⇓*i*P	**Pn**	**06 50 30.5**	**-0.1**
KLR				pmax	pmax		
	comp=Z,21nm,1.6s						
YAK	**Yakutsk**	**19.50**	**313**	P	**P**	**06 50 38.5**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=236,slow=1.2,SNR=13						
YAK	**Yakutsk**	**19.50**	**313**	*e*P	**P**	**06 50 38.3**	**-2.2**
YAK				*e*S	**S**	**06 54 16.7**	**-1.9**
YAK				pmax	pmax		
	comp=Z,47nm,0.8s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,12nm,0.8s						
YAK				smax	smax		
	comp=N,115nm,2.7s						
YAK				smax	smax		
	comp=E,172nm,2.5s						
YAK	**Yakutsk**	**19.50**	**313**	P	**P**	**06 50 38.0**	**-2.5**
USA0B	**Ussuriysk Arra**	**20.61**	**259**	P	**P**	**06 50 51.2**	**-1.5**
USA0B				pmax	pmax		
	comp=Z,17nm,1.1s						
USA0B	**Ussuriysk Arra**	**20.61**	**259**	P	**P**	**06 50 51.2**	**-1.5**
USRK	**Ussuriysk Ar.**	**20.61**	**259**	P	**P**	**06 50 52.0**	**-0.7**
	comp=Z,6.0nm,0.6s,baz=58,slow=13,SNR=17						
USRK	**Ussuriysk Ar.**	**20.61**	**259**	P	**P**	**06 50 51.3**	**-1.4**
ANM	**Nome**	**21.52**	**41**	P	**P**	**06 51 03.7**	**+1.3**
ANM				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ANM	**Nome**	**21.52**	**41**	P	**P**	**06 51 03.7**	**+1.3**
MDJ	**Mudanjiang**	**21.86**	**263**	P	**P**	**06 51 03.9**	**-2.2**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,270nm,5.5s						
MAJO	**Matsushiro**	**22.17**	**235**	P	**P**	**06 51 09.9**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s						
MAJO	**Matsushiro**	**22.17**	**235**	P	**P**	**06 51 09.9**	**+0.3**
MAJO				IAmb	IAmb	06 51 26.7	
	comp=Z,20nm,0.8s						
MAT	**Matsushiro**	**22.17**	**235**	P	**P**	**06 51 12.0**	**+2.4**
MAT				*e*S	**S**	**06 55 11.8**	**+0.2**
MJAR	**Matsushiro Arr**	**22.17**	**235**	P	**P**	**06 51 12.1**	**+2.5**
	comp=Z,8.4nm,0.6s,baz=25,slow=9.3,SNR=17						
JGF	**Kuroka**	**23.33**	**235**	P	**P**	**06 51 24.6**	**+2.9**
JGF				IAmb	IAmb	06 51 51.6	
	comp=Z,48nm,1.4s						
RDOG	**Red Dog Mine**	**23.77**	**34**	P	**P**	**06 51 24.6**	**-1.0**
TIXI	**Tiksi**	**24.29**	**336**	P	**P**	**06 51 28.7**	**-1.6**
	comp=Z,9.8nm,0.4s,baz=117,slow=11,SNR=23						
TIXI	**Tiksi**	**24.29**	**336**	⇑*i*P	**P**	**06 51 29.1**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,37nm,0.7s						
TIXI	**Tiksi**	**24.29**	**336**	P	**P**	**06 51 29.2**	**-1.1**
TIXI				IAmb	IAmb	06 51 30.5	
	comp=Z,10nm,0.8s						
CN2	**

NJ2	**Nanjing**	**36.28**	**253**	*e*P		**P**		**06 53 17.1**	**+0.5**
NJ2				pmax		pmax			
	comp=Z,12nm,0.6s								
C36M	**Paulatuk**	**37.78**	**34**	P		**P**		**06 53 29.7**	**+0.8**
C36M				IAmb		IAmb		06 53 46.1	
	comp=Z,7.0nm,1.1s								
XAN	**Xi'an**	**40.94**	**265**	P		**P**		**06 53 56.9**	**+1.1**
XAN				pP		pP		06 54 06.8	+1.9
XAN				pmax		pmax			
	comp=Z,8.0nm,0.8s								
XAN				LR		LR			
	comp=Z,260nm,20.6s								
XAN				LR		LR			
	comp=Z,340nm,17.4s								
LZH	**Lanzhou**	**42.74**	**271**	*e*P		**P**		**06 54 11.3**	**+0.7**
LZH				pP		pP		06 54 21.3	+1.5
LZH				sP		pwP		06 54 25.1	-0.1
LZH				pmax		pmax			
	comp=Z,19nm,1.3s								
LZH				pmax		pmax			
	comp=Z,72nm,6.5s								
EUNU	**Eureka**	**42.98**	**14**	P		**P**		**06 54 13.2**	**+1.3**
EUNU				IAmb		IAmb		06 54 18.8	
	comp=Z,27nm,1.5s								
GTA	**Gaotai**	**43.14**	**278**	⇑P		**P**		**06 54 13.6**	**-0.2**
GTA				pP		pP		06 54 22.8	0.0
GTA				sP		sP		06 54 26.9	-0.3
GTA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
ZALV	**Zalesovo Beam**	**43.73**	**304**	P		**P**		**06 54 15.7**	**-2.5**
	comp=Z,0.9nm,0.3s,baz=68,slow=8.6,SNR=6.1								
ZALV	**Zalesovo Beam**	**43.73**	**304**	P		**P**		**06 54 15.5**	**-2.7**
YKA	**Yellowknife Ar**	**43.75**	**42**	P		**P**		**06 54 18.4**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=299,slow=7.5,SNR=16								
YKA				pP		**pwP**		**06 54 35.4**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=299,slow=7.3,SNR=9.4								
DGZ	**Jazzator, Alta**	**44.54**	**298**‖	*e*P		**P**		**06 54 24.3**	**-0.6**
DGZ				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ZSN	**Zaisan**	**47.20**	**296**	*e*P		**P**		**06 54 44.3**	**-1.5**
	baz=296								
ZSN				*i* S		**S**		**07 01 32.8**	**-3.2**
	baz=296								
ZSN	**Zaisan**	**47.20**	**296**	*e*P		**P**		**06 54 44.3**	**-1.5**
GYA	**Guiyang**	**47.65**	**259**	‖P		**P**		**06 54 50.0**	**+0.4**
GYA				pmax		pmax			
	comp=Z,12nm,0.9s								
WMQ	**Urumqi**	**47.73**	**291**	*e*P		**P**		**06 54 52.3**	**+2.3**
WMQ				pmax		pmax			
	comp=Z,13nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,55nm,4.1s								
SPA0	**Spitsbergen Ar**	**48.34**	**351**	P		**P**		**06 54 55.5**	**+1.4**
MK31	**Makanchi Array**	**49.01**	**297**	P		**P**		**06 54 58.4**	**-1.4**
MK31				pmax		pmax			
	comp=Z,2.0nm,0.6s								
MK31	**Makanchi Array**	**49.01**	**297**	P		**P**		**06 54 58.4**	**-1.4**
MKAR	**Makanchi Array**	**49.01**	**297**	P		**P**		**06 54 58.1**	**-1.7**
	comp=Z,1.6nm,0.4s,baz=52,slow=6.7,SNR=25								
MKAR	**Makanchi Array**	**49.01**	**297**	*i* P		**P**		**06 54 58.0**	**-1.8**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.4s								
MKAR	**Makanchi Array**	**49.01**	**297**	P		**P**		**06 54 58.3**	**-1.5**
KMI	**Kunming**	**51.02**	**261**‖	*e*P		**P**		**06 55 15.5**	**0.0**
KMI				pP		sP		06 55 27.9	-1.0
KMI				pmax		pmax			
	comp=Z,11nm,1.0s								
BRVK	**Borovoye**	**51.45**	**309**	P		**P**		**06 55 17.4**	**-0.6**
BRVK				pmax		pmax			
	comp=Z,28nm,1.4s								
BRVK	**Borovoye**	**51.45**	**309**	P		**P**		**06 55 17.4**	**-0.6**
BRZS	**Berezniki**	**52.17**	**305**	*e*P		**P**		**06 55 22.0**	**-1.6**
	baz=305								
BRZS	**Berezniki**	**52.17**	**305**	*e*P		**P**		**06 55 21.9**	**-1.6**
TDK	**Taldyqorghan**	**52.26**	**297**	*e*P		**P**		**06 55 22.9**	**-1.3**
	baz=297								
TDK	**Taldyqorghan**	**52.26**	**297**	*e*P		**P**		**06 55 22.8**	**-1.4**
SHLS	**Shalkode**	**52.84**	**295**	*e*P		**P**		**06 55 25.6**	**-3.1**
	comp=Z,1.8nm,0.4s,baz=294								
SHLS	**Shalkode**	**52.84**	**295**	*e*P		**P**		**06 55 25.6**	**-3.1**
SHLS				pmax		pmax			
	comp=Z,2.0nm,0.4s								
KPKS	**Kokpek**	**53.08**	**296**	*e*P		**P**		**06 55 28.9**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=296								
KPKS	**Kokpek**	**53.08**	**296**	*e*P		**P**		**06 55 28.9**	**-1.5**
KPKS				pmax		pmax			
	comp=Z,2.0nm,0.7s								
SLVN	**Son La**	**53.14**	**257**	P		**P**		**06 55 31.6**	**+0.5**
SLVN				IAmb		IAmb		06 55 33.5	
	comp=Z,11nm,0.8s								
SATY	**Saty**	**53.49**	**295**	*e*P		**P**		**06 55 32.2**	**-1.4**
	baz=295								
SATY				*i* S		**S**		**07 03 00.6**	**-3.1**
	baz=295								
SATY	**Saty**	**53.49**	**295**	*e*P		**P**		**06 55 32.1**	**-1.4**
LVZ	**Lovozero**	**53.91**	**338**	P		**P**		**06 55 35.7**	**-0.4**
LVZ	**Lovozero**	**53.91**	**338**	P		**P**		**06 55 35.7**	**-0.4**
HRY	**Holter Researc**	**53.92**	**58**	P		**P**		**06 55 39.1**	**+2.5**
FCC	**Fort Churchill**	**54.14**	**38**	P		**P**		**06 55 38.5**	**+0.7**
FCC				pmax		pmax			
	comp=Z,5.0nm,1.3s								
FCC	**Fort Churchill**	**54.14**	**38**	P		**P**		**06 55 38.5**	**+0.7**
FCC				IAmb		IAmb		06 55 57.3	
	comp=Z,5.2nm,1.2s								
MDOK	**Medeo**	**54.19**	**296**	*e*P		**P**		**06 55 35.6**	**-3.0**
	baz=296								
MDOK	**Medeo**	**54.19**	**296**	*e*P		**P**		**06 55 35.6**	**-3.0**
AAA	**Alma-Ata**	**54.23**	**296**	*e*P		**P**		**06 55 37.5**	**-1.4**
	baz=296								
AAA	**Alma-Ata**	**54.23**	**296**	*e*P		**P**		**06 55 37.4**	**-1.4**
ARCES	**ARCESS Array B**	**54.50**	**342**	P		**P**		**06 55 40.0**	**-0.3**
	comp=Z,7.5nm,0.8s,baz=28,slow=9.3,SNR=7.4								
ARCES	**ARCESS Array B**	**54.50**	**342**	P		**P**		**06 55 40.6**	**+0.2**
ARCES				pmax		pmax			
	comp=Z,44nm,1.4s								
ARCES	**ARCESS Array B**	**54.50**	**342**	P		**P**		**06 55 40.6**	**+0.2**
ARU	**Arti**	**54.51**	**318***c*	*i*P		**P**		**06 55 40.2**	**-0.4**
ARU				*PP		**sP**		**06 55 54.5**	**-0.2**
ARU								06 56 40.1	
ARU				S		**S**		**07 03 16.0**	**-0.8**
ARU				SS		**SS**		**07 06 57.0**	**-1.8**
ARU				pmax		pmax			
	comp=Z,11nm,0.5s								
ARU	**Arti**	**54.51**	**318**	P		**P**		**06 55 40.1**	**-0.5**
BOZ	**Bozeman (W)**	**54.75**	**59**	P		**P**		**06 55 43.8**	**+1.1**
BOZ				pmax		pmax			
	comp=Z,9.0nm,1.4s								
BOZ	**Bozeman (W)**	**54.75**	**59**	P		**P**		**06 55 43.8**	**+1.1**
BOZ				IAmb		IAmb		06 56 02.0	
	comp=Z,8.9nm,1.4s								
KVN	**Kaiserville**	**55.47**	**69**	P		**P**		**06 55 50.2**	**+2.2**
KVN				pmax		pmax			
	comp=Z,8.0nm,0.8s								
KVN	**Kaiserville**	**55.47**	**69**	P		**P**		**06 55 50.2**	**+2.2**
KVN				IAmb		IAmb		06 56 07.8	
	comp=Z,7.8nm,0.8s								
PRGR	**Permogore**	**55.62**	**328**	*e*P		**P**		**06 55 47.9**	**-0.6**
PRGR				pmax		pmax			
	comp=Z,13nm,0.8s								
NVAR	**Mina Array Bea**	**55.77**	**70**	P		**P**		**06 55 52.3**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=290,slow=7.2,SNR=4.4								
NVAR				pP		**pwP**		**06 56 08.6**	**+1.2**
	comp=Z,5.2nm,0.7s,baz=292,slow=7.2,SNR=26								
NVAR	**Mina Array Bea**	**55.77**	**70**	P		**P**		**06 55 49.5**	**-0.7**
AAK	**Ala-Archa**	**55.94**	**297**	P		**P**		**06 55 51.0**	**-0.3**
AAK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
AAK	**Ala-Archa**	**55.94**	**297**	P		**P**		**06 55 51.0**	**-0.3**
AAK				IAmb		IAmb		06 55 51.6	
	comp=Z,4.0nm,0.9s								
KIRV	**Kirov**	**56.55**	**324**⇑	*e*P		**P**		**06 55 55.2**	**+0.1**
KSH	**Kashi**	**57.22**	**294**	P		**P**		**06 56 03.4**	**+3.0**
KSH				pmax		pmax			
	comp=Z,8.0nm,0.9s								
KSH				pmax		pmax			
	comp=Z,480nm,4.9s								
SHL	**Shillong**	**57.40**	**271**	P		**P**		**06 56 01.3**	**-0.6**
SHL				pmax		pmax			
	comp=Z,19nm,0.4s								
SHL	**Shillong**	**57.40**	**271**	P		**P**		**06 56 01.2**	**-0.6**
PDAR	**Pinedale Array**	**57.75**	**61**	P		**P**		**06 56 06.0**	**+1.9**
	comp=Z,1.1nm,0.7s,baz=304,slow=4.0,SNR=7.6								
PDAR				pP		**pwP**		**06 56 21.7**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=338,slow=3.5,SNR=10								
PDAR	**Pinedale Array**	**57.75**	**61**	P		**P**		**06 56 05.4**	**+1.2**

KK31	**Karatay Array**	**57.79**	**300**	P		**P**		**06 56 02.5**	**-1.7**
KK31				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KK31	**Karatay Array**	**57.79**	**300**	P		**P**		**06 56 02.5**	**-1.7**
KK31				IAmb		IAmb		06 56 04.5	
	comp=Z,4.7nm,0.9s								
KKAR	**Karatay Array**	**57.79**	**300**	P		**P**		**06 56 02.7**	**-1.5**
KKAR				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KKAR	**Karatay Array**	**57.79**	**300**	P		**P**		**06 56 02.2**	**-2.0**
KKAR	**Karatay Array**	**57.79**	**300**	P		**P**		**06 56 02.7**	**-1.5**
KKAR				IAmb		IAmb		06 56 04.5	
	comp=Z,4.7nm,0.9s								
KLMR	**Klimovskoe**	**58.14**	**330**	*e*P		P		06 55 58.8	-7.5
KLMR				pmax		pmax			
	comp=Z,15nm,0.7s								
KLMR	**Klimovskoe**	**58.14**	**330**	*e*P		P		06 55 58.8	-7.5
KLMR				AMP				06 56 07.3	
	comp=Z,15nm,0.7s								
CMAR	**Chiang Mai Arr**	**58.34**	**259**	P		**P**		**06 56 09.9**	**+1.6**
	comp=Z,2.0nm,0.5s,baz=18,slow=7.5,SNR=14								
CMAR				pP		**pwP**		**06 56 25.2**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=32,slow=7.8,SNR=2.3								
CMAR	**Chiang Mai Arr**	**58.34**	**259**	P		**P**		**06 56 09.8**	**+1.5**
IUG	**Iuzhnay**	**58.70**	**300**	*e*P		**P**		**06 56 09.4**	**-1.4**
	comp=Z,3.2nm,0.8s,baz=299								
IUG	**Iuzhnay**	**58.70**	**300**	*e*P		**P**		**06 56 09.3**	**-1.4**
IUG				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ABKAR	**Akbulak array**	**58.84**	**311**	P		**P**		**06 56 10.2**	**-1.2**
ABKAR				IAmb		IAmb		06 56 11.7	
	comp=Z,8.5nm,0.8s								
ABKAR	**Akbulak array**	**58.84**	**311**	P		**P**		**06 56 11.1**	**-0.3**
AKTO	**Aktyubinsk**	**58.89**	**313**	LR		LR		07 23 25.2	
	comp=Z,139nm,18.5s,baz=359,slow=38								
VALR	**Valaam**	**60.19**	**335**	*e*P		**P**		**06 56 20.7**	**+0.2**
VALR				pmax		pmax			
	comp=Z,9.0nm,0.6s								
PV17	**East Wray Mesa**	**61.19**	**64**	P		**P**		**06 56 29.8**	**+1.8**
PV17				IAmb		IAmb		06 56 46.0	
	comp=Z,7.5nm,0.8s								
FIA1	**FINESS Array S**	**61.33**	**337**	P		**P**		**06 56 28.9**	**+0.7**
FINES	**FINESS Array B**	**61.33**	**337**	P		**P**		**06 56 28.7**	**+0.4**
	comp=Z,7.7nm,0.4s,baz=38,slow=7.8,SNR=78								
FINES	**FINESS Array B**	**61.33**	**337**	P		**P**		**06 56 28.8**	**+0.6**
FINES	**FINESS Array B**	**61.33**	**337**	P		**P**		**06 56 28.8**	**+0.6**
OBN	**Obninsk**	**63.70**	**328**	*e*P		**P**		**06 56 43.8**	**-0.3**
OBN				*e*				06 57 24.5	
OBN				*e*PPP		PPP		07 00 36.9	
OBN				*e*S		**S**		**07 05 16.6**	**+1.0**
OBN				pmax		pmax			
	comp=Z,6.0nm,0.6s								
OBN				MLR		MLR			
	comp=Z,117nm,10.0s								
VSU	**Vasula**	**63.76**	**335**⇑	*e*P		**P**		**06 56 44.4**	**-0.1**
VSU				pmax		pmax			
	comp=Z,31nm,0.9s								
NB2	**NORSAR Subarra**	**64.76**	**344**	P		**P**		**06 56 51.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=21,slow=6.9								
NOA	**NORSAR Array B**	**64.76**	**344**	P		**P**		**06 56 51.1**	**0.0**
	comp=Z,2.1nm,0.8s,baz=31,slow=6.5,SNR=9.5								
NOA				pP		**pwP**		**06 57 06.3**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=20,slow=6.6,SNR=3.9								
GEYT	**Alibeck**	**68.05**	**304**	P		**P**		**06 57 13.1**	**+0.6**
	comp=Z,5.6nm,0.7s,baz=341,slow=2.7,SNR=6.3								
GEYT	**Alibeck**	**68.05**	**304**	P		**P**		**06 57 12.3**	**-0.2**
GEYT				IAmb		IAmb		06 57 13.7	
	comp=Z,4.9nm,0.8s								
AKASG	**Malin Array Be**	**69.80**	**330**	P		**P**		**06 57 22.6**	**-0.4**
	comp=Z,3.6nm,0.4s,baz=30,slow=6.2,SNR=14								
AKASG	**Malin Array Be**	**69.80**	**330**	P		**P**		**06 57 22.1**	**-1.0**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**69.80**	**330**	P		**P**		**06 57 22.1**	**-1.0**
AKBB	**Malin Array Si**	**69.80**	**330**	P		**P**		**06 57 22.2**	**-0.9**
AKBB				pmax		pmax			
	comp=Z,6.0nm,0.7s								
AKBB	**Malin Array Si**	**69.80**	**330**	P		**P**		**06 57 22.2**	**-0.9**
AKBB				IAmb		IAmb		06 57 39.0	
	comp=Z,5.7nm,0.7s								
AKT	**Akhty**	**70.34**	**313**	*e*P		**P**		**06 57 27.7**	**+1.0**
AKT				*e*				06 57 46.6	
AKT				*e*				07 00 02.9	
AKT				pmax		pmax			
	comp=Z,49nm,1.4s								
KBZ	**Khabaz**	**70.64**	**317**	P		**P**		**06 57 28.2**	**-0.2**
	comp=Z,7.0nm,0.9s,baz=156,slow=1.7,SNR=9.1								
KBZ	**Khabaz**	**70.64**	**317**	*de*P		**P**		**06 57 29.2**	**+0.9**
TX31	**Lajitas Ar. Si**	**70.73**	**67**	P		**P**		**06 57 30.9**	**+1.7**
TX31				IAmb		IAmb		06 57 47.5	
	comp=Z,8.9nm,0.9s								
TX32	**Lajitas Array**	**70.73**	**67**	P		**P**		**06 57 30.7**	**+1.4**
TXAR	**Lajitas Array**	**70.73**	**67**	P		**P**		**06 57 30.7**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=297,slow=4.7,SNR=6.7								
TXAR				pP		**pwP**		**06 57 46.4**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=299,slow=4.4,SNR=13								
CTA	**Charters Tower**	**72.83**	**194**	LR		LR		07 26 17.7	
	comp=Z,101nm,19.6s,baz=272,slow=33								
DPC	**Dobruska-Polom**	**73.70**	**337**	*e*P		P		06 58 03.5	+17
BUR08	**Bucovina Ar. S**	**73.75**	**330**	P		**P**		**06 57 47.5**	**+0.5**
BUR08				IAmb		IAmb		06 57 47.6	
	comp=Z,7.5nm,1.2s								
WRA	**Warramunga Arr**	**75.20**	**206**	P		**P**		**06 57 56.3**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=25,slow=6.2,SNR=4.9								
WRA				LR		LR		07 28 50.0	
	comp=Z,56nm,21.8s,baz=150,slow=34								
WRA	**Warramunga Arr**	**75.20**	**206**	*i* P		**P**		**06 57 56.2**	**+0.7**
WRA				pmax		pmax			
	comp=Z,2.0nm,1.2s								
KHC	**Kasperske Hory**	**75.49**	**338**	*e*P		P		06 58 02.3	+5.3
KHC				*e*				06 58 13.4	
KHC	**Kasperske Hory**	**75.49**	**338**	*e*P		P		06 58 02.3	+5.3
KHC				*ex*		x		06 58 13.4	
GERES	**GERESS Array B**	**75.73**	**338**	P		**P**		**06 57 58.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=13,slow=30,SNR=2.1								
MARD	**Mardin**	**76.84**	**315**	P		**P**		**06 58 05.4**	**+0.4**
BRTR	**Keskin Array B**	**77.76**	**321**	P		**P**		**06 58 09.1**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=31,slow=5.8,SNR=6.1								
BRTR	**Keskin Array B**	**77.76**	**321**	*i* P		**P**		**06 58 10.5**	**+0.4**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
AS31	**Alice Springs**	**78.87**	**205**	P		**P**		**06 58 17.0**	**+0.9**
ASAR	**Alice Springs**	**78.87**	**205**	P		**P**		**06 58 17.3**	**+1.2**
ASAR	**Alice Springs**	**78.87**	**205**	P		**P**		**06 58 17.3**	**+1.2**

IDC ***13*** *06:46:39.9±0.6, 55.°00S×129.°94W, h0km, mb4.5/12, mb1 4.6/12, mb1mx4.5/23, mbtmp4.4/12, MS4.5/16, Ms1 4.5/16, ms1mx4.4/19, Error ellipse: s-maj=22.6km s-min=16.9km az=178.0*

NEIC ***13*** *06:46:42.0±1.5, 55.°0S±0.°1×129.°7W±0.°2, h10km±1km, mb4.9/26, Error ellipse: s-maj=22.8km s-min=17.9km az=337.0*

GCMT ***13*** *06:46:44.0±0.1, 55.°13S±0.°01×129.°73W±0.°01, h21km, MW5.2/133, Moment Tensor Solution. s82,c113; s133,c212; Duration: 1s0 Moment tensor: Scale 10*^{17} *Nm; Mrr-0.13±.02; Mθθ0.66±.02; Mφφ-0.53±.02; Mrθ-0.01±.03; Mrφ0.72±.01; Mθφ0.01±.03; Best double couple: M0.93700×10*^{17} *NP1:φs200.00000°, δ89.00000°, λ-180.00000°. NP2:φs110.00000°, δ90.00000°, λ-1.00000°. Principal axes: T 1.0040, Plg1.0000°, Azm155.0000°; N -0.1330, Plg89.0000°, Azm275.0000°; P -0.8710, Plg1.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 06:46:41.8±0.4, 55.°02S±0.°08×129.°71W±0.°09, h10km, n96, σ1s29/55, mb4.8/22, MS4.6/21, 1C-1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**31.42**	**201**	P	**P**	**06 53 03.5**	**+1.0**
RPN	**Rapa Nui**	**31.58**	**36**	LR	LR	07 01 10.3	
	comp=Z,3μm,19.6s,baz=84,slow=28						
RPN	**Rapa Nui**	**31.58**	**36**	P	**P**	**06 53 02.9**	**-1.5**
RKT	**Rikitea**	**32.10**	**351**	*e*LQ	LQ	07 00 06.8	
	410nm,32.2s						
RKT				*e*LR	LR	07 01 28.8	
	comp=Z,2μm,28.0s						
VNDA	**Vanda**	**32.43**	**202**	P	**P**	**06 53 12.3**	**+0.9**
	1.4nm,0.9s,baz=85,slow=12,SNR=5.0						
VNDA				LR	LR	07 03 44.4	
	comp=Z,391nm,18.6s,baz=82,slow=32						
VNDA	**Vanda**	**32.43**	**202**	P	**P**	**06 53 12.3**	**+0.9**
PMSA	**Palmer Station**	**32.82**	**134**	P	**P**	**06 53 15.3**	**+0.4**
	37nm,0.8s,baz=259,slow=10,SNR=6.8						
PMSA	**Palmer Station**	**32.82**	**134**	P	**P**	**06 53 15.6**	**+0.7**
TBI	**Tubuai**	**34.88**	**327**	*e*S	**S**	**06 59 04.7**	**+0.5**
	130nm,27.0s						
TBI				*e*LR	LR	07 02 48.3	
	comp=Z,2μm,26.8s,baz=163						
TBI	**Tubuai**	**34.88**	**327**	*e*T	T	07 29 54.7	
	189nm,0.3s						
QSPA	**South Pole Qui**	**35.15**	**180**	P	**P**	**06 53 36.2**	**+0.8**
	18nm,1.0s,baz=90,slow=2.4,SNR=35						
QSPA	**South Pole Qui**	**35.15**	**180**	P	**P**	**06 53 37.1**	**+1.7**
QSPA				IAmb	IAmb	06 53 38.2	
	comp=Z,59nm,1.4s						
BELA	**Belgrano 2**	**37.98**	**160**	P	**P**	**06 53 59.7**	**+0.6**
BELA				IAmb	IAmb	06 54 00.8	
	comp=Z,34nm,1.1s						
RPZ	**Rata Peaks**	**39.05**	**261**	LR	LR	07 06 16.3	
	comp=Z,636nm,20.4s,baz=121,slow=30						
THZ	**Tophouse**	**39.22**	**265**	P	**P**	**06 54 10.7**	**+0.7**
THZ				IAmb	IAmb	06 54 12.1	
	comp=Z,19nm,1.1s						
MEH	**Mehetia**	**39.65**	**332**	*e*T	T	07 35 58.3	
	comp=Z,38nm,0.2s						
PAE	**Paea**	**40.28**	**330**	*e*T	T	07 36 44.8	
	comp=Z,1.4nm,0.2s						
PPT2	**Papeete2**	**40.34**	**330**	*e*S	**S**	**07 00 28.5**	**+1.2**
	comp=Z,335nm,25.5s						
PPT2				*e*LR	LR	07 05 19.2	
	comp=Z,2μm,26.5s,baz=167						
PPT2	**Papeete2**	**40.34**	**330**	*e*T	T	07 36 40.0	
	comp=Z,3.8nm,0.3s						
PPT	**Papeete**	**40.37**	**330**	LR	LR	07 06 46.7	
	comp=Z,619nm,19.3s,baz=168,slow=30						
H03S2	**Juan Fernandez**	**40.87**	**80**	T	T	07 37 44.9	
	baz=221,slow=74,SNR=670						
H03S1	**Juan Fernandez**	**40.88**	**80**	T	T	07 37 45.5	
	baz=221,slow=74,SNR=698						
H03S3	**Juan Fernandez**	**40.89**	**80**	T	T	07 37 46.6	
	baz=221,slow=74,SNR=760						
PLCA	**Paso Flores**	**40.91**	**95**	P	**P**	**06 54 23.7**	**-0.4**
	comp=Z,7.1nm,1.1s,baz=215,slow=8.9,SNR=8.5						
PLCA				LR	LR	07 07 12.8	
	comp=Z,394nm,19.5s,baz=226,slow=30						
PLCA	**Paso Flores**	**40.91**	**95**	P	**P**	**06 54 24.3**	**+0.3**
PLCA				IAmb	IAmb	06 54 27.6	
	comp=Z,17nm,1.2s						
H03N3	**Juan Fernandez**	**41.15**	**80**	T	T	07 38 04.9	
	baz=224,slow=72,SNR=6343						
H03N2	**Juan Fernandez**	**41.16**	**80**	T	T	07 38 03.7	
	baz=224,slow=72,SNR=7491						
H03N1	**Juan Fernandez**	**41.17**	**80**	T	T	07 38 03.8	
	baz=224,slow=72						
VAH	**Vaihoa**	**42.06**	**334**	*e*T	T	07 38 57.7	
	comp=Z,301nm,0.3s						
BO02	**Sierra Bellavi**	**44.85**	**88**	P	**P**	**06 54 56.0**	**0.0**
BO02				IAmb	IAmb	06 55 09.1	
	comp=Z,22nm,0.9s						
MT05	**Renca**	**45.88**	**87**	P	**P**	**06 55 03.6**	**-0.6**
PEL	**Peldehue**	**46.09**	**87**	P	**P**	**06 55 05.8**	**-0.1**
VNA3	**Neumayer Olymp**	**47.13**	**158**	P	**P**	**06 55 13.1**	**-0.5**
CO03	**El Pedregal**	**47.78**	**85**	P	**P**	**06 55 20.2**	**+1.0**
VNA2	**Neumayer--Watz**	**47.87**	**158**	P	**P**	**06 55 18.9**	**-0.3**
	baz=222,slow=8.8						
VNA1	**Neumayer--Stat**	**47.88**	**157**	P	**P**	**06 55 19.2**	**-0.1**
SNAA	**Sanae**	**48.23**	**160**	P	**P**	**06 55 21.4**	**-0.6**
SNAA	**Sanae**	**48.23**	**160**	P	**P**	**06 55 21.4**	**-0.6**
	comp=Z,5.9nm,1.1s,baz=219,slow=9.7,SNR=25						
SNAA	**Sanae**	**48.23**	**160**	P	**P**	**06 55 21.5**	**-0.5**
SNAA				IAmb	IAmb	06 55 21.9	
	comp=Z,20nm,1.5s						
ZON	**Zonda**	**48.41**	**87**	P	**P**	**06 55 23.9**	**-0.1**
ZON				IAmb	IAmb	06 55 36.0	
	comp=Z,10nm,0.8s						
AC02	**Maricunga**	**51.70**	**83**	P	**P**	**06 55 49.3**	**-0.2**
AFI	**Afiamalu**	**52.38**	**305**	LR	LR	07 12 02.2	
	comp=Z,173nm,21.7s,baz=144,slow=29						
PB15	**IPOC Station P**	**54.32**	**80**	P	**P**	**06 56 08.4**	**-0.1**
PB15				IAmb	IAmb	06 56 12.5	
	comp=Z,21nm,1.3s						
LVC	**Limon Verde**	**55.10**	**80**	P	**P**	**06 56 14.3**	**-0.1**
LVC				IAmb	IAmb	06 56 15.5	
	comp=Z,13nm,1.2s						
SYO	**Syowa Base**	**56.03**	**175**‖	*e*P	**P**	**06 56 18.0**	**-2.0**
DZM	**Mont Dzumac**	**57.25**	**278**	*e*LR	LR	07 13 18.3	
	comp

SNR=14
H10N2 ASCENSION HYDR 97.62 115 T T 08 49 58.7
baz=248,slow=74,SNR=14
PDAR Pinedale Array 98.92 15 LR LR 07 36 03.4
comp=Z,200nm,21.7s,baz=208,slow=30
ILAR Eielson Array 120.19 352 PKP **PKPdf 07 05 31.1 -0.3**
comp=Z,0.4nm,0.5s,baz=208,slow=2.2,SNR=8.6
ILAR Eielson Array 120.19 352 **PKiKP 07 05 33.5 +2.0**
NJ2 Nanjing 127.62 274 *e*PKP **PKiKP 07 05 51.9 +4.7**
WHN Wuhan 129.10 269 PKP PKiKP 07 05 58.4 +8.2
HHC Hu-ho-hao-te 137.95 277 *e*PKP **PKPdf 07 06 06.9 +0.9**
HHC AMB AMB
comp=Z,140nm,7.4s
GTA Gaotai 143.76 265 ⇑PKP PKPbc 07 06 14.0 -0.2
SONM Songino Array 145.13 282 PKPbc **PKPbc 07 06 17.4 -0.8**
comp=Z,5.0nm,0.8s,baz=138,slow=3.2,SNR=22
SONM Songino Array 145.13 282 **PKPbc 07 06 18.2 0.0**
WMQ Urumqi 153.53 261 *e*PKPbc **PKPbc 07 06 36.6 -3.2**
WMQ AMB AMB
comp=Z,200nm,5.3s
WMQ LR LR
comp=Z,390nm,21.9s
GERES GERESS Array B 156.81 90 PKP **PKPdf 07 06 37.1 +0.7**
comp=Z,0.5nm,0.6s,baz=270,slow=1.0,SNR=1.8
KSH Kashi 156.86 239 PKP PKPdf 07 06 49.3 +12
KSH PP PP 07 10 55.3 +10
KSH AMB AMB
comp=Z,400nm,6.1s
MKAR Makanchi Array 158.36 261 PKPab **PKPab 07 07 10.9 -2.1**
comp=Z,3.1nm,0.7s,baz=122,slow=5.0,SNR=19
MKAR Makanchi Array 158.36 261 **PKPab 07 07 12.0 -0.9**
BRTR Keskin Array B 161.07 137 PKPab **PKPab 07 07 24.7 -0.3**
comp=Z,1.1nm,0.8s,baz=198,slow=7.3,SNR=4.9

*DJA **13** 07:11:46.4±0.4,7°S±3°×13°1E±°, h146km±6km, M4.5/9, mb4.5/7, mB5.1/2, MLv4.5/9, Mw(mB)4.5/2*
*NEIC **13** 07:11:46.6±2.7,7°43S±0°07'×130°13E±0°08, h34km±6km, mb4.2/4, Error ellipse: s-maj=14.7km s-min=3.7km az=51.0*
*IDC **13** 07:11:46.7±3.0,7°46S×130°23E, h34km±23km, mb4.1/7, mb1 4.2/12, mb1mx3.9/42, mbtmp4.3/12, ML4.3/5, Error ellipse: s-maj=40.8km s-min=16.3km az=74.0*
ISC 13 07:11:45.8±0.6,7°51S±0°05×130°28E±0°06, h27km, n35, σ3°15/41, mb4.3/8, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.12**	**115**		**Pb**	**07 12 10.2**	**+3.8**
SAUI				Sn	**Sb**	**07 12 25.0**	**+4.4**
SAUI	**Saumlaki**	**1.12**	**115**	P	**Pn**	**07 12 10.0**	**+3.5**
SAUI				S	**Sb**	**07 12 28.0**	**+7.4**
BNDI	**Bandanaira**	**2.99**	**353**	P	**Pn**	**07 12 33.6**	**+2.1**
FAKI	**Fak Fak**	**4.96**	**23**		**Pn**	**07 12 58.4**	**-0.2**
FAKI				Sn	**Sn**	**07 13 56.3**	**+1.1**
FAKI	**Fak Fak**	**4.96**	**23**	P	**Pn**	**07 12 57.1**	**-1.5**
NLAI	**Namlea**	**5.29**	**323**	P	**Pn**	**07 13 06.2**	**+3.1**
0.2nm4µm71nm,0.7s							
SOEI	**Soe**	**6.35**	**249**	P	Pn	07 13 22.5	+4.8
0.3nm54nm,0.6s							
SIJI	**Sorong**	**6.67**	**9**	Pn	**Pn**	**07 13 21.5**	**-0.6**
3.6nm,0.3s,baz=24,slow=21,SNR=17							
SIJI				Sn	**Sn**	**07 14 29.4**	**-7.9**
4.7nm,0.3s,baz=279,slow=23,SNR=9.7							
SWI	**Sorong**	**6.67**	**8**	P	**Pn**	**07 13 19.3**	**-2.8**
0.3nm39nm,0.7s							
SANI	**Sanana**	**6.91**	**322**	P	**Pn**	**07 13 28.5**	**+3.2**
0.2nm50nm,0.9s							
FITZ	**Fitzroy Crossi**	**11.45**	**203**	Pn	**Pn**	**07 14 28.1**	**+0.5**
1.2nm,0.3s,baz=29,slow=9.1,SNR=47							
FITZ				Sn	**Sn**	**07 16 29.4**	**-5.3**
4.5nm,0.3s,baz=110,slow=19,SNR=11							
FITZ	**Fitzroy Crossi**	**11.45**	**203**		**Pn**	**07 14 28.5**	**+0.9**
MRSI	**Marisa**	**11.49**	**313**	P	Pn	07 14 36.2	+8.0
WB0	**Warramunga Arr**	**12.82**	**162**		**Pn**	**07 14 45.7**	**-0.7**
WRA	**Warramunga Arr**	**12.97**	**163**	Pn	**Pn**	**07 14 47.6**	**-0.9**
2.3nm,0.3s,baz=347,slow=13,SNR=66							
WRA				Sn	**Sn**	**07 17 04.7**	**-7.3**
2.5nm,0.3s,baz=346,slow=24,SNR=11							
WB2	**Warramunga Arr**	**12.97**	**163**		**Pn**	**07 14 47.6**	**-0.9**
WR0	**Warramunga Arr**	**13.05**	**162**		**Pn**	**07 14 48.1**	**-1.4**
COEN	**Coen**	**14.20**	**118**	Pn	**Pn**	**07 15 05.1**	**-0.1**
BBKI	**Banjar Baru**	**15.88**	**284**	P	**P**	**07 15 36.8**	**+5.7**
AS31	**Alice Springs**	**16.44**	**168**	Pn	**Pn**	**07 15 33.8**	**-0.9**
AS31				IAmb	IAmb	07 15 38.5	
comp=Z,5.1nm,0.4s							
ASAR	**Alice Springs**	**16.44**	**168**	Pn	**Pn**	**07 15 33.5**	**-1.2**
comp=Z,2.2nm,0.3s,baz=347,slow=9.8,SNR=81							
ASAR				Sn	**Sn**	**07 18 29.9**	**-6.6**
comp=Z,1.0nm,0.3s,baz=356,slow=27,SNR=6.6							
ASAR				ScP	**ScP**	**07 23 57.0**	**-2.3**
baz=340,slow=2.0,SNR=7.1							
CTA	**Charters Tower**	**19.90**	**131**	P	**Pn**	**07 16 16.8**	**-0.3**
comp=Z,0.3nm,0.3s,baz=308,slow=14,SNR=2.1							
STKA	**Stephens Creek**	**26.44**	**158**	P	**P**	**07 17 21.9**	**+1.4**
comp=Z,5.0nm,0.9s,baz=325,slow=9.9,SNR=8.6							
STKA	**Stephens Creek**	**26.44**	**158**	P	**P**	**07 17 19.6**	**-0.9**
USRK	**Ussuriysk Ar.**	**51.49**	**2**	P	**P**	**07 20 47.9**	**-1.0**
SONM	**Songino Array**	**59.01**	**341**	P	**P**	**07 21 43.2**	**-0.1**
comp=Z,0.4nm,0.4s,baz=156,slow=7.2,SNR=2.7							
MK31	**Makanchi Array**	**68.80**	**327**	P	**P**	**07 22 47.2**	**-0.4**
MK31				IAmb	IAmb	07 22 47.9	
comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**68.80**	**327**	P	**P**	**07 22 47.3**	**-0.3**
comp=Z,3.0nm,0.5s,baz=115,slow=8.4,SNR=67							
MAKZ	**Makanchi**	**68.98**	**327**	P	**P**	**07 22 47.8**	**-0.9**
ZALV	**Zalesovo Beam**	**72.16**	**334**	P	**P**	**07 23 07.5**	**-0.4**
comp=Z,0.8nm,0.4s,baz=123,slow=5.5,SNR=4.5							
SEY	**Seymchan**	**72.25**	**10**	P	**P**	**07 23 08.1**	**-0.2**
comp=Z,1.3nm,0.5s,baz=244,slow=2.2,SNR=6.6							
KURBB	**Kurchatov Arra**	**73.09**	**328**	P	**P**	**07 23 12.9**	**-0.6**
comp=Z,1.4nm,0.4s,baz=126,slow=4.9,SNR=7.9							
KURK	**Kurchatov**	**73.09**	**329**	P	**P**	**07 23 12.9**	**-0.6**
TIXI	**Tiksi**	**79.00**	**360**	P	**P**	**07 23 45.7**	**-1.1**
comp=Z,1.7nm,0.5s,baz=208,slow=2.7,SNR=5.0							
TORD	**Torodi Ar. Bea**	**129.18**	**281**	PKP	**PKiKP**	**07 30 53.3**	**0.0**
comp=Z,0.4nm,0.4s,baz=60,slow=2.0,SNR=2.0							

*GRAL **13** 07:16:00.3±0.3,33°30N×35°83E, h13km±1km, MD3.1*
*GII **13** 07:16:01.3±0.0,33°19N×35°77E, h1km, MD2.0/5, Mm2.0/4*
ISC 13 07:15:58.8±1.2,33°32N±0°03×35°89E±0°07, h14km±7km, n20, σ0°48/34, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHBL	**Chebaa**	**0.13**	**283**	*e*P	**Pb**	**07 16 03.1**	**0.0**
SHBL				*e*S	**Sg**	**07 16 05.1**	**+0.2**
NATI	**Neve Ativ**	**0.14**	**247**	Pg	**Pb**	**07 16 02.9**	**-0.3**
NATI				Sg	**Sg**	**07 16 05.1**	**+0.1**
RCY	**Rachaya**	**0.18**	**345**	*e*P	**Pb**	**07 16 04.6**	**+0.5**
RCY				*e*S	**Sb**	**07 16 07.5**	**0.0**
GEM	**Giv'at Ha'Em**	**0.22**	**241**	Pg	**Pg**	**07 16 04.0**	**+0.3**
GEM				Sg	**Sg**	**07 16 06.4**	**-0.6**
QRWL	**Qaraoun**	**0.29**	**322**	*e*P	**Pb**	**07 16 05.8**	**0.0**
KSHT	**Keshet**	**0.34**	**192**	Pg	**Pb**	**07 16 07.0**	**+0.3**
KSHT				Sg	**Sb**	**07 16 11.7**	**-0.3**
DQRL	**Deir Qamar**	**0.47**	**325**	*e*P	**Pb**	**07 16 08.8**	**-0.1**
DQRL				*e*S	**Sb**	**07 16 15.2**	**-0.6**
MMA0B	**Mount Meron ar**	**0.51**	**234**	Pg	**Pg**	**07 16 09.2**	**+0.3**
MMA0B				Sg	**Sg**	**07 16 15.7**	**0.0**
BHL	**Bhannes**	**0.62**	**341**	*e*P	**Pb**	**07 16 11.5**	**+0.1**
HNTI	**Hanita**	**0.65**	**249**	Pg	**Pb**	**07 16 11.8**	**0.0**
BLGI	**Bet Lehem HaGe**	**0.83**	**225**	Pg	**Pg**	**07 16 14.9**	**0.0**
BLGI				Sg	**Sg**	**07 16 25.4**	**-0.4**
HWQ	**Hawqa**	**0.96**	**3**	*e*P	**Pn**	**07 16 17.4**	**-0.5**
MMLI	**Mount Malkishu**	**0.96**	**204**	Pg	**Pg**	**07 16 17.7**	**+0.3**
MMLI				Sg	**Sg**	**07 16 30.6**	**+0.5**
OFRI	**`Ofer**	**1.03**	**228**	Pg	**Pb**	**07 16 18.3**	**-0.1**
OFRI				Sg	**Sb**	**07 16 32.0**	**+0.1**
HMDT	**Nahal Hemdat**	**1.11**	**196**	Pg	**Pg**	**07 16 20.0**	**-0.1**
HMDT				Sg	**Sn**	**07 16 35.4**	**+0.5**
SLTI	**Sal'it**	**1.29**	**214**	Pg	**Pg**	**07 16 23.5**	**-0.2**
SLTI				Sg	**Sn**	**07 16 40.1**	**+0.6**
DSI	**Dead Sea**	**1.80**	**194**	Pn	**Pb**	**07 16 31.1**	**-0.4**
DSI				Sn	**Sb**	**07 16 54.7**	**+0.9**
AMAZ	**Amatzia**	**1.96**	**205**	Pn	**Pb**	**07 16 33.8**	**-0.5**
AMAZ				Sn	**Sb**	**07 16 59.9**	**+1.2**
GHAJ	**Ghor Haditha**	**2.03**	**188**	Pn	**Pb**	**07 16 34.5**	**-0.9**
YTIR	**Yattir**	**2.06**	**199**	Pn	**Pb**	**07 16 35.4**	**-0.6**

*IASPEI **13** 07:38:53.7±0.9,35°76N±0°02×97°39W±0°03, h10km±6km,*

Error ellipse: s-maj=4.2km s-min=3.3km az=86.1, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009
*ANF **13** 07:38:53.3±0.5,35°76N×97°38W, h1km±4km, ML3.7/18, Error ellipse: s-maj=2.9km s-min=2.5km az=142.0*
*TUL **13** 07:38:53.7±1.1,35°75N±0°01×97°38W±0°02, h6km±6km, ML3.1, mb_Lg3.2/68(NEIC), Error ellipse: s-maj=2.4km s-min=1.8km az=96.0*
*NEIC **13** 07:38:53.9±0.9,35°765N±0°010×97°39W±0°01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.2km az=145.0*
ISC 13 07:38:54.0±0.9,35°77N±0°02×97°39W±0°02, h8km±6km, n79, σ0°59/72, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.06**	**300**	Pg	**Pg**	**07 38 55.9**	**0.0**
OK029				Sg	**Sg**	**07 38 57.5**	**+0.2**
OK009	**Oakdale Elemen**	**0.19**	**189**		**Pg**	**07 38 57.5**	**-0.3**
OK025	**Westminster Rd**	**0.19**	**168**		**Pg**	**07 38 57.5**	**-0.3**
OK025				Sg	**Sg**	**07 39 00.3**	**-0.2**
BCOK	**Bluff Creek, N**	**0.21**	**239**		**Pg**	**07 38 58.0**	**-0.3**
BCOK				Sg	**Sg**	**07 39 01.1**	**-0.1**
OKCFA	**Oklahoma City**	**0.35**	**189**	Pg	**Pg**	**07 39 00.5**	**-0.4**
OKCFA				Sg	**Sg**	**07 39 05.5**	**-0.1**
OKCFA	**Oklahoma City**	**0.35**	**189**	P	**Pg**	**07 39 00.5**	**-0.4**
baz=9.7,SNR=63							
OKCFA				S	**Sg**	**07 39 05.6**	**0.0**
baz=9.7							
OKCFA	**Oklahoma City**	**0.35**	**189**	P		07 39 00.5	
baz=9.7,SNR=63							
OKCFA				S		07 39 05.6	
baz=9.7							
OKCSW	**OKLAHOMA CITY**	**0.36**	**187**		**Pg**	**07 39 00.6**	**-0.5**
OKCSW				Sg	**Sg**	**07 39 05.7**	**-0.1**
OK031	**S. Brethren Rd**	**0.48**	**67**		**Pg**	**07 39 03.4**	**+0.1**
OK031				Sg	**Sg**	**07 39 10.1**	**+0.4**
FNO	**Franklin**	**0.51**	**181**		**Pg**	**07 39 03.6**	**-0.1**
FNO				Sg	**Sg**	**07 39 10.6**	**+0.2**
OK030	**Cody Creek RV**	**0.52**	**71**		**Pg**	**07 39 03.9**	**-0.1**
OK030				Sg	**Sg**	**07 39 10.8**	**+0.1**
QUOK	**Quay**	**0.68**	**53**	Pg	**Pg**	**07 39 06.7**	**-0.5**
QUOK				Sg	**Sg**	**07 39 16.1**	**0.0**
CROK	**Carrier**	**0.88**	**327**		**Pg**	**07 39 10.6**	**-0.3**
CROK				Sg	**Sg**	**07 39 22.7**	**+0.2**
GC02	**Grant County #**	**1.15**	**341**		**Pg**	**07 39 15.4**	**-0.6**
GC02				Sg	**Sb**	**07 39 31.3**	**+0.1**
OK032	**Salt Plains WL**	**1.23**	**328**		**Pg**	**07 39 16.7**	**-1.0**
OK032				Sg	**Sg**	**07 39 33.6**	**0.0**
KAN13	**South Haven SW**	**1.25**	**357**		**Pg**	**07 39 17.3**	**-0.6**
KAN13				Sg	**Sb**	**07 39 34.3**	**+0.2**
TUL1	**Leonard**	**1.30**	**83**	P	**Pn**	**07 39 17.1**	**-1.4**
baz=263							
TUL1				S	**Sg**	**07 39 34.9**	**-1.0**
baz=263							
TUL1	**Leonard**	**1.30**	**83**	P		07 39 17.0	
baz=263							
TUL1				S		07 39 35.1	
baz=263							
TUL1	**Leonard**	**1.30**	**83**	P		07 39 17.1	
baz=263							
TUL1				S		07 39 34.9	
baz=263							
T35A	**Sooner Cattle**	**1.35**	**31**		**Pn**	**07 39 18.9**	**-0.2**
T35B	**Sooner Cattle**	**1.35**	**31**	P	**Pn**	**07 39 18.8**	**-0.3**
baz=211							
T35B				S	**Sg**	**07 39 37.2**	**-0.2**
baz=211							
T35B	**Sooner Cattle**	**1.35**	**31**	P		07 39 18.8	
baz=211							
T35B				S		07 39 37.2	
baz=211							
KAN09	**Caldwell North**	**1.38**	**352**		**Pn**	**07 39 19.5**	**0.0**
U32A	**Winter Ranch,**	**1.45**	**296**		**Pn**	**07 39 20.5**	**0.0**
U32A	**Winter Ranch,**	**1.45**	**296**	P	**Pn**	**07 39 20.3**	**-0.2**
baz=115,SNR=24							
U32A				S	**Sg**	**07 39 40.2**	**-0.2**
baz=115							
U32A	**Winter Ranch,**	**1.45**	**296**	P		07 39 20.3	
baz=115,SNR=24							
U32A				S		07 39 40.2	
baz=115							
KAN10	**Anthony SW Sta**	**1.47**	**337**		**Pn**	**07 39 21.1**	**+0.3**
KAN08	**Anthony NE Sta**	**1.53**	**342**		**Pn**	**07 39 22.0**	**+0.3**
KAN08				IAmb_Lg		07 39 45.8	
comp=Z,86nm,0.8s							
WMOK	**Wichita Mounta**	**1.53**	**228**		**Pn**	**07 39 21.4**	**-0.3**
WMOK	**Wichita Mounta**	**1.53**	**228**	P	**Pn**	**07 39 21.1**	**-0.6**
baz=48,SNR=430							
WMOK				S	**Sn**	**07 39 41.9**	**+0.1**
baz=48							
WMOK	**Wichita Mounta**	**1.53**	**228**	P		07 39 21.2	
baz=48							
WMOK				S		07 39 41.8	
baz=48							
WMOK	**Wichita Mounta**	**1.53**	**228**	P		07 39 21.1	
baz=48,SNR=430							
WMOK				S		07 39 41.9	
baz=48							
KAN12	**Harper NE Stat**	**1.61**	**342**		**Pb**	**07 39 23.6**	**-0.3**
X37A	**Clayton**	**2.02**	**125**		**Pn**	**07 39 28.9**	**+0.5**
X37A	**Clayton**	**2.02**	**125**	P	**Pn**	**07 39 28.7**	**+0.3**
baz=306,SNR=190							
X37A				S	**Sb**	**07 39 55.4**	**-1.0**
baz=306							
X37A	**Clayton**	**2.02**	**125**	P		07 39 28.7	
baz=306,SNR=190							
X37A				S		07 39 55.4	
baz=306							
Z35A	**Perchaven, San**	**2.43**	**177**		**Pn**	**07 39 34.6**	**+0.6**
Z35A	**Perchaven, San**	**2.43**	**177**	P	**Pn**	**07 39 34.3**	**+0.4**
baz=358,SNR=31							
Z35A				S	**Sn**	**07 40 05.6**	**+1.7**
baz=358							
Z35A	**Perchaven, San**	**2.43**	**177**	P		07 39 34.3	
baz=358,SNR=31							
Z35A				S		07 40 05.6	
baz=358							
U38A	**Gravette**	**2.52**	**74**		**Pn**	**07 39 36.2**	**+1.0**
U38A	**Gravette**	**2.52**	**74**	P	**Pn**	**07 39 36.2**	**+1.0**
baz=255							
U38A	**Gravette**	**2.52**	**74**	P		07 39 36.2	
baz=255							
HHAR	**Hobbs**	**2.84**	**79**		**Pn**	**07 39 39.7**	**+0.1**
HHAR	**Hobbs**	**2.84**	**79**	P	**Pn**	**07 39 40.4**	**+0.8**
baz=260,SNR=22							
HHAR	**Hobbs**	**2.84**	**79**	P		07 39 40.4	
baz=260,SNR=22							
W39A	**Magazine**	**2.99**	**100**	IAmb_Lg		07 40 34.6	
comp=Z,68nm,0.9s							
W39A	**Magazine**	**2.99**	**100**	P	**Pn**	**07 39 42.2**	**+0.5**
baz=282,SNR=9.7							
W39A	**Magazine**	**2.99**	**100**	P		07 39 42.2	
baz=282							
W39A	**Magazine**	**2.99**	**100**	P		07 39 42.2	
baz=282,SNR=9.7							
Z38A	**Mt. Pleasant**	**3.19**	**141**	Pn	**Pn**	**07 39 44.7**	**+0.2**
Z38A				IAmb_Lg		07 40 42.7	
comp=Z,58nm,0.9s							
MIAR	**Mount Ida**	**3.35**	**110**	Pn	**Pn**	**07 39 47.4**	**+0.8**
MIAR				IAmb_Lg		07 40 46.4	
comp=Z,52nm,0.7s							
MIAR	**Mount Ida**	**3.35**	**110**	P	**Pn**	**07 39 47.3**	**+0.8**
baz=292,SNR=44							
MIAR				S	**Sn**	**07 40 27.5**	**+0.9**
baz=292							
MIAR	**Mount Ida**	**3.35**	**110**	P		07 39 47.4	
baz=292							
MIAR				S		07 40 27.5	
baz=292							
MIAR	**Mount Ida**	**3.35**	**110**	P		07 39 47.3	
baz=292,SNR=44							
MIAR				S		07 40 27.5	
baz=292							
KSU1	**Kansas State U**	**3.39**	**10**	IAmb_Lg		07 40 47.0	
comp=Z,65nm,0.9s							
KSU1	**Kansas State U**	**3.39**	**10**	P	**Pn**	**07 39 47.7**	**+0.5**
baz=191							
KSU1	**Kansas State U**	**3.39**	**10**	Pb		07 39 56.1	
baz=191							
KSU1				Sb		07 40 40.4	
baz=191							
KSU1	**Kansas State U**	**3.39**	**10**	P		07 39 47.7	
baz=191							
CBKS	**Cedar Bluff**	**3.58**	**329**	Pn	**Pn**	**07 39 50.7**	**+0.9**
CBKS				IAmb_Lg		07 40 52.4	
comp=Z,50nm,0.8s							
CBKS	**Cedar Bluff**	**3.58**	**329**	P	**Pn**	**07 39 50.6**	**+0.9**
baz=148,SNR=5.8							
CBKS	**Cedar Bluff**	**3.58**	**329**	P		07 39 50.8	
baz=148							
CBKS	**Cedar Bluff**	**3.58**	**329**	P		07 39 50.6	
baz=148,SNR=5.8							
AMTX	**Amarillo**	**3.62**	**257**	P	**Pn**	**07 39 51.5**	**+1.1**
baz=75							
AMTX	**Amarillo**	**3.62**	**257**	P		07 39 52.1	
baz=75							
AMTX	**Amarillo**	**3.62**	**257**	P		07 39 51.5	
baz=75							
U40A	**Yellville**	**3.72**	**80**	P	**Pn**	**07 39 52.3**	**+0.6**
baz=262,SNR=13							
U40A	**Yellville**	**3.72**	**80**	P		07 39 52.7	
baz=262							
U40A	**Yellville**	**3.72**	**80**	P		07 39 52.3	
baz=262,SNR=13							
U40A				P		07 39 52.3	
baz=262,SNR=13							
WHTX	**Lake Whitney,**	**3.76**	**181**	Sb		07 40 48.5	
baz=0.9							
S39A	**Bolivar**	**3.79**	**58**	Pn	**Pn**	**07 39 53.6**	**+1.0**
S39A	**Bolivar**	**3.79**	**58**	P	**Pn**	**07 39 53.1**	**+0.4**
baz=240,SNR=13							
S39A	**Bolivar**	**3.79**	**58**	P		07 39 53.1	
baz=240,SNR=13							
237A	**Washetta, Mont**	**3.98**	**160**	S	**Sn**	**07 40 41.0**	**-1.0**
baz=341							
237A	**Washetta, Mont**	**3.98**	**160**	S		07 40 41.0	
baz=341							
WHAR	**Wooly Hollow**	**4.18**	**95**	Pn	**Pn**	**07 39 59.1**	**+1.0**
WHAR				IAmb_Lg		07 41 07.3	
comp=Z,53nm,1.1s							
W41B	**Gary Mavity, V**	**4.24**	**97**	P	**Pn**	**07 39 58.7**	**-0.1**
baz=279,SNR=35							
W41B	**Gary Mavity, V**	**4.24**	**97**	P		07 39 58.9	
baz=279							
W41B	**Gary Mavity, V**	**4.24**	**97**	P		07 39 58.7	
baz=279,SNR=35							
FCAR	**Ozark Folk Cen**	**4.28**	**87**	Pn	**Pn**	**07 39 60.0**	**+0.6**
FCAR				IAmb_Lg		07 41 13.0	
comp=Z,29nm,0.8s							
MGMO	**Mountain Grove**	**4.35**	**70**	IAmb_Lg		07 41 09.6	
comp=Z,63nm,1.0s							
MSTX	**Muleshoe**	**4.78**	**250**	P	**Pn**	**07 40 06.7**	**+0.4**
baz=67							
MSTX	**Muleshoe**	**4.78**	**250**	P		07 40 06.7	
baz=67							
R40A	**Maddies Statio**	**4.81**	**57**	P	**Pn**	**07 40 06.9**	**+0.2**
baz=240,SNR=12							
R40A	**Maddies Statio**	**4.81**	**57**	P		07 40 06.9	
baz=240,SNR=12							
N33A	**J Bar K, Exete**	**4.97**	**359**	IAmb_Lg		07 41 35.2	
comp=Z,24nm,0.7s							
435B	**Jarrell**	**4.97**	**182**	IAmb_Lg		07 41 36.0	
comp=Z,49nm,0.8s							
CCAR	**Cane Creek**	**4.97**	**110**	IAmb_Lg		07 41 39.4	
comp=Z,36nm,1.0s							
JCT	**Junction City**	**5.65**	**202**	IAmb_Lg		07 41 54.2	
comp=Z,38nm,0.8s							
PBMO	**Poplar Bluff**	**5.71**	**78**	IAmb_Lg		07 41 59.7	
comp=Z,37nm,0.7s							
LPAR	**Lepanto**	**5.77**	**90**	IAmb_Lg		07 42 05.2	
comp=Z,51nm,1.1s							
143A	**Socs Landing,**	**5.82**	**120**	IAmb_Lg		07 42 14.0	
comp=Z,20nm,1.0s							
T25A	**Trinidad**	**5.83**	**286**	IAmb_Lg		07 42 11.1	
comp=Z,29nm,0.8s							
GNAR	**Gosnell**	**5.99**	**86**	IAmb_Lg		07 42 07.0	
comp=Z,48nm,0.9s							
FVM	**French Village**	**6.00**	**66**	IAmb_Lg		07 42 04.0	
comp=Z,24nm,0.9s							
OGNE	**Ogallala**	**6.33**	**326**	IAmb_Lg		07 42 21.5	
comp=Z,20nm,0.7s							
SLM	**Saint Louis**	**6.39**	**61**	IAmb_Lg		07 42 16.3	
comp=Z,22nm,0.7s							
HALT	**Halls**	**6.54**	**86**	IAmb_Lg		07 42 27.1	
comp=Z,26nm,0.7s							
S44A	**Carbondale**	**6.81**	**71**	IAmb_Lg		07 42 26.2	
comp=Z,29nm,0.8s							
K31A	**O'Neill**	**6.93**	**352**	IAmb_Lg		07 42 41.6	
comp=Z,38nm,0.8s							
SCIA	**State Center**	**6.94**	**27**	IAmb_Lg		07 42 41.0	
comp=Z,28nm,0.8s							
P43A	**Skaggs, Pawnee**	**7.34**	**56**	IAmb_Lg		07 42 51.0	
comp=Z,29nm,0.8s							
Q44A	**Meyer Farm, Va**	**7.37**	**62**	IAmb_Lg		07 42 59.0	
comp=Z,24nm,0.8s							
K38A	**Parkersburg**	**7.75**	**26**	IAmb_Lg		07 43 08.0	
comp=Z,32nm,0.9s							
L40A	**Anamosa**	**7.91**	**36**	IAmb_Lg		07 43 14.5	
comp=Z,19nm,0.7s							
Y22D	**IRIS PASSCAL I**	**8.01**	**261**	IAmb_Lg		07 43 18.6	
comp=Z,22nm,0.8s							
P46A	**Rosedale**	**8.94**	**61**	IAmb_Lg		07 43 40.2	
comp=Z,27nm,0.8s							
JFWS	**Jewell Farm**	**9.03**	**36**	IAmb_Lg		07 43 45.5	
comp=Z,16nm,0.8s							
BLO	**Bloomington**	**9.28**	**65**	IAmb_Lg		07 44 05.6	
comp=Z,17nm,0.7s							
W50A	**Signal Mountai**	**9.86**	**90**	IAmb_Lg		07 44 11.1	
comp=Z,18nm,0.9s							

IDC 13 07:42:46.4±2.0,7°20S×125°94E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.6/25, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=207.5km s-min=31.3km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.06**	**148**	Pn	Pn	07 46 21.7	+1.0
0.5nm,0.3s,baz=329,slow=12,SNR=26							
WRA				Sn	Sn	07 48 55.8	-13
0.2nm,0.3s,baz=321,slow=22,SNR=4.0

JYNG	**Yonagunijimaku**	**0.32**	**169**	P	Pn	08 00 03.5 +0.2
JYNG				*e*S	Sn	08 00 17.8 +0.1
YOJ	**Yonaguni jima**	**0.33**	**159**	P	Pn	08 00 03.5 +0.2
YOJ				S	Sn	08 00 18.0 +0.3
IRIF	**Iriomote-Funau**	**0.89**	**119**	P	Pn	08 00 06.9 +0.2
IRIF				S	Sn	08 00 23.7 -0.1
HATJ	**Hateruma jima**	**1.10**	**130**	P	Pn	08 00 09.5 +0.8
HATJ				S	Sn	08 00 27.2 -0.1
JKRS	**Kuro-shima**	**1.16**	**117**	P	Pn	08 00 09.8 +0.6
JKRS				S	Sn	08 00 27.9 -0.3
JIJ	**Ishigaki jima**	**1.22**	**109**	P	Pn	08 00 09.8 0.0
JIJ				S	Sn	08 00 27.8 -1.5
JISG	**Ishigakijimahi**	**1.31**	**98**	P	Pn	08 00 10.5 -0.3
JISG				S	Sn	08 00 29.5 -1.5
JTJ	**Tarama**	**1.66**	**94**	P	Pn	08 00 14.8 +0.2
JTJ				S	Sn	08 00 36.5 -1.3
JIRB	**Irabujima**	**2.08**	**88**	P	Pn	08 00 19.7 +0.2
JIRB				S	Sn	08 00 45.4 -1.3
JIKM	**Ikemajima**	**2.16**	**85**	P	Pn	08 00 20.8 +0.4
JMJ2	**Miyako jima3**	**2.23**	**90**	P	Pn	08 00 21.5 +0.2
JMJ2				S	Sn	08 00 49.4 -0.3

TAP 13 08:00:21.2,24°22N×121°68E,h29km,ML1.8,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao** baz=242	**0.09**	**243**	*i* P	Pb	08 00 26.6	+0.3
NACB	baz=242			*e*S	Sb	08 00 30.6	+0.8
TWD	**Chiawan** baz=208	**0.16**	**211**	*e*P	Pb	08 00 27.1	+0.3
TWD	baz=208			*e*S	Sb	08 00 31.5	+0.8
ETLH	**Xiulin Townshi** baz=267	**0.18**	**267**	P	Pb	08 00 27.5	+0.3
ETLH	baz=267			*e*S	Sb	08 00 32.0	+0.7
WHF	**Hehuan Shan** baz=259	**0.39**	**260**	*e*P	Pb	08 00 30.3	+0.1
WHF	baz=259			*e*S	Sb	08 00 36.9	+0.6
FUSS	**Fushou** baz=274	**0.40**	**275**	*e*P	Pb	08 00 30.6	+0.3
FUSS	baz=274			*e*S	Sn	08 00 37.4	-0.8
TWT	**Tachien** baz=274	**0.47**	**275**	*e*P	Pb	08 00 31.6	+0.4
TWT	baz=274			*e*S	Sb	08 00 38.1	+0.2
TDCB	**Techi** baz=274	**0.48**	**275**	*e*P	Pb	08 00 31.5	+0.1
TDCB	baz=274			*e*S	Sb	08 00 37.7	-0.7

*IDC **13** 08:02:12.5±1.8,37.29N×80.16E,h0km,mb3.4/4, mb1 3.6/9,mb1mx3.5/55,mbtmp3.5/9,ML3.2/5,Error ellipse: s-maj=38.3km s-min=22.3km az=59.0*
*NNC **13** 08:02:16.4±4.0,37.46N×79.18E,h7km±14km,mb4.3, mpv3.9,Error ellipse: s-maj=27.5km s-min=22.0km az=161.0*

ISC 13 08:02:12.0±0.9,37.11N±0.06×79.45E±0.09,h16km,n17, σ2s48/21,mb3.4/3,8C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.59**	**214**	*e*P	**Pn**	**08 03 35.5**	**+1.1**
THN				*e*S	**Sn**	**08 04 35.5**	**-2.8**
PDGK	**Podgornoye** 7.3nm,0.6s	**6.21**	**0**	Pn	**Pn**	**08 03 44.8**	**+1.6**
PDGK	47nm,0.8s			⇓Sn	**Sn**	**08 04 54.6**	**+0.8**
PDGK	64nm,0.8s			⇑Lg	Lg	08 05 20.4	
MDOK	**Medeo** 26nm,1.2s	**6.32**	**344**	Pg	**Pb**	**08 04 04.0**	**+2.3**
MDOK	71nm,0.6s			Lg	Lg	08 05 28.7	
TKM2	**Tokmak 2** 6.9nm,0.6s	**6.51**	**334**	⇑Pg	**Pb**	**08 04 06.5**	**+1.4**
TKM2	61nm,1.4s			⇑Lg	Lg	08 05 30.6	
AAK	**Ala-Archa** 0.5nm,0.3s,baz=160,slow=12,SNR=6.1	**6.71**	**327**	Pn	Pb	08 03 58.7	-10
AAK	**Ala-Archa** 11nm,0.7s	**6.71**	**327**	Pg	**Pb**	**08 04 11.3**	**+3.0**
AAK	63nm,0.9s			Lg	Lg	08 05 35.4	
KK31	**Karatay Array** 0.4nm,0.3s,baz=154,slow=12,SNR=4.5	**9.09**	**314**	⇑Pn	**Pn**	**08 04 24.7**	**+2.1**
KK31	1.5nm,0.4s			⇑Sn	**Sn**	**08 05 59.2**	**-5.4**
KK31	0.2nm,0.1s,baz=225,slow=17,SNR=2.7			⇓Lg	Lg	08 06 54.6	
MAKZ	**Makanchi** 14nm,0.8s	**9.87**	**10**	⇑Pn	**Pn**	**08 04 33.6**	**+0.4**
MAKZ	5.7nm,0.8s			⇑Sn	**Sn**	**08 06 21.2**	**-2.4**
MK31	**Makanchi Array** 3.6nm,0.6s,baz=190,slow=13,SNR=22	**9.90**	**11**	⇑Pn	**Pn**	**08 04 34.2**	**+0.5**
MK31	7.4nm,0.7s,baz=191,slow=21,SNR=8.0			⇓Sn	**Sn**	**08 06 22.8**	**-1.7**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=186,slow=13,SNR=20	**9.90**	**11**	Pn	**Pn**	**08 04 34.1**	**+0.5**
MKAR	1.3nm,0.3s,baz=191,slow=22,SNR=9.3			Sn	**Sn**	**08 06 22.2**	**-2.2**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=190,slow=13,SNR=4.4	**13.53**	**357**	Pn	**Pn**	**08 05 21.8**	**-1.3**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=153,slow=20,SNR=4.9	**17.13**	**341**	P	**P**	**08 06 12.4**	**+0.2**
ZALV	**Zalesovo Beam** 1.1nm,0.3s,baz=73,slow=9.5,SNR=9.2	**17.25**	**11**	Pn	**Pn**	**08 06 09.5**	**-2.5**
AKTO	**Aktyubinsk** 1.2nm,0.6s,baz=147,slow=7.6,SNR=2.3	**20.33**	**318**	P	Pn	08 06 51.5	+2.2
SONM	**Songino Array** 0.3nm,0.6s,baz=260,slow=8.6,SNR=2.2	**22.47**	**53**	P	**P**	**08 07 06.3**	**-4.2**
CMAR	**Chiang Mai Arr** 1.1nm,0.3s,baz=313,slow=9.7,SNR=1.7	**25.26**	**132**	P	**P**	**08 07 37.8**	**+0.3**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=345,slow=5.0,SNR=5.0	**80.09**	**7**	P	**P**	**08 14 23.5**	**+2.9**

IDC 13 08:09:53.3±13.0,19.75N×143.30E,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.3/50,mbtmp3.6/4,Error ellipse: s-maj=377.9km s-min=55.1km az=175.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra** 0.1nm,0.4s,baz=93,slow=6.5,SNR=1.4	**59.02**	**318**	P	P	08 19 55.8	+0.8
ILAR	**Eielson Array** 0.5nm,0.7s,baz=265,slow=5.1,SNR=5.9	**63.72**	**27**	P	P	08 20 25.9	-0.6
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=295,slow=5.4,SNR=2.5	**78.12**	**28**	P	P	08 21 55.3	+1.3
FINES	**FINESS Array B** 2.2nm,1.0s,baz=79,slow=4.1,SNR=4.4	**84.98**	**335**	P	P	08 22 29.1	-1.2

*IDC **13** 08:17:30.1±4.7,35.59N×69.68E,h99km±45km,mb3.5/4, mb1 3.5/10,mb1mx3.2/54,mbtmp3.9/10,MS3.6/2, Ms1 3.6/2,ms1mx2.9/43,Error ellipse: s-maj=40.8km s-min=24.2km az=162.0*
*NNC **13** 08:17:32.9±7.4,36.01N×69.36E,h65km±178km,mb4.0, mpv4.1,Error ellipse: s-maj=58.4km s-min=47.3km az=156.0*

ISC 13 08:17:31.9±1.1,35.85N±0.09×69.62E±0.09,h112km,n24, σ1s50/28,mb3.5/3,3C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=70	**7.03**	**26**	P	**Pn**	**08 19 12.3**	**-0.2**
KK31	**Karatay Array** 3.1nm,0.5s,baz=190,slow=13,SNR=7.7	**7.28**	**5**	⇓P	**Pn**	**08 19 16.4**	**+0.9**
KK31	8.4nm,0.5s,baz=195,slow=23,SNR=9.6			⇓S	**Sn**	**08 20 37.6**	**+1.1**
UCH	**Uchtor** SNR=15	**7.42**	**29**	P	**Pn**	**08 19 18.0**	**+0.2**
AAK	**Ala-Archa** 4.0nm,0.3s,baz=198,slow=7.0,SNR=42	**7.76**	**28**	P	**Pn**	**08 19 22.4**	**+0.3**
AAK	4.9nm,0.3s,baz=14,slow=18,SNR=21			S	**Sn**	**08 20 47.1**	**-1.3**
AAK	**Ala-Archa** SNR=17	**7.76**	**28**	P	**Pn**	**08 19 22.8**	**+0.6**
AAK	**Ala-Archa** 7.3nm,0.5s	**7.76**	**28**	P	**Pn**	**08 19 22.7**	**+0.5**
AAK	28nm,0.6s			S	**Sn**	**08 20 47.6**	**-0.8**
KBK	**Karagaybulak** SNR=6.6	**7.95**	**30**	P	**Pn**	**08 19 25.7**	**+0.9**
CHMS	**Chumysh** SNR=8.7	**8.17**	**27**	P	**Pn**	**08 19 27.5**	**-0.1**
USP	**Ospenovka** SNR=15	**8.31**	**25**	P	**Pn**	**08 19 29.2**	**-0.3**
TKM2	**Tokmak 2** SNR=7.3	**8.44**	**31**	P	**Pn**	**08 19 32.8**	**+1.4**
TKM2	**Tokmak 2** 5.0nm,0.6s	**8.44**	**31**	⇓P	**Pn**	**08 19 30.4**	**-1.0**
TKM2	9.1nm,0.8s			⇑S	**Sn**	**08 21 04.5**	**-0.5**
GEYT	**Alibeck** 0.5nm,0.3s,baz=122,slow=9.5,SNR=2.1	**9.45**	**286**	P	**Pn**	**08 19 45.4**	**+0.4**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=216,slow=9.6,SNR=11	**14.47**	**37**	P	**Pn**	**08 20 51.5**	**+0.3**
AB31	**Akbulak array** 1.6nm,0.4s,baz=155,slow=12,SNR=89	**15.16**	**335**	⇓P	**Pn**	**08 21 00.4**	**+0.5**
AB31	1.2nm,0.5s,baz=156,slow=23,SNR=6.8			⇑S	**Sn**	**08 23 44.4**	**-2.9**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=211,slow=11,SNR=12	**16.11**	**21**	P	**P**	**08 21 14.2**	**+1.4**
AKTO	**Aktyubinsk** 0.6nm,0.3s,baz=138,slow=13,SNR=7.1	**16.83**	**334**	P	**P**	**08 21 23.6**	**+2.8**
AKTO	**Aktyubinsk** 4.8nm,0.9s	**16.83**	**334**	⇑P	**P**	**08 21 22.5**	**+1.7**
AKTO	2.6nm,0.9s			⇓S	**Sn**	**08 24 24.4**	**-3.1**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=182,slow=22,SNR=7.0	**17.18**	**2**	P	**P**	**08 21 28.1**	**+3.4**
ZALV	**Zalesovo Beam** 1.8nm,0.3s,baz=224,slow=11,SNR=11	**20.98**	**26**	P	**P**	**08 22 06.7**	**+0.8**
KMBO	**Kilima Mbogo** comp=Z,44nm,19.9s,baz=93,slow=38	**47.57**	**226**	LR	LR	08 47 15.9	
PETK	**Petropavlovsk-** comp=Z,67nm,18.3s,baz=328,slow=39	**61.21**	**43**	LR	LR	08 57 11.4	
TORD	**Torodi Ar. Bea** 2.0nm,0.6s,baz=46,slow=6.2,SNR=2.9	**64.59**	**268**	P	**P**	**08 27 56.5**	**-1.0**
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=322,slow=5.0,SNR=5.3	**82.60**	**121**	P	**P**	**08 29 41.6**	**-1.1**
ASAR	**Alice Springs** 0.4nm,0.9s,baz=338,slow=7.0,SNR=2.2	**84.81**	**124**	P	**P**	**08 29 53.4**	**-0.6**

NNC 13 08:36:51.0±2.5,53.49N×87.58E,h0km,mb3.7,mpv3.4, 7C-4D,Error ellipse: s-maj=21.1km s-min=9.4km az=62.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array** 4.7nm,0.8s	**1.71**	**287**	⇑Pn	Pn	08 37 21.4	-0.5
ZAA0	23nm,0.8s			⇓Sn	Sg	08 37 45.7	-0.1
KURBB	**Kurchatov Arra** 3.7nm,0.5s	**6.28**	**246**	⇑Pn	Pn	08 38 25.4	+0.7
KURBB	17nm,0.7s			⇑Sn	Sn	08 39 36.7	-0.4
KURBB	31nm,0.8s			⇓Lg	Lg	08 40 08.9	
MK31	**Makanchi Array** 5.4nm,1.1s,baz=45,slow=14,SNR=11	**7.51**	**209**	⇑Pn	Pn	08 38 42.8	+1.0
MK31	6.4nm,0.9s,baz=28,slow=24,SNR=5.7			⇓Sn	Sn	08 40 09.3	+1.7
MK31	18nm,1.1s,baz=51,slow=33,SNR=4.9			⇑Lg	Lg	08 40 51.2	
MAKZ	**Makanchi** 2.2nm,0.7s	**7.59**	**211**	⇓Pn	Pn	08 38 43.9	+1.1
MAKZ	3.3nm,0.7s			⇑Sn	Sn	08 40 09.9	+0.3
MAKZ	9.6nm,0.9s			⇑Lg	Lg	08 40 55.8	

IDC 13 09:13:41.2±2.4,0.24N×101.34E,h0km,mb3.6/4, mb1 3.6/5,mb1mx3.3/46,mbtmp3.5/5,ML2.7/1,Error ellipse: s-maj=132.9km s-min=21.6km az=50.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 0.7nm,0.3s,baz=180,slow=14,SNR=2.7	**3.51**	**316**	Pn	Pn	09 14 35.7	-1.5
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=299,slow=10,SNR=5.5	**38.04**	**124**	P	P	09 21 01.9	+0.1
ASAR	**Alice Springs** 0.3nm,0.7s,baz=300,slow=7.5,SNR=5.1	**39.55**	**129**	P	P	09 21 13.9	-0.5
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=154,slow=9.2,SNR=6.0	**49.27**	**343**	P	P	09 22 31.7	-0.1
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=157,slow=7.8,SNR=2.8	**55.24**	**348**	P	P	09 23 16.2	+0.2

*BJI **13** 09:21:48.9±0.0,7.38S×129.49E,h150km,mB5.0/14, mb4.6/22*
*NEIC **13** 09:21:52.0±2.5,6.95S±0.04×129.23E±0.06,h139km±6km, mb4.7/48,Error ellipse: s-maj=8.7km s-min=5.9km az=108.0*
*DJA **13** 09:21:52.8±0.2,7.5S±3°×129.9E±°,h184km±4km,M4.7/24, mB5.2/9,mb4.6/24,MLv4.7/10,Mw(mB)4.6/9*
*IDC **13** 09:21:53.5±1.5,7.05S×129.24E,h156km±14km,mb4.0/12, mb1 4.2/18,mb1mx3.9/36,mbtmp4.6/18,Error ellipse: s-maj=15.7km s-min=10.6km az=71.0*

ISC 13 09:21:53.2±0.3,7.06S±0.04×129.27E±0.04,h156km,n156, σ1s74/169,mb4.6/56,1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.21**	**115**	Pn	**Pn**	**09 22 31.9**	**+0.8**
SAUI				Sn	**Sn**	**09 23 01.6**	**+1.1**
SAUI	**Saumlaki**	**2.21**	**115**	P	**Pn**	**09 22 31.4**	**+0.2**
SAUI				S	**Sn**	**09 22 59.7**	**-0.7**
BNDI	**Bandanaira**	**2.59**	**14**	P	**Pn**	**09 22 36.9**	**+1.1**
NLAI	**Namlea**	**4.37**	**330**	P	**Pn**	**09 23 01.5**	**+3.1**
FAKI	**Fak Fak**	**5.07**	**36**	Pn	**Pn**	**09 23 06.5**	**-1.2**
FAKI				Sn	**Sn**	**09 23 59.8**	**-6.0**
FAKI	**Fak Fak**	**5.07**	**36**	P	**Pn**	**09 23 05.7**	**-2.0**
SOEI	**Soe**	**5.63**	**241**	Pn	**Pn**	**09 23 17.0**	**+1.8**
SOEI				Sn	**Sn**	**09 24 18.5**	**-0.9**
SOEI	**Soe** 1.6nm3µm341nm,0.7s	**5.63**	**241**	P	**Pn**	**09 23 17.1**	**+1.8**
MTN	**Manton Dam**	**6.04**	**162**		**Pn**	**09 23 20.6**	**+0.1**
BATI	**Baumata** 87nm,0.3s,baz=116,slow=2.0,SNR=45	**6.37**	**240**	P	**Pn**	**09 23 26.4**	**+1.5**
BATI	96nm,0.3s,baz=356,slow=23,SNR=13			S	**Sn**	**09 24 34.4**	**-2.4**
BATI	**Baumata** 1.1nm3µm218nm,0.6s	**6.37**	**240**	P	**Pn**	**09 23 26.4**	**+1.5**
KDU	**Kakadu** baz=6.4,SNR=174	**6.42**	**151**	P	**Pn**	**09 23 24.7**	**-0.9**
KDU	baz=6.4			S	**Sn**	**09 24 31.1**	**-6.9**
SIJI	**Sorong** 3.9nm,0.3s,baz=215,slow=22,SNR=11	**6.46**	**18**	P	**Pn**	**09 23 25.0**	**-1.2**
SIJI	14nm,0.3s,baz=88,slow=22,SNR=13			S	**Sn**	**09 24 34.4**	**-4.7**
SWI	**Sorong** 0.4nm28nm,1.1s	**6.46**	**18**	P	**Pn**	**09 23 26.4**	**+0.2**
MMRI	**Maumere**	**7.14**	**257**	Pn	**Pn**	**09 23 37.1**	**+1.9**
EDFI	**Ende, Flores**	**7.70**	**257**	P	**Pn**	**09 23 45.6**	**+2.9**
KNRA	**Kununurra** baz=8.6,SNR=3.7	**8.58**	**183**	P	**Pn**	**09 23 53.7**	**-0.7**
KNRA	baz=8.6			S	**Sn**	**09 25 23.7**	**-6.2**
KNRA	**Kununurra** 0.2nm,0.3s,baz=132,slow=9.3,SNR=4.5	**8.58**	**183**	Pn	**Pn**	**09 23 53.6**	**-0.7**
BASI	**Baing, Sumba** 87nm,0.6s	**9.15**	**249**	P	**Pn**	**09 24 03.2**	**+1.2**
WSI	**Waingapu** 12µm246nm,0.4s	**9.25**	**253**	P	**Pn**	**09 24 02.3**	**-1.0**
BKSI	**Bulukumba** 43nm,0.9s	**9.26**	**280**	P	**Pn**	**09 24 05.6**	**+2.2**
KAPI	**Kappang** 0.2nm,0.3s,baz=132,slow=9.3,SNR=4.5	**9.68**	**282**	P	**Pn**	**09 24 09.6**	**+0.6**
KAPI	**Kappang**	**9.68**	**282**	Pn	**Pn**	**09 24 10.2**	**+1.1**
TTSI	**Tana Toraja**	**10.22**	**292**	P	P	09 24 33.5	+7.7
MRSI	**Marisa** 838nm60nm,1.3s	**10.46**	**315**	P	**Pn**	**09 24 20.9**	**+1.6**
PLAI	**Plampang** 69nm,0.8s	**11.52**	**260**	P	**Pn**	**09 24 31.6**	**-1.6**
FITZ	**Fitzroy Crossi** 1.4nm,0.3s,baz=30,slow=7.3,SNR=38	**11.53**	**198**	P	**Pn**	**09 24 31.7**	**-1.6**
FITZ	7.1nm,0.3s,baz=159,slow=22,SNR=7.6			S	**Sn**	**09 26 34.4**	**-6.5**
FITZ	**Fitzroy Crossi**	**11.53**	**198**		**Pn**	**09 24 30.9**	**-2.3**
JAY	**Jayapura** 3.8nm,0.3s,baz=231,slow=8.2,SNR=11	**12.25**	**69**	P	**Pn**	**09 24 44.1**	**+1.4**
KBKI	**Kotabaru** 38nm,0.7s	**13.57**	**285**	P	**P**	**09 25 02.0**	**-1.3**
WB0	**Warramunga Ar**	**13.58**	**159**	Pn	**Pn**	**09 24 57.1**	**-2.5**
WRAB	**Tennant Creek**	**13.72**	**159**		**Pn**	**09 24 59.0**	**-2.4**
WRA	**Warramunga Arr** 2.4nm,0.3s,baz=332,slow=12,SNR=77	**13.72**	**159**	P	**Pn**	**09 24 59.4**	**-2.0**
WRA	8.3nm,0.3s,baz=332,slow=24,SNR=13			S	Sn	09 27 23.2	-10
WRA	0.3nm,0.3s,baz=316,slow=2.2,SNR=5.0			ScP	**ScP**	**09 33 31.8**	**-1.1**
WB2	**Warramunga Arr**	**13.72**	**159**	Pn	**Pn**	**09 24 58.8**	**-2.7**
WR0	**Warramunga Arr**	**13.81**	**159**	Pn	**Pn**	**09 25 00.8**	**-1.8**
BBKI	**Banjar Baru** 2µm156nm,1.1s	**14.80**	**283**	P	**P**	**09 25 16.9**	**-0.1**
JAGI	**Jajag, Banyuwa** comp=Z,68nm,1.4s	**15.05**	**264**	Pn	**Pn**	**09 25 17.6**	**-0.5**
JAGI				IAmb	IAmb	09 25 39.9	
COEN	**Coen**	**15.29**	**118**		**P**	**09 25 22.0**	**-0.3**
MTKI	**Muara Teweh, K**	**15.57**	**292**	P	**P**	**09 25 26.5**	**+1.0**
QIS	**Mount Isa** baz=17,SNR=25	**16.74**	**144**	P	**P**	**09 25 38.3**	**-0.1**
PSA00	**Pilbara Seismi**	**17.07**	**211**	P	**P**	**09 25 42.7**	**+0.8**
AS31	**Alice Springs** comp=Z,19nm,0.7s	**17.10**	**165**	P	**P**	**09 25 42.7**	**+0.4**
AS31				IAmb	IAmb	09 25 46.4	
ASAR	**Alice Springs** comp=Z,5.9nm,0.3s,baz=342,slow=8.9,SNR=226	**17.10**	**165**	P	**P**	**09 25 42.8**	**+0.5**
ASAR	comp=Z,2.4nm,0.3s,baz=353,slow=28,SNR=6.6			S	**S**	**09 28 46.0**	**-6.8**
ASAR	comp=Z,0.3nm,0.3s,baz=355,slow=2.1,SNR=6.0			ScP	**ScP**	**09 33 38.0**	**-1.2**
ASAR	**Alice Springs**	**17.10**	**165**		**Pn**	**09 25 43.7**	**+0.5**
PMG	**Port Moresby**	**17.86**	**99**	P	**P**	**09 25 49.5**	**-1.2**
PMG	comp=Z,53nm,1.2s			IAmb	IAmb	09 26 12.0	
WRKA	**Warakurna** baz=18,SNR=133	**17.90**	**183**	P	**Pn**	**09 25 52.8**	**+0.1**
PBKI	**Pangkalan Bun** comp=Z,242nm,1.0s	**18.06**	**283**	P	**P**	**09 25 52.2**	**-0.7**
MTSU	**Mount Surprise** baz=18,SNR=8.2	**18.33**	**128**	P	**P**	**09 25 55.7**	**-0.2**
KKM	**Kota Kinabalu** comp=Z,43nm,0.9s	**18.41**	**315**	P	**P**	**09 25 57.0**	**+0.2**
KKM				IAmb	IAmb	09 26 07.9	
UGM	**Wanagama**	**18.61**	**266**	P	**P**	**09 25 58.7**	**-0.2**
CTA	**Charters Tower** comp=Z,13nm,0.8s,baz=310,slow=11,SNR=6.9	**20.95**	**130**	P	**P**	**09 26 25.2**	**+1.2**
CTAO	**Charters Tower** comp=Z,18nm,0.9s	**20.95**	**130**	P	**P**	**09 26 24.5**	**+0.4**
CTAO				IAmb	IAmb	09 26 28.0	
GIRL	**Giralia**	**21.21**	**221**	P	**P**	**09 26 25.2**	**-1.6**
CISI	**Cisompet, Garu**	**21.29**	**267**	P	**P**	**09 26 25.2**	**-2.6**
LEM	**Lembang** comp=Z,38nm,0.6s,baz=348,slow=6.2,SNR=5.6	**21.50**	**269**	P	**P**	**09 26 29.8**	**-0.4**
TGY	**Tagaytay City** comp=Z,154nm,0.3s,baz=118,slow=22,SNR=4.1	**22.59**	**339**	P	**P**	**09 26 41.9**	**+1.0**
FORT	**Forrest** baz=24,SNR=72	**23.63**	**183**	P	**P**	**09 26 51.5**	**+1.3**
FORT	**Forrest**	**23.63**	**183**	P	**P**	**09 26 51.4**	**+1.3**
QLP	**Quilpie** baz=24,SNR=25	**24.08**	**145**	P	**P**	**09 26 55.2**	**+0.8**
MORW	**Morawa** comp=Z,14nm,1.2s	**25.20**	**208**	P	**P**	**09 27 07.2**	**+2.7**
MORW				IAmb	IAmb	09 27 21.4	
SZP	**Santa**	**25.96**	**340**	P	**P**	**09 27 11.3**	**-0.1**
MNAI	**Manna**	**26.32**	**274**	P	**P**	**09 27 13.8**	**-0.9**
BBOO	**Buckleboo** baz=26,SNR=19	**26.39**	**167**	P	**P**	**09 27 16.0**	**+0.8**
BBOO	**Buckleboo** comp=Z,13nm,0.8s	**26.39**	**167**	P	**P**	**09 27 16.1**	**+0.8**
BBOO				IAmb	IAmb	09 27 20.3	
STKA	**Stephens Creek** comp=Z,5.1nm,0.5s,baz=332,slow=9.7,SNR=14	**27.24**	**157**	P	**P**	**09 27 22.9**	**+0.1**
STKA	**Stephens Creek** baz=27,SNR=8.0	**27.24**	**157**	P	**P**	**09 27 23.8**	**+1.0**
STKA	**Stephens Creek**	**27.24**	**157**	P	**P**	**09 27 23.1**	**+0.3**
HTT	**Hallett** baz=28,SNR=8.5	**27.73**	**162**	P	**P**	**09 27 28.6**	**+1.4**
NWAO	**Narrogin (SRO)** comp=Z,19nm,1.4s	**28.07**	**202**	P	**P**	**09 27 32.8**	**+2.7**
NWAO				IAmb	IAmb	09 27 53.2	
CMSA	**Cobar Meteorol** baz=29,SNR=9.7	**28.78**	**150**	P	**P**	**09 27 37.9**	**+1.4**
ARMA	**Armidale** comp=Z,18nm,1.2s	**31.30**	**141**	P	**P**	**09 28 01.9**	**+3.0**
ARMA				IAmb	IAmb	09 28 16.4	
TPUB	**Ta-pu**	**31.33**	**345**	P	**P**	**09 27 57.3**	**-1.8**
ARPS	**Mount Arapiles** baz=32,SNR=25	**31.72**	**161**	P	**P**	**09 28 04.0**	**+1.7**
RPSI	**Rantau Prapat**	**31.80**	**287**	P	**P**	**09 28 03.9**	**+0.6**
YHNB	**Yeheng** comp=Z,35nm,1.3s	**32.46**	**347**	P	**P**	**09 28 08.0**	**-1.0**
YHNB				IAmb	IAmb	09 28 26.7	
CAN	**Canberra** comp=Z,33nm,1.3s	**33.46**	**150**	P	**P**	**09 28 18.6**	**+1.0**
CAN				IAmb	IAmb	09 28 42.0	
TOO	**Toolangi** baz=34,SNR=6.4	**33.76**	**156**	P	**P**	**09 28 20.4**	**+0.3**
TOO	**Toolangi** comp=Z,30nm,1.5s	**33.76**	**156**	P	**P**	**09 28 22.8**	**+2.7**
TOO				IAmb	IAmb	09 28 36.6	
UTHA	**Uthaitani** comp=Z,541nmcomp=Z,17nm,0.7s	**37.12**	**307**	P	**P**	**09 28 49.8**	**+0.8**
UTTA	**Uttaradit** comp=Z,17nm,1.0s	**37.57**	**311**	P	**P**	**09 28 53.8**	**+1.0**
SUKH	**Sukhothai** comp=Z,20nm,0.8s	**38.11**	**310**	P	**P**	**09 28 58.6**	**+1.3**
DZM	**Mont Dzumac** comp=Z,18nm,1.0s	**38.81**	**117**	P	**P**	**09 29 04.5**	**+1.2**
DZM				IAmb	IAmb	09 29 33.0	
CM04	**Chiang Mai Arr** comp=Z,11nm,1.0s	**39.16**	**311**	P	**P**	**09 29 07.0**	**+1.0**
CM09	**Chiang Mai Arr** comp=Z,9.3nm,0.8s	**39.17**	**311**	P	**P**	**09 29 07.0**	**+0.8**
CM05	**Chiang Mai Arr** comp=Z,69nmcomp=Z,8.7nm,1.0s	**39.18**	**311**	P	**P**	**09 29 07.3**	**+1.1**
CM01	**Chiang Mai Arr** comp=Z,136nmcomp=Z,11nm,0.7s	**39.18**	**311**	P	**P**	**09 29 07.0**	**+0.7**
CM02	**Chiang Mai Arr** comp=Z,91nmcomp=Z,7.2nm,0.8s	**39.20**	**311**	P	**P**	**09 29 08.0**	**+1.6**
CM31	**Chiang Mai Arr** comp=Z,12nm,1.0s	**39.22**	**311**	P	**P**	**09 29 07.2**	**+0.6**
CM31				IAmb	IAmb	09 29 08.1	
CMAR	**Chiang Mai Arr** comp=Z,6.3nm,0.8s,baz=144,slow=7.5,SNR=24	**39.22**	**311**	P	**P**	**09 29 06.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**39.22**	**311**	P	**P**	**09 29 07.1**	**+0.6**
CM13	**Chiang Mai Arr** comp=Z,114nmcomp=Z,8.6nm,0.8s	**39.22**	**311**	P	**P**	**09 29 07.0**	**+0.4**
CHTO	**Chiang Mai** comp=Z,12nm,0.8s	**39.43**	**311**	P	**P**	**09 29 07.8**	**-0.6**
CHTO				IAmb	IAmb	09 29 09.8	
NJ2	**Nanjing** comp=Z,15nm,0.6s	**40.14**	**346**	*e*P	**P**	**09 29 15.1**	**+1.2**
NJ2				pmax	pmax		
JWT	**Wachi**	**42.51**	**7**	P	**P**	**09 29 33.9**	**+0.8**
XAN	**Xi'an**	**45.19**	**336**	P	**P**	**09 29 54.0**	**-0.7**
XAN				pP	pP	09 30 28.1	+0.1
XAN	comp=Z,6.0

comp=Z,200nm,6.6s
FOZ Fox Glacier 50.78 142 P P 09 30 39.2 +1.7
WHZ Wether Hill Ro 51.06 146 P P 09 30 41.0 +1.5
WHZ IAmb IAmb 09 30 54.7
comp=Z,26nm,1.4s
USRK Ussuriysk Ar. 51.08 3 P P 09 30 39.8 +0.2
comp=Z,0.5nm,0.4s,baz=186,slow=6.8,SNR=4.6
QRZ Quartz Range 51.09 138 P P 09 30 42.6 +2.7
QRZ IAmb IAmb 09 30 46.3
comp=Z,30nm,1.2s
RPZ Rata Peaks 51.63 142 P P 09 30 45.8 +2.0
TUWZ Tuamarina 52.32 138 P P 09 30 49.7 +0.7
KHZ Kahutara 52.53 139 P P 09 30 51.6 +1.1
ODAN Odare 52.75 311 *eP* **P 09 30 52.6 0.0**
comp=Z,22nm,0.4s
TAPN Taplejung 52.79 312 *eP* **P 09 30 53.1 +0.1**
comp=Z,29nm,0.3s
BKZ Black Stump Fm 53.07 134 P P 09 30 55.4 +0.8
BKZ IAmb IAmb 09 30 56.1
comp=Z,7.8nm,0.8s
URZ Urewera 53.15 133 P P 09 30 55.6 +0.5
URZ IAmb IAmb 09 31 20.3
comp=Z,24nm,1.4s
RAMN Ramite 53.39 311 *eP* **P 09 30 57.7 +0.4**
comp=Z,56nm,0.5s
GTA Gaotai 53.68 332 *eP* P 09 31 05.3 +6.2
GTA pP pwP 09 31 39.1 -0.6
GTA sP PcP 09 31 57.3 -6.0
GTA pmax pmax
comp=Z,7.0nm,0.7s
GUN Gumba 54.45 312 *eP* **P 09 31 05.1 0.0**
comp=Z,36nm,0.4s
PKI Pulchoki 54.62 311 *eP* **P 09 31 06.8 +0.5**
comp=Z,21nm,0.6s
PKIN Phulchoki 54.63 311 *eP* **P 09 31 06.8 +0.5**
comp=Z,15nm,0.5s
DMN Daman 54.86 311 *eP* **P 09 31 08.0 0.0**
comp=Z,16nm,0.5s
GKN Gorkha 55.42 311 *eP* **P 09 31 11.9 0.0**
comp=Z,46nm,0.3s
SONM Songino Array 58.27 342 P P 09 31 32.6 +1.0
comp=Z,1.6nm,0.6s,baz=157,slow=7.2,SNR=9.2
SONM Songino Array 58.27 342 P P 09 31 31.8 +0.2
WMQ Urumqi 63.05 327 *eP* **P 09 32 06.1 +2.2**
PETK Petropavlovsk- 64.61 19 P P 09 32 14.2 +0.4
comp=Z,1.6nm,0.7s,baz=137,slow=4.9,SNR=2.4
PETK Petropavlovsk- 64.61 19 P P 09 32 14.5 +0.7
ZSN Zaisan 66.95 329 *eP* **P 09 32 28.3 -0.6**
baz=329
ZSN *i* S **S 09 41 08.6 -1.0**
baz=329
SHLS Shalkode 67.32 323 *eP* **P 09 32 30.1 -1.5**
baz=323
SHLS *i* S **S 09 41 10.0 -4.6**
baz=323
KSH Kashi 67.57 318 P P 09 32 36.3 +3.1
KSH pmax pmax
comp=Z,9.0nm,0.5s
KSH pmax pmax
comp=Z,540nm,5.9s
UZB Uzynbulak 67.58 323 *eP* **P 09 32 33.1 -0.1**
baz=322
MK31 Makanchi Array 67.88 327 P P 09 32 35.4 +0.5
MKAR Makanchi Array 67.88 327 P P 09 32 35.0 +0.2
comp=Z,3.6nm,0.4s,baz=114,slow=8.7,SNR=109
SATY Saty 67.91 322 *eP* **P 09 32 35.8 +0.5**
baz=322
KPKS Kokpek 67.97 323 *eP* **P 09 32 35.4 -0.1**
baz=323
MAKZ Makanchi 68.06 327 P P 09 32 36.2 +0.3
MAKZ IAmb IAmb 09 32 37.6
comp=Z,3.0nm,0.5s
KUU Kurty 69.62 322 *eP* **P 09 32 45.5 -0.2**
comp=Z,4.5nm,1.0s,baz=322
ZAA0 Zalesovo Array 71.32 334 P P 09 32 55.1 -0.6
ZAA0 IAmb IAmb 09 32 56.8
comp=Z,5.1nm,0.7s
ZALV Zalesovo Beam 71.32 334 P P 09 32 55.1 -0.5
comp=Z,5.5nm,0.5s,baz=126,slow=5.4,SNR=22
ZALV Zalesovo Beam 71.32 334 P P 09 32 54.7 -1.0
BTLS Baital 71.62 322 *eP* **P 09 32 58.0 +0.3**
baz=322
SEY Seymchan 72.00 11 P P 09 33 00.1 +0.5
comp=Z,2.5nm,0.7s,baz=215,slow=5.8,SNR=13
VNDA Vanda 72.48 173 P P 09 33 02.1 -0.1
comp=Z,1.3nm,0.9s,baz=320,slow=7.0,SNR=6.7
VNDA Vanda 72.48 173 P P 09 33 02.2 -0.1
IUG Iuzhnay 72.79 318 *eP* **P 09 33 04.9 +0.1**
baz=318
KK31 Karatay Array 72.91 319 P P 09 33 06.7 +1.2
KKAR Karatay Array 72.91 319 P P 09 33 05.9 +0.5
BRZS Berezniki 74.96 326 *eP* **P 09 33 17.5 +0.3**
baz=326
BRVK Borovoye 77.80 328 P P 09 33 33.0 -0.1
TIXI Tiksi 78.54 360 P P 09 33 36.1 -0.7
comp=Z,1.8nm,0.4s,baz=157,slow=6.9,SNR=7.8
TIXI Tiksi 78.54 360 P P 09 33 36.3 -0.5
ABKAR Akbulak array 82.11 322 P P 09 33 56.2 -0.1
QSPA South Pole Qui 82.92 180 P P 09 34 00.7 +0.2
RAYN Ar Rayn 87.11 294 P P 09 34 21.9 -0.2
RAYN IAmb IAmb 09 34 25.3
comp=Z,5.2nm,0.7s
VNA2 Neumayer--Watz 97.01 193 P P 09 35 07.4 +0.5
VNA3 Neumayer Olymp 97.27 192 P P 09 35 07.8 -0.3
CPUP Villa Florida 146.20 169 PKPbc PKPbc 09 41 16.1 +0.1
comp=Z,2.3nm,0.6s,baz=182,slow=4.3,SNR=6.4
CPUP Villa Florida 146.20 169 PKPdf 09 41 15.7 +0.9
LPAZ La Paz 151.11 144 PKPbc PKiKP 09 41 31.5 +1.3
comp=Z,1.4nm,0.4s,baz=54,slow=3.3,SNR=9.4
LPAZ La Paz 151.11 144 PKiKP 09 41 31.3 +1.1
LPAZ PKPab **PKPab 09 41 39.9 +2.1**

*UCR **13** 09:31:12.6₅1.9, 11°.24N×86°.82W, h0^{km}$_{\pm}$18^{km}, MW4.2*
*IDC **13** 09:31:13.2₅1.2, 11°.52N×86°.50W, h0^{km}, mb3.7/7, mb1 4.0/10, mb1mx3.8/35, mbtmp3.7/10, ML3.1/3, MS3.1/2, Ms1 3.2/2, ms1mx2.7/28, Error ellipse: s-maj=48.1km s-min=16.9km az=42.0*
*INET **13** 09:31:14.7, 10°.94N×86°.91W, h15^{km}, MW3.9*
ISC 13 09:31:13.9₅0.9, 11°.3N±0°.2×86°.8W±0°.1, h10^{km}, n28, σ1₹36/32, mb3.7/7, 2C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GBS3	**Finca Las Img**	**1.36**	**110**	*i* P		**Pn**	**09 31 38.5**	**-0.6**
BUEV	**Buena Vista**	**1.40**	**109**	*i* P		**Pn**	**09 31 38.9**	**-0.7**
BUEV				*i* S		**Sg**	**09 32 00.3**	**+1.1**
GUAI	**GUAI**	**1.57**	**129**	*i* P		**Pn**	**09 31 39.0**	**-2.9**
PTEN	**Parque Tenorio**	**1.82**	**107**	*i* P		**Pn**	**09 31 46.1**	**+0.6**
JTS	**Las Juntas de**	**2.02**	**118**	Pn		**Pn**	**09 31 47.5**	**-0.6**
	2.1nm,0.3s,baz=174,slow=22,SNR=28							
JTS				Sn		**Sn**	**09 32 12.4**	**-1.0**
	32nm,0.3s,baz=336,slow=18,SNR=10.0							
JACO	**JACO, Garabito**	**2.60**	**127**	*eP*		**Pn**	**09 31 55.8**	**-0.4**
LCR2	**La Lucha 2**	**3.10**	**119**	*eP*		**Pn**	**09 32 04.3**	**+1.2**
CVTR	**Volcan Turrial**	**3.19**	**112**	*eP*		**Pn**	**09 32 04.3**	**-0.3**
RIMA	**Rio Macho**	**3.21**	**117**	*eP*		**Pn**	**09 32 05.6**	**+1.0**
CDM	**Cerro de Muert**	**3.40**	**120**	*eP*		**Pn**	**09 32 08.1**	**+0.6**
MRVA	**Moravia de Chi**	**3.56**	**113**	*eP*		**Pn**	**09 32 11.5**	**+2.1**
PEZE	**Perez Zeledon,**	**3.56**	**121**	*eP*		**Pn**	**09 32 10.2**	**+0.8**
DRK0	**Durika**	**3.99**	**120**	*eP*		**Pn**	**09 32 15.9**	**+0.6**
EDBA	**Buenos Aires**	**4.01**	**121**	*eP*		**Pn**	**09 32 16.2**	**+0.6**
POTG	**Potrero Grande**	**4.20**	**121**	*eP*		**Pn**	**09 32 19.5**	**+1.3**
BRU2	**Volcan**	**4.70**	**121**	*eP*		**Pn**	**09 32 27.4**	**+2.4**
APG	**El Apazote**	**5.18**	**316**	Pn		**Pn**	**09 32 33.1**	**+1.3**
	0.4nm,0.3s,baz=111,slow=8.6,SNR=1.6							
CMIG	**Matias Romero**	**9.78**	**307**	Pn		**Pn**	**09 33 35.8**	**+1.1**
	0.7nm,0.3s,baz=121,slow=12,SNR=6.4							
SDV	**Santo Domingo**	**16.05**	**97**	Pn		**Pn**	**09 34 59.8**	**-0.3**
	0.2nm,0.3s,baz=271,slow=10,SNR=5.3							
SDV				LR		LR	09 42 27.7	
	comp=Z,54nm,19.7s,baz=280,slow=43							
TXAR	**Lajitas Array**	**23.92**	**321**	P		**P**	**09 36 28.9**	**+0.6**
	2.0nm,0.9s,baz=142,slow=8.9,SNR=11							
TXAR				PcP		**PcP**	**09 40 14.1**	**+3.1**
	0.5nm,0.8s,baz=130,slow=3.9,SNR=4.7							
TKL	**Tuckaleechee C**	**24.44**	**6**	P		**P**	**09 36 32.8**	**-0.2**
	5.4nm,0.7s,baz=176,slow=13,SNR=9.5							
LPAZ	**La Paz**	**33.00**	**146**	LR		LR	09 50 44.9	
	comp=Z,39nm,19.6s,baz=38,slow=35							
PDAR	**Pinedale Array**	**37.14**	**332**	P		**P**	**09 38 24.5**	**-0.7**
	0.5nm,0.7s,baz=129,slow=10,SNR=6.1							
NVAR	**Mina Array Bea**	**39.04**	**319**	P		**P**	**09 38 42.6**	**+1.4**
	0.6nm,0.8s,baz=151,slow=6.8,SNR=5.1							
NVAR				PcP		**PcP**	**09 40 52.6**	**+1.2**
	0.6nm,0.8s,baz=90,slow=0.9,SNR=4.6							
ULM	**Lac du Bonnet**	**39.59**	**351**	P		**P**	**09 38 44.0**	**-1.5**
	2.3nm,1.0s,baz=170,slow=11,SNR=3.4							
YKA	**Yellowknife Ar**	**54.93**	**345**	P		**P**	**09 40 43.0**	**-1.7**
	0.3nm,0.7s,baz=138,slow=7.9,SNR=6.6							
YKA				PcP		**PcP**	**09 41 45.6**	**-1.0**
	0.3nm,0.6s,baz=147,slow=4.3,SNR=5.4							
ILAR	**Eielson Array**	**67.38**	**336**	P		**P**	**09 42 08.3**	**-0.9**
	0.4nm,0.6s,baz=136,slow=3.8,SNR=9.1							
CMAR	**Chiang Mai Arr**	**149.94**	**349**	PKPbc		**PKPbc**	**09 51 04.3**	**-1.3**
	1.4nm,0.3s,baz=2.8,slow=3.6,SNR=6.1							

*IDC **13** 09:37:42.6₅4.2, 17°.42N×99°.87W, h0^{km}, mb3.7/5, mb1 3.9/9, mb1mx3.8/34, mbtmp3.7/9, ML3.5/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/31, Error ellipse: s-maj=88.9km s-min=19.4km az=20.0*
*NEIC **13** 09:37:46.4₅1.7, 17°.21N±0°.03×99°.84W±0°.04, h40^{km}±15^{km}, Error ellipse: s-maj=6.8km s-min=2.0km az=120.0*
*MEX **13** 09:37:47.9₅0.7, 17°.20N×99°.87W, h45^{km}±7^{km}, MD4.4*
ISC 13 09:37:46.5₅1.1, 17°.2N±0°.04×99°.85W±0°.03, h39^{km}±2^{km}, n71, σ1₹42/88, mb4.0/13, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CAIG	**El Cayaco**	**0.44**	**247**	*i* P		**Pn**	**09 37 56.0**	**-0.1**
CAIG				*i* S		**Sn**	**09 38 03.4**	**+0.2**
CAIG	**El Cayaco**	**0.44**	**247**			**Pn**	**09 37 56.0**	**-0.1**
CAIG						**Sn**	**09 38 03.4**	**+0.2**
MEIG	**Mezcala**	**0.73**	**17**	*i* P		**Pn**	**09 38 00.1**	**-0.3**
MEIG				*i* S		**Sn**	**09 38 10.6**	**+0.2**
MEIG	**Mezcala**	**0.73**	**17**			**Pn**	**09 38 00.1**	**-0.3**
MEIG						**Sn**	**09 38 10.6**	**+0.2**
CRIG	**Cruz Grande**	**0.84**	**125**	*i* P		**Pn**	**09 38 01.5**	**-0.3**
CRIG				*i* S		**Sn**	**09 38 12.3**	**-0.6**
ARIG	**Puente Sto Nin**	**1.15**	**336**	*i* P		**Pn**	**09 38 06.2**	**+0.1**
ARIG				*i* S		**Sn**	**09 38 20.3**	**-0.4**
ARIG	**Puente Sto Nin**	**1.15**	**336**			**Pn**	**09 38 06.2**	**+0.1**
ARIG						**Sn**	**09 38 22.2**	**+1.5**
PLIG	**Platanillo**	**1.21**	**16**	*i* P		**Pn**	**09 38 07.3**	**+0.3**
PLIG				*i* S		**Sn**	**09 38 22.8**	**+0.7**
PLIG	**Platanillo**	**1.21**	**16**			**Pn**	**09 38 07.3**	**+0.3**
PLIG						**Sn**	**09 38 22.9**	**+0.7**
TLIG	**Tlapa**	**1.27**	**74**	*eP*		**Pn**	**09 38 08.0**	**+0.2**
TLIG				*i* S		**Sn**	**09 38 24.4**	**+0.7**
TLIG	**Tlapa**	**1.27**	**74**			**Pn**	**09 38 08.2**	**+0.4**
ZIIG	**Zihuatanejo**	**1.59**	**284**	*i* P		**Pn**	**09 38 11.8**	**-0.3**
ZIIG				*i* S		**Sn**	**09 38 31.0**	**-0.4**
ZIIG	**Zihuatanejo**	**1.59**	**284**			**Pn**	**09 38 11.8**	**-0.3**
ZIIG						**Sn**	**09 38 30.9**	**-0.5**
FTIG	**Fresnillo de T**	**1.77**	**67**	*eP*		**Pn**	**09 38 15.4**	**+0.7**
FTIG				*eS*		**Sn**	**09 38 36.9**	**+0.8**
PNIG	**Pinotepa**	**1.84**	**116**	*eP*		**Pn**	**09 38 15.5**	**-0.1**
PNIG				*i* S		**Sn**	**09 38 37.6**	**-0.1**
PNIG	**Pinotepa**	**1.84**	**116**			**Pn**	**09 38 15.5**	**-0.1**
PNIG						**Sn**	**09 38 44.2**	**+6.5**
TXIG	**Tlaxiaco**	**1.99**	**89**	*eP*		**Pn**	**09 38 18.7**	**+0.9**
HLIG	**Huajuapan de L**	**2.04**	**73**	*eP*		**Pn**	**09 38 19.1**	**+0.6**
HLIG				*eS*		**Sn**	**09 38 43.0**	**+0.2**
UNM	**Universidad Na**	**2.19**	**17**			**Pn**	**09 38 20.3**	**+0.3**
MOIG	**Morelia**	**2.75**	**333**	Pn		**Pn**	**09 38 30.0**	**+1.7**
CMIG	**Matias Romero**	**4.75**	**91**	Pn		**Pn**	**09 38 56.7**	**+1.2**
	3.9nm,0.3s,baz=258,slow=11,SNR=34							
CMIG				Sn		**Sn**	**09 39 46.4**	**-2.9**
	7.9nm,0.3s,baz=282,slow=15,SNR=4.6							
CMIG				Lg		Lg	09 40 14.6	
	9.4nm,0.3s,baz=167,slow=6.8,SNR=3.5							
ZAIG	**Zacatecas**	**6.08**	**336**			**Pn**	**09 39 16.5**	**+2.4**
CCIG	**Comitan**	**7.45**	**96**	Pn		**Pn**	**09 39 32.1**	**-0.6**
HUEH	**Huehuetenango**	**8.23**	**102**	Pn		**Pn**	**09 39 44.1**	**+0.4**
HPIG		**11.06**	**332**	Pn		**Pn**	**09 40 26.8**	**+4.4**
TEIG	**Tepich**	**11.36**	**73**	Pn		**Pn**	**09 40 26.0**	**-0.2**
	0.4nm,0.3s,baz=338,slow=2.6,SNR=3.4							
TEIG				Sn		**Sn**	**09 42 25.3**	**-6.7**
	0.5nm,0.3s,baz=44,slow=19,SNR=4.2							
TEIG				LR		LR	09 46 06.0	
	comp=Z,44nm,20.8s,baz=170,slow=44							
TEIG	**Tepich**	**11.36**	**73**	Pn		Pn	09 40 31.6	+5.3
TXAR	**Lajitas Array**	**12.55**	**344**	Pn		**Pn**	**09 40 42.8**	**+0.2**
	0.0nm,0.3s,baz=172,slow=14,SNR=2.5							
TXAR	**Lajitas Array**	**12.55**	**344**	Pn		**Pn**	**09 40 44.0**	**+1.4**
Z38A	**Mt. Pleasant**	**16.56**	**14**	P		**P**	**09 41 37.5**	**-0.4**
AMTX	**Amarillo**	**17.66**	**355**	P		**P**	**09 41 50.1**	**-0.2**
X37A	**Clayton**	**17.75**	**12**	P		**P**	**09 41 52.4**	**+1.2**
X37A				IAmb		IAmb	09 42 19.8	
	comp=Z,10nm,1.0s							
BNM	**Barren Site**	**17.92**	**341**	P		**P**	**09 41 55.7**	**+2.5**
MIAR	**Mount Ida**	**18.14**	**17**	P		**P**	**09 41 53.9**	**-1.6**
ANMO	**Albuquerque**	**18.61**	**343**	P		**P**	**09 42 01.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=159,slow=11,SNR=5.4							
ANMO	**Albuquerque**	**18.61**	**343**	P		**P**	**09 42 00.6**	**-0.2**
W39A	**Magazine**	**18.70**	**16**	P		**Pn**	**09 42 01.9**	**-0.2**
W39A				IAmb		IAmb	09 42 02.9	
	comp=Z,15nm,0.9s							
OK030	**Cody Creek RV**	**18.83**	**8**	P		**P**	**09 42 01.6**	**-1.4**
OK030				IAmb		IAmb	09 42 13.2	
	comp=Z,11nm,0.8s							
OK031	**S. Brethren Rd**	**18.85**	**8**	P		**P**	**09 42 02.9**	**-0.3**
WHAR	**Wooly Hollow**	**19.21**	**19**	P		**P**	**09 42 06.8**	**-0.4**
WHAR				IAmb		IAmb	09 42 07.9	
	comp=Z,6.8nm,0.6s							
U38A	**Gravette**	**19.74**	**13**	P		**P**	**09 42 11.7**	**-1.3**
U38A				IAmb		IAmb	09 42 12.3	
	comp=Z,9.8nm,1.2s							
FCAR	**Ozark Folk Cen**	**19.82**	**19**	P		**P**	**09 42 13.0**	**-0.8**
T35A	**Sooner Cattle**	**19.84**	**8**	P		**P**	**09 42 12.8**	**-1.2**
T35A				IAmb		IAmb	09 42 24.3	
	comp=Z,9.1nm,0.7s							
U40A	**Yellville**	**20.04**	**17**			**P**	**09 42 15.5**	**-0.7**
T25A	**Trinidad**	**20.24**	**349**	P		**P**	**09 42 18.7**	**+0.1**
T25A				IAmb		IAmb	09 42 25.3	
	comp=Z,5.5nm,0.9s							
LCAR	**Lake Charles**	**20.30**	**21**	P		**P**	**09 42 19.3**	**+0.4**
Y49A	**Blount Mountai**	**20.49**	**34**	P		**P**	**09 42 19.0**	**-2.1**
Y49A				IAmb		IAmb	09 42 23.5	
	comp=Z,22nm,1.4s							
WUAZ	**Wupatki**	**20.91**	**333**	P		**P**	**09 42 25.9**	**0.0**
WUAZ				IAmb		IAmb	09 42 39.4	
	comp=Z,7.1nm,0.9s							
S39A	**Bolivar**	**21.18**	**14**	P		**P**	**09 42 28.6**	**0.0**
S39A				IAmb		IAmb	09 42 32.6	
	comp=Z,9.5nm,1.1s							
PBMO	**Poplar Bluff**	**21.18**	**21**	P		**P**	**09 42 27.4**	**-1.2**
T42A	**Van Buren**	**21.19**	**20**	P		**P**	**09 42 28.1**	**-0.6**
MVCO	**Mesa Verde**	**21.32**	**341**	P		**P**	**09 42 30.9**	**+0.6**
MVCO				IAmb		IAmb	09 42 43.2	
	comp=Z,7.1nm,1.2s							
WVT	**Waverly**	**21.64**	**27**	P		**P**	**09 42 32.6**	**-0.9**
WVT				IAmb		IAmb	09 42 46.5	
	comp=Z,4.5nm,0.7s							
R40A	**Maddies Statio**	**22.02**	**16**	P		**P**	**09 42 38.4**	**+0.9**
R40A				IAmb		IAmb	09 42 49.8	
	comp=Z,7.0nm,0.7s							
CCM	**Cathedral Cave**	**22.09**	**18**	P		**P**	**09 42 38.3**	**+0.1**
CCM				IAmb		IAmb	09 42 59.6	
	comp=Z,16nm,1.4s							
CPCT	**Cooper Cave**	**22.71**	**34**	P		**P**	**09 42 45.5**	**+0.5**
SMCO	**Snowmass**	**22.74**	**346**	P		**P**	**09 42 45.8**	**+0.1**
ISCO	**Idaho Springs**	**23.05**	**349**	P		**P**	**09 42 48.6**	**-0.1**
P40A	**Paris**	**23.24**	**15**	P		**P**	**09 42 49.5**	**-0.8**
P40A				IAmb		IAmb	09 42 50.9	
	comp=Z,12nm,1.1s							
MTPU	**Mount Pierson**	**23.40**	**335**	P		**P**	**09 42 53.5**	**+1.2**
V53A	**Saluda**	**23.81**	**36**	P		**P**	**09 42 54.6**	**-1.3**
V53A				IAmb		IAmb	09 43 02.8	
	comp=Z,5.5nm,0.8s							
L40A	**Anamosa**	**25.84**	**15**	P		**P**	**09 43 13.0**	**-1.2**
L40A				IAmb		IAmb	09 43 15.0	
	comp=Z,8.3nm,1.1s							
V58A	**Windy Hill, Pi**	**26.10**	**41**	P		**P**	**09 43 16.4**	**-0.2**
N47A	**Urbana**	**26.55**	**25**	P		**P**	**09 43 20.5**	**-0.2**
NVAR	**Mina Array Bea**	**26.60**	**326**	P		**P**	**09 43 21.9**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=154,slow=9.7,SNR=11							
NVAR	**Mina Array Bea**	**26.60**	**326**	P		**P**	**09 43 22.3**	**+0.9**
PDAR	**Pinedale Array**	**26.77**	**344**	P		**P**	**09 43 22.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=150,slow=12,SNR=4.9							
PDAR	**Pinedale Array**	**26.77**	**344**	P		**P**	**09 43 23.2**	**+0.3**
YKA	**Yellowknife Ar**	**46.39**	**351**	P		**P**	**09 46 07.8**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=156,slow=7.7,SNR=9.6							
INK	**Inuvik**	**55.33**	**345**	P		**P**	**09 47 15.7**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=145,slow=6.1,SNR=4.6							
ILAR	**Eielson Array**	**56.97**	**338**	P		**P**	**09 47 28.6**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=133,slow=6.3,SNR=2.8							

IDC 13 09:52:26.7₅5.2, 6°.56S×129°.74E, h70^{km}±65^{km}, mb3.5/1, mb1 3.8/4, mb1mx3.2/40, mbtmp3.9/4, ML4.2/3, Error ellipse: s-maj=109.2km s-min=25.5km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIJI	**Sorong**	**5.85**	**15**	P		Pn	**09 53 50.9**	**0.0**
	7.4nm,0.3s,baz=196,slow=22,SNR=52							
SIJI				S		Sn	09 54 50.2	-6.5
	11nm,0.3s,baz=245,slow=23,SNR=12							
WRA	**Warramunga Arr**	**14.03**	**162**	P		Pn	09 55 41.5	-0.8
	1.2nm,0.3s,baz=346,slow=13,SNR=80							
WRA				S		Sn	09 58 08.2	-8.4
	1.2nm,0.3s,baz=351,slow=20,SNR=6.3							
ASAR	**Alice Springs**	**17.47**	**167**	P		P	09 56 26.2	+0.1
	0.7nm,0.3s,baz=340,slow=8.0,SNR=23							
ASAR				S		Sn	09 59 30.7	-9.3
	0.1nm,0.3s,baz=340,slow=15,SNR=1.7							
MKAR	**Makanchi Array**	**67.72**	**327**	P		P	10 03 16.8	0.0
	0.8nm,0.7s,baz=116,slow=8.0,SNR=8.9							

*IDC **13** 10:04:22.9₅2.8, 37°.14N×97°.29W, h0^{km}, mb3.1/1, mb1 3.4/3, mb1mx3.2/44, mbtmp3.0/3, ML3.7/2, Error ellipse: s-maj=38.0km s-min=17.0km az=87.0*
*TUL **13** 10:04:26.5₅1.4, 36°.94N±0°.01×97°.64W±0°.02, h2^{km}±2^{km}, ML3.3, mb_Lg3.2/74(NEIC), Error ellipse: s-maj=3.0km s-min=2.5km az=351.0*
*NEIC **13** 10:04:26.9₅1.0, 36°.93N±0°.01×97°.628W±0°.008, h3^{km}±6^{km}, Error ellipse: s-maj=2.0km s-min=0.8km az=193.0*
*ANF **13** 10:04:28.1₅1.2, 36°.91N×97°.73W, h12^{km}, 9^{km}, ML4.1/11, Error ellipse: s-maj=4.4km s-min=2.5km az=50.0, Hypocentre not reviewed by the ISC*
ISC 13 10:04:26.8₅0.9, 36°.93N±0°.02×97°.63W±0°.02, h11^{km}±7^{km}, n90, σ1₹06/79, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAN13	**South Haven SW**	**0.15**	**56**			**Pg**	**10 04 29.8**	**-0.4**
KAN13						Sg	**10 04 32.0**	**-0.6**
GC02	**Grant County #**	**0.20**	**247**			**Pg**	**10 04 30.9**	**0.0**
GC02						Sg	**10 04 33.9**	**+0.1**
KAN09	**Caldwell North**	**0.21**	**3**			**Pg**	**10 04 30.9**	**-0.3**
KAN09						Sg	**10 04 33.9**	**-0.2**
KAN08	**Anthony NE Sta**	**0.40**	**318**			**Pg**	**10 04 34.6**	**-0.1**
KAN08						Sg	**10 04 40.3**	**+0.2**
KAN10	**Anthony SW Sta**	**0.42**	**298**			**Pg**	**10 04 35.0**	**0.0**
KAN10						Sg	**10 04 40.8**	**+0.2**
KAN12	**Harper NE Stat**	**0.47**	**322**			Pg	**10 04 35.9**	**0.0**
KAN12						Sg	**10 04 42.6**	**+0.4**
OK032	**Salt Plains WL**	**0.48**	**255**			**Pg**	**10 04 36.2**	**+0.1**
OK032						Sg	**10 04 42.8**	**+0.3**
CROK	**Carrier**	**0.51**	**214**			**Pg**	**10 04 36.9**	**+0.2**
CROK						Sg	**10 04 44.2**	**+0.8**
T35A	**Sooner Cattle**	**0.90**	**91**			**Pg**	**10 04 43.6**	**-0.5**
T35A						Sg	**10 04 55.5**	**-0.3**
T35B	**Sooner Cattle**	**0.90**	**91**	P		**Pg**	**10 04 43.6**	**-0.5**
	baz=271,SNR=114							
T35B				S		**Sg**	**10 04 55.4**	**-0.4**
	baz=271							
T35B	**Sooner Cattle**	**0.90**	**91**	P			10 04 43.6	
	baz=271,SNR=114							
T35B				S			10 04 55.4	
	baz=271							
QUOK	**Quay**	**1.06**	**135**	Pg		**Pg**	**10 04 46.8**	**-0.4**
QUOK				Sg		**Sg**	**10 05 00.9**	**-0.1**
OK029	**Liberty Lake**	**1.14**	**173**	Pg		**Pg**	**10 04 48.3**	**-0.4**
OK029				Sg		**Sg**	**10 05 03.2**	**-0.3**
OK031	**S. Brethren Rd**	**1.17**	**146**			**Pg**	**10 04 48.7**	**-0.4**
OK031				Sg		**Sg**	**10 05 04.3**	**0.0**
OK030	**Cody Creek RV**	**1.21**	**145**			**Pg**	**10 04 49.5**	**-0.6**
OK030				Sg		**Sg**	**10 05 05.7**	**-0.1**
U32A	**Winter Ranch,**	**1.23**	**244**			**Pg**	**10 04 49.6**	**-0.8**
U32A				Sg		**Sg**	**10 05 06.5**	**+0.1**
U32A	**Winter Ranch,**	**1.23**	**244**	P		**Pg**	**10 04 49.6**	**-0.8**
	baz=63,SNR=21							
U32A				S		**Sg**	**10 05 06.5**	**+0.1**
	baz=63							
U32A	**Winter Ranch,**	**1.23**	**244**	P			10 04 49.6	
	baz=63,SNR=21							
U32A				S			10 05 06.5	
	baz=63							
BCOK	**Bluff Creek, N**	**1.27**	**179**	Pg		**Pg**	**10 04 50.7**	**-0.5**
OK025	**Westminster Rd**	**1.37**	**170**			**Pn**	**10 04 52.4**	**+0.6**
OKCFA	**Oklahoma City**	**1.52**	**174**	Pn		**Pn**	**10 04 54.9**	**+1.0**
OKCFA	**Oklahoma City**	**1.52**	**174**	P		**Pn**	**10 04 54.8**	**+0.9**
	baz=355,SNR=18							
OKCFA				S		**Sg**	**10 05 16.0**	**+0.4**
	baz=355							
OKCFA	**

	baz=259							
S39A	**Bolivar**	**3.52**	**76**	P			10 05 23.0	
	baz=259							
W39A	**Magazine**	**3.57**	**118**	Pn	**Pn**		**10 05 24.1**	**+2.0**
W39A				lAmb_Lg			10 06 22.6	
	comp=Z,105nm,0.8s							
W39A	**Magazine**	**3.57**	**118**	Pb			10 05 32.0	
	baz=300							
Z35A	**Perchaven, San**	**3.60**	**175**	Pn	**Pn**		**10 05 24.4**	**+1.9**
N33B	**J Bar K, Exete**	**3.80**	**2**	P	**Pn**		**10 05 26.6**	**+1.2**
	baz=182							
N33B	**J Bar K, Exete**	**3.80**	**2**	P			10 05 26.6	
	baz=182							
N33A	**J Bar K, Exete**	**3.81**	**2**	Pn	**Pn**		**10 05 26.0**	**+0.6**
AMTX	**Amarillo**	**3.87**	**239**	lAmb_Lg			10 06 39.4	
	comp=Z,61nm,0.9s							
AMTX	**Amarillo**	**3.87**	**239**	S	**Sg**		**10 06 28.2**	**-2.8**
	baz=57							
AMTX	**Amarillo**	**3.87**	**239**	S			10 06 28.2	
	baz=57							
U40A	**Yellville**	**3.89**	**97**	Pn	**Pn**		**10 05 28.3**	**+1.8**
U40A	**Yellville**	**3.89**	**97**	P	**Pn**		**10 05 27.7**	**+1.2**
	baz=280,SNR=22							
U40A	**Yellville**	**3.89**	**97**	P			10 05 28.5	
	baz=280							
U40A	**Yellville**	**3.89**	**97**	P			10 05 27.7	
	baz=280,SNR=22							
U40A				P			10 05 27.7	
	baz=280,SNR=22							
MIAR	**Mount Ida**	**4.07**	**125**	Pn	**Pn**		**10 05 30.3**	**+1.4**
MIAR				lAmb_Lg			10 06 44.4	
	comp=Z,51nm,0.8s							
MIAR	**Mount Ida**	**4.07**	**125**	P			10 05 31.4	
	baz=307							
P38A	**Dawn**	**4.20**	**49**	Pn	**Pn**		**10 05 31.4**	**+0.6**
P38A				lAmb_Lg			10 06 42.3	
	comp=Z,69nm,0.7s							
N35A	**Tabor**	**4.22**	**21**	Pn	**Pn**		**10 05 31.8**	**+0.7**
MGMO	**Mountain Grove**	**4.30**	**85**	Pn	**Pn**		**10 05 33.5**	**+1.4**
MGMO				lAmb_Lg			10 06 48.3	
	comp=Z,36nm,0.7s							
R40A	**Maddies Statio**	**4.47**	**71**	Pn	**Pn**		**10 05 35.5**	**+1.1**
R40A				lAmb_Lg			10 06 53.6	
	comp=Z,38nm,0.7s							
R40A	**Maddies Statio**	**4.47**	**71**	P	**Pn**		**10 05 35.8**	**+1.3**
	baz=254,SNR=14							
R40A	**Maddies Statio**	**4.47**	**71**	P			10 05 35.8	
	baz=254,SNR=14							
BGNE	**Belgrade**	**4.49**	**355**	P	**Pn**		**10 05 35.8**	**+1.0**
	baz=175,SNR=14							
BGNE	**Belgrade**	**4.49**	**355**	P			10 05 36.4	
	baz=175							
BGNE	**Belgrade**	**4.49**	**355**	P			10 05 35.8	
	baz=175,SNR=14							
X40A	**Basin Creek Fa**	**4.60**	**121**	lAmb_Lg			10 07 03.1	
	comp=Z,41nm,0.8s							
WHAR	**Wooly Hollow**	**4.63**	**109**	Pn	**Pn**		**10 05 37.7**	**+1.1**
WHAR				lAmb_Lg			10 06 53.9	
	comp=Z,71nm,0.8s							
W41B	**Gary Mavity, V**	**4.70**	**110**	P	**Pn**		**10 05 38.4**	**+0.8**
	baz=294							
W41B	**Gary Mavity, V**	**4.70**	**110**	Sb			10 06 52.7	
	baz=294							
W41B	**Gary Mavity, V**	**4.70**	**110**	P			10 05 38.4	
	baz=294							
WLAR	**White Oak Lake**	**4.91**	**130**	lAmb_Lg			10 07 03.8	
	comp=Z,28nm,0.7s							
WHTX	**Lake Whitney,**	**4.93**	**178**	P	**Pn**		**10 05 41.7**	**+0.9**
	baz=358,SNR=22							
WHTX	**Lake Whitney,**	**4.93**	**178**	P			10 05 41.7	
	baz=358							
WHTX	**Lake Whitney,**	**4.93**	**178**	P			10 05 41.7	
	baz=358,SNR=22							
P40A	**Paris**	**5.11**	**58**	lAmb_Lg			10 07 14.4	
	comp=Z,44nm,0.8s							
L34A	**Svendsen Farm,**	**5.12**	**11**	lAmb_Lg			10 07 07.6	
	comp=Z,48nm,0.7s							
CCM	**Cathedral Cave**	**5.20**	**76**	lAmb_Lg			10 07 16.3	
	comp=Z,43nm,0.9s							
T42A	**Van Buren**	**5.24**	**87**	lAmb_Lg			10 07 22.5	
	comp=Z,24nm,0.9s							
OGNE	**Ogallala**	**5.28**	**321**	lAmb_Lg			10 07 18.3	
	comp=Z,35nm,0.8s							
T25A	**Trinidad**	**5.43**	**274**	Pn	**Pn**		**10 05 48.6**	**+0.8**
T25A	**Trinidad**	**5.43**	**274**	P			10 05 48.7	
	baz=90							
CCAR	**Cane Creek**	**5.65**	**120**	lAmb_Lg			10 07 31.9	
	comp=Z,34nm,0.9s							
PBMO	**Poplar Bluff**	**5.78**	**89**	lAmb_Lg			10 07 38.0	
	comp=Z,37nm,0.7s							
FVM	**French Village**	**5.83**	**77**	lAmb_Lg			10 07 30.3	
	comp=Z,24nm,1.0s							
SLM	**Saint Louis**	**6.10**	**72**	lAmb_Lg			10 07 49.1	
	comp=Z,35nm,0.9s							
435B	**Jarrell**	**6.13**	**180**	lAmb_Lg			10 07 50.7	
	comp=Z,31nm,0.8s							
PARMO	**Parma**	**6.33**	**90**	lAmb_Lg			10 07 50.2	
	comp=Z,51nm,0.8s							
N41A	**Harden Midland**	**6.50**	**52**	lAmb_Lg			10 07 53.0	
	comp=Z,53nm,0.8s							
143A	**Socs Landing,**	**6.63**	**128**	lAmb_Lg			10 08 00.8	
	comp=Z,25nm,0.9s							
JCT	**Junction City**	**6.68**	**196**	lAmb_Lg			10 08 13.5	
	comp=Z,22nm,0.9s							
K38A	**Parkersburg**	**6.83**	**32**	lAmb_Lg			10 08 12.8	
	comp=Z,44nm,0.7s							
W45A	**Hickory Valley**	**7.07**	**102**	lAmb_Lg			10 08 24.5	
	comp=Z,29nm,0.8s							
L40A	**Anamosa**	**7.13**	**42**	lAmb_Lg			10 08 11.5	
	comp=Z,34nm,0.8s							
PHWY	**Pilot Hill**	**7.49**	**308**	lAmb_Lg			10 08 38.9	
	comp=Z,17nm,0.8s							
O44A	**Mansfield**	**7.87**	**63**	lAmb_Lg			10 08 35.0	
	comp=Z,26nm,0.8s							
Y22D	**IRIS PASSCAL I**	**8.09**	**252**	lAmb_Lg			10 09 02.4	
	comp=Z,26nm,0.8s							
JFWS	**Jewell Farm**	**8.24**	**41**	lAmb_Lg			10 08 51.2	
	comp=Z,33nm,0.7s							
I40A	**Norwalk**	**8.77**	**35**	lAmb_Lg			10 09 17.5	
	comp=Z,14nm,0.8s							
RWWY	**Rawlins**	**8.81**	**306**	lAmb_Lg			10 09 25.4	
	comp=Z,17nm,1.0s							
BLO	**Bloomington**	**9.05**	**72**	lAmb_Lg			10 09 37.7	
	comp=Z,20nm,0.8s							
TXAR	**Lajitas Array**	**9.11**	**215**	Pn	**Pn**		**10 06 38.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=36,slow=11,SNR=5.7							
TXAR				Lg	Lg		10 09 14.1	
	comp=Z,0.6nm,0.3s,baz=35,slow=26,SNR=7.3							
E28A	**Huff**	**9.90**	**348**	lAmb_Lg			10 09 53.3	
	comp=Z,17nm,0.9s							
P48A	**Milroy**	**9.94**	**72**	lAmb_Lg			10 09 49.5	
	comp=Z,20nm,0.9s							
PDAR	**Pinedale Array**	**10.86**	**306**	Pn	**Pn**		**10 07 00.6**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=116,slow=10,SNR=3.7							
PDAR				Lg	Lg		10 10 07.7	
	comp=Z,0.5nm,0.3s,baz=120,slow=32,SNR=8.5							
TKL	**Tuckaleechee C**	**11.26**	**92**	Lg	Lg		10 10 11.2	
	comp=Z,0.4nm,0.3s,baz=149,slow=21,SNR=3.4							
ULM	**Lac du Bonnet**	**13.38**	**5**	Lg	Lg		10 11 18.6	
	comp=Z,0.1nm,0.3s,baz=168,slow=20,SNR=2.0							
ILAR	**Eielson Array**	**40.12**	**330**	P	**P**		**10 12 00.6**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=104,slow=7.5,SNR=2.7							

*IDC **13** 10:07:09.4±2.2,0.°15S×98.°91E,h0km,mb4.0/7,mb1 4.0/9, mb1mx3.7/47,mbtmp3.9/9,ML4.1/2,MS3.1/1,Ms1 3.3/1, ms1mx2.6/41,Error ellipse: s-maj=80.3km s-min=16.7km az=64.0*

*NEIC **13** 10:07:13.7±1.6,0.°17S±0.°06×98.°8E±0.°1,h33km±9km, mb4.2/9,Error ellipse: s-maj=16.9km s-min=8.1km az=78.0*

*DJA **13** 10:07:13.0±0.6,0.°S±3.°×9.°9E±.°,h21km±8km,M4.0/12, mb4.1/4,MLv4.0/12*

ISC 13 10:07:14.8±0.8,0.°10S±0.°06×98.°63E±0.°06,h48km,n40, σ1°40/40,mb4.1/11,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.35**	**278**	P	**Pn**	**10 07 22.1**	**-2.1**
MNSI	**Mandailing Nat**	**1.30**	**47**	P	**Pn**	**10 07 35.7**	**-0.9**
SBSI	**Sibolga**	**1.66**	**9**	P	**Pn**	**10 07 39.1**	**-2.4**
SBSI				S	**Sn**	**10 08 02.2**	**+0.5**
GSI	**Gunungsitoli**	**1.75**	**323**	Pn	**Pn**	**10 07 43.5**	**+0.8**
GSI	**Gunungsitoli**	**1.75**	**323**	P	**Pn**	**10 07 42.9**	**+0.2**
BKNI	**Bangkinang**	**2.45**	**80**	P	**Pn**	**10 07 52.3**	**+0.1**
RPSI	**Rantau Prapat**	**2.79**	**6**		**Pn**	**10 07 57.0**	**0.0**
RPSI	**Rantau Prapat**	**2.79**	**6**		**Pn**	**10 07 56.9**	**-0.1**
RPSI					**Sn**	**10 08 28.4**	**-1.1**
PSI	**Prapat**	**2.90**	**6**	Pn	**Pn**	**10 07 56.9**	**-1.7**
	8.2nm,0.3s,baz=0.1,slow=1.2,SNR=29						
PSI				Sn	**Sn**	**10 08 28.4**	**-3.8**
	4.0nm,0.3s,baz=180,slow=5.2,SNR=3.6						
SDSI	**Sungai Dareh**	**2.92**	**106**	P	**Pn**	**10 07 58.0**	**-0.7**
TSI	**Tuntungan**	**3.58**	**359**	P	**Pn**	**10 08 08.4**	**+0.6**
TPTI		**3.64**	**337**	P	**Pn**	**10 08 08.3**	**-0.3**
MLSI	**Meulaboh, Aceh**	**4.88**	**333**	P	**Pn**	**10 08 25.9**	**+0.3**
KULM	**Kulim**	**5.72**	**21**	Pn	**Pn**	**10 08 36.8**	**-0.5**
MDSI	**Maura Dua**	**7.05**	**128**	P	**Pn**	**10 08 54.5**	**-0.9**
	0.1nm9.9nm,0.5s						
KLSI		**7.61**	**127**	P	**Pn**	**10 09 02.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**18.45**	**1**	P	**P**	**10 11 26.6**	**+0.1**
	0.5nm,0.3s,baz=186,slow=12,SNR=5.1						
CMAR				LR	LR	10 18 38.5	
	comp=Z,55nm,19.5s,baz=235,slow=37						
H08S2	**Diego Garcia H**	**27.11**	**253**	T	T	10 40 24.0	
	baz=73,slow=74,SNR=6.3						
H08S3	**Diego Garcia H**	**27.12**	**253**	T	T	10 40 23.4	
	baz=73,slow=74,SNR=37						
H08S1	**Diego Garcia H**	**27.13**	**253**	T	T	10 40 22.6	
	baz=73						
FITZ	**Fitzroy Crossi**	**32.01**	**125**	P	**P**	**10 13 35.4**	**-1.5**
WB0	**Warramunga Arr**	**40.11**	**121**	P	**P**	**10 14 44.6**	**-1.6**
WB0				lAmb	lAmb	10 15 10.6	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**40.14**	**122**	P	**P**	**10 14 44.9**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=303,slow=9.0,SNR=15						
WRAB	**Tennant Creek**	**40.14**	**122**	P	**P**	**10 14 45.1**	**-1.3**
WRAB				lAmb	lAmb	10 15 08.9	
	comp=Z,11nm,1.3s						
WB2	**Warramunga Arr**	**40.15**	**122**	P	**P**	**10 14 44.7**	**-1.8**
WB2				lAmb	lAmb	10 15 03.6	
	comp=Z,6.0nm,1.2s						
WR0	**Warramunga Arr**	**40.32**	**121**	P	**P**	**10 14 46.2**	**-1.7**
ASAR	**Alice Springs**	**41.47**	**127**	P	**P**	**10 14 56.4**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=296,slow=7.5,SNR=49						
ASAR	**Alice Springs**	**41.47**	**127**	P	**P**	**10 14 56.7**	**-0.7**
AS31	**Alice Springs**	**41.48**	**127**	P	**P**	**10 14 56.6**	**-0.8**
BBOO	**Buckleboo**	**47.96**	**136**	P	**P**	**10 15 49.5**	**+0.7**
SONM	**Songino Array**	**48.22**	**7**	P	**P**	**10 15 53.0**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=188,slow=9.9,SNR=9.6						
SONM	**Songino Array**	**48.22**	**7**	P	**P**	**10 15 53.0**	**+2.2**
SONM				lAmb	lAmb	10 15 55.4	
	comp=Z,0.9nm,0.7s						
MK31	**Makanchi Array**	**48.85**	**345**	P	**P**	**10 15 57.5**	**+2.0**
MK31				lAmb	lAmb	10 15 57.8	
	comp=Z,1.9nm,1.4s						
MKAR	**Makanchi Array**	**48.85**	**345**	P	**P**	**10 15 57.3**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=156,slow=9.4,SNR=9.8						
MKAR	**Makanchi Array**	**48.85**	**345**	P	**P**	**10 15 57.1**	**+1.6**
STKA	**Stephens Creek**	**51.43**	**132**	P	**P**	**10 16 15.0**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=325,slow=5.5,SNR=4.6						
STKA	**Stephens Creek**	**51.43**	**132**	P	**P**	**10 16 15.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**53.16**	**30**	P	**P**	**10 16 27.4**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=216,slow=6.1,SNR=4.8						
USRK	**Ussuriysk Ar.**	**53.16**	**30**	P	**P**	**10 16 28.3**	**+0.4**
ZALV	**Zalesovo Beam**	**55.07**	**350**	P	**P**	**10 16 43.0**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=168,slow=5.6,SNR=5.8						

IDC 13 10:26:34.7±16.0,1.°01S×123.°29E,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.5/35,mbtmp3.9/3,Error ellipse: s-maj=259.9km s-min=185.7km az=169.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.71**	**151**	P	P	10 31 27.3	-0.2
	1.2nm,0.4s,baz=329,slow=11,SNR=39						
ASAR	**Alice Springs**	**24.77**	**156**	P	P	10 31 58.1	-0.3
	1.4nm,0.3s,baz=329,slow=7.9,SNR=84						
STKA	**Stephens Creek**	**35.24**	**152**	P	P	10 33 31.5	+0.4
	2.1nm,0.8s,baz=325,slow=12,SNR=4.8						

*KRNET **13** 10:36:14.2±0.1,42.°68N×69.°01E,mb3.1*
*NNC **13** 10:36:16.1±0.9,43.°66N±.°72E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=6.6km s-min=3.6km az=70.0, Suspected Mining explosion.*

ISC 13 10:36:22.7±1.9,43.°50N±0.°08×69.°88E±0.°07,h0km,n22, σ2°57/36,23C-3D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.47**	**184**	P	**Pb**	**10 36 32.8**	**-1.2**
	27nm,0.2s						
BRLS				S	**Sb**	**10 36 46.0**	**+4.5**
	30nm,0.3s						
KK31	**Karatay Array**	**0.61**	**131**	⇑P	**Pg**	**10 36 31.7**	**-2.7**
	2.2nm,0.4s,baz=322,slow=17,SNR=190						
KK31				⇑S	**Sg**	**10 36 42.8**	**+0.6**
	8.3nm,0.3s,baz=311,slow=29,SNR=99						
DZA	**Taraz**	**1.22**	**119**	P	**Pg**	**10 36 43.6**	**-2.5**
	61nm,0.1s						
DZA				S	**Sn**	**10 37 05.3**	**+0.9**
	96nm,0.2s						
IUG	**Iuzhnay**	**1.36**	**175**	P	**Pg**	**10 36 45.7**	**-3.1**
	27nm,0.2s						
IUG				S	**Sn**	**10 37 08.6**	**+0.8**
	67nm,0.4s						
MNAS	**Manas**	**2.17**	**117**	⇑*i*P	**Pn**	**10 36 59.3**	**-1.0**
	baz=93						
MNAS				⇑*i*S	**Sb**	**10 37 32.2**	**+1.6**
	baz=93						
EKS2	**Erkin-Say**	**2.97**	**105**	⇑*i*P	**Pn**	**10 37 12.2**	**+0.9**
	baz=89						
EKS2				⇑*i*S	**Sb**	**10 37 54.7**	**+1.1**
	baz=89						
AML	**Almayashu**	**3.12**	**115**	⇑*i*P	**Pn**	**10 37 12.2**	**-1.3**
	baz=97						
AML				⇑*i*S	**Sn**	**10 37 54.6**	**+2.9**
	baz=97						
BTLS	**Baital**	**3.36**	**61**	Pg	**Pn**	**10 37 17.8**	**+1.3**
	13nm,0.5s						
BTLS				Lg	Lg	10 38 03.5	
	2.1nm,0.5s						
AAK	**Ala-Archa**	**3.49**	**103**	⇑*i*P	**Pn**	**10 37 19.6**	**+1.2**
	baz=89						
AAK				⇑*i*S	**Sb**	**10 38 07.3**	**-1.1**
	baz=89						
AAK	**Ala-Archa**	**3.49**	**103**	⇑Pg	**Pn**	**10 37 21.4**	**+3.1**
	4.0nm,0.6s						
AAK				⇓Lg	Lg	10 38 13.1	
	4.2nm,0.5s						
CHMS	**Chumysh**	**3.59**	**96**	⇑*i*P	**Pn**	**10 37 22.2**	**+2.5**
	baz=84						
CHMS				⇑*i*S	**Sb**	**10 38 11.9**	**+0.6**
	baz=84						
UCH	**Uchtor**	**3.63**	**109**	⇑*e*P	**Pn**	**10 37 20.6**	**-0.1**
	baz=94						
UCH				⇑*i*S	**Sn**	**10 38 08.9**	**+4.4**
	baz=94						
KBK	**Karagaybulak**	**3.81**	**101**	⇑*i*P	**Pn**	**10 37 24.3**	**+1.5**
	baz=88						
KBK				⇑*i*S	**Sb**	**10 38 15.4**	**-2.1**
	baz=88						
KRBS	**Karabastau**	**4.21**	**85**	Pg	**Pb**	**10 37 35.1**	**-2.6**
	5.2nm,0.5s						
KRBS				Lg	Lg	10 38 32.9	
	10nm,0.6s						
TKM2	**Tokmak 2**	**4.22**	**96**	⇑*i*P	**Pn**	**10 37 31.0**	**+2.6**
	baz=85						
TKM2				⇑*i*S	**Sb**	**10 38 26.8**	**-2.6**
	baz=85						
TKM2	**Tokmak 2**	**4.22**	**96**	⇓Pg	**Pb**	**10 37 34.2**	**-3.7**
	2.5nm,0.7s						
TKM2				⇓Lg	Lg	10 38 35.5	
	2.3nm,0.5s						
DGS	**Degeres**	**4.30**	**91**	Pg	**Pb**	**10 37 38.1**	**-1.1**
	2.8nm,0.4s						
DGS				Lg	Lg	10 38 38.2	
	7.2nm,0.7s						
KST	**Kastek**	**4.46**	**94**	Pg	**Pb**	**10 37 40.3**	**-1.7**
	3.0nm,0.6s						
KST				Lg	Lg	10 38 42.9	
	10.0nm,0.9s						
BOOM	**Boomskoye usch**	**4.56**	**101**	⇑*i*P	**Pn**	**10 37 34.2**	**+1.1**
	baz=90						
BOOM				⇑*i*S	**Sn**	**10 38 33.0**	**+6.2**
	baz=90						
KUU	**Kurty**	**4.70**	**83**	Pg	**Pb**	**10 37 43.7**	**-2.3**
	1.4nm,0.2s						
KUU				Lg	Lg	10 38 47.8	
	9.0nm,0.5s						
MTBS	**Maitube**	**4.79**	**92**	Pg	**Pb**	**10 37 47.7**	**+0.1**
MTBS				Lg	Lg	10 38 54.5	
ULHL	**Ulahol**	**4.84**	**103**	⇑*i*P	**Pn**	**10 37 37.5**	**+0.5**
	baz=92						
ULHL				⇑*i*S	**Sn**	**10 38 38.8**	**+5.0**
	baz=92						

*NOU **13** 10:36:33.3,37.°63S×179.°20W,h160km,MLv4.3,East of North Island, N.Z.*

WEL 13 10:36:45.0±1.1,38.°S±10.°×178.°0E±.°,h33km,M3.7/32, ML4.0/32,MLv3.7/32,Error ellipse: s-maj=0.0km s-min=0.0km az=20.1,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.11**	**259**	P	Pn	10 37 04.2	0.0
WMGZ				S	Sb	10 37 19.4	-0.4
MXZ	**Matakaoa Point**	**1.18**	**272**	P	Pn	10 37 05.0	-0.2
PUZ	**Puketiti**	**1.29**	**249**	P	Pn	10 37 06.8	+0.1
PUZ				S	Sn	10 37 23.8	+0.9
PKGZ	**Pakihiroa**	**1.39**	**258**	P	Pn	10 37 07.7	-0.3
PKGZ				S	Sn	10 37 25.2	-0.1
CNGZ	**Carnagh Statio**	**1.52**	**235**	P	Pn	10 37 10.3	+0.5
TWGZ	**Tauwhareparae**	**1.54**	**248**	P	Pn	10 37 10.4	+0.3
TWGZ				S	Sn	10 37 30.1	+1.2
HAZ	**Te Kaha**	**1.60**	**265**	P	Pn	10 37 11.0	+0.1
RUGZ	**Raukumara Rang**	**1.71**	**258**	P	Pn	10 37 12.4	-0.1
TKGZ	**Te Karaka**	**1.74**	**241**	P	Pn	10 37 13.0	+0.2
MWZ	**Matawai**	**1.93**	**248**	P	Pn	10 37 15.2	-0.3
RIGZ	**Rimuhau**	**1.93**	**235**	P	Pn	10 37 15.7	+0.2
PRGZ	**Paritu Road**	**1.99**	**229**	P	Pn	10 37 16.3	0.0
RAGZ	**Rawiri**	**2.07**	**244**	P	Pn	10 37 17.4	-0.1
MHGZ	**Mahia Peninsul**	**2.13**	**223**	P	Pn	10 37 18.3	+0.1
KNZ	**Kokohu**	**2.17**	**229**	P	Pn	10 37 18.3	-0.5
URZ	**Urewera**	**2.21**	**252**	P	Pn	10 37 20.0	+0.7
SNGZ	**Shannon Statio**	**2.25**	**238**	P	Pn	10 37 19.9	0.0
RTZ	**Ruatahuna**	**2.43**	**245**	P	Pn	10 37 22.9	+0.5
EDRZ	**Edgecumbe**	**2.46**	**258**	P	Pn	10 37 23.0	+0.1
WHHZ	**Waihua**	**2.48**	**233**	P	Pn	10 37 23.0	-0.1
RAHZ	**Arahi**	**2.49**	**238**	P	Pn	10 37 23.5	+0.3
MUGZ	**Murupara**	**2.53**	**249**	P	Pn	10 37 23.9	+0.2
OPRZ	**Ohinepanea**	**2.58**	**264**	P	Pn	10 37 23.9	-0.4
MTRZ	**Maungataniwha**	**2.63**	**241**	P	Pn	10 37 25.2	+0.1
TARZ	**Mount Tarawera**	**2.67**	**256**	P	Pn	10 37 26.2	+0.5
RRRZ	**Republican Roa**	**2.69**	**254**	P	Pn	10 37 26.3	+0.4
ARHZ	**Aropaoanui**	**2.74**	**232**	P	Pn	10 37 27.1	+0.5
NMHZ	**Naumai**	**2.77**	**237**	P	Pn	10 37 27.3	+0.1
HLRZ	**Highlands Stat**	**2.79**	**256**	P	Pn	10 37 26.2	-1.2
TGRZ	**Tauranga**	**2.80**	**267**	P	Pn	10 37 27.2	-0.2
KARZ	**Kaharoa**	**2.84**	**261**	P	Pn	10 37 27.8	-0.2
ALRZ	**Allen Road**	**2.88**	**250**	P	Pn	10 37 28.7	+0.2
HSRZ	**Hossack Road**	**2.89**	**255**	P	Pn	10 37 29.5	+0.9
NGRZ	**Ngongotaha**	**2.89**	**259**	P	Pn	10 37 29.7	+1.0
MRHZ	**Matea Rd**	**2.92**	**244**	P	Pn	10 37 29.1	0.0
BKZ	**Black Stump Fm**	**3.02**	**238**	P	Pn	10 37 30.3	-0.2
MCHZ	**McNeill Hill**	**3.03**	**232**	P	Pn	10 37 30.4	-0.3
KAHZ	**Kahuranaki**	**3.15**	**226**	P	Pn	10 37 31.7	-0.6
HATZ	**Hinemaiaia**	**3.18**	**245**	P	Pn	10 37 32.2	-0.5
KWHZ	**Kaweka Forest**	**3.20**	**235**	P	Pn	10 37 32.5	-0.5
PXZ	**Pawanui**	**3.32**	**223**	P	Pn	10 37 33.1	-1.5
KUZ	**Kuaotunu**	**3.37**	**284**	P	Pn	10 37 34.5	-0.7
RITZ	**Rihia Road**	**3.38**	**245**	P	Pn	10 37 35.5	+0.1
RATZ	**Rangitukua**	**3.40**	**247**	P	Pn	10 37 35.8	+0.1
TOZ	**Tahuroa Road**	**3.41**	**267**	P	Pn	10 37 35.5	-0.3
BHHZ	**Black Hill Sta**	**3.47**	**236**	P	Pn	10 37 36.4	-0.3
TMVZ	**Te Maari**	**3.54**	**244**	P	Pn	10 37 36.8	-1.0
ETVZ	**East Tongariro**	**3.54**	**244**	P	Pn	10 37 37.4	-0.4
WPHZ	**Waipukurau**	**3.58**	**226**	P	Pn	10 37 36.7	-1.4
KRVZ	**Karewarewa**	**3.58**	**244**	P	Pn	10 37 38.1	-0.2
OTVZ	**Oturere**	**3.59**	**243**	P	Pn	10 37 37.9	-0.5
PRHZ	**Porangahau**	**3.61**	**222**	P	Pn	10 37 36.7	-1.9
PNHZ	**Pukenui**	**3.62**	**230**	P	Pn	10 37 37.4	-1.3
WTVZ	**West Tongariro**	**3.62**	**244**	P	Pn	10 37 39.4	+0.5
MOVZ	**Moawhango**	**3.63**	**239**	P	Pn	10 37 39.7	+0.7
NGZ	**Ngauruhoe**	**3.64**	**243**	P	Pn	10 37 38.7	-0.5
TUVZ	**Tukino**	**3.64**	**242**	P	Pn	10 37 39.1	0.0
WNAZ	**Wahianoa**	**3.71**	**241**	P	Pn	10 37 39.7	-0.4
WIAZ	**Waiheke Island**	**3.81**	**281**	P	Pn	10 37 41.1	-0.2
MTVZ	**Mangatetei**	**3.82**	**241**	P	Pn	10 37 41.6	0.0
ANWZ	**Angora Road**	**3.83**	**221**	P	Pn	10 37 40.4	-1.2
TSZ	**Takapari Road**	**3.85**	**230**	P	Pn	10 37 40.3	-1.7
DVHZ	**Dannevirke**	**3.89**	**225**	P	Pn	10 37 40.6	-1.9
ETAZ	**East Tamaki Re**	**3.94**	**278**	P	Pn	10 37 43.2	+0.2
HIZ	**Hauiti**	**4.00**	**256**	P	Pn	10 37 44.6	+0.8
MBAZ	**Mot

KRUC			*e*SG	Sb	11 02 35.0	-0.1
MOA	**Molln** 1.1nm,0.3s	**1.25 271**	*e*Pg	Pg	11 02 17.7	-0.8
MOA	3.0nm,0.3s		*i* Sg	Sb	11 02 36.1	+0.5

NEIC ***13*** *11:08:42.9±2.8, 19°.7S±0°.1×177°.14W±0°.10, h401km±12km, mb4.3/24, Error ellipse: s-maj=17.8km s-min=13.2km az=166.0*
IDC ***13*** *11:08:53.9±14.0, 19°.54S×178°.10W, h461km±141km, mb3.5/5, mb1 3.6/5, mb1mx3.1/30, mbtmp4.3/5, Error ellipse: s-maj=116.6km s-min=47.1km az=126.0*

ISC 13 11:08:43.4±0.7,**19°.69S**±0°.08×**177°.16W**±0°.08,**h400**km, **n35**,σ1**s27**/36,**mb4.2**/14,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.94**	**292**	Pn	**Pn**	**11 10 05.6**	**+0.6**
NIUE	**Niue**	**6.86**	**86**	Pn	**P**	**11 10 25.5**	**-0.6**
AFI	**Afiamalu**	**7.72**	**43**		**P**	**11 10 36.7**	**+0.8**
AFI				S	**S**	**11 12 08.9**	**+1.9**
RAO	**Raoul Island**	**9.54**	**184**	P	**P**	**11 10 55.2**	**-0.7**
RAO				S	**S**	**11 12 46.9**	**+2.1**
DZM	**Mont Dzumac**	**15.50**	**258**	P	**P**	**11 12 02.1**	**+0.6**
RAR	**Rarotonga**	**16.37**	**98**	P	**P**	**11 12 07.8**	**-2.9**
URZ	**Urewera**	**19.16**	**194**	P	**P**	**11 12 40.7**	**+0.8**
URZ	comp=Z,23nm,1.4s			IAmb	IAmb	11 12 47.0	
BKZ	**Black Stump Fm**	**20.17**	**194**	P	**P**	**11 12 51.0**	**+1.6**
BKZ	comp=Z,24nm,1.4s			IAmb	IAmb	11 13 04.2	
QRZ	**Quartz Range**	**22.84**	**200**	P	**P**	**11 13 15.6**	**+2.1**
TUWZ	**Tuamarina**	**22.96**	**197**	P	**P**	**11 13 15.2**	**+0.7**
THZ	**Tophouse**	**23.57**	**199**	P	**P**	**11 13 20.9**	**+0.7**
THZ	comp=Z,26nm,1.5s			IAmb	IAmb	11 13 28.9	
KHZ	**Kahutara**	**23.98**	**197**	P	**P**	**11 13 22.7**	**-1.1**
LTZ	**Lake Taylor**	**24.69**	**199**	P	**P**	**11 13 29.5**	**-0.6**
LTZ	comp=Z,11nm,1.2s			IAmb	IAmb	11 13 37.9	
WHZ	**Wether Hill Ro**	**28.87**	**202**	P	**P**	**11 14 08.7**	**+1.6**
EIDS	**Eidsvold**	**29.83**	**253**	P	**P**	**11 14 13.3**	**-2.4**
EIDS	comp=Z,30nm,1.4s			IAmb	IAmb	11 14 30.9	
ARMA	**Armidale**	**30.13**	**243**	P	**P**	**11 14 18.6**	**+0.1**
CTA	**Charters Tower**	**34.36**	**263**	P	**P**	**11 14 54.4**	**-0.5**
CTAO	comp=Z,12nm,0.5s,baz=89,slow=9.7,SNR=19			IAmb	IAmb	11 14 54.9	
CTAO	**Charters Tower**	**34.36**	**263**	P	**P**	**11 14 54.5**	**-0.4**
CTAO	comp=Z,14nm,0.7s			IAmb	IAmb	11 14 54.9	
TOO	**Toolangi**	**37.01**	**233**	P	**P**	**11 15 16.6**	**-0.3**
TOO	comp=Z,15nm,1.4s			IAmb	IAmb	11 15 21.1	
STKA	**Stephens Creek**	**38.85**	**243**	P	**P**	**11 15 31.7**	**-0.4**
STKA	comp=Z,2.1nm,0.5s,baz=84,slow=9.2,SNR=7.1 **Stephens Creek**	**38.85**	**243**	P	**P**	**11 15 31.9**	**-0.2**
BBOO	**Buckleboo**	**43.61**	**243**	P	**P**	**11 16 09.8**	**-0.6**
BBOO	comp=Z,8.6nm,0.6s			IAmb	IAmb	11 16 10.2	
WR0	**Warramunga Arr**	**45.31**	**261**	P	**P**	**11 16 22.4**	**-1.4**
AS31	**Alice Springs**	**45.47**	**256**		**P**	**11 16 24.4**	**-0.6**
WB0	**Warramunga Arr**	**45.47**	**261**	P	**P**	**11 16 23.7**	**-1.3**
WB0	comp=Z,12nm,1.4s			IAmb	IAmb	11 16 44.1	
ASAR	**Alice Springs**	**45.47**	**256**	P	**P**	**11 16 24.1**	**-0.9**
ASAR	comp=Z,5.9nm,0.7s,baz=96,slow=8.4,SNR=116			PcP	**PcP**	**11 17 57.7**	**+1.4**
ASAR	comp=Z,1.0nm,1.0s,baz=92,slow=4.0,SNR=4.5 **Alice Springs**	**45.47**	**256**	P	**P**	**11 16 23.8**	**-1.3**
WB2	**Warramunga Arr**	**45.49**	**261**	P	**P**	**11 16 24.0**	**-1.1**
WRAB	**Tennant Creek**	**45.49**	**261**	P	**P**	**11 16 24.0**	**-1.2**
WRAB	comp=Z,11nm,1.3s			IAmb	IAmb	11 16 24.9	
WRA	**Warramunga Arr**	**45.50**	**261**	P	**P**	**11 16 23.9**	**-1.3**
FORT	comp=Z,1.2nm,0.4s,baz=93,slow=7.6,SNR=67 **Forrest**	**50.34**	**246**	P	**P**	**11 17 00.4**	**-1.3**
FORT	comp=Z,12nm,0.8s			IAmb	IAmb	11 17 16.7	
FITZ	**Fitzroy Crossi**	**53.92**	**262**	P	**P**	**11 17 28.0**	**+0.2**
PSA00	**Pilbara Seismi**	**58.62**	**256**	P	**P**	**11 18 00.0**	**-0.6**
PSA00	comp=Z,24nm,1.4s			IAmb	IAmb	11 18 27.7	
QSPA	**South Pole Qui**	**70.37**	**180**	P	P	11 19 19.5	+4.3
ILAR	**Eielson Array** comp=Z,0.2nm,0.7s,baz=208,slow=5.6,SNR=5.5	**87.36**	**12**	P	P	11 20 50.5	+4.6

VAO ***13*** *11:10:26.0±0.4, 23°.13S×67°.19W, h261km±4km, mb3.9*
NEIC ***13*** *11:10:26.5±2.7, 22°.97S±0°.07×66°.9W±0°.1, h221km±12km, mb4.1/6, ML4.0(GUC), Error ellipse: s-maj=17.6km s-min=10.7km az=95.0*
IDC ***13*** *11:10:26.1±0.9, 22°.93S×66°.67W, h201km±10km, mb3.0/3, mb1 3.4/10, mb1mx3.2/37, mbtmp3.8/10, Error ellipse: s-maj=16.2km s-min=13.8km az=1.0*
GUC ***13*** *11:10:27.3±0.4, 22°.95S×67°.09W, h242km±6km, ML4.0*

ISC 13 11:10:26.5±0.6,**22°.96S**±0°.04×**66°.92W**±0°.06,**h222**km±7km, **n104**,σ1**s30**/133,**mb3.7**/5,**11C-2D**,**Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde** 27nm,0.3s,baz=94,slow=6.3,SNR=191	**1.87**	**280**	P	**Pn**	**11 11 06.4**	**+0.5**
LVC	7.8nm,0.3s,baz=247,slow=21,SNR=15			S	**S**	**11 11 37.2**	**+0.8**
LVC	**Limon Verde**	**1.87**	**280**	⇓*i*P	**Pn**	**11 11 06.4**	**+0.5**
LVC				*i* S	**S**	**11 11 36.6**	**+0.2**
LVC	**Limon Verde**	**1.87**	**280**		**Pn**	**11 11 06.5**	**+0.5**
LVC				S	**S**	**11 11 36.6**	**+0.2**
LVC	**Limon Verde**	**1.87**	**280**	*e*P	**Pn**	**11 11 06.4**	**+0.5**
PB15	**IPOC Station P**	**2.36**	**263**	⇓*i*P	**Pn**	**11 11 12.1**	**+0.6**
PB15				*i* S	**S**	**11 11 45.1**	**+0.2**
PB15	**IPOC Station P**	**2.36**	**263**		**Pn**	**11 11 12.1**	**+0.6**
PB15				S	**S**	**11 11 44.9**	**+0.1**
PB09	**IPOC Station P**	**2.44**	**298**	⇑*i*P	**Pn**	**11 11 12.7**	**+1.3**
PB09				*i* S	**S**	**11 11 46.5**	**+0.2**
PB09	comp=N,133nm,0.3s			IAML		11 11 52.1	
PB09	**IPOC Station P**	**2.44**	**298**		**Pn**	**11 11 12.8**	**+1.3**
PB09				S	**S**	**11 11 47.2**	**+0.9**
PB06	**IPOC Station P**	**2.46**	**275**	⇑*i*P	**Pn**	**11 11 12.1**	**+0.5**
PB06				*i* S	**S**	**11 11 46.5**	**-0.1**
PB06	comp=N,173nm,0.2s			IAML		11 11 50.4	
PB06	**IPOC Station P**	**2.46**	**275**		**Pn**	**11 11 12.1**	**+0.5**
PB06				S	**S**	**11 11 45.7**	**-0.9**
PB03	**IPOC Station P**	**2.77**	**289**	⇑*i*P	**Pn**	**11 11 15.5**	**+0.5**
PB03				*i* S	**S**	**11 11 51.9**	**-0.9**
PB03	comp=E,305nm,0.2s			IAML		11 11 52.7	
PB07	**IPOC Station P**	**3.01**	**293**	⇑*i*P	**Pn**	**11 11 18.3**	**+0.6**
PB07				*i* S	**S**	**11 11 56.5**	**-0.9**
PB07	comp=N,384nm,0.5s			IAML		11 11 58.5	
PB07	**IPOC Station P**	**3.01**	**293**		**Pn**	**11 11 18.2**	**+0.6**
PB07				S	**S**	**11 11 56.6**	**-0.9**
PB05	**IPOC Station P**	**3.03**	**271**	⇑*i*P	**Pn**	**11 11 18.2**	**+0.4**
PB05				*i* S	**S**	**11 11 56.6**	**-1.3**
PB05	comp=E,83nm,0.1s			IAML		11 12 01.1	
PB04	**IPOC Station P**	**3.05**	**281**	⇑*i*P	**Pn**	**11 11 18.6**	**+0.6**
PB04				*i* S	**S**	**11 11 57.4**	**-0.9**
PB04	comp=N,209nm,0.4s			IAML		11 12 01.0	
PB04	**IPOC Station P**	**3.05**	**281**		**Pn**	**11 11 18.5**	**+0.4**
PB04				S	**S**	**11 11 57.2**	**-1.0**
PB01	**IPOC Station P**	**3.05**	**308**	⇑*i*P	**Pn**	**11 11 18.7**	**+0.6**
PB01				*i* S	**S**	**11 11 58.0**	**-0.3**
PB01	comp=E,325nm,0.2s			IAML		11 12 00.6	
PB01	**IPOC Station P**	**3.05**	**308**		**Pn**	**11 11 18.7**	**+0.6**
PB01				S	**S**	**11 11 58.4**	**+0.1**
GO02	**Mina Guanaco**	**3.28**	**228**		**Pn**	**11 11 21.1**	**+0.2**
GO02				S	**S**	**11 12 02.9**	**-0.6**
PB10	**IPOC Station P**	**3.39**	**260**	⇑*i*P	**Pn**	**11 11 22.4**	**+0.6**
PB10				*i* S	**S**	**11 12 03.5**	**-1.7**
PB10	**IPOC Station P**	**3.39**	**260**	Pn	**Pn**	**11 11 22.5**	**+0.6**
PB10				S	**S**	**11 12 04.0**	**-1.1**
PB08	**IPOC Station P**	**3.49**	**323**	⇑*i*P	**Pn**	**11 11 25.2**	**+1.7**
PB08				*i* S	**S**	**11 12 09.1**	**+1.1**
PB08	**IPOC Station P**	**3.49**	**323**		**Pn**	**11 11 25.0**	**+1.5**
PB08				S	**S**	**11 12 08.5**	**+0.5**
PB14	**IPOC Station P**	**3.60**	**242**	Pn	**Pn**	**11 11 24.6**	**0.0**
PB14				S	**S**	**11 12 08.2**	**-1.8**
HMBC	**Humberstone**	**3.84**	**313**	⇑*i*P	**Pn**	**11 11 27.2**	**-0.1**
HMBC				*i* S	**S**	**11 12 13.2**	**-1.9**
TA01	**Diego Aracena**	**3.85**	**308**	Pn	**Pn**	**11 11 27.2**	**-0.2**
TA01				S	**S**	**11 12 13.5**	**-1.7**
AC02	**Maricunga**	**4.35**	**207**	Pn	**Pn**	**11 11 33.6**	**-0.2**
AC02				S	**S**	**11 12 26.7**	**-0.2**
PSGCX	**Pisagua**	**4.48**	**318**	Pn	**Pn**	**11 11 34.5**	**-0.7**
PSGCX				S	**S**	**11 12 27.2**	**-2.1**
MNMC	**Minye Minye**	**4.55**	**326**		**Pn**	**11 11 36.5**	**+0.2**
MNMC				S	**S**	**11 12 30.1**	**-1.1**
AC01	**Pan de Azucar**	**4.62**	**226**	⇑*i*P	**Pn**	**11 11 35.5**	**-1.1**
AC01	**Pan de Azucar**	**4.62**	**226**		**Pn**	**11 12 30.6**	**-1.1**
GO03	**Copiapo**	**5.50**	**212**	Pn	**Pn**	**11 11 45.7**	**-2.1**
AC04	**Llanos de Chal**	**6.43**	**215**	Pn	**Pn**	**11 11 57.7**	**-1.8**
AC05	**El Transito**	**6.59**	**207**	Pn	**Pn**	**11 11 59.9**	**-1.8**
LPAZ	**La Paz** comp=E,1.0nm,0.3s,baz=172,slow=8.9,SNR=18	**6.73**	**350**	P	**Pn**	**11 12 04.2**	**0.0**
LPAZ	comp=E,0.1nm,0.3s,baz=241,slow=19,SNR=1.8			S	**S**	**11 13 22.1**	**+0.3**
LPAZ	**La Paz**	**6.73**	**350**	Pn	**Pn**	**11 12 04.9**	**+0.7**
LPAZ	**La Paz**	**6.73**	**350**	*e*P	**Pn**	**11 12 05.6**	**+1.4**
LCO	**Las Campanas**	**6.92**	**209**	Pn	**Pn**	**11 12 03.7**	**-2.4**
CO01	**Juntas del Tor**	**7.55**	**201**	Pn	**Pn**	**11 12 15.9**	**+1.8**
SIV	**San Ignacio** comp=E,1.6nm,0.3s,baz=257,slow=7.1,SNR=18	**8.86**	**40**	P	**Pn**	**11 12 27.5**	**-3.4**
CPUP	**Villa Florida** comp=E,0.2nm,0.3s,baz=293,slow=9.6,SNR=2.9	**9.35**	**113**	P	**Pn**	**11 12 34.9**	**-2.2**
CPUP	**Villa Florida**	**9.35**	**113**	*e*P	**Pn**	**11 12 38.2**	**+1.1**
PTLB	**Pontes e Lacer**	**10.48**	**46**	*e*P	**Pn**	**11 12 54.4**	**+2.8**
AQDB	**Aquidauana**	**10.72**	**79**	*e*P	**Pn**	**11 12 57.0**	**+2.3**
MT02	**Curacav**	**10.91**	**199**	Pn	**Pn**	**11 12 56.9**	**-0.2**
ITQB	**Itaqui**	**11.40**	**128**	*e*P	**Pn**	**11 13 03.5**	**+0.3**
BO02	**Sierra Bellavi**	**12.27**	**195**		**P**	**11 13 19.5**	**+1.8**
TRCB	**Terra Rica**	**13.17**	**92**	*e*P	**P**	**11 13 27.2**	**-0.6**
PTGB	**Pitanga**	**13.71**	**100**	*e*P	**P**	**11 13 34.3**	**+0.5**
CPSB	**Cacapava Do Su**	**14.14**	**124**	*e*P	**Pn**	**11 13 35.7**	**-1.6**
SAML	**Samuel**	**14.38**	**15**		**Pn**	**11 13 39.3**	**-1.1**
SAML	**Samuel**	**14.38**	**15**	*e*P	**P**	**11 13 41.5**	**+0.2**
PLTB	**Pedras Altas**	**14.72**	**129**	*e*P	**Pn**	**11 13 43.4**	**-0.9**
CNLB	**Canela**	**15.75**	**117**	*e*P	**P**	**11 13 55.2**	**-1.2**
ITRB	**Itarema**	**15.77**	**81**	*e*P	**Pn**	**11 13 57.4**	**+0.2**
FRTB	**Fartura**	**15.97**	**95**	*e*P	**P**	**11 13 58.4**	**-0.4**
ARAG	**Araguaiana, MT**	**15.97**	**66**	*e*P	**Pn**	**11 13 59.0**	**-0.6**
CLDB	**Colider**	**16.04**	**43**	*e*P	**Pn**	**11 14 00.2**	**-0.3**
TIJ01	**Guaruva-PR**	**16.52**	**102**	*e*P	**P**	**11 14 04.4**	**-0.5**
TER01	**Tubaro-SC**	**16.96**	**113**	*e*P	**P**	**11 14 08.6**	**-0.9**
BB19B	**Bebedouro**	**17.16**	**87**	*e*P	**P**	**11 14 12.2**	**+0.3**
PLCA	**Paso Flores** comp=E,0.1nm,0.3s,baz=5.0,slow=12,SNR=4.4	**17.98**	**189**	P	**P**	**11 14 22.1**	**+1.4**
PLCA	**Paso Flores**	**17.98**	**189**	P	**P**	**11 14 22.0**	**+1.4**
PLCA	comp=Z,2.8nm,1.1s			IAmb	IAmb	11 14 44.2	
PLCA	**Paso Flores**	**17.98**	**189**	*e*P	**P**	**11 14 15.5**	**-5.2**
PET01	**Itanhaem-SP**	**18.05**	**98**	*e*P	**P**	**11 14 20.7**	**-0.8**
IPMB	**Ipameri, GO**	**18.27**	**78**	*e*P	**P**	**11 14 23.3**	**0.0**
VAO	**Valinhos**	**18.38**	**94**	*e*P	**P**	**11 14 23.6**	**-1.5**
SNDB	**Serra Nova Dou**	**18.46**	**56**	*e*P	**P**	**11 14 25.0**	**-1.0**
ATAH	**Atahualpa** comp=Z,0.2nm,0.3s,baz=68,slow=17,SNR=2.0	**19.22**	**323**	P	**Pn**	**11 14 37.9**	**-0.4**
BDFB	**Brasilia** comp=Z,0.9nm,0.3s,baz=245,slow=11,SNR=10	**19.26**	**71**	P	**P**	**11 14 33.2**	**-1.5**
BDFB	**Brasilia** comp=Z,13nm,1.0s	**19.26**	**71**	P	**P**	**11 14 34.6**	**-0.1**
BDFB				IAmb	IAmb	11 14 35.4	
PARB	**Paraibuna**	**19.59**	**95**	*e*P	**P**	**11 14 38.1**	**-0.1**
MACA	**Manacapuru-AM**	**20.59**	**18**	*e*P	**P**	**11 14 48.6**	**-0.2**
BSCB	**Bom Sucesso**	**20.63**	**89**	*e*P	**P**	**11 14 49.0**	**-0.3**
PEXB	**Peixe**	**20.75**	**62**	*e*P	**P**	**11 14 48.7**	**-1.8**
MAN01	**Angra dos Reis**	**21.14**	**94**	*e*P	**P**	**11 14 53.6**	**-1.0**
ITTB	**Itaituba**	**21.41**	**32**	*e*P	**P**	**11 14 55.7**	**-1.6**
VAS01	**Vassouras-RJ**	**21.68**	**93**	*e*P	**P**	**11 14 58.9**	**-1.0**
DUB01	**Friburgo-RJ**	**22.69**	**93**	*e*P	**P**	**11 15 07.9**	**-1.4**
JANB	**Januaria**	**22.75**	**74**	*e*P	**P**	**11 15 08.5**	**-1.4**
PTGA	**Pitinga**	**23.11**	**18**	*e*P	**P**	**11 15 11.5**	**-1.5**
SMTB	**Santa Maria do**	**23.24**	**56**	*e*P	**P**	**11 15 13.5**	**-0.8**
CAM01	**Campos-RJ**	**23.38**	**92**	*e*P	**P**	**11 15 14.3**	**-1.2**
SDBA	**SAO DESIDERIO**	**23.42**	**67**	*e*P	**P**	**11 15 14.8**	**-1.2**
PRPB	**Parauapebas**	**23.46**	**47**	*e*P	**P**	**11 15 14.7**	**-1.6**
SJMB	**Sao Joao De Ma**	**24.41**	**85**	*e*P	**P**	**11 15 23.0**	**-1.8**
ALF01	**Guarapari-ES**	**24.43**	**90**	*e*P	**P**	**11 15 24.1**	**-0.9**
BSFB	**Barra de Sao F**	**24.69**	**85**	*e*P	**P**	**11 15 26.3**	**-1.1**
RIB01	**Linhares ES**	**24.99**	**87**	*e*P	**P**	**11 15 28.9**	**-1.3**
NAN01	**Guarapari, ES**	**25.61**	**83**	*e*P	**P**	**11 15 34.3**	**-1.3**
BOAV	**Boa Vista**	**25.96**	**15**	*e*P	**P**	**11 15 36.1**	**-2.7**
GDU01	**Guandu, BA**	**27.49**	**75**	*e*P	**P**	**11 15 50.8**	**-1.7**
NBTA	**Tacaratu-PE**	**30.88**	**68**	*e*P	**P**	**11 16 21.3**	**-1.2**
NBMA	**Muriti-CE**	**31.19**	**65**	*e*P	**P**	**11 16 23.9**	**-1.3**
ACON	**Acoyapa**	**39.05**	**331**	P	**P**	**11 17 30.7**	**-1.4**
ACON	comp=Z,17nm,1.0s			IAmb	IAmb	11 17 59.0	
TXAR	**Lajitas Array** comp=Z,0.2nm,0.7s,baz=156,slow=4.6,SNR=2.2	**62.88**	**324**	P	**P**	**11 20 30.1**	**+0.9**
QSPA	**South Pole Qui**	**67.24**	**180**	P	**P**	**11 20 59.9**	**+3.1**
QSPA	comp=Z,2.4nm,0.8s			IAmb	IAmb	11 21 00.3	
DBIC	**Dimbokro**	**67.41**	**72**	P	**P**	**11 21 00.1**	**+1.6**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.4s,baz=257,slow=5.3,SNR=12	**76.13**	**69**	P	**P**	**11 21 51.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**76.13**	**69**	P	**P**	**11 21 50.9**	**+0.5**
PDAR	**Pinedale Array** comp=Z,0.1nm,0.4s,baz=116,slow=5.1,SNR=2.0	**76.30**	**329**	P	**P**	**11 21 53.7**	**+2.6**
WRA	**Warramunga Arr** comp=Z,0.6nm,1.0s,baz=140,slow=1.5,SNR=4.9	**132.58**	**208**	PKP	**PKiKP**	**11 29 17.4**	**+0.9**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.8s,baz=280,slow=3.3,SNR=4.4	**145.67**	**39**	PKPbc	**PKPab**	**11 29 41.1**	**+1.4**
MKAR	**Makanchi Array**	**145.67**	**39**		**PKPab**	**11 29 40.7**	**+0.9**

INET ***13*** *11:16:27.4, 8°.89N×84°.12W, h15km, MW2.8*

UCR 13 11:16:27.2±1.7,**8°.86N×84°.13W**,**h9**km±7km,**MW3.6**,**1D**, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.47**	**34**	*e*P	Pb	11 16 37.1	-0.5
EDDO				*e*S	Sb	11 16 44.5	-0.2
RIOS	**Rincon, Osa**	**0.63**	**105**	*e*P	Pg	11 16 39.6	+0.2
RIOS				*e*S	Sb	11 16 48.6	-0.8
EDPN	**Palmar Norte**	**0.67**	**82**	⇓*i*P	Pg	11 16 40.2	0.0
EDPN				*e*S	Sb	11 16 50.4	-0.2
PEZE	**Perez Zeledon,**	**0.68**	**41**	*e*P	Pg	11 16 40.3	-0.1
PEZE				*e*S	Sb	11 16 50.5	-0.5
CDM	**Cerro de Muert**	**0.78**	**28**	*e*P	Pg	11 16 42.1	-0.2
CDM				*e*S	Sb	11 16 53.2	-0.8
LCR2	**La Lucha 2**	**0.88**	**8**	*e*P	Pg	11 16 43.6	-0.6
EDBA	**Buenos Aires**	**0.90**	**71**	*e*P	Pg	11 16 43.7	-0.8
EDBA				*e*S	Sg	11 16 56.4	+0.2
PIRO	**Carate, Puerto**	**0.91**	**120**	*e*P	Pg	11 16 44.3	-0.4
RIMA	**Rio Macho**	**0.94**	**16**	*e*P	Pg	11 16 44.3	-0.9
JACO	**JACO, Garabito**	**0.95**	**327**	*e*P	Pg	11 16 44.2	-1.3
DRK0	**Durika**	**0.96**	**66**	*e*P	Pg	11 16 44.4	-1.3
POTG	**Potrero Grande**	**1.02**	**79**	*e*P	Pg	11 16 46.0	-0.8
LPLA	**Las Palmas La**	**1.12**	**81**	*e*P	Pg	11 16 47.7	-1.1
LPLA				*e*S	Sg	11 17 03.5	+0.1
EDSV	**San Vito**	**1.15**	**92**	*e*P	Pg	11 16 48.3	-1.0
EDSV				*e*S	Sb	11 17 04.7	+0.4
CVTR	**Volcan Turrial**	**1.21**	**18**	*e*P	Pg	11 16 49.7	-0.7
LAFE	**Finca La Fe, P**	**1.21**	**321**	*e*P	Pb	11 16 48.4	-1.9
BRU2	**Volcan**	**1.43**	**93**	*e*P	Pn	11 16 52.3	-1.1
RIFO	**Rio Frio, Sara**	**1.46**	**8**	*e*P	Pn	11 16 53.4	-0.4
JTS	**Las Juntas de**	**1.63**	**330**	*e*P	Pn	11 16 54.5	-1.7

NNC ***13*** *11:34:35.4±5.6, 38°.97N×70°.52E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=53.4km s-min=31.9km az=166.0*

ISC 13 11:34:35.1±5.0,**38°.6N**±0°.3×**70°.6E**±0°.2,**h23**km,**n8**, σ0**s84**/10,**1C-2D**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=17	**4.22**	**33**	P	**Pn**	**11 35 38.4**	**+0.1**
KK31	**Karatay Array** 1.1nm,0.4s,baz=177,slow=13,SNR=14	**4.46**	**359**	Pn	**Pn**	**11 35 41.3**	**0.0**
KK31	3.2nm,0.4s,baz=184,slow=22,SNR=6.7			⇑Lg	Lg	11 36 45.5	
UCH	**Uchtor** SNR=13	**4.67**	**39**	P	**Pn**	**11 35 43.7**	**-1.0**
AAK	**Ala-Archa** SNR=9.1	**4.98**	**35**	P	**Pn**	**11 35 49.2**	**+0.6**
AAK	**Ala-Archa** 6.7nm,0.7s	**4.98**	**35**	Pn	**Pn**	**11 35 47.3**	**-1.3**
AAK	4.3nm,0.9s			Sn	**Sn**	**11 36 45.4**	**-0.1**
KBK	**Karagaybulak** SNR=18	**5.21**	**38**	P	**Pn**	**11 35 53.0**	**+1.3**
TKM2	**Tokmak 2** SNR=5.7	**5.72**	**40**	P	**Pn**	**11 35 59.4**	**+0.5**
TKM2	**Tokmak 2** 3.9nm,0.7s	**5.72**	**40**	⇓Pn	**Pn**	**11 35 58.5**	**-0.4**
TKM2	3.7nm,0.8s			⇓Sn	**Sn**	**11 37 04.1**	**+0.2**

HEL ***13*** *11:40:41.0±0.1, 63°.14N×27°.78E, h0km, ML1.8, Explosion*
IDC ***13*** *11:40:41.7±1.7, 63°.04N×28°.01E, h0km, mb1 3.4/2, mb1mx3.0/33, mbtmp3.3/2, ML2.1/2, Error ellipse: s-maj=21.1km s-min=7.5km az=103.0*
UPP ***13*** *11:40:41.9±2.8, 62°.95N×27°.65E, h0km, ML2.0, Suspected explosion*

ISC 13 11:40:40.5±0.8,**63°.02N**±0°.03×**27°.76E**±0°.04,**h0**km,**n32**, σ1**s45**/46,**Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.80**	**248**	PG	**Pg**	**11 40 56.2**	**+0.4**
SUF				SG	**Sb**	**11 41 07.8**	**-0.8**
KAF	**Kangasniemi**	**1.14**	**217**	PG	**Pn**	**11 41 03.3**	**-0.3**
KAF				SG	**Sn**	**11 41 19.4**	**-0.5**
KEF	**Keuruu**	**1.59**	**239**	PG	**Pg**	**11 41 11.0**	**+0.1**
KEF	comp=Z,4.3nm,0.2s			MSG		11 41 30.8	
JOF	**Joensuu**	**1.62**	**92**	SN	**Sg**	**11 41 32.4**	**+0.8**
JOF				PN	**Pn**	**11 41 10.7**	**+0.3**
FIA0	**FINESS Array S** baz=21	**1.77**	**207**	SN	**Sb**	**11 41 32.1**	**-0.2**
FIA0				PG	**Pg**	**11 41 14.6**	**+0.2**
FINES	**FINESS Array B** comp=Z,0.3nm,0.3s,baz=24,slow=16,SNR=16	**1.77**	**207**	SG	**Sg**	**11 41 38.9**	**+1.6**
FINES	comp=Z,1.2nm,0.3s,baz=26,slow=28,SNR=19			Pg	**Pg**	**11 41 14.6**	**+0.2**
OUF	**Merijarvi** baz=130	**1.91**	**316**	Lg	Lg	11 41 39.4	
OUF	comp=Z,6.8nm,0.2s			PG	**Pn**	**11 41 14.0**	**-0.3**
OUF				MSG		11 41 35.7	
VAF	**Ylistaro**	**2.32**	**273**	SG	**Sg**	**11 41 21.9**	**-1.3**
VAF	comp=Z,6.3nm,0.2s			PG	**Pb**	**11 41 49.9**	
VJF	**Virojoki**	**2.49**	**182**	SG	**Sb**	**11 41 53.0**	**+0.6**
VJF	comp=Z,3.2nm,0.2s			PG	**Pg**	**11 41 28.7**	**+0.4**
VJF				MSG		11 41 58.0	
BURU	**Burvik**	**3.24**	**302**	P	**Pn**	**11 41 33.6**	**+1.1**
BURU				S	**Sn**	**11 42 12.2**	**+0.4**
BURU	**Burvik**	**3.24**	**302**	PG	**Pb**	**11 41 37.3**	**-1.5**
MEF	**Metsahovi**	**3.24**	**211**	PN	**Pn**	**11 41 32.3**	**-0.3**
OLKF	**Oulanka, Finla**	**3.39**	**11**	PB	**Pn**	**11 41 36.4**	**+1.9**
OLKF				SB	**Sn**	**11 42 19.2**	**+3.8**
TOF	**Tornio**	**3.41**	**336**	PB	**Pn**	**11 41 37.7**	**+2.8**
KALU	**Kalix**	**3.43**	**328**	PB	**Pn**	**11 41 37.6**	**+2.5**
ODEU	**Stanfors**	**3.43**	**297**	P	**Pn**	**11 41 36.2**	**+1.0**
RNF	**Rovaniemi**	**3.68**	**349**	PB	**Pb**	**11 41 42.8**	**-3.5**
ARBE	**Arbavere**	**3.70**	**194**	PG	**Pb**	**11 41 47.5**	**+0.9**
LILU	**Lilltraesk**	**4.14**	**307**	P	**Pn**	**11 41 46.1**	**+1.1**
LILU				S	**Sn**	**11 42 34.8**	**+0.7**
SGF	**Sodankyl**	**4.47**	**354**	PN	**Pn**	**11 41 51.0**	**+1.5**
HEMU	**Hemsoen**	**4.47**	**270**	PN	**Pn**	**11 41 50.5**	**+1.0**
PAJU	**Pajala**	**4.48**	**336**	P	**Pn**	**11 41 50.0**	**+0.5**
VRF	**Varrio**	**4.81**	**8**	PB	Pn	11 41 59.5	+5.4
DUNU	**Dundret**	**5.12**	**327**	P	**Pn**	**11 41 59.5**	**+1.2**
LANU	**Lannavaara**	**5.59**	**337**	P	**Pn**	**11 42 05.7**	**+0.9**
RATU	**Laukkulusp

ISC 13 12:11:53.6±1.1, 48°72'N±0'04×17°76'E±0'04, h9km±11km, n7, σ0§66/12, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.15**	**338**	*eP*		**Pg**		**12 11 56.2**	**-0.7**
JAVC				*eSG*		**Sg**		**12 11 59.7**	**+0.4**
SMOL	**Smolenice**	**0.30**	**227**	*eP*		**Pg**		**12 12 00.0**	**+0.5**
SMOL				*eSG*		**Sb**		**12 12 05.4**	**-0.7**
SMOL				*eLG*		Lg		12 12 07.8	
KOLL	**Kolacno**	**0.45**	**108**	*eP*		**Pg**		**12 12 02.0**	**-0.3**
KOLL				*eSG*		**Sg**		**12 12 08.8**	**+0.5**
MODS	**Modra-Piesok**	**0.47**	**223**	*eP*		**Pg**		**12 12 01.8**	**-0.9**
MODS				*eSG*		**Sg**		**12 12 09.8**	**+0.9**
MODS				*eLG*		Lg		12 12 12.1	
VYHS	**Vyhne**	**0.75**	**107**	*eP*		**Pb**		**12 12 08.7**	**-0.1**
VYHS				*eSG*		**Sb**		**12 12 19.3**	**+0.2**
VYHS				*eLG*		Lg		12 12 21.3	
VRAC	**Vranov**	**0.97**	**308**	*eP*		**Pg**		**12 12 12.3**	**+0.2**
MORC	**Moravsky Berou**	**1.07**	**353**	*eP*		**Pg**		**12 12 14.1**	**0.0**

*IDC **13** 12:29:08.3±1.6, 1°03N×125°40E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/44, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=116.2km s-min=22.9km az=66.0*
*DJA **13** 12:29:11.6±0.4, 1°N±7°×12°6E±°, h10km, M4.2/10, mb4.8/3, mB4.5/1, MLv3.9/10, Mw(mB)3.6/1*

ISC 13 12:29:14.1±1.3, 1°4N±0°1×126°19E±0°06, h54km, n12, σ1§45/13, mb3.7/4, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.31**	**116**	P		**Pn**		**12 29 35.4**	**-0.7**
TNTI				S		**Sn**		**12 29 53.1**	**+0.5**
KMSI	**Cibinong**	**2.34**	**251**	P		**Pn**		**12 29 49.9**	**-0.3**
GTOI	**Gorontalo**	**3.26**	**257**	P		**Pn**		**12 30 03.7**	**+0.9**
LUWI	**Luwuk**	**4.17**	**235**	P		**Pn**		**12 30 15.3**	**0.0**
MRSI	**Marisa**	**4.34**	**258**	P		**Pn**		**12 30 16.8**	**-0.8**
APSI	**Ampana**	**5.07**	**244**	P		**Pn**		**12 30 28.1**	**+0.5**
	0.2nm447nm44nm,1.3s								
MSAI	**Masohi**	**5.41**	**150**	P		**Pn**		**12 30 33.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.34**	**182**	P		**P**		**12 33 31.7**	**-3.5**
	0.1nm,0.3s,baz=19,slow=12,SNR=2.1								
WRA	**Warramunga Arr**	**22.62**	**160**	P		**P**		**12 34 09.3**	**-1.4**
	1.6nm,0.3s,baz=335,slow=11,SNR=38								
ASAR	**Alice Springs**	**25.98**	**164**	P		**P**		**12 34 43.5**	**+1.5**
	0.6nm,0.4s,baz=347,slow=11,SNR=11								
STKA	**Stephens Creek**	**36.13**	**157**	P		**P**		**12 36 12.3**	**+1.1**
	0.7nm,0.6s,baz=316,slow=10,SNR=4.4								
MKAR	**Makanchi Array**	**59.20**	**326**	P		**P**		**12 39 10.0**	**+0.2**
	0.2nm,0.3s,baz=119,slow=7.3,SNR=6.8								

*NEIC **13** 12:40:05.2±0.5, 18°5N±0°2×64°9W±0°1, h102km±10km, Error ellipse: s-maj=28.4km s-min=15.6km az=193.0*
*TRN **13** 12:40:05.8, 18°69N×65°01W, h21km, M3.9(RSPR)*
*RSPR **13** 12:40:06.8, 18°54N×64°99W, h97km±2km, MD2.9/4*

ISC 13 12:40:05.9±2.6, 18°5N±0°3×65°0W±0°2, h100km, n17, σ0§29/21, 5C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**0.36**	**239**	⇑*eP*		**Pn**		**12 40 20.8**	**0.0**
CUPR	**Culebra, Puert**	**0.36**	**239**	*eS*		**Sn**		**12 40 32.1**	**+0.2**
CUPR	**Culebra, Puert**	**0.36**	**239**			**Pn**		**12 40 20.8**	**0.0**
CUPR						**Sn**		**12 40 32.1**	**+0.2**
MTP	**Monte Pirata**	**0.69**	**235**	⇑*eP*		**Pn**		**12 40 23.1**	**-0.1**
MTP	**Monte Pirata**	**0.69**	**235**	⇑*eP*		**Pn**		**12 40 23.1**	**-0.1**
MTP				*eS*		**Sn**		**12 40 36.1**	**-0.1**
MTP	**Monte Pirata**	**0.69**	**235**			**Pn**		**12 40 23.1**	**-0.1**
MTP						**Sn**		**12 40 36.1**	**-0.1**
MTP	**Monte Pirata**	**0.69**	**235**	IAML				12 40 37.3	
	comp=E,59nm,0.2s								
MTP				IAML				12 40 38.3	
	comp=N,48nm,0.2s								
CBYP	**Canovanas**	**0.88**	**256**	⇓*eP*		**Pn**		**12 40 25.0**	**-0.1**
CBYP	**Canovanas**	**0.88**	**256**	⇓*eP*		**Pn**		**12 40 25.0**	**-0.1**
CBYP				*eS*		**Sn**		**12 40 38.9**	**-0.8**
CBYP	**Canovanas**	**0.88**	**256**			**Pn**		**12 40 25.0**	**-0.1**
CBYP	**Canovanas**	**0.88**	**256**			**Sn**		**12 40 39.8**	**+0.1**
HUMP	**Col San Antoni**	**0.92**	**248**	⇑*eP*		**Pn**		**12 40 25.9**	**+0.4**
HUMP	**Col San Antoni**	**0.92**	**248**	⇑*eP*		**Pn**		**12 40 25.9**	**+0.4**
HUMP				*eS*		**Sn**		**12 40 40.5**	**+0.3**
HUMP	**Col San Antoni**	**0.92**	**248**			**Pn**		**12 40 25.9**	**+0.4**
HUMP	**Col San Antoni**	**0.92**	**248**			**Sn**		**12 40 40.0**	**-0.2**
HUMP				IAML				12 40 41.0	
	comp=N,26nm,0.5s								
HUMP				IAML				12 40 44.9	
	comp=E,24nm,0.2s								
GCPR	**Guaynabo City**	**1.09**	**261**	Pn		**Pn**		**12 40 27.5**	**+0.2**
GCPR				IAML				12 41 01.5	
	comp=N,41nm,4.5s								
PDPR	**Patillas Dam,**	**1.12**	**245**	Pn		**Pn**		**12 40 27.7**	**+0.1**
PDPR				IAML				12 40 57.1	
	comp=E,46nm,1.0s								

IDC 13 12:44:05.1±5.4, 45°75N×152°69E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.3/45, mbtmp3.7/4, ML2.0/1, Error ellipse: s-maj=122.1km s-min=52.8km az=161.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**8.06**	**22**	Pn		Pn		12 46 03.2	-0.1
	0.1nm,0.3s,baz=207,slow=9.2,SNR=6.4								
YKA	**Yellowknife Ar**	**51.91**	**36**	P		P		12 53 15.0	0.0
	0.2nm,0.7s,baz=294,slow=6.9,SNR=3.7								
FINES	**FINESS Array B**	**64.82**	**335**	P		P		12 54 45.5	+0.3
	2.2nm,0.7s,baz=33,slow=7.3,SNR=5.9								
HFS	**Hagfors**	**69.29**	**339**	P		P		12 55 13.4	-0.3
	0.7nm,0.4s,baz=29,slow=6.8,SNR=7.3								

*INET **13** 13:20:28.9, 12°53N×87°85W, h28km, MW3.4*

SNET 13 13:20:28.4±0.8, 12°54N×87°92W, h38km±96km, ML3.8, 1C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.74**	**7**	*eP*		Pn		13 20 42.8	+0.2
CNCH				*eS*		Sn		13 20 53.8	+1.2
LCND	**La Caada**	**0.77**	**2**	⇓*eP*		Pn		13 20 43.0	+0.2
LCND				*eS*		Sn		13 20 54.1	+1.0
LCND				IAML				13 20 57.5	
	comp=Z,10µm,0.4s								
LCY	**Lacayo**	**0.95**	**338**	*eP*		Pn		13 20 45.9	+0.5
LCY				*eS*		Sn		13 20 58.6	+0.8
PACA	**Pacayal**	**1.01**	**337**	*eP*		Pn		13 20 46.9	+0.8
PACA				*eS*		Sn		13 21 00.0	+0.9
PACA				IAML				13 21 01.1	
	comp=Z,919nm,0.1s								
TECA	**Tecapa**	**1.11**	**329**	*eP*		Pn		13 20 48.0	+0.4
CNGN	**Cerro Negro**	**1.20**	**92**	*eP*		Pn		13 20 48.2	-0.5
LFRS	**El Faro**	**1.55**	**314**	⇑*eP*		Pn		13 20 53.8	+0.3
LBRS	**Las Brisas**	**1.62**	**318**	*eP*		Pn		13 20 54.8	+0.3
TGUH	**Tegucigalpa,Un**	**1.64**	**23**	⇓*iP*		Pn		13 20 55.0	+0.1

IDC 13 13:24:14.8±1.7, 14°75N×142°93E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/51, mbtmp3.6/5, Error ellipse: s-maj=182.4km s-min=21.7km az=110.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.50**	**194**	P		P		13 31 13.3	-0.2
	1.0nm,0.6s,baz=12,slow=8.6,SNR=18								
ASAR	**Alice Springs**	**39.19**	**193**	P		P		13 31 44.9	+0.1
	0.5nm,0.5s,baz=18,slow=12,SNR=21								
ILAR	**Eielson Array**	**68.33**	**26**	P		P		13 35 18.1	+0.4
	0.2nm,0.4s,baz=253,slow=5.7,SNR=7.2								
YKA	**Yellowknife Ar**	**82.69**	**27**	P		P		13 36 41.1	+0.9
	0.2nm,0.5s,baz=287,slow=4.7,SNR=2.6								
NVAR	**Mina Array Bea**	**87.66**	**51**	P		P		13 37 04.1	-1.8
	0.3nm,0.6s,baz=280,slow=5.4,SNR=3.3								

*BJI **13** 13:33:03.1±0.0, 36°47N×22°76E, h19km, mB5.1/11, mb4.5/23, Ms4.7/2, Ms7 4.4/2*
*IDC **13** 13:33:04.2±0.5, 36°47N×23°17E, h0km, mb4.3/30, mb1 4.3/39, mb1mx4.2/71, mbtmp4.2/39, ML3.9/9, MS3.8/23, Ms1 3.8/23, ms1mx3.5/57, Error ellipse: s-maj=12.2km s-min=10.5km az=165.0*
*ISK **13** 13:33:06.9, 36°49N×23°26E, h7km, ML4.3/38*
*MOS **13** 13:33:07.9±1.2, 36°41N±0.16E, h33km, mb4.7/20, Error ellipse: s-maj=8.0km s-min=4.0km az=78.4*
*MED_RC **13** 13:33:08.0±0.5, 36°43N×23°22E, h10km, MW4.6/10, Moment Tensor Solution. Mantle waves: s10,c13; Duration: 1§0 Moment tensor: Scale 10^15 Nm; Mrr 1.20±.55; Mθθ -3.69±.41; Mϕϕ 2.49±.44; Mrθ -6.23±1.33; Mrϕ 5.14±.54; Mθϕ -1.90±1.56; Best double couple: M=8.91000×10^15 NP1:ϕs162.00000°, δ42.00000°, λ172.00000°. NP2:ϕs257.00000°, δ85.00000°, λ48.00000°. Principal axes: T 8.8900, Plg36.0000°, Azm132.0000°; N 0.0500, Plg42.0000°, Azm262.0000°; P -8.9400, Plg27.0000°, Azm20.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*PDG **13** 13:33:08.4±0.5, 36°42N×23°17E, h26km, ML4.4/12 Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*ATH **13** 13:33:08.4, 36°43N×23°22E, h17km±3km, ML4.7/9, Error ellipse: s-maj=4.0km s-min=1.1km az=241.0*
*THE **13** 13:33:09.1, 36°40N×23°18E, h17km±1km, ML4.5/13, Error ellipse: s-maj=1.6km s-min=0.6km az=252.0*
*NEIC **13** 13:33:09.6, 36°44N×23°21E, h28km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 0.14; Mθθ -4.56; Mϕϕ 4.41; Mrθ -1.19; Mrϕ 2.08; Mθϕ -0.31; Fault plane solution: M=5.09000×10^15 NP1:ϕs57.13000°, δ86.74000°, λ-13.09000°. NP2:ϕs147.88000°, δ76.94000°, λ-176.65000°. Principal axes: T 4.9372, Plg7.0000°, Azm103.0000°; N 0.2999, Plg77.0000°, Azm223.0000°; P -5.2371, Plg12.0000°, Azm12.0000°;*
*DDA **13** 13:33:09.3, 36°57N×23°31E, h6km±1km, MW4.3*
*HLW **13** 13:33:09.1, 36°40N×23°76E, h16km±18km, Md4.3, Ml4.5*
*NEIC **13** 13:33:09.2±2.8, 36°39N±0°07×23°20E±0°06, h30km±4km, Error ellipse: s-maj=10.3km s-min=6.0km az=208.0*

ISC 13 13:33:08.0±0.5, 36°40N±0°02×23°19E±0°02, h25km±3km, n393, σ1§69/451, mb4.3/46, MS3.9/17, 22C-32D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTHA	**Kythira Island**	**0.17**	**217**	P		**Pb**		**13 33 13.8**	**+0.5**
KTHA				S		**Sb**		**13 33 16.2**	**-0.7**
KTHA				AML	AML			13 33 17.3	
KTHA				AML	AML			13 33 17.7	
KTHA	**Kythira Island**	**0.17**	**217**	P		**Pb**		**13 33 13.8**	**+0.5**
KTHA				S		**Sb**		**13 33 17.0**	**+0.1**
	528µm,0.4s								
KTHA	**Kythira Island**	**0.17**	**217**	PG		**Pb**		**13 33 13.3**	**0.0**
KTHA				SG		**Sb**		**13 33 16.8**	**-0.1**
KTHR	**Kythira**	**0.20**	**228**	P		**Pb**		**13 33 14.1**	**+0.5**
KTHR				S		**Sb**		**13 33 17.3**	**-0.2**
	266µm,0.4s								
VLI	**Veliai**	**0.38**	**328**	P		**Pb**		**13 33 16.4**	**+0.2**
VLI				S		**Sb**		**13 33 20.1**	**-1.7**
VLI				AML	AML			13 33 21.8	
VLI				AML	AML			13 33 22.4	
VLI	**Veliai**	**0.38**	**328**	P		**Pb**		**13 33 16.4**	**+0.2**
VLI				S		**Sb**		**13 33 21.5**	**-0.4**
	263µm,0.8s								
ANKY	**Antikythira Is**	**0.54**	**170**	P		**Pn**		**13 33 20.2**	**+0.2**
ANKY				S		**Sb**		**13 33 26.4**	**+0.3**
ANKY				AML	AML			13 33 29.3	
ANKY				AML	AML			13 33 30.2	
ANKY	**Antikythira Is**	**0.54**	**170**	P		**Pn**		**13 33 20.2**	**+0.2**
ANKY				S		**Sn**		**13 33 27.5**	**-0.8**
	103µm,0.4s								
KRND	**KRANIDI**	**0.99**	**358**	P		**Pb**		**13 33 26.8**	**+0.4**
KRND				S		**Sn**		**13 33 39.2**	**-0.3**
KRND				AML	AML			13 33 43.6	
	comp=E,41228µm,0.4s								
KRND				AML	AML			13 33 46.0	
	comp=N,26458µm,0.3s								
KRND	**KRANIDI**	**0.99**	**358**	P		**Pb**		**13 33 26.6**	**+0.2**
KRND				S		**Sn**		**13 33 41.9**	**+2.5**
	comp=N,17µm,0.6s								
MHLO	**Agia Marina, M**	**1.02**	**73**	P		**Pb**		**13 33 27.8**	**+0.9**
MHLO				S		**Sb**		**13 33 39.7**	**-0.2**
MHLO				AML	AML			13 33 43.2	
MHLO				AML	AML			13 33 45.2	
MHLO	**Agia Marina, M**	**1.02**	**73**	P		**Pb**		**13 33 28.1**	**+1.2**
MHLO				S		**Sn**		**13 33 42.1**	**+1.9**
	comp=N,117µm,0.5s								
MHLA	**Plaka, Milos I**	**1.05**	**70**	P		**Pb**		**13 33 27.9**	**+0.4**
MHLA				S		**Sb**		**13 33 40.4**	**-0.4**
MHLA				AML	AML			13 33 49.4	
	comp=E,65874µm,0.7s								
MHLA				AML	AML			13 33 56.3	
	comp=N,29806µm,0.5s								
IMMV	**Iera Moni Meta**	**1.13**	**145**	P		**Pb**		**13 33 29.6**	**+0.7**
IMMV				S		**Sb**		**13 33 44.1**	**+0.9**
IMMV				AML	AML			13 33 52.5	
	comp=N,55522µm,0.3s								
IMMV				AML	AML			13 33 54.9	
	comp=E,54389µm,0.4s								
IMMV	**Iera Moni Meta**	**1.13**	**145**	P		**Pb**		**13 33 29.4**	**+0.5**
IMMV				S		**Sb**		**13 33 44.3**	**+1.1**
	comp=E,30µm,0.6s								
IMMV	**Iera Moni Meta**	**1.13**	**145**	PN		**Pb**		**13 33 29.9**	**+1.0**
IMMV				SN		**Sb**		**13 33 46.7**	**+3.5**
EPID	**Epidavros**	**1.22**	**357**	P		**Pb**		**13 33 30.8**	**+0.4**
EPID	**Epidavros**	**1.22**	**357**	P		**Pb**		**13 33 30.4**	**+0.1**
KNDR	**Palaiochora Ch**	**1.23**	**161**	P		**Pb**		**13 33 30.6**	**+0.1**
KNDR				S		**Sb**		**13 33 47.6**	**+1.7**
	comp=E,12µm,0.3s								
KNDR	**Palaiochora Ch**	**1.23**	**161**	PN		**Pb**		**13 33 31.1**	**+0.6**
KNDR				SN		**Sb**		**13 33 49.6**	**+3.7**
ITM	**Ithomi**	**1.28**	**308**	P		**Pb**		**13 33 31.7**	**+0.3**
ITM				S		**Sb**		**13 33 49.1**	**+1.6**
ITM				AML	AML			13 33 55.2	
	comp=N,17111µm,0.7s								
ITM				AML	AML			13 33 55.2	
	comp=E,24328µm,0.8s								
ITM	**Ithomi**	**1.28**	**308**	P		**Pb**		**13 33 31.7**	**+0.3**
ITM				S		**Sb**		**13 33 48.5**	**+1.0**
	comp=E,12µm,1.0s								
ITM	**Ithomi**	**1.28**	**308**	PN		**Pb**		**13 33 31.9**	**+0.5**
ITM				SN		**Sb**		**13 33 50.3**	**+2.8**
ITM	**Ithomi**	**1.28**	**308**			**Pb**		**13 33 31.8**	**+0.3**
VAM	**Vamos**	**1.28**	**140**	P		**Pb**		**13 33 31.8**	**+0.4**
VAM				S		**Sb**		**13 33 47.5**	**0.0**
VAM				AML	AML			13 33 56.2	
	comp=N,39619µm,0.2s								
VAM				AML	AML			13 33 59.5	
	comp=E,39523µm,0.3s								
VAM	**Vamos**	**1.28**	**140**	P		**Pb**		**13 33 31.8**	**+0.4**
VAM				S		**Sb**		**13 33 48.0**	**+0.5**
	comp=E,20µm,0.4s								
VAM	**Vamos**	**1.28**	**140**	P		**Pb**		**13 33 31.8**	**+0.4**
VAM				S		**Sb**		**13 33 47.5**	**0.0**
PRNS	**Prines Rethymn**	**1.48**	**134**	P		**Pn**		**13 33 32.8**	**-0.2**
PRNS				S		**Sn**		**13 33 52.2**	**+0.6**
VLY	**Voula,Athens**	**1.53**	**18**	P		**Pn**		**13 33 34.4**	**+0.6**
VLY				S		**Sb**		**13 33 54.5**	**-0.1**
	comp=E,11µm,0.6s								
LOUT	**Loutraki**	**1.60**	**354**	P		**Pb**		**13 33 35.9**	**-1.0**
LOUT	**Loutraki**	**1.60**	**354**	P		**Pb**		**13 33 35.8**	**-1.0**
ATH	**Athens Observa**	**1.63**	**15**	P		**Pn**		**13 33 35.9**	**+0.8**
ATH	**Athens Observa**	**1.63**	**15**	P		**Pb**		**13 33 36.2**	**-1.1**
ATH	**Athens Observa**	**1.63**	**15**	P		**Pn**		**13 33 35.8**	**+0.8**
THAL	**Thalero**	**1.69**	**346**	P		**Pn**		**13 33 37.1**	**+1.2**
THAL	**Thalero**	**1.69**	**346**	P		**Pn**		**13 33 36.9**	**+1.0**
GVDS	**Gavdos**	**1.71**	**154**	PN		**Pb**		**13 33 39.2**	**+0.4**
GVD	**Gavdhos**	**1.72**	**155**	P		**Pb**		**13 33 39.5**	**+0.7**
GVD	**Gavdhos**	**1.72**	**155**	PN		**Pb**		**13 33 39.2**	**+0.4**
PTL	**Penteli**	**1.73**	**18**	P		**Pn**		**13 33 37.6**	**+1.0**
SAP3	**Santorini-Thir**	**1.74**	**88**	P		**Pb**		**13 33 39.0**	**-0.2**
THR5	**Thira Island,**	**1.74**	**89**	P		**Pb**		**13 33 38.6**	**-0.6**
THR5	**Thira Island,**	**1.74**	**89**	P		**Pb**		**13 33 38.8**	**-0.4**
THR9	**Santorini-Faro**	**1.75**	**91**	P		**Pb**		**13 33 39.2**	**-0.2**
VILL	**Villia**	**1.77**	**3**	P		**Pn**		**13 33 37.8**	**+0.7**
IDI	**Anoyia**	**1.77**	**128**	Pn		**Pn**		**13 33 38.2**	**+1.1**
	comp=E,142nm,0.3s,baz=282,slow=10,SNR=302								
IDI					Sn		**Sn**	**13 33 60.0**	**+1.2**
	comp=E,455nm,0.3s,baz=292,slow=17,SNR=10								
IDI					LR		LR	13 34 09.6	
	comp=E,446nm,22.0s,baz=232,slow=36								
IDI	**Anoyia**	**1.77**	**128**	P		**Pb**		**13 33 38.9**	**-0.8**
IDI	**Anoyia**	**1.77**	**128**	P		**Pn**		**13 33 37.8**	**+0.8**
IDI	**Anoyia**	**1.77**	**128**	⇑P		**Pn**		**13 33 37.9**	**+0.8**
IDI				⇑S		**Sb**		**13 34 01.0**	**-0.5**
IDI	**Anoyia**	**1.77**	**128**	PN		**Pn**		**13 33 38.1**	**+1.1**
IDI	**Anoyia**	**1.77**	**128**			**Pn**		**13 33 37.8**	**+0.8**
DION	**Dionisos Attik**	**1.78**	**19**	P		**Pn**		**13 33 38.2**	**+1.0**
DION				S		**Sb**		**13 34 00.7**	**-1.1**
	comp=E,9µm,0.6s								
THT2	**Imerovigli**	**1.80**	**88**	P		**Pb**		**13 33 39.9**	**-0.4**
THT2	**Imerovigli**	**1.80**	**88**	PN		**Pn**		**13 33 38.8**	**+1.4**
VIL2	**Platees**	**1.81**	**2**	P		**Pn**		**13 33 37.9**	**+0.2**
SANT	**Santorini**	**1.83**	**90**	P		**Pn**		**13 33 39.7**	**-1.1**
SANT	**Santorini**	**1.83**	**90**	⇑P		**Pb**		**13 33 39.9**	**-0.9**
SANT	**Santorini**	**1.83**	**90**	PN		**Pn**		**13 33 39.2**	**+1.3**
SANT	**Santorini**	**1.83**	**90**	*iP*		**Pn**		**13 33 39.7**	**-1.1**
SANT				*iS*		**Sb**		**13 34 05.3**	**+2.0**
SANT	**Santorini**	**1.83**	**90**			**Pn**		**13 33 39.7**	**-1.1**
KLV	**Kalavryta, Ach**	**1.84**	**333**	P		**Pn**		**13 33 39.3**	**+1.1**
KLV	**Kalavryta, Ach**	**1.84**	**333**	P		**Pn**		**13 33 39.2**	**+1.1**
IACM	**Heraklion**	**1.88**	**125**	P		**Pb**		**13 33 40.6**	**-0.9**
HRKL	**Herakleio**	**1.89**	**124**	P		**Pb**		**13 33 40.5**	**-1.3**
HRKL	**Herakleio**	**1.89**	**124**	PN		**Pb**		**13 33 40.4**	**-1.3**
SIVA	**Sivas**	**1.90**	**136**	P		**Pb**		**13 33 41.7**	**-0.3**
SIVA	**Sivas**	**1.90**	**136**	P		**Pb**		**13 33 41.7**	**-0.3**
KARY	**Karystos**	**1.91**	**31**	P		**Pn**		**13 33 40.2**	**+1.2**
KARY	**Karystos**	**1.91**	**31**	P		**Pn**		**13 33 40.2**	**+1.2**
KARY				S		**Sn**		**13 34 03.5**	**+1.2**
	comp=E,4µm,1.0s								
APE	**Apeiranthos**	**2.00**	**70**	PN		**Pn**		**13 33 40.9**	**+0.7**
APE	**Apeiranthos**	**2.00**	**70**	*iP*		**Pn**		**13 33 41.8**	**+1.6**
APE	**Apeiranthos**	**2.00**	**70**	*iP*		**Pn**		**13 33 41.4**	**+1.2**
APE				S		**Sn**		**13 34 05.5**	**+1.1**
DSF	**Desfina**	**2.08**	**345**	P		**Pn**		**13 33 42.2**	**+0.8**
LAST	**Lasithi**	**2.23**	**123**	P		**Pn**		**13 33 45.2**	**+1.8**
LKR	**Lokris**	**2.26**	**356**	P		**Pn**		**13 33 44.6**	**+0.9**
KYMI	**Kymi, Euboea I**	**2.35**	**18**	P		**Pn**		**13 33 46.3**	**+1.3**
SKY	**Skiros Island**	**2.70**	**23**	P		**Pn**		**13 33 50.9**	**+1.1**
AGG	**Agios Georgios**	**2.71**	**346**	PN		**Pn**		**13 33 51.6**	**+1.7**
AGG	**Agios Georgios**	**2.71**	**346**	*iP*		**Pn**		**13 33 51.4**	**+1.4**
AGG				*iS*		**Sb**		**13 34 30.8**	**+2.3**
AGG	**Agios Georgios**	**2.71**	**346**	P		**Pn**		**13 33 51.7**	**+1.7**
AGG	**Agios Georgios**	**2.71**	**346**	PN		**Pn**		**13 33 51.7**	**+1.7**
ZKR	**Zakros**	**2.77**	**117**	PN		**Pn**		**13 33 53.3**	**+2.5**
CHOS	**Chios island**	**3.02**	**48**	PN		**Pn**		**13 33 55.7**	**+1.3**
KOSK	**Kos Island**	**3.07**	**82**	PN		**Pn**		**13 33 56.0**	**+1.1**
NIS1	**Nisyros Isl.**	**3.22**	**85**	PN		**Pn**		**13 33 58.9**	**+1.9**
KARP	**Karpathos**	**3.33**	**104**	PN		**Pn**		**13 34 01.1**	**+2.6**
KARP	**Karpathos**	**3.33**	**104**	Pn		**Pn**		**13 34 00.9**	**+2.4**
URLA	**Izmir**	**3.35**	**53**	PN		**Pn**		**13 33 59.1**	**+0.4**
URLA	**Izmir**	**3.35**	**53**	*iP*		**Pn**		**13 33 59.1**	**+0.4**
URLA				*iS*		**Sn**		**13 34 37.3**	**-0.4**
BODT	**Bodrum**	**3.38**	**77**	PN		**Pn**		**13 34 00.7**	**+1.6**
DGB	**zmir**	**3.38**	**60**	*iP*		**Pn**		**13 34 00.5**	**+1.4**
DGB				*iS*		**Sn**		**13 34 36.2**	**-2.1**
KRBN	**Karaburun**	**3.46**	**50**	PN		**Pn**		**13 34 00.3**	**+0.1**
BDRM	**Kayabasi**	**3.48**	**78**	*iP*		**Pn**		**13 34 03.3**	**+2.7**
GCAM	**G?zelcaml?**	**3.48**	**67**	PN		**Pn**		**13 34 02.9**	**+2.3**
SIGR	**SIGRI**	**3.51**	**36**	PN		**Pn**		**13 34 01.6**	**+0.6**
BLCB	**Balcova**	**3.65**	**56**	PN		**Pn**		**13 34 04.5**	**+1.6**
LIT	**Litokhoron**	**3.74**	**352**	*iP*		**Pn**		**13 34 05.5**	**+1.3**
LIT	**Litokhoron**	**3.74**	**352**	P		**Pn**		**13 34 06.2**	**+2.1**
LIT	**Litokhoron**	**3.74**	**352**			**Pn**		**13 34 06.2**	**+2.1**
KOCA	**Canakkale, Ayv**	**3.88**	**36**	*iP*		**Pn**		**13 34 07.2**	**+1.2**
DKL	**Dikili**	**3.97**	**47**	PN		**Pn**		**13 34 08.1**	**+0.8**
OUR	**Ouranopolis**	**3.98**	**9**	PN		**Pn**		**13 34 08.5**	**+1.1**
ARG	**Arkhangelos**	**3.99**	**91**	PN		**Pn**		**13 34 09.9**	**+2.4**
AYVA	**Ayvalik**	**4.01**	**43**	*iP*		**Pn**		**13 34 09.0**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**4.06**	**66**	PN		**Pn**		**13 34 10.1**	**+1.5**
TURN	**Turunc**	**4.08**	**83**	PN		**Pn**		**13 34 10.1**	**+1.3**
BOZC	**Bozcaada**	**4.11**	**32**	PN		**Pn**		**13 34 10.1**	**+0.9**
BOZC	**Bozcaada**	**4.11**

PLE Pljevlja 7.52 338 ⇓*i*Pn **Pn** 13 34 57.9 +1.8
PLE *i* Sn **Sn** 13 36 19.6 -0.9
UPM Unac-Piva 7.55 335 *e*Pn **Pn** 13 34 58.7 +2.0
UPM Unac-Piva 7.55 335 ⇓*i*Pn **Pn** 13 34 58.7 +2.0
UPM *i* Sn **Sn** 13 36 20.7 -0.9
STON Ston 7.73 328 *e*Pn **Pn** 13 34 58.0 -0.9
STON Sn **Sn** 13 36 19.8 -5.8
RUDO Rudo 7.79 339 *e*Pn **Pn** 13 34 59.6 -0.1
SGRT San Giovanni R 7.88 315 **Pn** 13 35 02.0 +0.9
BBLS Lazići 8.00 340 *e*Pn **Pn** 13 35 03.2 +0.5
CORL Corleone 8.04 284 **Pn** 13 35 05.0 +1.9
DIVS Divibare 8.07 343 *e*Pn **Pn** 13 35 01.0 -2.7
PAOL Paolisi 8.18 307 **Pn** 13 35 08.1 +3.0
HAPS Han Pijesak,BI 8.34 338 *e*Pn **Pn** 13 35 07.3 0.0
MAKA Makarska 8.36 327 *i* Pn **Pn** 13 35 09.0 -0.5
MAKA Sn **Sn** 13 36 37.7 -3.3
MDVR Moldovita 8.45 353 ⇓P **Pn** 13 35 11.0 +2.1
ICOR Ion Corvin 8.48 23 ⇓P **Pn** 13 35 11.2 +2.1
RICI Ricice 8.48 329 *e*Pn **Pn** 13 35 09.0 -0.2
RICI Sn **Sn** 13 36 40.5 -3.5
HERR Herculane 8.50 356 ⇓P **Pn** 13 35 11.6 +2.2
HVAR Hvar 8.53 325 *e*Pn **Pn** 13 35 09.6 -0.3
TEKS Tekeris 8.61 342 *e*Pn **Pn** 13 35 09.8 -1.2
BR131 Keskin Array S 8.88 65 *de*P Pn 13 35 20.9 +6.0
BRTR Keskin Array B 8.88 65 Pn **Pn** 13 35 17.4 +2.5
comp=E,0.4nm,0.3s,baz=260,slow=14,SNR=53
BRTR LR LR 13 38 29.5
comp=E,141nm,21.2s,baz=264,slow=37
BRTR Keskin Array B 8.88 65 *i* P **Pn** 13 35 19.3 +4.4
BRTR pmax pmax
comp=Z,12nm,0.9s
MTUR Matau 8.93 9 ⇓P **Pn** 13 35 18.5 +3.1
TIRR Tirgusor 8.98 25 ⇑P **Pn** 13 35 17.3 +1.2
TIRR Tirgusor 8.98 25 P **Pn** 13 35 17.2 +1.2
TIRR Tirgusor 8.98 25 Pn **Pn** 13 35 17.1 +1.1
GZR Gura Zlata 8.99 358 ⇓P **Pn** 13 35 17.8 +1.5
ARR Arges 9.03 6 ⇑P **Pn** 13 35 18.3 +1.6
HARR Harsova 9.03 22 ⇓P **Pn** 13 35 18.2 +1.5
LOT Lotru 9.05 3 ⇓P **Pn** 13 35 18.8 +1.7
ISR Istrita 9.08 15 ⇑P **Pn** 13 35 20.2 +2.8
FRGS Fruska Gora 9.12 345 *e*Pn **Pn** 13 35 18.3 +0.3
INTR Introdacqua 9.13 311 Pn **Pn** 13 35 19.3 +1.1
VOIR 9.14 8 ⇑P **Pn** 13 35 19.8 +1.4
VOIR 9.14 8 P **Pn** 13 35 20.4 +2.1
MGRS Mrkonjic Grad 9.26 332 *e*Pn **Pn** 13 35 21.7 +1.7
ZIRJ Zirje 9.27 324 *i* Pn **Pn** 13 35 19.9 -0.1
BZS Buzias 9.29 353 ⇓P **Pn** 13 35 22.4 +2.1
MLR Muntele Rosu 9.32 12 Pn **Pn** 13 35 21.7 +0.8
comp=Z,0.5nm,0.3s,baz=208,slow=8.7,SNR=12
MLR LR LR 13 39 48.7
comp=Z,519nm,19.7s,baz=195,slow=44
MLR Muntele Rosu 9.32 12 ⇓P **Pn** 13 35 22.8 +2.0
MLR Muntele Rosu 9.32 12 Pn **Pn** 13 35 23.2 +2.4
TPGR Topolog 9.34 24 ⇓P **Pn** 13 35 22.3 +1.4
MORI Morici 9.40 325 *i* Pn **Pn** 13 35 23.1 +1.2
RYAN Fayoum 9.42 139 P **Pn** 13 35 22.4 +0.2
baz=141
RYAN S Sn 13 36 53.0 -14
baz=141
RYAN AMP 13 37 00.0
baz=141
BLY Banja Luka 9.51 333 *e*Pn **Pn** 13 35 25.2 +1.9
CFR Carcaliu 9.54 22 ⇓P **Pn** 13 35 25.0 +1.4
AQU L'Aquila 9.63 311 *e*Pn **Pn** 13 35 28.7 +3.7
KOT Kottamia 9.69 129 P **Pn** 13 35 24.8 -1.1
baz=131
KOT S Sn 13 37 00.2 -14
baz=131
DOPR Dopca 9.70 9 ⇑P **Pn** 13 35 28.3 +2.4
PLOR Plostina 9.80 14 ⇓P **Pn** 13 35 30.0 +2.8
DUGI Dugi Otok 9.81 323 *e*Pn **Pn** 13 35 28.1 +0.7
DUGI Sn **Sn** 13 37 11.6 -5.1
VRI Vrincioaia 9.83 15 ⇓P **Pn** 13 35 30.4 +2.7
HHAG Hagoal 9.85 128 P **Pn** 13 35 26.8 -1.2
baz=130
GLL Jalalah 9.87 131 P **Pn** 13 35 28.0 -0.2
baz=133
NRCA Norcia 10.08 313 **Pn** 13 35 34.5 +3.3
HFRF Wahat Farafira 10.19 153 P **Pn** 13 35 32.8 0.0
baz=156
NVLJ Novalja 10.32 325 *e*Pn **Pn** 13 35 33.1 -1.3
SUZ Suez 10.39 126 P **Pn** 13 35 35.2 -0.2
baz=128
DRGR 10.39 358 P **Pn** 13 35 38.4 +2.9
TESR Tescani 10.43 13 ⇑P **Pn** 13 35 38.9 +3.0
MMAI Mount Meron Ar 10.60 105 Pn **Pn** 13 35 36.8 -1.6
comp=Z,3.1nm,0.3s,baz=308,slow=13,SNR=10
MMAI Sn **Sn** 13 37 32.1 -4.2
comp=Z,12nm,0.3s,baz=295,slow=27,SNR=12
CRES Cresnjev 11.07 331 *e*Pn **Pn** 13 35 43.4 -1.3
KEST Kesra 11.23 271 Pn **Pn** 13 35 45.8 -1.2
comp=Z,0.1nm,0.3s,baz=56,slow=18,SNR=1.9
KEST LR LR 13 40 45.9
comp=Z,212nm,20.2s,baz=348,slow=41
BUR08 Bucovina Ar. S 11.34 7 Pn **Pn** 13 35 50.2 +1.8
CEY Cerknica 11.43 327 *e*Pn **Pn** 13 35 47.6 -2.0
GRB Gharib 11.46 132 P **Pn** 13 35 49.4 -0.7
baz=134
EIL Elat 11.93 121 Pn **Pn** 13 35 55.5 -1.0
comp=Z,1.9nm,0.3s,baz=216,slow=2.6,SNR=27
EIL Sn **Sn** 13 38 00.6 -8.1
comp=Z,4.6nm,0.3s,baz=17,slow=3.1,SNR=9.0
SOKA Soboth 11.95 332 *i* Pn **Pn** 13 35 57.5 +0.8
comp=Z,1.6nm,0.2s
SOKA Soboth 11.95 332 *i* Sn **Sn** 13 38 06.0 -3.2
comp=Z,2.6nm,0.5s
TR2 Tor 2 11.95 129 P **Pn** 13 35 55.4 -1.4
baz=130
OBKA Obir 12.00 330 *i* Pn **Pn** 13 35 59.9 +2.5
comp=Z,2.2nm,0.3s
OBKA Obir 12.00 330 *e*Sn **Sn** 13 38 07.2 -3.2
comp=Z,6.8nm,0.5s
HDK1 Dakhla 12.05 152 P **Pn** 13 35 57.9 -0.3
baz=154
HBST Basata 12.06 123 P **Pn** 13 35 57.5 -0.7
baz=124
UZH Uzhgorod 12.24 357 *e*P **Pn** 13 36 04.3 +3.6
ARSA Arzberg 12.25 335 *e*Pn **Pn** 13 36 01.8 +1.0
comp=Z,2.5nm,0.5s
KOLS Kolonicke sedl 12.55 357 *e*P **Pn** 13 36 08.4 +3.5
KOLS Kolonicke sedl 12.55 357 *e*PN **Pn** 13 36 08.4 +3.5
CONA Conrad Observa 12.73 337 *i* Pn **P** 13 36 14.4 -4.0
comp=Z,1.4nm,0.5s
MODS Modra-Piesok 12.74 342 *e*P **P** 13 36 18.6 +0.2
MODS Modra-Piesok 12.74 342 *e*PN **P** 13 36 18.6 +0.2
KBA Koelnbreinsper 12.95 329 *e*Pn **Pn** 13 36 13.1 +2.6
comp=Z,1.7nm,0.5s
KBA *e*Sn **Sn** 13 38 30.2 -3.6
comp=Z,1.6nm,0.3s
MOA Molln 13.21 333 *e*Pn **Pn** 13 36 16.3 +2.4
comp=Z,1.5nm,0.2s
SALO Salr 13.27 318 **Pn** 13 36 16.8 +2.1
LVV L'vov 13.43 2 *e*P **P** 13 36 30.4 +4.4
ANN Anapa 13.68 48 *e*P **Pn** 13 36 19.6 -0.7
ANN pmax pmax
comp=Z,86nm,1.2s
VRAC Vranov 13.77 342 LR LR 13 42 52.0
comp=Z,328nm,20.6s,baz=170,slow=43
WTTA Wattenberg 13.84 325 *e*Pn **Pn** 13 36 24.2 +1.5
comp=Z,4.0nm,0.4s
WTTA *e*Sn **Sn** 13 38 52.6 -3.1
comp=Z,4.8nm,0.4s
WATA Walderalm 13.92 325 *i* Pn **P** 13 36 27.9 -3.8
comp=Z,4.6nm,0.5s
SQTA Sankt Quirin 14.01 324 *e*Pn **P** 13 36 32.0 -0.6
comp=Z,4.5nm,0.4s
SQTA *e*Sn **Sn** 13 38 57.6 -2.0
comp=Z,6.9nm,0.5s
FETA Feichten 14.10 323 *e*Pn **Pn** 13 36 28.3 +2.1
comp=Z,2.5nm,0.6s
FETA *i* Sn **Sn** 13 39 02.1 +0.2
comp=Z,1.6nm,0.2s
MOTA Moosalm 14.15 324 *i* Pn **Pn** 13 36 28.8 +1.9
comp=Z,2.2nm,0.4s
MOTA *e*Sn **Sn** 13 38 59.4 -3.6
comp=Z,5.8nm,0.5s
GERES GERESS Array B 14.25 334 Pn **Pn** 13 36 28.4 +0.2
comp=Z,0.3nm,0.3s,baz=146,slow=14,SNR=5.0
GERES LR LR 13 42 21.0
comp=Z,265nm,19.7s,baz=151,slow=39
DAVOX Davos/Dischmat 14.36 320 Pn **Pn** 13 36 29.7 -0.1
comp=Z,0.2nm,0.3s,baz=144,slow=19,SNR=1.2
DAVOX LR LR 13 43 02.5
comp=Z,255nm,18.4s,baz=38,slow=42

KHC Kasperske Hory 14.54 334 ⇑*e*P **Pn** 13 36 34.3 +2.3
KHC Kasperske Hory 14.54 334 *e*P **Pn** 13 36 31.5 -0.5
KHC *ex* x 13 36 35.0
SOC Sochi 14.55 55 *e*P **Pn** 13 36 32.3 +0.2
SOC *e* 13 39 16.1
SOC MLR MLR
comp=Z,105nm,14.0s
DAVA Damuels 14.70 322 *i* Sn **Sn** 13 39 14.6 -1.9
comp=Z,3.6nm,0.4s
AKASG Malin Array Be 14.95 15 Pn **Pn** 13 36 36.5 -1.0
comp=Z,1.0nm,0.3s,baz=202,slow=12,SNR=16
AKASG LR LR 13 42 49.6
comp=Z,176nm,19.6s,baz=330,slow=39
AKBB Malin Array Si 14.95 15 P **Pn** 13 36 36.8 -0.7
AKBB Malin Array Si 14.95 15 Pn **Pn** 13 36 36.8 -0.7
NKC Novy Kostel 15.86 334 *e*P **P** 13 36 53.3 +0.2
NKC Novy Kostel 15.86 334 *e*P **P** 13 36 53.3 +0.2
BRG Berggiesshubel 15.93 338 *i* P **P** 13 36 54.8 +1.1
BRG Amp 13 36 56.3
comp=Z,6.4nm,1.0s
BRG *i* x x 13 37 05.2
BRG Amp 13 37 06.2
comp=Z,22nm,0.9s
NEY Neytrino 16.47 59 ⇑*e*P **P** 13 37 01.8 +1.7
NEY pmax pmax
comp=Z,2.0nm,0.9s
CLL Collm 16.59 337 *i* pP **P** 13 37 02.6 +1.5
comp=Z,23nm,1.1s
CLL *e*PP **sP** 13 37 11.0 0.0
comp=Z,26nm,0.8s
CLL *i* sPPP 13 37 25.1
CLL LmV 13 43 00.0
comp=Z,300nm,20.4s
CLL Collm 16.59 337 *i* P **P** 13 37 02.6 +1.5
CLL pmax pmax
comp=Z,23nm,1.1s
KIV Kislovodsk 16.68 57 *e*P **P** 13 37 03.5 +1.3
KIV pmax pmax
comp=Z,52nm,1.1s
KIV MLR MLR
comp=Z,198nm,13.0s
KBZ Khabaz 16.75 58 Pn **P** 13 37 03.0 +0.1
comp=Z,0.5nm,0.3s,baz=256,slow=9.8,SNR=22
KBZ Khabaz 16.75 58 ⇑*e*P **P** 13 37 03.6 +0.8
KBZ pmax pmax
comp=Z,20nm,0.9s
ONI Oni 16.80 62 P **P** 13 37 08.9 +5.3
ZEI Tsey 17.17 62 *e*P **P** 13 37 10.3 +2.5
ZEI pmax pmax
comp=Z,9.0nm,1.0s
WLF Walferdange 18.14 322 *d*Pn **P** 13 37 18.9 +0.7
MNK Minsk 18.40 9 *i* P **P** 13 37 19.0 -2.0
comp=E,5.0nm,1.8s
MNK *i* P **P** 13 37 19.0 -2.0
comp=N,61nm,2.2s
MNK *i* P **P** 13 37 19.0 -2.0
comp=Z,18nm,1.0s
MNK *i* PP **sP** 13 37 30.9 +0.2
MNK *i* PPP PPP 13 37 38.6
MNK *i* S **Sn** 13 40 46.0 +0.2
MNK *i* SS **SnSn** 13 41 02.8 +3.1
MNK *i* SSS SSS 13 41 14.9
MNK *i* PcP **PcP** 13 41 48.6 -2.4
MNK *i* LQ LQ 13 42 51.8
MNK *i* LR LR 13 44 14.8
MNK *i* LRM MLR 13 46 12.9
comp=Z,198nm,10.8s
MNK *i* LRM MLR 13 46 15.5
comp=N,211nm,11.4s
MNK *i* LRM MLR 13 46 16.7
comp=E,42nm,11.8s
VORD Divnogorie 18.59 33 *e*P **Pn** 13 37 24.7 +1.3
VORD pmax pmax
comp=Z,20nm,1.0s
NACGM Naroch 18.67 6 *i* P **P** 13 37 21.5 -2.5
NACGM *i* P **P** 13 37 21.5 -2.5
NACGM *i* P **P** 13 37 21.5 -2.5
NACGM *i* PP **pP** 13 37 29.5 -1.1
NACGM *i* S Sn 13 40 10.1 -42
NACGM *i* SS S 13 40 31.9 -23
NACGM *i* LR LR 13 42 55.9
VSR Storozhevoye 18.71 33 *e*P **Pn** 13 37 25.6 +0.7
VSR pmax pmax
comp=Z,30nm,1.3s
BTNL Ternell 18.76 324 *d*Pn **Pn** 13 37 28.2 +2.6
MEM Membach 18.83 324 *d*Pn **Pn** 13 37 27.7 +1.2
DOU Dourbes 19.19 321 *d*Pn **Pn** 13 37 32.0 +1.2
BMRD Maredsous 19.23 322 *dx* x 13 37 41.4
LPSR Galich'ya Gora 19.64 29 *e*P **Pn** 13 37 36.2 +0.1
LPSR pmax pmax
comp=Z,50nm,0.9s
VRH Novokhopyorsk 19.86 36 *e*P **P** 13 37 37.0 -0.1
VRH pmax pmax
comp=Z,40nm,1.2s
MFF Saint Martin d 20.17 308 *e*P Pn 13 37 41.8 -0.6
MFF pmax pmax
comp=Z,102nm,2.0s
OBN Obninsk 20.85 22 *e*P **P** 13 37 47.5 -0.2
OBN *e* 13 38 09.0
OBN *e*PPP PPP 13 38 15.0
OBN *e*SS Sn 13 42 09.4 +25
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,237nm,18.0s
ESDC Sonseca Array 21.61 287 P **P** 13 37 56.9 +0.8
comp=Z,4.0nm,0.9s,baz=82,slow=9.8,SNR=14
ESDC LR LR 13 46 34.1
comp=Z,145nm,18.9s,baz=30,slow=38
MOS Moscow 21.70 22 *e*P **P** 13 37 55.9 -1.0
MOS pmax pmax
comp=Z,44nm,1.0s
VSU Vasula 22.20 5 ⇓*e*P **P** 13 38 05.2 +3.0
VSU pmax pmax
comp=Z,8.0nm,0.6s
MDT Midelt 23.13 269 P **P** 13 38 12.7 +0.3
comp=Z,2.0nm,0.8s,baz=63,slow=6.8,SNR=2.1
RAYN Ar Rayn 23.13 118 P **P** 13 38 12.0 -0.4
RAYN pmax pmax
comp=Z,10.0nm,1.0s
RAYN Ar Rayn 23.13 118 P **P** 13 38 12.0 -0.4
RAYN lAmb lAmb 13 38 24.8
comp=Z,10.0nm,1.0s
BELG Belogornoye 23.51 39 P **P** 13 38 14.9 -0.9
comp=Z,15nm,0.6s,baz=268,slow=6.3,SNR=4.7
BELG Belogornoye 23.51 39 ⇓*e*P **P** 13 38 16.6 +0.8
BELG pmax pmax
comp=Z,4.0nm,1.0s
HFS Hagfors 24.53 349 P **P** 13 38 24.3 -1.0
comp=Z,6.9nm,0.5s,baz=149,slow=12,SNR=47
HFS LR LR 13 49 30.9
comp=Z,330nm,20.2s,baz=158,slow=40
FINES FINESS Array B 25.14 3 P **P** 13 38 28.8 -2.0
comp=Z,2.5nm,0.5s,baz=148,slow=11,SNR=15
FINES PcP **PcP** 13 42 04.0 -0.2
comp=Z,0.8nm,0.4s,baz=163,slow=2.0,SNR=3.3
FINES LR LR 13 49 41.5
comp=Z,476nm,20.0s,baz=205,slow=40
FINES FINESS Array B 25.14 3 *i* P **P** 13 38 33.5 +2.8
FINES pmax pmax
comp=Z,1.0nm,0.3s
NC602 NORSAR Array S 25.47 347 P **P** 13 38 33.1 -0.6
NB2 NORSAR Subarra 25.81 347 P **P** 13 38 36.1 -0.9
comp=Z,15nm,1.4s,baz=159,slow=9.3
NOA NORSAR Array B 25.81 347 P **P** 13 38 34.6 -2.4
comp=Z,0.5nm,0.3s,baz=97,slow=5.7,SNR=26
NOA LR LR 13 50 05.6
comp=Z,147nm,19.0s,baz=160,slow=40
EKA Eskdalemuir Ar 26.11 325 P **P** 13 38 38.7 -1.0
comp=Z,17nm,0.8s,baz=123,slow=9.4,SNR=35
KLMR Klimovskoe 26.59 18 *e*P **P** 13 38 42.8 -1.2
KLMR pmax pmax
comp=Z,25nm,1.4s
KLMR Klimovskoe 26.59 18 *e*P **P** 13 38 42.8 -1.2
KLMR AMP 13 38 52.3
comp=Z,25nm,1.4s
GEYT Alibeck 27.78 76 P **P** 13 38 54.7 -0.2
comp=Z,4.0nm,0.6s,baz=311,slow=9.7,SNR=4.7
AKTO Aktyubinsk 28.63 50 P **P** 13 39 01.8 -0.5
comp=Z,1.8nm,0.7s,baz=241,slow=3.8,SNR=6.6
AKTO LR LR 13 54 31.0
comp=Z,250nm,18.6s,baz=313,slow=45
TOA0 Torodi Ar. Sit 30.14 225 P **P** 13 39 15.4 -0.6
TORD Torodi Ar. Bea 30.14 225 P **P** 13 39 16.2 +0.3
comp=Z,1.7nm,0.6s,baz=38,slow=9.7,SNR=14

KOWA Kowa 32.65 235 P **P** 13 39 37.5 -0.7
comp=Z,1.9nm,0.5s,baz=35,slow=8.0,SNR=4.3
ARCES ARCESS Array B 33.22 1 P **P** 13 39 40.3 -2.3
comp=Z,9.5nm,1.1s,baz=185,slow=9.8,SNR=3.2
ARCES LR LR 13 53 21.4
comp=Z,382nm,18.9s,baz=200,slow=37
KK31 Karatay Array 36.60 65 P **P** 13 40 12.4 +0.3
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KK31 Karatay Array 36.60 65 P **P** 13 40 12.4 +0.3
KK31 lAmb lAmb 13 40 13.4
comp=Z,5.6nm,0.6s
KKAR Karatay Array 36.60 65 P **P** 13 40 12.4 +0.3
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 36.60 65 P **P** 13 40 12.4 +0.3
KKAR lAmb lAmb 13 40 13.4
comp=Z,5.6nm,0.6s
KKAR Karatay Array 36.60 65 P **P** 13 40 12.0 0.0
BRVK Borovoye 36.62 48 *ce*P **P** 13 40 12.4 +0.3
BRVK pmax pmax
comp=Z,18nm,2.5s
BRVK Borovoye 36.62 48 P **P** 13 40 12.0 -0.1
BRVK lAmb lAmb 13 40 13.1
comp=Z,5.3nm,0.6s
BVAR Borovoye Array 36.68 48 P **P** 13 40 12.3 -0.3
comp=Z,1.6nm,0.6s,baz=207,slow=15,SNR=12
DBIC Dimbokro 39.15 228 P **P** 13 40 33.6 -0.2
comp=Z,1.2nm,0.3s,baz=176,slow=0.0,SNR=6.2
DBIC Dimbokro 39.15 228 P **P** 13 40 33.6 -0.2
DBIC pmax pmax
comp=Z,15nm,1.4s
DBIC Dimbokro 39.15 228 lAmb lAmb 13 40 42.3
comp=Z,15nm,1.4s
KMBO Kilima Mbogo 39.56 158 LR LR 13 58 01.3
comp=Z,69nm,19.8s,baz=88,slow=38
AAK Ala-Archa 39.56 65 P **P** 13 40 37.6 +0.3
comp=Z,3.9nm,0.8s,baz=207,slow=7.8,SNR=9.7
AAK Ala-Archa 39.56 65 ⇓*e*P **P** 13 40 37.9 +0.7
AAK pmax pmax
comp=Z,15nm,1.0s
AAK Ala-Archa 39.56 65 P **P** 13 40 37.5 +0.3
KURBB Kurchatov Arra 41.61 52 P **P** 13 40 53.6 -0.2
comp=Z,12nm,0.7s,baz=281,slow=8.6,SNR=49
KURBB PP **PnPn** 13 42 35.5 +0.7
comp=Z,0.9nm,0.3s,baz=278,slow=9.5,SNR=4.1
KURK Kurchatov 41.66 52 P **P** 13 40 53.6 -0.6
KURK Kurchatov 41.66 52 P **P** 13 40 53.6 -0.6
DBG Daneborg 43.28 344 *i* P **P** 13 41 10.2 +3.1
DBG lAmb lAmb 13 41 10.8
comp=Z,3.4nm,1.1s
MAKZ Makanchi 44.23 57 P **P** 13 41 14.9 -0.2
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 44.23 57 P **P** 13 41 14.9 -0.2
MAKZ lAmb lAmb 13 41 15.5
comp=Z,4.1nm,0.8s
MK31 Makanchi Array 44.44 57 P **P** 13 41 17.0 +0.2
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 44.44 57 P **P** 13 41 17.0 +0.2
MK31 lAmb lAmb 13 41 17.6
comp=Z,8.3nm,0.7s
MKAR Makanchi Array 44.44 57 P **P** 13 41 16.7 -0.2
comp=Z,5.9nm,0.5s,baz=284,slow=6.7,SNR=112
MKAR LR LR 14 02 11.7
comp=Z,223nm,18.1s,baz=312,slow=39
MKAR Makanchi Array 44.44 57 P **P** 13 41 16.9 +0.1
MKAR Makanchi Array 44.44 57 P **P** 13 41 16.9 +0.1
DAG Danmarks Havn 44.49 347 *i* P **P** 13 41 17.5 +0.8
comp=Z,3.4nm,0.7s
DAG Danmarks Havn 44.49 347 *i* P **P** 13 41 17.5 +0.8
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 44.49 347 *i* P **P** 13 41 17.6 +0.8
DAG lAmb lAmb 13 41 18.3
comp=Z,3.4nm,0.7s
ZAA0 Zalesovo Array 45.32 47 P **P** 13 41 23.0 -0.7
ZALV Zalesovo Beam 45.32 47 P **P** 13 41 23.1 -0.5
comp=Z,11nm,0.4s,baz=268,slow=9.5,SNR=69
ZALV LR LR 14 03 52.0
comp=Z,139nm,18.2s,baz=309,slow=41
ZALV Zalesovo Beam 45.32 47 P **P** 13 41 22.9 -0.8
SUMG Summit 47.25 339 *i* P **P** 13 41 40.5 +1.4
comp=Z,13nm,1.1s
SUMG Summit 47.25 339 *i* P **P** 13 41 40.5 +1.4
SUMG pmax pmax
comp=Z,13nm,1.1s
SUMG Summit 47.25 339 *i* P **P** 13 41 40.5 +1.4
SUMG lAmb lAmb 13 41 42.8
comp=Z,13nm,1.1s
DGZ Jazzator, Alta 47.39 53 ⇑*e*P **P** 13 41 40.1 -0.1
DGZ pmax pmax
comp=Z,3.0nm,0.9s
WMQ Urumqi 48.77 60 *e*P **P** 13 41 54.0 +3.1
LSZ Lusaka 51.61 174 LR LR 14 07 14.6
comp=Z,60nm,19.0s,baz=55,slow=40
TSUM Tsumeb 55.55 186 LR LR 14 08 45.3
comp=Z,104nm,18.6s,baz=336,slow=38
MATP Matopo 56.73 174 LR LR 14 07 17.5
comp=Z,57nm,19.0s,baz=6.5,slow=36
FRB Frobisher Bay 58.78 329 P **P** 13 43 03.0 -0.6
comp=Z,1.1nm,0.4s,baz=65,slow=2.7,SNR=3.4
GTA Gaotai 58.79 62 ⇑P **P** 13 43 04.5 +0.2
GTA pP sP 13 43 14.4 -0.2
GTA sP pP 13 43 19.1 +7.4
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA LR LR
comp=Z,150nm,18.2s
GTA LR LR
comp=Z,160nm,18.5s
GTA LR LR
comp=Z,190nm,17.1s
SONM Songino Array 59.94 51 P **P** 13 43 11.5 -0.6
comp=Z,1.2nm,0.7s,baz=284,slow=7.8,SNR=8.0
SONM Songino Array 59.94 51 P **P** 13 43 11.5 -0.6
SONM pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 59.94 51 lAmb lAmb 13 43 13.1
comp=Z,2.1nm,1.2s
ULN Ulaanbaatar 60.34 50 ⇑*e*P **P** 13 43 15.3 +0.4
ULN pmax pmax
comp=Z,3.0nm,1.3s
RES Resolute Bay 62.06 345 P **P** 13 43 25.4 -0.4
comp=Z,0.7nm,0.4s,baz=35,slow=14,SNR=3.8
BOSA Boshof 64.69 178 P **P** 13 43 45.5 +1.5
comp=Z,2.3nm,1.0s,baz=11,slow=10,SNR=2.0
BOSA LR LR 14 12 14.7
comp=Z,72nm,20.2s,baz=358,slow=36
BOSA Boshof 64.69 178 P **P** 13 43 45.5 +1.5
BOSA pmax pmax
comp=Z,18nm,1.5s
HHC Hu-ho-hao-te 66.28 56 *e*P **P** 13 43 55.5 +1.2
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,170nm,7.5s
CMAR Chiang Mai Arr 68.01 83 P **P** 13 44 05.5 +0.1
comp=Z,1.0nm,0.8s,baz=303,slow=7.9,SNR=8.2
INK Inuvik 74.16 351 P **P** 13 44 42.0 +0.1
comp=Z,0.7nm,0.5s,baz=0.0,slow=4.0,SNR=1.9
INK Inuvik 74.16 351 P **P** 13 44 42.0 +0.1
INK pmax pmax
comp=Z,6.0nm,1.3s
INK Inuvik 74.16 351 lAmb lAmb 13 44 55.9
comp=Z,5.7nm,1.3s
YKA Yellowknife Ar 75.77 341 P **P** 13 44 51.4 +0.1
comp=Z,0.1nm,0.4s,baz=44,slow=5.9,SNR=3.8
USRK Ussuriysk Ar. 77.09 44 P **P** 13 44 58.6 -0.5
comp=Z,0.7nm,0.6s,baz=303,slow=4.7,SNR=2.7
KSRS Korea Array 78.79 52 P **P** 13 45 08.4 -0.2
comp=Z,1.3nm,0.8s,baz=308,slow=5.4,SNR=4.7
ILAR Eielson Array 78.86 356 P **P** 13 45 08.5 -0.1
comp=Z,0.6nm,0.8s,baz=348,slow=5.2,SNR=5.8
MJAR Matsushiro Arr 85.67 47 P **P** 13 45 44.3 -0.5
comp=Z,1.6nm,0.8s,baz=318,slow=7.5,SNR=4.5
MJAR Matsushiro Ar 85.67 47 P **P** 13 45 44.3 -0.5
MJAR pmax pmax
comp=Z,7.0nm,1.4s
MJAR Matsushiro Arr 85.67 47 lAmb lAmb 13 45 55.2
comp=Z,6.7nm,1.4s
NEW Newport 88.59 335 P **P** 13 45 59.2 +0.5
comp=Z,0.8nm,0.4s,baz=53,slow=10,SNR=1.8
NVAR Mina Array Bea 97.48 330 LR LR 14 31 28.4
comp=Z,58nm,20.6s,baz=358,slow=36

CPUP	**Villa Florida**	**98.13**	**243**	LR	LR	14 32 50.2	
	comp=Z,67nm,18.3s,baz=42,slow=36						
WRA	**Warramunga Arr**	**118.30**	**95**	PKP	**PKPdf**	**13 51 52.5**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=335,slow=1.6,SNR=2.1						
ASAR	**Alice Springs**	**119.83**	**99**	PKP	**PKPdf**	**13 51 56.3**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=331,slow=1.4,SNR=1.6						

IDC ***13*** *13:43:32.3±0.7, 40°.66N×69°.67E, h0km, mb3.9/16, mb1 4.0/23, mb1mx3.8/60, mbtmp3.9/23, ML3.6/7, Error ellipse: s-maj=14.9km s-min=8.4km az=162.0*

KRNET ***13*** *13:43:34.0±0.1, 40°.80N×69°.76E, mb4.4*

NNC ***13*** *13:43:34.1±1.5, 40°.77N×69°.61E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=10.9km s-min=6.7km az=31.0*

ISU ***13*** *13:43:34, 40°.78N×69°.68E, h10km*

MOS ***13*** *13:43:35.1±1.5, 40°.72N×69°.50E, h29km, mb4.7/5, Error ellipse: s-maj=8.8km s-min=5.9km az=81.9*

SOME ***13*** *13:43:35.0, 40°.82N×69°.90E, h0km*

NEIC ***13*** *13:43:37.7±2.4, 40°.84N±0°.05×69°.48E±0°.10, h34km±6km, mb4.5/11, Error ellipse: s-maj=10.5km s-min=8.0km az=93.0*

ISC 13 13:43:33.6±1.1, 40°.81N±0°.02×69°.69E±0°.02, h7km±7km, n161, σ2°30/209, mb4.1/24, 39C-23D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNGY	**Yangiyul**	**0.58**	**301**	*eP*	**Pg**	**13 43 45.0**	**+0.2**
YNGY				*eS*	**Sb**	**13 43 55.0**	**+0.4**
TAS	**Tashkent**	**0.59**	**330**	*eP*	**Pb**	**13 43 46.0**	**-0.4**
TAS				*eS*	**Sb**	**13 43 56.0**	**+0.9**
CHMG	**Chimgan**	**0.78**	**18**	*eP*	**Pg**	**13 43 49.0**	**+0.5**
CHMG				*eS*	**Sb**	**13 44 00.0**	**-0.4**
CHRV	**Charvak**	**0.85**	**13**	*eP*	**Pb**	**13 43 51.0**	**+0.2**
BTK	**Batken**	**1.14**	**131**	⇓*iP*	**Pg**	**13 43 55.1**	**-0.5**
	baz=32						
BTK				⇓*iS*	**Sg**	**13 44 10.0**	**-0.3**
	baz=32						
BTK	**Batken**	**1.14**	**131**	*eP*	**Pg**	**13 43 55.0**	**-0.5**
BTK				*eS*	**Sg**	**13 44 10.0**	**-0.3**
TRKS	**Terek-Say**	**1.31**	**56**	⇓*iP*	**Pg**	**13 43 58.1**	**-0.6**
	baz=58						
TRKS				⇓*iS*	**Sg**	**13 44 15.5**	**-0.1**
	baz=58						
IUG	**Iuzhnay**	**1.36**	**11**	*eP*	**Pb**	**13 44 01.7**	**+2.2**
	2μm,0.5s						
IUG				*eS*	**Sn**	**13 44 21.7**	**+4.2**
	2μm,0.8s						
IUG	**Iuzhnay**	**1.36**	**11**	P	**Pb**	**13 44 01.7**	**+2.2**
	2μm,0.5s						
IUG				S	**Sn**	**13 44 21.1**	**+3.6**
	2μm,0.8s						
IUG	**Iuzhnay**	**1.36**	**11**	*e*PG	**Pb**	**13 44 01.7**	**+2.2**
IUG				*eS*	**Sn**	**13 44 21.7**	**+4.2**
CHM	**Chimkent**	**1.51**	**357**	*eP*	**Pg**	**13 44 04.6**	**+2.1**
	28nm,0.2s						
CHM				*eS*	**Sn**	**13 44 26.6**	**+5.5**
	4μm,0.3s						
CHM	**Chimkent**	**1.51**	**357**	*e*PN	**Pg**	**13 44 04.6**	**+2.1**
CHM				*eS*	**Sn**	**13 44 26.6**	**+5.5**
FRG	**Fergana**	**1.59**	**92**	*eP*	**Pg**	**13 44 05.0**	**+0.9**
FRG				*eS*	**Sg**	**13 44 28.0**	**+3.3**
ANR	**Andizhan**	**2.02**	**91**	*i* P	**Pg**	**13 44 12.0**	**-0.4**
ANR				*i* S	**Sg**	**13 44 40.0**	**+1.3**
DRK	**Karamyk**	**2.09**	**129**	⇑*iP*	**Pb**	**13 44 12.1**	**0.0**
	baz=29						
DRK				⇑*iS*	**Sb**	**13 44 39.5**	**+1.1**
	baz=29						
BRLS	**Boroldaу**	**2.22**	**3**	*eP*	**Pn**	**13 44 11.4**	**+0.5**
	270nm,0.7s						
BRLS				*eS*	**Sn**	**13 44 38.0**	**-0.7**
	683nm,0.3s						
BRLS	**Boroldaу**	**2.22**	**3**	Pg	**Pn**	**13 44 11.4**	**+0.5**
	270nm,0.7s						
BRLS				Lg	Lg	13 44 38.0	
	683nm,0.3s						
BRLS	**Boroldaу**	**2.22**	**3**	*e*PN	**Pn**	**13 44 11.4**	**+0.5**
OHH	**Osh**	**2.37**	**96**	⇓*iP*	**Pn**	**13 44 15.1**	**+2.1**
	baz=96						
OHH				⇓*iS*	**Sb**	**13 44 45.4**	**-0.8**
	baz=96						
KK31	**Karatay Array**	**2.37**	**15**	⇑Pn	**Pn**	**13 44 15.0**	**+2.0**
	48nm,0.5s,baz=202,slow=16,SNR=827						
KK31				⇑Lg	Lg	13 44 50.3	
	189nm,0.4s,baz=196,slow=29,SNR=3.8						
KK31	**Karatay Array**	**2.37**	**15**	P*n*	**Pn**	**13 44 15.3**	**+2.3**
KK31	**Karatay Array**	**2.37**	**15**		**Pn**	**13 44 15.3**	**+2.3**
KKAR	**Karatay Array**	**2.37**	**15**	P*n*	**Pn**	**13 44 15.1**	**+2.1**
KKAR	**Karatay Array**	**2.37**	**15**		**Pn**	**13 44 14.5**	**+1.5**
KKAR	**Karatay Array**	**2.37**	**15**		**Pn**	**13 44 15.1**	**+2.1**
DZA	**Taraz**	**2.41**	**30**	*eP*	**Pg**	**13 44 19.8**	**0.0**
	308nm,0.4s						
DZA				*eS*	**Sg**	**13 44 52.5**	**+1.4**
	2μm,0.5s						
DZA	**Taraz**	**2.41**	**30**	Pg	**Pg**	**13 44 19.8**	**0.0**
	308nm,0.4s						
DZA				Lg	Lg	13 44 52.5	
	2μm,0.5s						
DZA	**Taraz**	**2.41**	**30**	*e*PN	**Pg**	**13 44 19.8**	**0.0**
DZA				*eS*	**Sg**	**13 44 52.5**	**+1.4**
ARSB	**Arslanbob**	**2.54**	**77**	⇑*iP*	**Pn**	**13 44 17.5**	**+2.1**
	baz=77						
ARSB				⇑*iS*	**Sb**	**13 44 49.7**	**-1.4**
	baz=77						
MNAS	**Manas**	**2.69**	**51**	⇑*iP*	**Pn**	**13 44 19.7**	**+2.2**
	baz=50						
MNAS				⇑*iS*	**Sb**	**13 44 54.2**	**-1.3**
	baz=50						
AML	**Almayashu**	**3.28**	**65**	⇑*iP*	**Pn**	**13 44 28.3**	**+2.4**
	baz=64						
AML				⇑*iS*	**Sn**	**13 45 08.2**	**+2.8**
	baz=64						
AML	**Almayashu**	**3.28**	**65**	P	**Pn**	**13 44 28.3**	**+2.4**
	SNR=41						
EKS2	**Erkin-Say**	**3.57**	**57**	⇑*iP*	**Pn**	**13 44 32.5**	**+2.9**
	baz=57						
EKS2				⇑*iS*	**Sn**	**13 45 15.2**	**+3.1**
	baz=57						
EKS2	**Erkin-Say**	**3.57**	**57**	P	**Pn**	**13 44 32.9**	**+3.3**
	SNR=9.8						
ARLS	**Aral**	**3.64**	**72**	⇓*iP*	**Pn**	**13 44 33.4**	**+2.8**
	baz=71						
ARLS				⇓*iS*	**Sn**	**13 45 16.8**	**+2.9**
	baz=71						
UCH	**Uchtor**	**3.88**	**67**	⇓*iP*	**Pn**	**13 44 36.8**	**+2.6**
	baz=67						
UCH				⇓*iS*	**Sn**	**13 45 23.1**	**+2.8**
	baz=67						
UCH	**Uchtor**	**3.88**	**67**	P	**Pn**	**13 44 36.7**	**+2.4**
	SNR=36						
TMD	**Tamdy-Bulak**	**3.92**	**285**	*eP*	**Pn**	**13 44 35.0**	**+0.7**
TMD				*eS*	**Pn**	**13 44 37.0**	**+2.7**
AAK	**Ala-Archa**	**4.03**	**62**	Pn	**Pn**	**13 44 39.8**	**+3.9**
	8.5nm,0.3s,baz=224,slow=1.7,SNR=49						
AAK				Pg	**Pg**	**13 44 48.9**	**-1.9**
	15nm,0.3s,baz=232,slow=12,SNR=25						
AAK				Lg	Lg	13 45 41.1	
	18nm,0.3s,baz=23,slow=19,SNR=9.3						
AAK	**Ala-Archa**	**4.03**	**62**	⇑*iP*	**Pn**	**13 44 39.0**	**+3.1**
	baz=61						
AAK				⇑*iS*	**Sn**	**13 45 26.0**	**+2.5**
	baz=61						
AAK	**Ala-Archa**	**4.03**	**62**	P	**Pn**	**13 44 40.0**	**+4.0**
	SNR=33						
AAK	**Ala-Archa**	**4.03**	**62**	⇑Pn	**Pn**	**13 44 40.3**	**+4.4**
	9.2nm,0.4s						
AAK				⇑Pg	**Pg**	**13 44 49.0**	**-1.9**
	48nm,0.4s						
AAK				⇑Lg	Lg	13 45 43.7	
	114nm,0.7s						
AAK	**Ala-Archa**	**4.03**	**62**		**Pn**	**13 44 39.1**	**+3.2**
FRU1	**Bishkek**	**4.20**	**60**	⇑*iP*	**Pn**	**13 44 41.2**	**+3.1**
	baz=59						
FRU1				⇑*iS*	**Sn**	**13 45 29.9**	**+2.5**
	baz=59						
USP	**Ospenovka**	**4.34**	**54**	⇓*iP*	**Pn**	**13 44 42.7**	**+2.6**
	baz=54						
USP				⇓*iS*	**Sn**	**13 45 33.0**	**+2.1**
	baz=54						
USP	**Ospenovka**	**4.34**	**54**	P	**Pn**	**13 44 42.3**	**+2.3**
	SNR=11						
KBK	**Karagaybulak**	**4.34**	**63**	⇑*iP*	**Pn**	**13 44 43.2**	**+3.0**
	baz=63						
KBK				⇑*iS*	**Sn**	**13 45 33.3**	**+2.1**
	baz=63						
KBK	**Karagaybulak**	**4.34**	**63**	P	**Pn**	**13 44 43.9**	**+3.6**
	SNR=35						
CHMS	**Chumysh**	**4.36**	**58**	⇓*iP*	**Pn**	**13 44 43.2**	**+2.8**
	baz=58						
CHMS				⇓*iS*	**Sn**	**13 45 34.1**	**+2.6**
	baz=58						
CHMS	**Chumysh**	**4.36**	**58**	P	**Pn**	**13 44 43.4**	**+3.0**
	SNR=8.4						
SGDS	**Sogindy**	**4.52**	**53**	Pg	**Pg**	**13 44 57.3**	**-2.9**
	36nm,0.9s						
SGDS				Lg	Lg	13 45 55.5	
	113nm,0.6s						
TKM2	**Tokmak 2**	**4.88**	**63**	⇑*iP*	**Pn**	**13 44 50.7**	**+3.0**
	baz=62						
TKM2				⇑*iS*	**Sn**	**13 45 46.9**	**+2.2**
	baz=62						
TKM2	**Tokmak 2**	**4.88**	**63**	P	**Pn**	**13 44 50.8**	**+3.1**
	SNR=9.3						
TKM2	**Tokmak 2**	**4.88**	**63**	⇑Pn	**Pn**	**13 44 50.3**	**+2.6**
	3.0nm,0.3s						
TKM2				⇓Pg	**Pb**	**13 45 03.4**	**+3.7**
	30nm,0.5s						
TKM2				⇓Lg	Lg	13 46 10.4	
	80nm,0.6s						
TKM2	**Tokmak 2**	**4.88**	**63**	PN	**Pn**	**13 44 50.3**	**+2.6**
BOOM	**Boomskoye usch**	**4.97**	**68**	⇑*eP*	**Pn**	**13 44 51.8**	**+2.9**
	baz=68						
BOOM				⇑*iS*	**Sn**	**13 45 48.5**	**+1.8**
	baz=68						
ULHL	**Ulahol**	**5.12**	**72**	⇑*iP*	**Pn**	**13 44 53.6**	**+2.7**
	baz=71						
ULHL				⇑*iS*	**Sn**	**13 45 52.0**	**+1.6**
	baz=71						
ULHL	**Ulahol**	**5.12**	**72**	P	**Pn**	**13 44 53.7**	**+2.7**
	SNR=11						
DGS	**Degeres**	**5.14**	**60**	*eP*	**Pg**	**13 45 08.5**	**-3.5**
	66nm,0.6s						
DGS				*eS*	**Sg**	**13 46 15.6**	**-3.0**
	110nm,0.5s						
DGS	**Degeres**	**5.14**	**60**	Pg	**Pg**	**13 45 08.5**	**-3.5**
	66nm,0.6s						
DGS				Lg	Lg	13 46 14.5	
	110nm,0.5s						
KST	**Kastek**	**5.18**	**62**	*eP*	**Pg**	**13 45 09.7**	**-3.1**
	52nm,0.8s						
KST				*eS*	**Sg**	**13 46 17.2**	**-2.7**
	265nm,0.6s						
KST	**Kastek**	**5.18**	**62**	Pg	**Pg**	**13 45 09.7**	**-3.1**
	52nm,0.8s						
KST				Lg	Lg	13 46 17.2	
	265nm,0.6s						
BTLS	**Baital**	**5.30**	**36**	*eP*	**Pg**	**13 45 12.9**	**-2.2**
	12nm,0.4s						
BTLS				*eS*	**Sg**	**13 46 22.4**	**-1.3**
	18nm,0.7s						
BTLS	**Baital**	**5.30**	**36**	Pg	**Pg**	**13 45 12.9**	**-2.2**
	12nm,0.4s						
BTLS				Lg	Lg	13 46 22.4	
	18nm,0.7s						
MTBS	**Maitube**	**5.53**	**63**	*eP*	**Pg**	**13 45 15.3**	**-4.2**
	10nm,0.7s						
MTBS				*eS*	**Sg**	**13 46 26.8**	**-4.4**
	68nm,0.8s						
IZV	**Izvestkoviy**	**5.62**	**64**	*eP*	**Pg**	**13 45 18.0**	**-3.2**
	28nm,0.8s						
IZV				*eS*	**Sg**	**13 46 30.7**	**-3.3**
	79nm,0.6s						
IZV	**Izvestkoviy**	**5.62**	**64**	Pg	**Pg**	**13 45 18.0**	**-3.2**
	28nm,0.8s						
IZV				Lg	Lg	13 46 30.7	
	79nm,0.6s						
KDJ	**Kajisay**	**5.78**	**74**	⇑*iP*	**Pn**	**13 45 03.2**	**+3.3**
	baz=74						
KDJ				⇑*iS*	**Sn**	**13 46 07.8**	**+1.2**
	baz=74						
KUU	**Kurty**	**5.81**	**56**	*eP*	**Pg**	**13 45 21.0**	**-3.8**
	27nm,0.9s						
KUU				*eS*	**Sg**	**13 46 36.7**	**-3.3**
	63nm,0.5s						
KUU	**Kurty**	**5.81**	**56**	Pg	**Pg**	**13 45 21.0**	**-3.8**
	27nm,0.9s						
KUU				Lg	Lg	13 46 36.7	
	63nm,0.5s						
TNSS	**Tian-Shan**	**5.85**	**65**	Pg	**Pg**	**13 45 21.7**	**-3.9**
	12nm,0.3s						
TNSS				Lg	Lg	13 46 39.5	
	46nm,0.6s						
KNDC	**Almaty**	**5.92**	**64**	⇑Pg	**Pg**	**13 45 25.2**	**-1.9**
	103nm,0.8s						
KNDC				⇑Lg	Lg	13 46 44.7	
	291nm,1.0s						
KTBS	**Karatobe**	**5.94**	**58**	Pg	**Pg**	**13 45 23.7**	**-3.7**
	13nm,0.8s						
KTBS				Lg	Lg	13 46 40.7	
	94nm,0.7s						
MDOK	**Medeo**	**5.96**	**64**	⇓Pn	**Pn**	**13 45 05.5**	**+3.0**
	8.6nm,0.4s						
MDOK				⇑Pg	**Pg**	**13 45 26.5**	**-1.3**
	45nm,0.9s						
MDOK				⇑Lg	Lg	13 46 48.5	
	102nm,1.1s						
MDOK	**Medeo**	**5.96**	**64**	Pg	**Pg**	**13 45 23.1**	**-4.7**
	26nm,0.7s						
MDOK				Lg	Lg	13 46 41.2	
	52nm,0.8s						
MDOK	**Medeo**	**5.96**	**64**	PN	**Pn**	**13 45 05.5**	**+3.0**
MDOK				PG	**Pg**	**13 45 26.5**	**-1.3**
KOTS	**Kotyrbulak**	**6.03**	**64**	Pg	**Pg**	**13 45 25.4**	**-3.7**
	47nm,0.7s						
KOTS				Lg	Lg	13 46 44.3	
	116nm,0.8s						
KURS	**Kuram**	**6.84**	**64**	Pg	Pg	13 45 39.3	-5.3
	7.6nm,1.0s						
KURS				Lg	Lg	13 47 07.8	
	20nm,0.7s						
SATY	**Saty**	**6.87**	**68**	Pg	Pg	13 45 40.1	-5.2
	9.5nm,0.6s						
SATY				Lg	Lg	13 47 10.1	
	52nm,1.1s						
ARXS	**Arharly**	**6.90**	**58**	Pg	**Pg**	**13 45 41.4**	**-4.4**
	20nm,0.8s						
ARXS				Lg	Lg	13 47 12.5	
	73nm,0.7s						
CEP	**Cherat**	**7.20**	**165**	P	Pn	13 45 25.0	+5.6
CEP				S	**Sn**	**13 46 45.0**	**+3.5**
NIL	**Nilore**	**7.69**	**157**	P	**Pn**	**13 45 29.0**	**+2.9**
NIL	**Nilore**	**7.69**	**157**		**Pn**	**13 45 29.0**	**+2.9**
PDGK	**Podgornoye**	**7.71**	**68**	Pg	Pb	13 45 54.4	+6.7
	2.9nm,0.9s						
PDGK				Lg	Lg	13 47 34.3	
	14nm,0.8s						
PDGK	**Podgornoye**	**7.71**	**68**	⇑Pn	**Pn**	**13 45 28.0**	**+1.5**
	2.7nm,0.6s						
PDGK				⇓Pg	**Pg**	**13 45 57.7**	**-3.6**
	16nm,0.7s						
PDGK				⇓Lg	Lg	13 47 44.2	
	33nm,0.9s						
PDGK	**Podgornoye**	**7.71**	**68**	P	**Pn**	**13 45 27.9**	**+1.5**
THW	**Thamme Wali**	**8.17**	**168**	P	**Pn**	**13 45 34.7**	**+2.0**
HRA	**Herat**	**8.72**	**225**		**Pn**	**13 45 40.1**	**-0.3**
GEYT	**Alibeck**	**9.42**	**256**	Pn	**Pn**	**13 45 48.0**	**-1.7**
	1.9nm,0.3s,baz=81,slow=9.5,SNR=8.6						
GEYT				Sn	**Sn**	**13 47 32.9**	**-3.0**
	2.7nm,0.3s,baz=47,slow=34,SNR=2.6						
GEYT	**Alibeck**	**9.42**	**256**		**Pn**	**13 45 49.9**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**9.42**	**256**		**Pn**	**13 45 49.7**	**-0.1**
MAKZ	**Makanchi**	**10.71**	**52**	⇑Pn	**Pn**	**13 46 11.3**	**+3.9**
	1.8nm,0.7s						
MAKZ				⇓Lg	Lg	13 49 15.5	
	23nm,1.4s						
MK31	**Makanchi Array**	**10.89**	**53**	⇓Pn	**Pn**	**13 46 11.5**	**+1.6**
	1.5nm,0.6s,baz=244,slow=14,SNR=11						
MK31				⇓Lg	Lg	13 49 17.0	
	6.0nm,0.7s						
MK31	**Makanchi Array**	**10.89**	**53**	P	**Pn**	**13 46 12.1**	**+2.3**
MK31	**Makanchi Array**	**10.89**	**53**		**Pn**	**13 46 12.1**	**+2.3**
MKAR	**Makanchi Array**	**10.89**	**53**	Pn	**Pn**	**13 46 10.1**	**+0.3**
	0.2nm,0.3s,baz=235,slow=14,SNR=7.6						
MKAR				Lg	Lg	13 49 23.0	
	0.7nm,0.3s,baz=250,slow=24,SNR=5.5						
MKAR	**Makanchi Array**	**10.89**	**53**	P	**Pn**	**13 46 10.3**	**+0.4**
MKAR	**Makanchi Array**	**10.89**	**53**		**Pn**	**13 46 10.3**	**+0.4**
AB31	**Akbulak array**	**10.89**	**324**	Pn	**Pn**	**13 46 08.8**	**-1.1**
	2.5nm,0.5s,baz=132,slow=14,SNR=92						
AB31				⇑Sn	**Sn**	**13 48 07.4**	**-4.6**
	3.2nm,0.5s,baz=134,slow=24,SNR=4.1						
AB31	**Akbulak array**	**10.89**	**324**	P	**Pn**	**13 46 08.8**	**-1.1**
AB31				SN	**Sn**	**13 48 07.4**	**-4.6**
ABKAR	**Akbulak array**	**10.89**	**324**		**Pn**	**13 46 09.4**	**-0.5**
ABKAR	**Akbulak array**	**10.89**	**324**		**Pn**	**13 46 08.7**	**-1.2**
KURBB	**Kurchatov Arra**	**11.58**	**29**	Pn	**Pn**	**13 46 19.1**	**-0.2**
	0.1nm,0.3s,baz=227,slow=15,SNR=1.6						
KURBB				Lg	Lg	13 49 43.0	
	0.3nm,0.3s,baz=215,slow=30,SNR=13						
KURK	**Kurchatov**	**11.69**	**29**	P	**Pn**	**13 46 19.1**	**-1.7**
KURK	**Kurchatov**	**11.69**	**29**		**Pn**	**13 46 19.1**	**-1.7**
BVAR	**Borovoye Array**	**12.23**	**2**	Pn	**Pn**	**13 46 26.9**	**-1.2**
	0.4nm,0.3s,baz=142,slow=7.5,SNR=6.1						
BRVK	**Borovoye**	**12.26**	**2**	P	**Pn**	**13 46 27.3**	**-1.3**
BRVK	**Borovoye**	**12.26**	**2**	Pn	**Pn**	**13 46 27.3**	**-1.3**
AKTO	**Aktyubinsk**	**12.61**	**324**	Pn	**Pn**	**13 46 32.7**	**-0.7**
	0.4nm,0.3s,baz=123,slow=16,SNR=6.9						
AKTO	**Aktyubinsk**	**12.61**	**324**	⇑Pn	**Pn**	**13 46 32.6**	**-0.8**
	3.3nm,0.5s						
AKTO				⇓Sn	**Sn**	**13 48 52.2**	**-1.8**
	5.8nm,0.8s						
AKTO	**Aktyubinsk**	**12.61**	**324**	P	**Pn**	**13 46 32.6**	**-0.8**
AKTO				SN	**Sn**	**13 48 52.2**	**-1.8**
ZAAO	**Zalesovo Array**	**16.61**	**33**	Pn	**P**	**13 47 29.0**	**-0.4**
ZALV	**Zalesovo Beam**	**16.61**	**33**	Pn	**Pn**	**13 47 27.9**	**+1.0**
	0.9nm,0.3s,baz=226,slow=11,SNR=18						
ZALV	**Zalesovo Beam**	**16.61**	**33**	P	**P**	**13 47 30.5**	**+1.1**
ZALV	**Zalesovo Beam**	**16.61**	**33**	P	**P**	**13 47 30.5**	**+1.1**
KBZ	**Khabaz**	**20.01**	**287**	P	**P**	**13 48 07.3**	**+0.5**
	1.2nm,0.4s,baz=118,slow=6.9,SNR=4.4						
GTA	**Gaotai**	**23.03**	**84**	⇑P	**P**	**13 48 41.6**	**+2.1**
GTA				pP	pP	13 48 49.6	+8.0
GTA				sP	sP	13 48 53.8	+11
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
OBN	**Obninsk**	**26.09**	**314**	*eP*	**P**	**13 49 09.2**	**+1.5**
OBN				*e*		13 49 48.0	
OBN				*e*PPP	PPP	13 50 00.1	
OBN				*e*		13 52 34.4	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,270nm,16.0s						
RAYN	**Ar Rayn**	**26.63**	**237**	P	**P**	**13 49 13.3**	**+0.3**
RAYN	**Ar Rayn**	**26.63**	**237**	P	**P**	**13 49 13.2**	**+0.3**
BRTR	**Keskin Array B**	**27.41**	**280**	P	**P**	**13 49 19.5**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=61,slow=10,SNR=3.8						
BRTR	**Keskin Array B**	**27.41**	**280**	P	**P**	**13 49 18.8**	**-1.3**
ISP	**Isparta**	**30.28**	**277**	P	**P**	**13 49 42.5**	**-3.0**
ISP	**Isparta**	**30.28**	**277**	P	**P**	**13 49 42.5**	**-3.0**
ISP				IAmb	IAmb	13 50 00.6	
	comp=Z,15nm,0.8s						
TIRR	**Tirgusor**	**30.36**	**291**	P	**P**	**13 49 43.2**	**-2.8**
TIRR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TIRR	**Tirgusor**	**30.36**	**291**	P	**P**	**13 49 43.2**	**-2.8**
TIRR				IAmb	IAmb	13 49 52.6	
	comp=Z,8.1nm,0.8s						
MLR	**Muntele Rosu**	**31.96**	**293**	P	**P**	**13 49 56.9**	**-3.3**
MLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MLR	**Muntele Rosu**	**31.96**	**293**	P	**P**	**13 49 56.9**	**-3.3**
MLR				IAmb	IAmb	13 50 08.5	
	comp=Z,3.1nm,1.0s						
FIA1	**FINESS Array S**	**33.38**	**323**	P	**P**	**13 50 12.1**	**-0.2**
FINES	**FINESS Array B**	**33.38**	**323**	P	**P**	**13 50 13.6**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=110,slow=9.8,SNR=15						
FINES	**FINESS Array B**	**33.38**	**323**	P	**P**	**13 50 12.7**	**+0.4**
ARCES	**ARCESS Array B**	**36.78**	**336**	P	**P**	**13 50 43.2**	**+1.6**
	comp=Z,2.6nm,0.7s,baz=97,slow=6.3,SNR=8.3						
HFS	**Hagfors**	**39.10**	**319**	P	**P**	**13 51 02.3**	**+1.1**
	comp=Z,4.6nm,0.5s,baz=97,slow=11,SNR=33						
GERES	**GERESS Array B**	**39.72**	**301**	P	**P**	**13 51 07.5**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=31,slow=8.0,SNR=4.9						
GERES	**GERESS Array B**	**39.72**	**301**	P	**P**	**13 51 06.4**	**-0.3**
CLL	**Collm**	**39.78**	**305**	*eP*	**P**	**13 51 08.0**	**+1.0**
CLL	**Collm**	**39.78**	**305**	*eP*	**P**	**13 51 08.0**	**+1.0**
NC303	**NORSAR Array S**	**40.30**	**320**	P	**P**	**13 51 12.1**	**+0.8**
TRI	**Trieste**	**40.32**	**296**	P	**P**	**13 51 11.5**	**-0.1**
TRI	**Trieste**	**40.32**	**296**	P	**P**	**13 51 11.5**	**-0.1**
TRI				IAmb	IAmb	13 51 19.7	
	comp=Z,12nm,0.7s						
NB2	**NORSAR Subarra**	**40.37**	**320**	P	**P**	**13 51 11.9**	**+0.1**
	comp=Z,11nm,1.2s,baz=93,slow=8.6						
NOA	**NORSAR Array B**	**40.37**	**320**	P	**P**	**13 51 11.9**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=93,slow=8.2,SNR=4.3						
NC204	**NORSAR Array S**	**40.60**	**321**	P	**P**	**13 51 14.8**	**+1.1**
KONO	**Kongsberg**	**41.15**	**318**	P	**P**	**13 51 16.8**	**-1.4**
KONO				pmax	pmax		
	comp=Z,14nm,1.1s						
KONO	**Kongsberg**	**41.15**	**318**	P	**P**	**13 51 16.8**	**-1.4**
KONO				IAmb	IAmb	13 51 29.4	
	comp=Z,14nm,1.1s						
TIXI	**Tiksi**	**42.20**	**24**	P	**P**	**13 51 27.3**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
TIXI	**Tiksi**	**42.20**	**24**	P	**P**	**13 51 27.3**	**+0.6**
TIXI				IAmb	IAmb	13 51 28.5	
	comp=Z,8.9nm,1.4s						
USRK	**Ussuriysk Ar.**	**45.08**	**64**	P	**P**	**13 51 50.9**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=280,slow=8.2,SNR=2.8						
EKA	**Eskdalemuir Ar**	**48.53**	**313**	P	**P**	**13 52 17.1**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=85,slow=7.8,SNR=7.3						
ESDC	**Sonseca Array**	**54.63**	**295**	P	**P**	**13 53 02.9**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=51,slow=6.2,SNR=2.8						
TORD

0.5nm,0.5s,baz=91,slow=7.9,SNR=16
WRA Warramunga Arr 44.69 265 P P 14 18 29.3 +0.3
0.3nm,0.4s,baz=102,slow=8.0,SNR=13

IDC 13 14:32:17.5±2.5,3°.04N×95°.60E,h0km,mb3.3/4,mb1 3.4/5, mb1mx3.2/38,mbtmp3.3/5,ML2.8/1,MS3.1/1,Ms1 3.1/1, ms1mx2.6/30,Error ellipse: s-maj=85.8km s-min=25.5km az=51.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.33**	**94**	Pn		Pn		14 33 11.2	+0.2
	0.9nm,0.3s,baz=0.3,slow=8.8,SNR=5.3								
PSI				Sn		Sn		14 33 38.9	-12
	2.4nm,0.3s,baz=0.2,slow=22,SNR=4.3								
WRA	**Warramunga Arr**	**44.36**	**123**	P		P		14 40 30.3	+0.2
	0.4nm,0.6s,baz=300,slow=9.5,SNR=2.0								
MKAR	**Makanchi Array**	**45.10**	**347**	P		P		14 40 35.2	-0.3
	0.1nm,0.4s,baz=155,slow=9.6,SNR=2.4								
ASAR	**Alice Springs**	**45.77**	**128**	P		P		14 40 40.9	-0.4
	0.2nm,0.8s,baz=298,slow=8.0,SNR=4.1								
JCJ	**Chichijima**	**50.53**	**57**	LR		LR		15 03 04.5	
	comp=Z,19nm,19.9s,baz=346,slow=37								
ZALV	**Zalesovo Beam**	**51.52**	**352**	P		P		14 41 24.9	0.0
	0.4nm,0.4s,baz=167,slow=8.9,SNR=1.6								

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*IDC **13** 14:40:43.7±2.2, 10°.77N×60°.47W, h42km±25km, mb3.5/5, mb1 3.9/8, mb1mx3.5/59, mbtmp3.9/8, ML3.9/3, Error ellipse: s-maj=32.3km s-min=26.2km az=51.0*
*TRN **13** 14:40:45.4, 10°.91N×60°.61W, h49km, MD3.9*
ISC 13 14:40:45.1±1.0,10°.92N±0°.05×60°.68W±0°.08,h49km±7km, n34,σ1°65/42,2D,Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOT	**Bacolet**	**0.25**	**352**	⇓*iP*			**Pn**	**14 40 53.8**	**+0.1**
TPR	**Prospect**	**0.28**	**341**	⇓*iP*			**Pn**	**14 40 54.5**	**+0.5**
TPR				*eS*			**Sn**	**14 41 01.5**	**+1.1**
TBH	**Brigand Hill**	**0.57**	**221**	*eP*			**Pn**	**14 40 58.9**	**+1.7**
TBH				*eS*			**Sn**	**14 41 08.1**	**+2.1**
TRN	**Trinidad (W)**	**0.76**	**249**	*eP*			**Pn**	**14 41 01.2**	**+1.6**
TRN				*eS*			**Sn**	**14 41 12.7**	**+2.6**
TPP	**Pointe-a-Pierr**	**0.96**	**232**	*eP*			**Pn**	**14 41 03.4**	**+1.1**
TPP				*eS*			**Sn**	**14 41 16.7**	**+1.7**
GRGR	**Grenville**	**1.54**	**322**	*eP*			**Pn**	**14 41 11.4**	**+1.3**
GCMP	**Grenada, Carri**	**1.72**	**335**	*eP*			**Pn**	**14 41 13.1**	**+0.4**
SVB	**Belmont**	**2.40**	**347**	*eP*			**Pn**	**14 41 23.3**	**+1.2**
SVB				*eS*			**Sn**	**14 41 51.6**	**+1.4**
SVV	**Soufriere Volc**	**2.44**	**348**	*eP*			**Pn**	**14 41 24.5**	**+1.9**
SVV				*eS*			**Sn**	**14 41 51.9**	**+0.7**
MCLT	**Moule a Chique**	**2.78**	**355**	*eP*			**Pn**	**14 41 28.0**	**+0.7**
MCLT				*eS*			**Sn**	**14 41 59.8**	**+0.1**
SLB	**Belfond**	**2.91**	**353**	*eP*			**Pn**	**14 41 29.7**	**+0.7**
SLB				*eS*			**Sn**	**14 42 02.6**	**-0.2**
SLCP	**Castries, St.**	**3.08**	**354**	*e*			**Pn**	**14 41 31.1**	**-0.3**
SLBI	**Saint Lucia, B**	**3.10**	**355**	*eP*			**Pn**	**14 41 31.8**	**+0.3**
SLBI				*eS*			**Sn**	**14 42 07.4**	**+0.1**
H05S1	**Guadeloupe/Mar**	**3.49**	**358**	P			**Pn**	**14 41 38.2**	**+1.3**
H05S1				S			**Sn**	**14 42 16.5**	**-0.4**
	SNR=18								
MPOM	**Morne Pois Mar**	**3.51**	**357**	*eP*			**Pn**	**14 41 37.9**	**+0.7**
MPOM				*eS*			**Sn**	**14 42 16.4**	**-1.1**
BIM	**Bigot**	**3.59**	**354**	*eP*			**Pn**	**14 41 39.8**	**+1.3**
BIM				*eS*			**Sn**	**14 42 19.3**	**-0.4**
PCRV	**Puerto La Cruz**	**3.96**	**260**	P			**Pn**	**14 41 43.8**	**+0.4**
	1.9nm,0.3s,baz=83,slow=3.0,SNR=17								
MAGL	**Barre de l'ile**	**5.03**	**353**	*eP*			**Pn**	**14 41 59.7**	**+1.6**
ANBD	**Bethesda, Anti**	**6.18**	**350**	*eP*			**Pn**	**14 42 15.9**	**+2.0**
BPA	**Boggy Peak**	**6.20**	**350**	*eP*			**Pn**	**14 42 15.8**	**+1.7**
BAUV	**El Baul**	**7.51**	**255**	*eP*			**Pn**	**14 42 31.1**	**-1.0**
BAUV	**El Baul**	**7.51**	**255**	*eS*			**Sn**	**14 43 53.1**	**-2.8**
MDP	**Montagnes des**	**9.84**	**125**	P			Pn	14 42 58.4	-5.6
	0.8nm,0.3s,baz=324,slow=14,SNR=8.3								
MDP				S			Sn	14 44 40.1	-13
	3.9nm,0.3s,baz=32,slow=15,SNR=14								
SDV	**Santo Domingo**	**10.01**	**259**	S			**Sn**	**14 44 51.9**	**-5.7**
	1.2nm,0.3s,baz=69,slow=22,SNR=2.9								
PTGA	**Pitinga**	**11.60**	**176**	P			**Pn**	**14 43 25.0**	**-3.1**
	3.7nm,0.3s,baz=351,slow=18,SNR=16								
PTGA				S			Sn	14 45 25.8	-10
	1.4nm,0.3s,baz=17,slow=15,SNR=5.5								
TXAR	**Lajitas Array**	**44.02**	**301**	P			**P**	**14 48 49.4**	**+1.1**
	0.1nm,0.3s,baz=122,slow=11,SNR=2.1								
ULM	**Lac du Bonnet**	**48.73**	**331**	P			**P**	**14 49 24.6**	**-0.2**
	1.3nm,0.4s,baz=120,slow=5.4,SNR=3.5								
H10N3	**ASCENSION HYDR**	**49.59**	**110**	T			T	15 42 30.9	
	baz=291,slow=75,SNR=18								
H10N2	**ASCENSION HYDR**	**49.60**	**110**	T			T	15 42 32.9	
	baz=291,slow=75,SNR=15								
H10N1	**ASCENSION HYDR**	**49.61**	**110**	T			T	15 42 32.4	
	baz=291,slow=75,SNR=15								
YKA	**Yellowknife Ar**	**64.20**	**335**	P			**P**	**14 51 15.5**	**+0.9**
	0.5nm,0.5s,baz=110,slow=8.2,SNR=8.2								
JMIC	**Jan Mayen**	**67.96**	**16**	P			**P**	**14 51 38.7**	**0.0**
	392nm,0.4s,baz=244,slow=3.4,SNR=2.7								
INK	**Inuvik**	**73.59**	**338**	P			**P**	**14 52 13.6**	**+0.7**
	1.7nm,0.9s,baz=127,slow=4.9,SNR=3.4								
ILAR	**Eielson Array**	**78.58**	**334**	P			**P**	**14 52 42.5**	**+1.2**
	0.4nm,0.8s,baz=98,slow=3.8,SNR=6.0								

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*FUNV **13** 14:57:23.0, 6°.91N×73°.25W, h168km, MW3.0*
*RSNC **13** 14:57:25.6±1.0, 6°.81N×73°.14W, h144km±4km, ML3.3, Mw3.7*
ISC 13 14:57:22.8±1.2,6°.81N±0°.03×73°.06W±0°.03,h158km±8km, n38,σ1°71/75,6C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**210**	⇑*iP*			**Pn**	**14 57 45.0**	**+0.5**
BARC				*eS*			**Sn**	**14 58 00.3**	**-0.8**
BARC				*i*				14 58 01.0	
	comp=Z,384nm,0.4s								
PAMC	**Pamplona, Colo**	**0.63**	**34**	⇑*iP*			**Pn**	**14 57 47.9**	**+1.5**
PAMC				*eS*			**Sn**	**14 58 04.8**	**+0.4**
PAMC				*i*				14 58 07.0	
	comp=Z,1μm,0.5s								
BRRC	**Barranca, Sant**	**0.71**	**294**	*eP*			**Pn**	**14 57 46.9**	**+0.7**
BRRC				*eS*			**Sn**	**14 58 03.8**	**-0.3**
BRRC				*i*				14 58 08.2	
	comp=Z,423nm,0.1s								
RUSC	**La Rusia**	**0.91**	**182**	*eP*			**Pn**	**14 57 49.0**	**+0.7**
RUSC				*eS*			**Sn**	**14 58 07.3**	**-0.4**
RUSC				*i*				14 58 08.7	
	comp=Z,408nm,0.3s								
TAMC	**Tame, Arauca**	**1.31**	**107**	⇑*iP*			**Pn**	**14 57 53.4**	**+2.2**
TAMC				*eS*			**Sn**	**14 58 14.8**	**+2.0**
TAMC				*i*				14 58 16.1	
	comp=Z,145nm,0.6s								
PTBC	**PUERTO BERRIO,**	**1.42**	**259**	*eP*			**Pn**	**14 57 51.8**	**-0.4**
PTBC				*eS*			**Sn**	**14 58 13.4**	**-1.3**
PTBC				*i*				14 58 15.0	
	comp=Z,277nm,0.1s								
OCAC	**Ocana**	**1.44**	**350**	*eP*			**Pn**	**14 57 53.3**	**+0.7**
OCAC				*eS*			**Sn**	**14 58 15.0**	**-0.5**
OCAC				*i*				14 58 18.9	
	comp=Z,459nm,0.4s								
SPBC	**San Pablo de B**	**1.53**	**221**	*eP*			**Pn**	**14 57 54.0**	**+0.6**
SPBC				*eS*			**Sn**	**14 58 15.8**	**-1.2**
SPBC				*i*				14 58 19.8	
	comp=Z,306nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.91**	**291**	*eP*			**Pn**	**14 57 58.4**	**+0.9**
ZARC				*eS*			**Sn**	**14 58 23.4**	**-0.7**
ZARC				*i*				14 58 29.6	
	comp=Z,425nm,0.5s								
NORC	**Norcasia**	**2.19**	**236**	*eP*			**Pn**	**14 58 00.9**	**+0.2**
NORC				*eS*			**Sn**	**14 58 28.9**	**-1.0**
NORC				*i*				14 58 32.6	
	comp=Z,156nm,0.2s								
SMLC	**San Martn de**	**2.22**	**333**	*eP*			**Pn**	**14 58 01.3**	**+0.3**
SMLC				*eS*			**Sn**	**14 58 30.5**	**0.0**
SMLC				*i*				14 58 36.6	
	comp=Z,190nm,0.3s								
ROSC	**El Rosal**	**2.33**	**213**	*eP*			**Pn**	**14 58 04.6**	**+1.9**
ROSC				*eS*			**Sn**	**14 58 34.0**	**+0.6**
ROSC				*i*				14 58 42.7	
	comp=Z,170nm,0.3s								
HELC	**Santa Helena**	**2.54**	**256**	*eP*			**Pn**	**14 58 06.2**	**+1.0**
HELC				*eS*			**Sn**	**14 58 36.3**	**-1.4**
HELC				*i*				14 58 42.0	
	comp=Z,76nm,0.3s								
SOCV	**Socops**	**2.62**	**56**	*eP*			**Pn**	**14 58 07.9**	**+2.0**
SOCV				*eS*			**Sn**	**14 58 39.5**	**+0.3**
PTGC	**Puerto Gaitan,**	**2.75**	**161**	⇑*eP*			**Pn**	**14 58 08.3**	**+0.8**
PTGC				*eS*			**Sn**	**14 58 41.0**	**-1.1**
PTGC				*i*				14 58 44.0	
	comp=Z,178nm,0.3s								
GUY2C	**Guyana, Caldas**	**2.79**	**236**	*eP*			**Pn**	**14 58 09.7**	**+1.3**
GUY2C				*eS*			**Sn**	**14 58 44.2**	**+0.7**
GUY2C				*i*				14 58 51.8	
	comp=Z,89nm,0.6s								
RREF	**El Recreo**	**2.97**	**230**	*eP*			**Pn**	**14 58 12.0**	**+1.2**
RREF				*eS*			**Sn**	**14 58 49.9**	**+2.1**
RREF				*i*				14 58 54.2	
	comp=Z,105nm,0.2s								
CBOC	**Ciudad Bolivar**	**3.09**	**252**	*eP*			**Pn**	**14 58 13.1**	**+1.3**
CBOC				*eS*			**Sn**	**14 58 49.7**	**0.0**
CBOC				*i*				14 58 58.6	
	comp=Z,43nm,0.3s								
DBBC	**Dabeiba**	**3.14**	**274**	⇑*eP*			**Pn**	**14 58 13.0**	**+0.6**
DBBC				*eS*			**Sn**	**14 58 50.0**	**-0.7**
TOLC	**Tolima**	**3.16**	**226**	*eP*			**Pn**	**14 58 14.8**	**+1.9**
TOLC				*eS*			**Sn**	**14 58 53.1**	**+1.5**
TOLC				*i*				14 58 57.3	
	comp=Z,84nm,0.2s								
SDV	**Santo Domingo**	**3.16**	**49**	*eP*			**Pn**	**14 58 14.8**	**+2.1**
SDV				*eS*			**Sn**	**14 58 51.9**	**+0.4**
SDV				*i*				14 58 56.2	
	comp=Z,78nm,0.6s								
MOTC	**Monteria, Cord**	**3.24**	**307**	⇑*eP*			**Pn**	**14 58 12.9**	**-0.7**
MOTC				*eS*			**Sn**	**14 58 51.6**	**-1.3**
MOTC				*i*				14 58 52.2	
	comp=Z,106nm,0.2s								
ARGC	**Ariguani, Magd**	**3.25**	**339**	*eP*			**Pn**	**14 58 15.9**	**+2.3**
ARGC				*eS*			**Sn**	**14 58 54.0**	**+0.9**
ARGC				*i*				14 59 02.3	
	comp=Z,70nm,0.2s								
ANIL	**Santa Ana**	**3.28**	**225**	*eP*			**Pn**	**14 58 16.0**	**+1.6**
ANIL				*eS*			**Sn**	**14 58 55.4**	**+1.0**
ANIL				*i*				14 59 01.8	
	comp=Z,25nm,0.3s								
PRAC	**Prado**	**3.58**	**211**	*eP*			**Pn**	**14 58 18.3**	**+0.4**
PRAC				*eS*			**Sn**	**14 59 00.8**	**0.0**
PRAC				*i*				14 59 08.0	
	comp=Z,111nm,0.3s								
ORTC	**Ortega, Tolima**	**3.62**	**217**	*eP*			**Pn**	**14 58 19.9**	**+1.5**
ORTC				*eS*			**Sn**	**14 59 02.7**	**+1.0**
ORTC				*i*				14 59 08.2	
	comp=Z,65nm,0.5s								
PLMC	**San Jos del P**	**3.73**	**240**	*eP*			**Pn**	**14 58 21.3**	**+1.4**
PLMC				*eS*			**Sn**	**14 59 03.4**	**-0.8**
PLMC				*i*				14 59 08.4	
	comp=Z,41nm,0.5s								
YOTC	**Yotoco, Valle**	**4.32**	**230**	*eP*			**Pn**	**14 58 28.6**	**+1.0**
YOTC				*eS*			**Sn**	**14 59 16.7**	**-1.3**
YOTC				*i*				14 59 25.4	
	comp=Z,10nm,0.5s								
SANV	**Sanarito**	**4.39**	**52**	*eP*			**Pn**	**14 58 28.9**	**+0.4**
SANV				*eS*			**Sn**	**14 59 16.2**	**-3.5**
CURV	**Curarigua**	**4.41**	**44**	*eP*			**Pn**	**14 58 29.8**	**+1.0**
CURV				*eS*			**Sn**	**14 59 15.9**	**-4.3**
SMRC	**Santa Marta, M**	**4.47**	**345**	*eP*			**Pn**	**14 58 30.0**	**+0.4**
SMRC				*eS*			**Sn**	**14 59 19.1**	**-2.5**
SMRC				*i*				14 59 21.7	
	comp=Z,26nm,0.4s								
MACC	**Macarena, Meta**	**4.70**	**190**	*eP*			**Pn**	**14 58 32.1**	**-0.4**
MACC				*eS*			**Sn**	**14 59 23.4**	**-3.6**
MACC				*i*				14 59 26.9	
	comp=Z,17nm,0.7s								
GARC	**Garzon, Huila**	**5.20**	**208**	*eP*			**Pn**	**14 58 39.4**	**+0.1**
GARC				*eS*			**Sn**	**14 59 33.7**	**-5.3**
GARC				*i*				14 59 40.0	
	comp=Z,40nm,0.3s								
BAUV	**El Baul**	**5.40**	**67**	*eP*			**Pn**	**14 58 41.5**	**-0.1**
BAUV				*eS*			**Sn**	**14 59 40.4**	**-3.0**
PAYV	**Puerto Ayacuch**	**5.54**	**104**	*eP*			**Pn**	**14 58 44.2**	**+0.6**
PAYV				*eS*			**Sn**	**14 59 44.3**	**-2.5**
MONV	**Montecano**	**5.95**	**31**	*eP*			**Pn**	**14 58 48.9**	**0.0**
MONV				*eS*			**Sn**	**14 59 50.7**	**-5.7**
BBAC	**Balboa, Cauca**	**6.33**	**221**	*eP*			**Pn**	**14 58 56.6**	**+2.3**
BBAC				*eS*			**Sn**	**15 00 05.4**	**-0.6**
BBAC				*i*				15 00 11.2	
	comp=Z,12nm,0.5s								
TACV	**Tcata**	**6.82**	**61**	*eP*			**Pn**	**14 59 00.5**	**0.0**

IDC 13 15:07:40.5±2.0,1°.68N×126°.02E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.3/41,mbtmp3.6/3,MS3.4/1,Ms1 3.4/1, ms1mx2.6/35,Error ellipse: s-maj=176.2km s-min=25.2km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**20.22**	**245**	LR		LR	LR	15 21 53.8	
	comp=Z,103nm,21.1s,baz=23,slow=42								
WRA	**Warramunga Arr**	**22.98**	**160**	P			P	15 12 46.4	-0.5
	1.8nm,0.7s,baz=338,slow=11,SNR=12								
ASAR	**Alice Springs**	**26.33**	**164**	P			P	15 13 19.0	+0.7
	0.7nm,0.7s,baz=347,slow=12,SNR=4.3								
MKAR	**Makanchi Array**	**58.84**	**326**	P			P	15 17 40.9	-0.2
	0.3nm,0.5s,baz=117,slow=8.6,SNR=7.1								

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*JMA **13** 15:12:48.8±0.1, 34°.75N×138°.52E, h219km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕs=89.00000°, δ35.00000°, λ-177.00000°. NP2: ϕs=357.00000°, δ88.00000°, λ-55.00000°. Principal axes: T Plg34.0000°, Azm58.0000°; N Plg35.0000°, Azm176.0000°; P Plg37.0000°, Azm297.0000°;*
JMA Felt I J1.
*MOS **13** 15:12:48.4±0.8, 34°.74N×138°.35E, h218km, mb4.5/34 Error ellipse: s-maj=9.0km s-min=5.0km az=118.9*
*NIED **13** 15:12:48.8, 34°.75N×138°.52E, h219km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.46; Mθθ-0.13; Mϕϕ-0.33; Mrθ-0.14; Mθϕ-1.57; Mϕr-2.63; Fault plane solution: M₀3.09000×10¹⁵ NP1: ϕs184.00000°, δ85.00000°, λ60.00000°. NP2:ϕs85.00000°, δ30.00000°, λ170.00000°.*
*NEIC **13** 15:12:49.4±1.7, 34°.79N±0°.07×138°.47E±0°.07, h217km±4km, mb4.5/26 Error ellipse: s-maj=10.1km s-min=8.6km az=151.0*
*IDC **13** 15:12:49.4±0.9, 34°.69N×138°.38E, h214km±8km, mb3.9/27, mb1 4.0/30, mb1mx3.9/49, mbtmp4.4/30, Error ellipse: s-maj=9.8km s-min=8.2km az=105.0*
ISC 13 15:12:49.3±0.5,34°.80N±0°.04×138°.45E±0°.05,h213km±3km, h213km:pP-P,n233,σ1°26/253,mb4.4/86,21C-18D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSG	**Sagara**	**0.25**	**240**	⇑P			**Pn**	**15 13 17.9**	**+0.6**
JSG				S			**S**	**15 13 40.2**	**+1.2**
JSG	**Sagara**	**0.25**	**240**				**Pn**	**15 13 17.9**	**+0.6**
SHZ3	**Shizuoka 3**	**0.33**	**324**	P			**Pn**	**15 13 18.0**	**+0.5**
SHZ3				S			**S**	**15 13 40.2**	**+0.6**
JIZS	**Izushimoda**	**0.36**	**103**	⇓P			**Pn**	**15 13 17.8**	**+0.3**
JIZS				S			**S**	**15 13 39.9**	**+0.4**
JFNN	**Fujinakano**	**0.44**	**26**	P			**Pn**	**15 13 18.2**	**+0.5**
JFNN				S			**S**	**15 13 40.6**	**+0.6**
JYN	**Shimob**	**0.70**	**7**	⇓P			**Pn**	**15 13 19.5**	**+0.7**
JYN				S			**S**	**15 13 43.2**	**+1.2**
JOD2	**Odawara 2**	**0.70**	**49**	⇓P			**Pn**	**15 13 19.2**	**+0.5**
JOD2				S			**S**	**15 13 42.7**	**+0.9**
TKO2	**Tokai 2**	**1.02**	**214**	⇑P			**Pn**	**15 13 20.9**	**+0.6**
JGF	**Kuroka**	**1.20**	**312**				**Pn**	**15 13 22.4**	**+0.6**
JRY	**Ryogami san**	**1.27**	**17**	⇓P			**Pn**	**15 13 23.4**	**+1.1**
JRY				eS			**S**	**15 13 49.0**	**+1.0**
INU	**Inuyama**	**1.29**	**295**	Pn			**Pn**	**15 13 22.9**	**+0.4**
JIE	**Ise**	**1.49**	**255**	⇑P			**Pn**	**15 13 24.3**	**+0.2**
JYTA	**Yamagatataniai**	**1.61**	**300**	⇑P			**Pn**	**15 13 25.7**	**+0.6**
JYTA				S			**S**	**15 13 54.4**	**+1.7**
MJAR	**Matsushiro Arr**	**1.75**	**354**	P			**Pn**	**15 13 26.9**	**+0.5**
	2.6nm,0.3s,baz=176,slow=11,SNR=139								
MJAR				S			**S**	**15 13 58.6**	**+3.5**
	1.9nm,0.3s,baz=225,slow=19,SNR=3.0								
MJAR	**Matsushiro Arr**	**1.75**	**354**				**Pn**	**15 13 26.1**	**-0.3**
MAJO	**Matsushiro**	**1.75**	**354**	P			**Pn**	**15 13 27.0**	**+0.7**
MAJO	**Matsushiro**	**1.75**	**354**	Pn			**Pn**	**15 13 27.0**	**+0.7**
MAT	**Matsushiro**	**1.75**	**354**	P			**Pn**	**15 13 27.0**	**+0.6**
MAT				eS			**S**	**15 13 55.8**	**+0.6**
MAT	**Matsushiro**	**1.75**	**354**	P			**Pn**	**15 13 27.0**	**+0.6**
TTO1	**TONANKAI O.B.S**	**1.81**	**230**	⇑P			**Pn**	**15 13 27.2**	**+0.6**
JAG	**Ashikaga**	**1.82**	**27**	⇓P			**Pn**	**15 13 26.9**	**-0.1**
JHJ	**Hachijo jima 2**	**2.01**	**146**	P			**Pn**	**15 13 28.9**	**0.0**
	585nm,0.3s,baz=240,slow=23,SNR=161								
JHJ				S			**S**	**15 14 02.7**	**+3.2**
	233nm,0.3s,baz=79,slow=20,SNR=8.3								
JYT	**Yasato**	**2.02**	**45**				**Pn**	**15 13 28.3**	**-0.5**
JHJ2	**Mitsune**	**2.03**	**146**	⇓P			**Pn**	**15 13 28.9**	**-0.2**
JHJ2	**Mitsune**	**2.03**	**146**	Pn			**Pn**	**15 13 29.0**	**-0.2**
BSO1	**Boso 1**	**2.09**	**93**	P			**Pn**	**15 13 28.5**	**-0.6**
JKG	**Kaga**	**2.27**	**311**	⇑P			**Pn**	**15 13 32.3**	**+0.8**
JWT	**Wachi**	**2.54**	**282**	Pn			**Pn**	**15 13 35.1**	**+0.7**
JSD	**Sado**	**3.23**	**357**	Pn			**Pn**	**15 13 43.0**	**+0.7**
JMM	**Marumori**	**3.60**	**31**				**Pn**	**15 13 46.5**	**-0.1**
JMN	**Monobe**	**3.93**	**256**	Pn			**Pn**	**15 13 50.5**	**-0.2**
JHS	**Saijyo**	**4.38**	**274**	Pn			**Pn**	**15 13 57.1**	**+0.8**
JTM	**Tenmabayashi**	**6.33**	**18**				**Pn**	**15 14 19.2**	**-1.6**
JNU	**Nakatsue**	**6.51**	**257**	P			**Pn**	**15 14 23.1**	**-0.2**
	1.2nm,0.3s,baz=15,slow=0.7,SNR=8.1								
ERM	**Erimo**	**8.10**	**26**	⇑*eP*			**Pn**	**15 14 43.7**	**+0.1**
JCJ	**Chichijima**	**8.32**	**156**	P			Pn	15 14 40.5	-6.2
	21nm,0.3s,baz=132,slow=23,SNR=8.9								
JCJ				S			S	15 16 06.3	-14
	23nm,0.3s,baz=118,slow=23,SNR=11								
JEW	**Eniwo**	**8.36**	**15**	Pn			**Pn**	**15 14 46.1**	**-0.9**
KSRS	**Korea Array**	**8.92**	**290**	P			**Pn**	**15 14 55.0**	**+0.7**
	0.9nm,0.3s,baz=108,slow=12,SNR=44								
TJN	**Taejon**	**9.16**	**283**	⇑*eP*			**Pn**	**15 14 58.3**	**+0.8**
ASAJ	**Asahikawa**	**9.84**	**18**	P			**Pn**	**15 15 02.7**	**-3.4**
	2.2nm,0.3s,baz=213,slow=9.6,SNR=32								
ASAJ				S			**S**	**15 16 50.2**	**-6.1**
	1.3nm,0.3s,baz=120,slow=29,SNR=5.7								
USA0B	**Ussuriysk Arra**	**10.63**	**334**	*dP*			**Pn**	**15 15 16.6**	**+0.4**
USA0B	**Ussuriysk Arra**	**10.63**	**334**	Pn			**Pn**	**15 15 15.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**10.63**	**334**	P			**Pn**	**15 15 16.7**	**+0.5**
	baz=150,slow=12,SNR=48								
USRK	**Ussuriysk Ar.**	**10.63**	**334**	Pn			**Pn**	**15 15 16.2**	**0.0**
MDJ	**Mudanjiang**	**11.93**	**328**	Pn			**Pn**	**15 15 32.4**	**-0.4**
YSS	**Yuzh-Sakhalins**	**12.57**	**14**	*eP*			**Pn**	**15 15 38.5**	**-2.3**
YSS				*eS*			**S**	**15 17 52.8**	**-7.0**
YSS				pmax		pmax			
	comp=Z,20nm,0.4s								
YSS	**Yuzh-Sakhalins**	**12.57**	**14**				**Pn**	**15 15 39.0**	**-1.8**
KUR	**Kuril'sk**	**12.67**	**32**	*eP*			**Pn**	**15 15 43.4**	**+1.4**
KUR				*eS*			**S**	**15 17 57.5**	**-4.6**
KLR	**Kul'dur**	**15.24**	**343**	P			**Pn**	**15 16 11.9**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=151,slow=10.0,SNR=92								
KLR	**Kul'dur**	**15.24**	**343**	*cP*			**Pn**	**15 16 12.1**	**-1.6**
KLR				pmax		pmax			
	comp=Z,19nm,0.8s								
GRNR	**Gornyy**	**16.03**	**355**	⇓*iP*			**Pn**	**15 16 24.4**	**+1.3**
GRNR				pmax		pmax			
	comp=E,4.0nm,0.8s								
GRNR				pmax		pmax			
	comp=N,10.0nm,0.7s								
GRNR				pmax		pmax			
	comp=Z,20nm,0.7s								
TPUB	**Ta-pu**	**19.30**	**238**	P			**P**	**15 16 56.6**	**-1.8**
TPUB				IAmb		IAmb	IAmb	15 16 58.0	
	comp=Z,23nm,1.0s								
HIA	**Hailar**	**19.97**	**322**	P			**P**	**15 17 03.1**	**-2.2**
HIA				pmax		pmax			
	comp=Z,13nm,0.6s								
HIA	**Hailar**	**19.97**	**322**	P			**P**	**15 17 03.1**	**-2.2**
HIA				IAmb		IAmb	IAmb	15 17 08.5	
	comp=Z,13nm,0.6s								
ZEA	**Zeya**	**20.51**	**341**	*eP*			**P**	**15 17 10.8**	**-0.2**
ZEA				pmax		pmax			
	comp=E,10.0nm,0.5s								
ZEA				pmax		pmax			
	comp=N,10.0nm,0.7s								
ZEA				pmax		pmax		

CM35	Chiang Mai Arr	38.31	256	P		P	15 19 48.0	-1.6
CM33	Chiang Mai Arr	38.41	256	P		P	15 19 49.0	-1.4
CMMT	Chiang Mai	38.41	256	P		P	15 19 49.0	-1.4
	comp=Z,1.6nm,0.7s							
SANI	Sanana	38.48	200	P		P	15 19 48.8	-2.1
	comp=Z,8.7nm,1.1s							
SUKH	Sukhothai	38.59	254	P		P	15 19 51.4	-0.5
CMAR	Chiang Mai Arr	38.60	255	P		P	15 19 51.1	-0.8
	comp=Z,1.4nm,0.6s,baz=48,slow=7.6,SNR=18							
CM02	Chiang Mai Arr	38.61	255	P		P	15 19 53.6	+1.6
	comp=Z,3.6nm,0.9s							
CM15	Chiang Mai Arr	38.62	255	P		P	15 19 52.0	-0.1
	comp=Z,4.2nm,0.9s							
CM05	Chiang Mai Arr	38.63	255	P		P	15 19 52.8	+0.6
	comp=Z,3.3nm,0.9s							
CM13	Chiang Mai Arr	38.65	255	P		P	15 19 52.0	-0.4
WMQ	Urumqi	39.75	299	*eP*		P	15 20 02.3	+1.0
WMQ	Urumqi	39.75	299	P		P	15 20 00.8	-0.4
WMQ				pmax		pmax		
	comp=Z,18nm,0.9s							
WMQ	Urumqi	39.75	299	P		P	15 20 00.8	-0.4
WMQ				IAmb		IAmb	15 20 04.2	
	comp=Z,18nm,0.9s							
DGZ	Jazzator, Alta	39.80	308	*d i* P		P	15 20 02.8	+1.1
DGZ				pmax		pmax		
	comp=Z,22nm,0.9s							
ZSN	Zaisan	41.51	305	*eP*		P	15 20 16.1	+0.5
	baz=305							
ZSN	Zaisan	41.51	305	*eP*		P	15 20 16.0	+0.5
ZALV	Zalesovo Beam	41.69	314	P		P	15 20 17.4	+0.5
	comp=Z,8.3nm,0.8s,baz=104,slow=6.3,SNR=21							
ZALV				PcP		PcP	15 22 08.9	-0.3
	comp=Z,1.4nm,0.4s,baz=125,slow=3.5,SNR=4.0							
ZALV	Zalesovo Beam	41.69	314	*i* P		P	15 20 17.3	+0.5
ZALV				pmax		pmax		
	comp=Z,9.0nm,0.8s							
MK31	Makanchi Array	43.31	304	P		P	15 20 30.6	+0.6
MK31				pmax		pmax		
	comp=Z,9.0nm,0.7s							
MK31	Makanchi Array	43.31	304	P		P	15 20 30.6	+0.6
MK31				IAmb		IAmb	15 20 31.3	
	comp=Z,8.9nm,0.7s							
MKAR	Makanchi Array	43.31	304	P		P	15 20 30.5	+0.5
	comp=Z,11nm,0.6s,baz=89,slow=10,SNR=160							
MKAR				ScP		ScP	15 25 45.7	0.0
	comp=Z,0.7nm,0.7s,baz=83,slow=4.8,SNR=5.6							
MAKZ	Makanchi	43.52	304	P		P	15 20 32.2	+0.5
MAKZ				pmax		pmax		
	comp=Z,11nm,0.9s							
MAKZ	Makanchi	43.52	304	P		P	15 20 32.2	+0.5
MAKZ				IAmb		IAmb	15 20 33.1	
	comp=Z,11nm,0.8s							
TAPN	Taplejung	43.71	275	*eP*		P	15 20 32.9	-0.9
	comp=Z,18nm,0.4s							
ODAN	Odare	44.16	274	*eP*		P	15 20 35.7	-1.6
	comp=Z,13nm,0.5s							
RAMN	Ramite	44.77	275	*eP*		P	15 20 41.1	-1.1
	comp=Z,47nm,0.8s							
GUN	Gumba	44.99	276	*eP*		P	15 20 43.3	-0.7
	comp=Z,52nm,0.8s							
PKI	Pulchoki	45.51	276	*eP*		P	15 20 46.8	-1.2
PKIN	Phulchoki	45.51	276	*eP*		P	15 20 46.8	-1.2
	comp=Z,17nm,0.4s							
KKN	Kakani	45.53	276	*eP*		P	15 20 47.2	-0.9
	comp=Z,35nm,0.8s							
DMN	Daman	45.74	276	*eP*		P	15 20 48.8	-1.0
SHLS	Shalkode	45.77	299	*eP*		P	15 20 46.9	-2.9
	baz=299							
SHLS	Shalkode	45.77	299	*eP*		P	15 20 46.8	-2.9
GKN	Gorkha	45.97	277	*eP*		P	15 20 50.7	-0.8
	comp=Z,41nm,0.7s							
UZB	Uzynbulak	46.09	299	*eP*		P	15 20 52.0	-0.2
	comp=Z,5.0nm,0.5s,baz=299							
UZB	Uzynbulak	46.09	299	*eP*		P	15 20 52.0	-0.2
UZB				pmax		pmax		
	comp=Z,5.0nm,0.5s							
TDK	Taldyqorghan	46.22	302	*eP*		P	15 20 53.3	+0.3
	comp=Z,4.9nm,0.5s,baz=302							
TDK	Taldyqorghan	46.22	302	*eP*		P	15 20 53.3	+0.3
TDK				pmax		pmax		
	comp=Z,5.0nm,0.5s							
KPKS	Kokpek	46.28	299	*eP*		P	15 20 53.5	-0.1
	comp=Z,9.5nm,0.6s,baz=300							
KPKS	Kokpek	46.28	299	*eP*		P	15 20 53.4	-0.1
KPKS				pmax		pmax		
	comp=Z,10.0nm,0.6s							
SATY	Saty	46.55	299	*eP*		P	15 20 55.6	-0.1
	baz=299							
SATY	Saty	46.55	299	*eP*		P	15 20 55.6	-0.1
RDOG	Red Dog Mine	46.57	26	P		P	15 20 56.8	+1.4
MDOK	Medeo	47.51	299	*eP*		P	15 21 03.3	+0.2
	baz=300							
MDOK	Medeo	47.51	299	*eP*		P	15 21 03.3	+0.2
AAA	Alma-Ata	47.59	299	*eP*		P	15 21 04.2	+0.5
	comp=Z,10nm,0.6s,baz=300							
AAA	Alma-Ata	47.59	299	*eP*		P	15 21 04.1	+0.4
AAA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
TNSS	Tian-Shan	47.60	299	*eP*		P	15 21 04.2	0.0
	baz=299							
TNSS	Tian-Shan	47.60	299	*eP*		P	15 21 04.2	0.0
KUU	Kurty	47.87	301	*eP*		P	15 21 05.5	-0.2
	comp=Z,8.3nm,0.6s,baz=301							
KUU	Kurty	47.87	301	*eP*		P	15 21 05.5	-0.2
KUU				pmax		pmax		
	comp=Z,8.0nm,0.6s							
TKM2	Tokmak 2	48.60	299	P		P	15 21 12.6	+1.0
	SNR=15							
KBK	Karagaybulak	49.12	299	P		P	15 21 16.3	+0.8
	SNR=16							
SGDS	Sogindy	49.17	300	*eP*		P	15 21 15.5	-0.2
	baz=300							
SGDS	Sogindy	49.17	300	*eP*		P	15 21 15.5	-0.2
BTLS	Baital	49.25	302	*eP*		P	15 21 15.1	-1.1
	baz=303							
BTLS	Baital	49.25	302	*eP*		P	15 21 15.9	-0.3
USP	Ospenovka	49.30	300	P		P	15 21 17.1	+0.3
	SNR=11							
BRZS	Berezniki	49.31	309	*eP*		P	15 21 16.1	-0.6
	baz=309							
BRZS	Berezniki	49.31	309	*eP*		P	15 21 16.0	-0.6
AAK	Ala-Archa	49.45	299	P		P	15 21 18.1	+0.1
	SNR=6.8							
AAK	Ala-Archa	49.45	299	*d i* P		P	15 21 18.1	+0.1
AAK				pmax		pmax		
	comp=Z,27nm,1.0s							
AAK	Ala-Archa	49.45	299	P		P	15 21 18.0	+0.1
UCH	Uchtor	49.53	299	P		P	15 21 20.0	+1.1
	SNR=6.1							
AML	Almayashu	50.15	299	P		P	15 21 24.6	+1.1
	SNR=8.6							
BRVK	Borovoye	50.38	313	P		P	15 21 25.1	+0.5
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.8s							
BRVK	Borovoye	50.38	313	P		P	15 21 25.1	+0.5
KLSI		50.50	226	P		P	15 21 24.4	-1.5
	comp=Z,5.0nm,0.6s							
LHSI	Lahat	50.54	228	P		P	15 21 25.0	-1.2
	comp=Z,21nm,0.7s							
GSI	Gunungsitoli	50.58	238	P		P	15 21 25.0	-1.6
	comp=Z,20nm,1.2s							
LEM	Lembang	50.61	221	P		P	15 21 25.5	-1.4
	comp=Z,14nm,0.6s,baz=313,slow=21,SNR=4.6							
MDSI	Maura Dua	50.66	227	P		P	15 21 25.3	-1.8
	comp=Z,714nmcomp=Z,11nm,0.9s							
DZA	Taraz	51.65	300	*eP*		P	15 21 34.3	0.0
	comp=Z,4.8nm,0.5s,baz=300							
DZA	Taraz	51.65	300	*eP*		P	15 21 34.2	0.0
DZA				pmax		pmax		
	comp=Z,5.0nm,0.5s							
NEA2	Nenana	51.73	32	P		P	15 21 35.5	+1.1
NEA2				IAmb		IAmb	15 21 37.4	
	comp=Z,6.5nm,0.8s							
MDM	Murphy Dome	52.08	31	P		P	15 21 39.3	+2.3
MDM				IAmb		IAmb	15 21 40.0	
	comp=Z,8.5nm,1.0s							
KK31	Karatay Array	52.17	301	P		P	15 21 37.9	-0.2
KK31				pmax		pmax		
	comp=Z,13nm,0.8s							
KK31	Karatay Array	52.17	301	P		P	15 21 37.9	-0.2
KK31				IAmb		IAmb	15 21 39.4	
	comp=Z,13nm,0.8s							
KKAR	Karatay Array	52.17	301	P		P	15 21 37.9	-0.2
KKAR				pmax		pmax		
	comp=Z,13nm,0.8s							
KKAR	Karatay Array	52.17	301	P		P	15 21 37.6	-0.4
KKAR				IAmb		IAmb	15 21 39.4	
	comp=Z,13nm,0.8s							
POKR	Poker Plat Res	52.41	31	P		P	15 21 41.8	+2.4
POKR				IAmb		IAmb	15 21 42.2	
	comp=Z,4.7nm,0.5s							
ILAR	Eielson Array	52.66	31	P		P	15 21 42.0	+0.7
	comp=Z,1.4nm,0.6s,baz=269,slow=5.2,SNR=27							
IUG	luzhnay	52.77	300	*eP*		P	15 21 42.9	+0.3
	comp=Z,11nm,0.7s,baz=300							
IUG	luzhnay	52.77	300	*eP*		P	15 21 42.9	+0.3
IUG				pmax		pmax		
	comp=Z,11nm,0.7s							
SCRK	Sand Creek	53.98	32	P		P	15 21 52.2	+1.1
FITZ	Fitzroy Crossi	54.00	195	P		P	15 21 50.6	-0.8
	comp=Z,1.3nm,0.5s,baz=21,slow=8.0,SNR=8.7							
WRA	Warramunga Arr	54.58	185	P		P	15 21 54.5	-1.2
	comp=Z,0.9nm,0.3s,baz=0.3,slow=7.5,SNR=34							
ARU	Arti	56.45	319	*d i* P		P	15 22 08.7	+0.1
ARU				*PP		pP	15 22 56.2	-0.5
ARU							15 24 15.9	
ARU				S		S	15 29 46.5	+4.1
ARU				SS		SS	15 33 34.6	+2.2
ARU				pmax		pmax		
	comp=Z,9.0nm,0.6s							
EPYK	Eagle Plains	56.65	29	P		P	15 22 12.1	+2.2
ABKAR	Akbulak array	57.54	310	P		P	15 22 16.7	+0.3
ABKAR	Akbulak array	57.54	310	P		P	15 22 16.4	+0.1
ASAR	Alice Springs	58.30	185	P		P	15 22 21.2	-0.7
	comp=Z,0.3nm,0.4s,baz=19,slow=11,SNR=19							
C36M	Paulatuk	60.45	24	P		P	15 22 36.8	+0.9
C36M				IAmb		IAmb	15 22 38.0	
	comp=Z,5.5nm,0.7s							
KIRV	Kirov	60.58	323	*d i* P		P	15 22 37.2	+0.2
GEYT	Alibeck	62.80	299	P		P	15 22 52.4	+0.2
	comp=Z,3.8nm,0.7s,baz=18,slow=5.3,SNR=5.7							
BELG	Belogornoye	63.79	317	*i eP*		P	15 22 58.4	0.0
BELG				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ARCES	ARCESS Array B	65.23	339	P		P	15 23 08.0	+0.5
	comp=Z,3.2nm,0.6s,baz=58,slow=6.4,SNR=11							
ARCES	ARCESS Array B	65.23	339	P		P	15 23 08.0	+0.5
ARCES				pmax		pmax		
	comp=Z,17nm,1.2s							
ARCES	ARCESS Array B	65.23	339	IAmb		IAmb	15 23 11.6	
	comp=Z,17nm,1.1s							
YKA	Yellowknife Ar	66.93	29	P		P	15 23 18.6	+0.2
	comp=Z,0.7nm,0.8s,baz=302,slow=6.0,SNR=12							
YKA	Yellowknife Ar	66.93	29	*c eP*		P	15 23 19.3	+0.9
YKA				pmax		pmax		
	comp=Z,1.0nm,0.4s							
OBN	Obninsk	68.43	323	*eP*		P	15 23 27.4	-0.4
OBN				*e*			15 23 52.4	
OBN				*ePP		pP	15 24 19.2	+1.4
OBN				*e*			15 25 58.9	
OBN				pmax		pmax		
	comp=Z,7.0nm,0.8s							
AKT	Akhty	68.46	306	*eP*		P	15 23 28.7	+0.2
AKT				*e*			15 23 50.5	
AKT				pmax		pmax		
	comp=Z,24nm,0.5s							
FINES	FINESS Array B	69.65	332	P		P	15 23 35.5	+0.3
	comp=Z,4.9nm,0.4s,baz=63,slow=6.1,SNR=75							
KBZ	Khabaz	70.51	310	P		P	15 23 41.1	+0.3
	comp=Z,11nm,0.8s,baz=82,slow=2.5,SNR=24							
KBZ	Khabaz	70.51	310	*c i* P		P	15 23 41.7	+0.9
KBZ				pmax		pmax		
	comp=Z,12nm,0.8s							
KIV	Kislovodsk	70.53	310	*eP*		P	15 23 41.5	+0.5
KIV				pmax		pmax		
	comp=Z,50nm,1.1s							
NEY	Neytrino	70.86	310	*i eP*		P	15 23 43.5	+0.3
NEY				pmax		pmax		
	comp=Z,3.0nm,1.0s							
NACGM	Naroch	73.24	326	*i* P		P	15 23 57.5	+0.7
NACGM				*i* P		P	15 23 57.5	+0.7
NACGM				*i* P		P	15 23 57.5	+0.7
NACGM				*i* pP		pP	15 24 50.3	+2.9
NACGM				*i* PP		PP	15 26 43.7	+1.3
NACGM				*i* PPP		PPP	15 28 24.5	
NACGM				*i* S		S	15 33 07.7	+0.6
NACGM				*i* sS		pS	15 34 06.1	-0.6
NACGM				*i* SS		SS	15 37 34.6	-18
NACGM				*i* SSS		SSS	15 40 38.0	
YBH	Yreka Blue Hor	73.62	50	P		P	15 24 00.7	+1.4
	comp=Z,1.7nm,0.7s,baz=332,slow=1.5,SNR=5.5							
AKASG	Malin Array Be	74.56	321	P		P	15 24 04.2	-0.3
	comp=Z,1.6nm,0.3s,baz=49,slow=6.4,SNR=16							
AKASG	Malin Array Be	74.56	321	*c eP*		P	15 24 04.1	-0.4
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.5s							
AKBB	Malin Array Si	74.56	321	*i eP*		P	15 24 04.4	-0.1
JTMT	Jette	75.27	42	P		P	15 24 08.8	0.0
NB2	NORSAR Subarra	75.29	336	P		P	15 24 08.9	+0.3
	comp=Z,1.5nm,0.5s,baz=42,slow=5.6							
NOA	NORSAR Array B	75.29	336	P		P	15 24 08.7	+0.2
	comp=Z,2.8nm,0.7s,baz=43,slow=5.6,SNR=11							
NVAR	Mina Array Bea	78.26	51	P		P	15 24 27.2	+1.4
	comp=Z,1.2nm,0.6s,baz=291,slow=5.8,SNR=14							
BR131	Keskin Array S	78.50	310	*c i* P		P	15 24 27.5	+0.5
BRTR	Keskin Array B	78.50	310	P		P	15 24 27.5	+0.5
	comp=Z,3.2nm,0.9s,baz=83,slow=3.9,SNR=14							
SOCY	Socotra	78.65	277	P		P	15 24 25.9	-2.3
SOCY				IAmb		IAmb	15 24 26.8	
	comp=Z,8.7nm,0.8s							
ELK	Elko	78.83	48	P		P	15 24 29.8	+0.9
	comp=Z,0.9nm,0.5s,baz=300,slow=7.5,SNR=4.7							
PDAR	Pinedale Array	80.94	44	P		P	15 24 41.0	+0.8
	comp=Z,1.2nm,0.7s,baz=157,slow=0.8,SNR=9.0							
KRLC	Kraliky	81.02	326	*eP*		P	15 24 40.9	+0.7
KRLC	Kraliky	81.02	326	*eP*		P	15 24 40.9	+0.7
DPC	Dobruska-Polom	81.03	327	*eP*		P	15 24 41.1	+0.8
DPC	Dobruska-Polom	81.03	327	*eP*		P	15 24 41.1	+0.8
CLL	Collm	81.80	329	*i* P		P	15 24 44.2	0.0
	comp=Z,4.0nm,0.7s							
CLL	Collm	81.80	329	*i* P		P	15 24 44.2	0.0
CLL				pmax		pmax		
	comp=Z,4.0nm,0.7s							
PFO	Pinyon Flats O	82.29	54	*i eP*		P	15 24 48.3	+1.0
PFO				pmax		pmax		
	comp=Z,5.0nm,1.0s							
CONA	Conrad Observa	82.97	325	*i* P		P	15 24 51.7	+1.3
	comp=Z,3.1nm,0.7s							
KHC	Kasperske Hory	83.14	327	*eP*		P	15 24 52.3	+1.0
KHC	Kasperske Hory	83.14	327	*eP*		P	15 24 52.3	+1.0
GERES	GERESS Array B	83.30	327	P		P	15 24 52.2	+0.1
	comp=Z,1.0nm,0.3s,baz=52,slow=6.5,SNR=10							
ARSA	Arzberg	83.62	325	*i* P		P	15 24 54.5	+0.8
	comp=Z,3.7nm,0.7s							
SOKA	Soboth	84.26	325	*i* P		P	15 24 57.6	+0.6
	comp=Z,4.8nm,0.7s							
KBA	Koelnbreinsper	84.76	326	*i* P		P	15 25 00.6	+1.0
	comp=Z,3.1nm,0.8s							
TXAR	Lajitas Array	93.39	51	P		P	15 25 41.8	+1.1
	comp=Z,1.3nm,0.6s,baz=298,slow=2.7,SNR=15							
LPAZ	La Paz	149.90	59	PKPbc		PKPbc	15 32 15.2	-0.3
	comp=Z,1.1nm,0.7s,baz=8.0,slow=6.9,SNR=4.6							

JMA ***13*** *15:23:53.8±0.1,36.38N×140.58E,h51km±1km,M3.6 Broadband fault plane solution: P waves. NP1: ϕs150.00000°,δ17.00000°,λ90.00000°. NP2: ϕs330.00000°,δ73.00000°,λ90.00000°. Principal axes: T Plg62.0000°, Azm240.0000°; N Plg0.0000°, Azm150.0000°; P Plg28.0000°, Azm60.0000°;*
JMA Felt I J1.
NEIC ***13*** *15:23:53.8±2.2,36.42N±0.05×140.56E±0.08,h48km±7km, mb4.2/10 Error ellipse: s-maj=9.0km s-min=7.1km az=100.0*
NIED ***13*** *15:23:53.9,36.38N×140.58E,h51km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.26; Mθθ-1.27; Mϕϕ-1.99; Mrθ-2.65; Mθϕ2.40; Mϕr4.54; Fault plane solution: M06.41000×10¹⁴ NP1: ϕs328.00000°,δ73.00000°,λ97.00000°. NP2: ϕs126.00000°,δ18.00000°,λ69.00000°.*
IDC ***13*** *15:23:54.4±2.0,36.35N×140.68E,h56km±18km,mb3.5/9, mb1 3.7/12,mb1mx3.4/46,mbtmp3.8/12,ML3.5/3 Error ellipse: s-maj=16.1km s-min=10.1km az=71.0*
ISC 13 15:23:53.9±0.7,36.40N±0.03×140.61E±0.05,h50km±6km, n58,σ0°98/63,mb4.0/14,2C-3D,Near east coast of eastern Honshu

JHYU	Hitachinakayam	0.07	199	⇑P		Pn	15 24 01.7	+0.1
JHYU				S		Sn	15 24 07.1	+0.1
JHO	Hitachi	0.21	350	⇑P		Pn	15 24 02.5	+0.2
JHO				S		Sn	15 24 08.4	+0.1
JYT	Yasato	0.38	243	⇓P		Pn	15 24 03.6	-0.2
JYT				S		Sn	15 24 10.4	-0.4
JYT	Yasato	0.38	243			Pn	15 24 03.7	-0.2
JIHU	Itakohorinouch	0.44	189	⇓P		Pn	15 24 04.7	+0.2
JIHU				S		Sn	15 24 12.7	+0.7
ONAJ	Iwakimizuishiy	0.71	12	P		Pn	15 24 07.6	-0.3
ONAJ				S		Sn	15 24 17.6	-0.4
JSMT	Sammumatsuo	0.77	190	P		Pn	15 24 08.6	0.0
JSMT				S		Sn	15 24 19.6	+0.4
JAG	Ashikaga	0.94	272	⇓P		Pn	15 24 10.6	-0.2
JAG				S		Sn	15 24 22.2	-1.0
JFK	Kawauchi	0.98	12	P		Pn	15 24 11.0	-0.5
JKT	Katashina	1.16	289	P		Pn	15 24 14.1	+0.3
JKT				S		Sn	15 24 28.7	+0.1
JMM	Marumori	1.47	6			Pn	15 24 18.3	+0.3
MJAR	Matsushiro Arr	1.94	275	P		Pn	15 24 24.5	0.0
	5.4nm,0.3s,baz=40,slow=25,SNR=260							
MJAR				S		Sn	15 24 49.6	+1.9
	6.4nm,0.3s,baz=72,slow=18,SNR=12							
MJAR				LR		LR	15 25 21.5	
	comp=Z,149nm,21.0s,baz=55,slow=44							
MJAR	Matsushiro Arr	1.94	275			Pn	15 24 24.1	-0.4
MAJO	Matsushiro	1.94	275			Pn	15 24 25.3	+0.8
MAT	Matsushiro	1.94	275	P		Pn	15 24 25.3	+0.8
MAT				S		Sn	15 24 47.0	-0.8
MJB9	Matsu-Tunnel	1.95	275	Pn		Pn	15 24 23.2	-1.4
JSD	Sado	2.49	312			Pn	15 24 33.6	+1.6
JSG	Sagara	2.62	230			Pn	15 24 35.7	+1.9
JGF	Kuroka	2.76	254			Pn	15 24 36.4	+0.7
INU	Inuyama	3.10	251			Pn	15 24 41.3	+0.9
JHJ	Hachijo jima 2	3.35	192	P		Pn	15 24 44.1	+0.4
	12nm,0.3s,baz=90,slow=20,SNR=1.9							
JHJ				S		Sn	15 25 22.3	+0.1
	15nm,0.3s,baz=66,slow=23,SNR=2.3							
JHJ2	Mitsune	3.35	192	Pn		Pn	15 24 45.8	+2.0
JWT	Wachi	4.38	257	Pn		Pn	15 24 58.7	+0.8
JTM	Tenmabayashi	4.39	5			Pn	15 24 59.9	+1.9
ERM	Erimo	5.94	19	Pn		Pn	15 25 17.2	-2.0
JEW	Eniwo	6.46	5	Pn		Pn	15 25 26.8	+0.4
ASAJ	Asahikawa	7.85	11	P		Pn	15 25 44.7	-0.8
	1.0nm,0.3s,baz=207,slow=15,SNR=19							
JKA	Kamikawa-asahi	7.85	11			Pn	15 25 44.5	-1.0
KSRS	Korea Array	10.21	280	P		Pn	15 26 20.7	+2.9
	0.1nm,0.3s,baz=96,slow=16,SNR=3.2							
YOJ	Yonaguni jima	19.25	237	P		P	15 28 12.4	-1.8
YULB	Yu-li	21.13	237	P		P	15 28 34.9	+0.2
YULB				IAmb		IAmb	15 28 40.9	
	comp=Z,9.1nm,1.0s							
SEY	Seymchan	27.54	12	P		P	15 29 36.5	+0.9
	comp=Z,0.8nm,0.6s,baz=66,slow=23,SNR=5.0							
SONM	Songino Array	27.61	305	P		P	15 29 36.7	0.0
	comp=Z,0.4nm,0.7s,baz=104,slow=12,SNR=2.2							
TGY	Tagaytay City	28.34	223	P		P	15 29 43.4	0.0
	comp=Z,308nm,0.5s,baz=84,slow=4.7,SNR=4.7							
H11N2	WAKE ISLAND Hy	28.39	119	T		T	15 59 44.4	
	baz=312,slow=75,SNR=6.2							
H11N1	WAKE ISLAND Hy	28.40	119	T		T	15 59 49.0	
	baz=312,slow=75,SNR=9.3							
H11N3	WAKE ISLAND Hy	28.41	119	T		T	15 59 49.2	
	baz=312,slow=75,SNR=7.4							
H11S1	WAKE ISLAND Hy	29.07	121	T		T	16 00 39.7	
	baz=314,slow=75,SNR=8.5							
H11S3	WAKE ISLAND Hy	29.07	121	T		T	16 00 34.0	
	baz=314,slow=75,SNR=6.0							
H11S2	WAKE ISLAND Hy	29.09	121	T		T	16 00 37.7	
	baz=314,slow=75,SNR=4.4							
ZALV	Zalesovo Beam	41.87	313	P		P	15 31 38.5	-0.5
	comp=Z,2.4nm,0.8s,baz=85,slow=6.4,SNR=9.0							
MK31	Makanchi Array	43.91	303	P		P	15 31 55.4	-0.3
MKAR	Makanchi Array	43.91	303	P		P	15 31 56.1	+0.5
	comp=Z,0.5nm,0.6s,baz=89,slow=8.8,SNR=7.3							
MKAR	Makanchi Array	43.91	303	P		P	15 31 54.3	-1.4
MAKZ	Makanchi	44.12	303	P		P	15 31 57.6	+0.3
ILAR	Eielson Array	50.37	32	P		P	15 32 46.2	+0.6
	comp=Z,0.6nm,0.7s,baz=268,slow=5.6,SNR=8.1							
FITZ	Fitzroy Crossi	56.02	197	P		P	15 33 27.7	0.0
	comp=Z,1.2nm,0.7s,baz=90,slow=2.0,SNR=1.6							
FITZ	Fitzroy Crossi	56.02	197	P		P	15 33 26.5	-1.1
FITZ				IAmb		IAmb	15 33 45.6	
	comp=Z,2.0nm,1.2s							
WB0	Warramunga Arr	56.17	187	P		P	15 33 28.3	-0.4
WB0				IAmb		IAmb	15 33 35.0	
	comp=Z,12nm,1.4s							
WR0	Warramunga Arr	56.35	187			P	15 33 29.4	-0.6
WR0				IAmb		IAmb	15 33 46.5	
	comp=Z,7.2nm,1.3s							
WB2	Warramunga Arr	56.35	187	P		P	15 33 29.2	-0.8
WRA	Warramunga Arr	56.35	187	P		P	15 33 28.9	-1.1
	comp=Z,1.2nm,0.7s,baz=2.6,slow=7.5,SNR=11							
AS31	Alice Springs	60.08	187	P		P	15 33 56.0	0.0
AS31				IAmb		IAmb	15 34 12.5	
	comp=Z,0.9nm,1.1s							
ASAR	Alice Springs	60.08	187	P		P	15 33 54.9	-1.2
	comp=

MDH				S	Sb	15 27 09.7	0.0		
FAQ	**Al Faqa, Dubai**	**2.00**	**158**	*e*Pn	**Pn**	**15 26 44.5**	**+0.4**		
FAQ	**Al Faqa, Dubai**	**2.00**	**158**	P	**Pn**	**15 26 44.6**	**+0.5**		
FAQ				S	Sb	15 27 15.5	+2.9		
ASUD	**Al Ashush, Dub**	**2.04**	**165**	*e*P	**Pn**	**15 26 44.9**	**+0.3**		
	SNR=24								
ASUD	**Al Ashush, Dub**	**2.04**	**165**	*e*Pn	**Pn**	**15 26 45.3**	**+0.7**		
ASUD	**Al Ashush, Dub**	**2.04**	**165**	P	**Pn**	**15 26 45.3**	**+0.7**		
	SNR=24								
ASUD				S	Sb	15 27 16.7	+3.0		
AJN	**Ajban**	**2.05**	**174**	P	**Pn**	**15 26 46.8**	**+2.1**		
UOSS	**Minazif**	**2.10**	**142**	P	**Pn**	**15 26 44.8**	**-0.7**		
UOSS	**Minazif**	**2.10**	**142**	*e*Pn	**Pn**	**15 26 45.0**	**-0.5**		
UOSS	**Minazif**	**2.10**	**142**	P	**Pn**	**15 26 45.1**	**-0.4**		
UOSS				S	Sb	15 27 16.1	+0.5		
HATD	**Hatta, Dubai**	**2.16**	**145**	P	**Pn**	**15 26 46.9**	**+0.5**		
HATD	**Hatta, Dubai**	**2.16**	**145**	P	**Pn**	**15 26 47.3**	**+1.0**		
HATD				S	Sb	15 27 17.8	+0.5		
JHRM	**Jahrom**	**2.16**	**331**	*e*Pn	**Pb**	**15 26 49.8**	**-1.2**		
JHRM				*e*		15 27 39.5			
	comp=Z,99nm,0.5s								
ASHO	**Ashiyiah**	**2.24**	**148**	*e*P	**Pn**	**15 26 46.9**	**-0.5**		
	SNR=8.3								
ASHO	**Ashiyiah**	**2.24**	**148**	P	**Pn**	**15 26 47.4**	**-0.1**		
	SNR=10.0								
QIR1	**Qir**	**2.41**	**321**	*e*Pn	**Pb**	**15 26 53.7**	**-1.4**		
ALNE	**Al Ain**	**2.69**	**160**	*e*Pn	**Pn**	**15 26 53.4**	**-0.2**		
ALNE	**Al Ain**	**2.69**	**160**	P	**Pn**	**15 26 54.1**	**+0.5**		
SOHO	**SOHO**	**2.94**	**147**	*i* P	**Pn**	**15 26 56.1**	**-1.0**		
	SNR=14								
SOHO	**SOHO**	**2.94**	**147**	*e*Pn	**Pn**	**15 26 56.0**	**-1.0**		
SOHO	**SOHO**	**2.94**	**147**	P	**Pn**	**15 26 56.0**	**-1.0**		
KHNJ	**Kahnooj**	**2.94**	**62**	*e*Pn	**Pn**	**15 26 57.3**	**+0.2**		
MZWR	**Madinat Zayed**	**2.94**	**196**	*e*Pn	**Pn**	**15 26 57.2**	**+0.1**		
MZWR	**Madinat Zayed**	**2.94**	**196**	P	**Pn**	**15 26 55.8**	**-1.3**		
NGRK	**Negar Kerman**	**3.49**	**29**	*e*		15 27 15.0			
	comp=Z,99nm,0.2s								
NGRK				*e*Pn	**Pn**	**15 27 05.9**	**+1.0**		
ARQ	**Araqi**	**3.63**	**154**	P	**Pn**	**15 27 06.1**	**-0.4**		
	SNR=7.7								
KRBR	**Kerman**	**3.80**	**27**	*e*Pn	**Pn**	**15 27 10.3**	**+1.2**		
KRBR				*e*S	**Sn**	**15 27 53.5**	**+0.6**		
KRBR				IAML		15 27 58.7			
	comp=E,67nm,0.8s								
KRBR				IAML		15 28 01.0			
	comp=N,56nm,0.8s								
KRBR	**Kerman**	**3.80**	**27**	*e*Pn	**Pn**	**15 27 10.3**	**+1.2**		
TVBK	**TV Kerman**	**3.80**	**27**	*e*Pn	**Pn**	**15 27 10.6**	**+1.4**		
TVBK				*e*		15 28 02.2			
	comp=Z,99nm,0.3s								
UMZA	**Um Al Zommool**	**3.89**	**175**	*e*Pn	**Pn**	**15 27 09.2**	**-0.9**		
UMZA	**Um Al Zommool**	**3.89**	**175**	P	**Pn**	**15 27 11.7**	**+1.6**		
KHGB	**Koh Gabri**	**4.05**	**21**	*e*Pn	**Pn**	**15 27 14.2**	**+1.7**		
KHGB				*e*		15 27 16.3			
	comp=Z,99nm,0.3s								
CHMN	**Cheshme madani**	**4.06**	**36**	*e*Pn	**Pn**	**15 27 14.6**	**+1.8**		
CHMN				*e*		15 27 17.9			
	comp=Z,99nm,0.3s								
KBAM	**BAM**	**4.12**	**52**	*e*Pn	**Pn**	**15 27 14.9**	**+1.5**		
KBAM				*e*		15 27 18.6			
	comp=Z,99nm,0.6s								
IMEH	**Mehriz**	**4.77**	**358**	*e*Pn	**Pn**	**15 27 24.4**	**+2.0**		
IBAF	**Bafgh**	**5.01**	**8**	*e*Pn	**Pn**	**15 27 26.9**	**+1.2**		
KLNJ	**Kolanjah**	**5.19**	**328**	*e*Pn	**Pn**	**15 27 29.7**	**+1.4**		
ISAD	**Sadrabad**	**5.37**	**350**	*e*Pn	**Pn**	**15 27 33.0**	**+2.3**		
IRAM	**Rameshеh**	**5.58**	**339**	*e*Pn	**Pn**	**15 27 35.7**	**+2.1**		
YZKH	**Yazd**	**5.76**	**359**	*e*Pn	**Pn**	**15 27 37.4**	**+1.4**		
YZKH	**Yazd**	**5.76**	**359**	*e*Pn	**Pn**	**15 27 37.4**	**+1.4**		
MHTO	**MHTO**	**6.32**	**152**	P	**Pn**	**15 27 43.0**	**-0.5**		
	SNR=14								
NASN	**Na'in**	**6.40**	**345**	*e*Pn	**Pn**	**15 27 46.3**	**+1.4**		
NASN	**Na'in**	**6.40**	**345**	*e*Pn	**Pn**	**15 27 46.3**	**+1.4**		
TPRV	**Parvadeh(Tabas**	**6.61**	**14**	*e*Pn	**Pn**	**15 27 48.7**	**+1.1**		
ANAR	**Anarak**	**6.62**	**352**	*e*Pn	**Pn**	**15 27 48.0**	**+0.3**		
NHDN	**Nehbandan**	**6.65**	**43**	*e*Pn	**Pn**	**15 27 49.2**	**+1.1**		
IKOO	**Kooshah**	**6.87**	**32**	*e*Pn	**Pn**	**15 27 51.8**	**+0.5**		
IPIR	**Pirpir**	**6.93**	**332**	*e*Pn	**Pn**	**15 27 52.6**	**+0.5**		
IKLH	**Kolahrood**	**7.24**	**338**	*e*Pn	**Pn**	**15 28 00.4**	**+4.1**		
TKDS	**Koohdasht(Taba**	**7.28**	**16**	*e*Pn	**Pn**	**15 27 57.6**	**+0.9**		
TNSJ	**Nastanj**	**7.50**	**12**	*e*Pn	**Pn**	**15 28 00.4**	**+0.6**		
KRSH	**Karshahi**	**7.68**	**343**	*e*Pn	**Pn**	**15 28 05.0**	**+2.7**		
IMON	**Monand**	**7.82**	**32**	*e*Pn	**Pn**	**15 28 05.7**	**+1.4**		
DOK	**Doka**	**7.97**	**184**	P	**Pn**	**15 28 06.0**	**-0.2**		
	SNR=6.7								
WHFO	**Wadi Hawf**	**8.70**	**186**	P	**Pn**	**15 28 15.0**	**-1.2**		
	SNR=18								
WHFO				P	**Pn**	**15 28 15.0**	**-1.2**		
	SNR=18								
BRTR	**Keskin Array B**	**21.93**	**312**	P	**P**	**15 31 02.9**	**-0.5**		
	comp=Z,0.5nm,0.6s,baz=124,slow=7.6,SNR=3.6								
MKAR	**Makanchi Array**	**29.64**	**40**	P	**P**	**15 32 13.9**	**-1.1**		
	comp=Z,0.3nm,0.7s,baz=213,slow=10,SNR=4.2								
ZALV	**Zalesovo Beam**	**35.18**	**31**	P	**P**	**15 33 03.5**	**+0.1**		
	comp=Z,1.1nm,0.5s,baz=219,slow=6.9,SNR=5.5								
FINES	**FINESS Array B**	**39.82**	**339**	P	**P**	**15 33 41.1**	**-1.4**		
	comp=Z,2.0nm,0.9s,baz=132,slow=9.5,SNR=4.4								
SONM	**Songino Array**	**45.28**	**48**	P	**P**	**15 34 28.7**	**+1.4**		
	comp=Z,1.5nm,0.8s,baz=246,slow=9.1,SNR=3.8								
TORD	**Torodi Ar. Bea**	**51.34**	**266**	P	**P**	**15 35 13.4**	**-0.9**		
	comp=Z,1.4nm,1.0s,baz=80,slow=5.7,SNR=3.6								

IDC ***13*** *15:39:22.9±1.2,0.°32N×123.°45E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.6/34,mbtmp3.7/6,ML4.1/1,Error ellipse: s-maj=109.0km s-min=19.2km az=67.0*

DJA ***13*** *15:39:43.0±1.1,0.°S±5.°×12.°3E±.°,h143km±9km,M3.4/6, MLv3.4/6*

ISC 13 15:39:41.0±0.8,0.°07S±0.°08×123.°1E±0.°1,h162km,n11, σ0.°84/13,mb3.4/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.71**	**354**	P	**Pn**	**15 40 06.0**	**+1.2**
GTOI				S	**Sn**	**15 40 24.4**	**+1.2**
LUWI	**Luwuk**	**1.01**	**198**	P	**Pn**	**15 40 07.4**	**+0.4**
LUWI				S	**Sn**	**15 40 26.7**	**-0.3**
KMSI	**Cibinong**	**1.10**	**54**	P	**Pn**	**15 40 08.3**	**+0.6**
MRSI	**Marisa**	**1.27**	**296**	P	**Pn**	**15 40 09.4**	**+0.2**
APSI	**Ampana**	**1.66**	**240**	P	**Pn**	**15 40 14.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**18.09**	**172**	P	**P**	**15 43 40.8**	**+0.3**
	0.4nm,0.3s,baz=10,slow=8.6,SNR=11						
WRA	**Warramunga Arr**	**22.62**	**151**	P	**P**	**15 44 27.8**	**-0.5**
	2.3nm,0.5s,baz=331,slow=11,SNR=51						
ASAR	**Alice Springs**	**25.70**	**157**	P	**P**	**15 44 56.3**	**0.0**
	0.3nm,0.5s,baz=332,slow=9.0,SNR=10						
STKA	**Stephens Creek**	**36.16**	**153**	P	**P**	**15 46 28.1**	**+0.2**
	1.5nm,0.9s,baz=326,slow=15,SNR=3.5						
SONM	**Songino Array**	**49.88**	**345**	P	**P**	**15 48 16.9**	**-1.0**
	0.4nm,0.5s,baz=157,slow=9.0,SNR=3.9						
MKAR	**Makanchi Array**	**58.72**	**328**	P	**P**	**15 49 21.0**	**-0.7**
	0.1nm,0.3s,baz=125,slow=8.7,SNR=5.2						

IDC 13 15:45:11.7±3.7,30.°57N×140.°95E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/36,mbtmp3.4/4,ML2.5/1,MS3.0/1, Ms1 3.2/1,ms1mx2.6/23,Error ellipse: s-maj=156.3km s-min=25.9km az=73.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.38**	**340**	Pn	Pn	15 46 45.8	-1.1
	0.1nm,0.3s,baz=156,slow=11,SNR=6.2						
CMAR	**Chiang Mai Arr**	**39.86**	**262**	LR	LR	16 08 57.2	
	comp=Z,23nm,21.0s,baz=205,slow=36						
MKAR	**Makanchi Array**	**47.47**	**307**	P	P	15 53 48.8	+0.5
	0.2nm,0.8s,baz=89,slow=9.7,SNR=1.8						
WRA	**Warramunga Arr**	**50.62**	**188**	P	P	15 54 12.1	-0.4
	0.8nm,0.5s,baz=4.5,slow=7.3,SNR=22						
ASAR	**Alice Springs**	**54.35**	**188**	P	P	15 54 40.2	0.0
	0.4nm,0.5s,baz=0.7,slow=5.3,SNR=21						

BJI ***13*** *16:15:22.1±0.0,26.°31N×141.°62E,h102km,mB4.9/36, mb4.6/51*

NEIC ***13*** *16:15:25.5±2.2,26.°34N±0.°08×141.°26E±0.°09,h99km±5km, mb4.8/69,Error ellipse: s-maj=13.1km s-min=10.0km az=132.0*

MOS ***13*** *16:15:25.8±0.9,26.°33N×141.°04E,h115km,mb4.7/19, Error ellipse: s-maj=10.4km s-min=5.1km az=101.5*

JMA ***13*** *16:15:26.6±0.1,26.°36N×141.°55E,h112km±3km,M4.7*

JMA Felt III J1.

IDC ***13*** *16:15:26.9±1.1,26.°38N×141.°15E,h107km±9km,mb4.3/30, mb1 4.4/33,mb1mx4.4/38,mbtmp4.7/33,MS3.4/9, Ms1 3.5/9,ms1mx3.2/42,Error ellipse: s-maj=12.1km s-min=7.3km az=96.0*

GCMT ***13*** *16:15:30.5±0.5,26.°42N±0.°03×141.°35E±0.°04, h110km±6km,MW4.8/62,Moment Tensor Solution. s14,c16; s62,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.67±.09; Mθθ-0.52±.12; Mφφ-1.15±.12; Mrθ-0.53±.08; Mrφ1.55±.10; Mθφ-0.27±.10; Best double couple: Mo2.18700×10^16 NP1:φs164.00000°,δ49.00000°, λ125.00000°. NP2:φs298.00000°,δ52.00000°,λ57.00000°. Principal axes: T 1.9530, Plg64.0000°, Azm144.0000°; N 0.4690, Plg26.0000°, Azm320.0000°; P -2.4200, Plg2.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 16:15:26.2±0.4,26.°37N±0.°04×141.°31E±0.°05,h105km±3km, h106km:pP-P,n317,σ1939/343,mb4.7/127,11C-13D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**0.82**	**71**	P	**Pn**	**16 15 44.7**	**-0.5**
JHH2				S	**Sn**	**16 15 58.2**	**-1.4**
CBIJ	**Chichi jima**	**1.07**	**47**	P	**Pn**	**16 15 47.5**	**-0.3**
CBIJ				S	**Sn**	**16 16 03.4**	**-0.6**
JCJ	**Chichijima**	**1.07**	**47**	P	**Pn**	**16 15 47.5**	**-0.2**
	4μm,0.3s,baz=112,slow=6.9,SNR=664						
JCJ				S	**Sn**	**16 16 02.9**	**-1.1**
	3μm,0.3s,baz=270,slow=20,SNR=13						
JCJ				LR	LR	16 16 20.7	
	comp=Z,3μm,21.4s,baz=341,slow=46						
JCJ	**Chichijima**	**1.07**	**47**	Pn	**Pn**	**16 15 47.5**	**-0.2**
JCJ				Sn	**Sn**	**16 16 03.6**	**-0.4**
JHJ2	**Mitsune**	**6.84**	**349**	Pn	**Pn**	**16 17 06.1**	**+2.2**
JHJ	**Hachijo jima 2**	**6.85**	**349**	P	**Pn**	**16 17 06.1**	**+2.0**
	21nm,0.3s,baz=77,slow=14,SNR=5.7						
JHJ				S	**Sn**	**16 18 22.4**	**+1.7**
	13nm,0.3s,baz=66,slow=20,SNR=2.4						
BSO4	**Boso 4**	**8.63**	**355**	P	**Pn**	**16 17 30.3**	**+2.2**
JMZ	**Minamidaito 2**	**9.08**	**269**	Pn	**Pn**	**16 17 36.6**	**+2.1**
JAO	**Obara**	**9.52**	**340**	P	**Pn**	**16 17 43.2**	**+2.8**
JHU	**Hanno**	**9.61**	**350**	P	**Pn**	**16 17 40.9**	**-0.6**
INU	**Inuyama**	**9.68**	**339**	Pn	**Pn**	**16 17 45.3**	**+2.9**
JGF	**Kuroka**	**9.80**	**341**		**Pn**	**16 17 46.0**	**+1.8**
JYT	**Yasato**	**9.87**	**355**	P	**Pn**	**16 17 44.2**	**-0.8**
JYT				*e*S	**Sn**	**16 19 28.3**	**-5.6**
JYT	**Yasato**	**9.87**	**355**		**Pn**	**16 17 44.2**	**-0.8**
JAG	**Ashikaga**	**10.15**	**351**	P	**Pn**	**16 17 47.1**	**-1.7**
JHO	**Hitachi**	**10.23**	**357**	P	**Pn**	**16 17 48.4**	**-1.5**
MJAR	**Matsushiro Arr**	**10.48**	**346**	P	**Pn**	**16 17 53.4**	**0.0**
	0.5nm,0.3s,baz=153,slow=32,SNR=19						
MJAR				LR	LR	16 21 53.6	
	comp=Z,84nm,20.1s,baz=340,slow=37						
MJAR	**Matsushiro Arr**	**10.48**	**346**	P	**Pn**	**16 17 54.6**	**+1.3**
MJAR	**Matsushiro Arr**	**10.48**	**346**	Pn	**Pn**	**16 17 54.6**	**+1.3**
MAJO	**Matsushiro**	**10.48**	**346**	*e*P	**Pn**	**16 17 53.7**	**+0.3**
MAJO	**Matsushiro**	**10.48**	**346**		**Pn**	**16 17 53.6**	**+0.2**
MAT	**Matsushiro**	**10.48**	**346**	P	**Pn**	**16 17 53.7**	**+0.3**
MAT				S	**Sn**	**16 19 47.1**	**-1.7**
JNU	**Nakatsue**	**11.28**	**309**	P	**Pn**	**16 18 07.5**	**+3.3**
	0.3nm,0.3s,baz=195,slow=13,SNR=2.5						
JNU				LR	LR	16 21 47.1	
	comp=Z,181nm,19.6s,baz=108,slow=34						
JMM	**Marumori**	**11.47**	**358**		**Pn**	**16 18 04.6**	**-2.0**
JOW	**Kunigami**	**11.67**	**275**	P	**Pn**	**16 18 12.6**	**+3.1**
	2.6nm,0.3s,baz=119,slow=13,SNR=12						
JOW	**Kunigami**	**11.67**	**275**	Pn	**Pn**	**16 18 09.4**	**-0.1**
ERM	**Erimo**	**15.68**	**5**	*e*P	**Pn**	**16 19 01.0**	**-0.1**
KSRS	**Korea Array**	**15.83**	**318**	P	**P**	**16 19 06.9**	**+2.2**
	0.8nm,0.3s,baz=128,slow=12,SNR=19						
KSRS				LR	LR	16 23 34.1	
	comp=Z,55nm,19.5s,baz=120,slow=31						
ASAJ	**Asahikawa**	**17.74**	**3**	P	**Pn**	**16 19 27.3**	**+1.0**
	0.9nm,0.3s,baz=209,slow=12,SNR=14						
JKA	**Kamikawa-asahi**	**17.74**	**3**	P	**P**	**16 19 26.1**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**18.01**	**11**	*e*P	**P**	**16 19 28.4**	**-0.2**
YHNB	**Yeheng**	**18.07**	**269**		**P**	**16 19 29.2**	**-0.5**
YHNB				IAmb	IAmb	16 19 33.5	
	comp=Z,42nm,0.7s						
YULB	**Yu-li**	**18.39**	**265**	P	**Pn**	**16 19 36.0**	**+1.5**
YULB				IAmb	IAmb	16 19 39.8	
	comp=Z,48nm,0.7s						
SSLB	**Suanglung**	**18.61**	**266**	P	**P**	**16 19 33.9**	**-1.6**
SSLB				IAmb	IAmb	16 19 43.4	
	comp=Z,40nm,0.7s						
TPUB	**Ta-pu**	**19.01**	**265**	P	**P**	**16 19 36.7**	**-3.2**
TPUB				IAmb	IAmb	16 19 55.2	
	comp=Z,30nm,0.9s						
USRK	**Ussuriysk Ar.**	**19.32**	**339**	P	**P**	**16 19 43.3**	**+0.3**
	baz=151,slow=9.5,SNR=6.7						
USRK				LR	LR	16 26 39.8	
	comp=Z,110nm,18.6s,baz=53,slow=35						
USRK	**Ussuriysk Ar.**	**19.32**	**339**	P	**P**	**16 19 41.1**	**-1.9**
NJ2	**Nanjing**	**20.39**	**291**	*e*P	**P**	**16 19 55.4**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
MDJ	**Mudanjiang**	**20.51**	**336**	P	**P**	**16 19 55.9**	**0.0**
MDJ				pmax	pmax		
	comp=Z,170nm,5.8s						
YSS	**Yuzh-Sakhalins**	**20.58**	**3**	*e*P	Pn	16 19 59.2	-0.5
TIA	**Tai'an**	**22.82**	**301**	P	**P**	**16 20 19.4**	**-0.9**
TIA				pmax	pmax		
	comp=Z,12nm,0.9s						
KLR	**Kul'dur**	**24.00**	**344**	P	**P**	**16 20 30.5**	**-0.5**
	comp=Z,3.6nm,0.6s,baz=154,slow=6.8,SNR=20						
KLR	**Kul'dur**	**24.00**	**344**	*e*P	**P**	**16 20 30.7**	**-0.3**
WHN	**Wuhan**	**24.04**	**286**	P	**P**	**16 20 33.8**	**+2.3**
H11N2	**WAKE ISLAND Hy**	**24.43**	**100**	T	T	16 45 30.2	
	baz=291,slow=74,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**24.43**	**100**	T	T	16 45 32.6	
	baz=291,slow=74,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**24.45**	**100**	T	T	16 45 36.4	
	baz=291,slow=74,SNR=7.0						
TYV	**Tymovskoe**	**24.48**	**2**	*e*P	**P**	**16 20 37.3**	**+2.0**
TYV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GRNR	**Gornyy**	**24.65**	**353**	*e*P	**P**	**16 20 38.6**	**+1.7**
GRNR				MLR	MLR		
	comp=E,210nm,13.0s						
GRNR				MLR	MLR		
	comp=N,220nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,230nm,17.0s						
H11S3	**WAKE ISLAND Hy**	**24.70**	**103**	T	T	16 46 19.8	
	baz=297,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**	**24.71**	**103**	T	T	16 46 18.5	
	baz=297,slow=74,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**24.72**	**103**	T	T	16 46 20.2	
	baz=297,slow=74,SNR=5.4						
HHC	**Hu-ho-hao-te**	**28.51**	**308**	*e*P	**P**	**16 21 15.0**	**+3.2**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,7.2s						
HHC				LR	LR		
	comp=Z,200nm,16.2s						
HHC				LR	LR		
	comp=Z,360nm,16.2s						
HHC				LR	LR		
	comp=Z,200nm,16.2s						
SIJI	**Sorong**	**28.76**	**201**	P	**P**	**16 21 14.1**	**-0.1**
	comp=Z,11nm,0.5s,baz=358,slow=20,SNR=9.2						
XAN	**Xi'an**	**28.93**	**293**	P	**P**	**16 21 15.8**	**+0.3**
XAN				sP	sP	16 21 47.3	-2.4
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XAN				LR	LR		
	comp=Z,280nm,22.8s						
PETK	**Petropavlovsk-**	**29.38**	**20**	P	**P**	**16 21 21.1**	**+1.9**
	comp=Z,1.5nm,0.6s,baz=222,slow=6.0,SNR=6.0						
PETK				PcP	**PcP**	**16 24 23.5**	**+0.7**
	comp=Z,4.5nm,0.8s,baz=191,slow=6.0,SNR=5.1						
PETK				LR	LR	16 35 10.3	
	comp=Z,46nm,18.4s,baz=302,slow=40						
GYA	**Guiyang**	**30.97**	**278**	*e*P	**P**	**16 21 34.8**	**+1.0**
GYA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GTOI	**Gorontalo**	**31.07**	**217**	P	**P**	**16 21 34.1**	**-0.4**
	comp=Z,5.8nm,0.8s						
SANI	**Sanana**	**31.90**	**210**	P	**P**	**16 21 40.4**	**-1.4**
	comp=Z,28nm,1.0s						
TOLI2	**Tolitoli**	**31.95**	**221**	P	**P**	**16 21 40.7**	**-1.5**
SPMM	**Sapulut**	**32.07**	**232**	P	**P**	**16 21 44.0**	**+0.7**
APSI	**Ampana**	**33.10**	**218**	P	**P**	**16 21 52.1**	**-0.1**
	comp=Z,20nm,1.2s						
LZH	**Lanzhou**	**33.29**	**296**	⇑P	**P**	**16 21 54.3**	**+0.3**
LZH				pP	pP	16 22 17.5	+0.7
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,86nm,5.2s						
MA2	**Magadan**	**33.83**	**9**	⇓*e*P	**P**	**16 21 59.4**	**+1.2**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULN	**Ulaanbaatar**	**34.32**	**318**	⇓*e*P	**P**	**16 22 03.7**	**+1.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KMI	**Kunming**	**34.68**	**277**	⇑P	**P**	**16 22 07.9**	**+1.7**
KMI				pP	pP	16 22 26.8	-2.1
KMI				sP	sP	16 22 40.5	-0.2
KMI				pmax	pmax		
	comp=Z,12nm,0.9s						
KMI				LR	LR		
	comp=Z,140nm,9.0s						
KMI				LR	LR		
	comp=Z,140nm,5.2s						
KMI				LR	LR		
	comp=Z,140nm,6.1s						
SONM	**Songino Array**	**34.70**	**317**	P	**P**	**16 22 05.5**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=124,slow=6.8,SNR=6.6						
SONM	**Songino Array**	**34.70**	**317**	P	**P**	**16 22 05.1**	**-0.9**
PMG	**Port Moresby**	**36.01**	**170**	P	**P**	**16 22 17.0**	**-0.4**
	comp=Z,30nm,0.8s,baz=243,slow=16,SNR=2.6						
PMG	**Port Moresby**	**36.01**	**170**	P	**P**	**16 22 16.4**	**-0.9**
PMG				pmax	pmax		
	comp=Z,33nm,0.9s						
PMG	**Port Moresby**	**36.01**	**170**	P	**P**	**16 22 16.4**	**-0.9**
NONG	**Nongkai**	**36.18**	**265**	P	**P**	**16 22 21.1**	**+2.3**
	comp=Z,15nm,0.7s						
YAK	**Yakutsk**	**36.50**	**351**	*e*P	**P**	**16 22 21.0**	**0.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
SPSI	**Sidrap Palu**	**36.66**	**218**	P	**P**	**16 22 23.8**	**+0.9**
SPSI	**Sidrap Palu**	**36.66**	**218**	P	**P**	**16 22 22.9**	**0.0**
	comp=E,26nm,0.6s						
SBUM	**Sibu**	**36.68**	**234**	P	**P**	**16 22 24.0**	**+0.9**
GTA	**Gaotai**	**36.88**	**301**	⇑P	**P**	**16 22 24.3**	**-0.4**
GTA				pP	pP	16 22 48.3	+0.6
GTA				sP	sP	16 23 00.4	+0.9
GTA				PcP	**PcP**	**16 24 44.0**	**-0.3**
GTA				pmax	pmax		
	comp=E,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=E,83nm,5.5s						
GTA				LR	LR		
	comp=E,250nm,16.0s						
GTA				LR	LR		
	comp=E,200nm,17.8s						
GTA				LR	LR		
	comp=E,180nm,16.7s						
SEY	**Seymchan**	**37.29**	**8**	P	**P**	**16 22 29.2**	**+1.5**
	comp=E,2.7nm,0.7s,baz=156,slow=7.0,SNR=16						
SEY	**Seymchan**	**37.29**	**8**	⇓*e*P	**P**	**16 22 28.5**	**+0.8**
SEY				*i* *PP	**pwP**	**16 22 54.8**	**-0.8**
KAPI	**Kappang**	**37.55**	**217**	P	**P**	**16 22 31.0**	**+0.6**
	comp=E,5.6nm,0.5s,baz=263,slow=1.2,SNR=5.3						
KAPI	**Kappang**	**37.55**	**217**	P	**P**	**16 22 31.0**	**+0.6**
ZAK	**Zakamensk**	**37.65**	**320**	*e*P	**P**	**16 22 30.9**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SRAK	**Srakaew**	**38.70**	**259**	P	**P**	**16 22 41.3**	**+1.2**
	comp=Z,140nm,0.7s						
KSM	**Kuching**	**38.74**	**235**	P	**P**	**16 22 41.0**	**+0.6**
MMRI	**Maumere**	**39.42**	**211**	P	**P**	**16 22 44.6**	**-1.5**
MMRI	**Maumere**	**39.42**	**211**	P	**P**	**16 22 46.3**	**+0.2**
	comp=Z,50nm,0.9s						
SOEI	**Soe**	**39.55**	**207**	P	**P**	**16 22 46.5**	**-0.7**
	comp=Z,33nm,1.0s						
CMMT	**Chiang Mai**	**39.69**	**268**	P	**P**	**16 22 48.6**	**+0.2**
	comp=Z,3.5nm,1.1s						
CHTO	**Chiang Mai**	**39.69**	**268**	P	**P**	**16 22 45.8**	**-2.6**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CHTO	**Chiang Mai**	**39.69**	**268**	P	**P**	**16 22 45.8**	**-2.6**
CM04	**Chiang Mai Arr**	**39.79**	**267**	P	**P**	**16

WRA S **S** **16 30 20.9 -3.1**
comp=Z,6.1nm,1.2s,baz=5.4,slow=14,SNR=4.8
WRA Warramunga Arr 46.53 189 *i* P **P** **16 23 43.0 -0.3**
WRA pmax pmax
comp=Z,64nm,0.5s
FITZ Fitzroy Crossi 46.75 201 P **P** **16 23 45.2 +0.2**
comp=Z,30nm,0.7s,baz=13,slow=7.2,SNR=72
FITZ LR LR 16 43 06.3
comp=Z,84nm,19.5s,baz=357,slow=36
FITZ Fitzroy Crossi 46.75 201 P **P** **16 23 45.2 +0.2**
PSI Prapat 46.90 247 P **P** **16 23 46.6 +0.2**
comp=Z,9.0nm,0.7s,baz=0.3,slow=5.2
PSI PcP **PcP** **16 25 18.1 +0.5**
comp=Z,18nm,0.7s,baz=0.6,slow=2.5,SNR=8.7
RPSI Rantau Prapat 46.95 247 PcP **PcP** **16 25 18.3 +0.5**
KLSI 46.99 234 P **P** **16 23 48.1 +1.1**
comp=Z,3.4nm,0.9s
DGZ Jazzator, Alta 47.20 314⇑ *e*P **P** **16 23 48.3 -0.2**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
MDSI Maura Dua 47.25 235 P **P** **16 23 49.5 +0.4**
MDSI Maura Dua 47.25 235 P **P** **16 23 49.0 -0.1**
comp=Z,24nm,0.8s
LHSI Lahat 47.30 236 P **P** **16 23 50.7 +1.3**
comp=Z,1μmcomp=Z,21nm,0.8s
TAPN Taplejung 47.51 284 *e*P **P** **16 23 52.3 +0.9**
comp=Z,19nm,0.6s
KASI Kota Agung 47.72 234 P **P** **16 23 50.8 -1.9**
comp=Z,11nm,0.5s
ODAN Odare 47.89 283 *e*P **P** **16 23 55.1 +0.9**
comp=Z,43nm,0.6s
RAMN Ramite 48.56 284 *e*P **P** **16 24 00.2 +0.8**
comp=Z,30nm,0.8s
GSI Gunungsitoli 48.85 247 P **P** **16 24 01.5 +0.1**
comp=Z,23nm,1.2s
GUN Gumba 48.99 285 *e*P **P** **16 24 04.0 +1.2**
comp=Z,32nm,0.5s
PKI Pulchoki 49.47 285 *e*P **P** **16 24 06.8 +0.4**
PKIN Phulchoki 49.48 285 *e*P **P** **16 24 06.7 +0.3**
comp=Z,6.9nm,0.4s
ZALV Zalesovo Beam 49.52 320 P **P** **16 24 05.5 -0.5**
comp=Z,0.6nm,0.5s,baz=58,slow=2.9,SNR=5.2
ZALV PcP **PcP** **16 25 25.3 -1.1**
comp=Z,4.4nm,0.8s,baz=99,slow=3.8,SNR=7.7
ZALV PP PP 16 25 52.1 -8.9
comp=Z,1.8nm,0.9s,baz=98,slow=7.4,SNR=2.5
ZALV ScP **ScP** **16 29 09.3 -2.8**
comp=Z,1.5nm,0.9s,baz=108,slow=4.8,SNR=5.4
ZALV Zalesovo Beam 49.52 320 P **P** **16 24 04.0 -2.0**
ZALV **PcP** **16 25 25.4 -0.9**
KKN Kakani 49.53 285 *e*P **P** **16 24 08.2 +1.4**
DMN Daman 49.72 285 *e*P **P** **16 24 09.0 +0.8**
comp=Z,28nm,0.9s
GKN Gorkha 50.04 285 *e*P **P** **16 24 11.3 +0.7**
comp=Z,58nm,1.0s
AS31 Alice Springs 50.26 189 P **P** **16 24 11.4 -0.5**
AS31 IAmb IAmb 16 24 13.3
comp=Z,4.3nm,0.6s
ASAR Alice Springs 50.26 189 P **P** **16 24 11.2 -0.7**
comp=Z,4.7nm,0.4s,baz=7.3,slow=6.8,SNR=216
ASAR PcP **PcP** **16 25 30.0 +0.6**
comp=Z,4.3nm,0.8s,baz=12,slow=3.3,SNR=9.8
ASAR S **S** **16 31 13.1 -3.3**
comp=Z,0.6nm,1.0s,baz=357,slow=11,SNR=2.6
ASAR LR LR 16 45 10.4
comp=Z,54nm,19.3s,baz=342,slow=36
ASAR Alice Springs 50.26 189 P **P** **16 24 10.9 -1.0**
ASAR PcP **PcP** **16 25 30.0 +0.6**
MK31 Makanchi Array 50.33 310 P **P** **16 24 11.3 -1.0**
MK31 pmax pmax
comp=Z,1.0nm,0.7s
MK31 Makanchi Array 50.33 310 P **P** **16 24 11.3 -1.0**
MKAR Makanchi Array 50.33 310 P **P** **16 24 11.1 -1.2**
comp=Z,0.5nm,0.4s,baz=92,slow=8.9,SNR=16
MKAR PcP **PcP** **16 25 28.1 -1.5**
comp=Z,1.7nm,0.7s,baz=112,slow=3.4,SNR=4.1
MKAR ScP **ScP** **16 29 12.6 -3.3**
comp=Z,0.8nm,0.7s,baz=90,slow=5.7,SNR=4.9
ANM Nome 50.96 26 P 16 24 18.2
baz=248,SNR=6.2
PSA00 Pilbara Seismi 52.00 206 P **P** **16 24 24.2 -0.7**
PSA00 IAmb IAmb 16 24 26.0
comp=Z,16nm,0.8s
PSA00 Pilbara Seismi 52.00 206 P **P** **16 24 23.0 -1.9**
PSA00 IAmb IAmb 16 24 26.1
comp=Z,35nm,1.0s
EIDS Eidsvold 52.30 169 P **P** **16 24 27.2 +0.1**
SHLS Shalkode 52.35 305 *e*P **P** **16 24 24.3 -3.2**
baz=305
SHLS Shalkode 52.35 305 *e*P **P** **16 24 24.3 -3.2**
KPKS Kokpek 52.90 306 *e*P **P** **16 24 30.6 -1.0**
baz=306
KPKS Kokpek 52.90 306 *e*P **P** **16 24 30.5 -1.0**
SATY Saty 53.12 305 *e*P **P** **16 24 32.3 -0.9**
baz=305
SATY Saty 53.12 305 *e*P **P** **16 24 32.3 -0.9**
RDOG Red Dog Mine 53.20 23 P 16 24 35.8
baz=248
NOUC Port Laguerre 53.93 151 P **P** **16 24 39.7 +0.6**
DZM Mont Dzumac 53.96 151 P **P** **16 24 40.3 +0.9**
MDOK Medeo 54.11 306 *e*P **P** **16 24 39.8 -0.7**
baz=306
MDOK Medeo 54.11 306 *e*P **P** **16 24 39.8 -0.7**
OUENC Ouen Island, N 54.44 151 P **P** **16 24 43.8 +1.0**
KUU Kurty 54.57 306 *e*P **P** **16 24 42.4 -1.2**
comp=Z,3.3nm,0.5s,baz=306
KUU Kurty 54.57 306 *e*P **P** **16 24 42.4 -1.2**
KUU pmax pmax
comp=Z,3.0nm,0.5s
KDAK Kodiak Island 55.41 37 P 16 24 50.6
baz=265
AAK Ala-Archa 56.03 305⇑ *e*P **P** **16 24 54.3 0.0**
AAK pmax pmax
comp=Z,4.0nm,0.8s
IMAR Indian Mountai 56.04 27 P **P** **16 24 55.6 +1.8**
BTLS Baital 56.12 308 *e*P **P** **16 24 54.4 -0.3**
baz=308
BTLS Baital 56.12 308 *e*P **P** **16 24 54.3 -0.4**
CHUM Lake Minchumin 56.27 29 P 16 24 57.6
baz=261
A21K Barrow 56.39 20 P **P** **16 24 57.9 +1.8**
A21K IAmb IAmb 16 24 58.9
comp=Z,15nm,0.8s
A21K Barrow 56.39 20 P 16 24 58.2
baz=252
BRZS Berezniki 56.74 314 *e*P **P** **16 24 57.8 -1.3**
baz=314
BRZS Berezniki 56.74 314 *e*P **P** **16 24 57.7 -1.3**
BPAW Bear Paw Mtn. 56.88 29 P 16 25 01.8
baz=262
TRF Thorofare Moun 57.11 30 P **P** **16 25 01.8 +0.2**
TRF IAmb IAmb 16 25 13.9
comp=Z,7.1nm,1.0s
COLD Coldfoot 57.66 25 P 16 25 06.8
baz=261,SNR=7.2
MCK McKinley 57.74 30 P **P** **16 25 06.7 +0.9**
MCK pmax pmax
comp=Z,9.0nm,0.9s
MCK McKinley 57.74 30 P **P** **16 25 06.7 +0.9**
MCK IAmb IAmb 16 25 07.9
comp=Z,8.6nm,0.9s
MCK McKinley 57.74 30 P 16 25 06.9
baz=264
RND Reindeer 57.75 30 P **P** **16 25 06.7 +0.8**
RND pmax pmax
comp=Z,6.0nm,0.7s
RND Reindeer 57.75 30 P **P** **16 25 06.7 +0.8**
RND IAmb IAmb 16 25 07.6
comp=Z,5.8nm,0.7s
NEA2 Nenana 57.77 29 P 16 25 07.9
baz=264,SNR=5.4
KNK Knik Glacier 57.77 32 P **P** **16 25 07.0 +0.8**
KNK IAmb IAmb 16 25 08.3
comp=Z,9.8nm,0.8s
KNK Knik Glacier 57.77 32 P 16 25 07.1
baz=266
WAT2 Susitna Watana 57.83 31 P 16 25 07.4
baz=265
SML Sawmill 57.86 32 P 16 25 08.5
baz=266
STKA Stephens Creek 57.92 180 P **P** **16 25 07.1 -0.3**
comp=Z,17nm,0.6s,baz=357,slow=7.2,SNR=66
BRVK Borovoye 58.11 318⇑ *e*P **P** **16 25 07.8 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 58.11 318 P **P** **16 25 06.6 -1.9**

BRVK IAmb IAmb 16 25 08.7
comp=Z,6.0nm,0.7s
TOLK Toolik Lake Re 58.12 24 P 16 25 10.4
baz=261,SNR=6.3
FORT Forrest 58.22 193 P **P** **16 25 08.8 -0.6**
POKR Poker Plat Res 58.52 28 P 16 25 12.0
baz=265
HDA Harding Lake 58.67 29 P 16 25 12.7
baz=266,SNR=6.3
HDA P 16 25 12.7
baz=266,SNR=6.3
IL31 58.72 28 P **P** **16 25 12.4 -0.2**
IL31 IAmb IAmb 16 25 14.2
comp=Z,5.8nm,0.8s
ILAR Eielson Array 58.72 28 P **P** **16 25 13.3 +0.7**
comp=Z,4.6nm,0.8s,baz=261,slow=6.0,SNR=52
ILAR Eielson Array 58.72 28 P **P** **16 25 12.9 +0.2**
KK31 Karatay Array 58.87 306 P **P** **16 25 12.7 -1.4**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 58.87 306 P **P** **16 25 12.7 -1.4**
KK31 IAmb IAmb 16 25 15.5
comp=Z,5.3nm,0.8s
KKAR Karatay Array 58.87 306 P **P** **16 25 12.6 -1.5**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 58.87 306 P **P** **16 25 13.3 -0.8**
KKAR Karatay Array 58.87 306 P **P** **16 25 12.6 -1.5**
KKAR IAmb IAmb 16 25 15.5
comp=Z,5.3nm,0.8s
KLU Klutina 59.00 32 P 16 25 16.0
baz=269
BBOO Buckleboo 59.06 185 P **P** **16 25 14.8 -0.5**
PAX Paxson 59.25 31 P 16 25 17.7
baz=268
PRP Porcupine Dome 59.35 28 P 16 25 18.3
baz=266
IUG Iuzhnay 59.37 305 *e*P **P** **16 25 16.7 -0.9**
comp=Z,2.7nm,0.8s,baz=305
IUG Iuzhnay 59.37 305 *e*P **P** **16 25 16.7 -0.9**
IUG pmax pmax
comp=Z,3.0nm,0.8s
BMRM Bremner River 59.63 33 P 16 25 20.5
baz=270
N25K Chitina, Valde 59.63 32 P 16 25 20.7
baz=270
BMAR Burnt Mountain 59.84 25 P **P** **16 25 22.9 +2.6**
SCRK Sand Creek 59.94 29 P **P** **16 25 22.4 +1.2**
SCRK Sand Creek 59.94 29 P 16 25 22.2
baz=269,SNR=12
MCARA McCarthy VSAT 60.39 32 P 16 25 25.8
baz=271
EGAK Eagle 61.17 29 P 16 25 31.3
baz=271
EPYK Eagle Plains 62.95 27 P **P** **16 25 43.1 +1.9**
EPYK IAmb IAmb 16 25 44.0
comp=Z,15nm,0.9s
EPYK Eagle Plains 62.95 27 P 16 25 43.0
baz=274
NWAO Narrogin (SRO) 63.27 203 P **P** **16 25 43.3 -0.4**
NWAO pmax pmax
comp=Z,16nm,0.9s
NWAO Narrogin (SRO) 63.27 203 P **P** **16 25 43.3 -0.4**
NWAO IAmb IAmb 16 25 44.6
comp=Z,16nm,0.9s
NWAO Narrogin (SRO) 63.27 203 P **P** **16 25 43.3 -0.4**
NWAO IAmb IAmb 16 25 44.6
comp=Z,20nm,0.9s
TOO Toolangi 63.73 176 P **P** **16 25 47.3 +0.7**
TOO pmax pmax
comp=Z,21nm,0.8s
TOO Toolangi 63.73 176 P **P** **16 25 47.3 +0.7**
TOO IAmb IAmb 16 25 48.3
comp=Z,21nm,0.8s
INK Inuvik 64.01 24 P **P** **16 25 48.1 0.0**
INK pmax pmax
comp=Z,6.0nm,0.8s
INK Inuvik 64.01 24 P **P** **16 25 48.1 0.0**
ARU Arti 64.52 322⇓ *e*P **P** **16 25 50.4 -1.3**
ARU pmax pmax
comp=Z,11nm,1.3s
ARU Arti 64.52 322 P **P** **16 25 50.3 -1.3**
ARU IAmb IAmb 16 25 51.3
comp=Z,7.3nm,0.7s
ABKAR Akbulak array 65.04 314 P **P** **16 25 53.9 -1.3**
ABKAR Akbulak array 65.04 314 P **P** **16 25 53.5 -1.7**
ABKAR IAmb IAmb 16 25 54.9
comp=Z,4.7nm,0.6s
AKTO Aktyubinsk 66.00 316 LR LR 16 56 51.2
comp=Z,185nm,18.0s,baz=358,slow=38
C36M Paulatuk 67.21 23 P 16 26 09.5
baz=284
KIRV Kirov 68.85 326⇓ *e*P **P** **16 26 18.6 -0.5**
BELG Belogornoye 71.71 320⇓ *e*P **P** **16 26 35.3 -1.4**
BELG pmax pmax
comp=Z,3.0nm,0.9s
HIZ Hauiti 71.78 153 P **P** **16 26 37.1 -0.1**
KUTZ Kaahu Road 72.17 152 P **P** **16 26 42.2 +2.8**
VRZ Vera Road 72.27 153 P **P** **16 26 40.2 +0.2**
HAZ Te Kaha 72.40 150 P **P** **16 26 40.5 -0.3**
MXZ Matakaoa Point 72.47 150 P **P** **16 26 44.8 +3.6**
URZ Urewera 72.52 151 P **P** **16 26 40.5 -1.0**
WTVZ West Tongariro 72.60 153 P **P** **16 26 43.4 +1.2**
OTVZ Oturere 72.67 153 P **P** **16 26 42.9 +0.3**
MWZ Matawai 72.77 151 P **P** **16 26 42.1 -0.9**
KLMR Klimovskoe 72.81 330 *e*P P 16 26 37.4 -5.7
KLMR pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 72.81 330 *e*P P 16 26 37.5 -5.6
KLMR AMP 16 26 42.7
comp=Z,11nm,1.0s
WAZ Wanganui 72.90 153 P **P** **16 26 43.8 +0.1**
MTHZ Maungataniwha 72.90 152 P **P** **16 26 43.3 -0.6**
MOVZ Moawhango 72.91 153 P **P** **16 26 43.7 -0.2**
RES Resolute Bay 72.94 13 P **P** **16 26 44.0 +0.4**
RES pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 72.94 13 P **P** **16 26 44.0 +0.4**
BKZ Black Stump Fm 73.02 152 P **P** **16 26 43.9 -0.7**
BKZ IAmb IAmb 16 26 45.2
comp=Z,9.8nm,0.5s
BKZ Black Stump Fm 73.02 152 P **P** **16 26 44.1 -0.4**
SNGZ Shannon Statio 73.06 151 P **P** **16 26 44.8 0.0**
BHHZ Black Hill Sta 73.11 153 P **P** **16 26 44.9 -0.1**
YKA Yellowknife Ar 73.15 28 P **P** **16 26 45.9 +0.9**
comp=Z,12nm,0.7s,baz=293,slow=5.4,SNR=165
DSZ Denniston Nort 73.42 157 P **P** **16 26 47.1 +0.3**
NNZ Nelson 73.53 155 P **P** **16 26 46.3 -1.2**
TSZ Takapari Road 73.55 153 P **P** **16 26 46.9 -0.8**
KAHZ Kahuranaki 73.70 152 P **P** **16 26 48.2 -0.3**
THZ Tophouse 73.83 156 P **P** **16 26 48.5 -0.8**
THZ IAmb IAmb 16 26 50.7
comp=Z,14nm,0.8s
THZ Tophouse 73.83 156 P **P** **16 26 48.0 -1.3**
ARCES ARCESS Array B 73.97 341 P **P** **16 26 49.8 +0.1**
comp=Z,4.9nm,0.7s,baz=64,slow=8.2,SNR=12
ARCES ARCESS Array B 73.97 341 P **P** **16 26 49.5 -0.2**
ARCES pmax pmax
comp=Z,11nm,1.0s
ARCES ARCESS Array B 73.97 341 P **P** **16 26 49.5 -0.2**
ARCES IAmb IAmb 16 26 52.9
comp=Z,11nm,1.0s
D03D Eldon 74.60 44 P 16 26 55.6
baz=292
E04D Cinebar 75.31 45 P 16 26 59.5
baz=293
I02D Swisshome 75.42 48 P 16 27 00.5
baz=293
TULEG Thule 75.66 7 IAmb IAmb 16 27 01.1
comp=Z,9.6nm,0.9s
TULEG Thule 75.66 7 *i* P **P** **16 27 00.2 +0.8**
J01E Myrtle Point 75.72 49 P 16 27 02.4
baz=293
I03D Drain, OR 75.91 48 P 16 27 03.2
baz=293
H04D Lebanon 75.99 47 P 16 27 03.8
baz=293
K02D Willamette Mer 76.08 49 P 16 27 04.4
baz=293
LTY Liberty 76.22 44 P **P** **16 27 04.5 +1.3**
VALR Valaam 76.33 332 *e*P **P** **16 27 02.8 -0.6**
VALR pmax pmax
comp=Z,21nm,1.2s
L02E Cave Junction 76.34 50 P 16 27 05.8
baz=293

DAG Danmarks Havn 76.36 355 *i* P **P** **16 27 03.2 -0.1**
comp=Z,1.7nm,0.7s
DAG Danmarks Havn 76.36 355 *i* P **P** **16 27 03.2 -0.1**
DAG pmax pmax
comp=Z,2.0nm,0.7s
DAG Danmarks Havn 76.36 355 *i* P **P** **16 27 03.2 -0.1**
DAG IAmb IAmb 16 27 05.1
comp=Z,1.7nm,0.7s
I04A Tendick Farm, 76.49 48 P 16 27 06.4
baz=294
G05D Wamic, OR 76.63 46 P 16 27 07.5
baz=294
OBN Obninsk 76.67 325 *e*P **P** **16 27 04.9 -0.5**
OBN *e* 16 27 17.8
OBN *e**PP **pP** **16 27 32.8 +0.9**
OBN *e*PPP PPP 16 31 46.1
OBN pmax pmax
comp=Z,32nm,2.5s
J04D Umpqua Nationa 76.92 48 P 16 27 09.3
baz=294
M02C Callahan 77.15 50 P 16 27 10.6
baz=294
L04D Klamath Falls 77.20 49 P 16 27 10.4
baz=294
KCPM Cahto Peak 77.33 52 P **P** **16 27 10.5 +0.9**
KCPM IAmb IAmb 16 27 12.1
comp=Z,38nm,1.2s
N02D Trinity Center 77.43 50 P 16 27 12.0
baz=294
J05D Fort Rock, OR 77.48 48 P 16 27 12.2
baz=294
M04C Macdoel 77.69 49 P 16 27 13.6
baz=294
O02D Mt. Diablo Mer 77.69 51 P 16 27 13.9
baz=294
KBZ Khabaz 77.92 313 P **P** **16 27 12.6 -0.1**
comp=Z,4.0nm,0.8s,baz=104,slow=3.0,SNR=8.4
KBZ Khabaz 77.92 313 *de*P **P** **16 27 12.5 -0.1**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 77.97 313 *e*P **P** **16 27 12.6 -0.5**
KIV pmax pmax
comp=Z,21nm,1.0s
NEW Newport 77.97 42 P 16 27 14.7
baz=296
FINES FINESS Array B 78.25 334 P **P** **16 27 13.0 -1.1**
comp=Z,4.2nm,0.4s,baz=65,slow=5.2,SNR=72
FINES FINESS Array B 78.25 334 P **P** **16 27 12.9 -1.2**
O03E Paynes Creek 78.33 51 P 16 27 16.8
baz=295
BMO Blue Mountains 79.36 45 P **P** **16 27 21.7 +1.0**
BMO pmax pmax
comp=Z,8.0nm,0.9s
BMO Blue Mountains 79.36 45 P **P** **16 27 21.7 +1.0**
BEKR Beckworth 79.51 51 P **P** **16 27 22.9 +1.2**
PPT Papeete 80.06 115 P **P** **16 27 26.5 +1.8**
comp=Z,32nm,0.9s,baz=34,slow=4.1,SNR=4.5
MSO Missoula 80.54 42 P 16 27 28.1
baz=298
SUMG Summit 81.32 360 *i* P **P** **16 27 32.1 +1.1**
comp=Z,19nm,0.8s
SUMG Summit 81.32 360 *i* P **P** **16 27 32.1 +1.1**
SUMG pmax pmax
comp=Z,19nm,0.8s
SUMG Summit 81.32 360 P **P** **16 27 31.6 +0.6**
SUMG Summit 81.32 360 *i* P **P** **16 27 32.1 +1.1**
SUMG IAmb IAmb 16 27 33.0
comp=Z,19nm,0.8s
MNK Minsk 81.32 327 *i* P **P** **16 27 29.6 -1.3**
comp=E,5.0nm,1.1s
MNK *i* P **P** **16 27 29.6 -1.3**
comp=N,57nm,2.1s
MNK *i* P **P** **16 27 29.6 -1.3**
comp=Z,12nm,1.3s
MNK *i* pP **pP** **16 27 55.5 -1.8**
MNK *i* sP **sP** **16 28 06.5 -1.8**
MNK *i* PP **PP** **16 30 36.2 -1.1**
MNK *i* PPP PPP 16 32 26.7
MNK *i* S **S** **16 37 31.1 -1.7**
MNK *i* sS **sS** **16 38 17.6 -1.0**
MNK *i* SS **SS** **16 42 51.2 +1.3**
MNK *i* SSS SSS 16 46 21.6
MNK *i* LQ LQ 16 58 27.8
MNK *i* LR LR 17 04 27.5
MNK *i* LRM MLR 17 05 37.1
comp=E,53nm,18.7s
MNK *i* LRM MLR 17 05 47.4
comp=N,881nm,17.4s
MNK *i* LRM MLR 17 05 50.7
comp=Z,187nm,16.8s
KVN Kaiserville 81.44 51 P **P** **16 27 33.7 +1.6**
KVN pmax pmax
comp=Z,4.0nm,0.8s
KVN Kaiserville 81.44 51 P **P** **16 27 33.6 +1.6**
NVAR Mina Array Bea 81.58 51 P **P** **16 27 34.7 +1.9**
comp=Z,3.4nm,0.7s,baz=290,slow=5.3,SNR=26
NVAR Mina Array Bea 81.58 51 P **P** **16 27 34.3 +1.4**
NACGM Naroch 81.63 328 *i* P **P** **16 27 31.6 -0.8**
NACGM *i* P **P** **16 27 31.6 -0.8**
NACGM *i* P **P** **16 27 31.6 -0.8**
NACGM *i* pP **pP** **16 27 59.8 +0.9**
NACGM *i* sP **sP** **16 28 07.6 -2.3**
NACGM *i* sP PcP 16 28 08.4 +30
NACGM *i* PP **PP** **16 30 44.0 +4.2**
NACGM *i* PPP PPP 16 32 32.9
NACGM *i* S **S** **16 37 30.6 -5.3**
NACGM *i* sS **sS** **16 38 22.7 +1.0**
NACGM *i* SS SS 16 43 24.8 +30
NACGM *i* SSS SSS 16 46 29.9
PKM Mcpherson Peak 82.08 55 P 16 27 37.0
baz=297
TIN Tinemaha, Big 82.26 53 P 16 27 39.1
baz=297
EGMT Eagleton 82.42 40 P 16 27 37.7
baz=301,SNR=5.1
BOZ Bozeman (W) 82.55 43 P 16 27 38.3
baz=300,SNR=9.2
CWC Cottonwood Cre 82.64 53 P 16 27 39.4
baz=297
ISA Isabella, Lake 82.72 54 P 16 27 39.4
baz=297
AKASG Malin Array Be 82.73 324 P **P** **16 27 37.0 -1.3**
comp=Z,1.4nm,0.5s,baz=51,slow=5.3,SNR=5.9
AKASG Malin Array Be 82.73 324 P **P** **16 27 37.0 -1.3**
YHL Hebgen Lake 83.19 43 IAmb IAmb 16 27 44.4
comp=Z,16nm,0.8s
YHB Horse Butte 83.24 43 IAmb IAmb 16 27 44.5
comp=Z,15nm,0.8s
LRMC Laurel Mtn Rad 83.37 54 P 16 27 42.9
baz=298,SNR=6.3
EDW2 Edwards Air Fo 83.42 54 P 16 27 43.8
baz=298
FURC Furnace Creek, 83.50 53 P 16 27 44.3
baz=298
R11A Troy Canyon, C 83.51 50 P 16 27 44.3
baz=298,SNR=9.2
TPNV Topopah Spring 83.71 52 P 16 27 45.0
baz=298
HVU Hansel Valley 83.73 46 IAmb IAmb 16 27 46.8
comp=Z,9.4nm,0.7s
NC405 NORSAR Array S 83.77 338 P **P** **16 27 42.0 -1.5**
NC405 IAmb IAmb 16 27 43.7
comp=Z,20nm,1.1s
H17A Grant Village 83.80 43 P 16 27 47.6
baz=301,SNR=9.8
NB2 NORSAR Subarra 83.99 338 P **P** **16 27 43.0 -1.6**
comp=Z,2.8nm,0.5s,baz=42,slow=5.1
NOA NORSAR Array B 83.99 338 P **P** **16 27 43.4 -1.2**
comp=Z,1.6nm,0.5s,baz=60,slow=6.2,SNR=13
GSC Goldstone, Bar 84.09 54 P 16 27 47.1
baz=298
LOHW Long Hollow 84.18 44 IAmb IAmb 16 27 49.2
comp=Z,9.9nm,0.8s
RLMT Red Lodge 84.22 42 P 16 27 48.5
baz=302,SNR=9.3
DUG Dugway, Tooele 84.49 48 P 16 27 49.4
baz=300,SNR=6.1
MURC Murrieta 84.60 55 P 16 27 49.6
baz=298
HEC Hector,Ludlow 84.65 54 P 16 27 49.8
baz=298,SNR=7.3
RAYN Ar Rayn 84.72 293 P **P** **16 27 48.5 -0.5**
RAYN pmax pmax
comp=Z,8.0nm,0.7s
RAYN Ar Rayn 84.72 293 P **P** **16 27 48.5 -0.5**
RAYN IAmb IAmb 16 27 52.2

	comp=Z,7.8nm,0.7s								
ICESG	**Greenland Ices**	**84.82**	**0**	*i* P		**P**		**16 27 48.9**	**-0.1**
ICESG				IAmb		IAmb		16 27 50.5	
	comp=Z,16nm,0.7s								
TCUT	**Toone Canyon**	**84.95**	**46**	P		**P**		**16 27 49.8**	**-0.3**
TCUT				IAmb		IAmb		16 27 52.9	
	comp=Z,13nm,0.7s								
PFO	**Pinyon Flats O**	**85.14**	**55**	*e*P		**P**		**16 27 52.1**	**+1.1**
PFO				pmax		pmax			
	comp=Z,12nm,1.0s								
PFO	**Pinyon Flats O**	**85.14**	**55**	P				16 27 52.3	
	baz=298								
TPFO	**Pinon Flats**	**85.14**	**55**	P				16 27 51.8	
	baz=298,SNR=5.7								
LAO	**LASA Array**	**85.16**	**40**	P				16 27 52.4	
	baz=304								
GMRC	**Granite Mounta**	**85.16**	**54**	P				16 27 52.6	
	baz=299,SNR=11								
PDAR	**Pinedale Array**	**85.28**	**44**	P		**P**		**16 27 52.9**	**+1.1**
	comp=Z,5.6nm,0.6s,baz=290,slow=4.3,SNR=20								
BW06	**Boulder Array**	**85.28**	**44**	P				16 27 53.0	
	baz=302,SNR=6.2								
DGMT	**Dagmar**	**85.29**	**37**	P				16 27 52.9	
	baz=305								
BELC	**Belle Mtn. Jos**	**85.29**	**54**	P				16 27 52.7	
	baz=299,SNR=6.0								
MONP2	**Monument Peak**	**85.51**	**56**	P				16 27 54.5	
	baz=298								
IRM	**Iron Mountain**	**85.83**	**54**	P				16 27 56.1	
	baz=299								
BC3	**Big Chuckawall**	**85.85**	**54**	P				16 27 56.0	
	baz=299,SNR=5.4								
IKP	**In-Ko-Pah, Jac**	**85.85**	**56**	P				16 27 55.9	
	baz=299								
BR131	**Keskin Array S**	**85.92**	**313**	*e*P		**P**		**16 27 53.2**	**-1.6**
BRTR	**Keskin Array B**	**85.92**	**313**	P		**P**		**16 27 53.5**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=81,slow=3.2,SNR=9.9								
BRTR	**Keskin Array B**	**85.93**	**313**	P		**P**		**16 27 52.8**	**-2.1**
PDMCI	**Parker Dam,Lak**	**86.49**	**53**	P				16 27 58.9	
	baz=300								
GLA	**Glamis**	**86.60**	**55**	P				16 27 59.8	
	baz=299,SNR=5.9								
BURAR	**Bucovina Array**	**86.65**	**323**	P		**P**		**16 27 56.8**	**-1.4**
O20A	**White River Ci**	**87.52**	**46**	P				16 28 04.2	
	baz=303								
WUAZ	**Wupatki**	**87.84**	**51**	P				16 28 06.5	
	baz=301								
PV05	**Paradox Valley**	**88.06**	**48**	P		**P**		**16 28 05.6**	**+0.3**
PV05				IAmb		IAmb		16 28 07.1	
	comp=Z,4.8nm,0.8s								
PV18	**Skein Mesa, Pa**	**88.09**	**48**	P		**P**		**16 28 05.5**	**0.0**
PV18				IAmb		IAmb		16 28 11.1	
	comp=Z,6.3nm,0.9s								
ULM	**Lac du Bonnet**	**88.48**	**33**	P		**P**		**16 28 07.1**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=262,slow=7.0,SNR=3.8								
N23A	**Red Feather La**	**88.56**	**44**	P				16 28 09.8	
	baz=304								
214A	**Organ Pipe Nat**	**88.62**	**55**	P				16 28 10.1	
	baz=300								
ISCO	**Idaho Springs**	**89.39**	**45**	P				16 28 13.3	
	baz=304								
DPC	**Dobruska-Polom**	**89.44**	**328**	*e*P		**P**		**16 28 11.6**	**+0.3**
DPC	**Dobruska-Polom**	**89.44**	**328**	*e*P		**P**		**16 28 11.6**	**+0.3**
S22A	**4UR Ranch, Cre**	**89.74**	**47**	P				16 28 14.6	
	baz=304								
AGMN	**Agassiz Nation**	**89.77**	**34**	P				16 28 13.5	
	baz=311								
TUC	**Tucson**	**89.92**	**54**	P				16 28 15.3	
	baz=302								
CLL	**Collm**	**90.29**	**330**	*e*P		**P**		**16 28 15.0**	**-0.2**
SDCO	**Great Sand Dun**	**90.62**	**47**	P				16 28 18.5	
	baz=304								
OGNE	**Ogallala**	**90.95**	**43**	P				16 28 20.1	
	baz=307								
CKRC	**Cesky Krumlov**	**91.45**	**328**	*e*P		**P**		**16 28 20.3**	**-0.4**
ANMO	**Albuquerque**	**91.55**	**50**	*e*P		**P**		**16 28 22.4**	**+0.8**
ANMO				pmax		pmax			
	comp=Z,6.0nm,0.9s								
ANMO	**Albuquerque**	**91.55**	**50**	P				16 28 23.2	
	baz=304								
KHC	**Kasperske Hory**	**91.57**	**329**	*e*P		**P**		**16 28 20.2**	**-1.1**
KHC				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KHC	**Kasperske Hory**	**91.57**	**329**	*e*P		**P**		**16 28 20.7**	**-0.6**
KHC				*ex*		x		16 28 51.5	
T25A	**Trinidad**	**91.68**	**47**	P				16 28 23.9	
	baz=305								
GERES	**GERESS Array B**	**91.72**	**328**	P		**P**		**16 28 21.5**	**-0.5**
	comp=Z,4nm,0.8s,baz=58,slow=5.2,SNR=9.7								
121A	**Cookes Peak, D**	**91.95**	**52**	P				16 28 25.7	
	baz=303,SNR=6.7								
MNTX	**Cornudas Mount**	**94.11**	**52**	P				16 28 34.9	
	baz=304,SNR=6.4								
TX31	**Lajitas Ar. Si**	**96.66**	**53**	P		**P**		**16 28 45.0**	**-0.1**
TXAR	**Lajitas Array**	**96.66**	**53**	P		**P**		**16 28 46.8**	**+1.7**
	comp=Z,2.4nm,0.7s,baz=305,slow=2.7,SNR=20								
G60A	**Masonville**	**102.54**	**24**	P				16 29 08.9	
	baz=339								
TORD	**Torodi Ar. Bea**	**124.46**	**310**	PKP		**PKPdf**		**16 34 13.2**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=14,slow=2.7,SNR=5.8								
SNAA	**Sanae**	**130.48**	**194**	PKPdf		**PKPdf**		**16 34 23.4**	**-0.3**
VNA2	**Neumayer--Watz**	**132.01**	**193**	PKPdf		**PKPdf**		**16 34 26.4**	**-0.2**
VNA3	**Neumayer Olymp**	**132.21**	**192**	PKPdf		**PKPdf**		**16 34 27.2**	**+0.3**
VNA1	**Neumayer--Stat**	**132.40**	**193**	PKPdf		**PKPdf**		**16 34 27.5**	**+0.2**
PLCA	**Paso Flores**	**150.02**	**127**	PKPbc		**PKiKP**		**16 35 05.2**	**-0.2**
	comp=Z,16nm,0.7s,baz=226,slow=2.5,SNR=43								
PLCA	**Paso Flores**	**150.02**	**127**	PKIKP		**PKiKP**		**16 35 05.6**	**+0.1**
PLCA	**Paso Flores**	**150.02**	**127**			**PKiKP**		**16 35 05.6**	**+0.1**
LPAZ	**La Paz**	**150.86**	**76**	PKP		**PKPdf**		**16 35 03.8**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=274,slow=1.3,SNR=9.8								
LPAZ				PKPbc		**PKiKP**		**16 35 09.1**	**+0.5**
	comp=Z,33nm,0.7s,baz=329,slow=2.1,SNR=113								
LPAZ	**La Paz**	**150.86**	**76**			**PKiKP**		**16 35 09.5**	**+1.0**
CPUP	**Villa Florida**	**163.29**	**94**	PKP		**PKPdf**		**16 35 17.0**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=233,slow=5.1,SNR=3.1								

IDC ***13*** *16:23:30.0±0.7, 1°.97N×126°.47E, h0km, mb3.9/12, mb1 4.1/15, mb1mx3.9/32, mbtmp3.9/15, ML3.7/3, Error ellipse: s-maj=27.3km s-min=12.7km az=77.0*

DJA ***13*** *16:23:35.4±0.6, 2°.N±.5°×12°.7E±°, h41km±71km, M4.0/7, MLv4.0/7*

NEIC ***13*** *16:23:37.1±1.2, 1°.89N±0°.10×126°.63E±0°.08, h56km±13km, mb4.3/8, Error ellipse: s-maj=16.0km s-min=9.8km az=211.0*

ISC 13 16:23:36.4±0.6, 1°.97N±0°.07×126°.65E±0°.09, h47km, n37, σ1§17/38, mb4.1/16, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.39**	**149**		**Pn**	**16 23 59.2**	**-0.2**
TNTI	**Ternate**	**1.39**	**149**	P	**Pn**	**16 23 58.9**	**-0.6**
SGSI	**Sangihe**	**2.04**	**327**	P	**Pn**	**16 24 06.1**	**-2.2**
KMSI	**Cibinong**	**3.00**	**243**	P	**Pn**	**16 24 22.7**	**+1.1**
GTOI	**Gorontalo**	**3.87**	**250**	P	**Pn**	**16 24 34.3**	**+0.9**
SANI	**Sanana**	**4.05**	**189**	P	**Pn**	**16 24 35.8**	**-0.1**
LUWI	**Luwuk**	**4.90**	**232**		**Pn**	**16 24 48.6**	**+1.0**
SIJI	**Sorong**	**5.41**	**121**	Pn	**Pn**	**16 24 54.9**	**+0.2**
	0.8nm,0.3s,baz=165,slow=20,SNR=1.3						
TOLI2	**Tolitoli**	**5.92**	**262**		**Pn**	**16 25 00.5**	**-1.2**
MYLDM	**Lahad Datu**	**8.73**	**292**		**Pn**	**16 25 42.8**	**+2.7**
KAPI	**Kappang**	**9.78**	**225**	Pn	**Pn**	**16 25 52.1**	**-2.4**
	2.4nm,0.3s,baz=84,slow=18,SNR=5.0						
KKM	**Kota Kinabalu**	**11.16**	**292**	Pn	**Pn**	**16 26 15.7**	**+2.2**
FITZ	**Fitzroy Crossi**	**19.97**	**183**	P	**P**	**16 28 04.5**	**-0.3**
	0.2nm,0.3s,baz=30,slow=9.2,SNR=2.0						
FITZ	**Fitzroy Crossi**	**19.97**	**183**	P	**P**	**16 28 04.8**	**-0.1**
TPUB	**Ta-pu**	**21.99**	**345**	P	**P**	**16 28 27.2**	**+0.5**
TPUB				IAmb	IAmb	16 28 34.2	
	comp=Z,12nm,0.8s						
WB0	**Warramunga Arr**	**22.90**	**161**	P	**P**	**16 28 35.7**	**-0.8**
WB0				IAmb	IAmb	16 28 37.8	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**23.05**	**161**	P	**P**	**16 28 37.2**	**-0.7**
WRA	**Warramunga Arr**	**23.05**	**161**	P	**P**	**16 28 36.9**	**-1.0**
	comp=Z,8.9nm,0.7s,baz=339,slow=11,SNR=20						
WB2	**Warramunga Arr**	**23.05**	**161**	P	**P**	**16 28 36.8**	**-1.1**
WB2				IAmb	IAmb	16 28 39.0	
	comp=Z,9.5nm,0.6s						
WR0	**Warramunga Arr**	**23.13**	**161**	P	**P**	**16 28 37.8**	**-0.9**
WR0				IAmb	IAmb	16 28 40.4	
	comp=Z,11nm,1.0s						
YHNB	**Yeheng**	**23.13**	**348**	P	**P**	**16 28 38.7**	**-0.1**
AS31	**Alice Springs**	**26.44**	**165**	P	**P**	**16 29 07.8**	**-1.4**
ASAR	**Alice Springs**	**26.45**	**165**	P	**P**	**16 29 09.6**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=345,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.45**	**165**	P	**P**	**16 29 11.2**	**+2.1**
CMAR	**Chiang Mai Arr**	**31.72**	**303**	P	**P**	**16 29 55.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=105,slow=6.6,SNR=3.2						
KSRS	**Korea Array**	**35.33**	**2**	P	**P**	**16 30 28.3**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=179,slow=10,SNR=6.2						
MJAR	**Matsushiro Arr**	**36.02**	**16**	P	**P**	**16 30 33.0**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=182,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**36.53**	**158**	P	**P**	**16 30 37.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=349,slow=8.5,SNR=3.6						
STKA	**Stephens Creek**	**36.53**	**158**	P	**P**	**16 30 36.9**	**-0.7**
USRK	**Ussuriysk Ar.**	**42.31**	**6**	P	**P**	**16 31 25.8**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=163,slow=8.2,SNR=6.5						
USRK	**Ussuriysk Ar.**	**42.31**	**6**	P	**P**	**16 31 26.5**	**+0.9**
SONM	**Songino Array**	**48.93**	**342**	P	**P**	**16 32 17.9**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=151,slow=8.7,SNR=6.5						
PETK	**Petropavlovsk-**	**57.08**	**22**	P	**P**	**16 33 18.8**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=176,slow=2.7,SNR=7.4						
PETK	**Petropavlovsk-**	**57.08**	**22**	P	**P**	**16 33 18.2**	**+0.3**
MKAR	**Makanchi Array**	**58.95**	**326**	P	**P**	**16 33 30.4**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=120,slow=7.2,SNR=40						
MKAR				PcP	**PcP**	**16 34 18.9**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=97,slow=4.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**62.11**	**334**	P	**P**	**16 33 50.4**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=116,slow=10,SNR=2.8						
VNDA	**Vanda**	**81.70**	**173**	P	**P**	**16 35 49.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=337,slow=4.5,SNR=3.3						

IDC ***13*** *16:52:03.4±6.6, 0°.27N×122°.18E, h200km±67km, mb3.2/6, mb1 3.3/7, mb1mx3.0/40, mbtmp3.7/7, MS3.4/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=103.5km s-min=14.9km az=64.0*

DJA ***13*** *16:52:04.6±0.8, 0°.N±.6°×12°.2E±°, h173km±8km, M3.5/7, MLv3.5/7*

ISC 13 16:52:03.0±0.8, 0°.28N±0°.09×122°.22E±0°.09, h200km, n15, σ1§16/15, mb3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.34**	**305**	S	**Sn**	**16 52 46.9**	**-3.2**
GTOI	**Gorontalo**	**0.86**	**66**	P	**Pn**	**16 52 31.2**	**-0.6**
APSI	**Ampana**	**1.32**	**206**	P	**Pn**	**16 52 35.2**	**+0.1**
LUWI	**Luwuk**	**1.42**	**157**	P	**Pn**	**16 52 36.0**	**0.0**
KMSI	**Cibinong**	**1.78**	**81**	P	**Pn**	**16 52 40.6**	**+1.3**
TTSI	**Tana Toraja**	**4.08**	**216**	P	**Pn**	**16 53 06.2**	**+0.4**
SANI	**Sanana**	**4.42**	**122**	P	**Pn**	**16 53 09.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**18.57**	**170**	P	**P**	**16 56 04.8**	**-0.2**
	0.2nm,0.3s,baz=357,slow=7.8,SNR=8.1						
WRA	**Warramunga Arr**	**23.34**	**150**	P	**P**	**16 56 53.5**	**-0.1**
	1.2nm,0.7s,baz=323,slow=11,SNR=22						
ASAR	**Alice Springs**	**26.37**	**155**	P	**P**	**16 57 22.2**	**+1.3**
	0.6nm,0.5s,baz=343,slow=14,SNR=22						
ASAR				PcP	**PcP**	**17 00 41.1**	**-0.3**
	0.5nm,0.3s,baz=346,slow=2.1,SNR=27						
STKA	**Stephens Creek**	**36.87**	**152**	P	**P**	**16 58 52.7**	**+0.4**
	0.7nm,0.3s,baz=320,slow=10,SNR=3.6						
MJAR	**Matsushiro Arr**	**39.01**	**21**	LR	LR	17 14 27.9	
	comp=Z,49nm,19.5s,baz=320,slow=34						
SONM	**Songino Array**	**49.32**	**346**	P	**P**	**17 00 32.4**	**+0.5**
	0.7nm,0.7s,baz=145,slow=8.8,SNR=3.9						
MKAR	**Makanchi Array**	**57.97**	**329**	P	**P**	**17 01 35.1**	**+0.5**
	0.6nm,0.4s,baz=121,slow=9.0,SNR=12						
ZALV	**Zalesovo Beam**	**61.74**	**336**	P	**P**	**17 02 00.1**	**+0.1**
	0.4nm,0.5s,baz=124,slow=7.7,SNR=2.1						

IDC ***13*** *17:02:48.7±0.9, 49°.05S×30°.91E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/37, mbtmp4.0/7, ML3.8/1, MS3.5/6, Ms1 3.4/6, ms1mx3.3/28, Error ellipse: s-maj=36.9km s-min=22.3km az=73.0*

NEIC ***13*** *17:02:50.2±0.8, 48°.93S±0°.04×31°.1E±0°.3, h10km±1km, mb4.6/11, Error ellipse: s-maj=35.0km s-min=4.9km az=276.0*

ISC 13 17:02:49.9±0.8, 49°.0S±0°.1×31°.0E±0°.2, h10km, n26, σ0§81/20, mb4.2/9, MS3.4/5, 1D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.25**	**331**	P	**P**	**17 07 03.7**	**+0.2**
	0.4nm,0.3s,baz=164,slow=7.4,SNR=5.1						
SUR				LR	LR	17 12 33.6	
	comp=Z,139nm,18.9s,baz=156,slow=32						
SUR	**Sutherland**	**18.25**	**331**	IAmb	IAmb	17 07 29.8	
	comp=Z,70nm,1.6s						
SYO	**Syowa Base**	**20.55**	**171**	*i*P	Pn	17 07 33.4	+3.1
BOSA	**Boshof**	**20.79**	**346**	P	**P**	**17 07 31.6**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=181,slow=13,SNR=2.7						
BOSA				LR	LR	17 14 14.3	
	comp=Z,60nm,19.9s,baz=170,slow=33						
BOSA	**Boshof**	**20.79**	**346**	IAmb	IAmb	17 07 40.4	
	comp=Z,20nm,1.4s						
SNAA	**Sanae**	**27.54**	**202**	P	**P**	**17 08 35.4**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=90,slow=8.1,SNR=3.5						
SNAA				LR	LR	17 16 41.9	
	comp=Z,98nm,20.5s,baz=60,slow=30						
SNAA	**Sanae**	**27.54**	**202**	P	**P**	**17 08 37.7**	**+1.4**
SNAA				IAmb	IAmb	17 09 11.5	
	comp=Z,8.9nm,1.3s						
MATP	**Matopo**	**28.54**	**355**	LR	LR	17 18 34.5	
	comp=Z,100nm,19.3s,baz=152,slow=33						
LSZ	**Lusaka**	**33.67**	**355**	LR	LR	17 21 31.1	
	comp=Z,75nm,18.5s,baz=150,slow=33						
QSPA	**South Pole Qui**	**41.26**	**180**	P	**P**	**17 10 33.5**	**-1.4**
QSPA				IAmb	IAmb	17 10 40.8	
	comp=Z,8.1nm,1.1s						
VNDA	**Vanda**	**50.19**	**168**	P	**P**	**17 11 45.7**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=265,slow=8.0,SNR=4.1						
VNDA				LR	LR	17 32 51.0	
	comp=Z,54nm,19.3s,baz=198,slow=36						
VNDA	**Vanda**	**50.19**	**168**	IAmb	IAmb	17 11 52.5	
	comp=Z,12nm,1.9s						
SBA	**Scott Base**	**50.58**	**169**	P	**P**	**17 11 49.4**	**+1.4**
SBA				IAmb	IAmb	17 12 27.6	
	comp=Z,12nm,1.5s						
GSI	**Gunungsitoli**	**75.83**	**71**	P	**P**	**17 14 35.4**	**-0.9**
STKA	**Stephens Creek**	**78.59**	**126**	P	**P**	**17 14 52.2**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=295,slow=2.9,SNR=4.3						
ASAR	**Alice Springs**	**80.50**	**115**	P	**P**	**17 15 02.4**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=215,slow=4.2,SNR=18						
ASAR	**Alice Springs**	**80.50**	**115**	P	**P**	**17 15 02.6**	**+0.4**
WRA	**Warramunga Arr**	**83.58**	**113**	P	**P**	**17 15 18.2**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=214,slow=4.0,SNR=7.1						
WB2	**Warramunga Arr**	**83.59**	**113**	P	**P**	**17 15 18.4**	**0.0**
WR0	**Warramunga Arr**	**83.69**	**113**	P	**P**	**17 15 18.7**	**-0.3**
WR0				IAmb	IAmb	17 15 21.7	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**83.75**	**113**	P	**P**	**17 15 19.2**	**-0.1**
WB0				IAmb	IAmb	17 15 35.5	
	comp=Z,11nm,1.4s						
MA2	**Magadan**	**144.49**	**50**	PKP	**PKPdf**	**17 22 24.6**	**-0.6**
	comp=Z,3.8nm,0.7s,baz=170,slow=2.3,SNR=7.9						
MA2	**Magadan**	**144.49**	**50**		**PKPdf**	**17 22 24.5**	**-0.7**
SEY	**Seymchan**	**145.68**	**44**	PKPbc	**PKPab**	**17 22 29.1**	**+1.2**
	comp=Z,17nm,0.7s,baz=79,slow=4.3,SNR=18						
ULM	**Lac du Bonnet**	**146.15**	**293**	PKPbc	**PKPbc**	**17 22 29.4**	**0.0**
	comp=Z,2.0nm,0.6s,baz=59,slow=5.9,SNR=5.1						
ULM	**Lac du Bonnet**	**146.15**	**293**		**PKPbc**	**17 22 29.0**	**-0.4**

NEIC ***13*** *17:06:20.2±1.1, 29°.8N±0°.1×139°.4E±0°.4, h422km±17km, mb4.0/7, Error ellipse: s-maj=47.4km s-min=9.2km az=74.0*

IDC ***13*** *17:06:20.4±0.9, 29°.78N×139°.21E, h420km±35km, mb3.2/5, mb1 3.1/10, mb1mx2.8/47, mbtmp3.9/10, Error ellipse: s-maj=83.9km s-min=15.8km az=67.0*

ISC 13 17:06:19.6±0.7, 29°.64N±0°.08×139°.2E±0°.1, h400km, n26, σ1§24/27, mb3.7/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.50**	**9**	P	**Pn**	**17 07 29.2**	**+2.2**
JHJ	**Hachijo jima 2**	**3.50**	**8**	P	**Pn**	**17 07 29.4**	**+2.4**
	18nm,0.3s,baz=100,slow=23,SNR=13						
JHJ				S	**S**	**17 08 22.8**	**+1.1**
	12nm,0.3s,baz=163,slow=14,SNR=2.7						
JCJ	**Chichijima**	**3.66**	**133**	P	**Pn**	**17 07 30.4**	**+1.8**
	3.9nm,0.3s,baz=343,slow=20,SNR=8.6						
JCJ				S	**S**	**17 08 24.6**	**+0.1**
	18nm,0.3s,baz=290,slow=22,SNR=9.0						
JCJ	**Chichijima**	**3.66**	**133**	P	**Pn**	**17 07 29.1**	**+0.4**
JMN	**Monobe**	**6.09**	**313**	P	**Pn**	**17 07 55.6**	**+2.4**
JGF	**Kuroka**	**6.14**	**346**	P	**Pn**	**17 07 54.7**	**+1.0**
JWT	**Wachi**	**6.47**	**331**	P	**Pn**	**17 07 57.3**	**+0.1**
JYT	**Yasato**	**6.62**	**7**	P	**Pn**	**17 07 58.7**	**-0.2**
MJAR	**Matsushiro Arr**	**6.93**	**353**	P	**Pn**	**17 08 02.5**	**+0.1**
	0.1nm,0.3s,baz=184,slow=9.9,SNR=5.2						
MAJO	**Matsushiro**	**6.93**	**353**	P	**Pn**	**17 08 02.8**	**+0.4**
JHS	**Saijyo**	**7.41**	**318**	P	**P**	**17 08 09.8**	**+1.5**
JTU	**Tsushima**	**9.62**	**303**	P	**Pn**	**17 08 34.2**	**+1.0**
KSRS	**Korea Array**	**12.20**	**313**	P	**P**	**17 09 01.9**	**+0.6**
	0.2nm,0.3s,baz=125,slow=10,SNR=10.0						
KSAR	**Wonju Array Be**	**12.21**	**312**	P	**P**	**17 09 01.6**	**0.0**
USA0B	**Ussuriysk Arra**	**15.62**	**340**	P	**P**	**17 09 38.4**	**-0.1**
USA0B				IAmb	IAmb	17 10 16.0	
	comp=Z,3.5nm,1.2s						
USRK	**Ussuriysk Ar.**	**15.62**	**340**	P	**P**	**17 09 38.8**	**+0.2**
	baz=165,slow=7.9,SNR=6.0						
MKAR	**Makanchi Array**	**46.83**	**308**	P	**P**	**17 14 08.4**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=89,slow=10,SNR=4.4						
FITZ	**Fitzroy Crossi**	**49.23**	**197**	P	**P**	**17 14 29.9**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=11,slow=12,SNR=3.7						
FITZ	**Fitzroy Crossi**	**49.23**	**197**	IAmb	IAmb	17 14 41.1	
	comp=Z,14nm,1.6s						
WB0	**Warramunga Arr**	**49.34**	**186**	P	**P**	**17 14 30.0**	**-0.4**
WB0				IAmb	IAmb	17 15 08.0	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**49.52**	**186**	P	**P**	**17 14 31.5**	**-0.2**
WB2				IAmb	IAmb	17 14 39.4	
	comp=Z,24nm,1.6s						
WR0	**Warramunga Arr**	**49.52**	**186**	P	**P**	**17 14 31.5**	**-0.3**
WR0				IAmb	IAmb	17 14 32.1	
	comp=Z,5.1nm,1.3s						
WRA	**Warramunga Arr**	**49.52**	**186**	P	**P**	**17 14 31.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=0.6,slow=7.7,SNR=48						
BRVK	**Borovoye**	**54.45**	**316**	P	**P**	**17 15 05.5**	**-1.8**
STKA	**Stephens Creek**	**61.23**	**178**	P	**P**	**17 15 53.9**	**0.0**
	comp=Z,0.8nm,0.4s,baz=345,slow=16,SNR=3.8						
NWAO	**Narrogin (SRO)**	**65.62**	**200**	P	**P**	**17 16 22.1**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=53,slow=1.7,SNR=6.0						

IDC ***13*** *17:09:22.3±2.5, 38°.33N×141°.91E, h57km±23km, mb3.6/7, mb1 3.8/11, mb1mx3.5/45, mbtmp3.9/11, ML3.3/4, Error ellipse: s-maj=27.9km s-min=17.0km az=89.0*

JMA ***13*** *17:09:22.8, 38°.36N×141°.77E, h57km±1km, M3.9*

JMA Felt II J1.

ISC 13 17:09:21.9±1.1, 38°.33N±0°.04×141°.93E±0°.08, h53km±9km, n33, σ1§48/42, mb3.8/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.36**	**268**	P	**Pn**	**17 09 32.2**	**+0.3**
JIKH				S	**Sn**	**17 09 38.8**	**-0.2**
JIO	**Ouri**	**0.47**	**286**	P	**Pn**	**17 09 33.0**	**0.0**
JIO				S	**Sn**	**17 09 40.2**	**-0.8**
JKMT	**Kesennumamotoy**	**0.60**	**324**	P	**Pn**	**17 09 34.6**	**+0.1**
JKMT				S	**Sn**	**17 09 43.1**	**-0.5**
OFUJ	**Ofunato**	**0.78**	**345**	P	**Pn**	**17 09 37.1**	**+0.3**
OFUJ				S	**Sn**	**17 09 47.3**	**-0.4**
JMK	**Ichinoseki**	**0.83**	**319**	P	**Pn**	**17 09 37.5**	**0.0**
JMK				S	**Sn**	**17 09 47.9**	**-1.0**
JOFO	**Osakifurukawao**	**0.84**	**289**	P	**Pn**	**17 09 37.3**	**-0.3**
JOFO				*e*S	**Sn**	**17 09 48.6**	**-0.5**
JOU	**Okura**	**0.99**	**273**	P	**Pn**	**17 09 39.1**	**-0.6**
JOU				S	**Sn**	**17 09 49.0**	**-1.9**
JMM	**Marumori**	**1.01**	**243**	P	**Pn**	**17 09 39.3**	**-0.5**
JMM				S	**Sn**	**17 09 51.4**	**-1.6**
JOM	**Ohasama**	**1.25**	**337**	P	**Pn**	**17 09 43.2**	**+0.2**
JOM				S	**Sn**	**17 09 58.7**	**-0.1**
JFK	**Kawauchi**	**1.27**	**221**	P	**Pn**	**17 09 43.6**	**

	comp=E,2µm,0.4s								
MASC				IAML			17 25 17.9		
	comp=N,944nm,0.4s								
CMJ	**Castle Mountai**	**1.81**	**194**	*i* P		**Pn**	**17 24 55.1**	**0.0**	
BNJ	**Bonny Gate**	**1.85**	**212**	*i* P		**Pn**	**17 24 55.9**	**+0.2**	
GWJ	**Greenwick**	**1.98**	**203**	*i* P		**Pn**	**17 24 57.3**	**-0.2**	
BBJ	**Bamboo Saint A**	**1.98**	**220**	⇑*i* P		**Pn**	**17 24 57.6**	**+0.2**	
STH	**Stony Hill**	**2.00**	**205**	*i* P		**Pn**	**17 24 57.6**	**-0.2**	
HOJ	**Hope**	**2.05**	**203**	*i* P		**Pn**	**17 24 57.5**	**-0.9**	
YHJ	**Yallahs**	**2.08**	**195**	*i* P		**Pn**	**17 24 59.0**	**+0.2**	
MTDJ	**Mount Denham**	**2.26**	**223**	*e*P		**Pn**	**17 25 01.4**	**0.0**	
MTDJ				*e*S		**Sn**	**17 25 26.5**	**-2.2**	
MTDJ	**Mount Denham**	**2.26**	**223**			**Pn**	**17 25 01.4**	**0.0**	
MTDJ				Sn		**Sn**	**17 25 26.4**	**-2.3**	
MCJ	**Malvern**	**2.58**	**220**	*i* P		**Pn**	**17 25 07.1**	**+1.3**	
MCJ				*i* S		**Sn**	**17 25 36.1**	**-0.5**	
NEJ	**Negril**	**2.81**	**234**	*i* P		**Pn**	**17 25 09.3**	**+0.5**	
LGNH	**Logne**	**3.43**	**113**	*e*P		**Pn**	**17 25 19.3**	**+1.9**	
LGNH				*e*S		**Sn**	**17 25 59.8**	**+2.4**	
LGNH				IAML			17 26 06.3		
	comp=N,114nm,0.3s								
LGNH				IAML			17 26 06.8		
	comp=E,91nm,0.4s								
LGNH	**Logne**	**3.43**	**113**			**Pn**	**17 25 17.4**	**0.0**	
LGNH	**Logne**	**3.43**	**113**	*i* P		**Pn**	**17 25 21.3**	**+3.9**	
LGNH				*e*S		**Sn**	**17 25 58.3**	**+0.9**	
LGNH				IAML			17 26 09.8		
	comp=Z,62nm,0.4s								
CBCY	**The Bluff, Cay**	**3.61**	**268**	*e*P		**Pn**	**17 25 20.8**	**+0.9**	
CBCY				*e*S		**Sn**	**17 25 58.6**	**-3.2**	
CBCY				IAML			17 26 06.5		
	comp=E,164nm,0.4s								
CBCY				IAML			17 26 06.9		
	comp=N,238nm,0.3s								
CBCY	**The Bluff, Cay**	**3.61**	**268**	Pn		**Pn**	**17 25 16.8**	**-3.0**	
JAKH	**Jacmel**	**3.63**	**117**	Pn		**Pn**	**17 25 21.3**	**+1.2**	
JAKH	**Jacmel**	**3.63**	**117**	*i* P		Pn	17 25 24.9	+4.9	
JAKH				IAML			17 26 17.8		
	comp=Z,164nm,0.4s								
LCCY	**Blossom Villag**	**3.92**	**267**	Pn		**Pn**	**17 25 23.9**	**-0.2**	
MGV	**Manicaragua**	**4.38**	**301**	*e*P		**Pn**	**17 25 32.7**	**+2.3**	
MGV				*e*S		**Sn**	**17 26 19.4**	**-1.3**	
SDDR	**Presa de Saban**	**4.47**	**101**			**Pn**	**17 25 31.2**	**-0.6**	
SDDR	**Presa de Saban**	**4.47**	**101**	*i* P		**Pn**	**17 25 32.9**	**+1.1**	
SDDR				*e*S		**Sn**	**17 26 21.1**	**-2.0**	
SDDR				IAML			17 26 33.1		
	comp=Z,103nm,0.8s								
GRTK	**Grand Turk**	**4.76**	**70**	Pn		**Pn**	**17 25 35.8**	**+0.1**	
GRTK	**Grand Turk**	**4.76**	**70**	*i* P		**Pn**	**17 25 36.3**	**+0.6**	
GRTK				*e*S		**Sn**	**17 26 26.2**	**-4.0**	
GRTK				IAML			17 26 30.9		
	comp=Z,175nm,0.9s								
FSCY	**Frank Sound, G**	**4.99**	**264**	Pn		**Pn**	**17 25 37.0**	**-1.9**	
WBCY	**West Bay, Gran**	**5.18**	**265**	Pn		**Pn**	**17 25 41.0**	**-0.5**	
BANI	**BANI**	**5.47**	**105**			**Pn**	**17 25 45.4**	**-0.2**	
DR12	**Loma Pena Alta**	**6.28**	**99**			**Pn**	**17 25 57.3**	**+0.7**	
SOR	**Soroa**	**7.20**	**295**	Pn		**Pn**	**17 26 06.6**	**-2.6**	
060A	**Indiantown**	**8.18**	**331**	Pn		**Pn**	**17 26 21.8**	**-0.9**	
MLPR	**Magueyes Islan**	**8.62**	**101**	Pn		**Pn**	**17 26 30.2**	**+1.5**	
AOPR	**Arecibo Observ**	**8.81**	**99**	Pn		**Pn**	**17 26 32.5**	**+1.2**	
SMRC	**Santa Marta, M**	**8.85**	**169**	*e*P		**Pn**	**17 26 29.9**	**-1.9**	
CBYP	**Canovanas**	**9.66**	**98**	Pn		**Pn**	**17 26 43.7**	**+0.7**	
TEIG	**Tepich**	**11.61**	**274**	Pn		**Pn**	**17 27 11.5**	**+1.8**	
	comp=Z,5.0nm,0.3s,baz=122,slow=1.7,SNR=19								
TEIG				Sn		**Sn**	**17 29 14.4**	**-4.3**	
	comp=Z,0.8nm,0.3s,baz=346,slow=19,SNR=3.8								
TEIG				LR		LR	17 31 40.0		
	comp=Z,203nm,18.3s,baz=113,slow=37								
ACON	**Acoyapa**	**11.89**	**230**	Pn		**Pn**	**17 27 10.9**	**-2.6**	
SDV	**Santo Domingo**	**12.09**	**154**	Pn		**Pn**	**17 27 15.8**	**-0.7**	
	comp=Z,1.1nm,0.3s,baz=337,slow=6.7,SNR=8.2								
SDV				LR		LR	17 32 09.8		
	comp=Z,56nm,20.0s,baz=348,slow=39								
SDV	**Santo Domingo**	**12.09**	**154**			**Pn**	**17 27 18.0**	**+1.5**	
SDV	**Santo Domingo**	**12.09**	**154**	*e*P		**Pn**	**17 27 17.4**	**+0.9**	
CBOC	**Ciudad Bolivar**	**13.96**	**180**	*e*P		**Pn**	**17 27 46.0**	**+4.0**	
NORC	**Norcasia**	**14.30**	**176**	*e*P		**Pn**	**17 27 49.3**	**+2.9**	
GUY2C	**Guyana, Caldas**	**14.61**	**178**	*e*P		**P**	**17 27 56.3**	**-1.1**	
TKL	**Tuckaleechee C**	**17.15**	**338**	LR		LR	17 35 11.4		
	comp=Z,82nm,21.0s,baz=122,slow=38								
CMIG	**Matias Romero**	**18.20**	**264**	LR		LR	17 35 06.4		
	comp=Z,99nm,21.1s,baz=43,slow=35								
MDP	**Montagnes des**	**27.02**	**120**	LR		LR	17 41 18.8		
	comp=Z,58nm,18.6s,baz=326,slow=38								
ULM	**Lac du Bonnet**	**34.17**	**337**	LR		LR	17 45 58.1		
	comp=Z,221nm,18.0s,baz=133,slow=38								
FCC	**Fort Churchill**	**40.99**	**346**	P		**P**	**17 32 07.2**	**+0.9**	
NEW	**Newport**	**43.54**	**320**	LR		LR	17 52 07.1		
	comp=Z,150nm,18.2s,baz=64,slow=38								
BDFB	**Brasilia**	**44.73**	**140**	LR		LR	17 54 13.3		
	comp=Z,76nm,18.0s,baz=130,slow=40								
YKA	**Yellowknife Ar**	**50.14**	**338**	P		**P**	**17 33 19.5**	**+0.9**	
	comp=Z,0.3nm,0.7s,baz=116,slow=5.1,SNR=5.2								
YKA				LR		LR	17 55 44.9		
	comp=Z,116nm,18.2s,baz=0.0,slow=38								
EPYK	**Eagle Plains**	**60.34**	**336**	P		**P**	**17 34 34.1**	**+1.9**	
EPYK				IAmb		IAmb	17 35 07.6		
	comp=Z,15nm,1.6s								
ILAR	**Eielson Array**	**64.06**	**333**	P		**P**	**17 34 58.2**	**+1.1**	
	comp=Z,0.2nm,0.5s,baz=123,slow=5.0,SNR=5.7								
CCB	**Clear Creek Bu**	**64.44**	**333**	P		**P**	**17 35 00.4**	**+0.9**	
CCB				IAmb		IAmb	17 35 16.4		
	comp=Z,12nm,1.6s								
TRF	**Thorofare Moun**	**65.39**	**332**	P		**P**	**17 35 07.4**	**+1.4**	
TRF				IAmb		IAmb	17 35 35.5		
	comp=Z,15nm,1.6s								
FINES	**FINESS Array B**	**78.30**	**29**	P		**P**	**17 36 23.8**	**+0.5**	
	comp=Z,1.2nm,0.6s,baz=222,slow=2.6,SNR=7.0								
FIA1	**FINESS Array S**	**78.30**	**29**	P		**P**	**17 36 23.6**	**+0.3**	
STKA	**Stephens Creek**	**144.37**	**243**	PKP		**PKPab**	**17 43 59.1**	**+0.9**	
	comp=Z,3.2nm,0.8s,baz=15,slow=2.7,SNR=7.5								
WRA	**Warramunga Arr**	**151.56**	**265**	PKP		**PKPdf**	**17 44 11.9**	**-0.3**	
	comp=Z,0.7nm,1.0s,baz=87,slow=3.0,SNR=1.8								
WRA				PKPbc		**PKPbc**	**17 44 17.6**	**-0.8**	
	comp=Z,1.0nm,1.0s,baz=89,slow=3.1,SNR=6.5								
ASAR	**Alice Springs**	**152.07**	**257**	PKPbc		**PKPbc**	**17 44 18.5**	**-1.1**	
	comp=Z,0.6nm,0.7s,baz=108,slow=1.7,SNR=8.8								
ASAR				PKPab		**PKPab**	**17 44 30.1**	**+1.0**	
	comp=Z,0.9nm,0.7s,baz=94,slow=4.1,SNR=13								

IDC ***13*** *17:35:12.9±1.3, 15°.80S×69°.43W, h222km±11km, mb4.3/23, mb1 4.4/28, mb1mx4.3/45, mbtmp4.8/28, Error ellipse: s-maj=12.4km s-min=8.8km az=53.0*

SJA ***13*** *17:35:12.9±0.5, 16°.05S×69°.99W, h268km±5km, ML4.9, MW4.5*

NEIC ***13*** *17:35:13.5±2.6, 15°.94S±0°.06×69°.57W±0°.09, h233km±1km, mb4.7/216, Error ellipse: s-maj=12.8km s-min=9.2km az=90.0*

GUC ***13*** *17:35:14.4±0.8, 16°.19S×69°.89W, h271km±8km, ML5.2*

VAO ***13*** *17:35:14.2±0.5, 15°.91S×69°.58W, h243km±2km, mb4.7*

ISC 13 17:35:12.5±0.5, 15°.93S±0°.03×69°.69W±0°.05, h228km±4km, n490, σ1§58/525, mb4.8/129, 6C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
LPAZ	**La Paz**	**1.54**	**104**	P		**Pn**	**17 35 52.5**	**+2.7**	
	192nm,0.3s,baz=281,slow=5.1,SNR=3990								
LPAZ				S		**S**	**17 36 20.1**	**+1.5**	
	123nm,0.3s,baz=25,slow=24,SNR=31								
LPAZ	**La Paz**	**1.54**	**104**	⇓*i* P		**Pn**	**17 35 52.5**	**+2.7**	
LPAZ				*i* S		**S**	**17 36 20.2**	**+1.5**	
LPAZ	**La Paz**	**1.54**	**104**			**Pn**	**17 35 52.2**	**+2.4**	
LPAZ				S		**S**	**17 36 19.2**	**+0.5**	
LPAZ	**La Paz**	**1.54**	**104**	*e*P		**Pn**	**17 35 52.5**	**+2.7**	
LPAZ				*e*S		**S**	**17 36 20.6**	**+1.9**	
PB16	**IPOC Station P**	**2.40**	**176**	⇑*i* P		**Pn**	**17 36 00.9**	**+3.1**	
PB16				*i* S		**S**	**17 36 36.5**	**+3.3**	
PB16	**IPOC Station P**	**2.40**	**176**	Pn		**Pn**	**17 36 00.5**	**+2.7**	
PB16				S		**S**	**17 36 35.2**	**+2.0**	
PB16	**IPOC Station P**	**2.40**	**176**	*e*P		**Pn**	**17 36 00.8**	**+3.1**	
PB16				*e*S		**S**	**17 36 36.0**	**+2.9**	
PB16				IAML			17 36 42.7		
	comp=Z,491nm,0.5s								
AP01	**Chacalluta**	**2.51**	**194**	⇑*i* P		**Pn**	**17 35 59.8**	**+1.6**	
AP01				*i* S		**S**	**17 36 34.7**	**+0.6**	
AP01				IAML			17 36 36.6		
	comp=E,5µm,0.2s								
AP01	**Chacalluta**	**2.51**	**194**			**Pn**	**17 35 59.9**	**+1.6**	
AP01				S		**S**	**17 36 34.0**	**-0.1**	
MNMC	**Minye Minye**	**3.19**	**178**	⇑*i* P		**Pn**	**17 36 07.9**	**+1.8**	
MNMC				*i* S		**S**	**17 36 48.3**	**+0.1**	
MNMC	**Minye Minye**	**3.19**	**178**			**Pn**	**17 36 07.4**	**+1.3**	
MNMC				S		**S**	**17 36 47.4**	**-0.8**	
MNMCX	**Minye Minye**	**3.19**	**178**	*e*P		**Pn**	**17 36 07.9**	**+1.8**	
MNMCX				*e*S		**S**	**17 36 49.2**	**+1.1**	
MNMCX				IAML			17 36 52.6		
	comp=Z,2µm,0.5s								
PSGC	**Pisagua**	**3.67**	**186**	⇑*i* P		**Pn**	**17 36 12.0**	**+0.4**	
PSGC				*i* S		**S**	**17 36 56.2**	**-1.9**	
PSGCX	**Pisagua**	**3.67**	**186**	Pn		**Pn**	**17 36 12.0**	**+0.4**	
PSGCX				S		**S**	**17 36 54.8**	**-3.2**	
PSGCX	**Pisagua**	**3.67**	**186**	*e*P		**Pn**	**17 36 12.4**	**+0.9**	
PSGCX				*e*S		**S**	**17 36 56.8**	**-1.2**	
PSGCX				IAML			17 36 58.8		
	comp=Z,785nm,0.4s								
PB08	**IPOC Station P**	**4.22**	**173**	⇑*i* P		**Pn**	**17 36 19.9**	**+1.5**	
PB08				*i* S		**S**	**17 37 08.5**	**-1.9**	
PB08	**IPOC Station P**	**4.22**	**173**			**Pn**	**17 36 19.1**	**+0.7**	
PB08				S		**S**	**17 37 08.4**	**-2.0**	
PB08	**IPOC Station P**	**4.22**	**173**	*e*P		**Pn**	**17 36 20.0**	**+1.5**	
PB08				*e*S		**S**	**17 37 09.6**	**-0.8**	
PB08				IAML			17 37 13.4		
	comp=Z,1µm,0.5s								
HMBC	**Humberstone**	**4.33**	**182**	⇑*i* P		**Pn**	**17 36 19.9**	**+0.4**	
HMBC				*i* S		**S**	**17 37 08.6**	**-3.8**	
TA01	**Diego Aracena**	**4.64**	**186**	Pn		**Pn**	**17 36 22.9**	**-0.2**	
TA01				S		**S**	**17 37 14.8**	**-4.2**	
PB01	**IPOC Station P**	**5.09**	**178**			**Pn**	**17 36 29.2**	**+0.4**	
PB01				S		**S**	**17 37 24.8**	**-4.6**	
PB01	**IPOC Station P**	**5.09**	**178**	*e*P		**Pn**	**17 36 29.3**	**+0.4**	
PB01				*e*S		**S**	**17 37 25.9**	**-3.5**	
PB01				IAML			17 37 29.0		
	comp=Z,888nm,0.4s								
PB07	**IPOC Station P**	**5.77**	**182**	Pn		**Pn**	**17 36 37.9**	**+0.4**	
PB07	**IPOC Station P**	**5.77**	**182**	*e*P		**Pn**	**17 36 38.0**	**+0.4**	
PB07				*e*S		**S**	**17 37 41.4**	**-3.7**	
PB07				IAML			17 37 49.2		
	comp=Z,952nm,0.4s								
PB09	**IPOC Station P**	**5.85**	**176**	Pn		**Pn**	**17 36 39.1**	**+0.6**	
PB09	**IPOC Station P**	**5.85**	**176**	*e*P		**Pn**	**17 36 39.3**	**+0.8**	
PB09				*e*S		**S**	**17 37 44.0**	**-2.9**	
PB03	**IPOC Station P**	**6.09**	**181**	*e*P		**Pn**	**17 36 41.9**	**+0.6**	
PB03				*e*S		**S**	**17 37 47.7**	**-4.6**	
PB04	**IPOC Station P**	**6.39**	**184**			**Pn**	**17 36 45.2**	**-0.1**	
PB04	**IPOC Station P**	**6.39**	**184**	*e*P		**Pn**	**17 36 45.6**	**+0.3**	
PB04				*e*S		**S**	**17 37 53.5**	**-5.7**	
LVC	**Limon Verde**	**6.69**	**174**	P		**Pn**	**17 36 50.0**	**+0.7**	
	comp=Z,40nm,0.3s,baz=19,slow=6.5,SNR=237								
LVC				S		**S**	**17 38 00.8**	**-5.7**	
	comp=Z,61nm,0.3s,baz=115,slow=21,SNR=13								
LVC	**Limon Verde**	**6.69**	**174**	Pn		**Pn**	**17 36 49.9**	**+0.5**	
LVC	**Limon Verde**	**6.69**	**174**	*e*P		**Pn**	**17 36 50.1**	**+0.8**	
LVC	**Limon Verde**	**6.69**	**174**	*e*P		**Pn**	**17 36 50.3**	**+1.0**	
LVC				*e*S		**S**	**17 38 03.5**	**-3.0**	
LVC				IAML			17 38 09.5		
	comp=Z,364nm,0.4s								
PB06	**IPOC Station P**	**6.74**	**179**			**Pn**	**17 36 49.7**	**-0.1**	
PB06	**IPOC Station P**	**6.74**	**179**	*e*P		**Pn**	**17 36 49.8**	**-0.1**	
PB06				*e*S		**S**	**17 38 05.5**	**-2.0**	
ETMB	**Extrema**	**6.96**	**30**	*e*P		**Pn**	**17 36 53.8**	**+1.3**	
PB15	**IPOC Station P**	**7.25**	**178**			**Pn**	**17 36 56.5**	**+0.1**	
PB15	**IPOC Station P**	**7.25**	**178**	*e*P		**Pn**	**17 36 56.6**	**+0.3**	
PB15				*e*S		**S**	**17 38 16.2**	**-3.1**	
YJA	**Yavi**	**7.36**	**148**	*e*P		**Pn**	**17 36 58.2**	**+0.2**	
YJA				IAML			17 38 29.1		
	comp=Z,26nm,1.7s								
PB10	**IPOC Station P**	**7.59**	**186**	Pn		**Pn**	**17 37 00.3**	**-0.2**	
PB10	**IPOC Station P**	**7.59**	**186**	*e*P		**Pn**	**17 37 00.4**	**-0.1**	
PB10				*e*S		**S**	**17 38 21.5**	**-5.5**	
PB10				IAML			17 38 27.9		
	comp=Z,156nm,0.4s								
NNA	**Nana**	**7.97**	**299**	P		**Pn**	**17 37 07.9**	**+2.4**	
	comp=Z,4.0nm,0.3s,baz=126,slow=11,SNR=14								
NNA				S		**S**	**17 38 30.8**	**-5.3**	
	comp=Z,2.7nm,0.3s,baz=156,slow=7.4,SNR=4.7								
NNA	**Nana**	**7.97**	**299**	Pn		**Pn**	**17 37 06.3**	**+0.7**	
SIV	**San Ignacio**	**8.29**	**92**	P		**Pn**	**17 37 07.6**	**-2.0**	
	comp=Z,1.3nm,0.3s,baz=283,slow=11,SNR=24								
PB14	**IPOC Station P**	**8.68**	**184**	Pn		**Pn**	**17 37 14.2**	**-0.6**	
PB14	**IPOC Station P**	**8.68**	**184**	*e*P		**Pn**	**17 37 14.5**	**-0.3**	
PB14				*e*S		**S**	**17 38 47.6**	**-5.4**	
PB14				IAML			17 38 55.6		
	comp=Z,120nm,0.4s								
GO02	**Mina Guanaco**	**9.19**	**179**	Pn		**Pn**	**17 37 21.2**	**-0.1**	
SAML	**Samuel**	**9.40**	**43**	Pn		**Pn**	**17 37 23.4**	**-0.5**	
SAML	**Samuel**	**9.40**	**43**	*e*P		**Pn**	**17 37 23.4**	**-0.5**	
SLA	**San Lorenzo**	**9.59**	**157**	*e*P		**Pn**	**17 37 26.9**	**+0.6**	
SLA				*e*S		**S**	**17 39 07.6**	**-6.6**	
SLA				IAML			17 39 22.7		
	comp=Z,20nm,1.0s								
VILB	**Vilhena**	**9.66**	**73**	*e*P		**Pn**	**17 37 26.4**	**-0.7**	
PTLB	**Pontes e Lacer**	**10.17**	**89**	*e*P		**Pn**	**17 37 33.9**	**+0.2**	
AC01	**Pan de Azucar**	**10.20**	**185**			**Pn**	**17 37 33.7**	**-0.3**	
FSA	**Cafayete**	**10.71**	**162**	*e*P		**P**	**17 37 45.5**	**-0.8**	
AC02	**Maricunga**	**10.87**	**177**	Pn		**Pn**	**17 37 43.9**	**+1.0**	
AHML	**Horco Molle**	**11.54**	**160**	*e*P		**P**	**17 37 53.2**	**-2.1**	
GO03	**Copiap**	**11.62**	**182**	Pn		**Pn**	**17 37 53.0**	**+1.0**	
GO03	**Copiap**	**11.62**	**182**	*e*P		**Pn**	**17 37 53.7**	**+1.7**	
GO03				*e*S		**S**	**17 40 01.1**	**+0.5**	
ATAH	**Atahualpa**	**12.21**	**315**	P		**P**	**17 38 02.5**	**-0.8**	
	comp=Z,2.7nm,0.3s,baz=167,slow=4.5,SNR=17								
AC04	**Llanos de Chal**	**12.28**	**186**	Pn		**Pn**	**17 38 00.8**	**+0.6**	
VCA	**Vinchina**	**12.82**	**174**	*e*P		**P**	**17 38 10.0**	**+0.3**	
VCA				*e*S		**S**	**17 40 27.9**	**-1.2**	
AC05	**El Transito**	**12.86**	**182**	Pn		**P**	**17 38 08.7**	**-1.4**	
LCO	**Las Campanas**	**13.05**	**184**			**P**	**17 38 11.2**	**-1.2**	
AANI	**Anillaco**	**13.07**	**169**	*e*P		**P**	**17 38 15.2**	**+2.7**	
AGUA	**GUANDACOL**	**13.54**	**176**	*e*P		**P**	**17 38 18.8**	**+1.1**	
ACLC	**CERRO LA CRUZ**	**13.67**	**170**	*e*P		**P**	**17 38 23.8**	**+0.7**	
CO01	**Juntas del Tor**	**13.99**	**181**	P		**P**	**17 38 23.4**	**+0.6**	
CO01						**S**	**17 40 56.2**	**-0.2**	
AQDB	**Aquidauana**	**14.04**	**111**	*e*P		**Pn**	**17 38 22.3**	**+0.3**	
AROD	**Rodeo**	**14.17**	**179**	*e*P		**P**	**17 38 27.6**	**+2.7**	
AROD				*e*S		**S**	**17 41 01.1**	**+0.2**	
GO04	**Tololo Observa**	**14.21**	**184**	P		**P**	**17 38 25.6**	**+0.3**	
GO04						**S**	**17 40 59.7**	**-2.0**	
GO04	**Tololo Observa**	**14.21**	**184**	*e*P		**P**	**17 38 27.0**	**+1.8**	
GO04				*e*S		**S**	**17 41 04.8**	**+3.1**	
PP1B	**Ponte de Pedra**	**14.28**	**99**	*e*P		**Pn**	**17 38 24.9**	**-0.1**	
CLDB	**Colider**	**14.42**	**71**	*e*P		**Pn**	**17 38 26.5**	**-0.2**	
ACCO	**Cerro Coronel**	**14.60**	**178**	*e*P		**P**	**17 38 32.3**	**+2.6**	
APLL	**PUNTA DE LOS L**	**14.69**	**169**	*e*P		**P**	**17 38 31.7**	**+1.4**	
AVFE	**Valle Fertil**	**14.80**	**172**	*e*P		**P**	**17 38 33.4**	**+1.8**	
CO03	**El Pedregal**	**14.87**	**183**			**P**	**17 38 33.2**	**+0.9**	
CO02	**Combarbal**	**15.25**	**184**	P		**Pn**	**17 38 38.3**	**+1.6**	
RTLL	**Cerro Villicun**	**15.37**	**176**	*e*P		**Pn**	**17 38 40.7**	**+2.6**	
ACHE	**Chepes**	**15.41**	**170**	*e*P		**Pn**	**17 38 40.4**	**+1.6**	
MACA	**Manacapuru-AM**	**15.48**	**36**	*e*P		**Pn**	**17 38 39.6**	**+0.1**	
CPUP	**Villa Florida**	**15.48**	**134**	P		**P**	**17 38 38.7**	**-0.3**	
	comp=Z,0.5nm,0.3s,baz=307,slow=12,SNR=7.6								
CPUP				ScP		**ScP**	**17 46 39.4**	**+0.1**	
	comp=Z,0.2nm,0.3s,baz=0.0,slow=4.0,SNR=4.2								
CPUP	**Villa Florida**	**15.48**	**134**	P		**P**	**17 38 38.3**	**-0.7**	
CPUP	**Villa Florida**	**15.48**	**134**	*e*P		**Pn**	**17 38 39.3**	**-0.2**	
SJA	**San Juan**	**15.56**	**176**	*e*P		P	17 38 30.8	-9.2	
ZON	**Zonda**	**15.57**	**177**	P		**Pn**	**17 38 42.1**	**+1.5**	
ZON				IAmb		IAmb	17 38 45.0		
	comp=Z,26nm,0.6s								
RTLS	**Leoncito**	**15.80**	**179**	*e*P		**Pn**	**17 38 45.8**	**+2.2**	
RTCV	**Cerro Valdivia**	**15.90**	**176**	*e*P		**Pn**	**17 38 46.2**	**+1.8**	
TCA	**Tanti**	**16.03**	**164**	*e*P		**Pn**	**17 38 46.0**	**0.0**	
AUSP	**Uspallata**	**16.23**	**179**	*e*P		**Pn**	**17 38 50.3**	**+1.7**	
NPGB	**Novo Progresso**	**16.58**	**59**	*e*P		**P**	**17 38 51.0**	**-0.2**	
PTLC	**Puerto Leguiza**	**16.77**	**342**	*e*P		**P**	**17 38 47.1**	**-6.2**	
VA03	**San Esteban**	**16.78**	**183**	P		**Pn**	**17 38 55.4**	**+0.5**	
MRA	**San Martin**	**16.81**	**168**	*e*P		**Pn**	**17 38 55.6**	**+0.4**	
ROC1	**El Roble**	**17.02**	**184**	*e*P		**Pn**	**17 38 57.9**	**+0.1**	
PEL	**Peldehue**	**17.16**	**183**	P		**Pn**	**17 38 58.8**	**-0.6**	
PEL	**Peldehue**	**17.16**	**183**	*e*P		**Pn**	**17 38 58.5**	**-0.9**	
ARAG	**Araguaiana, MT**	**17.20**	**92**	*e*P		**P**	**17 38 58.1**	**+0.1**	
MT02	**Curacav**	**17.30**	**184**	P		**Pn**	**17 39 00.4**	**-0.6**	
MT02				IAmb		IAmb	17 39 03.1		
	comp=Z,44nm,0.9s								
MT05	**Renca**	**17.41**	**183**	P		**Pn**	**17 39 02.2**	**-0.1**	
TRCB	**Terra Rica**	**17.47**	**116**	*e*P		**Pn**	**17 39 02.1**	**-1.0**	
ITTB	**Itaituba**	**17.89**	**52**	*e*P		**P**	**17 39 05.8**	**+0.3**	
PTGA	**Pitinga**	**17.89**	**33**	P		**P**	**17 39 06.0**	**+0.5**	
	comp=Z,26nm,0.3s,baz=205,slow=12,SNR=194								
PTGA	**Pitinga**	**17.89**	**33**			**P**	**17 39 05.7**	**+0.2**	
PTGA	**Pitinga**	**17.89**	**33**	*e*P		**P**	**17 39 05.7**	**+0.2**	
ITQB	**Itaqui**	**18.20**	**141**	*e*P		**P**	**17 39 09.6**	**+0.8**	
OTAV	**Otavalo**	**18.24**	**331**			**Pn**	**17 39 12.6**	**-0.1**	
OTAV	**Otavalo**	**18.24**	**331**	*e*P		**Pn**	**17 39 12.9**	**+0.3**	
SNDB	**Serra Nova Dou**	**18.28**	**80**	*e*P		**P**	**17 39 09.6**	**-0.2**	
PCMB	**Pacaembu**	**18.34**	**111**	*e*P		**P**	**17 39 10.4**	**+0.1**	
PTGB	**Pitanga**	**18.68**	**121**	*e*P		**P**	**17 39 15.0**	**+0.9**	
ITRB	**Iturama**	**18.78**	**104**	*e*P		**P**	**17 39 15.3**	**+0.2**	
RFA	**San Rafael**	**18.80**	**177**	*e*P		**Pn**	**17 39 17.7**	**-0.8**	
BO02	**Sierra Bellavi**	**18.81**	**183**	P		**Pn**	**17 39 17.4**	**-1.3**	
GARC	**Garzon, Huila**	**18.89**	**342**	*e*P		**P**	**17 39 15.6**	**-1.0**	
SOTA	**Rioblanco**	**19.21**	**339**	*e*P		**P**	**17 39 20.9**	**+0.7**	
PCON	**Cinco Dias**	**19.31**	**339**	*e*P		**P**	**17 39 21.5**	**0.0**	
BBAC	**Balboa, Cauca**	**19.34**	**337**	*e*P		**P**	**17 39 22.6**	**+1.2**	
BETC	**Betania**	**19.35**	**342**	*e*P		**P**	**17 39 20.0**	**-1.3**	
VA04	**Juan Fernndez**	**19.47**	**203**	P		**Pn**	**17 39 24.3**	**-2.2**	
POPC	**Popayan, Colom**	**19.61**	**339**	*e*P		**P**	**17 39 24.8**	**+0.5**	
MARP	**Paez Belalcaza**	**19.65**	**341**	*e*P		**P**	**17 39 22.9**	**-1.9**	
PRAC	**Prado**	**20.18**	**345**	*e*P		**P**	**17 39 28.4**	**-1.8**	
FRTB	**Fartura**	**20.33**	**114**	*e*P		**P**	**17 39 31.7**	**0.0**	
BOAV	**Boa Vista**	**20.34**	**27**	*e*P		**P**	**17 39 32.4**	**+0.6**	
ORTC	**Ortega, Tolima**	**20.46**	**344**	*e*P		**P**	**17 39 31.5**	**-1.7**	
IPMB	**Ipameri, GO**	**20.64**	**99**	*e*P		**P**	**17 39 33.3**	**-1.8**	
MALB	**Monte Alegre**	**20.66**	**49**	*e*P		**P**	**17 39 34.6**	**-0.7**	
BI02	**San Fabin de**	**20.70**	**184**	P		**P**	**17 39

KMSC	Kings Mountain baz=166	51.98	348	P		17 43 57.8	
V59A	Middlesex	52.04	351	P		17 43 58.0	
V57A	baz=170 Coltrane Farms	52.41	350	P		17 44 00.9	
V56A	baz=168 Mocksville	52.46	349	P		17 44 01.8	
833A	baz=167 Chaparral WMA,	52.55	327	P		17 44 04.1	
TKL	baz=143,SNR=6.4 Tuckaleechee C	53.01	346	P	P	17 44 04.9	-1.2
TKL	comp=Z,8.1nm,0.8s,baz=166,slow=9.6,SNR=5.6 Tuckaleechee C	53.01	346	IAmb	IAmb	17 44 47.3	
NATX	comp=Z,30nm,1.4s Nacogdoches	53.12	333	P		17 44 08.3	
NATX	baz=150 Nacogdoches	53.12	333	P	P	17 44 06.7	-0.3
T58A	Grand View Acr	53.24	351	P		17 44 07.8	
U54A	baz=169 Nelsons Funny	53.41	348	P		17 44 09.0	
T56A	baz=165 Rocky Mt	53.57	350	P		17 44 10.1	
Z41A	baz=168 Richland Creek	53.66	336	P		17 44 11.1	
237A	baz=152 Washetta, Mont	53.84	332	P	P	17 44 13.5	+1.3
V48A	Smith Brothers	53.89	343	P	P	17 44 11.3	-1.2
V48A	comp=Z,14nm,0.8s			IAmb	IAmb	17 44 12.0	
CLTN	Cedars of Leba	54.08	343	P	P	17 44 12.9	-0.9
S57A	Dark Hollow, R baz=169	54.11	351	P		17 44 13.5	
WLAR	White Oak Lake	54.16	336	P	P	17 44 13.3	-1.1
WLAR	comp=Z,14nm,0.8s			IAmb	IAmb	17 44 15.7	
JCT	Junction City	54.49	328	P	P	17 44 17.2	+0.2
JCT	comp=Z,14nm,0.8s			IAmb	IAmb	17 44 20.0	
WVT	Waverly	54.55	342	P	P	17 44 15.4	-1.8
Z38A	Mt. Pleasant	54.55	334	P	P	17 44 17.7	+0.4
HPIG		55.10	320	P	P	17 44 23.3	+1.7
HPIG	comp=Z,7.4nm,0.5s			IAmb	IAmb	17 44 24.3	
MIAR	Mount Ida baz=152,SNR=6.0	55.10	336	P		17 44 20.6	
MIAR	Mount Ida	55.10	336	P	P	17 44 20.6	-0.6
T47A	Sharon Grove	55.14	343	P	P	17 44 19.1	-2.3
T47A	comp=Z,26nm,1.1s			IAmb	IAmb	17 44 21.3	
WHAR	Wooly Hollow	55.27	338	P	P	17 44 21.5	-0.9
SLBS	Sierra La Lagu	55.66	314	P	P	17 44 27.0	+1.5
TXAR	Lajitas Array comp=Z,5.1nm,0.6s,baz=148,slow=9.0,SNR=52	55.69	324	P	P	17 44 26.8	+1.2
TXAR	comp=Z,1.0nm,0.7s,baz=127,slow=6.9,SNR=1.7			PcP	PcP	17 45 23.3	+1.1
TX31	Lajitas Ar. Si	55.69	324	P	P	17 44 26.6	+0.9
TX31	comp=Z,17nm,0.6s			IAmb	IAmb	17 44 27.3	
TX32	Lajitas Array	55.69	324	P	P	17 44 26.7	+1.1
FCAR	Ozark Folk Cen	55.74	338	P	P	17 44 24.5	-1.3
FCAR	comp=Z,15nm,1.0s			IAmb	IAmb	17 44 25.7	
PBMO	Poplar Bluff	55.96	340	P	P	17 44 26.0	-1.3
PBMO	comp=Z,20nm,0.8s			IAmb	IAmb	17 44 26.9	
ABTX	Abilene, Hawle baz=145,SNR=6.0	56.14	330	P		17 44 29.4	
P53A	Whipple	56.20	349	P	P	17 44 28.2	-0.7
P53A	comp=Z,21nm,0.8s			IAmb	IAmb	17 44 29.1	
T42A	Van Buren	56.41	339	P	P	17 44 28.8	-1.7
T42A	comp=Z,12nm,0.8s			IAmb	IAmb	17 44 29.8	
S44A	Carbondale	56.42	341	P	P	17 44 29.4	-1.1
U40A	Yellville baz=153,SNR=12	56.42	338	P		17 44 29.4	
SIUC	Southern Illin	56.43	341	P	P	17 44 29.4	-1.1
N59A	State Game Lan baz=173	56.83	354	P		17 44 33.3	
N58A	Sunbury baz=172	56.85	354	P		17 44 33.7	
N57A	Milroy baz=171	56.86	353	P		17 44 33.2	
M66A	Nantucket baz=179	56.90	360	P		17 44 33.0	
O53A	New Philadelph baz=167	56.91	349	P		17 44 33.3	
MGMO	Mountain Grove	56.92	339	P	P	17 44 32.8	-1.3
MGMO	comp=Z,22nm,1.1s			IAmb	IAmb	17 44 34.5	
P49A	Miami Univ. Ec baz=163	56.93	346	P		17 44 32.3	
FVM	French Village	57.06	341	P	P	17 44 34.2	-0.8
M62A	Hamden baz=176	57.16	357	P		17 44 35.3	
ACSO	Alum Creek Sta baz=165	57.22	348	P		17 44 35.3	
FNO	Franklin	57.29	333	P	P	17 44 36.9	+0.2
M58A	Price's Panora baz=172	57.35	354	P		17 44 36.3	
N53A	Lisbon	57.39	350	P	P	17 44 36.4	-0.8
N53A	comp=Z,14nm,0.5s			IAmb	IAmb	17 44 37.3	
CCM	Cathedral Cave baz=155	57.39	340	P		17 44 36.5	
CCM	Cathedral Cave	57.39	340	P	P	17 44 36.1	-1.1
CCM	comp=Z,17nm,0.8s			IAmb	IAmb	17 44 37.5	
M57A	Sunshine Farm, baz=171	57.39	353	P		17 44 36.8	
N54A	Moraine State baz=168	57.40	351	P		17 44 37.1	
M59A	Waymart baz=173	57.42	355	P		17 44 36.6	
L63A	North Scituate baz=178	57.52	358	P		17 44 37.4	
BRYW	Bryant College	57.58	358	P	P	17 44 37.3	-1.3
BRYW	comp=Z,22nm,0.8s			IAmb	IAmb	17 44 39.5	
L64A	Middleborough baz=179	57.58	359	P		17 44 37.6	
OK031	S. Brethren Rd	57.64	334	P	P	17 44 39.1	0.0
M56A	Emporium baz=170	57.66	352	P		17 44 38.3	
BCOK	Bluff Creek, N	57.72	333	P	P	17 44 39.1	-0.6
OK029	Liberty Lake	57.77	333	P	P	17 44 40.0	0.0
L60A	Shokan baz=175	57.78	356	P		17 44 39.1	
QUOK	Quay	57.78	334	P	P	17 44 40.1	+0.1
M54A	Oil Creek Stat baz=169	57.88	351	P		17 44 39.6	
L61A	Hillsdale 1, H baz=176	57.94	357	P		17 44 39.1	
R40A	Maddies Statio	57.95	339	P	P	17 44 39.8	-1.4
R40A	comp=Z,16nm,0.7s			IAmb	IAmb	17 44 40.7	
L58A	Harry Jones Me baz=173	57.96	355	P		17 44 40.1	
M53A	WI Miller and baz=167,SNR=6.7	57.98	350	P		17 44 40.2	
M53A	WI Miller and	57.98	350	P	P	17 44 40.1	-1.2
M53A	comp=Z,21nm,0.8s			IAmb	IAmb	17 44 41.3	
L59A	Walton baz=174	58.04	355	P		17 44 41.2	
BINY	Binghamton baz=173	58.12	354	P		17 44 41.7	
BINY	Binghamton	58.13	354	P	P	17 44 41.6	-0.7
BINY	comp=Z,26nm,1.2s			IAmb	IAmb	17 44 42.6	
N49A	Columbus Grove	58.14	347	P	P	17 44 40.6	-1.8
N49A	comp=Z,19nm,0.8s			IAmb	IAmb	17 44 41.8	
L61B	Northampton baz=176	58.15	357	P		17 44 42.0	
HRV	Adam Dziewonsk baz=178	58.17	358	P		17 44 41.6	
L56A	Greenwood baz=171	58.23	353	P		17 44 42.1	
GDL2	Guadalupe Moun	58.25	325	P	P	17 44 44.9	+1.3
K63A	Dunstable baz=178	58.35	358	P		17 44 43.0	
L53A	Girard baz=168,SNR=6.5	58.41	351	P		17 44 43.2	
MNTX	Cornudas Mount baz=139,SNR=19	58.44	324	P		17 44 45.4	
MNTX	comp=Z,14nm,0.9s			IAmb	IAmb	17 44 46.9	
ERPA	Erie baz=168	58.53	351	P		17 44 44.6	
ERPA	Erie	58.53	351	P	P	17 44 43.9	-1.2
K59A	Cooperstown baz=174	58.60	356	P		17 44 45.4	
K58A	Earlville baz=173	58.66	355	P		17 44 45.5	
K57A	Scipio Center baz=172	58.70	354	P		17 44 45.8	
MSTX	Muleshoe baz=142,SNR=14	58.78	328	P		17 44 47.6	
J63A	Strafford baz=178	58.93	359	P		17 44 46.7	
OK032	Salt Plains WL	58.95	333	P	P	17 44 48.4	+0.2
J60A	Lant Hill Farm baz=176	58.98	357	P		17 44 47.6	
P40A	Paris	58.99	340	P	P	17 44 46.8	-1.5
P40A	comp=Z,14nm,0.8s			IAmb	IAmb	17 44 47.9	
J59A	Piesco baz=174	59.26	356	P		17 44 49.0	
J56A	Wolcott baz=172	59.28	354	P		17 44 49.1	
J57A	Williamstown baz=173	59.33	355	P		17 44 49.2	
J57A	Williamstown	59.33	355	P	P	17 44 49.5	-1.0
I58A	Old Forge baz=174	59.52	356	P		17 44 51.2	
I59A	Olmsteadville baz=175	59.55	356	P		17 44 51.5	
I60A	Shoreham baz=176	59.57	357	P		17 44 52.3	
P38A	Dawn	59.58	339	P	P	17 44 51.0	-1.4
P38A	comp=Z,9.0nm,0.5s			IAmb	IAmb	17 44 54.0	
N41A	Harden Midland	59.68	341	P	P	17 44 51.4	-1.6
N41A	comp=Z,16nm,0.9s			IAmb	IAmb	17 44 52.0	
I63A	Otisfield baz=179	59.69	359	P		17 44 53.0	
I57A	Carthage baz=173	59.82	355	P		17 44 53.2	
LBNH	Lisbon baz=177	59.91	358	P		17 44 53.8	
H58A	Gabriels baz=175	60.19	356	P		17 44 55.4	
H61A	Lyndonville baz=177	60.20	358	P		17 44 56.1	
H62A	Milan baz=178	60.22	359	P		17 44 56.8	
KSU1	Kansas State U baz=150	60.25	336	P		17 44 56.5	
KSU1	Kansas State U	60.25	336	P	P	17 44 56.1	-0.8
H64A	Troy baz=180	60.28	0	P		17 44 57.0	
H63A	New Sharon baz=180	60.30	360	P		17 44 56.8	
H57A	Richville baz=174	60.32	355	P		17 44 56.6	
I51A	Listowel baz=167	60.34	351	P		17 44 56.6	
H59A	Cadyville baz=176	60.39	357	P		17 44 57.5	
121A	Cookes Peak, D baz=137,SNR=7.2	60.42	323	P		17 45 00.5	
319A	Douglas	60.47	321	P	P	17 45 00.1	+1.3
H53A	Bobcaygeon baz=170	60.75	353	P		17 44 59.8	
G60A	Masonville baz=177	60.78	358	P		17 45 00.1	
G62A	West of Eustis baz=179	60.86	359	P		17 45 00.7	
G62A	West of Eustis	60.86	359	P	P	17 45 00.6	-0.3
G62A	comp=Z,17nm,0.8s			IAmb	IAmb	17 45 01.9	
G65A	Princeton baz=182	60.86	2	P		17 45 00.5	
G64A	Maxfield baz=181	60.89	1	P		17 45 00.9	
PKME	Peaks-Kenny Pk baz=180	60.90	0	P		17 45 00.9	
G58A	Ormstown baz=175	60.91	356	P		17 45 00.7	
G57A	Newington baz=174	60.93	356	P		17 45 00.4	
G61A	St-Isidore-de- baz=178	60.94	359	P		17 45 01.3	
BNM	Barren Site	60.97	325	P	P	17 45 03.2	+1.1
LENM	Lemitar	61.17	325	P	P	17 45 05.3	+1.8
ANMO	Albuquerque baz=139	61.47	326	P		17 45 06.5	
ANMO	Albuquerque comp=Z,8.3nm,0.5s,baz=133,slow=6.3,SNR=25	61.47	326	P	P	17 45 06.8	+1.3
ANMO	Albuquerque	61.47	326	P	P	17 45 06.3	+0.8
ANMO	comp=Z,9.8nm,0.6s			IAmb	IAmb	17 45 07.8	
G54A	Lake Saint Pet baz=171	61.51	353	P		17 45 04.5	
F64A	Sherman baz=181	61.51	1	P		17 45 04.6	
SCIA	State Center baz=154	61.51	340	P		17 45 04.7	
JFWS	Jewell Farm baz=157	61.53	343	P		17 45 04.2	
F61A	St Evariste baz=178	61.62	359	P		17 45 05.4	
F60A	Warwick baz=177	61.64	358	P		17 45 05.7	
LMN	Caledonia Moun	61.65	4	P	P	17 45 04.9	-1.3
TUC	Tucson baz=134	62.04	321	P		17 45 10.8	
TUC	Tucson	62.04	321	P	P	17 45 10.6	+1.4
ALGO	Algonquin Park baz=171	62.05	353	P		17 45 08.0	
E63A	Oxbow baz=181	62.07	1	P		17 45 08.1	
E61A	Lac Etchemin baz=179	62.07	359	P		17 45 09.5	
E64A	Bridgewater baz=182	62.08	1	P		17 45 08.4	
E58A	La Victoria baz=176	62.09	357	P		17 45 08.8	
T25A	Trinidad baz=142,SNR=5.4	62.10	329	P		17 45 11.1	
T25A	Trinidad	62.10	329	P	P	17 45 10.5	+0.8
T25A	comp=Z,9.2nm,0.8s			IAmb	IAmb	17 45 11.7	
E56A	St. Veronique baz=174	62.36	356	P		17 45 09.9	
D60A	Saint Jean D'O baz=178	62.56	359	P		17 45 12.2	
L34A	Svendsen Farm,	62.65	338	P	P	17 45 12.1	-0.8
D63A	Stockholm baz=182	62.69	1	P		17 45 12.7	
D58A	Chemin du LacG baz=176,SNR=5.9	62.80	358	P		17 45 13.2	
BGNE	Belgrade baz=149	62.84	336	P		17 45 13.9	
D61A	St Aubert, Com baz=179	62.84	360	P		17 45 13.4	
D56A	ZEC Mazanza, M baz=174	62.85	356	P		17 45 13.2	
D55A	Sainte-Anne-du baz=174	62.87	356	P		17 45 13.6	
BATG	Bathurst New B	63.00	3	P	P	17 45 14.1	-1.0
BATG	comp=Z,14nm,0.6s			IAmb	IAmb	17 45 14.9	
214A	Organ Pipe Nat baz=132,SNR=7.6	63.05	319	P		17 45 17.9	
LATQ	La Tuque baz=177	63.08	358	P		17 45 15.8	
X18A	Snowflake	63.11	323	P	P	17 45 17.9	+1.5
SDCO	Great Sand Dun baz=141,SNR=13	63.11	329	P		17 45 17.8	
SDCO	Great Sand Dun	63.11	329	P	P	17 45 17.8	+1.4
W18A	Petrified Fore baz=136,SNR=9.8	63.41	324	P		17 45 20.2	
S22A	4UR Ranch, Cre baz=140,SNR=8.5	63.79	328	P		17 45 22.1	
Q24A	Divide baz=142	63.89	330	P		17 45 22.9	
OGNE	Ogallala baz=145	64.04	333	P		17 45 23.2	
K31A	O'Neill	64.11	337	P	P	17 45 22.9	+0.4
MVCO	Mesa Verde baz=138,SNR=10	64.26	326	P		17 45 25.4	
MVCO	Mesa Verde	64.26	326	P	P	17 45 25.3	+1.5
MVCO	comp=Z,26nm,1.1s			IAmb	IAmb	17 45 26.5	
ECSD	EROS Data Cent baz=151,SNR=7.7	64.28	339	P		17 45 23.2	
ECSD	EROS Data Cent	64.28	339	P	P	17 45 22.8	-0.8
ECSD	comp=Z,7.7nm,0.8s			IAmb	IAmb	17 45 25.3	
BELA	Belgrano 2	64.34	172	P	P	17 45 24.5	+1.0
BELA	comp=Z,7.1nm,0.7s			IAmb	IAmb	17 45 26.4	
SPMN	Marine on St. baz=155	64.38	342	P		17 45 23.1	
WUAZ	Wupatki baz=135,SNR=7.4	64.63	323	P		17 45 28.2	
WUAZ	Wupatki	64.63	323	P	P	17 45 27.0	+0.7
WUAZ	comp=Z,12nm,0.8s			IAmb	IAmb	17 45 30.0	
ISCO	Idaho Springs baz=141,SNR=12	64.77	330	P		17 45 28.4	
ISCO	Idaho Springs	64.77	330	P	P	17 45 27.8	+0.6
ISCO	comp=Z,8.2nm,0.8s			IAmb	IAmb	17 45 29.5	
SMCO	Snowmass	64.95	329	P	P	17 45 29.8	+1.3
SMCO	comp=Z,14nm,0.7s			IAmb	IAmb	17 45 31.2	
PV01	Paradox Valley	64.98	327	P	P	17 45 30.1	+1.6
LSQQ	Lebel-sur-Quev baz=172	65.02	355	P		17 45 27.3	
PV15	Paradox Valley	65.09	327	P	P	17 45 31.1	+1.9
PV02	Paradox Valley	65.13	327	P	P	17 45 30.9	+1.5
PV02	comp=Z,37nm,1.4s			IAmb	IAmb	17 45 32.2	
PV13	Radium Mtn., P	65.13	327	P	P	17 45 31.0	+1.5
PV13	comp=Z,15nm,0.9s			IAmb	IAmb	17 45 32.1	
F36A	Milaca	65.17	342	P	P	17 45 28.2	-1.1
F36A	comp=Z,18nm,1.1s			IAmb	IAmb	17 45 29.7	
PV03	Paradox Valley	65.22	327	P	P	17 45 31.1	+1.1
PV03	comp=Z,7.9nm,0.6s			IAmb	IAmb	17 45 33.2	
PV05	Paradox Valley	65.22	327	P	P	17 45 31.0	+1.0
PV05	comp=Z,30nm,1.5s			IAmb	IAmb	17 45 32.2	
PV12	Saucer Basin,	65.24	327	P	P	17 45 31.5	+1.4
PV12	comp=Z,12nm,0.8s			IAmb	IAmb	17 45 33.2	
PV18	Skein Mesa, Pa	65.25	327	P	P	17 45 31.4	+1.2
PV18	comp=Z,7.6nm,0.5s			IAmb	IAmb	17 45 32.1	
PV07	Paradox Valley	65.25	327	P	P	17 45 31.4	+1.2
PV07	comp=Z,10nm,0.7s			IAmb	IAmb	17 45 32.8	
PV11	David Mesa, Pa	65.27	327	P	P	17 45 31.1	+0.8
PV11	comp=Z,12nm,1.0s			IAmb	IAmb	17 45 33.0	
E38A	The Farm, Brul	65.29	344	P	P	17 45 28.8	-1.2
E38A	comp=Z,8.7nm,0.8s			IAmb	IAmb	17 45 29.7	
PV16	Nyswonger Mesa	65.30	327	P	P	17 45 31.5	+1.0
PV16	comp=Z,32nm,1.8s			IAmb	IAmb	17 45 33.8	
PV17	East Wray Mesa	65.30	327	P	P	17 45 31.7	+1.2
PV17	comp=Z,7.6nm,0.5s			IAmb	IAmb	17 45 32.4	
PV20	West Nyswonger	65.35	327	P	P	17 45 31.2	+0.4
PV20	comp=Z,31nm,1.7s			IAmb	IAmb	17 45 33.5	
PV04	Paradox Valley	65.35	327	P	P	17 45 31.8	+1.0
PV04	comp=Z,6.5nm,0.6s			IAmb	IAmb	17 45 34.0	
PV22	Blue Mesa, Par	65.40	327	P	P	17 45 32.4	+1.2
PV22	comp=Z,10.0nm,0.6s			IAmb	IAmb	17 45 33.2	
VNA3	Neumayer Olymp	65.57	162	P	P	17 45 32.5	+0.9
VNA1	Neumayer--Stat	65.76	161	P	P	17 45 33.9	+1.2
MATQ	Matagami baz=172	65.77	354	P		17 45 31.7	
N23A	Red Feather La baz=141,SNR=5.2	65.78	331	P		17 45 34.4	
U15A	North Rim	65.80	323	P	P	17 45 35.4	+1.5
U15A	comp=Z,12nm,0.8s			IAmb	IAmb	17 45 37.4	
W13A	Hualapai Mount	65.83	321	P	P	17 45 36.3	+2.3
IRM	Iron Mountain baz=131	65.97	320	P		17 45 37.1	
F33A	5 Mile Ranch,	66.03	340	P	P	17 45 33.6	-1.0
F33A	comp=Z,12nm,0.7s			IAmb	IAmb	17 45 34.8	
VNA2	Neumayer--Watz baz=299,slow=7.8	66.13	161	P	P	17 45 35.8	+0.7
O20A	White River Ci baz=139,SNR=7.0	66.31	329	P		17 45 38.5	
EYMN	Ely baz=157	66.51	344	P		17 45 37.2	
EYMN	Ely	66.51	344	P	P	17 45 36.4	-1.3
EYMN	comp=Z,11nm,0.9s			IAmb	IAmb	17 45 37.4	
KNB	Kanab	66.52	323	P	P	17 45 40.8	+2.5
GMRC	Granite Mounta baz=131,SNR=7.6	66.70	320	P		17 45 41.9	
SRU	San Rafael Swe	66.74	326	P	P	17 45 41.3	+1.7
SRU	comp=Z,11nm,0.7s			IAmb	IAmb	17 45 42.0	
LCMT	Little Creek M	66.76	323	P	P	17 45 41.0	+1.3
MTPU	Mount Pierson	66.88	325	P	P	17 45 42.0	+1.3
Q16A	Castle Valley	66.94	326	P	P	17 45 42.2	+1.3
P17A	Butcher Ranch,	67.11	327	P	P	17 45 43.5	+1.6
P17A	comp=Z,22nm,0.9s			IAmb	IAmb	17 45 44.7	
HEC	Hector,Ludlow baz=131	67.15	320	P		17 45 45.1	
CCUT	Cedar City	67.20	323	P	P	17 45 45.4	+2.8
CCUT	comp=Z,8.9nm,0.8s			IAmb	IAmb	17 45 46.4	
MSU	Marysvale	67.20	325	P	P	17 45 44.5	+1.9
TMUT	Trail Mountain	67.24	326	P	P	17 45 44.2	+1.3
RDMU	Red Mountain	67.31	328	P	P	17 45 44.6	+1.4
K22A	Casper baz=141	67.42	331	P		17 45 44.8	
TCRU	Three Creeks R	67.42	325	P	P	17 45 45.5	+1.4
TCRU	comp=Z,9.7nm,0.8s			IAmb	IAmb	17 45 47.2	
RSSD	Black Hills	67.49	334	P	P	17 45 45.4	+1.1
RSSD	comp=Z,11nm,0.5s			IAmb	IAmb	17 45 46.2	
B35A	Bob, Littlefor comp=Z,11nm,0.7s	67.49	343	IAmb	IAmb	17 45 44.3	
SHPR	Sheep Range	67.54	322	P	P	17 45 46.9	+2.2
SHPR	comp=Z,9.0nm,0.7s			IAmb	IAmb	17 45 48.2	
LIC	Lamto comp=Z,29nm,0.7s	67.67	76	eP	P	17 45 44.6	-1.1
GSC	Goldstone, Bar baz=130	67.75	320	P		17 45 48.8	
SNAA	Sanae	67.77	162	P	P	17 45 46.6	+1.1
SNAA	Sanae	67.77	162	P	P	17 45 46.1	+0.7
SNAA	comp=Z,13nm,0.7s			IAmb	IAmb	17 45 47.5	
TIC	Toumodi	67.82	76	eP	P	17 45 46.1	-0.6
DBIC	Dimbokro comp=Z,12nm,0.5s,baz=231,slow=7.4,SNR=7.4	67.98	76	P	P	17 45 46.1	-1.5
DBIC	Dimbokro	67.98	76	P	P	17 45 45.9	-1.7
DBIC	comp=Z,15nm,0.7s			IAmb	IAmb	17 45 47.6	
KIC	Kosan Boka comp=Z,43nm,0.6s	67.98	76	eP	P	17 45 46.0	-1.7
MPU	Maple Canyon comp=Z,11nm,1.0s	67.98	326	IAmb	IAmb	17 45 50.2	
AGMN	Agassiz Nation	68.07	341	P	P	17 45 46.7	-0.8
AGMN	comp=Z,12nm,0.7s			IAmb	IAmb	17 45 47.7	
PRN	Pahroc Range	68.08	322	P	P	17 45 49.9	+1.9
PSUT	Pine Spring	68.16	324	P	P	17 45 50.7	+2.2
PSUT	comp=Z,10nm,0.7s			IAmb	IAmb	17 45 51.8	
NLU	North Lily Min	68.17	326	P	P	17 45 50.5	+1.9
EDW2	Edwards Air Fo baz=129	68.23	319	P		17 45 51.5	
JLU	Jordanelle comp=Z,13nm,0.7s	68.31	327	IAmb	IAmb	17 45 52.3	
LRMC	Laurel Mtn Rad baz=130	68.41	319	P		17 45 53.0	

TPNV	Topopah Spring	68.49	321	P		17 45 53.3
	baz=131,SNR=14					
TPNV	Topopah Spring	68.49	321	IAmb	IAmb	17 45 54.4
	comp=Z,13nm,0.6s					
FURC	Furnace Creek,	68.54	321	P		17 45 53.3
	baz=131,SNR=5.6					
TCUT	Toone Canyon	68.66	327	P	P	17 45 53.0 +1.3
TCUT				IAmb	IAmb	17 45 59.3
	comp=Z,9.1nm,0.9s					
DUG	Dugway, Tooele	68.74	326	P		17 45 53.9
	baz=135,SNR=9.2					
DUG	Dugway, Tooele	68.74	326	P	P	17 45 53.8 +1.7
DUG				IAmb	IAmb	17 45 55.1
	comp=Z,13nm,1.0s					
SPR3	Spring Creek 3	68.75	324	P	P	17 45 54.2 +1.9
MDND	Maddock	68.89	339	P		17 45 52.9
	baz=149,SNR=5.7					
BW06	Boulder Array	68.94	330	P		17 45 54.2
	baz=139,SNR=8.5					
BW06	Boulder Array	68.95	330	P	P	17 45 53.5 +0.1
PD31	Pinedale Array	68.95	330	P	P	17 45 54.0 +0.7
PDAR	Pinedale Array	68.95	330	P	P	17 45 53.9 +0.5
	comp=Z,2.9nm,0.6s,baz=125,slow=7.9,SNR=30					
PDAR	Pinedale Array	68.95	330	P	P	17 45 53.6 +0.3
R11A	Troy Canyon, C	69.03	323	P		17 45 56.5
	baz=132,SNR=8.5					
ISA	Isabella, Lake	69.03	319	P		17 45 56.0
	baz=129					
ISA	Isabella, Lake	69.03	319	P	P	17 45 56.7 +2.9
HWUT	Hardware Ranch	69.10	328	P	P	17 45 55.4 +1.2
HWUT				IAmb	IAmb	17 45 56.0
	comp=Z,12nm,0.5s					
CWC	Cottonwood Cre	69.27	320	P		17 45 58.0
	baz=130					
PKM	Mcpherson Peak	69.40	318	P		17 45 59.2
	baz=128					
VES	Vestal, Richgr	69.53	319	P		17 45 59.7
	baz=129					
AHID	Auburn Hatcher	69.71	329	P	P	17 45 59.0 +1.0
AHID				IAmb	IAmb	17 46 00.0
	comp=Z,16nm,0.6s					
TPH	Tonopah	69.81	322	P	P	17 46 00.5 +1.8
ULM	Lac du Bonnet	69.81	342	P	P	17 45 57.1 -1.0
	comp=Z,17nm,0.6s,baz=154,slow=5.8,SNR=34					
ULM	Lac du Bonnet	69.81	342	P	P	17 45 57.2 -1.0
HVU	Hansel Valley	69.85	327	P	P	17 45 59.7 +0.9
HVU				IAmb	IAmb	17 46 01.1
	comp=Z,12nm,0.7s					
REDW	Red Top Meadow	70.02	329	IAmb	IAmb	17 46 02.2
	comp=Z,31nm,1.6s					
LOHW	Long Hollow	70.09	330	P	P	17 46 01.6 +1.3
ELK	Elko	70.45	325	P	P	17 46 04.1 +1.5
LAO	LASA Array	70.47	334	P		17 46 03.2
	baz=143					
FLWY	Flagg Ranch	70.48	330	P	P	17 46 04.2 +1.5
FLWY				IAmb	IAmb	17 46 05.6
	comp=Z,18nm,0.8s					
RLMT	Red Lodge	70.59	331	P		17 46 04.6
	baz=140,SNR=8.0					
RLMT	Red Lodge	70.59	331	P	P	17 46 04.0 +0.7
RLMT				IAmb	IAmb	17 46 06.2
	comp=Z,21nm,1.6s					
NV11	Mina Array Sit	70.60	321	P	P	17 46 05.1 +1.7
H17A	Grant Village	70.65	330	P		17 46 06.2
	baz=138,SNR=6.9					
NVAR	Mina Array Bea	70.69	321	P	P	17 46 06.7 +2.7
	comp=Z,3.1nm,0.7s,baz=136,slow=6.4,SNR=27					
NVAR	Mina Array Bea	70.69	321	P	P	17 46 05.8 +1.8
LHV	Little Huntoon	70.69	321	P	P	17 46 06.4 +2.6
LKWY	Lake	70.70	330	P	P	17 46 06.2 +2.2
LKWY				IAmb	IAmb	17 46 07.6
	comp=Z,16nm,0.8s					
YMP	Mirror Lake Pl	70.71	331	P	P	17 46 06.4 +2.3
YNE	Yellowstone No	70.84	331	P	P	17 46 06.1 +1.2
YNR	Norris Junctio	70.94	330	P	P	17 46 06.8 +1.4
KVN	Kaiserville	70.97	322	P	P	17 46 07.2 +1.5
YMR	Madison River	71.04	330	P	P	17 46 07.6 +1.5
YMR				IAmb	IAmb	17 46 09.3
	comp=Z,16nm,1.1s					
YHH	Holmes Hill	71.08	330	P	P	17 46 07.8 +1.4
YHH				IAmb	IAmb	17 46 10.1
	comp=Z,10nm,0.8s					
YHB	Horse Butte	71.22	330	P	P	17 46 08.5 +1.4
YHB				IAmb	IAmb	17 46 10.2
	comp=Z,12nm,0.8s					
GCMT	Greycliff	71.28	332	P	P	17 46 08.5 +1.1
YHL	Hebgen Lake	71.28	330	P	P	17 46 08.6 +1.0
YHL				IAmb	IAmb	17 46 10.9
	comp=Z,33nm,1.5s					
QLMT	Earthquake Lak	71.39	330	P	P	17 46 09.8 +1.7
WAKR	Walker	71.42	321	P	P	17 46 10.6 +2.2
KOWA	Kowa	71.58	68	P	P	17 46 07.9 -1.7
KOWA				IAmb	IAmb	17 46 09.5
	comp=Z,12nm,0.5s					
YERR	Yerington	71.61	321	P	P	17 46 12.1 +2.6
YERR				IAmb	IAmb	17 46 13.1
	comp=Z,8.9nm,0.6s					
PNTR	Pine Nut	71.89	321	P	P	17 46 13.6 +2.4
PNTR				IAmb	IAmb	17 46 15.5
	comp=Z,12nm,0.8s					
BCYI	Bear Canyon	71.98	329	P	P	17 46 13.4 +1.8
BOZ	Bozeman (W)	72.05	330	P		17 46 13.1
	baz=138,SNR=7.1					
BOZ	Bozeman (W)	72.05	330	P	P	17 46 13.0 +1.1
MCMT	McKenzie Canyo	72.08	329	P	P	17 46 14.3 +2.1
PAHR	Pah Rah Range	72.15	322	P	P	17 46 15.1 +2.4
PAHR				IAmb	IAmb	17 46 16.8
	comp=Z,16nm,0.8s					
MFID	Camas Ranch	72.60	327	P	P	17 46 17.0 +1.8
MFID				IAmb	IAmb	17 46 18.4
	comp=Z,21nm,0.9s					
BEKR	Beckworth	72.83	321	P	P	17 46 19.1 +2.4
EGMT	Eagleton	73.01	333	P		17 46 18.4
	baz=140,SNR=7.9					
EGMT	Eagleton	73.02	333	P	P	17 46 17.9 +0.4
EGMT				IAmb	IAmb	17 46 19.3
	comp=Z,17nm,1.1s					
ORV	Oroville	73.33	321	P	P	17 46 21.9 +2.5
O03E	Paynes Creek	73.97	321	P		17 46 25.1
	baz=128					
J08A	Circle Bar Ran	73.99	325	P	P	17 46 24.7 +1.4
MSO	Missoula	74.04	330	P		17 46 25.6
	baz=136					
MSO	Missoula	74.05	330	P	P	17 46 24.4 +0.9
BMO	Blue Mountains	74.36	327	P	P	17 46 26.7 +1.3
BMO				IAmb	IAmb	17 46 28.0
	comp=Z,9.6nm,0.8s					
O02D	Mt. Diablo Mer	74.49	321	P		17 46 27.9
	baz=127					
WDC	Whiskeytown Da	74.59	321	P	P	17 46 27.5 +0.8
JTMT	Jette	74.86	331	P	P	17 46 29.7 +1.4
M04C	Macdoel	74.90	322	P		17 46 30.5
	baz=128,SNR=5.9					
N02D	Trinity Center	74.92	321	P		17 46 30.0
	baz=127					
K05A	Summer Lake	74.94	324	P	P	17 46 31.5 +2.6
K05A				IAmb	IAmb	17 46 32.6
	comp=Z,14nm,1.0s					
I07A	Izee	75.03	325	P	P	17 46 30.7 +1.4
F10A	Beach Ranch, E	75.08	328	P	P	17 46 30.9 +1.4
M02C	Callahan	75.27	321	P		17 46 32.5
	baz=127					
YBH	Yreka Blue Hor	75.39	322	P	P	17 46 32.5 +1.2
	comp=Z,3.0nm,0.6s,baz=97,slow=4.4,SNR=8.7					
YBH	Yreka Blue Hor	75.39	322	IAmb	IAmb	17 46 33.4
	comp=Z,18nm,1.7s					
L04D	Klamath Falls	75.44	322	P		17 46 33.3
	baz=128					
J05D	Fort Rock, OR	75.49	324	P		17 46 34.3
	baz=129,SNR=6.1					
FFC	Flin Flon	75.54	341	P	P	17 46 31.7 -0.1
PINE	Pine Mountain	75.64	324	P	P	17 46 35.0 +2.1
PINE				IAmb	IAmb	17 46 36.5
	comp=Z,13nm,0.8s					
E09A	Wood Farm, Sta	75.91	328	P	P	17 46 35.6 +1.6
E09A				IAmb	IAmb	17 46 36.6
	comp=Z,9.3nm,0.8s					
J04D	Umpqua Nationa	75.96	323	P		17 46 36.7
	baz=128					
I05D	Terrebonne, OR	76.21	325	P		17 46 38.3
	baz=129					
TOA0	Torodi Ar. Sit	76.26	72	P	P	17 46 34.7 -2.0
TORD	Torodi Ar. Bea	76.26	72	P	P	17 46 35.2 -1.5
	comp=Z,18nm,0.5s,baz=265,slow=5.4,SNR=32					
TORD	Torodi Ar. Bea	76.26	72	P	PP	17 49 35.9 +4.4
	comp=Z,2.6nm,0.6s,baz=256,slow=5.8,SNR=2.6					
TORD	Torodi Ar. Bea	76.26	72	P	P	17 46 35.0 -1.7
I04A	Tendick Farm,	76.47	324	P		17 46 38.9
	baz=128					
K02D	Willamette Mer	76.53	322	P		17 46 40.2
	baz=127					
HAWA	Hanford	76.55	327	P	P	17 46 39.5 +1.8
NEW	Newport	76.59	330	P	P	17 46 38.6 +0.8
	comp=Z,2.0nm,0.7s,baz=160,slow=12,SNR=2.4					
NEW	Newport	76.59	330	IAmb	IAmb	17 46 45.1
	comp=Z,3.2nm,0.8s					
G05D	Wamic, OR	76.77	325	P		17 46 41.6
	baz=129					
C09A	Chrisman Ranch	76.84	329	P	P	17 46 40.8 +1.6
C09A				IAmb	IAmb	17 46 42.0
	comp=Z,7.9nm,0.7s					
H04A	Detroit Lake	76.90	324	P	P	17 46 41.0 +1.4
I03D	Drain, OR	76.95	323	P		17 46 42.5
	baz=127					
FCC	Fort Churchill	77.06	347	P	P	17 46 39.9 -0.3
H04D	Lebanon	77.11	324	P		17 46 43.5
	baz=128					
LTY	Liberty	77.71	327	P	P	17 46 45.9 +1.8
B08A	Colville Reser	77.74	329	P	P	17 46 45.2 +0.9
D05A	Enumclaw	78.36	327	P	P	17 46 48.4 +0.8
D05A				IAmb	IAmb	17 46 50.8
	comp=Z,28nm,1.0s					
PNCL	Nicolau / Gran	78.55	45	*e*P	P	17 46 49.6 +0.7
	comp=Z,45nm,1.6s					
MESJ	Messejana	78.63	45	*e*P	P	17 46 49.5 +0.2
MESJ	Messejana	78.63	45	*e*P	P	17 46 50.1 +0.8
	comp=Z,24nm,1.3s					
PCVE	Castro Verde	78.65	45	*e*P	P	17 46 49.8 +0.4
	comp=Z,22nm,1.2s					
PVAQ	Vaqueiros	78.75	46	*e*P	P	17 46 50.4 +0.4
	comp=Z,23nm,1.7s					
B06A	Marblemount	78.94	328	P	P	17 46 51.1 +0.4
B06A				IAmb	IAmb	17 46 52.8
	comp=Z,19nm,0.7s					
PBEJ	Beja	78.96	45	*e*P	P	17 46 51.6 +0.5
	comp=Z,8.8nm,1.3s					
B05A	Bryant	79.09	327	P		17 46 53.2
	baz=129					
D03D	Eldon	79.16	326	P		17 46 54.0
	baz=128					
POLO	Lamas de Olo	80.70	42	*e*P	P	17 46 52.3 -8.2
	comp=Z,13nm,1.3s					
MVO	Moncorvo	81.10	43	*e*P	P	17 47 02.3 -0.3
	comp=Z,29nm,1.5s					
SBA	Scott Base	81.15	190	P	P	17 47 03.8 +1.7
PBRG	Braganca	81.60	42	*e*P	P	17 47 05.2 0.0
	comp=Z,26nm,1.4s					
VNDA	Vanda	82.18	190	P	P	17 47 10.3 +2.7
	comp=Z,2.9nm,0.6s,baz=129,slow=4.9,SNR=16					
VNDA	Vanda	82.18	190	P	P	17 47 09.9 +2.3
ESDC	Sonseca Array	82.42	45	P	P	17 47 09.5 0.0
	comp=Z,4.7nm,0.6s,baz=254,slow=5.6,SNR=28					
ESDC	Sonseca Array	82.42	45	IAmb	IAmb	17 47 10.2
	comp=Z,5.3nm,0.7s					
YKA	Yellowknife Ar	85.71	341	P	P	17 47 25.8 +0.3
	comp=Z,6.2nm,0.9s,baz=130,slow=5.4,SNR=68					
ICESG	Greenland Ices	87.45	10	*i* P	P	17 47 33.9 -0.3
ICESG				IAmb	IAmb	17 47 34.2
	comp=Z,16nm,0.7s					
DLBC	Dease Lake	88.94	333	P	P	17 47 42.5 +1.5
	comp=Z,9.7nm,0.8s,baz=172,slow=1.5,SNR=9.6					
DLBC	Dease Lake	88.94	333	IAmb	IAmb	17 47 43.5
	comp=Z,9.4nm,0.8s					
SUMG	Summit	90.70	9	*i* P	P	17 47 49.6 +0.3
	comp=Z,11nm,0.7s					
SUMG	Summit	90.70	9	*i* P	P	17 47 49.7 +0.3
SUMG				IAmb	IAmb	17 47 50.1
	comp=Z,11nm,0.7s					
RES	Resolute Bay	91.81	353	P	P	17 47 54.5 +0.6
	comp=Z,1.3nm,0.6s,baz=187,slow=10,SNR=9.4					
CTG	Chitna Glacier	95.18	332	P		17 48 12.0
	baz=114					
INK	Inuvik	95.48	340	P	P	17 48 10.1 -0.8
	comp=Z,2.2nm,0.9s,baz=46,slow=2.0,SNR=5.3					
INK	Inuvik	95.48	340	IAmb	IAmb	17 48 12.8
	comp=Z,5.1nm,1.2s					
KAIM	Kayak Island	96.20	331	P		17 48 16.0
	baz=111					
EYAK	Cordova Ski Ar	97.04	331	P		17 48 20.2
	baz=110					
KLU	Klutina	97.44	332	P		17 48 20.5
	baz=110					
SCRK	Sand Creek	97.46	335	P		17 48 19.8
	baz=111					
GERES	GERESS Array B	97.56	41	P	P	17 48 19.6 -1.3
	comp=Z,0.7nm,0.7s,baz=209,slow=2.4,SNR=6.7					
CLL	Collm	97.79	39	*i* P	P	17 48 21.3 -0.4
	comp=Z,4.0nm,0.9s					
ZST	Bratislava	99.59	43	*e*PDIFF	Pdif	17 48 29.3 -0.6
MODS	Modra-Piesok	99.75	42	*e*PDIFF	Pdif	17 48 29.3 -1.3
STKA	Stephens Creek	123.79	212	PKP	PKiKP	17 53 45.0 +0.8
	comp=Z,2.3nm,0.6s,baz=95,slow=1.8,SNR=8.8					
ABKAR	Akbulak array	127.45	39	PKPdf	PKiKP	17 53 51.7 +0.9
BRVK	Bovoye	131.46	31	SKPbc	SKPab	17 57 02.2 0.0
HRA	Herat	133.24	58		SKPbc	17 57 07.4 -1.2
ASAR	Alice Springs	134.39	211	PKhKP	PKPpre	17 53 52.6
	comp=Z,0.5nm,0.8s,baz=154,slow=2.1,SNR=8.7					
ASAR				PKP	PKiKP	17 54 05.2 -0.5
	comp=Z,2.7nm,0.6s,baz=125,slow=2.0,SNR=26					
ASAR	Alice Springs	134.39	211	PKP	SKPbc	17 57 12.2 -0.3
	comp=Z,3.9nm,0.7s,baz=136,slow=3.9,SNR=29					
ASAR	Alice Springs	134.39	211	PKPdf	PKPdf	17 54 04.5 +0.2
ASAR				SKPbc	SKPbc	17 57 12.0 -0.5
KKAR	Karatay Array	136.64	43	SKPbc	SKPbc	17 57 17.8 -1.0
ZAA0	Zalesovo Array	137.16	22	PKPpre	PKPpre	17 54 03.7
ZAA0					PKiKP	17 54 09.6 -0.7
ZAA0					SKPbc	17 57 20.0 +0.1
ZALV	Zalesovo Beam	137.16	22	PKP	PKiKP	17 54 09.2 -1.1
	comp=Z,4.6nm,0.8s,baz=302,slow=2.7,SNR=14					
ZALV	Zalesovo Beam	137.16	22	PKP	SKPbc	17 57 20.9 +0.9
	comp=Z,14nm,0.8s,baz=314,slow=4.2,SNR=46					
ZALV	Zalesovo Beam	137.16	22		PKPpre	17 54 04.1
ZALV				PKPdf	PKiKP	17 54 09.3 -1.0
ZALV					SKPbc	17 57 20.2 +0.2
WRA	Warramunga Arr	137.24	214	PKhKP	PKPpre	17 53 58.5
	comp=Z,0.6nm,0.5s,baz=145,slow=2.7,SNR=11					
WRA				PKP	PKiKP	17 54 10.8 -0.8
	comp=Z,2.9nm,0.3s,baz=142,slow=1.8,SNR=16					
WRA	Warramunga Arr	137.24	214	PKP	SKPbc	17 57 21.2 -0.2
	comp=Z,5.6nm,0.8s,baz=145,slow=2.4,SNR=23					
EKS2	Erkin-Say	138.97	42	P	SKPbc	17 57 25.7 0.0
	SNR=6.2					
USP	Ospenovka	139.13	41	P	SKPbc	17 57 28.5 +2.6
	SNR=6.0					
AML	Almayashu	139.17	43	P	SKPbc	17 57 27.9 +1.3
	SNR=6.9					
AAK	Ala-Archa	139.44	42	P	SKPbc	17 57 28.7 +1.7
	SNR=8.1					
AAK	Ala-Archa	139.44	42	SKPbc	SKPbc	17 57 27.8 +0.8
UCH	Uchtor	139.66	42	P	SKPbc	17 57 29.8 +1.8
	SNR=7.4					
KBK	Karagaybulak	139.72	41	P	SKPbc	17 57 30.6 +2.8
	SNR=5.6					
MAKZ	Makanchi	141.25	31		SKPbc	17 57 30.9 -0.6
MKAR	Makanchi Array	141.42	31	PKhKP	PKPpre	17 54 12.2
	comp=Z,0.7nm,0.7s,baz=348,slow=2.7,SNR=6.3					
MKAR	Makanchi Array	141.42	31	PKP	SKPbc	17 57 30.8 -1.1
	comp=Z,4.5nm,0.8s,baz=328,slow=2.4,SNR=24					
MKAR	Makanchi Array	141.42	31		PKPpre	17 54 08.2
MKAR					SKPbc	17 57 29.6 -2.2
FITZ	Fitzroy Crossi	142.97	205		PKPdf	17 54 17.4 -2.6
WMQ	Urumqi	146.20	30	*e*PKPbc	PKPdf	17 54 24.4 -0.5
USRK	Ussuriysk Ar.	146.36	331	PKPbc	PKPab	17 54 28.1 +0.1
	comp=Z,10nm,0.9s,baz=33,slow=3.4,SNR=16					
MDJ	Mudanjiang	147.08	334	PKPbc	PKPdf	17 54 26.6 +0.3
MJAR	Matsushiro Arr	147.83	315	PKPbc	PKiKP	17 54 32.6 -0.1
	comp=Z,2.0nm,0.4s,baz=98,slow=1.2,SNR=6.2					
MJAR	Matsushiro Arr	147.83	315		PKPab	17 54 33.8 -0.3
MAT	Matsushiro	147.83	315	PKP	PKPbc	17 54 30.7 -0.3
SONM	Songino Array	148.02	5	PKPbc	PKiKP	17 54 32.4 -0.6
	comp=Z,5.4nm,0.5s,baz=331,slow=1.7,SNR=24					
SONM	Songino Array	148.02	5	PKPbc	SKPbc	17 57 48.8 +1.5
	comp=Z,0.9nm,0.6s,baz=346,slow=3.0,SNR=3.6					
KSRS	Korea Array	153.50	327	PKPbc	PKiKP	17 54 45.5 +1.2
	comp=Z,0.8nm,0.5s,baz=24,slow=2.0,SNR=1.6					
GTA	Gaotai	154.87	19	*e*P	PKPab	17 55 02.9 -0.5
GTA				pmax	pmax	
	comp=Z,2.0nm,0.9s					
GTA	Gaotai	154.87	19	*e*PKPbc	PKPdf	17 54 41.3 +2.8
GTA				PKPab	PKPab	17 55 03.1 -0.3
GTA				pPKP	pPKPdf	17 55 36.5 -2.0
GTA				sPKP		17 56 01.0
HHC	Hu-ho-hao-te	155.14	358	*e*PKP	PKPdf	17 54 37.4 -1.4
NJ2	Nanjing	162.17	336	*e*PKP	PKPdf	17 54 47.4 +0.2
CMAR	Chiang Mai Arr	168.85	75	PKPab	PKPab	17 56 04.7 -0.5
	comp=Z,1.6nm,0.7s,baz=284,slow=5.6,SNR=12					
CMAR	Chiang Mai Arr	168.85	75	PKPdf	PKPdf	17 54 53.8 +0.7

IDC ***13*** *17:37:49.4±7.0, 17°.23S×174°.87W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/33, mbtmp3.9/3, Error ellipse: s-maj=315.2km s-min=33.8km az=141.0*
NEIC ***13*** *17:38:45.6±1.1, 16°.16S±0°.09×177°.1W±0°.2, h428km±12km, mb4.2/6, Error ellipse: s-maj=23.0km s-min=13.1km az=97.0*

ISC 13 17:38:44.6±1.0, 16°.2S±0°.2×177°.2W±0°.1, h400km, n17, σ1°36/15, mb3.9/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.80	251		Pn	17 40 07.0	+2.3
MSVF				S	S	17 41 11.0	+1.2
AFI	Afiamalu	5.71	67	P	Pn	17 40 15.9	+1.6
URZ	Urewera	22.50	192	P	P	17 43 09.7	-2.0
URZ				IAmb	IAmb	17 43 27.4	
	comp=Z,14nm,1.2s						
WHZ	Wether Hill Ro	32.07	200	P	P	17 44 36.1	-0.1
WHZ				IAmb	IAmb	17 44 40.5	
	comp=Z,16nm,1.1s						
BBOO	Buckleboo	45.25	240	P	P	17 46 24.1	-0.2
BBOO				IAmb	IAmb	17 46 34.1	
	comp=Z,7.8nm,1.1s						
WB0	Warramunga Arr	46.07	258	P	P	17 46 30.5	-0.5
WB0				IAmb	IAmb	17 46 41.7	
	comp=Z,15nm,1.4s						
WB2	Warramunga Arr	46.10	258	P	P	17 46 30.6	-0.5
WRA	Warramunga Arr	46.11	258	P	P	17 46 30.6	-0.7
	comp=Z,0.3nm,0.3s,baz=96,slow=8.0,SNR=12						
WRA	Warramunga Arr	46.11	258	P	P	17 46 30.6	-0.7
AS31	Alice Springs	46.39	253	P	P	17 46 33.6	+0.3
ASAR	Alice Springs	46.39	253	P	P	17 46 33.2	-0.1
	comp=Z,2.5nm,0.4s,baz=89,slow=7.5,SNR=108						
ASAR	Alice Springs	46.39	253	P	P	17 46 33.2	-0.1
KSAR	Wonju Array Be	74.28	317	P	P	17 49 37.7	-1.8
KS19	Wonju Array Si	74.33	317	P	P	17 49 37.8	-2.0
ILAR	Eielson Array	84.01	13	P	P	17 50 24.5	-6.4
	comp=Z,0.4nm,0.6s,baz=219,slow=5.1,SNR=8.9						
BRTR	Keskin Array B	144.41	317	PKPbc	PKPbc	17 57 31.3	-2.7
	comp=Z,0.4nm,0.7s,baz=99,slow=4.5,SNR=3.0						
BRTR	Keskin Array B	144.41	317		PKPbc	17 57 31.2	-2.7

NOU ***13*** *17:43:45.6, 13°.70S×171°.66W, h0km, MLv2.6, Samoa Islands*

IDC 13 17:42:56.9±10.0, 17°.47S×173°.98W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/32, mbtmp3.7/3, MS2.6/1, Ms1 2.6/1, ms1mx2.4/46, Error ellipse: s-maj=446.6km s-min=38.8km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	4.13	31	Sn	Sn	17 44 35.5	-15
	30nm,0.3s,baz=307,slow=23,SNR=14						
AFI				LR	LR	17 45 01.2	
	comp=Z,74nm,18.7s,baz=86,slow=30						
WRA	Warramunga Arr	48.86	259	P	P	17 51 44.7	0.0
	0.8nm,0.8s,baz=95,slow=6.0,SNR=5.9						
ASAR	Alice Springs	48.97	254	P	P	17 51 45.2	-0.3
	0.8nm,0.6s,baz=85,slow=8.0,SNR=17						
ILAR	Eielson Array	84.57	11	P	P	17 55 31.7	+0.1
	0.3nm,0.6s,baz=218,slow=6.9,SNR=4.8						

IDC ***13*** *18:07:18.5±3.0, 14°.33S×167°.42E, h170km±25km, mb3.9/17, mb1 4.0/17, mb1mx3.8/47, mbtmp4.3/17, Error ellipse: s-maj=24.9km s-min=14.1km az=112.0*
NEIC ***13*** *18:07:20.7±1.7, 14°.26S±0°.03×167°.3E±0°.2, h190km±6km, mb4.5/38, Error ellipse: s-maj=24.5km s-min=2.5km az=97.0*

ISC 13 18:07:21.7±0.5, 14°.30S±0°.07×167°.4E±0°.1, h200km, n72, σ0°85/77, mb4.4/33, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	7.78	186	Pn	Pn	18 09 11.7	-0.6
DZM				Sn	Sn	18 10 40.5	+0.3
EIDS	Eidsvold	18.86	232	P	Pn	18 11 29.1	-0.7
EIDS				IAmb	IAmb	18 11 50.3	
	comp=Z,38nm,1.6s						
CTAO	Charters Tower	20.98	251	P	P	18 11 52.1	+2.4
CTAO				IAmb	IAmb	18 12 18.6	
	comp=Z,68nm,1.8s						
ARMA	Armidale	21.63	220	P	P	18 11 58.1	+1.7
CAN	Canberra	26.68	215	P	P	18 12 42.5	+0.1
STKA	Stephens Creek	29.36	229	P	P	18 13 07.1	+1.0
	comp=Z,9.8nm,0.5s,baz=54,slow=8.4,SNR=38						
STKA				PcP	PcP	18 16 07.6	+0.3
	comp=Z,0.6nm,0.5s,baz=22,slow=3.2,SNR=3.8						
STKA	Stephens Creek	29.36	229	P	P	18 13 06.8	+0.7
TOO	Toolangi	30.26	216	P	P	18 13 15.1	+1.0
TOO				IAmb	IAmb	18 13 15.9	
	comp=Z,41nm,1.7s						
WR0	Warramunga Arr	31.85	255	P	P	18 13 26.8	-1.4
WR0				IAmb	IAmb	18 13 27.7	
	comp=Z,5.5nm,1.0s						
WB0	Warramunga Arr	31.97	256	P	P	18 13 27.9	-1.4
WB0				IAmb	IAmb	18 13 28.6	
	comp=Z,14nm,0.5s						
WB2	Warramunga Arr	32.03	255	P	P	18 13 28.3	-1.4
WB2				IAmb	IAmb	18 13 29.1	
	comp=Z,7.8nm,0.7s						
WRA	Warramunga Arr	32.04	255	P	P	18 13 28.4	-1.5
	comp=Z,5.0nm,0.5s,baz=86,slow=9.5,SNR=66						
AS31	Alice Springs	32.93	248	P	P	18 13 36.3	-1.3
AS31				IAmb	IAmb	18 13 37.5	
	comp=Z,2.9nm,0.5s						
ASAR	Alice Springs	32.93	248	P	P	18 13 36.2	-1.3

SBA	**Scott Base**	**63.57**	**180**	P	**P**		**18 17 31.3**	**+0.8**
PEA0B	**Petropavlovsk-**	**67.64**	**354**	P	**P**		**18 17 56.3**	**-0.5**
PETK	**Petropavlovsk-**	**67.64**	**354**	P	**P**		**18 17 57.8**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=120,slow=8.8,SNR=8.2							
PETK	**Petropavlovsk-**	**67.64**	**354**	P	**P**		**18 17 57.3**	**+0.5**
IPM	**Ipoh**	**68.37**	**281**	P	**P**		**18 18 02.3**	**+0.1**
IPM				IAmb	IAmb		18 18 08.5	
	comp=Z,14nm,1.5s							
KLR	**Kul'dur**	**70.66**	**336**	P	**P**		**18 18 16.2**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=137,slow=11,SNR=4.2							
CMAR	**Chiang Mai Arr**	**74.88**	**294**	P	**P**		**18 18 42.2**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=121,slow=4.4,SNR=12							
CMAR	**Chiang Mai Arr**	**74.88**	**294**	P	**P**		**18 18 41.9**	**+1.0**
CHTO	**Chiang Mai**	**75.00**	**294**	P	**P**		**18 18 42.4**	**+0.8**
CHTO				IAmb	IAmb		18 18 43.0	
	comp=Z,7.3nm,1.3s							
QSPA	**South Pole Qui**	**75.73**	**180**	P	**P**		**18 18 45.1**	**0.0**
SEY	**Seymchan**	**77.87**	**353**	P	**P**		**18 18 56.8**	**0.0**
	comp=Z,3.6nm,1.0s,baz=116,slow=5.0,SNR=7.7							
ULN	**Ulaanbaatar**	**81.85**	**324**	P	**P**		**18 19 19.3**	**+0.6**
SONM	**Songino Array**	**82.22**	**324**	P	**P**		**18 19 21.4**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=125,slow=7.8,SNR=5.3							
SONM	**Songino Array**	**82.22**	**324**		**P**		**18 19 20.1**	**-0.4**
TGL	**Tana Glacier**	**84.63**	**22**	P	**P**		**18 19 31.7**	**-0.8**
TGL				IAmb	IAmb		18 19 56.2	
	comp=Z,12nm,1.0s							
IL31		**86.08**	**18**	P	**P**		**18 19 38.7**	**-0.7**
ILAR	**Eielson Array**	**86.08**	**18**	P	**P**		**18 19 38.8**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=243,slow=4.8,SNR=15							
NVAR	**Mina Array Bea**	**86.91**	**49**	P	**P**		**18 19 44.9**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=234,slow=7.6,SNR=3.8							
TIXI	**Tiksi**	**89.57**	**349**	P	**P**		**18 19 55.6**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=147,slow=7.2,SNR=5.4							
TIXI	**Tiksi**	**89.57**	**349**	IAmb	IAmb		18 19 56.7	
	comp=Z,5.0nm,1.3s							
MK31	**Makanchi Array**	**96.97**	**316**	P	**P**		**18 20 30.8**	**+0.3**
MK31				IAmb	IAmb		18 20 31.3	
	comp=Z,1.9nm,0.9s							
MKAR	**Makanchi Array**	**96.97**	**316**	P	**P**		**18 20 31.2**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=91,slow=6.2,SNR=21							
MKAR	**Makanchi Array**	**96.97**	**316**	P	**P**		**18 20 30.4**	**-0.1**
ZALV	**Zalesovo Beam**	**97.11**	**324**	P	**P**		**18 20 30.4**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=113,slow=4.3,SNR=7.9							
ZALV	**Zalesovo Beam**	**97.11**	**324**	P	**P**		**18 20 29.8**	**-1.1**
ARCES	**ARCESS Array B**	**119.86**	**346**	PKP		**PKPdf**	**18 25 47.4**	**-0.2**
	comp=Z,6.4nm,0.8s,baz=46,slow=3.5,SNR=10							
FINES	**FINESS Array B**	**125.36**	**338**	PKP		**PKPdf**	**18 25 57.5**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=52,slow=3.4,SNR=7.9							
AKASG	**Malin Array Be**	**130.44**	**326**	PKP		**PKPdf**	**18 26 08.5**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=51,slow=3.1,SNR=3.5							
BRTR	**Keskin Array B**	**132.31**	**311**	PKP		**PKPdf**	**18 26 12.4**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=97,slow=2.9,SNR=4.8							
CLL	**Collm**	**137.71**	**336**	*e*PKPdf		**PKiKP**	**18 26 24.0**	**+0.1**
GERES	**GERESS Array B**	**139.31**	**333**	PKP		**PKPdf**	**18 26 25.0**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=83,slow=3.2,SNR=5.0							
GERES				SKPbc		**SKiKP**	**18 29 43.9**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=351,slow=4.4,SNR=3.8							
LATE	**Laterza**	**144.80**	**328**			**PKPdf**	**18 26 34.7**	**-0.3**
BNI	**Bardonecchia**	**145.25**	**336**			**PKPab**	**18 26 36.3**	**0.0**
SSB	**Saint Sauveur**	**145.87**	**338**			**PKPbc**	**18 26 37.3**	**-0.4**
KEST	**Kesra**	**150.95**	**321**	PKPbc		**PKiKP**	**18 26 52.0**	**+0.3**
	comp=Z,8.9nm,0.7s,baz=131,slow=2.3,SNR=13							
KEST	**Kesra**	**150.95**	**321**			**PKiKP**	**18 26 51.8**	**+0.1**

IDC 13 18:15:08.5±8.4, 14°57.7N×145°00.E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/60, mbtmp3.5/3, MS3.6/1, Ms1 3.8/1, ms1mx2.8/38, Error ellipse: s-maj=312.1km s-min=29.7km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**21.16**	**76**	T	T	18 43 06.4	
	baz=265,slow=78,SNR=11						
H11S1	**WAKE ISLAND Hy**	**21.17**	**76**	T	T	18 43 02.9	
	baz=265,slow=78,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**21.17**	**76**	T	T	18 43 04.0	
	baz=265,slow=78,SNR=7.2						
WRA	**Warramunga Arr**	**35.86**	**197**	P	P	18 22 10.2	0.0
	1.0nm,0.8s,baz=20,slow=9.5,SNR=5.5						
ASAR	**Alice Springs**	**39.52**	**196**	P	P	18 22 41.0	-0.2
	0.4nm,0.8s,baz=24,slow=12,SNR=2.3						
CMAR	**Chiang Mai Arr**	**44.23**	**282**	LR	LR	18 40 02.7	
	comp=Z,65nm,20.1s,baz=274,slow=34						
MKAR	**Makanchi Array**	**60.88**	**316**	P	P	18 25 22.9	-0.1
	0.2nm,0.6s,baz=90,slow=7.1,SNR=3.3						

*IDC **13** 18:16:13.5±3.2, 22°.21S×176°.04W, h0km, mb4.3/4, mb1 4.4/5, mb1mx3.9/50, mbtmp4.4/5, ML4.3/1, Error ellipse: s-maj=136.3km s-min=40.4km az=150.0*
*NEIC **13** 18:16:32.1±2.6, 22°.1S±0°.1×176°.8W±0°.1, h130km±11km, mb4.8/14, Error ellipse: s-maj=22.7km s-min=15.2km az=214.0*

ISC 13 18:16:35.0±0.8, 22°.0S±0°.2×176°.6W±0°.1, h171km, n22, σ1s52/21, mb4.6/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.92**	**66**	Pn	**Pn**	**18 18 12.9**	**-1.1**
DZM	**Mont Dzumac**	**15.71**	**267**	Pn	**Pn**	**18 20 03.3**	**-4.0**
	1.2nm,0.3s,baz=139,slow=19,SNR=6.6						
DZM	**Mont Dzumac**	**15.71**	**267**	IAmb	IAmb	18 20 29.5	
	comp=Z,86nm,1.5s						
URZ	**Urewera**	**17.07**	**197**		**P**	**18 20 20.0**	**-2.5**
QRZ	**Quartz Range**	**20.89**	**204**	P	**P**	**18 21 03.2**	**-0.7**
THZ	**Tophouse**	**21.58**	**202**	P	**P**	**18 21 10.1**	**-1.1**
THZ				IAmb	IAmb	18 21 26.7	
	comp=Z,75nm,1.7s						
LTZ	**Lake Taylor**	**22.70**	**202**	P	**P**	**18 21 21.9**	**-0.2**
LTZ				IAmb	IAmb	18 21 41.3	
	comp=Z,72nm,1.7s						
FOZ	**Fox Glacier**	**24.24**	**205**	P	**P**	**18 21 34.5**	**-1.6**
FOZ				IAmb	IAmb	18 21 40.1	
	comp=Z,32nm,1.1s						
CTA	**Charters Tower**	**34.65**	**266**	P	**P**	**18 23 09.7**	**+1.4**
	comp=Z,3.2nm,0.4s,baz=93,slow=11,SNR=14						
CTAO	**Charters Tower**	**34.65**	**266**	P	**P**	**18 23 09.6**	**+1.2**
STKA	**Stephens Creek**	**38.33**	**246**	P	**P**	**18 23 40.6**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=94,slow=15,SNR=4.1						
BBOO	**Buckleboo**	**43.06**	**245**	P	**P**	**18 24 16.6**	**-1.4**
BBOO				IAmb	IAmb	18 24 44.3	
	comp=Z,22nm,1.5s						
AS31	**Alice Springs**	**45.45**	**258**	P	**P**	**18 24 37.7**	**+0.5**
ASAR	**Alice Springs**	**45.45**	**258**	P	**P**	**18 24 37.3**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=100,slow=7.2,SNR=45						
FORT	**Forrest**	**49.90**	**248**	P	**P**	**18 25 10.7**	**-0.7**
FORT				IAmb	IAmb	18 25 11.8	
	comp=Z,14nm,0.7s						
FITZ	**Fitzroy Crossi**	**54.12**	**263**	P	**P**	**18 25 44.2**	**+1.5**
	comp=Z,1.7nm,0.5s,baz=108,slow=6.4,SNR=3.4						
VNDA	**Vanda**	**56.53**	**185**	P	**P**	**18 25 59.9**	**+0.9**
SOEI	**Soe**	**57.84**	**272**	P	**P**	**18 26 09.5**	**+0.2**
QSPA	**South Pole Qui**	**68.07**	**180**	P	**P**	**18 27 17.2**	**+1.2**
QSPA				IAmb	IAmb	18 27 31.2	
	comp=Z,25nm,1.8s						
AKASG	**Malin Array Be**	**144.95**	**331**	PKPbc	**PKPdf**	**18 35 52.6**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=43,slow=4.1,SNR=6.5						
BRTR	**Keskin Array B**	**148.80**	**311**	PKPbc	**PKiKP**	**18 36 04.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=146,slow=3.6,SNR=4.8						
BRTR	**Keskin Array B**	**148.80**	**311**		**PKiKP**	**18 36 03.8**	**-0.2**

*BJI **13** 18:19:38.9±0.0, 0°.11S×127°.14E, h66km, mB5.0/10, mb4.7/25, Ms4.6/2, Ms7 4.2/2*
*NEIC **13** 18:19:46.2±2.0, 0°.60N±0°.07×126°.67E±0°.05, h67km±6km, mb4.7/63, Error ellipse: s-maj=10.8km s-min=6.7km az=167.0*
*DJA **13** 18:19:46.7±0.9, 1°N±4'×12°7E±', h31km±16km, M4.4/11, ML4.4/11*
*IDC **13** 18:19:48.5±2.4, 0°.56N×126°.72E, h86km±23km, mb4.1/22, mb1 4.2/25, mb1mx4.0/51, mbtmp4.4/25, MS3.5/4, Ms1 3.4/4, ms1mx2.9/39, Error ellipse: s-maj=20.6km s-min=9.9km az=82.0*

ISC 13 18:19:46.9±0.8, 0°.60N±0°.05×126°.70E±0°.05, h72km±7km, n132, σ0s99/139, mb4.6/58, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.69**	**76**	Pn	**Pn**	**18 20 00.9**	**-0.8**
TNTI				Sn	**Sn**	**18 20 12.0**	**-0.7**
TNTI	**Ternate**	**0.69**	**76**	P	**Pn**	**18 20 01.4**	**-0.4**
TNTI				S	**Sn**	**18 20 12.4**	**-0.3**
KMSI	**Cibinong**	**2.72**	**269**	P	**Pn**	**18 20 27.9**	**-0.4**
SANI	**Sanana**	**2.73**	**195**	P	**Pn**	**18 20 27.5**	**-1.0**
GTOI	**Gorontalo**	**3.69**	**271**	P	**Pn**	**18 20 43.0**	**+1.5**
NLAI	**Namlea**	**3.83**	**174**	P	**Pn**	**18 20 43.7**	**+0.2**
LUWI	**Luwuk**	**4.26**	**247**	Pn	**Pn**	**18 20 48.2**	**-1.1**
LUWI				Sn	**Sn**	**18 21 36.4**	**-1.3**
LUWI	**Luwuk**	**4.26**	**247**	P	**Pn**	**18 20 48.7**	**-0.6**
SIJI	**Sorong**	**4.79**	**108**	P	**Pn**	**18 20 58.1**	**+1.5**
	4.7nm,0.3s,baz=206,slow=19,SNR=15						
SIJI				LR	LR	18 23 03.1	
	comp=Z,238nm,20.5s,baz=54,slow=41						
TOLI2	**Tolitoli**	**5.94**	**275**	Pn	**Pn**	**18 21 11.5**	**-0.8**
FAKI	**Fak Fak**	**6.56**	**122**	Pn	**Pn**	**18 21 21.9**	**+1.2**
KAPI	**Kappang**	**8.91**	**231**	P	**Pn**	**18 21 54.4**	**+1.6**
	8.3nm,0.3s,baz=14,slow=17,SNR=6.8						
KAPI	**Kappang**	**8.91**	**231**	Pn	**Pn**	**18 21 53.7**	**+0.8**
MYLDM	**Lahad Datu**	**9.37**	**299**	Pn	**Pn**	**18 22 01.4**	**+2.2**
SOEI	**Soe**	**10.57**	**193**	Pn	**Pn**	**18 22 17.0**	**+1.3**
KKM	**Kota Kinabalu**	**11.78**	**298**	Pn	**Pn**	**18 22 34.0**	**+1.8**
SBUM	**Sibu**	**14.59**	**277**		**Pn**	**18 23 11.7**	**+1.9**
KSM	**Kuching**	**16.41**	**273**		**Pn**	**18 23 32.6**	**-0.3**
UGM	**Wanagama**	**18.21**	**242**	Pn	**Pn**	**18 23 56.7**	**+1.6**
FITZ	**Fitzroy Crossi**	**18.61**	**183**	P	**P**	**18 23 58.4**	**-0.3**
	0.4nm,0.3s,baz=36,slow=11,SNR=7.4						
FITZ	**Fitzroy Crossi**	**18.61**	**183**		**P**	**18 23 58.4**	**-0.3**
CISI	**Cisompet, Garu**	**20.50**	**246**	P	**P**	**18 24 18.9**	**-0.5**
CISI				IAmb	IAmb	18 24 50.2	
	comp=Z,68nm,1.5s						
DLV	**T Lat**	**21.30**	**303**	P	**P**	**18 24 28.4**	**+0.3**
DLV				IAmb	IAmb	18 24 39.5	
	comp=Z,43nm,1.6s						
WB0	**Warramunga Arr**	**21.60**	**160**	P	**P**	**18 24 30.9**	**-0.2**
WRAB	**Tennant Creek**	**21.74**	**160**	P	**P**	**18 24 32.1**	**-0.4**
WRAB				IAmb	IAmb	18 24 34.9	
	comp=Z,37nm,0.6s						
WRA	**Warramunga Arr**	**21.75**	**160**	P	**P**	**18 24 32.2**	**-0.4**
	comp=Z,43nm,0.7s,baz=337,slow=10,SNR=180						
WB2	**Warramunga Arr**	**21.75**	**160**	P	**P**	**18 24 32.0**	**-0.6**
COEN	**Coen**	**21.80**	**132**	P	**P**	**18 24 32.3**	**-1.0**
COEN				IAmb	IAmb	18 24 43.2	
	comp=Z,46nm,1.6s						
WR0	**Warramunga Arr**	**21.83**	**160**	P	**P**	**18 24 33.3**	**-0.2**
WR0				IAmb	IAmb	18 24 34.7	
	comp=Z,20nm,0.7s						
PSA00	**Pilbara Seismi**	**23.03**	**196**	P	**P**	**18 24 44.9**	**-1.3**
PSA00	**Pilbara Seismi**	**23.03**	**196**	P	**P**	**18 24 44.7**	**-1.5**
PSA00				IAmb	IAmb	18 24 45.6	
	comp=Z,19nm,0.8s						
YULB	**Yu-li**	**23.25**	**347**	P	**P**	**18 24 46.8**	**-1.6**
YULB				IAmb	IAmb	18 25 12.8	
	comp=Z,23nm,1.3s						
TPUB	**Ta-pu**	**23.32**	**346**	P	**P**	**18 24 46.5**	**-2.4**
TPUB				IAmb	IAmb	18 25 14.6	
	comp=Z,23nm,1.1s						
SSLB	**Suanglung**	**23.71**	**347**	P	**P**	**18 24 52.2**	**-0.3**
YHNB	**Yeheng**	**24.48**	**348**	P	**P**	**18 24 59.7**	**+0.2**
YHNB				IAmb	IAmb	18 25 14.2	
	comp=Z,25nm,1.2s						
AS31	**Alice Springs**	**25.12**	**164**	P	**P**	**18 25 05.1**	**-0.2**
AS31				IAmb	IAmb	18 25 08.7	
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**25.12**	**164**	P	**P**	**18 25 05.2**	**0.0**
	comp=Z,26nm,0.7s,baz=354,slow=14,SNR=96						
ASAR				PcP	**PcP**	**18 28 38.0**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=351,slow=2.0,SNR=4.4						
BKNI	**Bangkinang**	**25.66**	**270**	P	**P**	**18 25 08.8**	**-1.6**
IPM	**Ipoh**	**25.93**	**279**	P	**P**	**18 25 11.5**	**-1.3**
GIRL	**Giralia**	**26.10**	**207**	P	**P**	**18 25 11.9**	**-2.3**
JOW	**Kunigami**	**26.12**	**3**	P	**P**	**18 25 15.6**	**+1.2**
	comp=Z,12nm,0.8s,baz=114,slow=10.0,SNR=3.4						
JOW	**Kunigami**	**26.12**	**3**	P	**P**	**18 25 14.4**	**+0.1**
JOW				IAmb	IAmb	18 25 18.9	
	comp=Z,13nm,0.9s						
KULM	**Kulim**	**26.42**	**281**	P	**P**	**18 25 17.0**	**-0.2**
KULM				IAmb	IAmb	18 25 21.4	
	comp=Z,24nm,1.6s						
PSI	**Prapat**	**27.85**	**275**	LR	LR	18 38 22.7	
	comp=Z,113nm,18.2s,baz=280,slow=40						
CTAO	**Charters Tower**	**28.10**	**138**	P	**P**	**18 25 33.0**	**+0.8**
CTAO				IAmb	IAmb	18 26 08.0	
	comp=Z,38nm,1.6s						
SLVN	**Son La**	**30.32**	**314**	P	**P**	**18 25 51.3**	**-0.6**
MORW	**Morawa**	**31.21**	**198**	P	**P**	**18 25 59.3**	**-0.3**
MORW				IAmb	IAmb	18 26 13.6	
	comp=Z,43nm,1.5s						
FORT	**Forrest**	**31.23**	**178**	P	**P**	**18 25 59.3**	**-0.4**
FORT				IAmb	IAmb	18 26 00.8	
	comp=Z,17nm,0.7s						
WHN	**Wuhan**	**32.01**	**340**	P	P	18 26 12.3	+5.8
NJ2	**Nanjing**	**32.15**	**347**	*e*P	**P**	**18 26 09.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.52**	**305**	PcP	**PcP**	**18 28 58.3**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=168,slow=1.3,SNR=4.4						
JMN	**Monobe**	**33.63**	**11**	P	**P**	**18 26 21.3**	**+0.5**
BBOO	**Buckleboo**	**34.39**	**166**	P	**P**	**18 26 26.7**	**-0.5**
BBOO				IAmb	IAmb	18 26 27.4	
	comp=Z,36nm,1.6s						
NWAO	**Narrogin (SRO)**	**34.52**	**194**	P	**P**	**18 26 28.6**	**+0.2**
NWAO				IAmb	IAmb	18 27 07.6	
	comp=Z,14nm,1.1s						
NWAO	**Narrogin (SRO)**	**34.52**	**194**	P	**P**	**18 26 28.4**	**0.0**
NWAO				IAmb	IAmb	18 27 07.7	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**35.25**	**158**	P	**P**	**18 26 34.9**	**+0.2**
	comp=Z,14nm,0.7s,baz=329,slow=9.0,SNR=36						
STKA				PcP	**PcP**	**18 29 04.2**	**0.0**
	comp=Z,0.8nm,0.4s,baz=301,slow=5.1,SNR=3.1						
STKA				LR	LR	18 41 56.2	
	comp=Z,74nm,18.0s,baz=14,slow=38						
STKA	**Stephens Creek**	**35.25**	**158**	P	**P**	**18 26 34.5**	**-0.2**
JWT	**Wachi**	**35.45**	**12**	P	**P**	**18 26 36.2**	**-0.1**
JGF	**Kuroka**	**36.21**	**15**	P	**P**	**18 26 42.4**	**-0.5**
JGF				IAmb	IAmb	18 26 46.0	
	comp=Z,17nm,1.3s						
KSRS	**Korea Array**	**36.69**	**2**	P	**P**	**18 26 47.6**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=175,slow=9.8,SNR=6.7						
MAJO	**Matsushiro**	**37.32**	**15**	P	**P**	**18 26 50.8**	**-1.5**
MAJO				IAmb	IAmb	18 26 59.8	
	comp=Z,39nm,1.6s						
MAT	**Matsushiro**	**37.32**	**15**	P	**P**	**18 26 50.9**	**-1.4**
MJAR	**Matsushiro Arr**	**37.32**	**15**	P	**P**	**18 26 51.0**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=191,slow=9.5,SNR=7.8						
MJAR	**Matsushiro Arr**	**37.32**	**15**	P	**P**	**18 26 50.8**	**-1.5**
MJAR				IAmb	IAmb	18 26 55.2	
	comp=Z,11nm,1.6s						
ARMA	**Armidale**	**38.92**	**145**	P	**P**	**18 27 06.9**	**+0.9**
ARMA				IAmb	IAmb	18 27 43.8	
	comp=Z,19nm,1.2s						
JMM	**Marumori**	**39.29**	**18**	P	**P**	**18 27 08.6**	**-0.2**
CAN	**Canberra**	**41.36**	**152**	P	**P**	**18 27 26.7**	**+0.7**
TOO	**Toolangi**	**41.77**	**157**	P	**P**	**18 27 30.1**	**+0.8**
TOO				IAmb	IAmb	18 28 05.0	
	comp=Z,12nm,1.5s						
JTM	**Tenmabayashi**	**42.07**	**16**		**P**	**18 27 32.0**	**+0.4**
HHC	**Hu-ho-hao-te**	**42.35**	**343**	*e*P	**P**	**18 27 35.6**	**+1.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,6.8s						
USA0B	**Ussuriysk Arra**	**43.66**	**6**	P	**P**	**18 27 43.5**	**-0.9**
USA0B				IAmb	IAmb	18 27 45.7	
	comp=Z,8.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**43.66**	**6**	P	**P**	**18 27 45.0**	**+0.5**
	comp=Z,5.0nm,0.6s,baz=197,slow=7.8,SNR=14						
USRK	**Ussuriysk Ar.**	**43.66**	**6**	P	**P**	**18 27 44.0**	**-0.5**
MDJ	**Mudanjiang**	**43.90**	**3**	P	**P**	**18 27 47.8**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,12nm,0.8s						
ASAJ	**Asahikawa**	**45.58**	**16**	P	**P**	**18 27 59.1**	**-0.6**
	comp=Z,6.9nm,0.7s,baz=221,slow=11,SNR=3.2						
KLR	**Kul'dur**	**48.64**	**4**	P	**P**	**18 28 23.5**	**0.0**
	comp=Z,2.4nm,0.5s,baz=183,slow=6.2,SNR=14						
SONM	**Songino Array**	**50.24**	**342**	P	**P**	**18 28 36.8**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=156,slow=9.1,SNR=4.9						
SONM	**Songino Array**	**50.24**	**342**	P	**P**	**18 28 36.6**	**+0.7**
WMQ	**Urumqi**	**55.28**	**326**	*e*P	**P**	**18 29 14.9**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,61nm,3.7s						
WMQ				LR	LR		
	comp=Z,520nm,29.2s						
WMQ				LR	LR		
	comp=Z,170nm,16.7s						
PEA0B	**Petropavlovsk-**	**58.33**	**21**	P	**P**	**18 29 33.5**	**-0.8**
PETK	**Petropavlovsk-**	**58.33**	**21**	P	**P**	**18 29 35.3**	**+1.0**
	comp=Z,7.1nm,0.6s,baz=192,slow=3.8,SNR=56						
PETK	**Petropavlovsk-**	**58.33**	**21**	P	**P**	**18 29 33.3**	**-1.1**
ZSN	**Zaisan**	**59.12**	**328**	*e*P	**P**	**18 29 40.2**	**+0.2**
	baz=328						
NNZ	**Nelson**	**59.29**	**140**	P	**P**	**18 29 41.7**	**+0.5**
SHLS	**Shalkode**	**59.74**	**322**	*e*P	**P**	**18 29 43.2**	**-1.3**
	baz=322						
SHLS				*i* S	**S**	**18 37 47.1**	**-3.2**
	baz=322						
TUWZ	**Tuamarina**	**59.76**	**140**	P	**P**	**18 29 43.9**	**-0.6**
UZB	**Uzynbulak**	**60.01**	**321**	*i* S	**S**	**18 37 53.9**	**+0.1**
	baz=321						
MK31	**Makanchi Array**	**60.11**	**326**	P	**P**	**18 29 47.5**	**+0.6**
MK31				IAmb	IAmb	18 29 48.5	
	comp=Z,5.7nm,0.8s						
MK31				PcP	**PcP**	**18 30 32.0**	**0.0**
MKAR	**Makanchi Array**	**60.11**	**326**	P	**P**	**18 29 47.6**	**+0.7**
	comp=Z,5.9nm,0.4s,baz=118,slow=7.9,SNR=167						
MKAR				PcP	**PcP**	**18 30 31.6**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=125,slow=4.4,SNR=5.2						
KSH	**Kashi**	**60.25**	**316**	P	**P**	**18 29 50.8**	**+2.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAKZ	**Makanchi**	**60.29**	**326**	P	**P**	**18 29 48.9**	**+0.8**
MAKZ				IAmb	IAmb	18 29 49.2	
	comp=Z,7.3nm,0.6s						
MAKZ				PcP	**PcP**	**18 30 32.1**	**-0.6**
BKZ	**Black Stump Fm**	**60.31**	**137**	P	**P**	**18 29 48.0**	**-0.4**
URZ	**Urewera**	**60.31**	**136**	P	**P**	**18 29 47.2**	**-1.1**
	comp=Z,4.0nm,0.8s,baz=156,slow=20,SNR=1.9						
URZ	**Urewera**	**60.31**	**136**	P	**P**	**18 29 47.2**	**-1.1**
SATY	**Saty**	**60.35**	**321**	*e*P	**P**	**18 29 49.5**	**+0.8**
	baz=321						
KPKS	**Kokpek**	**60.39**	**321**	*e*P	**P**	**18 29 49.3**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=321						
MDOK	**Medeo**	**61.26**	**321**	*e*P	**P**	**18 29 55.5**	**+0.5**
	baz=320						
TNSS	**Tian-Shan**	**61.27**	**320**	*e*P	**P**	**18 29 56.2**	**+1.0**
	baz=320						
TDK	**Taldyqorghan**	**61.36**	**323**	*e*P	**P**	**18 29 56.0**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=323						
AAA	**Alma-Ata**	**61.37**	**320**	*e*P	**P**	**18 29 55.7**	**+0.1**
	baz=320						
MA2	**Magadan**	**61.73**	**14**	P	**P**	**18 29 58.5**	**+1.0**
	comp=Z,9.4nm,0.8s,baz=192,slow=4.7,SNR=11						
MA2	**Magadan**	**61.73**	**14**		**P**	**18 29 58.0**	**+0.4**
MA2				IAmb	IAmb	18 30 00.0	
	comp=Z,10nm,0.9s						
KUU	**Kurty**	**62.07**	**321**	*e*P	**P**	**18 30 00.8**	**+0.7**
	comp=Z,13nm,0.7s,baz=321						
KUU				*i* S	**S**	**18 38 20.1**	**+0.4**
	baz=321						
AAK	**Ala-Archa**	**62.66**	**319**	P	**P**	**18 30 04.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=65,slow=19,SNR=3.9						
AAK	**Ala-Archa**	**62.66**	**319**	P	**P**	**18 30 05.3**	**+0.9**
AAK				IAmb	IAmb	18 30 06.5	
	comp=Z,6.0nm,1.5s						
ZAA0	**Zalesovo Array**	**63.35**	**334**	P	**P**	**18 30 07.5**	**-1.0**
ZALV	**Zalesovo Beam**	**63.35**	**334**	P	**P**	**18 30 08.1**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=116,slow=6.8,SNR=5.2						
ZALV	**Zalesovo Beam**	**63.35**	**334**	P	**P**	**18 30 07.5**	**-0.9**
BTLS	**Baital**	**64.06**	**321**	*e*P	**P**	**18 30 13.2**	**-0.1**
	baz=321						
SEY	**Seymchan**	**65.07**	**13**	P	**P**	**18 30 20.7**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=216,slow=5.9,SNR=14

IDC 13 18:29:46.3±2.3, 6°30S×129°83E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.3/28, mbtmp3.3/4, ML2.9/3, Error ellipse: s-maj=90.4km s-min=29.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.42**	**199**	Pn	Pn	18 32 45.6	+1.1
	0.0nm,0.3s,baz=0,slow=12,SNR=2.7						
FITZ				Sn	Sn	18 34 49.9	-14
	0.1nm,0.3s,baz=143,slow=20,SNR=4.4						
WRA	**Warramunga Arr**	**14.25**	**163**	Pn	Pn	18 33 10.8	+1.3
	0.1nm,0.3s,baz=340,slow=11,SNR=4.7						
WRA				Sn	Sn	18 35 34.3	-14
	0.1nm,0.3s,baz=340,slow=22,SNR=5.3						
ASAR	**Alice Springs**	**17.70**	**168**	P	Pn	18 33 52.8	-1.8
	0.0nm,0.3s,baz=347,slow=9.3,SNR=4.7						
MKAR	**Makanchi Array**	**67.55**	**327**	P	P	18 40 44.6	0.0
	0.1nm,0.4s,baz=111,slow=7.9,SNR=4.4						

*JMA **13** 18:29:58.5, 24.02N×121.67E, h54km±1km, M3.6*
*TAP **13** 18:29:59.4, 24.07N×121.68E, h54km, ML4.1, B*
ISC 13 18:29:59.9±1.2, 24.07N±0.02×121.74E±0.02, h47km±5km, n160, σ1.07/287, 14C-34D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.13**	**275**	⇓*i* P	**Pn**	**18 30 07.7**	**+0.1**
	baz=279						
TWD				S	**Sn**	**18 30 13.4**	**+0.5**
	baz=279						
HWA	**Hwalien**	**0.15**	**233**	⇓*i* P	**Pn**	**18 30 08.4**	**+0.8**
	baz=206						
HWA				*e* S	**Sn**	**18 30 16.7**	**+3.6**
	baz=206						
NACB	**Ninganchiao**	**0.17**	**309**	⇓*i* P	**Pn**	**18 30 07.7**	**-0.1**
	baz=310						
NACB				*e* S	**Sn**	**18 30 13.0**	**-0.3**
	baz=310						
ETLH	**Xiulin Townshi**	**0.27**	**301**	⇓*i* P	**Pn**	**18 30 08.5**	**-0.2**
	baz=301						
ETLH				*e* S	**Sn**	**18 30 14.6**	**-0.2**
	baz=301						
ESL	**Shilin**	**0.38**	**228**	⇓*i* P	**Pn**	**18 30 08.9**	**-0.6**
	baz=228						
ESL				*e* S	**Sn**	**18 30 15.4**	**-1.0**
	baz=228						
WHF	**Hehuan Shan**	**0.44**	**280**	⇓*i* P	**Pn**	**18 30 10.3**	**-0.4**
	baz=281						
WHF				*e* S	**Sn**	**18 30 17.6**	**-0.8**
	baz=281						
NNSB	**Datong**	**0.48**	**318**	⇓*i* P	**Pn**	**18 30 10.7**	**-0.2**
	baz=326						
NNSB				*e* S	**Sn**	**18 30 17.6**	**-1.1**
	baz=326						
NNSH	**Datong**	**0.48**	**318**	⇓*i* P	**Pn**	**18 30 10.7**	**-0.2**
	baz=325						
NNSH				S	**Sn**	**18 30 18.5**	**-0.3**
	baz=325						
FUSS	**Fushou**	**0.48**	**292**	⇓*i* P	**Pn**	**18 30 11.0**	**-0.1**
	baz=294						
FUSS				*e* S	**Sn**	**18 30 18.9**	**-0.1**
	baz=294						
EGFH	**Guangfu**	**0.49**	**215**	⇓P	**Pn**	**18 30 10.0**	**-0.8**
	baz=218						
EGFH				*e* S	**Sn**	**18 30 17.7**	**-1.0**
	baz=218						
NNS	**Nan Shan**	**0.50**	**318**	⇓*i* P	**Pn**	**18 30 10.8**	**-0.3**
	baz=326						
NNS				S	**Sn**	**18 30 18.8**	**-0.3**
	baz=326						
TWT	**Tachien**	**0.54**	**290**	⇓*i* P	**Pn**	**18 30 11.9**	**+0.1**
	baz=291						
TWT				*e* S	**Sn**	**18 30 20.4**	**+0.3**
	baz=291						
TWC	**Suao**	**0.55**	**11**	⇑*i* P	**Pn**	**18 30 12.2**	**+0.5**
	baz=22						
TWC				*e* S	**Sn**	**18 30 21.4**	**+1.4**
	baz=22						
TDCB	**Techi**	**0.56**	**289**	⇓*i* P	**Pn**	**18 30 11.9**	**0.0**
	baz=291						
TDCB				*e* S	**Sn**	**18 30 20.0**	**-0.4**
	baz=291						
NDS	**Dongshan**	**0.56**	**358**	*e*P	**Pn**	**18 30 11.6**	**-0.2**
	baz=356						
NDS				*e* S	**Sn**	**18 30 20.9**	**+0.6**
	baz=356						
NDT	**Datong Townshi**	**0.57**	**339**	P	**Pn**	**18 30 11.8**	**-0.1**
	baz=346						
NDT				*e* S	**Sn**	**18 30 20.8**	**+0.3**
	baz=346						
ENTT	**Nioudou**	**0.59**	**345**	⇑*i* P	**Pn**	**18 30 12.0**	**-0.2**
	baz=350						
ENTT				*e* S	**Sn**	**18 30 20.2**	**-0.7**
	baz=350						
VWDT	**VWDT**	**0.63**	**240**	⇓*i* P	**Pn**	**18 30 12.5**	**-0.1**
	baz=235						
VWDT				*e* S	**Sn**	**18 30 21.1**	**-0.6**
	baz=235						
HGSD	**Ruisui**	**0.64**	**206**	*e*P	**Pn**	**18 30 12.4**	**-0.3**
	baz=213						
HGSD				*e* S	**Sn**	**18 30 23.6**	**+1.5**
	baz=213						
EHY	**Hungye**	**0.68**	**214**	*e*P	**Pn**	**18 30 11.8**	**-1.5**
	baz=210						
EHY				*e* S	**Sn**	**18 30 21.7**	**-1.1**
	baz=210						
YHNB	**Yeheng**	**0.68**	**331**	⇑*i* P	**Pn**	**18 30 13.3**	**-0.1**
	baz=341						
YHNB				*e* S	**Sn**	**18 30 22.3**	**-0.8**
	baz=341						
ILA	**Ilan**	**0.69**	**1**	*e*P	**Pn**	**18 30 14.0**	**+0.5**
	baz=358						
ILA				*e* S	**Sn**	**18 30 25.5**	**+2.2**
	baz=358						
NSK	**Sanguang**	**0.70**	**330**	⇑*i* P	**Pn**	**18 30 13.4**	**-0.2**
	baz=340						
NSK				*e* S	**Sn**	**18 30 22.7**	**-0.7**
	baz=340						
WPL	**Puli Township**	**0.71**	**266**	⇓*i* P	**Pn**	**18 30 13.6**	**-0.2**
	baz=263						
WPL				*e* S	**Sn**	**18 30 23.9**	**+0.2**
	baz=263						
NWLT	**Wulai**	**0.74**	**343**	⇑P	**Pn**	**18 30 14.1**	**0.0**
	baz=341						
NWLT				*e* S	**Sn**	**18 30 23.7**	**-0.6**
	baz=341						
DPDB	**Guoxing**	**0.74**	**267**	⇓*i* P	**Pn**	**18 30 14.1**	**0.0**
	baz=273						
DPDB				*e* S	**Sn**	**18 30 26.4**	**+2.0**
	baz=273						
WHP	**Taichung City**	**0.75**	**286**	⇓*i* P	**Pn**	**18 30 14.4**	**+0.1**
	baz=287						
WHP				*e* S	**Sn**	**18 30 25.9**	**+1.1**
	baz=287						
WCS	**Beigang Elemen**	**0.75**	**269**	⇓*i* P	**Pn**	**18 30 14.2**	**0.0**
	baz=275						
WCS				*e* S	**Sn**	**18 30 26.4**	**+1.7**
	baz=275						
SSLB	**Suanglung**	**0.77**	**249**	⇓*i* P	**Pn**	**18 30 14.0**	**-0.5**
	baz=248						
SSLB				*e* S	**Sn**	**18 30 26.2**	**+1.1**
	baz=248						
YULB	**Yu-li**	**0.78**	**211**	⇓*i* P	**Pn**	**18 30 13.1**	**-1.6**
	baz=208						
YULB				*e* S	**Sn**	**18 30 23.9**	**-1.6**
	baz=208						
SMLT	**Sun Moon Lake**	**0.79**	**257**	⇓*i* P	**Pn**	**18 30 14.5**	**-0.3**
	baz=253						
SMLT				*e* S	**Sn**	**18 30 26.0**	**+0.4**
	baz=253						
NTC	**Toucheng**	**0.79**	**6**	*e*P	**Pn**	**18 30 15.0**	**+0.3**
NTC				*e* S	**Sn**	**18 30 27.2**	**+1.7**
EYUL	**Yuli**	**0.81**	**208**	*e*P	**Pn**	**18 30 13.6**	**-1.5**
	baz=212						
TWF1	**Yuli**	**0.82**	**209**	⇓*i* P	**Pn**	**18 30 13.6**	**-1.5**
	baz=214						
TWF1				*e* S	**Sn**	**18 30 24.6**	**-1.6**
	baz=214						
TYC	**Yuchr**	**0.82**	**259**	⇓*i* P	**Pn**	**18 30 14.9**	**-0.2**
	baz=256						
TYC				*e* S	**Sn**	**18 30 27.0**	**+0.8**
	baz=256						
LIOB	**Emei**	**0.87**	**311**	⇑P	**Pn**	**18 30 16.2**	**+0.3**
	baz=313						
LIOB				*e* S	**Sn**	**18 30 28.3**	**+0.7**
	baz=313						
NSTT	**Nanjuang**	**0.87**	**310**	*e*P	**Pn**	**18 30 16.0**	**+0.1**
	baz=312						
NSTT				*e* S	**Sn**	**18 30 28.0**	**+0.5**
	baz=312						
WHYT	**Xinyi Township**	**0.89**	**246**	P	**Pn**	**18 30 16.4**	**+0.2**
	baz=239						
WHYT				*e* S	**Sn**	**18 30 28.4**	**+0.4**
	baz=239						
NJD	**Zhudong**	**0.89**	**319**	*e*P	**Pn**	**18 30 16.6**	**+0.5**
	baz=327						
NJD				*e* S	**Sn**	**18 30 28.9**	**+1.0**
	baz=327						
TIPB	**Shuangxi**	**0.90**	**5**	⇑*e*P	**Pn**	**18 30 16.7**	**+0.4**
	baz=2.0						
TIPB				*e* S	**Sn**	**18 30 28.8**	**+0.5**
	baz=2.0						
NHDH	**Xindian Distri**	**0.91**	**348**	⇑*e*P	**Pn**	**18 30 16.2**	**-0.2**
	baz=351						
NHDH				*e* S	**Sn**	**18 30 28.3**	**-0.1**
	baz=351						
TWA	**Mucha**	**0.92**	**351**	⇑*i* P	**Pn**	**18 30 16.3**	**-0.2**
	baz=344						
TWA				*e* S	**Sn**	**18 30 28.8**	**+0.2**
	baz=344						
YUS	**Yu-Shan**	**0.92**	**231**	*i* P	**Pn**	**18 30 16.6**	**-0.3**
	baz=222						
YUS				*e* S	**Sn**	**18 30 29.0**	**-0.4**
	baz=222						
TWQ1	**Liyutan**	**0.92**	**288**	⇓*i* P	**Pn**	**18 30 16.5**	**-0.1**
	baz=289						
TWQ1				*e* S	**Sn**	**18 30 28.9**	**+0.2**
	baz=289						
TATO	**Taipei**	**0.93**	**346**	⇑*i* P	**Pn**	**18 30 16.4**	**-0.2**
	baz=349						
TATO				*e* S	**Sn**	**18 30 28.7**	**-0.2**
	baz=349						
WWF	**Wufeng**	**0.95**	**269**	*e*P	**Pn**	**18 30 17.4**	**+0.5**
	baz=268						
WWF				*e* S	**Sn**	**18 30 31.4**	**+2.0**
	baz=268						
NSY	**Sanyi**	**0.95**	**291**	*e*P	**Pn**	**18 30 17.1**	**+0.1**
	baz=292						
NSY				*e* S	**Sn**	**18 30 29.9**	**+0.4**
	baz=292						
WJS	**Zhushan**	**0.95**	**255**	*e*P	**Pn**	**18 30 17.4**	**+0.4**
	baz=247						
WJS				*e* S	**Sn**	**18 30 31.7**	**+2.2**
	baz=247						
FULB	**Fuli**	**0.96**	**205**	*i* P	**Pn**	**18 30 16.3**	**-0.7**
	baz=211						
FULB				*e* S	**Sn**	**18 30 29.8**	**+0.2**
	baz=211						
BACT	**New Taipei Cit**	**0.96**	**344**	*e*P	**Pn**	**18 30 17.1**	**0.0**
	baz=356						
BACT				*e* S	**Sn**	**18 30 30.3**	**+0.6**
	baz=356						
HSN1	**Hsinchu**	**0.96**	**317**	*e*P	**Pn**	**18 30 17.3**	**+0.2**
	baz=330						
HSN1				*e* S	**Sn**	**18 30 30.3**	**+0.7**
	baz=330						
TWB1	**Santiao Chiao**	**0.96**	**14**	⇓P	**Pn**	**18 30 17.7**	**+0.6**
	baz=25						
TWB1				*e* S	**Sn**	**18 30 29.8**	**+0.1**
	baz=25						
TCU	**Taichung**	**0.97**	**275**	⇓*i* P	**Pn**	**18 30 17.4**	**+0.3**
	baz=275						
TCU				*e* S	**Sn**	**18 30 30.9**	**+1.0**
	baz=275						
WNT1	**Nantou City**	**0.98**	**261**	*e*P	**Pn**	**18 30 18.0**	**+0.7**
	baz=260						
WNT1				*e* S	**Sn**	**18 30 32.1**	**+2.1**
	baz=260						
NMLH	**Miaoli**	**0.98**	**299**	*e*P	**Pn**	**18 30 17.4**	**+0.1**
	baz=300						
NMLH				*e* S	**Sn**	**18 30 30.7**	**+0.6**
	baz=300						
WNT	**Mingjian**	**0.98**	**259**	⇓*i* P	**Pn**	**18 30 18.0**	**+0.7**
	baz=268						
WNT				*e* S	**Sn**	**18 30 31.9**	**+1.8**
	baz=268						
TAP	**Taipei**	**0.99**	**348**	*e*P	**Pn**	**18 30 17.1**	**-0.4**
	baz=351						
TAP				*e* S	**Sn**	**18 30 30.3**	**0.0**
	baz=351						
SBCB	**Hsinchu**	**0.99**	**317**	*e*P	**Pn**	**18 30 17.1**	**-0.3**
	baz=330						
SBCB				*e* S	**Sn**	**18 30 30.9**	**+0.4**
	baz=330						
NJN	**Zhunan**	**1.00**	**308**	*e*P	**Pn**	**18 30 17.6**	**+0.1**
	baz=299						
NJN				*e* S	**Sn**	**18 30 31.3**	**+0.8**
	baz=299						
NWF	**Wu-fen Shan**	**1.00**	**2**	⇑*i* P	**Pn**	**18 30 17.7**	**+0.1**
	baz=352						
NWF				*e* S	**Sn**	**18 30 31.5**	**+0.8**
	baz=352						
WFSB	**Wu-fen Shan**	**1.00**	**2**	⇑*i* P	**Pn**	**18 30 17.7**	**+0.2**
	baz=352						
WFSB				*e* S	**Sn**	**18 30 31.4**	**+0.9**
	baz=352						
NTY	**Taoyuan**	**1.01**	**337**	*e*P	**Pn**	**18 30 17.6**	**-0.2**
	baz=348						
NTY				*e* S	**Sn**	**18 30 31.3**	**+0.5**
	baz=348						
HSN	**Hsinchu**	**1.01**	**316**	*e*P	**Pn**	**18 30 17.8**	**+0.1**
	baz=332						
HSN				*e* S	**Sn**	**18 30 31.0**	**+0.2**
	baz=332						
ALS	**Alishan**	**1.02**	**237**	⇓*i* P	**Pn**	**18 30 18.2**	**+0.1**
	baz=230						
ALS				*e* S	**Sn**	**18 30 32.7**	**+1.2**
	baz=230						
CHKT	**Chengkung**	**1.02**	**199**	*e*P	**Pn**	**18 30 17.3**	**-0.6**
	baz=198						
CHKT				*e* S	**Sn**	**18 30 31.0**	**-0.1**
	baz=198						
NCUH	**Zhongli**	**1.03**	**331**	*e*P	**Pn**	**18 30 17.8**	**-0.1**
	baz=333						
NCUH				*e* S	**Sn**	**18 30 32.6**	**+1.3**
	baz=333						
NCU	**National Centr**	**1.03**	**331**	*e*P	**Pn**	**18 30 17.9**	**-0.1**
	baz=333						
NCU				*e* S	**Sn**	**18 30 31.6**	**+0.3**
	baz=333						
WDJ	**Dajia District**	**1.04**	**286**	*e*P	**Pn**	**18 30 17.7**	**-0.3**
	baz=286						
WDJ				*e* S	**Sn**	**18 30 32.0**	**+0.5**
	baz=286						
TWS1	**Kuangyinshan**	**1.07**	**344**	*e*P	**Pn**	**18 30 18.3**	**-0.2**
	baz=357						
TWS1				*e* S	**Sn**	**18 30 33.0**	**+0.8**
	baz=357						
CHN5	**Tsauling**	**1.08**	**244**	⇓*i* P	**Pn**	**18 30 18.9**	**+0.2**
	baz=236						
CHN5				*e* S	**Sn**	**18 30 35.2**	**+2.7**
	baz=236						
WCHH	**Zhanghua**	**1.08**	**271**	*e*P	**Pn**	**18 30 18.2**	**-0.3**
	baz=270						
WCHH				*e* S	**Sn**	**18 30 31.9**	**-0.6**
	baz=270						
TNOU	**National Taiwa**	**1.08**	**2**	*e*P	**Pn**	**18 30 18.2**	**-0.4**
	baz=351						
TNOU				*e* S	**Sn**	**18 30 32.6**	**+0.2**
	baz=351						
YM01	**YM01**	**1.08**	**352**	*e*P	**Pn**	**18 30 17.1**	**-1.6**
	baz=354						
YM01				*e* S	**Sn**	**18 30 30.9**	**-1.8**
	baz=354						
YM10	**YM10**	**1.09**	**352**	*e*P	**Pn**	**18 30 18.3**	**-0.6**
	baz=354						
YM10				*e* S	**Sn**	**18 30 34.1**	**+1.2**
	baz=354						
ELDTW	**Lidau**	**1.09**	**217**	⇓*i* P	**Pn**	**18 30 17.7**	**-1.3**
	baz=209						
ELDTW				*e* S	**Sn**	**18 30 32.5**	**-0.6**
	baz=209						
YM04	**YM04**	**1.10**	**351**	⇑P	**Pn**	**18 30 18.0**	**-0.9**
	baz=353						
YM04				*e* S	**Sn**	**18 30 33.5**	**+0.6**
	baz=353						
YM05	**YM05**	**1.10**	**352**	⇑*i* P	**Pn**	**18 30 18.4**	**-0.7**
	baz=354						
YM05				*e* S	**Sn**	**18 30 32.3**	**-0.8**
	baz=354						
YM11	**YM11**	**1.10**	**352**	*e*P	**Pn**	**18 30 18.6**	**-0.5**
	baz=345						
YM11				*e* S	**Sn**	**18 30 32.0**	**-1.2**
	baz=345						
NTST	**Danshui**	**1.12**	**347**	*e*P	**Pn**	**18 30 18.3**	**-1.0**
	baz=349						
NTST				*e* S	**Sn**	**18 30 34.1**	**+0.6**
	baz=349						
YM08	**YM08**	**1.12**	**353**	*e*P	**Pn**	**18 30 18.3**	**-1.0**
	baz=346						
YM08				*e* S	**Sn**	**18 30 32.2**	**-1.4**
	baz=346						
ANP	**Anpu**	**1.13**	**350**	*e*P	**Pn**	**18 30 18.9**	**-0.6**
	baz=353						
ANP				*e* S	**Sn**	**18 30 33.4**	**-0.5**
	baz=353						
WGK	**Gukeng**	**1.14**	**251**	P	**Pn**	**18 30 20.1**	**+0.7**
	baz=250						
WGK				*e* S	**Sn**	**18 30 34.7**	**+0.7**
	baz=250						
WDLH	**Douliu**	**1.16**	**251**	*e*P	**Pn**	**18 30 20.6**	**+0.9**
	baz=242						
WDLH				*e* S	**Sn**	**18 30 36.5**	**+2.1**
	baz=242						
EDH	**Donghe**	**1.16**	**200**	*e*P	**Pn**	**18 30 18.9**	**-0.8**
	baz=199						
EDH				*e* S	**Sn**	**18 30 34.2**	**-0.3**
	baz=199						
JYNG	**Yonagunijimaku**	**1.17**	**71**	P	**Pn**	**18 30 20.1**	**+0.3**
JYNG				S	**Sn**	**18 30 35.3**	**+0.6**
TWY	**Chenhua**	**1.21**	**354**	P	**Pn**	**18 30 20.1**	**-0.3**
	baz=346						
TWY				*e* S	**Sn**	**18 30 36.3**	**+0.7**
	baz=346						
YOJ	**Yonaguni jima**	**1.23**	**71**	*e*P	**Pn**	**18 30 20.6**	**0.0**
	baz=71						
YOJ				*e* S	**Sn**	**18 30 36.9**	**+0.7**
	baz=71						
YOJ	**Yonaguni jima**	**1.23**	**71**	P	**Pn**	**18 30 20.9**	**+0.2**
YOJ				S	**Sn**	**18 30 36.7**	**+0.6**
WRL	**Guolierlin Hig**	**1.25**	**263**	*e*P	**Pn**	**18 30 20.2**	**-0.8**
	baz=273						
WRL				*e* S	**Sn**	**18 30 37.1**	**+0.4**
	baz=273						
STYH	**Taoyuan**	**1.25**	**225**	*e*P	**Pn**	**18 30 21.4**	**+0.3**
	baz=224						
STYH				*e* S	**Sn**	**18 30 37.7**	**+0.9**
	baz=224						
CHN4	**Tsaushan**	**1.27**	**236**	⇓*i* P	**Pn**	**18 30 21.7**	**+0.5**
	baz=235						
CHN4				*e* S	**Sn**	**18 30 38.5**	**+1.4**
	baz=235						
TPUB	**Ta-pu**	**1.27**	**233**	⇓*i* P	**Pn**	**18 30 21.5**	**+0.3**
	baz=225						
TPUB				*e* S	**Sn**	**18 30 38.0**	**+0.8**
	baz=225						
RLNB	**Erlin**	**1.27**	**262**	*e*P	**Pn**	**18 30 21.2**	**0.0**
	baz=262						
CHN2	**Minshiung**	**1.27**	**245**	*e*P	**Pn**	**18 30 22.2**	**+0.9**
	baz=237						
CHN2				*e* S	**Sn**	**18 30 39.8**	**+2.6**
	baz=237						
STYT	**Tauyuan**	**1.27**	**225**	⇓*i* P	**Pn**	**18 30 21.5**	**+0.1**
	baz=224						
STYT				*e* S	**Sn**	**18 30 38.4**	**+1.1**
	baz=224						
LONT	**Longtian**	**1.28**	**206**	*e*P	**Pn**	**18 30 19.8**	**-1.6**
	baz=196						
LONT				*e* S	**Sn**	**18 30 35.7**	**-1.8**
	baz=196						
WTK	**Tuku**	**1.29**	**253**	*e*P	**Pn**	**18 30 21.9**	**+0.4**
	baz=264						
WTK				*e* S	**Sn**	**18 30 39.2**	**+1.5**
	baz=264						
WTP	**Ta-pu**	**1.31**	**232**	⇓*i* P	**Pn**	**18 30 22.2**	**+0.3**
	baz=231						
WTP				*e* S	**Sn**	**18 30 38.8**	**+0.4**
	baz=231						
CHY	**Chiayi**	**1.33**	**245**	P	**Pn**	**18 30 22.7**	**+0.6**
	baz=235						
CHY				*e* S	**Sn**	**18 30 40.9**	**+2.3**
	baz=235						
WTCT	**Ta-ch'eng**	**1.35**	**262**	*e*P	**Pn**	**18 30 22.1**	**-0.2**
	baz=261						
TWG	**Pinlang**	**1.38**	**206**	*e*P	**Pn**	**18 30 20.9**	**-1.9**
	baz=196						
TWG				*e* S	**Sn**	**18 30 37.6**	**-2.3**
	baz=196						
TWGBT	**Beinan**	**1.38**	**206**	*e*P	**Pn**	**18 30 20.9**	**-1.9**
	baz=195						
TWK	**Hsinying**	**1.39**	**235**	P	**Pn**	**18 30 23.4**	**+0.4**
	baz=234						
TWK				*e* S	**Sn**	**18 30 41.1**	**+0.8**
	baz=234						
LDUT	**Ludao**	**1.41**	**190**	*e*P	**Pn**	**18 30 21.7**	**-1.5**
	baz=182						
LDUT				*e* S	**Sn**	**18 30 38.8**	**-1.7**
	baz=182						
CHN1	**Nanshi**	**1.41**	**232**	P	**Pn**	**18 30 23.9**	**+0.6**
	baz=231						
CHN1				*e* S	**Sn**	**18 30 41.7**	**+1.0**
	baz=231						
SNST	**Tainan City**	**1.42**	**234**	*e*P	**Pn**	**18 30 23.6**	**+0.4**
	baz=233						
SNST				*e* S	**Sn**	**18 30 42.0**	**+1.3**
	baz=233						
TTN	**Taitung**	**1.42**	**203**	*e*P	**Pn**	**18 30 22.5**	**-0.8**
	baz=192						
SGST	**Jiashian**	**1.44**	**227**	*e*P	**Pn**	**18 30 23.4**	**-0.2**
	baz=220						
SGST				*e* S	**Sn**	**18 30 42.3**	**+0.9**
	baz=220						
WSF	**Szhu**	**1.45**	**253**	*e*P	**Pn**	**18 30 23.8**	**+0.1**
	baz=264						
WSF				*e* S	**Sn**	**18 30 43.2**	**+1.6**
	baz=264						
SLGT	**Liugui**	**1.46**	**223**	*e*P	**Pn**	**18 30 25.0**	**+1.0**
	baz=223						
SLGT				*e* S	**Sn**	**18 30 43.4**	**+1.5**
	baz=223						
ICHU	**Yijhu**	**1.51**	**242**	*e*P	**Pn**	**18 30 25.0**	**+0.5**
	baz=232						
ICHU				*e* S	**Sn**	**18 30 44.5**	**+1.5**
	baz=232						
CHN8	**Yiju**	**1.57**	**243**	*i* P	**Pn**	**18 30 25.5**	**+0.1**
	baz=232						
CHN8				*e* S	**Sn**	**18 30 45.4**	**+0.8**
	baz=232						
PCYT	**Pengchaiyu**	**1.58**	**11**	*e*P	**Pn**	**18 30 25.3**	**-0.3**
	baz=2.0						
PCYT				*e* S	**Sn**	**18 30 46.1**	**+1.3**
	baz=2.0						
CHN3	**Shinhua**	**1.60**	**232**	*e*P	**Pn**	**18 30 26.7**	**+1.0**
	baz=242						
CHN3				*e* S	**Sn**	**18 30 47.8**	**+2.6**
	baz=242						
ECL	**Taimali**	**1.63**	**206**	*e*P	**Pn**	**18 30 24.4**	**-1.8**
	baz=199						
SCST	**Cishan**	**1.64**	**224**	*e*P	**Pn**	**18 30 28.6**	**+2.3**
	baz=224						
SCST				*e* S	**Sn**	**18 30 47.1**	**+0.9**
	baz=224						
SSD	**Sandimen**	**1.66**	**218**	*e*P	**Pn**	**18 30 27.4**	**+0.8**
	baz=209						
SSD				*e* S	**Sn**	**18 30 48.8**	**+2.0**
	baz=209						
SCLT	**Jiali**	**1.67**	**238**	*e*P	**Pn**	**18 30 26.4**	**-0.3**
	baz=237						
SCLT				*e* S	**Sn**	**18 30 48.6**	**+1.6**
	baz=237						
TSMG	**Majia**	**1.69**	**217**	*e*P	**Pn**	**18 30 27.7**	**+0.7**
	baz=217						
TSMG				*e* S	**Sn**	**18 30 48.3**	**+0.9**
	baz=217						
TWM1	**Shoushan**	**1.73**	**224**	*e*P	**Pn**	**18 30 28.5**	**+0.9**
	baz=224						
TWM1				*e* S	**Sn**	**18 30 53.2**	**+4.7**
	baz=224						
SGLT	**Jiouru**	**1.76**	**221**	*e*P	**Pn**	**18 30 29.7**	**+1.8**
	baz=220						
MASBT	**Mashibuluo**	**1.77**	**215**	*e*P	**Pn**	**18 30 28.0**	**-0.1**
	baz=216						
MASBT				*e* S	**Sn**	**18 30 49.6**	**+0.2**
	baz=216						
TSPT	**Pingtung City**	**1.79**	**220**	*e*P	**Pn**	**18 30 30.2**	**+1.8**
	baz=219						
SNJT	**Kaohsiung City**	**1.83**	**225**	*e*P	**Pn**	**18 30 29.1**	**+0.2**
	baz=224						
IRIF	**Iriomote-Funau**	**1.84**	**81**	P	**Pn**	**18 30 29.1**	**+0.1**
IRIF				S	**Sn**	**18 30 51.5**	**+0.4**
EAST	**Anshuo**	**1.86**	**206**	*e*P	**Pn**	**18 30 28.6**	**-0.9**
	baz=197						

TAW	**Tawu**	**1.87**	**205**	*eP*	**Pn**	**18 30 28.6**	**-0.8**
	baz=196							
HATJ	**Hateruma jima**	**1.89**	**90**	P	**Pn**	**18 30 30.3**	**+0.6**
HATJ				S	**Sn**	**18 30 53.4**	**+1.0**
SSPT	**Xinbi**	**1.91**	**214**	*eP*	**Pn**	**18 30 31.4**	**+1.5**
	baz=214							
SCZT	**Fangliau**	**1.98**	**212**	*eP*	**Pn**	**18 30 31.9**	**+1.0**
	baz=223							
SCZT				*eS*	**Sn**	**18 30 57.3**	**+2.8**
	baz=223							
LAY	**Lan-yu**	**2.03**	**185**	*eP*	**Pn**	**18 30 30.2**	**-1.5**
	baz=180							
LAY				*eS*	**Sn**	**18 30 54.2**	**-1.6**
	baz=180							
SLIU	**Shizi**	**2.04**	**205**	*eP*	**Pn**	**18 30 31.4**	**-0.3**
	baz=204							
PHUB	**P'eng-hu**	**2.06**	**255**	*eP*	**Pn**	**18 30 30.7**	**-1.3**
	baz=254							
PNG	**Penghu**	**2.06**	**256**	*eP*	**Pn**	**18 30 30.3**	**-1.7**
	baz=256							
WDGT	**Dungji**	**2.07**	**247**	*eP*	**Pn**	**18 30 31.5**	**-0.6**
	baz=247							
JKRS	**Kuro-shima**	**2.08**	**85**	P	**Pn**	**18 30 33.1**	**+0.7**
JKRS				S	**Sn**	**18 30 57.8**	**+0.7**
WLCH	**Liuqiu**	**2.12**	**216**	*eP*	**Pn**	**18 30 34.5**	**+1.7**
	baz=229							
TWP	**Hsiaoliuchiu**	**2.13**	**217**	*eP*	**Pn**	**18 30 33.7**	**+0.7**
	baz=229							
JIJ	**Ishigaki jima**	**2.22**	**82**	P	**Pn**	**18 30 34.1**	**-0.1**
JIJ				S	**Sn**	**18 30 59.6**	**-0.8**
HEN	**Hengchun**	**2.25**	**204**	*eP*	**Pn**	**18 30 37.4**	**+2.7**
	baz=195							
VWUC	**VWUC**	**2.28**	**294**	*eP*	**Pn**	**18 30 33.0**	**-2.0**
	baz=295							
TWK1	**Hengchun**	**2.28**	**202**	*eP*	**Pn**	**18 30 35.2**	**+0.1**
	baz=194							
TWKBT	**Hengchun**	**2.28**	**202**	*eP*	**Pn**	**18 30 34.6**	**-0.5**
	baz=194							
TSEB	**Hengchuen, Pin**	**2.29**	**200**	*eP*	**Pn**	**18 30 35.8**	**+0.6**
	baz=194							
JISG	**Ishigakijimahi**	**2.41**	**77**	P	**Pn**	**18 30 36.6**	**-0.2**
JISG				S	**Sn**	**18 31 04.4**	**-0.6**
PTMZ	**Houxiangcun**	**2.57**	**293**	*eP*	**Pn**	**18 30 37.4**	**-1.7**
	baz=293							
MATB	**Ma-tsu**	**2.63**	**322**	*eP*	**Pn**	**18 30 37.8**	**-2.1**
	baz=332							
MSUT	**Lienchiang**	**2.66**	**322**	*eP*	**Pn**	**18 30 38.5**	**-1.8**
	baz=332							
JTJ	**Tarama**	**2.77**	**77**	P	**Pn**	**18 30 42.0**	**+0.3**
JTJ				S	**Sn**	**18 31 13.3**	**-0.6**
KNM	**Kinmen**	**3.03**	**277**	*eP*	**Pn**	**18 30 45.3**	**-0.1**
	baz=277							
LYJJ	**Jianjiangzhen**	**3.05**	**325**	*eP*	**Pn**	**18 30 43.4**	**-2.2**
	baz=335							
KNMB	**Chin-men Tao**	**3.08**	**278**	*eP*	**Pn**	**18 30 43.7**	**-2.3**
	baz=278							
XPSS	**Dashiqiu**	**3.17**	**334**	*eP*	**Pn**	**18 30 45.3**	**-2.0**
	baz=335							
JIRB	**Irabujima**	**3.22**	**76**	P	**Pn**	**18 30 48.3**	**+0.3**
JIRB				S	**Sn**	**18 31 25.8**	**+0.6**
JIKM	**Ikemajima**	**3.31**	**74**	P	**Pn**	**18 30 49.9**	**+0.7**
JIKM				*eS*	**Sn**	**18 31 27.5**	**+0.2**
JMJ	**Miyako jima 2**	**3.33**	**76**	*eP*	**Pn**	**18 30 49.6**	**+0.2**
	baz=76							
JMJ2	**Miyako jima3**	**3.34**	**78**	P	**Pn**	**18 30 50.4**	**+0.7**
JMJ2				*eS*	**Sn**	**18 31 28.8**	**+0.7**
JOGS	**Gusukube**	**3.42**	**78**	P	**Pn**	**18 30 51.6**	**+0.9**
JOGS				*eS*	**Sn**	**18 31 31.2**	**+1.3**
AXDP	**Jialang**	**3.53**	**284**	*eP*	**Pn**	**18 30 49.9**	**-2.3**
	baz=284							
ZPLA	**Ao Xicun**	**3.65**	**269**	*eP*	**Pn**	**18 30 51.8**	**-2.1**
	baz=268							

*DDA **13** 18:36:49.9, 38°.52N×26°.42E, h8km±3km, ML1.4*
ISK 13 18:36:50.2, 38°.52N×26°.49E, h5km, ML1.8/7, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBN	**Karaburun**	**0.09**	**33**	PG	Pg	18 36 53.0	+0.8
URLA	**Izmir**	**0.18**	**152**	PG	Pg	18 36 54.2	+0.5
URLA				SG	Sg	18 36 56.9	+0.8
URLA	**Izmir**	**0.18**	**152**	*i* P	Pg	18 36 54.2	+0.5
URLA				*i* S	Sg	18 36 56.5	+0.4
URLA				IAML		18 36 57.0	
	comp=E,76nm,0.3s						
URLA				IAML		18 36 59.0	
	comp=N,75nm,0.8s						
FOCM	**Foa**	**0.27**	**44**	PG	Pg	18 36 56.1	+0.6
FOCM				SG	Sg	18 37 00.5	+1.4
ZEYE	**Izmir, Urla-Ze**	**0.28**	**178**	*i* P	Pg	18 36 52.4	-3.2
ZEYE				*i* S	Sb	18 37 01.0	-1.6
CHOS	**Chios island**	**0.36**	**249**	PG	Pb	18 36 58.3	-0.9
CHOS				SG	Sb	18 37 03.7	-1.5
BLCB	**Balcova**	**0.45**	**107**	PG	Pb	18 36 59.8	-0.8
BLCB				SG	Sb	18 37 06.5	-1.2
DKL	**Dikili**	**0.64**	**30**	PG	Pg	18 37 02.2	-0.4
ZEDA	**zmir-Bergama**	**0.64**	**45**	*i* P	Pn	18 37 05.2	-0.7
ZEDA				*i* S	Sb	18 37 12.3	-0.8
SIGR	**SIGRI**	**0.85**	**325**	PG	Pg	18 37 06.5	-0.1
BUHA	**Balikesir, Bur**	**1.08**	**25**	*i* P	Pb	18 37 11.5	0.0
BUHA				*i* S	Sn	18 37 26.8	-0.6
BUHA				IAML		18 37 44.0	
	comp=E,20nm,1.9s						

*SIGU **13** 18:38:11.7, 45°.52N×27°.88E, h2km, mb2.8*
*SOF **13** 18:38:12.3, 45°.57N×28°.58E, h25km, MD3.2*
BUC 13 18:38:12.8±0.2, 45°.51N×27°.88E, h6km±1km, ml3.0/33, 77C-71D, Error ellipse: s-maj=1.7km s-min=1.2km az=58.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHL	**Schela**	**0.04**	**259**	⇑P	Pg	18 38 13.5	-0.5
SCHL				⇓S	Sg	18 38 15.1	+0.1
SCHL	**Schela**	**0.04**	**259**	⇑P	Pg	18 38 13.5	-0.5
SCHL				⇓S	Sg	18 38 15.1	+0.1
GISR	**Galati**	**0.14**	**118**	⇑P	Pg	18 38 16.1	+0.4
GISR				⇓S	Sg	18 38 19.1	+1.5
GISR	**Galati**	**0.14**	**118**	⇑P	Pg	18 38 16.1	+0.4
GISR				⇓S	Sg	18 38 19.1	+1.5
TUDR		**0.17**	**300**	⇑P	Pg	18 38 15.5	-0.8
TUDR				⇓S	Sg	18 38 18.7	+0.2
TUDR		**0.17**	**300**	⇑P	Pg	18 38 15.5	-0.8
TUDR				⇓S	Sg	18 38 18.7	+0.2
GIUM	**Giurgiulesti**	**0.23**	**95**	⇓P	Pg	18 38 18.0	+0.6
GIUM				⇓S	Sg	18 38 20.7	+0.3
GIUM	**Giurgiulesti**	**0.23**	**95**	⇓P	Pg	18 38 18.0	+0.6
GIUM				⇓S	Sg	18 38 20.7	+0.3
GIUM	**Giurgiulesti**	**0.23**	**95**	*eP*	Pg	18 38 18.0	+0.7
GIUM				*eS*	Sg	18 38 20.7	+0.3
CFR	**Carcaliu**	**0.38**	**151**	⇑P	Pg	18 38 19.9	-0.1
CFR				⇓S	Sg	18 38 25.6	+0.6
CFR	**Carcaliu**	**0.38**	**151**	⇑P	Pg	18 38 19.9	-0.1
CFR				⇓S	Sg	18 38 25.6	+0.6
VARL	**Varlezi**	**0.39**	**357**	⇑P	Pg	18 38 19.9	-0.5
VARL				⇓S	Sg	18 38 26.2	+0.7
VARL	**Varlezi**	**0.39**	**357**	⇑P	Pg	18 38 19.9	-0.5
VARL				⇓S	Sg	18 38 26.2	+0.7
PETR	**Petresti**	**0.50**	**296**	⇓P	Pg	18 38 22.9	+0.5
PETR				⇓S	Sb	18 38 31.6	0.0
PETR	**Petresti**	**0.50**	**296**	⇓P	Pg	18 38 22.9	+0.5
PETR				⇓S	Sb	18 38 31.6	0.0
ODBI	**Odobesti**	**0.63**	**294**	⇑P	Pg	18 38 25.4	+0.4
ODBI	**Odobesti**	**0.63**	**294**	⇑P	Pg	18 38 25.4	+0.4
TLCR		**0.73**	**116**	⇑P	Pg	18 38 27.0	+0.1
TLCR				⇓S	Sb	18 38 38.3	+0.1
TLCR		**0.73**	**116**	⇑P	Pg	18 38 27.0	+0.1
TLCR				⇓S	Sb	18 38 38.3	+0.1
TPGR	**Topolog**	**0.76**	**149**	⇑P	Pg	18 38 26.6	-0.6
TPGR				⇓S	Sg	18 38 37.5	+0.4
TPGR	**Topolog**	**0.76**	**149**	⇑P	Pg	18 38 26.6	-0.6
TPGR				⇓S	Sg	18 38 37.5	+0.4
BIR	**Birlad**	**0.78**	**347**	⇓P	Pg	18 38 26.5	-1.2
BIR				⇓S	Sg	18 38 37.8	0.0
BIR	**Birlad**	**0.78**	**347**	⇓P	Pg	18 38 26.5	-1.2
BIR				⇓S	Sg	18 38 37.8	0.0
HARR	**Harsova**	**0.82**	**177**	⇑P	Pg	18 38 28.0	-0.5
HARR	**Harsova**	**0.82**	**177**	⇑P	Pg	18 38 28.0	-0.5
BISRR	**Bisoca**	**0.82**	**273**	⇓P	Pb	18 38 29.9	+0.4
BISRR				⇓S	Sb	18 38 40.4	-0.4
BISRR	**Bisoca**	**0.82**	**273**	⇓P	Pb	18 38 29.9	+0.4
BISRR				⇓S	Sb	18 38 40.4	-0.4
PGOR	**Pogoanele**	**0.87**	**227**	⇓S	Sb	18 38 43.0	+0.4
PGOR	**Pogoanele**	**0.87**	**227**	⇓S	Sb	18 38 43.0	+0.9
VRI	**Vrincioaia**	**0.88**	**294**	⇓P	Pg	18 38 29.3	-0.4
VRI	**Vrincioaia**	**0.88**	**294**	⇓P	Pg	18 38 29.3	-0.4
PLOR	**Plostina**	**0.93**	**292**	⇓P	Pg	18 38 30.3	-0.2
PLOR	**Plostina**	**0.93**	**292**	⇓P	Pg	18 38 30.3	-0.2
TLBR	**Topalu**	**0.97**	**173**	⇑P	Pg	18 38 30.9	-0.4
TLBR				⇓S	Sg	18 38 43.6	-0.4
TLBR	**Topalu**	**0.97**	**173**	⇑P	Pg	18 38 30.9	-0.4
TLBR				⇓S	Sg	18 38 43.6	-0.4
AMRR	**Amara**	**0.98**	**203**	⇓P	Pg	18 38 31.4	-0.1
AMRR				⇓S	Sb	18 38 45.0	-0.1
AMRR	**Amara**	**0.98**	**203**	⇓P	Pg	18 38 31.4	-0.1
AMRR				⇓S	Sb	18 38 45.0	-0.1
ISR	**Istrita**	**1.02**	**248**	⇑P	Pb	18 38 33.1	+0.2
ISR				⇓S	Sb	18 38 46.5	0.0
ISR	**Istrita**	**1.02**	**248**	⇑P	Pb	18 38 33.1	+0.2
ISR				⇓S	Sb	18 38 46.5	0.0
TIRR	**Tirgusor**	**1.12**	**160**	⇓P	Pg	18 38 33.6	-0.5
TIRR				⇓S	Sg	18 38 48.2	-0.4
TIRR	**Tirgusor**	**1.12**	**160**	⇓P	Pg	18 38 33.6	-0.5
TIRR				⇓S	Sg	18 38 48.2	-0.4
VASR	**Vaslui**	**1.14**	**357**	⇓P	Pg	18 38 33.6	-0.9
VASR				⇓S	Sg	18 38 49.5	+0.2
VASR	**Vaslui**	**1.14**	**357**	⇓P	Pg	18 38 33.6	-0.9
VASR				⇓S	Sg	18 38 49.5	+0.2
CVDA	**Cernavoda**	**1.18**	**174**	⇑P	Pg	18 38 34.9	-0.4
CVDA				⇑S	Sb	18 38 50.9	0.0
CVDA	**Cernavoda**	**1.18**	**174**	⇑P	Pg	18 38 34.9	-0.4
CVDA				⇑S	Sb	18 38 50.9	0.0
LEHL	**Lehliu**	**1.28**	**216**	⇑P	Pn	18 38 36.9	-0.2
LEHL				⇑S	Sn	18 38 54.5	0.0
LEHL	**Lehliu**	**1.28**	**216**	⇑P	Pn	18 38 36.9	-0.2
LEHL				⇑S	Sn	18 38 54.5	0.0
TESR	**Tescani**	**1.32**	**320**	⇓P	Pn	18 38 36.4	-1.3
TESR				⇓S	Sb	18 38 55.1	0.0
TESR	**Tescani**	**1.32**	**320**	⇓P	Pn	18 38 36.4	-1.3
TESR				⇓S	Sb	18 38 55.1	0.0
TSSL	**Sulina**	**1.35**	**104**	⇓P	Pg	18 38 38.9	+0.3
TSSL				⇓S	Sn	18 38 57.6	+1.4
TSSL	**Sulina**	**1.35**	**104**	⇓P	Pg	18 38 38.9	+0.3
TSSL				⇓S	Sn	18 38 57.6	+1.4
MLR	**Muntele Rosu**	**1.36**	**270**	⇑P	Pg	18 38 39.5	+0.6
MLR				⇑S	Sn	18 38 57.5	+0.8
MLR	**Muntele Rosu**	**1.36**	**270**	⇑P	Pg	18 38 39.5	+0.6
MLR				⇑S	Sn	18 38 57.5	+0.8
MFTR	**Murfatlar**	**1.39**	**164**	⇑P	Pn	18 38 38.3	-0.3
MFTR				⇑S	Sb	18 38 55.8	-1.0
MFTR	**Murfatlar**	**1.39**	**164**	⇑P	Pn	18 38 38.3	-0.3
MFTR				⇑S	Sb	18 38 55.8	-1.0
RASA	**Rasa**	**1.39**	**202**	⇑P	Pn	18 38 38.7	0.0
RASA				⇑S	Sg	18 38 57.6	+0.1
RASA	**Rasa**	**1.39**	**202**	⇑P	Pn	18 38 38.7	0.0
RASA				⇑S	Sg	18 38 57.6	+0.1
SULR		**1.42**	**235**	⇑P	Pg	18 38 39.9	0.0
SULR				⇑S	Sg	18 38 59.3	+1.0
SULR		**1.42**	**235**	⇑P	Pg	18 38 39.9	0.0
SULR				⇑S	Sg	18 38 59.3	+1.0
TSCT	**Constanta Port**	**1.46**	**157**	⇓P	Pb	18 38 40.3	+0.1
TSCT				⇓S	Sg	18 39 00.2	+0.7
TSCT	**Constanta Port**	**1.46**	**157**	⇓P	Pb	18 38 40.3	+0.1
TSCT				⇓S	Sg	18 39 00.2	+0.7
OZUR		**1.58**	**293**	⇑P	Pn	18 38 40.9	-0.4
OZUR		**1.58**	**293**	⇑P	Pn	18 38 40.9	-0.4
KIS	**Kishinev**	**1.63**	**23**	⇓*i* P	Pb	18 38 42.9	-0.3
KIS	35nm,0.1s						
KIS				*eS*	Sn	18 39 03.0	-0.2
	270nm,0.4s						
KIS	**Kishinev**	**1.63**	**23**	⇓P	Pb	18 38 43.1	-0.1
KIS				⇓S	Sn	18 39 03.4	+0.2
KIS	**Kishinev**	**1.63**	**23**	⇓P	Pb	18 38 43.1	-0.1
KIS				⇓S	Sn	18 39 03.4	+0.2
KIS	**Kishinev**	**1.63**	**23**	⇓*i* P	Pb	18 38 42.9	-0.3
KIS				Pm		18 38 43.9	
KIS				*eS*	Sn	18 39 03.0	-0.2
KIS				Sm		18 39 03.2	
KIS				m		18 39 07.3	
IAS	**Iasi**	**1.70**	**353**	⇑P	Pn	18 38 43.2	+0.2
IAS				⇑S	Sn	18 39 05.3	+0.3
IAS	**Iasi**	**1.70**	**353**	⇑P	Pn	18 38 43.2	+0.2
IAS				⇑S	Sn	18 39 05.3	+0.3
GIRR	**Girov**	**1.73**	**327**	⇓P	Pn	18 38 44.0	+0.6
GIRR	**Girov**	**1.73**	**327**	⇓P	Pn	18 38 44.0	+0.6
MANR	**Mangalia**	**1.76**	**163**	⇑P	Pb	18 38 44.6	-0.8
MANR				⇑S	Sb	18 39 08.1	+0.3
MANR	**Mangalia**	**1.76**	**163**	⇑P	Pb	18 38 44.6	-0.8
MANR				⇑S	Sb	18 39 08.1	+0.3
TSMN	**Mangalia Port-**	**1.78**	**163**	⇑S	Sb	18 39 08.6	+0.3
TSMN	**Mangalia Port-**	**1.78**	**163**	⇑S	Sb	18 39 08.6	+0.3
DOPR	**Dopca**	**1.80**	**286**	⇓P	Pn	18 38 44.4	0.0
DOPR	**Dopca**	**1.80**	**286**	⇓P	Pn	18 38 44.4	0.0
PSN	**Preselentsi**	**1.84**	**173**	*i* P	Pn	18 38 45.2	+0.4
BIZ	**Bicaz**	**1.89**	**320**	*i* P	Pn	18 38 45.1	-0.4
BIZ				⇓S	Sn	18 39 09.7	0.0
BIZ	**Bicaz**	**1.89**	**320**	*i* P	Pn	18 38 45.1	-0.4
BIZ				⇓S	Sn	18 39 09.7	0.0
VOIR		**1.99**	**269**	⇓P	Pn	18 38 47.6	+0.5
VOIR		**1.99**	**269**	⇓P	Pn	18 38 47.6	+0.5
KALB	**Balgarevo**	**2.14**	**169**	⇓P	Pn	18 38 49.5	+0.6
KALB				⇓S	Sb	18 39 17.8	-0.7
KALB	**Balgarevo**	**2.14**	**169**	⇓P	Pn	18 38 49.5	+0.6
KALB				⇓S	Sb	18 39 17.8	-0.7
HUMR	**Humele**	**2.28**	**246**	⇑P	Pn	18 38 50.8	-0.1
HUMR	**Humele**	**2.28**	**246**	⇑P	Pn	18 38 50.8	-0.1
ROIA	**ROIAK**	**2.44**	**189**	*i* P	Pn	18 38 54.3	+1.2
SZH	**Strazhica**	**2.64**	**213**	*i* P	Pb	18 38 59.0	-1.4
SORM	**Soroca**	**2.65**	**7**	⇑P	Pn	18 38 55.3	-0.6
SORM	**Soroca**	**2.65**	**7**	⇑P	Pn	18 38 55.3	-0.6
SORM	**Soroca**	**2.65**	**7**	*i* P	Pn	18 38 55.3	-0.6
BURAR	**Bucovina Array**	**2.80**	**320**	⇑P	Pn	18 38 59.4	+1.3
BURAR	**Bucovina Array**	**2.80**	**320**	⇑P	Pn	18 38 59.4	+1.3
NDNU	**Novodnistrovsk**	**3.11**	**354**	*i* P	Pn	18 39 02.4	+0.1
NDNU				Pm		18 39 02.8	
NDNU				*i* S	Sn	18 39 40.5	+0.8
NDNU				Sm		18 39 49.3	
KMPD	**K-Podol'skiy**	**3.21**	**343**	*eP*	Pn	18 39 04.2	+0.6
KMPD				*i* S	Sn	18 39 43.5	+1.4
KSV	**Kosov**	**3.41**	**327**	*i* P	Pn	18 39 06.9	+0.5
KSV				Pm		18 39 07.0	
KSV				*i* S	Sn	18 39 48.4	+1.3
KSV				Sm		18 39 54.7	
HORU	**Horodok**	**3.84**	**346**	*i* P	Pn	18 39 12.4	+0.1
HORU				Pm		18 39 12.5	
HORU				*i* S	Sn	18 39 58.7	+1.0
HORU				Sm		18 40 00.8	
STNU	**Starunia**	**3.95**	**325**	*eP*	Pn	18 39 14.4	+0.6
STNU				*i* S	Sn	18 40 01.8	+1.4
SEV	**Sevastopol'**	**4.22**	**101**	*eP*	Pn	18 39 17.8	+0.3
SEV				Pm		18 39 18.2	
SEV				*eS*	Sn	18 40 06.0	-1.0
SEV				Sm		18 40 08.6	
SUDU	**Sudak**	**5.07**	**94**	*eP*	Pn	18 39 30.1	+0.9
SUDU				Pm		18 39 30.6	
SUDU				*eS*	Sn	18 40 29.7	+1.6
SUDU				Sm		18 40 30.3	

TRN 13 18:46:21.9, 19°.83N×62°.85W, h47km, MD3.9(RSPR), **Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**2.37**	**155**	*eP*	Pn	18 46 59.9	+1.6
ANWB				*eS*	Sn	18 47 27.8	+1.6
SKI	**Saint Kitts**	**2.48**	**177**	*eP*	Pn	18 47 02.5	+2.6
SKI				*eS*	Sn	18 47 30.9	+1.9
CDVI	**St. Croix**	**2.75**	**222**	*eP*	Pn	18 47 05.8	+2.3
CDVI				*eS*	Sn	18 47 35.5	+0.1
CDVI				*eS*	Sn	18 47 36.4	+1.0
BPA	**Boggy Peak**	**2.92**	**161**	*eP*	Pn	18 47 07.7	+1.8
BPA				*eS*	Sn	18 47 41.7	+1.9
ANBD	**Bethesda, Anti**	**2.95**	**159**	*eP*	Pn	18 47 07.7	+1.4
ANBD				*eS*	Sn	18 47 41.4	+0.9
MLYT	**Lee's Yard**	**3.15**	**168**	*eS*	Sn	18 47 46.7	+1.2
ABD	**La Joyeuse, An**	**3.58**	**158**	*eS*	Sn	18 47 57.5	+1.6
CBE	**Ff, Capester**	**3.92**	**162**	*eS*	Sn	18 48 05.9	+1.5
TDBA	**Terre de Bas,**	**4.12**	**163**	*eP*	Pn	18 47 24.4	+2.0
TDBA	**Terre de Bas,**	**4.12**	**163**	*eP*	Pn	18 47 26.4	+4.0
DSLB	**Salisbury**	**4.57**	**162**	*e*	Pn	18 47 25.1	-3.5
DSLB	**Salisbury**	**4.57**	**162**	*eS*	Sn	18 48 20.5	0.0
DSLB	**Salisbury**	**4.57**	**162**	*eS*	Sn	18 48 22.1	+1.6
MPOM	**Morne Pois Mar**	**5.68**	**160**	*eS*	Sn	18 48 47.6	-0.1

IDC 13 19:13:21.6±25.0, 16°.03S×174°.66W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.8/51, mbtmp4.3/4, Error ellipse: s-maj=463.7km s-min=163.5km az=70.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.33**	**258**	P	P	19 20 36.8	+0.8
	5.1nm,0.9s,baz=84,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**42.67**	**240**	P	P	19 21 20.5	+0.1
	1.5nm,0.5s,baz=103,slow=9.6,SNR=3.3						
WRA	**Warramunga Arr**	**48.52**	**257**	P	P	19 22 06.2	-0.6
	0.9nm,0.3s,baz=93,slow=7.3,SNR=38						
ASAR	**Alice Springs**	**48.77**	**252**	P	P	19 22 08.2	-0.6
	8.3nm,0.6s,baz=87,slow=9.1,SNR=237						

*GUC **13** 19:16:05.6±0.3, 44°.65S×73°.33W, h11km±4km, ML4.9, MW5.1*
*IDC **13** 19:16:05.1±0.6, 44°.53S×73°.01W, h0km, mb4.4/14, mb1 4.5/14, mb1mx4.5/28, mbtmp4.4/14, MS4.2/15, Ms1 4.1/15, ms1mx4.0/25, Error ellipse: s-maj=24.4km s-min=16.8km az=82.0*
*NEIC **13** 19:16:06.7±1.6, 44°.55S±0°.05×73°.03W±0°.04, h11km±3km, mb5.0/84, ML4.9(GUC), Error ellipse: s-maj=8.0km s-min=2.8km az=197.0*
*GCMT **13** 19:16:07.7±0.4, 44°.79S±0°.02×73°.51W±0°.04, h25km±1km, MW5.0/70, Moment Tensor Solution. s22,c25; s70,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.23±.17; $M_{\theta\theta}$=0.88±.13; $M_{\phi\phi}$=0.65±.16; $M_{r\theta}$=0.86±.27; $M_{\theta\phi}$=2.93±.12; $M_{\phi r}$=1.62±.32; Best double couple: M_0=3.49500×10^{16} NP1:ϕ=99.00000°, δ=61.00000°, λ=4.00000°. NP2: ϕ=7.00000°, δ=86.00000°, λ=151.00000°. Principal axes: T 3.8420, Plg23.0000°, Azm320.0000°; N -0.6940, Plg61.0000°, Azm180.0000°; P -3.1470, Plg17.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **13** 19:16:34.9±1.9, 42°.84S×72°.48W, h136km, mb4.6*
ISC 13 19:16:10.4±0.3, 44°.54S±0°.04×73°.27W±0°.07, h35km, n208, σ1=64/20, mb4.9/51, MS4.1/14, 3C-3D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO07	**Milladeo Hill,**	**1.46**	**349**	⇑*i* P	**Pn**	**19 16 33.2**	**-1.1**
GO07				*i* S	**Sn**	**19 16 54.1**	**+2.0**
GO07				IAML		19 16 55.1	
	comp=E,87µm,0.7s						
GO07	**Milladeo Hill,**	**1.46**	**349**		**Pn**	**19 16 33.1**	**-1.1**
GO07				Sn	**Sn**	**19 16 54.0**	**+2.0**
LL02	**Futaleuf**	**1.70**	**38**	⇓*i* P	**Pn**	**19 16 37.3**	**-0.3**
LL02				*eS*	**Sn**	**19 17 01.2**	**+3.1**
LL01	**San Ignacio de**	**2.25**	**16**	⇑*i* P	**Pn**	**19 16 46.0**	**+0.9**
LL01				*eS*	**Sn**	**19 17 16.9**	**+5.2**
LL01				IAML		19 17 20.1	
	comp=N,3µm,0.3s						
LL01	**San Ignacio de**	**2.25**	**16**		**Pn**	**19 16 45.9**	**+0.7**
LL01					Lg	19 17 18.3	
GO08	**Villa O'Higgin**	**3.95**	**173**	*eP*	**Pn**	**19 17 06.3**	**-2.2**
PLCA	**Paso Flores**	**4.31**	**29**	Pn	**Pn**	**19 17 14.4**	**+0.9**
	comp=N,12nm,0.3s,baz=216,slow=12,SNR=117						
PLCA				Lg	Lg	19 18 22.4	
	comp=N,44nm,0.3s,baz=284,slow=22,SNR=7.5						
PLCA				LR	LR	19 18 52.7	
	comp=N,3µm,20.5s,baz=204,slow=40						
PLCA	**Paso Flores**	**4.31**	**29**	*eP*	**Pn**	**19 17 15.2**	**+1.8**
PLCA	**Paso Flores**	**4.31**	**29**	*eP*	**Pn**	**19 17 15.3**	**+1.8**
GO09	**Cerro Castillo**	**6.76**	**175**	*eP*	**Pn**	**19 17 45.1**	**-2.0**
GO09				*eS*	**Sn**	**19 19 08.4**	**+5.6**
GO09	**Cerro Castillo**	**6.76**	**175**		**Pn**	**19 17 45.5**	**-1.6**
BI03	**Tigo**	**7.70**	**1**		**Pn**	**19 18 00.0**	**+0.1**
BI02	**San Fabin de**	**8.02**	**12**		**Pn**	**19 18 04.5**	**+0.1**
GO10

CZSB	**Cruzeiro do Su**	**36.68**	**1**	*e*P		**P**	**19 23 13.9**	**+0.1**
BELA	**Belgrano 2**	**36.74**	**167**	P		**P**	**19 23 13.2**	**-0.6**
BELA				IAmb		IAmb	19 23 16.6	
	comp=Z,40nm,1.7s							
CLDB	**Colider**	**36.78**	**30**	*e*P		**P**	**19 23 14.4**	**-0.3**
SNDB	**Serra Nova Dou**	**37.54**	**37**	*e*P		**P**	**19 23 20.6**	**-0.6**
VNA3	**Neumayer Olymp**	**40.15**	**153**	P		**P**	**19 23 42.0**	**-0.6**
NPGB	**Novo Progresso**	**40.49**	**28**	*e*P		**P**	**19 23 45.6**	**-0.3**
VNA2	**Neumayer--Watz**	**40.86**	**153**	P		**P**	**19 23 47.5**	**-0.9**
	baz=283,slow=8.1							
SMTB	**Santa Maria do**	**41.94**	**40**	*e*P		**P**	**19 23 57.5**	**-0.3**
SNAA	**Sanae**	**42.36**	**154**	P		**P**	**19 23 59.8**	**-0.9**
SNAA	**Sanae**	**42.36**	**154**	P		**P**	**19 23 59.1**	**-1.6**
	comp=Z,12nm,1.1s,baz=271,slow=9.1,SNR=11							
SNAA	**Sanae**	**42.36**	**154**	P		**P**	**19 24 00.3**	**-0.4**
MACA	**Manacapuru-AM**	**42.68**	**19**	*e*P		**P**	**19 24 03.0**	**-0.8**
ITTB	**Itaituba**	**42.88**	**26**	*e*P		**P**	**19 24 04.3**	**-1.1**
PRPB	**Parauapebas**	**43.38**	**35**	*e*P		**P**	**19 24 09.5**	**+0.1**
OTAV	**Otavalo**	**44.83**	**353**	P		**P**	**19 24 22.0**	**+0.4**
OTAV				IAmb		IAmb	19 24 25.5	
	comp=Z,29nm,1.2s							
OTAV	**Otavalo**	**44.83**	**353**	*e*P		**P**	**19 24 23.6**	**+2.0**
PTGA	**Pitinga**	**45.20**	**19**	P		**P**	**19 24 22.6**	**-1.4**
PTGA				IAmb		IAmb	19 24 24.8	
	comp=Z,10nm,0.7s							
PTGA	**Pitinga**	**45.20**	**19**	*e*P		**P**	**19 24 23.1**	**-0.9**
PRAC	**Prado**	**48.06**	**358**	*e*P		**P**	**19 24 47.6**	**+1.2**
ROSB	**Rosrio**	**48.79**	**40**	*e*P		**P**	**19 24 53.3**	**+1.2**
ROSC	**El Rosal**	**49.17**	**359**	P		**P**	**19 24 58.2**	**+2.9**
	comp=Z,23nm,0.6s,baz=162,slow=8.4,SNR=7.9							
ROSC				LR		LR	19 45 33.2	
	comp=Z,336nm,18.6s,baz=247,slow=36							
GUY2C	**Guyana, Caldas**	**49.58**	**357**	*e*P		**P**	**19 24 59.0**	**+0.5**
NORC	**Norcasia**	**49.90**	**358**	*e*P		**P**	**19 25 00.6**	**0.0**
RUSC	**La Rusia**	**50.20**	**0**	*e*P		**P**	**19 25 03.7**	**+0.3**
PTBC	**PUERTO BERRIO,**	**50.86**	**358**	*e*P		**P**	**19 25 05.6**	**-2.1**
SMLC	**San Martn de**	**53.10**	**359**	*e*P		**P**	**19 25 22.9**	**-1.5**
SDV	**Santo Domingo**	**53.23**	**3**	P		**P**	**19 25 24.1**	**-1.5**
SDV				IAmb		IAmb	19 25 38.6	
	comp=Z,11nm,0.8s							
SDV	**Santo Domingo**	**53.23**	**3**	*e*P		**P**	**19 25 25.0**	**-0.7**
VNDA	**Vanda**	**53.60**	**193**	P		**P**	**19 25 29.1**	**+1.6**
	comp=Z,2.3nm,1.0s,baz=122,slow=5.5,SNR=5.7							
VNDA				LR		LR	19 46 44.0	
	comp=Z,92nm,18.1s,baz=163,slow=34							
VNDA	**Vanda**	**53.60**	**193**	P		**P**	**19 25 30.3**	**+2.8**
BCIP	**Isla Barro Col**	**53.79**	**352**	P		**P**	**19 25 29.6**	**+0.1**
RIOS	**Rincon, Osa**	**53.80**	**347**	P		**P**	**19 25 30.1**	**+0.5**
PEZE	**Perez Zeledon,**	**54.49**	**347**	P		**P**	**19 25 34.5**	**-0.3**
CAO2	**Cobano, Puntar**	**55.03**	**346**	P		**P**	**19 25 39.2**	**+0.7**
JTS	**Las Juntas de**	**55.59**	**346**	P		**P**	**19 25 41.6**	**-0.9**
JTS				IAmb		IAmb	19 25 45.3	
	comp=Z,20nm,1.1s							
ORTG	**Ortega, Santa**	**55.75**	**345**	P		**P**	**19 25 43.1**	**-0.7**
SYO	**Syowa Base**	**56.50**	**157**	*e*P		**P**	**19 25 44.2**	**-4.2**
SYO	**Syowa Base**	**56.50**	**157**	*es*P		**P**	**19 25 52.5**	**+4.1**
MLPR	**Magueyes Islan**	**62.47**	**7**	P		**P**	**19 26 28.4**	**-1.7**
MAW	**Mawson**	**63.38**	**163**	LR		LR	19 54 11.1	
	comp=Z,201nm,18.0s,baz=241,slow=36							
CMIG	**Matias Romero**	**64.43**	**337**	P		**P**	**19 26 43.1**	**0.0**
	comp=Z,3.3nm,0.7s,baz=111,slow=5.1,SNR=4.8							
TEIG	**Tepich**	**65.90**	**345**	P		**P**	**19 26 52.7**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=146,slow=4.1,SNR=6.6							
SLBS	**Sierra La Lagu**	**75.73**	**326**	P		**P**	**19 27 54.2**	**+1.8**
SLBS				IAmb		IAmb	19 27 56.0	
	comp=Z,11nm,0.9s							
BOSA	**Boshof**	**76.12**	**116**	P		**P**	**19 27 54.9**	**0.0**
	comp=Z,3.9nm,0.8s,baz=284,slow=4.2,SNR=5.4							
BOSA				LR		LR	19 57 33.5	
	comp=Z,102nm,20.6s,baz=196,slow=33							
BOSA	**Boshof**	**76.12**	**116**	P		**P**	**19 27 54.6**	**-0.3**
JCT	**Junction City**	**78.49**	**337**	P		**P**	**19 28 08.2**	**+0.5**
JCT				IAmb		IAmb	19 28 09.8	
	comp=Z,12nm,0.9s							
TX32	**Lajitas Array**	**78.59**	**333**	P		**P**	**19 28 09.6**	**+1.3**
TXAR	**Lajitas Array**	**78.59**	**333**	P		**P**	**19 28 10.4**	**+2.1**
	comp=Z,3.3nm,0.9s,baz=152,slow=8.1,SNR=18							
TXAR				LR		LR	19 58 57.6	
	comp=Z,91nm,18.3s,baz=0.0,slow=33							
TXAR	**Lajitas Array**	**78.59**	**333**	P		**P**	**19 28 09.8**	**+1.4**
TX31	**Lajitas Ar. Si**	**78.59**	**333**	P		**P**	**19 28 09.5**	**+1.2**
TX31				IAmb		IAmb	19 28 11.0	
	comp=Z,27nm,1.2s							
LBTB	**Lobatse**	**78.82**	**114**	P		**P**	**19 28 09.1**	**-0.8**
LBTB				IAmb		IAmb	19 28 17.6	
	comp=Z,11nm,0.9s							
DBIC	**Dimbokro**	**79.59**	**70**	P		**P**	**19 28 14.9**	**+0.9**
	comp=Z,6.1nm,0.8s,baz=168,slow=6.3,SNR=6.7							
DBIC				LR		LR	20 00 37.4	
	comp=Z,56nm,18.0s,baz=229,slow=34							
DBIC	**Dimbokro**	**79.59**	**70**	IAmb		IAmb	19 28 23.2	
	comp=Z,14nm,1.1s							
X48A	**Hartselle**	**79.61**	**348**	P		**P**	**19 28 14.0**	**+0.4**
X48A				IAmb		IAmb	19 30 43.9	
	comp=Z,19nm,0.8s							
V48A	**Smith Brothers**	**80.85**	**349**	P		**P**	**19 28 20.1**	**-0.2**
T59A	**Double "B" Far**	**81.23**	**357**	PP		PP	19 31 27.5	-1.1
MNTX	**Cornudas Mount**	**81.33**	**333**	P		**P**	**19 28 23.4**	**+0.4**
W39A	**Magazine**	**81.52**	**343**	P		**P**	**19 28 25.0**	**+1.1**
LCAR	**Lake Charles**	**81.86**	**345**	P		**P**	**19 28 25.6**	**0.0**
LCAR				IAmb		IAmb	19 28 26.9	
	comp=Z,12nm,1.0s							
319A	**Douglas**	**82.38**	**330**	P		**P**	**19 28 29.9**	**+1.3**
319A				IAmb		IAmb	19 28 32.7	
	comp=Z,20nm,1.1s							
U40A	**Yellville**	**82.46**	**344**	P		**P**	**19 28 29.0**	**+0.2**
T42A	**Van Buren**	**82.78**	**346**	P		**P**	**19 28 30.7**	**+0.2**
MGMO	**Mountain Grove**	**83.12**	**345**	P		**P**	**19 28 32.4**	**+0.2**
MGMO				IAmb		IAmb	19 28 33.8	
	comp=Z,10nm,0.9s							
T35A	**Sooner Cattle**	**83.77**	**341**	P		**P**	**19 28 35.9**	**+0.3**
CCM	**Cathedral Cave**	**83.81**	**346**	P		**P**	**19 28 35.7**	**0.0**
CCM				IAmb		IAmb	19 28 44.0	
	comp=Z,14nm,1.1s							
S39A	**Bolivar**	**83.84**	**344**	P		**P**	**19 28 36.2**	**+0.3**
S39A				IAmb		IAmb	19 28 48.6	
	comp=Z,8.0nm,0.8s							
BNM	**Barren Site**	**83.99**	**333**	P		**P**	**19 28 37.7**	**+0.7**
P52A	**Corning**	**84.18**	**353**	P		**P**	**19 28 36.8**	**-0.7**
R40A	**Maddies Statio**	**84.22**	**345**	P		**P**	**19 28 37.8**	**0.0**
R40A				IAmb		IAmb	19 28 39.1	
	comp=Z,13nm,1.2s							
ANMO	**Albuquerque**	**84.66**	**333**	P		**P**	**19 28 41.8**	**+1.4**
ANMO				IAmb		IAmb	19 28 43.3	
	comp=Z,10nm,1.2s							
P40A	**Paris**	**85.39**	**346**	P		**P**	**19 28 43.9**	**+0.3**
P38A	**Dawn**	**85.75**	**344**	P		**P**	**19 28 45.8**	**+0.3**
P38A				IAmb		IAmb	19 28 46.8	
	comp=Z,15nm,1.1s							
T25A	**Trinidad**	**86.05**	**336**	P		**P**	**19 28 48.0**	**+0.7**
T25A				IAmb		IAmb	19 28 50.0	
	comp=Z,10.0nm,1.1s							
WUAZ	**Wupatki**	**86.86**	**330**	P		**P**	**19 28 52.1**	**+0.9**
WUAZ				IAmb		IAmb	19 28 54.6	
	comp=Z,11nm,1.2s							
XPFO	**Pion Flat**	**87.14**	**325**	P		**P**	**19 28 54.2**	**+1.7**
XPFO				IAmb		IAmb	19 28 56.4	
	comp=Z,14nm,1.3s							
PFO	**Pinyon Flats O**	**87.14**	**325**	P		**P**	**19 28 54.1**	**+1.5**
PFO				IAmb		IAmb	19 28 56.4	
	comp=Z,15nm,1.4s							
MVCO	**Mesa Verde**	**87.40**	**333**	P		**P**	**19 28 55.3**	**+1.4**
MVCO				IAmb		IAmb	19 28 56.6	
	comp=Z,13nm,1.4s							
PV13	**Radium Mtn., P**	**88.36**	**333**	P		**P**	**19 28 59.8**	**+1.3**
PV13				IAmb		IAmb	19 29 19.6	
	comp=Z,9.0nm,1.2s							
PV05	**Paradox Valley**	**88.38**	**332**	P		**P**	**19 28 59.5**	**+0.9**
PV05				IAmb		IAmb	19 29 11.5	
	comp=Z,6.2nm,0.9s							
PV17	**East Wray Mesa**	**88.52**	**333**	P		**P**	**19 28 59.9**	**+0.7**
PV14	**Lion Creek, Pa**	**88.63**	**333**	P		**P**	**19 28 60.0**	**+0.2**
PV14				IAmb		IAmb	19 29 02.2	
	comp=Z,8.5nm,1.1s							
PV22	**Blue Mesa, Par**	**88.70**	**333**	P		**P**	**19 29 01.1**	**+1.1**
TOA0	**Torodi Ar. Sit**	**88.70**	**70**	P		**P**	**19 28 59.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**88.70**	**70**	P		**P**	**19 28 59.6**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=224,slow=4.1,SNR=5.9							
TORD				LR		LR	20 07 34.1	
	comp=Z,66nm,18.8s,baz=95,slow=35							
TORD	**Torodi Ar. Bea**	**88.70**	**70**	P		**P**	**19 28 59.4**	**-0.9**
TORD				IAmb		IAmb	19 29 28.7	
	comp=Z,7.2nm,1.1s							
SMCO	**Snowmass**	**88.71**	**334**	P		**P**	**19 29 00.8**	**+0.6**
GSC	**Goldstone, Bar**	**88.75**	**326**	P		**P**	**19 29 01.2**	**+1.0**
GSC				IAmb		IAmb	19 29 03.6	
	comp=Z,8.6nm,1.1s							
SHPR	**Sheep Range**	**89.15**	**327**	P		**P**	**19 29 02.9**	**+0.8**
SHPR				IAmb		IAmb	19 29 05.8	
	comp=Z,18nm,1.7s							
ISA	**Isabella, Lake**	**89.74**	**325**	P		**P**	**19 29 06.6**	**+1.8**
ISA				IAmb		IAmb	19 29 08.5	
	comp=Z,15nm,1.2s							
PRN	**Pahroc Range**	**89.90**	**328**	P		**P**	**19 29 07.1**	**+1.5**
ECSD	**EROS Data Cent**	**90.32**	**343**	P		**P**	**19 29 07.1**	**-0.1**
E46A	**Sault Ste Mari**	**91.05**	**352**	P		**P**	**19 29 10.0**	**-0.5**
NVAR	**Mina Array Bea**	**92.05**	**326**	P		**P**	**19 29 16.2**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=160,slow=3.7,SNR=3.9							
HWUT	**Hardware Ranch**	**92.38**	**332**	P		**P**	**19 29 17.2**	**+0.1**
HWUT				IAmb		IAmb	19 29 21.9	
	comp=Z,4.8nm,1.1s							
PDAR	**Pinedale Array**	**92.78**	**334**	P		**P**	**19 29 19.6**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=144,slow=5.3,SNR=6.8							
PDAR				LR		LR	20 07 13.4	
	comp=Z,126nm,18.9s,baz=94,slow=33							
YHH	**Holmes Hill**	**95.01**	**334**	P		**P**	**19 29 30.0**	**+0.8**
STKA	**Stephens Creek**	**97.57**	**209**	LR		LR	20 03 58.4	
	comp=Z,42nm,20.4s,baz=24,slow=29							
GERES	**GERESS Array B**	**119.99**	**50**	PKP		**PKPdf**	**19 34 55.8**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=219,slow=1.7,SNR=5.9							
MODS	**Modra-Piesok**	**121.71**	**52**	*e*PDIFF		**Pdif**	**19 31 31.0**	**+3.2**
VYHS	**Vyhne**	**122.65**	**52**	*e*PDIFF		**Pdif**	**19 31 35.2**	**+3.2**
ILAR	**Eielson Array**	**123.03**	**331**	PKP		**PKPdf**	**19 35 01.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=179,slow=1.8,SNR=7.5							
HFS	**Hagfors**	**125.89**	**38**	PKP		**PKPdf**	**19 35 05.4**	**-2.1**
	comp=Z,2.5nm,0.9s,baz=302,slow=2.7,SNR=3.1							
TOLK	**Toolik Lake Re**	**126.05**	**334**			**PKPdf**	**19 35 07.0**	**-0.5**
BRTR	**Keskin Array B**	**127.26**	**68**	PKP		**PKPdf**	**19 35 09.5**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=204,slow=3.5,SNR=5.6							
FINES	**FINESS Array B**	**131.98**	**40**	PKhKP		PKPpre	19 35 15.7	
	comp=Z,2.5nm,0.9s,baz=267,slow=5.2,SNR=2.8							
PETK	**Petropavlovsk-**	**146.02**	**303**	PKPbc		**PKPbc**	**19 35 45.7**	**0.0**
	comp=Z,2.7nm,0.9s,baz=129,slow=5.7,SNR=2.2							
AKTO	**Aktyubinsk**	**147.05**	**62**	PKPbc		**PKPdf**	**19 35 47.4**	**+0.8**
	comp=Z,8.1nm,1.0s,baz=196,slow=4.2,SNR=12							
ARU	**Arti**	**147.80**	**51**	PKPbc		**PKPbc**	**19 35 50.3**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=254,slow=3.0,SNR=9.8							
ARU	**Arti**	**147.80**	**51**			**PKPdf**	**19 35 48.3**	**+0.7**
ABKAR	**Akbulak array**	**148.09**	**65**			**PKPdf**	**19 35 47.7**	**-0.7**
ABKAR	**Akbulak array**	**148.09**	**65**	PKPdf		**PKPdf**	**19 35 48.3**	**0.0**
TIXI	**Tiksi**	**150.79**	**346**	PKPdf		**PKPbc**	**19 35 55.0**	**-2.6**
UBPT	**Khong Chiam**	**150.81**	**178**			**PKPbc**	**19 35 58.6**	**-0.7**
NIL	**Nilore**	**152.02**	**101**	PKPdf		**PKPdf**	**19 35 54.8**	**-0.3**
NIL				PKPbc		**PKPbc**	**19 36 00.3**	**-1.4**
CM05	**Chiang Mai Arr**	**153.13**	**163**	P		**PKiKP**	**19 36 07.0**	**+2.3**
CM04	**Chiang Mai Arr**	**153.14**	**164**	P		**PKiKP**	**19 36 05.3**	**+0.6**
CM13	**Chiang Mai Arr**	**153.14**	**163**	P		**PKiKP**	**19 36 06.5**	**+1.7**
CM01	**Chiang Mai Arr**	**153.15**	**163**	P		**PKiKP**	**19 36 06.6**	**+1.9**
CM02	**Chiang Mai Arr**	**153.16**	**163**	P		**PKiKP**	**19 36 07.2**	**+2.4**
CM15	**Chiang Mai Arr**	**153.18**	**163**	P		**PKPbc**	**19 36 04.0**	**-0.6**
CM09	**Chiang Mai Arr**	**153.18**	**164**	P		**PKPab**	**19 36 10.7**	**-5.6**
CM31	**Chiang Mai Arr**	**153.19**	**163**	P		**PKiKP**	**19 36 07.2**	**+2.4**
CMAR	**Chiang Mai Arr**	**153.19**	**163**	PKPbc		**PKPbc**	**19 36 04.1**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=218,slow=2.6,SNR=4.7							
CMAR	**Chiang Mai Arr**	**153.19**	**163**			**PKPdf**	**19 35 56.7**	**-0.5**
CM36	**Chiang Mai Arr**	**153.28**	**164**	P		**PKiKP**	**19 36 06.0**	**+1.0**
CM32	**Chiang Mai Arr**	**153.35**	**163**	P		**PKiKP**	**19 36 10.0**	**+4.9**
CM35	**Chiang Mai Arr**	**153.44**	**164**	P		**PKiKP**	**19 36 07.0**	**+1.7**
CM33	**Chiang Mai Arr**	**153.54**	**163**	P		**PKPab**	**19 36 20.0**	**+2.2**
CM34	**Chiang Mai Arr**	**153.61**	**164**	P		**PKPab**	**19 36 13.0**	**-5.1**
BVAR	**Borovoye Array**	**154.83**	**57**	PKP		**PKPdf**	**19 35 58.0**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=18,slow=5.0,SNR=4.5							
AAK	**Aa-Archa**	**156.65**	**83**	PKP		**PKPdf**	**19 36 00.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=172,slow=6.4,SNR=2.7							
KSH	**Kashi**	**156.69**	**92**	PKP		**PKPdf**	**19 36 02.5**	**+0.9**
KSH				PP		**PP**	**19 40 11.0**	**+1.1**
KSH				AMB		AMB		
	comp=Z,120nm,5.2s							
KURBB	**Kurchatov Arra**	**160.11**	**62**	PKP		**PKPdf**	**19 36 05.1**	**0.0**
	comp=Z,1.0nm,0.9s,baz=269,slow=1.6,SNR=7.0							
KURBB				PKPab		**PKPab**	**19 36 45.9**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=281,slow=5.1,SNR=12							
KURK	**Kurchatov**	**160.15**	**62**			**PKPdf**	**19 36 05.1**	**-0.1**
MKAR	**Makanchi Array**	**162.79**	**74**	PKP		**PKPdf**	**19 36 07.7**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=0.0,slow=2.9,SNR=2.3							
ZALV	**Zalesovo Beam**	**162.94**	**49**	PKP		**PKPdf**	**19 36 06.0**	**-2.0**
	comp=Z,1.5nm,0.8s,baz=318,slow=2.0,SNR=6.2							
ZALV	**Zalesovo Beam**	**162.94**	**49**			**PKPdf**	**19 36 06.9**	**-1.1**
NJ2	**Nanjing**	**164.33**	**221**	*e*PKP		**PKPdf**	**19 36 09.6**	**-0.4**
CD2	**Chengdu**	**166.19**	**169**	PKP		**PKPdf**	**19 36 11.3**	**-0.4**
WMQ	**Urumqi**	**166.32**	**86**	*e*PKP		**PKPdf**	**19 36 11.8**	**+0.4**
WMQ				LR		LR		
	comp=Z,2μm,29.0s							
WMQ				LR		LR		
	comp=Z,220nm,23.5s							
GTA	**Gaotai**	**172.73**	**133**	⇑PKP		**PKPdf**	**19 36 20.1**	**+4.6**
GTA				PKPab		**PKPab**	**19 37 44.6**	**+3.1**
GTA				LR		LR		
	comp=Z,180nm,18.2s							
GTA				LR		LR		
	comp=Z,230nm,20.4s							
GTA				LR		LR		
	comp=Z,250nm,16.7s							
HHC	**Hu-ho-hao-te**	**174.87**	**226**	*e*PKP		**PKPdf**	**19 36 18.4**	**+2.3**

IDC 13 19:20:27.7±1.1, 27°.42N×103°.83E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/69, mbtmp3.6/4, Error ellipse: s-maj=72.9km s-min=20.2km az=58.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.99**	**208**	Pg	Pn	19 23 30.1	+38
	baz=3.0,slow=17,SNR=6.4						
MKAR	**Makanchi Array**	**25.71**	**324**	P	P	19 25 59.4	-0.3
	0.8nm,0.7s,baz=133,slow=9.9,SNR=12						
KURBB	**Kurchatov Arra**	**30.11**	**327**	P	P	19 26 39.2	+0.3
	0.8nm,0.9s,baz=136,slow=9.5,SNR=9.3						
WRA	**Warramunga Arr**	**55.59**	**145**	P	P	19 30 05.2	-0.2
	0.5nm,0.5s,baz=320,slow=6.2,SNR=10						
ASAR	**Alice Springs**	**58.51**	**147**	P	P	19 30 25.9	0.0
	0.2nm,0.6s,baz=329,slow=6.4,SNR=8.1						

IDC 13 19:23:11.3±10.0, 21°.28N×147°.12E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.3/63, mbtmp3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/45, Error ellipse: s-maj=384.7km s-min=30.8km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**30.46**	**340**	LR	LR	19 46 46.3	
	comp=Z,64nm,18.1s,baz=20,slow=46						
WRA	**Warramunga Arr**	**42.83**	**198**	P	P	19 31 10.9	-0.3
	1.7nm,0.6s,baz=19,slow=8.7,SNR=18						
ASAR	**Alice Springs**	**46.49**	**197**	P	P	19 31 40.5	+0.1
	0.3nm,0.5s,baz=17,slow=8.4,SNR=8.4						

*MOS **13** 19:24:54.8±1.1, 44°.43N×148°.36E, h108km, mb3.8/1, Error ellipse: s-maj=24.3km s-min=16.3km az=164.2*
*JMA **13** 19:24:57.8±0.2, 43°.98N×148°.31E, h80km, M3.6*
*SKHL **13** 19:24:57.1±0.2, 44°.40N×148°.10E, h105km±5km, mb4.5/3, msha5.4/3*

ISC 13 19:24:53.2±2.2, 44°.2N±0°.1×148°.6E±0°.2, h89km±12km, n29, σ1°92/47, 5C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.15**	**334**	*e*PN	**Pn**	**19 25 15.7**	**+1.2**
KUR				*i* S	**Sn**	**19 25 29.1**	**-1.5**
KUR				pmax	pmax		
	comp=Z,124nm,0.1s						
KUR				smax	smax		
	comp=E,1μm,0.3s						
KUR				smax	smax		
	comp=N,1μm,0.2s						
KUR	**Kuril'sk**	**1.15**	**334**	*i* P	**Pn**	**19 25 15.7**	**+1.2**
KUR				AMB	AMB	19 25 16.4	
	comp=N,70nm,0.2s						
KUR				*i* S	**Sn**	**19 25 29.3**	**-1.3**
KUR				A	A	19 25 30.5	
	comp=N,830nm,0.4s						
KUR				A	A	19 25 30.5	
	comp=N,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.96**	**266**	*d i* PN	**Pn**	**19 25 26.0**	**+1.3**
YUK				*i* S	**Sn**	**19 25 47.1**	**-1.7**
YUK				pmax	pmax		
	comp=Z,194nm,0.2s						
YUK				pmax	pmax		
	comp=N,71nm,0.1s						
YUK				pmax	pmax		
	comp=E,54nm,0.1s						
YUK				smax	smax		
	comp=N,459nm,0.2s						
YUK				smax	smax		
	comp=E,318nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.96**	**266**	*i* P	**Pn**	**19 25 26.0**	**+1.3**
YUK				AMB	AMB	19 25 26.3	
	comp=E,120nm,0.3s						
YUK				*i* S	**Sn**	**19 25 47.1**	**-1.7**
YUK				A	A	19 25 49.5	
	comp=E,310nm,0.3s						
YUK				A	A	19 25 49.5	
	comp=E,260nm,0.3s						
GRPR	**Tuman**	**2.03**	**265**	⇑*i* PN	**Pn**	**19 25 26.2**	**+0.5**
GRPR				*i* S	**Sn**	**19 25 48.4**	**-2.1**
GRPR				pmax	pmax		
	comp=Z,129nm,0.1s						
GRPR				smax	smax		
	comp=N,489nm,0.2s						
GRPR				smax	smax		
	comp=E,203nm,0.1s						
GRPR	**Tuman**	**2.03**	**265**	*i* P	**Pn**	**19 25 26.5**	**+0.8**
GRPR				AMB	AMB	19 25 27.0	
	comp=E,130nm,0.3s						
GRPR				*i* S	**Sn**	**19 25 48.4**	**-2.1**
GRPR				A	A	19 25 50.0	
	comp=E,490nm,0.3s						
GRPR				A	A	19 25 50.0	
	comp=E,200nm,0.3s						
NEM2	**Nemuro 2**	**2.21**	**249**	P	**Pn**	**19 25 29.6**	**+1.5**
NEM2				*e*S	**Sn**	**19 25 53.4**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.22**	**249**	⇓*i* PN	**Pn**	**19 25 29.6**	**+1.4**
NMR				*i* S	**Sn**	**19 25 53.5**	**-1.5**
NMR	**Nemuro--Hokkai**	**2.22**	**249**	*i* P	**Pn**	**19 25 29.7**	**+1.5**
NMR				*i* S	**Sn**	**19 25 54.0**	**-1.0**
RUSJ	**Misakicho**	**2.40**	**269**	⇑*i* PN	**Pn**	**19 25 33.0**	**+2.5**
RUSJ				*i* S	**Sn**	**19 26 00.6**	**+1.4**
JRA	**Rausu**	**2.50**	**265**	P	**Pn**	**19 25 34.0**	**+2.1**
JRA				*e*S	**Sn**	**19 26 01.7**	**0.0**
JNSB	**Nemuroshibetsu**	**2.61**	**262**	P	**Pn**	**19 25 35.8**	**+2.4**
JNSB				*e*S	**Sn**	**19 26 04.3**	**0.0**
JKHN	**Kushirohamanak**	**2.72**	**247**	P	**Pn**	**19 25 36.7**	**+1.9**
JKHN				*e*S	**Sn**	**19 26 05.8**	**-1.0**
JNK	**Nakash**	**2.85**	**259**	P	**Pn**	**19 25 38.4**	**+1.8**
JNK				*e*S	**Sn**	**19 26 09.5**	**-0.6**
JAK	**Akkeshi**	**3.06**	**248**	P	**Pn**	**19 25 41.1**	**+1.7**
JAK				*e*S	**Sn**	**19 26 13.9**	**-1.2**
JAR	**Ashorobuto**	**3.59**	**257**	P	**Pn**	**19 25 49.4**	**+2.7**
JAR				*e*S	**Sn**	**19 26 27.7**	**-0.4**
JCH	**Churui**	**4.11**	**249**	P	**Pn**	**19 25 55.5**	**+1.8**
JCH				*e*S	**Sn**	**19 26 38.9**	**-1.7**
ERM	**Erimo**	**4.53**	**243**	⇑*e*PN	**Pn**	**19 26 03.2**	**+3.9**
JNBK	**Urakawa-nobuka**	**4.66**	**248**	P	**Pn**	**19 26 02.8**	**+1.7**
JKB	**Kayabe**	**5.99**	**250**	P	**Pn**	**19 26 21.0**	**+1.9**
JKB				*e*S	**Sn**	**19 27 21.6**	**-4.7**
JMK	**Ichinoseki**	**7.60**	**229**	*e*S	**Sn**	**19 28 01.9**	**-3.8**
DGZ	**J

DUGI Dugi Otok 6.86 325 *e*Pn **Pn 19 34 19.5 +0.8**

BJI ***13*** *19:38:29.0±0.0,57˚.40N×155˚.80W,h54km,mB5.1/11, mb4.7/23,Ms4.7/3,Ms7 4.6/2*
MOS ***13*** *19:38:30.7±0.9,57˚.54N×156˚.03W,h59km,mb4.9/31, Error ellipse: s-maj=18.0km s-min=6.9km az=96.5*
IDC ***13*** *19:38:32.4±1.6,57˚.52N×155˚.95W,h60km±14km,mb4.1/25, mb1 4.2/28,mb1mx4.1/49,mbtmp4.4/28,MS3.2/3, Ms1 3.2/3,ms1mx2.9/50,Error ellipse: s-maj=22.1km s-min=10.0km az=2.0*
NEIC ***13*** *19:38:32.8±1.8,57˚.29N±0˚.03×155˚.78W±0˚.04,h75km±5km, Error ellipse: s-maj=5.2km s-min=1.8km az=138.0*
ANF ***13*** *19:38:33.1±0.4,57˚.31N×155˚.72W,h71km±15km,ML4.7/13, Error ellipse: s-maj=6.6km s-min=3.9km az=147.0, Hypocentre not reviewed by the ISC*
AEIC ***13*** *19:38:34.4±3.0,57˚.26N±0˚.03×155˚.71W±0˚.06,h61km±4km, ML4.4/148,mb4.7/96(NEIC),ML4.6/32(NEIC),Error ellipse: s-maj=5.0km s-min=4.3km az=216.0*
ISC 13 19:38:32.5±0.6, 57˚.34N±0˚.04×155˚.79W±0˚.04, h69km±5km, n470,σ1§18/499, mb4.7/120, 26C-21D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLK3	**Peulik 3**	**0.43**	**324**		**Pn**	**19 38 46.1**	**+1.4**
PLK3					**Sn**	**19 38 55.7**	**+2.1**
PLK2	**Peulik 2**	**0.52**	**326**		**Pn**	**19 38 47.2**	**+1.8**
PLK1	**Peulik 1**	**0.64**	**317**		**Pn**	**19 38 48.3**	**+1.6**
KJL	**Kejulik**	**0.73**	**9**		**Pn**	**19 38 49.1**	**+1.4**
CAHL	**Cahill**	**0.76**	**20**		**Pn**	**19 38 49.4**	**+1.2**
MGLS	**Mageik Landsli**	**0.87**	**23**		**Pn**	**19 38 50.5**	**+1.2**
ANCK	**Angle Creek**	**0.88**	**10**		**Pn**	**19 38 51.0**	**+1.5**
PLK5	**Peulik 5**	**0.88**	**319**		**Pn**	**19 38 51.1**	**+1.6**
KABR	**Katmai Barrier**	**0.91**	**29**		**Pn**	**19 38 51.1**	**+1.2**
ACHA	**Angle Creek He**	**0.91**	**16**		**Pn**	**19 38 51.3**	**+1.4**
ACHA					**Sn**	**19 39 04.6**	**+1.8**
KCE	**Katmai Mt Cerb**	**0.96**	**19**		**Pn**	**19 38 52.1**	**+1.5**
KBM	**Katmai Bkd Mtn**	**0.99**	**18**		**Pn**	**19 38 52.6**	**+1.7**
KCG	**Knife Ck. Glac**	**1.04**	**20**		**Pn**	**19 38 53.0**	**+1.5**
KELA	**Mount Kelaz**	**1.10**	**1**		**Pn**	**19 38 53.5**	**+1.1**
SII	**Sitkinak Islan**	**1.18**	**131**	Pn	**Pn**	**19 38 53.4**	**+0.1**
SII				Sn	**Sn**	**19 39 08.6**	**-0.1**
SII				IAML		19 39 17.0	
	comp=E,17μm,0.6s						
SII	**Sitkinak Islan**	**1.18**	**131**	P		19 38 53.4	
	baz=311,SNR=75						
SII				S		19 39 08.9	
	baz=311						
OHAK	**Old Harbor**	**1.36**	**94**		**Pn**	**19 38 56.0**	**+0.5**
OHAK				Sn	**Sn**	**19 39 12.7**	**-0.3**
OHAK				IAML		19 39 18.3	
	comp=N,8μm,0.5s						
OHAK				IAML		19 39 20.3	
	comp=E,6μm,0.4s						
OHAK	**Old Harbor**	**1.36**	**94**	P		19 38 56.1	
	baz=273,SNR=157						
OHAK				S		19 39 13.1	
	baz=273						
CHIR	**Chirikof Islan**	**1.52**	**176**	Pn	**Pn**	**19 38 57.2**	**-0.6**
CHIR				Sn	**Sn**	**19 39 15.4**	**-1.4**
CHIR				IAML		19 39 27.7	
	comp=N,8μm,0.7s						
CHIR				IAML		19 39 29.7	
	comp=E,5μm,0.5s						
CHIR	**Chirikof Islan**	**1.52**	**176**	P		19 38 57.3	
	baz=358,SNR=38						
CHIR				S		19 39 15.8	
	baz=358						
CHGN	**Chignik**	**1.78**	**235**		**Pn**	**19 39 01.7**	**+0.6**
CHGN				Sn	**Sn**	**19 39 22.4**	**-0.4**
CHGN				IAML		19 39 23.3	
	comp=E,6μm,0.3s						
CHGN				IAML		19 39 23.5	
	comp=N,6μm,0.2s						
CHGN	**Chignik**	**1.78**	**235**	P		19 39 01.7	
	baz=56,SNR=195						
CHGN				S		19 39 22.7	
	baz=56						
KDAK	**Kodiak Island**	**1.78**	**74**	P	**Pn**		**19 39 01.9 +0.8**
	comp=N,483nm,0.3s,baz=227,slow=4.3,SNR=2534						
KDAK				S	**Sn**	**19 39 23.4**	**+0.4**
	comp=N,259nm,0.3s,baz=254,slow=22,SNR=17						
KDAK				LR	LR	19 39 45.3	
	comp=N,252nm,18.1s,baz=226,slow=40						
KDAK	**Kodiak Island**	**1.78**	**74**	*i* P	**Pn**	**19 39 01.0**	**-0.2**
KDAK				SN	**Sn**	**19 39 23.1**	**+0.1**
KDAK	**Kodiak Island**	**1.78**	**74**		**Pn**	**19 39 02.0**	**+0.8**
KDAK				Sn	**Sn**	**19 39 23.1**	**+0.1**
KDAK	**Kodiak Island**	**1.78**	**74**	P		19 39 02.1	
	baz=254						
KDAK				S		19 39 23.6	
	baz=254						
AUCH	**Augustine Cone**	**2.38**	**30**		**Pn**	**19 39 11.6**	**+2.3**
AUW	**Augustine West**	**2.38**	**30**		**Pn**	**19 39 11.5**	**+2.4**
AUL	**Augustine Lava**	**2.40**	**30**		**Pn**	**19 39 11.7**	**+2.2**
AU22	**Augustine Moun**	**2.41**	**31**		**Pn**	**19 39 11.8**	**+2.2**
AU22					**Sn**	**19 39 40.7**	**+2.8**
OPT	**Oil Point**	**2.68**	**29**		**Pn**	**19 39 15.5**	**+2.1**
ILS	**Iliamna Low So**	**2.99**	**27**		**Pn**	**19 39 19.6**	**+2.1**
IVE	**Iliamna Volcan**	**3.05**	**27**		**Pn**	**19 39 20.5**	**+2.1**
ILW	**Iliamna West**	**3.06**	**26**		**Pn**	**19 39 20.7**	**+2.1**
HOM	**Homer**	**3.19**	**41**		**Pn**	**19 39 20.8**	**+0.7**
HOM	**Homer**	**3.19**	**41**	P		19 39 22.4	
	baz=223						
CNPM	**China Poot**	**3.25**	**46**	Pn	**Pn**	**19 39 22.3**	**+1.3**
CNPM				Sn	**Sn**	**19 39 58.1**	**-0.4**
CNPM				IAML		19 40 08.9	
	comp=N,1μm,0.7s						
CNPM				IAML		19 40 10.8	
	comp=E,2μm,0.6s						
SDPT	**Sand Point**	**3.28**	**235**	Pn	**Pn**	**19 39 22.1**	**+0.6**
SDPT				Sn	**Sn**	**19 39 58.3**	**-1.0**
SDPT				IAML		19 40 19.3	
	comp=E,990nm,1.0s						
SDPT	**Sand Point**	**3.28**	**235**	P		19 39 22.3	
	baz=52,SNR=50						
SDPT				S		19 39 58.8	
	baz=52						
RED	**Redoubt Volcan**	**3.46**	**26**		**Pn**	**19 39 26.4**	**+2.4**
RED					**Sn**	**19 40 05.8**	**+2.0**
RDSO	**Redoubt South**	**3.50**	**26**		**Pn**	**19 39 27.0**	**+2.3**
RSO	**Redoubt South**	**3.51**	**25**		**Pn**	**19 39 27.3**	**+2.6**
BRLK	**Bradley Lake**	**3.54**	**45**		**Pn**	**19 39 25.6**	**+0.6**
BRLK				IAML		19 40 10.1	
	comp=E,926nm,0.5s						
NCT	**North Crescent**	**3.56**	**23**		**Pn**	**19 39 27.7**	**+2.4**
BRSE	**Bradley Lake S**	**3.58**	**46**		**Pn**	**19 39 26.5**	**+0.9**
BRSE	**Bradley Lake S**	**3.58**	**46**	P		19 39 26.4	
	baz=226,SNR=32						
DFR	**Drift River**	**3.64**	**25**		**Pn**	**19 39 28.4**	**+2.0**
RDT	**Redoubt**	**3.69**	**27**		**Pn**	**19 39 29.5**	**+2.4**
PVV	**Pavlof Volcano**	**3.88**	**242**		**Pn**	**19 39 30.9**	**+1.3**
PS4A	**Pavlof South-4**	**3.92**	**242**		**Pn**	**19 39 31.6**	**+1.3**
HAG	**Hague Volcano**	**3.96**	**242**		**Pn**	**19 39 32.3**	**+1.5**
CAPN	**Captain Cook N**	**4.19**	**33**	Pn	**Pn**	**19 39 36.0**	**+2.2**
DT1	**Dutton Round H**	**4.26**	**241**		**Pn**	**19 39 35.7**	**+0.9**
SLKM	**Skilak Lake**	**4.29**	**40**		**Pn**	**19 39 36.4**	**+1.1**
SPBG	**Spurr Blockage**	**4.31**	**23**		**Pn**	**19 39 37.5**	**+2.0**
SEW	**Seward**	**4.31**	**47**	Pn	**Pn**	**19 39 35.3**	**-0.2**
SEW	**Seward**	**4.31**	**47**	P		19 39 35.4	
	baz=232						
SPCN	**Chakachatna No**	**4.31**	**24**		**Pn**	**19 39 38.4**	**+2.8**
SPCP	**Crater Peak Br**	**4.36**	**24**		**Pn**	**19 39 39.0**	**+2.7**
O22K	**Cooper Landing**	**4.45**	**42**		**Pn**	**19 39 38.4**	**+1.0**
O22K	**Cooper Landing**	**4.45**	**42**	P		19 39 38.3	
	baz=226,SNR=31						
STLK	**Strandline Lak**	**4.64**	**24**		**Pn**	**19 39 42.8**	**+2.8**
FIS	**Fire Island**	**4.77**	**35**	Pn	**Pn**	**19 39 43.4**	**+1.7**
FIS				IAML		19 40 49.7	
	comp=E,538nm,0.7s						
SUA	**Susitna One**	**4.87**	**30**		**Pn**	**19 39 44.8**	**+1.5**
SUA				IAML		19 40 42.7	
	comp=E,567nm,0.9s						
SUA				IAML		19 40 43.5	
	comp=N,403nm,1.2s						
SUA	**Susitna One**	**4.87**	**30**	P		19 39 45.2	
	baz=213,SNR=40						
SUA				S		19 40 39.0	
	baz=213						
RC01	**Rabbit Creek A**	**4.88**	**37**		**Pn**	**19 39 44.3**	**+1.1**
RC01	**Rabbit Creek A**	**4.88**	**37**	P		19 39 44.3	
	baz=221,SNR=16						
RC01				S		19 40 37.6	
	baz=221						
FALS	**False Pass**	**4.94**	**243**	Pn	**Pn**	**19 39 44.9**	**+0.8**
FALS	**False Pass**	**4.94**	**243**	P		19 39 45.1	
	baz=58,SNR=20						
SKT	**Skwentna**	**5.13**	**23**		**Pn**	**19 39 48.6**	**+1.8**
SKT	**Skwentna**	**5.13**	**23**	P		19 39 49.0	
	baz=206,SNR=11						
BRPK	**Brown Peak**	**5.21**	**242**		**Pn**	**19 39 48.9**	**+1.0**
PWL	**Port Wells**	**5.22**	**44**		**Pn**	**19 39 47.8**	**-0.1**
PWL				IAML		19 40 50.6	
	comp=N,440nm,0.7s						
PWL				IAML		19 41 02.6	
	comp=E,312nm,0.9s						
SSLN	**Shishaldin Nor**	**5.25**	**245**		**Pn**	**19 39 49.5**	**+1.1**
SSLW	**Shishaldin Wes**	**5.33**	**245**		**Pn**	**19 39 50.4**	**+0.9**
SSBA	**Shishaldin**	**5.33**	**245**		**Pn**	**19 39 50.4**	**+0.9**
Q23K	**Middleton Isla**	**5.39**	**63**	Pn	**Pn**	**19 39 49.8**	**-0.5**
Q23K	**Middleton Isla**	**5.39**	**63**	P		19 39 50.6	
	baz=250						
MID	**Middleton Isla**	**5.40**	**63**	Pn	**Pn**	**19 39 49.8**	**-0.5**
PMR	**Palmer**	**5.45**	**36**		**Pn**	**19 39 52.1**	**+1.0**
PMR	**Palmer**	**5.45**	**36**	P		19 39 51.9	
	baz=221						
PMR				S		19 40 49.3	
	baz=221						
KNK	**Knik Glacier**	**5.54**	**39**		**Pn**	**19 39 52.3**	**-0.1**
KNK	**Knik Glacier**	**5.54**	**39**	P		19 39 52.8	
	baz=225						
TT01	**Tatalina**	**5.59**	**359**		**Pn**	**19 39 54.6**	**+1.7**
GHO	**Glory Hole Cre**	**5.65**	**35**		**Pn**	**19 39 54.3**	**+0.5**
HIN	**Hinchinbrook I**	**5.71**	**54**		**Pn**	**19 39 54.8**	**+0.2**
GLI	**Glacier Island**	**5.71**	**48**	Pn	**Pn**	**19 39 53.4**	**-1.3**
GLI	**Glacier Island**	**5.71**	**48**	P		19 39 54.2	
	baz=234						
GLI				S		19 40 55.2	
	baz=234						
WESP	**Westdahl Peak**	**5.78**	**244**		**Pn**	**19 39 56.7**	**+1.1**
CUT	**Chulitna**	**5.79**	**26**		**Pn**	**19 39 56.4**	**+0.7**
CUT	**Chulitna**	**5.79**	**26**	S		19 41 00.0	
	baz=210						
PPLA	**Purkeypile**	**5.86**	**16**		**Pn**	**19 39 59.5**	**+2.7**
PPLA	**Purkeypile**	**5.86**	**16**	P		19 40 00.1	
	baz=195,SNR=14						
SML	**Sawmill**	**5.87**	**37**		**Pn**	**19 39 57.1**	**+0.3**
SML	**Sawmill**	**5.87**	**37**	P		19 39 57.3	
	baz=223						
FID	**Port Fidalgo**	**5.90**	**51**	Pn	**Pn**	**19 39 56.4**	**-0.8**
JPK	**Jack Peak**	**6.01**	**48**		**Pn**	**19 39 59.2**	**+0.3**
EYAK	**Cordova Ski Ar**	**6.11**	**54**	Pn	**Pn**	**19 40 00.0**	**0.0**
EYAK	**Cordova Ski Ar**	**6.11**	**54**	P		19 40 00.1	
	baz=242,SNR=7.4						
EYAK				S		19 41 04.0	
	baz=242						
VMT	**TAPS Tl Valdez**	**6.12**	**48**		**Pn**	**19 40 01.0**	**+0.8**
SCM	**Sheep Creek Mo**	**6.22**	**40**		**Pn**	**19 40 02.3**	**+0.6**
DIV	**Divide**	**6.39**	**49**		**Pn**	**19 40 04.3**	**+0.3**
AKSA	**Akutan Strait**	**6.45**	**244**		**Pn**	**19 40 05.8**	**+1.1**
KAIM	**Kayak Island**	**6.48**	**62**		**Pn**	**19 40 05.6**	**+0.5**
KAIM					**Sn**	**19 41 14.1**	**-3.4**
KAIM	**Kayak Island**	**6.48**	**62**	P		19 40 05.7	
	baz=250						
KAIM				S		19 41 13.8	
	baz=250						
AKUT	**Akutan**	**6.49**	**245**	Pn	**Pn**	**19 40 05.5**	**+0.3**
RAGM	**Ragged Mountai**	**6.52**	**57**		**Pn**	**19 40 05.6**	**-0.1**
KLU	**Klutina**	**6.53**	**46**		**Pn**	**19 40 06.0**	**+0.1**
KLU	**Klutina**	**6.53**	**46**	P		19 40 06.4	
	baz=234,SNR=29						
KLU				S		19 41 16.2	
	baz=234						
AKGG	**Akutan Green G**	**6.56**	**246**		**Pn**	**19 40 06.5**	**+0.3**
AKLV	**Akutan Long Va**	**6.56**	**245**		**Pn**	**19 40 06.7**	**+0.4**
GOAT	**Goat Mountain**	**6.58**	**56**		**Pn**	**19 40 07.1**	**+0.5**
AKBBA	**Akutan Broad B**	**6.58**	**245**		**Pn**	**19 40 07.1**	**+0.5**
WAT1	**Susitna Watana**	**6.59**	**30**		**Pn**	**19 40 07.0**	**+0.4**
AKRB	**Akutan Reef Bi**	**6.63**	**245**		**Pn**	**19 40 08.1**	**+0.8**
WAT2	**Susitna Watana**	**6.69**	**29**		**Pn**	**19 40 08.2**	**+0.1**
WAT2	**Susitna Watana**	**6.69**	**29**	P		19 40 08.1	
	baz=215,SNR=11						
WAT2				S		19 41 20.1	
	baz=215						
HMT	**Hamilton**	**6.70**	**59**		**Pn**	**19 40 08.3**	**+0.2**
TRF	**Thorofare Moun**	**6.71**	**22**		**Pn**	**19 40 09.2**	**+0.8**
CHUM	**Lake Minchumin**	**6.78**	**13**	P		19 40 11.3	
	baz=196,SNR=15						
NICHA	**Nichawak Mount**	**6.80**	**60**		**Pn**	**19 40 10.0**	**+0.6**
BMRM	**Bremner River**	**6.80**	**53**		**Pn**	**19 40 09.4**	**-0.2**
BMRM	**Bremner River**	**6.80**	**53**	P		19 40 09.4	
	baz=242,SNR=12						
BMRM				S		19 41 21.3	
	baz=242						
M24K	**Tolsona, Glenn**	**6.81**	**41**		**Pn**	**19 40 10.8**	**+1.0**
M24K	**Tolsona, Glenn**	**6.81**	**41**	P		19 40 10.8	
	baz=229,SNR=6.6						
SUCK	**Suckling Hills**	**6.83**	**61**	Pn	**Pn**	**19 40 10.5**	**+0.6**
PS12	**TAPS Pump St12**	**6.83**	**48**		**Pn**	**19 40 10.3**	**+0.4**
BERG	**Berg Lake**	**6.97**	**59**		**Pn**	**19 40 11.4**	**-0.5**
RND	**Reindeer**	**6.99**	**27**		**Pn**	**19 40 11.6**	**-0.5**
PS11	**TAPS Pump St11**	**7.05**	**43**		**Pn**	**19 40 13.9**	**+0.9**
MNAT	**Makushin Natee**	**7.07**	**245**		**Pn**	**19 40 13.6**	**+0.3**
MSW	**Makushin Switc**	**7.11**	**246**		**Pn**	**19 40 14.2**	**+0.5**
GRIN	**Grindle Hills**	**7.12**	**60**		**Pn**	**19 40 14.5**	**+0.7**
N25K	**Chitina, Valde**	**7.12**	**48**		**Pn**	**19 40 13.9**	**-0.1**
N25K	**Chitina, Valde**	**7.12**	**48**	P		19 40 14.4	
	baz=237,SNR=10						
MREP	**Makushin Rep't**	**7.14**	**245**		**Pn**	**19 40 15.0**	**+0.7**
BPAW	**Bear Paw Mtn.**	**7.18**	**17**		**Pn**	**19 40 15.1**	**+0.4**
BPAW	**Bear Paw Mtn.**	**7.18**	**17**	P		19 40 15.4	
	baz=201,SNR=26						
MGOD	**Makushin Gods**	**7.22**	**245**		**Pn**	**19 40 15.8**	**+0.6**
MAPS	**Makushin South**	**7.24**	**245**		**Pn**	**19 40 16.0**	**+0.4**
MCK	**McKinley**	**7.25**	**25**		**Pn**	**19 40 15.4**	**-0.2**
MCK	**McKinley**	**7.25**	**25**	P		19 40 16.3	
	baz=210,SNR=11						
MCK				S		19 41 33.7	
	baz=210						
CRQM	**Cirque**	**7.37**	**57**		**Pn**	**19 40 17.8**	**+0.3**
CRQE	**Cirque**	**7.39**	**57**	P		19 40 17.8	
	baz=247,SNR=20						
KULT	**Kultieth River**	**7.39**	**61**		**Pn**	**19 40 18.1**	**+0.5**
TGL	**Tana Glacier**	**7.51**	**57**		**Pn**	**19 40 19.8**	**+0.6**
PAX	**Paxson**	**7.63**	**38**		**Pn**	**19 40 21.8**	**+0.8**
PAX	**Paxson**	**7.63**	**38**	P		19 40 21.4	
	baz=226,SNR=16						
MCARA	**McCarthy VSAT**	**7.67**	**53**		**Pn**	**19 40 21.7**	**+0.3**
MCARA	**McCarthy VSAT**	**7.68**	**53**	P		19 40 21.7	
	baz=243						
MESA	**MESA**	**7.74**	**63**		**Pn**	**19 40 23.2**	**+0.7**
PTPK	**Patty Peak**	**7.84**	**55**		**Pn**	**19 40 24.2**	**+0.4**
SPIA	**Saint Paul Isl**	**7.84**	**275**	Pn	**Pn**	**19 40 24.6**	**+0.9**
YAH	**Yahtse**	**7.89**	**62**		**Pn**	**19 40 25.3**	**+0.7**
OKFG	**Magazine Ridge**	**7.95**	**245**		**Pn**	**19 40 24.7**	**-0.5**
NEA2	**Nenana**	**7.97**	**21**		**Pn**	**19 40 24.6**	**-0.9**
NEA2	**Nenana**	**7.97**	**21**	P		19 40 25.0	
	baz=207,SNR=15						
GRNC	**Granite Creek**	**8.00**	**59**		**Pn**	**19 40 26.6**	**+0.6**
WRH	**Wood River Hil**	**8.07**	**24**		**Pn**	**19 40 26.0**	**-0.9**
CHX	**Chaix Hills**	**8.11**	**64**		**Pn**	**19 40 28.0**	**+0.5**
TABL	**Table Mountain**	**8.20**	**62**		**Pn**	**19 40 29.0**	**+0.2**
MENT	**Mentasta**	**8.22**	**42**		**Pn**	**19 40 29.9**	**+1.0**
CTG	**Chitna Glacier**	**8.26**	**58**	P		19 40 30.4	
	baz=250,SNR=43						
CTGM	**Chitina Glacie**	**8.27**	**58**		**Pn**	**19 40 30.3**	**+0.7**
CCB	**Clear Creek Bu**	**8.29**	**25**		**Pn**	**19 40 28.9**	**-0.9**
SAMH	**Samovar Hills**	**8.29**	**64**		**Pn**	**19 40 30.6**	**+0.6**
HDA	**Harding Lake**	**8.29**	**28**		**Pn**	**19 40 30.2**	**+0.3**
HDA	**Harding Lake**	**8.29**	**28**	P		19 40 30.0	
	baz=215,SNR=20						
HDA				P		19 40 30.0	
	baz=215,SNR=20						
LOGN	**Logan Glacier**	**8.37**	**59**		**Pn**	**19 40 31.3**	**+0.1**
I23K	**Minto, Yukon-K**	**8.42**	**19**		**Pn**	**19 40 31.2**	**-0.3**
I23K	**Minto, Yukon-K**	**8.42**	**19**	P		19 40 31.3	
	baz=204,SNR=17						
PS08	**TAPS Pump Stn8**	**8.43**	**27**		**Pn**	**19 40 31.5**	**-0.2**
MDM	**Murphy Dome**	**8.47**	**22**		**Pn**	**19 40 31.7**	**-0.6**
TCOL	**CIGO, UAF Yank**	**8.47**	**24**		**Pn**	**19 40 32.4**	**+0.2**
TCOL	**CIGO, UAF Yank**	**8.47**	**24**	P		19 40 32.6	
	baz=210,SNR=5.7						
COLA	**College**	**8.47**	**24**	*c* i P	**Pn**	**19 40 32.5**	**+0.2**
COLA				pmax	pmax		
	comp=E,9.0nm,0.8s						
COLA	**College**	**8.47**	**24**		**Pn**	**19 40 32.5**	**+0.2**
COLA	**College**	**8.47**	**24**	P		19 40 32.6	
	baz=210						
PCA	**Pinnacle**	**8.54**	**65**		**Pn**	**19 40 33.8**	**+0.5**
PINM	**Pinnacle**	**8.54**	**65**	P		19 40 33.8	
	baz=257,SNR=8.7						
IL31		**8.61**	**26**		**Pn**	**19 40 33.1**	**-1.0**
ILAR	**Eielson Array**	**8.61**	**26**	P	**Pn**	**19 40 33.3**	**-0.8**
	comp=Z,2.0nm,0.3s,baz=218,slow=13,SNR=112						
ILAR				S	**Sn**	**19 42 02.5**	**-7.0**
	comp=Z,1.0nm,0.3s,baz=190,slow=15,SNR=3.0						
ILAR				LR	LR	19 44 17.7	
	comp=Z,80nm,19.9s,baz=172,slow=41						
ILAR	**Eielson Array**	**8.61**	**26**		**Pn**	**19 40 32.6**	**-1.5**
ANM	**Nome**	**8.61**	**331**		**Pn**	**19 40 36.2**	**+2.1**
ANM	**Nome**	**8.61**	**331**	P		19 40 36.1	
	baz=143,SNR=42						
NIKH	**Nikolski High**	**8.66**	**245**	Pn	**Pn**	**19 40 34.5**	**-0.5**
IMAR	**Indian Mountai**	**8.73**	**6**		**Pn**	**19 40 37.5**	**+1.7**
POKR	**Poker Plat Res**	**8.77**	**24**		**Pn**	**19 40 36.1**	**-0.3**
POKR	**Poker Plat Res**	**8.77**	**24**	P		19 40 36.5	
	baz=211,SNR=13						
YUK2	**White River**	**8.79**	**53**		**Pn**	**19 40 37.5**	**+0.7**
SCRK	**Sand Creek**	**8.81**	**36**		**Pn**	**19 40 37.1**	**0.0**
SCRK	**Sand Creek**	**8.81**	**36**	P		19 40 37.4	
	baz=226						
BCPM	**Bancas Point**	**8.82**	**66**		**Pn**	**19 40 37.5**	**+0.4**
PNL	**Peninsula**	**8.89**	**68**		**Pn**	**19 40 37.8**	**-0.3**
YUK3	**Moose Creek**	**8.96**	**54**		**Pn**	**19 40 40.4**	**+1.2**
BC03		**9.02**	**45**		**Pn**	**19 40 40.1**	**+0.4**
BCAR	**Beaver Creek A**	**9.02**	**45**		**Pn**	**19 40 40.3**	**+0.5**
BVCY	**Beaver Creek**	**9.06**	**50**		**Pn**	**19 40 40.8**	**+0.4**
K27K	**Chicken**	**9.48**	**39**		**Pn**	**19 40 47.0**	**+0.9**
PRP	**Porcupine Dome**	**9.55**	**27**		**Pn**	**19 40 46.3**	**-0.8**
PRP	**Porcupine Dome**	**9.55**	**27**	P		19 40 46.5	
	baz=215,SNR=12						
COLD	**Coldfoot**	**10.25**	**12**		**Pn**	**19 40 56.5**	**-0.1**
COLD	**Coldfoot**	**10.25**	**12**	P		19 40 57.4	
	baz=197,SNR=9.7						
EGAK	**Eagle**	**10.27**	**37**		**Pn**	**19 40 57.0**	**+0.2**
EGAK	**Eagle**	**10.27**	**37**	P		19 40 58.0	
	baz=230						
DAWY	**Dawson**	**10.46**	**43**		**Pn**	**19 41 00.2**	**+0.6**
FYU	**Fort Yukon**	**10.49**	**24**	Pn	**Pn**	**19 40 59.8**	**0.0**
SKAG	**Skagway**	**10.94**	**70**	Pn	**Pn**	**19 41 05.9**	**0.0**
SIT	**Sitka**	**11.10**	**83**	Pn	**Pn**	**19 41 07.2**	**-0.9**
BESE	**Bessie Mountai**	**11.18**	**75**	Pn	**Pn**	**19 41 11.0**	**+1.6**
RDOG	**Red Dog Mine**	**11.23**	**346**		**Pn**	**19 41 10.1**	**+0.2**
RDOG	**Red Dog Mine**	**11.23**	**346**	P		19 41 12.8	
	baz=160,SNR=13						
WHY	**Whitehorse**	**11.27**	**64**		**Pn**	**19 41 10.7**	**+0.2**
BMAR	**Burnt Mountain**	**11.36**	**22**		**Pn**	**19 41 09.5**	**-2.2**
JIS	**Juneau Island**	**11.45**	**76**	Pn	**Pn**	**19 41 13.6**	**+0.7**
TOLK	**Toolik Lake Re**	**11.68**	**11**		**Pn**	**19 41 16.6**	**+0.5**
TOLK	**Toolik Lake Re**	**11.68**	**11**	P		19 41 18.6	
	baz=197						
ATKA	**Atka Island**	**11.79**	**252**	Pn	**Pn**	**19 41 16.1**	**-1.5**
CRAG	**Craig**	**12.68**	**89**	Pn	**Pn**	**19 41 28.0**	**-1.6**
EPYK	**Eagle Plains**	**12.71**	**37**		**Pn**	**19 41 30.9**	**+0.9**
EPYK	**Eagle Plains**	**12.71**	**37**	P		19 41 31.3	
	baz=233						
DLBC	**Dease Lake**	**13.72**	**75**	P	**Pn**	**19 41 45.5**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=289,slow=14,SNR=8.2						
DLBC	**Dease Lake**	**13.72**	**75**	Pn	**Pn**	**19 41 46.0**	**+2.3**
A21K	**Barrow**	**14.04**	**359**		**Pn**	**19 41 46.6**	**-1.2**
A21K	**Barrow**	**14.05**	**359**	P		19 41 46.7	
	baz=178,SNR=7.8						
INK	**Inuvik**	**14.86**	**33**	P	**Pn**	**19 41 58.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=220,slow=15,SNR=17						
INK				LR	LR	19 48 05.5	
	comp=Z,86nm,18.6s,baz=106,slow=39						
INK	**Inuvik**	**14.86**	**33**		**Pn**	**19 41 58.2**	**-0.1**
AMKA	**Amchitka**	**15.64**	**258**		**Pn**	**19 42 06.8**	**-1.7**
C36M	**Paulatuk**	**18.34**	**36**	P	**P**	**19 42 40.8**	**-0.1**
C36M	**Paulatuk**	**18.34**	**36**	P		19 42 39.8	
	baz=245,SNR=11						
YKA	**Yellowknife Ar**	**20.99**	**59**	P	**P**	**19 43 10.8**	**+1.1**
	comp=Z,4.6nm,0.9s,baz=274,slow=9.2,SNR=40						
YKA				ScP	**ScP**	**19 50 44.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=278,slow=1.6,SNR=5.0			

DAG IAmb IAmb 19 46 28.1
comp=Z,3.8nm,0.6s
E46A Sault Ste Mari 43.50 73 P P 19 46 29.8 +1.2
E46A IAmb IAmb 19 46 30.5
comp=Z,7.1nm,0.6s
SFJD Kangerlussuaq 44.20 33 *i* P **P 19 46 34.7 +0.7**
comp=Z,1.0nm,0.7s
SFJD Kangerlussuaq 44.20 33 *i* P **P 19 46 34.7 +0.7**
SFJD pmax pmax
comp=Z,1.0nm,0.7s
SFJD Kangerlussuaq 44.20 33 P **P 19 46 34.8 +0.7**
SFJD IAmb IAmb 19 46 55.2
comp=Z,16nm,0.9s
SFJD Kangerlussuaq 44.20 33 *i* P **P 19 46 34.7 +0.7**
SFJD IAmb IAmb 19 46 35.7
comp=Z,1.0nm,0.7s
SPA0 Spitsbergen Ar 44.65 2 P **P 19 46 36.9 -0.6**
BOD Bodaibo 44.87 311 *eP* **P 19 46 38.1 -1.3**
BOD pmax pmax
comp=Z,11nm,0.7s
DBG Daneborg 45.32 16 *i* P **P 19 46 41.5 -1.3**
DBG IAmb IAmb 19 46 43.1
comp=Z,2.4nm,0.8s
TXAR Lajitas Array 45.55 105 P **P 19 46 47.4 +2.0**
comp=Z,0.3nm,0.6s,baz=309,slow=5.7,SNR=2.8
CN2 Changchun 49.00 290 *eP* **P 19 47 10.4 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,1.7s
L56A Greenwood 49.92 72 P **P 19 47 19.3 +0.4**
FRNY Flat Rock 50.00 67 P **P 19 47 18.5 -0.9**
FRNY IAmb IAmb 19 47 20.3
comp=Z,4.8nm,0.8s
L59A Walton 51.17 70 P **P 19 47 29.1 +0.8**
G62A West of Eustis 51.24 65 P **P 19 47 29.2 +0.4**
E63A Oxbow 51.39 62 P **P 19 47 29.6 -0.3**
F63A Nahmakanta, Br 51.59 63 P **P 19 47 31.7 +0.4**
KSRS Korea Array 52.33 282 P **P 19 47 37.2 +0.3**
comp=Z,2.2nm,0.9s,baz=59,slow=6.5,SNR=6.3
KSAR Wonju Array Be 52.36 282 P **P 19 47 36.0 -1.2**
KEV Kevo 53.19 359 P **P 19 47 41.9 -0.9**
M63A Gales Ferry 53.27 69 P **P 19 47 44.0 +0.2**
ARCES ARCESS Array B 53.42 359 P **P 19 47 43.7 -0.9**
comp=Z,3.2nm,0.6s,baz=8.0,slow=7.7,SNR=13
ARCES ARCESS Array B 53.42 359 P **P 19 47 43.6 -0.9**
TLY Talaya 53.45 310⇑ *eP* **P 19 47 45.2 +0.2**
TLY pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 54.85 305⇓ *eP* **P 19 47 55.0 -0.4**
ULN pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 55.16 306 P **P 19 47 57.6 -0.1**
comp=Z,3.0nm,0.7s,baz=49,slow=6.7,SNR=9.5
SONM PcP **PcP 19 48 59.2 +1.2**
comp=Z,3.5nm,0.7s,baz=77,slow=1.8,SNR=7.5
SONM Songino Array 55.16 306 P **P 19 47 56.9 -0.8**
SONM PcP **PcP 19 48 57.9 -0.1**
HHC Hu-ho-hao-te 58.10 297 *eP* **P 19 48 18.0 -0.5**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,130nm,7.3s
ZAA0 Zalesovo Array 58.64 323 P **P 19 48 21.0 -1.0**
ZAA0 IAmb IAmb 19 48 22.5
comp=Z,4.2nm,0.8s
ZALV Zalesovo Beam 58.64 323 P **P 19 48 21.4 -0.5**
comp=Z,2.8nm,0.6s,baz=32,slow=7.2,SNR=15
ZALV PcP **PcP 19 49 11.8 +0.6**
comp=Z,2.7nm,0.7s,baz=43,slow=3.9,SNR=8.5
ZALV Zalesovo Beam 58.64 323 *i* P **P 19 48 22.2 +0.3**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 58.64 323 P **P 19 48 21.0 -1.0**
ZALV **PcP 19 49 09.8 -1.5**
NJ2 Nanjing 61.25 285 *eP* **P 19 48 39.0 -1.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NC204 NORSAR Array S 61.25 7 P **P 19 48 40.1 +0.3**
NC405 NORSAR Array S 61.48 7 P **P 19 48 41.2 -0.1**
NB201 NORSAR Array S 61.52 7 P **P 19 48 41.6 +0.1**
NB2 NORSAR Subarra 61.52 7 P **P 19 48 41.4 -0.2**
comp=Z,2.1nm,0.6s,baz=354,slow=6.9
NOA NORSAR Array B 61.52 7 P **P 19 48 41.1 -0.5**
comp=Z,4.4nm,0.8s,baz=353,slow=6.8,SNR=16
KLMR Klimovskoe 61.53 352 *eP* **P 19 48 39.9 -1.7**
KLMR pmax pmax
comp=Z,17nm,1.2s
KLMR Klimovskoe 61.53 352 *eP* **P 19 48 39.9 -1.7**
KLMR AMP 19 48 42.1
comp=Z,17nm,1.2s
FINES FINESS Array B 61.55 359 P **P 19 48 40.9 -0.8**
comp=Z,5.5nm,0.7s,baz=7.5,slow=7.9,SNR=22
FINES FINESS Array B 61.55 359 *i* P **P 19 48 40.5 -1.2**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 61.55 359 P **P 19 48 40.5 -1.2**
KONO Kongsberg 62.78 8 P **P 19 48 50.6 +0.6**
KONO IAmb IAmb 19 49 08.3
comp=Z,16nm,1.2s
ARU Arti 63.26 339*c i* P **P 19 48 52.1 -1.1**
ARU 19 51 07.5
ARU S **S 19 57 20.2 +0.9**
ARU SS **SS 20 01 19.4 -6.1**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 63.26 339 P **P 19 48 52.0 -1.2**
ARU IAmb IAmb 19 48 53.0
comp=Z,9.1nm,0.7s
MCD Coleburn Disti 63.34 16 *eP* **P 19 48 54.0 +0.4**
BRVK Borovoye 63.71 331*de*P **P 19 48 55.9 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 63.71 331 P **P 19 48 55.6 -0.7**
BRVK IAmb IAmb 19 48 56.5
comp=Z,9.1nm,0.8s
DRUM Mains of Drumt 64.10 16 *eP* **P 19 48 58.9 +0.2**
DRUM IAmb IAmb 19 48 59.6
comp=Z,47nm,0.6s
ZSN Zaisan 64.10 319 *eP* **P 19 48 58.6 -0.4**
comp=Z,2.9nm,0.9s,baz=319
ZSN Zaisan 64.10 319 *eP* **P 19 48 58.6 -0.4**
ZSN pmax pmax
comp=Z,3.0nm,0.9s
LAWE Loch Awe, Argy 64.27 18 *eP* **P 19 48 59.9 +0.1**
INVG Invergeldie, C 64.33 17 *eP* **P 19 49 00.3 +0.1**
EAB Aberfoyle 64.51 17⇑ *eP* **P 19 49 01.8 +0.4**
VSU Vasula 64.53 359⇓ *eP* **P 19 49 00.6 -0.9**
VSU pmax pmax
comp=Z,25nm,0.5s
EBH Black Hill 64.58 17 *eP* **P 19 49 02.3 +0.4**
GTA Gaotai 64.73 304 P **P 19 49 02.8 -0.5**
GTA pmax pmax
comp=Z,2.0nm,0.9s
ESY Stoneypath 65.04 16 *eP* **P 19 49 05.6 +0.7**
EBL Broad Law 65.11 17 *eP* **P 19 49 05.8 +0.5**
ESK Eskdalemuir 65.53 17⇑ *eP* **P 19 49 08.4 +0.4**
ESK IAmb IAmb 19 49 09.0
comp=Z,11nm,0.5s
ESK Eskdalemuir 65.53 17 **P 19 49 08.4 +0.4**
NEWG New Galloway 65.56 17⇑ *eP* **P 19 49 08.9 +0.7**
NEWG IAmb IAmb 19 49 09.5
comp=Z,26nm,0.9s
MK31 Makanchi Array 65.57 320*d i* P **P 19 49 07.6 -0.9**
MK31 Makanchi Array 65.57 320 P **P 19 49 07.4 -1.1**
MKAR Makanchi Array 65.57 320 P **P 19 49 07.6 -0.9**
comp=Z,2.0nm,0.7s,baz=47,slow=6.8,SNR=28
MKAR Makanchi Array 65.57 320 **P 19 49 07.5 -1.1**
MAKZ Makanchi 65.67 320 P **P 19 49 08.1 -1.1**
GAL1 Galloway 65.72 18⇑ *eP* **P 19 49 09.4 +0.2**
GAL1 IAmb IAmb 19 49 10.9
comp=Z,24nm,0.8s
WMQ Urumqi 66.14 315 *eP* P 19 49 18.3 +6.1
EDMD Edmundbyers 66.19 16 *eP* **P 19 49 12.7 +0.4**
EDMD IAmb IAmb 19 49 13.5
comp=Z,14nm,0.9s
KESW Keswick, Cumbr 66.24 17 *eP* **P 19 49 13.0 +0.4**
KESW IAmb IAmb 19 49 14.1
comp=Z,26nm,0.9s
GDLE Glaisdale, N Y 66.75 16 *eP* **P 19 49 16.5 +0.6**
HPK Haverah Park 67.08 16⇑ *eP* **P 19 49 18.6 +0.6**
HPK IAmb IAmb 19 49 19.6
comp=Z,32nm,0.6s
OBN Obninsk 67.46 352 *eP* **P 19 49 18.2 -2.1**
OBN *e* 19 49 47.4
OBN *e*PPP PPP 19 53 25.7
OBN pmax pmax
comp=Z,6.0nm,1.0s
NACGM Naroch 68.09 358 *i* P **P 19 49 21.9 -2.4**
NACGM *i* P **P 19 49 21.9 -2.4**
NACGM *i* P **P 19 49 21.9 -2.4**
NACGM *i* pP **pP 19 49 40.5 -2.2**
NACGM *i* PP **PP 19 51 57.2 +2.7**
NACGM *i* PPP PPP 19 53 39.8
NACGM *i* S **S 19 58 14.3 -3.8**
NACGM *i* S **S 19 58 24.3 +6.1**
NACGM *i* sS sS 19 58 57.9 +8.4
NACGM *i* SS SS 20 03 02.7 +22
NACGM *i* SSS SSS 20 06 36.8
CWF Charnwood Fore 68.31 16 *eP* **P 19 49 25.5 -0.3**
TDK Taldyqorghan 68.46 322 *eP* **P 19 49 26.2 -0.7**
baz=322
TDK Taldyqorghan 68.46 322 *eP* **P 19 49 26.1 -0.7**
MCH1 Michaelchurch 68.76 18 *eP* **P 19 49 28.8 +0.2**
MCH1 IAmb IAmb 19 49 30.2
comp=Z,15nm,0.8s
BELG Belogornoye 68.96 345⇑ *eP* **P 19 49 28.2 -1.5**
BELG pmax pmax
comp=Z,2.0nm,0.6s
KPKS Kokpek 69.72 321 *eP* **P 19 49 34.3 -0.5**
comp=Z,4.5nm,0.5s,baz=321
KPKS Kokpek 69.72 321 *eP* **P 19 49 34.3 -0.5**
KPKS pmax pmax
comp=Z,4.0nm,0.5s
SHLS Shalkode 69.73 320 *eP* **P 19 49 33.9 -1.0**
comp=Z,4.1nm,0.7s,baz=320
SHLS Shalkode 69.73 320 *eP* **P 19 49 33.8 -1.0**
SHLS pmax pmax
comp=Z,4.0nm,0.7s
ABKAR Akbulak array 69.73 336 P **P 19 49 33.7 -0.9**
ABKAR Akbulak array 69.73 336 P **P 19 49 33.7 -0.9**
ABKAR IAmb IAmb 19 49 34.7
comp=Z,11nm,0.7s
BTLS Baital 69.84 325 *eP* **P 19 49 34.6 -0.7**
comp=Z,2.0nm,0.4s,baz=325
BTLS Baital 69.84 325 *eP* **P 19 49 34.6 -0.7**
BTLS pmax pmax
comp=Z,2.0nm,0.4s
KUU Kurty 70.13 323 *eP* **P 19 49 35.9 -1.3**
baz=323
KUU Kurty 70.13 323 *eP* **P 19 49 35.8 -1.3**
SATY Saty 70.18 321 *eP* **P 19 49 35.9 -1.7**
baz=321
SATY Saty 70.18 321 *eP* **P 19 49 35.9 -1.7**
MDOK Medeo 70.55 322 *eP* **P 19 49 39.2 -0.7**
baz=322
MDOK Medeo 70.55 322 *eP* **P 19 49 39.2 -0.7**
AAA Alma-Ata 70.55 322 *eP* **P 19 49 39.8 -0.1**
comp=Z,3.7nm,0.4s,baz=322
AAA Alma-Ata 70.55 322 *eP* **P 19 49 39.7 -0.1**
AAA pmax pmax
comp=Z,4.0nm,0.4s
TNSS Tian-Shan 70.69 322 *eP* **P 19 49 40.5 -0.6**
baz=322
TNSS Tian-Shan 70.69 322 *eP* **P 19 49 40.5 -0.6**
TKM2 Tokmak 2 71.24 323 P **P 19 49 44.8 +0.7**
SNR=5.4
SDDR Presa de Saban 71.29 84 P **P 19 49 44.8 +0.3**
USP Ospenovka 71.29 324 P **P 19 49 44.5 +0.3**
SNR=6.5
CLL Collm 71.32 7 *i* P **P 19 49 44.2 -0.1**
comp=Z,4.0nm,0.6s
CLL Collm 71.32 7 *i* P **P 19 49 44.2 -0.1**
CLL pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 71.32 7 P **P 19 49 44.1 -0.1**
CLL IAmb IAmb 19 49 45.0
comp=Z,8.2nm,1.0s
CHMS Chumysh 71.45 323 P **P 19 49 45.6 +0.4**
SNR=8.4
KBK Karagaybulak 71.69 323 P **P 19 49 47.4 +0.5**
SNR=7.6
BRG Berggiesshubel 71.82 7 *i* P **P 19 49 47.8 +0.5**
BRG Amp 19 49 49.0
comp=Z,10nm,1.0s
AAK Ala-Archa 71.86 323 P **P 19 49 48.2 +0.4**
SNR=8.2
AAK Ala-Archa 71.86 323*ce*P **P 19 49 48.0 +0.2**
AAK pmax pmax
comp=Z,12nm,0.7s
AAK Ala-Archa 71.86 323 P **P 19 49 47.6 -0.2**
AAK IAmb IAmb 19 49 48.9
comp=Z,5.5nm,0.7s
MOX Moxa 71.88 8 P **P 19 49 48.2 +0.6**
MOX pmax pmax
comp=Z,18nm,1.2s
EKS2 Erkin-Say 72.07 324 P **P 19 49 49.5 +0.4**
SNR=11
PVCC Panska Ves 72.20 6 *eP* **P 19 49 50.2 +0.7**
PVCC Panska Ves 72.20 6 *eP* **P 19 49 50.2 +0.7**
CHVC Chvalec 72.23 5 *eP* **P 19 49 50.1 +0.4**
AKASG Malin Array Be 72.24 357 P **P 19 49 48.8 -1.0**
comp=Z,5.3nm,0.4s,baz=8.0,slow=6.1,SNR=21
AKASG Malin Array Be 72.24 357*ce*P **P 19 49 48.7 -1.0**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 72.24 357 P **P 19 49 48.4 -1.3**
AKBB Malin Array Si 72.24 357*ce*P **P 19 49 48.7 -1.0**
AKBB Malin Array Si 72.24 357 P **P 19 49 48.5 -1.3**
AKBB IAmb IAmb 19 49 49.7
comp=Z,13nm,0.9s
NKC Novy Kostel 72.35 8 *eP* **P 19 49 51.1 +0.6**
NKC Novy Kostel 72.35 8 *eP* **P 19 49 51.1 +0.6**
DPC Dobruska-Polom 72.48 5 *eP* **P 19 49 52.0 +0.8**
DPC Dobruska-Polom 72.48 5 *eP* **P 19 49 52.0 +0.8**
AML Almayashu 72.57 324 P **P 19 49 53.1 +0.7**
SNR=13
KK31 Karatay Array 72.68 326 P **P 19 49 52.0 -0.6**
KK31 IAmb IAmb 19 49 53.1
comp=Z,7.6nm,0.8s
KKAR Karatay Array 72.68 326 P **P 19 49 51.8 -0.7**
KKAR Karatay Array 72.68 326 P **P 19 49 52.2 -0.3**
KKAR IAmb IAmb 19 49 53.1
comp=Z,7.6nm,0.8s
PRU Pruhonice 72.74 7 *eP* **P 19 49 53.2 +0.5**
PRU Pruhonice 72.74 7 *eP* **P 19 49 53.2 +0.5**
KRLC Kraliky 72.77 5 *eP* **P 19 49 53.3 +0.3**
KRLC Kraliky 72.77 5 *eP* **P 19 49 53.3 +0.3**
GRA1 Grafenberg Arr 72.80 9 P **P 19 49 54.0 +0.9**
GRA1 IAmb IAmb 19 49 54.6
comp=Z,11nm,0.7s
MORC Moravsky Berou 73.11 5 *eP* **P 19 49 55.0 0.0**
MORC Moravsky Berou 73.11 5 P **P 19 49 55.0 0.0**
MORC IAmb IAmb 19 49 56.1
comp=Z,6.0nm,0.9s
KWP Kalwaria Pacla 73.39 1 P **P 19 49 56.6 0.0**
KWP IAmb IAmb 19 49 57.8
comp=Z,20nm,1.1s
CLF Chambon-Foret 73.43 15 P **P 19 49 58.2 +1.4**
KHC Kasperske Hory 73.53 7⇑ *eP* **P 19 49 58.1 +0.6**
KHC pmax pmax
comp=Z,25nm,0.8s
KHC Kasperske Hory 73.53 7 *eP* **P 19 49 58.2 +0.7**
KHC *ex* x 19 50 07.0
KHC Kasperske Hory 73.53 7 P **P 19 49 58.1 +0.6**
KHC IAmb IAmb 19 49 59.2
comp=Z,11nm,0.8s
VRAC Vranov 73.53 5 *eP* **P 19 49 57.6 +0.2**
IUG luzhnay 73.70 326 *eP* **P 19 49 58.5 -0.1**
comp=Z,5.0nm,0.8s,baz=326
IUG luzhnay 73.70 326 *eP* **P 19 49 58.5 -0.1**
IUG pmax pmax
comp=Z,5.0nm,0.8s
KRUC Moravsky 73.77 5 *eP* **P 19 49 58.8 0.0**
LANS Liptovska Anna 73.80 3 *eP* **P 19 49 59.8 +0.7**
LANS pmax pmax
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 73.80 3 *eP* **P 19 49 59.8 +0.7**
GEC2 GERESS Array S 73.82 7 P **P 19 49 59.5 +0.2**
GEC2 IAmb IAmb 19 50 00.4
comp=Z,8.2nm,0.7s
GERES GERESS Array B 73.82 7 P **P 19 49 59.8 +0.5**
comp=Z,5.8nm,0.6s,baz=359,slow=4.5,SNR=54
GERES GERESS Array B 73.82 7 P **P 19 49 59.4 +0.1**
ECH Echery 73.86 12 P **P 19 49 59.7 +0.3**
ECH IAmb IAmb 19 50 00.8
comp=Z,16nm,1.0s
BFO Black Forest 73.88 11 P **P 19 49 59.8 +0.3**
BFO IAmb IAmb 19 50 00.8
comp=Z,7.7nm,0.9s
CKRC Cesky Krumlov 73.89 7 *eP* **P 19 49 59.7 +0.2**
JAVC Velka Javorina 74.03 4 *eP* **P 19 50 01.6 +1.2**
KOLS Kolonicke sedl 74.08 1 *eP* **P 19 50 01.3 +0.7**
KOLS Kolonicke sedl 74.08 1 *eP* **P 19 50 01.3 +0.7**
KSH Kashi 74.16 321 P **P 19 50 04.6 +3.2**
KSH S **S 19 59 32.0 +2.9**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,280nm,6.6s
KSH LR LR
comp=Z,140nm,8.4s
KSH LR LR
comp=Z,230nm,7.1s
KSH LR LR
comp=Z,500nm,14.2s
MFF Saint Martin d 74.46 17 *eP* **P 19 50 03.1 +0.3**
MFF pmax pmax
comp=Z,99nm,2.0s
ZST Bratislava 74.67 5 *eP* **P 19 50 04.2 +0.2**
ZST pmax pmax
comp=Z,29nm,1.1s
ZST Bratislava 74.67 5 *eP* **P 19 50 04.2 +0.2**
SORM Soroca 74.84 357⇓ *i* P **P 19 50 04.3 -0.6**
CONA Conrad Observa 74.87 6 *i* P **P 19 50 05.8 +0.4**
comp=Z,5.9nm,0.8s,SNR=9.1
PSZ Piszkesteto 75.05 3 P **P 19 50 06.4 +0.1**
PSZ IAmb IAmb 19 50 08.0
comp=Z,8.8nm,1.0s
DAVA Damuels 75.06 10 *eP* **P 19 50 07.7 +1.1**
comp=Z,5.0nm,0.8s
MOTA Moosalm 75.11 9 *eP* **P 19 50 07.2 +0.4**
comp=Z,9.7nm,1.0s,SNR=5.5
WATA Walderalm 75.16 9 *i* P **P 19 50 07.6 +0.5**
comp=Z,5.7nm,0.5s,SNR=5.0
WTTA Wattenberg 75.24 9 *i* P **P 19 50 08.4 +0.8**
comp=Z,15nm,0.7s,SNR=10
SQTA Sankt Quirin 75.25 9 *eP* **P 19 50 08.3 +0.7**
comp=Z,13nm,0.7s,SNR=6.3
BUR08 Bucovina Ar. S 75.38 359 P **P 19 50 07.9 -0.4**
FETA Feichten 75.40 9 *eP* **P 19 50 09.1 +0.6**
comp=Z,11nm,1.1s,SNR=9.7
BURAR Bucovina Array 75.41 359⇓ P **P 19 50 08.6 +0.2**
BURAR Bucovina Array 75.41 359 P **P 19 50 08.3 -0.2**
ARSA Arzberg 75.53 6 *eP* **P 19 50 09.8 +0.7**
comp=Z,5.8nm,0.9s
KBA Koelnbreinsper 75.56 8 *eP* **P 19 50 10.4 +1.0**
comp=Z,13nm,0.6s,SNR=17
TUE Stuetta 75.82 11 P **P 19 50 11.4 +0.5**
TUE IAmb IAmb 19 50 12.8
comp=Z,7.6nm,0.7s
ZOU Zoufplan 76.05 8 P **P 19 50 12.2 -0.1**
ZOU IAmb IAmb 19 50 13.7
comp=Z,7.1nm,0.6s
SOKA Soboth 76.07 6 *eP* **P 19 50 13.1 +0.9**
comp=Z,3.1nm,0.4s,SNR=6.2
BIZ Bicaz 76.08 359⇓ P **P 19 50 12.8 +0.6**
PRED Cave del Predi 76.20 8 P **P 19 50 12.6 -0.4**
PRED IAmb IAmb 19 50 14.8
comp=Z,11nm,1.4s
OBKA Obir 76.21 7 *eP* **P 19 50 13.6 +0.6**
comp=Z,19nm,0.5s,SNR=22
LFF La Frestale 76.22 17 *eP* **P 19 50 13.4 +0.5**
LFF pmax pmax
comp=Z,11nm,0.6s
DRGR 76.23 1⇓ P **P 19 50 13.5 +0.4**
CIMO Cimolais 76.25 8 P **P 19 50 12.7 -0.5**
CIMO IAmb IAmb 19 50 35.2
comp=Z,10nm,1.7s
CAF Calviac 76.43 16 *eP* **P 19 50 14.4 +0.2**
CAF pmax pmax
comp=Z,12nm,1.2s
CTI Castel Tesino 76.45 9 P **P 19 50 13.7 -0.7**
CTI IAmb IAmb 19 50 15.7
comp=Z,9.8nm,1.3s
MORH Mrgy, Hungar 76.71 4⇓ P **P 19 50 16.0 +0.3**
OZUR 76.92 359⇑ P **P 19 50 17.6 +0.6**
BNI Bardonecchia 76.93 13 P **P 19 50 17.5 +0.4**
BNI IAmb IAmb 19 50 19.9
comp=Z,8.6nm,1.0s
TEOL Teolo 77.13 9 P **P 19 50 18.0 -0.2**
VRI Vrincioaia 77.14 358⇑ P **P 19 50 18.4 +0.2**
VRI Vrincioaia 77.14 358 P **P 19 50 18.3 +0.2**
PLOR Plostina 77.16 358⇑ P **P 19 50 17.6 -0.7**
BZS Buzias 77.39 2⇑ P **P 19 50 19.7 +0.1**
NEHR Nehoiu 77.59 358⇓ P **P 19 50 21.1 +0.4**
GZR Gura Zlata 77.63 1⇓ P **P 19 50 21.4 +0.4**
SLVN Son La 77.67 290 P **P 19 50 21.5 -0.1**
SLVN IAmb IAmb 19 50 22.5
comp=Z,3.7nm,0.7s
CFR Carcaliu 77.80 357⇑ P **P 19 50 21.1 -0.7**
KIV Kislovodsk 77.89 346⇓ P **P 19 50 22.8 +0.3**
KIV Kislovodsk 77.89 346 *eP* **P 19 50 22.3 -0.2**
KIV pmax pmax
comp=Z,62nm,1.1s
KIV Kislovodsk 77.89 346 P **P 19 50 22.5 0.0**
MSSA Maissana 77.97 11 P **P 19 50 22.8 -0.1**
ZCCA Zocca 78.07 10 P **P 19 50 24.3 +0.8**
ZCCA IAmb IAmb 19 50 46.3
comp=Z,20nm,1.3s
KBZ Khabaz 78.09 346 P **P 19 50 24.2 +0.8**
comp=Z,11nm,0.8s,baz=358,slow=3.6,SNR=22
KBZ Khabaz 78.09 346*d i*P **P 19 50 23.9 +0.5**
KBZ pmax pmax
comp=Z,14nm,0.9s
TPGR Topolog 78.11 357⇓ P **P 19 50 23.9 +0.3**
HERR Herculane 78.14 1⇑ P **P 19 50 22.7 -1.0**
MDVR Moldovita 78.22 2⇓ P **P 19 50 23.8 -0.4**
HARR Harsova 78.29 357⇑ P **P 19 50 24.7 +0.2**
TIRR Tirgusor 78.51 357⇓ P **P 19 50 25.8 +0.1**
TIRR Tirgusor 78.51 357 P **P 19 50 25.4 -0.3**
DIVS Divibare 78.87 3 P **P 19 50 27.2 -0.7**
NRCA Norcia 79.76 8 P **P 19 50 33.4 +0.7**
NRCA IAmb IAmb 19 50 33.7
comp=Z,12nm,1.3s
TAPN Taplejung 80.28 306 *eP* **P 19 50 35.8 -0.3**
NIL Nilore 80.39 320 P **P 19 50 36.5 +0.3**
NIL IAmb IAmb 19 50 37.3
comp=Z,16nm,1.0s
ESBB Sonseca Array 80.48 22 P **P 19 50 37.6 +1.0**
ESBB IAmb IAmb 19 50 60.0
comp=Z,14nm,1.5s
ESDC Sonseca Array 80.48 22 P **P 19 50 37.6 +0.9**
comp=Z,1.8nm,0.6s,baz=341,slow=5.1,SNR=21
ESDC Sonseca Array 80.48 22 P **P 19 50 37.3 +0.7**
PDG Podgorica 80.51 4 P **P 19 50 36.8 +0.2**
PDG IAmb IAmb 19 50 37.3
comp=Z,15nm,0.7s
GUN Gumba 80.59 308 *eP* **P 19 50 37.5 -0.3**
ODAN Odare 80.85 306 *eP* **P 19 50 38.9 -0.1**
comp=Z,7.5nm,0.8s
GEYT Alibeck 80.88 333 P **P 19 50 39.2 +0.4**
comp=Z,6.9nm,0.7s,baz=320,slow=3.9,SNR=14
GEYT Alibeck 80.88 333 P **P 19 50 39.2 +0.4**
GEYT IAmb IAmb 19 50 40.1
comp=Z,7.7nm,0.8s
DIKM Dikmen 80.94 352⇓ P **P 19 50 40.3 +1.3**
KKN Kakani 80.95 308 *eP* **P 19 50 39.1 -0.4**
comp=Z,4.3nm,0.4s
GKN Gorkha 81.04 309 *eP* **P 19 50 39.3 -0.6**
comp=Z,15nm,1.0s
PKI Pulchoki 81.09 308 *eP* **P 19 50 39.6 -0.8**
PKIN Phulchoki 81.09 308 *eP* **P 19 50 39.1 -1.2**
RAMN Ramite 81.11 307 *eP* **P 19 50 39.6 -0.9**
GNI Garni 81.35 344⇓ *eP* **P 19 50 42.8 +1.4**
GNI pmax pmax
comp=Z,10.0nm,1.3s
FNA Florina 82.21 2 P **P 19 50 45.6 -0.2**
FNA IAmb IAmb 19 50 46.0
comp=Z,6.5nm,0.5s
CM31 Chiang Mai Arr 82.59 293 P **P 19 50 47.5 -0.5**
CM31 IAmb IAmb 19 50 48.3
comp=Z,3.6nm,0.8s
CMAR Chiang Mai Arr 82.59 293 P **P 19 50 47.3 -0.7**
comp=Z,2.4nm,0.7s,baz=14,slow=5.4,SNR=26
CMAR Chiang Mai Arr 82.59 293*ce*P **P 19 50 47.5 -0.5**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 82.59 293 P **P 19 50 47.6 -0.4**
SCTE Santa Cesarea 82.83 4 P **P 19 50 49.4 +0.5**
BR131 Keskin Array S 82.97 353*d i*P **P 19 50 49.9 +0.1**
BR131 Keskin Array S 82.97 353 P **P 19 50 50.1 +0.2**
BR131 IAmb IAmb 19 50 51.0
comp=Z,9.4nm,0.8s

BRTR	**Keskin Array B**	**82.97**	**353**	P	**P**	**19 50 50.0**	**0.0**
	comp=Z,5.3nm,0.8s,baz=29,slow=2.7,SNR=32						
BRTR	**Keskin Array B**	**82.97**	**353**	*ce*P	**P**	**19 50 50.2**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HRA	**Herat**	**83.16**	**329**	P	**P**	**19 50 50.9**	**-0.1**
GEVA	**Gevas**	**83.39**	**345**	P	**P**	**19 50 52.5**	**+0.3**
GEVA				IAmb	IAmb	19 50 53.8	
	comp=Z,6.1nm,0.8s						
TIP	**Timpagrande**	**83.64**	**6**	P	**P**	**19 50 53.6**	**+0.3**
TIP				IAmb	IAmb	19 51 08.2	
	comp=Z,7.7nm,1.1s						
KKM	**Kota Kinabalu**	**83.87**	**272**	P	**P**	**19 50 55.1**	**+0.4**
AGG	**Agios Georgios**	**83.99**	**1**	P	**P**	**19 50 54.6**	**-0.4**
MARD	**Mardin**	**84.67**	**347**	P	**P**	**19 50 59.6**	**+1.0**
GAZ	**Gaziantep**	**85.21**	**350**	P	**P**	**19 51 02.2**	**+1.1**
GAZ				IAmb	IAmb	19 51 03.6	
	comp=Z,7.9nm,0.8s						
KEST	**Kesra**	**86.44**	**12**	P	**P**	**19 51 06.9**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=294,slow=8.0,SNR=5.0						
BOSA	**Boshof**	**151.28**	**358**	PKPbc	**PKPbc**	**19 58 17.6**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=44,slow=2.1,SNR=14						

IDC 13 19:45:08.6±2.2, 7.48S×130.00E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.3/33, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=77.0km s-min=29.5km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.37**	**202**	Pn	Pn	19 47 54.4	+1.9
	0.1nm,0.3s,baz=31,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**13.08**	**162**	Pn	Pn	19 48 14.2	-1.6
	0.1nm,0.3s,baz=339,slow=13,SNR=6.0						
WRA				Sn	Sn	19 50 30.8	-11
	0.1nm,0.3s,baz=347,slow=22,SNR=3.3						
ASAR	**Alice Springs**	**16.52**	**167**	Pn	Pn	19 49 01.6	-0.3
	0.1nm,0.3s,baz=348,slow=9.3,SNR=5.7						
MKAR	**Makanchi Array**	**68.63**	**327**	P	P	19 56 13.6	0.0
	0.2nm,0.5s,baz=128,slow=6.0,SNR=4.6						

DDA 13 19:48:58.1, 38.54N×26.43E, h7km±4km, ML1.6, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.22**	**143**	*i* P	Pg	19 49 01.7	-0.8
URLA				*i* S	Sg	19 49 05.0	-0.5
ZEYE	**Izmir, Urla-Ze**	**0.30**	**169**	*i* P	Pg	19 49 04.8	+0.8
ZEYE				*i* S	Sb	19 49 09.9	-1.2
ZEYE				IAML		19 49 10.0	
	comp=E,68nm,0.2s						
ZEYE				IAML		19 49 12.0	
	comp=N,73nm,0.4s						
DGB	**zmir**	**0.60**	**143**	*i* P	Pg	19 49 09.2	-0.6
DGB				IAML		19 49 18.0	
	comp=N,31nm,0.9s						
DGB				*i* S	Sg	19 49 18.3	+0.7
DGB				IAML		19 49 21.0	
	comp=E,37nm,1.3s						
BAYC	**CANAKKALE_Bayr**	**1.20**	**4**	*i* P	Pg	19 49 20.8	-0.4
BAYC				*i* S	Sb	19 49 37.4	+0.4
BAYC				IAML		19 49 42.0	
	comp=E,11nm,1.4s						
STEP	**BALIKESIR_Sava**	**1.31**	**50**	*i* P	Pg	19 49 23.6	+0.4

IDC 13 20:07:46.2±2.0, 0.57N×126.47E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/42, mbtmp3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=174.3km s-min=24.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**8.71**	**230**	LR	LR	20 14 30.9	
	comp=Z,80nm,18.0s,baz=245,slow=46						
WRA	**Warramunga Arr**	**21.79**	**160**	P	P	20 12 39.6	-0.3
	0.7nm,0.5s,baz=338,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.15**	**164**	P	P	20 13 13.5	+0.2
	0.3nm,0.5s,baz=344,slow=12,SNR=9.1						
MKAR	**Makanchi Array**	**60.01**	**326**	P	P	20 17 54.7	-0.1
	0.2nm,0.3s,baz=120,slow=7.6,SNR=8.3						

*TAP **13** 20:15:44.9, 24.44N×121.96E, h24km, ML2.9, B*
*JMA **13** 20:15:44.9±0.1, 24.39N×121.97E, h36km±5km, M2.0*
ISC 13 20:15:44.7±0.9, 24.41N±0.02×121.98E±0.02, h25km±7km, n90, σ0.95/178, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.22**	**276**	P	**Pb**	**20 15 50.6**	**0.0**
	baz=266						
ENA				S	**Sb**	**20 15 55.0**	**+0.3**
	baz=266						
TWC	**Suao**	**0.24**	**329**	*i* P	**Pb**	**20 15 50.9**	**0.0**
	baz=331						
TWC				*i* S	**Sb**	**20 15 55.1**	**0.0**
	baz=331						
NDS	**Dongshan**	**0.33**	**313**	P	**Pb**	**20 15 52.3**	**+0.1**
	baz=311						
NDS				S	**Sb**	**20 15 57.8**	**+0.4**
	baz=311						
ILA	**Ilan**	**0.42**	**329**	*e*P	**Pb**	**20 15 53.8**	**+0.2**
	baz=330						
ILA				*e*S	**Sn**	**20 16 00.8**	**-1.2**
	baz=330						
NACB	**Ninganchiao**	**0.42**	**237**	P	**Pb**	**20 15 53.6**	**0.0**
	baz=231						
NACB				*i* S	**Sn**	**20 16 01.5**	**-0.7**
	baz=231						
TWE	**Neicheng**	**0.43**	**318**	*i* P	**Pb**	**20 15 53.6**	**-0.1**
	baz=317						
TWE				S	**Sb**	**20 15 59.9**	**+0.1**
	baz=317						
ENTT	**Nioudou**	**0.45**	**302**	P	**Pb**	**20 15 54.0**	**-0.1**
	baz=299						
ENTT				S	**Sb**	**20 16 00.2**	**-0.2**
	baz=299						
NTC	**Toucheng**	**0.47**	**343**	*e*P	**Pb**	**20 15 54.4**	**0.0**
	baz=343						
NTC				*e*S	**Sb**	**20 16 01.5**	**+0.5**
	baz=343						
NDT	**Datong Townshi**	**0.47**	**295**	P	**Pb**	**20 15 54.7**	**+0.2**
	baz=291						
NDT				S	**Sn**	**20 16 01.9**	**-1.5**
	baz=291						
TWD	**Chiawan**	**0.48**	**227**	*e*P	**Pb**	**20 15 54.7**	**+0.1**
	baz=222						
TWD				*e*S	**Sn**	**20 16 03.5**	**-0.1**
	baz=222						
ETLH	**Xiulin Townshi**	**0.50**	**247**	P	**Pb**	**20 15 55.1**	**+0.1**
	baz=242						
ETLH				*e*S	**Sn**	**20 16 03.9**	**-0.3**
	baz=242						
NNSB	**Datong**	**0.55**	**272**	*e*P	**Pb**	**20 15 55.9**	**0.0**
	baz=269						
NNSB				*e*S	**Sb**	**20 16 03.9**	**+0.5**
	baz=269						
NNSH	**Datong**	**0.55**	**272**	*e*P	**Pb**	**20 15 56.0**	**+0.1**
	baz=269						
NNSH				*e*S	**Sn**	**20 16 04.0**	**-1.4**
	baz=269						
HWA	**Hwalien**	**0.55**	**219**	*e*P	**Pn**	**20 15 57.0**	**0.0**
	baz=214						
HWA				*e*S	**Sn**	**20 16 07.5**	**+2.2**
	baz=214						
NNS	**Nan Shan**	**0.56**	**274**	P	**Pb**	**20 15 56.0**	**0.0**
	baz=269						
NNS				*e*S	**Sb**	**20 16 04.2**	**+0.5**
	baz=269						
NWLT	**Wulai**	**0.57**	**310**	*e*P	**Pb**	**20 15 56.1**	**-0.1**
	baz=309						
NWLT				*e*S	**Sb**	**20 16 03.9**	**-0.1**
	baz=309						
TIPB	**Shuangxi**	**0.58**	**346**	*e*P	**Pb**	**20 15 56.4**	**0.0**
	baz=346						
TIPB				*e*S	**Sb**	**20 16 04.3**	**+0.1**
	baz=346						
TWB1	**Santiao Chiao**	**0.60**	**0**	*e*P	**Pb**	**20 15 56.8**	**+0.2**
	baz=3.0						
TWB1				*e*S	**Sb**	**20 16 04.9**	**+0.2**
	baz=3.0						
YHNB	**Yeheng**	**0.61**	**296**	*i* P	**Pb**	**20 15 56.8**	**-0.1**
	baz=293						
YHNB				S	**Sb**	**20 16 05.2**	**0.0**
	baz=293						
NSK	**Sanguang**	**0.63**	**295**	P	**Pb**	**20 15 57.0**	**-0.1**
	baz=293						
NSK				S	**Sb**	**20 16 05.4**	**-0.2**
	baz=293						
TWA	**Mucha**	**0.68**	**328**	*e*P	**Pn**	**20 15 59.8**	**+1.1**
	baz=328						
TWA				*e*S	**Sn**	**20 16 07.5**	**-1.1**
	baz=328						
NWF	**Wu-fen Shan**	**0.69**	**345**	*e*P	**Pn**	**20 15 58.5**	**-0.5**
	baz=345						
NWF				*e*S	**Sb**	**20 16 07.5**	**+0.2**
	baz=345						
WFSB	**Wu-fen Shan**	**0.69**	**345**	*e*P	**Pn**	**20 15 58.5**	**-0.3**
	baz=345						
WFSB				*e*S	**Sn**	**20 16 07.8**	**-1.0**
	baz=345						
FUSS	**Fushou**	**0.69**	**257**	*e*P	**Pn**	**20 15 58.6**	**-0.5**
	baz=253						
FUSS				*e*S	**Sn**	**20 16 08.8**	**-0.4**
	baz=253						
NHDH	**Xindian Distri**	**0.69**	**323**	*e*P	**Pn**	**20 15 59.1**	**+0.2**
	baz=322						
NHDH				*e*S	**Sn**	**20 16 08.5**	**-0.4**
	baz=322						
WHF	**Hehuan Shan**	**0.70**	**249**	P	**Pb**	**20 15 58.6**	**-0.1**
	baz=244						
WHF				*e*S	**Sn**	**20 16 09.2**	**-0.6**
	baz=244						
TWT	**Tachien**	**0.75**	**259**	*e*P	**Pn**	**20 15 59.7**	**-0.2**
	baz=255						
TWT				*e*S	**Sn**	**20 16 10.5**	**0.0**
	baz=255						
TAP	**Taipei**	**0.77**	**326**	*e*P	**Pb**	**20 16 00.1**	**+0.7**
	baz=325						
TAP				*e*S	**Sb**	**20 16 09.6**	**+0.1**
	baz=325						
TDCB	**Techi**	**0.77**	**259**	*e*P	**Pn**	**20 15 59.7**	**-0.4**
	baz=255						
TDCB				*e*S	**Sn**	**20 16 10.9**	**-0.1**
	baz=255						
ESL	**Shilin**	**0.77**	**221**	*e*P	**Pn**	**20 15 59.0**	**-1.1**
	baz=217						
ESL				*e*S	**Sn**	**20 16 11.2**	**+0.3**
	baz=217						
YM01	**YM01**	**0.83**	**333**	*e*P	**Pn**	**20 16 00.1**	**-0.8**
	baz=333						
YM01				*e*S	**Sb**	**20 16 10.8**	**-0.4**
	baz=333						
YM10	**YM10**	**0.84**	**333**	*e*P	**Pb**	**20 16 01.3**	**+0.6**
	baz=333						
YM10				*e*S	**Sn**	**20 16 12.3**	**-0.3**
	baz=333						
YM11	**YM11**	**0.84**	**334**	*e*P	**Pb**	**20 16 01.2**	**+0.4**
	baz=334						
YM05	**YM05**	**0.84**	**333**	*e*P	**Pb**	**20 16 01.3**	**+0.4**
	baz=333						
YM05				*e*S	**Sn**	**20 16 13.2**	**+0.4**
	baz=333						
YM04	**YM04**	**0.85**	**332**	*e*P	**Pb**	**20 16 01.3**	**+0.5**
	baz=331						
YM04				*e*S	**Sn**	**20 16 11.9**	**-0.9**
	baz=331						
YM08	**YM08**	**0.86**	**335**	*e*P	**Pn**	**20 16 00.7**	**-0.6**
	baz=335						
YM08				*e*S	**Sn**	**20 16 13.2**	**+0.2**
	baz=335						
NJD	**Zhudong**	**0.88**	**292**	*e*P	**Pb**	**20 16 02.3**	**+1.0**
	baz=290						
NJD				*e*S	**Sn**	**20 16 15.7**	**+2.2**
	baz=290						
JYNG	**Yonagunijimaku**	**0.88**	**87**	P	**Pn**	**20 16 01.1**	**-0.4**
JYNG				S	**Sb**	**20 16 13.7**	**+1.0**
EGFH	**Guangfu**	**0.89**	**215**	*e*P	**Pn**	**20 16 01.0**	**-0.7**
	baz=212						
EGFH				*e*S	**Sb**	**20 16 13.6**	**+0.5**
	baz=212						
LIOB	**Emei**	**0.91**	**285**	*e*P	**Pb**	**20 16 02.6**	**+0.7**
	baz=283						
LIOB				*e*S	**Sb**	**20 16 15.7**	**+2.0**
	baz=283						
NSTT	**Nanjuang**	**0.92**	**284**	*e*P	**Pb**	**20 16 02.4**	**+0.4**
	baz=282						
NSTT				*e*S	**Sb**	**20 16 15.3**	**+1.4**
	baz=282						
TWY	**Chenhua**	**0.93**	**338**	*e*P	**Pn**	**20 16 01.0**	**-1.2**
	baz=338						
TWY				*e*S	**Sb**	**20 16 15.2**	**+1.0**
	baz=338						
YOJ	**Yonaguni jima**	**0.94**	**86**	*e*P	**Pn**	**20 16 02.2**	**-0.2**
	baz=88						
YOJ				*e*S	**Sb**	**20 16 15.2**	**+0.9**
	baz=88						
YOJ	**Yonaguni jima**	**0.94**	**86**	P	**Pn**	**20 16 02.1**	**-0.2**
YOJ				S	**Sn**	**20 16 14.9**	**0.0**
WHP	**Taichung City**	**0.95**	**263**	*e*P	**Pb**	**20 16 03.2**	**+0.6**
	baz=260						
WHP				*e*S	**Sb**	**20 16 16.3**	**+1.4**
	baz=260						
SBCB	**Hsinchu**	**0.99**	**293**	*e*P	**Pn**	**20 16 00.9**	**-2.1**
	baz=291						
SBCB				*e*S	**Sb**	**20 16 18.8**	**+3.1**
	baz=291						
VWDT	**VWDT**	**1.01**	**230**	*e*P	**Pn**	**20 16 03.1**	**-0.1**
	baz=227						
VWDT				*e*S	**Sb**	**20 16 17.3**	**+1.0**
	baz=227						
WPL	**Puli Township**	**1.01**	**247**	*e*P	**Pb**	**20 16 03.7**	**+0.1**
	baz=245						
WPL				*e*S	**Sb**	**20 16 18.1**	**+1.5**
	baz=245						
DPDB	**Guoxing**	**1.03**	**249**	*e*P	**Pb**	**20 16 04.0**	**0.0**
	baz=246						
DPDB				*e*S	**Sb**	**20 16 19.7**	**+2.5**
	baz=246						
WCS	**Beigang Elemen**	**1.04**	**251**	*e*P	**Pb**	**20 16 03.9**	**-0.1**
	baz=248						
WCS				*e*S	**Sb**	**20 16 18.8**	**+1.6**
	baz=248						
HGSD	**Ruisui**	**1.04**	**209**	*e*P	**Pb**	**20 16 04.8**	**+0.6**
	baz=207						
HGSD				*e*S	**Sb**	**20 16 19.3**	**+1.9**
	baz=207						
EHY	**Hungye**	**1.08**	**214**	*e*P	**Pn**	**20 16 03.2**	**-1.1**
	baz=211						
EHY				*e*S	**Sn**	**20 16 17.7**	**-0.7**
	baz=211						
TWQ1	**Liyutan**	**1.10**	**267**	*e*P	**Pn**	**20 16 04.3**	**-0.3**
	baz=265						
TWQ1				*e*S	**Sb**	**20 16 21.8**	**+2.6**
	baz=265						
SMLT	**Sun Moon Lake**	**1.12**	**242**	*e*P	**Pb**	**20 16 06.7**	**+1.3**
	baz=240						
SMLT				*e*S	**Sb**	**20 16 21.9**	**+2.3**
	baz=240						
SSLB	**Suanglung**	**1.12**	**237**	*e*P	**Pn**	**20 16 04.8**	**-0.1**
	baz=234						
SSLB				*e*S	**Sb**	**20 16 20.5**	**+0.8**
	baz=234						
TYC	**Yuchr**	**1.14**	**244**	*e*P	**Pb**	**20 16 05.5**	**-0.3**
	baz=241						
TYC				*e*S	**Sb**	**20 16 20.9**	**+0.7**
	baz=241						
YULB	**Yu-li**	**1.19**	**212**	*e*P	**Pn**	**20 16 04.7**	**-1.0**
	baz=210						
YULB				*e*S	**Sn**	**20 16 19.8**	**-1.3**
	baz=210						
TWF1	**Yuli**	**1.22**	**211**	*e*P	**Pn**	**20 16 05.0**	**-1.3**
	baz=209						
TWF1				*e*S	**Sn**	**20 16 20.9**	**-1.1**
	baz=209						
WWF	**Wufeng**	**1.23**	**253**	*e*P	**Pb**	**20 16 09.5**	**+2.2**
	baz=251						
WWF				*e*S	**Sb**	**20 16 25.0**	**+2.4**
	baz=251						
WJS	**Zhushan**	**1.28**	**243**	*e*P	**Pb**	**20 16 08.5**	**+0.3**
	baz=241						
WJS				*e*S	**Sb**	**20 16 26.7**	**+2.3**
	baz=241						
WNT	**Mingjian**	**1.30**	**246**	*e*P	**Pb**	**20 16 09.1**	**+0.6**
	baz=244						
WNT				*e*S	**Sb**	**20 16 26.2**	**+1.5**
	baz=244						
YUS	**Yu-Shan**	**1.31**	**226**	*e*P	**Pn**	**20 16 08.2**	**+0.3**
	baz=224						
YUS				*e*S	**Sb**	**20 16 25.1**	**-0.4**
	baz=224						
FULB	**Fuli**	**1.36**	**208**	*e*P	**Pn**	**20 16 08.5**	**+0.4**
	baz=206						
FULB				*e*S	**Sb**	**20 16 27.2**	**+0.7**
	baz=206						
ALS	**Alishan**	**1.40**	**231**	*e*P	**Pb**	**20 16 09.7**	**-0.7**
	baz=228						
ALS				*e*S	**Sb**	**20 16 28.5**	**+0.6**
	baz=228						
CHN5	**Tsauling**	**1.44**	**236**	*e*P	**Pb**	**20 16 10.8**	**-0.1**
	baz=234						
CHN5				*e*S	**Sb**	**20 16 29.6**	**+0.8**
	baz=234						
WGK	**Gukeng**	**1.48**	**241**	*e*P	**Pb**	**20 16 11.7**	**+0.1**
	baz=239						
WGK				*e*S	**Sb**	**20 16 30.5**	**+0.5**
	baz=239						
ELDTW	**Lidau**	**1.50**	**216**	*e*P	**Pn**	**20 16 10.5**	**+0.3**
	baz=214						
ELDTW				*e*S	**Sn**	**20 16 28.9**	**-0.1**
	baz=214						
WDLH	**Douliu**	**1.50**	**242**	*e*P	**Pb**	**20 16 12.5**	**+0.6**
	baz=240						
WDLH				*e*S	**Sb**	**20 16 32.3**	**+1.8**
	baz=240						
EDH	**Donghe**	**1.56**	**204**	*e*P	**Pn**	**20 16 10.3**	**-0.5**
	baz=202						
EDH				*e*S	**Sn**	**20 16 28.8**	**-1.4**
	baz=202						
IRIF	**Iriomote-Funau**	**1.59**	**92**	P	**Pn**	**20 16 11.4**	**+0.1**
IRIF				S	**Sn**	**20 16 31.5**	**+0.4**
CHN4	**Tsaushan**	**1.65**	**231**	*e*P	**Pb**	**20 16 14.4**	**-0.1**
	baz=229						
CHN4				*e*S	**Sb**	**20 16 34.9**	**+0.1**
	baz=229						
STYH	**Taoyuan**	**1.65**	**222**	*e*P	**Pn**	**20 16 13.2**	**+1.1**
	baz=220						
STYH				*e*S	**Sb**	**20 16 34.1**	**-0.8**
	baz=220						
TPUB	**Ta-pu**	**1.66**	**229**	*e*P	**Pb**	**20 16 13.9**	**-0.7**
	baz=227						
TPUB				*e*S	**Sb**	**20 16 35.4**	**+0.3**
	baz=227						
STYT	**Tauyuan**	**1.67**	**222**	*e*P	**Pb**	**20 16 14.9**	**0.0**
	baz=220						
STYT				*e*S	**Sb**	**20 16 35.5**	**+0.1**
	baz=220						
CHY	**Chiayi**	**1.69**	**238**	*e*P	**Pb**	**20 16 15.2**	**+0.1**
	baz=236						
CHY				*e*S	**Sb**	**20 16 35.6**	**-0.3**
	baz=236						
WTP	**Ta-pu**	**1.70**	**228**	*e*P	**Pb**	**20 16 14.6**	**-0.8**
	baz=225						
WTP				*e*S	**Sb**	**20 16 36.0**	**-0.5**
	baz=225						
TWK	**Hsinying**	**1.78**	**231**	*e*P	**Pb**	**20 16 15.9**	**-0.7**
	baz=228						
TWK				*e*S	**Sb**	**20 16 37.5**	**-1.0**
	baz=228						
WSF	**Szhu**	**1.78**	**245**	*e*S	**Sb**	**20 16 37.9**	**-0.7**
	baz=243						
CHN1	**Nanshi**	**1.80**	**228**	*e*P	**Pb**	**20 16 16.1**	**-1.0**
	baz=226						
CHN1				*e*S	**Sb**	**20 16 37.9**	**-1.4**
	baz=226						
JIJ	**Ishigaki jima**	**1.97**	**91**	P	**Pn**	**20 16 17.1**	**+0.6**
JIJ				S	**Sn**	**20 16 40.4**	**0.0**
SSD	**Sandimen**	**2.06**	**217**	*e*P	**Pb**	**20 16 20.2**	**-1.3**
	baz=215						
SSD				*e*S	**Sn**	**20 16 43.6**	**+0.8**
	baz=215						
TSMG	**Majia**	**2.09**	**216**	*e*P	**Pb**	**20 16 20.6**	**-1.4**
	baz=214						
TSMG				*e*S	**Sb**	**20 16 46.8**	**-0.8**
	baz=214						
JISG	**Ishigakijimahi**	**2.13**	**85**	P	**Pn**	**20 16 18.5**	**-0.2**
JISG				S	**Sn**	**20 16 44.7**	**+0.4**
MASBT	**Mashibuluo**	**2.17**	**215**	*e*P	**Pn**	**20 16 20.6**	**+1.3**
	baz=213						
MASBT				*e*S	**Sb**	**20 16 47.8**	**-2.1**
	baz=213						
EAST	**Anshuo**	**2.27**	**208**	*e*P	**Pb**	**20 16 23.2**	**-1.8**
	baz=206						
EAST				*e*S	**Sn**	**20 16 49.4**	**+1.6**
	baz=206						
PNG	**Penghu**	**2.37**	**250**	*e*P	**Pn**	**20 16 22.2**	**+0.2**
	baz=248						
PNG				*e*S	**Sn**	**20 16 50.6**	**+0.3**
	baz=248						
VWUC	**VWUC**	**2.38**	**285**	*e*P	**Pn**	**20 16 21.1**	**-1.0**
	baz=283						
VWUC				*e*S	**Sn**	**20 16 48.7**	**-1.8**
	baz=283						
PHUB	**P'eng-hu**	**2.38**	**249**	*e*P	**Pn**	**20 16 21.0**	**-1.1**
	baz=247						
PHUB				*e*S	**Sn**	**20 16 49.9**	**-0.5**
	baz=247						
WDGT	**Dungji**	**2.41**	**242**	*e*P	**Pn**	**20 16 22.6**	**0.0**
	baz=240						
WDGT				*e*S	**Sn**	**20 16 52.7**	**+1.4**
	baz=240						
PTMZ	**Houxiangcun**	**2.68**	**284**	*e*P	**Pn**	**20 16 25.9**	**-0.4**
	baz=283						
PTMZ				*e*S	**Sn**	**20 16 56.6**	**-1.3**
	baz=283						

*INET **13** 20:19:55.2, 9.52N×86.52W, h1km, MW3.4*
UCR 13 20:20:05.1±1.6, 10.37N×86.48W, h10km, MW4.2, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRZA	**Playa Garza**	**0.94**	**118**	*e*P		20 20 22.5	-0.8
GRZA				*e*S		20 20 33.6	-2.1
GUAI	**GUAI**	**0.96**	**96**	⇑*i*P		20 20 22.6	-1.0
INDI	**Punta indio, G**	**1.08**	**117**	*e*P		20 20 24.5	-1.4
GBS3	**Finca Las Img**	**1.09**	**68**	*i* P		20 20 25.1	-0.9
PLVR	**Palo Verde**	**1.11**	**91**	*e*P		20 20 24.2	-2.3
GB1A	**Borinquen Arri**	**1.15**	**67**	*i* P		20 20 26.1	-1.1
GPS2	**Hotel Rincn d**	**1.17**	**71**	*i* P		20 20 26.4	-1.1
BUAI	**Buenos Aires**	**1.24**	**66**	*i* P		20 20 27.0	-1.5
COLC	**Colonia**	**1.29**	**77**	*i* P		20 20 28.2	-1.0
COLC				*i* S		20 20 47.4	+0.7
HORNC	**Hornillas**	**1.32**	**75**	*i* P		20 20 28.5	-1.3
CUI	**Cuipilapa**	**1.33**	**77**	*i* P		20 20 27.8	-2.0
CUI				*i* S		20 20 47.5	-0.1
ACAL	**Aguas Claras**	**1.45**	**79**	*i* P		20 20 30.8	-0.7
JTS	**Las Juntas de**	**1.50**	**93**	*e*P		20 20 31.0	-1.2
LAFE	**Finca La Fe, P**	**1.64**	**110**	*e*P		20 20 32.0	-2.0
ARE1	**Arenal 1**	**1.73**	**87**	*e*P		20 20 35.4	+0.1
JACO	**JACO, Garabito**	**1.93**	**111**	*e*P		20 20 37.9	-0.1
LCR2	**La Lucha 2**	**2.52**	**104**	*e*P		20 20 47.0	+0.7
RIMA	**Rio Macho**	**2.65**	**103**	*e*P		20 20 48.9	+0.8
CDM	**Cerro de Muert**	**2.80**	**107**	*e*P		20 20 50.5	+0.1
RIOS	**Rincon, Osa**	**3.36**	**119**	*e*P		20 20 58.7	+0.9

*IDC **13** 20:41:22.4±7.0, 36.14N×71.16E, h86km±65km, mb3.3/3, mb1 3.2/8, mb1mx2.9/60, mbtmp3.5/8, ML3.3/5, Error ellipse: s-maj=63.6km s-min=43.4km az=135.0*
*NNC **13** 20:41:28.2±3.9, 36.60N×70.73E, h81km±90km, mb3.6, mpv3.9, Error ellipse: s-maj=29.8km s-min=27.6km az=144.0*
ISC 13 20:41:26.9±1.6, 36.5N±0.1×70.8E±0.1, h100km, n19, σ1.9/54, 25, 6C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.04**	**21**	P	**Pn**	**20 42 54.5**	**+0.4**
	SNR=67						
UCH	**Uchtor**	**6.39**	**25**	P	**Pn**	**20 42 58.9**	**0.0**
	SNR=7.4						
EKS2	**Erkin-Say**	**6.56**	**19**	P	**Pn**	**20 43 01.6**	**+0.7**
	SNR=29						
KK31	**Karatay Array**	**6.59**	**358**	⇑P	**Pn**	**20 43 02.4**	**+1.2**
	6.7nm,0.3s,baz=174,slow=12,SNR=111						
KK31				⇑S	**Sn**	**20 44 14.8**	**-0.1**
	2.1nm,0.3s,baz=174,slow=20,SNR=6.3						
AAK	**Ala-Archa**	**6.75**	**24**	P	**Pn**	**20 43 03.8**	**+0.4**
	2.7nm,0.3s,baz=155,slow=4.2,SNR=30						
AAK				S	**Sn**	**20 44 18.6**	**-0.3**
	0.6nm,0.3s,baz=10

AAK				⇓S		Sn	20 44 18.9	0.0			
	1.4nm,0.4s										
USP	**Ospenovka**	**7.32**	**22**	P		Pn	20 43 11.4	+0.3			
	SNR=6.1										
TKM2	**Tokmak 2**	**7.39**	**28**	P		Pn	20 43 12.1	-0.1			
	SNR=6.8										
TKM2	**Tokmak 2**	**7.39**	**28**	⇓P		Pn	20 43 11.5	-0.7			
	3.2nm,0.5s										
TKM2				⇓S		Sn	20 44 36.0	+1.5			
	1.4nm,0.6s										
MKAR	**Makanchi Array**	**13.37**	**36**	P		Pn	20 44 30.7	-1.9			
	0.0nm,0.3s,baz=206,slow=9.6,SNR=3.3										
AB31	**Akbulak array**	**15.01**	**331**	⇑P		Pn	20 44 54.3	+0.8			
	0.4nm,0.3s,baz=160,slow=12,SNR=42										
AB31				⇑S		Sn	20 47 33.8	-5.3			
	0.4nm,0.5s,baz=152,slow=23,SNR=3.6										
KURBB	**Kurchatov Arra**	**15.16**	**19**	P		Pn	20 44 54.8	-0.7			
	0.0nm,0.3s,baz=208,slow=11,SNR=4.3										
BVAR	**Borovoye Array**	**16.52**	**359**	P		Pn	20 45 12.0	-0.4			
	0.2nm,0.3s,baz=106,slow=11,SNR=5.8										
AKTO	**Aktyubinsk**	**16.70**	**330**	P		Pn	20 45 15.9	+1.2			
	0.5nm,0.3s,baz=131,slow=17,SNR=11										
AKTO	**Aktyubinsk**	**16.70**	**330**	⇑P		P	20 45 17.1	+1.8			
	1.1nm,0.5s										
AKTO				⇑S		Sn	20 48 19.6	-0.3			
	0.9nm,0.7s										
ZALV	**Zalesovo Beam**	**19.97**	**25**	P		P	20 45 50.2	-0.8			
	0.6nm,0.4s,baz=207,slow=9.5,SNR=3.8										
FINES	**FINESS Array B**	**37.40**	**326**	P		P	20 48 31.9	+2.2			
	1.4nm,0.9s,baz=138,slow=13,SNR=3.3										
TORD	**Torodi Ar. Bea**	**65.57**	**269**	P		P	20 51 58.3	-2.0			
	0.5nm,0.6s,baz=45,slow=5.0,SNR=2.6										

IDC ***13*** *20:43:18.6±3.1,9.°91N×126.°19E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/63, mbtmp3.5/4, MS3.5/1, Ms1 3.5/1, ms1mx2.5/36, Error ellipse: s-maj=273.5km s-min=21.9km az=66.0*

MAN ***13*** *20:43:23.4, 9.°93N×126.°31E, h9km, mb4.5, ML3.4, MS3.2*

ISC 13 20:43:21.8±1.8, 9.°98N±0.°06×126.°40E±0.°09, h17km±9km, n14, σ1°76/19, mb3.6/4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.34**	**234**		*e*P		**Pg**	**20 43 29.0**	**0.0**
GLSP					*e*S		**Sg**	**20 43 34.1**	**+0.3**
BUTP	**Butuan**	**1.27**	**217**		*e*P		**Pb**	**20 43 44.2**	**-1.1**
BUTP					*e*S		**Sn**	**20 44 03.4**	**+2.0**
MSLP	**Maasin**	**1.53**	**276**		*e*P		**Pn**	**20 43 48.3**	**0.0**
MSLP					*e*S		**Sn**	**20 44 08.8**	**+1.0**
BESP	**Borongan**	**1.87**	**330**		*e*P		**Pn**	**20 43 55.0**	**+2.0**
BESP					*e*S		**Sb**	**20 44 20.8**	**+2.2**
CGP	**Cagayan de Oro**	**2.27**	**228**	⇓	*e*P		**Pn**	**20 44 00.8**	**+2.2**
CGP					*e*S		**Sn**	**20 44 27.8**	**+1.6**
LLP	**Lapu-Lapu**	**2.42**	**278**	⇑	*e*P		**Pn**	**20 44 03.0**	**+2.3**
LLP					*e*S		**Sb**	**20 44 33.1**	**-1.4**
PAGZ	**Pagadian**	**3.66**	**235**		*e*P		**Pn**	**20 44 19.0**	**+1.3**
CNOP	**Candoni, Negro**	**3.71**	**268**		*e*P		**Pn**	**20 44 20.0**	**+1.6**
JAP	**San Jose, Anti**	**4.45**	**280**	⇑	*e*P		**Pn**	**20 44 25.8**	**-2.8**
WRA	**Warramunga Arr**	**30.75**	**165**		P		**P**	**20 49 36.0**	**-0.4**
	0.5nm,0.9s,baz=344,slow=9.1,SNR=3.1								
ASAR	**Alice Springs**	**34.24**	**168**		P		**P**	**20 50 05.8**	**-1.2**
	0.2nm,0.5s,baz=349,slow=7.0,SNR=5.4								
USRK	**Ussuriysk Ar.**	**34.43**	**7**		LR		LR	21 03 05.7	
	comp=Z,75nm,20.4s,baz=317,slow=34								
MKAR	**Makanchi Array**	**52.33**	**323**		P		**P**	**20 52 32.1**	**-0.7**
	0.9nm,0.7s,baz=124,slow=8.0,SNR=12								
KURBB	**Kurchatov Arra**	**56.38**	**325**		P		**P**	**20 53 00.6**	**-1.6**
	0.5nm,0.5s,baz=124,slow=7.0,SNR=4.0								

IDC ***13*** *20:51:02.2±0.9, 42.°94N×47.°03E, h0km, mb3.3/3, mb1 3.5/8, mb1mx3.2/51, mbtmp3.4/8, ML3.3/4, MS3.9/2, Ms1 3.9/2, ms1mx2.7/40, Error ellipse: s-maj=17.1km s-min=10.9km az=158.0*

MOS ***13*** *20:51:03.5±0.0, 42.°85N×47.°19E, h9km, MPVA4.1*

DRS ***13*** *20:51:03.3±0.0, 42.°95N×47.°22E, h14km, ML3.2/10*

NORS ***13*** *20:51:04.0±0.0, 42.°75N×47.°09E, h6km, MPVA4.0, FELT I=III MSK at Buynaksk*

ISC 13 20:51:04.1±0.8, 42.°92N±0.°02×47.°19E±0.°02, h11km±5km, n94, σ1°85/152, mb3.3/3, 7C-18D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUJR	**Buynaksk**	**0.11**	**215**	⇓	*i*PG		**Pg**	**20 51 06.6**	**-0.4**
BUJR					pmax	pmax			
	comp=Z,10μm,0.3s								
BUJR	**Buynaksk**	**0.11**	**215**	⇓	*i*Pg		**Pg**	**20 51 06.6**	**-0.4**
	comp=Z,10μm,0.3s								
BUJR					*e*Sg		**Sg**	**20 51 09.1**	**0.0**
	comp=Z,71μm,0.5s								
KRNR	**Karanay**	**0.23**	**247**	⇓	*e*PG		**Pg**	**20 51 08.4**	**-0.5**
KRNR					pmax	pmax			
	comp=Z,556nm,0.2s								
KRNR	**Karanay**	**0.23**	**247**		*e*Pg		**Pg**	**20 51 08.4**	**-0.5**
	comp=Z,556nm,0.2s								
KRNR					*e*Sg		**Sg**	**20 51 12.2**	**0.0**
	comp=Z,2μm,0.2s								
MAK	**Makhachkala**	**0.23**	**79**	⇓	*i*PG		**Pg**	**20 51 09.3**	**+0.4**
MAK					*e*			20 51 12.4	
MAK					pmax	pmax			
	comp=Z,2μm,0.3s								
MAK					smax	smax			
	comp=N,11μm,0.6s								
MAK	**Makhachkala**	**0.23**	**79**		*i*Pg		**Pg**	**20 51 09.4**	**+0.4**
MAK					*e*Sg		**Sg**	**20 51 14.5**	**+2.3**
DBC	**Dubki**	**0.29**	**291**	⇓	*i*PG		**Pb**	**20 51 09.9**	**-1.4**
DBC					pmax	pmax			
	comp=Z,386nm,0.4s								
DBC	**Dubki**	**0.29**	**291**	⇓	*i*Pg		**Pb**	**20 51 09.9**	**-1.4**
	comp=Z,386nm,0.5s								
DBC					*e*Sg		**Sb**	**20 51 14.5**	**-1.6**
	comp=Z,1μm,0.7s								
ARKR	**Arakani**	**0.35**	**205**	⇓	*i*PG		**Pg**	**20 51 10.5**	**-0.5**
ARKR					*e*			20 51 15.9	
ARKR					pmax	pmax			
	comp=Z,1μm,0.3s								
ARKR					smax	smax			
	comp=N,2μm,0.4s								
ARKR	**Arakani**	**0.35**	**205**	⇓	*i*Pg		**Pg**	**20 51 10.5**	**-0.5**
	comp=N,1μm,0.3s								
ARKR					*e*Sg		**Sg**	**20 51 16.0**	**+0.3**
	comp=N,2μm,0.4s								
KANR	**Karaman**	**0.35**	**38**	⇑	*e*PG		**Pn**	**20 51 13.5**	**-1.6**
KANR					*e*SG		**Sb**	**20 51 20.6**	**+2.7**
KANR	**Karaman**	**0.35**	**38**		*e*Pg		**Pn**	**20 51 13.5**	**-1.6**
KANR					*e*Sg		**Sb**	**20 51 19.8**	**+1.9**
DLMR	**Dylym**	**0.44**	**291**	⇑	*e*PG		**Pb**	**20 51 13.0**	**-0.9**
DLMR					*e*			20 51 20.4	
DLMR					pmax	pmax			
	comp=Z,455nm,0.4s								
DLMR					smax	smax			
	comp=N,2μm,0.6s								
DLMR	**Dylym**	**0.44**	**291**		*e*Pg		**Pb**	**20 51 13.0**	**-0.9**
	comp=N,455nm,0.4s								
DLMR					*e*Sg		**Sb**	**20 51 20.4**	**-0.1**
	comp=N,2μm,0.6s								
GNBR	**Gunib**	**0.55**	**198**	⇓	*i*PG		**Pg**	**20 51 14.8**	**0.0**
GNBR					*e*			20 51 23.0	
GNBR					pmax	pmax			
	comp=Z,477nm,0.6s								
GNBR					smax	smax			
	comp=N,788nm,0.7s								
GNBR	**Gunib**	**0.55**	**198**	⇓	*i*Pg		**Pg**	**20 51 14.9**	**0.0**
	comp=N,477nm,0.6s								
GNBR					*e*Sg		**Sg**	**20 51 23.0**	**+0.8**
	comp=N,788nm,0.7s								
SGKR	**Sergokala**	**0.57**	**143**	⇑	*i*PG		**Pg**	**20 51 15.5**	**+0.3**
SGKR					*e*			20 51 23.7	
SGKR					pmax	pmax			
	comp=Z,534nm,0.2s								
SGKR					smax	smax			
	comp=N,1μm,0.6s								
SGKR	**Sergokala**	**0.57**	**143**	⇑	*i*Pg		**Pg**	**20 51 15.5**	**+0.3**
	comp=N,534nm,0.2s								
SGKR					*e*Sg		**Sb**	**20 51 23.8**	**-0.4**
	comp=N,1μm,0.6s								
BTLR	**Botlikh**	**0.76**	**251**		*e*PG		**Pb**	**20 51 18.7**	**-0.6**
BTLR					*e*S		**Sb**	**20 51 30.0**	**+0.3**
BTLR	**Botlikh**	**0.76**	**251**		*e*Pg		**Pb**	**20 51 18.7**	**-0.6**
	comp=N,82nm,0.5s								
BTLR					*e*Sg		**Sb**	**20 51 29.9**	**+0.2**
	comp=N,549nm,0.5s								
DVE	**Vedeno**	**0.79**	**273**		*e*PG		**Pb**	**20 51 19.6**	**-0.2**
DVE					*e*S		**Sn**	**20 51 32.0**	**-0.9**
DVE	**Vedeno**	**0.79**	**273**		*e*Pg		**Pb**	**20 51 19.5**	**-0.3**
DVE					*e*Sg		**Sn**	**20 51 32.0**	**-0.9**
URKR	**Urkarakh**	**0.82**	**156**		*de*PG		**Pb**	**20 51 20.2**	**-0.1**
URKR					*e*			20 51 31.6	
URKR					pmax	pmax			
	comp=Z,126nm,0.3s								
URKR					smax	smax			
	comp=N,291nm,0.3s								
URKR	**Urkarakh**	**0.82**	**156**		*e*Pg		**Pb**	**20 51 20.2**	**-0.1**
	comp=N,126nm,0.3s								
URKR					*e*Sg		**Sb**	**20 51 31.8**	**+0.4**
	comp=N,291nm,0.3s								
GROC	**Groznyy**	**1.06**	**286**		*e*PG		**Pn**	**20 51 26.4**	**+1.5**
GROC					*e*S		**Sn**	**20 51 42.8**	**+3.1**
GROC	**Groznyy**	**1.06**	**286**		*e*Pg		**Pn**	**20 51 26.4**	**+1.5**
GROC					*e*Sg		**Sn**	**20 51 42.8**	**+3.1**
ZKTA	**Zakatala**	**1.35**	**199**		PG		**Pb**	**20 51 29.2**	**-0.1**
AKT	**Akhty**	**1.49**	**164**		*d*iPG		**Pb**	**20 51 31.6**	**-0.2**
AKT					*e*S		**Sn**	**20 51 50.1**	**-0.2**
AKT					pmax	pmax			
	comp=Z,131nm,0.4s								
AKT					smax	smax			
	comp=N,402nm,0.3s								
AKT	**Akhty**	**1.49**	**164**		*e*Pg		**Pb**	**20 51 31.5**	**-0.3**
	comp=N,130nm,0.4s								
AKT					*e*Sg		**Sg**	**20 51 52.6**	**+0.6**
	comp=N,340nm,0.3s								
SEKA	**Sheki**	**1.71**	**180**		PN		**Pg**	**20 51 36.2**	**-0.6**
KMGR	**Komgaron**	**1.71**	**275**		*e*PN		**Pg**	**20 51 35.8**	**-1.1**
KMGR					*i* S		**Sg**	**20 51 59.9**	**+0.7**
VLKR	**Vladikavkaz**	**1.85**	**275**		*e*PN		**Pg**	**20 51 42.5**	**+2.9**
VLKR					*e*S		**Sg**	**20 52 08.1**	**+4.5**
TRKR	**Terskaya**	**1.97**	**295**		*e*PN		**Pg**	**20 51 41.9**	**+0.1**
TRKR					*e*S		**Sg**	**20 52 10.4**	**+3.0**
TRKR	**Terskaya**	**1.97**	**295**		*e*Pg		**Pg**	**20 51 41.9**	**+0.1**
TRKR					*e*Sg		**Sg**	**20 52 10.4**	**+3.0**
BTKR	**Batakoyurt**	**1.99**	**284**		*e*PN		**Pg**	**20 51 42.9**	**+0.6**
BTKR					*e*S		**Sg**	**20 52 11.0**	**+2.8**
BTKR	**Batakoyurt**	**1.99**	**284**		*e*Pg		**Pg**	**20 51 42.9**	**+0.6**
BTKR					*e*Sg		**Sg**	**20 52 11.0**	**+2.8**
LACR	**Lac**	**2.13**	**269**		*e*PN		**Pb**	**20 51 42.0**	**-0.8**
LACR					*e*S		**Sg**	**20 52 10.6**	**-2.0**
LACR	**Lac**	**2.13**	**269**		*e*Pg		**Pb**	**20 51 42.0**	**-0.8**
LACR					*e*Sg		**Sg**	**20 52 10.6**	**-2.0**
ARNR	**Ardon**	**2.15**	**278**		*e*PN		**Pg**	**20 51 44.3**	**-1.0**
ARNR					*e*S		**Sg**	**20 52 13.3**	**+0.2**
ARNR	**Ardon**	**2.15**	**278**		*e*Pg		**Pg**	**20 51 44.3**	**-1.0**
ARNR					*e*Sg		**Sg**	**20 52 13.3**	**+0.2**
PRTR	**Priterechnaya**	**2.28**	**292**		*e*PN		**Pb**	**20 51 45.3**	**+0.1**
PRTR					*e*S		**Sb**	**20 52 13.6**	**+0.2**
PRTR	**Priterechnaya**	**2.28**	**292**		*e*Pn		**Pb**	**20 51 45.3**	**+0.1**
PRTR					*e*Sn		**Sb**	**20 52 13.6**	**+0.2**
KORR	**Kora**	**2.30**	**275**		*e*PN		**Pb**	**20 51 44.2**	**-1.4**
KORR					*e*S		**Sb**	**20 52 12.6**	**-1.4**
KORR	**Kora**	**2.30**	**275**		*e*Pn		**Pb**	**20 51 44.2**	**-1.4**
KORR					*e*Sn		**Sb**	**20 52 12.6**	**-1.4**
STDR	**Stavd-Durt**	**2.34**	**282**		*e*PN		**Pb**	**20 51 46.2**	**+0.1**
STDR					*e*S		**Sb**	**20 52 15.8**	**+0.8**
STDR	**Stavd-Durt**	**2.34**	**282**		*e*Pn		**Pb**	**20 51 46.2**	**+0.1**
STDR					*e*Sn		**Sb**	**20 52 15.8**	**+0.8**
GANJ	**Ganja**	**2.36**	**196**		PN		**Pn**	**20 51 44.5**	**+1.7**
ZEI	**Tsey**	**2.42**	**268**		*e*PN		**Pb**	**20 51 46.9**	**-0.9**
ZEI					*e*S		**Sb**	**20 52 17.7**	**-0.1**
ZEI	**Tsey**	**2.42**	**268**		*e*Pn		**Pb**	**20 51 46.9**	**-0.9**
ZEI					*e*Sn		**Sb**	**20 52 17.7**	**-0.1**
LSNR	**Lesken**	**2.49**	**279**		*e*PN		**Pb**	**20 51 46.6**	**-2.2**
LSNR					*e*S		**Sb**	**20 52 21.2**	**+1.6**
LSNR	**Lesken**	**2.49**	**279**		*e*Pn		**Pb**	**20 51 46.6**	**-2.2**
LSNR					*e*Sn		**Sb**	**20 52 21.2**	**+1.6**
DIGR	**Digorskoe uzhe**	**2.66**	**271**		*e*PN		**Pb**	**20 51 50.7**	**-1.0**
DIGR					*e*S		**Sb**	**20 52 25.6**	**+1.2**
DIGR	**Digorskoe uzhe**	**2.66**	**271**		*e*Pn		**Pb**	**20 51 50.7**	**-1.0**
DIGR					*e*Sn		**Sb**	**20 52 25.6**	**+1.2**
NCK	**Nalchik**	**2.69**	**284**	⇑	*e*PN		**Pb**	**20 51 51.1**	**-1.2**
NCK					pmax	pmax			
	comp=Z,15nm,0.8s								
NCK	**Nalchik**	**2.69**	**284**		*e*Pn		**Pb**	**20 51 51.0**	**-1.2**
NCK					*e*Sn		**Sb**	**20 52 24.9**	**-0.4**
ONI	**Oni**	**2.77**	**265**		*e*PN		**Pb**	**20 51 52.5**	**-1.2**
ONI					*e*S		**Sb**	**20 52 24.9**	**-2.8**
ONI	**Oni**	**2.77**	**265**		*e*Pn		**Pb**	**20 51 52.5**	**-1.2**
ONI					*e*Sn		**Sb**	**20 52 25.0**	**-2.8**
KBTC	**Kuba-Taba**	**2.90**	**289**		*e*PN		**Pn**	**20 51 51.8**	**+1.6**
KBTC					*e*S		**Sn**	**20 52 28.7**	**-2.7**
KBTC	**Kuba-Taba**	**2.90**	**289**		*e*Pn		**Pn**	**20 51 51.8**	**+1.6**
KBTC					*e*Sn		**Sb**	**20 52 28.7**	**-2.7**
PYA1	**Pyatigorsk**	**3.19**	**292**		*e*PN		**Pn**	**20 51 55.9**	**+1.7**
PYA1					*e*S		**Sb**	**20 52 35.7**	**-4.1**
PYA1	**Pyatigorsk**	**3.19**	**292**		*e*Pn		**Pn**	**20 51 55.9**	**+1.7**
PYA1					*e*Sn		**Sb**	**20 52 35.7**	**-4.1**
KBZ	**Khabaz**	**3.24**	**286**		Pn		**Pn**	**20 51 55.1**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=155,slow=3.8,SNR=16								
KBZ					Lg		Lg	20 52 40.9	
	comp=Z,1.1nm,0.3s,baz=104,slow=13,SNR=3.8								
KBZ	**Khabaz**	**3.24**	**286**		*e*Pn		**Pn**	**20 51 54.9**	**+0.2**
KBZ					*e*Sn		**Sb**	**20 52 36.7**	**-4.3**
NEY	**Neytrino**	**3.29**	**277**	⇓	*e*PN		**Pb**	**20 52 00.0**	**-2.6**
NEY	**Neytrino**	**3.29**	**277**		*e*Pn		**Pn**	**20 51 58.6**	**+2.9**
NEY					*e*Sn		**Sn**	**20 52 36.8**	**+1.9**
GNI	**Garni**	**3.32**	**214**		Pn		**Pn**	**20 51 58.1**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=285,slow=16,SNR=3.7								
GNI					Lg		Lg	20 52 43.0	
	comp=Z,2.2nm,0.3s,baz=180,slow=19,SNR=3.7								
GNI	**Garni**	**3.32**	**214**		*de*PN		**Pn**	**20 51 59.4**	**+3.3**
GNI	**Garni**	**3.32**	**214**		*e*Pn		**Pb**	**20 51 60.0**	**-3.1**
GNI					*e*Sn		**Sn**	**20 52 39.4**	**+3.8**
BEYR	**Belyy Ugol+**	**3.37**	**290**		*e*PN		**Pn**	**20 51 57.6**	**+1.0**
BEYR					*e*S		**Sn**	**20 52 36.8**	**+0.2**
BEYR	**Belyy Ugol+**	**3.37**	**290**		*e*Pn		**Pn**	**20 51 57.6**	**+1.0**
BEYR					*e*Sn		**Sn**	**20 52 36.8**	**+0.2**
SHA1	**Shidzhatmaz**	**3.41**	**285**		*e*PN		**Pn**	**20 51 57.9**	**+0.5**
SHA1					*e*S		**Sn**	**20 52 41.4**	**+3.5**
SHA1	**Shidzhatmaz**	**3.41**	**285**		*e*Pn		**Pn**	**20 51 57.9**	**+0.5**
SHA1					*e*Sn		**Sn**	**20 52 41.4**	**+3.5**
KIV	**Kislovodsk**	**3.44**	**289**		*e*PN		**Pn**	**20 51 57.9**	**+0.2**
KIV					*e*S		**Sn**	**20 52 40.7**	**+2.2**
KIV	**Kislovodsk**	**3.44**	**289**		*e*Pn		**Pn**	**20 51 57.9**	**+0.2**
KIV					*e*Sn		**Sn**	**20 52 40.7**	**+2.2**
GOF	**Gofitskoye**	**3.68**	**307**		*e*PN		**Pn**	**20 52 03.4**	**+2.5**
GOF					*e*S		**Sn**	**20 52 48.1**	**+3.8**
GOF	**Gofitskoye**	**3.68**	**307**		*e*Pn		**Pn**	**20 52 03.4**	**+2.5**
GOF					*e*Sn		**Sn**	**20 52 48.1**	**+3.8**
GEYT	**Alibeck**	**9.70**	**117**		Pn		**Pn**	**20 53 22.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=295,slow=15,SNR=5.1								
AKTO	**Aktyubinsk**	**10.57**	**41**		Pn		**Pn**	**20 53 34.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=203,slow=10.0,SNR=14								
AKTO	**Aktyubinsk**	**10.57**	**41**	⇑	Pn		**Pn**	**20 53 33.2**	**-2.1**
	comp=Z,1.3nm,0.6s								
AKTO				⇓	Sn		**Sn**	**20 55 25.3**	**-8.3**
	comp=Z,3.0nm,1.1s								
AKTO	**Aktyubinsk**	**10.57**	**41**		P		**Pn**	**20 53 33.2**	**-2.1**
AB31	**Akbulak array**	**10.88**	**50**	⇓	Pn		**Pn**	**20 53 39.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=241,slow=11,SNR=27								
AB31				⇑	Sn		**Sn**	**20 55 39.4**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=241,slow=22,SNR=3.7								
AB31	**Akbulak array**	**10.88**	**50**		P		**Pn**	**20 53 39.5**	**-0.1**
AB31					SN		**Sn**	**20 55 39.4**	**-1.9**
OBN	**Obninsk**	**14.04**	**334**		*e*P		**Pn**	**20 54 24.8**	**+2.2**
OBN					pmax	pmax			
	comp=Z,4.0nm,1.1s								
AKASG	**Malin Array Be**	**14.54**	**309**		*i* P		**P**	**20 54 35.9**	**-0.2**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
BRVK	**Borovoye**	**18.41**	**49**	⇓	*e*P		**P**	**20 55 20.5**	**+1.5**
BRVK					pmax	pmax			
	comp=Z,6.0nm,2.0s								
BVAR	**Borovoye Array**	**18.45**	**49**		P		**P**	**20 55 17.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=208,slow=18,SNR=5.7								
AAK	**Ala-Archa**	**20.01**	**81**	⇓	*e*P		Pn	20 55 37.8	-0.8
AAK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
VRAC	**Vranov**	**22.05**	**297**		LR		LR	21 06 44.7	
	comp=Z,166nm,19.0s,baz=8.0,slow=43								
FINES	**FINESS Array B**	**22.44**	**333**		P		**P**	**20 56 00.9**	**-1.6**
	comp=Z,5.4nm,1.1s,baz=95,slow=11,SNR=2.7								
FINES	**FINESS Array B**	**22.44**	**333**		*i* P		P	20 56 09.5	+6.9
FINES					pmax	pmax			
	comp=Z,2.0nm,0.9s								
KURBB	**Kurchatov Arra**	**22.68**	**59**		P		**P**	**20 56 06.1**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=268,slow=11,SNR=6.4								
KURK	**Kurchatov**	**22.75**	**59**		P		**P**	**20 56 06.1**	**+0.1**
MKAR	**Makanchi Array**	**25.05**	**69**		P		**P**	**20 56 30.2**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=278,slow=8.4,SNR=2.0								
FRB	**Frobisher Bay**	**62.24**	**333**		LR		LR	21 30 15.3	
	comp=Z,128nm,18.1s,baz=350,slow=38								

NEIC ***13*** *20:56:41.0±1.4, 18.°7S±0.°2×177.°8W±0.°2, h579km±11km, mb4.7/11, Error ellipse: s-maj=29.6km s-min=22.7km az=135.0*

IDC ***13*** *20:56:41.3±1.8, 18.°76S×177.°75W, h583km±21km, mb2.7/5, mb1 3.2/7, mb1mx2.9/37, mbtmp3.8/7, Error ellipse: s-maj=28.8km s-min=19.4km az=144.0*

ISC 13 20:56:42.7±0.8, 18.°7S±0.°2×177.°9W±0.°2, h600km, n24, σ1°24/27, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.93**	**283**		P		**P**	**20 58 06.3**	**-1.4**
	16nm,0.3s,baz=69,slow=23,SNR=29								
URZ	**Urewera**	**19.98**	**191**		P		**P**	**21 00 35.0**	**-1.1**
	1.3nm,0.3s,baz=297,slow=2.5,SNR=7.9								
URZ	**Urewera**	**19.98**	**191**		P		**P**	**21 00 35.3**	**-0.8**
URZ					IAmb	IAmb		21 00 41.3	
	comp=Z,9.3nm,1.0s								
BKZ	**Black Stump Fm**	**20.98**	**192**		P		**P**	**21 00 44.1**	**-1.0**
BKZ					IAmb	IAmb		21 01 08.8	
	comp=Z,32nm,1.6s								
QRZ	**Quartz Range**	**23.54**	**198**		P		**P**	**21 01 08.6**	**+0.8**
TUWZ	**Tuamarina**	**23.71**	**195**		P		**P**	**21 01 05.7**	**-3.6**
THZ	**Tophouse**	**24.30**	**197**		P		**P**	**21 01 15.4**	**+0.8**
THZ					IAmb	IAmb		21 01 22.2	
	comp=Z,13nm,1.0s								
LTZ	**Lake Taylor**	**25.42**	**197**		P		**P**	**21 01 22.5**	**-1.9**
FOZ	**Fox Glacier**	**26.84**	**200**		P		**P**	**21 01 37.9**	**+1.1**
FOZ					IAmb	IAmb		21 02 03.2	
	comp=Z,38nm,1.2s								
MLZ	**Mavora Lakes**	**29.03**	**200**		P		**P**	**21 01 55.4**	**-0.5**
MLZ					IAmb	IAmb		21 01 56.2	
	comp=Z,43nm,1.6s								
WHZ	**Wether Hill Ro**	**29.55**	**200**		P		**P**	**21 02 00.1**	**-0.2**
WHZ					IAmb	IAmb		21 02 19.8	
	comp=Z,44nm,1.5s								
WB0	**Warramunga Arr**	**44.91**	**260**		P		**P**	**21 04 06.3**	**+0.7**
WB0					PcP		**PcP**	**21 05 32.3**	**-1.7**
WB2	**Warramunga Arr**	**44.92**	**260**		P		**P**	**21 04 06.2**	**+0.4**
WB2					IAmb	IAmb		21 04 27.2	
	comp=Z,28nm,1.8s								
WRA	**Warramunga Arr**	**44.94**	**260**		P		**P**	**21 04 06.3**	**+0.4**
	comp=Z,0.9nm,1.1s,baz=99,slow=6.7,SNR=5.3								
ASAR	**Alice Springs**	**45.02**	**255**		P		**P**	**21 04 07.5**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=93,slow=7.6,SNR=9.4								
ASAR					PcP		**PcP**	**21 05 34.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=104,slow=3.3,SNR=6.1								
ASAR	**Alice Springs**	**45.02**	**255**		P		**P**

ASAR Alice Springs 20.82 213 P 21 23 20.1 +0.2
SOEI Soe 21.97 260 P **P 21 23 33.0 +0.7**
FITZ Fitzroy Crossi 23.17 238 P **P 21 23 43.1 -0.8**
comp=Z,7.7nm,0.4s,baz=49,slow=8.6,SNR=64
FITZ Fitzroy Crossi 23.17 238 P **P 21 23 42.6 -1.3**
baz=23,SNR=52
FITZ Fitzroy Crossi 23.17 238 P **P 21 23 43.4 -0.6**
GTOI Gorontalo 24.20 286 P **P 21 23 55.2 +1.8**
comp=Z,31nm,0.7s
ARMA Armidale 24.39 169 P **P 21 23 56.6 +1.6**
baz=24,SNR=16
ARMA Armidale 24.39 169 P **P 21 23 56.4 +1.4**
CMSA Cobar Meteorol 24.97 181 P **P 21 24 01.8 +1.6**
baz=25,SNR=18
WRKA Warakurna 25.22 221 P **P 21 24 02.1 -0.5**
baz=25,SNR=23
STKA Stephens Creek 25.67 189 P **P 21 24 07.0 +0.5**
comp=Z,12nm,0.3s,baz=358,slow=8.9,SNR=51
STKA LR LR 21 35 19.9
comp=Z,132nm,19.8s,baz=21,slow=39
STKA Stephens Creek 25.67 189 P **P 21 24 07.2 +0.7**
baz=26,SNR=40
STKA Stephens Creek 25.67 189 P **P 21 24 07.2 +0.7**
TOLI2 Tolitoli 26.47 286 P **P 21 24 13.3 -0.6**
HTT Hallett 27.70 193 P **P 21 24 25.3 +0.6**
baz=28,SNR=11
BBOO Buckleboo 27.89 199 P **P 21 24 26.4 0.0**
baz=28,SNR=15
BBOO Buckleboo 27.89 199 P **P 21 24 26.4 0.0**
CAN Canberra 28.86 175 P **P 21 24 37.0 +2.0**
PSA00 Pilbara Seismi 29.60 237 P **P 21 24 41.9 +0.2**
FORT Forrest 29.60 213 P **P 21 24 41.7 +0.1**
baz=30,SNR=13
FORT Forrest 29.60 213 P **P 21 24 41.5 -0.1**
FORT IAmb IAmb 21 24 42.6
comp=Z,14nm,0.6s
MYLDM Lahad Datu 29.97 292 P **P 21 24 46.2 +1.1**
MYLDM IAmb IAmb 21 24 59.2
comp=Z,17nm,1.0s
TOO Toolangi 30.99 181 P **P 21 24 55.7 +1.9**
KKM Kota Kinabalu 32.40 292 P **P 21 25 06.1 -0.5**
KKM IAmb IAmb 21 25 06.8
comp=Z,14nm,0.9s
MSVF Nonsavu 33.03 113 P **P 21 25 11.0 -1.0**
JCJ Chichijima 33.57 354 P **P 21 25 14.0 -2.3**
KMBL Kambalda 33.66 219 P **P 21 25 17.2 0.0**
baz=34,SNR=22
GIRL Giralia 34.77 239 P **P 21 25 27.8 +0.9**
MORW Morawa 36.29 228 P **P 21 25 39.4 -0.5**
baz=36,SNR=4.1
MORW Morawa 36.29 228 P **P 21 25 39.2 -0.6**
MORW IAmb IAmb 21 25 52.1
comp=Z,18nm,1.1s
TAU Tasmania Unive 36.33 179 P **P 21 25 41.5 +1.6**
TAU IAmb IAmb 21 25 45.4
comp=Z,27nm,1.1s
KLBR Kellerberrin 36.52 223 P **P 21 25 40.6 -1.1**
baz=36,SNR=35
BLDU Ballidu 36.67 225 P **P 21 25 42.7 -0.3**
baz=37,SNR=8.4
NWAO Narrogin (SRO) 37.68 222 P **P 21 25 51.4 -0.2**
comp=Z,20nm,1.2s,baz=59,slow=9.0,SNR=7.8
NWAO Narrogin (SRO) 37.68 222 P **P 21 25 51.5 0.0**
baz=38,SNR=5.2
NWAO Narrogin (SRO) 37.68 222 P **P 21 25 51.9 +0.4**
NWAO IAmb IAmb 21 25 55.7
comp=Z,10nm,1.1s
NWAO Narrogin (SRO) 37.68 222 P **P 21 25 51.2 -0.3**
NWAO IAmb IAmb 21 25 51.6
comp=Z,9.1nm,1.1s
MUN Mundaring 37.80 224 P **P 21 25 52.6 0.0**
baz=38,SNR=5.7
CISI Cisompet, Garu 38.12 266 P **P 21 25 54.2 -1.3**
CISI IAmb IAmb 21 26 02.3
comp=Z,25nm,1.0s
OUZ Omahuta 38.14 142 P **P 21 25 58.3 +3.0**
JHJ2 Mitsune 39.80 352 P **P 21 26 07.6 -1.5**
KNMB Chin-men Tao 40.97 320 P **P 21 26 22.2 +3.2**
QRZ Quartz Range 41.53 150 P **P 21 26 25.4 +2.0**
QRZ IAmb IAmb 21 26 34.1
comp=Z,32nm,1.2s
JMN Monobe 41.62 344 P **P 21 26 23.2 -1.0**
JMN IAmb IAmb 21 26 24.9
comp=Z,22nm,1.1s
JNU Nakatsue 41.95 341 P **P 21 26 25.9 -1.0**
JNU IAmb IAmb 21 26 27.8
comp=Z,17nm,1.0s
NNZ Nelson 42.26 149 P **P 21 26 31.2 +2.1**
NNZ IAmb IAmb 21 26 47.1
comp=Z,40nm,1.2s
URZ Urewera 42.27 143 P **P 21 26 31.5 +2.1**
THZ Tophouse 42.42 150 P **P 21 26 32.9 +2.3**
THZ IAmb IAmb 21 26 44.6
comp=Z,15nm,0.9s
BKZ Black Stump Fm 42.50 145 P **P 21 26 33.6 +2.3**
BKZ IAmb IAmb 21 26 34.1
comp=Z,16nm,1.0s
JGF Kuroka 42.64 349 P **P 21 26 31.0 -1.4**
TUWZ Tuamarina 42.70 149 P **P 21 26 32.5 -0.2**
JWT Wachi 42.73 347 P **P 21 26 32.6 -0.5**
JWT IAmb IAmb 21 26 32.8
comp=Z,12nm,0.7s
BSWZ Blackbirch Sta 42.88 149 P **P 21 26 36.1 +1.9**
LTZ Lake Taylor 42.89 152 P **P 21 26 35.4 +1.0**
JHS Saijyo 43.03 344 P **P 21 26 34.3 -1.3**
JHS IAmb IAmb 21 26 47.0
comp=Z,15nm,1.1s
RPZ Rata Peaks 43.06 153 P **P 21 26 36.4 +0.7**
comp=Z,7.3nm,0.5s,baz=289,slow=4.3,SNR=6.5
RPZ Rata Peaks 43.06 153 P **P 21 26 37.5 +1.8**
RPZ IAmb IAmb 21 26 39.2
comp=Z,16nm,0.9s
MLZ Mavora Lakes 43.20 157 P **P 21 26 38.3 +1.5**
MLZ IAmb IAmb 21 26 49.1
comp=Z,22nm,1.2s
MSWZ Moikau Station 43.37 148 P **P 21 26 39.0 +0.7**
BFZ Birch Farm 43.40 146 P **P 21 26 39.7 +1.3**
BFZ IAmb IAmb 21 26 44.7
comp=Z,24nm,0.9s
MJAR Matsushiro Arr 43.41 351 P **P 21 26 37.4 -1.2**
comp=Z,5.6nm,0.8s,baz=181,slow=8.8,SNR=12
MJAR Matsushiro Arr 43.41 351 P **P 21 26 37.7 -0.8**
MAJO Matsushiro 43.41 351 P **P 21 26 37.7 -0.9**
MAJO IAmb IAmb 21 26 38.4
comp=Z,12nm,0.8s
MAT Matsushiro 43.41 351 P **P 21 26 37.4 -1.2**
PLWZ Palliser 43.48 148 P **P 21 26 39.6 +0.4**
MQZ McQueen's Vall 43.78 152 P **P 21 26 43.5 +2.1**
JSD Sado 44.87 351 P **P 21 26 50.1 0.0**
JSD IAmb IAmb 21 26 57.4
comp=Z,22nm,0.8s
UBPT Khong Chiam 45.77 298 P **P 21 26 57.8 +0.2**
NJ2 Nanjing 46.32 327 *eP* **P 21 27 02.3 +0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
KSRS Korea Array 46.89 340 P **P 21 27 06.0 0.0**
comp=Z,3.8nm,0.7s,baz=159,slow=9.0,SNR=14
KSRS LR LR 21 44 11.6
comp=Z,28nm,20.6s,baz=145,slow=32
KULM Kulim 46.95 283 P **P 21 27 07.6 +0.7**
KULM IAmb IAmb 21 27 08.4
comp=Z,12nm,1.0s
JTM Tenmabayashi 47.23 355 P **P 21 27 08.2 -0.4**
JTM IAmb IAmb 21 27 10.5
comp=Z,28nm,1.0s
GSI Gunungsitoli 49.15 277 P **P 21 27 22.7 -1.1**
GSI IAmb IAmb 21 27 37.4
comp=Z,24nm,1.1s
SLVN Son La 49.84 305 P **P 21 27 30.8 +1.7**
SLVN IAmb IAmb 21 27 31.6
comp=Z,8.3nm,0.9s
GYA Guiyang 50.39 312 ⇓P **P 21 27 34.8 +1.6**
GYA pmax pmax
comp=Z,15nm,0.9s
ENH Enshi 50.71 318 IAmb IAmb 21 27 37.5
comp=Z,16nm,1.0s
UTHA Uthaitani 51.22 296 P **P 21 27 40.7 +1.4**
SUKH Sukhothai 51.78 298 P **P 21 27 45.5 +1.9**
UMPA Umpang Tak 51.98 296 P **P 21 27 46.6 +1.6**
USA0B Ussuriysk Arra 52.02 347 P **P 21 27 42.6 -2.2**
USA0B IAmb IAmb 21 27 45.6
comp=Z,8.4nm,0.9s
USRK Ussuriysk Ar. 52.02 347 P **P 21 27 44.9 +0.1**
comp=Z,6.4nm,0.6s,baz=184,slow=7.5,SNR=14
USRK Ussuriysk Ar. 52.02 347 P **P 21 27 44.5 -0.3**

LAMP Lampang 52.20 299 P **P 21 27 48.7 +2.1**
KMI Kunming 52.65 308 ⇓P **P 21 27 51.8 +1.7**
KMI pP pP 21 28 15.8 -3.6
KMI PP **PP 21 29 54.4 +3.8**
KMI S **S 21 35 07.4 -1.3**
KMI pmax pmax
comp=Z,12nm,1.2s
KMI pmax pmax
comp=Z,100nm,4.2s
KMI LR LR
comp=Z,120nm,7.1s
KMI LR LR
comp=Z,140nm,5.3s
KMI LR LR
comp=Z,150nm,5.8s
CM05 Chiang Mai Arr 52.75 299 P **P 21 27 52.1 +1.5**
CM02 Chiang Mai Arr 52.76 299 P **P 21 27 52.5 +1.7**
CM31 Chiang Mai Arr 52.77 299 P **P 21 27 52.4 +1.5**
CM31 Chiang Mai Arr 52.77 299 P **P 21 27 51.9 +1.0**
CM31 IAmb IAmb 21 27 53.4
comp=Z,18nm,0.9s
CMAR Chiang Mai Arr 52.77 299 P **P 21 27 52.5 +1.6**
comp=Z,13nm,0.8s,baz=122,slow=5.9,SNR=97
CMAR Chiang Mai Arr 52.77 299 P **P 21 27 52.1 +1.2**
CM13 Chiang Mai Arr 52.79 299 P **P 21 27 52.0 +1.0**
CMMT Chiang Mai 52.91 299 P **P 21 27 52.2 +0.3**
CHTO Chiang Mai 52.91 299 P **P 21 27 52.6 +0.7**
CHTO IAmb IAmb 21 27 54.1
comp=Z,13nm,0.9s
MDJ Mudanjiang 52.98 345 P **P 21 27 53.4 +1.5**
MDJ pmax pmax
comp=Z,5.0nm,1.2s
MDJ pmax pmax
comp=Z,180nm,5.0s
CN2 Changchun 53.42 341 *eP* **P 21 27 53.3 -1.8**
CN2 S **S 21 35 17.3 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,1.8s
CN2 pmax pmax
comp=Z,100nm,10.2s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,300nm,11.0s
XAN Xi'an 53.53 321 P **P 21 27 56.5 +0.3**
XAN pP pP 21 28 17.4 -7.8
XAN pmax pmax
comp=Z,21nm,1.1s
XAN pmax pmax
comp=Z,330nm,14.1s
XAN LR LR
comp=Z,250nm,17.3s
XAN LR LR
comp=Z,250nm,17.3s
XAN LR LR
comp=Z,230nm,18.4s
XAN Xi'an 53.53 321 IAmb IAmb 21 27 57.2
comp=Z,18nm,1.1s
MHMT Maesarieng 53.54 298 P **P 21 27 59.0 +2.5**
BJI Beijing 53.91 332 P **P 21 27 58.3 -0.5**
BJI pmax pmax
comp=Z,4.0nm,0.5s
BJI LR LR
comp=Z,700nm,64.4s
CD2 Chengdu 55.02 315 P **P 21 28 07.9 +0.8**
CD2 pmax pmax
comp=Z,80nm,0.6s
HHC Hu-ho-hao-te 56.80 329 *eP* **P 21 28 19.3 -0.3**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,150nm,5.9s
LZH Lanzhou 58.04 320 *eP* **P 21 28 30.3 +1.8**
LZH pP pP 21 28 55.8 -2.1
LZH sP sP 21 29 07.1 -4.3
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,85nm,7.8s
LZH LR LR
comp=Z,250nm,16.0s
LZH LR LR
comp=Z,260nm,16.2s
LZH LR LR
comp=Z,300nm,18.3s
PETK Petropavlovsk- 60.12 8 P **P 21 28 42.9 +0.6**
comp=Z,5.9nm,0.6s,baz=159,slow=6.5,SNR=23
PETK Petropavlovsk- 60.12 8 P **P 21 28 42.6 +0.3**
SHL Shillong 61.60 303 P **P 21 28 53.5 +0.4**
SHL IAmb IAmb 21 28 54.3
comp=Z,13nm,0.7s
GTA Gaotai 62.58 321 ⇓P **P 21 29 00.1 +0.8**
GTA pP pP 21 29 26.8 -2.4
GTA sP PcP 21 29 38.8 +1.5
GTA pmax pmax
comp=Z,8.0nm,1.4s
GTA pmax pmax
comp=Z,120nm,6.0s
GTA LR LR
comp=Z,150nm,17.8s
GTA LR LR
comp=Z,210nm,17.1s
GTA LR LR
comp=Z,250nm,16.0s
LSA Lhasa 63.88 307 P **P 21 29 10.3 +1.8**
LSA pmax pmax
comp=Z,80nm,1.1s
LSA Lhasa 63.88 307 IAmb IAmb 21 29 11.2
comp=Z,18nm,0.9s
ULN Ulaanbaatar 64.12 332 P **P 21 29 09.7 +0.4**
SONM Songino Array 64.41 331 P **P 21 29 11.5 +0.3**
comp=Z,1.1nm,0.3s,baz=134,slow=8.5,SNR=6.6
SONM Songino Array 64.41 331 P **P 21 29 11.6 +0.4**
TAPN Taplejung 65.74 304 *eP* **P 21 29 21.4 +1.0**
ODAN Odare 65.82 303 *eP* **P 21 29 21.8 +0.9**
comp=Z,40nm,0.9s
MA2 Magadan 65.91 3 P **P 21 29 20.8 +0.4**
MA2 IAmb IAmb 21 29 21.6
comp=Z,18nm,1.0s
RAMN Ramite 66.52 303 *eP* **P 21 29 26.3 +1.0**
GUN Gumba 67.45 304 *eP* **P 21 29 32.3 +0.9**
comp=Z,43nm,0.8s
PKI Pulchoki 67.72 303 *eP* **P 21 29 33.5 +0.4**
PKIN Phulchoki 67.74 303 *eP* **P 21 29 33.6 +0.5**
comp=Z,18nm,0.8s
KKN Kakani 67.91 303 *eP* **P 21 29 34.8 +0.7**
comp=Z,55nm,0.9s
DMN Daman 67.99 303 *eP* **P 21 29 35.6 +1.0**
comp=Z,55nm,0.9s
GKN Gorkha 68.52 303 *eP* **P 21 29 38.4 +0.6**
comp=Z,41nm,0.8s
NIKH Nikolski High 70.32 27 P 21 29 48.5
baz=228
VNDA Vanda 71.52 176 P **P 21 29 56.0 +1.0**
comp=Z,2.0nm,0.6s,baz=324,slow=6.5,SNR=12
VNDA Vanda 71.52 176 P **P 21 29 56.5 +1.4**
WMQ Urumqi 72.62 320 *eP* **P 21 30 03.1 +0.9**
WMQ pP pP 21 30 27.1 -5.7
WMQ pmax pmax
comp=Z,24nm,1.3s
WMQ pmax pmax
comp=Z,620nm,5.1s
WMQ LR LR
comp=Z,2μm,29.0s
WMQ LR LR
comp=Z,3μm,29.0s
WMQ Urumqi 72.62 320 IAmb IAmb 21 30 04.3
comp=Z,19nm,1.0s
SDPT Sand Point 75.66 28 P 21 30 20.2
baz=235
ZSN Zaisan 76.02 322 *eP* **P 21 30 21.8 0.0**
baz=322
CHGN Chignik 77.16 28 P 21 30 28.4
baz=237
MKAR Makanchi Array 77.34 321 P **P 21 30 29.7 +0.4**
comp=Z,4.7nm,0.6s,baz=102,slow=7.6,SNR=71
MAKZ Makanchi 77.54 321 P **P 21 30 30.8 +0.5**
MAKZ IAmb IAmb 21 30 32.7
comp=Z,19nm,1.1s
SHLS Shalkode 77.81 317 *eP* **P 21 30 30.6 -1.5**
comp=Z,13nm,0.8s,baz=317
UZB Uzynbulak 78.11 316 *eP* **P 21 30 34.1 +0.3**
comp=Z,13nm,0.8s,baz=316
KPKS Kokpek 78.45 317 *eP* **P 21 30 35.8 +0.2**
comp=Z,13nm,1.0s,baz=317
SATY Saty 78.50 316 *eP* **P 21 30 36.4 +0.5**
comp=Z,7.0nm,0.8s,baz=316
TIXI Tiksi 78.77 354 P **P 21 30 36.0 -0.6**
ZAA0 Zalesovo Array 78.97 328 P **P 21 30 37.5 -0.5**
ZALV Zalesovo Beam 78.97 328 P **P 21 30 37.0 -1.0**
comp=Z,7.0nm,0.7s,baz=116,slow=5.1,SNR=26
ZALV Zalesovo Beam 78.97 328 P **P 21 30 37.3 -0.7**
KSH Kashi 79.09 312 P **P 21 30 40.1 +0.9**
KSH PcP **PcP 21 30 49.3 +2.1**
KSH PP **PP 21 33 44.1 +3.9**
KSH S **S 21 40 26.3 -2.5**
KSH pmax pmax
comp=Z,15nm,1.0s
KSH pmax pmax
comp=Z,250nm,5.3s
KSH LR LR
comp=Z,320nm,6.6s
KSH LR LR
comp=Z,370nm,6.9s
TDK Taldyqorghan 79.18 318 *eP* **P 21 30 39.7 +0.2**
comp=Z,22nm,1.0s,baz=318
ANM Nome 79.38 19 P 21 30 41.0
baz=229
ANM Nome 79.38 19 P **P 21 30 41.1 +1.0**
MDOK Medeo 79.47 316 *eP* **P 21 30 41.5 +0.3**
baz=316
TNSS Tian-Shan 79.50 316 *eP* **P 21 30 41.9 +0.2**
baz=316
NIL Nilore 79.55 306 P **P 21 30 42.5 +0.8**
NIL IAmb IAmb 21 30 43.5
comp=Z,31nm,1.1s
AAA Alma-Ata 79.58 316 *eP* **P 21 30 42.4 +0.7**
comp=Z,13nm,1.0s,baz=316
ULHL Ulahol 79.74 315 P **P 21 30 44.0 +1.2**
SNR=7.0
OHAK Old Harbor 80.06 29 P 21 30 44.6
baz=241
KUU Kurly 80.20 316 *eP* **P 21 30 45.0 +0.1**
comp=Z,31nm,0.9s,baz=316
TKM2 Tokmak 2 80.40 315 P **P 21 30 47.2 +0.9**
SNR=7.4
KDAK Kodiak Island 80.66 28 P 21 30 47.7
baz=242
KBK Karagaybulak 80.78 315 P **P 21 30 49.3 +1.0**
SNR=10
UCH Uchtor 80.96 314 P **P 21 30 51.1 +1.5**
SNR=28
SVW2 Sparrevohn 80.97 25 IAmb IAmb 21 30 50.9
comp=Z,15nm,1.0s
CHMS Chumysh 81.02 315 P **P 21 30 50.1 +0.7**
SNR=12
AAK Ala-Archa 81.09 315 P **P 21 30 51.0 +1.0**
SNR=11
AAK Ala-Archa 81.09 315 P **P 21 30 50.9 +1.0**
AAK IAmb IAmb 21 30 52.0
comp=Z,15nm,1.1s
SGDS Sogindy 81.24 316 *eP* **P 21 30 50.6 0.0**
comp=Z,7.1nm,1.0s,baz=316
USP Ospenovka 81.28 315 P **P 21 30 51.6 +0.9**
SNR=17
AML Almayashu 81.51 314 P **P 21 30 53.9 +1.4**
SNR=30
EKS2 Erkin-Say 81.61 315 P **P 21 30 53.9 +1.3**
SNR=24
BTLS Baital 82.11 317 *eP* **P 21 30 55.3 +0.3**
comp=Z,9.6nm,0.9s,baz=317
RDOG Red Dog Mine 82.39 17 IAmb IAmb 21 30 57.8
comp=Z,20nm,0.8s
RDOG Red Dog Mine 82.39 17 P 21 30 56.9
baz=231,SNR=6.4
BRSE Bradley Lake S 82.41 27 P 21 30 56.5
baz=243
SKT Skwentna 83.09 25 P 21 30 58.4
baz=242
KBL Kabul 83.15 306 P **P 21 31 00.8 -0.1**
SEW Seward 83.16 27 P 21 30 59.7
baz=244
SUA Susitna One 83.19 26 P 21 31 00.3
baz=243
SUA Susitna One 83.19 26 IAmb IAmb 21 31 01.2
comp=Z,16nm,1.0s
PPLA Purkeypile 83.26 24 P 21 31 00.7
baz=242
DZA Taraz 83.40 314 *eP* **P 21 31 02.0 +0.2**
comp=Z,16nm,1.0s,baz=314
RC01 Rabbit Creek A 83.46 26 P 21 31 01.6
baz=244
RC01 Rabbit Creek A 83.46 26 P **P 21 31 01.7 0.0**
CHUM Lake Minchumin 83.68 23 P 21 31 03.2
baz=242,SNR=13
CUT Chulitna 83.82 25 P 21 31 03.1
baz=244
PMR Palmer 83.94 26 P 21 31 03.6
baz=245
KK31 Karatay Array 84.04 314 IAmb IAmb 21 31 07.3
comp=Z,14nm,1.0s
KKAR Karatay Array 84.04 314 P **P 21 31 05.4 +0.4**
KKAR Karatay Array 84.04 314 IAmb IAmb 21 31 07.3
comp=Z,14nm,1.0s
GHO Glory Hole Cre 84.11 26 IAmb IAmb 21 31 05.7
comp=Z,25nm,1.0s
IUG Iuzhnay 84.14 313 *eP* **P 21 31 06.0 +0.3**
comp=Z,7.2nm,0.9s,baz=314
KNK Knik Glacier 84.16 26 P 21 31 05.6
baz=245
TRF Thorofare Moun 84.28 24 P 21 31 05.6
baz=243
BPAW Bear Paw Mtn. 84.30 23 P 21 31 05.5
baz=243,SNR=8.7
BPAW Bear Paw Mtn. 84.30 23 P **P 21 31 05.9 0.0**
BPAW IAmb IAmb 21 31 06.4
comp=Z,12nm,1.0s
SML Sawmill 84.38 26 P 21 31 06.4
baz=245,SNR=5.6
SML Sawmill 84.38 26 P **P 21 31 06.6 +0.2**
BRZS Berezniki 84.45 322 *eP* **P 21 31 06.8 -0.2**
comp=Z,14nm,1.1s,baz=322
GLI Glacier Island 84.54 27 P 21 31 06.5
baz=246
WAT2 Susitna Watana 84.76 25 P 21 31 07.7
baz=245,SNR=12
SCM Sheep Creek Mo 84.82 26 P **P 21 31 09.0 +0.3**
SCM IAmb IAmb 21 31 09.8
comp=Z,22nm,0.9s
RND Reindeer 84.84 24 P **P 21 31 08.2 -0.5**
MCK McKinley 84.95 24 P 21 31 08.4
baz=245,SNR=20
MCK McKinley 84.95 24 P **P 21 31 08.7 -0.5**
NEA2 Nenana 85.27 23 P 21 31 10.2
baz=244,SNR=11
NEA2 Nenana 85.27 23 IAmb IAmb 21 31 11.0
comp=Z,20nm,1.0s
KLU Klutina 85.31 26 P 21 31 11.4
baz=248,SNR=6.4
KLU Klutina 85.31 26 IAmb IAmb 21 31 12.5
comp=Z,22nm,0.9s
I23K Minto, Yukon-K 85.40 22 P 21 31 11.1
baz=244,SNR=8.7
M24K Tolsona, Glenn 85.43 26 P 21 31 12.2
baz=247
BMRM Bremner River 85.70 27 P 21 31 13.2
baz=249
TCOL CIGO, UAF Yank 85.85 23 P 21 31 13.0
baz=246
COLA College 85.86 23 P **P 21 31 13.0 -0.5**
COLA College 85.86 23 P 21 31 13.3
baz=246
N25K Chitina, Valde 85.94 27 P 21 31 14.6
baz=249
COLD Coldfoot 86.02 20 IAmb IAmb 21 31 16.1
comp=Z,12nm,1.2s
COLD Coldfoot 86.02 20 P 21 31 15.1
baz=243,SNR=11
HDA Harding Lake 86.02 24 P 21 31 13.4
baz=246,SNR=8.9
HDA P 21 31 13.4
baz=246,SNR=8.9
PAX Paxson 86.07 25 P 21 31 14.6
baz=248
POKR Poker Plat Res 86.12 23 P 21 31 14.3
baz=246,SNR=5.1
ILAR Eielson Array 86.19 23 P **P 21 31 13.8 -1.4**
comp=Z,17nm,0.7s,baz=249,slow=5.4,SNR=158
ILAR Eielson Array 86.19 23 P **P 21 31 14.2 -1.1**
CRQE Cirque 86.32 28 P 21 31 16.5
baz=250,SNR=6.6

MCARA	McCarthy VSAT baz=250	86.56	27	P			21 31 17.6		
BRVK	Borovoye	86.73	324	P		P	21 31 17.8	-0.4	
MENT	Mentasta comp=Z,15nm,0.9s	86.80	26	IAmb	IAmb		21 31 19.6		
TOLK	Toolik Lake Re comp=Z,7.7nm,0.9s	86.87	19	IAmb	IAmb		21 31 20.3		
TOLK	Toolik Lake Re baz=244	86.87	19	P			21 31 19.2		
PRP	Porcupine Dome baz=248	87.02	23	P			21 31 18.8		
SCRK	Sand Creek comp=Z,8.4nm,0.8s	87.06	24	IAmb	IAmb		21 31 20.6		
SCRK	Sand Creek baz=249,SNR=8.4	87.06	24	P			21 31 19.5		
CTG	Chitna Glacier baz=252,SNR=9.5	87.20	28	P			21 31 21.2		
PINM	Pinnacle baz=253	87.44	29	P			21 31 22.1		
FYU	Fort Yukon comp=Z,7.9nm,1.0s	87.53	22	IAmb	IAmb		21 31 24.0		
EGAK	Eagle baz=252	88.49	24	P			21 31 27.0		
EGAK	Eagle comp=Z,13nm,0.8s	88.49	24	IAmb	IAmb		21 31 27.5		
EPYK	Eagle Plains baz=256	90.71	23	P			21 31 36.7		
INK	Inuvik comp=Z,7.8nm,1.1s	92.35	22	IAmb	IAmb		21 31 45.2		
ABKAR	Akbulak array	92.40	319	P		P	21 31 43.7	-1.1	
ABKAR	Akbulak array comp=Z,12nm,0.9s	92.40	319	IAmb	IAmb		21 31 44.8		
GEYT	Alibeck comp=Z,2.2nm,0.7s,baz=249,slow=1.3,SNR=5.9	92.41	308	P		P	21 31 44.1	-1.1	
GEYT	Alibeck comp=Z,3.1nm,0.9s	92.41	308	IAmb	IAmb		21 31 46.9		
O02D	Mt. Diablo Mer baz=266	94.87	50	P			21 31 58.2		
M02C	Callahan baz=266	94.91	49	P			21 31 58.1		
N02D	Trinity Center baz=266	94.99	49	P			21 31 58.7		
I04A	Tendick Farm, baz=266	95.40	47	P			21 31 59.8		
A04D	Lummi Island baz=267	95.51	42	P			21 31 59.6		
BELA	Belgrano 2	95.80	180	P		P	21 31 59.9	-0.1	
C36M	Paulatuk baz=268	95.88	21	P			21 31 59.9		
J05D	Fort Rock, OR baz=267	96.23	47	P			21 32 04.3		
NVAR	Mina Array Bea comp=Z,0.7nm,0.8s,baz=252,slow=7.0,SNR=4.3	98.26	52	P		Pdif	21 32 13.4	+1.4	
NEW	Newport baz=271	99.21	42	P			21 32 17.2		
YKA	Yellowknife Ar comp=Z,2.0nm,1.0s,baz=273,slow=4.2,SNR=16	99.92	28	P		Pdif	21 32 18.4	-0.2	
YKA				PKiKP		PKiKP	21 36 46.4	+0.3	
	comp=Z,0.4nm,0.7s,baz=275,slow=1.1,SNR=4.5								
ARCES	ARCESS Array B comp=Z,1.0nm,0.4s,baz=113,slow=1.3,SNR=8.0	106.43	342	PKiKP		PKiKP	21 36 57.6	-0.2	
ARCES				PKKPbc		PKKPbc	21 48 17.8	-3.6	
	comp=Z,5.8nm,0.9s,baz=256,slow=3.6,SNR=8.4								
MNTX	Cornudas Mount baz=274	109.01	59	P			21 37 04.8		
FINES	FINESS Array B comp=Z,0.6nm,0.3s,baz=102,slow=2.0,SNR=13	109.72	334	PKiKP		PKiKP	21 37 03.9	-0.3	
ECSD	EROS Data Cent baz=285	113.94	45	P			21 37 12.5		
WMOK	Wichita Mounta baz=279	114.16	55	P			21 37 13.9		
833A	Chaparral WMA, baz=276	114.49	62	P			21 37 14.3		
NOA	NORSAR Array B comp=Z,0.9nm,0.7s,baz=148,slow=0.7,SNR=3.6	116.06	337	PKP		PKiKP	21 37 14.2	-2.2	
KOLS	Kolonicke sedl	116.72	322	*e*PKP		PKiKP	21 37 18.7	+0.7	
P38A	Dawn	117.23	49	PKPdf		PKiKP	21 37 18.9	-0.3	
S39A	Bolivar	117.88	51			PKiKP	21 37 20.3	-0.3	
W39A	Magazine baz=283	118.10	54	P			21 37 20.9		
MIAR	Mount Ida baz=283	118.41	54	P			21 37 22.7		
U40A	Yellville	118.57	52	PKPdf		PKiKP	21 37 21.5	-0.4	
U40A	Yellville baz=284	118.57	52	P			21 37 21.6		
JFWS	Jewell Farm baz=290	118.62	44	P			21 37 21.0		
W41B	Gary Mavity, V baz=284	119.33	53	P			21 37 22.5		
CCM	Cathedral Cave baz=286	119.37	50	P			21 37 21.8		
KRLC	Kraliky	119.47	325	*e*PKPDF		PKiKP	21 37 23.7	+0.4	
DPC	Dobruska-Polom	119.59	326	*e*PKPDF		PKiKP	21 37 24.0	+0.5	
MODS	Modra-Piesok	119.96	323	*e*PKP		PKiKP	21 37 24.1	-0.2	
CLL	Collm comp=Z,5.0nm,0.8s	120.92	328	*i* PKPdf		PKiKP	21 37 26.2	+0.2	
CLL	Collm	120.92	328	PKPdf		PKiKP	21 37 26.2	+0.2	
CONA	Conrad Observa comp=Z,4.0nm,1.0s	121.01	323	*i* P		PKiKP	21 37 26.5	0.0	
PBCC	Pribram	121.23	326	*e*PKPDF		PKiKP	21 37 27.1	+0.4	
CKRC	Cesky Krumlov	121.49	325	*e*PKPDF		PKiKP	21 37 28.0	+0.7	
ARSA	Arzberg comp=Z,1.8nm,0.6s	121.53	323	*i* P		PKiKP	21 37 28.0	+0.6	
KHC	Kasperske Hory	121.75	325	*e*PKPDF		PKiKP	21 37 27.9	+0.1	
NKC	Novy Kostel	121.79	327	*e*PKPDF		PKiKP	21 37 28.0	+0.2	
GERES	GERESS Array B comp=Z,2.5nm,0.7s,baz=82,slow=2.8,SNR=21	121.82	325	PKP		PKiKP	21 37 27.9	-0.2	
GERES	GERESS Array B	121.82	325			PKiKP	21 37 27.7	-0.4	
SOKA	Soboth comp=Z,7.6nm,1.1s	122.09	322	*e*P		PKiKP	21 37 28.3	-0.4	
PLCA	Paso Flores comp=Z,1.0nm,0.3s,baz=246,slow=2.9,SNR=5.3	122.18	147	PKP		PKiKP	21 37 29.9	+0.9	
WVT	Waverly baz=288	122.54	51	P			21 37 28.6		
KBA	Koelnbreinsper comp=Z,5.6nm,1.2s	122.92	323	*i* P		PKPdf	21 37 29.5	-0.7	
WCI	Wyandotte Cave baz=290	123.03	48	P			21 37 30.1		
ABTA	Abfaltersbach comp=Z,6.0nm,0.8s	123.58	323	*e*P		PKiKP	21 37 31.0	-0.5	
STAL	STALIGIAL	123.70	323			PKiKP	21 37 31.6	-0.1	
P49A	Miami Univ. Ec baz=292	123.72	46	P			21 37 31.2		
WATA	Walderalm comp=Z,7.1nm,0.9s	123.82	324	*i* P		PKiKP	21 37 31.9	-0.2	
WTTA	Wattenberg comp=Z,9.1nm,0.9s	123.82	324	*e*P		PKiKP	21 37 32.1	-0.1	
LRAL	Lakeview Retre baz=286	124.08	54	P			21 37 32.1		
MOTA	Moosalm comp=Z,7.8nm,0.7s	124.09	325	*i* P		PKiKP	21 37 32.4	-0.2	
SQTA	Sankt Quirin comp=Z,5.4nm,0.7s	124.09	324	*e*P		PKiKP	21 37 32.5	-0.1	
LSQQ	Lebel-sur-Quev baz=305	124.09	33	P			21 37 31.6		
VLDQ	Val d'Or	124.37	34			PKPdf	21 37 31.9	-0.8	
FETA	Feichten comp=Z,7.5nm,0.9s	124.48	324	*i* P		PKiKP	21 37 33.5	+0.1	
ACSO	Alum Creek Sta baz=294	124.67	45	P			21 37 32.5		
DAVA	Damuels comp=Z,5.0nm,0.7s	124.82	325	*e*P		PKiKP	21 37 34.0	-0.1	
BTNL	Ternell	124.87	330	*d*PKP		PKiKP	21 37 33.6	-0.3	
MEM	Membach	124.92	330	*d*PKP		PKiKP	21 37 34.0	+0.1	
ALGO	Algonquin Park baz=302	125.19	37	P			21 37 33.3		
G54A	Lake Saint Pet baz=302	125.47	37	P			21 37 34.0		
P52A	Corning baz=294	125.51	45	P			21 37 33.9		
TUE	Stuetta	125.57	324			PKiKP	21 37 35.5	-0.2	
H53A	Bobcaygeon baz=301	125.59	38	P			21 37 34.6		
BMRD	Maredsous	125.72	331	*d*PKP		PKiKP	21 37 36.1	+0.5	
O53A	New Philadelph baz=296	125.90	44	P			21 37 35.7		
E55A	Montcerf-Lytto baz=304	126.08	35	P			21 37 35.8		
D55A	Sainte-Anne-du baz=305	126.09	34	P			21 37 35.3		
Q53A	Leroy baz=294	126.26	46	P			21 37 35.9		
M54A	Oil Creek Stat baz=298	126.39	42	P			21 37 36.8		
N54A	Moraine State baz=297	126.42	43	P			21 37 36.9		
D56A	ZEC Mazanza, M baz=306	126.47	34	P			21 37 36.1		
E56A	St. Veronique baz=305	126.61	35	P			21 37 36.6		
GOGA	Godfrey baz=289	126.80	53	P			21 37 37.3		
S54A	Dingess, Beckl baz=294	126.84	47	P			21 37 37.4		
U54A	Nelsons Funny baz=292	126.97	49	P			21 37 38.0		
J56A	Wolcott baz=302	127.33	39	P			21 37 38.0		
LATQ	La Tuque baz=308	127.35	33	P			21 37 38.1		
M56A	Emporium baz=299	127.38	41	P			21 37 38.1		
L56A	Greenwood baz=300	127.46	40	P			21 37 38.3		
R55A	Marlinton baz=295	127.50	46	P			21 37 39.1		
O56A	Blue Knob Stat baz=298	127.70	43	P			21 37 39.2		
I57A	Carthage baz=303	127.71	38	P			21 37 38.7		
BLA	Blacksburg baz=294	127.73	47	P			21 37 39.0		
J57A	Williamstown baz=302	127.79	38	P			21 37 39.1		
Q56A	Snyder Ridge, baz=296	127.83	45	P			21 37 39.3		
KMSC	Kings Mountain baz=292	127.85	50	P			21 37 40.0		
R56A	Bull Pasture M baz=296	127.96	45	P			21 37 39.4		
G58A	Ormstown baz=306	127.98	35	P			21 37 38.9		
L57A	Andrews Acres baz=301	127.99	40	P			21 37 39.3		
M57A	Sunshine Farm, baz=300	128.14	41	P			21 37 39.7		
N57A	Milroy baz=299	128.15	42	P			21 37 39.9		
S56A	Natural Bridge baz=295	128.16	46	P			21 37 40.0		
V56A	Mocksville baz=293	128.23	49	P			21 37 40.2		
I58A	Old Forge baz=304	128.26	37	P			21 37 40.0		
F59A	Saint Guilaume baz=307	128.28	34	P			21 37 40.2		
H58A	Gabriels baz=305	128.33	36	P			21 37 40.2		
Q57A	Strasburg baz=297	128.37	44	P			21 37 40.3		
W56A	Indian Trail baz=293	128.43	50	P			21 37 41.3		
BINY	Binghamton baz=302	128.44	40	P			21 37 39.7		
P57A	Homestead Farm baz=298	128.44	44	P			21 37 40.5		
S57A	Dark Hollow, R baz=296	128.56	46	P			21 37 41.0		
M58A	Price's Panora baz=301	128.56	41	P			21 37 40.9		
L58A	Harry Jones Me baz=302	128.60	40	P			21 37 40.4		
N58A	Sunbury baz=300	128.66	41	P			21 37 41.0		
T57A	Hurt baz=295	128.67	47	P			21 37 41.4		
F60A	Warwick baz=308	128.67	34	P			21 37 40.7		
J59A	Piseco baz=304	128.67	37	P			21 37 40.7		
E60A	Ste Agathe de baz=309	128.70	33	P			21 37 40.8		
V57A	Coltrane Farms baz=294	128.74	48	P			21 37 41.6		
K59A	Cooperstown baz=303	128.84	38	P			21 37 41.8		
I59A	Olmsteadville baz=305	128.86	37	P			21 37 40.9		
O58A	Lewisberry baz=299	128.88	42	P			21 37 41.7		
M59A	Waymart baz=302	129.13	40	P			21 37 41.8		
E61A	Lac Etchemin baz=310	129.17	32	P			21 37 41.5		
I60A	Shoreham baz=306	129.18	36	P			21 37 41.7		
T58A	Grand View Acr baz=296	129.21	47	P			21 37 42.3		
R58B	Mineral baz=297	129.23	45	P			21 37 42.0		
U58A	Oxford baz=295	129.43	47	P			21 37 42.7		
P59A	Jarrettsville baz=300	129.46	43	P			21 37 42.8		
L61A	Hillsdale 1, H baz=304	129.96	38	P			21 37 43.1		
DWPF	Disney Wildern baz=286	130.07	59	P			21 37 44.3		
M61A	Granite Spring baz=303	130.31	39	P			21 37 44.5		
ESDC	Sonseca Array comp=Z,0.6nm,0.8s,baz=5.6,slow=3.2,SNR=2.7	137.41	325	PKP		PKPdf	21 37 57.7	0.0	
LPAZ	La Paz comp=Z,3.3nm,0.9s,baz=19,slow=1.0,SNR=7.2	139.20	124	PKP		PKiKP	21 38 03.4	-1.1	
CPUP	Villa Florida comp=Z,3.0nm,0.9s,baz=174,slow=3.1,SNR=4.9	140.22	146	PKP		PKiKP	21 38 04.5	-1.1	
SDV	Santo Domingo	143.41	84	PKPdf		PKPbc	21 38 06.9	0.0	
TOA0	Torodi Ar. Sit	144.43	284			PKPdf	21 38 10.2	-0.6	
TORD	Torodi Ar. Bea comp=Z,15nm,0.8s,baz=69,slow=3.0,SNR=51	144.43	284	PKP		PKPdf	21 38 10.4	-0.5	
GCPR	Guaynabo City	146.39	66			PKPab	21 38 15.9	-0.8	
PDPR	Patillas Dam,	146.53	67			PKPbc	21 38 16.0	0.0	
HUMP	Col San Antoni	146.65	67			PKPab	21 38 16.9	-0.8	
SAML	Samuel	146.95	117			PKPbc	21 38 17.3	-0.1	
KOWA	Kowa	149.68	288			PKiKP	21 38 25.0	-0.4	
KIC	Kosan Boka comp=Z,44nm,0.9s	151.13	271	*e*PKP1		PKiKP	21 38 28.4	0.0	
DBIC	Dimbokro comp=Z,18nm,0.8s,baz=68,slow=2.9,SNR=26	151.26	272	PKPbc		PKiKP	21 38 28.9	+0.2	
LIC	Lamto comp=Z,81nm,0.7s	151.41	271	*e*PKP1		PKiKP	21 38 29.0	0.0	
TIC	Toumodi	151.42	272	*e*PKP1		PKiKP	21 38 29.0	0.0	
PTGA	Pitinga	152.92	104			PKiKP	21 38 32.6	+0.5	
BDFB	Brasilia comp=Z,2.6nm,0.8s,baz=110,slow=2.9,SNR=3.8	153.93	147	PKP		PKPdf	21 38 27.4	+1.3	
BDFB				PKPbc		PKiKP	21 38 35.0	+0.8	
	comp=Z,3.1nm,0.3s,baz=190,slow=5.9,SNR=12								
ENA				S		Sb	21 24 55.0	-1.3	
EWUT	Wuta baz=17	0.46	11	⇓*i*P		Pg	21 24 48.9	0.0	
EWUT				*e*S		Sg	21 24 55.2	+0.3	
FUSS	Fushou baz=307	0.47	302	⇓*i*P		Pg	21 24 49.3	+0.1	
FUSS				S		Sg	21 24 55.6	+0.1	
NNSB	Datong baz=334	0.51	328	⇓*i*P		Pb	21 24 50.0	-1.1	
NNSB				S		Sg	21 24 56.7	+0.1	
NNSH	Datong baz=333	0.51	328	⇓*i*P		Pb	21 24 50.0	-1.1	
NNSH				*e*S		Sg	21 24 56.9	+0.3	
NNS	Nan Shan baz=334	0.52	328	⇓*i*P		Pg	21 24 50.2	0.0	
NNS				S		Sg	21 24 57.0	0.0	
TWT	Tachien baz=310	0.53	299	⇓*i*P		Pb	21 24 50.5	-0.9	
TWT				*e*S		Sb	21 24 57.7	-1.4	
TDCB	Techi baz=302	0.54	298	⇓*i*P		Pg	21 24 50.5	0.0	
TDCB				S		Sg	21 24 57.1	-0.5	
VWDT	VWDT baz=244	0.55	244	⇓*i*P		Pg	21 24 50.5	-0.1	
VWDT				*e*S		Sg	21 24 58.2	+0.4	
HGSD	Ruisui baz=187	0.55	205	*e*P		Pb	21 24 51.4	-0.3	
HGSD				*e*S		Sb	21 24 59.6	-0.1	
EHY	Hungye baz=219	0.59	214	*i* P		Pg	21 24 51.1	-0.2	
EHY				*e*S		Sg	21 24 58.8	-0.3	
NDT	Datong Townshi baz=351	0.62	346	P		Pb	21 24 52.5	-0.5	
NDT				*e*S		Sb	21 25 00.4	-1.3	
TWC	Suao baz=9.0	0.63	14	⇓*i*P		Pb	21 24 52.6	-0.4	
TWC				*e*S		Sb	21 25 01.5	-0.4	
NDS	Dongshan baz=7.0	0.64	3	⇓*i*P		Pb	21 24 52.8	-0.4	
NDS				*e*S		Sb	21 25 01.6	-0.5	
ENTT	Nioudou baz=356	0.65	351	⇓*i*P		Pb	21 24 53.0	-0.4	
ENTT				*e*S		Sb	21 25 01.7	-0.9	
WPL	Puli Township baz=273	0.66	272	⇓*i*P		Pg	21 24 52.8	+0.1	
WPL				*e*S		Sg	21 25 01.1	-0.3	
DPDB	Guoxing baz=275	0.69	273	P		Pg	21 24 53.1	-0.1	
DPDB				*e*S		Sg	21 25 01.9	-0.4	
SSLB	Suanglung baz=264	0.69	253	⇓*i*P		Pg	21 24 53.1	-0.2	
SSLB				S		Sg	21 25 01.1	-1.4	
YULB	Yu-li baz=219	0.69	210	P		Pg	21 24 52.8	-0.6	
YULB				*e*S		Sg	21 25 01.8	-0.7	
WCS	Beigang Elemen baz=276	0.70	275	⇓P		Pg	21 24 53.6	+0.1	
WCS				*e*S		Sg	21 25 02.8	0.0	
SMLT	Sun Moon Lake baz=262	0.72	261	⇓*i*P		Pg	21 24 53.9	+0.1	
SMLT				*e*S		Sg	21 25 02.9	-0.4	
TWE	Neicheng baz=4.0	0.72	359	⇓*i*P		Pb	21 24 54.5	-0.1	
TWE				*e*S		Sb	21 25 04.3	-0.3	
EYUL	Yuli baz=218	0.72	207	*e*P		Pb	21 24 54.4	-0.2	
EYUL				*e*S		Sg	21 25 03.6	+0.2	
YHNB	Yeheng baz=342	0.73	338	⇓*i*P		Pb	21 24 54.4	-0.4	
YHNB				*e*S		Sg	21 25 03.2	-0.3	
WHP	Taichung City baz=289	0.73	293	⇓*i*P		Pb	21 24 54.3	-0.4	
WHP				*e*S		Sb	21 25 04.0	-0.8	
TWF1	Yuli baz=217	0.73	209	*e*P		Pg	21 24 53.4	-0.6	
TWF1				*e*S		Sg	21 25 04.2	+0.7	
NSK	Sanguang baz=341	0.74	337	⇓*i*P		Pb	21 24 54.5	-0.4	
NSK				*e*S		Sb	21 25 04.3	-0.9	
TYC	Yuchr baz=264	0.76	263	⇓*i*P		Pg	21 24 54.4	-0.2	
TYC				*e*S		Sg	21 25 03.8	-0.6	
NWLT	Wulai baz=352	0.80	348	⇓P		Pb	21 24 55.8	-0.1	
NWLT				*e*S		Sb	21 25 06.1	-0.7	
WHYT	Xinyi Township baz=257	0.81	249	*e*P		Pg	21 24 55.6	0.0	
WHYT				*e*S		Sg	21 25 05.3	-0.9	
NTC	Toucheng baz=257	0.87	9	*e*P		Pb	21 24 57.0	-0.1	
FULB	Fuli baz=217	0.87	204	*e*P		Pg	21 24 56.9	+0.2	
FULB				*e*S		Sb	21 25 09.3	+0.5	
NSTT	Nanjuang baz=319	0.89	316	⇓*i*P		Pb	21 24 57.5	+0.1	
NSTT				*e*S		Sb	21 25 08.9	-0.4	
LIOB	Emei baz=320	0.89	317	⇓*i*P		Pb	21 24 57.8	+0.3	
LIOB				*e*S		Sb	21 25 08.9	-0.4	
WJS	Zhushan baz=260	0.89	259	*e*P		Pg	21 24 56.9	-0.1	
WJS				*e*S		Sb	21 25 09.9	+0.6	
WWF	Wufeng baz=274	0.90	273	*e*P		Pg	21 24 56.7	-0.5	
WWF				*e*S		Sb	21 25 09.6	0.0	
TWQ1	Liyutan baz=308	0.90	293	*e*P		Pb	21 24 58.2	+0.5	
TWQ1				*e*S		Sb	21 25 09.2	-0.5	
NJD	Zhudong baz=327	0.91	324	*e*P		Pn	21 24 59.1	+0.2	
NJD				*e*S		Sb	21 25 11.2	+1.1	
WNT	Mingjian baz=269	0.92	263	*e*P		Pb	21 24 58.5	+0.6	
WNT				*e*S		Sb	21 25 09.8	-0.4	
WNT1	Nantou City baz=266	0.92	265	*e*P		Pn	21 24 58.7	-0.2	
WNT1				*e*S		Sb	21 25 11.8	+1.5	
TCU	Taichung baz=276	0.93	280	*e*P		Pn	21 24 59.6	+0.5	
ALS	Alishan baz=227	0.94	239	*i* P		Pg	21 24 57.9	-0.1	
ALS				*e*S		Sg	21 25 10.4	+0.2	
CHKT	Chengkung baz=185	0.94	198	*e*P		Pg	21 24 57.6	-0.4	
CHKT				*e*S		Sn	21 25 12.7	+0.1	
NSY	Sanyi baz=298	0.94	297	*e*P		Pn	21 24 59.3	+0.1	

JMA ***13*** *21:24:39.1±0.2, 24.00N×121.64E, h0km, M3.0*
TAP ***13*** *21:24:40.1, 24.00N×121.63E, h9km, ML3.8, C*

ISC 13 21:24:39.9±0.8, 24.00N±0.01×121.68E±0.02, h10km±5km, n134, σ0.70/217, 1C-30D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	Hwalien baz=208	0.07	255	⇓*i*P			Pg	21 24 42.1	+0.1
HWA				*i* S			Sg	21 24 44.0	+0.3
TWD	Chiawan baz=349	0.11	318	⇓*i*P			Pg	21 24 42.5	-0.1
TWD				*i* S			Sg	21 24 44.4	-0.2
NACB	Ninganchiao baz=358	0.19	337	⇓*i*P			Pg	21 24 43.9	-0.1
NACB				*i* S			Sg	21 24 46.6	-0.2
ETLH	Xiulin Townshi baz=329	0.28	319	⇓*i*P			Pg	21 24 45.4	-0.2
ETLH				S			Sg	21 24 49.0	-0.3
ESL	Shilin baz=229	0.29	231	⇓*i*P			Pg	21 24 45.2	-0.5
ESL				*i* S			Sg	21 24 48.8	-0.8
EGFH	Guangfu baz=218	0.40	215	⇑*i*P			Pg	21 24 47.9	+0.2
EGFH				*e*S			Sg	21 24 53.2	+0.1
WHF	Hehuan Shan baz=296	0.41	292	⇓*i*P			Pg	21 24 47.6	-0.5
WHF				*i* S			Sg	21 24 52.9	-0.6
ENA	Nanau	0.43	7	⇓*i*P			Pb	21 24 48.8	-0.9

NHDH	**Xindian Distri** baz=345	**0.97**	**352**	*e*P	**Pb**	**21 24 59.0**	**+0.1**
NHDH	baz=345			*e*S	**Sb**	**21 25 12.0**	**+0.2**
NMLH	**Miaoli** baz=306	**0.97**	**304**	*e*P	**Pn**	**21 25 00.3**	**+0.6**
NMLH	baz=306			*e*S	**Sn**	**21 25 13.2**	**-0.4**
TIPB	**Shuangxi** baz=1.0	**0.98**	**8**	*e*P	**Pb**	**21 24 59.2**	**+0.2**
TIPB	baz=1.0			*e*S	**Sb**	**21 25 11.8**	**-0.3**
HSN1	**Hsinchu** baz=324	**0.98**	**322**	*e*P	**Pn**	**21 25 00.6**	**+0.8**
TWA	**Mucha** baz=357	**0.98**	**355**	*e*P	**Pn**	**21 24 59.7**	**-0.1**
TATO	**Taipei** baz=353	**0.99**	**350**	*e*P	**Pb**	**21 24 58.8**	**-0.5**
TATO	baz=353			*e*S	**Sb**	**21 25 11.9**	**-0.4**
CHN5	**Tsauling** baz=237	**1.00**	**247**	*e*P	**Pb**	**21 24 59.9**	**+0.5**
CHN5	baz=237			*e*S	**Sn**	**21 25 14.3**	**0.0**
ELDTW	**Lidau** baz=216	**1.01**	**217**	*e*P	**Pg**	**21 24 58.0**	**-1.3**
ELDTW	baz=216			*e*S	**Sg**	**21 25 10.3**	**-2.1**
NJN	**Zhunan** baz=324	**1.01**	**313**	*e*P	**Pg**	**21 24 58.8**	**-0.5**
NJN	baz=324			*e*S	**Sb**	**21 25 13.1**	**+0.3**
WDJ	**Dajia District** baz=302	**1.01**	**291**	*e*P	**Pn**	**21 25 00.3**	**+0.1**
WDJ	baz=302			*e*S	**Sg**	**21 25 11.9**	**-0.6**
SBCB	**Hsinchu** baz=324	**1.01**	**322**	*e*P	**Pn**	**21 25 00.6**	**+0.4**
SBCB	baz=324			*e*S	**Sb**	**21 25 14.0**	**+1.0**
WCHH	**Zhanghua** baz=277	**1.03**	**275**	*e*P	**Pn**	**21 25 00.4**	**0.0**
WCHH	baz=277			*e*S	**Sb**	**21 25 13.4**	**0.0**
HSN	**Hsinchu** baz=326	**1.03**	**321**	*e*P	**Pn**	**21 25 01.0**	**+0.6**
TWB1	**Santiao Chiao** baz=11	**1.05**	**16**	*e*P	**Pn**	**21 25 01.1**	**+0.4**
TWB1	baz=11			*e*S	**Sb**	**21 25 14.0**	**+0.1**
TAP	**Taipei** baz=353	**1.05**	**351**	*e*P	**Pb**	**21 25 00.3**	**0.0**
NTY	**Taoyuan** baz=338	**1.06**	**341**	*e*P	**Pb**	**21 24 59.9**	**-0.5**
NCUH	**Zhongli** baz=348	**1.07**	**335**	*e*P	**Pn**	**21 25 01.7**	**+0.7**
NCUH	baz=348			*e*S	**Sn**	**21 25 18.2**	**+2.3**
WGK	**Gukeng** baz=255	**1.07**	**253**	*e*P	**Pn**	**21 25 01.4**	**+0.4**
WGK	baz=255			*e*S	**Sn**	**21 25 16.1**	**+0.2**
NCU	**National Centr** baz=349	**1.07**	**335**	*e*P	**Pn**	**21 25 02.0**	**+1.0**
NCU	baz=349			*e*S	**Sn**	**21 25 17.0**	**+1.0**
EDH	**Donghe** baz=178	**1.07**	**199**	*e*P	**Pg**	**21 24 59.8**	**-0.8**
EDH	baz=178			*e*S	**Sb**	**21 25 15.8**	**+1.1**
NWF	**Wu-fen Shan** baz=6.0	**1.07**	**5**	*e*P	**Pn**	**21 25 01.4**	**+0.3**
WFSB	**Wu-fen Shan** baz=5.0	**1.07**	**5**	*e*P	**Pn**	**21 25 01.4**	**+0.3**
WDLH	**Douliu** baz=255	**1.09**	**254**	*e*P	**Pn**	**21 25 01.4**	**+0.2**
WDLH	baz=255			*e*S	**Sb**	**21 25 16.3**	**+1.2**
TWS1	**Kuangyinshan** baz=351	**1.13**	**348**	*e*P	**Pn**	**21 25 02.2**	**+0.5**
TWS1	baz=351			*e*S	**Sn**	**21 25 17.7**	**+0.4**
YM01	**YM01** baz=6.0	**1.15**	**355**	*e*P	**Pg**	**21 25 01.4**	**-0.6**
YM10	**YM10** baz=355	**1.16**	**355**	*e*P	**Pn**	**21 25 03.0**	**+0.7**
YM04	**YM04** baz=354	**1.16**	**354**	*e*P	**Pn**	**21 25 03.0**	**+0.8**
STYH	**Taoyuan** baz=226	**1.17**	**225**	*e*P	**Pg**	**21 25 02.1**	**-0.2**
STYH	baz=226			*e*S	**Sb**	**21 25 18.0**	**+0.6**
YM05	**YM05** baz=6.0	**1.17**	**355**	*e*P	**Pn**	**21 25 02.5**	**0.0**
YM11	**YM11** baz=6.0	**1.17**	**355**	*e*P	**Pn**	**21 25 03.5**	**+1.1**
NTST	**Danshui** baz=350	**1.18**	**350**	*e*P	**Pn**	**21 25 03.6**	**+1.0**
CHN4	**Tsaushan** baz=225	**1.18**	**237**	*e*P	**Pn**	**21 25 03.0**	**+0.4**
CHN4	baz=225			*e*S	**Sn**	**21 25 19.4**	**+0.6**
STYT	**Tauyuan** baz=226	**1.18**	**226**	*e*P	**Pg**	**21 25 02.3**	**-0.3**
STYT	baz=226			*e*S	**Sg**	**21 25 17.9**	**-0.1**
TPUB	**Ta-pu** baz=223	**1.19**	**235**	*e*P	**Pn**	**21 25 02.9**	**+0.3**
TPUB	baz=223			*e*S	**Sb**	**21 25 18.3**	**+0.3**
YM08	**YM08** baz=7.0	**1.19**	**356**	*e*P	**Pn**	**21 25 03.2**	**+0.5**
ANP	**Anpu** baz=354	**1.20**	**353**	*e*P	**Pn**	**21 25 03.5**	**+0.7**
LONT	**Longtian** baz=205	**1.20**	**205**	*e*P	**Pg**	**21 25 01.4**	**-1.5**
WRL	**Guolierlin Hig** baz=268	**1.20**	**266**	*e*P	**Pn**	**21 25 03.5**	**+0.8**
WRL	baz=268			*e*S	**Sn**	**21 25 19.3**	**+0.2**
CHN2	**Minshiung** baz=263	**1.20**	**248**	*e*P	**Pb**	**21 25 02.7**	**+0.1**
CHN2	baz=263			*e*S	**Sn**	**21 25 20.4**	**+1.4**
RLNB	**Erlin** baz=267	**1.21**	**265**	*e*P	**Pb**	**21 25 02.9**	**-0.1**
WTK	**Tuku** baz=258	**1.22**	**256**	*e*P	**Pg**	**21 25 03.0**	**-0.3**
WTK	baz=258			*e*S	**Sn**	**21 25 20.0**	**+0.4**
JYNG	**Yonagunijimaku**	**1.24**	**68**	P	**Pn**	**21 25 04.2**	**+0.8**
JYNG				S	**Sn**	**21 25 20.6**	**+0.4**
CHY	**Chiayi** baz=262	**1.25**	**247**	*e*P	**Pn**	**21 25 04.1**	**+0.6**
CHY	baz=262			*e*S	**Sn**	**21 25 21.2**	**+0.8**
TWG	**Pinlang** baz=206	**1.29**	**206**	*e*P	**Pg**	**21 25 03.4**	**-1.4**
TWGBT	**Beinan** baz=206	**1.29**	**205**	*e*P	**Pg**	**21 25 03.2**	**-1.5**
YOJ	**Yonaguni jima**	**1.30**	**69**	P	**Pb**	**21 25 04.9**	**+0.4**
YOJ				*e*S	**Sn**	**21 25 22.6**	**+1.0**
TWK	**Hsinying** baz=238	**1.31**	**237**	*e*P	**Pb**	**21 25 05.0**	**+0.3**
CHN1	**Nanshi** baz=234	**1.33**	**233**	*e*P	**Pb**	**21 25 05.7**	**+0.7**
CHN1	baz=234			*e*S	**Sn**	**21 25 23.6**	**+1.2**
LDUT	**Ludao** baz=171	**1.33**	**188**	*e*P	**Pn**	**21 25 02.1**	**-2.4**
SNST	**Tainan City** baz=236	**1.33**	**235**	*e*P	**Pn**	**21 25 05.9**	**+0.9**
SGST	**Jiashian** baz=218	**1.36**	**228**	*e*P	**Pn**	**21 25 04.9**	**-0.1**
SLGT	**Liugui** baz=210	**1.38**	**224**	*e*P	**Pn**	**21 25 04.8**	**-0.4**
WSF	**Szhu** baz=257	**1.38**	**255**	*e*P	**Pg**	**21 25 06.3**	**-0.2**
CHN3	**Shinhua** baz=234	**1.51**	**233**	*e*P	**Pg**	**21 25 09.6**	**+0.6**
ECL	**Taimali** baz=186	**1.54**	**206**	*e*P	**Pn**	**21 25 06.5**	**-1.0**
SCST	**Cishan** baz=212	**1.55**	**225**	*e*P	**Pg**	**21 25 09.5**	**-0.2**
SSD	**Sandimen** baz=208	**1.57**	**218**	*e*P	**Pn**	**21 25 08.8**	**+0.9**
TSMG	**Majia** baz=207	**1.60**	**217**	*e*P	**Pb**	**21 25 09.4**	**-0.1**
TWM1	**Shoushan** baz=226	**1.64**	**225**	*e*P	**Pg**	**21 25 10.9**	**-0.5**
PCYT	**Pengchaiyu** baz=11	**1.67**	**12**	*e*P	**Pb**	**21 25 10.6**	**-0.1**
TSPT	**Pingtung City** baz=209	**1.70**	**220**	*e*P	**Pg**	**21 25 12.6**	**0.0**
EAST	**Anshuo** baz=187	**1.78**	**206**	*e*P	**Pn**	**21 25 10.0**	**-0.8**
SSPT	**Xinbi** baz=205	**1.82**	**214**	*e*P	**Pn**	**21 25 12.3**	**+1.0**
SCZT	**Fangliau** baz=196	**1.89**	**211**	*e*P	**Pn**	**21 25 12.1**	**-0.2**
IRIF	**Iriomote-Funau**	**1.90**	**79**	P	**Pn**	**21 25 12.8**	**+0.3**
IRIF				S	**Sb**	**21 25 38.4**	**-0.2**
SLIU	**Shizi** baz=187	**1.95**	**205**	*e*P	**Pn**	**21 25 14.6**	**+1.5**
LAY	**Lan-yu** baz=180	**1.95**	**183**	*e*P	**Pn**	**21 25 11.4**	**-1.8**
PHUB	**P'eng-hu** baz=260	**1.99**	**256**	*e*P	**Pn**	**21 25 13.8**	**+0.1**
PHUB	baz=260			*e*S	**Sn**	**21 25 40.0**	**+1.4**
WDGT	**Dungji** baz=253	**1.99**	**249**	*e*P	**Pn**	**21 25 13.8**	**+0.1**
WDGT	baz=253			*e*S	**Sn**	**21 25 38.4**	**-0.3**
PNG	**Penghu** baz=260	**1.99**	**258**	*e*P	**Pn**	**21 25 13.9**	**+0.2**
PNG	baz=260			*e*S	**Sn**	**21 25 39.6**	**+1.0**
JKRS	**Kuro-shima**	**2.14**	**83**	P	**Pn**	**21 25 17.4**	**+1.7**
JKRS				*e*S	**Sb**	**21 25 46.2**	**+0.7**
TWKBT	**Hengchun** baz=183	**2.19**	**202**	*e*P	**Pn**	**21 25 17.2**	**+0.7**
VWUC	**VWUC** baz=297	**2.26**	**296**	*e*P	**Pn**	**21 25 16.4**	**-1.0**
JIJ	**Ishigaki jima**	**2.28**	**80**	P	**Pb**	**21 25 20.0**	**-1.2**
JISG	**Ishigakijimahi**	**2.47**	**76**	P	**Pn**	**21 25 20.7**	**+0.4**
JISG				S	**Sn**	**21 25 52.1**	**+1.5**
PTMZ	**Houxiangcun** baz=294	**2.55**	**295**	*e*P	**Pn**	**21 25 20.6**	**-0.8**
QZH	**Quanzhou**	**2.97**	**289**	Pn	**Pn**	**21 25 26.1**	**-1.0**
QZH				Sn	**Sn**	**21 26 01.5**	**-1.3**
QZH	comp=N,65nm,0.7s			smax	smax		
QZH	comp=E,55nm,0.6s			smax	smax		
KNM	**Kinmen** baz=277	**2.99**	**279**	*e*P	**Pn**	**21 25 28.9**	**+1.4**
KNMB	**Chin-men Tao** baz=278	**3.04**	**279**	*e*P	**Pn**	**21 25 27.9**	**-0.1**
MHZQ	**Yeshan** baz=311	**3.19**	**312**	*e*P	**Pn**	**21 25 30.4**	**+0.3**
XPSS	**Dashiqiu** baz=334	**3.22**	**336**	*e*P	**Pn**	**21 25 30.0**	**-0.5**
AXDP	**Jialang** baz=285	**3.50**	**286**	*e*P	**Pn**	**21 25 34.6**	**+0.3**
ZPLA	**Ao Xicun** baz=267	**3.59**	**270**	*e*P	**Pn**	**21 25 35.6**	**-0.2**

IDC 13 21:38:09.7±5.9, 29°44S×179°01W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.5/17, mbtmp3.4/2, Error ellipse: s-maj=307.6km s-min=86.7km az=166.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.29**	**266**	P	P	21 46 05.5	+0.2
	0.3nm,0.7s,baz=103,slow=7.7,SNR=3.2						
WRA	**Warramunga Arr**	**43.19**	**272**	P	P	21 46 12.2	-0.5
	0.3nm,0.3s,baz=110,slow=8.0,SNR=8.0						
FINES	**FINESS Array B**	**143.95**	**340**	PKP	PKPdf	21 57 46.0	-0.4
	0.5nm,0.3s,baz=38,slow=5.3,SNR=3.7						

*TUN **13** 21:41:40.7, 34°.78N×6°.75E, h336km±111km, MD3.4, Hypocentre not reviewed by the ISC*
*CRAAG **13** 21:42:15.9, 34°.73N×6°.39E, Ml3.3*
*LDG **13** 21:42:17.5±0.3, 34°.77N×6°.29E, h10km, Ml3.5/18, Error ellipse: s-maj=5.2km s-min=4.0km az=2.0*

ISC 13 21:42:23.3±3.2, 35°.4N±0°.2×6°.28E±0°.08, h10km, n24, σ1s20/39, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTEI	**Djebel Teioual**	**0.72**	**9**	P	**Pn**	**21 42 40.0**	**+0.3**
CKHR	**Kef el Ahmar**	**0.91**	**317**	P	**Pg**	**21 42 42.2**	**+1.4**
CASM	**Ain Smara**	**0.93**	**11**	P	**Pn**	**21 42 43.0**	**+0.6**
SET	**Setif**	**1.11**	**320**	P	**Pb**	**21 42 45.0**	**+0.4**
CKFL	**Kef-Lekhel**	**1.11**	**19**	P	**Pn**	**21 42 45.5**	**+0.5**
DFRA	**Djebel Bou Aff**	**1.24**	**345**	P	**Pn**	**21 42 47.0**	**+0.3**
ABSA	**Djebel Ababsia**	**1.34**	**46**	P	**Pn**	**21 42 46.4**	**-1.8**
CMAH	**Djebel Manchou**	**1.58**	**36**	P	**Pn**	**21 42 49.0**	**-2.4**
THTN	**Thala**	**1.98**	**83**	*i* P		11 07 40.2	
GHAT	**Ghardimaou**	**2.01**	**55**	*i* P		11 07 37.4	
BLIT	**Baltah**	**2.56**	**57**	*i* P		11 07 31.9	
TAMR	**Tamra**	**2.85**	**53**	*i* P		11 07 34.7	
KCHT	**Kechbta**	**3.44**	**58**	*i* P		11 07 31.9	
PGF	**Pioggiola**	**7.50**	**16**	*e*Pn	**Pn**	**21 44 11.9**	**-0.8**
PGF	5.3nm,0.4s			*e*Sn	**Sn**	**21 45 39.3**	**+1.5**
LMR	**La Mourre**	**7.98**	**1**	*e*Pn	**Pn**	**21 44 17.5**	**-1.7**
LMR	7.6nm,0.3s			*e*Sn	**Sn**	**21 45 48.6**	**-0.9**
FRF	**La Foret Royal**	**8.21**	**2**	*e*Pn	**Pn**	**21 44 21.4**	**-1.0**
FRF	5.3nm,0.3s			*e*Sn	**Sn**	**21 45 53.1**	**-2.0**
SBF	**Sospel**	**8.55**	**6**	*e*Pn	**Pn**	**21 44 26.8**	**-0.3**
SBF	5.4nm,0.4s			*e*Sn	**Sn**	**21 46 04.0**	**+0.3**
MTLF	**Montolieu**	**8.58**	**340**	*e*Pn	**Pn**	**21 44 26.5**	**-0.9**
MTLF	0.8nm,0.2s			*e*Sn	**Sn**	**21 46 03.8**	**-0.4**
SMRF	**Simiane la Rot**	**8.63**	**357**	*e*Pn	**Pn**	**21 44 27.5**	**-0.8**
SMRF	1.5nm,0.3s			*e*Sn	**Sn**	**21 46 07.0**	**+1.3**
LASF	**Ste Croix**	**8.91**	**349**	*e*Pn	**Pn**	**21 44 31.3**	**-0.8**
LASF	7.4nm,0.5s			*e*Sn	**Sn**	**21 46 12.3**	**-0.2**
EPF	**Esparros**	**8.95**	**331**	*e*Pn	**Pn**	**21 44 33.8**	**+1.2**
EPF	6.3nm,0.5s			*e*Sn	**Sn**	**21 46 11.6**	**-1.8**
ETSF	**Etsaut**	**9.22**	**327**	*e*Pn	**Pn**	**21 44 36.9**	**+0.6**
ETSF	2.9nm,0.5s			*e*Sn	**Sn**	**21 46 17.8**	**-2.3**
MBDF	**Montbardon**	**9.37**	**2**	*e*Pn	**Pn**	**21 44 37.8**	**-0.7**
MBDF	2.5nm,0.6s			*e*Sn	**Sn**	**21 46 24.9**	**+0.8**
ORIF	**Oris-en-Rattie**	**9.56**	**358**	*e*Pn	**Pn**	**21 44 40.2**	**-0.9**
ORIF	1.3nm,0.5s			*e*Sn	**Sn**	**21 46 28.2**	**-0.4**
VIVF	**Saint-Julien-l**	**9.57**	**353**	*e*Pn	**Pn**	**21 44 40.0**	**-1.2**
VIVF	1.1nm,0.2s			*e*Sn	**Sn**	**21 46 28.2**	**-0.6**
SJPF	**Ste Jean**	**9.69**	**325**	*e*Pn	**Pn**	**21 44 41.6**	**-1.1**
SJPF	20nm,0.9s			*e*Sn	**Sn**	**21 46 28.7**	**-2.9**
LPG	**La Plagne**	**10.14**	**2**	*e*Pn	**Pn**	**21 44 48.7**	**-0.5**
LPG	1.4nm,0.4s			*e*Sn	**Sn**	**21 46 43.5**	**+0.4**
LPL	**La Plagne**	**10.16**	**2**	*e*Pn	**Pn**	**21 44 49.4**	**0.0**
LPL	1.3nm,0.4s			*e*Sn	**Sn**	**21 46 43.0**	**-0.5**
LFF	**La Frestale**	**10.47**	**338**	*e*Pn	**Pn**	**21 44 54.0**	**+0.6**

*KRNET **13** 21:50:20.3±0.1, 41°.18N×70°.84E, h18km, mb2.6*
*NNC **13** 21:50:23.1±2.8, 41°.24N×71°.04E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=23.6km s-min=9.5km az=27.0*

ISC 13 21:50:21.4±1.0, 41°.16N±0°.03×70°.90E±0°.05, h10km, n18, σ1s43/34, 26C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say** baz=42	**0.41**	**26**	⇑*i* P	**Pg**	**21 50 27.6**	**-1.9**
TRKS	baz=42			⇑*i* S	**Sg**	**21 50 33.4**	**-1.6**
BTK	**Batken** baz=81	**1.11**	**183**	⇑*i* P	**Pg**	**21 50 41.5**	**-1.2**
BTK	baz=81			⇑*i* S	**Sg**	**21 50 56.7**	**-0.3**
OHH	**Osh** baz=13	**1.56**	**113**	⇑*i* P	**Pb**	**21 50 50.1**	**-0.4**
OHH	baz=13			⇑*i* S	**Sg**	**21 51 11.7**	**-0.1**
ARSB	**Arslanbob** baz=84	**1.58**	**83**	⇑*i* P	**Pb**	**21 50 50.1**	**-0.7**
ARSB	baz=84			⇑*i* S	**Sg**	**21 51 11.8**	**-0.4**
MNAS	**Manas** baz=43	**1.79**	**42**	⇑*i* P	**Pb**	**21 50 53.4**	**-0.9**
MNAS	baz=43			⇑*i* S	**Sg**	**21 51 17.3**	**-1.5**
DRK	**Karamyk** baz=56	**1.82**	**157**	⇑*i* P	**Pb**	**21 50 54.1**	**-0.8**
DRK	baz=56			⇑*i* S	**Sg**	**21 51 18.8**	**-1.0**
KK31	**Karatay Array** 1.4nm,0.3s,baz=173,slow=18,SNR=27	**1.96**	**352**	⇑Pn	**Pb**	**21 50 57.1**	**-0.1**
KK31	4.5nm,0.4s,baz=180,slow=30,SNR=13			⇑Sn	**Sb**	**21 51 22.5**	**+0.7**
SFK	**Sufi-Kurgan** baz=19	**2.29**	**119**	⇑*i* P	**Pn**	**21 51 00.7**	**+1.2**
SFK	baz=19			⇑*i* S	**Sb**	**21 51 30.8**	**-0.6**
AML	**Almayashu** baz=65	**2.31**	**64**	⇑*i* P	**Pn**	**21 51 01.1**	**+1.3**
AML	baz=65			⇑*i* S	**Sb**	**21 51 30.7**	**-1.3**
EKS2	**Erkin-Say** baz=55	**2.62**	**54**	⇑*i* P	**Pn**	**21 51 05.1**	**+1.2**
EKS2	baz=55			⇑*i* S	**Sb**	**21 51 37.8**	**-2.9**
UCH	**Uchtor** baz=68	**2.91**	**67**	⇓*i* P	**Pn**	**21 51 09.6**	**+1.4**
UCH	baz=68			⇓*i* S	**Sn**	**21 51 45.4**	**+2.0**
AAK	**Ala-Archa** baz=61	**3.06**	**60**	⇑*i* P	**Pn**	**21 51 11.4**	**+1.4**
AAK	baz=61			⇑*i* S	**Sn**	**21 51 48.6**	**+1.8**
AAK	**Ala-Archa** 3.8nm,0.9s	**3.06**	**60**	⇓Pg	**Pb**	**21 51 16.7**	**+0.6**
AAK	3.0nm,0.7s			⇓Lg	Lg	21 51 56.3	
KBK	**Karagaybulak** baz=63	**3.37**	**62**	⇓*i* P	**Pn**	**21 51 15.8**	**+1.5**
KBK	baz=63			⇓*i* S	**Sn**	**21 51 56.3**	**+1.9**
USP	**Ospenovka** baz=51	**3.40**	**51**	⇑*i* P	**Pn**	**21 51 15.9**	**+1.3**
USP	baz=51			⇑*i* S	**Sn**	**21 51 56.6**	**+1.6**
CHMS	**Chumysh** baz=57	**3.40**	**56**	⇑*i* P	**Pn**	**21 51 16.0**	**+1.4**
CHMS	baz=57			⇑*i* S	**Sn**	**21 51 56.9**	**+1.9**
TKM2	**Tokmak 2** 1.9nm,0.9s	**3.91**	**62**	⇓Pg	**Pb**	**21 51 31.4**	**+0.8**
TKM2	1.6nm,0.5s			⇓Lg	Lg	21 52 22.9	
BOOM	**Boomskoye usch** baz=69	**3.99**	**69**	⇓*i* P	**Pn**	**21 51 24.3**	**+1.5**
BOOM	baz=69			⇓*i* S	**Sn**	**21 52 11.6**	**+1.8**

IDC 13 21:55:40.2±7.2, 0°.31S×132°.87E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=447.0km s-min=28.0km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.56**	**176**	P	P	22 00 09.2	-0.6
	0.1nm,0.3s,baz=356,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**23.24**	**178**	P	P	22 00 49.6	+0.4
	0.5nm,0.5s,baz=352,slow=10,SNR=6.4						
MKAR	**Makanchi Array**	**64.39**	**324**	P	P	22 06 18.1	0.0
	0.3nm,0.8s,baz=110,slow=8.4,SNR=4.8						

*SKHL **13** 22:04:06.8±0.4, 43°.20N×146°.10E, h50km±3km, mb3.8/3*
*JMA **13** 22:04:07.5±0.2, 43°.23N×146°.01E, h43km±1km, M2.5*

ISC 13 22:04:05.7±3.2, 43°.2N±0°.1×146°.2E±0°.2, h44km±13km, n13, σ0s71/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.35**	**296**	P	**Pn**	**22 04 15.3**	**+0.5**
NEM2				*e*S	**Sn**	**22 04 20.9**	**-0.3**
NMR	**Nemuro--Hokkai**	**0.36**	**296**	*i* P	**Pn**	**22 04 15.4**	**+0.4**
NMR				*i* S	**Sn**	**22 04 21.1**	**-0.4**
GLVR	**Golovnino**	**0.71**	**318**	*i* P	**Pn**	**22 04 19.7**	**+0.3**
GLVR	20nm,0.2s			AMB	AMB	22 04 20.0	
GLVR				*i* S	**Sn**	**22 04 29.4**	**+0.2**
GLVR	420nm,0.3s			A	A	22 04 30.0	
GLVR	590nm,0.3s			A	A	22 04 30.0	
JKHN	**Kushirohamanak**	**0.75**	**260**	P	**Pn**	**22 04 20.4**	**+0.5**
GRPR	**Tuman**	**0.83**	**340**	*i* P	**Pn**	**22 04 21.3**	**+0.2**
GRPR	40nm,0.2s			AMB	AMB	22 04 21.5	
GRPR				*i* S	**Sn**	**22 04 31.3**	**-0.9**
GRPR	750nm,0.2s			A	A	22 04 31.6	
GRPR	210nm,0.2s			A	A	22 04 31.6	
YUK	**Yuzh-Kuril'sk**	**0.85**	**345**	*i* P	**Pn**	**22 04 21.4**	**+0.1**
YUK	150nm,0.3s			AMB	AMB	22 04 23.0	
YUK				*i* S	**Sn**	**22 04 32.0**	**-0.7**
YUK	280nm,0.2s			A	A	22 04 32.0	
YUK	430nm,0.2s			A	A	22 04 32.0	
JNSB	**Nemuroshibetsu**	**1.02**	**304**	P	**Pn**	**22 04 23.8**	**+0.2**
JRA	**Rausu**	**1.05**	**314**	P	**Pn**	**22 04 24.7**	**+0.7**
JRA				*e*S	**Sn**	**22 04 37.8**	**+0.3**
JAK	**Akkeshi**	**1.10**	**259**	P	**Pn**	**22 04 24.7**	**0.0**
JAK				*e*S	**Sn**	**22 04 37.7**	**-1.0**
JNK	**Nakash**	**1.12**	**290**	P	**Pn**	**22 04 24.9**	**-0.1**
JNK				*e*S	**Sn**	**22 04 37.7**	**-1.6**
JOB	**Onbets**	**1.74**	**261**	P	**Pn**	**22 04 33.9**	**+0.5**
JAR	**Ashorobuto**	**1.75**	**274**	P	**Pn**	**22 04 34.4**	**+0.7**
JAR				*e*S	**Sn**	**22 04 54.5**	**-0.3**
JTKR	**Abashiri--Toko**	**1.81**	**296**	P	**Pn**	**22 04 35.7**	**+1.3**

*DNK **13** 22:05:23.4±2.0, 79°.04N×3°.48E, h49km±99km, ML2.6*
*BER **13** 22:05:24.5±2.2, 79°.00N×3°.30E, h26km±25km, ML1.9, ML2.6(DNK), Confirmed Earthquake*
*IEPN **13** 22:05:27.0, 78°.84N×4°.70E, h10km*

ISC 13 22:05:18.4±0.8, 78°.90N±0°.06×3°.25E±0°.04, h12km, n17, σ2s27/32, 3C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.68**	**85**	⇑*i* P	**Pg**	**22 05 50.2**	**-0.4**
KBS				*i* S	**Sb**	**22 06 08.6**	**-1.6**
KBS				IAML		22 06 11.9	
KBS	comp=Z,60nm,0.3s **Kingsbay**	**1.68**	**85**	*e*P	**Pg**	**22 05 49.9**	**-0.7**
KBS				*e*S	**Sn**	**22 06 07.8**	**-1.1**
KBS	**Kingsbay**	**1.68**	**85**	⇑*i* P	**Pg**	**22 05 50.2**	**-0.4**
KBS				*i* S	**Sb**	**22 06 08.6**	**-1.6**
KBS	comp=Z,60nm,0.3s			IAML		22 06 11.9	
SPA0	**Spitsbergen Ar**	**2.71**	**99**	*i* P	**Pb**	**22 06 05.8**	**-1.0**
SPA0				*e*S	**Sn**	**22 06 36.6**	**+2.2**
SPA0	comp=Z,24nm,0.6s			IAML		22 06 40.0	
SPA0	**Spitsbergen Ar**	**2.71**	**99**	⇑*i* P	**Pb**	**22 06 05.8**	**-1.0**
SPA0				*e*S	**Sn**	**22 06 35.4**	**+1.0**
HSPB	**Hornsund (broa**	**3.20**	**120**	*e*S	**Sn**	**22 06 46.9**	**+0.6**
HSPB	comp=Z,6.8nm,0.6s			IAML		22 06 54.5	
HSPB	**Hornsund (broa**	**3.20**	**120**	P	**Pb**	**22 06 14.3**	**-0.7**
HSPB				*i* S	**Sn**	**22 06 47.5**	**+1.2**
NOR	**Nord**	**4.31**	**318**	*i* P	**Pn**	**22 06 26.2**	**+2.6**
NOR				*i* S	**Sn**	**22 07 11.3**	**-2.4**
NOR	**Nord**	**4.31**	**318**	*i* P	**Pn**	**22 06 26.2**	**+2.6**
NOR				*i* S	**Sn**	**22 07 11.4**	**-2.4**
NOR	comp=Z,1.9nm,0.3s			IAML		22 07 14.8	
NOR	**Nord**	**4.31**	**318**	*i* P	**Pn**	**22 06 26.2**	**+2.6**

NOR				*i* S	**Sn**	**22 07 11.4**	**-2.4**
NOR				IAML		22 07 14.8	
	comp=Z,1.9nm,0.3s						
DAG	**Danmarks Havn**	**5.08**	**256**	*i* P	**Pn**	**22 06 37.4**	**+3.3**
DAG				*i* S	**Sn**	**22 07 30.7**	**-1.8**
DAG	**Danmarks Havn**	**5.08**	**256**	*e*	**Pn**	**22 06 36.1**	**+2.0**
	baz=47,slow=14						
DAG				*i* P	Pb	22 06 37.4	-10
DAG				*i* S	**Sn**	**22 07 30.7**	**-1.8**
DAG				IAML		22 07 39.5	
	comp=Z,2.7nm,0.3s						
DAG	**Danmarks Havn**	**5.08**	**256**	*e*	**Pn**	**22 06 36.1**	**+2.0**
	baz=47,slow=14						
DAG				*i* P	Pb	22 06 37.4	-10
DAG				*i* S	**Sn**	**22 07 30.7**	**-1.8**
DAG				IAML		22 07 39.5	
	comp=Z,2.7nm,0.3s						
HOPEN	**Hopen**	**5.20**	**106**	S	**Sn**	**22 07 35.4**	**-0.3**
DBG	**Daneborg**	**7.08**	**242**	*i* P	**Pn**	**22 07 03.7**	**+2.2**
DBG				*i* S	**Sn**	**22 08 18.9**	**-2.8**
DBG				IAML		22 08 23.2	
	comp=Z,2.4nm,0.4s						
DBG	**Daneborg**	**7.08**	**242**	*i* P	**Pn**	**22 07 03.7**	**+2.2**
DBG				*i* S	**Sn**	**22 08 18.9**	**-2.8**
DBG				IAML		22 08 23.2	
	comp=Z,2.4nm,0.4s						
ZFI	**Zemlya Franca-**	**7.89**	**55**	*e*P	**Pn**	**22 07 15.8**	**+3.2**
ZFI				*e*S	**Sn**	**22 08 36.0**	**-5.6**

UPA ***13*** *22:11:55.4±0.6,5°.36N×76°.65W, h68km±29km, MW4.8*
RSNC ***13*** *22:11:57.6±1.4,5°.36N×76°.63W, h51km±10km, ML3.1, Mw3.5, Fault plane solution: NP1:φs95.00000°, δ48.00000°, λ-180.00000°.*

ISC 13 22:11:56.1±1.2,5°.39N±0°.03×76°.67W±0°.03, h61km±12km, n33, σ1s04/61, 2C-5D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.61**	**141**	⇓*i*P		**Pn**		**22 12 08.3**	**-1.2**
PLMC				*e*S		**Sn**		**22 12 18.0**	**-1.2**
PIZC	**Pizarro, Choco**	**0.81**	**239**	⇑*i*P		**Pn**		**22 12 12.7**	**+1.0**
PIZC				*e*S		**Sn**		**22 12 24.6**	**+1.4**
PIZC				*i*				22 12 31.9	
	comp=Z,493nm,0.4s								
CBOC	**Ciudad Bolivar**	**0.81**	**54**	*e*P		**Pn**		**22 12 11.9**	**0.0**
CBOC				*e*S		**Sn**		**22 12 24.3**	**+0.7**
CBOC				*i*				22 12 27.2	
	comp=Z,324nm,0.6s								
SOLC	**Bahia Solano**	**1.11**	**319**	*e*P		**Pn**		**22 12 16.0**	**+0.4**
SOLC				*e*S		**Sn**		**22 12 31.8**	**+1.6**
SOLC				*i*				22 12 35.8	
	comp=Z,197nm,0.4s								
GUY2C	**Guyana, Caldas**	**1.31**	**97**	⇓*e*P		**Pn**		**22 12 18.2**	**-0.4**
GUY2C				*e*S		**Sn**		**22 12 35.0**	**-0.6**
GUY2C				*i*				22 12 37.7	
	comp=Z,568nm,0.5s								
HELC	**Santa Helena**	**1.39**	**55**	*e*P		**Pn**		**22 12 19.3**	**-0.4**
HELC				*e*S		**Sn**		**22 12 36.8**	**-0.5**
HELC	**Santa Helena**	**1.39**	**55**	*e*P		**Pn**		**22 12 19.1**	**-0.6**
HELC				*e*S		**Sn**		**22 12 38.1**	**+0.8**
HELC				*i*				22 12 38.8	
	comp=Z,233nm,0.7s								
RREF	**El Recreo**	**1.40**	**110**	⇓*i*P		**Pn**		**22 12 20.1**	**0.0**
RREF				*e*S		**Sn**		**22 12 38.8**	**+0.8**
RREF				*i*				22 12 40.6	
	comp=Z,317nm,0.5s								
YOTC	**Yotoco, Valle**	**1.43**	**167**	⇓*i*P		**Pn**		**22 12 18.3**	**-1.7**
YOTC				*e*S		**Sn**		**22 12 35.3**	**-2.6**
YOTC				*i*				22 12 37.2	
	comp=Z,365nm,0.5s								
MALC	**Bahia Malaga**	**1.52**	**206**	*e*P		**Pn**		**22 12 21.4**	**+0.4**
MALC				*e*S		**Sn**		**22 12 40.5**	**+0.6**
MALC				*i*				22 12 49.0	
	comp=Z,183nm,0.6s								
ANIL	**Santa Ana**	**1.54**	**125**	*e*P		**Pn**		**22 12 21.2**	**-0.5**
ANIL				*e*S		**Sn**		**22 12 40.8**	**-0.1**
ANIL				*i*				22 12 46.7	
	comp=Z,67nm,0.4s								
TOLC	**Tolima**	**1.56**	**121**	⇓*i*P		**Pn**		**22 12 21.8**	**-0.2**
TOLC				*e*S		**Sn**		**22 12 42.0**	**+0.6**
TOLC				*i*				22 12 45.6	
	comp=Z,234nm,0.6s								
DBBC	**Dabeiba**	**1.69**	**16**	*e*P		**Pn**		**22 12 24.2**	**+0.8**
DBBC				*e*S		**Sn**		**22 12 46.2**	**+2.2**
NORC	**Norcasia**	**1.80**	**84**	⇑*i*P		**Pn**		**22 12 25.1**	**+0.2**
NORC				*e*S		**Sn**		**22 12 47.1**	**+0.3**
NORC				*i*				22 12 49.2	
	comp=Z,152nm,0.3s								
ORTC	**Ortega, Tolima**	**2.04**	**136**	*e*P		**Pn**		**22 12 28.8**	**+0.6**
ORTC				*e*S		**Sn**		**22 12 53.2**	**+0.6**
ORTC				*i*				22 12 56.0	
	comp=Z,103nm,0.5s								
PTAC	**Punta Ardita,**	**2.08**	**327**	*e*P		**Pn**		**22 12 28.0**	**-0.7**
PTAC				*e*S		**Sn**		**22 12 51.8**	**-1.9**
ROSC	**El Rosal**	**2.40**	**103**	*e*P		**Pn**		**22 12 35.0**	**+1.6**
PRAC	**Prado**	**2.43**	**133**	*e*P		**Pn**		**22 12 33.8**	**+0.2**
PRAC				*e*S		**Sn**		**22 13 01.4**	**-0.8**
PRAC				*i*				22 13 12.3	
	comp=Z,78nm,0.5s								
PTBC	**PUERTO BERRIO,**	**2.48**	**62**	*e*P		**Pn**		**22 12 34.5**	**+0.3**
PTBC				*e*S		**Sn**		**22 13 03.6**	**+0.2**
PTBC				*i*				22 13 07.1	
	comp=Z,121nm,0.6s								
SPBC	**San Pablo de B**	**2.60**	**84**	*e*P		**Pn**		**22 12 36.2**	**+0.4**
SPBC				*e*S		**Sn**		**22 13 05.7**	**-0.7**
SPBC				*i*				22 13 10.8	
	comp=Z,76nm,0.5s								
UREC	**San Jos de Ur**	**2.61**	**26**	*e*P		**Pn**		**22 12 36.5**	**+0.6**
UREC				*e*S		**Sn**		**22 13 07.0**	**+0.5**
UREC				*i*				22 13 14.8	
	comp=Z,62nm,0.5s								
POPC	**Popayan, Colom**	**2.83**	**180**	*e*P		**Pn**		**22 12 38.6**	**-0.5**
POPC				*e*S		**Sn**		**22 13 10.9**	**-1.2**
POPC				*i*				22 13 13.7	
	comp=Z,68nm,0.5s								
BETC	**Betania**	**2.95**	**155**	*e*P		**Pn**		**22 12 41.0**	**+0.3**
PCON	**Cinco Dias**	**3.05**	**175**	*e*P		**Pn**		**22 12 43.8**	**+1.4**
PCON				*e*S		**Sn**		**22 13 19.3**	**+1.3**
PCON				*i*				22 13 30.4	
	comp=Z,57nm,0.6s								
SOTA	**Rioblanco**	**3.23**	**179**	*e*P		**Pn**		**22 12 45.5**	**+0.7**
SOTA				*e*S		**Sn**		**22 13 24.5**	**+2.2**
SOTA				*i*				22 13 39.0	
	comp=Z,80nm,0.6s								
BBAC	**Balboa, Cauca**	**3.39**	**190**	*e*P		**Pn**		**22 12 47.1**	**+0.3**
BBAC				*e*S		**Sn**		**22 13 26.3**	**+0.3**
UPD2	**Meteti**	**3.41**	**337**	*e*P		**Pn**		**22 12 46.8**	**-0.1**
MONA	**Monteria**	**3.51**	**17**	*e*P		**Pn**		**22 12 47.9**	**-0.3**
RUSC	**La Rusia**	**3.60**	**82**	*e*P		**Pn**		**22 12 50.5**	**+0.6**
RUSC				*e*S		**Sn**		**22 13 30.0**	**-1.6**
RUSC				*i*				22 13 51.9	
	comp=Z,19nm,0.7s								
AZU	**Azuero**	**4.30**	**304**	*e*P		**Pn**		**22 12 58.7**	**-0.4**
AZU				*e*S		**Sn**		**22 13 46.4**	**-1.6**
PAMC	**Pamplona, Colo**	**4.40**	**64**	*e*P		**Pn**		**22 13 01.1**	**+0.3**
PAMC				*e*S		**Sn**		**22 13 50.1**	**-0.9**
PAMC				*i*				22 13 53.7	
	comp=Z,18nm,0.4s								
CACAO	**El Cacao, Vera**	**4.60**	**295**	*e*P		**Pn**		**22 13 02.1**	**-1.0**
CACAO				*e*S		**Sn**		**22 13 53.2**	**-2.0**
GMAL	**Guarumal, Vera**	**5.11**	**298**	*e*P		**Pn**		**22 13 11.0**	**+0.8**

ISN ***13*** *22:16:17.4±0.9,31°.48N×47°.50E, h6km±42km, ML2.7*
TEH ***13*** *22:16:21.6,31°.43N×47°.33E, h20km, ML3.1*
KISR ***13*** *22:16:24.1±0.3,31°.48N×48°.04E, h130km±11km, ML3.5, Hypocentre not reviewed by the ISC*

ISC 13 22:16:21.3±0.9,31°.39N±0°.07×47°.27E±0°.04, h10km, n24, σ0s90/29, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NSR	**Nassriya**	**1.04**	**249**	*e*Pg		**Pg**		**22 16 40.0**	**-1.3**
NSR				*e*Sg		**Sb**		**22 16 56.0**	**+0.9**
NSR				AML		AML		22 17 12.6	
	comp=E,259nm,0.4s								
AHWZ	**Ahwaz**	**1.17**	**92**	*e*Pg		**Pb**		**22 16 43.4**	**-0.2**
AHWZ				*e*Sg		**Sg**		**22 16 58.9**	**-0.2**
DHL1	**Dehloran**	**1.29**	**0**	*e*Pg		**Pn**		**22 16 44.1**	**-1.3**
DHL1				*e*Sg		**Sn**		**22 17 03.7**	**+0.9**
DHL1				*e*				22 17 11.8	
	comp=Z,99nm,0.4s								
MIB	**Mutribah**	**1.58**	**178**	*e*P				22 16 57.4	
MIB				*e*S				22 17 22.2	
MIB				IAML				22 17 28.7	
	comp=Z,299nm,0.5s								
IBDR	**Badra**	**2.06**	**327**	*e*Pn		**Pn**		**22 16 55.0**	**-1.0**
IBDR				*e*Sn		**Sn**		**22 17 22.0**	**+0.2**
IBDR				AML		AML		22 17 32.4	
	comp=N,43nm,0.4s								
IBDR				AML		AML		22 17 35.2	
	comp=E,69nm,0.4s								
IKFM	**Kafar-mosalman**	**2.19**	**13**	*e*Pn		**Pn**		**22 16 58.0**	**+0.3**
IKFM				*e*				22 17 26.7	
	comp=Z,99nm,0.4s								
IKMR	**Kamar-syah**	**2.32**	**23**	*e*Pn		**Pn**		**22 16 59.1**	**-0.5**
IKMR				*e*				22 17 28.1	
	comp=Z,99nm,0.5s								
RDF	**Al-Radifah**	**2.46**	**174**	*e*P				22 17 07.8	
IDOB	**Doab**	**2.51**	**17**	*e*Pn		**Pn**		**22 17 02.3**	**-0.1**
IGHG	**Ghaleghazi**	**3.00**	**349**	*e*Pn		**Pn**		**22 17 10.3**	**+1.3**
IGHG				*e*				22 18 27.3	
	comp=Z,99nm,0.7s								
HSAM	**Samen**	**3.03**	**21**	*e*Pn		**Pn**		**22 17 09.1**	**-0.5**
BHD	**Baghdad**	**3.09**	**308**	*e*Pn		**Pn**		**22 17 10.0**	**-0.1**
BHD				*e*Sn		**Sn**		**22 17 49.0**	**+2.0**
SHK1	**Shahrekord**	**3.21**	**72**	*e*Pn		**Pn**		**22 17 12.3**	**+0.3**
IPIR	**Pirpir**	**3.33**	**66**	*e*Pn		**Pn**		**22 17 13.9**	**+0.1**
IPIR				*e*				22 17 25.3	
	comp=Z,99nm,0.6s								
IDHR	**Dehrash**	**3.39**	**348**	*e*Pn		**Pn**		**22 17 15.1**	**+0.7**
IDHR				*e*				22 18 18.5	
	comp=Z,99nm,0.4s								
ILIN	**Lien**	**3.53**	**356**	*e*Pn		**Pn**		**22 17 17.7**	**+1.2**
IALM	**Almabolaq**	**3.55**	**12**	*e*Pn		**Pn**		**22 17 17.2**	**+0.5**
KLNJ	**Kolanjah**	**3.72**	**95**	*e*Pn		**Pn**		**22 17 19.5**	**+0.4**
HAGD	**Aghdareh**	**3.77**	**24**	*e*Pn		**Pn**		**22 17 19.3**	**-0.4**
HAGD				*e*				22 17 24.5	
	comp=Z,99nm,0.3s								
IKLH	**Kolahrood**	**4.12**	**61**	*e*Pn		**Pn**		**22 17 24.5**	**-0.1**
IKLH				*e*				22 17 29.2	
	comp=Z,99nm,0.4s								
QAM	**Ghamsar**	**4.24**	**55**	*e*Pn		**Pn**		**22 17 26.1**	**0.0**
IRAM	**Rameshe h**	**4.38**	**83**	*e*Pn		**Pn**		**22 17 29.0**	**+0.9**
IZEF	**Zefreh**	**4.54**	**69**	*e*Pn		**Pn**		**22 17 29.9**	**-0.5**
IRAZ	**Razeghan**	**4.58**	**28**	*e*Pn		**Pn**		**22 17 31.3**	**+0.5**
QABG	**Abgarm-Qazvin**	**4.72**	**23**	*e*Pn		**Pn**		**22 17 30.6**	**-2.2**
ISFB	**Sefidab**	**5.12**	**53**	*e*Pn		**Pn**		**22 17 38.3**	**+0.2**

BUC ***13*** *22:31:19.1±0.2,45°.58N×26°.54E, h118km±2km, ml3.9/51, Error ellipse: s-maj=1.6km s-min=1.5km az=11.0*
SOF ***13*** *22:31:19.7,45°.49N×26°.54E, h28km, MD3.5*
BEO ***13*** *22:31:27.7±0.8,45°.10N×25°.33E, h1km±3km, ML2.6/7*

ISC 13 22:31:18.0±1.2,45°.58N±0°.02×26°.52E±0°.02, h129km±5km, n151, σ0s85/229, 128C-84D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.14**	**102**	⇑P		**Pn**		**22 31 36.1**	**+0.4**
BISRR				⇑S		**Sn**		**22 31 48.4**	**-0.5**
BISRR	**Bisoca**	**0.14**	**102**	⇑P		**Pn**		**22 31 36.1**	**+0.4**
BISRR				⇑S		**Sn**		**22 31 48.4**	**-0.5**
NEHR	**Nehoiu**	**0.22**	**227**	⇑P		**Pn**		**22 31 36.2**	**+0.4**
NEHR				⇑S		**Sn**		**22 31 47.7**	**-1.4**
NEHR	**Nehoiu**	**0.22**	**227**	⇑P		**Pn**		**22 31 36.2**	**+0.4**
NEHR				⇑S		**Sn**		**22 31 47.7**	**-1.4**
PLOR	**Plostina**	**0.29**	**18**	⇑P		**Pn**		**22 31 36.1**	**+0.1**
PLOR				⇓S		**Sn**		**22 31 48.8**	**-0.8**
PLOR	**Plostina**	**0.29**	**18**	⇑P		**Pn**		**22 31 36.1**	**+0.1**
PLOR				⇓S		**Sn**		**22 31 48.8**	**-0.8**
VRI	**Vrincioaia**	**0.33**	**26**	⇑P		**Pn**		**22 31 36.5**	**+0.3**
VRI				⇓S		**Sn**		**22 31 49.1**	**-0.7**
VRI	**Vrincioaia**	**0.33**	**26**	⇑P		**Pn**		**22 31 36.5**	**+0.3**
VRI				⇓S		**Sn**		**22 31 49.1**	**-0.7**
MLR	**Muntele Rosu**	**0.41**	**258**	⇑P		**Pn**		**22 31 37.1**	**+0.5**
MLR				⇑S		**Sn**		**22 31 50.3**	**-0.4**
MLR	**Muntele Rosu**	**0.41**	**258**	⇑P		**Pn**		**22 31 37.1**	**+0.5**
MLR				⇑S		**Sn**		**22 31 50.3**	**-0.4**
ODBI	**Odobesti**	**0.42**	**63**	⇑P		**Pn**		**22 31 37.5**	**+1.0**
ODBI				⇓S		**Sn**		**22 31 50.7**	**+0.3**
ODBI	**Odobesti**	**0.42**	**63**	⇑P		**Pn**		**22 31 37.5**	**+1.0**
ODBI				⇓S		**Sn**		**22 31 50.7**	**+0.3**
ISR	**Istrita**	**0.46**	**178**	⇑P		**Pn**		**22 31 37.3**	**+0.5**
ISR				⇑S		**Sn**		**22 31 51.0**	**+0.1**
ISR	**Istrita**	**0.46**	**178**	⇑P		**Pn**		**22 31 37.3**	**+0.5**
ISR				⇑S		**Sn**		**22 31 51.0**	**+0.1**
PETR	**Petresti**	**0.52**	**73**	⇑P		**Pn**		**22 31 37.7**	**+0.7**
PETR				⇑S		**Sn**		**22 31 51.3**	**-0.1**
PETR	**Petresti**	**0.52**	**73**	⇑P		**Pn**		**22 31 37.7**	**+0.7**
PETR				⇑S		**Sn**		**22 31 51.3**	**-0.1**
SECR		**0.63**	**211**	⇑P		**Pn**		**22 31 38.6**	**+0.9**
SECR				⇑S		**Sn**		**22 31 53.2**	**+0.6**
SECR		**0.63**	**211**	⇑P		**Pn**		**22 31 38.6**	**+0.9**
SECR				⇑S		**Sn**		**22 31 53.2**	**+0.6**
OZUR		**0.73**	**316**	⇑P		**Pn**		**22 31 38.6**	**0.0**
OZUR				⇑S		**Sn**		**22 31 52.7**	**-1.4**
OZUR		**0.73**	**316**	⇑P		**Pn**		**22 31 38.6**	**0.0**
OZUR				⇑S		**Sn**		**22 31 52.7**	**-1.4**
PGOR	**Pogoanele**	**0.74**	**154**	⇑P		**Pn**		**22 31 39.2**	**+0.6**
PGOR				⇑S		**Sn**		**22 31 54.5**	**+0.4**
PGOR	**Pogoanele**	**0.74**	**154**	⇑P		**Pn**		**22 31 39.2**	**+0.6**
PGOR				⇑S		**Sn**		**22 31 54.5**	**+0.4**
PLAR	**PLOIESTI**	**0.75**	**208**	⇑P		**Pn**		**22 31 39.5**	**+0.9**
PLAR				⇓S		**Sn**		**22 31 54.9**	**+0.8**
PLAR	**PLOIESTI**	**0.75**	**208**	⇑P		**Pn**		**22 31 39.5**	**+0.9**
PLAR				⇓S		**Sn**		**22 31 54.9**	**+0.8**
TUDR		**0.81**	**88**	⇑P		**Pn**		**22 31 39.0**	**0.0**
TUDR				⇑S		**Sn**		**22 31 53.9**	**-1.1**
TUDR		**0.81**	**88**	⇑P		**Pn**		**22 31 39.0**	**0.0**
TUDR				⇑S		**Sn**		**22 31 53.9**	**-1.1**
DOPR	**Dopca**	**0.88**	**297**	⇑P		**Pn**		**22 31 40.1**	**+0.3**
DOPR				⇓S		**Sn**		**22 31 55.2**	**-1.0**
DOPR	**Dopca**	**0.88**	**297**	⇑P		**Pn**		**22 31 40.1**	**+0.3**
DOPR				⇓S		**Sn**		**22 31 55.2**	**-1.0**
SULR		**0.92**	**192**	⇑P		**Pn**		**22 31 40.8**	**+0.8**
SULR		**0.92**	**192**	⇑P		**Pn**		**22 31 40.8**	**+0.8**
SCHL	**Schela**	**0.92**	**94**	⇑P		**Pn**		**22 31 39.1**	**-0.9**
SCHL	**Schela**	**0.92**	**94**	⇑P		**Pn**		**22 31 39.1**	**-0.9**
TESR	**Tescani**	**0.94**	**5**	⇑P		**Pn**		**22 31 40.4**	**+0.1**
TESR				⇑S		**Sn**		**22 31 55.5**	**-1.6**
TESR	**Tescani**	**0.94**	**5**	⇑P		**Pn**		**22 31 40.4**	**+0.1**
TESR				⇑S		**Sn**		**22 31 55.5**	**-1.6**
VARL	**Varlezi**	**0.98**	**70**	⇓P		**Pn**		**22 31 41.1**	**+0.5**
VARL				⇓S		**Sn**		**22 31 57.2**	**-0.6**
VARL	**Varlezi**	**0.98**	**70**	⇓P		**Pn**		**22 31 41.1**	**+0.5**
VARL				⇓S		**Sn**		**22 31 57.2**	**-0.6**
BIR	**Birlad**	**1.04**	**48**	⇑P		**Pn**		**22 31 41.7**	**+0.6**
BIR				⇑S		**Sn**		**22 31 58.0**	**-0.6**
BIR	**Birlad**	**1.04**	**48**	⇑P		**Pn**		**22 31 41.7**	**+0.6**
BIR				⇑S		**Sn**		**22 31 58.0**	**-0.6**
VOIR		**1.04**	**263**	⇓P		**Pn**		**22 31 41.7**	**+0.5**
VOIR				⇓S		**Sn**		**22 31 58.2**	**-0.8**
VOIR		**1.04**	**263**	⇓P		**Pn**		**22 31 41.7**	**+0.5**
VOIR				⇓S		**Sn**		**22 31 58.2**	**-0.8**
MTUR	**Matau**	**1.08**	**252**	⇑P		**Pn**		**22 31 42.5**	**+0.8**
MTUR	**Matau**	**1.08**	**252**	⇑P		**Pn**		**22 31 42.5**	**+0.8**
GISR	**Galati**	**1.09**	**97**	⇓P		**Pn**		**22 31 42.2**	**+0.7**
GISR				⇓S		**Sn**		**22 31 58.8**	**-0.7**
GISR	**Galati**	**1.09**	**97**	⇓P		**Pn**		**22 31 42.2**	**+0.7**
GISR				⇓S		**Sn**		**22 31 58.8**	**-0.7**
LEHL	**Lehliu**	**1.12**	**169**	⇓P		**Pn**		**22 31 42.7**	**+0.7**
LEHL				⇓S		**Sn**		**22 32 01.0**	**+0.9**
LEHL	**Lehliu**	**1.12**	**169**	⇓P		**Pn**		**22 31 42.7**	**+0.7**
LEHL				⇓S		**Sn**		**22 32 01.0**	**+0.9**
AMRR	**Amara**	**1.12**	**149**	⇑P		**Pn**		**22 31 42.6**	**+0.6**
AMRR				⇑S		**Sn**		**22 31 59.7**	**-0.4**
AMRR	**Amara**	**1.12**	**149**	⇑P		**Pn**		**22 31 42.6**	**+0.6**
AMRR				⇑S		**Sn**		**22 31 59.7**	**-0.4**
INCR	**INCERC-Sediu C**	**1.16**	**193**	⇓P		**Pn**		**22 31 42.9**	**+0.6**
INCR				⇓S		**Sn**		**22 32 00.0**	**-0.9**
INCR	**INCERC-Sediu C**	**1.16**	**193**	⇓P		**Pn**		**22 31 42.9**	**+0.6**
INCR				⇓S		**Sn**		**22 32 00.0**	**-0.9**
GIUM	**Giurgiulesti**	**1.19**	**94**	⇑P		**Pn**		**22 31 43.2**	**+0.6**
GIUM				⇑S		**Sn**		**22 32 01.1**	**-0.2**
GIUM	**Giurgiulesti**	**1.19**	**94**	⇑P		**Pn**		**22 31 43.2**	**+0.6**
GIUM				⇑S		**Sn**		**22 32 01.1**	**-0.2**
CFR	**Carcaliu**	**1.21**	**109**	⇓P		**Pn**		**22 31 42.7**	**0.0**
CFR	**Carcaliu**	**1.21**	**109**	⇓P		**Pn**		**22 31 42.7**	**0.0**
BUC1	**Bucharest**	**1.28**	**196**	⇑P		**Pn**		**22 31 44.2**	**+0.7**
BUC1				⇑S		**Sn**		**22 32 02.5**	**-0.4**
BUC1	**Bucharest**	**1.28**	**196**	⇑P		**Pn**		**22 31 44.2**	**+0.7**
BUC1				⇓S		**Sn**		**22 32 02.5**	**-0.4**
STFAR	**Stefanesti-Arg**	**1.31**	**238**	⇓P		**Pn**		**22 31 45.1**	**+1.1**
STFAR	**Stefanesti-Arg**	**1.31**	**238**	⇓P		**Pn**		**22 31 45.1**	**+1.1**
HARR	**Harsova**	**1.33**	**131**	⇓P		**Pn**		**22 31 44.5**	**+0.4**
HARR	**Harsova**	**1.33**	**131**	⇓P		**Pn**		**22 31 44.5**	**+0.4**
ARR	**Arges**	**1.34**	**262**	⇑P		**Pn**		**22 31 45.1**	**+0.8**
ARR				⇑S		**Sn**		**22 32 04.3**	**0.0**
ARR	**Arges**	**1.34**	**262**	⇑P		**Pn**		**22 31 45.1**	**+0.8**
ARR				⇑S		**Sn**		**22 32 04.3**	**0.0**
GIRR	**Girov**	**1.38**	**359**	⇑P		**Pn**		**22 31 45.4**	**+0.8**
GIRR	**Girov**	**1.38**	**359**	⇑P		**Pn**		**22 31 45.4**	**+0.8**
VASR	**Vaslui**	**1.39**	**39**	⇑P		**Pn**		**22 31 45.3**	**+0.6**
VASR	**Vaslui**	**1.39**	**39**	⇑P		**Pn**		**22 31 45.3**	**+0.6**
BIZ	**Bicaz**	**1.39**	**348**	⇑P		**Pn**		**22 31 46.2**	**+1.4**
BIZ	**Bicaz**	**1.39**	**348**	⇑P		**Pn**		**22 31 46.2**	**+1.4**
SGRR	**Singureni**	**1.41**	**196**	⇑P		**Pn**		**22 31 45.5**	**+0.5**
SGRR				⇑S		**Sn**		**22 32 05.0**	**-0.4**
SGRR	**Singureni**	**1.41**	**196**	⇑P		**Pn**		**22 31 45.5**	**+0.5**
SGRR				⇑S		**Sn**		**22 32 05.0**	**-0.4**
RASA	**Rasa**	**1.43**	**162**	⇑P		**Pn**		**22 31 45.6**	**+0.3**
RASA				⇑S		**Sn**		**22 32 06.9**	**+1.0**
RASA	**Rasa**	**1.43**	**162**	⇑P		**Pn**		**22 31 45.6**	**+0.3**
RASA				⇑S		**Sn**		**22 32 06.9**	**+1.0**
TLBR	**Topalu**	**1.49**	**133**	⇓P		**Pn**		**22 31 46.4**	**+0.5**
TLBR	**Topalu**	**1.49**	**133**	⇓P		**Pn**		**22 31 46.4**	**+0.5**
HUMR	**Humele**	**1.51**	**227**	⇑P		**Pn**		**22 31 46.6**	**+0.5**
HUMR				⇓S		**Sn**		**22 32 07.0**	**-0.5**
HUMR	**Humele**	**1.51**	**227**	⇑P		**Pn**		**22 31 46.6**	**+0.5**
HUMR				⇓S		**Sn**		**22 32 07.0**	**-0.5**
TPGR	**Topolog**	**1.52**	**118**	⇓P		**Pn**		**22 31 46.3**	**0.0**
TPGR				⇓S		**Sn**		**22 32 06.2**	**-1.6**
TPGR	**Topolog**	**1.52**	**118**	⇓P		**Pn**		**22 31 46.3**	**0.0**
TPGR				⇓S		**Sn**		**22 32 06.2**	**-1.6**
MDB	**Medias**	**1.60**	**291**	⇑P		**Pn**		**22 31 48.6**	**+1.5**
MDB				⇓S		**Sn**		**22 32 10.0**	**+0.6**
MDB	**Medias**	**1.60**	**291**	⇑P		**Pn**		**22 31 48.6**	**+1.5**
MDB				⇓S		**Sn**		**22 32 10.0**	**+0.6**
CVDA	**Cernavoda**	**1.64**	**139**	⇑P		**Pn**		**22 31 48.2**	**+0.6**
CVDA				⇓S		**Sn**		**22 32 09.5**	**-0.7**
CVDA	**Cernavoda**	**1.64**	**139**	⇑P		**Pn**		**22 31 48.2**	**+0.6**
CVDA				⇓S		**Sn**		**22 32 09.5**	**-0.7**
TLCR		**1.66**	**103**	⇑P		**Pn**		**22 31 48.3**	**+0.4**
TLCR				⇓S		**Sn**		**22 32 09.7**	**-0.9**
TLCR		**1.66**	**103**	⇑P		**Pn**		**22 31 48.3**	**+0.4**
TLCR				⇓S		**Sn**		**22 32 09.7**	**-0.9**
TIRR	**Tirgusor**	**1.75**	**129**	⇓P		**Pn**		**22 31 49.3**	**+0.5**
TIRR	**Tirgusor**	**1.75**	**

mb4.5/6, Error ellipse: s-maj=17.5km s-min=11.4km az=98.0
IDC ***13*** *22:43:29.1±12.0, 15°.64S×165°.28E, h0km, mb4.5/3, mb1 4.6/4, mb1mx3.9/42, mbtmp4.4/4, ML4.0/1, Error ellipse: s-maj=220.7km s-min=35.1km az=52.0*
ISC 13 22:43:24.6±2.7, 15°.05S±0°.2×166°.2E±0°.3, h35km, n15, σ0s77/15, mb4.5/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.01**	**178**	Pn	**Pn**	**22 45 05.8**	**+0.8**
	3.5nm,0.3s,baz=280,slow=5.8,SNR=7.5						
DZM				Sn	**Sn**	**22 46 22.1**	**-1.4**
	1.4nm,0.3s,baz=66,slow=20,SNR=2.5						
DZM	**Mont Dzumac**	**7.01**	**178**		**Pn**	**22 45 05.7**	**+0.7**
HNR	**Honiara**	**8.24**	**312**	Pn	**Pn**	**22 45 21.2**	**-0.6**
MSVF	**Nonsavu**	**11.71**	**105**	Pn	Pn	22 46 09.9	+0.5
STKA	**Stephens Creek**	**28.00**	**229**	P	**P**	**22 49 13.0**	**+0.6**
	6.6nm,0.5s,baz=39,slow=8.9,SNR=20						
STKA	**Stephens Creek**	**28.00**	**229**	P	**P**	**22 49 12.9**	**+0.6**
FOZ	**Fox Glacier**	**28.58**	**174**	P	**P**	**22 49 16.2**	**-1.1**
TOO	**Toolangi**	**28.99**	**215**	P	**P**	**22 49 21.0**	**-0.2**
TOO				IAmb	IAmb	22 49 28.6	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**30.73**	**256**	P	**P**	**22 49 36.9**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=90,slow=8.1,SNR=5.5						
WHZ	**Wether Hill Ro**	**30.81**	**178**	P	**P**	**22 49 38.1**	**+1.0**
AS31	**Alice Springs**	**31.58**	**249**	P	**P**	**22 49 44.7**	**+0.5**
AS31				IAmb	IAmb	22 49 45.7	
	comp=Z,1.7nm,0.8s						
ASAR	**Alice Springs**	**31.58**	**249**	P	**P**	**22 49 44.5**	**+0.3**
	comp=Z,4.4nm,0.6s,baz=80,slow=9.2,SNR=40						
ASAR	**Alice Springs**	**31.58**	**249**	P	**P**	**22 49 44.3**	**0.0**
BBOO	**Buckleboo**	**32.56**	**232**	P	**P**	**22 49 53.0**	**+0.2**
BBOO				IAmb	IAmb	22 49 54.2	
	comp=Z,13nm,0.9s						
FORT	**Forrest**	**38.24**	**239**	P	**P**	**22 50 41.5**	**0.0**
FORT				IAmb	IAmb	22 50 42.1	
	comp=Z,11nm,0.7s						

IDC 13 22:47:59.8±1.7, 8°.21S×124°.53E, h0km, mb3.6/1, mb1 4.1/5, mb1mx3.7/31, mbtmp3.9/5, ML3.9/4, Error ellipse: s-maj=56.4km s-min=24.0km az=76.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.16**	**203**	Pn	Pn	22 48 37.5	+0.4
	34nm,0.3s,baz=306,slow=2.5,SNR=20						
BATI				Sn	Sn	22 48 57.7	-6.9
	37nm,0.3s,baz=319,slow=23,SNR=8.7						
FITZ	**Fitzroy Crossi**	**9.89**	**174**	Pn	Pn	22 50 21.2	-2.1
	1.3nm,0.3s,baz=355,slow=12,SNR=8.6						
FITZ				Sn	Sn	22 51 58.1	-17
	1.4nm,0.3s,baz=302,slow=20,SNR=7.8						
WRA	**Warramunga Arr**	**15.04**	**142**	Pn	Pn	22 51 34.8	+1.0
	0.4nm,0.3s,baz=321,slow=13,SNR=4.6						
WRA				Sn	Sn	22 54 07.7	-14
	0.1nm,0.3s,baz=314,slow=23,SNR=2.2						
ASAR	**Alice Springs**	**17.80**	**151**	P	P	22 52 10.2	+0.2
	0.4nm,0.3s,baz=320,slow=12,SNR=19						
MKAR	**Makanchi Array**	**66.40**	**330**	P	P	22 58 50.6	-0.1
	0.4nm,0.6s,baz=126,slow=5.7,SNR=7.2						

IDC ***13*** *22:51:46.8±2.4, 26°.88N×127°.62E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/45, mbtmp3.6/4, Error ellipse: s-maj=149.6km s-min=23.2km az=66.0*
JMA ***13*** *22:51:58.7±0.2, 26°.55N×127°.04E, h77km±2km, M3.3*
ISC 13 22:51:58.2±3.2, 26°.6N±0°.1×127°.0E±0°.1, h80km±20km, n12, σ0s42/16, mb3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.20**	**92**	P	**Pn**	**22 52 10.0**	**+0.1**
JAGN				S	Sn	**22 52 18.7**	**0.0**
JKE	**Kume jima 2**	**0.34**	**217**	P	**Pn**	**22 52 10.7**	**0.0**
JKE				S	Sn	**22 52 19.7**	**-0.2**
JJT3	**Tamagusuku3**	**0.82**	**123**	P	**Pn**	**22 52 15.5**	**+0.3**
JJT3				S	Sn	**22 52 27.9**	**+0.1**
JNTH	**Nagotoyohara**	**0.91**	**95**	P	**Pn**	**22 52 16.3**	**+0.2**
JNTH				S	Sn	**22 52 28.9**	**-0.6**
JIH	**Iheya**	**0.96**	**63**	P	**Pn**	**22 52 17.4**	**+0.7**
JIH				S	Sn	**22 52 30.8**	**+0.3**
JOW	**Kunigami**	**1.15**	**78**	P	**Pn**	**22 52 19.3**	**+0.2**
JOW				S	Sn	**22 52 34.3**	**-0.4**
JYRO	**Yoronjima**	**1.35**	**71**	P	**Pn**	**22 52 21.7**	**+0.1**
JYRO				S	Sn	**22 52 38.7**	**-0.5**
JOKE	**Okinoerabujima**	**1.58**	**61**	P	**Pn**	**22 52 24.7**	**+0.1**
JOKE				S	Sn	**22 52 43.9**	**-0.7**
MKAR	**Makanchi Array**	**40.48**	**312**	P	P	22 59 29.1	+0.1
	0.4nm,0.5s,baz=96,slow=9.5,SNR=9.2						
WRA	**Warramunga Arr**	**46.80**	**171**	P	P	23 00 18.5	-1.4
	0.3nm,0.5s,baz=351,slow=8.7,SNR=2.8						
ASAR	**Alice Springs**	**50.41**	**172**	P	P	23 00 48.8	+1.2
	0.4nm,0.7s,baz=358,slow=14,SNR=6.6						
FINES	**FINESS Array B**	**72.01**	**330**	P	P	23 03 12.2	-0.9
	2.9nm,1.0s,baz=70,slow=6.1,SNR=6.4						

TIR ***13*** *23:04:04.9, 40°.51N×19°.93E, h1km±1km, Md2.8, Ml2.2*
ATH ***13*** *23:04:07.3, 40°.55N×19°.87E, h20km±31km, ML2.2/6, Error ellipse: s-maj=31.6km s-min=1.3km az=0.0*
ISC 13 23:04:06.3±1.0, 40°.53N±0°.03×19°.91E±0°.03, h12km±8km, n18, σ0s72/26, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.24**	**162**	P	**Pg**	**23 04 11.0**	**-0.4**
	baz=142						
TPE				S	**Sg**	**23 04 15.6**	**+0.8**
	baz=142						
VLO	**Vlora**	**0.32**	**260**	P	**Pg**	**23 04 12.3**	**-0.5**
	baz=263						
VLO				S	**Sg**	**23 04 17.8**	**+0.7**
	baz=263						
VLO				AMP			
	comp=N,6.5nm,0.2s,baz=263						
LSK	**Leskovik**	**0.65**	**125**	P	**Pg**	**23 04 17.9**	**-1.0**
	baz=125						
LSK				S	**Sg**	**23 04 27.7**	**+0.2**
	baz=125						
LSK				AMP			
	comp=N,0.7nm,0.5s,baz=125						
SRN	**Sarande**	**0.65**	**174**	P	**Pg**	**23 04 18.4**	**-0.6**
	baz=175						
SRN				S	**Sg**	**23 04 27.9**	**+0.4**
	baz=175						
SRN				AMP			
	comp=E,0.4nm,0.4s,baz=175						
KBN	**Korca**	**0.68**	**82**	P	**Pg**	**23 04 18.5**	**-1.0**
	baz=79						
KASA	**Kassiopi**	**0.78**	**179**	P	**Pb**	**23 04 22.2**	**+0.3**
KEK	**Kerkira**	**0.82**	**186**	P	**Pn**	**23 04 23.1**	**-0.6**
KEK				S	**Sb**	**23 04 34.3**	**+0.8**
KEK				AML	AML	23 04 39.2	
	comp=E,406μm,0.5s						
KEK				AML	AML	23 04 39.4	
	comp=N,300μm,0.3s						
TIR	**Tirane**	**0.82**	**358**	P	**Pg**	**23 04 21.9**	**-0.3**
TIR				AML	AML	23 04 41.5	
	comp=N,348μm,0.5s						
TIR				AML	AML	23 04 44.8	
	comp=E,332μm,0.4s						
TIR	**Tirane**	**0.82**	**358**	P	**Pg**	**23 04 21.9**	**-0.3**
	baz=357						
TIR				S	**Sn**	**23 04 34.8**	**-1.1**
	baz=357						
TIR				AMP			
	comp=E,0.3nm,0.5s,baz=357						
NEST	**Nestorio**	**0.88**	**97**	P	**Pn**	**23 04 24.1**	**-0.6**
NEST				AML	AML	23 04 43.3	
	comp=E,147μm,0.5s						
NEST				AML	AML	23 04 43.7	
	comp=N,155μm,0.4s						
PENT	**Pentalofos**	**1.00**	**109**	P	**Pn**	**23 04 26.1**	**-0.2**
IGT	**Igoumenitsa**	**1.05**	**162**	P	**Pn**	**23 04 26.7**	**-0.1**
IGT				S	**Sn**	**23 04 41.0**	**-0.4**
IGT				AML	AML	23 04 44.7	
	comp=E,262μm,0.7s						
IGT				AML	AML	23 04 45.2	
	comp=N,263μm,0.6s						
JAN	**Janina**	**1.13**	**140**	P	**Pn**	**23 04 28.3**	**+0.3**
JAN				AML	AML	23 04 50.9	
	comp=E,295μm,0.6s						
JAN				AML	AML	23 04 51.0	
	comp=N,257μm,0.7s						
FNA	**Florina**	**1.15**	**77**	P	**Pn**	**23 04 28.5**	**+0.2**
FNA				AML	AML	23 04 48.9	
	comp=E,276μm,0.6s						
FNA				AML	AML	23 04 50.5	
	comp=N,206μm,0.4s						
SCTE	**Santa Cesarea**	**1.19**	**248**	P	**Pb**	**23 04 28.6**	**-0.3**
PHP	**Peshkopia**	**1.22**	**19**	P	**Pn**	**23 04 29.2**	**-0.2**
	baz=17						
PHP				S	**Sn**	**23 04 47.8**	**+1.9**
	baz=17						
KPRO	**Kipourio**	**1.25**	**117**	P	**Pg**	**23 04 30.4**	**0.0**
PUK	**Puka**	**1.51**	**360**	P	**Pg**	**23 04 34.8**	**-0.6**
	baz=359						

IDC ***13*** *23:11:41.0±1.4, 21°.67S×179°.68W, h611km±14km, mb3.3/8, mb1 3.6/10, mb1mx3.4/23, mbtmp4.3/10, Error ellipse: s-maj=26.6km s-min=12.5km az=146.0*
NEIC ***13*** *23:11:40.5±2.3, 21°.9S±0°.1×179°.5W±0°.1, h612km±7km, mb4.2/29, Error ellipse: s-maj=20.6km s-min=15.6km az=155.0*
ISC 13 23:11:38.9±0.5, 21°.90S±0°.09×179°.55W±0°.08, h592km, n64, σ1s36/65, mb4.2/22, 8C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.72**	**331**	P	**P**	**23 13 10.1**	**+0.7**
	20nm,0.3s,baz=175,slow=4.6,SNR=44						
MSVF				S	**S**	**23 14 23.5**	**+0.5**
	baz=295,slow=23,SNR=6.9						
DZM	**Mont Dzumac**	**12.99**	**267**	P	**P**	**23 14 30.7**	**+2.8**
	1.3nm,0.3s,baz=97,slow=18,SNR=5.3						
DZM				S	**S**	**23 16 41.0**	**-5.8**
	0.9nm,0.3s,baz=284,slow=4.2,SNR=2.3						
DZM	**Mont Dzumac**	**12.99**	**267**	P	**P**	**23 14 30.2**	**+2.4**
URZ	**Urewera**	**16.55**	**189**	P	**P**	**23 14 58.5**	**-3.0**
	0.5nm,0.3s,baz=247,slow=7.7,SNR=1.6						
URZ	**Urewera**	**16.55**	**189**	IAmb	IAmb	23 15 00.6	
	comp=Z,9.2nm,1.2s						
NNZ	**Nelson**	**20.16**	**196**	P	**P**	**23 15 34.4**	**+0.2**
RPZ	**Rata Peaks**	**23.11**	**198**	P	**P**	**23 16 02.7**	**+2.1**
FOZ	**Fox Glacier**	**23.31**	**200**	P	**P**	**23 16 02.4**	**0.0**
MLZ	**Mavora Lakes**	**25.49**	**200**	P	**P**	**23 16 21.2**	**-0.5**
MLZ				IAmb	IAmb	23 16 35.6	
	comp=Z,8.4nm,1.1s						
EIDS	**Eidsvold**	**27.10**	**257**	P	**P**	**23 16 37.1**	**+1.0**
ARMA	**Armidale**	**27.16**	**246**	P	**P**	**23 16 38.8**	**+2.1**
ARMA				IAmb	IAmb	23 16 49.2	
	comp=Z,5.3nm,0.9s						
CTAO	**Charters Tower**	**31.94**	**267**	P	**P**	**23 17 18.9**	**+1.1**
TOO	**Toolangi**	**33.91**	**235**	P	**P**	**23 17 35.0**	**+0.9**
TOO				IAmb	IAmb	23 17 35.7	
	comp=Z,3.9nm,0.6s						
STKA	**Stephens Creek**	**35.88**	**246**	P	**P**	**23 17 52.0**	**+1.4**
	comp=Z,4.6nm,0.6s,baz=91,slow=11,SNR=13						
STKA	**Stephens Creek**	**35.88**	**246**	P	**P**	**23 17 52.0**	**+1.4**
COEN	**Coen**	**36.26**	**276**	P	**P**	**23 17 55.0**	**+1.1**
BBOO	**Buckleboo**	**40.63**	**245**	P	**P**	**23 18 29.4**	**+0.4**
BBOO				IAmb	IAmb	23 18 30.0	
	comp=Z,8.9nm,0.9s						
AS31	**Alice Springs**	**42.80**	**258**	P	**P**	**23 18 46.8**	**+0.6**
AS31				IAmb	IAmb	23 18 47.3	
	comp=Z,2.3nm,0.7s						
WR0	**Warramunga Arr**	**42.80**	**264**	P	**P**	**23 18 45.7**	**-0.5**
ASAR	**Alice Springs**	**42.80**	**258**	P	**P**	**23 18 46.6**	**+0.5**
	comp=Z,8.4nm,0.8s,baz=97,slow=8.2,SNR=81						
ASAR				PcP	**PcP**	**23 20 23.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=109,slow=4.6,SNR=4.3						
ASAR				S	**S**	**23 24 27.2**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=93,slow=14,SNR=2.2						
ASAR	**Alice Springs**	**42.80**	**258**	P	**P**	**23 18 46.3**	**+0.1**
WB0	**Warramunga Arr**	**42.98**	**264**	P	**P**	**23 18 47.6**	**0.0**
WB0				IAmb	IAmb	23 18 47.9	
	comp=Z,4.9nm,0.5s						
WB2	**Warramunga Arr**	**42.98**	**264**	P	**P**	**23 18 47.6**	**0.0**
WB2				IAmb	IAmb	23 18 48.2	
	comp=Z,1.5nm,1.0s						
WRA	**Warramunga Arr**	**42.99**	**264**	P	**P**	**23 18 47.5**	**-0.1**
	comp=Z,6.6nm,0.8s,baz=91,slow=7.7,SNR=32						
FORT	**Forrest**	**47.42**	**248**	P	**P**	**23 19 19.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**51.42**	**264**	P	**P**	**23 19 51.5**	**+0.8**
SOEI	**Soe**	**55.12**	**273**	P	**P**	**23 20 18.8**	**+1.8**
SOEI				IAmb	IAmb	23 20 19.8	
	comp=Z,20nm,0.9s						
PSA00	**Pilbara Seismi**	**55.95**	**258**	P	**P**	**23 20 22.3**	**-0.3**
PSA00				IAmb	IAmb	23 20 24.0	
	comp=Z,5.6nm,1.0s						
VNDA	**Vanda**	**56.39**	**185**	P	**P**	**23 20 26.0**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=352,slow=7.5,SNR=4.7						
VNDA	**Vanda**	**56.39**	**185**	IAmb	IAmb	23 20 26.3	
	comp=Z,1.2nm,0.9s						
GIRL	**Giralia**	**60.79**	**256**	P	**P**	**23 20 55.0**	**0.0**
CASY	**Casey**	**62.08**	**205**	P	**P**	**23 21 04.4**	**+1.7**
CASY				IAmb	IAmb	23 21 14.5	
	comp=Z,22nm,1.1s						
BELA	**Belgrano 2**	**78.36**	**173**	P	**P**	**23 22 38.1**	**-0.4**
WDC	**Whiskeytown Da**	**81.67**	**40**	P	**P**	**23 22 56.9**	**+0.6**
WAKR	**Walker**	**82.35**	**43**	P	**P**	**23 23 01.1**	**+1.0**
PNTR	**Pine Nut**	**82.59**	**43**	P	**P**	**23 23 02.2**	**+0.9**
PNTR				IAmb	IAmb	23 23 02.7	
	comp=Z,6.5nm,0.9s						
NVAR	**Mina Array Bea**	**83.03**	**44**	P	**P**	**23 23 04.0**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=221,slow=8.2,SNR=11						
NVAR	**Mina Array Bea**	**83.03**	**44**	P	**P**	**23 23 03.9**	**+0.3**
U15A	**North Rim**	**85.97**	**48**	P	**P**	**23 23 19.1**	**+1.1**
U15A				IAmb	IAmb	23 23 19.5	
	comp=Z,2.2nm,0.7s						
G08A	**Pilot Rock**	**86.61**	**38**		**P**	**23 23 21.4**	**+0.9**
G08A				IAmb	IAmb	23 23 22.0	
	comp=Z,2.9nm,0.9s						
SNAA	**Sanae**	**86.65**	**179**	P	**P**	**23 23 18.8**	**-1.5**
VNA3	**Neumayer Olymp**	**86.84**	**177**	P	**P**	**23 23 20.1**	**-1.1**
VNA2	**Neumayer--Watz**	**87.26**	**177**	P	**P**	**23 23 22.7**	**-0.4**
TRF	**Thorofare Moun**	**88.12**	**13**	P	**P**	**23 23 26.3**	**-0.9**
MNTX	**Cornudas Mount**	**88.74**	**55**	IAmb	IAmb	23 23 32.1	
	comp=Z,2.5nm,0.8s						
TXAR	**Lajitas Array**	**89.03**	**58**	P	**P**	**23 23 32.9**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=212,slow=6.3,SNR=8.7						
ILAR	**Eielson Array**	**90.00**	**13**	P	**P**	**23 23 34.7**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=216,slow=4.9,SNR=9.4						
PDAR	**Pinedale Array**	**90.97**	**44**	P	**P**	**23 23 41.0**	**0.0**
	comp=Z,0.6nm,0.8s,baz=222,slow=4.0,SNR=4.5						
MKAR	**Makanchi Array**	**111.10**	**313**	PKiKP	**PKiKP**	**23 29 04.7**	**-1.3**
	comp=Z,0.1nm,0.5s,baz=210,slow=0.4,SNR=4.9						
BVAR	**Borovoye Array**	**119.21**	**319**	PKP	**PKPdf**	**23 29 18.9**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=181,slow=8.5,SNR=7.4						
ARCES	**ARCESS Array B**	**130.02**	**349**	PKP	**PKiKP**	**23 29 40.9**	**-1.6**
	comp=Z,6.9nm,1.0s,baz=321,slow=1.7,SNR=4.5						
FINES	**FINESS Array B**	**136.69**	**342**	PKP	**PKiKP**	**23 29 54.7**	**-1.4**
	comp=Z,2.8nm,1.0s,baz=152,slow=2.8,SNR=5.5						
AKASG	**Malin Array Be**	**143.50**	**329**	PKP	PKPbc	23 30 04.7	-0.9
	comp=Z,1.6nm,0.4s,baz=42,slow=4.3,SNR=11						
BRTR	**Keskin Array B**	**146.66**	**310**	PKPbc	**PKPbc**	**23 30 14.8**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=142,slow=5.9,SNR=7.8						
OSTC	**Ostas**	**148.84**	**340**	*e*PKP	**PKiKP**	**23 30 21.4**	**-0.1**
DPC	**Dobruska-Polom**	**148.99**	**340**	*e*PKP	**PKiKP**	**23 30 21.3**	**-0.5**
CLL	**Collm**	**149.06**	**345**	*i* PKPbc	**PKiKP**	**23 30 21.0**	**-0.9**
	comp=Z,5.0nm,0.7s						
CLL				*i* PKPab	**PKPab**	**23 30 26.5**	**-1.2**
KRLC	**Kraliky**	**149.08**	**339**	*e*PKP	**PKiKP**	**23 30 21.5**	**-0.5**
PVCC	**Panska Ves**	**149.35**	**342**	*e*PKP	**PKiKP**	**23 30 22.3**	**-0.2**
PRU	**Pruhonice**	**149.84**	**342**	*e*PKP	**PKiKP**	**23 30 22.9**	**-0.6**
PBCC	**Pribram**	**150.27**	**342**	*e*PKP	**PKiKP**	**23 30 23.9**	**-0.6**
KHC	**Kasperske Hory**	**150.89**	**342**	*e*PKP	**PKiKP**	**23 30 25.5**	**-0.3**
CKRC	**Cesky Krumlov**	**150.96**	**341**	*e*PKP	**PKiKP**	**23 30 25.6**	**-0.3**
GERES	**GERESS Array B**	**151.11**	**342**	PKPbc	**PKiKP**	**23 30 25.6**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=29,slow=3.0,SNR=7.4						

ANF ***13*** *23:42:10.8±1.6, 43°.66N×128°.16W, h0km, ML3.7/11, Error ellipse: s-maj=17.5km s-min=6.1km az=64.0, Hypocentre not reviewed by the ISC*
NEIC ***13*** *23:42:13.2±1.9, 43°.76N±0°.08×128°.1W±0°.2, h10km±2km, mb4.1/6, Error ellipse: s-maj=18.7km s-min=13.0km az=255.0*
IDC ***13*** *23:42:14.1±2.4, 43°.87N×127°.86W, h0km, mb3.3/4, mb1 3.7/9, mb1mx3.4/67, mbtmp3.4/9, ML3.2/5, MS3.3/6, Ms1 3.3/6, ms1mx3.0/21, Error ellipse: s-maj=38.1km s-min=16.7km az=56.0*
ISC 13 23:42:13.7±1.3, 43°.76N±0°.08×128°.1W±0°.1, h10km, n70, σ1s26/63, mb4.0/5, MS3.1/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**2.91**	**106**	Pn	**Pn**	**23 42 57.0**	**-3.2**
I02D	**Swisshome**	**3.12**	**82**	P		23 43 00.3	
	baz=265,SNR=84						
I02D				S		23 43 40.5	
	baz=265						
J01E	**Myrtle Point**	**3.12**	**100**	P		23 42 59.8	
	baz=283,SNR=40						
J01E				S		23 43 39.1	
	baz=283						
KBO	**Bosley Butte**	**3.26**	**117**	Pn	**Pn**	**23 43 02.1**	**-2.8**
K02D	**Willamette Mer**	**3.44**	**106**	P		23 43 04.2	
	baz=290,SNR=101						
K02D				S		23 43 47.0	
	baz=290						
I03D	**Drain, OR**	**3.47**	**89**	P		23 43 05.5	
	baz=273,SNR=257						
I03D				S		23 43 49.4	
	baz=273						
COR	**Corvallis**	**3.58**	**75**		**Pn**	**23 43 08.0**	**-1.2**
L02E	**Cave Junction**	**3.69**	**114**	P		23 43 08.0	
	baz=297,SNR=9.3						
L02E				S		23 43 53.5	
	baz=297						
G03D	**McMinnville, O**	**3.78**	**66**	P		23 43 10.9	
	baz=249,SNR=47						
KRMB	**Red Mountain**	**3.84**	**124**		**Pn**	**23 43 10.9**	**-2.0**
HUMO	**Hull Mountain**	**3.96**	**105**	Pn	**Pn**	**23 43 12.3**	**-2.2**
H04D	**Lebanon**	**3.96**	**77**	P		23 43 13.4	
	baz=261,SNR=50						
I04A	**Tendick Farm,**	**4.15**	**87**	P		23 43 15.9	
	baz=272,SNR=28						
JCC	**Jacoby Creek,**	**4.23**	**133**		**Pn**	**23 43 17.2**	**-1.0**
E03A	**Lebam**	**4.27**	**48**	Pn	**Pn**	**23 43 17.2**	**-1.5**
F04D	**Rainier, OR**	**4.32**	**56**	P		23 43 18.5	
	baz=239,SNR=9.7						
KHMM	**Horse Mountain**	**4.35**	**130**	Pn	**Pn**	**23 43 19.6**	**-0.5**
H04A	**Detroit Lake**	**4.38**	**76**	Pn	**Pn**	**23 43 19.6**	**-0.7**
J04D	**Umpqua Nationa**	**4.42**	**95**	P		23 43 20.9	
	baz=279,SNR=50						
YBH	**Yreka Blue Hor**	**4.48**	**115**	Pn	**Pn**	**23 43 20.8**	**-0.9**
	1.1nm,0.3s,baz=312,slow=11,SNR=14						
YBH				Sn	**Sn**	**23 44 14.1**	**+0.2**
	0.2nm,0.3s,baz=162,slow=16,SNR=2.1						
L04D	**Klamath Falls**	**4.55**	**108**	P		23 43 21.9	
	baz=292,SNR=41						
L04D				S		23 44 15.6	
	baz=292						
NLWA	**Neilton Lookou**	**4.71**	**38**		**Pn**	**23 43 23.9**	**-0.9**
KMRM	**Mail Ridge**	**4.83**	**135**	Pn	**Pn**	**23 43 26.3**	**-0.2**
E04D	**Cinebar**	**4.83**	**53**	P		23 43 25.2	
	baz=237,SNR=8.2						
I05D	**Terrebonne, OR**	**4.94**	**81**	P		23 43 26.7	
	baz=266						
J05D	**Fort Rock, OR**	**5.04**	**93**	P		23 43 28.4	
	baz=278,SNR=19						
D04E	**Lakebay**	**5.09**	**46**	P		23 43 30.0	
	baz=230						
G05D	**Wamic, OR**	**5.10**	**71**	P		23 43 29.8	
	baz=256,SNR=15						
D03D	**Eldon**	**5.18**	**41**	P		23 43 30.3	
	baz=225						
F05D	**White Salmon**	**5.21**	**64**	P		23 43 31.6	
	baz=248,SNR=13						
PINE	**Pine Mountain**	**5.21**	**87**	Pn	**Pn**	**23 43 31.2**	**-0.7**
WDC	**Whiskeytown Da**	**5.23**	**125**	Pn	**Pn**	**23 43 34.1**	**+2.2**
KCPM	**Cahto Peak**	**5.30**	**138**	Pn	**Pn**	**23 43 32.0**	**-1.1**
LON	**Longmire**	**5.38**	**54**		**Pn**	**23 43 33.6**	**-0.4**
K05A	**Summer Lake**	**5.39**	**99**	Pn	**Pn**	**23 43 33.6**	**-0.7**
D05A	**Enumclaw**	**5.52**	**49**		**Pn**	**23 43 36.1**	**+0.2**
PGC	**Sidney**	**5.88**	**32**	Pn	**Pn**	**23 43 39.7**	**-1.1**
HOPS	**Hopland Field**	**6.09**	**140**	Pn	**Pn**	**23 43 44.9**	**+1.0**
LTY	**Liberty**	**6.31**	**54**		**Pn**	**23 43 47.0**	**+0.2**
ORV	**Oroville**	**6.50**	**128**		**Pn**	**23 43 51.3**	**+1.9**
B06A	**Marblemount**	**6.64**	**42**		**Pn**	**23 43 51.0**	**-0.1**
HAWA	**Hanford**	**6.64**	**64**		**Pn**	**23 43 50.6**	**-0.6**
G08A	**Pilot Rock**	**6.74**	**74**	Pn	**Pn**	**23 43 52.1**	**-0.7**
BEKR	**Beckworth**	**6.99**	**121**		**Pn**	**23 43 58.3**	**+2.0**
WVOR	**Wild Horse Val**	**7.08**	**97**	Pn	**Pn**	**23 43 56.0**	**-1.5**
AFDM	**Forest Hills D**	**7.22**	**129**		**Pn**	**23 44 00.9**	**+1.6**
RUBR	**Rubicon Trail**	**7.62**	**125**	Pn	**Pn**	**23 44 04.8**	**-0.1**
B08A	**Colville Reser**	**7.66**	**50**	Pn	**Pn**	**23 44 04.1**	**-1.2**
PAHR	**Pah Rah Range**	**7.69**	**119**	Pn	**Pn**	**23 44 06.1**	**+0.2**
VCNR	**Virginia City**	**7.77**	**122**	Pn	**Pn**	**23 44 06.8**	**-0.2**
BMO	**Blue Mountains**	**7.85**	**78**	Pn	**Pn**	**23 44 06.7**	**-1.2**
PNTR	**Pine Nut**	**7.93**	**123**		**Pn**	**23 44 09.5**	**+0.3**
F10A	**Beach Ranch, E**	**8.06**	**70**		**Pn**	**23 44 10.1**	**-0.8**
CMB	**Columbia Colle**	**8.19**	**132**		**Pn**	**23 44 13.1**	**+0.5**
YERR	**Yerington**	**8.21**	**122**		**Pn**	**23 44 12.0**	**-0.9**
WAKR	**Walker**	**8.40**	**126**		**Pn**	**23 44 15.2**	**-0.5**
RYN	**Ryan**	**8.87**	**122**	Pn	**Pn**	**23 44 22.5**

s-maj=18.7km s-min=9.9km az=93.0
NEIC ***13*** *23:54:36.6±0.6,5.9S±0.1×128.9E±0.1, h296km±18km, mb4.0/8, Error ellipse: s-maj=18.1km s-min=12.5km az=131.0*

ISC 13 23:54:36.2±0.7,**5.92S**±0.05×**128.99E**±0.06,**h300km,n30,** σ1§**79**/36,**mb4.0/5,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.66**	**33**	P	**Pn**	**23 55 23.6**	**+3.1**
SAUI	**Saumlaki**	**3.08**	**132**	Pn	**Pn**	**23 55 33.6**	**+0.9**
SAUI	**Saumlaki**	**3.08**	**132**	P	**Pn**	**23 55 34.4**	**+1.6**
NLAI	**Namlea**	**3.26**	**325**	P	**Pn**	**23 55 38.4**	**+3.7**
FAKI	**Fak Fak**	**4.41**	**48**	P	**Pn**	**23 55 47.4**	**+0.3**
FAKI				S	**S**	**23 56 43.4**	**-0.5**
FAKI	**Fak Fak**	**4.41**	**48**	P	**Pn**	**23 55 47.5**	**+0.5**
SANI	**Sanana**	**4.87**	**322**	P	**Pn**	**23 55 53.0**	**+0.7**
SIJI	**Sorong**	**5.50**	**24**	P	**Pn**	**23 55 59.9**	**+0.1**
	6.5nm,0.3s,baz=33,slow=16,SNR=25						
SIJI				S	**S**	**23 57 02.5**	**-4.4**
	24nm,0.3s,baz=263,slow=23,SNR=26						
SWI	**Sorong**	**5.51**	**24**	P	**Pn**	**23 55 59.9**	**+0.1**
	0.7nm20nm,0.6s						
SOEI	**Soe**	**6.04**	**231**	Pn	**Pn**	**23 56 06.9**	**+0.7**
SOEI					**S**	**23 57 16.6**	**-2.0**
SOEI	**Soe**	**6.04**	**231**	P	**Pn**	**23 56 07.0**	**+0.9**
	0.2nm27nm,0.9s						
BATI	**Baumata**	**6.78**	**231**	P	**Pn**	**23 56 15.9**	**+0.9**
	16nm,0.3s,baz=74,slow=1.4,SNR=7.9						
BATI				S	**S**	**23 57 33.2**	**-1.6**
	4.6nm,0.3s,baz=298,slow=21,SNR=9.5						
BATI	**Baumata**	**6.78**	**231**	P	**Pn**	**23 56 15.9**	**+0.9**
	0.2nm26nm,0.6s						
PLAI	**Plampang**	**11.49**	**255**	P	**Pn**	**23 57 11.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**12.54**	**195**	P	**P**	**23 57 27.3**	**+1.1**
	0.2nm,0.3s,baz=16,slow=5.8,SNR=10.0						
FITZ				S	**S**	**23 59 44.1**	**-0.5**
	0.1nm,0.3s,baz=100,slow=19,SNR=2.1						
WB0	**Warramunga Arr**	**14.73**	**160**	P	**Pn**	**23 57 51.8**	**+0.1**
WRA	**Warramunga Arr**	**14.88**	**160**	P	**P**	**23 57 53.0**	**+1.0**
	3.7nm,0.3s,baz=340,slow=11,SNR=100						
WRA				S	**S**	**00 00 28.7**	**-5.9**
	0.2nm,0.3s,baz=333,slow=21,SNR=4.7						
WB2	**Warramunga Arr**	**14.88**	**160**	P	**Pn**	**23 57 53.4**	**0.0**
WR0	**Warramunga Arr**	**14.96**	**159**	P	**Pn**	**23 57 54.2**	**-0.1**
WR0				IAmb	IAmb	23 57 56.7	
	comp=Z,5.6nm,0.6s						
COEN	**Coen**	**16.08**	**121**	P	**Pn**	**23 58 07.2**	**-0.2**
PSA00	**Pilbara Seismi**	**17.91**	**209**	P	**P**	**23 58 25.1**	**+0.1**
PSA00				IAmb	IAmb	23 58 42.8	
	comp=Z,5.8nm,0.9s						
AS31	**Alice Springs**	**18.27**	**165**	P	**P**	**23 58 30.4**	**+1.5**
ASAR	**Alice Springs**	**18.27**	**165**	P	**P**	**23 58 30.4**	**+1.5**
	comp=Z,1.7nm,0.3s,baz=344,slow=11,SNR=77						
ASAR				S	**S**	**00 01 41.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=348,slow=24,SNR=8.9						
FORT	**Forrest**	**24.75**	**182**	P	**P**	**23 59 31.5**	**+0.3**
BBOO	**Buckleboo**	**27.56**	**167**	P	**P**	**23 59 57.1**	**+1.0**
BBOO				IAmb	IAmb	23 59 57.3	
	comp=Z,3.4nm,0.7s						
STKA	**Stephens Creek**	**28.39**	**157**	P	**P**	**00 00 04.8**	**+1.3**
	comp=Z,1.9nm,0.4s,baz=312,slow=10,SNR=4.5						
STKA	**Stephens Creek**	**28.39**	**157**	IAmb	IAmb	00 00 05.1	
	comp=Z,0.4nm,0.7s						
EIDS	**Eidsvold**	**28.66**	**135**	P	**P**	**00 00 07.0**	**+1.0**
EIDS				IAmb	IAmb	00 00 10.1	
	comp=Z,5.9nm,0.9s						
MKAR	**Makanchi Array**	**66.78**	**327**	P	**P**	**00 04 56.6**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=114,slow=8.4,SNR=9.8						
ZALV	**Zalesovo Beam**	**70.18**	**334**	P	**P**	**00 05 17.1**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=134,slow=6.2,SNR=2.4						

IDC 14 00:06:37.6±67.0,**16.99S**×**179.50W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/24,mbtmp3.8/3,Error ellipse: s-maj=1211.0km s-min=168.8km az=77.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.18**	**240**	P	P	00 13 59.6	+0.5
	1.5nm,0.8s,baz=79,slow=5.2,SNR=3.1						
WRA	**Warramunga Arr**	**43.78**	**259**	P	P	00 14 45.0	-0.5
	0.6nm,0.9s,baz=96,slow=7.6,SNR=2.7						
ASAR	**Alice Springs**	**44.05**	**253**	P	P	00 14 47.4	-0.2
	1.2nm,0.5s,baz=88,slow=8.0,SNR=11						

IDC ***14*** *00:18:40.5±1.0,57.68S×67.04W,h0km,mb4.1/7, mb1 4.3/9,mb1mx4.2/23,mbtmp4.1/9,ML4.4/2,MS4.2/18, Ms1 4.2/18,ms1mx4.2/21,Error ellipse: s-maj=50.7km s-min=20.1km az=81.0*
NEIC ***14*** *00:18:44.0±1.6,57.48S±0.07×66.87W±0.07,h10km±2km, mb4.7/29,Error ellipse: s-maj=12.5km s-min=4.5km az=154.0*
GCMT ***14*** *00:18:44.0±0.3,57.74S±0.02×66.85W±0.04,h19km±1km, MW5.1/88,Moment Tensor Solution. s23,c27; s88,c118; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.26±.18; Mθθ3.74±.16; Mφφ-4.00±.18; Mrθ1.61±.32; Mθφ0.37±.13; Mφr3.04±.49; Best double couple: M₀5.13200×10¹⁶ NP1:φs130.00000°,δ49.00000°,λ-1.00000°. NP2: φs220.00000°,δ89.00000°,λ-139.00000°. Principal axes: T 4.6620, Plg27.0000°, Azm347.0000°; N 0.9380, Plg49.0000°, Azm221.0000°; P -5.6020, Plg28.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
VAO ***14*** *00:18:45.1±0.4,57.47S×64.92W,h10km,mb4.6*
ISC 14 00:18:43.7±0.5,**57.51S**±0.06×**66.7W**±0.1,**h10km,n83,** σ1§**27**/65,**mb4.6**/20,**MS4.3**/18,**1C,Drake Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**2.85**	**340**	Pn	**Pn**	**00 19 28.8**	**-0.4**
	23nm,0.3s,baz=205,slow=0.3,SNR=130						
USHA				Sn	**Sn**	**00 20 01.4**	**-2.2**
	50nm,0.3s,baz=37,slow=23,SNR=7.4						
USHA				LR	LR	00 20 25.4	
	comp=Z,2μm,20.3s,baz=173,slow=36						
GO10	**Punta Arenas**	**5.02**	**329**	Pn	**Pn**	**00 19 58.2**	**-0.8**
GO09	**Cerro Castillo**	**7.06**	**330**	Pn	Pn	00 20 23.8	-3.2
PMSA	**Palmer Station**	**7.40**	**171**	LR	LR	00 22 35.0	
	comp=Z,5μm,19.6s,baz=360,slow=32						
PMSA	**Palmer Station**	**7.40**	**171**		**Pn**	**00 20 31.9**	**+0.3**
PMSA	**Palmer Station**	**7.40**	**171**	*e*P	**Pn**	**00 20 32.2**	**+0.7**
EFI	**East Falkland**	**7.71**	**44**	Pn	**Pn**	**00 20 35.5**	**-0.2**
LL01	**San Ignacio de**	**15.58**	**344**	P	**Pn**	**00 22 26.4**	**+3.3**
PLCA	**Paso Flores**	**16.98**	**350**	P	**Pn**	**00 22 42.3**	**+1.2**
	0.5nm,0.3s,baz=179,slow=11,SNR=25						
PLCA				LR	LR	00 29 54.9	
	comp=Z,2μm,18.9s,baz=195,slow=39						
PLCA	**Paso Flores**	**16.98**	**350**	P	**P**	**00 22 44.0**	**+1.0**
PLCA	**Paso Flores**	**16.98**	**350**	*e*P	**P**	**00 22 45.1**	**+2.1**
HOPE	**Hope Point**	**17.18**	**92**	Pn	**P**	**00 22 44.6**	**-0.5**
HOPE				IAmb	IAmb	00 22 57.6	
	comp=Z,35nm,0.8s						
BI02	**San Fabin de**	**21.08**	**350**	P	**P**	**00 23 28.2**	**+0.2**
BO02	**Sierra Bellavi**	**22.89**	**351**	P	**P**	**00 23 46.8**	**-0.5**
BELA	**Belgrano 2**	**23.15**	**163**	P	**P**	**00 23 50.5**	**+0.9**
MT02	**Curacav**	**24.44**	**351**	P	**P**	**00 24 02.7**	**+0.3**
MT02				IAmb	IAmb	00 24 03.6	
	comp=Z,28nm,0.9s						
PEL	**Peldehue**	**24.52**	**352**	P	**P**	**00 24 03.1**	**0.0**
VA03	**San Esteban**	**24.89**	**352**	P	**P**	**00 24 07.0**	**+0.5**
ZON	**Zonda**	**26.00**	**356**	P	**P**	**00 24 16.8**	**+0.2**
ZON				IAmb	IAmb	00 24 20.3	
	comp=Z,36nm,1.2s						
CO02	**Combarbal**	**26.47**	**352**	P	**P**	**00 24 20.2**	**-0.7**
CO03	**El Pedregal**	**26.81**	**352**	P	**P**	**00 24 24.2**	**+0.3**
CO03				IAmb	IAmb	00 24 26.2	
	comp=Z,22nm,1.1s						
VNA3	**Neumayer Olymp**	**26.93**	**143**	P	**P**	**00 24 24.2**	**-0.4**
VNA3	**Neumayer Olymp**	**26.93**	**143**	PcP	**PcP**	**00 27 46.8**	**+0.8**
VNA1	**Neumayer--Stat**	**27.40**	**142**	P	**P**	**00 24 29.5**	**+0.8**
VNA1	**Neumayer--Stat**	**27.40**	**142**	PcP	**PcP**	**00 27 48.3**	**+1.3**
GO04	**Tololo Observa**	**27.48**	**352**	P	**P**	**00 24 30.9**	**+0.8**
GO04				IAmb	IAmb	00 24 46.4	
	comp=Z,10nm,0.8s						
CO01	**Juntas del Tor**	**27.63**	**354**	P	**P**	**00 24 32.2**	**+0.8**
CO01				IAmb	IAmb	00 24 44.3	
	comp=Z,17nm,1.0s						
VNA2	**Neumayer--Watz**	**27.68**	**142**	P	**P**	**00 24 31.7**	**+0.4**
	baz=288,slow=7.3						
VNA2	**Neumayer--Watz**	**27.68**	**142**	PcP	**PcP**	**00 27 47.5**	**-0.2**
LCO	**Las Campanas**	**28.63**	**353**	P	**P**	**00 24 40.3**	**-0.1**
AC05	**El Transito**	**28.77**	**353**	P	**P**	**00 24 42.5**	**+1.0**
AC05				IAmb	IAmb	00 24 51.1	
	comp=Z,8.5nm,0.8s						
SNAA	**Sanae**	**29.10**	**144**	P	**P**	**00 24 43.3**	**-0.7**
SNAA	**Sanae**	**29.10**	**144**	PcP	**PcP**	**00 27 51.7**	**+0.3**
SNAA	**Sanae**	**29.10**	**144**	P	**P**	**00 24 43.2**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=228,slow=11,SNR=5.2						
SNAA				LR	LR	00 34 07.5	
	comp=Z,99nm,21.8s,baz=285,slow=32						
SNAA	**Sanae**	**29.10**	**144**	P	**P**	**00 24 44.3**	**+0.3**
AC04	**Llanos de Chal**	**29.45**	**352**	P	**P**	**00 24 47.7**	**+0.3**
AC02	**Maricunga**	**30.70**	**356**	P	**P**	**00 24 59.8**	**+0.8**
AC02				IAmb	IAmb	00 25 00.4	
	comp=Z,10nm,0.8s						
AC01	**Pan de Azucar**	**31.46**	**353**	P	**P**	**00 25 06.3**	**+1.1**
AC01				IAmb	IAmb	00 25 08.5	
	comp=Z,13nm,0.9s						
CPUP	**Villa Florida**	**31.87**	**16**	P	**P**	**00 25 07.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=262,slow=7.1,SNR=1.7						
CPUP				LR	LR	00 38 00.5	
	comp=Z,507nm,21.6s,baz=192,slow=36						
GO02	**Mina Guanaco**	**32.39**	**355**	P	**P**	**00 25 13.4**	**-0.3**
QSPA	**South Pole Qui**	**32.73**	**180**	P	**P**	**00 25 15.3**	**-0.8**
QSPA				IAmb	IAmb	00 25 20.7	
	comp=Z,8.0nm,1.0s						
PB14	**IPOC Station P**	**32.96**	**354**	P	**P**	**00 25 17.9**	**-0.9**
PB10	**IPOC Station P**	**34.08**	**354**	P	**P**	**00 25 27.7**	**-0.4**
LVC	**Limon Verde**	**34.90**	**356**	P	**P**	**00 25 36.1**	**+0.5**
LVC				IAmb	IAmb	00 25 38.1	
	comp=Z,7.5nm,0.8s						
LVC	**Limon Verde**	**34.90**	**356**	*e*P	**P**	**00 25 35.8**	**+0.2**
AQDB	**Aquidauana**	**37.87**	**17**	*e*P	**P**	**00 25 59.1**	**-1.4**
PB16	**IPOC Station P**	**39.17**	**356**	IAmb	IAmb	00 26 14.1	
	comp=Z,10nm,0.7s						
LPAZ	**La Paz**	**41.17**	**358**	P	**P**	**00 26 28.9**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=195,slow=9.6,SNR=19						
LPAZ				LR	LR	00 45 43.0	
	comp=Z,934nm,19.4s,baz=152,slow=39						
LPAZ	**La Paz**	**41.17**	**358**	P	**P**	**00 26 29.0**	**+0.2**
LPAZ	**La Paz**	**41.17**	**358**	*e*P	**P**	**00 26 29.3**	**+0.5**
SIV	**San Ignacio**	**41.66**	**8**	P	**P**	**00 26 31.7**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=198,slow=9.3,SNR=9.3						
VNDA	**Vanda**	**41.93**	**194**	P	**P**	**00 26 33.7**	**0.0**
	comp=Z,0.6nm,0.8s,baz=153,slow=4.5,SNR=2.1						
VNDA				LR	LR	00 42 09.7	
	comp=Z,188nm,18.7s,baz=140,slow=34						
PTLB	**Pontes e Lacer**	**42.37**	**11**	*e*P	**P**	**00 26 37.9**	**0.0**
SYO	**Syowa Base**	**43.05**	**150**	*e*PcP	**PcP**	**00 28 31.2**	**-1.4**
BDFB	**Brasilia**	**44.10**	**26**	P	**P**	**00 26 52.4**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=215,slow=8.1,SNR=5.5						
BDFB	**Brasilia**	**44.10**	**26**	IAmb	IAmb	00 27 03.8	
	comp=Z,6.3nm,1.0s						
VILB	**Vilhena**	**44.74**	**9**	*e*P	**P**	**00 26 57.6**	**+0.5**
ETMB	**Extrema**	**47.59**	**1**	*e*P	**P**	**00 27 19.9**	**+0.5**
SAML	**Samuel**	**48.52**	**5**	P	**P**	**00 27 26.7**	**+0.1**
SAML				IAmb	IAmb	00 27 27.5	
	comp=Z,4.3nm,0.8s						
MAW	**Mawson**	**49.77**	**157**	LR	LR	00 49 13.2	
	comp=Z,485nm,18.4s,baz=234,slow=37						
CZSB	**Cruzeiro do Su**	**49.88**	**352**	*e*P	**P**	**00 27 39.6**	**+2.6**
NPGB	**Novo Progresso**	**51.11**	**15**	*e*P	**P**	**00 27 45.9**	**-0.5**
RKT	**Rikiea**	**59.16**	**275**	*e*LR	LR	00 46 11.9	
	comp=Z,369nm,27.0s						
ROSC	**El Rosal**	**62.45**	**351**	LR	LR	00 55 34.1	
	comp=Z,369nm,21.9s,baz=202,slow=35						
TBI	**Tubuai**	**66.77**	**263**	*e*LR	LR	00 49 25.5	
	comp=Z,304nm,29.0s						
BOSA	**Boshof**	**67.37**	**108**	LR	LR	00 54 57.1	
	comp=Z,228nm,18.0s,baz=217,slow=32						
MEH	**Mehetia**	**70.48**	**267**	*e*T	T	01 46 27.0	
	comp=Z,15nm,0.3s						
PPT2	**Papete2**	**71.53**	**266**	*e*LR	LR	00 51 37.7	
	comp=Z,526nm,28.0s						
PPT	**Papeete**	**71.55**	**266**	LR	LR	00 56 45.6	
	comp=Z,161nm,18.1s,baz=174,slow=32						
DBIC	**Dimbokro**	**81.04**	**62**	LR	LR	01 02 26.4	
	comp=Z,51nm,19.4s,baz=182,slow=32						
AFI	**Afiamalu**	**86.28**	**250**	LR	LR	00 59 24.8	
	comp=Z,86nm,21.0s,baz=164,slow=28						
STKA	**Stephens Creek**	**87.81**	**204**	LR	LR	01 05 23.8	
	comp=Z,63nm,18.8s,baz=200,slow=32						
MSVF	**Nonsavu**	**87.96**	**240**	LR	LR	01 01 34.1	
	comp=Z,207nm,19.5s,baz=354,slow=29						
TORD	**Torodi Ar. Bea**	**89.82**	**65**	LR	LR	01 04 34.8	
	comp=Z,95nm,21.9s,baz=350,slow=31						
TXAR	**Lajitas Array**	**91.93**	**328**	P	**P**	**00 31 51.7**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=139,slow=5.8,SNR=3.1						
TXAR				LR	LR	01 07 31.0	
	comp=Z,89nm,18.5s,baz=0.0,slow=32						
KMBO	**Kilima Mbogo**	**96.53**	**102**	LR	LR	01 10 28.6	
	comp=Z,150nm,21.5s,baz=104,slow=32						
ASAR	**Alice Springs**	**97.30**	**199**	P	P	00 32 13.3	-3.6
	comp=Z,0.5nm,0.7s,baz=152,slow=4.1,SNR=2.9						
GERES	**GERESS Array B**	**124.94**	**53**	PKP	**PKPdf**	**00 37 40.8**	**-2.1**
	comp=Z,0.8nm,0.7s,baz=333,slow=1.1,SNR=6.2						
YKA	**Yellowknife Ar**	**125.28**	**335**	PKP	**PKPdf**	**00 37 41.1**	**-1.8**
	comp=Z,0.1nm,0.6s,baz=152,slow=2.3,SNR=2.7						
BRTR	**Keskin Array B**	**127.64**	**73**	PKP	**PKPdf**	**00 37 47.0**	**-1.4**
	comp=Z,1.0nm,1.1s,baz=282,slow=1.3,SNR=3.9						
AKASG	**Malin Array Be**	**133.25**	**60**	PKP	**PKPdf**	**00 37 55.7**	**-2.7**
	comp=Z,1.0nm,0.4s,baz=248,slow=1.6,SNR=1.6						
ILAR	**Eielson Array**	**136.15**	**322**	PKP	**PKPdf**	**00 38 01.9**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=176,slow=1.7,SNR=5.1						
GTA	**Gaotai**	**159.87**	**148**	*e*PKP	**PKPdf**	**00 38 47.8**	**+5.6**

NEIC ***14*** *00:32:43.0±1.0,6.6S±0.1×128.50E±0.10,h282km±17km, mb4.2/4,Error ellipse: s-maj=19.8km s-min=10.4km az=146.0*
IDC ***14*** *00:32:43.9±8.0,6.61S×128.50E,h286km±87km,mb2.6/1, mb1 3.9/4,mb1mx3.2/30,mbtmp4.5/4,Error ellipse: s-maj=106.9km s-min=25.8km az=51.0*
ISC 14 00:32:42.9±0.9,**6.63S**±0.07×**128.55E**±0.07,**h300km,n18,** σ2§**10**/25,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.04**	**116**	Pn	**Pn**	**00 33 38.4**	**-0.7**
SAUI				S	**S**	**00 34 20.0**	**-3.9**
FAKI	**Fak Fak**	**5.21**	**45**	Pn	**Pn**	**00 34 02.7**	**-0.2**
FAKI				S	**S**	**00 35 03.5**	**-3.8**
SOEI	**Soe**	**5.26**	**234**		**Pn**	**00 34 03.2**	**-0.4**
SOEI					**S**	**00 35 04.5**	**-4.0**
BATI	**Baumata**	**6.00**	**233**	P	**Pn**	**00 34 12.0**	**-0.3**
	33nm,0.3s,baz=150,slow=0.5,SNR=16						
BATI				S	**S**	**00 35 20.0**	**-4.3**
	16nm,0.3s,baz=223,slow=19,SNR=3.8						
FITZ	**Fitzroy Crossi**	**11.75**	**194**	P	**Pn**	**00 35 24.3**	**+1.9**
	1.2nm,0.3s,baz=24,slow=11,SNR=5.8						
FITZ				S	**S**	**00 37 31.8**	**-1.6**
	0.2nm,0.3s,baz=60,slow=14,SNR=2.4						
FITZ	**Fitzroy Crossi**	**11.75**	**194**	P	**P**	**00 35 24.5**	**+0.4**
WB0	**Warramunga Arr**	**14.24**	**157**	P	**Pn**	**00 35 52.7**	**+0.3**
WRA	**Warramunga Arr**	**14.38**	**158**	P	**Pn**	**00 35 54.4**	**+0.4**
	0.6nm,0.3s,baz=337,slow=12,SNR=8.8						
WRA				S	**S**	**00 38 29.6**	**-1.6**
	0.1nm,0.3s,baz=340,slow=22,SNR=2.7						
WB2	**Warramunga Arr**	**14.38**	**157**	P	**Pn**	**00 35 55.1**	**+1.0**
WR0	**Warramunga Arr**	**14.47**	**157**	P	**Pn**	**00 35 55.9**	**+0.7**
COEN	**Coen**	**16.12**	**118**	P	**Pn**	**00 36 14.9**	**+0.3**
PSA00	**Pilbara Seismi**	**17.07**	**209**	P	**P**	**00 36 24.0**	**+1.3**
PSA00				IAmb	IAmb	00 36 31.1	
	comp=Z,8.7nm,1.1s						
AS31	**Alice Springs**	**17.70**	**164**	P	**Pn**	**00 36 32.0**	**-1.1**
ASAR	**Alice Springs**	**17.70**	**164**	P	**P**	**00 36 31.9**	**+2.4**
	comp=Z,2.2nm,0.3s,baz=343,slow=11,SNR=49						
ASAR				S	**S**	**00 39 38.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=350,slow=21,SNR=2.0						
ASAR	**Alice Springs**	**17.70**	**164**	P	**Pn**	**00 36 32.0**	**-1.0**
FORT	**Forrest**	**24.03**	**181**	P	**P**	**00 37 33.1**	**+1.8**
FORT				IAmb	IAmb	00 37 42.1	
	comp=Z,14nm,1.1s						
BBOO	**Buckleboo**	**26.97**	**166**	P	**P**	**00 37 59.3**	**+1.6**
MKAR	**Makanchi Array**	**67.14**	**327**	P	**P**	**00 43 07.1**	**+2.3**
	comp=Z,0.1nm,0.4s,baz=117,slow=7.7,SNR=2.5						

DJA ***14*** *00:46:46.5±1.1,3.7S±7.7×12.9E±°,h12km±12km,M3.4/6, MLv3.4/6*
IDC ***14*** *00:46:51.6±5.1,2.81S×129.14E,h75km±61km,mb3.2/2, mb1 3.7/5,mb1mx3.3/35,mbtmp3.7/5,ML3.5/3,MS3.7/1, Ms1 3.7/1,ms1mx2.6/18,Error ellipse: s-maj=59.7km s-min=18.4km az=93.0*
ISC 14 00:46:47.7±1.0,**2.83S**±0.09×**128.88E**±0.06,**h33km,n10,** σ0§**90**/10,**Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.82**	**257**	P	**Pn**	**00 47 17.7**	**+1.0**
SANI	**Sanana**	**2.99**	**285**	P	**Pn**	**00 47 32.6**	**-0.2**
SWI	**Sorong**	**3.08**	**51**	P	**Pn**	**00 47 34.0**	**0.0**
SIJI	**Sorong**	**3.08**	**51**	P	**Pn**	**00 47 34.2**	**+0.2**
	6.2nm,0.3s,baz=60,slow=16,SNR=31						
SIJI				S	**Sn**	**00 48 09.6**	**-0.2**
	6.5nm,0.3s,baz=18,slow=19,SNR=3.3						
FAKI	**Fak Fak**	**3.36**	**92**	P	**Pn**	**00 47 38.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**15.50**	**192**	P	**P**	**00 50 26.2**	**-1.8**
	0.1nm,0.3s,baz=34,slow=15,SNR=2.3						
WRA	**Warramunga Arr**	**17.82**	**163**	P	**Pn**	**00 50 52.9**	**-0.4**
	0.4nm,0.3s,baz=340,slow=12,SNR=18						
ASAR	**Alice Springs**	**21.27**	**167**	P	**P**	**00 51 32.2**	**+0.7**
	3.3nm,0.6s,baz=350,slow=12,SNR=32						
NWAO	**Narrogin (SRO)**	**31.87**	**199**	LR	LR	01 07 49.2	
	comp=Z,117nm,19.1s,baz=141,slow=39						
MKAR	**Makanchi Array**	**64.16**	**326**	P	**P**	**00 57 19.5**	**+0.5**
	0.1nm,0.6s,baz=125,slow=7.3,SNR=2.5						

NEIC ***14*** *00:54:48.6±1.3,23.6S±0.1×178.9W±0.2,h526km±15km, mb4.3/25,Error ellipse: s-maj=22.2km s-min=15.8km az=77.0*
IDC ***14*** *00:54:49.5±13.0,23.71S×178.57W,h572km±129km, mb3.2/5,mb1 3.3/6,mb1mx3.0/25,mbtmp4.2/6,Error ellipse: s-maj=220.3km s-min=48.7km az=60.0*
ISC 14 00:54:49.2±0.9,**23.7S**±0.2×**178.8W**±0.1,**h550km,n56,** σ1§**53**/53,**mb4.3**/11,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.58**	**172**	P	**P**	**00 56 21.6**	**-2.3**
NIUE	**Niue**	**9.43**	**62**	P	**P**	**00 57 00.7**	**-0.7**
MXZ	**Matakaoa Point**	**14.04**	**190**	P	**P**	**00 57 48.6**	**0.0**
WHRZ	**Whale Island**	**14.57**	**194**	P	**P**	00 58 04.8	+11
MWZ	**Matawai**	**14.93**	**191**	P	**P**	**00 58 02.5**	**+4.7**
URZ	**Urewera**	**14.93**	**193**	P	**P**	**00 57 58.4**	**+0.6**
	1.7nm,0.3s,baz=85,slow=2.9,SNR=11						
URZ				S	S	01 00 21.8	-11
	0.8nm,0.3s,baz=193,slow=19,SNR=5.0						
URZ	**Urewera**	**14.93**	**193**	IAmb	IAmb	00 58 05.8	
	comp=Z,8.2nm,0.9s						
URZ	**Urewera**	**14.93**	**193**	P	**P**	**00 57 58.3**	**+0.6**
WATZ	**Wairara**	**15.68**	**196**	P	**P**	**00 58 07.8**	**+2.4**
HIZ	**Hauiti**	**15.74**	**199**	P	**P**	**00 58 08.9**	**+2.9**
HIZ				IAmb	IAmb	00 58 26.5	
	comp=Z,12nm,1.0s						
RATZ	**Rangitukua**	**15.82**	**196**	P	**P**	**00 58 06.4**	**-0.4**
RITZ	**Rihia Road**	**15.90**	**195**	P	**P**	**00 58 07.2**	**-0.4**
BKZ	**Black Stump Fm**	**15.94**	**194**	P	**P**	**00 58 08.8**	**+0.8**
BKZ	**Black Stump Fm**	**15.94**	**194**	P	**P**	**00 58 08.6**	**+0.6**
KATZ	**Kakaramea**	**15.94**	**196**	P	**P**	**00 58 05.3**	**-2.8**
KRVZ	**Karewarewa**	**16.07**	**196**	P	**P**	**00 58 07.3**	**-2.0**
TMVZ	**Te Maari**	**16.07**	**196**	P	**P**	**00 58 07.8**	**-1.5**
ETVZ	**East Tongariro**	**16.09**	**196**	P	**P**	**00 58 08.2**	**-1.3**
TWVZ	**Taurewa**	**16.09**	**196**	P	**P**	**00 58 08.7**	**-0.9**
WTVZ	**West Tongariro**	**16.10**	**196**	P	**P**	**00 58 07.9**	**-1.7**
OTVZ	**Oturere**	**16.12**	**196**	P	**P**	**00 58 08.7**	**-1.3**
NGZ	**Ngauruhoe**	**16.15**	**196**	P	**P**	**00 58 08.9**	**-1.3**
TUVZ	**Tukino**	**16.23**	**196**	P	**P**	**00 58 13.0**	**+2.1**
BHHZ	**Black Hill Sta**	**16.34**	**194**	P	**P**	**00 58 11.5**	**-0.4**
KAHZ	**Kahuranaki**	**16.46**	**192**	P	**P**	**00 58 14.4**	**+1.5**
TSZ	**Takapari Road**	**16.91**	**194**	P	**P**	**00 58 18.0**	**+1.1**
BFZ	**Birch Farm**	**17.44**	**193**	P	**P**	**00 58 23.0**	**+1.2**
RAR	**Rarotonga**	**17.73**	**86**	P	**P**	**00 58 26.1**	**+1.5**
QRZ	**Quartz Range**	**18.58**	**201**	P

MNAS				⇑*i*S		**Sn**	**00 56 31.3**	**+2.5**
	baz=19								
AML	**Almayashu**	**3.69**	**34**	⇑*e*P		**Pn**	**00 55 48.0**	**+0.1**
AML	baz=33			⇑*i*S		**Sn**	**00 56 33.5**	**+1.9**
	baz=33								
AML	**Almayashu**	**3.69**	**34**	P		**Pn**	**00 55 50.7**	**+2.8**
	SNR=23								
KK31	**Karatay Array**	**4.01**	**356**	⇓Pn		**Pn**	**00 55 53.6**	**+1.6**
	1.4nm,0.4s,baz=181,slow=12,SNR=40								
KK31				Pg		**Pg**	**00 56 04.5**	**-2.8**
	2.6nm,0.6s,baz=167,slow=17,SNR=8.5								
KK31				⇑Sn		**Sn**	**00 56 42.2**	**+3.1**
	5.1nm,0.5s								
KK31				⇑Lg		Lg	00 56 57.7		
	11nm,0.7s,baz=165,slow=30,SNR=7.1								
UCH	**Uchtor**	**4.14**	**40**	⇑*e*P		**Pn**	**00 55 54.5**	**+0.3**
	baz=39								
UCH				⇑*i*S		**Sn**	**00 56 44.5**	**+1.6**
	baz=39								
UCH	**Uchtor**	**4.14**	**40**	P		**Pn**	**00 55 55.6**	**+1.4**
	SNR=12								
EKS2	**Erkin-Say**	**4.16**	**30**	⇑*i*P		**Pn**	**00 55 54.8**	**+0.7**
	baz=30								
EKS2				⇑*i*S		**Sn**	**00 56 45.1**	**+2.2**
	baz=30								
EKS2	**Erkin-Say**	**4.16**	**30**	P		**Pn**	**00 55 56.4**	**+2.2**
	SNR=5.8								
AAK	**Ala-Archa**	**4.45**	**36**	P		**Pn**	**00 56 00.3**	**+2.2**
	SNR=11								
AAK	**Ala-Archa**	**4.45**	**36**	⇑Pn		**Pn**	**00 55 60.0**	**+1.9**
	7.3nm,0.8s								
AAK				⇓Sn		**Sb**	**00 56 57.6**	**-4.9**
	4.8nm,0.7s								
KBK	**Karagaybulak**	**4.68**	**39**	P		Pn	00 56 05.2	+3.9
	SNR=27								
USP	**Ospenovka**	**4.96**	**32**	P		**Pn**	**00 56 07.3**	**+2.3**
	SNR=9.9								
TKM2	**Tokmak 2**	**5.20**	**41**	P		**Pn**	**00 56 11.6**	**+3.1**
	SNR=6.9								
TKM2	**Tokmak 2**	**5.20**	**41**	⇑Pn		**Pn**	**00 56 10.9**	**+2.5**
	4.1nm,0.7s								
TKM2				⇓Sn		**Sn**	**00 57 15.8**	**+7.2**
	3.3nm,0.6s								

*ATH **14** 01:17:11.1,38°.23N×20°.37E,h16km,ML2.5/4,Error ellipse: s-maj=2.0km s-min=0.9km az=255.0*
*THE **14** 01:17:11.0,38°.23N×20°.36E,h17km,ML2.8/12,Error ellipse: s-maj=0.6km s-min=0.3km az=267.0*

ISC 14 01:17:10.4±0.9,38°.22N±0°.03×20°.35E±0°.04,h19km±2km, n51,σ0s70/76,Greece

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.02**	**182**	P		**Pg**	**01 17 13.8**	**0.0**
KEF3				S		**Sg**	**01 17 15.6**	**-0.4**
KEF3	**Kipouria, Keph**	**0.02**	**182**	P		**Pg**	**01 17 13.8**	**0.0**
KEF3				S		**Sg**	**01 17 16.3**	**+0.2**
	26μm,0.2s							
DMLN	**Damoulianata-K**	**0.03**	**49**	P		**Pg**	**01 17 13.9**	**0.0**
DMLN				S		**Sg**	**01 17 15.8**	**-0.4**
DMLN	**Damoulianata-K**	**0.03**	**49**	P		**Pg**	**01 17 13.9**	**0.0**
DMLN				S		**Sg**	**01 17 15.8**	**-0.4**
	16μm,0.2s							
KEF4	**Livadi, Kephal**	**0.07**	**59**	P		**Pg**	**01 17 14.0**	**0.0**
KEF4				S		**Sg**	**01 17 16.1**	**-0.3**
KEF4	**Livadi, Kephal**	**0.07**	**59**	P		**Pg**	**01 17 14.0**	**0.0**
KEF4				S		**Sg**	**01 17 16.7**	**+0.2**
	56μm,0.2s							
LXRA	**Lixouri, Kepha**	**0.07**	**107**	P		**Pg**	**01 17 14.1**	**0.0**
LXRA				S		**Sg**	**01 17 16.3**	**-0.2**
KEF5	**Kardakata, Kep**	**0.11**	**59**	P		**Pg**	**01 17 14.4**	**0.0**
KEF5				S		**Sg**	**01 17 16.5**	**-0.6**
KEF5	**Kardakata, Kep**	**0.11**	**59**	P		**Pg**	**01 17 14.4**	**0.0**
KEF5				S		**Sg**	**01 17 17.3**	**+0.2**
	16μm,0.3s							
ARGA	**Argostoli. Kep**	**0.11**	**113**	P		**Pg**	**01 17 14.4**	**0.0**
ARGA				S		**Sg**	**01 17 16.6**	**-0.5**
ARG2	**Argostoli**	**0.12**	**111**	P		**Pg**	**01 17 14.4**	**-0.1**
ARG2				S		**Sg**	**01 17 17.3**	**+0.1**
	30μm,0.1s							
VLS	**Valsamata**	**0.20**	**103**	P		**Pg**	**01 17 15.3**	**-0.1**
VLS				S		**Sg**	**01 17 18.5**	**-0.4**
VLS				AML		AML	01 17 18.6	
	comp=N,16478μm,0.1s							
VLS				AML		AML	01 17 19.1	
	comp=E,13781μm,0.1s							
VLS	**Valsamata**	**0.20**	**103**	P		**Pg**	**01 17 15.3**	**-0.1**
VLS				S		**Sg**	**01 17 18.7**	**-0.2**
	comp=E,8μm,0.1s							
PSDA	**Pessada-Kefalo**	**0.21**	**120**	P		**Pg**	**01 17 15.8**	**+0.1**
PSDA				S		**Sg**	**01 17 19.3**	**0.0**
PSDA	**Pessada-Kefalo**	**0.21**	**120**	P		**Pg**	**01 17 15.8**	**+0.1**
PSDA				S		**Sg**	**01 17 19.8**	**+0.5**
	comp=E,2μm,0.1s							
VSK1	**VASILIKIADES**	**0.25**	**42**	P		**Pg**	**01 17 16.6**	**+0.3**
VSK1				S		**Sg**	**01 17 20.6**	**+0.2**
	comp=E,1μm,0.1s							
FSK	**Fiskardo**	**0.29**	**35**	P		**Pg**	**01 17 17.1**	**+0.1**
FSK				S		**Sg**	**01 17 21.5**	**+0.2**
FSK				AML		AML	01 17 22.0	
	comp=N,1126μm,0.2s							
FSK				AML		AML	01 17 22.1	
	comp=E,2384μm,0.1s							
FSK	**Fiskardo**	**0.29**	**35**	P		**Pg**	**01 17 17.0**	**+0.1**
FSK				S		**Sg**	**01 17 21.7**	**+0.3**
	comp=E,885nm,0.2s							
VLMS	**Volimes, Zakyn**	**0.42**	**144**	P		**Pg**	**01 17 19.3**	**+0.1**
VLMS				S		**Sb**	**01 17 25.7**	**+0.3**
VLMS				AML		AML	01 17 26.9	
	comp=E,3318μm,0.2s							
VLMS				AML		AML	01 17 28.0	
	comp=N,3998μm,0.2s							
VLMS	**Volimes, Zakyn**	**0.42**	**144**	P		**Pb**	**01 17 19.5**	**+0.2**
VLMS				S		**Sb**	**01 17 26.2**	**+0.8**
	comp=N,918nm,0.2s							
EVGI	**Lefkada island**	**0.47**	**31**	P		**Pg**	**01 17 19.9**	**0.0**
EVGI	**Lefkada island**	**0.47**	**31**	P		**Pg**	**01 17 20.0**	**0.0**
EVGI				S		**Sg**	**01 17 26.9**	**+0.5**
	comp=N,192nm,0.1s							
NYDR	**Nydri-Lefkada**	**0.56**	**29**	P		**Pg**	**01 17 21.5**	**-0.2**
NYDR	**Nydri-Lefkada**	**0.56**	**29**	P		**Pg**	**01 17 21.6**	**-0.1**
NYDR				S		**Sg**	**01 17 30.0**	**+0.7**
	comp=N,112nm,0.3s							
LKD2	**Lefkada island**	**0.62**	**23**	P		**Pg**	**01 17 22.5**	**-0.2**
LKD2				AML		AML	01 17 38.5	
	comp=E,322μm,0.2s							
LKD2				AML		AML	01 17 39.2	
	comp=N,283μm,0.3s							
LKD2	**Lefkada island**	**0.62**	**23**	P		**Pg**	**01 17 22.6**	**-0.2**
LTHK	**Lithakia**	**0.64**	**143**	P		**Pg**	**01 17 23.0**	**-0.1**
LTHK	**Lithakia**	**0.64**	**143**	P		**Pg**	**01 17 23.0**	**-0.1**
TSLK	**Tsoukalades, L**	**0.65**	**22**	P		**Pg**	**01 17 23.2**	**0.0**
TSLK	**Tsoukalades, L**	**0.65**	**22**	P		**Pg**	**01 17 23.3**	**0.0**
AST1	**Astakos**	**0.66**	**61**	P		**Pg**	**01 17 23.4**	**-0.2**
PDO	**Prodromos**	**0.76**	**60**	P		**Pg**	**01 17 25.1**	**-0.2**
PDO	**Prodromos**	**0.76**	**60**	P		**Pg**	**01 17 25.1**	**-0.2**
RLS	**Riolos of Patr**	**0.90**	**100**	P		**Pg**	**01 17 27.3**	**-0.6**
DRO	**Drossia**	**1.11**	**104**	P		**Pg**	**01 17 30.9**	**-1.0**
DRO	**Drossia**	**1.11**	**104**	P		**Pg**	**01 17 30.8**	**-1.1**
LAKA	**Lakka**	**1.28**	**89**	P		**Pn**	**01 17 34.2**	**+0.9**
LAKA	**Lakka**	**1.28**	**89**	P		**Pn**	**01 17 33.2**	**-0.1**
ANX	**Ano Chora**	**1.29**	**73**	P		**Pn**	**01 17 34.3**	**+0.9**
TRIZ	**Trizonia**	**1.36**	**83**	P		**Pn**	**01 17 35.4**	**+1.1**
KLV	**Kalavryta, Ach**	**1.43**	**97**	P		**Pn**	**01 17 36.6**	**+1.2**
DBRK	**Dubrovnik**	**4.75**	**340**	*e*Pn		**Pn**	**01 18 20.5**	**-0.4**
DBRK				Sn		**Sn**	**01 19 13.7**	**-1.7**
STON	**Ston**	**5.06**	**337**	*e*Pn		**Pn**	**01 18 25.2**	**0.0**
STON				Sn		**Sn**	**01 19 20.5**	**-2.6**
MAKA	**Makarska**	**5.66**	**335**	*e*Pn		**Pn**	**01 18 34.5**	**+1.1**
HVAR	**Hvar**	**5.77**	**330**	*e*Pn		**Pn**	**01 18 35.5**	**+0.6**
RICI	**Ricice**	**5.80**	**336**	*e*Pn		**Pn**	**01 18 36.3**	**+0.9**
RICI				Sn		**Sn**	**01 19 40.1**	**-1.3**
ZIRJ	**Zirje**	**6.49**	**328**	*i* Pn		**Pn**	**01 18 45.1**	**+0.3**
MORI	**Morici**	**6.64**	**330**	*e*Pn		**Pn**	**01 18 48.5**	**+1.7**
DUGI	**Dugi Otok**	**7.01**	**327**	*e*Pn		**Pn**	**01 18 52.5**	**+0.5**
UDBI	**Udbina**	**7.18**	**333**	*i* Pn		**Pn**	**01 18 56.6**	**+2.2**
NVLJ	**Novalja**	**7.55**	**329**	*e*Pn		**Pn**	**01 19 00.8**	**+1.4**

*SJA **14** 01:23:11.7±0.8,20°.49S×70°.23W,h13km±5km,ML4.0, MW3.8*

*NEIC **14** 01:23:13.3±1.8,20°.45S±0°.04×70°.23W±0°.10,h21km±5km, Error ellipse: s-maj=13.2km s-min=5.2km az=90.0*
*GUC **14** 01:23:14.5±0.9,20°.46S×70°.17W,h21km±2km,ML4.1*
*IDC **14** 01:23:17.7±2.8,20°.35S×70°.07W,h50km±28km,mb3.7/6, mb1 3.9/8,mb1mx3.7/25,mbtmp4.0/8,ML4.1/2,MS2.8/2, Ms1 2.8/2,ms1mx2.7/27,Error ellipse: s-maj=35.2km s-min=17.5km az=92.0*

ISC 14 01:23:13.5±0.8,20°.46S±0°.02×70°.16W±0°.04,h23km±5km, n80,σ1s08/89,mb4.1/6,6C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TA01	**Diego Aracena**	**0.11**	**188**	*i* P		**Pb**	**01 23 17.8**	**-0.2**
TA01				*i* S		**Sb**	**01 23 20.6**	**-0.4**
TA01				IAML			01 23 21.0	
	comp=E,165μm,0.2s							
TA01	**Diego Aracena**	**0.11**	**188**			**Pb**	**01 23 17.7**	**-0.2**
TA02	**Huaiquique**	**0.19**	**10**	⇑*i*P		**Pb**	**01 23 18.8**	**0.0**
TA02				*e*S		**Sb**	**01 23 22.3**	**-0.1**
TA02				IAML			01 23 22.9	
	comp=N,123μm,0.2s							
HMBC	**Humberstone**	**0.31**	**56**	⇓*i*P		**Pb**	**01 23 20.9**	**+0.2**
HMBC				*i* S		**Sb**	**01 23 25.4**	**-0.2**
HMBC				IAML			01 23 27.3	
	comp=E,16μm,0.5s							
PSGC	**Pisagua**	**0.86**	**3**	⇑*i*P		**Pb**	**01 23 28.9**	**-0.7**
PSGC				⇑*e*P		**Pb**	**01 23 29.0**	**-0.7**
PSGC				*i* S		**Sb**	**01 23 40.3**	**-0.6**
PSGC				IAML			01 23 41.0	
	comp=E,5μm,0.2s							
PSGCX	**Pisagua**	**0.86**	**3**			**Pb**	**01 23 28.9**	**-0.8**
PSGCX	**Pisagua**	**0.86**	**3**	*e*P		**Pb**	**01 23 29.0**	**-0.7**
PB01	**IPOC Station P**	**0.86**	**133**	*i* P		**Pb**	**01 23 29.5**	**-0.4**
PB01				*i* S		**Sb**	**01 23 40.7**	**-0.3**
PB01				IAML			01 23 41.9	
	comp=E,10μm,0.7s							
PB01	**IPOC Station P**	**0.86**	**133**			**Pb**	**01 23 29.4**	**-0.4**
PB01	**IPOC Station P**	**0.86**	**133**	*e*P		**Pb**	**01 23 29.4**	**-0.4**
PB01				*e*S		**Sb**	**01 23 41.3**	**+0.3**
PB01				IAML			01 23 41.8	
	comp=Z,3μm,0.4s							
PB08	**IPOC Station P**	**1.00**	**72**	⇓*i*P		**Pb**	**01 23 32.2**	**-0.2**
PB08				*i* S		**Sn**	**01 23 45.6**	**-0.4**
PB08	**IPOC Station P**	**1.00**	**72**			**Pb**	**01 23 32.1**	**-0.2**
PB08	**IPOC Station P**	**1.00**	**72**	*e*P		**Pb**	**01 23 32.1**	**-0.2**
PB08				*e*S		**Sn**	**01 23 45.9**	**-0.1**
PB07	**IPOC Station P**	**1.29**	**168**	⇑*i*P		**Pn**	**01 23 36.3**	**-0.1**
PB07				*i* S		**Sn**	**01 23 53.0**	**+0.1**
PB07				IAML			01 23 54.4	
	comp=E,5μm,0.7s							
PB07	**IPOC Station P**	**1.29**	**168**			**Pn**	**01 23 36.1**	**-0.2**
PB07	**IPOC Station P**	**1.29**	**168**	*e*P		**Pn**	**01 23 36.2**	**-0.1**
PB07				*e*S		**Sn**	**01 23 53.3**	**+0.3**
PB07				IAML			01 23 53.4	
	comp=Z,4μm,0.8s							
MNMC	**Minye Minye**	**1.42**	**22**	⇑*i*P		**Pn**	**01 23 38.5**	**+0.3**
MNMC				*e*S		**Sb**	**01 23 57.6**	**+0.3**
MNMC				IAML			01 23 58.6	
	comp=E,16μm,0.2s							
MNMC	**Minye Minye**	**1.42**	**22**			**Pn**	**01 23 38.2**	**0.0**
MNMCX	**Minye Minye**	**1.42**	**22**	*e*P		**Pn**	**01 23 38.6**	**+0.4**
PB09	**IPOC Station P**	**1.59**	**147**	⇑*i*P		**Pb**	**01 23 41.9**	**-0.3**
PB09				*e*S		**Sb**	**01 24 02.4**	**+0.4**
PB09				IAML			01 24 07.7	
	comp=E,4μm,0.6s							
PB09	**IPOC Station P**	**1.59**	**147**			**Pb**	**01 23 42.0**	**-0.3**
PB09	**IPOC Station P**	**1.59**	**147**	*e*P		**Pb**	**01 23 42.0**	**-0.3**
PB09				*e*S		**Sb**	**01 24 04.0**	**+2.0**
PB09				IAML			01 24 07.1	
	comp=Z,4μm,0.3s							
PB04	**IPOC Station P**	**1.87**	**180**	*e*P		**Pn**	**01 23 44.4**	**+0.3**
PB04				*i* S		**Sn**	**01 24 08.6**	**+1.4**
PB04				IAML			01 24 14.8	
	comp=E,2μm,0.5s							
PB04	**IPOC Station P**	**1.87**	**180**			**Pn**	**01 23 44.5**	**+0.3**
PB04	**IPOC Station P**	**1.87**	**180**	*e*P		**Pn**	**01 23 45.0**	**+0.8**
PB04				*e*S		**Sb**	**01 24 08.9**	**-1.1**
PB04				IAML			01 24 22.4	
	comp=Z,1μm,0.3s							
AP01	**Chacalluta**	**2.08**	**355**	*e*P		**Pn**	**01 23 48.0**	**+1.0**
AP01				*e*S		**Sn**	**01 24 13.8**	**+1.6**
AP01	**Chacalluta**	**2.08**	**355**			**Pn**	**01 23 48.2**	**+1.2**
PB16	**IPOC Station P**	**2.20**	**16**			**Pn**	**01 23 49.8**	**+0.6**
PB06	**IPOC Station P**	**2.31**	**166**	*e*P		**Pn**	**01 23 51.5**	**+1.3**
PB06				*e*S		**Sn**	**01 24 20.0**	**+2.0**
PB06				IAML			01 24 33.4	
	comp=E,1μm,0.4s							
PB06	**IPOC Station P**	**2.31**	**166**			**Pn**	**01 23 51.3**	**+1.1**
PB06	**IPOC Station P**	**2.31**	**166**	*e*P		**Pn**	**01 23 51.6**	**+1.4**
PB06				*e*S		**Sb**	**01 24 21.8**	**-0.8**
PB06				IAML			01 24 32.2	
	comp=Z,658nm,0.8s							
LVC	**Limon Verde**	**2.44**	**152**	P		**Pb**	**01 23 55.7**	**-1.2**
	comp=Z,72nm,0.3s,baz=0.8,slow=8.8,SNR=460							
LVC				S		**Sb**	**01 24 26.7**	**0.0**
	comp=Z,111nm,0.3s,baz=58,slow=9.1,SNR=8.1							
LVC				LR		LR	01 25 05.2	
	comp=Z,268nm,20.1s,baz=336,slow=43							
LVC	**Limon Verde**	**2.44**	**152**	*i* P		**Pb**	**01 23 55.4**	**-1.5**
LVC				*i* S		**Sb**	**01 24 27.1**	**+0.4**
LVC	**Limon Verde**	**2.44**	**152**			**Pb**	**01 23 54.8**	**-2.1**
LVC	**Limon Verde**	**2.44**	**152**	*e*P		**Pb**	**01 23 55.3**	**-1.5**
LVC				*e*S		**Sb**	**01 24 27.8**	**+1.1**
LVC				IAML			01 24 34.7	
	comp=Z,376nm,0.5s							
PB15	**IPOC Station P**	**2.81**	**167**	*i* P		**Pn**	**01 23 58.5**	**+1.2**
PB15	**IPOC Station P**	**2.81**	**167**			**Pn**	**01 23 58.1**	**+0.9**
PB15	**IPOC Station P**	**2.81**	**167**	*e*P		**Pn**	**01 23 58.9**	**+1.6**
PB15				*e*S		**Sb**	**01 24 42.8**	**+5.5**
PB15				IAML			01 24 51.1	
	comp=Z,1μm,0.4s							
PB10	**IPOC Station P**	**3.06**	**187**	*e*P		**Pn**	**01 23 60.0**	**-0.6**
PB10	**IPOC Station P**	**3.06**	**187**	Pn		**Pn**	**01 23 59.6**	**-0.9**
PB10	**IPOC Station P**	**3.06**	**187**	*e*P		**Pn**	**01 24 00.5**	**0.0**
PB14	**IPOC Station P**	**4.16**	**183**			**Pn**	**01 24 14.7**	**-1.1**
PB14	**IPOC Station P**	**4.16**	**183**	*e*P		**Pn**	**01 24 17.5**	**+1.7**
PB14				IAML			01 25 29.0	
	comp=Z,128nm,0.8s							
LPAZ	**La Paz**	**4.57**	**25**	P		Pn	01 24 27.6	+5.7
	comp=Z,0.7nm,0.3s,baz=207,slow=7.9,SNR=20							
LPAZ				LR		LR	01 26 16.1	
	comp=Z,68nm,21.1s,baz=326,slow=40							
LPAZ	**La Paz**	**4.57**	**25**			**Pn**	**01 24 21.9**	**+0.1**
YJA	**Yavi**	**4.66**	**112**	*e*P		Pb	01 24 29.9	-4.9
YJA				*e*S		**Sb**	**01 25 29.4**	**-1.3**
GO02	**Mina Guanaco**	**4.71**	**174**			**Pn**	**01 24 23.5**	**0.0**
AC01	**Pan de Azucar**	**5.68**	**184**	Pn		**Pn**	**01 24 35.7**	**-0.8**
AC02	**Maricunga**	**6.42**	**172**			**Pn**	**01 24 47.9**	**+0.8**
AC04	**Llanos de Chal**	**7.76**	**186**	Pn		**Pn**	**01 25 04.0**	**-1.0**
AC05	**El Transito**	**8.34**	**181**	Pn		**Pn**	**01 25 11.9**	**-1.3**
SIV	**San Ignacio**	**9.71**	**64**	P		**Pn**	**01 25 32.2**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=266,slow=10,SNR=20							
H03N1	**Juan Fernandez**	**15.09**	**209**	T		T	01 42 13.8	
	baz=33,slow=72,SNR=561							
H03N2	**Juan Fernandez**	**15.10**	**209**	T		T	01 42 17.3	
	baz=33,slow=72,SNR=330							
H03N3	**Juan Fernandez**	**15.11**	**209**	T		T	01 42 14.8	
	baz=33,slow=72,SNR=326							
PLCA	**Paso Flores**	**20.21**	**181**	P		Pn	01 27 48.3	-0.6
	comp=Z,2.6nm,0.6s,baz=355,slow=12,SNR=7.5							
PLCA	**Paso Flores**	**20.21**	**181**	lAmb		lAmb	01 27 49.3	
	comp=Z,6.9nm,1.1s							
LL01	**San Ignacio de**	**21.94**	**184**	P		**P**	**01 28 02.8**	**-2.5**
LL01				lAmb		lAmb	01 28 03.3	
	comp=Z,5.3nm,0.8s							
PTGA	**Pitinga**	**22.00**	**28**	P		**P**	**01 28 06.5**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=142,slow=19,SNR=3.1							
PTGA	**Pitinga**	**22.00**	**28**	lAmb		lAmb	01 28 31.4	
	comp=Z,8.3nm,1.3s							
TXAR	**Lajitas Array**	**59.11**	**326**	P		**P**	**01 33 13.2**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=147,slow=5.1,SNR=3.2							
ULM	**Lac du Bonnet**	**73.98**	**343**	P		**P**	**01 34 47.0**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=124,slow=3.0,SNR=3.7							
TORD	**Torodi Ar. Bea**	**78.12**	**71**	P		**P**	**01 35 10.5**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=254,slow=5.4,SNR=5.0							
TORD	**Torodi Ar. Bea**	**78.12**	**71**	lAmb		lAmb	01 35 11.5	
	comp=Z,1.4nm,0.8s							
YKA	**Yellowknife Ar**	**89.82**	**341**	P		**P**	**01 36 10.8**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=132,slow=5.2,SNR=18							
H11S2	**WAKE ISLAND Hyl**	**26.58**	**278**	T		T	04 01 29.1	
	baz=102,slow=74,SNR=870							
H11S1	**WAKE ISLAND Hyl**	**26.58**	**278**	T		T	04 01 23.2	
	baz=102,slow=74,SNR=670							
H11S3	**WAKE ISLAND Hyl**	**26.59**	**278**	T		T	04 01 28.8	
	baz=102,slow=74,SNR=740							
H11N3	**WAKE ISLAND Hyl**	**26.63**	**280**	T		T	04 01 25.2	
	baz=102,slow=75,SNR=267							
H11N2	**WAKE ISLAND Hyl**	**26.65**	**280**	T		T	04 01 28.4	
	baz=102,slow=75,SNR=197							
H11N1	**WAKE ISLAND Hyl**	**26.65**	**280**	T		T	04 01 28.3	
	baz=102,slow=75,SNR=212							
ASAR	**Alice Springs**	**130.27**	**209**	PKP		**PKPdf**	**01 42 22.5**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=162,slow=3.5,SNR=3.4							
WRA	**Warramunga Arr**	**133.23**	**212**	PKP		**PKPdf**	**01 42 28.6**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=152,slow=1.5,SNR=5.0							
KBL	**Kabul**	**141.46**	**60**	PKPdf		**PKPdf**	**01 42 41.5**	**-1.8**
ZAA0	**Zalesovo Array**	**141.49**	**24**	PKPdf		**PKPdf**	**01 42 43.2**	**+0.7**
ZALV	**Zalesovo Beam**	**141.49**	**24**	PKP		**PKPdf**	**01 42 43.1**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=247,slow=2.7,SNR=5.6							
NIL	**Nilore**	**145.06**	**60**	PKPbc		**PKPbc**	**01 42 48.8**	**0.0**
MAKZ	**Makanchi**	**145.28**	**34**	PKPbc		**PKPdf**	**01 42 49.8**	**+0.4**
MK31	**Makanchi Array**	**145.46**	**34**			**PKPab**	**01 42 50.0**	**+0.1**
MKAR	**Makanchi Array**	**145.46**	**34**	PKPbc		**PKPab**	**01 42 50.5**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=324,slow=4.3,SNR=30							

*RSNC **14** 01:31:52.3±1.3,9°.67N×73°.49W,h103km±9km,ML3.3, Mw3.6*
*UPA **14** 01:31:53.9±0.8,9°.71N×73°.64W,h66km±9km,MW4.8*

ISC 14 01:31:51.2±1.4,9°.69N±0°.04×73°.54W±0°.04,h112km±12km, n28,σ1s15/45,3C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ARGC	**Ariguani, Magd**	**0.71**	**284**	⇑*e*P		**Pn**	**01 32 11.4**	**+1.5**
ARGC				*e*S		**Sn**	**01 32 25.0**	**+1.0**
ARGC				*i*			01 32 27.6	
	comp=Z,520nm,0.2s							
SMLC	**San Martn de**	**1.03**	**211**	*e*P		**Pn**	**01 32 12.7**	**-0.2**
SMLC				*e*S		**Sn**	**01 32 28.1**	**-1.2**
OCAC	**Ocana**	**1.46**	**171**	*e*P		**Pn**	**01 32 17.8**	**-0.1**
OCAC				*e*S		**Sn**	**01 32 37.5**	**-0.6**
OCAC				*i*			01 32 39.6	
	comp=Z,256nm,0.2s							
SMRC	**Santa Marta, M**	**1.61**	**335**	*e*P		**Pn**	**01 32 20.4**	**+0.9**
SMRC				*e*S		**Sn**	**01 32 40.8**	**-0.2**
SMRC				*i*			01 32 42.7	
	comp=E,459nm,0.3s							
MONA	**Monteria**	**2.28**	**247**	*e*P		**Pn**	**01 32 27.8**	**-0.2**
MONA				*e*S		**Sn**	**01 32 54.2**	**-1.9**
MOTC	**Monteria, Cord**	**2.28**	**247**	⇓*i*P		**Pn**	**01 32 27.7**	**-0.2**
MOTC				*i*			01 32 56.4	
	comp=N,195nm,0.1s							
PAMC	**Pamplona, Colo**	**2.48**	**160**	*e*P		**Pn**	**01 32 31.6**	**+0.7**
PAMC				*e*S		**Sn**	**01 33 01.1**	**-0.3**
PAMC				*i*			01 33 04.3	
	comp=Z,178nm,0.5s							
URIC	**Uribia, Colomb**	**2.51**	**37**	*e*P		**Pn**	**01 32 31.0**	**+0.1**
URIC				*e*S		**Sn**	**01 33 00.2**	**-1.2**
URIC				*i*			01 33 01.2	
	comp=Z,94nm,0.3s							
BRRC	**Barranca, Sant**	**2.57**	**184**	*e*P		**Pn**	**01 32 32.1**	**+0.4**
BRRC				*e*S		**Sn**	**01 33 02.4**	**-0.4**
BRRC				*i*			01 33 06.7	
	comp=Z,94nm,0.4s							
SDV	**Santo Domingo**	**2.98**	**105**	⇑*e*P		**Pn**	**01 32 37.9**	**+0.7**
SDV				*e*S		**Sn**	**01 33 11.1**	**-1.5**
SDV				*i*			01 33 13.6	
	comp=Z,137nm,0.5s							
BARC	**Baricharа**	**3.10**	**173**	*e*P		**Pn**	**01 32 38.7**	**-0.2**
BARC				*e*S		**Sn**	**01 33 15.8**	**+0.3**
BARC				*i*			01 33 17.0	
	comp=Z,133nm,0.5s							
PTBC	**PUERTO BERRIO,**

	SNR=25							
AAK	**Ala-Archa**	**2.44**	**17**	⇑Pn		**Pg**	**02 24 08.6**	**-0.5**
	7.9nm,0.5s							
AAK				⇓Lg		Lg	02 24 41.7	
	21nm,1.1s							
KBK	**Karagaybulak**	**2.58**	**24**	⇑*iP*		**Pb**	**02 24 09.4**	**+0.3**
	baz=22							
KBK				⇑*iS*		**Sb**	**02 24 40.8**	**-0.3**
	baz=22							
KBK	**Karagaybulak**	**2.58**	**24**	P		**Pg**	**02 24 11.3**	**-0.5**
	SNR=13							
ULHL	**Ulahol**	**2.82**	**46**	⇑*iP*		**Pb**	**02 24 12.4**	**-0.8**
	baz=44							
ULHL				⇑*iS*		**Sb**	**02 24 45.5**	**-2.6**
	baz=44							
ULHL	**Ulahol**	**2.82**	**46**	P		**Pg**	**02 24 19.3**	**+2.9**
	SNR=5.3							
BOOM	**Boomskoye usch**	**2.84**	**39**	⇑*iP*		**Pb**	**02 24 13.0**	**-0.5**
	baz=37							
BOOM				⇑*iS*		**Sb**	**02 24 46.7**	**-1.9**
	baz=37							
TKM2	**Tokmak 2**	**3.04**	**30**	⇓*iP*		**Pb**	**02 24 16.0**	**-0.9**
	baz=28							
TKM2				⇓*iS*		**Sb**	**02 24 51.5**	**-2.9**
	baz=28							
TKM2	**Tokmak 2**	**3.04**	**30**	⇑Pg		**Pg**	**02 24 20.7**	**+0.1**
	1.5nm,0.3s							
TKM2				⇑Lg		Lg	02 24 58.3	
	3.0nm,0.5s							
USP	**Ospenovka**	**3.04**	**14**	⇓*iP*		**Pb**	**02 24 16.3**	**-0.6**
	baz=12							
USP				⇓*iS*		**Sb**	**02 24 52.8**	**-1.5**
	baz=12							
IUG	**Iuzhnay**	**3.20**	**306**	*eP*		**Pg**	**02 24 24.2**	**+0.5**
	10.0nm,0.4s							
IUG				*eS*		**Sg**	**02 25 05.4**	**+0.2**
	28nm,0.5s							
IUG	**Iuzhnay**	**3.20**	**306**	Pg		**Pg**	**02 24 24.2**	**+0.5**
	16nm,0.5s							
IUG				Lg		Lg	02 25 05.2	
	31nm,0.6s							
SGDS	**Sogindy**	**3.25**	**15**	Pg		**Pg**	**02 24 24.9**	**+0.4**
	2.6nm,0.6s							
SGDS				Lg		Lg	02 25 06.3	
	2.8nm,0.5s							
KST	**Kastek**	**3.29**	**33**	*eP*		**Pg**	**02 24 27.0**	**+1.6**
	1.8nm,0.4s							
KST				*eS*		**Sg**	**02 25 10.2**	**+2.2**
	7.7nm,0.6s							
KST	**Kastek**	**3.29**	**33**	Pg		**Pg**	**02 24 27.0**	**+1.6**
	1.8nm,0.2s							
KST				Lg		Lg	02 25 10.2	
	7.2nm,0.5s							
DGS	**Degeres**	**3.38**	**29**	*eP*		**Pg**	**02 24 28.7**	**+1.6**
	2.9nm,0.4s							
DGS				*eS*		**Sg**	**02 25 13.3**	**+2.4**
	8.4nm,0.6s							
DGS	**Degeres**	**3.38**	**29**	Pg		**Pg**	**02 24 28.6**	**+1.4**
DGS				Lg		Lg	02 25 13.2	
IZV	**Izvestkoviy**	**3.58**	**39**	*eP*		**Pg**	**02 24 31.4**	**+0.5**
	5.2nm,0.6s							
IZV				*eS*		**Sg**	**02 25 17.9**	**+0.6**
	12nm,0.7s							
IZV	**Izvestkoviy**	**3.58**	**39**	Pg		**Pg**	**02 24 31.4**	**+0.5**
	5.2nm,0.6s							
IZV				Lg		Lg	02 25 17.9	
	12nm,0.7s							
KK31	**Karatay Array**	**3.58**	**322**	⇑Pn		**Pb**	**02 24 22.9**	**-3.1**
	0.2nm,0.3s,baz=130,slow=13,SNR=6.2							
KK31				Pg		**Pg**	**02 24 29.4**	**-1.5**
	0.6nm,0.3s,baz=136,slow=16,SNR=11							
KK31				Lg		Lg	02 25 17.9	
	1.0nm,0.3s,baz=138,slow=28,SNR=4.6							
KRBS	**Karabastau**	**3.75**	**25**	*eP*		**Pg**	**02 24 34.5**	**+0.3**
	3.0nm,0.4s							
KRBS				*eS*		**Sg**	**02 25 22.7**	**+0.1**
	3.4nm,0.5s							
KRBS	**Karabastau**	**3.75**	**25**	Pg		**Pg**	**02 24 34.4**	**+0.3**
	3.0nm,0.4s							
KRBS				Lg		Lg	02 25 22.7	
	3.4nm,0.5s							
TNSS	**Tian-Shan**	**3.75**	**42**	*eP*		**Pg**	**02 24 34.6**	**+0.5**
	2.8nm,0.4s							
TNSS				*eS*		**Sg**	**02 25 23.0**	**+0.3**
	5.8nm,0.8s							
TNSS	**Tian-Shan**	**3.75**	**42**	Pg		**Pg**	**02 24 34.1**	**0.0**
	2.8nm,0.4s							
TNSS				Lg		Lg	02 25 23.0	
	5.8nm,0.8s							
BRLS	**Boroldaу**	**3.87**	**316**	*eP*		**Pg**	**02 24 35.0**	**-1.4**
	19nm,0.3s							
BRLS				*eS*		**Sg**	**02 25 23.8**	**-2.7**
	12nm,0.4s							
BRLS	**Boroldaу**	**3.87**	**316**	Pg		**Pg**	**02 24 35.0**	**-1.4**
	9.9nm,0.3s							
BRLS				Lg		Lg	02 25 23.9	
	12nm,0.7s							
MDOK	**Medeo**	**3.89**	**42**	*eP*		**Pg**	**02 24 37.5**	**+0.7**
	1.9nm,0.3s							
MDOK				*eS*		**Sg**	**02 25 27.9**	**+0.7**
	6.5nm,0.5s							
MDOK	**Medeo**	**3.89**	**42**	Pg		**Pg**	**02 24 37.5**	**+0.7**
	2.6nm,0.4s							
MDOK				Lg		Lg	02 25 28.0	
	4.5nm,0.8s							
KOTS	**Kotyrbulak**	**3.97**	**42**	*eP*		**Pg**	**02 24 39.0**	**+0.5**
	6.3nm,0.3s							
KOTS				*eS*		**Sg**	**02 25 30.5**	**+0.6**
	18nm,0.4s							
KOTS	**Kotyrbulak**	**3.97**	**42**	Pg		**Pg**	**02 24 38.9**	**+0.5**
	6.3nm,0.3s							
KOTS				Lg		Lg	02 25 30.5	
	18nm,0.4s							
KTBS	**Karatobe**	**4.14**	**34**	*eP*		**Pg**	**02 24 41.4**	**-0.2**
	1.9nm,0.4s							
KTBS				*eS*		**Sg**	**02 25 34.7**	**-0.5**
	7.5nm,0.9s							
KTBS	**Karatobe**	**4.14**	**34**	Pg		**Pg**	**02 24 41.4**	**-0.2**
	1.9nm,0.4s							
KTBS				Lg		Lg	02 25 34.7	
	7.5nm,0.9s							
KUU	**Kurty**	**4.15**	**30**	*eP*		**Pg**	**02 24 41.3**	**-0.5**
	1.4nm,0.2s							
KUU				*eS*		**Sg**	**02 25 34.7**	**-1.0**
	4.8nm,0.7s							
KUU	**Kurty**	**4.15**	**30**	Pg		**Pg**	**02 24 41.4**	**-0.5**
	1.4nm,0.3s							
KUU				Lg		Lg	02 25 34.6	
	3.6nm,0.5s							
KPKS	**Kokpek**	**4.98**	**49**	*eP*		**Pg**	**02 24 57.2**	**-0.6**
	1.6nm,0.4s							
KPKS				*eS*		**Sg**	**02 26 01.9**	**-0.5**
	5.7nm,0.3s							
UZB	**Uzynbulak**	**5.00**	**54**	*eP*		**Pg**	**02 24 56.9**	**-1.3**
	1.4nm,0.2s							
UZB				*eS*		**Sg**	**02 26 01.6**	**-1.3**
	2.1nm,0.5s							
UZB	**Uzynbulak**	**5.00**	**54**	Pg		**Pg**	**02 24 56.8**	**-1.3**
	5.3nm,0.5s							
UZB				Lg		Lg	02 26 01.8	
	1.9nm,0.5s							
ARXS	**Arharly**	**5.04**	**38**	*eP*		**Pg**	**02 24 58.4**	**-0.6**
	3.6nm,0.6s							
ARXS				*eS*		**Sg**	**02 26 04.0**	**-0.3**
	2.8nm,0.5s							
ARXS	**Arharly**	**5.04**	**38**	Pg		**Pg**	**02 24 58.4**	**-0.6**
	3.6nm,0.6s							
ARXS				Lg		Lg	02 26 04.0	
	2.8nm,0.5s							
MNBS	**Baschi**	**5.23**	**42**	*eP*		**Pg**	**02 25 01.8**	**-0.7**
	0.7nm,0.3s							
MNBS				*eS*		**Sg**	**02 26 09.3**	**-0.9**
	2.8nm,0.4s							
MNBS	**Baschi**	**5.23**	**42**	Pg		**Pg**	**02 25 01.9**	**-0.7**
	0.7nm,0.7s							
MNBS				Lg		Lg	02 26 09.6	
	2.6nm,0.4s							

*IDC **14** 02:35:13.0±0.8,59°.72S×29°.44W,h0km,mb4.1/6, mb1 4.2/6,mb1mx3.9/29,mbtmp4.1/6,MS3.4/6,Ms1 3.4/6, ms1mx3.2/18,Error ellipse: s-maj=31.5km s-min=25.3km az=54.0*

*NEIC **14** 02:35:18.2±1.5,59°.7S±0°.1×29°.5W±0°.1,h35km±7km, mb4.4/8,Error ellipse: s-maj=15.8km s-min=8.7km az=155.0*

ISC 14 02:35:15.9±0.7,**59°.7S**±0°.1×**29°.4W**±0°.1,**h18**km,**n26,**
σ0≤94/17,mb4.2/8,MS3.4/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.62**	**321**	Pn		**Pn**	**02 36 52.3**	**+0.2**
PMSA	**Palmer Station**	**16.77**	**238**	Pn		**Pn**	**02 39 08.3**	**-1.1**
BELA	**Belgrano 2**	**18.39**	**183**	P		**Pn**	**02 39 31.0**	**+1.5**
QSPA	**South Pole Qui**	**30.59**	**180**	P		**P**	**02 41 28.8**	**+0.5**
QSPA				IAmb		IAmb	02 41 37.7	
	comp=Z,6.5nm,1.2s							
PLCA	**Paso Flores**	**31.71**	**288**	LR		LR	02 53 14.9	
	comp=Z,70nm,18.9s,baz=169,slow=34							
MAW	**Mawson**	**38.01**	**142**	LR		LR	02 56 37.2	
	comp=Z,86nm,18.3s,baz=244,slow=34							
CPUP	**Villa Florida**	**38.48**	**318**	LR		LR	02 57 00.8	
	comp=Z,40nm,21.5s,baz=158,slow=34							
VNDA	**Vanda**	**42.90**	**184**	P		**P**	**02 43 12.1**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=180,slow=4.0,SNR=5.4							
VNDA	**Vanda**	**42.90**	**184**	IAmb		IAmb	02 43 14.1	
	comp=Z,2.5nm,1.4s							
BOSA	**Boshof**	**48.05**	**75**	P		**P**	**02 43 54.4**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=216,slow=8.7,SNR=3.2							
BOSA				LR		LR	03 00 22.8	
	comp=Z,40nm,19.1s,baz=194,slow=31							
BOSA	**Boshof**	**48.05**	**75**	IAmb		IAmb	02 44 01.1	
	comp=Z,17nm,1.4s							
SIV	**San Ignacio**	**49.33**	**318**	P		**P**	**02 44 03.7**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=168,slow=11,SNR=8.2							
MNMC	**Minye Minye**	**49.64**	**307**	P		**P**	**02 44 07.3**	**+0.9**
MNMC				IAmb		IAmb	02 44 09.9	
	comp=Z,7.2nm,0.7s							
LPAZ	**La Paz**	**51.63**	**310**	P		**P**	**02 44 22.9**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=144,slow=6.9,SNR=6.4							
LPAZ				LR		LR	03 06 54.5	
	comp=Z,16nm,21.4s,baz=124,slow=37							
LPAZ	**La Paz**	**51.63**	**310**	IAmb		IAmb	02 44 28.6	
	comp=Z,2.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.78**	**31**	P		**P**	**02 47 06.7**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=197,slow=6.2,SNR=5.9							
TORD	**Torodi Ar. Bea**	**76.78**	**31**	IAmb		IAmb	02 47 08.8	
	comp=Z,1.6nm,0.8s							
ASAR	**Alice Springs**	**95.87**	**165**	P		**P**	**02 48 41.0**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=182,slow=4.4,SNR=9.8							
FITZ	**Fitzroy Crossi**	**99.91**	**156**	LR		LR	03 29 53.6	
	comp=Z,37nm,19.4s,baz=52,slow=33							
YKA	**Yellowknife Ar**	**138.00**	**316**	PKhKP		PKPpre	02 54 33.9	
	comp=Z,0.5nm,0.8s,baz=123,slow=2.3,SNR=4.5							
MKAR	**Makanchi Array**	**139.03**	**77**	PKP		**PKPdf**	**02 54 38.0**	**-2.2**
	comp=Z,0.3nm,0.8s,baz=225,slow=1.8,SNR=3.1							
ZAA0	**Zalesovo Array**	**144.90**	**70**	PKPbc		**PKPab**	**02 54 49.0**	**-0.6**
ZALV	**Zalesovo Beam**	**144.90**	**70**	PKP		**PKPab**	**02 54 48.7**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=233,slow=4.4,SNR=7.0							
INK	**Inuvik**	**147.74**	**317**	PKPbc		**PKPbc**	**02 54 57.2**	**-0.4**
	comp=Z,4.3nm,0.8s,baz=106,slow=4.9,SNR=14							
BCAR	**Beaver Creek A**	**148.75**	**306**	PKPbc		**PKPbc**	**02 55 00.7**	**+0.2**
ILAR	**Eielson Array**	**151.48**	**307**	PKPbc		**PKPbc**	**02 55 06.5**	**-0.4**
	comp=Z,2.2nm,1.0s,baz=167,slow=2.0,SNR=14							

*BEO **14** 02:38:35.9±0.4,43°.04N×18°.24E,h7km±2km,ML3.1/11*
*KRSZO **14** 02:38:36.0±0.9,43°.06N×18°.32E,h6km±7km,ML3.7/22, Error ellipse: s-maj=2.8km s-min=2.5km az=124.0*
*PRU **14** 02:38:36.0±0.0,42°.90N×18°.53E,h5km*
*LDG **14** 02:38:36.0±0.1,43°.00N×18°.38E,h5km,Ml3.3/16,Error ellipse: s-maj=4.0km s-min=2.1km az=18.0*
*RHSSO **14** 02:38:36.8±0.2,43°.04N×18°.37E,h6km±2km,ML3.4/15*
*PDG **14** 02:38:36.3±0.5,43°.04N×18°.39E,h14km±1km,MD3.2/10, ML3.2/12,Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*
ISC 14 02:38:36.3±0.8,**43°.04N**±0°.01×**18°.35E**±0°.01,**h12**km±6km, **n220,σ2≤49/399,26C-17D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.20**	**134**	⇑*iPg*		**Pg**	**02 38 40.7**	**0.0**
BRY				*eSg*		**Sg**	**02 38 44.1**	**+0.3**
BRY	**Bratogost**	**0.20**	**134**	⇑*iPg*		**Pg**	**02 38 40.7**	**0.0**
BRY				*i Sg*		**Sg**	**02 38 43.9**	**+0.1**
BRY	**Bratogost**	**0.20**	**134**	Pg		**Pg**	**02 38 40.7**	**0.0**
BRY				Lg		Lg	02 38 44.1	
TREB	**Trebinje**	**0.32**	**179**	*ePg*		**Pg**	**02 38 42.8**	**0.0**
TREB				*eSg*		**Sb**	**02 38 48.4**	**-0.7**
TREB	**Trebinje**	**0.32**	**179**	⇑*iPg*		**Pg**	**02 38 42.8**	**0.0**
TREB				*eSg*		**Sb**	**02 38 48.5**	**-0.7**
TREB	**Trebinje**	**0.32**	**179**	Pg		**Pg**	**02 38 42.8**	**0.0**
TREB				Lg		Lg	02 38 48.4	
TREB				Lg		Lg	02 38 48.5	
DBRK	**Dubrovnik**	**0.40**	**202**	*i Pg*		**Pg**	**02 38 43.2**	**-1.0**
DBRK				Sg		**Sg**	**02 38 49.8**	**+0.3**
DBRK	**Dubrovnik**	**0.40**	**202**	Pg		**Pg**	**02 38 43.2**	**-1.0**
DBRK				Lg		Lg	02 38 49.8	
UPM	**Unac-Piva**	**0.44**	**68**	⇓*iPg*		**Pg**	**02 38 44.6**	**-0.5**
UPM				*eSg*		**Sb**	**02 38 51.2**	**-1.6**
UPM	**Unac-Piva**	**0.44**	**68**	⇑*iPg*		**Pg**	**02 38 44.3**	**-0.8**
UPM				*i Sg*		**Sg**	**02 38 51.1**	**+0.1**
UPM	**Unac-Piva**	**0.44**	**68**	Pg		**Pg**	**02 38 44.6**	**-0.5**
UPM				Lg		Lg	02 38 51.2	
STON	**Ston**	**0.50**	**251**	*i Pg*		**Pg**	**02 38 45.1**	**-1.0**
STON				Sg		**Sg**	**02 38 53.6**	**+0.8**
STON	**Ston**	**0.50**	**251**	Pg		**Pg**	**02 38 45.1**	**-1.0**
STON				Lg		Lg	02 38 53.6	
NKME	**Niksic**	**0.52**	**121**	⇑*iPg*		**Pg**	**02 38 45.7**	**-0.8**
NKME				*eSg*		**Sb**	**02 38 53.7**	**-1.3**
NKY	**Niksic**	**0.53**	**115**	⇑*iPg*		**Pg**	**02 38 45.8**	**-0.8**
NKY				*eSg*		**Sg**	**02 38 53.7**	**+0.1**
HCY	**Herceg Novi**	**0.60**	**169**	⇑*iPg*		**Pg**	**02 38 47.4**	**-0.6**
HCY				*eSg*		**Sb**	**02 38 57.0**	**-0.2**
HCY	**Herceg Novi**	**0.60**	**169**	⇑*iPg*		**Pg**	**02 38 47.4**	**-0.6**
HCY				*i Sg*		**Sb**	**02 38 57.4**	**+0.2**
HCY	**Herceg Novi**	**0.60**	**169**	Pg		**Pg**	**02 38 47.4**	**-0.6**
HCY				Lg		Lg	02 38 57.0	
CEME	**Cevo**	**0.65**	**139**	⇑*iPg*		**Pg**	**02 38 47.7**	**-1.2**
CEME				*i Sg*		**Sb**	**02 38 58.2**	**-0.4**
PLE	**Pljevlja**	**0.82**	**69**	⇓*iPg*		**Pg**	**02 38 51.3**	**-0.8**
PLE				*i Sg*		**Sb**	**02 39 03.2**	**-0.3**
BUM	**Brajici-Budva**	**0.84**	**151**	⇓*iPg*		**Pg**	**02 38 51.8**	**-0.8**
BUM				*i Sg*		**Sb**	**02 39 05.2**	**+1.0**
KOME	**Kolasin**	**0.88**	**102**	*ePg*		**Pg**	**02 38 52.9**	**-0.4**
PDG	**Podgorica**	**0.91**	**132**	*ePg*		**Pg**	**02 38 52.0**	**-1.8**
PDG				*eSg*		**Sb**	**02 39 06.6**	**+0.6**
PDG	**Podgorica**	**0.91**	**132**	⇓P		**Pg**	**02 38 52.1**	**-1.6**
PDG				⇑S		**Sb**	**02 39 06.5**	**+0.6**
PDG	**Podgorica**	**0.91**	**132**	⇑*iPg*		**Pg**	**02 38 52.2**	**-1.6**
PDG				*eSg*		**Sb**	**02 39 05.7**	**-0.2**
PDG	**Podgorica**	**0.91**	**132**	Pg		**Pg**	**02 38 52.0**	**-1.8**
PDG				Pb		**Pg**	**02 38 52.1**	**-1.6**
PDG				Pg		**Pg**	**02 38 52.2**	**-1.6**
PDG				Lg		Lg	02 39 05.7	
PDG				Sg		**Sb**	**02 39 06.5**	**+0.6**
PDG				Sg		**Sb**	**02 39 06.6**	**+0.6**
TTG	**Podgorica**	**0.91**	**132**	⇓*iPg*		**Pg**	**02 38 51.9**	**-1.8**
TTG				*i Sg*		**Sb**	**02 39 06.9**	**+1.0**
RUDO	**Rudo**	**0.94**	**52**	⇓*iPg*		**Pg**	**02 38 53.0**	**-1.5**
RUDO				*eSg*		**Sg**	**02 39 06.3**	**-0.6**
RUDO	**Rudo**	**0.94**	**52**	Pg		**Pg**	**02 38 53.0**	**-1.5**
RUDO				Lg		Lg	02 39 06.3	
RICI	**Ricice**	**0.99**	**298**	*i Pg*		**Pg**	**02 38 54.9**	**-0.6**
RICI				Sg		**Sn**	**02 39 10.7**	**+0.6**
RICI	**Ricice**	**0.99**	**298**	Pg		**Pg**	**02 38 54.9**	**-0.6**
RICI				Lg		Lg	02 39 10.7	
MAKA	**Makarska**	**1.00**	**285**	*i Pg*		**Pg**	**02 38 54.7**	**-0.8**
MAKA				Sg		**Sn**	**02 39 10.9**	**+0.7**
MAKA	**Makarska**	**1.00**	**285**	Pg		**Pg**	**02 38 54.7**	**-0.8**
MAKA				Lg		Lg	02 39 10.9	
BBLS	**Lazići**	**1.13**	**43**	*ePg*		**Pb**	**02 38 57.7**	**-0.1**
BBLS				*eSg*		**Sn**	**02 39 13.9**	**+0.4**
BBLS	**Lazići**	**1.13**	**43**	⇑*iPg*		**Pg**	**02 38 57.2**	**-0.9**
BBLS				*eSg*		**Sb**	**02 39 12.4**	**-0.1**
BBLS	**Lazići**	**1.13**	**43**	Pg		**Pg**	**02 38 57.2**	**-0.9**
BBLS				Pb		**Pb**	**02 38 57.7**	**-0.1**
BBLS				Pn		**Pn**	**02 38 58.3**	**+0.3**
	comp=Z,11nm,SNR=44							
BBLS				Lg		Lg	02 39 12.4	
BBLS				Sg		**Sn**	**02 39 13.9**	**+0.4**
BBLS				Sn		**Sb**	**02 39 14.9**	**+2.4**
HAPS	**Han Pijesak,Bl**	**1.14**	**23**	⇑*iPg*		**Pg**	**02 38 56.9**	**-1.3**
HAPS				*eSg*		**Sg**	**02 39 12.4**	**-0.5**
HAPS	**Han Pijesak,Bl**	**1.14**	**23**	Pn		**Pg**	**02 38 56.9**	**-1.3**
HAPS				Pg		**Pb**	**02 38 57.2**	**-0.7**
HAPS				Lg		Lg	02 39 12.4	
HAPS				Sg		**Sn**	**02 39 13.6**	**-0.1**

IVA	**Berane**	**1.15**	**98**	⇑*iPg*		**Pg**	**02 38 57.1**	**-1.3**
IVA				*eSg*		**Sn**	**02 39 14.6**	**+0.6**
ULC	**Ulcinj**	**1.26**	**148**	⇓*iPg*		**Pg**	**02 38 59.4**	**-1.2**
ULC				*eSg*		**Sn**	**02 39 19.4**	**+2.7**
PVY	**Plav**	**1.27**	**110**	⇓*iPg*		**Pg**	**02 38 59.4**	**-1.3**
PVY				*eSg*		**Sn**	**02 39 18.6**	**+1.6**
HVAR	**Hvar**	**1.40**	**276**	*ePn*		**Pn**	**02 39 02.3**	**+0.7**
HVAR				Sn		**Sg**	**02 39 22.4**	**+1.1**
HVAR	**Hvar**	**1.40**	**276**	Pn		**Pn**	**02 39 02.3**	**+0.7**
HVAR				Sn		**Sg**	**02 39 22.4**	**+1.1**
IVAS	**Ivanjica**	**1.42**	**67**	*ePg*		**Pn**	**02 39 02.0**	**0.0**
IVAS				*eSg*		**Sg**	**02 39 22.9**	**+0.8**
IVAS	**Ivanjica**	**1.42**	**67**	Pn		**Pn**	**02 39 02.0**	**0.0**
IVAS				Lg		Lg	02 39 22.9	
DIVS	**Divibare**	**1.60**	**48**	*ePg*		**Pn**	**02 39 04.5**	**+0.1**
DIVS				*eSg*		**Sg**	**02 39 29.3**	**+1.6**
DIVS	**Divibare**	**1.60**	**48**	⇑*iPn*		**Pn**	**02 39 04.5**	**+0.1**
DIVS				*eSn*		**Sg**	**02 39 26.4**	**-1.3**
DIVS	**Divibare**	**1.60**	**48**	Pg		**Pn**	**02 39 04.5**	**+0.1**
DIVS				Pn		**Pb**	**02 39 05.0**	**-0.8**
	comp=Z,1.0nm,SNR=18							
DIVS				Sn		**Sg**	**02 39 26.4**	**-1.3**
DIVS				Lg		Lg	02 39 27.6	
DIVS				Sg		**Sg**	**02 39 29.3**	**+1.6**
MGRS	**Mrkonjic Grad**	**1.65**	**327**	⇑*iPn*		**Pn**	**02 39 06.0**	**+0.8**
MGRS				*eSn*		**Sn**	**02 39 27.7**	**+1.4**
MGRS	**Mrkonjic Grad**	**1.65**	**327**	Pn		**Pn**	**02 39 06.0**	**+0.8**
MGRS				Sn		**Sn**	**02 39 27.7**	**+1.4**
KIJV	**Kijevo**	**1.71**	**305**	*i Pn*		**Pb**	**02 39 08.3**	**+0.7**
KIJV				Sn		**Sg**	**02 39 32.4**	**+1.1**
KIJV	**Kijevo**	**1.71**	**305**	Pn		**Pb**	**02 39 08.3**	**+0.7**
KIJV				Lg		Lg	02 39 32.4	
TEKS	**Tekeris**	**1.73**	**29**	*ePn*		**Pn**	**02 39 06.4**	**+0.1**
TEKS				*eSn*		**Sg**	**02 39 31.3**	**-0.8**
TEKS	**Tekeris**	**1.73**	**29**	*ePn*		**Pn**	**02 39 07.0**	**+0.7**
TEKS				*eSn*		**Sb**	**02 39 30.0**	**+0.1**
TEKS	**Tekeris**	**1.73**	**29**	Pn		**Pn**	**02 39 06.4**	**+0.1**
TEKS				Pg		**Pn**	**02 39 07.0**	**+0.7**
TEKS				Sn		**Sb**	**02 39 30.0**	**+0.1**
TEKS				Lg		Lg	02 39 31.3	
BLY	**Banja Luka**	**1.90**	**334**	*ePn*		**Pn**	**02 39 09.2**	**+0.6**
BLY				*eSn*		**Sn**	**02 39 33.2**	**+0.7**
BLY	**Banja Luka**	**1.90**	**334**	⇑*iPn*		**Pn**	**02 39 09.8**	**+1.2**
BLY				*eSn*		**Sb**	**02 39 34.5**	**-0.2**
BLY	**Banja Luka**	**1.90**	**334**	Pn		**Pn**	**02 39 09.2**	**+0.6**
BLY				Pg		**Pn**	**02 39 09.8**	**+1.2**
BLY				Pn		**Pg**	**02 39 10.8**	**-2.0**
	comp=Z,0.8nm,SNR=22							
BLY				Sn		**Sn**	**02 39 33.2**	**+0.7**
BLY				Lg		Lg	02 39 34.5	
BLY				Sn		**Sg**	**02 39 37.1**	**-0.4**
TRUS	**Trudelj**	**1.91**	**51**	*ePn*		**Pn**	**02 39 08.5**	**-0.1**
TRUS				*eSn*		**Sb**	**02 39 34.7**	**-0.1**
TRUS	**Trudelj**	**1.91**	**51**	Pn		**Pn**	**02 39 08.5**	**-0.1**
TRUS				Sn		**Sb**	**02 39 34.7**	**-0.1**
GRUS	**Gruza**	**1.92**	**63**	*ePn*		**Pn**	**02 39 09.7**	**+0.9**
GRUS				*eSn*		**Sb**	**02 39 35.3**	**+0.1**
GRUS	**Gruza**	**1.92**	**63**	Pn		**Pn**	**02 39 09.7**	**+0.9**
GRUS				Sn		**Sb**	**02 39 35.3**	**+0.1**
TIR	**Tirane**	**2.03**	**146**	Pg		**Pg**	**02 39 14.7**	**-0.5**
TIR				Sn		**Sg**	**02 39 40.8**	**-0.9**
ZIRJ	**Zirje**	**2.06**	**288**	*ePn*		**Pn**	**02 39 13.1**	**-0.6**
ZIRJ				Sn		**Sb**	**02 39 40.1**	**+0.9**
ZIRJ	**Zirje**	**2.06**	**288**	Pn		**Pn**	**02 39 13.1**	**-0.6**
ZIRJ				Sn		**Sb**	**02 39 40.1**	**+0.9**
MORI	**Morici**	**2.09**	**294**	*ePn*		**Pb**	**02 39 14.0**	**-0.1**
MORI				Sn		**Sg**	**02 39 42.5**	**-1.0**
MORI	**Morici**	**2.09**	**294**	Pn		**Pb**	**02 39 14.0**	**-0.1**
MORI				Sn		**Sg**	**02 39 42.5**	**-1.0**
MRAK	**Mrakovica**	**2.23**	**333**	*ePn*		**Pn**	**02 39 14.5**	**+1.4**
MRAK				*eSn*		**Sn**	**02 39 41.8**	**+1.1**
MRAK	**Mrakovica**	**2.23**	**333**	Pn		**Pn**	**02 39 14.5**	**+1.4**
MRAK				Sn		**Sn**

BZS	**Buzias**	**3.48**	**41**	⇑P	**Pn**	**02 39 30.0 -0.3**
BZS	**Buzias**	**3.48**	**41**	Pg	**Pn**	**02 39 29.6 -0.7**
BZS				Pn	Pb	02 39 30.0 -7.9
BZS				Sn	**Sn**	**02 40 09.3 -2.1**
RIY	**Rijeka**	**3.60**	**311**	*e*Pn	**Pn**	**02 39 35.3 +3.5**
RIY	**Rijeka**	**3.60**	**311**	Pn	**Pn**	**02 39 35.3 +3.5**
BEHE	**Becsehely**	**3.61**	**342**	⇑*i*Pn	**Pn**	**02 39 33.7 +1.7**
BEHE				*e*Sn	**Sn**	**02 40 15.3 +0.8**
BEHE	**Becsehely**	**3.61**	**342**	Pn	**Pn**	**02 39 33.7 +1.7**
BEHE				Pg	**Pb**	**02 39 35.5 -4.5**
BEHE				Sn	**Sn**	**02 40 15.3 +0.8**
VTS	**Vitosha**	**3.62**	**95**	⇓P	**Pn**	**02 39 32.9 +0.6**
VTS				⇓S	**Sn**	**02 40 17.4 +2.3**
VTS	**Vitosha**	**3.62**	**95**	Pn	**Pn**	**02 39 32.9 +0.6**
VTS				Pn	Pb	02 39 34.7 -5.7
	comp=Z,0.1nm,SNR=2.8					
VTS				Sn	**Sn**	**02 40 17.4 +2.3**
VTS				Sn	**Sb**	**02 40 17.6 -6.6**
AQU	**L'Aquila**	**3.71**	**261**	⇑*i*Pn	**Pn**	**02 39 34.6 +1.2**
AQU				*e*Sn	**Sn**	**02 40 18.4 +1.3**
AQU	**L'Aquila**	**3.71**	**261**	Pn	**Pn**	**02 39 34.6 +1.2**
AQU				Pg	Pb	02 39 34.8 -6.9
	comp=Z,0.2nm,SNR=3.6					
AQU				Sn	**Sn**	**02 40 18.4 +1.3**
AMBH	**Ambrzfalva**	**3.72**	**26**	Pn	**Pn**	**02 39 35.9 +2.4**
	comp=Z,0.2nm,SNR=2.4					
VISS	**Visnje**	**3.73**	**319**	*i* Pn	**Pn**	**02 39 36.3 +2.6**
VISS	**Visnje**	**3.73**	**319**	Pn	**Pn**	**02 39 36.3 +2.6**
TIH	**Tihany**	**3.87**	**355**	Pn	**Pn**	**02 39 36.3 +0.7**
	comp=Z,0.7nm,SNR=5.0					
CEY	**Cerknica**	**3.90**	**315**	*e*Pn	**Pn**	**02 39 37.1 +1.1**
CEY				*e*Sn	**Sn**	**02 40 22.0 +0.4**
CEY	**Cerknica**	**3.90**	**315**	Pn	**Pn**	**02 39 37.1 +1.1**
CEY				Sn	**Sn**	**02 40 22.0 +0.4**
GZR	**Gura Zlata**	**3.96**	**52**	⇑P	**Pn**	**02 39 36.7 -0.2**
GZR				⇑S	**Sn**	**02 40 23.2 -0.1**
GZR	**Gura Zlata**	**3.96**	**52**	Pn	**Pn**	**02 39 36.8 -0.2**
	comp=Z,0.1nm,SNR=1.9					
GZR				Sn	**Sn**	**02 40 23.2 -0.1**
SIRR	**Siria**	**4.00**	**35**	⇓P	**Pn**	**02 39 37.1 -0.4**
SIRR	**Siria**	**4.00**	**35**	Pn	**Pn**	**02 39 36.9 -0.5**
SIRR				Pg	Pb	02 39 37.1 -10
LJU	**Ljubljana**	**4.06**	**319**	*e*Pn	**Pn**	**02 39 39.6 +1.4**
LJU				*e*Sn	**Sn**	**02 40 25.9 +0.3**
LJU	**Ljubljana**	**4.06**	**319**	Pn	**Pn**	**02 39 39.6 +1.4**
LJU				Sn	**Sn**	**02 40 25.9 +0.3**
MPLH	**Magyarpolny**	**4.17**	**352**	Pn	**Pn**	**02 39 40.9 +1.2**
	comp=Z,0.1nm,SNR=4.2					
MPLH				Sn	**Sn**	**02 40 31.2 +2.8**
JAVS	**Javornik**	**4.19**	**314**	*i* Pn	**Pn**	**02 39 42.5 +2.5**
JAVS	**Javornik**	**4.19**	**314**	Pn	**Pn**	**02 39 42.5 +2.5**
TRI	**Trieste**	**4.23**	**311**	Pn	**Pn**	**02 39 42.9 +2.4**
	comp=Z,0.3nm,SNR=4.8					
TRI				Sn	**Sn**	**02 40 32.5 +2.7**
CSKK	**Cskako**	**4.32**	**359**	Pn	**Pn**	**02 39 43.3 +1.5**
	comp=Z,0.1nm,SNR=5.5					
SOKA	**Soboth**	**4.33**	**328**	*i* Pn	**Pn**	**02 39 43.4 +1.4**
	comp=Z,6.6nm,0.2s,SNR=29					
SOKA				*i* Sn	**Sn**	**02 40 34.5 +2.0**
	comp=Z,26nm,0.9s					
SOKA	**Soboth**	**4.33**	**328**	Pn	**Pn**	**02 39 43.4 +1.4**
	comp=Z,6.6nm,0.2s,SNR=29					
SOKA				Sn	**Sn**	**02 40 34.5 +2.0**
	comp=Z,26nm,0.9s					
OBKA	**Obir**	**4.40**	**323**	*i* Pn	**Pn**	**02 39 45.7 +2.7**
	comp=Z,2.2nm,0.2s,SNR=6.4					
OBKA				*i* Sn	**Sn**	**02 40 37.5 +3.4**
	comp=Z,28nm,0.5s					
OBKA	**Obir**	**4.40**	**323**	Pg	**Pn**	**02 39 45.1 +2.2**
	comp=Z,0.2nm,SNR=3.1					
OBKA				Pn	Pb	02 39 45.7 -7.8
	comp=Z,2.2nm,0.2s,SNR=6.4					
OBKA				Sn	**Sn**	**02 40 37.5 +3.4**
	comp=Z,28nm,0.5s					
EGYH	**Egyhazaskeszo**	**4.44**	**351**	Pn	**Pn**	**02 39 41.2 -2.2**
BSZH	**Besenyszg**	**4.47**	**17**	Pn	**Pn**	**02 39 45.7 +1.9**
	comp=Z,0.1nm,SNR=3.2					
ARSA	**Arzberg**	**4.66**	**336**	*e*Pn	**Pn**	**02 39 47.9 +1.4**
	comp=Z,7.1nm,0.4s,SNR=7.9					
ARSA				*e*Sn	**Sn**	**02 40 44.6 +4.1**
	comp=Z,9.5nm,0.6s					
ARSA	**Arzberg**	**4.66**	**336**	Pg	**Pn**	**02 39 47.9 +1.4**
	comp=Z,7.1nm,0.4s,SNR=7.9					
ARSA				Pn	Pb	02 39 49.2 -8.8
	comp=Z,0.1nm,SNR=1.9					
ARSA				Sn	**Sn**	**02 40 44.6 +4.1**
	comp=Z,9.5nm,0.6s					
DRGR		**4.87**	**38**	⇑P	**Pn**	**02 39 49.3 0.0**
DRGR				⇑S	**Sn**	**02 40 44.7 -0.9**
DRGR		**4.87**	**38**	Pn	**Pn**	**02 39 49.3 0.0**
DRGR				Pg	Pb	02 39 52.8 -8.7
DRGR				Sn	**Sn**	**02 40 44.7 -0.9**
MYKA	**Terra Mystica**	**4.91**	**319**	*i* Pn	**Pn**	**02 39 52.6 +2.7**
	comp=Z,7.7nm,0.4s,SNR=4.7					
MYKA				*i* Sn	**Sn**	**02 40 50.7 +4.1**
	comp=Z,3.2nm,0.4s					
MYKA	**Terra Mystica**	**4.91**	**319**	Pn	**Pn**	**02 39 52.6 +2.7**
	comp=Z,7.7nm,0.4s,SNR=4.7					
MYKA				Sn	**Sn**	**02 40 50.7 +4.1**
	comp=Z,3.2nm,0.4s					
PSZ	**Piszkesteto**	**5.00**	**12**	Pn	**Pn**	**02 39 50.8 -0.4**
CONA	**Conrad Observa**	**5.19**	**341**	*i* Pn	**Pn**	**02 39 56.2 +2.4**
	comp=Z,0.5nm,0.2s					
CONA				*e*Sn	**Sn**	**02 40 57.2 +3.5**
	comp=Z,3.3nm,0.4s					
CONA	**Conrad Observa**	**5.19**	**341**	Pn	**Pn**	**02 39 56.2 +2.4**
	comp=Z,0.5nm,0.2s					
CONA				Sn	**Sn**	**02 40 57.2 +3.5**
	comp=Z,3.3nm,0.4s					
KBA	**Koelnbreinsper**	**5.37**	**320**	*e*Pn	**Pn**	**02 39 59.0 +2.6**
	comp=Z,3.1nm,0.3s,SNR=12					
KBA				*i* Sn	**Sn**	**02 41 01.8 +3.6**
	comp=Z,11nm,0.7s					
KBA	**Koelnbreinsper**	**5.37**	**320**	Pn	**Pn**	**02 39 59.0 +2.6**
	comp=Z,3.1nm,0.3s,SNR=12					
KBA				Sn	**Sn**	**02 41 01.8 +3.6**
	comp=Z,11nm,0.7s					
MODS	**Modra-Piesok**	**5.39**	**352**	*e*PN	**Pn**	**02 40 00.1 +3.7**
MODS				*e*PG	**Pg**	**02 40 21.9 +2.5**
MODS				*e*SN	**Sn**	**02 40 59.8 +1.4**
MODS	**Modra-Piesok**	**5.39**	**352**	Pn	**Pn**	**02 40 00.1 +3.7**
MODS				Pg	**Pg**	**02 40 21.9 +2.5**
MODS				Sn	**Sn**	**02 40 59.8 +1.4**
VYHS	**Vyhne**	**5.47**	**3**	*e*PN	Pn	02 40 03.2 +5.7
VYHS				*e*SN	**Sn**	**02 41 00.1 -0.2**
VYHS	**Vyhne**	**5.47**	**3**	Pn	Pn	02 40 03.2 +5.7
VYHS				Sn	**Sn**	**02 41 00.1 -0.2**
KOLL	**Kolacno**	**5.54**	**0**	*e*PN	**Pn**	**02 40 00.7 +2.2**
KOLL				*e*SN	**Sn**	**02 40 59.4 -2.7**
KOLL	**Kolacno**	**5.54**	**0**	Pn	**Pn**	**02 40 00.7 +2.2**
KOLL				Sn	**Sn**	**02 40 59.4 -2.7**
ABTA	**Abfaltersbach**	**5.56**	**314**	*i* Pn	**Pn**	**02 40 01.0 +2.1**
	comp=Z,3.4nm,0.3s,SNR=13					
ABTA				*e*Sn	**Sn**	**02 41 05.4 +2.7**
	comp=Z,7.3nm,0.5s					
ABTA	**Abfaltersbach**	**5.56**	**314**	Pn	**Pn**	**02 40 01.0 +2.1**
	comp=Z,3.4nm,0.3s,SNR=13					
ABTA				Sn	**Sn**	**02 41 05.4 +2.7**
	comp=Z,7.3nm,0.5s					
MOA	**Molln**	**5.60**	**331**	*i* Pn	**Pn**	**02 40 02.5 +3.2**
	comp=Z,4.0nm,0.4s,SNR=9.1					
MOA				*e*Sn	**Sn**	**02 41 07.6 +4.0**
	comp=Z,29nm,0.7s					
MOA	**Molln**	**5.60**	**331**	Pn	**Pn**	**02 40 02.5 +3.2**
	comp=Z,4.0nm,0.4s,SNR=9.1					
MOA				Sn	**Sn**	**02 41 07.6 +4.0**
	comp=Z,29nm,0.7s					
WTTA	**Wattenberg**	**6.35**	**314**	*i* Pn	**Pn**	**02 40 13.0 +3.1**
	comp=Z,4.4nm,0.3s,SNR=15					
WTTA				*i* Sn	**Sn**	**02 41 24.8 +2.4**
	comp=Z,20nm,0.6s					
WTTA	**Wattenberg**	**6.35**	**314**	Pn	**Pn**	**02 40 13.0 +3.1**
	comp=Z,4.4nm,0.3s,SNR=15					
WTTA				Sn	**Sn**	**02 41 24.8 +2.4**
	comp=Z,20nm,0.6s					
WATA	**Walderalm**	**6.43**	**314**	*i* Pn	**Pn**	**02 40 14.2 +3.3**
	comp=Z,3.4nm,0.2s,SNR=8.2					
WATA				*e*Sn	**Sn**	**02 41 26.8 +2.7**
	comp=Z,5.8nm,0.3s					
WATA	**Walderalm**	**6.43**	**314**	Pn	**Pn**	**02 40 14.2 +3.3**
	comp=Z,3.4nm,0.2s,SNR=8.2					
WATA				Sn	**Sn**	**02 41 26.8 +2.7**
	comp=Z,5.8nm,0.3s					
CKRC	**Cesky Krumlov**	**6.43**	**335**	*e*PN	**Pn**	**02 40 13.8 +3.0**
CKRC	**Cesky Krumlov**	**6.43**	**335**	Pn	**Pn**	**02 40 13.8 +3.0**
SQTA	**Sankt Quirin**	**6.55**	**312**	*i* Pn	**Pn**	**02 40 15.4 +2.8**
	comp=Z,2.3nm,0.2s,SNR=7.0					
SQTA				*e*Sn	**Sn**	**02 41 31.2 +3.9**
	comp=Z,12nm,0.6s					
SQTA	**Sankt Quirin**	**6.55**	**312**	Pn	**Pn**	**02 40 15.4 +2.8**
	comp=Z,2.3nm,0.2s,SNR=7.0					
SQTA				Sn	**Sn**	**02 41 31.2 +3.9**
	comp=Z,12nm,0.6s					
MOTA	**Moosalm**	**6.69**	**313**	*i* Pn	**Pn**	**02 40 17.3 +2.9**
	comp=Z,7.2nm,0.4s					
MOTA				*i* Sn	**Sn**	**02 41 32.7 +2.2**
	comp=Z,5.5nm,0.4s					
MOTA	**Moosalm**	**6.69**	**313**	Pn	**Pn**	**02 40 17.3 +2.9**
	comp=Z,7.2nm,0.4s					
MOTA				Sn	**Sn**	**02 41 32.7 +2.2**
	comp=Z,5.5nm,0.4s					
FETA	**Feichten**	**6.70**	**309**	*i* Pn	**Pn**	**02 40 18.3 +3.7**
	comp=Z,0.7nm,0.2s					
FETA				*i* Sn	**Sn**	**02 41 33.0 +2.0**
	comp=Z,2.0nm,0.3s					
FETA	**Feichten**	**6.70**	**309**	Pn	**Pn**	**02 40 18.3 +3.7**
	comp=Z,0.7nm,0.2s					
FETA				Sn	**Sn**	**02 41 33.0 +2.0**
	comp=Z,2.0nm,0.3s					
PGF	**Pioggiola**	**6.89**	**269**	*e*Pn	**Pn**	**02 40 16.0 -1.2**
PGF				*e*Sn	**Sn**	**02 41 30.0 -5.6**
	comp=Z,0.8nm,0.4s					
PGF	**Pioggiola**	**6.89**	**269**	Pn	**Pn**	**02 40 16.0 -1.2**
PGF				Sn	**Sn**	**02 41 30.0 -5.6**
	comp=Z,0.4nm,0.4s					
KHC	**Kasperske Hory**	**6.93**	**333**	*e*PN	**Pn**	**02 40 19.5 +1.8**
KHC				*ex*	x	02 40 27.5
KHC				*e*SN	**Sn**	**02 41 37.0 +0.5**
KHC	**Kasperske Hory**	**6.93**	**333**	Pn	**Pn**	**02 40 19.5 +1.8**
KHC				x	x	02 40 27.5
KHC				Sn	**Sn**	**02 41 37.0 +0.5**
RETA	**Reutte**	**6.96**	**312**	*i* Pn	**Pn**	**02 40 21.5 +3.4**
	comp=Z,0.9nm,0.2s					
RETA				*i* Sn	**Sn**	**02 41 39.7 +2.6**
	comp=Z,4.4nm,0.3s					
RETA	**Reutte**	**6.96**	**312**	Pn	**Pn**	**02 40 21.5 +3.4**
	comp=Z,0.9nm,0.2s					
RETA				Sn	**Sn**	**02 41 39.7 +2.6**
	comp=Z,4.4nm,0.3s					
DAVA	**Damuels**	**7.33**	**308**	*i* Pn	**Pn**	**02 40 26.9 +3.6**
	comp=Z,0.8nm,0.2s					
DAVA				*e*Sn	**Sn**	**02 41 49.7 +3.1**
	comp=Z,3.7nm,0.4s					
DAVA	**Damuels**	**7.33**	**308**	Pn	**Pn**	**02 40 26.9 +3.6**
	comp=Z,0.8nm,0.2s					
DAVA				Sn	**Sn**	**02 41 49.7 +3.1**
	comp=Z,3.7nm,0.4s					
SBF	**Sospel**	**7.98**	**280**	*e*Pn	**Pn**	**02 40 31.1 -1.0**
SBF				*e*Sn	**Sn**	**02 41 56.1 -6.2**
	comp=Z,29nm,0.9s					
SBF				*e*Sg	**Sg**	**02 42 45.3 -7.0**
SBF	**Sospel**	**7.98**	**280**	Pn	**Pn**	**02 40 31.1 -1.0**
SBF				Sn	**Sn**	**02 41 56.1 -6.2**
	comp=Z,14nm,0.9s					
SBF				Lg	Lg	02 42 45.3
MBDF	**Montbardon**	**8.53**	**285**	*e*Pn	**Pn**	**02 40 38.1 -1.6**
MBDF				*e*Sn	**Sn**	**02 42 09.7 -6.2**
	comp=Z,12nm,1.0s					
MBDF	**Montbardon**	**8.53**	**285**	Pn	**Pn**	**02 40 38.1 -1.6**
MBDF				Sn	**Sn**	**02 42 09.7 -6.2**
	comp=Z,5.8nm,1.0s					
FRF	**La Foret Royal**	**8.55**	**277**	*e*Pn	**Pn**	**02 40 39.5 -0.3**
FRF				*e*Sn	**Sn**	**02 42 09.1 -7.1**
	comp=Z,0.4nm,0.2s					
FRF	**La Foret Royal**	**8.55**	**277**	Pn	**Pn**	**02 40 39.5 -0.3**
FRF				Sn	**Sn**	**02 42 09.1 -7.1**
	comp=Z,0.2nm,0.2s					
LMR	**La Mourre**	**8.65**	**276**	*e*Pn	**Pn**	**02 40 39.3 -2.0**
LMR				*e*Sn	**Sn**	**02 42 11.8 -7.0**
	comp=Z,0.7nm,0.3s					
LMR	**La Mourre**	**8.65**	**276**	Pn	**Pn**	**02 40 39.3 -2.0**
LMR				Sn	**Sn**	**02 42 11.8 -7.0**
	comp=Z,0.3nm,0.3s					
LPG	**La Plagne**	**8.68**	**290**	*e*Pn	**Pn**	**02 40 40.0 -1.8**
LPG				*e*Sn	**Sn**	**02 42 12.4 -7.3**
	comp=Z,18nm,0.9s					
LPG	**La Plagne**	**8.68**	**290**	Pn	**Pn**	**02 40 40.0 -1.8**
LPG				Sn	**Sn**	**02 42 12.4 -7.3**
	comp=Z,8.8nm,0.9s					
LPL	**La Plagne**	**8.69**	**291**	*e*Pn	**Pn**	**02 40 40.8 -1.2**
LPL				*e*Sn	**Sn**	**02 42 13.1 -6.9**
	comp=Z,14nm,0.8s					
LPL	**La Plagne**	**8.69**	**291**	Pn	**Pn**	**02 40 40.8 -1.2**
LPL				Sn	**Sn**	**02 42 13.1 -6.9**
	comp=Z,6.8nm,0.8s					
ORIF	**Oris-en-Rattie**	**9.18**	**286**	*e*Pn	**Pn**	**02 40 48.3 -0.3**
ORIF				*e*Sn	**Sn**	**02 42 24.5 -7.4**
	comp=Z,1.6nm,0.4s					
ORIF	**Oris-en-Rattie**	**9.18**	**286**	Pn	**Pn**	**02 40 48.3 -0.3**
ORIF				Sn	**Sn**	**02 42 24.5 -7.4**
	comp=Z,0.8nm,0.4s					
HINF	**Hinteralfeld**	**9.38**	**305**	*e*P	**Pn**	**02 40 55.0 +3.7**
HINF				*e*Sn	**Sn**	**02 42 29.6 -7.1**
	comp=Z,5.5nm,0.7s					
HINF	**Hinteralfeld**	**9.38**	**305**	Pn	**Pn**	**02 40 55.0 +3.7**
HINF				Sn	**Sn**	**02 42 29.6 -7.1**
	comp=Z,2.8nm,0.7s					
CABF	**La Chapelle**	**9.41**	**297**	*e*Pn	**Pn**	**02 40 52.0 +0.3**
CABF				*e*Sn	**Sn**	**02 42 31.0 -6.5**
	comp=Z,0.8nm,0.4s					
CABF	**La Chapelle**	**9.41**	**297**	Pn	**Pn**	**02 40 52.0 +0.3**
CABF				Sn	**Sn**	**02 42 31.0 -6.5**
	comp=Z,0.4nm,0.4s					
CDF	**Champ du Feu**	**9.42**	**309**	*e*Pn	**Pn**	**02 40 49.7 -2.1**
CDF	**Champ du Feu**	**9.42**	**309**	Pn	**Pn**	**02 40 49.7 -2.1**
HAU	**Haudompre**	**9.77**	**305**	*e*Pn	**Pn**	**02 40 55.1 -1.5**
HAU				*e*Sn	**Sn**	**02 42 39.1 -7.1**
	comp=Z,10nm,0.8s					
HAU				*e*S		02 42 53.6
HAU	**Haudompre**	**9.77**	**305**	Pn	**Pn**	**02 40 55.1 -1.5**
HAU				Sn	**Sn**	**02 42 39.1 -7.1**
	comp=Z,5.2nm,0.8s					
HAU				Lg	Lg	02 42 53.6
VIVF	**Saint-Julien-l**	**10.03**	**285**	*e*Pn	**Pn**	**02 40 57.9 -2.2**
VIVF	**Saint-Julien-l**	**10.03**	**285**	Pn	**Pn**	**02 40 57.9 -2.2**
LASF	**Ste Croix**	**10.57**	**281**	*e*P	**Pn**	**02 41 12.2 +4.7**
LASF	**Ste Croix**	**10.57**	**281**	Pn	**Pn**	**02 41 12.2 +4.7**
SMF	**Signal de Mont**	**10.91**	**294**	*e*Pn	**Pn**	**02 41 10.0 -2.2**
SMF	**Signal de Mont**	**10.91**	**294**	*e*P	**Pn**	**02 41 16.2 +4.0**
SMF				*e*Sn	**Sn**	**02 43 06.9 -7.2**
	comp=Z,1.8nm,0.3s					
SMF	**Signal de Mont**	**10.91**	**294**	Pn	**Pn**	**02 41 10.0 -2.2**
SMF				Pg		02 41 16.2
SMF				Sn	**Sn**	**02 43 06.9 -7.2**
	comp=Z,0.9nm,0.3s					
LOR	**Lormes**	**11.07**	**297**	*e*Pn	**Pn**	**02 41 12.9 -1.4**
LOR				*e*Sn	Sn	02 43 09.5 -8.5
	comp=Z,1.0nm,0.4s					
LOR	**Lormes**	**11.07**	**297**	Pn	**Pn**	**02 41 12.9 -1.4**
LOR				Sn	Sn	02 43 09.5 -8.5
	comp=Z,0.5nm,0.4s					
ZKR	**Zakros**	**0.80**	**337**	P	**Pb**	**02 55 25.7 -1.5**
ZKR				S	**Sb**	**02 55 35.8 -1.7**
	comp=E,6μm,0.6s					
ZKR	**Zakros**	**0.80**	**337**	PG	**Pb**	**02 55 25.6 -1.6**
ZKR	**Zakros**	**0.80**	**337**	P	**Pb**	**02 55 25.6 -1.6**
ZKR				AML	AML	02 55 46.6
	comp=E,16nm,0.8s					
ZKR				AML	AML	02 55 46.6
	comp=E,6.2nm,0.5s					
FRMA	**Ierapetra Chan**	**0.95**	**312**	P	**Pb**	**02 55 27.5 -2.3**
FRMA				S	**Sb**	**02 55 40.1 -1.9**
	comp=E,3μm,0.8s					
NPS	**Neapolis**	**1.20**	**318**	P	**Pn**	**02 55 32.8 -0.7**
NPS				S	**Sb**	**02 55 48.1 -0.9**
NPS				AML	AML	02 55 56.4
	comp=E,6458μm,0.6s					
NPS				AML	AML	02 55 57.8
	comp=N,4078μm,0.5s					
NPS	**Neapolis**	**1.20**	**318**	P	**Pn**	**02 55 33.3 -0.2**
NPS				S	**Sn**	**02 55 49.9 +0.7**
	comp=N,3μm,0.5s					
LAST	**Lasithi**	**1.21**	**311**	P	**Pn**	**02 55 32.9 -0.9**
LAST				S	**Sb**	**02 55 48.9 -0.5**
LAST				AML	AML	02 55 54.5
	comp=E,4615μm,0.7s					
LAST				AML	AML	02 55 56.0
	comp=N,3208μm,0.5s					
LAST	**Lasithi**	**1.21**	**311**	P	**Pn**	**02 55 33.3 -0.4**
LAST				S	**Sn**	**02 55 50.1 +0.6**
KARP	**Karpathos**	**1.25**	**22**	P	**Pb**	**02 55 35.6 +0.6**
KARP				S	**Sb**	**02 55 50.9 +0.2**
KARP				AML	AML	02 56 08.7
	comp=E,2704μm,0.8s					
KARP				AML	AML	02 56 10.1
	comp=N,3125μm,0.8s					
KARP	**Karpathos**	**1.25**	**22**	PN	**Pb**	**02 55 35.8 +0.8**
KARP	**Karpathos**	**1.25**	**22**	Pn	**Pb**	**02 55 35.5 +0.5**
KARP	**Karpathos**	**1.25**	**22**	⇑P	**Pb**	**02 55 36.1 +1.1**
KARP				AML	AML	02 56 02.4
	comp=N,3.6nm,0.9s					
KARP				AML	AML	02 56 11.9
	comp=N,3.3nm,1.1s					
KSTL	**Kastelli Herak**	**1.56**	**307**	P	**Pn**	**02 55 35.6 -2.9**
KSTL				S	**Sn**	**02 55 54.0 -4.0**
SIVA	**Sivas**	**1.60**	**294**	P	**Pn**	**02 55 39.4 +0.3**
SIVA				S	**Sn**	**02 55 59.7 +0.5**
SIVA				AML	AML	02 56 18.0
	comp=N,4170μm,0.6s					
SIVA				AML	AML	02 56 19.1
	comp=E,6984μm,0.6s					
SIVA	**Sivas**	**1.60**	**294**	P	**Pb**	**02 55 40.5 -0.4**
TMBK	**Timbaki Herakl**	**1.66**	**295**	P	**Pb**	**02 55 41.5 -0.3**
IDI	**Anoyia**	**1.67**	**303**	Pn	**Pb**	**02 55 41.2 -0.9**
	comp=E,16nm,0.3s,baz=157,slow=9.1,SNR=79					
IDI				Sn	**Sn**	**02 56 04.9 +2.1**
	comp=E,35nm,0.3s,baz=248,slow=22,SNR=12					
IDI	**Anoyia**	**1.67**	**303**	P	**Pb**	**02 55 41.2 -0.9**
IDI				S	**Sn**	**02 56 01.7 +0.8**
	comp=E,795nm,0.6s					
IDI	**Anoyia**	**1.67**	**303**	PN	**Pb**	**02 55 41.5 -0.6**
IDI				SN	**Sn**	**02 56 00.6 -0.3**
IDI	**Anoyia**	**1.67**	**303**		**Pb**	**02 55 41.8 -0.3**
GVDS	**Gavdos**	**2.12**	**283**	PN	**Pb**	**02 55 48.4 -1.3**
GVD	**Gavdhos**	**2.12**	**283**	P	**Pb**	**02 55 48.3 -1.4**
GVD				S	**Sb**	**02 56 15.8 +0.3**
GVD				AML	AML	02 56 26.8
	comp=N,1618μm,0.5s					
GVD				AML	AML	02 56 29.1
	comp=E,1587μm,0.7s					
GVD	**Gavdhos**	**2.12**	**283**	PN	**Pb**	**02 55 48.2 -1.5**
GVD				SN	**Sn**	**02 56 13.3 +1.4**
SANT	**Santorini**	**2.19**	**335**	PN	**Pn**	**02 55 47.7 +0.4**
SANT				SN	**Sn**	**02 56 12.3 -1.5**
SANT	**Santorini**	**2.19**	**335**	*i* P	**Pn**	**02 55 47.1 -0.1**
SANT	**Santorini**	**2.19**	**335**	Pn	**Pn**	**02 55 47.5 +0.2**
THR6	**Thira Island,**	**2.20**	**334**	P	**Pb**	**02 55 49.3 -1.8**
ARG	**Arkhangelos**	**2.22**	**34**	P	**Pb**	**02 55 49.7 -1.7**
ARG	**Arkhangelos**	**2.22**	**34**	PN	**Pb**	**02 55 49.7 -1.7**
ARG	**Arkhangelos**	**2.22**	**34**	P	**Pn**	**02 55 49.4 +1.8**
VAM	**Vamos**	**2.22**	**298**	P	**Pb**	**02 55 50.0 -1.5**
THT2	**Neerovigli**	**2.27**	**335**	PN	**Pn**	**02 55 48.6 +0.4**
NIS1	**Nisyros Isl.**	**2.27**	**12**	PN	**Pn**	**02 55 48.9 +0.6**
IMMV	**Iera Moni Meta**	**2.41**	**297**	P	**Pb**	**02 55 53.2 -1.3**
IMMV	**Iera Moni Meta**	**2.41**	**297**	PN	**Pn**	**02 55 51.9 +1.8**
DATC	**Datca-Mugla**	**2.53**	**20**	PN	**Pn**	**02 55 53.3 +1.5**
KNDR	**Palaiochora Ch**	**2.54**	**290**	PN	**Pb**	**02 55 54.9 -2.0**
BODT	**Bodrum**	**2.74**	**12**	PN	**Pn**	**02 55 55.9 +1.2**
TURN	**Turunc**	**2.74**	**29**	PN	**Pn**	**02 55 56.4 +1.7**
TURN	**Turunc**	**2.74**	**29**	*i* P	**Pn**	**02 55 56.8 +2.1**
BDRM	**Kayabasi**	**2.77**	**14**	*i* P	**Pn**	**02 55 54.2 -0.9**
APE	**Apeiranthos**	**2.82**	**342**	PN	**Pn**	**02 55 56.6 +0.7**
APE	**Apeiranthos**	**2.82**	**342**	*i* P	**Pn**	**02 55 56.8 +0.9**
APE				*i* S	**Sn**	**02 56 29.1 -0.1**
APE	**Apeiranthos**	**2.82**	**342**	⇑P	**Pn**	**02 55 56.0 +0.1**
DALY	**Dalyan (Mula)**	**2.95**	**34**	PN	**Pn**	**02 55 59.3 +1.7**
MLSB	**Milas**	**3.06**	**18**	PN	**Pn**	**02 56 01.2 +2.0**
YER	**Yerkesik**	**3.07**	**26**	PN	**Pn**	**02 56 00.8 +1.4**
AKAS	**Kas**	**3.08**	**52**	PN	**Pb**	**02 55 52.8 -3.3**
AKAS	**Kas**	**3.08**	**52**	*i* P	**Pn**	**02 55 58.9 -0.5**
AKAS				*i* S	**Sn**	**02 56 33.5 -2.3**
AKAS	**Kas**	**3.08**	**52**	Pn	**Pn**	**02 56 00.3 +0.8**
SLUM	**Salum**	**3.11**	**202**	P	**Pn**	**02 56 01.1 +1.3**
	baz=207					
SLUM				AMP		02 56 00.0
	baz=207					
SLUM				S	**Sn**	**02 56 34.2 -2.0**
	baz=207					
MULA	**Mugla, Merkez-**	**3.19**	**26**	*i* P	**Pn**	**02 56 03.7 +2.6**
GCAM	**G?zelcaml?**	**3.35**	**9**	PN	**Pn**	**02 56 05.0 +1.9**
KTHA	**Kythira Island**	**3.44**	**304**	PN	**Pn**	**02 56 05.9 +1.5**
CAEL

baz=137
HHAG Hagoal 6.42 132 P **Pn** **02 56 44.9 -0.4**
baz=131
HHAG AMP 02 58 00.0
baz=131
GLL Jalalah 6.46 136 P **Pn** **02 56 44.6 -1.3**
baz=136
SUZ Suez 6.96 129 P **Pn** **02 56 53.4 +0.7**
baz=128
HFRF Wahat Farafira 7.36 168 P **Pn** **02 56 58.7 +0.6**
baz=168
MMAI Mount Meron Ar 7.46 98 Pn **Pn** **02 56 59.0 -0.7**
comp=E,3.5nm,0.3s,baz=260,slow=12,SNR=45
MMAI Sn **Sn** **02 58 20.5 -3.2**
comp=E,5.1nm,0.3s,baz=262,slow=24,SNR=8.6
FNA Florina 7.62 329 **Pn** **02 57 03.0 +1.2**
BR131 Keskin Array S 7.75 44 Pn **Pn** **02 57 05.2 +1.4**
BRTR Keskin Array B 7.75 44 Pn **Pn** **02 57 04.0 +0.3**
comp=E,0.1nm,0.3s,baz=222,slow=16,SNR=7.3
BRTR Sn **Sn** **02 58 28.4 -2.6**
comp=E,0.1nm,0.3s,baz=228,slow=19,SNR=2.2
EIL Elat 8.50 121 Pn **Pn** **02 57 14.7 +0.8**
comp=E,1.3nm,0.3s,baz=336,slow=5.4,SNR=30
EIL Sn **Sn** **02 58 44.6 -4.7**
comp=E,1.3nm,0.3s,baz=24,slow=19,SNR=2.8
HKAT Jabal Katrina 8.60 131 P **Pn** **02 57 14.7 -0.7**
baz=130
HBST Basata 8.62 124 P **Pn** **02 57 15.9 +0.3**
baz=124
HDK1 Dakhla 9.13 164 P **Pn** **02 57 24.4 +1.8**
baz=164
TIP Timpagrande 9.23 304 **Pn** **02 57 23.5 -0.4**
AKRG Al Kharijah 9.47 158 P **Pn** **02 57 27.9 +0.7**
baz=158
GTR Jabal at Tayr 9.48 158 P **Pn** **02 57 28.2 +0.9**
baz=158
VAE Valguarnera 10.35 291 Pn **Pn** **02 57 40.8 +1.5**
comp=E,1.1nm,0.3s,baz=353,slow=23,SNR=6.1
KOLS Kolonicke sedl 14.89 349 *e*PN **Pn** **02 58 43.5 +2.3**
GNI Garni 15.54 63 Pn **P** **02 58 52.8 -1.4**
comp=E,0.2nm,0.3s,baz=288,slow=20,SNR=1.6
KBZ Khabaz 15.71 49 Pn **P** **02 58 54.8 -1.0**
comp=E,0.1nm,0.3s,baz=213,slow=3.7,SNR=3.9
TEOL Teolo 15.83 318 Pn **Pn** **02 58 52.8 -0.8**
TEOL IAmb IAmb 02 59 12.8
comp=Z,10nm,0.7s
CTI Castel Tesino 16.28 320 Pn **Pn** **02 58 58.6 -0.9**
ABTA Abfaltersbach 16.31 323 *i* Pn **Pn** **02 58 58.8 -1.0**
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 16.43 6 Pn **Pn** **02 58 59.4 -1.6**
comp=Z,1.4nm,0.3s,baz=194,slow=11,SNR=6.3
VRAC Vranov 16.65 337 Pn **P** **02 59 05.8 -0.4**
comp=Z,0.4nm,0.3s,baz=158,slow=9.4,SNR=5.9
TREC Trest 17.02 334 *e*P **P** **02 59 09.8 -0.5**
CKRC Cesky Krumlov 17.07 331 *e*P **P** **02 59 10.1 -0.8**
WTTA Wattenberg 17.10 323 *i* Pn **P** **02 59 11.5 0.0**
comp=Z,3.4nm,0.6s
WATA Walderalm 17.18 323 *i* Pn **Pn** **02 59 09.8 -1.0**
comp=Z,1.2nm,0.4s
KRLC Kraliky 17.26 338 *e*P **Pn** **02 59 10.3 -1.4**
GERES GERESS Array B 17.34 330 P **Pn** **02 59 10.5 -2.2**
comp=Z,0.2nm,0.3s,baz=139,slow=10,SNR=30
GERES GERESS Array B 17.34 330 **Pn** **02 59 11.2 -1.4**
FETA Feichten 17.40 321 *e*Pn **P** **02 59 14.7 -0.1**
comp=Z,3.7nm,0.6s
MOTA Moosalm 17.42 323 *e*Pn **Pn** **02 59 13.0 -0.8**
comp=Z,1.8nm,0.6s
KHC Kasperske Hory 17.61 331 *e*P **Pn** **02 59 16.0 0.0**
DPC Dobruska-Polom 17.65 338 *e*P **Pn** **02 59 15.4 -1.0**
DAVOX Davos/Dischmat 17.70 319 P **P** **02 59 19.1 +1.1**
baz=133,slow=19
TUE Stuetta 17.80 318 Pn **Pn** **02 59 16.9 -1.6**
TUE IAmb IAmb 02 59 28.8
comp=Z,8.2nm,0.8s
OSTC Ostas 17.86 338 *e*P **Pn** **02 59 17.4 -1.6**
PBCC Pribram 17.89 333 *e*P **Pn** **02 59 17.1 -2.3**
CHVC Chvalec 17.94 338 *e*P **Pn** **02 59 20.0 0.0**
PRU Pruhonice 17.94 334 *e*P **Pn** **02 59 17.3 -2.7**
NKC Novy Kostel 18.93 331 *e*P **P** **02 59 31.5 +0.1**
CLL Collm 19.58 334 *i* P **P** **02 59 38.1 -0.4**
comp=Z,5.0nm,0.6s
CLL Collm 19.58 334 P **P** **02 59 36.9 -1.5**
CLL IAmb IAmb 02 59 39.0
comp=Z,5.8nm,0.6s
SUW Suwalki 19.78 354 P **P** **02 59 40.2 -0.3**
NACGM Naroch 20.52 0 *i* P **P** **02 59 46.0 -2.7**
NACGM *i* P **P** **02 59 46.0 -2.7**
NACGM *i* P **P** **02 59 46.0 -2.7**
NACGM *i* PP **PnPn** **03 00 03.0 -3.3**
NACGM *i* PPP PPP 03 00 10.7
NACGM *i* S **S** **03 03 33.8 -3.4**
NACGM *i* SS **SnSn** **03 03 51.0 -5.4**
NACGM *i* SSS SSS 03 04 05.5
NACGM *i* LQ LQ 03 05 51.1
NACGM *i* LR LR 03 07 22.1
TAM Tamanrasset 21.76 244 P **P** **03 00 05.0 +2.5**
TAM IAmb IAmb 03 00 08.1
comp=Z,3.9nm,0.8s
ESDC Sonseca Array 24.89 291 P **P** **03 00 33.6 +0.2**
comp=Z,2.2nm,0.6s,baz=80,slow=9.3,SNR=33
ESDC Sonseca Array 24.89 291 IAmb IAmb 03 00 45.5
comp=Z,13nm,1.4s
GEYT Alibeck 25.63 73 P **P** **03 00 41.4 +1.4**
comp=Z,2.9nm,0.7s,baz=258,slow=7.2,SNR=3.2
GEYT Alibeck 25.63 73 P **P** **03 00 42.1 +2.0**
GEYT IAmb IAmb 03 00 43.5
comp=Z,2.1nm,0.6s
MDT Midelt 25.99 275 P **P** **03 00 43.8 +0.4**
comp=Z,1.6nm,0.8s,baz=333,slow=2.3,SNR=3.8
FINES FINESS Array B 27.08 359 P **P** **03 00 51.0 -1.9**
comp=Z,3.7nm,0.8s,baz=156,slow=12,SNR=10
HFS Hagfors 27.11 346 P **P** **03 00 50.5 -2.7**
comp=Z,1.4nm,0.5s,baz=122,slow=11,SNR=4.8
AKTO Aktyubinsk 27.93 45 P **P** **03 00 59.6 -1.0**
comp=Z,0.6nm,0.5s,baz=270,slow=12,SNR=2.9
NOA NORSAR Array B 28.46 344 P **P** **03 01 03.4 -1.9**
comp=Z,0.8nm,0.7s,baz=152,slow=8.7,SNR=3.4
NOA LR LR 03 14 17.1
comp=Z,92nm,18.4s,baz=345,slow=41
ABKAR Akbulak array 28.68 49 P **P** **03 01 07.5 +0.2**
ABKAR IAmb IAmb 03 01 39.3
comp=Z,6.3nm,1.5s
EKA Eskdalemuir Ar 29.36 325 P **P** **03 01 12.8 -0.4**
comp=Z,2.5nm,0.8s,baz=116,slow=9.6,SNR=5.6
TORD Torodi Ar. Bea 30.93 233 P **P** **03 01 28.4 +1.0**
comp=Z,1.1nm,0.5s,baz=40,slow=9.4,SNR=5.4
KK31 Karatay Array 35.01 62 IAmb IAmb 03 02 25.2
comp=Z,4.4nm,1.3s
KKAR Karatay Array 35.01 62 P **P** **03 02 03.7 +0.8**
ARCES ARCESS Array B 35.21 359 P **P** **03 02 02.3 -2.1**
comp=Z,3.1nm,0.7s,baz=183,slow=6.9,SNR=5.0
AAK Ala-Archa 37.95 63 P **P** **03 02 29.2 +1.0**
AAK IAmb IAmb 03 02 35.5
comp=Z,7.2nm,1.0s
DBIC Dimbokro 40.03 234 P **P** **03 02 46.2 +0.5**
comp=Z,1.8nm,0.5s,baz=41,slow=5.7,SNR=5.3
DBIC Dimbokro 40.03 234 IAmb IAmb 03 02 49.8
comp=Z,44nm,1.9s
TIC Toumodi 40.16 234 *e*PKP1 **P** **03 02 47.1 +0.3**
KIC Kosan Boka 40.18 233 *e*PKP1 **P** **03 02 47.3 +0.4**
comp=Z,10nm,0.8s
LIC Lamto 40.47 233 *e*PKP1 **P** **03 02 48.1 -1.2**
comp=Z,74nm,2.4s
MK31 Makanchi Array 43.22 56 P **P** **03 03 12.0 +0.5**
MKAR Makanchi Array 43.22 56 P **P** **03 03 12.7 +1.1**
comp=Z,1.9nm,0.8s,baz=277,slow=6.4,SNR=18
MKAR Makanchi Array 43.22 56 P **P** **03 03 12.2 +0.6**
ZAA0 Zalesovo Array 44.70 46 P **P** **03 03 23.2 0.0**
ZAA0 IAmb IAmb 03 03 24.2
comp=Z,2.2nm,0.6s
ZALV Zalesovo Beam 44.70 46 P **P** **03 03 23.9 +0.6**
comp=Z,1.8nm,0.5s,baz=269,slow=9.8,SNR=9.0
ZALV Zalesovo Beam 44.70 46 P **P** **03 03 22.6 -0.7**
SONM Songino Array 59.06 51 P **P** **03 05 11.6 +1.0**
comp=Z,2.3nm,0.6s,baz=282,slow=8.3,SNR=12
SONM Songino Array 59.06 51 P **P** **03 05 11.4 +0.8**
SONM IAmb IAmb 03 05 12.6
comp=Z,1.6nm,0.7s
ULN Ulaanbaatar 59.48 50 P **P** **03 05 14.4 +0.9**
XAN Xi'an 66.11 64 P **P** **03 05 60.0 +2.2**
USRK Ussuriysk Ar. 76.55 45 P **P** **03 07 01.3 +0.7**
comp=Z,3.5nm,0.7s,baz=299,slow=4.8,SNR=16
USRK LR LR 03 48 04.7
comp=Z,38nm,18.4s,baz=9.9,slow=42
KSRS Korea Array 77.81 53 P **P** **03 07 08.4 +0.6**
comp=Z,0.7nm,0.4s,baz=299,slow=5.0,SNR=3.6

YKA Yellowknife Ar 78.55 343 P **P** **03 07 10.6 -0.8**
comp=Z,0.2nm,0.3s,baz=34,slow=5.6,SNR=4.9
ILAR Eielson Array 81.05 357 P **P** **03 07 25.1 +0.1**
comp=Z,0.3nm,0.6s,baz=339,slow=3.8,SNR=8.6
MJAR Matsushiro Arr 84.96 49 P **P** **03 07 46.3 +0.6**
comp=Z,1.9nm,0.7s,baz=311,slow=5.0,SNR=6.0
MJAR Matsushiro Arr 84.96 49 IAmb IAmb 03 08 32.5
comp=Z,3.5nm,1.4s

*SOME **14** 03:00:33.5, 39°.03N×75°.75E, h5km*
*NNC **14** 03:00:38.4±2.3, 39°.22N×75°.83E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=16.3km s-min=10.8km az=155.0*
ISC 14 03:00:42.4±2.5, 39°.3N±0°.1×75°.81E±0°.07, h10km, n29, σ0s77/43, 6C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.44**	**344**	⇑Pg		**Pb**	**03 01 43.1**	**-0.4**
	3.5nm,0.7s							
AAK				⇑Lg		Lg	03 02 31.3	
	8.8nm,0.9s							
TKM2	**Tokmak 2**	**3.58**	**358**	⇑Pg		**Pb**	**03 01 44.8**	**-1.2**
	0.8nm,0.3s							
TKM2				⇑Lg		Lg	03 02 33.8	
	3.6nm,0.5s							
KST	**Kastek**	**3.70**	**2**	*e*P		**Pb**	**03 01 47.5**	**-0.4**
	1.5nm,0.3s							
KST				*e*S		**Sg**	**03 02 40.8**	**-0.4**
	4.7nm,0.7s							
KST	**Kastek**	**3.70**	**2**	Pg		**Pb**	**03 01 47.6**	**-0.4**
	1.8nm,0.4s							
KST				Lg		Lg	03 02 40.9	
	3.6nm,0.6s							
IZV	**Izvestkoviy**	**3.74**	**9**	*e*P		**Pb**	**03 01 49.4**	**+0.7**
	3.5nm,0.5s							
IZV				*e*S		**Sg**	**03 02 43.9**	**+1.4**
	5.0nm,0.9s							
IZV	**Izvestkoviy**	**3.74**	**9**	Pg		**Pb**	**03 01 49.4**	**+0.7**
	3.5nm,0.5s							
IZV				Lg		Lg	03 02 43.6	
	5.0nm,0.9s							
TNSS	**Tian-Shan**	**3.79**	**13**	*e*P		**Pb**	**03 01 49.2**	**-0.4**
	2.4nm,0.6s							
TNSS				*e*S		**Sg**	**03 02 44.0**	**-0.2**
	2.6nm,0.6s							
TNSS	**Tian-Shan**	**3.79**	**13**	Pg		**Pb**	**03 01 49.2**	**-0.4**
	2.4nm,0.6s							
TNSS				Lg		Lg	03 02 44.0	
	2.6nm,0.6s							
DGS	**Degeres**	**3.90**	**360**	*e*P		**Pb**	**03 01 51.7**	**+0.4**
	4.6nm,0.6s							
DGS				*e*S		**Sg**	**03 02 48.4**	**+0.9**
	4.4nm,0.6s							
DGS	**Degeres**	**3.90**	**360**	Pg		**Pb**	**03 01 51.7**	**+0.4**
	4.6nm,0.6s							
DGS				Lg		Lg	03 02 48.4	
	4.4nm,0.6s							
MDOK	**Medeo**	**3.93**	**13**	*e*P		**Pb**	**03 01 51.0**	**-0.9**
	1.9nm,0.4s							
MDOK				*e*S		**Sg**	**03 02 47.4**	**-1.2**
	6.2nm,0.4s							
MDOK	**Medeo**	**3.93**	**13**	Pg		**Pb**	**03 01 51.0**	**-0.9**
	1.9nm,0.4s							
MDOK				Lg		Lg	03 02 47.4	
	6.2nm,0.4s							
KOTS	**Kotyrbulak**	**4.01**	**14**	*e*P		**Pb**	**03 01 53.4**	**+0.1**
	7.7nm,0.5s							
KOTS				*e*S		**Sg**	**03 02 51.2**	**0.0**
	21nm,0.5s							
KOTS	**Kotyrbulak**	**4.01**	**14**	Pg		**Pb**	**03 01 53.4**	**+0.1**
	7.7nm,0.5s							
KOTS				Lg		Lg	03 02 51.2	
	21nm,0.5s							
SATY	**Saty**	**4.20**	**27**	*e*P		**Pb**	**03 01 56.8**	**+0.3**
	1.9nm,0.9s							
SATY				*e*S		**Sg**	**03 02 57.0**	**-0.2**
	5.8nm,0.7s							
SATY	**Saty**	**4.20**	**27**	Pg		**Pb**	**03 01 56.8**	**+0.3**
	1.9nm,0.9s							
SATY				Lg		Lg	03 02 57.0	
	5.8nm,0.7s							
KRBS	**Karabastau**	**4.35**	**359**	*e*P		**Pb**	**03 01 59.7**	**+0.7**
	1.4nm,0.4s							
KRBS				*e*S		**Sg**	**03 03 02.3**	**+0.2**
	2.4nm,0.5s							
KRBS	**Karabastau**	**4.35**	**359**	Pg		**Pb**	**03 01 59.7**	**+0.7**
	2.0nm,0.7s							
KRBS				Lg		Lg	03 03 02.9	
	5.0nm,1.2s							
KTBS	**Karatobe**	**4.42**	**8**	*e*P		**Pb**	**03 02 00.3**	**+0.2**
	1.7nm,0.6s							
KTBS				*e*S		**Sg**	**03 03 03.2**	**-0.9**
	5.9nm,0.6s							
KTBS	**Karatobe**	**4.42**	**8**	Pg		**Pb**	**03 02 00.3**	**+0.2**
	1.7nm,0.6s							
KTBS				Lg		Lg	03 03 03.8	
	6.2nm,0.7s							
UZB	**Uzynbulak**	**4.51**	**31**	*e*P		**Pb**	**03 02 01.8**	**+0.1**
	1.5nm,0.8s							
UZB				*e*S		**Sg**	**03 03 05.6**	**-1.5**
	2.7nm,0.6s							
UZB	**Uzynbulak**	**4.51**	**31**	Pg		**Pb**	**03 02 01.8**	**+0.1**
	1.5nm,0.8s							
UZB				Lg		Lg	03 03 05.6	
	2.7nm,0.6s							
KUU	**Kurty**	**4.56**	**5**	*e*P		**Pb**	**03 02 03.5**	**+0.9**
	1.6nm,0.6s							
KUU				*e*S		**Sg**	**03 03 08.3**	**-0.6**
	8.1nm,0.8s							
KUU	**Kurty**	**4.56**	**5**	Pg		**Pb**	**03 02 02.8**	**+0.2**
	1.7nm,0.8s							
KUU				Lg		Lg	03 03 08.1	
	5.3nm,0.8s							
KPKS	**Kokpek**	**4.65**	**27**	*e*P		**Pb**	**03 02 05.0**	**+0.8**
	4.1nm,0.5s							
KPKS				*e*S		**Sg**	**03 03 11.4**	**-0.4**
	8.7nm,0.6s							
MNBS	**Baschi**	**5.12**	**21**	*e*P		**Pb**	**03 02 13.8**	**+1.8**
	1.2nm,0.8s							
MNBS				*e*S		**Sg**	**03 03 26.4**	**-0.2**
	3.4nm,1.0s							
MNBS	**Baschi**	**5.12**	**21**	Pg		**Pb**	**03 02 13.8**	**+1.8**
	1.2nm,0.8s							
MNBS				Lg		Lg	03 03 26.4	
	3.4nm,1.0s							
KK31	**Karatay Array**	**5.48**	**315**	⇑Pn		**Pn**	**03 02 03.9**	**-0.3**
	1.1nm,0.6s,baz=133,slow=12,SNR=5.7							
KK31				⇓Sn		**Sn**	**03 03 08.0**	**+0.7**
	0.8nm,0.4s							
KK31				⇑Lg		Lg	03 03 35.1	
	1.7nm,0.6s,baz=126,slow=30							
KK31	**Karatay Array**	**5.48**	**315**	P		**Pn**	**03 02 03.7**	**-0.5**

IDC 14 03:01:44.5±1.4, 8°.75S×159°.67E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=30.4km s-min=18.2km az=64.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.73**	**158**		Pn	Pn	03 02 02.5	+0.4
	82nm,0.3s,baz=23,slow=19,SNR=9.8							
HNR					Sn	Sn	03 02 14.4	+0.4
	470nm,0.3s,baz=105,slow=7.1,SNR=16							
WRA	**Warramunga Arr**	**26.90**	**243**	P		P	03 07 26.4	-1.1
	0.4nm,0.5s,baz=74,slow=9.3,SNR=5.6							
H11S3	**WAKE ISLAND Hy**	**27.95**	**14**	T		T	03 36 28.1	
	baz=194,slow=76,SNR=5.3							
H11S2	**WAKE ISLAND Hy**	**27.95**	**14**	T		T	03 36 31.0	
	baz=194,slow=76,SNR=7.0							
H11S1	**WAKE ISLAND Hy**	**27.96**	**14**	T		T	03 36 31.3	
	baz=194,slow=76,SNR=4.8							
ASAR	**Alice Springs**	**28.77**	**236**	P		P	03 07 45.1	+0.9
	0.4nm,0.8s,baz=66,slow=9.9,SNR=2.6							
H11N1	**WAKE ISLAND Hy**	**29.17**	**14**	T		T	03 37 58.9	
	baz=192,slow=76,SNR=7.7							
H11N3	**WAKE ISLAND Hy**	**29.18**	**14**	T		T	03 38 00.1	
	baz=192,slow=76,SNR=8.2							
H11N2	**WAKE ISLAND Hy**	**29.18**	**14**	T		T	03 38 00.6	
	baz=192,slow=76,SNR=13							
ILAR	**Eielson Array**	**83.35**	**20**	P		P	03 14 13.0	-0.1
	0.6nm,0.5s,baz=245,slow=5.1,SNR=14							

*IDC **14** 03:21:33.5±0.6, 17°.52S×14°.16W, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.2/34, mbtmp4.2/17, MS4.2/22, Ms1 4.2/22, ms1mx4.1/25, Error ellipse: s-maj=18.6km s-min=15.0km az=140.0*
*NEIC **14** 03:21:35±1.2, 17°.5S±0°.1×14°.12W±0°.10, h10km±1km, mb4.7/32, Error ellipse: s-maj=21.0km s-min=15.0km az=163.0*
*GCMT **14** 03:21:39.0±0.2, 17°.43S±0°.03×14°.02W±0°.02, h15km±1km, MW4.9/97, Moment Tensor Solution. s26,c30; s97,c135; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.97±.18; Mθθ=0.43±.11; Mφφ=2.53±.12; Mrθ=0.70±.26; Mrφ=-0.47±.07; Mθφ=-0.73±.23; Best double couple: M=2.97100×10^16 NP1:φs176.00000°, δ37.00000°, λ-76.00000°. NP2: φs339.00000°, δ54.00000°, λ-100.00000°. Principal axes: T 2.7640, Plg9.0000°, Azm76.0000°; N 0.4100, Plg8.0000°, Azm345.0000°; P -3.1790, Plg78.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 03:21:35.7±0.4, 17°.53S±0°.09×14°.12W±0°.06, h14km, n104, σ0s77/88, mb4.5/28, MS4.2/22, 1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	**8.17**	**80**	Pn		**Pn**	**03 23 33.3**	**-0.7**
H10S2	**ASCENSION HYDR**	**8.53**	**356**	T		T	03 32 19.9	
	baz=176,slow=74,SNR=25							
H10S3	**ASCENSION HYDR**	**8.54**	**356**	T		T	03 32 31.9	
	baz=44,slow=74,SNR=52							
H10N1	**ASCENSION HYDR**	**9.63**	**358**	T		T	03 33 59.4	
	baz=179,slow=71							
H10N3	**ASCENSION HYDR**	**9.63**	**358**	T		T	03 33 54.1	
	baz=179,slow=71							
H10N2	**ASCENSION HYDR**	**9.65**	**358**	T		T	03 33 55.1	
	baz=179,slow=71							
NBLA	**Lagarto - SE**	**23.83**	**283**	*e*P		**P**	**03 26 47.8**	**-0.9**
RCBR	**Riachuelo**	**24.26**	**296**	LR		LR	03 34 20.6	
	comp=Z,445nm,19.6s,baz=138,slow=32							
NBLI	**Livramento-PB**	**24.45**	**292**	*e*P		**P**	**03 26 54.1**	**-0.3**
NBTA	**Tacaratu-PE**	**24.73**	**287**	*e*P		**P**	**03 26 55.0**	**-2.0**
LIC	**Lamto**	**25.25**	**22**	*e*P		**P**	**03 27 01.5**	**-0.1**
	54nm,1.5s							
ALF01	**Guarapari-ES**	**25.32**	**259**	*e*P		**P**	**03 27 02.8**	**+0.6**
NBPA	**Parau_RN**	**25.34**	**295**	*e*P		**P**	**03 27 03.5**	**+1.0**
BSFB	**Barra de Sao F**	**25.42**	**263**	*e*P		**P**	**03 27 03.6**	**+0.5**
KIC	**Kosan Boka**	**25.48**	**22**	*e*P		**P**	**03 27 03.4**	**-0.3**
	61nm,1.4s							
TIC	**Toumodi**	**25.64**	**21**	*e*P		**P**	**03 27 05.1**	**-0.1**
DBIC	**Dimbokro**	**25.73**	**22**	P		**P**	**03 27 06.8**	**+1.0**
	16nm,1.1s,baz=190,slow=11,SNR=7.5							
DBIC				LR		LR	03 34 43.9	
	comp=Z,375nm,19.7s,baz=180,slow=31							
DBIC	**Dimbokro**	**25.73**	**22**	P		**P**	**03 27 06.1**	**+0.2**
DBIC				IAmb		IAmb	03 27 07.8	
	comp=Z,30nm,1.3s							
SJMB	**Sao Joao De Ma**	**25.74**	**263**	*e*P		**P**	**03 27 07.5**	**+1.4**
NBMA	**Muriti-CE**	**26.07**	**290**	*e*P		**P**	**03 27 10.5**	**+1.4**
NBPN	**Ponto Novo - B**	**26.12**	**281**	*e*P		**P**	**03 27 09.5**	**-0.1**
CAM01	**Campos-RJ**	**26.26**	**256**	*e*P		**P**	**03 27 11.0**	**+0.2**
JANB	**Januaria**	**29.07**	**270**	*e*P		**P**	**03 27 36.6**	**+0.6**
BDFB	**Brasilia**	**32.52**	**268**	LR		LR	03 38 45.0	
	comp=Z,720nm,21.2s,baz=109,slow=32							
KOWA	**Kowa**	**33.34**	**18**	P		**P**	**03 28 12.9**	**-0.7**
	comp=Z,4.5nm,0.6s,baz=207,slow=11,SNR=17							
KOWA	**Kowa**	**33.34**	**18**	P		**P**	**03 28 13.0**	**-0.5**
KOWA				IAmb		IAmb	03 28 15.2	
	comp=Z,16nm,1.3s							
TOA0	**Torodi Ar. Sit**	**34.24**	**28**	P		**P**	**03 28 20.3**	**-1.1**
TOA0				IAmb		IAmb	03 28 22.4	
	comp=Z,8.4nm,1.1s							
TORD	**Torodi Ar. Bea**	**34.24**	**28**	P		**P**	**03 28 19.9**	**-1.5**
	comp=Z,4.0nm,0.9s,baz=210,slow=7.6,SNR=9.8							
TORD				LR		LR	03 39 41.3	
	comp=Z,516nm,21.0s,baz=210,slow=32							
TORD	**Torodi Ar. Bea**	**34.24**	**28**	P		**P**	**03 28 20.2**	**-1.2**
SUR	**Sutherland**	**34.77**	**122**	P		**P**	**03 28 27.4**	**+1.3**
	comp=Z,5.9nm,0.8s,baz=185,slow=19,SNR=2.0							
SUR	**Sutherland**	**34.77**	**122**	P		**P**	**03 28 26.6**	**+0.5**
PCMB	**Pacaembu**	**35.18**	**257**	*e*P		**P**	**03 28 30.3**	**+0.8**
SNDB	**Serra Nova Dou**	**36.33**	**274**	*e*P		**P**	**03 28 39.0**	**-0.4**
LBTB	**Lobatse**	**37.65**	**108**	P		**P**	**03 28 50.5**	**-0.2**
LBTB				IAmb		IAmb	03 29 00.4	
	comp=Z,13nm,1.4s							
BOSA	**Boshof**	**37.71**	**114**	LR		LR	03 42 03.4	
	comp=Z,216nm,18.7s,baz=273,slow=33							
PLTB	**Pedras Altas**	**38.37**	**241**	*e*P		**P**	**03 28 56.9**	**+0.3**
AQDB	**Aquidauana**	**39.35**	**259**	*e*P		**P**	**03 29 05.2**	**+0.3**
MATP	**Matopo**	**40.33**	**101**	P		**P**	**03 29 12.8**	**-0.5**
	comp=Z,3.6nm,0.6s,baz=270,slow=8.1,SNR=16							
ITQB	**Itaqui**	**40.57**	**245**	*e*P		**P**	**03 29 15.8**	**+0.8**
LSZ	**Lusaka**	**40.59**	**93**	P		**P**	**03 29 15.3**	**-0.1**
	comp=Z,6.3nm,0.9s,baz=252,slow=7.8,SNR=14							
LSZ	**Lusaka**	**40.59**	**93**	P		**P**	**03 29 16.4**	**+1.0**
LSZ				IAmb		IAmb	03 29 18.6	
	comp=Z,11nm,0.9s							
CPUP	**Villa Florida**	**40.88**	**250**	P		**P**	**03 29 17.0**	**-0.5**
	comp=Z,5.5nm,1.1s,baz=97,slow=8.1,SNR=6.3							
CPUP				LR		LR	03 43 20.0	
	comp=Z,224nm,18.7s,baz=98,slow=32							
CPUP	**Villa Florida**	**40.88**	**250**	P		**P**	**03 29 17.6**	**+0.1**
CLDB	**Colider**	**40.88**	**274**	*e*P		**P**	**03 29 19.5**	**+1.8**
NPGB	**Novo Progresso**	**41.53**	**279**	*e*P		**P**	**03 29 23.4**	**+0.3**
MALB	**Monte Alegre**	**42.39**	**287**	*e*P		**P**	**03 29 29.7**	**-0.3**
ITTB	**Itaituba**	**42.78**	**283**	*e*P		**P**	**03 29 33.8**	**+0.5**
PTLB	**Pontes e Lacer**	**43.14**	**266**	*e*P		**P**	**03 29 36.8**	**+0.6**
TAM	**Tamanrasset**	**44.44**	**26**	P		**P**	**03 29 47.4**	**+0.8**
VILB	**Vilhena**	**44.61**	**269**	*e*P		**P**	**03 29 49.7**	**+1.6**
SIV	**San Ignacio**	**44.90**	**265**	P		**P**	**03 29 50.9**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=96,slow=8.9,SNR=9.0							
PTGA	**Pitinga**	**48.06**	**285**	P		**P**	**03 30 16.1**	**+1.0**
PTGA				IAmb		IAmb	03 30 17.8	
	comp=Z,7.3nm,1.0s							
PTGA	**Pitinga**	**48.06**	**285**	*e*P		**P**	**03 30 15.9**	**+0.8**
SAML	**Samuel**	**48.40**	**274**	P		**P**	**03 30 18.0**	**+0.2**
ETMB	**Extrema**	**51.07**	**271**	*e*P		**P**	**03 30 37.5**	**-0.6**
AC02	**Maricunga**	**51.44**	**249**	P		**P**	**03 30 42.1**	**+0.7**
AC02				IAmb		IAmb	03 30 43.2	
	comp=Z,16nm,1.2s							
LPAZ	**La Paz**	**51.55**	**263**	P		**P**	**03 30 41.4**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=37,slow=3.5,SNR=6.6							
LPAZ				LR		LR	03 51 38.8	
	comp=Z,374nm,18.8s,baz=98,slow=35							
LPAZ	**La Paz**	**51.55**	**263**	P		**P**	**03 30 41.8**	**-0.7**
LPAZ	**La Paz**	**51.55**	**263**	*e*P		**P**	**03 30 42.0**	**-0.4**
GO02	**Mina Guanaco**	**51.93**	**252**	P		**P**	**03 30 44.8**	**-0.1**
PB08	**IPOC Station P**	**51.96**	**258**	P		**P**	**03 30 44.3**	**-0.9**
PB01	**IPOC Station P

ESDC	**Sonseca Array**	**57.69**	**9**	P		**P**	**03 31 26.6**	**+0.8**	
	comp=Z,0.8nm,0.7s,baz=191,slow=7.6,SNR=4.2								
ESDC				LR		LR	03 55 41.9		
	comp=Z,116nm,18.2s,baz=180,slow=36								
CZSB	**Cruzeiro do Su**	**57.80**	**272**	*eP*		**P**	**03 31 26.2**	**-1.0**	
SYO	**Syowa Base**	**61.14**	**161⇓**	*eP*		**P**	**03 31 48.4**	**-0.9**	
SDV	**Santo Domingo**	**61.69**	**291**	P		**P**	**03 31 54.4**	**+0.3**	
SDV	**Santo Domingo**	**61.69**	**291**	*eP*		**P**	**03 31 54.3**	**+0.2**	
ROSC	**El Rosal**	**63.42**	**285**	LR		LR	03 59 23.3		
	comp=Z,638nm,18.1s,baz=128,slow=36								
OTAV	**Otavalo**	**65.67**	**278**	P		**P**	**03 32 19.9**	**-0.9**	
OTAV				IAmb		IAmb	03 32 28.3		
	comp=Z,9.5nm,1.4s								
OTAV	**Otavalo**	**65.67**	**278**	*eP*		**P**	**03 32 20.9**	**+0.2**	
MAW	**Mawson**	**68.97**	**156**	LR		LR	03 55 00.5		
	comp=Z,87nm,20.1s,baz=242,slow=29								
GERES	**GERESS Array B**	**70.56**	**19**	P		**P**	**03 32 50.1**	**-0.2**	
	comp=Z,0.5nm,0.7s,baz=190,slow=4.1,SNR=5.0								
GERES				LR		LR	04 05 04.8		
	comp=Z,133nm,18.1s,baz=268,slow=37								
BR131	**Keskin Array S**	**72.29**	**37**	P		**P**	**03 33 01.0**	**-0.1**	
BR131				IAmb		IAmb	03 33 13.0		
	comp=Z,8.3nm,1.4s								
BRTR	**Keskin Array B**	**72.29**	**37**	P		**P**	**03 33 02.2**	**+1.2**	
	comp=Z,1.0nm,0.9s,baz=193,slow=5.1,SNR=6.5								
BRTR				LR		LR	04 05 41.0		
	comp=Z,118nm,18.2s,baz=309,slow=37								
BRTR	**Keskin Array B**	**72.29**	**37**	P		**P**	**03 33 01.3**	**+0.3**	
AKASG	**Malin Array Be**	**77.86**	**27**	P		**P**	**03 33 32.6**	**-0.1**	
	comp=Z,1.5nm,0.7s,baz=224,slow=5.2,SNR=4.4								
AKASG				LR		LR	04 07 32.0		
	comp=Z,62nm,18.6s,baz=345,slow=35								
AKASG	**Malin Array Be**	**77.86**	**27**	P		**P**	**03 33 32.9**	**+0.2**	
NOA	**NORSAR Array B**	**80.89**	**12**	LR		LR	04 10 12.5		
	comp=Z,86nm,18.3s,baz=10.0,slow=36								
FINES	**FINESS Array B**	**84.97**	**18**	LR		LR	04 10 15.5		
	comp=Z,107nm,18.9s,baz=316,slow=34								
VNDA	**Vanda**	**85.12**	**179**	P		**P**	**03 34 11.6**	**+0.8**	
	comp=Z,2.0nm,1.1s,baz=229,slow=6.6,SNR=5.0								
VNDA				LR		LR	04 06 52.0		
	comp=Z,62nm,21.5s,baz=188,slow=32								
VNDA	**Vanda**	**85.12**	**179**	P		**P**	**03 34 10.9**	**+0.1**	
VNDA				IAmb		IAmb	03 34 12.4		
	comp=Z,7.7nm,1.4s								
GEYT	**Alibeck**	**87.31**	**49**	LR		LR	04 11 05.8		
	comp=Z,166nm,19.9s,baz=280,slow=34								
CCM	**Cathedral Cave**	**90.91**	**310**	P		**P**	**03 34 38.3**	**-0.9**	
ARCES	**ARCESS Array B**	**91.25**	**13**	LR		LR	04 17 43.7		
	comp=Z,122nm,18.5s,baz=300,slow=37								
ULM	**Lac du Bonnet**	**98.14**	**320**	LR		LR	04 12 18.9		
	comp=Z,62nm,18.9s,baz=156,slow=31								
LZH	**Lanzhou**	**122.54**	**58**	*e*PKP		**PKPdf**	**03 40 30.3**	**-1.1**	
LZH				sPKP			03 40 38.5		
ILAR	**Eielson Array**	**123.24**	**338**	PKP		**PKPdf**	**03 40 30.1**	**-1.5**	
	comp=Z,0.5nm,1.0s,baz=8.5,slow=1.8,SNR=4.2								
MJAR	**Matsushiro Arr**	**149.09**	**47**	PKPbc		**PKPbc**	**03 41 23.7**	**-0.3**	
	comp=Z,1.8nm,0.7s,baz=288,slow=1.5,SNR=7.2								

IDC 14 03:22:43.3±1.6, 3.00S×141.98E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/27, mbtmp3.4/3, ML3.5/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/24, Error ellipse: s-maj=29.9km s-min=17.8km az=25.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.36**	**290**	Pg	Pg	03 23 08.8	-0.6
	23nm,0.3s,baz=153,slow=8.4,SNR=44						
JAY				Lg	Lg	03 23 27.1	
	22nm,0.3s,baz=67,slow=23,SNR=9.9						
JAY				LR	LR	03 23 46.9	
	comp=Z,145nm,20.1s,baz=206,slow=47						
WRA	**Warramunga Arr**	**18.42**	**203**	P	Pn	03 27 00.1	-0.2
	0.2nm,0.3s,baz=26,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**21.98**	**200**	P	P	03 27 39.0	-0.2
	0.2nm,0.3s,baz=24,slow=12,SNR=1.9						
KLR	**Kul'dur**	**52.77**	**352**	LR	LR	03 52 35.2	
	comp=Z,81nm,18.4s,baz=1.5,slow=34						
ILAR	**Eielson Array**	**84.75**	**24**	P	P	03 35 19.2	+0.1
	0.7nm,0.7s,baz=263,slow=4.4,SNR=10						

MDD 14 03:32:52.1±1.3, 32.32N×15.77W, h19km±21km, mb3.8/3, Error ellipse: s-maj=35.2km s-min=7.5km az=52.0, PRXIMO
INMG 14 03:32:54.8±0.8, 33.87N×16.72W, h10km, ML2.1, Error ellipse: s-maj=10.2km s-min=8.0km az=96.0
ISC 14 03:32:47.6±1.3, 32.38N±0.05×15.68W±0.08, h10km, n16, σ2s99/24, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMPS	**Porto Santo**	**0.87**	**321**	P	**Pn**	**03 33 07.3**	**+1.4**
PMPS				S	**Sn**	**03 33 16.7**	**-1.9**
	28nm,0.4s						
PMPS	**Porto Santo**	**0.87**	**321**	*eP*	**Pn**	**03 33 07.2**	**+1.4**
PMPS				*eS*	**Sb**	**03 33 16.5**	**0.0**
PMPS				A	A	03 33 17.2	
	34nm,0.3s						
PMPST	**Porto Santo, M**	**0.89**	**322**	*eP*	**Pn**	**03 33 07.3**	**+1.1**
PMPST				*eS*	**Sb**	**03 33 16.7**	**-0.3**
PMPST				A	A	03 33 21.2	
	56nm,0.4s						
PMAR	**Madeira**	**1.10**	**289**	P	**Pn**	**03 33 11.4**	**+2.2**
PMAR				S	**Sb**	**03 33 24.0**	**+0.8**
	32nm,0.2s						
PMAR	**Madeira**	**1.10**	**289**	*eP*	**Pn**	**03 33 11.4**	**+2.2**
PMAR				*eS*	**Sb**	**03 33 24.0**	**+0.8**
PMAR				A	A	03 33 26.5	
	64nm,0.2s						
PMOZ	**Porto Moniz, M**	**1.35**	**289**	S	**Sg**	**03 33 32.3**	**+1.1**
	42nm,0.4s						
PMOZ	**Porto Moniz, M**	**1.35**	**289**	*eS*	**Sn**	**03 33 26.6**	**-4.1**
CFUE	**Fuerteventura**	**4.01**	**158**	P	**Pn**	**03 33 52.3**	**+3.1**
	0.5nm,0.0s,SNR=7.9						
CFUE				S	**Sn**	**03 34 31.5**	**-4.7**
	4.0nm,0.1s,SNR=7.9						
CGUI	**Guimar, Teneri**	**4.10**	**189**	S	**Sn**	**03 34 36.8**	**-1.6**
	4.9nm,0.3s,SNR=7.9						
TBT	**Taburiente**	**4.16**	**208**	S	**Sn**	**03 34 36.2**	**-3.6**
	2.2nm,0.2s,SNR=7.9						
MACI	**Morro de la Ar**	**4.18**	**190**	S	**Sn**	**03 34 37.8**	**-2.8**
	0.8nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**4.22**	**191**	S	**Sn**	**03 34 38.2**	**-3.5**
	0.8nm,0.2s,SNR=7.9						
GGC	**Guia, Gran Can**	**4.25**	**179**	S	**Sn**	**03 34 37.9**	**-4.1**
	1.5nm,0.0s,SNR=7.9						
EOSO	**Osorio**	**4.29**	**178**	P	**Pn**	**03 33 56.9**	**+3.8**
	0.4nm,0.1s,SNR=7.9						
EOSO				S	**Sn**	**03 34 39.9**	**-3.4**
	4.2nm,0.2s,SNR=7.9						
CGIN	**Giniginamar, F**	**4.38**	**161**	P	**Pn**	**03 33 57.5**	**+3.2**
	0.6nm,0.1s,SNR=7.9						
CGIN				S	**Sn**	**03 34 41.1**	**-4.2**
	3.9nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**4.41**	**198**	S	**Sn**	**03 34 42.9**	**-3.1**
	5.1nm,0.2s,SNR=7.9						

IDC 14 04:01:12.4±8.1, 26.18S×179.09E, h468km±80km, mb3.0/3, mb1 3.4/5, mb1mx3.1/24, mbtmp4.2/5, Error ellipse: s-maj=64.7km s-min=21.5km az=45.0
ISC 14 04:01:11.0±1.3, 26.43S±0.09×179.2E±0.2, h500km, n33, σ2s14/48, mb3.4/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**11.36**	**186**	P	**P**	**04 03 48.9**	**+3.3**
HAZ				S	**S**	**04 05 49.4**	**-1.1**
PUZ	**Puketiti**	**11.64**	**184**	P	**P**	**04 03 47.1**	**-1.5**
PUZ				S	**S**	**04 05 56.0**	**0.0**
URZ	**Urewera**	**11.93**	**188**	P	**P**	**04 03 53.3**	**+1.6**
	1.6nm,0.3s,baz=245,slow=4.1,SNR=16						
URZ				S	**S**	**04 06 02.0**	**+0.5**
	1.2nm,0.3s,baz=60,slow=22,SNR=10						
HIZ	**Hauiti**	**12.60**	**196**	P	P	04 04 05.3	+6.5
OTVZ	**Oturere**	**13.04**	**192**	P	**P**	**04 04 05.4**	**+1.7**
OTVZ				S	**S**	**04 06 22.7**	**-0.8**
TUVZ	**Tukino**	**13.15**	**192**	P	**P**	**04 04 06.7**	**+2.0**
WNVZ	**Wahianoa**	**13.21**	**192**	P	**P**	**04 04 07.8**	**+2.3**
BHHZ	**Black Hill Sta**	**13.29**	**191**	P	**P**	**04 04 06.9**	**+0.8**
BHHZ				S	**S**	**04 06 27.2**	**-0.9**
BFZ	**Birch Farm**	**14.43**	**189**	P	**P**	**04 04 18.4**	**+0.3**
BFZ				S	**S**	**04 06 47.9**	**-1.9**
MRZ	**Mangatainoka R**	**14.51**	**191**	P	**P**	**04 04 18.6**	**-0.3**
MRZ				S	**S**	**04 06 47.6**	**-3.8**
OGWZ	**Otaki Gorge**	**14.74**	**192**	P	**P**	**04 04 20.3**	**-1.0**
HOWZ	**Holdsworth Sta**	**14.75**	**191**	P	**P**	**04 04 22.9**	**+1.4**
HOWZ				S	**S**	**04 06 50.8**	**-5.3**
DUWZ	**D'Urville Isla**	**14.99**	**196**	P	**P**	**04 04 26.3**	**+2.3**
DUWZ				S	**S**	**04 06 57.5**	**-3.2**
CAW	**Cannon Point**	**15.04**	**192**	P	**P**	**04 04 26.4**	**+2.0**
CAW				S	**S**	**04 06 58.2**	**-3.3**
TRWZ	**Traveller**	**15.21**	**190**	P	**P**	**04 04 26.6**	**+0.4**
TRWZ				S	**S**	**04 07 05.1**	**+0.3**
TCW	**Tory Channel**	**15.30**	**194**	P	**P**	**04 04 28.6**	**+1.4**
TCW				S	**S**	**04 07 02.3**	**-4.2**
MSWZ	**Moikau Station**	**15.30**	**191**	P	**P**	**04 04 27.1**	**-0.2**
MSWZ				S	**S**	**04 07 02.6**	**-4.1**
BHW	**Baring Head**	**15.37**	**192**	P	**P**	**04 04 30.4**	**+2.5**
QRZ	**Quartz Range**	**15.39**	**199**	P	**P**	**04 04 31.2**	**+3.0**
NNZ	**Nelson**	**15.52**	**197**	P	**P**	**04 04 31.5**	**+2.0**
TUWZ	**Tuamarina**	**15.58**	**195**	P	**P**	**04 04 31.6**	**+1.4**
TUWZ				S	**S**	**04 07 10.9**	**-1.0**
BSWZ	**Blackbirch Sta**	**15.87**	**195**	P	**P**	**04 04 36.3**	**+3.1**
BSWZ				S	**S**	**04 07 17.6**	**+0.2**
THZ	**Tophouse**	**16.16**	**197**	P	**P**	**04 04 37.9**	**+1.7**
THZ				S	**S**	**04 07 22.5**	**-0.2**
DSZ	**Denniston Nort**	**16.45**	**200**	P	**P**	**04 04 41.5**	**+2.2**
KHZ	**Kahutara**	**16.61**	**195**	P	**P**	**04 04 41.9**	**+1.0**
KHZ				S	**S**	**04 07 31.6**	**+0.9**
RPZ	**Rata Peaks**	**18.48**	**199**	P	**P**	**04 05 00.4**	**+1.8**
	2.1nm,0.3s,baz=318,slow=2.0,SNR=14						
ASAR	**Alice Springs**	**40.99**	**264**	P	**P**	**04 08 13.2**	**+0.1**
	0.9nm,0.4s,baz=96,slow=7.7,SNR=26						
WRA	**Warramunga Arr**	**41.59**	**269**	P	**P**	**04 08 17.0**	**-0.9**
	0.3nm,0.2s,baz=106,slow=7.6,SNR=15						
VNDA	**Vanda**	**51.81**	**185**	P	**P**	**04 09 37.1**	**+2.7**
	1.0nm,0.5s,baz=3.0,slow=7.3,SNR=10						
FINES	**FINESS Array B**	**140.59**	**340**	PKhKP	PKPpre	04 19 39.0	
	1.8nm,0.9s,baz=337,slow=1.8,SNR=4.1						
NB2	**NORSAR Subarra**	**144.45**	**350**	PKP	**PKPdf**	**04 19 51.5**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**144.45**	**350**	PKP	**PKPab**	**04 19 51.8**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=22,slow=2.7,SNR=9.1						
AKASG	**Malin Array Be**	**146.66**	**325**	PKPbc	**PKiKP**	**04 19 59.5**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=49,slow=4.6,SNR=3.5						

NEIC 14 04:09:03.3±1.5, 14.5S±0.1×167.4E±0.1, h164km±7km, mb4.5/26, Error ellipse: s-maj=23.7km s-min=13.1km az=139.0
NOU 14 04:09:03.3, 13.97S×167.59E, h193km, mb4.5, Vanuatu Islands
IDC 14 04:09:09.3±1.7, 14.48S×167.22E, h210km±16km, mb3.9/19, mb1 4.1/20, mb1mx4.0/29, mbtmp4.4/20, Error ellipse: s-maj=18.7km s-min=11.2km az=154.0
ISC 14 04:09:04.5±0.4, 14.41S±0.07×167.4E±0.1, h170km, n81, σ1s39/83, mb4.4/29, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**6.80**	**206**	P	Pn	04 10 48.0	+6.1
DZM	**Mont Dzumac**	**7.68**	**187**	P	**Pn**	**04 10 55.3**	**+1.7**
	3.4nm,0.3s,baz=160,slow=17,SNR=6.4						
DZM				S	**Sn**	**04 12 20.5**	**+0.6**
	1.8nm,0.3s,baz=311,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**7.68**	**187**		**Pn**	**04 10 52.5**	**-1.1**
DZM	**Mont Dzumac**	**7.68**	**187**	P	**Pn**	**04 10 57.2**	**+3.6**
EIDS	**Eidsvold**	**18.81**	**232**		**P**	**04 13 11.8**	**+0.6**
AFI	**Afiamalu**	**20.19**	**91**	P	Pn	04 13 31.6	+1.3
	45nm,0.7s,baz=40,slow=23,SNR=7.1						
AFI	**Afiamalu**	**20.19**	**91**	P	**P**	**04 13 25.7**	**-0.6**
CTA	**Charters Tower**	**20.97**	**251**	P	**P**	**04 13 34.6**	**+0.2**
	11nm,0.8s,baz=82,slow=11,SNR=6.5						
CTAO	**Charters Tower**	**20.97**	**251**	P	**P**	**04 13 34.0**	**-0.4**
CTAO				IAmb	IAmb	04 14 02.0	
	comp=Z,31nm,1.3s						
ARMA	**Armidale**	**21.56**	**220**	P	**P**	**04 13 41.0**	**+0.2**
ARMA				IAmb	IAmb	04 13 44.0	
	comp=Z,42nm,1.4s						
COEN	**Coen**	**23.49**	**268**	P	**P**	**04 13 59.1**	**0.0**
COEN				IAmb	IAmb	04 14 01.0	
	comp=Z,9.4nm,0.8s						
STKA	**Stephens Creek**	**29.30**	**229**	P	**P**	**04 14 51.5**	**+0.5**
	comp=Z,9.1nm,0.4s,baz=50,slow=8.7,SNR=31						
STKA				PcP	**PcP**	**04 17 52.8**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=126,slow=2.0,SNR=3.5						
STKA	**Stephens Creek**	**29.30**	**229**	P	**P**	**04 14 51.6**	**+0.5**
TOO	**Toolangi**	**30.19**	**216**	P	**P**	**04 14 58.6**	**-0.2**
TOO				IAmb	IAmb	04 15 15.5	
	comp=Z,5.8nm,0.9s						
WR0	**Warramunga Arr**	**31.84**	**255**	P	**P**	**04 15 12.1**	**-1.5**
WR0				IAmb	IAmb	04 15 12.7	
	comp=Z,9.7nm,1.1s						
WB0	**Warramunga Arr**	**31.97**	**256**	P	**P**	**04 15 13.1**	**-1.6**
WB2	**Warramunga Arr**	**32.02**	**255**	P	**P**	**04 15 13.1**	**-2.0**
WB2				IAmb	IAmb	04 15 15.7	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**32.03**	**255**	P	**P**	**04 15 13.8**	**-1.5**
	comp=Z,4.3nm,0.5s,baz=86,slow=9.4,SNR=56						
AS31	**Alice Springs**	**32.91**	**249**	P	**P**	**04 15 21.5**	**-1.4**
AS31				IAmb	IAmb	04 15 23.0	
	comp=Z,3.6nm,0.5s						
ASAR	**Alice Springs**	**32.91**	**249**	P	**P**	**04 15 21.2**	**-1.6**
	comp=Z,7.4nm,0.5s,baz=78,slow=9.3,SNR=144						
ASAR	**Alice Springs**	**32.91**	**249**	P	**P**	**04 15 20.7**	**-2.2**
BBOO	**Buckleboo**	**33.88**	**232**	P	**P**	**04 15 30.5**	**-0.6**
BBOO				IAmb	IAmb	04 15 31.9	
	comp=Z,10nm,0.7s						
FORT	**Forrest**	**39.58**	**239**	P	**P**	**04 16 18.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**40.20**	**259**	P	**P**	**04 16 24.0**	**-0.6**
	comp=Z,6.5nm,0.7s,baz=85,slow=10,SNR=21						
MJAR	**Matsushiro Arr**	**57.68**	**332**	P	**P**	**04 18 36.4**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=159,slow=7.8,SNR=3.0						
KSRS	**Korea Array**	**63.55**	**326**	P	**P**	**04 19 17.5**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=133,slow=6.8,SNR=4.6						
USRK	**Ussuriysk Ar.**	**66.66**	**333**	P	**P**	**04 19 37.5**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=173,slow=3.1,SNR=6.3						
USRK	**Ussuriysk Ar.**	**66.66**	**333**	P	**P**	**04 19 36.8**	**0.0**
PETK	**Petropavlovsk-**	**67.75**	**354**	P	**P**	**04 19 44.8**	**+1.3**
	comp=Z,7.3nm,0.8s,baz=145,slow=8.1,SNR=9.9						
PETK	**Petropavlovsk-**	**67.75**	**354**	P	**P**	**04 19 44.1**	**+0.7**
MDJ	**Mudanjiang**	**68.06**	**332**	P	**P**	**04 19 44.9**	**-0.6**
MDJ				IAmb	IAmb	04 19 48.4	
	comp=Z,6.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**74.94**	**294**	P	**P**	**04 20 28.1**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=94,slow=3.6,SNR=5.5						
YAK	**Yakutsk**	**81.76**	**343**	P	**P**	**04 21 03.5**	**-0.2**
ULN	**Ulaanbaatar**	**81.95**	**324**	P	**P**	**04 21 05.3**	**-0.1**
ULN				IAmb	IAmb	04 21 06.7	
	comp=Z,12nm,1.4s						
SONM	**Songino Array**	**82.31**	**324**	P	**P**	**04 21 07.9**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=146,slow=6.2,SNR=7.7						
SONM	**Songino Array**	**82.31**	**324**	P	**P**	**04 21 06.4**	**-0.8**
SHL	**Shillong**	**83.53**	**298**	P	**P**	**04 21 13.6**	**-0.4**
TRF	**Thorofare Moun**	**84.19**	**18**	P	**P**	**04 21 16.0**	**-0.4**
TRF				IAmb	IAmb	04 21 17.1	
	comp=Z,6.8nm,0.9s						
ORV	**Oroville**	**85.07**	**47**	P	**P**	**04 21 21.1**	**-0.1**
AFDM	**Forest Hills D**	**85.21**	**48**	P	**P**	**04 21 21.7**	**-0.3**
IMAR	**Indian Mountai**	**85.22**	**15**	P	**P**	**04 21 21.5**	**+0.1**
CMB	**Columbia Colle**	**85.29**	**49**	P	**P**	**04 21 22.2**	**-0.2**
TLY	**Talaya**	**85.80**	**326**	P	**P**	**04 21 23.7**	**-0.8**
TLY				IAmb	IAmb	04 21 25.4	
	comp=Z,4.3nm,0.7s						
ILAR	**Eielson Array**	**86.18**	**18**	P	**P**	**04 21 25.0**	**-1.1**
	comp=Z,5.1nm,0.7s,baz=237,slow=4.8,SNR=54						
ILAR	**Eielson Array**	**86.18**	**18**	P	**P**	**04 21 24.5**	**-1.6**
NVAR	**Mina Array Bea**	**86.96**	**49**	P	**P**	**04 21 30.8**	**0.0**
	comp=Z,1.0nm,0.8s,baz=230,slow=7.0,SNR=8.8						
NVAR	**Mina Array Bea**	**86.96**	**49**	P	**P**	**04 21 31.2**	**+0.4**
PRN	**Pahroc Range**	**89.03**	**51**	P	**P**	**04 21 40.4**	**-0.2**
PRN				IAmb	IAmb	04 21 42.1	
	comp=Z,4.2nm,0.8s						
TIXI	**Tiksi**	**89.68**	**349**	P	**P**	**04 21 42.1**	**-0.4**
TIXI				IAmb	IAmb	04 21 43.9	
	comp=Z,2.9nm,0.8s						
PDAR	**Pinedale Array**	**94.63**	**47**	P	**P**	**04 22 06.3**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=241,slow=5.0,SNR=2.0						
TXAR	**Lajitas Array**	**96.01**	**61**	P	**P**	**04 22 13.8**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=210,slow=5.2,SNR=2.8						
MKAR	**Makanchi Array**	**97.06**	**316**	P	Pdif	04 22 17.4	+0.2
	comp=Z,1.6nm,0.7s,baz=92,slow=6.4,SNR=23						
YKA	**Yellowknife Ar**	**97.20**	**27**	P	**P**	**04 22 16.5**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=250,slow=4.0,SNR=17						
ZALV	**Zalesovo Beam**	**97.21**	**324**	P	**P**	**04 22 16.6**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=118,slow=5.7,SNR=5.7						
ZALV	**Zalesovo Beam**	**97.21**	**324**	P	**P**	**04 22 16.3**	**-1.3**
ARCES	**ARCESS Array B**	**119.97**	**345**	PKP	**PKPdf**	**04 27 33.4**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=72,slow=1.9,SNR=11						
FINES	**FINESS Array B**	**125.47**	**338**	PKP	**PKPdf**	**04 27 44.6**	**-0.3**
	comp=Z,4.0nm,1.0s,baz=86,slow=1.9,SNR=8.1						
MNK	**Minsk**	**129.10**	**331**	*i* PKP	**PKPdf**	**04 27 50.5**	**-1.5**
	comp=E,3.0nm,1.0s						
MNK				*i* PKP	**PKPdf**	**04 27 50.5**	**-1.5**
	comp=N,18nm,1.0s						
MNK				*i* PKP	**PKPdf**	**04 27 50.5**	**-1.5**
	comp=Z,9.0nm,1.0s						
MNK				*i* PP	PP	04 30 19.1	+17
MNK				*i* SKP		04 30 55.8	
MNK				*i* PKS	PKSdf	04 31 06.1	-22
MNK				*i* PPP	PPP	04 32 36.3	
MNK				*i* SKS	SKSdf	04 34 59.4	+12
MNK				*i* SKKS	**SKKSdf**	**04 45 00.8**	**+3.8**
MNK				*i* SS	**SS**	**04 47 16.0**	**+8.2**
MNK				*i* SSS	SSS	04 51 57.1	
MNK				*i* LQ	LQ	05 15 41.5	
MNK				*i* LR	LR	05 17 36.9	
MNK				*i* LRM	MLR	05 25 45.1	
	comp=E,45nm,20.0s						
MNK				*i* LRM	MLR	05 25 59.3	
	comp=Z,101nm,20.0s						
MNK				*i* LRM	MLR	05 26 05.1	
	comp=N,381nm,20.0s						
NB2	**NORSAR Subarra**	**130.35**	**345**	PKPdf	**PKPdf**	**04 27 54.5**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**130.35**	**345**	PKP	**PKPdf**	**04 27 54.4**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=33,slow=2.0,SNR=3.9						
NOA				SKPab	**SKPab**	**04 31 02.5**	**+0.7**
	comp=Z,4.0nm,1.0s,baz=33,slow=3.1,SNR=6.5						
AKASG	**Malin Array Be**	**130.54**	**326**	PKP	**PKiKP**	**04 27 56.0**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=64,slow=2.2,SNR=5.1						
BRTR	**Keskin Array B**	**132.40**	**311**	PKP	**PKPdf**	**04 27 57.5**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=139,slow=4.2,SNR=4.6						
BRTR				SKP		04 31 13.0	
	comp=Z,0.8nm,1.0s,baz=42,slow=2.3,SNR=4.0						
KOLS	**Kolonicke sedl**	**135.24**	**328**	*e*PKP	**PKiKP**	**04 28 04.6**	**-0.8**
CLL	**Collm**	**137.81**	**336**	*e*PKPdf	**PKiKP**	**04 28 10.0**	**-0.5**
CONA	**Conrad Observa**	**139.10**	**331**	*i* P	**PKiKP**	**04 28 14.2**	**+0.8**
	comp=Z,1.9nm,0.5s						
KHC	**Kasperske Hory**	**139.25**	**334**	*e*PKPDF	**PKPdf**	**04 28 11.5**	**+0.2**
GERES	**GERESS Array B**	**139.41**	**333**	PKP	**PKPdf**	**04 28 12.6**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=48,slow=2.0,SNR=7.2						
MOA	**Molln**	**139.90**	**332**	*e*P	**PKPdf**	**04 28 13.3**	**+0.8**
	comp=Z,2.3nm,1.0s						
ABTA	**Abfaltersbach**	**141.52**	**332**	*e*P	**PKPdf**	**04 28 15.6**	**+0.1**
	comp=Z,6.4nm,1.1s						
PRMA	**PARMA**	**144.03**	**332**	PKPdf	**PKPdf**	**04 28 18.9**	**-0.9**
ZCCA	**Zocca**	**144.03**	**331**	PKPdf	**PKPdf**	**04 28 20.2**	**+0.2**
NRCA	**Norcia**	**144.06**	**327**	PKPdf	PKPbc	04 28 18.7	+0.1
AQU	**L'Aquila**	**144.24**	**326**	PKPdf	PKPbc	04 28 19.6	+0.5
OSSC	**Osservatorio P**	**144.52**	**330**	PKPdf	**PKPab**	**04 28 19.6**	**0.0**
LATE	**Laterza**	**144.90**	**328**		PKPbc	04 28 20.7	-0.4
BNI	**Bardonecchia**	**145.36**	**336**	PKPbc	**PKPab**	**04 28 23.5**	**+0.6**
SSB	**Saint Sauveur**	**145.98**	**338**	PKPbc	**PKPab**	**04 28 25.0**	**-0.1**
VSL	**Villasalto**	**148.42**	**326**	PKPbc	**PKPbc**	**04 28 30.8**	**-0.4**
KEST	**Kesra**	**151.04**	**321**	PKPbc	**PKiKP**	**04 28 38.4**	**+0.1**
	comp=Z,9.7nm,0.8s,baz=149,slow

FITZ	**Fitzroy Crossi**	**24.12 238**	P	**P**	**05 23 00.7**	**+0.3**
	5.7nm,0.8s,baz=86,slow=10.0,SNR=6.7					
STKA	**Stephens Creek**	**26.25 191**	P	**P**	**05 23 19.7**	**+0.1**
	0.6nm,0.4s,baz=337,slow=7.7,SNR=1.2					
ILAR	**Eielson Array**	**85.46 23**	P	**P**	**05 30 20.3**	**-0.2**
	0.4nm,0.7s,baz=255,slow=4.8,SNR=5.3					
TORD	**Torodi Ar. Bea**	**145.15 284**	PKPbc	**PKPdf**	**05 37 21.5**	**+0.3**
	1.0nm,0.7s,baz=77,slow=3.7,SNR=6.0					

*IDC **14** 05:19:21.0±0.9, 6.08S×147.25E, h0km, mb3.8/8, mb1 1.4/9, mb1mx3.8/43, mbtmp3.9/9, ML4.1/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/28, Error ellipse: s-maj=38.4km s-min=20.3km az=101.0*

ISC 14 05:19:31.4±0.9, 6.2S±0.1×147.1E±0.3, h78km, n15, σ1§16/13, mb3.7/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.47 221**		P	**P**	**05 23 40.4**	**-0.8**
	0.7nm,0.3s,baz=42,slow=12,SNR=9.7						
WRA				PcP	**PcP**	**05 28 10.2**	**+1.5**
	0.1nm,0.3s,baz=28,slow=1.6,SNR=6.6						
ASAR	**Alice Springs**	**21.54 215**		P	**P**	**05 24 14.2**	**-0.3**
	1.6nm,0.5s,baz=53,slow=8.1,SNR=8.6						
BATI	**Baumata**	**23.52 259**		LR	LR	05 35 08.2	
	comp=Z,166nm,18.6s,baz=246,slow=40						
FITZ	**Fitzroy Crossi**	**24.05 239**		P	**P**	**05 24 38.2**	**-1.3**
	6.2nm,0.7s,baz=56,slow=18,SNR=9.5						
FITZ				LR	LR	05 35 16.4	
	comp=Z,60nm,18.3s,baz=16,slow=39						
STKA	**Stephens Creek**	**26.10 191**		P	**P**	**05 24 57.7**	**-0.3**
	0.9nm,0.4s,baz=28,slow=13,SNR=3.1						
STKA				LR	LR	05 35 17.8	
	comp=Z,54nm,20.1s,baz=27,slow=36						
KAPI	**Kappang**	**27.22 271**		LR	LR	05 38 43.9	
	comp=Z,44nm,19.6s,baz=206,slow=42						
NWAO	**Narrogin (SRO)**	**38.47 222**		LR	LR	05 44 11.8	
	comp=Z,110nm,18.8s,baz=156,slow=39						
SONM	**Songino Array**	**64.57 331**		P	**P**	**05 30 00.2**	**-0.4**
	0.4nm,0.5s,baz=140,slow=5.4,SNR=3.2						
VNDA	**Vanda**	**71.76 177**		P	**P**	**05 30 45.6**	**+0.7**
	1.4nm,0.9s,baz=315,slow=8.6,SNR=5.5						
MKAR	**Makanchi Array**	**77.66 320**		P	**P**	**05 31 20.8**	**+1.3**
	0.2nm,0.5s,baz=106,slow=7.7,SNR=2.3						
ZALV	**Zalesovo Beam**	**79.18 328**		P	**P**	**05 31 28.8**	**+1.1**
	0.7nm,0.6s,baz=100,slow=8.1,SNR=3.8						
ILAR	**Eielson Array**	**85.59 23**		P	**P**	**05 31 59.0**	**-1.9**
	0.7nm,0.8s,baz=258,slow=4.9,SNR=6.6						
TORD	**Torodi Ar. Bea**	**145.20 284**		PKPbc	**PKPab**	**05 39 00.7**	**-0.4**
	1.4nm,0.6s,baz=85,slow=4.2,SNR=6.9						
DBIC	**Dimbokro**	**152.10 273**		PKPbc	**PKiKP**	**05 39 20.4**	**+1.1**
	1.6nm,0.5s,baz=90,slow=5.1,SNR=1.6						
BDFB	**Brasilia**	**153.69 146**		PKPbc	**PKiKP**	**05 39 22.6**	**0.0**
	1.4nm,0.4s,baz=146,slow=3.6,SNR=3.6						

*IDC **14** 06:13:12.5±0.6, 15.04S×166.94E, h0km, mb4.5/22, mb1 4.6/23, mb1mx4.5/43, mbtmp4.4/23, ML4.6/1, MS3.9/12, Ms1 3.9/12, ms1mx3.7/26, Error ellipse: s-maj=18.8km s-min=14.6km az=113.0*

*BJI **14** 06:13:17.1±0.0, 15.08S×166.63E, h27km, mB5.2/15, mb4.9/22, Ms7 4.7/1*

*NEIC **14** 06:13:18.3±1.8, 15.05S±0.08×166.9E±0.1, h37km±6km, mb4.9/36, Error ellipse: s-maj=19.0km s-min=11.8km az=91.0*

ISC 14 06:13:20.3±0.4, 15.15S±0.06×166.90E±0.0, h57km, n110, σ1§27/102, mb4.6/49, MS3.9/10, 1C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.90 183**		*e*Pn	**Pn**	**06 14 57.5**	**-1.4**
	22nm,0.3s						
DZM				*e*Sn	**Sn**	**06 16 16.0**	**-0.1**
	19nm,0.3s						
DZM				*e*LR	LR	06 16 35.2	
	comp=Z,2μm,23.8s						
DZM	**Mont Dzumac**	**6.90 183**		Pn	**Pn**	**06 14 57.5**	**-1.4**
	12nm,0.3s,baz=300,slow=6.5,SNR=15						
DZM				Sn	**Sn**	**06 16 13.7**	**-2.4**
	baz=315,slow=19,SNR=4.3						
DZM				LR	LR	06 17 23.6	
	comp=Z,1μm,21.2s,baz=340,slow=36						
DZM	**Mont Dzumac**	**6.90 183**		Pn	**Pn**	**06 14 57.6**	**-1.3**
HNR	**Honiara**	**8.85 309**		LR	LR	06 18 23.6	
	comp=Z,663nm,20.4s,baz=140,slow=35						
MSVF	**Nonsavu**	**11.01 105**		LR	LR	06 19 14.3	
	comp=Z,730nm,19.5s,baz=327,slow=33						
EIDS	**Eidsvold**	**17.97 233**		P	**Pn**	**06 17 26.9**	**+0.7**
PMG	**Port Moresby**	**20.11 284**		P	**P**	**06 17 48.0**	**-1.6**
CTA	**Charters Tower**	**20.27 253**		P	**P**	**06 17 50.4**	**-1.0**
	8.3nm,0.6s,baz=90,slow=14,SNR=7.1						
CTA				LR	LR	06 25 14.6	
	comp=Z,554nm,21.6s,baz=126,slow=36						
CTAO	**Charters Tower**	**20.27 253**		P	**P**	**06 17 51.5**	**+0.1**
AFI	**Afiamalu**	**20.68 89**		LR	LR	06 23 54.5	
	comp=Z,205nm,20.9s,baz=258,slow=31						
OUZ	**Omahuta**	**20.87 164**		P	**P**	**06 17 59.0**	**+1.3**
OUZ				IAmb	IAmb	06 18 22.2	
	comp=Z,51nm,1.3s						
HIZ	**Hauiti**	**24.31 165**		P	**P**	**06 18 33.7**	**+1.1**
HIZ				IAmb	IAmb	06 18 43.9	
	comp=Z,55nm,1.3s						
URZ	**Urewera**	**24.73 160**		P	**P**	**06 18 37.3**	**+1.0**
	comp=Z,8.8nm,0.9s,baz=18,slow=6.4,SNR=2.2						
BKZ	**Black Stump Fm**	**25.37 162**		P	**P**	**06 18 41.9**	**-0.4**
MSWZ	**Moikau Station**	**27.16 166**		P	**P**	**06 18 59.6**	**+1.3**
STKA	**Stephens Creek**	**28.45 230**		P	**P**	**06 19 11.4**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=51,slow=6.9,SNR=3.0						
STKA				LR	LR	06 29 46.1	
	comp=Z,240nm,20.8s,baz=42,slow=35						
RPZ	**Rata Peaks**	**28.69 174**		LR	LR	06 29 22.9	
	comp=Z,277nm,19.5s,baz=0.5,slow=34						
WB0	**Warramunga Arr**	**31.31 257**		P	**P**	**06 19 35.0**	**-0.5**
WB0				IAmb	IAmb	06 19 36.8	
	comp=Z,21nm,1.4s						
WB2	**Warramunga Arr**	**31.36 257**		P	**P**	**06 19 35.9**	**0.0**
WB2				IAmb	IAmb	06 19 49.0	
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	**31.37 257**		P	**P**	**06 19 35.0**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=85,slow=8.9,SNR=15						
WRA				LR	LR	06 32 01.0	
	comp=Z,510nm,18.0s,baz=95,slow=36						
AS31	**Alice Springs**	**32.19 250**		P	**P**	**06 19 42.4**	**-0.8**
ASAR	**Alice Springs**	**32.19 250**		P	**P**	**06 19 42.3**	**-0.9**
	comp=Z,3.1nm,0.7s,baz=74,slow=9.2,SNR=25						
ASAR				LR	LR	06 32 12.2	
	comp=Z,345nm,18.8s,baz=77,slow=35						
ASAR	**Alice Springs**	**32.19 250**		P	**P**	**06 19 42.0**	**-1.1**
BBOO	**Buckleboo**	**33.04 232**		P	**P**	**06 19 51.3**	**+0.9**
BBOO				IAmb	IAmb	06 19 59.4	
	comp=Z,13nm,1.3s						
FORT	**Forrest**	**38.77 240**		P	**P**	**06 20 39.9**	**+0.3**
FORT				IAmb	IAmb	06 20 52.1	
	comp=Z,19nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.58 260**		P	**P**	**06 20 46.0**	**-0.4**
	comp=Z,6.4nm,0.8s,baz=99,slow=6.1,SNR=11						
FITZ	**Fitzroy Crossi**	**39.58 260**		P	**P**	**06 20 46.6**	**+0.2**
PPT2	**Papeete2**	**41.77 100**		*e*LR	LR	06 32 53.2	
	comp=Z,157nm,24.8s						
NWAO	**Narrogin (SRO)**	**48.22 239**		P	**P**	**06 21 55.4**	**-0.2**
	comp=Z,12nm,0.9s,baz=70,slow=8.7,SNR=3.9						
NWAO	**Narrogin (SRO)**	**48.22 239**		P	**P**	**06 21 55.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**48.22 239**		P	**P**	**06 21 54.7**	**-0.9**
NWAO				IAmb	IAmb	06 22 03.0	
	comp=Z,17nm,1.1s						
MORW	**Morawa**	**48.76 245**		P	**P**	**06 22 00.2**	**+0.4**
MORW				IAmb	IAmb	06 22 05.3	
	comp=Z,16nm,1.1s						
JGF	**Kuroka**	**57.71 332**		P	**P**	**06 23 05.3**	**0.0**
JGF				IAmb	IAmb	06 23 06.8	
	comp=Z,8.4nm,0.9s						
MJAR	**Matsushiro Arr**	**58.11 333**		P	**P**	**06 23 06.8**	**-1.3**
	comp=Z,3.1nm,0.9s,baz=164,slow=5.9,SNR=6.5						
MAT	**Matsushiro**	**58.11 333**		P	**P**	**06 23 06.9**	**-1.2**
JNU	**Nakatsue**	**59.05 325**		P	**P**	**06 23 14.4**	**-0.3**
	comp=Z,8.4nm,0.8s,baz=131,slow=9.3,SNR=2.4						
JNU	**Nakatsue**	**59.05 325**		P	**P**	**06 23 15.3**	**+0.5**
JTM	**Tenmabayashi**	**60.59 338**		P	**P**	**06 23 25.5**	**+0.4**
VNDA	**Vanda**	**62.43 181**		P	**P**	**06 23 37.9**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=6.7,slow=6.8,SNR=21						
VNDA	**Vanda**	**62.43 181**		P	**P**	**06 23 38.2**	**+1.1**
VNDA				IAmb	IAmb	06 23 47.6	
	comp=Z,10nm,1.3s						
SBA	**Scott Base**	**62.72 180**		P	**P**	**06 23 41.1**	**+2.1**
ASAJ	**Asahikawa**	**63.02 341**		P	**P**	**06 23 42.0**	**+0.7**
	comp=Z,12nm,0.9s,baz=216,slow=14,SNR=5.2						
KSRS	**Korea Array**	**63.88 326**		LR	LR	06 49 55.9	
	comp=Z,22nm,20.2s,baz=180,slow=34						
USRK	**Ussuriysk Ar.**	**67.10 333**		P	**P**	**06 24 07.5**	**-0.3**
	comp=Z,5.2nm,0.8s,baz=151,slow=5.9,SNR=4.2						
USRK	**Ussuriysk Ar.**	**67.10 333**		P	**P**	**06 24 07.8**	**0.0**
PETK	**Petropavlovsk-**	**68.44 354**		P	**P**	**06 24 16.2**	**+0.2**
	comp=Z,8.4nm,0.8s,baz=157,slow=7.9,SNR=9.7						
PETK	**Petropavlovsk-**	**68.44 354**		P	**P**	**06 24 16.0**	**-0.1**
RPSI	**Rantau Prapat**	**69.53 279**		P	**P**	**06 24 22.9**	**-0.8**
PSI	**Prapat**	**69.56 279**		P	**P**	**06 24 22.9**	**-1.1**
	comp=Z,4.5nm,0.6s,baz=180,slow=2.0,SNR=4.5						
NIKH	**Nikolski High**	**71.00 15**		P	**P**	**06 24 31.3**	**-0.4**
XAN	**Xi'an**	**73.71 313**		P	**P**	**06 24 48.8**	**+0.3**
XAN				sP	PcP	06 25 02.8	-1.2
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
LAMP	**Lampang**	**74.21 295**		P	**P**	**06 24 53.7**	**+2.1**
	comp=Z,16nm,0.8s						
KMI	**Kunming**	**74.22 302**		⇓P	**P**	**06 24 53.8**	**+1.9**
KMI				pP	PcP	06 25 00.6	-6.0
KMI				sP	pP	06 25 05.9	-2.0
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
KMI				pmax	pmax		
	comp=Z,200nm,3.9s						
CM36	**Chiang Mai Arr**	**74.68 294**		P	**P**	**06 24 56.0**	**+1.6**
CM35	**Chiang Mai Arr**	**74.69 295**		P	**P**	**06 24 56.0**	**+1.6**
CM04	**Chiang Mai Arr**	**74.74 294**		P	**P**	**06 24 57.0**	**+2.3**
	comp=Z,7.1nm,1.1s						
CM09	**Chiang Mai Arr**	**74.74 294**		P	**P**	**06 24 58.0**	**+3.2**
	comp=Z,5.3nm,0.8s						
CM01	**Chiang Mai Arr**	**74.76 294**		P	**P**	**06 24 58.7**	**+3.8**
	comp=Z,82nmcomp=Z,8.2nm,0.9s						
CM05	**Chiang Mai Arr**	**74.77 294**		P	**P**	**06 24 58.9**	**+3.9**
	comp=Z,4.3nm,0.9s						
CM02	**Chiang Mai Arr**	**74.78 294**		P	**P**	**06 24 57.1**	**+2.2**
	comp=Z,65nmcomp=Z,7.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**74.79 294**		P	**P**	**06 24 56.4**	**+1.3**
	comp=Z,4.3nm,0.9s,baz=127,slow=4.6,SNR=16						
CMAR	**Chiang Mai Arr**	**74.79 294**		P	**P**	**06 24 56.5**	**+1.4**
CM13	**Chiang Mai Arr**	**74.81 294**		P	**P**	**06 24 57.7**	**+2.6**
	comp=Z,5.8nm,0.9s						
QSPA	**South Pole Qui**	**74.88 180**		P	**P**	**06 24 55.9**	**+1.0**
CMMT	**Chiang Mai**	**74.92 295**		P	**P**	**06 24 57.0**	**+1.2**
CM33	**Chiang Mai Arr**	**74.92 295**		P	**P**	**06 24 57.0**	**+1.2**
HHC	**Hu-ho-hao-te**	**75.67 320**		*e*P	**P**	**06 25 01.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,250nm,7.6s						
LZH	**Lanzhou**	**78.33 312**		*e*P	**P**	**06 25 16.5**	**+1.6**
LZH				pP	PcP	06 25 27.1	+3.0
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,79nm,8.2s						
OHAK	**Old Harbor**	**79.31 21**		P	**P**	**06 25 19.1**	**-0.4**
BRLK	**Bradley Lake**	**82.07 20**		P	**P**	**06 25 34.0**	**-0.3**
SONM	**Songino Array**	**82.62 324**		P	**P**	**06 25 37.6**	**0.0**
	comp=Z,1.4nm,0.9s,baz=145,slow=6.6,SNR=3.6						
GTA	**Gaotai**	**82.70 314**		⇓P	**P**	**06 25 39.5**	**+1.3**
GTA				pP	pP	06 25 49.5	-4.8
GTA				sP	sP	06 25 53.8	-6.7
GTA				pmax	pmax		
	comp=Z,11nm,1.2s						
SHL	**Shillong**	**83.45 299**		P	**P**	**06 25 41.1**	**-1.3**
SHL				IAmb	IAmb	06 25 43.9	
	comp=Z,12nm,0.9s						
RND	**Reindeer**	**85.45 18**		P	**P**	**06 25 51.1**	**-0.4**
RND				IAmb	IAmb	06 25 52.9	
	comp=Z,6.0nm,0.6s						
IMAR	**Indian Mountai**	**86.06 15**		P	**P**	**06 25 54.7**	**+0.3**
BELA	**Belgrano 2**	**86.33 176**		P	**P**	**06 25 55.6**	**-0.2**
BELA				IAmb	IAmb	06 25 56.2	
	comp=Z,5.1nm,0.7s						
IL31		**87.04 18**		P	**P**	**06 25 57.9**	**-1.2**
IL31				IAmb	IAmb	06 25 58.8	
	comp=Z,13nm,1.5s						
ILAR	**Eielson Array**	**87.04 18**		P	**P**	**06 25 57.5**	**-1.7**
	comp=Z,1.8nm,0.5s,baz=238,slow=4.9,SNR=47						
ILAR	**Eielson Array**	**87.04 18**		P	**P**	**06 25 57.8**	**-1.4**
NVAR	**Mina Array Bea**	**87.82 49**		P	**P**	**06 26 03.0**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=224,slow=6.3,SNR=6.0						
NVAR				LR	LR	06 57 53.5	
	comp=Z,79nm,19.1s,baz=270,slow=30						
NV11	**Mina Array Sit**	**87.93 49**		P	**P**	**06 26 05.1**	**+0.8**
SYO	**Syowa Base**	**88.20 197**		⇑*e*P	**P**	**06 26 06.4**	**+1.5**
J08A	**Circle Bar Ran**	**89.48 45**		P	**P**	**06 26 12.2**	**+0.7**
J08A				IAmb	IAmb	06 26 14.6	
	comp=Z,10nm,1.2s						
E08A	**Dider Farm, El**	**90.25 42**		P	**P**	**06 26 14.6**	**-0.3**
E08A				IAmb	IAmb	06 26 16.6	
	comp=Z,7.1nm,1.1s						
WMQ	**Urumqi**	**92.77 315**		*e*P	**P**	**06 26 27.8**	**+1.1**
WMQ				sP	pP	06 26 41.1	-1.9
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SNAA	**Sanae**	**93.11 183**		P	**P**	**06 26 27.1**	**-0.7**
VNA3	**Neumayer Olymp**	**93.79 181**		P	**P**	**06 26 30.3**	**-0.6**
VNA2	**Neumayer--Watz**	**94.05 182**		P	**P**	**06 26 32.1**	**0.0**
	baz=161,slow=5.0						
VNA1	**Neumayer--Stat**	**94.35 182**		P	**P**	**06 26 33.7**	**+0.2**
PDAR	**Pinedale Array**	**95.50 47**		P	**P**	**06 26 41.5**	**+2.0**
	comp=Z,0.5nm,0.9s,baz=267,slow=3.6,SNR=3.0						
PDAR				LR	LR	07 02 56.2	
	comp=Z,46nm,19.7s,baz=330,slow=31						
TXAR	**Lajitas Array**	**96.80 62**		P	**P**	**06 26 45.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=243,slow=4.0,SNR=2.7						
MK31	**Makanchi Array**	**97.26 316**		P	Pdif	06 26 47.5	+0.4
MK31				IAmb	IAmb	06 26 48.2	
	comp=Z,2.3nm,1.1s						
MKAR	**Makanchi Array**	**97.26 316**		P	Pdif	06 26 47.7	+0.5
	comp=Z,0.8nm,0.6s,baz=88,slow=6.2,SNR=8.6						
MKAR	**Makanchi Array**	**97.26 316**		P	**P**	**06 26 47.0**	**0.0**
MAKZ	**Makanchi**	**97.47 316**		P	**P**	**06 26 47.9**	**-0.2**
MAKZ				IAmb	IAmb	06 26 49.2	
	comp=Z,3.7nm,1.2s						
ZALV	**Zalesovo Beam**	**97.52 324**		P	**P**	**06 26 47.5**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=100,slow=6.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**97.52 324**		P	**P**	**06 26 46.6**	**-1.4**
YKA	**Yellowknife Ar**	**98.08 27**		P	**P**	**06 26 48.6**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=251,slow=3.9,SNR=5.7						
CPUP	**Villa Florida**	**120.43 133**		PKP	**PKPdf**	**06 32 05.3**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=233,slow=5.1,SNR=3.1						
ARCES	**ARCESS Array B**	**120.57 345**		PKP	**PKPdf**	**06 32 03.5**	**-1.6**
	comp=Z,2.5nm,0.5s,baz=64,slow=2.8,SNR=6.7						
ARCES	**ARCESS Array B**	**120.57 345**		PKP	**PKPdf**	**06 32 05.0**	**0.0**
FINES	**FINESS Array B**	**125.98 338**		PKP	**PKiKP**	**06 32 16.0**	**0.0**
	comp=Z,2.3nm,0.8s,baz=90,slow=1.9,SNR=5.7						
AKASG	**Malin Array Be**	**130.88 326**		SKPab	**SKiKP**	**06 35 55.2**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=41,slow=5.1,SNR=4.5						
NB2	**NORSAR Subarra**	**130.93 345**		SKPa		06 35 58.1	
	comp=Z,3.3nm,0.9s,baz=38,slow=4.8						
NOA	**NORSAR Array B**	**130.93 345**		PKP	**PKiKP**	**06 32 26.3**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=32,slow=2.1,SNR=3.3						
NOA				SKP		06 35 56.9	
	comp=Z,2.8nm,0.8s,baz=30,slow=3.2,SNR=10						
BDFB	**Brasilia**	**133.90 130**		PKP	**PKiKP**	**06 32 32.9**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=315,slow=2.9,SNR=3.1						
GERES	**GERESS Array B**	**139.85 332**		PKhKP	PKPpre	06 32 33.3	
	comp=Z,0.1nm,0.3s,baz=18,slow=3.5,SNR=2.0						
KEST	**Kesra**	**151.30 320**		PKPbc	**PKiKP**	**06 33 08.6**	**0.0**
	comp=Z,8.5nm,1.0s,baz=294,slow=3.2,SNR=6.7						
ESDC	**Sonseca Array**	**154.29 344**		PKPbc	**PKiKP**	**06 33 15.2**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=343,slow=4.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**165.51 264**		PKPab	**PKPab**	**06 34 18.1**	**0.0**
	comp=Z,1.3nm,0.7s,baz=90,slow=0.7,SNR=2.7						

*MOS **14** 06:13:33.7±0.9, 33.09N×115.82E, h16km, mb4.8/25, Error ellipse: s-maj=7.0km s-min=5.3km az=113.9*

*IDC **14** 06:13:33.8±0.6, 33.10N×115.77E, h0km, mb4.3/19, mb1 4.4/22, mb1mx4.3/53, mbtmp4.3/22, ML3.1/3, MS3.7/15, Ms1 3.7/15, ms1mx3.5/36, Error ellipse: s-maj=17.6km s-min=13.1km az=54.0*

*NEIC **14** 06:13:35.0±1.4, 33.15N±0.07×115.80E±0.08, h10km±1km, mb4.6/49, Error ellipse: s-maj=11.5km s-min=11.2km az=106.0*

*BJI **14** 06:13:34.2±0.0, 33.01N×115.88E, h8km, mB4.8/31, mb4.3/44, ML4.8/31, Ms4.3/53, Ms7 4.2/47*

ISC 14 06:13:35.0±0.3, 33.10N±0.03×115.90E±0.03, h10km, n236, σ1§40/259, mb4.6/73, MS3.9/12, 16C-15D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NJ2	**Nanjing**	**2.71 112**		*e*Pn	**Pn**	**06 14 19.0**	**+0.4**
NJ2				Pg	**Pb**	**06 14 24.3**	**+0.7**
NJ2				Sg	**Sb**	**06 14 58.4**	**+1.6**
NJ2				smax	smax		
	comp=N,2μm,0.6s						
NJ2				smax	smax		
	comp=E,2μm,0.7s						
WHN	**Wuhan**	**2.87 208**		Pn	**Pn**	**06 14 19.9**	**-0.9**
WHN				Pg	**Pb**	**06 14 27.3**	**+1.0**
WHN				Sn	**Sn**	**06 14 50.8**	**-4.6**
WHN				Sg	**Sb**	**06 15 01.9**	**+0.4**
WHN				smax	smax		
	comp=N,13μm,0.7s						
WHN				smax	smax		
	comp=E,9μm,0.7s						
TIA	**Tai'an**	**3.26 18**		Pn	**Pn**	**06 14 27.4**	**+1.1**
TIA				Pg	**Pg**	**06 14 35.4**	**-2.2**
TIA				Sn	**Sn**	**06 15 06.3**	**+1.1**
TIA				Sg	**Sb**	**06 15 15.6**	**+2.7**
TIA				smax	smax		
	comp=N,2μm,0.8s						
TIA				smax	smax		
	comp=E,4μm,0.7s						
SSE	**Sheshan**	**4.92 113**		Pn	**Pn**	**06 14 49.6**	**+0.6**
SSE				Sn	**Sn**	**06 15 44.3**	**-1.6**
SSE				smax	smax		
	comp=N,330nm,1.1s						
SSE				smax	smax		
	comp=E,210nm,1.3s						
SSE				LR	LR		
	comp=N,4μm,7.9s						
SSE	**Sheshan**	**4.92 113**		Pn	**Pn**	**06 14 50.5**	**+1.5**
TIY	**Taiyuan**	**5.40 329**		Pg	**Pb**	**06 15 12.8**	**+3.3**
TIY				Sg	**Sg**	**06 16 22.0**	**-6.4**
TIY				smax	smax		
	comp=N,370nm,0.7s						
TIY				smax	smax		
	comp=E,830nm,0.8s						
XAN	**Xi'an**	**5.90 281**		Pn	**Pn**	**06 15 00.9**	**-1.6**
XAN				Pg	Pb	06 15 22.3	+4.3
XAN				Sg	**Sb**	**06 16 35.3**	**+6.6**
XAN				smax	smax		
	comp=N,1μm,0.8s						
XAN				smax	smax		
	comp=E,730nm,0.8s						
XAN				LR	LR		
	comp=E,2μm,6.7s						
XAN	**Xi'an**	**5.90 281**		P	**Pn**	**06 15 01.2**	**-1.3**
XAN	**Xi'an**	**5.90 281**		Pn	**Pn**	**06 15 01.2**	**-1.3**
ENH	**Enshi**	**6.15 244**		Pn	**Pn**	**06 15 06.5**	**+0.6**
BJT	**Baijiatuau**	**6.91 2**		P	**Pn**	**06 15 16.0**	**-0.3**
BJT	**Baijiatuau**	**6.91 2**		Pn	**Pn**	**06 15 16.0**	**-0.3**
BJI	**Beijing**	**6.93 2**		Pn	**Pn**	**06 15 15.8**	**-0.8**
BJI				smax	smax		
	comp=N,170nm,0.7s						
BJI				smax	smax		
	comp=E,190nm,1.1s						
DL2	**Dalian**	**7.42 37**		Pn	**Pn**	**06 15 27.6**	**+4.2**
DL2				Sn	Sb	06 17 01.5	-11
DL2				Sg	**Sg**	**06 17 28.1**	**-5.1**
DL2				smax	smax		
	comp=N,430nm,0.8s						
DL2				smax	smax		
	comp=E,490nm,1.0s						
DL2				LR	LR		
	comp=Z,790nm,7.6s						
HHC	**Hu-ho-hao-te**	**8.47 337**		*e*P	**Pn**	**06 15 37.5**	**-0.4**
HHC				S	**Sn**	**06 17 13.3**	**-0.3**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,57nm,6.6s						
HHC				LR	LR		
	comp=E,1μm,10.7s						
HHC				LR	LR		
	comp=Z,1μm,15.1s						
YHNB	**Yeheng**	**9.68 149**		Pn	**Pn**	**06 15 55.1**	**+0.7**
LZH	**Lanzhou**	**10.37 290**		*e*P	**Pn**	**06 16 04.3**	**+0.3**
LZH				pP		06 16 07.1	
LZH				PP	**PnPn**	**06 16 13.3**	**+1.7**
LZH				pmax	pmax		
	comp=Z,21nm,0.9s						
LZH				pmax	pmax		
	comp=Z,120nm,4.8s						
LZH				LR	LR		
	comp=E,2μm,13.0s						
LZH				LR	LR		
	comp=Z,960nm,14.1s						
GYA	**Guiyang**	**10.39 233**		⇓P	**Pn**	**06 16 07.3**	**+3.0**
GYA				S	**Sn**	**06 18 02.0**	**+1.0**
GYA				pmax	pmax		
	comp=Z,21nm,0.6s						
GYA				LR	LR		
	comp=E,710nm,6.8s			

MDJ	**Mudanjiang**	**15.66**	**39**	P	**P**	**06 17 22.3**	**+2.5**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,190nm,6.5s						
MDJ	**Mudanjiang**	**15.66**	**39**	Pn	**Pn**	**06 17 14.7**	**-1.1**
MDJ				IAmb	IAmb	06 17 23.9	
	comp=Z,20nm,1.4s						
SLVN	**Son La**	**15.83**	**225**	Pn	**Pn**	**06 17 17.0**	**-1.1**
SZP	**Santa**	**16.02**	**164**	Pn	**Pn**	**06 17 20.9**	**+0.4**
SZP				IAmb	IAmb	06 17 28.0	
	comp=Z,107nm,1.3s						
ULN	**Ulaanbaatar**	**16.19**	**338**	*ce*P	**Pn**	**06 17 23.7**	**+1.0**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ULN	**Ulaanbaatar**	**16.19**	**338**	P	**P**	**06 17 24.8**	**-1.1**
SONM	**Songino Array**	**16.38**	**337**	Pn	**Pn**	**06 17 25.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=154,slow=13,SNR=12						
SONM				Lg	Lg	06 22 05.5	
	comp=Z,0.1nm,0.3s,baz=134,slow=19,SNR=4.4						
SONM				LR	LR	06 24 49.2	
	comp=Z,133nm,18.9s,baz=184,slow=41						
SONM	**Songino Array**	**16.38**	**337**	P	**Pn**	**06 17 25.7**	**+0.6**
SONM				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SONM	**Songino Array**	**16.38**	**337**	P	**Pn**	**06 17 25.7**	**+0.6**
HIA	**Hailar**	**16.40**	**9**	*i* P	**Pn**	**06 17 24.5**	**-0.8**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HIA	**Hailar**	**16.40**	**9**	P	**Pn**	**06 17 25.7**	**+0.4**
USA0B	**Ussuriysk Arra**	**16.73**	**44**	*i* P	**Pn**	**06 17 29.4**	**0.0**
USRK	**Ussuriysk Ar.**	**16.73**	**44**	Pn	**P**	**06 17 34.0**	**+2.3**
	baz=230,slow=10,SNR=6.3						
USRK				Lg	Lg	06 22 22.5	
	baz=229,slow=13,SNR=4.2						
USRK				LR	LR	06 24 44.6	
	comp=Z,346nm,18.5s,baz=225,slow=40						
USRK	**Ussuriysk Ar.**	**16.73**	**44**	P	**P**	**06 17 32.8**	**+1.1**
USRK	**Ussuriysk Ar.**	**16.73**	**44**	P	**P**	**06 17 32.8**	**+1.1**
MAJO	**Matsushiro**	**18.63**	**73**	*i* P	**Pn**	**06 17 54.0**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,12nm,1.0s						
MAT	**Matsushiro**	**18.63**	**73**	P	**Pn**	**06 17 54.8**	**+1.7**
MJAR	**Matsushiro Arr**	**18.63**	**73**	P	**Pn**	**06 17 54.8**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=273,slow=11,SNR=12						
MJAR				LR	LR	06 25 56.0	
	comp=Z,144nm,18.5s,baz=245,slow=40						
MJAR	**Matsushiro Arr**	**18.63**	**73**	P	**P**	**06 17 52.5**	**-0.4**
TGY	**Tagaytay City**	**19.46**	**165**	LR	LR	06 25 48.2	
	comp=Z,161nm,18.3s,baz=284,slow=38						
ZAK	**Zakamensk**	**19.62**	**335**	*e*P	**Pn**	**06 18 04.4**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,14nm,1.0s						
KLR	**Kul'dur**	**19.98**	**32**	P	**Pn**	**06 18 09.5**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=235,slow=9.5,SNR=16						
KLR				Lg	Lg	06 24 08.2	
	comp=Z,1.4nm,0.8s,baz=114,slow=7.6,SNR=3.6						
KLR				LR	LR	06 26 45.9	
	comp=Z,168nm,18.6s,baz=220,slow=40						
KLR	**Kul'dur**	**19.98**	**32**	*ce*P	**Pn**	**06 18 09.7**	**+0.5**
KLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
UTTA	**Uttaradit**	**20.60**	**226**	P	Pn	06 18 16.0	-0.6
	comp=Z,32nm,0.9s						
TLY	**Talaya**	**20.60**	**338**	P	Pn	06 18 15.8	-0.6
	comp=Z,7.1nm,0.7s,baz=172,slow=7.3,SNR=20						
TLY				Lg	Lg	06 24 29.1	
	comp=Z,1.7nm,0.4s,baz=267,slow=19,SNR=2.9						
TLY				LR	LR	06 26 56.3	
	comp=Z,454nm,18.4s,baz=158,slow=39						
TLY	**Talaya**	**20.60**	**338**	*e*P	Pn	06 18 16.1	-0.4
TLY				pmax	pmax		
	comp=Z,28nm,0.8s						
TLY				MLR	MLR		
	comp=Z,852nm,10.0s						
TLY	**Talaya**	**20.60**	**338**		**P**	**06 18 14.5**	**+0.2**
TLY				IAmb	IAmb	06 18 17.0	
	comp=Z,11nm,0.8s						
CMMT	**Chiang Mai**	**20.81**	**231**	P	**P**	**06 18 17.0**	**+0.3**
	comp=Z,4.7nm,0.8s						
CHTO	**Chiang Mai**	**20.81**	**231**	P	**P**	**06 18 16.4**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CHTO	**Chiang Mai**	**20.81**	**231**	P	**P**	**06 18 16.4**	**-0.3**
IRK	**Irkutsk**	**20.90**	**340**	*e*P	**P**	**06 18 17.6**	**+0.2**
IRK				pmax	pmax		
	comp=Z,52nm,0.8s						
CM36	**Chiang Mai Arr**	**20.92**	**230**	P	Pn	06 18 20.0	-0.4
CM09	**Chiang Mai Arr**	**21.05**	**230**	P	**P**	**06 18 21.0**	**+1.8**
	comp=Z,14nm,0.8s						
CM31	**Chiang Mai Arr**	**21.07**	**230**	P	**P**	**06 18 20.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**21.07**	**230**	P	**P**	**06 18 20.3**	**+0.8**
	comp=Z,4.6nm,0.7s,baz=36,slow=9.5,SNR=18						
CMAR				LR	LR	06 27 28.8	
	comp=Z,265nm,19.9s,baz=85,slow=40						
CMAR	**Chiang Mai Arr**	**21.07**	**230**	P	**P**	**06 18 19.8**	**+0.3**
CM02	**Chiang Mai Arr**	**21.08**	**230**	P	**P**	**06 18 21.0**	**+1.4**
	comp=Z,96nmcomp=Z,14nm,0.8s						
CM15	**Chiang Mai Arr**	**21.08**	**230**	P	**P**	**06 18 22.5**	**+2.9**
	comp=Z,10.0nm,0.9s						
CM01	**Chiang Mai Arr**	**21.08**	**230**	P	**P**	**06 18 22.0**	**+2.4**
	comp=Z,99nmcomp=Z,15nm,0.8s						
CM04	**Chiang Mai Arr**	**21.09**	**230**	P	**P**	**06 18 21.5**	**+1.8**
	comp=Z,9.1nm,0.9s						
CM05	**Chiang Mai Arr**	**21.11**	**230**	P	**P**	**06 18 21.0**	**+1.1**
	comp=Z,60nmcomp=Z,6.5nm,0.9s						
PHIT	**Phitsanulok**	**21.11**	**225**	P	**P**	**06 18 21.5**	**+1.6**
	comp=Z,121nm,0.9s						
CM13	**Chiang Mai Arr**	**21.12**	**230**	P	**P**	**06 18 21.0**	**+1.0**
	comp=Z,61nmcomp=Z,6.4nm,0.8s						
CHAI	**Chaiyaphum**	**21.25**	**220**	P	**P**	**06 18 22.7**	**+1.3**
	comp=Z,14nm,0.8s						
SUKH	**Sukhothai**	**21.36**	**227**	P	**P**	**06 18 25.0**	**+2.4**
	comp=Z,9.0nm,0.8s						
LSA	**Lhasa**	**21.38**	**268**	P	**P**	**06 18 25.0**	**+1.7**
LSA				pP	**sP**	**06 18 31.8**	**+4.4**
LSA				pmax	pmax		
	comp=Z,73nm,1.7s						
LSA				pmax	pmax		
	comp=Z,240nm,2.3s						
LSA				LR	LR		
	comp=Z,580nm,7.8s						
LSA				LR	LR		
	comp=Z,820nm,7.1s						
LSA				LR	LR		
	comp=Z,1µm,9.3s						
LSA	**Lhasa**	**21.38**	**268**	P	**P**	**06 18 22.3**	**-1.0**
LSA				pmax	pmax		
	comp=Z,12nm,0.7s						
LSA	**Lhasa**	**21.38**	**268**	P	**P**	**06 18 22.3**	**-1.0**
LSA				IAmb	IAmb	06 18 28.0	
	comp=Z,12nm,0.7s						
MOY	**Mondy**	**21.50**	**334**	*e*P	**P**	**06 18 25.0**	**+1.0**
MOY				pmax	pmax		
	comp=Z,28nm,2.2s						
SHL	**Shillong**	**22.21**	**257**	P	**P**	**06 18 30.3**	**-1.6**
SHL				pmax	pmax		
	comp=Z,87nm,0.9s						
SHL	**Shillong**	**22.21**	**257**	P	**P**	**06 18 30.3**	**-1.6**
UTHA	**Uthaitani**	**22.96**	**224**	P	**P**	**06 18 41.0**	**+1.3**
	comp=Z,11nm,0.7s						
ASAJ	**Asahikawa**	**23.48**	**54**	LR	LR	06 27 50.1	
	comp=Z,91nm,18.9s,baz=352,slow=36						
JCJ	**Chichijima**	**23.49**	**98**	LR	LR	06 29 20.5	
	comp=Z,40nm,18.1s,baz=294,slow=40						
WMQ	**Urumqi**	**24.43**	**304**	*e*P	**P**	**06 18 54.0**	**+0.1**
WMQ				sP	sP	06 19 04.6	+6.4
WMQ				pmax	pmax		
	comp=Z,250nm,7.3s						
WMQ				LR	LR		
	comp=Z,980nm,13.1s						
WMQ				LR	LR		
	comp=Z,920nm,6.3s						
WMQ				LR	LR		
	comp=Z,520nm,18.5s						
WMQ	**Urumqi**	**24.43**	**304**	P	**P**	**06 18 52.8**	**-1.1**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ	**Urumqi**	**24.43**	**304**	P	**P**	**06 18 52.8**	**-1.1**
WMQ				IAmb	IAmb	06 19 14.7	
	comp=Z,9.4nm,0.7s						
YSS	**Yuzh-Sakhalins**	**24.64**	**48**	*i* P	**P**	**06 18 55.8**	**+0.2**
YSS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TAPN	**Taplejung**	**24.98**	**264**	*e*P	**P**	**06 19 01.0**	**+1.8**
	comp=Z,33nm,0.7s						
ODAN	**Odare**	**25.42**	**263**	*e*P	**P**	**06 19 02.7**	**-0.4**
	comp=Z,70nm,0.8s						
RAMN	**Ramite**	**26.04**	**264**	*e*P	**P**	**06 19 08.2**	**-0.7**
	comp=Z,20nm,0.8s						
GUN	**Gumba**	**26.32**	**267**	*e*P	**P**	**06 19 12.5**	**+1.0**
	comp=Z,78nm,0.7s						
PKI	**Pulchoki**	**26.83**	**266**	*e*P	**P**	**06 19 15.6**	**-0.4**
	comp=Z,23nm,0.9s						
PKIN	**Phulchoki**	**26.84**	**266**	*e*P	**P**	**06 19 15.7**	**-0.4**
	comp=Z,17nm,0.6s						
GKN	**Gorkha**	**27.34**	**268**	*e*P	**P**	**06 19 20.7**	**+0.3**
	comp=Z,55nm,0.9s						
MK31	**Makanchi Array**	**28.92**	**308**	P	**P**	**06 19 33.6**	**-0.6**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MK31	**Makanchi Array**	**28.92**	**308**	P	**P**	**06 19 33.6**	**-0.6**
MKAR	**Makanchi Array**	**28.92**	**308**	P	**P**	**06 19 33.4**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=95,slow=11,SNR=14						
MKAR				LR	LR	06 30 33.5	
	comp=Z,95nm,19.3s,baz=81,slow=35						
MKAR	**Makanchi Array**	**28.92**	**308**	P	**P**	**06 19 33.5**	**-0.8**
MKAR	**Makanchi Array**	**28.92**	**308**	P	**P**	**06 19 33.5**	**-0.8**
MAKZ	**Makanchi**	**29.14**	**308**	P	**P**	**06 19 34.5**	**-1.6**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MAKZ	**Makanchi**	**29.14**	**308**	P	**P**	**06 19 34.5**	**-1.6**
YAK	**Yakutsk**	**30.27**	**13**	*i* P	**P**	**06 19 46.4**	**+0.5**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ZAA0	**Zalesovo Array**	**30.30**	**323**	P	**P**	**06 19 45.2**	**-1.1**
ZAA0				IAmb	IAmb	06 19 48.8	
	comp=Z,4.2nm,0.7s						
ZALV	**Zalesovo Beam**	**30.30**	**323**	P	**P**	**06 19 45.9**	**-0.4**
	comp=Z,5.4nm,0.7s,baz=118,slow=8.9,SNR=20						
ZALV				LR	LR	06 31 23.4	
	comp=Z,50nm,20.2s,baz=123,slow=35						
ZALV	**Zalesovo Beam**	**30.30**	**323**	P	**P**	**06 19 45.6**	**-0.7**
KURK	**Kurchatov**	**32.41**	**314**	P	**P**	**06 20 06.5**	**+1.6**
KURK	**Kurchatov**	**32.41**	**314**	P	**P**	**06 20 06.5**	**+1.6**
KURBB	**Kurchatov Arra**	**32.44**	**314**	P	**P**	**06 20 06.5**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=114,slow=9.3,SNR=9.0						
KURBB				PcP	**PcP**	**06 22 52.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=104,slow=2.7,SNR=4.1						
KSH	**Kashi**	**32.60**	**293**	P	**P**	**06 20 10.8**	**+3.9**
KSH				PP	**PP**	**06 21 19.8**	**-0.7**
KSH				S	**S**	**06 25 25.4**	**+2.7**
KSH				PcS	**PcS**	**06 26 40.9**	**+2.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,510nm,6.6s						
KSH				LR	LR		
	comp=Z,540nm,8.8s						
KSH				LR	LR		
	comp=Z,630nm,6.8s						
KSH				LR	LR		
	comp=Z,450nm,8.5s						
NIL	**Nilore**	**35.43**	**283**	P	**P**	**06 20 29.7**	**-1.7**
NIL				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NIL	**Nilore**	**35.43**	**283**	P	**P**	**06 20 29.7**	**-1.7**
NIL				IAmb	IAmb	06 20 33.2	
	comp=Z,10nm,0.6s						
PETK	**Petropavlovsk-**	**35.82**	**43**	LR	LR	06 34 51.9	
	comp=Z,153nm,19.2s,baz=240,slow=36						
SEY	**Seymchan**	**37.62**	**26**	*i* P	**P**	**06 20 49.5**	**-0.2**
BRVK	**Borovoye**	**38.02**	**316**	*i* P	**P**	**06 20 53.5**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,39nm,9.3s						
KBL	**Kabul**	**38.68**	**285**	P	**P**	**06 20 58.8**	**-0.5**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KBL	**Kabul**	**38.68**	**285**	P	**P**	**06 20 58.8**	**-0.5**
KBL				IAmb	IAmb	06 21 05.1	
	comp=Z,8.6nm,0.5s						
ABKAR	**Akbulak array**	**44.07**	**309**	P	**P**	**06 21 41.8**	**-1.3**
ABKAR	**Akbulak array**	**44.07**	**309**	P	**P**	**06 21 41.0**	**-2.0**
HRA	**Herat**	**44.19**	**287**	P	**P**	**06 21 42.6**	**-2.0**
HRA				IAmb	IAmb	06 21 47.5	
	comp=Z,9.9nm,0.8s						
ARU	**Arti**	**45.28**	**319**	*c* iP	**P**	**06 21 51.7**	**-0.9**
ARU						06 23 25.5	
ARU				S	**S**	**06 28 34.4**	**+1.6**
ARU				SS	**ScS**	**06 31 47.3**	**-2.0**
ARU				pmax	pmax		
	comp=Z,33nm,2.7s						
AKTO	**Aktyubinsk**	**45.31**	**310**	P	**P**	**06 21 53.3**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=110,slow=16,SNR=4.9						
GEYT	**Alibeck**	**46.64**	**293**	P	**P**	**06 22 04.5**	**+0.8**
	comp=Z,8.1nm,0.8s,baz=132,slow=2.2,SNR=7.0						
GEYT	**Alibeck**	**46.64**	**293**	P	**P**	**06 22 03.7**	**+0.1**
GEYT				IAmb	IAmb	06 22 06.7	
	comp=Z,6.3nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**46.64**	**293**	P	**P**	**06 22 02.0**	**-1.7**
BELG	**Belogornoye**	**51.69**	**313**	*i* P	**P**	**06 22 41.2**	**-0.8**
BELG				pmax	pmax		
	comp=Z,13nm,5.1s						
PRGR	**Permogore**	**52.20**	**325**	*e*P	**P**	**06 22 44.5**	**-1.2**
PRGR				pmax	pmax		
	comp=Z,13nm,0.9s						
KLMR	**Klimovskoe**	**55.20**	**325**	*e*P	**P**	**06 23 06.5**	**-1.2**
KLMR				pmax	pmax		
	comp=Z,16nm,1.2s						
KLMR	**Klimovskoe**	**55.20**	**325**	*e*P	**P**	**06 23 06.5**	**-1.2**
KLMR				AMP		06 23 10.2	
	comp=Z,16nm,1.2s						
WRA	**Warramunga Arr**	**55.61**	**159**	P	**P**	**06 23 11.6**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=346,slow=7.7,SNR=19						
WB2	**Warramunga Arr**	**55.62**	**159**	P	**P**	**06 23 11.6**	**+0.5**
WB2				IAmb	IAmb	06 23 13.7	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**55.69**	**159**	P	**P**	**06 23 12.2**	**+0.6**
WR0				IAmb	IAmb	06 23 13.2	
	comp=Z,5.0nm,0.7s						
ZEI	**Tsey**	**56.02**	**302**	*e*P	**P**	**06 23 12.8**	**-1.4**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIV	**Kislovodsk**	**56.56**	**304**	*e*P	**P**	**06 23 16.8**	**-1.0**
KIV				pmax	pmax		
	comp=Z,39nm,1.1s						
KIV				MLR	MLR		
	comp=Z,234nm,17.0s						
OBN	**Obninsk**	**57.71**	**318**	*e*P	**P**	**06 23 25.0**	**-0.6**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SOC	**Sochi**	**58.73**	**304**	*e*P	**P**	**06 23 31.5**	**-1.5**
SOC				*e*		06 25 42.9	
SOC				*e*S	**S**	**06 31 36.9**	**-0.9**
SOC				*e*SS	**SS**	**06 35 28.3**	**-2.2**
SOC				*e*SSS	SSS	06 37 59.1	
SOC				MLR	MLR		
	comp=Z,88nm,17.0s						
KEV	**Kevo**	**58.99**	**336**	P	**P**	**06 23 34.4**	**0.0**
KEV	**Kevo**	**58.99**	**336**	P	**P**	**06 23 34.4**	**0.0**
AS31	**Alice Springs**	**59.01**	**161**	P	**P**	**06 23 35.8**	**+0.8**
ASAR	**Alice Springs**	**59.01**	**161**	P	**P**	**06 23 35.7**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=340,slow=6.3,SNR=28						
ASAR	**Alice Springs**	**59.01**	**161**	P	**P**	**06 23 36.0**	**+1.0**
ASAR	**Alice Springs**	**59.01**	**161**	P	**P**	**06 23 36.0**	**+1.0**
ARCES	**ARCESS Array B**	**59.55**	**336**	P	**P**	**06 23 38.1**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=60,slow=7.6,SNR=12						
ARCES	**ARCESS Array B**	**59.55**	**336**	P	**P**	**06 23 38.4**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,29nm,1.2s						
ARCES	**ARCESS Array B**	**59.55**	**336**	P	**P**	**06 23 38.4**	**+0.1**
SOCY	**Socotra**	**59.97**	**265**	P	**P**	**06 23 40.4**	**-1.6**
SOCY				IAmb	IAmb	06 23 41.3	
	comp=Z,3.7nm,0.8s						
TOLK	**Toolik Lake Re**	**61.22**	**25**	P	**P**	**06 23 50.5**	**+0.7**
TOLK				IAmb	IAmb	06 23 59.6	
	comp=Z,11nm,1.4s						
FIA1	**FINESS Array S**	**61.45**	**327**	P	**P**	**06 23 50.8**	**-0.5**
FINES	**FINESS Array B**	**61.45**	**327**	P	**P**	**06 23 50.6**	**-0.7**
	comp=Z,6.8nm,0.6s,baz=83,slow=6.8,SNR=22						
FINES				LR	LR	06 52 09.8	
	comp=Z,214nm,18.4s,baz=20,slow=38						
FINES	**FINESS Array B**	**61.45**	**327**	*i* P	**P**	**06 23 51.0**	**-0.3**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
FINES	**FINESS Array B**	**61.45**	**327**	P	**P**	**06 23 51.2**	**-0.1**
MDM	**Murphy Dome**	**62.92**	**28**	P	**P**	**06 24 01.8**	**+0.6**
MDM				IAmb	IAmb	06 24 06.8	
	comp=Z,9.3nm,1.4s						
TCOL	**CIGO, UAF Yank**	**63.09**	**28**	P	**P**	**06 24 03.4**	**+1.1**
COLA	**College**	**63.10**	**28**	P	**P**	**06 24 03.4**	**+1.1**
COLA				pmax	pmax		
	comp=Z,17nm,1.4s						
COLA	**College**	**63.10**	**28**	P	**P**	**06 24 03.4**	**+1.1**
NACGM	**Naroch**	**63.18**	**320**	*i* P	**P**	**06 24 02.7**	**-0.3**
NACGM				*i* P	**P**	**06 24 02.7**	**-0.3**
NACGM				*i* P	**P**	**06 24 02.7**	**-0.3**
NACGM				*i* PP	PP	06 25 57.9	-24
NACGM				*i* PPP	PPP	06 28 24.7	
NACGM				*i* S	**S**	**06 32 36.1**	**+1.9**
NACGM				*i* SS	SS	06 36 54.1	+14
NACGM				*i* SSS	SSS	06 39 42.7	
NACGM				*i* LQ	LQ	06 47 19.4	
NACGM				*i* LR	LR	06 53 05.7	
AKASG	**Malin Array Be**	**63.23**	**315**	P	**P**	**06 24 02.0**	**-1.4**
	comp=Z,1.4nm,0.5s,baz=58,slow=6.6,SNR=6.2						
AKASG				LR	LR	06 52 59.6	
	comp=Z,87nm,18.2s,baz=345,slow=38						
AKASG	**Malin Array Be**	**63.23**	**315**	*ce*P	**P**	**06 24 02.0**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKBB	**Malin Array Si**	**63.23**	**315**	*ce*P	**P**	**06 24 03.0**	**-0.4**
BMAR	**Burnt Mountain**	**63.40**	**25**	P	**P**	**06 24 05.6**	**+1.2**
BR131	**Keskin Array S**	**64.33**	**302**	P	**P**	**06 24 10.5**	**-0.6**
BR131				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BR131	**Keskin Array S**	**64.33**	**302**	P	**P**	**06 24 10.5**	**-0.6**
BR131				IAmb	IAmb	06 24 13.2	
	comp=Z,5.7nm,0.8s						
BRTR	**Keskin Array B**	**64.33**	**302**	P	**P**	**06 24 10.2**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=97,slow=5.6,SNR=16						
BRTR	**Keskin Array B**	**64.33**	**302**	*ce*P	**P**	**06 24 10.8**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR	**Keskin Array B**	**64.33**	**302**	P	**P**	**06 24 10.1**	**-1.0**
FORT	**Forrest**	**64.57**	**168**	P	**P**	**06 24 12.8**	**+0.5**
SORM	**Soroca**	**64.68**	**312**	⇑P	**P**	**06 24 12.1**	**-0.9**
SORM	**Soroca**	**64.68**	**312**	⇑P	**P**	**06 24 12.1**	**-0.9**
CFR	**Carcaliu**	**65.95**	**309**	⇑P	**P**	**06 24 21.6**	**+0.3**
CFR	**Carcaliu**	**65.95**	**309**	⇑P	**P**	**06 24 21.6**	**+0.3**
BIZ	**Bicaz**	**66.55**	**312**	⇓P	**P**	**06 24 24.8**	**-0.3**
VRI	**Vrincioaia**	**66.59**	**310**	⇑P	**P**	**06 24 24.9**	**-0.5**
VRI	**Vrincioaia**	**66.59**	**310**	⇑P	**P**	**06 24 24.9**	**-0.5**
BUR08	**Bucovina Ar. S**	**66.82**	**313**	P	**P**	**06 24 26.2**	**-0.9**
BUR08				IAmb	IAmb	06 24 29.0	
	comp=Z,4.0nm,0.8s						
BURAR	**Bucovina Array**	**66.83**	**313**	⇓P	**P**	**06 24 26.2**	**-0.8**
BURAR	**Bucovina Array**	**66.83**	**313**	⇓P	**P**	**06 24 26.2**	**-0.8**
BURAR	**Bucovina Array**	**66.83**	**313**	P	**P**	**06 24 25.3**	**-1.7**
MLR	**Muntele Rosu**	**67.24**	**310**	⇓P	**P**	**06 24 29.9**	**+0.1**
MLR	**Muntele Rosu**	**67.24**	**310**	⇓P	**P**	**06 24 29.9**	**+0.1**
KWP	**Kalwaria Pacla**	**67.50**	**315**	P	**P**	**06 24 30.4**	**-0.8**
KWP				pmax	pmax		
	comp=Z,15nm,0.7s						
KWP	**Kalwaria Pacla**	**67.50**	**315**	P	**P**	**06 24 30.4**	**-0.8**
NC405	**NORSAR Array S**	**67.96**	**329**	P	**P**	**06 24 32.9**	**-1.0**
KOLS	**Kolonicke sedl**	**68.06**	**315**	*e*P	**P**	**06 24 33.9**	**-0.8**
KOLS	**Kolonicke sedl**	**68.06**	**315**	*e*P	**P**	**06 24 33.9**	**-0.8**
ARR	**Arges**	**68.13**	**311**	⇓P	**P**	**06 24 35.3**	**0.0**
NB201	**NORSAR Array S**	**68.17**	**330**	P	**P**	**06 24 34.3**	**-0.9**
NB2	**NORSAR Subarra**	**68.20**	**330**	P	**P**	**06 24 34.2**	**-1.2**
	comp=Z,13nm,0.8s,baz=60,slow=6.2						
NOA	**NORSAR Array B**	**68.20**	**330**	P	**P**	**06 24 34.7**	**-0.7**
	comp=Z,4.5nm,0.7s,baz=59,slow=6.0,SNR=23						
NC602	**NORSAR Array S**	**68.21**	**329**	P	**P**	**06 24 34.5**	**-0.9**
DRGR		**68.72**	**313**	⇓P	**P**	**06 24 39.3**	**+0.3**
DRGR		**68.72**	**313**	⇓P	**P**	**06 24 39.3**	**+0.3**
OJC	**Ojcow**	**68.94**	**317**	P	**P**	**06 24 38.7**	**-1.5**
OJC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
OJC	**Ojcow**	**68.94**	**317**	P	**P**	**06 24 38.7**	**-1.5**
OJC				IAmb	IAmb	06 24 41.5	
	comp=Z,6.7nm,0.9s						
C36M	**Paulatuk**	**68.95**	**19**	P	**P**	**06 24 39.8**	**-0.1**
C36M				IAmb	IAmb	06 24 43.9	
	comp=Z,2.8nm,0.7s						
STKA	**Stephens Creek**	**69.03**	**157**	P	**P**	**06 24 41.2**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=348,slow=6.6,SNR=5.8						
STKA	**Stephens Creek**	**69.03**	**157**	P	**P**	**06 24 41.3**	**+0.5**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.5s						
STKA	**Stephens Creek**	**69.03**	**157**	P	**P**	**06 24 41.3**	**+0.5**
STKA				IAmb	IAmb	06 25 08.2	
	comp=Z,2.4nm,1.4s						
GZR	**Gura Zlata**	**69.30**	**311**	⇓P	**P**	**06 24 42.3**	**-0.2**
MDVR	**Moldovita**	**70.25**	**311**	⇓P	**P**	**06 24 47.4**	**-1.0**
VTS	**Vitosha**	**70.25**	**308**	⇓P	**P**	**06 24 48.8**	**+0.2**
VTS	**Vitosha**	**70.25**	**308**	⇓P	**P**	**06 24 48.8**	**+0.2**
VYHS	**Vyhne**	**70.29**	**315**	*e*P	**P**	**06 24 48.1**	**-0.5**
VYHS	**Vyhne**	**70.29**	**315**	*e*P	**P**	**06 24 48.1**	**-0.5**
MORC	**Moravsky Berou**	**70.44**	**317**	⇓P	**P**	**06 24 49.1**	**-0.3**
MORC	**Moravsky Berou**	**70.44**	**317**	P	**P**	**06 24 49.0**	**-0.5**
MORC

CSGN Cosiguina Volc 0.59 48 Pn 06 13 51.0 +1.9
CNCH Conchagua 0.71 14 eP Pn 06 13 49.6 -0.8
CNCH eS Sn 06 14 01.3 -0.1
LCND La Caada 0.73 9 i P Pn 06 13 49.7 -0.8
LCND eS Sn 06 14 01.2 -0.4
LCND IAML 06 14 03.9
comp=Z,28µm,0.3s
LCY Lacayo 0.88 342 eP Pn 06 13 51.7 -0.8
CNRM Centro Naciona 0.90 350 eP Pn 06 13 51.9 -0.7
ALJI Alcalda de J 0.92 324 eP Pn 06 13 51.7 -1.1
ALJI IAML 06 14 07.7
comp=Z,26µm,0.2s
PACA Pacayal 0.93 341 eP Pn 06 13 52.7 -0.5
PACA eS Sn 06 14 05.5 -0.7
CRIN San Cristobal 0.94 83 Pn 06 13 52.3 -0.9
CRIN Sn Sn 06 14 08.5 +2.2
TECA Tecapa 1.02 332 eP Pn 06 13 53.4 -0.9
COEB Comit de Eme 1.04 331 eP Pn 06 13 53.4 -1.1
COEB IAML 06 14 13.1
comp=Z,12µm,0.4s
PQSS Presa 15 de Se 1.17 333 eP Pn 06 13 55.7 -0.3
LFRS El Faro 1.46 315 i P Pn 06 13 59.0 -1.0
LBRS Las Brisas 1.53 319 eP Pn 06 14 00.5 -0.4
AEIL Aeropuerto Ilo 1.55 316 eP Pn 06 14 00.7 -0.4
AEIL IAML 06 14 28.7
comp=Z,20µm,0.4s
LALI Alcalda de L 1.56 305 eP Pn 06 13 59.7 -1.6
UDBS Universidad Do 1.58 315 eP Pn 06 14 01.0 -0.6
OPAM Oficina de Pla 1.61 314 eP Pn 06 14 01.3 -0.6
SNET Serv Nac Est T 1.62 313 eP Pn 06 14 01.2 -0.9
SNET eS Sn 06 14 20.9 -1.2
SNET IAML 06 14 25.4
comp=Z,13µm,0.3s
SNET Serv Nac Est T 1.62 313 Pn 06 14 01.2 -0.9
CPRS Casa Presidenc 1.62 313 eP Pn 06 14 01.3 -0.9
TGUH Tegucigalpa,Un 1.63 26 Pn 06 14 02.5 +0.2
TGUH Sn Sn 06 14 23.4 +0.9
UEES Universidad Ev 1.64 313 eP Pn 06 14 01.6 -0.9
BOQS Boqueron 1.69 313 eP Pn 06 14 02.7 -0.4
PMON Piamonte 1.70 312 eP Pn 06 14 02.4 -0.7
JAYA Jayaque - finc 1.76 307 eP Pn 06 14 02.7 -1.4
JAYA IAML 06 14 26.8
comp=Z,17µm,0.2s
CEDA San Andres 1.81 312 eP Pn 06 14 04.1 -0.6
LLGN La Laguna 1.81 330 eP Pn 06 14 04.6 -0.1
TACO Tacachico 1.90 317 eP Pn 06 14 05.3 -0.5
CEVE Cerro Verde 2.00 308 eP Pn 06 14 07.0 -0.4
SBLS San Blas 2.01 309 eP Pn 06 14 07.0 -0.4
SNJE San Jose 2.01 310 eP Pn 06 14 07.2 -0.3
RTR El Retiro 2.06 310 eP Pn 06 14 08.1 0.0
MATN Matagalpa 2.06 80 Pn 06 14 10.8 +2.8
BOAB BOACO BROADBAN 2.29 93 Pn 06 14 09.6 -1.5
ESQI Esquipulas 2.35 327 eP Pn 06 14 12.5 +0.4
ESQI Esquipulas 2.35 327 Pn 06 14 12.4 +0.4
ACON Acoyapa 2.84 102 eP Pn 06 14 16.5 -2.0
ACON Acoyapa 2.84 102 Pn 06 14 16.8 -1.8
HZTE Horizontes, Gu 3.01 128 eP Pn 06 14 20.6 -0.3
GB1A Borinquen Arri 3.10 124 i P Pn 06 14 20.5 -1.7
GB1A i S Sn 06 15 00.2 +2.1
BUEV Buena Vista 3.11 125 i P Pn 06 14 20.6 -1.6
GPS2 Hotel Rincn d 3.18 125 eP Pn 06 14 23.8 +0.6
ORTG Ortega, Santa 3.33 131 eP Pn 06 14 25.7 +0.4
ORTG Ortega, Santa 3.33 131 Pn 06 14 25.8 +0.4
COLC Colonia 3.34 124 i P Pn 06 14 25.1 -0.3
GUAI GUAI 3.36 133 i P Pn 06 14 25.1 -0.5
CUI Cuipilapa 3.38 124 eP Pn 06 14 23.8 -2.2
APG El Apazote 3.39 316 P Pn 06 14 26.9 +0.7
comp=Z,6.0nm,0.3s,baz=4.3,slow=6.6,SNR=62
PLVR Palo Verde 3.42 130 eP Pn 06 14 25.5 -1.2
PTEN Parque Tenorio 3.50 122 i P Pn 06 14 26.2 -1.4
ACAL Aguas Claras 3.50 123 i P Pn 06 14 26.5 -1.1
GRZA Playa Garza 3.53 139 eP Pn 06 14 27.3 -0.6
ESPN Las Esperanzas 3.65 96 eP Pn 06 14 28.5 -1.0
ESPN Las Esperanzas 3.65 96 Pn 06 14 28.5 -1.0
INDI Punta indio, G 3.65 137 eP Pn 06 14 28.7 -0.9
JTS Las Juntas de 3.77 127 P Pn 06 14 29.7 -1.5
comp=Z,20nm,0.3s,baz=24,slow=18,SNR=55
JTS LR LR 06 16 09.0
comp=Z,598nm,21.4s,baz=7.5,slow=42
JTS Las Juntas de 3.77 127 eP Pn 06 14 30.5 -0.7
JTS Las Juntas de 3.77 127 Pn Pn 06 14 32.6 +1.4
ARE1 Arenal 1 3.85 123 eP Pn 06 14 32.6 +0.2
CASO Castillo 3.86 123 i P Pn 06 14 32.7 +0.2
COVE Coope Vega, Sa 3.99 117 eP Pn 06 14 33.0 -1.3
COVE Coope Vega, Sa 3.99 117 Pn 06 14 36.0 +1.7
CAO2 Cobano, Puntar 4.05 135 Pn 06 14 34.9 -0.2
RTAL Retalhuleu 4.07 299 Pn 06 14 36.3 +1.0
LAFE Finca La Fe, P 4.11 132 eP Pn 06 14 35.2 -0.6
SRA1 San Ramn 4.26 125 eP Pn 06 14 40.5 +2.4
JACO JACO, Garabito 4.39 131 eP Pn 06 14 40.1 +0.5
CRPO Crater poas 4.40 122 eP Pn 06 14 44.0 +3.8
RIFO Rio Frio, Sara 4.60 119 eP Pn 06 14 43.0 +0.4
HDC Heredia 4.60 123 eP Pn 06 14 44.4 +1.6
HDC Heredia 4.60 123 Pn 06 14 43.7 +1.0
LCR2 La Lucha 2 4.84 125 eP Pn 06 14 46.9 +0.8
RIMA Rio Macho 4.94 124 eP Pn 06 14 47.1 -0.3
CDM Cerro de Muert 5.14 125 eP Pn 06 14 51.7 +1.2
BATAN Batan 5.17 118 Pn Pn 06 14 51.9 +1.5
EDDO Dominical 5.25 129 eP Pn 06 14 53.3 +1.9
PEZE Perez Zeledon, 5.31 126 eP Pn 06 14 53.5 +1.1
PEZE Perez Zeledon, 5.31 126 Pn 06 14 53.5 +1.1
CCIG Comitan 5.43 313 Pn Pn 06 14 55.1 +1.0
SRBA San Rafael, Bu 5.65 126 eP Pn 06 14 57.9 +0.8
DRKO Durika 5.72 125 eP Pn 06 14 56.6 -1.6
EDPN Palmar Norte 5.74 128 eP Pn 06 15 00.4 +2.2
EDBA Buenos Aires 5.76 126 eP Pn 06 14 58.6 +0.1
RIOS Rincon, Osa 5.87 131 eP Pn 06 15 00.9 +1.0
RIOS Rincon, Osa 5.87 131 Pn 06 15 00.5 +0.6
PCIG 5.93 302 Pn 06 15 01.5 +0.7
POTG Potrero Grande 5.95 126 eP Pn 06 15 02.1 +0.9
LPLA Las Palmas La 6.05 125 eP Pn 06 15 03.6 +1.0
PTJ1 Puerto Jimnez 6.13 131 eP Pn 06 15 05.0 +1.4
PIRO Carate, Puerto 6.19 132 eP Pn 06 15 05.4 +1.0
EDSV San Vito 6.20 127 eP Pn 06 15 06.8 +2.2
BRU2 Volcan 6.44 125 eP Pn 06 15 08.7 +0.7
TEIG Tepich 7.61 358 Pn 06 15 23.9 +0.2
CMIG Matias Romero 8.02 305 P Pn 06 15 29.5 +0.2
comp=Z,2.2nm,0.3s,baz=158,slow=11,SNR=44
CMIG S Sn 06 16 59.5 +0.9
comp=Z,0.9nm,0.3s,baz=108,slow=20,SNR=1.4
CMIG LR LR 06 17 53.5
comp=Z,52nm,21.7s,baz=122,slow=32
BCIP Isla Barro Col 8.71 112 Pn Pn 06 15 38.5 -0.4
WBCY West Bay, Gran 9.28 42 Pn Pn 06 15 47.1 +0.5
TLIG Tlapa 11.33 297 Pn Pn 06 16 16.3 +1.5
MTDJ Mount Denham 11.55 60 Pn Pn 06 16 20.4 +2.6
MOTC Monteria, Cord 12.71 106 eP P 06 16 46.6 +4.3
SMLC San Martn de 14.20 104 eP P 06 16 58.4 -0.5
YOTC Yotoco, Valle 14.35 126 eP Pn 06 16 55.5 -0.1
GUY2C Guyana, Caldas 14.47 119 eP Pn 06 16 57.7 +0.3
PTBC PUERTO BERRIO, 14.65 113 eP P 06 17 03.4 -0.6
061Z Ochoppi 14.81 26 P P 06 17 06.0 +0.4
ANIL Santa Ana 14.83 122 eP P 06 17 07.5 +1.3
TOLC Tolima 14.84 121 eP P 06 17 04.2 -2.2
BBAC Balboa, Cauca 14.96 134 eP P 06 17 05.5 -2.1
OCAC Ocana 15.08 105 eP P 06 17 08.0 -0.9
ORTC Ortega, Tolima 15.28 123 eP P 06 17 12.6 +1.6
SOTA Rioblanco 15.34 132 eP P 06 17 10.8 -1.3
MARP Paez Belalcaza 15.36 128 eP P 06 17 13.7 +1.5
PCON Cinco Dias 15.36 131 eP P 06 17 11.3 -1.2
SPBC San Pablo de B 15.38 115 eP P 06 17 10.1 -2.1
OTAV Otavalo 15.50 142 P P 06 17 15.7 +1.8
OTAV Otavalo 15.50 142 eP P 06 17 14.5 +0.6
OTAV Otavalo 15.50 142 eP P 06 17 16.2 +2.3
ROSC El Rosal 15.56 118 P Pn 06 17 11.4 +0.1
comp=Z,0.5nm,0.3s,baz=270,slow=20,SNR=2.6
ROSC LR LR 06 23 48.4
comp=Z,74nm,19.8s,baz=326,slow=40
PRAC Prado 15.69 123 eP P 06 17 15.6 +0.1
PAMC Pamplona, Colo 15.95 108 eP Pn 06 17 15.9 -0.6
RUSC La Rusia 16.16 113 eP Pn 06 17 18.8 -0.2
ZAIG Zacatecas 17.16 308 P P 06 17 34.6 +2.6
SDV Santo Domingo 17.46 100 P Pn 06 17 33.6 -1.3
comp=Z,0.7nm,0.3s,baz=234,slow=3.7,SNR=7.9
SDV Santo Domingo 17.46 100 P 06 17 34.8 -0.5
SDV Santo Domingo 17.46 100 eP Pn 06 17 33.5 -1.5
SDV Santo Domingo 17.46 100 eP Pn 06 17 33.6 -1.3
PTGC Puerto Gaitan, 17.77 117 eP Pn 06 17 37.9 -0.6
PTLC Puerto Leguiza 18.00 132 eP P 06 17 45.2 +4.2
HKT Hockley 18.74 338 P 06 17 50.1 +1.1
346A Big Creek Wild 18.76 356 P P 06 17 48.7 -0.6

346A IAmb IAmb 06 17 54.3
comp=Z,39nm,0.9s
833A Chaparral WMA, 18.93 328 P 06 17 52.6
baz=144,SNR=11
344A Westbrook Farm 18.95 353 P Pn 06 17 53.0 +0.5
344A IAmb IAmb 06 17 55.5
comp=Z,48nm,0.7s
DR12 Loma Pena Alta 18.96 69 P Pn 06 17 53.3 +0.3
352A Blakely 19.02 8 P P 06 17 53.3 +1.2
352A IAmb IAmb 06 18 14.9
comp=Z,46nm,1.1s
342A Flagon Creek P 19.12 349 P P 06 17 53.9 +0.7
342A IAmb IAmb 06 18 00.3
comp=Z,35nm,0.9s
TIGA Tifton 19.20 12 P 06 17 55.5
baz=193
VBMS Vicksburg 19.68 354 P P 06 17 59.9 +0.6
VBMS Vicksburg 19.68 354 P 06 18 02.0
baz=173,SNR=11
146A Union 19.98 357 P Pn 06 18 04.8 0.0
146A IAmb IAmb 06 18 05.4
comp=Z,41nm,0.9s
NATX Nacogdoches 20.04 343 P P 06 18 04.9 +1.6
NATX Nacogdoches 20.04 343 P 06 18 05.3
baz=161
435B Jarrell 20.16 335 P P 06 18 04.6 +0.1
435B Jarrell 20.16 335 P 06 18 05.3
baz=152
152A Waverly Hall 20.22 8 P P 06 18 06.8 +1.6
152A IAmb IAmb 06 18 08.3
comp=Z,71nm,1.4s
143A Socs Landing, 20.27 352 P P 06 18 06.8 +1.1
143A IAmb IAmb 06 18 13.0
comp=Z,47nm,1.0s
LRAL Lakeview Retre 20.38 2 P 06 18 10.0
baz=183,SNR=12
LRAL Lakeview Retre 20.38 2 P P 06 18 08.8 +1.9
154A Montrose 20.44 12 P P 06 18 07.5 0.0
Z47A Carrollton 20.52 360 P P 06 18 07.4 -1.0
Z47A IAmb IAmb 06 18 12.9
comp=Z,29nm,0.7s
237A Washetta, Mont 20.61 341 P P 06 18 08.7 -0.7
237A IAmb IAmb 06 18 27.6
comp=Z,34nm,0.7s
Z51A Franklin 20.80 7 P P 06 18 11.7 +0.3
Z51A IAmb IAmb 06 18 15.9
comp=Z,25nm,0.8s
JCT Junction City 20.89 330 P 06 18 12.9
baz=146,SNR=17
JCT Junction City 20.89 330 P P 06 18 12.3 -0.1
JCT IAmb IAmb 06 18 17.0
comp=Z,21nm,0.7s
Z41A Richland Creek 21.04 349 P 06 18 15.8
baz=167
GOGA Godfrey 21.14 11 P P 06 18 16.1 +1.0
GOGA IAmb IAmb 06 18 19.2
comp=Z,41nm,1.0s
GOGA Godfrey 21.14 11 P 06 18 16.8
baz=192,SNR=10
WHTX Lake Whitney, 21.18 337 P 06 18 16.8
baz=154,SNR=6.5
HPIG 21.87 313 P P 06 18 24.2 +1.1
TXAR Lajitas Array 22.13 321 P P 06 18 26.6 +0.8
comp=Z,18nm,0.6s,baz=138,slow=9.8,SNR=226
TXAR PcP PcP 06 22 21.9 +0.9
comp=Z,1.6nm,0.8s,baz=149,slow=4.8,SNR=6.9
TXAR ScP ScP 06 25 56.4 +3.6
comp=Z,0.3nm,0.7s,baz=153,slow=5.5,SNR=4.4
TXAR LR LR 06 27 03.4
comp=Z,50nm,20.0s,baz=0.0,slow=36
TXAR Lajitas Array 22.13 321 P P 06 18 26.2 +0.4
TX31 Lajitas Ar. Si 22.13 321 P P 06 18 25.9 +0.1
TX32 Lajitas Array 22.13 321 P P 06 18 26.2 +0.4
TX32 IAmb IAmb 06 18 27.6
comp=Z,22nm,0.7s
HODGE Hodges 22.18 13 P P 06 18 27.3 +1.2
HODGE IAmb IAmb 06 18 28.9
comp=Z,44nm,1.0s
X40A Basin Creek Fa 22.24 349 P 06 18 28.0
baz=167
Z35A Perchaven, San 22.31 339 P P 06 18 28.2 +0.5
Z35A IAmb IAmb 06 18 30.2
comp=Z,46nm,1.1s
Y57A Sumter 22.44 17 P P 06 18 29.7 +0.8
MIAR Mount Ida 22.44 348 P 06 18 29.7
baz=166,SNR=44
MIAR Mount Ida 22.44 348 P P 06 18 29.0 0.0
W45A Hickory Valley 22.50 357 P P 06 18 29.1 -0.6
W45A IAmb IAmb 06 18 30.7
comp=Z,36nm,0.8s
SWET Sewanee 22.61 4 P P 06 18 30.5 -0.4
ABTX Abilene, Hawle 22.62 334 P 06 18 31.8
baz=149,SNR=17
W50A Signal Mountai 22.65 6 P P 06 18 31.1 -0.2
W52A Murphy 22.71 9 P P 06 18 31.5 -0.5
W52A IAmb IAmb 06 18 34.0
comp=Z,40nm,1.4s
BG3 Lake Jocassee 22.78 11 P P 06 18 33.5 +0.9
BG3 IAmb IAmb 06 18 34.7
comp=Z,22nm,0.7s
W41B Gary Mavity, V 22.82 351 P 06 18 33.3
baz=169,SNR=7.2
PAULI Pauline 22.84 13 P P 06 18 33.9 +0.6
PAULI IAmb IAmb 06 18 35.1
comp=Z,30nm,0.9s
X37A Clayton 22.91 344 P P 06 18 35.7 +1.8
WHAR Wooly Hollow 22.94 351 P P 06 18 34.6 +0.4
CPCT Cooper Cave 22.98 7 P P 06 18 35.2 +0.5
BIRD Birdtown, Kers 23.01 16 P P 06 18 36.0 +1.1
BIRD IAmb IAmb 06 18 36.3
comp=Z,26nm,0.7s
PCRV Puerto La Cruz 23.04 94 P P 06 18 34.6 -0.9
comp=Z,17nm,1.0s,baz=267,slow=4.1,SNR=2.0
W39A Magazine 23.11 348 P P 06 18 37.3 +1.4
W39A IAmb IAmb 06 18 39.1
comp=Z,22nm,0.8s
W39A Magazine 23.11 348 P 06 18 36.9
baz=166,SNR=15
KMSC Kings Mountain 23.26 14 P 06 18 38.0
baz=197,SNR=7.1
TKL Tuckaleechee C 23.29 9 P P 06 18 38.1 +0.4
comp=Z,34nm,0.9s,baz=187,slow=12,SNR=23
TKL Tuckaleechee C 23.29 9 P P 06 18 38.3 +0.7
TKL IAmb IAmb 06 18 39.9
comp=Z,39nm,0.9s
W56A Indian Trail 23.44 15 P 06 18 39.5
baz=198
WVT Waverly 23.45 0 P 06 18 38.0
baz=180
CLTN Cedars of Leba 23.46 3 P P 06 18 38.9 -0.3
V53A Saluda 23.46 11 P P 06 18 40.1 +0.8
LCAR Lake Charles 23.56 354 P P 06 18 39.7 -0.4
LCAR IAmb IAmb 06 18 40.0
comp=Z,13nm,0.5s
W57A Gilead 23.61 17 P P 06 18 41.2 +0.6
W57A IAmb IAmb 06 18 41.5
comp=Z,22nm,0.7s
U49A Red Boiling Sp 23.91 4 P P 06 18 43.1 -0.2
V55A Taylorsville 23.97 14 P P 06 18 44.6 +0.8
U40A Yellville 24.07 350 P 06 18 44.7
baz=168,SNR=19
U40A Yellville 24.07 350 P P 06 18 45.2 +0.5
U40A IAmb IAmb 06 18 47.1
comp=Z,15nm,0.6s
V56A Mocksville 24.10 15 P 06 18 45.7
baz=198
WMOK Wichita Mounta 24.13 338 P 06 18 45.1
baz=154,SNR=18
TUL1 Leonard 24.27 344 P 06 18 47.7
baz=161,SNR=14
V57A Coltrane Farms 24.36 16 P 06 18 47.7
baz=200
U54A Nelsons Funny 24.48 12 P 06 18 48.9
baz=195,SNR=11
U56A King 24.64 15 P 06 18 50.7
baz=198,SNR=6.6
U56A King 24.64 15 P P 06 18 51.0 +1.2
U56A IAmb IAmb 06 18 53.6
comp=Z,21nm,0.9s
V59A Middlesex 24.71 19 P 06 18 50.8
baz=203
MNTX Cornudas Mount 24.85 323 P 06 18 52.2
baz=136,SNR=20
MNTX Cornudas Mount 24.85 323 P P 06 18 52.4 +0.5
U57A Blanch 25.00 17 P 06 18 53.8
baz=200,SNR=6.0

S44A Carbondale 25.03 358 P P 06 18 52.8 -0.6
S44A IAmb IAmb 06 18 53.8
comp=Z,19nm,0.7s
V60A Jim Taylor Roa 25.04 21 P P 06 18 55.5 +2.0
V60A Jim Taylor Roa 25.04 21 P 06 18 54.5
baz=205
SIUC Southern Illin 25.05 358 P P 06 18 53.4 -0.2
SIUC IAmb IAmb 06 18 53.9
comp=Z,21nm,0.7s
MSTX Muleshoe 25.18 330 P 06 18 55.2
baz=144,SNR=42
U58A Oxford 25.19 18 P 06 18 55.0
baz=202
CZSB Cruzeiro do Su 25.27 142 eP P 06 18 57.2 +1.3
AMTX Amarillo 25.43 333 P P 06 18 58.1 +0.9
AMTX IAmb IAmb 06 18 58.5
comp=Z,33nm,1.3s
AMTX Amarillo 25.43 333 P 06 18 57.8
baz=148
BLA Blacksburg 25.45 14 P 06 18 58.1
baz=197
S39A Bolivar 25.45 350 P P 06 18 57.3 0.0
S39A IAmb IAmb 06 18 57.7
comp=Z,26nm,0.7s
CCM Cathedral Cave 25.53 354 P P 06 18 56.4 -1.6
CCM IAmb IAmb 06 18 58.4
comp=Z,19nm,0.7s
CCM Cathedral Cave 25.53 354 P 06 18 57.3
baz=173
T57A Hurt 25.55 16 P P 06 18 58.8 +0.6
T57A Hurt 25.55 16 P 06 18 58.9
baz=200
WCI Wyandotte Cave 25.59 3 P P 06 18 57.9 -0.6
WCI IAmb IAmb 06 18 58.9
comp=Z,23nm,0.8s
WCI Wyandotte Cave 25.59 3 P 06 18 58.0
baz=184
T58A Grand View Acr 25.71 18 P 06 18 59.6
baz=202
OK032 Salt Plains WL 25.80 341 P P 06 18 59.3 -1.1
OK032 IAmb IAmb 06 19 02.8
comp=Z,22nm,0.8s
S56A Natural Bridge 26.11 15 P 06 19 04.1
baz=199
S58A Poland Farm, P 26.47 18 P 06 19 06.8
baz=202
R55A Marlinton 26.54 14 P 06 19 07.7
baz=197
Q53A Leroy 26.80 11 P 06 19 09.7
baz=194
R56A Bull Pasture M 26.84 15 P 06 19 10.6
baz=199
121A Cookes Peak, D 26.89 321 P 06 19 12.3
baz=133,SNR=6.7
R57A Stanardsville 26.97 17 P 06 19 11.4
baz=201,SNR=6.5
P49A Miami Univ. Ec 27.00 6 P 06 19 10.3
baz=187
Q54A Coxs Mills 27.05 12 P P 06 19 12.2 +0.5
Q54A IAmb IAmb 06 19 13.4
comp=Z,17nm,0.7s
R58A Rapidan 27.12 17 P 06 19 12.8
baz=202
CBN Corbin Frederi 27.22 19 P 06 19 14.0
baz=203
R59A King George, V 27.30 19 P 06 19 14.9
baz=204
P52A Corning 27.44 10 P 06 19 15.1
baz=192
O44A Mansfield 27.46 359 P P 06 19 14.4 -0.9
O44A IAmb IAmb 06 19 15.1
comp=Z,17nm,0.6s
Q56A Snyder Ridge, 27.49 15 P 06 19 16.4
baz=199
Q56A Snyder Ridge, 27.49 15 P P 06 19 16.3 +0.6
Q56A IAmb IAmb 06 19 19.5
comp=Z,9.8nm,0.6s
R60A Leonardtown, M 27.53 20 P 06 19 17.1
baz=205
Q57A Strasburg 27.69 16 P 06 19 18.0
baz=200
SFIN Lafayette 27.70 2 P 06 19 16.2
baz=182
Q58A Fox Den Farm, 27.81 17 P 06 19 19.2
baz=202
ANMO Albuquerque 27.84 326 P P 06 19 20.8 +1.8
comp=Z,1.5nm,0.5s,baz=129,slow=8.9,SNR=7.1
ANMO Albuquerque 27.84 326 P 06 19 20.7
baz=139
HDIL Hopedale 27.89 358 P 06 19 18.4
baz=177
ACSO Alum Creek Sta 27.89 8 P 06 19 19.0
baz=190,SNR=5.1
MCWV Mont Chateau 27.92 14 P P 06 19 19.7 +0.3
MCWV Mont Chateau 27.92 14 P 06 19 19.3
baz=197
O52A Adamsville 27.96 10 P P 06 19 19.8 0.0
O52A IAmb IAmb 06 19 20.3
comp=Z,15nm,0.9s
P56A Dayton Farm, R 28.02 15 P 06 19 21.2
baz=199
CBKS Cedar Bluff 28.12 340 P 06 19 21.5
baz=155
CBKS Cedar Bluff 28.13 340 P P 06 19 21.0 -0.3
CBKS IAmb IAmb 06 19 23.6
comp=Z,15nm,0.7s
O53A New Philadelph 28.20 11 P 06 19 22.0
baz=194,SNR=5.1
P57A Homestead Farm 28.22 17 P 06 19 23.2
baz=201,SNR=6.1
SDMD Soldier's Deli 28.49 18 P P 06 19 24.6 +0.1
T25A Trinidad 28.53 332 P 06 19 26.7
baz=145,SNR=10.0
TUC Tucson 28.67 317 P 06 19 31.0
baz=128
P59A Jarrettsville 28.80 19 P 06 19 27.9
baz=204
O57A Amberson 29.00 17 P 06 19 29.4
baz=201
O58A Lewisberry 29.12 18 P 06 19 30.8
baz=203
N54A Moraine State 29.13 13 P 06 19 30.2
baz=196,SNR=6.2
N54A Moraine State 29.13 13 P P 06 19 30.5 +0.3
N54A IAmb IAmb 06 19 30.8
comp=Z,15nm,0.8s
KSCO Kaye Shedlock' 29.34 336 P 06 19 32.7
baz=150
L48A N Adams 29.42 5 P P 06 19 30.9 -1.8
L48A IAmb IAmb 06 19 32.2
comp=Z,9.8nm,0.7s
M53A WI Miller and 29.45 11 P 06 19 32.7
baz=195
N56A West Decatur 29.48 15 P 06 19 33.5
baz=200
O59A Robesonia 29.52 19 P 06 19 34.4
baz=204
N57A Milroy 29.53 16 P 06 19 33.8
baz=201
SDCO Great Sand Dun 29.53 331 P 06 19 35.7
baz=144
M54A Oil Creek Stat 29.73 13 P P 06 19 35.5 0.0
M54A Oil Creek Stat 29.73 13 P 06 19 35.4
baz=196,SNR=6.6
O60A Telford 29.77 20 P 06 19 36.4
baz=205
N58A Sunbury 29.84 17 P 06 19 36.6
baz=202
M55A Ridgway 29.89 14 P P 06 19 36.6 -0.3
M55A IAmb IAmb 06 19 52.7
comp=Z,16nm,1.4s
L53A Girard 30.03 12 P 06 19 37.8
baz=195,SNR=5.9
M56A Emporium 30.05 15 P 06 19 38.2
baz=199
S22A 4UR Ranch, Cre 30.17 329 P 06 19 41.3
baz=141,SNR=18
M57A Sunshine Farm, 30.19 16 P 06 19 39.9
baz=201
N59A State Game Lan 30.20 19 P P 06 19 40.1 +0.5
N59A IAmb IAmb 06 19 40.9
comp=Z,13nm,0.6s
N59A State Game Lan 30.20 19 P 06 19 40.5
baz=204,SNR=5.3
ERPA Erie 30.24 12 P 06 19 40.5
baz=196
JFWS Jewell Farm 30.28 357 P 06 19 39.4

baz=176
M58A Price's Panora 30.41 17 P 06 19 41.9
baz=203
MVCO Mesa Verde 30.63 327 P **P** **06 19 44.7 +0.9**
MVCO Mesa Verde 30.63 327 P 06 19 45.0
baz=138,SNR=5.3
J47A Sunmer 30.67 5 P **P** **06 19 42.4 -1.4**
J47A IAmb IAmb 06 19 42.6
comp=Z,12nm,0.6s
L56A Greenwood 30.82 15 P 06 19 45.0
baz=200
M59A Waymart 30.87 19 P 06 19 46.1
baz=204
L57A Andrews Acres 30.88 16 P 06 19 45.6
baz=202
PAL Palisades 30.90 21 P 06 19 46.0
baz=208
M60A Port Jervis 30.94 20 P 06 19 46.5
baz=206
ETMB Extrema 31.05 135 *e*P **P** **06 19 47.5 +0.1**
WUAZ Wupatki 31.09 321 P 06 19 49.3
baz=131
L58A Harry Jones Me 31.20 18 P 06 19 48.8
baz=203
M61A Granite Spring 31.21 21 P 06 19 48.8
baz=208
ISCO Idaho Springs 31.25 333 P 06 19 50.1
baz=145,SNR=6.5
BINY Binghamton 31.31 17 P 06 19 49.3
baz=203
SMCO Snowmass 31.37 331 P **P** **06 19 51.5 +1.0**
SMCO IAmb IAmb 06 19 52.5
comp=Z,10nm,0.8s
K56A Middlesex 31.41 15 P 06 19 50.1
baz=200
PV02 Paradox Valley 31.50 328 P **P** **06 19 53.0 +1.5**
L59A Walton 31.58 19 P 06 19 52.1
baz=205
PV18 Skein Mesa, Pa 31.62 328 P **P** **06 19 53.9 +1.4**
K57A Scipio Center 31.65 16 P 06 19 52.1
baz=202
L60A Shokan 31.66 20 P 06 19 53.0
baz=206
GLA Glamis 31.87 314 P 06 19 56.3
baz=124
ECSD EROS Data Cent 31.91 348 P 06 19 53.7
baz=164,SNR=12
K58A Earlville 31.92 17 P 06 19 54.7
baz=203
J56A Wolcott 32.07 15 P **P** **06 19 55.7 -0.3**
J56A Wolcott 32.07 15 P 06 19 55.4
baz=201,SNR=7.9
PDMCI Parker Dam,Lak 32.11 317 P 06 19 58.0
baz=126,SNR=5.0
K59A Cooperstown 32.17 18 P 06 19 57.4
baz=205
N23A Red Feather La 32.29 334 P 06 19 59.5
baz=146
G45A Suttons Bay 32.41 3 P **P** **06 19 57.6 -1.4**
J57A Williamstown 32.42 16 P 06 19 58.7
baz=202
K61A Williamstown 32.59 20 P 06 20 01.3
baz=207
L61B Northampton 32.60 21 P 06 20 00.6
baz=208
BC3 Big Chuckawall 32.64 315 P 06 20 03.1
baz=124
O20A White River Ci 32.72 331 P 06 20 03.7
baz=141,SNR=29
SPMN Marine on St. 32.79 354 P 06 20 01.0
baz=171,SNR=12
H53A Bobcaygeon 32.89 12 P 06 20 02.6
baz=197
SADO Sadowa 32.96 12 P **P** **06 20 03.1 -0.8**
I58A Old Forge 32.97 17 P 06 20 03.7
baz=204,SNR=5.4
SUSD Miller 33.11 346 P 06 20 04.9
baz=160,SNR=9.5
BELC Belle Mtn. Jos 33.21 315 P 06 20 08.1
baz=123
MTPU Mount Pierson 33.27 324 P **P** **06 20 09.0 +1.9**
Q16A Castle Valley 33.32 326 P **P** **06 20 09.1 +1.8**
I59A Olmsteadville 33.40 19 P 06 20 07.3
baz=206
P17A Butcher Ranch, 33.48 327 P **P** **06 20 09.8 +1.1**
F36A Milaca 33.50 353 P **P** **06 20 07.6 -1.0**
F36A IAmb IAmb 06 20 08.4
comp=Z,12nm,1.1s
RDMU Red Mountain 33.70 330 P **P** **06 20 11.8 +1.1**
G54A Lake Saint Pet 33.78 13 P 06 20 10.1
baz=198
H58A Gabriels 33.87 18 P 06 20 11.3
baz=205
F33A 5 Mile Ranch, 33.88 350 P **P** **06 20 11.0 -0.9**
LONY Lake Ozonia 33.93 17 P **P** **06 20 12.0 -0.4**
LONY IAmb IAmb 06 20 12.8
comp=Z,22nm,1.5s
LONY Lake Ozonia 33.93 17 P 06 20 11.9
baz=204
K22A Casper 33.99 335 P 06 20 13.9
baz=146
RSSD Black Hills 34.31 339 P 06 20 16.7
baz=151
RSSD Black Hills 34.31 339 P **P** **06 20 16.9 +1.0**
RSSD IAmb IAmb 06 20 17.8
comp=Z,7.1nm,0.7s
ALGO Algonquin Park 34.32 12 P 06 20 14.6
baz=197
LPAZ La Paz 34.77 145 P **P** **06 20 22.1 +1.4**
comp=Z,1.2nm,0.4s,baz=315,slow=8.0,SNR=5.7
LPAZ LR LR 06 34 26.8
comp=Z,73nm,21.4s,baz=324,slow=36
CTU Camp Tracy 34.90 328 P **P** **06 20 22.3 +1.3**
CTU IAmb IAmb 06 20 22.8
comp=Z,6.7nm,0.6s
TPNV Topopah Spring 35.06 319 P 06 20 24.3
baz=126
DUG Dugway, Tooele 35.12 326 P 06 20 24.5
baz=135,SNR=5.6
SPR3 Spring Creek 3 35.16 323 P **P** **06 20 24.4 +1.0**
EYMN Ely 35.37 356 P 06 20 23.0
baz=174
EYMN Ely 35.37 356 P **P** **06 20 23.2 -1.5**
EYMN IAmb IAmb 06 20 23.5
comp=Z,8.8nm,0.7s
BW06 Boulder Array 35.40 332 P **P** **06 20 25.7 +0.4**
BW06 IAmb IAmb 06 20 26.3
comp=Z,6.0nm,0.8s
BW06 Boulder Array 35.40 332 P 06 20 25.7
baz=142,SNR=9.0
PDAR Pinedale Array 35.40 332 P **P** **06 20 25.8 +0.4**
comp=Z,5.0nm,0.7s,baz=127,slow=9.8,SNR=55
PDAR PcP **PcP** **06 22 53.3 -0.7**
comp=Z,0.9nm,0.6s,baz=148,slow=4.8,SNR=5.4
PDAR LR LR 06 36 33.8
comp=Z,78nm,18.7s,baz=122,slow=39
PDAR Pinedale Array 35.40 332 P **P** **06 20 25.0 -0.3**
HWUT Hardware Ranch 35.48 329 P **P** **06 20 27.2 +1.2**
R11A Troy Canyon, C 35.49 321 P 06 20 27.8
baz=129
E28A Huff 35.53 345 P **P** **06 20 25.8 -0.4**
PB16 IPOC Station P 35.73 149 P **P** **06 20 30.0 +1.3**
PB16 IAmb IAmb 06 20 33.6
comp=Z,18nm,1.5s
G62A West of Eustis 35.78 21 P 06 20 28.5
baz=210
GRAC Grapevine Rang 35.81 318 P 06 20 30.9
baz=125
D55A Sainte-Anne-du 35.91 15 P 06 20 28.2
baz=201
AHID Auburn Hatcher 36.12 331 P **P** **06 20 32.1 +0.7**
AGMN Agassiz Nation 36.20 351 P 06 20 30.9
baz=167,SNR=16
HVU Hansel Valley 36.22 328 P **P** **06 20 33.2 +0.9**
HVU IAmb IAmb 06 20 36.2
comp=Z,9.6nm,0.8s
MNMC Minye Minye 36.37 150 P **P** **06 20 34.9 +1.1**
MNMC IAmb IAmb 06 20 37.4
comp=Z,10nm,1.0s
REDW Red Top Meadow 36.46 332 P **P** **06 20 35.2 +0.9**
SNOW Snow King Moun 36.49 332 P **P** **06 20 35.7 +1.0**
D58A Chemin du LacG 36.68 17 P 06 20 35.3
baz=205
G65A Princeton 36.88 24 P 06 20 38.1
baz=214
FLWY Flagg Ranch 36.95 332 P **P** **06 20 39.4 +0.9**
LATQ La Tuque 36.97 17 P 06 20 37.7
baz=205
H17A Grant Village 37.13 333 P 06 20 41.4
baz=142,SNR=8.0
YPP Pitchstone Pla 37.14 333 P **P** **06 20 41.4 +1.2**
YPP IAmb IAmb 06 20 59.4
comp=Z,5.7nm,0.8s
RLMT Red Lodge 37.15 335 P 06 20 40.5
baz=144,SNR=9.9
LKWY Lake 37.19 333 P **P** **06 20 42.5 +1.9**
LKWY IAmb IAmb 06 20 43.1
comp=Z,8.5nm,0.7s
NVAR Mina Array Bea 37.24 319 P **P** **06 20 42.5 +1.5**
comp=Z,2.9nm,0.8s,baz=134,slow=7.5,SNR=28
NVAR PcP **PcP** **06 23 01.0 +1.4**
comp=Z,2.9nm,0.6s,baz=131,slow=3.6,SNR=16
NVAR ScP **ScP** **06 26 44.4 +3.3**
comp=Z,0.6nm,0.7s,baz=137,slow=3.3,SNR=4.3
NVAR LR LR 06 36 26.7
comp=Z,124nm,19.9s,baz=130,slow=37
LAO LASA Array 37.30 339 P 06 20 41.6
baz=150
YNE Yellowstone No 37.37 334 P **P** **06 20 42.6 +0.5**
VILB Vilhena 37.47 132 *e*P **P** **06 20 42.6 -0.5**
KVN Kaiserville 37.48 320 P **P** **06 20 44.4 +1.4**
LSQQ Lebel-sur-Quev 37.50 12 P 06 20 41.6
baz=198
YHH Holmes Hill 37.56 333 P **P** **06 20 45.0 +1.2**
YHH IAmb IAmb 06 20 49.0
comp=Z,11nm,0.8s
D61A St Aubert, Com 37.62 20 P 06 20 43.2
baz=209
YHB Horse Butte 37.69 333 P **P** **06 20 46.2 +1.4**
YHL Hebgen Lake 37.76 333 P **P** **06 20 47.2 +1.8**
GCMT Greycliff 37.86 335 P **P** **06 20 46.5 +0.4**
D62A Allapoint, All 37.91 21 P 06 20 46.0
baz=211
MATQ Matagami 38.04 11 P 06 20 46.1
baz=196,SNR=7.7
ULM Lac du Bonnet 38.11 352 P **P** **06 20 46.1 -1.9**
comp=Z,14nm,0.6s,baz=167,slow=9.0,SNR=38
ULM LR LR 06 36 57.8
comp=Z,124nm,21.3s,baz=170,slow=37
ULM Lac du Bonnet 38.11 352 P **P** **06 20 46.4 -1.5**
D63A Stockholm 38.21 22 P 06 20 48.4
baz=212
DGMT Dagmar 38.23 343 P 06 20 49.3
baz=154
MCMT McKenzie Canyo 38.51 331 P **P** **06 20 53.2 +1.6**
BOZ Bozeman (W) 38.54 333 P 06 20 53.0
baz=141,SNR=21
LRM Limekiln Ridge 39.08 333 P **P** **06 20 57.5 +1.1**
BATG Bathurst New B 39.19 24 P **P** **06 20 57.1 +0.1**
HRY Holter Researc 39.50 334 P **P** **06 21 00.6 +0.8**
EGMT Eagleton 39.72 337 P **P** **06 21 01.8 +0.3**
EGMT Eagleton 39.72 337 P 06 21 01.9
baz=146,SNR=10
PTLB Pontes e Lacer 39.90 133 *e*P **P** **06 21 02.4 -0.9**
J08A Circle Bar Ran 40.37 325 P **P** **06 21 07.8 +0.7**
J08A IAmb IAmb 06 21 10.1
comp=Z,5.6nm,0.6s
MSO Missoula 40.52 332 P **P** **06 21 08.5 +0.3**
MSO IAmb IAmb 06 21 09.4
comp=Z,19nm,1.1s
MSO Missoula 40.52 332 P 06 21 08.5
baz=139,SNR=16
O03E Paynes Creek 40.53 319 P 06 21 08.5
baz=123
JTMT Jette 41.36 333 P **P** **06 21 15.5 +0.4**
F10A Beach Ranch, E 41.46 329 P **P** **06 21 16.0 0.0**
F10A IAmb IAmb 06 21 18.5
comp=Z,14nm,0.8s
L04D Klamath Falls 41.92 321 P 06 21 19.9
baz=125
WALA Waterton Lakes 42.21 335 P **P** **06 21 22.5 +0.4**
WALA IAmb IAmb 06 21 23.3
comp=Z,10nm,0.8s
E09A Wood Farm, Sta 42.30 329 P **P** **06 21 22.8 +0.2**
TMAB Tom-Au,PA,Br 42.33 108 *e*P **P** **06 21 19.5 -3.8**
I04A Tendick Farm, 42.89 323 P 06 21 27.6
baz=126
NEW Newport 43.03 332 P **P** **06 21 28.2 -0.4**
NEW Newport 43.03 332 P 06 21 28.2
baz=136
D08A Wollman Farm, 43.06 329 P **P** **06 21 29.1 +0.3**
G05D Wamic, OR 43.14 325 P 06 21 30.8
baz=128
C09A Chrisman Ranch 43.25 330 P **P** **06 21 30.7 +0.3**
H04A Detroit Lake 43.29 324 P **P** **06 21 31.2 +0.5**
H04A IAmb IAmb 06 21 31.5
comp=Z,11nm,0.9s
I03D Drain, OR 43.39 322 P 06 21 32.1
baz=125
F05D White Salmon 43.62 326 P 06 21 34.3
baz=129
LTY Liberty 44.08 328 P **P** **06 21 37.4 +0.2**
LTY IAmb IAmb 06 21 38.0
comp=Z,8.9nm,0.7s
G03D McMinnville, O 44.22 324 P 06 21 38.9
baz=126
LON Longmire 44.35 327 P **P** **06 21 39.3 0.0**
LON IAmb IAmb 06 21 40.2
comp=Z,7.3nm,0.8s
D05A Enumclaw 44.73 327 P **P** **06 21 42.9 +0.7**
ARAG Araguaiana, MT 45.53 127 *e*P **P** **06 21 47.6 -1.3**
D03D Eldon 45.53 327 P 06 21 48.4
baz=128,SNR=7.1
AQDB Aquidauana 45.70 136 *e*P **P** **06 21 49.6 -0.7**
A04D Lummi Island 46.07 328 P 06 21 52.8
baz=130
FCC Fort Churchill 46.32 356 P **P** **06 21 53.5 -1.0**
PGC Sidney 46.41 328 P **P** **06 21 56.1 +0.7**
PGC IAmb IAmb 06 21 56.5
comp=Z,8.3nm,0.8s
BDFB Brasilia 48.50 124 P **P** **06 22 11.2 -1.0**
comp=Z,1.6nm,0.6s,baz=298,slow=8.5,SNR=4.4
BDFB LR LR 06 43 05.1
comp=Z,88nm,18.2s,baz=331,slow=37
CPUP Villa Florida 48.85 143 P **P** **06 22 13.3 -1.3**
comp=Z,2.6nm,0.9s,baz=338,slow=8.3,SNR=4.0
CPUP PcP **PcP** **06 23 37.9 -0.5**
comp=Z,0.8nm,0.4s,baz=280,slow=3.5,SNR=3.4
CPUP LR LR 06 46 02.9
comp=Z,32nm,18.1s,baz=198,slow=40
PCMB Pacaembu 49.55 133 *e*P **P** **06 22 18.9 -1.2**
ITQB Itaqui 51.78 145 *e*P **P** **06 22 35.3 -1.3**
ITAB Itacordia 52.71 139 *e*P **P** **06 22 42.7 -0.9**
YKA Yellowknife Ar 53.34 345 P **P** **06 22 46.4 -1.4**
comp=Z,3.5nm,0.7s,baz=136,slow=8.2,SNR=60
YKA PcP **PcP** **06 23 53.5 -1.0**
comp=Z,1.8nm,0.7s,baz=140,slow=4.7,SNR=12
PLCA Paso Flores 55.46 164 P **P** **06 23 04.0 +0.6**
comp=Z,2.4nm,0.8s,baz=356,slow=9.3,SNR=5.3
DLBC Dease Lake 55.55 335 P **P** **06 23 04.8 +0.8**
RES Resolute Bay 62.21 358 P **P** **06 23 48.3 -1.4**
RES IAmb IAmb 06 23 48.8
comp=Z,4.6nm,0.9s
EPYK Eagle Plains 62.76 340 P 06 23 52.8
baz=124
BCAR Beaver Creek A 62.91 336 P **P** **06 23 54.3 -0.3**
BMRM Bremner River 63.18 333 P **P** **06 23 56.5 -0.1**
K27K Chicken 63.47 337 P **P** **06 23 58.4 0.0**
K27K Chicken 63.47 337 P 06 23 57.8
baz=118
EGAK Eagle 63.48 337 P 06 23 57.5
baz=119
PRP Porcupine Dome 65.46 337 P 06 24 09.4
baz=115,SNR=6.6
RC01 Rabbit Creek A 65.55 332 P 06 24 11.2
baz=109
HDA Harding Lake 65.56 336 P 06 24 11.0
baz=113
HDA P 06 24 11.0
baz=113
ILAR Eielson Array 65.68 336 P **P** **06 24 11.4 -1.3**
comp=Z,2.1nm,0.8s,baz=120,slow=4.1,SNR=8.0
WAT2 Susitna Watana 65.69 334 P 06 24 11.5
baz=111
TRF Thorofare Moun 66.58 334 P 06 24 17.8
baz=110
I23K Minto, Yukon-K 66.80 336 P 06 24 19.2
baz=111
BPAW Bear Paw Mtn. 67.09 335 P 06 24 20.5
baz=109
PPT Papeete 67.76 245 LR LR 06 45 05.7
comp=Z,80nm,18.6s,baz=8.5,slow=28
TOLK Toolik Lake Re 68.18 340 P 06 24 28.0
baz=112
DBIC Dimbokro 81.92 85 LR LR 06 58 49.7
comp=Z,29nm,20.0s,baz=355,slow=33
ARCES ARCESS Array B 86.24 19 LR LR 07 04 02.5
comp=Z,130nm,18.1s,baz=275,slow=35
TORD Torodi Ar. Bea 86.91 77 LR LR 07 00 48.0
comp=Z,41nm,21.1s,baz=345,slow=33
BOSA Boshof 116.24 116 PKP **PKPdf** **06 32 10.4 -1.8**
comp=Z,2.9nm,0.8s,baz=205,slow=4.4,SNR=4.2
KSRS Korea Array 119.87 327 PKP **PKPdf** **06 32 18.8 0.0**
comp=Z,1.9nm,0.6s,baz=6.8,slow=1.7,SNR=8.5
MKAR Makanchi Array 120.26 8 PKhKP PKPpre 06 32 15.9
comp=Z,0.1nm,0.3s,baz=332,slow=3.6,SNR=4.7
STKA Stephens Creek 130.69 239 PKP **PKPdf** **06 32 40.5 +0.9**
comp=Z,1.4nm,0.5s,baz=22,slow=5.4,SNR=3.1
WRA Warramunga Arr 138.78 254 PKhKP PKPpre 06 32 47.0
comp=Z,0.3nm,0.4s,baz=124,slow=3.5,SNR=5.7
WRA PKP **PKPdf** **06 32 55.9 +0.8**
comp=Z,1.4nm,0.6s,baz=90,slow=2.1,SNR=5.7
ASAR Alice Springs 138.81 248 PKP **PKiKP** **06 32 57.6 +0.4**
comp=Z,0.7nm,0.6s,baz=90,slow=2.5,SNR=3.3
FITZ Fitzroy Crossi 147.12 256 **PKPbc** **06 33 13.2 +1.2**
CMAR Chiang Mai Arr 148.40 347 PKP **PKPdf** **06 33 10.1 -1.8**
comp=Z,2.5nm,0.7s,baz=338,slow=3.0,SNR=11
CMAR PKPbc **PKPbc** **06 33 14.8 -0.7**
comp=Z,3.5nm,0.6s,baz=351,slow=3.3,SNR=10

IDC ***14*** *06:26:15.7±1.3, 15°.04S×166°.89E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/28, mbtmp4.0/7, ML4.0/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/28, Error ellipse: s-maj=43.1km s-min=25.0km az=119.0*

ISC 14 06:26:23.0±1.1, 15°.15S±0°.10×166°.9E±0°.2, h57km, n8, σ0$50/7, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.89**	**183**	**Pn**		**Pn**	**06 28 01.4**	**-0.1**
	2.4nm,0.3s,baz=186,slow=23,SNR=6.5							
DZM				Sn		**Sn**	**06 29 18.9**	**+0.2**
	2.8nm,0.3s,baz=72,slow=20,SNR=3.2							
RPZ	**Rata Peaks**	**28.69**	**174**	LR	LR	LR	06 43 35.1	
	comp=Z,165nm,19.1s,baz=36,slow=36							
WRA	**Warramunga Arr**	**31.36**	**257**	P		**P**	**06 32 38.0**	**-0.5**
	1.4nm,1.2s,baz=80,slow=6.4,SNR=2.4							
WRA				LR		LR	06 45 04.3	
	comp=Z,118nm,18.9s,baz=85,slow=36							
ASAR	**Alice Springs**	**32.17**	**250**	P		**P**	**06 32 45.6**	**0.0**
	1.1nm,0.8s,baz=71,slow=9.8,SNR=9.9							
ILAR	**Eielson Array**	**87.04**	**18**	P		**P**	**06 39 01.6**	**-0.3**
	0.5nm,0.6s,baz=242,slow=4.7,SNR=11							
MKAR	**Makanchi Array**	**97.25**	**316**	P		Pdif	06 39 51.1	+1.4
	0.9nm,1.0s,baz=103,slow=3.9,SNR=4.3							
ZALV	**Zalesovo Beam**	**97.51**	**324**	P		**P**	**06 39 51.4**	**+0.8**
	0.6nm,0.6s,baz=86,slow=4.5,SNR=2.6							
YKA	**Yellowknife Ar**	**98.09**	**27**	P		**P**	**06 39 52.9**	**-0.1**
	0.3nm,0.9s,baz=251,slow=4.1,SNR=3.9							

PRU 14 06:34:13.6±0.0, 50°.31N×18°.62E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KRLC	**Kraliky**	**1.21**	**259**	*e*PG		Pg	06 34 34.9	-1.8
KRLC				*e*SG		Sg	06 34 50.1	-2.2
KRLC	**Kraliky**	**1.21**	**259**	*e*		Sg	06 34 50.1	-2.2
KRLC	**Kraliky**	**1.21**	**259**	*e*		Pg	06 34 34.9	-1.8
DPC	**Dobruska-Polom**	**1.47**	**272**	*e*PG		Pg	06 34 41.8	0.0
DPC				*e*SG		Sg	06 35 01.0	+0.1
DPC	**Dobruska-Polom**	**1.47**	**272**	*e*		Pg	06 34 41.8	0.0

IDC ***14*** *08:05:56.7±0.6, 6°.79N×73°.00W, h161km±5km, mb3.6/11, mb1 3.8/19, mb1mx3.6/42, mbtmp4.2/19, Error ellipse: s-maj=16.6km s-min=7.5km az=131.0*

RSNC ***14*** *08:05:57.7±1.1, 6°.81N×73°.16W, h151km±4km, ML4.3, Mw4.3, Fault plane solution: NP1:φ±23.00000°, δ58.00000°, λ15.00000°.*

NEIC ***14*** *08:05:57.0±2.0, 6°.72N±0°.08×73°.96W±0°.09, h167km±4km, Error ellipse: s-maj=14.1km s-min=8.9km az=129.0*

ISC 14 08:05:56.9±0.5, 6°.84N±0°.03×73°.10W±0°.04, h158km±4km, n100, σ1$43/133, mb4.2/20, 9C-9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**200**	⇑*i*P		**Pn**	**08 06 18.1**	**-0.5**
BARC				*e*S		**Sn**	**08 06 32.7**	**-2.4**
BARC				*i*			08 06 36.1	
	comp=Z,8μm,0.3s							
PAMC	**Pamplona, Colo**	**0.64**	**38**	⇑*i*P		**Pn**	**08 06 20.9**	**+0.5**
PAMC				*e*S		**Sn**	**08 06 38.3**	**-0.1**
PAMC				*i*			08 06 40.4	
	comp=Z,4μm,0.6s							
BRRC	**Barranca, Sant**	**0.67**	**294**	⇑*i*P		**Pn**	**08 06 19.9**	**-0.1**
BRRC				*e*S		**Sn**	**08 06 37.3**	**-0.4**
BRRC				*i*			08 06 40.8	
	comp=Z,2μm,0.4s							
RUSC	**La Rusia**	**0.94**	**179**	⇓*i*P		**Pn**	**08 06 22.0**	**-0.5**
RUSC				*e*S		**Sn**	**08 06 40.6**	**-1.4**
RUSC				*i*			08 06 41.9	
	comp=Z,5μm,0.3s							
TAMC	**Tame, Arauca**	**1.35**	**107**	⇑*i*P		**Pn**	**08 06 26.4**	**+0.8**
TAMC				*e*S		**Sn**	**08 06 48.3**	**+0.7**
TAMC				*i*			08 06 54.7	
	comp=Z,884nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	*e*P		**Pn**	**08 06 24.5**	**-1.4**
PTBC				*e*S		**Sn**	**08 06 45.9**	**-2.2**
PTBC				*i*			08 06 47.8	
	comp=Z,3μm,0.4s							
OCAC	**Ocana**	**1.41**	**351**	*e*P		**Pn**	**08 06 26.2**	**-0.1**
OCAC				*e*S		**Sn**	**08 06 48.4**	**-0.6**
OCAC				*i*			08 06 52.9	
	comp=Z,2μm,0.5s							
SPBC	**San Pablo de B**	**1.52**	**220**	⇓*e*P		**Pn**	**08 06 26.8**	**-0.6**
SPBC				*e*S		**Sn**	**08 06 49.1**	**-1.7**
SPBC				*i*			08 06 51.4	
	comp=Z,4μm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*e*P		**Pn**	**08 06 30.6**	**-0.4**
ZARC				*e*S		**Sn**	**08 06 56.2**	**-1.0**
ZARC				*i*			08 07 01.3	
	comp=Z,3μm,0.3s							
NORC	**Norcasia**	**2.17**	**234**	*e*P		**Pn**	**08 06 33.8**	**-0.7**
NORC				*e*S		**Sn**	**08 07 01.6**	**-1.9**
NORC				*i*			08 07 06.1	
	comp=Z,2μm,0.2s							
SMLC	**San Martn de**	**2.18**	**334**	⇓*e*P		**Pn**	**08 06 34.1**	**-0.5**
SMLC				*e*S		**Sn**	**08 07 02.7**	**-1.0**
SMLC				*i*			08 07 08.7	
	comp=Z,1μm,0.5s							
ROSC	**El Rosal**	**2.33**	**212**	P		**Pn**	**08 06 37.8**	**+1.0**
	comp=Z,577nm,0.3s,baz=131,slow=11,SNR=909							
ROSC				S		**Sn**	**08 07 07.6**	**+0.2**
	comp=Z,300nm,0.3s,baz=70,slow=20,SNR=6.1							
ROSC	**El Rosal**	**2.33**	**212**	P		**Pn**	**08 06 37.5**	**+0.8**
ROSC				Sn		**Sn**	**08 07 07.4**	**0.0**
ROSC	**El Rosal**	**2.33**	**212**	⇓*i*P		**Pn**	**08 06 37.5**	**+0.8**
ROSC				*e*S		**Sn**	**08 07 07.6**	**+0.2**
ROSC				*i*			08 07 13.0	
	comp=Z,3μm,0.5s							
HELC	**Santa Helena**	**2.50**	**255**	*e*P		**Pn**	**08 06 37.9**	**-0.9**
HELC				*e*S		**Sn**	**08 07 09.5**	**-1.6**
HELC				*i*			08 07 18.4	
	comp=Z,1μm,0.3s							
UREC	**San Jos de Ur**	**2.58**	**291**	*e*P		**Pn**	**08 06 37.6**	**-1.8**
UREC				*i*			08 07 19.5	
	comp=Z,1μm,0.2s							
GUY2C	**Guyana, Caldas**	**2.77**	**235**	*e*P		**Pn**	**08 06 42.0**	**-0.2**
GUY2C				*e*S		**Sn**	**08 07 16.3**	**-0.7**
GUY2C				*i*			08 07 30.3	
	comp=Z,1μm,0.6s							
PTGC	**Puerto Gaitan,**	**2.79**	**160**	⇓*i*P		**Pn**	**08 06 41.1**	**-0.8**
PTGC				*e*S		**Sn**	**08 07 14.6**	**-2.3**
PTGC				*i*			08 07 19.5	
	comp=Z,704nm,0.6s							
RREF	**El Recreo**	**2.95**	**230**	*e*P		**Pn**	**08 06 45.0**	**+0.4**
RREF				*e*S		**Sn**	**08 07 22.8**	**+1.4**
RREF				*i*			08 07 25.2	
	comp=Z,1μm,0.3s							
CMAN1	**Manizales, Cal**	**2.98**	**234**	*e*P		**Pn**	**08 06 47.3**	**+2.6**
CBOC	**Ciudad Bolivar**	**3.06**	**252**	⇑*e*P		**Pn**	**08 06 45.3**	**-0.2**
CBOC				*e*S		**Sn**	**08 07 20.6**	**-2.4**
CBOC				*i*			08 07 32.9	
	comp=Z,385nm,0.5s							
DBBC	**Dabeiba**	**3.10**	**274**	⇑*i*P		**Pn**	**08 06 45.4**	**-0.4**

TOLC	**Tolima**	**3.15**	**225**	*eP*		**Pn**	**08 06 46.8**	**0.0**
TOLC				*eS*		**Sn**	**08 07 25.8**	**+0.4**
TOLC				*i*			08 07 32.7	
	comp=Z,1μm,0.3s							
SDV	**Santo Domingo**	**3.18**	**50**	P		**Pn**	**08 06 47.5**	**+0.5**
	comp=Z,161nm,0.3s,baz=207,slow=4.3,SNR=637							
SDV				S		**Sn**	**08 07 24.8**	**-1.0**
	comp=Z,160nm,0.3s,baz=302,slow=23,SNR=15							
SDV	**Santo Domingo**	**3.18**	**50**	Pn		**Pn**	**08 06 47.2**	**+0.2**
SDV				Sn		**Sn**	**08 07 25.1**	**-0.8**
SDV	**Santo Domingo**	**3.18**	**50⇑**	*iP*		**Pn**	**08 06 47.5**	**+0.5**
SDV				*eS*		**Sn**	**08 07 24.7**	**-1.2**
SDV				*i*			08 07 28.1	
	comp=Z,353nm,0.3s							
MOTC	**Monteria, Cord**	**3.20**	**307⇓**	*eP*		**Pn**	**08 06 45.0**	**-2.0**
MOTC				*eS*		**Sn**	**08 07 23.4**	**-2.5**
MOTC				*i*			08 07 39.6	
	comp=Z,651nm,0.4s							
ARGC	**Ariguani, Magd**	**3.21**	**339⇓**	*iP*		**Pn**	**08 06 48.0**	**+0.7**
ARGC				*eS*		**Sn**	**08 07 26.8**	**+0.4**
ARGC				*i*			08 07 34.0	
	comp=Z,554nm,0.3s							
ANIL	**Santa Ana**	**3.27**	**225**	*eP*		**Pn**	**08 06 49.1**	**+0.9**
ANIL				*eS*		**Sn**	**08 07 29.1**	**+1.0**
ANIL				*i*			08 07 31.7	
	comp=Z,322nm,0.4s							
PRAC	**Prado**	**3.58**	**210**	*eP*		**Pn**	**08 06 50.8**	**-1.1**
PRAC				*eS*		**Sn**	**08 07 33.5**	**-1.3**
PRAC				*i*			08 07 40.0	
	comp=Z,2μm,0.4s							
ORTC	**Ortega, Tolima**	**3.61**	**216⇑**	*eP*		**Pn**	**08 06 52.3**	**-0.1**
ORTC				*eS*		**Sn**	**08 07 34.9**	**-0.7**
ORTC				*i*			08 07 41.7	
	comp=Z,976nm,0.5s							
PLMC	**San Jos del P**	**3.71**	**239⇑**	*iP*		**Pn**	**08 06 53.4**	**-0.2**
PLMC				*eS*		**Sn**	**08 07 33.6**	**-4.1**
PLMC				*i*			08 07 48.5	
	comp=Z,376nm,0.4s							
GUVC	**San Jose del G**	**4.29**	**174**	*eP*		**Pn**	**08 06 59.7**	**-1.5**
GUVC				*eS*		**Sn**	**08 07 49.5**	**-1.7**
GUVC				*i*			08 07 54.9	
	comp=Z,536nm,0.3s							
YOTC	**Yotoco, Valle**	**4.30**	**229**	*eP*		**Pn**	**08 07 00.1**	**-1.3**
SOLC	**Bahia Solano**	**4.33**	**262**	*eP*		**Pn**	**08 07 01.1**	**-0.6**
SMRC	**Santa Marta, M**	**4.44**	**346**	*eP*		**Pn**	**08 07 03.0**	**-0.1**
SMRC				*eS*		**Sn**	**08 07 50.8**	**-4.1**
SMRC				*i*			08 07 55.6	
	comp=Z,218nm,0.3s							
CAPC	**Capurgana**	**4.58**	**293**	*eP*		**Pn**	**08 07 03.0**	**-1.9**
MACC	**Macarena, Meta**	**4.72**	**189⇓**	*iP*		**Pn**	**08 07 04.7**	**-2.1**
MACC				*eS*		**Sn**	**08 07 55.9**	**-5.5**
BETC	**Betania**	**4.74**	**210**	*eP*		**Pn**	**08 07 06.0**	**-1.2**
URIC	**Uribia, Colomb**	**4.96**	**13**	*eP*		**Pn**	**08 07 08.7**	**-1.2**
SOTA	**Rioblanco**	**5.84**	**217**	*eP*		**Pn**	**08 07 22.9**	**+0.9**
BBAC	**Balboa, Cauca**	**6.32**	**221**	*eP*		**Pn**	**08 07 28.5**	**+0.3**
BCIP	**Isla Barro Col**	**7.07**	**290**	Pn		**Pn**	**08 07 36.1**	**-1.8**
OTAV	**Otavalo**	**8.46**	**219**	Pn		**Pn**	**08 07 56.0**	**-0.8**
PCRV	**Puerto La Cruz**	**9.00**	**68**	P		**Pn**	**08 08 02.2**	**-1.4**
	comp=Z,2.8nm,0.3s,baz=316,slow=1.7,SNR=10							
PLCV	**Puerto La Cruz**	**9.04**	**68**			**Pn**	**08 08 02.2**	**-1.9**
RIOS	**Rincon, Osa**	**10.49**	**281**	Pn		**Pn**	**08 08 25.9**	**+2.6**
PEZE	**Perez Zeledon,**	**10.78**	**284**	Pn		**Pn**	**08 08 28.9**	**+1.7**
LGNH	**Logne**	**11.62**	**2**	Pn		**Pn**	**08 08 38.3**	**+0.3**
STH	**Stony Hill**	**11.75**	**342**	*i* P		**Pn**	**08 08 41.6**	**+1.8**
MTDJ	**Mount Denham**	**12.12**	**339**	Pn		**Pn**	**08 08 46.5**	**+1.9**
BBJ	**Bamboo Saint A**	**12.18**	**341⇓**	*iP*		**Pn**	**08 08 48.6**	**+3.3**
SDDR	**Presa de Saban**	**12.20**	**8**	Pn		**P**	**08 08 49.0**	**-2.6**
JTS	**Las Juntas de**	**12.22**	**287**	P		**Pn**	**08 08 46.7**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=142,slow=18,SNR=2.0							
DR12	**Loma Pena Alta**	**12.42**	**17**	Pn		**Pn**	**08 08 49.7**	**+1.2**
MPR	**Mayaguez**	**12.71**	**27**	Pn		**Pn**	**08 08 50.4**	**-1.7**
SJG	**San Juan**	**13.09**	**31**	P		**Pn**	**08 08 56.5**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=196,slow=19,SNR=1.7							
GTBY	**Guantanamo Bay**	**13.16**	**352**	Pn		**Pn**	**08 09 00.1**	**+2.2**
CBVP	**Canovanas**	**13.38**	**31**	Pn		**Pn**	**08 09 00.1**	**-0.6**
CDVI	**St. Croix**	**13.56**	**36**	Pn		**Pn**	**08 09 03.1**	**+0.2**
ATAH	**Atahualpa**	**14.85**	**201**	P		**Pn**	**08 09 20.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=29,slow=10,SNR=2.8							
WBCY	**West Bay, Gran**	**14.85**	**328**			**P**	**08 09 21.5**	**+0.6**
PTGA	**Pitinga**	**15.10**	**119**	P		**Pn**	**08 09 21.8**	**-0.5**
	baz=319,slow=20,SNR=1.0							
SAML	**Samuel**	**18.53**	**148**	P		**P**	**08 10 00.9**	**-0.7**
PAYG	**Puerto Ayora**	**18.71**	**247**	P		**P**	**08 10 04.2**	**+0.7**
APG	**El Apazote**	**18.88**	**297**	P		**P**	**08 10 04.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=79,slow=10,SNR=1.8							
TEIG	**Tepich**	**19.85**	**314**	P		**P**	**08 10 17.8**	**+2.1**
TEIG				IAmb	IAmb		08 10 21.0	
	comp=Z,13nm,0.7s							
MDP	**Montagnes des**	**20.41**	**94**	pP	pP		08 10 47.6	-1.9
	comp=Z,12nm,0.9s,baz=264,slow=14,SNR=1.2							
CCIG	**Comitan**	**20.87**	**298**	P		**P**	**08 10 27.8**	**+1.0**
LPAZ	**La Paz**	**23.49**	**168**	pP	pP		08 11 24.8	+1.1
	comp=Z,3.8nm,0.7s,baz=343,slow=14,SNR=6.4							
LPAZ	**La Paz**	**23.49**	**168**	P		**P**	**08 10 52.6**	**-0.7**
SIV	**San Ignacio**	**25.61**	**152**	pP	pP		08 11 43.8	-1.6
	comp=Z,0.8nm,0.5s,baz=315,slow=7.8,SNR=4.7							
152A	**Waverly Hall**	**27.89**	**339**	P		**P**	**08 11 33.7**	**+1.6**
152A				IAmb	IAmb		08 11 34.7	
	comp=Z,8.0nm,0.8s							
GOGA	**Godfrey**	**28.14**	**341**	P		**P**	**08 11 36.1**	**+1.8**
GOGA				IAmb	IAmb		08 11 42.4	
	comp=Z,17nm,1.5s							
HODGE	**Hodges**	**28.55**	**344**	P		**P**	**08 11 39.7**	**+1.8**
HODGE				IAmb	IAmb		08 11 46.6	
	comp=Z,13nm,1.4s							
TKL	**Tuckaleechee C**	**30.32**	**343**	P		**P**	**08 11 54.6**	**+1.2**
	comp=Z,4.9nm,1.1s,baz=199,slow=13,SNR=1.8							
CPCT	**Cooper Cave**	**30.35**	**341**	P		**P**	**08 11 56.0**	**+2.2**
CPCT				IAmb	IAmb		08 11 56.7	
	comp=Z,14nm,1.2s							
V48A	**Smith Brothers**	**31.41**	**338**	P		**P**	**08 12 05.1**	**+2.0**
PBMO	**Poplar Bluff**	**33.74**	**334**	P		**P**	**08 12 24.6**	**+1.2**
PBMO				IAmb	IAmb		08 12 25.3	
	comp=Z,7.9nm,0.8s							
FCAR	**Ozark Folk Cen**	**33.77**	**332**	P		**P**	**08 12 24.0**	**+0.3**
FCAR				IAmb	IAmb		08 12 24.9	
	comp=Z,7.5nm,1.0s							
FVM	**French Village**	**34.77**	**336**	P		**P**	**08 12 33.7**	**+1.5**
FVM				IAmb	IAmb		08 12 34.6	
	comp=Z,9.1nm,0.8s							
M56A	**Emporium**	**34.80**	**353**	P		**P**	**08 12 34.6**	**+2.2**
TXAR	**Lajitas Array**	**36.47**	**312**	P		**P**	**08 12 47.7**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=124,slow=9.1,SNR=21							
TXAR				PcP		**PcP**	**08 15 08.5**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=132,slow=6.9,SNR=3.9							
TXAR	**Lajitas Array**	**36.47**	**312**	P		**P**	**08 12 48.0**	**+0.9**
TX31	**Lajitas Ar. Si**	**36.47**	**312**	P		**P**	**08 12 48.0**	**+1.0**
ULM	**Lac du Bonnet**	**47.28**	**340**	P		**P**	**08 14 13.9**	**-0.3**
	comp=Z,4.7nm,0.5s,baz=153,slow=6.6,SNR=12							
PDAR	**Pinedale Array**	**48.08**	**324**	P		**P**	**08 14 21.2**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=124,slow=9.3,SNR=8.4							
NVAR	**Mina Array Bea**	**51.49**	**315**	P		**P**	**08 14 46.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=121,slow=8.6,SNR=6.1							
NVAR				PcP		**PcP**	**08 15 59.1**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=142,slow=4.5,SNR=2.7							
YBH	**Yreka Blue Hor**	**55.95**	**317**	P		**P**	**08 15 17.8**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=180,slow=3.0,SNR=6.6							
YBH	**Yreka Blue Hor**	**55.95**	**317**	P		**P**	**08 15 18.0**	**-0.9**
YBH				IAmb	IAmb		08 15 24.9	
	comp=Z,5.7nm,1.5s							
FRB	**Frobisher Bay**	**56.90**	**2**	P		**P**	**08 15 24.4**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=170,slow=8.2,SNR=9.8							
YKA	**Yellowknife Ar**	**63.26**	**340**	P		**P**	**08 16 08.4**	**0.0**
	comp=Z,2.2nm,0.6s,baz=129,slow=7.3,SNR=62							
YKA				pP		**pP**	**08 16 46.4**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=126,slow=7.7,SNR=2.4							
DLBC	**Dease Lake**	**67.32**	**331**	P		**P**	**08 16 34.9**	**+0.2**
	comp=Z,3.5nm,1.1s,baz=136,slow=2.8,SNR=4.1							
DLBC	**Dease Lake**	**67.32**	**331**	IAmb	IAmb		08 16 59.3	
	comp=Z,8.0nm,1.3s							
INK	**Inuvik**	**73.03**	**340**	P		**P**	**08 17 09.2**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=331,slow=4.2,SNR=5.0							
ILAR	**Eielson Array**	**76.96**	**335**	P		**P**	**08 17 31.5**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=93,slow=5.1,SNR=5.5							
MKAR	**Makanchi Array**	**122.30**	**20**	PKP		**PKPdf**	**08 24 32.5**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=309,slow=2.9,SNR=1.6							
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc		**PKPbc**	**08 25 26.2**	**-1.3**
	comp=Z,2.2nm,0.7s,baz=114,slow=3.6,SNR=30							
ASAR				pPKPbc		**pPKPbc**	**08 26 09.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=115,slow=3.6,SNR=1.6							
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc		**PKPbc**	**08 25 29.5**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=110,slow=2.7,SNR=50							
WRA				pPKPbc		**pPKPbc**	**08 26 12.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=110,slow=2.8,SNR=2.1							
WB0	**Warramunga Arr**	**150.38**	**242**	PKPbc		**PKPbc**	**08 25 29.3**	**-1.3**

KRSC 14 08:09:47.8±1.8, 50°.49N×156°.91E, h71^{km}±22^{km}, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.54**	**291**	*eP*	Pn	08 10 02.1	+1.0
SKR				*eS*	Sn	08 10 12.3	+1.4
ALID	**Alaid**	**0.94**	**294**	*eP*	Pn	08 10 05.3	-0.5
PAU	**Pauzhetka**	**0.98**	**356**	*eP*	Pn	08 10 07.6	+1.5
PAU				*eS*	Sn	08 10 21.3	+1.6
KDTR	**Khodutka, Kamc**	**1.51**	**29**	*eP*	Pn	08 10 14.4	+1.5
KDTR				*eS*	Sn	08 10 33.9	+2.1
MIPR	**Malaya Ipel'ka**	**1.79**	**357**	*eP*	Pn	08 10 17.1	+0.4
ASAK	**Asacha**	**1.99**	**18**	*eP*	Pn	08 10 21.5	+2.1
MTVR	**Mutnovka**	**2.15**	**21**	*eP*	Pn	08 10 23.8	+2.2
MTVR				*eS*	Sn	08 10 50.5	+3.2
GRL	**Gorelyy**	**2.19**	**19**	*eP*	Pn	08 10 24.5	+2.4
GRL				*eS*	Sn	08 10 50.9	+2.7
RUS	**Russkaya**	**2.19**	**27**	*eP*	Pn	08 10 23.5	+1.6
RUS				*eS*	Sn	08 10 49.7	+1.7
KRMR	**Karymshinskiy**	**2.46**	**17**	*eP*	Pn	08 10 29.1	+3.4
UGLR	**Uglovaya**	**2.97**	**23**	*eP*	Pn	08 10 35.6	+2.9
AVH	**Avacha**	**3.00**	**21**	*eP*	Pn	08 10 36.8	+3.8
KOK	**Koryaka**	**3.00**	**20**	*eP*	Pn	08 10 36.7	+3.6
SMAR	**Somma**	**3.01**	**22**	*eP*	Pn	08 10 36.2	+2.8
KRER	**Koryakskii**	**3.04**	**21**	*eP*	Pn	08 10 37.2	+3.5
SDLR	**Sedlovina**	**3.05**	**23**	*eP*	Pn	08 10 36.1	+2.4
KRX	**Arik**	**3.07**	**20**	*eP*	Pn	08 10 37.3	+3.3
SPN	**Mys Shipunski**	**3.25**	**35**	*eP*	Pn	08 10 38.1	+1.8
SPN				*eS*	Sn	08 11 15.2	+1.4
GNL	**Ganaly**	**3.27**	**11**	*eP*	Pn	08 10 38.9	+2.1
MKZ	**Mys Kozlova**	**5.02**	**34**	*eP*	Pn	08 11 01.3	+0.8
KZV	**Kizimen**	**5.06**	**23**	*eP*	Pn	08 11 05.8	+4.6

*SKHL **14** 09:02:27.3±0.8, 43°.30N×147°.40E, h38^{km}±3^{km}, mb4.1/4*
*JMA **14** 09:02:28.3±0.2, 43°.32N×147°.23E, h53^{km}, M3.7*

ISC 14 09:02:24.6±2.3, 43°.33N±0°.08×147°.36E±0°.09, h15^{km}±11^{km}, n17,σ1°.06/32, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.18**	**272**	P	**Pg**	**09 02 47.5**	**+0.2**
NEM2				*eS*	**Sg**	**09 03 02.2**	**-0.4**
NMR	**Nemuro--Hokkai**	**1.19**	**272**	*i* P	**Pg**	**09 02 47.5**	**0.0**
NMR				*i* S	**Sn**	**09 03 02.1**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.29**	**303**	*i* P	**Pg**	**09 02 48.9**	**-0.6**
YUK				AMB	AMB	09 02 50.0	
	60nm,0.2s						
YUK				*i* S	**Sn**	**09 03 04.8**	**-0.2**
YUK				A	A	09 03 05.0	
	540nm,0.4s						
YUK				A	A	09 03 05.0	
	740nm,0.4s						
GRPR	**Tuman**	**1.32**	**300**	*i* P	**Pb**	**09 02 49.4**	**+0.3**
GRPR				AMB	AMB	09 02 50.0	
	50nm,0.2s						
GRPR				*i* S	**Sn**	**09 03 05.0**	**-0.9**
GRPR				A	A	09 03 06.0	
	910nm,0.4s						
GRPR				A	A	09 03 06.0	
	1μm,0.4s						
GLVR	**Golovnino**	**1.40**	**287**	*i* P	**Pb**	**09 02 50.0**	**-0.3**
GLVR				AMB	AMB	09 02 51.0	
	60nm,0.2s						
GLVR				*i* S	**Sn**	**09 03 07.0**	**-0.6**
GLVR				A	A	09 03 10.0	
	720nm,0.3s						
GLVR				A	A	09 03 10.0	
	400nm,0.3s						
JKHN	**Kushirohamanak**	**1.62**	**262**	P	**Pb**	**09 02 54.2**	**0.0**
JKHN				*eS*	**Sn**	**09 03 13.1**	**-0.1**
JRA	**Rausu**	**1.73**	**291**	P	**Pb**	**09 02 55.4**	**-0.6**
JRA				*eS*	**Sn**	**09 03 15.4**	**-0.4**
JNSB	**Nemuroshibetsu**	**1.77**	**285**	P	**Pb**	**09 02 56.0**	**-0.6**
JNSB				*eS*	**Sn**	**09 03 16.4**	**-0.3**
KUR	**Kuril'sk**	**1.93**	**11**	*eP*	**Pn**	**09 02 57.1**	**+0.2**
KUR				AMB	AMB	09 02 58.4	
	30nm,0.5s						
KUR				*eS*	**Sn**	**09 03 20.5**	**-0.4**
KUR				A	A	09 03 24.6	
	50nm,0.2s						
KUR				A	A	09 03 24.6	
	90nm,0.2s						
JNK	**Nakash**	**1.94**	**278**	P	**Pn**	**09 02 57.9**	**+1.0**
JNK				*eS*	**Sn**	**09 03 19.6**	**-1.4**
JAK	**Akkeshi**	**1.98**	**261**	P	**Pn**	**09 02 58.5**	**+1.1**
JAK				*eS*	**Sn**	**09 03 20.3**	**-1.6**
JTKR	**Abashiri--Toko**	**2.58**	**285**	P	**Pn**	**09 03 07.8**	**+2.0**
JTKR				*eS*	**Sn**	**09 03 36.6**	**-0.2**
JOB	**Onbets**	**2.61**	**262**	P	**Pn**	**09 03 06.5**	**+0.3**
JOB				*eS*	**Sn**	**09 03 35.9**	**-1.7**
JAR	**Ashorobuto**	**2.62**	**270**	P	**Pn**	**09 03 07.7**	**+1.4**
JAR				*eS*	**Sn**	**09 03 37.3**	**-0.5**
JMP	**Maruseppu**	**2.98**	**284**	P	**Pn**	**09 03 13.5**	**+2.3**
JCH	**Churui**	**3.02**	**258**	P	**Pn**	**09 03 13.0**	**+1.2**
JCH				*eS*	**Sn**	**09 03 45.7**	**-1.9**
JNBK	**Urakawa-nobuka**	**3.55**	**254**	P	**Pn**	**09 03 20.4**	**+1.4**

*IDC **14** 09:33:06.7±1.2, 20°.59N×123°.55E, h0^{km}, mb3.3/4,*
mb1 3.6/6, mb1mx3.4/37, mbtmp3.5/6, ML3.8/2, Error ellipse: s-maj=49.1km s-min=20.9km az=79.0
*JMA **14** 09:33:11.3±0.5, 21°.11N×122°.98E, h44^{km}, M4.3*
*TAP **14** 09:33:12.4, 21°.09N×122°.96E, h78^{km}±1^{km}, ML4.3, D*

ISC 14 09:33:06.8±3.1, 21°.02N±0°.07×123°.10E±0°.04, h5^{km}±21^{km}, n119,σ2^{s}30/191, mb3.2/4, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.76**	**305**	*i* P	**Pn**	**09 33 37.7**	**-0.3**
	baz=306						
LAY				S	**Sn**	**09 33 59.2**	**-1.6**
	baz=306						
TSEB	**Hengchuen, Pin**	**2.23**	**294**	*i* P	**Pb**	**09 33 47.7**	**+0.1**
	baz=293						
TSEB				S	**Sn**	**09 34 12.5**	**+0.2**
	baz=293						
LDUT	**Ludao**	**2.23**	**318**	*i* P	**Pn**	**09 33 44.1**	**-0.4**
	baz=319						
LDUT				S	**Sn**	**09 34 10.5**	**-2.0**
	baz=319						
TWKBT	**Hengchun**	**2.32**	**294**	P	**Pn**	**09 33 47.2**	**+1.5**
	baz=293						
TWKBT				*eS*	**Sn**	**09 34 13.6**	**-1.0**
	baz=293						
TWK1	**Hengchun**	**2.32**	**294**	P	**Pn**	**09 33 47.6**	**+1.9**
	baz=293						
TWK1				S	**Sn**	**09 34 13.7**	**-1.0**
	baz=293						
HEN	**Hengchun**	**2.41**	**294**	*eP*	**Pn**	**09 33 48.7**	**+1.8**
	baz=301						
HEN				*eS*	**Sn**	**09 34 15.2**	**-1.6**
	baz=301						
TAW	**Tawu**	**2.44**	**303**	*eS*	**Sn**	**09 34 15.2**	**-2.4**
	baz=304						
SLIU	**Shizi**	**2.45**	**299**	P	**Pn**	**09 33 49.0**	**+1.5**
	baz=299						
SLIU				S	**Sn**	**09 34 15.8**	**-2.0**
	baz=299						
EAST	**Anshuo**	**2.49**	**303**	*i* P	**Pn**	**09 33 48.9**	**+0.8**
	baz=304						
EAST				S	**Sn**	**09 34 15.5**	**-3.4**
	baz=304						
TTN	**Taitung**	**2.50**	**314**	P	**Pb**	**09 33 50.5**	**-1.8**
	baz=321						
TTN				S	**Sn**	**09 34 18.6**	**-0.5**
	baz=321						
ECL	**Taimali**	**2.53**	**309**	P	**Pn**	**09 33 48.9**	**+0.2**
	baz=301						
ECL				S	**Sn**	**09 34 17.2**	**-2.7**
	baz=301						
EDH	**Donghe**	**2.56**	**320**	P	**Pn**	**09 33 49.2**	**+0.2**
	baz=321						
EDH				*eS*	**Sn**	**09 34 17.2**	**-3.3**
	baz=321						
TWGBT	**Beinan**	**2.59**	**314**	P	**Pn**	**09 33 50.2**	**+0.8**
	baz=303						
TWGBT				S	**Sn**	**09 34 20.4**	**-0.9**
	baz=303						
TWG	**Pinlang**	**2.60**	**314**	*i* P	**Pn**	**09 33 50.4**	**+0.9**
	baz=303						
TWG				*i* S	**Sn**	**09 34 20.6**	**-0.9**
	baz=303						
LONT	**Longtian**	**2.62**	**316**	P	**Pn**	**09 33 51.0**	**+1.2**
	baz=323						
LONT				*eS*	**Sn**	**09 34 20.4**	**-1.6**
	baz=323						
CHKT	**Chengkung**	**2.62**	**322**	P	**Pn**	**09 33 49.6**	**-0.2**
	baz=330						
CHKT				S	**Sn**	**09 34 18.5**	**-3.5**
	baz=330						
SCZT	**Fangliau**	**2.67**	**301**	*i* P	**Pn**	**09 33 52.4**	**+1.9**
	baz=308						
SCZT				S	**Sn**	**09 34 20.8**	**-2.5**
	baz=308						
FULB	**Fuli**	**2.74**	**323**	P	**Pn**	**09 33 51.6**	**+0.1**
	baz=324						
FULB				S	**Sn**	**09 34 23.1**	**-1.9**
	baz=324						
SSPT	**Xinbi**	**2.76**	**302**	P	**Pn**	**09 33 54.4**	**+2.5**
	baz=309						
SSPT				S	**Sn**	**09 34 23.5**	**-2.1**
	baz=309						
MASBT	**Mashibuluo**	**2.78**	**305**	P	**Pn**	**09 33 53.2**	**+1.1**
	baz=305						
MASBT				*eS*	**Sn**	**09 34 22.5**	**-3.6**
	baz=305						
TSMG	**Majia**	**2.83**	**307**	*eP*	**Pn**	**09 33 54.2**	**+1.5**
	baz=307						
TSMG				*eS*	**Sn**	**09 34 24.7**	**-2.5**
	baz=307						
EYUL	**Yuli**	**2.84**	**325**	*eP*	**Pn**	**09 33 53.3**	**+0.4**
	baz=330						
EYUL				*eS*	**Sn**	**09 34 26.6**	**-0.9**
	baz=330						
TWF1	**Yuli**	**2.86**	**325**	P	**Pn**	**09 33 53.3**	**+0.2**
	baz=331						
TWF1				S	**Sn**	**09 34 25.9**	**-2.1**
	baz=331						
SSD	**Sandimen**	**2.86**	**307**	P	**Pn**	**09 33 54.5**	**+1.3**
	baz=308						
SSD				S	**Sn**	**09 34 25.1**	**-2.9**
	baz=308						
YULB	**Yu-li**	**2.89**	**325**	P	**Pn**	**09 33 54.0**	**+0.4**
	baz=334						
YULB				S	**Sn**	**09 34 27.4**	**-1.3**
	baz=334						
ELDTW	**Lidau**	**2.89**	**319**	P	**Pn**	**09 33 53.9**	**+0.2**
	baz=319						
ELDTW				*eS*	**Sn**	**09 34 26.2**	**-2.8**
	baz=319						
HGSD	**Ruisui**	**2.91**	**328**	P	**Pn**	**09 33 53.4**	**-0.4**
	baz=335						
HGSD				S	**Sn**	**09 34 26.2**	**-2.9**
	baz=335						
EHY	**Hungye**	**2.97**	**327**	P	**Pn**	**09 33 55.3**	**+0.7**
	baz=333						
EHY				S	**Sn**	**09 34 29.1**	**-1.6**
	baz=333						
SLGT	**Liugui**	**3.00**	**311**	*eP*	**Pn**	**09 33 58.0**	**+2.8**
	baz=312						
STYH	**Taoyuan**	**3.03**	**315**	*eP*	**Pn**	**09 33 57.5**	**+1.9**
	baz=316						
STYH				*eS*	**Sn**	**09 34 31.1**	**-1.2**
	baz=316						
STYT	**Tauyuan**	**3.04**	**315**	*eP*	**Pn**	**09 33 58.0**	**+2.3**
	baz=316						
STYT				S	**Sn**	**09 34 31.6**	**-1.0**
	baz=316						
SCST	**Cishan**	**3.05**	**308**	*eP*	**Pb**	**09 33 59.0**	**-2.6**
	baz=302						
SCST				*eS*	**Sn**	**09 34 32.4**	**-0.2**
	baz=302						
EGFH	**Guangfu**	**3.05**	**330**	*eP*	**Pn**	**09 33 56.7**	**+0.9**
	baz=337						
TWM1	**Shoushan**	**3.06**	**306**	P	**Pb**	**09 34 00.2**	**-1.6**
	baz=306						
TWM1				*eS*	**Sn**	**09 34 33.6**	**+0.5**
	baz=306						
HATJ	**Hateruma jima**	**3.09**	**12**	P	**Pn**	**09 33 58.7**	**+2.4**
HATJ				S	**Sn**	**09 34 32.8**	**-0.9**
SGST	**Jiashian**	**3.10**	**312**	P	**Pn**	**09 33 58.7**	**+2.2**
	baz=312						
SGST				S	**Sn**	**09 34 35.1**	**+1.0**
	baz=312						
ESL	**Shilin**	**3.18**	**331**	P	**Pn**	**09 33 58.6**	**+1.1**
	baz=341						
ESL				*eS*	**Sn**	**09 34 33.2**	**-2.6**
	baz=341						
WTP	**Ta-pu**	**3.19**	**314**	P	**Pn**	**09 34 00.8**	**+3.0**
	baz=315						
WTP				*eS*	**Sn**	**09 34 36.1**	**-0.2**
	baz=315						
CHN1	**Nanshi**	**3.21**	**313**	P	**Pb**	**09 34

baz=333
WJS Zhushan 3.54 322 *e*P **Pn** **09 34 06.5 +3.9**
baz=310
WJS *e*S **Sn** **09 34 46.4 +1.4**
baz=310
WDLH Douliu 3.56 319 *e*P **Pn** **09 34 06.5 +3.7**
baz=309
WDLH S **Sn** **09 34 45.2 0.0**
baz=309
WPL Puli Township 3.57 327 *e*P **Pn** **09 34 05.2 +2.2**
baz=335
WPL *e*S **Sn** **09 34 45.3 -0.3**
baz=335
DPDB Guoxing 3.61 327 *e*P **Pn** **09 34 06.7 +3.2**
baz=334
ENA Nanau 3.61 340 P **Pn** **09 34 05.4 +1.9**
baz=341
ENA S **Sn** **09 34 43.6 -3.0**
baz=341
EWUT Wuta 3.62 341 *e*P **Pn** **09 34 05.2 +1.6**
baz=342
WCS Beigang Elemen 3.63 327 *e*P **Pn** **09 34 07.2 +3.4**
baz=334
FUSS Fushou 3.64 332 *e*P **Pn** **09 34 05.9 +1.9**
baz=341
WNT1 Nantou City 3.64 323 *e*P **Pb** **09 34 08.0 -3.7**
baz=311
WNT1 *e*S **Sn** **09 34 48.7 +1.4**
baz=311
WTK Tuku 3.65 317 *e*P **Pn** **09 34 06.5 +2.4**
baz=318
TDCB Techi 3.68 331 P **Pn** **09 34 07.2 +2.6**
baz=339
TDCB *e*S **Sn** **09 34 44.9 -3.6**
baz=339
JISG Ishigakijimahi 3.72 17 P **Pn** **09 34 07.1 +2.1**
JISG S **Sn** **09 34 48.0 -1.2**
WWF Wufeng 3.73 324 *e*P **Pn** **09 34 09.0 +3.8**
baz=313
NNSB Datong 3.74 335 P **Pn** **09 34 07.7 +2.3**
baz=343
NNSB *e*S **Sn** **09 34 47.6 -2.3**
baz=343
NNSH Datong 3.74 335 P **Pn** **09 34 07.2 +1.8**
baz=343
NNSH *e*S **Sn** **09 34 48.2 -1.8**
baz=343
TWC Suao 3.75 342 P **Pn** **09 34 08.3 +2.9**
baz=344
TWC *e*S **Sn** **09 34 46.7 -3.3**
baz=344
NNS Nan Shan 3.75 335 P **Pn** **09 34 07.9 +2.3**
baz=343
NNS *e*S **Sn** **09 34 47.6 -2.7**
baz=343
WHP Taichung City 3.80 329 P **Pn** **09 34 10.5 +4.3**
baz=334
NDS Dongshan 3.81 341 P **Pn** **09 34 09.3 +3.0**
baz=342
TCU Taichung 3.83 325 *e*P **Pn** **09 34 10.6 +4.1**
baz=314
WCHH Zhanghua 3.84 323 *e*P **Pn** **09 34 09.6 +2.9**
baz=312
NDT Datong Townshi 3.85 338 *e*P **Pn** **09 34 09.3 +2.5**
baz=346
ENTT Nioudou 3.87 339 P **Pn** **09 34 09.1 +2.1**
baz=346
WDGT Dungji 3.89 306 *e*P **Pn** **09 34 07.7 +0.5**
baz=305
JTJ Tarama 3.89 22 P **Pn** **09 34 09.5 +2.1**
JTJ S **Sn** **09 34 52.7 -0.8**
TWE Neicheng 3.91 341 P **Pn** **09 34 10.7 +3.1**
baz=342
EGS 3.95 344 *e*P **Pn** **09 34 10.8 +2.7**
baz=340
NSK Sanguang 3.98 337 P **Pn** **09 34 11.3 +2.7**
baz=344
NTC Toucheng 3.99 343 *e*P **Pn** **09 34 11.2 +2.5**
baz=344
WDJ Dajia District 4.01 326 *e*P **Pn** **09 34 12.9 +3.9**
baz=327
NWLT Wulai 4.02 339 P **Pn** **09 34 12.1 +3.0**
baz=345
NSTT Nanjuang 4.08 332 *e*P **Pn** **09 34 13.4 +3.5**
baz=338
NSTT *e*S **Sn** **09 34 56.7 -1.4**
baz=338
LIOB Emei 4.08 332 P **Pn** **09 34 13.9 +3.9**
baz=339
NMLH Miaoli 4.09 329 *e*P **Pn** **09 34 13.7 +3.5**
baz=317
TWB1 Santiao Chiao 4.10 346 P **Pn** **09 34 12.4 +2.3**
baz=356
PHUB P'eng-hu 4.10 308 *e*P **Pn** **09 34 11.1 +0.9**
baz=308
TIPB Shuangxi 4.10 344 *e*P **Pn** **09 34 14.2 +3.9**
baz=353
NHDH Xindian Distri 4.18 340 *e*P **Pn** **09 34 14.7 +3.4**
baz=341
TATO Taipei 4.21 340 *e*P **Pn** **09 34 14.7 +3.0**
baz=341
NWF Wu-fen Shan 4.21 344 *e*P **Pn** **09 34 14.4 +2.7**
baz=354
WFSB Wu-fen Shan 4.21 344 *e*P **Pn** **09 34 13.9 +2.2**
baz=354
JMJ2 Miyako jima3 4.23 29 P **Pn** **09 34 14.4 +2.4**
JMJ2 *e*S **Sn** **09 35 01.9 0.0**
JIRB Irabujima 4.24 26 P **Pn** **09 34 14.6 +2.4**
JIRB *e*S **Sn** **09 35 01.0 -1.1**
JMJ Miyako jima 2 4.28 28 *e*P **Pn** **09 34 14.8 +2.1**
baz=29
JOGS Gusukube 4.29 29 P **Pn** **09 34 15.2 +2.4**
JOGS *e*S **Sn** **09 35 03.3 +0.1**
YM01 YM01 4.34 341 *e*P **Pn** **09 34 15.2 +1.7**
baz=342
TWS1 Kuangyinshan 4.34 339 *e*P **Pn** **09 34 15.7 +2.2**
baz=341
YM10 YM10 4.35 341 *e*P **Pn** **09 34 17.3 +3.6**
baz=342
YM04 YM04 4.36 341 *e*P **Pn** **09 34 17.0 +3.2**
baz=342
YM11 YM11 4.36 342 *e*P **Pn** **09 34 17.0 +3.2**
baz=343
YM05 YM05 4.36 341 *e*P **Pn** **09 34 16.8 +2.9**
baz=342
YM08 YM08 4.37 342 *e*P **Pn** **09 34 17.0 +3.0**
baz=343
JOW Kunigami 7.47 38 Pn **Pn** **09 34 57.6 +1.1**
4.9nm,0.3s,baz=128,slow=29,SNR=11
JOW Sn **Sn** **09 36 13.8 -8.0**
1.7nm,0.3s,baz=106,slow=19,SNR=1.6
KSRS Korea Array 16.90 13 P **P** **09 37 08.1 +1.9**
0.1nm,0.3s,baz=188,slow=13,SNR=5.6
SONM Songino Array 29.95 337 P P 09 39 23.6 +7.5
0.1nm,0.3s,baz=118,slow=8.3,SNR=1.2
MKAR Makanchi Array 41.84 318 P **P** **09 41 01.8 +4.0**
0.3nm,0.8s,baz=115,slow=8.8,SNR=2.2
WRA Warramunga Arr 42.17 164 P P 09 40 56.5 -4.2
0.4nm,0.6s,baz=344,slow=9.3,SNR=9.7
ASAR Alice Springs 45.65 166 P **P** **09 41 25.8 -2.8**
0.2nm,0.5s,baz=347,slow=8.1,SNR=4.5

*NOU **14** 09:47:08.7,36˚42S×177˚50E,h0km,MLv4.5,Off E. Coast of N. Island, N.Z.*
*IDC **14** 09:47:10.0±2.1,36˚46S×177˚46E,h0km,mb3.9/3, mb1 4.0/4,mb1mx3.8/29,mbtmp3.9/4,ML3.1/1,MS3.3/3, Ms1 3.3/3,ms1mx2.9/24,Error ellipse: s-maj=50.6km s-min=25.0km az=65.0*
*WEL **14** 09:47:12.7±0.8,37˚S±6˚×17˚7E±˚,h12km,M3.8/36, ML4.1/34,MLv3.8/36,Error ellipse: s-maj=0.0km s-min=0.0km az=34.0*
ISC 14 09:47:10.7±1.0,36˚51S±0˚05×177˚29E±0˚04,h10km,n102, σ1s70/102,mb3.8/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**1.02**	**185**	P	**Pn**	**09 47 30.2**	**-0.8**
WIZ				S	**Sb**	**09 47 44.1**	**+0.3**
KUZ	**Kuaotunu**	**1.28**	**259**	P	**Pn**	**09 47 34.1**	**-0.6**
KUZ				S	**Sb**	**09 47 49.9**	**-1.6**
MXZ	**Matakaoa Point**	**1.33**	**143**	P	**Pn**	**09 47 33.9**	**-1.4**
MXZ				S	**Sb**	**09 47 50.9**	**-1.8**
OPRZ	**Ohinepanea**	**1.45**	**204**	P	**Pn**	**09 47 36.8**	**-0.2**
TGRZ	**Tauranga**	**1.47**	**214**	P	**Pb**	**09 47 37.2**	**-0.9**
RUGZ	**Raukumara Rang**	**1.48**	**168**	P	**Pb**	**09 47 38.0**	**-0.5**
GRZ	**Great Barrier**	**1.50**	**279**	P	**Pg**	**09 47 38.7**	**-0.9**
MARZ	**Manawahe**	**1.55**	**198**	P	**Pn**	**09 47 38.3**	**-0.1**
WMGZ	**Waiomatatini S**	**1.58**	**146**	P	**Pg**	**09 47 40.4**	**-0.7**
EDRZ	**Edgecumbe**	**1.65**	**195**	P	**Pn**	**09 47 39.7**	**-0.1**
LIRZ	**Lichensteins R**	**1.66**	**206**	P	**Pn**	**09 47 39.8**	**0.0**
KARZ	**Kaharoa**	**1.72**	**209**	P	**Pb**	**09 47 41.0**	**-1.4**
PUZ	**Puketiti**	**1.74**	**154**	P	**Pg**	**09 47 43.3**	**-0.8**
TWGZ	**Tauwhareparae**	**1.75**	**162**	P	**Pb**	**09 47 42.9**	**-0.1**
URZ	**Urewera**	**1.75**	**185**	Pn	**Pn**	**09 47 41.1**	**0.0**
	29nm,0.3s,baz=12,slow=14,SNR=76						
URZ				Sn	**Sn**	**09 48 02.3**	**-1.1**
	55nm,0.3s,baz=0.0,slow=19,SNR=8.0						
URZ				LR	LR	09 48 08.1	
	comp=Z,288nm,18.2s,baz=31,slow=32						
URZ	**Urewera**	**1.75**	**185**	P	**Pn**	**09 47 41.1**	**0.0**
WIAZ	**Waiheke Island**	**1.76**	**260**	P	**Pb**	**09 47 41.5**	**-1.5**
NGRZ	**Ngongotaha**	**1.81**	**209**	P	**Pb**	**09 47 42.9**	**-1.1**
MWZ	**Matawai**	**1.83**	**174**	P	**Pn**	**09 47 42.1**	**-0.2**
TARZ	**Mount Tarawera**	**1.83**	**200**	P	**Pb**	**09 47 43.2**	**-1.1**
TOZ	**Tahuroa Road**	**1.88**	**229**	P	**Pb**	**09 47 43.4**	**-1.7**
UTU	**Utuhina**	**1.88**	**207**	P	**Pb**	**09 47 43.9**	**-1.2**
ETAZ	**East Tamaki Re**	**1.95**	**256**	P	**Pb**	**09 47 44.6**	**-1.7**
TKGZ	**Te Karaka**	**1.97**	**167**	P	**Pb**	**09 47 45.9**	**-0.9**
ABAZ	**Army Bay**	**1.98**	**267**	P	**Pn**	**09 47 43.4**	**-0.9**
RAGZ	**Rawiri**	**1.98**	**177**	P	**Pn**	**09 47 44.8**	**+0.4**
MUGZ	**Murupara**	**2.00**	**192**	P	**Pb**	**09 47 46.2**	**-1.1**
HRRZ	**Handcock Road**	**2.04**	**203**	P	**Pb**	**09 47 46.2**	**-1.7**
GRRZ	**Galatos Road**	**2.06**	**207**	P	**Pb**	**09 47 46.5**	**-1.8**
EPAZ	**Eden Park BICE**	**2.08**	**259**	P	**Pb**	**09 47 47.5**	**-1.0**
HBAZ	**Herne Bay Bore**	**2.09**	**260**	P	**Pb**	**09 47 47.2**	**-1.4**
CNGZ	**Carnagh Statio**	**2.10**	**160**	P	**Pb**	**09 47 48.7**	**-0.2**
RTZ	**Ruatahuna**	**2.11**	**187**	P	**Pn**	**09 47 47.0**	**+0.8**
RTZ				P	**Pn**	**09 47 47.0**	**+0.8**
ALRZ	**Allen Road**	**2.18**	**200**	P	**Pg**	**09 47 54.2**	**+1.7**
AWAZ	**Awhitu Peninsu**	**2.20**	**255**	P	**Pn**	**09 47 48.1**	**+0.9**
RVAZ	**Riverhead Bore**	**2.20**	**262**	P	**Pb**	**09 47 48.5**	**-2.0**
RIGZ	**Rimuhau**	**2.22**	**170**	P	**Pb**	**09 47 50.2**	**-0.8**
WTAZ	**Waiatarua**	**2.22**	**258**	P	**Pb**	**09 47 48.8**	**-2.2**
SNGZ	**Shannon Statio**	**2.27**	**179**	P	**Pn**	**09 47 49.3**	**+1.1**
TLZ	**Tolley Road**	**2.29**	**217**	P	**Pn**	**09 47 49.3**	**+0.7**
KUTZ	**Kaahu Road**	**2.29**	**210**	P	**Pn**	**09 47 49.5**	**+0.9**
MTHZ	**Maungataniwha**	**2.36**	**189**	P	**Pn**	**09 47 50.9**	**+1.3**
RAHZ	**Arahi**	**2.41**	**184**	P	**Pb**	**09 47 53.1**	**-1.0**
MRHZ	**Matea Rd**	**2.42**	**196**	P	**Pb**	**09 47 53.8**	**-0.6**
WCZ	**Waipu Caves**	**2.45**	**283**	P	**Pn**	**09 47 52.0**	**+1.3**
PRGZ	**Paritu Road**	**2.45**	**169**	P	**Pg**	**09 47 57.0**	**-0.7**
WATZ	**Wairara**	**2.52**	**209**	P	**Pb**	**09 47 55.9**	**-0.1**
KNZ	**Kokohu**	**2.52**	**173**	P	**Pb**	**09 47 53.9**	**-2.2**
HATZ	**Hinemaiaia**	**2.56**	**201**	P	**Pg**	**09 47 57.8**	**-1.9**
WHHZ	**Waihua**	**2.56**	**181**	P	**Pb**	**09 47 56.8**	**+0.1**
NMHZ	**Naumai**	**2.61**	**188**	P	**Pb**	**09 47 56.9**	**-0.7**
MHGZ	**Mahia Peninsul**	**2.68**	**170**	P	**Pb**	**09 47 56.6**	**-2.2**
RITZ	**Rihia Road**	**2.71**	**204**	P	**Pb**	**09 47 59.5**	**+0.2**
BKZ	**Black Stump Fm**	**2.72**	**193**	P	**Pn**	**09 47 56.1**	**+1.6**
ARHZ	**Aropaoanui**	**2.76**	**185**	P	**Pb**	**09 47 58.3**	**-1.8**
HIZ	**Hauiti**	**2.78**	**223**	P	**Pn**	**09 47 56.4**	**+1.1**
TMVZ	**Te Maari**	**2.89**	**205**	P	**Pb**	**09 48 01.0**	**-1.4**
KRVZ	**Karewarewa**	**2.89**	**206**	P	**Pb**	**09 48 01.9**	**-0.5**
ETVZ	**East Tongariro**	**2.90**	**205**	P	**Pb**	**09 48 01.1**	**-1.5**
WTVZ	**West Tongariro**	**2.93**	**207**	P	**Pb**	**09 48 03.8**	**+0.8**
OTVZ	**Oturere**	**2.94**	**205**	P	**Pb**	**09 48 01.8**	**-1.5**
MCHZ	**McNeill Hill**	**2.96**	**189**	P	**Pb**	**09 48 01.0**	**-2.7**
NGZ	**Ngauruhoe**	**2.98**	**206**	P	**Pb**	**09 48 03.2**	**-0.8**
KWHZ	**Kaweka Forest**	**2.99**	**193**	P	**Pn**	**09 48 00.5**	**+2.3**
FWVZ	**Far West T-bar**	**3.06**	**206**	P	**Pb**	**09 48 06.3**	**+0.9**
WNVZ	**Wahianoa**	**3.11**	**205**	P	**Pb**	**09 48 04.4**	**-1.8**
BHHZ	**Black Hill Sta**	**3.13**	**198**	P	**Pn**	**09 48 02.7**	**+2.6**
MOVZ	**Moawhango**	**3.13**	**202**	P	**Pb**	**09 48 03.2**	**-3.4**
MTVZ	**Mangateitei**	**3.21**	**206**	P	**Pb**	**09 48 07.0**	**-0.8**
OUZ	**Omahuta**	**3.27**	**292**	P	**Pn**	**09 48 03.0**	**+1.1**
VRZ	**Vera Road**	**3.29**	**217**	P	**Pn**	**09 48 04.1**	**+1.9**
KAHZ	**Kahuranaki**	**3.29**	**186**	P	**Pn**	**09 48 04.9**	**+2.6**
PNHZ	**Pukenui**	**3.50**	**194**	P	**Pn**	**09 48 07.1**	**+1.8**
PXZ	**Pawanui**	**3.53**	**185**	P	**Pn**	**09 48 06.9**	**+1.3**
WPHZ	**Waipukurau**	**3.61**	**190**	P	**Pn**	**09 48 09.5**	**+2.8**
WAZ	**Wanganui**	**3.71**	**209**	P	**Pb**	**09 48 13.2**	**-3.2**
NEZ	**North Egmont**	**3.74**	**222**	P	**Pn**	**09 48 11.6**	**+3.1**
PKE	**Pukeiti**	**3.74**	**223**	P	**Pn**	**09 48 11.8**	**+3.2**
PRZ	**Palmer Road**	**3.76**	**220**	P	**Pn**	**09 48 12.3**	**+3.5**
KHEZ	**Kahui Hut**	**3.80**	**222**	P	**Pn**	**09 48 12.3**	**+3.0**
NBEZ	**Newall Road No**	**3.86**	**224**	P	**Pn**	**09 48 12.9**	**+2.7**
POWZ	**Post Office Ro**	**4.05**	**197**	P	**Pb**	**09 48 19.1**	**-3.1**
PRWZ	**Pori Road**	**4.17**	**194**	P	Pb	09 48 18.8	-5.3
MRZ	**Mangatainoka R**	**4.35**	**197**	P	**Pn**	**09 48 17.4**	**+0.5**
HOWZ	**Holdsworth Sta**	**4.59**	**197**	P	**Pn**	**09 48 20.3**	**+0.1**
TMWZ	**Te Maipa**	**4.72**	**193**	P	**Pn**	**09 48 23.0**	**+1.0**
KIW	**Kapiti Island**	**4.72**	**202**	P	**Pn**	**09 48 23.3**	**+1.2**
QRZ	**Quartz Range**	**5.69**	**219**	P	**Pn**	**09 48 36.9**	**+1.6**
THZ	**Tophouse**	**6.25**	**212**	P	**Pn**	**09 48 46.8**	**+3.8**
KHZ	**Kahutara**	**6.57**	**205**	P	**Pn**	**09 48 48.7**	**+1.4**
LTZ	**Lake Taylor**	**7.36**	**210**	P	**Pn**	**09 49 01.3**	**+3.0**
INZ	**Inchbonnie**	**7.67**	**214**	P	**Pn**	**09 49 04.9**	**+2.5**
RPZ	**Rata Peaks**	**8.63**	**212**	Pn	**Pn**	**09 49 16.1**	**+0.4**
	0.2nm,0.3s,baz=38,slow=5.2,SNR=1.7						
RPZ				Sn	**Sn**	**09 50 49.2**	**-3.9**
	0.1nm,0.3s,baz=237,slow=14,SNR=1.2						
DZM	**Mont Dzumac**	**17.20**	**324**	LR	LR	09 55 55.4	
	comp=Z,112nm,20.0s,baz=228,slow=30						
STKA	**Stephens Creek**	**29.78**	**268**	LR	LR	10 04 07.0	
	comp=Z,54nm,18.9s,baz=24,slow=34						
ASAR	**Alice Springs**	**39.35**	**277**	P	**P**	**09 54 42.6**	**+2.2**
	2.0nm,0.9s,baz=122,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**40.92**	**282**	P	**P**	**09 54 55.4**	**+2.0**
	0.6nm,0.6s,baz=122,slow=8.0,SNR=9.3						
WRA				LR	LR	10 11 21.8	
	comp=Z,40nm,19.2s,baz=120,slow=35						
QSPA	**South Pole Qui**	**53.61**	**180**	P	**P**	**09 56 34.3**	**+2.4**
	1.1nm,0.6s,baz=351,slow=1.8,SNR=11						
H03N3	**Juan Fernandez**	**80.53**	**125**	T	T	11 28 12.8	
	baz=235						
H03N2	**Juan Fernandez**	**80.53**	**125**	T	T	11 28 08.9	
	baz=235						
H03N1	**Juan Fernandez**	**80.54**	**125**	T	T	11 28 21.1	
	baz=235						
FINES	**FINESS Array B**	**149.18**	**333**	PKPbc	**PKPbc**	**10 06 57.6**	**-0.9**
	4.1nm,1.1s,baz=52,slow=7.4,SNR=2.4						

*IDC **14** 09:56:39.1±1.0,13˚08N×145˚64E,h0km,mb3.4/7, mb1 3.7/7,mb1mx3.5/31,mbtmp3.4/7,Error ellipse: s-maj=54.5km s-min=23.4km az=111.0*
ISC 14 09:56:45.3±1.0,13˚0N±0˚2×145˚6E±0˚3,h43km,n7, σ0s78/7,mb3.4/7,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.60**	**199**	P	**P**	**10 03 30.1**	**-0.3**
	1.2nm,1.1s,baz=19,slow=9.2,SNR=2.6						
ASAR	**Alice Springs**	**38.24**	**198**	P	**P**	**10 04 01.4**	**+0.1**
	0.3nm,0.6s,baz=26,slow=8.8,SNR=6.7						
MKAR	**Makanchi Array**	**62.39**	**316**	P	**P**	**10 07 03.9**	**+0.1**
	0.2nm,0.6s,baz=119,slow=5.3,SNR=1.9						
ILAR	**Eielson Array**	**68.75**	**25**	P	**P**	**10 07 43.8**	**-0.7**
	0.4nm,0.9s,baz=251,slow=5.6,SNR=4.2						
YKA	**Yellowknife Ar**	**83.01**	**27**	P	**P**	**10 09 05.8**	**0.0**
	0.2nm,0.5s,baz=287,slow=4.6,SNR=5.6						
NVAR	**Mina Array Bea**	**86.69**	**51**	P	**P**	**10 09 24.9**	**-0.2**
	0.1nm,0.6s,baz=272,slow=6.9,SNR=1.9						
PDAR	**Pinedale Array**	**91.83**	**45**	P	**P**	**10 09 50.6**	**+1.3**
	0.1nm,0.4s,baz=298,slow=1.9,SNR=1.6						

IDC 14 10:44:41.2±1.8,27˚19S×107˚90W,h0km,mb3.9/3, mb1 4.3/3,mb1mx3.8/21,mbtmp3.9/3,Error ellipse: s-maj=109.6km s-min=33.2km az=52.0,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**25.72**	**111**	T	T	11 16 40.5	
	baz=281,slow=75						
H03N3	**Juan Fernandez**	**25.73**	**111**	T	T	11 16 41.7	
	baz=281,slow=75						
H03N1	**Juan Fernandez**	**25.74**	**111**	T	T	11 16 41.6	
	baz=281,slow=75						
PLCA	**Paso Flores**	**33.53**	**123**	P	P	10 51 22.9	+0.2
	1.5nm,0.7s,baz=290,slow=9.9,SNR=4.5						
NVAR	**Mina Array Bea**	**66.00**	**351**	P	P	10 55 30.2	+0.5
	1.8nm,0.8s,baz=174,slow=9.1,SNR=12						
YKA	**Yellowknife Ar**	**89.53**	**357**	P	P	10 57 38.9	-0.9
	0.2nm,0.9s,baz=161,slow=5.2,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**94.33**	**288**	T	T	12 43 00.0	
	baz=117,slow=75,SNR=349						
H11S1	**WAKE ISLAND Hy**	**94.34**	**288**	T	T	12 43 01.0	
	baz=117,slow=75,SNR=325						
H11S3	**WAKE ISLAND Hy**	**94.34**	**288**	T	T	12 43 02.5	
	baz=117,slow=75,SNR=256						
H11N3	**WAKE ISLAND Hy**	**94.71**	**290**	T	T	12 43 29.3	
	baz=118,slow=75,SNR=139						
H11N1	**WAKE ISLAND Hy**	**94.72**	**290**	T	T	12 43 30.4	
	baz=118,slow=75,SNR=70						
H11N2	**WAKE ISLAND Hy**	**94.72**	**290**	T	T	12 43 29.1	
	baz=118,slow=75,SNR=229						
SONM	**Songino Array**	**146.27**	**317**	PKPbc	PKPbc	11 04 23.6	-0.2
	0.9nm,0.7s,baz=75,slow=2.1,SNR=7.8						
ZALV	**Zalesovo Beam**	**151.67**	**344**	PKPbc	PKPbc	11 04 35.9	-1.3
	0.6nm,0.6s,baz=7.6,slow=4.4,SNR=2.7						
MKAR	**Makanchi Array**	**158.84**	**340**	PKP	PKPdf	11 04 40.2	-0.7
	0.3nm,0.8s,baz=64,slow=3.4,SNR=2.8						

*IDC **14** 10:49:57.1±1.4,27˚12S×71˚23W,h0km,mb4.3/1, mb1 4.0/4,mb1mx3.7/19,mbtmp3.9/4,ML3.8/3,MS3.0/2, Ms1 3.0/2,ms1mx2.8/21,Error ellipse: s-maj=56.2km s-min=28.1km az=114.0*
*GUC **14** 10:49:58.1±0.7,27˚23S×71˚39W,h30km±4km,ML3.9*
ISC 14 10:49:56.6±1.3,27˚17S±0˚03×71˚36W±0˚07,h8km±8km, n26,σ1s03/33,5C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**1.06**	**166**	⇓*i*P	**Pb**	**10 50 16.1**	**-1.1**
AC04				*i* S	**Sb**	**10 50 29.1**	**-2.2**
AC04				IAML		10 50 31.7	
	comp=E,10μm,0.7s						
GO03	**Copiap**	**1.09**	**113**	⇓*i*P	**Pn**	**10 50 17.6**	**-0.6**
GO03				*i* S	**Sg**	**10 50 31.4**	**-0.2**
GO03				IAML		10 50 34.5	
	comp=N,3μm,0.5s						
AC01	**Pan de Azucar**	**1.23**	**34**	⇑*i*P	**Pg**	**10 50 20.5**	**+0.3**
AC01				*i* S	**Sg**	**10 50 36.7**	**+0.6**
AC05	**El Transito**	**1.92**	**150**	⇑*i*P	**Pn**	**10 50 30.7**	**+1.0**
AC05				*i* S	**Sb**	**10 50 54.4**	**-1.7**
AC05				IAML		10 50 59.7	
	comp=N,1μm,0.4s						
AC02	**Maricunga**	**2.02**	**81**	⇑*e*P	**Pb**	**10 50 33.4**	**-0.5**
AC02				*i* S	**Sb**	**10 50 59.5**	**+0.2**
AC02				IAML		10 51 05.3	
	comp=N,1μm,0.6s						
GO02	**Mina Guanaco**	**2.56**	**39**	⇑*i*P	**Pb**	**10 50 40.9**	**-2.0**
GO02				*i* S	**Sb**	**10 51 13.5**	**-1.2**
GO02				IAML		10 51 30.8	
	comp=N,772nm,0.7s						
PB14	**IPOC Station P**	**2.68**	**19**	*e*P	**Pn**	**10 50 40.5**	**+0.2**
CO01	**Juntas del Tor**	**3.01**	**159**	*e*P	**Pn**	**10 50 46.7**	**+1.9**
CO01				*i* S	**Sn**	**10 51 22.5**	**+1.3**
GO04	**Tololo Observa**	**3.03**	**171**	*e*P	**Pn**	**10 50 45.7**	**+0.6**
CO03	**El Pedregal**	**3.70**	**171**	*e*P	**Pn**	**10 50 54.7**	**+0.5**
PB10	**IPOC Station P**	**3.72**	**12**	*e*P	**Pn**	**10 50 53.7**	**-0.7**
CO02	**Combarbal**	**4.03**	**176**	*e*P	**Pn**	**10 50 58.5**	**-0.3**
PB15	**IPOC Station P**	**4.30**	**24**	*e*P	**Pn**	**10 51 04.2**	**+1.6**
PB05	**IPOC Station P**	**4.43**	**14**	*i* P	**Pn**	**10 51 03.6**	**-0.6**
PB06	**IPOC Station P**	**4.74**	**20**	*e*P	**Pn**	**10 51 08.7**	**+0.2**
PB04	**IPOC Station P**	**4.94**	**13**	⇑*i*P	**Pn**	**10 51 10.3**	**-1.0**
LVC	**Limon Verde**	**5.06**	**27**	Pn	**Pn**	**10 51 14.1**	**+1.0**
	comp=N,2.9nm,0.3s,baz=202,slow=8.9,SNR=26						
LVC				Pg	**Pb**	**10 51 26.2**	**+0.6**
	comp=N,4.7nm,0.3s,baz=188,slow=13,SNR=13						
LVC				Sn	**Sn**	**10 52 11.0**	**-0.9**
	comp=N,8.7nm,0.3s,baz=209,slow=21,SNR=4.6						
H03N1	**Juan Fernandez**	**9.03**	**224**	T	T	11 01 35.0	
	baz=53,slow=71						
H03N2	**Juan Fernandez**	**9.04**	**224**	T	T	11 01 33.4	
	baz=53,slow=71						
H03N3	**Juan Fernandez**	**9.05**	**224**	T	T	11 01 33.1	
	baz=53,slow=71						
LPAZ	**La Paz**	**11.24**	**16**	Pn	**Pn**	**10 52 38.2**	**0.0**
	comp=N,0.2nm,0.3s,baz=190,slow=6.0,SNR=2.3						
LPAZ				Pg		10 53 17.1	
	comp=N,0.9nm,0.3s,baz=336,slow=7.6,SNR=7.9						
LPAZ				Sn	Sn	10 54 30.3	-14
	comp=N,0.8nm,0.3s,baz=319,slow=4.0,SNR=2.0						
LPAZ				LR	LR	10 57 59.4	
	comp=N,51nm,18.8s,baz=229,slow=43						
CPUP	**Villa Florida**	**12.57**	**89**	Pn	**Pn**	**10 52 55.8**	**0.0**
	comp=N,0.2nm,0.3s,baz=221,slow=18,SNR=1.5						
CPUP				Lg	Lg	10 56 25.3	
	comp=N,0.1nm,0.3s,baz=169,slow=19,SNR=2.8						
CPUP				LR	LR	10 58 16.8	
	comp=N,88nm,19.4s,baz=222,slow=40						
TORD	**Torodi Ar. Bea**	**81.36**	**70**	P	**P**	**11 02 15.0**	**+0.8**
	comp=N,2.5nm,0.9s,baz=251,slow=5.3,SNR=2.7						
WRA	**Warramunga Arr**	**126.95**	**211**	PKP	**PKiKP**	**11 09 02.6**	**+0.2**
	comp=N,0.8nm,1.1s,baz=144,slow=1.5,SNR=2.0						
ZALV	**Zalesovo Beam**	**148.01**	**27**	PKPbc	**PKiKP**	**11 09 43.7**	**-0.3**
	comp=N,3.3nm,0.7s,baz=324,slow=3.7,SNR=12						
MKAR	**Makanchi Array**	**151.47**	**40**	PKPbc	**PKiKP**	**11 09 52.4**	**+0.9**
	comp=N,1.4nm,0.6s,baz=326,slow=1.5,SNR=19						
MKAR				PKPab	**pPKPab**	**11 10 01.1**	**+0.5**
	comp=N,0.9nm,0.6s,baz=336,slow=2.0,SNR=6.0						

IDC 14 10:53:44.5±3.5,2˚06N×93˚19E,h0km,mb3.4/3,mb1 3.6/4, mb1mx3.3/29,mbtmp3.4/4,ML4.3/1,MS3.1/1,Ms1 3.1/1, ms1mx2.6/23,Error ellipse: s-maj=108.8km s-min=33.6km az=62.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.25**	**19**	P	Pn	**10 57 47.6**	**+0.7**
	0.4nm,0.3s,baz=218,slow=12,SNR=1.6						
KAPI	**Kappang**	**27.45**	**105**	LR	LR	11 12 01.0	
	comp=Z,37nm,18.1s,baz=226,slow=40						
MKAR	**Makanchi Array**	**45.56**	**350**	P	P	11 02 06.0	-0.1
	0.5nm,0.7s,baz=167,slow=9.0,SNR

RRX	**Edison Barstow**	**0.68 297**			Pg	11 52 32.5	-0.1
RRX					Sg	11 52 41.8	+0.2
RRX	**Edison Barstow**	**0.68 297**	P			11 52 32.5	
	baz=116,SNR=45						
RRX			S			11 52 41.8	
	baz=116						
DEVC	**Devers**	**0.69 202**			Pg	11 52 33.0	+0.1
BTL	**Butler Peak**	**0.69 243**			Pg	11 52 32.9	-0.1
DANC	**Danby, Needles**	**0.73 85**			Pg	11 52 33.6	-0.1
DANC					Sb	11 52 43.9	-0.1
SVD	**Seven Oaks Dam**	**0.83 236**			Pg	11 52 35.2	-0.4
SVD					Sg	11 52 46.3	-0.2
GSC	**Goldstone, Bar**	**0.85 329**	Pg		Pg	11 52 35.7	-0.3
GSC	**Goldstone, Bar**	**0.85 329**			Sg	11 52 47.4	+0.1
GSC	**Goldstone, Bar**	**0.85 329**	P			11 52 35.7	
	baz=148,SNR=331						
GSC			S			11 52 47.3	
	baz=148						
VTV	**Victorville**	**0.88 270**			Pg	11 52 36.0	-0.5
VTV					Sg	11 52 47.6	-0.4
BBSC	**Beaumont Base**	**0.88 223**			Pg	11 52 36.5	-0.1
BBSC					Sb	11 52 48.7	+0.4
CFT	**Crafton Hills**	**0.88 233**			Pg	11 52 36.2	-0.3
TUQ	**Turquoise Moun**	**0.91 18**			Pg	11 52 36.5	-0.5
TUQ					Sg	11 52 48.8	-0.1
PMD	**Palm Desert**	**0.93 186**			Pb	11 52 36.9	-0.5
PMD					Sg	11 52 49.5	0.0
CSP	**Cedar Springs**	**0.94 253**			Pg	11 52 37.2	-0.6
CTW	**Cottonwood Mou**	**0.95 160**			Pg	11 52 37.9	0.0
PFO	**Pinyon Flats O**	**0.97 190**	Pg		Pb	11 52 37.8	-0.5
PFO			IAML			11 52 54.5	
	383nm,0.5s						
PFO	**Pinyon Flats O**	**0.97 190**			Pb	11 52 37.8	-0.5
PFO					Sg	11 52 50.9	-0.1
PFO	**Pinyon Flats O**	**0.97 190**	P			11 52 37.7	
	baz=9.3,SNR=124						
PFO			S			11 52 50.9	
	baz=9.3						
XPFO	**Pion Flat**	**0.97 189**	IAML			11 52 54.5	
	382nm,0.5s						
XPFO	**Pion Flat**	**0.97 189**			Pb	11 52 37.8	-0.5
XPFO					Sg	11 52 50.9	-0.1
XPFO	**Pion Flat**	**0.97 189**	Pg		Pb	11 52 37.8	-0.5
HAY	**Hayfield**	**0.99 151**			Pn	11 52 38.8	-0.2
PEC	**Perris**	**1.01 228**			Pb	11 52 38.4	-0.3
IRM	**Iron Mountain**	**1.01 114**			Pb	11 52 38.1	-0.8
IRM					Sg	11 52 52.5	+0.1
IRM	**Iron Mountain**	**1.01 114**	P			11 52 38.0	
	baz=295,SNR=142						
IRM			S			11 52 52.2	
	baz=295						
POB	**Polly Butte**	**1.04 212**			Pb	11 52 39.0	-0.3
DNR	**Dunn Ranch,Anz**	**1.05 197**			Pn	11 52 39.9	-0.1
DNR					Sg	11 52 53.7	+0.2
HMTC	**Hemet**	**1.06 216**			Pb	11 52 39.3	-0.3
HMTC					Sg	11 52 53.9	+0.2
SNDA	**J Saunders Pla**	**1.06 196**			Pb	11 52 39.4	-0.3
SNDA					Sn	11 52 54.8	0.0
RSBC	**Riverside Bore**	**1.06 236**			Sb	11 52 53.6	+0.1
CRY	**Cary Ranch**	**1.08 201**			Pb	11 52 39.7	-0.3
CRY					Sb	11 52 54.2	+0.1
MTPC	**Mountain Pass**	**1.08 32**			Pb	11 52 39.9	-0.2
MTPC					Sn	11 52 55.7	+0.3
SS2	**San Sevaine**	**1.08 251**			Pb	11 52 40.0	0.0
RVR	**Riverside**	**1.09 238**			Pb	11 52 39.8	-0.3
RVR					Sb	11 52 54.2	0.0
DGR	**Domenigoni Val**	**1.11 214**			Pb	11 52 40.2	-0.3
DGR					Sb	11 52 55.0	+0.1
FRD	**Ford Ranch, An**	**1.11 195**			Pb	11 52 40.4	-0.2
FRD					Sg	11 52 55.5	+0.1
FRD	**Ford Ranch, An**	**1.11 195**			Pb	11 52 40.3	-0.3
HYS	**Haystack Butte**	**1.11 285**			Pb	11 52 40.0	-0.6
HYS					Sb	11 52 55.1	0.0
BZNA	**Buzz No.'s Pla**	**1.13 197**			Pb	11 52 40.7	-0.2
BZNA					Sg	11 52 56.2	+0.2
BC3	**Big Chuckawall**	**1.14 143**			Pn	11 52 41.2	0.0
BC3					Sg	11 52 56.2	0.0
BC3	**Big Chuckawall**	**1.14 143**	Pn			11 52 40.2	
	baz=324,SNR=134						
BC3			Pg			11 52 41.2	
	baz=324						
BC3			S			11 52 56.4	
	baz=324						
BACC	**Bachelor Mtn.**	**1.15 214**			Pb	11 52 41.1	-0.2
BACC					Sb	11 52 56.0	-0.1
SME	**Santa Rosa Min**	**1.17 231**			Pn	11 52 41.3	-0.3
BFSC	**Mount Baldy Ra**	**1.20 254**			Pn	11 52 41.7	-0.3
BFSC					Sn	11 52 58.0	-0.3
BFSC	**Mount Baldy Ra**	**1.20 254**	Pg			11 52 41.6	
	baz=73,SNR=84						
BFSC			S			11 52 57.5	
	baz=73						
SSK	**Sunset Peak**	**1.23 253**			Pn	11 52 42.5	-0.1
MURC	**Murrieta**	**1.24 219**			Pn	11 52 42.5	0.0
MURC					Sn	11 52 59.2	+0.1
MURC	**Murrieta**	**1.24 219**	Pg			11 52 42.4	
	baz=38,SNR=44						
MURC			S			11 52 59.1	
	baz=38						
FRK	**Frink**	**1.28 156**			Pg	11 52 43.9	-0.2
SBB	**Saddle Back Bu**	**1.29 276**			Pn	11 52 42.7	-0.5
SBB					Sb	11 53 00.3	+0.1
BORC	**Borrego Spring**	**1.31 186**			Pb	11 52 44.0	+0.1
BORC					Sn	11 53 01.1	+0.4
CCCA	**Chr Cany lake**	**1.31 317**			Pn	11 52 43.1	-0.4
CCCA					Sg	11 53 02.6	+0.8
PLM	**Palomar**	**1.31 202**			Pb	11 52 44.1	0.0
PLM					Sg	11 53 01.7	-0.2
SHOC	**Shoshone, Teco**	**1.32 360**	Pn			11 52 42.9	
	baz=180,SNR=76						
SHOC			Pg			11 52 44.3	
	baz=180						
SHOC			S			11 53 01.5	
	baz=180						
ELS	**Elsinore Mount**	**1.33 227**			Sn	11 53 02.0	+0.5
PSRC	**Puddingstone R**	**1.36 250**			Pb	11 52 44.9	0.0
NEE2	**Needles Airpor**	**1.37 81**			Pb	11 52 44.9	-0.1
NEE2					Sg	11 53 03.9	+0.2
NEE2	**Needles Airpor**	**1.37 81**	Pg			11 52 44.8	
	baz=262,SNR=8.5						
NEE2			Sg			11 53 03.6	
	baz=262						
SLH	**Sleepy Hollow**	**1.38 180**			Pb	11 52 45.5	+0.4
JNH	**Juniper Hills**	**1.40 265**			Pb	11 52 45.5	-0.1
JNH					Sb	11 53 04.0	+0.6
MATG	**Mataguay Scout**	**1.41 193**			Pb	11 52 45.8	+0.1
MATG					Sg	11 53 04.4	-0.4
EDW2	**Edwards Air Fo**	**1.46 283**			Pb	11 52 46.4	-0.1
EDW2	**Edwards Air Fo**	**1.46 283**	Pn			11 52 44.3	
	baz=102						
EDW2			Pg			11 52 46.5	
	baz=102,SNR=199						
EDW2			Sb			11 53 05.5	
	baz=102						
LRRC	**Littlerock Res**	**1.46 269**			Pb	11 52 46.4	0.0
DTP	**Desert Tortois**	**1.47 299**			Pb	11 52 46.9	+0.1
LRMC	**Laurel Mtn Rad**	**1.47 308**	Pn			11 52 45.2	
	baz=128,SNR=128						
LRMC			Pg			11 52 47.0	
	baz=128						
LRMC			Sb			11 53 06.7	
	baz=128						
CHFC	**Chilao Flat St**	**1.48 261**			Pb	11 52 46.6	-0.3
MWC	**Mount Wilson**	**1.52 257**			Pn	11 52 46.6	+0.1
MWC			IAML			11 53 09.9	
	comp=E,194nm,0.4s						
CJV	**Casa Juvan**	**1.55 269**			Pb	11 52 48.1	-0.1
CCAC	**Calif City Air**	**1.55 292**			Pb	11 52 48.3	+0.2
PASC	**Pasadena Art C**	**1.64 256**			Pb	11 52 49.4	-0.1
PASC			IAML			11 53 14.1	
	comp=E,181nm,0.4s						
PASC			IAML			11 53 14.5	
	comp=N,159nm,0.7s						
TPO	**Tropico Hills**	**1.65 281**			Pb	11 52 49.9	+0.2
HWB	**Hans Werner Br**	**1.65 201**			Pb	11 52 49.7	0.0
CLC	**China Lake**	**1.65 319**			Pb	11 52 50.1	+0.3
CBKC	**Canebrake**	**1.67 180**			Pb	11 52 50.8	+0.7
MONP2	**Monument Peak**	**1.68 185**	Pg			11 52 50.8	
	baz=4.3,SNR=21						
MONP2			Sb			11 53 12.5	
	baz=4.3						
LEOC	**Leona Valley**	**1.68 273**			Pb	11 52 50.5	+0.1
DECC	**Green Verdugo**	**1.74 260**	Pg			11 52 52.2	
	baz=79,SNR=18						
TOW	**Tower One**	**1.74 316**			Pn	11 52 49.2	-0.2
109C	**Camp Elliot, M**	**1.82 203**			Pb	11 52 52.1	-0.6
109C			IAML			11 53 17.1	
	comp=N,166nm,0.2s						
109C	**Camp Elliot, M**	**1.82 203**	Pb			11 52 52.1	
	baz=22						
109C			Sb			11 53 15.6	
	baz=22						
WVPM	**Volcano Peak E**	**1.87 318**			Pg	11 52 54.5	-0.9
AMDNV	**Amargosa**	**1.88 360**			Pn	11 52 50.8	-0.4
FMP	**Fort Macarthur**	**1.89 244**	Pg			11 52 55.1	
	baz=62						
FMP			Sb			11 53 18.6	
	baz=62						
BAR	**Barrett**	**1.92 190**			Pb	11 52 53.6	-0.8
BAR			IAML			11 53 20.2	
	comp=E,93nm,0.3s						
BAR			IAML			11 53 21.5	
	comp=N,122nm,0.3s						
IKP	**In-Ko-Pah, Jac**	**1.92 176**	Pn			11 52 51.4	
	baz=356						
IKP			Pg			11 52 55.7	
	baz=356						
IKP			Sb			11 53 20.3	
	baz=356						
RUN	**Ruthven**	**1.92 146**			Pg	11 52 55.5	-0.9
GLA	**Glamis**	**1.93 141**			Pn	11 52 50.9	-1.1
GLA	**Glamis**	**1.93 141**			Sg	11 53 21.5	-0.2
GLA	**Glamis**	**1.93 141**	Pn			11 52 50.9	
	baz=322						
GLA			Pg			11 52 55.5	
	baz=322,SNR=29						
GLA			Sg			11 53 21.5	
	baz=322						
FURC	**Furnace Creek,**	**1.95 346**	Sb			11 53 20.5	
	baz=165						
BLCC	**Black Canyon**	**2.02 261**			Pb	11 52 56.9	+0.9
W13A	**Hualapai Mount**	**2.03 74**	Pn		Pn	11 52 52.7	-0.8
W13A			IAML			11 53 31.4	
	comp=E,80nm,0.6s						
OSI	**Osito Audit: C**	**2.03 272**			Pn	11 52 54.5	+1.1
OSI			IAML			11 53 27.9	
	comp=E,147nm,0.5s						
OSI	**Osito Audit: C**	**2.03 272**	Pg			11 52 57.5	
	baz=90						
OSI			Sb			11 53 23.5	
	baz=90						
WHFM	**Hanning Flat**	**2.04 304**			Pb	11 52 57.3	+0.8
ISA	**Isabella, Lake**	**2.11 302**	Pg			11 52 58.6	
	baz=120,SNR=69						
SHPR	**Sheep Range**	**2.13 25**	Pn		Pn	11 52 54.7	-0.1
CIS	**Catalina Islan**	**2.13 237**	Sb			11 53 25.5	
	baz=56						
ARVC	**Arvin**	**2.18 285**	Pb			11 52 59.0	
	baz=104,SNR=18						
ARVC			Sb			11 53 28.8	
	baz=104						
TPNV	**Topopah Spring**	**2.37 0**	Pn		Pn	11 52 58.7	+0.5
TPNV	**Topopah Spring**	**2.37 0**	P			11 52 58.2	
	baz=180,SNR=15						
TPNV			Sb			11 53 34.6	
	baz=180						
ESJX	**Sierra Juarez**	**2.58 174**			Pn	11 53 01.7	+0.7
SPG2	**Springville 2**	**2.61 309**			Pn	11 53 01.4	0.0
PRN	**Pahroc Range**	**2.99 19**			Pn	11 53 07.6	+0.8
PRN			IAML			11 54 02.3	
	comp=E,58nm,0.9s						
PRN			IAML			11 54 02.3	
	comp=N,53nm,0.8s						
LCMT	**Little Creek M**	**3.46 44**			Pn	11 53 13.7	+0.5
KNB	**Kanab**	**3.71 48**	Pn		Pn	11 53 17.4	+0.8
KNB			IAML			11 54 20.8	
	comp=E,28nm,1.2s						
KNB			IAML			11 54 22.2	
	comp=N,28nm,1.3s						
U15A	**North Rim**	**3.73 59**			Pn	11 53 17.7	+0.7
CCUT	**Cedar City**	**3.79 38**	Pn		Pn	11 53 18.9	+1.1
R11A	**Troy Canyon, C**	**3.81 8**	Pg			11 53 30.6	
	baz=188						
R11A			Sb			11 54 17.9	
	baz=188						
SZCU	**Shurtz Canyon**	**3.96 40**			Pn	11 53 20.8	+0.6
SZCU			IAML			11 54 29.4	
	comp=E,12nm,0.4s						
LHV	**Little Huntoon**	**4.09 334**			Pn	11 53 22.6	+0.9
LHV			IAML			11 54 35.0	
	comp=E,18nm,1.3s						
LHV			IAML			11 54 36.0	
	comp=N,23nm,2.5s						
WUAZ	**Wupatki**	**4.12 75**			Pn	11 53 22.7	+0.4
NV11	**Mina Array Sit**	**4.14 339**			Pn	11 53 23.0	+0.5
NVAR	**Mina Array Bea**	**4.18 337**			Pn	11 53 23.5	+0.3
PKCU	**Pink Cliffs**	**4.30 47**			Pn	11 53 26.3	+1.5
PSUT	**Pine Spring**	**4.40 25**	Pn		Pn	11 53 26.8	+0.6
PSUT			IAML			11 54 42.9	
	comp=N,9.7nm,0.8s						
PSUT			IAML			11 54 53.1	
	comp=E,11nm,1.1s						
RYN	**Ryan**	**4.44 336**			Pn	11 53 27.6	+1.0
RYN			IAML			11 54 52.2	
	comp=E,8.4nm,1.2s						
SPR3	**Spring Creek 3**	**4.68 19**			Pn	11 53 29.9	-0.2
SPR3			IAML			11 54 43.9	
	comp=N,8.4nm,5.0s						
SPR3			IAML			11 55 05.0	
	comp=E,8.4nm,2.6s						
KVN	**Kaiserville**	**4.71 342**			Pn	11 53 31.7	+1.4
MTPU	**Mount Pierson**	**4.78 42**			Pn	11 53 33.9	+2.4
MTPU			IAML			11 54 53.8	
	comp=N,10nm,2.8s						
MTPU			IAML			11 55 00.7	
	comp=E,11nm,3.2s						
CMB	**Columbia Colle**	**4.80 317**			Pn	11 53 32.5	+1.1
CMB			IAML			11 54 55.5	
	comp=E,9.5nm,2.0s						
CMB			IAML			11 54 58.8	
	comp=N,7.7nm,1.4s						
TCRU	**Three Creeks R**	**5.07 36**	Pn		Pn	11 53 37.1	+1.8
TCRU			IAML			11 55 01.1	
	comp=N,7.5nm,1.6s						
TCRU			IAML			11 56 25.3	
	comp=E,9.2nm,4.8s						
TUC	**Tucson**	**5.11 115**			Pn	11 53 35.2	-0.6
TUC			IAML			11 54 44.4	
	comp=E,6.6nm,5.0s						
TUC			IAML			11 55 04.7	
	comp=E,5.9nm,0.7s						
MSU	**Marysvale**	**5.13 39**			Pn	11 53 37.0	+0.8
PNTR	**Pine Nut**	**5.24 330**			Pn	11 53 39.5	+1.8
PNTR			IAML			11 55 59.0	
	comp=N,8.3nm,4.7s						
PNTR			IAML			11 56 36.2	
	comp=E,9.1nm,4.2s						
PV03	**Paradox Valley**	**7.02 56**	Pn		Pn	11 54 03.1	+1.0

IDC ***14*** *12:31:27.4±1.1,28°.21N×103°.03E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.5/46,mbtmp3.6/7,ML3.4/1,MS4.0/1, Ms1 4.0/1,ms1mx2.8/36,Error ellipse: s-maj=67.1km s-min=17.8km az=62.0*

ISC 14 12:31:32.7±1.3,28°.3N±0°.2×103°.2E±0°.4,h35km,n8, σ0s28/7,mb3.4/6,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**19.65**	**6**	P		**Pn**	**12 35 59.7**	**-0.3**
	0.1nm,0.3s,baz=185,slow=12,SNR=7.8							
MKAR	**Makanchi Array**	**24.66**	**324**	P		**P**	**12 36 49.8**	**-0.2**
	0.5nm,0.5s,baz=120,slow=10,SNR=13							
PSI	**Prapat**	**25.70**	**190**	LR		LR	12 47 36.5	
	comp=Z,318nm,18.6s,baz=267,slow=38							
ZALV	**Zalesovo Beam**	**28.92**	**337**	P		**P**	**12 37 28.2**	**-0.1**
	0.5nm,0.5s,baz=145,slow=11,SNR=2.3							
KURBB	**Kurchatov Arra**	**29.05**	**327**	P		**P**	**12 37 29.5**	**+0.1**
	0.2nm,0.6s,baz=135,slow=9.9,SNR=5.1							
WRA	**Warramunga Arr**	**56.65**	**144**	P		**P**	**12 41 12.4**	**-0.1**
	0.6nm,0.4s,baz=321,slow=6.2,SNR=26							
ASAR	**Alice Springs**	**59.57**	**147**	P		**P**	**12 41 32.9**	**-0.1**
	0.6nm,0.4s,baz=327,slow=7.2,SNR=20							
YKA	**Yellowknife Ar**	**84.58**	**17**	P		**P**	**12 44 02.4**	**+0.4**
	0.1nm,0.7s,baz=334,slow=5.1,SNR=4.7							

ISN ***14*** *12:33:41.1±1.2,31°.66N×47°.47E,h16km±7km,ML2.9*

KISR ***14*** *12:33:44.3±0.7,31°.62N×48°.02E,h92km±42km,ML3.5, Hypocentre not reviewed by the ISC*

TEH ***14*** *12:33:45.7,31°.72N×47°.60E,h20km,ML3.0*

ISC 14 12:33:45.2±1.3,31°.49N±0°.06×47°.37E±0°.04,h35km,n20, σ1s03/24,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AHWZ	**Ahwaz**	**1.10**	**98**	*e*Sg		**Sn**	**12 34 18.4**	**+0.4**
AHWZ				*e*Pg		**Pn**	**12 34 04.8**	**+0.8**
NSR	**Nassriya**	**1.16**	**246**	*e*Pg		**Pn**	**12 34 04.0**	**-0.9**
NSR				*e*Sg		**Sn**	**12 34 20.0**	**+0.5**
NSR				AML		AML	12 34 30.9	
	comp=E,430nm,0.5s							
DHL1	**Dehloran**	**1.19**	**356**	*e*Pg		**Pn**	**12 34 04.1**	**-1.2**
MIB	**Mutribah**	**1.68**	**181**	*e*P			12 34 17.6	
MIB				*e*S			12 34 41.8	
MIB				IAML			12 34 43.7	
	comp=Z,306nm,0.7s							
IBDR	**Badra**	**2.02**	**323**	*e*Pg		**Pn**	**12 34 16.0**	**-0.8**
IBDR				*e*Sg		**Sn**	**12 34 42.0**	**+1.2**
IBDR				AML		AML	12 35 05.6	
	comp=E,131nm,0.5s							
IBDR				AML		AML	12 35 31.0	
	comp=N,103nm,0.5s							
IKFM	**Kafar-mosalman**	**2.07**	**11**	*e*Pn		**Pn**	**12 34 17.8**	**+0.5**
IKFM				*e*			12 34 46.0	
	comp=Z,99nm,0.4s							
IKMR	**Kamar-syah**	**2.19**	**23**	*e*Pn		**Pn**	**12 34 18.9**	**-0.2**
IKMR				*e*			12 35 05.0	
	comp=Z,99nm,0.7s							
IDOB	**Doab**	**2.39**	**16**	*e*Pn		**Pn**	**12 34 21.7**	**-0.3**
RDF	**Al-Radifah**	**2.56**	**177**	*e*P			12 34 28.5	
HSAM	**Samen**	**2.90**	**21**	*e*Pn		**Pn**	**12 34 28.6**	**-0.5**
HSAM				*e*			12 35 34.0	
	comp=Z,99nm,1.0s							
IGHG	**Ghaleghazi**	**2.91**	**347**	*e*Pn		**Pn**	**12 34 31.1**	**+1.9**
BHD	**Baghdad**	**3.09**	**306**	*e*Pn		**Pn**	**12 34 31.0**	**-0.4**
BHD				*e*Sn		**Sn**	**12 35 08.0**	**+0.8**
IPIR	**Pirpir**	**3.21**	**67**	*e*Pn		**Pn**	**12 34 33.5**	**+0.1**
IDHR	**Dehrash**	**3.31**	**346**	*e*Pn		**Pn**	**12 34 34.3**	**-0.3**
IDHR				*e*			12 35 37.8	
	comp=Z,99nm,0.4s							
HAGD	**Aghdareh**	**3.64**	**24**	*e*Pn		**Pn**	**12 34 39.1**	**-0.1**
HAGD				*e*			12 34 44.0	
	comp=Z,99nm,0.3s							
KLNJ	**Kolanjah**	**3.65**	**96**	*e*Pn		**Pn**	**12 34 39.5**	**+0.1**
KLNJ				*e*			12 36 01.6	
	comp=Z,99nm,0.7s							
QAM	**Ghamsar**	**4.11**	**56**	*e*Pn		**Pn**	**12 34 45.2**	**-0.5**
IZEF	**Zefreh**	**4.43**	**70**	*e*Pn		**Pn**	**12 34 48.4**	**-1.7**
IRAZ	**Razeghan**	**4.45**	**28**	*e*Pn		**Pn**	**12 34 50.4**	**+0.1**
QABG	**Abgarm-Qazvin**	**4.59**	**23**	*e*Pn		**Pn**	**12 34 49.9**	**-2.4**
KRSH	**Karshahi**	**4.71**	**57**	*e*Pn		**Pn**	**12 34 53.4**	**-0.5**
ISFB	**Sefidab**	**4.99**	**54**	*e*Pn		**Pn**	**12 34 56.0**	**-1.6**

IDC 14 12:46:44.2±467.0,57°.49N×62°.51E,h0km,Error ellipse: s-maj=189.5km s-min=144.9km az=178.0,Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.57**	**202**	*i*			13 35 30.0	
	baz=18,slow=324,SNR=4.8							
I46RU	**ZALESOVO INFRA**	**13.04**	**96**	*i*			14 08 20.0	
	baz=293,slow=339,SNR=1.5							
I34MN	**SONGINO INFRAS**	**27.88**	**91**	*i*			15 36 40.0	
	baz=308,slow=324,SNR=0.4							

DDA ***14*** *13:34:55.7,40°.71N×43°.94E,h7km±4km,ML2.7*

TIF ***14*** *13:34:56.2,40°.76N×43°.93E,h5km± 1km*

ISK ***14*** *13:34:56.7,40°.75N×43°.92E,h9km,ML2.6/7*

ISC 14 13:34:56.3±1.1,40°.76N±0°.02×43°.93E±0°.02,h6km±10km, n32,σ1s16/55,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EAK	**Akyaka**	**0.26**	**253**	*i* P		**Pg**	**13 35 01.9**	**+0.4**
EAK				*i* S		**Sg**	**13 35 05.7**	**+0.8**
EAK				IAML			13 35 08.0	
	comp=N,1μm,0.3s							
EAK				IAML			13 35 09.0	
	comp=E,1μm,0.5s							
DIGO	**Kars**	**0.55**	**231**	*i* P		**Pg**	**13 35 06.7**	**-0.3**
DIGO				*i* S		**Sg**	**13 35 13.8**	**-0.3**
DIGO				IAML			13 35 14.0	
	comp=E,957nm,0.3s							
DIGO				IAML			13 35 18.0	
	comp=N,618nm,0.7s							
BGD	**Bogdanovka**	**0.56**	**333**	P		**Pb**	**13 35 08.8**	**0.0**
BGD				S		**Sb**	**13 35 17.6**	**+0.4**
DMNI	**Dmanisi**	**0.60**	**19**	P		**Pb**	**13 35 08.6**	**-0.8**
DMNI				S		**Sb**	**13 35 16.9**	**-1.2**
KARS	**Kars**	**0.66**	**259**	PG		**Pb**	**13 35 09.8**	**-0.6**
KARS				SG		**Sb**	**13 35 18.9**	**-1.1**
KZRT	**Kazreti**	**0.72**	**29**	*i* P		**Pg**	**13 35 05.8**	**-4.3**
AKH	**Akhalkalaki**	**0.73**	**333**	P		**Pb**	**13 35 11.4**	**-0.2**
AKH				S		**Sb**	**13 35 21.7**	**-0.2**
AKH	**Akhalkalaki**	**0.73**	**333**	PG		**Pb**	**13 35 11.5**	**-0.1**
AKH				SG		**Sb**	**13 35 21.7**	**-0.2**
TASB	**TASBURUN-IGDIR**	**0.81**	**163**	PG		**Pb**	**13 35 12.4**	**-0.5**
BRNG	**Burnasheti**	**0.86**	**355**	P		**Pb**	**13 35 14.0**	**+0.1**
BRNG				S		**Sb**	**13 35 26.4**	**+0.5**
GNI	**Garni**	**0.87**	**134**	PG		**Pb**	**13 35 13.9**	**-0.1**
GNI				SG		**Sb**	**13 35 26.2**	**+0.3**
IGDI	**IGDIR**	**0.90**	**173**	*i* P		**Pg**	**13 35 12.9**	**-0.6**
IGDI				*i* S		**Sg**	**13 35 23.9**	**-1.4**
BKRG	**Bakuriani**	**1.04**	**343**	P		**Pn**	**13 35 17.2**	**-0.5**
BKRG				S		**Sn**	**13 35 32.3**	**-0.4**
KOTA	**Agri, Merkez-K**	**1.11**	**210**	*i* P		**Pn**	**13 35 19.1**	**+0.5**
KOTA				*i* S		**Sn**	**13 35 33.7**	**-0.7**
BTNK	**Botanikuri**	**1.13**	**35**	P		**Pg**	**13 35 17.8**	**-0.2**
BTNK				S		**Sb**	**13 35 33.1**	**-0.2**
BTNK	**Botanikuri**	**1.13**	**35**	*i* P		**Pg**	**13 35 17.1**	**-0.9**
BTNK				IAML			13 35 33.0	
	comp=E,300nm,0.1s							
EPOS	**Posof**	**1.17**	**310**	*i* P		**Pg**	**13 35 18.1**	**-0.8**
EPOS				*i* S		**Sg**	**13 35 33.6**	**-0.5**
EPOS				IAML			13 35 35.0	
	comp=N,100nm,0.3s							
SENK	**Senkaya-Erzuru**	**1.22**	**261**	PN		**Pn**	**13 35 20.4**	**+0.2**
SENK				SN		**Sn**	**13 35 37.4**	**+0.3**
DYDN	**Di

δ67.00000°,λ93.00000°. NP2:ϕ≈217.00000°,δ23.00000°, λ83.00000°.
*IDC **14** 13:48:28.6±0.7,24°.87N×125°.37E,h50km±7km,mb4.0/22, mb1 4.1/24,mb1mx4.1/42,mbtmp4.2/24,MS3.4/12, Ms1 3.5/12,ms1mx3.3/37 Error ellipse: s-maj=15.8km s-min=13.6km az=99.0*
*MOS **14** 13:48:34.1±1.0,25°.42N×124°.68E,h65km,mb4.7/15,Error ellipse: s-maj=11.1km s-min=6.8km az=115.5*

ISC 14 13:48:28.6±0.5,24°.86N±0°.06×125°.34E±0°.05,h50km±4km, n193,σ1ϕ45°/191,mb4.5/62,MS3.5°/11,21C-12D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.10**	**306**	P	**P**	**Pn**	**13 48 35.6**	**-0.9**
JIKM				S	S	Sn	13 48 41.4	-0.7
JOGS	**Gusukube**	**0.12**	**149**	P	**P**	**Pn**	**13 48 35.1**	**-1.5**
JOGS				S	S	Sn	13 48 40.8	-1.4
JMJ2	**Miyako jima3**	**0.12**	**184**	P	**P**	**Pn**	**13 48 35.2**	**-1.4**
JMJ2				S	S	Sn	13 48 40.7	-1.5
JIRB	**Irabujima**	**0.15**	**257**	P	**P**	**Pn**	**13 48 35.6**	**-1.1**
JIRB				S	S	Sn	13 48 40.9	-1.6
JTJ	**Tarama**	**0.62**	**249**	P	**P**	**Pn**	**13 48 40.7**	**-0.6**
JTJ				S	S	Sn	13 48 50.3	-0.2
JISG	**Ishigakijimahi**	**0.97**	**254**	P	**P**	**Pn**	**13 48 45.2**	**-0.8**
JISG				*e*S	S	Sn	13 48 58.6	-0.2
JIJ	**Ishigaki jima**	**1.20**	**246**	P	**P**	**Pn**	**13 48 48.4**	**-0.6**
JIJ				S	S	Sn	13 49 03.5	-0.6
JKRS	**Kuro-shima**	**1.36**	**243**	P	**P**	**Pn**	**13 48 51.1**	**-0.1**
IRIF	**Iriomote-Funau**	**1.56**	**251**	P	**P**	**Pn**	**13 48 53.3**	**-0.6**
IRIF				*e*S	S	Sn	13 49 12.4	-0.5
HATJ	**Hateruma jima**	**1.61**	**240**	P	**P**	**Pn**	**13 48 54.1**	**-0.5**
HATJ				*e*S	S	Sn	13 49 13.8	-0.5
YOJ	**Yonaguni jima**	**2.15**	**260**	P	**P**	**Pn**	**13 49 01.8**	**-0.3**
YOJ	**Yonaguni jima**	**2.15**	**260**			**Pn**	**13 49 01.8**	**-0.3**
JOW	**Kunigami**	**3.29**	**53**	Pn		**Pn**	**13 49 17.2**	**-0.4**
NACB	**Ningnanchiao**	**3.48**	**259**			**Pn**	**13 49 19.7**	**-0.5**
TATO	**Taipei**	**3.50**	**273**			**Pn**	**13 49 21.8**	**+1.3**
YHNB	**Yeheng**	**3.61**	**268**			**Pn**	**13 49 23.4**	**+1.3**
YULB	**Yu-li**	**3.97**	**249**			**Pn**	**13 49 24.5**	**-2.5**
SSLB	**Suanglung**	**4.14**	**256**			**Pn**	**13 49 28.4**	**-0.9**
TWG	**Pinlang**	**4.40**	**243**			**Pn**	**13 49 30.3**	**-2.6**
TPUB	**Ta-pu**	**4.58**	**251**			**Pn**	**13 49 35.0**	**-0.3**
JMZ	**Minamidaito 2**	**5.41**	**79**	Pn		**Pn**	**13 49 42.7**	**-4.0**
NJ2	**Nanjing**	**9.15**	**323**	*e*P		**Pn**	**13 50 41.5**	**+3.5**
NJ2	comp=Z,5.0nm,0.5s			pmax	pmax			
JNU	**Nakatsue**	**9.55**	**29**	P		**Pn**	**13 50 43.3**	**-0.1**
JNU	0.3nm,0.3s,baz=225,slow=4.3,SNR=2.0			LR		LR	13 54 27.9	
TJN	comp=Z,72nm,20.4s,baz=238,slow=38 **Taejon**	**11.61**	**8**	*i* P		**Pn**	**13 51 15.2**	**+3.7**
KSRS	**Korea Array**	**12.74**	**9**	P		**Pn**	**13 51 27.9**	**+0.8**
KSRS	0.1nm,0.3s,baz=190,slow=12,SNR=7.9			LR		LR	13 56 23.6	
JCJ	comp=Z,76nm,19.1s,baz=173,slow=37 **Chichijima**	**15.31**	**78**	LR		LR	13 56 46.0	
MAJO	comp=Z,103nm,18.7s,baz=262,slow=32 **Matsushiro**	**16.04**	**40**	*i* P		**P**	**13 52 17.7**	**+4.2**
MAT	**Matsushiro**	**16.04**	**40**	P		**P**	**13 52 13.8**	**+0.3**
MJAR	**Matsushiro Arr**	**16.04**	**40**	P		**P**	**13 52 14.4**	**+0.9**
MSHR	0.1nm,0.3s,baz=222,slow=10,SNR=14 **Mys Shultsa**	**18.31**	**14**	*i* P		**Pn**	**13 52 40.7**	**+1.9**
MSHR	comp=Z,23nm,1.0s			pmax	pmax			
HHC	**Hu-ho-hao-te**	**19.66**	**328**	*e*P		**Pn**	**13 52 55.3**	**+0.2**
HHC	comp=Z,15nm,0.6s			pmax	pmax			
HHC	comp=Z,140nm,6.6s			pmax	pmax			
USA0B	**Ussuriysk Arra**	**20.04**	**14**	*i* P		Pn	13 52 58.9	-0.5
USRK	**Ussuriysk Ar.**	**20.04**	**14**	P		**P**	**13 52 57.0**	**-0.3**
KMI	comp=Z,0.9nm,0.5s,baz=199,slow=9.3,SNR=5.6 **Kunming**	**20.48**	**276**	⇓P		Pn	13 53 04.3	-0.8
KMI				pP		pP	13 53 14.1	0.0
KMI				sP		sP	13 53 22.0	+1.6
KMI	comp=Z,13nm,0.8s			pmax	pmax			
KMI	comp=Z,120nm,5.0s			pmax	pmax			
KMI	comp=Z,160nm,5.4s			LR	LR			
KMI	comp=Z,150nm,6.2s			LR	LR			
KMI	comp=Z,130nm,5.9s			LR	LR			
LZH	**Lanzhou**	**21.59**	**306**	*e*P		**P**	**13 53 17.4**	**+3.1**
LZH				sP		sP	13 53 36.6	+4.9
LZH	comp=Z,20nm,1.0s			pmax	pmax			
LZH	comp=Z,85nm,4.9s			pmax	pmax			
CHAI	**Chaiyaphum**	**23.61**	**252**	P		**P**	**13 53 36.7**	**+1.6**
ASAJ	comp=Z,16nm,0.8s **Asahikawa**	**23.81**	**32**	P		**P**	**13 53 36.3**	**-0.5**
ASAJ	comp=Z,6.3nm,0.7s,baz=238,slow=9.1,SNR=16			LR		LR	14 03 45.0	
LAMP	comp=Z,42nm,18.4s,baz=134,slow=38 **Lampang**	**24.68**	**260**	P		**P**	**13 53 48.0**	**+3.0**
KLR	comp=Z,22nm,1.0s **Kul'dur**	**24.84**	**10**	LR		LR	14 03 07.7	
KLR	comp=Z,60nm,19.5s,baz=190,slow=35			*i* P		**P**	**13 53 46.0**	**-0.1**
CM34	comp=Z,7.0nm,2.0s **Chiang Mai Arr**	**25.01**	**261**	pmax P	pmax	**P**	**13 53 49.0**	**+1.0**
SUKH	**Sukhothai**	**25.04**	**258**	P		**P**	**13 53 51.6**	**+3.3**
CMMT	comp=Z,208nmcomp=Z,14nm,0.7s **Chiang Mai**	**25.20**	**261**	P		**P**	**13 53 50.1**	**+0.3**
CM04	comp=Z,2.8nm,0.8s **Chiang Mai Arr**	**25.31**	**260**	P		**P**	**13 53 53.2**	**+2.5**
CMAR	comp=Z,4.9nm,0.9s **Chiang Mai Arr**	**25.32**	**261**	P		**P**	**13 53 51.5**	**+0.7**
CMAR	comp=Z,1.7nm,0.6s,baz=60,slow=8.5,SNR=13			LR		LR	14 03 55.9	
CMAR	comp=Z,99nm,18.8s,baz=196,slow=37 **Chiang Mai Arr**	**25.32**	**261**	*ce*P		**P**	**13 53 51.7**	**+0.9**
CMAR	comp=Z,2.0nm,0.6s			pmax	pmax			
CM02	**Chiang Mai Arr**	**25.32**	**261**	P		**P**	**13 53 53.3**	**+2.5**
GTA	comp=Z,4.3nm,0.8s **Gaotai**	**25.91**	**310**	P		**P**	**13 53 55.9**	**-0.2**
GTA				pP		sP	13 54 11.8	-2.7
GTA				sP		pP	13 54 17.9	+9.3
GTA	comp=Z,6.0nm,0.9s			pmax	pmax			
GTA	comp=Z,73nm,6.2s			pmax	pmax			
GTA	comp=Z,120nm,16.7s			LR	LR			
GTA	comp=Z,120nm,16.4s			LR	LR			
GTA	comp=Z,130nm,17.5s			LR	LR			
YSS	**Yuzh-Sakhalins**	**26.06**	**28**	*e*P		P	13 53 49.4	-7.7
ULN	**Ulaanbaatar**	**27.14**	**332**	*ce*P		**P**	**13 54 06.0**	**-1.1**
ULN	comp=Z,10.0nm,1.5s			pmax	pmax			
SONM	**Songino Array**	**27.39**	**332**	P		**P**	**13 54 08.9**	**-0.4**
SONM	comp=Z,1.2nm,0.5s,baz=151,slow=10,SNR=11			PcP		**PcP**	**13 57 27.7**	**+0.5**
SONM	comp=Z,0.3nm,0.6s,baz=145,slow=3.4,SNR=3.0			LR		LR	14 05 52.6	
SONM	comp=Z,104nm,20.1s,baz=155,slow=38 **Songino Array**	**27.39**	**332**	P		**P**	**13 54 06.6**	**-2.7**
TLY	**Talaya**	**31.49**	**334**	LR		LR	14 09 08.6	
TLY	comp=Z,60nm,18.2s,baz=96,slow=39 **Talaya**	**31.49**	**334**	*e*P		**P**	**13 54 44.5**	**-1.0**
TLY	comp=Z,7.0nm,0.6s			pmax	pmax			
MOY	**Mondy**	**32.59**	**332**	*e*P		**P**	**13 54 54.4**	**-0.8**
WMQ	**Urumqi**	**35.99**	**311**	*e*P		**P**	**13 55 27.8**	**+3.1**
WMQ	comp=Z,9.0nm,1.1s			pmax	pmax			
WMQ	comp=Z,280nm,5.9s			pmax	pmax			
WMQ	comp=Z,1μm,29.0s			LR	LR			
WMQ	comp=Z,2μm,29.2s			LR	LR			
PETK	comp=Z,170nm,23.7s **Petropavlovsk-**	**37.23**	**32**	P		**P**	**13 55 35.4**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=204,slow=5.5,SNR=8.3							
YAK	**Yakutsk**	**37.27**	**3**	*i* P		**P**	**13 55 33.4**	**-1.8**
YAK	comp=Z,3.0nm,0.5s			pmax	pmax			
DGZ	**Jazzator, Alta**	**38.43**	**320**	*i* P		**P**	**13 55 44.8**	**-0.6**
DGZ	comp=Z,1.0nm,1.0s			pmax	pmax			
H11N1	**WAKE ISLAND Hy**	**38.68**	**89**	T		T	14 36 50.3	
H11N2	baz=286 **WAKE ISLAND Hy**	**38.68**	**89**	T		T	14 36 54.1	
H11N3	baz=286 **WAKE ISLAND Hy**	**38.70**	**89**	T		T	14 36 56.4	
H11S3	baz=286 **WAKE ISLAND Hy**	**38.83**	**91**	T		T	14 36 42.5	
H11S1	baz=288,slow=74,SNR=3.3 **WAKE ISLAND Hy**	**38.84**	**91**	T		T	14 36 43.5	
H11S2	baz=288,slow=74,SNR=3.1 **WAKE ISLAND Hy**	**38.85**	**91**	T		T	14 36 42.9	
MK31	baz=288 **Makanchi Array**	**40.54**	**314**	*c* iP		**P**	**13 56 02.2**	**-0.7**
MK31	**Makanchi Array**	**40.54**	**314**	P		**P**	**13 56 02.7**	**-0.2**
MKAR	**Makanchi Array**	**40.54**	**314**	P		**P**	**13 56 02.9**	**0.0**
MKAR	comp=Z,3.3nm,0.4s,baz=101,slow=10.0,SNR=81			LR		LR	14 14 17.8	
MKAR	comp=Z,102nm,18.1s,baz=6.0,slow=38 **Makanchi Array**	**40.54**	**314**	*ce*P		**P**	**13 56 02.7**	**-0.2**
MKAR	comp=Z,3.0nm,0.4s			pmax	pmax			
MKAR	**Makanchi Array**	**40.54**	**314**	P		**P**	**13 56 02.7**	**-0.2**
MAKZ	**Makanchi**	**40.75**	**314**	P		**P**	**13 56 04.4**	**-0.3**
SHLS	**Shalkode**	**41.60**	**308**	*e*P		**P**	**13 56 09.0**	**-2.8**
SHLS	baz=307 **Shalkode**	**41.60**	**308**	*e*P		**P**	**13 56 09.0**	**-2.8**
ZAA0	**Zalesovo Array**	**41.80**	**325**	P		**P**	**13 56 11.2**	**-1.8**
ZALV	**Zalesovo Beam**	**41.80**	**325**	P		**P**	**13 56 12.0**	**-1.1**
ZALV	comp=Z,2.9nm,0.4s,baz=114,slow=8.6,SNR=21			LR		LR	14 15 49.9	
ZALV	comp=Z,67nm,18.9s,baz=298,slow=39 **Zalesovo Beam**	**41.80**	**325**	P		**P**	**13 56 11.7**	**-1.4**
UZB	**Uzynbulak**	**41.92**	**308**	*e*P		**P**	**13 56 14.5**	**0.0**
UZB	baz=307 **Uzynbulak**	**41.92**	**308**	*e*P		**P**	**13 56 14.4**	**0.0**
KPKS	**Kokpek**	**42.22**	**308**	*e*P		**P**	**13 56 16.6**	**-0.2**
KPKS	baz=308 **Kokpek**	**42.22**	**308**	*e*P		**P**	**13 56 16.6**	**-0.2**
SATY	**Saty**	**42.34**	**307**	*e*P		**P**	**13 56 17.9**	**0.0**
SATY	baz=307 **Saty**	**42.34**	**307**	*e*P		**P**	**13 56 17.8**	**0.0**
TDK	**Taldyqorghan**	**42.71**	**310**	*e*P		**P**	**13 56 21.1**	**+0.3**
TDK	comp=Z,8.9nm,0.9s,baz=310 **Taldyqorghan**	**42.71**	**310**	*e*P		**P**	**13 56 21.0**	**+0.3**
TDK	comp=Z,9.0nm,0.9s			pmax	pmax			
MDOK	**Medeo**	**43.34**	**307**	*e*P		**P**	**13 56 26.1**	**+0.1**
MDOK	baz=307 **Medeo**	**43.34**	**307**	*e*P		**P**	**13 56 26.1**	**+0.1**
TNSS	**Tian-Shan**	**43.40**	**307**	*e*P		**P**	**13 56 27.3**	**+0.6**
TNSS	baz=307 **Tian-Shan**	**43.40**	**307**	*e*P		**P**	**13 56 27.3**	**+0.6**
KSH	**Kashi**	**43.73**	**302**	P		**P**	**13 56 33.3**	**+4.2**
KSH	comp=Z,7.0nm,0.5s			pmax	pmax			
KSH	comp=Z,140nm,4.1s			pmax	pmax			
KUU	**Kurty**	**43.97**	**308**	*e*P		**P**	**13 56 30.8**	**0.0**
KUU	baz=308 **Kurty**	**43.97**	**308**	*e*P		**P**	**13 56 30.8**	**0.0**
WRAB	**Tennant Creek**	**45.38**	**168**	*ce*P		P	13 56 55.0	+13
WRAB	comp=Z,28nm,1.7s			pmax	pmax			
WRAB	**Tennant Creek**	**45.38**	**168**	P		**P**	**13 56 42.2**	**-0.1**
WRAB	comp=Z,17nm,1.0s			IAmb	IAmb		13 56 56.2	
WRA	**Warramunga Arr**	**45.39**	**168**	P		**P**	**13 56 41.8**	**-0.5**
WRA	comp=Z,1.3nm,0.8s,baz=348,slow=8.9,SNR=6.9			pP		**pP**	**13 56 55.4**	**-0.2**
WRA	comp=Z,11nm,0.8s,baz=350,slow=8.4,SNR=28 **Warramunga Arr**	**45.39**	**168**	*ce*P		P	13 56 54.2	+12
WRA	comp=Z,11nm,0.9s			pmax	pmax			
WB2	**Warramunga Arr**	**45.39**	**168**	P		**P**	**13 56 42.4**	**+0.1**
WB2	comp=Z,18nm,0.9s			IAmb	IAmb		13 56 56.3	
WR0	**Warramunga Arr**	**45.45**	**168**	P		**P**	**13 56 42.5**	**-0.2**
WR0	comp=Z,13nm,0.9s			IAmb	IAmb		13 56 56.5	
BTLS	**Baital**	**45.76**	**309**	*e*P		**P**	**13 56 44.9**	**-0.2**
BTLS	baz=309 **Baital**	**45.76**	**309**	*e*P		**P**	**13 56 44.8**	**-0.2**
TIXI	**Tiksi**	**46.86**	**2**	*e*P		**P**	**13 56 54.3**	**+1.1**
IUG	**Iuzhnay**	**48.39**	**305**	*e*P		**P**	**13 57 05.3**	**-0.5**
IUG	baz=305 **Iuzhnay**	**48.39**	**305**	*e*P		**P**	**13 57 05.2**	**-0.5**
ASAR	**Alice Springs**	**48.95**	**170**	P		**P**	**13 57 10.1**	**+0.1**
ASAR	comp=Z,0.4nm,0.5s,baz=358,slow=7.2,SNR=6.9			pP		**pP**	**13 57 23.4**	**-0.1**
BRVK	comp=Z,2.7nm,0.7s,baz=359,slow=8.5,SNR=11 **Borovoye**	**49.65**	**320**	P		**P**	**13 57 14.2**	**-0.8**
BRVK				IAmb	IAmb		13 57 17.7	
ABKAR	comp=Z,5.4nm,1.2s **Akbulak array**	**55.69**	**314**	P		**P**	**13 57 59.4**	**-0.3**
ABKAR	comp=Z,4.8nm,0.9s			IAmb	IAmb		13 58 01.4	
ABKAR	**Akbulak array**	**55.69**	**314**	P		**P**	**13 57 59.2**	**-0.5**
ARU	**Arti**	**56.86**	**322**	*c* iP		**P**	**13 58 07.4**	**-0.5**
ARU				S		S	14 05 48.2	-9.5
ARU				SS		**SS**	**14 09 35.8**	**-10**
ARU	comp=Z,13nm,1.6s			pmax	pmax			
ARU	**Arti**	**56.86**	**322**	P		**P**	**13 58 06.4**	**-1.5**
ARU	comp=Z,5.1nm,0.5s			IAmb	IAmb		13 58 08.2	
GEYT	**Alibeck**	**57.72**	**300**	P		**P**	**13 58 15.3**	**+0.9**
GEYT	comp=Z,6.8nm,0.8s,baz=79,slow=3.2,SNR=9.7			LR		LR	14 25 40.4	
GEYT	comp=Z,69nm,18.9s,baz=65,slow=39 **Alibeck**	**57.72**	**300**	IAmb		IAmb	13 58 16.6	
NWAO	**Narrogin (SRO)**	**57.99**	**188**	P		**P**	**13 58 15.6**	**-0.5**
STKA	**Stephens Creek**	**58.52**	**164**	pP		pP	13 58 33.4	-0.1
ANM	comp=Z,1.8nm,0.6s,baz=350,slow=8.8,SNR=2.9 **Nome**	**58.94**	**28**	P		**P**	**13 58 23.8**	**+1.4**
ANM				IAmb	IAmb		13 58 26.4	
A21K	comp=Z,5.7nm,0.8s **Barrow**	**62.84**	**21**	P		**P**	**13 58 49.9**	**+1.2**
BELG	**Belogornoye**	**63.33**	**318**	*i* P		**P**	**13 58 51.7**	**-0.6**
BELG	comp=Z,3.0nm,0.7s			pmax	pmax			
IMAR	**Indian Mountai**	**63.88**	**27**	P		**P**	**13 58 56.7**	**+1.0**
PPLA	**Purkeypile**	**64.77**	**30**	P		**P**	**13 59 02.6**	**+0.9**
PPLA	comp=Z,7.6nm,1.0s			IAmb	IAmb		13 59 17.7	
KDAK	**Kodiak Island**	**65.16**	**36**	P		**P**	**13 59 04.2**	**+0.1**
BPAW	comp=Z,15nm,1.0s,baz=315,slow=4.3,SNR=2.3 **Bear Paw Mtn.**	**65.19**	**29**	P		**P**	**13 59 05.7**	**+1.3**
BPAW	comp=Z,4.1nm,0.6s			IAmb	IAmb		13 59 08.7	
TOLK	**Toolik Lake Re**	**65.32**	**24**	P		**P**	**13 59 06.4**	**+1.3**
TOLK	comp=Z,7.5nm,0.8s			IAmb	IAmb		13 59 08.3	
SUA	**Susitna One**	**65.61**	**32**	P		**P**	**13 59 07.0**	**-0.1**
SUA	comp=Z,6.7nm,0.9s			IAmb	IAmb		13 59 08.8	
CUT	**Chulitna**	**65.71**	**31**	P		**P**	**13 59 07.2**	**-0.5**
NEA2	**Nenana**	**65.96**	**28**	P		**P**	**13 59 10.2**	**+1.0**
NEA2	comp=Z,9.2nm,0.7s			IAmb	IAmb		13 59 13.5	
RND	**Reindeer**	**66.22**	**29**	P		**P**	**13 59 11.0**	**0.0**
MDM	**Murphy Dome**	**66.27**	**28**	P		**P**	**13 59 12.4**	**+1.2**
WRH	**Wood River Hil**	**66.40**	**28**	P		**P**	**13 59 12.9**	**+0.8**
WRH	comp=Z,9.0nm,1.3s			IAmb	IAmb		13 59 22.7	
CCB	**Clear Creek Bu**	**66.49**	**28**	P		**P**	**13 59 12.8**	**+0.2**
SML	**Sawmill**	**66.70**	**31**	P		**P**	**13 59 13.8**	**-0.3**
SML	comp=Z,17nm,1.3s			IAmb	IAmb		13 59 30.0	
IL31		**66.86**	**28**	P		**P**	**13 59 15.4**	**+0.4**
ILAR	**Eielson Array**	**66.86**	**28**	P		**P**	**13 59 14.6**	**-0.5**
ILAR	comp=Z,0.9nm,0.6s,baz=256,slow=5.5,SNR=31 **Eielson Array**	**66.86**	**28**	P		**P**	**13 59 14.8**	**-0.3**
SCM	**Sheep Creek Mo**	**67.16**	**31**	P		**P**	**13 59 17.2**	**+0.1**
M24K	**Tolsona, Glenn**	**67.65**	**31**	P		**P**	**13 59 21.2**	**+1.1**
KLU	**Klutina**	**67.89**	**31**	P		**P**	**13 59 22.0**	**+0.3**
KBZ	**Khabaz**	**68.00**	**309**	P		**P**	**13 59 23.5**	**+1.0**
KBZ	comp=Z,6.4nm,0.8s,baz=96,slow=4.8,SNR=14 **Khabaz**	**68.00**	**309**	*ce*P		**P**	**13 59 23.6**	**+1.0**
KBZ	comp=Z,7.0nm,0.9s			pmax	pmax			
KIV	**Kislovodsk**	**68.09**	**309**	*e*P		**P**	**13 59 24.3**	**+1.0**
KIV	comp=Z,48nm,1.0s			pmax	pmax			
SOCY	**Socotra**	**68.18**	**274**	P		**P**	**13 59 23.0**	**-1.2**
SOCY	comp=Z,5.9nm,0.8s			IAmb	IAmb		13 59 23.7	
SCRK	**Sand Creek**	**68.25**	**28**	P		**P**	**13 59 24.3**	**+0.4**
K27K	**Chicken**	**69.06**	**28**	P		**P**	**13 59 30.3**	**+1.4**
K27K	comp=Z,11nm,1.4s			IAmb	IAmb		13 59 46.6	
EGAK	**Eagle**	**69.27**	**27**	P		**P**	**13 59 29.7**	**-0.4**
EGAK	comp=Z,4.0nm,0.8s			IAmb	IAmb		13 59 33.5	
OBN	**Obninsk**	**69.30**	**322**	⇓*e*P		**P**	**13 59 29.9**	**-0.5**
OBN	comp=Z,6.0nm,0.9s			pmax	pmax			
BCAR	**Beaver Creek A**	**69.42**	**29**	P		**P**	**13 59 32.3**	**+1.2**
DAWY	**Dawson**	**70.19**	**28**	P		**P**	**13 59 36.7**	**+0.8**
DAWY	comp=Z,3.6nm,0.7s			IAmb	IAmb		13 59 40.1	
ARCES	**ARCESS Array B**	**70.31**	**338**	P		**P**	**13 59 36.8**	**+0.3**
ARCES	comp=Z,6.6nm,1.0s,baz=64,slow=8.2,SNR=5.1			LR		LR	14 37 46.3	
ARCES	comp=Z,200nm,18.5s,baz=25,slow=42 **ARCESS Array B**	**70.31**	**338**	P		**P**	**13 59 37.2**	**+0.8**
ARCES	comp=Z,16nm,1.2s			IAmb	IAmb		13 59 41.7	
EPYK	**Eagle Plains**	**70.61**	**25**	P		**P**	**13 59 38.9**	**+0.5**
EPYK	comp=Z,21nm,1.4s			IAmb	IAmb		13 59 41.7	
INK	**Inuvik**	**71.16**	**23**	P		**P**	**13 59 42.1**	**+0.6**
INK	comp=Z,4.3nm,0.7s,baz=299,slow=4.9,SNR=14 **Inuvik**	**71.16**	**23**	P		**P**	**13 59 41.6**	**+0.1**
INK	comp=Z,10nm,1.2s			IAmb	IAmb		13 59 44.6	
FIA1	**FINESS Array S**	**72.75**	**330**	P		**P**	**13 59 51.2**	**0.0**
FIA1	comp=Z,18nm,1.3s			IAmb	IAmb		13 59 52.9	
FINES	**FINESS Array B**	**72.75**	**330**	P		**P**	**13 59 51.3**	**0.0**
FINES	comp=Z,2.1nm,0.5s,baz=62,slow=5.5,SNR=26 **FINESS Array B**	**72.75**	**330**	*ce*P		**P**	**13 59 51.5**	**+0.2**
FINES	comp=Z,2.0nm,0.5s			pmax	pmax			
FINES	**FINESS Array B**	**72.75**	**330**	P		**P**	**13 59 51.5**	**+0.2**
NACGM	**Naroch**	**74.73**	**324**	*i* P		P	13 59 54.0	-9.0
NACGM				*i* P		P	13 59 54.0	-9.0
NACGM				*i* P		P	13 59 54.0	-9.0
NACGM				*i* PP		PP	14 03 01.0	+11
NACGM				*i* PPP		PPP	14 04 38.6	
NACGM				*i* S		**SKiKP**	**14 09 24.7**	**+1.0**
NACGM				*i* SS		**SS**	**14 14 18.7**	**-4.4**
NACGM				*i* SSS		SSS	14 17 41.1	
NACGM				*i* LQ		LQ	14 28 00.1	
NACGM				*i* LR		LR	14 32 46.0	
AKASG	**Malin Array Be**	**74.86**	**319**	P		**P**	**14 00 03.5**	**-0.3**
AKASG	comp=Z,2.3nm,0.4s,baz=66,slow=6.3,SNR=5.2 **Malin Array Be**	**74.86**	**319**	IAmb		IAmb	14 00 03.9	
BRTR	comp=Z,0.7nm,0.6s **Keskin Array B**	**75.79**	**307**	P		**P**	**14 00 09.9**	**+0.4**
SORM	comp=Z,5.9nm,0.9s,baz=103,slow=5.5,SNR=25 **Soroca**	**76.32**	**317**	⇓P		**P**	**14 00 11.8**	**-0.4**
SORM	**Soroca**	**76.32**	**317**	⇓P		**P**	**14 00 11.8**	**-0.4**
TLCR		**77.13**	**314**	⇑P		**P**	**14 00 16.8**	**0.0**
TLCR		**77.13**	**314**	⇑P		**P**	**14 00 16.8**	**0.0**
RES	**Resolute Bay**	**77.36**	**10**	P		**P**	**14 00 17.6**	**+0.1**
TPGR	**Topolog**	**77.52**	**314**	⇓P		**P**	**14 00 19.8**	**+0.7**
TESR	**Tescani**	**78.02**	**316**	⇓P		**P**	**14 00 21.4**	**-0.4**
BIZ	**Bicaz**	**78.19**	**316**	⇑P		**P**	**14 00 22.5**	**-0.2**
VRI	**Vrincioaia**	**78.22**	**315**	⇓P		**P**	**14 00 24.2**	**+1.2**
VRI	**Vrincioaia**	**78.22**	**315**	⇓P		**P**	**14 00 24.2**	**+1.2**
BUR08	**Bucovina Ar. S**	**78.47**	**317**	P		**P**	**14 00 23.4**	**-1.0**
BURAR	**Bucovina Array**	**78.47**	**317**	⇑P		**P**	**14 00 25.3**	**+0.9**
BURAR	**Bucovina Array**	**78.47**	**317**	⇑P		**P**	**14 00 25.3**	**+0.9**
BURAR	**Bucovina Array**	**78.47**	**317**	P		**P**	**14 00 24.9**	**+0.5**
MLR	**Muntele Rosu**	**78.88**	**315**	⇓P		**P**	**14 00 27.1**	**+0.4**
MLR	**Muntele Rosu**	**78.88**	**315**	⇓P		**P**	**14 00 27.1**	**+0.4**
NB2	**NORSAR Subarra**	**79.36**	**333**	P		**P**	**14 00 28.5**	**-0.4**
NOA	comp=Z,0.8nm,0.5s,baz=55,slow=5.3 **NORSAR Array B**	**79.36**	**333**	P		**P**	**14 00 28.9**	**0.0**
KOLS	comp=Z,1.2nm,0.6s,baz=52,slow=5.5,SNR=8.8 **Kolonicke sedl**	**79.69**	**319**	*e*P		**P**	**14 00 30.7**	**-0.2**
KOLS	**Kolonicke sedl**	**79.69**	**319**	*e*P		**P**	**14 00 30.7**	**-0.2**
DRGR		**80.36**	**317**	⇓P		**P**	**14 00 35.0**	**+0.4**
DRGR		**80.36**	**317**	⇓P		**P**	**14 00 35.1**	**+0.4**
YKA	**Yellowknife Ar**	**80.84**	**24**	P		**P**	**14 00 37.0**	**+0.1**
YKA	comp=Z,1.0nm,0.6s,baz=307,slow=4.7,SNR=3.9 **Yellowknife Ar**	**80.84**	**24**	*ce*P		**P**	**14 00 39.0**	**+2.2**
YKA	comp=Z,1.0nm,0.8s			pmax	pmax			
SIRR	**Siria**	**81.25**	**317**	⇑P		**P**	**14 00 40.3**	**+1.0**
VTS	**Vitosha**	**81.86**	**313**	⇑P		**P**	**14 00 43.8**	**+0.9**
VTS	**Vitosha**	**81.86**	**313**	⇑P		**P**	**14 00 43.8**	**+0.9**
MDVR	**Moldovita**	**81.89**	**316**	⇑P		**P**	**14 00 43.8**	**+0.4**
VRAC	**Vranov**	**82.81**	**321**	⇑P		**P**	**14 00 48.8**	**+1.3**
VRAC	**Vranov**	**82.81**	**321**	⇑P		**P**	**14 00 48.8**	**+1.3**
CLL	**Collm**	**83.75**	**324**	*i* P		**P**	**14 00 52.9**	**+0.7**
CLL	comp=Z,3.0nm,0.5s			pmax	pmax			
CLL	**Collm**	**83.75**	**324**	*i* P		**P**	**14 00 52.9**	**+0.7**
GERES	comp=Z,3.0nm,0.5s **GERESS Array B**	**84.68**	**322**	P		**P**	**14 00 57.3**	**+0.2**
GERES	comp=Z,1.6nm,0.8s,baz=46,slow=5.8,SNR=7.9			pP		**pP**	**14 01 12.4**	**+0.6**
GERES	comp=Z,0.5nm,0.6s,baz=50,slow=2.1,SNR=2.7 **GERESS Array B**	**84.68**	**322**	P		**P**	**14 00 56.9**	**-0.3**
ITM	**Ithomi**	**85.22**	**309**	P		**P**	**14 00 58.4**	**-1.6**
NVAR	**Mina Array Bea**	**93.32**	**45**	P		**P**	**14 01 39.5**	**+0.9

SNR=5.7
AAK **Ala-Archa** 4.29 37 P Pn 13 52 13.9 +2.4
SNR=17
AAK **Ala-Archa** 4.29 37 ⇑P Pn 13 52 14.4 +2.9
5.9nm,0.7s
AAK ⇓S Sb 13 53 11.0 -2.4
6.2nm,0.7s
KBK **Karagaybulak** 4.52 40 P Pn 13 52 17.5 +2.8
SNR=43
CHMS **Chumysh** 4.69 36 P Pn 13 52 19.9 +3.0
SNR=6.8
USP **Ospenovka** 4.79 32 P Pn 13 52 20.7 +2.3
SNR=13
TKM2 **Tokmak 2** 5.04 42 P Pn 13 52 25.0 +3.1
SNR=12
TKM2 **Tokmak 2** 5.04 42 ⇑P Pn 13 52 23.2 +1.3
11nm,1.1s
TKM2 ⇓S Sb 13 53 30.1 -5.0
5.1nm,0.6s
AB31 **Akbulak array** 12.77 325 ⇓P Pn 13 54 05.2 -2.3
0.4nm,0.4s,baz=148,slow=14,SNR=14
AB31 ⇑S Sn 13 56 35.1 +5.4
2.8nm,0.9s,baz=149,slow=24,SNR=5.7

*IDC **14** 13:56:15.9±1.2,6˚58S×131˚14E,h0km,mb4.0/3,*
mb1 4.3/7,mb1mx3.9/34,mbtmp4.2/7,ML4.3/4,MS3.0/1,
Ms1 3.0/1,ms1mx2.6/23,Error ellipse: s-maj=41.7km
s-min=21.5km az=69.0
*NEIC **14** 13:56:20.7±1.5,6˚61S±0˚05×131˚5E±0˚1,h44km±14km,*
mb4.1/6,Error ellipse: s-maj=16.4km s-min=6.5km
az=98.0
*DJA **14** 13:56:22.8±0.3,6˚S±3˚×13˚1E±˚,h110km±9km,M4.6/11,*
mB5.2/5,mb4.4/11,MLv4.8/10,Mw(mB)4.6/5
ISC 14 13:56:20.5±0.6,**6˚66S**±0˚06×**131˚47E**±0˚07,**h42**km,**n33,**
σ2°21/34,**mb4.0**/6,**Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.33**	**187**	P		Pn		13 56 50.2	+7.6
BNDI	**Bandanaira**	**2.63**	**324**	P		**Pn**		**13 57 02.7**	**+2.2**
BNDI				S		**Sn**		**13 57 30.5**	**-0.7**
FAKI	**Fak Fak**	**3.79**	**12**			**Pn**		**13 57 15.6**	**-0.9**
FAKI	**Fak Fak**	**3.79**	**12**	P		**Pn**		**13 57 15.7**	**-0.9**
SWI	**Sorong**	**5.76**	**358**	P		**Pn**		**13 57 41.2**	**-2.3**
1.6nm5µm85nm,0.5s									
SANI	**Sanana**	**7.13**	**310**	P		**Pn**		**13 58 03.6**	**+1.3**
0.1nm24nm,1.0s									
BAKI	**Biak**	**7.13**	**41**	P		**Pn**		**13 58 03.1**	**+0.7**
0.5nm106nm,1.5s									
SOEI	**Soe**	**7.76**	**246**			Pn		13 58 15.7	+4.5
SOEI	**Soe**	**7.76**	**246**	P		Pn		13 58 15.8	+4.6
0.4nm34nm,0.9s									
BATI	**Baumata**	**8.49**	**245**	P		**Pn**		**13 58 24.9**	**+3.9**
15nm,0.6s									
SMPI	**Sarmi**	**8.58**	**58**	P		**Pn**		**13 58 24.5**	**+2.3**
1µm20nm,2.0s									
JAY	**Jayapura**	**10.08**	**66**	Pn		**Pn**		**13 58 44.3**	**+1.4**
0.8nm,0.3s,baz=218,slow=17,SNR=2.3									
JAY				Sn		**Sn**		**14 00 32.3**	**-2.5**
1.1nm,0.3s,baz=156,slow=20,SNR=1.4									
FITZ	**Fitzroy Crossi**	**12.71**	**206**			**Pn**		**13 59 19.6**	**+0.8**
WB0	**Warramunga Arr**	**13.34**	**168**			**Pn**		**13 59 28.1**	**+0.8**
WRAB	**Tennant Creek**	**13.49**	**168**			**Pn**		**13 59 29.5**	**0.0**
WRA	**Warramunga Arr**	**13.50**	**168**	Pn		**Pn**		**13 59 29.7**	**+0.2**
2.4nm,0.3s,baz=345,slow=13,SNR=64									
WRA				Sn		**Sn**		**14 01 53.7**	**-4.5**
4.3nm,0.3s,baz=349,slow=23,SNR=13									
WB2	**Warramunga Arr**	**13.50**	**168**			**Pn**		**13 59 29.9**	**+0.3**
WR0	**Warramunga Arr**	**13.55**	**168**			**Pn**		**13 59 31.3**	**+1.0**
COEN	**Coen**	**13.61**	**123**	Pn		**Pn**		**13 59 32.1**	**+1.0**
PLAI	**Plampang**	**13.74**	**260**	P		**Pn**		**13 59 32.8**	**0.0**
20nm,0.6s									
AS31	**Alice Springs**	**17.07**	**172**	P		**P**		**14 00 17.3**	**-0.3**
AS31				IAmb		IAmb		14 00 23.3	
comp=Z,4.9nm,0.3s									
ASAR	**Alice Springs**	**17.07**	**172**	P		**P**		**14 00 17.6**	**+0.1**
comp=Z,1.5nm,0.3s,baz=342,slow=9.2,SNR=54									
ASAR				S		**Sn**		**14 03 18.2**	**-7.0**
comp=Z,1.2nm,0.3s,baz=358,slow=27,SNR=10									
ASAR				LR		LR		14 06 12.7	
comp=Z,50nm,18.2s,baz=40,slow=35									
CTA	**Charters Tower**	**19.60**	**134**	P		**Pn**		**14 00 49.5**	**+2.5**
comp=Z,0.5nm,0.3s,baz=319,slow=14,SNR=2.4									
CTAO	**Charters Tower**	**19.60**	**134**	P		**P**		**14 00 43.0**	**-2.3**
CTAO				IAmb		IAmb		14 00 53.8	
comp=Z,9.5nm,0.9s									
KKM	**Kota Kinabalu**	**19.77**	**309**	P		**P**		**14 00 45.4**	**-2.0**
BBOO	**Buckleboo**	**26.37**	**171**	P		**P**		**14 01 55.3**	**+2.4**
BBOO				IAmb		IAmb		14 02 13.4	
comp=Z,11nm,1.2s									
STKA	**Stephens Creek**	**26.81**	**161**	P		**P**		**14 02 00.0**	**+3.1**
comp=Z,1.3nm,0.6s,baz=346,slow=12,SNR=1.7									
MK31	**Makanchi Array**	**68.75**	**326**	P		**P**		**14 07 20.0**	**-0.1**
MK31				IAmb		IAmb		14 07 26.0	
comp=Z,2.0nm,1.4s									
MKAR	**Makanchi Array**	**68.75**	**326**	P		**P**		**14 07 20.6**	**+0.5**
comp=Z,0.8nm,0.4s,baz=123,slow=7.1,SNR=27									
MKAR	**Makanchi Array**	**68.75**	**326**	P		**P**		**14 07 20.5**	**+0.4**
MAKZ	**Makanchi**	**68.93**	**326**	P		**P**		**14 07 21.6**	**+0.4**
SEY	**Seymchan**	**71.21**	**0**	P		**P**		**14 07 35.6**	**+0.8**
comp=Z,1.8nm,1.1s,baz=195,slow=12,SNR=4.1									
ILAR	**Eielson Array**	**92.42**	**25**	P		**P**		**14 09 24.7**	**-1.8**
comp=Z,0.3nm,0.7s,baz=257,slow=4.8,SNR=4.1									

*NEIC **14** 13:57:46.8±0.9,36˚72N±0˚02×97˚63W±0˚02,h5km±2km,*
Error ellipse: s-maj=3.1km s-min=3.0km az=313.0
*ANF **14** 13:57:46.9±0.3,36˚71N×97˚62W,h5km,ML3.7/12,Error*
ellipse: s-maj=3.4km s-min=3.2km az=27.0
*TUL **14** 13:57:47±1.4,36˚75N±0˚02×97˚63W±0˚03,h5km,ML3.1,*
mb_Lg3.1/58(NEIC),Error ellipse: s-maj=3.1km
s-min=2.4km az=74.0
*IDC **14** 13:57:54.0±2.7,38˚29N×96˚65W,h0km,mb3.2/1,*
mb1 3.5/4,mb1mx3.2/39,mbtmp3.1/4,ML3.6/3,Error
ellipse: s-maj=33.9km s-min=17.1km az=91.0
ISC 14 13:57:46.7±1.1,**36.73N**±0.02×**97.64W**±0.02,**h4**km±10km,
n78,σ1°**06**/61,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.22**	**305**				**Pg**	**13 57 51.3**	**+0.3**
GC02				Sg			**Sg**	**13 57 54.5**	**+0.7**
KAN13	**South Haven SW**	**0.31**	**24**				**Pg**	**13 57 52.8**	**0.0**
KAN13				Sg			**Sg**	**13 57 57.0**	**+0.1**
CROK	**Carrier**	**0.36**	**231**				**Pg**	**13 57 54.1**	**+0.5**
CROK				Sg			**Sg**	**13 57 59.5**	**+1.3**
KAN09	**Caldwell North**	**0.41**	**2**	Pg			**Pg**	**13 57 54.6**	**0.0**
OK032	**Salt Plains WL**	**0.47**	**280**				**Pg**	**13 57 55.9**	**+0.2**
KAN10	**Anthony SW Sta**	**0.54**	**317**				**Pg**	**13 57 57.2**	**+0.1**
KAN08	**Anthony NE Sta**	**0.56**	**332**				**Pg**	**13 57 57.8**	**+0.1**
T35A	**Sooner Cattle**	**0.92**	**78**				**Pg**	**13 58 03.9**	**-0.6**
T35B	**Sooner Cattle**	**0.92**	**78**	P		**Pg**		**13 58 03.9**	**-0.6**
baz=258,SNR=43									
T35B				S		**Sg**		**13 58 15.8**	**-0.6**
baz=258									
T35B	**Sooner Cattle**	**0.92**	**78**	P				13 58 03.9	
baz=258,SNR=43									
T35B				S				13 58 15.8	
baz=258									
QUOK	**Quay**	**0.93**	**126**				**Pg**	**13 58 04.3**	**-0.3**
OK029	**Liberty Lake**	**0.94**	**171**				**Pg**	**13 58 04.7**	**0.0**
OK031	**S. Brethren Rd**	**1.01**	**140**				**Pg**	**13 58 05.8**	**-0.2**
OK030	**Cody Creek RV**	**1.05**	**139**				**Pg**	**13 58 06.7**	**-0.3**
BCOK	**Bluff Creek, N**	**1.07**	**179**				**Pg**	**13 58 07.0**	**-0.2**
U32A	**Winter Ranch,**	**1.15**	**253**	Pg			**Pg**	**13 58 08.3**	**-0.4**
U32A	**Winter Ranch,**	**1.15**	**253**	P			**Pg**	**13 58 08.4**	**-0.4**
baz=72,SNR=12									
U32A				S			**Sg**	**13 58 24.3**	**+0.5**
baz=72									
U32A	**Winter Ranch,**	**1.15**	**253**	P				13 58 08.4	
baz=72,SNR=12									
U32A				S				13 58 24.3	
baz=72									
OK025	**Westminster Rd**	**1.17**	**168**				**Pg**	**13 58 08.9**	**-0.3**
OKCFA	**Oklahoma City**	**1.32**	**173**				**Pn**	**13 58 11.3**	**-0.5**
OKCFA	**Oklahoma City**	**1.32**	**173**	P			**Pn**	**13 58 11.4**	**-0.5**
baz=354,SNR=17									
OKCFA				S			**Sg**	**13 58 29.6**	**+0.5**
baz=354									
OKCFA	**Oklahoma City**	**1.32**	**173**	P				13 58 11.4	
baz=354,SNR=17									
OKCFA				S				13 58 29.6	
baz=354									
OKCSW	**OKLAHOMA CITY**	**1.33**	**173**				**Pn**	**13 58 11.7**	**-0.4**
FNO	**Franklin**	**1.48**	**172**				**Pn**	**13 58 14.6**	**+0.5**
TUL1	**Leonard**	**1.70**	**118**	P			**Pn**	**13 58 17.5**	**+0.4**
baz=299,SNR=65									
TUL1				S			**Sb**	**13 58 40.2**	**-0.1**
baz=299									
TUL1	**Leonard**	**1.70**	**118**	P				13 58 17.6	
baz=299									
TUL1				S				13 58 40.2	
baz=299									
TUL1	**Leonard**	**1.70**	**118**	P				13 58 17.5	
baz=299,SNR=65									
TUL1				S				13 58 40.2	
baz=299									
R32A	**Long Quarter,**	**1.90**	**334**				**Pn**	**13 58 20.4**	**+0.5**
R32A				IAmb	Lg			13 58 46.8	
comp=Z,84nm,0.9s									
R32A	**Long Quarter,**	**1.90**	**334**	P			**Pn**	**13 58 20.3**	**+0.4**
baz=153,SNR=62									
R32A				S			**Sb**	**13 58 45.3**	**-0.6**
baz=153									
R32A	**Long Quarter,**	**1.90**	**334**	P				13 58 20.3	
baz=153,SNR=62									
R32A				S				13 58 45.3	
baz=153									
WMOK	**Wichita Mounta**	**2.19**	**205**				**Pn**	**13 58 24.4**	**+0.5**
WMOK	**Wichita Mounta**	**2.19**	**205**	P			**Pn**	**13 58 24.2**	**+0.3**
baz=25,SNR=19									
WMOK				S			**Sn**	**13 58 52.8**	**+1.3**
baz=25									
WMOK	**Wichita Mounta**	**2.19**	**205**	P				13 58 24.3	
baz=25									
WMOK	**Wichita Mounta**	**2.19**	**205**	P				13 58 24.2	
baz=25,SNR=19									
WMOK				S				13 58 52.8	
baz=25									
KSU1	**Kansas State U**	**2.50**	**19**				**Pn**	**13 58 28.7**	**+0.5**
KSU1	**Kansas State U**	**2.50**	**19**	P			**Pn**	**13 58 28.7**	**+0.5**
baz=199,SNR=20									
KSU1	**Kansas State U**	**2.50**	**19**	P				13 58 29.9	
baz=199									
KSU1	**Kansas State U**	**2.50**	**19**	P				13 58 28.7	
baz=199,SNR=20									
U38A	**Gravette**	**2.63**	**95**				**Pn**	**13 58 27.7**	**-2.3**
CBKS	**Cedar Bluff**	**2.67**	**322**	Pn			**Pn**	**13 58 30.4**	**0.0**
CBKS	**Cedar Bluff**	**2.67**	**322**	P			**Pn**	**13 58 30.2**	**-0.3**
baz=141,SNR=12									
CBKS				S			**Sb**	**13 59 08.6**	**+0.5**
baz=141									
CBKS	**Cedar Bluff**	**2.67**	**322**	S				13 59 08.6	
baz=141									
CBKS	**Cedar Bluff**	**2.67**	**322**	P				13 58 30.2	
baz=141,SNR=12									
CBKS				S				13 59 08.6	
baz=141									
X37A	**Clayton**	**2.82**	**138**	P			**Pn**	**13 58 33.4**	**+0.8**
baz=320									
X37A				Sb			**Sb**	**13 59 14.1**	**+1.6**
baz=320									
X37A	**Clayton**	**2.82**	**138**	P				13 58 33.4	
baz=320									
X37A				Sb				13 59 14.1	
baz=320									
HHAR	**Hobbs**	**3.01**	**97**	P			**Pn**	**13 58 36.0**	**+0.8**
baz=280									
HHAR	**Hobbs**	**3.01**	**97**	P				13 58 36.0	
baz=280									
Z35A	**Perchaven, San**	**3.40**	**175**	P			**Pn**	**13 58 41.5**	**+1.0**
baz=355									
Z35A	**Perchaven, San**	**3.40**	**175**	P				13 58 41.5	
baz=355									
W39A	**Magazine**	**3.48**	**115**	IAmb	Lg			13 59 37.3	
comp=Z,46nm,0.8s									
S39A	**Bolivar**	**3.58**	**73**				**Pn**	**13 58 43.6**	**+0.7**
AMTX	**Amarillo**	**3.77**	**242**	IAmb	Lg			13 59 53.2	
comp=Z,56nm,1.0s									
U40A	**Yellville**	**3.87**	**94**				**Pn**	**13 58 47.2**	**+0.2**
U40A	**Yellville**	**3.87**	**94**	P			**Pn**	**13 58 47.1**	**+0.2**
baz=277,SNR=19									
U40A	**Yellville**	**3.87**	**94**	P				13 58 47.1	
baz=277,SNR=19									
U40A				P				13 58 47.1	
baz=277,SNR=19									
MIAR	**Mount Ida**	**3.96**	**122**				**Pn**	**13 58 48.5**	**+0.3**
MIAR				IAmb	Lg			13 59 55.1	
comp=Z,40nm,0.7s									
N33A	**J Bar K, Exete**	**4.01**	**2**	Pn			**Pn**	**13 58 48.8**	**-0.1**
Z38A	**Mt. Pleasant**	**4.09**	**147**	IAmb	Lg			14 00 05.5	
comp=Z,42nm,0.8s									
MGMO	**Mountain Grove**	**4.32**	**83**	IAmb	Lg			14 00 03.8	
comp=Z,49nm,1.1s									
P38A	**Dawn**	**4.34**	**47**				**Pn**	**13 58 53.0**	**-0.4**
ABTX	**Abilene, Hawle**	**4.41**	**203**	P				13 58 55.1	
baz=22									
R40A	**Maddies Statio**	**4.55**	**68**				**Pn**	**13 58 57.0**	**+0.7**
WHAR	**Wooly Hollow**	**4.57**	**107**	IAmb	Lg			14 00 21.2	
comp=Z,28nm,0.7s									
BGNE	**Belgrade**	**4.69**	**355**	P			**Pn**	**13 58 58.2**	**-0.1**
baz=175,SNR=11									
BGNE	**Belgrade**	**4.69**	**355**	P				13 58 58.4	
baz=175									
BGNE	**Belgrade**	**4.69**	**355**	P				13 58 58.2	
baz=175,SNR=11									
WHTX	**Lake Whitney,**	**4.73**	**178**	P			**Pn**	**13 58 58.7**	**-0.1**
baz=358,SNR=5.4									
WHTX	**Lake Whitney,**	**4.73**	**178**	P				13 58 59.1	
baz=358									
WHTX	**Lake Whitney,**	**4.73**	**178**	P				13 58 58.7	
baz=358,SNR=5.4									
WLAR	**White Oak Lake**	**4.79**	**128**	IAmb	Lg			14 00 22.8	
comp=Z,26nm,0.8s									
P40A	**Paris**	**5.22**	**56**	IAmb	Lg			14 00 35.4	
comp=Z,28nm,0.8s									
CCM	**Cadral Cave**	**5.26**	**73**	IAmb	Lg			14 00 37.8	
comp=Z,27nm,0.9s									
Z41A	**Richland Creek**	**5.27**	**130**	P				13 59 04.8	
baz=313									
N38A	**Joes South For**	**5.32**	**39**	IAmb	Lg			14 00 37.0	
comp=Z,41nm,0.8s									
L34A	**Svendsen Farm,**	**5.32**	**10**	IAmb	Lg			14 00 40.4	
comp=Z,32nm,0.7s									
OGNE	**Ogallala**	**5.43**	**322**	Pn			**Pn**	**13 59 09.1**	**+0.5**
OGNE				IAmb	Lg			14 00 49.5	
comp=Z,26nm,0.8s									
T25A	**Trinidad**	**5.44**	**276**				**Pn**	**13 59 09.4**	**+0.6**
PBMO	**Poplar Bluff**	**5.79**	**87**	IAmb	Lg			14 00 57.9	
comp=Z,20nm,0.8s									
FVM	**French Village**	**5.88**	**76**	IAmb	Lg			14 00 52.7	
comp=Z,29nm,0.9s									
435B	**Jarrell**	**5.93**	**180**	Pn			**Pn**	**13 59 14.8**	**-0.5**
435B				IAmb	Lg			14 01 10.4	
comp=Z,21nm,0.8s									
K31A	**O'Neill**	**5.95**	**352**	Pn			**Pn**	**13 59 16.7**	**+1.1**
K31A				IAmb	Lg			14 00 55.5	
comp=Z,34nm,0.8s									
LPAR	**Lepanto**	**6.04**	**99**	IAmb	Lg			14 01 11.0	
comp=Z,23nm,0.9s									
JCT	**Junction City**	**6.49**	**197**	IAmb	Lg			14 01 28.1	
comp=Z,21nm,0.9s									
N41A	**Harden Midland**	**6.63**	**51**	IAmb	Lg			14 01 23.1	
comp=Z,22nm,0.9s									
SIUC	**Southern Illin**	**6.79**	**79**	IAmb	Lg			14 01 20.3	
comp=Z,26nm,0.8s									
342A	**Flagon Creek P**	**6.92**	**139**	IAmb	Lg			14 01 38.3	
comp=Z,15nm,0.8s									
W45A	**Hickory Valley**	**7.03**	**100**	IAmb	Lg			14 01 35.6	
comp=Z,18nm,0.8s									
ECSD	**EROS Data Cent**	**7.04**	**6**	P			**Pn**	**13 59 29.4**	**-1.2**
baz=187,SNR=12									
ECSD	**EROS Data Cent**	**7.04**	**6**	P				13 59 29.8	
baz=187									
ECSD	**EROS Data Cent**	**7.04**	**6**	P				13 59 29.4	
baz=187,SNR=12									
T45A	**Paducah**	**7.21**	**85**	IAmb	Lg			14 01 51.3	
comp=Z,27nm,0.8s									
ANMO	**Albuquerque**	**7.38**	**259**	Pn		Pb		14 00 01.2	+5.8
comp=Z,0.2nm,0.3s,baz=70,slow=18,SNR=2.9									
ANMO				Sn			**Sg**	**14 01 37.4**	**-6.3**
comp=Z,0.8nm,0.3s,baz=17,slow=11,SNR=5.5									
HDIL	**Hopedale**	**7.57**	**57**	IAmb	Lg			14 01 55.3	
comp=Z,22nm,0.9s									
O44A	**Mansfield**	**7.97**	**62**	IAmb	Lg			14 01 59.6	
comp=Z,24nm,0.7s									
USIN	**University of**	**8.04**	**78**	IAmb	Lg			14 02 13.6	
comp=Z,24nm,1.0s									
JFWS	**Jewell Farm**	**8.39**	**40**	IAmb	Lg			14 02 31.2	
comp=Z,14nm,0.9s									
T47A	**Sharon Grove**	**8.45**	**85**	IAmb	Lg			14 02 24.1	
comp=Z,14nm,0.8s									
TXAR	**Lajitas Array**	**8.94**	**216**	Pn		Pg		14 00 25.5	-12
comp=Z,0.1nm,0.3s,baz=36,slow=14,SNR=2.8									
TXAR				Sn		Sg		14 02 20.7	-13
comp=Z,0.3nm,0.3s,baz=39,slow=17,SNR=1.7									
P48A	**Milroy**	**10.01**	**70**	IAmb	Lg			14 03 09.1	
comp=Z,12nm,0.7s									
PDAR	**Pinedale Array**	**10.98**	**307**	Pn		Pn		14 00 30.9	+6.2
comp=Z,0.1nm,0.3s,baz=108,slow=14,SNR=1.1									
PDAR				Lg		Lg		14 03 28.8	
comp=Z,0.3nm,0.3s,baz=110,slow=28,SNR=4.7									
TKL	**Tuckaleechee C**	**11.26**	**91**	Lg		Lg		14 03 23.9	
comp=Z,0.2nm,0.3s,baz=240,slow=20,SNR=1.4									
ILAR	**Eielson Array**	**40.29**	**330**	P		**P**		**14 05 24.6**	**-0.1**
comp=Z,0.2nm,0.6s,baz=101,slow=7.7,SNR=4.2									

*IDC **14** 14:35:58.6±2.2,5˚37S×146˚85E,h153km±22km,mb3.2/4,*
mb1 3.4/7,mb1mx3.2/52,mbtmp3.7/7,Error ellipse:
s-maj=27.2km s-min=19.2km az=84.0
ISC 14 14:36:02.1±1.3,**5˚6S**±0˚1×**147˚0E**±0˚3,**h195**km,**n7,**
σ0°84/7,mb3.4/4,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.77**	**178**	P		**P**	**Pn**	**14 37 00.7**	**-0.2**
1.0nm,0.3s,baz=356,slow=13,SNR=9.4									
PMG				S			**Sn**	**14 37 46.5**	**-0.5**
4.7nm,0.3s,baz=159,slow=23,SNR=17									
JAY	**Jayapura**	**7.03**	**296**	P			Pn	14 37 35.3	-7.4
2.4nm,0.3s,baz=196,slow=7.4,SNR=8.2									
WRA	**Warramunga Arr**	**18.85**	**220**	P		**P**		**14 40 08.1**	**+0.4**
0.5nm,0.3s,baz=43,slow=11,SNR=44									
ASAR	**Alice Springs**	**21.96**	**214**	P		**P**		**14 40 41.6**	**+1.2**
0.6nm,0.4s,baz=47,slow=8.1,SNR=38									
FITZ	**Fitzroy Crossi**	**24.30**	**237**	P		**P**		**14 41 01.5**	**-0.3**
1.6nm,0.4s,baz=51,slow=11,SNR=14									
SONM	**Songino Array**	**64.09**	**331**	P		**P**		**14 46 14.7**	**-0.7**
0.2nm,0.6s,baz=145,slow=5.3,SNR=1.4									
ILAR	**Eielson Array**	**85.11**	**23**	P		**P**		**14 48 16.2**	**+0.5**
0.3nm,0.6s,baz=253,slow=4.9,SNR=6.6									

*MAN **14** 14:37:36.7,16˚96N×120˚10E,h50km,MS4.5*
MAN INTENSITY III - SAN FERNANDO.
*NEIC **14** 14:37:37.3±2.0,16˚81N±0˚07×120˚4E±0˚1,h66km±6km,*
mb4.5/50,Error ellipse: s-maj=14.1km s-min=9.7km
az=99.0
*IDC **14** 14:37:40.7±1.5,16˚77N×120˚35E,h95km±14km,mb4.0/36,*
mb1 4.1/37,mb1mx4.0/66,mbtmp4.3/37,MS3.2/6,
Ms1 3.2/6,ms1mx2.9/38,Error ellipse: s-maj=14.3km
s-min=9.0km az=80.0
ISC 14 14:37:38.2±0.7,**16.86N**±0˚03×**120˚24E**±0˚05,**h71**km±6km,
n176,σ1°**33**/171,**mb4.4**/57,**13C-6D,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BCP	**Baguio City**	**0.57**	**141**	⇑P		**P**	**Pn**	**14 37 52.1**	**+0.1**
BCP				*i* S			**Sn**	**14 38 02.8**	**+0.6**
BOLP	**Bolinao**	**0.57**	**213**	*e*P		**P**	**Pn**	**14 37 50.5**	**-1.3**
BOLP				*e*S			**Sn**	**14 38 01.8**	**-0.1**
SZP	**Santa**	**0.72**	**17**				**Pn**	**14 37 52.8**	**-0.6**
APYP	**Conner**	**1.38**	**44**	*e*P		**P**	**Pn**	**14 38 00.2**	**-1.5**
APYP				*e*S			**Sn**	**14 38 19.2**	**-0.1**
CAUP	**Cauayan**	**1.52**	**87**	*e*P		**P**	**Pn**	**14 38 05.5**	**+2.1**
CAUP				*e*S			Sn	14 38 28.5	+6.0
BALP	**Baler**	**1.70**	**131**	*e*P		**P**	**Pn**	**14 38 06.6**	**+0.7**
BALP				*e*S			**Sn**	**14 38 29.9**	**+3.1**
SGCP	**Mt. Cagua**	**2.20**	**51**	*e*P		**P**	**Pn**	**14 38 12.6**	**0.0**
SGCP				*e*S			**Sn**	**14 38 40.3**	**+1.4**
MACP	**Maragondon, Ca**	**2.62**	**170**	*e*P		**P**	**Pn**	**14 38 18.4**	**+0.1**
MACP				*e*S			**Sn**	**14 38 52.2**	**+3.1**
TGY	**Tagaytay City**	**2.83**	**166**	P		**P**	**Pn**	**14 38 23.3**	**+2.2**
234nm,0.3s,baz=6.7,slow=17,SNR=27									
TGY				S			**Sn**	**14 38 56.0**	**+1.9**
257nm,0.3s,baz=315,slow=2.8,SNR=4.2									
TGY	**Tagaytay City**	**2.83**	**166**	⇓*e*P			Pn	14 38 24.5	+3.4
TGY				*e*S			**Sn**	**14 38 56.4**	**+2.3**
LQP	**Lukban**	**3.01**	**155**	⇓*e*P			**Pn**	**14 38 25.3**	**+1.5**
LUBP	**Lubang**	**3.11**	**180**	*e*P			**Pn**	**14 38 26.6**	**+1.6**
LUBP				*e*S			**Sn**	**14 39 04.9**	**+4.0**
GQP	**Guinayangan**	**3.63**	**144**	⇓*e*P			**Pn**	**14 38 33.2**	**+1.2**
TWG	**Pinlang**	**5.98**	**7**				**Pn**	**14 39 04.3**	**+0.2**
TPUB	**Ta-pu**	**6.42**	**3**				**Pn**	**14 39 10.8**	**+0.7**
YULB	**Yu-li**	**6.57**	**9**				**Pn**	**14 39 13.2**	**+0.9**
SSLB	**Suanglung**	**6.92**	**5**	Pn			**Pn**	**14 39 18.6**	**+1.6**
YHNB	**Yeheng**	**7.84**	**8**	Pn			**Pn**	**14 39 32.4**	**+2.8**
QIZ	**Qiongzhong**	**10.13**	**284**	Pn			**Pn**	**14 39 58.6**	**-2.2**
MYLDM	**Lahad Datu**	**11.73**	**189**	Pn			Pn	14 40 27.3	+4.5

KLSI 26.34 217 P P 14 43 07.9 +0.3
BATI **Baumata** 27.11 173 P P 14 43 13.2 -1.3
comp=Z,12nm,0.5s,baz=351,slow=4.5,SNR=5.4
GSI **Gunungsitoli** 27.14 238 P P 14 43 14.9 -0.1
GSI IAmb IAmb 14 43 15.4
comp=Z,13nm,0.9s
USRK **Ussuriysk Ar.** 29.01 18 P P 14 43 31.6 +0.4
comp=Z,1.5nm,0.8s,baz=190,slow=7.3,SNR=4.3
USRK **Ussuriysk Ar.** 29.01 18 P P 14 43 29.7 -1.5
ULN **Ulaanbaatar** 32.77 344 P P 14 44 05.6 +1.1
ULN IAmb IAmb 14 44 06.6
comp=Z,6.1nm,0.8s
SONM **Songino Array** 32.92 343 P P 14 44 07.1 +1.2
comp=Z,5.0nm,0.7s,baz=162,slow=10,SNR=50
SONM PcP PcP 14 46 48.5 -0.2
comp=Z,0.2nm,0.4s,baz=174,slow=2.3,SNR=4.1
SONM **Songino Array** 32.92 343 P P 14 44 07.0 +1.2
SONM IAmb IAmb 14 44 07.8
comp=Z,4.1nm,0.7s
SONM PcP PcP 14 46 49.2 +0.5
KLR **Kul'dur** 33.61 14 P P 14 44 12.2 +0.5
comp=Z,2.5nm,0.7s,baz=212,slow=5.6,SNR=8.0
FITZ **Fitzroy Crossi** 35.15 171 P P 14 44 23.5 -1.7
comp=Z,2.3nm,0.7s,baz=352,slow=9.3,SNR=9.9
FITZ **Fitzroy Crossi** 35.15 171 P P 14 44 22.3 -2.8
WB0 **Warramunga Arr** 38.97 159 P P 14 44 55.4 -2.2
WB0 IAmb IAmb 14 44 56.3
comp=Z,7.8nm,1.4s
WRAB **Tennant Creek** 39.10 159 P P 14 44 56.0 -2.8
WRAB IAmb IAmb 14 45 00.6
comp=Z,6.6nm,1.2s
WRA **Warramunga Arr** 39.11 159 P P 14 44 56.7 -2.1
comp=Z,1.3nm,0.4s,baz=338,slow=9.2,SNR=45
WRA PcP PcP 14 47 07.6 +0.2
comp=Z,1.8nm,0.6s,baz=340,slow=3.2,SNR=9.2
WRA LR LR 15 04 16.2
comp=Z,25nm,21.7s,baz=60,slow=41
WB2 **Warramunga Arr** 39.11 159 P P 14 44 55.9 -2.9
WB2 IAmb IAmb 14 45 03.9
comp=Z,5.5nm,0.9s
WR0 **Warramunga Arr** 39.20 158 P P 14 44 56.9 -2.6
WR0 IAmb IAmb 14 45 11.5
comp=Z,15nm,1.4s
PALK **Pallekele** 39.75 261 P P 14 45 03.9 -0.4
ZSN **Zaisan** 42.13 324 *eP* P 14 45 24.3 +0.9
baz=324
AS31 **Alice Springs** 42.43 161 P P 14 45 24.5 -1.7
ASAR **Alice Springs** 42.44 161 P P 14 45 24.6 -1.6
comp=Z,1.6nm,0.4s,baz=336,slow=7.0,SNR=97
ASAR PcP PcP 14 47 18.6 +0.4
comp=Z,1.1nm,0.6s,baz=340,slow=3.1,SNR=7.1
MK31 **Makanchi Array** 43.26 322 P P 14 45 33.2 +0.6
MKAR **Makanchi Array** 43.26 322 P P 14 45 34.0 +1.3
comp=Z,3.3nm,0.8s,baz=122,slow=8.8,SNR=35
MKAR PcP PcP 14 47 20.9 +0.3
comp=Z,1.2nm,0.7s,baz=113,slow=3.2,SNR=5.5
MKAR **Makanchi Array** 43.26 322 P P 14 45 33.6 +1.0
SHLS **Shalkode** 43.36 316 *eP* P 14 45 32.4 -1.2
baz=315
UZB **Uzynbulak** 43.65 316 *eP* P 14 45 37.1 +1.1
baz=315
KPKS **Kokpek** 44.00 316 *eP* P 14 45 39.5 +0.7
baz=315
SATY **Saty** 44.03 315 *eP* P 14 45 40.1 +1.1
baz=314
CTAO **Charters Tower** 44.73 144 P P 14 45 43.6 -1.1
CTAO IAmb IAmb 14 45 48.1
comp=Z,13nm,1.2s
TDK **Taldyqorghan** 44.82 318 *eP* P 14 45 46.4 +1.3
baz=317
MDOK **Medeo** 44.98 315 *eP* P 14 45 47.7 +1.1
baz=314
TNSS **Tian-Shan** 45.01 315 *eP* P 14 45 48.5 +1.4
baz=314
KUU **Kurty** 45.73 316 *eP* P 14 45 53.5 +1.1
baz=315
MORW **Morawa** 45.84 185 P P 14 45 52.9 -0.3
ZAA0 **Zalesovo Array** 46.07 332 P P 14 45 53.9 -0.9
ZAA0 IAmb IAmb 14 45 55.9
comp=Z,5.5nm,1.0s
ZALV **Zalesovo Beam** 46.07 332 P P 14 45 55.1 +0.3
comp=Z,4.0nm,0.8s,baz=122,slow=7.2,SNR=15
ZALV PcP PcP 14 47 29.5 -0.6
comp=Z,0.6nm,0.5s,baz=89,slow=2.1,SNR=2.3
ZALV **Zalesovo Beam** 46.07 332 P P 14 45 54.2 -0.6
PETK **Petropavlovsk-** 46.51 30 P P 14 45 58.3 0.0
comp=Z,3.8nm,0.8s,baz=284,slow=6.0,SNR=3.0
BTLS **Baital** 47.68 316 *eP* P 14 46 07.1 -0.5
baz=316
FORT **Forrest** 47.96 171 P P 14 46 07.8 -2.0
KKAR **Karatay Array** 49.49 313 P P 14 46 21.9 +0.4
IUG **luzhnay** 49.57 311 *eP* P 14 46 23.2 +0.9
baz=311
BRZS **Berezniki** 50.41 322 *eP* P 14 46 28.9 +0.6
baz=321
SEY **Seymchan** 51.15 18 P P 14 46 34.6 +0.9
comp=Z,0.4nm,0.5s,baz=229,slow=17,SNR=1.7
EIDS **Eidsvold** 51.62 144 P P 14 46 35.0 -2.6
BBOO **Buckleboo** 51.66 163 P P 14 46 35.8 -2.0
BBOO IAmb IAmb 14 46 36.7
comp=Z,5.9nm,1.0s
STKA **Stephens Creek** 52.61 157 P P 14 46 43.7 -1.2
comp=Z,1.0nm,0.4s,baz=351,slow=11,SNR=5.1
STKA **Stephens Creek** 52.61 157 P P 14 46 43.2 -1.7
BRVK **Borovoye** 53.01 325 P P 14 46 48.1 +0.4
BRVK IAmb IAmb 14 46 49.5
comp=Z,4.1nm,0.8s
TIXI **Tiksi** 55.02 3 P P 14 47 01.7 -0.3
comp=Z,2.7nm,0.8s,baz=166,slow=3.4,SNR=9.8
TIXI **Tiksi** 55.02 3 P P 14 47 01.5 -0.4
TIXI IAmb IAmb 14 47 02.3
comp=Z,3.9nm,0.9s
GEYT **Alibeck** 57.96 304 P P 14 47 25.0 +1.5
comp=Z,3.5nm,0.9s,baz=54,slow=7.5,SNR=4.5
ABKAR **Akbulak array** 58.09 318 P P 14 47 24.7 +0.6
ABKAR **Akbulak array** 58.09 318 P P 14 47 24.7 +0.6
ABKAR IAmb IAmb 14 47 25.6
comp=Z,8.0nm,1.2s
AKTO **Aktyubinsk** 59.54 319 P P 14 47 34.9 +0.7
comp=Z,2.6nm,0.5s,baz=102,slow=9.4,SNR=4.0
ARU **Arti** 60.52 326 P P 14 47 40.9 +0.1
comp=Z,4.1nm,0.5s,baz=98,slow=7.4,SNR=6.9
ARU **Arti** 60.52 326 P P 14 47 40.9 +0.1
SOCY **Socotra** 64.06 276 P P 14 48 04.6 -0.6
KBZ **Khabaz** 69.47 311 P P 14 48 39.7 +0.7
comp=Z,3.6nm,0.9s,baz=151,slow=3.7,SNR=6.4
RAYN **Ar Rayn** 69.77 289 P P 14 48 41.6 +0.2
RAYN IAmb IAmb 14 48 43.1
comp=Z,8.0nm,0.8s
KDAK **Kodiak Island** 74.41 34 P P 14 49 08.5 +0.1
comp=Z,7.5nm,0.7s,baz=273,slow=4.7,SNR=8.3
KDAK **Kodiak Island** 74.41 34 P P 14 49 08.4 +0.1
KDAK IAmb IAmb 14 49 19.9
comp=Z,9.5nm,0.9s
BPAW **Bear Paw Mtn.** 74.45 27 P P 14 49 09.3 +0.8
BPAW IAmb IAmb 14 49 12.8
comp=Z,3.9nm,0.9s
TOLK **Toolik Lake Re** 74.51 22 P P 14 49 09.2 +0.4
NEA2 **Nenana** 75.22 26 P P 14 49 13.2 +0.3
NEA2 IAmb IAmb 14 49 14.1
comp=Z,7.1nm,1.4s
RC01 **Rabbit Creek A** 75.42 30 P P 14 49 13.2 -0.9
RND **Reindeer** 75.49 28 P P 14 49 14.6 +0.1
RND IAmb IAmb 14 49 23.6
comp=Z,11nm,1.3s
MDM **Murphy Dome** 75.52 26 P P 14 49 14.8 +0.1
MDM IAmb IAmb 14 49 18.9
comp=Z,4.4nm,1.2s
PMR **Palmer** 75.63 30 P P 14 49 14.7 -0.6
PMR IAmb IAmb 14 49 28.4
comp=Z,13nm,1.2s
WRH **Wood River Hil** 75.66 27 P P 14 49 15.4 0.0
ARCES **ARCESS Array B** 75.99 339 P P 14 49 18.1 +0.9
comp=Z,4.6nm,0.9s,baz=81,slow=6.8,SNR=1.4
ILAR **Eielson Array** 76.12 26 P P 14 49 18.7 +0.6
comp=Z,0.6nm,0.9s,baz=260,slow=4.4,SNR=7.0
ILAR **Eielson Array** 76.12 26 P P 14 49 16.7 -1.4
SPITS **Spitsbergen Ar** 76.42 348 P P 14 49 19.8 +0.2
comp=Z,7.1nm,0.8s,baz=128,slow=9.3,SNR=4.6
BMAR **Burnt Mountain** 76.55 23 P P 14 49 21.8 +1.3
BRTR **Keskin Array B** 76.86 308 P P 14 49 23.1 +0.1
comp=Z,0.8nm,0.6s,baz=124,slow=4.5,SNR=3.4
FINES **FINESS Array B** 77.33 331 P P 14 49 25.0 +0.1
comp=Z,3.4nm,0.9s,baz=85,slow=4.0,SNR=7.3
AKASG **Malin Array Be** 77.78 319 P P 14 49 27.3 -0.3
comp=Z,5.1nm,0.7s,baz=64,slow=5.1,SNR=6.6

BCAR **Beaver Creek A** 78.69 27 P P 14 49 33.8 +1.3
SORM **Soroca** 78.88 317 ⇑P P 14 49 33.3 -0.4
TIRR **Tirgusor** 79.67 313 ⇑P P 14 49 39.0 +0.9
CFR **Carcaliu** 79.69 314 ⇑P P 14 49 37.4 -0.8
INK **Inuvik** 80.32 21 P P 14 49 41.3 +0.2
comp=Z,2.6nm,0.7s,baz=287,slow=6.1,SNR=9.7
INK **Inuvik** 80.32 21 P P 14 49 39.8 -1.3
INK IAmb IAmb 14 49 42.1
comp=Z,3.1nm,0.8s
TESR **Tescani** 80.38 316 ⇓P P 14 49 42.2 +0.2
VRI **Vrincioaia** 80.49 315 ⇑P P 14 49 44.3 +1.7
BIZ **Bicaz** 80.64 316 ⇑P P 14 49 41.6 -1.8
BURAR **Bucovina Array** 81.05 317 ⇑P P 14 49 46.4 +0.7
BURAR **Bucovina Array** 81.05 317 P P 14 49 46.4 +0.7
BUR08 **Bucovina Ar. S** 81.05 317 IAmb IAmb 14 49 47.2
comp=Z,5.2nm,0.9s
MLR **Muntele Rosu** 81.11 315 P P 14 49 46.8 +0.8
comp=Z,3.3nm,0.7s,baz=140,slow=13,SNR=5.7
MLR **Muntele Rosu** 81.11 315 ⇑P P 14 49 47.4 +1.4
KARP **Karpathos** 82.83 305 P P 14 49 54.2 -0.9
DRGR 82.92 317 ⇑P P 14 49 55.9 +0.4
C36M **Paulatuk** 82.98 19 P P 14 49 55.0 -0.1
SIRR **Siria** 83.77 316 ⇑P P 14 50 00.9 +1.2
VTS **Vitosha** 83.78 313 ⇑P P 14 49 59.9 -0.2
BZS **Buzias** 84.00 316 ⇑P P 14 50 00.8 0.0
NC405 **NORSAR Array S** 84.01 332 P P 14 50 00.3 -0.3
MDVR **Moldovita** 84.19 315 ⇑P P 14 50 02.3 +0.4
NB2 **NORSAR Subarra** 84.27 332 P P 14 50 01.4 -0.6
comp=Z,7.7nm,0.8s,baz=65,slow=4.6
NB2 **NORSAR Subarra** 84.27 332 P P 14 50 01.4 -0.6
baz=65,slow=4.6
NOA **NORSAR Array B** 84.27 332 P P 14 50 01.9 -0.1
comp=Z,3.3nm,0.7s,baz=65,slow=4.7,SNR=22
NOA LR LR 15 28 50.5
comp=Z,26nm,18.2s,baz=65,slow=36
KONO **Kongsberg** 85.59 332 P P 14 50 07.9 -0.6
MORH **Mrgy, Hungar** 85.77 317 ⇓P P 14 50 09.2 -0.5
VRAC **Vranov** 85.98 320 P P 14 50 11.6 +0.8
comp=Z,4.7nm,0.7s,baz=64,slow=3.8,SNR=6.8
VRAC **Vranov** 85.98 320 ⇓P P 14 50 12.3 +1.6
RES **Resolute Bay** 86.00 9 P P 14 50 10.4 +0.1
comp=Z,4.1nm,0.7s,baz=311,slow=5.4,SNR=18
RES **Resolute Bay** 86.00 9 P P 14 50 10.3 0.0
RES IAmb IAmb 14 50 11.5
comp=Z,5.8nm,0.8s
CLL **Collm** 87.35 323 *eP* P 14 50 17.0 -0.3
GERES **GERESS Array B** 87.92 321 P P 14 50 20.6 +0.4
comp=Z,0.9nm,0.7s,baz=83,slow=5.5,SNR=7.8
YKA **Yellowknife Ar** 90.04 22 P P 14 50 30.5 +0.7
comp=Z,1.1nm,0.7s,baz=315,slow=3.8,SNR=19
DAVOX **Davos/Dischmat** 91.12 320 P P 14 50 35.9 +0.4
comp=Z,2.8nm,0.6s,baz=85,slow=3.6,SNR=6.4
DBIC **Dimbokro** 120.91 289 PKP PKPdf 14 56 22.9 -0.5
comp=Z,1.9nm,0.6s,baz=45,slow=1.7,SNR=4.0
KIC **Kosan Boka** 120.92 288 *e*PKIKP PKPdf 14 56 23.3 -0.1
comp=Z,4.9nm,0.5s
TIC **Toumodi** 121.06 289 *e*PKIKP PKPdf 14 56 23.4 -0.3
LIC **Lamto** 121.24 288 *e*PKIKP PKPdf 14 56 23.8 -0.2
comp=Z,34nm,1.7s

NIED **14** *14:45:13.8,24.43N×121.85E,h47km,MW4.1,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr0.53; Mθθ-0.87; Mφφ0.33; Mrθ-0.15; Mθφ1.38; Mφr0.68; Fault plane solution: M0 1.69000×10¹⁵ NP1: ϕs344.00000°,δ79.00000°,λ151.00000°. NP2: ϕs80.00000°,δ61.00000°,λ13.00000°.*
JMA **14** *14:45:13.8±0.1,24.43N×121.85E,h47km±3km,M4.2*
TAP **14** *14:45:14.3,24.48N×121.90E,h27km,ML4.6,B*
BJI **14** *14:45:15.2±0.0,24.45N×121.84E,h27km,mB4.4/6, mb3.9/8,ML3.7/7,Ms3.8/3,Ms7 3.6/3*
ASIES **14** *14:45:15.6,24.48N×121.85E,h29km,MW3.9*
IDC **14** *14:45:18.4±3.5,24.47N×122.02E,h62km±35km,mb3.4/12, mb1 3.5/14,mb1mx3.3/61,mbtmp3.7/14,ML3.7/2,MS3.4/3, Ms1 3.5/3,ms1mx3.0/21,Error ellipse: s-maj=24.2km s-min=15.7km az=66.0*
ISC 14 14:45:14.5±0.8, 24.45N±0.02×121.96E±0.02, h23km±5km, n181,σ1s07/284,mb3.7/12,33C-23D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TWC	**Suao**	0.18	328	⇑*i*P	Pb	14 45 19.9	+0.2
	baz=344						
TWC				*i* S	Sb	14 45 23.4	+0.2
	baz=344						
ENA	**Nanau**	0.20	263	⇓*i*P	Pb	14 45 19.9	0.0
	baz=250						
ENA				*i* S	Sb	14 45 23.6	0.0
	baz=250						
NDS	**Dongshan**	0.28	309	⇑*i*P	Pb	14 45 21.0	-0.1
	baz=313						
NDS				*i* S	Sb	14 45 25.2	-0.4
	baz=313						
ILA	**Ilan**	0.36	329	⇑*i*P	Pb	14 45 22.4	+0.1
	baz=331						
ILA				*e*S	Sb	14 45 28.5	+0.8
	baz=331						
TWE	**Neicheng**	0.37	315	⇑*i*P	Pb	14 45 22.3	-0.2
	baz=316						
TWE				*e*S	Sb	14 45 27.9	-0.1
	baz=316						
EGS		0.39	357	⇓*i*P	Pb	14 45 23.0	+0.2
	baz=6.0						
EGS				*e*S	Sb	14 45 27.8	-0.7
	baz=6.0						
ENTT	**Nioudou**	0.40	298	⇑*i*P	Pb	14 45 22.6	-0.3
	baz=298						
ENTT				*i* S	Sb	14 45 28.1	-0.6
	baz=298						
NTC	**Toucheng**	0.41	344	⇑P	Pb	14 45 23.2	0.0
	baz=357						
NTC				*e*S	Sb	14 45 29.3	+0.2
	baz=357						
NDT	**Datong Townshi**	0.43	290	⇑P	Pb	14 45 23.2	-0.3
	baz=290						
NDT				S	Sb	14 45 29.1	-0.4
	baz=290						
NACB	**Ninganchiao**	0.43	230	⇓*i*P	Pb	14 45 23.1	-0.3
	baz=226						
NACB				*e*S	Sb	14 45 29.2	-0.4
	baz=226						
TWD	**Chiawan**	0.50	222	⇓*i*P	Pb	14 45 24.3	-0.2
	baz=214						
TWD				*e*S	Sn	14 45 33.4	-0.7
	baz=214						
ETLH	**Xiulin Townshi**	0.50	240	⇓*i*P	Pb	14 45 24.2	-0.5
	baz=238						
ETLH				*e*S	Sb	14 45 32.1	+0.5
	baz=238						
NNSB	**Datong**	0.52	267	⇓*i*P	Pb	14 45 24.5	-0.6
	baz=268						
NNSB				*i* S	Sb	14 45 31.2	-1.1
	baz=268						
NNSH	**Datong**	0.52	267	⇓*i*P	Pb	14 45 24.8	-0.3
	baz=268						
NNSH				*e*S	Sb	14 45 31.4	-0.9
	baz=268						
NWLT	**Wulai**	0.52	308	⇑*i*P	Pb	14 45 24.6	-0.5
	baz=310						
NWLT				*e*S	Sb	14 45 31.0	-1.2
	baz=310						
TIPB	**Shuangxi**	0.53	347	⇑*i*P	Pb	14 45 25.1	-0.1
	baz=355						
TIPB				*e*S	Sb	14 45 31.4	-1.0
	baz=355						
NNS	**Nan Shan**	0.53	269	⇓*i*P	Pb	14 45 24.7	-0.6
	baz=266						
NNS				S	Sb	14 45 31.6	-0.9
	baz=266						
TWB1	**Santiao Chiao**	0.55	3	⇓*i*P	Pb	14 45 25.4	-0.1
	baz=4.0						
TWB1				*e*S	Sb	14 45 32.9	-0.2
	baz=4.0						
YHNB	**Yeheng**	0.57	292	⇑*i*P	Pb	14 45 25.4	-0.5
	baz=297						
YHNB				S	Sb	14 45 32.2	-1.4
	baz=297						
HWA	**Hwalien**	0.57	214	⇓*i*P	Pn	14 45 26.7	-0.5
	baz=208						
HWA				*e*S	Sn	14 45 37.5	+1.6
	baz=208						
NSK	**Sanguang**	0.59	292	⇑*i*P	Pb	14 45 25.6	-0.6
	baz=292						
NSK				S	Sb	14 45 32.8	-1.4
	baz=292						

TWA **Mucha** 0.62 327 ⇑*i*P Pb 14 45 26.6 -0.1
baz=323
TWA *e*S Sb 14 45 35.1 -0.1
baz=323
NWF **Wu-fen Shan** 0.64 346 ⇑*i*P Pb 14 45 27.2 +0.2
baz=342
NWF *e*S Sb 14 45 35.8 +0.3
baz=342
WFSB **Wu-fen Shan** 0.64 346 ⇑*i*P Pb 14 45 27.2 +0.3
baz=345
WFSB *e*S Sb 14 45 35.7 +0.3
baz=345
NHDH **Xindian Distri** 0.64 322 ⇑*i*P Pb 14 45 26.9 -0.1
baz=320
NHDH *e*S Sb 14 45 35.4 -0.1
baz=320
TATO **Taipei** 0.67 321 ⇑*i*P Pb 14 45 27.4 -0.1
baz=318
TATO S Sb 14 45 36.1 -0.3
baz=318
FUSS **Fushou** 0.68 253 ⇓*i*P Pb 14 45 27.6 -0.3
baz=249
FUSS *e*S Sb 14 45 37.5 +0.6
baz=249
WHF **Hehuan Shan** 0.70 244 ⇓*i*P Pb 14 45 27.8 -0.5
baz=247
WHF *e*S Sb 14 45 38.0 +0.3
baz=247
TAP **Taipei** 0.71 325 ⇑*i*P Pb 14 45 28.4 +0.2
baz=328
TAP S Sb 14 45 38.3 +0.7
baz=328
BACT **New Taipei Cit** 0.71 319 *e*P Pb 14 45 28.4 +0.1
baz=319
BACT *e*S Sb 14 45 38.5 +0.8
baz=319
TWT **Tachien** 0.74 254 ⇑P Pb 14 45 28.9 +0.1
baz=252
TWT *e*S Sb 14 45 39.0 +0.5
baz=252
TDCB **Techi** 0.76 255 ⇓*i*P Pb 14 45 28.6 -0.4
baz=252
TDCB *e*S Sb 14 45 37.3 -1.7
baz=252
YM01 **YM01** 0.77 333 ⇑*i*P Pb 14 45 28.1 -1.2
baz=347
YM01 *e*S Sb 14 45 38.6 -0.8
baz=347
YM10 **YM10** 0.79 333 ⇑*i*P Pb 14 45 29.3 -0.2
baz=346
YM10 *e*S Sn 14 45 41.0 -0.4
baz=346
YM11 **YM11** 0.79 334 ⇑*i*P Pb 14 45 29.5 -0.1
baz=347
YM11 *e*S Sn 14 45 41.9 +0.5
baz=347
YM05 **YM05** 0.79 333 ⇑*i*P Pb 14 45 29.3 -0.3
baz=336
YM04 **YM04** 0.79 331 ⇑*i*P Pb 14 45 29.3 -0.3
baz=334
YM04 *e*S Sb 14 45 39.9 -0.1
baz=334
ESL **Shilin** 0.80 217 P Pb 14 45 28.9 -0.8
baz=226
ESL *e*S Sn 14 45 40.9 -0.6
baz=226
YM08 **YM08** 0.80 336 ⇑*i*P Pb 14 45 29.2 -0.6
baz=338
YM08 *e*S Sb 14 45 39.9 -0.4
baz=338
NTY **Taoyuan** 0.81 312 ⇑*e*P Pb 14 45 30.0 +0.2
baz=316
NTY *e*S Sn 14 45 41.6 -0.2
baz=316
TWS1 **Kuangyinshan** 0.81 323 ⇑*i*P Pb 14 45 29.8 0.0
baz=334
TWS1 *e*S Sb 14 45 39.9 -0.5
baz=334
ANP **Anpu** 0.83 332 ⇑P Pb 14 45 29.9 -0.4
baz=334
ANP *e*S Sb 14 45 41.1 +0.1
baz=334
NJD **Zhudong** 0.84 290 *e*P Pb 14 45 30.6 +0.2
baz=289
NJD *e*S Sn 14 45 42.4 -0.1
baz=289
NTST **Danshui** 0.84 327 *e*P Pb 14 45 30.5 0.0
baz=338
NTST *e*S Sn 14 45 42.3 -0.3
baz=338
NCU **National Centr** 0.87 306 ⇑P Pb 14 45 30.9 0.0
baz=293
NCU *e*S Sn 14 45 43.2 0.0
baz=293
NCUH **Zhongli** 0.87 306 ⇑P Pb 14 45 30.9 +0.1
baz=293
NCUH *e*S Sn 14 45 43.8 +0.6
baz=293
LIOB **Emei** 0.88 283 ⇑P Pb 14 45 31.1 +0.1
baz=282
LIOB *e*S Sb 14 45 42.8 +0.4
baz=282
TWY **Chenhua** 0.88 338 *e*P Pb 14 45 31.1 0.0
baz=341
TWY *e*S Sn 14 45 43.2 -0.4
baz=341
NSTT **Nanjuang** 0.89 282 *e*P Pb 14 45 31.2 0.0
baz=281
NSTT *e*S Sb 14 45 42.3 -0.3
baz=281
JYNG **Yonaguni jima** 0.90 90 P Pb 14 45 31.6 +0.2
JYNG S Sn 14 45 44.6 +0.6
HSN1 **Hsinchu** 0.91 291 *e*P Pn 14 45 31.9 +0.1
baz=282
HSN1 *e*S Sn 14 45 44.5 +0.2
baz=282
EGFH **Guangfu** 0.92 212 *e*P Pb 14 45 30.8 -0.9
baz=222
EGFH *e*S Sn 14 45 44.7 +0.2
baz=222
WHP **Taichung City** 0.94 259 ⇓P Pb 14 45 32.1 0.0
baz=257
WHP *e*S Sb 14 45 44.5 +0.3
baz=257
SBCB **Hsinchu** 0.95 291 ⇑*i*P Pn 14 45 32.4 +0.1
baz=291
SBCB *e*S Sn 14 45 45.6 +0.5
baz=291
YOJ **Yonaguni jima** 0.96 89 ⇓P Pn 14 45 32.3 -0.2
baz=80
YOJ *e*S Sn 14 45 45.6 +0.1
baz=80
YOJ **Yonaguni jima** 0.96 89 P Pn 14 45 32.4 -0.2
YOJ S Sn 14 45 46.4 +0.9
HSN **Hsinchu** 0.96 291 P Pn 14 45 32.1 -0.5
baz=294
HSN *e*S Sn 14 45 45.5 -0.1
baz=294
WPL **Puli Township** 1.01 244 ⇓*i*P Pn 14 45 33.2 0.0
baz=242
WPL *e*S Sn 14 45 46.7 -0.1
baz=242
NJN **Zhunan** 1.01 283 *e*P Pb 14 45 33.5 +0.2
baz=283
NJN *e*S Sn 14 45 47.0 +0.2
baz=283
VWDT **VWDT** 1.02 227 ⇓*i*P Pn 14 45 33.0 -0.4
baz=214
VWDT *e*S Sn 14 45 47.0 +0.1
baz=214
DPDB **Guoxing** 1.03 246 ⇓P Pb 14 45 33.7 0.0
baz=244
DPDB *e*S Sb 14 45 46.0 -0.8
baz=244
WCS **Beigang Elemen** 1.03 248 ⇓*e*P Pb 14 45 33.7 0.0
baz=245
WCS *e*S Sn 14 45 47.9 +0.6
baz=245
NMLH **Miaoli** 1.06 275 P Pb 14 45 34.5 +0.3
baz=273
NMLH *e*S Sn 14 45 48.3 +0.2
baz=273
HGSD **Ruisui** 1.07 207 ⇓P Pn 14 45 33.5 -0.6
baz=196
HGSD *e*S Sn 14 45 51.2 +2.9
baz=196
TWQ1 **Liyutan** 1.08 265 *e*P Pb 14 45 35.1 +0.5
baz=263

TWQ1				*e*S	**Sn**	**14 45 49.4**	**+0.8**
	baz=263								
NSY	**Sanyi**	**1.09**	**268**	⇑*i*P	**Pb**	**14 45 35.5**	**+0.8**
	baz=277								
NSY				*e*S	**Sn**	**14 45 51.0**	**+2.3**
	baz=277								
EHY	**Hungye**	**1.11**	**212**	*e*P	**Pn**	**14 45 33.0**	**-1.6**
	baz=218								
SMLT	**Sun Moon Lake**	**1.12**	**240**	⇓*i*P	**Pn**	**14 45 34.9**	**0.0**
	baz=224								
SMLT				*e*S	**Sb**	**14 45 49.2**	**-0.2**
	baz=224								
SSLB	**Suanglung**	**1.13**	**234**	⇓*i*P	**Pn**	**14 45 34.4**	**-0.5**
	baz=225								
SSLB				*e*S	**Sn**	**14 45 48.7**	**-1.1**
	baz=225								
TYC	**Yuchr**	**1.14**	**242**	⇓*i*P	**Pn**	**14 45 35.2**	**+0.1**
	baz=239								
TYC				*e*S	**Sb**	**14 45 50.7**	**+0.8**
	baz=239								
PCYT	**Pengchaiyu**	**1.18**	**5**	*e*P	**Pn**	**14 45 34.4**	**-1.2**
	baz=8.0								
PCYT				*e*S	**Sn**	**14 45 50.4**	**-0.5**
	baz=8.0								
WDJ	**Dajia District**	**1.20**	**265**	*e*P	**Pb**	**14 45 36.9**	**+0.3**
	baz=272								
WDJ				*e*S	**Sb**	**14 45 54.3**	**+2.5**
	baz=272								
TCU	**Taichung**	**1.21**	**256**	*e*P	**Pb**	**14 45 36.9**	**+0.3**
	baz=254								
TCU				*e*S	**Sb**	**14 45 54.5**	**+2.7**
	baz=254								
YULB	**Yu-li**	**1.22**	**210**	*e*P	**Pn**	**14 45 34.2**	**-1.9**
	baz=207								
YULB				*e*S	**Sb**	**14 45 52.9**	**+0.7**
	baz=207								
WWF	**Wufeng**	**1.22**	**251**	*e*P	**Pb**	**14 45 37.4**	**+0.6**
	baz=242								
WWF				*e*S	**Sb**	**14 45 55.4**	**+3.2**
	baz=242								
EYUL	**Yuli**	**1.25**	**208**	*e*P	**Pb**	**14 45 36.9**	**+0.4**
	baz=218								
TWF1	**Yuli**	**1.25**	**209**	*e*P	**Pn**	**14 45 34.9**	**-1.7**
	baz=218								
WHYT	**Xinyi Township**	**1.26**	**233**	*e*P	**Pb**	**14 45 37.2**	**-0.3**
	baz=227								
WHYT				*e*S	**Sb**	**14 45 55.5**	**+2.2**
	baz=227								
WJS	**Zhushan**	**1.29**	**241**	*e*P	**Pb**	**14 45 38.5**	**+0.5**
	baz=225								
WJS				*e*S	**Sb**	**14 45 56.6**	**+2.5**
	baz=225								
WNT1	**Nantou City**	**1.29**	**245**	*e*P	**Pb**	**14 45 38.7**	**+0.7**
	baz=243								
WNT1				*e*S	**Sb**	**14 45 55.7**	**+1.6**
	baz=243								
WNT	**Mingjian**	**1.30**	**244**	*e*P	**Pb**	**14 45 38.7**	**+0.5**
	baz=242								
WNT				*e*S	**Sb**	**14 45 56.3**	**+1.9**
	baz=242								
WCHH	**Zhanghua**	**1.33**	**254**	*e*P	**Pb**	**14 45 38.3**	**-0.4**
	baz=252								
WCHH				*e*S	**Sb**	**14 45 56.6**	**+1.3**
	baz=252								
YUS	**Yu-Shan**	**1.33**	**224**	*e*P	**Pn**	**14 45 38.0**	**0.0**
	baz=222								
FULB	**Fuli**	**1.39**	**206**	*e*P	**Pn**	**14 45 38.4**	**-0.1**
	baz=218								
ALS	**Alishan**	**1.41**	**229**	*e*P	**Pb**	**14 45 39.7**	**-0.6**
	baz=215								
ALS				*e*S	**Sn**	**14 45 56.3**	**-0.8**
	baz=215								
CHN5	**Tsauling**	**1.45**	**234**	*e*P	**Pb**	**14 45 40.6**	**-0.2**
	baz=232								
CHN5				*e*S	**Sb**	**14 46 00.3**	**+1.5**
	baz=232								
CHKT	**Chengkung**	**1.45**	**202**	*e*P	**Pn**	**14 45 37.8**	**-1.6**
	baz=185								
WGK	**Gukeng**	**1.49**	**239**	*e*P	**Pb**	**14 45 41.4**	**0.0**
	baz=237								
WGK				*e*S	**Sb**	**14 46 01.9**	**+2.0**
	baz=237								
WDLH	**Douliu**	**1.50**	**240**	*e*P	**Pb**	**14 45 42.1**	**+0.4**
	baz=225								
WDLH				*e*S	**Sb**	**14 46 03.4**	**+3.1**
	baz=225								
ELDTW	**Lidau**	**1.52**	**215**	*e*P	**Pn**	**14 45 39.6**	**-0.8**
	baz=201								
RLNB	**Erlin**	**1.56**	**249**	*e*P	**Pn**	**14 45 41.6**	**+0.8**
	baz=248								
EDH	**Donghe**	**1.59**	**202**	*e*P	**Pn**	**14 45 40.3**	**-0.9**
	baz=188								
IRIF	**Iriomote-Funau**	**1.62**	**94**	P	**Pn**	**14 45 41.5**	**-0.1**
IRIF				S	**Sn**	**14 46 02.1**	**+0.3**
WTK	**Tuku**	**1.62**	**242**	*e*P	**Pn**	**14 45 42.6**	**+0.9**
	baz=240								
WTK				*e*S	**Sb**	**14 46 05.8**	**+2.0**
	baz=240								
CHN2	**Minshiung**	**1.64**	**236**	*e*P	**Pb**	**14 45 43.8**	**-0.1**
	baz=234								
CHN2				*e*S	**Sb**	**14 46 07.0**	**+2.8**
	baz=234								
WTCT	**Ta-ch'eng**	**1.64**	**249**	*e*P	**Pn**	**14 45 42.3**	**+0.5**
	baz=248								
CHN4	**Tsaushan**	**1.66**	**229**	*e*P	**Pb**	**14 45 44.2**	**-0.2**
	baz=217								
CHN4				*e*S	**Sb**	**14 46 06.2**	**+1.3**
	baz=217								
TPUB	**Ta-pu**	**1.67**	**227**	*e*P	**Pb**	**14 45 43.8**	**-0.7**
	baz=215								
TPUB				*e*S	**Sb**	**14 46 06.9**	**+1.7**
	baz=215								
STYH	**Taoyuan**	**1.67**	**220**	*e*P	**Pn**	**14 45 43.0**	**+0.6**
	baz=219								
STYT	**Tauyuan**	**1.69**	**221**	*e*P	**Pn**	**14 45 43.3**	**+0.7**
	baz=219								
CHY	**Chiayi**	**1.69**	**236**	*e*P	**Pb**	**14 45 44.1**	**-0.8**
	baz=223								
LONT	**Longtian**	**1.72**	**206**	*e*P	**Pn**	**14 45 41.6**	**-1.4**
	baz=190								
WTP	**Ta-pu**	**1.72**	**226**	*e*P	**Pb**	**14 45 44.5**	**-0.9**
	baz=224								
HATJ	**Hateruma jima**	**1.73**	**103**	P	**Pb**	**14 45 44.8**	**-0.8**
HATJ				*e*S	**Sn**	**14 46 05.8**	**+1.2**
WSF	**Szhu**	**1.78**	**243**	*e*P	**Pn**	**14 45 44.7**	**+0.9**
	baz=241								
WSF				*e*S	**Sb**	**14 46 07.7**	**-0.7**
	baz=241								
TWK	**Hsinying**	**1.79**	**229**	*e*P	**Pb**	**14 45 45.6**	**-1.0**
	baz=227								
TWK				*e*S	**Sb**	**14 46 08.7**	**0.0**
	baz=227								
SNST	**Tainan City**	**1.81**	**228**	*e*P	**Pb**	**14 45 46.2**	**-0.8**
	baz=226								
TWGBT	**Beinan**	**1.82**	**206**	*e*P	**Pn**	**14 45 42.9**	**-1.5**
	baz=192								
TWG	**Pinlang**	**1.82**	**207**	*e*P	**Pn**	**14 45 43.0**	**-1.3**
	baz=192								
CHN1	**Nanshi**	**1.82**	**226**	*e*P	**Pb**	**14 45 46.1**	**-1.0**
	baz=224								
CHN1				*e*S	**Sb**	**14 46 10.4**	**+1.0**
	baz=224								
LDUT	**Ludao**	**1.83**	**194**	*e*P	**Pn**	**14 45 43.1**	**-1.4**
	baz=181								
TTN	**Taitung**	**1.85**	**204**	*e*P	**Pn**	**14 45 46.0**	**+1.2**
	baz=203								
SGST	**Jiashian**	**1.86**	**223**	*e*P	**Pn**	**14 45 45.4**	**+0.5**
	baz=209								
SGST				*e*S	**Sb**	**14 46 09.5**	**-1.0**
	baz=209								
ICHU	**Yijhu**	**1.88**	**235**	*e*P	**Pb**	**14 45 47.1**	**-1.0**
	baz=218								
ICHU				*e*S	**Sb**	**14 46 12.3**	**+1.1**
	baz=218								
JKRS	**Kuro-shima**	**1.89**	**96**	P	**Pn**	**14 45 46.0**	**+0.7**
JKRS				S	**Sn**	**14 46 09.0**	**+0.7**
SLGT	**Liugui**	**1.89**	**220**	*e*P	**Pb**	**14 45 47.2**	**-1.0**
	baz=219								
CHN8	**Yiju**	**1.94**	**236**	*e*P	**Pb**	**14 45 47.9**	**-1.3**
	baz=220								
CHN8				*e*S	**Sb**	**14 46 13.0**	**+0.1**
	baz=220								
JIJ	**Ishigaki jima**	**2.00**	**92**	P	**Pn**	**14 45 46.9**	**+0.1**
JIJ				S	**Sn**	**14 46 10.8**	**-0.3**
CHN3	**Shinhua**	**2.00**	**227**	*e*P	**Pb**	**14 45 49.3**	**-0.8**
	baz=225								
SCLT	**Jiali**	**2.06**	**232**	*e*P	**Pb**	**14 45 49.6**	**-1.5**
	baz=230								
SCST	**Cishan**	**2.06**	**221**	*e*P	**Pb**	**14 45 49.9**	**-1.3**
	baz=220								
ECL	**Taimali**	**2.06**	**207**	*e*P	**Pn**	**14 45 47.3**	**-0.5**
	baz=195								
SSD	**Sandimen**	**2.09**	**216**	*e*P	**Pb**	**14 45 50.1**	**-1.5**
	baz=201								
TSMG	**Majia**	**2.12**	**215**	*e*P	**Pb**	**14 45 50.4**	**-1.7**
	baz=201								
TWM1	**Shoushan**	**2.15**	**221**	*e*P	**Pb**	**14 45 52.0**	**-0.7**
	baz=220								
JISG	**Ishigakijimahi**	**2.15**	**86**	P	**Pn**	**14 45 48.9**	**0.0**
JISG				*e*S	**Sn**	**14 46 15.2**	**+0.4**
SGLT	**Jiouru**	**2.18**	**218**	*e*P	**Pb**	**14 45 52.8**	**-0.5**
	baz=217								
MASBT	**Mashibuluo**	**2.20**	**214**	*e*P	**Pn**	**14 45 50.7**	**+1.1**
	baz=200								
SNJT	**Kaohsiung City**	**2.25**	**222**	*e*P	**Pb**	**14 45 53.2**	**-1.3**
	baz=220								
EAST	**Anshuo**	**2.30**	**207**	*e*P	**Pn**	**14 45 51.7**	**+0.7**
	baz=196								
TAW	**Tawu**	**2.30**	**205**	*e*P	**Pn**	**14 45 50.1**	**-0.9**
	baz=194								
SSPT	**Xinbi**	**2.34**	**213**	*e*P	**Pb**	**14 45 54.5**	**-1.5**
	baz=200								
VWUC	**VWUC**	**2.34**	**284**	*e*P	**Pn**	**14 45 50.5**	**-1.0**
	baz=283								
PNG	**Penghu**	**2.37**	**249**	*e*P	**Pn**	**14 45 51.7**	**-0.2**
	baz=247								
PHUB	**P'eng-hu**	**2.37**	**247**	*e*P	**Pn**	**14 45 51.6**	**-0.4**
	baz=246								
SCZT	**Fangliau**	**2.41**	**211**	*e*P	**Pn**	**14 45 54.8**	**+2.3**
	baz=197								
WDGT	**Dungji**	**2.42**	**241**	*e*P	**Pn**	**14 45 52.6**	**+0.1**
	baz=239								
LAY	**Lan-yu**	**2.43**	**189**	*e*P	**Pn**	**14 45 51.1**	**-1.8**
	baz=177								
SLIU	**Shizi**	**2.47**	**206**	*e*P	**Pn**	**14 45 53.5**	**+0.2**
	baz=195								
MATB	**Ma-tsu**	**2.48**	**353**	*e*P	**Pn**	**14 45 51.5**	**-2.0**
	baz=312								
JTJ	**Tarama**	**2.51**	**85**	P	**Pn**	**14 45 54.7**	**+0.9**
JTJ				S	**Sn**	**14 46 25.1**	**+1.4**
MSUT	**Lienchiang**	**2.51**	**313**	*e*P	**Pn**	**14 45 52.2**	**-1.7**
	baz=312								
WLCH	**Liuqiu**	**2.55**	**215**	*e*P	**Pn**	**14 45 56.9**	**+2.5**
	baz=229								
TWP	**Hsiaoliuchiu**	**2.56**	**215**	*e*P	**Pb**	**14 45 59.5**	**-0.2**
	baz=229								
PTMZ	**Houxiangcun**	**2.64**	**283**	*e*P	**Pn**	**14 45 54.6**	**-1.1**
	baz=282								
HEN	**Hengchun**	**2.68**	**205**	*e*P	**Pb**	**14 45 59.1**	**-2.6**
	baz=197								
TWK1	**Hengchun**	**2.71**	**203**	*e*P	**Pn**	**14 45 57.3**	**+0.7**
	baz=191								
TWKBT	**Hengchun**	**2.71**	**203**	*e*P	**Pn**	**14 45 56.1**	**-0.6**
	baz=191								
TSEB	**Hengchuen, Pin**	**2.72**	**201**	*e*P	**Pn**	**14 45 58.2**	**+1.4**
	baz=191								
LYJJ	**Jianjiangzhen**	**2.88**	**317**	*e*P	**Pn**	**14 45 57.6**	**-1.3**
	baz=315								
XPSS	**Dashiqiu**	**2.94**	**328**	*e*P	**Pn**	**14 45 58.4**	**-1.3**
	baz=326								
JIRB	**Irabujima**	**2.95**	**82**	P	**Pn**	**14 46 00.8**	**+0.9**
JIRB				S	**Sn**	**14 46 36.1**	**+1.5**
JIKM	**Ikemajima**	**3.03**	**80**	P	**Pn**	**14 46 02.5**	**+1.5**
JIKM				S	**Sn**	**14 46 38.2**	**+1.6**
JMJ	**Miyako jima 2**	**3.06**	**83**	*e*P	**Pn**	**14 46 02.4**	**+1.0**
	baz=96								
JMJ2	**Miyako jima3**	**3.08**	**84**	P	**Pn**	**14 46 03.2**	**+1.5**
JMJ2				*e*S	**Sn**	**14 46 38.7**	**+0.8**
QZH	**Quanzhou**	**3.10**	**280**	Pn	**Pn**	**14 46 01.1**	**-0.9**
QZH				Sn	**Sn**	**14 46 36.0**	**-2.3**
QZH				smax	smax				
	comp=N,310nm,0.7s								
QZH				smax	smax				
	comp=E,150nm,0.6s								
MHZQ	**Yeshan**	**3.12**	**302**	*e*P	**Pn**	**14 46 00.6**	**-1.6**
	baz=300								
JOGS	**Gusukube**	**3.15**	**84**	P	**Pn**	**14 46 04.3**	**+1.6**
JOGS				*e*S	**Sn**	**14 46 42.3**	**+2.6**
KNM	**Kinmen**	**3.21**	**270**	*e*P	**Pn**	**14 46 04.4**	**+0.8**
	baz=269								
KNMB	**Chin-men Tao**	**3.25**	**271**	*e*P	**Pn**	**14 46 02.9**	**-1.2**
	baz=270								
AXDP	**Jialang**	**3.65**	**278**	*e*P	**Pn**	**14 46 08.8**	**-0.8**
	baz=276								
ZPLA	**Ao Xicun**	**3.88**	**263**	*e*P	**Pn**	**14 46 11.8**	**-0.9**
	baz=263								
JOW	**Kunigami**	**6.17**	**66**	P	**Pn**	**14 46 45.5**	**+1.2**
	6.1nm,0.3s,baz=142,slow=13,SNR=10								
NJ2	**Nanjing**	**8.05**	**341**	*e*P	**Pn**	**14 47 09.0**	**-1.0**
NJ2				S	**Sn**	**14 48 40.9**	**+0.6**
NJ2				smax	smax				
	comp=N,55nm,0.9s								
NJ2				smax	smax				
	comp=E,35nm,0.7s								
NJ2				LR	LR				
	comp=N,350nm,5.7s								
NJ2				LR	LR				
	comp=Z,220nm,6.4s								
WHN	**Wuhan**	**9.07**	**314**	⇑P	Pn	14 47 33.5	+9.4		
WHN				S	**Sn**	**14 49 11.5**	**+6.0**		
WHN				LR	LR				
	comp=N,400nm,7.4s								
WHN				LR	LR				
	comp=E,580nm,11.2s								
WHN				LR	LR				
	comp=Z,540nm,14.5s								
KSRS	**Korea Array**	**13.93**	**20**	P	**Pn**	**14 48 31.9**	**+1.5**		
	comp=Z,0.1nm,0.3s,baz=207,slow=14,SNR=2.7								
MJAR	**Matsushiro Arr**	**18.44**	**45**	LR	LR	14 56 33.4			
	comp=Z,68nm,18.9s,baz=330,slow=37								
USRK	**Ussuriysk Ar.**	**21.34**	**20**	P	**P**	**14 50 01.1**	**+1.3**		
	comp=Z,0.9nm,0.6s,baz=221,slow=12,SNR=2.5								
CMAR	**Chiang Mai Arr**	**22.22**	**259**	P	**P**	**14 50 11.2**	**+1.6**		
	comp=Z,0.2nm,0.4s,baz=62,slow=7.9,SNR=1.4								
CMAR				LR	LR	14 58 45.9			
	comp=Z,71nm,19.9s,baz=199,slow=36								
KLR	**Kul'dur**	**25.90**	**15**	P	**P**	**14 50 44.2**	**-0.4**		
	comp=Z,0.8nm,0.5s,baz=207,slow=9.0,SNR=3.3								
SONM	**Songino Array**	**26.40**	**336**	P	**P**	**14 50 49.2**	**-0.1**		
	comp=Z,3.9nm,1.0s,baz=152,slow=8.9,SNR=20								
WMQ	**Urumqi**	**33.98**	**313**	*e*P	**P**	**14 51 58.5**	**+2.1**		
MKAR	**Makanchi Array**	**38.64**	**315**	P	**P**	**14 52 35.7**	**-0.4**		
	comp=Z,0.7nm,0.5s,baz=100,slow=10,SNR=11								
ZALV	**Zalesovo Beam**	**40.41**	**327**	P	**P**	**14 52 49.6**	**-1.1**		
	comp=Z,0.8nm,0.5s,baz=101,slow=7.7,SNR=5.6								
KURBB	**Kurchatov Arra**	**42.36**	**319**	P	**P**	**14 53 06.2**	**-0.5**		
	comp=Z,0.3nm,0.3s,baz=114,slow=9.2,SNR=7.8								
WRA	**Warramunga Arr**	**45.75**	**164**	P	**P**	**14 53 33.2**	**-1.0**		
	comp=Z,0.5nm,0.5s,baz=346,slow=8.7,SNR=11								
WRA				PcP	**PcP**	**14 55 11.1**	**-0.8**		
	comp=Z,0.4nm,1.0s,baz=340,slow=2.5,SNR=1.4								
BVAR	**Borovoye Array**	**47.91**	**320**	P	**P**	**14 53 50.4**	**-0.5**		
	comp=Z,0.5nm,0.6s,baz=141,slow=7.4,SNR=4.5								
ASAR	**Alice Springs**	**49.22**	**165**	P	**P**	**14 54 00.7**	**-0.5**		
	comp=Z,0.3nm,0.3s,baz=343,slow=8.1,SNR=2.2								
KBZ	**Khabaz**	**65.86**	**309**	LR	LR	15 29 32.3			
	comp=Z,74nm,18.5s,baz=318,slow=40								
FINES	**FINESS Array B**	**71.57**	**330**	P	**P**	**14 56 32.5**	**-1.0**		
	comp=Z,1.4nm,0.7s,baz=57,slow=5.1,SNR=6.9								
YKA	**Yellowknife Ar**	**82.45**	**23**	P	**P**	**14 57 33.2**	**-1.4**		
	comp=Z,0.3nm,0.5s,baz=317,slow=4.4,SNR=5.7								

IDC ***14*** *14:58:49.2±2.1, 15°.67S×173°.10W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/31, mbtmp3.7/5, ML3.3/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/36, Error ellipse: s-maj=106.4km s-min=23.3km az=144.0*

NOU ***14*** *14:59:06.4, 13°.705×172°.76W, h88km, MLv2.9, Samoa Islands*

ISC 14 14:58:54.1±1.9, 15°.4S±0°.5×173°.2W±0°.4, h29km, n17, σ1s38/8, mb3.6/4, MS3.3/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.97**	**43**	Pn	**Pn**	**14 59 25.2**	**-0.5**
	9.1nm,0.3s,baz=218,slow=16,SNR=14						
AFI				Sn	**Sn**	**14 59 48.0**	**-1.4**
	27nm,0.3s,baz=252,slow=12,SNR=7.9						
AFI				LR	LR	14 59 58.9	
	comp=Z,177nm,20.0s,baz=258,slow=32						
AFI	**Afiamalu**	**1.97**	**43**	P	**Pn**	**14 59 25.9**	**+0.3**
DZM	**Mont Dzumac**	**20.42**	**248**	LR	LR	15 09 32.3	
	comp=Z,115nm,19.8s,baz=216,slow=32						
PPT	**Papeete**	**22.73**	**99**	LR	LR	15 10 23.1	
	comp=Z,31nm,19.2s,baz=5.0,slow=31						
URZ	**Urewera**	**24.37**	**199**	LR	LR	15 12 36.3	
	comp=Z,118nm,19.0s,baz=31,slow=34						
H11S2	**WAKE ISLAND Hy**	**39.04**	**329**	T	T	15 46 46.5	
	baz=149,slow=76,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**39.05**	**329**	T	T	15 46 47.3	
	baz=149,slow=76,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**39.05**	**329**	T	T	15 46 47.6	
	baz=149,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	15 48 11.8	
	baz=150,slow=76,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**39.99**	**330**	T	T	15 48 05.0	
	baz=150,slow=76,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	15 48 03.0	
	baz=150,slow=76,SNR=8.9						
WRA	**Warramunga Arr**	**50.07**	**257**	P	**P**	**15 07 45.3**	**-1.4**
	0.7nm,1.0s,baz=96,slow=6.8,SNR=2.4						
ASAR	**Alice Springs**	**50.33**	**252**	P	**P**	**15 07 47.6**	**-1.1**
	2.8nm,0.8s,baz=83,slow=7.9,SNR=27						
NWAO	**Narrogin (SRO)**	**64.83**	**241**	LR	LR	15 36 13.0	
	comp=Z,117nm,20.1s,baz=236,slow=35						
TXAR	**Lajitas Array**	**80.41**	**56**	P	**P**	**15 11 03.6**	**+0.3**
	0.1nm,0.5s,baz=225,slow=5.9,SNR=1.3						
ILAR	**Eielson Array**	**82.36**	**11**	P	**P**	**15 11 14.5**	**+1.7**
	0.7nm,1.1s,baz=212,slow=4.9,SNR=5.2						
BRTR	**Keskin Array B**	**146.26**	**321**	PKPbc	**PKPab**	**15 18 34.1**	**+1.0**
	1.0nm,0.9s,baz=53,slow=3.9,SNR=3.1						

BJI ***14*** *15:36:07.7±0.0, 34°.51N×141°.51E, h12km, mB5.0/59, mb5.1/83, Ms5.3/93, Ms7.5.1/88*

NEIC ***14*** *15:36:08.8±2.3, 34°.29N±0°.05×141°.66E±0°.08, h7km±3km, mb5.4/136, Ms_20 4.9/73, Error ellipse: s-maj=10.2km s-min=7.4km az=107.0*

NIED ***14*** *15:36:10.3, 34°.29N×141°.59E, h32km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr1.58; Mθθ1.19; Mϕϕ-2.77; Mrθ6.08; Mθϕ1.98; Mϕr-3.23; Fault plane solution: M₀7.56000×10¹⁶ NP1: ϕs121.00000°, δ84.00000°, λ69.00000°. NP2:ϕs14.00000°, δ22.00000°, λ162.00000°.*

JMA ***14*** *15:36:10.3±0.5, 34°.29N×141°.59E, h32km±2km, M5.3*

MOS ***14*** *15:36:12.7±1.0, 34°.75N×141°.53E, h27km, mb5.5/85, MS5.0/38, Error ellipse: s-maj=7.3km s-min=3.6km az=116.7*

GCMT ***14*** *15:36:12.8±0.2, 34°.24N±0°.01×141°.47E±0°.01, h14km, MW5.0/98, Moment Tensor Solution. s45,c66; s98,c163; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.45±.16; Mθθ-0.66±.10; Mϕϕ-2.79±.10; Mrθ2.01±.28; Mθϕ2.75±.07; Mϕr-1.51±.22; Best double couple: M₀4.81100×10¹⁶ NP1:ϕs342.00000°, δ32.00000°, λ116.00000°. NP2: ϕs133.00000°, δ62.00000°, λ75.00000°. Principal axes: T 4.2940, Plg70.0000°, Azm111.0000°; N 1.0340, Plg13.0000°, Azm140.0000°; P -5.3280, Plg15.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***14*** *15:36:13.5±1.3, 34°.24N×141°.48E, h36km±9km, mb4.9/42, mb1 5.0/48, mb1mx4.9/55, mbtmp5.1/48, ML4.3/3, MS4.8/36, Ms1 4.8/36, ms1mx4.6/46 Error ellipse: s-maj=9.0km s-min=8.1km az=110.0*

BGR ***14*** *15:36:14.7±0.0, 35°.06N×142°.24E, h33km, mb5.5, Ms5.2*

ISC 14 15:36:10.1±0.5, 34°.31N±0°.03×141°.60E±0°.03, h17km±2km, h17km:pP-P, n807, σ1s66/862, mb5.3/277, MS5.0/109, 110C-30D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.62**	**304**	P	**Pg**	**15 36 22.4**	**+0.3**
BSO3	**Boso 3**	**1.02**	**299**	P	**Pb**	**15 36 29.1**	**-0.1**
BSO4	**Boso 4**	**1.24**	**303**	⇑P	**Pn**	**15 36 32.7**	**+0.1**
KTR	**Katsuura**	**1.35**	**309**	P	**Pn**	**15 36 33.8**	**-0.4**
JKUC	**kamogawauchiur**	**1.43**	**307**	⇓P	**Pn**	**15 36 34.6**	**-0.7**
JKUC				*e*S	**Sn**	**15 36 52.5**	**-1.2**
CHOJ	**Chosi**	**1.52**	**337**	⇑P	**Pn**	**15 36 35.9**	**-0.6**
JSMT	**Sammumatsuo**	**1.63**	**325**	P	**Pn**	**15 36 38.3**	**+0.2**
JMKN	**Mikurajimanish**	**1.72**	**257**	P	**Pn**	**15 36 38.9**	**-0.4**
JIM2	**Oshima 3**	**1.83**	**283**	P	**Pn**	**15 36 39.9**	**-1.0**
JIM2				S	**Sn**	**15 37 01.6**	**-2.2**
JHJ2	**Mitsune**	**1.91**	**232**	P	**Pn**	**15 36 41.8**	**-0.1**
JHJ2	**Mitsune**	**1.91**	**232**	Pn	**Pn**	**15 36 42.1**	**+0.2**
JHJ	**Hachijo jima 2**	**1.92**	**232**	Pn	**Pn**	**15 36 42.0**	**-0.1**
	1µm,0.3s,baz=46,slow=4.0,SNR=552						
JHJ				Sn	**Sn**	**15 37 04.8**	**-1.1**
	1µm,0.3s,baz=284,slow=14,SNR=8.1						
JYT	**Yasato**	**2.23**	**329**	Pn	**Pn**	**15 36 45.7**	**-0.6**
JOD2	**Odawara 2**	**2.27**	**295**	⇓P	**Pn**	**15 36 46.4**	**-0.6**
JIZS	**Izushimoda**	**2.28**	**281**	P	**Pn**	**15 36 47.1**	**+0.1**
JAOM	**Aogashimamukai**	**2.40**	**220**	P	**Pn**	**15 36 49.2**	**+0.6**
JSG	**Sagara**	**2.84**	**278**		**Pn**	**15 36 55.9**	**+1.2**
ONAJ	**Iwakimizuishiy**	**2.86**	**347**	⇑P	**Pn**	**15 36 53.8**	**-1.2**
JFFD	**Fukushimafurud**	**2.90**	**343**	⇑P	**Pn**	**15 36 54.4**	**-1.2**
JFFD				S	**Sn**	**15 37 27.6**	**-2.4**
JFK	**Kawauchi**	**3.11**	**349**	⇑P	**Pn**	**15 36 56.9**	**-1.5**
JFT	**Otama**	**3.36**	**343**	⇑P	**Pn**	**15 37 01.7**	**-0.2**
JFY	**Yanaizu**	**3.45**	**334**	⇑P	**Pn**	**15 37 03.2**	**+0.1**
JMST	**Minamisoumatoc**	**3.46**	**351**	⇑P	**Pn**	**15 37 01.7**	**-1.5**
MJAR	**Matsushiro Arr**	**3.55**	**310**	Pn	**Pn**	**15

12nm,0.3s,baz=226,slow=9.3,SNR=72
ASAJ Sn **Sn** **15 40 14.7 -5.7**
7.8nm,0.3s,baz=228,slow=33,SNR=7.0
ASAJ LR LR 15 42 53.9
comp=Z,2µm,18.3s,baz=194,slow=40
ASAJ Asahikawa 9.82 4 P **Pn** **15 38 27.2 -3.4**
JKA Kamikawa-asahi 9.82 4 **Pn** **15 38 27.2 -3.3**
RUSJ Misakicho 10.18 15 *e*P Pn 15 38 30.2 -5.2
RUSJ *e*S Sn 15 40 18.7 -10
GRR Tuman 10.20 17 *e*P Pn 15 38 30.5 -5.1
GRPR *e*S Sn 15 40 16.8 -13
GRPR pmax pmax
comp=E,33nm,0.5s
GRPR pmax pmax
comp=Z,82nm,0.5s
GRPR pmax pmax
comp=N,24nm,0.1s
YUK Yuzh-Kuril'sk 10.26 18 *e*P **Pn** **15 38 32.0 -4.5**
YUK *i* S Sn 15 40 19.9 -11
YUK pmax pmax
comp=Z,105nm,0.3s
YUK pmax pmax
comp=E,13nm,0.2s
TEY Ternei 11.38 342⇑ *e*P **Pn** **15 38 51.0 -0.8**
TEY pmax pmax
comp=N,30nm,1.0s
TEY pmax pmax
comp=E,10.0nm,1.4s
TEY pmax pmax
comp=Z,40nm,1.0s
TEY MLR MLR
comp=E,400nm,15.0s
TEY MLR MLR
comp=N,500nm,16.0s
TEY MLR MLR
comp=Z,500nm,17.0s
KSRS Korea Array 11.53 290 Pn **Pn** **15 38 56.2 +2.3**
comp=Z,0.6nm,0.3s,baz=105,slow=14,SNR=61
KSRS LR LR 15 43 52.0
comp=Z,5µm,18.0s,baz=99,slow=40
KS19 Wonju Array Si 11.58 290 **Pn** **15 38 57.6 +2.9**
MSHR Mys Shultsa 11.62 318 *i* P **Pn** **15 38 55.0 -0.1**
MSHR MLR MLR
comp=Z,8µm,15.0s
TJN Taejon 11.81 284 *d i*P **Pn** **15 39 00.9 +3.2**
KUR Kuril'sk 11.92 22 *e*P **Pn** **15 38 56.9 -2.3**
KUR *e*S Sn 15 41 02.4 -9.4
KUR pmax pmax
comp=Z,210nm,1.4s
KUR pmax pmax
comp=N,11nm,0.3s
KUR pmax pmax
comp=E,6.0nm,0.3s
KUR pmax pmax
comp=Z,16nm,0.3s
KUR MLR MLR
comp=N,2µm,11.0s
KUR MLR MLR
comp=E,2µm,13.0s
JMZ Minamidaito 2 12.34 229 **Pn** **15 39 07.7 +2.7**
USA0B Ussuriysk Arra 12.36 326 *c i*P **Pn** **15 39 04.9 -0.4**
USA0B Ussuriysk Arra 12.36 326 **Pn** **15 39 04.8 -0.4**
USRK Ussuriysk Ar. 12.36 326 Pn **Pn** **15 39 05.0 -0.3**
baz=138,slow=12,SNR=61
USRK LR LR 15 44 01.9
comp=E,4µm,19.5s,baz=124,slow=38
USRK Ussuriysk Ar. 12.36 326 P **Pn** **15 39 05.0 -0.3**
YSS Yuzh-Sakhalins 12.66 4 *e*P **Pn** **15 39 06.6 -2.7**
YSS *e*S **Sn** **15 41 21.1 -8.8**
YSS pmax pmax
comp=Z,220nm,0.9s
YSS smax smax
comp=N,60nm,1.0s
YSS smax smax
comp=E,500nm,4.4s
YSS MLR MLR
comp=Z,6µm,13.0s
YSS MLR MLR
comp=N,5µm,16.0s
YSS Yuzh-Sakhalins 12.66 4 **Pn** **15 39 05.8 -3.6**
JOW Kunigami 13.68 241 Pn **Pn** **15 39 23.4 0.0**
baz=73,slow=18,SNR=1.3
JOW LR LR 15 45 04.7
comp=N,3µm,18.4s,baz=96,slow=39
MDJ Mudanjiang 13.84 322 P **Pn** **15 39 24.8 -0.6**
MDJ S **Sn** **15 42 01.3 +2.6**
MDJ PcP **PcP** **15 44 47.0 -0.9**
MDJ ScP **ScP** **15 48 19.1 -1.5**
MDJ ScS **ScS** **15 51 56.3 -1.3**
MDJ pmax pmax
comp=N,77nm,1.0s
MDJ pmax pmax
comp=N,580nm,9.5s
MDJ LR LR
comp=N,10µm,13.5s
MDJ LR LR
comp=N,2µm,12.1s
MDJ LR LR
comp=N,9µm,15.8s
MDJ Mudanjiang 13.84 322 **Pn** **15 39 24.4 -1.0**
UGL Uglegorsk 14.76 1 *e*P **P** **15 39 46.1 +2.2**
UGL pmax pmax
comp=Z,900nm,3.8s
UGL pmax pmax
comp=Z,305nm,1.3s
UGL pmax pmax
comp=E,208nm,1.1s
UGL MLR MLR
comp=N,4µm,16.0s
UGL MLR MLR
comp=E,2µm,16.0s
UGL MLR MLR
comp=Z,6µm,16.0s
CN2 Changchun 15.70 312 *e*P **Pn** **15 39 50.3 -0.2**
CN2 sP P 15 39 55.3 +0.9
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 LR LR
comp=Z,8µm,17.0s
CN2 LR LR
comp=Z,7µm,16.0s
CN2 LR LR
comp=Z,6µm,16.0s
TYV Tymovskoe 16.56 2 *e*P **Pn** **15 39 57.7 -3.7**
TYV *e* 15 43 00.5
TYV pmax pmax
comp=Z,40nm,1.4s
TYV MLR MLR
comp=Z,6µm,16.0s
TYV MLR MLR
comp=E,4µm,13.0s
KLR Kul'dur 16.60 337 Pn **Pn** **15 39 58.6 -3.3**
comp=E,0.3nm,0.3s,baz=140,slow=12,SNR=21
KLR LR LR 15 47 03.1
comp=E,6µm,18.2s,baz=152,slow=39
KLR Kul'dur 16.60 337 *ce*P **Pn** **15 39 57.7 -4.2**
KLR pmax pmax
comp=Z,10.0nm,0.9s
KLR MLR MLR
comp=Z,6µm,17.0s
DL2 Dalian 16.67 292 P **P** **15 40 04.4 -0.8**
DL2 S **Sn** **15 43 09.3 +1.6**
DL2 pmax pmax
comp=Z,94nm,1.0s
DL2 pmax pmax
comp=Z,1µm,8.0s
DL2 LR LR
comp=Z,5µm,11.9s
DL2 LR LR
comp=Z,8µm,14.7s
DL2 LR LR
comp=Z,10µm,14.6s
GRNR Gornyy 16.88 349⇑ *i*P **Pn** **15 40 01.0 -4.5**
GRNR *e*S **Sn** **15 43 08.0 -4.5**
GRNR pmax pmax
comp=E,4.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR pmax pmax
comp=N,10.0nm,1.0s
GRNR smax smax
comp=N,2.0nm,0.9s
GRNR MLR MLR
comp=E,1µm,15.0s
GRNR MLR MLR
comp=N,2µm,14.0s
GRNR MLR MLR
comp=Z,4µm,15.0s
SSE Sheshan 17.48 265 P **P** **15 40 18.9 +4.8**
SSE S **Sn** **15 43 28.6 +1.4**
SSE pmax pmax
comp=Z,7.0nm,0.9s
SSE pmax pmax
comp=Z,570nm,9.0s
SSE LR LR
comp=N,3µm,15.7s
SSE LR LR
comp=E,2µm,16.3s
NKL Nikolayevsk 18.84 358 *e*P **P** **15 40 29.2 +0.1**
NKL pmax pmax
comp=N,8.0nm,1.2s
NKL pmax pmax
comp=E,68nm,1.1s
NKL pmax pmax
comp=Z,56nm,1.1s
NKL MLR MLR
comp=E,10µm,21.0s
NKL MLR MLR
comp=N,283nm,24.0s
NKL MLR MLR
comp=Z,3µm,15.0s
NJ2 Nanjing 19.17 270 *e*P **P** **15 40 32.1 -0.7**
NJ2 pP **sP** **15 40 37.1 +0.2**
NJ2 S **Sn** **15 44 06.8 -1.3**
NJ2 sS **sS** **15 44 16.6 +2.7**
NJ2 pmax pmax
comp=Z,19nm,0.6s
NJ2 pmax pmax
comp=Z,910nm,10.0s
NJ2 LR LR
comp=Z,6µm,15.2s
NJ2 LR LR
comp=Z,4µm,17.5s
NJ2 LR LR
comp=Z,4µm,18.9s
SKR Severo-Kuril's 19.49 29 *e*P **P** **15 40 31.9 -4.3**
SKR pmax pmax
comp=Z,1µm,4.4s
SKR pmax pmax
comp=Z,56nm,0.9s
TATO Taipei 19.77 247 P **P** **15 40 39.8 +0.4**
TIA Tai'an 20.07 282 P Pn 15 40 43.8 -0.6
TIA LR LR
comp=Z,3µm,12.2s
TIA LR LR
comp=Z,4µm,16.3s
TIA LR LR
comp=Z,6µm,16.5s
YULB Yu-li 20.81 244 P **P** **15 40 47.7 -3.0**
SSLB Suanglung 20.84 245 P **P** **15 40 48.2 -2.9**
BJI Beijing 21.02 293 P **P** **15 40 53.5 +0.7**
BJI S **S** **15 44 49.1 +2.9**
BJI pmax pmax
comp=Z,20nm,0.5s
BJI LR LR
comp=Z,3µm,15.9s
BJI LR LR
comp=Z,3µm,14.5s
BJI LR LR
comp=Z,1µm,15.7s
BJT Baijiatuau 21.02 293 P **P** **15 40 50.6 -2.3**
BJT pmax pmax
comp=Z,54nm,1.4s
BJT MLR MLR
comp=Z,2µm,20.0s
BJT Baijiatuau 21.02 293 P **P** **15 40 50.6 -2.3**
TWG Pinlang 21.31 243 P **P** **15 40 54.4 -1.8**
TPUB Ta-pu 21.36 245 P **P** **15 40 55.4 -1.3**
ZEA Zeya 21.91 337 *e*P **P** **15 41 00.5 -1.9**
ZEA *e*S **S** **15 44 57.1 -6.5**
ZEA pmax pmax
comp=N,400nm,1.3s
ZEA pmax pmax
comp=Z,600nm,1.3s
ZEA pmax pmax
comp=E,100nm,0.9s
ZEA pmax pmax
comp=N,320nm,1.1s
ZEA pmax pmax
comp=Z,500nm,1.0s
ZEA smax smax
comp=N,900nm,8.0s
ZEA MLR MLR
comp=E,1µm,14.0s
ZEA MLR MLR
comp=N,2µm,16.0s
ZEA MLR MLR
comp=Z,3µm,15.0s
HIA Hailar 22.00 319 P **P** **15 41 03.0 -0.4**
HIA pmax pmax
comp=Z,63nm,1.0s
HIA MLR MLR
comp=Z,4µm,18.0s
HIA Hailar 22.00 319 P **P** **15 41 03.0 -0.4**
HIA Hailar 22.00 319 IAMs_20 IAMs_20 15 50 21.0
comp=Z,4µm,18.0s
PETK Petropavlovsk- 22.01 26 P **P** **15 41 04.8 +1.3**
comp=Z,20nm,1.0s,baz=202,slow=9.2,SNR=23
PETK LR LR 15 53 22.8
comp=Z,968nm,18.0s,baz=228,slow=46
QZH Quanzhou 22.03 251 P **P** **15 41 08.5 +4.7**
QZH LR LR
comp=Z,2µm,17.9s
QZH LR LR
comp=Z,2µm,15.2s
QZH LR LR
comp=Z,2µm,14.2s
PET Petropavlovsk 22.30 28 *e*P **P** **15 41 07.2 +0.7**
PET *e*S **S** **15 45 05.6 -5.4**
PET pmax pmax
comp=Z,95nm,1.1s
PET pmax pmax
comp=Z,1µm,17.3s
PET MLR MLR
comp=Z,2µm,17.0s
PET MLR MLR
comp=Z,2µm,16.0s
WHN Wuhan 23.28 268 P **P** **15 41 17.3 +0.4**
WHN S **S** **15 45 20.3 -8.3**
WHN pmax pmax
comp=Z,130nm,0.8s
WHN pmax pmax
comp=Z,570nm,4.9s
WHN LR LR
comp=Z,6µm,14.0s
WHN LR LR
comp=Z,12µm,13.3s
WHN LR LR
comp=Z,13µm,13.3s
TIY Taiyuan 23.79 287 *e*P **P** **15 41 25.0 +3.0**
TIY S **S** **15 45 34.8 -2.2**
TIY pmax pmax
comp=Z,45nm,0.5s
TIY LR LR
comp=Z,2µm,15.0s
TIY LR LR
comp=Z,4µm,14.6s
TIY LR LR
comp=Z,6µm,15.4s
HHC Hu-ho-hao-te 24.61 294 *e*P **P** **15 41 30.3 +0.7**
HHC S **S** **15 45 47.8 -2.2**
HHC pmax pmax
comp=Z,52nm,1.1s
HHC pmax pmax
comp=Z,220nm,6.6s
HHC LR LR
comp=Z,3µm,13.5s
HHC LR LR
comp=Z,3µm,15.3s
HHC LR LR
comp=Z,4µm,14.7s
BTO Baotou 25.75 293 *e*P **P** **15 41 41.6 +1.6**
BTO S **S** **15 46 12.1 +3.7**
BTO pmax pmax
comp=Z,98nm,0.9s
BTO LR LR
comp=Z,14µm,15.8s
BTO LR LR
comp=Z,11µm,13.4s
BTO LR LR
comp=Z,15µm,15.3s
MA2 Magadan 25.99 11 P **P** **15 41 42.9 +1.1**
comp=Z,54nm,0.8s,baz=199,slow=8.4,SNR=101
MA2 PcP **PcP** **15 45 11.0 +1.4**
comp=Z,4.7nm,0.7s,baz=141,slow=18,SNR=2.5
MA2 LR LR 15 54 49.5
comp=Z,2µm,18.0s,baz=182,slow=43
MA2 Magadan 25.99 11 *ce*P **P** **15 41 42.4 +0.6**
MA2 pmax pmax
comp=Z,178nm,1.7s
MA2 MLR MLR
comp=Z,2µm,16.0s
MA2 Magadan 25.99 11 P **P** **15 41 42.8 +1.1**
MA2 IAmb IAmb 15 41 45.5
comp=Z,79nm,0.8s
H11N2 WAKE ISLAND Hy 26.71 116 T T 16 10 00.3
baz=305,slow=74
H11N1 WAKE ISLAND Hy 26.72 116 T T 16 10 02.0
baz=305,slow=74
H11N3 WAKE ISLAND Hy 26.73 116 T T 16 10 01.9
baz=305,slow=74
CIT Chita 26.80 320 *e*P **P** **15 41 49.9 +0.6**
CIT *e* 15 41 57.4
CIT *e* 15 42 28.3
CIT *e* 15 42 40.6
CIT pmax pmax
comp=Z,153nm,1.4s
XAN Xi'an 26.98 279 P **P** **15 41 50.4 -0.6**
XAN pP sP 15 41 55.6 +0.3
XAN PP pwP 15 42 39.4 +36
XAN S **S** **15 46 18.3 -9.4**
XAN PcS **PcS** **15 48 55.5 +1.5**
XAN pmax pmax
comp=Z,50nm,0.9s
XAN pmax pmax
comp=Z,120nm,3.1s
XAN LR LR
comp=Z,3µm,16.7s
XAN LR LR
comp=Z,5µm,15.5s
XAN LR LR
comp=Z,8µm,15.1s
XAN Xi'an 26.98 279 P **P** **15 41 48.6 -2.5**
XAN pmax pmax
comp=Z,34nm,0.8s
XAN MLR MLR
comp=Z,3µm,20.0s
XAN Xi'an 26.98 279 P **P** **15 41 48.5 -2.5**
XAN Xi'an 26.98 279 IAMs_20 IAMs_20 15 54 01.8
comp=Z,3µm,20.0s
H11S3 WAKE ISLAND Hy 27.34 119 T T 16 10 49.8
baz=314,slow=74
H11S1 WAKE ISLAND Hy 27.34 119 T T 16 10 42.7
baz=314
H11S2 WAKE ISLAND Hy 27.35 119 T T 16 10 43.0
baz=314,slow=74
ENH Enshi 27.38 271 P **P** **15 41 52.2 -2.5**
ENH IAmb IAmb 15 42 08.5
comp=Z,47nm,0.8s
ENH IAMs_20 IAMs_20 15 54 11.4
comp=Z,3µm,18.0s
TGY Tagaytay City 27.46 228 LR LR 15 52 33.5
comp=Z,1µm,19.1s,baz=108,slow=36
YAK Yakutsk 28.76 348 P **P** **15 42 07.2 +0.6**
comp=Z,20nm,0.6s,baz=164,slow=0.7,SNR=36
YAK LR LR 15 54 21.0
comp=Z,3µm,18.2s,baz=156,slow=38
YAK Yakutsk 28.76 348 *c i*P **P** **15 42 06.5 0.0**
YAK *e**PP **sP** **15 42 12.4 +1.3**
YAK *e* 15 42 58.8
YAK *e*SS SS 15 48 18.6 -38
YAK *e* 15 52 46.5
YAK pmax pmax
comp=Z,139nm,1.2s
YAK pmax pmax
comp=N,70nm,1.2s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,146nm,1.5s
YAK pmax pmax
comp=N,84nm,1.3s
YAK pmax pmax
comp=E,55nm,1.7s
YAK MLR MLR
comp=Z,5µm,13.0s
YAK MLR MLR
comp=N,3µm,13.0s
YAK MLR MLR
comp=E,524nm,12.0s
YAK Yakutsk 28.76 348 P **P** **15 42 05.5 -1.1**
YAK IAMs_20 IAMs_20 15 54 00.7
comp=Z,3µm,19.0s
ULN Ulaanbaatar 29.08 308 *ce*P **P** **15 42 10.0 +0.2**
ULN pmax pmax
comp=Z,48nm,1.0s
ULN Ulaanbaatar 29.08 308 P **P** **15 42 10.4 +0.5**
ULN IAmb IAmb 15 42 26.1
comp=Z,44nm,0.9s
ULN Ulaanbaatar 29.08 308 IAMs_20 IAMs_20 15 55 00.4
comp=Z,4µm,18.0s
ULN Ulaanbaatar 29.08 308 P **P** **15 42 11.0 +1.2**
BUTP Butuan 29.18 214 *e*P P 15 42 02.8 -7.9
SEY Seymchan 29.43 10 P **P** **15 42 14.2 +1.6**
comp=Z,18nm,0.9s,baz=192,slow=7.2,SNR=77
SEY Seymchan 29.43 10*c i*P **P** **15 42 13.9 +1.3**
SONM Songino Array 29.50 308 P **P** **15 42 14.3 +0.8**
comp=Z,32nm,0.8s,baz=108,slow=8.4,SNR=225
SONM PcP **PcP** **15 45 19.7 +1.1**
comp=Z,4.0nm,0.7s,baz=108,slow=2.4,SNR=4.6
SONM LR LR 15 55 07.2
comp=Z,4µm,18.1s,baz=108,slow=38
SONM Songino Array 29.50 308 P **P** **15 42 13.9 +0.4**
SONM pmax pmax
comp=Z,33nm,0.8s
SONM Songino Array 29.50 308 P **P** **15 42 13.9 +0.4**
SONM IAmb IAmb 15 42 31.5
comp=Z,32nm,0.8s
BOD Bodaibo 29.94 330 *e*P **P** **15 42 16.9 -0.2**
BOD pmax pmax
comp=Z,98nm,1.4s
MATI Mati 30.70 211 *e*P **P** **15 42 20.4 -3.8**
LZH Lanzhou 30.78 284 *e*P **P** **15 42 27.8 +2.8**
LZH pP sP 15 42 33.3 +4.1
LZH sP pwP 15 42 36.4 -1.1
LZH S **S** **15 47 24.6 -3.1**
LZH sS sS 15 47 39.0 +6.3
LZH SS **SnSn** **15 49 08.0 +1.7**
LZH pmax pmax
comp=Z,33nm,1.2s
LZH pmax pmax
comp=Z,200nm,5.4s
LZH LR LR
comp=Z,4µm,13.0s
LZH LR LR
comp=Z,4µm,12.5s
LZH LR LR
comp=Z,3µm,14.6s
GYA Guiyang 31.02 265⇑ P **P** **15 42 27.3 +0.2**
GYA PP **PP** **15 43 30.8 -6.4**
GYA S S 15 47 20.8 -11
GYA pmax pmax
comp=Z,22nm,0.6s
GYA LR LR
comp=Z,4µm,16.7s
GYA LR LR
comp=Z,1µm,14.2s
GYA LR LR
comp=Z,2µm,17.1s
KCP Kidapawan 31.15 213‖ *e*P P 15 42 39.0 +11
PAGZ Pagadian 31.23 217 *e*P **P** **15 42 25.9 -2.9**
SKMP Bagumbayan, Su 31.83 214 *e*P P 15 42 46.6 +12
CD2 Chengdu 31.93 275 P **P** **15 42 34.5 -0.6**
CD2 pP sP 15 42 41.4 +2.1
CD2 S **S** **15 47 38.8 -6.8**
CD2 sS sS 15 47 57.6 +7.0
CD2 pmax pmax
comp=Z,140nm,0.7s
CD2 pmax pmax
comp=Z,110nm,4.0s
CD2 LR LR
comp=Z,6µm,18.7s
CD2 LR LR
comp=Z,5µm,15.1s
CD2 LR LR
comp=Z,7µm,14.4s
QIZ Qiongzhong 32.04 250 P **P** **15 42 35.9 -0.1**
QIZ S **S** **15 47 48.0 +0.7**
QIZ LR LR

QIZ comp=Z,1µm,17.7s
QIZ LR LR
QIZ comp=Z,610nm,13.7s
QIZ LR LR
QIZ comp=Z,1µm,15.2s
IRK Irkutsk 32.09 315 *e*P **P 15 42 36.6 +0.4**
IRK pmax pmax
IRK comp=Z,76nm,2.4s
ZAK Zakamensk 32.13 312 *e*P **P 15 42 37.2 +0.5**
ZAK pmax pmax
ZAK comp=Z,53nm,1.0s
TLY Talaya 32.28 314 P **P 15 42 39.0 +1.1**
TLY comp=Z,24nm,0.9s,baz=118,slow=5.6,SNR=14
TLY LR LR 15 56 54.0
TLY comp=Z,2µm,18.1s,baz=109,slow=38
TLY Talaya 32.28 314 *e*P **P 15 42 38.8 +0.9**
TLY *e* 15 43 50.1
TLY *e*S **S 15 47 51.3 +0.8**
TLY *e*SSS SSS 15 49 37.2
TLY pmax pmax
TLY comp=Z,118nm,1.1s
TLY MLR MLR
TLY comp=Z,9µm,14.0s
TLY Talaya 32.28 314 IAMs_20 IAMs_20 15 57 01.0
GTA Gaotai 33.60 291 ⇑P **P 15 42 50.3 +0.7**
GTA pP sP 15 42 57.9 +4.0
GTA sP pwP 15 43 00.8 -0.6
GTA S **S 15 48 10.6 -0.9**
GTA ScP **ScP 15 49 14.3 +0.7**
GTA ScS **ScS 15 53 13.0 -1.9**
GTA pmax pmax
GTA comp=Z,13nm,0.9s
GTA pmax pmax
GTA comp=Z,170nm,6.4s
GTA LR LR
GTA comp=Z,1µm,14.5s
GTA LR LR
GTA comp=Z,3µm,15.3s
GTA LR LR
GTA comp=Z,3µm,17.1s
MOY Mondy 33.86 313 *e*P **P 15 42 52.3 +0.5**
MOY pmax pmax
MOY comp=Z,42nm,1.3s
KMI Kunming 34.79 265 ⇓P **P 15 43 01.6 +1.3**
KMI pP sP 15 43 08.4 +3.9
KMI sP pwP 15 43 11.0 -1.7
KMI PP **PnPn 15 44 17.3 +0.8**
KMI S **S 15 48 31.6 +1.2**
KMI sS sS 15 48 39.3 +3.9
KMI SS **SnSn 15 50 39.9 -4.3**
KMI pmax pmax
KMI comp=Z,13nm,0.7s
KMI pmax pmax
KMI comp=Z,83nm,4.0s
KMI LR LR
KMI comp=Z,2µm,13.5s
KMI LR LR
KMI comp=Z,4µm,15.1s
KMI LR LR
KMI comp=Z,4µm,15.2s
KMI Kunming 34.79 265 IAMs_20 IAMs_20 15 58 20.0
comp=Z,3µm,18.0s
SLVN Son La 35.55 259 IAMs_20 IAMs_20 16 00 08.2
comp=Z,1µm,18.0s
TNTI Ternate 35.92 205 P **P 15 43 09.7 0.0**
comp=Z,48nm,1.0s
MYLDM Lahad Datu 36.04 222 IAMs_20 IAMs_20 15 59 40.2
comp=Z,2µm,18.0s
SWI Sorong 36.31 198 P **P 15 43 12.8 -0.2**
comp=Z,960nmcomp=Z,81nm,0.9s
SIJI Sorong 36.31 198 LR LR 15 55 53.0
comp=Z,2µm,19.5s,baz=4.0,slow=33
KKM Kota Kinabalu 36.64 226 IAMs_20 IAMs_20 15 58 53.0
comp=Z,2µm,19.0s
KMSI Cibinong 37.39 210 P **P 15 43 19.9 -2.3**
comp=Z,169nm,0.8s
UBPT Khong Chiam 37.61 249 P **P 15 43 23.6 -0.5**
comp=Z,19nm,1.2s
UBPT Khong Chiam 37.61 249 P **P 15 43 23.1 -1.0**
GTOI Gorontalo 37.75 211 P **P 15 43 23.2 -2.0**
comp=Z,485nmcomp=Z,39nm,1.2s
NONG Nongkai 37.85 255 P **P 15 43 25.2 -1.0**
comp=Z,48nm,1.1s
TIXI Tiksi 38.01 353 P **P 15 43 27.2 +0.3**
comp=Z,29nm,0.9s,baz=143,slow=7.4,SNR=77
TIXI LR LR 16 01 23.0
TIXI comp=Z,2µm,18.0s,baz=153,slow=40
TIXI Tiksi 38.01 353*c* *i*P **P 15 43 26.7 -0.1**
TIXI Tiksi 38.01 353 P **P 15 43 27.2 +0.3**
TIXI IAmb IAmb 15 43 28.4
TIXI comp=Z,81nm,1.4s
TIXI IAMs_20 IAMs_20 16 01 02.7
TIXI comp=Z,2µm,18.0s
FAKI Fak Fak 38.06 195 P **P 15 43 27.8 -0.1**
FAKI IAmb IAmb 15 43 30.5
FAKI comp=Z,88nm,0.8s
FAKI IAMs_20 IAMs_20 15 56 07.9
FAKI Fak Fak 38.06 195 P **P 15 43 27.3 -0.6**
comp=Z,2µm,21.0s
comp=Z,140nm,0.8s
TOLI2 Tolitoli 38.34 215 P **P 15 43 27.6 -2.6**
MRSI Marisa 38.36 213 P **P 15 43 29.4 -1.0**
comp=Z,1µmcomp=Z,132nm,1.2s
SANI Sanana 39.03 205 P **P 15 43 32.2 -3.9**
comp=Z,81nm,0.9s
APSI Ampana 39.72 212 P **P 15 43 40.3 -1.5**
comp=Z,843nmcomp=Z,102nm,1.2s
NLAI Namlea 39.77 203 P **P 15 43 40.2 -2.0**
comp=Z,2µmcomp=Z,30nm,1.2s
CHAI Chaiyaphum 39.97 253 P **P 15 43 43.3 -0.7**
comp=Z,458nmcomp=Z,56nm,0.8s
UTTA Uttaradit 40.10 256 P **P 15 43 44.8 -0.2**
comp=Z,499nmcomp=Z,43nm,1.1s
LAMP Lampang 40.43 258 P **P 15 43 48.0 +0.2**
comp=Z,354nmcomp=Z,39nm,1.0s
CM34 Chiang Mai Arr 40.66 259 P **P 15 43 48.0 -1.6**
CM35 Chiang Mai Arr 40.74 259 P **P 15 43 49.0 -1.3**
CM33 Chiang Mai Arr 40.84 259 P **P 15 43 49.0 -2.1**
CMMT Chiang Mai 40.84 259 P **P 15 43 49.2 -2.0**
comp=Z,11nm,0.8s
CHTO Chiang Mai 40.84 259 P **P 15 43 48.9 -2.3**
CHTO pmax pmax
CHTO comp=Z,15nm,0.8s
CHTO MLR MLR
CHTO comp=Z,600nm,19.0s
CHTO Chiang Mai 40.84 259 P **P 15 43 48.9 -2.3**
CHTO Chiang Mai 40.84 259 P **P 15 43 50.8 -0.4**
CM36 Chiang Mai Arr 40.87 258 P **P 15 43 50.0 -1.4**
SUKH Sukhothai 40.98 257 P **P 15 43 52.0 -0.2**
comp=Z,270nmcomp=Z,41nm,0.9s
CM09 Chiang Mai Arr 40.99 258 P **P 15 43 52.1 -0.3**
comp=Z,151nmcomp=Z,18nm,0.7s
CM32 Chiang Mai Arr 41.00 259 P **P 15 43 52.0 -0.5**
SRAK Srakaew 41.02 250 P **P 15 43 48.1 -4.5**
comp=Z,3µmcomp=Z,401nm,1.1s
CM31 Chiang Mai Arr 41.03 258 P **P 15 43 52.1 -0.6**
comp=Z,5µmcomp=Z,577nm,0.7s
CM31 Chiang Mai Arr 41.03 258 P **P 15 43 50.4 -2.3**
CMAR Chiang Mai Arr 41.03 258 P **P 15 43 51.5 -1.2**
comp=Z,10nm,0.7s,baz=48,slow=7.4,SNR=90
CMAR ScP **ScP 15 49 42.0 +0.4**
comp=Z,0.6nm,0.3s,baz=44,slow=4.0,SNR=1.6
CMAR LR LR 16 01 48.2
comp=Z,661nm,18.5s,baz=96,slow=38
CMAR Chiang Mai Arr 41.03 258 P **P 15 43 51.3 -1.4**
CM04 Chiang Mai Arr 41.03 258 P **P 15 43 52.5 -0.2**
comp=Z,140nmcomp=Z,17nm,0.8s
CM01 Chiang Mai Arr 41.03 258 P **P 15 43 52.0 -0.7**
comp=Z,156nmcomp=Z,18nm,0.7s
CM02 Chiang Mai Arr 41.03 258 P **P 15 43 52.4 -0.4**
comp=Z,139nmcomp=Z,19nm,0.8s
CM15 Chiang Mai Arr 41.04 258 P **P 15 43 52.0 -0.8**
comp=Z,170nmcomp=Z,21nm,0.8s
CM05 Chiang Mai Arr 41.05 258 P **P 15 43 52.6 -0.3**
comp=Z,125nmcomp=Z,14nm,0.7s
CM13 Chiang Mai Arr 41.07 258 P **P 15 43 52.0 -1.1**
comp=Z,151nmcomp=Z,18nm,0.7s
MOKO MOKOCHONG 41.12 272 *e*P **P 15 43 53.1 -0.4**
MOKO IAmb IAmb 15 43 57.3
comp=Z,89nm,0.9s
ZIRO ZIRO 41.22 274 *e*P **P 15 43 53.6 -0.8**
ZIRO IAmb IAmb 15 43 59.5
comp=Z,71nm,0.7s
SBUM Sibu 41.89 227 IAMs_20 IAMs_20 16 02 19.2
comp=Z,1µm,19.0s
SBUM Sibu 41.89 227 P **P 15 44 00.0 +0.3**
MHMT Maesarieng 41.99 259 P **P 15 43 59.4 -1.2**
comp=Z,834nmcomp=Z,50nm,1.0s
DGZ Jazzator, Alta 42.15 308*c* *i*P **P 15 44 02.9 +1.2**
DGZ pmax pmax
DGZ comp=Z,135nm,0.9s
UTHA Uthaitani 42.18 254 P **P 15 44 03.4 +1.2**
comp=Z,208nmcomp=Z,25nm,0.9s
WMQ Urumqi 42.26 300 *e*P **P 15 44 04.4 +1.8**
WMQ pP sP 15 44 07.8 +0.9
WMQ ScP **ScP 15 49 45.3 -0.8**
WMQ S **S 15 50 22.8 +0.4**
WMQ SS **SS 15 53 25.0 -5.6**
WMQ pmax pmax
WMQ comp=Z,180nm,0.9s
WMQ pmax pmax
WMQ comp=Z,270nm,3.8s
WMQ LR LR
WMQ comp=Z,3µm,17.5s
WMQ LR LR
WMQ comp=Z,840nm,19.5s
WMQ LR LR
WMQ comp=Z,2µm,17.5s
WMQ Urumqi 42.26 300 IAMs_20 IAMs_20 16 02 37.9
comp=Z,929nm,19.0s
UMPA Umpang Tak 42.29 256 P **P 15 44 07.3 +4.2**
TTSI Tana Toraja 42.44 213 P **P 15 44 02.7 -1.5**
comp=Z,16nm,0.8s
LSA Lhasa 42.68 278 P **P 15 44 07.1 +0.5**
LSA pmax pmax
comp=Z,76nm,1.0s
LSA Lhasa 42.68 278 *i* P **P 15 44 07.5 +0.9**
SNR=6.5
LSA Lhasa 42.68 278 P **P 15 44 05.7 -0.9**
LSA pmax pmax
LSA comp=Z,17nm,0.9s
LSA MLR MLR
LSA comp=Z,2µm,19.0s
LSA Lhasa 42.68 278 P **P 15 44 05.7 -0.9**
LSA IAMs_20 IAMs_20 16 03 56.1
comp=Z,2µm,19.0s
MTKI Muara Teweh, K 43.09 221 P **P 15 44 08.4 -1.1**
comp=Z,2µmcomp=Z,13nm,0.8s
SRDT SRDT 43.12 253 P **P 15 44 08.0 -1.8**
comp=Z,16nm,0.7s
SPSI Sidrap Palu 43.28 213 P **P 15 44 08.9 -2.1**
comp=Z,21nm,1.0s
BNSI Bone 43.52 212 P **P 15 44 12.0 -0.9**
comp=Z,925nmcomp=Z,79nm,1.1s
PHET Kaeng Krachan 43.56 251 P **P 15 44 13.1 -0.2**
SHL Shillong 43.59 272 *e*P **P 15 44 11.8 -2.0**
SHL IAmb IAmb 15 44 13.0
comp=Z,26nm,1.1s
PMG Port Moresby 43.80 172 LR LR 16 01 44.4
comp=Z,141nm,18.0s,baz=316,slow=35
KSM Kuching 43.83 229 P **P 15 44 16.0 +0.6**
ANM Nome 43.86 30 P 15 44 17.7
baz=252,SNR=41
ZAA0 Zalesovo Array 43.89 315 IAmb IAmb 15 44 34.5
comp=Z,39nm,0.9s
ZALV Zalesovo Beam 43.89 315 P **P 15 44 16.0 +0.4**
comp=Z,38nm,0.9s,baz=91,slow=7.4,SNR=95
ZALV PcP **PcP 15 46 01.9 +0.4**
comp=Z,11nm,0.6s,baz=104,slow=3.6,SNR=5.7
ZALV LR LR 16 01 40.7
comp=Z,457nm,18.2s,baz=93,slow=35
ZALV Zalesovo Beam 43.89 315 P **P 15 44 15.3 -0.2**
ZSN Zaisan 43.92 305⇑ *i*P **P 15 44 17.0 +1.0**
comp=Z,27nm,1.2s,baz=305
ZSN *e*S **S 15 50 49.8 +3.1**
baz=305
ZSN Zaisan 43.92 305*c* *i*P **P 15 44 16.9 +1.0**
ZSN *e*S **S 15 50 49.8 +3.1**
ZSN pmax pmax
comp=Z,27nm,1.2s
SAIH SAIHA 43.98 268 *e*P **P 15 44 15.8 -1.1**
SAIH IAmb IAmb 15 44 22.8
comp=Z,46nm,1.0s
BBKI Banjar Baru 45.24 219 P **P 15 44 24.6 -2.1**
comp=Z,33nm,1.3s
MK31 Makanchi Array 45.73 304*c* *i*P **P 15 44 30.4 0.0**
MK31 Makanchi Array 45.73 304 IAmb IAmb 15 44 48.0
comp=Z,27nm,1.0s
MKAR Makanchi Array 45.73 304 P **P 15 44 30.9 +0.4**
comp=Z,22nm,0.6s,baz=88,slow=9.7,SNR=158
MKAR ScP **ScP 15 49 59.9 -0.3**
comp=Z,2.2nm,1.0s,baz=87,slow=5.9,SNR=4.5
MKAR S **S 15 51 11.9 -1.1**
comp=Z,1.4nm,1.0s,baz=96,slow=15,SNR=2.2
MKAR LR LR 16 05 11.3
comp=Z,2µm,18.0s,baz=84,slow=38
MKAR Makanchi Array 45.73 304 P **P 15 44 30.6 +0.2**
RDOG Red Dog Mine 45.88 26 IAmb IAmb 15 44 34.8
comp=Z,84nm,1.4s
RDOG Red Dog Mine 45.88 26 P 15 44 33.4
baz=252,SNR=33
MAKZ Makanchi 45.95 304 P **P 15 44 32.4 +0.3**
MAKZ pmax pmax
MAKZ comp=Z,39nm,1.0s
MAKZ MLR MLR
MAKZ comp=Z,2µm,18.0s
MAKZ Makanchi 45.95 304 P **P 15 44 32.4 +0.3**
MAKZ IAmb IAmb 15 44 49.9
comp=Z,39nm,0.9s
SOEI Soe 46.81 204 P **P 15 44 38.9 -0.3**
SOEI Soe 46.81 204 P **P 15 44 38.3 -0.9**
comp=Z,2µmcomp=Z,225nm,1.0s
JRMM Jerantut 47.27 239 P **P 15 44 44.0 +1.2**
BATI Baumata 47.43 204 P **P 15 44 41.1 -2.8**
comp=Z,78nm,0.9s
KULM Kulim 47.63 242 IAMs_20 IAMs_20 16 07 33.2
comp=Z,758nm,18.0s
KULM Kulim 47.63 242 P **P 15 44 45.0 -0.5**
KURK Kurchatov 47.76 310 P **P 15 44 46.8 +0.6**
KURK Kurchatov 47.76 310 P **P 15 44 46.8 +0.6**
MYKOM Kota Tinggi 47.81 236 P **P 15 44 48.0 +1.1**
KURBB Kurchatov Arra 47.83 310 P **P 15 44 46.8 +0.1**
comp=Z,74nm,0.7s,baz=85,slow=8.0,SNR=433
KURBB S **S 15 51 41.2 -1.4**
comp=Z,1.2nm,0.9s,baz=91,slow=13,SNR=4.3
IPM Ipoh 47.90 241 P **P 15 44 44.8 -2.9**
IPM IAmb IAmb 15 44 53.2
comp=Z,16nm,0.7s
IPM Ipoh 47.90 241 P **P 15 44 47.0 -0.7**
PDGK Podgornoye 48.23 300 *i* P **P 15 44 49.2 -0.8**
PDGK pmax pmax
comp=Z,74nm,0.8s
SHLS Shalkode 48.28 300⇑ *i*P **P 15 44 48.5 -1.9**
comp=Z,10nm,0.8s,baz=300
SHLS Shalkode 48.28 300*c* *i*P **P 15 44 48.5 -1.9**
SHLS pmax pmax
comp=Z,11nm,0.8s
PLAI Plampang 48.48 212 P **P 15 44 51.2 -0.9**
comp=Z,51nm,0.8s
UZB Uzynbulak 48.60 300⇑ *i*P **P 15 44 53.3 +0.3**
comp=Z,16nm,0.8s,baz=300
UZB *e*S **S 15 51 56.2 +2.0**
baz=300
UZB Uzynbulak 48.60 300*c* *i*P **P 15 44 53.2 +0.3**
UZB *e*S **S 15 51 56.1 +2.0**
UZB pmax pmax
comp=Z,16nm,0.8s
OHAK Old Harbor 48.68 41 P 15 44 54.0
baz=271
TDK Taldyqorghan 48.68 303 *i* P **P 15 44 54.0 +0.6**
comp=Z,15nm,0.8s,baz=302
TDK LR LR 16 05 51.4
comp=Z,1µm,14.8s,baz=302
TDK Taldyqorghan 48.68 303 *i* P **P 15 44 54.0 +0.6**
TDK pmax pmax
comp=Z,15nm,0.8s
TDK MLR MLR
comp=Z,1µm,15.0s
DGPR DIGLIPUR 48.73 257 *e*P **P 15 44 53.6 -0.5**
DGPR IAmb IAmb 15 44 59.6
comp=Z,20nm,0.7s
KMMI Kalianget 48.74 218 P **P 15 44 54.4 +0.4**
comp=Z,46nm,1.3s
KPKS Kokpek 48.77 300⇑ *i*P **P 15 44 54.5 +0.3**
comp=Z,11nm,0.7s,baz=300
KPKS Kokpek 48.77 300*c* *i*P **P 15 44 54.5 +0.3**
KPKS pmax pmax
comp=Z,11nm,0.7s
TWSI Taliwang, Sumb 48.80 213 P **P 15 44 52.3 -2.2**
comp=Z,35nm,0.9s
A21K Barrow 48.91 22 P 15 44 57.0
baz=255,SNR=113
IMAR Indian Mountai 48.93 29 P **P 15 44 56.2 +1.3**
SRBI Singaraja 49.02 216 P **P 15 44 52.3 -3.8**
comp=Z,69nm,1.0s
KDAK Kodiak Island 49.05 40 P **P 15 44 56.9 +1.0**
comp=Z,22nm,0.6s,baz=300,slow=3.7,SNR=27
KDAK LR LR 16 03 22.7
comp=Z,604nm,20.8s,baz=276,slow=33
KDAK Kodiak Island 49.05 40 P **P 15 44 56.9 +1.0**
KDAK pmax pmax
comp=Z,50nm,1.1s
KDAK Kodiak Island 49.05 40 P **P 15 44 56.9 +1.0**
KDAK IAmb IAmb 15 45 09.6
comp=Z,50nm,1.1s
KDAK Kodiak Island 49.05 40 P 15 44 57.1
baz=271
SATY Saty 49.06 300⇑ *i*P **P 15 44 57.0 +0.5**
comp=Z,7.1nm,0.8s,baz=300
SATY Saty 49.06 300*c* *i*P **P 15 44 56.9 +0.5**
SATY pmax pmax
comp=Z,7.0nm,0.8s
BOK Bokaro 49.29 273 *e*P **P 15 44 58.1 -0.2**
BOK IAmb IAmb 15 45 01.3
comp=Z,49nm,1.1s
PPLA Purkeypile 49.33 34 P 15 45 00.9
baz=267,SNR=13
CHUM Lake Minchumin 49.34 32 P 15 45 00.8
baz=266
SKT Skwentna 49.60 35 P 15 45 01.7
baz=268,SNR=6.6
CNPM China Poot 49.73 38 IAMs_20 IAMs_20 16 06 59.2
comp=Z,705nm,19.0s
BPAW Bear Paw Mtn. 49.93 32 P **P 15 45 03.4 +0.8**
BPAW Bear Paw Mtn. 49.93 32 P 15 45 04.5
baz=267,SNR=9.2
SUA Susitna One 49.96 35 P 15 45 04.2
baz=269
BRSE Bradley Lake S 49.97 38 P 15 45 04.6
baz=271
MDOK Medeo 50.01 300 *i* P **P 15 45 04.8 +1.0**
baz=300
MDOK LR LR 16 06 12.1
comp=Z,666nm,15.2s,baz=300
MDOK Medeo 50.01 300 *i* P **P 15 45 04.7 +1.0**
MDOK MLR MLR
comp=Z,666nm,15.0s
AAA Alma-Ata 50.09 300⇑ *i*P **P 15 45 05.5 +1.2**
comp=Z,25nm,0.6s,baz=300
AAA LR LR 16 06 18.2
comp=Z,621nm,15.5s,baz=300
AAA Alma-Ata 50.09 300*c* *i*P **P 15 45 05.4 +1.2**
AAA pmax pmax
comp=Z,25nm,0.6s
AAA MLR MLR
comp=Z,621nm,16.0s
TNSS Tian-Shan 50.10 300 *i* P **P 15 45 06.0 +1.3**
baz=300
TNSS Tian-Shan 50.10 300 *i* P **P 15 45 06.0 +1.3**
TRF Thorofare Moun 50.22 33 P 15 45 06.4
baz=268
KUU Kurty 50.35 301⇑ *i*P **P 15 45 06.4 +0.3**
comp=Z,33nm,0.9s,baz=301
KUU Kurty 50.35 301*c* *i*P **P 15 45 06.4 +0.3**
KUU pmax pmax
comp=Z,33nm,0.9s
RC01 Rabbit Creek A 50.45 36 P 15 45 07.8
baz=270,SNR=6.3
COLD Coldfoot 50.47 28 P 15 45 08.7
baz=265,SNR=11
SEW Seward 50.61 37 P 15 45 09.6
baz=272
I23K Minto, Yukon-K 50.68 31 P 15 45 10.5
baz=268,SNR=16
PMR Palmer 50.74 35 P 15 45 09.8
baz=271,SNR=7.5
NEA2 Nenana 50.79 31 P 15 45 11.1
baz=268,SNR=43
MCK McKinley 50.83 33 P 15 45 11.0
baz=269,SNR=13
GHO Glory Hole Cre 50.83 35 P **P 15 45 09.3 -0.2**
GHO IAmb IAmb 15 45 13.0
comp=Z,106nm,1.2s
TOLK Toolik Lake Re 50.83 26 P 15 45 11.8
baz=264,SNR=59
WAT2 Susitna Watana 50.98 34 P 15 45 11.6
baz=270,SNR=10
KNK Knik Glacier 51.06 36 P 15 45 12.7
baz=271
TKM2 Tokmak 2 51.10 300 P **P 15 45 13.3 +1.3**
SNR=66
TKM2 Tokmak 2 51.10 300 *i* P **P 15 45 12.6 +0.6**
TKM2 pmax pmax
comp=Z,47nm,0.8s
SML Sawmill 51.11 35 IAmb IAmb 15 45 24.6
comp=Z,35nm,1.0s
SML Sawmill 51.11 35 P 15 45 13.1
baz=271
TCOL CIGO, UAF Yank 51.31 31 P 15 45 15.1
baz=269,SNR=7.2
COLA College 51.31 31*c* *i*P **P 15 45 14.4 +1.4**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 51.31 31 P 15 45 15.2
baz=269
POKR Poker Plat Res 51.49 31 P 15 45 16.8
baz=269,SNR=32
KBK Karagaybulak 51.62 300 P **P 15 45 17.0 +1.1**
SNR=68
BRZS Berezniki 51.63 310 *e*P **P 15 45 15.9 +0.2**
comp=Z,18nm,0.9s,baz=310
BRZS Berezniki 51.63 310 *e*P **P 15 45 15.8 +0.2**
BRZS pmax pmax
comp=Z,18nm,0.9s
SGDS Sogindy 51.66 301⇑ *i*P **P 15 45 16.7 +0.7**
comp=Z,9.0nm,0.9s,baz=301
SGDS Sogindy 51.66 301*c* *i*P **P 15 45 16.7 +0.7**
SGDS pmax pmax
comp=Z,9.0nm,0.9s
CHMS Chumysh 51.68 301 P **P 15 45 16.7 +0.5**
SNR=13
KSH Kashi 51.70 296 P **P 15 45 20.4 +3.9**
KSH sP pwP 15 45 31.3 +2.8
KSH PP **PP 15 47 18.4 +4.5**
KSH S **S 15 52 41.8 +4.5**
KSH ScS **ScS 15 55 08.1 +1.9**
KSH pmax pmax
comp=Z,21nm,0.8s
KSH pmax pmax
comp=Z,200nm,6.0s
KSH LR LR
comp=Z,850nm,9.7s
KSH LR LR
KSH comp=Z,3µm,17.9s
KSH LR LR
comp=Z,2µm,19.5s
BTLS Baital 51.70 303⇑ *i*P **P 15 45 16.6 +0.4**
comp=Z,20nm,1.1s,baz=303
BTLS Baital 51.70 303*c* *i*P **P 15 45 16.6 +0.4**
BTLS pmax pmax
comp=Z,20nm,1.1s
HDA Harding Lake 51.70 32 P 15 45 16.7
baz=270,SNR=25
HDA P 15 45 16.7
baz=270,SNR=25
IL31 51.73 31 P **P 15 45 17.4 +1.3**
IL31 IAmb IAmb 15 45 18.2
comp=Z,29nm,0.8s
ILAR Eielson Array 51.73 31 P **P 15 45 17.0 +0.9**
comp=Z,22nm,0.8s,baz=264,slow=6.1,SNR=246
ILAR LR LR 16 07 40.2
comp=Z,227nm,21.9s,baz=285,slow=36
USP Ospenovka 51.79 301 P **P 15 45 17.5 +0.4**
SNR=37
AAK Ala-Archa 51.95 300 P **P 15 45 19.2 +0.8**
SNR=24
AAK Ala-Archa 51.95 300 *i* P **P 15 45 19.2 +0.8**
SNR=33
AAK Ala-Archa 51.95 300 P **P 15 45 18.8 +0.4**
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 51.95 300 P **P 15 45 18.8 +0.4**
AAK Ala-Archa 51.95 300 IAMs_20 IAMs_20 16 06 06.7
comp=Z,996nm,18.0s
AAK Ala-Archa 51.95 300 P **P 15 45 19.3 +1.0**
AAK P **P 15 45 19.3 +1.0**
UCH Uchtor 52.04 300 P **P 15 45 20.4 +1.0**
SNR=25

M24K Tolsona, Glenn 52.12 35 P 15 45 21.4
baz=273
KLU Klutina 52.28 35 P 15 45 22.1
baz=274
PRP Porcupine Dome 52.30 30 P 15 45 21.9
baz=271,SNR=14
PAX Paxson 52.40 33 P 15 45 23.1
baz=273,SNR=9.2
EKS2 Erkin-Say 52.46 301 P P **15 45 22.9 +0.8**
SNR=22
BVAR Borovoye Array 52.54 314 P P **15 45 22.5 +0.1**
comp=Z,20nm,0.9s,baz=61,slow=11,SNR=85
GSI Gunungsitoli 52.57 241 P P **15 45 22.0 -1.1**
GSI IAmb IAmb 15 45 37.4
comp=Z,96nm,1.1s
BRVK Borovoye 52.60 314 P P **15 45 22.9 +0.1**
BRVK pmax pmax
comp=Z,42nm,0.9s
BRVK MLR MLR
comp=Z,1μm,18.0s
BRVK Borovoye 52.60 314 P P **15 45 22.9 +0.1**
BRVK IAmb IAmb 15 45 24.5
comp=Z,42nm,0.9s
BRVK Borovoye 52.60 314 IAMs_20 IAMs_20 16 09 13.3
comp=Z,1μm,18.0s
BRVK Borovoye 52.60 314 P P **15 45 23.6 +0.8**
BRVK P P **15 45 23.6 +0.8**
BMAR Burnt Mountain 52.65 28 P P **15 45 25.3 +2.3**
AML Almayashu 52.66 300 P P **15 45 25.1 +1.2**
SNR=96
BMRM Bremner River 52.95 36 P 15 45 27.7
baz=275,SNR=9.0
SCRK Sand Creek 53.01 32 IAmb IAmb 15 45 28.3
comp=Z,38nm,0.8s
SCRK Sand Creek 53.01 32 P 15 45 26.8
baz=273,SNR=30
DDI Dehra Dun 53.08 284 *e*P P **15 45 27.0 +0.3**
DDI IAmb IAmb 15 45 28.6
comp=Z,74nm,0.5s
SMLA Simla 53.49 286 *e*P P **15 45 29.6 -0.1**
MCARA McCarthy VSAT 53.67 35 P 15 45 32.4
baz=276,SNR=9.6
CRQE Cirque 53.71 36 P 15 45 33.1
baz=276,SNR=5.9
DHRM DHARAMSHALA 53.77 287 *e*P P **15 45 30.5 -1.5**
K27K Chicken 53.85 32 P 15 45 33.9
baz=275
BHK Bhakra 53.98 286 *ex* P **15 45 35.8 +2.5**
DZA Taraz 54.13 301⇑*i*P P **15 45 34.9 +0.6**
comp=Z,13nm,0.7s,baz=301
DZA Taraz 54.13 301*c i*P P **15 45 34.8 +0.5**
DZA pmax pmax
comp=Z,13nm,0.7s
EGAK Eagle 54.18 31 P 15 45 35.4
baz=275,SNR=8.9
WB0 Warramunga Arr 54.21 188 P P **15 45 35.0 +0.1**
WB0 IAmb IAmb 15 45 41.9
comp=Z,68nm,1.1s
FITZ Fitzroy Crossi 54.29 199 IAmb IAmb 15 45 52.3
comp=Z,72nm,1.1s
WRAB Tennant Creek 54.38 188*c i*P P **15 45 36.5 +0.4**
WRAB pmax pmax
comp=Z,40nm,1.0s
WRAB Tennant Creek 54.38 188 P P **15 45 36.3 +0.2**
WRAB IAmb IAmb 15 45 53.8
comp=Z,46nm,0.9s
NDI New Delhi 54.38 283 *e*P P **15 45 36.5 +0.2**
NDI *ex* x 15 45 51.0
WR0 Warramunga Arr 54.38 188 IAmb IAmb 15 45 55.0
comp=Z,36nm,0.7s
WB2 Warramunga Arr 54.39 188 P P **15 45 36.0 -0.2**
WB2 IAmb IAmb 15 45 53.9
comp=Z,48nm,0.9s
WRA Warramunga Arr 54.39 188 P P **15 45 36.1 -0.2**
comp=Z,20nm,0.6s,baz=2.4,slow=7.7,SNR=150
WRA S **S** **15 53 08.9 -5.0**
comp=Z,1.9nm,1.1s,baz=4.9,slow=13,SNR=4.0
WRA LR LR 16 08 03.1
comp=Z,436nm,21.7s,baz=340,slow=35
WRA Warramunga Arr 54.39 188 *i* P P **15 45 36.0 -0.2**
WRA pmax pmax
comp=Z,11nm,0.3s
CTG Chitna Glacier 54.53 36 P 15 45 39.2
baz=278
KK31 Karatay Array 54.65 302 P P **15 45 39.1 +1.0**
KK31 pmax pmax
comp=Z,63nm,0.9s
KK31 Karatay Array 54.65 302 P P **15 45 39.1 +1.0**
KK31 IAmb IAmb 15 45 40.3
comp=Z,63nm,0.9s
KKAR Karatay Array 54.65 302 P P **15 45 38.5 +0.4**
KKAR Karatay Array 54.65 302 P P **15 45 38.5 +0.4**
KKAR Karatay Array 54.65 302 IAmb IAmb 15 45 40.3
comp=Z,63nm,0.9s
IUG Iuzhnay 55.27 301⇑*i*P P **15 45 43.5 +0.9**
comp=Z,25nm,0.8s,baz=301
IUG Iuzhnay 55.27 301*c i*P P **15 45 43.5 +0.9**
IUG pmax pmax
comp=Z,25nm,0.8s
NIL Nilore 55.65 290 P P **15 45 44.8 -0.6**
NIL pmax pmax
comp=Z,55nm,0.8s
NIL MLR MLR
comp=Z,800nm,19.0s
NIL Nilore 55.65 290 P P **15 45 44.8 -0.6**
NIL Nilore 55.65 290 IAMs_20 IAMs_20 16 11 48.5
comp=Z,843nm,19.0s
NIL Nilore 55.65 290 P P **15 45 46.5 +1.1**
NIL P P **15 45 46.5 +1.1**
EPYK Eagle Plains 55.82 29 P 15 45 48.4
baz=278,SNR=38
BHPL Bhopal 56.51 277 *e*P P **15 45 50.0 -1.7**
BHPL IAmb IAmb 15 45 53.1
comp=Z,17nm,0.8s
INK Inuvik 56.75 26 P P **15 45 54.2 +1.7**
comp=Z,37nm,0.6s,baz=287,slow=6.8,SNR=129
WHY Whitehorse 57.70 35 P P **15 46 00.7 +1.1**
WHY IAmb IAmb 15 46 04.2
comp=Z,75nm,1.4s
SKAG Skagway 57.77 37 P 15 46 02.8
baz=284
AS31 Alice Springs 58.12 188 P P **15 46 02.9 +0.1**
ASAR Alice Springs 58.12 188 P P **15 46 03.0 +0.2**
comp=Z,17nm,0.7s,baz=12,slow=9.1,SNR=84
ASAR S **S** **15 54 02.0 -1.3**
comp=Z,1.7nm,1.1s,baz=357,slow=10.0,SNR=4.8
ASAR LR LR 16 10 07.8
comp=Z,436nm,21.1s,baz=2.5,slow=35
ASAR PKP2bc 16 15 57.0
comp=Z,0.6nm,0.7s,baz=155,slow=0.5,SNR=8.0
ASAR PKP2ab 16 16 11.2
comp=Z,0.7nm,0.9s,baz=190,slow=1.8,SNR=5.1
HYB Hyderabad 58.32 270 *i* P P **15 46 04.0 -0.5**
comp=Z,108nm,0.8s
HYB Hyderabad 58.32 270 *e*P P **15 46 03.3 -1.2**
HYB IAmb IAmb 15 46 08.5
comp=Z,111nm,1.4s
ARU Arti 58.51 320*c i*P P **15 46 05.5 +0.2**
ARU 15 46 53.9
ARU 15 48 13.0
ARU PPP PPP 15 49 32.6
ARU S **S** **15 54 10.6 +2.7**
ARU SS **SS** **15 57 58.0 -1.9**
ARU pmax pmax
comp=Z,128nm,1.3s
ARU MLR MLR
comp=Z,1μm,16.0s
ARU Arti 58.51 320 P P **15 46 05.5 +0.2**
ARU IAMs_20 IAMs_20 16 14 27.6
comp=Z,1μm,19.0s
KBL Kabul 58.56 293 P P **15 46 06.5 +0.2**
SNR=18
KBL P P **15 46 06.5 +0.2**
SNR=18
MDRS Chennai 59.15 265 *e*P P **15 46 11.3 +1.0**
MDRS IAmb IAmb 15 46 16.7
comp=Z,25nm,0.9s
PSA00 Pilbara Seismi 59.30 204 P P **15 46 11.3 +0.2**
PSA00 IAmb IAmb 15 46 27.8
comp=Z,50nm,1.0s
ABKAR Akbulak array 59.83 311 P P **15 46 14.4 -0.1**
ABKAR Akbulak array 59.83 311 P P **15 46 14.7 +0.2**
ABKAR IAmb IAmb 15 46 15.8
comp=Z,37nm,0.9s
C36M Paulatuk 59.84 24 P P **15 46 15.5 +1.3**
C36M Paulatuk 59.84 24 P 15 46 15.5
baz=287,SNR=119
DLBC Dease Lake 60.69 37 P P **15 46 22.7 +2.3**
comp=Z,30nm,1.1s,baz=291,slow=5.5,SNR=22
DLBC Dease Lake 60.69 37 IAmb IAmb 15 46 24.3
comp=Z,61nm,1.2s
DZM Mont Dzumac 60.85 153 *e*LR LR 16 04 36.3
comp=Z,737nm,20.3s
POO Poona 61.66 274⇑*i*P P **15 46 23.5 -4.0**
comp=Z,310nm,0.3s
POO *e*P **pP** **15 46 27.5 -3.1**
POO IAmb IAmb 15 46 32.0
PALK Pallekele 61.97 259 P P **15 46 29.6 0.0**
comp=Z,25nm,0.7s,baz=156,slow=6.5,SNR=26
PALK Pallekele 61.97 259 P P **15 46 30.4 +0.9**
KIRV Kirov 62.52 324*c e*P P **15 46 32.8 +0.3**
BHUJ Bhuj 62.86 281 *e*P P **15 46 36.0 +0.7**
BHUJ IAmb IAmb 15 46 41.2
comp=Z,34nm,0.5s
BHUJ *i* x x 15 46 49.2
PRGR Permogore 63.14 328 *e*P P **15 46 36.3 -0.3**
PRGR *e* 15 47 11.3
PRGR pmax pmax
comp=Z,31nm,0.9s
GOA Goa 63.20 271 *e*P P **15 46 38.4 +0.6**
SPITS Spitsbergen Ar 63.22 349 P P **15 46 38.0 +1.0**
comp=Z,16nm,0.9s,baz=134,slow=9.7,SNR=7.3
NOR Nord 63.77 357 *i* P P **15 46 41.3 +0.8**
comp=Z,5.0nm,0.9s
NOR Nord 63.77 357 *i* P P **15 46 41.3 +0.8**
NOR pmax pmax
comp=Z,5.0nm,0.9s
NOR Nord 63.77 357 *i* P P **15 46 41.4 +0.8**
NOR IAmb IAmb 15 46 41.9
comp=Z,5.0nm,0.9s
HSPB Hornsund (broa 64.14 348 *e*P P **15 46 44.7 +1.7**
ARMA Armidale 65.07 170 P P **15 46 50.0 +0.2**
ARMA IAmb IAmb 15 47 05.8
comp=Z,23nm,1.0s
RES Resolute Bay 65.20 14 P P **15 46 51.0 +1.1**
comp=Z,38nm,0.6s,baz=308,slow=6.1,SNR=197
APA Apatity 65.23 336⇓*i*P P **15 46 47.9 -2.3**
APA *i* 15 47 18.0
APA *i* S S 15 55 22.0 -10
APA *i* PS **PnS** **15 55 44.0 -7.6**
APA pmax pmax
comp=Z,26nm,0.9s
GEYT Alibeck 65.31 300 P P **15 46 52.1 +0.7**
comp=Z,17nm,0.9s,baz=45,slow=2.3,SNR=25
GEYT LR LR 16 18 03.0
comp=Z,698nm,18.7s,baz=35,slow=38
GEYT Alibeck 65.31 300 P P **15 46 52.0 +0.7**
GEYT IAmb IAmb 15 46 53.6
comp=Z,16nm,0.8s
STKA Stephens Creek 65.84 180 P P **15 46 55.2 +0.7**
comp=Z,5.1nm,0.7s,baz=347,slow=8.7,SNR=8.5
BELG Belogornoye 65.91 318*c i*P P **15 46 54.8 0.0**
BELG pmax pmax
comp=Z,17nm,1.1s
FORT Forrest 65.99 193 P P **15 46 56.4 +0.9**
YKA Yellowknife Ar 66.09 30 P P **15 46 56.8 +0.9**
comp=Z,6.2nm,0.7s,baz=297,slow=5.7,SNR=82
YKA PKP2ab 16 15 44.6
comp=Z,0.1nm,0.4s,baz=119,slow=2.6,SNR=4.0
YKA LR LR 16 21 32.8
comp=Z,177nm,18.1s,baz=0.0,slow=41
YKA Yellowknife Ar 66.09 30 *i* P P **15 46 56.5 +0.6**
YKA pmax pmax
comp=Z,7.0nm,0.7s
KLMR Klimovskoe 66.14 328 *e*P P **15 46 54.6 -1.6**
KLMR *e* 15 49 20.3
KLMR pmax pmax
comp=Z,30nm,0.8s
KLMR Klimovskoe 66.14 328 *e*P P **15 46 54.7 -1.5**
KLMR AMP 15 46 57.1
comp=Z,30nm,0.8s
KLMR *e*PP **PP** **15 49 20.3 -1.1**
KLMR LQ LQ 16 11 16.3
KLMR LQ LQ 16 11 16.3
KLMR LR LR 16 16 04.0
ARCES ARCESS Array B 66.60 340 P P **15 46 59.9 +0.9**
comp=Z,9.5nm,0.7s,baz=52,slow=7.9,SNR=12
ARCES LR LR 16 20 12.5
comp=Z,1μm,18.5s,baz=105,slow=40
ARCES ARCESS Array B 66.60 340 P P **15 46 59.8 +0.7**
ARCES pmax pmax
comp=Z,20nm,1.0s
ARCES ARCESS Array B 66.60 340 P P **15 46 59.8 +0.7**
ARCES IAmb IAmb 15 47 00.3
comp=Z,20nm,1.0s
TULEG Thule 67.78 7 *i* P P **15 47 07.1 +0.7**
TULEG IAmb IAmb 15 47 07.6
comp=Z,27nm,0.7s
DAG Danmarks Havn 68.50 355⇑*i*P P **15 47 11.6 +0.7**
comp=Z,12nm,1.0s
DAG Danmarks Havn 68.50 355⇑*i*P P **15 47 11.6 +0.7**
DAG pmax pmax
comp=Z,13nm,1.0s
DAG Danmarks Havn 68.50 355⇑*i*P P **15 47 11.6 +0.7**
DAG IAmb IAmb 15 47 12.7
comp=Z,12nm,1.0s
D03D Eldon 68.86 46 P 15 47 16.5
baz=298,SNR=6.8
B05A Bryant 69.10 45 P 15 47 17.2
baz=298
VALR Valaam 69.48 331 *i* P P **15 47 18.0 +0.8**
VALR pmax pmax
comp=Z,78nm,1.2s
MOS Moscow 69.53 324 *e*P P **15 47 16.6 -1.0**
MOS *e* 15 49 50.3
MOS pmax pmax
comp=Z,98nm,1.2s
MOS MLR MLR
comp=Z,1μm,16.0s
E04D Cinebar 69.64 47 P 15 47 21.3
baz=298
VRH Novokhopyorsk 69.71 319 *e*P P **15 47 18.2 -0.6**
VRH pmax pmax
comp=Z,40nm,0.6s
VRH MLR MLR
comp=Z,1μm,11.0s
OBN Obninsk 70.37 324*c e*P P **15 47 22.7 -0.1**
OBN *e* 15 47 44.5
OBN *e* 15 49 58.0
OBN *e*S S **15 56 39.8 +5.5**
OBN *e*SS **SS** **16 01 03.5 -0.7**
OBN pmax pmax
comp=Z,52nm,1.3s
OBN MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 70.37 324 P P **15 47 23.8 +1.0**
J01E Myrtle Point 70.41 51 P 15 47 26.1
baz=299
LTY Liberty 70.43 46 P P **15 47 24.2 +0.7**
LTY IAmb IAmb 15 47 27.3
comp=Z,27nm,1.3s
LPSR Galich'ya Gora 70.49 321 *e*P P **15 47 23.4 -0.2**
LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR MLR MLR
comp=Z,2μm,19.0s
H04D Lebanon 70.51 49 P 15 47 26.7
baz=299
I03D Drain, OR 70.53 50 P 15 47 27.1
baz=299,SNR=6.3
KULLO Kullorsuaq 70.67 5 *i* P P **15 47 25.5 +1.2**
comp=Z,19nm,1.2s
KULLO Kullorsuaq 70.67 5 *i* P P **15 47 25.5 +1.2**
KULLO pmax pmax
comp=Z,19nm,1.2s
KULLO Kullorsuaq 70.67 5 *i* P P **15 47 25.6 +1.2**
KULLO IAmb IAmb 15 47 26.1
comp=Z,19nm,1.2s
K02D Willamette Mer 70.81 51 P 15 47 28.2
baz=299,SNR=5.4
AKT Akhty 70.84 307 *e*P P **15 47 26.5 +0.4**
AKT *i* 15 47 45.5
AKT pmax pmax
comp=Z,95nm,0.9s
G05D Wamie, OR 71.04 48 P 15 47 29.9
baz=300
I04A Tendick Farm, 71.07 50 P 15 47 29.7
baz=300,SNR=7.7
VSR Storozhevoye 71.09 320 *e*P P **15 47 27.3 0.0**
VSR pmax pmax
comp=Z,50nm,0.9s
VSR MLR MLR
comp=Z,850nm,11.0s
L02E Cave Junction 71.11 52 P 15 47 30.2
baz=299
VORD Divnogorie 71.15 319 *e*P P **15 47 27.3 -0.3**
VORD pmax pmax
comp=Z,70nm,1.4s
GROC Groznyy 71.24 310 *e*P P **15 47 29.2 +0.8**
GROC *e* 15 47 49.1
GROC pmax pmax
comp=Z,71nm,1.2s
FINES FINESS Array B 71.29 333 P P **15 47 28.9 +0.6**
comp=Z,24nm,0.8s,baz=69,slow=6.3,SNR=44
FINES LR LR 16 22 24.2
comp=Z,1μm,18.4s,baz=46,slow=39
SEKA Sheki 71.32 307 P P **15 47 30.0 +1.0**
I05D Terrebonne, OR 71.47 49 P 15 47 32.2
baz=300,SNR=7.6
LKRN Lenkeran, Azer 71.48 305 P P **15 47 31.7 +1.8**
ZKTA Zakatala 71.48 308 P P **15 47 31.3 +1.4**
J04D Umpqua Nationa 71.54 50 P 15 47 33.3
baz=300
MNGR Mingechevir, A 71.61 307 P P **15 47 32.2 +1.6**
JLN Jalan Bani Buh 71.66 285 P P **15 47 32.4 +1.2**
JLN P P **15 47 32.4 +1.2**
WSAR Wadi Sarin 71.74 286 P P **15 47 31.8 +0.1**
comp=Z,17nm,0.8s,baz=122,slow=4.0,SNR=11
WBK Wadi Bani Khal 71.78 285 P P **15 47 33.7 +1.7**
WBK P P **15 47 33.7 +1.7**
YBH Yreka Blue Hor 71.90 52 P P **15 47 34.0 +1.5**
YBH pmax pmax
comp=Z,17nm,1.0s
YBH Yreka Blue Hor 71.90 52 P P **15 47 34.0 +1.5**
DDFL Dedoflistskaro 71.91 308 P P **15 47 35.9 +3.4**
L04D Klamath Falls 71.92 51 P 15 47 34.9
baz=300,SNR=13
M02C Callahan 71.98 52 P 15 47 36.0
baz=300,SNR=6.3
NEW Newport 71.98 44 P P **15 47 34.5 +1.6**
comp=Z,20nm,0.9s,baz=308,slow=4.5,SNR=32
NEW Newport 71.99 44 P 15 47 34.8
baz=301,SNR=20
BIDO Bidbid 72.00 286 P P **15 47 34.8 +1.6**
GOF Gofitskoye 72.03 313⇑*e*P P **15 47 33.8 +0.7**
GOF pmax pmax
comp=Z,115nm,1.3s
J05D Fort Rock, OR 72.07 50 P 15 47 36.5
baz=300,SNR=6.5
K04D Chiloquin, OR 72.07 50 P 15 47 36.0
baz=300
GANJ Ganja 72.17 307 P P **15 47 35.5 +1.4**
BANOM Banah 72.24 290 P P **15 47 36.1 +1.4**
N02D Trinity Center 72.28 52 P 15 47 37.6
baz=300,SNR=12
SMDO Samad 72.29 286 P P **15 47 36.4 +1.2**
SMDO P P **15 47 36.4 +1.2**
SHME Shamm 72.30 290 *i* P P **15 47 36.0 +1.0**
SNR=10
SHME Shamm 72.30 290 P P **15 47 36.3 +1.3**
SHME P P **15 47 36.3 +1.3**
M04C Macdoel 72.44 51 P 15 47 38.6
baz=300,SNR=6.0
UPNV Upernavik 72.49 5 *i* P P **15 47 36.0 +0.7**
UPNV IAmb IAmb 15 47 37.4
comp=Z,9.0nm,0.9s
WDC Whiskeytown Da 72.59 53 P P **15 47 37.9 +1.4**
WDC pmax pmax
comp=Z,21nm,1.1s
WDC Whiskeytown Da 72.59 53 P P **15 47 37.9 +1.4**
WDC IAmb IAmb 15 47 57.3
comp=Z,21nm,1.1s
JMDO Jabal Madar 72.59 285 P P **15 47 37.9 +1.1**
JMDO P P **15 47 37.9 +1.1**
HOQ Hoqain 72.61 287 P P **15 47 38.1 +1.1**
HOQ P P **15 47 38.1 +1.1**
MASF Masafi 72.62 289 P P **15 47 38.3 +1.3**
MSFE Esma-Masafi 72.63 289 *i* P P **15 47 38.1 +1.1**
SNR=6.4
O02D Mt. Diablo Mer 72.63 53 P 15 47 39.6
baz=300,SNR=15
ZEI Tsey 72.65 310 *e*P P **15 47 35.3 -1.8**
ZEI pmax pmax
comp=Z,40nm,1.4s
KBZ Khabaz 72.80 311 P P **15 47 38.6 +1.0**
comp=Z,54nm,1.0s,baz=56,slow=2.8,SNR=50
KBZ LR LR 16 21 46.9
comp=Z,734nm,18.5s,baz=86,slow=38
KBZ Khabaz 72.80 311*c e*P P **15 47 38.4 +0.7**
KBZ pmax pmax
comp=Z,75nm,1.1s
UOSS Minazif 72.80 289 P P **15 47 38.7 +0.7**
UOSS Minazif 72.80 289 P P **15 47 38.8 +0.7**
UOSS IAmb IAmb 15 47 56.5
comp=Z,20nm,0.9s
UOSS Minazif 72.80 289 IAMs_20 IAMs_20 16 18 59.1
comp=Z,449nm,22.0s
UOSS Minazif 72.80 289 P P **15 47 38.9 +0.9**
UOSS P P **15 47 38.9 +0.9**
KIV Kislovodsk 72.81 312⇑P P **15 47 39.0 +1.0**
KIV Kislovodsk 72.81 312 *i* P P **15 47 39.3 +1.4**
SNR=9.5
KIV Kislovodsk 72.81 312 *e*P P **15 47 38.8 +0.9**
KIV *e*S **S** **15 57 05.5 +2.3**
KIV *e*SS **SS** **16 01 46.1 +3.6**
KIV pmax pmax
comp=Z,262nm,1.0s
KIV pmax pmax
comp=Z,144nm,3.7s
KIV MLR MLR
comp=Z,2μm,18.0s
KIV Kislovodsk 72.81 312 P P **15 47 38.9 +1.0**
KIV IAMs_20 IAMs_20 16 19 19.2
comp=Z,680nm,20.0s
KIV Kislovodsk 72.81 312 P P **15 47 39.9 +2.0**
VSU Vasula 72.88 330 *e*P P **15 47 38.5 +0.7**
VSU Vasula 72.88 330*d i*P P **15 47 38.9 +1.1**
HATD Hatta, Dubai 72.92 289 *i* P P **15 47 39.5 +0.8**
SNR=8.5
HATD Hatta, Dubai 72.92 289 P P **15 47 40.0 +1.3**
HATD P P **15 47 40.0 +1.3**
SOHO SOHO 72.95 288 *i* P P **15 47 39.6 +0.7**
SNR=9.7
SOHO SOHO 72.95 288 P P **15 47 39.9 +1.0**
SOHO P P **15 47 39.9 +1.0**
ASHO Ashiyiah 73.05 289 P P **15 47 39.7 +0.1**
ASHO Ashiyiah 73.05 289 P P **15 47 40.6 +1.1**
ASHO P P **15 47 40.6 +1.1**
KZRT Kazreti 73.05 309 P P **15 47 35.9 -3.4**
BSY Bisya 73.13 286 P P **15 47 41.3 +1.3**
BSY P P **15 47 41.3 +1.3**
NEY Neytrino 73.16 311 *i* P P **15 47 39.9 -0.2**
NEY pmax pmax
comp=Z,9.0nm,1.2s
O03E Paynes Creek 73.22 53 P 15 47 42.3
baz=301,SNR=16
WALA Waterton Lakes 73.36 42 IAmb IAmb 15 47 45.3
comp=Z,46nm,1.4s
ARQ Araqi 73.36 287 P P **15 47 43.0 +1.6**
SNR=11
ARQ P P **15 47 43.0 +1.6**
SNR=11
FAQ Al Faqa, Dubai 73.38 289 *i* P P **15 47 42.2 +0.7**
SNR=7.3
FAQ Al Faqa, Dubai 73.38 289 P P **15 47 42.3 +0.9**
SUMG Summit 73.40 0 *i* P P **15 47 43.3 +2.1**
comp=Z,43nm,0.9s
SUMG Summit 73.40 0 *i* P P **15 47 43.3 +2.1**
SUMG pmax pmax
comp=Z,43nm,0.9s
SUMG Summit 73.40 0 IAmb IAmb 15 47 43.7
comp=Z,33nm,1.0s
SUMG Summit 73.40 0 *i* P P **15 47 43.4 +2.1**
SUMG IAmb IAmb 15 47 43.7
comp=Z,43nm,0.9s
MHTO MHTO 73.41 284 P P **15 47 42.6 +0.9**
MHTO P P **15 47 42.6 +0.9**
GNI Garni 73.46 307*c e*P P **15 47 43.4 +1.5**
GNI pmax pmax
comp=Z,32nm,1.0s
GNI Garni 73.46 307 P P **15 47 44.1 +2.2**
GNI P P **15 47 44.1 +2.2**
ALNE Al Ain 73.61 288 P P **15 47 43.5 +0.7**
ALNE Al Ain 73.61 288 P P **15 47 43.9 +1.0**
SNR=8.8
ALNE P P **15 47 43.9 +1.0**
SNR=8.8

AKH Akhalkalaki 73.62 309 ⇓P **P** **15 47 44.7 +1.9**
ASUD Al Ashush, Dub 73.65 289 *i* P **P** **15 47 44.0 +0.9**
SNR=7.5
ASUD Al Ashush, Dub 73.65 289 P **P** **15 47 44.3 +1.2**
ASUD P **P** **15 47 44.3 +1.2**
CHVG Ch'k'valeri 73.83 311 ⇑P **P** **15 47 45.3 +1.5**
MTSE Matsula 73.90 331 *eP* **P** **15 47 41.2 -2.6**
KARS Kars 74.30 309 P **P** **15 47 49.5 +2.7**
AAL Aland 74.39 334 *eP* **P** **15 47 46.9 +0.2**
MSO Missoula 74.58 44 P 15 47 49.7
baz=304,SNR=9.9
UMZA Um Al Zommool 74.76 287 P **P** **15 47 49.8 +0.3**
SCO Scoresbysund 74.83 354 *i* P **P** **15 47 50.2 +1.1**
comp=Z,10nm,0.8s
SCO Scoresbysund 74.83 354 *eP* **P** **15 47 50.2 +1.1**
SCO pmax pmax
comp=Z,11nm,0.8s
SCO Scoresbysund 74.83 354 *eP* **P** **15 47 50.2 +1.1**
SCO IAmb IAmb 15 47 52.0
comp=Z,10nm,0.8s
SOC Sochi 74.83 313 *eP* **P** **15 47 49.8 +0.2**
SOC *e* 15 50 35.3
SOC *e*PPP PPP 15 52 23.9
SOC *e*S **S** **15 57 29.9 +4.2**
SOC pmax pmax
comp=Z,21nm,0.7s
SOC MLR MLR
comp=Z,886nm,17.0s
MNK Minsk 74.84 326 *eP* **P** **15 47 51.0 +1.6**
MNK Minsk 74.84 326 *i* P **P** **15 47 49.0 -0.4**
comp=E,6.0nm,1.0s
MNK *i* P **P** **15 47 49.0 -0.4**
comp=N,24nm,1.0s
MNK *i* P **P** **15 47 49.0 -0.4**
comp=Z,64nm,1.0s
MNK *i* PcP **pwP** **15 48 01.3 -0.6**
MNK *i* PP **PP** **15 50 36.5 +0.2**
MNK *i* PPP PPP 15 52 22.2
MNK *i* S **S** **15 57 26.0 +0.7**
MNK *i* ScS ScS 15 58 19.7 +19
MNK *i* SS **SS** **16 02 12.2 -0.2**
MNK *i* SSS SSS 16 05 39.1
MNK *i* LQ LQ 16 17 02.2
MNK *i* LR LR 16 20 31.7
MNK *i* LRM MLR 16 24 41.5
comp=N,764nm,19.5s
MNK *i* LRM MLR 16 25 05.8
comp=E,100nm,19.5s
MNK *i* LRM MLR 16 25 10.3
comp=Z,947nm,19.5s
IDID Didziasalis 74.84 327 *eP* **P** **15 47 49.9 +0.4**
ISAL Salakas 74.95 328 *eP* **P** **15 47 50.5 +0.4**
IIGN Ignalina 75.05 328 *eP* **P** **15 47 51.3 +0.6**
NACGM Naroch 75.08 327 *i* P **P** **15 47 51.7 +0.8**
NACGM *i* P **P** **15 47 51.7 +0.8**
NACGM *i* P **P** **15 47 51.7 +0.8**
NACGM *i* PcP **PcP** **15 48 07.2 +2.7**
NACGM *i* PP **PP** **15 50 35.2 -3.1**
NACGM *i* PPP PPP 15 52 25.2
NACGM *i* S **S** **15 57 23.9 -4.2**
NACGM *i* PS 15 59 00.3
NACGM *i* SS **SS** **16 02 10.2 -5.9**
NACGM *i* SSS SSS 16 05 34.0
NACGM *i* LQ LQ 16 15 26.3
NACGM *i* LR LR 16 21 50.4
SLIT Slitere, Latvi 75.23 331 *eP* **P** **15 47 51.9 +0.3**
PNTR Pine Nut 75.30 53 P **P** **15 47 53.4 +0.7**
CMB Columbia Colle 75.34 54 IAMs_20 IAMs_20 16 17 54.4
comp=Z,631nm,20.0s
MFID Camas Ranch 75.35 47 IAmb IAmb 15 47 55.5
comp=Z,23nm,0.8s
UPP Uppsala 75.47 334 *eP* **P** **15 47 53.5 +0.6**
ANN Anapa 75.53 315 *eP* **P** **15 47 51.3 -2.3**
ANN *e**PP **pP** **15 47 54.7 -2.3**
ANN *e* 15 48 12.5
ANN *e* 15 50 46.5
ANN *e*S **S** **15 57 33.2 -0.2**
ANN pmax pmax
comp=Z,57nm,1.1s
ANN MLR MLR
comp=Z,873nm,13.0s
FFC Flin Flon 75.92 32 P **P** **15 47 56.3 +0.7**
FFC pmax pmax
comp=Z,32nm,0.9s
FFC Flin Flon 75.92 32 P **P** **15 47 56.3 +0.7**
FFC IAmb IAmb 15 47 57.7
comp=Z,32nm,0.8s
PABE Paberze 75.93 329 *eP* **P** **15 47 56.3 +0.6**
EGMT Eagleton 76.22 41 P 15 47 59.1
baz=306,SNR=15
PBUR Paburge 76.45 330 *eP* **P** **15 47 59.0 +0.4**
NVAR Mina Array Bea 76.51 53 P **P** **15 48 01.6 +2.0**
comp=Z,8.5nm,0.8s,baz=286,slow=5.7,SNR=75
NVAR LR LR 16 16 55.0
comp=Z,574nm,20.0s,baz=272,slow=32
NVAR Mina Array Bea 76.51 53 P **P** **15 48 00.3 +0.7**
AKASG Malin Array Be 76.55 323 P **P** **15 47 59.4 +0.2**
comp=Z,22nm,0.7s,baz=47,slow=6.1,SNR=105
AKASG S **S** **15 57 42.4 -2.0**
comp=Z,0.1nm,0.2s,baz=49,slow=11,SNR=4.2
AKASG LR LR 16 25 28.8
comp=Z,3μm,18.3s,baz=50,slow=39
AKASG Malin Array Be 76.55 323 P **P** **15 47 59.5 +0.2**
AKBB Malin Array Si 76.55 323 *ceP* **P** **15 47 59.6 +0.3**
AKBB Malin Array Si 76.55 323 IAmb IAmb 15 48 00.4
comp=Z,30nm,0.8s
MLAC Mammoth, Mammo 76.59 54 P 15 48 02.8
baz=303
BOZ Bozeman (W) 76.60 44 P 15 48 01.6
baz=305,SNR=13
NB2 NORSAR Subarra 76.75 338 P **P** **15 48 00.7 +0.4**
comp=Z,38nm,0.9s,baz=40,slow=5.9
NB2 NORSAR Subarra 76.75 338 P **P** **15 48 00.7 +0.4**
baz=40,slow=5.9
NOA NORSAR Array B 76.75 338 P **P** **15 48 00.8 +0.4**
comp=Z,15nm,0.8s,baz=39,slow=5.7,SNR=72
NOA PP **PP** **15 50 52.8 +0.5**
comp=Z,7.4nm,1.1s,baz=41,slow=8.5,SNR=7.9
NOA LR LR 16 26 04.5
comp=Z,2μm,18.4s,baz=30,slow=39
NC602 NORSAR Array S 76.88 337 IAmb IAmb 15 48 02.4
comp=Z,85nm,1.4s
NBO00 NORSAR Array S 76.90 338 IAmb IAmb 15 48 20.6
comp=Z,51nm,0.9s
ICESG Greenland Ices 76.90 0 *i* P **P** **15 48 03.3 +1.9**
ICESG IAML 15 48 04.1
comp=Z,26nm,0.8s
ICESG IAmb IAmb 15 48 04.1
comp=Z,26nm,0.8s
UMR Umm Al-Rimmam 76.91 297 *eP* 15 48 00.9
NAO01 NORSAR Array S 77.01 338 IAmb IAmb 15 48 20.8
comp=Z,45nm,0.9s
MIB Mutribah 77.06 297 *eP* 15 48 01.6
SMMC Simmler 77.06 56 P 15 48 05.1
baz=303
SUW Suwalki 77.26 328 *eP* **P** **15 48 03.8 +0.5**
RDF Al-Radifah 77.36 296 *eP* 15 48 03.9
VES Vestal, Richgr 77.40 55 P 15 48 05.9
baz=303
PKM Mcpherson Peak 77.42 56 P 15 48 06.8
baz=303,SNR=5.8
DOK Doka 77.72 284 P **P** **15 48 07.1 +0.7**
DOK P **P** **15 48 07.1 +0.7**
CWC Cottonwood Cre 77.75 54 P 15 48 08.0
baz=304
H17A Grant Village 77.91 44 P 15 48 11.2
baz=306,SNR=48
ISA Isabella, Lake 77.91 55 P 15 48 08.5
baz=304,SNR=5.4
GRAC Grapevine Rang 77.92 53 P 15 48 09.7
baz=304
HVU Hansel Valley 78.13 47 P **P** **15 48 09.4 +0.8**
HVU pmax pmax
comp=Z,28nm,0.8s
HVU Hansel Valley 78.13 47 P **P** **15 48 09.4 +0.8**
HVU IAmb IAmb 15 48 12.1
comp=Z,28nm,0.8s
RLMT Red Lodge 78.22 43 P **P** **15 48 10.4 +1.3**
RLMT IAmb IAmb 15 48 12.6
comp=Z,32nm,1.3s
RLMT Red Lodge 78.22 43 P 15 48 11.4
baz=307,SNR=12
RBK Rabkut 78.25 283 P **P** **15 48 09.8 +0.4**
RBK P **P** **15 48 09.8 +0.4**
R11A Troy Canyon, C 78.33 52 P 15 48 11.7
baz=304,SNR=35
KONO Kongsberg 78.34 337 *ceP* **P** **15 48 10.6 +1.5**
KONO pmax pmax
comp=Z,33nm,1.7s
WHFO Wadi Hawf 78.38 284 P **P** **15 48 10.3 +0.2**
SNR=6.5
WHFO P **P** **15 48 10.3 +0.2**
SNR=6.5
FURC Furnace Creek, 78.55 54 P 15 48 12.9
baz=304
LRMC Laurel Mtn Rad 78.55 55 P 15 48 12.6
baz=304,SNR=10
SFJD Kangerlussuaq 78.58 5 P **P** **15 48 11.3 +1.0**
comp=Z,11nm,0.8s
SFJD Kangerlussuaq 78.58 5 *i* P **P** **15 48 11.8 +1.5**
comp=Z,0.8nm,0.8s
SFJD Kangerlussuaq 78.58 5 P **P** **15 48 11.3 +1.0**
SFJD pmax pmax
comp=Z,19nm,1.2s
SFJD Kangerlussuaq 78.58 5 P **P** **15 48 11.3 +1.0**
SFJD Kangerlussuaq 78.58 5 *i* P **P** **15 48 11.8 +1.5**
SFJD IAmb IAmb 15 48 12.1
comp=Z,0.8nm,0.8s
SORM Soroca 78.59 321 ⇑P **P** **15 48 11.0 +0.3**
DIKM Dikmen 78.64 313 ⇑P **P** **15 48 11.2 +0.1**
EDW2 Edwards Air Fo 78.67 56 P 15 48 13.2
baz=304,SNR=12
TPNV Topopah Spring 78.68 53 P 15 48 13.6
baz=304,SNR=20
LAO LASA Array 78.94 41 P 15 48 14.7
baz=309,SNR=7.8
DUG Dugway, Tooele 79.03 49 P **P** **15 48 15.1 +1.6**
DUG pmax pmax
comp=Z,48nm,1.1s
DUG Dugway, Tooele 79.03 49 P **P** **15 48 15.1 +1.6**
DUG IAmb IAmb 15 48 16.9
comp=Z,48nm,1.1s
DUG Dugway, Tooele 79.03 49 P 15 48 15.8
baz=306,SNR=41
ABTO Aybut 79.06 284 P **P** **15 48 14.4 +0.5**
SNR=9.8
ABTO P **P** **15 48 14.4 +0.5**
SNR=9.8
GSC Goldstone, Bar 79.24 55 P 15 48 16.6
baz=304,SNR=7.0
BFSC Mount Baldy Ra 79.26 56 P 15 48 16.7
baz=304
SHOC Shoshone, Teco 79.26 54 P 15 48 16.8
baz=305
TCUT Toone Canyon 79.35 47 P **P** **15 48 16.5 +1.1**
TCUT IAmb IAmb 15 48 19.6
comp=Z,45nm,0.9s
PDAR Pinedale Array 79.47 45 P **P** **15 48 17.3 +1.3**
comp=Z,6.4nm,0.8s,baz=265,slow=2.1,SNR=55
PDAR Pinedale Array 79.47 45 P **P** **15 48 17.1 +1.1**
BW06 Boulder Array 79.47 45 P 15 48 17.3
baz=307,SNR=21
LVV L'vov 79.67 324 *eP* **P** **15 48 17.2 +0.6**
LVV MLR MLR
comp=N,1μm,16.0s
LVV MLR MLR
comp=E,2μm,16.0s
LVV MLR MLR
comp=Z,2μm,16.0s
MURC Murrieta 79.93 56 P 15 48 20.1
baz=304
TLCR 80.21 319 ⇓P **P** **15 48 19.9 +0.2**
CCUT Cedar City 80.22 51 P **P** **15 48 20.3 +0.1**
CCUT IAmb IAmb 15 48 23.7
comp=Z,41nm,1.3s
GMRC Granite Mounta 80.31 55 P 15 48 22.3
baz=305,SNR=10.0
KWP Kalwaria Pacla 80.43 325 *eP* **P** **15 48 21.9 +1.1**
PFO Pinyon Flats O 80.43 56 P **P** **15 48 20.5 -0.8**
PFO pmax pmax
comp=Z,13nm,0.9s
PFO Pinyon Flats O 80.43 56 P **P** **15 48 20.5 -0.8**
PFO Pinyon Flats O 80.43 56 P 15 48 23.0
baz=305,SNR=11
XPFO Pion Flat 80.44 56 P **P** **15 48 20.6 -0.6**
TPFO Pinon Flats 80.44 56 P 15 48 22.9
baz=305,SNR=11
TESR Tescani 80.52 321 ⇑P **P** **15 48 21.8 +0.5**
BELC Belle Mtn. Jos 80.53 55 P 15 48 23.1
baz=305,SNR=10
BIZ Bicaz 80.53 321 ⇑P **P** **15 48 22.4 +1.1**
BURAR Bucovina Array 80.54 322 ⇑P **P** **15 48 22.6 +1.0**
BURAR Bucovina Array 80.54 322 P **P** **15 48 21.4 -0.2**
CFR Carcaliu 80.59 319 ⇑P **P** **15 48 22.2 +0.6**
TPGR Topolog 80.64 318 ⇑P **P** **15 48 23.0 +1.0**
MTPU Mount Pierson 80.69 50 P **P** **15 48 23.1 +0.3**
MTPU IAmb IAmb 15 48 26.7
comp=Z,38nm,1.2s
P17A Butcher Ranch, 80.74 48 IAmb IAmb 15 48 25.7
comp=Z,41nm,0.8s
BR131 Keskin Array S 80.77 312 IAmb IAmb 15 48 30.2
comp=Z,27nm,0.9s
BRTR Keskin Array B 80.77 312 P **P** **15 48 23.7 +0.7**
comp=Z,12nm,0.7s,baz=97,slow=3.2,SNR=48
BRTR Keskin Array B 80.77 312 P **P** **15 48 23.9 +0.9**
BRTR Keskin Array B 80.77 312 P **P** **15 48 23.9 +0.9**
MONP2 Monument Peak 80.87 56 P 15 48 25.3
baz=305,SNR=8.1
TIRR Tirgusor 80.89 318 ⇑P **P** **15 48 24.0 +0.7**
VRI Vrincioaia 80.90 320 ⇑P **P** **15 48 24.5 +1.1**
PLOR Plostina 80.95 320 ⇓P **P** **15 48 25.7 +2.0**
HARR Harsova 81.01 319 ⇑P **P** **15 48 25.3 +1.4**
IRM Iron Mountain 81.02 55 P 15 48 26.3
baz=305,SNR=8.4
BC3 Big Chuckawall 81.09 55 P 15 48 26.5
baz=305,SNR=8.9
KOLS Kolonicke sedl 81.11 324 *eP* **P** **15 48 24.9 +0.5**
KOLS pmax pmax
comp=Z,14nm,1.3s
KOLS Kolonicke sedl 81.11 324 *eP* **P** **15 48 24.9 +0.5**
BISRR Bisoca 81.12 320 ⇑P **P** **15 48 26.1 +1.5**
IKP In-Ko-Pah, Jac 81.22 57 P 15 48 27.1
baz=305,SNR=9.0
OZUR 81.25 321 ⇑P **P** **15 48 26.9 +1.6**
SWSC Sam W. Stewart 81.27 56 P 15 48 27.2
baz=305
SOCY Socotra 81.29 279 P **P** **15 48 24.1 -1.9**
SOCY IAmb IAmb 15 48 30.1
comp=Z,44nm,1.0s
SOCY IAMs_20 IAMs_20 16 31 13.7
comp=Z,372nm,18.0s
SOCY Socotra 81.29 279 P **P** **15 48 24.6 -1.4**
K22A Casper 81.30 44 P 15 48 27.3
baz=309,SNR=7.2
UZH Uzhgorod 81.31 324 *eP* **P** **15 48 23.9 -1.6**
UZH *e* 15 48 31.7
OJC Ojcow 81.38 326 *eP* **P** **15 48 26.7 +0.9**
ICOR Ion Corvin 81.45 318 ⇑P **P** **15 48 28.3 +2.0**
CRVS Cervenica-Dubn 81.53 325 *eP* **P** **15 48 27.6 +1.0**
CRVS pmax pmax
comp=Z,56nm,1.6s
CRVS Cervenica-Dubn 81.53 325 *eP* **P** **15 48 27.6 +1.0**
DOPR Dopca 81.54 321 ⇓P **P** **15 48 28.7 +1.9**
MLR Muntele Rosu 81.56 320 ⇑P **P** **15 48 27.6 +0.5**
MDND Maddock 81.60 37 P 15 48 28.7
baz=313,SNR=5.4
PDMCI Parker Dam,Lak 81.61 54 P 15 48 29.0
baz=306,SNR=8.7
ULM Lac du Bonnet 81.69 33 P **P** **15 48 27.9 +0.4**
comp=Z,19nm,1.1s,baz=323,slow=5.3,SNR=17
ULM LR LR 16 25 27.0
comp=Z,113nm,20.6s,baz=330,slow=36
ESJX Sierra Juarez 81.70 57 P **P** **15 48 27.6 -0.5**
NIE Niecica 81.72 326 *eP* **P** **15 48 29.0 +1.3**
RSSD Black Hills 81.76 42 P **P** **15 48 27.7 -0.5**
RSSD pmax pmax
comp=Z,33nm,1.5s
RSSD Black Hills 81.76 42 P **P** **15 48 27.7 -0.5**
RSSD IAmb IAmb 15 48 30.7
comp=Z,33nm,1.4s
RSSD Black Hills 81.76 42 P 15 48 29.2
baz=310
SECR 81.80 320 ⇑P **P** **15 48 30.0 +1.8**
RAYN Ar Rayn 81.84 293 *i* P **P** **15 48 29.5 +0.7**
SNR=25
RAYN Ar Rayn 81.84 293 P **P** **15 48 29.2 +0.4**
RAYN pmax pmax
comp=Z,29nm,1.1s
RAYN MLR MLR
comp=Z,500nm,19.0s
RAYN Ar Rayn 81.84 293 P **P** **15 48 29.2 +0.4**
RAYN IAmb IAmb 15 48 35.1
comp=Z,29nm,1.1s
RAYN IAMs_20 IAMs_20 16 30 54.2
comp=Z,526nm,19.0s
O20A White River Ci 81.86 47 P 15 48 30.6
baz=308,SNR=11
GLA Glamis 81.87 56 P 15 48 30.9
baz=306,SNR=5.7
CJR Cluj-Napoca 81.97 322 ⇑P **P** **15 48 30.4 +1.3**
VOIR 82.07 321 ⇓P **P** **15 48 30.7 +1.1**
LANS Liptovska Anna 82.29 326 *eP* **P** **15 48 32.5 +1.8**
LANS pmax pmax
comp=Z,20nm,1.7s
LANS Liptovska Anna 82.29 326 *eP* **P** **15 48 32.5 +1.8**
RUE Ruedersdorf 82.33 331 *eP* **P** **15 48 31.8 +1.1**
comp=Z,50nm,1.2s,baz=38,slow=5.0
ARR Arges 82.34 321 ⇑P **P** **15 48 33.0 +2.0**
DRGR 82.36 323 ⇑P **P** **15 48 32.2 +1.0**
OKC Ostrava-Krasne 82.41 327 AMS AMS 16 29 30.0
comp=Z,2μm,19.9s
KSP Ksiaz 82.50 329 *eP* **P** **15 48 32.5 +0.8**
PV22 Blue Mesa, Par 82.52 48 IAmb IAmb 15 48 40.0
comp=Z,58nm,1.2s
BSEG Bad Segeberg 82.55 333 *eP* **P** **15 48 32.8 +0.9**
comp=Z,26nm,1.0s,baz=38,slow=5.0
HUMR Humele 82.71 320 ⇑P **P** **15 48 33.9 +1.0**
WUAZ Wupatki 82.72 52 P 15 48 35.5
baz=307,SNR=12
MORC Moravsky Berou 82.72 327 ⇑P **P** **15 48 33.7 +0.8**
MORC Moravsky Berou 82.72 327 *eP* **P** **15 48 33.5 +0.6**
MORC *e*PP **PP** **15 51 41.0 -1.1**
OSTC Ostas 82.74 328 *eP* **P** **15 48 34.0 +1.0**
OSTC AMS AMS 16 29 50.0
comp=Z,2μm,19.1s
N23A Red Feather La 82.75 45 P 15 48 35.8
baz=310,SNR=21
PV02 Paradox Valley 82.75 48 IAmb IAmb 15 48 43.0
comp=Z,34nm,0.8s
CHVC Chvalec 82.78 328 AMS AMS 16 29 50.0
comp=Z,2μm,18.7s
KRLC Kraliky 82.84 328 *eP* **P** **15 48 34.7 +1.1**
KRLC MLR MLR
comp=Z,1μm,18.3s
KRLC Kraliky 82.84 328 *eP* **P** **15 48 34.7 +1.1**
KRLC AMS AMS 16 30 40.0
comp=Z,1μm,18.3s
DPC Dobruska-Polom 82.84 328 *eP* **P** **15 48 34.9 +1.3**
DPC MLR MLR
comp=Z,2μm,17.2s
DPC Dobruska-Polom 82.84 328 *eP* **P** **15 48 34.9 +1.3**
DPC AMS AMS 16 29 50.0
comp=Z,2μm,17.2s
COPA Copaceanca 82.85 319 ⇓P **P** **15 48 34.2 +0.6**
UPC Upice 82.86 328 *eP* **P** **15 48 34.8 +1.2**
UPC MLR MLR
comp=Z,2μm,16.0s
UPC Upice 82.86 328 *eP* **P** **15 48 34.8 +1.2**
UPC AMS AMS 16 29 50.0
comp=Z,2μm,16.0s
PV01 Paradox Valley 82.90 48 IAmb IAmb 15 48 37.4
comp=Z,50nm,1.1s
PSZ Piszkesteto 82.96 325 ⇓P **P** **15 48 35.8 +1.5**
VYHS Vyhne 83.05 326 *eP* **P** **15 48 35.8 +1.2**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 83.05 326 *eP* **P** **15 48 35.8 +1.2**
AGMN Agassiz Nation 83.09 35 P 15 48 35.2
baz=315
SIRR Siria 83.25 323 ⇑P **P** **15 48 36.7 +1.0**
GZR Gura Zlata 83.28 322 ⇓P **P** **15 48 36.7 +0.7**
PPT2 Papeete2 83.30 116 *e*S **S** **15 58 56.7 +0.1**
comp=Z,324nm,26.2s
PPT2 Papeete2 83.30 116 *e*LQ LQ 16 10 46.8
comp=Z,502nm,27.5s
PPT2 *e*LR LR 16 14 57.2
comp=Z,334nm,24.5s
JAVC Velka Javorina 83.33 327 *eP* **P** **15 48 37.8 +1.7**
JAVC *e*PP **PP** **15 51 49.3 +2.2**
VLAD Vladila 83.37 320 ⇑P **P** **15 48 37.0 +0.7**
FLTG Flechtingen 83.45 332 *eP* **P** **15 48 37.0 +0.4**
comp=Z,42nm,1.5s,baz=38,slow=5.0
PVCC Panska Ves 83.47 329 *eP* **P** **15 48 38.5 +1.8**
PVCC MLR MLR
comp=Z,2μm,17.6s
PVCC Panska Ves 83.47 329 *eP* **P** **15 48 38.5 +1.8**
PVCC AMS AMS 16 33 00.0
comp=Z,2μm,17.6s
BRG Berggiesshubel 83.47 330 *i* P **P** **15 48 37.2 +0.5**
BRG Amp 15 48 38.7
comp=Z,17nm,1.1s
BRG *ex* x 15 49 01.8
BRG Amp 15 49 03.4
comp=Z,15nm,1.1s
BRG PP **PP** **15 51 49.1 +1.0**
BRG Amp 15 51 54.4
comp=Z,17nm,1.3s
BRG S **SKSac** **15 59 08.0 +10**
BRG Amp 16 30 46.0
comp=N,1.0nm,13.9s
BRG Amp 16 30 47.0
comp=E,0.8nm,16.6s
BRG Amp 16 30 50.0
comp=Z,1.8nm,12.7s
BRG Berggiesshubel 83.47 330 *eP* **P** **15 48 37.6 +0.9**
comp=Z,23nm,1.3s,baz=38,slow=5.0
VRAC Vranov 83.49 327 ⇑P **P** **15 48 37.7 +0.9**
VRAC Vranov 83.49 327 *eP* **P** **15 48 37.7 +0.9**
VRAC *e*PP **PP** **15 51 48.6 +0.2**
MVCO Mesa Verde 83.52 49 P **P** **15 48 37.8 +0.2**
MVCO IAmb IAmb 15 48 40.0
comp=Z,21nm,1.0s
MVCO IAMs_20 IAMs_20 16 24 00.6
comp=Z,430nm,20.0s
MVCO Mesa Verde 83.52 49 P 15 48 39.5
baz=308,SNR=17
CLL Collm 83.53 330 ⇑ *i*P **P** **15 48 37.3 +0.3**
comp=Z,40nm,1.3s
CLL *e*PP **PP** **15 51 50.0 +1.4**
CLL Lm MLR 16 29 00.0
comp=Z,1μm,18.7s
CLL Collm 83.53 330 ⇑ *i*P **P** **15 48 37.3 +0.3**
CLL pmax pmax
comp=Z,40nm,1.3s
CLL MLR MLR
comp=Z,1μm,18.7s
CLL Collm 83.53 330 *eP* **P** **15 48 37.6 +0.6**
comp=Z,40nm,1.3s,baz=38,slow=5.0
SRE Strehaia 83.56 321 ⇓P **P** **15 48 39.2 +1.9**
ISCO Idaho Springs 83.64 46 P 15 48 40.2
baz=310,SNR=11
PLVB Pleven 83.67 319 ⇓P **P** **15 48 38.7 +0.8**
MMAI Mount Meron Ar 83.67 306 P **P** **15 48 38.9 +0.7**
comp=Z,23nm,0.8s,baz=51,slow=6.6,SNR=35
FBE Freiberg 83.68 330 *eP* **P** **15 48 39.0 +1.3**
comp=Z,67nm,1.4s,baz=38,slow=5.0
SMOL Smolenice 83.69 326 *eP* **P** **15 48 39.6 +1.7**
SMOL pmax pmax
comp=Z,24nm,1.2s
SMOL Smolenice 83.69 326 *eP* **P** **15 48 39.6 +1.7**
BZS Buzias 83.72 322 ⇑P **P** **15 48 38.7 +0.6**
KRUC Moravsky 83.76 327 *eP* **P** **15 48 38.8 +0.6**
KRUC *e*PP **PP** **15 51 50.3 -0.3**
SRO2 Moca 83.78 325 *eP* **P** **15 48 38.6 +0.3**
SRO2 pmax pmax
comp=Z,20nm,0.9s
SRO2 Moca 83.78 325 *eP* **P** **15 48 38.6 +0.3**
SRO Srobarova 83.78 325 *eP* **P** **15 48 39.7 +1.3**
SRO pmax pmax
comp=Z,41nm,1.2s
SRO Srobarova 83.78 325 *eP* **P** **15 48 39.7 +1.3**
HERR Herculane 83.82 321 ⇓P **P** **15 48 39.5 +0.9**
MODS Modra-Piesok 83.86 326 *eP* **P** **15 48 39.2 +0.4**
MODS pmax pmax
comp=Z,37nm,1.2s
MODS Modra-Piesok 83.86 326 *eP* **P** **15 48 39.2 +0.4**
CSS Mathiatis 83.86 308 IAMs_20 IAMs_20 16 23 22.8
comp=Z,527nm,22.0s
PRA Prague 83.87 329 *eP* **P** **15 48 40.1 +1.4**
PRA Prague 83.87 329 *eP* **P** **15 48 40.1 +1.4**
PRU Pruhonice 83.88 329 *eP* **P** **15 48 39.6 +0.8**
PRU MLR MLR
comp=Z,2μm,20.3s
PRU Pruhonice 83.88 329 *eP* **P** **15 48 39.6 +0.8**
PRU AMS AMS 16 30 10.0
comp=Z,2μm,20.3s

214A	Organ Pipe Nat	83.89	55	P			15 48 41.1	
	baz=307,SNR=5.6							
BAIL	Bailesti	83.92	320	⇓P		P	15 48 40.9	+1.8
TREC	Trest	83.99	328	AMS	AMS		16 29 30.0	
	comp=Z,1μm,18.4s							
W18A	Petrified Fore	84.02	51	P			15 48 42.3	
	baz=308							
B35A	Bob, Littlefor	84.03	33	IAmb	IAmb		15 48 40.6	
	comp=Z,15nm,0.9s							
ZST	Bratislava	84.07	326	eP		P	15 48 41.6	+1.8
ZST				pmax	pmax			
	comp=Z,158nm,1.6s							
ZST	Bratislava	84.07	326	eP		P	15 48 41.6	+1.8
NEUB	Neuenburg	84.11	331	eP		P	15 48 40.8	+0.9
	comp=Z,55nm,1.2s,baz=38,slow=5.0							
CLZ	Clausthal	84.17	332	eP		P	15 48 41.5	+1.2
	comp=Z,44nm,1.2s,baz=38,slow=5.0							
S22A	4UR Ranch, Cre	84.22	48	P			15 48 43.5	
	baz=309,SNR=36							
MDVR	Moldovita	84.25	322	⇑P		P	15 48 41.6	+0.7
SUSD	Miller	84.26	39	P			15 48 41.9	
	baz=314							
TANN	Tannenbergstha	84.43	330	eP		P	15 48 42.7	+1.0
	comp=Z,19nm,1.3s,baz=38,slow=5.0							
WERD	Werda	84.47	330	eP		P	15 48 42.7	+0.9
	comp=Z,17nm,1.3s,baz=38,slow=5.0							
PLN	Plauen	84.51	330	eP		P	15 48 43.1	+1.1
	comp=Z,48nm,1.8s,baz=38,slow=5.0							
GUNZ	Gunzen	84.53	330	eP		P	15 48 43.2	+1.1
	comp=Z,38nm,1.5s,baz=38,slow=5.0							
GTTG	Gottingen	84.56	332	eP		P	15 48 43.2	+1.0
	comp=Z,42nm,1.1s,baz=38,slow=5.0							
WERN	Wernitzgruen	84.57	330	eP		P	15 48 43.5	+1.1
	comp=Z,50nm,1.6s,baz=38,slow=5.0							
NKC	Novy Kostel	84.58	330	eP		P	15 48 43.2	+0.8
NKC				e			15 48 48.8	
NKC					MLR	MLR		
	comp=Z,2μm,13.4s							
NKC	Novy Kostel	84.58	330	eP		P	15 48 43.2	+0.8
NKC				ex		x	15 48 48.8	
NKC					AMS	AMS	16 30 40.0	
	comp=Z,2μm,13.4s							
MOX	Moxa	84.60	331	eP		P	15 48 43.5	+1.0
	comp=Z,42nm,1.4s,baz=38,slow=5.0							
MOX				eL		L	16 34 09.7	
	comp=Z,724nm,18.8s							
MORH	Mrgy, Hungar	84.77	324	⇑P		P	15 48 43.7	+0.3
CONA	Conrad Observa	84.83	327	eP		P	15 48 45.1	+1.3
	comp=Z,51nm,1.6s,SNR=18							
CONA				eP		PP	15 52 00.0	+0.6
	comp=Z,8.8nm,1.4s							
CKRC	Cesky Krumlov	84.86	328	eP		P	15 48 44.8	+0.9
CKRC					AMS	AMS	16 30 40.0	
	comp=Z,2μm,18.3s							
MANZ	Manzenberg	84.91	330	eP		P	15 48 45.1	+1.0
	comp=Z,42nm,1.5s,baz=38,slow=5.0							
VTS	Vitosha	84.94	319	⇑P		P	15 48 46.0	+1.5
KHC	Kasperske Hory	84.94	329	eP		P	15 48 45.2	+0.9
KHC				e			15 48 58.0	
KHC					MLR	MLR		
	comp=Z,3μm,17.6s							
KHC	Kasperske Hory	84.94	329	eP		P	15 48 45.2	+0.9
KHC				ex		x	15 48 58.0	
KHC					AMS	AMS	16 31 30.0	
	comp=Z,3μm,17.6s							
KHC	Kasperske Hory	84.94	329	IAmb	IAmb		15 48 46.1	
	comp=Z,23nm,1.0s							
FRGS	Fruska Gora	84.95	323	⇑P		P	15 48 45.2	+0.8
OGNE	Ogallala	84.96	43	IAMs_20	IAMs_20		16 28 00.5	
	comp=Z,319nm,21.0s							
OGNE	Ogallala	84.96	43	P			15 48 45.7	
	baz=312							
SDCO	Great Sand Dun	85.03	47	P			15 48 47.3	
	baz=310,SNR=12							
ROTZ	Rotzenmuhle	85.04	330	eP		P	15 48 46.0	+1.3
	comp=Z,59nm,1.4s,baz=38,slow=5.0							
TUC	Tucson	85.05	54	P		P	15 48 44.1	-1.1
TUC				pmax	pmax			
	comp=Z,6.0nm,0.9s							
TUC	Tucson	85.05	54	P		P	15 48 44.1	-1.1
TUC	Tucson	85.05	54	IAMs_20	IAMs_20		16 21 34.5	
	comp=Z,818nm,19.0s							
BOVS	Bovan	85.05	321	⇑P		P	15 48 45.5	+0.6
TUC	Tucson	85.05	54	P			15 48 47.0	
	baz=308							
GEC2	GERESS Array S	85.10	328	P		P	15 48 45.6	+0.4
GEC2	GERESS Array S	85.10	328	eP		P	15 48 45.8	+0.7
	comp=Z,14nm,0.9s,baz=38,slow=5.0							
GERES	GERESS Array B	85.10	328	P		P	15 48 45.5	+0.3
	comp=Z,7.6nm,0.8s,baz=39,slow=5.3,SNR=52							
GERES				PP		PP	15 52 02.3	+0.6
	comp=Z,5.6nm,1.2s,baz=39,slow=6.3,SNR=2.6							
GERES					LR	LR	16 29 30.2	
	comp=Z,634nm,18.9s,baz=58,slow=38							
UBBA	Unterbreizbach	85.11	332	eP		P	15 48 46.0	+1.1
	comp=Z,47nm,1.6s,baz=38,slow=5.0							
WET	Wettzell	85.23	329	eP		P	15 48 46.9	+1.2
	comp=Z,27nm,1.5s,baz=38,slow=5.0							
EYMN	Ely	85.34	33	P			15 48 47.1	
	baz=318							
KASTN	Kahler Asten	85.42	333	eP		P	15 48 47.4	+0.8
	comp=Z,23nm,1.0s,baz=38,slow=5.0							
ARSA	Arzberg	85.49	326	eP		P	15 48 47.9	+0.9
	comp=Z,24nm,1.6s,SNR=6.4							
GRF	Grafenberg Arr	85.50	330	eP		P	15 48 48.4	+1.3
	comp=Z,94nm,1.4s,baz=38,slow=5.0							
GRF				eL		L	16 34 49.4	
	comp=Z,1μm,18.1s							
MOA	Molln	85.61	328	eP		P	15 48 48.4	+0.7
	comp=Z,17nm,1.1s,SNR=6.9							
MOA				eP		PP	15 52 04.6	-1.0
	comp=Z,7.5nm,1.3s							
DIVS	Divibare	85.61	322	IAmb	IAmb		15 48 49.4	
	comp=Z,27nm,1.1s							
BUG	Bochum--Univer	85.67	333	eP		P	15 48 48.3	+0.6
	comp=Z,39nm,1.1s,baz=38,slow=5.0							
KALN	Kalnik	85.88	325	iP		P	15 48 48.9	-0.1
ECSD	EROS Data Cent	85.96	38	IAmb	IAmb		15 48 51.4	
	comp=Z,31nm,1.2s							
ECSD	EROS Data Cent	85.96	38	P			15 48 50.3	
	baz=315							
EIL	Elat	85.99	303	P		P	15 48 50.1	+0.3
	comp=Z,4.4nm,0.6s,baz=33,slow=5.3,SNR=5.0							
T25A	Trinidad	86.08	47	P			15 48 52.3	
	baz=311,SNR=10.0							
GROS	Grobnik	86.08	326	iP		P	15 48 50.2	+0.1
MOSL	Moslavina	86.12	325	iP		P	15 48 49.9	-0.3
PERS	Pernice	86.13	326	iP		P	15 48 50.5	+0.2
SOKA	Soboth	86.14	326	iP		P	15 48 50.9	+0.6
	comp=Z,36nm,1.3s,SNR=16							
SOKA				eP		PP	15 52 10.3	+0.2
	comp=Z,12nm,1.2s							
TNS	Taunus Mts	86.19	332	eP		P	15 48 51.3	+0.8
	comp=Z,48nm,1.6s,baz=38,slow=5.0							
ANMO	Albuquerque	86.23	50	ceP		P	15 48 50.0	-1.2
ANMO				pmax	pmax			
	comp=Z,14nm,1.7s							
ANMO	Albuquerque	86.23	50	P		P	15 48 51.1	-0.1
ANMO	Albuquerque	86.23	50	P			15 48 53.1	
	baz=310							
RJOB	Jochberg	86.34	328	eP		P	15 48 52.4	+1.1
	comp=Z,79nm,1.2s,baz=38,slow=5.0							
AHRW	Bad Neuenahr-A	86.46	333	eP		P	15 48 52.6	+0.9
	comp=Z,30nm,1.1s,baz=38,slow=5.0							
OBKA	Obir	86.48	326	eP		PP	15 52 11.0	-1.9
	comp=Z,9.1nm,1.4s							
Y22D	IRIS PASSCAL I	86.48	51	IAMs_20	IAMs_20		16 26 44.3	
	comp=Z,647nm,19.0s							
KBA	Koelnbreinsper	86.60	327	iP		P	15 48 53.6	+0.9
	comp=Z,18nm,1.9s							
KBA				eP		PP	15 52 14.3	+0.5
	comp=Z,13nm,1.1s							
SPMN	Marine on St.	86.77	35	P			15 48 54.3	
	baz=318							
BEBN	Eben Emael	86.78	334	dP		P	15 48 53.4	+0.1
BTNL	Ternell	86.78	333	bP		P	15 48 53.6	+0.3
MYKA	Terra Mystica	86.81	327	eP		P	15 48 53.3	-0.4
	comp=Z,11nm,1.1s							
MYKA				eP		PP	15 52 16.1	+0.6
	comp=Z,12nm,1.3s							
MEM	Membach	86.81	333	dP		P	15 48 53.8	+0.4
121A	Cookes Peak, D	86.90	52	P			15 48 56.3	
	baz=309							
GBAS	Gorenja Brezov	86.97	326	iP		P	15 48 54.1	-0.3
TBI	Tubuai	87.00	121	eLQ		LQ	16 12 10.5	
	comp=Z,329nm,32.5s							
TBI				eLR		LR	16 16 37.7	
	comp=Z,289nm,20.5s							
STU	Stuttgart	87.05	331	eP		P	15 48 55.4	+0.8
	comp=Z,53nm,1.5s,baz=38,slow=5.0							
LIT	Litokhoron	87.07	318	P		P	15 48 54.0	-1.0
LIT				pmax	pmax			
	comp=Z,10.0nm,0.8s							
LIT	Litokhoron	87.07	318	P		P	15 48 54.0	-1.0
PDG	Podgorica	87.17	321	⇓P		P	15 48 55.4	0.0
PDG	Podgorica	87.17	321	IAMs_20	IAMs_20		16 31 42.6	
	comp=Z,891nm,20.0s							
WATA	Walderalm	87.18	329	eP		P	15 48 54.5	-1.0
	comp=Z,8.9nm,1.1s							
WTTA	Wattenberg	87.21	328	eP		P	15 48 56.6	+0.9
	comp=Z,8.1nm,1.6s							
ABTA	Abfaltersbach	87.22	328	iP		P	15 48 55.8	+0.1
	comp=Z,16nm,1.8s							
BCLA	Clavier	87.22	334	bP		P	15 48 55.3	-0.1
BGES	Gesves	87.33	334	dP		P	15 48 56.1	+0.2
MOTA	Moosalm	87.37	329	eP		P	15 48 56.9	+0.4
	comp=Z,17nm,1.9s							
RETA	Reutte	87.41	329	iP		P	15 48 57.2	+0.7
	comp=Z,22nm,1.4s,SNR=6.6							
SQTA	Sankt Quirin	87.42	329	iP		P	15 48 55.7	-1.0
	comp=Z,6.1nm,1.0s							
RCHB	Rochefort	87.47	334	dP		P	15 48 56.4	-0.2
KIJV	Kijevo	87.47	324	iP		P	15 48 56.8	0.0
RICI	Ricice	87.48	323	P		P	15 48 56.5	-0.3
BMRD	Maredsous	87.51	334	dP		P	15 48 56.8	0.0
SNF	Seneffe	87.52	334	dP		P	15 48 57.4	+0.5
WLF	Walferdange	87.52	333	dP		P	15 48 57.8	+0.8
WLF	Walferdange	87.52	333	eP		P	15 48 58.1	+1.2
	comp=Z,42nm,1.3s,baz=38,slow=5.0							
CBKS	Cedar Bluff	87.70	43	P			15 48 58.7	
	baz=313							
DOU	Dourbes	87.75	334	dP		P	15 48 57.8	-0.2
BFO	Black Forest	87.75	331	P		P	15 48 58.5	+0.4
BFO				pmax	pmax			
	comp=Z,15nm,1.1s							
BFO	Black Forest	87.75	331	P		P	15 48 58.5	+0.4
BFO				IAmb	IAmb		15 49 01.6	
	comp=Z,15nm,1.1s							
BFO	Black Forest	87.75	331	eP		P	15 48 58.7	+0.6
	comp=Z,72nm,1.9s,baz=38,slow=5.0							
FETA	Feichten	87.79	329	eP		P	15 48 58.4	-0.1
	comp=Z,7.5nm,1.3s							
FETA				eP		PP	15 52 22.5	-0.9
	comp=Z,5.3nm,1.3s							
MORI	Morici	87.91	324	iP		P	15 48 58.3	-0.6
DAVA	Damuels	87.94	329	eP		P	15 48 59.3	+0.1
	comp=Z,7.9nm,0.8s							
HVAR	Hvar	88.05	323	iP		P	15 48 58.9	-0.7
DUGI	Dugi Otok	88.13	325	iP		P	15 48 59.4	-0.5
EPT	El Paso	88.22	52	IAMs_20	IAMs_20		16 25 27.3	
	comp=Z,533nm,21.0s							
DAVOX	Davos/Dischmat	88.34	329	P		P	15 49 01.7	+0.5
	comp=Z,4.1nm,0.6s,baz=4.6,slow=8.5,SNR=8.6							
TUE	Stuetta	88.81	329	P		P	15 49 02.3	-1.1
TUE				IAmb	IAmb		15 49 18.5	
	comp=Z,33nm,1.4s							
MNTX	Cornudas Mount	89.00	52	P			15 49 05.5	
	baz=310							
SCIA	State Center	89.01	38	P			15 49 05.8	
	baz=317							
AMTX	Amarillo	89.23	47	P			15 49 07.2	
	baz=312							
KSU1	Kansas State U	89.25	41	P			15 49 06.4	
	baz=315							
MATQ	Matagami	89.35	24	P			15 49 06.3	
	baz=328							
ITM	Ithomi	89.41	316	P		P	15 49 04.9	-1.2
ITM				IAmb	IAmb		15 49 06.8	
	comp=Z,23nm,0.7s							
LSQQ	Lebel-sur-Quev	90.18	24	P			15 49 10.1	
	baz=329							
SSF	Saint Saulge	90.67	333	eP		P	15 49 12.0	+0.2
SSF				pmax	pmax			
	comp=Z,28nm,1.5s							
TIP	Timpagrande	90.83	320	IAMs_20	IAMs_20		16 33 44.5	
	comp=Z,691nm,20.0s							
WMOK	Wichita Mounta	91.07	46	P			15 49 15.0	
	baz=314							
TX31	Lajitas Ar. Si	91.66	53	P		P	15 49 17.6	+0.7
TX31				IAmb	IAmb		15 49 18.9	
	comp=Z,14nm,0.8s							
TXAR	Lajitas Array	91.66	53	P		P	15 49 18.3	+1.4
	comp=Z,3.5nm,0.7s,baz=304,slow=3.5,SNR=33							
TXAR					LR	LR	16 29 43.7	
	comp=Z,441nm,18.7s,baz=0.0,slow=35							
TXAR	Lajitas Array	91.66	53	P		P	15 49 17.3	+0.4
D56A	ZEC Mazanza, M	92.67	24	P			15 49 21.1	
	baz=330							
CCM	Cathedral Cave	92.88	39	P		P	15 49 22.4	+0.2
CCM				pmax	pmax			
	comp=Z,16nm,1.1s							
CCM	Cathedral Cave	92.88	39	P		P	15 49 22.4	+0.2
CCM				IAmb	IAmb		15 49 25.6	
	comp=Z,16nm,1.1s							
CCM	Cathedral Cave	92.88	39	P			15 49 23.0	
	baz=319							
CAF	Calviac	93.01	333	eP		P	15 49 23.3	+0.6
CAF				pmax	pmax			
	comp=Z,17nm,1.0s							
U40A	Yellville	93.29	41	P			15 49 24.7	
	baz=318							
JCT	Junction City	93.38	49	IAMs_20	IAMs_20		16 30 02.7	
	comp=Z,492nm,18.0s							
JCT	Junction City	93.38	49	P			15 49 25.7	
	baz=313							
H53A	Bobcaygeon	93.42	28	P			15 49 24.2	
	baz=328							
LFF	La Frestale	93.50	333	eP		P	15 49 29.0	+4.1
LFF				pmax	pmax			
	comp=Z,64nm,1.8s							
D60A	Saint Jean D'O	94.01	22	P			15 49 28.0	
	baz=333							
MIAR	Mount Ida	94.22	43	P			15 49 29.6	
	baz=317							
I60A	Shoreham	95.97	25	P			15 49 37.1	
	baz=332							
KEST	Kesra	97.27	323	P		P	15 49 42.3	-0.2
	comp=Z,5.3nm,0.9s,baz=305,slow=8.4,SNR=4.3							
KEST					LR	LR	16 39 11.3	
	comp=Z,432nm,19.1s,baz=331,slow=39							
RKT	Rikitea	97.58	113	eLR		LR	16 21 35.0	
	comp=Z,336nm,21.2s							
ESDC	Sonseca Array	99.79	334	PP		PP	15 53 58.3	+1.2
	comp=Z,0.6nm,0.7s,baz=24,slow=9.3,SNR=4.1							
ESDC					LR	LR	16 40 09.4	
	comp=Z,539nm,18.9s,baz=15,slow=38							
TOA0	Torodi Ar. Sit	119.34	314	PKPdf	PKiKP		15 54 59.4	+0.2
TORD	Torodi Ar. Bea	119.34	314	PKP	PKPdf		15 54 58.9	-0.2
	comp=Z,3.6nm,0.6s,baz=7.9,slow=2.6,SNR=12							
TORD				PP	PP		15 56 18.9	-0.5
	comp=Z,5.4nm,1.0s,baz=21,slow=5.8,SNR=7.5							
TORD				PKKPab	PKKPab		16 05 15.6	+0.2
	comp=Z,1.4nm,0.5s,baz=196,slow=2.6,SNR=3.9							
TORD	Torodi Ar. Bea	119.34	314		PKiKP		15 54 59.4	+0.1
KOWA	Kowa	121.47	320	PKP	PKiKP		15 55 03.9	+0.5
	comp=Z,6.7nm,0.6s,baz=40,slow=1.5,SNR=21							
KOWA	Kowa	121.47	320	PKPdf	PKiKP		15 55 04.0	+0.6
QSPA	South Pole Qui	124.06	180		PKiKP		15 55 07.2	+0.3
BOSA	Boshof	126.17	257	PKP	PKiKP		15 55 12.8	+0.3
	comp=Z,3.0nm,0.6s,baz=23,slow=3.3,SNR=5.3							
PTBC	PUERTO BERRIO	126.97	47	eP		PKPdf	15 55 13.7	-0.2
PLMC	San Jos del P	127.11	50	eP		PKiKP	15 55 15.5	+0.8
SDV	Santo Domingo	127.29	41	eP		PKiKP	15 55 15.2	0.0
GUY2C	Guyana, Caldas	127.44	49	eP		PKiKP	15 55 16.4	+0.5
SPBC	San Pablo de B	127.90	47	eP		PKPdf	15 55 15.1	-0.7
DBIC	Dimbokro	128.36	316	PKP		PKPdf	15 55 16.6	+0.1
	comp=Z,3.5nm,0.8s,baz=347,slow=2.4,SNR=4.9							
ORTC	Ortega, Tolima	128.53	50	eP		PKPdf	15 55 15.2	-1.7
PCON	Cinco Dias	128.99	52	eP		PKiKP	15 55 22.8	+3.7
OTAV	Otavalo	129.15	56	IAMs_20	IAMs_20		16 46 27.1	
	comp=Z,296nm,21.0s							
ATAH	Atahualpa	134.31	63	PKP	PKiKP		15 55 30.7	+1.1
	comp=Z,2.2nm,0.6s,baz=294,slow=7.0,SNR=4.3							
SNAA	Sanae	138.19	196	PKPdf	PKiKP		15 55 34.8	-0.5
SNAA	Sanae	138.19	196	c iPKIKP	PKiKP		15 55 35.5	+0.2
SNAA				pmax	pmax			
	comp=Z,12nm,1.7s							
VNA2	Neumayer--Watz	139.74	195	PKPdf	PKPdf		15 55 35.7	-0.4
VNA3	Neumayer Olymp	139.97	194	PKPdf	PKPdf		15 55 36.2	-0.3
VNA1	Neumayer--Stat	140.14	195	PKPdf	PKPdf		15 55 35.5	-1.2
SAML	Samuel	146.02	48	PKP2	PKPab		15 55 50.6	+0.5
SAML				MLR	MLR			
	comp=Z,300nm,19.0s							
SAML	Samuel	146.02	48		PKPab		15 55 50.6	+0.5
SAML				IAMs_20	IAMs_20		17 16 06.4	
	comp=Z,273nm,19.0s							
LPAZ	La Paz	147.86	64	PKPbc	PKiKP		15 55 56.5	-0.9
	comp=Z,20nm,0.7s,baz=332,slow=2.1,SNR=70							
LPAZ	La Paz	147.86	64		PKiKP		15 55 57.5	0.0
LPAZ	La Paz	147.86	64	⇑eP	PKiKP		15 55 56.9	-0.6
PB16	IPOC Station P	148.06	68	PKPab	PKPab		15 55 59.3	+0.5
PSGCX	Pisagua	148.31	71		PKiKP		15 55 57.7	0.0
TA01	Diego Aracena	148.79	72		PKiKP		15 55 59.0	+0.5
PB08	IPOC Station P	149.37	71		PKiKP		15 56 01.3	+1.1
PB01	IPOC Station P	149.60	72		PKiKP		15 56 00.8	+0.5
LVC	Limon Verde	150.87	74	PKIKP	PKiKP		15 56 04.4	+1.2
LVC	Limon Verde	150.87	74		PKiKP		15 56 04.4	+1.2
RCBR	Riachuelo	151.56	355	PKPbc	PKiKP		15 56 04.8	+0.2
	comp=Z,20nm,0.7s,baz=339,slow=2.6,SNR=14							
RCBR	Riachuelo	151.56	355		PKiKP		15 56 05.2	+0.6
LCO	Las Campanas	152.08	88	PKIKP	PKiKP		15 56 06.6	+1.2
LCO	Las Campanas	152.08	88		PKiKP		15 56 06.6	+1.2
AC02	Maricunga	152.59	83		PKiKP		15 56 08.5	+1.7
PLCA	Paso Flores	153.81	114	PKPbc	PKiKP		15 56 08.8	+0.4
	comp=Z,2.9nm,0.9s,baz=233,slow=6.8,SNR=6.4							
PLCA				PKPab	PKPab		15 56 21.0	-0.4
	comp=Z,7.0nm,1.1s,baz=238,slow=5.8,SNR=7.3							
BDFB	Brasilia	159.49	27	PKPab	PKPab		15 56 46.9	+0.6
	comp=Z,1.6nm,0.5s,baz=298,slow=7.6,SNR=3.3							
CPUP	Villa Florida	161.84	69	PKP	PKPdf		15 56 10.3	-0.3
	comp=Z,0.7nm,0.3s,baz=205,slow=1.8,SNR=2.9							
CPUP				PKPab	PKPab		15 56 56.2	-0.2
	comp=Z,1.1nm,0.3s,baz=245,slow=1.9,SNR=4.2							

IDC ***14*** *15:50:28.2s2.2,52.25N×169.08W,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.3/60,mbtmp3.5/7,ML3.1/1,Error ellipse: s-maj=51.6km s-min=24.9km az=172.0*
AEIC ***14*** *15:50:34.2,8,52.4N±0.1×169.0W±0.1,h24km±8km,ML3.4, Error ellipse: s-maj=16.6km s-min=7.9km az=156.0*
NEIC ***14*** *15:50:37.5±1.9,52.7N±0.1×169.2W±0.1,h38km±24km, Error ellipse: s-maj=17.7km s-min=5.4km az=146.0*
ISC 14 15:50:34.6±1.1,52.5N±0.2×168.97W±0.08,h33km,n49,
σ1§81/43,mb3.5/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.52	8		Pn	15 50 46.2	+0.6
OKSP	Okmok Steeple	0.89	27		Pn	15 50 51.2	+0.4
OKSO	Okmok South	1.02	28		Pn	15 50 52.3	-0.4
OKTU	Okmok Mt. Tuli	1.08	31		Pn	15 50 54.4	+0.9
OKFG	Magazine Ridge	1.15	34		Pn	15 50 54.3	+0.1
MAPS	Pakushin South	1.82	41		Pn	15 51 04.7	+1.1
MGOD	Makushin Gods	1.84	43		Pn	15 51 05.2	+1.4
MREP	Makushin Rep't	1.90	44		Pn	15 51 06.1	+1.3
MSW	Makushin Switc	1.96	41		Pn	15 51 06.9	+1.4
MNAT	Makushin Natee	1.98	43		Pn	15 51 07.4	+1.6
AKMO	Akutan Morgan	2.41	46		Pn	15 51 13.8	+2.2
AKRB	Akutan Reef Bi	2.42	45		Pn	15 51 14.4	+2.7
ZRO	Akutan Zero	2.43	47		Pn	15 51 14.7	+2.8
AKBBA	Akutan Broad B	2.45	47		Pn	15 51 14.1	+1.8
AKLV	Akutan Long Va	2.49	46		Pn	15 51 15.3	+2.6
AKGG	Akutan Green G	2.50	45		Pn	15 51 15.1	+2.3
AHB	Akutan Harbor	2.52	48		Pn	15 51 14.9	+1.8
AKUT	Akutan	2.55	48	Pn	Pn	15 51 16.2	+2.7
KOFP	Korovin Flat P	3.15	269		Pn	15 51 23.8	+2.0
ATKA	Atka Island	3.21	267		Pn	15 51 25.2	+2.5
ADK	Adak	4.78	266	Pn	Pn	15 51 46.0	+1.8
SPIA	Saint Paul Isl	4.78	352	Pn	Pn	15 51 47.7	+3.5
CHGN	Chignik	7.26	54	Pn	Pn	15 52 22.1	+3.8
AMKA	Amchitka	7.33	266	Pn	Pn	15 52 20.9	+1.7
CHIR	Chirikof Islan	8.53	61	Pn	Pn	15 52 37.1	+1.5
OHAK	Old Harbor	10.22	56	Pn	Pn	15 52 59.4	+0.7
KDAK	Kodiak Island	10.78	54	Pn	Pn	15 53 06.4	0.0
	0.8nm,0.3s,baz=249,slow=8.9,SNR=15						
KDAK	Kodiak Island	10.78	54	Pn	Pn	15 53 07.4	+1.0
RSO	Redoubt South	12.00	42	Pn	Pn	15 53 21.9	-1.3
ANM	Nome	12.28	7	Pn	Pn	15 53 25.9	-0.9
BRLK	Bradley Lake	12.43	47	Pn	Pn	15 53 31.5	+2.5
SEW	Seward	13.23	47	Pn	Pn	15 53 40.7	+0.9
SUA	Susitna One	13.38	40	Pn	Pn	15 53 43.3	+1.3
RC01	Rabbit Creek A	13.59	43	Pn	Pn	15 53 46.0	+1.4
PPLA	Purkeypile	13.73	34	Pn	Pn	15 53 44.3	-2.5
PWL	Port Wells	14.07	45	Pn	Pn	15 53 49.5	-1.8
ILAR	Eielson Array	16.74	34	Pn	Pn	15 54 26.7	+0.5
	0.1nm,0.3s,baz=227,slow=11,SNR=4.7						
PETK	Petropavlovsk-	20.07	285	P	P	15 55 04.8	-0.1
	2.5nm,0.9s,baz=94,slow=15,SNR=7.1					

	43nm,1.0s								
BATI	**Baumata**	**10.10**	**176**	P		**Pn**	**15 55 01.7**	**+0.6**
	2.1nm,0.3s,baz=26,slow=2.4,SNR=11								
BATI	**Baumata**	**10.10**	**176**	P		**Pn**	**15 55 03.1**	**+2.0**
	42nm,1.0s								
KSM	**Kuching**	**12.69**	**277**	Pn		**Pn**	**15 55 33.0**	**-1.8**
TGY	**Tagaytay City**	**14.21**	**352**	P		**Pn**	**15 55 54.6**	**+0.5**
	33nm,0.3s,baz=192,slow=10,SNR=2.1								
LEM	**Lemang**	**16.66**	**246**	P		**Pn**	**15 56 24.7**	**+0.4**
	1.4nm,0.3s,baz=20,slow=9.2,SNR=5.3								
CISI	**Cisompet, Garu**	**16.78**	**243**	P		**P**	**15 56 24.5**	**-0.6**
CISI	**Cisompet, Garu**	**16.78**	**243**	P		**P**	**15 56 24.4**	**-0.7**
	89nm,0.9s								
CBJI	**Citeko**	**17.22**	**248**	P		**Pn**	**15 56 30.7**	**-0.1**
	89nm,0.9s								
FITZ	**Fitzroy Crossi**	**18.12**	**172**	P		**P**	**15 56 39.3**	**-0.3**
	1.7nm,0.3s,baz=3.2,slow=7.7,SNR=48								
FITZ	**Fitzroy Crossi**	**18.12**	**172**	P		**P**	**15 56 40.4**	**+0.7**
DLV	**T Lat**	**18.64**	**310**	P		**P**	**15 56 44.4**	**-1.2**
DLV				IAmb		IAmb	15 56 49.2		
	comp=Z,15nm,0.9s								
PSA00	**Pilbara Seismi**	**21.58**	**188**	P		**P**	**15 57 15.6**	**-1.3**
PSA00				IAmb		IAmb	15 57 16.8		
	comp=Z,14nm,0.9s								
PSA00	**Pilbara Seismi**	**21.58**	**188**	P		**P**	**15 57 16.1**	**-0.8**
PSA00				IAmb		IAmb	15 57 17.1		
	comp=Z,5.3nm,0.8s								
WB0	**Warramunga Arr**	**22.58**	**151**	P		**P**	**15 57 26.6**	**-0.3**
WB0				IAmb		IAmb	15 57 27.5		
	comp=Z,20nm,1.1s								
WRAB	**Tennant Creek**	**22.70**	**151**	P		**P**	**15 57 27.7**	**-0.3**
WRAB				IAmb		IAmb	15 57 30.1		
	comp=Z,17nm,1.1s								
WRA	**Warramunga Arr**	**22.71**	**151**	P		**P**	**15 57 26.9**	**-1.1**
	comp=Z,11nm,0.9s,baz=332,slow=11,SNR=65								
WRA				pP		**pP**	**15 57 56.3**	**-1.4**
	comp=Z,10.0nm,1.0s,baz=327,slow=11,SNR=6.7								
WRA				S		**S**	**16 01 25.8**	**+1.5**
	comp=Z,3.4nm,1.0s,baz=319,slow=20,SNR=7.2								
WRA				ScP		**ScP**	**16 04 37.0**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=324,slow=2.5,SNR=6.3								
WB2	**Warramunga Arr**	**22.71**	**151**	P		**P**	**15 57 27.0**	**-1.1**
WB2				IAmb		IAmb	15 57 29.6		
	comp=Z,24nm,1.1s								
WR0	**Warramunga Arr**	**22.82**	**151**	P		**P**	**15 57 28.8**	**-0.2**
WR0				IAmb		IAmb	15 57 31.0		
	comp=Z,8.9nm,0.8s								
TPUB	**Ta-pu**	**23.33**	**355**	P		**P**	**15 57 36.0**	**+2.3**
TPUB				IAmb		IAmb	15 57 37.0		
	comp=Z,15nm,0.8s								
MNSI	**Mandailing Nat**	**23.34**	**272**	P		**P**	**15 57 35.3**	**+1.5**
	comp=Z,17nm,1.0s								
GIRL	**Giralia**	**23.97**	**200**	P		**P**	**15 57 39.8**	**+0.3**
AS31	**Alice Springs**	**25.77**	**156**	P		**P**	**15 57 56.5**	**+0.6**
ASAR	**Alice Springs**	**25.77**	**156**	P		**P**	**15 57 56.1**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=333,slow=8.1,SNR=27								
ASAR				pP		**pP**	**15 58 27.9**	**-1.5**
	comp=Z,6.3nm,0.7s,baz=330,slow=8.0,SNR=14								
ASAR				PcP		**PcP**	**16 01 21.6**	**0.0**
	comp=Z,1.6nm,0.7s,baz=343,slow=1.8,SNR=8.3								
ASAR				ScP		**ScP**	**16 04 46.6**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=346,slow=2.9,SNR=5.2								
ASAR	**Alice Springs**	**25.77**	**156**	P		**P**	**15 57 56.4**	**+0.5**
ASAR						**PcP**	**16 01 22.4**	**+0.8**
MORW	**Morawa**	**29.57**	**192**	P		**P**	**15 58 27.9**	**-1.6**
MORW				IAmb		IAmb	15 58 29.2		
	comp=Z,3.8nm,0.7s								
CMAR	**Chiang Mai Arr**	**29.89**	**309**	P		**P**	**15 58 33.9**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=131,slow=7.1,SNR=15								
CMAR				PcP		**PcP**	**16 01 32.3**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=119,slow=5.6,SNR=5.7								
CHTO	**Chiang Mai**	**30.09**	**310**	P		**P**	**15 58 33.4**	**-0.9**
CHTO				IAmb		IAmb	15 58 36.5		
	comp=Z,3.1nm,0.8s								
CTAO	**Charters Tower**	**30.31**	**132**	P		**P**	**15 58 36.4**	**+0.2**
CTAO				IAmb		IAmb	15 58 42.9		
	comp=Z,3.0nm,0.8s								
FORT	**Forrest**	**30.93**	**171**	P		**P**	**15 58 40.5**	**-1.0**
NWAO	**Narrogin (SRO)**	**33.12**	**189**	P		**P**	**15 59 00.5**	**-0.1**
BBOO	**Buckleboo**	**34.85**	**160**	P		**P**	**15 59 15.4**	**-0.1**
BBOO				IAmb		IAmb	15 59 16.8		
	comp=Z,8.4nm,0.8s								
STKA	**Stephens Creek**	**36.24**	**153**	P		**P**	**15 59 27.9**	**+0.4**
	comp=Z,10nm,0.8s,baz=307,slow=7.3,SNR=19								
STKA				PcP		**PcP**	**16 01 48.7**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=330,slow=13,SNR=3.3								
STKA	**Stephens Creek**	**36.24**	**153**	P		**P**	**15 59 27.8**	**+0.4**
MJAR	**Matsushiro Arr**	**39.10**	**20**	P		**P**	**15 59 50.3**	**-1.1**
	comp=Z,3.5nm,0.9s,baz=193,slow=9.6,SNR=12								
ARMA	**Armidale**	**40.70**	**140**	P		**P**	**16 00 04.4**	**-0.4**
ARMA				IAmb		IAmb	16 00 07.4		
	comp=Z,6.0nm,0.8s								
CAN	**Canberra**	**42.69**	**148**	P		**P**	**16 00 21.1**	**+0.2**
TOO	**Toolangi**	**42.75**	**153**	P		**P**	**16 00 21.8**	**+0.5**
TOO				IAmb		IAmb	16 00 27.6		
	comp=Z,16nm,1.1s								
USA0B	**Ussuriysk Arra**	**44.81**	**9**	P		**P**	**16 00 37.2**	**-0.4**
USRK	**Ussuriysk Ar.**	**44.81**	**9**	P		**P**	**16 00 37.8**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=208,slow=6.1,SNR=5.1								
USRK	**Ussuriysk Ar.**	**44.81**	**9**	P		**P**	**16 00 37.6**	**0.0**
ASAJ	**Asahikawa**	**47.37**	**19**	P		**P**	**16 00 57.9**	**+0.4**
	comp=Z,5.9nm,0.9s,baz=183,slow=20,SNR=2.6								
SONM	**Songino Array**	**49.83**	**345**	P		**P**	**16 01 17.4**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=160,slow=8.7,SNR=12								
SONM				pP		**pP**	**16 01 52.9**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=165,slow=9.2,SNR=4.3								
SONM				ScP		**ScP**	**16 06 14.2**	**-0.9**
	comp=Z,0.3nm,0.9s,baz=177,slow=2.9,SNR=2.1								
SONM	**Songino Array**	**49.83**	**345**	P		**P**	**16 01 16.8**	**+0.3**
MKAR	**Makanchi Array**	**58.62**	**328**	P		**P**	**16 02 19.4**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=128,slow=7.7,SNR=7.8								
MKAR				pP		**pP**	**16 02 59.1**	**+1.4**
	comp=Z,2.2nm,0.5s,baz=120,slow=9.4,SNR=11								
MKAR				sP		**sP**	**16 03 15.4**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=124,slow=8.2,SNR=4.0								
PETK	**Petropavlovsk-**	**60.39**	**23**	P		**P**	**16 02 31.0**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=226,slow=3.8,SNR=1.8								
RPZ	**Rata Peaks**	**61.02**	**142**	P		**P**	**16 02 35.7**	**-0.6**
ZALV	**Zalesovo Beam**	**62.34**	**336**	P		**P**	**16 02 44.1**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=108,slow=9.3,SNR=1.8								
ZALV				pP		**pP**	**16 03 23.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=120,slow=8.5,SNR=3.1								
ZALV				sP		**sP**	**16 03 40.5**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=134,slow=8.4,SNR=3.3								
BKZ	**Black Stump Fm**	**62.47**	**135**	P		**P**	**16 02 45.6**	**-0.7**
MA2	**Magadan**	**63.33**	**15**	P		**P**	**16 02 51.6**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=216,slow=8.7,SNR=5.9								
SEY	**Seymchan**	**66.60**	**14**	P		**P**	**16 03 12.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=219,slow=9.3,SNR=3.7								
TIXI	**Tiksi**	**71.70**	**2**	P		**P**	**16 03 43.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=160,slow=1.5,SNR=4.9								
TIXI				pP		**pP**	**16 04 24.7**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=157,slow=6.2,SNR=2.7								
VNDA	**Vanda**	**80.19**	**172**	P		**P**	**16 04 31.5**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=315,slow=6.9,SNR=8.7								
ILAR	**Eielson Array**	**90.15**	**25**	P		**P**	**16 05 20.4**	**-1.0**
	comp=Z,0.1nm,0.6s,baz=251,slow=5.7,SNR=1.4								
NVAR	**Mina Array Bea**	**112.27**	**48**	PKiKP		**PKiKP**	**16 10 58.3**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=260,slow=1.6,SNR=2.4								
ULM	**Lac du Bonnet**	**120.09**	**28**	PKP		**PKPdf**	**16 11 09.8**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=298,slow=5.2,SNR=3.4								
TORD	**Torodi Ar. Bea**	**120.33**	**285**	PKP		**PKPdf**	**16 11 11.7**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=76,slow=1.7,SNR=4.7								

*IDC **14** 15:52:54.9±1.0, 17.°86N×106.°03W, h0km, mb3.8/10, mb1 4.1/14, mb1mx3.9/45, mbtmp3.8/14, ML3.4/4, MS3.8/9, Ms1 3.7/9, ms1mx3.5/34, Error ellipse: s-maj=33.9km s-min=17.4km az=65.0*

*MEX **14** 15:53:02.8±0.8, 17.°54N×103.°89W, h20km±85km, MD4.4*

ISC 14 15:52:57.3±0.9, 18.°09N±0.°08×105.°21W±0.°09, h10km, n34, σ2=48/22, mb4.0/10, MS3.6/5, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
R15V		**1.58**	**47**	*i* P		**Pn**	**15 53 27.5**	**+2.0**
R15V				*i* S		**Sn**	**15 53 46.7**	**+0.6**
MMIG	**Aquila**	**1.78**	**83**	*e*P		Pn	15 53 17.1	-11
MMIG				*e*S		Sn	15 53 28.1	-23
COIG	**Colima**	**1.80**	**53**	*e*P		**Pn**	**15 53 28.5**	**-0.1**
COIG				*i* S		**Sn**	**15 53 46.6**	**-4.9**
EZ5V		**2.05**	**48**	*e*P		**Pn**	**15 53 31.4**	**-0.8**
EZ5V				*e*S		**Sn**	**15 53 55.5**	**-2.5**
ANIG	**Ahuacatlan**	**3.02**	**12**	*e*P		**Pn**	**15 53 48.6**	**+3.3**
ANIG				*i* S		**Sb**	**15 54 29.3**	**+1.1**
H06E1	**SOCORRO T-PHAS**	**5.47**	**278**	T		T	15 59 14.1	
	SNR=612							
H06S1	**SOCORRO T**	**5.49**	**278**	T		T	15 59 14.0	
	SNR=64							
H06N1	**SOCORRO T-PHAS**	**5.54**	**279**	T		T	15 59 18.3	
	SNR=68							
LPIG	**La Paz**	**7.64**	**322**	LR		LR	15 57 01.9	
	comp=Z,729nm,20.3s,baz=164,slow=33							
CMIG	**Matias Romero**	**9.90**	**94**	Pn		Pn	15 55 29.2	+9.4
	0.2nm,0.3s,baz=69,slow=18,SNR=1.8							
CMIG				LR		LR	15 59 17.7	
	comp=Z,181nm,20.8s,baz=276,slow=36							
TXAR	**Lajitas Array**	**11.28**	**7**	Pn		Pn	15 55 44.0	+5.3
	0.1nm,0.3s,baz=185,slow=13,SNR=10							
TXAR				LR		LR	16 00 09.7	
	comp=Z,223nm,21.9s,baz=0.0,slow=37							
ANMO	**Albuquerque**	**16.82**	**356**	P		**P**	**15 56 56.6**	**+1.2**
	0.1nm,0.3s,baz=174,slow=14,SNR=8.0							
ANMO				LR		LR	16 03 27.1	
	comp=Z,384nm,18.7s,baz=184,slow=37							
PFO	**Pinyon Flats O**	**18.45**	**329**	P		**Pn**	**15 57 11.9**	**-1.5**
	0.1nm,0.3s,baz=144,slow=17,SNR=2.7							
NVAR	**Mina Array Bea**	**23.26**	**333**	P		**P**	**15 58 04.6**	**-0.7**
	0.9nm,0.8s,baz=166,slow=8.6,SNR=6.2							
ELK	**Elko**	**24.17**	**341**	P		**P**	**15 58 14.6**	**+0.5**
	0.7nm,0.8s,baz=167,slow=11,SNR=2.0							
ELK				LR		LR	16 06 53.7	
	comp=Z,206nm,19.2s,baz=216,slow=35							
PDAR	**Pinedale Array**	**24.87**	**352**	P		**P**	**15 58 20.7**	**+0.3**
	1.7nm,1.0s,baz=160,slow=9.1,SNR=6.4							
TKL	**Tuckaleechee C**	**25.82**	**43**	P		**P**	**15 58 33.9**	**+5.0**
	4.3nm,0.8s,baz=212,slow=14,SNR=4.9							
TKL				LR		LR	16 10 58.0	
	comp=Z,92nm,19.3s,baz=236,slow=41							
ATAH	**Atahualpa**	**36.46**	**131**	LR		LR	16 12 44.0	
	comp=Z,92nm,20.6s,baz=307,slow=32							
DLBC	**Dease Lake**	**44.22**	**342**	P		**P**	**16 01 05.4**	**-1.2**
	4.0nm,0.9s,baz=140,slow=4.8,SNR=4.9							
YKA	**Yellowknife Ar**	**44.84**	**354**	P		**P**	**16 01 11.2**	**-0.2**
	0.2nm,0.7s,baz=161,slow=7.7,SNR=4.1							
INK	**Inuvik**	**53.28**	**347**	P		**P**	**16 02 14.4**	**-1.6**
	1.8nm,0.9s,baz=136,slow=9.5,SNR=4.6							
ILAR	**Eielson Array**	**54.31**	**339**	P		**P**	**16 02 21.2**	**-2.4**
	1.4nm,0.9s,baz=152,slow=6.1,SNR=11							
PPT	**Papeete**	**56.22**	**233**	LR		LR	16 21 19.7	
	comp=Z,121nm,18.1s,baz=338,slow=31							
H03N2	**Juan Fernandez**	**57.05**	**154**	T		T	17 04 21.5	
	baz=331,slow=77,SNR=4.9							
H03N1	**Juan Fernandez**	**57.06**	**154**	T		T	17 04 18.3	
	baz=331,slow=77,SNR=8.8							
H03N3	**Juan Fernandez**	**57.07**	**154**	T		T	17 04 14.8	
	baz=331,slow=77,SNR=9.7							
CPUP	**Villa Florida**	**64.13**	**132**	P		**P**	**16 03 34.4**	**+2.3**
	1.6nm,0.8s,baz=300,slow=4.4,SNR=3.9							
PLCA	**Paso Flores**	**66.80**	**152**	P		**P**	**16 03 50.7**	**+1.4**
	2.0nm,1.0s,baz=7.4,slow=8.7,SNR=3.0							
AFI	**Afiamalu**	**72.93**	**249**	LR		LR	16 30 45.4	
	comp=Z,251nm,18.8s,baz=326,slow=32							
H11S1	**WAKE ISLAND Hy**	**82.68**	**287**	T		T	17 35 57.8	
	baz=77,slow=74,SNR=6.8							
H11S2	**WAKE ISLAND Hy**	**82.68**	**287**	T		T	17 35 56.5	
	baz=77,slow=74,SNR=7.3							
H11S3	**WAKE ISLAND Hy**	**82.69**	**287**	T		T	17 35 58.7	
	baz=77,slow=74,SNR=7.3							
WRA	**Warramunga Arr**	**123.93**	**258**	PKP		**PKPdf**	**16 11 53.5**	**-3.1**
	0.6nm,0.9s,baz=87,slow=2.3,SNR=2.3							
ASAR	**Alice Springs**	**124.81**	**253**	PKP		**PKPdf**	**16 11 54.7**	**-3.5**
	0.2nm,0.8s,baz=56,slow=2.3,SNR=1.4							

*VAO **14** 16:03:42.2±0.9, 27.°95S×71.°16W, h10km, mb4.8*

*SJA **14** 16:03:43.6±0.6, 27.°70S×71.°29W, h28km±4km, ML5.0, MW4.8*

*NEIC **14** 16:03:46.7, 27.°79S×71.°15W, h48km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr0.54; Mθθ0.15; Mϕϕ-0.69; Mrθ0.33; Mθϕ-0.05; Mϕr0.80; Fault plane solution: M0 1.07000×10^16^ NP1:ϕs20.07000°, δ73.02000°, λ102.56000°. NP2:ϕs162.73000°, δ21.01000°, λ54.53000°. Principal axes: T 1.0226, Plg60.0000°, Azm308.0000°; N 0.0938, Plg12.0000°, Azm196.0000°; P -1.1164, Plg27.0000°, Azm100.0000°;*

*NEIC **14** 16:03:46.8±4.5, 27.°81S±0.°04×71.°13W±0.°08, h37km±7km Error ellipse: s-maj=10.5km s-min=5.5km az=99.0*

*BJI **14** 16:03:47.5±0.0, 27.°70S×71.°00W, h30km, mB5.5/3, Ms5.3/1, Ms7 5.0/1*

*GUC **14** 16:03:48.9±0.6, 27.°84S×70.°92W, h41km±2km, ML4.8*

*IDC **14** 16:03:48.5±0.5, 27.°77S×70.°71W, h42km±3km, mb4.4/16, mb1 4.5/20, mb1mx4.4/31, mbtmp4.5/20, ML4.0/4, MS3.7/6, Ms1 3.7/6, ms1mx3.5/21, Error ellipse: s-maj=14.1km s-min=11.8km az=88.0*

ISC 14 16:03:46.7±0.4, 27.°77S±0.°03×71.°04W±0.°04, h33km±1km, n256, σ1=34/234, mb5.1/64, 32C-13D, Fault plane solution: NP1:ϕs208.85127°, δ26.95081°, λ92.18290°. NP2:ϕs26.40272°, δ63.07033°, λ88.89053°. Principal axes: T Plg71.9079°, Azm293.8758°; N Plg0.9892°, Azm26.9053°; P Plg18.0632°, Azm117.2279°; Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.43**	**184**	*i*P		**Pn**	**16 03 57.5**	**+0.9**
AC04				*i* S		**Sn**	**16 04 04.5**	**+1.1**
AC04				IAML			16 04 06.0	
	comp=N,130μm,0.2s							
AC04	**Llanos de Chal**	**0.43**	**184**			**Pn**	**16 03 57.6**	**+0.9**
AC04						**Sn**	**16 04 04.3**	**+1.0**
GO03	**Copiap**	**0.74**	**76**	*e*P		**Pn**	**16 04 01.6**	**+0.7**
GO03				*i* S		**Sn**	**16 04 11.0**	**0.0**
GO03				IAML			16 04 13.7	
	comp=N,53μm,0.5s							
GO03	**Copiap**	**0.74**	**76**			**Pn**	**16 04 01.5**	**+0.6**
GO03						**Sn**	**16 04 10.8**	**-0.2**
GO03	**Copiap**	**0.74**	**76**	*e*P		**Pn**	**16 04 01.9**	**+1.1**
AC05	**El Transito**	**1.26**	**148**	*i*P		**Pn**	**16 04 08.9**	**+0.8**
AC05				*e*S		**Sn**	**16 04 24.2**	**+0.3**
AC05				IAML			16 04 29.8	
	comp=N,24μm,0.6s							
AC05	**El Transito**	**1.26**	**148**			**Pn**	**16 04 08.9**	**+0.8**
LCO	**Las Campanas**	**1.27**	**166**	*i* S		**Sn**	**16 04 25.4**	**+1.0**
LCO	**Las Campanas**	**1.27**	**166**			**Pn**	**16 04 08.8**	**+0.4**
LCO						**Sn**	**16 04 24.4**	**0.0**
AC01	**Pan de Azucar**	**1.67**	**14**	*e*P		**Pn**	**16 04 14.8**	**+1.1**
AC01	**Pan de Azucar**	**1.67**	**14**			**Pn**	**16 04 14.6**	**+1.0**
AC02	**Maricunga**	**1.94**	**62**	*i*P		**Pn**	**16 04 20.7**	**+2.6**
AC02				*i* S		**Sn**	**16 04 44.7**	**+3.4**
AC02				IAML			16 04 47.6	
	comp=N,28μm,0.3s							
AC02	**Maricunga**	**1.94**	**62**	Pn		**Pn**	**16 04 20.5**	**+2.6**
AC02						**Sn**	**16 04 44.6**	**+3.2**
CO01	**Juntas del Tor**	**2.35**	**159**	*e*P		**Pn**	**16 04 25.1**	**+1.8**
CO01				*e*S		**Sn**	**16 04 53.8**	**+2.8**
CO01				IAML			16 05 10.0	
	comp=N,5μm,0.5s							
CO01	**Juntas del Tor**	**2.35**	**159**			**Pn**	**16 04 25.0**	**+1.8**
GO04	**Tololo Observa**	**2.40**	**175**	*i*P		**Pn**	**16 04 25.3**	**+1.4**
GO04				*i* S		**Sn**	**16 04 54.3**	**+2.0**
GO04	**Tololo Observa**	**2.40**	**175**			**Pn**	**16 04 25.6**	**+1.6**
GO04	**Tololo Observa**	**2.40**	**175**	*e*P		**Pn**	**16 04 25.3**	**+1.4**
GO04				*e*S		**Sn**	**16 04 55.1**	**+2.8**
VCA	**Vinchina**	**2.68**	**112**	*i*P		**Pb**	**16 04 32.1**	**-2.0**
VCA				IAML			16 05 15.9	
	comp=E,6μm,0.4s							
VCA	**Vinchina**	**2.68**	**112**	*e*P		**Pb**	**16 04 32.1**	**-2.0**
VCA				*e*S		**Sb**	**16 05 06.1**	**-0.6**
VCA				IAML			16 05 12.9	
	comp=Z,5μm,0.3s							
AROD	**Rodeo**	**2.75**	**150**	*e*P		**Pn**	**16 04 32.2**	**+3.4**
AROD				*e*S		**Sb**	**16 05 07.6**	**-1.3**
AGUA	**GUANDACOL**	**2.82**	**128**	*e*P		**Pn**	**16 04 33.8**	**+4.3**
AGUA				IAML			16 05 16.4	
	comp=Z,3μm,0.6s							
GO02	**Mina Guanaco**	**2.91**	**27**	*i*P		**Pn**	**16 04 32.4**	**+1.5**
GO02	**Mina Guanaco**	**2.91**	**27**	Pn		**Pn**	**16 04 32.3**	**+1.4**
ACDV	**Cuesta del Vie**	**2.92**	**145**	*e*P		**Pn**	**16 04 33.6**	**+2.6**
CO03	**El Pedregal**	**3.07**	**174**	*i*P		**Pn**	**16 04 34.4**	**+1.4**
CO03	**El Pedregal**	**3.07**	**174**	Pn		**Pn**	**16 04 34.3**	**+1.3**
PB14	**IPOC Station P**	**3.19**	**11**	*e*P		**Pn**	**16 04 34.9**	**0.0**
PB14	**IPOC Station P**	**3.19**	**11**	Pn		**Pn**	**16 04 34.6**	**-0.2**
PB14	**IPOC Station P**	**3.19**	**11**	*e*P		**Pn**	**16 04 34.8**	**0.0**
PB14				IAML			16 05 33.8	
	comp=Z,3μm,0.6s							
ACCO	**Cerro Coronel**	**3.29**	**149**	*e*P		**Pn**	**16 04 39.8**	**+3.5**
CO02	**Combarbal**	**3.42**	**179**	*e*P		**Pn**	**16 04 38.4**	**+0.6**
CO02	**Combarbal**	**3.42**	**179**			**Pn**	**16 04 38.7**	**+0.9**
RTLL	**Cerro Villicun**	**4.19**	**148**	*e*P		**Pn**	**16 04 51.0**	**+2.7**
RTLL	**Cerro Villicun**	**4.19**	**148**	*e*P		**Pn**	**16 04 51.2**	**+2.8**
RTLL				IAML			16 05 49.1	
	comp=Z,2μm,0.7s							
PB10	**IPOC Station P**	**4.26**	**6**	*i*P		**Pn**	**16 04 48.3**	**-1.0**
PB10	**IPOC Station P**	**4.26**	**6**	Pn		**Pn**	**16 04 48.4**	**-1.0**
ZON	**Zonda**	**4.29**	**152**			**Pn**	**16 04 52.1**	**+2.4**
RTLS	**Leoncito**	**4.29**	**160**	*e*P		**Pn**	**16 04 53.5**	**+3.5**
RTLS				IAML			16 06 07.6	
	comp=Z,2μm,0.9s							
RTCV	**Cerro Valdivia**	**4.62**	**153**	*e*P		**Pn**	**16 04 56.7**	**+2.5**
RTCV				IAML			16 06 03.1	
	comp=Z,806nm,1.0s							
PB15	**IPOC Station P**	**4.76**	**18**			**Pn**	**16 04 57.1**	**+0.7**
PB05	**IPOC Station P**	**4.96**	**9**	*i*P		**Pn**	**16 04 57.9**	**-1.1**
PB05	**IPOC Station P**	**4.96**	**9**	*e*P		**Pn**	**16 04 57.7**	**-1.3**
PB05				IAML			16 06 34.1	
	comp=Z,955nm,0.7s							
VA03	**San Esteban**	**4.99**	**175**	*e*P		**Pn**	**16 05 00.7**	**+1.3**
VA03	**San Esteban**	**4.99**	**175**			**Pn**	**16 05 00.7**	**+1.3**
AHML	**Horco Molle**	**5.17**	**80**	*e*P		**Pn**	**16 05 04.4**	**+2.5**
ROC1	**El Roble**	**5.18**	**180**	*e*P		**Pn**	**16 05 02.5**	**+0.3**
PB06	**IPOC Station P**	**5.22**	**15**	*i*P		**Pn**	**16 05 02.0**	**-0.6**
PB06	**IPOC Station P**	**5.22**	**15**			**Pn**	**16 05 01.8**	**-0.8**
PEL	**Peldehue**	**5.36**	**177**	Pn		**Pn**	**16 05 04.7**	**+0.3**
PEL	**Peldehue**	**5.36**	**177**	*e*P		**Pn**	**16 05 05.2**	**+0.8**
MT02	**Curacav**	**5.47**	**181**			**Pn**	**16 05 06.1**	**+0.2**
PB04	**IPOC Station P**	**5.48**	**9**	Pn		**Pn**	**16 05 04.6**	**-1.6**
LVC	**Limon Verde**	**5.49**	**21**	P		**Pn**	**16 05 07.0**	**+0.4**
	comp=Z,7.9nm,0.3s,baz=171,slow=9.4,SNR=64							
LVC				S		**Sn**	**16 06 09.4**	**+0.6**
	comp=Z,51nm,0.3s,baz=208,slow=12,SNR=5.4							
LVC				LR		LR	16 07 15.0	
	comp=Z,545nm,20.3s,baz=194,slow=38							
LVC	**Limon Verde**	**5.49**	**21**	*e*P		**Pn**	**16 05 06.9**	**+0.3**
PB07	**IPOC Station P**	**5.11**	**10**			**Pn**	**16 05 13.1**	**-1.8**
PB09	**IPOC Station P**	**6.17**	**16**			**Pn**	**16 05 14.8**	**-0.9**
MRA	**San Martin**	**6.54**	**136**	*e*P		**Pn**	**16 05 21.4**	**+0.8**
MRA				IAML			16 07 16.1	
	comp=Z,462nm,1.6s							
PB01	**IPOC Station P**	**6.85**	**12**			**Pn**	**16 05 23.2**	**-1.8**
BO02	**Sierra Bellavi**	**7.00**	**178**			**Pn**	**16 05 26.3**	**-0.7**
TA01	**Diego Aracena**	**7.22**	**6**			**Pn**	**16 05 27.2**	**-2.8**
RFA	**San Rafael**	**7.32**	**163**	*e*P		**Pn**	**16 05 32.3**	**+1.0**
RFA				IAML			16 07 11.9	
	comp=Z,272nm,0.8s							
YJA	**Yavi**	**7.50**	**43**	*e*P		**Pn**	**16 05 35.6**	**+1.5**
PB08	**IPOC Station P**	**7.79**	**13**			**Pn**	**16 05 36.4**	**-1.8**

baz=171
KMSC **Kings Mountain** 63.33 351 P 16 14 12.8
baz=170
NATX **Nacogdoches** 63.33 338 P 16 14 14.5
baz=157
V59A **Middlesex** 63.56 353 P 16 14 14.9
baz=173
V57A **Coltrane Farms** 63.85 352 P 16 14 16.2
baz=172
V56A **Mocksville** 63.87 351 P 16 14 16.6
baz=171
V53A **Saluda** 64.07 349 IAmb IAmb 16 14 18.0
comp=Z,11nm,0.6s
JCT **Junction City** 64.11 333 P 16 14 19.6
baz=152,SNR=15
Z41A **Richland Creek** 64.12 340 P 16 14 19.5
baz=159
CPCT **Cooper Cave** 64.16 348 P **P** **16 14 18.2 +0.4**
CPCT IAmb IAmb 16 14 19.0
comp=Z,16nm,0.8s
U60A **Pendleton** 64.16 355 P 16 14 18.8
baz=174
TKL **Tuckaleechee C** 64.23 349 IAmb IAmb 16 14 19.2
comp=Z,30nm,1.2s
U57A **Blanch** 64.34 353 P 16 14 19.7
baz=172
V52A **Sevierville** 64.37 349 P **P** **16 14 19.3 +0.1**
V52A IAmb IAmb 16 14 19.8
comp=Z,14nm,0.6s
U56A **King** 64.38 352 P 16 14 20.0
baz=171
WHTX **Lake Whitney,** 64.54 335 P 16 14 22.0
baz=154
T59A **Double "B" Far** 64.69 354 IAmb IAmb 16 14 22.6
comp=Z,14nm,0.8s
X43A **Marvell** 64.74 342 P 16 14 23.4
baz=161,SNR=9.4
U54A **Nelsons Funny** 64.75 350 P 16 14 22.2
baz=170
U54A **Nelsons Funny** 64.75 350 IAmb IAmb 16 14 22.8
comp=Z,24nm,1.0s
T58A **Grand View Acr** 64.76 353 P 16 14 22.7
baz=173,SNR=6.6
TX31 **Lajitas Ar. Si** 64.81 329 IAmb IAmb 16 14 25.2
comp=Z,25nm,1.0s
TXAR **Lajitas Array** 64.81 329 P **P** **16 14 24.2 +1.9**
comp=Z,5.3nm,0.7s,baz=150,slow=8.7,SNR=29
T57A **Hurt** 64.89 353 P 16 14 23.3
baz=172
T56A **Rocky Mt** 65.01 352 P 16 14 24.4
baz=171
S58A **Poland Farm, P** 65.37 354 P 16 14 26.8
baz=173
U49A **Red Boiling Sp** 65.43 347 IAmb IAmb 16 14 27.1
comp=Z,18nm,1.2s
S59A **Mechanicsville** 65.45 355 P 16 14 28.1
baz=174
WVT **Waverly** 65.50 345 P 16 14 26.7
baz=164
WVT **Waverly** 65.50 345 IAmb IAmb 16 14 27.5
comp=Z,20nm,0.8s
MIAR **Mount Ida** 65.55 340 P 16 14 27.8
baz=158,SNR=9.7
MIAR **Mount Ida** 65.55 340 P **P** **16 14 27.4 +0.5**
MIAR IAmb IAmb 16 14 29.0
comp=Z,14nm,0.8s
S56A **Natural Bridge** 65.59 353 P 16 14 27.1
baz=172
S57A **Dark Hollow, R** 65.61 353 P 16 14 28.0
baz=172
R58B **Mineral** 65.70 354 P 16 14 29.0
baz=174,SNR=6.2
W41B **Gary Mavity, V** 65.74 341 P 16 14 29.1
baz=160,SNR=9.3
WHAR **Wooly Hollow** 65.86 341 IAmb IAmb 16 14 30.7
comp=Z,17nm,0.8s
ABTX **Abilene, Hawle** 65.93 334 P 16 14 31.1
baz=152,SNR=5.9
S54A **Dingess, Beckl** 65.94 351 P 16 14 29.8
baz=170
R58A **Rapidan** 66.05 354 P 16 14 31.4
baz=173,SNR=5.3
R57A **Stanardsville** 66.10 354 P 16 14 31.6
baz=173,SNR=6.5
X37A **Clayton** 66.16 338 IAmb IAmb 16 14 33.3
comp=Z,20nm,0.9s
W39A **Magazine** 66.21 340 P 16 14 32.8
baz=158,SNR=10
R55A **Marlinton** 66.26 352 P 16 14 32.5
baz=171
R54A **Victor** 66.27 351 P 16 14 32.0
baz=170
LCAR **Lake Charles** 66.27 342 P **P** **16 14 32.5 +0.9**
R56A **Bull Pasture M** 66.30 353 P 16 14 32.7
baz=172
Q57A **Strasburg** 66.82 354 P 16 14 36.6
baz=173,SNR=9.3
U40A **Yellville** 67.01 341 P 16 14 37.2
baz=159,SNR=18
T42A **Van Buren** 67.16 343 IAmb IAmb 16 14 38.5
comp=Z,12nm,0.8s
WCI **Wyandotte Cave** 67.19 347 P 16 14 37.1
baz=166
Q52A **Bidwell** 67.21 351 IAmb IAmb 16 14 38.3
comp=Z,13nm,0.8s
P59A **Jarrettsville** 67.22 355 P 16 14 39.1
baz=175,SNR=6.3
P57A **Homestead Farm** 67.22 354 P 16 14 39.4
baz=173,SNR=8.4
P56A **Dayton Farm, R** 67.32 353 P 16 14 39.4
baz=173
WMOK **Wichita Mounta** 67.48 335 P 16 14 39.7
baz=154
TUL1 **Leonard** 67.50 338 P 16 14 40.6
baz=156,SNR=11
U38A **Gravette** 67.55 340 IAmb IAmb 16 14 41.0
comp=Z,10nm,0.7s
MCWV **Mont Chateau** 67.58 353 P 16 14 40.8
baz=172
MNTX **Cornudas Mount** 67.59 329 P 16 14 41.0
baz=148,SNR=9.3
MNTX **Cornudas Mount** 67.59 329 IAmb IAmb 16 14 41.8
comp=Z,10nm,0.7s
MGMO **Mountain Grove** 67.59 342 IAmb IAmb 16 14 41.8
comp=Z,16nm,0.8s
O58A **Lewisberry** 67.77 355 P 16 14 42.3
baz=174
P52A **Corning** 67.85 351 P 16 14 41.5
baz=170,SNR=5.3
P52A **Corning** 67.85 351 IAmb IAmb 16 14 42.3
comp=Z,15nm,0.7s
O57A **Amberson** 67.91 355 P 16 14 43.2
baz=174,SNR=5.1
O56A **Blue Knob Stat** 68.05 354 P 16 14 44.0
baz=173
P49A **Miami Univ. Ec** 68.16 349 P 16 14 43.0
baz=167
CCM **Cathedral Cave** 68.17 343 P 16 14 44.5
baz=161
MSTX **Muleshoe** 68.37 332 P 16 14 46.5
baz=150,SNR=14
N60A **Cedar Hill Far** 68.40 357 P 16 14 46.3
baz=176
N57A **Milroy** 68.45 355 P 16 14 46.3
baz=174,SNR=6.4
N58A **Sunbury** 68.47 355 P 16 14 46.8
baz=175,SNR=5.3
N58A **Sunbury** 68.47 355 IAmb IAmb 16 14 47.6
comp=Z,27nm,1.1s
N59A **State Game Lan** 68.48 356 P 16 14 46.4
baz=176
ACSO **Alum Creek Sta** 68.56 350 P 16 14 46.2
baz=169,SNR=7.2
ACSO **Alum Creek Sta** 68.56 350 IAmb IAmb 16 14 46.9
comp=Z,24nm,0.8s
R40A **Maddies Statio** 68.66 342 P **P** **16 14 47.4 +0.8**
T35A **Sooner Cattle** 68.66 338 IAmb IAmb 16 14 48.8
comp=Z,12nm,0.7s
N56A **West Decatur** 68.67 354 P 16 14 47.7
baz=173
M61A **Granite Spring** 68.78 358 P 16 14 48.2
baz=178
M60A **Port Jervis** 68.83 357 P 16 14 48.8
baz=177
M63A **Gales Ferry** 68.83 359 P 16 14 49.3
baz=179
M62A **Hamden** 68.89 359 P 16 14 49.6
baz=178,SNR=5.7
N54A **Moraine State** 68.89 353 P 16 14 48.7
baz=172,SNR=5.8
N54A **Moraine State** 68.89 353 IAmb IAmb 16 14 49.5
comp=Z,18nm,0.8s
M58A **Price's Panora** 68.98 356 P 16 14 49.9
baz=175,SNR=6.1
M57A **Sunshine Farm,** 68.99 355 P 16 14 49.8
baz=174
M59A **Waymart** 69.08 356 P 16 14 50.7
baz=176,SNR=9.1
M56A **Emporium** 69.22 354 P 16 14 51.0
baz=173,SNR=7.6
M56A **Emporium** 69.22 354 IAmb IAmb 16 14 51.4
comp=Z,18nm,0.6s
M55A **Ridgway** 69.26 354 IAmb IAmb 16 14 52.0
comp=Z,24nm,0.8s
L63A **North Scituate** 69.29 360 P 16 14 52.1
baz=180,SNR=7.8
L64A **Middleborough** 69.36 0 P 16 14 52.3
baz=180
M54A **Oil Creek Stat** 69.39 353 P 16 14 51.6
baz=172,SNR=5.6
M54A **Oil Creek Stat** 69.39 353 IAmb IAmb 16 14 52.3
comp=Z,15nm,0.7s
121A **Cookes Peak, D** 69.41 327 P 16 14 54.1
baz=146,SNR=7.3
SFIN **Lafayette** 69.43 347 P 16 14 51.0
baz=165
M53A **WI Miller and** 69.44 352 P 16 14 51.9
baz=171
L60A **Shokan** 69.47 357 P 16 14 53.3
baz=177,SNR=5.6
L58A **Harry Jones Me** 69.61 356 P 16 14 54.0
baz=176,SNR=6.7
L57A **Andrews Acres** 69.63 355 P 16 14 53.6
baz=175
L59A **Walton** 69.71 357 P 16 14 54.8
baz=176,SNR=13
BINY **Binghamton** 69.77 356 P 16 14 54.6
baz=175
L56A **Greenwood** 69.82 355 P 16 14 54.8
baz=174,SNR=9.1
L56A **Greenwood** 69.82 355 IAmb IAmb 16 14 55.6
comp=Z,26nm,0.8s
L61B **Northampton** 69.89 359 P 16 14 55.4
baz=178,SNR=8.7
L53A **Girard** 69.90 353 P 16 14 54.1
baz=171
HRV **Adam Dziewonsk** 69.93 360 P 16 14 56.0
baz=180
HRV **Adam Dziewonsk** 69.93 360 IAmb IAmb 16 14 56.8
comp=Z,26nm,0.8s
HDIL **Hopedale** 70.06 345 P 16 14 55.6
baz=163,SNR=7.9
K60A **Five Rivers En** 70.09 358 P 16 14 57.0
baz=177
K61A **Williamstown** 70.12 358 P 16 14 57.2
baz=178,SNR=7.7
P38A **Dawn** 70.25 342 IAmb IAmb 16 14 57.5
comp=Z,13nm,0.6s
K59A **Cooperstown** 70.28 357 P 16 14 57.8
baz=176,SNR=8.4
K58A **Earlville** 70.31 356 P 16 14 57.9
baz=176,SNR=9.8
K57A **Scipio Center** 70.33 356 P 16 14 57.7
baz=175
VNDA **Vanda** 70.36 191 P **P** **16 14 57.9 +1.3**
comp=Z,1.4nm,0.6s,baz=127,slow=5.1,SNR=4.5
VNDA pP **sP** **16 15 10.6 -0.3**
comp=Z,2.5nm,1.0s,baz=131,slow=9.4,SNR=3.8
K56A **Middlesex** 70.36 355 P 16 14 57.8
baz=174
MMNY **Mt. Morris Dam** 70.44 355 IAmb IAmb 16 14 59.1
comp=Z,21nm,0.7s
L48A **N Adams** 70.46 349 IAmb IAmb 16 14 58.4
comp=Z,23nm,0.8s
J62A **Henniker** 70.65 359 P 16 15 00.3
baz=179
KSU1 **Kansas State U** 70.68 339 P 16 15 00.1
baz=156
J60A **Lant Hill Farm** 70.70 358 P 16 15 00.6
baz=178
TUC **Tucson** 70.71 325 P 16 15 01.8
baz=143
J61A **Chester** 70.78 359 P 16 15 01.6
baz=179,SNR=7.1
ANMO **Albuquerque** 70.80 330 P 16 15 02.5
baz=147
J56A **Wolcott** 70.90 356 P 16 15 01.1
baz=175,SNR=9.6
J56A **Wolcott** 70.90 356 IAmb IAmb 16 15 01.7
comp=Z,26nm,0.8s
J59A **Piesco** 70.96 357 P 16 15 01.7
baz=177,SNR=6.3
J59A **Piesco** 70.96 357 IAmb IAmb 16 15 02.7
comp=Z,24nm,1.1s
J55A **Hilton** 70.96 355 IAmb IAmb 16 15 02.2
comp=Z,24nm,1.2s
J57A **Williamstown** 70.98 356 P 16 15 01.7
baz=175,SNR=9.1
J57A **Williamstown** 70.98 356 IAmb IAmb 16 15 02.5
comp=Z,21nm,0.8s
I58A **Old Forge** 71.20 357 P 16 15 03.2
baz=176,SNR=11
I59A **Olmsteadville** 71.27 358 P 16 15 03.5
baz=177,SNR=6.9
I60A **Shoreham** 71.30 358 P 16 15 04.0
baz=178,SNR=5.1
I62A **Tamworth** 71.30 360 P 16 15 04.9
baz=180
CBKS **Cedar Bluff** 71.47 337 P 16 15 05.5
baz=154
I63A **Otisfield** 71.47 0 P 16 15 05.8
baz=180
214A **Organ Pipe Nat** 71.48 323 P 16 15 06.6
baz=142,SNR=6.9
I57A **Carthage** 71.48 356 P 16 15 04.9
baz=176,SNR=9.0
PECO **Prince Edward** 71.57 355 IAmb IAmb 16 15 05.8
comp=Z,19nm,0.6s
LBNH **Lisbon** 71.67 359 P 16 15 06.7
baz=179
T25A **Trinidad** 71.78 332 P 16 15 08.2
baz=149,SNR=10
T25A **Trinidad** 71.78 332 P **P** **16 15 07.1 +1.1**
I51A **Listowel** 71.81 352 P 16 15 06.2
baz=171,SNR=6.8
H58A **Gabriels** 71.90 358 P 16 15 07.3
baz=177,SNR=11
H61A **Lyndonville** 71.96 359 P 16 15 08.4
baz=179,SNR=8.8
H57A **Richville** 71.99 357 P 16 15 07.6
baz=176,SNR=7.5
LIC **Lamto** 72.05 73 *e*P **P** **16 15 07.1 -0.8**
comp=Z,17nm,0.6s
H63A **New Sharon** 72.09 1 P 16 15 09.2
baz=181
H59A **Cadyville** 72.11 358 P 16 15 08.6
baz=178,SNR=6.9
LONY **Lake Ozonia** 72.11 357 P 16 15 08.7
baz=177,SNR=7.2
LONY **Lake Ozonia** 72.11 357 IAmb IAmb 16 15 09.4
comp=Z,15nm,0.8s
TIC **Toumodi** 72.28 72 *e*P **P** **16 15 08.9 -0.4**
H53A **Bobcaygeon** 72.33 354 P 16 15 09.5
baz=173,SNR=7.3
KIC **Kosan Boka** 72.36 73 *e*P **P** **16 15 09.2 -0.6**
comp=Z,34nm,0.9s
DBIC **Dimbokro** 72.43 72 P **P** **16 15 09.4 -0.8**
comp=Z,12nm,0.6s,baz=208,slow=6.2,SNR=21
DBIC **Dimbokro** 72.43 72 P **P** **16 15 09.8 -0.3**
DBIC IAmb IAmb 16 15 10.5
comp=Z,13nm,0.6s
JFWS **Jewell Farm** 72.53 345 P 16 15 10.7
baz=162,SNR=6.9
G60A **Masonville** 72.53 359 P 16 15 12.3
baz=179
G63A **Kingsbury** 72.55 1 P 16 15 11.7
baz=181
SADO **Sadowa** 72.57 354 IAmb IAmb 16 15 11.5
comp=Z,29nm,0.9s
G57A **Newington** 72.61 357 P 16 15 11.5
baz=176,SNR=12
G58A **Ormstown** 72.62 358 P 16 15 11.4
baz=177
G62A **West of Eustis** 72.64 0 P 16 15 12.5
baz=180,SNR=7.2
PKME **Peaks-Kenny Pk** 72.70 1 P 16 15 12.4
baz=182
G64A **Maxfield** 72.70 2 P 16 15 12.0
baz=182
G61A **St-Isidore-de-** 72.70 360 P 16 15 12.5
baz=180
SDCO **Great Sand Dun** 72.75 332 P 16 15 14.2
baz=148,SNR=5.7
G54A **Lake Saint Pet** 73.10 355 P 16 15 14.2
baz=174,SNR=8.1
F63A **Nahmakanta, Br** 73.15 1 P 16 15 15.2
baz=182
I42A **Draeger Farm,** 73.17 347 IAmb IAmb 16 15 15.2
comp=Z,15nm,0.7s
BGNE **Belgrade** 73.27 339 P 16 15 16.0
baz=155
S22A **4UR Ranch, Cre** 73.31 331 P 16 15 17.4
baz=147
F64A **Sherman** 73.33 2 P 16 15 16.2
baz=183
F60A **Warwick** 73.39 359 P 16 15 16.1
baz=179
F61A **St Evariste** 73.40 0 P 16 15 15.9
baz=180
H43A **Windswept, Lux** 73.50 348 P **P** **16 15 15.7 -0.1**
WUAZ **Wupatki** 73.56 327 P 16 15 19.2
baz=144,SNR=8.0
MVCO **Mesa Verde** 73.59 330 P 16 15 19.0
baz=146,SNR=6.3
Q24A **Divide** 73.64 333 P 16 15 19.4
baz=149,SNR=7.8
ALGO **Algonquin Park** 73.65 355 P 16 15 17.2
baz=174,SNR=11
E60A **Ste Agathe de** 73.79 360 P 16 15 18.6
baz=180
IKP **In-Ko-Pah, Jac** 73.80 322 P 16 15 20.6
baz=139
E58A **La Victoria** 73.82 358 P 16 15 18.6
baz=178
E63A **Oxbow** 73.88 2 P 16 15 18.9
baz=182
E64A **Bridgewater** 73.90 2 P 16 15 19.2
baz=183
E55A **Montcerf-Lytto** 74.02 356 P 16 15 19.4
baz=176
E56A **St. Veronique** 74.05 357 P 16 15 19.6
baz=176,SNR=8.5
MONP2 **Monument Peak** 74.15 321 P 16 15 22.6
baz=139
BC3 **Big Chuckawall** 74.20 323 P 16 15 22.7
baz=140,SNR=6.2
D60A **Saint Jean D'O** 74.34 0 P 16 15 21.8
baz=180
IRM **Iron Mountain** 74.42 323 P 16 15 23.9
baz=140,SNR=5.9
D63A **Stockholm** 74.51 2 P 16 15 23.0
baz=183
D62A **Allapoint, All** 74.53 1 P 16 15 22.8
baz=182
D62A **Allapoint, All** 74.53 1 IAmb IAmb 16 15 23.8
comp=Z,13nm,0.7s
D58A **Chemin du LacG** 74.54 359 P 16 15 22.7
baz=178,SNR=14
ISCO **Idaho Springs** 74.54 333 P 16 15 24.3
baz=148,SNR=6.0
D56A **ZEC Mazanza, M** 74.55 357 P 16 15 22.2
baz=177,SNR=5.9
D55A **Sainte-Anne-du** 74.55 357 P 16 15 22.4
baz=176,SNR=12
D61A **St Aubert, Com** 74.63 1 P 16 15 23.3
baz=181
TPFO **Pinon Flats** 74.70 322 P 16 15 26.0
baz=139
PFO **Pinyon Flats O** 74.71 322 P 16 15 26.1
baz=139
BELC **Belle Mtn. Jos** 74.76 323 P 16 15 26.1
baz=140
E46A **Sault Ste Mari** 74.76 351 IAmb IAmb 16 15 24.2
comp=Z,23nm,0.8s
LATQ **La Tuque** 74.82 359 P 16 15 24.2
baz=178,SNR=5.8
ECSD **EROS Data Cent** 74.92 341 P 16 15 25.1
baz=157,SNR=16
ECSD **EROS Data Cent** 74.93 341 IAmb IAmb 16 15 25.6
comp=Z,13nm,0.8s
MURC **Murrieta** 75.11 321 P 16 15 28.2
baz=139
GMRC **Granite Mounta** 75.17 323 P 16 15 28.7
baz=140,SNR=6.5
SPMN **Marine on St.** 75.31 344 P 16 15 26.7
baz=160
HEC **Hector Ludlow** 75.57 323 P 16 15 30.8
baz=140
N23A **Red Feather La** 75.60 333 P 16 15 30.8
baz=149
VLDQ **Val d'Or** 75.76 356 P **P** **16 15 29.5 +0.7**
O20A **White River Ci** 75.91 331 P 16 15 32.4
baz=147,SNR=7.9
GSC **Goldstone, Bar** 76.17 323 P 16 15 34.2
baz=139,SNR=5.4
EDW2 **Edwards Air Fo** 76.50 322 P 16 15 35.5
baz=138,SNR=5.0
LSQQ **Lebel-sur-Quev** 76.67 356 P 16 15 34.4
baz=175
LRMC **Laurel Mtn Rad** 76.78 322 P 16 15 37.3
baz=139
SUR **Sutherland** 77.13 120 P **P** **16 15 37.4 0.0**
comp=Z,9.2nm,1.0s,baz=262,slow=16,SNR=2.7
SUR pP **pP** **16 15 50.1 +2.2**
comp=Z,6.4nm,0.6s,baz=236,slow=6.6,SNR=3.5
TPNV **Topopah Spring** 77.13 324 P 16 15 39.8
baz=140,SNR=10
KOWA **Kowa** 77.31 66 P **P** **16 15 38.1 -0.2**
comp=Z,10nm,0.5s,baz=239,slow=5.1,SNR=28
KOWA pP **pP** **16 15 51.1 +2.3**
comp=Z,11nm,0.6s,baz=254,slow=4.6,SNR=11
KOWA **Kowa** 77.31 66 P **P** **16 15 38.1 -0.2**
KOWA IAmb IAmb 16 15 51.6
comp=Z,12nm,0.6s
K22A **Casper** 77.32 334 P 16 15 40.4
baz=148
ISA **Isabella, Lake** 77.34 322 P 16 15 41.0
baz=138,SNR=5.8
MATQ **Matagami** 77.41 356 P 16 15 38.3
baz=174,SNR=6.2
PKM **Mcpherson Peak** 77.52 321 P 16 15 41.8
baz=137,SNR=8.2
EYMN **Ely** 77.58 346 P 16 15 39.5
baz=162
RSSD **Black Hills** 77.66 336 P 16 15 41.8
baz=151
CWC **Cottonwood Cre** 77.71 323 P 16 15 42.7
baz=139
GRAC **Grapevine Rang** 77.75 324 P 16 15 42.8
baz=139
VES **Vestal, Richgr** 77.81 322 P 16 15 42.8
baz=138
R11A **Troy Canyon, C** 77.87 326 P 16 15 43.7
baz=141,SNR=7.6
DUG **Dugway, Tooele** 77.98 329 P 16 15 44.0
baz=143,SNR=8.0
HWUT **Hardware Ranch** 78.55 330 IAmb IAmb 16 15 47.5
comp=Z,20nm,0.7s
BW06 **Boulder Array** 78.64 332 P 16 15 46.7
baz=146,SNR=7.5
PDAR **Pinedale Array** 78.64 332 P **P** **16 15 46.6 +1.2**
comp=Z,2.3nm,0.6s,baz=121,slow=7.3,SNR=30
SPUT **South Promonto** 78.71 329 IAmb IAmb 16 15 48.5
comp=Z,15nm,0.8s
AGMN **Agassiz Nation** 78.93 343 P 16 15 47.2
baz=158,SNR=6.7
NVAR **Mina Array Bea** 79.32 324 P **P** **16 15 51.5 +2.3**
comp=Z,2.5nm,0.8s,baz=158,slow=6.0,SNR=21
MDND **Maddock** 79.53 341 P 16 15 51.6
baz=155
TSUM **Tsumeb** 80.12 106 P **P** **16 15 53.2 -0.8**
comp=Z,2.4nm,0.6s,baz=262,slow=7.1,SNR=2.1
TSUM pP **pP** **16 16 05.9 +1.3**
comp=Z,4.2nm,0.8s,baz=282,slow=8.8,SNR=3.5
H17A **Grant Village** 80.40 332 P 16 15 57.6
baz=145
RLMT **Red Lodge** 80.47 334 P 16 15 57.2
baz=146,SNR=6.2
LAO **LASA Array** 80.66 336 P 16 15 57.6
baz=149,SNR=6.9
LAO **LASA Array** 80.66 336 IAmb IAmb 16 15 58.5
comp=Z,19nm,0.9s
ULM **Lac du Bonnet** 80.74 344 P **P** **16 15 57.0 +0.7**
comp=Z,10nm,0.9s,baz=150,slow=6.6,SNR=18

ULM				pP		**sP**	**16 16 10.2**	**-0.6**	
	comp=Z,4.0nm,0.8s,baz=138,slow=5.6,SNR=3.3								
ULM	**Lac du Bonnet**	**80.74**	**344**	IAmb		IAmb	16 15 57.8		
	comp=Z,19nm,1.1s								
TORD	**Torodi Ar. Bea**	**81.29**	**70**	P		**P**	**16 15 59.8**	**-0.3**	
	comp=Z,9.5nm,0.6s,baz=266,slow=5.0,SNR=41								
TORD				pP		**pP**	**16 16 12.1**	**+1.5**	
	comp=Z,8.1nm,0.6s,baz=265,slow=5.2,SNR=15								
TORD	**Torodi Ar. Bea**	**81.29**	**70**	P		**P**	**16 15 59.6**	**-0.5**	
TORD				IAmb		IAmb	16 16 00.4		
	comp=Z,9.8nm,0.6s								
DGMT	**Dagmar**	**81.50**	**338**	P			16 16 02.2		
	baz=151								
BOSA	**Boshof**	**82.22**	**118**	P		**P**	**16 16 04.4**	**-0.7**	
	comp=Z,2.6nm,0.6s,baz=267,slow=4.1,SNR=6.6								
BOSA				pP		**pP**	**16 16 16.7**	**+1.1**	
	comp=Z,6.1nm,0.6s,baz=253,slow=4.0,SNR=8.4								
O03E	**Paynes Creek**	**82.52**	**323**	P			16 16 07.1		
	baz=136								
O02D	**Mt. Diablo Mer**	**82.96**	**323**	P			16 16 09.8		
	baz=136								
EGMT	**Eagleton**	**83.07**	**335**	P			16 16 10.0		
	baz=146								
N02D	**Trinity Center**	**83.49**	**323**	P			16 16 12.2		
	baz=136								
M04C	**Macdoel**	**83.62**	**324**	P			16 16 13.2		
	baz=136,SNR=5.1								
I05D	**Terrebonne, OR**	**85.22**	**326**	P			16 16 22.0		
	baz=137								
NEW	**Newport**	**86.22**	**331**	P			16 16 25.2		
	baz=140								
MATP	**Matopo**	**88.68**	**112**	pP		pP	16 16 49.6	+1.6	
	comp=Z,2.0nm,0.5s,baz=237,slow=4.5,SNR=4.7								
YKA	**Yellowknife Ar**	**96.45**	**341**	P		**P**	**16 17 11.8**	**-0.1**	
	comp=Z,1.0nm,0.6s,baz=136,slow=4.6,SNR=15								
AKASG	**Malin Array Be**	**117.27**	**45**	PKP		**PKPdf**	**16 22 27.1**	**-1.1**	
	comp=Z,1.1nm,0.4s,baz=261,slow=2.5,SNR=14								
FINES	**FINESS Array B**	**117.34**	**32**	PKP		**PKPdf**	**16 22 27.2**	**-0.8**	
	comp=Z,1.2nm,0.9s,baz=330,slow=3.1,SNR=4.1								
BRTR	**Keskin Array B**	**117.92**	**58**	PKP		**PKPdf**	**16 22 29.1**	**-0.9**	
	comp=Z,0.8nm,0.8s,baz=224,slow=3.0,SNR=3.9								
BRTR				pPKP		**sPKPdf**	**16 22 43.9**	**-0.9**	
	comp=Z,0.3nm,0.3s,baz=214,slow=29,SNR=2.4								
ASAR	**Alice Springs**	**123.48**	**208**	PKP		**PKPdf**	**16 22 40.5**	**-0.8**	
	comp=Z,2.2nm,0.7s,baz=129,slow=1.6,SNR=34								
ASAR				pPKP		**sPKPdf**	**16 22 54.3**	**-1.7**	
	comp=Z,1.9nm,0.8s,baz=137,slow=2.7,SNR=8.6								
ASAR				PKKPbc		**PKKPbc**	**16 32 29.7**	**0.0**	
	comp=Z,0.4nm,0.7s,baz=328,slow=2.9,SNR=6.2								
KBZ	**Khabaz**	**125.45**	**54**	PKP		**PKPdf**	**16 22 43.8**	**-0.4**	
	comp=Z,1.8nm,0.8s,baz=267,slow=13,SNR=3.2								
KBZ				pPKP		**sPKPdf**	**16 22 58.1**	**-0.8**	
	comp=Z,2.4nm,1.0s,baz=96,slow=3.3,SNR=3.1								
H11S2	**WAKE ISLAND Hyl**	**126.50**	**273**	T		T	18 42 06.0		
	baz=112,slow=75,SNR=41								
H11S1	**WAKE ISLAND Hyl**	**126.51**	**273**	T		T	18 42 06.5		
	baz=112,slow=75,SNR=51								
H11S3	**WAKE ISLAND Hyl**	**126.52**	**273**	T		T	18 42 07.3		
	baz=112,slow=75,SNR=52								
WRA	**Warramunga Arr**	**126.58**	**210**	PKP		**PKPdf**	**16 22 47.1**	**-0.1**	
	comp=Z,4.5nm,0.6s,baz=153,slow=1.7,SNR=83								
WRA				pPKP		**sPKPdf**	**16 23 00.3**	**-1.6**	
	comp=Z,3.4nm,0.8s,baz=153,slow=1.5,SNR=9.0								
H11N3	**WAKE ISLAND Hyl**	**126.76**	**275**	T		T	18 42 28.6		
	baz=106,slow=74								
H11N1	**WAKE ISLAND Hyl**	**126.77**	**275**	T		T	18 42 27.8		
	baz=106								
H11N2	**WAKE ISLAND Hyl**	**126.77**	**275**	T		T	18 42 28.6		
	baz=106,slow=74								
PETK	**Petropavlovsk-**	**136.23**	**319**	PKP		**PKiKP**	**16 23 05.7**	**-0.2**	
	comp=Z,2.2nm,1.0s,baz=60,slow=4.1,SNR=1.7								
GEYT	**Alibeck**	**136.57**	**63**	PKP		**PKPdf**	**16 23 06.2**	**+0.7**	
	comp=Z,2.0nm,0.6s,baz=352,slow=6.0,SNR=3.1								
IUG	**Iuzhnay**	**145.34**	**55**	*e*PKP		**PKPbc**	**16 23 21.1**	**+0.1**	
	baz=55								
DZA	**Taraz**	**146.11**	**54**	*e*PKP		**PKPdf**	**16 23 22.3**	**-0.1**	
	baz=54								
BTLS	**Baital**	**147.36**	**49**	*e*PKP		**PKPdf**	**16 23 24.4**	**0.0**	
	baz=49								
BTLS				*e*PKPbc		**PKPbc**	**16 23 27.0**	**+0.1**	
	baz=49								
EKS2	**Erkin-Say**	**147.91**	**53**	P		**PKPdf**	**16 23 26.7**	**+1.1**	
	SNR=15								
AML	**Almayashu**	**147.99**	**54**	P		**PKPdf**	**16 23 27.5**	**+1.4**	
	SNR=12								
USP	**Ospenovka**	**148.24**	**52**	P		**PKPdf**	**16 23 27.3**	**+1.3**	
	SNR=6.0								
SGDS	**Sogindy**	**148.27**	**51**	*e*PKP		**PKPdf**	**16 23 26.4**	**+0.3**	
	baz=51								
SGDS				*e*PKPbc		**PKPbc**	**16 23 29.6**	**+0.1**	
	baz=51								
ZALV	**Zalesovo Beam**	**148.41**	**27**	PKP		**PKPdf**	**16 23 26.5**	**+0.7**	
	comp=Z,34nm,0.7s,baz=301,slow=2.2,SNR=76								
ZALV				PKPbc		**PKPbc**	**16 23 29.9**	**+0.6**	
	comp=Z,35nm,0.7s,baz=304,slow=3.3,SNR=84								
AAK	**Ala-Archa**	**148.42**	**53**	P		**PKiKP**	**16 23 31.1**	**-0.4**	
	SNR=9.7								
CHMS	**Chumysh**	**148.50**	**52**	P		**PKPbc**	**16 23 30.6**	**+0.6**	
	SNR=8.3								
UCH	**Uchtor**	**148.55**	**54**	P		**PKiKP**	**16 23 31.7**	**-0.5**	
	SNR=24								
KBK	**Karagaybulak**	**148.74**	**53**	P		**PKPbc**	**16 23 31.7**	**+0.9**	
	SNR=7.1								
TKM2	**Tokmak 2**	**149.11**	**52**	P		**PKPbc**	**16 23 32.5**	**+0.6**	
	SNR=8.0								
KUU	**Kurty**	**149.30**	**50**	*e*PKP		**PKPdf**	**16 23 27.5**	**-0.1**	
	baz=50								
KUU				*e*PKPbc		**PKPbc**	**16 23 31.7**	**-0.2**	
	baz=50								
ULHL	**Ulahol**	**149.77**	**53**	P		**PKiKP**	**16 23 34.7**	**+0.3**	
	SNR=5.1								
TNSS	**Tian-Shan**	**150.01**	**51**	*i* PKPbc		**PKPbc**	**16 23 34.6**	**+0.3**	
	baz=51								
MDOK	**Medeo**	**150.03**	**51**	*e*PKPbc		**PKPbc**	**16 23 33.4**	**-0.6**	
	baz=51								
MDOK				*e*PKPab		**PKPab**	**16 23 39.7**	**-0.2**	
	baz=51								
HYB	**Hyderabad**	**150.17**	**104**	*i* PKP		**PKPbc**	**16 23 34.0**	**-0.9**	
KSH	**Kashi**	**150.31**	**58**	PKPbc		**PKPbc**	**16 23 34.8**	**+0.1**	
KSH				AMB		AMB			
	comp=Z,770nm,8.0s								
SATY	**Saty**	**151.00**	**50**	*e*PKPbc		**PKPbc**	**16 23 36.0**	**-0.3**	
	baz=50								
KPKS	**Kokpek**	**151.03**	**49**	*e*PKPbc		**PKPbc**	**16 23 36.3**	**0.0**	
	baz=49								
UZB	**Uzynbulak**	**151.38**	**50**	*e*PKPbc		**PKPbc**	**16 23 37.2**	**0.0**	
	baz=50								
SHLS	**Shalkode**	**151.68**	**49**	*e*PKPbc		**PKiKP**	**16 23 38.7**	**+0.5**	
	baz=49								
MKAR	**Makanchi Array**	**151.74**	**41**	PKP		**PKPdf**	**16 23 31.5**	**+0.1**	
	comp=Z,0.8nm,0.8s,baz=35,slow=3.0,SNR=5.3								
MKAR				PKPbc		**PKPbc**	**16 23 37.8**	**+0.1**	
	comp=Z,15nm,0.6s,baz=311,slow=1.9,SNR=95								
MJAR	**Matsushiro Arr**	**153.82**	**297**	PKPbc		**PKiKP**	**16 23 44.0**	**+1.3**	
	comp=Z,0.6nm,0.5s,baz=110,slow=3.3,SNR=5.5								
MJAR				PKPab		**sPKPbc**	**16 23 57.1**	**-0.2**	
	comp=Z,4.2nm,0.7s,baz=97,slow=2.7,SNR=14								
MAT	**Matsushiro**	**153.82**	**297**	ePKP		**PKPbc**	**16 23 42.2**	**-0.4**	
USRK	**Ussuriysk Ar.**	**155.31**	**318**	PKPab		**PKPab**	**16 24 03.0**	**+1.3**	
	comp=Z,2.2nm,0.8s,baz=35,slow=1.8,SNR=5.8								
MDJ	**Mudanjiang**	**156.44**	**321**	PKP		**PKPdf**	**16 23 38.1**	**+0.1**	
WMQ	**Urumqi**	**156.57**	**41**	*e*PKP		**PKPdf**	**16 23 38.0**	**-0.3**	
SONM	**Songino Array**	**159.87**	**5**	PKP		**PKPdf**	**16 23 42.6**	**+0.4**	
	comp=Z,0.9nm,1.0s,baz=217,slow=1.7,SNR=5.3								
SONM				PKPab		**PKPab**	**16 24 22.2**	**+0.7**	
	comp=Z,1.4nm,0.8s,baz=312,slow=3.1,SNR=8.4								
KSRS	**Korea Array**	**161.36**	**306**	PKP		**PKPdf**	**16 23 44.8**	**+0.8**	
	comp=Z,0.8nm,0.8s,baz=64,slow=2.9,SNR=4.7								
KSRS				PKPab		**PKPab**	**16 24 30.8**	**+2.6**	
	comp=Z,0.5nm,0.6s,baz=276,slow=27,SNR=2.9								
HHC	**Hu-ho-hao-te**	**166.78**	**351**	*e*PKP		**PKPdf**	**16 23 48.9**	**-0.1**	
CMAR	**Chiang Mai Arr**	**166.94**	**133**	PKP		**PKPdf**	**16 23 49.3**	**-0.3**	
	comp=Z,0.3nm,0.5s,baz=225,slow=3.6,SNR=4.5								
CMAR				PKPab		**PKPab**	**16 24 52.5**	**-0.7**	
	comp=Z,0.5nm,0.8s,baz=212,slow=3.2,SNR=2.1								
NJ2	**Nanjing**	**170.41**	**299**	*e*PKP		**PKPdf**	**16 23 50.6**	**-0.9**	
CD2	**Chengdu**	**174.49**	**54**	PKP		**PKPdf**	**16 23 52.5**	**-0.9**	

*NNC **14** 16:10:09.0±5.3,39.°19N×75.°61E, h0km, mb3.6, mpv3.2*
Error ellipse: s-maj=44.3km s-min=34.8km az=99.0
*KRNET **14** 16:10:10.8±0.1,39.°02N×76.°46E, mb2.9*
*SOME **14** 16:10:16.3,39.°37N×76.°03E, h5km*
ISC 14 16:10:18.6±2.3,39.°5N±0.°1×76.°31E±0.°06, h10km, n27, σ1°94/44, 16C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**2.72**	**14**	⇑*i*P		**Pn**	**16 11 03.9**	**+1.3**
	baz=10.0							
KDJ				⇑*i*S		**Sb**	**16 11 42.7**	**+1.6**
	baz=10.0							
BOOM	**Boomskoye usch**	**3.02**	**355**	⇓*e*P		**Pn**	**16 11 08.5**	**+1.9**
	baz=54							
BOOM				⇓*i*S		**Sb**	**16 11 50.8**	**+1.4**
	baz=54							
UCH	**Uchtor**	**3.06**	**334**	⇑*i*P		**Pn**	**16 11 09.4**	**+2.0**
	baz=36							
UCH				⇑*i*S		**Sb**	**16 11 52.4**	**+1.4**
	baz=36							
ARSB	**Arslanbob**	**3.13**	**307**	⇑*i*P		**Pn**	**16 11 09.3**	**+1.1**
	baz=12							
ARSB				⇑*i*S		**Sb**	**16 11 52.0**	**-0.8**
	baz=12							
AML	**Almayashu**	**3.31**	**324**	⇑*e*P		**Pn**	**16 11 12.3**	**+1.5**
	baz=27							
AML				⇑*i*S		**Sb**	**16 11 57.5**	**-0.5**
	baz=27							
KBK	**Karagaybulak**	**3.33**	**342**	⇑*i*P		**Pn**	**16 11 13.3**	**+2.4**
	baz=43							
KBK				⇑*i*S		**Sb**	**16 11 59.1**	**+0.6**
	baz=43							
AAK	**Ala-Archa**	**3.44**	**337**	⇑Pg		**Pn**	**16 11 11.8**	**-0.5**
	2.9nm,0.8s							
AAK				⇑Lg		Lg	16 12 02.8	
	6.9nm,0.8s							
ANVS	**Anan'yevo**	**3.45**	**17**	⇑*i*P		**Pn**	**16 11 13.7**	**+1.1**
	baz=13							
ANVS				⇑*i*S		**Sb**	**16 12 00.2**	**-1.8**
	baz=13							
TKM2	**Tokmak 2**	**3.48**	**351**	⇓*i*P		**Pn**	**16 11 15.5**	**+2.6**
	baz=51							
TKM2				⇓*i*S		**Sb**	**16 12 02.4**	**-0.3**
	baz=51							
TKM2	**Tokmak 2**	**3.48**	**351**	⇑Pg		**Pn**	**16 11 14.1**	**+1.2**
	0.9nm,0.3s							
TKM2				⇑Lg		Lg	16 12 07.1	
	3.6nm,0.7s							
KST	**Kastek**	**3.56**	**356**	*e*P		**Pg**	**16 11 24.6**	**-2.3**
	3.7nm,0.4s							
KST				*e*S		**Sg**	**16 12 13.8**	**+0.7**
	5.6nm,0.6s							
KST	**Kastek**	**3.56**	**356**	Pg		**Pb**	**16 11 22.6**	**+0.8**
	3.7nm,0.4s							
KST				Lg		Lg	16 12 13.8	
	5.6nm,0.6s							
TNSS	**Tian-Shan**	**3.58**	**8**	*e*P		**Pg**	**16 11 24.7**	**-2.6**
	1.6nm,0.2s							
TNSS				*e*S		**Sg**	**16 12 13.7**	**+0.1**
	2.9nm,0.7s							
TNSS	**Tian-Shan**	**3.58**	**8**	Pg		**Pb**	**16 11 22.6**	**+0.4**
	0.8nm,0.1s							
TNSS				Lg		Lg	16 12 13.7	
	2.9nm,0.7s							
MDOK	**Medeo**	**3.72**	**8**	*e*P		**Pg**	**16 11 26.9**	**-2.9**
	1.1nm,0.2s							
MDOK				*e*S		**Sg**	**16 12 18.0**	**+0.1**
	6.2nm,0.6s							
MDOK	**Medeo**	**3.72**	**8**	Pg		**Pb**	**16 11 19.7**	**-4.7**
	1.8nm,0.4s							
MDOK				Lg		Lg	16 12 17.7	
	8.4nm,0.9s							
MDOK	**Medeo**	**3.72**	**8**	Pg		**Pb**	**16 11 25.2**	**+0.7**
	2.1nm,0.3s							
MDOK				Lg		Lg	16 12 18.0	
	6.2nm,0.6s							
DGS	**Degeres**	**3.77**	**354**	*e*P		**Pg**	**16 11 28.4**	**-2.5**
	4.1nm,0.6s							
DGS				*e*S		**Sg**	**16 12 20.5**	**+0.6**
	4.1nm,0.9s							
DGS	**Degeres**	**3.77**	**354**	Pg		**Pb**	**16 11 26.5**	**+1.1**
	4.1nm,0.6s							
DGS				Lg		Lg	16 12 20.5	
	4.1nm,0.9s							
KOTS	**Kotyrbulak**	**3.79**	**9**	*e*P		**Pg**	**16 11 28.7**	**-2.6**
	4.1nm,0.3s							
KOTS				*e*S		**Sg**	**16 12 21.1**	**+0.7**
	18nm,0.6s							
KOTS	**Kotyrbulak**	**3.79**	**9**	Pg		**Pb**	**16 11 26.7**	**+1.0**
	3.1nm,0.5s							
KOTS				Lg		Lg	16 12 21.1	
	18nm,0.6s							
SATY	**Saty**	**3.91**	**23**	*e*P		**Pg**	**16 11 32.7**	**-0.7**
	0.7nm,0.1s							
SATY				*e*S		**Sg**	**16 12 27.7**	**+3.7**
	3.5nm,0.5s							
SATY	**Saty**	**3.91**	**23**	Pg		**Pg**	**16 11 30.8**	**-2.6**
	2.2nm,0.3s							
SATY				Lg		Lg	16 12 27.7	
	3.5nm,0.5s							
KTBS	**Karatobe**	**4.23**	**4**	*e*P		**Pg**	**16 11 36.3**	**-3.4**
	1.3nm,0.4s							
KTBS				*e*S		**Sg**	**16 12 34.0**	**-0.5**
	6.4nm,0.5s							
KTBS	**Karatobe**	**4.23**	**4**	Pg		**Pb**	**16 11 34.5**	**+1.3**
	1.3nm,0.4s							
KTBS				Lg		Lg	16 12 34.0	
	6.4nm,0.5s							
KPKS	**Kokpek**	**4.36**	**23**	*e*P		**Pg**	**16 11 39.0**	**-3.1**
	1.5nm,0.1s							
KPKS				*e*S		**Sg**	**16 12 38.3**	**-0.3**
	6.0nm,0.3s							
KUU	**Kurty**	**4.41**	**0**	*e*P		**Pb**	**16 11 38.8**	**+2.8**
	0.7nm,0.3s							
KUU				*e*S		**Sg**	**16 12 38.2**	**-1.8**
	3.5nm,0.4s							

*NOU **14** 16:28:46.3,41.°97S×175.°04E, h9km, MLv3.5, North Island, New Zealand*
WEL 14 16:28:49.0,42.°3S±2.°×17.°5E±.°, h41km±3km, M3.2/18, ML3.4/18, MLv3.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=126.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLWZ	**Palliser**	**0.35**	**52**	P		Pn	16 28 58.5	+0.5
BHW	**Baring Head**	**0.38**	**359**	P		Pn	16 28 58.5	+0.2
BHW				S		Sn	16 29 05.0	+0.3
MSWZ	**Moikau Station**	**0.46**	**37**	P		Pn	16 28 59.9	+0.6
MSWZ				S		Sn	16 29 07.5	+1.0
CMWZ	**Cape Campbell**	**0.50**	**274**	P		Pn	16 29 00.2	+0.4
WEL	**Wellington**	**0.51**	**350**	P		Pn	16 29 00.4	+0.5
PAWZ	**Paruwai Farm**	**0.58**	**46**	P		Pn	16 29 01.5	+0.7
CAW	**Cannon Point**	**0.69**	**12**	P		Pn	16 29 03.5	+1.1
CAW				S		Sn	16 29 13.6	+1.6
TRWZ	**Traveller**	**0.72**	**58**	P		Pn	16 29 03.4	+0.6
TCW	**Tory Channel**	**0.73**	**322**	P		Pn	16 29 03.5	+0.5
TCW				S		Sn	16 29 13.5	+0.5
BSWZ	**Blackbirch Sta**	**0.76**	**275**	P		Pn	16 29 03.6	+0.4
BSWZ				S		Sn	16 29 14.7	+1.2
TUWZ	**Tuamarina**	**0.79**	**297**	P		Pn	16 29 03.9	+0.2
TUWZ				S		Sn	16 29 14.7	+0.5
KHZ	**Kahutara**	**1.18**	**237**	P		Pn	16 29 09.0	0.0
KHZ				S		Sn	16 29 23.1	-0.8
DUWZ	**D'Urville Isla**	**1.22**	**323**	P		Pn	16 29 10.9	+1.2
MRZ	**Mangatainoka R**	**1.24**	**25**	P		Pn	16 29 10.9	+1.0
NNZ	**Nelson**	**1.26**	**296**	P		Pn	16 29 10.8	+0.6
TIWZ	**Tintock**	**1.26**	**37**	P		Pn	16 29 10.9	+0.7
THZ	**Tophouse**	**1.48**	**270**	P		Pn	16 29 13.5	+0.3
PRWZ	**Pori Road**	**1.48**	**34**	P		Pn	16 29 14.0	+0.9
BFZ	**Birch Farm**	**1.51**	**43**	P		Pn	16 29 14.0	+0.4
POWZ	**Post Office Ro**	**1.55**	**26**	P		Pn	16 29 15.4	+1.3
DVHZ	**Dannevirke**	**1.78**	**34**	P		Pn	16 29 17.7	+0.4
ANWZ	**Angora Road**	**1.79**	**43**	P		Pn	16 29 17.7	+0.3
TSZ	**Takapari Road**	**1.91**	**26**	P		Pn	16 29 20.1	+0.9
QRZ	**Quartz Range**	**2.02**	**298**	P		Pn	16 29 22.2	+1.6
WAZ	**Wanganui**	**2.03**	**2**	P		Pn	16 29 24.1	+3.3
WPHZ	**Waipukurau**	**2.09**	**35**	P		Pn	16 29 22.0	+0.5
PNHZ	**Pukenui**	**2.12**	**29**	P		Pn	16 29 22.7	+0.7
AMCZ	**Amberley**	**2.16**	**229**	P		Pn	16 29 22.1	-0.4
LTZ	**Lake Taylor**	**2.18**	**242**	P		Pn	16 29 22.6	-0.2
DSZ	**Denniston Nort**	**2.30**	**270**	P		Pn	16 29 25.9	+1.4
LREZ	**Lake Rotokare**	**2.35**	**351**	P		Pn	16 29 31.6	+6.4
OKCZ	**Okains Bay**	**2.35**	**214**	P		Pn	16 29 24.3	-0.9
KRHZ	**Kereru**	**2.42**	**28**	P		Pn	16 29 26.7	+0.6
MTVZ	**Mangateitei**	**2.44**	**11**	P		Pn	16 29 28.8	+2.3
BHHZ	**Black Hill Sta**	**2.46**	**22**	P		Pn	16 29 28.1	+1.3
MOVZ	**Moawhango**	**2.47**	**16**	P		Pn	16 29 28.4	+1.5
NMEZ	**Namu Road**	**2.49**	**342**	P		Pn	16 29 32.6	+5.6
WNVZ	**Wahianoa**	**2.52**	**13**	P		Pn	16 29 29.7	+2.1
PKVZ	**Pokaka**	**2.52**	**8**	P		Pn	16 29 29.9	+2.4
MQZ	**McQueen's Vall**	**2.52**	**220**	P		Pn	16 29 26.1	-1.3
TRVZ	**Turoa**	**2.54**	**12**	P		Pn	16 29 30.3	+2.4
AKCZ	**Akaroa Harbour**	**2.54**	**214**	P		Pn	16 29 26.9	-0.8
WHVZ	**Whangaehu Hut**	**2.56**	**12**	P		Pn	16 29 30.6	+2.3
KHEZ	**Kahui Hut**	**2.58**	**345**	P		Pn	16 29 32.8	+4.5
FWVZ	**Far West T-bar**	**2.58**	**12**	P		Pn	16 29 30.8	+2.3
NEZ	**North Egmont**	**2.58**	**346**	P		Pn	16 29 34.3	+5.9
TUVZ	**Tukino**	**2.58**	**13**	P		Pn	16 29 30.8	+2.3
OXZ	**Oxford**	**2.60**	**233**	P		Pn	16 29 27.5	-1.1
KWHZ	**Kaweka Forest**	**2.64**	**27**	P		Pn	16 29 29.7	+0.6
VRZ	**Vera Road**	**2.66**	**358**	P		Pn	16 29 32.4	+3.0
NGZ	**Ngauruhoe**	**2.67**	**12**	P		Pn	16 29 32.0	+2.4
OTVZ	**Otiurere**	**2.69**	**13**	P		Pn	16 29 32.3	+2.3
INZ	**Inchbonnie**	**2.72**	**249**	P		Pn	16 29 30.2	0.0
ETVZ	**East Tongariro**	**2.72**	**14**	P		Pn	16 29 32.3	+1.9
WTVZ	**West Tongariro**	**2.72**	**12**	P		Pn	16 29 32.8	+2.5
TMVZ	**Te Maari**	**2.74**	**14**	P		Pn	16 29 32.5	+1.9
TWVZ	**Taurewa**	**2.75**	**9**	P		Pn	16 29 38.2	+7.6
KRVZ	**Karewarewa**	**2.75**	**12**	P		Pn	16 29 31.4	+0.7
RACZ	**Rakaia**	**2.80**	**225**	P		Pn	16 29 30.3	-1.0
BKZ	**Black Stump Fm**	**2.89**	**26**	P		Pn	16 29 33.3	+0.7
RITZ	**Rihia Road**	**2.90**	**15**	P		Pn	16 29 34.9	+2.1
WACZ	**Wakanui South**	**3.10**	**225**	P		Pn	16 29 34.6	-0.9
HIZ	**Hauiti**	**3.27**	**360**	P		Pn	16 29 40.6	+2.9
WVZ	**Waitaha Valley**	**3.33**	**246**	P		Pn	16 29 38.9	+0.4
RPZ	**Rata Peaks**	**3.41**	**234**	P		Pn	16 29 39.1	-0.7
ARCZ	**Arundel**	**3.47**	**230**	P		Pn	16 29 39.6	-1.0
TLZ	**Tolley Road**	**3.49**	**9**	P		Pn	16 29 43.2	+2.3
GCSZ	**Gaunt Creek Bo**	**3.69**	**244**	P		Pn	16 29 43.9	+0.3
TMZ	**Timaru**	**3.84**	**226**	P		Pn	16 29 44.9	-0.8
FOZ	**Fox Glacier**	**4.12**	**243**	P		Pn	16 29 50.1	+0.7
LBZ	**Lake Benmore**	**4.31**	**231**	P		Pn	16 29 51.5	-0.6
ODZ	**Otahua Downs**	**4.49**	**222**	P		Pn	16 29 53.5	-0.9
EAZ	**Earnscleugh**	**5.32**	**228**	P		Pn	16 30 05.1	-0.8

IDC 14 16:37:35.4±4.4,21.°97N×142.°83E, h277km±41km, mb3.2/11, mb1 3.3/12, mb1mx3.1/34, mbtmp3.8/12, Error ellipse: s-maj=34.0km s-min=14.5km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.06**	**346**	P		P	16 40 53.0	-1.3
	0.1nm,0.3s,baz=170,slow=11,SNR=6.1							
KSRS	**Korea Array**	**20.10**	**323**	P		P	16 41 49.1	+0.4
	3.1nm,0.6s,baz=146,slow=9.0,SNR=26							
SONM	**Songino Array**	**38.92**	**320**	P		P	16 44 35.1	+0.3
	0.6nm,0.4s,baz=124,slow=6.1,SNR=13							
WRA	**Warramunga Arr**	**42.48**	**192**	P		P	16 45 03.4	-0.5
	0.5nm,0.5s,baz=10,slow=8.4,SNR=7.5							
ASAR	**Alice Springs**	**46.19**	**191**	P		P	16 45 33.3	+0.2
	0.6nm,1.0s,baz=9.8,slow=8.4,SNR=5.0							
ZALV	**Zalesovo Beam**	**53.79**	**322**	P		P	16 46 29.3	-0.3
	1.1nm,0.3s,baz=108,slow=7.6,SNR=8.1							
ZALV				PcP		PcP	16 47 31.6	0.0
	0.5nm,0.4s,baz=74,slow=2.8,SNR=2.2							
MKAR	**Makanchi Array**	**54.27**	**313**	P		P	16 46 32.9	-0.4
	0.4nm,0.6s,baz=94,slow=7.2,SNR=6.3							
MKAR				PcP		pwP	16 47 34.4	-0.2
	0.2nm,0.4s,baz=90,slow=3.9,SNR=2.2							
YKA	**Yellowknife Ar**	**76.36**	**28**	P		P	16 48 54.1	+0.1
	0.1nm,0.6s,ba

	comp=E,54nm,1.0s							
YHL	**Hebgen Lake**	**4.32**	**287**			**Pn**	**17 15 05.6**	**+1.0**
YHL				IAML			17 16 39.5	
	comp=N,49nm,1.2s							
E28A	**Huff**	**4.34**	**48**	Pn		**Pn**	**17 15 06.4**	**+1.8**
ECR	**Eagle Creek**	**4.43**	**263**			**Pb**	**17 15 12.3**	**-4.0**
RDMU	**Red Mountain**	**4.46**	**226**	Pn		**Pn**	**17 15 08.1**	**+1.6**
RDMU				IAML			17 16 19.5	
	comp=N,39nm,1.0s							
RDMU				IAML			17 16 36.7	
	comp=E,45nm,1.0s							
QLMT	**Earthquake Lak**	**4.49**	**286**	Pn		**Pn**	**17 15 08.0**	**+1.1**
SMCO	**Snowmass**	**4.74**	**195**	Pn		**Pn**	**17 15 11.7**	**+1.3**
SMCO				IAML			17 16 35.4	
	comp=E,30nm,1.1s							
SMCO				IAML			17 16 40.4	
	comp=E,21nm,1.2s							
DGMT	**Dagmar**	**4.78**	**9**			**Pn**	**17 15 12.3**	**+1.7**
K31A	**O'Neill**	**4.96**	**101**			**Pn**	**17 15 17.0**	**+3.8**
HWUT	**Hardware Ranch**	**5.05**	**247**			**Pn**	**17 15 14.2**	**-0.4**
HWUT				IAML			17 16 36.2	
	comp=E,34nm,1.2s							
HWUT				IAML			17 16 50.3	
	comp=E,30nm,0.8s							
TCUT	**Toone Canyon**	**5.20**	**242**			**Pn**	**17 15 16.9**	**+0.3**
EGMT	**Eagleton**	**5.25**	**326**			**Pn**	**17 15 19.1**	**+1.9**
HRY	**Holter Researc**	**5.44**	**305**			**Pn**	**17 15 20.6**	**+0.8**
SPUT	**South Promonto**	**5.78**	**247**			**Pn**	**17 15 25.3**	**+0.7**
P17A	**Butcher Ranch,**	**5.88**	**225**			**Pn**	**17 15 26.4**	**+0.4**
PV15	**Paradox Valley**	**5.90**	**205**			**Pn**	**17 15 27.7**	**+1.4**
MPU	**Maple Canyon**	**5.99**	**233**			**Pn**	**17 15 29.1**	**+1.6**
PV14	**Lion Creek, Pa**	**6.05**	**208**			**Pn**	**17 15 29.2**	**+0.8**
PV11	**David Mesa, Pa**	**6.07**	**207**			**Pn**	**17 15 29.8**	**+1.2**
PV16	**Nyswonger Mesa**	**6.07**	**207**			**Pn**	**17 15 28.8**	**+0.2**
PV03	**Paradox Valley**	**6.10**	**207**			**Pn**	**17 15 30.1**	**+1.1**
PV02	**Paradox Valley**	**6.11**	**206**			**Pn**	**17 15 29.9**	**+0.8**
PV17	**East Wray Mesa**	**6.11**	**208**			**Pn**	**17 15 30.6**	**+1.5**
PV01	**Paradox Valley**	**6.12**	**204**			**Pn**	**17 15 30.4**	**+1.0**
PV18	**Skein Mesa, Pa**	**6.13**	**207**			**Pn**	**17 15 30.3**	**+0.9**
PV13	**Radium Mtn., P**	**6.18**	**206**			**Pn**	**17 15 31.1**	**+1.0**
PV05	**Paradox Valley**	**6.34**	**208**			**Pn**	**17 15 31.7**	**-0.6**
T25A	**Trinidad**	**6.65**	**173**	Pn		**Pn**	**17 15 37.0**	**+0.4**
MSU	**Marysvale**	**7.34**	**227**			**Pn**	**17 15 46.5**	**+0.4**
ELK	**Elko**	**7.92**	**251**	Pn		**Pn**	**17 15 54.4**	**+0.4**
	comp=E,0.1nm,0.3s,baz=136,slow=5.2,SNR=3.2							
ELK	**Elko**	**7.92**	**251**			**Pn**	**17 15 54.9**	**+0.9**
I10CA	**LAC DU BONNET**	**9.06**	**41**	*i*			18 04 50.0	
	baz=228,slow=316,SNR=2.1							
ULM	**Lac du Bonnet**	**9.17**	**42**	Pn		**Pn**	**17 16 09.3**	**-1.5**
	comp=E,0.6nm,0.3s,baz=207,slow=8.3,SNR=3.7							
ULM				Lg		Lg	17 18 45.1	
	comp=E,0.2nm,0.3s,baz=339,slow=18,SNR=4.3							
NVAR	**Mina Array Bea**	**11.12**	**246**	Pn		**Pn**	**17 16 39.3**	**+1.5**
	comp=E,0.0nm,0.3s,baz=62,slow=11,SNR=1.9							
YKA	**Yellowknife Ar**	**19.53**	**347**	P		**Pn**	**17 18 27.4**	**+0.1**
	baz=154,slow=9.3,SNR=2.0							
MKAR	**Makanchi Array**	**89.58**	**355**	P		**P**	**17 26 56.4**	**-0.2**
	comp=E,0.2nm,0.7s,baz=2.9,slow=5.8,SNR=2.7							

*DJA **14** 17:21:53.5±0.6,2°N±5°×12°7E±°, h36km±12km, M4.4/11, mb4.5/6, mB4.9/2, MLv4.3/11, Mw(mB)4.2/2*
*NEIC **14** 17:21:54.0±2.1, 1°89N±0°04×126°56E±0°04, h57km±8km, mb4.4/29, Error ellipse: s-maj=7.9km s-min=2.6km az=136.0*
*IDC **14** 17:21:56.7±3.0, 1°77N×126°48E, h74km±29km, mb3.6/14, mb1 3.8/18, mb1mx3.7/33, mbtmp4.0/18, Error ellipse: s-maj=25.5km s-min=12.5km az=75.0*

ISC 14 17:21:53.5±0.4, 1°93N±0°05×126°60E±0°06, h47km, n72, σ1°37/76, mb4.3/29, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.38**	**146**			**Pn**	**17 22 16.0**	**-0.5**
TNTI				Sn		**Sn**	**17 22 31.3**	**-2.3**
TNTI	**Ternate**	**1.38**	**146**	P		**Pn**	**17 22 15.1**	**-1.3**
SGSI	**Sangihe**	**2.04**	**329**	P		**Pn**	**17 22 25.4**	**-0.1**
KMSI	**Cibinong**	**2.94**	**243**	P		**Pn**	**17 22 38.2**	**+0.4**
GTOI	**Gorontalo**	**3.81**	**250**	P		**Pn**	**17 22 51.2**	**+1.5**
LUWI	**Luwuk**	**4.83**	**232**			**Pn**	**17 23 04.1**	**+0.3**
LUWI				Sn		**Sn**	**17 24 02.6**	**+4.1**
LUWI	**Luwuk**	**4.83**	**232**	P		**Pn**	**17 23 03.5**	**-0.3**
MRSI	**Marisa**	**4.88**	**253**	P		**Pn**	**17 23 04.3**	**-0.1**
KCP	**Kidapawan**	**5.26**	**343**	*ieP*		Pn	17 23 15.8	+6.0
APSI	**Ampana**	**5.70**	**240**	P		**Pn**	**17 23 14.4**	**-1.2**
	0.2nm744nm63nm,0.4s							
TOLI2	**Tolitoli**	**5.87**	**262**			**Pn**	**17 23 17.2**	**-0.8**
TOLI2				Sn		**Sn**	**17 24 20.2**	**-3.9**
MYLDM	**Lahad Datu**	**8.70**	**292**			**Pn**	**17 23 59.5**	**+2.7**
BNSI	**Bone**	**9.04**	**226**	P		**Pn**	**17 24 02.0**	**+0.6**
	13nm,0.5s							
KAPI	**Kappang**	**9.71**	**225**	P		**Pn**	**17 24 12.1**	**+1.4**
	1.4nm,0.3s,baz=41,slow=9.3,SNR=5.3							
KAPI	**Kappang**	**9.71**	**225**	Pn		**Pn**	**17 24 11.9**	**+1.2**
KKM	**Kota Kinabalu**	**11.13**	**292**	Pn		**Pn**	**17 24 30.5**	**+0.2**
SOEI	**Soe**	**11.84**	**191**	Pn		Pn	17 24 47.2	+7.3
BATI	**Baumata**	**12.41**	**194**	P		**Pn**	**17 24 48.1**	**+0.5**
	0.3nm,0.3s,baz=56,slow=15,SNR=1.4							
BATI				S		Sn	17 26 38.9	-26
	1.3nm,0.3s,baz=139,slow=23,SNR=1.7							
TWSI	**Taliwang, Sumb**	**14.36**	**222**	pP		**P**	**17 25 21.2**	**+1.1**
SBUM	**Sibu**	**14.38**	**272**	P		**P**	**17 25 19.8**	**-0.5**
JAY	**Jayapura**	**14.78**	**107**	P		**Pn**	**17 25 21.8**	**+2.0**
	0.6nm,0.3s,baz=325,slow=12,SNR=1.1							
KSM	**Kuching**	**16.29**	**269**	P		**P**	**17 25 41.6**	**0.0**
UGM	**Wanagama**	**18.78**	**238**	P		**P**	**17 26 07.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**19.93**	**183**	P		**P**	**17 26 21.1**	**-0.5**
	0.2nm,0.3s,baz=9.8,slow=12,SNR=5.9							
FITZ	**Fitzroy Crossi**	**19.93**	**183**	P		**P**	**17 26 21.0**	**-0.5**
YULB	**Yu-li**	**21.95**	**347**	P		**P**	**17 26 41.2**	**-2.1**
YULB				IAmb		IAmb	17 26 44.0	
	comp=Z,26nm,1.5s							
TPUB	**Ta-pu**	**22.02**	**345**	P		**P**	**17 26 43.1**	**-0.9**
TPUB				IAmb		IAmb	17 26 56.5	
	comp=Z,33nm,1.3s							
SSLB	**Suanglung**	**22.41**	**346**	P		**P**	**17 26 46.8**	**-1.5**
SSLB				IAmb		IAmb	17 26 53.8	
	comp=Z,7.1nm,0.8s							
WB0	**Warramunga Arr**	**22.88**	**161**	P		**P**	**17 26 52.1**	**-1.2**
WB0				IAmb		IAmb	17 27 00.3	
	comp=Z,27nm,1.4s							
WRAB	**Tennant Creek**	**23.02**	**161**	P		**P**	**17 26 53.9**	**-0.8**
WRAB				IAmb		IAmb	17 26 58.3	
	comp=Z,7.9nm,0.7s							
WRA	**Warramunga Arr**	**23.03**	**161**	P		**P**	**17 26 53.7**	**-1.1**
	comp=Z,7.2nm,0.6s,baz=337,slow=11,SNR=74							
WRA				PcP		**PcP**	**17 30 43.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=332,slow=2.1,SNR=2.0							
WB2	**Warramunga Arr**	**23.03**	**161**	P		**P**	**17 26 53.8**	**-1.1**
WB2				IAmb		IAmb	17 26 54.3	
	comp=Z,18nm,1.2s							
WR0	**Warramunga Arr**	**23.11**	**161**	P		**P**	**17 26 54.4**	**-1.2**
WR0				IAmb		IAmb	17 27 05.7	
	comp=Z,17nm,1.5s							
YHNB	**Yeheng**	**23.16**	**348**	P		**P**	**17 26 55.7**	**-0.4**
YHNB				IAmb		IAmb	17 27 17.1	
	comp=Z,38nm,1.6s							
AS31	**Alice Springs**	**26.42**	**165**	P		**P**	**17 27 26.7**	**+0.7**
ASAR	**Alice Springs**	**26.42**	**165**	P		**P**	**17 27 25.3**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=346,slow=7.4,SNR=36							
ASAR				PcP		**PcP**	**17 30 51.1**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=358,slow=2.2,SNR=5.2							
ASAR	**Alice Springs**	**26.42**	**165**	P		**P**	**17 27 26.0**	**0.0**
GIRL	**Giralia**	**27.24**	**206**	P		**P**	**17 27 34.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**31.70**	**303**	P		**P**	**17 28 13.8**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=97,slow=8.8,SNR=4.1							
CMAR	**Chiang Mai Arr**	**31.70**	**303**	P		**P**	**17 28 10.8**	**-2.3**
MORW	**Morawa**	**32.44**	**197**	P		**P**	**17 28 18.8**	**-0.6**
FORT	**Forrest**	**32.56**	**178**	P		**P**	**17 28 21.0**	**+0.6**
JWT	**Wachi**	**34.18**	**13**	P		**P**	**17 28 34.7**	**+0.3**
KSRS	**Korea Array**	**35.37**	**2**	P		**P**	**17 28 47.4**	**+2.7**
	comp=Z,0.8nm,0.6s,baz=177,slow=9.8,SNR=8.4							
BBOO	**Buckleboo**	**35.69**	**166**	P		**P**	**17 28 47.1**	**-0.4**
MJAR	**Matsushiro Arr**	**36.08**	**16**	P		**P**	**17 28 52.3**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=180,slow=9.5,SNR=5.7							
STKA	**Stephens Creek**	**36.51**	**158**	P		**P**	**17 28 54.0**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=354,slow=8.0,SNR=7.6							
STKA	**Stephens Creek**	**36.51**	**158**	P		**P**	**17 28 53.7**	**-0.8**
HHC	**Hu-ho-hao-te**	**41.06**	**343**	*eP*		**P**	**17 29 34.0**	**+1.3**
HHC				pmax		pmax		
	comp=Z,7.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,110nm,6.6s							

USRK	**Ussuriysk Ar.**	**42.36**	**6**	P		**P**	**17 29 42.1**	**-0.9**
SONM	**Songino Array**	**48.95**	**342**	P		**P**	**17 30 37.8**	**+2.5**
	comp=Z,0.7nm,0.6s,baz=153,slow=7.9,SNR=5.7							
SONM	**Songino Array**	**48.95**	**342**	P		**P**	**17 30 37.6**	**+2.3**
WMQ	**Urumqi**	**54.12**	**326**	*eP*		**P**	**17 31 15.1**	**+1.2**
PETK	**Petropavlovsk-**	**57.14**	**22**	P		**P**	**17 31 37.6**	**+2.3**
	comp=Z,2.9nm,0.8s,baz=185,slow=5.5,SNR=5.4							
MK31	**Makanchi Array**	**58.96**	**326**	P		**P**	**17 31 48.1**	**-0.1**
MK31				IAmb		IAmb	17 31 54.0	
	comp=Z,7.3nm,1.6s							
MKAR	**Makanchi Array**	**58.96**	**326**	P		**P**	**17 31 48.1**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=120,slow=7.9,SNR=49							
MKAR				PcP		**PcP**	**17 32 37.2**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=119,slow=5.4,SNR=5.2							
MKAR	**Makanchi Array**	**58.96**	**326**	P		**P**	**17 31 47.9**	**-0.3**
MKAR				PcP		**PcP**	**17 32 35.9**	**-1.1**
MAKZ	**Makanchi**	**59.14**	**326**	P		**P**	**17 31 48.2**	**-1.3**
MAKZ				IAmb		IAmb	17 31 51.3	
	comp=Z,4.6nm,1.4s							
ZALV	**Zalesovo Beam**	**62.12**	**334**	P		**P**	**17 32 08.5**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=117,slow=8.3,SNR=2.8							
KK31	**Karatay Array**	**64.46**	**318**	P		**P**	**17 32 24.5**	**-0.8**
KK31				IAmb		IAmb	17 33 02.0	
	comp=Z,5.5nm,1.6s							
KKAR	**Karatay Array**	**64.46**	**318**	P		**P**	**17 32 24.0**	**-1.4**
KKAR	**Karatay Array**	**64.46**	**318**	P		**P**	**17 32 24.5**	**-0.8**
KKAR				IAmb		IAmb	17 33 02.0	
	comp=Z,5.5nm,1.6s							
BRVK	**Borovoye**	**68.82**	**327**	P		**P**	**17 32 51.3**	**-1.7**
BRVK				IAmb		IAmb	17 32 54.3	
	comp=Z,2.9nm,0.9s							
SOCY	**Socotra**	**72.60**	**282**	P		**P**	**17 33 14.0**	**-2.7**
SOCY				IAmb		IAmb	17 33 45.9	
	comp=Z,5.7nm,1.2s							
ABKAR	**Akbulak array**	**73.45**	**321**	P		**P**	**17 33 20.8**	**-0.3**
ABKAR	**Akbulak array**	**73.45**	**321**	P		**P**	**17 33 21.1**	**0.0**
ABKAR				IAmb		IAmb	17 33 24.0	
	comp=Z,1.5nm,0.9s							
ARU	**Arti**	**76.38**	**328**	P		**P**	**17 33 37.5**	**-0.2**
VNDA	**Vanda**	**81.67**	**173**	P		**P**	**17 34 06.2**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=315,slow=3.3,SNR=3.6							
VNDA	**Vanda**	**81.67**	**173**	IAmb		IAmb	17 34 21.1	
	comp=Z,8.1nm,1.6s							
KBZ	**Khabaz**	**84.11**	**314**	P		**P**	**17 34 19.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=120,slow=8.1,SNR=1.8							
ILAR	**Eielson Array**	**86.77**	**25**	P		**P**	**17 34 32.8**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=256,slow=4.6,SNR=2.0							
FINES	**FINESS Array B**	**93.34**	**332**	P		**P**	**17 35 02.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=63,slow=6.4,SNR=1.1							

*IDC **14** 17:42:25.5±7.2, 43°10S×83°00E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/33, mbtmp3.9/4, MS3.4/2, Ms1 3.5/2, ms1mx3.0/31, Error ellipse: s-maj=191.1km s-min=43.6km az=33.0*
*NEIC **14** 17:42:29.2±0.8, 43°05S±0°1×83°2E±0°1, h14km±4km, mb4.7/12, Error ellipse: s-maj=18.8km s-min=9.8km az=162.0*

ISC 14 17:42:28.6±0.7, 42°9S±0°1×83°2E±0°2, h10km, n22, σ0°71/18, mb4.6/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**25.27**	**82**	T		T	18 13 58.0	
	baz=242							
H01W3	**Cape Leeuwin H**	**25.28**	**82**	T		T	18 13 57.3	
	baz=242							
H01W1	**Cape Leeuwin H**	**25.29**	**82**	T		T	18 14 02.7	
	baz=242							
MAW	**Mawson**	**27.02**	**197**	P		**P**	**17 48 09.5**	**-0.9**
MAW				IAmb		IAmb	17 48 30.6	
	comp=Z,32nm,1.6s							
CASY	**Casey**	**27.80**	**157**	P		**P**	**17 48 16.1**	**-1.3**
CASY				IAmb		IAmb	17 48 35.9	
	comp=Z,21nm,1.3s							
NWAO	**Narrogin (SRO)**	**28.48**	**81**	LR		LR	17 58 33.8	
	comp=Z,53nm,18.6s,baz=311,slow=34							
NWAO	**Narrogin (SRO)**	**28.48**	**81**	P		**P**	**17 48 23.9**	**+0.1**
ASAR	**Alice Springs**	**45.79**	**82**	P		**P**	**17 50 50.4**	**-0.1**
	comp=Z,2.1nm,1.1s,baz=226,slow=6.6,SNR=7.3							
SBA	**Scott Base**	**47.09**	**163**	P		**P**	**17 51 01.3**	**+1.3**
QSPA	**South Pole Qui**	**47.22**	**180**	P		**P**	**17 51 01.9**	**+0.5**
WRA	**Warramunga Arr**	**48.43**	**78**	P		**P**	**17 51 10.7**	**-0.5**
	comp=Z,2.4nm,1.1s,baz=232,slow=8.1,SNR=5.5							
WR0	**Warramunga Arr**	**48.56**	**78**	P		**P**	**17 51 13.3**	**+1.1**
WB0	**Warramunga Arr**	**48.58**	**78**	P		**P**	**17 51 12.1**	**-0.2**
WB0				IAmb		IAmb	17 51 17.8	
	comp=Z,5.1nm,0.8s							
SNAA	**Sanae**	**48.70**	**205**	P		**P**	**17 51 12.7**	**0.0**
SNAA				IAmb		IAmb	17 51 37.2	
	comp=Z,19nm,1.8s							
SRIT	**Nakonsritamara**	**53.42**	**20**	P		**P**	**17 51 49.1**	**+0.4**
COEN	**Coen**	**58.71**	**80**	P		**P**	**17 52 26.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**62.79**	**17**	P		**P**	**17 52 54.0**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=206,slow=6.0,SNR=6.4							
CMAR				LR		LR	18 15 47.4	
	comp=Z,30nm,18.9s,baz=80,slow=32							
GEYT	**Alibeck**	**83.66**	**340**	P		**P**	**17 54 56.9**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**83.66**	**340**	P		**P**	**17 54 57.4**	**+0.4**
GYA0B				IAmb		IAmb	17 54 58.5	
	comp=Z,4.3nm,0.7s							
KKAR	**Karatay Array**	**86.41**	**351**	P		**P**	**17 55 10.7**	**-0.1**
MKAR	**Makanchi Array**	**89.35**	**359**	P		**P**	**17 55 24.1**	**-0.6**
	comp=Z,0.5nm,1.0s,baz=181,slow=6.6,SNR=4.0							
BMAR	**Burnt Mountain**	**144.75**	**30**			**PKPab**	**18 02 04.1**	**+0.8**

*DJA **14** 17:54:40.0±1.3, 3°N±5°×12°8E±°, h20km±14km, M4.2/11, mb4.3/5, mB5.0/1, MLv4.2/11, Mw(mB)4.3/1*
*NEIC **14** 17:54:41.6±2.2, 3°02N±0°09×128°24E±0°10, h80km±10km, mb4.3/12, Error ellipse: s-maj=16.2km s-min=11.5km az=48.0*
*IDC **14** 17:54:41.4±3.5, 3°15N×128°50E, h78km±37km, mb3.5/12, mb1 3.6/13, mb1mx3.5/33, mbtmp3.8/13, ML3.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/23, Error ellipse: s-maj=31.9km s-min=14.1km az=82.0*

ISC 14 17:54:42.9±0.6, 3°02N±0°05×128°24E±0°08, h100km, n45, σ1°76/46, mb4.1/18, 1C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**2.40**	**201**			**Pn**	**17 55 19.4**	**-1.4**
TNTI	**Ternate**	**2.40**	**201**	P		**Pn**	**17 55 18.4**	**-2.4**
TNTI				S		**Sn**	**17 55 47.4**	**-2.4**
SGSI	**Sangihe**	**2.79**	**284**	P		**Pn**	**17 55 22.4**	**-3.4**
DAV	**Davao City (W)**	**4.81**	**327**	LR		LR	17 57 54.9	
	comp=Z,110nm,19.9s,baz=328,slow=40							
SWI	**Sorong**	**4.90**	**142**	P		**Pn**	**17 55 53.1**	**-1.2**
KMSI	**Cibinong**	**4.90**	**240**	P		**Pn**	**17 55 52.4**	**-2.0**
SIJI	**Sorong**	**4.91**	**142**	P		**Pn**	**17 55 52.9**	**-1.6**
	1.5nm,0.3s,baz=289,slow=23,SNR=10							
SIJI				S		**Sn**	**17 56 46.9**	**-3.2**
	0.8nm,0.3s,baz=168,slow=23,SNR=1.5							
KCP	**Kidapawan**	**5.05**	**322**	*ieP*		**Pn**	**17 55 55.3**	**-1.2**
KCP				*i* S		**Sn**	**17 56 55.7**	**+2.1**
SANI	**Sanana**	**5.52**	**204**	P		**Pn**	**17 55 59.8**	**-2.9**
	0.1nm20nm,1.4s							
GTOI	**Gorontalo**	**5.74**	**246**	P		**Pn**	**17 56 04.2**	**-1.5**
	0.1nm15nm,1.1s							
MRSI	**Marisa**	**6.79**	**248**	P		**Pn**	**17 56 18.5**	**-1.4**
	0.5nm1µm170nm,0.6s							
LUWI	**Luwuk**	**6.80**	**234**	Pn		**Pn**	**17 56 20.6**	**+0.5**
FAKI	**Fak Fak**	**7.14**	**146**	Pn		**Pn**	**17 56 24.1**	**-0.6**
APSI	**Ampana**	**7.66**	**239**	P		**Pn**	**17 56 31.3**	**-0.6**
TOLI2	**Tolitoli**	**7.69**	**256**			**Pn**	**17 56 29.0**	**-3.3**
MYLDM	**Lahad Datu**	**9.95**	**283**	Pn		**Pn**	**17 57 02.8**	**-0.2**
SBUM	**Sibu**	**16.01**	**268**	P		**P**	**17 58 24.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.14**	**187**	P		**P**	**17 59 22.4**	**+2.3**
	2.5nm,1.0s,baz=3.8,slow=15,SNR=1.8							
YULB	**Yu-li**	**21.33**	**342**	P		**P**	**17 59 18.6**	**-3.5**
YULB				IAmb		IAmb	17 59 46.1	
	comp=Z,20nm,1.5s							
TPUB	**Ta-pu**	**21.46**	**341**	P		**P**	**17 59 20.6**	**-2.8**
TPUB				IAmb		IAmb	17 59 58.4	
	comp=Z,38nm,1.5s							
WB0	**Warramunga Arr**	**23.44**	**165**	P		**P**	**17 59 44.6**	**+1.1**
WB0				IAmb		IAmb	18 00 00.0	
	comp=Z,13nm,1.1s							
WRA	**Warramunga Arr**	**23.60**	**166**	P		**P**	**17 59 46.2**	**+1.3**
	comp=Z,2.5nm,0.5s,baz=344,slow=10,SNR=26							
WB2	**Warramunga Arr**	**23.60**	**166**	P		**P**	**17 59 46.3**	**+1.3**
WB2				IAmb		IAmb	17 59 47.8	
	comp=Z,6.9nm,0.8s							

WR0	**Warramunga Arr**	**23.66**	**165**	P		**P**	**17 59 47.3**	**+1.8**
WR0				IAmb		IAmb	18 00 02.3	
	comp=Z,23nm,1.5s							
ASAR	**Alice Springs**	**27.10**	**169**	P		**P**	**18 00 17.1**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=350,slow=7.6,SNR=11							
CMAR	**Chiang Mai Arr**	**32.53**	**300**	P		**P**	**18 01 06.8**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=99,slow=5.6,SNR=5.3							
CMAR	**Chiang Mai Arr**	**32.53**	**300**	P		**P**	**18 01 03.1**	**-1.5**
INU	**Inuyama**	**33.18**	**13**	P		**P**	**18 01 10.0**	**-0.1**
KSRS	**Korea Array**	**34.27**	**360**	P		**P**	**18 01 19.4**	**0.0**
	comp=Z,0.9nm,0.8s,baz=173,slow=8.6,SNR=4.7							
MJAR	**Matsushiro Arr**	**34.60**	**14**	P		**P**	**18 01 20.7**	**-1.7**
	comp=Z,1.5nm,0.7s,baz=179,slow=9.5,SNR=10							
MJAR				LR		LR	18 15 24.9	
	comp=Z,25nm,19.0s,baz=265,slow=36							
BBOO	**Buckleboo**	**36.40**	**169**	P		**P**	**18 01 39.7**	**+1.9**
JMM	**Marumori**	**36.53**	**17**	P		**P**	**18 01 37.4**	**-1.4**
STKA	**Stephens Creek**	**36.96**	**161**	P		**P**	**18 01 43.8**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=341,slow=11,SNR=5.2							
STKA				LR		LR	18 20 06.8	
	comp=Z,39nm,19.3s,baz=207,slow=41							
STKA	**Stephens Creek**	**36.96**	**161**	IAmb		IAmb	18 01 47.8	
	comp=Z,2.8nm,1.6s							
USRK	**Ussuriysk Ar.**	**41.14**	**4**	P		**P**	**18 02 16.8**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=141,slow=41,SNR=5.2							
USRK	**Ussuriysk Ar.**	**41.14**	**4**	P		**P**	**18 02 17.4**	**+0.2**
SONM	**Songino Array**	**48.45**	**340**	P		**P**	**18 03 15.5**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=152,slow=6.5,SNR=2.2							
PETK	**Petropavlovsk-**	**55.53**	**21**	P		**P**	**18 04 07.7**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=202,slow=6.2,SNR=2.9							
PETK	**Petropavlovsk-**	**55.53**	**21**	P		**P**	**18 04 08.9**	**+1.3**
MK31	**Makanchi Array**	**58.99**	**325**	P		**P**	**18 04 33.0**	**+0.8**
MK31				IAmb		IAmb	18 04 36.7	
	comp=Z,1.6nm,0.9s							
MKAR	**Makanchi Array**	**58.99**	**325**	P		**P**	**18 04 33.0**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=117,slow=8.2,SNR=16							
MKAR	**Makanchi Array**	**58.99**	**325**	P		**P**	**18 04 32.8**	**+0.6**
ZALV	**Zalesovo Beam**	**61.90**	**333**	P		**P**	**18 04 53.3**	**+1.6**
	comp=Z,0.2nm,0.2s,baz=97,slow=6.1,SNR=1.8							
KKAR	**Karatay Array**	**64.77**	**317**	P		**P**	**18 05 11.8**	**+0.8**
ABKAR	**Akbulak array**	**73.65**	**321**	P		**P**	**18 06 06.4**	**+0.8**

*IDC **14** 18:11:53.3±4.3, 27°05N×143°81E, h84km±32km, mb3.0/4, mb1 3.2/5, mb1mx2.9/49, mbtmp3.3/5, Error ellipse: s-maj=44.9km s-min=23.7km az=81.0*

ISC 14 18:11:57.4±1.1, 26°4N±0°1×141°0E±0°1, h35km, n6, σ2°07/7, mb3.3/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**1.28**	**54**	P		**Pn**	**18 12 17.6**	**-1.2**
	14nm,0.3s,baz=282,slow=23,SNR=9.9							
JCJ				S		**Sn**	**18 12 36.9**	**

comp=E,23nm,0.4s
TCUT Toone Canyon 5.22 242 Pn 18 19 11.0 +0.1
EGMT Eagleton 5.30 326 Pn 18 19 13.0 +1.3
PV22 Blue Mesa, Par 5.83 208 Pn 18 19 19.3 +0.2
PV07 Paradox Valley 5.87 207 Pn 18 19 20.4 +0.7
P17A Butcher Ranch, 5.90 226 Pn 18 19 20.1 +0.1
PV15 Paradox Valley 5.90 205 Pn 18 19 20.6 +0.4
PV04 Paradox Valley 5.99 208 Pn 18 19 22.1 +0.7
PV12 Saucer Basin, 6.03 207 Pn 18 19 22.4 +0.5
PV14 Lion Creek, Pa 6.05 209 Pn 18 19 22.9 +0.6
PV20 West Nyswonger 6.06 208 Pn 18 19 22.6 +0.2
SRU San Rafael Swe 6.06 222 Pn 18 19 22.1 -0.2
PV16 Nyswonger Mesa 6.07 208 Pn 18 19 23.0 +0.5
PV03 Paradox Valley 6.10 207 Pn 18 19 23.1 +0.2
PV02 Paradox Valley 6.11 206 Pn 18 19 23.6 +0.6
PV17 East Wray Mesa 6.11 208 Pn 18 19 23.8 +0.8
PV01 Paradox Valley 6.12 205 Pn 18 19 23.6 +0.5
PV18 Skein Mesa, Pa 6.13 208 Pn **Pn 18 19 23.5 +0.2**
PV13 Radium Mtn., P 6.18 207 Pn 18 19 24.0 +0.1
ECSD EROS Data Cent 6.29 87 Pn **Pn 18 19 26.3 +1.0**
Q16A Castle Valley 6.53 225 Pn 18 19 28.9 0.0
F33A 5 Mile Ranch, 6.75 69 Pn 18 19 32.8 +1.3
JTMT Jette 7.45 306 Pn **Pn 18 19 42.5 +1.1**
ELK Elko 7.96 251 Pn **Pn 18 19 49.2 +0.8**
comp=E,0.3nm,0.3s,baz=76,slow=12,SNR=3.0
ULM Lac du Bonnet 9.16 41 Pn **Pn 18 20 03.5 -1.1**
comp=E,2.1nm,0.3s,baz=230,slow=13,SNR=11
ULM Lg Lg 18 22 35.8
comp=E,0.8nm,0.3s,baz=136,slow=21,SNR=2.3
ULM Lac du Bonnet 9.16 41 Pn **Pn 18 20 03.4 -1.2**
NVAR Mina Array Bea 11.15 246 Pn **Pn 18 20 33.7 +1.6**
comp=E,0.1nm,0.3s,baz=68,slow=13,SNR=2.2
YKA Yellowknife Ar 19.56 347 P **P 18 22 20.7 +0.3**
comp=E,0.1nm,0.3s,baz=162,slow=10,SNR=5.8
FINES FINESS Array B 68.04 23 P **P 18 28 51.0 -1.1**
comp=E,1.1nm,0.7s,baz=313,slow=11,SNR=3.5
MKAR Makanchi Array 89.60 355 P **P 18 30 50.5 -0.2**
comp=E,0.2nm,0.7s,baz=24,slow=5.0,SNR=1.9

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*DJA **14** 18:39:45.8±0.5,4˚N±4˚×12˚7E±˚,h10km,M4.6/19, mb4.6/19,mB5.2/6,MLv4.5/11,Mw(mB)4.6/6,MwMwp5.5/1, Mwp5.6/1*
*BJI **14** 18:39:52.7±0.0,3˚.93N×126˚.83E,h46km,mB5.1/22, mb4.4/38,Ms4.5/8,Ms7 4.1/8*
*MAN **14** 18:39:53.8,4˚.04N×126˚.69E,h14km,MS4.8*
*NEIC **14** 18:39:54.0±2.1,3˚.94N±0˚.06×126˚.91E±0˚.06,h57km±6km, mb4.6/54,Error ellipse: s-maj=11.1km s-min=7.0km az=46.0*
*IDC **14** 18:39:55.8±2.4,4˚.04N×126˚.97E,h66km±22km,mb3.9/26, mb1 4.0/29,mb1mx3.8/55,mbtmp4.2/29,MS3.7/14, Ms1 3.7/14,ms1mx3.6/31,Error ellipse: s-maj=23.7km s-min=10.8km az=74.0*
ISC 14 18:39:53.9±0.3,4˚.02N±0˚.04×126˚.94E±0˚.06,h50km,n170, σ1ᵖ38/162,mb4.5/69,MS3.8/13,12C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.45**	**257**	P	**Pn**	**18 40 16.4**	**-1.3**
DDMP	**Don Marcelino,**	**2.41**	**329**	*e*P	**Pn**	**18 40 29.3**	**-1.5**
MATI	**Mati**	**2.98**	**347**	*e*P	**Pn**	**18 40 39.9**	**+1.2**
TNTI	**Ternate**	**3.25**	**172**	Pn	**Pn**	**18 40 42.6**	**+0.1**
TNTI	**Ternate**	**3.25**	**172**	P	**Pn**	**18 40 39.6**	**-2.8**
DAV	**Davao City (W)**	**3.32**	**336**	P	**Pn**	**18 40 47.1**	**+3.8**
	37nm,0.3s,baz=150,slow=8.1,SNR=1.8						
DAV				S	Sn	18 41 30.3	+8.7
	26nm,0.3s,baz=280,slow=23,SNR=1.8						
SKMP	**Bagumbayan, Su**	**3.44**	**316**	*e*P	**Pn**	**18 40 45.2**	**+0.1**
SKMP				*e*S	**Sn**	**18 41 25.0**	**+0.3**
KCP	**Kidapawan**	**3.49**	**328**	*i*P	**Pn**	**18 40 47.0**	**+1.2**
KCP				*i*S	Sn	18 41 43.5	+18
KMSI	**Cibinong**	**4.52**	**221**	P	**Pn**	**18 41 03.6**	**+3.8**
	0.8nm1μm148nn,0.8s						
BUTP	**Butuan**	**5.09**	**345**	*e*P	**Pn**	**18 41 10.8**	**+3.2**
GTOI	**Gorontalo**	**5.17**	**230**	P	**Pn**	**18 41 11.4**	**+2.7**
	0.1nm25μm794nm31nm,0.9s						
PAGZ	**Pagadian**	**5.20**	**317**	*e*P	**Pn**	**18 41 10.4**	**+1.3**
SANI	**Sanana**	**6.10**	**189**	P	**Pn**	**18 41 19.6**	**-2.0**
	0.1nm32nm,1.0s						
MRSI	**Marisa**	**6.11**	**235**	P	**Pn**	**18 41 23.2**	**+1.6**
	0.3nm813nm82nm,1.0s						
SIJI	**Sorong**	**6.50**	**138**	P	**Pn**	**18 41 27.4**	**+0.4**
	2.6nm,0.3s,baz=337,slow=13,SNR=5.6						
SIJI				S	**Sn**	**18 42 38.5**	**-1.4**
	0.6nm,0.3s,baz=54,slow=24,SNR=1.4						
SIJI				LR	LR	18 44 18.7	
	comp=Z,883nm,18.4s,baz=40,slow=40						
LUWI	**Luwuk**	**6.53**	**220**	Pn	**Pn**	**18 41 27.3**	**-0.1**
LUWI	**Luwuk**	**6.53**	**220**	P	**Pn**	**18 41 29.4**	**+2.0**
	0.9nm5μm203nm,1.1s						
TOLI2	**Tolitoli**	**6.80**	**245**	Pn	**Pn**	**18 41 30.4**	**-0.7**
APSI	**Ampana**	**7.21**	**227**	P	**Pn**	**18 41 39.5**	**+2.8**
	0.3nm1μm93nm,1.4s						
MYLDM	**Lahad Datu**	**8.49**	**278**	Pn	**Pn**	**18 41 53.8**	**-0.6**
FAKI	**Fak Fak**	**8.70**	**142**	Pn	**Pn**	**18 41 56.7**	**-0.5**
TTSI	**Tana Toraja**	**9.99**	**226**	P	Pn	18 42 23.0	+8.1
LQP	**Lukban**	**11.36**	**332**	*e*P	**Pn**	**18 42 37.7**	**+4.0**
KAPI	**Kappang**	**11.49**	**219**	LR	LR	18 47 24.6	
	comp=Z,395nm,21.4s,baz=57,slow=39						
MTKI	**Muara Teweh, K**	**13.01**	**248**	P	**Pn**	**18 43 00.2**	**+4.1**
	23nm,0.5s						
SOEI	**Soe**	**13.94**	**191**	Pn	**Pn**	**18 43 09.4**	**+0.4**
BBKI	**Banjar Baru**	**14.19**	**239**	P	P	18 43 31.1	+13
BATI	**Baumata**	**14.51**	**193**	P	**Pn**	**18 43 16.9**	**+0.6**
	0.8nm,0.3s,baz=187,slow=17,SNR=2.5						
SBUM	**Sibu**	**14.78**	**264**	Pn	**Pn**	**18 43 20.7**	**+0.7**
PLAI	**Plampang**	**15.70**	**216**	P	**P**	**18 43 33.7**	**-1.4**
	36nm,0.8s						
TWSI	**Taliwang, Sumb**	**16.16**	**218**	P	**P**	**18 43 40.7**	**+0.5**
	30nm,0.8s						
KSM	**Kuching**	**16.80**	**262**	P	**Pn**	**18 43 45.7**	**-0.2**
JAGI	**Jajag, Banyuwa**	**17.79**	**226**	P	**Pn**	**18 43 55.8**	**-2.3**
TWG	**Pinlang**	**19.53**	**344**	P	**P**	**18 44 15.2**	**-2.1**
DLV	**T Lat**	**19.89**	**294**	P	**P**	**18 44 21.9**	**+0.5**
DLV				IAmb	IAmb	18 44 24.3	
	comp=Z,34nm,0.9s						
TPUB	**Ta-pu**	**20.11**	**343**	P	**P**	**18 44 22.3**	**-1.4**
TPUB				IAmb	IAmb	18 44 31.6	
	comp=Z,35nm,1.1s						
UGM	**Wanagama**	**20.22**	**234**	P	**P**	**18 44 25.7**	**+0.8**
SSLB	**Suanglung**	**20.48**	**344**	P	**P**	**18 44 26.9**	**-0.9**
YHNB	**Yeheng**	**21.22**	**346**	P	**P**	**18 44 35.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**22.02**	**183**	P	**P**	**18 44 45.3**	**+1.2**
	comp=Z,3.4nm,0.5s,baz=13,slow=8.8,SNR=12						
FITZ	**Fitzroy Crossi**	**22.02**	**183**	P	**P**	**18 44 42.6**	**-1.6**
UBPT	**Khong Chiam**	**23.91**	**299**	P	**P**	**18 45 03.0**	**-0.3**
	comp=Z,387nmcomp=Z,11nm,1.1s						
UBPT	**Khong Chiam**	**23.91**	**299**	P	**P**	**18 45 01.3**	**-2.0**
UBPT				IAmb	IAmb	18 45 04.0	
	comp=Z,19nm,1.0s						
WB0	**Warramunga Arr**	**24.75**	**163**	P	**P**	**18 45 08.9**	**-2.0**
WB0				IAmb	IAmb	18 45 19.2	
	comp=Z,20nm,1.1s						
WRAB	**Tennant Creek**	**24.89**	**163**	P	**P**	**18 45 12.4**	**+0.2**
WRAB				IAmb	IAmb	18 45 20.7	
	comp=Z,27nm,1.2s						
WRA	**Warramunga Arr**	**24.90**	**163**	P	**P**	**18 45 11.9**	**-0.4**
	comp=Z,9.1nm,0.9s,baz=343,slow=10,SNR=15						
WB2	**Warramunga Arr**	**24.90**	**163**	P	**P**	**18 45 11.8**	**-0.5**
WB2				IAmb	IAmb	18 45 20.8	
	comp=Z,26nm,1.1s						
WR0	**Warramunga Arr**	**24.97**	**163**	P	**P**	**18 45 13.0**	**+0.1**
WR0				IAmb	IAmb	18 45 15.5	
	comp=Z,17nm,1.1s						
PSA00	**Pilbara Seismi**	**26.37**	**195**	P	**P**	**18 45 26.4**	**+0.8**
PSA00				IAmb	IAmb	18 45 33.3	
	comp=Z,19nm,0.9s						
SRAK	**Srakaew**	**26.49**	**294**	P	**P**	**18 45 22.5**	**-4.2**
	comp=Z,2μmcomp=Z,178nm,1.0s						
NONG	**Nongkai**	**27.15**	**303**	P	**P**	**18 45 34.0**	**+1.3**
	comp=Z,10nm,1.2s						
CHAI	**Chaiyaphum**	**27.22**	**297**	P	**P**	**18 45 33.8**	**+0.5**
	comp=Z,23nm,0.9s						
AS31	**Alice Springs**	**28.34**	**166**	P	**P**	**18 45 42.5**	**-0.8**
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**18 45 44.4**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=344,slow=11,SNR=11						
ASAR				PcP	**PcP**	**18 48 56.5**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=353,slow=2.3,SNR=2.6						
ASAR				LR	LR	18 57 39.7	
	comp=Z,63nm,19.3s,baz=1.0,slow=38						
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**18 45 43.0**	**-0.4**
NJ2	**Nanjing**	**28.90**	**346**	*e*P	**P**	**18 45 49.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PHIT	**Phitsanulok**	**29.11**	**299**	P	**P**	**18 45 53.0**	**+2.8**
	comp=Z,55nm,0.9s						
JNU	**Nakatsue**	**29.19**	**7**	P	**P**	**18 45 49.5**	**-1.2**
JNU				IAmb	IAmb	18 46 21.9	
	comp=Z,44nm,1.5s						
UTTA	**Uttaradit**	**29.22**	**300**	P	**P**	**18 45 53.2**	**+2.1**
	comp=Z,7.6nm,1.0s						
CM04	**Chiang Mai Arr**	**30.85**	**300**	P	**P**	**18 46 07.6**	**+2.0**
	comp=Z,66nmcomp=Z,6.5nm,1.0s						
CM05	**Chiang Mai Arr**	**30.88**	**300**	P	**P**	**18 46 07.8**	**+1.9**
	comp=Z,40nmcomp=Z,4.7nm,0.9s						
CM31	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**18 46 06.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**18 46 06.3**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=115,slow=7.6,SNR=30						
CMAR				PcP	**PcP**	**18 49 02.6**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=117,slow=0.4,SNR=5.1						
CMAR				LR	LR	19 00 21.6	
	comp=Z,145nm,18.6s,baz=166,slow=40						
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**18 46 05.7**	**-0.4**
CM15	**Chiang Mai Arr**	**30.92**	**300**	P	**P**	**18 46 08.0**	**+1.8**
	comp=Z,6.8nm,0.9s						
CMMT	**Chiang Mai**	**31.05**	**300**	P	**P**	**18 46 07.2**	**-0.2**
	comp=Z,4.8nm,1.0s						
CHTO	**Chiang Mai**	**31.05**	**300**	P	**P**	**18 46 07.0**	**-0.4**
CHTO				IAmb	IAmb	18 46 09.4	
	comp=Z,8.3nm,0.9s						
KMI	**Kunming**	**31.33**	**314**	⇑P	**P**	**18 46 12.3**	**+2.3**
KMI				pP	pP	18 46 24.5	+1.7
KMI				sP	sP	18 46 30.1	+1.4
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,140nm,4.2s						
MHMT	**Maesarieng**	**31.68**	**299**	P	**P**	**18 46 13.0**	**+0.1**
KSRS	**Korea Array**	**33.29**	**1**	P	**P**	**18 46 26.7**	**0.0**
	comp=Z,1.1nm,0.9s,baz=180,slow=10.0,SNR=4.9						
KSRS				LR	LR	19 01 50.2	
	comp=Z,29nm,20.0s,baz=206,slow=40						
XAN	**Xi'an**	**34.25**	**333**	P	**P**	**18 46 35.0**	**-0.2**
XAN				pP	pP	18 46 47.0	-1.3
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN				LR	LR		
	comp=Z,250nm,18.4s						
XAN				LR	LR		
	comp=Z,280nm,16.3s						
XAN				LR	LR		
	comp=Z,240nm,16.3s						
XAN	**Xi'an**	**34.25**	**333**	P	**P**	**18 46 33.6**	**-1.6**
JMM	**Marumori**	**35.99**	**19**	P	**P**	**18 46 49.5**	**-0.5**
BJT	**Baijiatuau**	**37.14**	**346**	P	**P**	**18 46 59.5**	**-0.3**
BJT				IAmb	IAmb	18 47 01.2	
	comp=Z,16nm,1.1s						
BJI	**Beijing**	**37.16**	**346**	P	**P**	**18 47 00.5**	**+0.6**
BJI				pmax	pmax		
	comp=Z,12nm,0.8s						
BBOO	**Buckleboo**	**37.64**	**167**	P	**P**	**18 47 04.5**	**+0.4**
NWAO	**Narrogin (SRO)**	**37.88**	**193**	P	**P**	**18 47 06.7**	**+0.6**
NWAO	**Narrogin (SRO)**	**37.88**	**193**	P	**P**	**18 47 06.5**	**+0.3**
NWAO				IAmb	IAmb	18 47 42.2	
	comp=Z,33nm,1.2s						
STKA	**Stephens Creek**	**38.33**	**160**	P	**P**	**18 47 10.8**	**+0.9**
	comp=Z,5.0nm,0.7s,baz=339,slow=8.7,SNR=8.1						
STKA				LR	LR	19 04 16.9	
	comp=Z,76nm,21.8s,baz=7.2,slow=38						
STKA	**Stephens Creek**	**38.33**	**160**	P	**P**	**18 47 10.7**	**+0.8**
HHC	**Hu-ho-hao-te**	**39.19**	**341**	*e*P	**P**	**18 47 17.3**	**+0.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,7.6s						
SHL	**Shillong**	**39.88**	**306**	P	**P**	**18 47 22.0**	**-1.2**
USRK	**Ussuriysk Ar.**	**40.26**	**6**	P	**P**	**18 47 26.1**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=194,slow=5.5,SNR=1.3						
ARMA	**Armidale**	**41.59**	**147**	P	**P**	**18 47 35.9**	**-1.3**
ARMA				IAmb	IAmb	18 47 36.2	
	comp=Z,19nm,1.2s						
GTA	**Gaotai**	**42.96**	**329**	*e*P	P	18 47 53.6	+5.3
GTA				pP	sP	18 48 06.6	-0.8
GTA				sP	pP	18 48 11.9	+10
TAPN	**Taplejung**	**44.02**	**306**	*e*P	**P**	**18 47 57.0**	**-0.2**
	comp=Z,11nm,0.9s						
ODAN	**Odare**	**44.07**	**305**	*e*P	**P**	**18 47 56.9**	**-0.7**
	comp=Z,12nm,0.8s						
RAMN	**Ramite**	**44.76**	**305**	*e*P	**P**	**18 48 02.7**	**-0.3**
	comp=Z,8.7nm,0.7s						
HIA	**Hailar**	**45.50**	**353**	P	**P**	**18 48 09.4**	**+1.1**
HIA				IAmb	IAmb	18 48 13.8	
	comp=Z,10nm,1.4s						
PALK	**Pallekele**	**46.11**	**276**	LR	LR	19 09 20.8	
	comp=Z,65nm,18.8s,baz=207,slow=38						
GKN	**Gorkha**	**46.77**	**305**	*e*P	**P**	**18 48 16.6**	**-2.2**
ULN	**Ulaanbaatar**	**46.91**	**342**	P	**P**	**18 48 19.6**	**+0.1**
ULN				IAmb	IAmb	18 48 25.3	
	comp=Z,6.0nm,1.1s						
SONM	**Songino Array**	**47.09**	**341**	P	**P**	**18 48 20.7**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=156,slow=10,SNR=2.0						
SONM				LR	LR	19 10 43.0	
	comp=Z,94nm,19.3s,baz=148,slow=39						
SONM	**Songino Array**	**47.09**	**341**	P	**P**	**18 48 20.6**	**-0.3**
TLY	**Talaya**	**51.32**	**342**	LR	LR	19 11 06.8	
	comp=Z,70nm,20.5s,baz=147,slow=36						
TLY	**Talaya**	**51.32**	**342**	P	**P**	**18 48 54.0**	**+1.0**
TLY				IAmb	IAmb	18 49 00.9	
	comp=Z,7.5nm,1.2s						
WMQ	**Urumqi**	**52.61**	**325**	*e*P	**P**	**18 49 04.0**	**+1.1**
WMQ	**Urumqi**	**52.61**	**325**	P	**P**	**18 49 03.1**	**+0.3**
WMQ				IAmb	IAmb	18 49 15.0	
	comp=Z,12nm,1.4s						
MSVF	**Nonsavu**	**54.84**	**115**	P	**P**	**18 49 19.4**	**-0.2**
PETK	**Petropavlovsk-**	**55.08**	**22**	P	**P**	**18 49 20.8**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=179,slow=2.9,SNR=7.2						
PETK	**Petropavlovsk-**	**55.08**	**22**	P	**P**	**18 49 21.4**	**+0.7**
SHLS	**Shalkode**	**57.26**	**320**	*e*P	**P**	**18 49 33.6**	**-2.9**
	comp=Z,6.0nm,1.3s,baz=320						
MK31	**Makanchi Array**	**57.44**	**325**	P	**P**	**18 49 37.0**	**-0.6**
MKAR	**Makanchi Array**	**57.44**	**325**	P	**P**	**18 49 37.8**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=119,slow=7.5,SNR=9.3						
MKAR				LR	LR	19 15 36.0	
	comp=Z,160nm,19.1s,baz=92,slow=37						
MKAR	**Makanchi Array**	**57.44**	**325**	P	**P**	**18 49 36.7**	**-0.9**
MAKZ	**Makanchi**	**57.63**	**325**	P	**P**	**18 49 37.8**	**-1.2**
MAKZ				IAmb	IAmb	18 49 55.2	
	comp=Z,4.8nm,1.1s						
SATY	**Saty**	**57.89**	**320**	*e*P	**P**	**18 49 40.0**	**-1.0**
	comp=Z,4.2nm,1.2s,baz=319						
KPKS	**Kokpek**	**57.91**	**320**	*e*P	**P**	**18 49 40.0**	**-1.1**
	baz=320						
YAK	**Yakutsk**	**57.91**	**2**	P	**P**	**18 49 40.8**	**+0.2**
	comp=Z,5.2nm,0.7s,baz=200,slow=1.3,SNR=7.8						
YAK	**Yakutsk**	**57.91**	**2**	P	**P**	**18 49 40.0**	**-0.6**
NIL	**Nilore**	**57.92**	**308**	P	**P**	**18 49 40.4**	**-0.8**
KSH	**Kashi**	**57.99**	**315**	P	**P**	**18 49 43.5**	**+1.7**
KSH				pP	pP	18 49 57.8	+2.2
KSH				PcP	**PcP**	**18 50 38.0**	**+4.6**
KSH				S	**S**	**18 57 37.4**	**-1.4**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,160nm,5.1s						
KSH				LR	LR		
	comp=Z,190nm,6.3s						
KSH				LR	LR		
	comp=Z,160nm,8.5s						
KSH				LR	LR		
	comp=Z,210nm,8.5s						
OUZ	**Omahuta**	**58.62**	**136**	P	**P**	**18 49 45.8**	**-0.2**
MDOK	**Medeo**	**58.82**	**319**	*e*P	**P**	**18 49 46.5**	**-1.0**
	baz=319						
KUU	**Kurty**	**59.61**	**320**	*e*P	**P**	**18 49 52.0**	**-0.8**
	comp=Z,14nm,1.1s,baz=320						
AAK	**Ala-Archa**	**60.29**	**318**	P	**P**	**18 49 58.7**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=102,slow=9.3,SNR=2.4						
AAK	**Ala-Archa**	**60.29**	**318**	P	**P**	**18 49 55.7**	**-2.0**
ZAA0	**Zalesovo Array**	**60.43**	**333**	P	**P**	**18 49 57.4**	**-0.7**
ZAA0				IAmb	IAmb	18 50 16.9	
	comp=Z,4.4nm,1.1s						
ZALV	**Zalesovo Beam**	**60.43**	**333**	P	**P**	**18 49 57.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=111,slow=6.5,SNR=4.3						
ZALV				LR	LR	19 17 06.1	
	comp=Z,94nm,20.8s,baz=159,slow=37						
ZALV	**Zalesovo Beam**	**60.43**	**333**	P	**P**	**18 49 57.2**	**-0.9**
KURBB	**Kurchatov Arra**	**61.61**	**327**	P	**P**	**18 50 06.2**	**0.0**
	comp=Z,3.1nm,0.9s,baz=124,slow=6.4,SNR=10						
KURK	**Kurchatov**	**61.61**	**327**	P	**P**	**18 50 06.2**	**0.0**
DZA	**Taraz**	**62.53**	**317**	*e*P	**P**	**18 50 11.5**	**-1.1**
	baz=317						
IUG	**Iuzhnay**	**63.16**	**316**	*e*P	**P**	**18 50 16.1**	**-0.8**
	baz=316						
KK31	**Karatay Array**	**63.16**	**317**	P	**P**	**18 50 15.5**	**-1.4**
KK31				IAmb	IAmb	18 50 17.9	
	comp=Z,5.4nm,1.2s						
KKAR	**Karatay Array**	**63.16**	**317**	P	**P**	**18 50 15.2**	**-1.6**
KKAR				IAmb	IAmb	18 50 17.9	
	comp=Z,5.4nm,1.2s						
KKAR	**Karatay Array**	**63.16**	**317**	P	**P**	**18 50 15.5**	**-1.4**
HRA	**Herat**	**66.94**	**306**	P	**P**	**18 50 41.4**	**-0.4**
BVAR	**Borovoye Array**	**67.19**	**327**	P	**P**	**18 50 43.4**	**+0.7**
	comp=Z,2.3nm,0.9s,baz=78,slow=7.7,SNR=8.5						
BRVK	**Borovoye**	**67.27**	**327**	P	**P**	**18 50 42.3**	**-0.8**
BRVK				IAmb	IAmb	18 50 52.6	
	comp=Z,6.2nm,0.9s						
TIXI	**Tiksi**	**67.55**	**1**	P	**P**	**18 50 44.6**	**0.0**
	comp=Z,0.7nm,0.3s,baz=126,slow=5.4,SNR=4.3						
TIXI	**Tiksi**	**67.55**	**1**	P	**P**	**18 50 44.2**	**-0.4**
TIXI				IAmb	IAmb	18 50 45.6	
	comp=Z,5.9nm,1.2s						
ABKAR	**Akbulak array**	**72.06**	**321**	P	**P**	**18 51 12.1**	**-0.7**
ABKAR	**Akbulak array**	**72.06**	**321**	P	**P**	**18 51 12.3**	**-0.4**
SOCY	**Socotra**	**72.51**	**281**	P	**P**	**18 51 14.2**	**-2.0**
SOCY				IAmb	IAmb	18 51 22.8	
	comp=Z,6.6nm,1.1s						
AKTO	**Aktyubinsk**	**73.56**	**322**	P	**P**	**18 51 22.2**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=112,slow=6.8,SNR=12						
ARU	**Arti**	**74.81**	**328**	P	**P**	**18 51 28.7**	**0.0**
	comp=Z,2.0nm,0.8s,baz=98,slow=4.8,SNR=7.0						
ARU	**Arti**	**74.81**	**328**	P	**P**	**18 51 27.9**	**-0.8**
ARU				IAmb	IAmb	18 51 30.0	
	comp=Z,12nm,1.1s						
KIRV	**Kirov**	**80.08**	**329**	P	**P**	**18 51 58.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=109,slow=3.2,SNR=4.4						
BELG	**Belogornoye**	**80.31**	**322**	P	**P**	**18 51 59.6**	**+0.1**
	comp=Z,19nm,1.0s,baz=119,slow=4.1,SNR=8.7						
RAYN	**Ar Rayn**	**80.56**	**293**	P	**P**	**18 52 00.8**	**-0.8**
RAYN				IAmb	IAmb	18 52 04.2	
	comp=Z,6.9nm,1.2s						
ILAR	**Eielson Array**	**84.75**	**25**	P	**P**	**18 52 21.7**	**-0.8**
	comp=Z,1.6nm,1.1s,baz=247,slow=5.4,SNR=6.6						
ILAR	**Eielson Array**	**84.75**	**25**	P	**P**	**18 52 22.4**	**0.0**
PPT	**Papeete**	**85.00**	**108**	LR	LR	19 27 29.2	
	comp=Z,66nm,19.4s,baz=358,slow=34						
KLMR	**Klimovskoe**	**85.26**	**331**	*e*P	**P**	**18 52 25.6**	**+0.6**
KLMR				AMP		18 52 26.8	
	comp=Z,15nm,1.0s						
OBN	**Obninsk**	**86.95**	**325**	P	**P**	**18 52 34.3**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=132,slow=9.2,SNR=4.0						
OBN	**Obninsk**	**86.95**	**325**	IAmb	IAmb	18 52 37.2	
	comp=Z,46nm,1.6s						
KMBO	**Kilima Mbogo**	**89.77**	**269**	P	**P**	**18 52 47.7**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=46,slow=4.6,SNR=4.0						
BRTR	**Keskin Array B**	**90.00**	**310**	P	**P**	**18 52 47.6**	**-0.9**
	comp=Z,1.9nm,1.0s,baz=123,slow=6.2,SNR=6.7						
BRTR	**Keskin Array B**	**90.00**	**310**	P	**P**	**18 52 46.9**	**-1.6**
FINES	**FINESS Array B**	**91.68**	**332**	P	**P**	**18 52 55.2**	**-0.4**
	comp=Z,2.7nm,1.1s,baz=49,slow=8.6,SNR=5.7						
AKASG	**Malin Array Be**	**91.80**	**321**	P	**P**	**18 52 56.3**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=68,slow=4.0,SNR=6.9						
AKASG				LR	LR	19 37 30.8	
	comp=Z,56nm,20.1s,baz=10.0,slow=38						
AKASG	**Malin Array Be**	**91.80**	**321**	IAmb	IAmb	18 52 57.2	
	comp=Z,2.8nm,1.2s						
SORM	**Soroca**	**92.76**	**318**	⇑P	**P**	**18 53 01.2**	**+0.3**
TESR	**Tescani**	**94.17**	**317**	⇑P	**P**	**18 53 08.4**	**+0.9**
VRI	**Vrincioaia**	**94.23**	**316**	⇑P	**P**	**18 53 09.1**	**+1.3**
PLOR	**Plostina**	**94.29**	**316**	⇑P	**P**	**18 53 09.0**	**+0.9**
NEHR	**Nehoiu**	**94.61**	**316**	⇑P	**P**	**18 53 10.9**	**+1.4**
MLR	**Muntele Rosu**	**94.84**	**316**	P	**P**	**18 53 10.5**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=174,slow=5.9,SNR=5.2						
MLR	**Muntele Rosu**	**94.84**	**316**	⇑P	**P**	**18 53 11.7**	**+1.0**
BURAR	**Bucovina Array**	**94.93**	**318**	⇑P	**P**	**18 53 12.4**	**+1.3**
KOLS	**

0.7nm,0.3s,baz=129,slow=32,SNR=7.6
MK31 Makanchi Array 7.95 258 Pn Pn 18 43 23.9 -1.0
0.3nm,0.3s,baz=88,slow=14,SNR=5.6
MK31 ⇓Pg Pb 18 43 51.8 +4.6
0.4nm,0.3s,baz=74,slow=18,SNR=5.5
MK31 ⇑Lg Lg 18 45 37.3
18nm,1.1s,baz=79,slow=29,SNR=6.2
MKAR Makanchi Array 7.95 258 Pn Pn 18 43 23.9 -1.1
0.2nm,0.3s,baz=64,slow=16,SNR=8.2
MKAR Lg Lg 18 45 37.9
0.8nm,0.3s,baz=72,slow=32,SNR=3.3
MAKZ Makanchi 8.15 259 ⇓Pn Pn 18 43 27.1 -0.6
1.4nm,1.0s
MAKZ ⇓Pg Pb 18 43 56.9 +6.3
3.9nm,1.4s
MAKZ ⇑Lg Lg 18 45 46.5
9.3nm,0.9s
SONM Songino Array 8.55 93 Pn Pn 18 43 32.8 -0.5
0.2nm,0.3s,baz=277,slow=12,SNR=2.0
SONM Pg Pg 18 44 02.4 -11
0.3nm,0.3s,baz=284,slow=15,SNR=3.0
SONM Lg Lg 18 45 56.2
1.5nm,0.3s,baz=278,slow=33,SNR=19
KURBB Kurchatov Arra 9.92 285 Pn Pn 18 43 48.8 -3.1
0.1nm,0.3s,baz=95,slow=15,SNR=8.6
KURBB Lg Lg 18 46 36.8
0.1nm,0.3s,baz=98,slow=31,SNR=5.3

*UPA **14** 18:46:00.4±4.3, 7°.26N×81°.90W, h4km±20km, MW4.6*
*UCR **14** 18:46:12.4±1.9, 7°.87N×82°.55W, h0km±214km, MW4.2*
ISC 14 18:46:00.5±1.8, 7°.32N±0°.08×81°.91W±0°.05, h9km±12km, n57, σ1°87/62, 3D, Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMAL	**Guarumal, Vera**	**0.80**	**57**	⇓*eP*	**Pg**	**18 46 14.8**	**-1.2**
DVD	**David**	**1.23**	**334**	*eP*	**Pn**	**18 46 22.8**	**-1.1**
DVD				*eS*	**Sb**	**18 46 40.6**	**+0.7**
GUAL3	**Gualaca, Chiri**	**1.26**	**342**	*eP*	**Pn**	**18 46 23.2**	**-1.2**
PTAR3	**Potrerillos Ar**	**1.48**	**337**	*eP*	**Pn**	**18 46 27.2**	**-0.3**
BCO2	**Palmira**	**1.52**	**336**	⇓*eP*	**Pn**	**18 46 27.3**	**-0.7**
BCO2				*eS*	**Sg**	**18 46 51.1**	**+1.7**
CDITO	**Canoas**	**1.56**	**323**	*eP*	**Pn**	**18 46 28.5**	**0.0**
BRU2	**Volcan**	**1.65**	**332**	*eP*	**Pn**	**18 46 30.1**	**+0.2**
BRU2				*eS*	**Sn**	**18 46 49.8**	**-1.5**
BRU2	**Volcan**	**1.65**	**332**	*eP*	**Pn**	**18 46 29.6**	**-0.3**
AZU	**Azuero**	**1.69**	**74**	*eP*	**Pn**	**18 46 30.0**	**-0.2**
AZU				*eS*	**Sn**	**18 46 52.2**	**+0.2**
AZU	**Azuero**	**1.69**	**74**	⇓*eP*	**Pn**	**18 46 30.0**	**-0.2**
MLIR3	**Monte Lirio, C**	**1.72**	**328**	*eP*	**Pn**	**18 46 31.9**	**+1.2**
PIRO	**Carate, Puerto**	**1.77**	**307**	*eP*	**Pn**	**18 46 31.1**	**-0.3**
PIRO				*eS*	**Sg**	**18 46 59.5**	**+1.9**
PIRO	**Carate, Puerto**	**1.77**	**307**	*eP*	**Pn**	**18 46 30.9**	**-0.5**
EDSV	**San Vito**	**1.82**	**325**	*eP*	**Pn**	**18 46 32.4**	**+0.2**
PNME	**Penonome**	**1.95**	**54**	*eP*	**Pn**	**18 46 33.6**	**-0.2**
PNME	**Penonome**	**1.95**	**54**	*eP*	**Pn**	**18 46 33.6**	**-0.2**
LPLA	**Las Palmas La**	**2.01**	**327**	*eP*	**Pn**	**18 46 34.9**	**0.0**
CNI2	**El Empalme, Bo**	**2.16**	**345**	*eP*	**Pn**	**18 46 38.2**	**+1.5**
CNI2				*eS*	**Sb**	**18 47 06.4**	**-0.3**
EDPN	**Palmar Norte**	**2.23**	**317**	*eP*	**Pn**	**18 46 38.5**	**+0.8**
EDBA	**Buenos Aires**	**2.27**	**324**	*eP*	**Pn**	**18 46 40.1**	**+1.9**
DRK0	**Durika**	**2.34**	**326**	*eP*	**Pn**	**18 46 40.5**	**+1.2**
DRK0	**Durika**	**2.34**	**326**	*eP*	**Pn**	**18 46 40.2**	**+1.0**
EDDO	**Dominical**	**2.72**	**315**	*eP*	**Pn**	**18 46 46.2**	**+1.8**
BCIP	**Isla Barro Col**	**2.75**	**48**	*eP*	**Pn**	**18 46 46.6**	**+1.7**
BCIP				*eS*	**Sb**	**18 47 21.6**	**-2.2**
BCIP	**Isla Barro Col**	**2.75**	**48**	*eP*	**Pn**	**18 46 46.5**	**+1.7**
UPA	**Univ. de Panam**	**2.87**	**55**	*eP*	**Pn**	**18 46 48.1**	**+1.6**
CDM	**Cerro de Muert**	**2.88**	**321**	*eP*	**Pn**	**18 46 48.5**	**+1.5**
MRVA	**Moravia de Chi**	**2.91**	**329**	*eP*	**Pn**	**18 46 49.2**	**+2.1**
RIMA	**Rio Macho**	**3.10**	**322**	*eP*	**Pn**	**18 46 51.6**	**+1.7**
BATAN	**Batan**	**3.11**	**332**	*eP*	**Pn**	**18 46 53.7**	**+3.8**
LCR2	**La Lucha 2**	**3.17**	**319**	*eP*	**Pn**	**18 46 52.4**	**+1.6**
HDC	**Heredia**	**3.44**	**321**	*eP*	**Pn**	**18 46 56.9**	**+2.5**
HDC				*eS*	**Sn**	**18 47 34.6**	**-0.8**
HDC	**Heredia**	**3.44**	**321**	*eP*	**Pn**	**18 46 57.1**	**+2.7**
JACO	**JACO, Garabito**	**3.58**	**311**	*eP*	**Pn**	**18 46 57.6**	**+1.5**
UPD2	**Meteti**	**4.05**	**72**	*eP*	**Pb**	**18 47 10.0**	**-2.0**
PTAC	**Punta Ardita,**	**4.08**	**92**	*eP*	**Pn**	**18 47 03.2**	**+0.1**
JTS	**Las Juntas de**	**4.21**	**315**	*eP*	**Pn**	**18 47 08.4**	**+3.5**
JTS				*eS*	**Sb**	**18 48 03.3**	**-2.5**
JTS	**Las Juntas de**	**4.21**	**315**	*eP*	**Pn**	**18 47 07.4**	**+2.4**
JTS	**Las Juntas de**	**4.21**	**315**	*eP*	**Pn**	**18 47 07.0**	**+2.0**
SOLC	**Bahia Solano**	**4.60**	**103**	*eP*	Pn	18 47 06.7	-3.6
DBBC	**Dabeiba**	**5.67**	**93**	*eP*	**Pn**	**18 47 26.2**	**+1.1**
CBOC	**Ciudad Bolivar**	**6.04**	**104**	*eP*	**Pn**	**18 47 31.8**	**+1.6**
UREC	**San Jos de Ur**	**6.34**	**86**	*eP*	**Pn**	**18 47 35.1**	**+0.9**
MOTC	**Monteria, Cord**	**6.35**	**76**	*eP*	**Pn**	**18 47 36.3**	**+1.9**
HELC	**Santa Helena**	**6.44**	**100**	*eP*	**Pn**	**18 47 36.9**	**+1.0**
YOTC	**Yotoco, Valle**	**6.46**	**121**	*eP*	**Pn**	**18 47 37.2**	**+1.2**
GUY2C	**Guyana, Caldas**	**6.83**	**107**	*eP*	**Pn**	**18 47 44.5**	**+3.0**
BBAC	**Balboa, Cauca**	**7.02**	**138**	*eP*	Pn	18 47 49.8	+6.0
TOLC	**Tolima**	**7.10**	**112**	*eP*	Pn	18 47 53.5	+8.6
SOTA	**Rioblanco**	**7.38**	**134**	*eP*	Pn	18 47 54.9	+5.9
PCON	**Cinco Dias**	**7.40**	**132**	*eP*	**Pn**	**18 47 52.7**	**+3.4**
MARP	**Paez Belalcaza**	**7.42**	**127**	*eP*	**Pn**	**18 47 53.7**	**+4.4**
PTBC	**PUERTO BERRIO,**	**7.44**	**96**	*eP*	**Pn**	**18 47 51.9**	**+2.5**
ORTC	**Ortega, Tolima**	**7.45**	**117**	*eP*	**Pn**	**18 47 53.0**	**+3.5**
SMLC	**San Martn de**	**7.90**	**79**	*eP*	**Pn**	**18 47 56.4**	**+0.8**
BARC	**Barichara**	**8.70**	**94**	*eP*	**Pn**	**18 48 09.3**	**+2.5**
PAMC	**Pamplona, Colo**	**9.14**	**89**	*eP*	**Pn**	**18 48 16.3**	**+3.2**

IDC 14 18:52:16.8±2.1, 7°.83S×127°.37E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.1/33, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=270.4km s-min=32.2km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.81**	**151**	Pn	Pn	18 55 33.0	-1.1
	0.2nm,0.3s,baz=329,slow=14,SNR=9.4						
WRA				Sn	Sn	18 57 51.2	-17
	0.2nm,0.3s,baz=330,slow=24,SNR=7.2						
ASAR	**Alice Springs**	**16.95**	**159**	Pn	Pn	18 56 16.6	+1.0
	0.1nm,0.3s,baz=331,slow=9.0,SNR=5.1						
ASAR				Sn	Sn	18 59 15.2	-10
	0.2nm,0.3s,baz=346,slow=26,SNR=4.5						
MKAR	**Makanchi Array**	**67.52**	**328**	P	P	19 03 14.9	0.0
	0.2nm,0.4s,baz=123,slow=8.1,SNR=6.8						

*IDC **14** 19:27:35.5±1.1, 42°.88N×105°.02W, h0km, mb3.3/3, mb1 3.5/7, mb1mx3.4/40, mbtmp3.3/7, ML3.4/4, Error ellipse: s-maj=19.9km s-min=9.0km az=161.0*
*NEIC **14** 19:27:41.6±1.6, 43°.77N±0°.05×105°.24W±0°.06, h0km±2km, ML3.2/38, Error ellipse: s-maj=8.6km s-min=7.0km az=146.0*
ISC 14 19:27:40.7±0.8, 43°.79N±0°.07×105°.31W±0°.06, h0km, n43, σ1°44/41, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.97**	**70**	Pg	**Pg**	**19 27 59.6**	**+0.3**
PHWY	**Pilot Hill**	**2.49**	**183**		**Pn**	**19 28 23.1**	**+0.4**
RWWY	**Rawlins**	**2.52**	**214**		**Pn**	**19 28 24.3**	**+1.1**
RWWY				IAML		19 29 01.0	
	127nm,0.7s						
RWWY				IAML		19 29 02.6	
	143nm,0.7s						
LAO	**LASA Array**	**2.97**	**348**		**Pn**	**19 28 31.8**	**+2.6**
RLMT	**Red Lodge**	**3.13**	**297**	Pn	**Pn**	**19 28 32.3**	**+0.8**
RLMT				IAML		19 29 28.6	
	63nm,1.1s						
RLMT				IAML		19 29 31.7	
	54nm,0.4s						
PD31	**Pinedale Array**	**3.27**	**253**		**Pn**	**19 28 34.1**	**+0.7**
PDAR	**Pinedale Array**	**3.27**	**253**	Pn	**Pn**	**19 28 34.0**	**+0.7**
	3.1nm,0.3s,baz=72,slow=17,SNR=51						
PDAR				Pg	**Pb**	**19 28 38.4**	**-1.3**
	12nm,0.3s,baz=70,slow=18,SNR=48						
PDAR				Lg	Lg	19 29 19.3	
	15nm,0.3s,baz=72,slow=31,SNR=6.7						
PDAR	**Pinedale Array**	**3.27**	**253**		**Pn**	**19 28 34.3**	**+0.9**
BW06	**Boulder Array**	**3.27**	**253**		**Pn**	**19 28 34.3**	**+0.9**
BW06				IAML		19 29 32.7	
	31nm,0.8s						
YNE	**Yellowstone No**	**3.58**	**292**		**Pn**	**19 28 38.5**	**+0.8**
GCMT	**Greycliff**	**3.69**	**304**		**Pn**	**19 28 40.3**	**+1.2**
OGNE	**Ogallala**	**3.73**	**138**	Pn	**Pn**	**19 28 41.1**	**+1.5**
LOHW	**Long Hollow**	**3.85**	**269**		**Pn**	**19 28 42.2**	**+0.9**
LOHW				IAML		19 30 09.2	
	20nm,0.9s						
FLWY	**Flagg Ranch**	**3.91**	**276**		**Pn**	**19 28 43.7**	**+1.5**
FLWY				IAML		19 29 56.2	
	38nm,2.0s						
SNOW	**Snow King Moun**	**3.97**	**267**		**Pn**	**19 28 45.8**	**+2.7**
SNOW				IAML		19 29 58.9	
	43nm,1.1s						
SNOW				IAML		19 30 05.7	
	35nm,1.6s						
ISCO	**Idaho Springs**	**3.99**	**183**	Pn	**Pn**	**19 28 44.6**	**+1.2**
REDW	**Red Top Meadow**	**4.05**	**266**		**Pn**	**19 28 46.5**	**+2.4**
REDW				IAML		19 30 03.0	
	36nm,1.8s						
YHH	**Holmes Hill**	**4.11**	**286**		**Pn**	**19 28 46.0**	**+1.1**
E28A	**Huff**	**4.29**	**48**		**Pn**	**19 28 48.9**	**+1.7**
AHID	**Auburn Hatcher**	**4.35**	**258**		**Pn**	**19 28 50.5**	**+2.2**
AHID				IAML		19 30 30.8	
	comp=E,24nm,2.1s						
DGMT	**Dagmar**	**4.75**	**9**	Pn	**Pn**	**19 28 56.0**	**+2.5**
HWUT	**Hardware Ranch**	**5.10**	**247**		**Pn**	**19 28 59.4**	**+0.9**
HWUT				IAML		19 30 36.4	
	comp=E,18nm,1.4s						
TCUT	**Toone Canyon**	**5.25**	**242**	Pn	**Pn**	**19 29 02.8**	**+2.2**
HRY	**Holter Researc**	**5.46**	**305**		**Pn**	**19 29 04.1**	**+0.8**
SPUT	**South Promonto**	**5.83**	**247**		**Pn**	**19 29 09.9**	**+1.4**
PV07	**Paradox Valley**	**5.91**	**206**		**Pn**	**19 29 11.2**	**+1.5**
ECSD	**EROS Data Cent**	**6.29**	**87**	Pn	**Pn**	**19 29 15.1**	**+0.3**
TMUT	**Trail Mountain**	**6.30**	**227**		**Pn**	**19 29 16.4**	**+1.3**
CBKS	**Cedar Bluff**	**6.50**	**138**	Pn	**Pn**	**19 29 17.8**	**+0.2**
DUG	**Dugway, Tooele**	**6.65**	**240**	Pn	**Pn**	**19 29 20.9**	**+1.2**
T25A	**Trinidad**	**6.68**	**174**	Pn	**Pn**	**19 29 21.0**	**+0.8**
F33A	**5 Mile Ranch,**	**6.73**	**69**		**Pn**	**19 29 19.3**	**-1.4**
JTMT	**Jette**	**7.42**	**305**	Pn	**Pn**	**19 29 31.7**	**+1.4**
AGMN	**Agassiz Nation**	**7.97**	**52**	Pn	**Pn**	**19 29 37.1**	**-0.6**
ELK	**Elko**	**7.97**	**251**	Pn	**Pn**	**19 29 39.2**	**+1.3**
	comp=E,0.1nm,0.3s,baz=43,slow=21,SNR=1.8						
F36A	**Milaca**	**8.63**	**72**	Pn	**Pn**	**19 29 47.0**	**+0.3**
I10CA	**LAC DU BONNET**	**9.02**	**41**	*i*		20 23 30.0	
	baz=222,slow=315,SNR=1.9						
ULM	**Lac du Bonnet**	**9.12**	**42**	Pn	**Pn**	**19 29 53.6**	**+0.2**
	comp=E,1.7nm,0.3s,baz=234,slow=14,SNR=11						
ULM				Pg		19 30 25.1	
	comp=E,1.4nm,0.3s,baz=226,slow=14,SNR=5.3						
ULM				Lg	Lg	19 32 24.2	
	comp=E,1.0nm,0.3s,baz=134,slow=18,SNR=4.3						
NVAR	**Mina Array Bea**	**11.17**	**246**	Pn	Pn	19 30 17.3	-4.5
	comp=E,0.0nm,0.3s,baz=43,slow=12,SNR=2.4						
TXAR	**Lajitas Array**	**14.49**	**174**	Pn	Pn	19 30 49.8	-17
	comp=E,0.1nm,0.3s,baz=348,slow=17,SNR=2.1						
YKA	**Yellowknife Ar**	**19.51**	**347**	P	**Pn**	**19 32 12.2**	**+1.9**
	comp=E,0.1nm,0.4s,baz=168,slow=8.4,SNR=1.7						
SONM	**Songino Array**	**84.58**	**339**	P	**P**	**19 40 13.8**	**-2.0**
	comp=E,0.2nm,0.5s,baz=40,slow=4.7,SNR=1.6						
MKAR	**Makanchi Array**	**89.55**	**355**	P	**P**	**19 40 38.8**	**-1.0**
	comp=E,0.4nm,0.8s,baz=9.0,slow=5.2,SNR=4.3						

*NEIC **14** 19:42:19.5±0.9, 36°.14N±0°.05×70°.41E±0°.10, h130km±6km, mb4.2/15, Error ellipse: s-maj=12.1km s-min=6.0km az=109.0*
*NNC **14** 19:42:22.3±3.9, 36°.81N×70°.24E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=31.7km s-min=24.4km az=175.0*
*IDC **14** 19:42:26.6±4.2, 36°.57N×70°.58E, h170km±32km, mb3.2/9, mb1 3.4/15, mb1mx3.1/49, mbtmp3.9/15, Error ellipse: s-maj=33.6km s-min=18.0km az=7.0*
ISC 14 19:42:19.2±0.5, 36°.08N±0°.05×70°.46E±0°.05, h150km, n80, σ2°58/92, mb3.9/14, 6C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.93**	**217**	Pn	**Pn**	**19 42 53.0**	**-0.8**
CEP	**Cherat**	**2.55**	**152**	P	**Pn**	**19 43 01.0**	**-0.1**
CEP				S	**Sn**	**19 43 32.0**	**-1.4**
NIL	**Nilore**	**3.34**	**136**	Pn	**Pn**	**19 43 11.4**	**+0.4**
THW	**Thamme Wali**	**3.45**	**162**	P	**Pn**	**19 43 11.9**	**-0.5**
THN	**Thein Dam**	**5.67**	**128**	*eP*	**Pn**	**19 43 41.0**	**-0.6**
THN				*eS*	**Sn**	**19 44 43.0**	**-2.9**
DHRM	**DHARAMSHALA**	**6.17**	**127**	*eP*	**Pn**	**19 43 46.2**	**-2.2**
DHRM				*eS*	**Sn**	**19 44 53.7**	**-4.4**
DHRM				IAML		19 44 55.3	
	comp=E,276nm,0.3s						
DHRM				IAML		19 44 56.7	
	comp=N,306nm,0.3s						
AML	**Almayashu**	**6.54**	**22**	P	**Pn**	**19 43 53.1**	**-0.4**
	SNR=145						
UCH	**Uchtor**	**6.90**	**26**	P	**Pn**	**19 43 58.0**	**-0.2**
	SNR=38						
KK31	**Karatay Array**	**7.01**	**0**	⇓P	**Pn**	**19 43 58.6**	**-0.7**
	comp=N,17nm,0.5s,baz=189,slow=13,SNR=137						
KK31				⇓S	**Sn**	**19 45 11.6**	**-6.3**
	comp=N,12nm,0.3s,baz=198,slow=28,SNR=24						
KK31	**Karatay Array**	**7.01**	**0**		**Pn**	**19 43 58.9**	**-0.5**
KKAR	**Karatay Array**	**7.01**	**0**		**Pn**	**19 43 58.6**	**-0.8**
KKAR	**Karatay Array**	**7.01**	**0**		**Pn**	**19 43 58.8**	**-0.6**
EKS2	**Erkin-Say**	**7.05**	**20**	P	**Pn**	**19 43 59.8**	**-0.2**
	SNR=36						
AAK	**Ala-Archa**	**7.25**	**24**	P	**Pn**	**19 44 02.8**	**+0.1**
	comp=N,7.7nm,0.3s,baz=181,slow=6.0,SNR=62						
AAK				S	**Sn**	**19 45 21.4**	**-2.5**
	comp=N,4.9nm,0.3s,baz=326,slow=24,SNR=19						
AAK	**Ala-Archa**	**7.25**	**24**	P	**Pn**	**19 44 03.0**	**+0.2**
	SNR=31						
AAK	**Ala-Archa**	**7.25**	**24**	⇓P	**Pn**	**19 44 02.6**	**-0.1**
	comp=N,6.7nm,0.4s						
AAK				⇑P	**Sn**	**19 45 20.3**	**-3.6**
	comp=N,34nm,0.6s						
AAK	**Ala-Archa**	**7.25**	**24**			**19 44 02.7**	**-0.1**
KBK	**Karagaybulak**	**7.43**	**27**	P	**Pn**	**19 44 06.1**	**+1.0**
	SNR=16						
SMLA	**Simla**	**7.46**	**130**	*eP*	**Pn**	**19 44 03.8**	**-1.7**
SMLA				*eS*	**Sn**	**19 45 24.2**	**-4.6**
SMLA				IAML		19 45 28.3	
	comp=E,156nm,0.3s						
SMLA				IAML		19 45 28.5	
	comp=N,116nm,0.1s						
ULHL	**Ulahol**	**7.62**	**34**	P	**Pn**	**19 44 07.3**	**-0.3**
	SNR=6.2						
CHMS	**Chumysh**	**7.66**	**24**	P	**Pn**	**19 44 08.0**	**0.0**
	SNR=16						
USP	**Ospenovka**	**7.82**	**22**	P	**Pn**	**19 44 09.9**	**-0.3**
	SNR=27						
TKM2	**Tokmak 2**	**7.90**	**29**	P	**Pn**	**19 44 11.6**	**+0.2**
	SNR=15						
TKM2	**Tokmak 2**	**7.90**	**29**	⇑P	**Pn**	**19 44 11.1**	**-0.3**
	comp=N,6.5nm,0.6s						
TKM2				⇑S	**Sn**	**19 45 34.1**	**-5.4**
	comp=N,9.2nm,0.6s						
MDOK	**Medeo**	**8.71**	**34**	⇑P	**Pn**	**19 44 23.0**	**+0.9**
	comp=N,5.6nm,0.5s						
NDI	**New Delhi**	**9.33**	**140**	*eS*	**Sn**	**19 46 08.0**	**-5.8**
AYAN	**Aya Nagar**	**9.45**	**141**	*eP*	**Pn**	**19 44 30.6**	**-1.3**
AYAN				*eS*	**Sn**	**19 46 10.8**	**-5.8**
SONA	**Sohna**	**9.62**	**142**	*eP*	**Pn**	**19 44 33.3**	**-0.8**
SONA				*eS*	**Sn**	**19 46 13.1**	**-7.6**
GEYT	**Alibeck**	**10.04**	**284**	P	**Pn**	**19 44 37.9**	**-1.9**
	comp=N,0.4nm,0.3s,baz=98,slow=11,SNR=3.1						
GEYT				S	**Sn**	**19 46 26.2**	**-4.7**
	comp=N,0.5nm,0.3s,baz=184,slow=40,SNR=1.5						
GEYT	**Alibeck**	**10.04**	**284**		**Pn**	**19 44 38.4**	**-1.4**
GYA0B	**ALIBECK ARRAY**	**10.04**	**284**	Pn	**Pn**	**19 44 38.5**	**-1.3**
MAKZ	**Makanchi**	**13.75**	**35**	Pn	**Pn**	**19 45 27.7**	**-0.1**
MK31	**Makanchi Array**	**13.88**	**36**		**Pn**	**19 45 29.9**	**+0.4**
MKAR	**Makanchi Array**	**13.88**	**36**	P	**Pn**	**19 45 29.6**	**0.0**
	comp=N,0.3nm,0.3s,baz=224,slow=14,SNR=20						
MKAR	**Makanchi Array**	**13.88**	**36**	Pn	**Pn**	**19 45 29.7**	**+0.2**
BHPL	**Bhopal**	**14.15**	**153**	*eP*	**Pn**	**19 45 31.5**	**-1.6**
BHPL				*i* x	x	19 45 38.2	
BHPL				*eS*	Sn	19 47 58.1	-12
GKN	**Gorkha**	**14.46**	**120**	*eP*	**Pn**	**19 45 34.4**	**-2.7**
	comp=N,44nm,0.4s						
DMN	**Daman**	**15.03**	**120**	*eP*	**Pn**	**19 45 42.5**	**-1.8**
	comp=N,20nm,0.6s						
KKN	**Kakani**	**15.04**	**119**	*eP*	**Pn**	**19 45 41.6**	**-2.8**
	comp=N,37nm,0.5s						
AB31	**Akbulak array**	**15.25**	**333**	⇑P	**Pn**	**19 45 47.0**	**+0.5**
	comp=N,1.9nm,0.4s,baz=148,slow=12,SNR=72						
AB31				⇑S	**Sn**	**19 48 29.5**	**-6.3**
	comp=N,5.5nm,0.7s,baz=150,slow=24,SNR=10						
ABKAR	**Akbulak array**	**15.25**	**333**	Pn	**Pn**	**19 45 47.0**	**+0.5**
ABKAR	**Akbulak array**	**15.25**	**333**	Pn	**Pn**	**19 45 47.2**	**+0.8**
ABKAR				IAmb	IAmb	19 45 49.8	
	comp=Z,4.9nm,0.6s						
PKIN	**Phulchoki**	**15.25**	**120**	*eP*	**Pn**	**19 45 44.2**	**-2.9**
	comp=Z,23nm,0.4s						
PKI	**Pulchoki**	**15.27**	**120**	*eP*	**Pn**	**19 45 44.9**	**-2.4**
	comp=Z,14nm,0.3s						
GUN	**Gumba**	**15.40**	**118**	*eP*	**Pn**	**19 45 46.1**	**-2.8**
	comp=Z,21nm,0.5s						
KURBB	**Kurchatov Arra**	**15.66**	**19**	P	**Pn**	**19 45 51.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=16						
RAMN	**Ramite**	**16.48**	**119**	*eP*	**P**	**19 46 00.6**	**-1.5**
	comp=Z,13nm,0.3s						
AKTO	**Aktyubinsk**	**16.93**	**332**	P	**Pn**	**19 46 09.2**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=154,slow=8.1,SNR=11						
AKTO				S	**S**	**19 49 07.7**	**-7.4**
	comp=Z,0.3nm,0.3s,baz=3.4,slow=18,SNR=4.0						
AKTO	**Aktyubinsk**	**16.93**	**332**	⇓P	**Pn**	**19 46 08.9**	**+1.8**
	comp=Z,7.9nm,1.1s						
AKTO				⇓S	**S**	**19 49 11.7**	**-3.5**
	comp=Z,9.1nm,0.9s						
BVAR	**Borovoye Array**	**16.94**	**360**	P	**P**	**19 46 07.1**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=155,slow=11,SNR=18						
BRVK	**Borovoye**	**16.97**	**360**		**Pn**	**19 46 08.1**	**+0.6**
TAPN	**Taplejung**	**17.05**	**116**	*eP*	**Pn**	**19 46 08.3**	**-0.7**
	comp=Z,30nm,0.4s						
ODAN	**Odare**	**17.10**	**118**	*eP*	**Pn**	**19 46 09.0**	**-0.6**
	comp=Z,13nm,0.5s						
ZAA0	**Zalesovo Array**	**20.48**	**25**	P	**P**	**19 46 46.6**	**+1.7**
ZALV	**Zalesovo Beam**	**20.48**	**25**	P	**P**	**19 46 46.5**	**+1.5**
	comp=Z,3.1nm,0.3s,baz=221,slow=11,SNR=122						
GNI	**Garni**	**20.61**	**289**	P	Pn	19 46 51.5	+0.7
	comp=Z,3.4nm,0.7s,baz=84,slow=10,SNR=3.6						
SHL	**Shillong**	**21.13**	**114**	P	**P**	**19 46 55.1**	**+2.6**
SHL				IAmb	IAmb	19 46 57.2	
	comp=Z,4.9nm,0.7s						
ARU	**Arti**	**21.89**	**342**	P	**P**	**19 47 02.6**	**+2.6**
	comp=Z,1.1nm,0.6s,baz=135,slow=13,SNR=6.9						
ARU	**Arti**	**21.89**	**342**	P	**P**	**19 47 02.8**	**+2.8**
ARU				IAmb	IAmb	19 47 04.5	
	comp=Z,3.9nm,0.7s						
SONM	**Songino Array**	**28.93**	**55**	P	**P**	**19 48 06.8**	**+2.6**
	comp=Z,0.5nm,0.5s,baz=274,slow=9.2,SNR=5.9						
BURAR	**Bucovina Array**	**35.15**	**303**	P	**P**	**19 49 00.5**	**+2.0**
FIA1	**FINESS Array S**	**37.59**	**327**	P	**P**	**19 49 21.2**	**+2.4**
FIA1				IAmb	IAmb	19 49 22.3	
	comp=Z,16nm,1.3s						
FINES	**FINESS Array B**	**37.59**	**327**	P	**P**	**19 49 21.4**	**+2.6**
	comp=Z,2.2nm,0.8s,baz=119,slow=12,SNR=7.0						
FINES	**FINESS Array B**	**37.59**	**327**	P	**P**	**19 49 21.1**	**+2.3**
ARCES	**ARCESS Array B**	**41.36**	**338**	P	**P**	**19 49 52.2**	**+2.2**
	comp=Z,1.6nm,0.5s,baz=94,slow=6.6,SNR=11						
ARCES	**ARCESS Array B**	**41.36**	**338**	P	**P**	**19 49 52.0**	**+2.0**
NC602	**NORSAR Array S**	**44.26**	**323**	P	**P**	**19 50 15.0**	**+1.6**
NC602				IAmb	IAmb	19 50 22.0	
	comp=Z,11nm,1.1s						
NB2	**NORSAR Subarra**	**44.45**	**323**	P	**P**	**19 50 16.7**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.45**	**323**	P	**P**	**19 50 17.1**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=97,slow=7.9,SNR=5.1						
TIXI	**Tiksi**	**46.32**	**22**	P	**P**	**19 50 31.4**	**+2.0**
TIXI				IAmb	IAmb	19 50 33.6	
	comp=Z,1.9nm,0.5s						
FAKI	**Fak Fak**	**69.34**	**110**	P	**P**	**19 53 13.7**	**+2.8**
IMAR	**Indian Mountai**	**72.70**	**17**	P	**P**	**19 53 32.2**	**+2.0**
INK	**Inuvik**	**74.39**	**9**	P	**P**	**19 53 42.6**	**+2.6**
ILAR	**Eielson Array**	**75.30**	**16**	P	**P**	**19 53 46.9**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=300,slow=4.9,SNR=6.7						
KTH	**Kantishna Hill**	**75.39**	**18**	P	**P**	**19 53 48

IDC ***14*** *20:17:28.4±1.2,36°.89N×104°.98W,h0km,mb3.2/2, mb1 3.6/5,mb1mx3.3/47,mbtmp3.2/5,ML3.7/3,Error ellipse: s-maj=20.3km s-min=9.7km az=81.0*

ANF ***14*** *20:17:29.7±0.3,36°.88N×104°.82W,h1km,ML4.0/19,Error ellipse: s-maj=3.1km s-min=2.3km az=134.0,Hypocentre not reviewed by the ISC*

NEIC ***14*** *20:17:30.6±1.5,36°.90N±0°.04×104°.78W±0°.07,h2km±7km, mb_Lg3.4/101,ML3.6/48,Error ellipse: s-maj=8.5km s-min=5.6km az=85.0*

ISC 14 20:17:31.1±0.8,36°.93N±0°.05×104°.84W±0°.04,h10km,n62, σ1**°27/50,New Mexico**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.41**	**58**	Pg		**Pg**	**20 17 37.8**	**-1.4**
T25A				Sg		**Sg**	**20 17 43.8**	**-0.7**
T25A				IAML			20 17 44.2	
	comp=E,3μm,0.5s							
T25A	**Trinidad**	**0.41**	**59**	P			20 17 37.8	
	baz=231,SNR=599							
T25A				S			20 17 43.9	
	baz=231							
SDCO	**Great Sand Dun**	**0.97**	**328**			**Pg**	**20 17 48.6**	**-1.2**
SDCO				Sg		**Sg**	**20 18 01.8**	**-0.7**
SDCO	**Great Sand Dun**	**0.97**	**328**	P			20 17 48.6	
	baz=145,SNR=159							
S22A	**4UR Ranch, Cre**	**1.78**	**298**	P			20 18 03.4	
	baz=117,SNR=612							
S22A				S			20 18 27.3	
	baz=117							
Q24A	**Divide**	**2.05**	**353**	Pb			20 18 08.3	
	baz=172,SNR=57							
ANMO	**Albuquerque**	**2.37**	**214**	Pn		**Pn**	**20 18 08.9**	**-1.3**
	comp=E,29nm,0.3s,baz=30,slow=12,SNR=232							
ANMO				Pg		**Pb**	**20 18 11.3**	**-2.7**
	comp=E,29nm,0.3s,baz=56,slow=18,SNR=150							
ANMO				Lg		Lg	20 18 39.9	
	comp=E,42nm,0.3s,baz=307,slow=21,SNR=11							
ANMO	**Albuquerque**	**2.37**	**214**			**Pn**	**20 18 09.7**	**-0.5**
ANMO				Sn		**Sn**	**20 18 40.4**	**+0.9**
ANMO	**Albuquerque**	**2.37**	**214**	P			20 18 09.2	
	baz=34							
ANMO				S			20 18 40.5	
	baz=34							
KSCO	**Kaye Shedlock'**	**2.72**	**39**	P			20 18 16.2	
	baz=220,SNR=29							
KSCO				Sb			20 18 54.5	
	baz=220							
SMCO	**Snowmass**	**2.81**	**324**	Pn		**Pn**	**20 18 17.9**	**+1.5**
ISCO	**Idaho Springs**	**2.93**	**348**	Pn		**Pn**	**20 18 19.6**	**+1.6**
ISCO	**Idaho Springs**	**2.93**	**348**	Pn			20 18 20.1	
	baz=167							
ISCO				Pb			20 18 24.1	
	baz=167,SNR=63							
ISCO				Sb			20 19 02.4	
	baz=167							
MVCO	**Mesa Verde**	**2.94**	**277**	Pn		**Pn**	**20 18 19.3**	**+1.3**
MVCO				IAML			20 19 15.9	
	comp=E,201nm,0.8s							
MVCO	**Mesa Verde**	**2.94**	**277**	Pn			20 18 19.2	
	baz=95							
MVCO				Pb			20 18 24.0	
	baz=95,SNR=130							
MVCO				Sb			20 19 01.4	
	baz=95							
BNM	**Barren Site**	**3.13**	**208**			**Pn**	**20 18 19.8**	**-0.9**
PV01	**Paradox Valley**	**3.20**	**293**			**Pn**	**20 18 22.1**	**+0.4**
PV01				IAML			20 19 14.7	
	comp=E,92nm,0.8s							
PV15	**Paradox Valley**	**3.21**	**297**			**Pn**	**20 18 23.2**	**+1.3**
PV15				IAML			20 19 15.0	
	comp=N,180nm,0.9s							
LENM	**Lemitar**	**3.26**	**213**			**Pn**	**20 18 24.7**	**+2.3**
AMTX	**Amarillo**	**3.28**	**128**			**Pn**	**20 18 21.8**	**-0.8**
AMTX				IAmb_Lg			20 19 18.0	
	comp=Z,118nm,0.8s							
AMTX	**Amarillo**	**3.28**	**128**	Pn			20 18 22.1	
	baz=310							
AMTX				Pb			20 18 28.1	
	baz=310							
Y22D	**IRIS PASSCAL I**	**3.31**	**211**			**Pn**	**20 18 25.7**	**+2.6**
Y22D	**IRIS PASSCAL I**	**3.31**	**211**	Pb			20 18 28.9	
	baz=31							
Y22D				Sb			20 19 10.1	
	baz=31							
PV02	**Paradox Valley**	**3.35**	**294**			**Pn**	**20 18 25.1**	**+1.4**
PV02				IAML			20 19 21.3	
	comp=N,185nm,0.6s							
PV02				IAML			20 19 24.8	
	comp=E,128nm,0.8s							
PV07	**Paradox Valley**	**3.37**	**298**			**Pn**	**20 18 25.5**	**+1.4**
PV07				IAML			20 19 21.5	
	comp=E,116nm,0.9s							
PV07				IAML			20 19 25.3	
	comp=N,114nm,0.9s							
PV13	**Radium Mtn., P**	**3.39**	**292**			**Pn**	**20 18 26.0**	**+1.7**
PV13				IAML			20 19 24.1	
	comp=E,173nm,0.8s							
PV13				IAML			20 19 34.4	
	comp=N,111nm,0.9s							
MSTX	**Muleshoe**	**3.40**	**150**	Pn			20 18 23.9	
	baz=332							
MSTX				Pb			20 18 29.5	
	baz=332,SNR=131							
MSTX				Sb			20 19 12.1	
	baz=332							
PV12	**Saucer Basin,**	**3.44**	**295**			**Pn**	**20 18 26.8**	**+1.9**
PV03	**Paradox Valley**	**3.44**	**294**			**Pn**	**20 18 26.6**	**+1.6**
PV03				IAML			20 19 29.6	
	comp=N,164nm,0.9s							
PV03				IAML			20 19 34.0	
	comp=E,85nm,1.4s							
PV18	**Skein Mesa, Pa**	**3.49**	**293**			**Pn**	**20 18 27.6**	**+2.0**
PV18				IAML			20 19 32.4	
	comp=E,77nm,1.2s							
PV18				IAML			20 19 33.4	
	comp=N,137nm,1.0s							
PV05	**Paradox Valley**	**3.57**	**290**			**Pn**	**20 18 27.6**	**+0.8**
PV05				IAML			20 19 28.6	
	comp=N,104nm,0.7s							
PV05				IAML			20 19 29.2	
	comp=E,114nm,0.7s							
N23A	**Red Feather La**	**4.05**	**348**	Pb			20 18 43.9	
	baz=167,SNR=30							
O20A	**White River Ci**	**4.17**	**321**	P			20 18 38.4	
	baz=139,SNR=5.7							
W18A	**Petrified Fore**	**4.36**	**247**	Pb			20 18 48.2	
	baz=65							
W18A				Sb			20 18 42.9	
	baz=65							
PHWY	**Pilot Hill**	**4.39**	**354**			**Pn**	**20 18 39.4**	**+1.3**
CBKS	**Cedar Bluff**	**4.46**	**63**	Pn		**Pn**	**20 18 38.9**	**+0.1**
CBKS				IAmb_Lg			20 20 01.3	
	comp=Z,82nm,0.7s							
CBKS	**Cedar Bluff**	**4.46**	**63**	P			20 18 38.7	
	baz=246,SNR=9.1							
CBKS				Sb			20 19 48.0	
	baz=246							
OGNE	**Ogallala**	**4.57**	**28**	Pn		**Pn**	**20 18 41.6**	**+1.2**
OGNE	**Ogallala**	**4.57**	**28**	P			20 18 41.6	
	baz=209,SNR=5.5							
OGNE				Sb			20 19 52.2	
	baz=209							
U32A	**Winter Ranch,**	**4.73**	**95**			**Pn**	**20 18 43.0**	**+0.5**
U32A				IAmb_Lg			20 20 11.4	
	comp=Z,72nm,0.8s							
X18A	**Snowflake**	**4.79**	**242**			**Pn**	**20 18 44.2**	**+0.7**
X18A				IAML			20 20 02.1	
	comp=E,48nm,0.6s							
X18A				IAML			20 20 08.3	
	comp=N,53nm,0.9s							
121A	**Cookes Peak, D**	**5.01**	**210**	Pn			20 18 45.6	
	baz=29							
121A				Pb			20 18 59.2	
	baz=29							
121A				Sb			20 20 01.3	
	baz=29							
R32A	**Long Quarter,**	**5.09**	**71**	IAmb_Lg			20 20 22.6	
	comp=Z,56nm,0.8s							
MNTX	**Cornudas Mount**	**5.23**	**185**	Pb			20 19 01.9	
	baz=5.3							
MNTX				Sb			20 20 08.3	
	baz=5.3							
MNTX	**Cornudas Mount**	**5.24**	**185**	IAmb_Lg			20 20 15.6	
	comp=Z,58nm,0.8s							
OK032	**Salt Plains WL**	**5.32**	**89**	Pn		**Pn**	**20 18 49.6**	**-0.9**
OK032				IAmb_Lg			20 20 29.5	
	comp=Z,88nm,1.2s							
WMOK	**Wichita Mounta**	**5.39**	**112**			**Pn**	**20 18 51.2**	**-0.3**
WMOK				IAmb_Lg			20 20 30.0	
	comp=Z,57nm,0.8s							
WMOK	**Wichita Mounta**	**5.39**	**112**	Sb			20 20 14.8	
	baz=296							
KAN10	**Anthony SW Sta**	**5.40**	**86**	IAmb_Lg			20 20 30.3	
	comp=Z,60nm,0.9s							
WUAZ	**Wupatki**	**5.46**	**257**			**Pn**	**20 18 53.3**	**+0.6**
WUAZ	**Wupatki**	**5.46**	**257**	P			20 18 55.0	
	baz=74							
WUAZ				Sb			20 20 17.1	
	baz=74							
KAN08	**Anthony NE Sta**	**5.50**	**85**	IAmb_Lg			20 20 36.8	
	comp=Z,50nm,0.7s							
CROK	**Carrier**	**5.53**	**92**	Pn		**Pn**	**20 18 53.1**	**-0.3**
CROK				IAmb_Lg			20 20 26.2	
	comp=Z,63nm,0.7s							
TMUT	**Trail Mountain**	**5.55**	**297**			**Pn**	**20 18 55.6**	**+1.6**
U15A	**North Rim**	**6.01**	**267**			**Pn**	**20 19 01.1**	**+0.8**
MSU	**Marysvale**	**6.03**	**287**			**Pn**	**20 19 03.0**	**+2.5**
OK029	**Liberty Lake**	**6.07**	**99**	IAmb_Lg			20 20 47.3	
	comp=Z,50nm,1.0s							
OK025	**Westminster Rd**	**6.21**	**100**	Pn		**Pn**	**20 19 02.5**	**-0.3**
FNO	**Franklin**	**6.25**	**103**	IAmb_Lg			20 20 58.2	
	comp=Z,63nm,0.8s							
319A	**Douglas**	**6.65**	**215**	Pn		**Pn**	**20 19 10.2**	**+1.2**
T35A	**Sooner Cattle**	**6.67**	**88**			**Pn**	**20 19 09.4**	**+0.2**
CCUT	**Cedar City**	**6.82**	**278**			**Pn**	**20 19 12.2**	**+0.7**
KSU1	**Kansas State U**	**6.85**	**69**	Pn		**Pn**	**20 19 12.3**	**+0.7**
KSU1				IAmb_Lg			20 21 07.5	
	comp=Z,42nm,1.0s							
PDAR	**Pinedale Array**	**6.87**	**330**	Pn		**Pn**	**20 19 11.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=136,slow=12,SNR=3.6							
PDAR				Pg		Pg	20 19 37.8	-4.8
	comp=Z,1.5nm,0.3s,baz=141,slow=16,SNR=29							
PDAR				Lg		Lg	20 21 03.7	
	comp=Z,0.4nm,0.3s,baz=152,slow=27,SNR=2.1							
N33A	**J Bar K, Exete**	**6.91**	**54**	IAmb_Lg			20 21 20.0	
	comp=Z,41nm,0.8s							
DUG	**Dugway, Tooele**	**7.04**	**300**	Pg			20 19 43.8	
	baz=115							
Z35A	**Perchaven, San**	**7.18**	**118**	IAmb_Lg			20 21 34.0	
	comp=Z,47nm,0.9s							
RSSD	**Black Hills**	**7.21**	**5**	Pn		**Pn**	**20 19 17.5**	**+0.8**
TX31	**Lajitas Ar. Si**	**7.64**	**172**			**Pn**	**20 19 21.9**	**-0.6**
TXAR	**Lajitas Array**	**7.64**	**172**	Pn		**Pn**	**20 19 21.7**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=359,slow=10,SNR=12							
TXAR				Pg		**Pb**	**20 19 45.2**	**+1.5**
	comp=Z,1.8nm,0.3s,baz=351,slow=15,SNR=10							
TXAR				Lg		Lg	20 21 22.4	
	comp=Z,3.1nm,0.3s,baz=352,slow=27,SNR=6.5							
TXAR	**Lajitas Array**	**7.64**	**172**	Pn		**Pn**	**20 19 22.2**	**-0.3**
JCT	**Junction City**	**7.68**	**145**	Pn		**Pn**	**20 19 22.8**	**-0.3**
JCT				IAmb_Lg			20 21 44.2	
	comp=Z,60nm,1.0s							
HHAR	**Hobbs**	**8.79**	**91**	IAmb_Lg			20 22 07.9	
	comp=Z,36nm,0.8s							
ELK	**Elko**	**8.96**	**298**	Lg		Lg	20 22 08.2	
	comp=Z,0.1nm,0.3s,baz=337,slow=7.6,SNR=1.3							
W39A	**Magazine**	**9.12**	**98**	IAmb_Lg			20 22 29.8	
	comp=Z,35nm,0.8s							
P38A	**Dawn**	**9.29**	**70**	IAmb_Lg			20 22 31.3	
	comp=Z,32nm,0.9s							
U40A	**Yellville**	**9.65**	**90**	IAmb_Lg			20 22 45.2	
	comp=Z,24nm,0.8s							
N38A	**Joes South For**	**9.84**	**63**	IAmb_Lg			20 22 47.3	
	comp=Z,41nm,0.8s							
NATX	**Nacogdoches**	**9.87**	**119**	IAmb_Lg			20 22 54.9	
	comp=Z,33nm,0.9s							
NVAR	**Mina Array Bea**	**10.77**	**282**	Pg		Pn	20 20 52.3	+47
	comp=Z,0.1nm,0.3s,baz=101,slow=17,SNR=2.3							
NVAR				Lg		Lg	20 23 03.8	
	comp=Z,0.0nm,0.3s,baz=96,slow=28,SNR=1.3							
ULM	**Lac du Bonnet**	**14.80**	**23**	Lg		Lg	20 25 09.1	
	comp=Z,0.2nm,0.3s,baz=117,slow=18,SNR=2.3							
YKA	**Yellowknife Ar**	**26.30**	**350**	P		**P**	**20 23 06.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=158,slow=9.5,SNR=3.9							
ILAR	**Eielson Array**	**37.29**	**332**	P		**P**	**20 24 43.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=123,slow=8.4,SNR=3.1							

BJI ***14*** *20:21:33.6±0.0,18°.22S×175°.65W,h196km,mB5.2/27, mb4.9/45*

NOU ***14*** *20:21:35.3,18°.38S×175°.21W,h244km,mb4.9,Tonga Islands*

NEIC ***14*** *20:21:35.7±1.6,18°.43S±0°.10×175°.34W±0°.08, h234km±5km,mb4.9/152,Error ellipse: s-maj=13.9km s-min=11.1km az=183.0*

IDC ***14*** *20:21:38.7±0.6,18°.48S×175°.56W,h260km±5km,mb4.6/29, mb1 4.6/31,mb1mx4.5/41,mbtmp5.1/31,Error ellipse: s-maj=10.5km s-min=7.7km az=129.0*

GCMT ***14*** *20:21:38.7±0.3,18°.47S±0°.03×175°.17W±0°.02, h263km±2km,MW5.1/92,Moment Tensor Solution. s37,c47; s92,c113; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.85±.18; Mθθ2.59±.23; Mφφ-0.73±.22; Mrθ-2.37±.19; Mθφ1.63±.20; Mφr-4.37±.16; Best double couple: M₀5.71900×10¹⁶ NP1:ϕs281.00000°,δ25.00000°, λ-25.00000°. NP2:ϕs34.00000°,δ80.00000°, λ-113.00000°. Principal axes: T 5.6720, Plg31.0000°, Azm142.0000°; N 0.0950, Plg22.0000°, Azm38.0000°; P -5.7650, Plg50.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***14*** *20:21:39.2±0.0,19°.09S×175°.83W,h262km*

ISC 14 20:21:36.3±0.5,18°.49S±0°.06×175°.37W±0°.04,
h243km±4km**,h243**km**;pP-P,n538,**σ1**°09/573,mb4.9/126,**
38C-65D,Fault plane solution: NP1:ϕs308.55325°**,**
δ24.74848°**,**λ-18.18021°**. NP2:**ϕs55.15986°**,**δ82.49474°**,**
λ-113.65160°**. Principal axes:** T Plg33.3534°**,**
Azm165.0128°**;** N Plg23.4368°**,** Azm58.4339°**;** P
Plg47.2669°**,** Azm300.4492°**; Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.19**	**97**	P		**Pn**	**20 22 53.0**	**-1.3**
	baz=5.0,SNR=48							
NIUE				S		**S**	**20 23 51.2**	**-5.2**
	baz=5.0							
NIUE	**Niue**	**5.19**	**97**			**Pn**	**20 22 53.0**	**-1.3**
NIUE				S		**S**	**20 23 52.5**	**-3.9**
NIUE	**Niue**	**5.19**	**97**	P		**Pn**	**20 22 53.1**	**-1.3**
MSVF	**Nonsavu**	**6.30**	**276**	P		**Pn**	**20 23 10.5**	**+2.3**
	20nm,0.3s,baz=119,slow=15,SNR=56							
MSVF				S		**S**	**20 24 15.4**	**-6.2**
	baz=221,slow=22,SNR=1.2							
MSVF	**Nonsavu**	**6.30**	**276**	Pn		**Pn**	**20 23 11.0**	**+2.8**
MSVF	**Nonsavu**	**6.30**	**276**	P		**Pn**	**20 23 11.3**	**+3.1**
FUNA	**Funafuti**	**11.22**	**331**			**Pn**	**20 24 11.3**	**+0.9**
RAR	**Rarotonga**	**14.33**	**103**	P		**P**	**20 24 54.9**	**-0.9**
MARNC	**Mare, Loyalty**	**15.88**	**256**	P		**Pn**	**20 25 08.6**	**+1.2**
KNTN	**Kanton**	**16.02**	**13**	P		**P**	**20 25 04.1**	**-3.9**
LIFNC	**LIFOU**	**16.54**	**259**	P		**Pn**	**20 25 14.9**	**-0.2**
YATNC	**Mamie plateau,**	**17.01**	**255**	P		**Pn**	**20 25 20.0**	**-0.7**
DZM	**Mont Dzumac**	**17.42**	**255**	*e*P		**Pn**	**20 25 25.3**	**-0.4**
	272nm,1.2s							
DZM	**Mont Dzumac**	**17.42**	**255**	P		**P**	**20 25 23.7**	**+0.4**
	2.3nm,0.3s,baz=80,slow=16,SNR=21							
DZM	**Mont Dzumac**	**17.42**	**255**	P		**P**	**20 25 23.2**	**-0.1**
DZM	**Mont Dzumac**	**17.42**	**255**	P		**P**	**20 25 24.4**	**+1.1**
KOUNC	**Koumac, New Ca**	**19.28**	**261**	P		**P**	**20 25 43.1**	**-0.2**
OUZ	**Omahuta**	**19.33**	**208**	P		**P**	**20 25 44.1**	**+0.6**
OUZ				IAmb		IAmb	20 25 49.1	
	comp=Z,22nm,0.7s							
PUZ	**Puketiti**	**20.29**	**195**	P		Pn	20 25 57.1	-2.1
RUGZ	**Raukumara Rang**	**20.33**	**196**	P		**P**	**20 25 55.8**	**+1.3**
TWGZ	**Tauwhareparae**	**20.45**	**195**	P		**P**	**20 25 58.0**	**+2.3**
TGRZ	**Tauranga**	**20.52**	**199**	P		Pn	20 26 00.3	-1.6
OPRZ	**Ohinepanea**	**20.54**	**198**	P		Pn	20 25 59.6	-2.4
CNGZ	**Carnagh Statio**	**20.69**	**194**	P		**P**	**20 26 00.1**	**+2.0**
TKGZ	**Te Karaka**	**20.74**	**195**	P		**P**	**20 25 58.6**	**0.0**
URZ	**Urewera**	**20.76**	**197**	P		**P**	**20 25 59.1**	**+0.3**
	comp=Z,63nm,0.5s,baz=265,slow=3.0,SNR=56							
URZ				S		**S**	**20 29 34.8**	**-0.6**
	comp=Z,11nm,0.4s,baz=211,slow=20,SNR=3.8							
URZ	**Urewera**	**20.76**	**197**	P		**P**	**20 25 57.1**	**-1.7**
URZ	**Urewera**	**20.76**	**197**	P		**P**	**20 25 57.3**	**-1.5**
TOZ	**Tahuroa Road**	**20.77**	**201**	P		**P**	**20 26 01.2**	**+2.3**
RAGZ	**Rawiri**	**20.90**	**196**	P		**P**	**20 26 01.3**	**+0.9**
RIGZ	**Rimuhau**	**21.01**	**195**	P		**P**	**20 26 02.5**	**+1.1**
RTZ	**Ruatahuna**	**21.13**	**197**	P		**P**	**20 26 04.0**	**+1.3**
SNGZ	**Shannon Statio**	**21.19**	**196**	P		**P**	**20 26 05.4**	**+2.2**
KNZ	**Kokohu**	**21.33**	**195**	P		**P**	**20 26 06.2**	**+1.7**
WHHZ	**Waihua**	**21.50**	**196**	P		**P**	**20 26 07.1**	**+1.0**
HIZ	**Hauiti**	**21.69**	**201**	P		**P**	**20 26 10.6**	**+2.6**
BKZ	**Black Stump Fm**	**21.78**	**197**	P		**P**	**20 26 08.0**	**-0.8**
BKZ				IAmb		IAmb	20 26 11.5	
	comp=Z,18nm,0.5s							
BKZ	**Black Stump Fm**	**21.78**	**197**	P		**P**	**20 26 08.1**	**-0.8**
TMVZ	**Te Maari**	**21.96**	**199**	P		**P**	**20 26 11.5**	**+0.8**
ETVZ	**East Tongariro**	**21.98**	**199**	P		**P**	**20 26 11.4**	**+0.6**
MCHZ	**McNeill Hill**	**21.98**	**197**	P		**P**	**20 26 10.8**	**+0.2**
OTVZ	**Oturere**	**22.02**	**199**	P		**P**	**20 26 10.9**	**-0.3**
KWHZ	**Kaweka Forest**	**22.04**	**197**	P		**P**	**20 26 11.8**	**+0.6**
TUVZ	**Tukino**	**22.12**	**199**	P		**P**	**20 26 12.3**	**+0.2**
WNVZ	**Wahianoa**	**22.19**	**199**	P		**P**	**20 26 13.2**	**+0.5**
BHHZ	**Black Hill Sta**	**22.20**	**198**	P		**P**	**20 26 11.7**	**-1.0**
MOVZ	**Moawhango**	**22.22**	**198**	P		**P**	**20 26 13.2**	**+0.3**
PKVZ	**Pokaka**	**22.23**	**199**	P		**P**	**20 26 13.3**	**+0.2**
KRHZ	**Kereru**	**22.26**	**197**	P		**P**	**20 26 13.8**	**+0.5**
KAHZ	**Kahuranaki**	**22.26**	**196**	P		**P**	**20 26 15.1**	**+1.9**
PXZ	**Pawanui**	**22.49**	**196**	P		**P**	**20 26 16.9**	**+1.7**
PNHZ	**Pukenui**	**22.56**	**197**	P		**P**	**20 26 16.3**	**+0.3**
NEZ	**North Egmont**	**22.63**	**202**	P		**P**	**20 26 20.5**	**+3.8**
KHEZ	**Kahui Hut**	**22.68**	**202**	P		**P**	**20 26 20.1**	**+2.9**
TSZ	**Takapari Road**	**22.76**	**197**	P		**P**	**20 26 18.8**	**+1.0**
DVHZ	**Dannevirke**	**22.93**	**197**	P		**P**	**20 26 19.5**	**+0.3**
BFZ	**Birch Farm**	**23.26**	**196**	P		**P**	**20 26 22.1**	**-0.2**
BFZ				IAmb		IAmb	20 26 25.5	
	comp=Z,48nm,0.8s							
BFZ	**Birch Farm**	**23.26**	**196**	P		**P**	**20 26 22.7**	**+0.4**
SNZO	**South Karori**	**24.28**	**198**	P		**P**	**20 26 31.2**	**-0.3**
SNZO				IAmb		IAmb	20 26 48.4	
	comp=Z,50nm,1.1s							
PAE	**Paea**	**24.53**	**92**	*e*T		T	20 51 06.2	
	comp=Z,6.5nm,0.3s							
PPT2	**Papeete2**	**24.54**	**92**	*e*LR		LR	20 31 57.7	
	comp=Z,502nm,26.5s							
PPT2	**Papeete2**	**24.54**	**92**	*e*T		T	20 51 08.4	
	comp=Z,4.6nm,0.3s							
TBI	**Tubuai**	**24.67**	**106**	*e*LR		LR	20 31 59.4	
	comp=Z,473nm,30.0s							
TBI	**Tubuai**	**24.67**	**106**	*e*T		T	20 49 57.2	
	comp=Z,13nm,0.3s							
THZ	**Tophouse**	**25.26**	**201**	P		**P**	**20 26 40.9**	**+0.4**
THZ				IAmb		IAmb	20 26 46.8	
	comp=Z,20nm,0.8s							
HNR	**Honiara**	**25.56**	**287**	P		**P**	**20 26 42.6**	**-0.8**
MEH	**Mehetia**	**25.94**	**93**	*e*T		T	20 52 44.8	
	comp=Z,18nm,0.3s							
OXZ	**Oxford**	**26.95**	**201**	P		**P**	**20 26 55.1**	**-0.3**
RPZ	**Rata Peaks**	**27.62**	**202**	P		**P**	**20 27 01.5**	**0.0**
	comp=Z,12nm,0.4s,baz=354,slow=3.6,SNR=10.0							
RPZ	**Rata Peaks**	**27.62**	**202**	P		**P**	**20 27 01.3**	**-0.2**
RPZ				IAmb		IAmb	20 27 09.0	
	comp=Z,26nm,0.7s							
FOZ	**Fox Glacier**	**27.92**	**203**	P		**P**	**20 27 03.1**	**-0.9**
FOZ				IAmb		IAmb	20 27 04.9	
	comp=Z,18nm,0.6s							
MLZ	**Mavora Lakes**	**30.11**	**204**	P		**P**	**20 27 23.7**	**+0.2**
MLZ				IAmb		IAmb	20 27 27.6	
	comp=Z,25nm,1.1s							
EIDS	**Eidsvold**	**31.80**	**252**	P		**P**	**20 27 38.3**	**-0.1**
	baz=32,SNR=8.3							
EIDS	**Eidsvold**	**31.80**	**252**	P		**P**	**20 27 38.5**	**0.0**
EIDS				IAmb		IAmb	20 27 39.3	
	comp=Z,68nm,1.2s							
ARMA	**Armidale**	**32.18**	**242**	P		**P**	**20 27 42.3**	**+0.5**
	baz=32,SNR=28							
ARMA	**Armidale**	**32.18**	**242**	P		**P**	**20 27 42.2**	**+0.3**
ARMA				IAmb		IAmb	20 27 45.0	
	comp=Z,22nm,0.6s							
MGCD	**Mangrove Creek**	**33.37**	**237**	P		**P**	**20 27 52.0**	**+0.1**
	baz=34,SNR=5.4							
RMQ	**Roma**	**33.99**	**250**	P		**P**	**20 27 58.1**	**+0.6**
	baz=34,SNR=9.3							
CAN	**Canberra**	**35.68**	**235**	P		**P**	**20 28 11.6**	**-0.2**
CAN				IAmb		IAmb	20 28 16.0	
	comp=Z,43nm,1.4s							
CTAO	**Charters Tower**	**36.20**	**261**	P		**P**	**20 28 15.8**	**-0.5**
CTAO				IAmb		IAmb	20 28 18.2	
	comp=Z,26nm,0.6s							
PMG	**Port Moresby**	**37.40**	**279**	P		**P**	**20 28 26.2**	**-0.2**
	comp=Z,52nm,0.9s,baz=182,slow=8.4,SNR=4.7							
PMG	**Port Moresby**	**37.40**	**279**	P		**P**	**20 28 26.2**	**-0.2**
CMSA	**Cobar Meteorol**	**37.40**	**242**	P		**P**	**20 28 26.1**	**-0.2**
	baz=38,SNR=11							
QLP	**Quilpie**	**38.04**	**250**	P		**P**	**20 28 31.4**	**-0.2**
	baz=38,SNR=17							
MTSU	**Mount Surprise**	**38.21**	**264**	P		**P**	**20 28 32.4**	**-0.9**
	baz=38,SNR=12							
TOO	**Toolangi**	**39.08**	**233**	P		**P**	**20 28 40.1**	**-0.1**
	baz=39,SNR=9.9							
TOO	**Toolangi**	**39.08**	**233**	P		**P**	**20 28 40.0**	**-0.2**
COEN	**Coen**	**39.99**	**270**	P		**P**	**20 28 47.1**	**-0.9**
COEN				IAmb		IAmb	20 28 50.0	
	comp=Z,23nm,0.8s							
MANU	**Manus Island**	**40.00**	**290**	P		**P**	**20 28 48.4**	**+0.3**
MANU				IAmb		IAmb	20 28 49.8	
	comp=Z,38nm,0.8s							
STKA	**Stephens Creek**

SOEI Soe 58.95 270 P P 20 31 11.3 +0.2
SOEI Soe 58.95 270 P P 20 31 12.1 +1.1
comp=Z,188nm,0.8s
TNTI Ternate 59.40 282 P P 20 31 12.9 -1.1
TNTI Ternate 59.40 282 P P 20 31 14.1 +0.2
comp=Z,89nm,1.0s
BATI Baumata 59.41 269 P P 20 31 15.6 +1.6
comp=Z,43nm,0.8s
SANI Sanana 59.68 279 P P 20 31 15.2 -0.6
comp=Z,1µmcomp=Z,128nm,1.1s
SBA Scott Base 60.04 184 P P 20 31 20.3 +3.1
SBA IAmb IAmb 20 31 25.1
comp=Z,48nm,1.3s
VNDA Vanda 60.13 186 P P 20 31 19.6 +1.8
comp=Z,8.4nm,0.8s,baz=10.0,slow=6.2,SNR=26
VNDA Vanda 60.13 186 P P 20 31 20.2 +2.4
PSA00 Pilbara Seismi 60.55 255 P P 20 31 20.7 -1.0
PSA00 IAmb IAmb 20 31 22.1
comp=Z,55nm,1.1s
PSA00 Pilbara Seismi 60.55 255 P P 20 31 20.0 -1.6
PSA00 IAmb IAmb 20 31 21.2
comp=Z,34nm,1.1s
KLBR Kellerberrin 61.16 244 P P 20 31 25.0 -0.6
baz=61,SNR=27
MMRI Maumere 61.19 270 P P 20 31 24.4 -1.6
NWAO Narrogin (SRO) 61.49 242 P P 20 31 27.5 -0.2
baz=62,SNR=6.1
NWAO Narrogin (SRO) 61.49 242 P P 20 31 27.1 -0.7
NWAO IAmb IAmb 20 31 28.5
comp=Z,29nm,1.1s
BLDU Ballidu 62.14 245 P P 20 31 31.5 -0.7
baz=62,SNR=14
MUN Mundaring 62.43 243 P P 20 31 33.7 -0.3
baz=63,SNR=20
KMSI Cibinong 62.48 281 P P 20 31 34.9 +0.3
comp=Z,100nm,0.8s
MORW Morawa 62.89 246 P P 20 31 36.4 -0.7
baz=63,SNR=10
MORW Morawa 62.89 246 P P 20 31 36.4 -0.7
MORW IAmb IAmb 20 31 37.4
comp=Z,56nm,1.4s
LUWI Luwuk 63.05 278 P P 20 31 38.2 -0.1
LUWI Luwuk 63.05 278 P P 20 31 39.6 +1.3
comp=Z,155nm,1.1s
GTOI Gorontalo 63.41 280 P P 20 31 42.0 +1.3
comp=Z,384nmcomp=Z,39nm,1.0s
KAPI Kappang 64.61 273 P P 20 31 48.3 -0.2
KAPI IAmb IAmb 20 31 49.4
comp=Z,36nm,1.3s
PLAI Plampang 65.37 269 P P 20 31 53.1 -0.3
comp=Z,1µmcomp=Z,115nm,1.1s
GIRL Giralia 65.49 253 P P 20 31 54.6 +0.6
baz=66,SNR=5.5
GIRL Giralia 65.49 253 P P 20 31 54.6 +0.6
TOLI2 Tolitoli 65.66 280 P P 20 31 55.2 0.0
TOLI2 IAmb IAmb 20 31 55.9
comp=Z,40nm,1.0s
TWSI Taliwang, Sumb 66.24 268 P P 20 31 58.6 -0.3
comp=Z,651nmcomp=Z,64nm,1.0s
JHJ2 Mitsune 66.82 320 P P 20 32 02.3 +0.2
CASY Casey 66.83 205 P P 20 32 02.5 +0.8
JHJ Hachijo jima 2 66.84 320 P P 20 32 01.7 -0.6
comp=Z,134nm,0.7s,baz=143,slow=5.1,SNR=2.0
SRBI Singaraja 68.01 269 P P 20 32 09.9 -0.1
comp=Z,53nm,1.3s
JYT Yasato 68.75 323 P P 20 32 13.2 -0.9
JAGI Jajag, Banyuwa 68.91 268 P P 20 32 14.3 -1.3
JAGI Jajag, Banyuwa 68.91 268 P P 20 32 14.3 -1.3
comp=Z,2µmcomp=Z,91nm,0.9s
MYLDM Lahad Datu 69.25 283 P P 20 32 18.8 +1.1
MYLDM IAmb IAmb 20 32 21.6
comp=Z,60nm,1.3s
JMM Marumori 69.57 324 P P 20 32 19.5 +0.4
JMM IAmb IAmb 20 32 20.4
comp=Z,19nm,0.9s
JGF Kuroka 70.00 320 P P 20 32 21.6 -0.2
JGF IAmb IAmb 20 32 22.9
comp=Z,19nm,1.0s
INU Inuyama 70.03 320 P P 20 32 21.1 -0.9
INU IAmb IAmb 20 32 23.9
comp=Z,18nm,1.1s
MJAR Matsushiro Arr 70.12 322 P P 20 32 22.3 -0.2
comp=Z,17nm,0.8s,baz=157,slow=6.0,SNR=55
MJAR Matsushiro Arr 70.12 322 P P 20 32 22.3 -0.2
MAJO Matsushiro 70.12 322 P P 20 32 22.3 -0.2
MAJO IAmb IAmb 20 32 23.1
comp=Z,21nm,0.8s
MAT Matsushiro 70.12 322 P P 20 32 22.4 -0.1
MAT eS S 20 41 17.8 +4.2
JWT Wachi 70.98 319 P P 20 32 28.1 +0.3
JWT IAmb IAmb 20 32 33.6
comp=Z,21nm,1.1s
JSD Sado 71.11 323 P P 20 32 29.0 +0.6
JSD IAmb IAmb 20 32 30.0
comp=Z,39nm,1.2s
QSPA South Pole Qui 71.57 180 P P 20 32 33.0 +2.0
QSPA IAmb IAmb 20 32 33.9
comp=Z,32nm,0.8s
KKM Kota Kinabalu 71.68 283 P P 20 32 32.2 -0.3
KKM IAmb IAmb 20 32 33.1
comp=Z,25nm,0.9s
JHS Saijyo 72.25 318 P P 20 32 35.6 +0.3
UGM Wanagama 72.50 267 P P 20 32 37.0 -0.3
JNU Nakatsue 72.57 315 P P 20 32 37.0 -0.3
comp=Z,21nm,0.7s,baz=38,slow=1.6,SNR=16
JNU Nakatsue 72.57 315 P P 20 32 37.3 +0.1
JNU IAmb IAmb 20 32 38.1
comp=Z,28nm,0.9s
JEW Eniwo 72.81 328 P P 20 32 38.6 +0.2
YOJ Yonaguni jima 73.66 303 P P 20 32 44.2 +0.4
SBUM Sibu 74.14 278 P P 20 32 47.3 +0.5
SBUM IAmb IAmb 20 32 48.6
comp=Z,32nm,1.2s
TWG Pinlang 74.43 301 P P 20 32 47.2 -1.1
YULB Yu-li 74.52 302 P P 20 32 47.8 -1.0
YULB IAmb IAmb 20 32 49.3
comp=Z,35nm,0.8s
NACB Ninganchiao 74.65 302 P P 20 32 49.2 -0.3
SAO San Andreas Ge 74.88 42 P P 20 32 50.3 -0.2
SSLB Suanglung 74.98 302 P P 20 32 50.9 -0.5
PEA0B Petropavlovsk- 75.01 344 P P 20 32 50.6 -0.3
PEA0B IAmb IAmb 20 33 06.7
comp=Z,52nm,1.4s
PETK Petropavlovsk- 75.01 344 P P 20 32 51.0 +0.2
comp=Z,10nm,0.7s,baz=120,slow=8.2,SNR=16
TPUB Ta-pu 75.02 301 P P 20 32 51.0 -0.6
YHNB Yeheng 75.06 303 P P 20 32 51.9 0.0
TATO Taipei 75.12 303 P P 20 32 52.2 +0.1
CISI Cisompet, Garu 75.17 267 P P 20 32 51.9 -0.9
CISI Cisompet, Garu 75.17 267 P P 20 32 51.5 -1.3
comp=Z,1µmcomp=Z,82nm,1.2s
YSS Yuzh-Sakhalins 75.26 332 P P 20 32 52.7 +0.3
YSS IAmb IAmb 20 32 54.6
comp=Z,36nm,0.9s
LEM Lembang 75.58 268 P P 20 32 54.1 -1.1
comp=Z,76nm,0.9s,baz=66,slow=4.7,SNR=21
KSM Kuching 75.62 276 P P 20 32 55.7 +0.5
VES Vestal, Richgr 75.87 44 P 20 32 56.9
baz=234
BFSC Mount Baldy Ra 75.91 46 P 20 32 57.5
baz=236
MONP2 Monument Peak 76.03 48 P 20 32 58.5
baz=237
EDW2 Edwards Air Fo 76.05 46 P 20 32 58.5
baz=235
IKP In-Ko-Pah, Jac 76.12 48 P 20 32 59.1
baz=237
O02D Mt. Diablo Mer 76.16 39 P 20 32 59.3
baz=231
ISA Isabella, Lake 76.17 45 P 20 32 59.1
baz=235
ISA Isabella, Lake 76.17 45 P P 20 32 58.8 +0.8
CMB Columbia Colle 76.32 42 P P 20 32 59.2 +0.5
PFO Pinyon Flats O 76.39 47 P 20 33 00.4
baz=237
CBJI Citeko 76.42 268 P P 20 32 59.0 -0.8
comp=Z,3µmcomp=Z,64nm,1.1s
DBJI Dramaga 76.48 268 P P 20 33 00.1 0.0
comp=Z,37nm,1.2s
WDC Whiskeytown Da 76.56 39 P P 20 33 00.9 +1.0
LRMC Laurel Mtn Rad 76.59 45 P 20 33 01.8
baz=235
N02D Trinity Center 76.71 38 P 20 33 02.4
baz=231
CWC Cottonwood Cre 76.88 44 P 20 33 03.1
baz=235

M02C Callahan 76.89 38 P 20 33 03.4
baz=231
BELC Belle Mtn. Jos 76.93 47 P 20 33 03.5
baz=237,SNR=5.9
KSRS Korea Array 77.07 317 P P 20 33 02.8 0.0
comp=Z,14nm,0.9s,baz=136,slow=6.3,SNR=48
GSC Goldstone, Bar 77.09 46 P 20 33 04.3
baz=236
KSAR Wonju Array Be 77.09 317 P P 20 33 03.9 +1.0
BC3 Big Chuckawall 77.12 48 P 20 33 04.9
baz=237
KS19 Wonju Array Si 77.14 317 P P 20 33 03.8 +0.6
KS19 IAmb IAmb 20 33 05.6
comp=Z,29nm,1.1s
HEC Hector,Ludlow 77.15 46 P 20 33 04.6
baz=236
WAKR Walker 77.20 42 P P 20 33 04.6 +0.8
KNMB Chin-men Tao 77.37 301 P P 20 33 05.0 +0.3
BEKR Beckworth 77.44 40 P P 20 33 05.1 0.0
GMRC Granite Mounta 77.59 47 P 20 33 07.1
baz=237
IRM Iron Mountain 77.61 47 P 20 33 07.6
baz=237,SNR=7.1
FURC Furnace Creek, 77.70 45 P 20 33 07.7
baz=236
M04C Macdoel 77.73 38 P 20 33 08.2
baz=231
L04D Klamath Falls 77.73 37 P 20 33 07.9
baz=231
SHOC Shoshone, Teco 77.78 45 P 20 33 08.1
baz=236
NVAR Mina Array Bea 77.88 42 P P 20 33 08.7 +1.1
comp=Z,6.1nm,0.7s,baz=224,slow=9.2,SNR=60
NVAR pP pwP 20 34 08.3 +3.7
comp=Z,4.2nm,0.9s,baz=230,slow=10,SNR=6.1
NVAR Mina Array Bea 77.88 42 P P 20 33 08.5 +0.9
INCN Inchon 77.93 316 P P 20 33 08.5 +0.9
INCN IAmb IAmb 20 33 10.1
comp=Z,29nm,1.2s
NV11 Mina Array Sit 77.97 42 P P 20 33 08.5 +0.5
TPNV Topopah Spring 78.38 45 P 20 33 11.6
baz=236
PDMCI Parker Dam,Lak 78.39 48 P 20 33 12.0
baz=238
MOD Modoc Plateau 78.70 39 P P 20 33 12.5 +0.5
USA0B Ussuriysk Arra 78.74 324 P P 20 33 12.6 +0.7
USRK Ussuriysk Ar. 78.74 324 P P 20 33 12.2 +0.4
comp=Z,8.6nm,1.1s,baz=116,slow=4.4,SNR=16
USRK Ussuriysk Ar. 78.74 324 P P 20 33 12.4 +0.6
KASI Kota Agung 78.92 268 P P 20 33 12.7 -0.9
comp=Z,78nm,1.1s
J05D Fort Rock, OR 79.01 37 P 20 33 15.1
baz=232
LWLI Liwa 79.49 268 P P 20 33 17.9 +1.1
comp=Z,45nm,0.7s
R11A Troy Canyon, C 79.59 44 P 20 33 17.9
baz=236
TUC Tucson 79.80 51 P P 20 33 19.2 +1.2
TUC Tucson 79.80 51 P 20 33 20.1
baz=240
MDJ Mudanjiang 80.34 324 P P 20 33 21.5 +1.0
MDJ IAmb IAmb 20 33 23.0
comp=Z,39nm,1.2s
BRLK Bradley Lake 80.49 12 P P 20 33 21.1 +0.2
BRLK IAmb IAmb 20 33 21.7
comp=Z,17nm,0.9s
I07A Izee 80.49 37 P P 20 33 22.4 +0.9
NJ2 Nanjing 80.55 308 eP P 20 33 23.1 +1.3
NJ2 pmax pmax
comp=Z,12nm,0.5s
DLV T Lat 80.93 286 P P 20 33 24.9 +0.4
DLV IAmb IAmb 20 33 26.9
comp=Z,36nm,1.5s
WUAZ Wupatki 80.96 48 P 20 33 26.2
baz=240
BELA Belgrano 2 81.21 172 P P 20 33 25.2 +0.5
BBB Bella Bella 81.48 27 P P 20 33 26.9 +0.7
comp=Z,13nm,0.7s,baz=154,slow=8.3,SNR=2.0
X18A Snowflake 81.49 49 P P 20 33 27.1 0.0
SUA Susitna One 82.08 12 P 20 33 29.5
baz=204,SNR=5.3
SUA Susitna One 82.08 12 P P 20 33 29.5 +0.1
SUA IAmb IAmb 20 33 30.6
comp=Z,12nm,0.8s
KLR Kul'dur 82.10 328 P P 20 33 29.9 +0.3
comp=Z,3.1nm,0.8s,baz=112,slow=4.9,SNR=7.9
DUG Dugway, Tooele 82.40 43 P 20 33 32.7
baz=238
KNK Knik Glacier 82.49 13 P 20 33 31.8
baz=206
MA2 Magadan 82.55 343 P P 20 33 31.1 -0.6
MA2 IAmb IAmb 20 33 32.5
comp=Z,27nm,1.4s
GHO Glory Hole Cre 82.72 12 P P 20 33 32.6 0.0
GHO IAmb IAmb 20 33 33.8
comp=Z,21nm,0.8s
TMUT Trail Mountain 82.99 45 P P 20 33 35.6 +0.7
TMUT IAmb IAmb 20 33 37.5
comp=Z,15nm,0.7s
MPU Maple Canyon 83.08 44 P P 20 33 35.9 +0.8
SCM Sheep Creek Mo 83.11 13 P P 20 33 34.8 +0.2
SCM IAmb IAmb 20 33 35.9
comp=Z,20nm,0.8s
ANM Nome 83.15 4 P 20 33 35.6
baz=190
ANM Nome 83.15 4 P P 20 33 35.0 +0.3
SPUT South Promonto 83.22 42 P P 20 33 36.4 +0.6
HVU Hansel Valley 83.26 42 P P 20 33 36.8 +0.8
WHN Wuhan 83.29 305 ⇑P P 20 33 37.8 +1.7
WHN pmax pmax
comp=Z,170nm,1.7s
N25K Chitina, Valde 83.52 14 P 20 33 37.1
baz=209
MNTX Cornudas Mount 83.57 54 P 20 33 39.4
baz=244
MNTX Cornudas Mount 83.57 54 P P 20 33 38.6 +1.0
MNTX IAmb IAmb 20 33 40.7
comp=Z,23nm,1.5s
BNM Barren Site 83.73 51 P P 20 33 39.2 +0.5
CTG Chitna Glacier 83.77 16 P 20 33 38.6
baz=212
TIA Tai'an 83.78 311 P P 20 33 39.4 +0.9
TIA pmax pmax
comp=Z,14nm,0.8s
TCUT Toone Canyon 83.79 43 P P 20 33 39.5 +0.8
TCUT IAmb IAmb 20 33 41.0
comp=Z,22nm,0.8s
MVCO Mesa Verde 83.81 48 P 20 33 41.9
baz=241
WAT2 Susitna Watana 83.87 12 P 20 33 38.7
baz=205
TX32 Lajitas Array 83.89 56 P P 20 33 40.2 +0.9
TXAR Lajitas Array 83.89 56 P P 20 33 40.9 +1.6
comp=Z,9.4nm,1.1s,baz=222,slow=5.0,SNR=23
TXAR Lajitas Array 83.89 56 P P 20 33 40.4 +1.0
HWUT Hardware Ranch 83.94 43 P P 20 33 39.3 -0.1
TRF Thorofare Moun 83.99 11 P 20 33 38.9
baz=204,SNR=13
BKNI Bangkinang 84.02 272 P P 20 33 40.3 +0.1
PV18 Skein Mesa, Pa 84.03 47 P P 20 33 40.5 +0.5
PV18 IAmb IAmb 20 33 42.1
comp=Z,15nm,1.2s
CHUM Lake Minchumin 84.04 10 P 20 33 38.9
baz=202
PV01 Paradox Valley 84.21 47 P P 20 33 41.5 +0.5
ANMO Albuquerque 84.22 50 P P 20 33 41.9 +0.9
ANMO Albuquerque 84.22 50 P 20 33 42.5
baz=243
RND Reindeer 84.22 12 P P 20 33 40.3 +0.1
MAW Mawson 84.27 199 P P 20 33 41.3 +0.9
comp=Z,10nm,0.6s,baz=210,slow=2.7,SNR=2.0
MAW Mawson 84.27 199 P P 20 33 41.4 +0.9
BPAW Bear Paw Mtn. 84.47 10 P 20 33 40.3
baz=203
BPAW Bear Paw Mtn. 84.47 10 P P 20 33 40.7 -0.7
MCK McKinley 84.50 11 P 20 33 41.6
baz=205,SNR=14
MCK McKinley 84.50 11 P P 20 33 41.6 +0.1
MCMT McKenzie Canyo 84.83 39 P P 20 33 44.9 +1.0
UBPT Khong Chiam 84.85 288 P P 20 33 44.9 +0.6
UBPT IAmb IAmb 20 33 46.5
comp=Z,34nm,1.3s
H03S2 Juan Fernandez 85.07 124 T T 22 07 22.1
baz=249,slow=75,SNR=20
H03S1 Juan Fernandez 85.08 124 T T 22 07 21.9
baz=249,slow=75,SNR=23

H03S3 Juan Fernandez 85.08 124 T T 22 07 20.8
baz=249,slow=75,SNR=30
S22A 4UR Ranch, Cre 85.24 48 P 20 33 47.9
baz=242,SNR=8.9
DLBC Dease Lake 85.25 22 P P 20 33 46.1 +0.6
comp=Z,7.8nm,0.9s,baz=201,slow=6.5,SNR=11
DLBC Dease Lake 85.25 22 P P 20 33 46.2 +0.7
NEA2 Nenana 85.26 11 P 20 33 45.0
baz=205,SNR=6.4
WRH Wood River Hil 85.33 11 P P 20 33 45.6 +0.1
WHY Whitehorse 85.35 19 P P 20 33 46.7 +0.8
IPM Ipoh 85.35 276 P P 20 33 47.5 +0.5
IPM IAmb IAmb 20 33 48.4
comp=Z,24nm,0.8s
O20A White River Ci 85.39 45 P 20 33 47.8
baz=241
DOT Dot Lake 85.43 13 P P 20 33 46.5 +0.4
DOT IAmb IAmb 20 33 47.6
comp=Z,18nm,0.8s
BCAR Beaver Creek A 85.45 15 P P 20 33 46.5 +0.2
HDA Harding Lake 85.50 12 P 20 33 46.6
baz=207,SNR=22
HDA P 20 33 46.6
baz=207,SNR=22
I23K Minto, Yukon-K 85.71 11 P 20 33 47.4
baz=205,SNR=11
I23K Minto, Yukon-K 85.72 11 P P 20 33 47.2 -0.2
I23K IAmb IAmb 20 33 48.3
comp=Z,23nm,1.2s
SCRK Sand Creek 85.73 13 P 20 33 48.2
baz=210
SCRK Sand Creek 85.73 13 P P 20 33 48.1 +0.4
SCRK IAmb IAmb 20 33 48.7
comp=Z,9.8nm,0.8s
TCOL CIGO, UAF Yank 85.74 11 P 20 33 47.7
baz=206,SNR=10
COLA College 85.74 11 P 20 33 47.7
baz=206
COLA College 85.74 11 P P 20 33 47.5 -0.1
IMAR Indian Mountai 85.79 9 P P 20 33 48.2 +0.4
PD31 Pinedale Array 85.81 42 P P 20 33 48.6 -0.2
PDAR Pinedale Array 85.81 42 P P 20 33 49.3 +0.5
comp=Z,0.9nm,0.6s,baz=213,slow=5.0,SNR=10
PDAR pP pwP 20 34 48.8 -0.5
comp=Z,3.0nm,1.0s,baz=209,slow=2.7,SNR=6.1
PDAR PKKPbc PKKPbc 20 51 48.1 -2.5
comp=Z,0.3nm,0.6s,baz=69,slow=4.9,SNR=3.5
IL31 85.83 12 P P 20 33 47.8 -0.2
IL31 IAmb IAmb 20 33 49.2
comp=Z,35nm,1.4s
ILAR Eielson Array 85.83 12 P P 20 33 47.9 -0.2
comp=Z,16nm,1.0s,baz=228,slow=6.2,SNR=76
ILAR pP pwP 20 34 50.6 +1.7
comp=Z,1.7nm,0.8s,baz=197,slow=6.6,SNR=3.0
ILAR Eielson Array 85.83 12 P P 20 33 47.7 -0.4
KULM Kulim 85.97 277 P P 20 33 50.7 +0.8
KULM IAmb IAmb 20 33 52.2
comp=Z,35nm,1.4s
POKR Poker Plat Res 86.04 11 P 20 33 48.8
baz=206,SNR=11
POKR Poker Plat Res 86.04 11 P P 20 33 48.8 -0.2
POKR IAmb IAmb 20 33 50.0
comp=Z,19nm,0.8s
K27K Chicken 86.20 14 P 20 33 51.2
baz=211
BJT Baijiatuau 86.23 314 P P 20 33 51.3 +0.7
BJT IAmb IAmb 20 33 54.4
comp=Z,36nm,1.4s
BJI Beijing 86.24 314 P P 20 33 51.5 +0.9
BJI pmax pmax
comp=Z,10.0nm,1.1s
MSTX Muleshoe 86.53 53 P 20 33 53.7
baz=245
PRP Porcupine Dome 86.76 12 P 20 33 53.1
baz=208,SNR=7.8
PRP Porcupine Dome 86.76 12 P P 20 33 53.0 +0.2
PRP IAmb IAmb 20 33 54.2
comp=Z,17nm,1.3s
RPSI Rantau Prapat 86.77 274 P P 20 33 53.8 0.0
RPSI IAmb IAmb 20 33 55.0
comp=Z,34nm,1.2s
RDOG Red Dog Mine 86.78 5 P 20 33 53.2
baz=192
RDOG Red Dog Mine 86.78 5 P P 20 33 53.1 +0.6
PSI Prapat 86.80 274 P P 20 33 53.5 -0.7
comp=Z,12nm,0.8s,baz=180,slow=5.2,SNR=14
ENH Enshi 86.99 303 P P 20 33 55.4 +0.9
EGAK Eagle 87.05 14 P 20 33 54.5
baz=212
EGAK Eagle 87.05 14 P P 20 33 54.3 +0.4
EGAK IAmb IAmb 20 33 55.6
comp=Z,11nm,1.0s
N23A Red Feather La 87.30 45 P 20 33 57.5
baz=243
COLD Coldfoot 87.48 10 P 20 33 57.1
baz=204
COLD Coldfoot 87.48 10 P P 20 33 56.3 +0.4
GSI Gunungsitoli 87.61 272 P P 20 33 58.9 +1.0
GSI IAmb IAmb 20 34 01.2
comp=Z,24nm,0.8s
GSI Gunungsitoli 87.61 272 P P 20 33 58.8 +1.0
comp=Z,42nm,1.2s
AMTX Amarillo 87.73 52 P 20 33 59.5
baz=246
GYA Guiyang 87.84 299 ⇑P P 20 34 00.5 +1.8
GYA pmax pmax
comp=Z,19nm,1.4s
SLVN Son La 88.36 293 P P 20 34 02.2 +1.0
SLVN IAmb IAmb 20 34 04.3
comp=Z,27nm,1.4s
ABTX Abilene, Hawle 88.38 55 P 20 34 02.5
baz=247
HIA Hailar 88.53 324 P P 20 34 01.8 +0.4
BMAR Burnt Mountain 88.63 11 P P 20 34 02.6 +1.1
TOLK Toolik Lake Re 88.87 9 P 20 34 03.0
baz=204
TOLK Toolik Lake Re 88.87 9 P P 20 34 02.9 +0.3
XAN Xi'an 88.91 306 P P 20 34 05.4 +1.9
XAN sP pwP 20 35 14.3 +9.4
XAN pmax pmax
comp=Z,26nm,1.6s
XAN Xi'an 88.91 306 P P 20 34 04.9 +1.4
XAN IAmb IAmb 20 34 06.2
comp=Z,32nm,1.2s
EPYK Eagle Plains 89.41 15 P 20 34 05.6
baz=216
HHC Hu-ho-hao-te 89.75 313 eP P 20 34 08.6 +1.2
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,120nm,6.6s
SNAA Sanae 89.92 178 P P 20 34 08.3 +0.7
SNAA Sanae 89.92 178 P P 20 34 08.1 +0.4
VNA3 Neumayer Olymp 89.95 175 P P 20 34 08.1 +0.4
VNA2 Neumayer--Watz 90.43 176 P P 20 34 11.0 +1.1
baz=197,slow=3.2
VNA1 Neumayer--Stat 90.64 176 P P 20 34 12.2 +1.4
KMI Kunming 90.67 296 ⇓P P 20 34 13.8 +1.7
KMI pmax pmax
comp=Z,23nm,1.3s
KMI pmax pmax
comp=Z,240nm,5.1s
KMI Kunming 90.67 296 P P 20 34 13.0 +0.9
BTO Baotou 90.72 313 eP P 20 34 13.8 +1.9
BTO S S 20 44 49.8 +2.9
BTO LR LR
comp=Z,710nm,7.3s
BTO LR LR
comp=Z,730nm,5.9s
BTO LR LR
comp=Z,660nm,15.3s
YAK Yakutsk 91.20 337 P P 20 34 12.9 -0.5
comp=Z,2.1nm,0.3s,baz=93,slow=0.5,SNR=8.3
YAK Yakutsk 91.20 337 P P 20 34 12.3 -1.1
YAK IAmb IAmb 20 34 13.4
comp=Z,11nm,0.7s
INK Inuvik 91.71 14 P P 20 34 15.7 +0.1
INK IAmb IAmb 20 34 16.9
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr 91.80 289 P P 20 34 18.1 +0.9
comp=Z,21nm,1.1s,baz=106,slow=2.8,SNR=77
CMAR Chiang Mai Arr 91.80 289 P P 20 34 18.3 +1.0
DGMT Dagmar 91.81 39 P 20 34 18.3
baz=244
DGMT Dagmar 91.81 39 P P 20 34 17.8 +1.2
CHTO Chiang Mai 91.91 289 P P 20 34 18.7 +1.0

T35A Sooner Cattle 92.39 52 P **P** 20 34 19.7 +0.2
T35A IAmb IAmb 20 34 21.7
comp=Z,15nm,1.0s
YKA Yellowknife Ar 93.67 24 P **P** 20 34 24.8 0.0
comp=Z,3.8nm,0.8s,baz=233,slow=4.0,SNR=49
YKA pP **pwP** 20 35 27.6 +1.4
comp=Z,0.7nm,0.9s,baz=228,slow=4.0,SNR=3.7
W39A Magazine 93.85 54 P 20 34 27.7
baz=250
ECSD EROS Data Cent 94.77 46 P **P** 20 34 30.9 +0.6
ECSD IAmb IAmb 20 34 31.7
comp=Z,6.4nm,0.9s
ECSD EROS Data Cent 94.77 46 P 20 34 31.1
baz=249,SNR=6.9
C36M Paulatuk 94.83 16 P 20 34 29.9
baz=228
ULN Ulaanbaatar 95.48 319 P **P** 20 34 34.4 +0.7
ULN IAmb IAmb 20 34 35.8
comp=Z,5.1nm,1.2s
MGMO Mountain Grove 95.66 53 P **P** 20 34 34.7 +0.2
MGMO IAmb IAmb 20 34 36.4
comp=Z,12nm,0.9s
F33A 5 Mile Ranch, 95.72 44 P **P** 20 34 34.9 +0.3
F33A IAmb IAmb 20 34 35.9
comp=Z,6.7nm,0.9s
SONM Songino Array 95.89 318 P **P** 20 34 35.2 -0.2
SONM PP **PP** 20 38 30.0 -1.3
comp=Z,1.8nm,1.0s,baz=106,slow=4.2,SNR=9.2
comp=Z,0.6nm,1.0s,baz=124,slow=8.0,SNR=2.8
SONM Songino Array 95.89 318 P **P** 20 34 35.8 +0.4
TIXI Tiksi 97.46 345 P **P** 20 34 41.3 -0.5
comp=Z,3.2nm,0.8s,baz=105,slow=4.1,SNR=7.6
TIXI Tiksi 97.46 345 P **P** 20 34 41.3 -0.5
TIXI IAmb IAmb 20 34 42.4
comp=Z,4.9nm,0.9s
GTA Gaotai 97.63 309 *e*P Pdif 20 34 43.8 +0.2
GTA pP pP 20 35 34.6 -7.5
GTA sP pwP 20 35 54.8 +10
GTA pmax pmax
comp=Z,2.0nm,0.8s
ZSN Zaisan 109.92 315 *e*PKiKP **PKiKP** 20 39 38.1 -0.6
baz=315
ZALV Zalesovo Beam 110.48 322 PKiKP **PKiKP** 20 39 38.8 -0.7
comp=Z,3.1nm,0.6s,baz=86,slow=1.6,SNR=16
ZALV PP **PP** 20 40 15.6 -3.8
comp=Z,0.6nm,0.6s,baz=98,slow=6.0,SNR=3.8
MKAR Makanchi Array 111.61 314 Pdiff **Pdif** 20 35 47.4 +1.9
comp=Z,0.4nm,0.8s,baz=82,slow=6.5,SNR=2.9
MKAR PKiKP **PKiKP** 20 39 41.2 -0.7
comp=Z,1.5nm,0.4s,baz=109,slow=1.5,SNR=65
MKAR PP **PP** 20 40 27.4 -0.4
comp=Z,1.1nm,1.0s,baz=76,slow=6.1,SNR=4.2
MKAR PKKPbc **PKKPbc** 20 50 37.4 -0.5
comp=Z,0.3nm,0.6s,baz=273,slow=2.6,SNR=4.1
SATY Saty 114.13 310 *e*PKiKP PKPdf 20 39 46.3 -0.6
baz=310
KURBB Kurchatov Arra 114.24 318 PKP PKPdf 20 39 46.0 -0.7
comp=Z,2.7nm,0.6s,baz=95,slow=1.8,SNR=46
KURBB PP **PP** 20 40 41.6 -4.6
comp=Z,0.7nm,0.9s,baz=92,slow=6.2,SNR=4.9
TNSS Tian-Shan 115.19 309 *e*PKP **PKPdf** 20 39 47.8 -1.5
baz=310
KSH Kashi 115.76 306 PKP **PKPdf** 20 39 47.4 -2.8
KSH PP **PP** 20 40 59.3 +1.9
KSH PKS **PKSdf** 20 43 24.3 -2.7
KSH AMB AMB
comp=Z,320nm,5.3s
NOR Nord 116.22 3 IAML 20 40 34.0
comp=Z,1.8nm,0.3s
SGDS Sogindy 116.89 310 *e*PKP **PKPdf** 20 39 51.2 -1.0
baz=310
AAK Ala-Archa 116.99 309 PKP **PKPdf** 20 39 52.1 -0.4
comp=Z,1.7nm,0.7s,baz=133,slow=6.8,SNR=7.3
AAK Ala-Archa 116.99 309 **PKPdf** 20 39 51.8 -0.8
BTLS Baital 117.31 312 *e*PKP **PKPdf** 20 39 52.0 -0.8
baz=312
BRZS Berezniki 118.02 317 *e*PKP **PKPdf** 20 39 52.8 -1.3
baz=317
BVAR Borovoye Array 119.11 321 PKP **PKPdf** 20 39 55.2 -0.8
comp=Z,3.6nm,0.3s,baz=46,slow=8.5,SNR=55
DZA Taraz 119.31 309 *e*PKP **PKPdf** 20 39 56.1 -0.7
baz=309
IUG Iuzhnay 120.30 308 *e*PKP **PKPdf** 20 39 57.9 -0.9
baz=308
ARU Arti 124.92 327 PKP **PKPdf** 20 40 07.1 0.0
comp=Z,2.8nm,0.5s,baz=345,slow=1.0,SNR=18
ARU Arti 124.92 327 PKPdf **PKPdf** 20 40 06.8 -0.3
AKTO Aktyubinsk 127.18 320 PKP **PKPdf** 20 40 11.7 +0.1
comp=Z,2.9nm,0.8s,baz=75,slow=1.8,SNR=8.7
ARCES ARCESS Array B 127.37 351 PKP **PKPdf** 20 40 11.4 0.0
comp=Z,2.5nm,0.4s,baz=94,slow=0.5,SNR=27
BOSA Boshof 129.10 204 PKP **PKPdf** 20 40 16.7 -0.3
comp=Z,3.1nm,0.7s,baz=129,slow=0.9,SNR=7.5
GEYT Alibeck 129.75 304 PKP **PKPdf** 20 40 16.4 -0.5
comp=Z,2.3nm,0.7s,baz=32,slow=5.8,SNR=6.0
GEYT PP **PP** 20 42 29.2 -2.1
comp=Z,1.2nm,0.5s,baz=64,slow=5.3,SNR=4.9
GEYT Alibeck 129.75 304 PKPdf **PKPdf** 20 40 17.3 +0.3
FINES FINESS Array B 134.50 346 PKHKP PKPpre 20 40 10.2
comp=Z,1.1nm,0.8s,baz=47,slow=2.7,SNR=3.6
FINES PKP **PKiKP** 20 40 26.4 -0.2
comp=Z,2.8nm,0.5s,baz=20,slow=4.4,SNR=12
FINES FINESS Array B 134.50 346 **PKPdf** 20 40 25.3 +0.2
NB2 NORSAR Subarra 137.24 355 PKPdf PKPdf 20 40 21.5 -8.8
comp=Z,4.1nm,1.1s,baz=14,slow=1.8
NOA NORSAR Array B 137.24 355 PKHKP PKPpre 20 40 19.3
comp=Z,0.1nm,0.5s,baz=15,slow=4.6,SNR=1.7
NOA PKP **PKPdf** 20 40 29.9 -0.4
comp=Z,1.3nm,0.9s,baz=13,slow=4.0,SNR=4.6
KBZ Khabaz 139.22 317 PKP **PKPdf** 20 40 34.0 -0.3
comp=Z,1.9nm,0.8s,baz=194,slow=4.2,SNR=2.7
AKASG Malin Array Be 142.37 334 PKHKP PKPpre 20 40 34.8
comp=Z,1.6nm,0.3s,baz=39,slow=4.2,SNR=23
KMBO Kilima Mbogo 142.46 242 PKHKP PKPpre 20 40 38.0
comp=Z,2.8nm,0.8s,baz=67,slow=4.6,SNR=9.8
BNGB Bingl 142.70 311 *e*P **PKPdf** 20 40 38.1 -2.9
ILIC ilic-Erzincan 144.00 313 *e*P **PKPdf** 20 40 43.2 -0.1
HPK Haverah Park 144.27 6 *e*P **PKPab** 20 40 41.7 0.0
HPK IAmb IAmb 20 40 42.8
comp=Z,17nm,0.8s
BEL Belsk 144.37 343 *e*PKP **PKPdf** 20 40 43.7 +0.4
RSDY Resadiye-TOKAT 144.43 315 *e*P **PKPdf** 20 40 44.3 +0.4
WLF1 Llynfaes 144.57 9 *e*P **PKPab** 20 40 42.7 -0.1
YRC Rhoscolyn 144.58 10 *e*P **PKPab** 20 40 42.8 0.0
MALT Malatya 144.59 311 *e*P **PKPdf** 20 40 45.1 +0.8
URFA Urfa 144.65 309 *e*P PKPbc 20 40 43.9 +0.1
SORM Soroca 144.69 332 ⇑P **PKPdf** 20 40 43.8 -0.1
LBWR Ladybower, Pea 144.81 7 *e*P PKPbc 20 40 43.6 0.0
SVSK Karacayir 144.88 314 *e*P **PKPdf** 20 40 46.0 +1.5
KVT Kavak 144.94 317 *e*P **PKPab** 20 40 45.9 +1.2
SNOP Sinop 144.99 319 *e*P **PKPab** 20 40 45.0 +0.2
TOKT Tokat 144.99 315 *e*P **PKPab** 20 40 45.7 +0.7
STNC Stoke 145.06 7 *e*P **PKPab** 20 40 45.0 +0.3
STNC IAmb IAmb 20 40 45.9
comp=Z,79nm,0.8s
LLW Llanuwchllyn 145.10 9 *e*P **PKPdf** 20 40 44.4 -0.1
LLW IAmb IAmb 20 40 45.9
comp=Z,23nm,1.0s
SBD1 Bryn Du 145.11 8 *e*P **PKiKP** 20 40 51.0 +2.5
DARE Darende-Malaty 145.15 312 *e*P **PKPab** 20 40 46.8 +1.1
RUE Ruedersdorf 145.33 350 *e*PKPbc **PKPab** 20 40 46.3 +0.6
baz=12,slow=2.6
CWF Charnwood Fore 145.51 6 *e*P **PKPdf** 20 40 44.7 -0.5
CWF IAmb IAmb 20 40 46.3
comp=Z,71nm,1.0s
KWP Kalwaria Pacla 145.70 339 *e*PKP **PKPab** 20 40 47.1 -0.2
RSBS Rosebush, Pemb 145.80 10 *e*P **PKPbc** 20 40 46.6 -0.1
FLTG Flechtingen 145.83 353 *e*PKPbc **PKPab** 20 40 47.9 +0.3
baz=12,slow=2.6
GAZ Gaziantep 145.93 310 *e*P **PKPab** 20 40 48.7 0.0
KMRS Kahramanmaras 146.02 311 *e*P **PKPab** 20 40 48.7 -0.3
MCH1 Michaelchurch 146.03 8 *e*P **PKPbc** 20 40 47.3 -0.1
MCH1 IAmb IAmb 20 40 48.2
comp=Z,30nm,0.7s
VASR Vaslui 146.06 331 ⇑P **PKPab** 20 40 48.8 +0.1
ASSE Asse, Remlinge 146.09 353 *e*pPKPbc pPKPbc 20 41 54.5 +6.7
OJC Ojcow 146.10 342 *e*PKP **PKPab** 20 40 48.3 -0.5
BNN Bunyan 146.16 313 *e*P **PKPbc** 20 40 48.2 -0.3
MONM Monmouth 146.21 8 *e*P **PKPbc** 20 40 48.2 +0.2
MONM IAmb IAmb 20 40 48.9
comp=Z,66nm,0.9s
KSP Ksiaz 146.41 347 *e*PKP **PKPab** 20 40 49.5 -0.4
CLZ Clausthal 146.41 354 *e*PKPbc **PKPab** 20 40 50.2 +0.2
baz=12,slow=2.6
CLZ *e*pPKPbc pPKPab 20 41 56.0 +6.5
BIR Birlad 146.41 331 ⇑P **PKPab** 20 40 49.9 -0.2

BURAR Bucovina Array 146.43 335 ⇓P **PKPab** 20 40 50.7 +0.4
KOLS Kolonicke sedl 146.44 339 *e*PKP **PKPbc** 20 40 49.0 +0.2
VARL Varlezi 146.58 330 ⇓P **PKPab** 20 40 50.2 -0.5
BIZ Bicaz 146.59 333 ⇓P **PKPab** 20 40 50.5 -0.3
CLL Collm 146.59 350 ⇓*i* PKPbc **PKPbc** 20 40 49.5 +0.5
comp=Z,41nm,1.0s
CLL *i* 20 41 04.8
CLL *i* pPKPbc pPKPab 20 41 55.6 +5.5
comp=Z,22nm,1.4s
CLL Collm 146.59 350 *e*PKPbc **PKPab** 20 40 50.2 -0.4
baz=12,slow=2.6
TLCR 146.62 328 ⇑P **PKPab** 20 40 50.3 -0.7
NIE Niedzica 146.66 341 *e*PKP **PKPab** 20 40 50.6 -0.4
TESR Tescani 146.68 332 ⇓P **PKPbc** 20 40 49.9 +0.5
OSTC Ostas 146.70 347 *e*PKP **PKPab** 20 40 50.5 -0.6
CHVC Chvalec 146.70 347 *e*PKP **PKPbc** 20 40 50.2 +0.7
CRVS Cervenica-Dubn 146.75 340 *e*PKP **PKPab** 20 40 50.6 -0.8
GTTG Gottingen 146.75 354 *e*PKPbc **PKPab** 20 40 51.0 -0.2
baz=12,slow=2.6
GTTG *e*pPKPbc pPKPab 20 41 56.9 +6.2
UPC Upice 146.79 347 *e*PKP **PKPab** 20 40 50.6 -0.9
KOZT Kozan 146.80 311 *e*P **PKPbc** 20 40 50.7 +0.6
BRG Berggiesshubel 146.85 349 *e*PKP **PKPbc** 20 40 49.1 -0.7
BRG Amp 20 40 51.8
comp=Z,25nm,1.1s
BRG *ex* x 20 41 05.8
BRG Amp 20 41 07.5
comp=Z,6.6nm,0.8s
BRG *ex* x 20 41 54.9
BRG Amp 20 41 59.5
comp=Z,3.6nm,0.9s
BRG Berggiesshubel 146.85 349 *e*PKPbc **PKPab** 20 40 51.3 -0.4
baz=12,slow=2.6
NEUB Neuenburg 146.87 352 *e*PKPbc **PKPab** 20 40 51.3 -0.4
baz=12,slow=2.6
DPC Dobruska-Polom 146.87 346 *e*PKP **PKPab** 20 40 51.0 -0.8
FBE Freiberg 146.91 350 *e*PKPbc **PKPab** 20 40 51.9 0.0
baz=12,slow=2.6
WOL Wolverton 146.92 7 *e*P **PKPbc** 20 40 49.7 -0.2
CFR Carcaliu 146.97 329 ⇑P **PKPbc** 20 40 51.1 +0.8
KRLC Kraliky 147.02 346 *e*PKP **PKPbc** 20 40 51.1 +0.7
ODBI Odobesti 147.05 331 ⇓P **PKPab** 20 40 52.2 -0.5
TPGR Topolog 147.06 328 ⇑P **PKPab** 20 40 51.8 -1.0
BMR Baia Mare 147.06 336 ⇑P **PKPab** 20 40 51.6 -1.0
CEYT Ceyhan 147.06 310 *e*P **PKPbc** 20 40 51.8 +1.0
PVCC Panska Ves 147.06 348 *e*PKP **PKPbc** 20 40 51.4 +1.0
MORC Moravsky Berou 147.11 345 ⇑P **PKPab** 20 40 51.8 -1.1
MORC Moravsky Berou 147.11 345 *e*PKP **PKPbc** 20 40 51.2 +0.6
VRI Vrincioaia 147.13 331 ⇓P **PKPbc** 20 40 51.7 +1.0
LANS Liptovska Anna 147.15 342 *e*PKP **PKiKP** 20 40 52.4 -0.5
PLOR Plostina 147.18 331 ⇓P **PKPbc** 20 40 51.7 +0.7
ARCR ARCALIA 147.20 335 ⇑P **PKiKP** 20 40 52.3 -0.8
BRTR Keskin Array B 147.22 316 PKP **PKPdf** 20 40 48.5 -0.2
comp=Z,13nm,0.8s,baz=90,slow=1.4,SNR=41
BRTR PKPbc **PKPbc** 20 40 51.8 +0.4
comp=Z,17nm,0.9s,baz=142,slow=4.4,SNR=52
HARR Harsova 147.42 328 ⇓P **PKiKP** 20 40 52.7 -0.9
MOX Moxa 147.44 352 *e*PKPbc **PKiKP** 20 40 52.9 -0.5
baz=12,slow=2.6
UBBA Unterbreizbach 147.46 354 *e*PKPbc **PKiKP** 20 40 52.9 -0.4
baz=12,slow=2.6
PLN Plauen 147.52 351 *e*PKPbc **PKiKP** 20 40 53.1 -0.5
baz=12,slow=2.6
PRA Prague 147.53 348 *e*PKP **PKiKP** 20 40 52.7 -0.9
WERD Werda 147.53 351 *e*PKPbc **PKiKP** 20 40 53.3 -0.4
baz=12,slow=2.6
TANN Tannenbergstha 147.54 351 *e*PKPbc **PKiKP** 20 40 53.3 -0.4
baz=12,slow=2.6
PRU Pruhonice 147.59 348 *e*PKP **PKPbc** 20 40 52.5 +0.7
PRU *e*pPKP **pPKPab** 20 42 02.2 +8.3
GUNZ Gunzen 147.61 351 *e*PKPbc **PKiKP** 20 40 53.6 -0.2
baz=12,slow=2.6
DOPR Dopca 147.65 332 ⇑P **PKiKP** 20 40 53.7 -0.3
NEHR Nehoiu 147.66 331 ⇑P **PKPbc** 20 40 53.0 +0.8
WERN Wernitzgruen 147.68 351 *e*PKPbc **PKiKP** 20 40 53.8 -0.1
baz=12,slow=2.6
LOD Lodumlu 147.70 317 *e*P **PKPbc** 20 40 52.4 -0.2
NKC Novy Kostel 147.72 351 *e*PKP **PKPbc** 20 40 52.6 +0.4
AFSR Afar-Bala (An 147.74 316 *e*P **PKPbc** 20 40 52.6 -0.1
MLR Muntele Rosu 147.77 331 ⇑P **PKPbc** 20 40 53.4 +0.7
VRAC Vranov 147.78 345 *e*PKP **PKPbc** 20 40 53.1 +0.7
CJR Cluj-Napoca 147.81 335 ⇓P **PKiKP** 20 40 53.5 -0.9
JAVC Velka Javorina 147.92 344 *e*PKP **PKiKP** 20 40 54.6 +0.1
VYHS Vyhne 147.92 342 *e*PKP **PKiKP** 20 40 53.8 -0.7
MEM Membach 147.94 358 *d*PKPab **PKPab** 20 40 56.3 +0.3
BTNL Ternell 147.96 358 *d*PKiKP **PKiKP** 20 40 54.1 -0.4
BSTI Sart Tilman 147.97 359 *d*PKP **PKPbc** 20 40 53.3 +0.5
BSTI *d*PKPab **PKPab** 20 40 56.7 +0.5
PBCC Pribram 147.98 348 *e*PKP **PKPbc** 20 40 53.7 +0.8
MANZ Manzenberg 148.01 351 *e*PKPbc **PKiKP** 20 40 54.7 +0.1
baz=12,slow=2.6
KRUC Moravsky 148.05 345 *e*PKP **PKPbc** 20 40 53.3 +0.2
SNF Seneffe 148.05 0 *d*PKPab **PKPab** 20 40 56.7 +0.2
SECR 148.06 331 ⇓P **PKPbc** 20 40 53.8 +0.5
MBAR Mbarara 148.08 236 *e*P PKPdf 20 40 39.9 -11
MBAR *e*S **PKiKP** 20 40 56.6 +0.6
DRGR 148.09 336 ⇑P **PKiKP** 20 40 54.3 -0.6
PSZ Piszkesteto 148.11 340 ⇓P **PKPbc** 20 40 54.0 +0.6
BCLA Clavier 148.14 359 *d*PKPab **PKPab** 20 40 56.9 +0.1
BGES Gesves 148.18 359 *d*PKPab **PKPab** 20 40 57.0 0.0
TNS Taunus Mts 148.19 355 *e*PKPbc **PKiKP** 20 40 54.9 -0.2
baz=12,slow=2.6
ROTZ Rotzenmuhle 148.21 351 *e*PKPbc **PKiKP** 20 40 55.2 +0.1
baz=12,slow=2.6
VOIR 148.22 332 ⇑P **PKPbc** 20 40 54.4 +0.6
BMRD Maredsous 148.26 360 *d*PKPab **PKPab** 20 40 57.2 -0.2
SMOL Smolenice 148.30 344 *e*PKP **PKiKP** 20 40 55.4 +0.1
SMOL *e* 20 40 59.0
MDUB Mudurnu 148.36 319 *e*P **PKPbc** 20 40 53.8 -0.5
KIZK Mersin 148.45 311 *e*P **PKPbc** 20 40 54.9 +0.4
ARR Arges 148.45 333 ⇑P **PKiKP** 20 40 55.7 0.0
MODS Modra-Piesok 148.47 344 *e*PKP **PKPbc** 20 40 54.9 +0.7
DOU Dourbes 148.47 0 *d*PKiKP **PKPbc** 20 40 54.6 +0.5
DOU *d*PKPab **PKPab** 20 40 58.1 0.0
KHC Kasperske Hory 148.59 349 *e*PKP **PKPdf** 20 40 54.4 +0.8
KHC *ex* x 20 40 55.3
KHC *ex* x 20 41 10.5
KHC *ex* x 20 42 03.6
ZST Bratislava 148.68 344 *e*PKP **PKiKP** 20 40 55.6 -0.4
SRO Srobarova 148.69 342 *e*PKP **PKiKP** 20 40 56.1 +0.1
SRO *e* 20 41 00.7
SRO2 Moca 148.71 342 *e*PKP **PKPbc** 20 40 55.4 +0.6
CKRC Cesky Krumlov 148.74 348 *e*PKP **PKPdf** 20 40 51.5 +0.7
CKRC *ex* x 20 40 55.6
CKRC *ex* x 20 42 01.8
GEC2 GERESS Array S 148.84 348 *e*PKPbc **PKiKP** 20 40 56.6 +0.1
baz=12,slow=2.6
GERES GERESS Array B 148.84 348 PKP **PKPdf** 20 40 51.2 +0.1
comp=Z,8.2nm,0.8s,baz=75,slow=1.1,SNR=13
GERES PKPbc **PKPbc** 20 40 55.6 +0.3
comp=Z,8.1nm,0.8s,baz=24,slow=2.3,SNR=46
GERES pPKPbc **pPKPab** 20 42 00.6 +1.5
comp=Z,1.9nm,0.8s,baz=33,slow=3.2,SNR=3.1
JLP Les Platons 148.84 9 *e*P **PKPbc** 20 40 55.5 +0.5
JVM Valle D.L. Mar 148.85 9 *e*P **PKPbc** 20 40 55.5 +0.4
LADK Ladik-KONYA 148.86 315 *e*P **PKPbc** 20 40 54.5 -1.2
WLF Walferdange 148.88 358 *d*PKiKP **PKiKP** 20 40 56.3 0.0
WLF *dx* x 20 41 12.5
WLF Walferdange 148.88 358 *e*PKPbc **PKiKP** 20 40 57.2 +0.9
baz=12,slow=2.6
JSA Saint Aubin 148.89 9 *e*P **PKPbc** 20 40 54.7 -0.5
JSA IAmb IAmb 20 40 55.3
comp=Z,41nm,0.8s
IKL Isikli 148.89 311 *e*P **PKPbc** 20 40 55.8 +0.2
SIRR Siria 148.93 337 ⇓P **PKPbc** 20 40 55.8 +0.4
SRCK Saricakaya, Es 148.96 319 *e*P **PKPbc** 20 40 55.9 +0.2
TEVE Tevekalti-Mers 148.97 311 *e*P **PKiKP** 20 40 56.6 -0.5
BERE Bereket-Mersin 149.17 311 *e*P **PKPbc** 20 40 57.0 +0.5
GZR Gura Zlata 149.22 335 ⇑P **PKPbc** 20 40 56.5 +0.2
CONA Conrad Observa 149.24 345 *i* P **PKiKP** 20 40 57.1 -0.2
comp=Z,36nm,1.3s,SNR=16
CONA *e*S **pPKPab** 20 42 03.7 +3.0
comp=Z,9.8nm,1.1s,SNR=4.8
TEKE Tekeli-Mersin 149.34 311 *e*P **PKPbc** 20 40 56.8 0.0
ZIMR 149.43 330 ⇑P **PKiKP** 20 40 58.0 +0.3
BZS Buzias 149.49 336 ⇑P **PKPbc** 20 40 56.5 -0.3
STU Stuttgart 149.57 354 *e*PKPbc **PKiKP** 20 40 58.5 +0.7
baz=12,slow=2.6
VLAD Vladila 149.62 331 ⇑P **PKiKP** 20 40 58.4 +0.3
MOA Molln 149.68 347 *i* P **PKiKP** 20 40 57.8 -0.4
comp=Z,14nm,1.5s
MOA *i* S **pPKPab** 20 42 04.2 +1.8
comp=Z,6.0nm,1.1s

HERR Herculane 149.78 334 ⇑P **PKiKP** 20 40 58.0 -0.4
SHUT Suhut-Afyon 149.87 317 *e*P **PKiKP** 20 40 58.9 -0.1
FUR Furstenfeldbru 149.91 351 *e*PKPbc **PKiKP** 20 40 59.1 +0.5
baz=12,slow=2.6
ARSA Arzberg 149.95 345 *i* P **PKPbc** 20 40 58.3 +0.4
comp=Z,5.6nm,0.8s
ARSA *i* S **pPKPab** 20 42 04.7 +1.2
comp=Z,5.1nm,1.1s
LEF Lefka 149.97 309 ⇓P **PKPbc** 20 40 58.6 +0.3
PLVB Pleven 149.99 330 ⇓P **PKiKP** 20 40 58.8 0.0
MORH Mrgy, Hungar 150.02 340 ⇑P **PKiKP** 20 40 58.7 -0.2
MORH Mrgy, Hungar 150.02 340 ⇓P **PKiKP** 20 40 57.9 -0.2
TVSB Tavsanli 150.03 319 *e*P **PKPbc** 20 40 58.1 -0.4
RJOB Jochberg 150.07 349 *e*PKPbc **PKiKP** 20 40 59.4 +0.3
baz=12,slow=2.6
BFO Black Forest 150.08 355 *e*PKPbc **PKiKP** 20 40 59.6 +0.6
baz=12,slow=2.6
MDVR Moldovita 150.15 335 ⇓P **PKPbc** 20 40 58.7 +0.2
UBR Ueberruh 150.54 352 *e*PKPbc **PKiKP** 20 41 00.6 +0.6
baz=12,slow=2.6
FRGS Fruska Gora 150.55 338 ⇓P **PKiKP** 20 40 60.0 -0.1
FRGS Fruska Gora 150.55 338 ⇓*i* P **PKiKP** 20 40 59.8 -0.2
KBA Koelnbreinsper 150.60 348 *i* P **PKPbc** 20 40 59.3 -0.3
comp=Z,9.4nm,0.5s,SNR=8.1
KBA *i* S **pPKPab** 20 42 05.8 -0.6
comp=Z,6.4nm,1.0s
SOKA Soboth 150.61 345 *e*P **PKPbc** 20 40 59.5 0.0
comp=Z,14nm,0.9s,SNR=9.4
SOKA *i* P **PKPab** 20 41 07.7 +0.5
comp=Z,20nm,1.2s
SOKA *i* S **pPKPab** 20 42 06.1 -0.1
comp=Z,5.1nm,1.0s
RETA Reutte 150.65 351 *i* P **PKiKP** 20 41 00.1 -0.1
comp=Z,22nm,1.3s,SNR=7.5
RETA *i* P **PKPab** 20 41 07.8 +0.4
comp=Z,6.2nm,0.7s
WATA Walderalm 150.67 350 *i* P **PKiKP** 20 41 00.1 -0.3
comp=Z,11nm,0.6s,SNR=8.3
WATA *i* P **PKPab** 20 41 07.7 +0.2
comp=Z,12nm,1.0s
WATA *i* S **pPKPab** 20 42 06.4 -0.2
comp=Z,4.7nm,1.1s
WTTA Wattenberg 150.73 350 *i* P **PKiKP** 20 41 00.6 0.0
comp=Z,33nm,0.6s,SNR=11
WTTA *i* P **PKPab** 20 41 08.2 +0.4
comp=Z,22nm,0.9s
WTTA *i* S **pPKPab** 20 42 06.7 -0.2
comp=Z,7.5nm,0.9s
MOTA Moosalm 150.74 351 *i* P **PKiKP** 20 41 00.3 -0.3
comp=Z,28nm,1.1s,SNR=7.8
MOTA *i* P **PKPab** 20 41 08.1 +0.3
comp=Z,6.1nm,0.5s
MOTA *i* S **pPKPab** 20 42 06.6 -0.3
comp=Z,8.8nm,1.0s,SNR=5.4
SQTA Sankt Quirin 150.84 351 *i* P **PKiKP** 20 41 00.7 0.0
comp=Z,19nm,0.8s,SNR=7.5
SQTA *e*S **pPKPab** 20 42 07.0 -0.2
comp=Z,8.0nm,1.0s,SNR=4.4
OBKA Obir 150.88 346 *i* P **PKPbc** 20 40 60.0 -0.3
comp=Z,5.2nm,0.7s
OBKA *i* P **PKPab** 20 41 08.3 0.0
comp=Z,11nm,0.8s
OBKA *i* S **pPKPab** 20 42 07.2 -0.2
comp=Z,2.7nm,0.8s
DAVA Damuels 150.96 353 *i* P **PKPbc** 20 41 00.6 +0.2
comp=Z,30nm,1.0s,SNR=7.2
MYKA Terra Mystica 150.97 347 *i* P **PKPbc** 20 41 00.1 -0.3
comp=Z,11nm,0.5s,SNR=6.8
MYKA *i* P **PKPab** 20 41 08.7 +0.1
comp=Z,7.5nm,1.0s
MYKA *i* S **pPKPab** 20 42 06.3 -1.4
comp=Z,8.1nm,1.0s
ABTA Abfaltersbach 151.08 349 *i* P **PKPbc** 20 41 00.6 -0.1
comp=Z,25nm,0.6s,SNR=12
ABTA *e*S **pPKPab** 20 42 06.7 -1.5
comp=Z,10nm,1.1s,SNR=6.5
BOVS Bovan 151.09 334 ⇑P **PKPbc** 20 41 00.8 +0.1
FETA Feichten 151.11 351 *i* P **PKiKP** 20 41 01.5 +0.2
comp=Z,22nm,0.9s,SNR=7.0
FETA *i* P **PKPab** 20 41 10.2 +0.9
comp=Z,19nm,0.9s
FETA *i* S **pPKPab** 20 42 06.9 -1.5
comp=Z,3.1nm,0.8s
VTS Vitosha 151.23 331 ⇓P **PKiKP** 20 41 01.8 +0.1
CRES Cresnjev 151.30 344 ⇓*i* P **PKPbc** 20 41 01.3 +0.2
LJU Ljubljana 151.32 346 *e*PKPbc **PKiKP** 20 41 01.4 -0.2
LJU Ljubljana 151.32 346 ⇓*i* P **PKiKP** 20 41 01.3 -0.2
CRNS Crni Vrh 151.35 346 *i* PKPdf **PKPdf** 20 40 54.5 -0.6
CRNS *i* PKPbc **PKPbc** 20 41 04.2 0.0
DIVS Divibare 151.39 337 ⇓*i* P **PKiKP** 20 41 01.8 -0.1
CEY Cerknica 151.64 345 *i* PKPdf **PKPdf** 20 40 55.4 0.0
CEY *e*P **PKPbc** 20 41 02.2 -0.1
CEY *i* PKPab **PKPab** 20 41 11.1 -0.4
CEY Cerknica 151.64 345 ⇓*i* P **PKPbc** 20 41 02.0 +0.1
BOJS Bojanci 151.65 344 *i* PKPbc **PKiKP** 20 41 02.6 +0.3
HAPS Han Pijesak,Bl 151.78 338 ⇓*i* P **PKiKP** 20 41 02.2 -0.2
BLY Banja Luka 151.79 341 ⇓*i* P **PKiKP** 20 41 02.5 -0.1
BBLS Lazići 151.81 337 ⇓*i* P **PKiKP** 20 41 02.8 +0.1
RUDO Rudo 152.03 337 *e*P **PKPbc** 20 41 02.7 -0.2
UDBI Udbina 152.41 343 *i* P **PKiKP** 20 41 03.9 -0.1
UPM Unac-Piva 152.56 337 *e*P **PKPbc** 20 41 03.7 -0.6
KIJV Kijevo 152.70 341 *i* P **PKiKP** 20 41 04.5 0.0
RICI Ricice 152.93 340 P **PKPbc** 20 41 04.6 -0.2
BRY Bratogost 152.96 337 *e*P **PKPbc** 20 41 04.7 -0.4
PDG Podgorica 153.09 336 ⇑P **PKiKP** 20 41 05.4 +0.1
PDG Podgorica 153.09 336 *e*P **PKPbc** 20 41 05.0 -0.2
MAKA Makarska 153.15 340 *i* P **PKPbc** 20 41 04.9 -0.3
TREB Trebinje 153.19 337 *e*P **PKPbc** 20 41 04.9 -0.5
ZIRJ Zirje 153.25 342 *i* P **PKPbc** 20 41 05.2 -0.3
STON Ston 153.29 338 *i* P **PKPbc** 20 41 04.1 -1.4
HVAR Hvar 153.44 340 *i* P **PKPbc** 20 41 05.7 -0.2
ESDC Sonseca Array 157.62 18 PKPab **PKPab** 20 41 37.4 +0.2
comp=Z,5.6nm,0.9s,baz=325,slow=4.3,SNR=23
DBIC Dimbokro 165.05 141 PKP **PKPdf** 20 41 11.1 -1.2
comp=Z,2.9nm,0.9s,baz=237,slow=4.9,SNR=3.4
DBIC PKPab **PKPab** 20 42 10.7 +0.4
comp=Z,0.9nm,0.5s,baz=229,slow=9.3,SNR=1.2
TORD Torodi Ar. Bea 173.99 152 PKP **PKPdf** 20 41 16.9 -0.7
comp=Z,1.1nm,0.9s,baz=342,slow=1.4,SNR=4.5
TORD PKPab **PKPab** 20 42 50.6 +0.9
comp=Z,0.8nm,0.8s,baz=204,slow=4.1,SNR=2.4

IDC **14** *20:37:18.2*±*1.6,23˚.70N*±*94˚.00E,h0*km*,mb3.7/6, mb1 3.7/7,mb1mx3.4/42,mbtmp3.6/7,ML2.9/1 Error ellipse: s-maj=79.1km s-min=17.3km az=64.0*
NDI **14** *20:37:26.0*±*2.1,23˚.97N*±*93˚.88E,h24*km*,19*km*,ML3.8*
ISC 14 20:37:28.2±1.4**,24˚.05N**±0˚.06**×93˚.77E**±0˚.06**,h59**km±17km**,**
n23,σ1s24/35,mb3.6/6,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**1.71**	**205**	***e*P**		**Pn**		**20 37 53.8**	**-2.1**
SAIH				*e*S		**Sn**		**20 38 13.9**	**-2.8**
SAIH				IAML				20 38 20.7	
	comp=E,1μm,0.9s								
SAIH				IAML				20 38 21.1	
	comp=N,539nm,0.4s								
BELO	**BELONIA**	**2.27**	**250**	***e*P**		**Pn**		**20 38 03.5**	**+0.1**
BELO				*e*S		**Sn**		**20 38 32.6**	**+2.4**
BELO				IAML				20 38 43.4	
	comp=E,11μm,0.4s								
BELO				IAML				20 38 46.1	
	comp=N,7μm,0.5s								
SHL	**Shillong**	**2.29**	**312**	***e*P**		**Pn**		**20 38 03.9**	**+0.1**
SHL				*e*S		**Sn**		**20 38 32.7**	**+1.8**
SHL				IAML				20 38 34.0	
	comp=N,599nm,0.3s								
SHL				IAML				20 38 35.3	
	comp=E,369nm,0.1s								
MOKO	**MOKOCHONG**	**2.37**	**17**	***e*P**		**Pn**		**20 38 05.2**	**+0.4**
MOKO				IAmb	IAmb			20 38 13.7	
	comp=Z,97n

comp=E,383nm,0.6s
ZIRO IAML 20 39 00.8
comp=N,378nm,0.6s
TAPN Taplejung 6.38 302 *e*Pn **Pn 20 39 01.0 +1.1**
TAPN *e*Sn **Sn 20 40 11.2 -0.3**
comp=N,140nm,0.5s
ODAN Odare 6.41 297 *e*Pn **Pn 20 39 00.9 +0.6**
ODAN *e*Sn **Sn 20 40 11.2 -1.0**
comp=N,209nm,0.4s
RAMN Ramite 7.09 296 *e*Pn **Pn 20 39 10.6 +1.0**
RAMN *e*Sn **Sn 20 40 27.7 -1.3**
comp=N,63nm,0.3s
BOK Bokaro 7.21 270 *e*P **Pn 20 39 11.0 -0.1**
BOK IAmb IAmb 20 39 13.0
comp=Z,12nm,0.5s
CMAR Chiang Mai Arr 7.36 138 Pn Pn 20 39 01.7 -11
comp=Z,0.1nm,0.3s,baz=314,slow=13,SNR=1.2
CMAR Lg Lg 20 40 49.4
baz=314,slow=31,SNR=1.7
GUN Gumba 8.07 300 *e*Pn **Pn 20 39 23.4 +0.2**
GUN *e*Sn **Sn 20 40 51.7 -1.5**
comp=Z,92nm,0.5s
PKI Pulchoki 8.31 297 *e*Pn **Pn 20 39 26.1 -0.3**
PKI *e*Sn **Sn 20 40 58.9 0.0**
comp=Z,46nm,0.4s
PKIN Phulchoki 8.32 297 *e*Pn **Pn 20 39 26.1 -0.4**
PKIN *e*Sn **Sn 20 40 58.5 -0.6**
comp=Z,61nm,0.4s
KKN Kakani 8.50 298 *e*Pn **Pn 20 39 28.4 -0.5**
KKN *e*Sn **Sn 20 41 01.7 -1.8**
comp=Z,24nm,0.2s
DMN Daman 8.57 296 *e*Pn **Pn 20 39 30.5 +0.6**
DMN *e*Sn **Sn 20 41 04.6 -0.7**
comp=Z,28nm,0.5s
GKN Gorkha 9.11 298 *e*Pn **Pn 20 39 36.4 -0.7**
GKN *e*Sn **Sn 20 41 15.5 -2.8**
comp=Z,80nm,0.3s
MKAR Makanchi Array 24.50 341 P **P 20 42 42.9 +1.0**
comp=Z,1.2nm,0.6s,baz=154,slow=10,SNR=32
SONM Songino Array 25.78 20 P **P 20 42 53.1 -0.5**
comp=Z,0.5nm,0.5s,baz=196,slow=10,SNR=6.3
KURBB Kurchatov Arra 29.05 340 P **P 20 43 23.1 +0.4**
comp=Z,0.5nm,0.6s,baz=156,slow=7.5,SNR=6.7
ZALV Zalesovo Beam 30.61 350 P **P 20 43 37.5 +1.1**
comp=Z,0.9nm,0.6s,baz=181,slow=5.9,SNR=4.3
WRA Warramunga Arr 58.94 134 P P 20 47 16.2 -5.5
comp=Z,0.6nm,0.6s,baz=319,slow=7.6,SNR=10
ASAR Alice Springs 61.37 138 P P 20 47 33.9 -4.4
comp=Z,0.4nm,0.5s,baz=318,slow=6.4,SNR=11

*IDC **14** 20:38:37.8±1.9, 56°43S×27°42W, h0km, mb4.5/2, mb1 4.7/2, mb1mx3.9/18, mbtmp4.5/2, MS3.5/1, Ms1 3.4/1, ms1mx2.8/15, Error ellipse: s-maj=78.5km s-min=41.3km az=7.0*
ISC 14 20:38:52.8±1.0, 56°1S±0°2×27°6W±0°3, h112km, n9, σ0§44/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.82**	**158**	P	**Pn**	**20 42 41.0**	**-0.1**
VNA3	**Neumayer Olymp**	**17.01**	**160**	P	**P**	**20 42 43.6**	**+0.1**
VNA2	**Neumayer--Watz**	**17.22**	**157**	P	**P**	**20 42 46.3**	**+0.5**
	baz=317,slow=14						
SNAA	**Sanae**	**18.78**	**156**	P	**P**	**20 43 02.8**	**-0.1**
MAW	**Mawson**	**40.24**	**144**	LR	LR	20 59 28.8	
	comp=Z,66nm,20.3s,baz=223,slow=31						
LPAZ	**La Paz**	**50.21**	**306**	P	**P**	**20 47 38.1**	**+0.2**
	3.1nm,0.3s,baz=141,slow=6.5,SNR=24						
TORD	**Torodi Ar. Bea**	**73.24**	**30**	P	**P**	**20 50 11.7**	**+0.2**
	3.0nm,1.1s,baz=192,slow=4.4,SNR=9.3						
ILAR	**Eielson Array**	**149.98**	**312**	PKPbc	**PKiKP**	**20 58 28.6**	**-0.7**
	0.9nm,0.8s,baz=127,slow=2.1,SNR=9.8						
SONM	**Songino Array**	**150.98**	**87**	PKPbc	**PKPbc**	**20 58 31.2**	**-0.3**
	0.7nm,0.6s,baz=233,slow=3.4,SNR=6.3						

IDC 14 21:08:05.3±4.4, 6°10S×129°17E, h390km±53km, mb2.5/1, mb1 3.1/3, mb1mx2.7/20, mbtmp3.7/3, Error ellipse: s-maj=114.7km s-min=17.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.65**	**160**	P	P	21 11 13.9	-0.5
	0.6nm,0.3s,baz=341,slow=12,SNR=39						
WRA				S	S	21 13 50.2	-0.8
	0.0nm,0.3s,baz=338,slow=22,SNR=1.7						
ASAR	**Alice Springs**	**18.05**	**166**	P	P	21 11 51.1	+0.2
	0.6nm,0.3s,baz=346,slow=11,SNR=54						
ASAR				S	S	21 14 58.6	+1.0
	0.1nm,0.3s,baz=353,slow=22,SNR=5.6						
MKAR	**Makanchi Array**	**67.02**	**327**	P	P	21 18 17.7	0.0
	0.2nm,0.6s,baz=144,slow=5.6,SNR=2.3						

*NEIC **14** 21:18:01.1±1.2, 57°47N±0°02×132°51W±0°08, h1km±6km, Error ellipse: s-maj=5.9km s-min=2.1km az=83.0*
*PGC **14** 21:18:01.6±0.0, 57°48N×132°53W, h1km, ML2.8/1, 144km Ese of Juneau, Ak Southeastern Alaska*
ISC 14 21:18:01.0±0.9, 57°46N±0°03×132°52W±0°04, h10km, n11, σ1§23/19, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAK	**Wrangell Islan**	**1.05**	**175**	Pg	**Pg**	**21 18 21.0**	**-0.2**
WRAK				Sg	**Sg**	**21 18 34.9**	**+0.1**
WRAK				IAML		21 18 38.5	
	108nm,0.3s						
WRAK				IAML		21 18 39.0	
	97nm,0.3s						
JIS	**Juneau Island**	**1.29**	**310**	Pg	**Pn**	**21 18 24.2**	**-0.8**
JIS				Sg	**Sg**	**21 18 42.3**	**0.0**
SIT	**Sitka**	**1.57**	**256**	Pn	**Pb**	**21 18 30.2**	**0.0**
SIT				Sn	**Sb**	**21 18 50.6**	**+0.5**
SIT				IAML		21 18 59.8	
	comp=N,45nm,4.0s						
SIT				IAML		21 19 05.8	
	comp=E,44nm,3.5s						
DLBC	**Dease Lake**	**1.65**	**53**	Pn	**Pb**	**21 18 30.9**	**-0.6**
DLBC				Sn	**Sb**	**21 18 52.6**	**+0.2**
DLBC	**Dease Lake**	**1.65**	**53**	Pn	**Pb**	**21 18 31.6**	**0.0**
DLBC				IAML		21 18 43.0	
	comp=N,31nm,4.4s						
DLBC				Sn	**Sb**	**21 18 52.7**	**+0.2**
BESE	**Bessie Mountai**	**1.67**	**313**	Pn	**Pb**	**21 18 31.2**	**-0.7**
BESE				Sn	**Sb**	**21 18 53.5**	**+0.6**
BESE	**Bessie Mountai**	**1.67**	**313**	Pn	**Pb**	**21 18 31.7**	**-0.2**
CRAG	**Craig**	**2.03**	**190**	Pn	**Pb**	**21 18 36.9**	**-1.0**
CRAG				IAML		21 18 55.5	
	comp=N,45nm,2.7s						
SKAG	**Skagway**	**2.49**	**325**	Pn	**Pn**	**21 18 43.5**	**+2.0**
SKAG				IAML		21 19 35.7	
	comp=N,16nm,4.3s						
SKAG				IAML		21 19 44.2	
	comp=E,22nm,4.5s						
WHY	**Whitehorse**	**3.43**	**340**	Pn	**Pn**	**21 18 55.6**	**+1.0**
WHY				Pg	**Pb**	**21 19 02.3**	**+0.4**
WHY				Sg	**Sg**	**21 19 47.6**	**-3.4**
WHY	**Whitehorse**	**3.43**	**340**	Pn	**Pn**	**21 18 56.5**	**+2.0**

*JMA **14** 21:24:14.2±0.1, 32°23N×138°46E, h352km, M2.9*
*IDC **14** 21:24:16.9±0.8, 32°32N×138°38E, h322km±9km, mb3.2/8, mb1 3.1/14, mb1mx3.0/60, mbtmp3.9/14, Error ellipse: s-maj=22.4km s-min=14.7km az=67.0*
ISC 14 21:24:15.8±0.8, 32°20N±0°07×138°53E±0°08, h350km, n28, σ1§91/31, mb3.4/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.40**	**49**	P	**Pn**	**21 25 02.5**	**-0.8**
	14nm,0.3s,baz=35,slow=23,SNR=8.1						
JHJ				S	**S**	**21 25 38.0**	**-3.6**
	12nm,0.3s,baz=63,slow=17,SNR=1.9						
JHJ2	**Mitsune**	**1.41**	**50**	P	**Pn**	**21 25 02.8**	**-0.6**
TK02	**Tokai 2**	**1.85**	**340**	P	**Pn**	**21 25 04.9**	**-0.9**
TTO2	**TONANKAI O.B.S**	**1.98**	**321**	P	**Pn**	**21 25 05.8**	**-0.8**
TTO1	**TONANKAI O.B.S**	**2.04**	**314**	P	**Pn**	**21 25 05.7**	**-1.3**
JIE	**Ise**	**2.66**	**326**	P	**Pn**	**21 25 10.7**	**-1.5**
JTNC	**Tanabenakahech**	**2.93**	**304**	P	**Pn**	**21 25 12.4**	**-2.2**
JOD2	**Odawara 2**	**3.09**	**9**	P	**Pn**	**21 25 14.7**	**-1.2**
JOD2				S	**S**	**21 26 01.3**	**-3.0**
JWY	**Kouya**	**3.18**	**310**	P	**Pn**	**21 25 15.3**	**-1.5**
BSO1	**Boso 1**	**3.19**	**39**	P	**Pn**	**21 25 15.7**	**-0.5**
BSO1				S	**S**	**21 26 03.2**	**-1.7**
JAI	**Aioi**	**3.77**	**296**	P	**Pn**	**21 25 20.7**	**-1.8**
JRY	**Ryogami san**	**3.81**	**5**	P	**Pn**	**21 25 22.2**	**-0.7**
JRY				S	**S**	**21 26 14.8**	**-2.2**
JWT	**Wachi**	**4.03**	**321**	P	**Pn**	**21 25 23.5**	**-1.5**
MJAR	**Matsushiro Arr**	**4.33**	**357**	P	**Pn**	**21 25 26.4**	**-1.8**
	0.1nm,0.3s,baz=288,slow=11,SNR=7.5						
CBIJ	**Chichi jima**	**6.00**	**147**	P		**21 25 46.3**	**-0.5**
CBIJ				S		**21 26 58.5**	**-2.0**
JCJ	**Chichijima**	**6.00**	**147**	P	**Pn**	**21 25 47.0**	**+0.2**
	8.4nm,0.3s,baz=357,slow=22,SNR=13						
JCJ				S	**S**	**21 26 57.2**	**-3.3**
	13nm,0.3s,baz=278,slow=23,SNR=10						
KSRS	**Korea Array**	**10.17**	**304**	P	**P**	**21 26 35.6**	**-1.4**
	0.4nm,0.3s,baz=116,slow=13,SNR=20						
ASAJ	**Asahikawa**	**12.31**	**14**	P	**Pn**	**21 26 59.5**	**-1.6**
	0.1nm,0.3s,baz=262,slow=7.1,SNR=1.6						
USRK	**Ussuriysk Ar.**	**13.03**	**339**	P	**Pn**	**21 27 08.3**	**-1.2**
	baz=147,slow=10,SNR=15						
KLR	**Kul'dur**	**17.75**	**345**	P	**P**	**21 27 59.9**	**-0.1**
	0.2nm,0.3s,baz=196,slow=15,SNR=4.1						
PETK	**Petropavlovsk-**	**25.05**	**28**	P	**P**	**21 29 12.5**	**+3.1**
	1.5nm,0.6s,baz=225,slow=12,SNR=2.2						
SONM	**Songino Array**	**28.88**	**312**	P	**P**	**21 29 45.4**	**+1.9**
	1.5nm,0.6s,baz=107,slow=7.1,SNR=14						
ZALV	**Zalesovo Beam**	**43.58**	**316**	P	**P**	**21 31 47.9**	**+1.5**
	0.6nm,0.3s,baz=93,slow=7.6,SNR=5.6						
MKAR	**Makanchi Array**	**44.84**	**306**	P	**P**	**21 31 58.0**	**+1.7**
	1.2nm,0.6s,baz=88,slow=9.4,SNR=22						
WRA	**Warramunga Arr**	**52.01**	**185**	P	P	21 32 55.3	+4.6
	0.8nm,1.0s,baz=0.3,slow=7.6,SNR=5.4						
YKA	**Yellowknife Ar**	**69.17**	**28**	P	P	21 34 48.7	+3.8
	0.2nm,0.6s,baz=302,slow=5.5,SNR=3.4						
FINES	**FINESS Array B**	**71.97**	**332**	P	P	21 35 05.1	+3.4
	3.0nm,1.0s,baz=39,slow=7.1,SNR=2.2						
BRTR	**Keskin Array B**	**80.23**	**311**	P	**P**	**21 35 51.5**	**+2.9**
	0.7nm,0.8s,baz=67,slow=5.5,SNR=3.0						

*SKHL **14** 21:26:27.5±0.1, 42°80N×147°30E, h29km±2km, mb4.2/2*
*JMA **14** 21:26:28.1±0.2, 42°77N×147°13E, h65km±5km, M3.3*
ISC 14 21:26:27.2±2.8, 42°8N±0°1×147°2E±0°1, h30km, n15, σ0§63/25, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.25**	**299**	P	**Pn**	**21 26 49.0**	**+0.4**
NEM2				*e*S	**Sn**	**21 27 04.4**	**0.0**
NMR	**Nemuro--Hokkai**	**1.26**	**299**	*i* P	**Pn**	**21 26 48.9**	**+0.2**
NMR				*i* S	**Sn**	**21 27 04.9**	**+0.2**
JKHN	**Kushirohamanak**	**1.56**	**282**	P	**Pn**	**21 26 53.1**	**+0.2**
JKHN				*e*S	**Sn**	**21 27 12.0**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.62**	**322**	*e*P	**Pn**	**21 26 53.6**	**0.0**
YUK				AMB	AMB	21 26 54.0	
	30nm,0.2s						
YUK				*e*S	**Sn**	**21 27 13.2**	**-0.2**
YUK				A	A	21 27 13.5	
	120nm,0.3s						
YUK				A	A	21 27 13.5	
	340nm,0.3s						
GRPR	**Tuman**	**1.63**	**319**	*e*P	**Pn**	**21 26 53.9**	**+0.1**
GRPR				AMB	AMB	21 26 54.0	
	70nm,0.2s						
GRPR				*e*S	**Sn**	**21 27 13.8**	**+0.1**
GRPR				A	A	21 27 15.0	
	260nm,0.2s						
GRPR				A	A	21 27 15.0	
	160nm,0.2s						
JAK	**Akkeshi**	**1.89**	**278**	P	**Pn**	**21 26 57.6**	**+0.3**
JAK				*e*S	**Sn**	**21 27 19.1**	**-1.0**
JNSB	**Nemuroshibetsu**	**1.92**	**302**	P	**Pn**	**21 26 57.9**	**+0.1**
JRA	**Rausu**	**1.94**	**308**	P	**Pn**	**21 26 58.5**	**+0.5**
JRA				*e*S	**Sn**	**21 27 21.5**	**+0.1**
JNK	**Nakash**	**2.02**	**295**	P	**Pn**	**21 26 59.1**	**-0.1**
JNK				*e*S	**Sn**	**21 27 22.3**	**-1.1**
KUR	**Kuril'sk**	**2.50**	**10**	*e*S	**Sn**	**21 27 34.5**	**-0.8**
KUR				A	A	21 27 37.7	
	60nm,0.2s						
KUR				A	A	21 27 37.7	
	40nm,0.2s						
JOB	**Onbets**	**2.51**	**274**	P	**Pn**	**21 27 06.2**	**+0.3**
JOB				*e*S	**Sn**	**21 27 34.3**	**-1.2**
JTKR	**Abashiri--Toko**	**2.71**	**297**	P	**Pn**	**21 27 09.9**	**+1.2**
JCH	**Churui**	**2.87**	**268**	P	**Pn**	**21 27 11.4**	**+0.6**
JCH				*e*S	**Sn**	**21 27 43.3**	**-1.0**
JNBK	**Urakawa-nobuka**	**3.35**	**263**	P	**Pn**	**21 27 18.1**	**+0.6**
JFR	**Furan**	**3.44**	**278**	P	**Pn**	**21 27 19.5**	**+0.8**

*IDC **14** 21:28:10.0±1.4, 51°16N×179°54E, h0km, mb3.7/12, mb1 3.9/14, mb1mx3.7/65, mbtmp3.7/14, ML3.3/2, Error ellipse: s-maj=40.3km s-min=17.0km az=174.0*
*AEIC **14** 21:28:12±2.4, 50°98N±0°05×179°46E±0°06, h3km±5km, Error ellipse: s-maj=7.8km s-min=3.9km az=210.0*
*NEIC **14** 21:28:17.2±1.6, 51°21N±0°07×179°45E±0°09, h43km±6km, mb3.9/22, ML3.6(AEIC), Error ellipse: s-maj=11.2km s-min=7.5km az=198.0*
ISC 14 21:28:15.7±0.9, 51°1N±0°1×179°52E±0°05, h37km±1km, n57, σ1§03/57, mb3.9/18, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.34**	**336**		**Pn**	**21 28 22.9**	**-1.1**
AMKA					**Sn**	**21 28 29.8**	**-1.0**
CESW	**Semis' Southwe**	**0.83**	**2**		**Pn**	**21 28 31.4**	**+0.6**
CERAA	**Semis' Rag'd T**	**0.84**	**7**		**Pn**	**21 28 31.6**	**+0.6**
CERB	**Semis' Cerberu**	**0.86**	**4**		**Pn**	**21 28 32.0**	**+0.7**
CETU	**Semis' Tuman**	**0.89**	**359**		**Pn**	**21 28 32.8**	**+1.1**
CEAP	**Semis' Anvil P**	**0.93**	**2**		**Pn**	**21 28 33.1**	**+0.9**
LSSE	**Little Sitkin**	**1.05**	**326**		**Pn**	**21 28 34.0**	**+0.2**
LSPA	**Little Sitkin**	**1.06**	**327**		**Pn**	**21 28 34.4**	**+0.3**
LSSA	**Little Sitkin**	**1.08**	**325**		**Pn**	**21 28 34.9**	**+0.6**
LSNW	**Little Sitkin**	**1.10**	**325**		**Pn**	**21 28 35.4**	**+0.4**
ADK	**Adak**	**2.51**	**70**	Pn	**Pn**	**21 28 55.2**	**+1.4**
SMY	**Shemya**	**3.75**	**298**		**Pn**	**21 29 12.5**	**+1.7**
ATKA	**Atka Island**	**4.07**	**71**	Pn	**Pn**	**21 29 16.9**	**+1.6**
NIKH	**Nikolski High**	**7.42**	**71**	Pn	**Pn**	**21 30 03.1**	**+1.8**
PETK	**Petropavlovsk-**	**13.56**	**287**	Pn	**Pn**	**21 31 28.7**	**+3.4**
	0.2nm,0.3s,baz=83,slow=16,SNR=1.5						
OHAK	**Old Harbor**	**17.00**	**58**	Pn	**Pn**	**21 32 09.5**	**-0.8**
OHAK				IAmb	IAmb	21 32 27.5	
	comp=Z,16nm,1.3s						
KDAK	**Kodiak Island**	**17.47**	**57**	P	**Pn**	**21 32 14.4**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=285,slow=8.0,SNR=7.8						
KDAK	**Kodiak Island**	**17.47**	**57**		**Pn**	**21 32 14.8**	**-1.4**
KDAK				IAmb	IAmb	21 32 17.7	
	comp=Z,11nm,1.1s						
SEY	**Seymchan**	**18.78**	**320**	P	**P**	**21 32 30.4**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=104,slow=16,SNR=1.5						
SUA	**Susitna One**	**19.33**	**46**	P	**P**	**21 32 37.0**	**-0.6**
SUA				IAmb	IAmb	21 32 41.8	
	comp=Z,17nm,1.4s						
IMAR	**Indian Mountai**	**20.19**	**32**	P	**Pn**	**21 32 47.4**	**-1.6**
BPAW	**Bear Paw Mtn.**	**20.25**	**39**	P	Pn	21 32 48.0	-1.6
GHO	**Glory Hole Cre**	**20.25**	**46**	P	**P**	**21 32 48.1**	**+0.5**
GHO				IAmb	IAmb	21 33 02.1	
	comp=Z,6.7nm,1.1s						
TRF	**Thorofare Moun**	**20.25**	**41**	P	**P**	**21 32 48.1**	**+0.4**
TRF				IAmb	IAmb	21 32 52.0	
	comp=Z,12nm,1.4s						
SML	**Sawmill**	**20.53**	**46**	P	**P**	**21 32 49.4**	**-1.2**
NEA2	**Nenana**	**21.21**	**38**	P	**P**	**21 32 58.0**	**+0.2**
NEA2				IAmb	IAmb	21 33 02.9	
	comp=Z,3.3nm,0.7s						
WRH	**Wood River Hil**	**21.55**	**39**	P	**P**	**21 33 00.6**	**-0.9**
M24K	**Tolsona, Glenn**	**21.59**	**46**	P	**P**	**21 33 01.6**	**-0.4**
MDM	**Murphy Dome**	**21.69**	**38**	P	**P**	**21 33 02.0**	**-1.0**
MDM				IAmb	IAmb	21 33 15.3	
	comp=Z,4.0nm,1.2s						
CCB	**Clear Creek Bu**	**21.73**	**39**	P	**P**	**21 33 02.6**	**-0.8**
ILAR	**Eielson Array**	**22.14**	**39**	P	**P**	**21 33 06.8**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=247,slow=10,SNR=6.5						
DOT	**Dot Lake**	**22.94**	**43**	P	**P**	**21 33 17.2**	**+0.8**
PRP	**Porcupine Dome**	**22.96**	**38**	P	**P**	**21 33 17.2**	**+0.6**
TOLK	**Toolik Lake Re**	**23.04**	**29**	P	**P**	**21 33 17.6**	**+0.4**
TOLK				IAmb	IAmb	21 33 18.3	
	comp=Z,2.6nm,0.6s						
BCAR	**Beaver Creek A**	**23.80**	**45**	P	**P**	**21 33 25.3**	**+0.6**
ASAJ	**Asahikawa**	**25.64**	**269**	P	**P**	**21 33 42.2**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=49,slow=19,SNR=2.1						
YKA	**Yellowknife Ar**	**36.20**	**46**	P	**P**	**21 35 13.9**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=281,slow=7.7,SNR=5.7						
NVAR	**Mina Array Bea**	**44.64**	**81**	P	**P**	**21 36 23.8**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=295,slow=8.8,SNR=2.2						
SONM	**Songino Array**	**45.84**	**296**	P	**P**	**21 36 33.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=62,slow=6.7,SNR=2.9						
BW06	**Boulder Array**	**47.41**	**71**	P	**P**	**21 36 47.3**	**+0.8**
BW06				IAmb	IAmb	21 37 03.7	
	comp=Z,2.0nm,1.0s						
PD31	**Pinedale Array**	**47.41**	**71**	P	**P**	**21 36 47.0**	**+0.6**
PD31				IAmb	IAmb	21 36 48.1	
	comp=Z,1.7nm,0.9s						
PDAR	**Pinedale Array**	**47.41**	**71**	P	**P**	**21 36 45.4**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=293,slow=3.0,SNR=12						
PDAR	**Pinedale Array**	**47.41**	**71**	P	**P**	**21 36 47.2**	**+0.7**
SPITS	**Spitsbergen Ar**	**50.60**	**356**	P	**P**	**21 37 09.7**	**-0.4**
	comp=Z,8.3nm,0.9s,baz=142,slow=7.2,SNR=7.4						
ZALV	**Zalesovo Beam**	**53.47**	**313**	P	**P**	**21 37 30.2**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=52,slow=5.7,SNR=1.9						
SUMG	**Summit**	**53.84**	**13**	P	**P**	**21 37 35.2**	**+0.5**
WMQ	**Urumqi**	**58.61**	**302**	P	**P**	**21 38 08.3**	**-0.5**
MK31	**Makanchi Array**	**59.39**	**308**	P	**P**	**21 38 13.9**	**-0.2**
MK31				IAmb	IAmb	21 38 14.2	
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**59.39**	**308**	P	**P**	**21 38 13.3**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=51,slow=6.8,SNR=12						
MKAR	**Makanchi Array**	**59.39**	**308**	P	**P**	**21 38 13.7**	**-0.4**
BRVK	**Borovoye**	**60.45**	**319**	P	**P**	**21 38 20.9**	**-0.3**
KKAR	**Karatay Array**	**67.81**	**312**	P	**P**	**21 39 10.0**	**+0.4**
KKAR	**Karatay Array**	**67.81**	**312**	P	**P**	**21 39 09.6**	**0.0**
KKAR				IAmb	IAmb	21 39 20.7	
	comp=Z,1.5nm,1.1s						
NB2	**NORSAR Subarra**	**67.84**	**354**	P	**P**	**21 39 09.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=7.7,slow=6.5						
NOA	**NORSAR Array B**	**67.84**	**354**	P	**P**	**21 39 08.2**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=8.5,slow=6.3,SNR=4.4						
HFS	**Hagfors**	**68.56**	**352**	P	**P**	**21 39 13.2**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=29,slow=3.3,SNR=3.9						
CMAR	**Chiang Mai Arr**	**69.99**	**275**	P	**P**	**21 39 23.8**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=241,slow=31,SNR=2.1						

*IDC **14** 21:35:06.7±2.1, 34°13N×141°63E, h0km, mb3.2/3, mb1 3.4/5, mb1mx3.3/51, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=39.1km s-min=23.6km az=75.0*
*JMA **14** 21:35:08.0±0.4, 34°34N×141°63E, h24km±2km, M2.6*
ISC 14 21:35:10.2±1.5, 34°27N±0°06×141°6E±0°1, h27km, n12, σ1§51/17, mb3.2/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.61**	**309**	P	**Pb**	**21 35 20.1**	**-1.9**
BSO3	**Boso 3**	**1.01**	**302**	P	**Pn**	**21 35 27.1**	**-1.3**
BSO4	**Boso 4**	**1.23**	**306**	P	**Pn**	**21 35 31.1**	**-0.5**
BSO4				S	**Sn**	**21 35 46.3**	**-1.0**
JKUC	**kamogawauchiur**	**1.42**	**309**	P	**Pn**	**21 35 33.1**	**-1.2**
JKUC				S	**Sn**	**21 35 50.7**	**-1.5**
JMKN	**Mikurajimanish**	**1.67**	**258**	P	**Pn**	**21 35 36.6**	**-1.1**
JMKN				S	**Sn**	**21 35 59.0**	**+0.8**
JIM2	**Oshima 3**	**1.81**	**285**	P	**Pn**	**21 35 38.8**	**-0.8**
JHJ	**Hachijo jima 2**	**1.87**	**233**	Pn	**Pn**	**21 35 40.4**	**0.0**
	8.6nm,0.3s,baz=49,slow=20,SNR=6.1						
JHJ				Sn	**Sn**	**21 36 03.1**	**0.0**
	34nm,0.3s,baz=76,slow=23,SNR=8.3						
MJAR	**Matsushiro Arr**	**3.55**	**311**	Pn	**Pn**	**21 36 03.4**	**-0.2**
	0.2nm,0.3s,baz=149,slow=14,SNR=21						
MJAR				Sn	**Sn**	**21 36 46.9**	**+2.3**
	0.2nm,0.3s,baz=191,slow=23,SNR=2.7						
JCJ	**Chichijima**	**7.17**	**175**	Pn	**Pn**	**21 36 51.9**	**-1.5**
	2.7nm,0.3s,baz=307,slow=20,SNR=1.9						
SONM	**Songino Array**	**29.50**	**308**	P	**P**	**21 41 15.2**	**+3.0**
	0.2nm,0.5s,baz=116,slow=9.3,SNR=1.8						
MKAR	**Makanchi Array**	**45.73**	**304**	P	**P**	**21 43 30.3**	**+1.3**
	0.1nm,0.3s,baz=79,slow=7.5,SNR=2.2						
WRA	**Warramunga Arr**	**54.35**	**188**	P	**P**	**21 44 33.4**	**-1.2**
	0.2nm,0.3s,baz=2.3,slow=7.1,SNR=5.8						

IDC 14 21:35:25.1±3.5, 66°71N×19°20W, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/36, mbtmp3.5/4, MS3.5/2, Ms1 3.5/2, ms1mx2.8/35, Error ellipse: s-maj=126.7km s-min=28.5km az=18.0, Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**20.09**	**84**	P	P	21 39 59.9	+0.1
	2.1nm,0.8s,baz=299,slow=9.2,SNR=4.9						
FRB	**Frobisher Bay**	**20.44**	**285**	LR	LR	21 47 07.2	
	comp=Z,78nm,21.9s,baz=124,slow=34						
AKASG	**Malin Array Br**	**28.84**	**100**	P	P	21 41 24.7	0.0
	0.2nm,0.3s,baz=326,slow=9.5,SNR=2.0						
YKA	**Yellowknife Ar**	**37.32**	**310**	P	P	21 42 38.3	-0.1
	0.6nm,0.9s,baz=44,slow=8.6,SNR=4.3						
MKAR	**Makanchi Array**	**52.25**	**58**	P	P	21 44 37.3	-0.2
	0.3nm,0.7s,baz=316,slow=8.1,SNR=2.5						
TXAR	**Lajitas Array**	**61.27**	**278**	LR	LR	22 12 18.7	
	comp=Z,54nm,18.1s,baz=0.0,slow=36						

**

ABKAR IAmb IAmb 22 01 07.0
comp=Z,1.5nm,0.8s
ABKAR Akbulak array 62.32 326 P **P** **22 01 05.8 +0.1**
BILL Bilibino 75.57 19 P **P** **22 02 28.6 +0.9**
AKASG Malin Array Be 81.44 321 P **P** **22 02 59.9 -0.4**
comp=Z,0.4nm,0.4s,baz=83,slow=5.4,SNR=2.1
FINES FINESS Array B 84.21 331 P **P** **22 03 14.1 -0.5**
comp=Z,1.5nm,0.9s,baz=111,slow=7.6,SNR=1.9
FINES FINESS Array B 84.21 331 P **P** **22 03 14.2 -0.3**

BJI ***14*** *21:59:12.6±0.0,2˚.13S×141˚.65E, h6km, mB5.1/46, mb4.6/59, Ms4.7/32, Ms7 4.4/34*
MOS ***14*** *21:59:13.9±0.9,2˚.14S×141˚.52E, h15km, mb4.8/20, MS4.4/4, Error ellipse: s-maj=10.4km s-min=5.7km az=110.4*
IDC ***14*** *21:59:13.1±0.4,2˚.15S×141˚.43E, h0km, mb4.4/21, mb1 4.6/27, mb1mx4.5/39, mbtmp4.5/27, ML4.4/4, MS4.3/18, Ms1 4.3/18, ms1mx4.2/24, Error ellipse: s-maj=12.8km s-min=10.3km az=97.0*
NEIC ***14*** *21:59:14.8±1.2,2˚.17S±0˚.07×141˚.49E±0˚.05, h10km±1km, mb5.1/86, Error ellipse: s-maj=12.5km s-min=8.4km az=166.0*
DJA ***14*** *21:59:15.9±0.4,2˚.5S×14˚.2E±˚, h10km, M4.5/22, mB5.2/9, mb5.0/22, MLv4.1/2, Mw(mB)4.6/9*
GCMT ***14*** *21:59:16.9±0.2,2˚.14S±0˚.01×141˚.48E±0˚.02, h12km, MW5.1/115, Moment Tensor Solution. s64,c84; s115,c194; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.67±.10; $M_{\theta\theta}$=5.07±.07; $M_{\phi\phi}$=-0.40±.10; $M_{r\theta}$=2.16±.24; $M_{\theta\phi}$=-0.60±.07; $M_{r\phi}$=-0.29±.30; Best double couple: M_o=5.36500×10^{16} NP1:∅=96.00000°, δ=33.00000°, λ=-91.00000°. NP2:∅=277.00000°, δ=57.00000°, λ=-89.00000°. Principal axes: T 5.5970, Plg12.0000°, Azm6.0000°; N -0.4710, Plg1.0000°, Azm96.0000°; P -5.1330, Plg78.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 21:59:14.4±0.3,2˚.25S±0˚.04×141˚.51E±0˚.04, h10km, n337, σ1§34/338, mb5.0/109, MS4.3/32, 8C-1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**0.85**	**252**	Pn		**Pn**	**21 59 31.7**	**-0.9**
	131nm,0.3s,baz=119,slow=2.7,SNR=216							
JAY				Sn		**Sn**	**21 59 44.0**	**-1.1**
	328nm,0.3s,baz=67,slow=12,SNR=21							
JAY				LR		LR	21 59 49.2	
	comp=Z,2μm,18.1s,baz=328,slow=44							
JAY	**Jayapura**	**0.85**	**252**	P		**Pn**	**21 59 31.6**	**-0.9**
GENI	**Genyem**	**1.39**	**256**	P		**Pg**	**21 59 40.0**	**-1.1**
PMG	**Port Moresby**	**9.06**	**142**	Pn		**Pn**	**22 01 26.9**	**+1.5**
	3.0nm,0.3s,baz=219,slow=1.5,SNR=5.6							
PMG				Sn		**Sn**	**22 03 04.8**	**-2.8**
	1.0nm,0.3s,baz=269,slow=23,SNR=1.5							
PMG				LR		LR	22 05 18.3	
	comp=Z,2μm,20.0s,baz=292,slow=40							
PMG	**Port Moresby**	**9.06**	**142**	*i* P		**Pn**	**22 01 26.5**	**+1.1**
FAKI	**Fak Fak**	**9.28**	**266**	Pn		**Pn**	**22 01 28.9**	**+0.5**
FAKI	**Fak Fak**	**9.28**	**266**	P		Pn	22 01 31.7	+3.3
	42nm,1.4s							
SIJI	**Sorong**	**10.33**	**277**	Pn		**Pn**	**22 01 42.5**	**-0.4**
	0.5nm,0.3s,baz=45,slow=16,SNR=1.8							
SIJI				LR		LR	22 05 25.8	
	comp=Z,636nm,20.9s,baz=25,slow=36							
RABL	**Rabaul**	**10.81**	**101**	Pn		**Pn**	**22 01 51.8**	**+2.4**
KDU	**Kakadu**	**13.70**	**220**	P		**Pn**	**22 02 29.3**	**+0.4**
	baz=14,SNR=20							
MTN	**Manton Dam**	**14.71**	**224**			**Pn**	**22 02 43.6**	**+0.8**
MTSU	**Mount Surprise**	**16.03**	**170**	P		**P**	**22 03 03.9**	**+0.2**
	baz=16,SNR=5.2							
QIS	**Mount Isa**	**18.30**	**186**	P		**P**	**22 03 29.7**	**+1.0**
	baz=18,SNR=10							
CTA	**Charters Tower**	**18.33**	**166**	P		**Pn**	**22 03 29.9**	**+1.0**
	1.0nm,0.3s,baz=341,slow=11,SNR=12							
CTA				LR		LR	22 10 00.0	
	comp=Z,789nm,19.8s,baz=354,slow=35							
CTAO	**Charters Tower**	**18.33**	**166**	P		**Pn**	**22 03 30.3**	**+1.3**
CTAO				pmax		pmax		
	comp=Z,136nm,1.9s							
CTAO	**Charters Tower**	**18.33**	**166**			**Pn**	**22 03 30.3**	**+1.3**
SOEI	**Soe**	**18.69**	**246**			**Pn**	**22 03 34.5**	**+0.9**
SOEI				IAmb		IAmb	22 03 52.3	
	comp=Z,215nm,1.1s							
SOEI	**Soe**	**18.69**	**246**	P		**Pn**	**22 03 36.2**	**+2.6**
	comp=Z,183nm,1.0s							
GTOI	**Gorontalo**	**18.72**	**279**	P		**Pn**	**22 03 36.2**	**+2.4**
	comp=Z,1μmcomp=Z,81nm,1.1s							
LUWI	**Luwuk**	**18.77**	**273**			**Pn**	**22 03 34.1**	**-0.3**
LUWI				IAmb		IAmb	22 03 58.8	
	comp=Z,80nm,0.9s							
WR0	**Warramunga Arr**	**18.88**	**201**			**Pn**	**22 03 36.1**	**+0.4**
WRAB	**Tennant Creek**	**18.92**	**201**	*ce*P		**Pn**	**22 03 38.4**	**+2.2**
WRAB				pmax		pmax		
	comp=Z,26nm,0.7s							
WB2	**Warramunga Arr**	**18.93**	**201**	P		**Pn**	**22 03 36.3**	**0.0**
	baz=19							
WB2	**Warramunga Arr**	**18.93**	**201**	P		**Pn**	**22 03 36.5**	**+0.2**
WRA	**Warramunga Arr**	**18.93**	**201**	P		**Pn**	**22 03 35.5**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=222,slow=12,SNR=56							
WRA				S		**Sn**	**22 07 05.2**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=5.5,slow=24,SNR=3.5							
WRA	**Warramunga Arr**	**18.93**	**201**	*i* P		**P**	**22 03 34.5**	**-1.2**
WRA				pmax		pmax		
	comp=Z,16nm,0.6s							
BATI	**Baumata**	**19.41**	**245**	P		**Pn**	**22 03 41.1**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=114,slow=10.0,SNR=10.0							
BATI	**Baumata**	**19.41**	**245**	P		**Pn**	**22 03 42.8**	**+0.6**
	comp=Z,1μmcomp=Z,113nm,0.9s							
HNR	**Honiara**	**19.67**	**112**	P		**Pn**	**22 03 45.4**	**+0.1**
	comp=Z,11nm,0.3s,baz=286,slow=20,SNR=2.2							
HNR				LR		LR	22 11 53.1	
	comp=Z,659nm,19.5s,baz=314,slow=38							
MRSI	**Marisa**	**19.75**	**278**	P		**Pn**	**22 03 45.7**	**-0.6**
	comp=Z,638nmcomp=Z,55nm,1.0s							
APSI	**Ampana**	**19.90**	**274**	P		**Pn**	**22 03 48.3**	**+0.3**
	comp=Z,1μmcomp=Z,109nm,1.2s							
PAGZ	**Pagadian**	**20.68**	**299**	*e*P		Pn	22 04 04.1	+6.9
TOLI2	**Tolitoli**	**20.99**	**279**	P		Pn	22 03 58.3	-2.5
TOLI2				IAmb		IAmb	22 04 12.9	
	comp=Z,60nm,1.1s							
BNSI	**Bone**	**21.48**	**264**	P		**P**	**22 04 05.5**	**+2.1**
	comp=Z,881nmcomp=Z,37nm,0.9s							
TTSI	**Tana Toraja**	**21.68**	**267**	P		**P**	**22 04 08.4**	**+2.7**
	comp=Z,893nmcomp=Z,49nm,1.1s							
SPSI	**Sidrap Palu**	**21.78**	**265**	P		**P**	**22 04 10.2**	**+3.5**
	comp=Z,32nm,1.3s							
KAPI	**Kappang**	**21.89**	**262**	LR		LR	22 15 49.5	
	comp=Z,142nm,18.1s,baz=96,slow=46							
FITZ	**Fitzroy Crossi**	**22.15**	**224**	P		**P**	**22 04 10.2**	**-0.4**
	comp=Z,27nm,0.8s,baz=38,slow=9.2,SNR=43							
FITZ				LR		LR	22 13 41.5	
	comp=Z,2μm,20.4s,baz=44,slow=39							
FITZ	**Fitzroy Crossi**	**22.15**	**224**	P		**P**	**22 04 10.6**	**0.0**
	baz=22,SNR=35							
FITZ	**Fitzroy Crossi**	**22.15**	**224**	P		**P**	**22 04 10.4**	**-0.2**
CNOP	**Candoni, Negro**	**22.30**	**303**	*e*P		**P**	**22 04 12.0**	**-0.2**
AS31	**Alice Springs**	**22.53**	**198**	P		**P**	**22 04 16.1**	**+1.4**
ASAR	**Alice Springs**	**22.53**	**198**	P		**P**	**22 04 15.2**	**+0.5**
	comp=Z,18nm,0.8s,baz=32,slow=11,SNR=120							
ASAR				PcP		**PcP**	**22 08 09.6**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=31,slow=3.8,SNR=2.1							
ASAR				S		**S**	**22 08 18.2**	**-3.9**
	comp=Z,4.0nm,1.1s,baz=22,slow=22,SNR=4.1							
ASPA	**Alice Springs**	**22.53**	**198**	P		**P**	**22 04 15.8**	**+1.1**
	baz=23							
MYLDM	**Lahad Datu**	**24.14**	**288**	P		**P**	**22 04 31.1**	**+0.1**
MYLDM				IAmb		IAmb	22 05 04.1	
	comp=Z,68nm,1.1s							
QLP	**Quilpie**	**24.34**	**174**	P		**P**	**22 04 34.7**	**+2.1**
	baz=24,SNR=13							
PLAI	**Plampang**	**24.50**	**254**	P		**P**	**22 04 36.7**	**+2.5**
	comp=Z,27nm,1.0s							
BKB	**Balikpapan**	**24.62**	**272**	P		**P**	**22 04 38.5**	**+3.1**
	comp=Z,111nm,1.0s							
EIDS	**Eidsvold**	**24.77**	**159**	P		**P**	**22 04 38.5**	**+2.0**
JCNP	**Jose Panganiba**	**24.85**	**312**	*e*P		**P**	**22 04 36.2**	**-1.2**
RMQ	**Roma**	**25.09**	**165**	P		**P**	**22 04 42.3**	**+2.9**
	baz=25,SNR=28							
KBKI	**Kotabaru**	**25.34**	**267**	P		**P**	**22 04 45.0**	**+3.2**
	comp=Z,38nm,1.1s							
LQP	**Lukban**	**25.61**	**310**	*e*P		**P**	**22 04 44.2**	**-0.3**
WRKA	**Warakurna**	**26.00**	**208**	P		**P**	**22 04 48.7**	**+1.0**
	baz=26,SNR=69							
TGY	**Tagaytay City**	**26.07**	**309**	P		**P**	**22 04 47.6**	**-0.9**
	comp=Z,229nm,0.4s,baz=299,slow=22,SNR=3.2							
KKM	**Kota Kinabalu**	**26.57**	**288**	P		**P**	**22 04 53.7**	**+0.6**
BBKI	**Banjar Baru**	**26.66**	**267**	P		**P**	**22 04 55.5**	**+1.6**
	comp=Z,1μmcomp=Z,38nm,1.3s							
SMPP	**San Manuel, Pa**	**27.53**	**312**	*e*P		P	22 05 09.9	+8.3
PSA00	**Pilbara Seismi**	**28.52**	**226**	P		**P**	**22 05 10.7**	**+0.2**
PSA00				IAmb		IAmb	22 05 58.4	
	comp=Z,77nm,1.9s							
CMSA	**Cobar Meteorol**	**29.40**	**173**	P		**P**	**22 05 20.5**	**+2.4**
	baz=30,SNR=8.5							
STKA	**Stephens Creek**	**29.47**	**180**	P		**P**	**22 05 19.9**	**+1.2**
	comp=Z,4.1nm,0.6s,baz=5.2,slow=11,SNR=9.4							
STKA				LR		LR	22 18 14.2	
	comp=Z,1μm,19.4s,baz=353,slow=39							
STKA	**Stephens Creek**	**29.47**	**180**	P		**P**	**22 05 20.1**	**+1.4**
	baz=30,SNR=8.3							
STKA	**Stephens Creek**	**29.47**	**180**	P		**P**	**22 05 19.7**	**+1.0**
STKA				pmax		pmax		
	comp=Z,6.0nm,1.4s							
STKA	**Stephens Creek**	**29.47**	**180**	P		**P**	**22 05 19.7**	**+1.0**
ARMA	**Armidale**	**29.61**	**162**			**P**	**22 05 21.9**	**+1.7**
ARMA				IAmb		IAmb	22 05 39.3	
	comp=Z,80nm,1.8s							
SBUM	**Sibu**	**29.65**	**279**	P		**P**	**22 05 20.6**	**+0.1**
BBOO	**Buckleboo**	**30.83**	**189**	P		**P**	**22 05 32.0**	**+1.2**
	baz=31,SNR=14							
BBOO	**Buckleboo**	**30.83**	**189**	P		**P**	**22 05 31.8**	**+1.1**
BBOO				IAmb		IAmb	22 05 32.6	
	comp=Z,16nm,0.8s							
FORT	**Forrest**	**31.10**	**203**	P		**P**	**22 05 34.7**	**+1.5**
	baz=31,SNR=12							
FORT	**Forrest**	**31.10**	**203**	P		**P**	**22 05 34.3**	**+1.1**
FORT				IAmb		IAmb	22 05 39.5	
	comp=Z,32nm,0.7s							
HTT	**Hallett**	**31.12**	**184**	P		**P**	**22 05 34.9**	**+1.6**
	baz=31,SNR=9.1							
DZM	**Mont Dzumac**	**31.23**	**131**	*e*S		**S**	**22 10 37.5**	**-3.7**
	comp=Z,368nm,28.1s							
DZM				*e*LR		LR	22 13 48.8	
	comp=Z,929nm,24.0s							
DZM	**Mont Dzumac**	**31.23**	**131**	LR		LR	22 17 08.4	
	comp=Z,557nm,21.7s,baz=318,slow=34							
JOW	**Kunigami**	**31.61**	**337**	LR		LR	22 15 19.8	
	comp=Z,946nm,21.1s,baz=138,slow=31							
H11S3	**WAKE ISLAND Hy**	**32.23**	**49**	T		T	22 39 18.7	
	baz=232,slow=75,SNR=85							
H11S2	**WAKE ISLAND Hy**	**32.24**	**49**	T		T	22 39 34.7	
	baz=232,slow=75,SNR=33							
H11S1	**WAKE ISLAND Hy**	**32.25**	**49**	T		T	22 39 38.6	
	baz=232,slow=75,SNR=38							
H11N1	**WAKE ISLAND Hy**	**33.12**	**48**	T		T	22 41 08.6	
	baz=229,slow=74							
H11N2	**WAKE ISLAND Hy**	**33.14**	**48**	T		T	22 40 34.4	
	baz=229							
H11N3	**WAKE ISLAND Hy**	**33.14**	**48**	T		T	22 41 13.9	
	baz=229,slow=74							
CAN	**Canberra**	**33.63**	**169**	P		**P**	**22 05 56.9**	**+1.5**
CAN				pmax		pmax		
	comp=Z,54nm,1.4s							
CAN	**Canberra**	**33.63**	**169**	P		**P**	**22 05 56.9**	**+1.5**
CAN				IAmb		IAmb	22 06 26.0	
	comp=Z,54nm,1.4s							
LEM	**Lembang**	**34.08**	**261**	LR		LR	22 22 17.3	
	comp=Z,269nm,18.5s,baz=92,slow=41							
ARPS	**Mount Arapiles**	**34.35**	**180**	P		**P**	**22 06 03.6**	**+2.1**
	baz=34,SNR=6.8							
KMBL	**Kambalda**	**34.39**	**211**	P		**P**	**22 06 04.3**	**+2.3**
	baz=34,SNR=4.5							
TOO	**Toolangi**	**35.34**	**175**	P		**P**	**22 06 12.2**	**+2.1**
TOO				pmax		pmax		
	comp=Z,122nm,1.9s							
TOO	**Toolangi**	**35.34**	**175**	P		**P**	**22 06 12.2**	**+2.1**
MORW	**Morawa**	**36.05**	**220**	P		**P**	**22 06 17.6**	**+1.3**
	baz=36,SNR=7.6							
MORW	**Morawa**	**36.05**	**220**	P		**P**	**22 06 16.5**	**+0.2**
MORW				IAmb		IAmb	22 06 18.8	
	comp=Z,20nm,0.7s							
JMN	**Monobe**	**36.50**	**349**	P		**P**	**22 06 20.2**	**+0.2**
JMN				IAmb		IAmb	22 06 31.1	
	comp=Z,30nm,0.9s							
BLDU	**Ballidu**	**36.70**	**217**	P		**P**	**22 06 22.4**	**+0.5**
	baz=37,SNR=9.5							
KLBR	**Kellerberrin**	**36.80**	**215**	P		**P**	**22 06 25.2**	**+2.6**
	baz=37,SNR=6.2							
QIZ	**Qiongzhong**	**37.63**	**306**	P		**P**	**22 06 28.9**	**-1.0**
QIZ				S		**S**	**22 12 19.8**	**-0.1**
QIZ				LR		LR		
	comp=Z,280nm,24.1s							
QIZ				LR		LR		
	comp=Z,250nm,17.6s							
QIZ				LR		LR		
	comp=Z,310nm,16.9s							
JWT	**Wachi**	**37.77**	**352**	P		**P**	**22 06 31.0**	**+0.2**
JHS	**Saijyo**	**37.88**	**349**	P		**P**	**22 06 31.6**	**-0.2**
JHS				IAmb		IAmb	22 06 41.7	
	comp=Z,26nm,0.7s							
MUN	**Mundaring**	**37.98**	**216**	P		**P**	**22 06 35.7**	**+3.0**
	baz=38,SNR=3.5							
NWAO	**Narrogin (SRO)**	**38.08**	**214**	P		**P**	**22 06 34.2**	**+0.7**
	comp=Z,11nm,0.8s,baz=70,slow=4.8,SNR=3.8							
NWAO	**Narrogin (SRO)**	**38.08**	**214**	P		**P**	**22 06 34.5**	**+1.0**
NWAO				pmax		pmax		
	comp=Z,141nm,1.8s							
NWAO	**Narrogin (SRO)**	**38.08**	**214**	P		**P**	**22 06 34.5**	**+1.0**
SSE	**Sheshan**	**38.39**	**331**	P		**P**	**22 06 36.4**	**+0.3**
SSE				S		**S**	**22 12 32.8**	**+1.8**
SSE				pmax		pmax		
	comp=Z,25nm,0.7s							
SSE				pmax		pmax		
	comp=Z,130nm,3.5s							
SSE				LR		LR		
	comp=Z,130nm,18.8s							
SSE				LR		LR		
	comp=Z,140nm,18.4s							
MJAR	**Matsushiro Arr**	**38.71**	**356**	P		**P**	**22 06 37.6**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=180,slow=9.3,SNR=1.8							
MJAR				PcP		**PcP**	**22 08 50.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=155,slow=3.0,SNR=4.5							
MJAR				LR		LR	22 20 37.5	
	comp=Z,198nm,20.6s,baz=170,slow=33							
MAJO	**Matsushiro**	**38.71**	**356**	P		**P**	**22 06 39.7**	**+0.9**
MAJO				pmax		pmax		
	comp=Z,48nm,1.9s							
MAJO	**Matsushiro**	**38.71**	**356**	P		**P**	**22 06 39.7**	**+0.9**
MAJO				IAmb		IAmb	22 06 47.4	
	comp=Z,48nm,1.9s							
MAT	**Matsushiro**	**38.71**	**356**	P		P	22 06 44.0	+5.2
MAT				S		**S**	**22 12 29.8**	**-6.0**
NJ2	**Nanjing**	**40.32**	**330**	*e*P		**P**	**22 06 53.6**	**+1.4**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,230nm,4.5s							
NJ2				LR		LR		
	comp=Z,350nm,16.6s							
NJ2				LR		LR		
	comp=Z,210nm,19.5s							
NJ2				LR		LR		
	comp=Z,470nm,18.5s							
TAU	**Tasmania Unive**	**40.82**	**173**	P		**P**	**22 06 57.6**	**+1.4**
TAU				pmax		pmax		
	comp=Z,89nm,1.4s							
TAU	**Tasmania Unive**	**40.82**	**173**	P		**P**	**22 06 57.6**	**+1.4**
TAU				IAmb		IAmb	22 07 06.7	
	comp=Z,89nm,1.4s							
KSAR	**Wonju Array Be**	**41.47**	**344**	P		**P**	**22 07 02.1**	**+0.5**
KSAR	**Wonju Array Be**	**41.47**	**344**	P		**P**	**22 07 02.1**	**+0.5**
KSRS	**Korea Array**	**41.47**	**344**	P		**P**	**22 07 00.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=172,slow=10.0,SNR=5.4							
KSRS				PcP		**PcP**	**22 09 00.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=166,slow=4.1,SNR=5.1							
KSRS				LR		LR	22 21 11.7	
	comp=Z,363nm,21.8s,baz=145,slow=32							
RPSI	**Rantau Prapat**	**42.86**	**276**	P		**P**	**22 07 12.0**	**-1.3**
RPSI				IAmb		IAmb	22 07 14.3	
	comp=Z,29nm,1.2s							
PSI	**Prapat**	**42.87**	**277**	P		**P**	**22 07 11.9**	**-1.7**
	comp=Z,16nm,1.1s,baz=179,slow=1.9,SNR=4.8							
PSI	**Prapat**	**42.87**	**277**	P		**P**	**22 07 12.0**	**-1.6**
PSI				pmax		pmax		
	comp=Z,29nm,1.2s							
GSI	**Gunungsitoli**	**44.07**	**274**	P		**P**	**22 07 21.6**	**-1.5**
GSI				IAmb		IAmb	22 07 32.5	
	comp=Z,18nm,0.8s							
GYA	**Guiyang**	**44.12**	**313**	*e*P		**P**	**22 07 24.6**	**+1.1**
GYA				pP		pwP	22 07 34.0	+3.4
GYA				S		**S**	**22 13 58.8**	**+2.2**
GYA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
ENH	**Enshi**	**44.49**	**319**	P		**P**	**22 07 26.2**	**-0.1**
ASAJ	**Asahikawa**	**46.17**	**1**	P		**P**	**22 07 37.6**	**-1.6**
	comp=Z,6.0nm,0.9s,baz=283,slow=19,SNR=2.3							
YUK	**Yuzh-Kuril'sk**	**46.24**	**4**	*e*P		**P**	**22 07 40.0**	**+0.2**
YUK				*e*S		**S**	**22 14 26.9**	**+0.5**
YUK				MLR		MLR		
	comp=Z,394nm,17.0s							
KMI	**Kunming**	**46.39**	**308**	*e*P		**P**	**22 07 43.5**	**+1.8**
KMI				sP		pwP	22 07 51.8	+3.0
KMI				PP		**PP**	**22 09 31.4**	**+0.7**
KMI				S		**S**	**22 14 30.9**	**+1.2**
KMI				sS		sS	22 14 43.6	+11
KMI				pmax		pmax		
	comp=Z,11nm,1.1s							
KMI				pmax		pmax		
	comp=Z,120nm,4.8s							
KMI				LR		LR		
	comp=Z,170nm,7.2s							
KMI				LR		LR		
	comp=Z,270nm,11.3s							
KMI				LR		LR		
	comp=Z,310nm,14.5s							
KMI	**Kunming**	**46.39**	**308**	P		**P**	**22 07 41.4**	**-0.3**
KMI				pmax		pmax		
	comp=Z,36nm,1.5s							
KMI	**Kunming**	**46.39**	**308**	P		**P**	**22 07 41.4**	**-0.3**
KMI				IAmb		IAmb	22 07 57.9	
	comp=Z,36nm,1.5s							
CM31	**Chiang Mai Arr**	**46.66**	**298**	P		**P**	**22 07 43.6**	**0.0**
CM31				IAmb		IAmb	22 09 20.5	
	comp=Z,19nm,1.6s							
CMAR	**Chiang Mai Arr**	**46.66**	**298**	P		**P**	**22 07 43.0**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=122,slow=7.2,SNR=7.8							
CMAR				PcP		**PcP**	**22 09 18.6**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=121,slow=2.9,SNR=6.3							
CMAR	**Chiang Mai Arr**	**46.66**	**298**	P		**P**	**22 07 43.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**46.66**	**298**	P		**P**	**22 07 43.8**	**+0.1**
USA0B	**Ussuriysk Arra**	**47.02**	**351**	P		**P**	**22 07 46.4**	**+0.4**
USA0B				pmax		pmax		
	comp=Z,21nm,1.0s							
USA0B	**Ussuriysk Arra**	**47.02**	**351**	P		**P**	**22 07 46.4**	**+0.4**
USA0B				IAmb		IAmb	22 07 57.0	
	comp=Z,21nm,0.9s							
USRK	**Ussuriysk Ar.**	**47.02**	**351**	P		**P**	**22 07 44.4**	**-1.6**
	comp=Z,4.2nm,0.9s,baz=163,slow=10.0,SNR=9.3							
USRK	**Ussuriysk Ar.**	**47.02**	**351**	P		**P**	**22 07 46.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**47.02**	**351**	P		**P**	**22 07 46.4**	**+0.4**
XAN	**Xi'an**	**47.36**	**323**	P		**P**	**22 07 49.0**	**+0.1**
XAN				pP		pwP	22 07 52.0	-4.0
XAN				S		**S**	**22 14 45.0**	**+2.0**
XAN				pmax		pmax		
	comp=Z,22nm,1.0s							
XAN				pmax		pmax		
	comp=Z,160nm,4.9s							
XAN				LR		LR		
	comp=Z,260nm,22.8s							
XAN				LR		LR		
	comp=Z,330nm,19.5s							
XAN				LR		LR		
	comp=Z,470nm,28.2s							
XAN	**Xi'an**	**47.36**	**323**	P		**P**	**22 07 48.5**	**-0.4**
XAN				pmax		pmax		
	comp=Z,15nm,0.9s							
XAN	**Xi'an**	**47.36**	**323**	P		**P**	**22 07 48.5**	**-0.4**
XAN				IAmb		IAmb	22 07 58.8	
	comp=Z,15nm,0.9s							
MDJ	**Mudanjiang**	**47.86**	**349**	P		**P**	**22 07 53.9**	**+1.4**
MDJ				pP		pwP	22 07 56.3	-3.3
MDJ				sP		sP	22 07 57.3	+2.1
MDJ				PP		**PP**	**22 09 45.4**	**+0.9**
MDJ				S		**S**	**22 14 52.4**	**+2.8**
MDJ				sS		sS	22 14 57.3	+4.6
MDJ				pmax		pmax		
	comp=Z,9.0nm,1.8s							
MDJ				pmax		pmax		
	comp=Z,200nm,6.0s							
MDJ				LR		LR		
	comp=Z,400nm,18.5s							
MDJ				LR		LR		
	comp=Z,400nm,21.4s							
MDJ				LR		LR		
	comp=Z,830nm,22.1s							
BJT	**Baijiatuau**	**48.04**	**334**	P		**P**	**22 07 53.9**	**-0.1**
BJT				pmax		pmax		
	comp=Z,12nm,1.2s							
BJT	**Baijiatuau**	**48.04**	**334**	P		**P**	**22 07 53.9**	**-0.1**
BJT				IAmb		IAmb	22 08 03.7	
	comp=Z,12nm,1.2s							
BJI	**Beijing**	**48.06**	**334**	P		**P**	**22 07 54.6**	**+0.5**
BJI				S		**S**	**22 14 54.8**	**+2.3**
BJI				pmax		pmax		
	comp=Z,6.0nm,1.3s							
BJI				LR		LR		
	comp=Z,300nm,21.6s							
BJI				LR		LR		
	comp=Z,210nm,11.2s							
BJI				LR		LR		
	comp=Z,510nm,25.6s							
URZ	**Urewera**	**48.42**	**142**	P		**P**	**22 07 57.9**	**+0.9**
	comp=Z,6.2nm,0.6s,baz=209,slow=23,SNR=1.9							
URZ				LR		LR	22 26 54.7	
	comp=Z,420nm,21.9s,baz=31,slow=34							
URZ	**Urewera**	**48.42**	**142**	P		**P**	**22 07 58.0**	**+0.9**
BKZ	**Black Stump Fm**	**48.63**	**144**	P

HIA	**Hailar**	**54.66**	**343**	P	**P**	**22 08 43.3**	**-0.2**		
SHL	**Shillong**	**55.40**	**303**	P	**P**	**22 08 49.6**	**+0.1**		
SHL				pmax	pmax				
	comp=Z,15nm,0.9s								
SHL	**Shillong**	**55.40**	**303**	P	**P**	**22 08 49.6**	**+0.1**		
SHL				IAmb	IAmb	22 08 59.7			
	comp=Z,16nm,0.9s								
GTA	**Gaotai**	**56.40**	**322**	⇑P	**P**	**22 08 57.6**	**+1.2**		
GTA				pP	pwP	22 09 07.3	+3.7		
GTA				sP	sP	22 09 11.5	+12		
GTA				pmax	pmax				
	comp=Z,6.0nm,1.2s								
GTA				pmax	pmax				
	comp=Z,170nm,6.2s								
GTA				LR	LR				
	comp=Z,140nm,16.7s								
GTA				LR	LR				
	comp=Z,230nm,20.0s								
GTA				LR	LR				
	comp=Z,200nm,18.9s								
PEA0B	**Petropavlovsk-**	**56.81**	**12**	P	**P**	**22 08 58.6**	**-0.3**		
PEA0B				pmax	pmax				
	comp=Z,115nm,1.8s								
PEA0B	**Petropavlovsk-**	**56.81**	**12**	P	**P**	**22 08 58.6**	**-0.3**		
PETK	**Petropavlovsk-**	**56.81**	**12**	P	**P**	**22 08 58.3**	**-0.5**		
	comp=Z,5.5nm,0.8s,baz=149,slow=5.2,SNR=8.0								
PETK				LR	LR	22 29 56.0			
	comp=Z,300nm,21.7s,baz=201,slow=32								
PETK	**Petropavlovsk-**	**56.81**	**12**	P	**P**	**22 08 58.5**	**-0.4**		
PETK	**Petropavlovsk-**	**56.81**	**12**	P	**P**	**22 08 58.5**	**-0.4**		
PET	**Petropavlovsk**	**56.92**	**12**	eP	P	22 09 06.3	+6.7		
PET				eS	**S**	**22 16 56.8**	**+3.3**		
ZEA	**Zeya**	**57.04**	**350**	eP	**P**	**22 09 00.6**	**+0.1**		
ZEA				pmax	pmax				
	comp=Z,10.0nm,1.1s								
LSA	**Lhasa**	**57.63**	**308**	P	**P**	**22 09 07.3**	**+1.6**		
LSA				pmax	pmax				
	comp=Z,19nm,0.9s								
LSA	**Lhasa**	**57.63**	**308**	P	**P**	**22 09 06.4**	**+0.7**		
LSA				pmax	pmax				
	comp=Z,12nm,1.2s								
LSA	**Lhasa**	**57.63**	**308**	P	**P**	**22 09 06.4**	**+0.7**		
ULN	**Ulaanbaatar**	**58.27**	**333**	*c*eP	**P**	**22 09 10.5**	**+1.1**		
ULN				pmax	pmax				
	comp=Z,13nm,1.3s								
ULN	**Ulaanbaatar**	**58.27**	**333**	P	**P**	**22 09 09.9**	**+0.5**		
SONM	**Songino Array**	**58.54**	**333**	P	**P**	**22 09 11.4**	**+0.1**		
	comp=Z,0.6nm,0.7s,baz=152,slow=9.4,SNR=6.7								
SONM				PcP	**PcP**	**22 10 01.9**	**+0.2**		
	comp=Z,1.3nm,0.7s,baz=143,slow=4.0,SNR=3.9								
SONM	**Songino Array**	**58.54**	**333**	P	**P**	**22 09 11.6**	**+0.3**		
SONM				pmax	pmax				
	comp=Z,3.0nm,0.9s								
SONM	**Songino Array**	**58.54**	**333**	P	**P**	**22 09 11.6**	**+0.3**		
TAPN	**Taplejung**	**59.53**	**304**	eP	**P**	**22 09 19.6**	**+0.8**		
	comp=Z,42nm,1.1s								
ODAN	**Odare**	**59.62**	**303**	eP	**P**	**22 09 19.9**	**+0.5**		
	comp=Z,28nm,0.8s								
RAMN	**Ramite**	**60.32**	**303**	eP	**P**	**22 09 25.0**	**+0.8**		
	comp=Z,13nm,0.6s								
GUN	**Gumba**	**61.25**	**304**	eP	**P**	**22 09 31.4**	**+0.8**		
	comp=Z,33nm,0.8s								
PKI	**Pulchoki**	**61.52**	**303**	eP	**P**	**22 09 32.9**	**+0.4**		
	comp=Z,21nm,1.0s								
PKIN	**Phulchoki**	**61.54**	**303**	eP	**P**	**22 09 32.8**	**+0.3**		
KKN	**Kakani**	**61.70**	**303**	eP	**P**	**22 09 34.3**	**+0.7**		
	comp=Z,33nm,0.7s								
DMN	**Daman**	**61.79**	**303**	eP	**P**	**22 09 35.0**	**+0.8**		
	comp=Z,39nm,0.8s								
ZAK	**Zakamensk**	**61.80**	**333**	eP	**P**	**22 09 33.5**	**-0.1**		
ZAK				pmax	pmax				
	comp=Z,11nm,1.1s								
MA2	**Magadan**	**62.07**	**5**	*c*eP	**P**	**22 09 35.0**	**-0.1**		
MA2				pmax	pmax				
	comp=Z,16nm,1.3s								
MA2	**Magadan**	**62.07**	**5**	P	**P**	**22 09 34.9**	**-0.2**		
MA2				IAmb	IAmb	22 09 44.3			
	comp=Z,18nm,1.0s								
GKN	**Gorkha**	**62.31**	**303**	eP	**P**	**22 09 38.5**	**+0.9**		
	comp=Z,45nm,0.6s								
TLY	**Talaya**	**62.57**	**334**	*i* P	**P**	**22 09 39.3**	**+0.7**		
TLY				pmax	pmax				
	comp=Z,6.0nm,1.0s								
TLY	**Talaya**	**62.57**	**334**	P	**P**	**22 09 39.0**	**+0.4**		
TLY				IAmb	IAmb	22 09 49.3			
	comp=Z,7.3nm,0.6s								
MOY	**Mondy**	**63.73**	**333**	eP	**P**	**22 09 47.3**	**+0.8**		
MOY				pmax	pmax				
	comp=Z,31nm,1.8s								
BOD	**Bodaibo**	**63.81**	**344**	eP	**P**	**22 09 45.4**	**-1.3**		
BOD				pmax	pmax				
	comp=Z,6.0nm,1.9s								
ADK	**Adak**	**64.46**	**27**	P	**P**	**22 09 51.2**	**+0.1**		
ADK				pmax	pmax				
	comp=Z,75nm,1.3s								
ADK	**Adak**	**64.46**	**27**	P	**P**	**22 09 51.2**	**+0.1**		
YAK	**Yakutsk**	**64.74**	**354**	eP	**P**	**22 09 52.2**	**-0.5**		
YAK				e*PP	**pwP**	**22 09 55.6**	**-4.2**		
YAK				*e*		22 10 24.6			
YAK				eS	**S**	**22 18 33.1**	**+0.1**		
YAK				e*SS	sS	22 18 43.5	+7.3		
YAK				*e*		22 19 45.0			
YAK				eSS	**SS**	**22 22 44.0**	**-0.3**		
YAK				pmax	pmax				
	comp=Z,14nm,1.1s								
YAK				pmax	pmax				
	comp=N,4.0nm,1.1s								
YAK				smax	smax				
	comp=N,94nm,4.3s								
YAK				smax	smax				
	comp=E,37nm,3.8s								
YAK				MLR	MLR				
	comp=Z,147nm,17.0s								
YAK				MLR	MLR				
	comp=N,71nm,19.0s								
YAK	**Yakutsk**	**64.74**	**354**	P	**P**	**22 09 52.6**	**-0.1**		
SEY	**Seymchan**	**65.53**	**5**	eP	**P**	**22 09 57.9**	**+0.1**		
WMQ	**Urumqi**	**66.41**	**320**	eP	**P**	**22 10 05.3**	**+1.3**		
WMQ				pP	pwP	22 10 11.1	-0.2		
WMQ				sP	sP	22 10 14.0	+7.3		
WMQ				pmax	pmax				
	comp=N,220nm,4.1s								
WMQ				LR	LR				
	comp=N,2μm,29.0s								
WMQ				LR	LR				
	comp=N,3μm,29.0s								
WMQ				LR	LR				
	comp=N,180nm,29.1s								
WMQ	**Urumqi**	**66.41**	**320**	P	**P**	**22 10 04.1**	**+0.1**		
WMQ				pmax	pmax				
	comp=Z,14nm,1.2s								
WMQ	**Urumqi**	**66.41**	**320**	P	**P**	**22 10 04.1**	**+0.1**		
WMQ				IAmb	IAmb	22 10 30.9			
	comp=Z,14nm,1.2s								
CASY	**Casey**	**67.53**	**193**	P	**P**	**22 10 11.9**	**+1.3**		
PPT2	**Papeete2**	**69.23**	**108**	eLR	LR	22 31 16.7			
	comp=Z,95nm,24.5s								
DGZ	**Jazzator, Alta**	**69.45**	**326**	eP	**P**	**22 10 21.1**	**-2.0**		
DGZ				pmax	pmax				
	comp=Z,5.0nm,1.1s								
ZSN	**Zaisan**	**69.86**	**323**	eP	**P**	**22 10 25.8**	**+0.2**		
	baz=323								
ZSN	**Zaisan**	**69.86**	**323**	eP	**P**	**22 10 25.7**	**+0.2**		
TBI	**Tubuai**	**69.88**	**114**	eLR	LR	22 31 42.6			
	comp=Z,188nm,40.0s								
MK31	**Makanchi Array**	**71.15**	**321**	P	**P**	**22 10 33.7**	**+0.2**		
MK31				pmax	pmax				
	comp=Z,21nm,1.8s								
MK31	**Makanchi Array**	**71.15**	**321**	P	**P**	**22 10 33.7**	**+0.2**		
MK31				IAmb	IAmb	22 10 55.4			
	comp=Z,21nm,1.8s								
MKAR	**Makanchi Array**	**71.15**	**321**	P	**P**	**22 10 33.7**	**+0.2**		
	comp=Z,1.7nm,0.7s,baz=107,slow=7.8,SNR=18								
MKAR	**Makanchi Array**	**71.15**	**321**	*i* P	**P**	**22 10 33.9**	**+0.4**		
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MAKZ	**Makanchi**	**71.36**	**321**	P	**P**	**22 10 34.7**	**0.0**		
MAKZ				pmax	pmax				
	comp=Z,9.0nm,0.8s								
MAKZ	**Makanchi**	**71.36**	**321**	P	**P**	**22 10 34.7**	**0.0**		
MAKZ				IAmb	IAmb	22 10 46.6			
	comp=Z,9.2nm,0.8s								
KPKS	**Kokpek**	**72.21**	**317**	eP	**P**	**22 10 40.4**	**+0.4**		
	comp=Z,4.3nm,1.7s,baz=317								
KPKS	**Kokpek**	**72.21**	**317**	eP	**P**	**22 10 40.4**	**+0.4**		
KPKS				pmax	pmax				
	comp=Z,4.0nm,1.7s								
SATY	**Saty**	**72.25**	**317**	eP	**P**	**22 10 40.8**	**+0.5**		
	baz=317								
SATY	**Saty**	**72.25**	**317**	eP	**P**	**22 10 40.8**	**+0.5**		
KSH	**Kashi**	**72.82**	**313**	P	**P**	**22 10 46.3**	**+2.5**		
KSH				pP	pwP	22 10 51.5	+0.5		
KSH				PP	**PP**	**22 13 30.1**	**+4.2**		
KSH				S	**S**	**22 20 09.3**	**-0.8**		
KSH				SS	**SS**	**22 24 50.0**	**-0.3**		
KSH				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KSH				pmax	pmax				
	comp=Z,170nm,7.1s								
KSH				LR	LR				
	comp=Z,210nm,7.7s								
KSH				LR	LR				
	comp=Z,140nm,6.3s								
KSH				LR	LR				
	comp=Z,400nm,8.7s								
TDK	**Taldyqorghan**	**72.95**	**319**	eP	**P**	**22 10 44.7**	**+0.4**		
	comp=Z,6.0nm,1.7s,baz=318								
TDK	**Taldyqorghan**	**72.95**	**319**	eP	**P**	**22 10 44.6**	**+0.4**		
TDK				pmax	pmax				
	comp=Z,6.0nm,1.7s								
ZAA0	**Zalesovo Array**	**72.97**	**329**	P	**P**	**22 10 43.2**	**-0.9**		
ZALV	**Zalesovo Beam**	**72.97**	**329**	P	**P**	**22 10 43.4**	**-0.7**		
	comp=Z,2.9nm,0.9s,baz=102,slow=6.2,SNR=12								
ZALV				LR	LR	22 41 33.6			
	comp=Z,176nm,21.2s,baz=113,slow=35								
ZALV	**Zalesovo Beam**	**72.97**	**329**	*i* P		**22 10 43.9**	**-0.2**		
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MDOK	**Medeo**	**73.22**	**316**	eP	**P**	**22 10 46.5**	**+0.4**		
	baz=316								
MDOK	**Medeo**	**73.22**	**316**	eP	**P**	**22 10 46.5**	**+0.4**		
NIL	**Nilore**	**73.31**	**306**	P	**P**	**22 10 47.2**	**+0.6**		
NIL				pmax	pmax				
	comp=Z,16nm,0.9s								
NIL	**Nilore**	**73.31**	**306**	P	**P**	**22 10 47.2**	**+0.6**		
NIL				IAmb	IAmb	22 10 56.3			
	comp=Z,16nm,0.8s								
KUU	**Kurty**	**73.95**	**317**	eP	**P**	**22 10 49.3**	**-1.0**		
	comp=Z,8.8nm,2.3s,baz=317								
KUU	**Kurty**	**73.95**	**317**	eP	**P**	**22 10 49.2**	**-1.0**		
KUU				pmax	pmax				
	comp=Z,9.0nm,2.3s								
TIXI	**Tiksi**	**74.22**	**356**	P	**P**	**22 10 51.5**	**+0.4**		
TIXI				pmax	pmax				
	comp=Z,12nm,1.7s								
TIXI	**Tiksi**	**74.22**	**356**		**P**	**22 10 51.5**	**+0.4**		
SDPT	**Sand Point**	**74.31**	**30**	P	**P**	**22 10 52.4**	**+0.5**		
AAK	**Ala-Archa**	**74.83**	**315**	*i* P	**P**	**22 10 56.8**	**+1.2**		
AAK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
AAK	**Ala-Archa**	**74.83**	**315**	P	**P**	**22 10 56.4**	**+0.8**		
BTLS	**Baital**	**75.88**	**318**	eP	**P**	**22 11 01.1**	**-0.2**		
	baz=318								
BTLS	**Baital**	**75.88**	**318**	eP	**P**	**22 11 01.0**	**-0.2**		
VNDA	**Vanda**	**76.01**	**176**	P	**P**	**22 11 02.2**	**+0.8**		
	comp=Z,3.3nm,0.9s,baz=333,slow=6.1,SNR=10								
VNDA				LR	LR	22 44 01.2			
	comp=Z,247nm,18.6s,baz=344,slow=35								
VNDA	**Vanda**	**76.01**	**176**	P	**P**	**22 11 02.2**	**+0.8**		
VNDA				pmax	pmax				
	comp=Z,30nm,1.8s								
VNDA	**Vanda**	**76.01**	**176**	P	**P**	**22 11 02.2**	**+0.8**		
VNDA				IAmb	IAmb	22 11 14.7			
	comp=Z,30nm,1.8s								
KBL	**Kabul**	**76.91**	**306**	P	**P**	**22 11 07.3**	**-0.3**		
KBL				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KBL	**Kabul**	**76.91**	**306**	P	**P**	**22 11 07.3**	**-0.3**		
ANM	**Nome**	**77.06**	**21**	P		22 11 08.8			
	baz=235								
ANM	**Nome**	**77.06**	**21**	P	**P**	**22 11 07.9**	**+0.3**		
ANM				pmax	pmax				
	comp=Z,26nm,1.6s								
ANM	**Nome**	**77.06**	**21**	P	**P**	**22 11 07.9**	**+0.3**		
ANM				IAmb	IAmb	22 11 27.3			
	comp=Z,26nm,1.6s								
KK31	**Karatay Array**	**77.78**	**315**	P	**P**	**22 11 11.5**	**-0.6**		
KK31				pmax	pmax				
	comp=Z,21nm,1.9s								
KK31	**Karatay Array**	**77.78**	**315**	P	**P**	**22 11 11.5**	**-0.6**		
KK31				IAmb	IAmb	22 11 27.0			
	comp=Z,21nm,1.9s								
KKAR	**Karatay Array**	**77.78**	**315**	P	**P**	**22 11 11.6**	**-0.5**		
KKAR						22 11 11.9			
KKAR	**Karatay Array**	**77.78**	**315**	P	**P**	**22 11 11.9**	**-0.2**		
KKAR				IAmb	IAmb	22 11 27.0			
	comp=Z,21nm,1.9s								
KKAR	**Karatay Array**	**77.78**	**315**	P	**P**	**22 11 11.6**	**-0.5**		
IUG	**Iuzhnay**	**77.88**	**314**	eP	**P**	**22 11 12.5**	**-0.3**		
	comp=Z,3.3nm,1.3s,baz=314								
IUG	**Iuzhnay**	**77.88**	**314**	eP	**P**	**22 11 12.5**	**-0.3**		
IUG				pmax	pmax				
	comp=Z,3.0nm,1.3s								
BRZS	**Berezniki**	**78.28**	**322**	eP	**P**	**22 11 14.5**	**-0.2**		
	baz=322								
BRZS	**Berezniki**	**78.28**	**322**	eP	**P**	**22 11 14.5**	**-0.2**		
OHAK	**Old Harbor**	**78.74**	**30**	P	**P**	**22 11 17.0**	**0.0**		
OHAK	**Old Harbor**	**78.74**	**30**	P		22 11 17.9			
	baz=248								
KDAK	**Kodiak Island**	**79.30**	**30**	P		22 11 20.9			
	baz=248								
KDAK	**Kodiak Island**	**79.30**	**30**	P	**P**	**22 11 20.5**	**+0.4**		
KDAK				pmax	pmax				
	comp=Z,35nm,0.9s								
KDAK	**Kodiak Island**	**79.30**	**30**	P	**P**	**22 11 20.5**	**+0.4**		
RDOG	**Red Dog Mine**	**79.85**	**18**	P		22 11 24.1			
	baz=237								
RDOG	**Red Dog Mine**	**79.85**	**18**	P	**P**	**22 11 23.2**	**+0.3**		
RDOG				IAmb	IAmb	22 11 33.0			
	comp=Z,34nm,1.3s								
BRVK	**Borovoye**	**80.62**	**325**	*c*eP	**P**	**22 11 27.3**	**-0.1**		
BRVK				pmax	pmax				
	comp=Z,18nm,1.0s								
BRVK	**Borovoye**	**80.62**	**325**	P	**P**	**22 11 27.6**	**+0.3**		
BRVK				IAmb	IAmb	22 11 38.3			
	comp=Z,15nm,0.9s								
PPLA	**Purkeypile**	**81.41**	**25**	P	**P**	**22 11 31.3**	**-0.2**		
PPLA	**Purkeypile**	**81.41**	**25**	P		22 11 31.7			
	baz=248								
RC01	**Rabbit Creek A**	**81.84**	**27**	P		22 11 33.3			
	baz=250								
RC01	**Rabbit Creek A**	**81.84**	**27**	P	**P**	**22 11 33.1**	**-0.6**		
RC01				IAmb	IAmb	22 11 42.3			
	comp=Z,18nm,0.6s								
IMAR	**Indian Mountai**	**82.01**	**22**	P	**P**	**22 11 34.6**	**+0.1**		
BPAW	**Bear Paw Mtn.**	**82.36**	**24**	P	**P**	**22 11 36.2**	**-0.2**		
BPAW				IAmb	IAmb	22 11 46.2			
	comp=Z,7.1nm,0.7s								
BPAW	**Bear Paw Mtn.**	**82.36**	**24**	P		22 11 36.4			
	baz=249								
HRA	**Herat**	**82.42**	**305**	P	**P**	**22 11 37.2**	**-0.3**		
HRA				IAmb	IAmb	22 11 39.3			
	comp=Z,17nm,1.6s								
TRF	**Thorofare Moun**	**82.42**	**25**	P	**P**	**22 11 36.2**	**-0.7**		
TRF	**Thorofare Moun**	**82.42**	**25**	P		22 11 36.1			
	baz=249								
KNK	**Knik Glacier**	**82.53**	**27**	P	**P**	**22 11 37.3**	**-0.1**		
KNK	**Knik Glacier**	**82.53**	**27**	P		22 11 37.5			
	baz=251								
SML	**Sawmill**	**82.71**	**27**	P	**P**	**22 11 38.2**	**-0.1**		
SML	**Sawmill**	**82.71**	**27**	P		22 11 38.0			
	baz=251								
WAT2	**Susitna Watana**	**82.98**	**26**	P		22 11 38.9			
	baz=251								
MCK	**McKinley**	**83.08**	**25**	P		22 11 39.6			
	baz=251								
SCM	**Sheep Creek Mo**	**83.17**	**27**	P	**P**	**22 11 40.6**	**-0.1**		
SCM				pmax	pmax				
	comp=Z,30nm,1.0s								
SCM	**Sheep Creek Mo**	**83.17**	**27**	P	**P**	**22 11 40.6**	**-0.1**		
NEA2	**Nenana**	**83.31**	**24**	P		22 11 40.9			
	baz=250								
I23K	**Minto, Yukon-K**	**83.39**	**23**	P	**P**	**22 11 41.9**	**+0.3**		
I23K	**Minto, Yukon-K**	**83.39**	**23**	P		22 11 42.0			
	baz=250								
A21K	**Barrow**	**83.40**	**17**	P	**P**	**22 11 42.1**	**+0.5**		
COLD	**Coldfoot**	**83.80**	**21**	P	**P**	**22 11 44.1**	**+0.3**		
COLD	**Coldfoot**	**83.80**	**21**	P		22 11 44.5			
	baz=249								
POKR	**Poker Plat Res**	**84.15**	**24**	P		22 11 45.8			
	baz=252								
IL31		**84.26**	**24**	P	**P**	**22 11 44.7**	**-1.4**		
ILAR	**Eielson Array**	**84.26**	**24**	P	**P**	**22 11 44.5**	**-1.6**		
	comp=Z,4.4nm,0.6s,baz=257,slow=4.8,SNR=81								
TOLK	**Toolik Lake Re**	**84.52**	**20**	P		22 11 48.4			
	baz=250								
TOLK	**Toolik Lake Re**	**84.52**	**20**	P	**P**	**22 11 47.7**	**+0.2**		
TOLK				IAmb	IAmb	22 11 56.9			
	comp=Z,29nm,1.8s								
DOT	**Dot Lake**	**85.13**	**26**	P	**P**	**22 11 50.2**	**-0.4**		
DOT				IAmb	IAmb	22 12 09.4			
	comp=Z,20nm,1.4s								
SCRK	**Sand Creek**	**85.25**	**25**	P		22 11 51.2			
	baz=255								
CTG	**Chitna Glacier**	**85.73**	**28**	P		22 11 54.7			
	baz=258								
BMAR	**Burnt Mountain**	**85.93**	**22**	P	**P**	**22 11 55.4**	**+0.9**		
BCAR	**Beaver Creek A**	**85.99**	**26**	P	**P**	**22 11 54.6**	**-0.3**		
K27K	**Chicken**	**86.08**	**25**	P	**P**	**22 11 56.0**	**+0.7**		
K27K				IAmb	IAmb	22 12 05.0			
	comp=Z,8.4nm,0.8s								
K27K	**Chicken**	**86.08**	**25**	P		22 11 56.1			
	baz=257								
GEYT	**Alibeck**	**86.16**	**308**	P	**P**	**22 11 56.6**	**+0.3**		
	comp=Z,2.4nm,0.8s,baz=176,slow=4.5,SNR=10.0								
GEYT	**Alibeck**	**86.16**	**308**	P	**P**	**22 11 56.8**	**+0.5**		
GYA0B	**ALIBECK ARRAY**	**86.16**	**308**	P	**P**	**22 11 56.8**	**+0.5**		
GYA0B				IAmb	IAmb	22 11 58.8			
	comp=Z,16nm,1.3s								
ABKAR	**Akbulak array**	**86.18**	**319**	P	**P**	**22 11 55.7**	**-0.4**		
ABKAR	**Akbulak array**	**86.18**	**319**	P	**P**	**22 11 55.6**	**-0.5**		
EGAK	**Eagle**	**86.63**	**25**	P		22 11 58.0			
	baz=258								
UOSS	**Minazif**	**86.68**	**295**	P	**P**	**22 11 58.7**	**-0.4**		
UOSS				IAmb	IAmb	22 12 00.1			
	comp=Z,11nm,1.1s								
DAWY	**Dawson**	**87.24**	**26**	P	**P**	**22 12 01.6**	**+0.6**		
QSPA	**South Pole Qui**	**87.70**	**180**	P	**P**	**22 12 03.9**	**+0.6**		
QSPA				IAmb	IAmb	22 12 15.4			
	comp=Z,12nm,0.9s								
ARU	**Arti**	**87.95**	**327**	*c* iP	**P**	**22 12 03.4**	**-1.1**		
ARU				S	**SKSac**	**22 22 30.2**	**-2.8**		
ARU				pmax	pmax				
	comp=Z,6.0nm,1.1s								
SOCY	**Socotra**	**88.05**	**282**	P	**P**	**22 12 05.7**	**-0.3**		
C36M	**Paulatuk**	**93.65**	**21**	P		22 12 30.3			
	baz=273								
O02D	**Mt. Diablo Mer**	**95.80**	**50**	P		22 12 42.5			
	baz=272								
KBZ	**Khabaz**	**97.78**	**314**	*i* P	Pdif	22 12 51.3	+1.1		
KIV	**Kislovodsk**	**97.91**	**314**	eP	Pdif	22 12 52.9	+1.9		
KIV				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,354nm,20.0s								
YKA	**Yellowknife Ar**	**98.38**	**27**	P	Pdif	22 12 51.1	-1.4		
	comp=Z,0.5nm,0.7s,baz=278,slow=4.2,SNR=8.9								
YKA				LR	LR	22 53 23.7			
	comp=Z,246nm,21.5s,baz=0.0,slow=33								
NVAR	**Mina Array Bea**	**99.37**	**52**	P	**Pdif**	**22 12 57.1**	**-0.7**		
	comp=Z,0.3nm,0.2s,baz=263,slow=7.0,SNR=3.6								
NOR	**Nord**	**100.08**	**357**	*e*	**Pdif**	**22 12 56.2**	**-3.5**		
	baz=273,slow=5.1								
NOR				*i* P	**Pdif**	**22 12 57.9**	**-1.8**		
NOR				IAML		22 13 27.1			
	comp=Z,1.3nm,0.4s								
ARCES	**ARCESS Array B**	**100.98**	**341**	P	**Pdif**	**22 13 03.6**	**-0.3**		
	comp=Z,5.9nm,1.0s,baz=60,slow=5.5,SNR=2.3								
FINES	**FINESS Array B**	**103.91**	**333**	Pdiff	**Pdif**	**22 13 15.7**	**-1.4**		
	comp=Z,2.2nm,0.7s,baz=52,slow=3.1,SNR=3.4								
CONA	**Conrad Observa**	**114.87**	**323**	*i* P	PKPdf	22 17 55.8	0.0		
	comp=Z,1nm,0.9s								
GERES	**GERESS Array B**	**115.72**	**325**	PKP	**PKPdf**	**22 17 57.3**	**-0.2**		
	comp=Z,0.5nm,0.6s,baz=77,slow=1.8,SNR=6.3								
GERES	**GERESS Array B**	**115.72**	**325**	PKIKP	**PKPdf**	**22 17 57.0**	**-0.4**		
GERES	**GERESS Array B**	**115.72**	**325**		**PKPdf**	**22 17 57.0**	**-0.4**		
STAL	**STALIGIAL**	**117.55**	**322**		**PKiKP**	**22 17 60.0**	**-1.0**		
WATA	**Walderalm**	**117.70**	**324**	*i* P	**PKiKP**	**22 18 01.0**	**-0.4**		
	comp=Z,0.7nm,0.3s								
WTTA	**Wattenberg**	**117.70**	**324**	*i* P	**PKiKP**	**22 18 01.6**	**+0.1**		
	comp=Z,0.9nm,0.3s								
MOTA	**Moosalm**	**117.97**	**324**	*i* P	**PKiKP**	**22 18 01.8**	**-0.1**		
	comp=Z,1.9nm,0.7s								
SQTA	**Sankt Quirin**	**117.97**	**324**	*i* P	**PKiKP**	**22 18 02.0**	**+0.1**		
	comp=Z,0.5nm,0.3s								
S39A	**Bolivar**	**118.70**	**48**		**PKiKP**	**22 18 02.7**	**-0.7**		
DAVA	**Damuels**	**118.72**	**325**	*i* P	**PKiKP**	**22 18 03.5**	**+0.1**		
	comp=Z,1.0nm,0.3s								
U40A	**Yellville**	**119.53**	**49**	P		22 18 03.9			
	baz=291								
CCM	**Cathedral Cave**	**120.09**	**47**	P		22 18 05.4			
	baz=293								
LSQQ	**Lebel-sur-Quev**	**122.94**	**29**	P		22 18 10.6			
	baz=312								
BLO	**Bloomington**	**122.95**	**44**	PKIKP	**PKiKP**	**22 18 11.7**	**0.0**		
BLO	**Bloomington**	**122.95**	**44**		**PKiKP**	**22 18 11.7**	**0.0**		
VLDQ	**Val d'Or**	**123.34**	**30**	PKPdf	**PKiKP**	**22 18 10.7**	**-1.5**		
D55A	**Sainte-Anne-du**	**125.07**	**30**	P		22 18 15.3			
	baz=313			

AFI	**Afiamalu**	**5.23**	**29**			**Pn**	**22 02 54.5**	**+2.6**
MSVF	**Nonsavu**	**7.26**	**275**	LR		LR	22 05 42.0	
	comp=Z,336nm,19.6s,baz=333,slow=35							
RAR	**Rarotonga**	**13.98**	**103**	Pn		**Pn**	**22 04 50.7**	**-1.1**
	2.3nm,0.3s,baz=331,slow=11,SNR=2.9							
RAR				LR		LR	22 09 14.4	
	comp=Z,102nm,18.4s,baz=282,slow=33							
RAR	**Rarotonga**	**13.98**	**103**	Pn		**Pn**	**22 04 50.6**	**-1.2**
DZM	**Mont Dzumac**	**18.34**	**256**	eLR		LR	22 10 05.0	
	comp=Z,368nm,28.1s							
DZM	**Mont Dzumac**	**18.34**	**256**	P		**P**	**22 05 44.4**	**-3.4**
URZ	**Urewera**	**21.02**	**199**	P		**P**	**22 06 17.4**	**+0.7**
	6.9nm,0.3s,baz=112,slow=11,SNR=16							
URZ	**Urewera**	**21.02**	**199**	P		**P**	**22 06 17.0**	**+0.3**
URZ				IAmb		IAmb	22 06 24.7	
	comp=Z,28nm,1.4s							
BFZ	**Birch Farm**	**23.50**	**198**	P		**P**	**22 06 41.9**	**-1.0**
BFZ				IAmb		IAmb	22 06 46.5	
	comp=Z,16nm,0.9s							
PAE	**Paea**	**23.57**	**92**	*e*T		T	22 30 49.7	
	comp=Z,5.0nm,0.2s							
PPT2	**Papeete2**	**23.58**	**92**	*e*LR		LR	22 12 33.7	
	comp=Z,186nm,25.8s							
PPT2	**Papeete2**	**23.58**	**92**	*e*T		T	22 30 53.7	
	comp=Z,4.5nm,0.4s							
PPT	**Papeete**	**23.59**	**92**	LR		LR	22 13 37.8	
	comp=Z,90nm,18.3s,baz=294,slow=31							
TBI	**Tubuai**	**23.73**	**106**	*e*T		T	22 30 56.4	
	comp=Z,6.7nm,0.3s							
CTA	**Charters Tower**	**37.14**	**261**	P		**P**	**22 08 44.0**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=88,slow=10,SNR=7.1							
CTAO	**Charters Tower**	**37.14**	**261**	P		**P**	**22 08 43.8**	**0.0**
CTAO				IAmb		IAmb	22 08 46.7	
	comp=Z,11nm,1.0s							
WR0	**Warramunga Arr**	**48.11**	**260**	P		**P**	**22 10 12.4**	**-0.5**
WRA	**Warramunga Arr**	**48.30**	**260**	P		**P**	**22 10 12.8**	**-1.5**
	comp=Z,1.9nm,0.4s,baz=97,slow=5.8,SNR=44							
AS31	**Alice Springs**	**48.32**	**255**	P		**P**	**22 10 13.6**	**-1.0**
ASAR	**Alice Springs**	**48.33**	**255**	P		**P**	**22 10 13.6**	**-1.0**
	comp=Z,2.7nm,0.6s,baz=86,slow=8.4,SNR=13							
ASAR	**Alice Springs**	**48.33**	**255**	P		**P**	**22 10 13.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**56.71**	**260**	P		**P**	**22 11 17.0**	**+0.3**
	comp=Z,5.0nm,0.9s,baz=73,slow=11,SNR=1.9							
FITZ	**Fitzroy Crossi**	**56.71**	**260**	P		**P**	**22 11 16.2**	**-0.5**
MJAR	**Matsushiro Arr**	**70.75**	**321**	P		**P**	**22 12 48.8**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=158,slow=5.2,SNR=3.3							
QSPA	**South Pole Qui**	**71.53**	**180**	P		**P**	**22 12 53.6**	**+0.3**
QSPA				IAmb		IAmb	22 12 56.9	
	comp=Z,11nm,1.1s							
NVAR	**Mina Array Bea**	**77.26**	**42**	P		**P**	**22 13 28.6**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=232,slow=9.5,SNR=5.3							
KSRS	**Korea Array**	**77.76**	**316**	P		**P**	**22 13 31.1**	**+1.5**
	comp=Z,1.6nm,1.0s,baz=132,slow=5.6,SNR=5.1							
USRK	**Ussuriysk Ar.**	**79.34**	**324**	P		**P**	**22 13 39.6**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=190,slow=5.6,SNR=2.2							
TXAR	**Lajitas Array**	**83.12**	**56**	P		**P**	**22 14 01.5**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=198,slow=7.9,SNR=4.0							
H03S2	**Juan Fernandez**	**84.25**	**124**	T		T	23 46 47.9	
	baz=249,slow=75,SNR=21							
H03S1	**Juan Fernandez**	**84.26**	**124**	T		T	23 46 49.4	
	baz=249,slow=75,SNR=17							
H03S3	**Juan Fernandez**	**84.26**	**124**	T		T	23 46 45.7	
	baz=249,slow=75,SNR=16							
H03N2	**Juan Fernandez**	**84.37**	**123**	T		T	23 46 55.5	
	baz=257,slow=72,SNR=10							
H03N3	**Juan Fernandez**	**84.37**	**123**	T		T	23 46 56.7	
	baz=257,slow=72,SNR=11							
H03N1	**Juan Fernandez**	**84.38**	**123**	T		T	23 46 58.5	
	baz=257,slow=72,SNR=10							
PDAR	**Pinedale Array**	**85.20**	**42**	P		**P**	**22 14 09.0**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=204,slow=3.3,SNR=4.3							
ILAR	**Eielson Array**	**85.68**	**11**	P		**P**	**22 14 11.0**	**+0.1**
	comp=Z,1.4nm,1.1s,baz=224,slow=6.3,SNR=3.1							
YKA	**Yellowknife Ar**	**93.32**	**24**	P		**P**	**22 14 47.6**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=210,slow=3.6,SNR=2.5							
CLL	**Collm**	**146.78**	**352**	*i* PKPbc		**PKPbc**	**22 21 14.5**	**+0.2**
	comp=Z,6.0nm,0.9s							
OSTC	**Ostas**	**146.95**	**348**	*e*PKP		**PKPab**	**22 21 15.9**	**-0.4**
DPC	**Dobruska-Polom**	**147.13**	**347**	*e*PKP		**PKPab**	**22 21 16.6**	**-0.5**
KRLC	**Kraliky**	**147.29**	**347**	*e*PKP		**PKPbc**	**22 21 16.5**	**+0.6**
BRTR	**Keskin Array B**	**147.90**	**317**	PKPbc		**PKPbc**	**22 21 18.0**	**0.0**
	comp=Z,1.5nm,1.0s,baz=124,slow=1.7,SNR=4.0							
KHC	**Kasperske Hory**	**148.81**	**350**	*e*PKP		**PKPbc**	**22 21 20.3**	**+0.3**
CKRC	**Cesky Krumlov**	**148.98**	**349**	*e*PKP		**PKPbc**	**22 21 20.8**	**+0.4**
GERES	**GERESS Array B**	**149.06**	**350**	PKPbc		**PKPbc**	**22 21 21.0**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=35,slow=5.3,SNR=5.5							
CONA	**Conrad Observa**	**149.51**	**346**	*i* P		**PKiKP**	**22 21 22.9**	**0.0**
	comp=Z,7.0nm,1.4s							
RETA	**Reutte**	**150.82**	**353**	*i* P		**PKPbc**	**22 21 25.3**	**+0.4**
	comp=Z,4.2nm,1.1s							
KBA	**Koelnbreinsper**	**150.83**	**349**	*i* P		**PKPbc**	**22 21 24.9**	**-0.2**
	comp=Z,3.3nm,1.0s							
WATA	**Walderalm**	**150.86**	**352**	*e*P		**PKPbc**	**22 21 25.2**	**0.0**
	comp=Z,5.1nm,1.2s							
SOKA	**Soboth**	**150.88**	**347**	*i* P		**PKPbc**	**22 21 24.2**	**-1.0**
	comp=Z,4.4nm,1.2s							
MOTA	**Moosalm**	**150.92**	**352**	*i* P		**PKPbc**	**22 21 24.6**	**-0.7**
	comp=Z,4.8nm,1.0s							
WTTA	**Wattenberg**	**150.92**	**352**	*i* P		**PKiKP**	**22 21 25.9**	**-0.1**
	comp=Z,5.5nm,0.9s							
DAVA	**Damuels**	**151.11**	**354**	*i* P		**PKiKP**	**22 21 26.6**	**+0.3**
	comp=Z,4.8nm,1.1s							
OBKA	**Obir**	**151.15**	**347**	*i* P		**PKiKP**	**22 21 26.6**	**+0.3**
	comp=Z,4.8nm,1.2s							
FETA	**Feichten**	**151.28**	**353**	*i* P		**PKiKP**	**22 21 27.0**	**+0.3**
	comp=Z,4.6nm,1.3s							
ABTA	**Abfaltersbach**	**151.30**	**350**	*i* P		**PKPbc**	**22 21 26.1**	**-0.1**
	comp=Z,4.9nm,1.0s							

IDC ***14*** *22:06:17.8±1.1,4.°13N×126.°95E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.7/41,mbtmp3.8/6,MS4.2/4,Ms1 4.2/4, ms1mx3.4/36,Error ellipse: s-maj=72.1km s-min=19.6km az=73.0*

ISC 14 22:06:24.4±1.0,**3.°7N**±0.°1×**126.°1E**±0.°3,**h35**km,**n14,** σ1§**33**/**9**,**mb3.8**/**6**,**MS4.4**/**4**,**1C**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.44**	**352**	*e*P		**Pn**	**22 07 03.1**	**+1.2**
SKMP	**Bagumbayan, Su**	**3.21**	**332**	*e*P		**Pn**	**22 07 12.8**	**+0.3**
KCP	**Kidapawan**	**3.46**	**344**	*e*P		**Pn**	**22 07 16.6**	**+0.8**
PAGZ	**Pagadian**	**4.94**	**327**	*e*P		**Pn**	**22 07 37.9**	**+1.8**
WRA	**Warramunga Arr**	**24.83**	**161**	P		**P**	**22 11 42.4**	**-1.3**
	3.1nm,0.7s,baz=344,slow=11,SNR=7.8							
PSI	**Prapat**	**27.11**	**269**	LR		LR	22 24 15.1	
	comp=Z,119nm,20.1s,baz=91,slow=38							
ASAR	**Alice Springs**	**28.22**	**165**	P		**P**	**22 12 15.0**	**+0.8**
	0.6nm,0.7s,baz=347,slow=7.7,SNR=1.9							
STKA	**Stephens Creek**	**38.31**	**158**	P		**P**	**22 13 42.4**	**+0.5**
	0.9nm,0.4s,baz=317,slow=7.8,SNR=3.9							
SONM	**Songino Array**	**47.15**	**342**	P		**P**	**22 14 52.4**	**-1.1**
	0.2nm,0.5s,baz=156,slow=8.9,SNR=2.4							
PETK	**Petropavlovsk-**	**55.74**	**22**	P		P	22 15 50.1	-7.4
	1.1nm,0.3s,baz=217,slow=7.0,SNR=3.1							
MKAR	**Makanchi Array**	**57.23**	**326**	P		**P**	**22 16 07.1**	**-1.2**
	0.3nm,0.5s,baz=121,slow=7.5,SNR=8.2							
AKASG	**Malin Array Be**	**91.52**	**321**	LR		LR	23 05 13.7	
	comp=Z,94nm,18.9s,baz=335,slow=39							
FINES	**FINESS Array B**	**91.57**	**332**	LR		LR	23 02 15.5	
	comp=Z,271nm,18.7s,baz=52,slow=37							
NOA	**NORSAR Array B**	**98.55**	**333**	LR		LR	23 07 01.9	
	comp=Z,182nm,18.1s,baz=35,slow=37							

NEIC ***14*** *22:17:23.9±0.7,18.°5S±0.°1×174.°5W±0.°1,h35km±7km, mb4.6/7,Error ellipse: s-maj=18.5km s-min=16.6km az=69.0*

IDC ***14*** *22:17:24.6±3.2,18.°46S×174.°41W,h48km±32km,mb3.9/8, mb1 4.1/9,mb1mx3.8/25,mbtmp4.2/9,ML3.9/1,Error ellipse: s-maj=41.8km s-min=18.4km az=125.0*

ISC 14 22:17:23.1±0.6,**18.°40S**±0.°09×**174.°4W**±0.°1,**h35**km,**n30,** σ1§**41**/**26**,**mb4.5**/**11**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.29**	**100**	Pn		**Pn**	**22 18 27.2**	**+1.4**
AFI	**Afiamalu**	**5.13**	**30**	P		**Pn**	**22 18 39.9**	**+2.3**
	4.6nm,0.3s,baz=215,slow=6.3,SNR=7.4							
AFI				S		**Sn**	**22 19 32.5**	**-3.1**
	10nm,0.3s,baz=20,slow=24,SNR=2.9							
AFI	**Afiamalu**	**5.13**	**30**			**Pn**	**22 18 40.0**	**+2.5**
URZ	**Urewera**	**21.13**	**199**	P		**P**	**22 22 04.0**	**-0.9**
	3.6nm,0.4s,baz=360,slow=4.3,SNR=6.1							
URZ	**Urewera**	**21.13**	**199**	P		**P**	**22 22 04.3**	**-0.5**
URZ				IAmb		IAmb	22 22 10.7	
	comp=Z,21nm,1.0s							
BKZ	**Black Stump Fm**	**22.15**	**199**	P		**P**	**22 22 15.5**	**-0.5**
BKZ				IAmb		IAmb	22 22 19.0	
	comp=Z,9.2nm,1.2s							
RPZ	**Rata Peaks**	**28.05**	**203**	P		**P**	**22 23 11.9**	**+0.7**
	comp=Z,6.6nm,0.7s,baz=21,slow=7.0,SNR=1.7							
RPZ	**Rata Peaks**	**28.05**	**203**	P		**P**	**22 23 10.8**	**-0.4**
RPZ				IAmb		IAmb	22 23 15.2	
	comp=Z,24nm,1.5s							
CTAO	**Charters Tower**	**37.13**	**261**	P		**P**	**22 24 31.8**	**+1.1**
CTAO				IAmb		IAmb	22 24 51.4	
	comp=Z,22nm,1.4s							
WB0	**Warramunga Arr**	**48.27**	**260**	P		**P**	**22 26 01.2**	**0.0**
WB0				IAmb		IAmb	22 26 01.3	
	comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**48.30**	**259**	P		**P**	**22 26 00.9**	**-0.5**
	comp=Z,2.7nm,0.4s,baz=95,slow=7.8,SNR=88							
AS31	**Alice Springs**	**48.33**	**254**	P		**P**	**22 26 01.4**	**-0.2**
ASAR	**Alice Springs**	**48.33**	**254**	P		**P**	**22 26 01.4**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=89,slow=8.3,SNR=53							
ASAR				PcP		**PcP**	**22 27 28.2**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=94,slow=4.4,SNR=2.0							
ASAR	**Alice Springs**	**48.33**	**254**	P		**P**	**22 26 01.1**	**-0.5**
FORT	**Forrest**	**53.25**	**245**	P		**P**	**22 26 37.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**56.71**	**260**	P		**P**	**22 27 04.2**	**+0.5**
QSPA	**South Pole Qui**	**71.66**	**180**	P		**P**	**22 28 42.0**	**+0.8**
PETK	**Petropavlovsk-**	**75.20**	**343**	P		**P**	**22 29 02.4**	**+0.5**
	comp=Z,7.5nm,1.1s,baz=132,slow=2.1,SNR=3.9							
NVAR	**Mina Array Bea**	**77.19**	**42**	P		**P**	**22 29 12.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=220,slow=5.4,SNR=1.8							
H03S2	**Juan Fernandez**	**84.34**	**124**	T		T	00 02 39.1	
	baz=249,slow=75,SNR=5.0							
H03S1	**Juan Fernandez**	**84.35**	**124**	T		T	00 02 42.0	
	baz=249,slow=75,SNR=4.7							
H03S3	**Juan Fernandez**	**84.36**	**124**	T		T	00 02 34.7	
	baz=249,slow=75,SNR=4.3							
H03N2	**Juan Fernandez**	**84.46**	**123**	T		T	00 02 40.1	
	baz=257							
H03N3	**Juan Fernandez**	**84.46**	**123**	T		T	00 02 43.6	
	baz=257							
H03N1	**Juan Fernandez**	**84.47**	**123**	T		T	00 02 41.3	
	baz=257							
ILAR	**Eielson Array**	**85.56**	**11**	P		**P**	**22 29 58.6**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=227,slow=6.0,SNR=10							
ILAR	**Eielson Array**	**85.56**	**11**	P		**P**	**22 29 58.9**	**+1.6**
CMAR	**Chiang Mai Arr**	**92.65**	**288**	P		**P**	**22 30 30.3**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=83,slow=2.2,SNR=2.4							
AKASG	**Malin Array Be**	**142.69**	**335**	PKP		**PKPdf**	**22 36 49.8**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=55,slow=3.1,SNR=2.0							
GERES	**GERESS Array B**	**148.93**	**350**	PKPbc		**PKPbc**	**22 37 07.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=44,slow=4.4,SNR=2.5							

IDC ***14*** *22:28:46.4±2.1,7.°69S×128.°23E,h156km±26km,mb2.9/2, mb1 3.1/6,mb1mx3.0/33,mbtmp3.5/6,Error ellipse: s-maj=24.5km s-min=21.1km az=112.0*

ISC 14 22:28:45.2±0.9,**7.°84S**±0.°07×**128.°42E**±0.°09,**h150**km,**n7,** σ2§**15**/**11**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.25**	**243**	P		**Pn**	**22 30 02.5**	**+0.6**
	baz=76,slow=4.2							
BATI				S		**Sn**	**22 31 02.0**	**0.0**
	7.9nm,0.3s,baz=18,slow=20,SNR=3.5							
SIJI	**Sorong**	**7.48**	**22**	P		**Pn**	**22 30 31.9**	**+0.1**
	1.0nm,0.3s,baz=195,slow=20,SNR=1.6							
FITZ	**Fitzroy Crossi**	**10.55**	**195**	P		**Pn**	**22 31 13.3**	**+0.8**
	0.6nm,0.3s,baz=19,slow=9.0,SNR=22							
FITZ				S		**Sn**	**22 33 07.0**	**-2.3**
	0.5nm,0.3s,baz=325,slow=16,SNR=6.2							
WRA	**Warramunga Arr**	**13.33**	**155**	P		**P**	**22 31 51.9**	**-1.0**
	0.2nm,0.3s,baz=324,slow=14,SNR=9.0							
WRA				S		**Sn**	**22 34 14.7**	**-1.7**
	0.8nm,0.3s,baz=333,slow=22,SNR=14							
ASAR	**Alice Springs**	**16.59**	**162**	P		**Pn**	**22 32 34.1**	**+4.8**
	0.1nm,0.3s,baz=346,slow=12,SNR=12							
ASAR				S		**S**	**22 35 32.9**	**-0.9**
	0.1nm,0.3s,baz=346,slow=15,SNR=4.2							
SONM	**Songino Array**	**58.75**	**343**	P		**P**	**22 38 27.5**	**0.0**
	0.3nm,0.8s,baz=173,slow=6.0,SNR=2.6							
MKAR	**Makanchi Array**	**68.08**	**328**	P		**P**	**22 39 27.1**	**-1.6**
	0.1nm,0.4s,baz=114,slow=7.0,SNR=4.2							

BJI ***14*** *22:30:56.1±0.0,5.°76S×146.°68E,h76km,mB5.1/37, mb4.8/51,Ms4.6/12,Ms7 4.3/14*

IDC ***14*** *22:30:57.1±1.7,5.°69S×146.°39E,h54km±15km,mb4.5/24, mb1 4.6/29,mb1mx4.6/35,mbtmp4.8/29,ML4.1/4,MS4.1/21, Ms1 4.2/21,ms1mx4.1/24,Error ellipse: s-maj=13.4km s-min=9.0km az=68.0*

DJA ***14*** *22:30:59.5±0.4,6.°S±3.°×14.°6E±.°,h70km±4km,M5.0/41, mb5.1/41,mB5.4/14,MLv5.4/3,Mw(mB)4.9/14, MwMwp5.1/1,Mwp5.3/1*

NEIC ***14*** *22:30:59.1±1.5,5.°69S±0.°06×146.°36E±0.°08,h73km±6km, mb4.9/103,Error ellipse: s-maj=12.2km s-min=9.1km az=87.0*

GCMT ***14*** *22:31:01.1±0.2,5.°67S±0.°01×146.°40E±0.°01,h69km±1km, MW5.1/116,Moment Tensor Solution. s72,c92; s116,c183; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.83±.15; Mθθ-3.25±.12; Mϕϕ-0.58±.12; Mrθ-3.11±.09; Mθϕ2.17±.10; Mϕr1.56±.10; Best double couple: M₀5.41300×10¹⁶ NP1ϕs122.00000°,δs25.00000°, λ94.00000°. NP2ϕs297.00000°,δs65.00000°,λ88.00000°. Principal axes: T 5.0990, Plg70.0000°, Azm204.0000°; N 0.6270, Plg2.0000°, Azm298.0000°; P -5.7280, Plg20.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 22:30:59.2±0.3,**5.°70S**±0.°04×**146.°43E**±0.°05,**h73**km,**n283,** σ1§**09**/**288**,**mb4.9**/**107**,**2D**,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.75**	**14**	Pn		**Pn**	**22 31 53.7**	**-0.9**
PMG	**Port Moresby**	**3.76**	**169**	P		**Pn**	**22 31 54.0**	**-0.7**
	115nm,0.3s,baz=40,slow=5.9,SNR=99							
PMG				S		**Sn**	**22 32 36.7**	**-1.1**
	148nm,0.3s,baz=323,slow=20,SNR=8.0							
PMG				LR		LR	22 33 40.5	
	comp=Z,8μm,20.3s,baz=356,slow=43							
PMG	**Port Moresby**	**3.76**	**169**	P		**Pn**	**22 31 54.4**	**-0.3**
RABL	**Rabaul**	**5.90**	**76**	Pn		**Pn**	**22 32 23.6**	**-0.5**
RABL	**Rabaul**	**5.90**	**76**	P		**Pn**	**22 32 23.9**	**-0.2**
JAY	**Jayapura**	**6.53**	**299**	P		**Pn**	**22 32 30.6**	**-2.0**
	1.4nm,0.3s,baz=162,slow=13,SNR=2.5							
JAY				LR		LR	22 35 20.3	
	comp=Z,2μm,20.5s,baz=172,slow=41							
GENI	**Genyem**	**6.97**	**296**	P		**Pn**	**22 32 41.1**	**+2.4**
	1.8nm192nm,0.8s							
SMPI	**Sarmi**	**8.54**	**295**	P		**Pn**	**22 33 00.6**	**+0.5**
	47nm,1.0s							
COEN	**Coen**	**8.81**	**201**	P		**Pn**	**22 33 03.6**	**-0.3**
	baz=8.8							
COEN				S		**Sn**	**22 34 40.6**	**-1.1**
	baz=8.8							
COEN	**Coen**	**8.81**	**201**	Pn		**Pn**	**22 33 03.8**	**-0.1**
SRPI	**Serui, Papua**	**10.86**	**290**	P		**Pn**	**22 33 32.2**	**+0.4**
MTSU	**Mount Surprise**	**12.54**	**189**	P		**Pn**	**22 33 54.5**	**-0.1**
	baz=12,SNR=17							
HNR	**Honiara**	**13.90**	**106**	P		**Pn**	**22 34 13.2**	**+0.3**
	16nm,0.3s,baz=307,slow=15,SNR=1.4							
HNR				LR		LR	22 39 05.7	
	comp=Z,274nm,20.1s,baz=278,slow=35							
CTA	**Charters Tower**	**14.31**	**181**	P		**Pn**	**22 34 20.5**	**+2.3**
	5.6nm,0.3s,baz=360,slow=14,SNR=46							
CTA				LR		LR	22 40 10.2	
	comp=Z,2μm,18.4s,baz=16,slow=39							
CTA	**Charters Tower**	**14.31**	**181**	P		**Pn**	**22 34 19.1**	**+0.9**
	baz=14							
CTAO	**Charters Tower**	**14.31**	**181**	Pn		**Pn**	**22 34 18.9**	**+0.7**
FAKI	**Fak Fak**	**14.41**	**280**	Pn		**Pn**	**22 34 20.0**	**+0.4**
FAKI	**Fak Fak**	**14.41**	**280**	P		P	**22 34 26.0**	**+1.6**
KDU	**Kakadu**	**15.43**	**242**	P		**Pn**	**22 34 33.1**	**+0.5**
	baz=15,SNR=12							
SIJI	**Sorong**	**15.88**	**287**	P		**Pn**	**22 34 37.2**	**-1.3**
	1.3nm,0.3s,baz=96,slow=14,SNR=5.6							
SIJI				LR		LR	22 41 59.7	
	comp=Z,600nm,20.8s,baz=40,slow=42							
SWI	**Sorong**	**15.89**	**287**	P		**Pn**	**22 34 37.2**	**-1.3**
	2μm175nm,0.7s							
QIS	**Mount Isa**	**16.19**	**204**	P		**Pn**	**22 34 42.3**	**0.0**
	baz=16,SNR=8.5							

MTN	**Manton Dam**	**16.68**	**244**	P		**Pn**	**22 34 48.9**	**+0.5**
MSAI	**Masohi**	**17.61**	**277**	P		P	22 35 11.5	+12
WB0	**Warramunga Arr**	**18.24**	**219**	P		**P**	**22 35 07.3**	**+0.5**
WRAB	**Tennant Creek**	**18.39**	**219**	P		**P**	**22 35 07.4**	**-1.1**
WC3	**Warramunga Arr**	**18.40**	**219**	P		**P**	**22 35 07.7**	**-0.9**
	baz=18							
WB2	**Warramunga Arr**	**18.40**	**219**	P		**P**	**22 35 07.7**	**-0.9**
WRA	**Warramunga Arr**	**18.41**	**219**	P		**P**	**22 35 07.3**	**-1.3**
	2.9nm,0.3s,baz=40,slow=12,SNR=24							
WRA				PcP		**PcP**	**22 39 38.2**	**+1.1**
	0.2nm,0.3s,baz=20,slow=1.8,SNR=3.0							
WRA				ScP		**ScP**	**22 43 10.3**	**+4.0**
	0.0nm,0.3s,baz=34,slow=2.3,SNR=2.1							
NLAI	**Namlea**	**19.43**	**276**	P		**Pn**	**22 35 21.2**	**-0.5**
	2μm71nm,0.6s							
KNRA	**Kununurra**	**19.98**	**239**	P		**P**	**22 35 25.4**	**-0.4**
EIDS	**Eidsvold**	**20.06**	**168**	P		**P**	**22 35 27.4**	**+0.8**
	baz=20,SNR=12							
EIDS	**Eidsvold**	**20.06**	**168**	P		**P**	**22 35 26.8**	**+0.1**
EIDS				IAmb		IAmb	22 35 32.7	
	comp=Z,85nm,1.4s							
TNTI	**Ternate**	**20.09**	**288**	P		**P**	**22 35 27.0**	**-0.1**
SANI	**Sanana**	**20.71**	**279**	P		**P**	**22 35 31.4**	**-2.4**
	comp=Z,1μmcomp=Z,78nm,0.5s							
RMQ	**Roma**	**20.79**	**174**	P		**P**	**22 35 34.8**	**+0.2**
	baz=21,SNR=8.9							
QLP	**Quilpie**	**20.88**	**186**	P		**P**	**22 35 35.3**	**-0.1**
	baz=21,SNR=12							
AS31	**Alice Springs**	**21.56**	**213**	P		**P**	**22 35 42.4**	**-0.4**
ASAR	**Alice Springs**	**21.56**	**213**	P		**P**	**22 35 42.4**	**-0.4**
	comp=Z,13nm,0.6s,baz=46,slow=8.4,SNR=49							
ASAR				PcP		**PcP**	**22 39 43.6**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=93,slow=2.6,SNR=3.6							
ASAR				LR		LR	22 45 02.5	
	comp=Z,2μm,19.7s,baz=34,slow=39							
ASAR	**Alice Springs**	**21.56**	**213**	P		**P**	**22 35 41.7**	**-1.1**
ASPA	**Alice Springs**	**21.56**	**213**	P		**P**	**22 35 42.8**	**0.0**
	baz=22							
SOEI	**Soe**	**22.33**	**258**	P		**P**	**22 35 50.9**	**-0.4**
SOEI				IAmb		IAmb	22 36 08.7	
	comp=Z,71nm,0.9s							
SOEI	**Soe**	**22.33**	**258**	P		**P**	**22 35 52.2**	**+0.9**
	comp=Z,102nm,1.0s							
BATI	**Baumata**	**22.99**	**257**	P		**P**	**22 35 57.6**	**-0.4**
	comp=Z,164nm,0.7s,baz=97,slow=3.6,SNR=24							
BATI				LR		LR	22 46 58.9	
	comp=Z,1μm,21.7s,baz=109,slow=42							
BATI	**Baumata**	**22.99**	**257**	P		**P**	**22 35 58.8**	**+0.7**
	comp=Z,974nmcomp=Z,107nm,0.7s							
KMSI	**Cibinong**	**23.27**	**285**	P		**P**	**22 35 59.5**	**-1.2**
	comp=Z,156nm,0.6s							
FITZ	**Fitzroy Crossi**	**23.75**	**237**	P		**P**	**22 36 03.9**	**-1.2**
	comp=Z,25nm,0.5s,baz=58,slow=11,SNR=33							
FITZ				LR		LR	22 46 23.3	
	comp=Z,1μm,18.4s,baz=58,slow=39							
FITZ	**Fitzroy Crossi**	**23.75**	**237**	P		**P**	**22 36 04.2**	**-0.8**
	baz=24,SNR=22							
FITZ	**Fitzroy Crossi**	**23.75**	**237**	P		**P**	**22 36 04.3**	**-0.8**
FITZ				IAmb		IAmb	22 36 06.5	
	comp=Z,25nm,0.6s							
LUWI	**Luwuk**	**24.06**	**280**	P		**P**	**22 36 08.2**	**+0.2**
LUWI	**Luwuk**	**24.06**	**280**	P		**P**	**

comp=Z,27nm,1.2s
KLBR Kellerberrin 37.21 223 P **P** **22 38 02.8 -0.8**
baz=37,SNR=20
BLDU Ballidu 37.35 225 P **P** **22 38 04.5 -0.3**
baz=37,SNR=14
NACB Ninganchiao 38.31 322 P **P** **22 38 12.6 -0.3**
NACB IAmb IAmb 22 38 17.7
comp=Z,26nm,1.1s
NWAO Narrogin (SRO) 38.38 221 P **P** **22 38 13.2 -0.3**
comp=Z,5.8nm,0.7s,baz=47,slow=14,SNR=1.8
NWAO Narrogin (SRO) 38.38 221 P **P** **22 38 12.9 -0.6**
NWAO IAmb IAmb 22 38 31.1
comp=Z,19nm,1.2s
CISI Cisompet, Garu 38.40 265 P **P** **22 38 12.3 -1.6**
CISI Cisompet, Garu 38.40 265 P **P** **22 38 12.5 -1.4**
comp=Z,56nm,0.6s
SSLB Suanglung 38.43 321 P **P** **22 38 13.6 -0.4**
SSLB IAmb IAmb 22 38 17.9
comp=Z,14nm,1.0s
MUN Mundaring 38.49 223 P **P** **22 38 14.4 -0.1**
baz=38,SNR=5.1
LEM Lembang 38.59 266 P **P** **22 38 14.9 -0.8**
comp=Z,23nm,0.6s,baz=107,slow=19,SNR=8.7
XMI Christmas Isla 40.59 261 P **P** **22 38 33.5 +1.4**
comp=Z,112nm,0.9s
XMIS Christmas Isla 40.63 261 P **P** **22 38 32.6 +0.1**
XMIS Christmas Isla 40.63 261 P **P** **22 38 33.5 +1.0**
comp=Z,90nm,0.9s
JMN Monobe 40.97 344 P **P** **22 38 35.3 +0.4**
JMN IAmb IAmb 22 38 36.4
comp=Z,39nm,1.2s
JNU Nakatsue 41.33 340 P **P** **22 38 38.2 +0.3**
comp=Z,14nm,0.9s,baz=170,slow=9.1,SNR=8.5
JNU Nakatsue 41.33 340 P **P** **22 38 38.0 0.0**
JNU IAmb IAmb 22 38 39.7
comp=Z,38nm,1.2s
KASI Kota Agung 41.73 268 P **P** **22 38 40.7 -0.8**
comp=Z,40nm,0.9s
AFI Afiamalu 41.92 104 P **P** **22 38 43.4 +0.3**
comp=Z,40nm,0.9s,baz=16,slow=7.4,SNR=4.5
AFI Afiamalu 41.92 104 P **P** **22 38 44.1 +1.0**
JGF Kuroka 41.95 349 P **P** **22 38 42.2 -0.8**
JGF IAmb IAmb 22 38 43.4
comp=Z,28nm,1.4s
JWT Wachi 42.06 346 P **P** **22 38 44.0 +0.2**
JWT IAmb IAmb 22 38 51.1
comp=Z,12nm,0.8s
MJAR Matsushiro Arr 42.72 350 P **P** **22 38 48.5 -0.7**
comp=Z,13nm,1.2s,baz=176,slow=8.1,SNR=12
MJAR Matsushiro Arr 42.72 350 P **P** **22 38 48.9 -0.2**
MAJO Matsushiro 42.72 350 P **P** **22 38 49.0 -0.1**
MAJO IAmb IAmb 22 38 50.9
comp=Z,15nm,1.1s
MAT Matsushiro 42.72 350 P **P** **22 38 48.6 -0.5**
MAT S **S** **22 45 05.6 -1.9**
URZ Urewera 42.73 144 P **P** **22 38 50.0 +0.9**
comp=Z,6.4nm,0.5s,baz=259,slow=6.6,SNR=10
URZ Urewera 42.73 144 P **P** **22 38 50.1 +0.9**
URZ IAmb IAmb 22 39 08.9
comp=Z,14nm,0.8s
THZ Tophouse 42.96 151 P **P** **22 38 51.9 +0.8**
BKZ Black Stump Fm 42.98 145 P **P** **22 38 52.2 +0.8**
BKZ IAmb IAmb 22 38 53.8
comp=Z,26nm,1.0s
MNAI Manna 43.33 270 P **P** **22 38 52.8 -1.6**
BSWZ Blackbirch Sta 43.40 150 P **P** **22 38 55.0 +0.4**
LTZ Lake Taylor 43.44 152 P **P** **22 38 55.8 +0.8**
RPZ Rata Peaks 43.62 154 P **P** **22 38 57.5 +1.1**
BHW Baring Head 43.68 149 P **P** **22 38 56.8 0.0**
OXZ Oxford 43.76 153 P **P** **22 38 57.6 +0.2**
OXZ IAmb IAmb 22 39 01.3
comp=Z,33nm,1.0s
LBZ Lake Benmore 43.80 155 P **P** **22 38 58.5 +0.7**
MLZ Mavora Lakes 43.80 158 P **P** **22 38 58.9 +1.1**
BKNI Bangkinang 45.72 276 P **P** **22 39 13.0 -0.5**
NJ2 Nanjing 45.82 327 *e*P **P** **22 39 15.3 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KSRS Korea Array 46.27 340 P **P** **22 39 17.4 +0.1**
comp=Z,19nm,1.2s,baz=158,slow=8.9,SNR=33
KSAR Wonju Array Be 46.27 339 P **P** **22 39 18.0 +0.6**
KS19 Wonju Array Si 46.33 340 P **P** **22 39 18.2 +0.3**
KS19 IAmb IAmb 22 39 19.8
comp=Z,30nm,1.3s
IPM Ipoh 46.46 282 P **P** **22 39 19.2 -0.1**
IPM IAmb IAmb 22 39 29.1
comp=Z,8.4nm,0.8s
IPM Ipoh 46.46 282 P **P** **22 39 20.0 +0.6**
JTM Tenmabayashi 46.52 354 P **P** **22 39 19.8 +0.6**
INCN Inchon 46.76 338 P **P** **22 39 21.6 +0.4**
KULM Kulim 47.00 283 P **P** **22 39 23.1 -0.4**
KULM IAmb IAmb 22 39 38.2
comp=Z,7.6nm,0.8s
KULM Kulim 47.00 283 P **P** **22 39 24.0 +0.5**
RPSI Rantau Prapat 48.18 279 P **P** **22 39 32.2 -0.5**
RPSI IAmb IAmb 22 39 43.1
comp=Z,8.2nm,1.0s
NONG Nongkai 48.80 300 P **P** **22 39 40.2 +2.8**
comp=Z,13µmcomp=Z,20nm,0.9s
GSI Gunungsitoli 49.28 277 P **P** **22 39 39.8 -1.4**
ENH Enshi 50.31 317 P **P** **22 39 48.3 -0.4**
ENH IAmb IAmb 22 39 50.0
comp=Z,9.8nm,1.1s
USA0B Ussuriysk Arra 51.35 347 P **P** **22 39 56.7 +0.5**
USA0B IAmb IAmb 22 39 59.0
comp=Z,7.3nm,0.8s
USRK Ussuriysk Ar. 51.35 347 P **P** **22 39 56.5 +0.3**
comp=Z,2.8nm,0.4s,baz=158,slow=8.4,SNR=43
USRK Ussuriysk Ar. 51.35 347 P **P** **22 39 56.2 0.0**
LAMP Lampang 52.03 299 P **P** **22 40 04.4 +2.6**
comp=Z,18nm,0.7s
KMI Kunming 52.37 308 *e*P **P** **22 40 06.5 +2.1**
KMI pP pP 22 40 26.0 +3.3
KMI pmax pmax
comp=Z,4.0nm,0.9s
KMI pmax pmax
comp=Z,100nm,6.4s
CM36 Chiang Mai Arr 52.50 298 P **P** **22 40 07.0 +1.7**
CM04 Chiang Mai Arr 52.56 298 P **P** **22 40 07.6 +1.9**
comp=Z,81nmcomp=Z,8.1nm,0.6s
CM09 Chiang Mai Arr 52.56 298 P **P** **22 40 08.0 +2.3**
comp=Z,11nm,0.6s
CM34 Chiang Mai Arr 52.58 299 P **P** **22 40 10.0 +4.1**
CM01 Chiang Mai Arr 52.58 298 P **P** **22 40 07.9 +2.0**
comp=Z,95nmcomp=Z,6.0nm,0.5s
CM05 Chiang Mai Arr 52.59 298 P **P** **22 40 07.2 +1.3**
comp=Z,52nmcomp=Z,5.7nm,0.7s
CM02 Chiang Mai Arr 52.60 298 P **P** **22 40 08.2 +2.3**
comp=Z,71nmcomp=Z,8.1nm,0.7s
CM31 Chiang Mai Arr 52.61 298 P **P** **22 40 09.6 +3.5**
CM31 Chiang Mai Arr 52.61 298 P **P** **22 40 05.8 -0.3**
CM31 IAmb IAmb 22 40 08.6
comp=Z,6.5nm,0.6s
CMAR Chiang Mai Arr 52.61 298 P **P** **22 40 07.2 +1.2**
comp=Z,3.5nm,0.5s,baz=121,slow=6.2,SNR=15
CMAR LR LR 23 03 36.7
comp=Z,68nm,19.6s,baz=170,slow=37
CMAR Chiang Mai Arr 52.61 298 P **P** **22 40 06.0 0.0**
CM15 Chiang Mai Arr 52.62 298 P **P** **22 40 08.3 +2.1**
CM13 Chiang Mai Arr 52.63 298 P **P** **22 40 07.0 +0.8**
comp=Z,68nmcomp=Z,7.3nm,0.7s
CMMT Chiang Mai 52.74 299 P **P** **22 40 07.6 +0.5**
comp=Z,3.7nm,1.0s
CM33 Chiang Mai Arr 52.75 299 P **P** **22 40 08.0 +0.9**
CHTO Chiang Mai 52.75 299 P **P** **22 40 07.3 +0.2**
CM32 Chiang Mai Arr 52.77 298 P **P** 22 40 15.0 +7.8
XAN Xi'an 53.09 321 P **P** **22 40 08.8 -0.6**
XAN sP sP 22 40 35.8 +0.2
XAN pmax pmax
comp=Z,13nm,1.2s
XAN LR LR
comp=Z,210nm,18.4s
XAN LR LR
comp=Z,150nm,16.9s
XAN LR LR
comp=Z,220nm,18.4s
XAN Xi'an 53.09 321 P **P** **22 40 08.8 -0.6**
XAN IAmb IAmb 22 40 10.3
comp=Z,18nm,1.3s
BJT Baijiatuau 53.35 331 P **P** **22 40 10.7 -0.5**
BJT IAmb IAmb 22 40 13.2
comp=Z,18nm,1.5s
BJI Beijing 53.37 331 P **P** **22 40 11.3 +0.1**
BJI pP **pP** **22 40 31.9 +2.6**
BJI pmax pmax
comp=Z,6.0nm,1.3s
BJI LR LR
comp=Z,460nm,38.8s
HHC Hu-ho-hao-te 56.28 329 *e*P **P** **22 40 34.0 +1.6**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,130nm,6.6s
LZH Lanzhou 57.61 320 *e*P **P** **22 40 42.5 +0.5**
LZH pP pP 22 41 01.8 +1.2
LZH sP sP 22 41 15.1 +6.4
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,79nm,6.5s
PEA0B Petropavlovsk- 59.35 8 P **P** **22 40 54.4 +0.8**
PETK Petropavlovsk- 59.35 8 P **P** **22 40 54.3 +0.7**
comp=Z,7.3nm,0.9s,baz=162,slow=5.6,SNR=5.8
PETK LR LR 23 02 28.0
comp=Z,268nm,21.6s,baz=189,slow=32
PETK Petropavlovsk- 59.35 8 P **P** **22 40 54.4 +0.8**
HIA Hailar 59.48 340 P **P** **22 40 54.6 +0.1**
HIA IAmb IAmb 22 40 56.0
comp=Z,10nm,0.9s
SHL Shillong 61.38 303 P **P** **22 41 08.1 -0.1**
GTA Gaotai 62.15 320 ||P **P** **22 41 13.6 +0.6**
GTA pP pP 22 41 33.8 +2.0
GTA sP sP 22 41 43.5 +3.6
GTA S **S** **22 49 35.4 +2.3**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,140nm,6.9s
GTA LR LR
comp=Z,130nm,17.4s
GTA LR LR
comp=Z,190nm,16.4s
GTA LR LR
comp=Z,160nm,18.2s
PPT2 Papeete2 63.52 107 *e*S **S** **22 49 50.8 0.0**
comp=Z,307nm,30.2s
PPT2 Papeete2 63.52 107 *e*LR LR 23 00 25.0
comp=Z,187nm,27.0s
ULN Ulaanbaatar 63.57 332 P **P** **22 41 22.3 -0.1**
ULN IAmb IAmb 22 41 25.8
comp=Z,10nm,1.3s
LSA Lhasa 63.61 307 P **P** **22 41 22.3 -1.0**
LSA pmax pmax
comp=Z,23nm,1.1s
LSA Lhasa 63.61 307 P **P** **22 41 23.3 -0.1**
LSA IAmb IAmb 22 41 26.9
comp=Z,5.2nm,0.6s
SONM Songino Array 63.87 331 P **P** **22 41 23.8 -0.4**
comp=Z,1.7nm,0.6s,baz=134,slow=9.7,SNR=18
SONM Songino Array 63.87 331 P **P** **22 41 24.6 +0.4**
TBI Tubuai 64.01 113 *e*LR LR 23 00 40.3
comp=Z,263nm,37.2s
MA2 Magadan 65.16 2 P **P** **22 41 32.2 0.0**
MA2 IAmb IAmb 22 41 33.9
comp=Z,9.4nm,0.9s
CASY Casey 65.40 195 P **P** **22 41 33.7 0.0**
TAPN Taplejung 65.51 303 *e*P **P** **22 41 35.8 +0.2**
comp=Z,13nm,0.6s
ODAN Odare 65.61 303 *e*P **P** **22 41 36.0 -0.1**
comp=Z,11nm,0.5s
RAMN Ramite 66.30 303 *e*P **P** **22 41 41.0 +0.4**
comp=Z,12nm,0.5s
GUN Gumba 67.23 303 *e*P **P** **22 41 46.7 +0.1**
comp=Z,19nm,0.5s
PKIN Phulchoki 67.52 303 *e*P **P** **22 41 48.0 -0.4**
KKN Kakani 67.69 303 *e*P **P** **22 41 49.4 0.0**
comp=Z,8.4nm,0.6s
DMN Daman 67.78 303 *e*P **P** **22 41 50.2 +0.2**
comp=Z,14nm,0.6s
TLY Talaya 67.82 333 P **P** **22 41 48.5 -1.0**
GKN Gorkha 68.30 303 *e*P **P** **22 41 53.0 -0.1**
comp=Z,10nm,0.6s
YAK Yakutsk 68.76 352 P **P** **22 41 54.9 -0.1**
YAK IAmb IAmb 22 41 57.1
comp=Z,9.1nm,0.8s
HYB Hyderabad 70.83 291 *i* P **P** **22 42 08.5 -0.2**
WMQ Urumqi 72.20 319 *e*P **P** **22 42 18.0 +1.5**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,240nm,7.9s
WMQ LR LR
comp=Z,1µm,29.0s
WMQ LR LR
comp=Z,1µm,28.8s
WMQ LR LR
comp=Z,290nm,24.7s
VNDA Vanda 72.25 177 P **P** **22 42 16.4 +0.2**
comp=Z,6.4nm,0.6s,baz=334,slow=7.1,SNR=44
VNDA LR LR 23 12 37.6
comp=Z,205nm,18.8s,baz=346,slow=35
VNDA Vanda 72.25 177 P **P** **22 42 16.7 +0.6**
VNDA IAmb IAmb 22 42 17.6
comp=Z,21nm,1.3s
ZSN Zaisan 75.57 322 *e*P **P** **22 42 34.6 -1.5**
baz=322
MK31 Makanchi Array 76.91 321 P **P** **22 42 43.3 -0.4**
MKAR Makanchi Array 76.91 321 P **P** **22 42 43.1 -0.6**
comp=Z,1.3nm,0.5s,baz=98,slow=8.2,SNR=40
MKAR LR LR 23 17 57.2
comp=Z,50nm,19.6s,baz=63,slow=37
MKAR Makanchi Array 76.91 321 P **P** **22 42 42.8 -0.8**
MAKZ Makanchi 77.11 321 P **P** **22 42 44.3 -0.5**
UZB Uzynbulak 77.73 316 *e*P **P** **22 42 47.1 -1.4**
baz=316
TIXI Tiksi 78.05 354 P **P** **22 42 48.8 -0.7**
KPKS Kokpek 78.07 316 *e*P **P** **22 42 49.0 -1.3**
baz=316
ZAA0 Zalesovo Array 78.46 328 P **P** **22 42 50.6 -1.4**
ZALV Zalesovo Beam 78.46 328 P **P** **22 42 50.8 -1.2**
comp=Z,2.7nm,0.5s,baz=110,slow=6.1,SNR=20
ZALV LR LR 23 15 59.5
comp=Z,170nm,22.0s,baz=104,slow=34
ZALV Zalesovo Beam 78.46 328 P **P** **22 42 51.0 -1.1**
KSH Kashi 78.76 312 P **P** **22 42 56.8 +2.6**
KSH sP sP 22 43 22.4 +0.5
KSH PP **PP** **22 45 53.8 +0.3**
KSH S **S** **22 52 48.8 +2.4**
KSH pmax pmax
comp=Z,17nm,1.6s
KSH pmax pmax
comp=Z,280nm,4.8s
TDK Taldyqorghan 78.78 318 *e*P **P** **22 42 53.4 -0.7**
baz=318
MDOK Medeo 79.10 316 *e*P **P** **22 42 55.3 -0.8**
baz=316
NIL Nilore 79.29 306 P **P** **22 42 56.8 -0.4**
NIL IAmb IAmb 22 42 58.3
comp=Z,8.5nm,0.6s
KUU Kurty 79.81 316 *e*P **P** **22 42 58.7 -1.1**
baz=316
KDAK Kodiak Island 79.90 28 P **P** **22 43 00.7 +0.8**
KDAK IAmb IAmb 22 43 19.3
comp=Z,31nm,1.4s
AAK Ala-Archa 80.73 315 P **P** **22 43 04.8 -0.1**
SGDS Sogindy 80.87 316 *e*P **P** **22 43 03.9 -1.6**
baz=316
CNPM China Poot 81.33 27 P **P** **22 43 08.4 +0.9**
RDOG Red Dog Mine 81.62 17 P **P** **22 43 09.4 +0.6**
RDOG IAmb IAmb 22 43 11.5
comp=Z,20nm,0.8s
BTLS Baital 81.72 317 *e*P **P** **22 43 08.9 -1.0**
baz=317
MAW Mawson 82.31 203 LR LR 23 17 35.5
comp=Z,97nm,21.6s,baz=64,slow=34
MAW Mawson 82.31 203 P **P** **22 43 12.8 +0.3**
KBL Kabul 82.90 306 P **P** **22 43 15.4 -1.1**
DZA Taraz 83.04 314 *e*P **P** **22 43 15.9 -1.0**
baz=314
GHO Glory Hole Cre 83.34 26 P **P** **22 43 17.6 -0.4**
GHO IAmb IAmb 22 43 25.6
comp=Z,23nm,1.3s
IMAR Indian Mountai 83.41 21 P **P** **22 43 18.6 +0.4**
KK31 Karatay Array 83.68 314 P **P** **22 43 19.2 -0.9**
KKAR Karatay Array 83.68 314 P **P** **22 43 19.6 -0.5**
KKAR Karatay Array 83.68 314 P **P** **22 43 19.2 -0.9**
IUG Iuzhnay 83.80 313 *e*P **P** **22 43 19.8 -1.1**
baz=313
BRZS Berezniki 84.01 321 *e*P **P** **22 43 20.4 -1.2**
baz=322
RND Reindeer 84.07 24 P **P** **22 43 21.3 -0.4**
RND IAmb IAmb 22 43 22.6
comp=Z,15nm,1.0s
MCK McKinley 84.18 24 P **P** **22 43 22.0 -0.2**
QSPA South Pole Qui 84.27 180 P **P** **22 43 22.7 -0.1**
NEA2 Nenana 84.50 23 P **P** **22 43 23.6 -0.2**
NEA2 IAmb IAmb 22 43 25.9
comp=Z,15nm,1.3s
I23K Minto, Yukon-K 84.63 22 P **P** **22 43 24.3 -0.1**
I23K IAmb IAmb 22 43 32.7
comp=Z,17nm,1.4s
WRH Wood River Hil 84.83 23 P **P** **22 43 24.6 -0.8**
WRH IAmb IAmb 22 43 26.4
comp=Z,18nm,1.2s
TCOL CIGO, UAF Yank 85.09 23 P **P** **22 43 26.2 -0.5**
TCOL IAmb IAmb 22 43 27.3
comp=Z,16nm,0.8s
COLA College 85.09 23 P **P** **22 43 26.1 -0.6**
COLA IAmb IAmb 22 43 27.3
comp=Z,16nm,0.8s
IL31 85.42 23 P **P** **22 43 27.3 -1.0**
IL31 IAmb IAmb 22 43 28.3
comp=Z,10.0nm,0.8s
ILAR Eielson Array 85.42 23 P **P** **22 43 27.3 -1.1**
comp=Z,9.5nm,0.8s,baz=252,slow=5.2,SNR=80
ILAR PKKP **PKKPdf** **23 01 25.3 -2.5**
comp=Z,0.8nm,1.2s,baz=356,slow=2.2,SNR=2.1
ILAR PKKPbc **PKKPbc** **23 01 34.2 -1.4**
comp=Z,0.2nm,0.8s,baz=358,slow=2.7,SNR=4.8
ILAR LR LR 23 19 20.0
comp=Z,102nm,19.2s,baz=266,slow=34
ILAR Eielson Array 85.42 23 P **P** **22 43 27.2 -1.2**
TOLK Toolik Lake Re 86.09 19 P **P** **22 43 32.2 +0.5**
TOLK IAmb IAmb 22 43 33.7
comp=Z,5.7nm,0.8s
BRVK Borovoye 86.26 324 P **P** **22 43 31.6 -1.2**
CTGM Chitina Glacie 86.44 28 P **P** **22 43 34.6 +0.9**
CTGM IAmb IAmb 22 43 35.6
comp=Z,17nm,1.0s
BCAR Beaver Creek A 86.91 26 P **P** **22 43 36.3 +0.5**
BMAR Burnt Mountain 87.32 21 P **P** **22 43 38.7 +1.0**
EGAK Eagle 87.72 24 P **P** **22 43 40.3 +0.7**
EGAK IAmb IAmb 22 43 41.6
comp=Z,9.9nm,1.1s
EPYK Eagle Plains 89.94 23 P **P** **22 43 50.2 +0.1**
EPYK IAmb IAmb 22 43 51.9
comp=Z,12nm,0.9s
SYO Syowa Base 90.68 200 ||*e*X P 22 43 58.8 +5.3
ABKAR Akbulak array 91.98 319 P **P** **22 43 57.9 -2.0**
ABKAR Akbulak array 91.98 319 P **P** **22 43 58.1 -1.8**
ABKAR IAmb IAmb 22 44 01.4
comp=Z,1.6nm,1.1s
AKTO Aktyubinsk 93.34 320 LR LR 23 23 02.3
comp=Z,61nm,20.5s,baz=64,slow=34
BELA Belgrano 2 96.54 180 P **P** **22 44 19.9 -0.4**
NVAR Mina Array Bea 97.63 52 P Pdif 22 44 28.1 +1.7
comp=Z,0.8nm,0.8s,baz=272,slow=6.9,SNR=6.4
NVAR Mina Array Bea 97.63 52 P Pdif 22 44 27.3 +1.0
YKA Yellowknife Ar 99.17 28 P **Pdif** **22 44 32.1 -0.2**
comp=Z,0.9nm,0.8s,baz=273,slow=4.4,SNR=9.2
YKA pP **pP** **22 44 49.3 -2.7**
comp=Z,0.9nm,0.7s,baz=270,slow=4.1,SNR=7.6
YKA PKKPbc **PKKPbc** **23 00 57.2 -2.5**
comp=Z,0.2nm,0.7s,baz=91,slow=3.4,SNR=4.3
YKA LR LR 23 28 14.6
comp=Z,56nm,19.9s,baz=0.0,slow=35
ARCES ARCESS Array B 105.79 342 PKKPbc PKKPbc 23 00 37.4 -3.1
comp=Z,3.2nm,0.9s,baz=267,slow=2.1,SNR=8.1
NOA NORSAR Array B 115.46 338 PKP **PKPdf** **22 49 32.4 -0.1**
comp=Z,0.4nm,0.8s,baz=328,slow=4.2,SNR=1.6
GERES GERESS Array B 121.34 325 PKP **PKPdf** **22 49 43.5 -0.8**
comp=Z,0.3nm,0.5s,baz=0.0,slow=1.0,SNR=3.0
PLCA Paso Flores 122.68 147 PKP **PKiKP** **22 49 47.3 0.0**
comp=Z,2.7nm,0.9s,baz=227,slow=4.0,SNR=9.8
LPAZ La Paz 139.42 123 PKhKP PKPpre 22 50 12.7
comp=Z,2.8nm,0.9s,baz=226,slow=4.1,SNR=6.3
LPAZ PKP **PKPdf** **22 50 19.6 -0.4**
comp=Z,1.5nm,0.5s,baz=220,slow=8.2,SNR=4.2
CPUP Villa Florida 140.70 145 PKhKP PKPpre 22 50 15.8
comp=Z,0.7nm,0.5s,baz=209,slow=7.9,SNR=2.9
CPUP PKP **PKPdf** **22 50 20.4 -0.9**
comp=Z,2.8nm,0.7s,baz=203,slow=1.7,SNR=6.1
TORD Torodi Ar. Bea 144.47 285 PKP **PKPab** **22 50 26.4 -0.3**
comp=Z,3.6nm,0.7s,baz=68,slow=3.7,SNR=22
TORD Torodi Ar. Bea 144.47 285 **PKPab** **22 50 26.1 -0.6**
KIC Kosan Boka 151.33 273 *e*PKiKP **PKiKP** **22 50 46.1 0.0**
comp=Z,11nm,0.6s
DBIC Dimbokro 151.44 273 PKPbc **PKPbc** **22 50 45.7 -0.2**
comp=Z,4.9nm,0.5s,baz=73,slow=2.1,SNR=14
DBIC PKPab **PKPab** **22 50 53.7 -0.7**
comp=Z,4.9nm,0.6s,baz=51,slow=2.6,SNR=6.6
DBIC Dimbokro 151.44 273 **PKPbc** **22 50 46.0 +0.1**
TIC Toumodi 151.61 273 *e*PKiKP **PKPbc** **22 50 46.2 -0.1**
LIC Lamto 151.61 273 *e*PKiKP **PKiKP** **22 50 46.6 -0.1**
comp=Z,32nm,0.6s
BDFB Brasilia 154.42 146 PKP **PKPdf** **22 50 44.9 +0.7**
comp=Z,0.7nm,0.4s,baz=79,slow=5.2,SNR=3.8
BDFB PKPbc **PKiKP** **22 50 53.3 +0.7**
comp=Z,5.5nm,0.5s,baz=306,slow=1.6,SNR=11

IDC ***14*** *22:41:12.7±0.6, 15°.31S×173°.37W, h0km, mb4.3/13, mb1 4.6/14, mb1mx4.3/27, mbtmp4.3/14, ML5.0/1, MS3.8/4, Ms1 3.9/4, ms1mx3.3/28, Error ellipse: s-maj=27.6km s-min=13.8km az=138.0*
NEIC ***14*** *22:41:14.4± 1.0, 15°.37S± 0°.08×173°.4W± 0°.1, h10km± 1km, mb4.6/46, Error ellipse: s-maj=19.0km s-min=12.5km az=287.0*
ISC 14 22:41:18.6±0.4, 15°.35S±0°.06×173°.25W±0°.07, h42km, n124, σ1s17/112, mb4.5/39, MS3.6/5, 4C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.02**	**45**	Pn	**Pn**	**22 41 49.2**	**-1.1**
	474nm,0.3s,baz=190,slow=1.7,SNR=371						
AFI				Sn	**Sn**	**22 42 10.8**	**-3.6**
	2µm,0.3s,baz=217,slow=20,SNR=33						
AFI	**Afiamalu**	**2.02**	**45**	Pn	**Pn**	**22 41 49.4**	**-0.9**
NIUE	**Niue**	**4.89**	**140**	Pn	**Pn**	**22 42 27.6**	**-2.0**
MSVF	**Nonsavu**	**8.67**	**253**	Pn	**Pn**	**22 43 23.2**	**+1.5**
	2.5nm,0.3s,baz=73,slow=16,SNR=2.2						
MSVF				LR	LR	22 46 16.6	
	comp=Z,624nm,19.9s,baz=347,slow=35						
KNTN	**Kanton**	**12.58**	**7**	Pn	**Pn**	**22 44 14.6**	**-0.6**
RAR	**Rarotonga**	**14.07**	**116**	LR	LR	22 48 51.2	
	comp=Z,92nm,18.4s,baz=315,slow=32						
RAR	**Rarotonga**	**14.07**	**116**	Pn	**Pn**	**22 44 35.7**	**+0.3**
DZM	**Mont Dzumac**	**20.35**	**248**	eLR	LR	22 50 59.1	
	comp=Z,383nm,31.2s						
DZM	**Mont Dzumac**	**20.35**	**248**	P	Pn	22 45 51.8	-2.2
	11nm,0.9s,baz=108,slow=14,SNR=2.4						
DZM	**Mont Dzumac**	**20.35**	**248**	P	**P**	**22 45 51.0**	**-0.7**
PAE	**Paea**	**22.81**	**99**	*e*T	T	23 09 32.4	
	2.6nm,0.3s						
PPT2	**Papeete2**	**22.81**	**99**	*e*LR	LR	22 51 39.2	
	comp=Z,186nm,27.2s						
PPT2	**Papeete2**	**22.81**	**99**	*e*T	T	23 09 34.5	
	3.9nm,0.3s						
KUZ	**Kuaotunu**	**23.46**	**203**	P	**P**	**22 46 23.2**	**-1.1**
HAZ	**Te Kaha**	**23.69**	**198**	P	**P**	**22 46 27.3**	**+0.8**
TBI	**Tubuai**	**23.80**	**113**	eLR	LR	22 52 05.8	
	comp=Z,226nm,30.0s						
TBI	**Tubuai**	**23.80**	**113**	*e*T	T	23 10 53.2	
	11nm,0.3s						
MWZ	**Matawai**	**24.30**	**198**	P	**P**	**22 46 30.1**	**-2.1**
URZ	**Urewera**	**24.36**	**199**	P	**P**	**22 46 31.5**	**-1.2**
	15nm,0.5s,baz=21,slow=5.8,SNR=13						
URZ	**Urewera**	**24.36**	**199**	P	**P**	**22 46 31.8**	**-0.9**
URZ	**Urewera**	**24.36**	**199**	P	**P**	**22 46 32.2**	**-0.4**
TOZ	**Tahuroa Road**	**24.42**	**202**	P	**P**	**22 46 34.8**	**+1.5**
RAGZ	**Rawiri**	**24.48**	**198**	P	**P**	**22 46 35.1**	**+1.2**
RIGZ	**Rimuhau**	**24.58**	**197**	P	**P**	**22 46 36.9**	**+2.2**
KNZ	**Kokohu**	**24.90**	**197**	P	**P**	**22 46 39.6**	**+2.1**
RAHZ	**Arahi**	**24.97**	**198**	P	**P**	**22 46 41.0**	**+2.7**
NMHZ	**Naumai**	**25.22**	**198**	P	**P**	**22 46 42.1**	**+1.5**
BKZ	**Black Stump Fm**	**25.38**	**199**	P	**P**	**22 46 41.4**	**-0.6**
BKZ				IAmb	IAmb	22 46 53.2	
	comp=Z,18nm,1.1s						
OTVZ	**Oturere**	**25.64**	**200**	P	**P**	**22 46 44.3**	**-0.2**
BHHZ	**Black Hill Sta**	**25.81**	**199**	P	**P**	**22 46 44.7**	**-1.2**
HNR	**Honiara**	**26.81**	**280**	P	**P**	**22 46 54.3**	**-0.9**
	comp=Z,153nm,0.5s,baz=138,slow=15,SNR=6.1						
HNR	**Honiara**	**26.81**	**280**	P	**P**	**22 46 53.6**	**-1.5**
QRZ	**Quartz Range**	**28.24**	**203**	P	**P**	**22 47 07.3**	**-0.3**
MLZ	**Mavora Lakes**	**33.79**	**204**	P	**P**	**22 47 55.1**	**-1.5**

MLZ					IAmb	IAmb	22 48 09.3		
	comp=Z,12nm,0.9s								
EIDS	**Eidsvold**	**34.80**	**248**		P	**P**	**22 48 04.3**	**-1.2**	
ARMA	**Armidale**	**35.49**	**239**		P	**P**	**22 48 10.5**	**-1.1**	
H11S2	**WAKE ISLAND Hy**	**38.99**	**329**		T	T	23 29 33.2		
	baz=146,slow=75,SNR=78								
H11S3	**WAKE ISLAND Hy**	**39.00**	**329**		T	T	23 29 37.1		
	baz=146,slow=75,SNR=15								
H11S1	**WAKE ISLAND Hy**	**39.01**	**329**		T	T	23 29 34.6		
	baz=146,slow=75,SNR=14								
H11N3	**WAKE ISLAND Hy**	**39.93**	**330**		T	T	23 31 45.8		
	baz=150,slow=76,SNR=24								
H11N1	**WAKE ISLAND Hy**	**39.94**	**330**		T	T	23 31 46.1		
	baz=150,slow=76,SNR=18								
H11N2	**WAKE ISLAND Hy**	**39.95**	**330**		T	T	23 31 47.2		
	baz=150,slow=76,SNR=24								
COEN	**Coen**	**42.13**	**266**		P	**P**	**22 49 06.7**	**-0.5**	
COEN					IAmb	IAmb	22 49 08.2		
	comp=Z,20nm,1.1s								
TOO	**Toolangi**	**42.61**	**231**		P	**P**	**22 49 09.7**	**-1.2**	
TOO					IAmb	IAmb	22 49 20.1		
	comp=Z,21nm,1.2s								
STKA	**Stephens Creek**	**44.19**	**240**		P	**P**	**22 49 21.8**	**-1.9**	
	comp=Z,3.5nm,0.5s,baz=80,slow=7.8,SNR=9.1								
STKA	**Stephens Creek**	**44.19**	**240**		P	**P**	**22 49 22.5**	**-1.2**	
BBOO	**Buckleboo**	**48.96**	**240**		P	**P**	**22 49 59.8**	**-1.3**	
BBOO					IAmb	IAmb	22 50 16.4		
	comp=Z,12nm,1.1s								
WB2	**Warramunga Arr**	**49.98**	**257**		P	**P**	**22 50 07.8**	**-1.2**	
WRA	**Warramunga Arr**	**49.99**	**257**		P	**P**	**22 50 07.6**	**-1.5**	
	comp=Z,4.0nm,0.8s,baz=91,slow=6.8,SNR=43								
WRA					PcP	**PcP**	**22 51 28.8**	**-0.1**	
	comp=Z,0.5nm,0.7s,baz=91,slow=4.0,SNR=4.8								
AS31	**Alice Springs**	**50.26**	**252**		P	**P**	**22 50 10.0**	**-1.2**	
ASAR	**Alice Springs**	**50.26**	**252**		P	**P**	**22 50 10.0**	**-1.2**	
	comp=Z,8.9nm,0.5s,baz=88,slow=7.9,SNR=110								
ASAR					PcP	**PcP**	**22 51 30.1**	**+0.3**	
	comp=Z,0.6nm,0.7s,baz=104,slow=4.5,SNR=4.1								
ASAR	**Alice Springs**	**50.26**	**252**		P	**P**	**22 50 09.6**	**-1.6**	
SBA	**Scott Base**	**63.31**	**185**		P	**P**	**22 51 44.3**	**+1.5**	
VNDA	**Vanda**	**63.44**	**186**		P	**P**	**22 51 45.0**	**+1.3**	
	comp=Z,3.4nm,0.9s,baz=12,slow=5.9,SNR=9.5								
VNDA	**Vanda**	**63.44**	**186**		P	**P**	**22 51 44.8**	**+1.1**	
VNDA					IAmb	IAmb	22 51 46.1		
	comp=Z,3.9nm,0.9s								
KMRM	**Mail Ridge**	**71.93**	**38**		P	**P**	**22 52 39.2**	**+1.4**	
ISA	**Isabella, Lake**	**72.52**	**44**		P	**P**	**22 52 42.0**	**+0.6**	
ISA					IAmb	IAmb	22 52 43.7		
	comp=Z,7.1nm,1.2s								
PETK	**Petropavlovsk-**	**72.62**	**342**		P	**P**	**22 52 41.3**	**-0.2**	
	comp=Z,3.9nm,1.0s,baz=132,slow=8.5,SNR=2.2								
GSC	**Goldstone, Bar**	**73.45**	**45**		P	**P**	**22 52 48.1**	**+1.1**	
GSC					IAmb	IAmb	22 52 49.0		
	comp=Z,8.9nm,1.3s								
WAKR	**Walker**	**73.51**	**41**		P	**P**	**22 52 48.6**	**+1.2**	
PNTR	**Pine Nut**	**73.75**	**41**		P	**P**	**22 52 49.8**	**+1.0**	
PNTR					IAmb	IAmb	22 53 03.5		
	comp=Z,5.1nm,1.0s								
NVAR	**Mina Array Bea**	**74.19**	**42**		P	**P**	**22 52 52.1**	**+0.7**	
	comp=Z,2.4nm,0.8s,baz=229,slow=9.8,SNR=18								
NVAR	**Mina Array Bea**	**74.19**	**42**		P	**P**	**22 52 52.4**	**+1.0**	
PAHR	**Pah Rah Range**	**74.25**	**40**		P	**P**	**22 52 52.5**	**+0.9**	
PAHR					IAmb	IAmb	22 53 04.6		
	comp=Z,4.8nm,1.1s								
NV11	**Mina Array Sit**	**74.29**	**42**		P	**P**	**22 52 52.5**	**+0.6**	
NV11					IAmb	IAmb	22 52 54.3		
	comp=Z,11nm,1.3s								
KVN	**Kaiserville**	**74.68**	**41**		P	**P**	**22 52 55.1**	**+0.9**	
KVN					IAmb	IAmb	22 52 56.3		
	comp=Z,7.8nm,1.4s								
QSPA	**South Pole Qui**	**74.70**	**180**		P	**P**	**22 52 54.6**	**+0.8**	
TPNV	**Topopah Spring**	**74.72**	**44**		P	**P**	**22 52 55.6**	**+1.1**	
MOD	**Modoc Plateau**	**74.99**	**38**		P	**P**	**22 52 57.0**	**+1.1**	
MOD					IAmb	IAmb	22 52 58.2		
	comp=Z,6.9nm,0.9s								
SHPR	**Sheep Range**	**75.22**	**45**		P	**P**	**22 52 58.5**	**+1.2**	
SHPR					IAmb	IAmb	22 52 59.8		
	comp=Z,8.2nm,1.2s								
PINE	**Pine Mountain**	**75.77**	**36**		P	**P**	**22 53 01.8**	**+1.4**	
TUC	**Tucson**	**76.25**	**51**		P	**P**	**22 53 04.1**	**+0.9**	
TUC					IAmb	IAmb	22 53 05.6		
	comp=Z,5.3nm,0.9s								
WVOR	**Wild Horse Val**	**76.30**	**38**		P	**P**	**22 53 04.8**	**+1.4**	
WVOR					IAmb	IAmb	22 53 16.9		
	comp=Z,8.1nm,1.1s								
CCUT	**Cedar City**	**76.99**	**45**		P	**P**	**22 53 08.7**	**+1.2**	
CCUT					IAmb	IAmb	22 53 10.2		
	comp=Z,8.6nm,1.3s								
PSUT	**Pine Spring**	**77.17**	**44**		P	**P**	**22 53 09.7**	**+1.2**	
ELK	**Elko**	**77.45**	**41**		P	**P**	**22 53 10.7**	**+0.7**	
MTPU	**Mount Pierson**	**78.05**	**45**		P	**P**	**22 53 15.4**	**+1.9**	
MTPU					IAmb	IAmb	22 53 16.2		
	comp=Z,4.1nm,0.9s								
BMO	**Blue Mountains**	**78.50**	**37**		P	**P**	**22 53 16.5**	**+1.0**	
SUA	**Susitna One**	**78.62**	**11**		P	**P**	**22 53 16.8**	**+0.9**	
SUA					IAmb	IAmb	22 53 23.6		
	comp=Z,8.9nm,1.1s								
DUG	**Dugway, Tooele**	**78.73**	**43**		P	**P**	**22 53 17.6**	**+0.6**	
DUG					IAmb	IAmb	22 53 29.6		
	comp=Z,5.3nm,1.1s								
NJ2	**Nanjing**	**80.25**	**307**		*e*P	**P**	**22 53 26.3**	**+1.1**	
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
TX32	**Lajitas Array**	**80.47**	**56**		P	**P**	**22 53 27.5**	**+1.0**	
TX32					IAmb	IAmb	22 53 40.2		
	comp=Z,7.7nm,1.4s								
TXAR	**Lajitas Array**	**80.47**	**56**		P	**P**	**22 53 26.9**	**+0.4**	
	comp=Z,0.8nm,0.8s,baz=220,slow=12,SNR=4.8								
TXAR	**Lajitas Array**	**80.47**	**56**		P	**P**	**22 53 27.3**	**+0.7**	
ANMO	**Albuquerque**	**80.66**	**50**		P	**P**	**22 53 28.8**	**+1.2**	
WRH	**Wood River Hil**	**81.87**	**11**		P	**P**	**22 53 33.5**	**+0.3**	
WRH					IAmb	IAmb	22 53 45.8		
	comp=Z,7.6nm,1.0s								
DOT	**Dot Lake**	**81.92**	**13**		P	**P**	**22 53 34.2**	**+0.7**	
DOT					IAmb	IAmb	22 53 46.2		
	comp=Z,5.9nm,1.1s								
CCB	**Clear Creek Bu**	**82.08**	**11**		P	**P**	**22 53 34.6**	**+0.4**	
CCB					IAmb	IAmb	22 53 35.5		
	comp=Z,6.1nm,1.0s								
PD31	**Pinedale Array**	**82.13**	**42**		P	**P**	**22 53 35.1**	**-0.1**	
PDAR	**Pinedale Array**	**82.13**	**42**		P	**P**	**22 53 35.7**	**+0.4**	
	comp=Z,1.1nm,0.8s,baz=239,slow=2.6,SNR=9.3								
PDAR					LR	LR	23 24 32.4		
	comp=Z,118nm,20.9s,baz=304,slow=32								
PDAR	**Pinedale Array**	**82.13**	**42**		P	**P**	**22 53 35.5**	**+0.2**	
ILAR	**Eielson Array**	**82.36**	**11**		P	**P**	**22 53 35.6**	**-0.1**	
	comp=Z,0.8nm,0.8s,baz=228,slow=6.1,SNR=12								
IMAR	**Indian Mountai**	**82.40**	**8**		P	**P**	**22 53 37.0**	**+1.2**	
DAWY	**Dawson**	**83.33**	**14**		P	**P**	**22 53 41.6**	**+0.8**	
BMAR	**Burnt Mountain**	**85.17**	**11**		P	**P**	**22 53 51.7**	**+1.7**	
HHC	**Hu-ho-hao-te**	**89.09**	**313**		*e*P	**P**	**22 54 09.6**	**-0.1**	
HHC					pmax	pmax			
	comp=Z,14nm,0.8s								
HHC					pmax	pmax			
	comp=Z,82nm,6.6s								
YKA	**Yellowknife Ar**	**89.99**	**23**		P	**P**	**22 54 13.3**	**+0.1**	
	comp=Z,0.8nm,1.0s,baz=230,slow=4.3,SNR=7.2								
KMI	**Kunming**	**91.13**	**296**		⇑P	**P**	**22 54 20.5**	**+0.7**	
KMI					sP	PcP	22 54 25.3	+4.6	
KMI					pmax	pmax			
	comp=Z,6.0nm,0.8s								
KMI					pmax	pmax			
	comp=Z,150nm,5.0s								
CMAR	**Chiang Mai Arr**	**92.73**	**288**		P	**P**	**22 54 27.2**	**+0.2**	
	comp=Z,0.5nm,0.4s,baz=100,slow=3.0,SNR=1.9								
CMAR	**Chiang Mai Arr**	**92.73**	**288**		P	**P**	**22 54 27.0**	**0.0**	
VNA3	**Neumayer Olymp**	**92.90**	**175**		P	**P**	**22 54 27.4**	**+0.6**	
SNAA	**Sanae**	**92.95**	**177**		P	**P**	**22 54 27.6**	**+0.5**	
VNA2	**Neumayer--Watz**	**93.39**	**175**		P	**P**	**22 54 29.5**	**+0.4**	
VNA1	**Neumayer--Stat**	**93.59**	**175**		P	**P**	**22 54 30.2**	**+0.2**	
ULM	**Lac du Bonnet**	**93.80**	**39**		LR	LR	23 28 58.2		
	comp=Z,130nm,21.2s,baz=324,slow=30								
CLL	**Collm**	**143.78**	**353**		*e*PKPdf	**PKPdf**	**23 00 50.0**	**+0.9**	
	comp=Z,5.0nm,1.1s								
CLL					LmV		23 42 00.0		
	comp=Z,200nm,22.0s								
DPC	**Dobruska-Polom**	**144.23**	**349**		*e*PKP	**PKPdf**	**23 00 50.2**	**+0.2**	
DPC					*ex*	x	23 01 00.5		
KRLC	**Kraliky**	**144.41**	**349**		*e*PKP	**PKPdf**	**23 00 51.0**	**+0.6**	
KRLC					*ex*	x	23 01 01.0		
BIZ	**Bicaz**	**144.61**	**337**		⇓P	**PKiKP**	**23 00 54.0**	**-0.5**	
KMBO	**Kilima Mbogo**	**145.69**	**244**		PKPbc	**PKPab**	**23 00 55.0**	**+0.4**	
	comp=Z,4.7nm,1.1s,baz=101,slow=4.4,SNR=7.5								
DOPR	**Dopca**	**145.70**	**337**		⇓P	**PKiKP**	**23 00 55.1**	**-1.7**	
KHC	**Kasperske Hory**	**145.84**	**352**		*e*PKP	**PKPab**	**23 00 55.4**	**+1.5**	
KHC					*ex*	x	23 01 01.5		
MLR	**Muntele Rosu**	**145.88**	**336**		⇓P	**PKPab**	**23 00 54.0**	**-0.2**	
DRGR		**145.94**	**340**		⇑P	**PKPab**	**23 00 55.1**	**+0.8**	
CKRC	**Cesky Krumlov**	**146.04**	**351**		*e*PKP	**PKPab**	**23 00 54.7**	**+0.1**	
CKRC					*ex*	x	23 01 06.1		
GERES	**GERESS Array B**	**146.11**	**352**		PKPbc	**PKPbc**	**23 00 54.5**	**+0.2**	
	comp=Z,0.3nm,0.5s,baz=20,slow=4.3,SNR=2.0								
BRTR	**Keskin Array B**	**146.20**	**321**		PKPbc	**PKPab**	**23 00 55.5**	**-0.2**	
	comp=Z,4.5nm,0.8s,baz=111,slow=1.6,SNR=23								
VOIR		**146.27**	**337**		⇑P	**PKiKP**	**23 00 56.9**	**-1.1**	
ARR	**Arges**	**146.49**	**337**		⇓P	**PKiKP**	**23 00 57.8**	**-0.6**	
CONA	**Conrad Observa**	**146.65**	**349**		*i* P	**PKiKP**	**23 00 58.3**	**-0.5**	
	comp=Z,1.8nm,0.6s								
HUMR	**Humele**	**147.06**	**336**		⇑P	**PKiKP**	**23 01 03.0**	**+3.4**	
WATA	**Walderalm**	**147.85**	**354**		P	**PKPbc**	**23 01 00.2**	**+0.9**	
	comp=Z,7.7nm,1.5s								
MOTA	**Moosalm**	**147.89**	**354**		*e*P	**PKPbc**	**23 01 00.4**	**+0.9**	
	comp=Z,7.7nm,1.4s								
ABTA	**Abfaltersbach**	**148.32**	**352**		*e*P	**PKPbc**	**23 00 60.0**	**-0.6**	
	comp=Z,5.7nm,1.8s								

IDC 14 23:02:11.0±5.2, 2.66S×130.85E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/33, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=383.5km s-min=29.5km az=72.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.51**	**169**	P	P	23 06 18.7	+0.7
	0.1nm,0.3s,baz=351,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**21.09**	**172**	P	P	23 06 56.4	-0.8
	1.4nm,0.7s,baz=349,slow=11,SNR=12						
MKAR	**Makanchi Array**	**65.12**	**325**	P	P	23 12 53.7	0.0
	0.3nm,0.7s,baz=120,slow=7.4,SNR=3.7						

*ISK **14** 23:07:00.9, 41.81N×32.39E, h5km, ML2.9/22*
ISC 14 23:07:00.8±1.1, 41.85N±0.04×32.38E±0.02, h6km±9km, n40,σ1°00/57, 16C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASR	**Amasra-Bartin**	**0.11**	**142**	PG	**Pg**	**23 07 03.5**	**+0.3**
MASR				SG	**Sg**	**23 07 04.5**	**-0.3**
KURC	**Kurucasile-Bar**	**0.28**	**91**	PG	**Pg**	**23 07 05.6**	**-0.6**
KURC				SG	**Sg**	**23 07 10.7**	**+0.9**
KDZE	**Karadeniz Ereo**	**0.88**	**233**	PG	**Pg**	**23 07 18.0**	**+0.3**
KDZE				SG	**Sb**	**23 07 30.5**	**-0.1**
GRDE	**Gerede-Bolu**	**1.06**	**187**	PG	**Pg**	**23 07 20.9**	**-0.2**
GRDE				SG	**Sg**	**23 07 34.9**	**+0.1**
KMON	**Kastamonu**	**1.16**	**114**	PN	**Pb**	**23 07 23.1**	**-0.2**
KMON				SN	**Sb**	**23 07 38.9**	**+0.3**
BZK	**Bozkurt**	**1.22**	**84**	⇓P	**Pn**	**23 07 25.4**	**+0.9**
BZK				⇑S	**Sg**	**23 07 40.1**	**+0.1**
BZK	**Bozkurt**	**1.22**	**84**	PN	**Pn**	**23 07 24.6**	**+0.2**
BZK				SN	**Sn**	**23 07 41.9**	**+0.7**
YUVA	**Yuva-Kibriscik**	**1.55**	**200**	PN	**Pb**	**23 07 29.4**	**-0.6**
YUVA				SN	**Sg**	**23 07 50.1**	**-0.4**
MDUB	**Mudurnu**	**1.64**	**213**	PN	**Pn**	**23 07 30.6**	**+0.3**
SAUV	**Serdivan-Sakar**	**1.90**	**235**	PN	**Pn**	**23 07 34.6**	**+0.8**
GULT	**Gulveren**	**2.00**	**225**	PN	**Pn**	**23 07 35.9**	**+0.7**
AUMIH	**MIHALICIK**	**2.09**	**199**	PN	**Pn**	**23 07 37.2**	**+0.6**
SNOP	**Sinop**	**2.12**	**84**	PN	**Pn**	**23 07 38.0**	**+1.2**
DIKM	**Dikmen**	**2.17**	**94**	⇑P	**Pb**	**23 07 39.8**	**-0.6**
DIKM				⇑S	**Sb**	**23 08 06.6**	**-0.9**
DIKM	**Dikmen**	**2.17**	**94**	PN	**Pn**	**23 07 38.6**	**+1.2**
SRCK	**Saricakaya, Es**	**2.24**	**217**	PN	**Pn**	**23 07 39.4**	**+0.9**
HRT	**Hereke**	**2.28**	**244**	PN	**Pn**	**23 07 40.2**	**+1.1**
CORM	**Corum**	**2.39**	**134**	PN	**Pn**	**23 07 41.2**	**+0.6**
ADVT	**Abdulvahap**	**2.44**	**235**	PN	**Pn**	**23 07 42.3**	**+1.1**
BORA	**Eskisehir**	**2.45**	**217**	PN	**Pn**	**23 07 42.4**	**+1.0**
AFSR	**Afar-Bala (An**	**2.46**	**167**	PN	**Pn**	**23 07 42.3**	**+0.7**
YLV	**Yalova**	**2.60**	**241**	PN	**Pn**	**23 07 44.5**	**+1.0**
ISK	**Istanbul-Kandi**	**2.61**	**254**	PN	**Pn**	**23 07 44.7**	**+1.1**
KAVV	**Kandilli-Istan**	**2.61**	**254**	PN	**Pn**	**23 07 44.7**	**+1.1**
KAMT	**Kaman**	**2.68**	**157**	PN	**Pn**	**23 07 45.3**	**+0.7**
TRML	**Termal-Yalova**	**2.71**	**244**	PN	**Pn**	**23 07 46.4**	**+1.4**
BGKT	**Bogazkoy**	**2.79**	**257**	PN	**Pn**	**23 07 46.9**	**+0.9**
GEMT	**Gemlik**	**2.79**	**241**	PN	**Pn**	**23 07 47.6**	**+1.6**
KVT	**Kavak**	**2.86**	**104**	PN	**Pn**	**23 07 48.4**	**+1.3**
ICOR	**Ion Corvin**	**4.05**	**306**	⇓P	**Pn**	**23 08 05.7**	**+2.4**
ICOR				⇓S	**Sn**	**23 08 53.0**	**+2.0**
TLBR	**Topalu**	**4.16**	**312**	⇑P	**Pn**	**23 08 05.9**	**+1.2**
TLBR				⇓S	**Sn**	**23 08 53.7**	**0.0**
TPGR	**Topolog**	**4.17**	**318**	⇓P	**Pn**	**23 08 05.4**	**+0.5**
TPGR				⇑S	**Sn**	**23 08 52.7**	**-1.3**
TLCR		**4.22**	**323**	⇑P	**Pn**	**23 08 05.8**	**+0.1**
TLCR				⇑S	**Sn**	**23 08 53.4**	**-1.9**
HARR	**Harsova**	**4.31**	**313**	⇓P	**Pn**	**23 08 07.8**	**+0.9**
CFR	**Carcaliu**	**4.54**	**319**	⇑P	**Pn**	**23 08 10.9**	**+0.9**
CFR				⇑S	**Sn**	**23 09 02.0**	**-1.0**
VRI	**Vrincioaia**	**5.73**	**316**	⇑P	**Pn**	**23 08 27.1**	**+0.7**
VRI				⇓S	**Sn**	**23 09 31.9**	**-0.5**
PLOR	**Plostina**	**5.76**	**316**	⇑P	**Pn**	**23 08 27.1**	**+0.3**
PLOR				⇑S	**Sn**	**23 09 32.5**	**-0.7**
MLR	**Muntele Rosu**	**5.92**	**310**	⇑P	**Pn**	**23 08 30.1**	**+1.0**
MLR				⇑S	**Sn**	**23 09 37.1**	**-0.1**
VOIR		**6.41**	**306**	⇑P	**Pn**	**23 08 37.9**	**+2.0**
IDI	**Anoyia**	**8.79**	**224**	⇑P	**Pg**	**23 09 47.9**	**-1.1**
IDI				⇓S	Sn	23 10 33.9	-14

*ISK **14** 23:08:44.3, 38.83N×23.24E, h5km, ML3.2/12*
*IDC **14** 23:08:45.5±1.1, 38.86N×23.10E, h0km, mb3.4/8, mb1 3.6/11, mb1mx3.4/41, mbtmp3.4/11, ML3.1/3, Error ellipse: s-maj=22.6km s-min=19.1km az=122.0*
*IASPEI **14** 23:08:46.7±0.8, 38.83N±0.02×23.19E±0.02, h10km±5km, mb3.5/8, Error ellipse: s-maj=2.4km s-min=2.3km az=171.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ATH **14** 23:08:47.0, 38.83N×23.18E, h8km±1km, ML3.2/25, Error ellipse: s-maj=1.4km s-min=0.5km az=169.0*
*THE **14** 23:08:47.1, 38.82N×23.20E, h2km±1km, ML3.3/16, Error ellipse: s-maj=1.3km s-min=0.3km az=165.0*
ISC 14 23:08:46.8±0.7, 38.82N±0.02×23.19E±0.01, h10km±4km, n141,σ0°64/195, mb3.5/8, 11C-10D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.06**	**17**	P	**Pg**	**23 08 48.8**	**-0.1**
SMIA				S	**Sg**	**23 08 49.9**	**-0.4**
SMIA				AML	AML	23 08 50.5	
SMIA				AML	AML	23 08 51.2	
SMIA	**Simia**	**0.06**	**17**	P	**Pg**	**23 08 48.8**	**-0.1**
SMIA				S	**Sg**	**23 08 50.1**	**-0.3**
	286µm,0.4s						
ATAL	**Atalanti**	**0.18**	**225**	P	**Pg**	**23 08 50.9**	**+0.2**
ATAL				S	**Sg**	**23 08 53.1**	**-0.3**
ATAL				AML	AML	23 08 54.3	
	comp=N,31235µm,0.4s						
ATAL				AML	AML	23 08 54.3	
	comp=E,47357µm,0.4s						
ATAL	**Atalanti**	**0.18**	**225**	P	**Pg**	**23 08 50.9**	**+0.2**
ATAL				S	**Sg**	**23 08 53.7**	**+0.3**
	comp=E,20µm,0.4s						
LKR	**Lokris**	**0.23**	**220**	P	**Pg**	**23 08 51.6**	**+0.2**
LKR				S	**Sg**	**23 08 55.1**	**+0.5**
LKR				AML	AML	23 08 55.5	
	comp=E,57593µm,0.3s						
LKR				AML	AML	23 08 56.0	
	comp=N,48034µm,0.3s						
LKR	**Lokris**	**0.23**	**220**	P	**Pg**	**23 08 51.6**	**+0.2**
LKR				S	**Sg**	**23 08 54.8**	**+0.2**
	comp=N,27µm,0.3s						
AXAR	**Agios Charalam**	**0.42**	**262**	P	**Pg**	**23 08 54.8**	**-0.1**
AXAR				S	**Sg**	**23 09 00.8**	**+0.3**
AXAR				AML	AML	23 09 03.7	
	comp=E,13003µm,0.2s						
AXAR				AML	AML	23 09 05.8	
	comp=N,17466µm,0.3s						
AXAR	**Agios Charalam**	**0.42**	**262**	P	**Pg**	**23 08 55.1**	**+0.1**
AXAR				S	**Sg**	**23 09 01.2**	**+0.7**
	comp=N,7µm,0.3s						
NEO	**Neokhori**	**0.48**	**3**	P	**Pg**	**23 08 56.3**	**+0.1**
NEO	**Neokhori**	**0.48**	**3**	P	**Pg**	**23 08 56.5**	**+0.3**
NEO				S	**Sg**	**23 09 03.2**	**+0.6**
	comp=N,6µm,0.3s						
XOR	**Xorichti**	**0.54**	**0**	P	**Pg**	**23 08 57.4**	**+0.1**
XOR				S	**Sg**	**23 09 04.4**	**0.0**
XOR	**Xorichti**	**0.54**	**0**	P	**Pg**	**23 08 57.5**	**+0.2**
XOR				S	**Sg**	**23 09 05.2**	**+0.8**
	comp=N,4µm,0.4s						
VIL2	**Platees**	**0.61**	**174**	P	**Pg**	**23 08 59.1**	**+0.4**
VIL2				S	**Sb**	**23 09 08.9**	**+0.5**
VIL2				AML	AML	23 09 12.4	
	comp=E,7598µm,0.8s						
VIL2				AML	AML	23 09 13.7	
	comp=N,5770µm,0.6s						
ALNA	**Alonissos**	**0.62**	**58**	P	**Pg**	**23 08 58.7**	**-0.1**
ALNA				S	**Sg**	**23 09 07.6**	**+0.7**
ALNA				AML	AML	23 09 09.2	
	comp=E,5172µm,0.5s						
ALNA				AML	AML	23 09 11.7	
	comp=N,7289µm,0.6s						
DLFA	**Delphi**	**0.64**	**238**	P	**Pg**	**23 08 58.7**	**-0.5**
DLFA				S	**Sg**	**23 09 07.6**	**0.0**
DLFA				AML	AML	23 09 08.8	
	comp=N,4908µm,0.4s						
DLFA				AML	AML	23 09 08.8	
	comp=E,6188µm,0.6s						
DSF	**Desfina**	**0.66**	**232**	P	**Pg**	**23 08 59.0**	**-0.6**
DSF				S	**Sg**	**23 09 08.5**	**+0.2**
DSF				AML	AML	23 09 14.6	
	comp=N,6084µm,0.2s						
DSF				AML	AML	23 09 14.9	
	comp=E,4925µm,0.2s						
DSF	**Desfina**	**0.66**	**232**	P	**Pg**	**23 08 59.5**	**-0.1**
VILL	**Villia**	**0.67**	**172**	P	**Pg**	**23 08 59.4**	**-0.2**
VILL				S	**Sg**	**23 09 09.0**	**+0.6**
	comp=E,4µm,0.7s						
AGG	**Agios Georgios**	**0.70**	**287**	P	**Pg**	**23 08 59.6**	**-0.6**
AGG				S	**Sg**	**23 09 09.4**	**0.0**
AGG				AML	AML	23 09 15.5	
	comp=N,3669µm,0.6s						
AGG				AML	AML	23 09 15.7	
	comp=E,2526µm,0.7s						
AGG	**Agios Georgios**	**0.70**	**287**	P	**Pg**	**23 08 59.9**	**-0.4**
AGG				S	**Sb**	**23 09 10.2**	**-0.6**
	comp=E,2µm,0.8s						
AGG	**Agios Georgios**	**0.70**	**287**	PG	**Pg**	**23 08 59.4**	**-0.9**
AGG				SG	**Sb**	**23 09 10.7**	**-0.1**
EREA	**Eretria**	**0.71**	**124**	P	**Pg**	**23 09 00.5**	**0.0**
EREA				S	**Sb**	**23 09 10.7**	**-0.4**
EREA				AML	AML	23 09 12.3	
	comp=E,9363µm,0.3s						
EREA				AML	AML	23 09 14.6	
	comp=N,6569µm,0.3s						
EREA	**Eretria**	**0.71**	**124**	P	**Pg**	**23 09 00.5**	**0.0**
EREA				S	**Sg**	**23 09 10.4**	**+0.7**
	comp=N,4µm,0.3s						
KYMI	**Kymi, Euboea I**	**0.74**	**105**	P	**Pg**	**23 09 00.4**	**-0.5**
KYMI				S	**Sb**	**23 09 11.5**	**-0.4**
KYMI				AML	AML	23 09 15.9	
	comp=N,2202µm,0.5s						
KYMI				AML	AML	23 09 17.2	
	comp=E,2310µm,0.4s						
KYMI	**Kymi, Euboea I**	**0.74**	**105**	P	**Pg**	**23 09 00.5**	**-0.5**
KYMI				S	**Sb**	**23 09 12.1**	**+0.2**
	comp=E,1µm,0.5s						
LTK	**Loutraki**	**0.82**	**192**	P	**Pg**	**23 09 02.0**	**-0.6**
LTK				S	**Sg**	**23 09 13.9**	**+0.7**
LTK				AML	AML	23 09 17.6	
	comp=E,5600µm,0.4s						
LTK				AML	AML	23 09 20.1	
	comp=N,6395µm,0.5s						
LTK	**Loutraki**	**0.82**	**192**	P	**Pg**	**23 09 02.1**	**-0.4**
MAKR	**Makrakomi, Fth**	**0.84**	**283**	P	**Pg**	**23 09 02.9**	**-0.1**
MAKR				S	**Sg**	**23 09 14.1**	**0.0**
MAKR				AML	AML	23 09 25.5	
	comp=E,1510µm,1.1s						
MAKR				AML	AML	23 09 27.4	
	comp=N,1372µm,0.6s			

comp=N,1768μm,0.5s
KLV AML AML 23 09 27.5
comp=E,1052μm,0.7s
KLV Kalavryta, Ach 1.13 227 P **Pn 23 09 08.7 0.0**
PAIG Paliouri 1.17 19 P **Pb 23 09 08.4 -0.6**
PAIG S **Sn 23 09 24.8 -0.4**
PAIG AML AML 23 09 27.1
comp=N,811μm,0.4s
PAIG AML AML 23 09 28.0
comp=E,1632μm,0.5s
PAIG Paliouri 1.17 19 P **Pb 23 09 08.9 -0.1**
THL Klokotos Trika 1.17 309 P **Pb 23 09 08.4 -0.8**
THL S **Sg 23 09 24.7 +0.1**
THL AML AML 23 09 29.1
comp=N,869μm,0.6s
THL AML AML 23 09 30.1
comp=E,744μm,0.4s
KARY Karystos 1.26 128 P **Pn 23 09 10.5 +0.1**
KARY Karystos 1.26 128 P **Pn 23 09 10.5 +0.1**
LIT Litokhoron 1.39 337 P **Pn 23 09 12.4 +0.2**
LIT Litokhoron 1.39 337 P **Pb 23 09 12.6 -0.2**
KRND KRANIDI 1.44 181 P **Pb 23 09 12.9 0.0**
DRO Drossia 1.45 234 P **Pb 23 09 13.8 -0.1**
DRO Drossia 1.45 234 P **Pb 23 09 13.8 -0.1**
RLS Riolos of Patr 1.55 241 P **Pb 23 09 15.7 +0.1**
RLS Riolos of Patr 1.55 241 P **Pb 23 09 15.7 +0.1**
PLG Polygyros 1.56 7 P **Pn 23 09 14.4 -0.3**
PLG Polygyros 1.56 7 P **Pn 23 09 14.6 0.0**
PDO Prodromos 1.58 262 P **Pb 23 09 16.4 +0.2**
PDO Prodromos 1.58 262 P **Pb 23 09 16.2 0.0**
VLX Vlachokerasia 1.59 204 P **Pb 23 09 16.0 -0.2**
VLX Vlachokerasia 1.59 204 P **Pn 23 09 15.5 +0.5**
OUR Ouranopolis 1.63 22 P **Pn 23 09 15.7 +0.2**
OUR Ouranopolis 1.63 22 PN **Pn 23 09 14.9 -0.6**
HORT Hortiatis 1.77 358 P **Pn 23 09 17.6 0.0**
HORT Hortiatis 1.77 358 PN **Pn 23 09 17.3 -0.3**
ITM Ithomi 1.92 212 PN **Pn 23 09 19.9 +0.3**
SOH Sokhos 2.00 4 P **Pn 23 09 21.1 +0.4**
VLI Veliai 2.11 185 P **Pn 23 09 22.8 +0.6**
SIGR SIGRI 2.11 79 PN **Pn 23 09 21.6 -0.6**
GRG Griva 2.21 344 PN **Pn 23 09 23.9 +0.3**
CHOS Chios island 2.29 100 PN **Pn 23 09 24.4 -0.3**
FNA Florina 2.40 325 PN **Pn 23 09 27.0 +0.8**
GADA Gvkgeada 2.50 56 PN **Pn 23 09 27.5 0.0**
VAY Valandovo 2.54 349 *i* Pn **Pn 23 09 29.9 +1.9**
APE Apeiranthos 2.55 133 ⇓P **Pn 23 09 28.7 +0.4**
APE ⇑S **Sb 23 10 03.8 -0.3**
APE Apeiranthos 2.55 133 PN **Pn 23 09 28.3 +0.1**
KTHA Kythira Island 2.56 182 PN **Pn 23 09 28.3 -0.1**
EZN Ezine 2.63 67 PN **Pn 23 09 29.3 0.0**
URLA Izmir 2.71 99 PN **Pn 23 09 29.7 -0.7**
DKL Dikili 2.91 84 PN **Pn 23 09 32.8 -0.3**
RDO Rodhopi 2.94 37 PN **Pn 23 09 33.3 -0.2**
STIP Stip 2.97 345 *i* Pn **Pn 23 09 35.0 +1.1**
THT2 Imerovigli 2.97 143 PN **Pn 23 09 33.9 -0.1**
ENEZ Enez 2.98 43 PN **Pn 23 09 32.9 -0.2**
GELI Tayfur-Gelibol 2.98 57 PN **Pn 23 09 34.1 -0.1**
ALN Alexandroupoli 3.02 46 PN **Pn 23 09 33.7 -0.9**
KDZ Kurdzhali 3.30 30 PN **Pn 23 09 37.9 -0.6**
PLD Plovdiv 3.48 19 PN **Pn 23 09 41.3 +0.4**
IDI Anoyia 3.78 158 Pn **Pn 23 09 45.6 +0.4**
comp=E,1.9nm,0.3s,baz=322,slow=13,SNR=17
IDI Sn **Sn 23 10 29.1 -0.7**
comp=E,0.6nm,0.3s,baz=55,slow=13,SNR=1.5
VTS Vitosha 3.79 1 ⇓P **Pn 23 09 46.3 +0.9**
VTS ⇑S **Sn 23 10 30.2 +0.1**
PDG Podgorica 4.68 322 ⇑P **Pn 23 09 58.0 +0.5**
PDG ⇓S **Sn 23 10 51.6 -0.3**
PLVB Pleven 4.69 13 ⇓P **Pn 23 09 58.6 +1.1**
TIP Timpagrande 5.02 276 ⇑P **Pn 23 10 02.1 -0.1**
TIP ⇓S **Sn 23 11 00.1 -0.3**
MATE Matera 5.32 292 ⇑P **Pn 23 10 07.0 +0.8**
MATE ⇑S **Sn 23 11 07.9 +0.4**
DBRK Dubrovnik 5.42 317 *e*Pn **Pn 23 10 08.0 +0.3**
DBRK Sn **Sn 23 11 09.6 -0.6**
STON Ston 5.80 316 *e*Pn **Pn 23 10 12.7 -0.1**
MDVR Moldovita 6.05 350 ⇓P **Pn 23 10 16.9 +0.5**
HERR Herculane 6.08 355 ⇑P **Pn 23 10 17.2 +0.5**
MAKA Makarska 6.45 316 *i* Pn **Pn 23 10 22.1 +0.4**
MAKA Sn **Sn 23 11 33.2 -2.2**
RICI Ricice 6.53 318 *e*Pn **Pn 23 10 23.5 +0.6**
RICI Sn **Sn 23 11 38.8 +1.4**
ARR Arges 6.63 9 ⇓P **Pn 23 10 25.2 +0.9**
HVAR Hvar 6.70 313 *e*Pn **Pn 23 10 25.3 +0.1**
VOIR 6.75 11 ⇑P **Pn 23 10 26.5 +0.5**
BZS Buzias 6.89 351 ⇓P **Pn 23 10 28.4 +0.6**
MLR Muntele Rosu 6.97 16 Pn **Pn 23 10 31.1 +2.0**
comp=E,0.3nm,0.3s,baz=208,slow=17,SNR=1.6
MLR Sn **Sn 23 11 51.3 +2.9**
comp=E,0.1nm,0.3s,baz=226,slow=18,SNR=1.4
MLR Muntele Rosu 6.97 16 ⇑P **Pn 23 10 29.6 +0.6**
KIJV Kijevo 7.26 318 *e*Pn **Pn 23 10 33.1 +0.2**
KIJV Sn **Sn 23 11 53.9 -1.5**
DOPR Dopca 7.32 12 ⇑P **Pn 23 10 34.4 +0.6**
ZIRJ Zirje 7.46 313 *i* Pn **Pn 23 10 35.1 -0.5**
PLOR Plostina 7.47 19 ⇑P **Pn 23 10 36.9 +1.0**
VRI Vrincioaia 7.51 19 ⇓P **Pn 23 10 37.2 +0.9**
MORI Morici 7.55 314 *e*Pn **Pn 23 10 36.0 -0.9**
UDBI Udbina 7.96 318 *e*Pn **Pn 23 10 44.0 +1.4**
DUGI Dugi Otok 8.00 313 *e*Pn **Pn 23 10 43.3 +0.3**
MORH Mrgy, Hungar 8.11 337 ⇓P **Pn 23 10 44.8 +0.3**
BRTR Keskin Array B 8.16 80 Pn **Pn 23 10 47.9 +2.6**
comp=E,0.1nm,0.3s,baz=259,slow=12,SNR=1.6
ESDC Sonseca Array 21.02 281 P **P 23 13 31.1 +0.6**
comp=E,0.8nm,0.8s,baz=75,slow=10,SNR=7.6
FINES FINESS Array B 22.72 4 P **P 23 13 48.7 +0.2**
comp=E,2.1nm,0.9s,baz=190,slow=4.8,SNR=2.3
NOA NORSAR Array B 23.46 345 P **P 23 13 54.5 -1.7**
comp=E,0.4nm,0.8s,baz=148,slow=9.5,SNR=2.3
EKA Eskdalemuir Ar 24.16 322 P **P 23 14 00.9 -2.0**
comp=E,1.1nm,0.8s,baz=118,slow=9.0,SNR=2.1
TORD Torodi Ar. Bea 31.88 223 P **P 23 15 12.7 +0.4**
comp=E,1.3nm,0.6s,baz=30,slow=9.2,SNR=6.9
MKAR Makanchi Array 43.18 60 P **P 23 16 48.6 +1.0**
comp=E,0.2nm,0.5s,baz=271,slow=7.7,SNR=3.0
ZALV Zalesovo Beam 43.70 49 P **P 23 16 51.1 -0.6**
comp=E,0.6nm,0.7s,baz=274,slow=8.5,SNR=2.5
YKA Yellowknife Ar 73.48 341 P **P 23 20 19.4 +0.3**
comp=E,0.3nm,0.3s,baz=36,slow=5.2,SNR=4.1

IDC 14 23:11:15.0±8.8, 5.83S×146.72E, h102$^{km}_{\pm 91}$, mb3.2/3, mb1 3.3/5, mb1mx3.1/29, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=85.2km s-min=32.6km az=142.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.58**	**173**	P	Pn	23 12 08.7	+0.1
	2.6nm,0.3s,baz=325,slow=12,SNR=1.7						
PMG				S	Sn	23 12 50.6	+0.5
	2.5nm,0.3s,baz=323,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**18.49**	**220**	P	P	23 15 22.9	-0.3
	0.1nm,0.3s,baz=41,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**21.61**	**214**	P	P	23 15 57.0	+0.1
	0.5nm,0.7s,baz=48,slow=8.3,SNR=6.9						
FITZ	**Fitzroy Crossi**	**23.92**	**238**	P	P	23 16 19.7	0.0
	2.9nm,0.9s,baz=64,slow=11,SNR=2.5						
ILAR	**Eielson Array**	**85.43**	**23**	P	P	23 23 40.9	0.0
	0.3nm,0.7s,baz=249,slow=4.8,SNR=4.8						

*BJI **14** 23:15:10.6±0.0, 5.74S×146.58E, h70^{km}, mB5.2/34, mb4.9/55, Ms4.6/11, Ms7 4.2/11*
*IDC **14** 23:15:11.9±2.0, 5.67S×146.43E, h62$^{km}_{\pm 18}$, mb4.5/20, mb1 4.7/24, mb1mx4.6/30, mbtmp4.8/24, MS3.8/18, Ms1 3.8/18, ms1mx3.6/33, Error ellipse: s-maj=16.7km s-min=9.7km az=71.0*
*NEIC **14** 23:15:13.4±1.5, 5.67S±0.06×146.40E±0.05, h74$^{km}_{\pm 5}$, mb4.9/100, Error ellipse: s-maj=10.1km s-min=5.6km az=219.0*
*DJA **14** 23:15:14.6±0.4, 6˚S±3˝×14˚6E±˚, h70$^{km}_{\pm 5}$, M5.2/42, mb5.1/42, mB5.6/12, MLv5.4/3, Mw(mB)5.1/12, MwMwp4.6/1, Mwp5.0/1*
*GCMT **14** 23:15:14.4±0.4, 5.70S±0.03×146.50E±0.05, h64$^{km}_{\pm 3}$, MW5.0/71, Moment Tensor Solution. s17,c17; s71,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.94±.24; $M_{\theta\theta}$-1.68±.22; $M_{\phi\phi}$-0.26±.26; $M_{r\theta}$-1.18±.10; $M_{\theta\phi}$3.31±.22; $M_{\phi r}$0.29±.15; Best double couple: $M_0$3.67100×10^{16} NP1:ϕ_s170.00000°, δ57.00000°, λ159.00000°. NP2: ϕ_s272.00000°, δ72.00000°, λ35.00000°. Principal axes: T 2.7980, Plg37.0000°, Azm136.0000°; N 1.7460, Plg52.0000°, Azm296.0000°; P -4.5440, Plg10.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 23:15:13.3±0.3, 5.72S±0.04×146.46E±0.05, h74^{km}, n268, σ1§12/270, mb5.0/112, 12C-12D, Fault plane solution: NP1:ϕ_s150.02316°, δ62.60194°, λ120.75735°. NP2: ϕ_s277.73615°, δ40.27510°, λ45.38418°. **Principal axes:** T Plg59.8685°, Azm106.1084°; N Plg27.0032°, Azm314.7081°; P Plg12.3626°, Azm218.2952°; **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.73**	**169**	P	Pn	23 16 08.6	0.0
	44nm,0.3s,baz=11,slow=4.1,SNR=60						
PMG				S	Sn	23 16 50.5	-0.7
	33nm,0.3s,baz=9.9,slow=17,SNR=4.7						
PMG				LR	LR	23 17 54.4	
	comp=Z,2μm,19.0s,baz=360,slow=43						
PMG	**Port Moresby**	**3.73**	**169**	P	Pn	23 16 08.8	+0.2
MANU	**Manus Island**	**3.76**	**14**	Pn	Pn	23 16 07.8	-1.3
RABL	**Rabaul**	**5.89**	**75**	Pn	Pn	23 16 37.7	-0.3
RABL	**Rabaul**	**5.89**	**75**	P	Pn	23 16 39.7	+1.6
JAY	**Jayapura**	**6.56**	**299**	P	Pn	23 16 46.3	-1.0
	1.8nm,0.3s,baz=175,slow=10,SNR=4.8						
JAY				S	Sn	23 18 06.9	+6.2
	2.0nm,0.3s,baz=99,slow=18,SNR=2.0						
JAY				LR	LR	23 20 13.8	
	comp=Z,368nm,18.4s,baz=187,slow=46						
GENI	**Genyem**	**7.00**	**296**	P	Pn	23 16 52.6	-0.6
	1.5nm123nm,0.8s						
COEN	**Coen**	**8.80**	**201**	P	Pn	23 17 18.6	+0.7
	baz=8.8						
COEN				S	Sn	23 18 53.0	-2.5
	baz=8.8						
COEN	**Coen**	**8.80**	**201**		Pn	23 17 18.0	+0.2
MTSU	**Mount Surprise**	**12.51**	**189**	P	Pn	23 18 08.6	0.0
	baz=13,SNR=5.7						
HNR	**Honiara**	**13.87**	**106**	LR	LR	23 23 09.4	
	comp=Z,91nm,18.8s,baz=279,slow=34						
CTA	**Charters Tower**	**14.28**	**181**	P	Pn	23 18 34.1	+2.1
	1.9nm,0.3s,baz=0.7,slow=13,SNR=18						
CTAO	**Charters Tower**	**14.28**	**181**	Pn	Pn	23 18 31.4	-0.6
FAKI	**Fak Fak**	**14.44**	**281**		Pn	23 18 33.4	-0.7
FAKI	**Fak Fak**	**14.44**	**281**	P	P	23 18 40.1	+1.3
KDU	**Kakadu**	**15.43**	**242**	P	Pn	23 18 46.6	-0.3
	baz=15,SNR=22						
SIJI	**Sorong**	**15.91**	**287**	P	Pn	23 18 51.8	-1.2
	3.4nm,0.3s,baz=80,slow=11,SNR=23						
SWI	**Sorong**	**15.91**	**287**	P	Pn	23 18 52.6	-0.4
	2μm148nm,0.6s						
QIS	**Mount Isa**	**16.18**	**204**	P	Pn	23 18 57.0	+0.7
	baz=16,SNR=5.5						
MTN	**Manton Dam**	**16.69**	**244**	P	Pn	23 19 02.8	+0.2
WB0	**Warramunga Arr**	**18.24**	**219**	P	P	23 19 19.6	-1.3
WR0	**Warramunga Arr**	**18.29**	**218**	P	P	23 19 20.4	-1.1
WC3	**Warramunga Arr**	**18.39**	**219**	P	P	23 19 22.5	-0.1
	baz=18						
WB2	**Warramunga Arr**	**18.39**	**219**	P	P	23 19 21.8	-0.8
WRA	**Warramunga Arr**	**18.40**	**219**	P	P	23 19 21.6	-1.1
	1.8nm,0.3s,baz=41,slow=12,SNR=21						
WRA				PcP	PcP	23 23 51.5	+0.4
	0.0nm,0.3s,baz=21,slow=1.8,SNR=6.1						
WRA				LR	LR	23 28 07.7	
	comp=Z,413nm,19.1s,baz=45,slow=42						
NLAI	**Namlea**	**19.45**	**276**	P	Pn	23 19 35.6	-0.5
	3μm100nm,1.1s						
EIDS	**Eidsvold**	**20.04**	**168**	P	P	23 19 41.7	+1.2
	baz=20,SNR=4.8						
EIDS	**Eidsvold**	**20.04**	**168**	P	P	23 19 41.0	+0.5
TNTI	**Ternate**	**20.12**	**288**	P	P	23 19 40.7	-0.8
SANI	**Sanana**	**20.74**	**279**	P	P	23 19 48.0	-0.2
	99nm,1.0s						
RMQ	**Roma**	**20.77**	**174**	P	P	23 19 49.9	+1.6
	baz=21,SNR=12						
QLP	**Quilpie**	**20.85**	**186**	P	P	23 19 50.8	+1.5
	baz=21,SNR=10						
AS31	**Alice Springs**	**21.55**	**213**	P	P	23 19 56.5	-0.3
ASAR	**Alice Springs**	**21.55**	**213**	P	P	23 19 57.0	+0.1
	13nm,0.7s,baz=46,slow=7.1,SNR=68						
ASAR				PcP	PcP	23 23 58.0	+1.2
	4.0nm,0.8s,baz=40,slow=1.7,SNR=7.2						
ASAR				LR	LR	23 29 16.3	
	comp=Z,621nm,18.9s,baz=35,slow=39						
ASAR	**Alice Springs**	**21.55**	**213**	P	P	23 19 56.0	-0.8
SOEI	**Soe**	**22.34**	**258**	P	P	23 20 05.6	0.0
SOEI	**Soe**	**22.34**	**258**	P	P	23 20 07.0	+1.5
	145nm,0.9s						
BATI	**Baumata**	**23.00**	**257**	P	P	23 20 11.8	-0.4
	138nm,0.7s,baz=127,slow=1.3,SNR=40						
BATI				LR	LR	23 31 34.7	
	comp=Z,208nm,20.9s,baz=106,slow=43						
BATI	**Baumata**	**23.00**	**257**	P	P	23 20 13.3	+1.0
	98nm,0.8s						
KMSI	**Cibinong**	**23.30**	**285**	P	P	23 20 22.1	+7.0
FITZ	**Fitzroy Crossi**	**23.76**	**237**	P	P	23 20 18.6	-0.5
	55nm,0.9s,baz=61,slow=9.3,SNR=53						
FITZ				LR	LR	23 30 36.9	
	comp=Z,404nm,18.1s,baz=58,slow=39						
FITZ	**Fitzroy Crossi**	**23.76**	**237**	P	P	23 20 18.9	-0.3
	baz=24,SNR=60						
FITZ	**Fitzroy Crossi**	**23.76**	**237**	P	P	23 20 18.6	-0.5
FITZ				IAmb	IAmb	23 20 20.2	
	comp=Z,46nm,0.8s						
LUWI	**Luwuk**	**24.09**	**280**	P	P	23 20 21.9	-0.3
LUWI	**Luwuk**	**24.09**	**280**	P	P	23 20 22.5	+0.3
	comp=Z,7μmcomp=Z,302nm,0.8s						
MMRI	**Maumere**	**24.20**	**262**	P	P	23 20 22.5	-0.7
MMRI	**Maumere**	**24.20**	**262**	P	P	23 20 22.9	-0.3
	comp=Z,167nm,1.1s						
ARMA	**Armidale**	**25.05**	**169**	P	P	23 20 32.2	+1.3
	baz=25,SNR=6.9						
ARMA	**Armidale**	**25.05**	**169**	P	P	23 20 31.6	+0.7
APSI	**Ampana**	**25.21**	**280**	P	P	23 20 33.3	+0.8
	comp=Z,961nmcomp=Z,81nm,0.8s						
MRSI	**Marisa**	**25.24**	**283**	P	P	23 20 33.0	+0.3
	comp=Z,682nmcomp=Z,39nm,0.8s						
DZM	**Mont Dzumac**	**25.25**	**132**	P	P	23 20 34.4	+1.5
	comp=Z,31nm,1.2s,baz=53,slow=12,SNR=4.1						
DZM				LR	LR	23 28 57.4	
	comp=Z,242nm,18.9s,baz=274,slow=33						
DZM	**Mont Dzumac**	**25.25**	**132**	P	P	23 20 33.3	+0.4
DZM				IAmb	IAmb	23 20 52.9	
	comp=Z,59nm,1.3s						
WRKA	**Warakurna**	**25.92**	**220**	P	P	23 20 38.4	-0.4
	baz=26,SNR=9.1						
BASI	**Baing, Sumba**	**26.01**	**258**	P	P	23 20 39.0	-0.7
	comp=Z,1μmcomp=Z,132nm,0.9s						
WSI	**Waingapu**	**26.21**	**260**	P	P	23 20 43.4	+1.9
	comp=Z,392nm,0.8s						
BNSI	**Bone**	**26.28**	**272**	P	P	23 20 45.2	+3.1
	comp=Z,58nm,0.8s						
STKA	**Stephens Creek**	**26.42**	**189**	P	P	23 20 43.2	+0.1
	comp=Z,7.0nm,0.8s,baz=342,slow=10,SNR=7.5						
STKA				LR	LR	23 32 40.3	
	comp=Z,391nm,18.1s,baz=20,slow=40						
STKA	**Stephens Creek**	**26.42**	**189**	P	P	23 20 45.0	+1.8
	baz=26,SNR=5.6						
STKA	**Stephens Creek**	**26.42**	**189**	P	P	23 20 43.4	+0.2
TOLI2	**Tolitoli**	**26.52**	**284**	P	P	23 20 43.2	-1.1
KAPI	**Kappang**	**26.59**	**270**	P	P	23 20 44.6	-0.4
	comp=Z,15nm,0.7s,baz=119,slow=4.3,SNR=12						
KAPI	**Kappang**	**26.59**	**270**	P	P	23 20 45.1	+0.1
KAPI				IAmb	IAmb	23 20 50.2	
	comp=Z,31nm,0.8s						
SPSI	**Sidrap Palu**	**26.65**	**273**	P	P	23 20 44.7	-0.7
	comp=Z,18nm,0.8s						
TTSI	**Tana Toraja**	**26.69**	**275**	P	P	23 20 46.2	+0.4
	comp=Z,664nmcomp=Z,35nm,0.8s						
HTT	**Hallett**	**28.45**	**193**	P	P	23 21 03.7	+2.3
	baz=28,SNR=4.8						
YNG	**Young**	**28.49**	**177**	P	P	23 21 01.3	-0.4
	baz=29,SNR=6.3						
PLAI	**Plampang**	**28.61**	**262**	P	P	23 21 02.2	-0.8
	comp=Z,34nm,0.9s						
BBOO	**Buckleboo**	**28.64**	**198**	P	P	23 21 02.9	-0.1
CAN	**Canberra**	**29.55**	**176**	P	P	23 21 11.8	+0.7
CAN				IAmb	IAmb	23 21 17.8	
	comp=Z,24nm,1.1s						
PSA00	**Pilbara Seismi**	**30.20**	**236**	P	P	23 21 16.8	-0.2
PSA00				IAmb	IAmb	23 21 19.4	
	comp=Z,12nm,0.8s						
FORT	**Forrest**	**30.34**	**213**	P	P	23 21 18.1	+0.1
FORT				IAmb	IAmb	23 21 19.5	
	comp=Z,60nm,1.5s						
SPMM	**Sapulut**	**31.69**	**288**	P	P	23 21 31.0	+0.8
JAGI	**Jajag, Banyuwa**	**32.16**	**263**	P	P	23 21 31.5	-2.9
JAGI				IAmb	IAmb	23 21 40.4	
	comp=Z,21nm,0.9s						
KMBL	**Kambalda**	**34.37**	**219**	P	P	23 21 53.5	+0.1
	baz=34,SNR=9.2						
SBUM	**Sibu**	**35.14**	**282**	P	P	23 21 59.1	-1.1
SBUM				IAmb	IAmb	23 22 01.7	
	comp=Z,14nm,1.2s						
SBUM	**Sibu**	**35.14**	**282**	P	P	23 22 01.0	+0.7
GIRL	**Giralia**	**35.35**	**238**	P	P	23 22 02.4	+0.5
UGM	**Wanagama**	**35.74**	**264**	P	P	23 22 04.9	-0.5
KSM	**Kuching**	**36.80**	**280**	P	P	23 22 14.2	-0.3
KSM				IAmb	IAmb	23 22 15.5	
	comp=Z,33nm,1.2s						
KSM	**Kuching**	**36.80**	**280**	P	P	23 22 15.0	+0.6
JOW	**Kunigami**	**36.84**	**332**	LR	LR	23 34 03.5	
	comp=Z,101nm,20.3s,baz=101,slow=31						
MORW	**Morawa**	**36.96**	**227**	P	P	23 22 15.8	+0.2
	baz=37,SNR=5.4						
MORW	**Morawa**	**36.96**	**227**	P	P	23 22 15.4	-0.2
MORW				IAmb	IAmb	23 22 23.3	
	comp=Z,26nm,1.4s						
KLBR	**Kellerberrin**	**37.21**	**223**	P	P	23 22 17.6	-0.1
	baz=37,SNR=11						
BLDU	**Ballidu**	**37.34**	**225**	P	P	23 22 19.0	+0.1
	baz=37,SNR=10						
YULB	**Yu-li**	**37.96**	**321**	P	P	23 22 22.9	-1.2
YULB				IAmb	IAmb	23 22 34.7	
	comp=Z,14nm,1.0s						
NWAO	**Narrogin (SRO)**	**38.38**	**221**	P	P	23 22 27.2	-0.3
CISI	**Cisompet, Garu**	**38.41**	**265**	P	P	23 22 26.5	-1.7
CISI	**Cisompet, Garu**	**38.41**	**265**	P	P	23 22 25.3	-2.9
	comp=Z,2μmcomp=Z,69nm,0.9s						
SSLB	**Suanglung**	**38.46**	**321**	P	P	23 22 27.8	-0.6
SSLB				IAmb	IAmb	23 22 30.9	
	comp=Z,11nm,0.8s						
TPI	**Tanjungpandan**	**38.80**	**273**	P	P	23 22 32.8	+1.5
	comp=Z,68nm,1.0s						
YHNB	**Yeheng**	**38.84**	**322**	P	P	23 22 31.8	+0.3
TATO	**Taipei**	**39.00**	**323**	P	P	23 22 32.4	-0.4
TNG	**Tangerang**	**39.59**	**267**	P	P	23 22 53.5	+16
PPBI	**Pangkal Pinang**	**40.37**	**273**	P	P	23 22 45.7	+1.3
	comp=Z,3μmcomp=Z,62nm,1.0s						
XMI	**Christmas Isla**	**40.61**	**261**	P	P	23 22 47.2	+0.8
	comp=Z,203nm,0.8s						
XMIS	**Christmas Isla**	**40.65**	**261**	P	P	23 22 46.7	0.0
XMIS	**Christmas Isla**	**40.65**	**261**	P	P	23 22 47.2	+0.5
	comp=Z,164nm,0.8s						
JMN	**Monobe**	**41.00**	**344**	P	P	23 22 49.7	+0.4
JNU	**Nakatsue**	**41.36**	**340**	P	P	23 22 51.4	-0.9
	comp=Z,21nm,0.8s,baz=152,slow=5.0,SNR=9.9						
JNU	**Nakatsue**	**41.36**	**340**	P	P	23 22 52.2	-0.1
KASI	**Kota Agung**	**41.75**	**268**	P	P	23 22 54.3	-1.4
	comp=Z,57nm,1.0s						
JGF	**Kuroka**	**41.98**	**349**	P	P	23 22 56.6	-0.7
JGF				IAmb	IAmb	23 22 57.9	
	comp=Z,20nm,1.0s						
JWT	**Wachi**	**42.09**	**346**	P	P	23 22 57.7	-0.4
JWT				IAmb	IAmb	23 22 59.2	
	comp=Z,21nm,0.8s						
JHS	**Saijyo**	**42.41**	**344**	P	P	23 23 00.9	+0.2
JHS				IAmb	IAmb	23 23 01.6	
	comp=Z,12nm,0.7s						
URZ	**Urewera**	**42.70**	**144**	LR	LR	23 38 13.5	
	comp=Z,102nm,19.8s,baz=30,slow=32						
URZ	**Urewera**	**42.70**	**144**	P	P	23 23 04.2	+1.2
URZ				IAmb	IAmb	23 23 20.2	
	comp=Z,19nm,1.1s						
MJAR	**Matsushiro Arr**	**42.74**	**350**	P	P	23 23 01.3	-2.1
	comp=Z,11nm,1.1s,baz=173,slow=7.4,SNR=13						
MJAR				LR	LR	23 39 24.0	
	comp=Z,47nm,19.9s,baz=150,slow=34						
MJAR	**Matsushiro Arr**	**42.74**	**350**	P	P	23 23 02.8	-0.7
MAJO	**Matsushiro**	**42.74**	**350**	P	P	23 23 02.8	-0.6
MAT	**Matsushiro**	**42.74**	**350**	P	P	23 23 02.7	-0.7
MAT				*e*S	S	23 29 24.0	+2.1
LHSI	**Lahat**	**42.82**	**271**	P	P	23 23 05.9	+1.5
	comp=Z,2μmcomp=Z,25nm,1.3s						
THZ	**Tophouse**	**42.93**	**151**	P	P	23 23 06.0	+1.1
THZ				IAmb	IAmb	23 23 10.2	
	comp=Z,19nm,0.9s						
TUWZ	**Tuamarina**	**43.19**	**150**	P	P	23 23 07.8	+0.9
MNAI	**Manna**	**43.34**	**270**	P	P	23 23 07.0	-1.7
BSWZ	**Blackbirch Sta**	**43.37**	**150**	P	P	23 23 09.6	+1.2
LTZ	**Lake Taylor**	**43.41**	**152**	P	P	23 23 10.2	+1.4
LTZ				IAmb	IAmb	23 23 11.9	
	comp=Z,37nm,1.0s						
RPZ	**Rata Peaks**	**43.59**	**154**	P	P	23 23 11.6	+1.4
JSD	**Sado**	**44.20**	**351**	P	P	23 23 14.5	-0.6
JSD				IAmb	IAmb	23 23 17.9	
	comp=Z,19nm,0.9s						
BKNI	**Bangkinang**	**45.74**	**276**	P	P	23 23 27.5	-0.3
NJ2	**Nanjing**	**45.85**	**327**	*e*P	P	23 23 28.8	+0.5
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSRS	**Korea Array**	**46.30**	**340**	P	P	23 23 31.9	+0.3
	comp=Z,16nm,1.0s,baz=159,slow=9.3,SNR=40						
KSRS				LR	LR	23 39 44.0	
	comp=Z,119nm,20.8s,baz=168,slow=32						
KSAR	**Wonju Array Be**	**46.30**	**339**	P	P	23 23 32.0	+0.2
KS19	**Wonju Array Si**	**46.36**	**339**	P	P	23 23 31.6	-0.6
KS19				IAmb	IAmb	23 23 33.8	
	comp=Z,15nm,0.9s						
IPM	**Ipoh**	**46.48**	**282**	P	P	23 23 32.7	-1.0
IPM				IAmb	IAmb	23 23 36.0	
	comp=Z,9.9nm,0.9s						
IPM	**Ipoh**	**46.48**	**282**	P	P	23 23 34.0	+0.4
JTM	**Tenmabayashi**	**46.54**	**354**	P	P	23 23

CM05 Chiang Mai Arr 52.62 298 P **P** **23 24 21.4 +1.2**
comp=Z,99nmcomp=Z,13nm,0.8s
CM02 Chiang Mai Arr 52.63 298 P **P** **23 24 21.0 +0.7**
comp=Z,100nmcomp=Z,14nm,0.9s
CM31 Chiang Mai Arr 52.64 298 P **P** **23 24 21.9 +1.6**
comp=Z,461nm,0.8s
CM31 Chiang Mai Arr 52.64 298 P **P** **23 24 20.5 +0.1**
CM31 IAmb IAmb 23 24 22.3
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 52.64 298 P **P** **23 24 20.3 0.0**
comp=Z,9.4nm,0.7s,baz=121,slow=6.0,SNR=43
CMAR LR LR 23 48 33.9
comp=Z,80nm,18.1s,baz=222,slow=38
CM15 Chiang Mai Arr 52.66 298 P **P** **23 24 21.9 +1.4**
comp=Z,16nm,0.8s
CM13 Chiang Mai Arr 52.66 298 P **P** **23 24 21.0 +0.5**
comp=Z,104nmcomp=Z,14nm,1.0s
CMMT Chiang Mai 52.77 299 P **P** **23 24 21.0 -0.4**
comp=Z,5.4nm,1.0s
CM33 Chiang Mai Arr 52.78 299 P **P** **23 24 21.0 -0.4**
CHTO Chiang Mai 52.78 299 P **P** **23 24 21.4 0.0**
CHTO IAmb IAmb 23 24 22.9
comp=Z,7.5nm,0.8s
XAN Xi'an 53.12 321 P **P** **23 24 23.0 -0.7**
XAN pP pP 23 24 42.3 0.0
XAN pmax pmax
comp=Z,28nm,1.0s
XAN LR LR
comp=Z,140nm,15.2s
XAN LR LR
comp=Z,180nm,18.4s
XAN LR LR
comp=Z,150nm,15.2s
XAN Xi'an 53.12 321 P **P** **23 24 23.0 -0.7**
XAN IAmb IAmb 23 24 24.4
comp=Z,19nm,0.9s
BJT Baijiatuau 53.38 331 P **P** **23 24 25.0 -0.4**
BJT IAmb IAmb 23 24 26.2
comp=Z,9.6nm,0.9s
BJI Beijing 53.40 331 P **P** **23 24 25.3 -0.2**
BJI pmax pmax
comp=Z,11nm,0.8s
HHC Hu-ho-hao-te 56.31 329 *e*P **P** **23 24 46.8 +0.1**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,190nm,7.6s
LZH Lanzhou 57.65 320 ⇓P **P** **23 24 57.0 +0.7**
LZH pP pP 23 25 16.1 +1.0
LZH sP sP 23 25 22.0 -1.3
LZH pmax pmax
comp=Z,28nm,1.3s
LZH pmax pmax
comp=Z,81nm,6.2s
PEA0B Petropavlovsk- 59.38 8 P **P** **23 25 08.5 +0.7**
PETK Petropavlovsk- 59.38 8 P **P** **23 25 07.4 -0.4**
comp=Z,4.8nm,0.8s,baz=173,slow=3.6,SNR=5.9
PETK LR LR 23 45 58.0
comp=Z,95nm,21.9s,baz=179,slow=31
PETK Petropavlovsk- 59.38 8 P **P** **23 25 08.2 +0.4**
HIA Hailar 59.51 340 P **P** **23 25 08.7 -0.1**
HIA IAmb IAmb 23 25 10.1
comp=Z,16nm,0.9s
SHL Shillong 61.41 303 P **P** **23 25 21.9 -0.5**
GTA Gaotai 62.18 320 ⇑P **P** **23 25 27.5 +0.2**
GTA pP pP 23 25 45.6 -0.7
GTA sP sP 23 25 54.4 0.0
GTA pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 63.60 332 P **P** **23 25 36.5 -0.1**
ULN IAmb IAmb 23 25 38.4
comp=Z,8.3nm,0.8s
LSA Lhasa 63.64 307 P **P** **23 25 37.7 +0.1**
LSA IAmb IAmb 23 25 39.9
comp=Z,8.7nm,0.8s
SONM Songino Array 63.90 331 P **P** **23 25 38.3 -0.2**
comp=Z,4.9nm,0.8s,baz=141,slow=9.6,SNR=33
SONM LR LR 23 55 12.8
comp=Z,33nm,18.5s,baz=168,slow=38
SONM Songino Array 63.90 331 P **P** **23 25 38.7 +0.2**
MA2 Magadan 65.18 2 P **P** **23 25 46.7 +0.2**
MA2 IAmb IAmb 23 25 48.5
comp=Z,14nm,0.9s
CASY Casey 65.38 195 P **P** **23 25 48.5 +0.8**
CASY IAmb IAmb 23 25 49.2
comp=Z,16nm,0.8s
RAMN Ramite 66.33 303 *e*P **P** **23 25 55.0 +0.1**
comp=Z,8.0nm,0.5s
GUN Gumba 67.26 303 *e*P **P** **23 26 00.8 -0.1**
comp=Z,42nm,1.0s
PKI Pulchoki 67.54 303 *e*P **P** **23 26 02.3 -0.3**
PKIN Phulchoki 67.55 303 *e*P **P** **23 26 02.2 -0.4**
KKN Kakani 67.72 303 *e*P **P** **23 26 03.2 -0.4**
TLY Talaya 67.85 333 P **P** **23 26 03.8 +0.1**
GKN Gorkha 68.33 303 *e*P **P** **23 26 07.0 -0.4**
comp=Z,21nm,0.9s
HYB Hyderabad 70.86 291 *i*P **P** **23 26 23.0 0.0**
VNDA Vanda 72.22 177 P **P** **23 26 30.9 +0.8**
comp=Z,11nm,0.8s,baz=332,slow=6.7,SNR=39
VNDA Vanda 72.22 177 P **P** **23 26 31.0 +0.9**
VNDA IAmb IAmb 23 26 32.1
comp=Z,12nm,0.8s
WMQ Urumqi 72.23 319 *e*P **P** **23 26 31.0 +0.3**
WMQ pP pP 23 26 51.4 +1.0
WMQ sP sP 23 26 56.3 -2.2
WMQ pmax pmax
comp=Z,14nm,1.3s
WMQ pmax pmax
comp=Z,140nm,4.3s
WMQ LR LR
comp=Z,2μm,28.9s
WMQ LR LR
comp=Z,1μm,29.3s
WMQ LR LR
comp=Z,400nm,29.0s
WMQ Urumqi 72.23 319 P **P** **23 26 30.5 -0.3**
SBA Scott Base 72.88 176 P **P** **23 26 35.0 +1.1**
SBA IAmb IAmb 23 26 53.5
comp=Z,31nm,1.4s
ZSN Zaisan 75.60 322 *e*P **P** **23 26 49.4 -1.0**
baz=322
MK31 Makanchi Array 76.94 321 P **P** **23 26 57.0 -0.9**
MKAR Makanchi Array 76.94 321 P **P** **23 26 57.1 -0.8**
comp=Z,3.1nm,0.7s,baz=101,slow=7.2,SNR=35
MKAR Makanchi Array 76.94 321 P **P** **23 26 57.0 -0.9**
MAKZ Makanchi 77.14 321 P **P** **23 26 58.4 -0.7**
SHLS Shalkode 77.46 316 *e*P **P** **23 26 58.4 -2.6**
baz=316
UZB Uzynbulak 77.76 316 *e*P **P** **23 27 01.8 -1.0**
baz=316
TIXI Tiksi 78.08 354 P **P** **23 27 02.5 -1.1**
KPKS Kokpek 78.10 316 *e*P **P** **23 27 03.4 -1.1**
baz=316
SATY Saty 78.15 316 *e*P **P** **23 27 04.0 -1.0**
baz=316
ZAA0 Zalesovo Array 78.49 328 P **P** **23 27 04.2 -2.1**
ZALV Zalesovo Beam 78.49 328 P **P** **23 27 04.7 -1.6**
comp=Z,4.1nm,0.5s,baz=113,slow=6.1,SNR=23
ZALV LR LR 00 02 30.2
comp=Z,31nm,18.7s,baz=80,slow=36
ZALV Zalesovo Beam 78.49 328 P **P** **23 27 04.5 -1.8**
KSH Kashi 78.79 312 P **P** **23 27 09.3 +0.8**
KSH PP **PP** **23 30 14.1 +6.3**
KSH S **S** **23 36 59.6 -1.1**
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH pmax pmax
comp=Z,340nm,5.5s
KSH LR LR
comp=Z,290nm,8.0s
KSH LR LR
comp=Z,250nm,6.8s
KSH LR LR
comp=Z,320nm,8.4s
TDK Taldyqorghan 78.81 318 *e*P **P** **23 27 07.7 -0.7**
baz=318
MDOK Medeo 79.13 316 *e*P **P** **23 27 09.3 -1.0**
baz=316
TNSS Tian-Shan 79.16 316 *e*P **P** **23 27 09.4 -1.3**
baz=316
AAA Alma-Ata 79.23 316 *e*P **P** **23 27 10.1 -0.6**
baz=316
NIL Nilore 79.32 306 P **P** **23 27 11.0 -0.4**
NIL IAmb IAmb 23 27 12.3
comp=Z,10nm,0.6s
KUU Kurty 79.85 316 *e*P **P** **23 27 12.7 -1.3**
comp=Z,2.5nm,0.6s,baz=316
AAK Ala-Archa 80.76 315 P **P** **23 27 19.1 -0.1**
CNPM China Poot 81.34 27 P **P** **23 27 22.1 +0.4**
RDOG Red Dog Mine 81.64 17 P **P** **23 27 23.8 +0.8**
BTLS Baital 81.76 317 *e*P **P** **23 27 22.8 -1.4**
baz=317
MAW Mawson 82.30 203 P **P** **23 27 25.7 -0.8**
comp=Z,22nm,1.0s,baz=149,slow=3.2,SNR=4.4
DZA Taraz 83.07 314 *e*P **P** **23 27 29.8 -1.3**
comp=Z,2.6nm,0.7s,baz=314
IMAR Indian Mountai 83.42 21 P **P** **23 27 32.8 +0.5**
SML Sawmill 83.63 26 P **P** **23 27 33.6 +0.1**
SML IAmb IAmb 23 27 36.3
comp=Z,15nm,0.8s
KK31 Karatay Array 83.71 314 P **P** **23 27 33.1 -1.2**
KKAR Karatay Array 83.71 314 P **P** **23 27 33.4 -0.9**
KKAR Karatay Array 83.71 314 P **P** **23 27 33.5 -0.9**
IUG Iuzhnay 83.83 313 *e*P **P** **23 27 34.1 -1.0**
baz=313
BRZS Berezniki 84.04 321 *e*P **P** **23 27 34.5 -1.4**
comp=Z,3.6nm,0.8s,baz=322
RND Reindeer 84.09 24 P **P** **23 27 35.5 -0.3**
RND IAmb IAmb 23 27 38.4
comp=Z,12nm,0.8s
MCK McKinley 84.19 24 P **P** **23 27 36.0 -0.3**
MCK IAmb IAmb 23 27 37.3
comp=Z,14nm,1.0s
QSPA South Pole Qui 84.25 180 P **P** **23 27 37.0 +0.3**
QSPA IAmb IAmb 23 27 37.7
comp=Z,14nm,0.8s
NEA2 Nenana 84.51 23 P **P** **23 27 37.8 -0.1**
NEA2 IAmb IAmb 23 27 38.4
comp=Z,7.2nm,0.8s
WRH Wood River Hil 84.84 23 P **P** **23 27 39.2 -0.4**
WRH IAmb IAmb 23 27 41.3
comp=Z,14nm,1.1s
CCB Clear Creek Bu 85.03 23 P **P** **23 27 39.6 -0.8**
CCB IAmb IAmb 23 27 41.0
comp=Z,14nm,1.0s
IL31 85.44 23 P **P** **23 27 41.4 -1.0**
IL31 IAmb IAmb 23 27 42.3
comp=Z,13nm,0.8s
ILAR Eielson Array 85.44 23 P **P** **23 27 41.2 -1.3**
comp=Z,16nm,0.9s,baz=252,slow=5.1,SNR=120
ILAR LR LR 00 02 43.8
comp=Z,30nm,20.3s,baz=168,slow=33
TOLK Toolik Lake Re 86.11 19 P **P** **23 27 46.0 +0.1**
TOLK IAmb IAmb 23 27 47.8
comp=Z,6.4nm,0.8s
BRVK Borovoye 86.30 324 P **P** **23 27 45.9 -1.1**
SCRK Sand Creek 86.31 24 P **P** **23 27 47.2 +0.2**
CTGM Chitina Glacie 86.45 28 P **P** **23 27 48.8 +1.0**
BCAR Beaver Creek A 86.92 26 P **P** **23 27 50.0 0.0**
BMAR Burnt Mountain 87.33 21 P **P** **23 27 52.2 +0.4**
EGAK Eagle 87.73 24 P **P** **23 27 54.3 +0.6**
EGAK IAmb IAmb 23 27 55.6
comp=Z,12nm,0.9s
DAWY Dawson 88.25 25 P **P** **23 27 57.4 +1.2**
DAWY IAmb IAmb 23 27 59.0
comp=Z,14nm,1.0s
HRA Herat 88.43 305 P **P** **23 27 56.9 -1.2**
EPYK Eagle Plains 89.95 23 P **P** **23 28 04.7 +0.5**
SYO Syowa Base 90.67 200 ‖*e*P **P** **23 28 08.1 +0.7**
ABKAR Akbulak array 92.01 319 P **P** **23 28 11.3 -2.8**
ABKAR Akbulak array 92.01 319 P **P** **23 28 12.1 -2.0**
ABKAR IAmb IAmb 23 28 13.4
comp=Z,2.6nm,0.8s
BELA Belgrano 2 96.52 180 P **P** **23 28 33.8 -0.5**
NVAR Mina Array Bea 97.62 52 P Pdif 23 28 41.0 +0.6
comp=Z,1.2nm,0.8s,baz=252,slow=5.9,SNR=9.5
NVAR Mina Array Bea 97.62 52 P Pdif 23 28 40.8 +0.5
YKA Yellowknife Ar 99.18 28 P **Pdif** **23 28 46.1 -0.2**
comp=Z,1.0nm,0.8s,baz=273,slow=4.1,SNR=11
YKA PKKPbc **PKKPbc** **23 45 10.3 -3.5**
comp=Z,0.5nm,0.9s,baz=101,slow=3.1,SNR=4.4
TXAR Lajitas Array 110.10 61 PKKP 23 44 51.8
comp=Z,1.0nm,0.9s,baz=122,slow=6.9,SNR=3.8
GERES GERESS Array B 121.37 325 PKP **PKPdf** **23 33 57.6 -0.7**
comp=Z,0.4nm,0.7s,baz=75,slow=1.5,SNR=2.7
PLCA Paso Flores 122.65 147 PKP **PKPdf** **23 34 01.0 -0.1**
comp=Z,2.8nm,0.9s,baz=190,slow=5.5,SNR=6.5
PLCA Paso Flores 122.65 147 **PKiKP** **23 34 01.8 +0.5**
LPAZ La Paz 139.39 123 PKhKP PKPpre 23 34 26.4
comp=Z,1.9nm,0.8s,baz=317,slow=3.7,SNR=7.5
LPAZ La Paz 139.39 123 **PKPdf** **23 34 32.9 -1.1**
CPUP Villa Florida 140.67 145 PKP **PKPdf** **23 34 33.4 -1.9**
comp=Z,3.4nm,0.8s,baz=289,slow=1.4,SNR=7.9
CPUP Villa Florida 140.67 145 PKPdf **PKPdf** **23 34 34.0 -1.3**
TORD Torodi Ar. Bea 144.50 285 PKP **PKPab** **23 34 40.2 -0.6**
comp=Z,9.9nm,0.8s,baz=73,slow=3.5,SNR=36
TORD Torodi Ar. Bea 144.50 285 **PKPab** **23 34 39.8 -1.0**
KIC Kosan Boka 151.35 273 *e*PKP1 **PKiKP** **23 35 00.6 +0.4**
comp=Z,12nm,0.7s
DBIC Dimbokro 151.47 273 PKPbc **PKPbc** **23 34 59.2 -0.8**
comp=Z,7.3nm,0.7s,baz=77,slow=2.0,SNR=14
DBIC Dimbokro 151.47 273 **PKPbc** **23 34 59.1 -0.9**
TIC Toumodi 151.63 273 *e*PKP1 **PKiKP** **23 35 01.2 +0.4**
LIC Lamto 151.63 272 *e*PKP1 **PKiKP** **23 35 01.5 +0.7**
comp=Z,38nm,0.8s
BDFB Brasilia 154.39 146 PKP **PKPdf** **23 34 58.8 +0.6**
comp=Z,1.4nm,0.6s,baz=170,slow=6.5,SNR=3.6
BDFB PKPbc **PKiKP** **23 35 07.4 +0.8**
comp=Z,12nm,1.0s,baz=183,slow=3.0,SNR=16
BDFB PKPab **pPKPdf** **23 35 19.0 -0.8**
comp=Z,4.6nm,0.8s,baz=173,slow=4.4,SNR=4.4
BDFB Brasilia 154.39 146 **PKiKP** **23 35 07.2 +0.6**

IDC 14 23:23:39.3±51.0, 12.63N×121.76E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.3/37, mbtmp3.6/4 Error ellipse: s-maj=987.0km s-min=161.1km az=137.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**37.37**	**343**	P	P	23 30 53.8	0.0
	0.5nm,0.6s,baz=156,slow=9.0,SNR=5.3						
MKAR	**Makanchi Array**	**47.50**	**324**	P	P	23 32 16.1	-0.2
	0.2nm,0.4s,baz=120,slow=8.2,SNR=8.3						
ZALV	**Zalesovo Beam**	**50.47**	**333**	P	P	23 32 38.4	-0.5
	0.4nm,0.4s,baz=133,slow=7.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**51.64**	**326**	P	P	23 32 47.9	+0.1
	0.7nm,0.6s,baz=129,slow=7.6,SNR=6.1						

*IDC **14** 23:26:56.1±2.3, 46.83N×146.50E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.4/38, mbtmp3.5/10, ML2.8/2, Error ellipse: s-maj=57.0km s-min=21.6km az=154.0*
*SKHL **14** 23:27:02.1±0.6, 44.30N×148.40E, h53km±3km, mb4.2/3*
*JMA **14** 23:27:03.4±0.3, 44.45N×147.52E, h144km, M2.9*
ISC 14 23:27:01.8±1.2, 44.5N±0.2×147.4E±0.1, h174km±9km, n23, σ1§11/30, mb3.1/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.82**	**25**	*e*S	Sn	23 27 31.4	-16
YUK	**Yuzh-Kuril'sk**	**1.18**	**248**	AMB	AMB	23 27 30.0	
	80nm,0.3s						
YUK				*e*P	**Pn**	**23 27 30.3**	**0.0**
YUK				*e*S	**Sn**	**23 27 51.4**	**-0.8**
YUK				A	A	23 27 52.8	
	590nm,0.6s						
YUK				A	A	23 27 52.8	
	390nm,0.6s						
GRPR	**Tuman**	**1.25**	**247**	*e*P	**Pn**	**23 27 31.3**	**+0.4**
GRPR				AMB	AMB	23 27 31.7	
	60nm,0.3s						
GRPR				*e*S	**Sn**	**23 27 53.1**	**-0.3**
GRPR				A	A	23 27 53.9	
	90nm,0.3s						
GRPR				A	A	23 27 53.9	
	280nm,0.3s						
GLVR	**Golovnino**	**1.53**	**241**	*e*P	**Pn**	**23 27 34.0**	**+0.5**
GLVR				AMB	AMB	23 27 35.0	
	30nm,0.2s						
GLVR				*e*S	**Sn**	**23 27 58.6**	**+0.6**
GLVR				A	A	23 28 00.0	
	580nm,0.4s						
GLVR				A	A	23 28 00.0	
	200nm,0.4s						
NEM2	**Nemuro 2**	**1.63**	**227**	P	**Pn**	**23 27 34.8**	**+0.3**
NEM2				*e*S	**Sn**	**23 27 58.7**	**-1.0**
NMR	**Nemuro--Hokkai**	**1.63**	**227**	*e*P	**Pn**	**23 27 34.7**	**+0.2**
NMR				*e*S	**Sn**	**23 27 58.7**	**-1.1**
JNK	**Nakash**	**2.12**	**245**	P	**Pn**	**23 27 41.0**	**+1.3**
JKHN	**Kushirohamanak**	**2.13**	**229**	P	**Pn**	**23 27 40.6**	**+0.7**
JKHN				*e*S	**Sn**	**23 28 09.4**	**0.0**
JAK	**Akkeshi**	**2.45**	**233**	P	**Pn**	**23 27 44.3**	**+0.8**
JAK				*e*S	**Sn**	**23 28 16.0**	**+0.2**
JAR	**Ashorobuto**	**2.86**	**247**	P	**Pn**	**23 27 51.0**	**+2.6**
ASAJ	**Asahikawa**	**3.45**	**265**	Pn	**Pn**	**23 27 56.4**	**+0.8**
	1.1nm,0.3s,baz=90,slow=12,SNR=3.2						
JCH	**Churui**	**3.46**	**239**	P	**Pn**	**23 27 57.2**	**+1.3**
JCH				*e*S	**Sn**	**23 28 37.7**	**-0.3**
JNBK	**Urakawa-nobuka**	**4.03**	**238**	P	**Pn**	**23 28 03.6**	**+0.6**
JNBK				*e*S	**Sn**	**23 28 49.5**	**-1.3**
JKB	**Kayabe**	**5.31**	**243**	*e*S	**Sn**	**23 29 18.5**	**-2.2**
PETK	**Petropavlovsk-**	**10.98**	**35**	Pn	**Pn**	23 29 13.2	-21
	0.1nm,0.3s,baz=211,slow=17,SNR=1.4						
SONM	**Songino Array**	**28.34**	**291**	P	**P**	**23 32 39.7**	**+0.4**
	0.2nm,0.5s,baz=69,slow=11,SNR=2.1						
ILAR	**Eielson Array**	**40.80**	**37**	P	**P**	**23 34 27.0**	**+1.5**
	0.3nm,0.7s,baz=267,slow=7.4,SNR=4.8						
MKAR	**Makanchi Array**	**44.38**	**297**	P	**P**	**23 34 55.6**	**+0.9**
	0.3nm,0.5s,baz=78,slow=10,SNR=6.8						
KURBB	**Kurchatov Arra**	**45.33**	**303**	P	**P**	**23 35 01.8**	**-0.2**
	0.1nm,0.4s,baz=76,slow=8.3,SNR=2.2						
INK	**Inuvik**	**45.68**	**31**	P	**P**	**23 35 04.8**	**+0.2**
	0.7nm,0.4s,baz=243,slow=2.3						
ARCES	**ARCESS Array B**	**58.60**	**340**	P	**P**	**23 36 37.9**	**-1.9**
	3.8nm,1.0s,baz=28,slow=8.2,SNR=1.5						
FINES	**FINESS Array B**	**64.28**	**333**	P	**P**	**23 37 16.6**	**-1.3**
	0.6nm,0.5s,baz=57,slow=7.0,SNR=7.0						
NOA	**NORSAR Array B**	**68.97**	**339**	P	**P**	**23 37 47.1**	**-0.5**
	0.1nm,0.5s,baz=42,slow=7.9,SNR=3.9						

*IDC **14** 23:32:52.4±0.5, 71.87S×126.33W, h0km, mb4.6/9, mb1 4.8/9, mb1mx4.6/24, mbtmp4.6/9, MS3.7/4, Ms1 3.6/4, ms1mx3.3/13, Error ellipse: s-maj=36.9km s-min=14.6km az=166.0*
*NEIC **14** 23:32:54.6±1.5, 71.7S±0.1×126.5W±0.4, h10km±1km, mb5.0/37, Error ellipse: s-maj=24.1km s-min=18.1km az=340.0*
*BJI **14** 23:32:54.5±0.0, 71.80S×126.50W, h10km, mB4.9/2, Ms5.4/3, Ms7 5.2/3*
*AWI **14** 23:32:55.6, 71.79S×126.32W*
ISC 14 23:32:54.5±0.7, 71.75S±0.10×126.54W±0.08, h11km±3km, h12km:pP-P, n177, σ0§85/182, mb4.8/24, MS4.0/7, 17C, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**17.46**	**220**	P	**P**	**23 36 59.5**	**+0.9**
QSPA	**South Pole Qui**	**18.36**	**180**	P	**P**	**23 37 10.8**	**+1.9**
VNDA	**Vanda**	**18.57**	**220**	P	**Pn**	**23 37 14.1**	**+3.1**
	0.3nm,0.3s,baz=100,slow=17,SNR=14						
VNDA				S	**Sn**	**23 40 34.0**	**-4.0**
	0.1nm,0.3s,baz=12,slow=19,SNR=2.2						
VNDA				LR	LR	23 42 54.9	
	comp=Z,180nm,21.5s,baz=108,slow=32						
VNDA	**Vanda**	**18.57**	**220**				**Pn**	**23 37 12.4**	**+1.5**
BELA	**Belgrano 2**	**22.27**	**146**	P	**P**	**23 37 51.2**	**+0.3**
VNA3	**Neumayer Olymp**	**31.57**	**147**	P	**P**	**23 39 16.6**	**+0.4**
VNA2	**Neumayer--Watz**	**32.24**	**147**	P	**P**	**23 39 22.6**	**+0.5**
	baz=213,slow=7.9						
VNA2	**Neumayer--Watz**	**32.24**	**147**	PP	PP	23 40 33.3	-1.3
VNA1	**Neumayer--Stat**	**32.32**	**147**	P	**P**	**23 39 23.4**	**+0.6**
SNAA	**Sanae**	**32.33**	**151**	P	**P**	**23 39 23.4**	**+0.4**
SNAA	**Sanae**	**32.33**	**151**	P	**P**	**23 39 23.4**	**+0.4**
MAW	**Mawson**	**40.76**	**186**	LR	LR	23 56 43.8	
	comp=Z,208nm,20.2s,baz=212,slow=35						
PLCA	**Paso Flores**	**41.34**	**72**	P	**P**	**23 40 39.4**	**-0.5**
	1.1nm,1.0s,baz=201,slow=8.8,SNR=17						
BI02	**San Fabin de**	**44.88**	**69**	P	**P**	**23 41 08.9**	**+0.4**
H03S1	**Juan Fernandez**	**45.34**	**60**	T	T	00 30 00.8	
	baz=196,slow=74						
H03S2	**Juan Fernandez**	**45.34**	**60**	T	T	00 29 59.2	
	baz=196,slow=74						
H03S3	**Juan Fernandez**	**45.36**	**60**	T	T	00 30 00.6	
	baz=196						
H03N3	**Juan Fernandez**	**45.71**	**60**	T	T	00 30 24.9	
	baz=210,slow=74						
H03N2	**Juan Fernandez**	**45.72**	**60**	T	T	00 30 26.9	
	baz=210,slow=74						
H03N1	**Juan Fernandez**	**45.72**	**60**	T	T	00 30 25.4	
	baz=210,slow=74						
BO02	**Sierra Bellavi**	**46.76**	**69**	P	**P**	**23 41 24.1**	**+0.7**
BO02				IAmb	IAmb	23 41 31.3	
	comp=Z,31nm,1.5s						
TBI	**Tubuai**	**50.15**	**332**	*e*LR	LR	23 55 54.5	
	comp=Z,197nm,28.6s						
TBI	**Tubuai**	**50.15**	**332**	*e*T	T	00 35 37.1	
	comp=Z,8.3nm,0.3s						
ZON	**Zonda**	**50.41**	**70**	P	**P**	**23 41 51.4**	**-0.1**
ZON				IAmb	IAmb	23 41 53.0	
	comp=Z,11nm,1.0s						
CO03	**El Pedregal**	**50.49**	**67**	P	**P**	**23 41 52.3**	**+0.2**
CO03				IAmb	IAmb	23 41 54.7	
	comp=Z,29nm,1.1s						
CO01	**Juntas del Tor**	**51.47**	**68**	P	**P**	**23 42 00.4**	**+0.7**
CO01				IAmb	IAmb	23 42 01.6	
	comp=Z,14nm,1.0s						
TOO	**Toolangi**	**54.19**	**258**	P	**P**	**23 42 20.7**	**+1.2**
TOO				IAmb	IAmb	23 42 22.2	
	comp=Z,25nm,1.1s						
PPT2	**Papeete2**	**55.83**	**333**	*e*LR	LR	23 58 46.2	
	comp=Z,182nm,25.5s						
PPT	**Papeete**	**55.85**	**333**	LR	LR	00 02 02.8	
	comp=Z,32nm,18.9s,baz=159,slow=31						
GO02	**Mina Guanaco**	**56.15**	**66**	P	**P**	**23 42 34.3**	**+0.3**
VAH	**Vaihoa**	**57.88**	**336**	*e*T	T	00 45 12.5	
	comp=Z,13nm,0.2s						
PB15	**IPOC Station P**	**58.03**	**66**	P	**P**	**23 42 47.6**	**+0.4**
CPUP	**Villa Florida**	**58.73**	**79**	P	**P**	**23 42 51.0**	**-0.8**
	comp=Z,5.5nm,0.8s,baz=209,slow=5.9,SNR=15						
CPUP	**Villa Florida**	**58.73**	**79**	P	**P**	**23 42 51.9**	**0.0**
CPUP				IAmb	IAmb	23 42 52.7	
	comp=Z,9.1nm,1.0s						
LVC	**Limon Verde**	**58.76**	**66**	P	**P**	**23 42 53.2**	**+0.7**
PB07	**IPOC Station P**	**59.31**	**65**	P	**P**	**23 42 56.9**	**+0.7**
PB01	**IPOC Station P**	**60.07**	**65**	P	**P**	**23 43 01.6**	**+0.3**
PB01				IAmb	IAmb	23 43 02.9	
	comp=Z,10nm,1.0s						
STKA	**Stephens Creek**	**60.66**	**257**	P	**P**	**23 43 06.5**	**+1.4**
	comp=Z,4.3nm,0.7s,baz=153,slow=8.3,SNR=9.3						
STKA	**Stephens Creek**	**60.66**	**257**	P	**P**	**23 43 06.0**	**+1.0**
PSGCX	**Pisagua**	**61.27**	**64**	P	**P**	**23 43 09.9**	**+0.4**
PSGCX				IAmb	IAmb	23 43 10.5	
	comp=Z,7.5nm,0.9s						
BBOO	**Buckleboo**	**61.47**	**252**	P	**P**	**23 43 11.6**	**+1.0**
BBOO				IAmb	IAmb	23 43 19.2	
	comp=Z,11nm,0.8s						
MNMC	**Minye Minye**	**61.86**	**64**	P	**P**	**23 43 14.1**	**+0.4**
PB16	**IPOC Station P**	**62.64**	**64**	P	**P**	**23 43 19.9**	**+0.7**
PB16				IAmb	IAmb	23 43 21.5	
	comp=Z,12nm,0.8s						
EIDS	**Eidsvold**	**63.76**	**269**	P	**P**	**23 43 25.9**	**0.0**
EIDS				IAmb	IAmb	23 43 34.3	
	comp=Z,8.7nm,0.9s						
LPAZ	**La Paz**	**64.97**	**65**	P	**P**	**23 43 35.5**	**+0.8**
	comp=Z,12nm,0.8s,baz=181,slow=4.4,SNR=46						
LPAZ	**La Paz**	**64.97**	**65**	P	**P**	**23 43 35.0**	**+0.4**
LPAZ				IAmb	IAmb	23 43 36.5	
	comp=Z,13nm,0.8s						
NWAO	**Narrogin (SRO)**	**66.65**	**235**	P	**P**	**23 43 44.7**	**+0.1**
ASAR	**Alice Springs**	**70.68**	**253**	P	**P**	**23 44 09.9**	**+0.1**
	comp=Z,4.3nm,0.7s,baz=154,slow=6.2,SNR=57						
AS31	**Alice Springs**	**70.68**	**253**	P	**P**	**23 44 10.0**	**+0.1**
BDFB	**Brasilia**	**71.66**	**84**	P	**P**	**23 44 14.6**	**-1.3**
	comp=Z,4.3nm,0.9s,baz=174,slow=9.2,SNR=6.3						
BDFB	**Brasilia**	**71.66**	**84**	P	**P**	**23 44 15.8**	**-0.1**
BDFB				IAmb	IAmb	23 44 17.3	
	comp=Z,12nm,1.2s						
SAML	**Samuel**	**73.36**	**67**	P	**P**	**23 44 25.5**	**-0.5**
SUR	**Sutherland**	**73.66**	**152**	P	**P**	**23 44 28.5**	**+0.7**
WR0	**Warramunga Arr**	**73.97**	**255**	P	**P**	**23 44 29.2**	**-0.4**
WR0				IAmb	IAmb	23 44 37.2	
	comp=Z,8.6nm,0.8s						
WB2	**Warramunga Arr**	**74.05**	**255**	P	**P**	**23 44 29.9**	**-0.1**
WB2				IAmb	IAmb	23 44 37.7	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**74.05**	**255**	P	**P**	**23 44 29.8**	**-0.2**
	comp=Z,6.2nm,0.7s,baz=159,slow=5.6,SNR=47						
PSA00	**Pilbara Seismi**	**76.74**	**241**	P	**P**	**23 44 45.3**	**-0.1**
PSA00				IAmb	IAmb	23 44 53.4	
	comp=Z,11nm,1.0s						
BOSA	**Boshof**	**77.99**	**155**	P	**P**	**23 44 52.8**	**+0.3**
	comp=Z,4.8nm,0.8s,baz=187,slow=7.4,SNR=8.2						
BOSA				LR	LR	00 15 26.3	

comp=Z,50nm,21.7s,baz=184,slow=33
BOSA Boshof 77.99 155 P **P** **23 44 52.6 +0.1**
OTAV Otavalo 78.08 50 P **P** **23 44 55.2 +1.7**
OTAV IAmb IAmb 23 44 56.3
comp=Z,17nm,1.1s
FITZ Fitzroy Crossi 78.39 248 P **P** **23 44 54.9 +0.3**
comp=Z,3.2nm,0.7s,baz=152,slow=3.6,SNR=7.0
FITZ Fitzroy Crossi 78.39 248 P **P** **23 44 55.0 +0.3**
FITZ IAmb IAmb 23 45 02.5
comp=Z,7.9nm,0.9s
LBTB Lobatse 81.58 155 P **P** **23 45 11.4 -0.6**
LBTB IAmb IAmb 23 45 13.2
comp=Z,8.4nm,0.9s
JTS Las Juntas de 86.36 41 P **P** **23 45 36.3 +0.1**
TAM Tamanrasset 124.08 124 **PKiKP** **23 51 53.2 +0.5**
MJAR Matsushiro Arr 125.86 278 PKP **PKPdf** **23 51 55.4 +0.3**
comp=Z,0.6nm,0.5s,baz=146,slow=5.7,SNR=2.0
KMI Kunming 125.95 238 ⇑PKP **PKiKP** **23 51 58.5 +2.1**
NJ2 Nanjing 127.78 258 *e*PKP **PKiKP** **23 52 01.0 +1.5**
KSRS Korea Array 129.93 269 PKP **PKPdf** **23 52 02.8 0.0**
comp=Z,0.8nm,0.7s,baz=100,slow=1.5,SNR=1.9
YKA Yellowknife Ar 134.22 8 PKP **PKPdf** **23 52 08.9 -1.2**
comp=Z,0.2nm,0.7s,baz=164,slow=3.1,SNR=2.5
DOT Dot Lake 135.66 349 PKPdf **PKiKP** **23 52 13.8 -0.6**
MDJ Mudanjiang 135.91 275 PKP **PKiKP** **23 52 16.1 +0.6**
EGAK Eagle 136.63 351 PKPdf **PKiKP** **23 52 15.6 -0.7**
ILAR Eielson Array 136.96 347 PKhKP PKPpre 23 52 10.4
comp=Z,0.9nm,0.6s,baz=215,slow=6.2,SNR=6.4
ILAR PKP **PKPdf** **23 52 15.6 +0.4**
comp=Z,1.4nm,0.8s,baz=217,slow=2.7,SNR=6.6
ILAR Eielson Array 136.96 347 **PKiKP** **23 52 16.3 -0.7**
ESDC Sonseca Array 137.26 107 PKP **PKPdf** **23 52 16.8 +0.2**
comp=Z,2.1nm,0.9s,baz=248,slow=1.2,SNR=8.4
ESDC Sonseca Array 137.26 107 **PKPdf** **23 52 17.1 +0.5**
HHC Hu-ho-hao-te 138.13 255 *e*PKP **PKPdf** **23 52 15.9 -2.4**
HIA Hailar 143.14 269 PKPdf **PKiKP** **23 52 29.1 -1.0**
AQU L'Aquila 144.67 124 **PKPab** **23 52 28.7 +0.1**
MARD Mardin 144.88 162 PKPbc 23 52 30.1 +0.4
SSB Saint Sauveur 144.91 112 PKPdf **PKPdf** **23 52 30.1 -0.1**
NRCA Norcia 145.04 124 **PKPbc** **23 52 29.5 -0.4**
TIR Tirane 145.31 133 P **PKPdf** **23 52 31.4 +0.5**
KSH Kashi 145.75 212 PKPbc **PKPdf** **23 52 31.5 -0.4**
KSH PP **PP** **23 55 52.9 -0.8**
KSH AMB AMB
comp=Z,280nm,5.9s
KSH LR LR
comp=Z,92nm,6.4s
KSH LR LR
comp=Z,180nm,10.6s
ULN Ulaanbaatar 145.85 255 **PKPdf** **23 52 32.1 +0.2**
ZCCA Zocca 145.88 120 **PKPab** **23 52 33.4 +0.4**
GEYT Alibeck 146.02 187 PKPbc **PKPdf** **23 52 32.2 -0.2**
comp=Z,5.5nm,0.8s,baz=191,slow=5.3,SNR=13
GEYT Alibeck 146.02 187 **PKPbc** **23 52 33.0 -0.2**
GYA0B ALIBECK ARRAY 146.02 187 PKPdf **PKPbc** **23 52 33.0 -0.2**
SONM Songino Array 146.03 254 PKPbc **PKPdf** **23 52 31.8 -0.3**
comp=Z,3.0nm,0.8s,baz=156,slow=4.0,SNR=21
SONM Songino Array 146.03 254 **PKPdf** **23 52 32.3 +0.2**
PDG Podgorica 146.19 132 P **PKPbc** **23 52 33.6 +0.2**
BR231 Keskin MP Arra 146.36 151 PKPdf **PKPbc** **23 52 33.9 -0.3**
BR131 Keskin Array S 146.38 152 **PKPbc** **23 52 34.0 -0.3**
BRTR Keskin Array B 146.38 152 PKPbc **PKPdf** **23 52 33.4 +0.3**
comp=Z,9.6nm,0.8s,baz=173,slow=5.8,SNR=52
BRTR Keskin Array B 146.38 152 **PKPdf** **23 52 33.5 +0.4**
TEOL Teolo 147.00 120 **PKPbc** **23 52 35.6 -0.2**
VTS Vitosha 147.27 137 ⇑P **PKPbc** **23 52 37.3 +0.5**
VTS Vitosha 147.27 137 **PKPbc** **23 52 36.6 -0.2**
TOKA Tokat 147.37 156 PKPbc **PKPbc** **23 52 37.0 +0.1**
TUE Stuetta 147.38 117 **PKPbc** **23 52 36.0 -1.0**
WMQ Urumqi 147.50 229 *e*PKPbc **PKPbc** **23 52 36.8 -0.5**
WMQ LR LR
comp=Z,2μm,29.1s
WMQ LR LR
comp=Z,170nm,28.8s
WMQ Urumqi 147.50 229 PKPdf **PKPdf** **23 52 34.8 +0.2**
WMQ PKPbc **sPKPdf** **23 52 37.8 -0.8**
RES Resolute Bay 147.53 15 **PKPbc** **23 52 35.8 -0.5**
KOPT Kop Dagi 147.53 161 **PKPdf** **23 52 35.9 +0.8**
CTI Castel Tesino 147.63 120 **PKPdf** **23 52 35.4 +0.5**
CTI PKPbc **PKiKP** **23 52 39.2 -0.5**
DIVS Divibare 147.94 132 **PKPbc** **23 52 39.0 +0.5**
STAL STALIGIAL 148.11 121 **PKPbc** **23 52 39.7 +0.9**
FETA Feichten 148.27 118 *e*P **PKPbc** **23 52 39.4 +0.1**
comp=Z,10nm,1.0s
DAVA Damuels 148.27 117 *e*P **PKPbc** **23 52 39.6 +0.2**
comp=Z,22nm,1.3s,SNR=5.5
ZOU Zoufplan 148.46 121 **PKPbc** **23 52 40.3 +0.4**
ABTA Abfaltersbach 148.51 120 *i* P **PKPbc** **23 52 40.0 +0.1**
comp=Z,8.9nm,1.2s
SQTA Sankt Quirin 148.58 118 *i* P **PKPbc** **23 52 40.3 +0.2**
comp=Z,15nm,0.8s
SHLS Shalkode 148.66 218 *e*PKPbc **PKPbc** **23 52 39.5 -0.9**
baz=219
SHLS *e*PKPab **pPKPbc** **23 52 43.3 -0.1**
baz=219
MOTA Moosalm 148.67 118 *e*P **PKPbc** **23 52 40.5 +0.1**
comp=Z,12nm,1.0s,SNR=7.4
RETA Reutte 148.70 118 *e*P **PKPbc** **23 52 40.6 +0.3**
comp=Z,6.9nm,0.8s,SNR=7.0
MYKA Terra Mystica 148.70 122 *i* P **PKPbc** **23 52 40.9 +0.6**
comp=Z,6.9nm,0.9s
WTTA Wattenberg 148.74 119 *e*P **PKPbc** **23 52 40.9 +0.4**
comp=Z,13nm,0.8s,SNR=12
SATY Saty 148.76 217 *e*PKP **PKPdf** **23 52 36.2 -0.7**
baz=217
SATY *e*PKPbc **sPKPdf** **23 52 40.2 -0.6**
baz=217
SATY *e*PKPab **sPKPbc** **23 52 44.3 -0.3**
baz=217
BFO Black Forest 148.78 114 **PKPbc** **23 52 40.4 -0.1**
WATA Walderalm 148.79 119 *i* P **PKPbc** **23 52 40.8 +0.2**
comp=Z,13nm,1.0s
OBKA Obir 148.83 123 *i* P **PKiKP** **23 52 41.5 -0.6**
comp=Z,10nm,1.2s
TNSS Tian-Shan 149.01 215 *e*PKPbc **PKPbc** **23 52 41.4 -0.3**
baz=214
KBA Koelnbreinsper 149.04 121 *i* P **PKPbc** **23 52 40.8 -0.5**
comp=Z,3.2nm,0.8s
AAK Ala-Archa 149.04 211 **PKPbc** **23 52 39.9 -1.5**
KPKS Kokpek 149.10 217 *e*PKPbc **PKPbc** **23 52 40.8 -0.7**
baz=217
SOKA Soboth 149.12 124 *i* P **PKPbc** **23 52 41.8 +0.4**
comp=Z,5.2nm,0.9s
AKH Akhalkalaki 149.18 165 ⇑P **PKiKP** **23 52 42.7 -0.3**
HERR Herculane 149.24 134 ⇑P **PKPbc** **23 52 42.1 +0.5**
ANGG Ammassalik, Gr 149.42 55 *e*P **PKPab** **23 52 46.2 -0.2**
ANGG *e*S **PKPab** **23 52 46.7 +0.4**
HUMR Humele 149.47 138 ⇑P **PKiKP** **23 52 42.9 -0.4**
ARSA Arzberg 149.77 124 *e*P **PKiKP** **23 52 43.6 -0.3**
comp=Z,13nm,1.4s,SNR=5.2
MOA Molln 149.99 122 *e*P **PKPbc** **23 52 43.6 +0.1**
comp=Z,7.2nm,0.8s,SNR=8.6
KK31 Karatay Array 150.09 206 **PKPdf** **23 52 40.6 +1.8**
KKAR Karatay Array 150.09 206 **PKPdf** **23 52 39.9 +1.1**
CONA Conrad Observa 150.49 124 *e*P **PKPbc** **23 52 44.8 +0.1**
comp=Z,3.4nm,0.8s
TDK Taldyqorghan 150.64 218 *e*PKPbc **PKPbc** **23 52 44.4 -0.7**
baz=218
GEC2 GERESS Array S 150.75 120 PKPdf **PKPdf** **23 52 42.1 +2.3**
GERES GERESS Array B 150.75 120 PKP **PKPdf** **23 52 37.6 -2.1**
comp=Z,0.7nm,1.0s,baz=181,slow=3.9,SNR=4.4
GERES PKPbc **sPKPdf** **23 52 44.0 +0.4**
comp=Z,3.5nm,0.9s,baz=197,slow=1.4,SNR=18
GERES PKPab **PKPab** **23 52 51.9 -0.6**
comp=Z,3.7nm,0.9s,baz=188,slow=2.7,SNR=12
GERES GERESS Array B 150.75 120 **PKPdf** **23 52 39.3 -0.4**
GERES PKPbc **PKPbc** **23 52 44.6 -0.7**
CKRC Cesky Krumlov 150.89 121 ⇑*e*PKP **PKPbc** **23 52 45.4 -0.2**
CKRC *e*PKPAB **PKPab** **23 52 52.8 -0.2**
KHC Kasperske Hory 150.98 120 ⇑*e*PKP **PKPbc** **23 52 45.3 -0.5**
KHC *e*PKPAB **PKPab** **23 52 52.9 -0.5**
KHC Kasperske Hory 150.98 120 **PKPbc** **23 52 45.5 -0.3**
KBZ Khabaz 151.43 164 PKPbc **PKPbc** **23 52 45.5 -1.4**
comp=Z,9.9nm,0.8s,baz=195,slow=3.8,SNR=22
KBZ PKPab **PKPab** **23 52 54.8 -0.5**
comp=Z,5.2nm,0.8s,baz=207,slow=4.5,SNR=6.5
BTLS Baital 151.46 211 *e*PKPbc **PKPbc** **23 52 46.5 -0.4**
baz=211
MK31 Makanchi Array 151.55 224 **PKPbc** **23 52 46.2 -1.0**
MKAR Makanchi Array 151.55 224 PKPbc **PKPbc** **23 52 45.1 -2.1**
comp=Z,0.8nm,0.7s,baz=190,slow=1.3,SNR=9.2
MKAR PKPab **PKPab** **23 52 53.6 -2.2**
comp=Z,0.6nm,0.7s,baz=128,slow=4.4,SNR=7.6
MKAR Makanchi Array 151.55 224 **PKPbc** **23 52 46.4 -0.8**
ZSN Zaisan 151.59 228 *e*PKPbc **PKPbc** **23 52 46.4 -0.8**
baz=228
PBCC Pribram 151.59 120 ⇑*e*PKP **PKPbc** **23 52 47.2 +0.1**
PBCC *e*PKPAB **PKPab** **23 52 54.3 -1.6**
MAKZ Makanchi 151.63 224 **PKPbc** **23 52 46.6 -0.8**
KIV Kislovodsk 151.64 163 ⇑P **PKPbc** **23 52 47.3 -0.2**
KIV Kislovodsk 151.64 163 **PKPbc** **23 52 47.5 0.0**
NKC Novy Kostel 151.66 117 ⇑*e*PKP **PKPbc** **23 52 47.1 -0.2**
KRUC Moravsky 151.67 123 *e*PKP **PKPbc** **23 52 46.8 -0.5**
KRUC *e* 23 52 54.3
TESR Tescani 151.71 139 ⇑P **PKPbc** **23 52 47.4 -0.1**
JAVC Velka Javorina 151.82 125 *e*PKP **PKiKP** **23 52 48.5 +0.4**
JAVC *e* 23 52 55.9
VRAC Vranov 151.95 123 ⇑P **PKiKP** **23 52 48.4 +0.1**
VRAC Vranov 151.95 123 *e*PKP **PKPbc** **23 52 47.6 -0.4**
VRAC *e* 23 52 55.1
PRU Pruhonice 152.02 120 ⇑*e*PKP **PKiKP** **23 52 48.3 -0.1**
PRU *ex* x 23 52 55.7
BURAR Bucovina Array 152.46 136 PKPdf **PKPdf** **23 52 42.3 -0.1**
BURAR PKPbc **PKiKP** **23 52 50.0 +0.5**
BUR08 Bucovina Ar. S 152.48 136 **PKPbc** **23 52 49.3 0.0**
PVCC Panska Ves 152.52 120 ⇑*e*PKP **PKiKP** **23 52 50.0 +0.6**
LANS Liptovska Anna 152.54 127 *e*PKP **PKPbc** **23 52 49.0 -0.3**
LANS *e* 23 53 01.0
MORC Moravsky Berou 152.63 124 *e*PKP **PKPbc** **23 52 49.2 -0.3**
MORC *e* 23 52 56.9
BRG Berggiesshubel 152.66 119 *e*PKP **PKPbc** **23 52 49.4 0.0**
BRG Amp 23 52 50.6
comp=Z,6.3nm,1.0s
KRLC Kraliky 152.70 123 ⇑*e*PKP **PKiKP** **23 52 49.9 0.0**
CLL Collm 152.78 117 *e*PKPbc **PKiKP** **23 52 50.0 +0.1**
comp=Z,5.0nm,0.9s
CLL Collm 152.78 117 **PKPbc** **23 52 49.4 -0.4**
DPC Dobruska-Polom 152.83 122 ⇑*e*PKP **PKiKP** **23 52 50.2 +0.1**
OSTC Ostas 152.99 122 ⇑*e*PKP **PKPdf** **23 52 43.1 +0.2**
KOLS Kolonicke sedl 153.03 131 *e*PKP **PKPbc** **23 52 48.6 -1.8**
AKASG Malin Array Be 156.23 140 PKP **PKPdf** **23 52 45.3 -2.0**
comp=Z,0.6nm,0.4s,baz=228,slow=1.1,SNR=2.0
AKASG PKPab **PKPab** **23 53 14.3 -1.1**
comp=Z,2.9nm,0.7s,baz=197,slow=3.3,SNR=8.3
AKASG Malin Array Be 156.23 140 PKPdf **PKPdf** **23 52 45.9 -1.5**
AKASG **PKPab** **23 53 14.5 -0.9**
NOA NORSAR Array B 160.49 102 PKPab **PKPab** **23 53 32.9 -0.9**
comp=Z,0.7nm,0.8s,baz=217,slow=5.0,SNR=3.4
KLMR Klimovskoe 167.76 146 *e*PKPdf **PKPdf** **23 52 58.5 -0.2**
KLMR AMP 23 53 09.7
comp=Z,24nm,1.5s

IDC ***14*** *23:41:23.2±4.4, 5.76S×146.55E, h88km±45km, mb3.5/6, mb1 3.7/9, mb1mx3.5/28, mbtmp3.9/9, MS3.2/1, Ms1 3.2/1, ms1mx2.6/18, Error ellipse: s-maj=38.6km s-min=26.4km az=126.0*

ISC 14 23:41:24.0±1.0, 5.85S±0.09×146.6E±0.2, h100km, n10, σ1s20/12, mb3.6/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.58**	**171**	P	**Pn**	**23 42 17.6**	**+0.1**
	12nm,0.3s,baz=9.5,slow=6.1,SNR=12						
PMG				S	**Sn**	**23 43 00.4**	**+1.4**
	12nm,0.3s,baz=53,slow=20,SNR=6.7						
CTA	**Charters Tower**	**14.16**	**181**	P	**P**	**23 44 42.8**	**-1.8**
	0.5nm,0.3s,baz=3.2,slow=12,SNR=1.6						
WRA	**Warramunga Arr**	**18.40**	**219**	P	**P**	**23 45 31.0**	**-0.4**
	0.4nm,0.3s,baz=42,slow=12,SNR=12						
WRA				PcP	**PcP**	**23 49 59.7**	**+1.2**
	0.1nm,0.3s,baz=22,slow=1.8,SNR=4.9						
WRA				LR	LR	23 54 18.6	
	comp=Z,69nm,19.6s,baz=205,slow=42						
ASAR	**Alice Springs**	**21.53**	**213**	P	**P**	**23 46 06.2**	**+0.9**
	1.6nm,0.6s,baz=47,slow=8.1,SNR=16						
FITZ	**Fitzroy Crossi**	**23.82**	**237**	P	**P**	**23 46 27.7**	**-0.3**
	2.8nm,0.6s,baz=42,slow=7.9,SNR=12						
SONM	**Songino Array**	**64.08**	**331**	P	**P**	**23 51 49.3**	**+1.7**
	0.5nm,0.8s,baz=135,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**77.13**	**321**	P	**P**	**23 53 06.2**	**-0.5**
	0.3nm,0.6s,baz=98,slow=7.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**78.67**	**328**	P	**P**	**23 53 13.7**	**-1.3**
	0.5nm,0.4s,baz=131,slow=6.5,SNR=2.2						
ILAR	**Eielson Array**	**85.49**	**23**	P	**P**	**23 53 50.1**	**-0.3**
	1.1nm,0.6s,baz=251,slow=5.3,SNR=12						
TORD	**Torodi Ar. Bea**	**144.68**	**284**	PKP	**PKPdf**	**00 00 49.8**	**-0.3**
	0.8nm,0.8s,baz=57,slow=3.4,SNR=4.3						

TRN 14 23:53:11.1, 17.02N×61.66W, h56km, MD4.0, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANBD	**Bethesda, Anti**	**0.11**	**287**	*e*P	Pn	23 53 21.4	+1.6
ANBD				*e*S	Sn	23 53 28.2	+2.2
BPA	**Boggy Peak**	**0.20**	**279**	*e*P	Pn	23 53 21.7	+1.5
BPA				*e*S	Sn	23 53 28.6	+1.8
ABD	**La Joyeuse, An**	**0.56**	**163**	*e*P	Pn	23 53 25.1	+1.6
ABD				*i* S	Sn	23 53 34.9	+2.4
MLYT	**Lee's Yard**	**0.59**	**240**	*e*P	Pn	23 53 22.7	-1.2
MLYT				*e*S	Sn	23 53 33.0	-0.1
ANWB	**Willy Bob**	**0.66**	**349**	*e*P	Pn	23 53 25.6	+0.9
ANWB				*i* S	Sn	23 53 36.0	+1.4
DEG	**La Desirade**	**0.90**	**141**	*e*P	Pn	23 53 30.0	+2.1
DEG				*e*S	Sn	23 53 42.1	+2.0
CBE	**Ff, Capester**	**0.94**	**177**	*e*P	Pn	23 53 30.0	+1.7
CBE				*e*S	Sn	23 53 43.7	+2.7
SKOC	**St. Kitts, UWI**	**1.06**	**285**	*e*P	Pn	23 53 31.6	+1.7
SKOC				*e*S	Sn	23 53 45.6	+1.8
SKI	**Saint Kitts**	**1.08**	**287**	*e*P	Pn	23 53 31.8	+1.7
SKI				*e*S	Sn	23 53 46.3	+2.0
MAGL	**Barre de l'ile**	**1.12**	**161**	*e*P	Pn	23 53 32.2	+1.5
MAGL				*e*S	Sn	23 53 47.4	+2.3
TBG	**Guadaloupe-3**	**1.16**	**180**	*e*P	Pn	23 53 32.8	+1.6
TBG				*e*S	Sn	23 53 48.8	+2.8
TDBA	**Terre de Bas,**	**1.16**	**179**	*e*P	Pn	23 53 32.7	+1.5
TDBA				*e*S	Sn	23 53 48.6	+2.5
SEUS	**St. Eustatius**	**1.35**	**291**	*e*P	Pn	23 53 35.2	+1.5
SEUS				*e*S	Sn	23 53 52.8	+2.1
DSLB	**Salisbury**	**1.58**	**172**	*e*P	Pn	23 53 38.5	+1.5
DSLB				*e*S	Sn	23 53 58.3	+1.9
DLPL	**La Plaine**	**1.72**	**167**	*e*P	Pn	23 53 40.5	+1.7
DLPL				*e*S	Sn	23 54 01.9	+2.2
SVN	**Savane Anatole**	**2.21**	**168**	*e*P	Pn	23 53 46.8	+1.3
PCM	**Pelee Case Pet**	**2.23**	**169**	*e*P	Pn	23 53 47.2	+1.5
BAMF	**Morne Balai**	**2.24**	**167**	*e*P	Pn	23 53 47.3	+1.4
CXM	**Morne La Croix**	**2.24**	**168**	*e*P	Pn	23 53 48.2	+2.2
GBMF	**Grand Be**	**2.25**	**168**	*e*P	Pn	23 53 48.5	+2.4
PML	**Morne Lenard**	**2.27**	**168**	*e*P	Pn	23 53 48.1	+1.8
FDF	**Fort de France**	**2.32**	**168**	*e*P	Pn	23 53 47.3	+0.3
FDF				*e*S	Sn	23 54 15.4	+1.0
ILAM	**Ilet Lapin Mar**	**2.35**	**161**	*e*P	Pn	23 53 48.6	+1.2
ILAM				*e*S	Sn	23 54 15.8	+0.8
ZAM	**Aeronautique**	**2.50**	**166**	*e*P	Pn	23 53 51.5	+2.1
LPMF	**Morne Lapointe**	**2.52**	**165**	*e*P	Pn	23 53 50.5	+0.9
TRMF	**Trois Ilets**	**2.53**	**167**	*e*P	Pn	23 53 51.7	+1.8
BIM	**Bigot**	**2.55**	**167**	*e*P	Pn	23 53 51.9	+1.8
BIM				*e*S	Sn	23 54 20.8	+0.8
MVM	**Montagne Vaucl**	**2.55**	**163**	*e*P	Pn	23 53 51.6	+1.4
MPOM	**Morne Pois Mar**	**2.67**	**163**	*e*P	Pn	23 53 53.0	+1.2
MPOM				*e*S	Sn	23 54 24.4	+1.6
SLBI	**Saint Lucia, B**	**3.05**	**167**	*e*P	Pn	23 53 58.5	+1.7
SLBI				*e*S	Sn	23 54 33.8	+1.6
SLW	**Petit Monier**	**3.06**	**167**	*e*P	Pn	23 53 58.7	+1.6
SLW				*e*S	Sn	23 54 34.2	+1.8
CDVI	**St. Croix**	**3.06**	**284**	*e*P	Pn	23 53 59.4	+2.3
SLPA	**Patience**	**3.22**	**167**	*e*P	Pn	23 54 01.3	+1.9
SLPA				*e*S	Sn	23 54 38.3	+1.8
SLB	**Belfond**	**3.22**	**169**	*e*P	Pn	23 54 01.1	+1.7
SLB				*e*S	Sn	23 54 37.9	+1.2
SLDE	**Delcer**	**3.25**	**170**	*e*	Pn	23 54 07.7	+8.0
MCLT	**Moule a Chique**	**3.36**	**168**	*e*P	Pn	23 54 03.1	+1.9
MCLT				*e*S	Sn	23 54 39.9	+0.1
SVV	**Soufriere Volc**	**3.70**	**173**	*e*P	Pn	23 54 07.9	+2.0
SVV				*e*S	Sn	23 54 49.0	+0.7
SVB	**Belmont**	**3.74**	**174**	*e*P	Pn	23 54 08.4	+2.0
SVB				*e*S	Sn	23 54 49.7	+0.4
SVOC	**Richmond Hill,**	**3.86**	**174**	*e*P	Pn	23 54 10.7	+2.6
SVOC				*e*S	Sn	23 54 52.9	+0.7
GCMP	**Grenada, Carri**	**4.51**	**177**	*e*P	Pn	23 54 18.4	+1.5
GRGR	**Grenville**	**4.85**	**180**	*e*P	Pn	23 54 23.9	+2.2
AOPR	**Arecibo Observ**	**5.04**	**286**	*e*P	Pn	23 54 26.9	+2.7

ROM 14 23:59:42.9±0.1, 42.071N±0.004×15.491E±0.009, h10km,

ML1.4/2, 2C-2D, Error ellipse: s-maj=0.7km s-min=0.5km az=262.0, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TREM	**Isole Tremiti**	**0.06**	**15**	P	Pg	23 59 45.2	+0.3
SGRT	**San Giovanni R**	**0.37**	**149**	P	Pg	23 59 50.7	+0.5
SGRT				AML	AML		
	comp=E,59μm,0.1s						
SGRT				AML	AML		
	comp=N,50μm,0.5s						
SGRT				AML	AML		
	comp=E,59μm,0.1s						
SGRT				AML	AML		
	comp=N,50μm,0.5s						
MELA	**Melanico ??? S**	**0.46**	**217**	P	Pg	23 59 52.2	+0.5
MSAG	**Monte S. Angel**	**0.47**	**139**	P	Pg	23 59 52.6	+0.5
MSAG				AML	AML		
	comp=E,98μm,0.2s						
MSAG				AML	AML		
	comp=N,128μm,0.5s						
MSAG				AML	AML		
	comp=N,129μm,0.5s						
MSAG				AML	AML		
	comp=E,98μm,0.2s						
VULT	**Monte Vulture**	**1.12**	**175**	P	Pb	23 59 56.9	-7.5
VVLD	**Villa Vallelon**	**1.41**	**262**	P	Pn	00 00 07.7	-1.0
MOMA	**Monte Martano**	**2.28**	**290**	⇑P	Pg	00 00 28.6	+1.9
MOMA				AML	AML		
	comp=E,43μm,0.2s						
MOMA				AML	AML		
	comp=N,43μm,1.6s						
APEC	**Apecchio**	**2.71**	**304**	S	Sn	00 01 01.0	+1.8
ARCI	**Arcidosso**	**3.07**	**286**	P	Pg	00 00 43.4	+1.7
NOV	**Novara**	**4.05**	**184**	S	Sn	00 01 31.0	-1.4
MTTG	**Motta San Giov**	**4.07**	**178**	S	Sn	00 01 19.0	-14
MSSA	**Maissana**	**4.91**	**299**	⇓P	Pg	00 01 16.6	-0.3
BOSI	**Bolzano**	**5.34**	**327**	⇓P	Pn	00 00 59.1	-3.5
FINB	**Finale Ligure**	**5.65**	**294**	⇑P	Pb	00 01 14.4	-7.1

ROM 15 00:00:06.1±0.1, 42.421N±0.005×13.248E±0.007, h10km, ML1.4/5, 4C-6D, Error ellipse: s-maj=0.7km s-min=0.4km az=49.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.09**	**344**	P	Pg	00 00 09.3	+0.5
RM33				AML	AML		
	comp=E,407μm,0.2s						
RM33				AML	AML		
	comp=N,370μm,1.0s						
RM33				AML	AML		
	comp=N,370μm,1.0s						
RM33				AML	AML		
	comp=E,407μm,0.2s						
RM33	**Pellescritta (**	**0.09**	**344**	P	Pg	00 00 09.3	+0.5
RM33				S	Sg	00 00 11.3	+0.6
RM33				AML	AML		
	comp=N,370μm,1.0s						
RM33				AML	AML		
	comp=E,408μm,0.2s						
RM33				AML	AML		
	comp=E,407μm,0.2s						
RM33	**Pellescritta (**	**0.09**	**344**	P	Pg	00 00 09.3	+0.5
AQU	**L'Aquila**	**0.13**	**120**	⇓P	Pg	00 00 09.9	+0.6
AQU				AML	AML		
	comp=E,132μm,0.4s						
AQU				AML	AML		
	comp=N,174μm,0.9s						
AQU				AML	AML		
	comp=E,132μm,0.4s						
AQU				AML	AML		
	comp=N,174μm,0.9s						
AQU	**L'Aquila**	**0.13**	**120**	P	Pg	00 00 09.8	+0.6
AQU				S	Sg	00 00 12.3	+0.8
CAMP	**Campotosto**	**0.17**	**46**	P	Pg	00 00 09.6	-0.2
CAMP				AML	AML		
	comp=E,105μm,0.8s						
CAMP				AML	AML		
	comp=N,148μm,0.5s						
CAMP				AML	AML		
	comp=N,148μm,0.5s						
CAMP				AML	AML		
	comp=E,105μm,0.8s						
CAMP	**Campotosto**	**0.17**	**46**	⇑P	Pg	00 00 10.2	+0.4
CAMP				S	Sg	00 00 13.2	+0.7
CAMP				AML	AML		
	comp=E,105μm,0.8s						
CAMP				AML	AML		
	comp=E,105μm,0.8s						
CAMP				AML	AML		
	comp=N,148μm,0.5s						
CAMP				AML	AML		
	comp=E,105μm,0.8s						
FIAM	**Fiamignano**	**0.18**	**212**	⇓P	Pb	00 00 13.2	+1.6
FIAM				AML	AML		
	comp=E,138μm,0.7s						
FIAM				AML	AML		
	comp=N,96μm,0.2s						
FIAM				AML	AML		
	comp=E,138μm,0.7s						
FIAM				AML	AML		
	comp=N,96μm,0.2s						
SMA1	**SAN MARTINO**	**0.22**	**17**	⇓P	Pg	00 00 11.4	+0.7
SMA1				AML	AML		
	comp=E,1044μm,0.3s						
SMA1				AML	AML		
	comp=N,440μm,0.6s						
SMA1				AML	AML		
	comp=E,1044μm,0.3s						
SMA1				AML	AML		
	comp=N,440μm,0.6s						
SMA1	**SAN MARTINO**	**0.22**	**17**	⇑P	Pg	00 00 11.3	+0.5
SMA1				S	Sg	00 00 15.1	+1.2
SMA1				AML	AML		
	comp=E,1047μm,0.3s						
SMA1				AML	AML		
	comp=N,440μm,0.6s						
SMA1				AML	AML		
	comp=E,1045μm,0.3s						
SMA1				AML	AML		
	comp=E,1044μm,0.3s						
LNSS	**Leonessa**	**0.24**	**320**	P	Pg	00 00 11.7	+0.6
LNSS				AML	AML		
	comp=E,132μm,0.9s						
LNSS				AML	AML		
	comp=N,145μm,0.4s						
LNSS				AML	AML		
	comp=E,132μm,0.9s						
LNSS				AML	AML		
	comp=N,145μm,0.4s						
LNSS	**Leonessa**	**0.24**	**320**	P	Pg	00 00 11.6	+0.5
LNSS				S	Sg	00 00 15.7	+1.2
LNSS				AML	AML		
	comp=N,144μm,0.4s						
LNSS				AML	AML		
	comp=N,145μm,0.4s						
LNSS				AML	AML		
	comp=E,132μm,0.9s						
GIGS	**Gran Sasso**	**0.24**	**83**	P	Pg	00 00 11.5	+0.4
GIGS				AML	AML		
	comp=E,8μm,0.6s						
GIGS				AML	AML		
	comp=N,6μm,0.1s						
GIGS				AML	AML		
	comp=N,6μm,0.1s						
GIGS				AML	AML		
	comp=E,8μm,0.6s						

TERO				AML	AML			
	comp=N,26μm,0.3s							
ARRO	**Arrone**	**0.39**	**294**	⇓P	Pg	00 00 14.2	+0.4	
ARRO	**Arrone**	**0.39**	**294**	P	Pg	00 00 14.2	+0.4	
ARRO				S	Sg	00 00 19.7	+0.7	
NRCA	**Norcia**	**0.42**	**347**	⇓P	Pg	00 00 14.7	+0.2	
NRCA				AML	AML			
	comp=E,154μm,0.4s							
NRCA				AML	AML			
	comp=N,90μm,1.4s							
NRCA				AML	AML			
	comp=E,154μm,0.4s							
NRCA				AML	AML			
	comp=N,90μm,1.4s							
NRCA	**Norcia**	**0.42**	**347**	P	Pg	00 00 14.6	+0.1	
NRCA				S	Sb	00 00 21.3	-1.0	
NRCA				AML	AML			
	comp=E,154μm,0.4s							
NRCA				AML	AML			
	comp=N,90μm,1.4s							
NRCA				AML	AML			
	comp=N,90μm,1.4s							
VVLD	**Villa Vallelon**	**0.62**	**153**	P	Pg	00 00 13.2	-4.9	
MOMA	**Monte Martano**	**0.63**	**308**	AML	AML			
	comp=N,43μm,1.6s							
MOMA				AML	AML			
	comp=E,43μm,0.2s							
CESI	**CESI - Serrava**	**0.64**	**337**	P	Pg	00 00 18.4	-0.1	
CESI				S	Sb	00 00 28.4	+0.1	
CSP1	**Cessapalombo**	**0.67**	**357**	⇑P	Pg	00 00 19.3	+0.1	
CSP1				AML	AML			
	comp=E,70μm,1.5s							
CSP1				AML	AML			
	comp=N,66μm,1.6s							
CSP1				AML	AML			
	comp=E,70μm,1.5s							
CSP1				AML	AML			
	comp=N,66μm,1.6s							
CSP1	**Cessapalombo**	**0.67**	**357**	P	Pg	00 00 19.2	0.0	
CSP1				S	Sg	00 00 28.7	+0.7	

*VAO **15** 00:21:45.1±0.5, 14.°60S×73.°25W, h10km, mb4.7*
*IDC **15** 00:21:46.7±1.6, 14.°53S×73.°49W, h64km±14km, mb4.0/14, mb1 4.2/20, mb1mx4.2/35, mbtmp4.3/20, MS3.2/3, Ms1 3.2/3, ms1mx2.8/40, Error ellipse: s-maj=18.0km s-min=10.4km az=44.0*
*NEIC **15** 00:21:47.1±1.7, 14.°56S±0.°08×73.°53W±0.°09, h69km±5km, mb4.6/40, Error ellipse: s-maj=14.2km s-min=9.0km az=51.0*

ISC 15 00:21:48.8±0.3,**14.°62S**±0.°05×**73.°58W**±0.°06,**h87km**,**n160,**
σ1°64/164,mb4.5/29,2C,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.12**	**309**	P	**Pn**	**00 22 47.9**	**-1.6**
	31nm,0.3s,baz=138,slow=11,SNR=36						
NNA				S	**Sn**	**00 23 34.4**	**-2.1**
	102nm,0.3s,baz=32,slow=13,SNR=17						
NNA				LR	LR	00 23 52.3	
	comp=Z,235nm,20.9s,baz=218,slow=30						
NNA	**Nana**	**4.12**	**309**		**Pn**	**00 22 47.7**	**-1.8**
AP01	**Chacalluta**	**4.85**	**141**		**Pn**	**00 22 59.4**	**0.0**
PB16	**IPOC Station P**	**5.37**	**134**	Pn	**Pn**	**00 23 07.3**	**+0.2**
LPAZ	**La Paz**	**5.51**	**108**	P	**Pn**	**00 23 11.2**	**+2.4**
	15nm,0.3s,baz=288,slow=11,SNR=141						
LPAZ	**La Paz**	**5.51**	**108**	⇑*eP*	**Pn**	**00 23 11.3**	**+2.4**
MNMC	**Minye Minye**	**5.88**	**140**		**Pn**	**00 23 12.2**	**-1.6**
PSGCX	**Pisagua**	**5.95**	**147**	Pn	**Pn**	**00 23 12.1**	**-2.3**
TA01	**Diego Aracena**	**6.74**	**152**		**Pn**	**00 23 23.4**	**-1.7**
CZSB	**Cruzeiro do Su**	**6.90**	**7**	*eP*	**Pn**	**00 23 26.3**	**-1.1**
PB08	**IPOC Station P**	**6.92**	**143**		**Pn**	**00 23 26.2**	**-1.8**
PB01	**IPOC Station P**	**7.48**	**149**		**Pn**	**00 23 33.1**	**-2.2**
PB07	**IPOC Station P**	**7.89**	**154**		**Pn**	**00 23 38.4**	**-2.6**
PB09	**IPOC Station P**	**8.24**	**151**		**Pn**	**00 23 44.6**	**-1.2**
PB04	**IPOC Station P**	**8.33**	**158**		**Pn**	**00 23 46.2**	**-0.7**
ATAH	**Atahualpa**	**8.82**	**327**	P	**Pn**	**00 23 52.2**	**-1.6**
	0.4nm,0.3s,baz=90,slow=4.3,SNR=4.0						
ATAH				S	**Sn**	**00 25 25.9**	**-5.8**
	1.2nm,0.3s,baz=88,slow=11,SNR=1.7						
PB06	**IPOC Station P**	**8.89**	**155**	Pn	**Pn**	**00 23 51.0**	**-3.6**
LVC	**Limon Verde**	**9.09**	**152**	P	**Pn**	**00 23 56.1**	**-1.4**
	2.3nm,0.3s,baz=0.0,slow=7.5,SNR=21						
LVC				S	**Sn**	**00 25 33.6**	**-4.8**
	6.5nm,0.3s,baz=81,slow=22,SNR=13						
LVC	**Limon Verde**	**9.09**	**152**	Pn	**Pn**	**00 23 55.8**	**-1.8**
LVC	**Limon Verde**	**9.09**	**152**	*eP*	**Pn**	**00 23 56.0**	**-1.6**
PB10	**IPOC Station P**	**9.29**	**163**	Pn	**Pn**	**00 23 59.2**	**-0.7**
PB15	**IPOC Station P**	**9.38**	**156**		**Pn**	**00 23 57.8**	**-3.5**
GO02	**Mina Guanaco**	**11.13**	**161**		**Pn**	**00 24 23.0**	**-2.4**
SAML	**Samuel**	**11.63**	**62**		**Pn**	**00 24 28.6**	**-3.3**
SIV	**San Ignacio**	**12.14**	**98**	P	**Pn**	**00 24 35.9**	**-2.9**
	6.2nm,0.3s,baz=281,slow=11,SNR=132						
SIV				LR	LR	00 30 12.7	
	comp=Z,122nm,19.3s,baz=275,slow=42						
VILB	**Vilhena**	**13.10**	**84**	*eP*	**Pn**	**00 24 48.0**	**-3.6**
PTLB	**Pontes e Lacer**	**13.97**	**95**	*eP*	**Pn**	**00 24 59.5**	**-3.5**
AC05	**El Transito**	**14.47**	**168**	Pn	**Pn**	**00 25 09.7**	**+0.2**
LCO	**Las Campanas**	**14.56**	**170**	Pn	**Pn**	**00 25 11.1**	**+0.3**
OTAV	**Otavalo**	**15.53**	**342**	P	**Pn**	**00 25 24.1**	**+0.6**
OTAV	**Otavalo**	**15.53**	**342**	*eP*	**P**	**00 25 25.4**	**-0.6**
OTAV	**Otavalo**	**15.53**	**342**	*eP*	**P**	**00 25 25.5**	**-0.5**
GO04	**Tololo Observa**	**15.69**	**171**	Pn	**Pn**	**00 25 24.9**	**-0.2**
GO04				IAmb	IAmb	00 25 32.5	
	comp=Z,29nm,0.9s						
CO03	**El Pedregal**	**16.36**	**171**	Pn	**Pn**	**00 25 33.2**	**-0.1**
CO02	**Combarbal**	**16.67**	**172**		**P**	**00 25 37.5**	**-0.7**
CO02				IAmb	IAmb	00 25 50.6	
	comp=Z,27nm,1.1s						
SOTA	**Rioblanco**	**16.92**	**350**	*eP*	**P**	**00 25 44.0**	**+2.6**
MACA	**Manacapuru-AM**	**17.07**	**49**	*eP*	**Pn**	**00 25 40.9**	**-1.2**
PCON	**Cinco Dias**	**17.07**	**350**	*eP*	**P**	**00 25 46.1**	**+3.0**
POPC	**Popayan, Colom**	**17.33**	**350**	*eP*	**P**	**00 25 46.2**	**+0.6**
MARP	**Paez Belalcaza**	**17.51**	**352**	*eP*	**Pn**	**00 25 49.9**	**+2.2**
CLDB	**Colider**	**17.74**	**80**	*eP*	**P**	**00 25 49.5**	**-0.4**
AQDB	**Aquidauana**	**18.01**	**111**	*eP*	**Pn**	**00 25 52.8**	**-0.7**
PRAC	**Prado**	**18.26**	**356**	*eP*	**Pn**	**00 25 57.7**	**+1.1**
VA03	**San Esteban**	**18.27**	**172**	P	**Pn**	**00 25 56.0**	**-0.6**
ORTC	**Ortega, Tolima**	**18.49**	**355**	*eP*	**Pn**	**00 26 04.3**	**+5.1**
MT02	**Curacav**	**18.69**	**174**	P	**Pn**	**00 26 00.5**	**-1.0**
MT02				IAmb	IAmb	00 26 12.5	
	comp=Z,57nm,1.4s						
CPUP	**Villa Florida**	**19.14**	**130**	P	**P**	**00 26 05.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=312,slow=10,SNR=9.0						
CPUP	**Villa Florida**	**19.14**	**130**	P	**P**	**00 26 05.0**	**-0.2**
TOLC	**Tolima**	**19.16**	**355**	*eP*	**Pn**	**00 26 07.5**	**-0.1**
PTGA	**Pitinga**	**19.28**	**45**	P	**P**	**00 26 06.8**	**0.0**
	comp=Z,7.2nm,0.3s,baz=216,slow=14,SNR=21						
PTGA				S	S	00 29 27.2	-13
	comp=Z,0.8nm,0.3s,baz=328,slow=22,SNR=2.1						
PTGA	**Pitinga**	**19.28**	**45**	P	**P**	**00 26 07.4**	**+0.6**
PTGA				IAmb	IAmb	00 26 11.3	
	comp=Z,28nm,0.5s						
PTGA	**Pitinga**	**19.28**	**45**	*eP*	**P**	**00 26 07.0**	**+0.3**
NPGB	**Novo Progresso**	**19.40**	**69**	*eP*	**P**	**00 26 07.8**	**-0.4**
RREF	**El Recreo**	**19.48**	**355**	*eP*	**Pn**	**00 26 15.4**	**+3.8**
PLMC	**San Jos del P**	**19.59**	**352**	*eP*	**P**	**00 26 11.5**	**+1.3**
GUY2C	**Guyana, Caldas**	**19.80**	**355**	*eP*	**Pn**	**00 26 15.3**	**+0.2**
NORC	**Norcasia**	**20.10**	**356**	*eP*	Pn	00 26 17.5	-0.7
BO02	**Sierra Bellavi**	**20.24**	**173**		**P**	**00 26 17.7**	**+0.6**
ITTB	**Itaituba**	**20.32**	**62**	*eP*	**P**	**00 26 17.8**	**-0.2**
RUSC	**La Rusia**	**20.39**	**1**	*eP*	**P**	**00 26 20.5**	**+1.2**
CBOC	**Ciudad Bolivar**	**20.50**	**353**	*eP*	**P**	**00 26 17.9**	**-2.2**
ARAG	**Araguaiana, MT**	**21.04**	**96**	*eP*	**P**	**00 26 25.2**	**-0.6**
PTBC	**PUERTO BERRIO,**	**21.04**	**358**	*eP*	**P**	**00 26 25.6**	**-0.2**
BARC	**Barichara**	**21.08**	**1**	*eP*	**P**	**00 26 26.2**	**-0.3**
ITQB	**Itaqui**	**21.66**	**137**	*eP*	**P**	**00 26 33.8**	**+1.5**
DBBC	**Dabeiba**	**21.66**	**353**	*eP*	**P**	**00 26 34.8**	**+2.4**
PAMC	**Pamplona, Colo**	**21.84**	**2**	*eP*	**P**	**00 26 34.3**	**-0.5**
SNDB	**Serra Nova Dou**	**21.84**	**86**	*eP*	**P**	**00 26 33.8**	**-0.6**
ZARC	**Zaragoza, Cauc**	**22.01**	**357**	*eP*	**P**	**00 26 35.9**	**-0.2**
BI02	**San Fabin de**	**22.05**	**175**	P	**P**	**00 26 37.7**	**+1.2**
BI02				IAmb	IAmb	00 26 40.0	
	comp=Z,16nm,0.7s						
PCMB	**Pacaembu**	**22.30**	**111**	*eP*	**P**	**00 26 40.0**	**+0.7**
UREC	**San Jos de Ur**	**22.31**	**355**	*eP*	**P**	**00 26 42.6**	**+3.2**
PTGB	**Pitanga**	**22.58**	**120**	*eP*	**P**	**00 26 41.8**	**-0.5**
ITRB	**Iturama**	**22.74**	**106**	*eP*	**P**	**00 26 43.4**	**-0.5**
MALB	**Monte Alegre**	**22.91**	**58**	*eP*	**P**	**00 26 45.9**	**+0.3**
SMLC	**San Martn de**	**23.28**	**359**	*eP*	**P**	**00 26 47.4**	**-1.7**
SDV	**Santo Domingo**	**23.54**	**7**	P	**P**	**00 26 50.3**	**-1.4**
	comp=Z,6.0nm,0.8s,baz=123,slow=3.2,SNR=3.8						
SDV	**Santo Domingo**	**23.54**	**7**	*eP*	**P**	**00 26 51.8**	**+0.1**
SDV	**Santo Domingo**	**23.54**	**7**	*eP*	**P**	**00 26 46.6**	**-5.1**
ITAB	**Concordia**	**23.59**	**126**	*eP*	**P**	**00 26 53.7**	**+1.9**
CPSB	**Cacapava Do Su**	**24.28**	**134**	*eP*	**P**	**00 26 59.3**	**+1.2**
BB19B	**Bebedouro**	**24.67**	**109**	*eP*	**P**	**00 27 02.1**	**+0.3**
BDFB	**Brasilia**	**24.70**	**96**	P	**P**	**00 27 00.7**	**-1.4**
	comp=Z,2.2nm,0.5s,baz=285,slow=6.4,SNR=6.2						
BDFB	**Brasilia**	**24.70**	**96**	P	**P**	**00 27 01.1**	**-1.0**
PEXB	**Peixe**	**24.72**	**87**	*eP*	**P**	**00 27 03.6**	**+1.4**
TIJ01	**Guaruva-PR**	**25.39**	**119**	*eP*	**P**	**00 27 11.5**	**+3.2**
SMTB	**Santa Maria do**	**26.07**	**80**	*eP*	**P**	**00 27 16.5**	**+2.0**
PLCA	**Paso Flores**	**26.15**	**175**	P	**P**	**00 27 15.4**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=350,slow=12,SNR=10.0						
PLCA				PcP	**PcP**	**00 30 41.0**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=333,slow=5.3,SNR=3.9						
PLCA	**Paso Flores**	**26.15**	**175**	P	**P**	**00 27 14.6**	**-0.4**
SPB	**Sao Paulo**	**26.23**	**114**	P	**P**	**00 27 16.4**	**+0.6**
SPB				IAmb	IAmb	00 27 18.4	
	comp=Z,18nm,1.0s						
VAO	**Valinhos**	**26.50**	**112**	*eP*	**P**	**00 27 20.5**	**+2.2**
JANB	**Januaria**	**28.29**	**95**	*eP*	**P**	**00 27 36.7**	**+2.3**
MDP	**Montagnes des**	**28.55**	**48**	LR	LR	00 39 09.8	
	comp=Z,53nm,19.9s,baz=223,slow=37						
ROSB	**Rosrio**	**31.30**	**71**	*eP*	**P**	**00 28 01.9**	**+0.9**
GDU01	**Guandu, BA**	**32.96**	**93**	*eP*	**P**	**00 28 18.1**	**+2.6**
NBIT	**Itapeh - BA**	**33.00**	**95**	*eP*	**P**	**00 28 18.4**	**+2.5**
NBLA	**Lagarto - SE**	**35.06**	**88**	*eP*	**P**	**00 28 36.9**	**+3.2**
NBAN	**Anadia - AL**	**36.77**	**87**	*eP*	**P**	**00 28 49.5**	**+1.1**
TEIG	**Tepich**	**37.53**	**337**	P	**P**	**00 28 54.9**	**+0.3**
250A	**Grady**	**47.91**	**345**	P	**P**	**00 30 18.3**	**0.0**
PAULI	**Pauline**	**49.79**	**351**	P	**P**	**00 30 32.9**	**+0.2**
V52A	**Seiverville**	**51.08**	**350**	P	**P**	**00 30 42.0**	**-0.4**
V52A				IAmb	IAmb	00 30 42.5	
	comp=Z,6.5nm,0.8s						
T59A	**Double "B" Far**	**51.45**	**356**	P	**P**	**00 30 45.0**	**-0.2**
SLBS	**Sierra La Lagu**	**52.09**	**316**	P	**P**	**00 30 50.6**	**+0.3**
TXAR	**Lajitas Array**	**52.48**	**326**	P	**P**	**00 30 53.4**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=151,slow=8.4,SNR=9.7						
BINY	**Binghamton**	**56.58**	**358**	P	**P**	**00 31 22.4**	**-0.1**
BINY				IAmb	IAmb	00 31 23.7	
	comp=Z,5.2nm,0.7s						
G65A	**Princeton**	**59.79**	**5**	P	**P**	**00 31 44.8**	**+0.1**
SDCO	**Great Sand Dun**	**60.11**	**331**	P	**P**	**00 31 47.4**	**0.0**
SDCO				IAmb	IAmb	00 31 50.0	
	comp=Z,3.1nm,1.0s						
BATG	**Bathurst New B**	**61.98**	**6**	P	**P**	**00 31 60.0**	**+0.4**
BATG				IAmb	IAmb	00 32 00.8	
	comp=Z,5.9nm,0.9s						
F36A	**Milaca**	**62.84**	**344**	P	**P**	**00 32 05.0**	**-0.3**
F36A				IAmb	IAmb	00 32 05.6	
	comp=Z,5.2nm,0.9s						
SHPR	**Sheep Range**	**64.23**	**324**	P	**P**	**00 32 15.8**	**+0.9**
DRLN	**Deer Lake**	**65.17**	**12**	P	**P**	**00 32 20.3**	**-0.2**
B35A	**Bob, Littlefor**	**65.22**	**345**	P	**P**	**00 32 20.1**	**-0.7**
B35A				IAmb	IAmb	00 32 20.8	
	comp=Z,5.7nm,1.1s						
PDAR	**Pinedale Array**	**65.98**	**332**	P	**P**	**00 32 26.9**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=111,slow=5.0,SNR=1.8						
BELA	**Belgrano 2**	**66.15**	**172**	P	**P**	**00 32 26.9**	**+0.4**
BELA				IAmb	IAmb	00 32 29.0	
	comp=Z,9.6nm,1.1s						
NVAR	**Mina Array Bea**	**67.36**	**323**	P	**P**	**00 32 36.0**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=134,slow=6.4,SNR=2.8						
ULM	**Lac du Bonnet**	**67.50**	**345**	P	**P**	**00 32 34.6**	**-0.8**
	comp=Z,3.8nm,0.7s,baz=143,slow=5.2,SNR=9.9						
ULM	**Lac du Bonnet**	**67.50**	**345**	P	**P**	**00 32 34.8**	**-0.5**
ULM				IAmb	IAmb	00 32 35.0	
	comp=Z,3.7nm,0.7s						
VNA3	**Neumayer Olymp**	**67.97**	**162**	P	**P**	**00 32 36.8**	**-1.4**
VNA1	**Neumayer--Stat**	**68.21**	**161**	P	**P**	**00 32 39.5**	**0.0**
VNA2	**Neumayer--Watz**	**68.57**	**161**	P	**P**	**00 32 42.6**	**+0.7**
	baz=280,slow=8.2						
SNAA	**Sanae**	**70.18**	**161**	P	**P**	**00 32 52.9**	**+1.0**
SNAA	**Sanae**	**70.18**	**161**	P	**P**	**00 32 52.9**	**+1.0**
DBIC	**Dimbokro**	**71.34**	**78**	P	**P**	**00 32 59.0**	**-0.9**
	comp=Z,4.1nm,0.7s,baz=234,slow=6.4,SNR=7.0						
DBIC	**Dimbokro**	**71.34**	**78**	P	**P**	**00 32 58.9**	**-0.9**
DBIC				IAmb	IAmb	00 32 59.7	
	comp=Z,6.5nm,0.8s						
KOWA	**Kowa**	**74.63**	**70**	P	**P**	**00 33 18.7**	**-0.6**
KOWA				IAmb	IAmb	00 33 19.7	
	comp=Z,7.8nm,0.7s						
QSPA	**South Pole Qui**	**75.53**	**180**	P	**P**	**00 33 25.1**	**+1.5**
TOA0	**Torodi Ar. Sit**	**79.45**	**73**	P	**P**	**00 33 45.9**	**-0.4**
TOA0				IAmb	IAmb	00 33 46.8	
	comp=Z,7.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**79.45**	**73**	P	**P**	**00 33 45.8**	**-0.5**
	comp=Z,7.6nm,0.8s,baz=259,slow=5.1,SNR=29						
TORD	**Torodi Ar. Bea**	**79.45**	**73**	P	**P**	**00 33 45.8**	**-0.5**
TORD				IAmb	IAmb	00 33 46.8	
	comp=Z,6.6nm,0.8s						
VNDA	**Vanda**	**82.80**	**190**	P	**P**	**00 34 04.8**	**+1.9**
	comp=Z,2.5nm,1.0s,baz=142,slow=5.3,SNR=8.0						
VNDA	**Vanda**	**82.80**	**190**	P	**P**	**00 34 04.4**	**+1.5**
YKA	**Yellowknife Ar**	**83.29**	**342**	P	**P**	**00 34 05.4**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=133,slow=5.7,SNR=31						
PAB	**San Pablo**	**83.90**	**47**	P	**P**	**00 34 10.0**	**+0.8**
PAB				IAmb	IAmb	00 34 11.0	
	comp=Z,8.1nm,1.1s						
ESDC	**Sonseca Array**	**84.22**	**47**	P	**P**	**00 34 11.7**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=261,slow=5.0,SNR=14						
ESDC	**Sonseca Array**	**84.22**	**47**	P	**P**	**00 34 11.7**	**+0.8**
ESBB	**Sonseca Array**	**84.22**	**47**	P	**P**	**00 34 11.8**	**+0.9**
ESBB				IAmb	IAmb	00 34 12.9	
	comp=Z,7.9nm,1.3s						
ICESG	**Greenland Ices**	**86.89**	**12**	*i* P	**P**	**00 34 24.1**	**+0.2**
ICESG				IAmb	IAmb	00 34 27.9	
	comp=Z,6.9nm,1.0s						
SUMG	**Summit**	**90.04**	**10**	*i* P	**P**	**00 34 39.0**	**+0.3**
	comp=Z,20nm,0.8s						
SUMG	**Summit**	**90.04**	**10**	P	**P**	**00 34 39.9**	**+1.1**
SUMG	**Summit**	**90.04**	**10**	*i* P	**P**	**00 34 39.1**	**+0.3**
SUMG				IAmb	IAmb	00 34 41.5	
	comp=Z,20nm,0.8s						
MAW	**Mawson**	**92.13**	**165**	P	**P**	**00 34 48.8**	**+0.7**
	comp=Z,11nm,0.8s,baz=89,slow=18,SNR=2.7						
ILAR	**Eielson Array**	**96.17**	**336**	P	**P**	**00 35 06.7**	**0.0**
	comp=Z,0.4nm,0.9s,baz=140,slow=7.1,SNR=2.9						
STKA	**Stephens Creek**	**122.78**	**216**	PKP	**PKiKP**	**00 40 35.9**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=331,slow=4.6,SNR=4.4						
AKTO	**Aktyubinsk**	**127.14**	**37**	PKP	**PKiKP**	**00 40 44.6**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=242,slow=1.9,SNR=3.9						
ASAR	**Alice Springs**	**133.41**	**216**	PKP	**PKPdf**	**00 40 55.9**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=126,slow=2.0,SNR=39						
WRA	**Warramunga Arr**	**136.03**	**219**	PKP	**PKPdf**	**00 41 01.1**	**+0.4**
	comp=Z,4.4nm,0.9s,baz=133,slow=2.0,SNR=23						
ZALV	**Zalesovo Beam**	**137.25**	**19**	PKhKP	PKPpre	00 40 57.1	
	comp=Z,0.7nm,0.6s,baz=338,slow=1.6,SNR=5.0						
ZALV				PKP	**PKPdf**	**00 41 02.7**	**+0.8**
	comp=Z,7.5nm,0.8s,baz=304,slow=2.8,SNR=28						
KURK	**Kurchatov**	**137.56**	**26**		**PKPdf**	**00 41 00.3**	**-2.2**
KURBB	**Kurchatov Arra**	**137.59**	**26**	PKP	**PKPdf**	**00 41 00.3**	**-2.3**
	comp=Z,1.4nm,0.9s,baz=312,slow=2.4,SNR=7.4						
AAK	**Ala-Archa**	**140.86**	**38**	PKP	**PKPdf**	**00 41 06.9**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=72,slow=3.2,SNR=1.6						
MKAR	**Makanchi Array**	**142.12**	**27**	PKhKP	PKPpre	00 41 06.3	
	comp=Z,0.6nm,0.7s,baz=323,slow=3.8,SNR=8.0						
KSH	**Kashi**	**143.56**	**41**	PKP	**PKPdf**	**00 41 13.5**	**-0.5**
KSH				sPKP		00 41 52.1	
KSH				PP	**PP**	**00 44 24.0**	**-2.4**
KSH				AMB	AMB		
	comp=Z,380nm,6.7s						
MJAR	**Matsushiro Arr**	**144.23**	**313**	PKP	**PKPab**	**00 41 12.7**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=80,slow=2.3,SNR=9.1						
MJAR	**Matsushiro Arr**	**144.23**	**313**		**PKPab**	**00 41 13.2**	**+0.1**
MAT	**Matsushiro**	**144.23**	**313**	PKP	**PKPab**	**00 41 12.6**	**-0.5**
SONM	**Songino Array**	**146.89**	**0**	PKPbc	**PKPbc**	**00 41 20.7**	**-0.7**
	comp=Z,7.0nm,0.6s,baz=333,slow=2.0,SNR=59						
SONM	**Songino Array**	**146.89**	**0**		**PKPdf**	**00 41 19.9**	**+0.5**
SONM				PKPbc	**PKPbc**	**00 41 21.9**	**+0.5**
KSRS	**Korea Array**	**150.30**	**324**	PKP	**PKPdf**	**00 41 25.9**	**+0.9**
	comp=Z,2.2nm,0.9s,baz=347,slow=1.5,SNR=2.6						
KSRS				PKPbc	**PKiKP**	**00 41 31.0**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=9.9,slow=1.9,SNR=4.2						
GTA	**Gaotai**	**154.63**	**12**	⇑PKPbc	**PKPdf**	**00 41 33.1**	**+1.5**

IDC 15 00:28:27.9±2.8,**31.°26S**×**178.°28W**,**h0km**,**mb4.2**/2,
mb1 4.3/3,**mb1mx3.9**/23,**mbtmp4.1**/3,**ML2.8**/1,**Error ellipse: s-maj=68.2km s-min=44.6km az=125.0,**
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.94**	**207**	Pn	Pn	00 30 23.7	-0.9
	0.1nm,0.3s,baz=263,slow=9.2,SNR=1.6						
URZ				Sn	Sn	00 31 50.9	-4.3
	0.9nm,0.3s,baz=77,slow=19,SNR=7.1						
ASAR	**Alice Springs**	**42.83**	**268**	P	P	00 36 27.5	-0.4
	0.9nm,0.5s,baz=105,slow=7.2,SNR=17						
WRA	**Warramunga Arr**	**43.90**	**273**	P	P	00 36 36.8	+0.3
	2.8nm,0.4s,baz=112,slow=7.8,SNR=62						
FINES	**FINESS Array B**	**145.87**	**339**	PKPbc	PKPdf	00 48 07.6	-0.2
	1.4nm,0.5s,baz=49,slow=4.2,SNR=14						

*TEH **15** 00:29:33.2,36.°13N×53.°55E, h5km, ML3.9*
*THR **15** 00:29:34.9±0.3,35.°87N×53.°60E, h15km±3km, ML3.9*
*NNC **15** 00:29:35.5±1.4, 36.°46N×53.°38E, h0km, mb3.8, Error ellipse: s-maj=12.8km s-min=7.5km az=16.0*
*IDC **15** 00:29:36.1±2.2, 36.°00N×53.°80E, h0km, mb3.3/6, mb1 3.5/10, mb1mx3.3/44, mbtmp3.5/10, ML3.4/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/32, Error ellipse: s-maj=37.5km s-min=20.6km az=17.0*

ISC 15 00:29:35.8±0.6,**36.°13N**±0.°03×**53.°57E**±0.°03,**h10km**,**n78,**
σ1°66/84,mb3.3/4,5C-2D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	**0.43**	**30**	*e*Pg	**Pg**	**00 29 42.2**	**-2.2**
IANJ	**Anjilo**	**0.72**	**157**	*e*Pg	**Pg**	**00 29 48.0**	**-1.7**
IANJ				*e*Sg	**Sg**	**00 29 58.5**	**-0.6**
IFIR	**Firoozkooh**	**0.82**	**234**	*e*Pg	**Pg**	**00 29 48.9**	**-2.7**
ILAS	**Lasjerd**	**0.89**	**214**	*e*Pg	**Pg**	**00 29 50.9**	**-2.1**
IPRN	**Peran**	**1.00**	**277**	*e*Pg	**Pg**	**00 29 53.0**	**-2.1**
IPRN				*e*		00 30 15.1	
	comp=Z,99nm,0.5s						
DAMV	**Damavand**	**1.39**	**250**	*e*Pg	**Pn**	**00 29 59.8**	**-1.6**
DAMV	**Damavand**	**1.39**	**250**	*e*Pg	**Pn**	**00 29 59.8**	**-1.6**
IMND	**Minoodasht**	**1.86**	**52**	*e*Pn	**Pn**	**00 30 07.0**	**-0.8**
IHSB	**Hasanabad**	**1.98**	**250**	*e*Pn	**Pn**	**00 30 10.1**	**+0.5**
IHSB				*e*		00 30 12.5	
	comp=Z,99nm,0.3s						
SHRO	**Shahrood**	**1.98**	**93**	*e*Pn	**Pn**	**00 30 09.6**	**0.0**
SHRO	**Shahrood**	**1.98**	**93**	*e*Pn	**Pn**	**00 30 09.6**	**0.0**
CHTH	**Charan**	**1.99**	**264**	*e*Pn	**Pn**	**00 30 10.5**	**+0.8**
CHTH	**Charan**	**1.99**	**264**	*e*Pn	**Pn**	**00 30 10.5**	**+0.8**
ISFB	**Sefidab**	**2.08**	**212**	*e*Pn	**Pn**	**00 30 10.7**	**-0.1**
ISFB				*e*		00 30 41.8	
	comp=Z,99nm,0.2s						
QALM	**Alamut, Qazvin**	**2.38**	**278**	*e*Pn	**Pn**	**00 30 15.3**	**+0.2**
QALM				*e*		00 30 56.5	
	comp=Z,99nm,0.6s						
IMHD	**Mahdasht**	**2.39**	**260**	*e*Pn	**Pn**	**00 30

ISC 15 00:42:06.9±1.2, 27°34S±0′.06×71°49W±0′.09, h18km, n17, σ1$47/15, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.94**	**157**	*iP*	**Pn**	**00 42 26.3**	**+1.1**
AC04				*i* S	**Sn**	**00 42 38.8**	**+0.7**
AC04				IAML		00 42 41.8	
	comp=E,3μm,0.4s						
GO03	**Copiap**	**1.14**	**103**	*eP*	**Pb**	**00 42 27.6**	**-0.6**
GO03				*i* S	**Sb**	**00 42 41.2**	**-1.5**
GO03				IAML		00 42 44.2	
	comp=N,1μm,0.3s						
AC01	**Pan de Azucar**	**1.43**	**34**	IAML		00 42 54.9	
	comp=E,427nm,0.4s						
AC05	**El Transito**	**1.84**	**145**	*eP*	**Pb**	**00 42 40.5**	**+0.5**
AC05				*eS*	**Sb**	**00 43 03.0**	**+0.3**
AC05				IAML		00 43 09.4	
	comp=N,393nm,0.4s						
AC02	**Maricunga**	**2.16**	**77**	*iP*	**Pn**	**00 42 43.9**	**+1.4**
AC02				*eS*	**Sb**	**00 43 10.9**	**-1.6**
AC02				IAML		00 43 17.6	
	comp=N,466nm,0.3s						
GO02	**Mina Guanaco**	**2.76**	**39**	*eP*	**Pn**	**00 42 50.9**	**+0.3**
GO02				IAML		00 43 38.0	
	comp=E,355nm,0.5s						
GO04	**Tololo Observa**	**2.89**	**168**	*eP*	**Pb**	**00 42 55.5**	**-2.5**
CO01	**Juntas del Tor**	**2.90**	**155**	*eP*	**Pb**	**00 42 56.5**	**-1.7**
H03N1	**Juan Fernandez**	**8.83**	**225**	T	T	00 53 44.3	
	baz=52,slow=71,SNR=60						
H03N2	**Juan Fernandez**	**8.85**	**225**	T	T	00 53 50.7	
	baz=52,slow=71,SNR=33						
H03N3	**Juan Fernandez**	**8.85**	**225**	T	T	00 53 42.3	
	baz=52,slow=71,SNR=37						
LPAZ	**La Paz**	**11.43**	**16**	Pn	**Pn**	**00 44 48.4**	**-1.6**
	comp=E,0.1nm,0.3s,baz=196,slow=7.4,SNR=1.8						
CPUP	**Villa Florida**	**12.69**	**89**	LR	LR	00 49 40.0	
	comp=E,17nm,21.4s,baz=176,slow=37						
TORD	**Torodi Ar. Bea**	**81.52**	**71**	P	**P**	**00 54 24.6**	**+0.9**
	comp=E,0.8nm,0.7s,baz=251,slow=4.9,SNR=4.0						
MSVF	**Nonsavu**	**99.09**	**245**	LR	LR	01 29 55.7	
	comp=E,266nm,19.7s,baz=298,slow=29						
ZALV	**Zalesovo Beam**	**148.21**	**27**	PKPbc	**PKiKP**	**01 01 53.9**	**+0.8**
	comp=E,0.8nm,0.5s,baz=312,slow=3.8,SNR=5.3						
MKAR	**Makanchi Array**	**151.67**	**40**	PKPbc	**PKiKP**	**01 02 02.4**	**+1.9**
	comp=E,0.6nm,0.6s,baz=328,slow=1.6,SNR=10.0						

*JMA **15** 01:11:47.2±0.1, 24°.71N×122°.61E, h106km±1km, M2.4*
*TAP **15** 01:11:48.4, 24°.78N×122°.61E, h95km±1km, ML3.5, D*

ISC 15 01:11:47.7±1.4, 24°.77N±0′.04×122°.63E±0′.03, h102km±8km, n99, σ1$11/172, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**138**	P	**Pn**	**01 12 03.2**	**0.0**
JYNG				S	**Sn**	**01 12 15.1**	**+0.3**
YOJ	**Yonaguni jima**	**0.47**	**131**	P	**Pn**	**01 12 03.4**	**0.0**
	baz=130						
YOJ				S	**Sn**	**01 12 15.7**	**+0.5**
	baz=130						
YOJ	**Yonaguni jima**	**0.47**	**131**	P	**Pn**	**01 12 03.4**	**0.0**
YOJ				S	**Sn**	**01 12 15.5**	**+0.3**
TWB1	**Santiao Chiao**	**0.63**	**292**	*i* P	**Pn**	**01 12 04.5**	**-0.1**
	baz=292						
TWB1				*e*S	**Sn**	**01 12 17.1**	**-0.2**
	baz=292						
EGS		**0.64**	**277**	*i* P	**Pn**	**01 12 06.1**	**+1.4**
	baz=276						
TWC	**Suao**	**0.73**	**257**	*i* P	**Pn**	**01 12 05.3**	**-0.2**
	baz=256						
TWC				*i* S	**Sn**	**01 12 16.9**	**-1.9**
	baz=256						
NTC	**Toucheng**	**0.73**	**277**	*i* P	**Pn**	**01 12 05.3**	**-0.2**
	baz=276						
NTC				S	**Sn**	**01 12 19.2**	**+0.3**
	baz=276						
TIPB	**Shuangxi**	**0.76**	**286**	*i* P	**Pn**	**01 12 06.0**	**+0.2**
	baz=285						
TIPB				*i* S	**Sn**	**01 12 19.0**	**-0.4**
	baz=285						
NWF	**Wu-fen Shan**	**0.82**	**291**	*eP*	**Pn**	**01 12 07.2**	**+0.6**
	baz=291						
NWF				*e*S	**Sn**	**01 12 19.6**	**-1.1**
	baz=291						
WFSB	**Wu-fen Shan**	**0.82**	**291**	P	**Pn**	**01 12 06.8**	**+0.4**
	baz=291						
WFSB				S	**Sn**	**01 12 20.1**	**-0.4**
	baz=291						
EWUT	**Wuta**	**0.84**	**247**	P	**Pn**	**01 12 06.4**	**-0.2**
	baz=246						
EWUT				S	**Sn**	**01 12 19.4**	**-1.3**
	baz=246						
NDS	**Dongshan**	**0.84**	**261**	P	**Pn**	**01 12 06.8**	**+0.2**
	baz=260						
NDS				S	**Sn**	**01 12 20.2**	**-0.6**
	baz=260						
TWE	**Neicheng**	**0.88**	**267**	*i* P	**Pn**	**01 12 07.2**	**+0.2**
	baz=266						
ENA	**Nanau**	**0.88**	**247**	P	**Pn**	**01 12 07.4**	**+0.5**
	baz=245						
ENA				S	**Sn**	**01 12 21.8**	**+0.4**
	baz=245						
ENTT	**Nioudou**	**0.97**	**263**	*i* P	**Pn**	**01 12 08.6**	**+0.6**
	baz=261						
ENTT				S	**Sn**	**01 12 24.1**	**+0.8**
	baz=261						
PCYT	**Pengchaiyu**	**0.99**	**330**	P	**Pn**	**01 12 08.6**	**+0.5**
	baz=330						
NWLT	**Wulai**	**1.02**	**271**	*i* P	**Pn**	**01 12 08.6**	**+0.1**
	baz=270						
NWLT				S	**Sn**	**01 12 25.8**	**+1.5**
	baz=270						
NDT	**Datong Townshi**	**1.03**	**261**	P	**Pn**	**01 12 09.5**	**+1.0**
	baz=260						
NDT				S	**Sn**	**01 12 25.2**	**+1.0**
	baz=260						
YM01	**YM01**	**1.03**	**292**	*eP*	**Pn**	**01 12 08.2**	**-0.4**
	baz=291						
YM05	**YM05**	**1.04**	**292**	*eP*	**Pn**	**01 12 10.0**	**+1.2**
	baz=292						
YM05				*e*S	**Sn**	**01 12 22.9**	**-1.7**
	baz=292						
YM10	**YM10**	**1.04**	**292**	*eP*	**Pn**	**01 12 06.8**	**-2.0**
	baz=291						
YM04	**YM04**	**1.06**	**291**	P	**Pn**	**01 12 09.3**	**+0.4**
	baz=291						
YM04				S	**Sn**	**01 12 24.9**	**0.0**
	baz=291						
ANP	**Anpu**	**1.09**	**293**	*eP*	**Pn**	**01 12 09.9**	**+0.6**
	baz=292						
IRIF	**Iriomote-Funau**	**1.09**	**113**	P	**Pn**	**01 12 09.2**	**-0.1**
IRIF				S	**Sn**	**01 12 25.6**	**+0.1**
NACB	**Ninganchiao**	**1.11**	**238**	P	**Pn**	**01 12 09.1**	**-0.4**
	baz=236						
NACB				*e*S	**Sn**	**01 12 25.7**	**-0.2**
	baz=236						
YHNB	**Yeheng**	**1.14**	**265**	P	**Pn**	**01 12 10.6**	**+0.7**
	baz=264						
YHNB				S	**Sn**	**01 12 27.2**	**+0.6**
	baz=264						
TWS1	**Kuangyinshan**	**1.15**	**287**	*i* P	**Pn**	**01 12 10.3**	**+0.4**
	baz=286						
TWS1				*i* S	**Sn**	**01 12 26.0**	**-0.6**
	baz=286						
NSK	**Sanguang**	**1.16**	**266**	*i* P	**Pn**	**01 12 10.6**	**+0.5**
	baz=264						
NSK				*i* S	**Sn**	**01 12 27.2**	**+0.3**
	baz=264						
TWD	**Chiawan**	**1.16**	**234**	*i* P	**Pn**	**01 12 09.8**	**-0.3**
	baz=232						
TWD				S	**Sn**	**01 12 26.1**	**-0.8**
	baz=232						
NNSB	**Datong**	**1.18**	**254**	P	**Pn**	**01 12 10.7**	**+0.3**
	baz=252						
NNSB				S	**Sn**	**01 12 27.0**	**-0.5**
	baz=252						
NNSH	**Datong**	**1.18**	**254**	P	**Pn**	**01 12 10.8**	**+0.3**
	baz=252						
NNSH				S	**Sn**	**01 12 28.1**	**+0.6**
	baz=252						
ETLH	**Xiulin Townshi**	**1.19**	**242**	P	**Pn**	**01 12 10.2**	**-0.2**
	baz=241						
ETLH				S	**Sn**	**01 12 26.6**	**-0.9**
	baz=241						
NNS	**Nan Shan**	**1.19**	**254**	*i* P	**Pn**	**01 12 10.7**	**+0.2**
	baz=253						
NNS				*i* S	**Sn**	**01 12 26.7**	**-1.0**
	baz=253						
HWA	**Hwalien**	**1.22**	**230**	S	**Sn**	**01 12 29.6**	**+1.5**
	baz=228						
HATJ	**Hateruma jima**	**1.29**	**123**	*e*S	**Sn**	**01 12 30.2**	**+0.7**
FUSS	**Fushou**	**1.36**	**248**	*i* P	**Pn**	**01 12 13.5**	**+0.8**
	baz=246						
FUSS				S	**Sn**	**01 12 31.2**	**-0.3**
	baz=246						
JKRS	**Kuro-shima**	**1.37**	**113**	P	**Pn**	**01 12 12.9**	**+0.5**
JKRS				S	**Sn**	**01 12 31.6**	**+0.5**
WHF	**Hehuan Shan**	**1.39**	**244**	P	**Pn**	**01 12 13.3**	**+0.2**
	baz=242						
WHF				S	**Sn**	**01 12 31.8**	**-0.5**
	baz=242						
TWT	**Tachien**	**1.42**	**249**	P	**Pn**	**01 12 14.9**	**+1.7**
	baz=248						
TWT				S	**Sn**	**01 12 33.0**	**+0.4**
	baz=248						
TDCB	**Techi**	**1.43**	**249**	P	**Pn**	**01 12 14.1**	**+0.7**
	baz=248						
TDCB				S	**Sn**	**01 12 32.7**	**-0.2**
	baz=248						
JIJ	**Ishigaki jima**	**1.44**	**106**	P	**Pn**	**01 12 13.4**	**+0.1**
JIJ				S	**Sn**	**01 12 32.3**	**-0.4**
NSTT	**Nanjuang**	**1.49**	**265**	*eP*	**Pn**	**01 12 14.1**	**+0.2**
	baz=264						
NSTT				*e*S	**Sn**	**01 12 33.5**	**-0.2**
	baz=264						
JISG	**Ishigakijimahi**	**1.54**	**96**	P	**Pn**	**01 12 14.6**	**+0.1**
JISG				S	**Sn**	**01 12 34.8**	**-0.1**
EGFH	**Guangfu**	**1.55**	**225**	*eP*	**Pn**	**01 12 15.1**	**+0.4**
	baz=224						
EGFH				S	**Sn**	**01 12 34.0**	**-1.1**
	baz=224						
WHP	**Taichung City**	**1.61**	**253**	*i* P	**Pn**	**01 12 16.5**	**+1.1**
	baz=251						
WHP				*i* S	**Sn**	**01 12 37.0**	**+0.4**
	baz=251						
HGSD	**Ruisui**	**1.68**	**221**	P	**Pn**	**01 12 15.8**	**-0.5**
	baz=220						
HGSD				S	**Sn**	**01 12 37.6**	**-0.4**
	baz=220						
NMLH	**Miaoli**	**1.69**	**262**	S	**Sn**	**01 12 37.4**	**-0.7**
	baz=261						
VWDT	**VWDT**	**1.69**	**234**	P	**Pn**	**01 12 16.8**	**+0.3**
	baz=232						
VWDT				S	**Sn**	**01 12 37.8**	**-0.5**
	baz=232						
WPL	**Puli Township**	**1.70**	**244**	P	**Pn**	**01 12 17.7**	**+1.1**
	baz=243						
WPL				S	**Sn**	**01 12 37.6**	**-0.8**
	baz=243						
WCS	**Beigang Elemen**	**1.72**	**246**	P	**Pn**	**01 12 18.9**	**+2.1**
	baz=245						
WCS				S	**Sn**	**01 12 39.6**	**+0.8**
	baz=245						
EHY	**Hungye**	**1.73**	**224**	*i* P	**Pn**	**01 12 17.7**	**+0.8**
	baz=222						
EHY				*e*S	**Sn**	**01 12 37.1**	**-2.1**
	baz=222						
TWQ1	**Liyutan**	**1.74**	**256**	P	**Pn**	**01 12 18.2**	**+1.1**
	baz=255						
TWQ1				S	**Sn**	**01 12 39.4**	**0.0**
	baz=255						
SMLT	**Sun Moon Lake**	**1.81**	**241**	*i* P	**Pn**	**01 12 19.5**	**+1.5**
	baz=240						
SMLT				*e*S	**Sn**	**01 12 43.5**	**+2.5**
	baz=240						
SSLB	**Suanglung**	**1.81**	**238**	P	**Pn**	**01 12 19.3**	**+1.3**
	baz=236						
SSLB				S	**Sn**	**01 12 41.6**	**+0.5**
	baz=236						
TYC	**Yuchr**	**1.83**	**242**	*i* P	**Pn**	**01 12 19.7**	**+1.5**
	baz=241						
TYC				S	**Sn**	**01 12 42.3**	**+0.9**
	baz=241						
YULB	**Yu-li**	**1.83**	**222**	*eP*	**Pn**	**01 12 17.5**	**-0.7**
	baz=220						
YULB				*e*S	**Sn**	**01 12 38.9**	**-2.6**
	baz=220						
EYUL	**Yuli**	**1.85**	**220**	P	**Pn**	**01 12 19.0**	**+0.5**
	baz=219						
EYUL				*e*S	**Sn**	**01 12 42.1**	**+0.1**
	baz=219						
WDJ	**Dajia District**	**1.86**	**257**	*e*S	**Sn**	**01 12 42.0**	**0.0**
	baz=256						
TWF1	**Yuli**	**1.86**	**221**	P	**Pn**	**01 12 18.3**	**-0.3**
	baz=219						
JTJ	**Tarama**	**1.89**	**93**	S	**Sn**	**01 12 43.4**	**+0.6**
WWF	**Wufeng**	**1.90**	**248**	S	**Sn**	**01 12 43.3**	**+0.3**
	baz=247						
WJS	**Zhushan**	**1.97**	**242**	*eP*	**Pn**	**01 12 21.3**	**+1.3**
	baz=240						
WJS				*e*S	**Sn**	**01 12 46.5**	**+1.9**
	baz=240						
WNT	**Mingjian**	**1.98**	**244**	*eP*	**Pn**	**01 12 19.7**	**-0.4**
	baz=242						
WNT				*e*S	**Sn**	**01 12 45.5**	**+0.6**
	baz=242						
FULB	**Fuli**	**1.98**	**218**	*eP*	**Pn**	**01 12 20.8**	**+0.6**
	baz=217						
FULB				S	**Sn**	**01 12 44.7**	**-0.2**
	baz=217						
YUS	**Yu-Shan**	**1.99**	**231**	P	**Pn**	**01 12 21.6**	**+0.9**
	baz=229						
YUS				S	**Sn**	**01 12 45.5**	**-0.3**
	baz=229						
WCHH	**Zhanghua**	**2.01**	**250**	*e*S	**Sn**	**01 12 44.3**	**-1.1**
	baz=249						
CHKT	**Chengkung**	**2.02**	**215**	*e*S	**Sn**	**01 12 43.8**	**-2.0**
	baz=214						
ALS	**Alishan**	**2.08**	**233**	S	**Sn**	**01 12 49.1**	**+1.4**
	baz=232						
CHN5	**Tsauling**	**2.13**	**237**	*i* P	**Pn**	**01 12 23.5**	**+1.4**
	baz=236						
CHN5				S	**Sn**	**01 12 50.2**	**+1.8**
	baz=236						
ELDTW	**Lidau**	**2.16**	**223**	*eP*	**Pn**	**01 12 23.1**	**+0.6**
	baz=222						
ELDTW				*e*S	**Sn**	**01 12 47.7**	**-1.4**
	baz=222						
EDH	**Donghe**	**2.16**	**214**	*eP*	**Pn**	**01 12 22.0**	**-0.4**
	baz=213						
EDH				*e*S	**Sn**	**01 12 47.0**	**-2.0**
	baz=213						
WGK	**Gukeng**	**2.17**	**241**	*e*S	**Sn**	**01 12 51.8**	**+2.5**
	baz=239						
WDLH	**Douliu**	**2.19**	**241**	P	**Pn**	**01 12 23.9**	**+1.1**
	baz=240						
WDLH				*e*S	**Sn**	**01 12 52.1**	**+2.5**
	baz=240						
WRL	**Guolierlin Hig**	**2.23**	**248**	S	**Sn**	**01 12 49.5**	**-1.0**
	baz=246						
LONT	**Longtian**	**2.31**	**217**	*eP*	**Pn**	**01 12 23.8**	**-0.6**
	baz=215						
LONT				*e*S	**Sn**	**01 12 49.9**	**-2.6**
	baz=215						
WTK	**Tuku**	**2.31**	**243**	P	**Pn**	**01 12 25.2**	**+0.8**
	baz=241						
WTK				S	**Sn**	**01 12 52.6**	**+0.1**
	baz=241						
STYH	**Taoyuan**	**2.33**	**227**	P	**Pn**	**01 12 26.1**	**+1.5**
	baz=226						
STYH				S	**Sn**	**01 12 53.3**	**+0.5**
	baz=226						
CHN4	**Tsaushan**	**2.33**	**233**	*i* P	**Pn**	**01 12 26.0**	**+1.3**
	baz=232						
CHN4				*i* S	**Sn**	**01 12 54.2**	**+1.2**
	baz=232						
TPUB	**Ta-pu**	**2.34**	**232**	P	**Pn**	**01 12 27.0**	**+2.2**
	baz=230						
TPUB				*e*S	**Sn**	**01 12 55.6**	**+2.3**
	baz=230						
LDUT	**Ludao**	**2.34**	**207**	*eP*	**Pn**	**01 12 24.1**	**-0.7**
	baz=206						
LDUT				*e*S	**Sn**	**01 12 50.8**	**-2.5**
	baz=206						
STYT	**Tauyuan**	**2.34**	**227**	*i* P	**Pn**	**01 12 26.3**	**+1.4**
	baz=226						
STYT				S	**Sn**	**01 12 53.9**	**+0.6**
	baz=226						
CHY	**Chiayi**	**2.38**	**238**	*eP*	**Pn**	**01 12 26.1**	**+0.8**
	baz=237						
CHY				*e*S	**Sn**	**01 12 55.7**	**+1.6**
	baz=237						
WTP	**Ta-pu**	**2.39**	**231**	S	**Sn**	**01 12 55.7**	**+1.3**
	baz=229						
TWGBT	**Beinan**	**2.41**	**216**	*eP*	**Pn**	**01 12 25.1**	**-0.5**
	baz=215						
TWGBT				*e*S	**Sn**	**01 12 52.9**	**-1.8**
	baz=215						
TWG	**Pinlang**	**2.41**	**217**	*eP*	**Pn**	**01 12 25.0**	**-0.7**
	baz=215						
TWG				*e*S	**Sn**	**01 12 52.9**	**-1.9**
	baz=215						
TWK	**Hsinying**	**2.46**	**233**	*e*S	**Sn**	**01 12 58.4**	**+2.3**
	baz=231						
CHN1	**Nanshi**	**2.48**	**231**	*e*S	**Sn**	**01 12 59.1**	**+2.5**
	baz=230						
SNST	**Tainan City**	**2.48**	**232**	*e*S	**Sn**	**01 12 58.6**	**+2.0**
	baz=231						
SLGT	**Liugui**	**2.53**	**226**	P	**Pn**	**01 12 28.8**	**+1.5**
	baz=225						
SLGT				S	**Sn**	**01 12 58.1**	**+0.3**
	baz=225						
SSD	**Sandimen**	**2.72**	**223**	P	**Pn**	**01 12 31.1**	**+1.2**
	baz=221						
SSD				S	**Sn**	**01 13 03.4**	**+1.2**
	baz=221						
TSMG	**Majia**	**2.74**	**222**	*eP*	**Pn**	**01 12 31.5**	**+1.4**
	baz=221						
TSMG				*e*S	**Sn**	**01 13 03.4**	**+0.7**
	baz=221						
MATB	**Ma-tsu**	**2.79**	**300**	*eP*	**Pn**	**01 12 30.2**	**-0.4**
	baz=299						
MASBT	**Mashibuluo**	**2.82**	**221**	P	**Pn**	**01 12 31.7**	**+0.6**
	baz=220						
MASBT				S	**Sn**	**01 13 05.7**	**+1.2**
	baz=220						
EAST	**Anshuo**	**2.88**	**215**	*eP*	**Pn**	**01 12 31.6**	**-0.4**
	baz=213						
VWUC	**VWUC**	**2.90**	**275**	*eP*	**Pn**	**01 12 31.6**	**-0.5**
	baz=274						
VWUC				S	**Sn**	**01 13 04.4**	**-1.9**
	baz=274						
SLIU	**Shizi**	**3.05**	**214**	*e*S	**Sn**	**01 13 08.9**	**-1.0**
	baz=213						
PNG	**Penghu**	**3.05**	**248**	*e*S	**Sn**	**01 13 07.3**	**-2.7**
	baz=246						
PHUB	**P'eng-hu**	**3.06**	**246**	*eP*	**Pn**	**01 12 33.5**	**-0.8**
	baz=245						
PHUB				S	**Sn**	**01 13 08.1**	**-2.1**
	baz=245						
WDGT	**Dungji**	**3.10**	**242**	P	**Pn**	**01 12 34.6**	**-0.2**
	baz=240						
WDGT				S	**Sn**	**01 13 09.7**	**-1.6**
	baz=240						

*DJA **15** 01:22:16.8±1.0, 6°N±9°×12°0E±°, h10km, M4.8/8, mb5.0/6, mB5.2/6, MLv4.8/8, Mw(mB)4.5/6*
*IDC **15** 01:22:16.3±0.8, 6°.10N×120°.15E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.8/44, mbtmp3.9/9, MS3.3/5, Ms1 3.4/5, ms1mx3.0/38, Error ellipse: s-maj=34.8km s-min=19.7km az=69.0*
*NEIC **15** 01:22:19.0±1.2, 6°.13N±0′.06×119°.97E±0′.06, h16km±5km, mb4.4/15, Error ellipse: s-maj=11.6km s-min=4.5km az=136.0*

ISC 15 01:22:18.2±0.5, 6°.11N±0′.06×119°.89E±0′.05, h10km, n53, σ1$15/53, mb4.2/16, MS3.1/3, 1C-1D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	**Lahad Datu**	**1.66**	**236**	Pn	**Pb**	**01 22 48.6**	**-0.2**
ZCP	**Zamboanga City**	**2.32**	**69**	*iP*	**Pn**	**01 22 56.8**	**+0.3**
ZCP				*i* S	**Sg**	**01 23 32.6**	**-0.3**
KKM	**Kota Kinabalu**	**3.65**	**269**	Pn	**Pn**	**01 23 15.7**	**+0.8**
PAGZ	**Pagadian**	**3.88**	**63**	*eP*	**Pn**	**01 23 18.1**	**+0.2**
PAGZ				*e*S	**Sn**	**01 24 04.6**	**+1.1**
SKMP	**Bagumbayan, Su**	**4.64**	**85**	*eP*	**Pn**	**01 23 28.6**	**+0.1**
SKMP				*e*S	**Sn**	**01 24 21.6**	**-0.9**
TOLI2	**Tolitoli**	**5.04**	**170**	Pn	**Pn**	**01 23 33.5**	**-0.4**
ENPP	**El Nido**	**5.09**	**355**	*eP*	**Pn**	**01 23 33.4**	**-1.2**
GUIM	**Jordan**	**5.22**	**31**	*eP*	**Pn**	**01 23 36.3**	**-0.1**
KCP	**Kidapawan**	**5.25**	**80**	*eP*	**Pn**	**01 23 38.1**	**+1.3**
DDMP	**Don Marcelino,**	**5.79**	**90**	*eP*	**Pn**	**01 23 47.8**	**+3.6**
DDMP				*e*S	**Sn**	**01 24 52.5**	**+1.7**
MRSI	**Marisa**	**5.96**	**160**	P	**Pn**	**01 23 47.6**	**+1.1**
	0.7nm3μm153nm,0.6s						
GTOI	**Gorontalo**	**6.27**	**150**	P	**Pn**	**01 23 48.5**	**-2.3**
	0.3nm798nm57nm,0.9s						
APSI	**Ampana**	**7.19**	**166**	P	**Pn**	**01 24 05.3**	**+1.8**
	0.4nm702nm60nm,0.7s						
LUWI	**Luwuk**	**7.66**	**158**	Pn	**Pn**	**01 24 11.0**	**+1.1**
LUWI	**Luwuk**	**7.66**	**158**	P	**Pn**	**01 24 10.2**	**+0.2**
	1.5nm3μm199nm,0.7s						
TTSI	**Tana Toraja**	**9.09**	**180**	P	**Pn**	**01 24 29.8**	**+0.2**
SPSI	**Sidrap Palu**	**10.01**	**181**	P	Pn	01 24 56.0	+14
KAPI	**Kappang**	**11.05**	**181**	LR	LR	01 29 41.6	
	comp=Z,171nm,18.5s,baz=20,slow=40						
LEM	**Lembang**	**17.75**	**224**	LR	LR	01 34 09.8	
	comp=Z,158nm,18.8s,baz=52,slow=40						
KLSI		**18.55**	**235**	P	Pn	01 26 45.5	+10
MNSI	**Mandailing Nat**	**20.94**	**256**	P	Pn	01 27 13.4	+9.4
PSI	**Prapat**	**21.15**	**262**	P	**P**	**01 27 06.4**	**+2.5**
	1.7nm,0.4s,baz=0.2,slow=12,SNR=2.2						
PSI				LR	LR	01 34 59.9	
	comp=Z,85nm,21.8s,baz=89,slow=36						
RPSI	**Rantau Prapat**	**21.17**	**262**	P	**P**	**01 27 05.3**	**+1.4**
RPSI				IAmb	IAmb	01 27 16.4	
	comp=Z,17nm,1.4s						
CMAR	**Chiang Mai Arr**	**23.83**	**303**	LR	LR	01 36 51.4	
	comp=Z,72nm,19.6s,baz=172,slow=36						
BSI	**Banda Aceh**	**24.47**	**270**	P	**P**	**01 27 40.7**	**+2.9**
WRA	**Warramunga Arr**	**29.54**	**152**	P	**P**	**01 28 21.9**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=334,slow=9.5,SNR=3.5						
WRA				PcP	**PcP**	**01 31 27.3**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=331,slow=2.7,SNR=1.6						
ASAR	**Alice Springs**	**32.60**	**156**	P	**P**	**01 28 49.3**	**-0.9**
	comp=Z,0.5nm,1.0s,baz=328,slow=6.8,SNR=3.3						
ASAR				PcP	**PcP**	**01 31 35.2**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=343,slow=2.9,SNR=2.2						
BJT	**Baijiatuan**	**33.93**	**355**	P	**P**	**01 29 01.9**	**+0.4**
BJT				IAmb	IAmb	01 29 02.6	
	comp=Z,6.0nm,0.8s						
MJAR	**Matsushiro Arr**	**34.62**	**26**	LR	LR	01 41 21.3	
	comp=Z,34nm,19.9s,baz=255,slow=33						
ULN	**Ulaanbaatar**	**43.03**	**347**	P	**P**	**01 30 18.4**	**+0.2**
ULN				IAmb	IAmb	01 30 19.8	
	comp=Z,4.8nm,0.9s						
SONM	**Songino Array**	**43.15**	**347**	P	**P**	**01 30 19.9**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=164,slow=8.6,SNR=18						
SONM	**Songino Array**	**43.15**	**347**	P	**P**	**01 30 19.6**	**+0.5**
NIL	**Nilore**	**51.11**	**309**	P	**P**	**01 31 21.4**	**0.0**
NIL				IAmb	IAmb	01 31 22.5	
	comp=Z,7.4nm,1.2s						
MK31	**Makanchi Array**	**51.82**	**328**	P	**P**	**01 31 27.1**	**+0.6**
MKAR	**Makanchi Array**	**51.82**	**328**	P	**P**	**01 31 27.1**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=127,slow=8.7,SNR=13						
MKAR				PcP	**PcP**	**01 32 38.6**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=117,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**51.82**	**328**	P	**P**	**01 31 26.8**	**+0.3**
AAK	**Ala-Archa**	**54.08**	**320**	P	**P**	**01 31 44.4**	**+0.9**
AAK				IAmb	IAmb	01 31 53.4	
	comp=Z,5.7nm,1.2s						
KBL	**Kabul**	**54.69**	**308**	P	**P**	**01 31 48.4**	**+0.3**
KBL				IAmb	IAmb	01 32 11.5	
	comp=Z,7.4nm,

*NIC **15** 01:23:50.9±0.0,35°.65N×32°.31E,h24km,MI2.5/5*
*ISK **15** 01:23:50.6,35°.57N×32°.25E,h23km,ML2.5/15*
*GII **15** 01:23:54.1±0.0,35°.29N×32°.22E,h30km,Mm2.3/3*

ISC 15 01:23:52.1±1.4,**35°.57N**±0°.03×**32°.26E**±0°.06,**h45**km±16km, **n33**,σ0**96**/47,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALFC	**Alefka**	**0.49**	**146**	P	**Pn**	**01 24 02.6**	**-0.5**
ALFC				S	**Sn**	**01 24 10.6**	**-0.2**
ALFC				AML	AML	01 24 12.2	
	1.4nm,0.1s						
ALFC				AML	AML	01 24 12.2	
	1.4nm,0.1s						
ALFC				AML	AML	01 24 15.1	
	1.5nm,0.3s						
ALFC				AML	AML	01 24 15.1	
	1.5nm,0.3s						
AKMS	**Akamas**	**0.55**	**174**	P	**Pn**	**01 24 03.8**	**0.0**
AKMS				S	**Sn**	**01 24 13.1**	**+1.0**
AKMS				AML	AML	01 24 15.2	
	2.0nm,0.3s						
AKMS				AML	AML	01 24 15.2	
	2.0nm,0.3s						
AKMS				AML	AML	01 24 15.2	
	1.4nm,0.2s						
AKMS				AML	AML	01 24 15.2	
	1.4nm,0.2s						
GAZI	**Gazipasa**	**0.67**	**4**	PG	**Pn**	**01 24 04.4**	**-0.9**
GAZI				SG	**Sn**	**01 24 14.1**	**-0.7**
LEF	**Lefka**	**0.68**	**131**	PG	**Pn**	**01 24 04.4**	**-1.0**
LEF				SG	**Sn**	**01 24 14.4**	**-0.6**
NATA	**Nata**	**0.83**	**162**	P	**Pn**	**01 24 07.5**	**+0.1**
NATA				S	**Sn**	**01 24 21.0**	**+2.5**
NATA				AML	AML	01 24 28.1	
	2.6nm,0.8s						
NATA				AML	AML	01 24 28.1	
	2.6nm,0.8s						
NATA				AML	AML	01 24 30.6	
	2.4nm,0.5s						
NATA				AML	AML	01 24 30.6	
	2.4nm,0.5s						
TEKE	**Tekeli-Mersin**	**0.90**	**50**	PG	**Pn**	**01 24 08.3**	**-0.1**
TEKE				SG	**Sn**	**01 24 21.2**	**+0.9**
SZAC	**Souni**	**0.96**	**148**	P	**Pn**	**01 24 09.5**	**+0.3**
SZAC				S	**Sn**	**01 24 23.5**	**+1.8**
SZAC				AML	AML	01 24 30.8	
	0.6nm,0.4s						
SZAC				AML	AML	01 24 30.8	
	0.6nm,0.4s						
SZAC				AML	AML	01 24 30.9	
	0.4nm,0.4s						
SZAC				AML	AML	01 24 30.9	
	0.4nm,0.4s						
ALAN	**Alanya-ANTALYA**	**1.01**	**349**	PG	**Pn**	**01 24 09.1**	**-0.7**
ATHAL	**Athalassa**	**1.02**	**114**	P	**Pn**	**01 24 10.6**	**+0.5**
ATHAL				S	**Sn**	**01 24 24.1**	**+0.9**
CSS	**Mathiatis**	**1.06**	**124**	PG	**Pn**	**01 24 10.5**	**-0.1**
CSS	**Mathiatis**	**1.06**	**124**	P	**Pn**	**01 24 10.1**	**-0.5**
LFK	**Lefkose**	**1.08**	**105**	PN	**Pn**	**01 24 11.1**	**+0.3**
BERE	**Bereket-Mersin**	**1.10**	**45**	PN	**Pn**	**01 24 11.2**	**-0.1**
ASGA	**Asgata**	**1.12**	**134**	P	Pn	01 24 13.1	+1.7
ASGA				S	**Sn**	**01 24 27.7**	**+2.0**
ASGA				AML	AML	01 24 37.1	
	0.3nm,0.4s						
ASGA				AML	AML	01 24 37.1	
	0.3nm,0.4s						
AKKU	**Akkuyu-Mersin**	**1.20**	**60**	PN	**Pn**	**01 24 12.5**	**0.0**
MVOU	**Mavrovouni**	**1.25**	**116**	P	**Pn**	**01 24 12.4**	**-0.7**
MVOU				S	**Sn**	**01 24 27.6**	**-1.1**
TEVE	**Tevekalti-Mers**	**1.29**	**48**	PN	**Pn**	**01 24 13.9**	**+0.1**
IKL	**Isikli**	**1.34**	**59**	PN	**Pn**	**01 24 14.3**	**0.0**
EREN	**Erenkoy**	**1.56**	**91**	PN	**Pn**	**01 24 17.8**	**+0.5**
KIZK	**Mersin**	**1.78**	**59**	PN	**Pn**	**01 24 20.9**	**+0.5**
KRMN	**Karaman**	**1.80**	**26**	PN	**Pn**	**01 24 21.0**	**+0.3**
KORT	**Korkueli**	**2.10**	**313**	PN	**Pn**	**01 24 25.4**	**+0.4**
KONT	**Konya--Tatoy**	**2.38**	**2**	PN	**Pn**	**01 24 29.4**	**+0.8**
YESY	**Yesilyurt**	**2.51**	**28**	PN	**Pn**	**01 24 31.3**	**+0.7**
LADK	**Ladik-KONYA**	**2.63**	**2**	PN	**Pn**	**01 24 32.1**	**-0.1**
MMC7	**Mount Meron ar**	**3.63**	**134**	Pn	**Pn**	**01 24 46.4**	**+0.5**
MMA0B	**Mount Meron ar**	**3.64**	**133**	Pn	**Pn**	**01 24 47.1**	**+1.1**
MMA0B				Sn	**Sn**	**01 25 27.1**	**-0.6**
GEM	**Giv'at Ha'Em**	**3.67**	**129**	Pn	**Pn**	**01 24 47.0**	**+0.7**
GEM				Sn	**Sn**	**01 25 27.4**	**-0.9**
NATI	**Neve Ativ**	**3.68**	**128**	Pn	**Pn**	**01 24 47.5**	**+1.0**
NATI				Sn	**Sn**	**01 25 27.9**	**-0.7**
OFRI	**`Ofer**	**3.71**	**142**	Pn	**Pn**	**01 24 46.0**	**-0.9**
OFRI				Sn	**Sn**	**01 25 27.1**	**-2.3**
MMLI	**Mount Malkishu**	**4.08**	**139**	Pn	**Pn**	**01 24 52.4**	**+0.4**
MMLI				Sn	**Sn**	**01 25 36.6**	**-1.9**
HMDT	**Nahal Hemdat**	**4.28**	**140**	Sn	**Sn**	**01 25 42.9**	**-0.4**
KZIT	**Kziot**	**4.98**	**158**	Pn	**Pn**	**01 25 03.3**	**-1.1**

*DJA **15** 01:28:40.2±0.3,10°.5±3°.×11°.8E±°,h10km,M4.6/18, mb4.7/6,mB5.2/3,MLv4.5/18,Mw(mB)4.6/3*
*IDC **15** 01:28:40.3±2.7,9°.74S×117°.39E,h49km±27km,mb3.8/9, mb1 4.0/13,mb1mx3.8/39,mbtmp4.1/13,ML4.0/4,Error ellipse: s-maj=34.3km s-min=18.0km az=53.0*
*NEIC **15** 01:28:41.3±1.6,9°.84S±0°.09×117°.48E±0°.07,h67km±9km, mb4.1/11,Error ellipse: s-maj=13.9km s-min=8.6km az=201.0*

ISC 15 01:28:40.1±0.5,**9°.75S**±0°.06×**117°.53E**±0°.05,**h50**km,**n52**, σ1**°75**/54,**mb4.1**/11,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.95**	**15**	P	**Pn**	**01 28 56.9**	**-0.3**
TWSI	**Taliwang, Sumb**	**1.19**	**327**	P	**Pn**	**01 29 00.7**	**+0.2**
TWSI				S	**Sn**	**01 29 13.9**	**-1.7**
DNP	**Denpasar**	**2.53**	**295**	P	**Pn**	**01 29 20.5**	**+1.8**
WSI	**Waingapu**	**2.73**	**89**	P	**Pn**	**01 29 24.0**	**+2.6**
SRBI	**Singaraja**	**2.83**	**306**	P	**Pn**	**01 29 24.4**	**+1.6**
BASI	**Baing, Sumba**	**3.03**	**99**	P	**Pn**	**01 29 26.8**	**+1.1**
JAGI	**Jajag, Banyuwa**	**3.57**	**291**		**Pn**	**01 29 34.8**	**+1.8**
JAGI	**Jajag, Banyuwa**	**3.57**	**291**	P	**Pn**	**01 29 34.9**	**+1.8**
ABJI	**Asem Bagus**	**3.80**	**301**	P	**Pn**	**01 29 38.8**	**+2.7**
KMMI	**Kalianget**	**4.43**	**307**	P	**Pn**	**01 29 49.0**	**+4.1**
BSSI	**Bau Bau, Buton**	**4.63**	**39**	P	**Pn**	**01 29 49.1**	**+1.5**
MMRI	**Maumere**	**4.77**	**77**		**Pn**	**01 29 52.3**	**+2.7**
MMRI	**Maumere**	**4.77**	**77**	P	**Pn**	**01 29 52.6**	**+3.0**
BKSI	**Bulukumba**	**5.09**	**30**	P	**Pn**	**01 29 56.2**	**+2.3**
	0.7nm4µm78nm,0.7s						
KAPI	**Kappang**	**5.19**	**25**	P	**Pn**	**01 29 57.3**	**+2.0**
	6.6nm,0.3s,baz=204,slow=9.7,SNR=10						
KAPI				S	**Sn**	**01 30 52.6**	**-1.4**
	32nm,0.3s,baz=184,slow=22,SNR=28						
KAPI	**Kappang**	**5.19**	**25**		**Pn**	**01 29 57.6**	**+2.3**
BNSI	**Bone**	**5.90**	**26**	P	**Pn**	**01 30 08.5**	**+3.5**
	0.4nm55nm,0.7s						
BATI	**Baumata**	**6.05**	**95**	P	**Pn**	**01 30 08.6**	**+1.4**
	19nm,0.3s,baz=158,slow=0.5,SNR=16						
BATI				S	**Sn**	**01 31 15.8**	**+0.6**
	baz=206,slow=22,SNR=1.2						
BATI	**Baumata**	**6.05**	**95**	P	**Pn**	**01 30 08.3**	**+1.1**
	0.2nm32nm,0.6s						
KBKI	**Kotabaru**	**6.55**	**348**	P	**Pn**	**01 30 15.5**	**+1.5**
	0.2nm2µm25nm,0.9s						
SOEI	**Soe**	**6.64**	**91**		**Pn**	**01 30 16.5**	**+1.2**
SOEI	**Soe**	**6.64**	**91**	P	**Pn**	**01 30 17.0**	**+1.7**
	0.3nm72nm,0.7s						
UGM	**Wanagama**	**7.17**	**284**	Pn	**Pn**	**01 30 24.5**	**+2.1**
UGM	**Wanagama**	**7.17**	**284**	P	**Pn**	**01 30 24.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**11.43**	**137**	P	**Pn**	**01 31 20.6**	**-0.2**
	0.4nm,0.3s,baz=330,slow=9.7,SNR=12						
FITZ				S	Sn	01 33 17.1	-10
	1.2nm,0.3s,baz=172,slow=10,SNR=6.5						
PSA00	**Pilbara Seismi**	**11.96**	**170**	Pn	**Pn**	**01 31 27.4**	**-0.7**
GIRL	**Giralia**	**13.21**	**193**	Pn	**Pn**	**01 31 44.0**	**-1.0**
FAKI	**Fak Fak**	**16.11**	**66**	Pn	**Pn**	**01 32 23.6**	**+0.1**
FAKI				IAmb	IAmb	01 32 29.5	
	comp=Z,40nm,1.2s						
WB0	**Warramunga Arr**	**19.09**	**123**	P	**P**	**01 32 58.6**	**-0.2**
WB0				IAmb	IAmb	01 33 13.0	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**19.13**	**124**	P	**Pn**	**01 33 01.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=306,slow=14,SNR=13						
WRA				S	S	01 36 19.9	-14
	comp=Z,0.2nm,0.3s,baz=291,slow=24,SNR=7.9						
WB2	**Warramunga Arr**	**19.14**	**124**	P	**P**	**01 33 00.2**	**+0.9**
WB2				IAmb	IAmb	01 33 13.4	
	comp=Z,21nm,1.4s						

*IDC **15** 01:29:43.4±1.3,38°.58N×142°.94E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.5/49,mbtmp3.6/5,ML2.7/1,MS2.8/1, Ms1 2.8/1,ms1mx2.4/31,Error ellipse: s-maj=33.9km s-min=26.3km az=115.0*
*JMA **15** 01:29:48.0±0.1,38°.51N×142°.52E,h30km±2km,M3.9*
*NIED **15** 01:29:48.0,38°.51N×142°.52E,h30km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.61; Mθθ1.92; Mφφ-0.31; Mrθ3.77; Mθφ-2.95; Mφr0.00; Fault plane solution: M₀5.07000×10¹⁴ NP1: φs271.00000°,δ78.00000°,λ-125.00000°. NP2: φs165.00000°,δ36.00000°,λ-20.00000°.*

ISC 15 01:29:45.8±2.5,**38°.50N**±0°.05×**142°.59E**±0°.08,**h13**km±14km, **n23**,σ1**°85**/28,**mb3.8**/4,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.90**	**258**	P	**Pb**	**01 30 03.6**	**+0.3**
JIKH				S	**Sg**	**01 30 14.4**	**-0.6**
OFUJ	**Ofunato**	**0.92**	**309**	P	**Pb**	**01 30 04.2**	**+0.5**
OFUJ				S	**Sg**	**01 30 15.6**	**-0.1**
JKMT	**Kesennumamotoy**	**0.93**	**290**	P	**Pb**	**01 30 04.1**	**+0.4**
JKMT				S	**Sb**	**01 30 15.3**	**-0.6**
JIO	**Ouri**	**0.97**	**268**	P	**Pb**	**01 30 04.9**	**+0.4**
JIO				S	**Sb**	**01 30 16.4**	**-0.9**
JMK	**Ichinoseki**	**1.16**	**293**	P	**Pn**	**01 30 07.9**	**+0.1**
JOM	**Ohasama**	**1.40**	**314**	P	**Pn**	**01 30 11.7**	**+0.6**
JOM				S	**Sn**	**01 30 29.0**	**-0.4**
JOU	**Okura**	**1.52**	**266**	P	**Pn**	**01 30 13.1**	**+0.4**
JOU				S	**Sn**	**01 30 31.6**	**-0.7**
JMM	**Marumori**	**1.55**	**246**	P	**Pn**	**01 30 12.8**	**-0.3**
JMM				*e*S	**Sn**	**01 30 31.5**	**-1.6**
JFK	**Kawauchi**	**1.77**	**231**	P	**Pn**	**01 30 15.4**	**-0.7**
JFK				S	**Sn**	**01 30 35.8**	**-2.7**
JRG	**Rokugo**	**1.77**	**301**	P	**Pn**	**01 30 17.4**	**+1.3**
JRG				S	**Sn**	**01 30 38.8**	**+0.3**
JYK	**Kaneyama**	**1.79**	**284**	P	**Pn**	**01 30 16.2**	**-0.3**
MJAR	**Matsushiro Arr**	**3.99**	**242**	Pn	**Pn**	**01 30 50.3**	**+3.5**
	0.4nm,0.3s,baz=61,slow=9.7,SNR=23						
MJAR				Sn	**Sb**	**01 31 41.2**	**-3.1**
	0.3nm,0.3s,baz=85,slow=17,SNR=7.0						
MJAR				LR	LR	01 32 40.4	
	comp=Z,100nm,18.0s,baz=50,slow=42						
MAT	**Matsushiro**	**3.99**	**242**	P	**Pn**	**01 30 50.4**	**+3.7**
MAT				S	**Sn**	**01 31 38.5**	**+5.1**
H11N2	**WAKE ISLAND Hy**	**28.16**	**125**	T	T	02 05 04.7	
	baz=317,slow=75,SNR=133						
H11N1	**WAKE ISLAND Hy**	**28.17**	**125**	T	T	02 05 04.7	
	baz=317,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**28.18**	**125**	T	T	02 05 04.6	
	baz=317,slow=75,SNR=57						
H11S1	**WAKE ISLAND Hy**	**28.93**	**127**	T	T	02 06 09.9	
	baz=319,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.93**	**127**	T	T	02 06 11.1	
	baz=319,slow=76,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**28.95**	**127**	T	T	02 06 10.8	
	baz=319,slow=76,SNR=6.9						
MKAR	**Makanchi Array**	**44.15**	**301**	P	**P**	**01 37 54.9**	**+0.8**
	0.5nm,0.8s,baz=76,slow=6.1,SNR=5.5						
ILAR	**Eielson Array**	**47.76**	**33**	P	**P**	**01 38 20.3**	**-2.0**
	0.3nm,0.8s,baz=278,slow=8.1,SNR=2.4						
WRA	**Warramunga Arr**	**58.65**	**189**	P	**P**	**01 39 42.8**	**0.0**
	2.0nm,0.5s,baz=6.2,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**62.37**	**189**	P	**P**	**01 40 09.0**	**+0.8**
	0.9nm,0.6s,baz=1.1,slow=4.8,SNR=6.7						
AS31	**Alice Springs**	**20.88**	**134**	P	**P**	**01 33 18.8**	**+0.5**
ASAR	**Alice Springs**	**20.88**	**134**	P	**P**	**01 33 20.6**	**+2.4**
	comp=Z,1.5nm,0.6s,baz=323,slow=12,SNR=30						
ASAR				S	**S**	**01 37 03.6**	**-4.9**
	comp=Z,0.4nm,0.6s,baz=314,slow=26,SNR=3.6						
ASAR	**Alice Springs**	**20.88**	**134**	P	**P**	**01 33 19.0**	**+0.7**
RPSI	**Rantau Prapat**	**22.28**	**303**	P	**P**	**01 33 35.0**	**+1.7**
RPSI				IAmb	IAmb	01 33 36.5	
	comp=Z,8.4nm,0.9s						
RPSI	**Rantau Prapat**	**22.28**	**303**	P	**P**	**01 33 32.8**	**-0.5**
PSI	**Prapat**	**22.34**	**303**	P	**P**	**01 33 32.8**	**-1.3**
	comp=Z,3.2nm,0.4s,baz=180,slow=12,SNR=6.0						
NWAO	**Narrogin (SRO)**	**23.07**	**181**	P	P	01 33 52.8	+11
	comp=Z,11nm,0.9s,baz=5.3,slow=11,SNR=6.3						
CMAR	**Chiang Mai Arr**	**33.50**	**327**	P	**P**	**01 35 15.0**	**0.0**
	comp=Z,1.1nm,0.3s,baz=148,slow=6.8,SNR=5.2						
SHL	**Shillong**	**43.08**	**325**	P	**P**	**01 36 35.1**	**-0.6**
KSRS	**Korea Array**	**47.95**	**11**	P	**P**	**01 37 14.3**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=186,slow=9.2,SNR=7.2						
USRK	**Ussuriysk Ar.**	**55.27**	**13**	P	**P**	**01 38 08.6**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=180,slow=7.3,SNR=11						
SONM	**Songino Array**	**58.18**	**351**	P	**P**	**01 38 28.7**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=161,slow=7.7,SNR=5.9						
SONM	**Songino Array**	**58.18**	**351**	IAmb	IAmb	01 38 29.6	
	comp=Z,0.7nm,0.8s						
KBL	**Kabul**	**63.62**	**316**	P	**P**	**01 39 05.3**	**-1.2**
MK31	**Makanchi Array**	**64.48**	**334**	P	**P**	**01 39 11.2**	**-0.4**
MKAR	**Makanchi Array**	**64.48**	**334**	P	**P**	**01 39 11.2**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=149,slow=6.6,SNR=15						
AAK	**Ala-Archa**	**65.29**	**326**	P	**P**	**01 39 16.5**	**-0.6**
AAK				IAmb	IAmb	01 39 18.0	
	comp=Z,1.9nm,0.9s						
ZALV	**Zalesovo Beam**	**69.23**	**340**	P	**P**	**01 39 40.3**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=142,slow=5.2,SNR=7.4						
ABKAR	**Akbulak array**	**77.35**	**325**	P	**P**	**01 40 28.7**	**-0.8**
KBZ	**Khabaz**	**85.79**	**315**	P	**P**	**01 41 14.6**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=112,slow=11,SNR=2.7						
YKA	**Yellowknife Ar**	**115.46**	**24**	PKP	**PKiKP**	**01 47 17.1**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=306,slow=1.7,SNR=2.7						

*IDC **15** 01:33:30.9±2.2,23°.93S×179°.84W,h497km±24km, mb3.5/16,mb1 3.6/18,mb1mx3.5/33,mbtmp4.3/18,Error ellipse: s-maj=29.5km s-min=15.9km az=151.0*
*NEIC **15** 01:33:31.7±1.5,23°.95S±0°.1×179°.8W±0°.1,h508km±6km, mb4.1/12,Error ellipse: s-maj=19.4km s-min=15.8km az=160.0*

ISC 15 01:33:31.3±0.5,**23°.96S**±0°.08×**179°.74W**±0°.09,**h512**km, **n40**,σ1**°98**/41,**mb4.0**/19,**3C**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.51**	**38**	P	**P**	**01 36 14.1**	**-1.3**
	1.7nm,0.3s,baz=282,slow=20,SNR=1.1						
AFI				S	**S**	**01 38 24.4**	**-6.2**
	1.2nm,0.3s,baz=168,slow=20,SNR=2.1						
DZM	**Mont Dzumac**	**12.87**	**276**	P	**P**	**01 36 21.3**	**+2.2**
	0.4nm,0.3s,baz=103,slow=19,SNR=2.0						
URZ	**Urewera**	**14.51**	**190**	P	**P**	**01 36 37.2**	**+1.2**
	1.1nm,0.3s,baz=88,slow=8.1,SNR=5.8						
URZ				S	**S**	**01 39 03.0**	**-5.3**
	0.4nm,0.3s,baz=211,slow=20,SNR=2.3						
QRZ	**Quartz Range**	**18.03**	**199**	P	**P**	**01 37 11.3**	**+0.1**
CTA	**Charters Tower**	**31.72**	**270**	P	**P**	**01 39 13.2**	**+0.4**
	6.7nm,0.5s,baz=97,slow=11,SNR=13						
CTAO	**Charters Tower**	**31.72**	**270**	P	**P**	**01 39 13.4**	**+0.5**
CTAO				IAmb	IAmb	01 39 18.8	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**34.92**	**248**	P	**P**	**01 39 39.3**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=101,slow=18,SNR=1.7						
AS31	**Alice Springs**	**42.26**	**261**	P	**P**	**01 40 38.9**	**-0.7**
ASAR	**Alice Springs**	**42.26**	**261**	P	**P**	**01 40 39.1**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=94,slow=8.0,SNR=13						
ASAR				ScP	**ScP**	**01 45 24.9**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=94,slow=5.2,SNR=4.9						
WB2	**Warramunga Arr**	**42.63**	**266**	P	**P**	**01 40 41.5**	**-1.0**
WB0	**Warramunga Arr**	**42.64**	**266**	P	**P**	**01 40 41.8**	**-0.7**
WRA	**Warramunga Arr**	**42.64**	**266**	P	**P**	**01 40 41.7**	**-0.9**
	comp=Z,4.5nm,0.5s,baz=101,slow=8.5,SNR=21						
WRA				S	**S**	**01 46 21.2**	**-7.2**
	comp=Z,0.6nm,0.8s,baz=95,slow=14,SNR=2.1						
JAY	**Jayapura**	**43.76**	**293**	P	**P**	**01 40 51.1**	**-0.3**
	comp=Z,19nm,0.8s,baz=48,slow=5.2,SNR=4.5						
FITZ	**Fitzroy Crossi**	**51.06**	**266**	P	**P**	**01 41 46.1**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=121,slow=8.1,SNR=3.0						
FITZ	**Fitzroy Crossi**	**51.06**	**266**	P	**P**	**01 41 46.3**	**+0.1**
FITZ				IAmb	IAmb	01 41 46.8	
	comp=Z,12nm,1.4s						
SIJI	**Sorong**	**52.68**	**288**	P	**P**	**01 41 57.7**	**-0.3**
	comp=Z,3.9nm,0.4s,baz=105,slow=11,SNR=5.2						
TOLI2	**Tolitoli**	**62.83**	**284**	P	**P**	**01 43 07.3**	**+0.3**
TOLI2				IAmb	IAmb	01 43 08.0	
	comp=Z,7.2nm,0.8s						
QSPA	**South Pole Qui**	**66.13**	**180**	P	**P**	**01 43 28.8**	**+1.5**
MJAR	**Matsushiro Arr**	**72.08**	**325**	P	**P**	**01 44 03.5**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=157,slow=6.3,SNR=10						
MJAR	**Matsushiro Arr**	**72.08**	**325**	IAmb	IAmb	01 44 05.4	
	comp=Z,0.7nm,0.8s						
MAJO	**Matsushiro**	**72.08**	**325**	P	**P**	**01 44 03.1**	**-0.2**
MAJO				IAmb	IAmb	01 44 05.4	
	comp=Z,3.4nm,0.8s						
BELA	**Belgrano 2**	**76.35**	**173**	P	**P**	**01 44 27.5**	**+0.6**
BELA				IAmb	IAmb	01 44 28.1	
	comp=Z,2.9nm,0.8s						
KSRS	**Korea Array**	**78.44**	**320**	P	**P**	**01 44 39.9**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=138,slow=5.9,SNR=9.4						
KSAR	**Wonju Array Be**	**78.46**	**320**	P	**P**	**01 44 38.7**	**-0.2**
PETK	**Petropavlovsk-**	**79.21**	**346**	P	**P**	**01 44 43.5**	**+0.9**
	comp=Z,5.4nm,0.9s,baz=98,slow=9.1,SNR=5.7						
USRK	**Ussuriysk Ar.**	**80.94**	**327**	P	**P**	**01 44 53.6**	**+1.8**
	comp=Z,1.6nm,0.8s,baz=127,slow=5.0,SNR=5.2						
USRK	**Ussuriysk Ar.**	**80.94**	**327**	P	**P**	**01 44 53.4**	**+1.5**
NVAR	**Mina Array Bea**	**84.63**	**44**	P	**P**	**01 45 11.9**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=222,slow=8.0,SNR=1.8						
CMAR	**Chiang Mai Arr**	**89.77**	**290**	P	**P**	**01 45 36.4**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=136,slow=4.3,SNR=5.3						
CHTO	**Chiang Mai**	**89.92**	**291**	P	**P**	**01 45 36.6**	**+0.6**
CHTO				IAmb	IAmb	01 45 38.2	
	comp=Z,3.5nm,1.0s						
TXAR	**Lajitas Array**	**90.26**	**58**	P	**P**	**01 45 39.2**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=217,slow=6.1,SNR=7.3						
ILAR	**Eielson Array**	**92.03**	**13**	P	**P**	**01 45 44.4**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=214,slow=6.2,SNR=1.4						
SONM	**Songino Array**	**97.30**	**319**	P	Pdif	01 46 08.7	-0.4
	comp=Z,0.3nm,0.6s,baz=95,slow=4.8,SNR=1.9						
FINES	**FINESS Array B**	**138.58**	**342**	PKhKP	PKPpre	01 51 50.4	
	comp=Z,1.9nm,0.9s,baz=328,slow=4.9,SNR=3.4						
AKASG	**Malin Array Be**	**145.15**	**327**	PKPbc	**PKPdf**	**01 52 10.2**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=44,slow=4.5,SNR=8.2						
BRTR	**Keskin Array B**	**147.80**	**307**	PKPbc	**PKPbc**	**01 52 18.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=122,slow=4.5,SNR=5.2						
OSTC	**Ostas**	**150.70**	**339**	*e*PKP	**PKiKP**	**01 52 25.7**	**+0.1**
OSTC				*ex*	x	01 52 33.8	
DPC	**Dobruska-Polom**	**150.84**	**339**	*e*PKP	**PKiKP**	**01 52 26.3**	**+0.4**
DPC				*ex*	x	01 52 35.8	
KRLC	**Kraliky**	**150.92**	**338**	*e*PKP	**PKiKP**	**01 52 25.8**	**-0.3**
KRLC				*ex*	x	01 52 35.7	
CLL	**Collm**	**150.98**	**343**	*e*PKPbc	**PKiKP**	**01 52 26.0**	**-0.1**

*TAP **15** 02:02:39.5,24°.93N×122°.41E,h22km±1km,ML2.5,C*
*JMA **15** 02:02:39.9±0.1,24°.89N×122°.41E,h29km,M2.2*

ISC 15 02:02:38.6±1.2,**24°.86N**±0°.03×**122°.43E**±0°.03,**h15**km±9km, **n26**,σ0**°60**/49,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.43**	**290**	P	**Pg**	**02 02 47.3**	**+0.1**
	baz=282						
TWB1				S	**Sg**	**02 02 52.3**	**-0.9**
	baz=282						
EGS		**0.46**	**268**	*e*P	**Pb**	**02 02 48.9**	**+0.6**
	baz=252						
TIPB	**Shuangxi**	**0.56**	**282**	*i* P	**Pb**	**02 02 50.3**	**+0.2**
	baz=274						
TIPB				S	**Sb**	**02 02 57.9**	**-0.1**
	baz=274						
TWC	**Suao**	**0.59**	**245**	P	**Pg**	**02 02 50.1**	**0.0**
	baz=238						
TWC				S	**Sb**	**02 02 59.6**	**+1.0**
	baz=238						
JYNG	**Yonagunijimaku**	**0.62**	**131**	P	**Pn**	**02 02 52.4**	**-0.3**
JYNG				S	**Sn**	**02 03 01.5**	**-0.9**
NWF	**Wu-fen Shan**	**0.63**	**290**	P	**Pb**	**02 02 51.8**	**+0.5**
	baz=284						
NWF				S	**Sb**	**02 02 59.6**	**-0.3**
RPSI				IAmb	IAmb	01 37 24.0	
	comp=Z,11nm,1.1s						
PSI	**Prapat**	**22.32**	**303**	P	**P**	**01 37 21.1**	**-0.7**
	comp=Z,2.6nm,0.3s,baz=180,slow=14,SNR=4.2						
NWAO	**Narrog

	baz=284								
WFSB	**Wu-fen Shan**	**0.63**	**290**	P		**Pb**	**02 02 51.5**	**+0.3**	
	baz=284								
WFSB				S		**Sb**	**02 02 60.0**	**+0.1**	
	baz=284								
YOJ	**Yonaguni jima**	**0.66**	**127**	P		**Pn**	**02 02 53.1**	**-0.2**	
	baz=124								
YOJ				S		**Sb**	**02 03 02.2**	**+1.6**	
	baz=124								
YOJ	**Yonaguni jima**	**0.66**	**127**	P		**Pn**	**02 02 52.9**	**-0.4**	
YOJ				*e*S		**Sn**	**02 03 02.5**	**-0.8**	
NDS	**Dongshan**	**0.69**	**251**	*i* P		**Pg**	**02 02 52.5**	**+0.5**	
	baz=245								
NDS				*e*S		**Sg**	**02 03 00.3**	**-1.0**	
	baz=245								
ENA	**Nanau**	**0.76**	**236**	P		**Pb**	**02 02 53.2**	**-0.3**	
	baz=230								
ENA				S		**Sb**	**02 03 04.0**	**+0.3**	
	baz=230								
ENTT	**Nioudou**	**0.82**	**255**	P		**Pn**	**02 02 55.4**	**-0.2**	
	baz=239								
ENTT				S		**Sn**	**02 03 07.0**	**-0.4**	
	baz=239								
PCYT	**Pengchaiyu**	**0.83**	**337**	*i* P		**Pg**	**02 02 54.6**	**-0.2**	
	baz=336								
PCYT				*e*S		**Sn**	**02 03 08.3**	**+0.5**	
	baz=336								
NWLT	**Wulai**	**0.85**	**265**	*e*S		**Sb**	**02 03 05.1**	**-1.2**	
	baz=260								
TWY	**Chenhua**	**0.86**	**299**	*i* P		**Pg**	**02 02 55.5**	**+0.2**	
	baz=295								
TWY				S		**Sg**	**02 03 06.8**	**+0.1**	
	baz=295								
NDT	**Datong Townshi**	**0.88**	**253**	P		**Pn**	**02 02 56.8**	**+0.5**	
	baz=238								
NDT				S		**Sg**	**02 03 07.7**	**+0.6**	
	baz=238								
YHNB	**Yeheng**	**0.98**	**259**	P		**Pb**	**02 02 57.7**	**+0.4**	
	baz=262								
YHNB				S		**Sn**	**02 03 11.4**	**-0.1**	
	baz=262								
NSK	**Sanguang**	**0.99**	**260**	*i* P		**Pn**	**02 02 58.0**	**0.0**	
	baz=262								
NSK				S		**Sb**	**02 03 10.2**	**-0.2**	
	baz=262								
NACB	**Ninganchiao**	**1.02**	**228**	P		**Pb**	**02 02 58.4**	**+0.5**	
	baz=233								
NACB				*e*S		**Sb**	**02 03 10.7**	**-0.6**	
	baz=233								
NNSB	**Datong**	**1.05**	**246**	P		**Pb**	**02 02 58.6**	**+0.2**	
	baz=242								
NNSB				*e*S		**Sb**	**02 03 10.6**	**-1.5**	
	baz=242								
NNSH	**Datong**	**1.05**	**246**	*e*S		**Sb**	**02 03 12.5**	**+0.5**	
	baz=242								
ETLH	**Xiulin Townshi**	**1.08**	**233**	*e*P		**Pb**	**02 02 58.8**	**-0.3**	
	baz=230								
ETLH				*e*S		**Sb**	**02 03 12.1**	**-1.0**	
	baz=230								
FUSS	**Fushou**	**1.24**	**241**	P		**Pg**	**02 03 03.1**	**+0.6**	
	baz=229								
FUSS				*e*S		**Sb**	**02 03 17.8**	**+0.1**	
	baz=229								
WHF	**Hehuan Shan**	**1.28**	**236**	*i* P		**Pg**	**02 03 03.5**	**+0.2**	
	baz=233								
WHF				*e*S		**Sb**	**02 03 19.4**	**+0.4**	
	baz=233								
VWDT	**VWDT**	**1.61**	**227**	P		**Pb**	**02 03 08.0**	**0.0**	
	baz=210								
VWDT				S		**Sb**	**02 03 28.6**	**+0.4**	
	baz=210								
SSLB	**Suanglung**	**1.72**	**232**	P		**Pb**	**02 03 10.9**	**+1.1**	
	baz=239								
SSLB				S		**Sb**	**02 03 31.6**	**+0.3**	
	baz=239								

IDC 15 02:10:25.6±2.1,5°38S×146°40E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/41, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=139.0km s-min=28.8km az=125.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.63**	**218**	P	Pn	02 14 45.5	+0.3
	0.2nm,0.3s,baz=40,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.80**	**212**	P	P	02 15 19.4	-0.2
	0.2nm,0.4s,baz=48,slow=8.6,SNR=8.0						
FITZ	**Fitzroy Crossi**	**23.89**	**236**	P	P	02 15 40.9	-0.3
	1.0nm,0.5s,baz=48,slow=14,SNR=1.5						
ILAR	**Eielson Array**	**85.16**	**23**	P	P	02 23 03.5	+0.1
	0.3nm,0.7s,baz=257,slow=4.1,SNR=5.0						

*BGR **15** 02:16:57.5±0.0,22°.76S×175°.28W, h33km, Ms4.9*
*BJI **15** 02:17:02.0±0.0,22°.20S×176°.30W, h70km, mB5.5/37, mb5.1/41, Ms5.1/20, Ms7 4.7/22*
*MOS **15** 02:17:04.0±1.0,22°.12S×176°.49W, h81km, mb5.2/25, Error ellipse: s-maj=9.2km s-min=8.5km az=109.5*
*NEIC **15** 02:17:05.4, 22°.28S×176°.35W, h118km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.41; Mθθ=0.23; Mrθ=-0.65; Mθφ=0.46; Mφr=2.39; Fault plane solution: M₀2.54000×10¹⁷ NP1:φs=15.59000°, δ=85.01000°, λ=-98.53000°. NP2:φs=255.49000°, δ=9.88000°, λ=-30.47000°. Principal axes: T 2.5716, Plg39.0000°, Azm113.0000°; N -0.0634, Plg9.0000°, Azm16.0000°; P -2.5082, Plg49.0000°, Azm276.0000°;*
*NOU **15** 02:17:05.7, 22°.40S×175°.88W, h109km, mb5.4, Tonga Islands Region*
*NEIC **15** 02:17:07.8±1.5, 22°.28S±0°.09×176°.38W±0°.09, h112km±1km, mb5.1/227, Mwb5.5/46, Mwc5.6(GCMT), Error ellipse: s-maj=15.4km s-min=13.8km az=168.0*
*IDC **15** 02:17:09.7±0.5, 22°.20S×176°.45W, h120km±3km, mb4.8/31, mb1 4.9/31, mb1mx4.8/40, mbtmp5.1/31, MS4.3/17, Ms1 4.3/17, ms1mx4.1/31, Error ellipse: s-maj=12.5km s-min=10.1km az=152.0*
*GCMT **15** 02:17:10.8±0.1, 22°.39S±0°.01×176°.02W±0°.01, h122km, MW5.5/158, Moment Tensor Solution. s143,c269; s158,c303; Duration: 1§4 Moment tensor: Scale 10¹⁷Nm; Mrr=0.31±.03; Mθθ=0.11±.04; Mφφ=0.20±.04; Mrθ=0.51±.02; Mθφ=1.06±.03; Mφr=-2.32±.02; Best double couple: M₀2.60000×10¹⁷ NP1:φs=268.00000°, δ22.00000°, λ=13.00000°. NP2:φs=10.00000°, δ85.00000°, λ=112.00000°. Principal axes: T 2.7620, Plg36.0000°, Azm119.0000°; N -0.3250, Plg22.0000°, Azm12.0000°; P -2.4370, Plg46.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **15** 02:17:12, 22°.39S×176°.01W, h125km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.42; Mθθ=0.25; Mφφ=0.17; Mrθ=0.55; Mθφ=1.05; Mφr=2.47; Fault plane solution: M₀2.76000×10¹⁷ NP1:φs=268.00000°, δ21.00000°, λ=15.00000°. NP2:φs=12.00000°, δ84.00000°, λ=111.00000°. Principal axes: T 2.8699, Plg36.0000°, Azm120.0000°; N -0.2249, Plg20.0000°, Azm14.0000°; P -2.6449, Plg47.0000°, Azm261.0000°;*
ISC 15 02:17:04.6±0.3, 22°.27S±0°.04×176°.26W±0°.05, h86km±2km, h86km:pP-P, n890, σ1§60/920, mb5.2/202, 68C-53D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.72**	**63**	S	Sn	02 19 47.8	-8.0
	baz=6.5						
NIUE	**Niue**	**6.72**	**63**	Pn	**Pn**	**02 18 40.1**	**-0.6**
NIUE	**Niue**	**6.72**	**63**	P	**Pn**	**02 18 39.8**	**-0.9**
NIUE	**Niue**	**6.72**	**63**	P	**Pn**	**02 18 38.0**	**-2.7**
	baz=6.5,SNR=40						
MSVF	**Nonsavu**	**7.00**	**309**	P	Pn	02 18 52.3	+7.6
	32nm,0.3s,baz=133,slow=13,SNR=63						
MSVF				S	Sn	02 20 14.2	+11
	baz=75,slow=7.9,SNR=5.2						
MSVF				LR	LR	02 21 08.0	
	comp=Z,5μm,20.9s,baz=122,slow=35						
MSVF	**Nonsavu**	**7.00**	**309**	*i* P	Pn	02 18 51.7	+7.1
MSVF	**Nonsavu**	**7.00**	**309**		Pn	02 18 51.6	+7.0
MSVF	**Nonsavu**	**7.00**	**309**	P	Pn	02 18 52.1	+7.5
RIZ	**Raoul Island**	**7.11**	**192**	S	**Sn**	**02 20 04.3**	**-0.8**
GLKZ	**Green Lake**	**7.12**	**192**	P	**Pn**	**02 18 50.1**	**+4.0**
GLKZ				S	**Sn**	**02 20 04.8**	**-0.6**

AFI	**Afiamalu**	**9.34**	**28**	P		**Pn**	**02 19 14.9**	**-1.7**	
	29nm,0.3s,baz=243,slow=3.6,SNR=20								
AFI				S		Sn	02 20 49.3	-11	
	27nm,0.3s,baz=225,slow=23,SNR=6.5								
AFI	**Afiamalu**	**9.34**	**28**	P		**Pn**	**02 19 15.5**	**-1.0**	
AFI	**Afiamalu**	**9.34**	**28**	Pn		**Pn**	**02 19 14.6**	**-1.9**	
AFI	**Afiamalu**	**9.34**	**28**	P		**Pn**	**02 19 16.0**	**-0.5**	
RAR	**Rarotonga**	**15.35**	**89**	P		**Pn**	**02 20 34.1**	**-2.4**	
	0.9nm,0.3s,baz=246,slow=8.0,SNR=4.3								
RAR				S		Sn	02 23 12.8	-13	
	18nm,0.3s,baz=97,slow=17,SNR=3.1								
RAR	**Rarotonga**	**15.35**	**89**	P		**Pn**	**02 20 35.8**	**-0.7**	
RAR				pmax		pmax			
	comp=Z,125nm,0.8s								
RAR	**Rarotonga**	**15.35**	**89**			**Pn**	**02 20 35.8**	**-0.7**	
RAR				IAmb		IAmb	02 20 42.3		
	comp=Z,125nm,0.8s								
LIFNC	**LIFOU**	**15.43**	**272**	P		**P**	**02 20 42.4**	**+2.2**	
NFK	**Norfolk Island**	**15.76**	**241**	P		**P**	**02 20 43.6**	**-0.2**	
	baz=16,SNR=5.9								
MXZ	**Matakaoa Point**	**15.95**	**196**	P		**Pn**	**02 20 39.4**	**-4.5**	
MXZ				S		Sn	02 23 26.1	-14	
DZM	**Mont Dzumac**	**16.03**	**267**	*e*Pn		**P**	**02 20 52.2**	**+5.3**	
	comp=Z,1μm,1.2s								
DZM				*e*LR		LR	02 24 41.6		
	comp=Z,4μm,31.4s								
DZM	**Mont Dzumac**	**16.03**	**267**	P		**P**	**02 20 51.0**	**+4.1**	
	comp=Z,2.9nm,0.3s,baz=88,slow=17,SNR=38								
DZM	**Mont Dzumac**	**16.03**	**267**	Pn		**Pn**	**02 20 44.2**	**-0.9**	
MWZ	**Matawai**	**16.88**	**197**	P		**Pn**	**02 20 49.6**	**-5.8**	
MWZ				S		Sn	02 23 46.3	-16	
TKGZ	**Te Karaka**	**16.89**	**196**	P		**Pn**	**02 20 54.7**	**-0.8**	
TKGZ				S		Sn	02 23 46.0	-17	
EDRZ	**Edgecumbe**	**16.89**	**199**	P		**P**	**02 20 57.7**	**+1.4**	
URZ	**Urewera**	**16.93**	**198**	P		**Pn**	**02 20 53.0**	**-2.9**	
	comp=Z,6.8nm,0.3s,baz=277,slow=2.4,SNR=36								
URZ				S		Sn	02 23 47.8	-16	
	comp=Z,7.7nm,0.3s,baz=141,slow=20,SNR=5.8								
RAGZ	**Rawiri**	**17.06**	**197**	P		**Pn**	**02 20 57.8**	**+0.1**	
RAGZ				S		Sn	02 23 51.6	-15	
RIGZ	**Rimuhau**	**17.16**	**196**	P		**Pn**	**02 20 56.9**	**-2.1**	
RIGZ				S		Sn	02 23 52.0	-18	
RTZ	**Ruatahuna**	**17.29**	**198**	P		**Pn**	**02 20 58.3**	**-2.3**	
RTZ				S		Sn	02 23 56.5	-16	
HRNZ	**Handcock Road**	**17.30**	**200**	P		**P**	**02 21 01.1**	**+0.4**	
PRGZ	**Paritu Road**	**17.34**	**196**	P		**Pn**	**02 21 00.4**	**-0.7**	
PRGZ				S		Sn	02 23 56.9	-17	
SNGZ	**Shannon Statio**	**17.35**	**197**	P		**Pn**	**02 20 59.9**	**-1.3**	
SNGZ				S		Sn	02 23 57.6	-16	
TLZ	**Tolley Road**	**17.49**	**202**	P		**Pn**	**02 21 04.0**	**+1.0**	
MHGZ	**Mahia Peninsul**	**17.55**	**195**	P		**P**	**02 21 02.1**	**-1.4**	
MHGZ				S		Sn	02 24 00.2	-19	
MTHZ	**Maungataniwha**	**17.55**	**198**	P		**P**	**02 21 00.0**	**-3.6**	
MTHZ				S		Sn	02 24 02.0	-17	
NMHZ	**Naumai**	**17.79**	**198**	P		**P**	**02 21 03.8**	**-2.4**	
NMHZ				S		Sn	02 24 07.1	-18	
HATZ	**Hinemaiaia**	**17.81**	**200**	P		**P**	**02 21 05.1**	**-1.3**	
HATZ				S		Sn	02 24 12.3	-13	
ARHZ	**Aropaoanui**	**17.89**	**197**	P		**P**	**02 21 04.7**	**-2.6**	
ARHZ				S		Sn	02 24 07.6	-19	
HIZ	**Hauiti**	**17.89**	**203**	P		**Pn**	**02 21 08.8**	**+1.0**	
BKZ	**Black Stump Fm**	**17.95**	**199**	P		**P**	**02 21 05.7**	**-2.2**	
BKZ				IAmb		IAmb	02 21 16.5		
	comp=Z,25nm,0.4s								
BKZ	**Black Stump Fm**	**17.95**	**199**	P		**P**	**02 21 04.2**	**-3.7**	
BKZ				S		Sn	02 24 12.7	-16	
MCHZ	**McNeill Hill**	**18.14**	**198**	P		**P**	**02 21 08.0**	**-2.0**	
MCHZ				S		S	02 24 13.9	-19	
OTVZ	**Oturere**	**18.20**	**200**	P		**P**	**02 21 09.0**	**-1.8**	
OTVZ				S		S	02 24 18.8	-15	
KWHZ	**Kaweka Forest**	**18.20**	**198**	P		**P**	**02 21 08.5**	**-2.2**	
KWHZ				S		S	02 24 15.7	-18	
NGZ	**Ngauruhoe**	**18.23**	**201**	P		**P**	**02 21 10.5**	**-0.6**	
TUVZ	**Tukino**	**18.30**	**200**	P		**P**	**02 21 09.6**	**-2.2**	
TUVZ				S		S	02 24 19.8	-16	
FWVZ	**Far West T-bar**	**18.32**	**201**	P		**P**	**02 21 11.0**	**-1.2**	
FWVZ				S		S	02 24 23.7	-13	
WNVZ	**Wahianoa**	**18.37**	**200**	P		**P**	**02 21 10.6**	**-2.1**	
WNVZ				S		S	02 24 23.4	-14	
BHHZ	**Black Hill Sta**	**18.37**	**199**	P		**P**	**02 21 08.8**	**-3.8**	
BHHZ				S		S	02 24 20.7	-17	
MOVZ	**Moawhango**	**18.39**	**200**	P		**P**	**02 21 11.6**	**-1.2**	
MOVZ				S		S	02 24 20.5	-17	
PKVZ	**Pokaka**	**18.42**	**201**	P		**P**	**02 21 11.5**	**-1.6**	
PKVZ				S		S	02 24 25.6	-13	
KAHZ	**Kahuranaki**	**18.42**	**197**	P		**P**	**02 21 11.5**	**-1.6**	
KAHZ				S		S	02 24 20.8	-18	
KRHZ	**Kereru**	**18.42**	**198**	P		**P**	**02 21 09.9**	**-3.2**	
KRHZ				S		S	02 24 18.0	-21	
VRZ	**Vera Road**	**18.47**	**203**	P		**Pn**	**02 21 14.4**	**-0.3**	
PXZ	**Pawanui**	**18.65**	**197**	P		**P**	**02 21 13.1**	**-2.4**	
PXZ				S		S	02 24 23.3	-20	
PNHZ	**Pukenui**	**18.72**	**198**	P		**P**	**02 21 13.4**	**-3.0**	
PNHZ				S		S	02 24 22.8	-22	
NEZ	**North Egmont**	**18.84**	**204**	P		**Pn**	**02 21 20.3**	**+1.0**	
TSZ	**Takapari Road**	**18.93**	**199**	P		**P**	**02 21 17.2**	**-1.4**	
TSZ				S		S	02 24 31.2	-18	
PRHZ	**Porangahau**	**18.93**	**197**	P		**P**	**02 21 16.8**	**-1.8**	
PRHZ				S		S	02 24 30.0	-19	
DVHZ	**Dannevirke**	**19.09**	**198**	P		**P**	**02 21 18.1**	**-2.3**	
DVHZ				S		S	02 24 31.3	-21	
BFZ	**Birch Farm**	**19.42**	**197**	P		**P**	**02 21 21.2**	**-2.8**	
BSWZ	**Blackbirch Sta**	**21.09**	**201**	P		**P**	**02 21 39.5**	**-2.5**	
OXZ	**Oxford**	**23.14**	**202**	P		**P**	**02 22 02.1**	**-1.3**	
OXZ				IAmb		IAmb	02 22 06.8		
	comp=Z,114nm,0.8s								
LHI	**Lord Howe Isla**	**23.82**	**242**	P		**P**	**02 22 11.2**	**+1.5**	
	baz=24,SNR=4.6								
LHI	**Lord Howe Isla**	**23.82**	**242**	P		**P**	**02 22 10.7**	**+1.0**	
LHI	**Lord Howe Isla**	**23.82**	**242**	P		**P**	**02 22 12.2**	**+2.5**	
RPZ	**Rata Peaks**	**23.83**	**203**	P		**P**	**02 22 08.8**	**-0.9**	
	comp=Z,50nm,0.6s,baz=336,slow=2.4,SNR=20								
RPZ				S		**S**	**02 26 12.4**	**-6.9**	
	comp=Z,13nm,0.7s,baz=47,slow=7.0,SNR=3.2								
RPZ				LR		LR	02 32 08.6		
	comp=Z,822nm,20.7s,baz=25,slow=38								
TBI	**Tubuai**	**24.71**	**98**	*e*S		**S**	**02 26 26.9**	**-6.8**	
	comp=Z,599nm,32.9s								
TBI				*e*LQ		LQ	02 27 19.1		
	comp=Z,2μm,27.5s								
TBI				*e*LR		LR	02 28 17.2		
	comp=Z,3μm,35.2s,baz=280								
TBI	**Tubuai**	**24.71**	**98**	*e*T		T	02 47 09.4		
	comp=Z,45nm,0.3s								
ODZ	**Otahua Downs**	**25.13**	**202**	P		**P**	**02 22 19.9**	**-1.6**	
ODZ				IAmb		IAmb	02 22 23.9		
	comp=Z,25nm,0.8s								
PAE	**Paea**	**25.47**	**84**	*e*T		T	02 47 47.3		
	comp=Z,80nm,0.3s								
PPT2	**Papeete2**	**25.49**	**84**	*e*LQ		LQ	02 27 43.6		
PPT2				*e*LR		LR	02 28 51.5		
	comp=Z,4μm,30.2s,baz=252								
PPT2	**Papeete2**	**25.49**	**84**	*e*T		T	02 48 14.9		
	comp=Z,86nm,0.4s								
PPT	**Papeete**	**25.50**	**84**	LR		LR	02 30 10.6		
	comp=Z,861nm,21.8s,baz=257,slow=30								
HNR	**Honiara**	**26.16**	**295**	P		**P**	**02 22 34.6**	**+3.5**	
	comp=Z,156nm,0.5s,baz=299,slow=7.5,SNR=4.3								
HNR	**Honiara**	**26.16**	**295**	P		**P**	**02 22 29.3**	**-1.8**	
HNR				pmax		pmax			
	comp=Z,386nm,1.1s								
HNR	**Honiara**	**26.16**	**295**	P		**P**	**02 22 29.3**	**-1.8**	
MEH	**Mehetia**	**26.82**	**86**	*e*T		T	02 49 52.2		
	comp=Z,140nm,0.3s								
ARMA	**Armidale**	**29.82**	**247**	P		**P**	**02 23 05.3**	**+1.6**	
	baz=30,SNR=44								
ARMA	**Armidale**	**29.82**	**247**	P		**P**	**02 23 04.4**	**+0.6**	
EIDS	**Eidsvold**	**30.00**	**258**	P		**P**	**02 23 06.2**	**+0.9**	
	baz=30,SNR=14								
EIDS	**Eidsvold**	**30.00**	**258**	P		**P**	**02 23 05.3**	**0.0**	
MGCD	**Mangrove Creek**	**30.75**	**242**	P		**P**	**02 23 13.3**	**+1.5**	
	baz=31,SNR=10								
RMQ	**Roma**	**32.08**	**255**	P		**P**	**02 23 25.3**	**+1.7**	
	baz=32,SNR=50								
CNB	**Canberra Magne**	**32.64**	**239**	P		**P**	**02 23 29.0**	**+0.6**	
	baz=33,SNR=12								
CAN	**Canberra**	**32.93**	**239**	P		**P**	**02 23 31.1**	**+0.1**	
CAN				pmax		pmax			
	comp=Z,83nm,1.0s								
CAN	**Canberra**	**32.93**	**239**	P		**P**	**02 23 31.1**	**+0.1**	
YNG	**Young**	**33.19**	**241**	P		**P**	**02 23 34.2**	**+1.0**	
	baz=33,SNR=6.5								
CTA	**Charters Tower**	**34.97**	**266**	P		**P**	**02 23 49.8**	**+1.1**	

	comp=Z,45nm,0.4s,baz=92,slow=10,SNR=145								
CTAO	**Charters Tower**	**34.97**	**266**	P		**P**	**02 23 48.9**	**+0.1**	
CTAO				pmax		pmax			
	comp=Z,222nm,1.2s								
CTAO	**Charters Tower**	**34.97**	**266**	P		**P**	**02 23 48.9**	**+0.1**	
CMSA	**Cobar Meteorol**	**35.02**	**247**	P		**P**	**02 23 48.8**	**-0.2**	
	baz=35,SNR=64								
QLP	**Quilpie**	**36.13**	**255**	P		**P**	**02 23 59.0**	**+0.4**	
	baz=36,SNR=30								
TOO	**Toolangi**	**36.22**	**236**	P		**P**	**02 23 59.2**	**0.0**	
	baz=36,SNR=23								
TOO	**Toolangi**	**36.22**	**236**	P		**P**	**02 23 58.7**	**-0.6**	
TOO				pmax		pmax			
	comp=Z,26nm,0.8s								
TOO	**Toolangi**	**36.22**	**236**	P		**P**	**02 23 58.7**	**-0.6**	
TOO				IAmb		IAmb	02 24 01.7		
	comp=Z,26nm,0.8s								
MTSU	**Mount Surprise**	**37.16**	**269**	P		**P**	**02 24 08.5**	**+1.0**	
	baz=37,SNR=56								
PMG	**Port Moresby**	**37.34**	**284**	P		**P**	**02 24 09.4**	**+0.4**	
PMG				pmax		pmax			
	comp=Z,201nm,1.0s								
PMG	**Port Moresby**	**37.34**	**284**	P		**P**	**02 24 09.4**	**+0.4**	
PMG	**Port Moresby**	**37.34**	**284**	P		**P**	**02 24 10.0**	**+1.1**	
RKT	**Rikitea**	**38.01**	**99**	*e*LQ		LQ	02 32 52.4		
	comp=Z,833nm,26.8s								
RKT				*e*LR		LR	02 34 16.4		
	comp=Z,2μm,35.2s								
STKA	**Stephens Creek**	**38.53**	**246**	P		**P**	**02 24 18.3**	**-0.5**	
	comp=Z,39nm,0.9s,baz=88,slow=9.7,SNR=54								
STKA				ScP		**ScP**	**02 30 09.7**	**-0.8**	
	comp=Z,3.4nm,0.8s,baz=50,slow=7.9,SNR=3.5								
STKA				LR		LR	02 39 42.9		
	comp=Z,453nm,18.4s,baz=74,slow=35								
STKA	**Stephens Creek**	**38.53**	**246**	P		**P**	**02 24 18.8**	**-0.1**	
	baz=39,SNR=44								
STKA	**Stephens Creek**	**38.53**	**246**	P		**P**	**02 24 18.8**	**-0.1**	
STKA				IAmb		IAmb	02 24 20.8		
	comp=Z,19nm,1.1s								
ARPS	**Mount Arapiles**	**38.91**	**239**	P		**P**	**02 24 21.8**	**-0.1**	
	baz=39,SNR=8.3								
COEN	**Coen**	**39.34**	**275**	P		**P**	**02 24 26.4**	**+0.6**	
HTT	**Hallett**	**40.88**	**244**	P		**P**	**02 24 37.7**	**-0.7**	
	baz=41,SNR=23								
QIS	**Mount Isa**	**41.02**	**264**	P		**P**	**02 24 39.8**	**+0.1**	
	baz=41,SNR=25								
BBOO	**Buckleboo**	**43.25**	**245**	P		**P**	**02 24 56.7**	**-1.0**	
	baz=44,SNR=24								
BBOO	**Buckleboo**	**43.25**	**245**	P		**P**	**02 24 56.7**	**-1.0**	
AS31	**Alice Springs**	**45.72**	**258**	P		**P**	**02 25 17.1**	**-0.4**	
AS31				IAmb		IAmb	02 25 19.0		
	comp=Z,40nm,0.9s								
ASAR	**Alice Springs**	**45.72**	**258**	P		**P**	**02 25 17.0**	**-0.5**	
	comp=Z,143nm,0.8s,baz=88,slow=9.1,SNR=410								
ASAR				PcP		**PcP**	**02 26 54.0**	**-0.1**	
	comp=Z,22nm,0.8s,baz=105,slow=3.6,SNR=8.0								
ASAR				ScP		**ScP**	**02 30 38.7**	**-0.7**	
	comp=Z,3.9nm,0.8s,baz=103,slow=4.3,SNR=5.7								
ASAR				S		**S**	**02 31 47.8**	**-6.8**	
	comp=Z,1.2nm,0.8s,baz=100,slow=14,SNR=4.2								
ASAR				PKiKP		**PKiKP**	**02 33 49.5**	**-1.4**	
	comp=Z,0.3nm,0.7s,baz=103,slow=1.6,SNR=5.0								
ASAR				LR		LR	02 44 25.2		
	comp=Z,625nm,18.3s,baz=108,slow=36								
ASAR	**Alice Springs**	**45.72**	**258**	P		**P**	**02 25 16.0**	**-1.5**	
WR0	**Warramunga Arr**	**45.80**	**263**	P		**P**	**02 25 16.6**	**-1.5**	
WB2	**Warramunga Arr**	**45.98**	**263**	P		**P**	**02 25 18.5**	**-1.0**	
WRAB	**Tennant Creek**	**45.98**	**263**	*ce*P		**P**	**02 25 18.6**	**-0.9**	
WRAB				pmax		pmax			
	comp=Z,171nm,1.0s								
WRA	**Warramunga Arr**	**45.99**	**263**	P		**P**	**02 25 18.5**	**-1.1**	
	comp=Z,108nm,0.8s,baz=96,slow=8.2,SNR=664								
WRA				PcP		**PcP**	**02 26 55.4**	**+0.3**	
	comp=Z,19nm,0.9s,baz=97,slow=3.8,SNR=7.9								
WRA				ScP		**ScP**	**02 30 39.3**	**-1.3**	
	comp=Z,2.2nm,0.8s,baz=95,slow=3.9,SNR=5.2								
WRA				LR		LR	02 44 03.0		
	comp=Z,551nm,18.7s,baz=100,slow=35								
JAY	**Jayapura**	**46.15**	**289**	P		**P**	**02 25 21.1**	**+0.2**	
	comp=Z,80nm,0.4s,baz=143,slow=3.8,SNR=68								
GENI	**Genyem**	**46.58**	**289**	P		**P**	**02 25 24.6**	**+0.3**	
	comp=Z,161nm,1.0s								
SMPI	**Sarmi**	**48.15**	**288**	P		**P**	**02 25 36.9**	**+0.5**	
	comp=Z,80nm,1.4s								
KDU	**Kakadu**	**49.63**	**272**	P		**P**	**02 25 47.1**	**-0.6**	
	baz=50,SNR=75								
FORT	**Forrest**	**50.11**	**248**	P		**P**	**02 25 50.1**	**-1.1**	
	baz=50,SNR=68								
FORT	**Forrest**	**50.11**	**248**	P		**P**	**02 25 49.8**	**-1.4**	
SRPI	**Serui, Papua**	**50.38**	**287**	P		**P**	**02 25 53.4**	**-0.1**	
	comp=Z,131nm,0.7s								
**WR

SPSI	Sidrap Palu	64.45	276		P		P	02 27 31.1	-1.3
	comp=Z,2µmcomp=Z,41nm,0.9s								
PLAI	Plampang	64.52	271		P		P	02 27 31.9	-0.9
	comp=Z,2µmcomp=Z,186nm,0.9s								
TTSI	Tana Toraja	64.76	277		P		P	02 27 39.7	+5.3
TWSI	Taliwang, Sumb	65.38	270		P		P	02 27 37.6	-0.8
	comp=Z,846nmcomp=Z,84nm,1.0s								
TOLI2	Tolitoli	65.56	282		P		P	02 27 38.0	-1.6
SRBI	Singaraja	67.15	270		P		P	02 27 49.0	-0.8
	comp=Z,2µmcomp=Z,115nm,0.9s								
QSPA	South Pole Qui	67.81	180		P		P	02 27 54.2	+0.9
QSPA					IAmb		IAmb	02 28 10.0	
	comp=Z,31nm,0.9s								
JAGI	Jajag, Banyuwa	68.00	270		P		P	02 27 53.3	-1.9
JAGI	Jajag, Banyuwa	68.00	270		P		P	02 27 53.7	-1.4
	comp=Z,1µmcomp=Z,117nm,1.1s								
KBKI	Kotabaru	68.02	276		P		P	02 27 56.3	+1.1
	comp=Z,907nmcomp=Z,60nm,1.1s								
ABJI	Asem Bagus	68.16	270		P		P	02 27 55.8	-0.3
	comp=Z,96nm,1.2s								
BBKI	Banjar Baru	69.18	275		P		P	02 28 03.4	+0.9
	comp=Z,4µmcomp=Z,63nm,1.3s								
MYLDM	Lahad Datu	69.36	285		P		P	02 28 03.4	-0.2
MYLDM					IAmb		IAmb	02 28 17.6	
	comp=Z,35nm,0.9s								
MTKI	Muara Teweh, K	70.10	277		P		P	02 28 08.9	+0.7
JYT	Yasato	71.27	324		P		P	02 28 14.8	+0.1
JYT					IAmb		IAmb	02 28 16.7	
	comp=Z,38nm,1.0s								
UGM	Wanagama	71.55	269		P		P	02 28 17.6	+0.6
	comp=Z,154nm,1.2s								
KKM	Kota Kinabalu	71.78	285		P		P	02 28 17.3	-1.1
KKM					IAmb		IAmb	02 28 18.8	
	comp=Z,51nm,1.3s								
JMM	Marumori	72.17	325		IAmb		IAmb	02 28 21.1	
	comp=Z,45nm,1.3s								
PBKI	Pangkalan Bun	72.40	274		P		P	02 28 24.8	+2.8
JGF	Kuroka	72.40	322		IAmb		IAmb	02 28 23.0	
	comp=Z,34nm,1.3s								
MJAR	Matsushiro Arr	72.59	323		P		P	02 28 22.0	-0.6
	comp=Z,6.9nm,0.5s,baz=160,slow=5.9,SNR=44								
MJAR					LR		LR	02 54 15.0	
	comp=Z,105nm,21.6s,baz=85,slow=31								
MJAR	Matsushiro Arr	72.59	323		P		P	02 28 21.8	-0.9
MJAR					pmax		pmax		
	comp=Z,17nm,1.5s								
MJAR	Matsushiro Arr	72.59	323		P		P	02 28 21.8	-0.9
MAJO	Matsushiro	72.60	323	*i*	P		P	02 28 22.5	-0.2
MAJO					pmax		pmax		
	comp=Z,32nm,1.4s								
MAJO	Matsushiro	72.60	323		P		P	02 28 21.9	-0.7
MAJO					IAmb		IAmb	02 28 23.5	
	comp=Z,50nm,1.4s								
MAT	Matsushiro	72.60	323		P		P	02 28 22.1	-0.6
MAT				*e*	S		S	02 37 38.6	-2.1
JWT	Wachi	73.32	320		IAmb		IAmb	02 28 28.2	
	comp=Z,30nm,1.3s								
JSD	Sado	73.64	324		IAmb		IAmb	02 28 30.1	
	comp=Z,61nm,1.4s								
ADK	Adak	73.83	360		P		P	02 28 29.3	-0.3
ADK					pmax		pmax		
	comp=Z,169nm,1.4s								
ADK	Adak	73.83	360		P		P	02 28 29.2	-0.3
SBUM	Sibu	73.90	280		IAmb		IAmb	02 28 33.2	
	comp=Z,20nm,1.1s								
SBUM	Sibu	73.90	280		P		P	02 28 31.0	+0.1
ERM	Erimo	74.16	330	*ce*	P		P	02 28 30.3	-1.4
ERM					pmax		pmax		
	comp=Z,41nm,1.7s								
JHS	Saijyo	74.50	319		P		P	02 28 33.7	-0.2
JHS					IAmb		IAmb	02 28 37.4	
	comp=Z,61nm,1.3s								
LEM	Lembang	74.63	269		LR		LR	03 02 04.7	
	comp=Z,170nm,18.9s,baz=203,slow=36								
JNU	Nakatsue	74.67	316		P		P	02 28 34.7	-0.2
	comp=Z,14nm,1.0s,baz=186,slow=1.2,SNR=3.6								
XMI	Christmas Isla	75.14	265		P		P	02 28 40.0	+1.9
	comp=Z,112nm,1.1s								
XMIS	Christmas Isla	75.16	265		P		P	02 28 37.6	-0.6
XMIS					IAmb		IAmb	02 28 40.2	
	comp=Z,48nm,0.9s								
KSM	Kuching	75.26	278		P		P	02 28 37.6	-1.1
CBJI	Citeko	75.49	269		P		P	02 28 40.5	+0.5
	comp=Z,127nm,0.6s								
DBJI	Dramaga	75.53	269		P		P	02 28 40.3	0.0
H06S1	SOCORRO T	75.73	63		T		T	03 51 41.4	
	SNR=3.5								
H06N1	SOCORRO T-PHAS	75.77	63		T		T	03 51 45.8	
	SNR=2.7								
H06E1	SOCORRO T-PHAS	75.78	63		T		T	03 52 02.2	
	SNR=6.5								
YULB	Yu-li	75.82	303		IAmb		IAmb	02 28 50.0	
	comp=Z,38nm,1.4s								
JKA	Kamikawa-asahi	76.05	331		P		P	02 28 42.9	+0.4
JKA					IAmb		IAmb	02 28 45.8	
	comp=Z,78nm,1.3s								
ASAJ	Asahikawa	76.06	331		P		P	02 28 42.5	0.0
	comp=Z,27nm,0.9s,baz=124,slow=15,SNR=11								
ASAJ	Asahikawa	76.06	331		P		P	02 28 42.9	+0.4
ASAJ					pmax		pmax		
	comp=Z,78nm,1.3s								
TPUB	Ta-pu	76.30	302		P		P	02 28 43.0	-1.4
TPUB					IAmb		IAmb	02 28 47.5	
	comp=Z,39nm,1.0s								
YHNB	Yeheng	76.44	304		IAmb		IAmb	02 28 47.7	
	comp=Z,32nm,1.1s								
BELA	Belgrano 2	77.60	172		P		P	02 28 50.9	+0.1
BELA					IAmb		IAmb	02 28 54.6	
	comp=Z,19nm,0.9s								
SCZ2	Santa Cruz Isl	77.66	45		P			02 28 54.2	
	baz=232								
KASI	Kota Agung	77.99	269		P		P	02 28 52.8	-1.3
	comp=Z,90nm,1.0s								
KLSI		78.08	270		P		P	02 28 55.1	+0.5
	comp=Z,5.8nm,1.3s								
PET	Petropavlovsk	78.09	345	*e*	P		P	02 28 53.5	-0.2
PET				*e*	S		S	02 38 45.7	+5.1
PET					pmax		pmax		
	comp=Z,100nm,13.1s								
YSS	Yuzh-Sakhalins	78.20	333	*i*	P		P	02 28 55.2	+0.7
YSS				*e*				02 29 00.9	
YSS				*e*				02 29 26.0	
YSS				*e*	S		S	02 38 43.9	+1.8
YSS					pmax		pmax		
	comp=Z,40nm,1.0s								
YSS					MLR		MLR		
	comp=Z,100nm,17.0s								
YSS	Yuzh-Sakhalins	78.20	333		P		P	02 28 54.5	0.0
YSS					IAmb		IAmb	02 28 56.5	
	comp=Z,70nm,1.2s								
SAO	San Andreas Ge	78.22	42		P		P	02 28 56.7	+1.8
SAO					pmax		pmax		
	comp=Z,17nm,0.9s								
SAO	San Andreas Ge	78.22	42		P		P	02 28 56.7	+1.8
SAO					IAmb		IAmb	02 28 59.0	
	comp=Z,16nm,0.9s								
PMPB	Monarch Peak	78.28	43		P		P	02 28 56.7	+1.4
PMPB					IAmb		IAmb	02 28 59.1	
	comp=Z,19nm,1.0s								
PAGB	Antelope Grade	78.33	44		P		P	02 28 57.6	+2.1
PAGB					IAmb		IAmb	02 28 59.3	
	comp=Z,13nm,0.9s								
PEA0B	Petropavlovsk-	78.40	344		P		P	02 28 55.2	-0.2
PEA0B					pmax		pmax		
	comp=Z,84nm,1.5s								
PEA0B	Petropavlovsk-	78.40	344		P		P	02 28 55.2	-0.2
PEA0B					IAmb		IAmb	02 28 56.1	
	comp=Z,84nm,1.4s								
PETK	Petropavlovsk-	78.40	344		P		P	02 28 55.5	0.0
	comp=Z,6.5nm,0.6s,baz=99,slow=7.6,SNR=28								
PETK	Petropavlovsk-	78.40	344		P		P	02 28 55.3	-0.2
HOPS	Hopland Field	78.67	40		P		P	02 28 58.5	+1.2
HOPS					IAmb		IAmb	02 29 01.5	
	comp=Z,20nm,1.1s								
PMBI	Palembang	78.69	271		P		P	02 29 05.3	+7.3
QZH	Quanzhou	78.74	303	*e*	P		P	02 29 00.3	+2.4
QZH					S		S	02 38 56.6	+7.8
BFSC	Mount Baldy Ra	79.12	46		P			02 29 01.7	
	baz=234								
VES	Vestal, Richgr	79.14	44		P			02 29 02.2	
	baz=232,SNR=8.6								
MONP2	Monument Peak	79.17	48		P			02 29 02.5	
	baz=235,SNR=6.6								
IKP	In-Ko-Pah, Jac	79.24	48		P			02 29 03.0	
	baz=235								
EDW2	Edwards Air Fo	79.28	45		P			02 29 02.9	
	baz=233,SNR=18								
KSRS	Korea Array	79.28	318		P		P	02 29 01.6	+1.0
	comp=Z,3.3nm,0.7s,baz=143,slow=6.5,SNR=17								
KSAR	Wonju Array Be	79.30	318		P		P	02 29 00.6	-0.2
KSAR	Wonju Array Be	79.30	318		P		P	02 29 00.6	-0.2
KS19	Wonju Array Si	79.35	318		P		P	02 29 00.7	-0.4
KS19					IAmb		IAmb	02 29 02.6	
	comp=Z,34nm,1.4s								
ISA	Isabella, Lake	79.43	44		P			02 29 04.2	
	baz=233,SNR=16								
ISA	Isabella, Lake	79.43	44		IAmb		IAmb	02 29 05.6	
	comp=Z,17nm,0.9s								
LHSI	Lahat	79.52	270		P		P	02 29 04.5	+2.0
	comp=Z,19µmcomp=Z,38nm,1.1s								
KHMM	Horse Mountain	79.53	38		IAmb		IAmb	02 29 06.6	
	comp=Z,36nm,1.2s								
PFO	Pinyon Flats O	79.56	47		P			02 29 04.4	
	baz=234								
TPFO	Pinon Flats	79.56	47		P			02 29 04.7	
	baz=234								
PFO	Pinyon Flats O	79.56	47		P		P	02 29 03.9	+1.5
	comp=Z,3.2nm,0.8s,baz=244,slow=5.6,SNR=6.6								
PFO	Pinyon Flats O	79.56	47		P		P	02 29 03.6	+1.2
PFO					pmax		pmax		
	comp=Z,5.0nm,0.9s								
PFO	Pinyon Flats O	79.56	47		P		P	02 29 03.6	+1.2
XPFO	Pion Flat	79.56	47		P		P	02 29 04.2	+1.8
O02D	Mt. Diablo Mer	79.61	39		P			02 29 05.4	
	baz=16								
LRMC	Laurel Mtn Rad	79.84	45		P			02 29 06.3	
	baz=233,SNR=15								
WDC	Whiskeytown Da	80.02	39		P		P	02 29 06.2	+1.6
WDC					pmax		pmax		
	comp=Z,20nm,1.1s								
WDC	Whiskeytown Da	80.02	39		P		P	02 29 06.2	+1.6
WDC					IAmb		IAmb	02 29 08.7	
	comp=Z,20nm,1.1s								
BELC	Belle Mtn. Jos	80.09	47		P			02 29 07.5	
	baz=235,SNR=10								
CWC	Cottonwood Cre	80.15	44		P			02 29 07.7	
	baz=233								
N02D	Trinity Center	80.18	38		P			02 29 08.2	
	baz=229,SNR=8.2								
JMBI	JAMBI	80.22	272		P		P	02 29 10.0	+3.7
O03E	Paynes Creek	80.26	39		P			02 29 07.9	
	baz=230,SNR=9.7								
BC3	Big Chuckawall	80.27	48		P			02 29 08.7	
	baz=235								
GSC	Goldstone, Bar	80.31	46		P			02 29 08.4	
	baz=234,SNR=10								
HEC	Hector,Ludlow	80.35	46		P			02 29 08.6	
	baz=234,SNR=20								
M02C	Callahan	80.37	38		P			02 29 09.4	
	baz=229,SNR=8.7								
MLAC	Mammoth, Mammo	80.39	43		P			02 29 10.0	
	baz=232								
TIN	Tinemaha, Big	80.42	43		P			02 29 10.3	
	baz=233,SNR=5.7								
KSI	Kapahiang	80.44	270		P		P	02 29 07.3	-0.3
	comp=Z,43µmcomp=Z,77nm,1.0s								
MAW	Mawson	80.45	199		P		P	02 29 07.2	+0.8
	comp=Z,16nm,0.8s,baz=120,slow=6.7,SNR=4.5								
MAW	Mawson	80.45	199		P		P	02 29 07.3	+0.8
MAW					pmax		pmax		
	comp=Z,9.0nm,0.8s								
MAW	Mawson	80.45	199		P		P	02 29 07.3	+0.8
L02E	Cave Junction	80.45	37		P			02 29 09.8	
	baz=228								
WAKR	Walker	80.55	42		IAmb		IAmb	02 29 11.9	
	comp=Z,19nm,1.2s								
YBH	Yreka Blue Hor	80.67	38		IAmb		IAmb	02 29 12.3	
	comp=Z,14nm,0.8s								
MSHR	Mys Shultsa	80.70	324	*ce*	P		P	02 29 09.0	+0.9
MSHR					pmax		pmax		
	comp=Z,34nm,1.3s								
IRM	Iron Mountain	80.76	47		P			02 29 11.4	
	baz=235,SNR=8.3								
GMRC	Granite Mounta	80.77	47		P			02 29 11.0	
	baz=235,SNR=8.6								
K02D	Willamette Mer	80.78	36		P			02 29 11.6	
	baz=228								
PNTR	Pine Nut	80.82	41		IAmb		IAmb	02 29 13.1	
	comp=Z,17nm,0.8s								
BEKR	Beckworth	80.84	40		P		P	02 29 10.3	+1.0
J01E	Myrtle Point	80.94	36		P			02 29 12.2	
	baz=228								
GRAC	Grapevine Rang	80.94	44		P			02 29 12.2	
	baz=233,SNR=6.8								
FURC	Furnace Creek,	80.95	45		P			02 29 12.3	
	baz=234,SNR=5.1								
SHOC	Shoshone, Teco	81.01	45		P			02 29 12.4	
	baz=234,SNR=6.4								
DLV	T Lat	81.19	287		P		P	02 29 11.3	-0.3
DLV					IAmb		IAmb	02 29 13.4	
	comp=Z,48nm,1.3s								
M04C	Macdoel	81.20	38		P			02 29 14.1	
	baz=230								
NVAR	Mina Array Bea	81.21	42		P		P	02 29 13.0	+1.7
	comp=Z,5.8nm,0.9s,baz=222,slow=9.0,SNR=32								
NVAR					pP		sP	02 29 44.7	+1.9
	comp=Z,6.0nm,0.7s,baz=223,slow=9.2,SNR=7.5								
NVAR					PKKPbc		PKKPbc	02 47 55.6	+7.4
	comp=Z,0.8nm,0.9s,baz=86,slow=3.3,SNR=4.0								
NVAR					PKPPKP		P'P'df	02 55 56.8	+6.9
	comp=Z,0.4nm,0.6s,baz=87,slow=6.1,SNR=3.7								
NVAR					LR		LR	02 57 43.4	
	comp=Z,80nm,21.9s,baz=200,slow=30								
NVAR	Mina Array Bea	81.21	42		P		P	02 29 12.9	+1.6
L04D	Klamath Falls	81.22	37		P			02 29 13.0	
	baz=229								
NV11	Mina Array Sit	81.31	42		IAmb		IAmb	02 29 14.9	
	comp=Z,22nm,1.4s								
TYV	Tymovskoe	81.32	335	*e*	P		P	02 29 11.5	+0.3
TYV					pmax		pmax		
	comp=Z,100nm,2.5s								
TYV					pmax		pmax		
	comp=Z,18nm,1.1s								
MYKOM	Kota Tinggi	81.33	276		P		P	02 29 11.6	-0.7
MYKOM					IAmb		IAmb	02 29 15.3	
	comp=Z,51nm,1.1s								
MYKOM	Kota Tinggi	81.33	276		P		P	02 29 12.0	-0.2
USRK	Ussuriysk Ar.	81.34	325		P		P	02 29 12.6	+1.0
	comp=Z,24nm,1.1s,baz=124,slow=3.4,SNR=32								
USRK					LR		LR	02 58 13.7	
	comp=Z,108nm,20.8s,baz=129,slow=30								
USRK	Ussuriysk Ar.	81.34	325		P		P	02 29 12.0	+0.5
USA0B	Ussuriysk Arra	81.34	325	*i*	P		P	02 29 11.7	+0.2
USA0B	Ussuriysk Arra	81.34	325		IAmb		IAmb	02 29 13.7	
	comp=Z,49nm,1.3s								
OHAK	Old Harbor	81.50	12		P			02 29 13.2	
	baz=202								
OHAK	Old Harbor	81.50	12		IAmb		IAmb	02 29 13.7	
	comp=Z,68nm,1.5s								
PDMCI	Parker Dam,Lak	81.53	48		P			02 29 15.7	
	baz=236,SNR=6.6								
I03D	Drain, OR	81.62	36		P			02 29 15.3	
	baz=228								
TPNV	Topopah Spring	81.64	45		P			02 29 15.8	
	baz=234,SNR=20								
TPH	Tonopah	81.68	43		IAmb		IAmb	02 29 17.6	
	comp=Z,60nm,1.0s								
J04D	Umpqua Nationa	81.99	37		P			02 29 18.5	
	baz=229								
MOD	Modoc Plateau	82.16	39		IAmb		IAmb	02 29 19.8	
	comp=Z,17nm,1.1s								
KDAK	Kodiak Island	82.17	13		P			02 29 16.9	
	baz=202								
KDAK	Kodiak Island	82.17	13		P		P	02 29 16.1	+0.6
	comp=Z,12nm,0.7s,baz=209,slow=3.9,SNR=9.0								
KDAK	Kodiak Island	82.17	13		P		P	02 29 16.1	+0.6
KDAK					pmax		pmax		
	comp=Z,15nm,0.9s								
KDAK	Kodiak Island	82.17	13		IAmb		IAmb	02 29 18.0	
	comp=Z,15nm,0.9s								
I04A	Tendick Farm,	82.19	36		P			02 29 18.0	
	baz=229								
NJ2	Nanjing	82.25	309	*e*	P		P	02 29 17.3	+0.7
NJ2					pmax		pmax		
	comp=Z,11nm,0.5s								
K05A	Summer Lake	82.34	38		IAmb		IAmb	02 29 21.2	
	comp=Z,26nm,0.9s								
H04D	Lebanon	82.49	35		P			02 29 20.0	
	baz=229								
J05D	Fort Rock, OR	82.51	37		P			02 29 20.4	
	baz=230								
G03D	McMinnville, O	82.67	35		P			02 29 21.5	
	baz=228								
PRN	Pahroc Range	82.68	45		IAmb		IAmb	02 29 23.3	
	comp=Z,18nm,1.1s								
TUC	Tucson	82.81	51		P			02 29 22.4	
	baz=238								
TUC	Tucson	82.81	51		P		P	02 29 21.3	+1.7
TUC					pmax		pmax		
	comp=Z,11nm,1.0s								
TUC	Tucson	82.81	51		P		P	02 29 21.3	+1.7
TUC					IAmb		IAmb	02 29 24.0	
	comp=Z,11nm,0.9s								
R11A	Troy Canyon, C	82.88	44		P			02 29 22.2	
	baz=234								
H04A	Detroit Lake	82.90	36		IAmb		IAmb	02 29 22.6	
	comp=Z,31nm,1.1s								
MDJ	Mudanjiang	82.90	324		P		P	02 29 20.4	+0.7
MDJ					pP		pP	02 29 39.3	-2.5
MDJ					S		S	02 39 31.9	+0.6
MDJ					sS		sS	02 40 04.8	-4.3
MDJ					pmax		pmax		
	comp=Z,26nm,1.4s								
MDJ					pmax		pmax		
	comp=Z,350nm,6.2s								
MDJ	Mudanjiang	82.90	324		P		P	02 29 20.2	+0.6
MDJ					IAmb		IAmb	02 29 21.9	
	comp=Z,34nm,1.2s								
PINE	Pine Mountain	83.00	37		IAmb		IAmb	02 29 24.7	
	comp=Z,32nm,1.1s								
QIZ	Qiongzhong	83.06	294		P		P	02 29 21.8	+0.7
QIZ					S		S	02 39 37.0	+3.0
QIZ					LR		LR		
	comp=Z,170nm,17.4s								
QIZ					LR		LR		
	comp=Z,160nm,7.2s								
QIZ					LR		LR		
	comp=Z,250nm,38.2s								
I05D	Terrebonne, OR	83.13	36		P			02 29 23.9	
	baz=230								
BKNI	Bangkinang	83.37	273		P		P	02 29 22.3	-0.5
E03A	Lebam	83.41	34		IAmb		IAmb	02 29 26.3	
	comp=Z,43nm,1.0s								
319A	Douglas	83.42	52		IAmb		IAmb	02 29 26.6	
	comp=Z,14nm,0.8s								
LCMT	Little Creek M	83.65	46		IAmb		IAmb	02 29 27.9	
	comp=Z,12nm,0.8s								
H03S2	Juan Fernandez	83.66	124		T		T	04 01 34.8	
	baz=246,slow=75,SNR=155								
H03S1	Juan Fernandez	83.67	124		T		T	04 01 42.9	
	baz=246,slow=75,SNR=148								
H03S3	Juan Fernandez	83.67	124		T		T	04 01 41.7	
	baz=246,slow=75,SNR=79								
H03N2	Juan Fernandez	83.80	123		T		T	04 01 42.6	
	baz=250,slow=72,SNR=247								
H03N3	Juan Fernandez	83.80	123		T		T	04 01 36.5	
	baz=250,slow=72,SNR=277								
H03N1	Juan Fernandez	83.82	123		T		T	04 01 42.7	
	baz=250,slow=72,SNR=332								
CCUT	Cedar City	83.87	45		IAmb		IAmb	02 29 28.9	
	comp=Z,12nm,0.9s								
E04D	Cinebar	83.92	34		P			02 29 27.3	
	baz=229								
KNB	Kanab	83.93	46		IAmb		IAmb	02 29 29.1	
	comp=Z,14nm,0.8s								
U15A	North Rim	83.97	47		IAmb		IAmb	02 29 30.0	
	comp=Z,23nm,0.8s								
I07A	Izee	83.99	37		IAmb		IAmb	02 29 29.2	
	comp=Z,11nm,0.9s								
CNPM	China Poot	84.05	13		P		P	02 29 26.0	+0.7
CNPM					IAmb		IAmb	02 29 26.8	
	comp=Z,59nm,1.4s								
SZCU	Shurtz Canyon	84.08	45		IAmb		IAmb	02 29 30.4	
	comp=Z,12nm,1.0s								
WUAZ	Wupatki	84.10	48		P			02 29 28.9	
	baz=238,SNR=7.6								
J08A	Circle Bar Ran	84.12	38		IAmb		IAmb	02 29 29.7	
	comp=Z,21nm,1.2s								
DL2	Dalian	84.13	316		P		P	02 29 26.3	+0.2
DL2					pP		pP	02 29 42.9	-5.3
DL2					S		S	02 39 43.8	-0.1
DL2					pmax		pmax		
	comp=Z,230nm,5.0s								
DL2					LR		LR		
	comp=Z,320nm,19.5s								
DL2					LR		LR		
	comp=Z,340nm,20.1s								
DL2					LR		LR		
	comp=Z,200nm,24.7s								
D04E	Lakebay	84.23	33		P			02 29 29.8	
	baz=228								
D03D	Eldon	84.31	33		P			02 29 29.3	
	baz=228								
BRLK	Bradley Lake	84.34	13		P		P	02 29 27.4	+0.6
BRLK					IAmb		IAmb	02 29 29.4	
	comp=Z,37nm,0.8s								
BRSE	Bradley Lake S	84.35	13		P			02 29 28.1	
	baz=204,SNR=5.5								
PKCU	Pink Cliffs	84.51	46		IAmb		IAmb	02 29 32.8	
	comp=Z,23nm,1.0s								
X18A	Snowflake	84.56	49		IAmb		IAmb	02 29 32.3	
	comp=Z,11nm,0.9s								
D05A	Enumclaw	84.64	34		P		P	02 29 29.7	+1.2
WHN	Wuhan	84.80	306		P		P	02 29 30.3	+0.6
KLR	Kul'dur	84.88	329		P		P	02 29 29.6	0.0
	comp=Z,8.1nm,1.2s,baz=103,slow=7.2,SNR=8.4								
MNSI	Mandailing Nat	84.90	273		P		P	02 29 29.2	-1.4
	comp=Z,3µmcomp=Z,30nm,0.8s								
MTPU	Mount Pierson	84.92	45		IAmb		IAmb	02 29 36.4	
	comp=Z,15nm,0.9s								
IPM	Ipoh	84.96	277		P		P	02 29 30.4	-0.6
G08A	Pilot Rock	85.05	37		IAmb		IAmb	02 29 33.8	
	comp=Z,16nm,1.1s								
121A	Cookes Peak, D	85.10	52		P			02 29 34.1	
	baz=240								
UBPT	Khong Chiam	85.24	289		IAmb		IAmb	02 29 33.2	
	comp=Z,21nm,1.2s								
B05A	Bryant	85.29	33		P			02 29 34.0	
	baz=229								
E07A	Sunnyside	85.36	35		IAmb		IAmb	02 29 36.0	
	comp=Z,19nm,1.0s								
SYO	Syowa Base	85.36	192	*e*	P		P	02 29 32.0	+0.1
SYO	Syowa Base	85.36	192	*e*	PcP		P	02 29 33.4	+1.5
HAWA	Hanford	85.42	35		I

baz=206
KNK Knik Glacier 86.34 13 IAmb IAmb 02 29 39.4
comp=Z,18nm,0.8s
PMR Palmer 86.37 13 P 02 29 37.5
baz=205
PMR Palmer 86.37 13 IAmb IAmb 02 29 38.7
comp=Z,40nm,1.2s
F10A Beach Ranch, E 86.42 37 P **P** **02 29 38.0 +0.4**
F10A IAmb IAmb 02 29 51.5
comp=Z,10.0nm,0.8s
MNTX Cornudas Mount 86.46 54 P 02 29 40.0
baz=241
MNTX Cornudas Mount 86.46 54 IAmb IAmb 02 29 41.9
comp=Z,10nm,0.9s
SRU San Rafael Swe 86.59 45 IAmb IAmb 02 29 41.9
comp=Z,15nm,0.8s
TX31 Lajitas Ar. Si 86.65 57 IAmb IAmb 02 29 50.1
comp=Z,25nm,1.1s
TXAR Lajitas Array 86.65 57 P **P** **02 29 41.1 +2.0**
comp=Z,4.6nm,0.8s,baz=215,slow=7.4,SNR=39
TXAR pP **sP** **02 30 11.1 +0.2**
comp=Z,7.7nm,0.9s,baz=216,slow=6.2,SNR=7.6
TXAR PKKPbc **PKKPbc** **02 47 35.9 +1.3**
comp=Z,0.4nm,0.7s,baz=72,slow=4.1,SNR=4.0
TXAR LR LR 03 03 10.7
comp=Z,38nm,19.0s,baz=0.0,slow=32
TXAR Lajitas Array 86.65 57 P **P** **02 29 40.7 +1.6**
WRAK Wrangell Islan 86.70 23 P 02 29 41.6
baz=220
WRAK Wrangell Islan 86.70 23 P **P** **02 29 39.6 +1.2**
WRAK IAmb IAmb 02 29 42.2
comp=Z,22nm,1.0s
VNA2 Neumayer--Watz 86.73 176 P **P** **02 29 39.5 +0.9**
baz=186,slow=3.9
VNA2 Neumayer--Watz 86.73 176 pP pP 02 29 56.1 -5.0
B08A Colville Reser 86.77 34 IAmb IAmb 02 29 41.4
comp=Z,12nm,1.0s
BMRM Bremner River 86.81 15 P 02 29 39.9
baz=209
PLCA Paso Flores 86.88 133 P **P** **02 29 41.5 +1.5**
comp=Z,3.4nm,0.7s,baz=241,slow=4.5,SNR=13
PLCA pP **sP** **02 30 13.1 +1.1**
comp=Z,5.7nm,1.0s,baz=236,slow=6.8,SNR=3.6
PLCA LR LR 03 01 42.8
comp=Z,187nm,19.6s,baz=260,slow=31
PLCA Paso Flores 86.88 133 P **P** **02 29 41.2 +1.1**
PLCA pmax pmax
comp=Z,6.0nm,1.1s
PLCA Paso Flores 86.88 133 P **P** **02 29 41.2 +1.1**
CUT Chulitna 86.89 12 P 02 29 40.0
baz=204,SNR=10
GSI Gunungsitoli 86.94 273 P **P** **02 29 40.4 -0.4**
GSI Gunungsitoli 86.94 273 P **P** **02 29 41.5 +0.8**
comp=Z,123nm,0.9s
VNA1 Neumayer--Stat 86.95 176 P **P** **02 29 40.8 +1.2**
VNA1 Neumayer--Stat 86.95 176 pP pP 02 29 57.7 -4.4
KLU Klutina 86.96 14 P 02 29 41.2
baz=208
KLU Klutina 86.97 14 IAmb IAmb 02 29 42.7
comp=Z,22nm,1.1s
C09A Chrisman Ranch 86.97 35 IAmb IAmb 02 29 43.3
comp=Z,14nm,0.9s
CRQE Cirque 86.99 16 P 02 29 41.4
baz=211
NVL N'lazarevskaya 87.04 183 *e*P P 02 29 52.3 +12
NVL *e*S **S** **02 40 07.8 -3.9**
NVL pmax pmax
comp=Z,8.0nm,0.6s
PV14 Lion Creek, Pa 87.20 47 IAmb IAmb 02 29 45.2
comp=Z,9.6nm,1.0s
ANMO Albuquerque 87.25 51 P 02 29 44.2
baz=240
ANMO Albuquerque 87.25 51 *ce*P **P** **02 29 41.5 -0.5**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 87.25 51 P **P** **02 29 44.0 +2.0**
N25K Chitina, Valde 87.37 15 P 02 29 42.9
baz=209
N25K Chitina, Valde 87.37 15 IAmb IAmb 02 29 43.5
comp=Z,45nm,1.4s
M24K Tolsona, Glenn 87.45 14 P 02 29 44.0
baz=208
MCARA McCarthy VSAT 87.55 15 P 02 29 44.1
baz=211
CTG Chitna Glacier 87.61 16 P 02 29 44.3
baz=212
WAT2 Susitna Watana 87.72 12 P 02 29 44.2
baz=206,SNR=8.9
TRF Thorofare Moun 87.84 11 P 02 29 44.3
baz=204,SNR=21
NEW Newport 87.87 35 P 02 29 45.6
baz=233
BI02 San Fabin de 88.20 129 P **P** **02 29 47.2 +0.8**
BI02 IAmb IAmb 02 29 48.4
comp=Z,6.3nm,0.7s
BJI Beijing 88.29 315 P **P** **02 29 47.0 +0.5**
BJI sS **sS** **02 40 59.9 -2.6**
BJI pmax pmax
comp=Z,220nm,4.6s
BPAW Bear Paw Mtn. 88.32 11 P 02 29 46.0
baz=203
BPAW Bear Paw Mtn. 88.32 11 IAmb IAmb 02 29 47.0
comp=Z,23nm,1.4s
MCK McKinley 88.35 12 P 02 29 46.8
baz=205,SNR=8.8
MCK McKinley 88.35 12 P **P** **02 29 47.3 +1.0**
MCK pmax pmax
comp=Z,60nm,1.4s
MCK McKinley 88.35 12 P **P** **02 29 47.3 +1.0**
ENH Enshi 88.37 304 P **P** **02 29 47.1 0.0**
PAX Paxson 88.37 14 P 02 29 46.8
baz=208
PAX Paxson 88.37 14 IAmb IAmb 02 29 48.3
comp=Z,40nm,1.5s
S22A 4UR Ranch, Cre 88.38 48 P 02 29 49.7
baz=240,SNR=8.2
SEY Seymchan 88.47 346 P **P** **02 29 47.3 +0.5**
comp=Z,38nm,1.1s,baz=148,slow=5.4,SNR=83
SEY Seymchan 88.47 346 *d* P **P** **02 29 47.0 +0.2**
O20A White River Ci 88.63 45 P 02 29 50.0
baz=239
MENT Mentasta 88.73 14 IAmb IAmb 02 29 50.8
comp=Z,45nm,1.4s
MSO Missoula 88.77 37 P 02 29 50.3
baz=235
GYA Guiyang 88.93 299 *e*P **P** **02 29 50.9 +0.9**
GYA PP **PP** **02 33 20.4 -0.5**
GYA SKS **SKSac** **02 40 06.6 -5.7**
GYA S **SKKSac** **02 40 24.1 0.0**
GYA pmax pmax
comp=Z,15nm,0.7s
GYA pmax pmax
comp=Z,210nm,7.5s
LHMI Lhok Sumawe 89.00 276 P **P** **02 29 50.1 -0.4**
DLBC Dease Lake 89.05 22 P **P** **02 29 51.6 +1.9**
DLBC IAmb IAmb 02 29 53.1
comp=Z,30nm,1.5s
NEA2 Nenana 89.11 11 P 02 29 49.9
baz=205
NEA2 Nenana 89.11 11 IAmb IAmb 02 29 52.3
comp=Z,6.2nm,0.7s
BW06 Boulder Array 89.14 43 P 02 29 52.4
baz=238
PDAR Pinedale Array 89.15 43 P **P** **02 29 52.2 +1.5**
comp=Z,2.6nm,0.8s,baz=211,slow=3.2,SNR=22
PDAR PKKPbc **PKKPbc** **02 47 36.4 +7.0**
comp=Z,1.1nm,0.9s,baz=96,slow=3.0,SNR=6.9
PDAR Pinedale Array 89.15 43 P **P** **02 29 51.3 +0.5**
YHL Hebgen Lake 89.26 40 IAmb IAmb 02 29 55.4
comp=Z,24nm,1.3s
DOT Dot Lake 89.28 14 IAmb IAmb 02 29 53.6
comp=Z,24nm,1.0s
SDCO Great Sand Dun 89.29 48 P 02 29 53.7
baz=241,SNR=5.9
BCAR Beaver Creek A 89.30 15 P **P** **02 29 51.0 +0.2**
HDA Harding Lake 89.35 12 P 02 29 51.4
baz=207,SNR=16
HDA P 02 29 51.4
baz=207,SNR=16
BOZ Bozeman (W) 89.41 39 P 02 29 54.5
baz=237
BOZ Bozeman (W) 89.41 39 IAmb IAmb 02 29 55.4
comp=Z,9.2nm,0.8s
MSTX Muleshoe 89.47 53 P 02 29 54.1
baz=243
I23K Minto, Yukon-K 89.56 11 P 02 29 52.3
baz=205

I23K Minto, Yukon-K 89.56 11 IAmb IAmb 02 29 53.5
comp=Z,24nm,1.4s
SCRK Sand Creek 89.58 14 P 02 29 53.4
baz=210
SCRK Sand Creek 89.58 14 IAmb IAmb 02 29 54.7
comp=Z,25nm,1.3s
TCOL CIGO, UAF Yank 89.59 12 P 02 29 52.7
baz=206,SNR=9.2
COLA College 89.59 12 P 02 29 52.5
baz=206
COLA College 89.59 12 P **P** **02 29 52.4 +0.4**
COLA pmax pmax
comp=Z,30nm,0.9s
COLA College 89.59 12 P **P** **02 29 52.4 +0.4**
MDM Murphy Dome 89.60 12 IAmb IAmb 02 29 54.2
comp=Z,33nm,1.1s
IMAR Indian Mountai 89.63 9 P **P** **02 29 52.3 +0.1**
IL31 89.68 12 IAmb IAmb 02 29 54.2
comp=Z,35nm,1.3s
ILAR Eielson Array 89.68 12 P **P** **02 29 52.8 +0.3**
comp=Z,4.9nm,0.5s,baz=217,slow=5.2,SNR=90
ILAR pP **sP** **02 30 24.6 +0.3**
comp=Z,2.6nm,0.9s,baz=232,slow=3.1,SNR=2.5
ILAR PP **PP** **02 33 30.6 +4.6**
comp=Z,1.0nm,0.9s,baz=235,slow=5.8,SNR=4.1
ILAR PKKPbc **PKKPbc** **02 47 36.5 +7.8**
comp=Z,0.3nm,0.3s,baz=320,slow=2.8,SNR=6.8
ILAR PKPPKP 02 55 43.9
comp=Z,0.3nm,0.9s,baz=359,slow=3.2,SNR=4.2
ILAR LR LR 03 05 12.3
comp=Z,35nm,18.6s,baz=224,slow=32
ILAR Eielson Array 89.68 12 P **P** **02 29 52.9 +0.4**
POKR Poker Plat Res 89.89 12 P 02 29 54.0
baz=207,SNR=8.9
POKR Poker Plat Res 89.89 12 IAmb IAmb 02 29 55.5
comp=Z,12nm,0.6s
ZEA Zeya 89.96 330 *e*P **P** **02 29 54.9 +0.9**
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ISCO Idaho Springs 90.21 47 P 02 29 58.8
baz=241
XAN Xi'an 90.49 307 P **P** **02 29 56.8 -0.2**
XAN sP pwP 02 30 22.9 +0.4
XAN S **S** **02 40 45.0 -0.3**
XAN pmax pmax
comp=Z,25nm,1.2s
XAN LR LR
comp=Z,240nm,20.6s
XAN LR LR
comp=Z,230nm,19.5s
XAN LR LR
comp=Z,410nm,18.4s
XAN Xi'an 90.49 307 P **P** **02 29 57.3 +0.3**
XAN pmax pmax
comp=Z,24nm,1.1s
XAN Xi'an 90.49 307 P **P** **02 29 57.3 +0.3**
XAN IAmb IAmb 02 29 58.7
comp=Z,24nm,1.1s
RDOG Red Dog Mine 90.59 5 P 02 29 57.7
baz=192
RDOG Red Dog Mine 90.60 5 IAmb IAmb 02 30 00.8
comp=Z,12nm,1.2s
PRP Porcupine Dome 90.61 12 P 02 29 57.9
baz=208,SNR=16
PRP Porcupine Dome 90.61 12 IAmb IAmb 02 30 00.0
comp=Z,24nm,1.2s
AMTX Amarillo 90.69 52 IAmb IAmb 02 30 00.3
comp=Z,11nm,1.1s
AMTX Amarillo 90.69 52 P 02 29 59.6
baz=243
DAWY Dawson 90.72 15 IAmb IAmb 02 30 00.1
comp=Z,22nm,1.1s
EGAK Eagle 90.90 14 P 02 29 59.4
baz=212
HIA Hailar 91.07 324 *i* P **P** **02 29 59.4 0.0**
HIA pmax pmax
comp=Z,5.0nm,1.0s
ABTX Abilene, Hawle 91.21 55 P 02 30 02.5
baz=244
COLD Coldfoot 91.33 10 P 02 30 01.5
baz=204
COLD Coldfoot 91.33 10 IAmb IAmb 02 30 03.8
comp=Z,13nm,1.0s
KMI Kunming 91.59 296 ⇓P **P** **02 30 03.6 +1.0**
KMI pP pP 02 30 22.6 -2.4
KMI pmax pmax
comp=Z,17nm,1.2s
KMI pmax pmax
comp=Z,180nm,5.3s
LAMP Lampang 91.65 289 P **P** **02 30 04.5 +1.8**
comp=Z,0.2nmcomp=Z,44nm,1.0s
HHC Hu-ho-hao-te 91.75 314 *e*P **P** **02 30 04.6 +1.8**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,110nm,5.7s
435B Jarrell 92.02 58 IAmb IAmb 02 30 07.1
comp=Z,9.4nm,0.7s
CM36 Chiang Mai Arr 92.12 289 P **P** **02 30 05.0 +0.1**
CM35 Chiang Mai Arr 92.13 289 P **P** **02 30 05.0 +0.1**
CM04 Chiang Mai Arr 92.18 289 P **P** **02 30 06.7 +1.5**
comp=Z,0.1nmcomp=Z,233nmcomp=Z,29nm,1.1s
CM09 Chiang Mai Arr 92.18 289 P **P** **02 30 06.0 +0.8**
comp=Z,0.1nmcomp=Z,200nmcomp=Z,24nm,1.1s
CM34 Chiang Mai Arr 92.20 289 P **P** **02 30 06.0 +0.8**
CM01 Chiang Mai Arr 92.20 289 P **P** **02 30 07.0 +1.7**
comp=Z,0.1nmcomp=Z,190nmcomp=Z,23nm,1.0s
CM05 Chiang Mai Arr 92.21 289 P **P** **02 30 06.0 +0.7**
comp=Z,0.1nmcomp=Z,157nmcomp=Z,18nm,1.1s
CM02 Chiang Mai Arr 92.22 289 P **P** **02 30 07.0 +1.6**
comp=Z,0.1nmcomp=Z,185nmcomp=Z,23nm,1.1s
CM31 Chiang Mai Arr 92.23 289 P **P** **02 30 08.1 +2.7**
comp=Z,4.1nmcomp=Z,435nm,0.4s
CM31 Chiang Mai Arr 92.23 289 P **P** **02 30 06.2 +0.8**
CMAR Chiang Mai Arr 92.23 289 P **P** **02 30 06.6 +1.2**
comp=Z,16nm,0.9s,baz=125,slow=3.2,SNR=61
CMAR PP **PP** **02 33 48.9 +1.8**
comp=Z,1.2nm,0.4s,baz=125,slow=5.1,SNR=5.7
CMAR LR LR 03 10 10.5
comp=Z,96nm,21.1s,baz=177,slow=35
CMAR Chiang Mai Arr 92.23 289 *ce*P **P** **02 30 06.5 +1.2**
CMAR pmax pmax
comp=Z,15nm,1.0s
CMAR Chiang Mai Arr 92.23 289 P **P** **02 30 06.2 +0.8**
CM15 Chiang Mai Arr 92.25 289 P **P** **02 30 07.5 +2.1**
CM13 Chiang Mai Arr 92.25 289 P **P** **02 30 07.1 +1.6**
comp=Z,0.1nmcomp=Z,168nmcomp=Z,18nm,1.1s
CMMT Chiang Mai 92.36 289 P **P** **02 30 05.0 -1.0**
comp=Z,0.0nmcomp=Z,267nmcomp=Z,9.6nm,1.3s
CM33 Chiang Mai Arr 92.36 289 P **P** **02 30 06.0 0.0**
CHTO Chiang Mai 92.37 289 P **P** **02 30 06.4 +0.4**
CHTO pmax pmax
comp=Z,40nm,1.4s
CHTO Chiang Mai 92.37 289 P **P** **02 30 06.4 +0.4**
CM32 Chiang Mai Arr 92.39 289 P **P** **02 30 07.0 +0.9**
BMAR Burnt Mountain 92.48 12 P **P** **02 30 06.4 +0.9**
TOLK Toolik Lake Re 92.72 9 P 02 30 07.6
baz=205
TOLK Toolik Lake Re 92.72 9 IAmb IAmb 02 30 08.9
comp=Z,15nm,1.3s
WMOK Wichita Mounta 92.77 54 P 02 30 08.6
baz=245
MHMT Maesarieng 93.01 288 P **P** **02 30 10.3 +1.3**
comp=Z,0.1nmcomp=Z,3μmcomp=Z,23nm,1.2s
HKT Hockley 93.06 59 *i* P **P** **02 30 10.3 +1.4**
HKT pmax pmax
comp=Z,2.0nm,1.0s
CD2 Chengdu 93.11 302 P **P** **02 30 09.4 +0.2**
CD2 S **S** **02 41 10.4 +1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,210nm,13.3s
CD2 LR LR
comp=Z,380nm,16.8s
LAO LASA Array 93.18 40 P 02 30 11.8
baz=241
LAO LASA Array 93.19 40 IAmb IAmb 02 30 13.1
comp=Z,11nm,0.8s
EPYK Eagle Plains 93.26 15 P 02 30 10.8
baz=216
U32A Winter Ranch, 93.30 52 IAmb IAmb 02 30 13.8
comp=Z,13nm,0.8s
RSSD Black Hills 93.31 43 P 02 30 11.3
baz=242
RSSD Black Hills 93.31 43 P **P** **02 30 11.2 +1.2**
RSSD pmax pmax
comp=Z,14nm,0.7s
RSSD Black Hills 93.31 43 P **P** **02 30 11.2 +1.2**
NNA Nana 94.04 105 LR LR 03 03 30.8
comp=Z,275nm,19.2s,baz=239,slow=30
OK032 Salt Plains WL 94.06 52 IAmb IAmb 02 30 16.1
comp=Z,11nm,0.9s
ATAH Atahualpa 94.54 100 LR LR 03 04 59.0
comp=Z,251nm,18.4s,baz=247,slow=30
LZH Lanzhou 95.13 307 *e*P **P** **02 30 18.8 +0.2**
LZH pP pP 02 30 39.0 -2.0
LZH SKS **SKSac** **02 40 41.5 -5.3**
LZH S **S** **02 41 26.1 -0.6**
LZH SS **SS** **02 47 57.4 +2.2**
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,110nm,9.3s
LZH LR LR
comp=Z,230nm,17.0s
LZH LR LR
comp=Z,280nm,17.3s
LZH LR LR
comp=Z,230nm,18.4s
INK Inuvik 95.56 15 P **P** **02 30 19.7 +0.2**
comp=Z,14nm,1.3s,baz=248,slow=0.3,SNR=8.2
INK PKKPbc **PKKPdf** **02 47 20.9 +7.0**
comp=Z,0.7nm,0.6s,baz=11,slow=6.0,SNR=3.8
YKA Yellowknife Ar 97.44 24 P Pdif 02 30 29.0 +0.8
comp=Z,1.7nm,0.8s,baz=230,slow=3.9,SNR=22
YKA PKKPbc **PKKPbc** **02 47 05.8 -2.3**
comp=Z,0.3nm,0.7s,baz=61,slow=3.3,SNR=4.5
ECSD EROS Data Cent 97.98 46 P 02 30 33.2
baz=247,SNR=6.7
ECSD EROS Data Cent 97.98 46 P Pdif 02 30 32.2 +1.1
ECSD IAmb IAmb 02 30 33.8
comp=Z,11nm,1.2s
SONM Songino Array 98.15 318 P Pdif 02 30 33.2 +1.3
comp=Z,0.4nm,0.5s,baz=112,slow=2.2,SNR=3.9
SONM PP **PP** **02 34 29.5 -3.1**
comp=Z,2.1nm,1.0s,baz=114,slow=7.3,SNR=6.8
SONM Songino Array 98.15 318 P Pdif 02 30 33.2 +1.3
SONM pmax pmax
comp=Z,1.0nm,1.2s
SONM Songino Array 98.15 318 IAmb IAmb 02 30 37.9
comp=Z,1.3nm,1.2s
GTA Gaotai 99.35 309 ⇑P **Pdif** **02 30 37.8 +0.3**
GTA pP pP 02 30 54.8 -5.1
GTA sP pwP 02 31 01.0 -2.0
GTA PP **PP** **02 34 40.1 -1.8**
GTA S **S** **02 41 59.5 -3.0**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,6.9s
GTA LR LR
comp=Z,120nm,18.5s
GTA LR LR
comp=Z,230nm,18.5s
GTA LR LR
comp=Z,220nm,19.3s
LPAZ La Paz 99.89 112 P **Pdif** **02 30 41.5 +0.5**
comp=Z,0.8nm,0.7s,baz=198,slow=3.2,SNR=2.3
LPAZ PP **PP** **02 34 46.7 +0.1**
comp=Z,0.5nm,0.4s,baz=260,slow=7.5,SNR=4.3
TIXI Tiksi 100.87 345 *i* P **Pdif** **02 30 43.3 0.0**
ZALV Zalesovo Beam 112.89 321 PKiKP **PKiKP** **02 35 30.4 -0.8**
comp=Z,1.5nm,0.5s,baz=183,slow=2.6,SNR=10
MKAR Makanchi Array 113.59 313 PKiKP **PKiKP** **02 35 31.9 -0.9**
comp=Z,1.2nm,0.6s,baz=100,slow=1.1,SNR=15
MKAR PKKPbc **PKKPbc** **02 46 17.9 +0.2**
comp=Z,0.4nm,0.6s,baz=247,slow=3.4,SNR=5.5
SHLS Shalkode 115.09 308 *e*PKP **PKPdf** **02 35 34.2 -1.7**
baz=309
SHLS Shalkode 115.09 308 *e*PKIKP **PKPdf** **02 35 34.2 -1.7**
UZB Uzunbulak 115.41 308 *e*PKP **PKPdf** **02 35 35.5 -1.1**
baz=308
UZB Uzunbulak 115.41 308 *e*PKIKP **PKPdf** **02 35 35.5 -1.1**
KPKS Kokpek 115.69 309 *e*PKP **PKPdf** **02 35 35.9 -1.2**
baz=309
KPKS Kokpek 115.69 309 *e*PKIKP **PKPdf** **02 35 35.8 -1.3**
SATY Saty 115.84 308 *e*PKP **PKPdf** **02 35 36.4 -1.1**
baz=308
SATY *e*PP **PP** **02 36 40.0 -2.4**
baz=308
SATY Saty 115.84 308 *e*PKIKP **PKPdf** **02 35 36.3 -1.1**
SATY *e* 02 36 40.0
MDOK Medeo 116.84 308 *e*PKP **PKPdf** **02 35 38.2 -1.2**
baz=308
MDOK *e*PP **PP** **02 36 46.5 -2.9**
baz=308
MDOK Medeo 116.84 308 *e*PKIKP **PKPdf** **02 35 38.1 -1.2**
MDOK *e* 02 36 46.4
KUU Kurty 117.43 309 *e*PKP **PKPdf** **02 35 38.7 -1.6**
baz=309
KUU Kurty 117.43 309 *e*PKIKP **PKPdf** **02 35 38.7 -1.6**
DLPL La Plaine 118.48 84 PKPdf **PKPdf** **02 35 42.0 -1.0**
AAK Ala-Archa 118.66 307 *c* *i* PKIKP **PKiKP** **02 35 43.2 +0.3**
AAK pmax pmax
comp=Z,14nm,1.3s
AAK Ala-Archa 118.66 307 PKPdf **PKPdf** **02 35 42.7 -0.2**
BTLS Baital 119.15 310 *e*PKP **PKPdf** **02 35 42.4 -1.1**
baz=310
BTLS Baital 119.15 310 *e*PKIKP **PKPdf** **02 35 42.3 -1.2**
BRVK Borovoye 121.54 319 PKIKP **PKPdf** **02 35 47.7 -0.2**
BRVK Borovoye 121.54 319 PKPdf **PKPdf** **02 35 47.7 -0.2**
KK31 Karatay Array 121.61 308 PKIKP **PKPdf** **02 35 48.1 -0.3**
KK31 Karatay Array 121.61 308 PKPdf **PKPdf** **02 35 48.1 -0.3**
KKAR Karatay Array 121.61 308 PKIKP **PKPdf** **02 35 48.1 -0.3**
KKAR Karatay Array 121.61 308 **PKPdf** **02 35 48.1 -0.3**
IUG Iuzhnay 121.94 307 *e*PKP **PKPdf** **02 35 48.3 -0.8**
baz=307
IUG *e*PP **PP** **02 37 22.3 -2.1**
baz=307
IUG Iuzhnay 121.94 307 *e*PKIKP **PKPdf** **02 35 48.3 -0.8**
IUG *e* 02 37 22.3
KBL Kabul 122.16 298 PKIKP **PKPdf** **02 35 49.7 -0.2**
KBL Kabul 122.16 298 PKPdf **PKPdf** **02 35 49.7 -0.2**
SUR Sutherland 123.26 197 PKP **PKiKP** **02 35 52.4 0.0**
comp=Z,7.5nm,0.9s,baz=310,slow=5.7,SNR=8.7
SPA0 Spitsbergen Ar 123.72 357 *e*PKPdf **PKiKP** **02 35 52.2 +0.5**
SUMG Summit 124.47 14 *i* P **PKiKP** **02 35 54.5 +0.7**
comp=Z,10nm,1.0s
SUMG Summit 124.47 14 *i* PKIKP **PKiKP** **02 35 54.5 +0.7**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 124.47 14 *i* P **PKiKP** **02 35 54.5 +0.7**
SUMG IAmb IAmb 02 35 55.6
comp=Z,10nm,1.0s
BOSA Boshof 125.32 203 PKP **PKPdf** **02 35 56.0 -0.1**
comp=Z,2.2nm,0.6s,baz=171,slow=0.4,SNR=6.2
ARU Arti 127.58 325 *i* PKIKP **PKiKP** **02 35 59.6 -0.3**
ARU 02 37 56.9
ARU 02 43 04.3
ARU PS **PS** **02 47 56.3 -12**
ARU SSS SSS 02 59 46.9
ARU Arti 127.58 325 PKPdf **PKPdf** **02 35 59.5 +0.2**
HRA Herat 127.74 297 PKPdf **PKPdf** **02 36 00.7 +0.1**
ABKAR Akbulak array 128.48 316 PKPdf **PKPdf** **02 36 00.9 -0.4**
HAMF Hammerfest 130.21 351 *e*PKPdf **PKiKP** **02 36 04.6 -0.2**
ARCES ARCESS Array B 130.94 350 PKiKP PKPpre 02 35 58.0
comp=Z,4.9nm,1.0s,baz=101,slow=1.2,SNR=6.4
ARCES PKP **PKiKP** **02 36 06.8 +0.5**
comp=Z,3.1nm,0.4s,baz=71,slow=1.2,SNR=14
GEYT Alibeck 131.10 301 PKP **PKiKP** **02 36 08.7 +1.1**
comp=Z,2.5nm,0.7s,baz=90,slow=0.6,SNR=4.6
GEYT SKPbc **SKPbc** **02 39 21.3 -2.3**
comp=Z,12nm,1.2s,baz=116,slow=3.4,SNR=10
GYA0B ALIBECK ARRAY 131.10 301 PKPdf **PKPdf** **02 36 06.6 -0.1**
MATP Matopo 131.16 211 PKP **PKPdf** **02 36 07.6 +0.1**
comp=Z,3.5nm,1.0s,baz=194,slow=3.0,SNR=6.2
MATP SKPbc **SKPbc** **02 39 22.5 -2.1**
comp=Z,19nm,1.1s,baz=160,slow=4.5,SNR=12
SOCY Socotra 131.17 267 PKPdf **PKPdf** **02 36 07.4 -0.1**
KIRV Kirov 131.30 330 *c* *i* PKIKP **PKiKP** **02 36 08.1 +0.9**
PRGR Permogore 131.33 335 *e*PKIKP **PKPdf** **02 36 05.7 -0.6**
PRGR pmax pmax
comp=Z,9.0nm,0.9s
TRO Tromso 131.75 353 *e*PKPdf **PKiKP** **02 36 07.7 -0.2**
KTK1 Kautokeino 131.77 351 *e*PKPdf **PKiKP** **02 36 07.8 -0.2**
UOSS Minazif 132.10 284 PKPdf **PKiKP** **02 36 09.5 -0.5**
N2IH Innhavet 133.68 354 *e*PKPdf **PKiKP** **02 36 11.4 -0.4**
STEI Steigen 133.78 354 *e*PKPdf **PKiKP** **02 36 11.9 -0.1**
KLMR Klimovskoe 134.15 336 *e*PKPdf **PKiKP** **02 36 09.8 -1.8**
KLMR pmax pmax
comp=Z,19nm,1.1s

KLMR **Klimovskoe** 134.15 336 *e*PKPdf **PKPdf** 02 36 09.8 -1.8
KLMR AMP 02 36 16.8
comp=Z,19nm,1.1s
KLMR *e*SKPbc **SKPbc** 02 39 29.5 -3.9
FAUS Fauske 134.31 354 *e*PKPdf **PKPdf** 02 36 11.0 -0.7
NBB28 Valnes 134.57 354 *e*PKPdf **PKiKP** 02 36 13.1 -0.5
NBB29 Rokland skole 134.68 354 *e*PKPdf **PKPdf** 02 36 13.2 +0.7
NBB05 Inndyr 134.76 354 *e*PKPdf **PKiKP** 02 36 13.7 -0.3
BELG Belogornoye 134.99 323 *i* PKIKP **PKiKP** 02 36 14.4 -0.5
LSZ Lusaka 135.66 215 PKP **PKiKP** 02 36 16.9 -0.7
comp=Z,3.4nm,0.7s,baz=169,slow=4.0,SNR=8.2
LSZ Lusaka 135.66 215 **PKPdf** 02 36 16.2 +0.2
VALR Valaam 136.66 341 *i* PKIKP **PKiKP** 02 36 17.6 -0.4
NSS Namsos 137.41 355 *e*PKPdf **PKPdf** 02 36 13.1 -4.5
FIA1 FINESS Array S 137.91 344 **PKPdf** 02 36 18.3 -0.3
FINES FINESS Array B 137.92 344 PKhKP PKPpre 02 36 08.7
comp=Z,2.1nm,0.5s,baz=46,slow=2.9,SNR=23
FINES PKP **PKPdf** 02 36 18.9 +0.3
comp=Z,4.2nm,0.5s,baz=91,slow=4.0,SNR=19
FINES SKPbc **SKPbc** 02 39 43.7 -1.2
comp=Z,3.5nm,0.9s,baz=127,slow=1.0,SNR=4.3
FINES FINESS Array B 137.92 344 PKPdf **PKPdf** 02 36 18.2 -0.4
MOS Moscow 138.22 332 *e*PKIKP **PKPdf** 02 36 18.4 -0.9
VRH Novokhopyorsk 138.79 324 *e*PKIKP **PKPdf** 02 36 19.8 -0.7
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 139.08 332⇓ *e*PKIKP **PKPdf** 02 36 20.6 -0.3
OBN *e* 02 36 42.0
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,141nm,16.0s
LPSR Galich'ya Gora 139.50 327 *e*PKIKP **PKPdf** 02 36 20.6 -1.2
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KMBO Kilima Mbogo 139.89 239 PKhKP PKPpre 02 36 16.1
comp=Z,1.8nm,0.8s,baz=71,slow=5.4,SNR=8.2
KMBO PKP **PKPdf** 02 36 24.3 +0.2
comp=Z,5.1nm,0.9s,baz=46,slow=1.8,SNR=16
KMBO SKPbc **SKPbc** 02 39 52.3 0.0
comp=Z,1.3nm,0.8s,baz=177,slow=5.8,SNR=3.4
AKN Aaknes 140.06 358 *e*PKPdf **PKPdf** 02 36 19.4 -3.1
DOMB Dombas 140.09 356 *e*PKPdf **PKPdf** 02 36 20.9 -1.7
VSR Storozhevoye 140.15 325 *e*PKIKP **PKPdf** 02 36 22.6 -0.4
VSR pmax pmax
comp=Z,20nm,1.3s
VORD Divnogorie 140.22 325 *e*PKIKP **PKiKP** 02 36 24.7 -0.9
VORD pmax pmax
comp=Z,10.0nm,1.5s
VSU Vasula 140.24 341 *e*P **PKPdf** 02 36 17.4 -5.5
AAL Aland 140.43 347 *e*P **PKPdf** 02 36 16.2 -7.0
FOO Floro 140.69 359 *e*PKPdf **PKPdf** 02 36 21.5 -2.2
MTSE Matsula 140.85 344 *e*P **PKPdf** 02 36 18.3 -5.7
NB2 NORSAR Subarra 140.91 354 PKP **PKPdf** 02 36 17.3 -6.9
comp=Z,1.8nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 140.91 354 PKhKP PKPpre 02 36 17.1
comp=Z,0.7nm,0.6s,baz=20,slow=1.7,SNR=30
ZEI Tsey 140.91 311 *i* PKHKP PKPpre 02 36 17.7
ZEI pmax pmax
comp=Z,4.0nm,1.2s
NC602 NORSAR Array S 141.18 354 *e*PKPdf **PKPdf** 02 36 18.2 -6.4
UPP Uppsala 141.18 349 *e*P **PKPdf** 02 36 18.7 -5.8
SUE Sulen 141.24 359 *e*PKPdf **PKPdf** 02 36 20.8 -3.8
KBZ Khabaz 141.29 313 PKHKP PKPpre 02 36 18.9
comp=Z,1.2nm,0.5s,baz=210,slow=8.8,SNR=7.3
KIV Kislovodsk 141.35 313 *i* PKIKP **PKiKP** 02 36 27.4 -1.0
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,434nm,24.0s
SKAR Skarslia 141.49 356 *e*PKPdf **PKPdf** 02 36 24.2 -1.0
RAYN Ar Rayn 141.61 280 PKIKP **PKPdf** 02 36 25.6 -1.0
RAYN Ar Rayn 141.61 280 PKPdf **PKPdf** 02 36 25.6 -1.0
AKH Akhalkalaki 141.63 309 ⇑P **PKPdf** 02 36 21.2 -5.0
ASK Askoy 141.81 359 *e*PKPdf **PKPdf** 02 36 23.5 -2.2
BER Bergen 141.90 359 *e*PKPdf **PKPdf** 02 36 23.8 -2.1
CLDR Calderan 141.94 306 *e*P **PKPdf** 02 36 22.2 -4.8
OSL Oslo 142.04 354 *e*PKPdf **PKPdf** 02 36 22.3 -3.8
SLIT Slitere, Latvi 142.19 344 *e*P **PKPdf** 02 36 22.9 -3.6
ODD1 Odda 142.34 358 *e*PKPdf **PKPdf** 02 36 23.2 -3.6
KONO Kongsberg 142.42 355 *e*PKPdf **PKPdf** 02 36 23.0 -3.9
AGRB Hanur-Agry 142.52 307 *e*P **PKPdf** 02 36 24.4 -3.5
CUKT Cukurca 142.60 303 *e*P **PKPdf** 02 36 22.6 -5.5
SENK Senkaya-Erzuru 142.71 308 *e*P **PKPdf** 02 36 25.2 -3.1
GEVA Gevas 142.79 304 PKPdf **PKPdf** 02 36 26.0 -2.5
ISAL Salakas 142.81 339 *e*P **PKPdf** 02 36 24.6 -3.0
IDID Didziasalis 142.81 338 *e*P **PKPdf** 02 36 24.3 -3.3
BLS5 Blasjo 142.83 358 *e*PKPdf **PKPdf** 02 36 25.9 -1.7
AKDM Akdamar-Van 142.84 305 *e*P **PKPdf** 02 36 25.4 -3.1
IIGN Ignalina 142.96 339 *e*P **PKPdf** 02 36 24.6 -3.3
MLAZ Malazgirt-MUS 142.96 306 *e*P **PKPdf** 02 36 26.0 -2.7
MNK Minsk 143.04 337 *i* PKP **PKPdf** 02 36 24.2 -3.9
comp=E,1.0nm,0.9s
MNK *i* PKP **PKPdf** 02 36 24.2 -3.9
comp=N,5.0nm,0.9s
MNK *i* PKP **PKPdf** 02 36 24.2 -3.9
comp=Z,13nm,0.9s
MNK *i* pPKP **pPKPdf** 02 36 46.8 -4.8
MNK *i* sPKP 02 36 54.5
MNK *i* PP PP 02 38 44.4 -54
MNK *i* SKP 02 39 21.2
MNK *i* PKS 02 39 43.1
MNK *i* PPP PPP 02 41 52.3
MNK *i* SKS SKSdf 02 43 52.5 +23
MNK *i* SKKS **SKKSdf** 02 52 42.9 -5.3
MNK *i* SPP SPP 02 56 15.3
MNK *i* PPS PPS 02 56 50.1
MNK *i* SS SS 02 57 58.3 -12
MNK *i* SSS SSS 03 02 33.6
MNK *i* LQ LQ 03 21 21.0
MNK *i* LR LR 03 26 01.3
MNK *i* LRM MLR 03 39 51.8
comp=E,10.0nm,20.4s
MNK *i* LRM MLR 03 39 51.8
comp=N,203nm,20.6s
MNK *i* LRM MLR 03 40 06.2
comp=Z,73nm,19.7s
KMY Karmoy 143.08 359 *e*PKPdf PKPbc 02 36 25.8 +0.7
NACGM Naroch 143.12 338 *i* PKP PKPbc 02 36 24.8 -0.5
NACGM *i* PKP PKPbc 02 36 24.8 -0.5
NACGM *i* PKP PKPbc 02 36 24.8 -0.5
NACGM *i* PP **PP** 02 39 38.6 -0.1
NACGM *i* PPP PPP 02 42 36.7
NACGM *i* SKS SKSdf 02 43 52.6 +23
NACGM *i* SKKS **SKKSac** 02 46 24.1 +0.3
NACGM *i* PS 02 49 55.7
NACGM *i* SS SS 02 58 50.0 +39
NACGM *i* SSS SSS 03 03 45.6
NACGM *i* LR LR 03 14 22.8
GURO Guroymak-BITLI 143.51 305 *e*P PKPbc 02 36 27.6 +0.4
PABE Paberze 143.55 341 *e*P PKPbc 02 36 26.5 0.0
PBUR Paburge 143.70 343 *e*P PKPbc 02 36 26.8 -0.1
VRTB Varto-Mus 143.78 306 *e*P **PKPdf** 02 36 29.1 -1.0
HOMB Homborsund 143.87 356 *e*PKPdf PKPbc 02 36 27.8 +0.5
HOMB Homborsund 143.87 356 *i* P PKPbc 02 36 27.5 +0.1
SNART Snartemo 143.88 357 *e*PKPdf **PKPdf** 02 36 28.7 -0.7
FURI Furi 143.93 254 **PKPdf** 02 36 30.4 -0.9
KARO Karliova-Bingo 144.03 307 *e*P PKPbc 02 36 29.2 +0.4
H10S3 ASCENSION HYDR 144.10 148 T T 05 17 59.0
baz=207,slow=74,SNR=8.1
H10S2 ASCENSION HYDR 144.11 148 T T 05 18 00.5
baz=13,slow=74,SNR=2.9
SVAN Silvan-Diyarba 144.25 305 *e*P PKPbc 02 36 29.5 +0.2
YEDI Yedisu-Bingol 144.37 307 *e*P PKPbc 02 36 30.0 +0.2
BNGB Bingl 144.40 306 *e*P PKPbc 02 36 30.2 +0.4
KTUT Trabzon 144.43 310 ⇑P PKPbc 02 36 30.1 +0.4
KTUT Trabzon 144.43 310 *e*P PKPbc 02 36 30.2 +0.6
MARD Mardin 144.78 304 PKPdf PKPbc 02 36 31.3 +0.2
SUW Suwalki 145.06 340 *e*PKP **PKPab** 02 36 31.4 +0.1
SUW Suwalki 145.06 340 *e*P **PKPab** 02 36 31.4 +0.1
H10N3 ASCENSION HYDR 145.14 147 T T 05 19 32.3
baz=206,slow=75,SNR=10
H10N1 ASCENSION HYDR 145.15 147 T T 05 19 17.4
baz=206,slow=75,SNR=14
H10N2 ASCENSION HYDR 145.16 147 T T 05 19 14.6
baz=206,slow=75,SNR=8.9
MBAR Mbarara 145.22 233 PKPbc **PKPdf** 02 36 34.2 +0.8
comp=Z,64nm,0.9s,baz=110,slow=3.5,SNR=64
MBAR Mbarara 145.22 233 *c* PKIKP **PKPdf** 02 36 34.4 +1.0
MBAR pmax pmax
comp=Z,112nm,1.3s
MBAR Mbarara 145.22 233 **PKPdf** 02 36 33.7 +0.3
AKASG Malin Array Be 145.34 331 PKPbc **PKPbc** 02 36 31.6 -0.6
comp=Z,72nm,0.7s,baz=41,slow=4.3,SNR=334
AKASG pPKPbc **sPKPdf** 02 37 04.1 -0.5
comp=Z,11nm,0.6s,baz=40,slow=4.3,SNR=2.1
AKASG PP **PP** 02 39 54.1 +1.8
comp=Z,0.2nm,0.3s,baz=38,slow=4.9,SNR=4.2
AKASG Malin Array Be 145.34 331 **PKPbc** 02 36 31.4 -0.8
MUD Monsted U'grnd 145.62 355⇓ *i* P **PKPbc** 02 36 33.0 +0.2
comp=Z,29nm,0.8s
MUD Monsted U'grnd 145.62 355⇓ *i* PKP2 **PKPbc** 02 36 33.0 +0.2
MUD pmax pmax
comp=Z,29nm,0.8s
MUD Monsted U'grnd 145.62 355⇓ *i* P **PKPbc** 02 36 33.1 +0.2
MUD IAmb IAmb 02 36 36.4
comp=Z,29nm,0.8s
ILIC ilic-Erzincan 145.81 308 *e*P **PKPab** 02 36 35.5 +0.7
BSD Bornholm Skovb 146.15 348 *i* P **PKPbc** 02 36 34.5 0.0
comp=Z,33nm,0.6s
BSD Bornholm Skovb 146.15 348 *e*P **PKPdf** 02 36 33.1 -0.4
BSD Bornholm Skovb 146.15 348 *i* PKP2 **PKPbc** 02 36 34.5 0.0
BSD pmax pmax
comp=Z,33nm,0.6s
BSD Bornholm Skovb 146.15 348 *i* P **PKPbc** 02 36 34.5 0.0
BSD IAmb IAmb 02 36 36.6
comp=Z,33nm,0.6s
URFA Urfa 146.25 305 *e*P **PKPbc** 02 36 35.4 -0.2
MALT Malatya 146.29 306 *e*P **PKPab** 02 36 36.6 0.0
RSDY Resadiye-TOKAT 146.37 310 *e*P **PKPab** 02 36 36.7 0.0
SIM Simferopol' 146.39 320 *e*PKIKP **PKPdf** 02 36 34.3 +0.1
SIM pmax pmax
comp=Z,93nm,0.7s
ESK Eskdalemuir 146.59 7 PKP2 **PKPbc** 02 36 36.2 +0.3
ESK Eskdalemuir 146.59 7 **PKPbc** 02 36 36.2 +0.3
SVSK Karacayir 146.78 310 *e*P **PKPab** 02 36 38.2 -0.1
DARE Darende-Malaty 146.91 307 *e*P **PKPab** 02 36 38.6 -0.4
TOKT Tokat 146.95 311 *e*P **PKPbc** 02 36 37.8 +0.3
KVT Kavak 146.99 312 *e*P **PKPab** 02 36 38.4 -0.8
SNOP Sinop 147.15 314 *e*P **PKPbc** 02 36 38.5 +0.6
DIKM Dikmen 147.28 314 ⇑P **PKPdf** 02 36 34.6 -1.2
DIKM Dikmen 147.28 314 *e*P **PKPbc** 02 36 38.8 +0.6
GKP Gorka Klasztor 147.38 345 *e*PKP **PKPbc** 02 36 38.6 +0.5
GKP Gorka Klasztor 147.38 345 *e*P **PKPbc** 02 36 38.4 +0.3
SORM Soroca 147.56 329 ⇓P **PKPdf** 02 36 37.2 +1.2
SORM Soroca 147.56 329 ⇓PKIKP **PKPdf** 02 36 37.2 +1.2
GAZ Gaziantep 147.56 305 *e*P **PKPbc** 02 36 39.9 +0.6
GAZ Gaziantep 147.56 305 PKPbc **PKPbc** 02 36 39.1 -0.2
BEL Belsk 147.67 340 *e*PKP **PKPbc** 02 36 39.9 +0.9
KMRS Kahramanmaras 147.69 306 *e*P **PKPbc** 02 36 40.1 +0.5
BZK Bozkurt 147.97 315 ⇓P **PKiKP** 02 36 41.1 -0.8
BZK Bozkurt 147.97 315 *e*P **PKPbc** 02 36 40.7 +0.6
BSEG Bad Segeberg 147.99 353 *e*PKPbc **PKiKP** 02 36 40.9 -0.6
baz=13,slow=2.3
BNN Bunyan 148.01 308 *e*P **PKPbc** 02 36 39.8 -0.7
LVV L'vov 148.20 335 *e*PKP2 **PKPbc** 02 36 40.3 -0.1
CORM Corum 148.34 311 *e*P **PKPbc** 02 36 41.3 0.0
KOZT Kozan 148.50 306 *e*P **PKPbc** 02 36 42.1 +0.4
TAHT Tahtakopru-Hat 148.58 304 *e*P **PKiKP** 02 36 42.7 -0.7
IAS Iasi 148.59 328 ⇑P **PKPbc** 02 36 41.5 -0.1
IAS Iasi 148.59 328 ⇑PKP2 **PKPbc** 02 36 41.5 -0.1
CEYT Ceyhan 148.72 305 *e*P **PKiKP** 02 36 42.9 -0.7
CANT Cankiri 148.85 313 *e*P **PKPbc** 02 36 43.1 +0.6
KWP Kalwaria Pacla 148.86 336 *e*PKP **PKPbc** 02 36 42.7 +0.6
KWP Kalwaria Pacla 148.86 336 PKP2 **PKiKP** 02 36 43.7 +0.2
KWP Kalwaria Pacla 148.86 336 **PKPdf** 02 36 38.6 +0.4
KWP PKPbc **PKiKP** 02 36 43.7 +0.2
RUE Ruedersdorf 148.87 348 *e*PKPbc **PKiKP** 02 36 43.1 -0.3
baz=13,slow=2.3
PRAR RASCA 149.12 330 ⇑P **PKiKP** 02 36 43.6 -0.5
KRTS Karatas 149.14 305 *e*P **PKiKP** 02 36 44.1 -0.4
KARA Karaisali 149.16 306 *e*P **PKPbc** 02 36 43.7 +0.4
BRTR Keskin Array B 149.23 311 PKP **PKPdf** 02 36 38.6 -0.7
comp=Z,14nm,0.6s,baz=46,slow=1.4,SNR=68
BRTR PKPbc **PKPbc** 02 36 43.6 0.0
comp=Z,15nm,0.6s,baz=139,slow=3.9,SNR=54
BRTR pPKPbc **sPKPab** 02 37 17.2 -2.6
comp=Z,9.9nm,0.7s,baz=151,slow=3.9,SNR=4.4
BRTR Keskin Array B 149.23 311 PKPdf **PKPdf** 02 36 38.4 -0.9
BRTR PKPbc **PKPbc** 02 36 43.9 +0.3
KAMT Kaman 149.33 311 *e*P **PKPbc** 02 36 43.8 0.0
OJC Ojcow 149.38 340 *e*PKP **PKPbc** 02 36 43.9 +0.5
OJC Ojcow 149.38 340 PKP2 **PKPbc** 02 36 43.9 +0.5
OJC Ojcow 149.38 340 **PKPbc** 02 36 43.9 +0.5
BURAR Bucovina Array 149.39 331 ⇑P **PKiKP** 02 36 45.6 +0.8
BURAR Bucovina Array 149.39 331 ⇑PKP2 **PKiKP** 02 36 45.6 +0.8
BURAR Bucovina Array 149.39 331 PKPdf **PKPdf** 02 36 39.4 +0.2
BURAR PKPbc **PKiKP** 02 36 45.3 +0.5
NRDL Niedersach Rie 149.43 352 *e*PKPbc **PKiKP** 02 36 44.5 +0.1
baz=13,slow=2.3
FLTG Flechtingen 149.44 351 *e*PKPbc **PKiKP** 02 36 44.3 -0.3
baz=13,slow=2.3
BIZ Bicz 149.48 329 ⇓P **PKPbc** 02 36 41.6 -2.2
TESR Tescani 149.52 328 ⇑P **PKPbc** 02 36 43.8 -0.1
KOLS Kolonicke sedl 149.59 336 *e*PKHKP PKPpre 02 36 40.0
KOLS *e* 02 36 45.1
KOLS Kolonicke sedl 149.59 336 *e*PKP **PKPdf** 02 36 39.9 +0.5
KOLS *e* 02 36 45.1
SERE Sereflikochisa 149.61 310 *e*P **PKPbc** 02 36 44.5 0.0
CFR Carcaliu 149.66 325 ⇑P **PKPdf** 02 36 37.5 -2.1
CFR Carcaliu 149.66 325 ⇑PKIKP **PKPdf** 02 36 37.5 -2.1
BHL Bhannes 149.68 299 *e*P **PKiKP** 02 36 45.3 -0.5
ASSE Asse, Remlinge 149.72 352 *e*PKPbc **PKiKP** 02 36 45.4 +0.3
baz=13,slow=2.3
TPGR Topolog 149.72 324 ⇑P **PKiKP** 02 36 45.2 -0.2
QRWL Qaraoun 149.74 299 *e*P **PKiKP** 02 36 45.5 -0.4
AFSR Afar-Bala (An 149.74 311 *e*P **PKPbc** 02 36 44.3 -0.5
LOD Lodumlu 149.76 312 *e*P **PKPbc** 02 36 44.3 -0.5
BR231 Keskin MP Arra 149.77 312 **PKiKP** 02 36 45.5 -0.3
DQRL Deir Qamar 149.79 299 *e*P **PKiKP** 02 36 45.8 -0.3
UZH Uzhgorod 149.83 335 *e*PKHKP PKPpre 02 36 43.0
KSP Ksiaz 149.84 344 *e*PKP **PKiKP** 02 36 45.5 +0.1
IBBN Ibbenburen 149.86 355 *e*PKPdf **PKPdf** 02 36 41.0 +1.4
baz=13,slow=1.5
IBBN *e*PKPbc **PKiKP** 02 36 45.7 +0.3
baz=13,slow=2.3
IBBN *e*PKPab **PKPab** 02 36 51.6 +1.4
baz=13,slow=4.3
NIE Niedzica 149.91 338 *e*PKP **PKiKP** 02 36 45.9 +0.2
CRVS Cervenica-Dubn 149.92 336 *e*PKHKP PKPpre 02 36 40.5
CRVS Cervenica-Dubn 149.92 336 *e*PKP **PKPdf** 02 36 40.5 +0.6
CRVS *e* 02 36 45.6
VRI Vrincioaia 149.93 327 ⇑P **PKPbc** 02 36 45.4 +0.4
VRI Vrincioaia 149.93 327 ⇑PKP2 **PKPbc** 02 36 45.4 +0.4
YESY Yesilyurt 149.94 308 *e*P **PKPbc** 02 36 44.9 -0.5
SULT Sultanhani-AKS 149.94 309 *e*P **PKPbc** 02 36 44.9 -0.4
PLOR Plostina 149.98 327 ⇓P **PKPbc** 02 36 44.9 -0.2
PLOR Plostina 149.98 327 ⇓PKP2 **PKPbc** 02 36 44.9 -0.2
CLZ Clausthal 150.04 352 *e*PKPdf **PKPdf** 02 36 41.5 +1.5
baz=13,slow=1.5
CLZ *e*PKPbc **PKiKP** 02 36 46.3 +0.4
baz=13,slow=2.3
HARR Harsova 150.09 324 ⇓P **PKiKP** 02 36 45.9 -0.3
HARR Harsova 150.09 324 ⇓PKP2 **PKiKP** 02 36 45.9 -0.3
KIZK Mersin 150.11 305 *e*P **PKPbc** 02 36 45.8 +0.1
OSTC Ostas 150.12 344 *e*PKPDF **PKPdf** 02 36 41.2 +1.0
OSTC ⇑*e*PKP **PKiKP** 02 36 46.0 -0.1
OSTC *e*PKPAB **PKPab** 02 36 52.7 +1.3
CLL Collm 150.13 348 *e*PKPdf **PKPdf** 02 36 41.0 +0.9
CLL ⇓*i*PKPbc **PKiKP** 02 36 45.8 -0.2
comp=Z,78nm,1.1s
CLL *i* PKPab **PKPab** 02 36 51.7 +0.3
comp=Z,97nm,1.2s
CLL *i* pPKPab **sPKPbc** 02 37 19.0 +1.5
CLL L L 03 33 00.0
comp=Z,200nm,21.2s
CLL Collm 150.13 348⇓ *i*PKP2 **PKiKP** 02 36 45.8 -0.2
CLL pmax pmax
comp=Z,78nm,1.1s
CLL Collm 150.13 348 *e*PKPbc **PKiKP** 02 36 46.3 +0.2
baz=13,slow=2.3
CLL *e*PKPab **PKPab** 02 36 52.2 +0.8
baz=13,slow=4.3
CHVC Chvalec 150.14 344 *e*PKPDF **PKPdf** 02 36 41.0 +0.8
CHVC ⇑*e*PKP **PKiKP** 02 36 46.2 +0.1
ARCR ARCALIA 150.18 331 ⇓P **PKPbc** 02 36 45.8 +0.3
UPC Upice 150.22 344 *e*PKIKP **PKiKP** 02 36 46.2 -0.1
UPC *e* 02 36 52.2
UPC Upice 150.22 344⇑ *e*PKP **PKiKP** 02 36 46.2 -0.1
UPC *e*PKPAB **PKPab** 02 36 52.2 +0.4
OZUR 150.24 328 ⇑P **PKiKP** 02 36 46.7 +0.2
MANR Mangalia 150.28 322 ⇓P **PKiKP** 02 36 46.8 +0.2
DPC Dobruska-Polom 150.28 344 *e*PKIKP **PKPdf** 02 36 41.6 +1.1
DPC Dobruska-Polom 150.28 344 *e*PKPDF **PKPdf** 02 36 41.6 +1.1
DPC ⇑*e*PKP **PKiKP** 02 36 46.9 +0.4
DPC *e*PKPAB **PKPab** 02 36 53.4 +1.3
SILI Silifke-Mersin 150.31 305 *e*P **PKPbc** 02 36 46.1 0.0
BRG Berggiesshubel 150.36 347 *e*PKPdf **PKPdf** 02 36 41.9 +1.4
baz=13,slow=1.5
BRG *e*PKPbc **PKiKP** 02 36 47.0 +0.5
baz=13,slow=2.3
BRG *e*PKPab **PKPab** 02 36 53.4 +1.0
baz=13,slow=4.3
BRG Berggiesshubel 150.36 347⇓ *e*PKPf 02 36 41.5
BRG Berggiesshubel 150.36 347 Amp 02 36 43.0
comp=Z,27nm,1.6s
BRG Berggiesshubel 150.36 347⇑ *i*PKP **PKiKP** 02 36 46.5 -0.1
BRG Berggiesshubel 150.36 347 Amp 02 36 47.9
comp=Z,51nm,1.1s
BRG Berggiesshubel 150.36 347 *i* PKPab **PKPab** 02 36 53.1 +0.7
BRG Berggiesshubel 150.36 347 Amp 02 36 54.4
comp=Z,40nm,1.0s
BRG Berggiesshubel 150.36 347 *e*x x 02 37 19.6
BRG Berggiesshubel 150.36 347 Amp 02 37 21.4
comp=Z,22nm,1.1s
GTTG Gottingen 150.38 352 *e*PKPbc **PKiKP** 02 36 46.9 +0.4
baz=13,slow=2.3
EREN Erenkoy 150.40 303 *e*P **PKiKP** 02 36 46.8 -0.3
KRLC Kraliky 150.41 343 *e*PKIKP **PKPdf** 02 36 41.2 +0.5
KRLC Kraliky 150.41 343 *e*PKPDF **PKPdf** 02 36 41.2 +0.5
KRLC ⇑*e*PKP **PKiKP** 02 36 46.5 -0.2
KRLC *e*PKPAB **PKPab** 02 36 53.7 +1.0
LANS Liptovska Anna 150.42 339 *e*PKIKP **PKiKP** 02 36 47.8 +1.0
LANS Liptovska Anna 150.42 339 *e*PKP **PKiKP** 02 36 47.8 +1.0
FBE Freiberg 150.43 348 *e*PKPdf **PKPdf** 02 36 42.2 +1.6
baz=13,slow=1.5
FBE *e*PKPbc **PKiKP** 02 36 47.4 +0.7
baz=13,slow=2.3
FBE *e*PKPab **PKPab** 02 36 54.0 +1.4
baz=13,slow=4.3
NEUB Neuenburg 150.45 350 *e*PKPbc **PKiKP** 02 36 47.1 +0.5
baz=13,slow=2.3
NEUB *e*PKPab **PKPab** 02 36 53.6 +0.9
baz=13,slow=4.3
NEHR Nehoiu 150.45 327 ⇓P **PKPbc** 02 36 46.3 0.0
MORC Moravsky Berou 150.47 342 ⇓P **PKPdf** 02 36 42.0 +1.2
MORC Moravsky Berou 150.47 342 *e*PKP **PKPdf** 02 36 41.4 +0.6
MORC *e* 02 36 46.7
MORC Moravsky Berou 150.47 342 ⇓PKIKP **PKPdf** 02 36 42.0 +1.2
DOPR Dopca 150.52 328 ⇓P **PKiKP** 02 36 47.0 -0.1
IKL Isikli 150.54 305 *e*P **PKPbc** 02 36 46.6 -0.1
MDUB Mudurnu 150.54 314 *e*P **PKPbc** 02 36 45.9 -0.8
MDUB Mudurnu 150.54 314 **PKPbc** 02 36 46.3 -0.4
PVCC Panska Ves 150.55 346 *e*PKIKP **PKPbc** 02 36 46.6 +0.4
PVCC *e* 02 36 53.7
PVCC Panska Ves 150.55 346⇑ *e*PKP **PKPbc** 02 36 46.6 +0.4
PVCC *e*PKPAB **PKPab** 02 36 53.7 +0.6
MLR Muntele Rosu 150.59 327 ⇑P **PKPbc** 02 36 46.9 +0.2
MLR Muntele Rosu 150.59 327 ⇑PKIKP **PKPbc** 02 36 46.9 +0.2
KECS Kecovo 150.63 337 *e*PKIKP **PKiKP** 02 36 47.9 +0.7
KECS Kecovo 150.63 337 *e*PKP **PKiKP** 02 36 47.9 +0.7
TEVE Tevekalti-Mers 150.66 305 *e*P **PKPbc** 02 36 47.2 +0.1
AKKU Akkuyu-Mersin 150.67 305 *e*P **PKPbc** 02 36 46.7 -0.3
BUG Bochum--Univer 150.75 355 *e*PKPbc **PKiKP** 02 36 47.5 +0.3
baz=13,slow=2.3
LADK Ladik-KONYA 150.77 309 *e*P **PKPbc** 02 36 45.9 -1.4
CJR Cluj-Napoca 150.80 331 ⇑P **PKPbc** 02 36 47.3 +0.3
CJR Cluj-Napoca 150.80 331 ⇑PKIKP **PKPbc** 02 36 47.3 +0.3
SVRH Sivrihisar-ESK 150.81 312 *e*P **PKPbc** 02 36 47.1 -0.3
SECR 150.84 326 ⇑P **PKiKP** 02 36 47.6 -0.1
BERE Bereket-Mersin 150.85 305 *e*P **PKPbc** 02 36 47.6 0.0
KONT Konya--Tatoy 150.88 309 *e*P **PKPbc** 02 36 46.9 -0.6
KASTN Kahler Asten 150.89 354 *e*PKPdf **PKPdf** 02 36 42.7 +1.3
baz=13,slow=1.5
KASTN *e*PKPbc **PKiKP** 02 36 48.2 +0.5
baz=13,slow=2.3
KASTN *e*PKPab **PKPab** 02 36 55.6 +1.0
baz=13,slow=4.3
LFK Lefkose 150.97 303 *e*P **PKiKP** 02 36 48.8 +0.4
SAUV Serdivan-Sakar 150.97 316 *e*P **PKPbc** 02 36 47.6 0.0
LTVH Ltavrtes, Hu 150.99 334 ⇑P **PKiKP** 02 36 47.7 -0.3
TEKE Tekeli-Mersin 151.01 305 *e*P **PKPbc** 02 36 47.3 -0.5
PRA Prague 151.01 346 *e*PKIKP **PKiKP** 02 36 48.0 +0.1
PRA Prague 151.01 346⇑ *e*PKP **PKiKP** 02 36 48.0 +0.1
SPNC Sapanca-Adapaz 151.01 315 *e*P **PKiKP** 02 36 48.9 +0.7
MOX Moxa 151.02 350 *e*PKPdf **PKPdf** 02 36 42.8 +1.2
baz=13,slow=1.5
MOX *e*PKPbc **PKiKP** 02 36 48.4 +0.4
baz=13,slow=2.3
MOX *e*PKPab **PKPab** 02 36 55.9 +0.8
baz=13,slow=4.3
MOX *e*L L 03 28 54.7
comp=Z,190nm,19.7s
PRU Pruhonice 151.06 346 *e*PKIKP **PKPbc** 02 36 47.2 -0.3
PRU Pruhonice 151.06 346⇑ *e*PKP **PKPbc** 02 36 47.2 -0.3
VOIR 151.07 328 ⇑P **PKiKP** 02 36 48.2 -0.1
VOIR 151.07 328 ⇑PKIKP **PKiKP** 02 36 48.2 -0.1
PLN Plauen 151.08 349 *e*PKPdf **PKPdf** 02 36 43.0 +1.3
baz=13,slow=1.5
PLN *e*PKPbc **PKiKP** 02 36 48.5 +0.5
baz=13,slow=2.3
PLN *e*PKPab **PKPab** 02 36 56.3 +1.0
baz=13,slow=4.3
WERD Werda 151.09 349 *e*PKPdf **PKPdf** 02 36 42.9 +1.2
baz=13,slow=1.5
WERD *e*PKPbc **PKiKP** 02 36 48.6 +0.5
baz=13,slow=2.3
TANN Tannenbergstha 151.09 348 *e*PKPdf **PKPdf** 02 36 43.1 +1.4
baz=13,slow=1.5
TANN *e*PKPbc **PKiKP** 02 36 48.7 +0.5
baz=13,slow=2.3
TANN *e*PKPab **PKPab** 02 36 56.6 +1.2
baz=13,slow=4.3
UBBA Unterbreizbach 151.09 352 *e*PKPbc **PKiKP** 02 36 48.4 +0.5
baz=13,slow=2.3
UBBA *e*PKPab **PKPab** 02 36 56.2 +1.0
baz=13,slow=4.3
DRGR 151.12 332 ⇑P **PKPdf** 02 36 41.9 0.0
DRGR 151.12 332 ⇑PKIKP **PKPdf** 02 36 41.9 0.0
SRCK Saricakaya, Es 151.13 314 *e*P **PKPbc** 02 36 47.9 -0.1
VRAC Vranov 151.16 342 ⇑P **PKiKP** 02 36 48.3 +0.1
VRAC Vranov 151.16 342 *e*PKP **PKPdf** 02 36 42.3 +0.5
VRAC *e* 02 36 48.1
VRAC *e* 02 36 56.4
VRAC Vranov 151.16 342 ⇑PKIKP **PKiKP** 02 36 48.3 +0.1
GUNZ Gunzen 151.16 349 *e*PKPdf **PKPdf** 02 36 43.2 +1.4
baz=13,slow=1.5
GUNZ *e*PKPbc **PKiKP** 02 36 48.9 +0.7
baz=13,slow=2.3
GUNZ *e*PKPab **PKPab** 02 36 56.9 +1.2
baz=13,slow=4.3
CIFT Cifteler, Eski 151.17 312 *e*P **PKPbc** 02 36 48.1 -0.1
SILT Sile 151.19 317 *e*P **PKPbc** 02 36 47.3 -0.7
VYHS Vyhne 151.19 339 *e*PKIKP **PKPbc** 02 36 48.1 +0.2
VYHS Vyhne 151.19 339 *e*PKP **PKPbc** 02 36 48.1 +0.2
VYHS *e* 02 36 56.9
WERN Wernitzgruen 151.23 348 *e*PKPdf **PKPdf** 02 36 43.4 +1.5
baz=13,slow=1.5
WERN *e*PKPbc **PKiKP** 02 36 49.3 +0.9
baz=13,slow=2.3
WERN *e*PKPab **PKPab** 02 36 57.3 +1.3
baz=13,slow=4.3
JAVC Velka Javorina 151.25 341 *e*PKP **PKPdf** 02 36 43.1 +1.1
JAVC *e* 02 36 49.1
NKC Novy Kostel 151.26 348 *e*PKIKP **PKPbc** 02 36 47.4 -0.6
NKC Novy Kostel 151.26 348⇑ *e*PKP **PKPbc** 02 36 47.4 -0.6
PSZ Piszkesteto 151.32 337 ⇓P **PKiKP** 02 36 48.7 -0.1
**

MANZ	**Manzenberg**	**151.56**	**349**	*e*PKPdf	**PKPdf**	02 36 43.7	+1.3
	baz=13,slow=1.5						
MANZ				*e*PKPbc	**PKiKP**	02 36 49.8	+0.7
	baz=13,slow=2.3						
MANZ				*e*PKPab	**PKPab**	02 36 58.6	+1.2
	baz=13,slow=4.3						
GAZI	**Gazipasa**	**151.58**	**306**	*e*P	**PKPbc**	02 36 48.4	-0.7
KAVV	**Kandilli-Istan**	**151.61**	**317**	*e*P	**PKiKP**	02 36 51.2	+1.8
SMOL	**Smolenice**	**151.63**	**341**	*e*PKiKP	**PKiKP**	02 36 50.3	+1.1
SMOL	**Smolenice**	**151.63**	**341**	*e*PKP	**PKiKP**	02 36 50.3	+1.1
MEM	**Membach**	**151.66**	**357**	*d*PKPbc	**PKiKP**	02 36 49.1	-0.2
MEM				*d*PKiKP	**PKPbc**	02 36 49.6	+0.8
AHRW	**Bad Neuenahr-A**	**151.66**	**356**	*e*PKPbc	**PKiKP**	02 36 50.0	+0.8
	baz=13,slow=2.3						
AHRW				*e*PKPab	**PKPab**	02 36 58.9	+1.1
	baz=13,slow=4.3						
BTNL	**Ternell**	**151.68**	**357**	*d*PKP	**PKiKP**	02 36 49.4	+0.1
BSTI	**Sart Tilman**	**151.71**	**358**	*d*PKP	**PKiKP**	02 36 49.5	+0.2
DEV	**Deva**	**151.74**	**331**	⇑P	**PKPdf**	02 36 44.0	+1.2
DEV	**Deva**	**151.74**	**331**	⇑PKiKP	**PKPdf**	02 36 44.0	+1.2
HUMR	**Humele**	**151.75**	**327**	⇑P	**PKPbc**	02 36 49.1	-0.1
ROTZ	**Rotzenmuhle**	**151.76**	**348**	*e*PKPbc	**PKiKP**	02 36 50.1	+0.6
	baz=13,slow=2.3						
ROTZ				*e*PKPab	**PKPab**	02 36 59.6	+1.4
	baz=13,slow=4.3						
MODS	**Modra-Piesok**	**151.80**	**341**	*e*PKiKP	**PKPbc**	02 36 49.4	+0.1
MODS	**Modra-Piesok**	**151.80**	**341**	*e*PKP	**PKPbc**	02 36 49.4	+0.1
SNF	**Seneffe**	**151.81**	**359**	*d*PKP	**PKiKP**	02 36 49.7	+0.2
SNF				*d*PKPab	**PKPab**	02 36 58.4	0.0
TNS	**Taunus Mts**	**151.86**	**354**	*e*PKPbc	**PKiKP**	02 36 50.3	+0.6
	baz=13,slow=2.3						
TNS				*e*PKPab	**PKPab**	02 36 59.8	+1.1
	baz=13,slow=4.3						
GEMT	**Gemlik**	**151.87**	**316**	*e*P	**PKPbc**	02 36 49.2	-0.4
BCLA	**Clavier**	**151.88**	**358**	*d*PKP	**PKiKP**	02 36 50.1	+0.4
BCLA				*d*PKPab	**PKPab**	02 36 59.7	+1.1
SHUT	**Suhut-Afyon**	**151.90**	**311**	*e*P	**PKiKP**	02 36 50.2	-0.1
BHOU	**Houvegnez**	**151.92**	**357**	*d*PKP	**PKiKP**	02 36 50.2	+0.4
BHOU				*d*PKPab	**PKPab**	02 36 58.9	+0.1
BGES	**Gesves**	**151.92**	**358**	*d*PKP	**PKiKP**	02 36 50.2	+0.5
BGES				*d*PKPab	**PKPab**	02 36 58.9	+0.1
SRO	**Srobarova**	**151.96**	**339**	*e*PKiKP	**PKiKP**	02 36 50.1	+0.2
SRO	**Srobarova**	**151.96**	**339**	*e*PKP	**PKiKP**	02 36 50.1	+0.2
SRO				*e*		02 37 00.3	
SIRR	**Siria**	**151.99**	**333**	⇓P	**PKiKP**	02 36 50.1	0.0
GRF	**Grafenberg Arr**	**152.00**	**350**	*e*PKPbc	**PKiKP**	02 36 50.7	+0.7
	baz=13,slow=2.3						
GRF				*e*PKPab	**PKPab**	02 37 00.6	+1.3
	baz=13,slow=4.3						
GRF				*e*L	L	03 33 38.8	
	comp=Z,161nm,20.3s						
GRFO	**Grafenberg**	**152.00**	**350**	PKiKP	**PKiKP**	02 36 50.5	+0.5
GRFO				PKP	**PKPab**	02 36 59.4	+0.2
GRFO	**Grafenberg**	**152.00**	**350**		**PKiKP**	02 36 50.5	+0.5
GRFO				PKPab	**PKPab**	02 36 59.4	+0.2
BMRD	**Maredsous**	**152.01**	**359**	*d*PKP	**PKiKP**	02 36 50.0	+0.1
BMRD				*d*PKPab	**PKPab**	02 36 59.5	+0.3
KHC	**Kasperske Hory**	**152.08**	**346**	*e*PKiKP	**PKPdf**	02 36 43.4	+0.2
KHC				*e*		02 37 00.0	
KHC	**Kasperske Hory**	**152.08**	**346**	*e*PKPDF	**PKPdf**	02 36 43.4	+0.2
KHC				⇑*e*PKP	**PKiKP**	02 36 50.5	+0.3
KHC				*e*PKPAB	**PKPab**	02 37 00.0	+0.4
KHC				*e*pPKP	**pPKPab**	02 37 02.5	+1.0
KHC	**Kasperske Hory**	**152.08**	**346**		**PKPdf**	02 36 43.1	-0.2
KHC					**PKiKP**	02 36 50.5	+0.3
KHC				PKPab	**PKPab**	02 37 00.3	+0.7
GZR	**Gura Zlata**	**152.18**	**331**	⇑P	**PKPbc**	02 36 49.7	-0.6
GZR	**Gura Zlata**	**152.18**	**331**	⇑PKiKP	**PKPbc**	02 36 49.7	-0.6
CKRC	**Cesky Krumlov**	**152.20**	**345**	*e*PKPDF	**PKPdf**	02 36 43.4	0.0
CKRC				⇑*e*PKP	**PKPbc**	02 36 50.6	+0.1
CKRC				*e*PKPAB	**PKPab**	02 37 00.1	0.0
TVSB	**Tavsanli**	**152.21**	**314**	*e*P	**PKPbc**	02 36 49.8	-0.8
WET	**Wettzell**	**152.22**	**347**	*e*PKPdf	**PKPdf**	02 36 44.7	+1.3
	baz=13,slow=1.5						
WET				*e*PKPbc	**PKiKP**	02 36 51.0	+0.5
	baz=13,slow=2.3						
WET				*e*PKPab	**PKPab**	02 37 01.6	+1.4
	baz=13,slow=4.3						
DOU	**Dourbes**	**152.22**	**359**	*d*PKP	**PKiKP**	02 36 50.7	+0.3
DOU				*d*PKPab	**PKPab**	02 37 00.9	+0.9
AMBH	**Ambrzfalva**	**152.30**	**334**	⇑P	**PKiKP**	02 36 51.2	+0.5
GEC2	**GERESS Array S**	**152.32**	**346**	*e*PKPdf	**PKPdf**	02 36 44.7	+1.0
	baz=13,slow=1.5						
GEC2				*e*PKPbc	**PKiKP**	02 36 51.4	+0.5
	baz=13,slow=2.3						
GEC2				*e*PKPab	**PKPab**	02 37 01.8	+1.1
	baz=13,slow=4.3						
GERES	**GERESS Array B**	**152.32**	**346**	PKP	**PKPdf**	02 36 43.9	+0.2
	comp=Z,1.8nm,1.0s,baz=127,slow=0.7,SNR=12						
GERES				PKPbc	**PKPbc**	02 36 50.7	+0.1
	comp=Z,13nm,1.0s,baz=48,slow=2.0,SNR=38						
GERES				PKPab	**PKPab**	02 37 01.2	+0.5
	comp=Z,2.8nm,0.5s,baz=29,slow=5.0,SNR=14						
GERES				pPKPbc	**pPKPab**	02 37 24.1	+0.5
	comp=Z,2.6nm,0.7s,baz=162,slow=0.4,SNR=2.1						
GERES	**GERESS Array B**	**152.32**	**346**		**PKPdf**	02 36 43.5	-0.2
GERES				PKPbc	**PKiKP**	02 36 51.3	+0.5
GERES				PKPab	**PKPab**	02 37 01.2	+0.5
BCK	**Bucak**	**152.36**	**309**	*e*P	**PKPbc**	02 36 50.8	-0.2
VLAD	**Vladila**	**152.42**	**327**	⇑P	**PKiKP**	02 36 51.5	+0.5
GEDZ	**Gediz**	**152.44**	**313**	*e*P	**PKiKP**	02 36 51.2	-0.1
KCTX	**Karacabey (Bur**	**152.50**	**316**	*e*P	**PKPbc**	02 36 50.8	-0.3
BZS	**Buzias**	**152.52**	**332**	⇑P	**PKPdf**	02 36 44.2	+0.3
BZS	**Buzias**	**152.52**	**332**	⇑PKiKP	**PKPdf**	02 36 44.2	+0.3
SRE	**Strehaia**	**152.53**	**329**	⇓P	**PKiKP**	02 36 51.6	+0.4
SRE	**Strehaia**	**152.53**	**329**	⇓PKiKP	**PKiKP**	02 36 51.6	+0.4
WLF	**Walferdange**	**152.60**	**357**	*d*PKP	**PKiKP**	02 36 52.0	+0.8
WLF	**Walferdange**	**152.60**	**357**	*e*PKPbc	**PKiKP**	02 36 52.6	+1.4
	baz=13,slow=2.3						
WLF				*e*PKPab	**PKPab**	02 37 03.3	+1.6
	baz=13,slow=4.3						
CONA	**Conrad Observa**	**152.62**	**342**	*e*P	**PKPdf**	02 36 44.5	+0.4
	comp=Z,7.2nm,1.4s						
CONA				*i* P	**PKiKP**	02 36 51.7	+0.3
	comp=Z,26nm,1.1s,SNR=7.6						
CONA				*e*P	**PKPab**	02 37 02.9	+1.0
	comp=Z,17nm,0.7s						
HERR	**Herculane**	**152.73**	**330**	⇑P	**PKPbc**	02 36 51.2	-0.2
PLVB	**Pleven**	**152.73**	**325**	⇓P	**PKiKP**	02 36 51.8	+0.2
EDC	**Edincik**	**152.77**	**317**	*e*P	**PKiKP**	02 36 52.4	+0.5
BANR	**Banloc**	**152.91**	**332**	⇓P	**PKiKP**	02 36 52.6	+0.7
MOA	**Molln**	**153.12**	**344**	*e*P	**PKiKP**	02 36 52.7	+0.4
	comp=Z,7.2nm,1.1s,SNR=4.6						
MOA				*e*P	**PKPab**	02 37 04.6	+0.6
	comp=Z,15nm,0.7s						
MDVR	**Moldovita**	**153.13**	**331**	⇑P	**PKPdf**	02 36 44.7	-0.2
STU	**Stuttgart**	**153.20**	**352**	PKiKP	**PKPdf**	02 36 45.3	+0.5
STU				PKP	**PKPab**	02 37 04.9	+0.6
STU	**Stuttgart**	**153.20**	**352**		**PKPdf**	02 36 45.3	+0.5
STU				PKPbc	**PKiKP**	02 36 52.9	+0.4
STU					**PKPab**	02 37 04.9	+0.6
STU	**Stuttgart**	**153.20**	**352**	*e*PKPdf	**PKPdf**	02 36 46.3	+1.4
	baz=13,slow=1.5						
STU				*e*PKPbc	**PKiKP**	02 36 53.2	+0.7
	baz=13,slow=2.3						
STU				*e*PKPab	**PKPab**	02 37 05.3	+1.0
	baz=13,slow=4.3						
MORH	**Mrgy, Hungar**	**153.22**	**337**	⇑P	**PKPdf**	02 36 44.7	-0.2
MORH	**Mrgy, Hungar**	**153.22**	**337**	*e*P	**PKPbc**	02 36 51.4	-1.0
ARSA	**Arzberg**	**153.33**	**342**	*e*P	**PKPbc**	02 36 52.7	0.0
	comp=Z,9.0nm,1.3s						
ARSA				*i* P	**PKPab**	02 37 05.4	+0.5
	comp=Z,12nm,0.9s						
ERIK	**Erikli-Kesan**	**153.42**	**319**	*e*P	**PKiKP**	02 36 53.8	+0.7
FUR	**Furstenfeldbru**	**153.47**	**349**	*e*PKPdf	**PKPdf**	02 36 46.3	+1.1
	baz=13,slow=1.5						
FUR				*e*PKPbc	**PKiKP**	02 36 53.7	+0.7
	baz=13,slow=2.3						
FUR				*e*PKPab	**PKPab**	02 37 06.7	+1.2
	baz=13,slow=4.3						
RJOB	**Jochberg**	**153.57**	**346**	*e*PKPab	**PKPab**	02 37 07.6	+1.7
	baz=13,slow=4.3						
FRGS	**Fruska Gora**	**153.65**	**334**	⇑P	**PKiKP**	02 36 53.9	+0.3
FRGS	**Fruska Gora**	**153.65**	**334**	*e*P	**PKiKP**	02 36 53.8	+0.3
BFO	**Black Forest**	**153.74**	**353**	PKiKP	**PKiKP**	02 36 53.9	+0.2
BFO				PKP	**PKPab**	02 37 06.6	0.0
BFO	**Black Forest**	**153.74**	**353**		**PKiKP**	02 36 53.9	+0.2
BFO				PKPab	**PKPab**	02 37 06.6	0.0
BFO	**Black Forest**	**153.74**	**353**	*e*PKPbc	**PKiKP**	02 36 54.2	+0.6
	baz=13,slow=2.3						
BFO				*e*PKPab	**PKPab**	02 37 07.6	+1.0
	baz=13,slow=4.3						
KOGS	**Kog**	**153.83**	**340**	*i* PKPab	**PKPab**	02 37 07.4	+0.4
ECH	**Echery**	**153.97**	**355**	PKP2	**PKPab**	02 37 07.4	-0.2
ECH	**Echery**	**153.97**	**355**		**PKPab**	02 37 07.4	-0.2
SOKA	**Soboth**	**153.99**	**342**	*i* P	**PKiKP**	02 36 54.3	0.0
	comp=Z,13nm,1.1s						
SOKA				*i* P	**PKPab**	02 37 08.0	+0.2
	comp=Z,37nm,1.3s						
VTS	**Vitosha**	**154.00**	**326**	⇓P	**PKPdf**	02 36 46.6	+0.2
VTS	**Vitosha**	**154.00**	**326**	⇓PKiKP	**PKPdf**	02 36 46.6	+0.2
PERS	**Pernice**	**154.00**	**342**	*i* PKPab	**PKPab**	02 37 08.4	+0.6
KBA	**Koelnbreinsper**	**154.06**	**345**	*e*P	**PKPdf**	02 36 46.6	+0.2
	comp=Z,7.5nm,1.1s,SNR=5.1						
KBA				*e*P	**PKPab**	02 37 08.3	+0.1
	comp=Z,22nm,0.8s						
WATA	**Walderalm**	**154.21**	**348**	*e*P	**PKPbc**	02 36 54.7	0.0
	comp=Z,23nm,1.3s						
WATA				*e*P	**pPKPdf**	02 37 09.2	-0.8
	comp=Z,32nm,1.1s						
RETA	**Reutte**	**154.21**	**349**	*i* P	**PKiKP**	02 36 54.8	+0.1
	comp=Z,16nm,1.5s						
RETA				*e*P	**PKPab**	02 37 08.8	+0.1
	comp=Z,14nm,0.6s						
WTTA	**Wattenberg**	**154.26**	**348**	*e*P	**PKPdf**	02 36 46.6	-0.1
	comp=Z,9.5nm,1.3s						
WTTA				*e*P	**PKiKP**	02 36 55.0	0.0
	comp=Z,28nm,1.0s						
WTTA				*i* P	**pPKPdf**	02 37 09.6	-0.6
	comp=Z,26nm,0.8s						
OBKA	**Obir**	**154.28**	**343**	*e*P	**PKPab**	02 37 08.9	-0.1
	comp=Z,13nm,0.9s						
MOTA	**Moosalm**	**154.29**	**348**	*e*P	**PKPdf**	02 36 46.5	-0.1
	comp=Z,12nm,1.3s						
MOTA				*e*P	**PKPab**	02 37 09.3	+0.1
	comp=Z,14nm,0.8s						
SQTA	**Sankt Quirin**	**154.39**	**348**	*e*P	**PKPdf**	02 36 46.8	+0.1
	comp=Z,9.4nm,1.3s						
SQTA				*e*P	**PKiKP**	02 36 55.6	+0.4
	comp=Z,11nm,1.1s						
SQTA				*e*P	**pPKPdf**	02 37 09.9	-0.4
	comp=Z,24nm,1.2s						
MYKA	**Terra Mystica**	**154.41**	**344**	*e*P	**PKPbc**	02 36 54.9	-0.3
	comp=Z,9.2nm,1.4s						
MYKA				*e*P	**PKPab**	02 37 09.3	-0.3
	comp=Z,17nm,0.6s,SNR=6.6						
DIVS	**Divibare**	**154.43**	**332**	*e*P	**PKPbc**	02 36 54.5	-0.7
DAVA	**Damuels**	**154.56**	**350**	*e*P	**PKiKP**	02 36 56.0	+0.5
	comp=Z,14nm,1.2s						
DAVA				*e*P	**pPKPdf**	02 37 10.1	-0.5
	comp=Z,15nm,0.7s						
ABTA	**Abfaltersbach**	**154.57**	**346**	*i* P	**PKPdf**	02 36 46.4	-0.6
	comp=Z,20nm,1.1s,SNR=9.2						
ABTA				*e*P	**pPKPdf**	02 37 10.0	-0.5
	comp=Z,51nm,1.3s						
CRES	**Cresnjev**	**154.63**	**341**	*e*P	**PKPbc**	02 36 55.4	-0.1
ZOU	**Zoufplan**	**154.64**	**345**		**PKPdf**	02 36 46.7	-0.6
ZOU				PKPab	**pPKPdf**	02 37 10.2	-0.5
FETA	**Feichten**	**154.67**	**349**	*e*P	**PKPdf**	02 36 47.7	+0.5
	comp=Z,8.8nm,1.2s,SNR=8.4						
FETA				*e*P	**PKPab**	02 37 11.1	+0.4
	comp=Z,19nm,1.3s						
LJU	**Ljubljana**	**154.71**	**342**	*i* PKPdf	**PKPdf**	02 36 47.3	+0.2
LJU				*i* PKPbc	**PKiKP**	02 36 55.7	0.0
LJU				*i* PKPab	**PKPab**	02 37 10.9	+0.1
LJU	**Ljubljana**	**154.71**	**342**	*e*P	**PKPbc**	02 36 55.6	-0.1
BBLS	**Lazići**	**154.87**	**333**	*e*P	**PKPbc**	02 36 55.8	-0.4
HAPS	**Han Pijesak,Bl**	**154.88**	**334**	*e*P	**PKPbc**	02 36 55.7	-0.5
BLY	**Banja Luka**	**155.00**	**337**	*e*P		02 36 56.0	
CEY	**Cerknica**	**155.02**	**342**	*e*P		02 36 56.5	
MGRS	**Mrkonjic Grad**	**155.33**	**337**	*e*P	**PKPab**	02 37 14.3	+0.8
CTI	**Castel Tesino**	**155.42**	**347**	PKiKP	**PKPdf**	02 36 47.9	-0.3
CTI						02 37 13.1	
CTI	**Castel Tesino**	**155.42**	**347**	PKPdf	**PKPdf**	02 36 47.9	-0.3
CTI				PKPab	**PKPab**	02 37 13.1	-0.9
UPM	**Unac-Piva**	**155.62**	**332**	*e*P	PKPdf	02 36 57.6	+9.0
BRY	**Bratogost**	**156.02**	**333**	*e*P	PKPdf	02 36 57.5	+8.4
TEOL	**Teolo**	**156.07**	**346**		**PKPdf**	02 36 48.9	0.0
TEOL					**PKPab**	02 37 17.2	+0.6
PDG	**Podgorica**	**156.08**	**331**	*e*P	PKPdf	02 36 58.5	+10
RICI	**Ricice**	**156.09**	**335**	P	PKPdf	02 36 58.2	+9.2
TREB	**Trebinje**	**156.25**	**333**	*e*P	PKPdf	02 36 58.4	+9.2
BNI	**Bardonecchia**	**157.15**	**355**	PKiKP	**PKPdf**	02 36 51.3	+0.8
BNI				PKP	**sPKPdf**	02 37 22.7	-0.1
BNI	**Bardonecchia**	**157.15**	**355**	PKPdf	**PKPdf**	02 36 51.3	+0.8
BNI				PKPab	**sPKPdf**	02 37 22.7	-0.1
AQU	**L'Aquila**	**158.41**	**340**	*e*P	PKPab	02 37 12.9	-14
ESDC	**Sonseca Array**	**161.45**	**19**	PKP	**PKPdf**	02 36 56.0	+0.5
	comp=Z,1.2nm,1.0s,baz=357,slow=3.0,SNR=5.5						
ESDC				PKPab	**PKPab**	02 37 41.1	+1.0
	comp=Z,3.8nm,0.9s,baz=322,slow=3.7,SNR=12						
ESDC				PP	PP	02 41 31.6	+8.7
	comp=Z,0.7nm,0.9s,baz=1.4,slow=5.9,SNR=4.3						
ESDC	**Sonseca Array**	**161.45**	**19**		**PKPdf**	02 36 56.2	+0.6
ESDC					**PKPab**	02 37 40.4	+0.3
DBIC	**Dimbokro**	**162.41**	**151**	PKPab	**PKPab**	02 37 44.9	0.0
	comp=Z,6.8nm,1.0s,baz=165,slow=7.3,SNR=5.2						
KEST	**Kesra**	**165.72**	**341**	PKPab	**PKPab**	02 37 57.9	-1.1
	comp=Z,9.3nm,0.8s,baz=313,slow=3.2,SNR=12						
TOA0	**Torodi Ar. Sit**	**170.72**	**168**		**PKPdf**	02 37 03.0	-0.5
TOA0				PKPab	**PKPab**	02 38 22.5	+1.1
TORD	**Torodi Ar. Bea**	**170.72**	**168**	PKP	**PKPdf**	02 37 02.1	-1.4
	comp=Z,3.0nm,1.0s,baz=336,slow=1.0,SNR=6.6						
TORD				PKPab	**PKPab**	02 38 22.0	+0.5
	comp=Z,3.3nm,0.9s,baz=174,slow=4.0,SNR=7.4						
TORD				PP	PP	02 42 21.2	+11
	comp=Z,2.0nm,1.1s,baz=130,slow=6.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**170.72**	**168**		**PKPdf**	02 37 02.7	-0.8
TORD					**PKPab**	02 38 22.2	+0.8
TAM	**Tamanrasset**	**178.28**	**288**	PKiKP	**PKPdf**	02 37 05.9	0.0
TAM	**Tamanrasset**	**178.28**	**288**		**PKPdf**	02 37 05.9	0.0

PRU 15 02:21:54.2±0.0, 51°.47N×16°.21E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.63**	**175**	*e*Pg	Pg	02 22 06.7	+0.5
KSP				*e*Sg	Sg	02 22 15.1	+0.7
CHVC	**Chvalec**	**0.89**	**186**	*e*PG	Pg	02 22 11.4	+0.2
CHVC				*e*SG	Sg	02 22 23.2	+0.5
OSTC	**Ostas**	**0.92**	**180**	*e*PG	Pg	02 22 12.1	+0.4
OSTC				*e*SG	Sg	02 22 23.4	-0.1
UPC	**Upice**	**0.97**	**187**	*e*PG	Pb	02 22 13.4	-0.5
UPC				*e*SG	Sg	02 22 25.6	+0.2
	comp=Z,7.2nm,0.7s						
DPC	**Dobruska-Polom**	**1.12**	**176**	*e*PG	Pg	02 22 15.0	-0.7
DPC				*e*SG	Sg	02 22 29.9	-0.3
PVCC	**Panska Ves**	**1.40**	**228**	*e*PG	Pn	02 22 20.1	-0.9
PVCC				*e*SG	Sg	02 22 38.9	-0.3
	comp=Z,7.1nm,0.2s						
KRLC	**Kraliky**	**1.44**	**165**	*e*PG	Pn	02 22 21.5	-0.1
KRLC				*e*SG	Sg	02 22 39.9	-0.6
	comp=Z,2.2nm,0.4s						
BRG	**Berggiesshubel**	**1.55**	**248**	Pg	Pn	02 22 22.3	-0.7
BRG				Sg	Sn	02 22 42.6	-1.2
BRG				Amp		02 22 44.3	
	comp=Z,2.4nm,0.3s						
MORC	**Moravsky Berou**	**1.90**	**153**	*e*PN	Pn	02 22 27.7	-0.1
MORC				*e*SG	Sg	02 22 54.7	-0.4
CLL	**Collm**	**2.02**	**267**	*e*Pg	Pn	02 22 30.0	+0.6
CLL				*e*Sg	Sb	02 22 58.0	+0.7
VRAC	**Vranov**	**2.18**	**173**	*e*PN	Pn	02 22 32.4	+0.7
NKC	**Novy Kostel**	**2.69**	**244**	*e*PG	Pb	02 22 44.4	+1.3
NKC				*e*SG	Sg	02 23 19.5	-1.0
KHC	**Kasperske Hory**	**2.89**	**217**	*e*PG	Pb	02 22 46.1	-0.5
KHC				*e*SG	Sg	02 23 26.9	0.0
CKRC	**Cesky Krumlov**	**2.92**	**205**	*e*SG	Sg	02 23 26.2	-1.8

*NOU **15** 02:28:24.4, 39°.14S×175°.26E, h0km, MLv3.8, North Island, New Zealand*
WEL 15 02:28:24.8±0.4, 39°.3S±3°×17°.5E±°, h10km±4km, M3.8/33, **ML4.1**/33, **MLv3.8**/33, **Error ellipse: s-maj=0.0km s-min=0.0km az=140.9, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.11**	**69**	P	Pb	02 28 28.9	-0.2
TWVZ				S	Sg	02 28 31.5	+1.8
PKVZ	**Pokaka**	**0.18**	**170**	P	Pb	02 28 29.7	-0.6
PKVZ				S	Sg	02 28 33.1	+1.6
WTVZ	**West Tongariro**	**0.22**	**91**	P	Pb	02 28 30.5	-0.5
NGZ	**Ngauruhoe**	**0.24**	**106**	P	Pb	02 28 30.8	-0.6
FWVZ	**Far West T-bar**	**0.24**	**127**	P	Pb	02 28 30.8	-0.6
FWVZ				S	Sg	02 28 34.7	+1.4
DRZ	**Dome Shelter**	**0.26**	**129**	P	Pb	02 28 31.2	-0.6
KRVZ	**Karewarewa**	**0.26**	**86**	P	Pb	02 28 31.1	-0.6
TRVZ	**Turoa**	**0.27**	**135**	P	Pb	02 28 31.1	-0.7
WHVZ	**Whangaehu Hut**	**0.28**	**128**	P	Pg	02 28 31.2	+0.7
OTVZ	**Oturere**	**0.28**	**101**	P	Pb	02 28 31.6	-0.5
MTVZ	**Mangateitei**	**0.30**	**155**	P	Pg	02 28 31.4	+0.5
TMVZ	**Te Maari**	**0.31**	**91**	P	Pb	02 28 32.0	-0.5
TUVZ	**Tukino**	**0.31**	**120**	P	Pb	02 28 32.1	-0.5
WNVZ	**Wahianoa**	**0.31**	**134**	P	Pb	02 28 31.9	-0.7
ETVZ	**East Tongariro**	**0.32**	**95**	P	Pb	02 28 32.1	-0.5
KATZ	**Kakaramea**	**0.33**	**66**	P	Pb	02 28 32.3	-0.6
VRZ	**Vera Road**	**0.43**	**268**	P	Pb	02 28 33.8	-0.6
RATZ	**Rangitukua**	**0.44**	**56**	P	Pb	02 28 34.1	-0.5
RITZ	**Rihia Road**	**0.45**	**73**	P	Pb	02 28 34.5	-0.3
MOVZ	**Moawhango**	**0.46**	**131**	P	Pg	02 28 34.1	+0.4
WATZ	**Wairara**	**0.52**	**40**	P	Pg	02 28 35.4	+0.4
HATZ	**Hinemaiaia**	**0.65**	**70**	P	Pg	02 28 37.5	+0.1
WHTZ	**Whakaora**	**0.68**	**49**	P	Pb	02 28 38.6	-0.1
WAZ	**Wanganui**	**0.69**	**201**	P	Pg	02 28 38.2	0.0
HIZ	**Hauiti**	**0.69**	**329**	P	Pg	02 28 38.2	0.0
BHHZ	**Black Hill Sta**	**0.70**	**123**	P	Pg	02 28 38.6	+0.2
KUTZ	**Kaahu Road**	**0.74**	**33**	P	Pg	02 28 39.0	-0.1
MHEZ	**Mangahewa**	**0.77**	**272**	P	Pb	02 28 40.3	+0.1
LREZ	**Lake Rotokare**	**0.78**	**243**	P	Pb	02 28 40.3	-0.2
TLZ	**Tolley Road**	**0.80**	**13**	P	Pg	02 28 39.3	-1.0
WPRZ	**Whakapapatarin**	**0.89**	**49**	P	Pg	02 28 41.9	-0.1
MRHZ	**Matea Rd**	**0.91**	**73**	P	Pg	02 28 42.2	-0.1
PREZ	**Palmer Road**	**0.92**	**255**	P	Pb	02 28 43.0	+0.1
KWHZ	**Kaweka Forest**	**0.92**	**110**	P	Pb	02 28 43.1	+0.2
BKZ	**Black Stump Fm**	**0.93**	**94**	P	Pg	02 28 42.4	-0.3
NEZ	**North Egmont**	**0.95**	**260**	P	Pb	02 28 43.4	-0.1
ALRZ	**Allen Road**	**0.98**	**56**	P	Pg	02 28 43.3	-0.3
KRHZ	**Kereru**	**0.98**	**123**	P	Pg	02 28 43.6	-0.1
GRRZ	**Galatos Road**	**0.99**	**40**	P	Pg	02 28 43.4	-0.4
KHEZ	**Kahui Hut**	**1.02**	**259**	P	Pb	02 28 44.6	0.0
PKE	**Pukeiti**	**1.03**	**265**	P	Pg	02 28 44.6	0.0
PRRZ	**Plateau Road**	**1.05**	**55**	P	Pg	02 28 44.6	-0.4
HRRZ	**Handcock Road**	**1.05**	**47**	P	Pg	02 28 44.7	-0.3
PNHZ	**Pukenui**	**1.06**	**139**	P	Pg	02 28 45.0	-0.2
TSZ	**Takapari Road**	**1.07**	**152**	P	Pg	02 28 45.0	-0.5
HSRZ	**Hossack Road**	**1.08**	**43**	P	Pg	02 28 45.2	-0.4

KMSI	**Cibinong**	**4.73**	**206**	P		**Pn**	**02 49 06.6**	**-1.7**
GTOI	**Gorontalo**	**5.17**	**216**	P		**Pn**	**02 49 14.2**	**-0.1**
	0.3nm1µm81nm,0.7s							
MRSI	**Marisa**	**5.98**	**223**	P		**Pn**	**02 49 25.7**	**+0.5**
	1.0nm3µm299nm,0.6s							
TOLI2	**Tolitoli**	**6.44**	**235**			**Pn**	**02 49 30.7**	**-0.7**
LUWI	**Luwuk**	**6.71**	**209**	P		**Pn**	**02 49 34.0**	**-1.2**
	0.5nm3µm82nm,0.5s							
SANI	**Sanana**	**6.86**	**180**	P		**Pn**	**02 49 34.5**	**-2.7**
	0.2nm1µm26nm,0.8s							
APSI	**Ampana**	**7.22**	**218**	P		**Pn**	**02 49 43.4**	**+1.3**
SIJI	**Sorong**	**7.72**	**137**	P		**Pn**	**02 49 49.0**	**+0.1**
	2.0nm,0.3s,baz=124,slow=22,SNR=6.8							
SIJI				S		**Sn**	**02 51 11.9**	**-2.9**
	1.7nm,0.3s,baz=224,slow=23,SNR=1.8							
PBKI	**Pangkalan Bun**	**16.21**	**243**	P		**P**	**02 51 46.3**	**+4.5**
FITZ	**Fitzroy Crossi**	**22.82**	**181**	P		**P**	**02 52 53.6**	**+0.7**
	2.0nm,0.3s,baz=334,slow=5.4,SNR=60							
WB0	**Warramunga Arr**	**25.81**	**162**	P		**P**	**02 53 20.9**	**+0.5**
WB0				IAmb		IAmb	02 53 26.9	
	comp=Z,8.4nm,1.2s							
WRA	**Warramunga Arr**	**25.96**	**162**	P		**P**	**02 53 22.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=339,slow=10,SNR=25							
WR0	**Warramunga Arr**	**26.04**	**162**	P		**P**	**02 53 22.7**	**+0.2**
WR0				IAmb		IAmb	02 53 31.1	
	comp=Z,10nm,1.5s							
AS31	**Alice Springs**	**29.37**	**165**	P		**P**	**02 53 52.5**	**+0.3**
AS31				IAmb		IAmb	02 53 58.8	
	comp=Z,2.1nm,1.4s							
ASAR	**Alice Springs**	**29.37**	**165**	P		**P**	**02 53 52.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=342,slow=7.1,SNR=7.7							
FORT	**Forrest**	**35.49**	**177**	P		**P**	**02 54 45.8**	**+0.4**
BBOO	**Buckleboo**	**38.65**	**166**	P		**P**	**02 55 12.1**	**-0.1**
BBOO				IAmb		IAmb	02 55 13.2	
	comp=Z,7.6nm,1.0s							
SHL	**Shillong**	**38.66**	**306**	P		**P**	**02 55 11.1**	**-1.5**
STKA	**Stephens Creek**	**39.42**	**159**	P		**P**	**02 55 19.6**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=344,slow=11,SNR=3.5							
H11N1	**WAKE ISLAND Hy**	**42.41**	**66**	T		T	03 41 44.3	
	baz=255,slow=75,SNR=5.8							
H11N2	**WAKE ISLAND Hy**	**42.42**	**66**	T		T	03 41 51.1	
	baz=255,slow=75,SNR=4.0							
H11N3	**WAKE ISLAND Hy**	**42.43**	**66**	T		T	03 41 53.8	
	baz=255,slow=75,SNR=4.3							
SONM	**Songino Array**	**46.02**	**342**	PcP		**PcP**	**02 57 46.5**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=158,slow=6.1,SNR=2.7							
PETK	**Petropavlovsk-**	**54.66**	**23**	P		**P**	**02 57 18.2**	**+1.5**
	comp=Z,4.3nm,0.9s,baz=199,slow=4.0,SNR=3.4							
MK31	**Makanchi Array**	**56.24**	**325**	P		**P**	**02 57 26.7**	**-1.5**
MK31				IAmb		IAmb	02 57 38.0	
	comp=Z,2.4nm,1.5s							
MKAR	**Makanchi Array**	**56.24**	**325**	P		**P**	**02 57 26.8**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=121,slow=7.3,SNR=7.1							
MKAR				ScP		**ScP**	**03 02 12.5**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=104,slow=5.1,SNR=3.8							
ILAR	**Eielson Array**	**84.39**	**25**	P		**P**	**03 00 19.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=227,slow=4.8,SNR=4.3							
FINES	**FINESS Array B**	**90.52**	**332**	P		**P**	**03 00 46.8**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=46,slow=4.4,SNR=4.4							

IDC ***15*** *02:50:27.9±0.7,20°.85N×45°.79W,h0km, mb3.9/14, mb1 4.1/14,mb1mx3.9/42,mbtmp3.9/14,MS3.8/14, Ms1 3.8/14,ms1mx3.6/34,Error ellipse: s-maj=20.5km s-min=17.7km az=122.0*

NEIC ***15*** *02:50:30.2±1.6,21°.1N±0°.1×45°.7W±0°.1,h10km±1km, mb4.4/22,Error ellipse: s-maj=23.7km s-min=19.8km az=177.0*

ISC 15 02:50:29.7±0.5,20°.9N±0°.1×45°.80W±0°.10,h10km,n55, σ1s26/39,mb4.1/24,MS3.8/12,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05S1	**Guadeloupe/Mar**	**15.69**	**248**	T	T	03 10 08.1	
	SNR=7.1						
MDP	**Montagnes des**	**17.01**	**204**	LR	LR	02 59 23.3	
	comp=Z,141nm,21.0s,baz=258,slow=32						
SJG	**San Juan**	**19.38**	**265**	LR	LR	03 01 02.1	
	comp=Z,207nm,21.4s,baz=90,slow=33						
PCRV	**Puerto La Cruz**	**21.00**	**242**	LR	LR	03 04 16.3	
	comp=Z,220nm,19.2s,slow=40						
RCBR	**Riachuelo**	**28.24**	**159**	LR	LR	03 04 30.7	
	comp=Z,126nm,19.0s,baz=317,slow=30						
ROSC	**El Rosal**	**31.95**	**244**	LR	LR	03 09 57.1	
	comp=Z,121nm,20.9s,baz=311,slow=37						
BDFB	**Brasilia**	**36.33**	**184**	P		**P**	**02 57 33.0**	**-1.1**
	0.9nm,0.5s,baz=333,slow=14,SNR=3.0							
OTAV	**Otavalo**	**37.91**	**241**	P		**P**	**02 57 51.3**	**+3.2**
OTAV				IAmb		IAmb	02 57 57.0	
	comp=Z,13nm,1.5s							
KOWA	**Kowa**	**40.22**	**92**	P		**P**	**02 58 09.9**	**+3.0**
	comp=Z,1.3nm,0.7s,baz=315,slow=5.7,SNR=2.8							
ESDC	**Sonseca Array**	**40.28**	**53**	P		**P**	**02 58 11.3**	**+4.1**
	comp=Z,0.7nm,0.7s,baz=259,slow=8.5,SNR=8.1							
ESDC				LR		LR	03 10 42.2	
	comp=Z,98nm,20.5s,baz=350,slow=30							
ESDC	**Sonseca Array**	**40.28**	**53**	P		**P**	**02 58 05.8**	**-1.4**
H10N3	**ASCENSION HYDR**	**41.94**	**130**	T		T	03 42 44.3	
	baz=313,slow=75,SNR=23							
H10N2	**ASCENSION HYDR**	**41.94**	**130**	T		T	03 42 46.7	
	baz=313,slow=75,SNR=30							
H10N1	**ASCENSION HYDR**	**41.96**	**130**	T		T	03 42 48.0	
	baz=313,slow=75,SNR=34							
DBIC	**Dimbokro**	**42.05**	**104**	P		**P**	**02 58 23.1**	**+1.2**
	comp=Z,3.7nm,0.9s,baz=222,slow=15,SNR=3.1							
DBIC				LR		LR	03 12 46.8	
	comp=Z,140nm,20.4s,baz=317,slow=32							
ATAH	**Atahualpa**	**42.41**	**232**	P		**P**	**02 58 26.6**	**+1.3**
	comp=Z,2.3nm,0.5s,baz=62,slow=12,SNR=1.9							
H10S3	**ASCENSION HYDR**	**42.59**	**131**	T		T	03 43 37.6	
	baz=312,slow=74,SNR=20							
H10S2	**ASCENSION HYDR**	**42.61**	**131**	T		T	03 43 37.7	
	baz=268,slow=74,SNR=16							
LPAZ	**La Paz**	**42.93**	**212**	P		**P**	**02 58 29.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=17,slow=6.1,SNR=3.6							
LPAZ	**La Paz**	**42.93**	**212**	IAmb		IAmb	02 58 30.7	
	comp=Z,3.8nm,1.2s							
NATX	**Nacogdoches**	**44.80**	**294**	P		**P**	**02 58 44.5**	**+0.5**
TOA0	**Torodi Ar. Sit**	**45.93**	**92**	P		**P**	**02 58 52.8**	**-0.3**
TOA0				IAmb		IAmb	02 58 59.1	
	comp=Z,4.2nm,0.9s							
TORD	**Torodi Ar. Bea**	**45.93**	**92**	P		**P**	**02 58 52.9**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=299,slow=7.9,SNR=4.0							
TORD				LR		LR	03 15 44.8	
	comp=Z,221nm,19.8s,baz=300,slow=33							
TORD	**Torodi Ar. Bea**	**45.93**	**92**	P		**P**	**02 58 53.7**	**+0.6**
CPUP	**Villa Florida**	**48.22**	**194**	P		**P**	**02 59 09.6**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=3.8,slow=8.3,SNR=3.3							
TXAR	**Lajitas Array**	**52.64**	**292**	P		**P**	**02 59 44.8**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=94,slow=6.4,SNR=2.7							
TXAR				LR		LR	03 22 12.6	
	comp=Z,62nm,19.7s,baz=0.0,slow=36							
TX31	**Lajitas Ar. Si**	**52.64**	**292**	P		**P**	**02 59 44.0**	**-0.4**
TX32	**Lajitas Array**	**52.64**	**292**	P		**P**	**02 59 44.1**	**-0.3**
CLL	**Collm**	**54.58**	**41**	*eP*		**P**	**02 59 58.0**	**-0.1**
GERES	**GERESS Array B**	**54.60**	**44**	P		**P**	**02 59 57.8**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=244,slow=5.8,SNR=4.8							
NOA	**NORSAR Array B**	**56.15**	**29**	LR		LR	03 19 20.1	
	comp=Z,109nm,18.9s,baz=350,slow=31							
BW06	**Boulder Array**	**57.05**	**308**	P		**P**	**03 00 16.1**	**-0.3**
BW06				IAmb		IAmb	03 00 23.3	
	comp=Z,6.9nm,1.4s							
PD31	**Pinedale Array**	**57.05**	**308**	P		**P**	**03 00 16.5**	**+0.2**
PD31				IAmb		IAmb	03 00 23.3	
	comp=Z,5.5nm,1.3s							
PDAR	**Pinedale Array**	**57.05**	**308**	P		**P**	**03 00 16.3**	**0.0**
	comp=Z,1.4nm,0.9s,baz=97,slow=7.6,SNR=7.1							
PDAR				LR		LR	03 22 35.4	
	comp=Z,73nm,20.1s,baz=118,slow=34							
YHL	**Hebgen Lake**	**58.27**	**311**	P		**P**	**03 00 25.1**	**+0.1**
SPUT	**South Promonto**	**59.20**	**306**	P		**P**	**03 00 31.8**	**+0.4**
DUG	**Dugway, Tooele**	**59.52**	**305**	P		**P**	**03 00 34.4**	**+0.8**
DUG				IAmb		IAmb	03 00 36.7	
	comp=Z,3.4nm,1.0s							
BGU	**Big Grassy Mou**	**59.65**	**306**	P		**P**	**03 00 35.3**	**+0.8**
BGU				IAmb		IAmb	03 00 40.9	
	comp=Z,3.5nm,1.0s							
PSUT	**Pine Spring**	**60.42**	**303**	P		**P**	**03 00 40.4**	**+0.6**
PSUT				IAmb		IAmb	03 00 46.8	
	comp=Z,3.9nm,1.1s							
SPR3	**Spring Creek 3**	**60.76**	**304**	P		**P**	**03 00 43.5**	**+1.2**
SPR3				IAmb		IAmb	03 00 51.2	
	comp=Z,3.7nm,0.9s							
ELK	**Elko**	**61.34**	**306**	P		**P**	**03 00 46.5**	**+0.4**
ELK				IAmb		IAmb	03 00 49.5	
	comp=Z,3.5nm,1.2s							
YKA	**Yellowknife Ar**	**61.94**	**331**	P		**P**	**03 00 48.0**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=101,slow=7.9,SNR=3.9							
NEW	**Newport**	**62.39**	**314**	P		**P**	**03 00 53.4**	**+0.6**
ARCES	**ARCESS Array B**	**64.10**	**22**	LR		LR	03 24 20.7	
	comp=Z,181nm,18.7s,baz=60,slow=32							
AKASG	**Malin Array Be**	**64.73**	**43**	P		**P**	**03 01 07.0**	**-1.1**
	comp=Z,0.2nm,0.2s,baz=269,slow=5.7,SNR=1.6							
PLCA	**Paso Flores**	**65.45**	**200**	P		**P**	**03 01 11.2**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=31,slow=4.7,SNR=3.7							
H09W1	**TRISTAN DA CUN**	**65.71**	**151**	T		T	04 12 30.6	
	SNR=9.5							
BRTR	**Keskin Array B**	**69.05**	**54**	P		**P**	**03 01 36.1**	**0.0**
	comp=Z,0.9nm,0.9s,baz=285,slow=2.2,SNR=3.7							
INK	**Inuvik**	**69.98**	**337**	P		**P**	**03 01 40.7**	**-0.4**
IL31		**75.96**	**334**	P		**P**	**03 02 17.0**	**+0.5**
ILAR	**Eielson Array**	**75.96**	**334**	P		**P**	**03 02 16.8**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=73,slow=4.3,SNR=14							
ILAR				LR		LR	03 35 33.1	
	comp=Z,53nm,18.6s,baz=358,slow=36							
ILAR	**Eielson Array**	**75.96**	**334**	P		**P**	**03 02 16.3**	**-0.2**
LBTB	**Lobatse**	**83.00**	**120**	P		**P**	**03 02 55.7**	**0.0**
KMBO	**Kilima Mbogo**	**83.90**	**94**	LR		LR	03 37 27.6	
	comp=Z,114nm,21.4s,baz=90,slow=34							
ABKAR	**Akbulak array**	**84.20**	**39**	P		**P**	**03 03 00.0**	**-1.4**

IDC ***15*** *02:59:43.8±1.8,35°.45N×140°.53E,h0km, mb3.3/2, mb1 3.6/3,mb1mx3.2/34,mbtmp3.2/3,ML1.9/1,Error ellipse: s-maj=38.8km s-min=28.8km az=43.0*

JMA ***15*** *02:59:43.1±0.1,36°.44N×141°.15E,h50km±2km,M3.4*

ISC 15 02:59:42.0±1.8,36°.41N±0°.06×141°.30E±0°.09,h34km±3km, n21,σ0s72/25,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.58**	**263**	P	**Pn**	**02 59 53.9**	**+0.2**
JHYU				S	**Sb**	**03 00 01.6**	**-0.5**
JHO	**Hitachi**	**0.62**	**289**	P	**Pn**	**02 59 54.1**	**-0.2**
JHO				S	**Sb**	**03 00 02.0**	**-1.2**
JIHU	**Itakohorinouch**	**0.77**	**235**	P	**Pb**	**02 59 57.4**	**+0.4**
JIHU				S	**Sb**	**03 00 07.9**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.80**	**330**	P	**Pn**	**02 59 56.7**	**-0.2**
ONAJ				S	**Sn**	**03 00 06.7**	**-0.9**
JYT	**Yasato**	**0.91**	**259**	P	**Pn**	**02 59 58.1**	**-0.3**
JYT				S	**Sn**	**03 00 08.8**	**-1.5**
JFK	**Kawauchi**	**1.01**	**340**	P	**Pn**	**02 59 59.8**	**0.0**
JFK				S	**Sn**	**03 00 12.1**	**-0.8**
JFT	**Otama**	**1.35**	**325**	P	**Pn**	**03 00 05.4**	**+1.0**
JFT				S	**Sn**	**03 00 21.5**	**+0.4**
JAG	**Ashikaga**	**1.49**	**271**	P	**Pn**	**03 00 06.1**	**-0.3**
JMM	**Marumori**	**1.51**	**345**	P	**Pn**	**03 00 06.9**	**+0.3**
JMM				S	**Sn**	**03 00 25.1**	**+0.1**
JFY	**Yanaizu**	**1.62**	**308**	P	**Pn**	**03 00 08.9**	**+0.7**
JFY				S	**Sn**	**03 00 28.7**	**+0.9**
JKT	**Katashina**	**1.69**	**283**	P	**Pn**	**03 00 09.8**	**+0.6**
MJAR	**Matsushiro Arr**	**2.49**	**274**	Pn	**Pn**	**03 00 20.7**	**+0.5**
	0.4nm,0.3s,baz=111,slow=10,SNR=20						
MJAR				Sn	**Sn**	**03 00 50.0**	**+0.5**
	0.6nm,0.3s,baz=124,slow=8.4,SNR=6.5						
MAT	**Matsushiro**	**2.50**	**274**	P	**Pn**	**03 00 21.3**	**+1.1**
MAT				eS	**Sn**	**03 00 49.5**	**0.0**
H11N2	**WAKE ISLAND Hy**	**27.91**	**120**	T	T	03 34 58.5	
	baz=314,SNR=7.2						
H11N1	**WAKE ISLAND Hy**	**27.92**	**120**	T	T	03 35 14.4	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**27.93**	**120**	T	T	03 35 11.2	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.61**	**122**	T	T	03 35 43.1	
	baz=311,slow=74,SNR=8.3						
H11S3	**WAKE ISLAND Hy**	**28.61**	**122**	T	T	03 35 53.8	
	baz=311,slow=74,SNR=3.2						
H11S2	**WAKE ISLAND Hy**	**28.62**	**122**	T	T	03 35 57.0	
	baz=311						
ILAR	**Eielson Array**	**50.07**	**32**	P	P	03 08 48.3	+15
	0.2nm,0.8s,baz=246,slow=6.8,SNR=1.7						
WRA	**Warramunga Arr**	**56.43**	**188**	P	**P**	**03 09 19.9**	**-0.5**
	0.4nm,0.7s,baz=0.4,slow=7.9,SNR=2.3						

SJA ***15*** *02:59:46.5±0.6,21°.94S×68°.94W,h114km±3km,ML4.8, MW4.5*

NEIC ***15*** *02:59:46.5±1.4,21°.94S±0°.04×68°.76W±0°.08,h96km±3km, Error ellipse: s-maj=11.3km s-min=6.5km az=90.0*

VAO ***15*** *02:59:47.0±0.7,21°.73S×68°.24W,h49km±11km, mb4.8*

IDC ***15*** *02:59:47.5±0.3,22°.13S×68°.70W,h103km±3km, mb4.0/12, mb1 4.2/17,mb1mx4.1/29,mbtmp4.4/17,MS3.5/1, Ms1 3.4/1,ms1mx2.8/22,Error ellipse: s-maj=13.2km s-min=8.8km az=100.0*

GUC ***15*** *02:59:47.9±0.7,21°.97S×68°.86W,h103km±3km,ML4.9*

ISC 15 02:59:47.4±0.4,22°.00S±0°.03×68°.82W±0°.04,h103km±3km, n261,σ1s36/294,mb4.6/47,14C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.44**	**297**	⇓*iP*	**Pn**	**03 00 03.6**	**+0.2**
PB09				*i* S	**Sn**	**03 00 15.3**	**+0.1**
PB09				IAML		03 00 16.7	
	comp=N,73µm,0.5s						
PB09	**IPOC Station P**	**0.44**	**297**		**Pn**	**03 00 03.5**	**+0.2**
PB09	**IPOC Station P**	**0.44**	**297**	*eS*	**Sn**	**03 00 16.1**	**+0.9**
PB09				IAML		03 00 16.3	
	comp=Z,45µm,0.5s						
LVC	**Limon Verde**	**0.62**	**188**	P	**Pn**	**03 00 05.4**	**+0.5**
	comp=Z,446nm,0.3s,baz=19,slow=11,SNR=2519						
LVC				S	**Sn**	**03 00 17.9**	**+0.1**
	comp=Z,1µm,0.3s,baz=195,slow=20,SNR=21						
LVC	**Limon Verde**	**0.62**	**188**	⇑*iP*	**Pn**	**03 00 05.4**	**+0.5**
LVC				*i* S	**Sn**	**03 00 18.8**	**+1.0**
LVC	**Limon Verde**	**0.62**	**188**	*eP*	**Pn**	**03 00 05.4**	**+0.5**
LVC	**Limon Verde**	**0.62**	**188**	*eS*	**Pn**	**03 00 05.3**	**+0.5**
PB03	**IPOC Station P**	**0.87**	**266**	⇑*iP*	**Pn**	**03 00 06.8**	**-0.1**
PB03				*i* S	**Sn**	**03 00 21.0**	**-0.5**
PB03				IAML		03 00 21.9	
	comp=E,34µm,0.6s						
PB03	**IPOC Station P**	**0.87**	**266**	*eS*	**Sn**	**03 00 21.5**	**0.0**
PB03				IAML		03 00 21.7	
	comp=Z,14µm,0.2s						
PB06	**IPOC Station P**	**0.99**	**225**	⇑*iP*	**Pn**	**03 00 08.6**	**+0.5**
PB06				*i* S	**Sn**	**03 00 24.3**	**+0.5**
PB06				IAML		03 00 25.1	
	comp=E,26µm,0.4s						
PB06	**IPOC Station P**	**0.99**	**225**		**Pn**	**03 00 08.7**	**+0.5**
PB06	**IPOC Station P**	**0.99**	**225**	*eP*	**Pn**	**03 00 08.6**	**+0.5**
PB06				*eS*	**Sn**	**03 00 24.9**	**+1.1**
PB06				IAML		03 00 27.0	
	comp=Z,9µm,0.7s						
PB07	**IPOC Station P**	**1.03**	**285**	⇑*iP*	**Pn**	**03 00 08.2**	**-0.2**
PB07				*i* S	**Sn**	**03 00 23.9**	**-0.6**
PB07				IAML		03 00 25.0	
	comp=E,48µm,0.3s						
PB07	**IPOC Station P**	**1.03**	**285**		**Pn**	**03 00 08.3**	**-0.2**
PB07	**IPOC Station P**	**1.03**	**285**	*eS*	**Sn**	**03 00 24.1**	**-0.4**
PB07				IAML		03 00 25.9	
	comp=Z,32µm,0.4s						
PB01	**IPOC Station P**	**1.14**	**327**	⇑*iP*	**Pn**	**03 00 09.2**	**-0.4**
PB01				*i* S	**Sn**	**03 00 25.5**	**-0.9**
PB01				IAML		03 00 27.5	
	comp=E,73µm,0.3s						
PB01	**IPOC Station P**	**1.14**	**327**		**Pn**	**03 00 09.3**	**-0.4**
PB01	**IPOC Station P**	**1.14**	**327**	*eS*	**Sn**	**03 00 26.2**	**-0.2**
PB01				IAML		03 00 27.2	
	comp=Z,23µm,0.2s						
PB04	**IPOC Station P**	**1.28**	**255**	⇑*iP*	**Pn**	**03 00 11.2**	**-0.1**
PB04				*i* S	**Sn**	**03 00 28.8**	**-0.7**
PB04				IAML		03 00 31.6	
	comp=N,14µm,0.3s						
PB04	**IPOC Station P**	**1.28**	**255**		**Pn**	**03 00 11.3**	**-0.1**
PB04	**IPOC Station P**	**1.28**	**255**	*eP*	**Pn**	**03 00 11.3**	**-0.1**
PB04				*eS*	**Sn**	**03 00 29.2**	**-0.3**
PB04				IAML		03 00 33.1	
	comp=Z,10µm,0.3s						
PB15	**IPOC Station P**	**1.35**	**206**	⇑*iP*	**Pn**	**03 00 12.7**	**+0.5**
PB15				*i* S	**Sn**	**03 00 32.3**	**+1.4**
PB15				IAML		03 00 37.1	
	comp=E,39µm,0.3s						
PB15	**IPOC Station P**	**1.35**	**206**		**Pn**	**03 00 13.0**	**+0.7**
PB15	**IPOC Station P**	**1.35**	**206**	*eP*	**Pn**	**03 00 13.3**	**+1.1**
PB15				*eS*	**Sn**	**03 00 33.0**	**+2.0**
PB15				IAML		03 00 36.7	
	comp=Z,18µm,0.2s						
PB05	**IPOC Station P**	**1.54**	**236**	⇑*iP*	**Pn**	**03 00 14.4**	**-0.1**
PB05				*i* S	**Sn**	**03 00 34.2**	**-0.7**
PB05				IAML		03 00 36.9	
	comp=N,7µm,0.4s						
PB05	**IPOC Station P**	**1.54**	**236**	*eP*	**Pn**	**03 00 14.3**	**-0.1**
PB05				*eS*	**Sn**	**03 00 35.1**	**+0.2**
PB05				IAML		03 00 38.0	
	comp=Z,4µm,0.3s						
PB08	**IPOC Station P**	**1.87**	**350**	⇑*iP*	**Pn**	**03 00 19.3**	**+0.4**
PB08				*i* S	**Sn**	**03 00 43.1**	**+0.4**
PB08				IAML		03 00 45.3	
	comp=E,10µm,0.5s						
PB08	**IPOC Station P**	**1.87**	**350**		**Pn**	**03 00 19.0**	**+0.1**
PB08	**IPOC Station P**	**1.87**	**350**	*eS*	**Sn**	**03 00 43.6**	**+0.8**
PB08				IAML		03 00 46.4	
	comp=Z,4µm,0.3s						
TA01	**Diego Aracena**	**1.91**	**318**	⇑*iP*	**Pn**	**03 00 17.8**	**-1.1**
TA01				*i* S	**Sn**	**03 00 41.4**	**-1.5**
TA01				IAML		03 00 43.1	
	comp=E,23µm,0.3s						
TA01	**Diego Aracena**	**1.91**	**318**		**Pn**	**03 00 17.6**	**-1.3**
HMBC	**Humberstone**	**1.98**	**330**	⇑*iP*	**Pn**	**03 00 19.0**	**-1.0**
HMBC				*i* S	**Sn**	**03 00 43.6**	**-1.2**
TA02	**Huaiquique**	**2.11**	**324**	*eP*	**Pn**	**03 00 20.2**	**-1.4**
TA02				*i* S	**Sn**	**03 00 45.7**	**-1.9**
TA02				IAML		03 00 50.8	
	comp=E,15µm,0.6s						
PB10	**IPOC Station P**	**2.20**	**226**	*eP*	**Pn**	**03 00 22.7**	**0.0**
PB10				*i* S	**Sn**	**03 00 47.5**	**-2.3**
PB10	**IPOC Station P**	**2.20**	**226**	Pn	**Pn**	**03 00 23.1**	**+0.4**
PB10	**IPOC Station P**	**2.20**	**226**	*eP*	**Pn**	**03 00 22.2**	**-0.5**
PB10				*eP*	**Pn**	**03 00 23.0**	**+0.3**
PB10				*eS*	**Sn**	**03 00 50.5**	**+0.8**
PSGCX	**Pisagua**	**2.68**	**333**	Pn	**Pn**	**03 00 27.0**	**-2.0**
PSGCX	**Pisagua**	**2.68**	**333**	*eP*	**Pn**	**03 00 27.1**	**-2.0**
PSGCX				*eS*	**Sn**	**03 00 55.2**	**-5.9**
PSGC	**Pisagua**	**2.68**	**333**	⇑*iP*	**Pn**	**03 00 27.0**	**-2.1**
PSGC				*i* S	**Sn**	**03 00 58.4**	**-2.8**
PSGC				IAML		03 01 08.4	
	comp=N,7µm,0.5s						
MNMC	**Minye Minye**	**2.94**	**346**		**Pn**	**03 00 31.5**	**-1.2**
MNMCX	**Minye Minye**	**2.94**	**346**	*eP*	**Pn**	**03 00 31.8**	**-0.9**
PB14	**IPOC Station P**	**3.00**	**209**	Pn	**Pn**	**03 00 33.4**	**0.0**
PB14	**IPOC Station P**	**3.00**	**209**	*eP*	**Pn**	**03 00 33.9**	**+0.4**
PB14				*eS*	**Sn**	**03 01 05.6**	**-3.3**
PB14				IAML		03 01 30.4	
	comp=Z,1µm,0.5s						
YJA	**Yavi**	**3.07**	**94**	*eP*	**Pn**	**03 00 37.5**	**+3.0**
GO02	**Mina Guanaco**	**3.23**	**193**	⇓*iP*	**Pn**	**03 00 36.4**	**-0.1**
GO02				*eS*	**Sn**	**03 01 13.6**	**-0.8**
GO02				IAML		03 01 42.0	
	comp=N,3µm,0.2s						
GO02	**Mina Guanaco**	**3.23**	**193**	Pn	**Pn**	**03 00 36.5**	**-0.1**
PB16	**IPOC Station P**	**3.70**	**350**	⇑*iP*	**Pn**	**03 00 42.8**	**-0.3**
PB16				*i* S	**Sn**	**03 01 26.4**	**+0.2**
PB16	**IPOC Station P**	**3.70**	**350**	Pn	**Pn**	**03 00 42.3**	**-0.8**
AP01	**Chacalluta**	**3.88**	**338**		**Pn**	**03 00 43.2**	**-1.8**
SLA	**San Lorenzo**	**4.08**	**132**	*eP*	**Pn**	**03 00 51.0**	**+3.2**
AC01	**Pan de Azucar**	**4.44**	**201**	Pn	**Pn**	**03 00 51.2**	**-1.4**
AC02	**Maricunga**	**4.83**	**183**	Pn	**Pn**	**03 00 58.2**	**0.0**
FSA	**Cafayete**	**4.85**	**148**	*eP*	**Pn**	**03 01 00.2**	**+1.9**
LPAZ	**La Paz**	**5.72**	**7**	P	**Pn**	**03 01 11.9**	**+1.5**
	comp=N,1.5nm,0.3s,baz=201,slow=7.1,SNR=32						
LPAZ	**La Paz**	**5.72**	**7**	Pn	**Pn**	**03 01 11.2**	**+0.7**
LPAZ	**La Paz**	**5.72**	**7**	*eP*	**Pn**	**03 01 11.6**	**+1.2**
GO03	**Copiap**	**5.72**	**193**		**Pn**	**03 01 07.9**	**-2.0**
**

GUY2C eP P 03 05 30.3 +2.8
SPBC San Pablo de B 27.96 349 eP P 03 05 31.1 +2.7
NORC Norcasia 28.02 347 eP P 03 05 34.5 +5.5
RUSC La Rusia 28.03 351 eP P 03 05 28.7 -0.8
CBOC Ciudad Bolivar 28.57 345 eP P 03 05 33.2 -0.7
NBIT Itapeh - BA 28.71 81 eP P 03 05 34.9 -0.2
BARC Barichara 28.73 351 eP P 03 05 33.3 -2.1
PTBC PUERTO BERRIO, 28.89 348 eP P 03 05 33.8 -2.9
GDU01 Guandu, BA 28.98 78 eP P 03 05 35.3 -2.2
SDV Santo Domingo 30.74 356 pP pP 03 06 19.3 +1.9
comp=Z,2.7nm,0.6s,baz=206,slow=8.2,SNR=3.6
SMLC San Martn de 31.04 350 eP P 03 05 52.5 -3.1
NBPB Pedra_Branca-C 32.66 64 eP P 03 06 09.1 -0.9
NBAN Anadia - AL 33.54 74 eP P 03 06 17.4 -0.2
RCBR Riachuelo 35.64 68 P P 03 06 34.9 -0.8
comp=Z,19nm,1.2s,baz=236,slow=16,SNR=4.1
ZAIG Zacatecas 55.32 321 P P 03 09 11.1 +0.2
ZAIG IAmb IAmb 03 09 13.5
comp=Z,4.9nm,0.7s
352A Blakely 55.37 343 P P 03 09 10.2 -0.6
BELA Belgrano 2 58.25 172 P P 03 09 30.6 +0.1
VNA3 Neumayer Olymp 59.58 161 P P 03 09 41.0 +1.1
VNA1 Neumayer--Stat 59.79 160 P P 03 09 41.6 +0.3
V48A Smith Brothers 59.90 343 P P 03 09 42.7 +0.3
WLAR White Oak Lake 60.02 337 P P 03 09 43.4 +0.1
JCT Junction City 60.07 329 P P 03 09 44.0 +0.2
VNA2 Neumayer--Watz 60.16 161 P P 03 09 44.6 +0.8
baz=281,slow=8.1
WVT Waverly 60.55 342 P P 03 09 45.9 -0.9
MIAR Mount Ida 60.96 337 P P 03 09 48.5 -1.1
MIAR IAmb IAmb 03 09 50.4
comp=Z,8.9nm,1.1s
TXAR Lajitas Array 61.08 325 P P 03 09 50.7 0.0
comp=Z,0.8nm,0.7s,baz=153,slow=7.5,SNR=10
TXAR pP pP 03 10 18.1 +1.3
comp=Z,0.7nm,0.7s,baz=147,slow=7.0,SNR=3.5
TXAR Lajitas Array 61.08 325 P P 03 09 50.9 +0.1
TX31 Lajitas Ar. Si 61.08 325 P P 03 09 50.1 -0.6
TX32 Lajitas Array 61.08 325 P P 03 09 50.3 -0.5
TX32 IAmb IAmb 03 11 17.1
comp=Z,12nm,1.8s
X37A Clayton 61.67 335 P P 03 09 53.8 -0.7
X37A IAmb IAmb 03 09 55.8
comp=Z,7.1nm,0.8s
SNAA Sanae 61.78 161 P P 03 09 55.7 +0.8
SNAA Sanae 61.78 161 P P 03 09 54.8 -0.1
PBMO Poplar Bluff 61.92 340 P P 03 09 55.6 -0.5
PBMO IAmb IAmb 03 10 22.9
comp=Z,7.1nm,0.8s
HHAR Hobbs 62.64 337 P P 03 10 00.3 -0.7
HHAR IAmb IAmb 03 10 29.2
comp=Z,7.0nm,1.0s
FVM French Village 63.03 341 P P 03 10 03.1 -0.3
CCM Cathedral Cave 63.34 340 P P 03 10 05.1 -0.4
CCM IAmb IAmb 03 10 33.5
comp=Z,7.6nm,0.8s
OK031 S. Brethren Rd 63.45 335 P P 03 10 05.6 -0.7
S39A Bolivar 63.69 338 P P 03 10 07.0 -0.8
S39A IAmb IAmb 03 10 35.6
comp=Z,8.8nm,0.8s
MNTX Cornudas Mount 63.85 326 P P 03 10 09.0 0.0
P40A Paris 64.94 340 P P 03 10 15.8 -0.1
P40A IAmb IAmb 03 10 44.0
comp=Z,6.6nm,0.8s
P38A Dawn 65.51 339 P P 03 10 18.7 -0.9
P38A IAmb IAmb 03 10 48.4
comp=Z,7.5nm,0.9s
ANMO Albuquerque 66.96 327 P P 03 10 29.2 0.0
ANMO IAmb IAmb 03 10 31.2
comp=Z,3.8nm,0.8s
CBKS Cedar Bluff 67.07 334 P P 03 10 29.0 -0.7
TUC Tucson 67.28 322 P P 03 10 31.2 +0.1
TUC IAmb IAmb 03 12 10.2
comp=Z,16nm,1.9s
QSPA South Pole Qui 68.20 180 P P 03 10 37.5 +0.9
SDCO Great Sand Dun 68.72 329 P P 03 10 40.6 +0.3
SDCO IAmb IAmb 03 10 42.4
comp=Z,5.3nm,0.9s
DBIC Dimbokro 68.80 73 P P 03 10 40.1 -0.8
comp=Z,2.5nm,0.4s,baz=227,slow=6.7,SNR=12
MVCO Mesa Verde 69.76 327 P P 03 10 47.0 +0.3
MVCO IAmb IAmb 03 10 48.8
comp=Z,6.9nm,0.8s
WUAZ Wupatki 69.98 324 P P 03 10 48.0 0.0
WUAZ IAmb IAmb 03 10 50.8
comp=Z,9.0nm,1.0s
ISCO Idaho Springs 70.42 331 P 03 10 50.6 -0.2
PV01 Paradox Valley 70.51 328 P P 03 10 51.8 +0.5
PV01 IAmb IAmb 03 10 53.7
comp=Z,11nm,1.2s
SMCO Snowmass 70.55 329 P 03 10 52.2 +0.5
U15A North Rim 71.16 324 P P 03 10 55.8 +0.5
U15A IAmb IAmb 03 10 58.2
comp=Z,8.9nm,1.1s
LCMT Little Creek M 72.10 324 P P 03 11 01.2 +0.4
SHPR Sheep Range 72.80 322 P P 03 11 05.7 +0.7
KOWA Kowa 73.14 66 P P 03 11 06.8 -0.3
KOWA IAmb IAmb 03 11 09.0
comp=Z,33nm,1.9s
RSSD Black Hills 73.28 334 P P 03 11 07.5 -0.1
RSSD IAmb IAmb 03 11 09.4
comp=Z,8.9nm,0.8s
PRN Pahroc Range 73.38 323 P P 03 11 08.8 +0.4
B35A Bob, Littlefor 73.51 343 P P 03 11 07.9 -0.7
B35A IAmb IAmb 03 11 36.6
comp=Z,6.7nm,0.8s
TPNV Topopah Spring 73.74 322 P P 03 11 10.8 +0.4
SPR3 Spring Creek 3 74.14 325 P P 03 11 12.4 -0.6
ISA Isabella, Lake 74.15 320 P P 03 11 13.1 +0.3
DUG Dugway, Tooele 74.22 326 P P 03 11 12.7 -0.5
BW06 Boulder Array 74.58 330 P P 03 11 14.2 -1.2
PD31 Pinedale Array 74.58 330 P P 03 11 14.5 -0.8
PDAR Pinedale Array 74.58 330 P P 03 11 15.9 +0.6
comp=Z,1.0nm,0.5s,baz=134,slow=7.4,SNR=16
PDAR pP pP 03 11 43.8 +1.3
comp=Z,0.6nm,0.5s,baz=135,slow=7.5,SNR=3.5
PDAR Pinedale Array 74.58 330 P P 03 11 15.5 +0.2
HWUT Hardware Ranch 74.65 328 P 03 11 15.8 +0.1
HWUT IAmb IAmb 03 11 18.7
comp=Z,7.0nm,0.8s
AHID Auburn Hatcher 75.30 329 P P 03 11 19.3 -0.2
AHID IAmb IAmb 03 11 21.2
comp=Z,12nm,0.8s
REDW Red Top Meadow 75.64 330 P P 03 11 21.1 -0.4
REDW IAmb IAmb 03 11 23.4
comp=Z,6.7nm,0.8s
SNOW Snow King Moun 75.67 330 P P 03 11 21.1 -0.5
SNOW IAmb IAmb 03 11 23.7
comp=Z,8.6nm,0.8s
ULM Lac du Bonnet 75.81 342 P P 03 11 21.1 -0.7
comp=Z,2.0nm,0.6s,baz=170,slow=6.8,SNR=6.0
ULM pP pP 03 11 48.7 -0.6
comp=Z,1.8nm,0.6s,baz=199,slow=6.6,SNR=2.8
ULM Lac du Bonnet 75.81 342 IAmb IAmb 03 13 20.8
comp=Z,18nm,1.8s
ELK Elko 75.88 325 P P 03 11 22.6 -0.3
NVAR Mina Array Bea 75.94 322 P P 03 11 24.7 +1.6
comp=Z,1.0nm,0.7s,baz=159,slow=6.7,SNR=9.9
NVAR pP pP 03 11 50.6 +0.1
comp=Z,1.3nm,0.8s,baz=152,slow=5.4,SNR=4.0
NVAR Mina Array Bea 75.94 322 P P 03 11 23.2 0.0
FLWY Flagg Ranch 76.13 330 P P 03 11 24.3 +0.2
KVN Kaiserville 76.25 323 P P 03 11 24.6 -0.3
LAO LASA Array 76.27 335 P P 03 11 24.3 -0.4
LAO IAmb IAmb 03 11 26.4
comp=Z,12nm,1.0s
VNDA Vanda 76.38 190 P P 03 11 27.6 +2.7
comp=Z,2.4nm,0.9s,baz=119,slow=7.2,SNR=9.1
VNDA Vanda 76.38 190 P P 03 11 25.7 +0.9
VNDA IAmb IAmb 03 14 02.9
comp=Z,23nm,1.9s
GCMT Greycliff 76.99 332 P P 03 11 27.4 -1.4
PAHR Pah Rah Range 77.42 322 P P 03 11 32.0 +0.6
PAHR IAmb IAmb 03 11 34.0
comp=Z,7.0nm,0.8s
TOA0 Torodi Ar. Sit 77.44 70 P P 03 11 31.4 -0.5
TOA0 IAmb IAmb 03 11 36.2
comp=Z,8.0nm,0.9s
TORD Torodi Ar. Bea 77.44 70 P P 03 11 31.1 -0.7
comp=Z,4.2nm,0.5s,baz=253,slow=5.2,SNR=14
TORD pP pP 03 11 58.5 -0.9
comp=Z,2.2nm,0.5s,baz=258,slow=5.2,SNR=3.5
MFID Camas Ranch 78.11 327 P P 03 11 35.7 +0.6
MFID IAmb IAmb 03 12 06.8
comp=Z,14nm,1.5s
LRM Limekiln Ridge 78.26 330 P P 03 11 35.6 -0.5
ORV Oroville 78.53 321 P P 03 11 38.0 +0.6
ORV IAmb IAmb 03 11 39.8
comp=Z,9.0nm,1.4s
MOD Modoc Plateau 79.42 324 P P 03 11 42.4 0.0
MOD IAmb IAmb 03 12 13.0
comp=Z,8.8nm,1.3s
BMO Blue Mountains 79.88 327 P P 03 11 44.5 -0.1
BMO IAmb IAmb 03 11 46.8
comp=Z,7.8nm,0.9s
K05A Summer Lake 80.30 324 P P 03 11 47.8 +0.6
I07A Izee 80.47 326 P P 03 11 48.5 +0.6
F10A Beach Ranch, E 80.63 328 P P 03 11 48.6 -0.1
F10A IAmb IAmb 03 11 54.1
comp=Z,8.2nm,0.9s
PINE Pine Mountain 81.03 325 P P 03 11 50.9 -0.1
PINE IAmb IAmb 03 11 53.5
comp=Z,10nm,0.8s
WALA Waterton Lakes 81.34 332 P P 03 11 52.1 -0.4
WALA IAmb IAmb 03 11 54.2
comp=Z,9.2nm,0.9s
HAWA Hanford 82.07 327 P P 03 11 56.0 -0.1
C09A Chrisman Ranch 82.43 329 P P 03 11 57.9 -0.1
BOSA Boshof 83.14 118 P P 03 12 02.0 -0.4
comp=Z,3.5nm,0.6s,baz=255,slow=3.4,SNR=13
ESDC Sonseca Array 86.13 44 P P 03 12 17.4 +0.4
comp=Z,0.8nm,0.9s,baz=289,slow=5.0,SNR=3.9
ESDC pP pP 03 12 45.6 +0.6
comp=Z,1.5nm,1.1s,baz=253,slow=7.6,SNR=5.1
ESDC sP sP 03 12 55.1 -1.3
comp=Z,1.0nm,1.0s,baz=248,slow=5.5,SNR=4.7
ESDC Sonseca Array 86.13 44 IAmb IAmb 03 13 45.6
comp=Z,9.5nm,1.4s
YKA Yellowknife Ar 91.68 341 P P 03 12 42.7 +0.1
comp=Z,4.0nm,0.7s,baz=132,slow=5.1,SNR=57
YKA pP pP 03 13 10.4 -0.3
comp=Z,1.7nm,0.7s,baz=132,slow=5.1,SNR=7.0
STKA Stephens Creek 119.03 210 PKP PKiKP 03 18 25.8 +1.2
comp=Z,0.9nm,0.7s,baz=74,slow=2.4,SNR=2.9
H11S2 WAKE ISLAND Hy 28.02 277 T T 05 38 52.0
baz=102,slow=74,SNR=48
H11S1 WAKE ISLAND Hy 28.03 277 T T 05 38 56.9
baz=102,slow=74,SNR=20
H11S3 WAKE ISLAND Hy 28.04 277 T T 05 38 56.2
baz=102,slow=74,SNR=34
H11N3 WAKE ISLAND Hy 28.12 278 T T 05 38 52.3
baz=101
H11N2 WAKE ISLAND Hy 28.13 278 T T 05 39 04.6
baz=101
H11N1 WAKE ISLAND Hy 28.13 278 T T 05 38 41.9
baz=101
ASAR Alice Springs 129.51 207 PKP PKPdf 03 18 45.1 +0.3
comp=Z,3.7nm,0.8s,baz=135,slow=2.0,SNR=31
ASAR Alice Springs 129.51 207 PKPdf PKPdf 03 18 44.9 0.0
WRA Warramunga Arr 132.57 210 PKP PKiKP 03 18 51.4 -0.5
comp=Z,4.1nm,0.7s,baz=153,slow=1.7,SNR=5.2
PETK Petropavlovsk- 133.01 323 PKP PKiKP 03 18 51.6 -0.1
comp=Z,2.7nm,0.9s,baz=53,slow=2.7,SNR=2.3
ZAA0 Zalesovo Array 142.36 25 PKPdf PKPdf 03 19 08.6 +1.0
ZALV Zalesovo Beam 142.36 25 PKhKP PKPpre 03 19 03.7
comp=Z,3.2nm,0.5s,baz=322,slow=5.3,SNR=5.7
ZALV PKP PKPdf 03 19 08.6 +1.0
comp=Z,4.2nm,0.5s,baz=289,slow=2.7,SNR=20
ZALV Zalesovo Beam 142.36 25 PKPdf PKPdf 03 19 07.0 -0.6
AAK Ala-Archa 143.18 47 PKPdf PKPdf 03 19 08.8 -0.9
NIL Nilore 144.69 63 PKPdf PKPdf 03 19 12.4 0.0
KSH Kashi 145.34 52 PKPbc PKPab 03 19 14.0 +0.2
KSH sPKP 03 19 50.9
KSH PP PP 03 22 37.6 +3.5
KSH AMB AMB
comp=Z,140nm,5.9s
MAKZ Makanchi 145.80 37 PKPbc PKPab 03 19 15.1 0.0
SOEI Soe 145.93 203 PKPbc PKPab 03 19 16.9 +0.4
MK31 Makanchi Array 145.98 36 PKPbc PKPbc 03 19 15.1 -0.1
MKAR Makanchi Array 145.98 36 PKPbc PKPbc 03 19 15.1 -0.1
comp=Z,8.8nm,0.8s,baz=328,slow=2.3,SNR=44
MKAR pPKPbc pPKPab 03 19 44.8 +0.3
comp=Z,5.3nm,0.8s,baz=293,slow=3.4,SNR=6.5
MKAR Makanchi Array 145.98 36 PKPbc PKPbc 03 19 15.2 +0.1
TLY Talaya 149.80 9 PKPbc PKPdf 03 19 22.5 +2.2
USRK Ussuriysk Ar. 151.97 327 PKPbc PKiKP 03 19 31.2 +0.4
comp=Z,5.5nm,0.8s,baz=293,slow=1.1,SNR=17
USRK pPKPbc pPKPbc 03 20 00.3 +0.4
comp=Z,4.6nm,0.8s,baz=21,slow=0.5,SNR=5.9
MJAR Matsushiro Arr 152.44 308 PKPbc PKiKP 03 19 32.0 -0.1
comp=Z,3.3nm,0.8s,baz=97,slow=1.3,SNR=13
MJAR Matsushiro Arr 152.44 308 PKiKP 03 19 32.3 +0.3
SONM Songino Array 153.93 7 PKP PKPdf 03 19 27.5 +0.7
comp=Z,1.5nm,0.7s,baz=152,slow=0.3,SNR=13
SONM PKPbc PKiKP 03 19 35.3 +0.4
comp=Z,2.5nm,0.8s,baz=312,slow=1.5,SNR=12
SONM PKPab PKPab 03 19 49.1 +0.7
comp=Z,1.0nm,0.7s,baz=320,slow=4.4,SNR=5.2
SONM pPKP pPKPdf 03 19 57.4 +1.0
comp=Z,1.4nm,0.5s,baz=316,slow=1.6,SNR=5.7
SONM pPKPbc pPKPbc 03 20 04.3 0.0
comp=Z,2.0nm,0.8s,baz=308,slow=1.3,SNR=5.1
KSRS Korea Array 158.87 321 PKP PKPdf 03 19 34.4 +1.1
comp=Z,1.3nm,0.8s,baz=57,slow=1.6,SNR=7.0
KSRS PKPab PKPab 03 20 10.5 +0.7
comp=Z,0.4nm,0.5s,baz=45,slow=3.9,SNR=4.4
GTA Gaotai 160.11 27 ↑PKP PKPdf 03 19 36.3 +1.4
GTA pPKP pPKPdf 03 20 05.5 +0.9
GTA sPKP 03 20 15.8
CMAR Chiang Mai Arr 167.98 105 PKP PKPdf 03 19 43.0 +0.6
comp=Z,1.4nm,0.5s,baz=250,slow=2.0,SNR=4.2

IDC 15 03:08:41.5±2.0, 6°24'S×146°70'E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/22, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=132.4km s-min=30.1km az=123.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.15	220	P	Pn		03 12 55.1	-0.2
	0.1nm,0.3s,baz=44,slow=12,SNR=7.5							
ASAR	Alice Springs	21.25	214	P	P		03 13 29.0	-0.5
	0.6nm,0.5s,baz=49,slow=9.7,SNR=12							
ILAR	Eielson Array	85.82	23	P	P		03 21 23.0	+0.3
	0.1nm,0.5s,baz=264,slow=5.1,SNR=4.8							

IDC 15 03:22:57.0±0.7, 15°22'N×146°23'E, h0km, mb4.1/15, mb1 4.3/15, mb1mx4.1/35, mbtmp4.1/15, Error ellipse: s-maj=22.5km s-min=16.0km az=97.0
NEIC 15 03:23:05.5±1.3, 15°20'N×146°3'E, h72km±7km, mb4.4/16, Error ellipse: s-maj=17.4km s-min=1.8km az=92.0

ISC 15 03:23:08.0±0.6, 15°03'N×146°3'E, h100km, n50, σ1°48/42, mb4.2/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMO	Guam	1.96	223			Pn	03 23 37.8	-2.2
PATS	Pohnpei	14.37	123	Pn		Pn	03 26 24.6	-2.2
H11S3	WAKE ISLAND Hy	19.87	77	T	T		03 49 00.3	
	baz=263,slow=75,SNR=34							
H11S1	WAKE ISLAND Hy	19.88	77	T	T		03 48 51.5	
	baz=263,slow=75,SNR=37							
H11S2	WAKE ISLAND Hy	19.89	77	T	T		03 49 01.8	
	baz=263,slow=75,SNR=40							
H11N1	WAKE ISLAND Hy	20.24	74	T	T		03 48 53.2	
	baz=263,slow=75,SNR=48							
H11N2	WAKE ISLAND Hy	20.25	74	T	T		03 48 53.7	
	baz=263,slow=75,SNR=46							
H11N3	WAKE ISLAND Hy	20.26	74	T	T		03 48 54.2	
	baz=263,slow=75,SNR=43							
MJAR	Matsushiro Arr	22.59	343	P	P		03 27 55.6	-4.7
	0.6nm,0.5s,baz=168,slow=10,SNR=2.5							
MJAR	Matsushiro Arr	22.59	343	IAmb	IAmb		03 27 56.2	
	comp=Z,1.2nm,1.1s							
JNU	Nakatsue	22.78	325	P	P		03 28 00.9	-1.3
	comp=Z,5.4nm,0.7s,baz=102,slow=5.0,SNR=8.1							
JNU	Nakatsue	22.78	325	IAmb	IAmb		03 28 10.1	
	comp=Z,28nm,1.4s							
KSRS	Korea Array	27.63	327	P	P		03 28 45.0	-1.0
	comp=Z,1.1nm,0.6s,baz=144,slow=9.9,SNR=6.4							
WR0	Warramunga Arr	36.63	199	P	P		03 30 06.2	+1.4
WB2	Warramunga Arr	36.67	199	P	P		03 30 06.3	+1.1
WRA	Warramunga Arr	36.67	199	P	P		03 30 07.2	+1.9
	comp=Z,1.2nm,0.5s,baz=10,slow=8.6,SNR=28							
FITZ	Fitzroy Crossi	38.68	212	P	P		03 30 23.2	+1.1
FITZ				IAmb	IAmb		03 30 47.7	
	comp=Z,5.3nm,1.2s							

PEA0B Petropavlovsk- 39.06 11 P P 03 30 25.4 +0.4
PETK Petropavlovsk- 39.06 11 P P 03 30 24.3 -0.7
comp=Z,2.4nm,0.6s,baz=186,slow=3.5,SNR=4.4
HHC Hu-ho-hao-te 39.59 317 eP P 03 30 30.3 +0.6
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,55nm,5.7s
ASAR Alice Springs 40.31 198 P P 03 30 37.9 +2.2
comp=Z,0.4nm,0.4s,baz=16,slow=7.3,SNR=13
ASAR Alice Springs 40.31 198 P P 03 30 37.8 +2.1
MA2 Magadan 44.60 3 P P 03 31 10.3 +0.3
comp=Z,3.5nm,0.7s,baz=197,slow=5.0,SNR=8.2
MA2 Magadan 44.60 3 P P 03 31 09.3 -0.7
MA2 IAmb IAmb 03 31 11.0
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 45.33 281 P P 03 31 16.9 +0.5
comp=Z,1.0nm,0.4s,baz=71,slow=5.8,SNR=5.3
SONM Songino Array 46.35 323 P P 03 31 24.0 -0.2
comp=Z,1.3nm,0.6s,baz=139,slow=7.6,SNR=11
SONM Songino Array 46.35 323 P P 03 31 24.1 -0.2
GTA Gaotai 47.25 310 eP P 03 31 33.1 +1.8
GTA pmax pmax
comp=Z,3.0nm,0.7s
WMQ Urumqi 57.13 313 eP P 03 32 46.6 +2.2
ZAA0 Zalesovo Array 61.25 324 P P 03 33 11.2 -1.2
ZALV Zalesovo Beam 61.25 324 P P 03 33 11.5 -1.0
comp=Z,1.3nm,0.5s,baz=102,slow=5.9,SNR=6.9
ZALV Zalesovo Beam 61.25 324 P P 03 33 10.4 -2.0
MK31 Makanchi Array 61.40 315 P P 03 33 13.4 -0.2
MK31 IAmb IAmb 03 33 14.7
comp=Z,2.6nm,0.7s
MKAR Makanchi Array 61.40 315 P P 03 33 13.8 +0.1
comp=Z,2.2nm,0.4s,baz=91,slow=8.5,SNR=52
MKAR Makanchi Array 61.40 315 P P 03 33 13.6 -0.1
MAKZ Makanchi 61.62 315 P P 03 33 14.9 -0.2
RDOG Red Dog Mine 62.09 19 P P 03 33 17.5 -0.4
IL31 66.70 25 P P 03 33 47.2 -0.7
IL31 IAmb IAmb 03 33 51.6
comp=Z,5.4nm,1.4s
ILAR Eielson Array 66.70 25 P P 03 33 47.8 -0.2
comp=Z,1.3nm,0.4s,baz=251,slow=5.8,SNR=64
BMAR Burnt Mountain 68.26 23 P P 03 33 58.9 +1.1
KK31 Karatay Array 69.52 311 P P 03 34 05.8 -0.3
KK31 IAmb IAmb 03 34 09.6
comp=Z,4.3nm,1.4s
KKAR Karatay Array 69.52 311 P P 03 34 05.5 -0.6
BRVK Borovoye 69.70 321 P P 03 34 06.6 -0.3
BRVK IAmb IAmb 03 34 07.8
comp=Z,5.3nm,0.7s
INK Inuvik 72.53 23 P P 03 34 24.4 +0.7
comp=Z,2.8nm,0.7s,baz=262,slow=6.7,SNR=9.6
INK Inuvik 72.53 23 P P 03 34 23.9 +0.2
INK IAmb IAmb 03 34 25.8
comp=Z,4.3nm,1.0s
ABKAR Akbulak array 76.38 318 P P 03 34 45.3 -1.0
YKA Yellowknife Ar 80.97 28 P P 03 35 12.3 +1.0
comp=Z,1.3nm,0.6s,baz=287,slow=4.6,SNR=17
NVAR Mina Array Bea 84.98 52 P P 03 35 35.9 +3.1
comp=Z,0.6nm,0.7s,baz=278,slow=6.2,SNR=8.2
FINES FINESS Array B 90.42 335 P P 03 35 56.2 -1.8
comp=Z,2.3nm,1.1s,baz=68,slow=6.6,SNR=3.3
LPAZ La Paz 146.90 97 PKPbc PKPbc 03 42 41.0 +0.5
comp=Z,1.0nm,0.7s,baz=301,slow=5.9,SNR=3.4

TIR 15 04:15:28.3, 40°41'N×19°58'E, h12km, Md2.6
ATH 15 04:15:29.4, 40°45'N×19°53'E, h27km±18km, ML1.9/2, Error ellipse: s-maj=18.4km s-min=1.4km az=197.0

ISC 15 04:15:28.6±1.0, 40°41'N±0'03"×19°54'E±0'04, h13km±7km, n15, σ0°85/23, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VLO	Vlora	0.07	332	P	Pg		04 15 30.7	-0.6
	baz=312							
VLO				S	Sg		04 15 34.1	+0.8
	baz=312							
SRN	Sarande	0.63	146	P	Pb		04 15 39.8	-1.6
	baz=148							
SRN				S	Sb		04 15 50.1	-0.1
	baz=148							
KEK	Kerkira	0.72	164	P	Pg		04 15 43.7	+1.1
KEK				S	Sn		04 15 54.3	-1.0
KEK				AML	AML		04 15 57.3	
	comp=N,161μm,0.4s							
KEK				AML	AML		04 15 58.9	
	comp=E,97μm,0.3s							
KASA	Kassiopi	0.73	155	P	Pg		04 15 43.8	+1.1
KASA				S	Sn		04 15 54.2	-1.2
LSK	Leskovik	0.85	107	P	Pb		04 15 44.1	-1.1
	baz=108							
LSK				S	Sg		04 15 57.1	+0.8
	baz=108							
SCTE	Santa Cesarea	0.89	248	P	Pb		04 15 45.9	+0.1
SCTE				AML	AML		04 16 01.6	
	comp=E,267μm,0.3s							
SCTE				AML	AML		04 16 02.0	
	comp=N,158μm,0.3s							
TIR	Tirane	0.97	15	P	Pb		04 15 46.6	-0.7
TIR	Tirane	0.97	15	P	Pg		04 15 48.0	+0.6
	baz=12							
TIR				S	Sn		04 16 02.2	+0.6
	baz=12							
KBN	Korca	0.98	77	P	Pb		04 15 46.4	-1.0
	baz=76							
KBN				S	Sn		04 16 01.5	-0.3
	baz=76							
IGT	Igoumenitsa	1.06	145	P	Pg		04 15 49.4	+0.3
NEST	Nestorio	1.15	89	P	Pb		04 15 50.4	0.0
PENT	Pentalofos	1.24	99	P	Pb		04 15 52.1	+0.2
PHP	Peshkopia	1.45	28	P	Pb		04 15 54.7	-0.8
	baz=26							
PHP				S	Sg		04 16 15.7	+0.4
	baz=26							
FNA	Florina	1.45	74	P	Pb		04 15 55.2	-0.3
KPRO	Kipourio	1.47	107	P	Pb		04 15 55.9	+0.2

HEL 15 04:30:19.5±0.3, 67°70'N×33°79'E, h0km, ML2.0, Explosion
NAO 15 04:30:20.3±1.3, 67°70'N×33°58'E, ML2.4
IDC 15 04:30:24.1±2.3, 67°62'N×33°02'E, h0km, mb1 3.2/4, mb1mx2.9/49, mbtmp3.2/4, ML2.2/4, Error ellipse: s-maj=23.2km s-min=10.0km az=79.0

ISC 15 04:30:20.6±1.5, 67°66'N±0'04"×33°47'E±0'07, h0km, n31, σ1°26/52, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
APZ9	Apatity	0.09	197	Pg	Pg		04 30 22.8	+0.6
APZ9				Lg	Lg		04 30 25.2	
APZ9	Apatity	0.09	197	Pg	Pg		04 30 22.8	+0.6
APZ9				Sg	Sg		04 30 25.2	+1.8
APA0	Apatity Array	0.19	255	Pg	Pg		04 30 25.2	+1.0
	baz=84,slow=16							
APA0				Lg	Lg		04 30 27.9	
	baz=72,slow=22							
APA0				Rg	Rg		04 30 30.1	
	baz=69,slow=37							
APA0	Apatity Array	0.19	255	Pg	Pg		04 30 25.2	+1.0
	baz=84,slow=16							
APA0				Sg	Sg		04 30 27.9	+1.3
	baz=72,slow=22							
VRF	Varrio	1.48	275	PG	Pn		04 30 48.0	-0.4
	baz=86							
VRF				MSG			04 31 07.2	
	comp=Z,14nm,0.2s							
VRF				SG	Sn		04 31 08.5	+0.1
OLKF	Oulanka, Finla	2.09	232	PB	Pn		04 30 58.1	+1.3
OLKF				SG	Sg		04 31 27.6	+0.1
KU6	Riekki	2.16	223	PG	Pb		04 30 59.6	-1.0
KU6				MSG			04 31 27.1	
	comp=Z,5.8nm,0.2s							
KU6				SG	Sg		04 31 29.3	-0.7
MSF	Maaselka	2.48	227	PN	Pn		04 31 02.4	+0.3
MSF				SG	Sg		04 31 39.5	-0.6
SGF	Sodankyl	2.67	269	PN	Pn		04 31 05.8	+1.0
SGF				SG	Sg		04 31 45.4	-1.0
RNF	Rovaniemi	3.10	254	PN	Pn		04 31 11.1	+0.5
RNF				SN	Sn		04 31 50.4	+2.1
KEV	Kevo	3.17	315	eP	Pn		04 31 11.8	+0.3
KEV				eS	Sn		04 31 49.3	-0.6
KEV	Kevo	3.17	315	PN	Pn		04 31 11.9	+0.4
KEV				SN	Sn		04 31 50.9	+0.9

KEV MSG 04 31 54.1
comp=Z,3.3nm,0.2s
ARA0 ARCESS Array S 3.48 307 Pn **Pn** **04 31 15.9 0.0**
baz=123,slow=16
ARA0 Sn **Sn** **04 31 57.4 -0.3**
baz=121,slow=37
ARA0 Lg Lg 04 32 07.8
baz=115,slow=37
ARA0 ARCESS Array S 3.48 307 Pn **Pn** **04 31 15.9 0.0**
baz=123,slow=16
ARA0 Sn **Sn** **04 31 57.4 -0.3**
baz=121,slow=37
ARA0 Sg **Sb** **04 32 07.8 +2.1**
baz=115,slow=37
ARA0 ARCESS Array S 3.48 307 PN **Pn** **04 31 15.9 0.0**
baz=120
ARA0 SB **Sb** **04 32 02.2 -3.5**
ARCES ARCESS Array B 3.48 307 Pn **Pn** **04 31 16.1 +0.2**
baz=122,slow=14,SNR=122
ARCES Pg **Pb** **04 31 24.8 +1.8**
baz=116,slow=15,SNR=12
ARCES Sn **Sn** **04 31 57.9 +0.2**
baz=119,slow=28,SNR=6.7
ARCES Lg Lg 04 32 08.7
baz=113,slow=30,SNR=9.7
HEF Hetta 3.77 286 *eP* **Pn** **04 31 19.1 -0.7**
HEF *eS* **Sn** **04 32 04.4 -0.3**
HEF Hetta 3.77 286 PN **Pn** **04 31 20.1 +0.3**
HEF SN **Sn** **04 32 05.9 +1.2**
TOF Tornio 3.94 251 PG **Pb** **04 31 32.1 +1.3**
OUL Oulu 3.99 233 PB **Pb** **04 31 28.9 -2.7**
KTK1 Kautokeino 4.03 294 Sn **Sn** **04 32 11.7 +0.3**
KTK1 Lg Lg 04 32 24.7
KTK1 Kautokeino 4.03 294 *eP* **Pn** **04 31 23.9 +0.4**
KTK1 IAML 04 32 32.8
comp=Z,11nm,0.7s
PAJU Pajala 4.06 266 PN **Pn** **04 31 24.2 +0.3**
baz=75
PAJU SG **Sg** **04 32 29.9 -0.9**
LANU Lannavaara 4.37 281 PN **Pn** **04 31 27.5 -0.5**
LANU SG **Sg** **04 32 39.3 -1.3**
KALU Kalix 4.39 251 PG **Pb** **04 31 40.7 +2.2**
KIF Kilpisjarvi 4.89 292 *eP* **Pn** **04 31 34.6 -0.5**
KIF *eS* **Sn** **04 32 31.0 -1.3**
JETT Jettan, Norway 5.15 298 *eP* **Pn** **04 31 39.2 +0.4**
JETT *eS* **Sn** **04 32 36.3 -2.5**
FIA0 FINESS Array S 7.00 211 Lg Lg 04 33 54.5
baz=19,slow=28
FINES FINESS Array B 7.00 211 Pn **Pn** **04 32 03.8 -0.3**
comp=Z,0.1nm,0.3s,baz=32,slow=13,SNR=2.0
FINES Lg Lg 04 33 59.7
comp=Z,0.7nm,0.3s,baz=22,slow=28,SNR=11
HFS Hagfors 11.47 238 Pn **Pn** **04 33 04.0 -1.3**
comp=Z,0.2nm,0.3s,baz=32,slow=14,SNR=2.7
HFS Lg Lg 04 36 15.8
comp=Z,0.1nm,0.3s,baz=52,slow=24,SNR=2.7
NOA NORSAR Array B 11.64 246 Pn **Pn** **04 33 04.9 -2.9**
comp=Z,0.0nm,0.3s,baz=61,slow=13,SNR=1.6
NOA Lg Lg 04 36 25.2
comp=Z,0.0nm,0.3s,baz=33,slow=12,SNR=4.7

NEIC ***15*** *04:31:51.8±1.5, 22.5°S±0.1°×178.8°W±0.1, h441km±7km, mb4.2/25, Error ellipse: s-maj=19.4km s-min=13.8km az=65.0*
IDC ***15*** *04:31:52.3±2.1, 22.48°S×178.81°W, h442km±22km, mb3.5/12, mb1 3.8/14, mb1mx3.6/35, mbtmp4.4/14, Error ellipse: s-maj=20.3km s-min=14.7km az=142.0*
ISC 15 04:31:52.8±0.6, 22.53S±0.08×178.9W±0.1, h450km, n49, σ0.99/46, mb4.1/23, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.58**	**328**	P		**P**		**04 33 21.9**	**-1.2**
	13nm,0.3s,baz=268,slow=22,SNR=16								
MSVF	**Nonsavu**	**5.58**	**328**	P		**P**		**04 33 21.3**	**-1.9**
URZ	**Urewera**	**16.05**	**192**	P		**P**		**04 35 14.6**	**-0.4**
	2.5nm,0.3s,baz=326,slow=1.1,SNR=16								
URZ				S		**S**		**04 37 59.6**	**-2.4**
	0.4nm,0.3s,baz=91,slow=6.6,SNR=1.9								
URZ	**Urewera**	**16.05**	**192**	IAmb		IAmb		04 35 16.6	
	comp=Z,35nm,1.3s								
BKZ	**Black Stump Fm**	**17.05**	**192**	P		**P**		**04 35 25.5**	**0.0**
BKZ				IAmb		IAmb		04 35 39.7	
	comp=Z,21nm,1.5s								
QRZ	**Quartz Range**	**19.64**	**200**	P		**P**		**04 35 50.3**	**-0.4**
ARMA	**Armidale**	**27.50**	**247**	P		**P**		**04 37 02.7**	**+1.2**
ARMA				IAmb		IAmb		04 37 03.2	
	comp=Z,17nm,1.5s								
EIDS	**Eidsvold**	**27.59**	**258**	P		**P**		**04 37 02.8**	**+0.6**
CTA	**Charters Tower**	**32.55**	**268**	P		**P**		**04 37 46.5**	**+1.1**
	comp=Z,14nm,0.6s,baz=93,slow=10,SNR=28								
CTAO	**Charters Towr**	**32.55**	**268**	P		**P**		**04 37 45.8**	**+0.4**
CTAO				IAmb		IAmb		04 37 47.0	
	comp=Z,14nm,0.7s								
TOO	**Toolangi**	**34.08**	**236**	P		**P**		**04 37 58.3**	**+0.1**
TOO				IAmb		IAmb		04 38 04.5	
	comp=Z,14nm,1.1s								
TAU	**Tasmania Unive**	**34.63**	**226**	P		**P**		**04 38 02.7**	**0.0**
STKA	**Stephens Creek**	**36.22**	**246**	P		**P**		**04 38 17.1**	**+1.0**
	comp=Z,3.1nm,0.5s,baz=91,slow=9.9,SNR=7.2								
STKA	**Stephens Creek**	**36.22**	**246**	IAmb		IAmb		04 38 17.4	
	comp=Z,0.9nm,0.7s								
BBOO	**Buckleboo**	**40.95**	**245**	P		**P**		**04 38 54.4**	**-0.5**
BBOO				IAmb		IAmb		04 39 03.2	
	comp=Z,14nm,1.4s								
AS31	**Alice Springs**	**43.31**	**259**	P		**P**		**04 39 13.8**	**+0.1**
AS31				IAmb		IAmb		04 39 26.9	
	comp=Z,4.2nm,0.6s								
ASAR	**Alice Springs**	**43.31**	**259**	P		**P**		**04 39 13.9**	**+0.2**
	comp=Z,8.6nm,0.7s,baz=96,slow=7.7,SNR=98								
ASAR	**Alice Springs**	**43.31**	**259**	P		**P**		**04 39 13.4**	**-0.3**
WB2	**Warramunga Arr**	**43.55**	**264**	P		**P**		**04 39 14.9**	**-0.8**
WB2				IAmb		IAmb		04 39 15.6	
	comp=Z,6.6nm,0.8s								
WRA	**Warramunga Arr**	**43.56**	**264**	P		**P**		**04 39 15.4**	**-0.3**
	comp=Z,4.1nm,0.4s,baz=95,slow=8.2,SNR=69								
FORT	**Forrest**	**47.78**	**248**	P		**P**		**04 39 48.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**51.99**	**264**	P		**P**		**04 40 19.1**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=90,slow=5.7,SNR=9.4								
VNDA	**Vanda**	**55.83**	**185**	P		**P**		**04 40 47.0**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=21,slow=8.3,SNR=4.1								
VNDA	**Vanda**	**55.83**	**185**	IAmb		IAmb		04 40 50.8	
	comp=Z,3.2nm,1.0s								
MORW	**Morawa**	**58.33**	**249**	P		**P**		**04 41 03.6**	**-0.2**
MORW				IAmb		IAmb		04 41 04.2	
	comp=Z,6.3nm,0.6s								
GIRL	**Giralia**	**61.26**	**256**	P		**P**		**04 41 23.9**	**+0.5**
QSPA	**South Pole Qui**	**67.55**	**180**	P		**P**		**04 42 03.4**	**+0.5**
QSPA				IAmb		IAmb		04 42 04.7	
	comp=Z,4.1nm,0.8s								
MJAR	**Matsushiro Arr**	**71.38**	**325**	P		**P**		**04 42 26.2**	**0.0**
	comp=Z,1.8nm,0.5s,baz=153,slow=6.1,SNR=8.2								
MJAR	**Matsushiro Arr**	**71.38**	**325**	IAmb		IAmb		04 42 26.9	
	comp=Z,0.9nm,0.5s								
USRK	**Ussuriysk Ar.**	**80.19**	**326**	P		**P**		**04 43 14.2**	**-1.0**
PNTR	**Pine Nut**	**82.62**	**42**	P		**P**		**04 43 28.1**	**0.0**
PNTR				IAmb		IAmb		04 43 29.0	
	comp=Z,3.6nm,0.8s								
NVAR	**Mina Array Bea**	**83.04**	**44**	P		**P**		**04 43 30.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=224,slow=8.6,SNR=7.5								
NVAR	**Mina Array Bea**	**83.04**	**44**	P		**P**		**04 43 29.6**	**-0.7**
WUAZ	**Wupatki**	**86.08**	**49**	P		**P**		**04 43 43.3**	**-1.9**
MNTX	**Cornudas Mount**	**88.57**	**55**	P		**P**		**04 43 56.3**	**-0.5**
MNTX				IAmb		IAmb		04 43 58.1	
	comp=Z,2.8nm,1.0s								
TX31	**Lajitas Ar. Si**	**88.82**	**58**	IAmb		IAmb		04 43 59.6	
	comp=Z,7.1nm,1.1s								
TXAR	**Lajitas Array**	**88.82**	**58**	P		**P**		**04 43 58.7**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=212,slow=6.9,SNR=9.3								
CMAR	**Chiang Mai Arr**	**90.04**	**290**	P		**P**		**04 44 05.8**	**+1.8**
	comp=Z,1.8nm,0.6s,baz=141,slow=3.2,SNR=13								
CMAR	**Chiang Mai Arr**	**90.04**	**290**	P		**P**		**04 44 05.3**	**+1.4**
CHTO	**Chiang Mai**	**90.18**	**290**	P		**P**		**04 44 04.8**	**+0.2**
CHTO				IAmb		IAmb		04 44 07.4	
	comp=Z,4.2nm,0.8s								
ILAR	**Eielson Array**	**90.46**	**13**	P		**P**		**04 44 05.3**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=222,slow=4.6,SNR=2.2								
PDAR	**Pinedale Array**	**90.98**	**44**	P		**P**		**04 44 07.3**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=196,slow=2.8,SNR=4.7								
YMR	**Madison River**	**91.07**	**41**	P		**P**		**04 44 09.5**	**+1.1**
ARCES	**ARCESS Array B**	**130.76**	**349**	PKP		**PKPdf**		**04 50 09.8**	**-1.3**
	comp=Z,7.9nm,1.1s,baz=12,slow=6.2,SNR=4.8								
ARCES				PP		**PP**		**04 52 35.8**	**+2.5**
	comp=Z,5.1nm,1.0s,baz=8.8,slow=8.7,SNR=4.2								

AKASG	**Malin Array Be**	**144.36**	**329**	PKP		**PKPab**		**04 50 35.6**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=44,slow=4.5,SNR=6.4								
BRTR	**Keskin Array B**	**147.55**	**309**	PKPbc		**PKPbc**		**04 50 45.3**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=151,slow=3.5,SNR=5.3								
CLL	**Collm**	**149.83**	**345**	*i* PKPbc		**PKPbc**		**04 50 50.6**	**-0.3**
	comp=Z,7.0nm,1.1s								
GERES	**GERESS Array B**	**151.91**	**342**	PKPbc		**PKPbc**		**04 50 55.3**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=154,slow=31,SNR=4.1								
TORD	**Torodi Ar. Bea**	**170.65**	**183**	PKPab		**PKPab**		**04 52 28.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=145,slow=6.7,SNR=3.2								

IDC ***15*** *04:34:41.7±1.7, 2.78S×136.53E, h0km, mb3.7/2, mb1 4.1/5, mb1mx3.7/31, mbtmp3.9/5, ML3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/41, Error ellipse: s-maj=31.8km s-min=27.5km az=138.0*
DJA ***15*** *04:34:42.6±0.8, 3°S±4°×13°6E±°, h24km±7km, M4.3/9, mb4.4/2, mB5.9/1, MLv4.3/9, Mw(mB)5.5/1*
ISC 15 04:34:43.8±1.0, 2.52S±0.06×136.36E±0.04, h42km, n13, σ0.75/17, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.66**	**350**	P		**Pn**		**04 34 55.5**	**-1.3**
SRPI				S		**Sn**		**04 35 06.1**	**0.0**
BAKI	**Biak**	**1.35**	**349**	P		**Pn**		**04 35 06.1**	**-0.1**
BAKI				S		**Sn**		**04 35 24.2**	**+1.3**
RKPI	**Ransiki, Papua**	**2.40**	**295**	P		**Pn**		**04 35 20.7**	**0.0**
SMPI	**Sarmi**	**2.41**	**77**	P		**Pn**		**04 35 21.2**	**+0.4**
GENI	**Genyem**	**3.81**	**91**	P		**Pn**		**04 35 38.8**	**-1.2**
GENI				S		**Sn**		**04 36 23.9**	**+0.4**
FAKI	**Fak Fak**	**4.12**	**264**	P		**Pn**		**04 35 44.3**	**-0.1**
FAKI				S		**Sn**		**04 36 30.6**	**-0.8**
JAY	**Jayapura**	**4.34**	**90**	Pn		**Pn**		**04 35 46.5**	**-0.9**
	3.4nm,0.3s,baz=221,slow=11,SNR=8.2								
JAY				Sn		**Sn**		**04 36 36.1**	**-0.8**
	11nm,0.3s,baz=153,slow=17,SNR=7.4								
JAY	**Jayapura**	**4.34**	**90**	P		**Pn**		**04 35 47.3**	**-0.1**
SWI	**Sorong**	**5.36**	**288**	P		**Pn**		**04 36 01.7**	**+0.4**
WRA	**Warramunga Arr**	**17.43**	**186**	P		**Pn**		**04 38 44.0**	**0.0**
	0.7nm,0.3s,baz=7.6,slow=12,SNR=37								
WRA				LR		LR		04 45 56.0	
	comp=Z,53nm,20.4s,baz=335,slow=39								
FITZ	**Fitzroy Crossi**	**18.71**	**213**	P		**Pn**		**04 38 59.6**	**0.0**
	0.1nm,0.3s,baz=54,slow=14,SNR=1.8								
ASAR	**Alice Springs**	**21.15**	**186**	P		**P**		**04 39 26.2**	**+0.7**
	10nm,0.7s,baz=12,slow=11,SNR=50								
MKAR	**Makanchi Array**	**68.22**	**323**	P		P		04 45 46.5	+6.3
	0.1nm,0.6s,baz=104,slow=6.1,SNR=1.8								

NNC 15 04:37:22.5±1.4, 39.23N×55.57E, h0km, mb3.5, 4C-2D, Error ellipse: s-maj=19.6km s-min=5.0km az=65.0, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GYA0B	**ALIBECK ARRAY**	**2.38**	**122**	⇑Pn		Pn		04 38 02.6	-0.1
GYA0B				⇑Lg		Lg		04 38 38.4	
AB31	**Akbulak array**	**10.51**	**16**	⇓Pn		Pn		04 39 54.8	+0.6
	0.2nm,0.3s,baz=204,slow=14,SNR=6.9								
AB31				⇑Sn		Sn		04 41 53.2	+0.6
	0.3nm,0.3s,baz=191,slow=23,SNR=14								
AKTO	**Aktyubinsk**	**11.34**	**8**	⇓Pn		Pn		04 40 05.9	+0.2
	0.7nm,0.5s								
AKTO				⇑Sn		Sn		04 42 14.5	+1.4
	1.0nm,0.6s								

NEIC ***15*** *04:47:20.0±1.7, 18.75N±0.07×146.42E±0.07, h46km±1km, mb5.7/303, Ms_20 5.6/697, Mwb5.8/68, Mww5.8, Mwc5.8(GCMT), Error ellipse: s-maj=12.2km s-min=10.7km az=175.0*
NEIC ***15*** *04:47:19.1, 18.72N×146.42E, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.23; $M_{\theta\theta}$=0.90; $M_{\phi\phi}$ 1.13; $M_{r\theta}$=2.10; $M_{r\phi}$=-1.57; $M_{\theta\phi}$=4.86; Fault plane solution: M_o6.62000×10^{17} NP1:ϕ_s299.48000°, δ7.36000°, λ-128.72000°. NP2:ϕ_s158.43000°, δ84.27000°, λ-85.38000°. Principal axes: T 6.2803, Plg39.0000°, Azm244.0000°; N -1.7191, Plg5.0000°, Azm338.0000°; P -4.5613, Plg51.0000°, Azm74.0000°;*
MOS ***15*** *04:47:21.2±1.0, 18.68N×146.27E, h73km, mb5.9/96, MS5.2/38 Error ellipse: s-maj=7.3km s-min=3.5km az=114.5*
BJI ***15*** *04:47:21.5±0.0, 18.96N×146.26E, h63km, mB5.4/69, mb5.3/79, Ms5.5/94, Ms7 5.3/83*
IDC ***15*** *04:47:22.8±1.1, 18.68N×146.35E, h69km±8km, mb5.2/45, mb1 5.2/49, mb1mx5.1/57, mbtmp5.5/49, MS5.1/42, Ms1 5.1/42, ms1mx5.1/42, Error ellipse: s-maj=12.6km s-min=7.9km az=82.0*
NEIC ***15*** *04:47:23, 18.72N×146.74E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.04; $M_{\theta\theta}$-1.32; $M_{\phi\phi}$ 1.36; $M_{r\theta}$-2.28; $M_{r\phi}$-2.96; $M_{\theta\phi}$ 4.88; Fault plane solution: M_o6.29000×10^{17} NP1:ϕ_s271.00000°, δ22.00000°, λ-167.00000°. NP2:ϕ_s169.00000°, δ85.00000°, λ-68.00000°. Principal axes: T 7.2173, Plg36.0000°, Azm240.0000°; N -2.9236, Plg22.0000°, Azm347.0000°; P -4.2937, Plg45.0000°, Azm101.0000°;*
NEIC ***15*** *04:47:23, 18.73N×146.66E, h62km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.36; $M_{\theta\theta}$-2.21; $M_{\phi\phi}$2.57; $M_{r\theta}$-2.54; $M_{r\phi}$-3.36; $M_{\theta\phi}$5.37; Fault plane solution: M_o7.24000×10^{17} NP1:ϕ_s287.00000°, δ17.00000°, λ-148.00000°. NP2:ϕ_s166.00000°, δ81.00000°, λ-75.00000°. Principal axes: T 8.3511, Plg34.0000°, Azm243.0000°; N -3.8889, Plg15.0000°, Azm344.0000°; P -4.4622, Plg52.0000°, Azm93.0000°;*
GCMT ***15*** *04:47:23.0±0.1, 18.71N±0.01×146.68E, h62km, MW5.8/156, Moment Tensor Solution. s156,c320; s153,c456; Duration: 19 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.30±.06; $M_{\theta\theta}$-1.98±.05; $M_{\phi\phi}$2.28±.05; $M_{r\theta}$-2.61±.05; $M_{r\phi}$-3.30±.05; $M_{\theta\phi}$5.11±.06; Best double couple: M_o6.15500×10^{17} NP1:ϕ_s291.00000°, δ15.00000°, λ-140.00000°. NP2:ϕ_s162.00000°, δ81.00000°, λ-79.00000°. Principal axes: T 8.0300, Plg35.0000°, Azm242.0000°; N -3.7470, Plg11.0000°, Azm340.0000°; P -4.2810, Plg53.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 15 04:47:22.2±0.3, 18.70N±0.03×146.43E±0.04, h69km±2km, h69km:pP-P, n1349, σ1971/1161, mb5.7/381, 72C-21D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.29**	**197**	P		**Pn**		**04 48 40.5**	**+1.7**
GUMO	**Guam**	**5.29**	**197**			**Pn**		**04 48 41.3**	**+2.5**
JCJ	**Chichijima**	**9.23**	**336**	P		**Pn**		**04 49 31.8**	**-0.8**
	52nm,0.3s,baz=284,slow=23,SNR=32								
JCJ				S		**Sn**		**04 51 10.7**	**-4.2**
	146nm,0.3s,baz=231,slow=20,SNR=7.4								
JHJ	**Hachijo jima 2**	**15.55**	**339**	P		**Pn**		**04 50 58.0**	**+0.7**
	38nm,0.3s,baz=69,slow=22,SNR=14								
JOW	**Kunigami**	**18.58**	**299**	P		**Pn**		**04 51 37.2**	**+2.4**
	8.2nm,0.3s,baz=131,slow=12,SNR=6.7								
MJAR	**Matsushiro Arr**	**19.20**	**340**	P		**P**		**04 51 40.3**	**-0.1**
	2.5nm,0.3s,baz=161,slow=10,SNR=133								
MJAR				S		**S**		**04 55 10.0**	**-4.4**
	0.2nm,0.3s,baz=145,slow=11,SNR=4.2								
MJAR				ScP		**ScP**		**04 59 30.1**	**-1.5**
	0.1nm,0.3s,baz=168,slow=4.2,SNR=7.1								
MJAR	**Matsushiro Arr**	**19.20**	**340**	P		**P**		**04 51 39.7**	**-0.8**
MJAR						**ScP**		**04 59 30.4**	**-1.1**
MAJO	**Matsushiro**	**19.20**	**340**	P		**P**		**04 51 39.7**	**-0.8**
MAJO				pmax		pmax			
	comp=Z,368nm,1.1s								
MAJO	**Matsushiro**	**19.20**	**340**	P		**P**		**04 51 39.7**	**-0.8**
MAJO				IAmb		IAmb		04 51 53.8	
	comp=Z,368nm,1.1s								
MAT	**Matsushiro**	**19.20**	**340**	P		**P**		**04 51 40.3**	**-0.2**
MAT				S		**S**		**04 55 14.8**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**19.21**	**87**	T		T		05 12 47.3	
	baz=275,slow=74,SNR=21								
H11S1	**WAKE ISLAND Hy**	**19.22**	**87**	T		T		05 12 43.9	
	baz=275,slow=74,SNR=15								
H11S2	**WAKE ISLAND Hy**	**19.22**	**87**	T		T		05 12 44.9	
	baz=275,slow=74,SNR=23								
H11N1	**WAKE ISLAND Hy**	**19.36**	**84**	T		T		05 12 49.8	
	baz=267,slow=74,SNR=18								
H11N2	**WAKE ISLAND Hy**	**19.36**	**84**	T		T		05 12 58.4	
	baz=267,slow=74,SNR=16								
H11N3	**WAKE ISLAND Hy**	**19.37**	**84**	T		T		05 12 56.9	
	baz=267,slow=74,SNR=14								
JNU	**Nakatsue**	**20.01**	**319**	P		Pn		04 51 51.3	-0.4
	comp=Z,1.3nm,0.3s,baz=115,slow=7.2,SNR=17								
JNU				S		**S**		**04 55 28.2**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=72,slow=7.8,SNR=2.0								
JAY	**Jayapura**	**21.82**	**196**	P		**P**		**04 52 09.2**	**+0.3**
	comp=Z,177nm,1.0s,baz=348,slow=7.1,SNR=11								
JAY				LR		LR		05 01 04.4	
	comp=Z,4μm,18.6s,baz=24,slow=38								
JAY	**Jayapura**	**21.82**	**196**	P		**P**		**04 52 04.2**	**-4.7**
SMPI	**Sarmi**	**21.91**	**201**	P		**P**		**04 52 07.3**	**-2.6**
GENI	**Genyem**	**22.03**	**197**	P		**P**		**04 52 11.7**	**+0.5**
	comp=Z,12μmcomp=Z,845nm,1.2s								
BAKI	**Biak**	**22.21**	**208**	P		**P**		**04 52 13.9**	**+0.7**
	comp=Z,5μmcomp=Z,315nm,1.0s								
KWAJ	**Kwajalein Atol**	**22.78**	**113**	P		**P**		**04 52 19.0**	**-0.2**
KWAJ				pmax		pmax			
	comp=Z,610nm,1.6s								
ERM	**Erimo**	**23.41**	**354**	P		**P**		**04 52 26.5**	**+1.4**
ERM				pmax		pmax			
	comp=Z,321nm,1.4s								
ERM				MLR		MLR			
	comp=Z,6μm,20.0s								
ERM	**Erimo**	**23.41**	**354**	P		**P**		**04 52 26.5**	**+1.4**
ERM				IAmb		IAmb		04 52 46.8	
	comp=Z,321nm,1.4s								
RKPI	**Ransiki, Papua**	**23.42**	**212**	P		**P**		**04 52 28.5**	**+3.1**
RABL	**Rabaul**	**23.43**	**165**	P		**P**		**04 52 25.6**	**0.0**
TJN	**Taejon**	**24.33**	**320**	*ce*P		**P**		**04 52 32.2**	**-1.3**
SWI	**Sorong**	**24.49**	**219**	P		**P**		**04 52 36.4**	**+1.2**
	comp=Z,8μmcomp=Z,7μmcomp=Z,780nm,1.3s								
SIJI	**Sorong**	**24.50**	**219**	P		**P**		**04 52 36.1**	**+0.9**
	comp=Z,396nm,1.0s,baz=27,slow=9.1,SNR=75								
SIJI				LR		LR		05 00 21.2	
	comp=Z,9μm,19.5s,baz=9.5,slow=32								
KSRS	**Korea Array**	**24.73**	**323**	P		**P**		**04 52 36.9**	**-0.3**
	comp=Z,40nm,0.7s,baz=143,slow=8.8,SNR=60								
KSRS				PcP		**PcP**		**04 56 12.9**	**+0.5**
	comp=Z,20nm,1.1s,baz=138,slow=2.4,SNR=7.7								
KSRS				S		**S**		**04 56 51.8**	**-2.6**
	comp=Z,0.7nm,0.5s,baz=171,slow=39,SNR=1.4								
KSRS				ScP		**ScP**		**04 59 45.0**	**-0.4**
	comp=Z,14nm,1.0s,baz=135,slow=3.7,SNR=12								
KSRS				LR		LR		05 02 02.1	
	comp=Z,9μm,21.8s,baz=126,slow=36								
KSRS				P3KPbc				05 25 46.3	
	comp=Z,0.5nm,0.5s,baz=316,slow=4.4,SNR=5.7								
KSAR	**Wonju Array Be**	**24.75**	**323**	P		**P**		**04 52 36.8**	**-0.5**
KSAR	**Wonju Array Be**	**24.75**	**323**	P		**P**		**04 52 36.8**	**-0.5**
KS19	**Wonju Array Si**	**24.80**	**323**	P		**P**		**04 52 37.1**	**-0.7**
KS19				IAmb		IAmb		04 52 56.5	
	comp=Z,247nm,0.9s								
TGY	**Tagaytay City**	**24.86**	**263**	P		**P**		**04 52 43.2**	**+4.6**
	comp=Z,318nm,0.7s,baz=122,slow=5.7,SNR=8.4								
YUK	**Yuzh-Kuril'sk**	**25.27**	**359**	*di*P		**P**		**04 52 43.4**	**+1.5**
YUK				*e*				04 53 19.5	
YUK				*i* S		**S**		**04 57 03.1**	**+0.4**
YUK				*i* SS		**SnSn**		**04 57 59.3**	**-1.1**
YUK				pmax		pmax			
	comp=Z,265nm,1.0s								
YUK				pmax		pmax			
	comp=N,34nm,0.5s								
YUK				pmax		pmax			
	comp=E,113nm,0.5s								
YUK				pmax		pmax			
	comp=Z,372nm,3.4s								
INCN	**Inchon**	**25.50**	**321**	P		**P**		**04 52 43.8**	**-0.4**
INCN				pmax		pmax			
	comp=Z,254nm,1.5s								
INCN				MLR		MLR			
	comp=Z,7μm,21.0s								
INCN	**Inchon**	**25.50**	**321**	P		**P**		**04 52 43.8**	**-0.4**
INCN				IAmb		IAmb		04 53 02.9	
	comp=Z,254nm,1.5s								
ASAJ	**Asahikawa**	**25.55**	**354**	P		**P**		**04 52 46.4**	**+1.9**
	comp=Z,116nm,0.7s,baz=219,slow=10,SNR=39								
ASAJ				LR		LR		05 04 19.4	
	comp=Z,2μm,19.1s,baz=174,slow=40								
FAKI	**Fak Fak**	**25.61**	**214**	P		**P**		**04 52 44.9**	**-0.5**
	comp=Z,6μmcomp=Z,4μmcomp=Z,165nm,0.8s								
TNTI	**Ternate**	**25.83**	**229**	P		**P**		**04 52 47.2**	**-0.1**
TNTI	**Ternate**	**25.83**	**229**	P		**P**		**04 52 50.3**	**+3.0**
	comp=Z,4μmcomp=Z,5μmcomp=Z,89nm,1.1s								
SSE	**Sheshan**	**25.94**	**303**	P		**P**		**04 52 46.0**	**-2.2**
SSE				S		**S**		**04 57 15.0**	**+1.3**
SSE				pmax		pmax			
	comp=Z,11nm,0.8s								
SSE				pmax		pmax			
	comp=Z,330nm,4.1s								
SSE				LR		LR			
	comp=Z,2μm,19.8s								
SSE	**Sheshan**	**25.94**	**303**	P		**P**		**04 52 47.0**	**-1.2**
KUR	**Kuril'sk**	**26.49**	**2**	*eP*		**P**		**04 52 52.6**	**-0.3**
KUR				*e*				04

USA0B Ussuriysk Arra 28.17 338 P P 04 53 08.7 +0.7
USA0B pmax pmax
comp=Z,131nm,1.1s
USA0B MLR MLR
comp=Z,4μm,21.0s
USA0B Ussuriysk Arra 28.17 338 P P 04 53 08.7 +0.7
USA0B IAmb IAmb 04 53 12.8
comp=Z,131nm,1.1s
YSS Yuzh-Sakhalins 28.34 355⇑ *e*P **P 04 53 10.4 +0.9**
YSS *e*S **S 04 57 50.0 -1.2**
YSS pmax pmax
comp=Z,80nm,0.5s
YSS pmax pmax
comp=Z,300nm,5.0s
YSS MLR MLR
comp=Z,2μm,12.0s
YSS Yuzh-Sakhalins 28.34 355 P **P 04 53 09.6 +0.1**
YSS IAmb IAmb 04 53 17.4
comp=Z,71nm,0.6s
KMSI Cibinong 28.45 233 P **P 04 53 12.5 +1.7**
comp=Z,228nm,0.6s
SANI Sanana 28.80 226 P **P 04 53 14.0 +0.1**
comp=Z,5μmcomp=Z,2μmcomp=Z,96nm,1.2s
NLAI Namlea 28.93 223 P **P 04 53 17.5 +2.4**
comp=Z,2μmcomp=Z,113nm,1.2s
GTOI Gorontalo 29.16 235 P **P 04 53 19.8 +2.7**
comp=Z,1μmcomp=Z,29nm,0.7s
MDJ Mudanjiang 29.43 335 P **P 04 53 20.0 +0.8**
MDJ pP pP 04 53 34.6 -0.1
MDJ PcP **PcP 04 56 23.9 +0.3**
MDJ S **S 04 58 10.8 +2.5**
MDJ ScP **ScP 04 59 59.1 -0.4**
MDJ ScS **ScS 05 03 54.1 +0.1**
MDJ pmax pmax
comp=Z,120nm,1.8s
MDJ pmax pmax
comp=Z,1μm,3.9s
MDJ LR LR
comp=Z,3μm,12.6s
MDJ LR LR
comp=Z,3μm,13.9s
MDJ LR LR
comp=Z,3μm,29.6s
MDJ Mudanjiang 29.43 335 P **P 04 53 19.8 +0.6**
MDJ **PcP 04 56 24.1 +0.5**
DL2 Dalian 29.46 318 P **P 04 53 18.4 -1.2**
DL2 pP **pP 04 53 33.9 -1.2**
DL2 S **S 04 58 08.3 -0.7**
DL2 sS **sS 04 58 35.8 +0.5**
DL2 pmax pmax
comp=Z,69nm,0.8s
DL2 pmax pmax
comp=Z,520nm,5.7s
DL2 LR LR
comp=Z,1μm,17.1s
DL2 LR LR
comp=Z,4μm,17.4s
DL2 LR LR
comp=Z,4μm,24.5s
MRSI Marisa 30.09 236 P **P 04 53 27.7 +2.3**
comp=Z,7μmcomp=Z,3μmcomp=Z,270nm,1.1s
SNY Shenyang 30.17 325 ⇓P **P 04 53 26.4 +0.6**
SNY S **S 04 58 15.4 -4.6**
SNY pmax pmax
comp=Z,21nm,1.5s
SNY pmax pmax
comp=Z,320nm,9.0s
SNY LR LR
comp=Z,4μm,24.0s
SNY LR LR
comp=Z,3μm,20.1s
SNY LR LR
comp=Z,8μm,25.0s
LUWI Luwuk 30.42 232 P **P 04 53 29.6 +1.3**
comp=Z,6μmcomp=Z,573nm,1.1s
UGL Uglegorsk 30.51 354 *e*P **P 04 53 30.8 +2.1**
UGL *e* 04 56 28.1
UGL *e*S **S 04 58 19.1 -6.0**
UGL *e* 05 04 02.1
UGL pmax pmax
comp=Z,170nm,0.7s
UGL pmax pmax
comp=Z,1μm,4.0s
UGL smax smax
comp=N,2μm,6.0s
UGL smax smax
comp=E,1μm,6.0s
UGL MLR MLR
comp=N,4μm,18.0s
UGL MLR MLR
comp=Z,2μm,15.0s
HNR Honiara 30.97 153 LR LR 05 05 19.1
comp=Z,5μm,21.5s,baz=322,slow=35
TIA Tai'an 31.14 310 P **P 04 53 34.1 -0.4**
TIA PcP **PcP 04 56 28.9 +0.7**
TIA S **S 04 58 33.8 -1.6**
TIA ScP **ScP 05 00 04.3 -1.0**
TIA ScS **ScS 05 04 03.8 +1.2**
TIA pmax pmax
comp=Z,5.0nm,0.5s
TIA pmax pmax
comp=Z,350nm,4.1s
TIA LR LR
comp=Z,4μm,14.2s
TIA LR LR
comp=Z,2μm,13.5s
TIA LR LR
comp=Z,3μm,16.4s
GZH Guangzhou 31.18 284 P **P 04 53 34.4 -0.5**
GZH PP **PnPn 04 54 36.6 -2.5**
GZH S **S 04 58 36.4 +0.3**
GZH LR LR
comp=Z,2μm,14.7s
GZH LR LR
comp=Z,2μm,19.2s
APSI Ampana 31.19 234 P **P 04 53 36.7 +1.7**
comp=Z,1μmcomp=Z,95nm,0.9s
WHN Wuhan 31.35 298 ⇑P **P 04 53 35.3 -1.0**
WHN S **S 04 58 43.5 +4.8**
WHN LR LR
comp=Z,12μm,20.9s
WHN LR LR
comp=Z,9μm,16.2s
WHN LR LR
comp=Z,21μm,18.4s
TYV Tymovskoe 32.24 356 *e*P **P 04 53 45.0 +1.2**
TYV *e*S **S 04 58 56.3 +4.3**
TYV pmax pmax
comp=Z,300nm,2.1s
TYV pmax pmax
comp=Z,30nm,0.9s
TYV smax smax
comp=N,1μm,4.8s
TYV MLR MLR
comp=Z,3μm,18.0s
TYV MLR MLR
comp=N,4μm,19.0s
SPMM Sapulut 32.39 248 P **P 04 53 48.0 +2.3**
COEN Coen 32.60 186 P **P 04 53 46.7 -0.7**
KLR Kul'dur 32.68 342 P **P 04 53 48.8 +1.0**
comp=N,155nm,0.6s,baz=154,slow=7.7,SNR=4.4
KLR PcP **PcP 04 56 32.9 +0.8**
comp=N,53nm,1.1s,baz=154,slow=3.5,SNR=4.3
KLR S **S 04 58 57.1 -1.9**
comp=N,2.4nm,0.9s,baz=141,slow=20,SNR=1.1
KLR ScP **ScP 05 00 10.4 +0.2**
comp=N,3.7nm,0.7s,baz=48,slow=6.0,SNR=3.6
KLR ScS **ScS 05 04 12.0 +2.2**
comp=N,12nm,1.3s,baz=336,slow=21,SNR=29
KLR LR LR 05 09 04.7
comp=N,1μm,19.1s,baz=150,slow=40
KLR Kul'dur 32.68 342 *ce*P **P 04 53 48.6 +0.8**
KLR pmax pmax
comp=Z,93nm,0.9s
KLR MLR MLR
comp=Z,3μm,19.0s
GRNR Gornyy 32.98 348⇑ *i*P **P 04 53 52.1 +1.7**
GRNR *e*S **S 04 59 09.3 +5.7**
GRNR pmax pmax
comp=E,20nm,0.6s
GRNR pmax pmax
comp=N,40nm,0.7s
GRNR pmax pmax
comp=Z,80nm,0.7s
GRNR smax smax
comp=N,7.0nm,0.9s

BJT Baijiatuau 33.61 316 P **P 04 53 55.7 -0.3**
BJT pmax pmax
comp=Z,38nm,0.8s
BJT MLR MLR
comp=Z,3μm,20.0s
BJT Baijiatuau 33.61 316 P **P 04 53 55.7 -0.3**
BJI Beijing 33.62 316 P **P 04 53 55.0 -1.0**
BJI PcP **PcP 04 56 35.1 +0.2**
BJI S **S 04 59 13.5 -0.2**
BJI sS **sS 04 59 36.4 -3.8**
BJI ScP **ScP 05 00 14.5 +0.9**
BJI ScS **ScS 05 04 16.3 +1.3**
BJI LR LR
comp=Z,2μm,17.2s
BJI LR LR
comp=Z,3μm,17.3s
BJI LR LR
comp=Z,4μm,29.4s
TTSI Tana Toraja 33.95 233 P **P 04 54 01.3 +2.1**
comp=Z,5μmcomp=Z,578nm,0.9s
MIDW Midway 34.43 67 IAMs_20 IAMs_20 05 04 25.0
comp=Z,11μm,22.0s
SMKI Samarinda 34.43 240 P **P 04 54 05.8 +2.4**
comp=Z,6μmcomp=Z,35μmcomp=Z,576nm,1.4s
QIZ Qiongzhong 34.58 277 P P 04 53 54.4 -10
QIZ pP pP 04 54 17.5 -2.9
QIZ PP **PP 04 55 23.3 -0.9**
QIZ S **S 04 59 30.5 +1.3**
QIZ SS **SS 05 02 02.9 +1.4**
QIZ pmax pmax
comp=Z,20nm,2.6s
QIZ pmax pmax
comp=Z,610nm,12.0s
QIZ LR LR
comp=N,2μm,23.1s
QIZ LR LR
comp=E,4μm,18.0s
QIZ LR LR
comp=Z,5μm,20.2s
QIZ Qiongzhong 34.58 277 P **P 04 54 04.0 -0.6**
SPSI Sidrap Palu 34.59 232 P **P 04 54 06.1 +1.4**
comp=Z,6μmcomp=Z,4μmcomp=Z,599nm,1.1s
BNSI Bone 34.63 231 P **P 04 54 07.1 +2.0**
comp=Z,6μmcomp=Z,605nm,1.0s
NKL Nikolayevsk 34.68 354 *e*P **P 04 54 06.4 +1.4**
NKL *e*S **S 04 59 25.3 -4.4**
NKL pmax pmax
comp=E,87nm,1.1s
NKL pmax pmax
comp=N,10.0nm,1.4s
NKL pmax pmax
comp=Z,131nm,1.4s
NKL pmax pmax
comp=Z,232nm,1.3s
NKL smax smax
comp=E,149nm,5.5s
NKL smax smax
comp=N,21nm,2.4s
NKL MLR MLR
comp=N,96nm,13.0s
NKL MLR MLR
comp=E,2μm,13.0s
NKL MLR MLR
comp=Z,954nm,15.0s
BKB Balikpapan 35.16 239 P **P 04 54 10.4 +0.8**
comp=Z,3μmcomp=Z,312nm,1.1s
TIY Taiyuan 35.18 310 *e*P **P 04 54 11.6 +1.9**
TIY sP **sP 04 54 32.1 -0.8**
TIY S **S 04 59 39.4 +1.3**
TIY sS **sS 05 00 04.3 -0.4**
TIY pmax pmax
comp=Z,340nm,4.0s
TIY LR LR
comp=Z,2μm,13.7s
TIY LR LR
comp=Z,2μm,16.5s
TIY LR LR
comp=Z,4μm,30.6s
BKSI Bulukumba 35.24 230 P **P 04 54 11.8 +1.5**
comp=Z,4μmcomp=Z,3μmcomp=Z,302nm,1.0s
KAPI Kappang 35.30 231 LR LR 05 06 47.9
comp=Z,3μm,21.8s,baz=52,slow=33
KAPI Kappang 35.30 231 P **P 04 54 12.1 +1.2**
KAPI pmax pmax
comp=Z,329nm,1.0s
KAPI Kappang 35.30 231 P **P 04 54 12.1 +1.2**
ENH Enshi 35.39 296 P **P 04 54 11.6 0.0**
PEA0B Petropavlovsk- 35.45 12 P **P 04 54 12.8 +1.1**
PEA0B pmax pmax
comp=Z,82nm,0.9s
PEA0B Petropavlovsk- 35.45 12 P **P 04 54 12.8 +1.1**
PEA0B IAmb IAmb 04 54 22.9
comp=Z,82nm,0.8s
PETK Petropavlovsk- 35.45 12 P **P 04 54 13.4 +1.7**
comp=Z,48nm,0.8s,baz=187,slow=6.6,SNR=46
PETK PcP **PcP 04 56 41.8 +1.8**
comp=Z,8.2nm,0.7s,baz=113,slow=3.3,SNR=3.0
PETK ScP **ScP 05 00 20.9 +0.9**
comp=Z,3.4nm,0.7s,baz=127,slow=0.7,SNR=3.5
PETK LR LR 05 06 29.3
comp=Z,5μm,21.8s,baz=194,slow=32
PETK PKP2ab 05 28 52.1
comp=Z,3.8nm,0.9s,baz=248,slow=4.0,SNR=3.5
PETK Petropavlovsk- 35.45 12 P **P 04 54 12.4 +0.7**
BSSI Bau Bau, Buton 35.54 228 P **P 04 54 14.3 +1.4**
comp=Z,3μmcomp=Z,4μmcomp=Z,442nm,1.2s
PET Petropavlovsk 35.56 13 *e*P **P 04 54 13.6 +1.0**
PET *e**PP **pP 04 54 26.7 -1.6**
PET *e*S **S 04 59 45.3 +2.0**
PET pmax pmax
comp=Z,130nm,0.9s
PET pmax pmax
comp=Z,800nm,12.3s
PET MLR MLR
comp=Z,4μm,17.0s
PET MLR MLR
comp=Z,3μm,18.0s
PET Petropavlovsk 35.56 13 P **P 04 54 13.5 +1.0**
PET IAmb IAmb 04 54 16.5
comp=Z,71nm,0.8s
SOEI Soe 35.74 220 P **P 04 54 13.8 -0.9**
comp=Z,3μmcomp=Z,367nm,1.1s
MMRI Maumere 36.15 223 P **P 04 54 18.4 +0.3**
comp=Z,4μmcomp=Z,5μmcomp=Z,482nm,1.0s
BATI Baumata 36.46 220 P **P 04 54 20.0 -0.8**
comp=Z,2μmcomp=Z,130nm,1.1s
MTKI Muara Teweh, K 36.62 241 P **P 04 54 24.3 +2.1**
comp=Z,3μmcomp=Z,125nm,0.7s
XAN Xi'an 36.68 302 P **P 04 54 22.3 -0.3**
XAN sP pwP 04 54 42.8 0.0
XAN PP **PnPn 04 55 50.6 +2.7**
XAN S **S 04 59 54.8 -6.4**
XAN pmax pmax
comp=Z,37nm,1.6s
XAN pmax pmax
comp=Z,560nm,10.8s
XAN LR LR
comp=Z,5μm,21.7s
XAN LR LR
comp=Z,4μm,23.5s
XAN LR LR
comp=Z,8μm,22.8s
XAN Xi'an 36.68 302 P **P 04 54 21.7 -0.9**
XAN pmax pmax
comp=Z,16nm,0.8s
XAN Xi'an 36.68 302 P **P 04 54 21.7 -0.9**
KBKI Kotabaru 36.95 237 P **P 04 54 27.1 +2.2**
comp=Z,134nm,0.9s
HHC Hu-ho-hao-te 37.10 314 *e*P **P 04 54 26.3 +0.2**
HHC pP pP 04 54 40.8 -1.0
HHC S **S 05 00 07.3 -0.1**
HHC pmax pmax
comp=Z,41nm,1.9s
HHC pmax pmax
comp=Z,540nm,6.6s
HHC LR LR
comp=Z,3μm,14.9s
HHC LR LR
comp=Z,4μm,17.6s
HHC LR LR
comp=Z,5μm,20.2s
SBUM Sibu 37.18 248 P **P 04 54 29.0 +2.1**
HIA Hailar 37.30 331*c i*P **P 04 54 27.8 +0.3**
HIA pmax pmax
comp=Z,130nm,0.7s
HIA Hailar 37.30 331 P **P 04 54 27.6 0.0**
HIA **PcP 04 56 46.5 +0.9**
GYA Guiyang 37.40 289 ⇓P **P 04 54 30.4 +1.5**
GYA sP sP 04 54 51.3 -0.9
GYA S **S 05 00 11.3 -1.1**
GYA ScP **ScP 05 00 31.0 +3.1**
GYA pmax pmax
comp=Z,25nm,2.2s
GYA pmax pmax
comp=Z,560nm,9.7s
GYA LR LR
comp=Z,2μm,13.5s
GYA LR LR
comp=Z,2μm,17.6s
GYA LR LR
comp=Z,3μm,19.0s
ZEA Zeya 37.99 342 *e*P **P 04 54 34.0 +0.7**
ZEA *e**SP **sP 04 54 56.2 -0.3**
ZEA *e* 04 56 04.0
ZEA *e*S **S 05 00 19.3 -1.0**
ZEA *e* 05 04 40.5
ZEA pmax pmax
comp=E,100nm,4.0s
ZEA pmax pmax
comp=N,300nm,5.9s
ZEA pmax pmax
comp=Z,400nm,5.7s
ZEA pmax pmax
comp=E,20nm,1.4s
ZEA pmax pmax
comp=N,70nm,1.2s
ZEA pmax pmax
comp=Z,120nm,1.3s
ZEA pmax pmax
comp=E,200nm,8.5s
ZEA pmax pmax
comp=N,300nm,4.4s
ZEA pmax pmax
comp=Z,400nm,5.3s
ZEA smax smax
comp=N,400nm,5.6s
ZEA smax smax
comp=E,900nm,5.9s
ZEA MLR MLR
comp=Z,900nm,18.0s
BTO Baotou 38.06 313 *e*P **P 04 54 35.6 +1.4**
BTO S **S 05 00 23.5 +1.5**
BTO pmax pmax
comp=Z,150nm,1.8s
BTO pmax pmax
comp=Z,2μm,7.9s
BTO LR LR
comp=Z,4μm,31.4s
BBKI Banjar Baru 38.10 238 P **P 04 54 36.6 +1.9**
comp=Z,3μmcomp=Z,88nm,1.3s
WSI Waingapu 38.19 225 P **P 04 54 34.6 -0.8**
comp=Z,21μmcomp=Z,894nm,0.8s
KNRA Kununurra 38.33 208 P **P 04 54 36.2 -0.3**
KNRA IAmb IAmb 04 54 55.7
comp=Z,72nm,0.9s
BASI Baing, Sumba 38.41 224 P **P 04 54 36.0 -1.3**
CTA Charters Tower 38.54 180 S **S 05 00 28.1 -1.2**
comp=Z,10.0nm,1.1s,baz=244,slow=21,SNR=8.5
CTA LR LR 05 11 20.1
comp=Z,1μm,19.3s,baz=7.5,slow=37
CTAO Charters Tower 38.54 180 P **P 04 54 38.5 +0.2**
CTAO pmax pmax
comp=Z,182nm,1.2s
CTAO Charters Tower 38.54 180 P **P 04 54 38.5 +0.2**
CTAO IAmb IAmb 04 54 39.8
comp=Z,182nm,1.2s
STKI Sintang 38.99 246 P **P 04 54 43.4 +1.3**
UBPT Khong Chiam 39.26 271 P **P 04 54 47.3 +2.9**
comp=Z,23nm,0.9s
KSM Kuching 39.32 248 P **P 04 54 46.0 +1.0**
PLAI Plampang 39.33 228 P **P 04 54 44.4 -0.5**
comp=Z,4μmcomp=Z,3μmcomp=Z,389nm,0.9s
TWSI Taliwang, Sumb 39.91 229 P **P 04 54 49.8 +0.1**
comp=Z,5μmcomp=Z,626nm,1.0s
WB0 Warramunga Arr 40.01 198 P **P 04 54 49.6 -0.8**
WB0 IAmb IAmb 04 54 53.7
comp=Z,134nm,1.2s
WRAB Tennant Creek 40.17 198 P **P 04 54 51.7 -0.2**
WRAB pmax pmax
comp=Z,198nm,1.3s
WRAB MLR MLR
comp=Z,4μm,21.0s
WRAB Tennant Creek 40.17 198 P **P 04 54 51.7 -0.2**
WRAB IAmb IAmb 04 54 55.2
comp=Z,198nm,1.2s
WB2 Warramunga Arr 40.18 198 IAmb IAmb 04 54 59.0
comp=Z,100nm,0.8s
WRA Warramunga Arr 40.19 198 P **P 04 54 51.0 -0.9**
comp=Z,75nm,0.9s,baz=20,slow=8.2,SNR=109
WRA PcP **PcP 04 56 55.9 +0.8**
comp=Z,19nm,0.6s,baz=15,slow=3.7,SNR=8.0
WRA ScP **ScP 05 00 38.6 +0.3**
comp=Z,22nm,0.7s,baz=12,slow=4.1,SNR=18
WRA S **S 05 00 50.6 -3.4**
comp=Z,13nm,1.1s,baz=24,slow=14,SNR=4.9
WRA PKIKP **PKiKP 05 04 05.2 -0.4**
comp=Z,1.4nm,0.7s,baz=330,slow=1.2,SNR=4.7
WRA LR LR 05 10 53.2
comp=Z,4μm,21.7s,baz=40,slow=35
SMY Shemya 40.23 26 P **P 04 54 52.9 +0.9**
SMY pmax pmax
comp=Z,154nm,0.8s
SMY Shemya 40.23 26 P **P 04 54 52.9 +0.9**
SMY IAmb IAmb 04 54 56.2
comp=Z,154nm,0.8s
PBKI Pangkalan Bun 40.27 242 P **P 04 54 53.2 +0.4**
comp=Z,11μmcomp=Z,635nm,1.0s
CD2 Chengdu 40.37 296⇓ *i*P **P 04 54 53.5 0.0**
CD2 PP **PP 04 56 28.8 +1.2**
CD2 PcP **PcP 04 56 55.3 -0.4**
CD2 S **S 05 00 55.4 -1.4**
CD2 sS sS 05 01 23.8 0.0
CD2 pmax pmax
comp=Z,30nm,1.7s
CD2 pmax pmax
comp=Z,810nm,12.0s
CD2 LR LR
comp=Z,6μm,23.4s
CD2 LR LR
comp=Z,7μm,18.2s
CD2 LR LR
comp=Z,8μm,19.9s
SRBI Singaraja 40.69 232 P **P 04 54 57.8 +1.5**
comp=Z,5μmcomp=Z,5μmcomp=Z,353nm,0.9s
KMI Kunming 40.90 287 ⇓P **P 04 55 00.3 +2.1**
KMI pP pP 04 55 10.6 -3.5
KMI sP sP 04 55 21.4 -0.3
KMI PP **PnPn 04 56 38.6 +0.2**
KMI S **S 05 01 05.6 +0.4**
KMI sS sS 05 01 31.6 -0.6
KMI pmax pmax
comp=Z,31nm,1.8s
KMI pmax pmax
comp=Z,640nm,6.8s
KMI LR LR
comp=Z,2μm,24.1s
KMI LR LR
comp=Z,2μm,26.3s
KMI LR LR
comp=Z,5μm,31.7s
MA2 Magadan 40.95 3 P **P 04 54 59.7 +1.9**
comp=Z,92nm,0.7s,baz=171,slow=7.2,SNR=163
MA2 ScP **ScP 05 00 40.4 -0.3**
comp=Z,8.7nm,0.8s,baz=167,slow=4.3,SNR=5.5
MA2 LR LR 05 14 26.4
comp=Z,758nm,18.2s,baz=187,slow=40
MA2 Magadan 40.95 3*de*P **P 04 54 59.4 +1.6**
MA2 pmax pmax
comp=Z,87nm,0.7s
MA2 MLR MLR
comp=Z,1μm,18.0s
MA2 Magadan 40.95 3 P **P 04 54 58.6 +0.8**
MA2 IAmb IAmb 04 55 01.6
comp=Z,105nm,0.8s
KMMI Kalianget 40.98 234 P **P 04 54 59.7 +1.1**
comp=Z,6μmcomp=Z,4μmcomp=Z,441nm,1.1s
NONG Nongkai 41.00 276 P **P 04 55 01.2 +2.4**
comp=Z,120nm,1.1s
DNP Denpasar 41.09 231 P **P 04 55 00.7 +1.2**
comp=Z,1μm,1.1s
LZH Lanzhou 41.22 304⇑ P **P 04 55 00.3 -0.3**
LZH pP pP 04 55 16.5 -0.1

LZH sP pwP 04 55 22.5 +1.5
LZH PP **PP** **04 56 38.3 +1.4**
LZH S **S** **05 01 09.9 +0.3**
LZH pmax pmax
comp=Z,56nm,1.3s
LZH pmax pmax
comp=Z,690nm,5.7s
LZH LR LR
comp=Z,4μm,14.1s
LZH LR LR
comp=Z,5μm,13.6s
LZH LR LR
comp=Z,4μm,16.3s
ABJI Asem Bagus 41.24 233 P **P** **04 55 03.0 +2.2**
comp=Z,6μmcomp=Z,4μmcomp=Z,262nm,1.7s
KHON Khomkaen 41.57 274 P **P** **04 55 07.0 +3.5**
comp=Z,2μmcomp=Z,148nm,1.0s
JAGI Jajag, Banyuwa 41.74 233 P **P** **04 55 05.5 +0.6**
comp=Z,4μmcomp=Z,486nm,1.1s
FITZ Fitzroy Crossi 41.88 210 ScP **ScP** **05 00 46.3 +1.3**
comp=Z,9.8nm,0.7s,baz=162,slow=6.9,SNR=5.4
FITZ S **S** **05 01 17.1 -2.0**
comp=Z,6.9nm,1.0s,baz=131,slow=21,SNR=1.9
FITZ Fitzroy Crossi 41.88 210 P **P** **04 55 05.6 -0.3**
CIT Chita 42.06 330 *e*P **P** **04 55 07.9 +0.8**
CIT *e* 04 55 31.1
CIT *e* 04 57 02.1
CIT *e*S **S** **05 01 23.7 +2.4**
CIT pmax pmax
comp=Z,526nm,1.7s
CHAI Chaiyaphum 42.44 273 P **P** **04 55 13.3 +2.6**
comp=Z,83nm,1.1s
SRAK Srakaew 42.76 271 P **P** **04 55 11.7 -1.5**
comp=Z,6μmcomp=Z,712nm,1.1s
ULN Ulaanbaatar 43.20 321 P **P** **04 55 16.6 0.0**
ULN pmax pmax
comp=Z,80nm,0.9s
ULN MLR MLR
comp=Z,4μm,20.0s
ULN Ulaanbaatar 43.20 321 P **P** **04 55 16.6 0.0**
UTTA Uttaradit 43.49 276 P **P** **04 55 21.1 +2.0**
comp=Z,582nmcomp=Z,52nm,0.9s
SONM Songino Array 43.58 321 P **P** **04 55 19.8 +0.3**
comp=Z,49nm,0.6s,baz=136,slow=9.5,SNR=167
SONM PcP **PcP** **04 57 07.5 +1.5**
comp=Z,12nm,0.7s,baz=125,slow=3.7,SNR=1.9
SONM ScP **ScP** **05 00 53.0 +1.3**
comp=Z,22nm,1.2s,baz=119,slow=3.3,SNR=9.1
SONM LR LR 05 14 05.2
comp=Z,6μm,21.0s,baz=117,slow=37
SONM PKP2bc 05 27 32.7
comp=Z,0.6nm,1.0s,baz=108,slow=2.3,SNR=3.6
SONM Songino Array 43.58 321 P **P** **04 55 18.6 -0.9**
SONM pmax pmax
comp=Z,60nm,0.8s
SONM Songino Array 43.58 321 P **P** **04 55 18.6 -0.9**
TPI Tanjungpandan 43.70 245 P **P** **04 55 22.8 +2.0**
comp=Z,6μmcomp=Z,2μmcomp=Z,150nm,1.1s
PHIT Phitsanulok 43.71 276 P **P** **04 55 23.7 +2.9**
comp=Z,3μmcomp=Z,291nm,1.0s
SMRI Semarang 43.74 238 P **P** **04 55 21.7 +0.6**
comp=Z,7μmcomp=Z,5μmcomp=Z,328nm,1.3s
AS31 Alice Springs 43.84 197 P **P** **04 55 20.6 -1.1**
ASAR Alice Springs 43.84 197 P **P** **04 55 20.9 -0.8**
comp=Z,9.7nm,0.5s,baz=17,slow=6.9,SNR=83
ASAR PcP **PcP** **04 57 09.7 +2.5**
comp=Z,22nm,0.7s,baz=28,slow=3.5,SNR=9.3
ASAR ScP **ScP** **05 00 54.4 +1.5**
comp=Z,9.1nm,0.7s,baz=14,slow=3.9,SNR=12
ASAR S **S** **05 01 48.6 +0.7**
comp=Z,10.0nm,0.9s,baz=20,slow=19,SNR=13
ASAR LR LR 05 14 09.8
comp=Z,4μm,20.8s,baz=20,slow=37
ASAR Alice Springs 43.84 197 P **P** **04 55 20.3 -1.4**
ADK Adak 43.95 32 P **P** **04 55 22.7 +0.4**
ADK pmax pmax
comp=Z,126nm,0.8s
ADK Adak 43.95 32 P **P** **04 55 22.7 +0.4**
ADK IAmb IAmb 04 55 30.7
comp=Z,126nm,0.8s
UGM Wanagama 44.19 236 P **P** **04 55 26.1 +1.4**
comp=Z,5μmcomp=Z,6μmcomp=Z,808nm,1.3s
LIFNC LIFOU 44.21 152 P **P** **04 55 25.4 +0.7**
LAMP Lampang 44.25 278 P **P** **04 55 29.0 +3.9**
comp=Z,30nm,1.0s
SEY Seymchan 44.39 4 P **P** **04 55 27.8 +2.2**
comp=Z,31nm,0.8s,baz=181,slow=6.6,SNR=93
SEY ScP **ScP** **05 00 54.8 +0.3**
comp=Z,4.1nm,0.9s,baz=178,slow=3.2,SNR=3.6
SEY LR LR 05 12 23.9
comp=Z,3μm,21.9s,baz=184,slow=34
SEY Seymchan 44.39 4*d i*P **P** **04 55 27.4 +1.8**
SUKH Sukhothai 44.40 276 P **P** **04 55 29.7 +3.3**
comp=Z,541nmcomp=Z,30nm,0.7s
CM34 Chiang Mai Arr 44.66 278 P **P** **04 55 29.0 +0.6**
CM35 Chiang Mai Arr 44.67 278 P **P** **04 55 30.0 +1.4**
PPBI Pangkal Pinang 44.72 247 P **P** **04 55 29.1 +0.2**
comp=Z,2μmcomp=Z,32nm,0.7s
CM36 Chiang Mai Arr 44.75 278 P **P** **04 55 30.0 +0.8**
CMMT Chiang Mai 44.85 278 P **P** **04 55 30.7 +0.7**
comp=Z,472nmcomp=Z,12nm,1.7s
CM33 Chiang Mai Arr 44.85 278 P **P** **04 55 31.0 +1.0**
CHTO Chiang Mai 44.85 278 P **P** **04 55 29.8 -0.2**
CHTO pmax pmax
comp=Z,21nm,1.1s
CHTO Chiang Mai 44.85 278 P **P** **04 55 29.8 -0.2**
YAK Yakutsk 44.85 349 P **P** **04 55 30.0 +0.7**
comp=Z,180nm,0.7s,baz=355,slow=0.5,SNR=32
YAK S **S** **05 01 59.3 -2.4**
comp=Z,4.1nm,0.4s,baz=213,slow=0.9,SNR=1.2
YAK Yakutsk 44.85 349*c i*P **P** **04 55 29.8 +0.5**
YAK *e*'PP **pP** **04 55 43.7 -1.7**
YAK *e* 04 57 08.2
YAK *e* 04 57 17.7
YAK *e*S **S** **05 01 59.7 -2.0**
YAK *e* 05 05 15.8
YAK pmax pmax
comp=Z,349nm,0.9s
YAK pmax pmax
comp=N,147nm,1.4s
YAK pmax pmax
comp=E,18nm,1.0s
YAK pmax pmax
comp=Z,57nm,1.6s
YAK pmax pmax
comp=N,185nm,2.2s
YAK pmax pmax
comp=E,62nm,2.0s
YAK smax smax
comp=N,792nm,4.0s
YAK smax smax
comp=E,441nm,3.1s
YAK Yakutsk 44.85 349 P **P** **04 55 29.2 -0.1**
CM09 Chiang Mai Arr 44.86 278 P **P** **04 55 32.0 +1.9**
comp=E,369nmcomp=E,26nm,1.3s
CM31 Chiang Mai Arr 44.90 278 P **P** **04 55 30.9 +0.5**
CMAR Chiang Mai Arr 44.90 278 P **P** **04 55 31.6 +1.2**
comp=E,14nm,0.9s,baz=67,slow=6.4,SNR=39
CMAR LR LR 05 12 54.9
comp=E,2μm,20.9s,baz=118,slow=34
CMAR Chiang Mai Arr 44.90 278 P **P** **04 55 30.8 +0.4**
UTHA Uthaitani 44.91 274 P **P** **04 55 33.4 +2.9**
comp=E,624nmcomp=E,77nm,1.1s
CM32 Chiang Mai Arr 44.97 278 P **P** **04 55 34.0 +3.1**
DZM Mont Dzumac 45.00 153 *e*P **P** **04 55 30.0 -1.1**
comp=E,205nm,1.2s
DZM *e*S **S** **05 02 01.9 -3.0**
comp=E,2μm,31.8s
DZM *e*LR LR 05 08 00.9
comp=E,8μm,24.1s
DZM Mont Dzumac 45.00 153 LR LR 05 12 11.8
comp=E,4μm,21.4s,baz=344,slow=33
DZM Mont Dzumac 45.00 153 P **P** **04 55 31.3 +0.2**
GTA Gaotai 45.10 307 ⇑P **P** **04 55 31.6 -0.2**
GTA pP pP 04 55 45.8 -2.2
GTA sP pwP 04 55 51.8 -0.7
GTA PcP **PcP** **04 57 11.6 +0.1**
GTA ScP **ScP** **05 00 57.4 -0.7**
GTA S **S** **05 02 05.4 -0.8**
GTA sS sS 05 02 32.3 -1.2
GTA SS **ScS** **05 05 18.8 -3.8**
GTA ScS **SS** **05 05 22.3 -7.8**
GTA pmax pmax
comp=E,15nm,1.8s
GTA pmax pmax
comp=E,460nm,7.1s
GTA LR LR
comp=E,3μm,16.7s
GTA LR LR
comp=E,2μm,17.4s
GTA LR LR
comp=E,3μm,20.4s
JCJI Jatiwangi 45.18 240 P **P** **04 55 36.0 +3.4**
comp=E,8μmcomp=E,302nm,0.9s
ONTNC Ouen Toro 45.21 153 P **P** **04 55 33.5 +0.9**
PHET Kaeng Krachan 45.30 270 P P 04 55 42.9 +9.3
UMPA Umpang Tak 45.34 275 P **P** **04 55 37.7 +3.8**
comp=E,7μmcomp=E,74nm,1.0s
OUENC Ouen Island, N 45.48 153 P **P** **04 55 35.8 +1.1**
BOD Bodaibo 45.79 336 *e*P **P** **04 55 36.4 -0.4**
BOD *e* 05 05 25.4
BOD pmax pmax
comp=Z,116nm,1.6s
MHMT Maesarieng 45.90 277 P **P** **04 55 40.1 +1.9**
comp=Z,2μmcomp=Z,66nm,1.1s
LEM Lembang 45.91 240 LR LR 05 17 07.5
comp=Z,1μm,19.4s,baz=52,slow=39
CISI Cisompet, Garu 46.16 239 P **P** **04 55 39.9 -0.4**
comp=Z,3μmcomp=Z,265nm,0.8s
CBJI Citeko 46.31 241 P **P** **04 55 43.1 +1.6**
comp=Z,11μmcomp=Z,119nm,0.5s
DBJI Dramaga 46.47 241 P **P** **04 55 43.8 +1.0**
comp=Z,135nm,1.3s
ZAK Zakamensk 46.57 323 *e*P **P** **04 55 43.5 +0.3**
ZAK pmax pmax
comp=Z,88nm,1.5s
TRTT Trang 46.62 263 P **P** **04 55 46.0 +2.0**
comp=Z,62nm,1.2s
JMBI JAMBI 46.66 249 P **P** **04 55 44.9 +0.7**
comp=Z,3μmcomp=Z,180nm,0.9s
IRK Irkutsk 46.90 326 *e*P **P** **04 55 46.7 +1.1**
IRK *e*S **S** **05 02 34.1 +2.7**
IRK pmax pmax
comp=Z,374nm,1.5s
TLY Talaya 46.96 325 P **P** **04 55 47.5 +1.3**
comp=Z,18nm,0.6s,baz=136,slow=7.8,SNR=50
TLY ScP **ScP** **05 01 05.9 +0.4**
comp=Z,10nm,0.8s,baz=184,slow=2.2,SNR=5.9
TLY S **S** **05 02 32.3 -0.1**
comp=Z,1.2nm,0.4s,baz=32,slow=19,SNR=1.4
TLY Talaya 46.96 325 *i* P **P** **04 55 49.1 +2.9**
TLY *e* 04 57 36.7
TLY *e*S **S** **05 02 33.1 +0.7**
TLY *e* 05 05 35.2
TLY *e*SS **SS** **05 05 57.8 -2.0**
TLY pmax pmax
comp=Z,418nm,1.5s
TLY MLR MLR
comp=Z,6μm,18.0s
TLY Talaya 46.96 325 P **P** **04 55 46.9 +0.7**
TLY IAmb IAmb 04 55 50.1
comp=Z,111nm,1.2s
KRAB Krabi 46.97 264 P **P** **04 55 51.0 +4.3**
comp=Z,64μmcomp=Z,537nm,0.9s
BLSI Bandar Lampung 47.10 244 P **P** **04 55 48.9 +1.2**
comp=Z,6μmcomp=Z,554nm,1.2s
SURT Suratani 47.13 265 P P 04 55 53.2 +5.3
KLSI 47.19 245 P **P** **04 55 49.0 +0.6**
comp=Z,910nmcomp=Z,90nm,1.4s
MSVF Nonsavu 47.72 138 LR LR 05 11 52.7
comp=Z,1μm,20.7s,baz=340,slow=31
MSVF Nonsavu 47.72 138 P **P** **04 55 54.0 +1.6**
PSA00 Pilbara Seismi 47.73 214 P **P** **04 55 52.4 0.0**
PSA00 IAmb IAmb 04 55 55.2
comp=Z,132nm,1.2s
LHSI Lahat 47.80 246 P **P** **04 55 54.5 +1.4**
comp=Z,152nm,1.2s
KASI Kota Agung 47.82 244 P **P** **04 55 53.2 0.0**
comp=Z,5μmcomp=Z,399nm,1.2s
LWLI Liwa 47.93 245 P **P** **04 55 55.2 +0.9**
comp=Z,239nm,0.9s
KSI Kapahiang 48.53 247 P **P** **04 55 59.3 +0.5**
comp=Z,8μmcomp=Z,259nm,0.8s
MNAI Manna 48.56 246 P **P** **04 56 00.8 +1.8**
comp=Z,354nm,1.2s
NIKH Nikolski High 48.62 35 P 04 56 00.6
baz=243
ZIRO ZIRO 48.85 291 *e*P **P** **04 56 01.7 +0.4**
ZIRO IAmb IAmb 04 56 06.6
comp=Z,33nm,0.9s
IMP Imphal 48.88 287 *e*P **P** **04 56 00.5 -1.0**
ITAN ITANAGAR 48.98 290 *e*P **P** **04 56 02.5 +0.5**
ARMA Armidale 49.09 174 P **P** **04 56 03.0 +0.2**
ARMA IAmb IAmb 04 56 24.0
comp=Z,67nm,1.1s
RPSI Rantau Prapat 49.12 257 IAmb IAmb 04 56 14.7
comp=Z,85nm,1.0s
MNSI Mandailing Nat 49.26 254 P **P** **04 56 05.7 +1.4**
comp=Z,3μmcomp=Z,166nm,0.9s
XMI Christmas Isla 49.53 238 P **P** **04 56 06.5 +0.1**
comp=Z,434nm,1.5s
XMIS Christmas Isla 49.58 238 P **P** **04 56 06.1 -0.6**
XMIS Christmas Isla 49.58 238 P **P** **04 56 06.6 -0.1**
comp=Z,350nm,1.0s
SAIH SAIHA 49.96 284 *e*P **P** **04 56 08.7 -1.1**
SAIH IAmb IAmb 04 56 12.6
comp=Z,157nm,0.2s
SPIA Saint Paul Isl 50.00 29 IAMs_20 IAMs_20 05 12 39.9
comp=Z,8μm,21.0s
SPIA Saint Paul Isl 50.00 29 P 04 56 11.1
baz=238
LHMI Lhok Sumawe 50.05 261 P **P** **04 56 09.2 -1.1**
comp=Z,4μmcomp=Z,3μmcomp=Z,162nm,1.3s
STKA Stephens Creek 50.50 185 P **P** **04 56 13.0 -0.4**
comp=Z,51nm,1.0s,baz=356,slow=8.2,SNR=40
STKA S **S** **05 03 20.0 -2.2**
comp=Z,17nm,1.1s,baz=124,slow=18,SNR=9.9
STKA LR LR 05 19 07.4
comp=Z,2μm,20.5s,baz=3.7,slow=38
STKA Stephens Creek 50.50 185 P **P** **04 56 12.8 -0.5**
STKA pmax pmax
comp=Z,29nm,1.3s
STKA Stephens Creek 50.50 185 P **P** **04 56 12.8 -0.5**
SHL Shillong 50.70 288 *e*P **P** **04 56 15.2 -0.2**
SHL IAmb IAmb 04 56 16.6
comp=Z,88nm,1.4s
SHL IAMs_20 IAMs_20 05 16 39.7
comp=Z,2μm,22.4s
GUWA GUWAHATI 50.83 289 *e*P **P** **04 56 15.6 -0.5**
GUWA IAmb IAmb 04 56 20.2
comp=Z,33nm,0.4s
GSI Gunungsitoli 50.89 256 IAMs_20 IAMs_20 05 16 11.5
comp=Z,6μm,21.0s
GSI Gunungsitoli 50.89 256 P **P** **04 56 18.4 +1.7**
comp=Z,2μmcomp=Z,292nm,0.9s
LSA Lhasa 51.18 293 P **P** **04 56 21.0 +1.7**
LSA S **S** **05 03 28.5 -4.6**
LSA pmax pmax
comp=Z,71nm,1.1s
LSA LR LR
comp=Z,5μm,19.9s
LSA LR LR
comp=Z,5μm,23.5s
LSA LR LR
comp=Z,9μm,24.9s
LSA Lhasa 51.18 293 P **P** **04 56 19.9 +0.6**
LSA pmax pmax
comp=Z,31nm,0.8s
LSA Lhasa 51.18 293 P **P** **04 56 19.9 +0.6**
BELO BELONIA 51.29 285 *e*P **P** **04 56 18.1 -1.5**
AGT Agartala 51.41 286 *e*P **P** **04 56 19.5 -1.0**
KIP Kipapa 52.03 77*ce*P **P** **04 56 25.6 +0.4**
KIP pmax pmax
comp=Z,353nm,2.2s
KIP Kipapa 52.03 77 P **P** **04 56 25.4 +0.2**
KIP IAmb IAmb 04 56 28.2
comp=Z,103nm,0.8s
PBA Port Blair 52.13 270 IAMs_20 IAMs_20 05 15 47.1
comp=Z,5μm,21.0s
FALS False Pass 52.33 34 P 04 56 27.6
baz=247
AFI Afiamalu 52.40 125 LR LR 05 14 04.0
comp=Z,517nm,20.2s,baz=316,slow=30
CAN Canberra 53.77 177 P **P** **04 56 38.8 +1.1**
CAN pmax pmax
comp=Z,168nm,1.1s
TIXI Tiksi 53.95 353 P **P** **04 56 38.7 +0.2**
comp=Z,30nm,0.5s,baz=134,slow=5.4,SNR=71
TIXI S **S** **05 04 08.6 -0.1**
comp=Z,0.5nm,0.2s,baz=134,slow=23,SNR=1.1
TIXI Tiksi 53.95 353*d i*P **P** **04 56 39.3 +0.8**
TIXI Tiksi 53.95 353 P **P** **04 56 37.9 -0.6**
TIXI IAmb IAmb 04 56 46.9
comp=Z,39nm,0.7s
SDPT Sand Point 54.08 34 P **P** **04 56 39.9 +0.3**
SDPT Sand Point 54.08 34 P 04 56 40.1
baz=249,SNR=7.8
TAPN Taplejung 54.31 291 *e*P **P** **04 56 42.6 +0.4**
comp=Z,238nm,1.2s
POHA Pohakuloa 54.58 79 P **P** **04 56 44.0 -0.1**
KHU Kahuku 54.58 79 P **P** **04 56 44.7 +0.5**
KHU pmax pmax
comp=Z,243nm,1.1s
KHU Kahuku 54.58 79 P **P** **04 56 44.7 +0.5**
ODAN Odare 54.63 290 *e*P **P** **04 56 44.7 +0.2**
comp=Z,275nm,1.3s
WMQ Urumqi 54.83 311 P **P** **04 56 47.0 +1.5**
WMQ sP sP 04 57 08.6 -0.8
WMQ PcP **PcP** **04 57 48.4 +1.4**
WMQ S **S** **05 04 22.1 +0.6**
WMQ ScS **ScS** **05 06 27.8 -0.7**
WMQ pmax pmax
comp=Z,100nm,1.3s
WMQ pmax pmax
comp=Z,1μm,4.7s
WMQ LR LR
comp=Z,3μm,16.5s
WMQ LR LR
comp=Z,2μm,22.9s
WMQ LR LR
comp=Z,6μm,28.5s
WMQ Urumqi 54.83 311 IAmb IAmb 04 56 50.1
comp=Z,75nm,0.9s
SDHHI Sand Hill 54.86 79 IAMs_20 IAMs_20 05 15 06.6
comp=Z,7μm,18.0s
OBL Observatory Le 54.86 79 IAMs_20 IAMs_20 05 17 39.8
comp=Z,6μm,20.0s
JCUZ Jacuzzi 55.04 79 IAMs_20 IAMs_20 05 16 18.4
comp=Z,6μm,18.0s
RAMN Ramite 55.33 290 *e*P **P** **04 56 49.4 -0.1**
comp=Z,116nm,1.2s
CHGN Chignik 55.50 34 P 04 56 50.7
baz=251
GUN Gumba 55.89 291 *e*P **P** **04 56 53.7 +0.1**
comp=Z,476nm,1.5s
ANM Nome 55.93 23 IAmb IAmb 04 57 16.7
comp=Z,167nm,1.5s
ANM IAMs_20 IAMs_20 05 16 44.5
comp=Z,4μm,21.0s
ANM Nome 55.93 23 P 04 56 54.1
baz=239,SNR=40
DGZ Jazzator, Alta 55.99 318*c i*P **P** **04 56 54.2 +0.4**
DGZ pmax pmax
comp=Z,119nm,1.4s
BOK Bokaro 56.30 287 *e*P **P** **04 56 56.8 +0.6**
BOK IAmb IAmb 04 57 01.4
comp=Z,42nm,1.0s
BOK IAMs_20 IAMs_20 05 16 43.8
comp=Z,3μm,32.6s
PKI Pulchoki 56.33 291 *e*P **P** **04 56 56.4 -0.4**
comp=Z,199nm,1.4s
PKIN Phulchoki 56.34 291 *e*P **P** **04 56 56.3 -0.5**
DMN Daman 56.59 291 *e*P **P** **04 56 58.5 -0.1**
comp=Z,113nm,1.2s
CHIR Chirikof Islan 56.85 35 P 04 57 00.9
baz=254
GKN Gorkha 56.98 292 *e*P **P** **04 57 01.2 +0.1**
comp=Z,324nm,1.2s
ZSN Zaisan 57.29 315 *e*P **P** **04 57 01.7 -1.2**
comp=Z,95nm,2.3s,baz=315
ZSN *e*S **S** **05 04 53.6 -0.3**
baz=315
ZSN Zaisan 57.29 315 *e*P **P** **04 57 01.7 -1.2**
ZSN *e*S **S** **05 04 53.6 -0.3**
ZSN pmax pmax
comp=Z,95nm,2.3s
XMAS Kiritimati 57.37 100 P **P** **04 57 04.6 +0.8**
XMAS Kiritimati 57.37 100 P **P** **04 57 03.7 -0.2**
SII Sitkinak Islan 57.82 34 IAMs_20 IAMs_20 05 19 34.0
comp=Z,4μm,20.0s
SII Sitkinak Islan 57.82 34 P 04 57 07.9
baz=255,SNR=9.5
NWAO Narrogin (SRO) 58.43 209 LR LR 05 22 54.6
comp=Z,2μm,20.4s,baz=42,slow=36
NWAO Narrogin (SRO) 58.43 209 P **P** **04 57 10.8 -0.1**
NWAO pmax pmax
comp=Z,48nm,0.9s
NWAO MLR MLR
comp=Z,2μm,19.0s
NWAO Narrogin (SRO) 58.43 209 P **P** **04 57 10.8 -0.1**
NWAO IAmb IAmb 04 57 14.6
comp=Z,48nm,0.9s
ZALV Zalesovo Beam 58.44 322 P **P** **04 57 10.9 +0.1**
comp=Z,32nm,0.5s,baz=108,slow=8.3,SNR=118
ZALV ScP **ScP** **05 01 55.0 -0.1**
comp=Z,11nm,0.9s,baz=114,slow=3.6,SNR=6.6
ZALV LR LR 05 23 21.7
comp=Z,2μm,19.9s,baz=96,slow=37
ZALV PKPPKP **P'P'df** **05 26 50.6 -0.9**
comp=Z,1.9nm,0.8s,baz=316,slow=4.1,SNR=5.7
ZALV Zalesovo Beam 58.44 322 P **P** **04 57 09.5 -1.2**
OHAK Old Harbor 58.47 34 IAMs_20 IAMs_20 05 18 52.0
comp=Z,5μm,21.0s
OHAK Old Harbor 58.47 34 P 04 57 11.7
baz=255,SNR=17
SVW2 Sparrevohn 58.50 29 IAmb IAmb 04 57 14.9
comp=Z,66nm,0.9s
SVW2 IAMs_20 IAMs_20 05 18 31.1
comp=Z,5μm,22.0s
RDOG Red Dog Mine 58.59 20 IAmb IAmb 04 57 35.3
comp=Z,105nm,1.3s
RDOG Red Dog Mine 58.59 20 P 04 57 13.0
baz=239,SNR=27
MK31 Makanchi Array 58.96 314 P **P** **04 57 14.5 -0.1**
MK31 pmax pmax
comp=Z,28nm,0.8s
MK31 Makanchi Array 58.96 314 P **P** **04 57 14.5 -0.1**
MKAR Makanchi Array 58.96 314 P **P** **04 57 14.9 +0.3**
comp=Z,37nm,0.7s,baz=90,slow=8.6,SNR=172
MKAR ScP **ScP** **05 01 58.2 +0.5**
comp=Z,6.5nm,0.9s,baz=86,slow=3.8,SNR=4.7
MKAR S **S** **05 05 13.9 -1.8**
comp=Z,1.3nm,0.9s,baz=97,slow=6.7,SNR=2.7
MKAR LR LR 05 24 46.7
comp=Z,2μm,18.9s,baz=90,slow=38
MKAR PKP2bc 05 26 57.3
comp=Z,1.6nm,0.9s,baz=48,slow=1.8,SNR=7.2
MKAR Makanchi Array 58.96 314 P **P** **04 57 13.8 -0.8**
KDAK Kodiak Island 58.98 33 LR LR 05 19 50.0
comp=Z,3μm,21.8s,baz=259,slow=33
KDAK Kodiak Island 58.98 33*c i*P **P** **04 57 15.2 +0.8**
KDAK pmax pmax
comp=Z,158nm,0.6s
KDAK Kodiak Island 58.98 33 P **P** **04 57 14.6 +0.2**
KDAK Kodiak Island 58.98 33 P 04 57 15.2
baz=255
MAKZ Makanchi 59.18 314 P **P** **04 57 16.1 0.0**
MAKZ pmax pmax
comp=Z,56nm,0.7s
MAKZ MLR MLR
comp=Z,2μm,18.0s
MAKZ Makanchi 59.18 314 P **P** **04 57 16.1 0.0**
MAKZ IAmb IAmb 04 57 19.6
comp=Z,56nm,0.7s
HOM Homer 59.94 31 IAMs_20 IAMs_20 05 19 25.7
comp=Z,4μm,21.0s
HOM Homer 59.94 31 P 04 57 21.7
baz=255,SNR=6.1
CNPM China Poot 60.10 31 IAMs_20 IAMs_20 05 19 08.1
comp=Z,4μm,22.0s
BRSE Bradley Lake S 60.40 31 P 04 57 24.1
baz=256,SNR=29
CAPN Captain Cook N 60.46 30 IAMs_20 IAMs_20 05 19 08.5
comp=Z,4μm,21.0s
PPLA Purkeypile 60.58 27 P **P** **04 57 26.3 +0.8**
PPLA IAMs_20 IAMs_20 05 19 25.6
comp=Z,4μm,22.0s
PPLA Purkeypile 60.58 27 P 04 57 26.0
baz=253,SNR=13
SKT Skwentna 60.61 29 IAmb IAmb 04 57 29.9
comp=Z,60nm,0.9s
SKT IAMs_20 IAMs_20 05 19 47.5
comp=Z,7μm,22.0s
SKT Skwentna 60.61 29 P 04 57 25.8
baz=254,SNR=42
PDGK Podgornoye 60.74 310 *i* P **P** **04 57 26.3 -0.6**
PDGK pmax pmax
comp=Z,62nm,0.8s
SHLS Shalkode 60.75 309 *e*P **P** **04 57 23.3 -3.8**

	comp=Z,66nm,1.7s,baz=309								
SHLS				*e*S		**S**		**05 05 33.1**	**-6.0**
	baz=309								
SHLS	**Shalkode**	**60.75**	**309**	*e*P		**P**		**04 57 23.2**	**-3.8**
SHLS				*e*S		**S**		**05 05 33.9**	**-5.2**
SHLS				pmax		pmax			
	comp=Z,66nm,1.7s								
CHUM	**Lake Minchumin**	**60.83**	**26**	P				04 57 28.2	
	baz=252,SNR=59								
SUA	**Susitna One**	**60.83**	**29**	IAmb		IAmb		04 57 54.1	
	comp=Z,46nm,1.0s								
SUA	**Susitna One**	**60.83**	**29**	P				04 57 27.2	
	baz=255,SNR=13								
IMAR	**Indian Mountai**	**60.94**	**24**	P		**P**		**04 57 28.1**	**+0.3**
O22K	**Cooper Landing**	**61.07**	**31**	P				04 57 29.1	
	baz=256,SNR=28								
UZB	**Uzynbulak**	**61.08**	**309**	*e*P		**P**		**04 57 27.7**	**-1.6**
	comp=Z,69nm,1.9s,baz=309								
UZB				*e*S		**S**		**05 05 42.2**	**-1.0**
	baz=309								
UZB	**Uzynbulak**	**61.08**	**309**	*e*P		**P**		**04 57 27.6**	**-1.6**
UZB				*e*S		**S**		**05 05 42.2**	**-1.0**
UZB				pmax		pmax			
	comp=Z,69nm,1.9s								
SEW	**Seward**	**61.12**	**31**	P		**P**		**04 57 29.5**	**+0.5**
SEW	**Seward**	**61.12**	**31**	P				04 57 29.4	
	baz=257,SNR=25								
RC01	**Rabbit Creek A**	**61.21**	**30**	P				04 57 29.8	
	baz=256,SNR=22								
CUT	**Chulitna**	**61.30**	**28**	IAMs_20		IAMs_20		05 19 46.7	
	comp=Z,6µm,22.0s								
CUT	**Chulitna**	**61.30**	**28**	P				04 57 31.8	
	baz=255								
TAU	**Tasmania Unive**	**61.30**	**179**	P		**P**		**04 57 30.6**	**+0.2**
TAU				pmax		pmax			
	comp=Z,151nm,1.2s								
TAU	**Tasmania Unive**	**61.30**	**179**	P		**P**		**04 57 30.6**	**+0.2**
KTH	**Kantishna Hill**	**61.32**	**27**	IAMs_20		IAMs_20		05 19 47.2	
	comp=Z,4µm,22.0s								
KPKS	**Kokpek**	**61.33**	**310**	*e*P		**P**		**04 57 29.1**	**-1.9**
	comp=Z,69nm,1.6s,baz=310								
KPKS				*e*S		**S**		**05 05 45.1**	**-1.3**
	baz=310								
KPKS	**Kokpek**	**61.33**	**310**	*e*P		**P**		**04 57 29.0**	**-1.9**
KPKS				*e*S		**S**		**05 05 45.0**	**-1.3**
KPKS				pmax		pmax			
	comp=Z,69nm,1.6s								
BPAW	**Bear Paw Mtn.**	**61.45**	**26**	IAMs_20		IAMs_20		05 20 34.5	
	comp=Z,5µm,22.0s								
BPAW	**Bear Paw Mtn.**	**61.45**	**26**	P				04 57 32.0	
	baz=253,SNR=141								
SATY	**Saty**	**61.52**	**309**	*e*P		**P**		**04 57 30.8**	**-1.5**
	comp=Z,38nm,1.2s,baz=309								
SATY				*e*S		**S**		**05 05 47.2**	**-1.7**
	baz=309								
SATY	**Saty**	**61.52**	**309**	*e*P		**P**		**04 57 30.8**	**-1.5**
SATY				*e*S		**S**		**05 05 47.2**	**-1.7**
SATY				pmax		pmax			
	comp=Z,38nm,1.2s								
TDK	**Taldyqorghan**	**61.56**	**312**	*e*P		**P**		**04 57 31.3**	**-1.1**
	comp=Z,59nm,1.4s,baz=312								
TDK				*e*S		**S**		**05 05 48.8**	**-0.3**
	baz=312								
TDK	**Taldyqorghan**	**61.56**	**312**	*e*P		**P**		**04 57 31.2**	**-1.1**
TDK				*e*S		**S**		**05 05 48.7**	**-0.3**
TDK				pmax		pmax			
	comp=Z,59nm,1.4s								
TRF	**Thorofare Moun**	**61.57**	**27**	IAMs_20		IAMs_20		05 19 55.8	
	comp=Z,5µm,22.0s								
TRF	**Thorofare Moun**	**61.57**	**27**	P				04 57 32.1	
	baz=254								
PMR	**Palmer**	**61.62**	**29**	P				04 57 32.1	
	baz=256								
KURK	**Kurchatov**	**61.73**	**318**	P		**P**		**04 57 33.3**	**0.0**
KURK	**Kurchatov**	**61.73**	**318**	P		**P**		**04 57 33.3**	**0.0**
GHO	**Glory Hole Cre**	**61.76**	**29**	IAmb		IAmb		04 58 01.4	
	comp=Z,63nm,0.9s								
GHO				IAMs_20		IAMs_20		05 20 37.6	
	comp=Z,4µm,21.0s								
KURBB	**Kurchatov Arra**	**61.78**	**318**	P		**P**		**04 57 33.3**	**-0.4**
	comp=Z,71nm,0.7s,baz=93,slow=7.5,SNR=444								
KNK	**Knik Glacier**	**61.89**	**30**	IAmb		IAmb		04 57 38.9	
	comp=Z,91nm,0.9s								
KNK				IAMs_20		IAMs_20		05 20 30.2	
	comp=Z,4µm,22.0s								
KNK	**Knik Glacier**	**61.89**	**30**	P				04 57 34.4	
	baz=257,SNR=21								
SML	**Sawmill**	**62.04**	**29**	IAMs_20		IAMs_20		05 20 57.1	
	comp=Z,5µm,22.0s								
SML	**Sawmill**	**62.04**	**29**	P				04 57 35.5	
	baz=257,SNR=51								
A21K	**Barrow**	**62.09**	**18**	P				04 57 36.3	
	baz=244,SNR=86								
RND	**Reindeer**	**62.18**	**27**	IAmb		IAmb		04 57 39.9	
	comp=Z,50nm,0.7s								
RND				IAMs_20		IAMs_20		05 20 25.7	
	comp=Z,7µm,22.0s								
WAT2	**Susitna Watana**	**62.19**	**28**	P				04 57 36.2	
	baz=256,SNR=89								
MCK	**McKinley**	**62.23**	**27**	IAmb		IAmb		04 57 55.1	
	comp=Z,65nm,1.2s								
MCK				IAMs_20		IAMs_20		05 20 16.0	
	comp=Z,5µm,22.0s								
MCK	**McKinley**	**62.23**	**27**	P				04 57 36.4	
	baz=256,SNR=26								
NEA2	**Nenana**	**62.39**	**26**	IAmb		IAmb		04 57 41.3	
	comp=Z,62nm,0.7s								
NEA2				IAMs_20		IAMs_20		05 22 36.3	
	comp=Z,4µm,20.0s								
NEA2	**Nenana**	**62.39**	**26**	P				04 57 37.5	
	baz=255,SNR=84								
I23K	**Minto, Yukon-K**	**62.42**	**25**	P				04 57 38.5	
	baz=254,SNR=30								
GLI	**Glacier Island**	**62.42**	**30**	P				04 57 38.8	
	baz=259								
TOZ	**Tahuna Road**	**62.44**	**154**	P		**P**		**04 57 40.8**	**+2.7**
SCM	**Sheep Creek Mo**	**62.51**	**29**	IAMs_20		IAMs_20		05 20 37.5	
	comp=Z,5µm,22.0s								
MDOK	**Medeo**	**62.52**	**309**	*e*P		**P**		**04 57 37.5**	**-1.5**
	baz=309								
MDOK				*e*S		**S**		**05 06 00.5**	**-1.1**
	baz=309								
MDOK	**Medeo**	**62.52**	**309**	*e*P		**P**		**04 57 37.5**	**-1.5**
MDOK				*e*S		**S**		**05 06 00.4**	**-1.1**
Q23K	**Middleton Isla**	**62.52**	**32**	IAMs_20		IAMs_20		05 20 58.1	
	comp=Z,4µm,22.0s								
AAA	**Alma-Ata**	**62.62**	**310**	*e*P		**P**		**04 57 38.2**	**-1.3**
	comp=Z,98nm,1.5s,baz=309								
AAA				*e*S		**S**		**05 06 01.8**	**-0.8**
	baz=309								
AAA	**Alma-Ata**	**62.62**	**310**	*e*P		**P**		**04 57 38.2**	**-1.3**
AAA				*e*S		**S**		**05 06 01.7**	**-0.8**
AAA				pmax		pmax			
	comp=Z,98nm,1.5s								
HIN	**Hinchinbrook I**	**62.62**	**31**	P		**P**		**04 57 39.9**	**+0.8**
HIN				IAMs_20		IAMs_20		05 22 16.6	
	comp=Z,4µm,21.0s								
COLD	**Coldfoot**	**62.69**	**23**	IAmb		IAmb		04 58 02.6	
	comp=Z,69nm,1.1s								
COLD				IAMs_20		IAMs_20		05 20 22.1	
	comp=Z,4µm,22.0s								
COLD	**Coldfoot**	**62.69**	**23**	P				04 57 40.8	
	baz=252,SNR=49								
FID	**Port Fidalgo**	**62.70**	**31**	IAMs_20		IAMs_20		05 21 58.9	
	comp=Z,5µm,22.0s								
TGRZ	**Tauranga**	**62.75**	**154**	P		**P**		**04 57 42.8**	**+2.6**
WRH	**Wood River Hil**	**62.77**	**26**	IAmb		IAmb		04 57 42.4	
	comp=Z,50nm,0.7s								
WRH				IAMs_20		IAMs_20		05 22 16.3	
	comp=Z,4µm,20.0s								
MDM	**Murphy Dome**	**62.83**	**26**	IAMs_20		IAMs_20		05 21 17.0	
	comp=Z,4µm,22.0s								
HIZ	**Hauiti**	**62.85**	**155**	IAmb		IAmb		04 57 50.0	
	comp=Z,98nm,0.9s								
HIZ	**Hauiti**	**62.85**	**155**	P		**P**		**04 57 43.9**	**+3.1**
CCB	**Clear Creek Bu**	**62.93**	**26**	IAmb		IAmb		04 58 03.4	
	comp=Z,44nm,1.0s								
CCB				IAMs_20		IAMs_20		05 20 32.6	
	comp=Z,4µm,22.0s								
TCOL	**CIGO, UAF Yank**	**62.96**	**26**	IAMs_20		IAMs_20		05 21 08.4	
	comp=Z,5µm,22.0s								
TCOL	**CIGO, UAF Yank**	**62.96**	**26**	P				04 57 42.5	
	baz=256,SNR=11								
COLA	**College**	**62.97**	**26**	P		**P**		**04 57 42.1**	**+0.8**
COLA				pmax		pmax			
	comp=Z,79nm,0.7s								
COLA	**College**	**62.97**	**26**	P		**P**		**04 57 42.1**	**+0.8**
COLA	**College**	**62.97**	**26**	IAMs_20		IAMs_20		05 21 31.4	
	comp=Z,4µm,21.0s								
COLA	**College**	**62.97**	**26**	P				04 57 42.2	
	baz=256								
OPRZ	**Ohinepanea**	**62.98**	**154**	P		**P**		**04 57 44.3**	**+2.7**
EYAK	**Cordova Ski Ar**	**63.01**	**31**	IAmb		IAmb		04 57 45.1	
	comp=Z,75nm,0.7s								
EYAK				IAMs_20		IAMs_20		05 21 24.0	
	comp=Z,5µm,22.0s								
EYAK	**Cordova Ski Ar**	**63.01**	**31**	P				04 57 42.9	
	baz=260,SNR=11								
KUU	**Kurty**	**63.03**	**310**	*e*P		**P**		**04 57 40.5**	**-1.8**
	comp=Z,120nm,1.7s,baz=310								
KUU				*e*S		**S**		**05 06 06.6**	**-1.1**
	baz=310								
KUU	**Kurty**	**63.03**	**310**	*e*P		**P**		**04 57 40.4**	**-1.8**
KUU				*e*S		**S**		**05 06 06.5**	**-1.1**
KUU				pmax		pmax			
	comp=Z,120nm,1.7s								
M24K	**Tolsona, Glenn**	**63.10**	**29**	IAMs_20		IAMs_20		05 21 41.1	
	comp=Z,4µm,21.0s								
M24K	**Tolsona, Glenn**	**63.10**	**29**	P				04 57 43.7	
	baz=259,SNR=9.6								
KLU	**Klutina**	**63.10**	**30**	IAmb		IAmb		04 58 05.9	
	comp=Z,64nm,1.0s								
KLU				IAMs_20		IAMs_20		05 21 19.2	
	comp=Z,3µm,22.0s								
KLU	**Klutina**	**63.10**	**30**	P				04 57 43.3	
	baz=260,SNR=18								
OMRZ	**Omania**	**63.12**	**154**	P		**P**		**04 57 44.7**	**+2.0**
ULHL	**Ulahol**	**63.13**	**308**	P		**P**		**04 57 44.2**	**+1.1**
	SNR=20								
SMLA	**Simla**	**63.14**	**296**	*e*P		**P**		**04 57 42.6**	**-0.5**
SMLA				IAmb		IAmb		04 57 46.8	
	comp=Z,38nm,0.8s								
POKR	**Poker Plat Res**	**63.20**	**26**	IAMs_20		IAMs_20		05 21 16.7	
	comp=Z,5µm,22.0s								
POKR	**Poker Plat Res**	**63.20**	**26**	P				04 57 42.8	
	baz=256,SNR=19								
HDA	**Harding Lake**	**63.24**	**27**	IAMs_20		IAMs_20		05 23 22.7	
	comp=Z,3µm,21.0s								
HDA	**Harding Lake**	**63.24**	**27**	P				04 57 42.9	
	baz=257,SNR=56								
HDA				P				04 57 42.9	
	baz=257,SNR=56								
VRZ	**Vera Road**	**63.34**	**156**	P		**P**		**04 57 46.8**	**+2.8**
TOLK	**Toolik Lake Re**	**63.34**	**22**	P		**P**		**04 57 44.8**	**+1.0**
TOLK	**Toolik Lake Re**	**63.34**	**22**	P				04 57 45.1	
	baz=252,SNR=88								
IL31		**63.34**	**26**	IAmb		IAmb		04 57 45.7	
	comp=Z,56nm,0.8s								
ILAR	**Eielson Array**	**63.34**	**26**	P		**P**		**04 57 42.9**	**-1.0**
	comp=Z,45nm,0.7s,baz=255,slow=4.2,SNR=157								
ILAR				LR		LR		05 22 04.1	
	comp=Z,3µm,21.6s,baz=264,slow=33								
ILAR				PKP2bc				05 26 48.5	
	comp=Z,1.5nm,1.0s,baz=11,slow=2.0,SNR=5.4								
ILAR				P4KPbc				05 34 42.5	
	comp=Z,0.6nm,0.8s,baz=291,slow=3.7,SNR=5.8								
ILAR	**Eielson Array**	**63.34**	**26**	P		**P**		**04 57 42.5**	**-1.4**
NDI	**New Delhi**	**63.40**	**293**	*e*P		P		04 57 58.0	+13
HAZ	**Te Kaha**	**63.43**	**153**	P		**P**		**04 57 45.3**	**+0.6**
KSH	**Kashi**	**63.43**	**305**	P		**P**		**04 57 48.4**	**+3.3**
KSH				sP		sP		04 58 10.1	+0.9
KSH				PP		**PP**		**05 00 08.1**	**+3.0**
KSH				S		**S**		**05 06 15.3**	**+2.3**
KSH				ScS		**SKSac**		**05 07 28.8**	**-3.7**
KSH				SS		**SS**		**05 10 23.4**	**+2.7**
KSH				pmax		pmax			
	comp=Z,100nm,1.0s								
KSH				pmax		pmax			
	comp=Z,1µm,9.1s								
KSH				LR		LR			
	comp=Z,4µm,18.4s								
KSH				LR		LR			
	comp=Z,2µm,14.1s								
KSH				LR		LR			
	comp=Z,2µm,16.9s								
RAGM	**Ragged Mountai**	**63.51**	**31**	IAmb		IAmb		04 58 08.9	
	comp=Z,111nm,1.1s								
RAGM				IAMs_20		IAMs_20		05 21 38.2	
	comp=Z,4µm,22.0s								
RUGZ	**Raukumara Rang**	**63.56**	**153**	P		**P**		**04 57 44.9**	**-0.8**
URZ	**Urewera**	**63.56**	**153**	P		**P**		**04 57 45.1**	**-0.4**
KAIM	**Kayak Island**	**63.57**	**32**	IAMs_20		IAMs_20		05 21 50.7	
	comp=Z,4µm,21.0s								
KAIM	**Kayak Island**	**63.57**	**32**	P				04 57 46.5	
	baz=262								
PAX	**Paxson**	**63.58**	**28**	IAmb		IAmb		04 57 48.6	
	comp=Z,55nm,0.6s								
PAX				IAMs_20		IAMs_20		05 20 56.9	
	comp=Z,5µm,22.0s								
PAX	**Paxson**	**63.58**	**28**	P				04 57 46.0	
	baz=259,SNR=39								
TKM2	**Tokmak 2**	**63.59**	**309**	P		**P**		**04 57 47.2**	**+1.1**
	SNR=43								
TKM2	**Tokmak 2**	**63.59**	**309**	*i* P		**P**		**04 57 46.1**	**0.0**
TKM2				pmax		pmax			
	comp=Z,47nm,1.0s								
MDRS	**Chennai**	**63.60**	**276**	*e*P		**P**		**04 57 47.1**	**+0.8**
MDRS				IAmb		IAmb		04 57 50.6	
	comp=Z,38nm,1.1s								
MDRS				IAMs_20		IAMs_20		05 19 20.9	
	comp=Z,2µm,34.7s								
BMRM	**Bremner River**	**63.64**	**31**	IAmb		IAmb		04 58 09.6	
	comp=Z,148nm,1.2s								
BMRM				IAMs_20		IAMs_20		05 22 40.5	
	comp=Z,5µm,21.0s								
BMRM	**Bremner River**	**63.64**	**31**	P				04 57 46.3	
	baz=261,SNR=18								
WTVZ	**West Tongariro**	**63.66**	**155**	P		**P**		**04 57 49.4**	**+3.1**
PKGZ	**Pakihiroa**	**63.67**	**152**	P		**P**		**04 57 46.3**	**-0.1**
TMVZ	**Te Maari**	**63.70**	**155**	P		**P**		**04 57 49.1**	**+2.5**
HMT	**Hamilton**	**63.71**	**31**	IAmb		IAmb		04 57 49.8	
	comp=Z,65nm,0.8s								
HMT				IAMs_20		IAMs_20		05 21 56.3	
	comp=Z,4µm,22.0s								
PKVZ	**Pokaka**	**63.71**	**155**	P		**P**		**04 57 48.7**	**+2.1**
NGZ	**Ngauruhoe**	**63.71**	**155**	P		**P**		**04 57 48.0**	**+1.3**
ETVZ	**East Tongariro**	**63.72**	**155**	P		**P**		**04 57 49.6**	**+2.8**
OTVZ	**Oturere**	**63.73**	**155**	P		**P**		**04 57 48.0**	**+1.1**
N25K	**Chitina, Valde**	**63.74**	**30**	P				04 57 47.4	
	baz=261,SNR=16								
BHK	**Bhakra**	**63.75**	**296**	*e*P		**P**		**04 57 49.0**	**+1.9**
DHRM	**DHARAMSHALA**	**63.75**	**297**	*e*P		**P**		**04 57 44.5**	**-3.0**
DHRM				IAmb		IAmb		04 57 48.9	
	comp=Z,26nm,0.8s								
FWVZ	**Far West T-bar**	**63.76**	**155**	P		**P**		**04 57 49.2**	**+2.0**
TRVZ	**Turoa**	**63.80**	**155**	P		**P**		**04 57 49.9**	**+2.5**
WHVZ	**Whangaehu Hut**	**63.80**	**155**	P		**P**		**04 57 49.6**	**+2.2**
MWZ	**Matawai**	**63.80**	**153**	P		**P**		**04 57 47.1**	**0.0**
RTZ	**Ruatahuna**	**63.80**	**154**	P		**P**		**04 57 47.0**	**-0.3**
TUVZ	**Tukino**	**63.81**	**155**	P		**P**		**04 57 49.5**	**+2.2**
MTVZ	**Mangateitei**	**63.84**	**155**	P		**P**		**04 57 49.9**	**+2.4**
WNVZ	**Wahianoa**	**63.84**	**155**	P		**P**		**04 57 49.5**	**+1.9**
TWGZ	**Tauwhareparae**	**63.87**	**153**	P		**P**		**04 57 49.0**	**+1.4**
RAGZ	**Rawiri**	**63.89**	**153**	P		**P**		**04 57 48.7**	**+0.8**
PUZ	**Puketiti**	**63.90**	**152**	P		**P**		**04 57 47.8**	**0.0**
SUCK	**Suckling Hills**	**63.91**	**32**	IAMs_20		IAMs_20		05 22 02.7	
	comp=Z,5µm,22.0s								
MTHZ	**Maungataniwha**	**63.95**	**154**	P		**P**		**04 57 47.0**	**-1.2**
WAZ	**Wanganui**	**63.97**	**156**	P		**P**		**04 57 50.4**	**+2.2**
MOVZ	**Moawhango**	**63.97**	**155**	P		**P**		**04 57 49.4**	**+1.1**
BERG	**Berg Lake**	**63.99**	**31**	IAMs_20		IAMs_20		05 21 53.8	
	comp=Z,4µm,22.0s								
QRZ	**Quartz Range**	**63.99**	**158**	P		**P**		**04 57 49.1**	**+0.7**
TKGZ	**Te Karaka**	**64.03**	**153**	P		**P**		**04 57 49.8**	**+1.2**
BHPL	**Bhopal**	**64.06**	**287**	*e*P		**P**		**04 57 46.3**	**-3.0**
BHPL				IAmb		IAmb		04 57 51.2	
	comp=Z,19nm,0.7s								
BKZ	**Black Stump Fm**	**64.07**	**154**	P		**P**		**04 57 48.3**	**-0.6**
BKZ				IAmb		IAmb		04 57 51.2	
	comp=Z,89nm,0.7s								
BKZ				IAMs_20		IAMs_20		05 23 16.7	
	comp=Z,4µm,21.0s								
BKZ	**Black Stump Fm**	**64.07**	**154**	P		**P**		**04 57 49.0**	**+0.1**
PRP	**Porcupine Dome**	**64.07**	**25**	IAMs_20		IAMs_20		05 22 04.7	
	comp=Z,4µm,22.0s								
PRP	**Porcupine Dome**	**64.07**	**25**	P				04 57 47.9	
	baz=258,SNR=15								
KBK	**Karagaybulak**	**64.07**	**309**	P		**P**		**04 57 50.0**	**+0.7**
	SNR=22								
SNGZ	**Shannon Statio**	**64.10**	**153**	P		**P**		**04 57 51.2**	**+2.1**
NMHZ	**Naumai**	**64.14**	**154**	P		**P**		**04 57 50.1**	**+0.7**
BHHZ	**Black Hill Sta**	**64.17**	**155**	P		**P**		**04 57 49.7**	**+0.1**
HYB	**Hyderabad**	**64.17**	**281**	*i* P		**P**		**04 57 49.0**	**-1.1**
HYB				*e*PcP		**PcP**		**04 58 23.5**	**-1.2**
HYB	**Hyderabad**	**64.17**	**281**	*e*P		**P**		**04 57 48.2**	**-1.9**
HYB				IAmb		IAmb		04 57 50.7	
	comp=Z,13nm,0.6s								
HYB				IAMs_20		IAMs_20		05 19 20.9	
	comp=Z,3µm,38.8s								
CHMS	**Chumysh**	**64.21**	**309**	P		**P**		**04 57 49.9**	**0.0**
	SNR=12								
RIGZ	**Rimuhau**	**64.21**	**153**	P		**P**		**04 57 51.3**	**+1.4**
CNGZ	**Carnagh Statio**	**64.22**	**153**	P		**P**		**04 57 50.5**	**+0.6**
KWHZ	**Kaweka Forest**	**64.26**	**155**	P		**P**		**04 57 51.5**	**+1.3**
SGDS	**Sogindy**	**64.28**	**310**	*e*P		**P**		**04 57 48.6**	**-1.9**
	comp=Z,25nm,1.6s,baz=310								
SGDS				*e*S		**S**		**05 06 22.0**	**-1.3**
	baz=310								
SGDS	**Sogindy**	**64.28**	**310**	*e*P		**P**		**04 57 48.6**	**-1.9**
SGDS				*e*S		**S**		**05 06 21.9**	**-1.3**
SGDS				pmax		pmax			
	comp=Z,25nm,1.6s								
CRQM	**Cirque**	**64.31**	**31**	IAmb		IAmb		04 57 56.5	
	comp=Z,84nm,0.7s								
DOT	**Dot Lake**	**64.33**	**28**	IAmb		IAmb		04 57 53.9	
	comp=Z,84nm,0.7s								
CRQE	**Cirque**	**64.34**	**31**	P				04 57 51.5	
	baz=262,SNR=11								
ARHZ	**Aropaoanui**	**64.36**	**154**	P		**P**		**04 57 52.7**	**+1.9**
USP	**Ospenovka**	**64.38**	**310**	P		**P**		**04 57 51.8**	**+0.7**
	SNR=23								
MCHZ	**McNeill Hill**	**64.39**	**154**	P		**P**		**04 57 52.2**	**+1.2**
AAK	**Ala-Archa**	**64.41**	**309**	P		**P**		**04 57 52.0**	**+0.6**
	SNR=18								
AAK	**Ala-Archa**	**64.41**	**309**	P		**P**		**04 57 51.4**	**-0.1**
AAK				pmax		pmax			
	comp=Z,35nm,1.3s								
AAK				MLR		MLR			
	comp=Z,2µm,20.0s								
AAK	**Ala-Archa**	**64.41**	**309**	P		**P**		**04 57 51.4**	**-0.1**
FYU	**Fort Yukon**	**64.41**	**24**	IAMs_20		IAMs_20		05 23 25.6	
	comp=Z,3µm,20.0s								
UCH	**Uchtor**	**64.41**	**308**	P		**P**		**04 57 52.7**	**+0.9**
	SNR=65								
SCRK	**Sand Creek**	**64.42**	**27**	P		**P**		**04 57 51.3**	**+0.2**
SCRK				IAmb		IAmb		04 57 53.5	
	comp=Z,59nm,0.7s								
SCRK				IAMs_20		IAMs_20		05 23 01.0	
	comp=Z,6µm,21.0s								
SCRK	**Sand Creek**	**64.42**	**27**	P				04 57 51.4	
	baz=260,SNR=64								
KRHZ	**Kereru**	**64.42**	**155**	P		**P**		**04 57 51.8**	**+0.5**
MCARA	**McCarthy VSAT**	**64.46**	**30**	IAMs_20		IAMs_20		05 22 03.1	
	comp=Z,3µm,21.0s								
MCARA	**McCarthy VSAT**	**64.46**	**30**	P				04 57 51.9	
	baz=262,SNR=32								
TGL	**Tana Glacier**	**64.47**	**31**	IAmb		IAmb		04 57 57.4	
	comp=Z,52nm,1.0s								
PNHZ	**Pukenui**	**64.58**	**155**	P		**P**		**04 57 53.5**	**+1.2**
TSZ	**Takapari Road**	**64.61**	**155**	P		**P**		**04 57 53.7**	**+1.3**
NNZ	**Nelson**	**64.64**	**158**	IAmb		IAmb		04 57 56.0	
	comp=Z,108nm,0.9s								
MHGZ	**Mahia Peninsul**	**64.65**	**153**	P		**P**		**04 57 53.7**	**+1.0**
BTLS	**Baital**	**64.65**	**312**	*e*P		**P**		**04 57 51.1**	**-1.7**
	comp=Z,27nm,1.5s,baz=312								
BTLS				*e*S		**S**		**05 06 26.6**	**-1.1**
	baz=312								
BTLS	**Baital**	**64.65**	**312**	*e*P		**P**		**04 57 51.1**	**-1.7**
BTLS				*e*S		**S**		**05 06 26.5**	**-1.1**
BTLS				pmax		pmax			
	comp=Z,27nm,1.5s								
PALK	**Pallekele**	**64.74**	**269**	P		**P**		**04 57 54.4**	**+0.5**
PALK				pmax		pmax			
	comp=Z,36nm,1.4s								
PALK	**Pallekele**	**64.74**	**269**	P		**P**		**04 57 54.4**	**+0.5**
KAHZ	**Kahuranaki**	**64.76**	**154**	P		**P**		**04 57 53.9**	**+0.4**
WPHZ	**Waipukurau**	**64.81**	**155**	P		**P**		**04 57 55.0**	**+1.3**
MESA	**MESA**	**64.83**	**32**	IAmb		IAmb		04 57 57.6	
	comp=Z,86nm,0.7s								
MESA				IAMs_20		IAMs_20		05 22 19.0	
	comp=Z,5µm,22.0s								
MESA	**MESA**	**64.83**	**32**	P				04 57 55.0	
	baz=264								
BMAR	**Burnt Mountain**	**64.84**	**23**	P		**P**		**04 57 54.0**	**+0.3**
DVHZ	**Dannevirke**	**64.90**	**155**	P		**P**		**04 57 55.0**	**+0.6**
EKS2	**Erkin-Say**	**64.94**	**309**	P		**P**		**04 57 55.7**	**+0.9**
	SNR=18								
PXZ	**Pawanui**	**64.95**	**155**	P		**P**		**04 57 55.2**	**+0.6**
YAH	**Yahtse**

comp=Z,0.8nm,0.7s,baz=4.8,slow=37,SNR=5.4
BRVK Borovoye 66.98 320 P **P** **04 58 07.3 -0.3**
BRVK pmax pmax
comp=Z,172nm,1.1s
BRVK MLR MLR
comp=Z,3μm,19.0s
BRVK Borovoye 66.98 320 P **P** **04 58 07.3 -0.3**
KK31 Karatay Array 67.30 310 P **P** **04 58 10.3 +0.4**
KK31 pmax pmax
comp=Z,57nm,0.7s
KK31 Karatay Array 67.30 310 P **P** **04 58 10.3 +0.4**
KK31 IAmb IAmb 04 58 13.2
comp=Z,57nm,0.7s
KKAR Karatay Array 67.30 310 P **P** **04 58 09.2 -0.7**
KKAR Karatay Array 67.30 310 P **P** **04 58 09.2 -0.7**
IUG luzhnay 67.74 309 *eP* **P** **04 58 10.9 -1.8**
comp=Z,24nm,1.0s,baz=309
IUG *eS* **S** **05 07 04.1 -1.3**
baz=309
IUG luzhnay 67.74 309 *eP* **P** **04 58 10.9 -1.8**
IUG *eS* **S** **05 07 04.1 -1.3**
IUG pmax pmax
comp=Z,24nm,1.0s
EPYK Eagle Plains 67.76 25 IAMs_20 IAMs_20 05 23 33.2
comp=Z,4μm,22.0s
EPYK Eagle Plains 67.76 25 P 04 58 13.4
baz=266,SNR=57
BRLS Borolday 67.80 310 *eS* **S** **05 07 07.4 +1.4**
baz=309
TRD Trivandrum 67.93 272 IAMs_20 IAMs_20 05 21 22.3
comp=Z,10μm,36.7s
CHM Chimkent 68.04 309 *eS* **S** **05 07 08.2 -0.6**
baz=309
SKAG Skagway 68.13 33 P **P** **04 58 15.5 +0.8**
SKAG Skagway 68.13 33 P 04 58 17.8
baz=270
POO Poona 68.29 283⇑ *iP* **P** **04 58 13.0 -3.5**
comp=Z,30nm,0.8s
POO *eP* **P** **04 58 15.8 -0.7**
POO IAmb IAmb 04 58 20.3
comp=Z,27nm,0.5s
WHY Whitehorse 68.36 31 IAmb IAmb 04 58 40.6
comp=Z,107nm,1.4s
BESE Bessie Mountai 68.38 34 IAmb IAmb 04 58 40.3
comp=Z,62nm,1.1s
JIS Juneau Island 68.63 34 IAmb IAmb 04 58 42.0
comp=Z,58nm,1.0s
INK Inuvik 69.10 23 PKPPKP 05 26 24.7
comp=Z,2.8nm,1.0s,baz=88,slow=8.0,SNR=3.9
INK LR LR 05 26 46.1
comp=Z,2μm,21.5s,baz=250,slow=34
INK Inuvik 69.10 23 IAmb IAmb 04 58 23.5
comp=Z,90nm,0.8s
KBL Kabul 69.47 301 P **P** **04 58 23.4 -0.4**
KBL pmax pmax
comp=Z,99nm,1.1s
KBL MLR MLR
comp=Z,900nm,20.0s
KBL Kabul 69.47 301 P **P** **04 58 23.4 -0.4**
KBL IAmb IAmb 04 58 26.6
comp=Z,99nm,1.1s
WRAK Wrangell Islan 69.81 36 P 04 58 26.0
baz=274
DLBC Dease Lake 70.91 34 LR LR 05 26 06.3
comp=Z,2μm,21.6s,baz=294,slow=33
DLBC Dease Lake 70.91 34 IAmb IAmb 04 58 36.0
comp=Z,64nm,0.7s
BHUJ Bhuj 71.06 289 *eP* **P** **04 58 34.2 +0.8**
MNCI Minicoy 71.69 273 IAMs_20 IAMs_20 05 26 21.2
comp=Z,3μm,22.0s
PPT Papeete 72.49 116 LR LR 05 24 37.8
comp=Z,3μm,20.0s,baz=274,slow=31
C36M Paulatuk 72.50 22 P 04 58 41.4
baz=276,SNR=172
PPT2 Papeete2 72.50 116 *eS* **S** **05 07 53.4 -8.1**
comp=Z,3μm,32.2s
PPT2 *eSS* SS 05 12 30.7 -11
comp=Z,1μm,25.5s
PPT2 *eLQ* LQ 05 17 26.1
comp=Z,4μm,31.8s
PPT2 *eLR* LR 05 20 28.0
comp=Z,10μm,25.0s,baz=302
BBB Bella Bella 72.71 40 IAmb IAmb 04 59 06.3
comp=Z,102nm,1.3s
BBB IAMs_20 IAMs_20 05 22 50.8
comp=Z,3μm,22.0s
ARU Arti 73.47 325 P **P** **04 58 47.5 +0.3**
comp=Z,39nm,0.6s,baz=87,slow=4.1,SNR=100
ARU Arti 73.47 325*c iP* **P** **04 58 47.1 -0.1**
ARU *PP **pP** **04 59 03.9 -0.6**
ARU *SP **sP** **04 59 10.7 -0.9**
ARU S **S** **05 08 10.9 -0.3**
ARU pmax pmax
comp=Z,477nm,1.6s
ARU MLR MLR
comp=Z,1μm,19.0s
ARU Arti 73.47 325 P **P** **04 58 46.9 -0.3**
AB31 Akbulak array 73.81 317 *eP* **P** **04 58 48.9 -0.4**
AB31 pmax pmax
comp=Z,90nm,0.8s
ABKAR Akbulak array 73.81 317 P **P** **04 58 48.2 -1.1**
AKTO Aktyubinsk 74.83 319 P **P** **04 58 54.7 -0.5**
comp=Z,28nm,0.6s,baz=89,slow=9.7,SNR=35
TBI Tubuai 75.24 121 *eS* **S** **05 08 26.3 -5.7**
comp=Z,2μm,34.0s
TBI *eSS* **SS** **05 13 13.0 -10**
comp=Z,966nm,34.8s
TBI *eLQ* LQ 05 18 35.9
comp=Z,1μm,37.8s
TBI *eLR* LR 05 21 52.3
comp=Z,2μm,24.8s,baz=302
TBI Tubuai 75.24 121 *eT* T 06 20 26.6
comp=Z,7.8nm,0.3s
NLWA Neilton Lookou 76.28 44 IAmb IAmb 04 59 07.9
comp=Z,56nm,0.8s
E03A Lebam 76.68 45 IAmb IAmb 04 59 09.8
comp=Z,82nm,0.8s
E03A IAMs_20 IAMs_20 05 24 59.2
comp=Z,4μm,21.0s
A04D Lummi Island 76.75 43 P 04 59 07.5
baz=283,SNR=15
D03D Eldon 76.77 44 P 04 59 07.8
baz=283,SNR=25
KEBM Edson Butte 76.98 49 IAMs_20 IAMs_20 05 26 08.6
comp=Z,3μm,21.0s
I02D Swisshome 77.04 48 P 04 59 09.5
baz=284,SNR=5.8
D04E Lakebay 77.06 44 P 04 59 10.0
baz=284
A05A Maple Falls 77.08 42 IAMs_20 IAMs_20 05 25 29.7
comp=Z,4μm,22.0s
G03D McMinnville, O 77.19 46 P 04 59 10.2
baz=284
J01E Myrtle Point 77.20 49 P 04 59 10.2
baz=284,SNR=10
KBO Bosley Butte 77.22 50 IAmb IAmb 04 59 11.7
comp=Z,153nm,1.4s
B05A Bryant 77.25 43 P 04 59 10.2
baz=284,SNR=9.9
COR Corvallis 77.31 47 P **P** **04 59 09.8 +0.4**
COR pmax pmax
comp=Z,103nm,1.2s
COR Corvallis 77.31 47 P **P** **04 59 09.8 +0.4**
COR IAmb IAmb 04 59 37.2
comp=Z,103nm,1.1s
COR Corvallis 77.31 47 IAMs_20 IAMs_20 05 26 46.0
comp=Z,3μm,21.0s
E04D Cinebar 77.34 45 P 04 59 11.1
baz=284,SNR=13
DGAR Diego Garcia 77.37 258 P **P** **04 59 11.0 +0.8**
DGAR pmax pmax
comp=Z,188nm,1.4s
DGAR Diego Garcia 77.37 258 P **P** **04 59 11.0 +0.8**
DGAR IAmb IAmb 04 59 12.5
comp=Z,188nm,1.4s
GEYT Alibeck 77.46 306 P **P** **04 59 10.9 +0.5**
comp=Z,35nm,0.9s,baz=20,slow=4.7,SNR=34
GEYT LR LR 05 36 44.3
comp=Z,902nm,20.6s,baz=270,slow=38
GEYT Alibeck 77.46 306 P **P** **04 59 10.2 -0.3**
GYA0B ALIBECK ARRAY 77.46 306 IAmb IAmb 04 59 13.5
comp=Z,55nm,0.9s
I03D Drain, OR 77.49 48 P 04 59 11.5
baz=284,SNR=13
K02D Willamette Mer 77.50 49 P 04 59 11.5
baz=284,SNR=7.0
D05A Enumclaw 77.58 44 IAmb IAmb 04 59 15.0
comp=Z,102nm,0.7s
D05A IAMs_20 IAMs_20 05 26 05.0
comp=Z,3μm,22.0s
B06A Marblemount 77.58 43 IAmb IAmb 04 59 20.4
comp=Z,55nm,1.0s
B06A IAMs_20 IAMs_20 05 25 35.0
comp=Z,4μm,22.0s
KRMB Red Mountain 77.61 50 IAMs_20 IAMs_20 05 25 32.2
comp=Z,4μm,22.0s
YKA Yellowknife Ar 77.67 28 P **P** **04 59 11.2 +0.2**
comp=Z,121nm,0.7s,baz=288,slow=5.0,SNR=317
YKA S **S** **05 08 57.0 -0.4**
comp=Z,0.4nm,0.7s,baz=288,slow=9.3,SNR=4.4
YKA PKKPbc **PKKPbc** **05 18 14.2 -0.9**
comp=Z,0.4nm,0.6s,baz=108,slow=3.1,SNR=6.0
YKA PKPPKP **P'P'df** **05 26 16.2 -2.3**
comp=Z,1.0nm,1.0s,baz=119,slow=2.9,SNR=5.3
YKA LR LR 05 32 35.0
comp=Z,4μm,20.3s,baz=0.0,slow=35
YKA Yellowknife Ar 77.67 28*ce*P **P** **04 59 11.1 0.0**
YKA pmax pmax
comp=Z,124nm,0.7s
L02E Cave Junction 77.68 50 P 04 59 12.8
baz=284,SNR=9.6
JCC Jacoby Creek, 77.69 51 IAmb IAmb 04 59 17.6
comp=Z,62nm,1.0s
H04D Lenanon 77.72 47 P 04 59 12.9
baz=284,SNR=10
LON Longmire 77.80 45 IAMs_20 IAMs_20 05 26 18.0
comp=Z,4μm,22.0s
KIRV Kirov 77.83 328 P **P** **04 59 12.7 +0.7**
comp=Z,111nm,0.7s,baz=72,slow=2.0,SNR=94
KIRV Kirov 77.83 328*ce*P **P** **04 59 12.4 +0.4**
KHMM Horse Mountain 77.90 51 IAmb IAmb 04 59 17.2
comp=Z,82nm,0.8s
HUMO Hull Mountain 78.03 49 P **P** **04 59 14.6 +1.1**
HUMO IAMs_20 IAMs_20 05 26 43.4
comp=Z,4μm,21.0s
H04A Detroit Lake 78.06 47 IAmb IAmb 04 59 18.8
comp=Z,88nm,1.0s
H04A IAMs_20 IAMs_20 05 26 59.9
comp=Z,3μm,20.0s
ALE Alert 78.07 4 IAMs_20 IAMs_20 05 30 53.3
comp=Z,3μm,21.0s
KMRM Mail Ridge 78.07 51 IAmb IAmb 04 59 18.1
comp=Z,54nm,1.0s
I04A Tendick Farm, 78.12 48 P 04 59 14.6
baz=284,SNR=31
F05D White Salmon 78.25 45 P 04 59 15.8
baz=285,SNR=14
KCPM Cahto Peak 78.30 52 IAMs_20 IAMs_20 05 25 42.7
comp=Z,4μm,21.0s
M02C Callahan 78.41 50 P 04 59 17.0
baz=285,SNR=39
YBH Yreka Blue Hor 78.43 50 IAmb IAmb 04 59 19.7
comp=Z,54nm,0.8s
YBH IAMs_20 IAMs_20 05 26 11.9
comp=Z,4μm,22.0s
LTY Liberty 78.43 44 IAmb IAmb 04 59 18.9
comp=Z,48nm,0.8s
J04D Umpqua Nationa 78.48 48 P 04 59 17.1
baz=285,SNR=45
G05D Wamic, OR 78.52 46 P 04 59 16.9
baz=285,SNR=12
L04D Klamath Falls 78.60 49 P 04 59 17.7
baz=285,SNR=25
N02D Trinity Center 78.62 51 P 04 59 18.1
baz=285,SNR=38
I05D Terrebonne, OR 78.73 47 P 04 59 18.2
baz=285,SNR=10
PRGR Permogore 78.75 331*c iP* **P** **04 59 17.5 +0.5**
PRGR *eS* **S** **05 09 10.7 +1.7**
PRGR pmax pmax
comp=Z,291nm,0.8s
O02D Mt. Diablo Mer 78.77 51 P 04 59 19.1
baz=285,SNR=44
HOPEN Hopen 78.83 348 *eP* **P** **04 59 19.3 +2.0**
B08A Colville Reser 79.01 43 P **P** **04 59 19.3 +0.5**
B08A IAmb IAmb 04 59 22.1
comp=Z,96nm,0.7s
B08A IAMs_20 IAMs_20 05 26 29.8
comp=Z,4μm,22.0s
M04C Macdoel 79.05 50 P 04 59 20.1
baz=285,SNR=27
J05D Fort Rock, OR 79.08 48 P 04 59 20.6
baz=285,SNR=90
E07A Sunnyside 79.15 45 IAmb IAmb 04 59 23.3
comp=Z,87nm,0.8s
E07A IAMs_20 IAMs_20 05 29 18.7
comp=Z,3μm,20.0s
MCCM Marconi Confer 79.23 53 IAmb IAmb 04 59 22.9
comp=Z,58nm,0.9s
RES Resolute Bay 79.26 14 PKKPbc PKKPbc 05 18 09.6 -2.3
comp=Z,1.0nm,0.7s,baz=63,slow=4.5,SNR=5.9
RES Resolute Bay 79.26 14 IAmb IAmb 04 59 23.2
comp=Z,72nm,0.8s
SPA0 Spitsbergen Ar 79.28 351 P **P** **04 59 20.2 +0.4**
SPA0 Spitsbergen Ar 79.28 351 *eP* **P** **04 59 20.8 +1.0**
SPITS Spitsbergen Ar 79.28 351 P **P** **04 59 20.3 +0.6**
comp=Z,26nm,0.7s,baz=138,slow=10,SNR=26
F07A Phinny Hill Vi 79.28 45 IAMs_20 IAMs_20 05 27 24.2
comp=Z,4μm,21.0s
KBS Kingsbay 79.39 352*ce*P **P** **04 59 21.9 +1.6**
KBS pmax pmax
comp=Z,85nm,0.9s
KBS Kingsbay 79.39 352 P **P** **04 59 20.9 +0.7**
KBS IAmb IAmb 04 59 23.8
comp=Z,98nm,0.8s
KBS Kingsbay 79.39 352 *eP* **P** **04 59 21.8 +1.5**
KBS Kingsbay 79.39 352 *i P* **P** **04 59 21.7 +1.5**
KBS IAmb IAmb 04 59 23.9
comp=Z,211nm,0.7s
HAWA Hanford 79.41 45 IAmb IAmb 04 59 24.6
comp=Z,68nm,0.8s
HAWA IAMs_20 IAMs_20 05 27 44.6
comp=Z,4μm,21.0s
O03E Paynes Creek 79.47 51 P 04 59 21.8
baz=286,SNR=64
K05A Summer Lake 79.47 48 IAMs_20 IAMs_20 05 27 51.4
comp=Z,3μm,21.0s
NOR Nord 79.53 358 *i P* **P** **04 59 22.0 +1.0**
comp=Z,9.7nm,0.9s
NOR Nord 79.53 358 *i P* **P** **04 59 22.0 +1.0**
NOR pmax pmax
comp=Z,10.0nm,0.9s
NOR Nord 79.53 358 *i P* **P** **04 59 22.0 +1.0**
NOR IAmb IAmb 04 59 23.4
comp=Z,9.7nm,0.9s
D08A Wollman Farm, 79.63 44 IAmb IAmb 04 59 25.7
comp=Z,72nm,0.8s
D08A IAMs_20 IAMs_20 05 27 50.4
comp=Z,4μm,21.0s
C09A Chrisman Ranch 79.85 43 IAmb IAmb 04 59 26.6
comp=Z,81nm,0.7s
C09A IAMs_20 IAMs_20 05 27 16.9
comp=Z,3μm,22.0s
ORV Oroville 79.89 52 IAmb IAmb 04 59 26.9
comp=Z,65nm,1.0s
I07A Izee 80.07 47 P **P** **04 59 24.4 -0.4**
G08A Pilot Rock 80.11 46 IAMs_20 IAMs_20 05 27 60.0
comp=Z,4μm,21.0s
MOD Modoc Plateau 80.12 49 IAMs_20 IAMs_20 05 29 38.6
comp=Z,2μm,20.0s
HSPB Hornsund (broa 80.22 350 *eP* **P** **04 59 25.7 +1.0**
HSPB Hornsund (broa 80.22 350 *eP* **P** **04 59 26.2 +1.4**
E09A Wood Farm, Sta 80.30 44 IAmb IAmb 04 59 29.3
comp=Z,108nm,0.8s
AFDM Forest Hills D 80.45 52 IAMs_20 IAMs_20 05 27 28.7
comp=Z,3μm,21.0s
NEW Newport 80.45 42 IAmb IAmb 04 59 30.0
comp=Z,90nm,0.8s
NEW Newport 80.45 42 IAMs_20 IAMs_20 05 27 13.9
comp=Z,4μm,22.0s
NEW Newport 80.45 42 P 04 59 27.4
baz=287,SNR=106
BELG Belogornoye 80.63 322 P **P** **04 59 27.8 +0.4**
comp=Z,151nm,0.6s,baz=329,slow=2.0,SNR=62
BELG Belogornoye 80.63 322*c iP* **P** **04 59 27.7 +0.4**
BELG pmax pmax
comp=Z,90nm,1.5s
BEKR Beckworth 80.65 51 P **P** **04 59 28.3 +0.2**
BEKR IAmb IAmb 04 59 31.2
comp=Z,85nm,0.8s
LVZ Lovozero 80.69 339 P **P** **04 59 27.6 +0.1**
LVZ pmax pmax
comp=Z,252nm,1.3s
LVZ Lovozero 80.69 339 P **P** **04 59 27.6 +0.1**
J08A Circle Bar Ran 81.00 47 IAmb IAmb 04 59 33.3
comp=Z,85nm,0.8s
RUBR Rubicon Trail 81.03 52 IAMs_20 IAMs_20 05 26 57.9
comp=Z,3μm,21.0s
F10A Beach Ranch, E 81.07 45 IAMs_20 IAMs_20 05 28 33.3
comp=Z,4μm,21.0s
CMB Columbia Colle 81.15 53 IAMs_20 IAMs_20 05 26 53.1
comp=Z,4μm,22.0s
WVOR Wild Horse Val 81.15 48 IAmb IAmb 04 59 34.0
comp=Z,65nm,0.8s
WVOR IAMs_20 IAMs_20 05 29 17.9
comp=Z,4μm,21.0s
APA Apatity 81.26 339⇓ *iP* **P** **04 59 29.5 -1.0**
APA *i S* **S** **05 09 31.0 -4.2**
APA *i PS* **PnS** **05 10 41.0 +11**
APA *i SS* **SS** **05 15 00.0 +8.8**
APA *i SSS* SSS 05 18 10.0
APA pmax pmax
comp=Z,75nm,1.0s
VCNR Virginia City 81.34 52 IAMs_20 IAMs_20 05 27 45.0
comp=Z,2μm,20.0s
BMO Blue Mountains 81.35 46 IAmb IAmb 04 59 34.5
comp=Z,51nm,0.8s
BMO IAMs_20 IAMs_20 05 28 15.0
comp=Z,4μm,22.0s
PMPB Monarch Peak 81.35 55 IAmb IAmb 04 59 46.5
comp=Z,58nm,1.0s
KLMR Klimovskoe 81.79 332*c iP* **P** **04 59 33.3 -0.1**
KLMR *eS* **S** **05 09 40.6 -0.3**
KLMR pmax pmax
comp=Z,436nm,1.3s
KLMR Klimovskoe 81.79 332⇑ *iP* **P** **04 59 33.3 -0.1**
KLMR ⇓ *iP* **P** **04 59 33.3 -0.1**
KLMR ⇓ *iP* **P** **04 59 33.3 -0.1**
KLMR AMP 04 59 34.6
comp=Z,436nm,1.3s
KLMR *eS* **S** **05 09 40.7 -0.2**
KLMR *eS* **S** **05 09 40.7 -0.2**
KLMR LQ LQ 05 31 47.9
KLMR LQ LQ 05 31 47.9
KLMR LR LR 05 36 01.2
PAGB Antelope Grade 81.92 55 IAmb IAmb 04 59 39.6
comp=Z,88nm,1.1s
BANOM Banah 82.15 295 *i P* **P** **04 59 35.8 -0.3**
SNR=13
KEV Kevo 82.15 342 P **P** **04 59 35.9 +0.8**
KEV pmax pmax
comp=Z,104nm,0.7s
KEV Kevo 82.15 342 P **P** **04 59 35.9 +0.8**
WALA Waterton Lakes 82.22 41 IAmb IAmb 04 59 40.0
comp=Z,58nm,0.9s
WALA IAMs_20 IAMs_20 05 28 49.6
comp=Z,3μm,21.0s
SMMC Simmler 82.24 55 P 04 59 37.2
baz=287
SHME Shamm 82.25 295 *i P* **P** **04 59 36.5 0.0**
SNR=7.6
MDH Madha 82.33 294 *i P* **P** **04 59 35.9 -1.1**
SNR=8.1
RYN Ryan 82.37 52 IAMs_20 IAMs_20 05 28 42.5
comp=Z,3μm,22.0s
VOG Valley Oaks Go 82.42 54 P 04 59 37.5
baz=288
JTMT Jette 82.42 42 IAmb IAmb 04 59 40.5
comp=Z,48nm,0.7s
JTMT IAMs_20 IAMs_20 05 28 49.1
comp=Z,3μm,22.0s
MSFE Esma-Masafi 82.43 294 *i P* **P** **04 59 37.3 -0.3**
SNR=14
MLAC Mammoth, Mammo 82.44 53 P 04 59 38.7
baz=288,SNR=12
SOHO SOHO 82.46 293 *i P* **P** **04 59 37.2 -0.5**
SNR=16
PKM Mcpherson Peak 82.51 56 P 04 59 38.9
baz=288,SNR=57
UOSS Minazif 82.51 294 *i P* **P** **04 59 37.4 -0.6**
SNR=19
UOSS Minazif 82.51 294 P **P** **04 59 37.9 0.0**
KVN Kaiserville 82.56 51 IAMs_20 IAMs_20 05 28 11.4
comp=Z,3μm,22.0s
HAMF Hammerfest 82.56 344 *eP* **P** **04 59 37.1 -0.1**
NVAR Mina Array Bea 82.60 52 P **P** **04 59 39.1 +0.7**
comp=Z,77nm,0.8s,baz=263,slow=5.8,SNR=171
NVAR PKKPbc **PKKPbc** **05 18 03.5 -0.1**
comp=Z,0.5nm,0.9s,baz=119,slow=3.3,SNR=4.1
NVAR Mina Array Bea 82.60 52 P **P** **04 59 38.4 0.0**
HATD Hatta, Dubai 82.61 294 *i P* **P** **04 59 38.2 -0.2**
SNR=15
TULEG Thule 82.62 8 *i P* **P** **04 59 38.9 +1.4**
TULEG IAmb IAmb 04 59 41.0
comp=Z,214nm,0.7s
ARA0 ARCESS Array S 82.71 342 *eP* **P** **04 59 38.6 +0.5**
ARCES ARCESS Array B 82.71 342 P **P** **04 59 38.5 +0.5**
comp=Z,112nm,0.6s,baz=62,slow=5.9,SNR=184
ARCES PKKPbc **PKKPbc** **05 18 02.3 -1.8**
comp=Z,2.7nm,0.8s,baz=229,slow=2.8,SNR=4.7
ARCES LR LR 05 40 31.0
comp=Z,1μm,21.2s,baz=50,slow=39
ARCES ARCESS Array B 82.71 342 P **P** **04 59 38.6 +0.5**
ARCES pmax pmax
comp=Z,121nm,0.7s
ARCES ARCESS Array B 82.71 342 P **P** **04 59 38.6 +0.5**
NV11 Mina Array Sit 82.71 52 IAmb IAmb 04 59 42.3
comp=Z,49nm,0.8s
NV11 IAMs_20 IAMs_20 05 29 12.3
comp=Z,3μm,21.0s
ASHO Ashiyiah 82.72 293 *i P* **P** **04 59 38.8 -0.3**
SNR=18
SBC Santa Barbara 82.72 56 P 04 59 39.8
baz=288
VES Vestal, Richgr 82.79 55 P 04 59 39.0
baz=288,SNR=11
MFID Camas Ranch 82.81 47 IAmb IAmb 04 59 42.8
comp=Z,67nm,0.8s
SCZ2 Santa Cruz Isl 82.92 57 P 04 59 40.2
baz=288,SNR=6.4
MSO Missoula 82.95 43 IAMs_20 IAMs_20 05 29 02.1
comp=Z,4μm,22.0s
MSO Missoula 82.95 43 P 04 59 40.6
baz=290,SNR=18
NAZ Nazwa, Dubai 82.97 294 *i P* **P** **04 59 40.0 -0.3**
SNR=8.8
TIN Tinemaha, Big 83.08 53 P 04 59 41.4
baz=288,SNR=10
FAQ Al Faqa, Dubai 83.10 294 *i P* **P** **04 59 40.6 -0.4**
SNR=11
ALNE Al Ain 83.17 293 *i P* **P** **04 59 41.5 +0.1**
SNR=18
ARVC Arvin 83.21 55 P 04 59 41.8
baz=288,SNR=8.8
SNCC San Nicolas Is 83.24 57 IAmb IAmb 04 59 46.0
comp=Z,59nm,0.9s
SNCC IAMs_20 IAMs_20 05 36 23.8
comp=Z,2μm,19.0s
SNCC San Nicolas Is 83.24 57 P 04 59 41.9
baz=288
ISA Isabella, Lake 83.32 55 P 04 59 41.9
baz=288,SNR=17
ASUD Al Ashush, Dub 83.37 294 *i P* **P** **04 59 42.4 +0.1**
SNR=12
CWC Cottonwood Cre 83.38 54 P 04 59 42.8
baz=288
OSI Osito Audit: C 83.45 56 IAMs_20 IAMs_20 05 29 22.3
comp=Z,3μm,22.0s
OSI Osito Audit: C 83.45 56 P 04 59 43.3
baz=288,SNR=8.0
KTK1 Kautokeino 83.67 342 *eP* **P** **04 59 43.4 +0.3**
AJN Ajban 83.68 294 *i P* **P** **04 59 43.5 -0.5**
SNR=14
GRAC Grapevine Rang 83.75 53 P 04 59 44.8
baz=289,SNR=30
MAK Makhachkala 83.78 313 *eP* **P** **04 59 43.5 -0.5**
MAK *e*SP **pwP** **05 00 04.2 -2.5**
MAK *e* 05 02 54.4
MAK *e*PPP PPP 05 04 48.0
MAK *eS* **S** **05 10 00.3 -1.5**
MAK *eSS* **SS** **05 15 32.6 +2.9**
MAK *eSSS* SSS 05 19 03.5
MAK pmax pmax
comp=Z,411nm,1.1s
MAK MLR MLR
comp=Z,2μm,17.0s
DECC Green Verdugo 83.87 56 P 04 59 45.0
baz=288,SNR=11
EDW2 Edwards Air Fo 83.94 55 P 04 59 45.8
baz=289,SNR=50
LRMC Laurel Mtn Rad 83.99 55 P 04 59 46.0

baz=289,SNR=44
FMP Fort Macarthur 84.07 57 P 04 59 46.0
baz=288
CIS Catalina Islan 84.07 57 P 04 59 45.8
baz=288,SNR=20
MWC Mount Wilson 84.09 56 IAMs_20 IAMs_20 05 33 36.4
comp=Z,2µm,19.0s
SCI2 San Clemente I 84.10 57 P 04 59 46.7
baz=288
ELK Elko 84.10 49 IAmb IAmb 04 59 49.6
comp=Z,76nm,0.8s
AKT Akhty 84.11 312 *e*P **P** **04 59 45.5 -0.5**
AKT *e**PP **pP** **05 00 03.0 -0.6**
AKT *e**SP **pwP** **05 00 08.4 -0.2**
AKT pmax pmax
comp=Z,61nm,0.7s
JETT Jettan, Norway 84.12 343 *e*P **P** **04 59 46.0 +0.7**
BCYI Bear Canyon 84.17 45 P **P** **04 59 46.9 +0.6**
LKRN Lenkeran, Azer 84.28 309 P **P** **04 59 46.6 -0.1**
FURC Furnace Creek, 84.30 54 P 04 59 47.6
baz=289,SNR=38
DAG Danmarks Havn 84.31 357 *i* P **P** **04 59 46.4 +0.3**
comp=Z,24nm,0.6s
DAG Danmarks Havn 84.31 357 *i* P **P** **04 59 46.4 +0.3**
DAG pmax pmax
comp=Z,24nm,0.6s
DAG Danmarks Havn 84.31 357 *i* P **P** **04 59 46.5 +0.3**
DAG IAmb IAmb 04 59 49.0
comp=Z,24nm,0.6s
BFSC Mount Baldy Ra 84.40 56 P 04 59 47.6
baz=289,SNR=11
TRO Tromso 84.47 344 *e*P **P** **04 59 46.8 -0.2**
VRH Novokhopyorsk 84.47 322 *e*P **P** **04 59 46.0 -1.4**
VRH *e*S **S** **05 10 06.3 -2.1**
VRH pmax pmax
comp=Z,20nm,0.6s
VRH smax smax
comp=N,1µm,6.5s
VRH MLR MLR
comp=Z,2µm,19.0s
SEKA Sheki 84.58 312 P **P** **04 59 47.9 -0.4**
TPNV Topopah Spring 84.61 53 IAmb IAmb 04 59 52.0
comp=Z,54nm,0.8s
TPNV IAMs_20 IAMs_20 05 29 03.8
comp=Z,4µm,22.0s
TPNV Topopah Spring 84.61 53 P 04 59 49.2
baz=289,SNR=115
R11A Troy Canyon, C 84.65 51 P 04 59 49.6
baz=290,SNR=40
GSC Goldstone, Bar 84.73 55 P 04 59 49.7
baz=289,SNR=45
MNGR Mingechevir, A 84.81 311 P **P** **04 59 49.3 -0.1**
MOS Moscow 84.84 327 *e*P **P** **04 59 46.5 -2.7**
MOS *e**PP **pP** **05 00 04.5 -2.3**
MOS *e* 05 03 04.4
MOS *e*PPP PPP 05 04 56.3
MOS *e*S **S** **05 10 09.7 -2.2**
MOS pmax pmax
comp=Z,299nm,1.4s
MOS pmax pmax
comp=Z,700nm,2.0s
MOS smax smax
comp=N,5µm,4.5s
MOS smax smax
comp=E,2µm,4.5s
MOS MLR MLR
comp=Z,2µm,20.0s
ZKTA Zakatala 84.84 312 P **P** **04 59 49.4 -0.2**
GROC Groznyy 84.87 314 *e*P **P** **04 59 48.1 -1.5**
GROC *e**SP **pwP** **05 00 11.4 -0.8**
GROC *e*S **S** **05 10 06.3 -6.4**
GROC pmax pmax
comp=Z,80nm,0.9s
BOZ Bozeman (W) 84.89 44 IAMs_20 IAMs_20 05 30 12.3
comp=Z,3µm,22.0s
BOZ Bozeman (W) 84.89 44 P 04 59 50.5
baz=292,SNR=40
SHOC Shoshone, Teco 84.94 54 P 04 59 50.5
baz=289,SNR=12
MURC Murrieta 84.97 56 P 04 59 50.6
baz=289,SNR=12
BBRC Big Bear Solar 84.97 56 P 04 59 50.7
baz=289
SHAO Shalim 85.10 287 *i* P **P** **04 59 51.1 -0.2**
SNR=7.4
EGMT Eagleton 85.17 41 IAmb IAmb 04 59 54.4
comp=Z,72nm,1.1s
EGMT IAMs_20 IAMs_20 05 30 08.7
comp=Z,3µm,22.0s
EGMT Eagleton 85.17 41 P 04 59 51.6
baz=293,SNR=23
HEC Hector,Ludlow 85.25 55 P 04 59 52.2
baz=290,SNR=17
DDFL Dedoflistskaro 85.26 312 P **P** **04 59 55.7 +4.0**
109C Camp Elliot, M 85.28 57 IAMs_20 IAMs_20 05 30 17.8
comp=Z,2µm,22.0s
109C Camp Elliot, M 85.28 57 P 04 59 52.1
baz=289,SNR=13
VALR Valaam 85.28 334 *i* P **P** **04 59 50.8 -0.4**
VALR pmax pmax
comp=Z,352nm,1.0s
GANJ Ganja 85.40 311 P **P** **04 59 52.0 -0.4**
LPSR Galich'ya Gora 85.49 324 *e*P **P** **04 59 51.7 -0.8**
LPSR *e*S **S** **05 10 15.9 -2.5**
LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR smax smax
comp=N,1µm,5.9s
LPSR MLR MLR
comp=Z,1µm,22.0s
PFO Pinyon Flats O 85.55 56 P **P** **04 59 53.1 -0.3**
PFO pmax pmax
comp=Z,28nm,1.0s
PFO Pinyon Flats O 85.55 56 P **P** **04 59 53.1 -0.3**
PFO Pinyon Flats O 85.55 56 IAMs_20 IAMs_20 05 34 52.0
comp=Z,2µm,18.0s
PFO Pinyon Flats O 85.55 56 P 04 59 53.6
baz=290,SNR=20
XPFO Pion Flat 85.55 56 P **P** **04 59 53.3 -0.1**
XPFO Pion Flat 85.55 56 IAMs_20 IAMs_20 05 35 10.7
comp=Z,2µm,19.0s
SHPR Sheep Range 85.58 53 IAMs_20 IAMs_20 05 30 08.7
comp=Z,3µm,22.0s
OBN Obninsk 85.65 327 P **P** **04 59 53.3 +0.1**
comp=Z,12nm,0.7s,baz=84,slow=2.1,SNR=35
OBN Obninsk 85.65 327*c* *i*P **P** **04 59 52.1 -1.1**
OBN *e**PP **pP** **05 00 10.6 -0.3**
OBN *e**SP **sP** **05 00 18.2 +0.2**
OBN *i* S **S** **05 10 17.6 -2.3**
OBN *e*SS **SS** **05 15 59.3 +2.7**
OBN *e*SSS SSS 05 19 33.3
OBN pmax pmax
comp=Z,206nm,1.3s
OBN MLR MLR
comp=Z,2µm,20.0s
OBN Obninsk 85.65 327 P **P** **04 59 52.7 -0.5**
OBN IAMs_20 IAMs_20 05 40 14.1
comp=Z,2µm,20.0s
BAR Barrett 85.69 57 IAmb IAmb 04 59 58.1
comp=Z,35nm,1.1s
BAR IAMs_20 IAMs_20 05 30 52.7
comp=Z,2µm,21.0s
KULLO Kullorsuaq 85.72 6 *i* P **P** **04 59 54.8 +1.6**
comp=Z,115nm,0.8s
KULLO Kullorsuaq 85.72 6 *i* P **P** **04 59 54.8 +1.6**
KULLO pmax pmax
comp=Z,120nm,0.8s
KULLO Kullorsuaq 85.72 6 *i* P **P** **04 59 54.8 +1.6**
KULLO IAmb IAmb 04 59 56.7
comp=Z,115nm,0.8s
VORR Voronezh 85.72 323 *e*P **P** **04 59 52.0 -1.7**
VORR pmax pmax
comp=Z,250nm,2.0s
BELC Belle Mtn. Jos 85.78 56 P 04 59 54.6
baz=290,SNR=27
GMRC Granite Mounta 85.78 55 P 04 59 55.0
baz=290,SNR=42
MONP2 Monument Peak 85.82 57 P 04 59 55.0
baz=290,SNR=38
VSR Storozhevoye 85.94 323 *e*P **P** **04 59 53.4 -1.4**
VSR *e**SP **pP** **05 00 14.0 +1.5**
VSR *e*S **S** **05 10 18.7 -4.2**
VSR pmax pmax
comp=Z,20nm,0.6s
VSR smax smax
comp=N,1µm,7.6s
VSR MLR MLR
comp=Z,1µm,21.0s
CCX Cicese 85.96 58 P **P** **04 59 55.5 +0.2**
VORD Divnogorie 85.97 323 *e*P **P** **04 59 53.7 -1.2**
VORD *e**SP **pP** **05 00 14.3 +1.7**
VORD *e*S **S** **05 10 19.2 -4.0**
VORD pmax pmax
comp=N,30nm,0.9s
VORD smax smax
comp=N,280nm,5.4s
H17A Grant Village 86.03 44 P 04 59 58.4
baz=292,SNR=54
DUG Dugway, Tooele 86.03 49 IAmb IAmb 04 59 59.0
comp=Z,37nm,0.7s
DUG Dugway, Tooele 86.03 49 P 04 59 56.3
baz=291,SNR=61
GOF Gofitskoye 86.03 316⇑ *e*P P 04 59 41.3 -14
FLWY Flagg Ranch 86.06 45 IAMs_20 IAMs_20 05 33 16.5
comp=Z,4µm,21.0s
LKWY Lake 86.08 44 IAmb IAmb 05 00 00.9
comp=Z,82nm,1.1s
LKWY IAMs_20 IAMs_20 05 34 45.9
comp=Z,4µm,21.0s
IKP In-Ko-Pah, Jac 86.15 57 P 04 59 56.5
baz=290,SNR=14
REDW Red Top Meadow 86.23 45 IAmb IAmb 05 00 20.0
comp=Z,73nm,1.4s
REDW IAMs_20 IAMs_20 05 30 56.0
comp=Z,2µm,22.0s
SNOW Snow King Moun 86.26 45 IAmb IAmb 05 00 01.2
comp=Z,27nm,0.7s
SNOW IAMs_20 IAMs_20 05 30 56.8
comp=Z,3µm,22.0s
AHID Auburn Hatcher 86.28 46 IAmb IAmb 05 00 00.4
comp=Z,56nm,0.8s
AHID IAMs_20 IAMs_20 05 33 15.5
comp=Z,3µm,20.0s
SWSC Sam W. Stewart 86.29 57 P 04 59 56.9
baz=290,SNR=7.6
LOHW Long Hollow 86.30 45 IAMs_20 IAMs_20 05 31 52.9
comp=Z,3µm,21.0s
ZEI Tsey 86.31 314 *e*P **P** **04 59 54.9 -2.2**
ZEI pmax pmax
comp=Z,13nm,0.7s
BC3 Big Chuckawall 86.33 56 P 04 59 57.6
baz=290,SNR=37
PUL Pulkovo 86.34 333*c* *e*P **P** **04 59 56.5 0.0**
PUL pmax pmax
comp=Z,124nm,1.2s
HWUT Hardware Ranch 86.39 47 IAmb IAmb 05 00 00.8
comp=Z,63nm,0.8s
IRM Iron Mountain 86.40 55 P 04 59 57.9
baz=290,SNR=29
N2IH Innhavet 86.40 343 *e*P **P** **04 59 56.8 +0.1**
SUF Sumiainen 86.41 337 P **P** **04 59 56.1 -0.7**
SUF pmax pmax
comp=Z,155nm,1.4s
NAX Nakhchivan 86.52 310 P **P** **04 59 57.8 -0.2**
NEE2 Needles Airpor 86.59 55 P 04 59 59.0
baz=290
RLMT Red Lodge 86.61 43 IAMs_20 IAMs_20 05 32 42.8
comp=Z,3µm,21.0s
RLMT Red Lodge 86.61 43 P 04 59 60.0
baz=293,SNR=20
STEI Steigen 86.61 343 *e*P **P** **04 59 58.0 +0.3**
KBZ Khabaz 86.63 315 P **P** **04 59 57.6 -0.7**
comp=Z,16nm,0.9s,baz=193,slow=2.3,SNR=19
KBZ S **S** **05 10 27.8 -2.1**
comp=Z,1.0nm,0.9s,baz=187,slow=22,SNR=1.2
KBZ LR LR 05 42 19.9
comp=Z,2µm,21.2s,baz=64,slow=38
KBZ Khabaz 86.63 315*c* *e*P **P** **04 59 57.4 -0.9**
KBZ pmax pmax
comp=Z,18nm,0.9s
KIV Kislovodsk 86.69 315 ⇑P **P** **04 59 58.2 -0.6**
KIV Kislovodsk 86.69 315 *i* P **P** **04 59 57.8 -1.0**
SNR=6.1
KIV Kislovodsk 86.69 315 *e*P **P** **04 59 57.9 -0.8**
KIV *e* 05 03 20.6
KIV *e* 05 10 18.4
KIV *e*SS SS 05 16 12.0 -0.6
KIV pmax pmax
comp=Z,58nm,1.0s
KIV pmax pmax
comp=Z,320nm,3.5s
KIV MLR MLR
comp=Z,5µm,20.0s
KIV Kislovodsk 86.69 315 P **P** **04 59 58.3 -0.4**
ONI Oni 86.69 314 P **P** **04 59 59.3 +0.5**
GNI Garni 86.70 311 P **P** **04 59 59.4 +0.4**
comp=Z,6.5nm,0.8s,baz=163,slow=1.8,SNR=2.8
GNI Garni 86.70 311 P **P** **04 59 57.9 -1.1**
GNI Garni 86.70 311 *i* P **P** **04 59 58.4 -0.6**
GNI pmax pmax
comp=Z,17nm,1.2s
FFC Flin Flon 86.72 33 P **P** **04 59 59.0 +0.4**
FFC pmax pmax
comp=Z,132nm,0.8s
FFC Flin Flon 86.72 33 P **P** **04 59 59.0 +0.4**
DBG Daneborg 86.81 356⇑ *i*P **P** **04 59 59.3 +0.6**
DBG IAmb IAmb 05 00 01.8
comp=Z,59nm,0.6s
N2TV T¥rnvik 86.90 343 *e*P **P** **04 59 59.7 +0.6**
LOF Lofoten 86.92 344 *e*P **P** **04 59 59.1 -0.1**
N2ST Straumen 86.92 343 *e*P **P** **04 59 59.5 +0.2**
NEY Neytrino 86.94 315 *i* P **P** **05 00 00.2 +0.1**
NEY pmax pmax
comp=Z,4.0nm,0.8s
FAUS Fauske 86.98 343 *e*P **P** **04 59 59.9 +0.4**
GLA Glamis 87.03 56 IAMs_20 IAMs_20 05 35 57.0
comp=Z,2µm,18.0s
GLA Glamis 87.03 56 P 05 00 01.2
baz=290
W13A Hualapai Mount 87.04 54 IAMs_20 IAMs_20 05 32 38.3
comp=Z,2µm,20.0s
AKH Akhalkalaki 87.11 313 ⇑P **P** **04 59 59.9 -1.0**
AKH Akhalkalaki 87.11 313 P **P** **05 00 01.1 +0.1**
PDMCI Parker Dam,Lak 87.13 55 P 05 00 01.6
baz=291,SNR=29
NBB08 Skaug oppvekst 87.16 343 *e*P **P** **05 00 00.3 -0.1**
FINES FINESS Array B 87.17 335 P **P** **04 59 59.6 -1.0**
comp=Z,78nm,0.7s,baz=71,slow=4.5,SNR=390
FINES PKKPbc **PKKPbc** **05 17 52.8 -0.6**
comp=Z,0.8nm,0.7s,baz=176,slow=5.7,SNR=3.6
FINES LR LR 05 42 30.1
comp=Z,687nm,20.9s,baz=58,slow=38
FINES FINESS Array B 87.17 335*c* *e*P **P** **04 59 59.5 -1.1**
FINES pmax pmax
comp=Z,78nm,0.7s
FINES FINESS Array B 87.17 335 P **P** **04 59 59.2 -1.3**
SPX San Pedro Mart 87.21 58 P **P** **05 00 01.9 0.0**
N2SV S¸rvÿgen 87.23 344 *e*P **P** **05 00 00.5 -0.2**
RKT Rikitea 87.24 115 *e*S **S** **05 10 31.0 -5.4**
comp=Z,1µm,37.0s
RKT *e*SS SS 05 16 11.0 -11
comp=Z,835nm,30.8s
RKT *e*LQ LQ 05 23 41.7
comp=Z,2µm,29.8s
RKT *e*LR LR 05 27 16.2
comp=Z,6µm,32.5s
PDAR Pinedale Array 87.33 46 P **P** **05 00 02.0 0.0**
comp=Z,18nm,0.7s,baz=251,slow=2.4,SNR=89
PDAR PKKPbc **PKKPbc** **05 17 53.3 +0.6**
comp=Z,0.6nm,0.7s,baz=137,slow=4.7,SNR=4.3
PDAR LR LR 05 32 42.6
comp=Z,842nm,20.8s,baz=310,slow=31
PDAR Pinedale Array 87.33 46 P **P** **05 00 01.4 -0.7**
BW06 Boulder Array 87.33 46 P 05 00 02.1
baz=293,SNR=42
N2VA Vr¸y 87.48 344 *e*P **P** **05 00 01.9 -0.1**
UPNV Upernavik 87.51 7 *i* P **P** **05 00 03.8 +1.8**
UPNV IAmb IAmb 05 00 06.3
comp=Z,25nm,0.6s
CHVG Ch'k'valeri 87.58 314 ⇑P P 05 00 08.3 +5.4
CHVG Ch'k'valeri 87.58 314 ⇑P P 05 00 08.3 +5.4
NBB05 Inndyr 87.58 343 *e*P **P** **05 00 02.4 +0.1**
KARS Kars 87.70 312 P **P** **05 00 04.3 +0.5**
NBB30 Finnes 87.70 343 *e*P **P** **05 00 04.3 +0.4**
SFX San Felipe 87.70 58 IAmb IAmb 05 00 08.7
comp=Z,36nm,0.9s
SFX IAMs_20 IAMs_20 05 33 34.1
comp=Z,2µm,20.0s
N2RO R¸st 87.74 344 *e*P **P** **05 00 05.0 +1.8**
NBB17 Gl¸mfjord B¥r 87.75 343 *e*P **P** **05 00 04.3 +1.0**
U15A North Rim 87.78 52 IAMs_20 IAMs_20 05 31 40.6
comp=Z,3µm,22.0s
LAO LASA Array 87.91 41 IAMs_20 IAMs_20 05 32 06.1
comp=Z,3µm,22.0s
LAO LASA Array 87.91 41 P 05 00 05.1
baz=295,SNR=15
MOR8 Moi Rana 88.08 342 *e*P **P** **05 00 04.2 -0.7**
KONS Konsvik 88.22 343 *e*P **P** **05 00 05.6 +0.2**
NBB40 Tonnes 88.24 343 *e*P **P** **05 00 07.4 +1.9**
BATM Batumi 88.28 313 ⇑P **P** **05 00 04.8 -1.5**
BATM Batumi 88.28 313 ⇑P **P** **05 00 04.8 -1.5**
FCC Fort Churchill 88.35 27 IAMs_20 IAMs_20 05 38 06.6
comp=Z,3µm,22.0s
STOK Stokkvaagen 88.36 343 *e*P **P** **05 00 08.2 +2.1**
DGMT Dagmar 88.37 39 IAMs_20 IAMs_20 05 34 34.1
comp=Z,2µm,21.0s
VSU Vasula 88.61 333 *e*P **P** **05 00 06.7 -0.7**
VSU Vasula 88.61 333*c* *i*P **P** **05 00 06.5 -0.9**
VSU pmax pmax
comp=Z,491nm,1.4s
WUAZ Wupatki 88.80 53 IAMs_20 IAMs_20 05 32 21.8
comp=Z,2µm,22.0s
WUAZ Wupatki 88.81 53 P 05 00 10.3
baz=292,SNR=63
SOC Sochi 88.81 316 *e*P **P** **05 00 06.6 -2.1**
SOC *e* 05 03 36.2
SOC *e*PPP PPP 05 05 32.0
SOC *e*S **SKSac** **05 10 29.7 -2.7**
SOC *e*SS **SS** **05 16 45.8 +2.5**
SOC *e*SSS SSS 05 20 23.0
SOC pmax pmax
comp=Z,19nm,0.6s
SOC MLR MLR
comp=Z,2µm,20.0s
SUMG Summit 88.90 1 *i* P **P** **05 00 11.1 +2.0**
comp=Z,133nm,1.2s
SUMG Summit 88.90 1 *i* P **P** **05 00 11.1 +2.0**
SUMG pmax pmax
comp=Z,130nm,1.2s
SUMG Summit 88.90 1 *i* P **P** **05 00 11.2 +2.0**
SUMG IAmb IAmb 05 00 13.2
comp=Z,134nm,1.2s
NUUG Nuugaatsiaq 88.99 6 *i* P **P** **05 00 10.6 +1.6**
NUUG IAmb IAmb 05 00 16.0
comp=Z,12nm,0.9s
214A Organ Pipe Nat 89.01 57 P 05 00 10.9
baz=292,SNR=15
O20A White River Ci 89.29 48 P 05 00 11.7
baz=294,SNR=36
K22A Casper 89.42 45 P 05 00 12.2
baz=295,SNR=32
PV22 Blue Mesa, Par 89.54 49 IAmb IAmb 05 00 38.9
comp=Z,48nm,1.1s
MTSE Matsula 89.70 334 *e*P **P** **05 00 09.9 -2.7**
KOPT Kop Dagi 89.75 312 P **P** **05 00 13.3 -0.3**
KOPT IAMs_20 IAMs_20 05 44 50.8
comp=Z,2µm,21.0s
ANN Anapa 89.77 318 *e*P **P** **05 00 09.3 -3.9**
ANN pmax pmax
comp=Z,66nm,1.1s
ANN MLR MLR
comp=Z,2µm,20.0s
NSS Namsos 89.99 342 *e*P **P** **05 00 13.5 -0.3**
W18A Petrified Fore 90.19 53 P 05 00 16.5
baz=293
X18A Snowflake 90.26 53 IAMs_20 IAMs_20 05 36 20.5
comp=Z,2µm,20.0s
MVCO Mesa Verde 90.28 50 IAmb IAmb 05 00 19.9
comp=Z,57nm,1.3s
MVCO IAMs_20 IAMs_20 05 32 42.8
comp=Z,2µm,22.0s
MVCO Mesa Verde 90.28 50 P 05 00 16.5
baz=294,SNR=24
MNK Minsk 90.31 329 *e*P **P** **05 00 15.0 -0.5**
MNK *e* 05 03 51.0
MNK Minsk 90.31 329 *i* P **P** **05 00 15.3 -0.1**
comp=E,27nm,1.3s
MNK *i* P **P** **05 00 15.3 -0.1**
comp=N,93nm,1.3s
MNK *i* P **P** **05 00 15.3 -0.1**
comp=Z,324nm,1.4s
MNK *i* pP **pP** **05 00 32.4 -1.0**
MNK *i* PP **PP** **05 03 52.7 +3.0**
MNK *i* PPP PPP 05 05 51.1
MNK *i* S **SKSac** **05 10 41.4 +0.7**
MNK *i* SS SS 05 17 15.8 +12
MNK *i* SSS SSS 05 20 53.9
MNK *i* LQ LQ 05 35 34.8
MNK *i* LR LR 05 39 35.1
MNK *i* LRM MLR 05 41 43.5
comp=Z,1µm,25.6s
MNK *i* LRM MLR 05 41 45.4
comp=N,1µm,22.7s
MNK *i* LRM MLR 05 41 58.8
comp=E,97nm,18.1s
AAL Aland 90.31 336 *e*P **P** **05 00 14.1 -1.3**
IDID Didziasalis 90.40 330 *e*P **P** **05 00 15.7 -0.2**
RSSD Black Hills 90.42 43 P **P** **05 00 16.8 +0.2**
RSSD pmax pmax
comp=Z,25nm,0.8s
RSSD Black Hills 90.42 43 P **P** **05 00 16.8 +0.2**
RSSD IAmb IAmb 05 00 19.0
comp=Z,25nm,0.8s
RSSD Black Hills 90.42 43 P 05 00 16.6
baz=297
TUC Tucson 90.47 56 P **P** **05 00 17.9 +1.0**
TUC pmax pmax
comp=Z,50nm,1.4s
TUC Tucson 90.47 56 P **P** **05 00 17.9 +1.0**
TUC IAmb IAmb 05 00 20.5
comp=Z,50nm,1.4s
TUC Tucson 90.47 56 P 05 00 18.0
baz=293
ISAL Salakas 90.54 331 *e*P **P** **05 00 16.4 -0.2**
N23A Red Feather La 90.56 46 P 05 00 18.7
baz=296,SNR=61
SMCO Snowmass 90.57 48 IAmb IAmb 05 00 20.8
comp=Z,34nm,1.0s
NACGM Naroch 90.61 330 *i* P **P** **05 00 15.8 -1.1**
NACGM *i* P **P** **05 00 15.8 -1.1**
NACGM *i* P **P** **05 00 15.8 -1.1**
NACGM *i* PP **PP** **05 03 54.8 +2.7**
NACGM *i* PPP PPP 05 06 01.7
NACGM *i* SKS 05 09 41.2
NACGM *i* S **SKKSac** **05 11 00.8 +3.9**
NACGM *i* PS PS 05 12 03.5 -19
NACGM *i* SS **SS** **05 17 16.7 +8.1**
NACGM *i* SSS SSS 05 21 16.9
NACGM *i* LQ LQ 05 31 43.8
NACGM *i* LR LR 05 40 11.7
IIGN Ignalina 90.62 330 *e*P **P** **05 00 16.6 -0.4**
MARD Mardin 90.66 310 P **P** **05 00 16.5 -1.2**
MARD IAmb IAmb 05 00 18.0
comp=Z,44nm,1.2s
PHWY Pilot Hill 90.72 46 IAmb IAmb 05 00 22.9
comp=Z,36nm,1.1s
SLIT Slitere, Latvi 91.01 334 *e*P **P** **05 00 17.3 -1.3**
SRIG Santa Rosalia 91.16 61 P **P** **05 00 20.5 +0.4**
SRIG IAmb IAmb 05 00 23.3
comp=Z,38nm,1.0s
SRIG IAMs_20 IAMs_20 05 35 33.0
comp=Z,3µm,20.0s
ISCO Idaho Springs 91.26 47 IAmb IAmb 05 00 24.1
comp=Z,22nm,1.0s
ISCO Idaho Springs 91.26 47 P 05 00 21.6
baz=296,SNR=26
S22A 4UR Ranch, Cre 91.28 49 P 05 00 21.7
baz=295,SNR=35
E28A Huff 91.35 39 IAMs_20 IAMs_20 05 34 10.0
comp=Z,3µm,22.0s
MDND Maddock 91.37 38 P 05 00 21.6
baz=300,SNR=6.8
UPP Uppsala 91.42 337 *e*P **P** **05 00 19.4 -1.1**
ILULI Ilulissat 91.44 6 *i* P **P** **05 00 22.1 +1.7**
comp=Z,23nm,0.7s
ILULI Ilulissat 91.44 6 *i* P **P** **05 00 22.1 +1.7**
ILULI pmax pmax
comp=Z,23nm,0.7s
ILULI Ilulissat 91.44 6 *i* P **P** **05 00 22.2 +1.7**
ILULI IAmb IAmb 05 00 24.3
comp=Z,23nm,0.7s
PABE Paberze 91.57 331 *e*P **P** **05 00 21.2 -0.1**
HSIG 91.59 59 IAmb IAmb 05 00 25.8
comp=Z,57nm,1.1s
HSIG IAMs_20 IAMs_20 05 34 22.0
comp=Z,2µm,20.0s
AKASG Malin Array Be 91.70 326 P **P** **05 00 20.7 -1.3**

comp=Z,4.4nm,0.6s,baz=47,slow=4.9,SNR=26
AKASG LR LR 05 44 12.2
comp=Z,2µm,20.5s,baz=65,slow=37
AKASG Malin Array Be 91.70 326 P **P 05 00 20.9 -1.2**
AKASG pmax pmax
comp=Z,14nm,1.4s
AKASG Malin Array Be 91.70 326 P **P 05 00 20.9 -1.2**
AKBB Malin Array Si 91.70 326 *ce*P **P 05 00 20.7 -1.3**
AKBB Malin Array Si 91.70 326 IAmb IAmb 05 00 21.0
comp=Z,38nm,1.4s
MALT Malatya 91.93 312 P **P 05 00 23.1 -0.5**
Q24A Divide 91.95 48 P 05 00 25.1
baz=296,SNR=6.9
PBUR Paburge 92.16 332 *e*P **P 05 00 23.8 -0.3**
RAYN Ar Rayn 92.20 296 *i* P **P 05 00 23.3 -1.7**
SNR=10
RAYN Ar Rayn 92.20 296 P **P 05 00 23.9 -1.1**
RAYN pmax pmax
comp=Z,25nm,1.2s
RAYN MLR MLR
comp=Z,1µm,22.0s
RAYN Ar Rayn 92.20 296 P **P 05 00 23.9 -1.1**
RAYN IAmb IAmb 05 00 24.9
comp=Z,25nm,1.1s
ULM Lac du Bonnet 92.21 35 P **P 05 00 24.6 +0.1**
comp=Z,61nm,0.8s,baz=302,slow=4.7,SNR=90
ULM LR LR 05 37 28.0
comp=Z,2µm,21.6s,baz=310,slow=33
ULM Lac du Bonnet 92.21 35 *i* P **P 05 00 24.0 -0.4**
ULM Lac du Bonnet 92.21 35 IAMs_20 IAMs_20 05 36 54.3
comp=Z,3µm,21.0s
SDCO Great Sand Dun 92.23 49 IAmb IAmb 05 00 28.2
comp=Z,19nm,0.9s
SDCO Great Sand Dun 92.23 49 P 05 00 25.8
baz=296,SNR=26
ICESG Greenland Ices 92.35 2 *i* P **P 05 00 25.9 +0.8**
ICESG IAmb IAmb 05 00 27.7
comp=Z,23nm,0.9s
TOKA Tokat 92.40 314 IAmb IAmb 05 00 53.6
comp=Z,11nm,0.4s
HFS Hagfors 92.64 338 P **P 05 00 25.0 -1.2**
comp=Z,8.5nm,0.4s,baz=81,slow=4.7,SNR=66
HFS PKKPbc **PKKPbc 05 17 38.5 -1.4**
comp=Z,1.9nm,0.5s,baz=151,slow=3.4,SNR=8.2
121A Cookes Peak, D 92.71 54 P 05 00 29.2
baz=294,SNR=25
ANMO Albuquerque 92.72 52 P **P 05 00 27.2 -0.2**
ANMO pmax pmax
comp=Z,37nm,1.3s
ANMO Albuquerque 92.72 52 P **P 05 00 27.2 -0.2**
ANMO IAmb IAmb 05 00 31.4
comp=Z,37nm,1.3s
ANMO Albuquerque 92.72 52 IAMs_20 IAMs_20 05 34 41.5
comp=Z,3µm,22.0s
ANMO Albuquerque 92.72 52 P 05 00 28.4
baz=295
DOMB Dombas 92.73 341 *e*P **P 05 00 26.4 -0.2**
MOL Molde 92.77 342 *e*P **P 05 00 25.7 -1.1**
NB2 NORSAR Subarra 92.81 340 P **P 05 00 26.0 -1.0**
comp=Z,114nm,1.4s,baz=42,slow=5.1
NB2 NORSAR Subarra 92.81 340 P **P 05 00 26.0 -1.0**
baz=42,slow=5.1
NOA NORSAR Array B 92.81 340 P **P 05 00 26.1 -1.0**
comp=Z,10nm,0.8s,baz=45,slow=4.7,SNR=40
NOA PP **PP 05 04 10.5 +1.2**
comp=Z,5.6nm,0.7s,baz=37,slow=7.7,SNR=9.3
NOA PKKPbc **PKKPbc 05 17 39.6 +0.1**
comp=Z,0.8nm,0.7s,baz=228,slow=2.7,SNR=5.2
NOA LR LR 05 47 01.6
comp=Z,634nm,19.9s,baz=35,slow=39
SUW Suwalki 92.84 330 *e*P **P 05 00 26.1 -1.1**
SUW Suwalki 92.84 330 *e*P **P 05 00 26.3 -0.9**
NC602 NORSAR Array S 92.93 340 *e*P **P 05 00 26.4 -1.1**
NBO00 NORSAR Array S 92.96 340 IAmb IAmb 05 00 47.6
comp=Z,63nm,1.2s
OGNE Ogallala 93.19 45 IAmb IAmb 05 00 32.4
comp=Z,66nm,1.4s
OGNE IAMs_20 IAMs_20 05 35 32.2
comp=Z,3µm,22.0s
OGNE Ogallala 93.19 45 P 05 00 30.4
baz=296
AKN Aaknes 93.24 342 *e*P **P 05 00 29.8 +0.8**
D32A Dogwood Acres, 93.24 38 IAMs_20 IAMs_20 05 40 49.9
comp=Z,2µm,20.0s
T25A Trinidad 93.27 49 P 05 00 31.1
baz=296,SNR=20
AGMN Agassiz Nation 93.28 36 IAmb IAmb 05 00 32.0
comp=Z,46nm,1.1s
AGMN Agassiz Nation 93.28 36 P 05 00 29.8
baz=303,SNR=15
GAZ Gaziantep 93.30 311 IAMs_20 IAMs_20 05 46 37.7
comp=Z,2µm,21.0s
SUSD Miller 93.47 41 P 05 00 30.7
baz=300
SORM Soroca 93.57 324 ⇑P **P 05 00 29.5 -1.2**
SORM Soroca 93.57 324 ⇑P **P 05 00 29.5 -1.2**
SFJD Kangerlussuaq 93.62 7 *i* P **P 05 00 31.7 +1.2**
comp=Z,1.9nm,0.8s
SFJD Kangerlussuaq 93.62 7 P **P 05 00 30.8 +0.2**
SFJD pmax pmax
comp=Z,31nm,0.9s
SFJD Kangerlussuaq 93.62 7 P **P 05 00 30.8 +0.2**
SFJD IAmb IAmb 05 00 33.0
comp=Z,31nm,0.8s
SFJD Kangerlussuaq 93.62 7 *i* P **P 05 00 31.8 +1.2**
SFJD IAmb IAmb 05 00 33.0
comp=Z,1.9nm,0.8s
KSCO Kaye Shedlock' 93.69 47 P 05 00 32.5
baz=298,SNR=5.9
OSL Oslo 93.80 339 *e*P **P 05 00 30.1 -1.4**
KIS Kishinev 93.92 323 *e*S **S 05 11 33.0 -3.9**
KIS Kishinev 93.92 323 *e*P **P 05 00 31.0 -1.4**
KIS *e*S **S 05 11 33.0 -3.9**
KIS pmax pmax
comp=Z,160nm,5.3s
KIS MLR MLR
comp=Z,500nm,19.0s
KIS MLR MLR
comp=E,500nm,15.5s
KIS Kishinev 93.92 323 *e*P **P 05 00 31.0 -1.4**
comp=E,160nm,5.3s
KIS Kishinev 93.92 323 *e*SKS SKSac 05 10 46.0 -15
EPT El Paso 94.01 55 IAMs_20 IAMs_20 05 35 51.5
comp=Z,2µm,22.0s
SKAR Skarslia 94.02 341 *e*P **P 05 00 32.7 +0.1**
HYA Hoyanger 94.28 342 *e*P **P 05 00 34.2 +0.5**
F33A 5 Mile Ranch, 94.35 39 IAMs_20 IAMs_20 05 41 05.4
comp=Z,3µm,21.0s
KONO Kongsberg 94.39 340 *ce*P **P 05 00 34.1 -0.2**
KONO pmax pmax
comp=Z,28nm,2.5s
KONO Kongsberg 94.39 340 P **P 05 00 33.0 -1.2**
KONO IAmb IAmb 05 00 34.8
comp=Z,41nm,1.3s
KONO Kongsberg 94.39 340 *e*P **P 05 00 33.8 -0.5**
B35A Bob, Littlefor 94.43 35 IAMs_20 IAMs_20 05 37 25.1
comp=Z,2µm,21.0s
SLBS Sierra La Lagu 94.44 63 P **P 05 00 35.8 +0.4**
SLBS IAmb IAmb 05 00 39.9
comp=Z,43nm,1.3s
K31A O'Neill 94.51 42 IAMs_20 IAMs_20 05 36 19.0
comp=Z,3µm,22.0s
BR131 Keskin Array S 94.61 314 *i* P **P 05 00 34.0 -1.9**
BRTR Keskin Array B 94.61 314 P **P 05 00 34.0 -1.9**
comp=Z,4.9nm,0.7s,baz=124,slow=2.2,SNR=24
BRTR PP **PP 05 04 24.8 +0.6**
comp=Z,1.4nm,0.9s,baz=50,slow=3.9,SNR=3.6
BRTR LR LR 05 47 16.3
comp=Z,1µm,21.5s,baz=52,slow=38
BRTR Keskin Array B 94.61 314 P **P 05 00 33.4 -2.5**
MNTX Cornudas Mount 94.91 54 IAmb IAmb 05 00 40.5
comp=Z,23nm,1.1s
MNTX IAMs_20 IAMs_20 05 37 02.2
comp=Z,2µm,21.0s
MNTX Cornudas Mount 94.91 54 P 05 00 38.0
baz=296,SNR=30
LVV L'vov 94.95 327 *e*P **P 05 00 35.4 -1.6**
LVV *e* 05 11 01.5
ECSD EROS Data Cent 95.28 40 IAMs_20 IAMs_20 05 40 03.1
comp=Z,3µm,21.0s
ECSD EROS Data Cent 95.28 40 P 05 00 38.8
baz=302,SNR=12
CFR Carcaliu 95.31 321 ⇑P **P 05 00 38.7 0.0**
CFR Carcaliu 95.31 321 ⇑P **P 05 00 38.7 0.0**
BEL Belsk 95.33 330 *e*P **P 05 00 38.1 -0.6**
BIZ Bicaz 95.50 324 ⇑P **P 05 00 38.4 -1.2**
BURAR Bucovina Array 95.61 324 ⇑P **P 05 00 38.6 -1.6**
BURAR Bucovina Array 95.61 324 ⇑P **P 05 00 38.6 -1.6**
BURAR Bucovina Array 95.61 324 P **P 05 00 39.0 -1.2**
KWP Kalwaria Pacla 95.74 327 *e*P **P 05 00 38.6 -2.1**
KWP Kalwaria Pacla 95.74 327 IAMs_20 IAMs_20 05 47 44.3
comp=Z,2µm,20.0s
BSD Bornholm Skovb 95.75 334 *i* P **P 05 00 38.2 -2.3**
comp=Z,23nm,1.0s
BSD Bornholm Skovb 95.75 334 *e*P **P 05 00 39.5 -1.0**
BSD Bornholm Skovb 95.75 334 *i* P **P 05 00 38.2 -2.3**
BSD pmax pmax
comp=Z,23nm,1.0s
BSD Bornholm Skovb 95.75 334 *i* P **P 05 00 38.3 -2.3**
BSD IAmb IAmb 05 00 40.3
comp=Z,23nm,1.0s
VRI Vrincioaia 95.75 322 ⇑P **P 05 00 40.8 0.0**
VRI Vrincioaia 95.75 322 ⇑P **P 05 00 40.8 0.0**
CBKS Cedar Bluff 95.76 46 IAmb IAmb 05 00 44.7
comp=Z,24nm,0.8s
CBKS Cedar Bluff 95.76 46 P 05 00 42.1
baz=300,SNR=7.6
PLOR Plostina 95.81 322 ⇑P **P 05 00 40.3 -0.8**
PLOR Plostina 95.81 322 ⇑P **P 05 00 40.3 -0.8**
MSTX Muleshoe 95.89 51 IAMs_20 IAMs_20 05 39 06.2
comp=Z,2µm,20.0s
EYMN Ely 95.89 35 IAMs_20 IAMs_20 05 40 25.7
comp=Z,2µm,22.0s
EYMN Ely 95.89 35 P 05 00 41.7
baz=306,SNR=14
F36A Milaca 95.96 37 IAMs_20 IAMs_20 05 39 52.7
comp=Z,2µm,21.0s
GKP Gorka Klasztor 96.03 332 *e*P **P 05 00 41.2 -0.6**
GKP Gorka Klasztor 96.03 332 *e*P **P 05 00 41.0 -0.8**
AMTX Amarillo 96.27 50 IAmb IAmb 05 00 47.0
comp=Z,26nm,0.9s
AMTX IAMs_20 IAMs_20 05 37 04.2
comp=Z,2µm,21.0s
AMTX Amarillo 96.27 50 P 05 00 44.4
baz=298
N33A J Bar K, Exete 96.32 43 IAMs_20 IAMs_20 05 37 28.8
comp=Z,3µm,22.0s
L34A Svendsen Farm, 96.36 42 IAMs_20 IAMs_20 05 39 22.9
comp=Z,2µm,21.0s
KOLS Kolonicke sedl 96.40 327 *e*P **P 05 00 43.3 -0.4**
KOLS Kolonicke sedl 96.40 327 *e*PDIFF **P 05 00 43.3 -0.4**
MLR Muntele Rosu 96.42 322 ⇑P P 05 00 36.9 -7.1
MLR Muntele Rosu 96.42 322 ⇑P P 05 00 36.9 -7.1
MLR Muntele Rosu 96.42 322 IAMs_20 IAMs_20 05 48 03.4
comp=Z,2µm,20.0s
VNDA Vanda 96.44 177 P **P 05 00 43.0 -0.1**
comp=Z,5.8nm,1.0s,baz=309,slow=5.5,SNR=9.7
VNDA LR LR 05 44 46.4
comp=Z,385nm,18.2s,baz=347,slow=36
VNDA Vanda 96.44 177 P **P 05 00 43.1 0.0**
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA Vanda 96.44 177 P **P 05 00 43.1 0.0**
DOPR Dopca 96.46 323 ⇑P **P 05 00 42.5 -1.6**
MMAI Mount Meron Ar 96.48 308 P **P 05 00 44.4 -0.1**
comp=Z,0.6nm,0.3s,baz=54,slow=5.6,SNR=3.8
UZH Uzhgorod 96.57 326 *e*P **P 05 00 43.2 -1.2**
UZH *e* 05 01 07.0
E38A The Farm, Brul 96.64 36 IAMs_20 IAMs_20 05 42 58.8
comp=Z,2µm,20.0s
R32A Long Quarter, 96.65 46 IAMs_20 IAMs_20 05 39 41.9
comp=Z,2µm,22.0s
HPIG 96.70 59 IAMs_20 IAMs_20 05 42 54.5
comp=Z,2µm,18.0s
SPMN Marine on St. 96.74 38 P 05 00 45.6
baz=305,SNR=7.4
CRVS Cervenica-Dubn 96.84 327 *e*P **P 05 00 44.9 -0.8**
CRVS Cervenica-Dubn 96.84 327 *e*PDIFF **P 05 00 44.9 -0.8**
OJC Ojcow 96.84 329 *e*P **P 05 00 44.8 -0.8**
ARR Arges 97.24 323 ⇑P **P 05 00 46.1 -1.5**
TX31 Lajitas Ar. Si 97.27 56 IAmb IAmb 05 00 52.0
comp=Z,26nm,1.2s
TXAR Lajitas Array 97.27 56 P Pdif 05 00 49.2 +1.0
comp=Z,2.0nm,0.8s,baz=260,slow=3.8,SNR=16
TXAR PKKPbc **PKKPdf 05 17 27.8 -0.4**
comp=Z,0.8nm,0.6s,baz=97,slow=5.0,SNR=4.6
TXAR LR LR 05 40 16.5
comp=Z,1µm,19.3s,baz=0.0,slow=33
TXAR Lajitas Array 97.27 56 P **P 05 00 48.0 -0.2**
N35A Tabor 97.42 43 IAMs_20 IAMs_20 05 37 52.9
comp=Z,2µm,22.0s
DRGR 97.47 325 ⇑P **P 05 00 46.4 -2.2**
DRGR 97.47 325 ⇑P **P 05 00 46.4 -2.2**
LANS Liptovska Anna 97.69 328 *e*P Pdif 05 00 51.1 +1.5
LANS Liptovska Anna 97.69 328 *e*PDIFF Pdif 05 00 51.1 +1.5
KSU1 Kansas State U 97.72 44 IAMs_20 IAMs_20 05 40 17.0
comp=Z,2µm,21.0s
KSU1 Kansas State U 97.72 44 P 05 00 50.1
baz=302
OK032 Salt Plains WL 97.81 47 IAmb IAmb 05 00 52.8
comp=Z,20nm,1.1s
OK032 IAMs_20 IAMs_20 05 38 37.6
comp=Z,3µm,22.0s
KAN05 Bluff City Nor 97.89 47 IAmb IAmb 05 00 53.6
comp=Z,26nm,0.8s
OKC Ostrava-Krasne 97.90 329 AMS AMS 05 48 50.0
comp=Z,2µm,21.4s
D41A Chassel 98.00 34 IAMs_20 IAMs_20 05 42 21.6
comp=Z,2µm,22.0s
KSP Ksiaz 98.10 331 *e*P **P 05 00 50.6 -0.8**
G40A Rib Lake 98.20 37 IAmb IAmb 05 00 54.5
comp=Z,17nm,0.8s
KAN13 South Haven SW 98.21 47 IAmb IAmb 05 00 54.9
comp=Z,14nm,0.8s
K38A Parkersburg 98.22 40 IAMs_20 IAMs_20 05 39 57.0
comp=Z,3µm,22.0s
MORC Moravsky Berou 98.23 329 ⇑P **P 05 00 50.8 -1.2**
MORC Moravsky Berou 98.23 329 *e*PDIFF **P 05 00 51.0 -1.0**
MORC *e*PP **PP 05 04 52.8 +1.3**
MORC Moravsky Berou 98.23 329 ⇑P **P 05 00 50.8 -1.2**
PSZ Piszkesteto 98.27 327 IAMs_20 IAMs_20 05 47 47.1
comp=Z,2µm,21.0s
GZR Gura Zlata 98.28 324 ⇑P **P 05 00 51.5 -0.8**
GZR Gura Zlata 98.28 324 ⇑P **P 05 00 51.5 -0.8**
COWI Conover 98.29 35 IAMs_20 IAMs_20 05 41 59.2
comp=Z,2µm,22.0s
OSTC Ostas 98.34 331 *e*PDIFF **P 05 00 51.3 -1.1**
OSTC *e*PP **PP 05 04 52.8 +0.5**
OSTC AMS AMS 05 50 20.0
comp=Z,1µm,17.7s
SCIA State Center 98.37 41 IAmb IAmb 05 00 57.8
comp=Z,15nm,0.7s
SCIA IAMs_20 IAMs_20 05 38 33.9
comp=Z,3µm,22.0s
SCIA State Center 98.37 41 P 05 00 54.2
baz=304
CHVC Chvalec 98.39 331 *e*PDIFF **P 05 00 51.7 -0.9**
CHVC AMS AMS 05 50 40.0
comp=Z,2µm,20.0s
KRLC Kraliky 98.40 330 *e*P Pdif 05 00 53.3 +0.6
KRLC *e* 05 04 53.6
KRLC MLR MLR
comp=Z,2µm,19.8s
KRLC Kraliky 98.40 330 *e*PDIFF Pdif 05 00 53.3 +0.6
KRLC *e*PP **PP 05 04 53.6 +0.8**
KRLC AMS AMS 05 47 10.0
comp=Z,2µm,19.8s
DPC Dobruska-Polom 98.43 330 *e*P **P 05 00 51.3 -1.5**
DPC *e* 05 04 50.4
DPC MLR MLR
comp=Z,1µm,20.0s
DPC Dobruska-Polom 98.43 330 *e*PDIFF **P 05 00 51.3 -1.5**
DPC *e*PP **PP 05 04 50.4 -2.6**
DPC AMS AMS 05 50 30.0
comp=Z,1µm,20.0s
WMOK Wichita Mounta 98.43 49 P 05 00 53.5
baz=300,SNR=15
VYHS Vyhne 98.44 328 *e*P **P 05 00 52.2 -0.7**
VYHS Vyhne 98.44 328 *e*PDIFF **P 05 00 52.2 -0.7**
UPC Upice 98.46 331 *e*P **P 05 00 51.5 -1.4**
UPC *e* 05 04 53.0
UPC MLR MLR
comp=Z,2µm,21.1s
UPC Upice 98.46 331 *e*PDIFF **P 05 00 51.5 -1.4**
UPC *e*PP **PP 05 04 53.0 -0.2**
UPC AMS AMS 05 48 30.0
comp=Z,2µm,21.1s
KOLL Kolacno 98.60 328 *e*PDIFF Pdif 05 00 53.6 0.0
JAVC Velka Javorina 98.78 329 *e*PDIFF Pdif 05 00 54.7 +0.2
JAVC *e*PP **PP 05 04 56.8 +1.0**
I40A Norwalk 98.78 38 IAMs_20 IAMs_20 05 42 56.5
comp=Z,2µm,20.0s
BZS Buzias 98.79 324 ⇑P **P 05 00 50.8 -3.7**
BZS Buzias 98.79 324 ⇑P **P 05 00 50.8 -3.7**
ABTX Abilene, Hawle 98.83 51 P 05 00 55.6
baz=299,SNR=7.3
OK029 Liberty Lake 98.84 48 IAmb IAmb 05 00 57.6
comp=Z,21nm,0.9s
OK029 IAMs_20 IAMs_20 05 42 36.1
comp=Z,2µm,19.0s
N38A Joes South For 98.98 42 IAMs_20 IAMs_20 05 41 57.2
comp=Z,2µm,21.0s
VRAC Vranov 99.00 329 P **Pdif 05 00 54.8 -0.6**
comp=Z,5.6nm,0.8s,baz=56,slow=3.4,SNR=13
VRAC Vranov 99.00 329 ⇑P **Pdif 05 00 55.1 -0.3**
VRAC Vranov 99.00 329 *e*PDIFF **Pdif 05 00 54.5 -0.9**
VRAC *e*PP **PP 05 04 57.8 +0.4**
VRAC Vranov 99.00 329 ⇑P **Pdif 05 00 55.1 -0.3**
OK025 Westminster Rd 99.03 48 IAmb IAmb 05 01 00.7
comp=Z,16nm,1.0s
OK025 IAMs_20 IAMs_20 05 42 41.1
comp=Z,3µm,20.0s
F42A Maple Grove Fa 99.05 35 IAMs_20 IAMs_20 05 41 03.3
comp=Z,2µm,22.0s
PVCC Panska Ves 99.11 331 *e*P **Pdif 05 00 55.0 -0.8**
PVCC *e* 05 04 58.7
PVCC MLR MLR
comp=Z,2µm,21.4s
PVCC Panska Ves 99.11 331 *e*PDIFF **Pdif 05 00 55.0 -0.8**
PVCC *e*PP **PP 05 04 58.7 +0.5**
PVCC AMS AMS 05 50 40.0
comp=Z,2µm,21.4s
SMOL Smolenice 99.13 328 *e*P **Pdif 05 00 56.3 +0.3**
SMOL *e* 05 04 58.2
SMOL Smolenice 99.13 328 *e*PDIFF **Pdif 05 00 56.3 +0.3**
SMOL *e*PP **PP 05 04 58.2 -0.2**
BRG Berggiesshubel 99.16 332 ⇓ *i* Piff 05 00 55.2
BRG Amp 05 00 57.4
comp=Z,33nm,1.3s
BRG *ex* x 05 01 14.2
BRG Amp 05 01 17.4
comp=Z,8.2nm,0.9s
BRG *ex* x 05 04 13.8
BRG Amp 05 04 22.6
comp=Z,14nm,1.4s
BRG PP **PP 05 04 58.5 0.0**
BRG Amp 05 05 01.1
comp=Z,103nm,1.5s
BRG SKS **SKSac 05 11 31.6 +3.2**
BRG S **S 05 12 22.0 +0.3**
BRG SS **SS 05 19 10.0 0.0**
BRG Amp 05 49 41.0
comp=N,1.3nm,19.2s
BRG Amp 05 49 55.0
comp=E,0.7nm,21.9s
BRG Amp 05 50 41.0
comp=Z,1.8nm,21.8s
CLL Collm 99.26 332 ⇑ *i* Pdif **Pdif 05 00 55.6 -0.9**
comp=Z,61nm,1.4s
CLL *es* Pdif **pP 05 01 15.0 +0.6**
CLL *i* PP **PP 05 05 00.0 +0.8**
comp=Z,59nm,1.5s
CLL *ep*PP 05 05 14.0
comp=Z,78nm,1.9s
CLL *e*SKSac **SKSac 05 11 37.0 +8.1**
CLL *e*Sdif **ScS 05 12 19.0 -3.6**
comp=N,300nm,19.1s
CLL *e*Sdif **ScS 05 12 19.0 -3.6**
comp=E,300nm,19.0s
CLL *e*SS **SS 05 19 08.0 -3.4**
CLL *e*SSSS 05 26 42.0
CLL LmV 05 51 00.0
comp=Z,1µm,19.4s
CLL Collm 99.26 332 ⇑ *i* P **Pdif 05 00 55.6 -0.9**
CLL *e*S **ScS 05 12 19.0 -3.6**
CLL pmax pmax
comp=Z,61nm,1.4s
CLL MLR MLR
comp=Z,1µm,19.4s
KRUC Moravsky 99.27 329 *e*PDIFF **Pdif 05 00 55.6 -1.0**
KRUC *e*PP **PP 05 04 59.7 +0.3**
MODS Modra-Piesok 99.30 328 *e*P **Pdif 05 00 54.9 -1.8**
MODS *e* 05 04 58.7
MODS Modra-Piesok 99.30 328 *e*PDIFF **Pdif 05 00 54.9 -1.8**
MODS *e*PP **PP 05 04 58.7 -1.0**
P38A Dawn 99.45 43 IAMs_20 IAMs_20 05 39 17.6
comp=Z,2µm,22.0s
PRA Prague 99.50 331 AMS AMS 05 51 00.0
comp=Z,800nm,20.4s
L40A Anamosa 99.50 40 IAMs_20 IAMs_20 05 44 03.7
comp=Z,2µm,22.0s
ZST Bratislava 99.50 328 *e*P **Pdif 05 00 57.7 +0.1**
ZST *e* 05 04 59.3
ZST Bratislava 99.50 328 *e*PDIFF **Pdif 05 00 57.6 0.0**
ZST *e*PP **PP 05 04 59.3 -1.9**
PRU Pruhonice 99.50 331 *e*P **Pdif 05 00 56.5 -1.1**
PRU *e* 05 05 00.7
PRU MLR MLR
comp=Z,2µm,24.3s
PRU Pruhonice 99.50 331 *e*PDIFF **Pdif 05 00 56.5 -1.1**
PRU *e*PP **PP 05 05 00.7 -0.4**
PRU AMS AMS 05 50 40.0
comp=Z,2µm,24.3s
TREC Trest 99.54 330 AMS AMS 05 47 10.0
comp=Z,2µm,20.4s
JFWS Jewell Farm 99.58 39 P 05 00 59.3
baz=307
VTS Vitosha 99.68 321 ⇑P **Pdif 05 00 58.1 -0.6**
VTS Vitosha 99.68 321 ⇑P **Pdif 05 00 58.1 -0.6**
JCT Junction City 99.73 53 P 05 01 01.0
baz=298,SNR=5.3
I42A Draeger Farm, 99.77 37 IAMs_20 IAMs_20 05 42 32.5
comp=Z,3µm,21.0s
TUL1 Leonard 99.94 47 P 05 01 01.4
baz=302
PBCC Pribram 99.97 331 *e*PDIFF **Pdif 05 00 58.2 -1.5**
PBCC *e*PP **PP 05 05 04.6 -0.1**
MORH Mrgy, Hungar 100.02 326 ⇑P **Pdif 05 00 58.0 -1.9**
FRGS Fruska Gora 100.07 325 ⇑P **Pdif 05 00 59.3 -1.0**
Z35A Perchaven, San 100.23 50 IAMs_20 IAMs_20 05 39 38.1
comp=Z,3µm,22.0s
NKC Novy Kostel 100.28 332 *e*P **Pdif 05 00 59.6 -1.5**
NKC *e* 05 05 07.7
NKC MLR MLR
comp=Z,2µm,22.7s
NKC Novy Kostel 100.28 332 *e*PDIFF **Pdif 05 00 59.6 -1.5**
NKC *e*PP **PP 05 05 07.7 +0.7**
NKC AMS AMS 05 52 30.0
comp=Z,2µm,22.7s
CONA Conrad Observa 100.30 329 *e*P **Pdif 05 01 00.4 -0.9**
comp=Z,11nm,1.2s
CONA *e*P **PP 05 05 08.0 +0.7**
comp=Z,29nm,1.5s,SNR=6.5
MOX Moxa 100.35 333 P **Pdif 05 01 01.0 -0.4**
MOX pmax pmax
comp=Z,19nm,2.3s
CKRC Cesky Krumlov 100.43 330 *e*PDIFF **Pdif 05 01 01.0 -0.8**
CKRC *e*PP **PP 05 05 08.3 +0.1**
P40A Paris 100.45 42 IAMs_20 IAMs_20 05 43 48.0
comp=Z,2µm,22.0s
L42A Oliver, Polo 100.47 39 IAMs_20 IAMs_20 05 43 29.2
comp=Z,3µm,22.0s
N41A Harden Midland 100.52 41 IAMs_20 IAMs_20 05 40 54.6
comp=Z,3µm,22.0s
KHC Kasperske Hory 100.56 331 *i* P **Pdif 05 01 01.6 -0.7**
KHC pmax pmax
comp=Z,17nm,1.2s
KHC Kasperske Hory 100.56 331 *e*PDIFF **Pdif 05 01 00.2 -2.1**
KHC *ex* x 05 04 02.5
KHC *e*PP **PP 05 05 10.1 +0.9**
KHC AMS AMS 05 51 50.0
comp=Z,2µm,20.2s
KHC Kasperske Hory 100.56 331 IAMs_20 IAMs_20 05 52 10.3
comp=Z,2µm,18.0s
U38A Gravette 100.62 46 IAMs_20 IAMs_20 05 39 39.0
comp=Z,3µm,22.0s
GERES GERESS Array B 100.70 330 P **Pdif 05 01 02.2 -0.8**
comp=Z,2.6nm,0.8s,baz=57,slow=4.9,SNR=20
GERES PP **PP 05 05 09.6 -0.7**
comp=Z,4.2nm,1.0s,baz=41,slow=8.8,SNR=8.8
GERES PKKPbc **PKKPbc 05 17 17.6 -0.2**
comp=Z,1.7nm,0.8s,baz=224,slow=3.7,SNR=8.7
G45A Suttons Bay 100.85 35 IAMs_20 IAMs_20 05 46 37.0
comp=Z,2µm,20.0s
ARSA Arzberg 100.93 328 *e*P **Pdif 05 01 03.2 -0.9**
comp=Z,10nm,1.3s

ARSA *e*P **PP** **05 05 12.3 +0.2**
comp=Z,28nm,1.5s,SNR=6.3
R40A **Maddies Statio** **101.01 43** IAMs_20 IAMs_20 05 43 40.0
comp=Z,2µm,20.0s
MOA **Molln** **101.13 329** *e*P **Pdif** **05 01 04.4 -0.5**
comp=Z,5.7nm,1.1s
MOA *e*P **PP** **05 05 11.1 -2.4**
comp=Z,15nm,1.4s
I45A **Fountain** **101.18 36** IAMs_20 IAMs_20 05 43 14.8
comp=Z,2µm,22.0s
GRF **Grafenberg Arr** **101.22 332** *e*Pdiff **Pdif** **05 01 05.2 -0.1**
baz=52,slow=4.1
GRF *e*PP **PP** **05 05 14.7 +0.6**
baz=38,slow=6.8
GRFO **Grafenberg** **101.22 332** P **Pdif** **05 01 05.4 +0.2**
GRFO **Grafenberg** **101.22 332** Pdif **Pdif** **05 01 05.4 +0.2**
435B **Jarrell** **101.26 52** IAMs_20 IAMs_20 05 40 12.5
comp=Z,2µm,22.0s
GLMI **Grayling** **101.55 34** IAMs_20 IAMs_20 05 44 31.5
comp=Z,2µm,21.0s
PERS **Pernice** **101.55 328** *i* Pdiff **Pdif** **05 01 05.9 -1.0**
PERS *e*PKiKP **PP** **05 05 17.9 +1.1**
HDIL **Hopedale** **101.56 40** IAMs_20 IAMs_20 05 42 00.3
comp=Z,3µm,21.0s
SOKA **Soboth** **101.57 328** *e*P **Pdif** **05 01 06.4 -0.6**
comp=Z,13nm,1.3s
SOKA *e*P **PP** **05 05 18.0 +1.1**
comp=Z,46nm,1.5s,SNR=7.0
LIT **Litokhoron** **101.62 319** P **Pdif** **05 01 05.5 -1.8**
LIT **Litokhoron** **101.62 319** Pdif **Pdif** **05 01 05.5 -1.8**
W39A **Magazine** **101.70 47** IAMs_20 IAMs_20 05 44 36.8
comp=Z,2µm,20.0s
CCM **Cathedral Cave** **101.81 43** IAMs_20 IAMs_20 05 42 54.0
comp=Z,3µm,21.0s
CCM **Cathedral Cave** **101.81 43** P 05 01 11.9
baz=305
M44A **Midewin, Midew** **101.81 39** IAMs_20 IAMs_20 05 42 50.7
comp=Z,3µm,22.0s
EKA **Eskdalemuir Ar** **101.86 343** P **Pdif** **05 01 08.7 +0.7**
comp=Z,4.6nm,1.0s,baz=21,slow=9.5,SNR=5.3
EKA PP **PP** **05 05 18.9 +0.2**
comp=Z,4.3nm,0.7s,baz=28,slow=6.6,SNR=10
EKA PKKPbc **PKKPbc** **05 17 12.7 -1.8**
comp=Z,2.1nm,0.7s,baz=221,slow=1.9,SNR=5.4
Z38A **Mt. Pleasant** **101.89 49** IAMs_20 IAMs_20 05 42 36.0
comp=Z,2µm,21.0s
OBKA **Obir** **101.92 328** *e*P **PP** **05 05 18.7 -0.9**
comp=Z,34nm,1.2s
237A **Washetta, Mont** **101.95 50** IAMs_20 IAMs_20 05 43 01.8
comp=Z,2µm,20.0s
P43A **Skaggs, Pawnee** **101.97 41** IAMs_20 IAMs_20 05 46 02.1
comp=Z,3µm,21.0s
735A **Kenedy** **102.03 54** IAMs_20 IAMs_20 05 42 09.2
comp=Z,3µm,21.0s
PDG **Podgorica** **102.11 323** ⇑P **Pdif** **05 01 07.7 -1.7**
SLM **Saint Louis** **102.11 42** IAMs_20 IAMs_20 05 40 51.1
comp=Z,2µm,21.0s
KBA **Koelnbreinsper** **102.12 329** *e*P **Pdif** **05 01 06.9 -2.6**
comp=Z,3.4nm,1.1s
KBA *e*P **PP** **05 05 19.4 -1.7**
comp=Z,35nm,1.5s
MIAR **Mount Ida** **102.20 47** P 05 01 11.6
baz=303
MYKA **Terra Mystica** **102.29 329** *e*P **PP** **05 05 20.1 -2.3**
comp=Z,23nm,1.2s
O44A **Mansfield** **102.31 40** IAMs_20 IAMs_20 05 40 45.0
comp=Z,3µm,22.0s
FVM **French Village** **102.37 43** IAMs_20 IAMs_20 05 45 12.1
comp=Z,3µm,21.0s
L46A **Eue Claire** **102.44 37** IAMs_20 IAMs_20 05 44 12.2
comp=Z,2µm,21.0s
J47A **Sunmer** **102.48 36** IAMs_20 IAMs_20 05 44 37.2
comp=Z,2µm,22.0s
T42A **Van Buren** **102.49 44** IAMs_20 IAMs_20 05 41 55.3
comp=Z,3µm,22.0s
KVTX **Kingsville** **102.60 55** IAMs_20 IAMs_20 05 52 44.8
comp=Z,1µm,18.0s
ZOU **Zoufplan** **102.67 329** IAMs_20 IAMs_20 05 51 51.3
comp=Z,2µm,20.0s
BTNL **Ternell** **102.67 335** *d*PP **PP** **05 05 26.1 +1.2**
MEM **Membach** **102.70 335** *d*PP **PP** **05 05 23.4 -1.7**
Q44A **Meyer Farm, Va** **102.72 41** IAMs_20 IAMs_20 05 46 27.2
comp=Z,2µm,21.0s
X40A **Basin Creek Fa** **102.75 47** IAMs_20 IAMs_20 05 46 16.3
comp=Z,2µm,20.0s
ABTA **Abfaltersbach** **102.75 329** *e*P **Pdif** **05 01 10.7 -1.6**
comp=Z,7.0nm,1.3s
WATA **Walderalm** **102.78 330** *e*P **PP** **05 05 26.2 +0.2**
comp=Z,33nm,1.8s
VLDQ **Val d'Or** **102.79 28** IAMs_20 IAMs_20 05 44 58.6
comp=Z,2µm,21.0s
WTTA **Wattenberg** **102.80 330** *e*P **PKiKP** **05 05 26.7 -6.1**
comp=Z,32nm,1.3s
NATX **Nacogdoches** **102.91 50** IAMs_20 IAMs_20 05 46 04.1
comp=Z,2µm,20.0s
MOTA **Moosalm** **102.99 331** *e*P **PKiKP** **05 05 26.5 -6.6**
comp=Z,30nm,1.4s
SQTA **Sankt Quirin** **103.03 330** *e*P **PP** **05 05 26.9 -1.0**
comp=Z,31nm,1.4s
RETA **Reutte** **103.04 331** *e*P **Pdif** **05 01 12.8 -0.7**
comp=Z,8.1nm,1.5s
RETA *e*P **PP** **05 05 30.0 +2.1**
comp=Z,22nm,1.8s
PBMO **Poplar Bluff** **103.07 44** IAMs_20 IAMs_20 05 43 24.6
comp=Z,2µm,21.0s
BCLA **Clavier** **103.13 336** *d*Pdif **Pdif** **05 01 13.6 -0.1**
BCLA *d*PKiKP **PKiKP** **05 05 32.5 -0.5**
S44A **Carbondale** **103.29 42** IAMs_20 IAMs_20 05 44 43.4
comp=Z,2µm,20.0s
SIUC **Southern Illin** **103.31 42** IAMs_20 IAMs_20 05 44 43.4
comp=Z,2µm,20.0s
WLF **Walferdange** **103.39 335** *d*Pdif **Pdif** **05 01 15.1 +0.3**
OLIL **Olney** **103.40 41** IAMs_20 IAMs_20 05 44 14.9
comp=Z,2µm,22.0s
FETA **Feichten** **103.40 331** *e*P **Pdif** **05 01 14.1 -1.1**
comp=Z,4.0nm,1.1s
FETA *e*P **PP** **05 05 30.4 -0.3**
comp=Z,21nm,1.3s
BMRD **Maredsous** **103.43 336** *d*Pdif **Pdif** **05 01 14.4 -0.7**
SNF **Seneffe** **103.45 336** *d*Pdif **Pdif** **05 01 15.2 +0.1**
BFO **Black Forest** **103.50 333** P **Pdif** **05 01 15.2 -0.3**
BFO **Black Forest** **103.50 333** Pdif **Pdif** **05 01 15.2 -0.3**
L48A **N Adams** **103.55 37** IAMs_20 IAMs_20 05 45 26.4
comp=Z,2µm,22.0s
PARMO **Parma** **103.58 43** IAMs_20 IAMs_20 05 42 49.1
comp=Z,3µm,22.0s
DAVA **Damuels** **103.60 331** *e*P **Pdif** **05 01 15.7 -0.4**
comp=Z,9.5nm,1.1s
DAVA *e*P **PP** **05 05 32.9 +0.8**
comp=Z,21nm,1.4s,SNR=5.5
DOU **Dourbes** **103.66 336** *d*PP **PP** **05 05 31.4 -0.8**
CTI **Castel Tesino** **103.67 329** IAMs_20 IAMs_20 05 52 32.9
comp=Z,2µm,18.0s
HENM **Henderson Moun** **103.73 43** IAMs_20 IAMs_20 05 43 05.1
comp=Z,2µm,22.0s
PVMO **Portageville** **103.76 44** IAMs_20 IAMs_20 05 43 44.9
comp=Z,3µm,21.0s
PENMO **Penman** **103.79 44** IAMs_20 IAMs_20 05 43 46.5
comp=Z,2µm,21.0s
GNAR **Gosnell** **103.81 44** IAMs_20 IAMs_20 05 41 50.3
comp=Z,3µm,22.0s
PEBM **Pemiscott Bayo** **103.83 44** IAMs_20 IAMs_20 05 42 13.7
comp=Z,2µm,22.0s
DAVOX **Davos/Dischmat** **103.97 331** Pdiff **Pdif** **05 01 18.1 +0.3**
comp=Z,3.7nm,1.0s,baz=333,slow=17,SNR=3.8
DAVOX PKiKP **PP** **05 05 35.8 +0.8**
comp=Z,6.2nm,1.0s,baz=14,slow=4.1,SNR=5.0
DAVOX PKKPbc **PKKPbc** **05 17 07.6 -0.8**
comp=Z,1.3nm,0.6s,baz=204,slow=20,SNR=2.4
HICK **Hickman** **103.99 43** IAMs_20 IAMs_20 05 43 12.0
comp=Z,2µm,22.0s
LNXT **Lenox** **104.08 44** IAMs_20 IAMs_20 05 42 09.3
comp=Z,2µm,22.0s
T45A **Paducah** **104.08 43** IAMs_20 IAMs_20 05 46 11.4
comp=Z,2µm,20.0s
USIN **University of** **104.14 41** IAMs_20 IAMs_20 05 47 08.5
comp=Z,2µm,22.0s
HALT **Halls** **104.29 44** IAMs_20 IAMs_20 05 42 16.9
comp=Z,2µm,22.0s
N49A **Columbus Grove** **104.36 37** IAMs_20 IAMs_20 05 42 58.9
comp=Z,3µm,22.0s
441A **DeRidder** **104.52 50** IAMs_20 IAMs_20 05 42 09.6
comp=Z,2µm,22.0s
P48A **Milroy** **104.57 39** IAMs_20 IAMs_20 05 43 13.8
comp=Z,3µm,22.0s
T47A **Sharon Grove** **105.08 42** IAMs_20 IAMs_20 05 46 17.7
comp=Z,3µm,21.0s

WVT **Waverly** **105.14 43** IAMs_20 IAMs_20 05 46 54.4
comp=Z,2µm,21.0s
PLVO **Plevna** **105.23 30** IAMs_20 IAMs_20 05 48 05.5
comp=Z,2µm,21.0s
Y45A **Yeager Farm, C** **105.35 46** IAMs_20 IAMs_20 05 42 45.1
comp=Z,2µm,22.0s
N51A **Ashland** **105.38 36** IAMs_20 IAMs_20 05 46 34.0
comp=Z,1µm,22.0s
AQU **L'Aquila** **105.40 326** IAMs_20 IAMs_20 05 52 52.8
comp=Z,3µm,22.0s
R49A **Shelbyville** **105.47 40** IAMs_20 IAMs_20 05 44 53.7
comp=Z,3µm,21.0s
ACSO **Alum Creek Sta** **105.50 37** IAMs_20 IAMs_20 05 45 08.1
comp=Z,2µm,21.0s
TIP **Timpagrande** **105.65 322** IAMs_20 IAMs_20 05 54 42.9
comp=Z,2µm,21.0s
344A **Westbrook Farm** **105.90 48** IAMs_20 IAMs_20 05 46 12.9
comp=Z,2µm,20.0s
MSSA **Maissana** **105.97 329** IAMs_20 IAMs_20 05 52 41.6
comp=Z,1µm,22.0s
V48A **Smith Brothers** **106.03 43** IAMs_20 IAMs_20 05 47 40.8
comp=Z,2µm,22.0s
Q51A **Peebles** **106.08 38** IAMs_20 IAMs_20 05 45 53.8
comp=Z,2µm,22.0s
CLTN **Cedars of Leba** **106.13 42** IAMs_20 IAMs_20 05 49 51.4
comp=Z,2µm,20.0s
U49A **Red Boiling Sp** **106.21 42** IAMs_20 IAMs_20 05 48 55.6
comp=Z,2µm,21.0s
O52A **Adamsville** **106.23 37** IAMs_20 IAMs_20 05 45 11.4
comp=Z,2µm,22.0s
N53A **Lisbon** **106.31 36** IAMs_20 IAMs_20 05 49 06.6
comp=Z,2µm,20.0s
P52A **Corning** **106.38 37** IAMs_20 IAMs_20 05 45 13.6
comp=Z,2µm,21.0s
146A **Union** **106.39 46** IAMs_20 IAMs_20 05 46 18.8
comp=Z,2µm,20.0s
O53A **New Philadelph** **106.49 36** IAMs_20 IAMs_20 05 46 55.2
comp=Z,2µm,22.0s
TLIG **Tlapa** **106.66 64** IAMs_20 IAMs_20 05 41 36.3
comp=Z,2µm,20.0s
LONY **Lake Ozonia** **106.72 29** IAMs_20 IAMs_20 05 50 26.9
comp=Z,1µm,21.0s
Q52A **Bidwell** **106.75 38** IAMs_20 IAMs_20 05 43 47.5
comp=Z,2µm,22.0s
346A **Big Creek Wild** **106.83 48** IAMs_20 IAMs_20 05 44 17.5
comp=Z,2µm,20.0s
P53A **Whipple** **106.91 37** IAMs_20 IAMs_20 05 45 30.4
comp=Z,3µm,22.0s
J57A **Williamstown** **106.96 31** IAMs_20 IAMs_20 05 47 03.3
comp=Z,2µm,22.0s
O54A **Avella** **107.00 36** IAMs_20 IAMs_20 05 47 52.7
comp=Z,2µm,22.0s
FRNY **Flat Rock** **107.02 29** IAMs_20 IAMs_20 05 47 29.5
comp=Z,2µm,22.0s
D62A **Allapoint, All** **107.15 25** IAMs_20 IAMs_20 05 47 17.8
comp=Z,3µm,22.0s
W50A **Signal Mountai** **107.33 42** IAMs_20 IAMs_20 05 49 11.2
comp=Z,2µm,21.0s
R53A **Hurricane** **107.36 38** IAMs_20 IAMs_20 05 47 03.5
comp=Z,3µm,22.0s
NCB **Newcomb** **107.39 30** IAMs_20 IAMs_20 05 49 58.4
comp=Z,1µm,20.0s
FPAL **Fort Paine** **107.55 43** IAMs_20 IAMs_20 05 44 19.1
comp=Z,2µm,22.0s
V51A **Loudon** **107.56 41** IAMs_20 IAMs_20 05 43 02.1
comp=Z,2µm,22.0s
J59A **Piesco** **107.64 30** IAMs_20 IAMs_20 05 48 18.1
comp=Z,2µm,21.0s
CPCT **Cooper Cave** **107.67 42** IAMs_20 IAMs_20 05 47 56.3
comp=Z,2µm,22.0s
VT1 **Waterbury** **107.78 28** IAMs_20 IAMs_20 05 48 15.1
comp=Z,1µm,21.0s
PQI **Presque Isle** **107.89 24** IAMs_20 IAMs_20 05 47 51.4
comp=Z,2µm,22.0s
E63A **Oxbow** **107.94 25** IAMs_20 IAMs_20 05 48 14.7
comp=Z,2µm,22.0s
V52A **Sevierville** **108.00 41** IAMs_20 IAMs_20 05 43 51.9
comp=Z,2µm,22.0s
TKL **Tuckaleechee C** **108.01 41** IAMs_20 IAMs_20 05 47 12.1
comp=Z,2µm,22.0s
X51A **Calhoun** **108.02 43** IAMs_20 IAMs_20 05 49 34.5
comp=Z,2µm,22.0s
G62A **West of Eustis** **108.06 27** IAMs_20 IAMs_20 05 48 45.8
comp=Z,2µm,22.0s
S54A **Dingess, Beckl** **108.09 38** IAMs_20 IAMs_20 05 46 46.9
comp=Z,2µm,21.0s
LBNH **Lisbon** **108.23 28** IAMs_20 IAMs_20 05 48 28.5
comp=Z,2µm,20.0s
F63A **Nahmakanta, Br** **108.26 25** IAMs_20 IAMs_20 05 47 49.1
comp=Z,2µm,22.0s
W52A **Murphy** **108.28 42** IAMs_20 IAMs_20 05 45 49.2
comp=Z,2µm,22.0s
F64A **Sherman** **108.43 25** IAMs_20 IAMs_20 05 48 06.6
comp=Z,2µm,22.0s
Q56A **Snyder Ridge,** **108.45 36** IAMs_20 IAMs_20 05 48 59.2
comp=Z,2µm,21.0s
R55A **Marlinton** **108.45 37** IAMs_20 IAMs_20 05 47 57.3
comp=Z,2µm,21.0s
HNH **Hanover** **108.48 29** IAMs_20 IAMs_20 05 52 00.3
comp=Z,2µm,19.0s
KMBO **Kilima Mbogo** **108.51 275** Pdiff **Pdif** **05 01 37.5 -1.1**
comp=Z,0.8nm,0.4s,baz=32,slow=16,SNR=4.5
KMBO PKiKP **PKiKP** **05 05 44.5 +0.2**
comp=Z,0.5nm,0.3s,baz=56,slow=0.6,SNR=3.2
TRY **Troy** **108.59 30** IAMs_20 IAMs_20 05 48 34.4
comp=Z,2µm,21.0s
V53A **Saluda** **108.60 41** IAMs_20 IAMs_20 05 44 43.7
comp=Z,2µm,21.0s
I62A **Tamworth** **108.78 28** IAMs_20 IAMs_20 05 49 37.0
comp=Z,2µm,21.0s
WVL **Waterville** **108.95 26** IAMs_20 IAMs_20 05 49 33.5
comp=Z,2µm,21.0s
FFD **Franklin Falls** **108.95 28** IAMs_20 IAMs_20 05 50 44.7
comp=Z,2µm,21.0s
I63A **Otisfield** **108.97 27** IAMs_20 IAMs_20 05 48 15.1
comp=Z,3µm,22.0s
Y52A **Lilburn** **108.97 43** IAMs_20 IAMs_20 05 51 32.7
comp=Z,2µm,20.0s
DRLN **Deer Lake** **109.08 16** IAMs_20 IAMs_20 05 49 46.3
comp=Z,2µm,22.0s
G65A **Princeton** **109.29 25** IAMs_20 IAMs_20 05 48 31.3
comp=Z,2µm,22.0s
K62A **Royalston** **109.32 29** IAMs_20 IAMs_20 05 52 15.5
comp=Z,2µm,20.0s
KSCT **Kent School, K** **109.45 31** IAMs_20 IAMs_20 05 53 39.1
comp=Z,2µm,20.0s
V55A **Taylorsville** **109.45 40** IAMs_20 IAMs_20 05 47 26.2
comp=Z,2µm,20.0s
SDMD **Soldier's Deli** **109.47 34** IAMs_20 IAMs_20 05 49 51.9
comp=Z,1µm,20.0s
QUA2 **Belchertown** **109.56 30** IAMs_20 IAMs_20 05 49 38.0
comp=Z,2µm,22.0s
L62A **Suffield** **109.61 30** IAMs_20 IAMs_20 05 49 05.2
comp=Z,2µm,22.0s
K63A **Dunstable** **109.62 29** IAMs_20 IAMs_20 05 52 21.5
comp=Z,1µm,19.0s
GGN **Saint George** **109.64 24** IAMs_20 IAMs_20 05 49 37.8
comp=Z,2µm,21.0s
GOGA **Godfrey** **109.64 43** IAMs_20 IAMs_20 05 46 08.5
comp=Z,2µm,22.0s
WUPA **West Chester U** **109.73 33** IAMs_20 IAMs_20 05 49 29.9
comp=Z,2µm,22.0s
EMMW **East Machias** **109.74 25** IAMs_20 IAMs_20 05 48 44.3
comp=Z,2µm,22.0s
HRV **Adam Dziewonsk** **109.75 29** IAMs_20 IAMs_20 05 51 47.0
comp=Z,1µm,20.0s
PAULI **Pauline** **109.77 41** IAMs_20 IAMs_20 05 45 19.7
comp=Z,2µm,21.0s
451A **Vernon** **109.86 46** IAMs_20 IAMs_20 05 50 32.6
comp=Z,2µm,20.0s
HODGE **Hodges** **109.88 41** IAMs_20 IAMs_20 05 49 36.7
comp=Z,2µm,22.0s
R58B **Mineral** **109.94 36** IAMs_20 IAMs_20 05 49 45.5
comp=Z,2µm,21.0s
WSPT **Westport, CT** **109.95 31** IAMs_20 IAMs_20 05 51 33.4
comp=Z,2µm,20.0s
WES **Weston** **109.96 29** IAMs_20 IAMs_20 05 51 53.3
comp=Z,1µm,21.0s
UCCT **U. Connecticut** **110.00 30** IAMs_20 IAMs_20 05 49 16.5
comp=Z,2µm,21.0s
YLE **Yale** **110.03 31** IAMs_20 IAMs_20 05 49 29.4
comp=Z,2µm,21.0s
BRYW **Bryant College** **110.22 29** IAMs_20 IAMs_20 05 50 18.5
comp=Z,2µm,21.0s
L63A **North Scituate** **110.23 29** IAMs_20 IAMs_20 05 50 17.7
comp=Z,2µm,22.0s
M63A **Gales Ferry** **110.39 30** IAMs_20 IAMs_20 05 49 27.8
comp=Z,2µm,22.0s

L64A **Middleborough** **110.53 29** IAMs_20 IAMs_20 05 56 20.5
comp=Z,1µm,20.0s
W57A **Gilead** **110.66 39** IAMs_20 IAMs_20 05 47 23.1
comp=Z,2µm,21.0s
M64A **Tiverton** **110.66 29** IAMs_20 IAMs_20 05 50 30.1
comp=Z,2µm,21.0s
BIRD **Birdtown, Kers** **110.72 40** IAMs_20 IAMs_20 05 45 50.7
comp=Z,2µm,21.0s
T59A **Double "B" Far** **110.82 37** IAMs_20 IAMs_20 05 49 50.0
comp=Z,2µm,22.0s
M65A **Busby, Falmout** **110.92 29** IAMs_20 IAMs_20 05 51 09.7
comp=Z,2µm,20.0s
T60A **Surry** **111.16 36** IAMs_20 IAMs_20 05 51 32.9
comp=Z,2µm,21.0s
Y57A **Sumter** **111.18 41** IAMs_20 IAMs_20 05 46 34.0
comp=Z,3µm,22.0s
HAL **Halifax** **111.28 23** IAMs_20 IAMs_20 05 53 01.7
comp=Z,2µm,21.0s
X58A **Rowland** **111.46 39** IAMs_20 IAMs_20 05 48 08.3
comp=Z,2µm,21.0s
NHSC **New Hope** **111.92 41** IAMs_20 IAMs_20 05 46 36.7
comp=Z,2µm,22.0s
Y59A **Loris** **112.13 40** IAMs_20 IAMs_20 05 46 43.0
comp=Z,2µm,22.0s
KEST **Kesra** **112.31 323** PKiKP **PKiKP** **05 05 51.3 +0.6**
comp=Z,5.1nm,0.8s,baz=236,slow=2.7,SNR=3.7
Y60A **Bolivia** **112.51 39** IAMs_20 IAMs_20 05 48 59.1
comp=Z,3µm,22.0s
SYO **Syowa Base** **113.34 202** ‖ *e*Pdiff **Pdif** **05 02 02.0 +3.5**
HUEH **Huehuetenango** **113.70 63** IAMs_20 IAMs_20 05 42 17.8
comp=Z,2µm,22.0s
TEIG **Tepich** **113.88 57** IAMs_20 IAMs_20 05 47 09.4
comp=Z,2µm,22.0s
MVO **Moncorvo** **115.55 338** *e*PKPdf **PKPdf** **05 05 58.4 +1.6**
POLO **Lamas de Olo** **115.63 339** *e*PKPdf **PKPdf** **05 05 58.5 +1.5**
ESDC **Sonseca Array** **115.69 335** PKP **PKPdf** **05 05 57.6 +0.5**
comp=Z,2.9nm,1.1s,baz=4.8,slow=2.5,SNR=13
ESDC PP **PP** **05 06 56.5 -2.9**
comp=Z,13nm,1.1s,baz=21,slow=7.0,SNR=7.7
ESDC PKKPbc **PKKPbc** **05 16 31.9 +1.5**
comp=Z,1.5nm,0.7s,baz=212,slow=2.9,SNR=15
PVRL **Vila Real** **115.69 339** *e*PKPdf **PKPdf** **05 05 57.6 +0.6**
ES14 **SONSECA Array** **115.72 335** IAMs_20 IAMs_20 05 57 44.2
comp=Z,1µm,21.0s
060A **Indiantown** **115.78 46** IAMs_20 IAMs_20 05 55 20.3
comp=Z,2µm,20.0s
MTO3 **Montecristo** **115.96 63** IAMs_20 IAMs_20 05 44 40.5
comp=Z,2µm,22.0s
PTO **Porto** **116.12 339** *e*PKPdf **PKPdf** **05 05 58.4 +0.7**
MTE **Manteigas** **116.41 338** *e*PKPdf **PKiKP** **05 05 59.0 +0.6**
SNET **Serv Nac Est T** **116.41 64** IAMs_20 IAMs_20 05 49 37.6
comp=Z,1µm,20.0s
SOR **Soroa** **116.50 52** IAMs_20 IAMs_20 05 53 27.0
comp=Z,1µm,21.0s
PCBR **Castelo Branco** **116.88 338** *e*PKPdf **PKiKP** **05 05 59.8 +0.5**
COI **Coimbra** **116.88 339** IAMs_20 IAMs_20 05 58 30.9
comp=Z,2µm,21.0s
PMRV **Marv??o** **117.21 337** *e*PKPdf **PKiKP** **05 06 00.5 +0.5**
PMRV **Marv??o** **117.21 337** *e*LR LR 05 46 48.6
comp=Z,719nm,20.0s
PSBE **So Bento** **117.64 339** *e*PKPdf **PKiKP** **05 06 02.3 +1.5**
PESTR **Estremoz** **117.78 337** *e*PKPdf **PKiKP** **05 06 02.4 +1.3**
PMTG **Montargil** **117.83 338** *e*PKPdf **PKiKP** **05 06 01.2 +0.1**
CSGN **Cosiguina Volc** **118.18 63** IAMs_20 IAMs_20 06 03 35.4
comp=Z,2µm,20.0s
PBAR **Barrancos** **118.18 336** *e*PKPdf **PKiKP** **05 06 03.3 +1.5**
EVO **Evora** **118.23 337** *e*PKPdf **PKiKP** **05 06 02.8 +0.9**
PBEJ **Beja** **118.62 337** *e*PKPdf **PKiKP** **05 06 05.1 +2.4**
PNCL **Nicolau / Gran** **118.79 338** *e*PKPdf **PKPdf** **05 06 01.9 -1.1**
MESJ **Messejana** **118.92 337** *e*PKPdf **PKiKP** **05 06 03.6 +0.3**
PCVE **Castro Verde** **119.03 337** *e*PKPdf **PKiKP** **05 06 04.3 +0.8**
PVAQ **Vaqueiros** **119.11 337** *e*LR LR 05 48 44.3
comp=Z,626nm,18.0s
PBDV **Barranco-do-Ve** **119.34 337** *e*PKPdf **PKiKP** **05 06 06.2 +2.0**
SFS **San Fernando** **119.34 335** IAMs_20 IAMs_20 06 05 19.3
comp=Z,2µm,19.0s
PTEO **Sao Teotonio** **119.36 337** *e*PKPdf **PKiKP** **05 06 05.9 +1.7**
MORF **Marmelete** **119.55 337** *e*PKPdf **PKiKP** **05 06 06.7 +2.1**
MATN **Matagalpa** **119.58 63** IAMs_20 IAMs_20 05 48 20.1
comp=Z,2µm,22.0s
PFVI **Vila Bisbo** **119.77 337** *e*PKPdf **PKPdf** **05 06 00.4 -4.5**
BELA **Belgrano 2** **120.78 180** **PKPdf** **05 06 04.8 -0.8**
LSZ **Lusaka** **121.08 263** PKiKP **PKiKP** **05 06 08.4 +0.2**
LSZ **Lusaka** **121.08 263** **PKiKP** **05 06 08.4 +0.2**
BBSR **BB Station** **121.12 31** IAMs_20 IAMs_20 05 55 23.2
comp=Z,2µm,22.0s
ORTG **Ortega, Santa** **121.25 65** IAMs_20 IAMs_20 05 46 53.8
comp=Z,2µm,22.0s
ESPN **Las Esperanzas** **121.32 62** IAMs_20 IAMs_20 05 49 14.1
comp=Z,2µm,22.0s
NVL **N'lazarevskaya** **121.41 196** *e*PKIKP **PKPdf** **05 06 03.1 -3.8**
NVL *e*SS SS 05 24 01.7 -6.1
JTS **Las Juntas de** **121.72 65** IAMs_20 IAMs_20 05 47 05.2
comp=Z,2µm,22.0s
CAO2 **Cobano, Puntar** **121.88 65** IAMs_20 IAMs_20 05 46 43.5
comp=Z,2µm,21.0s
COVE **Coope Vega, Sa** **121.97 64** IAMs_20 IAMs_20 05 48 27.0
comp=Z,1µm,22.0s
HDC **Heredia** **122.58 64** IAMs_20 IAMs_20 05 47 35.0
comp=Z,2µm,22.0s
PEZE **Perez Zeledon,** **123.25 65** IAMs_20 IAMs_20 05 47 40.0
comp=Z,2µm,22.0s
TAM **Tamanrasset** **123.79 316** PKiKP **PKiKP** **05 06 13.8 +0.4**
TAM **Tamanrasset** **123.79 316** PKPdf **PKiKP** **05 06 13.8 +0.4**
SNAA **Sanae** **124.06 191** PKPdf **PKiKP** **05 06 12.5 +0.1**
SNAA **Sanae** **124.06 191** *c i* PKIKP **PKPdf** **05 06 12.2 +0.1**
SNAA pmax pmax
comp=Z,26nm,1.0s
SNAA **Sanae** **124.06 191** IAMs_20 IAMs_20 05 56 56.3
comp=Z,2µm,22.0s
LBTB **Lobatse** **125.08 252** PKiKP **PKPdf** **05 06 15.4 -0.1**
LBTB **Lobatse** **125.08 252** **PKPdf** **05 06 15.3 -0.1**
VNA2 **Neumayer--Watz** **125.49 190** PKPdf **PKiKP** **05 06 15.6 +0.4**
VNA3 **Neumayer Olymp** **125.58 189** PKPdf **PKiKP** **05 06 15.5 +0.2**
BOSA **Boshof** **125.67 248** PKP **PKPdf** **05 06 16.3 -0.2**
comp=Z,4.5nm,0.7s,baz=65,slow=3.1,SNR=10.0
BOSA **Boshof** **125.67 248** PKiKP **PKPdf** **05 06 16.6 +0.1**
BOSA **Boshof** **125.67 248** **PKPdf** **05 06 16.6 +0.1**
VNA1 **Neumayer--Stat** **125.87 190** PKPdf **PKiKP** **05 06 16.4 +0.5**
PMAR **Madeira** **126.44 343** *e*PKPdf **PKiKP** **05 06 21.4 +2.9**
BCIP **Isla Barro Col** **126.63 63** IAMs_20 IAMs_20 05 52 00.2
comp=Z,1µm,20.0s
DBBC **Dabeiba** **130.81 63** *e*P **PKiKP** **05 06 28.2 +0.6**
UREC **San Jos de Ur** **130.98 61** *e*P PKPpre 05 06 21.4
MALC **Bahia Malaga** **131.36 67** *e*P **PKiKP** **05 06 30.5 +1.9**
SJG **San Juan** **131.39 43** SKPbc **SKPab** **05 09 48.6 +1.3**
comp=Z,32nm,0.8s,baz=22,slow=6.7,SNR=4.5
CBOC **Ciudad Bolivar** **131.57 64** *e*P **PKiKP** **05 06 29.7 +0.4**
TSUM **Tsumeb** **131.76 261** PKPdf **PKPdf** **05 06 28.0 -0.4**
HELC **Santa Helena** **131.81 63** *e*P PKPpre 05 06 25.1
PLMC **San Jos del P** **131.83 65** *e*P **PKPdf** **05 06 28.5 -0.1**
OTAV **Otavalo** **132.10 72** PKiKP **PKPdf** **05 06 29.5 -0.2**
OTAV **Otavalo** **132.10 72** **PKPdf** **05 06 29.4 -0.2**
OTAV **Otavalo** **132.10 72** IAMs_20 IAMs_20 05 53 31.0
comp=Z,2µm,22.0s
OTAV **Otavalo** **132.10 72** *e*P **PKiKP** **05 06 30.7 +0.1**
YOTC **Yotoco, Valle** **132.24 66** *e*P **PKPdf** **05 06 27.8 -1.7**
BBAC **Balboa, Cauca** **132.38 69** *e*P **PKiKP** **05 06 30.5 -0.5**
GUY2C **Guyana, Caldas** **132.46 64** *e*P PKPpre 05 06 24.0
PTBC **PUERTO BERRIO** **132.53 62** *e*P PKPpre 05 06 21.3
OCAC **Ocana** **132.53 59** *e*P **PKiKP** **05 06 32.1 +1.0**
RREF **El Recreo** **132.63 64** *e*P PKPpre 05 06 25.7
POPC **Popayan, Colom** **132.64 68** *e*P PKPpre 05 06 24.9
NORC **Norcasia** **132.70 63** *e*P **PKPdf** **05 06 26.6 -3.6**
ANIL **Santa Ana** **132.79 65** *e*P **PKiKP** **05 06 33.3 +1.4**
TOLC **Tolima** **132.82 65** *e*P PKPpre 05 06 25.0
BRRC **Barranca, Sant** **132.84 61** *e*P **PKiKP** **05 06 31.8 +0.2**
SOTA **Rioblanco** **132.89 69** *e*P PKPpre 05 06 25.6
PCON **Cinco Dias** **132.99 68** *e*P **PKPdf** **05 06 28.1 -3.3**
TOA0 **Torodi Ar. Sit** **132.99 310** **PKPdf** **05 06 30.8 +0.1**
TORD **Torodi Ar. Bea** **132.99 310** PKP **PKiKP** **05 06 31.6 -0.3**
comp=Z,5.5nm,0.7s,baz=54,slow=1.2,SNR=18
TORD PP **PP** **05 08 54.4 -2.0**
comp=Z,2.4nm,0.9s,baz=26,slow=6.0,SNR=3.6
TORD SKPbc **SKPbc** **05 09 50.7 -1.8**
comp=Z,16nm,1.0s,baz=48,slow=3.8,SNR=12
TORD SKKPbc **SKKPbc** **05 19 15.8 +5.1**
comp=Z,2.2nm,0.7s,baz=255,slow=3.6,SNR=7.9
TORD **Torodi Ar. Bea** **132.99 310** PKPdf **PKPdf** **05 06 30.3 -0.3**
ORTC **Ortega, Tolima** **133.22 66** *e*P PKPpre 05 06 23.5
SPBC **San Pablo de B** **133.33 63** *e*P PKPpre 05 06 26.0
ROSC **El Rosal** **133.54 64** PKP **PKPdf** **05 06 32.8 +0.5**
comp=Z,4.6nm,0.5s,baz=353,slow=18,SNR=3.0
ROSC **El Rosal** **133.54 64** IAMs_20 IAMs_20 06 00 35.5
comp=Z,1µm,22.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ROSC	El Rosal	133.54	64	eP	PKPdf	05 06 31.3	-1.0
PAMC	Pamplona, Colo	133.55	60	eP	PKPpre	05 06 28.8	
BARC	Barichara	133.56	61	eP	PKPpre	05 06 27.5	
PRAC	Prado	133.63	66	eP	PKPpre	05 06 24.4	
BETC	Betania	133.66	67	eP	PKiKP	05 06 34.5	+1.1
RUSC	La Rusia	134.03	62	eP	PKPdf	05 06 33.1	-0.2
SDV	Santo Domingo	134.31	56	PKP	PKiKP	05 06 34.9	+0.1
	comp=Z,15nm,0.7s						
SDV				SKPbc	SKPab	05 10 01.6	+1.3
	comp=Z,25nm,0.8s,baz=331,slow=4.7,SNR=6.0						
SDV	Santo Domingo	134.31	56	IAMs_20	IAMs_20	06 06 07.8	
	comp=Z,1μm,21.0s						
SDV	Santo Domingo	134.31	56	eP	PKPpre	05 06 27.6	
ANWB	Willy Bob	134.45	39	IAMs_20	IAMs_20	06 06 14.1	
	comp=Z,1μm,20.0s						
ATAH	Atahualpa	134.95	81	PKP	PKiKP	05 06 37.9	+1.5
	comp=Z,9.7nm,0.8s,baz=187,slow=2.5,SNR=6.1						
ATAH				SKPbc	SKPab	05 10 03.3	-0.1
	comp=Z,10nm,1.0s,baz=280,slow=2.8,SNR=7.2						
MACC	Macarena, Meta	135.30	67	eP	PKPpre	05 06 28.2	
PTLC	Puerto Leguiza	135.40	70	eP	PKPpre	05 06 29.9	
KOWA	Kowa	136.00	317	PKPdf	PKPdf	05 06 36.5	+0.2
H03N2	Juan Fernandez	137.03	119	T	T	07 39 58.2	
	baz=266,slow=74,SNR=3.5						
H03N3	Juan Fernandez	137.03	119	T	T	07 39 59.5	
	baz=266,slow=74,SNR=3.1						
H03N1	Juan Fernandez	137.04	119	T	T	07 39 59.1	
	baz=266,slow=74,SNR=2.3						
NNA	Nana	137.82	87	PKP	PKiKP	05 06 42.5	+0.8
	comp=Z,3.7nm,0.4s,baz=233,slow=3.2,SNR=3.0						
PCRV	Puerto La Cruz	138.03	49	SKPbc	SKiKP	05 10 13.9	+1.5
	comp=Z,23nm,1.1s,baz=153,slow=4.0,SNR=3.0						
GRGR	Grenville	138.71	44	IAMs_20	IAMs_20	06 07 56.6	
	comp=Z,1μm,20.0s						
PLCA	Paso Flores	141.49	133	PKhKP	PKPpre	05 06 42.3	
	comp=Z,4.0nm,0.7s,baz=244,slow=2.2,SNR=8.4						
PLCA				SKPbc	SKiKP	05 10 21.5	+2.7
	comp=Z,8.0nm,0.7s,baz=243,slow=3.6,SNR=5.9						
PLCA				SKKPbc	SKKPab	05 18 40.4	-0.2
	comp=Z,1.5nm,0.9s,baz=353,slow=3.5,SNR=3.0						
PLCA	Paso Flores	141.49	133	PKIKP	PKPdf	05 06 45.6	-0.1
PLCA	Paso Flores	141.49	133		PKPdf	05 06 45.6	-0.1
DBIC	Dimbokro	142.09	309	PKhKP	PKPpre	05 06 43.1	
	comp=Z,9.7nm,0.7s,baz=39,slow=4.4,SNR=24						
DBIC				PP	PP	05 09 51.1	-1.9
	comp=Z,9.2nm,1.1s,baz=27,slow=5.6,SNR=4.9						
DBIC				SKPbc	SKiKP	05 10 21.8	+1.0
	comp=Z,13nm,1.0s,baz=6.4,slow=4.3,SNR=3.6						
DBIC	Dimbokro	142.09	309	PKIKP	PKPdf	05 06 42.9	-4.6
DBIC	Dimbokro	142.09	309		PKPpre	05 06 42.9	
KIC	Kosan Boka	142.21	309	ePKP1	PKPdf	05 06 43.7	-4.0
	comp=Z,61nm,1.1s						
TIC	Toumodi	142.23	309	ePKP1	PKPdf	05 06 43.7	-4.1
LIC	Lamto	142.51	309	ePKP1	PKPdf	05 06 44.8	-3.4
	comp=Z,79nm,0.9s						
BO02	Sierra Bellavi	143.35	124	IAMs_20	IAMs_20	05 56 12.9	
	comp=Z,1μm,22.0s						
MT02	Curacav	143.46	121		PKPdf	05 06 48.4	-1.0
ROC1	El Roble	143.63	120	i P	PKPdf	05 06 48.8	-1.2
PEL	Peldehue	143.86	121	PKIKP	PKPdf	05 06 49.6	-0.5
PEL	Peldehue	143.86	121		PKPdf	05 06 49.6	-0.5
PEL	Peldehue	143.86	121	i P	PKPdf	05 06 50.9	+0.7
GO04	Tololo Observa	144.38	116	i P	PKPdf	05 06 51.8	+0.4
HOPE	Hope Point	144.41	177	PKIKP	PKPbc	05 06 49.2	+0.4
HOPE	Hope Point	144.41	177		PKPbc	05 06 49.2	+0.4
LCO	Las Campanas	144.66	114	PKIKP	PKPdf	05 06 52.1	+0.2
LCO	Las Campanas	144.66	114	PKPdf	PKPdf	05 06 52.1	+0.2
AC05	El Transito	145.05	114		PKPdf	05 06 53.5	+1.1
SACV	Santiago Islan	145.14	343		PKPdf	05 06 54.2	+1.4
AUSP	Uspallata	145.14	120	i P	PKPdf	05 06 54.1	+1.4
RFA	San Rafael	145.18	124	i P	PKPdf	05 06 53.5	+1.1
RTLS	Leoncito	145.32	119	i P	PKPab	05 06 54.3	+1.2
AROD	Rodeo	145.51	116	i P	PKPab	05 06 55.2	+1.2
TA01	Diego Aracena	145.51	99		PKPab	05 06 55.2	+1.4
ACCO	Cerro Coronel	145.78	117	i P	PKPab	05 06 55.6	+0.7
ACDV	Cuesta del Vie	145.81	116	i P	PKPab	05 06 54.6	-0.3
ZON	Zonda	145.89	119	PKP2	PKPab	05 06 55.4	+0.4
ZON	Zonda	145.89	119	PKPbc	PKPab	05 06 55.4	+0.4
ZON	Zonda	145.89	119	i P	PKPab	05 06 55.3	+0.4
RTCV	Cerro Valdivia	145.93	119	i P	PKPab	05 06 55.4	+0.3
RTLL	Cerro Villicun	146.11	119	i P	PKPab	05 06 56.5	+0.7
PB06	IPOC Station P	146.14	103		PKPab	05 06 56.3	0.0
PB15	IPOC Station P	146.23	104	PKPbc	PKPab	05 06 56.9	+0.2
AC02	Maricunga	146.31	110	PKPbc	PKPab	05 06 58.3	+1.0
PB09	IPOC Station P	146.44	101	PKPbc	PKiKP	05 06 59.1	-0.2
AGUA	GUANDACOL	146.48	115	i P	PKPab	05 06 57.0	-0.4
LVC	Limon Verde	146.75	103	PKPbc	PKPab	05 06 58.8	-0.2
	comp=Z,70nm,0.7s,baz=270,slow=4.0,SNR=44						
LVC	Limon Verde	146.75	103	PKP2	PKPab	05 06 59.0	+0.1
LVC	Limon Verde	146.75	103		PKPab	05 06 59.0	+0.1
LVC	Limon Verde	146.75	103	eP	PKPbc	05 06 56.9	-0.7
VCA	Vinchina	146.86	114	i P	PKPab	05 06 59.0	+0.1
LPAZ	La Paz	146.98	91	PKPbc	PKPbc	05 06 58.8	+0.1
	comp=Z,35nm,1.0s,baz=337,slow=1.7,SNR=38						
LPAZ	La Paz	146.98	91	PKP2	PKPbc	05 06 59.3	+0.6
LPAZ	La Paz	146.98	91	PKPbc	PKPbc	05 06 59.2	+0.6
LPAZ	La Paz	146.98	91	eP	PKPbc	05 06 58.0	-0.7
LPAZ	La Paz	146.98	91	eP	PKPdf	05 06 57.3	+0.7
AVFE	Valle Fertil	147.12	118	i P	PKPbc	05 06 57.6	-0.5
ETMB	Extrema	147.21	79	eP	PKPbc	05 06 57.9	-0.7
ACHE	Chepes	147.65	119	i P	PKPbc	05 07 00.1	+0.5
PTGA	Pitinga	148.54	58	PKPbc	PKPbc	05 07 01.2	-1.0
	comp=Z,81nm,1.0s,baz=305,slow=3.7,SNR=19						
PTGA	Pitinga	148.54	58		PKPdf	05 06 58.8	+0.2
PTGA				PKPbc	PKiKP	05 07 04.2	+0.4
PTGA				IAMs_20	IAMs_20	06 12 01.3	
	comp=Z,976nm,20.0s						
PTGA	Pitinga	148.54	58	eP	PKPdf	05 06 59.9	+1.4
PTGA	Pitinga	148.54	58	eP	PKPdf	05 07 00.2	+1.6
MACA	Manacapuru-AM	149.31	63	eP	PKPbc	05 07 03.6	-0.6
SAML	Samuel	149.71	75	PKHKP	PKPpre	05 07 01.8	
SAML	Samuel	149.71	75		PKPdf	05 07 01.8	+1.4
SAML	Samuel	149.71	75	eP	PKPdf	05 07 02.7	+2.3
MDP	Montagnes des	149.79	40	PKPbc	PKiKP	05 07 06.0	-0.3
	comp=Z,102nm,1.0s,baz=18,slow=5.2,SNR=4.4						
SIV	San Ignacio	153.62	88	PKP	PKPdf	05 07 06.9	+0.6
	comp=Z,4.9nm,0.7s,baz=263,slow=2.0,SNR=16						
SIV				PKPbc	PKiKP	05 07 16.0	+1.8
	comp=Z,8.3nm,0.8s,baz=240,slow=3.3,SNR=10						
SIV				PKPab	PKPab	05 07 27.4	+0.5
	comp=Z,5.5nm,0.7s,baz=295,slow=3.8,SNR=11						
SIV				PP	PP	05 10 59.4	-2.1
	comp=Z,3.1nm,0.9s,baz=296,slow=9.2,SNR=3.8						
MALB	Monte Alegre	153.70	53	eP	PKPdf	05 07 09.2	+2.7
VILB	Vilhena	153.77	81	eP	PKPdf	05 07 09.6	+3.1
ITTB	Itaituba	154.09	59	eP	PKPdf	05 07 10.4	+3.4
MCPB	Macapa, AP	154.28	47	eP	PKiKP	05 07 15.6	0.0
PTLB	Pontes e Lacer	155.36	86	eP	PKPdf	05 07 12.2	+3.6
NPGB	Novo Progresso	155.85	64	eP	PKPdf	05 07 12.7	+3.3
ITQB	Itaqui	156.35	122	eP	PKPdf	05 07 13.3	+3.7
CPUP	Villa Florida	156.80	113	PKP	PKPdf	05 07 11.4	+1.2
	comp=Z,4.6nm,0.8s,baz=291,slow=0.5,SNR=9.5						
CPUP				PKPab	PKPab	05 07 40.6	+0.4
	comp=Z,18nm,1.0s,baz=254,slow=7.1,SNR=9.1						
CPUP	Villa Florida	156.80	113	PKPdf	PKPdf	05 07 10.8	+0.6
CPUP	Villa Florida	156.80	113	eP	PKPdf	05 07 15.7	+5.5
TMAB	Tom-Au,PA,Br	158.42	43	eP	PKPdf	05 07 15.6	+2.9
CPSB	Cacapava Do Su	158.53	127	eP	PKPdf	05 07 16.4	+4.0
PRPB	Parauapebas	159.87	54	eP	PKPdf	05 07 19.1	+4.7
ITAB	Concordia	160.93	120	eP	PKPdf	05 07 14.5	-0.6
ROSB	Rosrio	161.21	35	eP	PKPdf	05 07 22.0	+6.2
SNDB	Serra Nova Dou	161.66	71	eP	PKPdf	05 07 20.0	+3.8
PTGB	Pitanga	161.81	112	eP	PKPdf	05 07 17.4	+1.2
BDFB	Brasilia	165.87	80	PKP	PKPdf	05 07 21.9	+1.7
	comp=Z,5.8nm,0.7s,baz=276,slow=3.1,SNR=16						
BDFB				SKKPbc		05 17 07.4	
	comp=Z,3.4nm,1.1s,baz=74,slow=6.0,SNR=3.5						
BDFB	Brasilia	165.87	80		PKPdf	05 07 21.1	+0.9

*DDA **15** 04:57:49.0, 38.°54N×30.°73E, h7km±1km, ML1.2*

ISC 15 04:57:48.3, 38.°57N×30.°71E, h4km, ML1.8/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHUT	Suhut-Afyon	0.13	263	PG	Pg	04 57 51.7	+0.8
SHUT				SG	Sg	04 57 53.9	+1.2
AFYO	Afyonkarahisar	0.39	304	i P	Pb	04 57 57.5	-0.3
AFYO				i S	Sb	04 58 04.1	-0.1
YVAC	Isparta, Yalva	0.51	126	i P	Pg	04 57 58.8	+0.7
YVAC				i S	Sb	04 58 07.1	-0.6
YVAC				IAML		04 58 08.0	
	comp=N,24nm,0.3s						
YVAC				IAML		04 58 09.0	
	comp=E,18nm,0.4s						
KZIL	AFYON_Kizioren	0.55	235	i P	Pg	04 57 59.2	+0.4
KZIL				i S	Sg	04 58 06.6	+0.7
KZIL				IAML		04 58 09.0	
	comp=E,21nm,0.3s						
KZIL				IAML		04 58 10.0	
	comp=N,34nm,0.3s						
BAGO	Egridir - ISPA	0.58	174	i P	Pg	04 58 00.0	+0.6
BAGO				i S	Sg	04 58 08.2	+1.2
BAGO				IAML		04 58 09.0	
	comp=E,8.4nm,0.6s						
BASM	Basmaki-Afyon	0.83	219	PG	Pg	04 58 04.3	0.0
BASM				SG	Sb	04 58 17.4	+0.5
DOGA	KONYA_Doganhis	0.88	121	i P	Pg	04 58 05.3	+0.1
DOGA				i S	Sb	04 58 17.8	-0.7
DOGA				IAML		04 58 24.0	
	comp=N,14nm,0.3s						
SVRH	Sivrihisar-ESK	1.08	36	PN	Pb	04 58 09.4	-0.2
SVRH				SN	Sn	04 58 25.1	-0.6
TVSB	Tavsanli	1.31	312	PN	Pb	04 58 13.9	+0.3
BORA	Eskisehir	1.32	351	PN	Pb	04 58 14.4	+0.6
KONT	Konya--Tatoy	1.44	115	PN	Pb	04 58 15.5	-0.2
SRCK	Saricakaya, Es	1.47	357	PN	Pg	04 58 16.6	+0.1

*SKHL **15** 05:03:23.6±0.5, 46.°60N×152.°80E, h89km±6km, mb4.6/8, msha5.4/5*

*MOS **15** 05:03:24.3±1.3, 46.°77N×152.°65E, h89km, mb4.3/1, Error ellipse: s-maj=13.4km s-min=8.4km az=63.8*

*IDC **15** 05:03:27.1±2.2, 46.°94N×152.°64E, h92km±19km, mb3.4/16, mb1 3.6/22, mb1mx3.5/69, mbtmp3.8/22, Error ellipse: s-maj=19.9km s-min=12.1km az=133.0*

ISC 15 05:03:25.0±0.7, 46.°64N±0.°09×152.°73E±0.°09, h89km, n61, σ1.s72/67, mb3.7/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.67	249	ePN	Pn	05 04 21.0	+1.5
KUR				eS	Sn	05 05 04.2	+2.5
KUR				pmax	pmax		
	comp=Z,39nm,0.3s						
KUR				pmax	pmax		
	comp=N,15nm,0.1s						
KUR				pmax	pmax		
	comp=Z,133nm,1.4s						
KUR				smax	smax		
	comp=N,153nm,0.7s						
KUR				smax	smax		
	comp=E,60nm,0.2s						
KUR				smax	smax		
	comp=E,144nm,1.5s						
KUR				smax	smax		
	comp=N,380nm,2.0s						
KUR	Kuril'sk	3.67	249	eP	Pn	05 04 19.4	-0.1
KUR				AMB	AMB	05 04 22.0	
	comp=N,80nm,0.6s						
KUR				eS	Sn	05 05 01.4	-0.3
KUR				A	A	05 05 05.0	
	comp=N,2μm,3.0s						
KUR				A	A	05 05 05.0	
	comp=N,600nm,3.0s						
KUR				A	A	05 05 21.4	
	comp=N,260nm,0.8s						
KUR				A	A	05 05 21.4	
	comp=N,290nm,0.8s						
SKR	Severo-Kuril's	4.63	28	ePN	Pn	05 04 33.7	+1.3
SKR				eS	Sn	05 05 22.5	-2.4
SKR				pmax	pmax		
	comp=Z,49nm,0.9s						
SKR				smax	smax		
	comp=N,95nm,0.8s						
SKR				smax	smax		
	comp=E,137nm,0.8s						
SKR	Severo-Kuril's	4.63	28	eP	Pn	05 04 31.9	-0.5
SKR				AMB	AMB	05 04 35.0	
	comp=E,50nm,0.9s						
SKR				eS	Sn	05 05 22.8	-2.1
SKR				A	A	05 05 33.8	
	comp=E,100nm,0.7s						
SKR				A	A	05 05 33.8	
	comp=E,140nm,0.7s						
YUK	Yuzh-Kuril'sk	5.50	244	ePN	Pn	05 04 44.8	+0.5
YUK				eS	Sn	05 05 43.7	-2.4
YUK				pmax	pmax		
	comp=Z,51nm,0.3s						
YUK				pmax	pmax		
	comp=N,16nm,0.2s						
YUK				pmax	pmax		
	comp=E,7.0nm,0.1s						
YUK				pmax	pmax		
	comp=Z,88nm,1.5s						
YUK				smax	smax		
	comp=N,37nm,0.5s						
YUK				smax	smax		
	comp=E,73nm,0.5s						
YUK	Yuzh-Kuril'sk	5.50	244	eP	Pn	05 04 43.8	-0.5
YUK				AMB	AMB	05 04 46.0	
	comp=E,50nm,0.3s						
YUK				eS	Sn	05 05 43.7	-2.4
YUK				A	A	05 05 50.0	
	comp=E,1μm,5.0s						
YUK				A	A	05 05 50.0	
	comp=E,1μm,5.0s						
YUK				A	A	05 05 56.8	
	comp=E,40nm,0.5s						
YUK				A	A	05 05 56.8	
	comp=E,70nm,0.5s						
PAU	Pauzhetka	5.53	28	eP	Pn	05 04 44.2	-0.5
PAU				AMB	AMB	05 04 50.0	
	comp=E,20nm,0.5s						
PAU				eS	Sn	05 05 45.5	-1.3
PAU				A	A	05 06 47.7	
	comp=E,70nm,0.6s						
PAU				A	A	05 06 47.7	
	comp=E,100nm,0.6s						
GRPR	Tuman	5.57	244	ePN	Pn	05 04 44.5	-0.9
GRPR				S	Sn	05 05 45.1	-2.9
GRPR				pmax	pmax		
	comp=Z,38nm,0.4s						
GRPR				pmax	pmax		
	comp=N,35nm,0.1s						
GRPR				pmax	pmax		
	comp=E,19nm,0.1s						
GRPR				smax	smax		
	comp=N,158nm,0.1s						
GRPR				smax	smax		
	comp=E,48nm,0.1s						
GRPR	Tuman	5.57	244	eP	Pn	05 04 44.5	-0.9
GRPR				AMB	AMB	05 04 45.0	
	comp=E,40nm,0.4s						
GRPR				eS	Sn	05 05 45.1	-2.9
GRPR				A	A	05 05 58.0	
	comp=E,160nm,0.5s						
GRPR				A	A	05 05 58.0	
	comp=E,50nm,0.5s						
GLVR	Golovnino	5.86	243	eS	Sn	05 05 54.0	-1.0
NEM2	Nemuro 2	5.94	239	P	Pn	05 04 48.6	-1.7
NEM2				eS	Sn	05 05 53.9	-3.0
NMR	Nemuro--Hokkai	5.94	239	ePN	Pn	05 04 48.4	-2.0
NMR	Nemuro--Hokkai	5.94	239	eP	Pn	05 04 48.8	-1.6
NMR				eS	Sn	05 05 54.7	-2.3
JNK	Nakash	6.44	245	P	Pn	05 04 57.3	+0.2
JNK				eS	Sn	05 06 09.7	+0.6
JTKR	Abashiri--Toko	6.77	250	P	Pn	05 05 03.1	+1.5
JAK	Akkeshi	6.77	240	P	Pn	05 05 00.0	-1.7
YSS	Yuzh-Sakhalins	6.85	276	ePN	Pn	05 05 04.6	+1.8
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS	Yuzh-Sakhalins	6.85	276	eP	Pn	05 05 04.2	+1.4
YSS				AMB	AMB	05 05 08.8	
	comp=Z,20nm,0.9s						
JMP	Maruseppu	7.11	252	P	Pn	05 05 08.0	+1.7
JAR	Ashorobuto	7.18	245	P	Pn	05 05 08.0	+0.8
PETK	Petropavlovsk-	7.23	25	P	Pn	05 05 06.8	-1.0
	comp=Z,0.5nm,0.3s,baz=199,slow=12,SNR=12						
PETK				S	Sn	05 06 23.5	-4.7
	baz=225,slow=22,SNR=1.9						
JKK2	Kamakawa 2	7.57	252	P	Pn	05 05 14.1	+1.6
ASAJ	Asahikawa	7.57	254	P	Pn	05 05 14.2	+1.7
	comp=Z,0.6nm,0.3s,baz=119,slow=3.4,SNR=5.8						
JCH	Churui	7.80	242	P	Pn	05 05 14.6	-1.1
JCH				eS	Sn	05 06 39.0	-3.3
JFR	Furan	7.99	248	P	Pn	05 05 19.5	+1.2
JBT2	Biratori 2	8.33	246	P	Pn	05 05 22.9	0.0
JNB	Noboribetsu	9.33	248	P	Pn	05 05 35.4	-1.1
JKB	Kayabe	9.64	245	P	Pn	05 05 39.2	-1.5
JANG	Nango	10.27	236	P	Pn	05 05 45.4	-4.0
MA2	Magadan	13.01	356	P	Pn	05 06 23.7	-2.4
	comp=Z,0.8nm,0.3s,baz=153,slow=8.6,SNR=11						
USRK	Ussuriysk Ar.	14.77	268	P	P	05 06 51.1	-1.6
	baz=74,slow=9.4,SNR=4.1						
MJAR	Matsushiro Arr	14.80	232	P	P	05 06 54.7	+1.4
	comp=Z,0.1nm,0.3s,baz=29,slow=8.4,SNR=8.2						
SEY	Seymchan	16.33	359	P	Pn	05 07 08.4	-0.2
	comp=Z,0.2nm,0.3s,baz=177,slow=17,SNR=2.6						
KSRS	Korea Array	20.51	252	P	Pn	05 07 59.4	+0.6
	comp=Z,2.3nm,0.9s,baz=58,slow=10,SNR=9.4						
H11N2	WAKE ISLAND Hy	29.25	152	T	T	05 40 49.3	
	baz=340,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	29.26	152	T	T	05 41 01.9	
	baz=340,slow=76,SNR=52						
H11N3	WAKE ISLAND Hy	29.26	152	T	T	05 40 50.1	
	baz=340,slow=76,SNR=48						
H11S1	WAKE ISLAND Hy	30.33	153	T	T	05 41 56.9	
	baz=341,slow=76,SNR=43						
H11S3	WAKE ISLAND Hy	30.34	153	T	T	05 42 02.2	
	baz=341,slow=76,SNR=48						
H11S2	WAKE ISLAND Hy	30.35	153	T	T	05 42 05.9	
	baz=341,slow=76,SNR=55						
ILAR	Eielson Array	36.80	38	P	P	05 10 23.8	0.0
	comp=Z,0.6nm,1.0s,baz=272,slow=5.8,SNR=4.5						
INK	Inuvik	41.88	32	P	P	05 11 06.7	+0.7
	comp=Z,1.5nm,0.8s,baz=277,slow=6.1,SNR=3.6						
MKAR	Makanchi Array	46.76	297	P	P	05 11 44.8	-0.3
	comp=Z,0.8nm,0.8s,baz=69,slow=7.1,SNR=6.4						
MKAR				PcP	PcP	05 13 18.7	+1.7
	comp=Z,0.5nm,0.7s,baz=41,slow=4.0,SNR=2.9						
KURK	Kurchatov	47.20	304	P	P	05 11 48.9	+0.4
KURK	Kurchatov	47.20	304	eP	P	05 11 48.9	+0.4
KURBB	Kurchatov Arra	47.30	303	P	P	05 11 48.9	-0.3
	comp=Z,0.7nm,0.6s,baz=68,slow=8.6,SNR=7.2						
YKA	Yellowknife Ar	51.17	37	P	P	05 12 19.5	+1.0
	comp=Z,0.2nm,0.6s,baz=140,slow=4.7,SNR=3.1						
YKA				PcP	PcP	05 13 32.5	-0.2
	comp=Z,0.5nm,0.8s,baz=298,slow=3.7,SNR=3.8						
ARCES	ARCESS Array B	57.87	341	P	P	05 13 07.5	+0.6
	comp=Z,2.9nm,1.0s,baz=64,slow=8.1,SNR=1.1						
NVAR	Mina Array Bea	62.72	62	P	P	05 13 41.4	+0.6
	comp=Z,0.2nm,0.6s,baz=302,slow=8.4,SNR=2.3						
FINES	FINESS Array B	64.03	335	P	P	05 13 48.1	-0.6
	comp=Z,0.9nm,0.4s,baz=38,slow=5.3,SNR=12						
PDAR	Pinedale Array	65.03	54	P	P	05 13 57.3	+1.5
	comp=Z,0.3nm,0.6s,baz=290,slow=5.7,SNR=3.2						
NB2	NORSAR Subarra	68.25	341	P	P	05 14 16.1	+0.4
	comp=Z,1.0nm,0.7s,baz=28,slow=6.5						
NOA	NORSAR Array B	68.25	341	P	P	05 14 15.8	+0.1
	comp=Z,1.7nm,0.8s,baz=27,slow=6.4,SNR=7.6						
WRA	Warramunga Arr	68.32	199	P	P	05 14 18.8	+2.2
	comp=Z,0.7nm,1.0s,baz=5.8,slow=6.7,SNR=2.1						
HFS	Hagfors	68.47	339	P	P	05 14 16.7	-0.3
	comp=Z,3.0nm,0.7s,baz=46,slow=4.3,SNR=7.2						
AKASG	Malin Array Be	71.49	326	P	P	05 14 35.7	0.0
	comp=Z,0.6nm,0.3s,baz=33,slow=6.2,SNR=5.2						
ASAR	Alice Springs	72.02	198	P	P	05 14 42.6	+3.5
	comp=Z,0.7nm,0.7s,baz=11,slow=5.1,SNR=12						
BRTR	Keskin Array B	78.29	317	P	P	05 15 15.5	+0.2
	comp=Z,0.4nm,0.7s,baz=60,slow=6.8,SNR=2.4						
H03N2	Juan Fernandez	139.02	90	T	T	07 58 07.8	
	baz=308,slow=77,SNR=3.9						
H03N1	Juan Fernandez	139.03	90	T	T	07 58 08.1	
	baz=308,slow=77,SNR=13						
H03N3	Juan Fernandez	139.03	90	T	T	07 58 11.1	
	baz=308,slow=77,SNR=6.2						

IDC 15 05:22:18.5±2.4, 2.°53N×126.°30E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/31, mbtmp3.3/3, Error ellipse: s-maj=223.0km s-min=27.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.69	161	P	P	05 27 31.2	-0.9
	0.3nm,0.6s,baz=340,slow=11,SNR=1.3						
ASAR	Alice Springs	27.07	165	P	P	05 28 03.9	+0.9
	0.2nm,0.4s,baz=346,slow=12,SNR=5.0						
MKAR	Makanchi Array	58.30	326	P	P	05 32 14.9	-0.3
	0.2nm,0.4s,baz=127,slow=7.8,SNR=5.1						

*ISK **15** 05:41:38.6, 38.°01N×41.°34E, h2km, ML2.5/12*

*DDA **15** 05:41:39.4, 38.°01N×41.°29E, h7km±4km, ML2.1*

ISC 15 05:41:39.9±0.9, 38.°02N±0.°03×41.°32E±0.°03, h9km±8km, n19, σ0.s76/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTMN	Batman	0.13	197	i P	Pg	05 41 42.2	-0.7
BTMN				i S	Sg	05 41 46.8	+1.6
BTMN				IAML		05 41 48.0	
	comp=E,2μm,0.3s						
SVAN	Silvan-Diyarba	0.16	324	PG	Pg	05 41 42.8	-0.6
SVAN				SG	Sg	05 41 46.2	+0.3
SVAN	Silvan-Diyarba	0.16	324	i P	Pg	05 41 42.6	-0.8
SVAN				i S	Sg	05 41 46.3	+0.5
SVAN				IAML		05 41 47.0	
	comp=E,489nm,0.3s						
SVAN				IAML		05 41 47.0	
	comp=N,615nm,0.3s						
SRTM	Siirt_Merkez	0.48	93	i P	Pg	05 41 48.8	-0.4
SRTM				IAML		05 42 04.0	
	comp=N,344nm,0.5s						
SRTM				IAML		05 42 05.0	
	comp=E,280nm,0.7s						
MIDY	Mardin/Midyat-	0.61	174	i P	Pb	05 41 51.7	-1.1
MIDY				IAML		05 42 03.0	
	comp=N,146nm,0.4s						
MIDY				IAML		05 42 06.0	
	comp=E,129nm,0.5s						
MUSM	Mu-Merkez	0.72	12	i P	Pg	05 41 53.2	-0.6
MUSM				i S	Sb	05 42 04.3	-0.4
MUSM				IAML		05 42 06.0	
	comp=N,48nm,0.4s						
BLIS	Bitlis-Merkez	0.74	58	i P	Pb	05 41 54.7	-0.3
BLIS				i S	Sb	05 42 05.0	-0.3
BLIS				IAML		05 42 07.0	
	comp=E,98nm,0.6s						
BLIS				IAML		05 42 07.0	
	comp=N,133nm,0.7s						
GURO	Guroymak-BITLI	0.77	46	PG	Pg	05 41 54.3	-0.5
GURO				SG	Sb	05 42 05.9	-0.3
HANI	Diyarbakir_Han	0.82	299	i P	Pb	05 41 55.9	-0.5
HANI				IAML		05 42 11.0	
	comp=E,40nm,0.5s						
HANI				IAML		05 42 12.0	
	comp=N,45nm,0.3s						
MAZI	Mazidag	0.89	231	PG	Pb	05 41 56.9	-0.6
BNGB	Bingl	1.09	333	PN	Pb	05 42 00.6	-0.4
AKDM	Akdamar-Van	1.34	76	PN	Pb	05 42 05.1	-0.2
MLAZ	Malazgirt-MUS	1.48	40	PN	Pb	05 42 07.0	-0.6
YEDI	Yedisu-Bingol	1.54	337	PN	Pb	05 42 08.3	-0.4
CUKT	Cukurca	1.97	112	PN	Pn	05 42 14.1	+0.5
KOPR	Koprukoy-ERZUR	2.01	12	PN	Pn	05 42 14.9	+0.7
AGRB	Hanur-Agry	2.03	40	PN	Pn	05 42 15.4	+1.0
URFA	Urfa	2.06	255	PN	Pn	05 42 15.5	+0.8
MALT	Malatya	2.30	278	PN	Pn	05 42 19.1	+1.1

RSNC 15 05:46:43.4±1.0, 6.°82N×73.°14W, h146km±4km, ML2.4, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	Barichara	0.23	190⇑	eP	Pn	05 47 03.0	-0.6
BARC				eS	Sn	05 47 18.0	-0.9
BARC				i		05 47 19.2	
	comp=Z,74nm,0.1s						
BRRC	Barranca, Sant	0.64	297⇑	i P	Pn	05 47 04.8	-0.2
BRRC				eS	Sn	05 47 22.1	+0.5
BRRC				i		05 47 25.9	
	comp=Z,36nm,0.1s						
PAMC	Pamplona, Colo	0.68	40⇓	eP	Pn	05 47 05.7	-0.2
PAMC				eS	Sn	05 47 22.8	-0.2
PAMC				i		05 47 25.4	
	comp=Z,26nm,0.5s						
RUSC	La Rusia	0.92	176⇑	eP	Pn	05 47 06.9	-0.8
RUSC				eS	Sn	05 47 25.8	-0.3
RUSC				i		05 47 26.5	
	comp=Z,21nm,0.2s						
PTBC	PUERTO BERRIO,	1.33	258	eP	Pn	05 47 09.5	-1.4

PTBC			*e*S	Sn	05 47 31.0	-1.0	
PTBC			*i*		05 47 36.8		
	comp=Z,41nm,0.6s						
TAMC	**Tame, Arauca**	**1.39 106**	*e*P	Pn	05 47 11.2	-0.4	
TAMC			*i*		05 47 31.9		
	comp=Z,16nm,0.3s						
TAMC			*e*S	Sn	05 47 32.9	-0.2	
OCAC	**Ocana**	**1.43 353**	*e*P	Pn	05 47 11.8	-0.3	
OCAC			*e*S	Sn	05 47 33.2	-0.8	
OCAC			*i*		05 47 36.4		
	comp=Z,21nm,0.4s						
SPBC	**San Pablo de B**	**1.48 219**	*e*P	Pn	05 47 11.9	-0.7	
SPBC			*e*S	Sn	05 47 34.3	-0.6	
SPBC			*i*		05 47 39.7		
	comp=Z,46nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.83 292**	*e*P	Pn	05 47 15.4	-0.9	
ZARC			*e*S	Sn	05 47 41.4	-0.1	
ZARC			*i*		05 47 49.5		
	comp=Z,29nm,0.3s						
NORC	**Norcasia**	**2.12 234**	*e*P	Pn	05 47 18.9	-0.9	
NORC			*e*S	Sn	05 47 46.6	-1.1	
NORC			*i*		05 47 53.2		
	comp=Z,28nm,0.3s						
SMLC	**San Martn de**	**2.18 335**	*e*P	Pn	05 47 19.9	-0.5	
SMLC			*e*S	Sn	05 47 47.8	-1.1	
SMLC			*i*		05 47 58.4		
	comp=Z,22nm,0.1s						
ROSC	**El Rosal**	**2.29 211**	*e*P	Pn	05 47 22.6	+0.5	
ROSC			*e*S	Sn	05 47 51.3	-0.6	
ROSC			*i*		05 48 00.7		
	comp=Z,33nm,0.3s						
HELC	**Santa Helena**	**2.45 255**	*e*P	Pn	05 47 24.3	+0.2	
HELC			*e*S	Sn	05 47 56.7	+1.4	
HELC			*i*		05 48 01.8		
	comp=Z,14nm,0.5s						
UREC	**San Jos de Ur**	**2.55 292**	*e*P	Pn	05 47 22.9	-2.0	
GUY2C	**Guyana, Caldas**	**2.72 235**	*e*P	Pn	05 47 28.0	+0.5	
GUY2C			*e*S	Sn	05 48 04.7	+3.2	
GUY2C			*i*		05 48 05.9		
	comp=Z,20nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.79 159**	*e*P	Pn	05 47 25.9	-2.0	
PTGC			*e*S	Sn	05 47 59.2	-3.1	
PTGC			*i*		05 47 59.9		
	comp=Z,8.6nm,0.3s						
RREF	**El Recreo**	**2.90 229**	*e*P	Pn	05 47 30.2	+0.2	
CBOC	**Ciudad Bolivar**	**3.01 252**	*e*P	Pn	05 47 30.8	-0.1	
DBBC	**Dabeiba**	**3.05 274**	*e*P	Pn	05 47 30.6	-0.8	
DBBC			*e*S	Sn	05 48 08.3	-0.1	
DBBC			*i*		05 48 10.8		
	comp=Z,22nm,0.3s						
TOLC	**Tolima**	**3.10 224**	*e*P	Pn	05 47 31.9	-0.3	
TOLC			*e*S	Sn	05 48 11.7	+1.7	
TOLC			*i*		05 48 14.6		
	comp=Z,28nm,0.9s						
MOTC	**Monteria, Cord**	**3.17 308**	*e*P	Pn	05 47 30.4	-2.4	
MOTC			*e*S	Sn	05 48 09.1	-2.0	
MOTC			*i*		05 48 12.1		
	comp=Z,3.7nm,0.4s						
ANIL	**Santa Ana**	**3.23 224**	*e*P	Pn	05 47 34.5	+0.7	
ANIL			*e*S	Sn	05 48 14.3	+1.6	
ANIL			*i*		05 48 20.8		
	comp=Z,2.8nm,0.4s						
SDV	**Santo Domingo**	**3.23 50**	*e*P	Pn	05 47 32.5	-1.2	
SDV			*e*S	Sn	05 48 10.2	-2.4	
PRAC	**Prado**	**3.54 210**	*e*P	Pn	05 47 36.6	-1.0	
PRAC			*e*S	Sn	05 48 19.4	-0.2	
PRAC			*i*		05 48 23.8		
	comp=Z,11nm,0.3s						
ORTC	**Ortega, Tolima**	**3.57 216**	*e*P	Pn	05 47 37.6	-0.4	
ORTC			*e*S	Sn	05 48 20.4	0.0	
ORTC			*i*		05 48 26.0		
	comp=Z,9.1nm,0.4s						

RSNC 15 05:47:39.7±0.6, 5°43'N×76°05'W, h51km±7km, ML1.7,1C, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOC	**Ciudad Bolivar**	**0.43**	**6**	*e*P	Pn	05 47 50.0	-0.5
CBOC				*e*S	Sn	05 47 58.1	-0.1
CBOC				*i*		05 47 59.3	
	comp=Z,31nm,0.2s						
PLMC	**San Jos del P**	**0.57**	**204**	*e*P	Pn	05 47 51.0	-0.9
PLMC				*e*S	Sn	05 48 00.7	-0.1
PLMC				*i*		05 48 01.5	
	comp=Z,80nm,0.2s						
RREF	**El Recreo**	**0.88**	**127**	*e*P	Pn	05 47 56.5	+0.1
RREF				*e*S	Sn	05 48 08.6	0.0
RREF				*i*		05 48 13.5	
	comp=Z,18nm,0.3s						
RREF	**El Recreo**	**0.88**	**127**	*e*S	Sn	05 48 08.3	-0.3
RREF				*i*		05 48 13.5	
	comp=Z,18nm,0.3s						
YOTC	**Yotoco, Valle**	**1.47**	**191**	*e*P	Pn	05 48 03.2	-0.7
YOTC				*e*S	Sn	05 48 21.8	-0.2
YOTC				*i*		05 48 23.0	
	comp=Z,3.9nm,0.5s						

IDC 15 05:48:36.3±6.4, 17°76S×176°85W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/19, mbtmp3.7/2, Error ellipse: s-maj=314.2km s-min=46.7km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.12**	**259**	P	P	05 57 02.5	-0.4
	0.5nm,0.7s,baz=96,slow=7.9,SNR=4.8						
ASAR	**Alice Springs**	**46.26**	**254**	P	P	05 57 04.1	+0.2
	0.8nm,0.5s,baz=89,slow=8.2,SNR=18						
BRTR	**Keskin Array B**	**145.72**	**316**	PKPbc	PKPdf	06 08 15.8	-1.6
	0.5nm,0.5s,baz=32,slow=5.4,SNR=2.4						
GERES	**GERESS Array B**	**147.83**	**347**	PKPbc	PKPbc	06 08 23.3	-0.1
	0.4nm,0.5s,baz=29,slow=2.2,SNR=4.9						

IDC 15 06:01:15.8±53.0, 17°71S×163°87E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/30, mbtmp3.7/3, Error ellipse: s-maj=893.1km s-min=107.8km az=68.0, New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**24.59**	**231**	P	P	06 06 38.4	+0.6
	0.5nm,0.4s,baz=43,slow=8.9,SNR=1.2						
WRA	**Warramunga Arr**	**28.02**	**261**	P	P	06 07 08.1	-0.8
	0.3nm,0.7s,baz=94,slow=8.1,SNR=8.9						
ASAR	**Alice Springs**	**28.62**	**253**	P	P	06 07 14.5	+0.3
	1.6nm,0.4s,baz=77,slow=9.4,SNR=45						

*SKO **15** 06:09:14.6, 39°92N×19°64E, h55km*
*THE **15** 06:09:18.1, 40°10N×19°91E, h0km±3km, ML2.1/6, Error ellipse: s-maj=3.4km s-min=0.6km az=311.0*
*ATH **15** 06:09:18.7, 40°09N×19°94E, h6km±2km, ML2.1/10, Error ellipse: s-maj=2.8km s-min=0.8km az=222.0*
*TIR **15** 06:09:18.6, 40°06N×20°05E, h3km±2km, Md2.6*

ISC 15 06:09:18.4±0.9, 40°07N±0°02×19°92E±0°02, h15km±7km, n44, σ1§56/70, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.20**	**161**	P	**Pg**	**06 09 22.5**	**-0.6**
SRN				S	**Sg**	**06 09 26.8**	**+0.7**
	682nm,0.3s						
SRN	**Sarande**	**0.20**	**161**	P	**Pg**	**06 09 22.4**	**-0.6**
	baz=191						
SRN				S	**Sg**	**06 09 26.3**	**+0.2**
	baz=191						
KASA	**Kassiopi**	**0.32**	**177**	P	**Pg**	**06 09 24.8**	**-0.3**
KASA				S	**Sg**	**06 09 30.3**	**+0.7**
KASA				AML	AML	06 09 32.7	
	comp=E,1588μm,0.4s						
KASA				AML	AML	06 09 33.3	
	comp=N,1332μm,0.3s						
KEK	**Kerkira**	**0.36**	**194**	P	**Pg**	**06 09 25.7**	**-0.2**
KEK				S	**Sg**	**06 09 31.6**	**+0.7**
KEK				AML	AML	06 09 34.1	
	comp=N,751μm,0.2s						
KEK				AML	AML	06 09 36.2	
	comp=E,1159μm,0.4s						
KEK	**Kerkira**	**0.36**	**194**	P	**Pg**	**06 09 25.6**	**-0.3**
KEK				S	**Sg**	**06 09 31.6**	**+0.7**
	comp=E,568nm,0.3s						

VLO	**Vlora**	**0.51**	**321**	P	**Pn**	**06 09 31.3**	**+0.1**
	baz=315						
VLO				S	**Sn**	**06 09 40.4**	**+0.7**
	baz=315						
LSK	**Leskovik**	**0.53**	**81**	P	**Pg**	**06 09 27.9**	**-1.1**
LSK				S	**Sb**	**06 09 36.2**	**-0.8**
	comp=E,218nm,0.3s						
LSK	**Leskovik**	**0.53**	**81**	P	**Pg**	**06 09 27.9**	**-1.1**
	baz=77						
LSK				S	**Sb**	**06 09 35.7**	**-1.3**
	baz=77						
IGT	**Igoumenitsa**	**0.62**	**149**	P	**Pg**	**06 09 30.4**	**-0.2**
IGT				S	**Sb**	**06 09 39.4**	**-0.1**
IGT				AML	AML	06 09 46.5	
	comp=N,317μm,0.4s						
IGT				AML	AML	06 09 48.0	
	comp=E,240μm,0.4s						
IGT	**Igoumenitsa**	**0.62**	**149**	P	**Pg**	**06 09 30.5**	**-0.2**
IGT				S	**Sb**	**06 09 39.8**	**+0.3**
	comp=E,140nm,0.4s						
IGT	**Igoumenitsa**	**0.62**	**149**	*i* Pg	**Pg**	**06 09 30.2**	**-0.5**
IGT				*i* Sg	**Sb**	**06 09 40.6**	**+1.0**
JAN	**Janina**	**0.83**	**119**	P	**Pb**	**06 09 34.4**	**-0.1**
JAN				AML	AML	06 09 51.3	
	comp=E,468μm,0.5s						
JAN				AML	AML	06 09 51.7	
	comp=N,370μm,0.6s						
JAN	**Janina**	**0.83**	**119**	P	**Pb**	**06 09 34.5**	**0.0**
JAN				S	**Sb**	**06 09 46.4**	**+0.9**
	comp=N,205nm,0.3s						
KBN	**Korca**	**0.87**	**50**	P	**Pb**	**06 09 34.8**	**-0.5**
	baz=44						
KBN				S	**Sn**	**06 09 47.9**	**-0.7**
	baz=44						
NEST	**Nestorio**	**0.94**	**68**	P	**Pb**	**06 09 35.9**	**-0.5**
NEST				S	**Sb**	**06 09 48.3**	**-0.4**
NEST				AML	AML	06 09 55.8	
	comp=N,129μm,0.8s						
NEST				AML	AML	06 09 57.9	
	comp=E,186μm,0.4s						
PENT	**Pentalofos**	**0.95**	**82**	P	**Pb**	**06 09 35.8**	**-0.8**
PENT				AML	AML	06 09 58.6	
	comp=N,142μm,0.3s						
PENT				AML	AML	06 09 58.8	
	comp=E,245μm,0.5s						
PENT	**Pentalofos**	**0.95**	**82**	P	**Pb**	**06 09 35.8**	**-0.8**
PENT				S	**Sn**	**06 09 49.9**	**-0.6**
	comp=E,95nm,0.4s						
SCTE	**Santa Cesarea**	**1.11**	**271**	P	**Pb**	**06 09 39.8**	**+0.5**
SCTE				S	**Sg**	**06 09 55.4**	**+1.0**
SCTE				AML	AML	06 09 55.9	
	comp=E,105μm,0.3s						
SCTE				AML	AML	06 09 57.2	
	comp=N,118μm,0.3s						
KPRO	**Kipourio**	**1.12**	**95**	P	**Pn**	**06 09 39.8**	**+0.2**
KPRO				AML	AML	06 10 00.6	
	comp=E,303μm,0.5s						
KPRO				AML	AML	06 10 01.6	
	comp=N,137μm,0.3s						
OHR	**Ohrid**	**1.24**	**33**	*i* Pg	**Pg**	**06 09 44.0**	**+1.6**
OHR				*i* Sg	**Sn**	**06 10 01.8**	**+4.0**
TIR	**Tirane**	**1.28**	**358**	P	**Pg**	**06 09 45.2**	**+2.0**
	baz=354						
TIR				S	**Sn**	**06 10 04.5**	**+5.9**
	baz=354						
FNA	**Florina**	**1.32**	**57**	P	**Pg**	**06 09 43.0**	**-1.0**
FNA				AML	AML	06 10 07.6	
	comp=N,232μm,0.3s						
FNA				AML	AML	06 10 07.8	
	comp=E,147μm,0.4s						
FNA	**Florina**	**1.32**	**57**	P	**Pg**	**06 09 43.0**	**-1.0**
FNA	**Florina**	**1.32**	**57**	*i* Pg	**Pg**	**06 09 42.8**	**-1.2**
FNA				*i* Sg	**Sn**	**06 10 05.4**	**+5.6**
TSLK	**Tsoukalades, L**	**1.37**	**155**	P	**Pb**	**06 09 43.9**	**+0.2**
LKD2	**Lefkada island**	**1.40**	**156**	P	**Pg**	**06 09 44.9**	**-0.5**
KZN	**Kozani**	**1.44**	**80**	P	**Pg**	**06 09 45.0**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.48**	**156**	P	**Pb**	**06 09 46.0**	**+0.4**
EVGI	**Lefkada island**	**1.55**	**158**	P	**Pb**	**06 09 47.5**	**+0.6**
PHP	**Peshkopia**	**1.67**	**14**	P	**Pg**	**06 09 50.1**	**-0.3**
	baz=10.0						
PHP				S	**Sg**	**06 10 14.5**	**+2.4**
	baz=10.0						
FSK	**Fiskardo**	**1.68**	**162**	P	**Pb**	**06 09 49.5**	**+0.5**
THL	**Klokotos Trika**	**1.69**	**107**	P	**Pb**	**06 09 49.3**	**+0.1**
THL				AML	AML	06 10 14.2	
	comp=E,74μm,0.5s						
THL				AML	AML	06 10 15.2	
	comp=N,77μm,0.7s						
PDO	**Prodromos**	**1.77**	**146**	P	**Pb**	**06 09 51.1**	**+0.6**
AGG	**Agios Georgios**	**2.14**	**118**	P	**Pb**	**06 09 56.8**	**0.0**
PRZK	**Prizren**	**2.23**	**16**	*i* Pg	**Pb**	**06 09 58.5**	**0.0**
STIP	**Stip**	**2.37**	**46**	*i* Pn	**Pg**	**06 10 01.5**	**-2.4**
STON	**Ston**	**3.26**	**330**	*e*Pn	**Pn**	**06 10 06.9**	**-2.1**
STON					**Sn**	**06 10 43.8**	**-3.7**
RICI	**Ricice**	**4.01**	**330**	*i* Pn	**Pn**	**06 10 18.4**	**-0.8**
RICI					**Sn**	**06 11 05.0**	**-0.9**
KIJV	**Kijevo**	**4.72**	**328**	*e*Pn	**Pn**	**06 10 28.6**	**-0.6**
ZIRJ	**Zirje**	**4.80**	**320**	*e*Pn	**Pn**	**06 10 29.5**	**-0.6**
ZIRJ					**Sn**	**06 11 22.3**	**-3.0**
MORI	**Morici**	**4.92**	**322**	*e*Pn	**Pn**	**06 10 31.1**	**-0.7**
MORI					**Sn**	**06 11 26.9**	**-1.6**
DUGI	**Dugi Otok**	**5.33**	**319**	*e*Pn	**Pn**	**06 10 37.1**	**-0.4**
DUGI					**Sn**	**06 11 36.9**	**-1.7**
UDBI	**Udbina**	**5.42**	**327**	*e*Pn	**Pn**	**06 10 39.4**	**+0.8**
NVLJ	**Novalja**	**5.84**	**322**	*e*Pn	**Pn**	**06 10 44.2**	**-0.3**
NVLJ					**Sn**	**06 11 48.9**	**-2.2**

*IDC **15** 06:09:29.5±0.7, 55°42S×27°45W, h0km, mb4.3/9, mb1 4.3/10, mb1mx4.1/21, mbtmp4.3/10, ML4.1/1, Error ellipse: s-maj=22.8km s-min=19.0km az=75.0*
*NEIC **15** 06:09:31.8±2.2, 55°3S±0°1×27°16W±0°08, h10km±1km, mb4.6/19, Error ellipse: s-maj=21.8km s-min=7.4km az=187.0*

ISC 15 06:09:31.3±0.5, 55°42S±0°09×27°28W±0°09, h10km, n49, σ1§11/51, mb4.4/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.44**	**278**	Pn	Pn	**06 10 53.4**	**+1.1**
VNA1	**Neumayer--Stat**	**17.40**	**159**	P	**Pn**	**06 13 34.7**	**+1.0**
VNA3	**Neumayer Olymp**	**17.61**	**161**	P	**P**	**06 13 37.6**	**+0.2**
VNA2	**Neumayer--Watz**	**17.80**	**159**	P	**P**	**06 13 40.4**	**+1.0**
	baz=317,slow=15						
SNAA	**Sanae**	**19.34**	**157**	P	**Pn**	**06 13 58.0**	**+0.5**
SNAA	**Sanae**	**19.34**	**157**	P	**P**	**06 13 56.0**	**-0.5**
	0.6nm,0.3s,baz=285,slow=11,SNR=17						
SNAA	**Sanae**	**19.34**	**157**	P	**P**	**06 13 56.6**	**+0.1**
PMSA	**Palmer Station**	**20.28**	**228**	P	**P**	**06 14 04.1**	**-2.6**
	13nm,0.4s,baz=59,slow=22,SNR=14						
PMSA	**Palmer Station**	**20.28**	**228**	P	**P**	**06 14 04.9**	**-1.7**
BELA	**Belgrano 2**	**22.70**	**184**	P	**P**	**06 14 31.2**	**-1.4**
USHA	**Ushuaia**	**23.30**	**254**	P	**P**	**06 14 36.5**	**-2.4**
	52nm,0.5s,baz=204,slow=0.7,SNR=3.5						
GO09	**Cerro Castillo**	**26.85**	**260**	P	**P**	**06 15 11.7**	**+0.1**
GO09				IAmb	IAmb	06 15 14.4	
	comp=Z,8.1nm,1.0s						
QSPA	**South Pole Qui**	**34.83**	**180**	P	**P**	**06 16 22.4**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=349,slow=1.0,SNR=28						
QSPA	**South Pole Qui**	**34.83**	**180**	P	**P**	**06 16 22.5**	**+0.4**
QSPA				IAmb	IAmb	06 16 26.6	
	comp=Z,3.6nm,0.7s						
CPUP	**Villa Florida**	**36.36**	**311**	P	**P**	**06 16 34.5**	**-0.8**
	comp=Z,2.7nm,1.1s,baz=128,slow=3.9,SNR=4.8						
CPUP	**Villa Florida**	**36.36**	**311**	P	**P**	**06 16 34.6**	**-0.8**
PEL	**Peldehue**	**37.39**	**288**	P	**P**	**06 16 45.5**	**+1.5**
MT02	**Curacav**	**37.54**	**288**	P	**P**	**06 16 46.0**	**+0.6**
ZON	**Zonda**	**37.55**	**292**	P	**P**	**06 16 45.9**	**+0.4**
ZON				IAmb	IAmb	06 16 46.5	
	comp=Z,5.9nm,0.7s						
VA03	**San Esteban**	**37.60**	**289**	P	**P**	**06 16 47.5**	**+1.5**
VA03				IAmb	IAmb	06 16 53.8	
	comp=Z,16nm,0.8s						
CO02	**Combarbal**	**39.05**	**290**	P	**P**	**06 16 59.4**	**+1.2**
CO02				IAmb	IAmb	06 17 12.3	
	comp=Z,31nm,1.1s						
CO01	**Juntas del Tor**	**39.53**	**292**	P	**P**	**06 17 05.1**	**+2.8**
CO01				IAmb	IAmb	06 17 13.8	
	comp=Z,25nm,1.4s						
AC05	**El Transito**	**40.53**	**293**	P	**P**	**06 17 12.3**	**+1.8**
AC05				IAmb	IAmb	06 17 28.6	
	comp=Z,17nm,1.1s						
BOSA	**Boshof**	**45.87**	**76**	P	**P**	**06 17 54.1**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=196,slow=7.4,SNR=1.4						

VNDA	**Vanda**	**47.20**	**183**	P	**P**	**06 18 03.5**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=185,slow=7.2,SNR=18						
VNDA	**Vanda**	**47.20**	**183**	P	**P**	**06 18 03.8**	**+0.4**
VNDA				IAmb	IAmb	06 18 05.3	
	comp=Z,2.7nm,0.8s						
LBTB	**Lobatse**	**48.88**	**74**	P	**P**	**06 18 15.8**	**-1.3**
LBTB				IAmb	IAmb	06 18 26.5	
	comp=Z,14nm,1.5s						
LPAZ	**La Paz**	**49.97**	**305**	P	**P**	**06 18 26.1**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=127,slow=5.2,SNR=9.9						
SAML	**Samuel**	**54.32**	**314**	P	**P**	**06 18 58.2**	**+0.5**
SAML				IAmb	IAmb	06 19 10.3	
	comp=Z,5.2nm,1.2s						
CASY	**Casey**	**54.52**	**161**	P	**P**	**06 19 00.0**	**+1.4**
TOA0	**Torodi Ar. Sit**	**72.53**	**30**	P	**P**	**06 20 56.9**	**-1.2**
TOA0				IAmb	IAmb	06 21 05.2	
	comp=Z,5.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**72.53**	**30**	P	**P**	**06 20 56.5**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=191,slow=5.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**72.53**	**30**	P	**P**	**06 20 56.9**	**-1.2**
ASAR	**Alice Springs**	**99.61**	**163**	P	**Pdif**	**06 23 13.4**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=189,slow=4.7,SNR=1.7						
FINES	**FINESS Array B**	**123.85**	**28**	PKP	**PKiKP**	**06 28 28.4**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=309,slow=6.6,SNR=2.3						
YKA	**Yellowknife Ar**	**135.66**	**318**	PKP	**PKPdf**	**06 28 49.6**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=117,slow=3.1,SNR=6.0						
INK	**Inuvik**	**145.28**	**321**		**PKPdf**	**06 29 08.7**	**+1.2**
DAWY	**Dawson**	**146.33**	**313**		**PKPbc**	**06 29 10.8**	**0.0**
BCAR	**Beaver Creek A**	**147.05**	**310**		**PKPab**	**06 29 14.0**	**-0.4**
K27K	**Chicken**	**147.45**	**312**		**PKPbc**	**06 29 14.6**	**+0.7**
DOT	**Dot Lake**	**148.19**	**311**		**PKiKP**	**06 29 16.6**	**-1.0**
KLU	**Klutina**	**148.42**	**306**	PKPdf	**PKPdf**	**06 29 13.3**	**+0.2**
KLU					**sPKPbc**	**06 29 17.8**	**+0.1**
IL31		**149.65**	**312**		**PKiKP**	**06 29 20.8**	**+0.3**
ILAR	**Eielson Array**	**149.65**	**312**	PKPbc	**PKPbc**	**06 29 19.2**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=130,slow=1.8,SNR=24						
ILAR	**Eielson Array**	**149.65**	**312**	PKPdf	**PKPdf**	**06 29 16.5**	**+1.7**
ILAR					**pPKPbc**	**06 29 20.2**	**-0.1**
SONM	**Songino Array**	**150.73**	**85**	PKPbc	**PKiKP**	**06 29 23.5**	**0.0**
	comp=Z,0.8nm,0.6s,baz=223,slow=2.4,SNR=7.6						
SONM	**Songino Array**	**150.73**	**85**		**PKiKP**	**06 29 24.1**	**+0.6**
TOLK	**Toolik Lake Re**	**151.16**	**320**		**PKiKP**	**06 29 23.8**	**+0.2**
BPAW	**Bear Paw Mtn.**	**151.29**	**310**		**PKiKP**	**06 29 23.6**	**-0.4**

*TEH **15** 06:24:29.9, 38°07N×49°07E, h9km, ML3.2*
*THR **15** 06:24:34.2±0.3, 37°87N×49°04E, h17km±7km, ML3.4*
*AZER **15** 06:24:34.0±0.1, 38°13N×48°87E, h39km, ml3.1/19, Error ellipse: s-maj=2.1km s-min=0.7km az=38.0*

ISC 15 06:24:33.1±1.3, 38°01N±0°03×49°01E±0°04, h20km±5km, n52, σ1§40/69, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASTR	**Astara**	**0.58**	**343**	P	**Pg**	**06 24 45.0**	**+0.2**
	SNR=87						
ASTR				S	**Sg**	**06 24 53.7**	**+1.2**
LKRN	**Lenkeran, Azer**	**0.72**	**345**	P	**Pb**	**06 24 46.7**	**-0.4**
	SNR=18						
LKRN				S	**Sb**	**06 24 57.8**	**+1.1**
LRK	**Lerik**	**0.83**	**320**	P	**Pb**	**06 24 48.4**	**-0.5**
	SNR=108						
LRK				S	**Sb**	**06 24 59.8**	**0.0**
ISRB	**Sarab**	**1.08**	**261**	*e*Pg	**Pb**	**06 24 52.8**	**-0.5**
YRD	**Yardimli**	**1.09**	**327**	P	**Pn**	**06 24 52.5**	**-1.0**
	SNR=206						
YRD				S	**Sb**	**06 25 06.0**	**-1.4**
ZNJK	**Zanjan**	**1.36**	**191**	*e*Pg	**Pb**	**06 24 57.1**	**-1.0**
ZNJK				*e*Sg	**Sg**	**06 25 13.9**	**-3.4**
ZNJK				IAML		06 25 18.5	
	comp=N,453nm,0.3s						
ZNJK	**Zanjan**	**1.36**	**191**	*e*Pg	**Pb**	**06 24 57.1**	**-1.0**
IHSH	**Hashtrud**	**1.56**	**244**	*e*Pg	**Pn**	**06 25 00.6**	**+0.6**
IHRS	**Heris**	**1.58**	**282**	*e*Pg	**Pn**	**06 25 00.2**	**-0.1**
IHRS				*e*		06 25 24.7	
	comp=Z,99nm,0.2s						
IGZV	**Ghazvin**	**1.88**	**149**	*e*		06 25 38.1	
	comp=Z,99nm,0.3s						
IGZV				*e*Pn	**Pn**	**06 25 04.3**	**-0.1**
QRD	**Qoradiz**	**1.96**	**318**	P	**Pn**	**06 25 04.8**	**-0.5**
	SNR=9.7						
QRD				S	**Sn**	**06 25 28.0**	**-1.4**
QALM	**Alamut, Qazvin**	**2.04**	**140**	*e*		06 25 42.8	
	comp=Z,99nm,0.3s						
QALM				*e*Pn	**Pn**	**06 25 05.7**	**-0.9**
BLQ	**Beylaqan**	**2.05**	**327**	P	**Pn**	**06 25 06.3**	**-0.2**
BLQ				S	**Sn**	**06 25 31.1**	**-0.5**
QABG	**Abgarm-Qazvin**	**2.34**	**169**	*e*	**Sn**	**06 25 40.4**	**+1.4**
	comp=Z,99nm,0.3s						
ZRD	**Zardab**	**2.49**	**336**	P	**Pn**	**06 25 12.8**	**+0.3**
ZRD				S	**Sn**	**06 25 43.9**	**+1.5**
ORD	**Ordubad**	**2.54**	**292**	P	**Pn**	**06 25 13.8**	**+0.4**
	SNR=10						
ORD				S	**Sn**	**06 25 43.8**	**0.0**
THKV	**Tehran--Karaj**	**2.57**	**144**	*e*Pn	**Pn**	**06 25 15.5**	**+1.7**
THKV	**Tehran--Karaj**	**2.57**	**144**	*e*Pn	**Pn**	**06 25 15.5**	**+1.7**
AGDM	**Agdam**	**2.57**	**325**	P	**Pn**	**06 25 14.7**	**+1.0**
AGDM				S	**Sn**	**06 25 42.8**	**-1.5**
IMHD	**Mahdasht**	**2.67**	**150**	*e*Pn	**Pn**	**06 25 15.6**	**+0.4**
IMHD				*e*		06 25 17.7	
	comp=Z,99nm,0.2s						
CHTH	**Charan**	**2.69**	**140**	*e*Pn	**Pn**	**06 25 17.5**	**+1.9**
CHTH	**Charan**	**2.69**	**140**	*e*Pn	**Pn**	**06 25 17.5**	**+1.9**
IMRD	**Marand**	**2.70**	**286**	*e*Pn	**Pn**	**06 25 18.2**	**+2.6**
IRAZ	**Razeghan**	**2.70**	**164**	*e*Pn	**Pn**	**06 25 15.7**	**0.0**
IRAZ				*e*		06 26 07.3	
	comp=Z,99nm,0.7s						
PQL	**Pirkuli**	**2.80**	**353**	P	**Pn**	**06 25 18.6**	**+1.7**
PQL				S	**Sn**	**06 25 49.5**	**-0.7**

GSI	**Gunungsitoli**	**1.58**	**295**	Pn		**Pn**	**06 49 36.2**	**+1.5**
GSI	**Gununggsitoli**	**1.58**	**295**	P		**Pn**	**06 49 36.1**	**+1.4**
RPSI	**Rantau Prapat**	**2.04**	**358**	Pn		**Pn**	**06 49 42.6**	**+1.8**
RPSI	**Rantau Prapat**	**2.04**	**358**			**Pn**	**06 49 42.9**	**+2.1**
RPSI						**Sn**	**06 50 03.0**	**-2.4**
BKNI	**Bangkinang**	**2.05**	**99**			**Pn**	**06 49 42.9**	**+2.0**
BKNI	**Bangkinang**	**2.05**	**99**	P		**Pn**	**06 49 42.3**	**+1.3**
PSI	**Prapat**	**2.14**	**358**	P		**Pn**	**06 49 42.9**	**+0.5**
	24nm,0.3s,baz=180,slow=9.0,SNR=59							
PSI				S		**Sn**	**06 50 03.0**	**-5.1**
	12nm,0.3s,baz=180,slow=11,SNR=11							
TSI	**Tuntungan**	**2.87**	**351**	P		**Pn**	**06 49 53.6**	**+1.5**
TPTI		**3.18**	**325**	P		**Pn**	**06 49 57.7**	**+1.5**
TPTI				S		**Sn**	**06 50 33.4**	**+0.4**
IPM	**Ipoh**	**4.31**	**28**	Pn		**Pn**	**06 50 14.8**	**+3.1**
KULM	**Kulim**	**4.90**	**19**	Pn		**Pn**	**06 50 21.8**	**+2.1**
MYKOM	**Kota Tinggi**	**4.97**	**77**			**Pn**	**06 50 22.5**	**+1.9**
MNAI	**Manna**	**6.34**	**142**	Pn		**Pn**	**06 50 41.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**17.70**	**360**	P		**P**	**06 53 10.4**	**+0.5**
	0.7nm,0.3s,baz=192,slow=11,SNR=16							
CHTO	**Chiang Mai**	**18.06**	**360**	P		**P**	**06 53 13.8**	**-0.1**
WRA	**Warramunga Arr**	**40.21**	**123**	P		**P**	**06 56 36.0**	**-1.9**
	0.3nm,0.3s,baz=317,slow=9.9,SNR=5.7							
ASAR	**Alice Springs**	**41.62**	**128**	P		**P**	**06 56 46.8**	**-2.8**
	0.4nm,0.7s,baz=296,slow=7.6,SNR=5.8							
KSAR	**Wonju Array Be**	**45.27**	**33**	P		**P**	**06 57 18.5**	**-0.1**
SONM	**Songino Array**	**47.44**	**7**	P		**P**	**06 57 36.6**	**+1.0**
	3.9nm,0.6s,baz=188,slow=9.6,SNR=28							
SONM	**Songino Array**	**47.44**	**7**	P		**P**	**06 57 36.4**	**+0.9**
SONM				IAmb		IAmb	06 57 37.5	
	comp=Z,2.7nm,0.7s							
ULN	**Ulaanbaatar**	**47.55**	**7**	P		**P**	**06 57 37.3**	**+0.8**
ULN				IAmb		IAmb	06 57 38.3	
	comp=Z,2.8nm,0.7s							
MK31	**Makanchi Array**	**48.23**	**345**	P		**P**	**06 57 42.0**	**+0.4**
MK31				IAmb		IAmb	06 57 44.8	
	comp=Z,1.3nm,0.6s							
MKAR	**Makanchi Array**	**48.23**	**345**	P		**P**	**06 57 42.2**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=158,slow=8.2,SNR=45							
MKAR	**Makanchi Array**	**48.23**	**345**	P		**P**	**06 57 41.5**	**-0.1**
STKA	**Stephens Creek**	**51.65**	**133**	P		**P**	**06 58 05.6**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=315,slow=8.6,SNR=1.4							
ZAA0	**Zalesovo Array**	**54.41**	**350**	P		**P**	**06 58 28.0**	**+0.4**
ZAA0				IAmb		IAmb	06 58 48.5	
	comp=Z,1.8nm,0.6s							
ZALV	**Zalesovo Beam**	**54.41**	**350**	P		**P**	**06 58 27.8**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=157,slow=6.2,SNR=7.3							
ZALV	**Zalesovo Beam**	**54.41**	**350**	P		**P**	**06 58 27.0**	**-0.5**
ABKAR	**Akbulak array**	**58.86**	**331**	P		**P**	**06 58 59.3**	**0.0**
TIXI	**Tiksi**	**73.42**	**9**	P		**P**	**07 00 32.1**	**0.0**
TIXI				IAmb		IAmb	07 00 37.5	
	comp=Z,2.1nm,1.1s							
BOSA	**Boshof**	**76.08**	**240**	P		**P**	**07 00 49.3**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=58,slow=9.5,SNR=3.2							
BOSA	**Boshof**	**76.08**	**240**	P		**P**	**07 00 49.2**	**+0.7**
BURAR	**Bucovina Array**	**78.64**	**318**	P		**P**	**07 01 03.1**	**+0.8**
FINES	**FINESS Array B**	**81.33**	**322**	P		**P**	**07 01 16.2**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=98,slow=10.0,SNR=1.9							
CPUP	**Villa Florida**	**145.78**	**220**	PKPbc		**PKPdf**	**07 08 39.5**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=125,slow=5.8,SNR=6.1							
CPUP	**Villa Florida**	**145.78**	**220**			**PKPdf**	**07 08 40.1**	**+0.9**

ECX ***15*** *06:51:25.0±0.9, 30.°49N×113.°95W, h20km±13km, MD3.6, ML3.8*

IDC ***15*** *06:51:27.0±1.7, 30.°65N×113.°65W, h0km, mb3.8/3, mb1 3.6/9, mb1mx3.5/43, mbtmp3.4/9, ML3.3/6, MS3.8/1, Ms1 3.8/1, ms1mx2.8/49, Error ellipse: s-maj=28.0km s-min=11.6km az=30.0*

ISC 15 06:51:27.5±0.9, 30.°77N±0.°07×114.°09W±0.°05, h10km, n21, σ2s29/19, mb3.8/4, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.70**	**292**	*eP*	**Pg**	**06 51 41.5**	**+0.3**
SFX				*eS*	**Sn**	**06 51 54.0**	**-0.5**
BAHB	**Baha de los**	**0.94**	**151**	*eP*	**Pn**	**06 51 50.4**	**+3.6**
PIX	**Pinacate**	**0.95**	**34**	*eP*	**Pg**	**06 51 44.9**	**-1.0**
PIX				*eS*	**Sb**	**06 52 00.0**	**+1.2**
ECBX	**El Chinero**	**1.08**	**311**	*eP*	**Pb**	**06 51 46.3**	**-2.0**
ECBX				*eS*	**Sn**	**06 52 04.2**	**+0.5**
SPX	**San Pedro Mart**	**1.21**	**283**	*eP*	**Pb**	**06 51 49.0**	**-1.7**
SPX				IAML		06 52 20.6	
	comp=N,2μm,1.0s						
SPX				⇑*e*		06 52 20.6	
SPIG	**San Pedro Mart**	**1.21**	**283**	*eP*	**Pb**	**06 51 49.1**	**-1.7**
SQX	**San Quintin**	**1.55**	**263**	*eP*	**Pn**	**06 51 52.9**	**-2.2**
SQX				*eS*	**Sn**	**06 52 14.3**	**-1.0**
CPBX	**Cerro Prieto**	**1.94**	**328**	*e*		06 53 11.8	
CPBX				IAML		06 53 11.8	
	comp=N,2μm,1.3s						
CBX	**Cerro Bola**	**2.68**	**306**	IAML		06 53 09.0	
	comp=N,436nm,0.7s						
CBX				⇓*e*		06 53 09.0	
CBX				⇑*e*		06 53 14.9	
CBX				IAML		06 53 14.9	
	comp=E,456nm,0.9s						
HSIG		**3.24**	**122**	*eP*	Pn	06 52 11.5	-6.8
PFO	**Pinyon Flats O**	**3.47**	**325**	Pn	**Pb**	**06 52 26.9**	**-2.3**
	comp=E,0.2nm,0.3s,baz=144,slow=10,SNR=4.0						
PFO				Lg	Lg	06 53 32.2	
	comp=E,2.0nm,0.3s,baz=208,slow=7.8,SNR=4.0						
ANMO	**Albuquerque**	**7.65**	**55**	Pn	**Pn**	**06 53 17.4**	**-1.8**
	comp=E,0.2nm,0.3s,baz=231,slow=12,SNR=9.8						
ANMO				Lg	Lg	06 55 23.0	
	comp=E,0.2nm,0.3s,baz=137,slow=19,SNR=1.3						
NVAR	**Mina Array Bea**	**8.39**	**337**	Pn	Pn	06 53 35.0	+5.6
	comp=E,0.1nm,0.3s,baz=159,slow=15,SNR=2.9						
TXAR	**Lajitas Array**	**9.15**	**96**	Pn	**Pn**	**06 53 35.9**	**-3.7**
	comp=E,0.4nm,0.3s,baz=262,slow=16,SNR=17						
TXAR				Lg	Lg	06 56 05.2	
	comp=E,0.4nm,0.3s,baz=313,slow=15,SNR=3.4						
ELK	**Elko**	**10.00**	**355**	Pn	Pn	06 53 57.1	+5.8
	comp=E,0.1nm,0.3s,baz=167,slow=6.1,SNR=4.2						
PDAR	**Pinedale Array**	**12.51**	**16**	Pn	**Pn**	**06 54 29.6**	**+3.8**
	comp=E,0.1nm,0.3s,baz=178,slow=9.8,SNR=2.6						
PDAR				Lg	Lg	06 57 58.1	
	comp=E,0.0nm,0.3s,baz=188,slow=34,SNR=2.4						
CMIG	**Matias Romero**	**22.17**	**124**	P	**P**	**06 56 26.5**	**+2.8**
	comp=E,3.4nm,0.7s,baz=328,slow=12,SNR=4.7						
ULM	**Lac du Bonnet**	**23.77**	**30**	P	**P**	**06 56 38.8**	**-1.2**
	comp=E,1.7nm,0.8s,baz=216,slow=6.5,SNR=3.7						
KDAK	**Kodiak Island**	**37.74**	**327**	LR	LR	07 12 15.7	
	comp=E,130nm,21.4s,baz=117,slow=33						
ILAR	**Eielson Array**	**39.64**	**339**	P	**P**	**06 59 01.6**	**+2.5**
	comp=E,1.0nm,1.0s,baz=164,slow=7.9,SNR=6.6						
FINES	**FINESS Array B**	**82.60**	**18**	P	**P**	**07 03 51.0**	**+0.4**
	comp=E,2.2nm,1.1s,baz=306,slow=3.3,SNR=1.4						

ECX ***15*** *06:52:58.5±0.9, 30.°51N×113.°99W, h20km±20km, MD3.8, ML4.0*

IDC ***15*** *06:53:00.5±3.1, 30.°78N×113.°54W, h0km, mb3.7/2, mb1 3.9/8, mb1mx3.6/43, mbtmp3.6/8, ML3.3/5, MS3.8/4, Ms1 3.8/4, ms1mx3.3/43, Error ellipse: s-maj=51.5km s-min=15.3km az=38.0*

ISC 15 06:52:58.3±0.8, 30.°51N±0.°09×114.°15W±0.°06, h10km, n20, σ2s75/17, mb3.7/3, MS4.0/3, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAHB	**Baha de los**	**0.76**	**138**	*eP*	**Sn**	**06 53 26.1**	**-0.5**
SFX	**San Felipe**	**0.80**	**311**	*eP*	**Pb**	**06 53 14.5**	**+0.2**
SFX				*eS*	**Sb**	**06 53 26.5**	**+1.4**
PIX	**Pinacate**	**1.20**	**29**	*eP*	**Pn**	**06 53 17.8**	**-3.4**
ECBX	**El Chinero**	**1.23**	**321**	*eP*	**Pn**	**06 53 17.4**	**-4.1**
ECBX				*eS*	**Sb**	**06 53 34.0**	**-3.7**
SPX	**San Pedro Mart**	**1.25**	**295**	*eP*	**Pg**	**06 53 22.5**	**+0.2**
SPX				⇑*e*		06 53 53.4	
SPX				IAML		06 53 53.4	
	comp=N,2μm,0.8s						
SPX				⇑*e*		06 54 01.2	
SPX				IAML		06 54 01.2	
	comp=E,2μm,1.3s						
SQX	**San Quintin**	**1.49**	**273**	*eP*	**Pg**	**06 53 25.9**	**-1.0**
SQX				*eS*	**Sg**	**06 53 46.9**	**+0.7**
CBX	**Cerro Bola**	**2.80**	**311**	IAML		06 54 48.2	
	comp=E,690nm,0.8s						
CBX				⇓*e*		06 54 48.2	
CBX				IAML		06 54 50.0	
	comp=N,775nm,0.9s						
CBX				⇓*e*		06 54 50.0	
PFO	**Pinyon Flats O**	**3.66**	**328**	Lg	Lg	06 54 59.6	
	comp=N,1.2nm,0.3s,baz=217,slow=3.7,SNR=1.1						
ANMO	**Albuquerque**	**7.84**	**54**	Pn	Pn	06 54 46.9	-5.8
	comp=N,0.3nm,0.3s,baz=227,slow=13,SNR=2.0						
ANMO				Lg	Lg	06 56 58.4	
	baz=207,slow=17,SNR=0.9						
NVAR	**Mina Array Bea**	**8.61**	**338**	Pn	**Pn**	**06 55 06.3**	**+3.2**
	comp=N,0.0nm,0.3s,baz=161,slow=14,SNR=1.3						
TXAR	**Lajitas Array**	**9.17**	**95**	Pn	**Pn**	**06 55 08.6**	**-2.3**
	comp=N,1.5nm,0.3s,baz=262,slow=16,SNR=7.4						
TXAR				LR	LR	06 58 46.0	
	comp=N,409nm,18.0s,baz=0.0,slow=40						
ELK	**Elko**	**10.25**	**355**	Pn	**Pn**	**06 55 29.8**	**+4.1**
	comp=N,0.1nm,0.3s,baz=171,slow=12,SNR=2.5						
PDAR	**Pinedale Array**	**12.77**	**15**	Pn	**Pn**	**06 56 00.9**	**+0.8**
	comp=N,0.1nm,0.3s,baz=187,slow=12,SNR=1.7						
PDAR				Lg	Lg	06 59 37.4	
	comp=N,0.0nm,0.3s,baz=186,slow=24,SNR=1.4						
NEW	**Newport**	**17.87**	**354**	P	**P**	**06 57 08.2**	**+0.5**
	comp=N,0.2nm,0.3s,baz=184,slow=11,SNR=4.2						
CMIG	**Matias Romero**	**22.07**	**123**	P	**P**	**06 57 57.7**	**+4.2**
	comp=N,6.5nm,1.1s,baz=325,slow=11,SNR=4.2						
ULM	**Lac du Bonnet**	**24.02**	**30**	P	**P**	**06 58 11.6**	**-1.6**
	comp=N,0.6nm,0.4s,baz=208,slow=10,SNR=2.1						
APG	**El Apazote**	**26.66**	**120**	LR	LR	07 09 01.3	
	comp=N,139nm,21.1s,baz=280,slow=36						
INK	**Inuvik**	**39.50**	**349**	LR	LR	07 17 18.7	
	comp=N,244nm,19.0s,baz=86,slow=37						
ILAR	**Eielson Array**	**39.87**	**339**	P	**P**	**07 00 34.6**	**+2.8**
	comp=N,2.0nm,1.0s,baz=143,slow=7.7,SNR=4.5						
RAR	**Rarotonga**	**67.58**	**226**	LR	LR	07 25 20.3	
	comp=N,113nm,21.6s,baz=37,slow=28						

IDC 15 07:04:01.8±2.2, 6.°13S×151.°81E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/47, mbtmp3.7/5, ML1.6/1, Error ellipse: s-maj=122.5km s-min=28.2km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.64**	**234**	Pn	Pn	07 05 27.6	+0.6
	1.1nm,0.3s,baz=248,slow=24,SNR=1.3						
PMG				Sn	Sn	07 06 28.4	-4.2
	0.5nm,0.3s,baz=117,slow=24,SNR=1.7						
WRA	**Warramunga Arr**	**21.83**	**229**	P	P	07 08 56.2	+0.2
	0.9nm,0.8s,baz=54,slow=9.8,SNR=6.9						
ASAR	**Alice Springs**	**24.51**	**223**	P	P	07 09 23.1	-0.2
	0.6nm,0.4s,baz=56,slow=9.5,SNR=15						
FITZ	**Fitzroy Crossi**	**28.17**	**243**	P	P	07 09 56.2	0.0
	0.9nm,0.6s,baz=72,slow=10,SNR=1.2						
ILAR	**Eielson Array**	**83.75**	**22**	P	P	07 16 32.5	-0.1
	0.7nm,0.9s,baz=240,slow=5.0,SNR=4.2						

IDC 15 07:30:40.2±1.7, 4.°22S×128.°84E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/29, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=56.2km s-min=27.8km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.11**	**36**	Pn	Pn	07 31 44.3	-0.1
	1.5nm,0.3s,baz=246,slow=23,SNR=9.1						
SIJI				Sn	Sn	07 32 30.6	-2.7
	1.7nm,0.3s,baz=224,slow=22,SNR=1.5						
WRA	**Warramunga Arr**	**16.52**	**162**	Pn	Pn	07 34 31.4	-2.2
	0.0nm,0.3s,baz=337,slow=14,SNR=1.6						
ASAR	**Alice Springs**	**19.94**	**166**	P	Pn	07 35 14.9	-0.7
	0.1nm,0.3s,baz=347,slow=11,SNR=12						
MKAR	**Makanchi Array**	**65.28**	**327**	P	P	07 41 24.0	0.0
	0.2nm,0.4s,baz=119,slow=8.1,SNR=4.3						

DDA ***15*** *07:39:49.4, 39.°25N×26.°04E, h7km±2km, ML2.4*

ISK ***15*** *07:39:49.7, 39.°26N×26.°09E, h7km, ML2.6/14*

ATH ***15*** *07:39:50.9, 39.°24N×26.°05E, h11km±2km, ML2.3/7, Error ellipse: s-maj=2.6km s-min=1.1km az=170.0*

THE ***15*** *07:39:50.6, 39.°27N×26.°05E, h6km±3km, ML2.3/4, Error ellipse: s-maj=3.0km s-min=0.7km az=143.0*

ISC 15 07:39:50.5±0.8, 39.°26N±0.°02×26.°06E±0.°02, h13km±5km, n44, σ0s57/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.16**	**95**	P	**Pg**	**07 39 54.7**	**+0.4**
PRK				S	**Sg**	**07 39 57.1**	**+0.1**
PRK				AML	AML	07 39 58.5	
	comp=E,4289μm,0.3s						
PRK				AML	AML	07 40 00.5	
	comp=N,3143μm,0.6s						
PRK	**Paraskevi**	**0.16**	**95**	P	**Pg**	**07 39 54.6**	**+0.3**
PRK				S	**Sg**	**07 39 56.6**	**-0.4**
	comp=N,2μm,0.5s						
SIGR	**SIGRI**	**0.17**	**253**	P	**Pg**	**07 39 54.2**	**-0.1**
SIGR				S	**Sg**	**07 39 56.9**	**-0.1**
SIGR				AML	AML	07 39 57.2	
	comp=N,1573μm,0.2s						
SIGR				AML	AML	07 39 57.5	
	comp=E,2088μm,0.3s						
SIGR	**SIGRI**	**0.17**	**253**	P	**Pg**	**07 39 54.3**	**-0.1**
SIGR				S	**Sg**	**07 39 56.5**	**-0.6**
	comp=E,908nm,0.2s						
SIGR	**SIGRI**	**0.17**	**253**	PG	**Pg**	**07 39 54.1**	**-0.3**
SIGR				SG	**Sg**	**07 39 57.2**	**+0.1**
KOCA	**Canakkale, Ayv**	**0.25**	**14**	*i* P	**Pg**	**07 39 55.1**	**-0.7**
KOCA				*i* S	**Sg**	**07 39 59.2**	**-0.1**
KOCA				IAML		07 40 00.0	
	comp=N,534nm,0.3s						
AYVA	**Ayvalik**	**0.49**	**84**	*i* P	**Pg**	**07 39 59.5**	**-0.7**
AYVA				*i* S	**Sg**	**07 40 06.7**	**0.0**
BOZC	**Bozcaada**	**0.58**	**359**	PG	**Pg**	**07 40 01.4**	**-0.5**
BOZC				SG	**Sg**	**07 40 09.9**	**+0.3**
BOZC	**Bozcaada**	**0.58**	**359**	*i* P	**Pg**	**07 40 00.8**	**-1.1**
BOZC				*i* P	**Pb**	**07 40 01.1**	**-1.5**
BOZC				*i* S	**Sg**	**07 40 09.5**	**-0.1**
BOZC				IAML		07 40 14.0	
	comp=N,158nm,0.2s						
BOZC				IAML		07 40 14.0	
	comp=E,107nm,0.2s						
EZN	**Ezine**	**0.60**	**20**	P	**Pg**	**07 40 01.9**	**-0.4**
EZN				S	**Sg**	**07 40 10.6**	**+0.4**
	comp=E,310nm,0.3s						
EZN	**Ezine**	**0.60**	**20**	PG	**Pg**	**07 40 01.7**	**-0.6**
EZN				SG	**Sg**	**07 40 10.4**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.61**	**38**	*i* P	**Pg**	**07 40 02.2**	**-0.2**
BAYC				*i* S	**Sg**	**07 40 10.4**	**-0.1**
DKL	**Dikili**	**0.68**	**106**	PG	**Pg**	**07 40 02.9**	**-0.9**
KRBN	**Karaburun**	**0.77**	**150**	PG	**Pg**	**07 40 05.2**	**-0.2**
ECEA	**Canakkale, Ece**	**0.79**	**6**	*i* P	**Pg**	**07 40 05.3**	**-0.5**
ECEA				*i* S	**Sg**	**07 40 15.8**	**-0.3**
ECEA				IAML		07 40 20.0	
	comp=E,214nm,0.6s						
ECEA				IAML		07 40 20.0	
	comp=N,238nm,0.2s						
PSRA	**Psara**	**0.81**	**209**	P	**Pg**	**07 40 06.0**	**-0.2**
PSRA				AML	AML	07 40 21.8	
	comp=E,2006μm,0.2s						
PSRA				AML	AML	07 40 22.1	
	comp=N,1969μm,0.2s						
ZEDA	**zmir-Bergama**	**0.84**	**110**	*i* P	**Pb**	**07 40 07.3**	**+0.3**
ZEDA				*i* S	**Sg**	**07 40 18.2**	**+0.3**
CHOS	**Chios island**	**0.87**	**180**	P	**Pg**	**07 40 07.2**	**-0.1**
CHOS				S	**Sg**	**07 40 18.5**	**-0.2**
CHOS				AML	AML	07 40 21.1	
	comp=E,927μm,0.2s						
CHOS				AML	AML	07 40 21.8	
	comp=N,672μm,0.5s						
CHOS	**Chios island**	**0.87**	**180**	P	**Pg**	**07 40 06.8**	**-0.6**
CHOS				S	**Sb**	**07 40 20.2**	**+1.1**
	comp=N,405nm,0.4s						
CHOS	**Chios island**	**0.87**	**180**	PG	**Pg**	**07 40 06.8**	**-0.6**
LIA	**Limnos Island**	**0.93**	**314**	P	**Pg**	**07 40 08.3**	**-0.2**
LIA				S	**Sb**	**07 40 21.3**	**+0.5**
LIA				AML	AML	07 40 23.8	
	comp=E,492μm,0.4s						
LIA				AML	AML	07 40 24.3	
	comp=N,382μm,0.3s						
LIA	**Limnos Island**	**0.93**	**314**	P	**Pg**	**07 40 08.5**	**0.0**
GOKA	**anakkale-Gk**	**0.94**	**353**	*i* P	**Pg**	**07 40 08.4**	**-0.2**
GOKA				*i* S	**Sg**	**07 40 20.8**	**-0.1**
GOKA				IAML		07 40 23.0	
	comp=E,141nm,0.2s						
GADA	**Gvkgeada**	**0.94**	**352**	P	**Pg**	**07 40 07.8**	**-0.8**
GADA	**Gvkgeada**	**0.94**	**352**	PG	**Pg**	**07 40 08.0**	**-0.6**
URLA	**Izmir**	**0.99**	**155**	PG	**Pg**	**07 40 08.3**	**-1.3**
URLA	**Izmir**	**0.99**	**155**	*i* P	**Pg**	**07 40 08.2**	**-1.4**
URLA				*i* S	**Sg**	**07 40 22.3**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**1.08**	**161**	*i* P	**Pg**	**07 40 10.2**	**-1.1**
ZEYE				*i* S	**Sg**	**07 40 25.0**	**-0.2**
ZEYE				IAML		07 40 29.0	
	comp=E,62nm,0.2s						
BLCB	**Balcova**	**1.16**	**138**	PN	**Pg**	**07 40 12.3**	**-0.5**
LPK	**Lapseki**	**1.23**	**26**	PN	**Pb**	**07 40 12.6**	**-1.1**
SMTH	**Samothraki Isl**	**1.28**	**342**	P	**Pn**	**07 40 14.4**	**+0.3**
SMTH				AML	AML	07 40 32.8	
	comp=E,133μm,0.4s						
SMTH				AML	AML	07 40 33.7	
	comp=N,142μm,0.4s						
STEP	**BALIKESIR_Sava**	**1.29**	**84**	*i* P	**Pg**	**07 40 15.9**	**+0.5**
STEP				*i* S	**Sb**	**07 40 31.7**	**+0.5**
BALY	**Balya**	**1.30**	**68**	*i* P	**Pn**	**07 40 13.8**	**-0.6**
BALY				*i* S	**Sb**	**07 40 31.3**	**-0.1**
BALY				IAML		07 40 36.0	
	comp=N,36nm,0.3s						
CAVK	**Edirne/Enez-Ca**	**1.43**	**3**	*i* P	**Pn**	**07 40 15.9**	**-0.3**
ERIK	**Erikli-Kesan**	**1.45**	**14**	PN	**Pn**	**07 40 16.8**	**+0.3**
ENEZ	**Enez**	**1.48**	**3**	PN	**Pn**	**07 40 17.2**	**+0.4**
KRBG	**Karabiga-Canak**	**1.48**	**40**	PN	**Pn**	**07 40 16.8**	**0.0**
KESN	**Edirne-Kesan**	**1.64**	**17**	*i* P	**Pb**	**07 40 21.2**	**+0.4**
KESN				*i* S	**Sn**	**07 40 41.4**	**+1.0**
KESN				IAML		07 40 46.0	
	comp=N,44nm,0.5s						
KESN				IAML		07 40 47.0	
	comp=E,56nm,0.3s						
ALN	**Alexandroupoli**	**1.64**	**360**	P	**Pb**	**07 40 20.7**	**+0.1**
ALN				AML	AML	07 40 43.0	
	comp=E,87μm,0.4s						
ALN				AML	AML	07 40 44.3	
	comp=N,74μm,0.6s						
ALN	**Alexandroupoli**	**1.64**	**360**	PN	**Pn**	**07 40 19.3**	**+0.3**
MAR6	**Marsite Statio**	**1.71**	**32**	PN	**Pn**	**07 40 20.4**	**+0.3**
MAR3	**Marsite Statio**	**1.76**	**32**	PN	**Pn**	**07 40 20.9**	**+0.2**
GZKV	**Gazikoy-Tekird**	**1.78**	**33**	PN	**Pn**	**07 40 21.3**	**+0.4**
RDO	**Rodhopi**	**1.93**	**348**	PN	**Pn**	**07 40 23.6**	**+0.6**

BJI ***15*** *08:03:10.7±0.0, 12.°47N×120.°01E, h34km, mB5.0/34, mb4.4/47, Ms4.3/30, Ms7 4.1/28*

MAN ***15*** *08:03:11.8, 12.°58N×119.°85E, h27km, mb5.0, ML3.9, MS3.9*

GCMT ***15*** *08:03:13.1±0.3, 12.°66N±0.°01×119.°78E±0.°03, h22km±2km, MW4.9/86, Moment Tensor Solution. s12,c12; s86,c122; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.44±.13; Mθθ0.23±.08; Mϕϕ0.21±.11; Mrθ-1.79±.23; Mϕθ-1.88±.06; Mϕr-0.01±.14; Best double couple: Mo2.62200×10^16 NP1:ϕs357.00000°, δ46.00000°, λ-9.00000°. NP2: ϕs94.00000°, δ84.00000°, λ-135.00000°. Principal axes: T 2.6830, Plg24.0000°, Azm217.0000°; N -0.1200, Plg45.0000°, Azm100.0000°; P -2.5620, Plg35.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *08:03:13.1±1.4, 12.°64N±0.°02×119.°91E±0.°09, h35km±2km, mb4.5/51 Error ellipse: s-maj=15.3km s-min=3.1km az=280.0*

IDC ***15*** *08:03:14.3±1.9, 12.°55N×119.°97E, h43km±18km, mb3.9/26, mb1 4.0/26, mb1mx3.9/52, mbtmp4.1/26, MS3.9/26, Ms1 3.9/26, ms1mx3.7/49, Error ellipse: s-maj=16.0km s-min=10.3km az=90.0*

DJA ***15*** *08:03:16.5±1.1, 13.°N±7.°×12.°0E±1.°1, h73km±11km, M4.8/17, mB5.2/6, mb4.5/17, MLv5.2/1, Mw(mB)4.5/6*

ISC 15 08:03:13.2±0.7, 12.°61N±0.°03×119.°90E±0.°04, h32km±5km, n171, σ1s49/178, mb4.5/64, MS4.1/29, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUSP	**Coron**	**0.67**	**154**	*eP*	**Pn**	**08 03 25.5**	**-1.0**
BUSP				*eS*	**Sn**	**08 03 35.5**	**-0.4**
LUBP	**Lubang**	**1.17**	**17**	*eP*	**Pn**	**08 03 31.7**	**-1.6**
LUBP				*eS*	**Sn**	**08 03 45.3**	**-2.9**
ENPP	**El Nido**	**1.47**	**199**	*eP*	**Pn**	**08 03 36.2**	**-1.3**
ENPP				*eS*	**Sb**	**08 03 58.7**	**+0.4**
TGY	**Tagaytay City**	**1.79**	**34**	P	**Pn**	**08 03 42.5**	**+0.5**
	543nm,0.3s,baz=233,slow=2.3,SNR=19						
TGY				S	**Sn**	**08 04 05.2**	**+1.4**
	2μm,0.3s,baz=208,slow=21,SNR=22						
TGY				LR	LR	08 04 13.8	
	comp=Z,2μm,21.9s,baz=287,slow=33						
TGY	**Tagaytay City**	**1.79**	**34**	⇓*eP*	**Pn**	**08 03 42.9**	**+0.9**
TGY				*eS*	**Sn**	**08 04 03.6**	**-0.2**
**

GYA Guiyang 18.56 320 *eP* **Pn 08 07 31.0 +3.0**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA LR LR
comp=Z,350nm,12.6s
GYA LR LR
comp=Z,250nm,13.2s
GYA LR LR
comp=Z,450nm,13.9s
WHN Wuhan 18.57 345 P **Pn 08 07 29.6 +1.7**
PHIT Phitsanulok 19.37 286 P Pn 08 07 49.1 +11
NJ2 Nanjing 19.37 357 *eP* **Pn 08 07 37.9 +0.3**
NJ2 pP **sP 08 07 45.3 -3.0**
NJ2 sP **pP 08 07 49.3 +4.8**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 LR LR
comp=Z,290nm,13.3s
NJ2 LR LR
comp=Z,570nm,15.2s
NJ2 LR LR
comp=Z,560nm,15.2s
FAKI Fak Fak 19.71 141 P **P 08 07 39.6 -0.6**
FAKI IAmb IAmb 08 07 52.5
comp=Z,50nm,1.3s
PPBI Pangkal Pinang 20.06 224 P Pn 08 07 45.0 -0.9
comp=Z,33µmcomp=Z,62nm,1.2s
UTHA Uthaitani 20.06 281 P Pn 08 07 53.0 +7.1
comp=Z,853nmcomp=Z,10nm,0.8s
SRDT SRDT 20.28 277 P Pn 08 07 59.0 +10
comp=Z,6.8nm,1.6s
IPM Ipoh 20.32 248 P **P 08 07 45.2 -1.7**
KULM Kulim 20.35 251 P Pn 08 07 46.8 -2.5
KULM IAmb IAmb 08 07 51.5
comp=Z,24nm,1.1s
KMI Kunming 20.43 310 ⇑P Pn 08 07 51.3 +0.9
KMI pP sP 08 07 59.5 -0.8
KMI sP pP 08 08 04.0 +7.7
KMI pmax pmax
comp=Z,12nm,1.1s
KMI pmax pmax
comp=Z,110nm,3.5s
KMI LR LR
comp=Z,250nm,12.4s
KMI LR LR
comp=Z,280nm,12.7s
KMI LR LR
comp=Z,320nm,15.0s
CM09 Chiang Mai Arr 20.96 289 P Pn 08 07 56.5 +0.1
comp=Z,164nmcomp=Z,18nm,1.1s
CM04 Chiang Mai Arr 20.96 289 P Pn 08 07 56.4 0.0
comp=Z,162nmcomp=Z,19nm,1.1s
CM01 Chiang Mai Arr 20.98 289 P Pn 08 07 56.9 +0.2
comp=Z,182nmcomp=Z,20nm,1.1s
CM05 Chiang Mai Arr 20.99 289 P Pn 08 07 56.8 0.0
comp=Z,97nmcomp=Z,12nm,1.1s
CM02 Chiang Mai Arr 21.00 289 P Pn 08 07 56.0 -0.9
comp=Z,140nmcomp=Z,16nm,1.4s
CM31 Chiang Mai Arr 21.00 289 P **P 08 07 55.6 +1.4**
CM31 IAmb IAmb 08 08 07.4
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 21.00 289 P **P 08 07 55.5 +1.3**
comp=Z,5.8nm,1.0s,baz=100,slow=9.0,SNR=26
CMAR LR LR 08 14 52.5
comp=Z,194nm,20.4s,baz=142,slow=33
CMAR Chiang Mai Arr 21.00 289 P **P 08 07 55.3 +1.1**
CM13 Chiang Mai Arr 21.03 289 P **P 08 07 57.1 +2.6**
comp=Z,14nm,1.0s
SURT Suratani 21.05 262 P P 08 08 09.2 +14
SRBI Singaraja 21.08 193 P **P 08 07 55.3 +0.3**
comp=Z,84nm,1.3s
CHTO Chiang Mai 21.09 290 P **P 08 07 55.2 +0.1**
PLAI Plampang 21.40 186 P **P 08 07 59.9 +1.4**
comp=Z,814nmcomp=Z,51nm,0.8s
JAGI Jajag, Banyuwa 21.71 196 P **P 08 08 02.0 +0.3**
JAGI Jajag, Banyuwa 21.71 196 P **P 08 08 03.8 +2.0**
comp=Z,1µmcomp=Z,50nm,1.3s
BKNI Bangkinang 22.34 238 P **P 08 08 09.8 +1.3**
JNU Nakatsue 22.75 24 LR LR 08 16 53.6
comp=Z,163nm,21.3s,baz=218,slow=36
KLSI 22.86 222 P **P 08 08 14.0 -0.1**
comp=Z,322nmcomp=Z,14nm,1.7s
PSI Prapat 22.94 247 P **P 08 08 15.5 +0.4**
comp=Z,3.1nm,0.4s,baz=0.7,slow=8.4,SNR=12
PSI LR LR 08 17 17.2
comp=Z,365nm,18.7s,baz=89,slow=37
TSI Tuntungan 22.96 249 P **P 08 08 14.5 -0.7**
comp=Z,54nm,0.8s
BATI Baumata 22.97 170 P **P 08 08 14.6 -0.7**
comp=Z,9.2nm,0.4s,baz=37,slow=5.1,SNR=1.7
BATI LR LR 08 18 15.2
comp=Z,377nm,20.1s,baz=357,slow=39
RPSI Rantau Prapat 22.98 246 P **P 08 08 15.3 -0.1**
RPSI IAmb IAmb 08 08 16.3
comp=Z,17nm,1.1s
RPSI Rantau Prapat 22.98 246 P **P 08 08 15.5 +0.1**
CD2 Chengdu 23.53 323 P **P 08 08 20.3 -0.5**
CD2 pP pP 08 08 29.0 -0.2
CD2 sP sP 08 08 34.8 +1.6
CD2 PP **PnPn 08 08 52.3 +4.1**
CD2 S **S 08 12 32.8 0.0**
CD2 sS sS 08 12 44.8 -2.1
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,220nm,7.3s
CD2 LR LR
comp=Z,440nm,16.1s
CD2 LR LR
comp=Z,730nm,12.8s
CD2 LR LR
comp=Z,530nm,15.3s
XAN Xi'an 23.56 337 P **P 08 08 27.3 +6.3**
XAN pP sP 08 08 38.4 +4.8
XAN S **S 08 12 38.4 +5.2**
XAN SS **SnSn 08 13 16.1 +4.8**
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN LR LR
comp=N,460nm,17.1s
XAN LR LR
comp=E,430nm,12.7s
XAN LR LR
comp=Z,660nm,16.3s
XAN Xi'an 23.56 337 P **P 08 08 18.8 -2.2**
TIA Tai'an 23.63 354 P **P 08 08 21.1 -0.5**
TIA S **S 08 12 30.1 -4.1**
TIA pmax pmax
comp=Z,6.0nm,0.7s
TIA pmax pmax
comp=Z,170nm,3.9s
TIA LR LR
comp=Z,310nm,6.5s
TIA LR LR
comp=Z,150nm,4.5s
TIA LR LR
comp=Z,440nm,13.2s
INCN Inchon 25.49 13 P **P 08 08 38.1 -0.5**
INCN IAmb IAmb 08 08 47.3
comp=Z,12nm,0.7s
KSAR Wonju Array Be 25.74 15 P **P 08 08 40.6 -0.3**
KSRS Korea Array 25.76 15 P **P 08 08 40.6 -0.5**
comp=Z,1.9nm,0.6s,baz=198,slow=11,SNR=9.3
KSRS LR LR 08 19 13.8
comp=Z,392nm,20.5s,baz=195,slow=37
KS19 Wonju Array Si 25.79 15 P **P 08 08 40.3 -1.0**
KS19 IAmb IAmb 08 08 50.7
comp=Z,7.8nm,0.7s
LZH Lanzhou 27.49 331 *eP* **P 08 08 58.0 +1.1**
LZH pP sP 08 09 08.5 -1.3
LZH sS sS 08 13 49.1 -1.1
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.6s
LZH LR LR
comp=Z,570nm,12.5s
LZH LR LR
comp=Z,510nm,11.9s
LZH LR LR
comp=Z,530nm,13.1s
BJT Baijiatuan 27.50 354 P **P 08 08 56.5 -0.2**
BJT IAmb IAmb 08 09 05.4
comp=Z,8.9nm,0.9s
BJI Beijing 27.52 354 P **P 08 08 57.1 +0.2**
BJI S **S 08 13 39.4 +3.5**
BJI pmax pmax
comp=Z,11nm,1.2s
BJI pmax pmax
comp=Z,45nm,3.5s
BJI LR LR
comp=Z,290nm,15.0s
BJI LR LR
comp=Z,240nm,18.5s
MJAR Matsushiro Arr 28.96 31 P **P 08 09 10.2 +0.4**
comp=Z,0.4nm,0.4s,baz=226,slow=10,SNR=2.9
MJAR LR LR 08 21 42.7
comp=Z,124nm,19.3s,baz=220,slow=38
HHC Hu-ho-hao-te 29.07 347 *eP* **P 08 09 11.8 +1.0**
HHC S **S 08 14 01.8 +1.3**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,180nm,6.6s
HHC LR LR
comp=Z,350nm,15.5s
HHC LR LR
comp=Z,180nm,13.0s
HHC LR LR
comp=Z,400nm,17.5s
SHL Shillong 29.37 300 P **P 08 09 13.1 -0.7**
FITZ Fitzroy Crossi 31.03 169 P **P 08 09 27.0 -1.3**
comp=Z,3.8nm,1.0s,baz=323,slow=9.0,SNR=3.2
CN2 Changchun 31.45 8 *eP* **P 08 09 33.8 +2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 31.62 307 P **P 08 09 33.1 -0.9**
LSA IAmb IAmb 08 09 38.5
comp=Z,3.9nm,0.5s
GTA Gaotai 32.07 330 *eP* **P 08 09 40.1 +2.7**
GTA pP sP 08 09 49.3 -1.0
GTA sP pP 08 09 53.6 +7.3
GTA pmax pmax
comp=Z,5.0nm,0.7s
MDJ Mudanjiang 32.96 13 P **P 08 09 45.1 +0.2**
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,140nm,4.6s
MDJ Mudanjiang 32.96 13 P **P 08 09 45.1 +0.2**
MDJ IAmb IAmb 08 09 49.4
comp=Z,14nm,1.3s
USRK Ussuriysk Ar. 33.15 16 P **P 08 09 46.9 +0.3**
comp=Z,1.3nm,0.6s,baz=191,slow=5.5,SNR=5.1
USRK LR LR 08 23 26.1
comp=Z,233nm,19.8s,baz=173,slow=36
USRK Ussuriysk Ar. 33.15 16 P **P 08 09 45.2 -1.4**
TAPN Taplejung 33.49 301 *eP* **P 08 09 50.8 +0.6**
ODAN Odare 33.60 300 *eP* **P 08 09 51.3 +0.2**
RAMN Ramite 34.30 300 *eP* **P 08 09 57.8 +0.6**
comp=Z,22nm,0.7s
WB0 Warramunga Arr 35.20 156 P **P 08 10 04.4 -0.2**
GUN Gumba 35.21 301 *eP* **P 08 10 05.5 +0.3**
comp=Z,65nm,0.6s
WRA Warramunga Arr 35.33 156 P **P 08 10 04.7 -1.1**
comp=Z,3.3nm,1.1s,baz=330,slow=10,SNR=11
WRA PcP **PcP 08 12 35.5 -0.3**
comp=Z,0.3nm,0.6s,baz=314,slow=4.7,SNR=1.1
WB2 Warramunga Arr 35.34 156 P **P 08 10 05.0 -0.9**
WR0 Warramunga Arr 35.43 156 P **P 08 10 06.0 -0.6**
PKI Pulchoki 35.50 300 *eP* **P 08 10 07.7 +0.1**
comp=Z,24nm,0.6s
PKIN Phulchoki 35.51 300 *eP* **P 08 10 07.4 -0.3**
comp=Z,27nm,0.6s
DMN Daman 35.77 300 *eP* **P 08 10 10.3 +0.4**
comp=Z,50nm,1.0s
RABL Rabaul 36.14 115 P **P 08 10 12.3 -0.6**
GKN Gorkha 36.28 300 *eP* **P 08 10 13.7 -0.4**
HIA Hailar 36.55 360 P **P 08 10 15.7 -0.3**
SONM Songino Array 36.89 345 P **P 08 10 19.2 +0.2**
comp=Z,6.3nm,0.7s,baz=165,slow=9.9,SNR=43
SONM LR LR 08 25 50.8
comp=Z,226nm,21.7s,baz=153,slow=37
SONM Songino Array 36.89 345 P **P 08 10 18.8 -0.2**
KLR Kul'dur 37.80 13 P **P 08 10 26.7 +0.2**
comp=Z,7.0nm,0.8s,baz=242,slow=8.0,SNR=23
ASAR Alice Springs 38.57 159 P **P 08 10 33.1 -0.1**
comp=Z,4.1nm,1.1s,baz=329,slow=7.1,SNR=16
ASAR PcP **PcP 08 12 46.1 +0.5**
comp=Z,0.6nm,0.7s,baz=342,slow=3.1,SNR=2.3
ASAR LR LR 08 27 10.9
comp=Z,71nm,20.8s,baz=310,slow=37
ASAR Alice Springs 38.57 159 P **P 08 10 33.0 -0.3**
YSS Yuzh-Sakhalins 39.26 25 P **P 08 10 37.4 -1.4**
YSS IAmb IAmb 08 10 48.1
comp=Z,9.0nm,0.7s
TLY Talaya 41.13 345 P **P 08 10 54.9 +0.6**
comp=Z,1.4nm,0.5s,baz=185,slow=3.5,SNR=4.4
TLY Talaya 41.13 345 P **P 08 10 53.5 -0.8**
WMQ Urumqi 41.62 324 *eP* **P 08 11 00.3 +1.8**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.7s
WMQ Urumqi 41.62 324 P **P 08 10 57.1 -1.4**
WMQ IAmb IAmb 08 11 18.9
comp=Z,5.2nm,0.6s
MK31 Makanchi Array 46.45 325 P **P 08 11 37.5 +0.3**
MKAR Makanchi Array 46.45 325 P **P 08 11 37.6 +0.4**
comp=Z,2.7nm,0.8s,baz=126,slow=9.0,SNR=21
MKAR PcP **PcP 08 13 12.6 +1.1**
comp=Z,1.4nm,0.9s,baz=101,slow=4.2,SNR=2.4
MKAR LR LR 08 32 10.2
comp=Z,237nm,18.9s,baz=96,slow=37
MKAR Makanchi Array 46.45 325 P **P 08 11 37.4 +0.2**
MAKZ Makanchi 46.64 325 P **P 08 11 37.9 -0.8**
KSH Kashi 47.05 313 P **P 08 11 44.5 +2.4**
KSH pmax pmax
comp=Z,3.0nm,0.9s
KSH pmax pmax
comp=Z,160nm,6.0s
NIL Nilore 47.27 304 P **P 08 11 42.6 -1.2**
NIL IAmb IAmb 08 11 52.1
comp=Z,8.5nm,0.9s
EIDS Eidsvold 48.46 141 P **P 08 11 53.0 +0.1**
STKA Stephens Creek 48.88 155 P **P 08 11 54.7 -1.4**
AAK Ala-Archa 49.30 316 P **P 08 11 59.0 -0.5**
ZAA0 Zalesovo Array 49.67 334 P **P 08 12 00.0 -1.9**
ZAA0 IAmb IAmb 08 12 03.0
comp=Z,4.1nm,0.9s
ZALV Zalesovo Beam 49.67 334 P **P 08 12 01.9 +0.1**
comp=Z,2.0nm,0.8s,baz=107,slow=5.1,SNR=8.4
ZALV LR LR 08 34 13.2
comp=Z,160nm,18.1s,baz=136,slow=37
ZALV Zalesovo Beam 49.67 334 P **P 08 12 01.6 -0.3**
YAK Yakutsk 49.85 6 P **P 08 12 02.7 -0.3**
PETK Petropavlovsk- 50.35 29 P **P 08 12 06.6 -0.5**
comp=Z,3.7nm,1.0s,baz=235,slow=5.1,SNR=1.9
PETK LR LR 08 37 27.1
comp=Z,38nm,18.0s,baz=222,slow=41
KURBB Kurchatov Arra 50.66 327 P **P 08 12 09.7 +0.3**
comp=Z,2.5nm,0.5s,baz=122,slow=9.5,SNR=30
KURK Kurchatov 50.67 327 P **P 08 12 09.7 +0.2**
MA2 Magadan 52.18 19 P **P 08 12 19.7 -0.9**
MA2 IAmb IAmb 08 12 30.6
comp=Z,6.7nm,1.1s
KK31 Karatay Array 52.19 315 P **P 08 12 20.2 -0.8**
KK31 IAmb IAmb 08 12 22.5
comp=Z,7.8nm,1.4s
KKAR Karatay Array 52.19 315 P **P 08 12 20.4 -0.7**
KKAR Karatay Array 52.19 315 P **P 08 12 20.2 -0.8**
KKAR IAmb IAmb 08 12 22.5
comp=Z,7.8nm,1.4s
ARMA Armidale 52.56 145 P **P 08 12 22.5 -1.4**
BRVK Borovoye 56.31 326 P **P 08 12 50.2 -0.7**
TIXI Tiksi 59.26 3 LR LR 08 40 14.4
comp=Z,171nm,21.4s,baz=189,slow=37
TIXI Tiksi 59.26 3 P **P 08 13 10.4 -0.8**
GEYT Alibeck 60.15 307 P **P 08 13 20.1 +2.0**
comp=Z,1.1nm,0.4s,baz=51,slow=9.4,SNR=1.7
GEYT LR LR 08 43 07.6
comp=Z,127nm,18.4s,baz=0.0,slow=40
GEYT Alibeck 60.15 307 P **P 08 13 17.2 -0.8**
GEYT IAmb IAmb 08 13 43.4
comp=Z,3.3nm,0.9s
GYA0B ALIBECK ARRAY 60.15 307 P **P 08 13 17.2 -0.9**
ABKAR Akbulak array 61.05 320 P **P 08 13 23.9 0.0**
ABKAR Akbulak array 61.05 320 P **P 08 13 23.8 -0.1**
ABKAR IAmb IAmb 08 13 25.4
comp=Z,19nm,1.4s
RAYN Ar Rayn 70.91 291 P **P 08 14 27.6 -0.3**
RAYN IAmb IAmb 08 14 38.2
comp=Z,5.8nm,1.1s
KBZ Khabaz 72.03 312 LR LR 08 51 11.7
comp=Z,124nm,18.2s,baz=358,slow=40
BRTR Keskin Array B 79.21 308 P **P 08 15 15.6 -0.1**
comp=Z,1.0nm,0.9s,baz=134,slow=7.0,SNR=4.6
BRTR LR LR 08 55 54.1
comp=Z,70nm,20.1s,baz=40,slow=40
MCK McKinley 79.31 27 P **P 08 15 14.7 -0.8**
MCK IAmb IAmb 08 15 26.6
comp=Z,6.7nm,0.9s
RND Reindeer 79.39 27 P **P 08 15 15.9 -0.1**
RND IAmb IAmb 08 15 38.5
comp=Z,9.5nm,1.4s
ARCES ARCESS Array B 79.82 339 P **P 08 15 18.2 +0.1**
comp=Z,2.9nm,0.8s,baz=24,slow=6.6,SNR=1.4
ARCES LR LR 08 56 37.2
comp=Z,110nm,18.4s,baz=240,slow=40
ILAR Eielson Array 80.06 26 P **P 08 15 19.5 0.0**
comp=Z,0.5nm,0.9s,baz=257,slow=3.6,SNR=2.5
AKASG Malin Array Be 80.79 320 P **P 08 15 23.5 -0.2**
comp=Z,0.1nm,0.3s,baz=79,slow=4.0,SNR=1.5
AKASG LR LR 08 53 11.0
comp=Z,87nm,18.7s,baz=35,slow=37
FINES FINESS Array B 80.85 331 P **P 08 15 23.6 -0.2**
comp=Z,0.5nm,0.5s,baz=56,slow=7.5,SNR=1.3
EGAK Eagle 82.47 25 P **P 08 15 32.1 -0.2**
BURAR Bucovina Array 83.93 317 P **P 08 15 41.3 +1.0**
EUNU Eureka 86.47 4 P **P 08 15 52.5 +0.1**
EUNU IAmb IAmb 08 15 54.1
comp=Z,7.4nm,1.2s
C36M Paulatuk 87.09 19 P **P 08 15 55.4 0.0**
NC405 NORSAR Array S 87.61 333 P **P 08 15 57.8 -0.3**
NOA NORSAR Array B 87.86 333 P **P 08 15 58.3 -1.2**
comp=Z,0.3nm,0.7s,baz=64,slow=4.8,SNR=2.6
NOA LR LR 08 56 58.6
comp=Z,138nm,19.2s,baz=60,slow=37
MAW Mawson 89.82 199 LR LR 08 51 53.3
comp=Z,95nm,18.8s,baz=63,slow=32
GERES GERESS Array B 90.98 321 P **P 08 16 15.2 +0.8**
comp=Z,0.2nm,0.5s,baz=128,slow=8.6,SNR=3.6
VNDA Vanda 93.08 172 P **P 08 16 21.9 -1.3**
comp=Z,0.8nm,0.3s,baz=0.1,slow=4.5,SNR=8.3
VNDA Vanda 93.08 172 IAmb IAmb 08 16 38.8
comp=Z,4.5nm,1.5s
YKA Yellowknife Ar 94.07 22 P **P 08 16 28.1 -0.1**
comp=Z,0.3nm,0.8s,baz=310,slow=3.3,SNR=4.5
YKA LR LR 09 02 53.3
comp=Z,57nm,19.5s,baz=0.0,slow=38
BOSA Boshof 99.95 243 LR LR 08 58 47.7
comp=Z,57nm,18.4s,baz=162,slow=33
PLCA Paso Flores 150.52 164 PKPbc **PKPbc 08 23 00.1 -2.1**
comp=Z,1.2nm,0.8s,baz=243,slow=4.5,SNR=3.1
PLCA Paso Flores 150.52 164 PKPbc **PKiKP 08 23 03.5 +0.6**

IDC 15 08:13:30.7±3.0, 6°.34S×130°.52E, h103km±39km, mb3.2/1, mb1 3.3/5, mb1mx3.1/33, mbtmp3.6/5, MS3.0/1, Ms1 3.0/1, ms1mx2.7/20, Error ellipse: s-maj=73.0km s-min=23.0km az=87.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.48**	**8**	P	Pn	08 14 50.2	+0.2
	1.2nm,0.3s,baz=190,slow=23,SNR=1.3						
SIJI				S	Sn	08 15 45.6	-6.2
	3.4nm,0.3s,baz=222,slow=22,SNR=11						
FITZ	**Fitzroy Crossi**	**12.62**	**202**	P	Pn	08 16 26.9	+0.3
	0.1nm,0.3s,baz=16,slow=12,SNR=1.6						
FITZ				S	Sn	08 18 34.9	-11
	0.1nm,0.3s,baz=81,slow=10,SNR=1.2						
FITZ				LR	LR	08 21 09.3	
	comp=Z,76nm,21.6s,baz=3.5,slow=36						
WRA	**Warramunga Arr**	**14.03**	**165**	P	Pn	08 16 43.0	-1.9
	0.1nm,0.3s,baz=348,slow=13,SNR=4.8						
WRA				S	Sn	08 19 05.7	-14
	0.1nm,0.3s,baz=208,slow=14,SNR=1.7						
ASAR	**Alice Springs**	**17.54**	**170**	P	Pn	08 17 29.4	+0.7
	0.1nm,0.3s,baz=347,slow=8.8,SNR=12						
MKAR	**Makanchi Array**	**67.96**	**326**	P	P	08 24 18.5	-0.1
	0.2nm,0.4s,baz=114,slow=7.4,SNR=5.2						

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*IDC **15** 08:24:12.2±1.7, 29°.83S×177°.17W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.7/38, mbtmp3.6/4, ML3.0/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/20, Error ellipse: s-maj=55.2km s-min=30.5km az=137.0*

ISC 15 08:24:15.9±1.3, 29°.88S±0°.2×177°.2W±0°.3, h24km, n7, σ1s78/7, mb3.4/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**9.68**	**208**	Pn	**Pn**	**08 26 31.4**	**-2.2**
	0.2nm,0.3s,baz=34,slow=15,SNR=2.2						
URZ				Sn	**Sn**	**08 28 23.9**	**+2.4**
	0.7nm,0.3s,baz=33,slow=20,SNR=1.4						
CTA	**Charters Tower**	**34.42**	**278**	LR	LR	08 43 13.7	
	comp=Z,225nm,21.4s,baz=230,slow=33						
ASAR	**Alice Springs**	**43.86**	**266**	P	**P**	**08 32 20.5**	**-0.1**
	0.3nm,0.7s,baz=97,slow=7.5,SNR=1.8						
WRA	**Warramunga Arr**	**44.80**	**271**	P	**P**	**08 32 28.1**	**0.0**
	1.3nm,1.1s,baz=110,slow=8.1,SNR=11						
NVAR	**Mina Array Bea**	**87.31**	**42**	P	**P**	**08 37 01.1**	**+0.3**
	0.1nm,0.5s,baz=217,slow=4.4,SNR=1.7						
FINES	**FINESS Array B**	**144.82**	**341**	PKP	**PKPdf**	**08 43 51.4**	**+1.4**
	0.7nm,0.7s,baz=48,slow=2.1,SNR=1.4						
AKASG	**Malin Array Be**	**151.25**	**324**	PKPbc	**PKPbc**	**08 44 06.5**	**-0.3**
	0.5nm,0.7s,baz=72,slow=2.2,SNR=1.8						

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*IDC **15** 08:30:42.1±0.9, 4°.70S×133°.61E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/37, mbtmp4.0/8, ML4.1/2, MS3.6/14, Ms1 3.6/14, ms1mx3.3/38, Error ellipse: s-maj=55.2km s-min=19.3km az=70.0*

*NEIC **15** 08:30:44.5±1.3, 4°.9S±0°.1×133°.5E±0°.2, h33km±7km, mb4.3/12, Error ellipse: s-maj=24.8km s-min=10.1km az=62.0*

*DJA **15** 08:30:47.0±0.4, 4°.5±4°×13°.4E±°, h75km±7km, M4.6/8, mB5.2/2, mb4.7/8, MLv4.6/7, Mw(mB)4.6/2*

ISC 15 08:30:43.2±0.6, 4°.88S±0°.05×133°.52E±0°.08, h25km, n51, σ2s44/41, mb4.0/9, MS3.5/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.32**	**327**	Pn	**Pn**	**08 31 20.1**	**+0.3**
FAKI	**Fak Fak**	**2.32**	**327**	P	**Pn**	**08 31 20.2**	**+0.3**
FAKI				S	**Sn**	**08 31 46.5**	**-1.1**
BNDI	**Bandanaira**	**3.62**	**275**	P	Pn	08 31 42.9	+5.2
BNDI				S	**Sb**	**08 32 26.5**	**-3.5**
BAKI	**Biak**	**4.48**	**35**	P	**Pn**	**08 31 45.4**	**-4.2**
SIJI	**Sorong**	**4.57**	**330**	Pn	**Pn**	**08 31 51.0**	**+0.1**
	3.7nm,0.3s,baz=230,slow=20,SNR=10						
SIJI				Sn	**Sn**	**08 32 39.5**	**-3.7**
	3.8nm,0.3s,baz=116,slow=15,SNR=4.2						
SWI	**Sorong**	**4.58**	**330**	P	**Pn**	**08 31 50.8**	**-0.2**
NLAI	**Namlea**	**6.61**	**284**	P	**Pn**	**08 32 22.6**	**+3.8**
	0.3nm54nm,0.5s						
SANI	**Sanana**	**8.02**	**290**	P	Pn	08 32 34.3	-4.0
SOEI	**Soe**	**10.38**	**242**	P	Pn	08 33 16.4	+5.7
	53nm,0.9s						
APSI	**Ampana**	**12.49**	**288**	P	**Pn**	**08 33 39.6**	**+0.1**
COEN	**Coen**	**13.12**	**134**	Pn	**Pn**	**08 33 47.0**	**-1.1**
KAPI	**Kappang**	**13.71**	**269**	LR	LR	08 39 54.2	
	comp=Z,287nm,21.4s,baz=92,slow=40						
PMG	**Port Moresby**	**14.26**	**109**	LR	LR	08 40 28.8	
	comp=Z,232nm,18.4s,baz=333,slow=41						
WB0	**Warramunga Arr**	**14.83**	**177**		**Pn**	**08 34 10.8**	**-0.6**
WRAB	**Tennant Creek**	**14.99**	**177**		**Pn**	**08 34 14.1**	**+0.5**
WRAB				IAmb	IAmb	08 34 26.6	
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**15.00**	**177**		**Pn**	**08 34 13.1**	**-0.6**
WB2				IAmb	IAmb	08 34 24.8	
	comp=Z,25nm,1.2s						
WRA	**Warramunga Arr**	**15.00**	**177**	Pn	**Pn**	**08 34 13.0**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=2.6,slow=13,SNR=45						
WRA				Sn	**Sn**	**08 36 51.2**	**-8.0**
	comp=Z,0.4nm,0.3s,baz=6.6,slow=22,SNR=7.8						
WRA				LR	LR	08 40 46.2	
	comp=Z,223nm,19.0s,baz=355,slow=40						
WR0	**Warramunga Arr**	**15.03**	**176**		**Pn**	**08 34 13.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**15.23**	**210**	Pn	**Pn**	**08 34 17.2**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=34,slow=9.8,SNR=30						
FITZ				Sn	**Sn**	**08 36 58.7**	**-6.2**
	comp=Z,0.4nm,0.3s,baz=202,slow=17,SNR=3.4						
FITZ	**Fitzroy Crossi**	**15.23**	**210**		**Pn**	**08 34 17.5**	**+0.7**
AS31	**Alice Springs**	**18.68**	**179**	P	**P**	**08 35 00.6**	**+0.8**

ASAR	**Alice Springs**	**18.69**	**179**	P	**Pn**	**08 35 02.4**	**+2.1**
	comp=Z,1.2nm,0.3s,baz=358,slow=8.2,SNR=55						
ASAR				S	Sn	08 38 17.6	-11
	comp=Z,0.1nm,0.3s,baz=2.2,slow=27,SNR=3.5						
ASAR				LR	LR	08 43 00.1	
	comp=Z,249nm,18.4s,baz=3.5,slow=39						
ASAR	**Alice Springs**	**18.69**	**179**	P	**P**	**08 35 00.8**	**+1.1**
CTAO	**Charters Tower**	**19.55**	**142**	P	**P**	**08 35 10.4**	**+1.1**
CTAO				IAmb	IAmb	08 35 37.9	
	comp=Z,16nm,1.2s						
KMMI	**Kalianget**	**19.56**	**263**	pP	pP	08 35 27.2	+12
	comp=Z,37nm,1.2s						
PSA00	**Pilbara Seismi**	**21.24**	**217**	P	**P**	**08 35 27.9**	**+0.2**
PSA00				IAmb	IAmb	08 35 34.1	
	comp=Z,25nm,1.4s						
LEM	**Lembang**	**25.84**	**264**	LR	LR	08 48 16.4	
	comp=Z,140nm,19.5s,baz=196,slow=41						
HNR	**Honiara**	**26.60**	**101**	LR	LR	08 48 59.4	
	comp=Z,129nm,18.6s,baz=280,slow=41						
BBOO	**Buckleboo**	**27.89**	**175**	P	**P**	**08 36 32.4**	**+1.1**
BBOO				IAmb	IAmb	08 36 56.3	
	comp=Z,9.3nm,1.1s						
STKA	**Stephens Creek**	**27.91**	**165**	P	**P**	**08 36 35.8**	**+4.3**
	comp=Z,1.3nm,0.3s,baz=329,slow=4.9,SNR=3.3						
STKA				LR	LR	08 48 29.4	
	comp=Z,88nm,19.2s,baz=9.2,slow=38						
YOJ	**Yonaguni jima**	**30.90**	**341**	P	**P**	**08 36 57.6**	**-0.4**
PSI	**Prapat**	**35.39**	**282**	LR	LR	08 54 29.1	
	comp=Z,94nm,18.4s,baz=92,slow=40						
JNU	**Nakatsue**	**37.87**	**356**	LR	LR	08 54 03.2	
	comp=Z,40nm,19.7s,baz=138,slow=37						
JHJ	**Hachijo jima 2**	**38.25**	**9**	LR	LR	08 53 11.4	
	comp=Z,121nm,18.7s,baz=279,slow=35						
SLVN	**Son La**	**39.00**	**313**	P	**P**	**08 38 07.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**41.22**	**305**	P	**P**	**08 38 30.4**	**+4.0**
	comp=Z,0.9nm,0.3s,baz=139,slow=7.2,SNR=1.3						
MJAR	**Matsushiro Arr**	**41.43**	**6**	LR	LR	08 55 05.4	
	comp=Z,95nm,18.6s,baz=335,slow=36						
KSRS	**Korea Array**	**42.44**	**353**	LR	LR	08 54 47.6	
	comp=Z,49nm,19.9s,baz=192,slow=34						
SONM	**Songino Array**	**57.65**	**339**	P	**P**	**08 40 33.4**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=146,slow=5.1,SNR=1.9						
MK31	**Makanchi Array**	**68.45**	**325**	P	**P**	**08 41 42.2**	**-1.0**
MK31				IAmb	IAmb	08 41 52.8	
	comp=Z,3.1nm,1.4s						
MKAR	**Makanchi Array**	**68.45**	**325**	P	**P**	**08 41 45.4**	**+2.2**
	comp=Z,0.5nm,0.4s,baz=114,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**68.45**	**325**	P	**P**	**08 41 43.2**	**0.0**
MAKZ	**Makanchi Array**	**68.63**	**325**	P	**P**	**08 41 44.4**	**0.0**
SEY	**Seymchan**	**69.13**	**9**	P	**P**	**08 41 48.8**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=196,slow=4.4,SNR=6.0						
ZALV	**Zalesovo Beam**	**71.30**	**332**	P	**P**	**08 42 00.9**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=108,slow=4.7,SNR=1.2						
ZALV	**Zalesovo Beam**	**71.30**	**332**	P	**P**	**08 42 00.6**	**0.0**
QSPA	**South Pole Qui**	**85.09**	**180**	P	**P**	**08 43 18.6**	**+1.8**
KDAK	**Kodiak Island**	**85.60**	**31**	LR	LR	09 16 06.1	
	comp=Z,108nm,21.9s,baz=265,slow=32						
DLBC	**Dease Lake**	**97.51**	**32**	LR	LR	09 25 36.9	
	comp=Z,31nm,19.6s,baz=106,slow=34						
CPUP	**Villa Florida**	**147.25**	**162**	PKPbc	**PKPab**	**08 50 27.6**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=201,slow=0.7,SNR=4.7						
LPAZ	**La Paz**	**149.99**	**135**	PKPbc	**PKPab**	**08 50 37.8**	**-1.2**
	comp=Z,1.2nm,0.9s,baz=25,slow=5.1,SNR=3.4						

***IDC 15* 08:40:01.1±210.0, 53°.92N×160°.40E, *h0*km, Error ellipse: s-maj=86.8km s-min=39.4km az=65.0, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK- 1.80**		**244**	*i*		08 50 10.0	
	baz=61,slow=328,SNR=17						
I53US	**FAIRBANKS INFR 27.68**		**46**	*i*		11 27 50.0	
	baz=271,slow=331,SNR=1.0						
I18DK	**QAANAAQ INFRAS 35.30**		**14**	*i*		13 22 20.0	
	baz=311,slow=355,SNR=7.0						
I59US	**HAWAII INFRASO 47.79**		**118**	*i*		13 36 20.0	
	baz=332,slow=307,SNR=0.2						
I56US	**NEWPORT INFRAS 49.33**		**61**	*i*		13 45 20.0	
	baz=318,slow=321,SNR=3.6						
I10CA	**LAC DU BONNET 58.09**		**47**	*i*		14 34 50.0	
	baz=312,slow=312,SNR=3.1						
I57US	**PINON FLAT INF 59.79**		**73**	*i*		14 58 50.3	
	baz=316,slow=250,SNR=6.3						

FUNV 15 08:52:59.1, 8°.88N×71°.30W, h5km, MW3.3
ISC 15 08:52:57.7±1.6, 8°.91N±0°.04×71°.29W±0°.03, h3km±14km, **n25,σ0°.93/36, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.65**	**92**	*e*P	**Pb**	**08 53 11.6**	**-0.2**
SDV	**Santo Domingo**	**0.65**	**92**	*e*P	**Pb**	**08 53 11.6**	**-0.2**
SDV				*e*S	**Sb**	**08 53 20.5**	**-0.8**
SOCV	**Socops**	**0.76**	**146**	*e*P	**Pb**	**08 53 13.1**	**-0.5**
SOCV				*e*S	**Sg**	**08 53 22.9**	**+0.8**
CAPV	**Capacho**	**1.45**	**224**	*e*P	**Pn**	**08 53 25.2**	**0.0**
CAPV				*e*S	**Sg**	**08 53 44.9**	**+0.4**
MCQV	**Machiques**	**1.67**	**313**	*e*P	**Pn**	**08 53 28.1**	**+0.2**
MCQV				*e*S	**Sb**	**08 53 51.2**	**+0.6**
CURV	**Curarigua**	**1.71**	**50**	*e*P	**Pb**	**08 53 29.8**	**0.0**
CURV				*e*S	**Sb**	**08 53 51.8**	**+0.1**
DABV	**Dabajuro**	**2.10**	**18**	*e*P	**Pn**	**08 53 34.8**	**+1.0**
DABV				*e*S	**Sn**	**08 54 00.8**	**+0.4**
PAMC	**Pamplona, Colo**	**2.10**	**222**	*e*P	**Pb**	**08 53 37.3**	**+0.6**
OCAC	**Ocana**	**2.12**	**252**	*e*P	**Pn**	**08 53 35.4**	**+1.2**
SIQV	**Siquisique**	**2.26**	**40**	*e*P	**Pn**	**08 53 36.7**	**+0.6**
SIQV				*e*S	**Sn**	**08 54 05.0**	**+0.5**
TAMC	**Tame, Arauca**	**2.51**	**192**	*e*P	**Pg**	**08 53 45.2**	**-0.7**
ELOV	**Elorza**	**2.61**	**137**	*e*P	**Pn**	**08 53 41.2**	**+0.4**
ELOV				*e*S	**Sn**	**08 54 13.1**	**0.0**
CRJC	**Cerrejon, Guaj**	**2.62**	**323**	*e*P	**Pn**	**08 53 41.3**	**+0.3**
SMLC	**San Martn de**	**2.75**	**268**	*e*P	**Pn**	**08 53 40.8**	**-2.1**
MAPV	**Macapo**	**2.94**	**72**	*e*P	**Pn**	**08 53 46.1**	**+0.8**
MAPV				*e*S	**Sn**	**08 54 20.5**	**-0.7**
BARC	**Barichara**	**2.97**	**219**	*e*P	**Pn**	**08 53 48.4**	**+2.4**
BAUV	**El Baul**	**3.21**	**89**	*e*P	**Pn**	**08 53 49.9**	**+0.9**
BAUV				*e*S	**Sn**	**08 54 26.9**	**-1.0**
MONV	**Montecano**	**3.29**	**23**	*e*P	**Pn**	**08 53 50.2**	**0.0**
MONV				*e*S	**Sn**	**08 54 28.9**	**-1.0**
RUSC	**La Rusia**	**3.49**	**211**	*e*P	**Pn**	**08 53 53.7**	**+0.3**
PTBC	**PUERTO BERRIO,**	**3.93**	**233**	*e*P	**Pn**	**08 53 57.6**	**-1.4**
SPBC	**San Pablo de B**	**4.26**	**221**	*e*P	**Pn**	**08 54 03.8**	**+0.1**
UREC	**San Jos de Ur**	**4.36**	**255**	*e*P	**Pn**	**08 54 04.5**	**-0.4**
NORC	**Norcasia**	**4.87**	**227**	*e*P	**Pn**	**08 54 12.8**	**+0.8**
GUY2C	**Guyana, Caldas**	**5.46**	**228**	*e*P	**Pn**	**08 54 19.6**	**-0.9**
CBOC	**Ciudad Bolivar**	**5.58**	**237**	*e*P	**Pn**	**08 54 23.8**	**+1.9**

IDC 15 09:12:40.3±1.3, 15°.61S×177°.16W, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.7/33, mbtmp3.8/7, ML3.4/1, MS3.8/16, Ms1 3.8/16, ms1mx3.6/32, Error ellipse: s-maj=91.5km s-min=22.1km az=151.0
ISC 15 09:12:45.0±1.1, 15°.8S±0°.4×177°.0W±0°.2, h35km, **n31,** σ**1°32/8, mb3.7/6, MS3.9/16, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.38**	**70**	Pn	**Pn**	**09 14 01.8**	**-1.1**
	1.2nm,0.3s,baz=254,slow=23,SNR=1.9						
AFI				LR	LR	09 15 43.9	
	comp=Z,960nm,19.6s,baz=254,slow=34						
DZM	**Mont Dzumac**	**16.85**	**246**	eLQ	LQ	09 20 02.0	
	2μm,32.2s						
DZM				eLR	LR	09 20 47.8	
	comp=Z,396nm,25.8s						
DZM	**Mont Dzumac**	**16.85**	**246**	LR	LR	09 21 39.9	
	comp=Z,207nm,20.6s,baz=42,slow=32						
RAR	**Rarotonga**	**17.17**	**111**	LR	LR	09 21 46.0	
	comp=Z,367nm,21.0s,baz=256,slow=31						
URZ	**Urewera**	**22.93**	**192**	LR	LR	09 25 28.0	
	comp=Z,382nm,19.7s,baz=31,slow=33						
HNR	**Honiara**	**23.38**	**283**	LR	LR	09 25 49.8	
	comp=Z,353nm,18.4s,baz=120,slow=34						
PPT	**Papeete**	**26.30**	**98**	LR	LR	09 26 23.9	
	comp=Z,209nm,19.6s,baz=294,slow=31						
PPT2	**Papeete2**	**26.30**	**98**	eLR	LR	09 24 59.5	
	comp=Z,678nm,26.0s						
TBI	**Tubuai**	**26.95**	**110**	eLR	LR	09 25 23.4	
	comp=Z,592nm,28.0s						
RKT	**Rikitea**	**40.15**	**107**	eLR	LR	09 31 24.4	
	comp=Z,400nm,27.2s						
STKA	**Stephens Creek**	**40.84**	**239**	P	**P**	**09 20 23.2**	**-0.3**
	2.0nm,0.7s,baz=50,slow=7.9,SNR=2.3						
WRA	**Warramunga Arr**	**46.38**	**257**	LR	LR	09 39 52.4	
	comp=Z,102nm,19.2s,baz=95,slow=35						
ASAR	**Alice Springs**	**46.69**	**252**	P	**P**	**09 21 10.6**	**-0.2**
	2.1nm,0.7s,baz=84,slow=8.3,SNR=18						
ASAR				LR	LR	09 39 12.1	
	comp=Z,163nm,19.0s,baz=99,slow=34						
VNDA	**Vanda**	**62.62**	**185**	LR	LR	09 47 11.9	
	comp=Z,33nm,18.1s,baz=24,slow=33						
PETK	**Petropavlovsk-**	**72.05**	**344**	LR	LR	09 49 08.6	
	comp=Z,28nm,20.2s,baz=149,slow=30						
KSRS	**Korea Array**	**74.09**	**317**	LR	LR	09 50 51.5	
	comp=Z,34nm,22.0s,baz=245,slow=31						
NVAR	**Mina Array Bea**	**76.99**	**44**	P	**P**	**09 24 35.2**	**+0.6**
	0.4nm,0.8s,baz=236,slow=3.1,SNR=1.3						
ILAR	**Eielson Array**	**83.58**	**12**	P	**P**	**09 25 08.1**	**-1.0**
	0.3nm,0.6s,baz=219,slow=6.3,SNR=1.6						
ILAR				LR	LR	09 54 20.3	
	comp=Z,78nm,20.0s,baz=233,slow=30						
TXAR	**Lajitas Array**	**83.73**	**57**	P	**P**	**09 25 12.1**	**+1.2**
	0.3nm,0.9s,baz=271,slow=6.9,SNR=2.2						
PDAR	**Pinedale Array**	**84.92**	**43**	P	**P**	**09 25 18.8**	**+2.0**
	0.6nm,0.9s,baz=201,slow=6.8,SNR=3.9						
H03S2	**Juan Fernandez**	**87.82**	**124**	T	T	11 03 05.4	
	baz=247						
H03S1	**Juan Fernandez**	**87.83**	**124**	T	T	11 03 09.2	
	baz=247						
H03S3	**Juan Fernandez**	**87.83**	**124**	T	T	11 03 08.4	
	baz=247						
H03N2	**Juan Fernandez**	**87.93**	**124**	T	T	11 03 10.8	
	baz=257						
H03N3	**Juan Fernandez**	**87.94**	**124**	T	T	11 03 10.5	
	baz=257,slow=74						
H03N1	**Juan Fernandez**	**87.95**	**124**	T	T	11 03 11.4	
	baz=257,slow=74						
CMAR	**Chiang Mai Arr**	**89.49**	**289**	LR	LR	10 07 14.4	
	comp=Z,29nm,18.1s,baz=196,slow=37						
YKA	**Yellowknife Ar**	**91.89**	**24**	LR	LR	09 59 52.5	
	comp=Z,114nm,21.4s,baz=0.0,slow=31						
SONM	**Songino Array**	**92.89**	**319**	LR	LR	10 06 44.4	
	comp=Z,35nm,18.6s,baz=120,slow=35						
ATAH	**Atahualpa**	**96.27**	**99**	LR	LR	09 59 11.6	
	comp=Z,98nm,21.9s,baz=245,slow=29						
GERES	**GERESS Array B**	**145.94**	**347**	PKPbc	**PKPbc**	**09 32 20.3**	**-0.7**
	0.1nm,0.3s,baz=14,slow=2.0,SNR=1.5						

NEIC 15 09:20:02.1±1.4, 58°.14N±0°.04×154°.66W±0°.07, h84km±4km, Error ellipse: s-maj=6.4km s-min=4.9km az=132.0
AEIC 15 09:20:03±2.1, 58°.14N±0°.03×154°.74W±0°.07, h79km±5km, ML3.3, ML3.6/52(NEIC), Error ellipse: s-maj=5.6km s-min=4.0km az=85.0
IDC 15 09:20:03.2±1.9, 58°.32N×154°.36W, h85km±24km, mb3.2/1, mb1 3.4/5, mb1mx3.0/36, mbtmp3.5/5, Error ellipse: s-maj=29.5km s-min=21.8km az=108.0
ISC 15 09:20:01.8±0.9, 58°.17N±0°.05×154°.61W±0°.05, h87km±8km, **n129,σ1°12/124, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KABR	**Katmai Barrier**	**0.19**	**259**		**Pn**	**09 20 13.9**	**-0.5**
KAHG	**Katmai Hook Gl**	**0.33**	**6**		**Pn**	**09 20 15.4**	**+0.3**
KAHG					**Sn**	**09 20 25.4**	**+0.4**
KBM	**Katmai Bkd Mtn**	**0.33**	**289**		**Pn**	**09 20 14.8**	**-0.2**
KARR	**Katmai Rainbow**	**0.33**	**352**		**Pn**	**09 20 15.2**	**+0.1**
CAHL	**Cahill**	**0.38**	**252**		**Pn**	**09 20 15.0**	**-0.4**
KVTA	**Katmai Vly 10**	**0.42**	**301**		**Pn**	**09 20 15.5**	**-0.1**
KAHC	**Katmai Hardscr**	**0.52**	**337**		**Pn**	**09 20 16.5**	**-0.1**
KAHC					**Sn**	**09 20 27.0**	**-0.5**
KJL	**Kejulik**	**0.52**	**258**		**Pn**	**09 20 16.2**	**-0.2**
PLK2	**Peulik 2**	**1.00**	**247**		**Pn**	**09 20 21.3**	**0.0**
PLK3	**Peulik 3**	**1.01**	**242**		**Pn**	**09 20 21.3**	**-0.1**
PLK3					**Sn**	**09 20 35.1**	**-0.9**
PLK1	**Peulik 1**	**1.12**	**252**		**Pn**	**09 20 22.6**	**-0.1**
KDAK	**Kodiak Island**	**1.15**	**109**	P	**Pn**	**09 20 23.8**	**+0.8**
	40nm,0.3s,baz=309,slow=12,SNR=3040						
KDAK				S	**Sn**	**09 20 38.9**	**0.0**
	58nm,0.3s,baz=186,slow=23,SNR=8.2						
KDAK	**Kodiak Island**	**1.15**	**109**		**Pn**	**09 20 23.6**	**+0.6**
KDAK	**Kodiak Island**	**1.15**	**109**	IAML		09 20 44.8	
	561nm,0.8s						
OHAK	**Old Harbor**	**1.19**	**143**		**Pn**	**09 20 23.8**	**+0.3**
OHAK					**Sn**	**09 20 39.5**	**-0.2**
AUCH	**Augustine Cone**	**1.34**	**26**		**Pn**	**09 20 26.8**	**+1.4**
AUL	**Augustine Lava**	**1.36**	**26**		**Pn**	**09 20 27.0**	**+1.3**
AU22	**Augustine Moun**	**1.37**	**28**		**Pn**	**09 20 27.1**	**+1.4**
SII	**Sitkinak Islan**	**1.63**	**172**		**Pn**	**09 20 29.2**	**+0.2**
SII					**Sn**	**09 20 49.9**	**+0.1**
OPT	**Oil Point**	**1.65**	**25**		**Pn**	**09 20 30.7**	**+1.4**
ILS	**Iliamna Low So**	**1.96**	**23**		**Pn**	**09 20 34.7**	**+1.3**
IVE	**Iliamna Volcan**	**2.03**	**23**		**Pn**	**09 20 35.4**	**+1.0**
HOM	**Homer**	**2.15**	**45**		**Pn**	**09 20 37.4**	**+1.7**
HOM	**Homer**	**2.15**	**45**	IAML		09 21 05.7	
	comp=E,304nm,0.8s						
HOM				IAML		09 21 19.4	
	comp=N,274nm,1.1s						
CNPM	**China Poot**	**2.22**	**51**		**Pn**	**09 20 37.9**	**+1.1**
CNPM					**Sn**	**09 21 05.1**	**+1.6**
CHIR	**Chirikof Islan**	**2.42**	**194**	Pn	**Pn**	**09 20 39.1**	**-0.3**
RED	**Redoubt Volcan**	**2.45**	**22**		**Pn**	**09 20 41.4**	**+1.5**
RSO	**Redoubt South**	**2.49**	**22**		**Pn**	**09 20 42.0**	**+1.5**
BRLK	**Bradley Lake**	**2.51**	**49**		**Pn**	**09 20 41.1**	**+0.6**
NCT	**North Crescent**	**2.55**	**19**		**Pn**	**09 20 42.7**	**+1.5**
BRSE	**Bradley Lake S**	**2.55**	**50**		**Pn**	**09 20 41.9**	**+0.7**
CHGN	**Chignik**	**2.79**	**229**	Pn	**Pn**	**09 20 44.7**	**+0.4**
CHGN				IAML		09 22 02.9	
	comp=N,294nm,0.1s						
SVW2	**Sparrevohn**	**2.98**	**351**		**Pn**	**09 20 47.7**	**+0.8**
CAPN	**Captain Cook N**	**3.15**	**33**		**Pn**	**09 20 51.8**	**+2.6**
SLKM	**Skilak Lake**	**3.25**	**42**		**Pn**	**09 20 51.3**	**+0.8**
SEW	**Seward**	**3.29**	**52**		**Pn**	**09 20 51.1**	**0.0**
SPCN	**Chakachatna No**	**3.30**	**21**		**Pn**	**09 20 53.4**	**+2.1**
SPCP	**Crater Peak Br**	**3.35**	**21**		**Pn**	**09 20 54.1**	**+2.1**
O22K	**Cooper Landing**	**3.41**	**45**		**Pn**	**09 20 53.4**	**+0.6**
O22K	**Cooper Landing**	**3.41**	**45**	IAML		09 21 51.6	
	comp=N,156nm,1.0s						
STLK	**Strandline Lak**	**3.62**	**22**		**Pn**	**09 20 57.2**	**+1.5**
FIS	**Fire Island**	**3.72**	**35**		**Pn**	**09 20 59.1**	**+2.2**
FIS				IAML		09 22 24.0	
	comp=E,103nm,3.3s						
FIS				IAML		09 22 52.3	
	comp=N,137nm,3.7s						
RC01	**Rabbit Creek A**	**3.83**	**38**		**Pn**	**09 20 59.3**	**+0.9**
RC01	**Rabbit Creek A**	**3.83**	**38**	IAML		09 21 45.6	
	comp=N,52nm,0.5s						
SUA	**Susitna One**	**3.84**	**29**		**Pn**	**09 20 60.0**	**+1.3**
SUA	**Susitna One**	**3.84**	**29**	IAML		09 21 46.6	
	comp=N,52nm,1.0s						
SUA				IAML		09 21 47.0	
	comp=E,74nm,1.2s						
SKT	**Skwentna**	**4.12**	**21**		**Pn**	**09 21 03.5**	**+1.2**
PWL	**Port Wells**	**4.18**	**47**		**Pn**	**09 21 03.5**	**+0.3**
PWL	**Port Wells**	**4.18**	**47**	IAML		09 21 51.8	
	comp=N,46nm,0.7s						
PWL				IAML		09 21 52.6	
	comp=E,43nm,0.6s						
SDPT	**Sand Point**	**4.29**	**231**	Pn	**Pn**	**09 21 04.4**	**-0.3**
Q23K	**Middleton Isla**	**4.48**	**70**		**Pn**	**09 21 07.8**	**+0.6**
KNK	**Knik Glacier**	**4.50**	**41**		**Pn**	**09 21 07.3**	**-0.1**
KNK	**Knik Glacier**	**4.50**	**41**	IAML		09 22 10.4	
	comp=N,33nm,0.8s						
KNK				IAML		09 22 14.6	
	comp=E,32nm,1.0s						
GHO	**Glory Hole Cre**	**4.61**	**36**		**Pn**	**09 21 09.0**	**0.0**
GHO	**Glory Hole Cre**	**4.61**	**36**	IAML		09 22 12.7	
	comp=E,55nm,1.0s						
GHO				IAML		09 22 17.2	
	comp=N,32nm,0.9s						
GLI	**Glacier Island**	**4.69**	**51**		**Pn**	**09 21 09.5**	**-0.6**
GLI	**Glacier Island**	**4.69**	**51**	IAML		09 21 55.0	
	comp=N,47nm,1.5s						
GLI				IAML		09 22 15.3	
	comp=E,64nm,1.9s						
HIN	**Hinchinbrook I**	**4.72**	**58**		**Pn**	**09 21 11.0**	**+0.5**
HIN	**Hinchinbrook I**	**4.72**	**58**	IAML		09 22 10.4	
	comp=N,54nm,2.2s						
CUT	**Chulitna**	**4.77**	**25**		**Pn**	**09 21 12.4**	**+1.4**
CUT	**Chulitna**	**4.77**	**25**	IAML		09 22 07.8	
	comp=N,42nm,2.6s						
CUT				IAML		09 23 09.9	
	comp=E,53nm,3.1s						
TT01	**Tatalina**	**4.80**	**352**		**Pn**	**09 21 13.2**	**+1.6**
SML	**Sawmill**	**4.82**	**38**		**Pn**	**09 21 12.2**	**+0.3**
SML	**Sawmill**	**4.82**	**38**	IAML		09 22 23.1	
	comp=N,31nm,0.8s						
FID	**Port Fidalgo**	**4.89**	**55**		**Pn**	**09 21 11.9**	**-0.9**
FID	**Port Fidalgo**	**4.89**	**55**	IAML		09 22 27.6	
	comp=N,36nm,3.2s						
FID				IAML		09 22 36.2	
	comp=E,40nm,1.8s						
PPLA	**Purkeypile**	**4.89**	**13**	Pn	**Pn**	**09 21 14.8**	**+1.8**
EYAK	**Cordova Ski Ar**	**5.12**	**59**		**Pn**	**09 21 16.4**	**+0.5**
SCM	**Sheep Creek Mo**	**5.18**	**42**		**Pn**	**09 21 16.9**	**+0.1**
SCM	**Sheep Creek Mo**	**5.18**	**42**	IAML		09 22 41.4	
	comp=E,28nm,2.6s						
SCM				IAML		09 23 58.7	
	comp=N,22nm,3.5s						
DIV	**Divide**	**5.38**	**53**		**Pn**	**09 21 20.1**	**+0.6**
KLU	**Klutina**	**5.50**	**49**		**Pn**	**09 21 21.5**	**+0.3**
WAT1	**Susitna Watana**	**5.55**	**30**		**Pn**	**09 21 21.7**	**-0.1**
RAGM	**Ragged Mountai**	**5.56**	**62**	Pn	**Pn**	**09 21 22.5**	**+0.6**
WAT2	**Susitna Watana**	**5.65**	**29**		**Pn**	**09 21 23.2**	**0.0**
KTH	**Kantishna Hill**	**5.69**	**17**		**Pn**	**09 21 24.8**	**+1.1**
TRF	**Thorofare Moun**	**5.70**	**20**		**Pn**	**09 21 24.8**	**+0.8**
HMT	**Hamilton**	**5.74**	**63**	Pn	**Pn**	**09 21 25.1**	**+0.8**
M24K	**Tolsona, Glenn**	**5.77**	**43**		**Pn**	**09 21 25.3**	**+0.4**
SUCK	**Suckling Hills**	**5.90**	**67**	Pn	**Pn**	**09 21 27.3**	**+0.8**
RND	**Reindeer**	**5.96**	**26**		**Pn**	**09 21 28.2**	**+0.8**
BERG	**Berg Lake**	**6.02**	**64**		**Pn**	**09 21 28.7**	**+0.5**
N25K	**Chitina, Valde**	**6.10**	**51**		**Pn**	**09 21 29.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**6.20**	**15**	Pn	**Pn**	**09 21 31.3**	**+0.7**
MCK	**McKinley**	**6.23**	**24**		**Pn**	**09 21 32.1**	**+1.2**
CRQM	**Cirque**	**6.40**	**61**		**Pn**	**09 21 33.9**	**+0.4**
TGL	**Tana Glacier**	**6.54**	**62**		**Pn**	**09 21 35.9**	**+0.6**
PAX	**Paxson**	**6.59**	**39**	Pn	**Pn**	**09 21 37.2**	**+1.2**
MCARA	**McCarthy VSAT**	**6.68**	**56**		**Pn**	**09 21 37.6**	**+0.5**
MESA	**MESA**	**6.81**	**67**	Pn	**Pn**	**09 21 40.5**	**+1.4**
PTPK	**Patty Peak**	**6.85**	**59**		**Pn**	**09 21 40.6**	**+0.9**
YAH	**Yahtse**	**6.95**	**66**		**Pn**	**09 21 42.1**	**+1.1**
NEA2	**Nenana**	**6.97**	**20**	Pn	**Pn**	**09 21 40.4**	**-0.7**
GRNC	**Granite Creek**	**7.04**	**63**		**Pn**	**09 21 43.3**	**+1.0**
WRH	**Wood River Hil**	**7.05**	**24**		**Pn**	**09 21 41.2**	**-1.1**
RKAV	**Rock Avalanche**	**7.13**	**67**		**Pn**	**09 21 44.9**	**+1.4**
BARN	**Barnard Glacie**	**7.18**	**61**		**Pn**	**09 21 45.2**	**+1.1**
CHX	**Chaix Hills**	**7.20**	**69**		**Pn**	**09 21 45.8**	**+1.4**
TABL	**Table Mountain**	**7.26**	**66**		**Pn**	**09 21 46.5**	**+1.3**
CCB	**Clear Creek Bu**	**7.27**	**24**		**Pn**	**09 21 44.0**	**-1.1**
CTGM	**Chitina Glacie**	**7.30**	**62**		**Pn**	**09 21 47.1**	**+1.4**
LOGN	**Logan Glacier**	**7.42**	**63**		**Pn**	**09 21 48.1**	**+0.8**
I23K	**Minto, Yukon-K**	**7.43**	**17**		**Pn**	**09 21 47.2**	**-0.1**
TCOL	**CIGO, UAF Yank**	**7.46**	**23**	Pn	**Pn**	**09 21 46.6**	**-1.1**
COLA	**College**	**7.46**	**23**	Pn	**Pn**	**09 21 46.3**	**-1.3**
MDM	**Murphy Dome**	**7.46**	**21**		**Pn**	**09 21 46.6**	**-1.1**
DOT	**Dot Lake**	**7.52**	**39**		**Pn**	**09 21 49.2**	**+0.6**
IL31		**7.58**	**26**		**Pn**	**09 21 48.3**	**-1.0**
ILAR	**Eielson Array**	**7.58**	**26**	P	**Pn**	**09 21 48.4**	**-1.0**
	comp=N,0.5nm,0.3s,baz=213,slow=14,SNR=19						
ILAR				S	**Sn**	**09 23 08.6**	**-5.0**
	comp=N,0.5nm,0.3s,baz=201,slow=23,SNR=5.9						
ILAR	**Eielson Array**	**7.58**	**26**		**Pn**	**09 21 48.0**	**-1.4**
PCA	**Pinnacle**	**7.63**	**69**	Pn	**Pn**	**09 21 50.8**	**+0.6**
SCRK	**Sand Creek**	**7.77**	**37**		**Pn**	**09 21 51.6**	**-0.5**
YUK2	**White River**	**7.80**	**56**		**Pn**	**09 21 54.1**	**+1.7**
IM03		**7.85**	**3**		**Pn**	**09 21 54.5**	**+1.5**
BCPM	**Bancas Point**	**7.92**	**71**	Pn	**

SNR=46
ASUD Al Ashush, Dub 4.00 203 P **Pn 09 27 58.8 +2.3**
SNR=46
ASUD S **Sn 09 28 45.3 +2.4**
BSRN Basiran 4.04 26 *e*Pn **Pn 09 28 01.4 +4.3**
BSRN Basiran 4.04 26 *e*Pn **Pn 09 28 01.4 +4.3**
AJN Ajban 4.18 207 P **Pn 09 28 00.6 +1.6**
IKOO Kooshah 4.41 22 *e*Pn **Pn 09 28 03.8 +1.4**
YZKH Yazd 4.56 333 *e*Pn **Pn 09 28 06.2 +2.0**
YZKH Yazd 4.56 333 *e*Pn **Pn 09 28 06.2 +2.0**
TPRV Parvadeh(Tabas 4.61 356 *e*Pn Pn 09 28 11.3 +5.4
ITEG Tejag 4.78 18 *e*Pn **Pn 09 28 11.5 +4.2**
IDAH Dahanechah 5.02 28 *e*Pn **Pn 09 28 13.5 +2.8**
TKDS Koohdasht(Taba 5.26 1 *e*Pn Pn 09 28 19.2 +5.3
IRAM Ramesheh 5.31 312 *e*Pn **Pn 09 28 16.2 +1.5**
AFRZ Afriz 5.35 18 *e*Pn **Pn 09 28 18.5 +3.4**
KLNJ Kolanjah 5.43 301 *e*Pn **Pn 09 28 18.1 +1.6**
ANAR Anarak 5.61 330 *e*Pn **Pn 09 28 21.6 +2.9**
NASN Na'in 5.75 322 *e*Pn **Pn 09 28 23.0 +2.2**
NASN Na'in 5.75 322 *e*Pn **Pn 09 28 23.0 +2.2**
SHRT Shahrakht 5.98 27 *e*Pn **Pn 09 28 28.4 +4.6**
SHRT Shahrakht 5.98 27 *e*Pn **Pn 09 28 28.4 +4.6**
MKAR Makanchi Array 27.02 40 P **P 09 32 34.9 -2.2**
comp=Z,0.2nm,0.6s,baz=221,slow=7.4,SNR=3.1
FINES FINESS Array B 38.98 337 P **P 09 34 18.9 -2.1**
comp=Z,1.3nm,0.8s,baz=144,slow=12,SNR=4.2
NOA NORSAR Array B 44.64 330 LR LR 09 55 00.9
comp=Z,53nm,20.8s,baz=295,slow=38
TORD Torodi Ar. Bea 53.48 266 P **P 09 36 14.0 -1.6**
comp=Z,0.4nm,0.4s,baz=66,slow=7.6,SNR=3.6
WRA Warramunga Arr 88.73 113 P **P 09 39 49.6 +0.7**
comp=Z,0.3nm,0.7s,baz=318,slow=3.9,SNR=1.7
ASAR Alice Springs 90.28 117 P **P 09 39 56.1 0.0**
comp=Z,0.3nm,0.7s,baz=294,slow=2.7,SNR=2.4

MEX ***15*** *09:34:22.4±0.4, 31.52°N×115.50°W, h5km, MD3.6*
ECX ***15*** *09:34:22.2±0.8, 31.52°N×115.66°W, h6km±23km, MD2.1, ML2.3*
ISC 15 09:34:20.7±1.0, 31°56'N±0.04°×115°64'W±0.03, h9km±12km, n14, σ1°919/25, 5C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VTX	**Valle De La Tr**	**0.21**	**216**	⇑*e*P		**Pg**	**09 34 25.6**	**+0.5**
VTX				*e*S		**Sg**	**09 34 28.4**	**+0.3**
SJX	**San Joaquin**	**0.34**	**306**	⇓*i*P		**Pn**	**09 34 31.9**	**0.0**
SJX				*e*S		**Sb**	**09 34 39.2**	**+4.8**
ECBX	**El Chinero**	**0.51**	**100**	⇑*i*P		**Pg**	**09 34 30.6**	**0.0**
ECBX				*e*S		**Sg**	**09 34 37.3**	**+0.1**
SPIG	**San Pedro Mart**	**0.54**	**164**	*i* P		**Pg**	**09 34 31.3**	**+0.1**
SPIG				*e*S		**Sg**	**09 34 38.0**	**-0.3**
SPIG	**San Pedro Mart**	**0.54**	**164**	*e*P		**Pg**	**09 34 30.9**	**-0.3**
SPIG				*e*S		**Sg**	**09 34 38.3**	**0.0**
SPX	**San Pedro Mart**	**0.55**	**164**	*e*P		**Pg**	**09 34 31.3**	**-0.1**
SPX				*e*S		**Sg**	**09 34 38.1**	**-0.5**
SVX	**San Vicente**	**0.57**	**246**	⇑*i*P		**Pg**	**09 34 31.8**	**0.0**
SVX				*e*S		**Sg**	**09 34 39.1**	**-0.3**
SFX	**San Felipe**	**0.85**	**128**	*e*P		**Pg**	**09 34 37.4**	**+0.3**
SFX				*e*S		**Sg**	**09 34 48.4**	**+0.2**
CPBX	**Cerro Prieto**	**0.90**	**18**	IAML			09 34 57.8	
	comp=E,430nm,0.3s							
CPBX				⇑*e*			09 34 57.8	
SQX	**San Quintin**	**1.00**	**192**	*e*P		**Pg**	**09 34 38.9**	**-1.1**
SQX				*e*S		**Sg**	**09 34 51.5**	**-1.6**
RMX	**La Rumorosa**	**1.10**	**340**	*e*P		**Pg**	**09 34 41.5**	**-0.4**
RMX				*e*S		**Sg**	**09 34 55.3**	**-1.0**
CBX	**Cerro Bola**	**1.15**	**311**	*e*P		**Pb**	**09 34 42.8**	**-0.1**
CBX				IAML			09 34 59.0	
	comp=N,69nm,0.3s							
CBX				*e*			09 34 59.0	
CBX				⇑*e*			09 34 59.6	
CBX				IAML			09 34 59.6	
	comp=E,76nm,0.3s							
TJIG	**Tijuana**	**1.24**	**315**	*e*P		**Pb**	**09 34 44.4**	**+0.1**
TJIG				*e*S		**Sb**	**09 35 00.2**	**-0.2**
TKX	**Tecate**	**1.30**	**321**	*e*P		**Pn**	**09 34 44.2**	**-0.9**
TKX				*e*S		**Sb**	**09 35 01.4**	**-0.7**

IDC ***15*** *09:53:58.7±0.7, 1.09°S×13.07°W, h0km, mb4.1/15, mb1 4.2/16, mb1mx3.9/47, mbtmp4.1/16, ML3.4/1, MS3.7/12, Ms1 3.7/12, ms1mx3.5/28, Error ellipse: s-maj=25.0km s-min=14.3km az=151.0*
ISC 15 09:54:00.2±0.6, 1°0S±0.1°×13°1W±0.1, h11km, n26, σ1°937/17, mb4.1/14, MS3.6/10, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.92**	**192**	T		T	10 02 36.7	
	baz=11,slow=74,SNR=122							
H10N1	**ASCENSION HYDR**	**6.93**	**192**	T		T	10 02 46.5	
	baz=11,slow=74,SNR=175							
H10N3	**ASCENSION HYDR**	**6.93**	**192**	T		T	10 02 40.5	
	baz=11,slow=74,SNR=105							
DBIC	**Dimbokro**	**11.20**	**47**	Pn		**Pn**	**09 56 39.1**	**-1.3**
	0.3nm,0.3s,baz=212,slow=10,SNR=8.9							
DBIC				Sn		Sn	09 58 29.4	-16
	0.1nm,0.3s,baz=160,slow=15,SNR=1.6							
DBIC				LR		LR	10 00 17.8	
	comp=Z,390nm,19.6s,baz=196,slow=34							
KOWA	**Kowa**	**17.83**	**30**	P		**Pn**	**09 58 04.6**	**-3.9**
	0.3nm,0.3s,baz=219,slow=11,SNR=7.5							
KOWA				S		Sn	10 01 10.5	-17
	0.2nm,0.3s,baz=208,slow=23,SNR=1.5							
KOWA				LR		LR	10 04 32.4	
	comp=Z,314nm,18.7s,baz=200,slow=35							
TORD	**Torodi Ar. Bea**	**20.31**	**46**	P		**P**	**09 58 35.5**	**-1.0**
	3.7nm,0.5s,baz=231,slow=11,SNR=23							
TORD				LR		LR	10 05 44.1	
	comp=Z,274nm,19.8s,baz=225,slow=35							
RCBR	**Riachuelo**	**23.28**	**258**	LR		LR	10 06 46.8	
	comp=Z,92nm,18.4s,baz=138,slow=33							
BDFB	**Brasilia**	**37.41**	**245**	P		**P**	**10 01 13.6**	**-0.3**
	6.0nm,1.1s,baz=52,slow=11,SNR=6.8							
BDFB				LR		LR	10 14 55.2	
	comp=Z,42nm,19.6s,baz=174,slow=34							
ESDC	**Sonseca Array**	**41.34**	**11**	LR		LR	10 18 05.5	
	comp=Z,66nm,21.8s,baz=355,slow=35							
KEST	**Kesra**	**42.11**	**28**	LR		LR	10 20 29.1	
	comp=Z,168nm,18.2s,baz=276,slow=38							
LSZ	**Lusaka**	**43.11**	**111**	P		**P**	**10 02 01.2**	**+0.1**
	5.3nm,0.6s,baz=292,slow=5.1,SNR=13							
MBAR	**Mbarara**	**43.80**	**90**	P		**P**	**10 02 07.4**	**+0.6**
	3.6nm,0.2s,baz=267,slow=8.2,SNR=4.2							
BOSA	**Boshof**	**45.73**	**130**	P		**P**	**10 02 20.9**	**-1.0**
	1.3nm,0.6s,baz=294,slow=9.6,SNR=3.2							
PTGA	**Pitinga**	**46.89**	**270**	P		**P**	**10 02 31.3**	**+0.1**
	1.6nm,0.3s,baz=328,slow=22,SNR=1.3							
CPUP	**Villa Florida**	**49.43**	**236**	P		**P**	**10 02 49.8**	**-0.8**
	1.9nm,0.7s,baz=85,slow=6.9,SNR=5.8							
CPUP				LR		LR	10 21 36.8	
	comp=Z,66nm,19.2s,baz=70,slow=34							
SIV	**San Ignacio**	**49.59**	**250**	P		**P**	**10 02 51.9**	**-0.1**
	1.3nm,0.9s,baz=94,slow=6.5,SNR=5.7							
GERES	**GERESS Array B**	**54.79**	**21**	P		**P**	**10 03 30.6**	**+0.4**
	1.2nm,0.7s,baz=197,slow=4.2,SNR=9.4							
LPAZ	**La Paz**	**56.30**	**251**	P		**P**	**10 03 42.1**	**-0.2**
	1.0nm,0.8s,baz=69,slow=8.6,SNR=4.0							
LPAZ				LR		LR	10 26 07.2	
	comp=Z,82nm,20.4s,baz=84,slow=34							
BRTR	**Keskin Array B**	**58.83**	**41**	P		**P**	**10 04 00.1**	**+0.9**
	1.3nm,0.9s,baz=206,slow=8.2,SNR=6.4							
NOA	**NORSAR Array B**	**64.64**	**13**	P		**P**	**10 04 39.1**	**+1.3**
	1.5nm,1.2s,baz=209,slow=6.7,SNR=2.3							
NOA				LR		LR	10 35 55.5	
	comp=Z,36nm,19.5s,baz=335,slow=39							
PLCA	**Paso Flores**	**65.17**	**225**	LR		LR	10 29 15.2	
	comp=Z,43nm,20.4s,baz=148,slow=32							
FINES	**FINESS Array B**	**69.07**	**19**	P		**P**	**10 05 06.8**	**+0.9**
	1.2nm,0.8s,baz=242,slow=4.1,SNR=5.2							
GEYT	**Alibeck**	**75.86**	**51**	P		**P**	**10 05 48.2**	**+1.2**
	2.3nm,0.5s,baz=264,slow=1.4,SNR=3.0							
GEYT				LR		LR	10 40 53.6	
	comp=Z,98nm,18.9s,baz=10.0,slow=37							
MKAR	**Makanchi Array**	**94.41**	**43**	P		**P**	**10 07 21.5**	**+1.0**
	0.3nm,0.7s,baz=294,slow=1.4,SNR=2.7							
ASAR	**Alice Springs**	**139.61**	**130**	PKhKP		PKPpre	10 13 20.1	
	0.4nm,0.6s,baz=231,slow=2.8,SNR=9.7							
WRA	**Warramunga Arr**	**141.87**	**125**	PKhKP		PKPpre	10 13 28.3	
	0.4nm,0.6s,baz=244,slow=3.2,SNR=4.8							

ECX ***15*** *09:57:51.3±0.6, 30.49°N×113.97°W, h19km±4km, MD3.2, ML3.3*
MEX ***15*** *09:57:52.4±0.4, 30.66°N×114.12°W, h16km±6km, MD4.2*
ISC 15 09:57:49.6±1.0, 30°63'N±0.06°×114°10'W±0.04, h10km, n12, σ1°894/17, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFX	**San Felipe**	**0.77**	**302**	*e*P		**Pn**	**09 58 07.5**	**+0.9**
PPXB	**Puerto Peasco**	**0.81**	**29**	*e*P		**Pb**	**09 58 06.5**	**+0.6**
PPXB				*e*S		**Sn**	**09 58 19.4**	**+0.2**
BAHB	**Baha de los**	**0.82**	**146**	*e*P		Pn	09 58 18.1	+11
PIX	**Pinacate**	**1.08**	**30**	*e*P		**Pb**	**09 58 10.6**	**+0.2**
PIX				*e*S		**Sn**	**09 58 26.4**	**+0.6**
ECBX	**El Chinero**	**1.18**	**316**	*e*P		**Pb**	**09 58 12.2**	**+0.1**
ECBX				*e*S		**Sn**	**09 58 30.1**	**+1.8**
SPX	**San Pedro Mart**	**1.25**	**289**	*e*P		**Pg**	**09 58 15.2**	**+1.6**
SPX				*e*S		**Sn**	**09 58 33.8**	**+3.4**
SPX				IAML			09 58 46.1	
	comp=N,375nm,0.7s							
SPX				⇑*e*			09 58 46.1	
SPIG	**San Pedro Mart**	**1.25**	**290**	*i* P		**Pn**	**09 58 11.4**	**-2.1**
SPIG				*i* S		**Sb**	**09 58 25.8**	**-4.0**
SQX	**San Quintin**	**1.54**	**269**	*e*P		**Pb**	**09 58 18.6**	**+0.4**
SQX				*e*S		**Sg**	**09 58 40.1**	**+1.1**
CPBX	**Cerro Prieto**	**2.06**	**330**	IAML			09 59 40.3	
	comp=N,556nm,1.6s							
CPBX				⇓*e*			09 59 40.3	
CBX	**Cerro Bola**	**2.76**	**308**	IAML			09 59 41.0	
	comp=E,116nm,0.9s							
CBX				⇓*e*			09 59 41.0	
TJIG	**Tijuana**	**2.84**	**310**	*i* P		**Pn**	**09 58 34.4**	**-0.7**
TJIG				*i* S		**Sn**	**09 59 06.1**	**-3.3**
HSIG		**3.17**	**120**	*i* P		**Pn**	**09 58 39.4**	**-0.2**
HSIG				*i* S		**Sn**	**09 59 16.8**	**-0.7**

DDA ***15*** *10:02:10.4, 38.99°N×26.03°E, h7km±3km, ML2.4*
ISK ***15*** *10:02:10.9, 39.01°N×26.06°E, h7km, ML2.6/17*
ATH ***15*** *10:02:11.3, 38.98°N×25.97°E, h11km±3km, ML2.3/4, Error ellipse: s-maj=3.4km s-min=1.1km az=104.0*
ISC 15 10:02:11.0±0.9, 38°98'N±0.02°×26°02'E±0.03, h11km±9km, n37, σ0°962/57, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIGR	**SIGRI**	**0.26**	**331**	P		**Pg**	**10 02 16.4**	**+0.1**
SIGR				S		**Sg**	**10 02 20.1**	**+0.1**
SIGR				AML		AML	10 02 21.1	
	comp=E,2312μm,0.5s							
SIGR				AML		AML	10 02 21.3	
	comp=N,1351μm,0.3s							
SIGR	**SIGRI**	**0.26**	**331**	PG		**Pg**	**10 02 16.3**	**-0.1**
SIGR				SG		**Sg**	**10 02 20.8**	**+0.8**
PRK	**Paraskevi**	**0.33**	**37**	P		**Pb**	**10 02 18.4**	**-0.5**
PRK				S		**Sg**	**10 02 22.8**	**+0.7**
PRK				AML		AML	10 02 26.1	
	comp=N,1544μm,0.6s							
PRK				AML		AML	10 02 28.1	
	comp=E,1655μm,0.4s							
KOCA	**Canakkale, Ayv**	**0.53**	**10**	*i* P		**Pg**	**10 02 20.6**	**-0.7**
KOCA				*i* S		**Sg**	**10 02 28.5**	**+0.3**
KOCA				IAML			10 02 29.0	
	comp=N,209nm,0.5s							
PSRA	**Psara**	**0.57**	**219**	P		**Pg**	**10 02 21.8**	**-0.2**
PSRA				S		**Sg**	**10 02 28.3**	**-1.2**
KRBN	**Karaburun**	**0.57**	**133**	PG		**Pb**	**10 02 22.5**	**-0.5**
CHOS	**Chios island**	**0.60**	**177**	P		**Pg**	**10 02 22.6**	**-0.1**
CHOS				S		**Sb**	**10 02 31.6**	**-0.3**
CHOS				AML		AML	10 02 34.5	
	comp=N,398μm,0.4s							
CHOS				AML		AML	10 02 34.8	
	comp=E,760μm,0.2s							
CHOS	**Chios island**	**0.60**	**177**	PG		**Pg**	**10 02 22.8**	**+0.2**
CHOS				SG		**Sb**	**10 02 33.1**	**+1.2**
AYVA	**Ayvalik**	**0.62**	**58**	*i* P		**Pg**	**10 02 22.4**	**-0.6**
AYVA				*i* S		**Sg**	**10 02 30.7**	**-0.5**
AYVA				IAML			10 02 37.0	
	comp=N,168nm,0.7s							
FOCM	**Foa**	**0.62**	**116**	PG		**Pg**	**10 02 23.2**	**+0.1**
DKL	**Dikili**	**0.70**	**83**	PG		**Pg**	**10 02 24.3**	**-0.2**
URLA	**Izmir**	**0.77**	**144**	PG		**Pg**	**10 02 25.9**	**0.0**
URLA	**Izmir**	**0.77**	**144**	*i* P		**Pg**	**10 02 25.6**	**-0.3**
URLA				*i* S		**Sg**	**10 02 35.0**	**-1.0**
ZEDA	**zmir-Bergama**	**0.83**	**91**	*i* P		**Pb**	**10 02 27.7**	**+0.3**
ZEDA				*i* S		**Sb**	**10 02 39.7**	**+1.2**
ZEYE	**Izmir, Urla-Ze**	**0.84**	**153**	*i* P		**Pg**	**10 02 26.6**	**-0.6**
ZEYE				*i* S		**Sg**	**10 02 38.2**	**+0.1**
BOZC	**Bozcaada**	**0.86**	**2**	PG		**Pg**	**10 02 27.3**	**-0.3**
BOZC	**Bozcaada**	**0.86**	**2**	*i* P		**Pg**	**10 02 26.6**	**-1.0**
BOZC				*i* P		**Pb**	**10 02 27.7**	**-0.2**
BOZC				*i* S		**Sg**	**10 02 38.5**	**-0.3**
BOZC				*i* S		**Sb**	**10 02 39.0**	**-0.4**
BOZC				IAML			10 02 39.0	
	comp=E,219nm,0.3s							
BOZC				IAML			10 02 40.0	
	comp=N,139nm,0.3s							
BOZC				IAML			10 02 40.0	
	comp=N,131nm,0.3s							
BOZC				IAML			10 02 40.0	
	comp=E,190nm,0.3s							
BAYC	**CANAKKALE_Bayr**	**0.86**	**28**	*i* P		**Pb**	**10 02 28.0**	**0.0**
BAYC				*i* S		**Sg**	**10 02 37.8**	**-1.1**
EZN	**Ezine**	**0.87**	**16**	PG		**Pg**	**10 02 27.4**	**-0.5**
BLCB	**Balcova**	**1.00**	**126**	PG		**Pb**	**10 02 30.3**	**0.0**
ECEA	**Canakkale, Ece**	**1.07**	**7**	*i* P		**Pg**	**10 02 31.0**	**-0.5**
ECEA				*i* S		**Sb**	**10 02 46.2**	**+0.9**
ECEA				IAML			10 02 49.0	
	comp=E,154nm,0.6s							
LIA	**Limnos Island**	**1.12**	**325**	P		**Pg**	**10 02 32.2**	**-0.3**
LIA				S		**Sg**	**10 02 46.6**	**-0.4**
LIA				AML		AML	10 02 50.2	
	comp=E,325μm,0.4s							
LIA				AML		AML	10 02 50.2	
	comp=N,299μm,0.4s							
DGB	**zmir**	**1.15**	**144**	*i* P		**Pg**	**10 02 32.5**	**-0.6**
DGB				*i* S		**Sb**	**10 02 48.2**	**+0.5**
GADA	**Gvkgeada**	**1.21**	**356**	PN		**Pb**	**10 02 33.9**	**0.0**
STEP	**BALIKESIR_Sava**	**1.38**	**73**	*i* P		**Pn**	**10 02 36.6**	**+0.4**
STEP				*i* S		**Sg**	**10 02 56.0**	**+0.5**
BALY	**Balya**	**1.45**	**58**	*i* P		**Pn**	**10 02 36.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.46**	**14**	PN		**Pn**	**10 02 37.3**	**+0.1**
LPK	**Lapseki**	**1.50**	**22**	PN		**Pn**	**10 02 37.8**	**0.0**
SMTH	**Samothraki Isl**	**1.53**	**346**	P		**Pn**	**10 02 38.3**	**+0.1**
SMTH				S		**Sb**	**10 02 59.6**	**+0.8**
KRBG	**Karabiga-Canak**	**1.72**	**35**	PN		**Pn**	**10 02 41.1**	**+0.3**
ERIK	**Erikli-Kesan**	**1.73**	**13**	PN		**Pn**	**10 02 41.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.80**	**125**	PN		**Pn**	**10 02 42.9**	**+0.9**
EDC	**Edincik**	**1.97**	**46**	PN		**Pn**	**10 02 44.9**	**+0.6**
DURS	**Dursunbey**	**2.00**	**71**	*i* P		**Pn**	**10 02 43.0**	**-1.8**
MAR3	**Marsite Statio**	**2.01**	**29**	PN		**Pn**	**10 02 45.3**	**+0.4**
GZKV	**Gazikoy-Tekird**	**2.03**	**29**	PN		**Pn**	**10 02 45.8**	**+0.7**
KCTX	**Karacabey (Bur**	**2.21**	**54**	PN		**Pn**	**10 02 48.0**	**+0.3**

NNC 15 10:08:36.4±4.4, 50°62N×89°29E, h0km, mb3.5, mpv3.2, 5C-3D, Error ellipse: s-maj=32.9km s-min=26.2km az=86.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MK31	**Makanchi Array**	**6.01**	**233**	⇓Pn		Pn	10 10 07.4	+0.8
	0.9nm,0.6s,baz=55,slow=13,SNR=20							
MK31				⇑Sn		Sn	10 11 17.5	+1.5
	1.0nm,0.7s,baz=72,slow=11,SNR=6.3							
MK31				Lg		Lg	10 11 48.3	
	2.4nm,0.6s,baz=50,slow=25,SNR=5.2							
MAKZ	**Makanchi**	**6.16**	**235**	⇓Pn		Pn	10 10 09.5	+0.9
	2.2nm,1.0s							
MAKZ				⇑Sn		Sn	10 11 20.8	+1.0
	0.6nm,0.6s							
MAKZ				⇓Lg		Lg	10 11 51.8	
	3.0nm,0.9s							
KURBB	**Kurchatov Arra**	**6.85**	**274**	⇑Pn		Pn	10 10 17.1	-0.9
	1.8nm,0.9s							
KURBB				⇑Sn		Sn	10 11 36.3	-0.3
	3.3nm,0.7s							
KURBB				⇑Lg		Lg	10 12 13.3	
	7.7nm,0.7s							

IDC ***15*** *10:30:04.6±1.1, 26°81N×140°32E, h398km±12km, mb3.2/12, mb1 3.3/15, mb1mx3.1/38, mbtmp3.9/15, Error ellipse: s-maj=23.1km s-min=11.4km az=90.0*

JMA ***15*** *10:30:06.9±0.1, 27°30N×141°32E, h407km, M4.1*
ISC 15 10:30:05.2±0.8, 26°98N±0°09'×140°6E±0°1, h400km, n22, σ2°810/25, mb3.5/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.43**	**85**	P		**Pn**	**10 30 58.4**	**+0.4**
CBIJ				*e*S		**S**	**10 31 38.7**	**-2.0**
JCJ	**Chichijima**	**1.43**	**85**	P		**Pn**	**10 30 58.4**	**+0.3**
	14nm,0.3s,baz=322,slow=23,SNR=14							
JCJ				S		**S**	**10 31 37.5**	**-3.2**
	48nm,0.3s,baz=121,slow=23,SNR=32							
JHH2	**Haha-jima-NKT2**	**1.46**	**103**	P		**Pn**	**10 30 59.0**	**+0.8**
JHH2				S		**S**	**10 31 40.0**	**-1.0**
JHCJ	**Hachijojimakas**	**6.11**	**354**	P		**Pn**	**10 31 39.1**	**+0.2**
JHJ	**Hachijo jima 2**	**6.16**	**354**	P		**Pn**	**10 31 40.5**	**+1.1**
	34nm,0.3s,baz=114,slow=7.9,SNR=15							
TTO1	**TONANKAI O.B.S**	**7.39**	**335**	P		**P**	**10 31 56.7**	**+3.4**
JHU	**Hanno**	**8.91**	**353**	*e*S		**S**	**10 33 47.0**	**-6.4**
JAG	**Ashikaga**	**9.46**	**354**	S		**S**	**10 33 59.6**	**-5.3**
MJAR	**Matsushiro Arr**	**9.74**	**349**	P		**P**	**10 32 19.6**	**-0.2**
	0.1nm,0.3s,baz=171,slow=9.7,SNR=2.4							
MJAR				S		**S**	**10 34 06.7**	**-4.1**
	0.1nm,0.3s,baz=154,slow=23,SNR=2.0							
USRK	**Ussuriysk Ar.**	**18.53**	**340**	P		**P**	**10 33 56.3**	**+1.1**
	baz=151,slow=12,SNR=5.5							
KLR	**Kul'dur**	**23.24**	**345**	P		**P**	**10 34 38.6**	**-0.2**
	0.8nm,0.5s,baz=180,slow=8.2,SNR=4.8							
MA2	**Magadan**	**33.33**	**9**	P		**P**	**10 36 08.8**	**+1.5**
	1.3nm,0.3s,baz=157,slow=21,SNR=2.4							
SEY	**Seymchan**	**36.78**	**9**	P		**P**	**10 36 38.1**	**+1.8**
	0.9nm,0.4s,baz=204,slow=8.2,SNR=6.6							
WRA	**Warramunga Arr**	**47.04**	**188**	P		**P**	**10 37 56.7**	**-2.0**
	1.8nm,0.3s,baz=5.4,slow=7.5,SNR=67							
MKAR	**Makanchi Array**	**49.45**	**310**	P		**P**	**10 38 16.1**	**-0.5**
	0.3nm,0.5s,baz=89,slow=9.5,SNR=5.7							
ASAR	**Alice Springs**	**50.77**	**188**	P		**P**	**10 38 24.4**	**-2.1**
	0.4nm,0.6s,baz=360,slow=4.9,SNR=8.7							
ILAR	**Eielson Array**	**58.49**	**29**	P		**P**	**10 39 21.7**	**+0.9**
	0.5nm,0.6s,baz=257,slow=5.7,SNR=11							
YKA	**Yellowknife Ar**	**72.91**	**28**	P		**P**	**10 40 52.8**	**+1.0**
	0.9nm,0.7s,baz=296,slow=5.2,SNR=8.3							
ARCES	**ARCESS Array B**	**73.17**	**341**	P		**P**	**10 40 53.7**	**+0.5**
	4.5nm,0.9s,baz=62,slow=8.4,SNR=6.0							
FINES	**FINESS Array B**	**77.41**	**333**	P		**P**	**10 41 16.7**	**-0.4**
	1.5nm,0.5s,baz=64,slow=4.8,SNR=15							
NVAR	**Mina Array Bea**	**81.70**	**51**	P		**P**	**10 41 42.8**	**+2.1**
	0.4nm,0.6s,baz=306,slow=5.5,SNR=4.4							
NOA	**NORSAR Array B**	**83.18**	**338**	P		**P**	**10 41 46.6**	**-1.0**
	0.5nm,0.5s,baz=38,slow=5.0,SNR=4.6							

IDC ***15*** *10:35:45.5±1.0, 5.62°S×146.59°E, h0km, mb3.9/10, mb1 4.1/11, mb1mx4.0/27, mbtmp3.8/11, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/24, Error ellipse: s-maj=35.9km s-min=19.3km az=103.0*
ISC 15 10:35:57.7±0.9, 5°8S±0.1°×146°5E±0.2, h100km, n14, σ1°914/14, mb3.8/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.64**	**170**	P		**Pn**	**10 36 50.8**	**-1.3**
HNR	**Honiara**	**13.81**	**106**	LR		LR	10 43 45.6	
	comp=Z,59nm,18.8s,baz=210,slow=35							
WRA	**Warramunga Arr**	**18.37**	**219**	P		**P**	**10 40 03.9**	**-0.9**
	0.4nm,0.3s,baz=42,slow=12,SNR=20							
WRA				PcP		**PcP**	**10 44 34.0**	**+1.9**
	baz=41,slow=2.2,SNR=1.8							
ASAR	**Alice Springs**	**21.51**	**213**	P		**P**	**10 40 39.3**	**+0.6**
	1.4nm,0.7s,baz=49,slow=8.4,SNR=26							
FITZ	**Fitzroy Crossi**	**23.75**	**237**	P		**P**	**10 41 00.5**	**-0.6**
	2.3nm,0.6s,baz=53,slow=12,SNR=6.9							
KSRS	**Korea Array**	**46.39**	**340**	P		**P**	**10 44 14.4**	**+0.4**
	1.3nm,0.9s,baz=156,slow=9.1,SNR=5.3							
CMAR	**Chiang Mai Arr**	**52.72**	**298**	P		**P**	**10 45 02.8**	**+0.2**
	0.9nm,0.4s,baz=126,slow=7.3,SNR=2.6							
SONM	**Songino Array**	**63.99**	**331**	P		**P**	**10 46 19.9**	**-0.7**
	0.7nm,1.0s,baz=141,slow=4.8,SNR=3.0							
VNDA	**Vanda**	**72.14**	**177**	P		**P**	**10 47 12.9**	**+1.9**
	1.0nm,0.6s,baz=331,slow=7.1,SNR=7.0							
MKAR	**Makanchi Array**	**77.03**	**321**	P

DUWZ	**D'Urville Isla**	**7.60**	**213**	P		**Pn**	11 13 02.1	**-2.9**
DUWZ				S		**Sn**	11 14 31.6	**+0.7**
WEL	**Wellington**	**7.65**	**207**	P		**Pn**	11 13 02.5	**-3.1**
PLWZ	**Palliser**	**7.73**	**204**	P		**Pn**	11 13 02.6	**-4.2**
TCW	**Tory Channel**	**7.78**	**210**	P		**Pn**	11 13 03.7	**-3.7**
TUWZ	**Tuamarina**	**8.10**	**210**	P		**Pn**	11 13 07.9	**-3.7**
NNZ	**Nelson**	**8.18**	**214**	P		**Pn**	11 13 09.1	**-3.4**
QRZ	**Quartz Range**	**8.29**	**219**	P		**Pn**	11 13 11.0	**-3.0**
BSWZ	**Blackbirch Sta**	**8.37**	**210**	P		**Pn**	11 13 11.9	**-3.1**
THZ	**Tophouse**	**8.83**	**213**	P		**Pn**	11 13 17.6	**-3.4**
KHZ	**Kahutara**	**9.09**	**208**	P		**Pn**	11 13 20.6	**-3.9**
DSZ	**Denniston Nort**	**9.34**	**217**	P		**Pn**	11 13 24.7	**-3.0**
GVZ	**Greta Valley S**	**9.76**	**209**	P		**Pn**	11 13 29.2	**-3.9**
LTZ	**Lake Taylor**	**9.99**	**212**	P		**Pn**	11 13 31.1	**-4.2**
INZ	**Inchbonnie**	**10.25**	**215**	P		**Pn**	11 13 36.9	**-2.5**
OXZ	**Oxford**	**10.46**	**211**	P		**Pn**	11 13 37.6	**-4.6**
MQZ	**McQueen's Vall**	**10.53**	**208**	P		Pn	11 13 38.0	-5.0
AKCZ	**Akaroa Harbour**	**10.58**	**206**	P		**Pn**	11 13 40.4	**-3.2**
RACZ	**Rakaia**	**10.75**	**209**	P		**Pn**	11 13 41.7	**-4.2**
WVZ	**Waitaha Valley**	**10.86**	**216**	P		**Pn**	11 13 44.9	**-2.4**
WACZ	**Wakanui South**	**11.05**	**210**	P		**Pn**	11 13 46.0	**-3.8**
RPZ	**Rata Peaks**	**11.20**	**213**	P		**Pn**	11 13 48.4	**-3.3**
	1.5nm,0.3s,baz=239,slow=0.2,SNR=9.4							
RPZ				S		**Sn**	11 15 50.4	**-6.1**
	1.5nm,0.3s,baz=321,slow=22,SNR=16							
RPZ	**Rata Peaks**	**11.20**	**213**	P		**Pn**	11 13 48.5	**-3.3**
GCSZ	**Gaunt Creek Bo**	**11.24**	**216**	P		**Pn**	11 13 50.2	**-1.9**
ARCZ	**Arundel**	**11.33**	**212**	P		**Pn**	11 13 50.0	**-3.4**
FOZ	**Fox Glacier**	**11.65**	**217**	P		**Pn**	11 13 53.8	**-3.6**
TMZ	**Timaru**	**11.76**	**211**	P		**Pn**	11 13 54.7	**-4.1**
ODZ	**Otahua Downs**	**12.44**	**210**	P		**Pn**	11 14 04.2	**-3.2**
JCZ	**Jackson Bay**	**12.55**	**218**	P		**Pn**	11 14 05.9	**-3.0**
WKZ	**Wanaka**	**12.99**	**215**	P		**Pn**	11 14 10.9	**-3.5**
MLZ	**Mavora Lakes**	**13.82**	**215**	P		**Pn**	11 14 24.7	**0.0**
DZM	**Mont Dzumac**	**16.84**	**314**	P		**P**	11 14 56.9	**-3.5**
	0.2nm,0.3s,baz=115,slow=22,SNR=4.0							
STKA	**Stephens Creek**	**31.61**	**264**	P		**P**	11 17 24.1	**+2.9**
	1.3nm,0.6s,baz=117,slow=11,SNR=2.8							
CTA	**Charters Tower**	**32.60**	**288**	P		**P**	11 17 30.0	**+0.1**
	8.2nm,0.6s,baz=118,slow=11,SNR=13							
ASAR	**Alice Springs**	**40.89**	**273**	P		**P**	11 18 39.8	**-0.1**
	7.4nm,0.7s,baz=111,slow=7.5,SNR=99							
ASAR				pP		pP	11 19 09.6	-12
	1.8nm,0.7s,baz=111,slow=7.8,SNR=2.5							
WRA	**Warramunga Arr**	**42.26**	**278**	P		**P**	11 18 50.2	**-0.8**
	7.3nm,0.7s,baz=117,slow=7.7,SNR=109							
WRA				pP		pP	11 19 21.2	-12
	2.5nm,0.8s,baz=120,slow=7.8,SNR=4.3							
JAY	**Jayapura**	**48.06**	**303**	LR		LR	11 39 53.6	
	comp=Z,75nm,18.3s,baz=306,slow=36							
QSPA	**South Pole Qui**	**55.58**	**180**	P		P	11 20 37.2	+5.6
	19nm,0.6s,baz=22,slow=1.8,SNR=132							
SNAA	**Sanae**	**74.07**	**179**	P		**P**	11 22 33.8	**+3.1**
VNA3	**Neumayer Olymp**	**74.31**	**177**	P		**P**	11 22 35.6	**+3.6**
VNA2	**Neumayer--Watz**	**74.72**	**178**	P		**P**	11 22 38.3	**+4.0**
VNA1	**Neumayer--Stat**	**74.96**	**177**	P		**P**	11 22 39.8	**+4.1**
PLCA	**Paso Flores**	**81.28**	**134**	P		**P**	11 23 14.3	**+3.3**
	1.1nm,0.6s,baz=222,slow=6.7,SNR=10							
PETK	**Petropavlovsk-**	**89.31**	**347**	P		**P**	11 23 47.4	**-2.7**
	3.2nm,0.9s,baz=117,slow=8.9,SNR=5.1							
NVAR	**Mina Array Bea**	**92.76**	**44**	P		**P**	11 24 05.5	**-1.3**
	1.3nm,0.8s,baz=222,slow=7.6,SNR=9.5							
FINES	**FINESS Array B**	**148.15**	**336**	PKPbc		**PKPbc**	11 30 36.2	**-2.1**
	0.8nm,0.4s,baz=31,slow=5.5,SNR=12							
DBIC	**Dimbokro**	**151.99**	**171**	PKPab		**PKPab**	11 31 02.0	**+3.1**
	3.7nm,0.6s,baz=165,slow=6.3,SNR=4.1							
BRTR	**Keskin Array B**	**152.31**	**291**	PKPbc		**PKiKP**	11 30 48.8	**-0.7**
	0.4nm,0.8s,baz=117,slow=5.0,SNR=1.7							
NB2	**NORSAR Subarra**	**152.41**	**348**	PKP		**PKPbc**	11 30 46.2	**-2.4**
	comp=Z,0.3nm,0.5s,baz=12,slow=4.1							
AKASG	**Malin Array Be**	**152.99**	**316**	PKPbc		**PKPbc**	11 30 48.8	**-1.3**
	comp=Z,0.2nm,0.3s,baz=61,slow=2.5,SNR=2.1							
TORD	**Torodi Ar. Bea**	**158.59**	**186**	PKPab		**PKPab**	11 31 29.4	**+2.2**
	comp=Z,0.9nm,0.3s,baz=162,slow=3.6,SNR=2.5							

CRAAG ***15*** *11:22:10.9,35˚.73N×5˚.71E,Ml4.5*
GCMT ***15*** *11:22:11.9±0.4,35˚.72N±0˚.03×5˚.80E±0˚.04,h22km±1km, MW4.9/69,Moment Tensor Solution. s13,c15; s69,c86; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.95±.24; Mθθ-1.83±.15; Mφφ-0.11±.15; Mrθ-0.25±.19; Mrφ-1.87±.11; Mθφ0.28±.23; Best double couple: M₀2.56000×10¹⁶ NP1:φ₁38.00000°,δ48.00000°,λ62.00000°. NP2: φ₂256.00000°,δ49.00000°,λ117.00000°. Principal axes: T 2.0880, Plg70.0000°, Azm235.0000°; N 0.9460, Plg20.0000°, Azm58.0000°; P -3.0310, Plg1.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***15*** *11:22:12.0±0.0,35˚.70N×5˚.60E,h10km,mB5.1/18, mb4.6/34,Ms4.8/5,Ms7 4.4/3*
MOS ***15*** *11:22:12.6±1.4,35˚.76N×5˚.65E,h10km,mb4.8/23,Error ellipse: s-maj=9.3km s-min=4.6km az=62.6*
NEIC ***15*** *11:22:13.9±1.2,35˚.72N±0˚.01×5˚.71E±0˚.08,h10km±1km, mb4.6/41,Error ellipse: s-maj=10.7km s-min=3.0km az=96.0*
LDG ***15*** *11:22:13.3±0.3,35˚.39N×5˚.54E,h10km,Ml3.7/23,Error ellipse: s-maj=9.7km s-min=5.8km az=9.0*
IDC ***15*** *11:22:13.1±0.5,35˚.78N×5˚.69E,h0km,mb4.2/31, mb1 4.4/34,mb1mx4.2/59,mbtmp4.3/34,ML4.1/3,MS3.9/31, Ms1 3.9/31,ms1mx3.8/46,Error ellipse: s-maj=13.8km s-min=11.4km az=132.0*
MDD ***15*** *11:22:14.9±0.9,35˚.80N×5˚.69E,h0km,mb5.1/43,Error ellipse: s-maj=11.5km s-min=5.7km az=164.0,PRXIMO*
MED_RC ***15*** *11:22:15.0±1.0,35˚.72N×5˚.69E,h10km,MW4.6/13, Moment Tensor Solution.Mantle waves: s13,c20; Duration: 1s1 Moment tensor: Scale 10¹⁶Nm; Mrr0.84±.07; Mθθ-0.85±.05; Mφφ0.00±.07; Mrθ0.29±.20; Mθφ-0.73±.05; Mφr-0.05±.26; Best double couple: M₀1.11000×10¹⁶ NP1:φ₁220.00000°,δ43.00000°, λ60.00000°. NP2:φ₂78.00000°,δ54.00000°,λ115.00000°. Principal axes: T 0.9400, Plg69.0000°, Azm44.0000°; N 0.3500, Plg20.0000°, Azm243.0000°; P -1.2900, Plg6.0000°, Azm151.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
IGIL ***15*** *11:22:19.1,35˚.66N×5˚.55E,h40km,MS3.8*
ISC 15 11:22:14.7±0.3,35˚.83N±0˚.03×5˚.75E±0˚.02,h10km,n479, σ2ˢ13/548,mb4.6/71,MS4.0/28,36C-14D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CKHR	**Kef el Ahmar**	**0.27**	**315**	P		**Pg**	**11 22 18.8**	**-1.5**
CKHR	**Kef el Ahmar**	**0.27**	**315**	Pg		**Pg**	**11 22 18.8**	**-1.5**
SET	**Setif**	**0.47**	**323**	P		**Pg**	**11 22 24.0**	**+0.1**
SET	**Setif**	**0.47**	**323**	Pg		**Pg**	**11 22 24.0**	**+0.1**
CTEI	**Djebel Teioual**	**0.58**	**66**	P		**Pg**	**11 22 26.5**	**+0.4**
CTEI	**Djebel Teioual**	**0.58**	**66**	Pg		**Pg**	**11 22 26.5**	**+0.4**
DFRA	**Djebel Bou Aff**	**0.72**	**8**	P		**Pg**	**11 22 30.2**	**+1.4**
DFRA	**Djebel Bou Aff**	**0.72**	**8**	Pg		**Pg**	**11 22 30.2**	**+1.4**
CASM	**Ain Smara**	**0.74**	**54**	P		**Pb**	**11 22 30.4**	**+0.6**
CASM	**Ain Smara**	**0.74**	**54**	Pg		**Pb**	**11 22 30.4**	**+0.6**
CKFL	**Kef-Lekhel**	**0.97**	**54**	P		**Pn**	**11 22 35.0**	**+0.4**
CKFL	**Kef-Lekhel**	**0.97**	**54**	Pg		**Pn**	**11 22 35.0**	**+0.4**
CAEH	**'Ain El Ouahch**	**1.30**	**43**	P		**Pn**	**11 22 38.7**	**-0.3**
CAEH	**'Ain El Ouahch**	**1.30**	**43**	Pg		**Pn**	**11 22 38.7**	**-0.3**
AKET	**Djebel Ketaf**	**1.53**	**279**	P		**Pb**	**11 22 43.8**	**+0.5**
AKET	**Djebel Ketaf**	**1.53**	**279**	Pg		**Pb**	**11 22 43.8**	**+0.5**
CMAH	**Djebel Manchou**	**1.57**	**59**	P		**Pn**	**11 22 42.9**	**+0.2**
CMAH	**Djebel Manchou**	**1.57**	**59**	Pg		**Pn**	**11 22 42.9**	**+0.2**
ADJB	**Djebel Djouab**	**1.90**	**281**	P		**Pn**	**11 22 47.3**	**0.0**
ADJB	**Djebel Djouab**	**1.90**	**281**	Pn		**Pn**	**11 22 47.3**	**0.0**
ABMS	**Boumerdes**	**2.05**	**297**	P		**Pn**	**11 22 48.9**	**-0.4**
ABMS	**Boumerdes**	**2.05**	**297**	Pn		**Pn**	**11 22 48.9**	**-0.4**
ABA	**Alger-Bouzarea**	**2.40**	**295**	P		**Pn**	**11 22 53.2**	**-0.9**
ABA	**Alger-Bouzarea**	**2.40**	**295**	Pn		**Pn**	**11 22 53.2**	**-0.9**
KEST	**Kesra**	**2.93**	**91**	Pn		**Pn**	**11 23 02.2**	**+0.8**
	11nm,0.3s,baz=253,slow=2.1,SNR=94							
KEST				Sn		**Sn**	**11 23 37.6**	**+0.9**
	14nm,0.3s,baz=323,slow=12,SNR=4.3							
KEST	**Kesra**	**2.93**	**91**	Pn		**Pn**	**11 23 01.1**	**-0.3**
EBNR	**Beni Rached**	**3.45**	**279**	P		**Pn**	**11 23 09.1**	**+0.6**
ECHA	**Ech Chlef**	**3.57**	**276**	P		**Pb**	**11 23 17.1**	**-0.8**
ECHF	**Ech Chlef**	**3.59**	**277**	Pn		**Pb**	**11 23 17.1**	**-1.2**
ETRT	**Tiaret**	**3.65**	**264**	P		**Pn**	**11 23 14.2**	**+2.8**
ETRT	**Tiaret**	**3.65**	**264**	Pn		**Pn**	**11 23 14.2**	**+2.8**
EANR	**'Ain N'Sour**	**3.77**	**273**	P		**Pn**	**11 23 13.8**	**+0.7**
EANR	**'Ain N'Sour**	**3.77**	**273**	Pn		**Pn**	**11 23 13.8**	**+0.7**
OJGS	**Djebel Guires**	**4.08**	**267**	P		**Pb**	**11 23 23.0**	**-3.8**
OJGS	**Djebel Guires**	**4.08**	**267**	Pn		**Pb**	**11 23 23.0**	**-3.8**
OKGL	**Djebel Kef Gue**	**4.15**	**274**	P		**Pn**	**11 23 19.0**	**+0.8**
OKGL	**Djebel Kef Gue**	**4.15**	**274**	Pn		**Pn**	**11 23 19.0**	**+0.8**
MAHO	**Mahon**	**4.23**	**344**	Pn		**Pn**	**11 23 19.4**	**+0.3**
MAHO				Sn		**Sn**	**11 24 04.0**	**-4.6**
MAHO	**Mahon**	**4.23**	**344**	↑*i*P		**Pn**	**11 23 19.4**	**+0.3**
MAHO				*e*S		**Sn**	**11 24 04.0**	**-4.6**
OJBR	**Djebel Berber**	**4.40**	**268**	P		**Pn**	**11 23 20.0**	**-1.7**
OJBR	**Djebel Berber**	**4.40**	**268**	Pn		**Pn**	**11 23 20.0**	**-1.7**
ETOS	**Mallorca**	**4.57**	**330**	⇓Pn		**Pn**	**11 23 25.2**	**+1.3**
	156nm,0.5s,SNR=18							
ETOS				Sn		**Sn**	**11 24 14.9**	**-2.1**
	23nm,0.3s							
VSL	**Villasalto**	**4.66**	**37**	Pn		**Pn**	**11 23 26.5**	**+1.3**
EIBI	**Ibiza**	**4.74**	**314**	⇓Pn		**Pn**	**11 23 27.6**	**+1.4**
	155nm,0.5s,SNR=18							
EIBI				Sn		**Sn**	**11 24 21.8**	**+0.5**
	84nm,0.6s							
ODJA	**Bouhanifia**	**4.83**	**266**	P		**Pn**	**11 23 30.0**	**+2.4**
ODJA	**Bouhanifia**	**4.83**	**266**	Pn		**Pn**	**11 23 30.0**	**+2.4**
USTO	**Oran**	**5.12**	**271**	P		**Pb**	**11 23 47.0**	**+2.6**
OTSS	**Djebel Tessala**	**5.36**	**266**	P		**Pn**	**11 23 36.0**	**+1.1**
OTSS	**Djebel Tessala**	**5.36**	**266**	Pn		**Pn**	**11 23 36.0**	**+1.1**
EBEN2	**Beniarda presa**	**5.52**	**303**	Pn		**Pn**	**11 23 38.0**	**+0.9**
	SNR=7.9							
EBEN2				Sn		**Sn**	**11 24 40.1**	**-0.5**
	90nm,0.5s,SNR=7.9							
ETRV	**Los Montesinos**	**5.66**	**295**	Pn		**Pn**	**11 23 39.2**	**+0.4**
	SNR=7.9							
ETRV				Sn		**Sn**	**11 24 43.8**	**0.0**
	79nm,0.4s,SNR=7.9							
CART	**Cartagena**	**5.70**	**290**	Pn		**Pn**	**11 23 39.5**	**+0.1**
CART				Sn		**Sn**	**11 24 41.7**	**-3.2**
CART	**Cartagena**	**5.70**	**290**	*e*P		**Pn**	**11 23 39.5**	**+0.1**
CART				*e*S		**Sn**	**11 24 41.7**	**-3.2**
CART	**Cartagena**	**5.70**	**290**			**Pn**	**11 23 39.0**	**-0.4**
AFON	**Font Roja**	**5.76**	**301**	⇑Pn		**Pn**	**11 23 41.4**	**+1.1**
	58nm,0.4s,SNR=18							
AFON				Sn		**Sn**	**11 24 47.1**	**+0.5**
	54nm,0.6s							
EMUR	**La Murta**	**5.95**	**292**	⇑Pn		**Pn**	**11 23 43.3**	**+0.3**
	257nm,1.4s,SNR=18							
EMUR				Sn		**Sn**	**11 24 51.2**	**-0.1**
	26nm,0.5s							
CORL	**Corleone**	**6.40**	**69**	Pn		**Pn**	**11 23 47.1**	**-2.0**
ETOB	**Tobarra**	**6.46**	**298**	Pn		**Pn**	**11 23 51.7**	**+1.7**
	100nm,0.8s,SNR=60							
ETOB				Sn		**Sn**	**11 25 05.0**	**+1.2**
	25nm,0.6s							
CFON	**Fontmartina**	**6.46**	**337**	Pn		**Pn**	**11 23 50.6**	**+0.6**
	5.7nm,0.2s,SNR=10							
CFON				Sn		**Sn**	**11 25 04.2**	**+0.3**
	6.8nm,0.5s,SNR=8.8							
ECHE	**Chera**	**6.51**	**307**	Pn		**Pn**	**11 23 52.2**	**+1.5**
	34nm,0.6s,SNR=7.9							
ENIJ	**Nijar**	**6.52**	**282**	Pn		**Pn**	**11 23 49.8**	**-0.9**
	114nm,0.9s,SNR=7.9							
ENIJ				Sn		**Sn**	**11 25 03.9**	**-1.2**
	34nm,0.4s,SNR=7.9							
ERTA	**Horta de San J**	**6.65**	**322**	Pn		**Pn**	**11 23 52.5**	**-0.1**
	3.1nm,0.3s,SNR=6.5							
ERTA				Sn		**Sn**	**11 25 11.1**	**+2.6**
	7.3nm,0.3s,SNR=5.9							
EMOS	**Mosqueruela**	**6.67**	**315**	Pn		**Pn**	**11 23 53.9**	**+0.9**
	30nm,0.7s,SNR=28							
EMOS				Sn		**Sn**	**11 25 07.4**	**-1.8**
	20nm,0.4s							
EMIR	**Miracle**	**6.91**	**333**	Pn		**Pn**	**11 23 58.4**	**+2.2**
	54nm,0.3s,SNR=26							
EMIR				Sn		**Sn**	**11 25 17.0**	**+2.1**
	47nm,0.3s							
EJON	**La Jonquera**	**6.97**	**342**	Pn		**Pn**	**11 23 57.8**	**+0.8**
	7.1nm,0.2s,SNR=8.6							
EJON				Sn		**Sn**	**11 25 19.2**	**+2.8**
	5.7nm,0.3s							
SJAF	**Saint Jean de**	**7.01**	**342**	Pn		**Pn**	**11 23 58.4**	**+0.9**
	4.0nm,0.4s,SNR=7.9							
SJAF				Sn		**Sn**	**11 25 19.7**	**+2.5**
	6.4nm,0.6s,SNR=7.9							
SESP	**Santiago Espad**	**7.02**	**291**	Pn		**Pn**	**11 23 59.4**	**+1.6**
	139nm,0.5s,SNR=7.9							
SESP				Sn		**Sn**	**11 25 20.5**	**+2.8**
	51nm,0.4s,SNR=7.9							
EBER	**Berja**	**7.05**	**281**	Pn		**Pn**	**11 23 58.1**	**-0.1**
	53nm,0.5s,SNR=13							
EBER				Sn		**Sn**	**11 25 20.9**	**+2.5**
	18nm,0.4s,SNR=4.7							
RAFF	**Raffo Rosso**	**7.08**	**76**	Pn		**Pn**	**11 23 58.4**	**+0.1**
PGF	**Pioggiola**	**7.17**	**20**	Pn		**Pn**	**11 24 01.9**	**+2.2**
PGF				Sn		**Sn**	**11 25 22.3**	**+1.0**
	12nm,0.6s							
PGF	**Pioggiola**	**7.17**	**20**	*e*Pn		**Pn**	**11 24 01.9**	**+2.2**
PGF				*e*Sn		**Sn**	**11 25 22.3**	**+1.0**
	24nm,0.6s							
GORA	**Gorafe**	**7.25**	**286**	Pn		**Pn**	**11 24 03.4**	**+2.5**
	77nm,0.7s,SNR=7.9							
CLLI	**Llivia**	**7.26**	**337**	Pn		**Pn**	**11 24 02.4**	**+1.4**
	40nm,0.9s,SNR=14							
CLLI				Sn		**Sn**	**11 25 28.0**	**+4.5**
	4.3nm,0.3s,SNR=6.0							
EQES	**Quesada**	**7.34**	**288**	Pn		**Pn**	**11 24 03.8**	**+1.7**
	106nm,0.7s,SNR=47							
EQES				Sn		**Sn**	**11 25 28.9**	**+3.3**
	28nm,0.4s,SNR=4.1							
CSOR	**Sort**	**7.46**	**333**	Pn		**Pn**	**11 24 06.4**	**+2.7**
	33nm,0.4s,SNR=62							
CSOR				Sn		**Sn**	**11 25 29.5**	**+1.2**
	4.2nm,0.6s,SNR=12							
LMR	**La Mourre**	**7.52**	**4**	Pn		**Pn**	**11 24 05.6**	**+1.2**
LMR				Sn		**Sn**	**11 25 27.1**	**-2.6**
	1.9nm,0.3s							
LMR	**La Mourre**	**7.52**	**4**	*e*Pn		**Pn**	**11 24 05.6**	**+1.2**
LMR				*e*Sn		**Sn**	**11 25 27.1**	**-2.6**
	3.9nm,0.3s							
EQUE	**Quentar**	**7.53**	**283**	Pn		**Pn**	**11 24 05.2**	**+0.6**
	53nm,0.5s,SNR=45							
EQUE				Sn		**Sn**	**11 25 32.6**	**+2.6**
	17nm,0.4s,SNR=4.2							
ELGU	**Los Guajares,**	**7.63**	**281**	Pn		**Pn**	**11 24 06.7**	**+0.6**
	44nm,0.5s,SNR=7.9							
FRF	**La Foret Royal**	**7.75**	**5**	Pn		**Pn**	**11 24 11.6**	**+4.0**
FRF				Sn		**Sn**	**11 25 34.0**	**-1.5**
	4.0nm,0.4s							
FRF	**La Foret Royal**	**7.75**	**5**	*e*Pn		**Pn**	**11 24 11.6**	**+4.0**
FRF				*e*Sn		**Sn**	**11 25 34.0**	**-1.5**
	8.0nm,0.4s							
ETOR	**Torete**	**7.90**	**311**	Pn		**Pn**	**11 24 12.4**	**+2.6**
	28nm,0.8s,SNR=15							
ETOR				Sn		**Sn**	**11 25 41.6**	**+2.4**
	21nm,0.5s,SNR=5.0							
MTLF	**Montolieu**	**7.98**	**341**	Pn		**Pn**	**11 24 10.9**	**+0.1**
MTLF				Sn		**Sn**	**11 25 37.8**	**-3.3**
	5.0nm,0.5s							
MTLF	**Montolieu**	**7.98**	**341**	*e*Pn		**Pn**	**11 24 10.9**	**+0.1**
MTLF				*e*Sn		**Sn**	**11 25 37.8**	**-3.3**
	10.0nm,0.5s							
EGOR	**Sierra Gorda,**	**8.04**	**282**	Pn		**Pn**	**11 24 13.3**	**+1.6**
	69nm,0.9s,SNR=7.9							
EGOR				Sn		**Sn**	**11 25 48.0**	**+5.1**
	7.0nm,0.5s,SNR=7.9							
ECHI	**Chisagues Biel**	**8.07**	**329**	Pn		**Pn**	**11 24 15.2**	**+3.0**
	6.4nm,0.4s,SNR=7.9							
SBF	**Sospel**	**8.13**	**9**	Pn		**Pn**	**11 24 15.6**	**+2.8**
SBF				Sn		**Sn**	**11 25 42.5**	**-2.3**
	1.9nm,0.3s							
SBF	**Sospel**	**8.13**	**9**	*e*Pn		**Pn**	**11 24 15.6**	**+2.8**
SBF				*e*Sn		**Sn**	**11 25 42.5**	**-2.3**
	3.7nm,0.3s							
SMRF	**Simiane la Rot**	**8.14**	**359**	Pn		**Pn**	**11 24 15.6**	**+2.6**
SMRF				Sn		**Sn**	**11 25 42.8**	**-2.2**
	3.5nm,0.6s							
SMRF	**Simiane la Rot**	**8.14**	**359**	*e*Pn		**Pn**	**11 24 15.6**	**+2.6**
SMRF				*e*Sn		**Sn**	**11 25 42.8**	**-2.2**
	3.5nm,0.6s							
PVLZ	**Peæn de**	**8.22**	**268**	Pn		**Pn**	**11 24 14.6**	**+0.5**
PVLZ				Sn		**Sn**	**11 25 44.0**	**-3.0**
PVLZ	**Peæn de**	**8.22**	**268**	*e*P		**Pn**	**11 24 14.6**	**+0.5**
PVLZ				*e*S		**Sn**	**11 25 44.0**	**-3.0**
EMAL	**Malaga-Limoner**	**8.27**	**279**	Pn		**Pn**	**11 24 16.4**	**+1.7**
EMAL	**Malaga-Limoner**	**8.27**	**279**	*e*P		**Pn**	**11 24 16.4**	**+1.7**
EPF	**Esparros**	**8.32**	**331**	Pn		**Pn**	**11 24 17.7**	**+2.3**
EPF				Sn		**Sn**	**11 25 46.1**	**-3.4**
	11nm,0.5s							
EPF	**Esparros**	**8.32**	**331**	*e*Pn		**Pn**	**11 24 17.7**	**+2.3**
EPF				*e*Sn		**Sn**	**11 25 46.1**	**-3.4**
	22nm,0.5s							
LASF	**Ste Croix**	**8.37**	**351**	Pn		**Pn**	**11 24 18.3**	**+2.3**
LASF				Sn		**Sn**	**11 25 47.6**	**-2.9**
	2.6nm,0.4s							
LASF	**Ste Croix**	**8.37**	**351**	*e*Pn		**Pn**	**11 24 18.3**	**+2.3**
LASF				*e*Sn		**Sn**	**11 25 47.6**	**-2.9**
	5.1nm,0.4s							
UCM	**Universidad Co**	**8.38**	**305**	Pn		**Pn**	**11 24 18.4**	**+2.1**
UCM				Sn		**Sn**	**11 25 50.4**	**-0.6**
UCM	**Universidad Co**	**8.38**	**305**	*e*P		**Pn**	**11 24 18.4**	**+2.1**
UCM				*e*S		**Sn**	**11 25 50.4**	**-0.6**
ETSF	**Etsaut**	**8.58**	**327**	Pn		**Pn**	**11 24 21.8**	**+2.7**
ETSF				Sn		**Sn**	**11 25 52.1**	**-3.9**
	6.5nm,0.5s							
ETSF	**Etsaut**	**8.58**	**327**	*e*Pn		**Pn**	**11 24 21.8**	**+2.7**
ETSF				*e*Sn		**Sn**	**11 25 52.1**	**-3.9**
	13nm,0.5s							
EADA	**Adamuz**	**8.58**	**289**	Pn		**Pn**	**11 24 18.9**	**-0.2**
	32nm,0.8s,SNR=15							
EADA				Sn		**Sn**	**11 26 02.4**	**+6.4**
	6.3nm,0.9s,SNR=4.8							
ESBB	**Sonseca Array**	**8.59**	**299**	Pn		**Pn**	**11 24 18.2**	**-1.0**
ESDC	**Sonseca Array**	**8.60**	**299**	Pn		**Pn**	**11 24 19.9**	**+0.7**
	0.9nm,0.3s,baz=114,slow=13,SNR=50							
ESDC				Sn		**Sn**	**11 25 53.8**	**-2.5**
	0.6nm,0.3s,baz=105,slow=24,SNR=3.8							
ESDC				LR		LR	11 27 31.5	
	comp=Z,1μm,20.3s,baz=120,slow=37							
ESDC	**Sonseca Array**	**8.60**	**299**	Pn		**Pn**	**11 24 20.3**	**+1.1**
	147nm,1.1s,baz=116,slow=13,SNR=35							
ESDC				Sn		**Sn**	**11 25 52.7**	**-3.6**
	206nm,2.6s,baz=112,slow=24,SNR=4.6							
ESDC	**Sonseca Array**	**8.60**	**299**			**Pn**	**11 24 18.4**	**-0.8**
ATE	**Arette**	**8.79**	**327**	Pn		**Pn**	**11 24 24.2**	**+2.3**
	11nm,0.5s,SNR=7.9							
ATE				Sn		**Sn**	**11 26 00.6**	**-0.5**
	6.0nm,0.3s,SNR=7.9							
PAB	**San Pablo**	**8.82**	**298**	Pn		**Pn**	**11 24 23.0**	**+0.7**
	24nm,0.8s,SNR=7.9							
PAB	**San Pablo**	**8.82**	**298**	P		**Pn**	**11 24 22.1**	**-0.3**
PAB	**San Pablo**	**8.82**	**298**	Pn		**Pn**	**11 24 22.1**	**-0.3**
EORO	**Oroz-Betelu**	**8.92**	**324**	Pn		**Pn**	**11 24 25.4**	**+1.7**
	6.1nm,0.4s,SNR=12							
MBDF	**Montbardon**	**8.92**	**5**	*e*Pn		Pn	11 24 29.3	+5.5
MBDF				*e*Sn		**Sn**	**11 26 02.9**	**-1.5**
	2.0nm,0.4s							
EARA	**Aranguren**	**8.96**	**323**	Pn		**Pn**	**11 24 26.8**	**+2.6**
	5

PCVE **Castro Verde** 11.21 283 *e*P Pn **11 24 55.0 0.0**
60nm,2.0s
EARI **Arriondas** 11.27 315 Pn Pn **11 24 58.4 +2.6**
12nm,0.6s,SNR=94
EARI Sn **Sn** **11 27 02.5 +0.6**
1.6nm,0.4s,SNR=7.8
EVO **Evora** 11.30 288 *e*P Pn 11 24 49.5 -6.8
EVO *e*S Sn 11 26 21.4 -41
EVO **Evora** 11.30 288 *e*P Pn 11 24 48.8 -7.5
27nm,1.8s
MVO **Moncorvo** 11.34 302 Pn **Pn** **11 24 58.7 +1.9**
21nm,0.9s,SNR=12
MVO Sn **Sn** **11 27 01.3 -2.3**
4.0nm,0.7s,SNR=7.9
MVO **Moncorvo** 11.34 302 *e*P **Pn** **11 24 57.4 +0.6**
66nm,1.6s
MVO *e*LR LR 11 28 12.7
607nm,20.0s
SSF **Saint Saulge** 11.35 352 Pn **Pn** **11 25 00.1 +3.2**
SSF **Saint Saulge** 11.35 352 *e*Pn **Pn** **11 25 00.1 +3.2**
DAVOX **Davos/Dischmat** 11.37 15 LR LR 11 29 34.2
comp=Z,506nm,19.0s,baz=259,slow=39
MESJ **Messejana** 11.37 284 *e*P **Pn** **11 24 57.3 +0.1**
MESJ AMS AMS 11 29 04.3
comp=N,918nm,19.1s
MESJ **Messejana** 11.37 284 Pn **Pn** **11 24 57.3 +0.1**
MESJ **Messejana** 11.37 284 *e*P **Pn** **11 24 57.4 +0.2**
comp=N,54nm,1.9s
MTE **Manteigas** 11.42 298 *e*LR LR 11 28 18.2
comp=N,476nm,16.0s
PBRG **Braganca** 11.42 305 Pn **Pn** **11 25 00.2 +2.3**
comp=N,43nm,1.3s
PBRG **Braganca** 11.42 305 *e*P **Pn** **11 25 00.2 +2.3**
comp=N,86nm,1.3s
ECAL **Calabor** 11.48 306 Pn **Pn** **11 25 00.6 +1.8**
comp=N,84nm,0.9s,SNR=16
ECAL Sn **Sn** **11 27 07.1 0.0**
comp=N,2.6nm,0.4s,SNR=7.9
LOR **Lormes** 11.52 354 Pn **Pn** **11 25 01.8 +2.6**
LOR **Lormes** 11.52 354 *e*Pn **Pn** **11 25 01.8 +2.6**
PMTG **Montargil** 11.57 290 Pn **Pn** **11 25 00.6 +0.7**
comp=N,30nm,1.7s
PMTG **Montargil** 11.57 290 *e*P **Pn** **11 25 00.6 +0.7**
comp=N,30nm,1.7s
MFF **Saint Martin d** 11.64 339 Pn **Pn** **11 25 03.2 +2.4**
MFF Sn **Sn** **11 27 05.9 -4.9**
comp=N,0.8nm,0.5s
MFF **Saint Martin d** 11.64 339 *e*Pn **Pn** **11 25 03.2 +2.4**
MFF *e*Sn **Sn** **11 27 05.9 -4.9**
comp=N,1.6nm,0.5s
MFF **Saint Martin d** 11.64 339 P **Pn** **11 25 04.3 +3.5**
PNCL **Nicolau / Gran** 11.65 286 Pn **Pn** **11 25 01.4 +0.4**
comp=N,35nm,1.6s
PNCL **Nicolau / Gran** 11.65 286 *e*P **Pn** **11 25 01.4 +0.4**
comp=N,35nm,1.6s
MORF **Marmelete** 11.67 282 *e*P **Pn** **11 25 01.5 +0.1**
MORF AMS AMS 11 29 07.0
comp=N,1µm,21.1s
MORF **Marmelete** 11.67 282 Pn **Pn** **11 25 01.5 +0.1**
MORF **Marmelete** 11.67 282 *e*P **Pn** **11 25 01.9 +0.5**
comp=N,35nm,1.7s
PTEO **Sao Teotonio** 11.75 283 Pn **Pn** **11 25 02.3 0.0**
comp=N,52nm,2.0s
PTEO **Sao Teotonio** 11.75 283 *e*P **Pn** **11 25 02.3 0.0**
comp=N,105nm,2.0s
PVIS **Viseu** 11.78 299 Pn **Pn** **11 25 04.1 +1.3**
comp=N,17nm,1.8s
PVIS **Viseu** 11.78 299 *e*P **Pn** **11 25 04.1 +1.3**
comp=N,35nm,1.8s
FETA **Feichten** 11.79 17 *e*P Pn 11 25 17.5 +14
comp=N,4.6nm,1.1s
PFVI **Vila Bisbo** 11.81 281 Pn **Pn** **11 25 03.3 +0.1**
comp=N,13nm,0.4s,SNR=7.9
PFVI **Vila Bisbo** 11.81 281 *e*P **Pn** **11 25 02.7 -0.5**
comp=N,170nm,1.6s
DAVA **Damuels** 11.86 14 *e*P Pn 11 25 20.1 +16
comp=N,26nm,0.9s
PVRL **Vila Real** 11.86 301 Pn **Pn** **11 25 04.6 +0.7**
comp=N,20nm,1.7s
PVRL **Vila Real** 11.86 301 *e*P **Pn** **11 25 04.6 +0.7**
comp=N,40nm,1.7s
POLO **Lamas de Olo** 11.95 302 Pn **Pn** **11 25 06.6 +1.4**
comp=N,29nm,1.5s
POLO **Lamas de Olo** 11.95 302 *e*P **Pn** **11 25 06.6 +1.4**
comp=N,29nm,1.5s
HINF **Hinteralfeld** 12.01 4 Pn **Pn** **11 25 09.1 +3.2**
HINF **Hinteralfeld** 12.01 4 *e*Pn **Pn** **11 25 09.1 +3.2**
PCAS **Casmilo, Conde** 12.01 295 Pn **Pn** **11 25 07.7 +1.7**
comp=N,51nm,1.4s
PCAS **Casmilo, Conde** 12.01 295 *e*P **Pn** **11 25 07.7 +1.7**
comp=N,51nm,1.4s
ABTA **Abfaltersbach** 12.03 23 *e*P Pn 11 25 14.8 +8.5
comp=N,8.9nm,1.1s
SQTA **Sankt Quirin** 12.09 18 *e*P Pn 11 25 22.7 +16
comp=N,11nm,0.9s
PSBE **So Bento** 12.10 292 *e*P **Pn** **11 25 10.5 +3.3**
comp=N,46nm,1.2s
HAU **Haudompre** 12.18 2 Pn **Pn** **11 25 12.8 +4.6**
HAU **Haudompre** 12.18 2 *e*Pn **Pn** **11 25 12.8 +4.6**
MOTA **Moosalm** 12.18 18 *e*P Pn 11 25 19.4 +11
comp=N,6.9nm,1.1s
RETA **Reutte** 12.23 16 *e*P Pn 11 25 17.8 +8.7
comp=N,3.6nm,0.7s
WTTA **Wattenberg** 12.24 19 *e*P Pn 11 25 18.8 +9.5
comp=N,8.0nm,1.0s
PCAB **Cabril** 12.24 303 Pn **Pn** **11 25 10.9 +1.7**
comp=N,37nm,1.5s
PCAB **Cabril** 12.24 303 *e*P **Pn** **11 25 10.9 +1.7**
comp=N,75nm,1.5s
WATA **Walderalm** 12.29 19 *e*P Pn 11 25 18.8 +8.8
comp=N,5.1nm,1.0s
MYKA **Terra Mystica** 12.31 26 *e*P Pn 11 25 23.4 +13
comp=N,5.7nm,0.9s
ELOB **Lobios** 12.33 303 Pn **Pn** **11 25 12.5 +2.1**
SNR=7.9
PMAFR **Mafra** 12.36 289 Pn **Pn** **11 25 11.9 +1.2**
comp=N,37nm,0.9s,SNR=7.9
PMAFR Sn **Sn** **11 27 34.1 +5.6**
comp=N,14nm,0.4s,SNR=4.0
PMAFR **Mafra** 12.36 289 *e*P **Pn** **11 25 12.2 +1.5**
comp=N,177nm,1.6s
SFTF **Sexfontaines** 12.38 358 Pn **Pn** **11 25 13.5 +2.5**
SFTF **Sexfontaines** 12.38 358 *e*Pn **Pn** **11 25 13.5 +2.5**
EPON **Pontenova** 12.44 311 Pn **Pn** **11 25 13.7 +1.8**
comp=N,4.4nm,0.4s,SNR=6.5
CLF **Chambon-Foret** 12.46 349 Pn **Pn** **11 25 12.2 +0.2**
PGAV **Gavieira, Arco** 12.52 304 Pn **Pn** **11 25 15.2 +2.3**
comp=N,57nm,1.2s
PGAV **Gavieira, Arco** 12.52 304 *e*P **Pn** **11 25 15.2 +2.3**
comp=N,57nm,1.2s
PGAV *e*LR LR 11 28 51.3
comp=N,710nm,20.0s
OBKA **Obir** 12.55 29 *e*P Pn 11 25 26.1 +13
comp=N,2.9nm,0.7s
KBA **Koelnbreinsper** 12.59 24 *e*P Pn 11 25 29.3 +15
comp=N,5.8nm,1.1s
BFO **Black Forest** 12.64 8 P **Pn** **11 25 15.1 +0.6**
BFO **Black Forest** 12.64 8 Pn **Pn** **11 25 15.1 +0.6**
MEZF **Maizieres J'vi** 12.68 358 Pn **Pn** **11 25 16.8 +1.8**
MEZF **Maizieres J'vi** 12.68 358 *e*Pn **Pn** **11 25 16.8 +1.8**
PAGF **Fort de Pagny** 12.72 360 *e*Pn **Pn** **11 25 17.6 +2.0**
EAGO **Agolada(Pontev** 12.77 307 Pn **Pn** **11 25 17.5 +1.2**
SNR=7.9
SOKA **Soboth** 12.88 30 *e*P Pn 11 25 33.6 +16
comp=N,3.9nm,0.9s
TAM **Tamanrasset** 12.99 181 P **Pn** **11 25 16.8 -2.8**
TAM **Tamanrasset** 12.99 181 **Pn** **11 25 16.8 -2.8**
STU **Stuttgart** 13.18 10 P **Pn** **11 25 21.2 -0.7**
STU **Stuttgart** 13.18 10 **Pn** **11 25 21.2 -0.7**
GRR **Gorron** 13.47 341 Pn **Pn** **11 25 28.1 +2.3**
GRR **Gorron** 13.47 341 *e*Pn **Pn** **11 25 28.1 +2.3**
GRR *e*Sn Sn 11 27 48.7 -6.8
comp=N,0.8nm,0.3s
LDF **La Druitiere** 13.47 343 *e*Pn **Pn** **11 25 29.3 +3.4**
ARSA **Arzberg** 13.54 30 *e*P **P** **11 25 39.9 +3.8**
comp=N,2.9nm,0.8s
AGG **Agios Georgios** 13.56 71 P **Pn** **11 25 27.3 +0.2**
AGG **Agios Georgios** 13.56 71 **Pn** **11 25 27.3 +0.2**
MOA **Molln** 13.57 25 *e*P **P** **11 25 38.4 +2.0**
comp=N,16nm,0.9s
FLN **La Foliniere** 13.72 342 Pn **Pn** **11 25 29.8 +0.6**
FLN **La Foliniere** 13.72 342 *e*Pn **Pn** **11 25 29.8 +0.6**
baz=163
QUIF **Quistinic** 13.77 334 Pn **Pn** **11 25 31.3 +1.4**
QUIF **Quistinic** 13.77 334 *e*Pn **Pn** **11 25 31.3 +1.4**
WLF **Walferdange** 13.83 1 *d*PnPn **P** **11 25 40.7 +1.4**
WLF *dx* x 11 25 45.4
SGMF Saint Gilles 13.85 336 Pn **Pn** **11 25 32.9 +1.8**
SGMF Sn **Sn** **11 27 59.5 -5.4**
comp=N,0.6nm,0.5s
SGMF Saint Gilles 13.85 336 *e*Pn **Pn** **11 25 32.9 +1.8**
SGMF *e*Sn **Sn** **11 27 59.5 -5.4**
comp=N,1.2nm,0.5s
LIT Litokhoron 13.88 67 P **Pn** **11 25 31.6 +0.1**
LIT Litokhoron 13.88 67 Pn **Pn** **11 25 31.6 +0.1**
ROSF Rostrenen 14.17 335 Pn **Pn** **11 25 36.3 +1.0**
ROSF Rostrenen 14.17 335 *e*Pn **Pn** **11 25 36.3 +1.0**
MORH Mrgy. Hungar 14.21 39 ⇑P **Pn** **11 25 39.6 +3.7**
CONA Conrad Observa 14.23 29 *e*P **P** **11 25 44.8 +1.1**
comp=N,3.9nm,1.1s
GERES GERESS Array B 14.26 22 Pn **Pn** **11 25 39.1 +2.3**
comp=N,0.1nm,0.3s,baz=203,slow=11,SNR=4.1
GERES LR LR 11 31 23.6
comp=N,526nm,19.7s,baz=215,slow=38
GERES GERESS Array B 14.26 22 P **Pn** **11 25 37.2 +0.4**
GERES GERESS Array B 14.26 22 **Pn** **11 25 37.1 +0.4**
BAIF Baives 14.27 356 Pn **Pn** **11 25 39.7 +3.0**
BAIF Baives 14.27 356 *e*Pn **Pn** **11 25 39.7 +3.0**
GIVF Givet 14.28 358 Pn **Pn** **11 25 38.3 +1.4**
GIVF Givet 14.28 358 *e*Pn **Pn** **11 25 38.3 +1.4**
CKRC Cesky Krumlov 14.43 23 *e*P **P** **11 25 46.5 +0.6**
KHC Kasperske Hory 14.48 21 P **Pn** **11 25 40.5 +0.7**
KHC Kasperske Hory 14.48 21 *e*P **P** **11 25 45.2 -1.3**
KHC Kasperske Hory 14.48 21 **Pn** **11 25 40.5 +0.7**
BMRD Maredsous 14.48 357 *d*PnPn **P** **11 25 48.7 +2.3**
BMRD *d*pP Pn 11 25 50.2 +11
BMRD *d*sP 11 25 51.6
BGES Gesves 14.56 358 *d*P **P** **11 25 48.0 +0.7**
BGES *dx* x 11 25 59.1
BGES *d*PbPb **PbPb** **11 26 29.2 +1.0**
SNF Seneffe 14.71 356 *d*P **P** **11 25 49.9 +0.9**
PBCC Pribram 15.10 21 *e*P **P** **11 25 54.9 +1.6**
VTS Vitosha 15.14 58 ⇑P **P** **11 25 53.9 -0.1**
VTS Vitosha 15.14 58 P **Pn** **11 25 48.4 -0.4**
VTS pmax pmax
comp=Z,9.0nm,1.0s
VTS Vitosha 15.14 58 Pn **Pn** **11 25 48.4 -0.4**
MODS Modra-Piesok 15.15 31 *e*P **P** **11 25 57.4 +3.4**
MODS Modra-Piesok 15.15 31 *e*P **P** **11 25 57.4 +3.4**
NKC Novy Kostel 15.20 17 *e*P **P** **11 25 56.5 +2.1**
NKC Novy Kostel 15.20 17 *e*P **P** **11 25 56.5 +2.1**
KRUC Moravsky 15.36 27 *e*P **P** **11 25 58.4 +2.2**
MOX Moxa 15.41 14 P **P** **11 25 59.3 +2.6**
BZS Buzias 15.48 46 ⇓P **P** **11 25 56.1 -1.4**
BZS Buzias 15.48 46 ⇓P **P** **11 25 56.1 -1.4**
PRU Pruhonice 15.53 22 *e*P **P** **11 25 59.9 +1.8**
PRU Pruhonice 15.53 22 *e*P **P** **11 25 59.9 +1.8**
IDI Anoyia 15.59 86 Pn **P** **11 25 58.1 -0.8**
comp=Z,0.1nm,0.3s,baz=304,slow=13,SNR=1.3
IDI Anoyia 15.59 86 ⇑P **P** **11 25 58.4 -0.6**
IDI Anoyia 15.59 86 **Pn** **11 25 55.0 +0.3**
IDI lAmb lAmb 11 26 12.5
comp=Z,63nm,1.5s
VRAC Vranov 15.64 27 Pn **P** **11 26 01.1 +1.8**
comp=Z,0.3nm,0.3s,baz=216,slow=12,SNR=25
VRAC LR LR 11 32 24.9
comp=Z,348nm,19.3s,baz=210,slow=39
VRAC Vranov 15.64 27 ⇑P **P** **11 25 59.5 +0.2**
VRAC Vranov 15.64 27 *e*P **P** **11 26 01.8 +2.5**
VRAC Vranov 15.64 27 P **P** **11 26 02.2 +2.9**
JAVC Velka Javorina 15.70 30 *e*P **P** **11 26 04.3 +4.3**
SIRR Siria 15.87 44 ⇑P **P** **11 26 01.1 -0.8**
PSZ Piszkesteto 16.00 37 P **Pn** **11 26 00.0 +0.2**
PSZ pmax pmax
comp=Z,12nm,1.0s
PSZ Piszkesteto 16.00 37 **Pn** **11 26 00.0 +0.2**
PVCC Panska Ves 16.02 21 *e*P **P** **11 26 06.9 +3.4**
PVCC Panska Ves 16.02 21 *e*P **P** **11 26 06.9 +3.4**
GZR Gura Zlata 16.05 48 ⇑P **P** **11 26 03.9 -0.1**
BRG Berggiesshubel 16.16 19 *e*P **P** **11 26 10.4 +5.4**
BRG Amp 11 26 13.1
comp=Z,3.1nm,0.8s
BRG Amp 11 32 35.0
comp=N,0.8nm,19.3s
BRG Amp 11 32 46.0
comp=E,0.6nm,10.6s
BRG Amp 11 33 03.0
comp=Z,0.9nm,9.7s
CLL Collm 16.33 16 *i* P **P** **11 26 11.8 +4.9**
CLL pmax pmax
comp=Z,8.0nm,1.0s
KRLC Kraliky 16.34 26 *e*P **P** **11 26 09.8 +2.6**
KRLC Kraliky 16.34 26 *e*P **P** **11 26 09.8 +2.6**
PLVB Pleven 16.37 57 ⇑P **P** **11 26 08.2 +0.9**
MORC Moravsky Berou 16.38 28 ⇑P **P** **11 26 09.0 +1.4**
MORC Moravsky Berou 16.38 28 *e*P **P** **11 26 09.6 +2.0**
MORC Moravsky Berou 16.38 28 P **Pn** **11 26 05.3 +0.6**
MORC pmax pmax
comp=Z,14nm,0.9s
MORC Moravsky Berou 16.38 28 **Pn** **11 26 05.2 +0.6**
DPC Dobruska-Polom 16.41 25 *e*P **P** **11 26 10.1 +2.1**
DPC Dobruska-Polom 16.41 25 *e*P **P** **11 26 10.1 +2.1**
UPC Upice 16.45 24 *e*P **P** **11 26 11.0 +2.7**
UPC Upice 16.45 24 *e*P **P** **11 26 11.0 +2.7**
CHVC Chvalec 16.53 24 *e*P **P** **11 26 11.9 +2.7**
OSTC Ostas 16.56 24 *e*P **P** **11 26 11.6 +2.1**
LANS Liptovska Anna 16.69 33 *e*P **P** **11 26 17.2 +6.2**
LANS Liptovska Anna 16.69 33 *e*P **P** **11 26 17.2 +6.2**
DRGR 16.77 44 ⇑P **P** **11 26 14.1 +2.2**
DRGR 16.77 44 ⇑P **P** **11 26 14.1 +2.2**
ARR Arges 17.18 51 ⇑P **P** **11 26 19.0 +2.4**
CJR Cluj-Napoca 17.23 45 ⇑P **P** **11 26 19.4 +2.4**
CRVS Cervenica-Dubn 17.43 37 *e*P **P** **11 26 24.9 +5.7**
CRVS Cervenica-Dubn 17.43 37 *e*P **P** **11 26 24.9 +5.7**
VOIR 17.48 51 ⇑P **P** **11 26 23.0 +3.2**
VOIR 17.48 51 ⇑P **P** **11 26 23.0 +3.2**
UZH Uzhgorod 17.66 39 *e*P **P** **11 26 24.5 +2.8**
KOLS Kolonicke sedl 17.85 38 *e*P **P** **11 26 29.7 +5.9**
KOLS Kolonicke sedl 17.85 38 *e*P **P** **11 26 29.7 +5.9**
MLR Muntele Rosu 18.07 52 P **P** **11 26 29.3 +3.0**
comp=Z,0.2nm,0.3s,baz=146,slow=16,SNR=15
MLR LR LR 11 33 14.2
comp=Z,204nm,18.8s,baz=277,slow=36
MLR Muntele Rosu 18.07 52 ⇑P **P** **11 26 29.5 +3.2**
MLR Muntele Rosu 18.07 52 ⇑P **P** **11 26 29.5 +3.2**
MLR Muntele Rosu 18.07 52 P **Pn** **11 26 25.5 -0.6**
OZUR 18.23 50 ⇑P **P** **11 26 30.2 +2.1**
BURAR Bucovina Array 18.65 45 ⇑P **Pn** **11 26 36.9 +3.9**
BURAR Bucovina Array 18.65 45 ⇑P **Pn** **11 26 36.9 +3.9**
BURAR Bucovina Array 18.65 45 P **Pn** **11 26 34.1 +1.1**
BUR08 Bucovina Ar. S 18.65 45 P **P** **11 26 33.3 +0.6**
PLOR Plostina 18.67 51 ⇑P **Pn** **11 26 36.7 +3.5**
PLOR Plostina 18.67 51 ⇑P **Pn** **11 26 36.7 +3.5**
VRI Vrincioaia 18.72 51 ⇑P **Pn** **11 26 36.6 +2.8**
BIZ Bicaz 18.82 48 ⇑P **Pn** **11 26 38.4 +3.4**
CFR Carcaliu 19.37 54 ⇑P **Pn** **11 26 45.4 +3.8**
EKA Eskdalemuir Ar 20.45 345 P **P** **11 26 53.3 +1.2**
comp=Z,6.0nm,0.9s,baz=155,slow=12,SNR=11
MDUB Mudurnu 20.52 69 P **P** **11 26 53.5 +0.3**
SORM Soroca 20.73 47 ⇑P Pn 11 26 58.4 +0.7
SORM Soroca 20.73 47 ⇑P Pn 11 26 58.4 +0.7
BR131 Keskin Array S 22.35 72 P **P** **11 27 13.3 +0.4**
BR131 pmax pmax
comp=Z,17nm,0.9s
BR131 Keskin Array S 22.35 72 P **P** **11 27 13.3 +0.4**
BR131 lAmb lAmb 11 27 17.6
comp=Z,17nm,0.8s
BRTR Keskin Array B 22.35 72 P **P** **11 27 15.1 +2.2**
comp=Z,8.6nm,0.8s,baz=259,slow=9.1,SNR=47
BRTR LR LR 11 38 08.7
comp=Z,121nm,18.7s,baz=254,slow=43
BRTR Keskin Array B 22.35 72 P **P** **11 27 12.8 -0.1**
AKASG Malin Array Be 22.52 41 P **P** **11 27 13.7 -0.8**
comp=Z,10nm,0.7s,baz=238,slow=9.1,SNR=25
AKASG Malin Array Be 22.52 41 *c i*P **P** **11 27 15.1 +0.6**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 22.52 41 P **P** **11 27 14.0 -0.5**
AKBB Malin Array Si 22.52 41 P **P** **11 27 14.3 -0.2**
AKBB pmax pmax
comp=Z,16nm,0.9s
AKBB Malin Array Si 22.52 41 P **P** **11 27 14.3 -0.2**
AKBB lAmb lAmb 11 27 15.8
comp=Z,16nm,0.9s
TOA0 Torodi Ar. Sit 22.88 190 P **P** **11 27 16.1 -2.4**
TOA0 lAmb lAmb 11 27 22.6
comp=Z,19nm,1.0s
TORD Torodi Ar. Bea 22.88 190 P **P** **11 27 16.5 -2.0**
comp=Z,17nm,1.1s,baz=4.9,slow=8.3,SNR=17
TORD LR LR 11 36 16.5
comp=Z,415nm,19.4s,baz=0.0,slow=37
TORD Torodi Ar. Bea 22.88 190 P **P** **11 27 16.4 -2.1**
KOWA Kowa 22.98 205 P **P** **11 27 18.3 -1.2**
comp=Z,9.8nm,0.9s,baz=22,slow=10,SNR=13
KOWA LR LR 11 35 41.4
comp=Z,391nm,18.7s,baz=28,slow=35
KOWA Kowa 22.98 205 P **P** **11 27 18.2 -1.4**
NACGM Naroch 23.96 31 *i* P **P** **11 27 30.1 +1.0**
NACGM *i* P **P** **11 27 30.1 +1.0**
NACGM *i* P **P** **11 27 30.1 +1.0**
NACGM *i* PP **PnPn** **11 28 03.4 +6.0**
NACGM *i* PPP PPP 11 28 20.2
NACGM *i* S **S** **11 31 42.2 -3.3**
NACGM *i* SS **SnSn** **11 32 23.5 -1.8**
NACGM *i* SSS SSS 11 32 52.6
NACGM *i* LQ LQ 11 35 09.9
NACGM *i* LR LR 11 35 58.8
MNK Minsk 24.16 32 *e*P **P** **11 27 29.0 -1.9**
MNK Minsk 24.16 32 *i* P **P** **11 27 30.2 -0.7**
comp=E,6.0nm,0.9s
MNK *i* P **P** **11 27 30.2 -0.7**
comp=N,19nm,0.6s
MNK *i* P **P** **11 27 30.2 -0.7**
comp=Z,26nm,0.9s
MNK *i* PP **PnPn** **11 27 59.7 -0.3**
MNK *i* S **S** **11 31 48.1 -0.5**
MNK *i* SS **SnSn** **11 32 33.1 +3.0**
MNK *i* LQ LQ 11 35 02.9
MNK *i* LR LR 11 36 53.5
MNK *i* LRM MLR 11 38 12.4
comp=Z,151nm,14.1s
MNK *i* LRM MLR 11 38 14.3
comp=N,412nm,17.6s
MNK *i* LRM MLR 11 38 18.1
comp=E,32nm,25.6s
HFS Hagfors 24.86 9 P **P** **11 27 36.5 -0.7**
comp=E,4.6nm,0.8s,baz=170,slow=12,SNR=7.1
HFS LR LR 11 37 51.4
comp=E,236nm,19.2s,baz=200,slow=38
NC602 NORSAR Array S 25.20 7 P **P** **11 27 40.6 +0.3**
EIL Elat 25.26 96 LR LR 11 39 01.5
comp=E,106nm,19.3s,baz=289,slow=40
NB2 NORSAR Subarra 25.47 6 P **P** **11 27 42.7 -0.1**
comp=Z,5.2nm,1.1s,baz=191,slow=9.3
NOA NORSAR Array B 25.47 6 P **P** **11 27 43.0 +0.2**
comp=Z,2.6nm,0.8s,baz=188,slow=11,SNR=13
NOA LR LR 11 37 09.1
comp=Z,209nm,22.0s,baz=195,slow=35
NOA NORSAR Array B 25.47 6 P **P** **11 27 43.0 +0.2**
MALT Malatya 26.12 75 P **P** **11 27 51.4 +2.4**
OBN Obninsk 28.61 38 LR LR 11 41 50.7
comp=Z,62nm,18.1s,baz=194,slow=41
OBN Obninsk 28.61 38 ⇑*e*P **P** **11 28 11.2 +0.3**
OBN *i* *PP **pP** **11 28 14.8 +0.5**
OBN *e*SP **sP** **11 28 18.2 +2.6**
OBN 11 29 02.0
OBN SSS SSS 11 34 31.0
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,243nm,17.0s
FINES FINESS Array B 28.69 20 P **P** **11 28 11.3 -0.3**
comp=Z,3.7nm,0.9s,baz=205,slow=5.6,SNR=9.2
FINES LR LR 11 38 42.8
comp=Z,149nm,19.2s,baz=221,slow=34
KIV Kislovodsk 29.29 63 *e*P **P** **11 28 16.7 -0.6**
KIV pmax pmax
comp=Z,20nm,1.1s
KBZ Khabaz 29.43 63 P **P** **11 28 20.5 +2.2**
comp=Z,4.2nm,1.2s,baz=283,slow=8.8,SNR=2.7
MOS Moscow 29.44 37 *e*P **P** **11 28 17.7 -0.6**
MOS pmax pmax
comp=Z,35nm,1.0s
ONI Oni 29.80 65 P **P** **11 28 24.0 +2.2**
ZEI Tsey 30.14 65 *e*P **P** **11 28 25.0 +0.1**
ZEI pmax pmax
comp=Z,10.0nm,1.8s
DBIC Dimbokro 30.61 201 P **P** **11 28 28.1 -0.9**
comp=Z,6.7nm,1.0s,baz=359,slow=5.9,SNR=4.3
DBIC LR LR 11 40 04.7
comp=Z,300nm,18.2s,baz=0.5,slow=35
TIC Toumodi 30.68 201 *e*P **P** **11 28 30.2 +0.5**
GNI Garni 30.86 70 P **P** **11 28 31.6 +0.2**
comp=Z,7.0nm,0.6s,baz=329,slow=16,SNR=2.5
GNI LR LR 11 41 52.3
comp=Z,96nm,18.7s,baz=289,slow=38
KIC Kosan Boka 30.87 201 *e*P **P** **11 28 30.8 -0.5**
comp=Z,22nm,1.0s
LIC Lamto 31.08 201 *e*P **P** **11 28 32.4 -0.8**
comp=Z,44nm,1.2s
KLMR Klimovskoe 32.98 30 *e*P **P** **11 28 47.8 -1.7**
KLMR pmax pmax
comp=Z,23nm,1.0s
KLMR Klimovskoe 32.98 30 *e*P **P** **11 28 47.9 -1.6**
KLMR AMP 11 28 50.3
comp=Z,23nm,1.0s
ARCES ARCESS Array B 35.46 12 P **P** **11 29 10.2 -0.7**
comp=Z,2.4nm,0.6s,baz=186,slow=7.3,SNR=8.2
ARCES PcP **PcP** **11 31 39.7 -0.4**
comp=Z,7.5nm,1.0s,baz=224,slow=2.5,SNR=3.6
ARCES LR LR 11 42 33.3
comp=Z,204nm,21.4s,baz=230,slow=34
PRGR Permogore 35.92 31 *e*P **P** **11 29 14.7 -0.2**
PRGR pmax pmax
comp=Z,18nm,0.6s
KIRV Kirov 36.45 37 *c e*P **P** **11 29 19.1 -0.4**
ARU Arti 40.76 43 *d i*P **P** **11 29 54.9 -0.8**
ARU S **S** **11 36 06.8 +0.7**
ARU SS **SS** **11 39 00.8 -5.8**
ARU pmax pmax
comp=Z,15nm,1.0s
ABKAR Akbulak array 41.26 54 P **P** **11 29 59.8 -0.2**
GEYT Alibeck 41.49 71 P **P** **11 30 03.9 +1.8**
comp=Z,4.4nm,0.7s,baz=298,slow=6.4,SNR=5.6
KMBO Kilima Mbogo 47.05 134 P **P** **11 30 45.9 -1.1**
comp=Z,1.5nm,0.8s,baz=326,slow=7.3,SNR=2.6
BRVK Borovoye 47.51 48 *c e*P **P** **11 30 50.1 +0.3**
BRVK pmax pmax
comp=Z,13nm,1.0s
KKAR Karatay Array 49.42 61 P **P** **11 31 03.8 -0.9**
KKAR Karatay Array 49.42 61 P **P** **11 31 03.8 -0.9**
AAK Ala-Archa 52.36 60 P **P** **11 31 27.5 +0.4**
AAK pmax pmax
comp=Z,6.0nm,1.1s
AAK Ala-Archa 52.36 60 P **P** **11 31 27.5 +0.4**
AAK lAmb lAmb 11 31 29.8
comp=Z,6.4nm,1.1s
KSH Kashi 54.41 64 P **P** **11 31 42.3 +0.1**
KSH pP sP 11 31 46.8 -0.2
KSH PcP **PcP** **11 32 41.4 -4.4**
KSH S **S** **11 39 12.3 -8.4**
KSH pmax pmax
comp=Z,4.0nm,0.5s
KSH LR LR
comp=Z,320nm,10.4s
KSH LR LR
comp=Z,270nm,12.2s
NIL Nilore 54.49 71 P **P** **11 31 43.3 +0.6**
NIL pmax pmax
comp=Z,8.0nm,1.0s
NIL Nilore 54.49 71 P **P** **11 31 43.3 +0.6**
NIL lAmb lAmb 11 31 46.4
comp=Z,8.4nm,1.0s
EUNU Eureka 55.35 348 P **P** **11 31 48.9 +0.6**
EUNU lAmb lAmb 11 31 54.0
comp=Z,6.7nm,0.9s
ZAA0 Zalesovo Array 55.87 45 P **P** **11 31 52.2 0.0**
ZAA0 lAmb lAmb 11 31 54.1
comp=Z,5.4nm,0.7s
ZALV Zalesovo Beam 55.87 45 P **P** **11 31 52.4 +0.1**
comp=Z,5.0nm,0.7s,baz=279,slow=8.4,SNR=21
ZALV Zalesovo Beam 55.87 45 P **P** **11 31 51.8 -0.4**
MAKZ Makanchi 56.19 53 P **P** **11 31 55.1 +0.3**
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 56.19 53 P **P** **11 31 55.1 +0.3**
MAKZ lAmb lAmb 11 31 56.9
comp=Z,5.6nm,0.9s
MK31 Makanchi Array 56.40 53 P **P** **11 31 56.1 -0.2**
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 56.40 53 P **P** **11 31 56.0 -0.2**
MK31 lAmb lAmb 11 31 58.2

comp=Z,6.4nm,0.8s
MKAR Makanchi Array 56.40 53 P **P** 11 31 56.0 -0.3
comp=Z,10nm,0.8s,baz=293,slow=7.9,SNR=68
MKAR Makanchi Array 56.40 53 P **P** 11 31 56.0 -0.3
MKAR Makanchi Array 56.40 53 P **P** 11 31 55.9 -0.4
DGZ Jazzator, Alta 58.70 49 *i* P **P** 11 32 13.3 +0.7
DGZ pmax pmax
comp=Z,3.0nm,0.8s
WMQ Urumqi 61.02 55 *eP* **P** 11 32 31.3 +2.8
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,140nm,4.5s
TIXI Tiksi 65.66 17 P **P** 11 32 58.7 0.0
TIXI pmax pmax
comp=Z,3.0nm,1.1s
TIXI Tiksi 65.66 17 P **P** 11 32 58.7 0.0
BOSA Boshof 66.68 161 P **P** 11 33 06.8 +0.9
comp=Z,1.2nm,0.7s,baz=15,slow=9.5,SNR=3.7
BOSA LR LR 12 03 45.8
comp=Z,247nm,19.5s,baz=338,slow=37
E43A Lone Tree Farm 66.82 311 P **P** 11 33 06.5 -0.1
TLY Talaya 67.26 42 *eP* **P** 11 33 10.3 +1.0
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY MLR MLR
comp=Z,162nm,9.0s
EYMN Ely 68.74 314 P **P** 11 33 18.4 -0.3
BOD Bodaibo 69.14 33 *eP* **P** 11 33 20.1 -0.8
BOD pmax pmax
comp=Z,6.0nm,1.8s
ULM Lac du Bonnet 70.02 318 P **P** 11 33 26.1 -0.4
comp=Z,4.3nm,0.7s,baz=75,slow=6.5,SNR=10
ULM LR LR 12 01 41.6
comp=Z,93nm,19.2s,baz=70,slow=34
ULM Lac du Bonnet 70.02 318 P **P** 11 33 25.2 -1.3
ULM pmax pmax
comp=Z,7.0nm,0.9s
ULM Lac du Bonnet 70.02 318 P **P** 11 33 25.1 -1.3
SONM Songino Array 70.76 45 P **P** 11 33 31.5 +0.2
comp=Z,0.8nm,0.8s,baz=289,slow=5.2,SNR=6.0
SONM LR LR 12 06 31.8
comp=Z,113nm,18.1s,baz=303,slow=38
YKA Yellowknife Ar 71.00 335 P **P** 11 33 32.3 0.0
comp=Z,3.3nm,1.0s,baz=55,slow=6.1,SNR=17
YKA LR LR 12 04 06.6
comp=Z,157nm,18.5s,baz=0.0,slow=35
GTA Gaotai 71.10 55 ⇑P **P** 11 33 34.6 +1.1
GTA pP sP 11 33 38.8 +0.4
GTA sP pP 11 33 41.8 +4.7
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,65nm,5.1s
GTA LR LR
comp=Z,160nm,17.5s
GTA LR LR
comp=Z,150nm,17.8s
INK Inuvik 71.82 345 P **P** 11 33 37.0 -0.1
comp=Z,2.7nm,1.0s,baz=13,slow=8.9,SNR=5.9
BDFB Brasilia 72.14 235 P **P** 11 33 40.2 +0.3
comp=Z,1.5nm,0.4s,baz=149,slow=6.6,SNR=4.4
YAK Yakutsk 72.54 24 *eP* **P** 11 33 40.8 -0.7
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.2s
SDV Santo Domingo 73.83 269 P **P** 11 33 49.7 -0.4
comp=E,7.4nm,0.8s,baz=74,slow=3.7,SNR=5.9
SDV Santo Domingo 73.83 269 P **P** 11 33 49.3 -0.8
TOLK Toolik Lake Re 74.23 351 P **P** 11 33 52.6 +1.1
TOLK IAmb IAmb 11 34 04.3
comp=Z,6.5nm,1.1s
S39A Bolivar 75.33 306 P **P** 11 33 57.8 -0.5
S39A IAmb IAmb 11 34 02.8
comp=Z,5.6nm,0.9s
LZH Lanzhou 75.58 56 *eP* **P** 11 34 01.6 +1.6
LZH sP sP 11 34 05.9 +1.0
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,78nm,7.2s
PRP Porcupine Dome 76.54 348 P **P** 11 34 05.0 +0.1
PRP IAmb IAmb 11 34 10.4
comp=Z,6.1nm,1.1s
DAWY Dawson 76.69 345 P **P** 11 34 04.8 -0.9
IMAR Indian Mountai 77.28 352 P **P** 11 34 09.2 +0.3
ILAR Eielson Array 77.45 348 P **P** 11 34 10.8 +0.9
comp=Z,1.2nm,0.9s,baz=2.7,slow=3.7,SNR=9.1
ILAR LR LR 12 11 13.9
comp=Z,69nm,19.5s,baz=354,slow=38
ILAR Eielson Array 77.45 348 P **P** 11 34 09.6 -0.3
SCRK Sand Creek 77.68 347 P **P** 11 34 11.1 -0.2
SCRK IAmb IAmb 11 34 17.3
comp=Z,3.5nm,0.9s
HHC Hu-ho-hao-te 77.78 48 *eP* **P** 11 34 13.0 +0.7
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,59nm,7.6s
U32A Winter Ranch, 79.79 308 P **P** 11 34 23.1 -0.2
PPLA Purkeypile 80.03 350 P **P** 11 34 24.1 -0.2
XAN Xi'an 80.16 55 P **P** 11 34 26.0 +0.6
XAN pP pP 11 34 29.4 +0.4
XAN pmax pmax
comp=Z,6.0nm,1.1s
MA2 Magadan 80.63 17 P **P** 11 34 28.4 +1.1
comp=Z,1.1nm,0.4s,baz=337,slow=4.8,SNR=6.8
MA2 Magadan 80.63 17 *ceP* **P** 11 34 28.5 +1.1
MA2 pmax pmax
comp=Z,3.0nm,0.8s
KMI Kunming 81.00 66 ⇑P **P** 11 34 30.3 0.0
KMI pP pP 11 34 32.6 -1.3
KMI pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 81.93 73 P **P** 11 34 33.6 -1.3
comp=Z,1.1nm,0.7s,baz=299,slow=7.4,SNR=8.9
CMAR LR LR 12 19 41.7
comp=Z,63nm,18.4s,baz=278,slow=42
CMAR Chiang Mai Arr 81.93 73 *i* P **P** 11 34 34.5 -0.5
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 81.93 73 P **P** 11 34 34.3 -0.7
PDAR Pinedale Array 82.04 318 P **P** 11 34 35.4 -0.1
comp=Z,1.3nm,0.8s,baz=53,slow=7.6,SNR=10
PDAR LR LR 12 08 27.3
comp=Z,105nm,19.4s,baz=54,slow=34
PDAR Pinedale Array 82.04 318 P **P** 11 34 34.6 -0.9
CN2 Changchun 83.66 39 *eP* **P** 11 34 43.5 -0.1
CN2 pmax pmax
comp=Z,10.0nm,0.8s
F10A Beach Ranch, E 83.73 324 P **P** 11 34 44.0 0.0
F10A IAmb IAmb 11 34 48.7
comp=Z,5.3nm,1.0s
BMO Blue Mountains 84.58 323 P **P** 11 34 47.8 -0.6
BMO pmax pmax
comp=Z,11nm,1.4s
BMO Blue Mountains 84.58 323 P **P** 11 34 47.8 -0.6
PV04 Paradox Valley 84.60 314 P **P** 11 34 47.3 -1.4
PV13 Radium Mtn., P 84.71 314 P **P** 11 34 48.2 -1.1
PV13 IAmb IAmb 11 34 53.6
comp=Z,4.3nm,1.0s
CRIN San Cristobal 84.92 282 P **P** 11 34 50.2 -0.3
SRU San Rafael Swe 85.05 316 P **P** 11 34 50.5 -0.5
SRU pmax pmax
comp=Z,6.0nm,1.1s
SRU San Rafael Swe 85.05 316 P **P** 11 34 50.5 -0.5
CSGN Cosiguina Volc 85.16 282 P **P** 11 34 50.3 -1.4
CPUP Villa Florida 85.81 233 LR LR 12 11 10.3
comp=Z,114nm,21.5s,baz=52,slow=34
USRK Ussuriysk Ar. 86.60 36 P **P** 11 34 58.0 -0.3
comp=Z,1.1nm,0.7s,baz=306,slow=4.8,SNR=3.4
LPAZ La Paz 86.89 248 LR LR 12 14 33.1
comp=Z,42nm,18.3s,baz=54,slow=36
TXAR Lajitas Array 87.24 304 P **P** 11 35 03.5 +1.7
comp=Z,0.6nm,0.8s,baz=40,slow=2.9,SNR=3.4
TXAR LR LR 12 11 58.9
comp=Z,99nm,20.4s,baz=0.0,slow=34
NJ2 Nanjing 87.88 51 *eP* **P** 11 35 03.8 -0.9
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
PETK Petropavlovsk- 88.13 16 LR LR 12 22 07.3
comp=Z,36nm,18.5s,baz=331,slow=41
KSRS Korea Array 89.51 42 P **P** 11 35 13.4 +1.1
comp=Z,0.3nm,0.3s,baz=333,slow=3.9,SNR=3.2
KSRS LR LR 12 19 26.5
comp=Z,50nm,19.5s,baz=155,slow=38
NVAR Mina Array Bea 89.81 319 P **P** 11 35 14.9 +0.9
comp=Z,0.1nm,0.3s,baz=57,slow=5.8,SNR=2.4
NVAR LR LR 12 12 15.8
comp=Z,103nm,21.9s,baz=28,slow=34
MJAR Matsushiro Arr 95.53 37 LR LR 12 22 04.6
comp=Z,58nm,19.3s,baz=350,slow=38

IDC ***15*** *11:29:53.6±2.9, 7.36S×120.40E, h422km±34km, mb2.6/4, mb1 2.7/7, mb1mx2.5/52, mbtmp3.4/7, Error ellipse: s-maj=110.6km s-min=22.0km az=60.0*
DJA ***15*** *11:29:54.0±0.9, 8.5S±6.6×12.0E±°, h391km±10km, M3.1/6, MLv3.1/6*
ISC 15 11:29:52.1±0.9, **7.50S**±0.09×**120.21E**±0.08, **h400**km, **n14, s19**02/18, **mb2.9/3, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSSI	**Bau Bau, Buton**	**1.37**	**12**	P	**Pn**	**11 30 46.1**	**+1.3**
BKSI	**Bulukumba**	**2.16**	**358**	P	**Pn**	**11 30 50.8**	**+1.6**
BASI	**Baing, Sumba**	**2.73**	**172**	P	**Pn**	**11 30 54.2**	**+1.0**
BASI				S	**S**	**11 31 42.3**	**-0.3**
PLAI	**Plampang**	**2.75**	**241**	P	**Pn**	**11 30 54.5**	**+1.1**
PLAI				S	**S**	**11 31 43.5**	**+0.6**
TWSI	**Taliwang, Sumb**	**3.52**	**249**	P	**Pn**	**11 31 00.9**	**+1.1**
TWSI				S	**S**	**11 31 53.9**	**-0.7**
BATI	**Baumata**	**4.34**	**129**	P	**Pn**	**11 31 08.8**	**+1.2**
	2.7nm,0.3s,baz=287,slow=19,SNR=1.8						
BATI				S	**S**	**11 32 08.2**	**-0.6**
	10.0nm,0.3s,baz=303,slow=20,SNR=8.5						
BATI	**Baumata**	**4.34**	**129**	P	**Pn**	**11 31 08.4**	**+0.8**
SOEI	**Soe**	**4.59**	**120**	P	**Pn**	**11 31 11.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**11.79**	**154**	P	**Pn**	**11 32 31.3**	**+0.4**
	0.1nm,0.3s,baz=342,slow=13,SNR=1.8						
WRA	**Warramunga Arr**	**18.46**	**134**	P	**P**	**11 33 41.4**	**-0.3**
	0.1nm,0.3s,baz=318,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**20.76**	**142**	P	**P**	**11 34 04.0**	**+0.4**
	0.2nm,0.6s,baz=317,slow=7.9,SNR=5.0						
SONM	**Songino Array**	**56.43**	**349**	P	**P**	**11 38 53.6**	**-0.3**
	0.2nm,0.4s,baz=168,slow=7.4,SNR=1.4						
MKAR	**Makanchi Array**	**63.69**	**332**	P	**P**	**11 39 42.2**	**-0.3**
	0.1nm,0.3s,baz=152,slow=8.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**68.08**	**338**	P	**P**	**11 40 08.2**	**-1.7**
	0.5nm,0.3s,baz=140,slow=6.6,SNR=2.2						

DJA ***15*** *11:31:13.2±0.5, 6.5S±3.3×15.0E±°, h51km±8km, M5.0/8, mB6.4/1, mb4.8/8, MLv5.1/3, Mw(mB)6.1/1*
IDC ***15*** *11:31:13.7±4.0, 6.09S×149.86E, h62km±34km, mb3.7/15, mb1 3.9/17, mb1mx3.7/46, mbtmp4.0/17, ML3.3/2, MS3.3/3, Ms1 3.3/3, ms1mx3.0/25, Error ellipse: s-maj=32.9km s-min=14.3km az=91.0*
ISC 15 11:31:12.7±0.6, **6.13S**±0.08×**150.0E**±0.1, **h52**km, **n28, s26**/30, **mb3.8**/14, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.90**	**49**	P	**Pn**	**11 31 58.3**	**+1.8**
PMG	**Port Moresby**	**4.29**	**221**	P	**Pn**	**11 32 15.8**	**+0.3**
	42nm,0.3s,baz=34,slow=5.4,SNR=86						
PMG				S	**Sn**	**11 33 04.3**	**-0.1**
	29nm,0.3s,baz=189,slow=21,SNR=9.8						
PMG				LR	LR	11 34 06.5	
	comp=Z,465nm,19.4s,baz=26,slow=41						
PMG	**Port Moresby**	**4.29**	**221**	P	**Pn**	**11 32 15.7**	**+0.1**
CTA	**Charters Tower**	**14.34**	**194**	P	**Pn**	**11 34 34.0**	**+1.0**
	0.3nm,0.3s,baz=6.3,slow=9.2,SNR=2.8						
SRPI	**Serui, Papua**	**14.35**	**287**	P	**Pn**	**11 34 35.9**	**+2.8**
	85nm,0.5s						
SAUI	**Saumlaki**	**18.63**	**263**	P	**Pn**	**11 35 29.1**	**+2.0**
	292nm,0.7s						
SIJI	**Sorong**	**19.39**	**285**	LR	LR	11 43 53.5	
	comp=Z,82nm,18.7s,baz=66,slow=39						
SWI	**Sorong**	**19.40**	**285**	P	**Pn**	**11 35 38.8**	**+2.5**
	19nm,0.9s						
BNDI	**Bandanaira**	**20.05**	**274**	P	Pn	11 35 45.1	+1.1
	165nm,1.1s						
WRA	**Warramunga Arr**	**20.48**	**226**	P	**P**	**11 35 46.0**	**-0.4**
	8.1nm,0.8s,baz=52,slow=11,SNR=40						
WRA				PcP	**PcP**	**11 39 56.2**	**-0.7**
	0.5nm,0.6s,baz=39,slow=2.6,SNR=2.0						
WRA				LR	LR	11 43 35.2	
	comp=Z,78nm,18.1s,baz=135,slow=36						
ASAR	**Alice Springs**	**23.31**	**220**	P	**P**	**11 36 15.8**	**-0.6**
	1.2nm,0.4s,baz=49,slow=9.6,SNR=28						
ASAR				PcP	**PcP**	**11 40 02.6**	**+0.1**
	0.5nm,0.7s,baz=28,slow=3.5,SNR=2.7						
FITZ	**Fitzroy Crossi**	**26.56**	**241**	P	**P**	**11 36 45.0**	**-1.1**
	6.2nm,0.4s,baz=51,slow=8.5,SNR=53						
STKA	**Stephens Creek**	**26.79**	**196**	P	**P**	**11 36 48.1**	**+0.1**
	1.6nm,0.7s,baz=7.1,slow=13,SNR=3.2						
MJAR	**Matsushiro Arr**	**43.86**	**346**	P	**P**	**11 39 12.2**	**-1.8**
	1.2nm,0.8s,baz=171,slow=8.5,SNR=2.4						
KSRS	**Korea Array**	**48.00**	**336**	P	**P**	**11 39 45.9**	**-0.7**
	0.5nm,0.6s,baz=146,slow=8.9,SNR=5.6						
ASAJ	**Asahikawa**	**50.46**	**353**	P	**P**	**11 40 05.5**	**+0.3**
	6.2nm,0.9s,baz=216,slow=8.7,SNR=2.0						
USRK	**Ussuriysk Ar.**	**52.66**	**344**	P	**P**	**11 40 22.7**	**+1.0**
	0.7nm,0.6s,baz=145,slow=9.5,SNR=5.1						
KLR	**Kul'dur**	**57.38**	**346**	P	**P**	**11 40 55.1**	**-0.6**
	0.5nm,0.5s,baz=173,slow=8.1,SNR=3.0						
PETK	**Petropavlovsk-**	**59.38**	**5**	P	**P**	**11 41 08.9**	**-0.7**
	1.0nm,0.5s,baz=152,slow=6.5,SNR=1.6						
SONM	**Songino Array**	**65.99**	**329**	P	**P**	**11 41 54.0**	**+0.1**
	0.6nm,0.6s,baz=140,slow=4.8,SNR=5.7						
VNDA	**Vanda**	**71.62**	**17**	P	**P**	**11 42 28.9**	**+0.5**
	1.0nm,0.7s,baz=324,slow=7.4,SNR=5.1						
MKAR	**Makanchi Array**	**79.50**	**320**	P	**P**	**11 43 12.2**	**-1.8**
	0.2nm,0.4s,baz=115,slow=5.4,SNR=1.9						
ZALV	**Zalesovo Beam**	**80.72**	**327**	P	**P**	**11 43 19.4**	**-0.9**
	0.8nm,0.5s,baz=117,slow=8.5,SNR=4.0						
ILAR	**Eielson Array**	**84.45**	**23**	P	**P**	**11 43 38.2**	**-1.4**
	0.5nm,0.7s,baz=253,slow=5.0,SNR=7.5						
GERES	**GERESS Array B**	**123.67**	**327**	PKP	**PKPdf**	**11 50 03.3**	**-1.6**
	0.3nm,0.4s,baz=64,slow=2.3,SNR=2.3						
LPAZ	**La Paz**	**136.20**	**121**	PKP	**PKPdf**	**11 50 31.1**	**+0.9**
	0.9nm,0.6s,baz=337,slow=5.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**147.99**	**285**	PKPbc	**PKPdf**	**11 50 52.0**	**+1.7**
	1.4nm,0.3s,baz=85,slow=2.3,SNR=6.3						
BDFB	**Brasilia**	**151.97**	**141**	PKPbc	**PKPbc**	**11 51 02.9**	**-0.4**
	2.3nm,0.4s,baz=234,slow=4.6,SNR=6.2						
BDFB				PKPab	**pPKPdf**	**11 51 12.7**	**+0.2**
	3.4nm,0.6s,baz=237,slow=5.0,SNR=4.6						

IDC 15 11:40:29.0±7.0, **49.00S**×**119.24E**, **h0**km, **mb3.5**/2, **mb1 3.8**/2, **mb1mx3.5**/20, **mbtmp3.5**/2, **MS3.5**/2, **Ms1 3.4**/2, **ms1mx3.0**/19, **Error ellipse: s-maj=768.4km s-min=80.0km az=112.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.59**	**343**	T	T	11 59 55.8	
	baz=163,slow=73,SNR=5.6						
H01W1	**Cape Leeuwin H**	**14.59**	**343**	T	T	11 59 59.4	
	baz=163,slow=73,SNR=4.4						
H01W3	**Cape Leeuwin H**	**14.61**	**343**	T	T	11 59 51.8	
	baz=163,slow=73,SNR=5.1						
STKA	**Stephens Creek**	**23.99**	**53**	LR	LR	11 53 46.7	
	comp=Z,70nm,18.7s,baz=109,slow=33						
ASAR	**Alice Springs**	**27.81**	**30**	P	P	11 46 19.5	-0.3
	0.8nm,0.8s,baz=198,slow=8.9,SNR=3.8						
WRA	**Warramunga Arr**	**31.43**	**28**	P	P	11 46 52.2	+0.3
	0.5nm,0.9s,baz=202,slow=8.9,SNR=1.6						
VNDA	**Vanda**	**32.86**	**164**	LR	LR	11 58 38.4	
	comp=Z,103nm,20.0s,baz=318,slow=33						
YKA	**Yellowknife Ar**	**147.88**	**45**	PKPbc	PKPbc	12 00 14.0	-0.7
	0.1nm,0.5s,baz=265,slow=1.9,SNR=1.8						

IDC 15 12:04:13.1±1.7, **0.56S**×**126.35E**, **h0**km, **mb3.2**/3, **mb1 3.5**/4, **mb1mx3.2**/38, **mbtmp3.3**/4, **ML3.2**/1, **Error ellipse: s-maj=52.8km s-min=28.4km az=60.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.93**	**94**	Pn	Pn	12 05 29.1	+0.7
	0.9nm,0.3s,baz=282,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**20.79**	**158**	P	P	12 08 55.2	-0.8
	0.8nm,0.8s,baz=338,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**24.11**	**163**	P	P	12 09 31.1	+0.3
	0.4nm,0.5s,baz=349,slow=10,SNR=9.3						
MKAR	**Makanchi Array**	**60.88**	**327**	P	P	12 14 27.5	-0.1
	0.1nm,0.4s,baz=118,slow=7.5,SNR=1.8						

NOU ***15*** *12:20:07.2, 42.03S×173.11E, h0km, MLv3.4, South Island, New Zealand*
WEL 15 12:20:04.1, 42.5S±2.2×**17.3E**±°, **h54**km±6km, **M3.3**/18, **ML3.6**/18, **MLv3.3**/18, **Error ellipse: s-maj=0.0km s-min=0.0km az=86.4, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.49**	**226**	P	Pn	12 20 16.0	+0.4
LTZ				S	Sn	12 20 23.8	0.0
GVZ	**Greta Valley S**	**0.57**	**158**	P	Pn	12 20 17.1	+0.7
GVZ				P	Sn	12 20 26.0	+0.7
KHZ	**Kahutara**	**0.59**	**88**	P	Pn	12 20 17.0	+0.4
THZ	**Tophouse**	**0.69**	**10**	P	Pn	12 20 27.8	+10
AMCZ	**Amberley**	**0.74**	**185**	P	Pn	12 20 19.0	+0.5
AMCZ				S	Sn	12 20 29.7	+0.7
DSZ	**Denniston Nort**	**0.99**	**314**	P	Pn	12 20 22.4	+0.6
DSZ				S	Sn	12 20 35.0	+0.2
INZ	**Inchbonnie**	**1.00**	**253**	P	Pn	12 20 22.8	+0.8
INZ				S	Sn	12 20 35.8	+0.7
OXZ	**Oxford**	**1.03**	**210**	P	Pn	12 20 22.2	-0.1
OXZ				S	Sn	12 20 35.2	-0.5
BSWZ	**Blackbirch Sta**	**1.11**	**50**	P	Pn	12 20 24.6	+1.2
MQZ	**McQueen's Vall**	**1.27**	**183**	P	Pn	12 20 24.6	-0.9
CMWZ	**Cape Campbell**	**1.29**	**58**	P	Pn	12 20 27.3	+1.5
OKCZ	**Okains Bay**	**1.30**	**170**	P	Pn	12 20 26.0	-0.1
NNZ	**Nelson**	**1.31**	**21**	P	Pn	12 20 27.2	+1.1
TUWZ	**Tuamarina**	**1.35**	**42**	P	Pn	12 20 27.4	+0.8
RACZ	**Rakaia**	**1.36**	**199**	P	Pn	12 20 26.3	-0.5
AKCZ	**Akaroa Harbour**	**1.44**	**175**	P	Pn	12 20 27.4	-0.4
WVZ	**Waitaha Valley**	**1.61**	**246**	P	Pn	12 20 31.0	+0.9
QRZ	**Quartz Range**	**1.62**	**354**	P	Pn	12 20 30.8	+0.4
WACZ	**Wakanui South**	**1.64**	**204**	P	Pn	12 20 29.9	-0.7
TCW	**Tory Channel**	**1.68**	**43**	P	Pn	12 20 31.5	+0.4
RPZ	**Rata Peaks**	**1.78**	**224**	P	Pn	12 20 32.5	+0.1
DUWZ	**D'Urville Isla**	**1.86**	**29**	P	Pn	12 20 34.7	+1.1
BHW	**Baring Head**	**1.89**	**58**	P	Pn	12 20 33.7	-0.2
ARCZ	**Arundel**	**1.89**	**217**	P	Pn	12 20 33.8	-0.2
WEL	**Wellington**	**1.90**	**53**	P	Pn	12 20 34.2	+0.1
GCSZ	**Gaunt Creek Bo**	**1.98**	**243**	P	Pn	12 20 36.0	+0.8
PLWZ	**Palliser**	**2.06**	**66**	P	Pn	12 20 35.6	-0.8
MSWZ	**Moikau Station**	**2.13**	**62**	P	Pn	12 20 36.6	-0.7
CAW	**Cannon Point**	**2.19**	**53**	P	Pn	12 20 37.7	-0.3
KIW	**Kapiti Island**	**2.26**	**46**	P	Pn	12 20 39.3	+0.2
PAWZ	**Paruwai Farm**	**2.26**	**63**	P	Pn	12 20 38.3	-0.8
TMZ	**Timaru**	**2.32**	**213**	P	Pn	12 20 39.1	-0.8
FOZ	**Fox Glacier**	**2.41**	**242**	P	Pn	12 20 42.0	+0.9
MTW	**Mount Morrison**	**2.43**	**59**	P	Pn	12 20 40.2	-1.1
OGWZ	**Otaki Gorge**	**2.44**	**49**	P	Pn	12 20 41.2	-0.2
HOWZ	**Holdsworth Sta**	**2.58**	**54**	P	Pn	12 20 42.5	-1.0
LBZ	**Lake Benmore**	**2.69**	**223**	P	Pn	12 20 45.2	+0.2
TMWZ	**Te Maipa**	**2.70**	**62**	P	Pn	12 20 44.8	-0.3
MRZ	**Mangatainoka R**	**2.77**	**51**	P	Pn	12 20 45.2	-0.9
TIWZ	**Tintock**	**2.88**	**56**	P	Pn	12 20 46.7	-0.9
ODZ	**Otahua Downs**	**3.02**	**210**	P	Pn	12 20 48.5	-0.9
PRWZ	**Pori Road**	**3.07**	**53**	P	Pn	12 20 49.1	-1.0
NMEZ	**Namu Road**	**3.14**	**16**	P	Pn	12 20 53.5	+2.3
BFZ	**Birch Farm**	**3.16**	**57**	P	Pn	12 20 49.6	-1.7
WAZ	**Wanganui**	**3.17**	**33**	P	Pn	12 20 52.2	+0.6
PREZ	**Palmer Road**	**3.27**	**20**	P	Pn	12 20 55.4	+2.4
NBEZ	**Newall Road No**	**3.28**	**15**	P	Pn	12 20 55.1	+2.1
KHEZ	**Kahui Hut**	**3.29**	**17**	P	Pn	12 20 55.2	+2.0
JCZ	**Jackson Bay**	**3.32**	**239**	P	Pn	12 20 53.6	-0.1
NEZ	**North Egmont**	**3.33**	**18**	P	Pn	12 20 55.7	+2.0
DVHZ	**Dannevirke**	**3.35**	**51**	P	Pn	12 20 52.2	-1.8
PKE	**Pukeiti**	**3.38**	**17**	P	Pn	12 20 56.4	+2.0
TSZ	**Takapari Road**	**3.40**	**47**	P	Pn	12 20 53.6	-1.1
WKZ	**Wanaka**	**3.61**	**227**	P	Pn	12 20 56.6	-0.9
PNHZ	**Pukenui**	**3.63**	**47**	P	Pn	12 20 56.4	-1.4
VRZ	**Vera Road**	**3.65**	**25**	P	Pn	12 20 59.7	+1.7
PKVZ	**Pokaka**	**3.71**	**33**	P	Pn	12 20 59.6	+0.6
EAZ	**Earnscleugh**	**3.74**	**221**	P	Pn	12 20 58.6	-0.7
WHVZ	**Wahianoa**	**3.79**	**36**	P	Pn	12 21 00.8	+0.7
MOVZ	**Moawhango**	**3.79**	**38**	P	Pn	12 21 00.1	+0.1
WHVZ	**Whangaehu Hut**	**3.82**	**35**	P	Pn	12 21 01.4	+0.7
TUVZ	**Tukino**	**3.86**	**36**	P	Pn	12 21 01.7	+0.6
BHHZ	**Black Hill Sta**	**3.87**	**42**	P	Pn	12 21 00.7	-0.5
KRHZ	**Kereru**	**3.91**	**46**	P	Pn	12 21 00.3	-1.4
OTVZ	**Oturere**	**3.95**	**35**	P	Pn	12 21 02.9	+0.5
ETVZ	**East Tongariro**	**4.00**	**35**	P	Pn	12 21 03.4	+0.4
KWHZ	**Kaweka Forest**	**4.10**	**44**	P	Pn	12 21 03.0	-1.4
TUZ	**Tuapeka**	**4.17**	**211**	P	Pn	12 21 04.9	-0.2
HIZ	**Hauiti**	**4.24**	**23**	P	Pn	12 21 07.0	+0.9
BKZ	**Black Stump Fm**	**4.33**	**42**	P	Pn	12 21 05.9	-1.6
TLZ	**Tolley Road**	**4.63**	**28**	P	Pn	12 21 12.2	+0.7
SYZ	**Scrubby Hill**	**4.84**	**211**	P	Pn	12 21 14.2	-0.1
TOZ	**Tahuroa Road**	**5.16**	**25**	P	Pn	12 21 19.4	+0.7
AWAZ	**Awhitu Peninsu**	**5.56**	**16**	P	Pn	12 21 26.3	+2.0
ETAZ	**East Tamaki Re**	**5.73**	**18**	P	Pn	12 21 27.0	+0.3
RVAZ	**Riverhead Bore**	**5.84**	**15**	P	Pn	12 21 29.9	+1.9

IDC 15 12:24:56.7±3.1, **6.94S**×**129.24E**, **h0**km, **mb3.3**/1, **mb1 3.2**/3, **mb1mx3.1**/31, **mbtmp3.0**/3, **ML2.8**/2, **MS4.0**/1, **Ms1 4.0**/1, **ms1mx3.0**/16, **Error ellipse: s-maj=279.1km s-min=33.9km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.84**	**160**	Pn	Pn	12 28 13.2	-1.2
	0.0nm,0.3s,baz=336,slow=15,SNR=1.3						
WRA				Sn	Sn	12 30 35.4	-14
	0.2nm,0.3s,baz=346,slow=23,SNR=8.3						
ASAR	**Alice Springs**	**17.23**	**165**	P	P	12 28 59.9	-0.7
	0.1nm,0.3s,baz=349,slow=10,SNR=7.0						
DZM	**Mont Dzumac**	**38.89**	**117**	LR	LR	12 49 31.5	
	comp=Z,187nm,19.5s,baz=218,slow=38						
MKAR	**Makanchi Array**	**67.76**	**327**	P	P	12 35 56.3	0.0
	0.1nm,0.4s,baz=116,slow=6.6,SNR=1.4						

SKHL ***15*** *12:25:51.0±0.6, 44.90N×151.30E, h51km±8km, mb4.7/10*
JMA ***15*** *12:25:51.5±0.5, 45.36N×151.06E, h30km, M4.4*
NIED ***15*** *12:25:51.5, 45.36N×151.06E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.45; Mθθ1.25; Mϕϕ=0.80; Mrθ0.24; Mθϕ=0.10; Mϕr0.66; Fault plane solution: M₀1.31000×10¹⁵ NP1: ϕ

YUK pmax pmax
comp=E,29µm,0.1s
YUK smax smax
comp=E,144nm,0.5s
YUK smax smax
comp=N,91nm,0.2s
YUK Yuzh-Kuril'sk 3.89 258 *e*P **Pn 12 26 50.5 +0.9**
YUK AMB AMB 12 26 53.6
comp=N,130nm,0.4s
YUK *i* S **Sn 12 27 35.2 +1.1**
YUK A A 12 27 50.7
comp=N,330nm,0.6s
YUK A A 12 27 50.7
comp=N,320nm,0.6s
GRPR Tuman 3.97 258 PN **Pn 12 26 50.8 +0.1**
GRPR *i* S **Sn 12 27 35.5 -0.4**
GRPR pmax pmax
comp=Z,104nm,0.3s
GRPR pmax pmax
comp=N,41nm,0.1s
GRPR smax smax
comp=E,107nm,0.1s
GRPR smax smax
comp=N,165nm,0.3s
GRPR Tuman 3.97 258 *e*P **Pn 12 26 50.8 +0.1**
GRPR AMB AMB 12 26 54.0
comp=N,100nm,0.3s
GRPR *i* S **Sn 12 27 35.8 -0.1**
GRPR A A 12 27 40.0
comp=N,170nm,0.3s
GRPR A A 12 27 40.0
comp=N,110nm,0.3s
NEM2 Nemuro 2 4.20 250 P **Pn 12 26 53.9 0.0**
NEM2 *e*S **Sn 12 27 40.3 -1.4**
NMR Nemuro--Hokkai 4.21 250 *e*PN **Pn 12 26 53.9 -0.1**
NMR *i* S **Sn 12 27 40.6 -1.3**
NMR Nemuro--Hokkai 4.21 250 *e*P **Pn 12 26 54.4 +0.4**
NMR *i* S **Sn 12 27 41.9 0.0**
GLVR Golovnino 4.22 255 *e*PN **Pn 12 26 55.5 +1.4**
GLVR *i* S **Sn 12 27 43.1 +1.0**
GLVR pmax pmax
comp=Z,163nm,0.3s
GLVR pmax pmax
comp=N,29nm,0.1s
GLVR smax smax
comp=N,241nm,0.3s
GLVR smax smax
comp=E,238nm,0.3s
GLVR Golovnino 4.22 255 *e*P **Pn 12 26 55.5 +1.4**
GLVR AMB AMB 12 26 56.0
comp=E,160nm,0.3s
GLVR *i* S **Sn 12 27 43.1 +1.0**
GLVR A A 12 27 47.0
comp=E,240nm,0.4s
GLVR A A 12 27 47.0
comp=E,240nm,0.4s
RUSJ Misakicho 4.30 261 *e*PN **Pn 12 26 57.4 +2.1**
RUSJ *i* S **Sn 12 27 47.9 +3.7**
JRA Rausu 4.43 259 P **Pn 12 26 59.1 +2.1**
JNK Nakash 4.81 256 P **Pn 12 27 03.4 +1.1**
JAK Akkeshi 5.05 249 P **Pn 12 27 05.6 +0.1**
JAK *e*S **Sn 12 28 00.9 -1.7**
JTKR Abashiri--Toko 5.27 262 P **Pn 12 27 10.5 +1.9**
JAR Ashorobuto 5.56 255 P **Pn 12 27 14.1 +1.5**
JAR *e*S **Sn 12 28 15.2 -0.1**
JMP Maruseppu 5.65 263 P **Pn 12 27 15.9 +2.0**
JOB Onbets 5.67 251 P **Pn 12 27 14.7 +0.7**
JCH Churui 6.10 250 P **Pn 12 27 20.2 +0.2**
JCH *e*S **Sn 12 28 26.1 -2.4**
JKK2 Kamakawa 2 6.11 263 P **Pn 12 27 22.5 +2.3**
JKA Kamikawa-asahi 6.17 265 *e*P **Pn 12 27 23.4 +2.5**
ASAJ Asahikawa 6.17 265 P **Pn 12 27 23.4 +2.4**
comp=E,1.6nm,0.3s,baz=88,slow=15,SNR=25
ASAJ LR LR 12 29 49.0
comp=E,180nm,19.7s,baz=32,slow=39
ASAJ Asahikawa 6.17 265 P **Pn 12 27 23.5 +2.6**
YSS Yuzh-Sakhalins 6.18 292 *e*PN **Pn 12 27 20.9 -0.2**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS Yuzh-Sakhalins 6.18 292 *e*P Pn 12 27 23.6 +2.5
YSS AMB AMB 12 27 26.0
comp=Z,10.0nm,1.0s
JFR Furan 6.42 257 P **Pn 12 27 26.3 +1.9**
JNBK Urakawa-nobuka 6.65 249 P **Pn 12 27 27.8 +0.2**
JBT2 Biratori 2 6.71 254 P **Pn 12 27 29.1 +0.7**
UGL Uglegorsk 7.45 307 *e*P Pn 12 27 41.3 +2.9
UGL AMB AMB 12 27 42.4
comp=Z,20nm,0.7s
JNB Noboribetsu 7.73 255 P **Pn 12 27 43.4 +1.0**
JNB *e*S **Sn 12 29 07.3 -1.4**
JKB Kayabe 7.97 251 P **Pn 12 27 45.8 +0.1**
TYV Tymovskoe 8.21 319 *e*P Pn 12 27 49.9 +1.1
TYV AMB AMB 12 27 50.9
comp=Z,10.0nm,0.6s
TYV *e*S **Sn 12 29 20.5 +0.3**
TYV A A 12 29 54.5
comp=Z,10.0nm,0.7s
TYV A A 12 29 54.5
comp=Z,10.0nm,0.7s
JANG Nango 8.45 240 P **Pn 12 27 50.7 -1.5**
JTH Tanohata 8.50 237 P **Pn 12 27 51.7 -1.2**
JOSM Okushiri--Mats 8.95 255 P **Pn 12 28 00.6 +1.5**
PETK Petropavlovsk- 9.22 25 P Pn 12 28 04.1 +1.4
comp=Z,0.2nm,0.3s,baz=192,slow=11,SNR=10
PETK S **Sn 12 29 45.1 0.0**
comp=Z,0.0nm,0.3s,baz=201,slow=23,SNR=1.6
JRG Rokugo 9.58 238 P **Pn 12 28 08.4 +0.7**
NKL Nikolayevsk 10.68 324 *e*P **Pn 12 28 23.0 +0.3**
NKL AMB AMB 12 28 25.4
comp=Z,10.0nm,1.0s
MJAR Matsushiro Arr 12.91 234 P **Pn 12 28 54.9 +1.7**
comp=Z,0.0nm,0.3s,baz=23,slow=13,SNR=2.8
MJAR LR LR 12 35 16.5
comp=Z,62nm,19.1s,baz=355,slow=43
USRK Ussuriysk Ar. 13.68 274 P **Pn 12 29 04.0 +0.3**
baz=86,slow=14,SNR=4.1
KLR Kul'dur 13.88 295 P P 12 29 08.9 -5.3
comp=Z,0.1nm,0.3s,baz=98,slow=6.2,SNR=3.6
EKMR Ekimchan 14.41 311 *e*P **Pn 12 29 13.1 -0.5**
BMKR Bomnak 17.31 312 *e*P **P 12 29 50.0 -2.2**
KROS Kirovskiy 18.20 310 *e*P **P 12 30 02.8 +0.8**
KSRS Korea Array 18.97 255 P **Pn 12 30 10.9 -0.6**
comp=Z,0.1nm,0.3s,baz=57,slow=10,SNR=5.3
KSRS LR LR 12 38 22.2
comp=Z,70nm,18.4s,baz=37,slow=40
JNU Nakatsue 19.63 240 P **P 12 30 18.7 +0.9**
comp=Z,0.2nm,0.3s,baz=69,slow=14,SNR=4.8
H11N2 WAKE ISLAND Hy 28.35 147 T T 13 02 37.7
baz=334,slow=75
H11N1 WAKE ISLAND Hy 28.37 147 T T 13 02 34.7
baz=334,slow=75
H11N3 WAKE ISLAND Hy 28.37 147 T T 13 02 35.1
baz=334,slow=75
H11S1 WAKE ISLAND Hy 29.40 149 T T 13 03 57.6
baz=337,slow=76
H11S3 WAKE ISLAND Hy 29.40 149 T T 13 03 55.4
baz=337,slow=76,SNR=11
H11S2 WAKE ISLAND Hy 29.41 149 T T 13 03 55.2
baz=337,slow=76,SNR=19
SONM Songino Array 30.67 292 P **P 12 32 03.6 +0.1**
comp=Z,0.6nm,0.7s,baz=80,slow=8.7,SNR=4.9
ILAR Eielson Array 38.81 37 P **P 12 33 12.9 -0.4**
comp=Z,0.4nm,1.0s,baz=263,slow=8.2,SNR=4.6
ZALV Zalesovo Beam 42.56 307 PcP **PcP 12 35 37.0 +0.8**
comp=Z,0.3nm,0.3s,baz=100,slow=3.3,SNR=3.9
INK Inuvik 43.90 31 P **P 12 33 56.0 +1.1**
comp=Z,0.5nm,0.6s,baz=324,slow=6.0,SNR=4.1
MKAR Makanchi Array 46.56 298 P **P 12 34 15.6 -0.9**
comp=Z,1.2nm,0.6s,baz=72,slow=7.6,SNR=15
MKAR PcP **PcP 12 35 50.4 +0.2**
comp=Z,0.3nm,0.5s,baz=71,slow=2.7,SNR=4.1
CMAR Chiang Mai Arr 50.61 256 LR LR 12 58 24.8
comp=Z,18nm,18.4s,baz=295,slow=39
YKA Yellowknife Ar 53.18 35 P **P 12 35 07.4 +1.0**
comp=Z,0.2nm,0.7s,baz=298,slow=6.8,SNR=4.3
FINES FINESS Array B 65.06 334 P **P 12 36 26.6 -2.1**
comp=Z,1.3nm,0.5s,baz=34,slow=8.2,SNR=16
WRA Warramunga Arr 66.38 197 P **P 12 36 40.0 +2.4**
comp=Z,0.7nm,0.8s,baz=15,slow=6.6,SNR=3.3
WRA pP **pwP 12 36 54.2 -0.4**
comp=Z,0.6nm,0.7s,baz=11,slow=6.0,SNR=5.1
PDAR Pinedale Array 66.92 52 P **P 12 36 41.5 +0.2**
comp=Z,0.2nm,0.6s,baz=326,slow=4.7,SNR=1.9

NB2 NORSAR Subarra 69.47 340 P **P 12 36 55.5 -1.2**
comp=Z,1.1nm,0.5s,baz=27,slow=6.5
NOA NORSAR Array B 69.47 340 P **P 12 36 55.7 -1.0**
comp=Z,1.3nm,0.5s,baz=28,slow=6.5,SNR=17
ASAR Alice Springs 70.08 197 P **P 12 37 04.3 +3.5**
comp=Z,0.8nm,0.8s,baz=12,slow=5.2,SNR=9.2
ASAR pP **pwP 12 37 18.8 +1.0**
comp=Z,0.9nm,0.9s,baz=6.6,slow=5.9,SNR=4.8
KBZ Khabaz 71.10 313 P **P 12 37 06.6 -0.2**
comp=Z,4.7nm,0.9s,baz=8.1,slow=6.9,SNR=8.8
AKASG Malin Array Be 72.26 325 P **P 12 37 12.7 -1.0**
comp=Z,1.5nm,0.4s,baz=37,slow=6.4,SNR=7.4
CLL Collm 77.51 335 *i* (P) **P 12 37 43.5 -0.6**
comp=Z,6.0nm,1.0s
CLL Collm 77.51 335 *i* P **P 12 37 43.5 -0.6**
BRTR Keskin Array B 78.73 316 P **P 12 37 50.0 -1.3**
comp=Z,1.1nm,0.9s,baz=41,slow=4.6,SNR=3.4
BRTR pP **pwP 12 38 06.0 -1.2**
comp=Z,0.2nm,0.4s,baz=348,slow=6.3,SNR=2.3
KHC Kasperske Hory 79.23 333 *e*P **P 12 37 53.4 -0.3**
KHC Kasperske Hory 79.23 333 *e*P **P 12 37 53.4 -0.3**
CKRC Cesky Krumlov 79.27 333 *e*P **P 12 37 54.0 +0.1**
GERES GERESS Array B 79.44 333 P **P 12 37 54.7 -0.2**
comp=Z,0.5nm,0.7s,baz=64,slow=6.1,SNR=3.6
TXAR Lajitas Array 79.58 59 pP pP 12 38 11.0 +6.0
comp=Z,0.8nm,0.6s,baz=303,slow=5.0,SNR=6.5

IDC 15 12:46:00.9±1.8, 2°.39N×126°.84E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.2/43, mbtmp3.3/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/19, Error ellipse: s-maj=120.7km s-min=25.2km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**14.69**	**109**	LR	LR	12 55 00.1	
	comp=Z,210nm,20.1s,baz=202,slow=37						
FITZ	**Fitzroy Crossi**	**20.39**	**183**	P	P	12 50 39.1	-0.4
	0.8nm,0.7s,baz=21,slow=8.6,SNR=4.2						
WRA	**Warramunga Arr**	**23.38**	**162**	P	P	12 51 11.1	-0.3
	0.5nm,0.5s,baz=342,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**26.79**	**166**	P	P	12 51 43.3	+0.4
	0.2nm,0.7s,baz=347,slow=10,SNR=5.7						
ASAR				PcP	PcP	12 55 06.3	+0.1
	0.5nm,1.1s,baz=349,slow=1.9,SNR=1.8						
JCJ	**Chichijima**	**28.63**	**29**	LR	LR	13 01 12.7	
	comp=Z,60nm,20.5s,baz=146,slow=32						
MKAR	**Makanchi Array**	**58.72**	**326**	P	P	12 56 00.3	-0.3
	0.2nm,0.5s,baz=118,slow=5.7,SNR=4.9						

*GUC **15** 12:47:28.0±0.6, 21°.23S×68°.89W, h116km±3km, ML3.4*
*IDC **15** 12:47:30.0±1.1, 21°.22S×68°.31W, h68km±24km, mb3.4/2, mb1 3.5/5, mb1mx3.3/29, mbtmp3.7/5, Error ellipse: s-maj=43.0km s-min=9.9km az=103.0*
ISC 15 12:47:29.1±0.9, 21°.23S±0°.03×68°.98W±0°.07, h109km±8km, n24, σ1°.03/40, 6C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.51**	**291**	⇓*i* P	**Pn**	**12 47 45.6**	**-0.4**
PB01				*i* S	**Sn**	**12 47 58.8**	**+1.0**
PB01				IAML		12 47 59.9	
	comp=N,3µm,0.3s						
PB09	**IPOC Station P**	**0.62**	**204**	⇑*i* P	**Pn**	**12 47 46.5**	**-0.4**
PB09				*i* S	**Sn**	**12 48 01.0**	**+0.7**
PB09				IAML		12 48 03.1	
	comp=E,629nm,0.1s						
PB07	**IPOC Station P**	**0.98**	**239**	⇑*i* P	**Pn**	**12 47 50.0**	**-0.2**
PB07				*i* S	**Sn**	**12 48 06.8**	**+0.6**
PB07				IAML		12 48 08.7	
	comp=N,1µm,0.4s						
PB03	**IPOC Station P**	**1.09**	**221**	⇑*i* P	**Pn**	**12 47 51.0**	**-0.4**
PB03				*i* S	**Sn**	**12 48 08.4**	**+0.2**
PB03				IAML		12 48 12.7	
	comp=E,747nm,0.1s						
PB08	**IPOC Station P**	**1.09**	**351**	⇓*i* P	**Pn**	**12 47 51.1**	**-0.5**
PB08				*i* S	**Sn**	**12 48 08.8**	**+0.2**
PB08				IAML		12 48 10.6	
	comp=E,791nm,0.2s						
HMBC	**Humberstone**	**1.27**	**318**	⇑*i* P	**Pn**	**12 47 52.6**	**-0.8**
HMBC				*i* S	**Sn**	**12 48 11.7**	**0.0**
HMBC				IAML		12 48 13.6	
	comp=E,840nm,0.2s						
TA01	**Diego Aracena**	**1.31**	**300**	*i* P	**Pn**	**12 47 53.1**	**-0.4**
TA01				*e*S	**Sn**	**12 48 12.2**	**+0.1**
LVC	**Limon Verde**	**1.38**	**178**	P	**Pn**	**12 47 54.4**	**-0.4**
	comp=E,25nm,0.3s,baz=7.5,slow=10,SNR=338						
LVC				S	**Sn**	**12 48 13.9**	**-0.3**
	comp=E,49nm,0.3s,baz=90,slow=20,SNR=34						
LVC	**Limon Verde**	**1.38**	**178**	⇓*i* P	**Pn**	**12 47 54.4**	**-0.4**
LVC				*i* S	**Sn**	**12 48 14.1**	**-0.1**
TA02	**Huaiquique**	**1.44**	**311**	*e*P	**Pn**	**12 47 54.4**	**-0.8**
TA02				*e*S	**Sn**	**12 48 14.8**	**-0.1**
PB04	**IPOC Station P**	**1.55**	**225**	*e*P	**Pn**	**12 47 56.5**	**-0.2**
PB04				*i* S	**Sn**	**12 48 17.8**	**+0.2**
PB04				IAML		12 48 22.0	
	comp=N,570nm,0.1s						
PB06	**IPOC Station P**	**1.57**	**201**	⇑*i* P	**Pn**	**12 47 56.4**	**-0.5**
PB06				*i* S	**Sn**	**12 48 17.9**	**-0.1**
PB06				IAML		12 48 20.8	
	comp=E,594nm,0.2s						
PSGC	**Pisagua**	**1.95**	**326**	*i* P	**Pn**	**12 48 00.0**	**-1.5**
PSGC				*e*S	**Sn**	**12 48 25.0**	**-1.2**
PB05	**IPOC Station P**	**1.98**	**215**	⇑*i* P	**Pn**	**12 48 00.9**	**-1.0**
PB05				*i* S	**Sn**	**12 48 26.3**	**-0.6**
PB05				IAML		12 48 28.0	
	comp=E,185nm,0.4s						
PB15	**IPOC Station P**	**2.02**	**193**	*e*P	**Pn**	**12 48 01.9**	**-0.7**
PB15				*e*S	**Sn**	**12 48 27.9**	**-0.3**
MNMC	**Minye Minye**	**2.17**	**344**	*e*P	**Pn**	**12 48 03.6**	**-0.9**
MNMC				*e*S	**Sn**	**12 48 31.5**	**0.0**
MNMC				IAML		12 48 37.0	
	comp=N,554nm,0.2s						
PB10	**IPOC Station P**	**2.71**	**212**	*e*P	**Pn**	**12 48 09.8**	**-1.4**
PB10				IAML		12 48 42.9	
	comp=E,76nm,0.3s						
PB16	**IPOC Station P**	**2.92**	**350**	*e*P	**Pn**	**12 48 14.3**	**-0.3**
GO02	**Mina Guanaco**	**3.96**	**188**	*e*P	**Pn**	**12 48 26.2**	**-1.9**
LPAZ	**La Paz**	**4.98**	**9**	P	**Pn**	**12 48 42.3**	**+0.1**
	comp=E,0.6nm,0.3s,baz=178,slow=11,SNR=15						
LPAZ				S	**Sn**	**12 49 38.1**	**-0.8**
	comp=E,0.1nm,0.3s,baz=224,slow=24,SNR=1.4						
SIV	**San Ignacio**	**9.12**	**57**	P	Pn	12 49 32.2	-5.7
	comp=E,1.3nm,0.3s,baz=254,slow=12,SNR=18						
PLCA	**Paso Flores**	**19.49**	**184**	P	**Pn**	**12 51 50.7**	**+0.8**
	comp=E,0.0nm,0.3s,baz=2.8,slow=11,SNR=2.9						
BDFB	**Brasilia**	**20.64**	**78**	P	**P**	**12 51 56.9**	**-3.3**
	comp=E,1.4nm,0.5s,baz=243,slow=9.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**77.32**	**70**	P	**P**	**12 59 15.4**	**+3.2**
	comp=E,3.2nm,0.8s,baz=260,slow=4.9,SNR=3.6						

*NOU **15** 12:49:33.6, 13°.43S×172°.01W, h27km, MLv2.7, Samoa Islands*
IDC 15 12:49:10.5±5.1, 15°.44S×173°.29W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/37, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=259.7km s-min=23.1km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.11**	**44**	Pn	Pn	12 49 45.5	-1.6
	20nm,0.3s,baz=278,slow=6.2,SNR=27						
AFI				Sn	Sn	12 50 07.0	-7.1
	32nm,0.3s,baz=270,slow=20,SNR=10						
AFI	**Afiamalu**	**2.11**	**44**	P	Pn	12 49 45.2	-1.9
H11S2	**WAKE ISLAND Hy**	**39.05**	**329**	T	T	13 37 07.7	
	baz=149,slow=76,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**39.06**	**329**	T	T	13 37 07.4	
	baz=149,slow=76,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**39.07**	**329**	T	T	13 37 08.7	
	baz=149,slow=76,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	13 38 21.9	
	baz=150,slow=76,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	13 38 27.2	
	baz=150,slow=76,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**40.02**	**330**	T	T	13 38 24.9	
	baz=150,slow=76,SNR=5.9						
WRA	**Warramunga Arr**	**49.94**	**257**	P	P	12 58 05.9	-0.8
	0.4nm,0.7s,baz=90,slow=7.3,SNR=6.1						
ASAR	**Alice Springs**	**50.20**	**252**	P	P	12 58 08.5	-0.2
	1.3nm,0.5s,baz=86,slow=7.9,SNR=40						
ILAR	**Eielson Array**	**82.46**	**11**	P	P	13 01 35.8	+1.3
	1.1nm,0.8s,baz=210,slow=5.1,SNR=5.0						

YKA Yellowknife Ar 90.09 23 P P 13 02 12.1 +0.1
0.1nm,0.7s,baz=236,slow=3.7,SNR=2.3

*INET **15** 12:53:12.0, 12°.85N×88°.40W, h15km, MW3.4*
SNET 15 12:53:12.3±0.9, 12°.80N×88°.46W, h55km±11km, ML3.7, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.53**	**349**	*e*P	Pn	12 53 24.4	+0.2
ALJI				*e*S	Sn	12 53 33.9	+1.0
ALJI				IAML		12 53 34.0	
	comp=E,8µm,0.2s						
LCY	**Lacayo**	**0.64**	**15**	*e*P	Pn	12 53 25.8	+0.1
VSM	**San Miguel**	**0.65**	**16**	*e*P	Pn	12 53 26.3	+0.4
PACA	**Pacayal**	**0.68**	**12**	*e*P	Pn	12 53 26.8	+0.6
PACA				*e*S	Sn	12 53 37.5	+1.3
TECA	**Tecapa**	**0.69**	**357**	*e*P	Pn	12 53 26.6	+0.2
COEB	**Comit de Eme**	**0.70**	**355**	*e*P	Pn	12 53 26.5	+0.1
COEB				*e*S	Sn	12 53 37.3	+0.8
COEB				IAML		12 53 42.1	
	comp=Z,3µm,0.3s						
LCND	**La Caada**	**0.75**	**48**	*e*P	Pn	12 53 26.4	-0.6
LCND				*e*S	Sn	12 53 38.3	+0.7
LCND				IAML		12 53 42.1	
	comp=Z,2µm,0.3s						
CNCH	**Conchagua**	**0.77**	**52**	*e*P	Pn	12 53 27.6	+0.3
CNCH				*e*S	Sn	12 53 39.4	+1.1
PQSS	**Presa 15 de Se**	**0.82**	**353**	*e*P	Pn	12 53 28.3	+0.4
PQSS				*e*S	Sn	12 53 40.6	+1.4
PQSS				IAML		12 53 41.2	
	comp=Z,2µm,0.2s						
COEG	**Centro de Oper**	**0.91**	**334**	*e*P	Pn	12 53 29.3	+0.2
COEG				*e*S	Sn	12 53 42.3	+1.0
COEG				IAML		12 53 46.8	
	comp=Z,3µm,0.2s						
LFRS	**El Faro**	**1.00**	**325**	⇓*i* P	Pn	12 53 30.6	+0.2
LBRS	**Las Brisas**	**1.09**	**329**	*e*P	Pn	12 53 32.3	+0.8
OPAM	**Oficina de Pla**	**1.15**	**322**	*e*S	Sn	12 53 48.0	+0.9
OPAM				IAML		12 53 49.4	
	comp=Z,1µm,0.3s						
SNET	**Serv Nac Est T**	**1.16**	**320**	*e*P	Pn	12 53 32.5	+0.2
SNET				*e*S	Sn	12 53 47.9	+0.7
SNET				IAML		12 53 50.3	
	comp=Z,1µm,0.3s						
UEES	**Universidad Ev**	**1.18**	**320**	*e*P	Pn	12 53 32.9	+0.1
UEES				*e*S	Sn	12 53 48.5	+0.6
BOQS	**Boqueron**	**1.22**	**320**	*e*P	Pn	12 53 34.0	+0.6
JAYA	**Jayaque - finc**	**1.28**	**312**	*e*P	Pn	12 53 34.1	0.0
JAYA				*e*S	Sn	12 53 50.7	+0.4
JAYA				IAML		12 53 53.4	
	comp=Z,2µm,0.2s						
TACO	**Tacachico**	**1.45**	**323**	*e*P	Pn	12 53 36.6	+0.3
TACO				*e*S	Sn	12 53 55.3	+1.1
CEVE	**Cerro Verde**	**1.52**	**312**	IAML		12 54 01.8	
	comp=Z,884nm,0.3s						
TGUH	**Tegucigalpa,Un**	**1.70**	**43**	*e*P	Pn	12 53 39.9	+0.1

*NEIC **15** 13:15:25.0±0.6, 17°.2S±0°.2×177°.7W±0°.2, h411km±13km, mb4.0/13, Error ellipse: s-maj=25.8km s-min=18.5km az=142.0*
*IDC **15** 13:15:25.7±4.8, 16°.96S×177°.82W, h410km±28km, mb3.3/5, mb1 3.5/6, mb1mx3.1/39, mbtmp4.0/6, Error ellipse: s-maj=134.0km s-min=27.7km az=138.0*
ISC 15 13:15:24.5±0.8, 17°.2S±0°.1×177°.7W±0°.1, h400km, n21, σ0°.81/21, mb3.8/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.09**	**262**	P	**Pn**	**13 16 38.8**	**+1.2**
	1.7nm,0.3s,baz=123,slow=15,SNR=3.1						
MSVF	**Nonsavu**	**4.09**	**262**		**Pn**	**13 16 38.9**	**+1.3**
NIUE	**Niue**	**7.63**	**105**		**P**	**13 17 16.2**	**+0.4**
KNTN	**Kanton**	**15.48**	**23**	P	**P**	**13 18 42.9**	**+0.5**
BKZ	**Black Stump Fm**	**22.48**	**192**	P	**P**	**13 19 50.3**	**-1.1**
BKZ				IAmb	IAmb	13 19 53.2	
	comp=Z,13nm,1.2s						
ARMA	**Armidale**	**30.88**	**239**	P	**P**	**13 21 05.8**	**-0.3**
DCZ	**Deep Cove**	**30.91**	**201**	P	**P**	**13 21 06.8**	**+0.9**
STKA	**Stephens Creek**	**39.57**	**241**	P	**P**	**13 22 18.9**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=72,slow=11,SNR=4.5						
BBOO	**Buckleboo**	**44.34**	**240**	P	**P**	**13 22 56.8**	**-0.5**
BBOO				IAmb	IAmb	13 23 15.1	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**45.24**	**259**	P	**P**	**13 23 03.6**	**-0.8**
WB0	**Warramunga Arr**	**45.39**	**259**	P	**P**	**13 23 04.9**	**-0.6**
WB0				IAmb	IAmb	13 23 20.5	
	comp=Z,5.3nm,1.2s						
WB2	**Warramunga Arr**	**45.42**	**259**	P	**P**	**13 23 05.2**	**-0.5**
WB2				IAmb	IAmb	13 23 15.9	
	comp=Z,7.7nm,1.3s						
WRAB	**Tennant Creek**	**45.42**	**259**	P	**P**	**13 23 04.9**	**-0.8**
WRAB				IAmb	IAmb	13 23 05.2	
	comp=Z,5.6nm,1.2s						
WRA	**Warramunga Arr**	**45.43**	**259**	P	**P**	**13 23 05.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=91,slow=8.0,SNR=26						
AS31	**Alice Springs**	**45.63**	**254**	P	**P**	**13 23 07.1**	**-0.4**
ASAR	**Alice Springs**	**45.64**	**254**	P	**P**	**13 23 07.5**	**+0.1**
	comp=Z,5.9nm,0.6s,baz=89,slow=8.2,SNR=104						
ASAR	**Alice Springs**	**45.64**	**254**	P	**P**	**13 23 06.6**	**-0.9**
FORT	**Forrest**	**50.92**	**244**	P	**P**	**13 23 46.4**	**-0.7**
FORT				IAmb	IAmb	13 24 08.8	
	comp=Z,19nm,1.0s						
FITZ	**Fitzroy Crossi**	**53.81**	**260**	P	**P**	**13 24 09.1**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=100,slow=6.1,SNR=2.0						
PSA00	**Pilbara Seismi**	**58.74**	**255**	P	**P**	**13 24 42.0**	**-0.6**
PSA00				IAmb	IAmb	13 24 51.7	
	comp=Z,9.8nm,1.2s						
ILAR	**Eielson Array**	**85.04**	**13**	P	**P**	**13 27 14.9**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=223,slow=5.3,SNR=10						

*DJA **15** 13:24:43.7±0.4, 9°.2S±4°×11°.0E±°, h10km, M4.0/13, mb4.0/6, mB5.5/1, MLv4.0/13, Mw(mB)5.0/1*
*NEIC **15** 13:24:47.4±3.0, 9°.2S±0°.1×110°.47E±0°.06, h55km±9km, mb4.1/5, Error ellipse: s-maj=15.3km s-min=8.9km az=174.0*
*IDC **15** 13:24:49.4±4.1, 8°.96S×110°.70E, h65km±47km, mb3.3/5, mb1 3.5/6, mb1mx3.3/32, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=78.4km s-min=25.1km az=43.0*
ISC 15 13:24:46.9±0.9, 9°.36S±0°.09×110°.45E±0°.08, h50km, n23, σ2°.9/40/26, mb3.8/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.44**	**3**	Pn	**Pn**	**13 25 08.1**	**-2.6**
UGM	**Wanagama**	**1.44**	**3**	P	**Pn**	**13 25 08.5**	**-2.2**
UGM				S	**Sn**	**13 25 29.4**	**+1.0**
SMRI	**Semarang**	**2.29**	**360**	Pn	**Pn**	**13 25 23.1**	**+0.8**
SMRI	**Semarang**	**2.29**	**360**	P	**Pn**	**13 25 23.0**	**+0.6**
SMRI				S	**Sn**	**13 25 55.0**	**+5.6**
CISI	**Cisompet, Garu**	**3.16**	**304**	Pn	**Pn**	**13 25 32.9**	**-1.4**
CISI	**Cisompet, Garu**	**3.16**	**304**	P	**Pn**	**13 25 32.9**	**-1.4**
JAGI	**Jajag, Banyuwa**	**3.76**	**77**	Pn	**Pn**	**13 25 42.3**	**-0.2**
JAGI	**Jajag, Banyuwa**	**3.76**	**77**	P	**Pn**	**13 25 42.7**	**+0.2**
LEM	**Lembang**	**3.77**	**312**	P	**Pn**	**13 25 44.4**	**+1.7**
	7.2nm,0.3s,baz=332,slow=15,SNR=4.6						
LEM				S	**Sn**	**13 26 32.3**	**+6.4**
	7.0nm,0.3s,baz=87,slow=9.2,SNR=3.8						
SRBI	**Singaraja**	**4.87**	**75**	P	**Pn**	**13 25 58.4**	**+0.6**
TWSI	**Taliwang, Sumb**	**6.38**	**85**	P	**Pn**	**13 26 18.9**	**+0.4**
	0.1nm7.4nm,1.2s						
**PLA

ZAA0					IAmb	IAmb	13 35 31.1	
	comp=Z,2.9nm,1.2s							
ZALV	**Zalesovo Beam**	**66.69**	**344**		P	**P**	**13 35 30.6**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=169,slow=2.9,SNR=4.6							
ABKAR	**Akbulak array**	**73.19**	**328**		P	**P**	**13 36 11.8**	**-0.7**

RSNC 15 13:26:06.4±1.5, 2°50′N×75°84′W, h4km±6km, ML3.4, Mw3.5, 3C-8D, Fault plane solution: NP1: φs42.00000°, δ90.00000°, λ82.00000°., **Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARP	**Paez Belalcaza**	**0.36**	**341**	*e*Pg	Pg	13 26 12.4	-1.0
MARP				*e*P	Pb	13 26 13.1	-2.5
MARP				*e*S	Sg	13 26 17.6	-0.6
MARP				*i*		13 26 17.8	
	comp=Z,4μm,0.1s						
BETC	**Betania**	**0.43**	**66**	⇓*i*P	Pg	13 26 14.4	-0.4
BETC				*e*S	Sg	13 26 21.1	+0.6
GARC	**Garzon, Huila**	**0.47**	**132**	⇓*i*P	Pg	13 26 14.7	-0.7
GARC				*e*S	Sg	13 26 21.5	0.0
GARC				*i*		13 26 23.6	
	comp=Z,8μm,0.3s						
PCON	**Cinco Dias**	**0.58**	**253**	⇓*i*P	Pg	13 26 17.6	-0.1
PCON				*e*S	Sg	13 26 26.0	+0.6
POPC	**Popayan, Colom**	**0.84**	**273**	⇓*i*P	Pg	13 26 21.5	-1.0
POPC				*e*S	Sg	13 26 32.9	-0.5
SOTA	**Rioblanco**	**0.85**	**245**	⇓*i*P	Pg	13 26 22.3	-0.5
SOTA				*e*S	Sg	13 26 34.0	+0.1
SOTA				*i*		13 26 35.3	
	comp=Z,776nm,0.2s						
BBAC	**Balboa, Cauca**	**1.49**	**251**	⇓*i*P	Pn	13 26 33.2	-0.9
BBAC				*e*S	Sb	13 26 52.4	-1.7
BBAC				*i*		13 26 54.2	
	comp=Z,293nm,0.5s						
ORTC	**Ortega, Tolima**	**1.52**	**23**	⇑*i*P	Pn	13 26 32.7	-1.7
ORTC				*e*S	Sn	13 26 53.4	-1.2
ORTC				*i*		13 26 59.3	
	comp=Z,974nm,0.2s						
PRAC	**Prado**	**1.53**	**38**	⇑*i*P	Pn	13 26 33.1	-1.5
PRAC				*e*S	Sn	13 26 53.9	-1.2
PRAC				*i*		13 26 57.3	
	comp=Z,483nm,0.3s						
YOTC	**Yotoco, Valle**	**1.56**	**341**	⇑*i*P	Pn	13 26 32.9	-2.1
YOTC				*e*S	Sn	13 26 53.4	-2.3
YOTC				*i*		13 26 54.2	
	comp=Z,283nm,0.4s						
MACC	**Macarena, Meta**	**2.02**	**100**	⇓*e*P	Pn	13 26 40.5	-0.8
MACC				*e*S	Sn	13 27 06.8	-0.2
ANIL	**Santa Ana**	**2.02**	**12**	*e*P	Pn	13 26 39.6	-1.9
ANIL				*e*S	Sn	13 27 08.0	+0.5
ANIL				*i*		13 27 17.2	
	comp=Z,95nm,0.3s						
TOLC	**Tolima**	**2.13**	**14**	⇓*i*P	Pn	13 26 42.5	-0.6
TOLC				*e*S	Sb	13 27 11.6	-1.2
TOLC				*i*		13 27 14.6	
	comp=Z,397nm,0.7s						
PLMC	**San Jos del P**	**2.43**	**349**	*e*P	Pn	13 26 46.9	0.0
PLMC				*e*S	Sn	13 27 17.1	0.0
PLMC				*i*		13 27 23.0	
	comp=Z,90nm,0.3s						
RREF	**El Recreo**	**2.43**	**12**	*e*P	Pn	13 26 46.4	-1.1
GUY2C	**Guyana, Caldas**	**2.74**	**10**	*e*P	Pn	13 26 52.5	+0.8
ROSC	**El Rosal**	**2.77**	**33**	*e*P	Pn	13 26 52.7	+0.7
NORC	**Norcasia**	**3.19**	**18**	*e*P	Pn	13 26 56.2	-1.2
SPBC	**San Pablo de B**	**3.59**	**29**	*e*P	Pn	13 27 01.2	-1.7
HELC	**Santa Helena**	**3.68**	**5**	*e*P	Pn	13 27 06.5	+2.1
PTBC	**PUERTO BERRIO,**	**4.24**	**19**	*e*P	Pn	13 27 11.0	-0.8
RUSC	**La Rusia**	**4.35**	**39**	*e*P	Pn	13 27 14.1	+0.3
UREC	**San Jos de Ur**	**5.22**	**3**	*e*P	Pn	13 27 25.7	+0.3

*IDC **15** 13:37:24.7±8.1, 27°.26S×178°.21W, h232km±69km, mb3.4/4, mb1 3.6/5, mb1mx3.3/37, mbtmp4.1/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/16, Error ellipse: s-maj=55.8km s-min=22.5km az=41.0*

*NEIC **15** 13:37:25.6±0.8, 27°.2S±0°.1×178°.3W±0°.1, h244km±7km, mb4.3/15, Error ellipse: s-maj=20.0km s-min=13.3km az=116.0*

ISC 15 13:37:27.9±1.1, 27°.70S±0°.07×178°.6W±0°.2, h250km, n39, σ2s**10/44, mb3.9/10, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.66**	**159**	Pn	**Pn**	**13 38 07.8**	**+0.4**
GLKZ	**Green Lake**	**1.66**	**160**	P	Pn	13 38 17.2	+10
GLKZ				S	S	13 38 52.2	+14
MSVF	**Nonsavu**	**10.39**	**342**	Pn	Pn	13 39 42.5	-9.1
WMGZ	**Waiomatatini S**	**10.40**	**193**	S	**S**	**13 41 47.3**	**-0.8**
HAZ	**Te Kaha**	**10.48**	**196**	P	**P**	**13 39 56.5**	**-0.9**
HAZ				S	**S**	**13 41 52.4**	**+2.4**
URZ	**Urewera**	**11.13**	**198**	P	**P**	**13 40 03.7**	**-1.0**
	0.5nm,0.3s,baz=279,slow=6.1,SNR=15						
URZ				S	**S**	**13 42 07.0**	**+2.0**
	3.9nm,0.3s,baz=67,slow=20,SNR=14						
BHHZ	**Black Hill Sta**	**12.57**	**199**	P	**Pn**	**13 40 20.0**	**+1.5**
BHHZ				P	**S**	**13 42 40.9**	**+2.5**
KRHZ	**Kereru**	**12.63**	**198**	P	**P**	**13 40 22.2**	**+0.8**
KRHZ				P	**S**	**13 42 35.7**	**-3.9**
PXZ	**Pawanui**	**12.87**	**196**	P	**P**	**13 40 24.0**	**+0.1**
PXZ				P	**S**	**13 42 40.6**	**-4.4**
PNHZ	**Pukenui**	**12.93**	**198**	P	**P**	**13 40 24.5**	**-0.2**
PNHZ				P	**S**	**13 42 46.3**	**-0.2**
TSZ	**Takapari Road**	**13.13**	**199**	P	**Pn**	**13 40 25.7**	**+0.4**
TSZ				S	**S**	**13 42 48.8**	**-2.2**
PRHZ	**Porangahau**	**13.14**	**196**	P	**P**	**13 40 28.4**	**+1.3**
PRHZ				P	**S**	**13 42 45.4**	**-6.0**
ANWZ	**Angora Road**	**13.37**	**197**	P	**P**	**13 40 30.9**	**+1.4**
ANWZ				P	**S**	**13 42 52.7**	**-3.7**
PRWZ	**Pori Road**	**13.59**	**198**	P	**P**	**13 40 33.0**	**+1.0**
PRWZ				P	**S**	**13 42 57.4**	**-4.1**
TUWZ	**Tuamarina**	**15.01**	**202**	P	**Pn**	**13 40 49.3**	**+1.3**
NNZ	**Nelson**	**15.01**	**204**	P	**Pn**	**13 40 49.3**	**+1.2**
BSWZ	**Blackbirch Sta**	**15.29**	**202**	P	**Pn**	**13 40 52.5**	**+1.2**
THZ	**Tophouse**	**15.66**	**204**	P	**Pn**	**13 40 57.2**	**+1.3**
THZ				IAmb	IAmb	13 41 13.7	
	comp=Z,35nm,1.4s						
KHZ	**Kahutara**	**16.02**	**202**	P	**Pn**	**13 41 00.7**	**+0.6**
KHZ				IAmb	IAmb	13 41 29.0	
	comp=Z,32nm,1.2s						
LHI	**Lord Howe Isla**	**19.80**	**254**	P	**Pn**	**13 41 42.8**	**-1.7**
CTA	**Charters Tower**	**32.94**	**276**	P	**P**	**13 43 41.5**	**+2.2**
	comp=Z,3.3nm,0.8s,baz=99,slow=9.9,SNR=7.3						
CTAO	**Charters Tower**	**32.94**	**276**	P	**P**	**13 43 41.4**	**+2.0**
CTAO				IAmb	IAmb	13 44 04.1	
	comp=Z,12nm,1.2s						
XMAS	**Kiritimati**	**35.89**	**38**	P	P	13 43 58.6	-5.9
PMG	**Port Moresby**	**37.04**	**293**	LR	LR	13 55 27.6	
	comp=Z,64nm,19.5s,baz=230,slow=29						
COEN	**Coen**	**38.10**	**283**	P	**P**	**13 44 24.7**	**+1.6**
COEN				IAmb	IAmb	13 44 36.3	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**42.80**	**264**	P	**P**	**13 45 02.3**	**+0.7**
ASAR	**Alice Springs**	**42.80**	**264**	P	**P**	**13 45 02.5**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=98,slow=7.7,SNR=15						
WR0	**Warramunga Arr**	**43.36**	**270**	P	**P**	**13 45 06.5**	**+0.5**
WB2	**Warramunga Arr**	**43.53**	**270**	P	**P**	**13 45 07.6**	**+0.2**
WRAB	**Tennant Creek**	**43.54**	**270**	P	**P**	**13 45 07.7**	**+0.3**
WRAB				IAmb	IAmb	13 45 12.8	
	comp=Z,5.3nm,1.2s						
WRA	**Warramunga Arr**	**43.54**	**270**	P	**P**	**13 45 07.8**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=107,slow=7.4,SNR=26						
WB0	**Warramunga Arr**	**43.55**	**270**	P	**P**	**13 45 07.8**	**+0.3**
WB0				IAmb	IAmb	13 45 21.7	
	comp=Z,10.0nm,1.5s						
MORW	**Morawa**	**56.84**	**252**	P	**P**	**13 46 46.7**	**-0.2**
MORW				IAmb	IAmb	13 47 06.2	
	comp=Z,3.8nm,1.1s						
QSPA	**South Pole Qui**	**62.40**	**180**	P	**P**	**13 47 25.8**	**+1.7**
	comp=Z,2.4nm,1.1s,baz=306,slow=1.2,SNR=8.4						
JWT	**Wachi**	**76.24**	**323**	P	**P**	**13 48 46.0**	**-2.9**
JWT				IAmb	IAmb	13 49 07.7	
	comp=Z,17nm,1.3s						
JSD	**Sado**	**76.88**	**326**	P	**P**	**13 48 49.1**	**-3.2**
JSD				IAmb	IAmb	13 49 01.2	
	comp=Z,7.2nm,1.1s						
FINES	**FINESS Array B**	**142.44**	**341**	PKhKP	PKPpre	13 56 22.8	
	comp=Z,1.6nm,0.8s,baz=45,slow=4.1,SNR=5.8						
NOA	**NORSAR Array B**	**146.01**	**351**	PKPbc	**PKPdf**	**13 56 35.0**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=16,slow=4.6,SNR=3.3						
AKASG	**Malin Array Be**	**148.82**	**325**	PKPbc	**PKPdf**	**13 56 42.9**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=44,slow=3.2,SNR=4.7						

*IDC **15** 13:40:49.1±0.7, 20°.12S×67°.45E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/40, mbtmp4.0/16, ML3.9/1, MS3.8/8, Ms1 3.8/8, ms1mx3.4/49, Error ellipse: s-maj=22.3km s-min=17.8km az=176.0*

*NEIC **15** 13:40:51.3±1.7, 20°.0S±0°.1×67°.3E±0°.1, h10km±1km, mb4.6/16, Error ellipse: s-maj=20.4km s-min=17.8km az=343.0*

*GCMT **15** 13:40:55.3±0.4, 20°.14S±0°.03×67°.35E±0°.02, h18km±2km, MW4.8/74, Moment Tensor Solution. s11,c12; s74,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.15±.12; Mθθ 1.68±.12; Mφφ -1.53±.10; Mrθ 0.56±.23; Mθφ -0.90±.09; Mφr -0.11±.24; Best double couple: M0 1.91500×10^16 NP1: φs 151.00000°, δ79.00000°, λ9.00000°. NP2: φs 59.00000°, δ81.00000°, λ169.00000°. Principal axes: T 2.0640, Plg14.0000°, Azm15.0000°; N -0.3020, Plg75.0000°, Azm200.0000°; P -1.7670, Plg1.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 13:40:51.8±0.7, 20°.1S±0°.1×67°.35E±0°.09, h16km, n44, σ0s**90/37, mb4.2/21, MS3.8/8, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.91**	**262**	Pn	**Pn**	**13 43 26.1**	**-1.4**
H08S1	**Diego Garcia H**	**13.33**	**23**	T	T	13 57 50.7	
	baz=202,slow=75,SNR=13						
H08S2	**Diego Garcia H**	**13.34**	**23**	T	T	13 57 54.9	
	baz=202,slow=75,SNR=8.7						
H08S3	**Diego Garcia H**	**13.35**	**23**	T	T	13 57 52.3	
	baz=202,slow=75,SNR=18						
OPO	**Ambohidratompo**	**19.08**	**271**	P	**Pn**	**13 45 15.1**	**+0.2**
	0.4nm,0.3s,baz=75,slow=16,SNR=5.1						
PALK	**Pallekele**	**30.20**	**27**	LR	LR	13 56 08.3	
	comp=Z,266nm,21.9s,baz=313,slow=30						
KMBO	**Kilima Mbogo**	**34.94**	**299**	P	**P**	**13 47 45.0**	**+1.4**
	0.7nm,0.5s,baz=126,slow=14,SNR=2.0						
KMBO				LR	LR	13 59 50.4	
	comp=Z,155nm,19.4s,baz=92,slow=33						
GSI	**Gunungsitoli**	**36.47**	**58**	P	**P**	**13 47 56.6**	**+0.2**
GSI				IAmb	IAmb	13 48 15.8	
	comp=Z,7.6nm,1.0s						
BOSA	**Boshof**	**39.11**	**249**	P	**P**	**13 48 19.6**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=82,slow=7.1,SNR=2.2						
BOSA				LR	LR	14 00 46.6	
	comp=Z,67nm,18.7s,baz=97,slow=31						
BOSA	**Boshof**	**39.11**	**249**	IAmb	IAmb	13 48 20.1	
	comp=Z,8.1nm,1.2s						
FURI	**Furi**	**40.32**	**313**	P	**P**	**13 48 28.3**	**-0.9**
NWAO	**Narrogin (SRO)**	**46.05**	**117**	LR	LR	14 04 06.2	
	comp=Z,120nm,20.6s,baz=296,slow=30						
MAW	**Mawson**	**47.59**	**182**	LR	LR	14 04 52.5	
	comp=Z,119nm,19.8s,baz=52,slow=30						
CM31	**Chiang Mai Arr**	**49.27**	**41**	P	**P**	**13 49 41.1**	**+0.9**
CM31				IAmb	IAmb	13 49 54.6	
	comp=Z,4.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.27**	**41**	P	**P**	**13 49 40.5**	**+0.4**
	comp=Z,3.1nm,1.0s,baz=236,slow=8.0,SNR=18						
CMAR				LR	LR	14 06 44.7	
	comp=Z,93nm,21.9s,baz=270,slow=32						
CMAR	**Chiang Mai Arr**	**49.27**	**41**	P	**P**	**13 49 40.9**	**+0.8**
SHL	**Shillong**	**51.26**	**29**	P	**P**	**13 49 55.5**	**+0.2**
UBPT	**Khong Chiam**	**51.38**	**50**	P	**P**	**13 49 56.9**	**+0.8**
NIL	**Nilore**	**53.73**	**6**	P	**P**	**13 50 13.1**	**-0.2**
NIL				IAmb	IAmb	13 50 14.4	
	comp=Z,4.7nm,1.0s						
HRA	**Herat**	**54.39**	**355**	P	**P**	**13 50 18.2**	**-0.1**
HRA				IAmb	IAmb	13 50 24.5	
	comp=Z,6.3nm,0.9s						
ASAR	**Alice Springs**	**61.37**	**107**	P	**P**	**13 51 05.8**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=274,slow=6.1,SNR=7.7						
WRA	**Warramunga Arr**	**62.53**	**103**	P	**P**	**13 51 14.5**	**-0.8**
	comp=Z,1.9nm,1.1s,baz=260,slow=6.1,SNR=5.1						
AAK	**Ala-Archa**	**62.76**	**6**	P	**P**	**13 51 16.3**	**-0.1**
AAK				IAmb	IAmb	13 51 18.8	
	comp=Z,8.6nm,1.4s						
KKAR	**Karatay Array**	**62.94**	**3**	P	**P**	**13 51 17.6**	**+0.1**
BRTR	**Keskin Array B**	**67.31**	**332**	P	**P**	**13 51 45.9**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=156,slow=6.5,SNR=3.9						
MK31	**Makanchi Array**	**67.92**	**11**	P	**P**	**13 51 47.5**	**-2.1**
MKAR	**Makanchi Array**	**67.92**	**11**	P	**P**	**13 51 48.3**	**-1.3**
	comp=Z,2.0nm,1.0s,baz=198,slow=6.4,SNR=12						
MKAR	**Makanchi Array**	**67.92**	**11**	P	**P**	**13 51 47.5**	**-2.1**
ABKAR	**Akbulak array**	**69.34**	**355**	P	**P**	**13 51 58.5**	**+0.1**
ABKAR				IAmb	IAmb	13 51 60.0	
	comp=Z,7.0nm,1.4s						
QSPA	**South Pole Qui**	**70.02**	**180**	P	**P**	**13 52 02.6**	**-0.1**
	comp=Z,4.4nm,1.0s,baz=273,slow=3.3,SNR=6.5						
QSPA	**South Pole Qui**	**70.02**	**180**	P	**P**	**13 52 04.5**	**+1.8**
QSPA				IAmb	IAmb	13 52 07.0	
	comp=Z,9.5nm,1.2s						
TORD	**Torodi Ar. Bea**	**72.52**	**291**	P	**P**	**13 52 18.6**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=77,slow=7.6,SNR=2.4						
TORD				LR	LR	14 22 57.9	
	comp=Z,55nm,18.6s,baz=100,slow=35						
ZAA0	**Zalesovo Array**	**75.25**	**11**	P	**P**	**13 52 33.1**	**-0.5**
ZALV	**Zalesovo Beam**	**75.25**	**11**	P	**P**	**13 52 33.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=199,slow=4.1,SNR=6.5						
ZALV	**Zalesovo Beam**	**75.25**	**11**	P	**P**	**13 52 33.0**	**-0.6**
DBIC	**Dimbokro**	**75.76**	**283**	P	**P**	**13 52 37.8**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=39,slow=13,SNR=1.8						
DBIC				LR	LR	14 23 24.4	
	comp=Z,53nm,19.9s,baz=100,slow=34						
SONM	**Songino Array**	**76.14**	**26**	P	**P**	**13 52 39.8**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=215,slow=5.0,SNR=8.6						
SONM	**Songino Array**	**76.14**	**26**	P	**P**	**13 52 39.4**	**+0.3**
AKASG	**Malin Array Be**	**78.07**	**336**	P	**P**	**13 52 49.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=130,slow=4.7,SNR=2.2						
KSRS	**Korea Array**	**80.75**	**45**	P	**P**	**13 53 04.8**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=246,slow=6.3,SNR=3.3						
MJAR	**Matsushiro Arr**	**87.38**	**50**	P	**P**	**13 53 38.5**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=231,slow=5.7,SNR=7.0						
MJAR	**Matsushiro Arr**	**87.38**	**50**	P	**P**	**13 53 38.4**	**0.0**
MJAR				IAmb	IAmb	13 53 39.9	
	comp=Z,3.9nm,1.4s						
YKA	**Yellowknife Ar**	**137.60**	**1**	PKP	**PKiKP**	**14 00 15.9**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=30,slow=2.6,SNR=3.7						
ULM	**Lac du Bonnet**	**147.09**	**340**	PKPbc	**PKPbc**	**14 00 33.8**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=72,slow=3.2,SNR=1.9						

*IGIL **15** 13:44:04.8, 38°.90N×10°.16W, h31km, ML1.3*

*INMG **15** 13:44:04.7±1.1, 38°.89N×10°.13W, h31km, ML1.6, Error ellipse: s-maj=6.3km s-min=2.4km az=90.0*

*MDD **15** 13:44:04.1±1.1, 38°.88N×10°.12W, h49km±17km, mb3.7/2, Error ellipse: s-maj=11.7km s-min=4.9km az=84.0, PRXIMO*

ISC 15 13:44:01.9±1.6, 38°.89N±0°.03×10°.19W±0°.07, h35km, n54, σ1s**35/90, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**0.71**	**84**	Pg	**Pn**	**13 44 17.0**	**+1.6**
	2.4nm,0.1s,SNR=7.9						
PMAFR				Lg	Lg	13 44 26.3	
	29nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**0.71**	**84**	*e*P	**Pn**	**13 44 17.0**	**+1.6**
PMAFR				*e*S	**Sn**	**13 44 26.3**	**+1.2**
PMAFR				A	A	13 44 28.0	
	32nm,0.2s						
PSBE	**So Bento**	**1.25**	**60**	*e*P	**Pn**	**13 44 24.3**	**+1.5**
PSBE				*e*S	**Sn**	**13 44 39.0**	**+0.6**
PSBE				A	A	13 44 42.0	
	4.0nm,0.9s						
PNCL	**Nicolau / Gran**	**1.52**	**120**	Pg	**Pn**	**13 44 27.8**	**+1.3**
PNCL				Lg	Lg	13 44 44.7	
	2.6nm,0.3s						
PNCL	**Nicolau / Gran**	**1.52**	**120**	*e*P	**Pn**	**13 44 27.8**	**+1.3**
PNCL				*e*S	**Sn**	**13 44 44.7**	**-0.3**
PNCL				A	A	13 44 46.6	
	2.6nm,0.3s						
PMTG	**Montargil**	**1.54**	**83**	Pg	**Pn**	**13 44 27.9**	**+1.1**
PMTG				Lg	Lg	13 44 45.2	
	2.4nm,0.3s						
PMTG	**Montargil**	**1.54**	**83**	*e*P	**Pn**	**13 44 27.9**	**+1.1**
PMTG				*e*S	**Sn**	**13 44 45.2**	**-0.4**
PMTG				A	A	13 44 53.8	
	2.4nm,0.3s						
EVO	**Evora**	**1.74**	**101**	Pn	**Pn**	**13 44 30.4**	**+0.9**
EVO				Sn	**Sn**	**13 44 50.4**	**-0.1**
EVO	**Evora**	**1.74**	**101**	*e*Pn	**Pn**	**13 44 30.4**	**+0.9**
EVO				*e*Sn	**Sn**	**13 44 50.4**	**-0.1**
PCAS	**Casmilo, Conde**	**1.75**	**48**	Pn	**Pn**	**13 44 31.4**	**+1.7**
PCAS				Sn	**Sn**	**13 44 50.4**	**-0.3**
	2.3nm,0.7s						
PCAS	**Casmilo, Conde**	**1.75**	**48**	*e*Pn	**Pn**	**13 44 31.4**	**+1.7**
PCAS				*e*Sn	**Sn**	**13 44 50.4**	**-0.3**
PCAS				A	A	13 44 52.2	
	2.3nm,0.7s						
PTEO	**Sao Teotonio**	**1.77**	**139**	Pg	**Pn**	**13 44 31.1**	**+1.1**
PTEO				Lg	Lg	13 44 50.4	
	2.6nm,0.8s						
PTEO	**Sao Teotonio**	**1.77**	**139**	*e*Pn	**Pn**	**13 44 31.1**	**+1.1**
PTEO				*e*Sn	**Sn**	**13 44 50.4**	**-0.8**
PTEO				A	A	13 44 57.1	
	5.1nm,0.8s						
MESJ	**Messejana**	**1.87**	**124**	*e*P	**Pn**	**13 44 32.4**	**+1.1**
MESJ				*e*S	**Sn**	**13 44 52.7**	**-1.0**
MESJ				AML	AML	13 44 54.7	
	comp=E,2.1nm,0.1s						
MESJ	**Messejana**	**1.87**	**124**	Pn	**Pn**	**13 44 32.4**	**+1.1**
MESJ				Lg	Lg	13 44 52.7	
	comp=E,2.1nm,0.1s						
MESJ	**Messejana**	**1.87**	**124**	*e*Pn	**Pn**	**13 44 32.6**	**+1.3**
MESJ				*e*Sn	**Sn**	**13 44 53.5**	**-0.2**
MESJ				A	A	13 45 01.9	
	comp=E,1.9nm,0.7s						
MORF	**Marmelete**	**1.99**	**142**	*e*P	**Pn**	**13 44 34.2**	**+1.1**
MORF	**Marmelete**	**1.99**	**142**	Pn	**Pn**	**13 44 34.2**	**+1.1**
MORF				Sn	**Sn**	**13 44 55.5**	**-1.4**
	comp=E,3.6nm,0.8s						
MORF	**Marmelete**	**1.99**	**142**	*e*Pn	**Pn**	**13 44 33.9**	**+0.8**
MORF				*e*Sn	**Sn**	**13 44 55.5**	**-1.4**
MORF				A	A	13 44 59.3	
	comp=E,3.6nm,0.8s						
PESTR	**Estremoz**	**2.03**	**90**	*e*Pn	**Pn**	**13 44 35.0**	**+1.5**
PESTR				*e*Sn	**Sn**	**13 44 56.7**	**-0.9**
PESTR				A	A	13 45 15.2	
	comp=E,1.2nm,0.6s						
PFVI	**Vila Bisbo**	**2.06**	**148**	Pn	**Pn**	**13 44 34.6**	**+0.7**
	comp=E,2.7nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**13 44 56.6**	**-1.8**
	comp=E,2.0nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**2.11**	**126**	Pn	**Pn**	**13 44 35.7**	**+1.1**
PCVE				Sn	**Sn**	**13 45 00.1**	**+0.5**
PCVE	**Castro Verde**	**2.11**	**126**	*e*Pn	**Pn**	**13 44 35.7**	**+1.1**
PCVE				*e*Sn	**Sn**	**13 45 00.1**	**+0.5**
PMRV	**Marv??o**	**2.24**	**75**	Pn	**Pn**	**13 44 37.3**	**+0.8**
PMRV				Sn	**Sn**	**13 45 01.9**	**-1.0**
	comp=E,1.3nm,0.4s						
PMRV	**Marv??o**	**2.24**	**75**	*e*Pn	**Pn**	**13 44 37.3**	**+0.8**
PMRV				*e*Sn	**Sn**	**13 45 01.9**	**-1.0**
PMRV				A	A	13 45 04.0	
	comp=E,1.3nm,0.4s						
PCBR	**Castelo Branco**	**2.30**	**65**	Pn	**Pn**	**13 44 38.9**	**+1.6**
PCBR				Sn	**Sn**	**13 45 03.9**	**-0.5**
PCBR	**Castelo Branco**	**2.30**	**65**	*e*Pn	**Pn**	**13 44 38.9**	**+1.6**
PCBR				*e*Sn	**Sn**	**13 45 03.9**	**-0.5**
PBDV	**Barranco-do-Ve**	**2.42**	**132**	Pn	**Pn**	**13 44 39.9**	**+0.9**
PBDV	**Barranco-do-Ve**	**2.42**	**132**	*e*Pn	**Pn**	**13 44 39.9**	**+0.9**
PVAQ	**Vaqueiros**	**2.45**	**127**	Pn	**Pn**	**13 44 40.5**	**+1.2**
PVAQ				Sn	**Sn**	**13 45 07.5**	**-0.5**
	comp=E,1.7nm,0.5s						
PVAQ	**Vaqueiros**	**2.45**	**127**	*e*Pn	**Pn**	**13 44 40.5**	**+1.2**
PVAQ				*e*Sn	**Sn**	**13 45 07.5**	**-0.5**
PVAQ				A	A	13 45 08.8	
	comp=E,1.7nm,0.5s						
EGRO	**El Granado**	**2.52**	**122**	Pn	**Pn**	**13 44 41.5**	**+1.2**
	comp=E,2.6nm,0.3s,SNR=7.9						
EGRO				Sn	**Sn**	**13 45 08.1**	**-1.7**
	comp=E,0.2nm,0.0s,SNR=7.9						
PVIS	**Viseu**	**2.54**	**43**	Pn	**Pn**	**13 44 42.2**	**+1.6**
PVIS				Sn	**Sn**	**13 45 09.3**	**-1.0**
	comp=E,1.8nm,0.2s						
PVIS	**Viseu**	**2.54**	**43**	*e*Pn	**Pn**	**13 44 42.2**	**+1.6**
PVIS				*e*Sn	**Sn**	**13 45 09.3**	**-1.0**
PVIS				A	A	13 45 09.8	
	comp=E,3.5nm,0.2s						
PBAR	**Barrancos**	**2.57**	**105**	Pn	**Pn**	**13 44 42.0**	**+1.0**
PBAR				Sn	**Sn**	**13 45 09.9**	**-1.1**
	comp=E,1.1nm,0.5s						
PBAR	**Barrancos**	**2.57**	**105**	*e*Pn	**Pn**	**13 44 42.0**	**+1.0**
PBAR				*e*Sn	**Sn**	**13 45 09.9**	**-1.1**
PBAR				A	A	13 45 12.8	
	comp=E,1.1nm,0.5s						
EMIN	**Mina Concepcio**	**2.98**	**111**	Pn	**Pn**	**13 44 47.8**	**+1.2

SCRK	**Sand Creek**	**2.64**	**259**	P		13 49 05.6	
	baz=72,SNR=6.0						
SCRK				Sb		13 49 43.7	
	baz=72						
DOT	**Dot Lake**	**2.79**	**253**	Pn	**Pn**	**13 49 07.2**	**+0.2**
DOT				Sg	**Sb**	**13 49 47.5**	**+1.2**
YUK3	**Moose Creek**	**3.03**	**202**	Pn	**Pn**	**13 49 11.7**	**+1.1**
YUK3				Sn	**Sn**	**13 49 48.1**	**+1.2**
YUK3				Sg	**Sg**	**13 49 56.6**	**-3.0**
YUK2	**White River**	**3.09**	**205**	Pn	**Pn**	**13 49 12.1**	**+0.9**
YUK2				Sg	**Sg**	**13 49 58.9**	**-2.5**
PRP	**Porcupine Dome**	**3.28**	**290**	P		13 49 14.0	
	baz=103,SNR=16						
PRP				S		13 49 52.7	
	baz=103						
PAX	**Paxson**	**3.66**	**247**	Pn	**Pn**	**13 49 19.9**	**+0.8**
PAX				Sn	**Sn**	**13 50 01.8**	**-0.4**
PAX				Sg	**Sg**	**13 50 14.8**	**-5.0**
PAX	**Paxson**	**3.66**	**247**	P		13 49 20.0	
	baz=59,SNR=6.5						
PAX				Sb		13 50 14.3	
	baz=59						
ILAR	**Eielson Array**	**3.78**	**277**	Pn	**Pn**	**13 49 20.6**	**0.0**
	5.0nm,0.3s,baz=97,slow=11,SNR=114						
ILAR				Lg	Lg	13 50 19.8	
	12nm,0.3s,baz=91,slow=29,SNR=11						
HDA	**Harding Lake**	**3.83**	**271**	P		13 49 22.7	
	baz=82,SNR=27						
HDA				P		13 49 22.7	
	baz=82,SNR=27						
MCARA	**McCarthy VSAT**	**3.93**	**217**	P		13 49 24.4	
	baz=31						
MCARA				Sn		13 50 10.7	
	baz=31						
MCARA				Sb		13 50 24.7	
	baz=31						
CTGM	**Chitina Glacie**	**3.94**	**204**	Pn	**Pn**	**13 49 25.0**	**+2.0**
CTGM				Sn	**Sn**	**13 50 08.8**	**-0.4**
CTGM				Sg	**Sg**	**13 50 25.2**	**-3.6**
CTG	**Chitna Glacier**	**3.94**	**204**	P		13 49 25.1	
	baz=20,SNR=7.1						
CTG				Sb		13 50 24.6	
	baz=20						
PTPK	**Patty Peak**	**3.97**	**212**	Pn	**Pn**	**13 49 24.6**	**+1.2**
PTPK				Sn	**Sn**	**13 50 10.6**	**+0.6**
PTPK				Sg	**Sg**	**13 50 26.1**	**-3.5**
LOGN	**Logan Glacier**	**4.02**	**201**	Pn	**Pn**	**13 49 26.1**	**+2.0**
LOGN				Sn	**Sn**	**13 50 12.4**	**+1.2**
LOGN				Sg	**Sg**	**13 50 28.5**	**-2.8**
POKR	**Poker Plat Res**	**4.02**	**282**	P		13 49 24.1	
	baz=93						
POKR				S		13 50 12.4	
	baz=93						
POKR				Sb		13 50 24.8	
	baz=93						
INK	**Inuvik**	**4.15**	**24**	Pn	**Pn**	**13 49 25.9**	**+0.3**
INK				Sn	**Sn**	**13 50 13.2**	**-0.9**
COLA	**College**	**4.19**	**278**	P		13 49 26.3	
	baz=89						
TCOL	**CIGO, UAF Yank**	**4.20**	**278**	P		13 49 26.4	
	baz=89,SNR=8.5						
N25K	**Chitina, Valde**	**4.21**	**227**	P		13 49 28.2	
	baz=40						
N25K				Sb		13 50 33.7	
	baz=40						
WHY	**Whitehorse**	**4.22**	**158**	Pn	**Pn**	**13 49 28.0**	**+1.1**
WHY				Sn	**Sn**	**13 50 16.9**	**+0.7**
WHY				Sg	**Sg**	**13 50 37.0**	**-0.9**
GRNC	**Granite Creek**	**4.23**	**205**	Pn	**Pn**	**13 49 29.2**	**+2.1**
GRNC				Sn	**Sn**	**13 50 17.1**	**+0.5**
TABL	**Table Mountain**	**4.41**	**200**	Pn	**Pn**	**13 49 32.0**	**+2.5**
TABL				Sn	**Sn**	**13 50 23.4**	**+2.5**
TABL				Sg	**Sg**	**13 50 41.2**	**-2.6**
M24K	**Tolsona, Glenn**	**4.42**	**239**	Sb		13 50 40.3	
	baz=51						
CRQE	**Cirque**	**4.50**	**213**	P		13 49 33.0	
	baz=28						
CRQE				S		13 50 25.8	
	baz=28						
RKAV	**Rock Avalanche**	**4.57**	**201**	Pn	**Pn**	**13 49 34.5**	**+2.8**
RKAV				Sn	**Sn**	**13 50 25.4**	**+0.5**
PCA	**Pinnacle**	**4.63**	**194**	Pn	**Pn**	**13 49 35.1**	**+2.7**
PCA				Sn	**Sn**	**13 50 25.5**	**-0.6**
PINM	**Pinnacle**	**4.63**	**194**	P		13 49 35.3	
	baz=11						
PINM				S		13 50 32.4	
	baz=11						
SAMH	**Samovar Hills**	**4.66**	**197**	Pn	**Pn**	**13 49 34.0**	**+1.2**
BMRM	**Bremner River**	**4.71**	**222**	P		13 49 35.9	
	baz=36						
KLU	**Klutina**	**4.73**	**232**	P		13 49 36.8	
	baz=44						
KLU				Sb		13 50 47.6	
	baz=44						
MESA	**MESA**	**4.79**	**204**	Pn	**Pn**	**13 49 36.4**	**+1.8**
MESA				Sn	**Sn**	**13 50 31.4**	**+1.2**
MESA	**MESA**	**4.79**	**204**	P		13 49 38.1	
	baz=19						
MCK	**McKinley**	**4.82**	**265**	P		13 49 35.9	
	baz=74,SNR=8.6						
I23K	**Minto, Yukon-K**	**4.83**	**282**	P		13 49 36.4	
	baz=91,SNR=6.4						
WAT2	**Susitna Watana**	**4.94**	**255**	P		13 49 38.5	
	baz=65						
WAT2				S		13 50 35.3	
	baz=65						
DIV	**Divide**	**4.95**	**229**	Pn	**Pn**	**13 49 38.8**	**+2.1**
PNL	**Peninsula**	**4.99**	**188**	Pn	**Pn**	**13 49 39.1**	**+1.9**
PLBC	**Pleasant Camp**	**5.23**	**170**	Pn	**Pn**	**13 49 42.1**	**+1.7**
PLBC				Sn	**Sn**	**13 50 39.5**	**-1.3**
PLBC				Sg	**Sg**	**13 51 04.3**	**-5.6**
SML	**Sawmill**	**5.41**	**243**	P		13 49 45.4	
	baz=54						
TRF	**Thorofare Moun**	**5.48**	**263**	P		13 49 45.1	
	baz=72,SNR=11						
TRF				S		13 50 47.8	
	baz=72						
COLD	**Coldfoot**	**5.61**	**303**	Pn	**Pn**	**13 49 46.4**	**+0.6**
COLD				Sn	**Sn**	**13 50 49.9**	**-0.4**
COLD	**Coldfoot**	**5.61**	**303**	P		13 49 47.6	
	baz=112,SNR=10						
COLD				S		13 50 50.6	
	baz=112						
BPAW	**Bear Paw Mtn.**	**5.62**	**271**	P		13 49 46.0	
	baz=79						
TOLK	**Toolik Lake Re**	**6.10**	**317**	P		13 49 54.6	
	baz=126,SNR=9.1						
TOLK				S		13 51 02.3	
	baz=126						
CHUM	**Lake Minchumin**	**6.24**	**270**	P		13 49 54.9	
	baz=77						
C36M	**Paulatuk**	**7.26**	**43**	Pn	**Pn**	**13 50 08.1**	**-0.3**
C36M				Sn	**Sn**	**13 51 26.7**	**-4.0**
DLBC	**Dease Lake**	**7.28**	**144**	Pn	**Pn**	**13 50 09.7**	**+0.9**
DLBC				Sn	**Sn**	**13 51 29.7**	**-1.7**
DLBC				Sg	**Sg**	**13 52 12.6**	**-3.2**
DHRN	**Dharma Camp**	**8.00**	**64**	Pn	**Pn**	**13 50 19.2**	**+0.7**
DHRN				Sn	**Sn**	**13 51 45.6**	**-3.3**
FNBB	**Fort Nelson**	**9.15**	**122**	Pn	**Pn**	**13 50 36.4**	**+2.1**
KUKN	**Kugluktuk,NWT**	**9.81**	**61**	Pn	**Pn**	**13 50 43.9**	**+0.7**
KUKN				Sn	Sn	13 52 27.9	-5.3
YKA	**Yellowknife Ar**	**10.66**	**91**	Pn	**Pn**	**13 50 56.4**	**+1.5**
	0.2nm,0.3s,baz=296,slow=12,SNR=12						
YKA				Sn	**Sn**	**13 52 50.0**	**-4.3**
	0.1nm,0.3s,baz=290,slow=22,SNR=4.2						
ULM	**Lac du Bonnet**	**26.26**	**103**	P	**P**	**13 53 59.5**	**+2.2**
	0.7nm,0.4s,baz=315,slow=4.3,SNR=1.7						
PDAR	**Pinedale Array**	**27.20**	**130**	P	**P**	**13 54 07.3**	**+1.1**
	0.4nm,0.8s,baz=318,slow=6.2,SNR=2.2						
FINES	**FINESS Array B**	**53.71**	**9**	P	**P**	**13 57 46.0**	**+2.3**
	1.1nm,0.7s,baz=352,slow=8.8,SNR=6.6						

*IDC **15** 14:00:58.6±0.5, 43.01N×76.95E, h0km, mb4.4/33, mb1 4.5/40, mb1mx4.4/67, mbtmp4.4/40, ML3.8/7, MS3.8/14, Ms1 3.8/14, ms1mx3.4/58, Error ellipse: s-maj=9.1km s-min=7.6km az=164.0*

*MOS **15** 14:00:59.8±0.9, 43.00N×76.89E, h16km, mb4.9/54, Error ellipse: s-maj=4.2km s-min=4.0km az=42.7*

MOS Felt (IV-V) at Almati.

*IASPEI **15** 14:01:00.6±0.8, 42.98N±0.02×76.90E±0.02, h17km±5km, mb4.7/147, MS3.9/19, Error ellipse: s-maj=2.9km s-min=2.3km az=173.9, GT5 selection from ISC bulletin*

GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009

*SOME **15** 14:01:00.1, 42.95N×76.93E, h20km, MS3.6*

*NNC **15** 14:01:00.5±0.3, 42.99N×76.88E, h7km±1km, mb5.2, mpv5.1, Error ellipse: s-maj=3.9km s-min=1.4km az=166.0*

*KRNET **15** 14:01:00.6±0.1, 42.98N×76.88E, h15km, mb4.9*

*KNET **15** 14:01:01.5±0.4, 42.94N×76.79E, h14km±2km, ml4.7, Error ellipse: s-maj=3.3km s-min=2.7km az=98.0*

*BJI **15** 14:01:03.1±0.0, 43.05N×77.34E, h20km, mB4.6/25, mb4.6/38, ML4.5/7, Ms4.1/15, Ms7 3.8/14*

*NEIC **15** 14:01:03.1±1.2, 43.07N±0.07×76.91E±0.09, h28km±4km, mb4.8/121, Error ellipse: s-maj=9.8km s-min=8.7km az=152.0*

ISC 15 14:01:01.0±0.5, 42.99N±0.02×76.88E±0.01, h14km±3km, n506, σ1°35/639, mb4.7/147, MS3.9/19, 82C-43D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNSS	**Tian-Shan**	**0.07**	**47**	*e*P	**Pg**	**14 01 04.4**	**+0.1**
	22μm,0.2s						
TNSS				*e*S	**Sg**	**14 01 07.0**	**+0.5**
	65μm,0.4s						
TNSS	**Tian-Shan**	**0.07**	**47**	P	**Pg**	**14 01 04.4**	**+0.1**
TNSS				S	**Sg**	**14 01 07.0**	**+0.5**
TNSS	**Tian-Shan**	**0.07**	**47**	*e*PG	**Pg**	**14 01 04.4**	**+0.1**
TNSS				*e*S	**Sg**	**14 01 07.1**	**+0.5**
IZV	**Izvestkoviy**	**0.20**	**283**	*e*P	**Pb**	**14 01 06.3**	**-0.3**
IZV				*e*S	**Sb**	**14 01 10.3**	**0.0**
IZV	**Izvestkoviy**	**0.20**	**283**	P	**Pb**	**14 01 06.3**	**-0.3**
IZV				S	**Sb**	**14 01 10.3**	**0.0**
IZV	**Izvestkoviy**	**0.20**	**283**	*e*PG	**Pb**	**14 01 06.3**	**-0.3**
IZV				*e*S	**Sb**	**14 01 10.3**	**0.0**
MDOK	**Medeo**	**0.21**	**36**	⇑*e*P	**Pg**	**14 01 05.8**	**-0.1**
	31μm,0.2s						
MDOK				*e*S	**Sg**	**14 01 09.2**	**+0.1**
	87μm,0.1s						
MDOK	**Medeo**	**0.21**	**36**	P	**Pg**	**14 01 05.7**	**-0.1**
MDOK				⇓S	**Sg**	**14 01 09.3**	**+0.1**
MDOK	**Medeo**	**0.21**	**36**	Pg	**Pg**	**14 01 05.7**	**-0.1**
MDOK				Lg	Lg	14 01 09.3	
MDOK	**Medeo**	**0.21**	**36**	*e*PG	**Pg**	**14 01 05.8**	**-0.1**
MDOK				*e*S	**Sg**	**14 01 09.3**	**+0.1**
AAA	**Alma-Ata**	**0.22**	**7**	⇓*e*P	**Pb**	**14 01 06.5**	**-0.4**
	45μm,0.1s						
AAA				*e*S	**Sb**	**14 01 10.6**	**-0.2**
	25μm,0.1s						
AAA	**Alma-Ata**	**0.22**	**7**	P	**Pb**	**14 01 06.5**	**-0.4**
	45μm,0.1s						
AAA				S	**Sb**	**14 01 10.6**	**-0.2**
	51μm,0.7s						
AAA	**Alma-Ata**	**0.22**	**7**	*e*PG	**Pb**	**14 01 06.5**	**-0.4**
AAA				*e*S	**Sb**	**14 01 10.6**	**-0.2**
KNDC	**Almaty**	**0.23**	**16**	⇓P	**Pg**	**14 01 06.6**	**+0.4**
KNDC				⇑S	**Sb**	**14 01 10.8**	**-0.3**
KOTS	**Kotyrbulak**	**0.30**	**35**	⇓*e*P	**Pg**	**14 01 07.3**	**0.0**
	128μm,0.3s						
KOTS				*e*S	**Sg**	**14 01 12.2**	**+0.6**
	298μm,0.5s						
KOTS	**Kotyrbulak**	**0.30**	**35**	P	**Pg**	**14 01 07.3**	**0.0**
KOTS				S	**Sg**	**14 01 12.2**	**+0.6**
KOTS	**Kotyrbulak**	**0.30**	**35**	*e*PG	**Pg**	**14 01 07.3**	**0.0**
KOTS				*e*S	**Sg**	**14 01 12.2**	**+0.6**
MTBS	**Maitube**	**0.36**	**293**	⇑*e*P	**Pg**	**14 01 08.6**	**+0.3**
	1μm,0.1s						
MTBS				*e*S	**Sb**	**14 01 14.2**	**-0.6**
	80μm,0.3s						
MTBS	**Maitube**	**0.36**	**293**	P	**Pg**	**14 01 08.6**	**+0.3**
	4μm,0.5s						
MTBS				S	**Sg**	**14 01 13.9**	**+0.7**
	80μm,0.3s						
MTBS	**Maitube**	**0.36**	**293**	*e*PG	**Pg**	**14 01 08.6**	**+0.3**
MTBS				*e*S	**Sb**	**14 01 14.2**	**-0.6**
ANVS	**Anan'yevo**	**0.61**	**109**	⇑*i*P	**Pg**	**14 01 12.1**	**-1.0**
	baz=8.0						
ANVS				⇑*i*S	**Sg**	**14 01 20.3**	**-1.0**
	baz=8.0						
KTBS	**Karatobe**	**0.73**	**349**	⇓*e*P	**Pg**	**14 01 14.9**	**-0.4**
	6μm,0.2s						
KTBS				*e*S	**Sg**	**14 01 25.1**	**+0.1**
	29μm,0.3s						
KTBS	**Karatobe**	**0.73**	**349**	P	**Pg**	**14 01 14.9**	**-0.4**
	6μm,0.2s						
KTBS				S	**Sg**	**14 01 25.1**	**+0.1**
	45μm,0.5s						
KTBS	**Karatobe**	**0.73**	**349**	*e*PG	**Pg**	**14 01 14.9**	**-0.4**
KTBS				*e*S	**Sg**	**14 01 25.1**	**+0.1**
DGS	**Degeres**	**0.85**	**288**	⇓*e*P	**Pg**	**14 01 17.1**	**-0.4**
	1μm,0.6s						
DGS				*e*S	**Sg**	**14 01 28.6**	**0.0**
	12μm,0.4s						
DGS	**Degeres**	**0.85**	**288**	P	**Pg**	**14 01 17.1**	**-0.4**
	1μm,0.6s						
DGS				S	**Sg**	**14 01 28.6**	**0.0**
	12μm,0.4s						
DGS	**Degeres**	**0.85**	**288**	*e*PG	**Pg**	**14 01 17.1**	**-0.4**
DGS				*e*S	**Sg**	**14 01 28.6**	**0.0**
BOOM	**Boomskoye usch**	**0.85**	**234**	⇓*i*P	**Pg**	**14 01 16.9**	**-0.7**
	baz=35						
BOOM				⇓*i*S	**Sg**	**14 01 28.2**	**-0.6**
	baz=35						
ULHL	**Ulahol**	**0.88**	**213**	⇓*i*P	**Pg**	**14 01 17.4**	**-0.7**
	baz=13						
ULHL				⇓*i*S	**Sg**	**14 01 29.2**	**-0.5**
	baz=13						
ULHL	**Ulahol**	**0.88**	**213**	P	**Pg**	**14 01 17.5**	**-0.7**
	2μm,0.1s,SNR=1734						
ULHL				⇑S	**Sg**	**14 01 29.4**	**-0.3**
	23μm,0.3s						
KDJ	**Kajisay**	**0.89**	**165**	⇓*i*P	**Pg**	**14 01 17.5**	**-0.7**
	baz=65						
KDJ				⇓*i*S	**Sg**	**14 01 29.3**	**-0.6**
	baz=65						
TKM2	**Tokmak 2**	**0.94**	**266**	⇑*i*P	**Pb**	**14 01 18.8**	**-0.5**
	baz=67						
TKM2				⇑*i*S	**Sb**	**14 01 31.8**	**+0.1**
	baz=67						
TKM2	**Tokmak 2**	**0.94**	**266**	⇑P	**Pb**	**14 01 18.7**	**-0.5**
	312nm,0.1s,SNR=760						
TKM2				⇓S	**Sb**	**14 01 32.0**	**+0.3**
	4μm,0.1s						
TKM2	**Tokmak 2**	**0.94**	**266**	⇑P	**Pb**	**14 01 18.7**	**-0.5**
	348nm,0.6s						
TKM2				⇓S	**Sg**	**14 01 31.5**	**-0.2**
	5μm,0.7s						
TKM2	**Tokmak 2**	**0.94**	**266**	PG	**Pb**	**14 01 18.7**	**-0.5**
TKM2				S	**Sg**	**14 01 31.5**	**-0.2**
KUU	**Kurty**	**0.98**	**337**	⇓*e*P	**Pb**	**14 01 19.2**	**-0.6**
	3μm,0.3s						
KUU				*e*S	**Sb**	**14 01 32.3**	**-0.4**
	13μm,0.4s						
KUU	**Kurty**	**0.98**	**337**	P	**Pb**	**14 01 19.2**	**-0.6**
	3μm,0.3s						
KUU				S	**Sb**	**14 01 32.3**	**-0.4**
	13μm,0.4s						
KUU	**Kurty**	**0.98**	**337**	*e*PG	**Pb**	**14 01 19.2**	**-0.6**
KUU				*e*S	**Sb**	**14 01 32.3**	**-0.4**
KURS	**Kuram**	**1.07**	**62**	⇓*e*P	**Pb**	**14 01 19.9**	**-1.3**
	938nm,0.6s						
KURS				*e*S	**Sb**	**14 01 34.0**	**-1.1**
	3μm,0.5s						
KURS	**Kuram**	**1.07**	**62**	P	**Pb**	**14 01 20.0**	**-1.3**
KURS				S	**Sb**	**14 01 33.8**	**-1.3**
KURS	**Kuram**	**1.07**	**62**	*e*PG	**Pb**	**14 01 20.0**	**-1.3**
KURS				*e*S	**Sb**	**14 01 34.0**	**-1.1**
SATY	**Saty**	**1.12**	**86**	⇓*e*P	**Pb**	**14 01 20.9**	**-1.3**
	341nm,0.1s						
SATY				*e*S	**Sb**	**14 01 35.8**	**-0.9**
	7μm,0.1s						
SATY	**Saty**	**1.12**	**86**	P	**Pb**	**14 01 20.9**	**-1.3**
	170nm,0.3s						
SATY				S	**Sb**	**14 01 35.7**	**-1.0**
	4μm,0.1s						
SATY	**Saty**	**1.12**	**86**	*e*PG	**Pb**	**14 01 20.9**	**-1.3**
SATY				*e*S	**Sb**	**14 01 35.8**	**-0.9**
KRBS	**Karabastau**	**1.13**	**309**	⇓*e*P	**Pb**	**14 01 21.9**	**-0.4**
	2μm,0.5s						
KRBS				*e*S	**Sb**	**14 01 36.7**	**-0.2**
	11μm,0.3s						
KRBS	**Karabastau**	**1.13**	**309**	P	**Pb**	**14 01 21.9**	**-0.4**
	2μm,0.5s						
KRBS				S	**Sb**	**14 01 36.7**	**-0.2**
	11μm,0.3s						
KRBS	**Karabastau**	**1.13**	**309**	*e*PG	**Pb**	**14 01 21.9**	**-0.4**
KRBS				*e*S	**Sb**	**14 01 36.7**	**-0.2**
PRZ	**Przheval'sk**	**1.23**	**114**	⇓*i*P	**Pn**	**14 01 23.9**	**0.0**
	baz=13						
PRZ				⇓*i*S	**Sg**	**14 01 40.7**	**0.0**
	baz=13						
ARXS	**Arharly**	**1.40**	**29**	⇑*e*P	**Pn**	**14 01 25.9**	**-0.3**
	4μm,0.5s						
ARXS				*e*S	**Sb**	**14 01 44.7**	**-0.1**
	17μm,0.5s						
ARXS	**Arharly**	**1.40**	**29**	P	**Pn**	**14 01 25.9**	**-0.3**
	4μm,0.5s						
ARXS				S	**Sb**	**14 01 44.7**	**-0.1**
	17μm,0.5s						
ARXS	**Arharly**	**1.40**	**29**	*e*PG	**Pn**	**14 01 25.9**	**-0.3**
ARXS				*e*S	**Sb**	**14 01 44.7**	**-0.1**
KPKS	**Kokpek**	**1.40**	**70**	*e*P	**Pn**	**14 01 26.2**	**0.0**
	4μm,0.5s						
KPKS				*e*S	**Sb**	**14 01 45.2**	**+0.4**
	33μm,0.4s						
KPKS	**Kokpek**	**1.40**	**70**	*e*PG	**Pn**	**14 01 26.2**	**0.0**
KPKS				*e*S	**Sb**	**14 01 45.2**	**+0.4**
KBK	**Karagaybulak**	**1.46**	**257**	⇓*i*P	**Pb**	**14 01 28.1**	**0.0**
	baz=58						
KBK				⇓*i*S	**Sg**	**14 01 47.8**	**-0.3**
	baz=58						
KBK	**Karagaybulak**	**1.46**	**257**	P	**Pb**	**14 01 28.0**	**0.0**
	648nm,0.1s,SNR=1013						
KBK				⇓S	**Sg**	**14 01 48.2**	**+0.1**
	9μm,0.4s						
MNBS	**Baschi**	**1.55**	**45**	*e*P	**Pb**	**14 01 29.1**	**-0.4**
	1μm,0.2s						
MNBS				*e*S	**Sb**	**14 01 49.8**	**+0.7**
	15μm,0.3s						
MNBS	**Baschi**	**1.55**	**45**	P	**Pb**	**14 01 29.1**	**-0.4**
	1μm,0.2s						
MNBS				S	**Sb**	**14 01 49.8**	**+0.7**
	15μm,0.3s						
MNBS	**Baschi**	**1.55**	**45**	*e*P*	**Pb**	**14 01 29.1**	**-0.4**
MNBS				*e*S	**Sb**	**14 01 49.8**	**+0.7**
CHMS	**Chumysh**	**1.56**	**271**	⇑*i*P	**Pb**	**14 01 29.3**	**-0.4**
	baz=71						
CHMS				⇑*i*S	**Sg**	**14 01 50.7**	**-0.6**
	baz=71						
CHMS	**Chumysh**	**1.56**	**271**	⇓P	**Pb**	**14 01 29.1**	**-0.6**
	258nm,0.2s,SNR=224						
CHMS				⇓S	**Sb**	**14 01 50.3**	**+0.9**
	7μm,0.4s						
UZB	**Uzynbulak**	**1.58**	**84**	*e*P	**Pn**	**14 01 29.1**	**+0.4**
	532nm,0.2s						
UZB				*e*S	**Sb**	**14 01 49.8**	**-0.1**
	5μm,0.3s						
UZB	**Uzynbulak**	**1.58**	**84**	P	**Pn**	**14 01 29.1**	**+0.4**
	532nm,0.2s						
UZB				S	**Sb**	**14 01 49.8**	**-0.1**
	5μm,0.3s						
UZB	**Uzynbulak**	**1.58**	**84**	*e*PN	**Pn**	**14 01 29.1**	**+0.4**
UZB				*e*S	**Sb**	**14 01 49.8**	**-0.1**
FRU1	**Bishkek**	**1.66**	**265**	⇓*i*P	**Pb**	**14 01 31.6**	**+0.2**
	baz=66						
FRU1				⇓*i*S	**Sg**	**14 01 53.7**	**-0.8**
	baz=66						
SGDS	**Sogindy**	**1.71**	**286**	P	**Pb**	**14 01 31.8**	**-0.4**
	621nm,0.4s						
SGDS				S	**Sb**	**14 01 54.3**	**+0.7**
	5μm,0.3s						
USP	**Ospenovka**	**1.76**	**280**	⇑*i*P	**Pb**	**14 01 32.8**	**-0.3**
	baz=80						
USP				⇑*i*S	**Sg**	**14 01 57.0**	**-0.7**
	baz=80						
USP	**Ospenovka**	**1.76**	**280**	⇑P	**Pb**	**14 01 32.6**	**-0.5**
	419nm,0.2s,SNR=1198						
USP				⇓S	**Sg**	**14 01 56.7**	**-1.1**
	1μm,0.1s						
AAK	**Ala-Archa**	**1.79**	**259**	⇓*i*P	**Pb**	**14 01 33.5**	**-0.2**
	baz=60						
AAK				⇓*i*S	**Sg**	**14 01 57.6**	**-1.0**
	baz=60						
AAK	**Ala-Archa**	**1.79**	**259**	P	**Pb**	**14 01 33.3**	**-0.3**
	333nm,0.2s,SNR=700						
AAK				⇑S	**Sg**	**14 01 57.7**	**-1.0**
	3μm,0.4s						
AAK	**Ala-Archa**	**1.79**	**259**	⇓P	**Pb**	**14 01 33.3**	**-0.3**
	653nm,0.8s						
AAK				S	**Sb**	**14 01 57.3**	**+1.3**
	2μm,0.5s						
AAK	**Ala-Archa**	**1.79**	**259**	PN	**Pb**	**14 01 33.3**	**-0.3**
AAK				S	**Sb**	**14 01 57.3**	**+1.3**
SHLS	**Shalkode**	**1.90**	**84**	*e*P	**Pg**	**14 01 39.9**	**+2.4**
	2μm,0.7s						
SHLS				*e*S	**Sg**	**14 02 08.1**	**+6.0**
	5μm,0.5s						
SHLS	**Shalkode**	**1.90**	**84**	Pg	**Pg**	**14 01 39.9**	**+2.4**
	2μm,0.7s						
SHLS				Lg	Lg	14 02 08.1	
	5μm,0.5s						
SHLS	**Shalkode**	**1.90**	**84**	*e*PN	**Pg**	**14 01 39.9**	**+2.4**
SHLS				*e*S	**Sg**	**14 02 08.1**	**+6.0**
UCH	**Uchtor**	**1.91**	**247**	⇑*i*P	**Pb**	**14 01 35.7**	**-0.1**
	baz=48						
UCH				⇑*i*S	**Sb**	**14 02 00.9**	**+1.2**
	baz=48						
UCH	**Uchtor**	**1.91**	**247**	P	**Pb**	**14 01 35.5**	**-0.3**
	600nm,0.3s,SNR=474						
UCH				⇑S	**Sb**	**14 02 00.9**	**+1.2**
	4μm,0.6s						
PDGK	**Podgornoye**	**1.94**	**79**	P	**Pb**	**14 01 35.1**	**-1.1**
	386nm,0.5s						
PDGK				S	**Sb**	**14 02 00.5**	**+0.2**
	3μm,0.7s						
PDGK	**Podgornoye**	**1.94**	**79**	⇑Pn	**Pn**	**14 01 34.2**	**+0.6**
	784nm,0.7s						
PDGK				⇓Sn	**Sb**	**14 01 59.8**	**-0.5**
	4μm,0.5s						
PDGK	**Podgornoye**	**1.94**	**79**	PN	**Pn**	**14 01 34.2**	**+0.6**
PDGK				S	**Sb**	**14 01 59.8**	**-0.5**
TDK	**Taldyqorghan**	**2.29**	**28**	*e*P	**Pb**	**14 01 41.1**	**-1.0**
	4μm,0.5s						
TDK				*e*S	**Sb**	**14 02 11.0**	**+0.7**
	17μm,0.3s						
TDK	**Taldyqorghan**	**2.29**	**28**	Pg	**Pb**	**14 01 41.3**	**-0.8**
	1μm,0.4s						
TDK				Lg	Lg	14 02 11.1	
	24μm,0.5s						
TDK	**Taldyqorghan**	**2.29**	**28**	*e*PN	**Pb**	**14 01 41.1**	**-1.0**
TDK				*e*S	**Sb**	**14 02 11.0**	**+0.7**
EKS2	**Erkin-Say**	**2.31**	**263**	⇑*i*P	**Pb**	**14 01 41.4**	**-1.0**
	baz=63						
EKS2				⇑*i*S	**Sb**	**14 02 11.0**	**+0.2**
	baz=63						
EKS2	**Erkin-Say**	**2.31**	**263**

MNAS	**Manas**	**3.26**	**263**	⇑	*e*P		**Pn**	**14 01 54.5**	**+2.7**
	baz=63								
MNAS				⇑	*i*S		**Sn**	**14 02 33.6**	**+3.1**
	baz=63								
ARSB	**Arslanbob**	**3.34**	**241**	⇑	*e*P		**Pn**	**14 01 55.8**	**+2.9**
	baz=42								
ARSB				⇑	*i*S		**Sn**	**14 02 36.1**	**+3.6**
	baz=42								
KSH	**Kashi**	**3.54**	**191**		Pn		**Pb**	**14 02 05.4**	**+2.0**
KSH					Sg		Sg	14 03 07.0	+12
KSH					smax		smax		
	comp=N,1μm,0.7s								
KSH					smax		smax		
	comp=E,2μm,1.1s								
OHH	**Osh**	**3.93**	**233**	⇑	*i*P		**Pn**	**14 02 03.7**	**+2.7**
	baz=33								
OHH				⇑	*i*S		**Sn**	**14 02 49.7**	**+2.8**
	baz=33								
DZA	**Taraz**	**4.08**	**270**		*e*P		**Pb**	**14 02 14.9**	**+2.4**
	167nm,0.4s								
DZA					*e*S		**Sg**	**14 03 08.0**	**-3.8**
	2μm,0.8s								
DZA	**Taraz**	**4.08**	**270**		Pg		**Pb**	**14 02 14.9**	**+2.4**
	167nm,0.4s								
DZA					Lg		Lg	14 03 07.9	
	2μm,0.8s								
DZA	**Taraz**	**4.08**	**270**		*e*PN		**Pb**	**14 02 14.9**	**+2.4**
DZA					*e*S		**Sg**	**14 03 08.0**	**-3.8**
KK31	**Karatay Array**	**4.67**	**274**		Pn		**Pn**	**14 02 12.5**	**+1.4**
	6.2nm,0.8s,baz=76,slow=14,SNR=518								
KK31					Pg		**Pb**	**14 02 25.9**	**+3.3**
	95nm,0.7s,baz=89,slow=16,SNR=45								
KK31				⇑	Lg		Lg	14 03 29.3	
	376nm,0.5s								
KK31	**Karatay Array**	**4.67**	**274**		PN		**Pn**	**14 02 12.5**	**+1.4**
KK31					PG		**Pb**	**14 02 25.9**	**+3.3**
KK31	**Karatay Array**	**4.67**	**274**		Pn		**Pn**	**14 02 12.0**	**+1.0**
KKAR	**Karatay Array**	**4.67**	**274**		PN		**Pn**	**14 02 11.9**	**+0.9**
KKAR	**Karatay Array**	**4.67**	**274**		Pn		**Pn**	**14 02 11.9**	**+0.9**
KKAR	**Karatay Array**	**4.67**	**274**				**Pn**	**14 02 12.0**	**+0.9**
IUG	**Iuzhnay**	**5.13**	**263**		*e*P		**Pb**	**14 02 34.8**	**+4.3**
	268nm,0.7s								
IUG					*e*S		**Sg**	**14 03 42.0**	**-3.5**
	1μm,0.7s								
IUG	**Iuzhnay**	**5.13**	**263**		Pg		**Pb**	**14 02 34.8**	**+4.3**
	268nm,0.7s								
IUG					Lg		Lg	14 03 42.0	
	1μm,0.7s								
BRLS	**Boroldaу**	**5.17**	**273**		*e*P		**Pg**	**14 02 40.6**	**+0.8**
	48nm,0.5s								
BRLS					*e*S		**Sg**	**14 03 53.1**	**+6.3**
	540nm,0.5s								
BRLS	**Boroldaу**	**5.17**	**273**		Pg		**Pg**	**14 02 40.6**	**+0.8**
	48nm,0.5s								
BRLS					Lg		Lg	14 03 53.1	
	540nm,0.5s								
MAKZ	**Makanchi**	**5.26**	**42**	⇑	Pn		**Pn**	**14 02 19.4**	**+0.2**
	62nm,0.5s								
MAKZ				⇑	Pg		**Pb**	**14 02 37.0**	**+4.2**
	110nm,0.8s								
MAKZ				⇑	Lg		Lg	14 03 46.5	
	271nm,0.8s								
MAKZ	**Makanchi**	**5.26**	**42**		PN		**Pn**	**14 02 19.4**	**+0.2**
MAKZ					PG		**Pb**	**14 02 36.9**	**+4.2**
MAKZ	**Makanchi**	**5.26**	**42**		Pn		**Pn**	**14 02 19.4**	**+0.2**
MK31	**Makanchi Array**	**5.41**	**43**	⇑	Pn		**Pn**	**14 02 21.7**	**+0.5**
	20nm,0.3s,baz=218,slow=14,SNR=926								
MK31				⇑	Pg		**Pb**	**14 02 39.3**	**+4.1**
	36nm,0.4s,baz=222,slow=14,SNR=4.4								
MK31				⇑	Sn		**Sn**	**14 03 24.2**	**+1.0**
	121nm,0.6s,baz=218,slow=24,SNR=5.1								
MK31				⇑	Lg		Lg	14 03 52.0	
	288nm,0.6s								
MK31	**Makanchi Array**	**5.41**	**43**		PN		**Pn**	**14 02 21.7**	**+0.5**
MK31					PG		**Pb**	**14 02 39.3**	**+4.1**
MK31					SN		**Sn**	**14 03 24.2**	**+1.0**
MK31	**Makanchi Array**	**5.41**	**43**				**Pn**	**14 02 21.7**	**+0.5**
MKAR	**Makanchi Array**	**5.41**	**43**		Pn		**Pn**	**14 02 21.9**	**+0.7**
	15nm,0.3s,baz=217,slow=15,SNR=859								
MKAR					Sn		**Sn**	**14 03 21.6**	**-1.6**
	40nm,0.3s,baz=222,slow=26,SNR=9.2								
MKAR					Lg		Lg	14 03 47.4	
	53nm,0.3s,baz=233,slow=24,SNR=6.1								
MKAR	**Makanchi Array**	**5.41**	**43**		Pn		**Pn**	**14 02 21.1**	**-0.1**
ZSN	**Zaisan**	**7.19**	**49**		Pg		**Pb**	**14 03 10.2**	**+4.7**
	38nm,0.5s								
ZSN					Lg		Lg	14 04 44.0	
	260nm,1.0s								
BRZS	**Berezniki**	**7.57**	**339**		Pg		**Pg**	**14 03 21.5**	**-4.3**
	65nm,0.5s								
BRZS					Lg		Lg	14 05 01.6	
	590nm,0.6s								
KURBB	**Kurchatov Arra**	**7.72**	**8**		Pn		**Pn**	**14 02 52.0**	**-0.9**
	1.3nm,0.3s,baz=195,slow=12,SNR=85								
KURBB					Sn		**Sn**	**14 04 18.6**	**-1.4**
	3.4nm,0.3s,baz=195,slow=22,SNR=9.1								
KURBB					Lg		Lg	14 04 59.5	
	9.2nm,0.3s,baz=192,slow=32,SNR=9.9								
KURBB	**Kurchatov Arra**	**7.72**	**8**	⇑	Pn		**Pn**	**14 02 51.9**	**-0.9**
	32nm,0.5s								
KURBB				⇑	Lg		Lg	14 05 05.7	
	2μm,0.7s								
KURK	**Kurchatov**	**7.82**	**8**		P		**Pn**	**14 02 52.0**	**-2.2**
KURK								14 04 18.6	
WMQ	**Urumqi**	**7.92**	**80**		*e*Pn		**Pn**	**14 02 57.9**	**+2.2**
WMQ					Sn		**Sn**	**14 04 28.8**	**+3.6**
WMQ					smax		smax		
	comp=N,270nm,0.9s								
WMQ					smax		smax		
	comp=E,200nm,0.9s								
WMQ	**Urumqi**	**7.92**	**80**		P		**Pn**	**14 02 57.0**	**+1.2**
WMQ	**Urumqi**	**7.92**	**80**		Pn		**Pn**	**14 02 57.0**	**+1.2**
NIL	**Nilore**	**9.75**	**198**		P		**Pn**	**14 03 22.5**	**+1.7**
NIL	**Nilore**	**9.75**	**198**		Pn		**Pn**	**14 03 22.5**	**+1.7**
DGZ	**Jazzator, Alta**	**9.91**	**44**		*i* P		**Pn**	**14 03 22.9**	**-0.1**
CEP	**Cherat**	**9.95**	**205**		P		**Pn**	**14 03 24.3**	**+0.7**
CEP					S		**Sn**	**14 05 18.0**	**+2.9**
KBL	**Kabul**	**10.42**	**218**		P		**Pn**	**14 03 33.4**	**+3.3**
KBL	**Kabul**	**10.42**	**218**		Pn		**Pn**	**14 03 33.4**	**+3.3**
DHRM	**DHARAMSHALA**	**10.73**	**183**		*e*P		**Pn**	**14 03 33.8**	**-0.7**
DHRM					IAML			14 05 51.7	
	comp=N,82nm,0.9s								
BVAR	**Borovoye Array**	**10.94**	**339**		Pn		**Pn**	**14 03 35.5**	**-1.5**
	comp=N,2.5nm,0.3s,baz=187,slow=22,SNR=44								
BVAR					Sn		**Sn**	**14 05 34.7**	**-4.3**
	comp=N,5.5nm,0.3s,baz=155,slow=28,SNR=2.1								
BVAR					Lg		Lg	14 06 41.4	
	comp=N,13nm,0.3s,baz=141,slow=35,SNR=6.0								
THW	**Thamme Wali**	**10.96**	**203**		P		**Pn**	**14 03 38.2**	**+0.9**
BRVK	**Borovoye**	**10.99**	**339**	⇓	Pn		**Pn**	**14 03 36.5**	**-1.2**
	comp=N,40nm,0.9s								
BRVK				⇑	Sn		**Sn**	**14 05 43.6**	**+3.2**
	comp=N,16nm,0.4s								
BRVK				⇑	Lg		Lg	14 06 50.8	
	comp=N,658nm,0.8s								
BRVK	**Borovoye**	**10.99**	**339**		P		**Pn**	**14 03 36.5**	**-1.2**
BRVK					SN		**Sn**	**14 05 43.6**	**+3.2**
BRVK	**Borovoye**	**10.99**	**339**		Pn		**Pn**	**14 03 35.4**	**-2.3**
SMLA	**Simla**	**11.84**	**179**		*e*P		**Pn**	**14 03 49.3**	**-0.1**
SMLA					IAML			14 06 17.1	
	comp=E,26nm,1.1s								
SMLA					IAML			14 06 24.6	
	comp=N,30nm,0.7s								
SMLA					IAML			14 06 31.0	
	comp=E,28nm,0.7s								
SMLA					IAML			14 06 31.0	
	comp=N,30nm,0.7s								
ZAA0	**Zalesovo Array**	**12.15**	**23**	⇑	Pn		**Pn**	**14 03 53.4**	**-0.2**
	comp=N,4.2nm,0.7s								
ZAA0				⇑	Sn		**Sn**	**14 06 11.0**	**+2.3**
	comp=N,12nm,0.9s								
ZAA0				⇓	Lg		Lg	14 07 26.8	
	comp=N,37nm,0.9s								
ZAA0	**Zalesovo Array**	**12.15**	**23**		Pn		**Pn**	**14 03 51.3**	**-2.2**
ZALV	**Zalesovo Beam**	**12.15**	**23**		Pn		**Pn**	**14 03 51.9**	**-1.6**
	comp=N,2.4nm,0.3s,baz=212,slow=13,SNR=31								
ZALV					Sn		**Sn**	**14 06 03.3**	**-5.5**
	comp=N,3.8nm,0.3s,baz=212,slow=24,SNR=2.8								
ZALV					Lg		Lg	14 07 21.4	
	comp=N,3.4nm,0.3s,baz=216,slow=28,SNR=3.5								
ZALV					LR		LR	14 08 46.1	
	comp=N,497nm,19.1s,baz=178,slow=39								
ZALV	**Zalesovo Beam**	**12.15**	**23**		Pn		**Pn**	**14 03 51.2**	**-2.4**
AB31	**Akbulak array**	**13.30**	**304**	⇓	Pn		**Pn**	**14 04 06.5**	**-2.8**
	comp=N,6.5nm,0.6s,baz=106,slow=16,SNR=75								
AB31				⇑	Sn		**Sn**	**14 06 37.1**	**+0.3**
	comp=N,12nm,0.7s,baz=109,slow=22,SNR=4.0								
AB31				⇑	Lg		Lg	14 08 02.1	
	comp=N,50nm,0.8s								
AB31	**Akbulak array**	**13.30**	**304**		P		**Pn**	**14 04 06.5**	**-2.8**
AB31					SN		**Sn**	**14 06 37.1**	**+0.3**
ABKAR	**Akbulak array**	**13.30**	**304**		Pn		**Pn**	**14 04 06.3**	**-2.9**
NDI	**New Delhi**	**14.28**	**179**	*ex*	x		x	14 04 06.0	
HRA	**Herat**	**14.28**	**238**		P		**P**	**14 04 32.0**	**+1.8**
AKTO	**Aktyubinsk**	**14.90**	**306**		Pn		**Pn**	**14 04 28.4**	**-2.7**
	comp=N,0.8nm,0.3s,baz=116,slow=13,SNR=12								
AKTO					LR		LR	14 10 23.2	
	comp=N,290nm,19.7s,baz=121,slow=38								
AKTO	**Aktyubinsk**	**14.90**	**306**	⇓	Pn		**Pn**	**14 04 29.2**	**-1.9**
	comp=N,16nm,0.9s								
AKTO				⇑	Sn		**Sn**	**14 07 17.9**	**+2.0**
	comp=N,19nm,1.0s								
AKTO				⇑	Lg		Lg	14 08 55.5	
	comp=N,139nm,1.8s								
AKTO	**Aktyubinsk**	**14.90**	**306**		P		**Pn**	**14 04 29.2**	**-1.9**
AKTO					SN		**Sn**	**14 07 17.9**	**+2.0**
GEYT	**Alibeck**	**15.14**	**257**		Pn		**Pn**	**14 04 32.5**	**-2.0**
	comp=N,0.3nm,0.3s,baz=60,slow=9.0,SNR=6.0								
GEYT					Lg		Lg	14 08 57.1	
	comp=N,0.4nm,0.3s,baz=37,slow=7.8,SNR=3.8								
GEYT	**Alibeck**	**15.14**	**257**				**Pn**	**14 04 32.4**	**-2.0**
GYA0	**ALIBECK ARRAY**	**15.14**	**257**		P		**Pn**	**14 04 35.3**	**+0.9**
GYA0B	**ALIBECK ARRAY**	**15.14**	**257**		Pn		**Pn**	**14 04 35.3**	**+0.8**
GYA0B					P		**P**	**14 04 40.4**	**+0.8**
GKN	**Gorkha**	**16.22**	**155**		*e*P		**Pn**	**14 04 46.2**	**-2.4**
	comp=N,43nm,0.8s								
GUN	**Gumba**	**16.72**	**151**		*e*P		**Pn**	**14 04 52.5**	**-2.6**
	comp=N,146nm,1.1s								
PKIN	**Phulchoki**	**16.86**	**153**		*e*P		**Pn**	**14 04 54.1**	**-2.8**
	comp=N,13nm,0.5s								
PKI	**Pulchoki**	**16.87**	**153**		*e*P		**Pn**	**14 04 54.0**	**-3.0**
	comp=N,40nm,1.0s								
GTA	**Gaotai**	**17.61**	**94**	⇑	P		**Pn**	**14 05 03.0**	**-3.1**
GTA					pP		P	14 05 08.4	+1.4
GTA					sP		pP	14 05 11.5	-0.5
GTA					pmax		pmax		
	comp=N,95nm,6.2s								
GTA					LR		LR		
	comp=N,240nm,16.7s								
GTA					LR		LR		
	comp=N,230nm,14.9s								
GTA					LR		LR		
	comp=N,260nm,14.2s								
ARU	**Arti**	**17.84**	**325**		P		**Pn**	**14 05 06.5**	**-2.1**
	comp=N,0.0nm,0.3s,baz=118,slow=5.4,SNR=14								
ARU					Lg		Lg	14 10 27.7	
	comp=N,0.0nm,0.3s,baz=349,slow=20,SNR=5.2								
ARU					LR		LR	14 12 13.8	
	comp=N,390nm,18.1s,baz=156,slow=38								
ARU	**Arti**	**17.84**	**325**	*c*	*i*P		**P**	**14 05 09.3**	**+0.1**
ARU					S		**S**	**14 08 31.6**	**-2.2**
ARU					pmax		pmax		
	comp=Z,9.0nm,0.6s								
ARU	**Arti**	**17.84**	**325**		P		**P**	**14 05 09.1**	**-0.2**
RAMN	**Ramite**	**17.86**	**151**		*e*P		**Pn**	**14 05 07.6**	**-1.6**
	comp=Z,77nm,1.0s								
TAPN	**Taplejung**	**17.92**	**147**		*e*P		**Pn**	**14 05 09.8**	**-0.2**
	comp=Z,28nm,0.9s								
ODAN	**Odare**	**18.23**	**149**		*e*P		**Pn**	**14 05 13.8**	**0.0**
	comp=Z,24nm,0.7s								
ZAK	**Zakamensk**	**19.49**	**59**		*e*P		**P**	**14 05 28.0**	**+0.4**
ZAK					pmax		pmax		
	comp=Z,13nm,1.0s								
BHPL	**Bhopal**	**19.70**	**179**		*e*P		**P**	**14 05 28.1**	**-1.8**
BHPL					IAmb		IAmb	14 05 31.3	
	comp=Z,20nm,1.4s								
TLY	**Talaya**	**20.02**	**55**		Lg		Lg	14 11 28.0	
	comp=Z,0.0nm,0.3s,baz=296,slow=9.2,SNR=3.7								
TLY					LR		LR	14 12 12.8	
	comp=Z,51nm,19.0s,baz=264,slow=34								
TLY	**Talaya**	**20.02**	**55**	*i*	P		**P**	**14 05 33.1**	**-0.1**
BOK	**Bokaro**	**20.55**	**156**		*e*P		**P**	**14 05 37.8**	**-1.3**
IRK	**Irkutsk**	**20.55**	**54**		*e*P		**P**	**14 05 36.5**	**-2.4**
IRK					pmax		pmax		
	comp=Z,29nm,3.2s								
SONM	**Songino Array**	**21.21**	**67**		P		**P**	**14 05 45.2**	**-1.0**
	comp=Z,7.1nm,0.8s,baz=275,slow=11,SNR=22								
SONM					LR		LR	14 14 35.4	
	comp=Z,224nm,18.4s,baz=282,slow=39								
SONM	**Songino Array**	**21.21**	**67**		P		**P**	**14 05 46.4**	**+0.2**
SONM					pmax		pmax		
	comp=Z,9.0nm,1.0s								
SONM	**Songino Array**	**21.21**	**67**		P		**P**	**14 05 46.4**	**+0.2**
SHL	**Shillong**	**21.29**	**140**		P		**P**	**14 05 46.2**	**-1.1**
SHL					pmax		pmax		
	comp=Z,17nm,1.1s								
SHL	**Shillong**	**21.29**	**140**		P		**P**	**14 05 46.1**	**-1.1**
ULN	**Ulaanbaatar**	**21.65**	**67**	*ce*	P		**P**	**14 05 51.8**	**+0.8**
ULN					pmax		pmax		
	comp=Z,27nm,1.1s								
ULN	**Ulaanbaatar**	**21.65**	**67**		P		**P**	**14 05 50.8**	**-0.3**
ULN					IAmb		IAmb	14 05 56.2	
	comp=Z,25nm,1.1s								
BELG	**Belogornoye**	**21.69**	**306**		P		**P**	**14 05 51.2**	**0.0**
	comp=Z,61nm,0.9s,baz=77,slow=2.7,SNR=19								
BELG					LR		LR	14 14 48.9	
	comp=Z,231nm,21.2s,baz=1.9,slow=38								
LZH	**Lanzhou**	**21.85**	**99**		*e*P		**P**	**14 05 53.9**	**+0.6**
LZH					pP		sP	14 06 01.8	+1.3
LZH					sP		pP	14 06 06.0	+7.8
LZH					pmax		pmax		
	comp=Z,25nm,1.3s								
LZH					pmax		pmax		
	comp=Z,110nm,5.0s								
LZH					LR		LR		
	comp=Z,290nm,13.6s								
LZH					LR		LR		
	comp=Z,300nm,14.1s								
LZH					LR		LR		
	comp=Z,290nm,15.7s								
BTLR	**Botlikh**	**22.43**	**280**	⇑	*i*P		**P**	**14 06 02.3**	**+3.0**
BTLR					pmax		pmax		
	comp=Z,17nm,1.0s								
GROC	**Groznyy**	**22.64**	**281**		*e*P		**P**	**14 06 02.0**	**+0.6**
GROC					*e*			14 09 53.3	
GROC					pmax		pmax		
	comp=Z,65nm,1.2s								
KIRV	**Kirov**	**23.11**	**322**		P		**P**	**14 06 06.2**	**0.0**
	comp=Z,11nm,0.6s,baz=115,slow=6.3,SNR=5.2								
KIRV					LR		LR	14 15 29.2	
	comp=Z,324nm,18.2s,baz=118,slow=38								
KIRV	**Kirov**	**23.11**	**322**	*ce*	P		**P**	**14 06 07.6**	**+1.5**
ZEI	**Tsey**	**24.08**	**281**		*e*P		**P**	**14 06 18.1**	**+2.0**
ZEI					pmax		pmax		
	comp=Z,5.0nm,0.9s								
GNI	**Garni**	**24.13**	**274**		P		**P**	**14 06 16.6**	**+0.1**
	comp=Z,5.7nm,0.4s,baz=167,slow=11,SNR=5.7								
GNI	**Garni**	**24.13**	**274**		P		**P**	**14 06 16.4**	**-0.2**
GNI					pmax		pmax		
	comp=Z,16nm,0.7s								
GNI	**Garni**	**24.13**	**274**		P		**P**	**14 06 16.4**	**-0.2**
GNI					IAmb		IAmb	14 06 29.1	
	comp=Z,16nm,0.7s								
GOF	**Gofitskoye**	**24.32**	**287**	⇑	*e*P		**P**	**14 06 19.7**	**+1.7**
GOF					pmax		pmax		
	comp=Z,51nm,0.8s								
CD2	**Chengdu**	**24.52**	**111**	⇓	P		**P**	**14 06 21.6**	**+1.5**
CD2					S		**S**	**14 10 36.9**	**-3.3**
CD2					pmax		pmax		
	comp=Z,30nm,0.6s								
CD2					pmax		pmax		
	comp=Z,190nm,7.1s								
CD2					LR		LR		
	comp=Z,340nm,12.8s								
CD2					LR		LR		
	comp=Z,370nm,14.1s								
CD2					LR		LR		
	comp=Z,320nm,17.5s								
KBZ	**Khabaz**	**24.62**	**283**		P		**P**	**14 06 21.0**	**+0.3**
	comp=Z,6.3nm,0.8s,baz=100,slow=8.4,SNR=13								
KBZ	**Khabaz**	**24.62**	**283**	*ce*	P		**P**	**14 06 21.2**	**+0.4**
KBZ					pmax		pmax		
	comp=Z,7.0nm,0.9s								
BTO	**Baotou**	**24.73**	**84**		*e*P		**P**	**14 06 21.0**	**-1.0**
BTO					S		**S**	**14 10 40.8**	**-2.8**
BTO					pmax		pmax		
	comp=Z,56nm,0.4s								
BTO					LR		LR		
	comp=Z,920nm,9.0s								
BTO					LR		LR		
	comp=Z,860nm,15.3s								
BTO					LR		LR		
	comp=Z,760nm,13.1s								
KIV	**Kislovodsk**	**24.73**	**284**		*e*P		**P**	**14 06 23.5**	**+1.6**
KIV								14 11 56.5	
KIV					pmax		pmax		
	comp=Z,37nm,0.9s								
KIV					MLR		MLR		
	comp=Z,167nm,15.0s								
KIV	**Kislovodsk**	**24.73**	**284**		P		**P**	**14 06 21.3**	**-0.6**
NEY	**Neytrino**	**24.84**	**282**	⇓	*i*P		**P**	**14 06 24.7**	**+1.7**
NEY					pmax		pmax		
	comp=Z,3.0nm,1.0s								
VRH	**Novokhopyorsk**	**25.11**	**301**		*e*P		**P**	**14 06 25.4**	**+0.3**
VRH					pmax		pmax		
	comp=Z,60nm,1.8s								
HYB	**Hyderabad**	**25.53**	**176**		*i* P		**P**	**14 06 30.0**	**+0.8**
HYB	**Hyderabad**	**25.53**	**176**		*e*P		**P**	**14 06 28.8**	**-0.5**
HYB					*i* x		x	14 06 37.5	
HHC	**Hu-ho-hao-te**	**25.79**	**83**		*e*P		**P**	**14 06 31.8**	**+0.3**
HHC					pmax		pmax		
	comp=Z,10.0nm,0.8s								
HHC					pmax		pmax		
	comp=Z,49nm,6.6s								
PRGR	**Permogore**	**26.30**	**326**		*e*P		**P**	**14 06 30.2**	**-5.6**
PRGR					pmax		pmax		
	comp=Z,8.0nm,0.9s								
XAN	**Xi'an**	**26.49**	**99**		P		**P**	**14 06 38.4**	**+0.6**
XAN					pP		sP	14 06 44.8	-0.5
XAN					pmax		pmax		
	comp=Z,12nm,1.1s								
XAN					LR		LR		
	comp=Z,220nm,20.6s								
XAN					LR		LR		
	comp=Z,210nm,18.4s								
XAN					LR		LR		
	comp=Z,270nm,17.4s								
XAN	**Xi'an**	**26.49**	**99**		P		**P**	**14 06 37.7**	**-0.1**
XAN					pmax		pmax		
	comp=Z,7.0nm,0.8s								
XAN	**Xi'an**	**26.49**	**99**		P		**P**	**14 06 37.7**	**-0.1**
GUZR	**Guzeripl'**	**26.55**	**285**	⇑	*i*P		**P**	**14 06 40.6**	**+2.3**
VORD	**Divnogorie**	**26.62**	**301**		*e*P		**P**	**14 06 38.5**	**-0.3**
VORD					pmax		pmax		
	comp=Z,10.0nm,0.6s								
VSR	**Storozhevoye**	**26.71**	**301**		*e*P		**P**	**14 06 39.3**	**-0.3**
VSR					pmax		pmax		
	comp=Z,10.0nm,0.7s								
SOC	**Sochi**	**26.92**	**284**		*e*P		**P**	**14 06 40.5**	**-1.0**
SOC					*e*			14 07 23.1	
SOC					*e*PPP		PPP	14 07 35.8	
SOC					*e*S		**S**	**14 11 20.0**	**+2.1**
SOC					*e*SS		**SnSn**	**14 12 28.6**	**+5.7**
SOC					*e*SSS		SSS	14 12 41.4	
SOC					pmax		pmax		
	comp=Z,8.0nm,0.6s								
SOC					MLR		MLR		
	comp=Z,102nm,16.0s								
LPSR	**Galich'ya Gora**	**26.96**	**304**		*e*P		**P**	**14 06 42.0**	**+0.2**
LPSR					pmax		pmax		
	comp=Z,10.0nm,0.7s								
BOD	**Bodaibo**	**27.50**	**44**		*e*P		**P**	**14 06 46.6**	**0.0**
BOD					pmax		pmax		
	comp=Z,13nm,1.3s								
KMI	**Kunming**	**27.70**	**122**	⇓	P		**P**	**14 06 51.4**	**+2.4**
KMI					pP		sP	14 06 55.6	-0.9
KMI					pmax		pmax		
	comp=Z,6.0nm,0.5s								
KLMR	**Klimovskoe**	**28.60**	**322**		*e*P		**P**	**14 06 55.5**	**-0.9**
KLMR					pmax		pmax		
	comp=Z,16nm,1.2s								
KLMR	**Klimovskoe**	**28.60**	**322**		*e*P		**P**	**14 06 55.6**	**-0.9**
KLMR					AMP			14 06 58.4	
	comp=Z,16nm,1.2s								
OBN	**Obninsk**	**28.65**	**309**		P		**P**	**14 06 56.9**	**0.0**
OBN					pmax		pmax		
	comp=Z,16nm,0.6s								
OBN	**Obninsk**	**28.65**	**309**		P		**P**	**14 06 56.9**	**0.0**
OBN					IAmb		IAmb	14 07 26.2	
	comp=Z,16nm,0.6s								
ENH	**Enshi**	**28.89**	**105**		P		**P**	**14 06 59.4**	**0.0**
ENH					IAmb		IAmb	14 07 00.8	
	comp=Z,8.9nm,0.8s								
GYA	**Guiyang**	**29.31**	**115**		*e*P		**P**	**14 07 04.0**	**+0.8**
GYA					pmax		pmax		
	comp=Z,7.0nm,0.8s								
BJT	**Baijiatuau**	**29.39**	**82**		P		**P**	**14 07 04.3**	**+0.6**
BJT					pmax		pmax		
	comp=Z,3.0nm,0.6s								
BJT	**Baijiatuau**	**29.39**	**82**		P		**P**	**14 07 04.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.77**	**136**		P		**P**	**14 07 15.8**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=318,slow=10,SNR=11								
CMAR					PcP		**PcP**	**14 10 13.0**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=308,slow=4.3,SNR=4.9								
CMAR					LR		LR	14 21 07.7	
	comp=Z,32nm,21.0s,baz=11,slow=39								
WHN	**Wuhan**	**32.22**	**100**	⇓	*i*P		**P**	**14 07 29.8**	**+1.1**
BR131	**Keskin Array S**	**32.36**	**279**		P		**P**	**14 07 30.5**	**+0.5**
BR131					pmax

CN2 Changchun 34.90 72 *e*P **P** **14 07 53.5 +1.6**
CN2 *es*P sP 14 07 59.4 +0.3
CN2 *e*S **S** **14 13 22.8 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,100nm,11.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,300nm,12.0s
FIA1 FINESS Array S 35.05 320 P **P** **14 07 53.0 +0.1**
FIA1 IAmb IAmb 14 07 54.1
comp=Z,10nm,0.7s
FINES FINESS Array B 35.05 320 P **P** **14 07 53.5 +0.5**
comp=Z,6.1nm,0.6s,baz=100,slow=9.9,SNR=56
FINES LR LR 14 22 51.9
comp=Z,368nm,18.6s,baz=302,slow=37
FINES FINESS Array B 35.05 320 P **P** **14 07 53.0 0.0**
ISP Isparta 35.32 278 P **P** **14 07 55.8 +0.1**
ISP pmax pmax
comp=Z,12nm,1.2s
ISP Isparta 35.32 278 P **P** **14 07 55.8 +0.1**
ISP IAmb IAmb 14 07 57.1
comp=Z,12nm,1.2s
TESR Tescani 35.36 293 ⇑P **P** **14 07 56.6 +0.7**
VRI Vrincioaia 35.46 292 ⇑P P 14 08 17.3 +21
PLOR Plostina 35.51 292 ⇑P **P** **14 07 58.0 +0.8**
PLOR Plostina 35.51 292 P **P** **14 07 58.0 +0.8**
BIZ Bicaz 35.63 294 ⇑P **P** **14 07 58.6 +0.4**
PABE Paberze 35.86 309 *e*P **P** **14 08 00.5 +0.5**
MTSE Matsula 35.94 315 *e*P **P** **14 07 59.0 -1.6**
YAK Yakutsk 36.07 40 P **P** **14 08 01.4 -0.3**
comp=Z,9.9nm,0.4s,baz=127,slow=0.6,SNR=6.7
YAK Yakutsk 36.07 40 *ce*P **P** **14 08 01.0 -0.7**
YAK pmax pmax
comp=Z,19nm,0.5s
YAK Yakutsk 36.07 40 P **P** **14 08 01.1 -0.6**
BURAR Bucovina Array 36.08 296 ⇑P **P** **14 08 02.6 +0.5**
BURAR Bucovina Array 36.08 296 P **P** **14 08 02.4 +0.3**
BUR08 Bucovina Ar. S 36.08 296 P **P** **14 08 02.5 +0.3**
BUR08 IAmb IAmb 14 08 13.2
comp=Z,13nm,1.4s
MLR Muntele Rosu 36.08 292 P **P** **14 08 02.8 +0.6**
comp=Z,7.0nm,0.6s,baz=49,slow=2.5,SNR=14
MLR Muntele Rosu 36.08 292 ⇑P **P** **14 08 03.7 +1.5**
MLR Muntele Rosu 36.08 292 P **P** **14 08 03.2 +1.0**
MLR pmax pmax
comp=Z,10.0nm,0.8s
MLR Muntele Rosu 36.08 292 P **P** **14 08 03.2 +1.0**
MLR IAmb IAmb 14 08 04.9
comp=Z,9.7nm,0.8s
SUW Suwalki 36.40 307 *e*P **P** **14 08 05.6 +0.9**
SUW Suwalki 36.40 307 *e*P **P** **14 08 04.7 0.0**
SUW Suwalki 36.40 307 P **P** **14 08 04.8 +0.1**
SUW pmax pmax
comp=Z,29nm,1.0s
SUW Suwalki 36.40 307 P **P** **14 08 04.8 +0.1**
SOCY Socotra 36.54 220 P **P** **14 08 05.9 -0.4**
QIZ Qiongzhong 36.62 120 P **P** **14 08 08.1 +1.2**
QIZ IAmb IAmb 14 08 33.2
comp=Z,30nm,1.4s
AKAS Kas 36.65 276 P **P** **14 08 07.5 +0.4**
AKAS IAmb IAmb 14 08 12.2
comp=Z,24nm,1.3s
VOIR 36.70 292 ⇓P **P** **14 08 08.1 +0.6**
VOIR 36.70 292 ⇓P **P** **14 08 08.1 +0.6**
KEV Kevo 36.72 334 P **P** **14 08 06.7 -0.5**
KEV pmax pmax
comp=Z,96nm,1.5s
KEV Kevo 36.72 334 P **P** **14 08 06.7 -0.5**
ARCR ARCALIA 36.77 295 ⇑P **P** **14 08 08.6 +0.7**
ARR Arges 37.00 292 ⇑P **P** **14 08 10.1 +0.1**
ARCES ARCESS Array B 37.15 333 P **P** **14 08 11.3 +0.4**
comp=Z,5.2nm,0.6s,baz=102,slow=9.3,SNR=30
ARCES ARCESS Array B 37.15 333 P **P** **14 08 10.4 -0.5**
ARCES pmax pmax
comp=Z,20nm,1.4s
ARCES ARCESS Array B 37.15 333 P **P** **14 08 10.4 -0.5**
ARCES IAmb IAmb 14 08 24.9
comp=Z,20nm,1.4s
KWP Kalwaria Pacla 37.30 300 P **P** **14 08 12.1 -0.3**
KWP pmax pmax
comp=Z,24nm,0.8s
KWP Kalwaria Pacla 37.30 300 P **P** **14 08 12.1 -0.3**
MDJ Mudanjiang 37.53 69 P **P** **14 08 14.0 -0.4**
KOLS Kolonicke sedl 37.72 299 *e*P **P** **14 08 15.5 -0.5**
KOLS Kolonicke sedl 37.72 299 *e*P **P** **14 08 15.5 -0.5**
KLR Kul'dur 37.83 61 P **P** **14 08 17.3 +0.5**
comp=Z,6.0nm,0.9s,baz=283,slow=9.4,SNR=13
DRGR 37.93 295 ⇑P **P** **14 08 18.9 +1.0**
DRGR 37.93 295 ⇑P **P** **14 08 18.9 +1.0**
TIXI Tiksi 38.04 24 P **P** **14 08 18.0 -0.3**
comp=Z,4.2nm,0.6s,baz=273,slow=5.5,SNR=18
TIXI Tiksi 38.04 24 ⇑*i*P **P** **14 08 17.7 -0.7**
TIXI Tiksi 38.04 24 P **P** **14 08 17.4 -1.0**
GZR Gura Zlata 38.26 293 ⇑P **P** **14 08 21.5 +0.9**
VTS Vitosha 38.79 288 ⇑P **P** **14 08 26.6 +1.3**
VTS Vitosha 38.79 288 ⇑P **P** **14 08 26.6 +1.3**
KSAR Wonju Array Be 38.85 80 P **P** **14 08 24.9 -0.7**
KSAR Wonju Array Be 38.85 80 P **P** **14 08 24.9 -0.7**
KSRS Korea Array 38.87 80 P **P** **14 08 25.1 -0.6**
comp=Z,1.9nm,0.9s,baz=278,slow=8.4,SNR=9.7
NIE Niedzica 38.88 300 *e*P **P** **14 08 27.2 +1.5**
BZS Buzias 38.98 294 ⇑P **P** **14 08 27.5 +0.9**
BZS Buzias 38.98 294 ⇑P **P** **14 08 27.5 +0.9**
OJC Ojcow 39.03 301 *e*P **P** **14 08 27.5 +0.5**
OJC Ojcow 39.03 301 P **P** **14 08 26.1 -0.9**
OJC pmax pmax
comp=Z,16nm,1.0s
OJC Ojcow 39.03 301 P **P** **14 08 26.1 -0.9**
OJC IAmb IAmb 14 08 28.4
comp=Z,16nm,1.0s
MDVR Moldovita 39.16 292 ⇑P **P** **14 08 28.6 +0.5**
USA0B Ussuriysk Arra 39.29 69 P **P** **14 08 29.8 +0.6**
USA0B pmax pmax
comp=Z,10.0nm,1.3s
USA0B Ussuriysk Arra 39.29 69 P **P** **14 08 29.8 +0.6**
USRK Ussuriysk Ar. 39.29 69 P **P** **14 08 29.2 0.0**
comp=Z,1.9nm,0.7s,baz=291,slow=6.5,SNR=7.7
USRK LR LR 14 25 53.5
comp=Z,206nm,19.3s,baz=292,slow=38
USRK Ussuriysk Ar. 39.29 69 P **P** **14 08 29.7 +0.5**
USRK Ussuriysk Ar. 39.29 69 P **P** **14 08 29.7 +0.5**
PSZ Piszkesteto 39.50 298 P **P** **14 08 31.4 +0.4**
PSZ pmax pmax
comp=Z,5.0nm,0.9s
PSZ Piszkesteto 39.50 298 P **P** **14 08 31.4 +0.4**
VYHS Vyhne 40.04 299 *e*P **P** **14 08 34.2 -1.2**
VYHS Vyhne 40.04 299 *e*P **P** **14 08 34.2 -1.2**
LIT Litokhoron 40.22 285 P **P** **14 08 37.1 +0.1**
LIT pmax pmax
comp=Z,10.0nm,1.4s
LIT Litokhoron 40.22 285 P **P** **14 08 37.1 +0.1**
DIVS Divibare 40.54 292 P **P** **14 08 39.9 +0.2**
MORC Moravsky Berou 40.54 301 ⇑P **P** **14 08 40.1 +0.5**
MORC Moravsky Berou 40.54 301 *e*P **P** **14 08 39.9 +0.3**
MORC Moravsky Berou 40.54 301 P **P** **14 08 39.6 -0.1**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 40.54 301 P **P** **14 08 39.5 -0.1**
JAVC Velka Javorina 40.69 300 *e*P **P** **14 08 42.7 +1.8**
MORH Mrgy. Hungar 40.79 295 ⇑P **P** **14 08 41.9 +0.3**
SMOL Smolenice 40.94 299 *e*P **P** **14 08 44.7 +1.9**
SMOL Smolenice 40.94 299 *e*P **P** **14 08 44.7 +1.9**
KRLC Kraliky 40.95 302 *e*P **P** **14 08 42.9 -0.1**
KRLC Kraliky 40.95 302 *e*P **P** **14 08 42.9 -0.1**
MODS Modra-Piesok 41.07 299 *e*P **P** **14 08 42.7 -1.2**
MODS Modra-Piesok 41.07 299 *e*P **P** **14 08 42.7 -1.2**
DPC Dobruska-Polom 41.17 302 *e*P **P** **14 08 45.0 +0.2**
DPC Dobruska-Polom 41.17 302 *e*P **P** **14 08 45.0 +0.2**
VRAC Vranov 41.26 300 *e*P **P** **14 08 45.9 +0.4**
CHVC Chvalec 41.28 302 *e*P **P** **14 08 46.1 +0.5**
UPC Upice 41.33 302 *e*P **P** **14 08 46.7 +0.7**
UPC Upice 41.33 302 *e*P **P** **14 08 46.7 +0.7**
KRUC Moravsky 41.45 300 *e*P **P** **14 08 47.9 +0.9**
PDG Podgorica 41.62 290 ⇑P **P** **14 08 49.3 +0.8**
NC405 NORSAR Array S 41.96 319 P **P** **14 08 51.1 +0.1**
NC602 NORSAR Array S 42.08 318 P **P** **14 08 51.9 -0.1**
CONA Conrad Observa 42.10 299 *e*P **P** **14 08 53.4 +0.8**
comp=Z,4.2nm,0.8s

NC303 NORSAR Array S 42.12 319 P **P** **14 08 52.3 0.0**
NB201 NORSAR Array S 42.17 319 P **P** **14 08 52.6 -0.2**
NB2 NORSAR Subarra 42.21 319 P **P** **14 08 52.9 -0.2**
comp=Z,7.2nm,0.6s,baz=86,slow=8.6
NOA NORSAR Array B 42.21 319 P **P** **14 08 53.2 0.0**
comp=Z,4.3nm,0.5s,baz=85,slow=8.1,SNR=28
NOA LR LR 14 26 53.4
comp=Z,182nm,20.4s,baz=95,slow=37
PRU Pruhonice 42.37 302 *e*P **P** **14 08 55.1 +0.6**
PRU Pruhonice 42.37 302 *e*P **P** **14 08 55.1 +0.6**
NAO01 NORSAR Array S 42.39 318 P **P** **14 08 54.1 -0.4**
NC204 NORSAR Array S 42.40 319 P **P** **14 08 54.2 -0.5**
NC204 IAmb IAmb 14 08 55.8
comp=Z,22nm,1.0s
NBO00 NORSAR Array S 42.42 319 P **P** **14 08 54.5 -0.4**
NBO00 IAmb IAmb 14 09 14.1
comp=Z,35nm,1.4s
CKRC Cesky Krumlov 42.84 300 *e*P **P** **14 08 59.1 +0.7**
CLL Collm 42.97 304 *i*P **P** **14 08 59.6 +0.2**
comp=Z,6.0nm,1.1s
CLL *i*pP **sP** **14 09 07.1 +0.6**
comp=Z,8.0nm,1.3s
CLL Collm 42.97 304 *i*P **P** **14 08 59.6 +0.2**
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 42.97 304 P **P** **14 08 58.0 -1.4**
JNU Nakatsue 42.99 85 P **P** **14 08 59.4 -0.4**
JNU IAmb IAmb 14 09 09.1
comp=Z,28nm,1.3s
SOKA Soboth 43.02 297 *e*P **P** **14 09 00.0 +0.1**
comp=Z,2.9nm,0.8s,SNR=4.3
KONO Kongsberg 43.18 317 P **P** **14 09 00.3 -0.7**
KONO pmax pmax
comp=Z,13nm,1.0s
KONO Kongsberg 43.18 317 P **P** **14 09 00.2 -0.7**
KONO IAmb IAmb 14 09 02.2
comp=Z,13nm,0.9s
KHC Kasperske Hory 43.21 301 *e*P **P** **14 09 01.9 +0.5**
KHC Kasperske Hory 43.21 301 *e*P **P** **14 09 01.9 +0.5**
KHC Kasperske Hory 43.21 301 P **P** **14 09 01.9 +0.5**
GEC2 GERESS Array S 43.22 301 P **P** **14 09 02.2 +0.6**
GERES GERESS Array B 43.22 301 P **P** **14 09 02.7 +1.2**
comp=Z,17nm,0.6s,baz=68,slow=7.6,SNR=9.0
GERES GERESS Array B 43.22 301 P **P** **14 09 01.3 -0.2**
BOJS Bojanci 43.26 295 *i*P **P** **14 09 02.2 +0.4**
OBKA Obir 43.39 297 *e*P **P** **14 09 04.0 +1.0**
comp=Z,6.1nm,1.0s
CEY Cerknica 43.73 296 *i*P **P** **14 09 06.1 +0.4**
KNDS Knezji Dol 43.83 296 *i*P **P** **14 09 07.0 +0.5**
UGL Uglegorsk 44.41 59 *e*P **P** **14 09 11.4 +0.5**
GRA1 Grafenberg Arr 44.52 302 P **P** **14 09 12.6 +0.7**
GRA1 IAmb IAmb 14 09 14.2
comp=Z,17nm,1.0s
GRF Grafenberg Arr 44.52 302 P **P** **14 09 12.6 +0.7**
GRF pmax pmax
comp=Z,17nm,1.0s
GRFO Grafenberg 44.52 302 P **P** **14 09 12.5 +0.7**
GRFO pmax pmax
comp=Z,16nm,1.0s
GRFO Grafenberg 44.52 302 P **P** **14 09 12.5 +0.7**
GRFO IAmb IAmb 14 09 14.1
comp=Z,16nm,1.0s
TIP Timpagrande 44.63 286 P **P** **14 09 12.8 -0.2**
TIP IAmb IAmb 14 09 14.1
comp=Z,9.0nm,1.0s
WTTA Wattenberg 45.03 299 *i*P **P** **14 09 16.5 +0.3**
comp=Z,6.7nm,1.1s
WATA Walderalm 45.04 299 *e*P **P** **14 09 16.2 0.0**
comp=Z,8.4nm,1.2s
JWT Wachi 45.24 79 P **P** **14 09 18.1 +0.3**
JWT IAmb IAmb 14 09 20.2
comp=Z,17nm,1.1s
MOTA Moosalm 45.34 299 *e*P **P** **14 09 18.6 0.0**
comp=Z,6.6nm,0.9s,SNR=4.8
INTR Introdacqua 45.45 291 P **P** **14 09 18.9 -0.6**
INTR IAmb IAmb 14 09 21.2
comp=Z,12nm,0.8s
RETA Reutte 45.51 300 *e*P **P** **14 09 20.4 +0.5**
comp=Z,5.0nm,0.6s
YSS Yuzh-Sakhalins 45.54 61 ⇓*e*P P 14 09 24.8 +4.8
YSS *e*S **S** **14 16 05.3 +3.9**
YSS pmax pmax
comp=Z,11nm,1.0s
YSS MLR MLR
comp=Z,200nm,15.0s
FETA Feichten 45.69 299 P **P** **14 09 20.9 -0.5**
comp=Z,6.0nm,0.9s,SNR=5.2
DAVA Damuels 46.14 300 *e*P **P** **14 09 25.8 +0.8**
comp=Z,6.7nm,0.6s
DAVOX Davos/Dischmat 46.32 299 P **P** **14 09 26.3 -0.2**
comp=Z,6.8nm,0.7s,baz=104,slow=10,SNR=12
ASAJ Asahikawa 46.48 65 P **P** **14 09 27.2 -0.2**
comp=Z,8.1nm,1.0s,baz=76,slow=31,SNR=5.0
ASAJ Asahikawa 46.48 65 P **P** **14 09 26.7 -0.7**
ASAJ pmax pmax
comp=Z,55nm,1.5s
JKA Kamikawa-asahi 46.48 65 P **P** **14 09 26.7 -0.7**
MA2 Magadan 46.49 42 P **P** **14 09 27.3 0.0**
comp=Z,3.7nm,0.7s,baz=300,slow=9.3,SNR=12
MA2 PcP **PcP** **14 11 00.5 -1.1**
comp=Z,2.4nm,0.7s,baz=359,slow=2.3,SNR=4.1
MA2 LR LR 14 29 44.5
comp=Z,166nm,18.3s,baz=278,slow=37
MA2 Magadan 46.49 42 *ce*P **P** **14 09 26.7 -0.6**
MA2 pmax pmax
comp=Z,3.0nm,0.6s
MA2 Magadan 46.49 42 P **P** **14 09 26.4 -0.9**
SEY Seymchan 46.51 38 P **P** **14 09 27.2 -0.2**
comp=Z,1.2nm,0.8s,baz=77,slow=23,SNR=8.4
SEY PcP **PcP** **14 11 00.5 -1.1**
comp=Z,1.9nm,0.7s,baz=248,slow=5.4,SNR=6.5
MAJO Matsushiro 46.66 76 P **P** **14 09 28.3 -0.7**
MAJO pmax pmax
comp=Z,7.0nm,1.2s
MAJO Matsushiro 46.66 76 P **P** **14 09 28.3 -0.7**
MAT Matsushiro 46.66 76 P **P** **14 09 27.5 -1.5**
MJAR Matsushiro Arr 46.66 76 P **P** **14 09 28.8 -0.3**
comp=Z,3.6nm,0.9s,baz=294,slow=8.4,SNR=13
BFO Black Forest 46.76 302 P **P** **14 09 29.2 -0.5**
BFO pmax pmax
comp=Z,6.0nm,1.0s
BFO Black Forest 46.76 302 P **P** **14 09 29.2 -0.5**
BFO IAmb IAmb 14 09 31.1
comp=Z,6.2nm,1.0s
TUE Stuetta 46.78 299 P **P** **14 09 29.3 -0.7**
TUE IAmb IAmb 14 09 31.5
comp=Z,7.3nm,0.9s
JTM Tenmabayashi 46.79 70 P **P** **14 09 28.7 -1.2**
VLC Villacollemand 46.97 295 P **P** **14 09 32.1 +0.7**
JMM Maruneori 47.88 73 P **P** **14 09 37.7 -0.8**
SENIN Lac Senin/Sane 48.13 299 P **P** **14 09 40.3 -0.3**
SENIN IAmb IAmb 14 09 46.8
comp=Z,12nm,1.4s
NOR Nord 48.29 349 *i*P **P** **14 09 41.4 +0.3**
comp=Z,3.0nm,0.7s
NOR Nord 48.29 349 *i*P **P** **14 09 41.4 +0.3**
NOR pmax pmax
comp=Z,3.0nm,0.7s
NOR Nord 48.29 349 *i*P **P** **14 09 41.4 +0.3**
NOR IAmb IAmb 14 09 41.9
comp=Z,3.0nm,0.7s
LPL La Plagne 48.83 299 *e*P **P** **14 09 46.3 +0.3**
LPL pmax pmax
comp=Z,17nm,1.1s
BNI Bardonecchia 49.05 298 P **P** **14 09 47.5 0.0**
BNI pmax pmax
comp=Z,31nm,1.5s
BNI Bardonecchia 49.05 298 P **P** **14 09 47.5 0.0**
DAG Danmarks Havn 49.84 343 *i*P **P** **14 09 52.3 -0.7**
comp=Z,16nm,0.9s
DAG Danmarks Havn 49.84 343 *i*P **P** **14 09 52.3 -0.7**
DAG pmax pmax
comp=Z,16nm,0.9s
DAG Danmarks Havn 49.84 343 *i*P **P** **14 09 52.3 -0.7**
DAG IAmb IAmb 14 09 53.8
comp=Z,16nm,0.9s
SSF Saint Saulge 50.25 302 *e*P **P** **14 09 57.2 +0.7**
SSF pmax pmax
comp=Z,78nm,2.4s
SSB Saint Sauveur 50.33 299 P **P** **14 09 57.3 +0.1**
SSB pmax pmax
comp=Z,18nm,1.4s
SSB Saint Sauveur 50.33 299 P **P** **14 09 57.2 +0.1**
SSB IAmb IAmb 14 09 58.9
comp=Z,18nm,1.4s

KKM Kota Kinabalu 50.55 125 P **P** **14 10 00.5 +1.3**
KKM IAmb IAmb 14 10 24.7
comp=Z,13nm,1.0s
CLF Chambon-Foret 50.64 303 P **P** **14 09 59.6 +0.2**
CLF IAmb IAmb 14 10 00.3
comp=Z,14nm,0.8s
ESK Eskdalemuir 50.97 314 P **P** **14 10 02.4 +0.6**
ESK pmax pmax
comp=Z,19nm,1.3s
ESK Eskdalemuir 50.97 314 P **P** **14 10 02.4 +0.6**
ESK IAmb IAmb 14 10 26.2
comp=Z,19nm,1.3s
DBG Daneborg 51.02 340 *i*P **P** **14 10 02.6 +0.7**
DBG IAmb IAmb 14 10 03.4
comp=Z,4.7nm,0.8s
CAF Calviac 52.07 300 *e*P **P** **14 10 10.6 +0.4**
CAF pmax pmax
comp=Z,76nm,2.2s
LFF La Frestale 52.91 300 *e*P **P** **14 10 16.5 +0.1**
LFF pmax pmax
comp=Z,4.0nm,0.2s
SUMG Summit 56.41 341 *i*P **P** **14 10 42.2 +0.3**
comp=Z,32nm,1.0s
SUMG Summit 56.41 341 *i*P **P** **14 10 42.2 +0.3**
SUMG pmax pmax
comp=Z,32nm,1.0s
SUMG Summit 56.41 341 P **P** **14 10 41.5 -0.3**
SUMG Summit 56.41 341 *i*P **P** **14 10 42.2 +0.3**
SUMG IAmb IAmb 14 10 44.8
comp=Z,32nm,1.0s
EUNU Eureka 56.85 357 P **P** **14 10 44.4 -0.1**
ESBB Sonseca Array 58.52 297 P **P** **14 10 56.3 -0.6**
ESDC Sonseca Array 58.52 297 P **P** **14 10 56.8 -0.1**
comp=Z,4.0nm,0.7s,baz=55,slow=7.1,SNR=32
ESDC Sonseca Array 58.52 297 P **P** **14 10 56.6 -0.2**
ESDC IAmb IAmb 14 10 57.2
comp=Z,8.5nm,1.1s
PAB San Pablo 58.84 297 P **P** **14 10 58.1 -1.0**
PAB pmax pmax
comp=Z,3.0nm,0.8s
PAB San Pablo 58.84 297 P **P** **14 10 58.1 -1.0**
ICESG Greenland Ices 58.90 338 *i*P **P** **14 10 59.8 +0.4**
ICESG IAmb IAmb 14 11 01.8
comp=Z,11nm,0.7s
A21K Barrow 59.83 17 P **P** **14 11 05.2 -0.1**
A21K IAmb IAmb 14 11 06.1
comp=Z,9.7nm,1.1s
COI Coimbra 61.12 299 P **P** **14 11 15.1 +0.5**
COI pmax pmax
comp=Z,24nm,1.1s
COI Coimbra 61.12 299 P **P** **14 11 15.1 +0.5**
PESTR Estremoz 61.33 298 P **P** **14 11 16.8 +0.7**
PESTR IAmb IAmb 14 11 16.9
comp=Z,8.9nm,1.2s
PVAQ Vaqueiros 62.23 296 P **P** **14 11 22.5 +0.3**
ANM Nome 62.27 26 P **P** **14 11 22.4 +0.4**
ANM pmax pmax
comp=Z,5.0nm,0.8s
ANM Nome 62.27 26 P **P** **14 11 22.4 +0.4**
ANM IAmb IAmb 14 11 23.4
comp=Z,5.1nm,0.8s
RES Resolute Bay 62.48 358 P **P** **14 11 21.8 -1.5**
RES pmax pmax
comp=Z,4.0nm,1.4s
RES Resolute Bay 62.48 358 P **P** **14 11 21.8 -1.5**
TOLK Toolik Lake Re 63.45 17 P **P** **14 11 29.4 -0.5**
TOLK IAmb IAmb 14 11 30.1
comp=Z,5.2nm,0.8s
COLD Coldfoot 64.45 18 P **P** **14 11 36.0 -0.4**
COLD IAmb IAmb 14 11 37.3
comp=Z,9.1nm,1.0s
AMKA Amchitka 64.50 43 P **P** **14 11 36.6 -0.4**
FYU Fort Yukon 66.11 17 P **P** **14 11 45.8 -1.3**
FYU IAmb IAmb 14 11 48.2
comp=Z,16nm,1.2s
INK Inuvik 66.71 12 P **P** **14 11 50.8 -0.1**
comp=Z,8.2nm,0.9s,baz=348,slow=8.4,SNR=20
INK Inuvik 66.71 12 P **P** **14 11 50.3 -0.6**
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 66.71 12 P **P** **14 11 50.3 -0.6**
INK IAmb IAmb 14 11 51.7
comp=Z,9.4nm,0.9s
MDM Murphy Dome 66.77 19 P **P** **14 11 51.0 -0.4**
POKR Poker Plat Res 66.83 19 P **P** **14 11 51.5 -0.3**
POKR IAmb IAmb 14 11 52.9
comp=Z,8.6nm,0.8s
NEA2 Nenana 66.87 20 P **P** **14 11 51.7 -0.4**
NEA2 IAmb IAmb 14 11 53.0
comp=Z,6.6nm,1.0s
C36M Paulatuk 66.91 8 P **P** **14 11 51.2 -1.0**
IL31 67.25 19 P **P** **14 11 53.5 -0.9**
IL31 IAmb IAmb 14 11 54.7
comp=Z,4.6nm,0.9s
ILAR Eielson Array 67.25 19 P **P** **14 11 53.7 -0.7**
comp=Z,4.0nm,0.8s,baz=321,slow=5.1,SNR=47
PPLA Purkeypile 67.43 22 P **P** **14 11 55.1 -0.8**
RND Reindeer 67.90 20 P **P** **14 11 57.5 -1.2**
RND pmax pmax
comp=Z,8.0nm,1.4s
RND Reindeer 67.90 20 P **P** **14 11 57.5 -1.2**
RND IAmb IAmb 14 12 10.9
comp=Z,8.5nm,1.4s
EPYK Eagle Plains 67.95 14 P **P** **14 11 58.3 -0.6**
EPYK IAmb IAmb 14 11 58.6
comp=Z,6.4nm,1.1s
SKT Skwentna 68.35 22 P **P** **14 12 00.2 -1.3**
SKT IAmb IAmb 14 12 01.5
comp=Z,9.4nm,1.0s
SCRK Sand Creek 68.59 18 P **P** **14 12 02.5 -0.6**
SCRK IAmb IAmb 14 12 03.5
comp=Z,3.9nm,0.8s
DOT Dot Lake 68.86 18 P **P** **14 12 04.4 -0.2**
SUA Susitna One 68.99 22 P **P** **14 12 05.0 -0.6**
SUA IAmb IAmb 14 12 20.0
comp=Z,15nm,1.4s
SML Sawmill 69.36 21 P **P** **14 12 07.3 -0.5**
SML IAmb IAmb 14 12 08.0
comp=Z,12nm,0.9s
RC01 Rabbit Creek A 69.58 22 P **P** **14 12 08.5 -0.5**
SCM Sheep Creek Mo 69.60 21 P **P** **14 12 08.7 -0.6**
SCM pmax pmax
comp=Z,25nm,1.4s
SCM Sheep Creek Mo 69.60 21 P **P** **14 12 08.7 -0.6**
KNK Knik Glacier 69.66 21 P **P** **14 12 07.4 -2.2**
KNK IAmb IAmb 14 12 10.3
comp=Z,12nm,1.1s
PWL Port Wells 70.15 22 P **P** **14 12 13.0 +0.3**
KLU Klutina 70.25 20 P **P** **14 12 13.2 -0.1**
KLU IAmb IAmb 14 12 28.9
comp=Z,15nm,1.3s
BRLK Bradley Lake 70.34 23 P **P** **14 12 12.5 -1.3**
TOA0 Torodi Ar. Sit 70.35 270 P **P** **14 12 12.9 -1.5**
TOA0 IAmb IAmb 14 12 14.2
comp=Z,6.3nm,0.9s
TORD Torodi Ar. Bea 70.35 270 P **P** **14 12 13.4 -1.1**
comp=Z,5.1nm,0.8s,baz=41,slow=5.5,SNR=23
TORD Torodi Ar. Bea 70.35 270 P **P** **14 12 13.1 -1.4**
TORD IAmb IAmb 14 12 14.3
comp=Z,4.1nm,0.8s
SEW Seward 70.47 23 P **P** **14 12 13.6 -1.0**
SEW IAmb IAmb 14 12 34.3
comp=Z,14nm,1.2s
N25K Chitina, Valde 70.49 20 P **P** **14 12 15.2 +0.5**
N25K IAmb IAmb 14 12 16.8
comp=Z,16nm,1.4s
FID Port Fidalgo 70.74 21 P **P** **14 12 15.8 -0.4**
KDAK Kodiak Island 71.44 25 P **P** **14 12 20.1 -0.4**
KDAK pmax pmax
comp=Z,30nm,1.2s
KDAK Kodiak Island 71.44 25 P **P** **14 12 20.1 -0.4**
TGL Tana Glacier 71.66 19 P **P** **14 12 22.0 +0.1**
OHAK Old Harbor 71.67 26 P **P** **14 12 22.1 +0.3**
WHY Whitehorse 73.50 16 P **P** **14 12 31.6 -1.2**
KOWA Kowa 73.65 275 P **P** **14 12 33.4 -0.9**
KOWA IAmb IAmb 14 12 34.7
comp=Z,12nm,1.4s
YKA Yellowknife Ar 74.46 6 P **P** **14 12 37.8 -0.5**
comp=Z,5.3nm,0.8s,baz=354,slow=5.5,SNR=89
PSA00 Pilbara Seismi 75.44 139 P **P** **14 12 43.7 -0.7**
PSA00 IAmb IAmb 14 13 05.9
comp=Z,12nm,1.4s
FITZ Fitzroy Crossi 75.51 132 P **P** **14 12 44.4 -0.5**
DBIC Dimbokro 79.45 269 P **P** **14 13 06.2 -0.9**
comp=Z,1.2nm,0.6s,baz=7.5,slow=10,SNR=4.0

DBIC	**Dimbokro**	**79.45**	**269**	P	**P**	**14 13 06.5**	**-0.6**
DBIC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
DBIC	**Dimbokro**	**79.45**	**269**	P	**P**	**14 13 06.5**	**-0.6**
DBIC				IAmb	IAmb	14 13 13.5	
	comp=Z,10nm,1.2s						
DRLN	**Deer Lake**	**79.80**	**332**	P	**P**	**14 13 08.3**	**-0.3**
DRLN				IAmb	IAmb	14 13 09.1	
	comp=Z,18nm,1.3s						
WRA	**Warramunga Arr**	**81.90**	**127**	P	**P**	**14 13 19.2**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=326,slow=4.8,SNR=34						
FFC	**Flin Flon**	**82.65**	**359**	P	**P**	**14 13 23.0**	**-0.6**
FFC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FFC	**Flin Flon**	**82.65**	**359**	P	**P**	**14 13 23.0**	**-0.6**
FFC				IAmb	IAmb	14 13 23.9	
	comp=Z,5.7nm,0.9s						
ASAR	**Alice Springs**	**84.55**	**129**	P	**P**	**14 13 32.8**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=325,slow=4.8,SNR=17						
ASAR	**Alice Springs**	**84.55**	**129**	P	**P**	**14 13 32.3**	**-1.4**
B08A	**Colville Reser**	**87.92**	**11**	P	**P**	**14 13 49.7**	**-0.4**
B08A				IAmb	IAmb	14 13 50.7	
	comp=Z,4.3nm,1.0s						
C09A	**Chrisman Ranch**	**88.61**	**10**	P	**P**	**14 13 52.8**	**-0.5**
C09A				IAmb	IAmb	14 13 54.5	
	comp=Z,4.5nm,0.8s						
DGMT	**Dagmar**	**88.92**	**1**	P	**P**	**14 13 54.9**	**+0.1**
BOZ	**Bozeman (W)**	**91.47**	**6**	P	**P**	**14 14 06.9**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BOZ	**Bozeman (W)**	**91.47**	**6**	P	**P**	**14 14 06.9**	**-0.1**
MCMT	**McKenzie Canyo**	**92.14**	**7**	P	**P**	**14 14 09.6**	**-0.5**
PDAR	**Pinedale Array**	**94.43**	**5**	P	**P**	**14 14 20.3**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=37,slow=3.3,SNR=10						
PDAR	**Pinedale Array**	**94.43**	**5**	P	**P**	**14 14 19.8**	**-1.0**
HWUT	**Hardware Ranch**	**95.44**	**6**	P	**P**	**14 14 23.2**	**-2.2**
NVAR	**Mina Array Bea**	**97.79**	**12**	P	**P**	**14 14 36.0**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=23,slow=4.9,SNR=4.5						
CPUP	**Villa Florida**	**139.37**	**279**	PKP	**PKPdf**	**14 20 27.0**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=28,slow=1.1,SNR=4.0						

ROM 15 14:05:55.8±0.1, 40°297N±0°004×15°848E±0°004, h7km, ML1.2/3, 3C-1D, Error ellipse: s-maj=0.4km s-min=0.2km az=145.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AG51	**Grumento Nova**	**0.01**	**139**	P	Pg	14 05 57.1	0.0
AG51				S	Sg	14 05 58.0	0.0
MCEL	**Monticello**	**0.04**	**309**	↑P	Pg	14 05 57.5	+0.1
MCEL				S	Sg	14 05 58.6	+0.1
MTSN	**Montesano sull**	**0.08**	**248**	↑P	Pg	14 05 58.1	+0.3
MTSN				S	Sg	14 05 59.9	+0.6
MTSN				AML	AML		
	comp=E,186μm,0.2s						
MTSN				AML	AML		
	comp=N,248μm,0.2s						
AG11	**Viggiano (PZ)**	**0.09**	**66**	P	Pg	14 05 58.0	+0.1
AG11				S	Sg	14 06 00.0	+0.6
SIRI	**Monte Sirino -**	**0.12**	**172**	↑P	Pg	14 05 58.6	+0.3
SIRI				S	Sg	14 06 01.0	+0.9
SIRI				AML	AML		
	comp=E,233μm,1.0s						
SIRI				AML	AML		
	comp=E,227μm,1.0s						
SIRI				AML	AML		
	comp=N,238μm,0.6s						
SIRI				AML	AML		
	comp=N,246μm,0.6s						
MGR	**Morigerati**	**0.28**	**235**	↓P	Pg	14 06 01.9	+0.6
MGR				S	Sg	14 06 06.4	+1.5
MGR				AML	AML		
	comp=E,64μm,0.6s						
MGR				AML	AML		
	comp=N,63μm,1.4s						

IDC ***15*** *14:22:50.6±0.4, 5°.87S×130°.37E, h0km, mb4.9/31, mb1 5.0/37, mb1mx4.9/44, mbtmp5.0/37, ML5.2/5, MS4.3/22, Ms1 4.3/22, ms1mx4.2/30, Error ellipse: s-maj=14.5km s-min=10.1km az=85.0*

MOS ***15*** *14:22:52.5±1.1, 5.89S×130°.37E, h29km, mb5.3/54, MS4.5/4, Error ellipse: s-maj=9.2km s-min=4.8km az=115.0*

DJA ***15*** *14:22:52.8±0.1, 6°S±1′×13°0E±′, h10km, M5.3/79, mB5.8/58, mb5.5/79, MLv5.6/13, Mw(mB)5.3/58, MwMwp5.0/22, Mwp5.3/22*

BJI ***15*** *14:22:53.1±0.0, 6.20S×130°.52E, h55km, mB5.2/48, mb4.9/67, Ms4.7/44, Ms7 4.4/45*

GCMT ***15*** *14:22:54.9±0.1, 5.77S±0°.01×130°.26E±0°.01, h22km, MW5.3/130, Moment Tensor Solution. s102,c148; s130,c233; Duration: 1ˢ1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.04±.02; $M_{\theta\theta}$-1.05±.02; $M_{\phi\phi}$1.10±.02; $M_{r\theta}$0.11±.03; $M_{r\phi}$0.17±.01; $M_{\theta\phi}$0.35±.03; Best double couple: $M_0$1.14300×10^{17} NP1:ϕ_s318.00000°, δ75.00000°, λ172.00000°. NP2:ϕ_s50.00000°, δ82.00000°, λ15.00000°. Principal axes: T 1.2150, Plg16.0000°, Azm275.0000°; N -0.1360, Plg73.0000°, Azm77.0000°; P -1.0710, Plg5.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *14:22:54.9±2.1, 5.81S±0°.06×130°.36E±0°.06, h40km±5km, mb5.2/103 Error ellipse: s-maj=9.3km s-min=7.9km az=73.0*

ISC 15 14:22:54.9±0.2, 5°.89S±0°.03×130°.36E±0°.04, h35km, n506, σ1ˢ73/549, mb5.1/160, MS4.3/39, 32C-40D, Fault plane solution: NP1:ϕ_s235.35373°, δ80.57021°, λ-12.02487°. **NP2:**ϕ_s327.35251°, δ78.14000°, λ-170.36258°. **Principal axes:** T Plg1.6890°, Azm281.5737°; N Plg74.7617°, Azm17.7877°; P Plg15.1399°, Azm191.1166°; **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.43**	**342**	P	**Pn**	**14 23 16.7**	**-1.7**
BNDI				S	**Sn**	**14 23 33.7**	**-2.3**
SAUI	**Saumlaki**	**2.28**	**156**	Pn	**Pn**	**14 23 33.3**	**+3.2**
SAUI	**Saumlaki**	**2.28**	**156**	P	**Pn**	**14 23 33.6**	**+3.5**
SAUI				S	**Sn**	**14 24 00.3**	**+3.3**
FAKI	**Fak Fak**	**3.50**	**33**	Pn	**Pn**	**14 23 46.6**	**-0.3**
FAKI	**Fak Fak**	**3.50**	**33**	P	**Pn**	**14 23 46.8**	**-0.1**
KMPI	**Kaimana, Papua**	**4.00**	**57**	P	**Pn**	**14 23 54.5**	**+0.7**
NLAI	**Namlea**	**4.18**	**309**	P	**Pn**	**14 23 56.2**	**0.0**
SIJI	**Sorong**	**5.07**	**10**	Pn	**Pn**	**14 24 07.9**	**-0.6**
	56nm,0.3s,baz=201,slow=8.2,SNR=159						
SIJI				Sn	**Sn**	**14 25 01.4**	**-4.5**
	44nm,0.3s,baz=253,slow=21,SNR=11						
SWI	**Sorong**	**5.07**	**10**	P	**Pn**	**14 24 07.8**	**-0.7**
SWI	**Sorong**	**5.07**	**10**	P	**Pn**	**14 24 08.3**	**-0.2**
	5.4nm10μm10μm877nm,1.0s						
SANI	**Sanana**	**5.79**	**311**	P	**Pn**	**14 24 19.4**	**+1.0**
	4.0nm6μm13μm975nm,0.7s						
KDU	**Kakadu**	**7.07**	**163**	P	**Pn**	**14 24 36.6**	**+0.6**
	baz=7.1,SNR=387						
KDU				S	**Sn**	**14 25 52.2**	**-2.9**
	baz=7.1						
SRPI	**Serui, Papua**	**7.10**	**56**	P	**Pn**	**14 24 36.9**	**+0.5**
	3.7nm5μm342nm,0.5s						
SOEI	**Soe**	**7.15**	**237**	Pn	**Pn**	**14 24 39.2**	**+2.0**
SOEI	**Soe**	**7.15**	**237**	P	**Pn**	**14 24 39.2**	**+2.0**
	3.4nm6μm7μm402nm,1.0s						
TNTI	**Ternate**	**7.26**	**336**	Pn	**Pn**	**14 24 38.0**	**-0.6**
TNTI	**Ternate**	**7.26**	**336**	P	**Pn**	**14 24 39.9**	**+1.3**
	0.5nm3μm2μm181nm,0.8s						
BAKI	**Biak**	**7.40**	**51**	P	**Pn**	**14 24 42.5**	**+2.0**
	3.8nm10μm1μm,0.9s						
BATI	**Baumata**	**7.89**	**237**	Pn	**Pn**	**14 24 47.6**	**+0.3**
	36nm,0.3s,baz=131,slow=1.1,SNR=63						
BATI				LR	LR	14 28 17.6	
	comp=Z,8μm,19.7s,baz=72,slow=41						
BATI	**Baumata**	**7.89**	**237**	P	**Pn**	**14 24 48.7**	**+1.4**
	1.1nm2μm355nm,0.9s						
MMRI	**Maumere**	**8.50**	**251**	Pn	**Pn**	**14 24 57.0**	**+1.4**
MMRI	**Maumere**	**8.50**	**251**	P	**Pn**	**14 24 56.9**	**+1.2**
	6μm10μm863nm,1.0s						
WAMI	**Wamena**	**8.56**	**77**	P	**Pn**	**14 25 00.1**	**+3.7**
	9μm991nm,0.9s						
LUWI	**Luwuk**	**8.97**	**302**	Pn	**Pn**	**14 25 03.8**	**+1.7**
LUWI	**Luwuk**	**8.97**	**302**	P	**Pn**	**14 25 03.8**	**+1.7**
	6μm13μm1μm,1.5s						
KMSI	**Cibinong**	**9.04**	**315**	P	**Pn**	**14 25 03.3**	**+0.2**
	5μm485nm,0.6s						
MNI	**Manado**	**9.13**	**323**	P	**Pn**	**14 25 06.2**	**+1.9**
BSSI	**Bau Bau, Buton**	**9.82**	**268**	P	**Pn**	**14 25 15.8**	**+2.1**
	3μm7μm847nm,0.8s						
KNRA	**Kununurra**	**9.85**	**189**	Pn	**Pn**	**14 25 13.8**	**-0.3**
APSI	**Ampana**	**10.00**	**299**	P	**Pn**	**14 25 17.9**	**+1.7**
	3μm7μm804nm,1.1s						
BKSI	**Bulukumba**	**10.20**	**273**	P	**Pn**	**14 25 21.6**	**+2.6**
	5μm8μm977nm,1.0s						
MMPI	**Merauke**	**10.27**	**105**	P	**Pn**	**14 25 20.4**	**+0.5**
	13μm1μm,0.7s						
BNSI	**Bone**	**10.32**	**278**	P	**Pn**	**14 25 20.7**	**+0.2**
	5μm336nm,1.2s						
GENI	**Genyem**	**10.32**	**72**	P	**Pn**	**14 25 21.9**	**+1.3**
	6μm391nm,2.5s						
MRSI	**Marisa**	**10.52**	**307**	P	**Pn**	**14 25 25.1**	**+1.8**
	3μm5μm470nm,1.0s						
KAPI	**Kappang**	**10.59**	**274**	Pn	**Pn**	**14 25 25.5**	**+1.1**
	52nm,0.3s,baz=121,slow=6.3,SNR=102						
KAPI				LR	LR	14 29 12.6	
	comp=Z,6μm,21.5s,baz=74,slow=36						
KAPI	**Kappang**	**10.59**	**274**	P	**Pn**	**14 25 26.1**	**+1.7**
KAPI	**Kappang**	**10.59**	**274**	Pn	**Pn**	**14 25 26.1**	**+1.7**
KAPI	**Kappang**	**10.59**	**274**	P	**Pn**	**14 25 28.3**	**+3.9**
KAPI				P	**Pn**	**14 25 28.3**	**+3.9**
BASI	**Baing, Sumba**	**10.59**	**245**	P	**Pn**	**14 25 25.1**	**+0.8**
	2μm3μm243nm,1.0s						
WSI	**Waingapu**	**10.65**	**249**	P	**Pn**	**14 25 26.3**	**+1.2**
	556μm8μm778nm,1.0s						
SPSI	**Sidrap Palu**	**10.72**	**280**	P	**Pn**	**14 25 28.9**	**+2.8**
	5μm4μm351nm,0.6s						
TTSI	**Tana Toraja**	**10.88**	**285**	P	**Pn**	**14 25 29.3**	**+1.1**
	7μm2μm240nm,0.9s						
TOLI2	**Tolitoli**	**11.82**	**306**		**Pn**	**14 25 43.1**	**+2.0**
PLAI	**Plampang**	**12.81**	**256**	P	**Pn**	**14 25 56.4**	**+1.7**
	3μm4μm257nm,1.8s						
FITZ	**Fitzroy Crossi**	**12.98**	**200**	Pn	**Pn**	**14 25 54.8**	**-2.2**
	7.3nm,0.3s,baz=27,slow=9.2,SNR=58						
FITZ				Sn	Sn	14 28 10.8	-9.4
	3.6nm,0.3s,baz=187,slow=13,SNR=4.0						
FITZ				LR	LR	14 31 32.7	
	comp=Z,2μm,19.6s,baz=25,slow=40						
FITZ	**Fitzroy Crossi**	**12.98**	**200**		**Pn**	**14 25 53.6**	**-3.4**
TWSI	**Taliwang, Sumb**	**13.66**	**257**	P	**Pn**	**14 26 05.7**	**-0.6**
	868nm57nm,1.5s						
BKB	**Balikpapan**	**14.20**	**288**	P	**P**	**14 26 18.6**	**-1.9**
BKB	**Balikpapan**	**14.20**	**288**	P	**Pn**	**14 26 15.5**	**+1.9**
	5μm6μm280nm,1.3s						
WB0	**Warramunga Arr**	**14.34**	**164**	Pn	**Pn**	**14 26 11.7**	**-3.9**
KBKI	**Kotabaru**	**14.38**	**280**	P	**Pn**	**14 26 18.7**	**+2.6**
	2μm231nm,1.2s						
WRAB	**Tennant Creek**	**14.49**	**165**	P	**Pn**	**14 26 13.2**	**-4.4**
WRAB	**Tennant Creek**	**14.49**	**165**	Pn	**Pn**	**14 26 13.2**	**-4.4**
WRA	**Warramunga Arr**	**14.50**	**165**	Pn	**Pn**	**14 26 13.6**	**-4.1**
	5.9nm,0.3s,baz=347,slow=13,SNR=124						
WRA				Sn	Sn	14 28 46.9	-10
	20nm,0.3s,baz=340,slow=22,SNR=12						
WRA				LR	LR	14 32 37.8	
	comp=Z,2μm,19.7s,baz=340,slow=40						
WB2	**Warramunga Arr**	**14.50**	**165**	Pn	Pn	14 26 13.0	-4.8
WR0	**Warramunga Arr**	**14.57**	**164**	Pn	**Pn**	**14 26 14.1**	**-4.6**
COEN	**Coen**	**14.95**	**123**		**Pn**	**14 26 21.2**	**-2.6**
SRBI	**Singaraja**	**15.19**	**261**	P	**Pn**	**14 26 28.4**	**+1.4**
	3μm126nm,1.1s						
BBKI	**Banjar Baru**	**15.65**	**278**	P	**Pn**	**14 26 34.5**	**+1.5**
	8μm572nm,1.3s						
ABJI	**Asem Bagus**	**16.12**	**262**	P	**Pn**	**14 26 40.2**	**+1.2**
	5μm283nm,1.4s						
MYLDM	**Lahad Datu**	**16.16**	**313**	P	**Pn**	**14 26 41.1**	**+1.6**
MTKI	**Muara Teweh, K**	**16.19**	**287**	P	**Pn**	**14 26 41.8**	**+1.8**
	2μm90nm,1.4s						
JAGI	**Jajag, Banyuwa**	**16.28**	**260**	P	**Pn**	**14 26 42.2**	**+1.1**
JAGI	**Jajag, Banyuwa**	**16.28**	**260**	P	**Pn**	**14 26 42.1**	**+1.1**
	2μm2μm99nm,1.4s						
KMMI	**Kalianget**	**16.33**	**265**	P	**Pn**	**14 26 43.7**	**+2.0**
	4μm5μm356nm,1.4s						
PMG	**Port Moresby**	**17.01**	**103**	P	**Pn**	**14 26 49.1**	**-1.2**
	3.3nm,0.3s,baz=298,slow=9.2,SNR=15						
PMG	**Port Moresby**	**17.01**	**103**	P	**P**	**14 26 50.7**	**-1.1**
PMG				IAmb	IAmb	14 27 11.2	
	comp=Z,204nm,1.0s						
PMG	**Port Moresby**	**17.01**	**103**	P	**P**	**14 26 52.0**	**+0.1**
QIS	**Mount Isa**	**17.12**	**149**	P	**Pn**	**14 26 49.1**	**-2.6**
	baz=17,SNR=46						
QIS				S	Sn	14 29 50.1	-11
	baz=17						
MANU	**Manus Island**	**17.39**	**78**	P	**Pn**	**14 26 53.6**	**-1.5**
AS31	**Alice Springs**	**18.00**	**169**	P	**Pn**	**14 27 00.8**	**-1.8**
ASAR	**Alice Springs**	**18.00**	**169**	P	**Pn**	**14 27 01.2**	**-1.3**
	comp=Z,8.3nm,0.3s,baz=340,slow=8.6,SNR=124						
ASAR				Sn	**Sn**	**14 30 12.8**	**-10**
	comp=Z,5.4nm,0.3s,baz=354,slow=26,SNR=7.7						
ASAR				LR	LR	14 34 24.9	
	comp=Z,992nm,19.8s,baz=350,slow=38						
ASAR	**Alice Springs**	**18.00**	**169**	P	**Pn**	**14 27 00.5**	**-2.1**
MTSU	**Mount Surprise**	**18.27**	**133**	P	**Pn**	**14 27 05.9**	**0.0**
	baz=18,SNR=37						
MBWA	**Marble Bar**	**18.34**	**213**	P	**P**	**14 27 06.0**	**-0.5**
MBWA	**Marble Bar**	**18.34**	**213**	P	**P**	**14 27 06.6**	**+0.1**
KKM	**Kota Kinabalu**	**18.43**	**310**		**P**	**14 27 06.1**	**-1.6**
KKM				IAmb	IAmb	14 27 30.2	
	comp=Z,297nm,1.3s						
PSA00	**Pilbara Seismi**	**18.62**	**212**	P	**P**	**14 27 07.9**	**-1.6**
PBKI	**Pangkalan Bun**	**18.90**	**279**	P	**Pn**	**14 27 14.6**	**+1.1**
	comp=Z,6μmcomp=Z,728nm,1.1s						
WRKA	**Warakurna**	**19.14**	**186**	P	**P**	**14 27 14.4**	**-0.9**
	baz=19,SNR=177						
STKI	**Sintang**	**19.75**	**287**	P	**Pn**	**14 27 24.4**	**+0.7**
UGM	**Wanagama**	**19.79**	**263**	P	**P**	**14 27 21.8**	**-0.7**
UGM				IAmb	IAmb	14 27 45.3	
	comp=Z,111nm,0.9s						
UGM	**Wanagama**	**19.79**	**263**	P	**Pn**	**14 27 24.6**	**+0.4**
	comp=Z,226nm,1.3s						
SMRI	**Semarang**	**19.82**	**266**	P	**P**	**14 27 21.3**	**-1.5**
SMRI	**Semarang**	**19.82**	**266**	P	**Pn**	**14 27 25.2**	**+0.6**
	comp=Z,200nm,1.4s						
SBUM	**Sibu**	**19.92**	**294**	Pn	**P**	**14 27 24.5**	**+0.7**
SBUM				IAmb	IAmb	14 27 27.6	
	comp=Z,106nm,1.0s						
CTA	**Charters Tower**	**20.93**	**134**	P	Pn	14 27 36.4	-1.0
	comp=Z,23nm,0.6s,baz=322,slow=12,SNR=15						
CTAO	**Charters Tower**	**20.93**	**134**	P	**P**	**14 27 34.0**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,98nm,1.1s						
CTAO	**Charters Tower**	**20.93**	**134**	P	**P**	**14 27 34.0**	**-0.8**
CTAO				IAmb	IAmb	14 27 51.7	
	comp=Z,98nm,1.1s						
KSM	**Kuching**	**21.31**	**289**	P	**P**	**14 27 37.4**	**-1.6**
KSM				IAmb	IAmb	14 27 41.4	
	comp=Z,99nm,1.1s						
KSM	**Kuching**	**21.31**	**289**	P	**P**	**14 27 41.0**	**+2.0**
RABL	**Rabaul**	**21.79**	**87**	P	**P**	**14 27 42.1**	**-1.9**
RABL	**Rabaul**	**21.79**	**87**	P	**P**	**14 27 47.8**	**+3.7**
	comp=Z,274nm,1.2s						
TGY	**Tagaytay City**	**21.95**	**335**	P	**P**	**14 27 46.4**	**+0.5**
	comp=Z,100nm,0.4s,baz=168,slow=9.3,SNR=1.8						
JCJI	**Jatiwangi**	**21.97**	**267**	P	**P**	**14 27 48.0**	**+2.0**
	comp=Z,341nm,0.8s						
CISI	**Cisompet, Garu**	**22.45**	**264**	P	**P**	**14 27 49.0**	**-2.2**
CISI	**Cisompet, Garu**	**22.45**	**264**	P	**P**	**14 27 51.0**	**-0.2**
	comp=Z,3μmcomp=Z,309nm,0.8s						
LEM	**Lembang**	**22.62**	**266**	P	**P**	**14 27 54.5**	**+1.3**
	comp=Z,64nm,0.8s,baz=73,slow=7.4,SNR=16						
LEM	**Lembang**	**22.62**	**266**	P	**P**	**14 27 54.1**	**+1.0**
	comp=Z,1μmcomp=Z,2μmcomp=Z,147nm,1.1s						
GIRL	**Giralia**	**22.80**	**221**	P	**P**	**14 27 56.7**	**+1.9**
	baz=23,SNR=5.3						
GIRL	**Giralia**	**22.80**	**221**	P	**P**	**14 27 54.8**	**+0.1**
TPI	**Tanjungpandan**	**22.85**	**277**	P	**P**	**14 27 56.7**	**+1.3**
	comp=Z,764nmcomp=Z,54nm,0.8s						
CBJI	**Citeko**	**23.38**	**267**	P	**P**	**14 28 00.0**	**-0.7**
	comp=Z,19μmcomp=Z,342nm,1.2s						
DBJI	**Dramaga**	**23.48**	**267**	P	**P**	**14 28 03.2**	**+1.5**
	comp=Z,148nm,1.2s						
PPBI	**Pangkal Pinang**	**24.44**	**278**	P	**P**	**14 28 11.3**	**+0.6**
	comp=Z,3μmcomp=Z,175nm,1.1s						
QLP	**Quilpie**	**24.47**	**149**	P	**P**	**14 28 12.6**	**+1.8**
	baz=24,SNR=14						
FORT	**Forrest**	**24.85**	**185**	P	**P**	**14 28 15.4**	**+1.2**
	baz=25,SNR=32						
FORT	**Forrest**	**24.85**	**185**	P	**P**	**14 28 13.6**	**-0.6**
XMIS	**Christmas Isla**	**24.87**	**258**	P	**P**	**14 28 13.2**	**-1.3**
XMIS				IAmb	IAmb	14 28 39.0	
	comp=Z,93nm,1.0s						
XMIS	**Christmas Isla**	**24.87**	**258**	P	**P**	**14 28 14.8**	**+0.2**
KLSI		**25.55**	**271**	P	**P**	**14 28 21.6**	**+0.9**
	comp=Z,304nmcomp=Z,31nm,1.2s						
PMBI	**Palembang**	**25.68**	**275**	P	**P**	**14 28 25.5**	**+3.6**
	comp=Z,10μmcomp=Z,335nm,0.5s						
KASI	**Kota Agung**	**25.73**	**269**	P	**P**	**14 28 22.4**	**0.0**
	comp=Z,66nm,1.0s						
LWLI	**Liwa**	**26.19**	**271**	P	**P**	**14 28 28.0**	**+1.3**
	comp=Z,100nm,0.5s						
KMBL	**Kambalda**	**26.56**	**196**	P	**P**	**14 28 30.9**	**+1.1**
	baz=27,SNR=9.9						
MORW	**Morawa**	**26.74**	**209**	P	**P**	**14 28 32.0**	**+0.7**
	baz=27,SNR=14						
MORW	**Morawa**	**26.74**	**209**	P	**P**	**14 28 30.7**	**-0.7**
MORW				IAmb	IAmb	14 28 42.1	
	comp=Z,56nm,1.1s						
LHSI	**Lahat**	**26.81**	**273**	P	**P**	**14 28 33.4**	**+1.2**
	comp=Z,152nm,1.0s						
RMQ	**Roma**	**26.98**	**141**	P	**P**	**14 28 35.2**	**+1.7**
	baz=27,SNR=8.4						
JMBI	**JAMBI**	**26.98**	**278**	P	**P**	**14 28 37.4**	**+3.7**
	comp=Z,91nm,0.5s						
BBOO	**Buckleboo**	**27.31**	**169**	P	**P**	**14 28 37.4**	**+1.0**
	baz=27,SNR=15						
BBOO	**Buckleboo**	**27.31**	**169**	P	**P**	**14 28 36.4**	**0.0**
MYKOM	**Kota Tinggi**	**27.55**	**285**	P	**P**	**14 28 37.4**	**-1.4**
MYKOM	**Kota Tinggi**	**27.55**	**285**	P	**P**	**14 28 41.0**	**+2.2**
BLDU	**Ballidu**	**27.74**	**206**	P	**P**	**14 28 41.2**	**+0.9**
	baz=28,SNR=10						
KSI	**Kapahiang**	**27.75**	**273**	P	**P**	**14 28 42.3**	**+1.6**
	comp=Z,56nm,0.6s						
STKA	**Stephens Creek**	**27.91**	**159**	P	**P**	**14 28 43.0**	**+1.2**
	comp=Z,20nm,0.9s,baz=336,slow=8.8,SNR=25						
STKA				LR	LR	14 40 30.0	
	comp=Z,1μm,18.2s,baz=328,slow=38						
STKA	**Stephens Creek**	**27.91**	**159**	P	**P**	**14 28 43.0**	**+1.2**
	baz=28,SNR=8.1						
STKA	**Stephens Creek**	**27.91**	**159**	P	**P**	**14 28 40.9**	**-1.0**
STKA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STKA	**Stephens Creek**	**27.91**	**159**	P	**P**	**14 28 40.9**	**-1.0**
DLV	**T Lat**	**28.05**	**309**	P	**P**	**14 28 42.2**	**-1.3**
DLV				IAmb	IAmb	14 28 55.4	
	comp=Z,38nm,0.9s						
KLBR	**Kellerberrin**	**28.16**	**203**	P	**P**	**14 28 45.4**	**+1.3**
	baz=28,SNR=13						
RGRI	**Rengat**	**28.51**	**280**	P	**P**	**14 28 49.0**	**+1.6**
	comp=Z,32μmcomp=Z,67nm,0.4s						
HTT	**Hallett**	**28.54**	**165**	P	**P**	**14 28 48.9**	**+1.5**
	baz=29,SNR=9.5						
MUN	**Mundaring**	**29.13**	**205**	P	**P**	**14 28 53.6**	**+0.9**
	baz=29,SNR=3.9						
CMSA	**Cobar Meteorol**	**29.28**	**153**	P	**P**	**14 28 55.6**	**+1.6**
	baz=29,SNR=18						
SDSI	**Sungai Dareh**	**29.29**	**279**	P	**P**	**14 28 55.4**	**+1.1**
	comp=Z,62nm,1.1s						
HNR	**Honiara**	**29.53**	**99**	P	**P**	**14 28 57.5**	**+1.1**
	comp=Z,96nm,1.0s,baz=217,slow=9.4,SNR=2.7						
HNR				LR	LR	14 41 25.5	
	comp=Z,552nm,21.1s,baz=270,slow=38						
HNR	**Honiara**	**29.53**	**99**	P	**P**	**14 28 55.8**	**-0.6**
HNR				pmax	pmax		
	comp=Z,85nm,0.8s						
HNR	**Honiara**	**29.53**	**99**	P	**P**	**14 28 55.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**29.55**	**203**	P	**P**	**14 28 57.8**	**+1.4**
	comp=Z,27nm,1.0s,baz=49,slow=8.2,SNR=9.2						
NWAO				LR	LR	14 42 18.9	
	comp=Z,1μm,19.1s,baz=26,slow=40						
NWAO	**Narrogin (SRO)**	**29.55**	**203**	P	**P**	**14 28 57.8**	**+1.4**
	baz=30,SNR=6.4						
NWAO	**Narrogin (SRO)**	**29.55**	**203**	P	**P**	**14 28 56.6**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,40nm,1.1s						
NWAO	**Narrogin (SRO)**	**29.55**	**203**	P	**P**	**14 28 56.5**	**+0.2**
NWAO				IAmb	IAmb	14 28 58.7	
	comp=Z,46nm,1.1s						
NWAO	**Narrogin (SRO)**	**29.55**	**203**	P	**P**	**14 28 56.6**	**+0.2**
NWAO				IAmb	IAmb	14 28 58.7	
	comp=Z,40nm,1.1s						
NWAO	**Narrogin (SRO)**	**29.55**	**203**	P	**P**	**14 28 57.7**	**+1.4**
BKNI	**Bangkinang**	**29.91**	**281**	P	**P**	**14 29 01.6**	**+1.8**
TWG	**Pinlang**	**29.94**	**343**	P	**P**	**14 28 58.2**	**-1.8**
YULB	**Yu-li**	**30.42**	**343**	P	**P**	**14 29 01.6**	**-2.5**
TPUB	**Ta-pu**	**30.53**	**342**	P	**P**	**14 29 03.9**	**-1.2**
TPUB				IAmb	IAmb	14 29 18.3	
	comp=Z,87nm,1.5s						
IPM	**Ipoh**	**31.05**	**289**	P	**P**	**14 29 07.3**	**-2.6**
IPM	**Ipoh**	**31.05**	**289**	P	**P**	**14 29 11.0**	**+1.1**
ARMA	**Arm

comp=Z,130nm,12.9s
SSE LR LR
comp=Z,160nm,14.0s
UMPA Umpang Tak 38.12 306 P P 14 30 12.5 +1.4
comp=Z,790nmcomp=Z,27nm,1.1s
DZM Mont Dzumac 38.39 118 *e*P P 14 30 18.6 +5.3
comp=Z,76nm,1.2s
DZM Mont Dzumac 38.39 118 *e*LR LR 14 40 58.3
comp=Z,915nm,26.2s
JNU Nakatsue 38.80 1 P P 14 30 16.9 +0.4
comp=Z,31nm,0.8s,baz=258,slow=3.4,SNR=16
JNU Nakatsue 38.80 1 P P 14 30 15.5 -1.0
LAMP Lampang 38.81 309 P P 14 30 18.3 +1.5
comp=Z,666nmcomp=Z,71nm,0.8s
CM36 Chiang Mai Arr 39.22 309 P P 14 30 21.0 +0.8
CM04 Chiang Mai Arr 39.24 309 P P 14 30 21.6 +1.2
comp=Z,307nmcomp=Z,38nm,1.3s
CM09 Chiang Mai Arr 39.26 309 P P 14 30 21.9 +1.4
comp=Z,275nmcomp=Z,32nm,0.9s
CM35 Chiang Mai Arr 39.27 309 P P 14 30 21.0 +0.4
CM01 Chiang Mai Arr 39.27 309 P P 14 30 21.8 +1.1
comp=Z,292nmcomp=Z,38nm,0.9s
CM05 Chiang Mai Arr 39.27 309 P P 14 30 21.7 +1.1
comp=Z,230nmcomp=Z,29nm,0.8s
CM02 Chiang Mai Arr 39.29 309 P P 14 30 21.0 +0.2
comp=Z,342nmcomp=Z,46nm,0.9s
NJ2 Nanjing 39.29 344 *e*P **P 14 30 21.3 +0.8**
NJ2 pmax pmax
comp=Z,11nm,0.6s
CM31 Chiang Mai Arr 39.31 309 P P 14 30 22.0 +1.1
comp=Z,9µmcomp=Z,678nm,1.2s
CM31 Chiang Mai Arr 39.31 309 P P 14 30 19.7 -1.2
CM31 IAmb IAmb 14 30 32.4
comp=Z,53nm,1.1s
CMAR Chiang Mai Arr 39.31 309 P P 14 30 22.0 +1.1
comp=Z,19nm,1.0s,baz=139,slow=7.5,SNR=94
CMAR LR LR 14 47 09.0
comp=Z,311nm,22.0s,baz=162,slow=37
CMAR Chiang Mai Arr 39.31 309 P P 14 30 19.6 -1.3
CM13 Chiang Mai Arr 39.31 309 P P 14 30 21.9 +1.0
comp=Z,260nmcomp=Z,28nm,0.7s
CM15 Chiang Mai Arr 39.32 309 P P 14 30 22.0 +1.0
comp=Z,303nmcomp=Z,33nm,1.2s
WHN Wuhan 39.34 338 ⇑P **P 14 30 22.6 +1.7**
WHN S **S 14 36 24.8 +4.9**
WHN LR LR
comp=Z,850nm,22.8s
CM34 Chiang Mai Arr 39.37 309 P P 14 30 22.0 +0.5
CM32 Chiang Mai Arr 39.49 309 P P 14 30 23.0 +0.5
CMMT Chiang Mai 39.51 309 P P 14 30 22.4 -0.1
comp=Z,512nmcomp=Z,34nm,0.8s
CHTO Chiang Mai 39.51 309 P P 14 30 20.7 -1.9
CHTO pmax pmax
comp=Z,51nm,0.9s
CHTO Chiang Mai 39.51 309 P P 14 30 20.7 -1.9
CHTO IAmb IAmb 14 30 34.0
comp=Z,51nm,0.8s
CHTO Chiang Mai 39.51 309 P P 14 30 23.9 +1.3
CHTO P **P 14 30 23.9 +1.3**
CM33 Chiang Mai Arr 39.51 309 P P 14 30 23.0 +0.4
GYA Guiyang 39.52 326 ⇓P P 14 30 30.3 +7.6
GYA pP sP 14 30 35.4 -0.3
GYA S **S 14 36 22.6 -0.4**
GYA SS **SnSn 14 39 27.3 +6.5**
GYA pmax pmax
comp=Z,19nm,0.9s
GYA pmax pmax
comp=Z,190nm,3.5s
GYA LR LR
comp=N,190nm,20.8s
GYA LR LR
comp=E,210nm,14.5s
GYA LR LR
comp=Z,360nm,15.8s
JMN Monobe 39.54 5 P P 14 30 20.9 -1.8
MHMT Maesarieng 39.94 307 P P 14 30 26.4 +0.2
JHS Saijyo 40.75 3 P P 14 30 33.7 +1.0
KMI Kunming 40.89 320 ⇓P P **14 30 36.3 +2.1**
KMI sP pwP 14 30 53.3 +5.7
KMI PP **PnPn 14 32 13.4 +0.1**
KMI S **S 14 36 42.9 -0.8**
KMI sS sS 14 37 09.5 +11
KMI SS **SS 14 39 38.8 -7.4**
KMI pmax pmax
comp=Z,16nm,1.3s
KMI pmax pmax
comp=Z,130nm,3.7s
KMI LR LR
comp=Z,260nm,15.1s
KMI LR LR
comp=Z,270nm,18.8s
KMI LR LR
comp=Z,380nm,17.4s
ENH Enshi 41.15 332 P P 14 30 34.8 -1.2
JWT Wachi 41.23 6 P P 14 30 35.6 -0.9
JWT IAmb IAmb 14 30 54.6
comp=Z,43nm,0.7s
JGF Kuroka 41.79 9 P P 14 30 40.6 -0.6
JGF IAmb IAmb 14 30 48.7
comp=Z,42nm,1.2s
TJN Taejon 42.14 356 *ce*P **P 14 30 44.7 +0.8**
MAJO Matsushiro 42.84 9 *i*P **P 14 30 49.5 -0.3**
MAJO pmax pmax
comp=Z,34nm,1.1s
MAJO Matsushiro 42.84 9 P **P 14 30 48.4 -1.3**
MAJO IAmb IAmb 14 31 04.3
comp=Z,41nm,0.9s
MAT Matsushiro 42.84 9 P P 14 30 49.2 -0.6
MAT S **S 14 37 10.8 -1.1**
MJAR Matsushiro Arr 42.84 9 P P 14 30 49.6 -0.1
comp=Z,12nm,0.9s,baz=186,slow=9.4,SNR=27
MJAR LR LR 14 48 20.4
comp=Z,158nm,20.1s,baz=175,slow=36
MJAR Matsushiro Arr 42.84 9 P P 14 30 47.9 -1.9
MJAR pmax pmax
comp=Z,9.0nm,0.9s
MJAR Matsushiro Arr 42.84 9 P P 14 30 47.9 -1.9
JYT Yasato 42.90 12 P P 14 30 48.1 -2.0
JYT IAmb IAmb 14 31 00.7
comp=Z,40nm,0.8s
KSAR Wonju Array Be 43.17 357 P P 14 30 51.8 -0.5
KSAR Wonju Array Be 43.17 357 P P 14 30 51.8 -0.5
KSRS Korea Array 43.18 357 P P 14 30 52.4 0.0
comp=Z,3.1nm,0.6s,baz=172,slow=8.3,SNR=25
KSRS LR LR 14 47 37.6
comp=Z,320nm,20.7s,baz=174,slow=34
KS19 Wonju Array Si 43.23 357 P P 14 30 52.4 -0.5
WAKE Wake Island 43.62 54 P P 14 30 54.3 -2.0
TIA Tai'an 43.68 344 P P 14 30 56.9 +0.4
TIA pmax pmax
comp=Z,8.0nm,0.7s
JSD Sado 44.32 9 P P 14 31 01.0 -0.5
CD2 Chengdu 44.57 327 P P 14 31 04.5 +0.7
CD2 pP sP 14 31 16.9 0.0
CD2 S **S 14 37 38.8 +1.4**
CD2 SS **SS 14 40 50.0 -8.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,230nm,7.2s
CD2 LR LR
comp=Z,620nm,18.2s
CD2 LR LR
comp=Z,490nm,21.4s
CD2 LR LR
comp=Z,430nm,14.1s
XAN Xi'an 44.59 334 P P 14 31 03.9 0.0
XAN pP pwP 14 31 16.3 -0.8
XAN S **S 14 37 40.8 +3.2**
XAN ScS **SS 14 40 57.0 -1.6**
XAN pmax pmax
comp=Z,37nm,0.9s
XAN pmax pmax
comp=Z,250nm,3.0s
XAN LR LR
comp=Z,340nm,16.2s
XAN LR LR
comp=Z,250nm,14.7s
XAN LR LR
comp=Z,450nm,21.7s
XAN Xi'an 44.59 334 P P 14 31 03.2 -0.7
XAN pmax pmax
comp=Z,25nm,0.8s
XAN Xi'an 44.59 334 P P 14 31 03.2 -0.7
XAN IAmb IAmb 14 31 17.0
comp=Z,25nm,0.8s
DL2 Dalian 45.30 350 P P 14 31 18.5 +9.2
DL2 sP sP 14 31 39.1 +17
DL2 *e*S S 14 37 59.3 +12
DL2 sS sS 14 38 19.6 +17
DL2 Dalian 45.30 350 SS SS 14 41 19.3 +7.9
DL2 pmax pmax
comp=Z,32nm,0.8s
DL2 pmax pmax
comp=Z,220nm,5.1s
DL2 LR LR
comp=N,190nm,17.3s
DL2 LR LR
comp=E,350nm,19.1s
DL2 LR LR
comp=Z,360nm,19.4s
BJT Baijiatuau 47.52 345 P P 14 31 25.5 -1.2
BJT pmax pmax
comp=Z,34nm,0.8s
BJT Baijiatuau 47.52 345 P P 14 31 25.5 -1.2
BJI Beijing 47.54 345 P P 14 31 27.8 +0.9
BJI S **S 14 38 19.3 -0.3**
BJI pmax pmax
comp=Z,22nm,0.7s
BJI LR LR
comp=Z,170nm,17.5s
BJI LR LR
comp=Z,170nm,16.6s
BJI LR LR
comp=Z,610nm,45.5s
MSHR Mys Shultsa 48.24 1 *i*P **P 14 31 35.3 +3.0**
FUNA Funafuti 48.50 96 P P 14 31 33.4 -1.5
LZH Lanzhou 48.60 331 *e*P **P 14 31 36.1 +0.6**
LZH pP sP 14 31 48.8 +0.2
LZH sP pwP 14 31 54.0 +4.8
LZH pmax pmax
comp=Z,36nm,1.3s
LZH pmax pmax
comp=Z,180nm,5.6s
LZH LR LR
comp=Z,460nm,16.3s
LZH LR LR
comp=Z,560nm,16.3s
LZH LR LR
comp=Z,360nm,18.4s
SHL Shillong 48.72 312 P P 14 31 35.2 -1.4
SHL pmax pmax
comp=Z,47nm,1.1s
SHL Shillong 48.72 312 P P 14 31 35.2 -1.4
HHC Hu-ho-hao-te 49.61 341 *e*P **P 14 31 44.3 +1.3**
HHC pP sP 14 31 57.5 +1.2
HHC pmax pmax
comp=Z,18nm,1.3s
HHC pmax pmax
comp=Z,260nm,6.6s
CN2 Changchun 49.66 355 *e*P **P 14 31 44.1 +0.9**
CN2 *es*P sP 14 32 06.8 +10
CN2 *e*S **S 14 38 48.4 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,400nm,17.0s
USA0B Ussuriysk Arra 49.88 2 P P 14 31 43.8 -1.0
USA0B pmax pmax
comp=Z,25nm,0.8s
USA0B Ussuriysk Arra 49.88 2 P P 14 31 43.8 -1.0
USA0B IAmb IAmb 14 31 56.0
comp=Z,25nm,0.8s
USRK Ussuriysk Ar. 49.88 2 P P 14 31 46.3 +1.4
comp=Z,12nm,0.7s,baz=187,slow=6.9,SNR=25
USRK LR LR 14 51 39.2
comp=Z,287nm,20.6s,baz=170,slow=35
USRK Ussuriysk Ar. 49.88 2 P P 14 31 44.0 -0.8
BTO Baotou 49.90 340 *e*P P 14 31 50.4 +5.2
BTO S **S 14 38 55.8 +2.6**
BTO LR LR
comp=Z,530nm,22.1s
BTO LR LR
comp=Z,990nm,16.8s
BTO LR LR
comp=Z,1µm,19.6s
MDJ Mudanjiang 50.28 359 P P 14 31 48.8 +0.9
MDJ pP sP 14 32 01.8 +0.2
MDJ sP pwP 14 32 06.0 +5.6
MDJ S **S 14 39 01.3 +3.3**
MDJ pmax pmax
comp=Z,17nm,0.8s
MDJ pmax pmax
comp=Z,60nm,3.7s
MDJ LR LR
comp=Z,340nm,25.8s
MDJ LR LR
comp=Z,250nm,17.9s
MDJ LR LR
comp=Z,390nm,23.7s
MDJ Mudanjiang 50.28 359 P P 14 31 46.2 -1.6
MDJ IAmb IAmb 14 31 59.7
comp=Z,22nm,0.9s
ASAJ Asahikawa 50.99 11 P P 14 31 53.6 +0.4
comp=Z,10.0nm,0.8s,baz=204,slow=3.6,SNR=7.3
ASAJ Asahikawa 50.99 11 P P 14 31 51.9 -1.3
ASAJ pmax pmax
comp=Z,60nm,1.4s
JKA Kamikawa-asahi 50.99 11 P P 14 31 51.9 -1.3
WHZ Wether Hill Ro 51.43 147 P P 14 31 57.2 +0.6
WHZ IAmb IAmb 14 31 58.5
comp=Z,14nm,0.8s
LSA Lhasa 51.65 315 P P 14 32 00.4 +1.3
LSA pmax pmax
comp=Z,45nm,1.9s
LSA Lhasa 51.65 315 P P 14 31 57.4 -1.7
LSA pmax pmax
comp=Z,37nm,1.1s
LSA Lhasa 51.65 315 P P 14 31 57.4 -1.7
LSA IAmb IAmb 14 32 13.2
comp=Z,37nm,1.1s
LBZ Lake Benmore 51.77 144 P P 14 31 59.8 +0.6
LBZ IAmb IAmb 14 32 19.3
comp=Z,50nm,1.3s
TUWZ Tuamarina 52.48 139 P P 14 32 04.1 -0.4
KHZ Kahutara 52.72 140 P P 14 32 06.8 +0.6
KHZ IAmb IAmb 14 32 29.1
comp=Z,26nm,1.1s
ODAN Odare 52.81 310 *e*P **P 14 32 07.6 +0.2**
comp=Z,98nm,0.9s
TAPN Taplejung 52.83 311 *e*P **P 14 32 07.9 +0.3**
comp=Z,208nm,1.2s
MQZ McQueen's Vall 52.86 142 P P 14 32 06.0 -1.2
BKZ Black Stump Fm 53.13 136 P P 14 32 09.8 +0.4
BKZ IAmb IAmb 14 32 24.4
comp=Z,44nm,1.4s
GTA Gaotai 53.18 331 ⇑P **P 14 32 10.8 +1.0**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,89nm,7.1s
GTA LR LR
comp=Z,230nm,18.5s
GTA LR LR
comp=Z,260nm,18.2s
GTA LR LR
comp=Z,290nm,20.4s
RAMN Ramite 53.46 310 *e*P **P 14 32 12.8 +0.6**
comp=Z,138nm,0.7s
YSS Yuzh-Sakhalins 53.75 11 *e*P **P 14 32 14.6 +1.0**
YSS *e* 14 32 25.0
YSS *e*S **S 14 39 43.7 -1.9**
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS Yuzh-Sakhalins 53.75 11 P P 14 32 13.6 -0.1
YSS IAmb IAmb 14 32 16.6
comp=Z,16nm,0.6s
GUN Gumba 54.50 310 *e*P **P 14 32 20.2 +0.2**
comp=Z,162nm,0.8s
PKI Pulchoki 54.69 310 *e*P **P 14 32 21.2 -0.1**
comp=Z,181nm,1.4s
PKIN Phulchoki 54.70 310 *e*P **P 14 32 21.2 -0.1**
comp=Z,129nm,1.3s
KKN Kakani 54.89 310 *e*P **P 14 32 22.9 +0.2**
KLR Kul'dur 54.90 1 P **P 14 32 23.1 +1.0**
comp=Z,11nm,0.9s,baz=199,slow=4.5,SNR=25
KLR Kul'dur 54.90 1 *ce*P **P 14 32 22.6 +0.6**
DMN Daman 54.94 310 *e*P **P 14 32 23.4 +0.4**
comp=Z,105nm,1.1s
GKN Gorkha 55.49 310 *e*P **P 14 32 27.1 +0.2**
UGL Uglegorsk 55.69 9 *e*P **P 14 32 29.8 +2.2**
UGL pmax pmax
comp=Z,30nm,0.9s
HYB Hyderabad 56.15 295 *i*P **P 14 32 30.0 -1.7**
GRNR Gornyy 56.67 5⇓*i*P **P 14 32 36.1 +1.4**
GRNR pmax pmax
comp=Z,5.0nm,0.9s
GRNR MLR MLR
comp=E,170nm,18.0s
GRNR MLR MLR
comp=Z,170nm,18.0s
ULN Ulaanbaatar 57.33 342 *ce*P **P 14 32 41.6 +2.0**
ULN pmax pmax
comp=Z,16nm,1.2s
ULN Ulaanbaatar 57.33 342 P **P 14 32 38.5 -1.1**
ULN IAmb IAmb 14 32 49.6
comp=Z,27nm,1.0s
ULN Ulaanbaatar 57.33 342 P **P 14 32 41.6 +2.0**
ULN P **P 14 32 41.6 +2.0**
SONM Songino Array 57.51 341 P **P 14 32 42.5 +1.7**
comp=Z,2.7nm,0.5s,baz=159,slow=6.7,SNR=29
SONM LR LR 15 01 54.4
comp=Z,133nm,18.0s,baz=158,slow=41
SONM Songino Array 57.51 341 P **P 14 32 41.7 +0.9**
SONM pmax pmax
comp=Z,24nm,1.2s
SONM Songino Array 57.51 341 P **P 14 32 41.7 +0.9**
SONM IAmb IAmb 14 32 51.4
comp=Z,24nm,1.2s
TYV Tymovskoe 57.51 9 *e*P P 14 32 47.0 +6.4
TYV pmax pmax
comp=Z,200nm,3.7s
TYV pmax pmax
comp=Z,11nm,0.7s
ZEA Zeya 59.46 358 *e*P **P 14 32 55.3 +1.2**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZAK Zakamensk 60.74 340 *e*P **P 14 33 04.4 +1.3**
ZAK pmax pmax
comp=Z,12nm,1.2s
POO Poona 60.75 295 *ex* **P 14 33 00.0 -3.7**
TLY Talaya 61.74 341 P **P 14 33 10.6 +0.9**
comp=Z,1.1nm,0.4s,baz=114,slow=12,SNR=1.3
TLY Talaya 61.74 341 *e*P P 14 33 15.8 +6.0
TLY *e*S S 14 41 39.9 +10
TLY pmax pmax
comp=Z,14nm,0.6s
TLY MLR MLR
comp=Z,464nm,19.0s
CASY Casey 61.85 189 P P 14 33 10.0 -0.2
CASY IAmb IAmb 14 33 12.7
comp=Z,25nm,1.1s
IRK Irkutsk 62.03 342 *e*P P 14 33 05.0 -6.7
IRK pmax pmax
comp=Z,50nm,3.0s
WMQ Urumqi 62.67 326 P P 14 33 17.8 +1.6
WMQ pP pP 14 33 27.3 +1.4
WMQ sP pwP 14 33 34.3 +4.1
WMQ pmax pmax
comp=Z,33nm,0.9s
WMQ pmax pmax
comp=Z,290nm,3.9s
WMQ LR LR
comp=Z,890nm,22.5s
WMQ LR LR
comp=Z,660nm,29.7s
WMQ Urumqi 62.67 326 P P 14 33 16.3 +0.1
WMQ pmax pmax
comp=Z,27nm,1.0s
WMQ Urumqi 62.67 326 P P 14 33 16.3 +0.1
WMQ IAmb IAmb 14 33 27.8
comp=Z,27nm,1.0s
PEA0B Petropavlovsk- 63.16 18 P P 14 33 20.2 +1.0
PEA0B pmax pmax
comp=Z,37nm,1.2s
PEA0B Petropavlovsk- 63.16 18 P P 14 33 20.2 +1.0
PETK Petropavlovsk- 63.16 18 P P 14 33 21.0 +1.7
comp=Z,8.1nm,0.7s,baz=189,slow=6.0,SNR=14
PETK LR LR 14 56 45.2
comp=Z,117nm,20.4s,baz=202,slow=32
PETK Petropavlovsk- 63.16 18 P P 14 33 21.0 +1.7
PETK Petropavlovsk- 63.16 18 P P 14 33 20.5 +1.3
BOD Bodaibo 64.87 350 *e*P **P 14 33 31.8 +1.5**
BOD pmax pmax
comp=Z,34nm,1.5s
ZSN Zaisan 66.52 328 *e*P **P 14 33 41.6 +0.4**
baz=328
ZSN *e*S **S 14 42 30.4 +0.7**
baz=328
ZSN Zaisan 66.52 328 *e*P **P 14 33 41.6 +0.4**
ZSN *e*S **S 14 42 30.3 +0.7**
DGZ Jazzator, Alta 66.71 331 *i*P **P 14 33 44.2 +1.6**
DGZ pmax pmax
comp=Z,44nm,1.3s
NIL Nilore 66.77 310 P P 14 33 42.7 -0.5
NIL pmax pmax
comp=Z,18nm,0.8s
NIL Nilore 66.77 310 P P 14 33 42.7 -0.5
NIL IAmb IAmb 14 33 60.0
comp=Z,18nm,0.8s
SHLS Shalkode 67.06 322 *e*P **P 14 33 43.3 -1.6**
comp=Z,8.3nm,0.7s,baz=322
SHLS *e*S **S 14 42 34.0 -2.7**
baz=322
SHLS Shalkode 67.06 322 *e*P **P 14 33 43.3 -1.6**
SHLS *e*S **S 14 42 33.9 -2.7**
SHLS pmax pmax
comp=Z,8.0nm,0.7s
PDGK Podgornoye 67.14 322 *i*P **P 14 33 46.1 +0.7**
PDGK pmax pmax
comp=Z,8.0nm,0.8s
MA2 Magadan 67.25 11 P **P 14 33 46.9 +1.3**
comp=Z,8.2nm,0.8s,baz=170,slow=5.2,SNR=26
MA2 Magadan 67.25 11 *ce*P **P 14 33 48.0 +2.4**
MA2 pmax pmax
comp=Z,8.0nm,0.9s
UZB Uzynbulak 67.33 322 *e*P **P 14 33 46.6 -0.1**
baz=322
UZB Uzynbulak 67.33 322 *e*P **P 14 33 46.6 -0.1**
KSH Kashi 67.45 317 P **P 14 33 49.3 +1.8**
KSH PP PP 14 36 24.8 +8.3
KSH S **S 14 42 35.5 -5.9**
KSH pmax pmax
comp=Z,8.0nm,0.5s
KSH pmax pmax
comp=Z,490nm,6.2s
KSH LR LR
comp=Z,550nm,9.5s
KSH LR LR
comp=Z,330nm,4.7s
KSH LR LR
comp=Z,310nm,8.8s
MK31 Makanchi Array 67.50 326 *i*P **P 14 33 48.7 +1.2**
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 67.50 326 P **P 14 33 46.9 -0.6**
MK31 IAmb IAmb 14 33 58.6
comp=Z,14nm,0.7s
MKAR Makanchi Array 67.50 326 P **P 14 33 48.8 +1.3**
comp=Z,8.8nm,0.7s,baz=122,slow=8.2,SNR=82
MKAR LR LR 15 05 53.1
comp=Z,139nm,18.1s,baz=122,slow=38
MKAR Makanchi Array 67.50 326 P **P 14 33 47.3 -0.2**
SATY Saty 67.66 321 *e*P **P 14 33 48.6 -0.2**
comp=Z,5.4nm,0.7s,baz=321
SATY Saty 67.66 321 *e*P **P 14 33 48.5 -0.2**
SATY pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 67.68 326 P **P 14 33 48.8 +0.2**
MAKZ pmax pmax
comp=Z,26nm,1.2s
MAKZ Makanchi 67.68 326 P **P 14 33 48.8 +0.2**
MAKZ IAmb IAmb 14 33 58.5
comp=Z,26nm,1.1s
KPKS Kokpek 67.71 322 *e*P **P 14 33 48.9 -0.1**
comp=Z,7.6nm,0.6s,baz=322
KPKS *e*S **S 14 42 44.8 +0.5**

baz=322
KPKS Kokpek 67.71 322 *e*P **P** **14 33 48.9 -0.1**
KPKS *e*S **S** **14 42 44.8 +0.5**
KPKS pmax pmax
comp=Z,8.0nm,0.6s
YAK Yakutsk 67.72 360 P **P** **14 33 50.2 +1.7**
comp=Z,17nm,0.5s,baz=132,slow=1.1,SNR=16
YAK Yakutsk 67.72 360 *e*P **P** **14 33 49.5 +1.0**
YAK *e**PP **pP** **14 33 58.5 +0.2**
YAK *e* 14 34 14.6
YAK *e*S **S** **14 42 42.3 -1.2**
YAK *e**SS **sS** **14 43 01.9 +1.6**
YAK *e* 14 43 26.5
YAK *e*SS **SS** **14 46 59.5 -5.8**
YAK pmax pmax
comp=Z,64nm,1.1s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK smax smax
comp=N,85nm,5.8s
YAK smax smax
comp=E,211nm,6.1s
YAK Yakutsk 67.72 360 P **P** **14 33 49.1 +0.6**
TNSS Tian-Shan 68.56 321 *e*P **P** **14 33 54.8 0.0**
baz=321
TNSS Tian-Shan 68.56 321 *e*P **P** **14 33 54.7 0.0**
MDOK Medeo 68.56 321 *e*P **P** **14 33 54.6 +0.1**
baz=321
MDOK Medeo 68.56 321 *e*P **P** **14 33 54.5 +0.1**
TDK Taldyqorghan 68.71 323 *e*P **P** **14 33 55.6 +0.5**
comp=E,5.7nm,0.8s,baz=323
TDK Taldyqorghan 68.71 323 *e*P **P** **14 33 55.6 +0.5**
TDK pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 69.36 320 P **P** **14 34 01.2 +1.8**
SNR=7.3
TKM2 Tokmak 2 69.36 320 *i* P **P** **14 34 00.5 +1.0**
TKM2 pmax pmax
comp=Z,6.0nm,0.7s
KUU Kurty 69.38 321 *e*P **P** **14 33 59.4 0.0**
comp=Z,11nm,0.8s,baz=321
KUU *e*S **S** **14 43 04.5 +0.5**
baz=321
KUU Kurty 69.38 321 *e*P **P** **14 33 59.3 0.0**
KUU *e*S **S** **14 43 04.5 +0.5**
KUU pmax pmax
comp=Z,11nm,0.8s
UCH Uchtor 69.72 319 P **P** **14 34 03.9 +1.9**
SNR=11
AAK Ala-Archa 69.93 319 P **P** **14 34 05.0 +2.1**
SNR=5.6
AAK Ala-Archa 69.93 319 *i* P **P** **14 34 03.3 +0.4**
AAK pmax pmax
comp=Z,9.0nm,1.1s
AML Almayashu 70.21 319 P **P** **14 34 06.3 +1.4**
SNR=14
USP Ospenovka 70.23 320 P **P** **14 34 06.1 +1.5**
SNR=13
SGDS Sogindy 70.24 320 *e*P **P** **14 34 04.3 -0.4**
baz=320
SGDS Sogindy 70.24 320 *e*P **P** **14 34 04.3 -0.4**
KBL Kabul 70.33 310 P **P** **14 34 02.1 -3.5**
KBL pmax pmax
comp=Z,11nm,0.8s
KBL Kabul 70.33 310 P **P** **14 34 02.1 -3.5**
KBL Kabul 70.33 310 P **P** **14 34 06.8 +1.2**
SNR=5.8
KBL P **P** **14 34 06.8 +1.2**
SNR=5.8
EKS2 Erkin-Say 70.41 319 P **P** **14 34 07.7 +1.9**
SNR=11
SEY Seymchan 70.66 10 P **P** **14 34 07.2 +0.5**
comp=Z,19nm,0.8s,baz=201,slow=4.4,SNR=59
SEY Seymchan 70.66 10 *i* P **P** **14 34 07.9 +1.2**
ZAA0 Zalesovo Array 70.75 333 P **P** **14 34 06.6 -0.9**
ZAA0 lAmb lAmb 14 34 16.5
comp=Z,30nm,0.9s
ZALV Zalesovo Beam 70.75 333 P **P** **14 34 08.3 +0.8**
comp=Z,7.7nm,0.7s,baz=107,slow=5.0,SNR=30
ZALV Zalesovo Beam 70.75 333 P **P** **14 34 06.6 -0.9**
BTLS Baital 71.38 322 *e*P **P** **14 34 11.4 -0.1**
baz=322
BTLS Baital 71.38 322 *e*P **P** **14 34 11.3 -0.1**
DZA Taraz 72.11 319 *e*P **P** **14 34 15.7 -0.3**
baz=318
DZA Taraz 72.11 319 *e*P **P** **14 34 15.6 -0.4**
IUG luzhnay 72.66 317 *e*P **P** **14 34 19.5 +0.2**
comp=Z,4.8nm,0.9s,baz=317
IUG *e*S **S** **14 43 42.6 +0.3**
baz=317
IUG luzhnay 72.66 317 *e*P **P** **14 34 19.5 +0.2**
IUG *e*S **S** **14 43 42.5 +0.3**
IUG pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 72.75 318 P **P** **14 34 19.2 -0.5**
KK31 pmax pmax
comp=Z,17nm,1.1s
KK31 Karatay Array 72.75 318 P **P** **14 34 19.2 -0.5**
KKAR Karatay Array 72.75 318 P **P** **14 34 19.0 -0.7**
KKAR pmax pmax
comp=Z,17nm,1.1s
KKAR Karatay Array 72.75 318 P **P** **14 34 19.1 -0.7**
KKAR Karatay Array 72.75 318 P **P** **14 34 19.0 -0.7**
KKAR lAmb lAmb 14 34 32.1
comp=Z,17nm,1.1s
VNDA Vanda 73.50 173 P **P** **14 34 25.1 +1.6**
comp=Z,9.4nm,0.8s,baz=321,slow=6.2,SNR=32
VNDA LR LR 15 04 58.7
comp=Z,482nm,20.9s,baz=346,slow=34
VNDA Vanda 73.50 173 P **P** **14 34 23.8 +0.2**
VNDA pmax pmax
comp=Z,13nm,1.0s
VNDA Vanda 73.50 173 P **P** **14 34 23.8 +0.2**
SBA Scott Base 74.38 173 P **P** **14 34 30.4 +1.7**
SBA pmax pmax
comp=Z,40nm,1.4s
SBA Scott Base 74.38 173 P **P** **14 34 30.4 +1.7**
SBA lAmb lAmb 14 34 32.6
comp=Z,40nm,1.4s
BRZS Berezniki 74.60 326 *e*P **P** **14 34 30.6 +0.1**
comp=Z,5.6nm,1.0s,baz=326
BRZS *e*S **S** **14 44 04.3 +0.5**
baz=326
BRZS Berezniki 74.60 326 *e*P **P** **14 34 30.5 +0.1**
BRZS *e*S **S** **14 44 04.2 +0.5**
BRZS pmax pmax
comp=Z,6.0nm,1.0s
JLN Jalan Bani Buh 74.76 295 P **P** **14 34 32.9 +0.9**
JLN P **P** **14 34 32.9 +0.9**
WBK Wadi Bani Khal 75.26 295 P **P** **14 34 36.2 +1.3**
WBK P **P** **14 34 36.2 +1.3**
HRA Herat 75.56 308 P **P** **14 34 35.7 -0.9**
HRA lAmb lAmb 14 34 48.3
comp=Z,20nm,0.9s
MHTO MHTO 75.82 293 P **P** **14 34 38.7 +0.7**
SNR=7.2
MHTO P **P** **14 34 38.7 +0.7**
SNR=7.2
JMDO Jabal Madar 75.99 295 P **P** **14 34 40.8 +1.8**
JMDO P **P** **14 34 40.8 +1.8**
DQM DQM 76.00 292 P **P** **14 34 40.3 +1.2**
DQM P **P** **14 34 40.3 +1.2**
MAW Mawson 76.11 201 LR LR 15 05 45.0
comp=Z,366nm,20.8s,baz=59,slow=34
SMDO Samad 76.19 295 P **P** **14 34 41.5 +1.3**
SMDO P **P** **14 34 41.5 +1.3**
BIDO Bidbid 76.22 296 P **P** **14 34 41.8 +1.5**
SNR=12
BSY Bisya 76.89 295 P **P** **14 34 45.1 +1.0**
HOQ Hoqain 76.96 296 P **P** **14 34 46.0 +1.4**
SNR=9.8
HOQ P **P** **14 34 46.0 +1.4**
SNR=9.8
TIXI Tiksi 77.39 360 P **P** **14 34 46.7 +0.8**
comp=Z,7.2nm,0.7s,baz=168,slow=3.5,SNR=18
TIXI Tiksi 77.39 360↓ *e*P **P** **14 34 47.1 +1.2**
TIXI Tiksi 77.39 360 P **P** **14 34 45.6 -0.3**
TIXI lAmb lAmb 14 34 57.5
comp=Z,22nm,1.1s
BRVK Borovoye 77.39 328 P **P** **14 34 45.5 -0.8**
BRVK pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 77.39 328 P **P** **14 34 45.5 -0.8**
BRVK lAmb lAmb 14 34 57.2
comp=Z,14nm,0.8s
BRVK Borovoye 77.39 328 P **P** **14 34 47.7 +1.4**
SHAO Shalim 77.41 290 P **P** **14 34 49.1 +1.9**
ARQ Araqi 77.62 295 P **P** **14 34 50.2 +2.0**
ARQ P **P** **14 34 50.2 +2.0**
SOHO SOHO 77.77 296 *i* P **P** **14 34 50.2 +1.2**
SNR=5.9
SOHO SOHO 77.77 296 P **P** **14 34 50.1 +1.1**
DMTO DMTO 77.99 289 P **P** **14 34 50.4 0.0**
SOCY Socotra 78.00 284 P **P** **14 34 48.6 -2.0**
SOCY lAmb lAmb 14 35 10.1
comp=Z,26nm,1.0s
SOCY Socotra 78.00 284 P **P** **14 34 51.3 +0.7**
MDH Madha 78.23 297 P **P** **14 34 53.8 +2.3**
UOSS Minazif 78.24 297 P **P** **14 34 52.5 +0.9**
UOSS Minazif 78.24 297 P **P** **14 34 48.3 -3.3**
UOSS lAmb lAmb 14 35 02.6
comp=Z,19nm,1.0s
HATD Hatta, Dubai 78.28 297 P **P** **14 34 53.2 +1.3**
HATD Hatta, Dubai 78.28 297 P **P** **14 34 53.3 +1.5**
HATD P **P** **14 34 53.3 +1.5**
ASHO Ashiyiah 78.31 297 P **P** **14 34 53.5 +1.4**
SNR=9.4
BANOM Banah 78.36 298 *i* P **P** **14 34 54.0 +1.7**
SNR=13
BANOM Banah 78.36 298 P **P** **14 34 54.1 +1.8**
SNR=14
MSFE Esma-Masafi 78.36 297 *i* P **P** **14 34 54.3 +2.0**
SNR=6.3
MASF Masafi 78.37 297 P **P** **14 34 54.4 +2.0**
SNR=8.1
ALNE Al Ain 78.46 296 P **P** **14 34 54.8 +1.9**
SNR=10
SHME Shamm 78.53 298 *i* P **P** **14 34 54.7 +1.5**
SNR=9.5
SHME Shamm 78.53 298 P **P** **14 34 54.8 +1.7**
RBK Rabkut 78.65 289 P **P** **14 34 55.8 +1.8**
RBK P **P** **14 34 55.8 +1.8**
TBI Tubuai 78.69 113 *e*LR LR 14 59 23.1
comp=Z,445nm,29.5s
UMZA Um Al Zommool 78.72 294 P **P** **14 34 54.9 +0.6**
NAZ Nazwa, Dubai 78.73 297 P **P** **14 34 56.3 +2.0**
NAZ P **P** **14 34 56.3 +2.0**
FAQ Al Faqa, Dubai 78.74 297 *i* P **P** **14 34 55.4 +1.0**
SNR=6.4
FAQ Al Faqa, Dubai 78.74 297 P **P** **14 34 55.6 +1.3**
FAQ P **P** **14 34 55.6 +1.3**
PPT2 Papeete2 78.80 107 *e*LR LR 14 59 29.3
comp=Z,501nm,28.8s
PPT Papeete 78.80 107 LR LR 15 09 01.5
comp=Z,77nm,18.0s,baz=174,slow=35
DOK Doka 78.92 290 P **P** **14 34 56.2 +0.7**
DOK P **P** **14 34 56.2 +0.7**
ASUD Al Ashush, Dub 78.95 296 P **P** **14 34 57.1 +1.6**
ASUD Al Ashush, Dub 78.95 296 P **P** **14 34 57.2 +1.6**
WHFO Wadi Hawf 79.13 289 P **P** **14 34 57.3 +0.6**
WHFO P **P** **14 34 57.3 +0.6**
ABTO Aybut 79.48 289 P **P** **14 34 59.6 +0.9**
SNR=8.9
GEYT Alibeck 79.77 310 P **P** **14 35 01.1 +1.3**
comp=Z,3.0nm,0.7s,baz=169,slow=8.9,SNR=7.6
GEYT Alibeck 79.77 310 P **P** **14 34 58.2 -1.6**
GYA0B ALIBECK ARRAY 79.77 310 P **P** **14 34 58.6 -1.2**
ABKAR Akbulak array 81.87 321 P **P** **14 35 09.7 -1.0**
VOI Vohitsoka 81.87 249 P **P** **14 35 13.1 +1.6**
QSPA South Pole Qui 84.08 180 P **P** **14 35 22.3 +0.3**
QSPA lAmb lAmb 14 35 23.9
comp=Z,16nm,0.9s
ANM Nome 84.57 23 P **P** **14 35 23.5 -0.8**
ANM pmax pmax
comp=Z,9.0nm,1.3s
ANM Nome 84.57 23 P **P** **14 35 23.5 -0.8**
SYO Syowa Base 84.82 201↑ *e*pP pP 14 35 37.4 +1.8
SYO Syowa Base 84.82 201↑ *e*PP PP 14 38 42.8 +1.0
ARU Arti 84.96 328 *d* iP **P** **14 35 27.2 +0.8**
ARU S **S** **14 45 48.8 -3.9**
ARU SS **SS** **14 51 29.5 +3.4**
ARU pmax pmax
comp=Z,18nm,1.4s
RDOG Red Dog Mine 86.95 20 P **P** **14 35 34.2 -1.8**
RDOG lAmb lAmb 14 35 47.6
comp=Z,8.4nm,0.6s
RAYN Ar Rayn 87.62 294 *i* P **P** **14 35 41.4 +1.1**
SNR=18
RAYN Ar Rayn 87.62 294 P **P** **14 35 38.5 -1.8**
RAYN pmax pmax
comp=Z,21nm,1.0s
RAYN Ar Rayn 87.62 294 P **P** **14 35 38.5 -1.8**
RAYN lAmb lAmb 14 35 51.3
comp=Z,21nm,1.0s
A21K Barrow 90.17 18 P **P** **14 35 50.9 -0.3**
A21K lAmb lAmb 14 36 16.0
comp=Z,13nm,0.9s
KIRV Kirov 90.27 329 *e*P **P** **14 35 54.1 +2.2**
RND Reindeer 91.11 26 P **P** **14 35 55.4 -0.4**
RND pmax pmax
comp=Z,8.0nm,0.7s
RND Reindeer 91.11 26 P **P** **14 35 55.4 -0.4**
RND lAmb lAmb 14 36 06.2
comp=Z,7.8nm,0.7s
COLD Coldfoot 91.31 23 P **P** **14 35 56.9 +0.3**
COLD lAmb lAmb 14 36 10.0
comp=Z,6.5nm,0.8s
ZEI Tsey 91.36 313 *e*P **P** **14 36 00.5 +2.9**
ZEI pmax pmax
comp=Z,9.0nm,1.3s
CCB Clear Creek Bu 91.79 25 P **P** **14 35 58.0 -0.8**
POKR Poker Plat Res 92.02 25 P **P** **14 35 58.7 -1.2**
POKR lAmb lAmb 14 36 01.5
comp=Z,6.3nm,0.8s
KBZ Khabaz 92.19 314 P **P** **14 36 02.0 +0.8**
comp=Z,0.9nm,0.8s,baz=156,slow=10.0,SNR=1.7
KBZ LR LR 15 23 44.5
comp=Z,95nm,18.6s,baz=52,slow=40
KBZ Khabaz 92.19 314 P **P** **14 36 02.0 +0.8**
ILAR Eielson Array 92.20 25 P **P** **14 36 00.0 -0.8**
comp=Z,1.4nm,0.9s,baz=298,slow=3.6,SNR=9.5
ILAR LR LR 15 11 31.2
comp=Z,79nm,21.9s,baz=273,slow=32
ILAR Eielson Array 92.20 25 P **P** **14 35 58.9 -1.9**
ILAR Eielson Array 92.20 25 P **P** **14 35 58.9 -1.9**
KIV Kislovodsk 92.37 314 *e*P **P** **14 36 01.0 -1.1**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,247nm,20.0s
PRGR Permogore 92.63 332 *e*P **P** **14 36 05.5 +2.7**
PRGR pmax pmax
comp=Z,7.0nm,0.7s
KMBO Kilima Mbogo 92.97 269 P **P** **14 36 05.9 +0.1**
comp=Z,0.6nm,0.5s,baz=47,slow=9.0,SNR=3.2
DAWY Dawson 95.36 26 P **P** **14 36 13.7 -1.7**
KLMR Klimovskoe 95.51 331 *e*P **P** **14 36 16.6 +0.6**
KLMR pmax pmax
comp=Z,7.0nm,0.6s
KLMR Klimovskoe 95.51 331 *e*P **P** **14 36 16.6 +0.6**
KLMR AMP 14 36 24.9
comp=Z,7.0nm,0.6s
BELA Belgrano 2 95.94 183 P **P** **14 36 17.1 -0.7**
SNAA Sanae 96.82 193 P **P** **14 36 23.2 +1.2**
INK Inuvik 97.70 22 P **P** **14 36 25.9 +0.1**
comp=Z,2.2nm,1.1s,baz=318,slow=4.7,SNR=3.6
INK Inuvik 97.70 22 P **P** **14 36 25.9 +0.1**
INK pmax pmax
comp=Z,5.0nm,1.0s
VNA2 Neumayer--Watz 98.39 193 Pdiff **P** **14 36 28.3 -0.7**
VNA3 Neumayer Olymp 98.64 192 Pdiff **P** **14 36 29.7 -0.4**
VNA1 Neumayer--Stat 98.78 193 Pdiff **P** **14 36 31.1 +0.4**
BRTR Keskin Array B 98.89 309 P **P** **14 36 31.6 -0.4**
comp=Z,0.5nm,0.6s,baz=138,slow=2.0,SNR=2.4
BRTR LR LR 15 29 37.0
comp=Z,94nm,18.4s,baz=92,slow=40
ARCES ARCESS Array B 100.67 340 P **Pdif** **14 36 40.5 +1.5**
comp=Z,6.0nm,1.1s,baz=24,slow=4.9,SNR=1.5
AKASG Malin Array Be 101.58 320 PP **PKiKP** **14 41 05.3 -1.9**
comp=Z,0.2nm,0.2s,baz=74,slow=7.1,SNR=5.3
FINES FINESS Array B 101.96 332 P **Pdif** **14 36 47.5 +2.5**
comp=Z,2.7nm,0.9s,baz=56,slow=2.5,SNR=3.6
YKA Yellowknife Ar 106.60 26 PKiKP **PKiKP** **14 41 17.3 +1.2**
comp=Z,0.2nm,0.6s,baz=287,slow=1.2,SNR=3.1
YKA PKKPbc **PKKPbc** **14 52 37.1 -0.9**
comp=Z,0.4nm,0.8s,baz=102,slow=3.1,SNR=6.2
NOA NORSAR Array B 108.95 333 Pdiff **Pdif** **14 37 18.3 +2.2**
comp=Z,0.2nm,0.7s,baz=58,slow=11,SNR=1.0
CLL Collm 111.48 323 *e*PKiKP **PKiKP** **14 41 28.0 +2.5**
GERES GERESS Array B 111.80 321 PKiKP **PKiKP** **14 41 28.1 +1.7**
comp=Z,1.1nm,0.6s,baz=64,slow=3.1,SNR=6.7
ULM Lac du Bonnet 121.33 33 PKP **PKiKP** **14 41 46.1 +1.5**
comp=Z,0.4nm,0.3s,baz=220,slow=5.5,SNR=1.4
TXAR Lajitas Array 124.05 59 PKP **PKiKP** **14 41 53.0 +2.2**
comp=Z,0.4nm,0.8s,baz=212,slow=3.2,SNR=3.0
TXAR Lajitas Array 124.05 59 PKiKP **PKiKP** **14 41 53.0 +2.2**
ESDC Sonseca Array 126.96 316 PKP **PKiKP** **14 41 56.8 +0.6**
comp=Z,0.6nm,1.0s,baz=0.0,slow=2.8,SNR=1.6
TORD Torodi Ar. Bea 128.93 282 PKP **PKPdf** **14 42 00.7 +0.6**
comp=Z,1.9nm,0.6s,baz=68,slow=2.0,SNR=10
PLCA Paso Flores 129.79 159 PKP **PKiKP** **14 42 03.6 +1.7**
comp=Z,1.2nm,0.9s,baz=277,slow=6.8,SNR=3.1
DBIC Dimbokro 135.49 274 PKP **PKPdf** **14 42 13.3 +0.9**
comp=Z,2.0nm,0.6s,baz=75,slow=4.5,SNR=3.6
DBIC Dimbokro 135.49 274 PKPdf **PKPdf** **14 42 11.8 -0.7**
GO02 Mina Guanaco 143.54 149 PKPdf **PKPbc** 14 42 25.4 +0.9
CPUP Villa Florida 147.12 167 PKPbc **PKPbc** **14 42 35.1 +0.1**
comp=Z,12nm,0.9s,baz=204,slow=3.0,SNR=27
CPUP Villa Florida 147.12 167 PKPbc **PKPbc** **14 42 34.5 -0.5**
PB08 IPOC Station P 147.79 144 **PKPdf** **14 42 34.7 -0.1**
MNMC Minye Minye 148.31 142 **PKiKP** **14 42 40.2 -0.3**
PB16 IPOC Station P 148.96 141 PKPab **PKiKP** **14 42 43.2 +0.9**
OTAV Otavalo 150.70 100 *e*P **PKPbc** **14 42 45.3 +0.1**
LPAZ La Paz 151.36 141 PKPbc **PKiKP** **14 42 47.6 +0.3**
comp=Z,6.4nm,0.8s,baz=30,slow=1.2,SNR=15
LPAZ La Paz 151.36 141 **PKiKP** **14 42 48.9 +1.6**
BBAC Balboa, Cauca 152.20 97 *e*P **PKiKP** **14 42 49.4 +0.7**
POPC Popayan, Colom 152.84 96 *e*P **PKPbc** **14 42 49.6 -0.2**
SOTA Rioblanco 152.85 97 *e*P **PKiKP** **14 42 55.4 +5.0**
PCON Cinco Dias 153.09 96 *e*P **PKiKP** **14 42 53.6 +2.7**
YOTC Yotoco, Valle 153.33 93 *e*P **PKiKP** **14 42 51.9 +1.0**
GUY2C Guyana, Caldas 154.39 90 *e*P **PKiKP** **14 42 54.0 +0.6**
RREF El Recreo 154.39 91 *e*P **PKPbc** **14 42 53.1 -0.6**
TOLC Tolima 154.40 92 *e*P **PKPbc** **14 42 49.5 -3.8**

*ROM **15** 14:26:11.1±0.1, 41.741**N**±0.004×16.003**E**±0.07, h27km, ML3.1/57 Error ellipse: s-maj=0.5km s-min=0.4km az=235.0*

ISC 15 14:26:10.9±0.9, **41.79N**±0.02×**16.04E**±0.03, **h26**km±6km, **n89**, σ=**0.86**/110, **4C-4D**, **Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**0.12**	**234**	↑ *i*	P	**Pb**	**14 26 16.1**		**+0.1**
MSAG					S	**Sb**	**14 26 19.0**		**-0.3**
MSAG					AML	AML			
	comp=E,28500μm,0.8s								
MSAG					AML	AML			
	comp=N,33050μm,0.3s								
MSAG					AML	AML			
	comp=E,30100μm,0.8s								
MSAG					AML	AML			
	comp=N,33050μm,0.3s								
MSAG					AML	AML			
	comp=E,30050μm,0.8s								
MSAG					AML	AML			
	comp=N,34500μm,0.3s								
MSAG					AML	AML			
	comp=N,33050μm,0.3s								
MSAG					AML	AML			
	comp=E,28450μm,0.8s								
MSAG					AML	AML			
	comp=E,30050μm,0.8s								
SGRT	**San Giovanni R**	**0.23**	**262**	↓ *i*	P	**Pb**	**14 26 16.9**		**-0.1**
SGRT					S	**Sb**	**14 26 20.4**		**-0.9**
SGRT					AML	AML			
	comp=E,29750μm,0.2s								
SGRT					AML	AML			
	comp=N,18150μm,0.4s								
TREM	**Isole Tremiti**	**0.52**	**311**	*i*	P	**Pn**	**14 26 22.3**		**-0.3**
TREM					S	**Sn**	**14 26 30.2**		**-0.4**
TREM					AML	AML			
	comp=E,5990μm,0.5s								
TREM					AML	AML			
	comp=N,8950μm,0.9s								
MELA	**Melanico ??? S**	**0.69**	**264**	↑ *i*	P	**Pb**	**14 26 24.1**		**-0.2**
MELA					S	**Sb**	**14 26 33.4**		**0.0**
MELA					AML	AML			
	comp=E,4710μm,0.6s								
MELA					AML	AML			
	comp=N,5470μm,0.3s								
MELA					AML	AML			
	comp=E,5120μm,0.7s								
MELA					AML	AML			
	comp=N,5565μm,0.3s								
MELA					AML	AML			
	comp=E,4715μm,0.7s								
MRVN	**Minervino Murg**	**0.73**	**171**		P	**Pb**	**14 26 24.9**		**-0.1**
MRVN					S	**Sb**	**14 26 34.8**		**+0.1**
MRVN					AML	AML			
	comp=N,1750μm,0.3s								
MRVN					AML	AML			
	comp=E,1745μm,0.4s								
MOCO	**Biccari - m.te**	**0.78**	**238**	↑ *i*	P	**Pb**	**14 26 25.7**		**-0.2**
MOCO					S	**Sb**	**14 26 35.0**		**-1.2**
MOCO					AML	AML			
	comp=E,1240μm,0.4s								
MOCO					AML	AML			
	comp=N,1122μm,0.3s								
SGTA	**Sant Agata di**	**0.83**	**218**		P	**Pb**	**14 26 26.3**		**-0.4**
SGTA					S	**Sb**	**14 26 36.6**		**-0.8**
SGTA					AML	AML			
	comp=N,1600μm,0.5s								
SGTA					AML	AML			
	comp=N,1655μm,0.5s								
SGTA					AML	AML			
	comp=E,1510μm,0.6s								
SGTA					AML	AML			
	comp=N,1605μm,0.5s								
SGTA					AML	AML			
	comp=E,1590μm,0.6s								
PALZ	**Palazzo San Ge**	**0.84**	**184**	↓ *i*	P	**Pb**	**14 26 26.6**		**-0.3**
PALZ					S	**Sb**	**14 26 37.7**		**-0.1**
PALZ					AML	AML			
	comp=E,1235μm,0.5s								
PALZ					AML	AML			
	comp=N,1835μm,1.0s								
VULT	**Monte Vulture**	**0.89**	**201**		P	**Pb**	**14 26 27.5**		**-0.2**
VULT					S	**Sb**	**14 26 39.2**		**0.0**
VULT					AML	AML			
	comp=N,4855μm,0.2s								
VULT					AML	AML			
	comp=N,4950μm,0.2s								
VULT					AML	AML			
	comp=N,4850μm,0.2s								
VULT					AML	AML			
	comp=E,3485μm,0.2s								
VULT					AML	AML			
	comp=E,3495μm,0.2s								
GATE	**Gambatesa**	**0.89**	**253**		P	**Pb**	**14 26 27.7**		**0.0**
GATE					AML	AML			
	comp=E,2780μm,0.4s								
GATE					AML	AML			
	comp=N,1905μm,0.4s								
GATE					AML	AML			
	comp=E,982μm,0.3s								
GATE					AML	AML			
	comp=N,1905μm,0.5s								
GATE					AML	AML			
	comp=N,1895μm,0.5s								
GATE					AML	AML			
	comp=E,2780μm,0.4s								
BIOG	**Biogem**	**0.90**	**230**		P	**Pn**	**14 26 28.2**		**+0.3**
BIOG					S	**Sb**	**14 26 39.3**		**-0.1**
CAFE	**Carife**	**0.97**	**219**		P	**Pb**	**14 26 28.8**		**-0.2**
CAFE					S	**Sb**	**14 26 41.5**		**0.0**
CAFE					AML	AML			
	comp=E,1700μm,0.5s								
CAFE					AML	AML			
	comp=N,880μm,1.0s								
CAFE					AML	AML			
	comp=N,924μm,1.0s								
CAFE					AML	AML			
	comp=E,1705μm,0.5s								
CAFE					AML	AML			
	comp=N,880μm,1.0s								
CAFE					AML	AML			
	comp=E,1710μm,0.5s								
AMUR	**Altamura**	**0.97**	**154**	↓ *i*	P	**Pn**	**14 26 29.1**		**+0.2**
AMUR					S	**Sn**	**14 26 43.0**		**+1.1**
AMUR					AML	AML			
	comp=N,1400μm,0.4s								
AMUR					AML	AML			

comp=E,1660μm,0.2s
ACER Acerenza 1.00 184 P Pn 14 26 28.8 -0.5
ACER S Sn 14 26 42.9 +0.3
ACER AML AML
comp=N,1800μm,0.6s
ACER AML AML
comp=E,1810μm,0.2s
ACER AML AML
comp=N,1875μm,0.6s
ACER AML AML
comp=E,1890μm,0.3s
MRB1 Monte Rocchett 1.04 231 P Pn 14 26 30.1 +0.3
MRB1 S Sb 14 26 43.6 +0.1
MRB1 AML AML
comp=E,833μm,0.4s
MRB1 AML AML
comp=N,853μm,0.5s
MRB1 AML AML
comp=E,814μm,0.8s
MRB1 AML AML
comp=N,887μm,0.9s
FRES Fresagrandinar 1.04 281 P Pn 14 26 30.1 +0.3
FRES S Sn 14 26 44.0 +0.4
FRES AML AML
comp=N,540μm,0.5s
FRES AML AML
comp=E,642μm,1.6s
SNAL S. Angelo Dei 1.06 216 P Pn 14 26 29.7 -0.5
SNAL S Sb 14 26 44.2 0.0
SNAL AML AML
comp=E,870μm,1.1s
SNAL AML AML
comp=N,954μm,0.7s
SNAL AML AML
comp=N,956μm,0.7s
SNAL AML AML
comp=E,862μm,1.1s
SNAL AML AML
comp=N,935μm,0.7s
SNAL AML AML
comp=E,872μm,1.1s
SACR S. Croce Del S 1.08 249 P Pn 14 26 29.7 -0.6
SACR S Sb 14 26 44.6 +0.1
SACR AML AML
comp=E,328μm,0.7s
SACR AML AML
comp=N,292μm,0.5s
SACR AML AML
comp=E,327μm,0.7s
PSB1 Pescosannita 1.08 239 P Pn 14 26 30.0 -0.4
PSB1 S Sb 14 26 44.8 +0.1
PSB1 AML AML
comp=N,415μm,0.3s
PSB1 AML AML
comp=N,404μm,0.4s
PSB1 AML AML
comp=E,320μm,0.6s
PSB1 AML AML
comp=N,416μm,0.3s
PSB1 AML AML
comp=E,316μm,0.8s
PSB1 AML AML
comp=N,404μm,0.4s
MRLC Muro Lucano 1.11 202 P Pn 14 26 30.0 -0.8
MRLC AML AML
comp=E,1630μm,0.5s
MRLC AML AML
comp=N,1032μm,0.7s
MRLC AML AML
comp=N,1018μm,0.7s
MRLC AML AML
comp=E,1635μm,0.5s
MRLC AML AML
comp=E,1675μm,0.5s
MRLC AML AML
comp=N,1034μm,0.7s
MRLC AML AML
comp=N,1018μm,0.7s
BSSO Busso 1.11 258 P Pn 14 26 30.5 -0.4
BSSO AML AML
comp=E,177μm,0.3s
BSSO AML AML
comp=N,410μm,0.8s
BSSO AML AML
comp=N,146μm,0.8s
BSSO AML AML
comp=E,420μm,0.6s
MCRV Calabrutti - M 1.20 214 P Pn 14 26 32.0 -0.1
MCRV AML AML
comp=N,1088μm,0.3s
MCRV AML AML
comp=E,762μm,0.2s
PTRJ Pietraroja 1.21 250 P Pn 14 26 32.4 +0.1
MIGL Miglionico 1.22 166 P Pn 14 26 32.3 +0.1
MIGL AML AML
comp=E,2005μm,0.2s
MIGL AML AML
comp=N,2085μm,0.7s
MIGL AML AML
comp=E,2010μm,0.2s
MATE Matera 1.24 156 ⇓P Pb 14 26 32.7 -0.8
MATE AML AML
comp=N,1080μm,0.2s
MATE AML AML
comp=E,1190μm,1.0s
NOCI Noci 1.26 142 P Pb 14 26 33.3 -0.6
NOCI AML AML
comp=N,2410μm,1.1s
NOCI AML AML
comp=E,2090μm,0.4s
PTRP Pietrapertosa 1.26 179 P Pn 14 26 33.1 +0.2
PTRP AML AML
comp=E,940μm,0.5s
PTRP AML AML
comp=N,1045μm,0.4s
PTRP AML AML
comp=N,1044μm,0.4s
PTRP AML AML
comp=E,941μm,0.5s
SGG Gregorio Mates 1.31 253 P Pn 14 26 33.5 -0.1
SGG AML AML
comp=E,315μm,0.6s
SGG AML AML
comp=N,386μm,0.5s
SGG AML AML
comp=E,1.0nm,0.6s
SGG AML AML
comp=E,316μm,0.6s
SGG AML AML
comp=N,2.0nm,1.6s
PAOL Paolisi 1.34 236 P Pn 14 26 33.9 -0.1
PAOL AML AML
comp=E,414μm,0.5s
PAOL AML AML
comp=N,377μm,0.2s
VAGA Valle Agricola 1.41 255 P Pn 14 26 35.2 +0.4
VAGA AML AML
comp=E,478μm,0.3s
VAGA AML AML
comp=N,594μm,0.3s
VAGA AML AML
comp=N,612μm,0.3s
VAGA AML AML
comp=E,468μm,0.3s
RNI2 Rionero Sannit 1.42 267 P Pn 14 26 35.4 +0.4
RNI2 AML AML
comp=N,333μm,1.2s
RNI2 AML AML
comp=E,438μm,1.4s
RNI2 AML AML
comp=N,312μm,0.2s
RNI2 AML AML
comp=E,447μm,1.3s
HVAR Hvar 1.42 12 *e*Pn Pb 14 26 36.7 -0.1
CRAC Craco 1.45 168 P Pn 14 26 35.9 +0.4
CRAC AML AML
comp=E,1865μm,0.5s
CRAC AML AML
comp=N,1705μm,0.9s
AG11 Viggiano (PZ) 1.45 183 P Pn 14 26 34.9 -0.6
AG11 AML AML
comp=N,625μm,0.4s
AG11 AML AML
comp=E,570μm,1.5s
MCEL Monticello 1.47 187 P Pn 14 26 34.9 -0.9
MCEL AML AML
comp=N,402μm,0.4s
MCEL AML AML
comp=E,382μm,0.2s
MCEL AML AML
comp=E,398μm,0.2s
MCEL AML AML
comp=N,401μm,0.4s
MCEL AML AML
comp=N,384μm,0.8s
AG51 Grumento Nova 1.50 186 P Pn 14 26 35.5 -0.6
PIGN Pignataro Magg 1.52 248 P Pn 14 26 35.8 -0.6
PIGN AML AML
comp=N,160μm,1.6s
PIGN AML AML
comp=E,168μm,0.8s
CERA Filignano 1.53 264 P Pn 14 26 37.1 +0.5
CERA AML AML
comp=E,400μm,0.6s
CERA AML AML
comp=N,384μm,0.6s
CERA AML AML
comp=N,364μm,0.5s
CERA AML AML
comp=E,394μm,0.6s
MTSN Montesano sull 1.53 188 ⇑P Pn 14 26 35.9 -0.7
MTSN AML AML
comp=N,306μm,0.4s
MTSN AML AML
comp=E,256μm,0.7s
SIRI Monte Sirino - 1.61 185 P Pn 14 26 37.2 -0.5
SIRI AML AML
comp=N,422μm,1.6s
SIRI AML AML
comp=N,426μm,1.6s
SIRI AML AML
comp=E,438μm,0.2s
SIRI AML AML
comp=E,418μm,0.2s
INTR Introdacqua 1.61 279 P Pn 14 26 38.0 +0.3
INTR AML AML
comp=N,781μm,0.5s
INTR AML AML
comp=E,598μm,0.4s
INTR AML AML
comp=N,780μm,0.5s
STON Ston 1.64 48 *e*Pn Pb 14 26 41.2 +0.8
MAKA Makarska 1.67 25 *e*Pn Pb 14 26 39.9 -1.0
MAKA Sn Sb 14 27 00.9 -0.5
T0110 Collepietro 1.74 285 P Pn 14 26 40.2 +0.7
T0110 AML AML
comp=E,808μm,0.4s
T0110 AML AML
comp=N,454μm,0.6s
POFI Posta Fibreno 1.75 269 P Pn 14 26 40.5 +1.0
MODR Mondragone 1.75 249 P Pn 14 26 39.0 -0.5
MODR AML AML
comp=E,134μm,1.5s
MODR AML AML
comp=N,172μm,1.0s
DBRK Dubrovnik 1.79 60 *i* Pn Pb 14 26 41.5 -1.5
CUC Castrocucco 1.80 186 P Pn 14 26 40.1 -0.1
CUC AML AML
comp=N,172μm,0.4s
CUC AML AML
comp=E,192μm,1.6s
RICI Ricice 1.89 25 *e*Pn Pb 14 26 43.1 -1.5
ZIRJ Zirje 1.89 351 *e*Pn Pn 14 26 42.2 +0.8
FAGN Fagnano 1.90 286 P Pn 14 26 42.6 +1.0
FAGN AML AML
comp=E,620μm,0.5s
FAGN AML AML
comp=N,826μm,0.4s
SALB San Lorenzo Be 1.92 173 P Pn 14 26 41.8 -0.2
SALB AML AML
comp=E,286μm,0.3s
SALB AML AML
comp=N,166μm,0.7s
TERO Teramo 2.00 296 P Pn 14 26 44.0 +1.0
TERO AML AML
comp=E,72μm,1.5s
TERO AML AML
comp=N,82μm,1.3s
T0702 Acquaformosa (2.06 179 P Pn 14 26 44.7 +0.8
MORI Morici 2.09 353 *e*Pn Pn 14 26 45.0 +0.8
GIUL Giuliano Di Ro 2.10 265 P Pn 14 26 44.3 -0.1
GIUL AML AML
comp=E,67μm,0.9s
GIUL AML AML
comp=N,82μm,1.1s
FIAM Fiamignano 2.23 283 P Pn 14 26 47.2 +1.0
FIAM AML AML
comp=N,122μm,0.6s
FIAM AML AML
comp=E,152μm,0.8s
KIJV Kijevo 2.23 7 *e*Pn Pb 14 26 48.2 -2.3
KIJV Sn Sb 14 27 16.1 -1.6
CERT Cerreto 2.29 275 P Pn 14 26 48.0 +0.9
CERT AML AML
comp=N,58μm,0.5s
CERT AML AML
comp=E,90μm,0.5s
DUGI Dugi Otok 2.32 342 *i* Pn Pn 14 26 47.8 +0.4
LATB Latina 2.33 264 P Pn 14 26 46.9 -0.6
LNSS Leonessa 2.38 291 P Pn 14 26 49.6 +1.3
LNSS AML AML
comp=N,162μm,0.8s
LNSS AML AML
comp=E,204μm,0.5s
CELI Celico 2.41 171 P Pn 14 26 49.9 +1.2
CELI AML AML
comp=E,135μm,0.9s
CELI AML AML
comp=N,128μm,0.8s
CSP1 Cessapalombo 2.47 303 P Pn 14 26 50.6 +1.0
SCTE Santa Cesarea 2.51 132 P Pn 14 26 51.0 +1.1
SCTE AML AML
comp=N,308μm,1.6s
SCTE AML AML
comp=E,451μm,1.3s
CESI CESI - Serrava 2.62 299 AML AML
comp=N,46μm,0.4s
CESI AML AML
comp=E,32μm,1.4s
EL6 Elcito 2.67 306 P Pn 14 26 52.8 +0.6
EL6 AML AML
comp=N,170μm,1.6s
EL6 AML AML
comp=E,174μm,1.0s
UDBI Udbina 2.75 356 *e*Pn Pn 14 26 55.2 +1.9
MOMA Monte Martano 2.77 293 P Pn 14 26 54.9 +1.2
MOMA AML AML
comp=E,100μm,1.2s
MOMA AML AML
comp=N,112μm,1.0s
MOMA AML AML
comp=E,172μm,1.5s
MOMA AML AML
comp=N,435μm,1.0s
ARVD Arcevia 2.86 308 P Pn 14 26 55.5 +0.7
ARVD AML AML
comp=E,44μm,0.5s
ARVD AML AML
comp=N,51μm,1.4s
NVLJ Novalja 2.91 343 *e*Pn Pn 14 26 56.3 +0.9
NVLJ Sn Sn 14 27 29.4 -0.1
SSFR Montelago di S 2.92 306 P Pn 14 26 56.6 +0.9
SSFR AML AML
comp=E,128μm,0.7s
SSFR AML AML
comp=N,104μm,0.7s
MPAG Monte Paganucc 3.04 308 P Pn 14 26 58.0 +0.6
MPAG AML AML
comp=N,60μm,1.6s
MPAG AML AML
comp=E,63μm,1.4s
FSSB Fossombrone 3.07 309 P Pn 14 26 58.4 +0.7
FSSB AML AML
comp=E,112μm,0.3s
FSSB AML AML
comp=N,146μm,0.3s
ATVO AVT- Monte Val 3.12 302 P Pn 14 27 00.1 +1.7
MGAB Montegabbione 3.12 292 P Pn 14 26 59.5 +1.1
MGAB AML AML
comp=N,87μm,1.5s
MGAB AML AML
comp=E,70μm,1.6s
BADI Badiali 3.29 303 P Pn 14 27 02.8 +2.0
PLAC Placanica 3.35 175 P Pn 14 27 03.2 +1.6
CAFI Castiglion Fio 3.38 298 P Pn 14 27 03.2 +1.2
BOJS Bojanci 3.76 351 P Pn 14 27 09.1 +2.0
MOSL Moslavina 3.86 7 *e*Pn Pn 14 27 10.8 +2.2
PTJ Puntijarka 4.12 359 *e*Pn Pn 14 27 13.8 +1.7
KALN Kalnik 4.36 4 *e*Pn Pn 14 27 15.6 +0.2
OBKA Obir 4.84 348 *e*Pn Pn 14 27 23.2 +1.1
comp=E,0.5nm,0.2s
OBKA *e*Sn **Sn 14 28 16.9 -0.5**
comp=E,2.7nm,0.2s
SOKA Soboth 4.95 352 *e*Pn Pn 14 27 24.8 +1.3
comp=E,0.2nm,0.2s
MYKA Terra Mystica 5.14 341 *e*Pn Pn 14 27 26.9 +0.6
comp=E,1.0nm,0.3s
ABTA Abfaltersbach 5.57 334 *e*Pn Pn 14 27 32.9 +0.8
comp=E,0.2nm,0.2s
KBA Koelnbreinsper 5.63 341 *e*Pn Pn 14 27 34.0 +0.9
comp=E,0.3nm,0.2s
MOA Molln 6.19 349 *i* Pn Pn 14 27 41.9 +1.3
comp=E,0.6nm,0.2s

JMA 15 14:44:26.7, 35.11N×139.01E, h8km±1km, M3.6, 2C-7D
Broadband fault plane solution: P waves. NP1: ϕ_s272.00000°, δ69.00000°, λ175.00000°. **NP2:** ϕ_s4.00000°, δ85.00000°, λ21.00000°. **Principal axes:** T Plg18.0000°, Azm230.0000°; N Plg69.0000°, Azm16.0000°; P Plg11.0000°, Azm136.0000°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
AJI	**Ajiro2**	**0.09**	**134**	⇓P		Pg	14 44 29.1	+0.1
AJI				S		Sg	14 44 30.9	+0.4
JHTM	**Izuhatsuma**	**0.15**	**180**	⇓P		Pg	14 44 30.2	+0.3
JOD2	**Odawara 2**	**0.17**	**23**	⇑P		Pg	14 44 30.2	0.0
JOD2				S		Sg	14 44 32.9	+0.3
KTJ3	**Kamata3**	**0.18**	**164**	⇓P		Pg	14 44 30.5	+0.1
KTJ3				S		Sg	14 44 33.4	+0.4
JFNN	**Fujinakano**	**0.28**	**288**	⇓P		Pg	14 44 32.4	+0.2
JFNN				S		Sg	14 44 36.7	+0.7
JIZS	**Izushimoda**	**0.41**	**196**	⇑P		Pg	14 44 34.4	-0.2
JIZS				S		Sg	14 44 40.0	0.0
JIM2	**Oshima 3**	**0.52**	**138**	⇓P		Pg	14 44 36.7	-0.1
JYN	**Shimob**	**0.54**	**316**	⇓P		Pg	14 44 36.9	-0.3
JYN				S		Sg	14 44 44.6	+0.2
SHZ3	**Shizuoka 3**	**0.66**	**266**	P		Pg	14 44 39.5	+0.1
SHZ3				*e*S		Sb	14 44 48.9	-0.9
JRY	**Ryogami san**	**0.91**	**354**	⇓P		Pg	14 44 43.2	-1.0
JRY				*e*S		Sg	14 44 55.0	-1.0
MAT	**Matsushiro**	**1.57**	**336**	P		Pn	14 44 54.4	-0.5
MAT				S		Sn	14 45 15.0	-0.5

IDC 15 15:03:08.7±4.6, 4.06S×129.97E, h148km±61km, mb3.0/1, mb1 3.0/4, mb1mx2.8/26, mbtmp3.4/4 Error ellipse: s-maj=101.5km s-min=19.6km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SIJI	**Sorong**	**3.42**	**22**	P		Pn	15 03 59.8	-1.7
	2.0nm,0.3s,baz=200,slow=22,SNR=15							
SIJI				S		Sn	15 04 43.6	+1.2
	2.6nm,0.3s,baz=240,slow=22,SNR=5.7							
WRA	**Warramunga Arr**	**16.35**	**165**	P		Pn	15 06 49.6	-0.2
	0.0nm,0.3s,baz=348,slow=10.0,SNR=1.9							
ASAR	**Alice Springs**	**19.86**	**169**	P		P	15 07 28.8	+0.5
	0.1nm,0.3s,baz=349,slow=11,SNR=6.9							
MKAR	**Makanchi Array**	**65.78**	**326**	P		P	15 13 37.8	-0.1
	0.2nm,0.4s,baz=129,slow=7.6,SNR=5.6							

IDC 15 15:22:15.3±1.7, 2.51S×138.96E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.1/38, mbtmp3.1/3, ML3.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/18, Error ellipse: s-maj=32.3km s-min=24.4km az=168.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JAY	**Jayapura**	**1.75**	**90**	Pn		Pn	15 22 47.4	+0.4
	5.2nm,0.3s,baz=229,slow=12,SNR=19							
JAY				Sn		Sn	15 23 10.1	+0.1
	4.6nm,0.3s,baz=78,slow=16,SNR=8.5							
WRA	**Warramunga Arr**	**17.91**	**194**	P		Pn	15 26 26.2	+0.2
	0.1nm,0.3s,baz=18,slow=12,SNR=2.2							
ASAR	**Alice Springs**	**21.60**	**193**	P		P	15 27 06.7	-0.3
	0.3nm,0.9s,baz=13,slow=11,SNR=5.2							
ASAR				LR		LR	15 35 21.4	
	comp=Z,50nm,18.1s,baz=144,slow=36							
JOW	**Kunigami**	**30.94**	**341**	LR		LR	15 38 29.4	
	comp=Z,55nm,19.7s,baz=102,slow=32							
MKAR	**Makanchi Array**	**69.78**	**322**	P		P	15 33 27.6	0.0
	0.1nm,0.5s,baz=117,slow=8.3,SNR=1.9							

*IDC **15** 15:24:28.2±3.4, 5.65S×146.45E, h69km±33km, mb3.4/7, mb1 3.7/11, mb1mx3.5/40, mbtmp3.8/11, ML3.8/3, MS3.5/2, Ms1 3.5/2, ms1mx2.8/24, Error ellipse: s-maj=28.5km s-min=21.1km az=80.0*

*NEIC **15** 15:24:29.4±0.8, 5.73S±0.10×146.4E±0.2, h78km±11km, mb4.1/10, Error ellipse: s-maj=24.3km s-min=13.5km az=78.0*

ISC 15 15:24:29.3±0.8, 5.71S±0.08×146.4E±0.1, h78km, n27, σ0.873/25, mb3.8/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PMG	**Port Moresby**	**3.75**	**168**	P		Pn	**15 25 24.2**	**-0.7**
	9.1nm,0.3s,baz=21,slow=9.2,SNR=22							
PMG				S		Sn	**15 26 08.5**	**+0.6**
	7.6nm,0.3s,baz=176,slow=22,SNR=7.2							
PMG	**Port Moresby**	**3.75**	**168**			Pn	**15 25 24.5**	**-0.4**
COEN	**Coen**	**8.79**	**201**	Pn		Pn	**15 26 34.3**	**+0.6**
HNR	**Honiara**	**13.93**	**106**	LR		LR	15 33 03.0	
	comp=Z,92nm,18.5s,baz=37,slow=37							
CTA	**Charters Tower**	**14.30**	**181**	P		Pn	**15 27 49.0**	**+1.0**
	0.3nm,0.3s,baz=0.0,slow=14,SNR=2.5							
CTAO	**Charters Tower**	**14.30**	**181**	Pn		Pn	**15 27 47.0**	**-1.0**
SIJI	**Sorong**	**15.85**	**287**	P		Pn	**15 28 07.7**	**-0.2**
	0.3nm,0.3s,baz=78,slow=19,SNR=2.5							
WB0	**Warramunga Arr**	**18.21**	**219**			Pn	**15 28 36.4**	**-0.6**
WB0				IAmb		IAmb	15 28 55.5	
	comp=Z,12nm,1.3s							
WR0	**Warramunga Arr**	**18.27**	**218**			P	**15 28 36.7**	**-0.2**
WR0				IAmb		IAmb	15 28 55.7	
	comp=Z,14nm,1.4s							
WRAB	**Tennant Creek**	**18.36**	**219**	P		P	**15 28 37.6**	**-0.4**
WB2	**Warramunga Arr**	**18.37**	**219**	P		P	**15 28 37.7**	**-0.3**
WB2				IAmb		IAmb	15 29 03.5	
	comp=Z,7.4nm,1.2s							
WRA	**Warramunga Arr**	**18.38**	**219**	P		P	**15 28 37.3**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=41,slow=12,SNR=14							
AS31	**Alice Springs**	**21.53**	**213**	P		P	**15 29 12.1**	**-0.2**
ASAR	**Alice Springs**	**21.53**	**213**	P		P	**15 29 12.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=44,slow=8.6,SNR=22							
FITZ	**Fitzroy Crossi**	**23.71**	**237**	P		P	**15 29 35.0**	**+0.6**
	comp=Z,2.1nm,0.4s,baz=46,slow=7.8,SNR=14							
FITZ	**Fitzroy Crossi**	**23.71**	**237**	P		P	**15 29 34.2**	**-0.3**
FITZ				IAmb		IAmb	15 29 36.8	
	comp=Z,10nm,1.3s							
LUWI	**Luwuk**	**24.03**	**280**	P		P	**15 29 37.4**	**+0.1**
DAV	**Davao City (W)**	**24.34**	**301**	LR		LR	15 40 54.4	
	comp=Z,263nm,19.2s,baz=348,slow=40							
DZM	**Mont Dzumac**	**25.31**	**132**	P		P	**15 29 48.3**	**-0.6**
KSRS	**Korea Array**	**46.27**	**340**	P		P	**15 32 47.2**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=166,slow=9.1,SNR=4.9							
USA0B	**Ussuriysk Arra**	**51.35**	**347**	P		P	**15 33 27.2**	**+1.4**
USA0B				IAmb		IAmb	15 33 40.2	
	comp=Z,3.6nm,0.8s							
USRK	**Ussuriysk Ar.**	**51.35**	**347**	P		P	**15 33 27.1**	**+1.2**
VNDA	**Vanda**	**72.24**	**177**	P		P	**15 35 46.4**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=348,slow=6.1,SNR=5.6							
VNDA	**Vanda**	**72.24**	**177**	IAmb		IAmb	15 36 09.5	
	comp=Z,5.6nm,1.5s							
MKAR	**Makanchi Array**	**76.89**	**321**	P		P	**15 36 13.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=97,slow=7.5,SNR=4.7							
ZALV	**Zalesovo Beam**	**78.45**	**328**	P		P	**15 36 20.6**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=111,slow=7.9,SNR=2.2							
ILAR	**Eielson Array**	**85.45**	**23**	P		P	**15 36 57.2**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=249,slow=5.0,SNR=16							

*NEIC **15** 15:29:15.6±0.7, 11.07S±0.10×164.72E±0.10, h45km±10km, mb4.3/12, Error ellipse: s-maj=15.4km s-min=12.4km*

az=46.0
IDC ***15*** *15:29:16.0±3.7, 11°.09S×164°.65E, h42km×32km, mb3.8/6, mb1 4.0/8, mb1mx3.6/40, mbtmp4.1/8, ML4.2/2, Error ellipse: s-maj=28.8km s-min=22.5km az=54.0*
ISC 15 15:29:14.3±0.8, 11°.1S±0.1×164.72E±0.09, h29km, n21, σ0s76/21, mb4.2/11, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.97**	**289**	P			**Pn**	**15 30 28.3**	**+1.3**
	11nm,0.3s,baz=158,slow=5.9,SNR=5.3								
HNR				S			**Sn**	**15 31 23.0**	**-0.6**
	14nm,0.3s,baz=207,slow=19,SNR=6.8								
HNR	**Honiara**	**4.97**	**289**				**Pn**	**15 30 27.9**	**+0.9**
DZM	**Mont Dzumac**	**11.06**	**172**	P			**Pn**	**15 31 51.6**	**+0.9**
	1.5nm,0.3s,baz=1.8,slow=9.7,SNR=17								
CTAO	**Charters Tower**	**19.90**	**241**	Pn			**Pn**	**15 33 46.2**	**+0.8**
CTAO				IAmb			IAmb	15 34 09.6	
	comp=Z,30nm,1.5s								
COEN	**Coen**	**21.23**	**260**	P			**P**	**15 33 57.5**	**-0.6**
COEN				IAmb			IAmb	15 34 18.6	
	comp=Z,15nm,1.4s								
ARMA	**Armidale**	**22.77**	**210**	P			**P**	**15 34 13.9**	**-0.7**
ARMA				IAmb			IAmb	15 34 28.0	
	comp=Z,27nm,1.4s								
AFI	**Afiamalu**	**23.12**	**99**	P			**P**	**15 34 17.9**	**-0.4**
WR0	**Warramunga Arr**	**30.35**	**249**	P			**P**	**15 35 22.3**	**-1.5**
WB0	**Warramunga Arr**	**30.44**	**250**	P			**P**	**15 35 24.1**	**-0.5**
WB0				IAmb			IAmb	15 35 25.2	
	comp=Z,6.7nm,1.1s								
WRAB	**Tennant Creek**	**30.52**	**250**	P			**P**	**15 35 24.7**	**-0.6**
WRAB				IAmb			IAmb	15 35 26.0	
	comp=Z,4.9nm,1.1s								
WB2	**Warramunga Arr**	**30.52**	**249**	P			**P**	**15 35 24.7**	**-0.6**
WB2				IAmb			IAmb	15 35 26.1	
	comp=Z,4.4nm,1.1s								
WRA	**Warramunga Arr**	**30.53**	**249**	P			**P**	**15 35 25.1**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=80,slow=9.0,SNR=12								
AS31	**Alice Springs**	**31.88**	**243**	P			**P**	**15 35 36.4**	**-0.9**
ASAR	**Alice Springs**	**31.88**	**243**	P			**P**	**15 35 36.8**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=63,slow=10,SNR=38								
OXZ	**Oxford**	**32.76**	**170**	P			**P**	**15 35 44.6**	**-0.1**
FAKI	**Fak Fak**	**33.20**	**282**	P			**P**	**15 35 48.5**	**-0.4**
PETK	**Petropavlovsk-**	**64.20**	**355**	P			**P**	**15 39 46.4**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=153,slow=9.7,SNR=2.4								
SONM	**Songino Array**	**78.09**	**324**	P			**P**	**15 41 11.2**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=139,slow=5.2,SNR=4.8								
SONM	**Songino Array**	**78.09**	**324**	IAmb			IAmb	15 41 12.3	
	comp=Z,0.7nm,0.7s								
ILAR	**Eielson Array**	**83.86**	**19**	P			**P**	**15 41 40.4**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=240,slow=5.1,SNR=4.2								
MKAR	**Makanchi Array**	**92.85**	**317**	P			**P**	**15 42 24.6**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=98,slow=7.5,SNR=6.5								

SOME ***15*** *15:41:27.6, 41°.42N×79°.38E, h15km*
IDC ***15*** *15:41:28.1±1.5, 41°.44N×79°.28E, h0km, mb3.5/4, mb1 3.5/8, mb1mx3.2/50, mbtmp3.4/8, ML2.8/4, MS3.5/2, Ms1 3.5/2, ms1mx2.8/39, Error ellipse: s-maj=24.6km s-min=19.1km az=91.0*
NNC ***15*** *15:41:29.5±0.8, 41°.46N×79°.31E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=5.6km s-min=3.5km az=152.0*
KRNET ***15*** *15:41:29.9±0.1, 41°.60N×79°.43E, h17km, mb3.9*
ISC 15 15:41:30.7±1.9, 41°.53N±0°.06×79°.43E±0°.04, h7km±11km, n88, σ1s59/130, mb3.7/3, 33C-21D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.22**	**322**	⇑*i*P			**Pn**	**15 41 52.5**	**-2.0**
	baz=20								
PRZ				⇑*i*S			**Sb**	**15 42 08.4**	**-2.0**
	baz=20								
SHLS	**Shalkode**	**1.63**	**1**	⇓*e*P			**Pn**	**15 42 00.6**	**+0.7**
SHLS				*e*S			**Sg**	**15 42 24.6**	**+1.5**
	2μm,0.6s								
SHLS	**Shalkode**	**1.63**	**1**	P			**Pn**	**15 42 00.6**	**+0.7**
SHLS				S			**Sg**	**15 42 24.6**	**+1.5**
	2μm,0.6s								
UZB	**Uzynbulak**	**1.65**	**350**	⇓*e*P			**Pn**	**15 41 60.0**	**-0.3**
	25nm,0.2s								
UZB				*e*S			**Sb**	**15 42 23.5**	**+1.0**
	176nm,0.6s								
UZB	**Uzynbulak**	**1.65**	**350**	P			**Pn**	**15 41 60.0**	**-0.3**
	25nm,0.2s								
UZB				S			**Sb**	**15 42 23.5**	**+1.0**
	176nm,0.6s								
SATY	**Saty**	**1.71**	**334**	⇓*e*P			**Pn**	**15 42 00.8**	**-0.3**
	22nm,0.4s								
SATY				*e*S			**Sb**	**15 42 25.1**	**+0.8**
	140nm,0.3s								
SATY	**Saty**	**1.71**	**334**	P			**Pn**	**15 42 00.8**	**-0.3**
	22nm,0.4s								
SATY				S			**Sb**	**15 42 25.1**	**+0.8**
	140nm,0.3s								
KDJ	**Kajisay**	**1.78**	**290**	⇓*e*P			**Pn**	**15 42 02.1**	**-0.1**
	baz=88								
KDJ				⇓*i*S			**Sb**	**15 42 26.1**	**-0.4**
	baz=88								
PDGK	**Podgornoye**	**1.80**	**1**	Pg			**Pn**	**15 42 02.6**	**+0.3**
	28nm,0.6s								
PDGK				Lg			Lg	15 42 28.3	
	412nm,0.5s								
PDGK	**Podgornoye**	**1.80**	**1**	⇑Pn			**Pn**	**15 42 02.8**	**+0.5**
	78nm,0.5s								
PDGK				⇓Sn			**Sg**	**15 42 29.3**	**+0.7**
	632nm,0.6s								
ANVS	**Anan'yevo**	**1.81**	**314**	⇑*e*P			**Pn**	**15 42 02.9**	**+0.3**
	baz=13								
ANVS				⇑*i*S			**Sn**	**15 42 26.3**	**+0.4**
	baz=13								
KPKS	**Kokpek**	**2.01**	**344**	⇓*e*P			**Pn**	**15 42 06.6**	**+1.3**
	118nm,0.3s								
KPKS				*e*S			**Sg**	**15 42 35.0**	**-0.5**
	972nm,0.5s								
KTMS	**Ketmen**	**2.04**	**19**	*e*P			**Pn**	**15 42 06.5**	**+0.9**
	2.5nm,0.3s								
KTMS				*e*S			**Sb**	**15 42 34.6**	**+0.9**
	251nm,0.6s								
KTMS	**Ketmen**	**2.04**	**19**	Pg			**Pn**	**15 42 06.5**	**+0.9**
	2.5nm,0.3s								
KTMS				Lg			Lg	15 42 34.6	
	251nm,0.6s								
KURS	**Kuram**	**2.17**	**335**	*e*P			**Pn**	**15 42 09.1**	**+1.8**
	46nm,0.5s								
KURS				*e*S			**Sb**	**15 42 39.1**	**+1.6**
	103nm,0.5s								
KURS	**Kuram**	**2.17**	**335**	Pg			**Pn**	**15 42 09.1**	**+1.8**
	46nm,0.5s								
KURS				Lg			Lg	15 42 39.1	
	103nm,0.5s								
TNSS	**Tian-Shan**	**2.38**	**310**	*e*P			**Pn**	**15 42 12.3**	**+1.7**
	58nm,0.3s								
TNSS				*e*S			**Sb**	**15 42 44.6**	**+0.8**
	141nm,0.5s								
TNSS	**Tian-Shan**	**2.38**	**310**	Pg			**Pn**	**15 42 12.3**	**+1.7**
	58nm,0.3s								
TNSS				Lg			Lg	15 42 44.6	
	141nm,0.5s								
MDOK	**Medeo**	**2.41**	**314**	*e*P			**Pn**	**15 42 12.6**	**+1.9**
	20nm,0.2s								
MDOK				*e*S			**Sb**	**15 42 45.1**	**+0.8**
	150nm,0.7s								
MDOK	**Medeo**	**2.41**	**314**	⇓Pn			**Pn**	**15 42 11.4**	**+0.7**
	48nm,0.4s								
MDOK				⇓Lg			Lg	15 42 46.2	
	175nm,0.6s								
MDOK	**Medeo**	**2.41**	**314**	Pg			**Pn**	**15 42 12.6**	**+1.9**
	20nm,0.2s								
MDOK				Lg			Lg	15 42 45.1	
	150nm,0.7s								
KOTS	**Kotyrbulak**	**2.42**	**316**	⇑*e*P			**Pn**	**15 42 13.1**	**+2.2**
	82nm,0.2s								
KOTS				*e*S			**Sb**	**15 42 46.3**	**+1.5**
	291nm,0.4s								
KOTS	**Kotyrbulak**	**2.42**	**316**	Pg			**Pn**	**15 42 13.1**	**+2.2**
	82nm,0.2s								
KOTS				Lg			Lg	15 42 46.3	
	291nm,0.4s								
ULHL	**Ulahol**	**2.48**	**288**	⇑*i*P			**Pn**	**15 42 12.9**	**+1.1**
	baz=86								
ULHL				⇑*i*S			**Sn**	**15 42 44.2**	**+1.7**
	baz=86								
ULHL	**Ulahol**	**2.48**	**288**	P			**Pn**	**15 42 13.6**	**+1.8**
	SNR=21								
KNDC	**Almaty**	**2.49**	**314**	⇑Pn			**Pn**	**15 42 10.2**	**-1.5**
	232nm,0.8s								
KNDC				⇑Lg			Lg	15 42 47.9	
	521nm,0.9s								
AAA	**Alma-Ata**	**2.51**	**313**	*e*P			**Pb**	**15 42 14.8**	**-1.3**
	34nm,0.3s								
AAA				*e*S			**Sb**	**15 42 49.3**	**+2.1**
	202nm,0.4s								
AAA	**Alma-Ata**	**2.51**	**313**	Pg			**Pb**	**15 42 14.9**	**-1.3**
	34nm,0.3s								
AAA				Lg			Lg	15 42 49.3	
	202nm,0.4s								
IZV	**Izvestkoviy**	**2.58**	**307**	*e*P			**Pb**	**15 42 15.6**	**-1.7**
	32nm,0.5s								
IZV				*e*S			**Sb**	**15 42 50.5**	**+1.2**
	536nm,0.5s								
IZV	**Izvestkoviy**	**2.58**	**307**	Pg			**Pb**	**15 42 15.6**	**-1.7**
	32nm,0.5s								
IZV				Lg			Lg	15 42 50.5	
	536nm,0.5s								
MNBS	**Baschi**	**2.66**	**344**	*e*P			**Pb**	**15 42 17.5**	**-1.3**
	87nm,0.5s								
MNBS				*e*S			**Sb**	**15 42 53.5**	**+1.8**
	283nm,0.5s								
MNBS	**Baschi**	**2.66**	**344**	Pg			**Pb**	**15 42 17.5**	**-1.3**
	87nm,0.5s								
MNBS				Lg			Lg	15 42 53.5	
	283nm,0.5s								
MTBS	**Maitube**	**2.74**	**307**	*e*P			**Pb**	**15 42 18.2**	**-1.9**
	28nm,0.3s								
MTBS				*e*S			**Sb**	**15 42 54.9**	**+0.9**
	126nm,0.6s								
MTBS	**Maitube**	**2.74**	**307**	Pg			**Pb**	**15 42 18.2**	**-1.9**
	28nm,0.3s								
MTBS				Lg			Lg	15 42 54.9	
	126nm,0.6s								
BOOM	**Boomskoye usch**	**2.77**	**291**	⇑*i*P			**Pn**	**15 42 16.7**	**+1.0**
	baz=90								
BOOM				⇑*i*S			**Sn**	**15 42 50.8**	**+1.3**
	baz=90								
ARXS	**Arharly**	**2.93**	**337**	*e*P			**Pb**	**15 42 24.1**	**+0.8**
	66nm,0.7s								
ARXS				*e*S			**Sg**	**15 43 05.3**	**+0.4**
	106nm,0.5s								
ARXS	**Arharly**	**2.93**	**337**	Pg			**Pb**	**15 42 24.1**	**+0.8**
	66nm,0.7s								
ARXS				Lg			Lg	15 43 05.3	
	106nm,0.5s								
KTBS	**Karatobe**	**2.98**	**318**	*e*P			**Pb**	**15 42 22.8**	**-1.3**
	27nm,0.7s								
KTBS				*e*S			**Sb**	**15 43 02.9**	**+2.1**
	325nm,0.8s								
KTBS	**Karatobe**	**2.98**	**318**	Pg			**Pb**	**15 42 22.8**	**-1.3**
	27nm,0.7s								
KTBS				Lg			Lg	15 43 02.9	
	325nm,0.8s								
KST	**Kastek**	**2.98**	**302**	*e*P			**Pn**	**15 42 21.6**	**+2.9**
	21nm,0.5s								
KST				*e*S			**Sb**	**15 43 00.5**	**-0.5**
	245nm,0.4s								
KST	**Kastek**	**2.98**	**302**	Pg			**Pn**	**15 42 21.5**	**+2.9**
	21nm,0.5s								
KST				Lg			Lg	15 43 00.5	
	245nm,0.4s								
TKM2	**Tokmak 2**	**3.17**	**297**	⇑*e*P			**Pn**	**15 42 22.3**	**+1.1**
	baz=96								
TKM2				⇑*i*S			**Sn**	**15 43 00.4**	**+1.0**
	baz=96								
TKM2	**Tokmak 2**	**3.17**	**297**	P			**Pn**	**15 42 22.8**	**+1.6**
	SNR=31								
TKM2	**Tokmak 2**	**3.17**	**297**	⇑Pn			**Pn**	**15 42 21.9**	**+0.7**
	12nm,0.5s								
TKM2				⇓Pg			**Pb**	**15 42 27.4**	**-0.1**
	24nm,0.4s								
TKM2				⇑Lg			Lg	15 43 09.1	
	66nm,0.5s								
DGS	**Degeres**	**3.20**	**304**	*e*P			**Pb**	**15 42 25.8**	**-2.3**
	20nm,0.5s								
DGS				*e*S			**Sb**	**15 43 07.7**	**+0.4**
	67nm,0.5s								
DGS	**Degeres**	**3.20**	**304**	Pg			**Pb**	**15 42 25.8**	**-2.3**
	20nm,0.5s								
DGS				Lg			Lg	15 43 07.7	
	67nm,0.5s								
KUU	**Kurty**	**3.28**	**317**	*e*P			**Pb**	**15 42 27.8**	**-1.5**
	10nm,0.6s								
KUU				*e*S			**Sb**	**15 43 11.4**	**+1.9**
	190nm,0.9s								
KUU	**Kurty**	**3.28**	**317**	Pg			**Pb**	**15 42 27.8**	**-1.5**
	10nm,0.6s								
KUU				Lg			Lg	15 43 11.4	
	190nm,0.9s								
KRBS	**Karabastau**	**3.52**	**309**	*e*P			**Pb**	**15 42 31.6**	**-1.7**
	7.1nm,0.7s								
KRBS				*e*S			**Sb**	**15 43 17.9**	**+1.6**
	39nm,0.4s								
KRBS	**Karabastau**	**3.52**	**309**	Pg			**Pb**	**15 42 31.6**	**-1.7**
	7.1nm,0.7s								
KRBS				Lg			Lg	15 43 17.9	
	39nm,0.4s								
KBK	**Karagaybulak**	**3.52**	**290**	⇑*e*P			**Pn**	**15 42 27.4**	**+1.4**
	baz=89								
KBK				⇑*i*S			**Sn**	**15 43 09.0**	**+1.0**
	baz=89								
KBK	**Karagaybulak**	**3.52**	**290**	P			**Pn**	**15 42 27.9**	**+1.9**
	SNR=15								
TDK	**Taldyqorghan**	**3.55**	**348**	*e*P			**Pb**	**15 42 33.3**	**-0.6**
	88nm,0.6s								
TDK				*e*S			**Sb**	**15 43 21.1**	**+3.8**
	134nm,0.6s								
TDK	**Taldyqorghan**	**3.55**	**348**	Pg			**Pb**	**15 42 33.3**	**-0.6**
	88nm,0.6s								
TDK				Lg			Lg	15 43 21.1	
	134nm,0.6s								
UCH	**Uchtor**	**3.73**	**282**	⇑*i*P			**Pn**	**15 42 30.2**	**+1.0**
	baz=81								
UCH				⇑*i*S			**Sn**	**15 43 14.4**	**+0.7**
	baz=81								
UCH	**Uchtor**	**3.73**	**282**	P			**Pn**	**15 42 30.5**	**+1.3**
	SNR=6.7								
KAPS	**Kapalarasan**	**3.76**	**359**	*e*P			**Pb**	**15 42 39.8**	**+2.4**
	17nm,0.4s								
KAPS				*e*S			**Sg**	**15 43 31.5**	**+0.1**
	91nm,0.7s								
KAPS	**Kapalarasan**	**3.76**	**359**	Pg			**Pb**	**15 42 39.8**	**+2.4**
	17nm,0.4s								
KAPS				Lg			Lg	15 43 31.5	
	91nm,0.7s								
CHMS	**Chumysh**	**3.77**	**295**	⇓*e*P			**Pn**	**15 42 30.4**	**+1.1**
	baz=94								
CHMS				⇓*i*S			**Sn**	**15 43 15.0**	**+1.1**
	baz=94								
FRU1	**Bishkek**	**3.79**	**291**	⇑*i*P			**Pn**	**15 42 30.9**	**+1.3**
	baz=91								
FRU1				⇑*i*S			**Sn**	**15 43 15.9**	**+1.4**
	baz=91								
AAK	**Ala-Archa**	**3.83**	**288**	⇓*i*P			**Pn**	**15 42 31.7**	**+1.4**
	baz=87								
AAK				⇓*i*S			**Sn**	**15 43 16.7**	**+0.9**
	baz=87								
AAK	**Ala-Archa**	**3.83**	**288**	P			**Pn**	**15 42 32.0**	**+1.6**
	SNR=9.8								
AAK	**Ala-Archa**	**3.83**	**288**	⇑Pn			**Pn**	**15 42 30.2**	**-0.1**
	11nm,0.6s								
AAK				⇓Pg			**Pb**	**15 42 40.0**	**+1.2**
	11nm,0.6s								
AAK				⇓Lg			Lg	15 43 29.9	
	20nm,0.5s								
SGDS	**Sogindy**	**4.04**	**300**	Pg			**Pb**	**15 42 41.6**	**-0.6**
	50nm,0.5s								
SGDS				Lg			Lg	15 43 34.8	
	39nm,0.4s								
USP	**Ospenovka**	**4.04**	**297**	⇑*i*P			**Pn**	**15 42 34.1**	**+1.0**
	baz=96								
USP				⇑*i*S			**Sn**	**15 43 21.0**	**+0.3**
	baz=96								
USP	**Ospenovka**	**4.04**	**297**	P			**Pg**	**15 42 46.6**	**-1.6**
	SNR=13								
AML	**Almayashu**	**4.33**	**280**	⇑*e*P			**Pn**	**15 42 38.4**	**+1.1**
	baz=79								
AML				⇑*i*S			**Sn**	**15 43 28.3**	**+0.1**
	baz=79								
AML	**Almayashu**	**4.33**	**280**	P			**Pn**	**15 42 39.0**	**+1.7**
	SNR=5.4								
EKS2	**Erkin-Say**	**4.35**	**287**	⇑*e*P			**Pn**	**15 42 38.7**	**+1.3**
	baz=86								
EKS2				⇑*e*S			**Sn**	**15 43 29.0**	**+0.5**
	baz=86								
EKS2	**Erkin-Say**	**4.35**	**287**	P			**Pb**	**15 42 51.5**	**+3.8**
	SNR=12								
MAKZ	**Makanchi**	**5.59**	**18**	⇑Pn			**Pn**	**15 42 56.0**	**+1.7**
	3.9nm,0.9s								
MAKZ				⇓Sn			**Sn**	**15 44 01.7**	**+3.0**
	5.3nm,0.5s								
MAKZ				⇓Lg			Lg	15 44 28.6	
	5.3nm,0.8s								
MK31	**Makanchi Array**	**5.65**	**20**	Pn			**Pn**	**15 42 55.3**	**+0.2**
	5.0nm,0.8s,baz=201,slow=13,SNR=78								
MK31				⇓Sn			**Sn**	**15 44 03.3**	**+2.9**
	4.4nm,0.6s,baz=195,slow=24,SNR=7.1								
MKAR	**Makanchi Array**	**5.65**	**20**	Pn			**Pn**	**15 42 56.1**	**+0.9**
	1.4nm,0.3s,baz=206,slow=13,SNR=57								
MKAR				Sn			**Sn**	**15 44 02.1**	**+1.7**
	0.8nm,0.3s,baz=205,slow=13,SNR=3.9								
MKAR				Lg			Lg	15 44 32.4	
	1.0nm,0.3s,baz=197,slow=28,SNR=3.8								
WMQ	**Urumqi**	**6.51**	**67**	*e*P			**Pn**	**15 43 08.3**	**+1.3**
WMQ				smax			smax		
	comp=N,27nm,1.1s								
WMQ				smax			smax		
	comp=E,25nm,1.1s								
KK31	**Karatay Array**	**6.79**	**286**	Pg			**Pb**	**15 43 32.6**	**+3.5**
	comp=E,2.7nm,0.5s,baz=98,slow=15,SNR=16								
KK31				⇓Lg			Lg	15 45 03.7	
	comp=E,4.2nm,0.6s,baz=103,slow=25,SNR=7.7								
KURBB	**Kurchatov Arra**	**9.12**	**356**	Pn			**Pn**	**15 43 42.2**	**-0.5**
	comp=E,0.0nm,0.3s,baz=182,slow=12,SNR=1.6								
KURBB	**Kurchatov Arra**	**9.12**	**356**	⇓Lg			Lg	15 46 21.8	
	comp=E,28nm,0.8s								
ZALV	**Zalesovo Beam**	**12.94**	**14**	Pn			**Pn**	**15 44 34.9**	**0.0**
	comp=E,0.3nm,0.3s,baz=199,slow=13,SNR=2.8								
ZALV				Sn			**Sn**	**15 46 54.6**	**-4.5**
	comp=E,0.3nm,0.3s,baz=207,slow=22,SNR=3.9								
BVAR	**Borovoye Array**	**13.02**	**335**	Pn			**Pn**	**15 44 34.7**	**-1.4**
	comp=E,0.1nm,0.3s,baz=149,slow=17,SNR=1.5								
BVAR				Lg			Lg	15 48 22.1	
	comp=E,0.1nm,0.3s,baz=156,slow=26,SNR=4.7								
BRVK	**Borovoye**	**13.09**	**335**	⇑Pn			**Pn**	**15 44 37.0**	**+0.1**
	comp=E,3.0nm,0.9s								
BRVK				⇑Lg			Lg	15 48 25.8	
	comp=E,6.8nm,1.1s								
AB31	**Akbulak array**	**15.69**	**306**	⇑Pn			**Pn**	**15 45 12.7**	**+0.6**
	comp=E,1.1nm,0.6s,baz=116,slow=12,SNR=12								
TLY	**Talaya**	**19.41**	**50**	LR			LR	15 54 10.9	
	comp=E,53nm,18.1s,baz=357,slow=39								
SONM	**Songino Array**	**20.13**	**63**	P			**P**	**15 46 04.6**	**-0.7**
	comp=E,0.5nm,0.7s,baz=269,slow=9.9,SNR=7.9								
FINES	**FINESS Array B**	**37.38**	**321**	P			**P**	**15 48 40.8**	**-3.0**
	comp=E,1.2nm,0.8s,baz=53,slow=12,SNR=1.8								
JOW	**Kunigami**	**42.44**	**94**	LR			LR	16 10 13.4	
	comp=E,126nm,18.5s,baz=197,slow=41								
NB2	**NORSAR Subarra**	**44.55**	**320**	P			**P**	**15 49 40.8**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=84,slow=8.6								
NOA	**NORSAR Array B**	**44.55**	**320**	P			**P**	**15 49 40.0**	**-2.9**
	comp=Z,0.6nm,0.5s,baz=84,slow=8.0,SNR=5.5								
ASAR	**Alice Springs**	**82.16**	**131**	P			**P**	**15 53 52.0**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=316,slow=5.7,SNR=4.1								

IDC ***15*** *16:24:22.8±2.1, 38°.33N×68°.84E, h0km, mb3.7/8, mb1 3.8/16, mb1mx3.5/49, mbtmp3.7/16, ML3.1/8, Error ellipse: s-maj=35.2km s-min=11.9km az=164.0*
BJI ***15*** *16:24:29.8±0.0, 38°.74N×69°.17E, h6km, mB4.8/10, mb4.5/14, Ms4.1/2, Ms7 3.8/2*
MOS ***15*** *16:24:29.1±1.2, 38°.98N×68°.77E, h27km, mb4.5/4, Error ellipse: s-maj=10.5km s-min=6.1km az=87.5*
NNC ***15*** *16:24:29.3±1.2, 39°.05N×68°.71E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=9.7km s-min=6.6km az=0.0*
KRNET ***15*** *16:24:29.3±0.1, 39°.02N×68°.97E, mb3.9*
NEIC ***15*** *16:24:31.5±2.0, 38°.96N±0°.06×68°.79E±0°.10, h28km±5km, mb4.5/13, Error ellipse: s-maj=11.3km s-min=9.3km az=74.0*
ISC 15 16:24:28.6±0.5, 38°.91N±0°.05×68°.71E±0°.04, h10km, n101, σ1s48/127, mb4.5/16, 28C-19D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BTK	**Batken**	**2.00**	**54**	⇑*i*P			**Pn**	**16 25 02.3**	**-0.2**
	baz=53								
BTK				⇑*i*S			**Sn**	**16 25 26.4**	**-1.2**
	baz=53								
DRK	**Karamyk**	**2.47**	**76**	⇑*e*P			**Pn**	**16 25 09.9**	**+0.7**
	baz=77								
DRK				⇑*i*S			**Sn**	**16 25 39.5**	**0.0**
	baz=77								
TRKS	**Terek-Say**	**3.21**	**35**	⇑*i*P			**Pn**	**16 25 19.8**	**+0.5**
	baz=34								
TRKS				⇑*e*S			**Sn**	**16 25 56.8**	**-0.9**
	baz=34								
OHH	**Osh**	**3.53**	**62**	⇑*e*P			**Pn**	**16 25 24.2**	**+0.6**
	baz=62								
OHH				⇑*i*S			**Sn**	**16 26 04.6**	**-0.9**
	baz=62								
ARSB	**Arslanbob**	**4.07**	**52**	⇓*e*P			**Pn**	**16 25 31.1**	**+0.1**
	baz=52								
ARSB				⇓*i*S			**Sn**	**16 26 17.5**	**-1.3**
	baz=52								
KBL	**Kabul**	**4.37**	**176**	PN			**Pn**	**16 25 36.6**	**+1.4**
KBL	**Kabul**	**4.37**	**176**	Pn			**Pn**	**16 25 36.6**	**+1.4**
KK31	**Karatay Array**	**4.41**	**17**	Pn			**Pn**	**16 25 36.1**	**+0.5**
	3.3nm,0.3s,baz=226,slow=20,SNR=68								
KK31				⇑Pg			**Pb**	**16 25 47.5**	**+1.4**
	4.9nm,0.4s,baz=207,slow=22,SNR=7.2								
KK31				⇓Sn			**Sn**	**16 26 27.0**	**+0.1**
	7.6nm,0.3s,baz=199,slow=21,SNR=4.3								
KK31				⇓Lg

CHMS				⇓*i*S		**Sn**	**16 27 07.0**	**-2.5**
	baz=46							
CHMS	**Chumysh**	**6.13**	**46**	P		**Pn**	**16 25 59.7**	**+0.5**
	SNR=10							
USP	**Ospenovka**	**6.17**	**43**	⇑*i*P		**Pn**	**16 25 59.8**	**0.0**
	baz=43							
USP				⇑*i*S		**Sn**	**16 27 08.2**	**-2.2**
	baz=43							
USP	**Ospenovka**	**6.17**	**43**	P		**Pn**	**16 25 58.4**	**-1.4**
	SNR=8.7							
NIL	**Nilore**	**6.40**	**144**	PN		**Pn**	**16 26 03.4**	**+0.4**
NIL	**Nilore**	**6.40**	**144**			**Pn**	**16 26 03.4**	**+0.4**
TKM2	**Tokmak 2**	**6.58**	**50**	P		**Pn**	**16 26 07.0**	**+1.4**
	SNR=7.6							
TKM2	**Tokmak 2**	**6.58**	**50**	⇓Pn		**Pn**	**16 26 05.6**	**+0.1**
	5.9nm,0.5s							
TKM2				⇓Pg		**Pb**	**16 26 24.7**	**+1.5**
	13nm,0.6s							
TKM2				⇓Sn		**Sn**	**16 27 22.1**	**+1.4**
	15nm,0.7s							
TKM2				⇓Lg		Lg	16 27 54.9	
	23nm,1.1s							
TKM2	**Tokmak 2**	**6.58**	**50**	PN		**Pn**	**16 26 05.6**	**+0.1**
TKM2				PG		**Pb**	**16 26 24.7**	**+1.5**
TKM2				SN		**Sn**	**16 27 22.1**	**+1.4**
MDOK	**Medeo**	**7.60**	**53**	Lg		Lg	16 28 28.8	
	16nm,0.8s							
GEYT	**Alibeck**	**8.37**	**267**	Pn		**Pn**	**16 26 28.1**	**-1.9**
	0.2nm,0.3s,baz=136,slow=9.3,SNR=2.2							
DHRM	**DHARAMSHALA**	**9.07**	**135**	*e*P		**Pn**	**16 26 42.1**	**+2.4**
DHRM				*e*S		**Sn**	**16 28 14.7**	**-7.4**
DHRM				IAML			16 28 20.8	
	comp=N,43nm,1.2s							
DHRM				IAML			16 28 20.9	
	comp=E,38nm,0.2s							
PDGK	**Podgornoye**	**9.26**	**58**	⇑Lg		Lg	16 29 20.8	
	comp=E,12nm,1.0s							
SMLA	**Simla**	**10.40**	**136**	*e*P		**Pn**	**16 26 57.0**	**-0.8**
SMLA				*e*S		Sn	16 28 38.7	-16
SMLA				IAML			16 28 53.1	
	comp=N,16nm,0.9s							
SMLA				IAML			16 28 55.7	
	comp=E,12nm,0.0s							
AB31	**Akbulak array**	**12.10**	**332**	P		**Pn**	**16 27 21.0**	**0.0**
	comp=E,1.9nm,0.4s,baz=145,slow=8.7,SNR=93							
AB31				⇑S		**Sn**	**16 29 35.4**	**-0.6**
	comp=E,4.9nm,0.5s,baz=146,slow=24,SNR=5.1							
AB31	**Akbulak array**	**12.10**	**332**	P		**Pn**	**16 27 21.0**	**0.0**
AB31				S		**Sn**	**16 29 35.4**	**-0.6**
ABKAR	**Akbulak array**	**12.10**	**332**	Pn		**Pn**	**16 27 21.1**	**+0.1**
MAKZ	**Makanchi**	**12.52**	**47**	⇓P		**Pn**	**16 27 26.9**	**+0.2**
	comp=E,1.8nm,0.8s							
MAKZ	**Makanchi**	**12.52**	**47**	P		**Pn**	**16 27 26.6**	**-0.2**
MAKZ	**Makanchi**	**12.52**	**47**	Pn		**Pn**	**16 27 26.6**	**-0.2**
MK31	**Makanchi Array**	**12.69**	**47**	⇑P		**Pn**	**16 27 29.5**	**+0.4**
	comp=E,1.6nm,0.9s,baz=242,slow=12,SNR=6.8							
MK31	**Makanchi Array**	**12.69**	**47**	P		**Pn**	**16 27 29.0**	**-0.1**
MK31	**Makanchi Array**	**12.69**	**47**			**Pn**	**16 27 29.0**	**-0.1**
MKAR	**Makanchi Array**	**12.69**	**47**	Pn		**Pn**	**16 27 28.7**	**-0.4**
	comp=E,0.1nm,0.3s,baz=240,slow=12,SNR=5.7							
MKAR				Lg		Lg	16 31 19.3	
	comp=E,0.1nm,0.3s,baz=248,slow=26,SNR=4.2							
MKAR	**Makanchi Array**	**12.69**	**47**	Pn		**Pn**	**16 27 28.2**	**-0.9**
KURBB	**Kurchatov Arra**	**13.62**	**27**	Pn		**Pn**	**16 27 40.3**	**-1.4**
	comp=E,0.1nm,0.3s,baz=222,slow=12,SNR=2.9							
KURBB				Lg		Lg	16 31 52.5	
	comp=E,0.1nm,0.3s,baz=222,slow=31,SNR=7.2							
KURK	**Kurchatov**	**13.73**	**27**	P		**Pn**	**16 27 40.3**	**-2.8**
AKTO	**Aktyubinsk**	**13.79**	**330**	Pn		**Pn**	**16 27 44.2**	**+0.1**
	comp=E,0.3nm,0.3s,baz=129,slow=15,SNR=9.2							
AKTO				Sn		**Sn**	**16 30 17.0**	**-0.2**
	comp=E,0.3nm,0.3s,baz=186,slow=21,SNR=8.3							
AKTO	**Aktyubinsk**	**13.79**	**330**	⇓P		**Pn**	**16 27 44.5**	**+0.4**
	comp=E,5.1nm,0.8s							
AKTO				⇓S		**Sn**	**16 30 17.4**	**+0.2**
	comp=E,7.0nm,0.7s							
AKTO	**Aktyubinsk**	**13.79**	**330**	P		**Pn**	**16 27 44.5**	**+0.4**
AKTO				S		**Sn**	**16 30 17.4**	**+0.2**
BVAR	**Borovoye Array**	**14.17**	**4**	Pn		**Pn**	**16 27 47.3**	**-1.9**
	comp=E,0.1nm,0.3s,baz=212,slow=19,SNR=2.5							
BRVK	**Borovoye**	**14.20**	**4**	⇑P		**Pn**	**16 27 50.5**	**+0.9**
	comp=E,1.8nm,0.5s							
BRVK	**Borovoye**	**14.20**	**4**	P		**Pn**	**16 27 49.1**	**-0.5**
BRVK	**Borovoye**	**14.20**	**4**	Pn		**Pn**	**16 27 49.1**	**-0.5**
WMQ	**Urumqi**	**15.07**	**65**	*e*P		**Pn**	**16 28 03.8**	**+2.2**
WMQ				pmax		pmax		
	comp=E,11nm,0.7s							
WMQ				pmax		pmax		
	comp=E,270nm,5.3s							
ZAA0	**Zalesovo Array**	**18.63**	**31**	P		**P**	**16 28 43.3**	**-2.8**
ZALV	**Zalesovo Beam**	**18.63**	**31**	P		**P**	**16 28 44.8**	**-1.3**
	comp=E,0.3nm,0.3s,baz=233,slow=9.7,SNR=9.4							
ZALV	**Zalesovo Beam**	**18.63**	**31**	P		**P**	**16 28 43.1**	**-3.0**
ARU	**Arti**	**18.78**	**342**	P		**P**	**16 28 48.0**	**+0.3**
	comp=E,0.0nm,0.3s,baz=336,slow=22,SNR=3.0							
BELG	**Belogornoye**	**19.88**	**320**	P		**P**	**16 29 00.2**	**+0.5**
	comp=E,7.3nm,0.8s,baz=180,slow=1.4,SNR=2.9							
KBZ	**Khabaz**	**19.94**	**292**	P		**P**	**16 29 01.6**	**+1.0**
	comp=E,1.0nm,0.6s,baz=115,slow=3.4,SNR=3.8							
KIV	**Kislovodsk**	**20.12**	**293**	*e*P		Pn	16 29 04.4	0.0
KIV				pmax		pmax		
	comp=Z,20nm,1.0s							
KIV	**Kislovodsk**	**20.12**	**293**	P		**P**	**16 29 03.6**	**+1.0**
LSA	**Lhasa**	**20.65**	**110**	P		**P**	**16 29 10.4**	**+1.6**
LSA				pmax		pmax		
	comp=E,4.0nm,0.8s							
LSA	**Lhasa**	**20.65**	**110**	P		**P**	**16 29 10.4**	**+1.6**
GTA	**Gaotai**	**24.07**	**79**	*e*P		**P**	**16 29 47.4**	**+3.2**
GTA				sP		sP	16 29 56.9	+7.7
GTA				pmax		pmax		
	comp=Z,180nm,7.1s							
GTA				LR		LR		
	comp=Z,170nm,16.4s							
GTA				LR		LR		
	comp=Z,180nm,17.1s							
GTA				LR		LR		
	comp=Z,210nm,16.4s							
SONM	**Songino Array**	**28.57**	**59**	P		**P**	**16 30 21.8**	**-2.9**
	comp=Z,0.5nm,0.7s,baz=268,slow=9.7,SNR=4.9							
AKASG	**Malin Array Be**	**30.04**	**306**	P		**P**	**16 30 37.6**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=82,slow=7.1,SNR=7.0							
KMI	**Kunming**	**31.76**	**105**	⇓P		**P**	**16 30 54.4**	**+1.1**
KMI				pP		sP	16 31 02.3	+3.9
KMI				pmax		pmax		
	comp=Z,9.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**32.71**	**73**	*e*P		**P**	**16 31 01.6**	**+0.3**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,60nm,7.6s							
FINES	**FINESS Array B**	**34.47**	**325**	P		**P**	**16 31 15.8**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=104,slow=8.0,SNR=4.5							
FINES	**FINESS Array B**	**34.47**	**325**	P		**P**	**16 31 17.2**	**+1.0**
FINES	**FINESS Array B**	**34.47**	**325**	P		**P**	**16 31 17.2**	**+1.0**
PBA	**Port Blair**	**34.55**	**135**	P		P	16 31 18.8	+1.5
ARCES	**ARCESS Array B**	**38.23**	**337**	P		**P**	**16 31 47.9**	**-0.4**
	comp=Z,4.8nm,1.0s,baz=88,slow=10,SNR=6.4							
ARCES	**ARCESS Array B**	**38.23**	**337**	P		**P**	**16 31 47.9**	**-0.4**
GERES	**GERESS Array B**	**40.08**	**303**	P		**P**	**16 32 02.8**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=82,slow=7.0,SNR=2.0							
TRI	**Trieste**	**40.51**	**298**	P		**P**	**16 32 07.9**	**+0.3**
TRI				pmax		pmax		
	comp=Z,10.0nm,0.9s							
TRI	**Trieste**	**40.51**	**298**	P		**P**	**16 32 07.9**	**+0.3**
TRI				IAmb		IAmb	16 32 14.5	
	comp=Z,10nm,0.9s							
NJ2	**Nanjing**	**40.98**	**84**	*e*P		**P**	**16 32 11.4**	**-0.2**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
NC303	**NORSAR Array S**	**41.31**	**322**	P		**P**	**16 32 14.4**	**+0.4**
NB201	**NORSAR Array S**	**41.33**	**322**	P		**P**	**16 32 14.2**	**+0.1**
NB201				IAmb		IAmb	16 32 22.2	
	comp=Z,16nm,1.2s							
NB2	**NORSAR Subarra**	**41.37**	**322**	P		**P**	**16 32 15.0**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=95,slow=8.6							
NOA	**NORSAR Array B**	**41.37**	**322**	P		**P**	**16 32 14.3**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=96,slow=8.2,SNR=8.9							
NBO00	**NORSAR Array S**	**41.58**	**322**	P		**P**	**16 32 16.6**	**+0.3**
NC204	**NORSAR Array S**	**41.61**	**322**	P		**P**	**16 32 17.0**	**+0.5**
NC204				IAmb		IAmb	16 32 37.6	
	comp=Z,12nm,1.2s							
KONO	**Kongsberg**	**42.08**	**319**	P		**P**	**16 32 20.7**	**+0.4**
KONO	**Kongsberg**	**42.08**	**319**	P		**P**	**16 32 20.7**	**+0.4**
KONO				IAmb		IAmb	16 32 42.7	
	comp=Z,17nm,1.2s							
TIXI	**Tiksi**	**44.25**	**23**	P		**P**	**16 32 36.2**	**-1.5**
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.6s							
TIXI	**Tiksi**	**44.25**	**23**	P		**P**	**16 32 36.2**	**-1.5**
TIXI				IAmb		IAmb	16 32 37.2	
	comp=Z,3.2nm,0.6s							
YHNB	**Yeheng**	**46.36**	**92**	P		**P**	**16 32 55.8**	**+0.6**
JWT	**Wachi**	**52.25**	**72**	P		**P**	**16 33 40.6**	**+0.7**
JWT				IAmb		IAmb	16 33 57.0	
	comp=Z,14nm,1.5s							
PMOZ	**Porto Moniz, M**	**67.40**	**295**	P		**P**	**16 35 24.9**	**+0.5**
TOLK	**Toolik Lake Re**	**69.04**	**14**	P		**P**	**16 35 33.4**	**-0.6**
TOLK				IAmb		IAmb	16 35 34.4	
	comp=Z,2.4nm,0.6s							

IDC ***15*** *16:25:31.8±0.7, 13.°61N×92.°94W, h0km, mb4.7/23, mb1 4.9/27, mb1mx4.7/37, mbtmp4.7/27, ML4.6/4, MS4.1/29, Ms1 4.1/29, ms1mx4.1/38, Error ellipse: s-maj=23.8km s-min=11.4km az=46.0*

GCMT ***15*** *16:25:33.8±0.2, 13.°74N±0.°01×93.°21W±0.°02, h12km, MW5.1/115, Moment Tensor Solution. s79,c95; s115,c164; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.77±.08; Mθθ3.90±.07; Mϕϕ0.87±.08; Mrθ1.60±.23; Mθϕ-2.15±.07; Mϕr-0.45±.30; Best double couple: M○5.16800×10¹⁶ NP1○ϕ122.00000°, δ36.00000°, λ-84.00000°. NP2○ϕ293.00000°, δ54.00000°, λ-95.00000°. Principal axes: T 5.2800, Plg9.0000°, Azm27.0000°; N -0.2220, Plg4.0000°, Azm296.0000°; P -5.0570, Plg80.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *16:25:36.8±1.6, 13.°74N±0.°04×92.°90W±0.°06, h42km±5km, mb5.1/356, Md5.1/54(MEX) Error ellipse: s-maj=8.0km s-min=5.6km az=79.0*

MEX ***15*** *16:25:36.1±0.7, 13.°68N×93.°02W, h34km±427km, MD5.1*

BGR ***15*** *16:25:37.3±0.0, 13.°16N×92.°84W, h33km, mb5.3*

MOS ***15*** *16:25:37.1±1.2, 13.°91N×92.°76W, h43km, mb5.3/7, Error ellipse: s-maj=9.3km s-min=4.9km az=100.3*

INET ***15*** *16:25:38.5, 13.°69N×92.°79W, h15km, ML4.4, MW3.8*

BJI ***15*** *16:25:38.0±0.0, 14.°00N×92.°80W, h40km, mB5.5/1, Ms5.4/5, Ms7 5.0/5*

SNET ***15*** *16:25:42.6±1.0, 13.°90N×92.°42W, h30km±46km, ML4.7*

GCG ***15*** *16:25:42.0±1.4, 13.°65N×92.°44W, h25km±999km, MD4.4*

ISC 15 16:25:35.1±0.5, 13.73N±0.°05×92.94W±0.°03, h21km±5km, n661, σ1§48/673, mb5.1/219, MS4.3/32, 1C-5D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
THIG		**1.34**	**29**	*e*P	**Pn**	**16 25 57.9**		**-0.6**
THIG				*i* S	**Sn**	**16 26 13.2**		**-2.6**
THIG		**1.34**	**29**		**Pn**	**16 25 57.9**		**-0.6**
THIG					**Sn**	**16 26 13.2**		**-2.6**
RTAL	**Retalhuleu**	**1.45**	**57**	*e*P	**Pn**	**16 26 00.1**		**+0.1**
RTAL				*e*S	**Sn**	**16 26 12.5**		**-5.8**
RTAL	**Retalhuleu**	**1.45**	**57**		**Pn**	**16 25 59.8**		**-0.2**
PCIG		**1.98**	**352**	*e*P	**Pn**	**16 26 06.0**		**-1.3**
PCIG				*i* S	**Sn**	**16 26 29.6**		**-1.9**
PCIG		**1.98**	**352**		**Pn**	**16 26 06.0**		**-1.3**
PCIG					**Sn**	**16 26 29.6**		**-1.9**
HUEH	**Huehuetenango**	**2.11**	**41**	*e*P	**Pn**	**16 26 10.5**		**+1.2**
HUEH				*e*S	**Sn**	**16 26 32.1**		**-2.9**
HUEH	**Huehuetenango**	**2.11**	**41**		**Pn**	**16 26 10.6**		**+1.2**
FUG	**Fuego 3**	**2.16**	**70**	*e*P	**Pn**	**16 26 10.3**		**+0.3**
PCG	**Pacaya**	**2.36**	**74**	*e*P	**Pn**	**16 26 13.6**		**+0.8**
CCIG	**Comitan**	**2.66**	**17**	*e*P	**Pn**	**16 26 18.8**		**+2.0**
CCIG				*i* S	**Sn**	**16 26 50.4**		**+2.0**
CCIG	**Comitan**	**2.66**	**17**		**Pn**	**16 26 18.8**		**+2.0**
CCIG	**Comitan**	**2.66**	**17**		**Sb**	**16 26 52.8**		**-1.4**
NBG	**Las Nubes**	**2.66**	**71**	*e*P	**Pn**	**16 26 19.1**		**+2.1**
APG	**El Apazote**	**2.72**	**62**	Pn	**Pn**	**16 26 18.7**		**+1.0**
	142nm,0.3s,baz=233,slow=8.7,SNR=358							
APG				Sn	**Sb**	**16 26 53.9**		**-2.2**
	196nm,0.3s,baz=360,slow=4.3,SNR=12							
TGIG		**3.04**	**357**	*e*P	**Pn**	**16 26 22.7**		**+0.8**
TGIG				*e*S	**Sn**	**16 26 58.2**		**+0.5**
TGIG		**3.04**	**357**		**Pn**	**16 26 22.7**		**+0.8**
TGIG					**Sn**	**16 26 57.4**		**-0.3**
RTR	**El Retiro**	**3.21**	**87**	*e*P	**Pn**	**16 26 24.9**		**+0.5**
CEVE	**Cerro Verde**	**3.23**	**88**	*e*P	**Pn**	**16 26 25.2**		**+0.5**
CEVE				*e*S	**Sn**	**16 26 58.9**		**-3.8**
SBLS	**San Blas**	**3.23**	**88**	*e*P	**Pn**	**16 26 25.3**		**+0.6**
SNJE	**San Jose**	**3.25**	**87**	*e*P	**Pn**	**16 26 25.3**		**+0.4**
UNIC	**Universidad Ca**	**3.31**	**85**	*e*P	**Pn**	**16 26 25.9**		**+0.2**
UNIC				*e*S	**Sn**	**16 26 59.9**		**-4.5**
JAYA	**Jayaque - finc**	**3.40**	**91**	*e*P	**Pn**	**16 26 26.6**		**-0.3**
JAYA				*e*S	**Sn**	**16 27 01.7**		**-5.1**
JAYA				IAML		16 27 10.4		
	comp=Z,3μm,0.3s							
MRL	**Marmol**	**3.43**	**67**	*e*P	**Pn**	**16 26 28.1**		**+0.6**
MRL	**Marmol**	**3.43**	**67**	*e*P	**Pn**	**16 26 29.3**		**+1.7**
CEDA	**San Andres**	**3.45**	**88**	*e*P	**Pn**	**16 26 27.1**		**-0.5**
CEDA				*e*S	**Sn**	**16 27 02.3**		**-5.6**
CEDA				IAML		16 27 16.4		
	comp=Z,2μm,0.3s							
TACO	**Tacachico**	**3.50**	**86**	*e*P	**Pn**	**16 26 28.4**		**+0.1**
PMON	**Piamonte**	**3.53**	**90**	*e*P	**Pn**	**16 26 29.1**		**+0.4**
MTO3	**Montecristo**	**3.54**	**79**	*e*P	**Pn**	**16 26 28.8**		**-0.2**
MTO3	**Montecristo**	**3.54**	**79**		**Pn**	**16 26 28.4**		**-0.6**
BOQS	**Boqueron**	**3.56**	**89**	*e*P	**Pn**	**16 26 29.9**		**+0.6**
ESQI	**Esquipulas**	**3.59**	**76**	*e*P	**Pn**	**16 26 29.9**		**+0.3**
ESQI	**Esquipulas**	**3.59**	**76**		**Pn**	**16 26 29.6**		**0.0**
UEES	**Universidad Ev**	**3.60**	**90**	*e*P	**Pn**	**16 26 30.2**		**+0.5**
UEES				IAML		16 27 17.0		
	comp=Z,1μm,0.4s							
SNET	**Serv Nac Est T**	**3.61**	**90**		**Pn**	**16 26 29.9**		**+0.1**
LFRS	**El Faro**	**3.77**	**91**	*e*P	**Pn**	**16 26 32.6**		**+0.5**
LBRS	**Las Brisas**	**3.79**	**89**	*e*P	**Pn**	**16 26 32.2**		**-0.1**
CMIG	**Matias Romero**	**3.83**	**331**	Pn	**Pn**	**16 26 32.7**		**-0.1**
	comp=Z,39nm,0.3s,baz=160,slow=14,SNR=235							
CMIG				Sn	**Sn**	**16 27 13.0**		**-4.2**
	comp=Z,147nm,0.3s,baz=130,slow=13,SNR=7.9							
CMIG				LR	LR	16 27 51.0		
	comp=Z,2μm,20.9s,baz=155,slow=35							
CMIG	**Matias Romero**	**3.83**	**331**	*e*P	**Pn**	**16 26 32.5**		**-0.3**
CMIG				*i* S	**Sn**	**16 27 14.3**		**-2.9**
CMIG	**Matias Romero**	**3.83**	**331**		**Pn**	**16 26 32.3**		**-0.5**
CMIG					**Sn**	**16 27 09.5**		**-7.7**
LLGN	**La Laguna**	**3.91**	**83**	*e*P	**Pn**	**16 26 33.8**		**-0.2**
COEG	**Centro de Oper**	**3.95**	**91**	*e*P	**Pn**	**16 26 35.5**		**+0.9**
COEG				IAML		16 27 27.5		
	comp=Z,2μm,0.4s							
PQSS	**Presa 15 de Se**	**4.26**	**91**	*e*P	**Pn**	**16 26 38.9**		**+0.2**
COEB	**Comit de Eme**	**4.30**	**93**	*e*P	**Pn**	**16 26 39.7**		**+0.4**
TECA	**Tecapa**	**4.33**	**93**	*e*P	**Pn**	**16 26 40.5**		**+0.7**
PETF	**Flores**	**4.34**	**43**	*e*P	**Pn**	**16 26 41.3**		**+1.5**
PETF	**Flores**	**4.34**	**43**		**Pn**	**16 26 41.3**		**+1.5**
TUIG	**Tuzandepetl**	**4.51**	**342**	*e*P	**Pn**	**16 26 40.7**		**-1.4**
TUIG				*i* S	**Sn**	**16 27 32.5**		**-1.5**
TUIG	**Tuzandepetl**	**4.51**	**342**		**Pn**	**16 26 41.7**		**-0.4**
TUIG					**Sn**	**16 27 27.3**		**-6.7**
PEIG	**Puerto Escondi**	**4.65**	**300**	*e*P	**Pn**	**16 26 42.0**		**-2.1**
PEIG				*e*S	Sn	16 27 27.8		-10
LCND	**La Caada**	**4.93**	**94**	*e*P	**Pn**	**16 26 48.4**		**+0.4**
VHO	**Vista Hermosa**	**4.94**	**313**	*i* P	**Pn**	**16 26 46.7**		**-1.5**
VHO				*i* S	**Sn**	**16 27 42.2**		**-2.7**
CNCH	**Conchagua**	**4.99**	**95**	*e*P	**Pn**	**16 26 49.1**		**+0.2**
CSGN	**Cosiguina Volc**	**5.29**	**98**		**Pn**	**16 26 53.7**		**+0.7**
YOIG	**Yosondua**	**5.42**	**306**	*i* P	**Pn**	**16 26 53.3**		**-1.6**
YOIG				*i* S	**Sn**	**16 27 53.8**		**-3.0**
SCIG	**Sabancuy**	**5.47**	**18**	*e*P	**Pn**	**16 26 55.7**		**+0.3**
SCIG				*i* S	**Sn**	**16 27 56.9**		**-0.9**
SCIG	**Sabancuy**	**5.47**	**18**		**Pn**	**16 26 55.7**		**+0.3**
SCIG					**Sn**	**16 27 55.5**		**-2.2**
TGUH	**Tegucigalpa,Un**	**5.52**	**86**	*e*P	**Pn**	**16 26 55.3**		**-0.8**
TGUH	**Tegucigalpa,Un**	**5.52**	**86**	Pn	**Pn**	**16 26 56.1**		**0.0**
PNIG	**Pinotepa**	**5.66**	**299**	*e*P	**Pn**	**16 26 56.7**		**-1.3**
PNIG				*e*S	**Sn**	**16 27 58.9**		**-3.6**
PNIG	**Pinotepa**	**5.66**	**299**		**Pn**	**16 26 56.6**		**-1.4**
TXIG	**Tlaxiaco**	**5.82**	**308**	*e*P	**Pn**	**16 26 59.9**		**-0.5**
CRIN	**San Cristobal**	**5.83**	**99**	Pn	**Pn**	**16 27 00.8**		**+0.4**
TOIG	**Toxpalan**	**5.88**	**318**	*i* P	**Pn**	**16 27 00.3**		**-0.8**
TOIG				*e*S	**Sn**	**16 28 05.2**		**-2.6**
HLIG	**Huajuapan de L**	**6.21**	**312**	*e*P	**Pn**	**16 27 05.2**		**-0.4**
HLIG				*i* S	**Sn**	**16 28 14.0**		**-2.1**
FTIG	**Fresnillo de T**	**6.50**	**310**	*e*P	**Pn**	**16 27 09.4**		**-0.2**
FTIG				*i* S	**Sn**	**16 28 20.4**		**-2.7**
TLIG	**Tlapa**	**6.62**	**306**	*i* P	**Pn**	**16 27 10.2**		**-1.0**
TLIG				*i* S	**Sn**	**16 28 24.0**		**-2.2**
TLIG	**Tlapa**	**6.62**	**306**	Pn	**Pn**	**16 27 12.5**		**+1.2**
TLIG	**Tlapa**	**6.62**	**306**		**Sn**	**16 28 18.7**		**-7.6**
CRIG	**Cruz Grande**	**6.68**	**297**	*e*P	**Pn**	**16 27 11.2**		**-0.8**
MATN	**Matagalpa**	**6.88**	**96**	Pn	**Pn**	**16 27 14.8**		**+0.1**
PPM	**Popocatepetl**	**7.61**	**315**	*e*P	**Pn**	**16 27 29.6**		**+4.5**
ACON	**Acoyapa**	**7.78**	**102**	Pn	**Pn**	**16 27 27.1**		**+0.1**
CAIG	**El Cayaco**	**7.79**	**296**	*e*P	**Pn**	**16 27 27.1**		**-0.1**
CAIG	**El Cayaco**	**7.79**	**296**		**Pn**	**16 27 27.1**		**-0.1**
PLIG	**Platanillo**	**7.83**	**307**	*e*P	**Pn**	**16 27 29.7**		**+1.9**
PLIG	**Platanillo**	**7.83**	**307**		**Pn**	**16 27 29.7**		**+1.9**
TEIG	**Tepich**	**7.85**	**34**	*e*P	**Pn**	**16 27 27.8**		**-0.3**
TEIG	**Tepich**	**7.85**	**34**	Pn	**Pn**	**16 27 27.7**		**-0.4**
ORTG	**Ortega, Santa**	**8.05**	**114**		**Pn**	**16 27 31.8**		**+0.9**
ARIG	**Puente Sto Nin**	**8.43**	**303**	*e*P	**Pn**	**16 27 38.1**		**+2.0**
ARIG	**Puente Sto Nin**	**8.43**	**303**		**Pn**	**16 27 38.1**		**+2.0**
JTS	**Las Juntas de**	**8.53**	**113**	Pn	**Pn**	**16 27 37.3**		**-0.2**
	comp=Z,4.6nm,0.3s,baz=341,slow=8.8,SNR=17							
JTS				LR	LR	16 30 06.4		
	comp=Z,230nm,20.7s,baz=357,slow=32							
JTS	**Las Juntas de**	**8.53**	**113**	P	**Pn**	**16 27 39.0**		**+1.6**
JTS	**Las Juntas de**	**8.53**	**113**	Pn	**Pn**	**16 27 39.0**		**+1.6**
CAO2	**Cobano, Puntar**	**8.66**	**117**		**Pn**	**16 27 41.5**		**+2.2**
ZIIG	**Zihuatanejo**	**9.07**	**296**	*e*P	**Pn**	**16 27 45.6**		**+0.9**
ZIIG	**Zihuatanejo**	**9.07**	**296**		**Pn**	**16 27 45.6**		**+0.9**
MOIG	**Morelia**	**9.87**	**308**	*e*P	**Pn**	**16 27 59.5**		**+3.6**
MOIG	**Morelia**	**9.87**	**308**	Pn	**Pn**	**16 27 59.2**		**+3.2**
PEZE	**Perez Zeledon,**	**10.05**	**114**		**Pn**	**16 27 59.5**		**+1.2**
ZAIG	**Zacatecas**	**12.81**	**316**	Pn	**Pn**	**16 28 38.9**		**+2.5**
SOR	**Soroa**	**13.04**	**45**	P	**Pn**	**16 28 38.0**		**-1.2**
SOR	**Soroa**	**13.04**	**45**		**Pn**	**16 28 38.0**		**-1.2**
KVTX	**Kingsville**	**14.50**	**342**	Pn	**Pn**	**16 29 00.5**		**+1.4**
MTDJ	**Mount Denham**	**15.47**	**71**	P	**Pn**	**16 29 14.3**		**+2.1**
833A	**Chaparral WMA,**	**15.71**	**339**	P		16 29 16.0		
	baz=156,SNR=11							
HKT	**Hockley**	**16.36**	**351**	P	**Pn**	**16 29 23.5**		**0.0**
HKT				pmax	pmax			
	comp=Z,60nm,1.5s							
HKT	**Hockley**	**16.36**	**351**	Pn	**Pn**	**16 29 23.4**		**0.0**
061Z	**Ochoppi**	**16.54**	**41**	Pn	**Pn**	**16 29 24.4**		**-1.4**
441A	**DeRidder**	**16.94**	**359**	Pn	**Pn**	**16 29 29.5**		**-1.3**
441A				P	**P**	**16 29 32.3**		**-0.3**
441A				IAmb	IAmb	16 29 38.4		
	comp=Z,107nm,0.9s							
435B	**Jarrell**	**17.50**	**347**	P	**P**	**16 29 39.0**		**+0.1**
435B	**Jarrell**	**17.50**	**347**	P		16 29 38.7		
	baz=165,SNR=5.2							
342A	**Flagon Creek P**	**17.57**	**2**	P	**P**	**16 29 39.2**		**-0.4**
060A	**Indiantown**	**17.71**	**40**	P	**Pn**	**16 29 39

ROSC pmax pmax
comp=Z,240nm,1.4s
ROSC El Rosal 20.38 114 P **P** 16 30 09.3 -1.7
ROSC El Rosal 20.38 114 *e*P Pn 16 30 12.7 -0.3
255A Hazlehurst 20.50 26 P **P** 16 30 10.6 -1.1
X40A Basin Creek Fa 20.67 0 P **P** 16 30 13.1 -0.4
X40A Basin Creek Fa 20.67 0 P 16 30 14.1
baz=180,SNR=9.9
BARC Barichara 20.69 108 *e*P Pn 16 30 17.1 +0.5
MIAR Mount Ida 20.73 359 P **P** 16 30 14.1 -0.2
MIAR pmax pmax
comp=Z,154nm,1.5s
MIAR Mount Ida 20.73 359 P **P** 16 30 14.1 -0.2
MIAR IAmb IAmb 16 30 20.3
comp=Z,154nm,1.4s
MIAR Mount Ida 20.73 359 P 16 30 14.3
baz=178,SNR=36
Z51A Franklin 20.74 19 P **P** 16 30 13.3 -1.1
Z51A IAmb IAmb 16 30 15.6
comp=Z,65nm,0.7s
PAMC Pamplona, Colo 20.88 106 *e*P Pn 16 30 18.7 -0.3
X37A Clayton 20.89 354 P **P** 16 30 16.2 +0.3
X37A IAmb IAmb 16 30 22.6
comp=Z,84nm,0.9s
Y49A Blount Mountai 20.90 15 P **P** 16 30 16.2 +0.2
Y49A IAmb IAmb 16 30 17.4
comp=Z,44nm,0.8s
CLNB Carlsbad 20.99 333 P Pn 16 30 18.5 -1.3
RUSC La Rusia 21.05 110 *e*P **P** 16 30 20.4 +2.0
GDL2 Guadalupe Moun 21.15 332 P **P** 16 30 18.8 -0.1
MNTX Cornudas Mount 21.21 330 P **P** 16 30 20.5 +1.0
MNTX Cornudas Mount 21.21 330 P 16 30 21.4
baz=144,SNR=35
X48A Hartselle 21.31 14 P **P** 16 30 20.1 -0.3
W41B Gary Mavity, V 21.36 2 P 16 30 21.4
baz=182,SNR=12
W39A Magazine 21.39 358 P 16 30 21.8
baz=178,SNR=20
W39A Magazine 21.39 358 P **P** 16 30 22.0 +0.7
W39A IAmb IAmb 16 30 26.4
comp=Z,83nm,1.0s
GOGA Godfrey 21.41 22 P **P** 16 30 20.6 -0.9
GOGA pmax pmax
comp=Z,68nm,0.8s
GOGA Godfrey 21.41 22 P **P** 16 30 20.6 -0.9
GOGA IAmb IAmb 16 30 24.6
comp=Z,68nm,0.8s
GOGA Godfrey 21.41 22 P 16 30 21.7
baz=206,SNR=27
SDDR Presa de Saban 21.42 73 P **P** 16 30 21.3 -0.5
WHAR Wooly Hollow 21.48 1 P **P** 16 30 21.5 -0.7
WMOK Wichita Mounta 21.57 347 P **P** 16 30 22.4 -0.9
WMOK pmax pmax
comp=Z,61nm,1.1s
WMOK Wichita Mounta 21.57 347 P **P** 16 30 22.4 -0.9
WMOK IAmb IAmb 16 30 29.7
comp=Z,60nm,1.1s
WMOK Wichita Mounta 21.57 347 P 16 30 23.6
baz=164,SNR=69
W45A Hickory Valley 21.60 8 P **P** 16 30 23.1 -0.5
W45A IAmb IAmb 16 30 39.2
comp=Z,81nm,1.1s
Y52A Lilburn 21.61 20 P **P** 16 30 23.4 -0.3
PLAL Pickwick Lake 21.61 11 P **P** 16 30 22.5 -1.2
FNO Franklin 21.81 350 P **P** 16 30 25.9 +0.1
LPAR Lepanto 21.91 6 P **P** 16 30 26.9 0.0
LPAR IAmb IAmb 16 30 29.7
comp=Z,66nm,0.6s
OKCSW OKLAHOMA CITY 21.96 350 P **P** 16 30 27.7 +0.3
OKCFA Oklahoma City 21.97 350 P **P** 16 30 27.6 +0.1
X51A Calhoun 22.00 18 P **P** 16 30 27.1 -0.8
X51A IAmb IAmb 16 30 30.7
comp=Z,43nm,0.7s
SC01 Santiago de lo 22.02 72 P **P** 16 30 28.2 -0.1
MSTX Muleshoe 22.04 338 P 16 30 30.2
baz=154
MSTX Muleshoe 22.04 338 P **P** 16 30 28.6 +0.2
MSTX IAmb IAmb 16 30 34.5
comp=Z,82nm,1.0s
TAMC Tame, Arauca 22.04 107 *e*P **P** 16 30 29.2 +0.7
FCAR Ozark Folk Cen 22.08 2 P **P** 16 30 28.0 -0.7
FCAR IAmb IAmb 16 30 32.4
comp=Z,31nm,0.7s
MACC Macarena, Meta 22.11 120 *e*P **P** 16 30 32.4 +3.1
OK025 Westminster Rd 22.11 350 P **P** 16 30 28.4 -0.7
BCOK Bluff Creek, N 22.23 350 P **P** 16 30 30.0 -0.4
TUL1 Leonard 22.23 354 P 16 30 30.8
baz=172,SNR=18
SWET Sewanee 22.31 15 P **P** 16 30 30.4 -0.8
SWET IAmb IAmb 16 30 31.6
comp=Z,77nm,0.6s
OK029 Liberty Lake 22.34 350 P **P** 16 30 31.1 -0.5
OK030 Cody Creek RV 22.37 352 P **P** 16 30 30.9 -1.0
SDV Santo Domingo 22.39 100 P **P** 16 30 33.0 +0.5
comp=Z,68nm,0.9s,baz=286,slow=7.1,SNR=54
SDV Santo Domingo 22.39 100 P **P** 16 30 31.6 -0.9
SDV IAmb IAmb 16 30 37.8
comp=Z,148nm,1.1s
SDV Santo Domingo 22.39 100 *e*P P 16 30 24.6 -7.9
OK031 S. Brethren Rd 22.41 352 P **P** 16 30 30.9 -1.3
W50A Signal Mountai 22.46 17 P **P** 16 30 30.9 -2.0
HHAR Hobbs 22.48 358 P **P** 16 30 32.2 -0.8
HHAR IAmb IAmb 16 30 35.7
comp=Z,89nm,1.3s
LNXT Lenox 22.49 7 P **P** 16 30 33.3 +0.1
LNXT IAmb IAmb 16 30 54.2
comp=Z,92nm,1.1s
AMTX Amarillo 22.49 341 P **P** 16 30 33.6 +0.3
AMTX Amarillo 22.49 341 P 16 30 34.6
baz=157
SRIG Santa Rosalia 22.53 310 P **P** 16 30 33.8 +0.2
SRIG IAmb IAmb 16 30 37.4
comp=Z,72nm,1.1s
NHSC New Hope 22.53 29 P **P** 16 30 33.2 -0.3
NHSC IAmb IAmb 16 30 35.7
comp=Z,81nm,0.8s
NHSC New Hope 22.53 29 P 16 30 34.0
baz=214,SNR=5.5
U40A Yellville 22.53 0 P **P** 16 30 33.1 -0.5
U40A Yellville 22.53 0 P 16 30 33.3
baz=180,SNR=25
HODGE Hodges 22.59 24 P **P** 16 30 33.0 -1.3
HODGE IAmb IAmb 16 30 35.9
comp=Z,132nm,1.1s
V48A Smith Brothers 22.60 13 P **P** 16 30 32.8 -1.5
V48A IAmb IAmb 16 30 36.6
comp=Z,58nm,1.1s
QUOK Quay 22.60 352 P **P** 16 30 33.4 -0.9
U38A Gravette 22.65 357 P **P** 16 30 34.2 -0.6
U38A IAmb IAmb 16 30 38.0
comp=Z,129nm,1.2s
GLAT Glass 22.68 8 P **P** 16 30 33.7 -1.5
WVT Waverly 22.77 11 P **P** 16 30 34.3 -1.8
WVT pmax pmax
comp=Z,21nm,1.0s
WVT Waverly 22.77 11 P **P** 16 30 34.3 -1.8
WVT Waverly 22.77 11 P 16 30 34.8
baz=193
UTMT University of 22.81 9 P **P** 16 30 36.0 -0.5
UTMT IAmb IAmb 16 30 37.2
comp=Z,108nm,1.1s
CPCT Cooper Cave 22.92 18 P **P** 16 30 36.3 -1.4
HICK Hickman 22.96 8 P **P** 16 30 35.9 -2.2
HICK IAmb IAmb 16 30 53.2
comp=Z,50nm,0.8s
PARMO Parma 23.02 7 P **P** 16 30 37.5 -1.2
PARMO IAmb IAmb 16 30 40.9
comp=Z,87nm,0.7s
BG3 Lake Jocassee 23.02 21 P **P** 16 30 38.4 -0.4
BG3 IAmb IAmb 16 30 40.6
comp=Z,100nm,1.2s
JSC Jenkinsville 23.04 25 P **P** 16 30 38.5 -0.4
JSC pmax pmax
comp=Z,60nm,1.0s
JSC Jenkinsville 23.04 25 P **P** 16 30 38.5 -0.4
JSC IAmb IAmb 16 30 40.6
comp=Z,60nm,1.0s
CLTN Cedars of Leba 23.05 14 P **P** 16 30 37.5 -1.5
CLTN IAmb IAmb 16 30 40.5
comp=Z,54nm,0.8s
PBMO Poplar Bluff 23.06 5 P **P** 16 30 37.6 -1.5
PBMO IAmb IAmb 16 30 40.0
comp=Z,53nm,0.5s
319A Douglas 23.10 322 P **P** 16 30 39.6 -0.1
121A Cookes Peak, D 23.11 327 P 16 30 42.7
baz=141,SNR=38
CROK Carrier 23.13 350 P **P** 16 30 37.6 -2.2
Y57A Sumter 23.19 27 P **P** 16 30 39.7 -0.7
U32A Winter Ranch, 23.20 348 P **P** 16 30 40.3 -0.2
T42A Van Buren 23.26 4 P **P** 16 30 39.4 -1.8
PAULI Pauline 23.29 24 P **P** 16 30 40.3 -1.1
PAULI IAmb IAmb 16 30 42.4
comp=Z,63nm,0.9s
V51A Loudon 23.30 18 P **P** 16 30 40.5 -1.0
V51A IAmb IAmb 16 30 41.8
comp=Z,38nm,0.8s
T35A Sooner Cattle 23.31 353 P **P** 16 30 40.3 -1.3
MGMO Mountain Grove 23.34 1 P **P** 16 30 41.0 -0.9
MGMO IAmb IAmb 16 30 46.3
comp=Z,54nm,1.1s
TKL Tuckaleechee C 23.34 19 P **P** 16 30 41.9 -0.1
comp=Z,68nm,0.8s,baz=188,slow=12,SNR=82
TKL Tuckaleechee C 23.34 19 P **P** 16 30 40.9 -1.1
TKL pmax pmax
comp=Z,141nm,1.1s
TKL Tuckaleechee C 23.34 19 P **P** 16 30 40.9 -1.1
Y58A Scranton 23.43 29 P **P** 16 30 42.2 -0.6
Y58A IAmb IAmb 16 30 43.4
comp=Z,53nm,0.8s
GC02 Grant County # 23.44 350 P **P** 16 30 42.5 -0.5
OK032 Salt Plains WL 23.46 349 P **P** 16 30 41.9 -1.2
T45A Paducah 23.51 9 P **P** 16 30 41.4 -2.1
T45A IAmb IAmb 16 30 44.8
comp=Z,94nm,0.8s
KAN13 South Haven SW 23.54 351 P **P** 16 30 43.3 -0.6
V52A Sevierville 23.57 19 P **P** 16 30 43.1 -1.1
U49A Red Boiling Sp 23.58 15 P **P** 16 30 42.9 -1.4
U49A IAmb IAmb 16 30 44.2
comp=Z,56nm,0.5s
V53A Saluda 23.67 21 P **P** 16 30 44.2 -1.1
BIRD Birdtown, Kers 23.69 26 P **P** 16 30 44.7 -0.7
T47A Sharon Grove 23.74 12 P **P** 16 30 44.1 -1.8
T47A IAmb IAmb 16 30 47.6
comp=Z,74nm,0.8s
KAN10 Anthony SW Sta 23.75 350 P **P** 16 30 45.5 -0.5
KAN10 IAmb IAmb 16 30 47.9
comp=Z,78nm,1.0s
KMSC Kings Mountain 23.76 24 P 16 30 45.7
baz=209,SNR=31
KMSC Kings Mountain 23.76 24 P **P** 16 30 45.0 -1.0
BNM Baron Site 23.82 331 P **P** 16 30 46.4 -0.5
KAN08 Anthony NE Sta 23.83 350 P **P** 16 30 45.2 -1.5
S39A Bolivar 23.87 359 P **P** 16 30 46.2 -0.8
S39A IAmb IAmb 16 30 48.3
comp=Z,51nm,0.6s
W56A Indian Trail 24.06 25 P 16 30 48.2
baz=210,SNR=23
S44A Carbondale 24.09 7 P **P** 16 30 47.1 -2.0
X58A Rowland 24.12 28 P **P** 16 30 47.9 -1.4
X58A IAmb IAmb 16 30 49.8
comp=Z,128nm,1.3s
SIUC Southern Illin 24.12 7 P **P** 16 30 47.1 -2.3
FVM French Village 24.26 5 P **P** 16 30 48.3 -2.4
FVM pmax pmax
comp=Z,21nm,1.2s
FVM French Village 24.26 5 P **P** 16 30 48.3 -2.4
CCM Cathedral Cave 24.27 3 P **P** 16 30 48.8 -2.0
CCM pmax pmax
comp=Z,36nm,0.7s
CCM Cathedral Cave 24.27 3 P **P** 16 30 48.8 -2.0
CCM IAmb IAmb 16 30 52.3
comp=Z,36nm,0.7s
CCM Cathedral Cave 24.27 3 P 16 30 49.6
baz=184
T50A Nancy 24.30 16 P **P** 16 30 49.5 -1.6
T50A IAmb IAmb 16 30 51.8
comp=Z,102nm,1.0s
W57A Gilead 24.32 26 P **P** 16 30 50.0 -1.3
W57A IAmb IAmb 16 30 52.3
comp=Z,39nm,0.8s
ANMO Albuquerque 24.40 332 P **P** 16 30 54.4 +2.2
comp=Z,6.6nm,0.8s,baz=138,slow=11,SNR=17
ANMO LR LR 16 41 28.9
comp=Z,326nm,18.2s,baz=160,slow=39
ANMO Albuquerque 24.40 332 ǁ *e*P **P** 16 30 57.3 +5.1
ANMO pmax pmax
comp=Z,13nm,1.1s
ANMO Albuquerque 24.40 332 P 16 30 54.3
baz=146
V55A Taylorsville 24.42 24 P **P** 16 30 51.2 -1.0
USIN University of 24.59 10 P **P** 16 30 51.5 -2.2
TUC Tucson 24.66 322 P **P** 16 30 54.2 -0.3
TUC pmax pmax
comp=Z,17nm,1.0s
TUC Tucson 24.66 322 P **P** 16 30 54.2 -0.3
TUC Tucson 24.66 322 P 16 30 56.5
baz=134
V56A Mocksville 24.67 25 P 16 30 54.1
baz=210,SNR=28
X60A Albert Glenn T 24.79 31 P 16 30 55.4
baz=216,SNR=5.6
U54A Nelsons Funny 24.79 22 P **P** 16 30 55.0 -0.6
U54A Nelsons Funny 24.79 22 P 16 30 55.9
baz=206,SNR=34
SLM Saint Louis 24.92 5 P **P** 16 30 54.8 -1.9
SLM pmax pmax
comp=Z,32nm,0.8s
SLM Saint Louis 24.92 5 P **P** 16 30 54.8 -1.9
SLM IAmb IAmb 16 30 58.9
comp=Z,32nm,0.8s
V57A Coltrane Farms 25.04 26 P 16 30 57.0
baz=211,SNR=25
WCI Wyandotte Cave 25.11 12 P **P** 16 30 56.7 -1.7
WCI pmax pmax
comp=Z,143nm,0.8s
WCI Wyandotte Cave 25.11 12 P **P** 16 30 56.6 -1.7
WCI Wyandotte Cave 25.11 12 P 16 30 57.5
baz=195
R32A Long Quarter, 25.12 349 P **P** 16 30 58.2 -0.3
U56A King 25.18 24 P **P** 16 30 58.1 -1.0
U56A King 25.18 24 P 16 30 58.9
baz=210,SNR=13
S51A Beattyville 25.23 18 P **P** 16 30 58.5 -1.0
S51A IAmb IAmb 16 31 00.8
comp=Z,53nm,0.7s
V58A Windy Hill, Pi 25.25 27 P **P** 16 30 58.1 -1.5
ATAH Atahualpa 25.27 144 LR LR 16 39 31.4
comp=Z,354nm,19.8s,baz=314,slow=33
OLIL Olney 25.27 9 P **P** 16 30 58.5 -1.3
Q44A Meyer Farm, Va 25.31 7 P **P** 16 30 58.6 -1.6
Q44A IAmb IAmb 16 31 02.5
comp=Z,53nm,1.0s
CNNC Cliffs of the 25.36 30 P **P** 16 30 59.4 -1.3
CNNC IAmb IAmb 16 31 00.8
comp=Z,61nm,0.9s
R49A Shelbyville 25.42 14 P **P** 16 30 59.4 -1.8
R49A IAmb IAmb 16 31 01.8
comp=Z,47nm,0.9s
T25A Trinidad 25.46 338 P 16 31 05.1
baz=153,SNR=57
KSU1 Kansas State U 25.48 353 P 16 31 02.1
baz=172,SNR=50
KSU1 Kansas State U 25.48 353 P **P** 16 31 01.3 -0.4
V59A Middlesex 25.62 29 P 16 31 02.3
baz=214,SNR=6.3
R50A Paris 25.62 16 P **P** 16 31 01.8 -1.2
R50A IAmb IAmb 16 31 04.9
comp=Z,63nm,0.9s
U57A Blanch 25.69 26 P 16 31 03.5
baz=212,SNR=33
214A Organ Pipe Nat 25.69 318 P 16 31 05.7
baz=130,SNR=7.8
CBKS Cedar Bluff 25.70 348 P **P** 16 31 03.8 0.0
CBKS pmax pmax
comp=Z,244nm,1.0s
CBKS Cedar Bluff 25.70 348 P **P** 16 31 03.8 0.0
CBKS Cedar Bluff 25.70 348 P 16 31 05.7
baz=164,SNR=26
P40A Paris 25.71 2 P **P** 16 31 02.1 -1.7
P40A IAmb IAmb 16 31 04.5
comp=Z,32nm,0.8s
P38A Dawn 25.80 359 P **P** 16 31 03.1 -1.5
P38A IAmb IAmb 16 31 07.7
comp=Z,34nm,0.9s
X18A Snowflake 25.80 326 P **P** 16 31 04.3 -0.6
PIX Pinacate 25.87 317 P **P** 16 31 04.6 -0.7
T56A Rocky Mt 25.91 24 P 16 31 05.8
baz=210,SNR=12
BLA Blacksburg 25.92 23 P **P** 16 31 04.8 -1.0
BLA pmax pmax
comp=Z,42nm,0.8s
BLA Blacksburg 25.92 23 P **P** 16 31 04.8 -1.0
BLA IAmb IAmb 16 31 09.4
comp=Z,42nm,0.8s
BLA Blacksburg 25.92 23 P 16 31 05.7
baz=208,SNR=9.6
BLO Bloomington 25.97 11 P **P** 16 31 04.4 -1.8
BLO pmax pmax
comp=Z,49nm,0.6s
BLO Bloomington 25.97 11 P **P** 16 31 04.4 -1.8
BLO IAmb IAmb 16 31 07.2
comp=Z,49nm,0.6s
P43A Skaggs, Pawnee 25.99 6 P **P** 16 31 04.6 -1.7
P43A IAmb IAmb 16 31 08.7
comp=Z,26nm,0.8s
U58A Oxford 26.00 27 P 16 31 06.1
baz=213
V60A Jim Taylor Roa 26.09 30 P **P** 16 31 05.6 -1.6
V60A IAmb IAmb 16 31 11.3
comp=Z,32nm,0.8s
S54A Dingess, Beckl 26.11 21 P **P** 16 31 06.6 -1.0
S54A IAmb IAmb 16 31 07.8
comp=Z,42nm,0.9s
S54A Dingess, Beckl 26.11 21 P 16 31 07.2
baz=206,SNR=7.9
T57A Hurt 26.20 25 P **P** 16 31 07.5 -0.9
T57A IAmb IAmb 16 31 08.9
comp=Z,57nm,0.9s
T57A Hurt 26.20 25 P 16 31 08.4
baz=211,SNR=11
P46A Rosedale 26.28 10 P **P** 16 31 07.0 -2.0
P46A IAmb IAmb 16 31 11.8
comp=Z,70nm,0.8s
R53A Hurricane 26.37 20 P **P** 16 31 08.5 -1.3
R53A IAmb IAmb 16 31 12.6
comp=Z,66nm,0.8s
SDCO Great Sand Dun 26.40 337 P 16 31 10.2
baz=152,SNR=6.1
T58A Grand View Acr 26.47 27 P 16 31 10.3
baz=213,SNR=12
P48A Milroy 26.48 13 P **P** 16 31 08.2 -2.5
P48A IAmb IAmb 16 31 11.2
comp=Z,53nm,0.8s
Q51A Peebles 26.59 17 P **P** 16 31 10.7 -1.1
KSCO Kaye Shedlock' 26.60 343 P 16 31 14.8
baz=158,SNR=8.2
O44A Mansfield 26.61 8 P **P** 16 31 10.7 -1.3
S56A Natural Bridge 26.66 24 P 16 31 12.2
baz=210,SNR=7.5
MTP Monte Pirata 26.68 77 P **P** 16 31 10.5 -2.4
U60A Pendleton 26.70 29 P 16 31 12.3
baz=216,SNR=5.7
P49A Miami Univ. Ec 26.71 14 P **P** 16 31 10.8 -2.1
P49A IAmb IAmb 16 31 13.2
comp=Z,40nm,0.7s
P49A Miami Univ. Ec 26.71 14 P 16 31 11.3
baz=198,SNR=10
Q52A Bidwell 26.85 19 P **P** 16 31 13.3 -0.9
Q52A IAmb IAmb 16 31 17.8
comp=Z,102nm,1.2s
HDIL Hopedale 26.92 6 P **P** 16 31 12.3 -2.4
HDIL IAmb IAmb 16 31 16.3
comp=Z,35nm,0.8s
HDIL Hopedale 26.92 6 P 16 31 13.5
baz=188
S22A 4UR Ranch, Cre 26.92 335 P 16 31 18.6
baz=149,SNR=37
T59A Double "B" Far 26.93 28 P **P** 16 31 13.9 -1.0
N38A Joes South For 26.96 360 P **P** 16 31 14.3 -0.8
R55A Marlinton 26.97 23 P **P** 16 31 15.1 -0.3
R55A IAmb IAmb 16 31 16.0
comp=Z,48nm,1.0s
R55A Marlinton 26.97 23 P 16 31 15.6
baz=208,SNR=8.9
S57A Dark Hollow, R 26.98 25 P 16 31 15.2
baz=211,SNR=6.5
S57A Dark Hollow, R 26.98 25 P **P** 16 31 13.8 -1.5
S57A IAmb IAmb 16 31 15.5
comp=Z,40nm,1.1s
Q53A Leroy 26.99 20 P 16 31 15.2
baz=205,SNR=9.0
SFIN Lafayette 27.04 10 P **P** 16 31 14.5 -1.3
SFIN IAmb IAmb 16 31 16.7
comp=Z,31nm,0.6s
SFIN Lafayette 27.04 10 P 16 31 15.9
baz=192,SNR=5.8
P51A Williamsport 27.09 17 P **P** 16 31 14.8 -1.5
P51A IAmb IAmb 16 31 17.4
comp=Z,42nm,0.8s
N35A Tabor 27.13 356 P **P** 16 31 15.8 -0.9
MVCO Mesa Verde 27.20 332 P 16 31 20.1
baz=145,SNR=17
S58A Poland Farm, P 27.23 26 P **P** 16 31 16.2 -1.4
S58A IAmb IAmb 16 31 17.9
comp=Z,46nm,0.8s
S58A Poland Farm, P 27.23 26 P 16 31 17.4
baz=213
WUAZ Wupatki 27.31 326 P **P** 16 31 18.3 -0.2
WUAZ Wupatki 27.31 326 P 16 31 21.4
baz=138,SNR=7.1
Q54A Coxs Mills 27.34 21 P **P** 16 31 17.9 -0.6
Q54A IAmb IAmb 16 31 19.0
comp=Z,36nm,0.8s
Q24A Divide 27.35 339 P 16 31 22.6
baz=153,SNR=6.5
R56A Bull Pasture M 27.36 24 P 16 31 18.8
baz=209,SNR=5.2
JSRW J. Sargeant Re 27.38 27 P **P** 16 31 17.9 -1.0
O49A Covington 27.42 14 P **P** 16 31 17.3 -1.9
O49A IAmb IAmb 16 31 20.0
comp=Z,40nm,0.8s
T60A Surry 27.44 29 P **P** 16 31 18.4 -1.0
P52A Corning 27.50 18 P 16 31 19.8
baz=203
P52A Corning 27.51 18 P **P** 16 31 19.2 -0.9
P52A IAmb IAmb 16 31 23.4
comp=Z,70nm,1.5s
R58B Mineral 27.60 26 P 16 31 20.7
baz=213,SNR=10
R58B Mineral 27.60 26 P **P** 16 31 19.6 -1.3
R58B IAmb IAmb 16 31 21.8
comp=Z,44nm,0.9s
P53A Whipple 27.61 20 P **P** 16 31 19.4 -1.5
P53A IAmb IAmb 16 31 21.4
comp=Z,36nm,0.9s
R57A Stanardsville 27.61 25 P 16 31 20.5
baz=211,SNR=8.4
GLA Glamis 27.70 318 P 16 31 24.0
baz=129
N47A Urbana 27.78 12 P **P** 16 31 20.3 -2.1
N47A IAmb IAmb 16 31 22.8
comp=Z,34nm,0.8s
ACSO Alum Creek Sta 27.81 16 P **P** 16 31 21.7 -1.1
ACSO IAmb IAmb 16 31 23.8
comp=Z,27nm,0.8s
ACSO Alum Creek Sta 27.81 16 P 16 31 21.9
baz=201,SNR=6.1
ESJX Sierra Juarez 27.83 315 P **P** 16 31 24.2 +1.0
R58A Rapidan 27.83 26 P 16 31 22.8
baz=212,SNR=9.3
M44A Midewin, Midew 27.89 8 P **P** 16 31 22.1 -1.3
BGNE Belgrade 27.95 352 P **P** 16 31 23.7 -0.3
BGNE IAmb IAmb 16 31 44.2
comp=Z,42nm,0.8s
Q56A Snyder Ridge, 27.99 23 P **P** 16 31 23.4 -0.9
Q56A IAmb IAmb 16 31 26.8
comp=Z,20nm,0.7s
Q56A Snyder Ridge, 27.99 23 P 16 31 24.8
baz=209,SNR=5.9
CBN Corbin Frederi 28.02 27 P **P** 16 31 23.6 -1.1
O52A Adamsville 28.04 18 P **P** 16 31 24.1 -0.7
O52A IAmb IAmb 16 31 26.8
comp=Z,43nm,0.9s
PDMCI Parker Dam,Lak 28.07 321 P 16 31 27.6
baz=132,SNR=12
PV15 Paradox Valley 28.12 333 P **P** 16 31 27.9 +2.0
PV15 IAmb IAmb 16 31 33.2
comp=Z,41nm,1.2s
R59A King George, V 28.13 27 P 16 31 26.3
baz=214
N49A Columbus Grove 28.15 14 P **P** 16 31 24.2 -1.6
PV18 Skein Mesa, Pa 28.23 333 P **P** 16 31 27.7 +0.9
PV18 IAmb IAmb 16 31 33.9
comp=Z,29nm,1.1s
OGNE Ogallala 28.25 345 P 16 31 29.0

baz=161,SNR=5.0
ISCO **Idaho Springs** **28.26** **339** P **P** **16 31 27.3 +0.1**
ISCO pmax pmax
comp=Z,11nm,1.1s
ISCO **Idaho Springs** **28.26** **339** P **P** **16 31 27.2 +0.1**
ISCO **Idaho Springs** **28.26** **339** P 16 31 29.4
baz=153,SNR=12
L40A **Anamosa** **28.27** **3** P **P** **16 31 24.9 -1.9**
PV17 **East Wray Mesa** **28.28** **333** P **P** **16 31 27.3 0.0**
PV17 IAmb IAmb 16 31 34.3
comp=Z,36nm,1.2s
SWSC **Sam W. Stewart** **28.28** **316** P 16 31 29.3
baz=127
Q57A **Strasburg** **28.29** **24** P 16 31 27.4
baz=211,SNR=7.0
IKP **In-Ko-Pah, Jac** **28.32** **316** P 16 31 29.8
baz=126,SNR=7.0
L42A **Oliver, Polo** **28.32** **5** P **P** **16 31 25.9 -1.4**
L42A IAmb IAmb 16 31 28.8
comp=Z,44nm,1.1s
HQIL **Hanson Quary C** **28.32** **8** P **P** **16 31 25.9 -1.3**
HQIL IAmb IAmb 16 31 29.2
comp=Z,51nm,1.2s
PV19 **Morning Glory** **28.32** **333** P **P** **16 31 26.9 -0.7**
PV19 IAmb IAmb 16 31 34.6
comp=Z,34nm,1.2s
PV20 **West Nyswonger** **28.34** **333** P **P** **16 31 28.1 +0.4**
PV20 IAmb IAmb 16 31 34.7
comp=Z,38nm,1.2s
O53A **New Philadelph** **28.35** **19** P **P** **16 31 26.9 -0.7**
O53A IAmb IAmb 16 31 27.8
comp=Z,20nm,0.7s
O53A **New Philadelph** **28.35** **19** P 16 31 27.3
baz=204
U15A **North Rim** **28.49** **326** P **P** **16 31 30.2 +1.1**
BC3 **Big Chuckawall** **28.49** **318** P 16 31 31.3
baz=129,SNR=18
CBX **Cerro Bola** **28.50** **314** P **P** **16 31 29.3 +0.2**
Q58A **Fox Den Farm,** **28.51** **25** P 16 31 28.5
baz=212
P56A **Dayton Farm, R** **28.53** **23** P 16 31 29.4
baz=209,SNR=6.0
O54A **Avella** **28.57** **20** P **P** **16 31 28.3 -1.2**
O54A IAmb IAmb 16 31 29.6
comp=Z,33nm,0.6s
IRM **Iron Mountain** **28.61** **319** P 16 31 32.5
baz=130,SNR=11
TKX **Tecate** **28.61** **315** P **P** **16 31 30.1 +0.1**
N51A **Ashland** **28.62** **17** P **P** **16 31 28.9 -1.0**
MONP2 **Monument Peak** **28.67** **316** P 16 31 32.7
baz=126
L44A **Lake County Fo** **28.68** **8** P **P** **16 31 29.2 -1.2**
L44A IAmb IAmb 16 31 31.8
comp=Z,60nm,1.3s
P57A **Homestead Farm** **28.83** **24** P **P** **16 31 30.5 -1.4**
P57A IAmb IAmb 16 31 33.3
comp=Z,65nm,0.9s
P57A **Homestead Farm** **28.83** **24** P 16 31 31.9
baz=211,SNR=16
M50A **Fremont** **28.89** **16** P **P** **16 31 31.0 -1.3**
N53A **Lisbon** **28.98** **19** P **P** **16 31 31.7 -1.5**
N53A IAmb IAmb 16 31 33.3
comp=Z,28nm,0.7s
BELC **Belle Mtn. Jos** **29.06** **318** P 16 31 36.3
baz=128,SNR=8.0
L48A **N Adams** **29.07** **13** P **P** **16 31 31.5 -2.4**
TPFO **Pinon Flats** **29.12** **317** P 16 31 36.6
baz=127
PFO **Pinyon Flats O** **29.12** **317** P **P** **16 31 36.5 +1.9**
comp=Z,1.6nm,0.6s,baz=135,slow=5.4,SNR=6.0
PFO LR LR 16 43 01.1
comp=Z,209nm,18.9s,baz=148,slow=36
PFO **Pinyon Flats O** **29.12** **317** *i* P **P** **16 31 35.9 +1.2**
PFO pmax pmax
comp=Z,12nm,1.1s
PFO **Pinyon Flats O** **29.12** **317** P **P** **16 31 34.1 -0.5**
PFO **Pinyon Flats O** **29.12** **317** P 16 31 37.1
baz=127
K43A **Burlington** **29.15** **7** P **P** **16 31 33.7 -0.9**
JFWS **Jewell Farm** **29.17** **4** P 16 31 34.9
baz=185
JFWS **Jewell Farm** **29.18** **4** P **P** **16 31 34.4 -0.5**
JFWS pmax pmax
comp=Z,14nm,0.5s
JFWS **Jewell Farm** **29.18** **4** P **P** **16 31 34.4 -0.5**
JFWS IAmb IAmb 16 31 38.8
comp=Z,14nm,0.5s
K31A **O'Neill** **29.23** **351** P **P** **16 31 35.2 -0.1**
K31A IAmb IAmb 16 31 43.3
comp=Z,72nm,1.1s
SDMD **Soldier's Deli** **29.26** **26** P **P** **16 31 34.6 -1.0**
SDMD IAmb IAmb 16 31 36.4
comp=Z,26nm,0.8s
O56A **Blue Knob Stat** **29.29** **23** P **P** **16 31 35.1 -0.9**
O56A IAmb IAmb 16 31 36.4
comp=Z,27nm,1.0s
O56A **Blue Knob Stat** **29.29** **23** P 16 31 36.0
baz=209
GMRC **Granite Mounta** **29.34** **320** P 16 31 39.0
baz=130,SNR=9.5
N23A **Red Feather La** **29.35** **340** P 16 31 39.6
baz=153,SNR=5.7
N54A **Moraine State** **29.40** **20** P **P** **16 31 36.1 -0.8**
N54A IAmb IAmb 16 31 37.5
comp=Z,38nm,0.8s
N54A **Moraine State** **29.40** **20** P 16 31 36.7
baz=206,SNR=9.4
LCMT **Little Creek M** **29.43** **326** P **P** **16 31 38.9 +1.4**
M52A **Chesterland** **29.49** **18** P **P** **16 31 37.0 -0.6**
M52A IAmb IAmb 16 31 38.8
comp=Z,25nm,0.8s
O20A **White River Ci** **29.54** **336** P 16 31 43.4
baz=149,SNR=11
PHWY **Pilot Hill** **29.56** **341** P **P** **16 31 36.6 -2.0**
PHWY IAmb IAmb 16 31 43.1
comp=Z,47nm,1.5s
AAM **Ann Arbor** **29.59** **14** P **P** **16 31 36.6 -1.9**
AAM pmax pmax
comp=Z,28nm,1.0s
AAM **Ann Arbor** **29.59** **14** P **P** **16 31 36.6 -1.9**
AAM IAmb IAmb 16 31 39.1
comp=Z,28nm,1.0s
AAM **Ann Arbor** **29.59** **14** P 16 31 38.8
baz=198
P59A **Jarrettsville** **29.60** **26** P 16 31 38.7
baz=214
O57A **Amberson** **29.60** **24** P 16 31 38.3
baz=211,SNR=6.0
M53A **WI Miller and** **29.61** **19** P **P** **16 31 36.7 -2.0**
M53A IAmb IAmb 16 31 39.1
comp=Z,30nm,0.7s
M53A **WI Miller and** **29.61** **19** P 16 31 38.3
baz=204,SNR=7.2
MURC **Murrieta** **29.61** **316** P 16 31 41.7
baz=126
MTPU **Mount Pierson** **29.64** **328** P **P** **16 31 40.8 +1.3**
SZCU **Shurtz Canyon** **29.78** **327** P **P** **16 31 42.7 +2.2**
HEC **Hector,Ludlow** **29.79** **319** P 16 31 43.1
baz=129,SNR=6.5
O58A **Lewisberry** **29.82** **25** P 16 31 40.0
baz=212,SNR=5.8
MVL **Millersville** **29.96** **26** P **P** **16 31 41.7 -0.1**
MVL IAmb IAmb 16 31 42.9
comp=Z,37nm,0.8s
N56A **West Decatur** **29.96** **23** P 16 31 41.7
baz=209
ALLY **Alegheny Colle** **29.96** **19** P **P** **16 31 41.3 -0.6**
ALLY IAmb IAmb 16 31 41.9
comp=Z,20nm,0.7s
PAGS **Pennsylvania G** **29.99** **25** P **P** **16 31 41.5 -0.7**
PAGS IAmb IAmb 16 31 42.2
comp=Z,76nm,1.5s
M54A **Oil Creek Stat** **30.00** **20** P **P** **16 31 40.5 -1.6**
M54A **Oil Creek Stat** **30.00** **20** P 16 31 41.1
baz=206
P17A **Butcher Ranch,** **30.06** **332** P **P** **16 31 43.4 +0.4**
ECSD **EROS Data Cent** **30.07** **355** P **P** **16 31 41.9 -0.9**
ECSD **EROS Data Cent** **30.07** **355** P 16 31 42.8
baz=173,SNR=18
N57A **Milroy** **30.10** **24** P 16 31 42.6
baz=211,SNR=5.5
P60A **Greenville** **30.11** **27** P 16 31 42.5
baz=215,SNR=5.2
P60A **Greenville** **30.11** **27** P **P** **16 31 42.4 -0.8**
P60A IAmb IAmb 16 31 43.9
comp=Z,48nm,1.1s

L53A **Girard** **30.20** **19** P 16 31 43.3
baz=205
WUPA **West Chester U** **30.23** **27** P **P** **16 31 43.6 -0.5**
I42A **Draeger Farm,** **30.26** **6** P **P** **16 31 42.7 -1.7**
M55A **Ridgway** **30.27** **21** P **P** **16 31 43.6 -1.0**
M55A IAmb IAmb 16 31 44.6
comp=Z,22nm,0.8s
O59A **Robesonia** **30.29** **26** P 16 31 44.6
baz=214,SNR=5.2
BFSC **Mount Baldy Ra** **30.30** **317** P 16 31 47.3
baz=126
CIS **Catalina Islan** **30.33** **315** P 16 31 47.8
baz=124
GSC **Goldstone, Bar** **30.39** **319** P 16 31 48.3
baz=129
ERPA **Erie** **30.44** **19** P **P** **16 31 45.3 -0.7**
ERPA IAmb IAmb 16 31 46.0
comp=Z,18nm,0.8s
ERPA **Erie** **30.44** **19** P 16 31 45.5
baz=205
M56A **Emporium** **30.49** **22** P **P** **16 31 45.7 -0.9**
M56A IAmb IAmb 16 31 46.5
comp=Z,38nm,1.2s
M56A **Emporium** **30.49** **22** P 16 31 46.3
baz=209
RWWY **Rawlins** **30.50** **339** P **P** **16 31 46.3 -0.6**
N58A **Sunbury** **30.51** **25** P 16 31 46.2
baz=212
N58A **Sunbury** **30.51** **25** P **P** **16 31 44.4 -2.3**
N58A IAmb IAmb 16 31 46.8
comp=Z,52nm,1.3s
MWC **Mount Wilson** **30.56** **316** P **P** **16 31 47.7 +0.2**
MWC pmax pmax
comp=Z,17nm,1.2s
MWC **Mount Wilson** **30.56** **316** P **P** **16 31 47.7 +0.2**
O60A **Telford** **30.63** **27** P 16 31 47.6
baz=215
M57A **Sunshine Farm,** **30.77** **24** P 16 31 48.8
baz=211,SNR=5.6
LUPA **Lehigh Univers** **30.87** **27** P **P** **16 31 49.5 -0.4**
EDW2 **Edwards Air Fo** **30.90** **317** P 16 31 52.2
baz=127,SNR=5.6
N59A **State Game Lan** **30.96** **26** P **P** **16 31 50.0 -0.7**
N59A IAmb IAmb 16 31 51.7
comp=Z,77nm,1.4s
N59A **State Game Lan** **30.96** **26** P 16 31 50.6
baz=214,SNR=5.9
SUSD **Miller** **31.04** **352** P 16 31 51.9
baz=168
SUSD **Miller** **31.04** **352** P **P** **16 31 50.7 -0.7**
SUSD IAmb IAmb 16 31 53.3
comp=Z,52nm,1.1s
LRMC **Laurel Mtn Rad** **31.06** **319** P 16 31 54.3
baz=128,SNR=11
M58A **Price's Panora** **31.06** **24** P 16 31 51.1
baz=212,SNR=10.0
TPNV **Topopah Spring** **31.11** **322** P 16 31 55.3
baz=132
K22A **Casper** **31.12** **340** P 16 31 55.6
baz=154,SNR=8.5
WVNY **West Valley, N** **31.15** **21** P **P** **16 31 51.8 -0.6**
N60A **Cedar Hill Far** **31.21** **27** P 16 31 53.0
baz=215,SNR=5.9
L56A **Greenwood** **31.29** **22** P **P** **16 31 52.5 -1.1**
L56A IAmb IAmb 16 31 53.6
comp=Z,18nm,0.8s
L56A **Greenwood** **31.29** **22** P 16 31 52.7
baz=210
BRNJ **Basking Ridge** **31.30** **27** P **P** **16 31 53.2 -0.4**
SPMN **Marine on St.** **31.39** **0** P **P** **16 31 52.7 -1.7**
L57A **Andrews Acres** **31.44** **23** P 16 31 54.4
baz=211,SNR=5.2
SPR3 **Spring Creek 3** **31.47** **327** P **P** **16 31 57.3 +1.7**
KSPA **Keystone Colle** **31.50** **25** P **P** **16 31 54.2 -1.2**
KSPA IAmb IAmb 16 31 56.0
comp=Z,18nm,0.9s
ARVC **Arvin** **31.60** **317** P 16 31 58.7
baz=126
ODNJ **Ogdensburg** **31.60** **27** P **P** **16 31 54.9 -1.4**
M59A **Waymart** **31.62** **26** P 16 31 56.2
baz=214,SNR=7.0
I51A **Listowel** **31.67** **17** P 16 31 55.4
baz=202
ISA **Isabella, Lake** **31.68** **318** P 16 31 59.6
baz=127
MMNY **Mt. Morris Dam** **31.68** **21** P **P** **16 31 56.2 -0.8**
MMNY IAmb IAmb 16 31 57.0
comp=Z,21nm,0.8s
R11A **Troy Canyon, C** **31.69** **325** P 16 31 60.0
baz=134,SNR=7.2
R11A **Troy Canyon, C** **31.69** **325** P **P** **16 31 58.7 +1.4**
RSSD **Black Hills** **31.74** **345** P **P** **16 31 58.9 +1.1**
RSSD pmax pmax
comp=Z,14nm,0.9s
RSSD **Black Hills** **31.74** **345** P **P** **16 31 58.9 +1.1**
RSSD **Black Hills** **31.74** **345** P 16 32 00.5
baz=159
BBSR **BB Station** **31.78** **50** P **P** **16 31 57.1 -0.9**
GLMI **Grayling** **31.79** **11** P **P** **16 31 56.2 -1.8**
GLMI **Grayling** **31.79** **11** P 16 31 56.9
baz=195
M60A **Port Jervis** **31.79** **27** P 16 31 57.1
baz=215
G45A **Suttons Bay** **31.82** **10** P **P** **16 31 57.3 -0.9**
G45A IAmb IAmb 16 31 59.7
comp=Z,40nm,1.1s
GRAC **Grapevine Rang** **31.82** **321** P 16 32 01.5
baz=130,SNR=8.0
TRNY **Table Rock, Ra** **31.82** **27** P **P** **16 31 56.9 -1.4**
TRNY IAmb IAmb 16 31 58.8
comp=Z,34nm,0.9s
PAL **Palisades** **31.85** **28** P 16 31 57.4
baz=217
PAL **Palisades** **31.85** **28** P **P** **16 31 56.9 -1.6**
PAL pmax pmax
comp=Z,51nm,1.0s
PAL **Palisades** **31.85** **28** P **P** **16 31 56.9 -1.6**
K56A **Middlesex** **31.86** **22** P 16 31 58.1
baz=209,SNR=6.9
L58A **Harry Jones Me** **31.87** **24** P 16 31 58.1
baz=212,SNR=8.0
CWC **Cottonwood Cre** **31.91** **320** P 16 32 01.8
baz=129
BINY **Binghamton** **31.95** **24** P 16 31 58.7
baz=212,SNR=7.7
BINY **Binghamton** **31.95** **24** P **P** **16 31 57.9 -1.5**
F36A **Milaca** **32.03** **359** P **P** **16 31 58.3 -1.7**
PKM **Mcpherson Peak** **32.12** **316** P 16 32 03.8
baz=124,SNR=8.3
F33A **5 Mile Ranch,** **32.13** **356** P **P** **16 31 60.0 -0.9**
M61A **Granite Spring** **32.16** **28** P 16 32 00.5
baz=217
J55A **Hilton** **32.19** **21** P **P** **16 31 59.9 -1.5**
J55A IAmb IAmb 16 32 01.2
comp=Z,41nm,0.9s
VES **Vestal, Richgr** **32.19** **318** P 16 32 04.3
baz=126,SNR=9.0
K57A **Scipio Center** **32.19** **23** P 16 32 00.7
baz=211
WSPT **Westport, CT** **32.25** **28** P **P** **16 32 01.2 -0.8**
BGU **Big Grassy Mou** **32.28** **331** P **P** **16 32 03.0 +0.5**
BW06 **Boulder Array** **32.30** **337** P 16 32 04.7
baz=149,SNR=8.2
BW06 **Boulder Array** **32.30** **337** P **P** **16 32 02.6 -0.1**
PD31 **Pinedale Array** **32.30** **337** P **P** **16 32 02.4 -0.3**
PDAR **Pinedale Array** **32.30** **337** P **P** **16 32 04.2 +1.4**
comp=Z,4.2nm,1.0s,baz=138,slow=9.1,SNR=19
PDAR LR LR 16 47 29.2
comp=Z,266nm,19.1s,baz=143,slow=41
PDAR **Pinedale Array** **32.30** **337** P **P** **16 32 03.3 +0.6**
L59A **Walton** **32.32** **25** P 16 32 01.7
baz=214
L59A **Walton** **32.33** **25** P **P** **16 32 01.6 -1.1**
COWI **Conover** **32.43** **5** P **P** **16 32 01.9 -1.6**
L60A **Shokan** **32.51** **26** P 16 32 03.9
baz=215
J56A **Wolcott** **32.54** **22** P **P** **16 32 03.4 -1.1**
J56A **Wolcott** **32.54** **22** P 16 32 03.9
baz=210,SNR=6.5
K58A **Earlville** **32.56** **24** P 16 32 04.0
baz=212,SNR=10
K58A **Earlville** **32.56** **24** P **P** **16 32 03.5 -1.3**
KSCT **Kent School, K** **32.62** **28** P **P** **16 32 04.3 -0.9**
K59A **Cooperstown** **32.89** **25** P 16 32 06.9
baz=214
PAGB **Antelope Grade** **32.89** **317** P **P** **16 32 07.6 -0.2**

AHID **Auburn Hatcher** **32.91** **335** P **P** **16 32 09.6 +1.5**
AHID IAmb IAmb 16 32 14.4
comp=Z,40nm,1.2s
L61A **Hillsdale 1, H** **32.96** **27** P 16 32 08.1
baz=216
J57A **Williamstown** **32.97** **23** P **P** **16 32 07.0 -1.4**
J57A IAmb IAmb 16 32 09.2
comp=Z,33nm,1.0s
J57A **Williamstown** **32.97** **23** P 16 32 07.3
baz=211,SNR=5.1
M63A **Gales Ferry** **33.03** **29** P **P** **16 32 08.4 -0.5**
M63A IAmb IAmb 16 32 09.4
comp=Z,44nm,1.0s
M63A **Gales Ferry** **33.03** **29** P 16 32 08.7
baz=219
PECO **Prince Edward** **33.06** **21** P **P** **16 32 08.2 -0.9**
H53A **Bobcaygeon** **33.09** **19** P 16 32 08.7
baz=206,SNR=7.8
SADO **Sadowa** **33.10** **18** P **P** **16 32 08.4 -1.0**
SADO IAmb IAmb 16 32 09.4
comp=Z,42nm,1.2s
NV11 **Mina Array Sit** **33.23** **322** P **P** **16 32 13.0 +2.1**
NV11 IAmb IAmb 16 32 14.7
comp=Z,18nm,1.1s
L62A **Suffield** **33.24** **28** P **P** **16 32 09.6 -1.0**
L62A **Suffield** **33.24** **28** P 16 32 10.8
baz=218
UCCT **U. Connecticut** **33.25** **29** P **P** **16 32 10.2 -0.6**
REDW **Red Top Meadow** **33.30** **336** P **P** **16 32 13.3 +1.8**
NVAR **Mina Array Bea** **33.31** **322** P **P** **16 32 13.6 +2.0**
comp=Z,10.0nm,0.8s,baz=141,slow=8.7,SNR=46
NVAR LR LR 16 46 39.3
comp=Z,528nm,18.9s,baz=125,slow=38
LHV **Little Huntoon** **33.32** **322** P **P** **16 32 12.2 +0.8**
E46A **Sault Ste Mari** **33.34** **11** P **P** **16 32 10.7 -0.7**
SNOW **Snow King Moun** **33.35** **336** P **P** **16 32 13.5 +1.5**
TRY **Troy** **33.35** **26** P **P** **16 32 10.8 -0.8**
E28A **Huff** **33.38** **350** P **P** **16 32 12.4 +0.4**
LOHW **Long Hollow** **33.42** **336** P **P** **16 32 13.2 +0.7**
K61A **Williamstown** **33.47** **27** P 16 32 12.5
baz=216
QUA2 **Belchertown** **33.57** **28** P **P** **16 32 11.9 -1.6**
J59A **Piesco** **33.60** **25** P **P** **16 32 12.1 -1.8**
J59A IAmb IAmb 16 32 14.6
comp=Z,46nm,1.4s
J59A **Piesco** **33.60** **25** P 16 32 12.9
baz=214
I58A **Old Forge** **33.60** **24** P 16 32 12.9
baz=212,SNR=7.8
J60A **Lant Hill Farm** **33.87** **26** P 16 32 15.4
baz=215
G54A **Lake Saint Pet** **33.99** **19** P 16 32 16.6
baz=206
PLVO **Plevna** **34.00** **20** P **P** **16 32 15.8 -1.5**
PLVO IAmb IAmb 16 32 16.9
comp=Z,16nm,0.9s
L64A **Middleborough** **34.02** **30** P 16 32 18.0
baz=221
L64A **Middleborough** **34.02** **30** P **P** **16 32 17.0 -0.5**
H17A **Grant Village** **34.07** **337** P 16 32 22.4
baz=148,SNR=9.6
H57A **Richville** **34.10** **23** P 16 32 17.1
baz=211
EYMN **Ely** **34.13** **2** P **P** **16 32 16.0 -2.5**
EYMN **Ely** **34.13** **2** P 16 32 17.8
baz=182
NCB **Newcomb** **34.14** **24** P **P** **16 32 17.1 -1.4**
RLMT **Red Lodge** **34.23** **339** P 16 32 21.8
baz=151,SNR=12
RLMT **Red Lodge** **34.23** **339** P **P** **16 32 20.7 +1.2**
RLMT IAmb IAmb 16 32 39.7
comp=Z,29nm,1.2s
SAO **San Andreas Ge** **34.28** **317** P **P** **16 32 20.2 +0.4**
SAO pmax pmax
comp=Z,20nm,1.5s
SAO **San Andreas Ge** **34.28** **317** P **P** **16 32 20.2 +0.4**
CMB **Columbia Colle** **34.34** **320** P **P** **16 32 21.6 +1.2**
CMB pmax pmax
comp=Z,7.0nm,1.1s
CMB **Columbia Colle** **34.34** **320** P **P** **16 32 21.6 +1.2**
YNE **Yellowstone No** **34.39** **338** P **P** **16 32 21.9 +0.9**
YNE IAmb IAmb 16 32 27.9
comp=Z,39nm,1.0s
I60A **Shoreham** **34.41** **26** P 16 32 20.1
baz=215
MDND **Maddock** **34.47** **352** P **P** **16 32 21.0 -0.2**
MDND **Maddock** **34.47** **352** P 16 32 22.0
baz=168,SNR=8.0
ALGO **Algonquin Park** **34.50** **18** P 16 32 20.8
baz=206,SNR=5.5
H58A **Gabriels** **34.53** **24** P 16 32 20.6
baz=213
B35A **Bob, Littlefor** **34.53** **359** P **P** **16 32 20.2 -1.6**
B35A IAmb IAmb 16 32 22.0
comp=Z,40nm,1.3s
LONY **Lake Ozonia** **34.54** **23** P **P** **16 32 20.5 -1.5**
LONY IAmb IAmb 16 32 39.6
comp=Z,28nm,1.2s
LONY **Lake Ozonia** **34.54** **23** P 16 32 21.2
baz=212,SNR=6.4
AGMN **Agassiz Nation** **34.55** **357** P 16 32 21.7
baz=175,SNR=8.7
AGMN **Agassiz Nation** **34.55** **357** P **P** **16 32 21.2 -0.8**
AGMN IAmb IAmb 16 32 26.9
comp=Z,18nm,0.9s
YHL **Hebgen Lake** **34.69** **337** P **P** **16 32 23.3 -0.3**
YHL IAmb IAmb 16 32 29.1
comp=Z,15nm,1.0s
LAO **LASA Array** **34.70** **344** P **P** **16 32 23.7 +0.3**
LAO **LASA Array** **34.70** **344** P 16 32 25.8
baz=157,SNR=9.1
PAHR **Pah Rah Range** **34.78** **323** P **P** **16 32 24.1 -0.2**
G57A **Newington** **34.80** **22** P 16 32 23.1
baz=211
GCMT **Greycliff** **34.95** **339** P **P** **16 32 24.8 -0.9**
BCYI **Bear Canyon** **35.13** **334** P **P** **16 32 28.2 +0.9**
G58A **Ormstown** **35.19** **23** P 16 32 26.4
baz=213
H60A **Morristown** **35.24** **25** P 16 32 27.1
baz=215
MCMT **McKenzie Canyo** **35.32** **335** P **P** **16 32 31.2 +2.1**
BEKR **Beckworth** **35.46** **322** P **P** **16 32 31.0 +0.8**
BOZ **Bozeman (W)** **35.48** **337** P **P** **16 32 29.9 -0.4**
BOZ pmax pmax
comp=Z,18nm,1.1s
BOZ **Bozeman (W)** **35.48** **337** P **P** **16 32 29.9 -0.4**
BOZ IAmb IAmb 16 32 37.9
comp=Z,18nm,1.1s
MFID **Camas Ranch** **35.52** **331** P **P** **16 32 30.6 0.0**
E55A **Montcerf-Lytto** **35.58** **20** P 16 32 30.8
baz=209
G60A **Masonville** **35.83** **25** P 16 32 32.1
baz=216
DGMT **Dagmar** **35.87** **347** P 16 32 35.7
baz=161,SNR=8.2
TRQ **Mont Tremblant** **35.91** **22** P **P** **16 32 32.4 -1.4**
H62A **Milan** **35.92** **27** P **P** **16 32 32.0 -1.8**
E56A **St. Veronique** **36.01** **21** P 16 32 34.1
baz=210,SNR=8.1
MOQ **Mont Orford** **36.04** **25** P **P** **16 32 33.5 -1.5**
WVOR **Wild Horse Val** **36.21** **327** P **P** **16 32 37.2 +0.7**
WVOR pmax pmax
comp=Z,32nm,1.4s
WVOR **Wild Horse Val** **36.21** **327** P **P** **16 32 37.2 +0.7**
WVOR IAmb IAmb 16 32 43.1
comp=Z,32nm,1.4s
D55A **Sainte-Anne-du** **36.27** **20** P 16 32 35.9
baz=209
ULM **Lac du Bonnet** **36.50** **357** P **P** **16 32 37.7 -1.0**
comp=Z,9.9nm,0.5s,baz=174,slow=10.0,SNR=25
ULM PcP **PcP** **16 35 01.6 -0.6**
comp=Z,2.4nm,0.7s,baz=102,slow=3.0,SNR=3.1
ULM LR LR 16 50 36.2
comp=Z,346nm,19.7s,baz=162,slow=41
ULM **Lac du Bonnet** **36.50** **357** P **P** **16 32 37.1 -1.6**
ULM pmax pmax
comp=Z,16nm,0.7s
ULM **Lac du Bonnet** **36.50** **357** P **P** **16 32 37.1 -1.6**
ULM IAmb IAmb 16 32 39.3
comp=Z,16nm,0.7s
HRY **Holter Researc** **36.50** **338** P **P** **16 32 38.5 -0.4**
E58A **La Victoria** **36.51** **23** P 16 32 37.9
baz=213
D56A **ZEC Mazanza, M** **36.54** **21** P 16 32 38.4
baz=210
HOPS **Hopland Field** **36.60** **319** P **P** **16 32 40.2 +0.5**

HOPS IAmb IAmb 16 33 03.1
comp=Z,26nm,1.4s
VLDQ Val d'Or 36.62 17 P P 16 32 38.6 -1.1
F60A Warwick 36.70 25 P 16 32 39.6
baz=215
G62A West of Eustis 36.70 27 P P 16 32 40.2 -0.3
EGMT Eagleton 36.94 341 P P **16 32 43.3 +0.7**
EGMT IAmb IAmb 16 32 47.3
comp=Z,28nm,0.8s
EGMT Eagleton 36.94 341 P 16 32 44.7
baz=152,SNR=22
SAML Samuel 37.15 126 P P 16 32 43.0 -1.7
SAML pmax pmax
comp=Z,8.0nm,0.7s
SAML Samuel 37.15 126 P P 16 32 43.0 -1.7
WDC Whiskeytown Da 37.21 322 P P 16 32 44.5 -0.4
WDC pmax pmax
comp=Z,7.0nm,1.2s
WDC Whiskeytown Da 37.21 322 P P 16 32 44.5 -0.4
D58A Chemin du LacG 37.26 23 P 16 32 44.5
baz=213,SNR=5.2
BMO Blue Mountains 37.30 331 P P 16 32 45.4 -0.3
BMO pmax pmax
comp=Z,9.0nm,1.2s
BMO Blue Mountains 37.30 331 P P 16 32 45.4 -0.3
MSO Missoula 37.40 336 P P 16 32 46.7 +0.1
MSO IAmb IAmb 16 32 52.6
comp=Z,37nm,1.3s
MSO Missoula 37.40 336 P 16 32 48.5
baz=145,SNR=23
LATQ La Tuque 37.54 23 P P 16 32 46.7 -0.9
LATQ La Tuque 37.54 23 P 16 32 46.9
baz=213,SNR=5.4
LSQQ Lebel-sur-Quev 37.61 17 P 16 32 47.1
baz=206
F63A Nahmakanta, Br 37.71 28 P P 16 32 48.3 -0.8
F63A IAmb IAmb 16 33 06.3
comp=Z,51nm,1.4s
D60A Saint Jean D'O 37.88 25 P 16 32 49.6
baz=216
G65A Princeton 38.05 29 P P 16 32 50.6 -1.2
G65A IAmb IAmb 16 32 53.0
comp=Z,12nm,0.7s
MATQ Matagami 38.06 16 P 16 32 50.7
baz=204,SNR=6.0
F10A Beach Ranch, E 38.11 332 P P 16 32 52.4 -0.2
F10A IAmb IAmb 16 32 58.5
comp=Z,21nm,0.9s
PINE Pine Mountain 38.37 327 P P 16 32 55.8 +0.9
E63A Oxbow 38.56 27 P P 16 32 55.2 -1.1
E63A IAmb IAmb 16 32 56.1
comp=Z,32nm,1.3s
LPAZ La Paz 38.61 140 P P 16 32 57.0 -0.7
comp=Z,1.9nm,0.7s,baz=327,slow=5.1,SNR=6.5
LPAZ LR LR 16 47 03.3
comp=Z,157nm,20.9s,baz=319,slow=34
LPAZ La Paz 38.61 140 P P 16 32 56.3 -1.4
LPAZ pmax pmax
comp=Z,5.0nm,1.2s
LPAZ La Paz 38.61 140 P P 16 32 56.3 -1.4
D62A Allapoint, All 38.80 26 P 16 32 57.0
baz=219
PQI Presque Isle 38.94 28 P P 16 32 58.1 -1.3
D63A Stockholm 39.17 27 P 16 33 00.7
baz=220
H04A Detroit Lake 39.63 327 P P 16 33 05.1 -0.2
H04A IAmb IAmb 16 33 16.7
comp=Z,23nm,1.1s
NEW Newport 39.84 335 P P 16 33 07.1 +0.1
NEW pmax pmax
comp=Z,13nm,1.3s
NEW Newport 39.84 335 P P 16 33 07.1 +0.1
NEW Newport 39.84 335 P 16 33 11.0
baz=142,SNR=5.5
C09A Chrisman Ranch 39.97 333 P P 16 33 08.1 0.0
F05D White Salmon 40.07 329 P 16 33 11.8
baz=134
BATG Bathurst New B 40.28 28 P P 16 33 09.8 -0.8
BATG IAmb IAmb 16 33 11.5
comp=Z,24nm,1.2s
MDP Montagnes des 40.62 98 LR LR 16 52 12.7
comp=Z,154nm,18.9s,baz=270,slow=39
LON Longmire 40.85 330 P P 16 33 14.2 -1.1
LON pmax pmax
comp=Z,11nm,1.1s
LON Longmire 40.85 330 P P 16 33 14.2 -1.1
B08A Colville Reser 40.86 333 P P 16 33 14.8 -0.6
FFC Flin Flon 41.51 352 P P 16 33 20.5 -0.1
FFC pmax pmax
comp=Z,38nm,1.3s
FFC Flin Flon 41.51 352 P P 16 33 20.5 -0.1
FFC IAmb IAmb 16 33 23.2
comp=Z,38nm,1.2s
B05A Bryant 42.05 331 P 16 33 29.3
baz=135
FCC Fort Churchill 44.96 359 P P 16 33 47.8 -0.5
FCC pmax pmax
comp=Z,8.0nm,0.8s
FCC Fort Churchill 44.96 359 P P 16 33 47.8 -0.5
YKA Yellowknife Ar 51.08 347 P P 16 34 36.7 +1.0
comp=Z,32nm,0.8s,baz=145,slow=8.2,SNR=176
YKA PP PP **16 36 32.4 0.0**
comp=Z,7.4nm,1.1s,baz=143,slow=9.1,SNR=3.5
YKA LR LR 17 01 06.4
comp=Z,173nm,18.2s,baz=0.0,slow=42
CPUP Villa Florida 52.77 139 P P 16 34 46.8 -2.0
comp=Z,3.1nm,0.8s,baz=305,slow=7.4,SNR=7.3
CPUP LR LR 16 57 49.1
comp=Z,110nm,18.2s,baz=322,slow=37
CPUP Villa Florida 52.77 139 P P 16 34 46.5 -2.3
CPUP pmax pmax
comp=Z,8.0nm,1.1s
CPUP Villa Florida 52.77 139 P P 16 34 46.5 -2.3
BDFB Brasilia 53.16 122 P P 16 34 51.8 -0.2
comp=Z,3.0nm,0.6s,baz=326,slow=10,SNR=5.4
BDFB LR LR 16 55 54.0
comp=Z,127nm,20.0s,baz=290,slow=34
BDFB Brasilia 53.16 122 P P 16 34 50.4 -1.5
BDFB pmax pmax
comp=Z,8.0nm,0.7s
BDFB Brasilia 53.16 122 P P 16 34 50.4 -1.5
BI02 San Fabin de 54.13 159 P P 16 34 58.3 -0.4
BI02 IAmb IAmb 16 35 18.7
comp=Z,19nm,1.4s
RKT Rikitea 55.08 229 *e*LR LR 16 50 54.0
comp=Z,533nm,25.8s
WHY Whitehorse 55.86 337 P P 16 35 11.8 +0.8
WHY IAmb IAmb 16 35 17.1
comp=Z,17nm,1.1s
PLCA Paso Flores 58.03 160 LR LR 16 55 44.6
comp=Z,153nm,18.9s,baz=352,slow=31
GRNC Granite Creek 58.67 334 P P 16 35 31.8 +0.8
GRNC IAmb IAmb 16 35 38.8
comp=Z,26nm,1.0s
C36M Paulatuk 58.96 348 P P 16 35 33.6 +1.1
C36M IAmb IAmb 16 35 36.5
comp=Z,12nm,1.1s
C36M Paulatuk 58.96 348 P 16 35 34.7
baz=144,SNR=7.6
MCARA McCarthy VSAT 59.54 335 P 16 35 39.7
baz=120
DAWY Dawson 59.59 338 P P 16 35 37.9 +0.8
DAWY IAmb IAmb 16 35 42.6
comp=Z,7.1nm,0.8s
RCBR Riachuelo 59.85 105 LR LR 17 01 48.5
comp=Z,167nm,21.4s,baz=318,slow=36
BMRM Bremner River 60.01 334 P 16 35 42.0
baz=118
SFJD Kangerlussuaq 60.05 18 P P 16 35 39.1 -0.9
SFJD pmax pmax
comp=Z,7.0nm,0.9s
SFJD Kangerlussuaq 60.05 18 P P 16 35 39.1 -0.9
EPYK Eagle Plains 60.09 341 P 16 35 45.0
baz=129,SNR=5.3
N25K Chitina, Valde 60.31 334 P 16 35 44.3
baz=119,SNR=5.8
INK Inuvik 60.44 344 P P 16 35 43.6 +0.9
comp=Z,42nm,0.9s,baz=131,slow=7.0,SNR=40
INK LR LR 17 06 51.2
comp=Z,339nm,18.1s,baz=148,slow=41
INK Inuvik 60.44 344 P P 16 35 43.3 +0.6
INK pmax pmax
comp=Z,72nm,1.1s
INK Inuvik 60.44 344 P P 16 35 43.3 +0.6
K27K Chicken 60.55 338 P 16 35 45.1
baz=122

EGAK Eagle 60.62 338 P P 16 35 43.8 -0.3
EGAK IAmb IAmb 16 35 49.7
comp=Z,27nm,1.1s
EGAK Eagle 60.62 338 P 16 35 45.0
baz=124,SNR=11
KLU Klutina 60.81 334 P 16 35 47.2
baz=117
M24K Tolsona, Glenn 61.20 335 P 16 35 51.9
baz=117
SCRK Sand Creek 61.24 337 P 16 35 50.8
baz=120,SNR=10
PAX Paxson 61.32 336 P 16 35 50.4
baz=118,SNR=7.3
SEW Seward 61.79 332 P 16 35 54.4
baz=113
KNK Knik Glacier 61.87 333 P 16 35 54.2
baz=115
SML Sawmill 61.99 334 P 16 35 57.7
baz=115
GHO Glory Hole Cre 62.23 334 P P 16 35 55.4 +0.3
PMR Palmer 62.24 333 P 16 35 56.5
baz=114
BRSE Bradley Lake S 62.25 331 P 16 35 56.9
baz=112
RC01 Rabbit Creek A 62.31 333 P P 16 35 56.5 +1.0
RC01 Rabbit Creek A 62.31 333 P 16 35 56.8
baz=113
BRLK Bradley Lake 62.33 331 P P 16 35 57.0 +1.4
HDA Harding Lake 62.58 337 P 16 35 58.2
baz=118,SNR=9.2
HDA P 16 35 58.2
baz=118,SNR=9.2
PRP Porcupine Dome 62.58 338 P P 16 35 58.6 +1.1
PRP Porcupine Dome 62.58 338 P 16 35 59.0
baz=120,SNR=12
WAT2 Susitna Watana 62.59 335 P 16 35 58.6
baz=115,SNR=20
ILAR Eielson Array 62.73 337 P P 16 35 59.2 +1.0
comp=Z,6.9nm,0.7s,baz=142,slow=4.5,SNR=24
ILAR LR LR 17 04 21.9
comp=Z,166nm,18.1s,baz=132,slow=37
ILAR Eielson Array 62.73 337 P P 16 35 58.4 +0.2
RND Reindeer 62.89 335 P P 16 35 59.1 -0.3
RND pmax pmax
comp=Z,59nm,1.1s
RND Reindeer 62.89 335 P P 16 35 59.1 -0.3
SUA Susitna One 62.90 333 P 16 36 00.9
baz=112
MCK McKinley 63.06 336 P 16 36 01.4
baz=115
CUT Chulitna 63.06 334 P 16 36 02.2
baz=113,SNR=5.2
POKR Poker Plat Res 63.09 337 P 16 36 04.4
baz=117,SNR=7.3
COLA College 63.14 337 *i* P P **16 36 03.5 +2.5**
COLA pmax pmax
comp=Z,25nm,1.0s
MDM Murphy Dome 63.32 337 P P 16 36 02.3 0.0
MDM IAmb IAmb 16 36 07.8
comp=Z,10nm,0.8s
SKT Skwentna 63.44 333 P P 16 36 03.2 +0.1
SKT Skwentna 63.44 333 P 16 36 04.4
baz=112
SPCR Spurr Chakacha 63.46 332 P 16 36 04.1
baz=111
TRF Thorofare Moun 63.49 335 P P 16 36 04.4 +0.8
TRF Thorofare Moun 63.49 335 P 16 36 04.6
baz=114,SNR=5.2
I23K Minto, Yukon-K 63.84 337 P P 16 36 06.5 +0.9
I23K Minto, Yukon-K 63.84 337 P 16 36 07.0
baz=116,SNR=29
PPT Papeete 63.95 242 LR LR 16 56 46.2
comp=Z,236nm,18.2s,baz=26,slow=29
PPT2 Papeete2 63.96 242 *e*LR LR 16 54 58.4
comp=Z,295nm,24.0s
BPAW Bear Paw Mtn. 64.04 336 P P 16 36 06.0 -1.0
BPAW IAmb IAmb 16 36 13.5
comp=Z,27nm,1.2s
BPAW Bear Paw Mtn. 64.04 336 P 16 36 07.9
baz=113
PPLA Purkeypile 64.07 334 P 16 36 08.6
baz=112
ICESG Greenland Ices 64.62 19 *i* P P **16 36 10.8 -0.3**
ICESG IAmb IAmb 16 36 11.5
comp=Z,15nm,0.8s
COLD Coldfoot 65.05 339 P 16 36 15.0
baz=116,SNR=7.8
TOLK Toolik Lake Re 65.46 340 P P 16 36 16.9 +0.7
TOLK IAmb IAmb 16 36 22.6
comp=Z,15nm,0.8s
TOLK Toolik Lake Re 65.46 340 P 16 36 17.6
baz=117,SNR=8.5
EUNU Eureka 66.42 1 P P 16 36 22.0 -0.2
EUNU IAmb IAmb 16 36 24.8
comp=Z,26nm,1.0s
TBI Tubuai 66.43 237 *e*LR LR 16 56 11.9
comp=Z,377nm,26.5s
SUMG Summit 66.74 15 *i* P P **16 36 24.7 -0.1**
comp=Z,21nm,0.8s
SUMG Summit 66.74 15 *i* P P **16 36 24.7 -0.1**
SUMG pmax pmax
comp=Z,21nm,0.8s
SUMG Summit 66.74 15 *i* P P **16 36 24.8 -0.1**
SUMG IAmb IAmb 16 36 27.4
comp=Z,21nm,0.8s
FALS False Pass 67.65 324 P P 16 36 29.2 -1.2
RDOG Red Dog Mine 69.90 338 P P 16 36 44.6 +0.4
RDOG IAmb IAmb 16 36 51.3
comp=Z,20nm,1.0s
DBG Daneborg 72.21 16 *i* P P **16 36 57.2 -0.8**
DBG IAmb IAmb 16 37 00.1
comp=Z,5.4nm,0.9s
DAG Danmarks Havn 73.14 13 *i* P P **16 37 03.6 +0.1**
comp=Z,11nm,0.8s
DAG Danmarks Havn 73.14 13 *i* P P **16 37 03.6 +0.1**
DAG pmax pmax
comp=Z,11nm,0.8s
DAG Danmarks Havn 73.14 13 *i* P P **16 37 03.7 +0.1**
DAG IAmb IAmb 16 37 04.6
comp=Z,11nm,0.8s
NOR Nord 74.50 9 *i* P P **16 37 12.8 +1.3**
comp=Z,4.5nm,0.9s
NOR Nord 74.50 9 *i* P P **16 37 12.8 +1.3**
NOR pmax pmax
comp=Z,5.0nm,0.9s
NOR Nord 74.50 9 *i* P P **16 37 12.8 +1.3**
NOR IAmb IAmb 16 37 13.8
comp=Z,4.5nm,0.9s
PMTG Montargil 77.43 53 *e*P P **16 37 28.8 -0.1**
comp=Z,24nm,1.8s
PVIS Viseu 77.47 51 *e*P P **16 37 28.9 -0.3**
comp=Z,26nm,1.8s
MTE Manteigas 77.77 51 *e*P P **16 37 30.6 -0.3**
comp=Z,34nm,1.7s
PCBR Castelo Branco 77.90 52 *e*P P **16 37 32.3 +0.8**
comp=Z,16nm,1.5s
PVAQ Vaqueiros 78.05 54 *e*P P **16 37 28.6 -3.8**
comp=Z,46nm,1.7s
MVO Moncorvo 78.06 50 *e*P P **16 37 31.3 -1.2**
comp=Z,28nm,1.9s
ESK Eskdalemuir 78.69 36 P P **16 37 34.9 -0.7**
ESK pmax pmax
comp=Z,22nm,1.0s
ESK Eskdalemuir 78.69 36 P P **16 37 34.9 -0.7**
ESK IAmb IAmb 16 37 38.2
comp=Z,22nm,1.0s
ESDC Sonseca Array 80.60 51 P P **16 37 46.5 +0.1**
comp=Z,7.3nm,1.1s,baz=292,slow=5.6,SNR=19
ESDC LR LR 17 08 18.3
comp=Z,185nm,21.8s,baz=310,slow=32
ESDC Sonseca Array 80.60 51 P P **16 37 45.3 -1.1**
ESDC IAmb IAmb 16 37 48.0
comp=Z,31nm,1.3s
LFF La Frestale 83.01 46 *e*P P **16 37 59.1 +0.2**
LFF pmax pmax
comp=Z,22nm,1.2s
CAF Calviac 83.93 45 *e*P P **16 38 02.9 -0.8**
CAF pmax pmax
comp=Z,125nm,2.1s
BMRD Maredsous 84.41 40 *d*P P **16 38 03.1 -2.9**
BGES Gesves 84.59 40 κP P **16 38 04.1 -2.8**
NB2 NORSAR Subarra 84.82 28 P P **16 38 09.8 +1.9**
comp=Z,1.4nm,0.7s,baz=289,slow=5.3
NOA NORSAR Array B 84.82 28 P P **16 38 09.5 +1.6**
comp=Z,4.6nm,1.1s,baz=290,slow=4.9,SNR=13
NOA LR LR 17 16 32.8
comp=Z,218nm,18.2s,baz=280,slow=36

WLF Walferdange 85.44 40 *d*PcP P **16 38 10.4 -0.7**
KOWA Kowa 85.62 76 P P **16 38 10.8 -1.9**
KOWA IAmb IAmb 16 38 15.2
comp=Z,10nm,0.9s
TIC Toumodi 86.44 84 *e*P P **16 38 18.0 +1.2**
LIC Lamto 86.53 84 *e*P P **16 38 19.0 +1.8**
comp=Z,114nm,2.1s
DBIC Dimbokro 86.59 84 P P **16 38 17.8 +0.2**
comp=Z,5.3nm,0.9s,baz=212,slow=5.1,SNR=5.2
DBIC LR LR 17 14 28.5
comp=Z,90nm,19.2s,baz=236,slow=34
DBIC Dimbokro 86.59 84 P P **16 38 17.8 +0.2**
DBIC pmax pmax
comp=Z,21nm,1.3s
DBIC Dimbokro 86.59 84 IAmb IAmb 16 38 20.1
comp=Z,21nm,1.3s
ARCES ARCESS Array B 86.68 18 P P **16 38 17.4 +0.5**
comp=Z,3.9nm,0.7s,baz=294,slow=3.9,SNR=10
ARCES LR LR 17 16 31.0
comp=Z,265nm,21.0s,baz=245,slow=35
ARCES ARCESS Array B 86.68 18 P P **16 38 17.4 +0.5**
ARCES pmax pmax
comp=Z,14nm,1.2s
ARCES ARCESS Array B 86.68 18 IAmb IAmb 16 38 24.0
comp=Z,14nm,1.1s
KIC Kosan Boka 86.78 84 *e*P P **16 38 19.8 +1.3**
comp=Z,35nm,1.1s
DAVA Damuels 88.52 42 *e*P P **16 38 28.5 +2.1**
comp=Z,23nm,1.4s
GRF Grafenberg Arr 88.57 39 *e*P P **16 38 28.3 +1.8**
comp=Z,33nm,1.5s,baz=282,slow=5.0
SEY Seymchan 88.62 335 *i* P P **16 38 26.8 +0.5**
RETA Reutte 89.02 41 *e*P P **16 38 30.6 +1.9**
comp=Z,19nm,1.4s
CLL Collm 89.08 37 *i* (P) P **16 38 29.9 +1.2**
comp=Z,52nm,2.2s
CLL Collm 89.08 37 *i* P P **16 38 29.9 +1.2**
CLL pmax pmax
comp=Z,52nm,2.2s
FETA Feichten 89.15 42 *e*P P **16 38 31.3 +1.9**
comp=Z,12nm,1.5s
MOTA Moosalm 89.28 41 *e*P P **16 38 31.7 +1.7**
comp=Z,15nm,1.3s
SQTA Sankt Quirin 89.39 41 *e*P P **16 38 32.3 +1.8**
comp=Z,10nm,1.3s
WATA Walderalm 89.59 41 *e*P P **16 38 33.0 +1.6**
comp=Z,9.9nm,1.3s
BRG Berggiesshubel 89.79 37 *e*P P **16 38 34.9 +2.8**
BRG Amp 16 38 37.7
comp=Z,21nm,1.7s
KHC Kasperske Hory 90.21 39 *e*P P **16 38 36.5 +2.4**
KHC Kasperske Hory 90.21 39 *e*P P **16 38 36.5 +2.4**
TIXI Tiksi 90.33 348 *i* P P **16 38 34.1 0.0**
TIXI Tiksi 90.33 348 P P **16 38 34.0 -0.2**
TIXI IAmb IAmb 16 38 40.6
comp=Z,6.5nm,0.9s
GERES GERESS Array B 90.39 39 P P **16 38 35.6 +0.5**
comp=Z,1.8nm,0.9s,baz=277,slow=2.2,SNR=7.9
GERES LR LR 17 17 55.1
comp=Z,179nm,19.9s,baz=289,slow=35
ABTA Abfaltersbach 90.39 42 *e*P P **16 38 37.0 +1.9**
comp=Z,16nm,1.4s
KBA Koelnbreinsper 90.81 41 *e*P P **16 38 38.9 +1.8**
comp=Z,6.9nm,1.4s
MA2 Magadan 90.92 333 LR LR 17 22 52.7
comp=Z,109nm,20.1s,baz=357,slow=38
MA2 Magadan 90.92 333 P P **16 38 36.9 -0.2**
MA2 pmax pmax
comp=Z,9.0nm,1.0s
MA2 Magadan 90.92 333 P P **16 38 36.9 -0.2**
MA2 IAmb IAmb 16 38 45.7
comp=Z,8.9nm,1.0s
MOA Molln 91.11 40 *e*P P **16 38 39.5 +1.2**
comp=Z,2.5nm,0.8s
FINES FINESS Array B 91.13 25 P P **16 38 39.2 +1.1**
comp=Z,8.8nm,1.0s,baz=295,slow=2.9,SNR=12
FINES LR LR 17 19 12.7
comp=Z,316nm,18.5s,baz=308,slow=35
FINES FINESS Array B 91.13 25 P P **16 38 37.6 -0.5**
CHVC Chvalec 91.14 37 *e*P P **16 38 40.3 +1.9**
OSTC Ostas 91.25 37 *e*P P **16 38 41.8 +2.9**
TORD Torodi Ar. Bea 91.33 76 LR LR 17 17 51.4
comp=Z,75nm,19.9s,baz=325,slow=34
DPC Dobruska-Polom 91.39 37 *e*P P **16 38 41.1 +1.5**
DPC Dobruska-Polom 91.39 37 *e*P P **16 38 41.1 +1.5**
KEST Kesra 91.79 53 P P **16 38 42.1 +0.3**
comp=Z,11nm,1.0s,baz=240,slow=5.1,SNR=4.5
KRUC Moravsky 91.95 38 *e*P P **16 38 43.8 +1.6**
VRAC Vranov 91.97 38 *e*P P **16 38 44.1 +1.8**
SOKA Soboth 92.03 41 *e*P P **16 38 44.2 +1.5**
comp=Z,5.9nm,1.2s
CONA Conrad Observa 92.07 40 *e*P P **16 38 44.9 +2.1**
comp=Z,7.2nm,1.5s
MORC Moravsky Berou 92.35 37 *e*P P **16 38 45.7 +1.7**
MORC Moravsky Berou 92.35 37 P P **16 38 43.9 -0.2**
MORC pmax pmax
comp=Z,15nm,1.5s
MORC Moravsky Berou 92.35 37 P P **16 38 43.9 -0.2**
MORC IAmb IAmb 16 38 46.7
comp=Z,15nm,1.5s
MODS Modra-Piesok 92.76 39 *e*P P **16 38 47.8 +1.8**
MODS Modra-Piesok 92.76 39 *e*P P **16 38 47.8 +1.8**
JAVC Velka Javorina 92.80 38 *e*P P **16 38 47.6 +1.6**
NACGM Naroch 94.92 30 *i* P P **16 38 56.4 +0.8**
NACGM *i* P P **16 38 56.4 +0.8**
NACGM *i* P P **16 38 56.4 +0.8**
NACGM *i* PP **PP 16 42 43.3 -0.9**
NACGM *i* PPP PPP 16 44 50.1
NACGM *i* SKS SKSac 16 49 13.1 -17
NACGM *i* SS SS 16 56 04.5 -28
NACGM *i* SSS SSS 17 00 05.7
NACGM *i* LQ LQ 17 12 19.3
NACGM *i* LR LR 17 16 29.3
CRVS Cervenica-Dubn 95.03 37 *e*P P **16 38 56.2 -0.2**
CRVS Cervenica-Dubn 95.03 37 *e*P P **16 38 56.2 -0.2**
KOLS Kolonicke sedl 95.49 37 *e*P P **16 39 00.7 +2.2**
KOLS Kolonicke sedl 95.49 37 *e*PDIFF P **16 39 00.7 +2.2**
MNK Minsk 95.68 30 *i* P P **16 39 03.5 +4.4**
comp=E,2.0nm,0.9s
MNK *i* P P **16 39 03.5 +4.4**
comp=N,12nm,0.7s
MNK *i* P P **16 39 03.5 +4.4**
comp=Z,14nm,0.7s
MNK *i* PP PP 16 42 59.7 +10
MNK *i* PPP PPP 16 45 03.9
MNK *i* S **SKSac 16 49 37.8 +3.7**
MNK *i* SS SS 16 57 19.2 +36
MNK *i* SSS SSS 17 00 49.2
MNK *i* LQ LQ 17 17 00.6
MNK *i* LR LR 17 20 48.6
MNK *i* LRM MLR 17 25 43.7
comp=E,33nm,19.5s
MNK *i* LRM MLR 17 25 54.0
comp=Z,106nm,14.3s
MNK *i* LRM MLR 17 26 23.4
comp=N,330nm,19.8s
YAK Yakutsk 97.42 341 *i* P Pdif 16 39 09.1 +2.2
YAK pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 98.45 33 P P **16 39 11.5 -0.3**
comp=Z,0.1nm,0.3s,baz=302,slow=3.5,SNR=4.5
AKASG LR LR 17 24 54.5
comp=Z,190nm,19.2s,baz=335,slow=36
MLR Muntele Rosu 99.36 39 P **Pdif 16 39 16.8 +0.7**
comp=Z,2.5nm,0.8s,baz=198,slow=5.8,SNR=4.0
DZM Mont Dzumac 104.72 251 *e*LR LR 17 13 55.9
comp=Z,303nm,22.1s
CN2 Changchun 112.88 331 *e*PKP **PKiKP 16 44 12.0 +1.4**
KSRS Korea Array 116.23 325 PKP **PKPdf 16 44 17.8 +0.5**
comp=Z,0.4nm,0.8s,baz=20,slow=1.2,SNR=2.5
SONM Songino Array 116.33 346 PKP **PKPdf 16 44 17.7 +0.4**
comp=Z,0.1nm,0.4s,baz=108,slow=4.7,SNR=2.0
SYO Syowa Base 117.18 163 *e*PKPdf **PKiKP 16 44 18.7 +0.7**
MKAR Makanchi Array 119.61 4 PKP **PKPdf 16 44 23.0 -0.6**
comp=Z,0.2nm,0.6s,baz=31,slow=0.6,SNR=3.7
MKAR Makanchi Array 119.61 4 PKiKP **PKPdf 16 44 23.0 -0.6**
HHC Hu-ho-hao-te 121.14 338 *e*PKP **PKPdf 16 44 26.8 0.0**
WMQ Urumqi 122.73 359 *e*PKP **PKPdf 16 44 28.3 -1.4**
WMQ LR LR
comp=Z,500nm,20.1s
WMQ LR LR
comp=Z,240nm,18.1s
NJ2 Nanjing 125.23 327 *e*PKP **PKPdf 16 44 32.3 -2.4**
GTA Gaotai 125.81 348 *e*PKP PKiKP 16 44 44.3 +8.1
KSH Kashi 126.03 11 PKP **PKiKP 16 44 40.1 +3.5**

KSH				sPKP		16 44 57.5		
KSH				PP	PP	16 46 36.0	+7.7	
STKA	**Stephens Creek**	**127.13**	**240**	PKP	**PKPdf**	**16 44 37.6**	**-0.7**	
	comp=Z,2.7nm,0.7s,baz=102,slow=3.3,SNR=6.1							
LZH	**Lanzhou**	**127.97**	**343**	*e*PKP	**PKPdf**	**16 44 38.0**	**-2.1**	
LZH				sPKP		16 44 59.0		
LZH				LR	LR			
	comp=Z,350nm,16.8s							
LZH				LR	LR			
	comp=Z,250nm,19.0s							
WRA	**Warramunga Arr**	**134.44**	**255**	PKP	**PKPdf**	**16 44 51.9**	**-0.6**	
	comp=Z,2.1nm,0.9s,baz=85,slow=2.0,SNR=8.6							
ASAR	**Alice Springs**	**134.71**	**250**	PKhKP	PKPpre	16 44 41.4		
	comp=Z,0.3nm,0.9s,baz=107,slow=4.0,SNR=4.6							
ASAR				PKP	**PKPdf**	**16 44 52.0**	**-1.0**	
	comp=Z,0.7nm,0.8s,baz=112,slow=2.0,SNR=6.9							
ASAR	**Alice Springs**	**134.71**	**250**	PKHKP	PKPpre	16 44 41.4		
ASAR				PKP	**PKPdf**	**16 44 51.1**	**-1.8**	
ASAR	**Alice Springs**	**134.71**	**250**	PKPdf	**PKPdf**	**16 44 51.1**	**-1.8**	
MMRI	**Maumere**	**145.14**	**275**		**PKPbc**	**16 45 10.2**	**-1.4**	
CHTO	**Chiang Mai**	**145.61**	**340**	PKIKP	**PKPdf**	**16 45 12.3**	**-0.4**	
CHTO	**Chiang Mai**	**145.61**	**340**		**PKPdf**	**16 45 12.3**	**-0.4**	
CMAR	**Chiang Mai Arr**	**145.94**	**340**	PKPbc	**PKPab**	**16 45 14.7**	**+0.3**	
	comp=Z,10nm,0.9s,baz=343,slow=4.1,SNR=54							
CMAR	**Chiang Mai Arr**	**145.94**	**340**	PKIKP	**PKPdf**	**16 45 11.2**	**-2.1**	
CMAR	**Chiang Mai Arr**	**145.94**	**340**	PKPdf	**PKPdf**	**16 45 11.2**	**-2.1**	
PSA00	**Pilbara Seismi**	**147.85**	**251**	PKPbc	**PKPdf**	**16 45 17.7**	**+1.4**	
HYB	**Hyderabad**	**147.93**	**15**	*i* PKP	**PKPbc**	**16 45 20.0**	**+0.3**	
SBUM	**Sibu**	**150.31**	**301**		**PKPbc**	**16 45 25.6**	**-0.2**	

DJA ***15*** *16:44:29.1±0.2,1°S±2°×12°3E±°, h10km,M4.6/22,mB5.5/3, mb4.8/13,MLv4.4/22,Mw(mB)5.0/3*
NEIC ***15*** *16:44:32.5±1.6,0°.89S±0°.09×123°.20E±0°.06, h50km±8km, mb4.2/20,Error ellipse: s-maj=13.2km s-min=9.1km az=180.0*
IDC ***15*** *16:44:33.0±2.3,0°.70S×123°.43E, h51km±24km,mb3.6/9, mb1 3.9/12,mb1mx3.6/39,mbtmp4.0/12,ML3.9/3,MS3.1/6, Ms1 3.1/6,ms1mx2.9/44,Error ellipse: s-maj=15.7km s-min=15.0km az=153.0*

ISC 15 16:44:31.6±0.5, 0°.69S±0°.04×123°.38E±0°.05, h35km, n75, σ1s71/80, mb4.3/24, MS3.3/4, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.70**	**240**	Pn	**Pn**	**16 44 42.4**	**-2.7**
LUWI				Sn	**Sn**	**16 44 51.1**	**-3.7**
LUWI	**Luwuk**	**0.70**	**240**	P	**Pn**	**16 44 42.4**	**-2.7**
LUWI				S	**Sn**	**16 44 52.0**	**-2.8**
GTOI	**Gorontalo**	**1.36**	**344**	P	**Pn**	**16 44 54.2**	**0.0**
GTOI				S	**Sn**	**16 45 12.6**	**+1.6**
KMSI	**Cibinong**	**1.39**	**26**	P	**Pn**	**16 44 52.6**	**-1.9**
KMSI				S	**Sn**	**16 45 10.3**	**-1.4**
APSI	**Ampana**	**1.75**	**263**	P	**Pn**	**16 45 00.3**	**+0.9**
APSI				S	**Sn**	**16 45 25.2**	**+4.7**
MRSI	**Marisa**	**1.84**	**309**	P	**Pn**	**16 44 58.2**	**-2.6**
SANI	**Sanana**	**2.94**	**117**	P	**Pn**	**16 45 14.6**	**-1.3**
TOLI2	**Tolitoli**	**3.15**	**304**	Pn	**Pn**	**16 45 17.6**	**-1.2**
TNTI	**Ternate**	**4.24**	**70**	Pn	Pn	16 45 38.4	+4.6
TNTI	**Ternate**	**4.24**	**70**	P	**Pn**	**16 45 35.0**	**+1.2**
TTSI	**Tana Toraja**	**4.26**	**237**	P	**Pn**	**16 45 34.6**	**+0.5**
NLAI	**Namlea**	**4.50**	**124**	P	**Pn**	**16 45 38.4**	**+1.0**
SPSI	**Sidrap Palu**	**4.86**	**228**	P	**Pn**	**16 45 43.4**	**+1.1**
BNSI	**Bone**	**4.93**	**221**	P	**Pn**	**16 45 43.2**	**-0.1**
KAPI	**Kappang**	**5.62**	**220**	P	**Pn**	**16 45 55.0**	**+2.2**
	7.0nm,0.3s,baz=36,slow=2.5,SNR=16						
KAPI				S	**Sn**	**16 46 57.8**	**+1.6**
	8.9nm,0.3s,baz=184,slow=22,SNR=8.7						
KAPI				LR	LR	16 48 30.1	
	comp=Z,170nm,19.3s,baz=66,slow=42						
KAPI	**Kappang**	**5.62**	**220**		**Pn**	**16 45 53.8**	**+1.0**
BKSI	**Bulukumba**	**5.64**	**215**	P	**Pn**	**16 45 53.8**	**+0.8**
	0.2nm44nm,0.8s						
BSSI	**Bau Bau, Buton**	**6.14**	**208**	P	**Pn**	**16 46 01.9**	**+2.0**
	0.2nm42nm,0.7s						
MSAI	**Masohi**	**6.14**	**116**	P	**Pn**	**16 46 00.1**	**+0.1**
	7.1nm34μm826nm,0.6s						
BKB	**Balikpapan**	**6.51**	**265**	Pn	**Pn**	**16 46 06.4**	**+1.4**
BKB	**Balikpapan**	**6.51**	**265**	P	**Pn**	**16 46 04.9**	**-0.1**
	1.1nm4μm256nm,0.9s						
BNDI	**Bandanaira**	**7.55**	**120**	P	**Pn**	**16 46 21.7**	**+2.4**
	1.0nm176nm,1.5s						
MYLDM	**Lahad Datu**	**7.60**	**320**	Pn	**Pn**	**16 46 23.0**	**+3.0**
SIJI	**Sorong**	**7.89**	**91**	P	**Pn**	**16 46 24.8**	**+0.8**
	2.8nm,0.3s,baz=222,slow=12,SNR=14						
SIJI				S	**Sn**	**16 47 53.6**	**+1.6**
	0.7nm,0.3s,baz=351,slow=23,SNR=1.6						
SIJI				LR	LR	16 49 59.7	
	comp=Z,60nm,18.2s,baz=51,slow=42						
BBKI	**Banjar Baru**	**8.97**	**252**	P	**Pn**	**16 46 40.0**	**+1.2**
	19nm,0.7s						
SOEI	**Soe**	**9.05**	**174**	Pn	**Pn**	**16 46 42.1**	**+2.0**
SOEI	**Soe**	**9.05**	**174**	P	**Pn**	**16 46 44.0**	**+4.0**
	41nm,0.7s						
FAKI	**Fak Fak**	**9.14**	**104**	Pn	**Pn**	**16 46 40.2**	**-0.9**
FAKI	**Fak Fak**	**9.14**	**104**	P	**Pn**	**16 46 40.6**	**-0.5**
BATI	**Baumata**	**9.46**	**178**	P	**Pn**	**16 46 47.3**	**+1.7**
	0.4nm,0.3s,baz=344,slow=7.4,SNR=1.8						
BATI				LR	LR	16 50 31.0	
	comp=Z,97nm,18.3s,baz=174,slow=38						
KKM	**Kota Kinabalu**	**9.79**	**313**	Pn	**Pn**	**16 46 54.9**	**+4.7**
MYKOM	**Kota Tinggi**	**19.68**	**277**	Pn	**P**	**16 48 59.1**	**+1.1**
MYKOM				IAmb	IAmb	16 49 00.2	
	comp=Z,12nm,0.7s						
WB0	**Warramunga Arr**	**21.82**	**151**	P	**P**	**16 49 19.6**	**-1.4**
WB0				IAmb	IAmb	16 49 30.0	
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**21.94**	**151**	P	**P**	**16 49 21.2**	**-1.1**
WRA	**Warramunga Arr**	**21.94**	**151**	P	**P**	**16 49 21.3**	**-1.0**
	comp=Z,3.3nm,0.8s,baz=332,slow=10,SNR=31						
WB2	**Warramunga Arr**	**21.95**	**151**	P	**P**	**16 49 21.2**	**-1.2**
WB2				IAmb	IAmb	16 49 28.9	
	comp=Z,17nm,1.3s						
WR0	**Warramunga Arr**	**22.05**	**151**	P	**P**	**16 49 22.5**	**-1.1**
WR0				IAmb	IAmb	16 49 27.9	
	comp=Z,9.6nm,0.7s						
IPM	**Ipoh**	**22.92**	**283**	P	**P**	**16 49 32.5**	**-0.3**
IPM				IAmb	IAmb	16 49 39.9	
	comp=Z,12nm,1.1s						
KULM	**Kulim**	**23.46**	**285**	P	**P**	**16 49 36.7**	**-1.6**
KULM				IAmb	IAmb	16 49 44.7	
	comp=Z,10.0nm,1.2s						
GIRL	**Giralia**	**23.57**	**202**	P	**P**	**16 49 36.0**	**-3.1**
COEN	**Coen**	**23.61**	**125**	P	**P**	**16 49 39.4**	**-0.3**
COEN				IAmb	IAmb	16 49 57.3	
	comp=Z,18nm,1.4s						
TPUB	**Ta-pu**	**23.99**	**354**	P	**P**	**16 49 44.9**	**+1.8**
AS31	**Alice Springs**	**25.02**	**157**	P	**P**	**16 49 51.2**	**-1.4**
ASAR	**Alice Springs**	**25.02**	**157**	P	**P**	**16 49 52.8**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=332,slow=7.5,SNR=43						
ASAR				PcP	**PcP**	**16 53 27.4**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=356,slow=2.5,SNR=4.3						
ASAR	**Alice Springs**	**25.02**	**157**	P	**P**	**16 49 52.2**	**-0.4**
PMG	**Port Moresby**	**25.20**	**111**	P	**P**	**16 49 54.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**30.64**	**310**	P	**P**	**16 50 43.6**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=132,slow=6.8,SNR=18						
CMAR				PcP	**PcP**	**16 53 40.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=129,slow=1.3,SNR=4.5						
CMAR				LR	LR	17 03 39.3	
	comp=Z,40nm,20.7s,baz=292,slow=37						
CMAR	**Chiang Mai Arr**	**30.64**	**310**	P	**P**	**16 50 43.3**	**+0.3**
CHTO	**Chiang Mai**	**30.85**	**310**	P	**P**	**16 50 44.6**	**-0.1**
CHTO				IAmb	IAmb	16 50 47.5	
	comp=Z,3.5nm,0.8s						
KMI	**Kunming**	**32.52**	**324**	⇑P	**P**	**16 51 01.5**	**+1.9**
KMI				pP	sP	16 51 14.8	+0.9
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
STKA	**Stephens Creek**	**35.48**	**153**	P	**P**	**16 51 23.2**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=321,slow=7.7,SNR=4.0						
STKA				LR	LR	17 06 59.5	
	comp=Z,92nm,20.2s,baz=169,slow=38						
STKA	**Stephens Creek**	**35.48**	**153**	P	**P**	**16 51 23.3**	**-1.7**
KSRS	**Korea Array**	**38.18**	**6**	LR	LR	17 08 04.8	
	comp=Z,12nm,19.3s,baz=340,slow=37						
MJAR	**Matsushiro Arr**	**39.52**	**19**	P	**P**	**16 51 58.3**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=190,slow=6.2,SNR=2.5						
SHL	**Shillong**	**40.09**	**313**	P	**P**	**16 52 03.6**	**-0.7**
BJT	**Baijiatuan**	**41.04**	**352**	P	**P**	**16 52 12.4**	**+0.7**
HHC	**Hu-ho-hao-te**	**42.72**	**347**	*e*P	**P**	**16 52 26.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,7.6s						
ODAN	**Odare**	**44.16**	**311**	*e*P	**P**	**16 52 37.5**	**0.0**
TAPN	**Taplejung**	**44.18**	**312**	*e*P	**P**	**16 52 37.9**	**+0.1**
	comp=Z,5.4nm,0.5s						
RAMN	**Ramite**	**44.80**	**311**	*e*P	**P**	**16 52 42.4**	**-0.3**
	comp=Z,11nm,0.6s						
GUN	**Gumba**	**45.85**	**311**	*e*P	**P**	**16 52 50.8**	**-0.3**
	comp=Z,19nm,0.7s						
PKI	**Pulchoki**	**46.03**	**311**	*e*P	**P**	**16 52 51.3**	**-1.2**
	comp=Z,6.6nm,0.7s						
PKIN	**Phulchoki**	**46.04**	**311**	*e*P	**P**	**16 52 51.3**	**-1.2**
KKN	**Kakani**	**46.24**	**311**	*e*P	**P**	**16 52 53.5**	**-0.5**
GKN	**Gorkha**	**46.84**	**311**	*e*P	**P**	**16 52 58.4**	**-0.6**
SONM	**Songino Array**	**50.54**	**345**	P	**P**	**16 53 24.9**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=165,slow=7.6,SNR=3.3						
WMQ	**Urumqi**	**54.57**	**329**	*e*P	**P**	**16 53 58.3**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.5s						
MK31	**Makanchi Array**	**59.39**	**328**	P	**P**	**16 54 28.2**	**-2.4**
MK31				IAmb	IAmb	16 54 39.1	
	comp=Z,2.5nm,1.4s						
MKAR	**Makanchi Array**	**59.39**	**328**	P	**P**	**16 54 30.9**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=124,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**59.39**	**328**	P	**P**	**16 54 28.6**	**-2.1**
MA2	**Magadan**	**63.79**	**15**	P	**P**	**16 54 59.8**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=193,slow=8.6,SNR=4.6						
MA2	**Magadan**	**63.79**	**15**	IAmb	IAmb	16 55 04.9	
	comp=Z,1.9nm,0.7s						
KKAR	**Karatay Array**	**64.28**	**320**	P	**P**	**16 55 01.6**	**-2.0**
SEY	**Seymchan**	**67.08**	**14**	P	**P**	**16 55 20.4**	**-0.8**
	comp=Z,1.5nm,1.2s,baz=122,slow=9.5,SNR=2.6						
AKTO	**Aktyubinsk**	**75.08**	**323**	LR	LR	17 31 34.8	
	comp=Z,152nm,18.1s,baz=335,slow=38						

SOF ***15*** *16:54:14.1,45°.97N×26°.86E, h39km, MD3.8*
SIGU ***15*** *16:54:16.0,45°.83N×26°.91E, h80km*
BUC ***15*** *16:54:16.8±0.2,45°.80N×26°.93E, h74km±2km, ml3.8/51, Error ellipse: s-maj=1.6km s-min=1.3km az=46.0*
IDC ***15*** *16:54:16.1±5.3,45°.98N×27°.08E, h113km±105km, mb1 2.8/4,mb1mx2.6/45,mbtmp3.2/4,ML2.9/4,Error ellipse: s-maj=103.1km s-min=20.3km az=81.0*

ISC 15 16:54:15.3±1.0, 45°.83N±0°.02×26°.95E±0°.02, h81km±4km, n163, σ1s41/260, 128C-76D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODBI	**Odobesti**	**0.10**	**129**	⇑P	**Pn**	**16 54 28.1**	**+1.2**
ODBI				⇑S	**Sn**	**16 54 36.6**	**+1.1**
ODBI	**Odobesti**	**0.10**	**129**	⇑P	**Pn**	**16 54 28.1**	**+1.2**
ODBI				⇑S	**Sn**	**16 54 36.6**	**+1.1**
VRI	**Vrincioaia**	**0.16**	**285**	⇑P	**Pn**	**16 54 27.6**	**+0.5**
VRI				⇑S	**Sn**	**16 54 35.8**	**-0.1**
VRI	**Vrincioaia**	**0.16**	**285**	⇑P	**Pn**	**16 54 27.6**	**+0.5**
VRI				⇑S	**Sn**	**16 54 35.8**	**-0.1**
VRI	**Vrincioaia**	**0.16**	**285**	*i* P	**Pn**	**16 54 27.6**	**+0.5**
VRI				*i* S	**Sn**	**16 54 35.9**	**+0.1**
PLOR	**Plostina**	**0.21**	**277**	⇑P	**Pn**	**16 54 27.8**	**+0.5**
PLOR				⇑S	**Sn**	**16 54 36.3**	**+0.1**
PLOR	**Plostina**	**0.21**	**277**	⇑P	**Pn**	**16 54 27.8**	**+0.5**
PLOR				⇑S	**Sn**	**16 54 36.3**	**+0.1**
PETR	**Petresti**	**0.23**	**117**	⇑P	**Pn**	**16 54 28.3**	**+1.1**
PETR				⇑S	**Sn**	**16 54 36.8**	**+0.7**
PETR	**Petresti**	**0.23**	**117**	⇑P	**Pn**	**16 54 28.3**	**+1.1**
PETR				⇑S	**Sn**	**16 54 36.8**	**+0.7**
BISRR	**Bisoca**	**0.32**	**211**	⇓P	**Pn**	**16 54 28.9**	**+0.9**
BISRR				⇓S	**Sn**	**16 54 37.8**	**+0.5**
BISRR	**Bisoca**	**0.32**	**211**	⇓P	**Pn**	**16 54 28.9**	**+0.9**
BISRR				⇓S	**Sn**	**16 54 37.8**	**+0.5**
TUDR		**0.56**	**114**	⇓P	**Pn**	**16 54 30.4**	**+0.7**
TUDR				⇓S	**Sn**	**16 54 40.6**	**+0.4**
TUDR		**0.56**	**114**	⇓P	**Pn**	**16 54 30.4**	**+0.7**
TUDR				⇓S	**Sn**	**16 54 40.6**	**+0.4**
NEHR	**Nehoiu**	**0.61**	**229**	⇓P	**Pn**	**16 54 31.3**	**+1.1**
NEHR				⇓S	**Sn**	**16 54 42.4**	**+1.3**
NEHR	**Nehoiu**	**0.61**	**229**	⇓P	**Pn**	**16 54 31.3**	**+1.1**
NEHR				⇓S	**Sn**	**16 54 42.4**	**+1.3**
BIR	**Birlad**	**0.65**	**47**	⇓P	**Pn**	**16 54 32.1**	**+1.6**
BIR				⇓S	**Sn**	**16 54 43.4**	**+1.6**
BIR	**Birlad**	**0.65**	**47**	⇓P	**Pn**	**16 54 32.1**	**+1.6**
BIR				⇓S	**Sn**	**16 54 43.4**	**+1.6**
SCHL	**Schela**	**0.70**	**117**	⇑P	**Pn**	**16 54 31.8**	**+0.8**
SCHL				⇑S	**Sn**	**16 54 42.6**	**-0.1**
SCHL	**Schela**	**0.70**	**117**	⇑P	**Pn**	**16 54 31.8**	**+0.8**
SCHL				⇑S	**Sn**	**16 54 42.6**	**-0.1**
TESR	**Tescani**	**0.71**	**343**	⇑P	**Pn**	**16 54 32.2**	**+0.9**
TESR				⇑S	**Sn**	**16 54 42.8**	**-0.3**
TESR	**Tescani**	**0.71**	**343**	⇑P	**Pn**	**16 54 32.2**	**+0.9**
TESR				⇑S	**Sn**	**16 54 42.8**	**-0.3**
ISR	**Istrita**	**0.76**	**202**	⇑P	**Pn**	**16 54 33.6**	**+1.9**
ISR				⇑S	**Sn**	**16 54 44.7**	**+0.7**
ISR	**Istrita**	**0.76**	**202**	⇑P	**Pn**	**16 54 33.6**	**+1.9**
ISR				⇑S	**Sn**	**16 54 44.7**	**+0.7**
MLR	**Muntele Rosu**	**0.78**	**245**	⇑P	**Pn**	**16 54 33.2**	**+1.2**
MLR				⇑S	**Sn**	**16 54 44.6**	**+0.2**
MLR	**Muntele Rosu**	**0.78**	**245**	⇑P	**Pn**	**16 54 33.2**	**+1.2**
MLR				⇑S	**Sn**	**16 54 44.6**	**+0.2**
OZUR		**0.85**	**289**	⇓P	**Pn**	**16 54 33.6**	**+0.9**
OZUR				⇓S	**Sn**	**16 54 45.3**	**-0.4**
OZUR		**0.85**	**289**	⇓P	**Pn**	**16 54 33.6**	**+0.9**
OZUR				⇓S	**Sn**	**16 54 45.3**	**-0.4**
GISR	**Galati**	**0.87**	**116**	⇑P	**Pn**	**16 54 34.7**	**+1.9**
GISR				⇑S	**Sn**	**16 54 47.2**	**+1.3**
GISR	**Galati**	**0.87**	**116**	⇑P	**Pn**	**16 54 34.7**	**+1.9**
GISR				⇑S	**Sn**	**16 54 47.2**	**+1.3**
PGOR	**Pogoanele**	**0.92**	**178**	⇓P	**Pn**	**16 54 34.8**	**+1.4**
PGOR				⇓S	**Sn**	**16 54 48.9**	**+1.9**
PGOR	**Pogoanele**	**0.92**	**178**	⇓P	**Pn**	**16 54 34.8**	**+1.4**
PGOR				⇓S	**Sn**	**16 54 48.9**	**+1.9**
GIUM	**Giurgiulesti**	**0.95**	**111**	⇓P	**Pn**	**16 54 35.7**	**+1.9**
GIUM				⇓S	**Sn**	**16 54 49.4**	**+1.8**
GIUM	**Giurgiulesti**	**0.95**	**111**	⇓P	**Pn**	**16 54 35.7**	**+1.9**
GIUM				⇓S	**Sn**	**16 54 49.4**	**+1.8**
GIUM	**Giurgiulesti**	**0.95**	**111**	P	**Pn**	**16 54 35.7**	**+1.9**
GIUM				S	**Sn**	**16 54 49.3**	**+1.8**
SECR		**1.00**	**218**	⇑P	**Pn**	**16 54 36.6**	**+2.1**
SECR				⇑S	**Sn**	**16 54 51.3**	**+2.5**
SECR		**1.00**	**218**	⇑P	**Pn**	**16 54 36.6**	**+2.1**
SECR				⇑S	**Sn**	**16 54 51.3**	**+2.5**
VASR	**Vaslui**	**1.00**	**35**	⇑P	**Pn**	**16 54 36.3**	**+1.9**
VASR				⇑S	**Sn**	**16 54 50.1**	**+1.4**
VASR	**Vaslui**	**1.00**	**35**	⇑P	**Pn**	**16 54 36.3**	**+1.9**
VASR				⇑S	**Sn**	**16 54 50.1**	**+1.4**
CFR	**Carcaliu**	**1.06**	**127**	⇑P	**Pn**	**16 54 35.9**	**+0.9**
CFR				⇑S	**Sn**	**16 54 49.4**	**-0.5**
CFR	**Carcaliu**	**1.06**	**127**	⇑P	**Pn**	**16 54 35.9**	**+0.9**
CFR				⇑S	**Sn**	**16 54 49.4**	**-0.5**
DOPR	**Dopca**	**1.10**	**278**	⇑P	**Pn**	**16 54 36.8**	**+1.3**
DOPR				⇑S	**Sn**	**16 54 51.3**	**+0.6**
DOPR	**Dopca**	**1.10**	**278**	⇑P	**Pn**	**16 54 36.8**	**+1.3**
DOPR				⇑S	**Sn**	**16 54 51.3**	**+0.6**
PLAR	**PLOIESTI**	**1.12**	**216**	⇑S	**Sn**	**16 54 51.7**	**+0.5**
PLAR	**PLOIESTI**	**1.12**	**216**	⇑S	**Sn**	**16 54 51.7**	**+0.5**
GIRR	**Girov**	**1.17**	**345**	⇑P	**Pn**	**16 54 38.0**	**+1.5**
GIRR	**Girov**	**1.17**	**345**	⇑P	**Pn**	**16 54 38.0**	**+1.5**
AMRR	**Amara**	**1.25**	**167**	⇓P	**Pn**	**16 54 38.8**	**+1.4**
AMRR				⇓S	**Sn**	**16 54 55.2**	**+1.2**
AMRR	**Amara**	**1.25**	**167**	⇓P	**Pn**	**16 54 38.8**	**+1.4**
AMRR				⇓S	**Sn**	**16 54 55.2**	**+1.2**
SULR		**1.25**	**203**	⇓P	**Pn**	**16 54 39.2**	**+1.8**
SULR				⇓S	**Sn**	**16 54 55.1**	**+1.1**
SULR		**1.25**	**203**	⇓P	**Pn**	**16 54 39.2**	**+1.8**
SULR				⇓S	**Sn**	**16 54 55.1**	**+1.1**
BIZ	**Bicaz**	**1.26**	**333**	⇓P	**Pn**	**16 54 39.3**	**+1.7**
BIZ				⇓S	**Sn**	**16 54 55.4**	**+1.2**
BIZ	**Bicaz**	**1.26**	**333**	⇓P	**Pn**	**16 54 39.3**	**+1.7**
BIZ				⇓S	**Sn**	**16 54 55.4**	**+1.2**
JOSR	**Joseni**	**1.32**	**312**	⇑P	**Pn**	**16 54 39.8**	**+1.3**
JOSR				⇑S	**Sn**	**16 54 56.6**	**+0.7**
JOSR	**Joseni**	**1.32**	**312**	⇑P	**Pn**	**16 54 39.8**	**+1.3**
JOSR				⇑S	**Sn**	**16 54 56.6**	**+0.7**
LEHL	**Lehliu**	**1.36**	**184**	⇓P	**Pn**	**16 54 40.4**	**+1.7**
LEHL				⇓S	**Sn**	**16 54 57.8**	**+1.3**
LEHL	**Lehliu**	**1.36**	**184**	⇓P	**Pn**	**16 54 40.4**	**+1.7**
LEHL				⇓S	**Sn**	**16 54 57.8**	**+1.3**
VOIR		**1.39**	**254**	⇓P	**Pn**	**16 54 40.3**	**+1.0**
VOIR				⇓S	**Sn**	**16 54 57.2**	**-0.1**
VOIR		**1.39**	**254**	⇓P	**Pn**	**16 54 40.3**	**+1.0**
VOIR				⇓S	**Sn**	**16 54 57.2**	**-0.1**
TPGR	**Topolog**	**1.42**	**132**	⇓P	**Pn**	**16 54 40.8**	**+1.2**
TPGR				⇓S	**Sn**	**16 54 59.3**	**+1.3**
TPGR	**Topolog**	**1.42**	**132**	⇓P	**Pn**	**16 54 40.8**	**+1.2**
TPGR				⇓S	**Sn**	**16 54 59.3**	**+1.3**
IAS	**Iasi**	**1.43**	**17**	⇑S	**Sn**	**16 54 59.2**	**+1.1**
IAS	**Iasi**	**1.43**	**17**	⇑S	**Sn**	**16 54 59.2**	**+1.1**
TLCR		**1.46**	**115**	⇑P	**Pn**	**16 54 41.9**	**+1.8**
TLCR				⇑S	**Sn**	**16 55 00.3**	**+1.5**
TLCR		**1.46**	**115**	⇑P	**Pn**	**16 54 41.9**	**+1.8**
TLCR				⇑S	**Sn**	**16 55 00.3**	**+1.5**
TLBR	**Topalu**	**1.50**	**148**	⇓P	**Pn**	**16 54 41.8**	**+1.2**
TLBR				⇓S	**Sn**	**16 55 02.7**	**+0.6**
TLBR	**Topalu**	**1.50**	**148**	⇓P	**Pn**	**16 54 41.8**	**+1.2**
TLBR				⇓S	**Sn**	**16 55 00.3**	**+0.6**
PRAR	**RASCA**	**1.61**	**342**	⇑P	**Pn**	**16 54 43.2**	**+1.1**
PRAR	**RASCA**	**1.61**	**342**	⇑P	**Pn**	**16 54 43.2**	**+1.1**
BUC1	**Bucharest**	**1.61**	**204**	⇓P	**Pn**	**16 54 43.5**	**+1.4**
BUC1				⇓S	**Sn**	**16 55 03.1**	**+0.7**
BUC1	**Bucharest**	**1.61**	**204**	⇓P	**Pn**	**16 54 43.5**	**+1.4**
BUC1				⇓S	**Sn**	**16 55 03.1**	**+0.7**
RASA	**Rasa**	**1.62**	**175**	⇓P	**Pn**	**16 54 43.4**	**+1.2**
RASA				⇓S	**Sn**	**16 55 02.7**	**+0.2**
RASA	**Rasa**	**1.62**	**175**	⇓P	**Pn**	**16 54 43.4**	**+1.2**
RASA				⇓S	**Sn**	**16 55 02.7**	**+0.2**
CVDA	**Cernavoda**	**1.68**	**152**	⇓P	**Pn**	**16 54 44.3**	**+1.3**
CVDA				⇓S	**Sn**	**16 55 03.9**	**-0.1**
CVDA	**Cernavoda**	**1.68**	**152**	⇓P	**Pn**	**16 54 44.3**	**+1.3**
CVDA				⇓S	**Sn**	**16 55 03.9**	**-0.1**
ARR	**Arges**	**1.69**	**255**	⇓P	**Pn**	**16 54 44.9**	**+1.8**
ARR				⇓S	**Sn**	**16 55 05.6**	**+1.4**
ARR	**Arges**	**1.69**	**255**	⇓P	**Pn**	**16 54 44.9**	**+1.8**
ARR				⇓S	**Sn**	**16 55 05.6**	**+1.4**
STFAR	**Stefanesti-Arg**	**1.70**	**236**	⇑S	**Sn**	**16 55 05.3**	**+0.9**
STFAR	**Stefanesti-Arg**	**1.70**	**236**	⇑S	**Sn**	**16 55 05.3**	**+0.9**
SGRR	**Singureni**	**1.75**	**204**	⇑S	**Sn**	**16 55 05.6**	**+0.1**
SGRR	**Singureni**	**1.75**	**204**	⇑S	**Sn**	**16 55 05.6**	**+0.1**
KIS	**Kishinev**	**1.75**	**47**	*e*P	**Pn**	**16 54 45.5**	**+1.7**
	40nm,0.1s						
KIS				*i* S	**Sn**	**16 55 06.9**	**+1.4**
	200nm,0.3s						
KIS	**Kishinev**	**1.75**	**47**	P	**Pn**	**16 54 45.5**	**+1.7**
KIS				Pm		16 54 46.0	
KIS				S	**Sn**	**16 55 06.9**	**+1.4**
KIS				m		16 55 07.0	
KIS				Sm		16 55 07.0	
ICOR	**Ion Corvin**	**1.81**	**160**	⇓P	**Pn**	**16 54 46.2**	**

SUDU				Pm			16 55 40.3	
SUDU				S		**Sn**	**16 56 41.9**	**-0.7**
SUDU				Sm			16 56 45.9	
FEO	**Feodosiya**	**6.00**	**95**	S		**Sn**	**16 56 52.0**	**+3.4**
FEO				Sm			16 56 52.7	
LANS	**Liptovska Anna**	**6.06**	**306**	*e*P		**Pn**	**16 55 45.4**	**+3.2**
BRTR	**Keskin Array B**	**7.83**	**139**	P		**Pn**	**16 56 07.7**	**+1.1**
	0.2nm,0.3s,baz=329,slow=13,SNR=13							
FINES	**FINESS Array B**	**15.66**	**358**	P		**Pn**	**16 57 46.8**	**-4.0**
	0.1nm,0.3s,baz=165,slow=12,SNR=4.9							
FINES				S		Sn	17 00 26.6	-17
	0.1nm,0.3s,baz=179,slow=18,SNR=2.0							
NOA	**NORSAR Array B**	**17.81**	**334**	P		**P**	**16 58 15.6**	**-1.6**
	0.0nm,0.3s,baz=147,slow=10.0,SNR=2.4							

MAN 15 17:17:36.8,18.10N×122.27E,h5km,mb4.6,ML3.4,MS3.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.25**	**304**	*e*P	Pg	17 17 42.1	+0.3
SGCP				*e*S	Sb	17 17 48.5	-0.2
APYP	**Conner**	**1.00**	**256**	*e*P	Pg	17 17 56.2	+0.1
APYP				*e*S	Sn	17 18 12.4	+0.3
CAUP	**Cauayan**	**1.23**	**200**	*e*P	Pb	17 18 00.5	0.0
BALP	**Baler**	**2.44**	**196**	*e*P	Pn	17 18 17.9	+0.6
BALP				*e*S	Sn	17 18 48.5	+1.0
JCNP	**Jose Panganiba**	**3.81**	**174**	*e*P	Pn	17 18 33.8	-2.4
JCNP				*e*S	Sn	17 19 16.5	-5.0
ENPP	**El Nido**	**7.39**	**202**	*e*P	Pn	17 19 17.4	-7.9

*INET **15** 17:22:02.2, 11.86N×89.15W,h15km, ML4.3, MW3.6*
*SNET **15** 17:22:03.4±1.1, 12.05N×89.14W,h15km±6km, ML4.3*
*GCG **15** 17:22:04.7±0.4, 12.53N×89.83W,h246km±35km, MD4.1*
*NEIC **15** 17:22:04.3±1.5, 11.88N±0.09×89.07W±0.09,h42km±9km, Error ellipse: s-maj=16.2km s-min=8.5km az=46.0*
*IDC **15** 17:22:05.0±3.2, 11.99N×89.03W,h38km±23km, mb3.7/11, mb1 4.0/15,mb1mx3.8/51,mbtmp3.9/15, ML3.5/4, MS3.2/4, Ms1 3.2/4,ms1mx2.8/31, Error ellipse: s-maj=47.2km s-min=16.2km az=36.0*

ISC 15 17:22:04.0±1.5, 11.89N±0.08×89.11W±0.06,h35km±13km, n70,σ0§93/85,mb4.2/14,MS3.2/4,1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.61**	**353**	*e*P	**Pn**	**17 22 29.0**	**-0.9**
LALI				*e*S	**Sn**	**17 22 47.6**	**-1.8**
COEB	**Comit de Eme**	**1.70**	**19**	*e*P	**Pn**	**17 22 30.0**	**-1.3**
COEB				*e*S	**Sn**	**17 22 52.4**	**+0.5**
TECA	**Tecapa**	**1.70**	**20**	*e*P	**Pn**	**17 22 30.5**	**-0.9**
LCY	**Lacayo**	**1.72**	**27**	*e*P	**Pn**	**17 22 30.6**	**-1.0**
LFRS	**El Faro**	**1.73**	**2**	*e*P	**Pn**	**17 22 30.6**	**-1.1**
VSM	**San Miguel**	**1.73**	**28**	*e*P	**Pn**	**17 22 31.5**	**-0.5**
COEG	**Centro de Oper**	**1.74**	**7**	*e*P	**Pn**	**17 22 30.4**	**-1.4**
PACA	**Pacayal**	**1.75**	**26**	*e*P	**Pn**	**17 22 31.6**	**-0.4**
JAYA	**Jayaque - finc**	**1.79**	**349**	*e*P	**Pn**	**17 22 31.5**	**-1.1**
JAYA				*e*S	**Sn**	**17 22 52.2**	**-2.0**
JAYA				IAML		17 22 55.8	
	comp=Z,3μm,0.2s						
SNET	**Serv Nac Est T**	**1.79**	**356**	*e*P	**Pn**	**17 22 31.3**	**-1.3**
SNET	**Serv Nac Est T**	**1.79**	**356**		**Pn**	**17 22 31.7**	**-0.9**
PQSS	**Presa 15 de Se**	**1.81**	**17**	*e*P	**Pn**	**17 22 31.8**	**-0.9**
PQSS				*e*S	**Sn**	**17 22 53.7**	**-0.7**
OPAM	**Oficina de Pla**	**1.82**	**357**	*e*P	**Pn**	**17 22 31.9**	**-1.0**
OPAM				*e*S	**Sn**	**17 22 54.2**	**-0.6**
UEES	**Universidad Ev**	**1.82**	**356**	*e*P	**Pn**	**17 22 31.9**	**-1.1**
LBRS	**Las Brisas**	**1.84**	**2**	*e*P	**Pn**	**17 22 32.4**	**-0.8**
BOQS	**Boqueron**	**1.84**	**355**	*e*P	**Pn**	**17 22 32.8**	**-0.6**
BOQS				*e*S	**Sn**	**17 22 55.8**	**+0.1**
LCND	**La Caada**	**1.85**	**40**	*e*P	**Pn**	**17 22 32.7**	**-0.6**
LCND				*e*S	**Sn**	**17 22 56.0**	**+0.6**
LFU	**La Fuente**	**1.85**	**360**	*e*P	**Pn**	**17 22 32.7**	**-0.7**
LFU				*e*S	**Sn**	**17 22 54.9**	**-0.7**
CNCH	**Conchagua**	**1.86**	**42**	*e*P	**Pn**	**17 22 32.6**	**-0.9**
CNCH				*e*P	**Pn**	**17 22 32.8**	**-0.7**
CSGN	**Cosiguina Volc**	**1.86**	**54**	Pn	**Pn**	**17 22 34.6**	**+1.1**
CEDA	**San Andres**	**1.93**	**352**	*e*P	**Pn**	**17 22 33.6**	**-0.8**
CEDA				IAML		17 23 00.1	
	comp=Z,4μm,0.5s						
CEVE	**Cerro Verde**	**1.99**	**345**	*e*P	**Pn**	**17 22 34.6**	**-0.9**
CEVE				IAML		17 23 04.3	
	comp=Z,5μm,0.7s						
SBLS	**San Blas**	**2.00**	**346**	*e*P	**Pn**	**17 22 34.7**	**-0.9**
SNJE	**San Jose**	**2.03**	**346**	*e*P	**Pn**	**17 22 35.1**	**-0.9**
SNJE				*e*S	**Sn**	**17 22 59.4**	**-0.8**
RTR	**El Retiro**	**2.07**	**345**	*e*P	**Pn**	**17 22 35.4**	**-1.0**
TACO	**Tacachico**	**2.08**	**353**↑	*e*P	**Pn**	**17 22 36.1**	**-0.4**
TACO				*e*S	**Sn**	**17 22 59.6**	**-1.7**
TACO				IAML		17 23 02.9	
	comp=Z,2μm,0.4s						
CRIN	**San Cristobal**	**2.17**	**68**	Pn	**Pn**	**17 22 36.8**	**-0.9**
MTO3	**Montecristo**	**2.51**	**354**	*e*P	**Pn**	**17 22 42.5**	**-0.1**
MTO3	**Montecristo**	**2.51**	**354**	Pn	**Pn**	**17 22 42.5**	**-0.1**
ESQI	**Esquipulas**	**2.67**	**355**	Pn	**Pn**	**17 22 45.1**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.80**	**39**		**Pn**	**17 22 46.5**	**-0.1**
PCG	**Pacaya**	**2.89**	**330**	*e*P	**Pn**	**17 22 48.6**	**+0.8**
PCG				*e*S	**Sn**	**17 23 22.7**	**+1.3**
NBG	**Las Nubes**	**2.94**	**336**	*e*P	**Pn**	**17 22 49.9**	**+1.3**
NBG				*e*S	**Sn**	**17 23 24.8**	**+1.9**
FUG	**Fuego 3**	**3.05**	**327**	*e*P	**Pn**	**17 22 49.5**	**-0.5**
FUG				*e*S	**Sn**	**17 23 24.8**	**-0.6**
MRL	**Marmol**	**3.22**	**350**	*e*P	**Pn**	**17 22 53.8**	**+1.4**
APG	**El Apazote**	**3.37**	**337**	Pn	**Pn**	**17 22 54.4**	**0.0**
	comp=Z,7.7nm,0.3s,baz=126,slow=12,SNR=14						
APG				Sn	**Sn**	**17 23 34.8**	**+1.5**
	comp=Z,19nm,0.3s,baz=53,slow=20,SNR=12						
ORTG	**Ortega, Santa**	**3.89**	**113**	Pn	**Pn**	**17 23 01.0**	**-0.4**
JTS	**Las Juntas de**	**4.38**	**111**	Pn	**Pn**	**17 23 08.4**	**+0.3**
	comp=Z,7.5nm,0.3s,baz=175,slow=23,SNR=22						
JTS				Sn	**Sn**	**17 23 58.2**	**+0.3**
	comp=Z,22nm,0.3s,baz=108,slow=23,SNR=14						
JTS	**Las Juntas de**	**4.38**	**111**		**Pn**	**17 23 08.1**	**0.0**
CMIG	**Matias Romero**	**7.62**	**313**	Pn	**Pn**	**17 23 52.3**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=151,slow=9.2,SNR=8.4						
CMIG				Sn	**Sn**	**17 25 18.2**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=224,slow=22,SNR=4.3						
TEIG	**Tepich**	**8.33**	**5**	Pn	**Pn**	**17 24 04.8**	**+2.4**
TLIG	**Tlapa**	**10.75**	**303**	Pn	**Pn**	**17 24 36.3**	**+0.7**
SDV	**Santo Domingo**	**18.41**	**98**	P	**Pn**	**17 26 17.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=288,slow=13,SNR=2.6						
352A	**Blakely**	**19.88**	**11**		**P**	**17 26 31.9**	**-0.4**
352A				IAmb	IAmb	17 26 43.2	
	comp=Z,37nm,0.8s						
LRAL	**Lakeview Retre**	**21.14**	**5**	P	**P**	**17 26 45.6**	**-0.3**
Z47A	**Carrollton**	**21.23**	**2**	P	**P**	**17 26 47.8**	**+0.8**
WHTX	**Lake Whitney,**	**21.44**	**340**	P	**P**	**17 26 49.0**	**-0.1**
WHTX				IAmb	IAmb	17 27 05.3	
	comp=Z,21nm,0.8s						
TXAR	**Lajitas Array**	**22.03**	**324**	P	**P**	**17 26 56.6**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=144,slow=10,SNR=20						
TXAR	**Lajitas Array**	**22.03**	**324**	P	**P**	**17 26 56.9**	**+1.2**
TX31	**Lajitas Ar. Si**	**22.03**	**324**	P	**P**	**17 26 57.0**	**+1.3**
TX32	**Lajitas Array**	**22.03**	**324**	P	**P**	**17 26 56.7**	**+1.0**
BIRD	**Birdtown, Kers**	**23.98**	**18**	P	**P**	**17 27 14.1**	**-1.3**
TKL	**Tuckaleechee C**	**24.16**	**11**	P	**P**	**17 27 16.7**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=172,slow=12,SNR=4.8						
TKL				LR	LR	17 36 57.1	
	comp=Z,25nm,21.4s,baz=222,slow=37						
SAML	**Samuel**	**33.06**	**128**	P	**P**	**17 28 35.4**	**-1.2**
SAML				IAmb	IAmb	17 28 35.9	
	comp=Z,3.7nm,0.8s						
SADO	**Sadowa**	**33.87**	**13**	LR	LR	17 44 40.5	
	comp=Z,55nm,18.7s,baz=127,slow=40						
PDAR	**Pinedale Array**	**35.53**	**334**	P	**P**	**17 28 57.0**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=181,slow=5.1,SNR=2.4						
PDAR				PcP	**PcP**	**17 31 26.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=114,slow=3.7,SNR=4.0						
REDW	**Red Top Meadow**	**36.57**	**333**	P	**P**	**17 29 07.7**	**+0.8**
REDW				IAmb	IAmb	17 29 14.9	
	comp=Z,4.2nm,0.7s						
NVAR	**Mina Array Bea**	**37.08**	**321**	P	**P**	**17 29 12.4**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=132,slow=8.2,SNR=8.3						
ULM	**Lac du Bonnet**	**38.65**	**353**	P	**P**	**17 29 24.5**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=196,slow=6.0,SNR=6.2						
ULM				LR	LR	17 46 58.3	
	comp=Z,64nm,18.8s,baz=76,slow=39						
ULM	**Lac du Bonnet**	**38.65**	**353**	IAmb	IAmb	17 29 48.4	
	comp=Z,16nm,1.6s						
SIV	**San Ignacio**	**39.20**	**134**	LR	LR	17 46 05.3	

	comp=Z,32nm,19.3s,baz=250,slow=37							
YKA	**Yellowknife Ar**	**53.74**	**346**	P		**P**	**17 31 21.6**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=141,slow=8.1,SNR=12							
YKA				PcP		**PcP**	**17 32 28.8**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=139,slow=4.8,SNR=2.2							
INK	**Inuvik**	**63.26**	**343**	P		**P**	**17 32 28.5**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=174,slow=7.5,SNR=3.7							
INK	**Inuvik**	**63.26**	**343**	IAmb	IAmb		17 34 02.5	
	comp=Z,8.8nm,1.5s							
ILAR	**Eielson Array**	**65.88**	**337**	P		**P**	**17 32 45.6**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=174,slow=5.2,SNR=18							
ESDC	**Sonseca Array**	**78.81**	**52**	P		**P**	**17 34 03.6**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=290,slow=5.1,SNR=6.7							
SEY	**Seymchan**	**91.82**	**336**	P		**P**	**17 35 08.4**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=65,slow=3.5,SNR=5.0							
TIXI	**Tiksi**	**92.88**	**349**	P		**P**	**17 35 12.5**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=343,slow=0.8,SNR=4.6							
MKAR	**Makanchi Array**	**121.08**	**7**	PKP		**PKiKP**	**17 40 53.5**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=22,slow=1.6,SNR=2.4							
CMAR	**Chiang Mai Arr**	**148.82**	**345**	PKPbc		**PKPbc**	**17 41 49.1**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=345,slow=3.3,SNR=28							

*SOME **15** 17:26:02.4, 41.72N×79.02E,h5km*
*NNC **15** 17:26:03.0±1.3, 41.72N×79.07E,h0km±8km,mb2.6, mpv2.4,Error ellipse: s-maj=9.4km s-min=6.4km az=176.0*

KRNET 15 17:25:31.9±0.1, 40.45N×79.89E,mb2.4,9C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**2.32**	**332**↑	*i*P	Pn	17 26 10.0	-1.5
	baz=32						
PRZ				↑*i*S	Sn	17 26 38.4	-2.5
	baz=32						
KDJ	**Kajisay**	**2.65**	**310**↑	*i*P	Pn	17 26 14.7	-1.3
	baz=10.0						
KDJ				↑*i*S	Sn	17 26 45.3	-3.5
	baz=10.0						
SHLS	**Shalkode**	**2.73**	**353**	*e*P	Pg	17 26 31.9	+7.8
	1.3nm,0.2s						
SHLS				*e*S	Sb	17 26 53.4	-2.2
	20nm,0.4s						
SHLS	**Shalkode**	**2.73**	**353**	P	Pg	17 26 31.9	+7.8
	1.3nm,0.2s						
SHLS				S	Sb	17 26 53.4	-2.2
	20nm,0.4s						
UZB	**Uzynbulak**	**2.77**	**347**	*e*P	Pg	17 26 29.1	+4.1
	1.0nm,0.2s						
UZB				*e*S	Sn	17 26 48.3	-3.6
	3.4nm,0.3s						
UZB	**Uzynbulak**	**2.77**	**347**	P	Pg	17 26 29.1	+4.1
	1.0nm,0.2s						
UZB				S	Sn	17 26 48.3	-3.7
	3.4nm,0.3s						
SATY	**Saty**	**2.84**	**337**	*e*P	Pg	17 26 29.5	+3.3
	1.7nm,0.5s						
SATY				*e*S	Sn	17 26 49.1	-4.3
	2.9nm,0.3s						
SATY	**Saty**	**2.84**	**337**	P	Pg	17 26 29.5	+3.3
	1.7nm,0.5s						
SATY				S	Sn	17 26 49.3	-4.2
	2.9nm,0.3s						
ANVS	**Anan'yevo**	**2.87**	**325**↓	*i*P	Pn	17 26 17.9	-1.1
	baz=25						
ANVS				↓*i*S	Sn	17 26 51.5	-2.8
	baz=25						
PDGK	**Podgornoye**	**2.90**	**354**	P	Pg	17 26 32.9	+5.6
	0.7nm,0.4s						
PDGK				S	Sn	17 26 55.0	+0.1
	5.2nm,0.5s						
PDGK	**Podgornoye**	**2.90**	**354**	↑Pg	Pg	17 26 31.9	+4.6
	0.9nm,0.5s						
PDGK				↑Lg	Lg	17 26 55.1	
	6.7nm,0.5s						
KPKS	**Kokpek**	**3.15**	**344**	*e*P	Pg	17 26 34.6	+2.5
	3.5nm,0.1s						
KPKS				*e*S	Sn	17 26 58.0	-3.1
	12nm,0.4s						
TNSS	**Tian-Shan**	**3.40**	**321**	*e*P	Pg	17 26 40.9	+3.9
	1.6nm,0.4s						
TNSS				*e*S	Sn	17 27 08.5	+0.8
	2.3nm,0.6s						
TNSS	**Tian-Shan**	**3.40**	**321**	Pg	Pg	17 26 40.9	+3.9
	1.6nm,0.4s						
TNSS				Lg	Lg	17 27 08.5	
	2.3nm,0.6s						
MDOK	**Medeo**	**3.45**	**323**	*e*P	Pg	17 26 41.2	+3.3
	0.7nm,0.3s						
MDOK				*e*S	Sn	17 27 09.0	+0.5
	3.3nm,0.7s						
MDOK	**Medeo**	**3.45**	**323**	Pg	Pg	17 26 42.9	+5.0
	1.2nm,0.6s						
MDOK				Lg	Lg	17 27 09.3	
	9.4nm,1.1s						
MDOK	**Medeo**	**3.45**	**323**	Pg	Pg	17 26 41.2	+3.3
	0.7nm,0.3s						
MDOK				Lg	Lg	17 27 09.0	
	3.3nm,0.7s						
KOTS	**Kotyrbulak**	**3.47**	**324**	*e*P	Pg	17 26 41.8	+3.3
	2.9nm,0.5s						
KOTS				*e*S	Sn	17 27 09.9	+0.7
	15nm,0.6s						
KOTS	**Kotyrbulak**	**3.47**	**324**	Pg	Pg	17 26 41.8	+3.3
	2.9nm,0.5s						
KOTS				Lg	Lg	17 27 09.9	
	15nm,0.6s						
BOOM	**Boomskoye usch**	**3.60**	**306**↑	*i*P	Pn	17 26 27.9	-1.2
	baz=6.0						
BOOM				↑*i*S	Sn	17 27 09.0	-3.4
	baz=6.0						
MNBS	**Baschi**	**3.79**	**344**	*e*P	Pg	17 26 46.2	+1.7
	2.5nm,0.5s						
MNBS				*e*S	Sn	17 27 17.6	+0.6
	2.4nm,0.4s						
MNBS	**Baschi**	**3.79**	**344**	Pg	Pg	17 26 46.2	+1.7
	2.5nm,0.5s						
MNBS				Lg	Lg	17 27 17.6	
	2.4nm,0.4s						
KTBS	**Karatobe**	**4.04**	**325**	*e*P	Pg	17 26 51.7	+2.4
	1.0nm,0.4s						
KTBS				*e*S	Sn	17 27 26.9	+3.8
	2.5nm,0.6s						
KTBS	**Karatobe**	**4.04**	**325**	Pg	Pg	17 26 51.7	+2.4
	1.0nm,0.4s						
KTBS				Lg	Lg	17 27 26.9	
	2.5nm,0.6s						
TKM2	**Tokmak 2**	**4.06**	**309**↓	Pg	Pg	17 26 52.2	+2.6
	0.3nm,0.4s						
TKM2				↑Lg	Lg	17 27 32.6	
	1.3nm,0.6s						

*IDC **15** 17:30:21.7±1.5, 7.57S×128.15E,h166km±17km, mb3.3/3, mb1 3.7/8,mb1mx3.2/42,mbtmp4.1/8, Error ellipse: s-maj=23.3km s-min=13.7km az=123.0*

ISC 15 17:30:20.5±0.8, 7.71S±0.06×128.35E±0.09,h151km,n8, σ2§01/13,mb3.5/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.25**	**241**	P	**Pn**	**17 31 38.8**	**+1.5**
	12nm,0.3s,baz=111,slow=1.2,SNR=27						
BATI				S	**Sn**	**17 32 37.0**	**-0.2**
	20nm,0.3s,baz=144,slow=7.0,SNR=14						
SIJI	**Sorong**	**7.39**	**23**	P	**Pn**	**17 32 06.9**	**+1.0**
	3.5nm,0.3s,baz=227,slow=9.6,SNR=12						
SIJI				S	**Sn**	**17 33 28.4**	**-0.2**
	1.0nm,0.3s,baz=272,slow=23,SNR=1.9						
FITZ	**Fitzroy Crossi**	**10.66**	**194**	P	**Pn**	**17 32 50.1**	**+0.9**
	2.5nm,0.3s,baz=16,slow=10,SNR=95						
FITZ				S	**Sn**	**17 34 44.7**	**-2.5**
	1.3nm,0.3s,baz=319,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**13.48**	**155**	P	**Pn**	**17 33 28.1**	**+2.2**
	1.4nm,0.3s,baz=329,slow=15,SNR=50						
WRA				S	**Sn**	**17 35 53.2**	**-2.0**
	1.1nm,0.3s,baz=332,slow=23,SNR=8.3						
ASAR	**Alice Springs**	**16.74**	**162**	P	**Pn**	**17 34 09.8**	**+3.5**
	0.6nm,0.3s,baz=332,slow=12,SNR=51						
ASAR				S	**S**	**17 37 11.5**	**-1.0**
	0.3nm,0.3s,baz=343,slow=25,SNR=4.0						
MKAR	**Makanchi Array**	**67.93**	**328**	P	**P**	**17 41 01.4**	**-1.6**
	0.2nm,0.4s,baz=121,slow=7.4,SNR=9.7						
ZALV	**Zalesovo Beam**	**71.50**	**335**	P	**P**	**17 41 22.4**	**-2.2**
	0.9nm,0.6s,baz=121,slow=5.9,SNR=3.7						
SEY	**Seymchan**	**72.81**	**11**	P	**P**	**17 41 31.4**	**-0.7**
	0.5nm,0.6s,baz=154,slow=16,SNR=2.2						

*IDC **15** 17:32:48.5±1.8, 36.63N×140.57E,h0km,mb3.5/2, mb1 3.6/6,mb1mx3.3/57,mbtmp3.6/6,ML3.2/3,Error ellipse: s-maj=29.5km s-min=20.7km az=77.0*
*JMA **15** 17:32:49.0,36.83N×140.53E,h8km±1km,M3.6 Broadband fault plane solution: P waves. NP1: φs296.00000°,δ41.00000°,λ-145.00000°. NP2: φs178.00000°,δ68.00000°,λ-55.00000°. Principal axes: T Plg16.0000°, Azm243.0000°; N Plg32.0000°, Azm344.0000°; P Plg53.0000°, Azm131.0000°;*
JMA Felt II J1.

ISC 15 17:32:49.2±0.9, 36.80N±0.03×140.57E±0.04,h9km±7km, n26,σ1§55/26,6C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.19**	**179**	↓P	**Pb**	**17 32 53.5**	**+0.4**
JHO				S	**Sg**	**17 32 56.8**	**+1.1**
JFFD	**Fukushimafurud**	**0.29**	**359**	↑P	**Pg**	**17 32 54.2**	**-0.8**
JFFD				S	**Sg**	**17 32 57.8**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.35**	**32**	↑P	**Pg**	**17 32 55.7**	**-0.5**
JSB	**Shiboa**	**0.55**	**288**	↑P	**Pg**	**17 32 59.6**	**-0.2**
JSB				S	**Sg**	**17 33 06.6**	**-0.3**
JFK	**Kawauchi**	**0.62**	**23**	↑P	**Pg**	**17 33 00.1**	**-1.1**
JFK				S	**Sg**	**17 33 08.1**	**-1.2**
JYT	**Yasato**	**0.65**	**208**	↑P	**Pb**	**17 33 01.5**	**-1.1**
JFT	**Otama**	**0.74**	**346**	↓P	**Pg**	**17 33 02.4**	**-1.1**
JFT				S	**Sg**	**17 33 12.1**	**-1.1**
JFY	**Yanaizu**	**0.92**	**312**	P	**Pg**	**17 33 05.7**	**-1.2**
JFY				S	**Sg**	**17 33 16.9**	**-1.9**
JAG	**Ashikaga**	**0.97**	**248**	↑P	**Pg**	**17 33 06.5**	**-1.4**
MJAR	**Matsushiro Arr**	**1.91**	**263**	Pn	**Pn**	**17 33 21.6**	**-0.5**
	9.7nm,0.3s,baz=87,slow=15,SNR=735						
MJAR				Sn	**Sn**	**17 33 46.7**	**+0.4**
	7.8nm,0.3s,baz=78,slow=30,SNR=14						
MJAR				LR	LR	17 33 54.5	
	comp=Z,49nm,18.3s,baz=55,slow=35						
MAT	**Matsushiro**	**1.91**	**263**	P	**Pn**	**17 33 21.9**	**-0.2**
MAT				S	**Sn**	**17 33 46.9**	**+0.6**
JHJ	**Hachijo jima 2**	**3.73**	**190**	Pn	**Pn**	**17 33 45.2**	**-1.8**
	4.5nm,0.3s,baz=60,slow=20,SNR=1.8						
JHJ				Sn	**Sn**	**17 34 29.1**	**-1.9**
	9.0nm,0.3s,baz=49,slow=19,SNR=1.4						
ASAJ	**Asahikawa**	**7.47**	**11**	Pn	**Pn**	**17 34 40.2**	**+1.9**
	0.6nm,0.3s,baz=226,slow=12,SNR=12						
USRK	**Ussuriysk Ar.**	**9.86**	**321**	Pn	**Pn**	**17 35 15.3**	**+4.2**
	baz=135,slow=14,SNR=4.2						
KSRS	**Korea Array**	**10.12**	**277**	Pn	**Pn**	**17 35 17.2**	**+2.6**
	0.1nm,0.3s,baz=94,slow=14,SNR=6.4						
SONM	**Songino Array**	**27.36**	**305**	P	**P**	**17 38 35.4**	**+0.6**
	0.5nm,0.9s,baz=104,slow=11,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.62**	**119**	T	T	18 08 32.8	
	baz=312,slow=75,SNR=680						
H11N1	**WAKE ISLAND Hy**	**28.63**	**119**	T	T	18 08 33.3	
	baz=312,slow=75,SNR=733						
H11N3	**WAKE ISLAND Hy**	**28.64**	**119**	T	T	18 08 34.1	
	baz=312,slow=75,SNR=602						
H11S1	**WAKE ISLAND Hy**	**29.31**	**121**	T	T	18 09 22.8	
	baz=314,slow=76,SNR=674						
H11S3	**WAKE ISLAND Hy**	**29.31**	**121**	T	T	18 09 24.1	
	baz=314,slow=76,SNR=389						
H11S2	**WAKE ISLAND Hy**	**29.33**	**121**	T	T	18 09 25.4	
	baz=314,slow=76,SNR=369						
WRA	**Warramunga Arr**	**56.74**	**187**	P	**P**	**17 42 32.9**	**-0.5**
	0.4nm,0.6s,baz=1.9,slow=7.5,SNR=4.9						
H03N2	**Juan Fernandez**	**147.67**	**96**	T	T	20 37 34.5	
	baz=291,slow=76,SNR=19						
H03N3	**Juan Fernandez**	**147.69**	**96**	T	T	20 37 31.8	
	baz=291,slow=76,SNR=31						
H03N1	**Juan Fernandez**	**147.69**	**96**	T	T	20 37 35.8	
	baz=291,slow=76,SNR=25						

IDC 15 17:52:34.3±31.0, 19.78S×177.70W,h411km±277km, mb3.3/3,mb1 3.5/3,mb1mx2.9/27,mbtmp4.1/3,Error ellipse: s-maj=182.3km s-min=102.9km az=93.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.36**	**243**	P	P	17 59 18.1	-0.1
	1.7nm,0.7s,baz=97,slow=16,SNR=3.3						
ASAR	**Alice Springs**	**44.97**	**256**	P	P	18 00 11.3	+0.2
	2.8nm,0.7s,baz=88,slow=8.0,SNR=67						
ASAR				PcP	PcP	18 01 43.6	-0.6
	0.4nm,0.5s,baz=105,slow=4.2,SNR=9.7						
WRA	**Warramunga Arr**	**44.99**	**261**	P	P	18 00 10.8	-0.5
	0.8nm,0.3s,baz=96,slow=7.6,SNR=29						
AKASG	**Malin Array Be**	**142.52**	**332**	PKP	PKPdf	18 11 16.9	-2.0
	1.0nm,0.5s,baz=42,slow=4.3,SNR=12						
BRTR	**Keskin

GRPR				*i* S		**Sn**	**18 37 21.3**	**-0.5**	
GRPR				pmax	pmax				
	comp=Z,609nm,0.2s								
GRPR				pmax	pmax				
	comp=N,200nm,0.1s								
GRPR				pmax	pmax				
	comp=E,137nm,0.1s								
GRPR				smax	smax				
	comp=N,4µm,0.3s								
GRPR				smax	smax				
	comp=E,3µm,0.4s								
GRPR	**Tuman**	**1.82**	**259**	*e*P		**Pn**	**18 36 59.8**	**0.0**	
GRPR				AMB	AMB		18 37 02.0		
	comp=E,610nm,0.3s								
GRPR				*i* S		**Sn**	**18 37 21.3**	**-0.5**	
GRPR				A	A		18 37 24.0		
	comp=E,4µm,0.4s								
GRPR				A	A		18 37 24.0		
	comp=E,3µm,0.4s								
GLVR	**Golovnino**	**2.07**	**253**	*e*PN		**Pn**	**18 37 03.7**	**+0.6**	
GLVR				*i* S		**Sn**	**18 37 28.4**	**+0.7**	
GLVR				pmax	pmax				
	comp=N,139nm,0.1s								
GLVR				pmax	pmax				
	comp=E,196nm,0.1s								
GLVR				pmax	pmax				
	comp=Z,448nm,0.1s								
GLVR				smax	smax				
	comp=N,5µm,0.2s								
GLVR				smax	smax				
	comp=E,5µm,0.3s								
GLVR	**Golovnino**	**2.07**	**253**	*e*P		**Pn**	**18 37 03.8**	**+0.6**	
GLVR				AMB	AMB		18 37 07.6		
	comp=E,450nm,0.3s								
GLVR				*i* S		**Sn**	**18 37 28.4**	**+0.7**	
GLVR				A	A		18 37 34.8		
	comp=E,5µm,0.4s								
GLVR				A	A		18 37 34.8		
	comp=E,5µm,0.4s								
NEM2	**Nemuro 2**	**2.07**	**242**	P		**Pn**	**18 37 02.9**	**-0.3**	
NEM2				*e*S		**Sn**	**18 37 26.1**	**-1.7**	
NMR	**Nemuro--Hokkai**	**2.08**	**242**	⇩*i*PN		**Pn**	**18 37 02.9**	**-0.3**	
NMR				*i* S		**Sn**	**18 37 26.8**	**-1.2**	
NMR	**Nemuro--Hokkai**	**2.08**	**242**	*i* P		**Pn**	**18 37 03.0**	**-0.3**	
NMR				*i* S		**Sn**	**18 37 27.4**	**-0.6**	
RUSJ	**Misakicho**	**2.18**	**264**	*e*PN		**Pn**	**18 37 05.9**	**+1.3**	
RUSJ				*i* S		**Sn**	**18 37 32.7**	**+2.3**	
JRA	**Rausu**	**2.29**	**260**	P		**Pn**	**18 37 07.5**	**+1.3**	
JRA				*e*S		**Sn**	**18 37 34.2**	**+1.0**	
JNSB	**Nemuroshibetsu**	**2.41**	**257**	P		**Pn**	**18 37 09.0**	**+1.1**	
JKHN	**Kushirohamanak**	**2.58**	**241**	P		**Pn**	**18 37 10.4**	**+0.3**	
JKHN				*e*S		**Sn**	**18 37 39.5**	**-0.8**	
JNK	**Nakash**	**2.67**	**254**	P		**Pn**	**18 37 12.3**	**+1.0**	
JNK				*e*S		**Sn**	**18 37 42.7**	**+0.3**	
JAK	**Akkeshi**	**2.92**	**243**	P		**Pn**	**18 37 14.9**	**+0.1**	
JAK				*e*S		**Sn**	**18 37 47.5**	**-1.1**	
JTKR	**Abashiri--Toko**	**3.15**	**264**	P		**Pn**	**18 37 19.2**	**+1.3**	
JAR	**Ashorobuto**	**3.42**	**253**	P		**Pn**	**18 37 23.2**	**+1.6**	
JAR				*e*S		**Sn**	**18 38 02.0**	**+1.2**	
JOB	**Onbets**	**3.52**	**247**	P		**Pn**	**18 37 24.0**	**+1.0**	
JOB				*e*S		**Sn**	**18 38 01.9**	**-1.5**	
JMP	**Maruseppu**	**3.54**	**266**	P		**Pn**	**18 37 24.8**	**+1.5**	
JCH	**Churui**	**3.96**	**246**	P		**Pn**	**18 37 29.5**	**+0.4**	
JKA	**Kamikawa-asahi**	**4.07**	**269**	Pn		**Pn**	**18 37 34.1**	**+3.6**	
ASAJ	**Asahikawa**	**4.07**	**269**	P		**Pn**	**18 37 31.9**	**+1.4**	
	comp=E,2.4nm,0.3s,baz=61,slow=20,SNR=54								
ASAJ				LR	LR		18 39 16.6		
	comp=E,287nm,21.6s,baz=160,slow=42								
ASAJ	**Asahikawa**	**4.07**	**269**	PN		**Pn**	**18 37 34.1**	**+3.5**	
ERM	**Erimo**	**4.40**	**240**	*i* PN		**Pn**	**18 37 38.3**	**+3.2**	
ERM	**Erimo**	**4.40**	**240**	Pn		**Pn**	**18 37 37.9**	**+2.8**	
JEM	**Erimo**	**4.40**	**240**	Pn		**Pn**	**18 37 38.8**	**+3.7**	
JWK2	**Keihoku**	**4.62**	**284**	P		**Pn**	**18 37 40.8**	**+2.7**	
YSS	**Yuzh-Sakhalins**	**4.65**	**306**	⇩*e*PN		**Pn**	**18 37 39.1**	**+0.7**	
YSS				pmax	pmax				
	comp=Z,30nm,0.6s								
YSS				MLR	MLR				
	comp=Z,300nm,18.0s								
YSS	**Yuzh-Sakhalins**	**4.65**	**306**	Pn		**Pn**	**18 37 39.4**	**+1.0**	
YSS	**Yuzh-Sakhalins**	**4.65**	**306**	*e*P		**Pn**	**18 37 39.1**	**+0.7**	
YSS				AMB	AMB		18 37 41.0		
	comp=Z,30nm,0.6s								
YSS				*e*S		**Sn**	**18 38 28.7**	**-2.3**	
YSS				A	A		18 38 33.3		
	comp=Z,230nm,0.6s								
YSS				AMS	AMS		18 39 17.0		
	comp=Z,300nm,18.0s								
JEW	**Eniwo**	**5.17**	**255**	Pn		Pn	18 37 50.6	+5.0	
JRBN	**Rebuntou**	**5.22**	**284**	P		**Pn**	**18 37 48.4**	**+2.2**	
JKB	**Kayabe**	**5.83**	**247**	P		**Pn**	**18 37 56.2**	**+1.5**	
JKB				*e*S		**Sn**	**18 38 58.2**	**-2.0**	
UGL	**Uglegorsk**	**6.35**	**320**	*e*PN		**Pn**	**18 38 03.1**	**+1.4**	
UGL				pmax	pmax				
	comp=Z,50nm,0.8s								
UGL	**Uglegorsk**	**6.35**	**320**	*e*P		**Pn**	**18 38 03.1**	**+1.4**	
UGL				AMB	AMB		18 38 06.0		
	comp=Z,50nm,0.8s								
TYV	**Tymovskoe**	**7.52**	**332**	*e*PN		**Pn**	**18 38 20.1**	**+2.3**	
TYV				pmax	pmax				
	comp=Z,10.0nm,0.7s								
TYV	**Tymovskoe**	**7.52**	**332**	*e*P		**Pn**	**18 38 19.5**	**+1.7**	
TYV				AMB	AMB		18 38 21.7		
	comp=Z,10.0nm,0.5s								
TYV				*e*S		**Sn**	**18 39 41.0**	**-0.6**	
TYV				A	A		18 39 42.6		
	comp=Z,9.0nm,1.0s								
SKR	**Severo-Kuril's**	**8.26**	**37**	*e*PN		**Sn**	**18 38 29.2**	**+1.3**	
SKR				*e*S		**Sn**	**18 40 01.2**	**+1.5**	
SKR				pmax	pmax				
	comp=Z,75nm,0.8s								
SKR				smax	smax				
	comp=N,150nm,0.9s								
SKR				smax	smax				
	comp=E,65nm,0.8s								
SKR	**Severo-Kuril's**	**8.26**	**37**	*e*P		**Pn**	**18 38 28.3**	**+0.4**	
SKR				AMB	AMB		18 38 32.0		
	comp=E,80nm,0.8s								
SKR				*e*S		**Sn**	**18 39 55.8**	**-3.9**	
SKR				A	A		18 40 08.0		
	comp=E,150nm,0.9s								
SKR				A	A		18 40 08.0		
	comp=E,70nm,0.9s								
TEY	**Ternei**	**8.33**	**279**	⇧*e*PN		Pn	18 38 34.3	+5.5	
TEY				pmax	pmax				
	comp=N,30nm,0.9s								
TEY				pmax	pmax				
	comp=Z,40nm,0.9s								
TEY	**Ternei**	**8.33**	**279**	*e*P		**Pn**	**18 38 32.9**	**+4.1**	
JMM	**Marumori**	**8.59**	**223**	Pn		**Pn**	**18 38 31.7**	**-0.7**	
PAU	**Pauzhetka**	**9.14**	**36**	*e*P		**Pn**	**18 38 38.9**	**-0.9**	
PAU				AMB	AMB		18 38 44.3		
	comp=Z,30nm,0.4s								
OKH	**Okha**	**9.84**	**341**	*e*P		**Pn**	**18 38 50.6**	**+1.2**	
OKH				AMB	AMB		18 38 50.8		
	comp=Z,50nm,0.7s								
OKH				*e*S		**Sn**	**18 40 37.1**	**-1.1**	
OKH				A	A		18 40 40.9		
	comp=Z,20nm,0.6s								
OKH				A	A		18 40 40.9		
	comp=Z,20nm,0.6s								
NKL	**Nikolayevsk**	**10.11**	**333**	*e*P		**Pn**	**18 38 54.7**	**+1.6**	
NKL				AMB	AMB		18 38 57.4		
	comp=Z,30nm,0.8s								
PEA0B	**Petropavlovsk-**	**10.74**	**32**	PN		**Pn**	**18 39 03.0**	**+1.2**	
PEA0B	**Petropavlovsk-**	**10.74**	**32**	Pn		**Pn**	**18 39 03.0**	**+1.2**	
PETK	**Petropavlovsk-**	**10.74**	**32**	P		**Pn**	**18 39 02.6**	**+0.8**	
	comp=Z,0.9nm,0.3s,baz=192,slow=8.7,SNR=28								
PETK	**Petropavlovsk-**	**10.74**	**32**	Pn		**Pn**	**18 39 01.8**	**0.0**	
MJAR	**Matsushiro Arr**	**10.93**	**228**	P		**Pn**	**18 39 04.6**	**+0.1**	
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=7.5								
MAJO	**Matsushiro**	**10.93**	**228**	*i* PN		**Pn**	**18 39 05.6**	**+1.2**	
USA0B	**Ussuriysk Arra**	**11.66**	**275**	*i* PN		**Pn**	**18 39 16.7**	**+2.3**	
USRK	**Ussuriysk Ar.**	**11.66**	**275**	P		**Pn**	**18 39 14.9**	**+0.4**	
	baz=87,slow=13,SNR=23								
USRK				LR	LR		18 43 40.0		
	comp=Z,68nm,21.3s,baz=50,slow=37								
USRK	**Ussuriysk Ar.**	**11.66**	**275**	PN		**Pn**	**18 39 15.2**	**+0.8**	
USRK	**Ussuriysk Ar.**	**11.66**	**275**	Pn		**Pn**	**18 39 15.2**	**+0.8**	
KLR	**Kul'dur**	**12.31**	**299**	P		**Pn**	**18 39 24.1**	**+0.9**	
	comp=Z,0.2nm,0.3s,baz=104,slow=15,SNR=22								
KLR				LR	LR		18 44 14.5		
	comp=Z,91nm,19.3s,baz=112,slow=38								
KLR	**Kul'dur**	**12.31**	**299**	*i* PN		**Pn**	**18 39 26.6**	**+3.4**	
KLR				pmax	pmax				
	comp=Z,8.0nm,1.4s								
EKMR	**Ekimchan**	**13.32**	**316**	*e*P		**Pn**	**18 39 37.8**	**+0.8**	
EKMR				AMB	AMB		18 39 41.0		
	comp=Z,10.0nm,0.8s								
MA2	**Magadan**	**15.31**	**5**	P		**Pn**	**18 40 02.7**	**-0.5**	
	comp=Z,0.3nm,0.3s,baz=179,slow=9.0,SNR=6.0								
BMKR	**Bomnak**	**16.25**	**316**	*e*P		**Pn**	**18 40 14.2**	**-1.0**	
BMKR				AMB	AMB		18 40 18.8		
	comp=Z,10.0nm,0.8s								
ZEA	**Zeya**	**16.60**	**312**	*e*P		**Pn**	**18 40 20.5**	**+0.9**	
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
ZEA	**Zeya**	**16.60**	**312**	*e*P		**Pn**	**18 40 16.6**	**-3.0**	
ZEA				AMB	AMB		18 40 21.4		
	comp=Z,10.0nm,0.8s								
KSRS	**Korea Array**	**16.82**	**253**	P		**Pn**	**18 40 21.6**	**-0.8**	
	comp=Z,0.3nm,0.3s,baz=61,slow=12,SNR=14								
KSRS				LR	LR		18 46 00.7		
	comp=Z,93nm,18.5s,baz=355,slow=34								
KSAR	**Wonju Array Be**	**16.86**	**253**	P		**P**	**18 40 24.9**	**+0.7**	
KSAR	**Wonju Array Be**	**16.86**	**253**	P		**P**	**18 40 24.9**	**+0.7**	
KROS	**Kirovskiy**	**17.06**	**314**	*e*P		**Pn**	**18 40 24.3**	**-1.1**	
KROS				AMB	AMB		18 40 27.8		
	comp=Z,10.0nm,0.9s								
JNU	**Nakatsue**	**17.56**	**236**	P		**Pn**	**18 40 31.8**	**+0.2**	
	comp=Z,0.1nm,0.3s,baz=18,slow=9.6,SNR=2.1								
SEY	**Seymchan**	**18.76**	**6**	P		**P**	**18 40 44.2**	**-0.8**	
	comp=Z,0.2nm,0.3s,baz=107,slow=21,SNR=4.1								
SEY	**Seymchan**	**18.76**	**6**	*i* P		**P**	**18 40 45.9**	**0.0**	
SEY	**Seymchan**	**18.76**	**6**	*e*P		**Pn**	**18 40 45.9**	**0.0**	
YAK	**Yakutsk**	**20.77**	**335**	P		**P**	**18 41 05.5**	**-1.3**	
	comp=Z,3.5nm,0.2s,baz=106,slow=2.5,SNR=7.3								
YAK	**Yakutsk**	**20.77**	**335**	*e*P		**P**	**18 41 06.1**	**-0.7**	
YAK				pmax	pmax				
	comp=Z,13nm,0.9s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.5s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.3s								
YAK	**Yakutsk**	**20.77**	**335**	*e*P		**P**	**18 41 06.1**	**-0.7**	
AMKA	**Amchitka**	**21.86**	**60**	P		**P**	**18 41 15.1**	**-3.5**	
ULN	**Ulaanbaatar**	**28.53**	**292**	*i* P		**P**	**18 42 22.2**	**+1.0**	
ULN				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ULN	**Ulaanbaatar**	**28.53**	**292**	*e*P		**P**	**18 42 22.2**	**+1.0**	
TIXI	**Tiksi**	**28.93**	**347**	*i* P		**P**	**18 42 26.5**	**+2.3**	
TIXI	**Tiksi**	**28.93**	**347**	*e*P		**P**	**18 42 26.5**	**+2.3**	
SONM	**Songino Array**	**28.98**	**292**	P		**P**	**18 42 24.1**	**-1.0**	
	comp=Z,0.8nm,0.5s,baz=78,slow=9.1,SNR=9.8								
SONM				LR	LR		18 54 45.1		
	comp=Z,70nm,20.6s,baz=53,slow=38								
SONM	**Songino Array**	**28.98**	**292**	P		**P**	**18 42 24.9**	**-0.2**	
SONM				pmax	pmax				
	comp=Z,1.0nm,0.8s								
SONM	**Songino Array**	**28.98**	**292**	P		**P**	**18 42 24.9**	**-0.2**	
H11N2	**WAKE ISLAND Hy**	**29.06**	**142**	T		T	19 13 13.7		
	baz=333,slow=76,SNR=675								
H11N1	**WAKE ISLAND Hy**	**29.08**	**142**	T		T	19 13 13.9		
	baz=333,slow=76,SNR=620								
H11N3	**WAKE ISLAND Hy**	**29.08**	**142**	T		T	19 13 13.8		
	baz=333,slow=76,SNR=623								
H11S1	**WAKE ISLAND Hy**	**30.06**	**143**	T		T	19 14 36.3		
	baz=333,slow=76,SNR=624								
H11S3	**WAKE ISLAND Hy**	**30.06**	**143**	T		T	19 14 30.0		
	baz=333,slow=76,SNR=427								
H11S2	**WAKE ISLAND Hy**	**30.07**	**143**	T		T	19 14 26.2		
	baz=333,slow=76,SNR=427								
IMAR	**Indian Mountai**	**37.69**	**35**	P		**P**	**18 43 40.9**	**+0.5**	
ILAR	**Eielson Array**	**40.52**	**37**	P		**P**	**18 44 04.5**	**+0.5**	
	comp=Z,0.9nm,0.8s,baz=272,slow=8.0,SNR=11								
ZALV	**Zalesovo Beam**	**41.27**	**307**	P		**P**	**18 44 10.1**	**-0.1**	
	comp=Z,0.5nm,0.5s,baz=61,slow=12,SNR=2.1								
ZALV				PcP		**PcP**	**18 46 08.3**	**+0.3**	
	comp=Z,1.4nm,0.3s,baz=75,slow=2.8,SNR=8.1								
ZALV				LR	LR		19 01 53.3		
	comp=Z,69nm,18.4s,baz=50,slow=37								
BMAR	**Burnt Mountain**	**41.39**	**33**	P		**P**	**18 44 12.1**	**+0.9**	
SCRK	**Sand Creek**	**41.84**	**38**	P		**P**	**18 44 15.2**	**+0.2**	
SCRK				IAmb	IAmb		18 44 23.6		
	comp=Z,4.7nm,1.2s								
BCAR	**Beaver Creek A**	**42.92**	**39**	P		**P**	**18 44 25.6**	**+1.9**	
MK31	**Makanchi Array**	**45.01**	**297**	P		**P**	**18 44 40.4**	**-0.2**	
MK31				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MK31	**Makanchi Array**	**45.01**	**297**	P		**P**	**18 44 40.4**	**-0.2**	
MK31				IAmb	IAmb		18 44 42.3		
	comp=Z,2.4nm,0.7s								
MKAR	**Makanchi Array**	**45.01**	**297**	P		**P**	**18 44 40.4**	**-0.2**	
	comp=Z,1.7nm,0.5s,baz=76,slow=8.3,SNR=25								
MKAR				PcP		**PcP**	**18 46 21.0**	**+0.2**	
	comp=Z,0.8nm,0.5s,baz=69,slow=4.0,SNR=8.3								
MKAR				LR	LR		19 05 00.3		
	comp=Z,61nm,20.7s,baz=332,slow=38								
MKAR	**Makanchi Array**	**45.01**	**297**	P		**P**	**18 44 40.6**	**0.0**	
INK	**Inuvik**	**45.47**	**31**	P		**P**	**18 44 45.4**	**+1.4**	
	comp=Z,1.0nm,0.4s,baz=290,slow=9.9,SNR=6.5								
INK	**Inuvik**	**45.47**	**31**	P		**P**	**18 44 44.1**	**+0.2**	
INK				pmax	pmax				
	comp=Z,7.0nm,1.5s								
INK	**Inuvik**	**45.47**	**31**	P		**P**	**18 44 44.1**	**+0.2**	
INK				IAmb	IAmb		18 45 02.1		
	comp=Z,6.9nm,1.5s								
JAY	**Jayapura**	**47.15**	**190**	LR		LR	19 02 43.9		
	comp=Z,34nm,21.6s,baz=70,slow=33								
CMAR	**Chiang Mai Arr**	**48.46**	**254**	P		**P**	**18 45 08.7**	**+0.8**	
	comp=Z,0.8nm,0.8s,baz=37,slow=7.3,SNR=9.7								
C36M	**Paulatuk**	**48.56**	**28**	P		**P**	**18 45 08.4**	**+0.4**	
TAPN	**Taplejung**	**50.79**	**272**	*e*P		**P**	**18 45 26.3**	**+0.4**	
	comp=Z,8.8nm,0.6s								
GUN	**Gumba**	**51.77**	**274**	*e*P		**P**	**18 45 33.6**	**+0.3**	
RAMN	**Ramite**	**51.82**	**272**	*e*P		**P**	**18 45 33.7**	**+0.2**	
	comp=Z,37nm,0.5s								
KKN	**Kakani**	**52.27**	**274**	*e*P		**P**	**18 45 37.5**	**+0.7**	
PKI	**Pulchoki**	**52.31**	**273**	*e*P		**P**	**18 45 37.3**	**+0.1**	
	comp=Z,7.1nm,0.5s								
PKIN	**Phulchoki**	**52.31**	**273**	*e*P		**P**	**18 45 37.2**	**0.0**	
	comp=Z,7.4nm,0.5s								
DMN	**Daman**	**52.50**	**274**	*e*P		**P**	**18 45 39.0**	**+0.4**	
	comp=Z,14nm,0.6s								
GKN	**Gorkha**	**52.61**	**274**	*e*P		**P**	**18 45 39.6**	**+0.3**	
	comp=Z,13nm,0.5s								
KKAR	**Karatay Array**	**54.13**	**298**	P		**P**	**18 45 50.0**	**-0.1**	
KKAR	**Karatay Array**	**54.13**	**298**	P		**P**	**18 45 50.0**	**-0.1**	
KKAR				IAmb	IAmb		18 45 56.5		
	comp=Z,3.0nm,1.2s								
YKA	**Yellowknife Ar**	**54.85**	**34**	P		**P**	**18 45 55.4**	**+0.4**	
	comp=Z,1.4nm,0.6s,baz=300,slow=6.4,SNR=22								
ABKAR	**Akbulak array**	**57.30**	**309**	P		**P**	**18 46 11.9**	**-0.7**	
ABKAR	**Akbulak array**	**57.30**	**309**	P		**P**	**18 46 10.8**	**-1.8**	
ABKAR				IAmb	IAmb		18 46 13.3		
	comp=Z,1.6nm,0.7s								
ARCES	**ARCESS Array B**	**58.95**	**340**	P		**P**	**18 46 23.7**	**-0.2**	
	comp=Z,8.1nm,1.1s,baz=46,slow=7.0,SNR=5.3								
FINES	**FINESS Array B**	**64.69**	**333**	P		**P**	**18 47 01.1**	**-1.3**	
	comp=Z,1.7nm,0.5s,baz=14,slow=9.8,SNR=26								
FINES	**FINESS Array B**	**64.69**	**333**	P		**P**	**18 46 59.9**	**-2.6**	
WRA	**Warramunga Arr**	**65.24**	**194**	P		**P**	**18 47 06.7**	**+0.1**	
	comp=Z,0.9nm,0.8s,baz=14,slow=6.6,SNR=5.0								
NVAR	**Mina Array Bea**	**66.58**	**59**	P		**P**	**18 47 16.2**	**+0.9**	
	comp=Z,0.4nm,0.5s,baz=298,slow=6.6,SNR=3.9								
PDAR	**Pinedale Array**	**68.91**	**50**	P		**P**	**18 47 31.0**	**+1.0**	
	comp=Z,0.2nm,0.5s,baz=326,slow=2.2,SNR=4.3								
ASAR	**Alice Springs**	**68.96**	**194**	P		**P**	**18 47 32.1**	**+2.0**	
	comp=Z,0.6nm,0.5s,baz=15,slow=6.9,SNR=21								
NB2	**NORSAR Subarra**	**69.32**	**339**	P		**P**	**18 47 30.2**	**-1.7**	
	comp=Z,1.0nm,0.6s,baz=31,slow=6.5								
NOA	**NORSAR Array B**	**69.32**	**339**	P		**P**	**18 47 31.1**	**-0.9**	
	comp=Z,0.4nm,0.5s,baz=31,slow=6.6,SNR=5.0								
KIV	**Kislovodsk**	**69.94**	**312**	*e*P		**P**	**18 47 35.8**	**-0.4**	
KIV				pmax	pmax				
	comp=Z,17nm,1.0s								
KIV	**Kislovodsk**	**69.94**	**312**	*e*P		**P**	**18 47 35.8**	**-0.4**	
KBZ	**Khabaz**	**69.99**	**312**	P		**P**	**18 47 36.2**	**0.0**	
	comp=Z,2.1nm,0.7s,baz=24,slow=5.6,SNR=6.5								
AKASG	**Malin Array Be**	**71.56**	**324**	P		**P**	**18 47 44.0**	**-1.7**	
	comp=Z,0.9nm,0.5s,baz=37,slow=6.1,SNR=5.0								
AKASG	**Malin Array Be**	**71.56**	**324**	P		**P**	**18 47 44.0**	**-1.7**	
BRTR	**Keskin Array B**	**77.69**	**314**	P		**P**	**18 48 22.1**	**+0.5**	
	comp=Z,0.6nm,0.4s,baz=129,slow=3.4,SNR=6.0								
KHC	**Kasperske Hory**	**78.81**	**332**	*e*P		**P**	**18 48 26.5**	**-1.0**	
KHC	**Kasperske Hory**	**78.81**	**332**	*e*P		**P**	**18 48 26.5**	**-1.0**	
GERES	**GERESS Array B**	**79.01**	**331**	P		**P**	**18 48 28.1**	**-0.5**	
	comp=Z,0.5nm,0.5s,baz=45,slow=8.0,SNR=6.7								
TXAR	**Lajitas Array**	**81.65**	**57**	P		**P**	**18 48 44.3**	**+1.1**	
	comp=Z,0.7nm,0.5s,baz=298,slow=4.0,SNR=16								
H03N2	**Juan Fernandez**	**142.17**	**90**	T		T	21 34 33.2		
	baz=304,slow=77,SNR=30								
H03N3	**Juan Fernandez**	**142.18**	**90**	T		T	21 34 34.1		
	baz=304,slow=77,SNR=32								
H03N1	**Juan Fernandez**	**142.18**	**90**	T		T	21 34 37.4		
	baz=304,slow=77,SNR=30								

DJA ***15*** *18:42:46.8±0.5,5˚S±3˚×10˚2E±˚, h35km±5km, M4.6/22, mB5.3/6, mb4.7/22, MLv4.6/22, Mw(mB)4.7/6*
NEIC ***15*** *18:42:47.6±2.7,4˚83S±0.07˚×101˚72E±0.03, h37km±9km, mb4.8/28, Error ellipse: s-maj=10.6km s-min=4.3km az=168.0*
KLM ***15*** *18:42:50,4˚62S×101˚90E, h50km, mb4.7*
IDC ***15*** *18:42:50.3±0.9,4˚49S×101˚95E, h39km±5km, mb4.0/16, mb1 4.1/17, mb1mx3.9/42, mbtmp4.2/17, ML3.6/1, MS3.3/4, Ms1 3.3/4, ms1mx3.1/42, Error ellipse: s-maj=31.5km s-min=12.2km az=53.0*

ISC 15 18:42:48.4±0.5,4˚83S±0.06×101˚75E±0.06, h36km, n117, σ1871/119, mb4.7/44, MS4.1/6, 2C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.29**	**69**		**Pn**	**18 43 08.5**	**-1.4**
MNAI	**Manna**	**1.29**	**69**	P	**Pn**	**18 43 08.4**	**-1.5**
MNAI				S	**Sn**	**18 43 26.5**	**+0.6**
KSI	**Kapahiang**	**1.44**	**36**	P	**Pn**	**18 43 10.2**	**-1.8**
KSI				S	**Sn**	**18 43 30.4**	**+0.7**
MASI	**Maura Aman, Be**	**1.74**	**16**	P	**Pn**	**18 43 14.8**	**-1.4**
LHSI	**Lahat**	**2.03**	**61**	P	**Pn**	**18 43 19.4**	**-0.7**
LWLI	**Liwa**	**2.31**	**95**	P	**Pn**	**18 43 23.7**	**-0.3**
MDSI	**Maura Dua**	**2.44**	**82**	P	**Pn**	**18 43 25.1**	**-0.7**
KASI	**Kota Agung**	**2.82**	**104**	P	**Pn**	**18 43 30.7**	**-0.3**
KLSI		**2.97**	**88**	P	**Pn**	**18 43 33.4**	**+0.3**
BLSI	**Bandar Lampung**	**3.52**	**99**	P	**Pn**	**18 43 42.3**	**+1.6**
PMBI	**Palembang**	**3.56**	**58**		**Pn**	**18 43 40.5**	**-0.6**
PMBI	**Palembang**	**3.56**	**58**	P	**Pn**	**18 43 40.2**	**-0.9**
JMBI	**JAMBI**	**3.69**	**31**	P	**Pn**	**18 43 41.8**	**-1.2**
SDSI	**Sungai Dareh**	**3.88**	**355**	P	**Pn**	**18 43 45.2**	**-0.4**
RGRI	**Rengat**	**4.49**	**7**	P	**Pn**	**18 43 54.3**	**+0.4**
PPBI	**Pangkal Pinang**	**5.12**	**59**	P	**Pn**	**18 44 03.1**	**+0.5**
	0.3nm695nm34nm,0.6s						
BKNI	**Bangkinang**	**5.17**	**352**	P	**Pn**	**18 44 02.7**	**-0.6**
	0.8nm70nm,0.5s						
DBJI	**Dramaga**	**5.26**	**109**	P	**Pn**	**18 44 04.0**	**-0.6**
	0.3nm51nm,0.9s						
CBJI	**Citeko**	**5.32**	**108**	P	**Pn**	**18 44 08.0**	**+2.7**
	1.0nm3µm296nm,0.8s						
MNSI	**Mandailing Nat**	**5.99**	**339**	P	**Pn**	**18 44 13.2**	**-1.4**
	0.2nm978nm36nm,0.4s						
LEM	**Lembang**	**6.17**	**109**	Pn	**Pn**	**18 44 21.2**	**+4.0**
	7.9nm,0.3s,baz=325,slow=17,SNR=9.4						
LEM				Sn	**Sn**	**18 45 28.3**	**+1.8**
	1.9nm,0.3s,baz=287,slow=19,SNR=1.9						
LEM				LR	LR	18 47 12.9	
	comp=Z,191nm,20.3s,baz=227,slow=43						
CISI	**Cisompet, Garu**	**6.61**	**115**	Pn	**Pn**	**18 44 23.1**	**0.0**
CISI	**Cisompet, Garu**	**6.61**	**115**	P	**Pn**	**18 44 23.4**	**+0.2**
	0.8nm6µm64nm,0.5s						
MYKOM	**Kota Tinggi**	**6.90**	**18**		**Pn**	**18 44 27.7**	**+0.7**
MYKOM	**Kota Tinggi**	**6.90**	**18**	P	**

comp=Z,10.0nm,0.6s
XAN LR LR
comp=N,210nm,16.3s
XAN LR LR
comp=E,160nm,14.1s
XAN LR LR
comp=Z,250nm,17.4s
NJ2 Nanjing 40.12 23 *e*P **P 18 50 22.5 +1.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
LZH Lanzhou 40.74 3 *e*P **P 18 50 25.1 -1.0**
LZH pP pP 18 50 33.3 -2.8
LZH sP pwP 18 50 38.0 -0.6
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,76nm,5.7s
LZH LR LR
comp=N,300nm,14.6s
LZH LR LR
comp=E,340nm,14.3s
LZH LR LR
comp=Z,300nm,16.8s
COEN Coen 41.80 105 P **P 18 50 32.6 -2.4**
COEN IAmb IAmb 18 52 02.1
comp=Z,33nm,1.6s
GTA Gaotai 44.05 358 ⇑P **P 18 50 52.3 -0.7**
GTA sP pP 18 51 02.8 -0.4
GTA pmax pmax
comp=Z,1.0nm,1.0s
GTA pmax pmax
comp=Z,83nm,6.0s
GTA LR LR
comp=N,96nm,15.6s
GTA LR LR
comp=E,170nm,16.7s
GTA LR LR
comp=Z,150nm,15.6s
CTA Charters Tower 45.85 113 P **P 18 51 09.3 +1.9**
comp=Z,2.7nm,0.8s,baz=285,slow=12,SNR=1.8
STKA Stephens Creek 45.99 131 P **P 18 51 11.0 +2.6**
comp=Z,1.4nm,0.7s,baz=309,slow=13,SNR=2.0
HHC Hu-ho-hao-te 46.34 10 *e*P **P 18 51 10.1 -0.9**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,170nm,7.6s
BJI Beijing 46.58 15 P **P 18 51 12.8 0.0**
BJI S **S 18 58 01.3 +2.1**
BJI pmax pmax
comp=Z,7.0nm,0.6s
BJI pmax pmax
comp=Z,100nm,4.7s
BJI LR LR
comp=Z,770nm,55.9s
NIL Nilore 46.81 327 P **P 18 51 13.1 -1.8**
NIL IAmb IAmb 18 51 29.6
comp=Z,7.4nm,0.7s
KSAR Wonju Array Be 48.59 28 P **P 18 51 28.1 -0.4**
KSRS Korea Array 48.62 28 P **P 18 51 27.6 -1.1**
comp=Z,2.4nm,0.6s,baz=220,slow=7.2,SNR=18
KSRS LR LR 19 13 43.0
comp=Z,22nm,18.5s,baz=350,slow=38
JMN Monobe 48.92 36 P **P 18 51 29.5 -1.6**
JHS Saijyo 49.40 34 P **P 18 51 32.4 -2.4**
JHS IAmb IAmb 18 52 10.4
comp=Z,19nm,1.2s
WMQ Urumqi 50.06 347 P **P 18 51 40.9 +1.2**
WMQ sP pP 18 51 51.8 +1.8
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,210nm,5.3s
KSH Kashi 50.12 334 P **P 18 51 39.3 -1.0**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,130nm,6.4s
JWT Wachi 50.91 36 P **P 18 51 44.5 -1.6**
JGF Kuroka 52.28 37 P **P 18 51 53.8 -2.7**
JGF IAmb IAmb 18 52 27.4
comp=Z,33nm,1.8s
SONM Songino Array 52.60 4 P **P 18 51 58.9 +0.2**
comp=Z,12nm,0.6s,baz=185,slow=9.6,SNR=131
SONM pP **pP 18 52 09.9 +1.0**
comp=Z,4.1nm,0.5s,baz=187,slow=9.7,SNR=8.3
SONM Songino Array 52.60 4 P **P 18 51 59.0 +0.2**
SONM IAmb IAmb 18 51 59.8
comp=Z,9.8nm,0.6s
ULN Ulaanbaatar 52.67 4 P **P 18 51 58.5 -0.8**
ULN P **P 18 51 58.8 -0.6**
ULN IAmb IAmb 18 52 00.1
comp=Z,5.6nm,0.7s
MAJO Matsushiro 53.42 37 P **P 18 52 02.6 -2.2**
MAJO IAmb IAmb 18 52 15.5
comp=Z,21nm,1.7s
MAT Matsushiro 53.42 37 P **P 18 52 02.0 -2.9**
MJAR Matsushiro Arr 53.42 37 P **P 18 52 02.2 -2.7**
comp=Z,2.8nm,0.6s,baz=206,slow=7.5,SNR=20
MJAR Matsushiro Arr 53.42 37 P **P 18 52 02.4 -2.5**
MK31 Makanchi Array 54.21 344 P **P 18 52 10.2 -0.2**
MK31 IAmb IAmb 18 52 22.2
comp=Z,3.6nm,0.6s
MKAR Makanchi Array 54.21 344 P **P 18 52 10.2 -0.3**
comp=Z,2.3nm,0.5s,baz=151,slow=9.1,SNR=55
MKAR Makanchi Array 54.21 344 P **P 18 52 10.0 -0.5**
JSD Sado 54.47 35 P **P 18 52 09.9 -2.6**
JSD IAmb IAmb 18 52 11.9
comp=Z,6.0nm,0.7s
USA0B Ussuriysk Arra 55.87 26 P **P 18 52 21.8 -0.7**
USRK Ussuriysk Ar. 55.87 26 P **P 18 52 21.6 -0.8**
comp=Z,12nm,0.6s,baz=215,slow=4.6,SNR=43
ERM Erimo 59.92 35 P **P 18 52 49.9 -1.0**
ZAA0 Zalesovo Array 60.26 349 P **P 18 52 51.5 -1.5**
ZAA0 IAmb IAmb 18 53 04.6
comp=Z,6.2nm,0.7s
ZALV Zalesovo Beam 60.26 349 P **P 18 52 52.0 -1.0**
comp=Z,3.0nm,0.4s,baz=160,slow=4.7,SNR=18
ZALV pP **pP 18 53 03.2 -0.4**
comp=Z,6.2nm,0.5s,baz=174,slow=4.5,SNR=11
BRVK Borovoye 63.49 339 P **P 18 53 14.2 -0.5**
ABKAR Akbulak array 64.94 331 P **P 18 53 24.3 0.0**
YAK Yakutsk 70.04 14 P **P 18 53 54.9 -1.4**
PETK Petropavlovsk- 74.35 31 P **P 18 54 20.8 -1.5**
comp=Z,1.4nm,0.6s,baz=226,slow=5.1,SNR=6.9
BRTR Keskin Array B 76.51 313 P **P 18 54 35.8 +0.6**
comp=Z,1.1nm,1.1s,baz=137,slow=5.0,SNR=2.3
BRTR pP **PcP 18 54 47.7 +1.0**
comp=Z,1.0nm,0.6s,baz=134,slow=7.9,SNR=5.4
KOLS Kolonicke sedl 86.72 320 *e*P **P 18 55 31.2 +2.5**
KOLS *e* 18 55 43.0
FINES FINESS Array B 87.41 332 P **P 18 55 32.2 +0.4**
comp=Z,3.4nm,1.1s,baz=163,slow=7.0,SNR=5.0
FINES pP **pP 18 55 43.9 +1.1**
comp=Z,0.6nm,0.4s,baz=116,slow=6.3,SNR=1.9
TXAR Lajitas Array 145.75 42 PKPbc **PKPab 19 02 25.4 +0.6**
comp=Z,1.1nm,0.5s,baz=281,slow=0.7,SNR=24
TXAR pPKPbc pPKPab 19 02 37.0 +1.0
comp=Z,6.5nm,0.6s,baz=282,slow=1.4,SNR=30

IDC 15 18:43:16.1±2.6, 7°22S×155°06E, h38km±9km, mb3.3/4, mb1 3.6/5, mb1mx3.3/26, mbtmp3.6/5, ML1.5/1, MS2.8/2, Ms1 2.8/2, ms1mx2.7/19, Error ellipse: s-maj=57.9km s-min=28.9km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.31**	**115**	LR	LR	18 46 07.6	
	comp=Z,91nm,19.0s,baz=214,slow=32						
PMG	**Port Moresby**	**8.11**	**254**	Pn	Pn	18 45 12.9	+1.5
	0.3nm,0.3s,baz=60,slow=8.1,SNR=1.7						
PMG				Sn	Sn	18 46 42.5	+0.6
	1.1nm,0.3s,baz=187,slow=18,SNR=1.2						
PMG				LR	LR	18 48 14.9	
	comp=Z,74nm,18.4s,baz=86,slow=37						
WRA	**Warramunga Arr**	**23.74**	**236**	P	P	18 48 24.3	-0.7
	0.7nm,0.7s,baz=58,slow=9.3,SNR=4.7						
WRA				pP	pP	18 48 34.8	+1.2
	2.7nm,0.7s,baz=58,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**26.07**	**229**	P	P	18 48 45.6	-0.6
	0.5nm,0.8s,baz=64,slow=9.3,SNR=3.0						
ASAR				pP	pP	18 48 56.6	+1.7
	1.1nm,1.0s,baz=58,slow=9.6,SNR=4.3						
CMAR	**Chiang Mai Arr**	**60.94**	**296**	P	P	18 53 26.2	+0.4
	0.4nm,0.6s,baz=108,slow=5.8,SNR=4.9						
CMAR				pP	sP	18 53 37.9	-0.3
	0.4nm,0.6s,baz=122,slow=5.5,SNR=3.6						
MKAR	**Makanchi Array**	**83.62**	**319**	P	P	18 55 40.6	0.0
	0.5nm,0.6s,baz=103,slow=5.5,SNR=3.6						

*TRN **15** 19:02:43.8, 11°.26N×62°.21W, h108km, MD3.8*
*FUNV **15** 19:02:45.2, 11°.21N×62°.07W, h113km, MW4.2*
ISC 15 19:02:42.3±1.3, 11°.18N±0°.04×62°.19W±0°.05, h125km±13km, n40, σ2°12/69, 2C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.94**	**124**	*e*P	**Pn**	**19 03 05.0**	**+0.9**
TRN				*e*S	**Sn**	**19 03 19.8**	**-0.9**
TRN	**Trinidad (W)**	**0.94**	**124**	⇑*i*P	**Pn**	**19 03 05.0**	**+0.9**
TRN				*e*S	**Sn**	**19 03 19.9**	**-0.8**
GRGR	**Grenville**	**1.08**	**29**	*e*P	**Pn**	**19 03 05.3**	**-0.3**
GRGR				*e*S	**Sn**	**19 03 21.5**	**-1.7**
GRGR	**Grenville**	**1.08**	**29**	*e*P	**Pn**	**19 03 05.3**	**-0.3**
GRGR				*e*S	**Sn**	**19 03 21.5**	**-1.7**
TPP	**Pointe-a-Pierr**	**1.12**	**140**	*e*P	**Pn**	**19 03 08.1**	**+2.1**
TPP				*e*S	**Sn**	**19 03 24.8**	**+0.9**
CRUV	**Carupano**	**1.15**	**244**	*e*P	**Pn**	**19 03 08.2**	**+2.1**
CRUV				*e*S	**Sn**	**19 03 26.1**	**+1.8**
TBH	**Brigand Hill**	**1.30**	**122**	*e*P	**Pn**	**19 03 09.2**	**+1.3**
TPR	**Prospect**	**1.39**	**90**	*e*P	**Pn**	**19 03 08.7**	**0.0**
GCMP	**Grenada, Carri**	**1.50**	**30**	*e*P	**Pn**	**19 03 09.2**	**-0.8**
GCMP				*e*S	**Sn**	**19 03 28.5**	**-2.7**
SVOC	**Richmond Hill,**	**2.18**	**26**	*e*P	**Pn**	**19 03 18.1**	**-0.1**
SVOC				*e*S	**Sn**	**19 03 43.7**	**-2.0**
SVB	**Belmont**	**2.27**	**24**	*e*P	**Pn**	**19 03 19.5**	**+0.1**
SVB	**Belmont**	**2.27**	**24**	*e*P	**Pn**	**19 03 19.6**	**+0.2**
SVB				*e*S	**Sn**	**19 03 45.3**	**-2.6**
PCRV	**Puerto La Cruz**	**2.60**	**248**	⇑*i*P	**Pn**	**19 03 26.4**	**+2.8**
PCRV				*e*S	**Sn**	**19 03 57.4**	**+1.9**
MCLT	**Moule a Chique**	**2.79**	**26**	*e*P	**Pn**	**19 03 25.8**	**-0.3**
MCLT				*e*S	**Sn**	**19 03 57.9**	**-2.0**
SLB	**Belfond**	**2.86**	**23**	*e*P	**Pn**	**19 03 27.4**	**+0.4**
SLBI	**Saint Lucia, B**	**3.06**	**23**	*e*P	**Pn**	**19 03 29.1**	**-0.5**
SLBI				*e*S	**Sn**	**19 04 04.6**	**-1.5**
RIOV	**Rio Grande**	**3.11**	**173**	*e*P	**Pn**	**19 03 32.4**	**+2.1**
RIOV				*e*S	**Sn**	**19 04 06.7**	**-0.6**
BCHC	**Barbados, Cave**	**3.17**	**52**	*e*P	**Pn**	**19 03 32.0**	**+1.2**
BBGH	**Gun Hill**	**3.23**	**53**	*e*P	**Pn**	**19 03 32.5**	**+0.8**
BBGH	**Gun Hill**	**3.23**	**53**	*e*P	**Pn**	**19 03 32.1**	**+0.4**
BBGH				*e*S	**Sn**	**19 04 06.9**	**-3.0**
BBSP	**Saint Philip**	**3.29**	**54**	*e*P	**Pn**	**19 03 34.0**	**+1.6**
BIM	**Bigot**	**3.49**	**18**	*e*P	**Pn**	**19 03 34.8**	**-0.4**
MPOM	**Morne Pois Mar**	**3.50**	**22**	*e*P	**Pn**	**19 03 34.8**	**-0.4**
MPOM				*e*S	**Sn**	**19 04 13.3**	**-2.9**
BIRV	**Birongo**	**4.07**	**260**	*e*P	**Pn**	**19 03 46.4**	**+3.5**
BIRV				*e*S	**Sn**	**19 04 29.8**	**-0.1**
DSLB	**Salisbury**	**4.30**	**10**	*e*P	**Pn**	**19 03 46.6**	**+0.6**
MERV	**Las Mercedes**	**4.47**	**245**	*e*P	**Pn**	**19 03 50.1**	**+1.8**
MERV				*e*S	**Sn**	**19 04 39.8**	**+0.2**
FUNV	**FUNVISIS**	**4.59**	**262**	*e*P	**Pn**	**19 03 52.9**	**+2.9**
FUNV				*e*S	**Sn**	**19 04 42.2**	**-0.4**
CARV	**Caracas**	**4.71**	**262**	*e*P	**Pn**	**19 03 54.7**	**+3.3**
CARV				*e*S	**Sn**	**19 04 45.3**	**0.0**
TACV	**Tcata**	**4.87**	**258**	*e*P	**Pn**	**19 03 56.5**	**+2.9**
TACV				*e*S	**Sn**	**19 04 49.2**	**+0.2**
LUEV	**Luepa**	**5.35**	**172**	*e*P	**Pn**	**19 04 00.4**	**+0.2**
LUEV				*e*S	**Sn**	**19 04 57.9**	**-3.0**
TURV	**Turiamo**	**5.60**	**263**	*e*P	**Pn**	**19 04 05.8**	**+2.4**
TURV				*e*S	**Sn**	**19 05 05.3**	**-1.2**
BAUV	**El Baul**	**6.18**	**249**	*e*P	**Pn**	**19 04 12.4**	**+1.2**
BAUV				*e*S	**Sn**	**19 05 18.5**	**-2.1**
MAPV	**Macapo**	**6.31**	**258**	*e*P	**Pn**	**19 04 15.0**	**+2.1**
MAPV				*e*S	**Sn**	**19 05 20.6**	**-3.1**
SANV	**Sanarito**	**7.42**	**258**	*e*P	**Pn**	**19 04 29.5**	**+1.5**
SANV				*e*S	**Sn**	**19 05 46.6**	**-4.3**
SIQV	**Siquisique**	**7.50**	**267**	*e*P	**Pn**	**19 04 31.3**	**+2.2**
SIQV				*e*S	**Sn**	**19 05 49.0**	**-3.6**
MONV	**Montecano**	**7.66**	**277**	*e*P	**Pn**	**19 04 33.2**	**+2.0**
CURV	**Curarigua**	**7.73**	**262**	*e*P	**Pn**	**19 04 34.1**	**+2.0**
PAYV	**Puerto Ayacuch**	**7.87**	**224**	*e*P	**Pn**	**19 04 35.0**	**+1.0**
PAYV				*e*S	**Sn**	**19 05 57.5**	**-4.2**
ELOV	**Elorza**	**8.31**	**241**	*e*P	**Pn**	**19 04 41.3**	**+1.3**
ELOV				*e*S	**Sn**	**19 06 06.5**	**-5.8**
SOCV	**Socops**	**9.01**	**252**	*e*P	**Pn**	**19 04 50.3**	**+0.9**
SOCV				*e*S	**Sn**	**19 06 24.4**	**-4.9**

*NEIC **15** 19:23:13.0±1.1, 55°.7N±0°.2×161°.8W±0°.2, h168km±9km, Error ellipse: s-maj=26.5km s-min=6.2km az=152.0*
AEIC 15 19:23:14±1.1, 55°.6N±0°.2×161°.7W±0°.1, h164km±6km, ML2.7/11, mb4.0/1(NEIC), ML3.8/10(NEIC), Error ellipse: s-maj=24.8km s-min=7.0km az=156.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PS1A	**Pavlof South-1**	**0.13**	**186**		Pn	19 23 35.7	-0.2
PVV	**Pavlof Volcano**	**0.18**	**193**		Pn	19 23 35.8	-0.2
PS4A	**Pavlof South-4**	**0.22**	**201**		Pn	19 23 35.8	-0.3
DT1	**Dutton Round H**	**0.55**	**216**		Pn	19 23 37.1	-0.1
SDPT	**Sand Point**	**0.74**	**106**		Pn	19 23 38.0	-0.2
SDPT					Sn	19 23 56.3	-0.4
FALS	**False Pass**	**1.20**	**235**		Pn	19 23 41.3	-0.5
FALS					Sn	19 24 01.9	-1.1
CHGN	**Chignik**	**2.00**	**67**		Pn	19 23 49.5	-0.4
CHGN					Sn	19 24 16.9	-0.9
CHGN	**Chignik**	**2.00**	**67**	IAML		19 25 14.0	
	comp=N,233nm,0.1s						
CHGN				IAML		19 25 24.5	
	comp=E,232nm,0.1s						
WECS	**Westdahl Cape**	**2.04**	**241**		Pn	19 23 50.4	0.0
AKUT	**Akutan**	**2.74**	**240**	Pn	Pn	19 23 58.8	+0.1
AKUT				IAML		19 24 29.3	
	comp=E,221nm,4.1s						
AKUT				IAML		19 25 09.6	
	comp=N,155nm,5.0s						
CHIR	**Chirikof Islan**	**3.46**	**83**	Pn	Pn	19 24 07.4	-0.2
CHIR				IAML		19 25 57.7	
	comp=E,345nm,3.2s						
OHAK	**Old Harbor**	**4.97**	**67**	Pn	Pn	19 24 25.6	-1.6
OHAK				IAML		19 26 58.9	
	comp=N,116nm,3.6s						
KDAK	**Kodiak Island**	**5.51**	**62**	Pn	Pn	19 24 33.5	-0.7
SVW2	**Sparrevohn**	**6.43**	**28**	Pn	Pn	19 24 44.5	-1.9
SEW	**Seward**	**7.97**	**50**	Pn	Pn	19 25 05.5	-1.3
SCM	**Sheep Creek Mo**	**9.77**	**44**	Pn	Pn	19 25 28.6	-2.0
KLU	**Klutina**	**10.16**	**48**	Pn	Pn	19 25 33.2	-2.6
N25K	**Chitina, Valde**	**10.78**	**49**	Pn	Pn	19 25 41.3	-2.6
EPYK	**Eagle Plains**	**16.13**	**38**	Pn	Pn	19 26 48.4	-2.9
EPYK				IAmb	IAmb	19 27 26.8	
	comp=Z,11nm,1.4s						

*TAP **15** 19:33:58.8, 23°.75N×122°.10E, h35km, ML3.6, C*
*JMA **15** 19:33:58.1±0.2, 23°.74N×122°.06E, h28km±5km, M3.2*
ISC 15 19:33:56.8±1.0, 23°.74N±0°.02×122°.12E±0°.02, h15km±8km, n110, σ0°72/213, 5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.52**	**297**	*i*P	**Pn**	**19 34 09.1**	**-0.6**
	baz=291						
HWA				*e*S	**Sb**	**19 34 16.5**	**+1.5**
	baz=291						
TWD	**Chiawan**	**0.58**	**306**	⇓*i*P	**Pb**	**19 34 09.6**	**+0.9**
	baz=306						
TWD				*i* S	**Sb**	**19 34 17.4**	**+0.6**
	baz=306						
ESL	**Shilin**	**0.63**	**277**	⇓*i*P	**Pb**	**19 34 10.1**	**+0.6**
	baz=269						
ESL				S	**Sb**	**19 34 18.3**	**+0.2**
	baz=269						
EGFH	**Guangfu**	**0.63**	**264**	*i* P	**Pb**	**19 34 10.5**	**+0.9**
	baz=263						
EGFH				*e*S	**Sb**	**19 34 19.2**	**+1.0**
	baz=263						
NACB	**Ninganchiao**	**0.64**	**312**	*i* P	**Pb**	**19 34 10.3**	**+0.6**
	baz=308						
NACB				S	**Sb**	**19 34 18.9**	**+0.4**
	baz=308						
HGSD	**Ruisui**	**0.68**	**249**	P	**Pb**	**19 34 11.2**	**+0.8**
	baz=247						
HGSD				S	**Sb**	**19 34 20.2**	**+0.7**
	baz=247						
ETLH	**Xiulin Townshi**	**0.74**	**309**	⇓*i*P	**Pb**	**19 34 12.0**	**+0.5**
	baz=309						
ETLH				*i* S	**Sb**	**19 34 21.4**	**-0.1**
	baz=309						
EHY	**Hungye**	**0.76**	**252**	⇓*i*P	**Pb**	**19 34 12.4**	**+0.6**
	baz=266						
EHY				S	**Sg**	**19 34 22.4**	**+0.7**
	baz=266						
ENA	**Nanau**	**0.77**	**334**	*i* P	**Pn**	**19 34 12.7**	**-0.4**
	baz=327						
ENA				S	**Sn**	**19 34 23.0**	**-1.3**
	baz=327						
YULB	**Yu-li**	**0.83**	**245**	P	**Pg**	**19 34 13.4**	**+0.5**
	baz=259						
YULB				S	**Sg**	**19 34 24.1**	**+0.3**
	baz=259						
EYUL	**Yuli**	**0.83**	**242**	*i* P	**Pb**	**19 34 13.7**	**+0.8**
	baz=232						
EYUL				*i* S	**Sb**	**19 34 24.6**	**+0.8**
	baz=232						
TWF1	**Yuli**	**0.84**	**243**	*i* P	**Pg**	**19 34 13.7**	**+0.4**
	baz=233						
TWF1				*i* S	**Sg**	**19 34 24.9**	**+0.5**
	baz=233						
WHF	**Hehuan Shan**	**0.88**	**298**	⇓*i*P	**Pb**	**19 34 14.1**	**+0.2**
	baz=289						
WHF				S	**Sb**	**19 34 25.6**	**0.0**
	baz=289						
VWDT	**VWDT**	**0.89**	**271**	P	**Pb**	**19 34 14.6**	**+0.7**
	baz=270						
VWDT				S	**Sg**	**19 34 25.8**	**-0.1**
	baz=270						
TWC	**Suao**	**0.90**	**344**	*i* P	**Pn**	**19 34 15.1**	**+0.2**
	baz=356						
TWC				S	**Sn**	**19 34 26.5**	**-1.1**
	baz=356						
FULB	**Fuli**	**0.93**	**235**	*i* P	**Pb**	**19 34 14.3**	**-0.3**
	baz=223						
FULB				S	**Sb**	**19 34 26.3**	**-0.4**
	baz=223						
CHKT	**Chengkung**	**0.94**	**227**	P	**Pb**	**19 34 14.4**	**-0.4**
	baz=218						
CHKT				S	**Sb**	**19 34 25.3**	**-1.7**
	baz=218						
FUSS	**Fushou**	**0.94**	**303**	*i* P	**Pb**	**19 34 15.4**	**+0.4**
	baz=302						
FUSS				S	**Sb**	**19 34 27.9**	**+0.5**
	baz=302						
NNSH	**Datong**	**0.96**	**316**	P	**Pb**	**19 34 15.6**	**+0.4**
	baz=315						
NNSH				S	**Sg**	**19 34 26.8**	**-1.2**
	baz=315						
NNSB	**Datong**	**0.96**	**316**	P	**Pb**	**19 34 15.5**	**+0.3**
	baz=316						
NNSB				S	**Sg**	**19 34 27.2**	**-0.8**
	baz=316						
NDS	**Dongshan**	**0.96**	**338**	*i* P	**Pn**	**19 34 16.1**	**+0.4**
	baz=338						
NDS				S	**Sb**	**19 34 28.1**	**+0.4**
	baz=338						
NNS	**Nan Shan**	**0.97**	**316**	*i* P	**Pg**	**19 34 15.7**	**0.0**
	baz=316						
NNS				*i* S	**Sb**	**19 34 28.2**	**+0.1**
	baz=316						
TWT	**Tachien**	**1.00**	**301**	*i* P	**Pn**	**19 34 16.5**	**+0.1**
	baz=300						
TWT				*i* S	**Sg**	**19 34 29.6**	**+0.2**
	baz=300						
TDCB	**Techi**	**1.01**	**300**	P	**Pg**	**19 34 16.5**	**0.0**
	baz=300						
TDCB				S	**Sg**	**19 34 29.9**	**+0.2**
	baz=300						
NDT	**Datong Townshi**	**1.02**	**327**	*i* P	**Pn**	**19 34 17.0**	**+0.4**
	baz=327						
NDT				*i* S	**Sg**	**19 34 29.6**	**-0.3**
	baz=327						
ENTT	**Nioudou**	**1.03**	**331**	*i* P	**Pn**	**19 34 16.8**	**+0.1**
	baz=331						
ENTT				S	**Sg**	**19 34 29.8**	**-0.3**
	baz=331						
JYNG	**Yonagunijimaku**	**1.04**	**47**	P	**Pn**	**19 34 17.7**	**+0.9**
JYNG				S	**Sn**	**19 34 31.2**	**+0.2**
TWE	**Neicheng**	**1.06**	**337**	*i* P	**Pn**	**19 34 17.6**	**+0.5**
	baz=338						
TWE				S	**Sn**	**19 34 31.7**	**+0.1**
	baz=338						
SSLB	**Suanglung**	**1.06**	**273**	P	**Pb**	**19 34 16.7**	**-0.2**
	baz=272						
SSLB				S	**Sb**	**19 34 30.2**	**-0.4**
	baz=272						
EDH	**Donghe**	**1.07**	**224**	P	**Pb**	**19 34 16.3**	**-0.7**
	baz=217						
EDH				S	**Sb**	**19 34 28.8**	**-1.9**
	baz=217						
ILA	**Ilan**	**1.07**	**342**	*i* S	**Sn**	**19 34 32.5**	**+0.5**
	baz=342						
YOJ	**Yonaguni jima**	**1.09**	**49**	P	**Pg**	**19 34 18.6**	**+0.7**
	baz=49						
YOJ				S	**Sn**	**19 34 32.6**	**+0.3**
	baz=49						
YOJ	**Yonaguni jima**	**1.09**	**49**	P	**Pg**	**19 34 18.5**	**+0.7**
YOJ				S	**Sn**	**19 34 32.5**	**+0.2**
WPL	**Puli Township**	**1.09**	**285**	P	**Pb**	**19 34 17.7**	**+0.3**
	baz=284						
WPL				S	**Sb**	**19 34 31.4**	**-0.1**
	baz=284						
SMLT	**Sun Moon Lake**	**1.12**	**278**	*i* P	**Pb**	**19 34 18.2**	**+0.3**
	baz=277						
SMLT				S	**Sg**	**19 34 33.2**	**0.0**
	baz=277						
DPDB	**Guoxing**	**1.13**	**285**	P	**Pn**	**19 34 18.4**	**+0.3**
	baz=278						
DPDB				S	**Sg**	**19 34 32.9**	**-0.4**
	baz=278						
NTC	**Toucheng**	**1.14**	**347**	*i* P	**Pg**	**19 34 18.8**	**-0.1**
	baz=358						
NTC				S	**Sn**	**19 34 33.1**	**-0.4**
	baz=358						
WCS	**Beigang Elemen**	**1.15**	**286**	*i* P	**Pn**	**19 34 18.6**	**+0.4**
	baz=286						
WCS				*e*S	**Sb**	**19 34 32.6**	**-0.4**
	baz=286						
YHNB	**Yeheng**	**1.15**	**324**	P	**Pn**	**19 34 18.5**	**+0.2**
	baz=313						
YHNB				S	**Sb**	**19 34 32.4**	**-0.7**
	baz=313						
ELDTW	**Lidau**	**1.15**	**242**	*i* P	**Pb**	**19 34 17.7**	**-0.7**
	baz=241						
ELDTW				S	**Sb**	**19 34 30.6**	**-2.6**
	baz=241						
WHYT	**Xinyi Township**	**1.16**	**268**	*i* P	**Pb**	**19 34 18.8**	**+0.3**
	baz=268						
WHYT				S	**Sb**	**19 34 33.0**	**-0.3**
	baz=268						
NSK	**Sanguang**	**1.16**	**324**	*i* P	**Pn**	**19 34 18.8**	**+0.2**
	baz=313						
NSK				S	**Sb**	**19 34 32.6**	**-0.9**
	baz=313						
TYC	**Yuchr**	**1.16**	**278**	*i* P	**Pb**	**19 34 18.6**	**0.0**
	baz=285						
TYC				S	**Sb**	**19 34 33.3**	**-0.2**
	baz=285						
NWLT	**Wulai**	**1.17**	**332**	*i* P	**Pg**	**19 34 19.2**	**-0.3**
	baz=320						
NWLT				S	**Sb**	**19 34 33.7**	**-0.2**
	baz=320						
WHP	**Taichung City**	**1.20**	**297**	*i* P	**Pg**	**19 34 19.8**	**-0.1**
	baz=297						
WHP				S	**Sb**	**19 34 34.6**	**+0.1**
	baz=297						
LDUT	**Ludao**	**1.22**	**209**	*i* P	**Pn**	**19 34 18.3**	**-1.0**
	baz=209						
LDUT				S	**Sb**	**19 34 33.0**	**-2.0**
	baz=209						
ALS	**Alishan**	**1.22**	**259**	*i* P	**Pn**	**19 34 20.2**	**+0.6**
	baz=269						
ALS				S	**Sb**	**19 34 35.3**	**-0.2**
	baz=269						
LONT	**Longtian**	**1.23**	**228**	*i* P	**Pn**	**19 34 18.7**	**-0.7**
	baz=239						
LONT				S	**Sb**	**19 34 33.6**	**-1.7**
	baz=239						
TIPB	**Shuangxi**	**1.25**	**348**	*i* P	**Pg**	**19 34 20.9**	**-0.1**
	baz=360						
TIPB				*i* S	**Sg**	**19 34 36.8**	**-0.6**
	baz=360						
TWB1	**Santiao Chiao**	**1.27**	**355**	*e*P	**Pb**	**19 34 20.4**	**+0.1**
	baz=355						
TWB1				S	**Sb**	**19 34 35.7**	**-0.8**
	baz=355						

WJS	**Zhushan**	**1.27 274**	P	**Pg**	**19 34 21.4**	**0.0**
	baz=274					
WJS			S	**Sg**	**19 34 38.3**	**+0.3**
	baz=274					
WNT	**Mingjian**	**1.32 276**	*i* P	**Pb**	**19 34 21.9**	**+0.6**
	baz=276					
WNT			*i* S	**Sn**	**19 34 38.8**	**+0.9**
	baz=276					
TWGBT	**Beinan**	**1.32 226**	P	**Pn**	**19 34 19.9**	**-0.8**
	baz=237					
TWGBT			S	**Sb**	**19 34 35.8**	**-2.3**
	baz=237					
WNT1	**Nantou City**	**1.32 277**	P	**Pg**	**19 34 22.5**	**+0.2**
	baz=277					
WNT1			S	**Sg**	**19 34 39.9**	**+0.3**
	baz=277					
CHN5	**Tsauling**	**1.32 264**	*i* P	**Pb**	**19 34 22.2**	**+0.8**
	baz=264					
CHN5			*i* S	**Sn**	**19 34 38.8**	**+0.6**
	baz=264					
TTN	**Taitung**	**1.32 222**	*e*S	**Sn**	**19 34 37.5**	**-0.6**
	baz=213					
TWG	**Pinlang**	**1.32 227**	*i* P	**Pn**	**19 34 19.9**	**-0.8**
	baz=237					
TWG			*i* S	**Sn**	**19 34 35.9**	**-2.3**
	baz=237					
TWA	**Mucha**	**1.33 339**	*i* P	**Pg**	**19 34 22.2**	**-0.2**
	baz=339					
TWA			S	**Sg**	**19 34 38.8**	**-0.9**
	baz=339					
NHDH	**Xindian Distri**	**1.33 336**	P	**Pg**	**19 34 22.4**	**-0.1**
	baz=323					
NHDH			S	**Sn**	**19 34 38.4**	**+0.1**
	baz=323					
WWF	**Wufeng**	**1.33 283**	P	**Pg**	**19 34 23.0**	**+0.5**
	baz=283					
WWF			S	**Sg**	**19 34 40.5**	**+0.7**
	baz=283					
NSTT	**Nanjuang**	**1.35 311**	*i* P	**Pg**	**19 34 22.4**	**-0.4**
	baz=311					
NSTT			*i* S	**Sn**	**19 34 38.8**	**0.0**
	baz=311					
STYH	**Taoyuan**	**1.35 246**	*i* P	**Pn**	**19 34 21.6**	**+0.5**
	baz=238					
STYH			S	**Sn**	**19 34 38.4**	**-0.4**
	baz=238					
TATO	**Taipei**	**1.36 335**	P	**Pb**	**19 34 22.2**	**+0.3**
	baz=335					
TATO			S	**Sg**	**19 34 39.6**	**-1.1**
	baz=335					
NWF	**Wu-fen Shan**	**1.36 347**	*i* P	**Pb**	**19 34 22.3**	**+0.3**
	baz=347					
NWF			S	**Sb**	**19 34 38.4**	**-0.9**
	baz=347					
WFSB	**Wu-fen Shan**	**1.36 347**	P	**Pg**	**19 34 22.4**	**-0.7**
	baz=347					
WFSB			S	**Sn**	**19 34 39.2**	**+0.2**
	baz=347					
NJD	**Zhudong**	**1.36 317**	*e*P	**Pb**	**19 34 22.1**	**+0.1**
	baz=316					
NJD			S	**Sg**	**19 34 39.8**	**-1.1**
	baz=316					
TWQ1	**Liyutan**	**1.37 297**	*i* P	**Pg**	**19 34 22.9**	**-0.3**
	baz=296					
TWQ1			S	**Sg**	**19 34 40.1**	**-0.9**
	baz=296					
STYT	**Tauyuan**	**1.37 246**	*i* P	**Pn**	**19 34 21.9**	**+0.5**
	baz=238					
STYT			S	**Sn**	**19 34 38.6**	**-0.7**
	baz=238					
TCU	**Taichung**	**1.38 287**	*i* P	**Pg**	**19 34 23.3**	**0.0**
	baz=287					
TCU			*i* S	**Sg**	**19 34 41.7**	**+0.4**
	baz=287					
BACT	**New Taipei Cit**	**1.39 334**	*e*S	**Sg**	**19 34 40.8**	**-1.0**
	baz=333					
NSY	**Sanyi**	**1.41 299**	P	**Pg**	**19 34 23.6**	**-0.4**
	baz=299					
NSY			S	**Sg**	**19 34 41.6**	**-0.7**
	baz=299					
TAP	**Taipei**	**1.41 337**	P	**Pg**	**19 34 23.6**	**-0.3**
	baz=324					
TAP			S	**Sg**	**19 34 40.8**	**-1.5**
	baz=324					
WGK	**Gukeng**	**1.42 268**	*i* P	**Pb**	**19 34 23.3**	**+0.2**
	baz=268					
WGK			*i* S	**Sb**	**19 34 41.7**	**+0.7**
	baz=268					
TPUB	**Ta-pu**	**1.43 252**	P	**Pb**	**19 34 23.6**	**+0.5**
	baz=243					
TPUB			S	**Sn**	**19 34 41.6**	**+0.8**
	baz=243					
TNOU	**National Taiwa**	**1.44 348**	P	**Pn**	**19 34 22.8**	**+0.5**
	baz=2.0					
TNOU			S	**Sb**	**19 34 41.1**	**-0.3**
	baz=2.0					
HSN1	**Hsinchu**	**1.44 316**	*e*P	**Pg**	**19 34 24.1**	**-0.4**
	baz=316					
HSN1			*e*S	**Sg**	**19 34 42.6**	**-0.6**
	baz=316					
NMLH	**Miaoli**	**1.45 304**	*i* P	**Pb**	**19 34 23.8**	**+0.4**
	baz=291					
NMLH			S	**Sg**	**19 34 42.6**	**-0.9**
	baz=291					
WDLH	**Douliu**	**1.45 268**	P	**Pb**	**19 34 23.8**	**+0.4**
	baz=268					
WDLH			S	**Sb**	**19 34 42.3**	**+0.7**
	baz=268					
CHN4	**Tsaushan**	**1.45 255**	P	**Pb**	**19 34 24.2**	**+0.7**
	baz=254					
CHN4			S	**Sb**	**19 34 43.2**	**+1.4**
	baz=254					
NTY	**Taoyuan**	**1.46 329**	P	**Pg**	**19 34 24.6**	**-0.3**
	baz=340					
NTY			S	**Sb**	**19 34 42.3**	**+0.3**
	baz=340					
WTP	**Ta-pu**	**1.46 251**	*i* P	**Pn**	**19 34 23.8**	**+1.1**
	baz=242					
WTP			*i* S	**Sb**	**19 34 42.8**	**+0.6**
	baz=242					
WCHH	**Zhanghua**	**1.46 284**	P	**Pb**	**19 34 24.3**	**+0.5**
	baz=283					
WCHH			S	**Sg**	**19 34 43.9**	**-0.2**
	baz=283					
SBCB	**Hsinchu**	**1.47 316**	P	**Pg**	**19 34 25.3**	**+0.2**
	baz=315					
SBCB			S	**Sg**	**19 34 43.5**	**-0.8**
	baz=315					
NJN	**Zhunan**	**1.47 310**	*e*P	**Pb**	**19 34 24.2**	**+0.3**
	baz=296					
NJN			S	**Sg**	**19 34 43.2**	**-1.2**
	baz=296					
WDJ	**Dajia District**	**1.48 294**	P	**Pb**	**19 34 24.1**	**+0.2**
	baz=294					
WDJ			S	**Sg**	**19 34 43.5**	**-1.0**
	baz=294					
YM01	**YM01**	**1.49 341**	P	**Pn**	**19 34 23.5**	**+0.5**
	baz=324					
YM01			S	**Sn**	**19 34 41.4**	**-0.7**
	baz=324					
HSN	**Hsinchu**	**1.49 316**	*e*P	**Pg**	**19 34 24.7**	**-0.7**
	baz=317					
HSN			S	**Sg**	**19 34 43.3**	**-1.5**
	baz=317					
NCU	**National Centr**	**1.49 326**	P	**Pb**	**19 34 24.6**	**+0.4**
	baz=325					
NCU			*i* S	**Sb**	**19 34 42.9**	**0.0**
	baz=325					
NCUH	**Zhongli**	**1.49 325**	P	**Pb**	**19 34 24.6**	**+0.5**
	baz=325					
NCUH			S	**Sn**	**19 34 42.1**	**0.0**
	baz=325					
TWS1	**Kuangyinshan**	**1.50 335**	*i* P	**Pb**	**19 34 24.6**	**+0.3**
	baz=335					
TWS1			S	**Sb**	**19 34 43.0**	**-0.1**
	baz=335					
YM10	**YM10**	**1.50 340**	P	**Pb**	**19 34 24.0**	**-0.4**
	baz=324					
YM10			S	**Sb**	**19 34 42.8**	**-0.4**
	baz=324					
YM11	**YM11**	**1.50 341**	P	**Pb**	**19 34 24.7**	**+0.3**
	baz=354					
YM11			S	**Sb**	**19 34 43.4**	**+0.1**
	baz=354					
YM04	**YM04**	**1.50 340**	P	**Pb**	**19 34 24.4**	**-0.1**
	baz=323					
YM04			S	**Sn**	**19 34 42.6**	**0.0**
	baz=323					
YM05	**YM05**	**1.50 341**	P	**Pb**	**19 34 24.2**	**-0.3**
	baz=354					
YM05			S	**Sb**	**19 34 42.8**	**-0.6**
	baz=354					
CHN2	**Minshiung**	**1.52 262**	S	**Sb**	**19 34 45.1**	**+1.4**
	baz=262					
YM08	**YM08**	**1.52 342**	P	**Pn**	**19 34 24.1**	**+0.6**
	baz=354					
YM08			S	**Sn**	**19 34 42.8**	**-0.2**
	baz=354					
ANP	**Anpu**	**1.54 340**	P	**Pn**	**19 34 23.1**	**-0.7**
	baz=339					
ANP			*e*S	**Sn**	**19 34 43.1**	**-0.4**
	baz=339					
SLGT	**Liugui**	**1.54 241**	*i* P	**Pn**	**19 34 24.8**	**+1.0**
	baz=235					
SLGT			*i* S	**Sn**	**19 34 44.1**	**+0.7**
	baz=235					
NTST	**Danshui**	**1.54 337**	P	**Pb**	**19 34 25.0**	**0.0**
	baz=351					
NTST			S	**Sb**	**19 34 44.3**	**-0.1**
	baz=351					
SGST	**Jiashian**	**1.55 245**	*i* P	**Pn**	**19 34 24.8**	**+0.9**
	baz=236					
SGST			*i* S	**Sn**	**19 34 44.6**	**+0.8**
	baz=236					
CHN1	**Nanshi**	**1.56 250**	*i* P	**Pb**	**19 34 26.3**	**+1.0**
	baz=249					
CHN1			*i* S	**Sb**	**19 34 45.9**	**+1.0**
	baz=249					
HATJ	**Hateruma jima**	**1.58 78**	P	**Pn**	**19 34 25.1**	**+0.9**
HATJ			*e*S	**Sn**	**19 34 44.2**	**-0.2**
IRIF	**Iriomote-Funau**	**1.59 68**	P	**Pn**	**19 34 25.6**	**+1.2**
IRIF			*e*S	**Sn**	**19 34 45.6**	**+0.9**
JKRS	**Kuro-shima**	**1.80 74**	P	**Pn**	**19 34 28.7**	**+1.4**
JKRS			S	**Sn**	**19 34 51.0**	**+1.1**
JIJ	**Ishigaki jima**	**1.96 71**	P	**Pn**	**19 34 30.0**	**+0.6**
JIJ			S	**Sn**	**19 34 52.8**	**-0.9**
JISG	**Ishigakijimahi**	**2.18 67**	P	**Pn**	**19 34 32.9**	**+0.5**
JISG			S	**Sn**	**19 34 57.8**	**-1.3**
JTJ	**Tarama**	**2.53 69**	P	**Pn**	**19 34 38.1**	**+0.8**
JTJ			S	**Sn**	**19 35 08.3**	**+0.5**
JIRB	**Irabujima**	**2.99 68**	S	**Sn**	**19 35 19.8**	**+0.5**
JIKM	**Ikemajima**	**3.09 67**	*e*S	**Sn**	**19 35 21.1**	**-0.6**
JMJ2	**Miyako jima3**	**3.10 71**	*e*S	**Sn**	**19 35 21.8**	**-0.1**

*IDC **15** 19:39:47.1±1.7,9˚.27S×113˚.12E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/39, mbtmp3.9/10, ML3.7/2, MS3.0/2, Ms1 3.0/2, ms1mx2.7/51, Error ellipse: s-maj=65.1km s-min=17.2km az=47.0*

*DJA **15** 19:39:50.7±0.8, 10˚.S±.9˚×11˚.3E±˚, h10km, M4.3/13, mb4.7/3, MLv4.1/13*

ISC 15 19:39:48.8±0.9,**10˚.01S**±0˚.09×**112˚.85E**±0˚.08,**h35**km,**n22,** σ2§**81**/23,**mb4.0**/8,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**2.00**	**40**	P	**Pn**	**19 40 20.0**	**-0.1**
JAGI				S	**Sn**	**19 40 41.4**	**-2.5**
ABJI	**Asem Bagus**	**2.59**	**32**	P	**Pn**	**19 40 30.0**	**+1.8**
ABJI				S	**Sn**	**19 41 01.1**	**+2.7**
DNP	**Denpasar**	**2.68**	**61**	P	**Pn**	**19 40 32.7**	**+3.2**
SRBI	**Singaraja**	**3.02**	**51**	P	**Pn**	**19 40 36.0**	**+1.9**
UGM	**Wanagama**	**3.10**	**312**	P	**Pn**	**19 40 36.4**	**+1.2**
KMMI	**Kalianget**	**3.14**	**21**	P	**Pn**	**19 40 36.8**	**+1.1**
TWSI	**Taliwang, Sumb**	**4.18**	**73**	P	**Pn**	**19 40 53.9**	**+3.8**
PLAI	**Plampang**	**5.00**	**77**	P	**Pn**	**19 41 06.1**	**+4.7**
LEM	**Lembang**	**6.06**	**301**	LR	LR	19 43 14.6	
	comp=Z,54nm,19.5s,baz=248,slow=35						
BBKI	**Banjar Baru**	**6.79**	**17**	P	**Pn**	**19 41 26.4**	**+0.3**
	0.1nm18nm,0.5s						
BATI	**Baumata**	**10.65**	**92**	Pn	**Pn**	**19 42 18.0**	**-1.1**
	0.6nm,0.3s,baz=238,slow=15,SNR=1.4						
KSI	**Kapahiang**	**11.97**	**301**	P	**Pn**	**19 42 38.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**14.79**	**124**	Pn	**P**	**19 43 19.6**	**-1.3**
	0.2nm,0.3s,baz=291,slow=7.7,SNR=9.4						
FITZ				Sn	**Sn**	**19 45 53.0**	**-5.1**
	0.1nm,0.3s,baz=40,slow=21,SNR=1.4						
WRA	**Warramunga Arr**	**22.97**	**118**	P	**P**	**19 44 54.3**	**+3.9**
	0.4nm,0.5s,baz=293,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**24.26**	**127**	P	**P**	**19 45 08.8**	**+5.9**
	1.1nm,0.7s,baz=305,slow=8.6,SNR=20						
CMAR	**Chiang Mai Arr**	**31.43**	**334**	P	**P**	**19 46 06.0**	**-0.9**
	0.4nm,0.5s,baz=165,slow=7.4,SNR=7.8						
MJAR	**Matsushiro Arr**	**52.09**	**26**	P	**P**	**19 48 53.0**	**-2.4**
	0.9nm,0.8s,baz=119,slow=11,SNR=4.3						
SONM	**Songino Array**	**57.87**	**355**	P	**P**	**19 49 36.9**	**-0.3**
	2.0nm,0.6s,baz=175,slow=8.7,SNR=23						
TLY	**Talaya**	**61.95**	**354**	LR	LR	20 21 22.4	
	comp=Z,33nm,19.8s,baz=312,slow=41						
MKAR	**Makanchi Array**	**62.78**	**337**	P	**P**	**19 50 10.4**	**-0.3**
	0.9nm,0.4s,baz=150,slow=7.2,SNR=22						
ZALV	**Zalesovo Beam**	**67.99**	**343**	P	**P**	**19 50 43.5**	**-0.7**
	1.4nm,0.5s,baz=159,slow=4.0,SNR=8.2						
TIXI	**Tiksi**	**82.17**	**5**	P	**P**	**19 52 04.7**	**-0.8**
	1.3nm,0.7s,baz=161,slow=2.5,SNR=9.8						

*IDC **15** 19:55:10.4±0.8, 15˚.13S×173˚.46W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.0/39, mbtmp4.1/10, MS3.5/2, Ms1 3.5/2, ms1mx2.9/39, Error ellipse: s-maj=41.6km s-min=17.7km az=138.0*

*NEIC **15** 19:55:12.8±2.8, 15˚.10S±0˚.09×173˚.33W±0˚.08, h35km±2km, mb4.5/10, Error ellipse: s-maj=15.2km s-min=12.5km az=326.0*

ISC 15 19:55:13.5±0.6,**15˚.10S**±0˚.08×**173˚.5W**±0˚.1,**h30**km,**n31,** σ1§**87**/30,**mb4.3**/15,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.02**	**54**	Pn	**Pn**	**19 55 42.2**	**-3.5**
	730nm,0.3s,baz=179,slow=1.5,SNR=482						
AFI				Sn	Sn	19 56 00.4	-10
	609nm,0.3s,baz=209,slow=12,SNR=17						
AFI				LR	LR	19 56 21.7	
	comp=Z,547nm,20.2s,baz=207,slow=35						
AFI	**Afiamalu**	**2.02**	**54**	Pn	**Pn**	**19 55 42.3**	**-3.4**
NIUE	**Niue**	**5.21**	**140**	Pn	**Pn**	**19 56 26.7**	**-2.7**
KNTN	**Kanton**	**12.37**	**8**	Pn	**Pn**	**19 58 06.2**	**-1.5**
URZ	**Urewera**	**24.52**	**198**	P	**P**	**20 00 31.8**	**+1.5**
	13nm,0.5s,baz=235,slow=2.1,SNR=6.5						
SNZO	**South Karori**	**28.06**	**199**	P	**P**	**20 01 01.3**	**-0.9**
COEN	**Coen**	**41.93**	**266**	P	**P**	**20 02 58.3**	**-3.6**
COEN				IAmb	IAmb	20 03 12.4	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**44.12**	**240**	P	**P**	**20 03 20.6**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=63,slow=7.7,SNR=5.1						
STKA	**Stephens Creek**	**44.12**	**240**	P	**P**	**20 03 18.9**	**-0.6**
BBOO	**Buckleboo**	**48.90**	**240**	P	**P**	**20 03 55.6**	**-1.4**
WB0	**Warramunga Arr**	**49.80**	**257**	P	**P**	**20 04 05.8**	**+1.8**
WB0				IAmb	IAmb	20 04 12.7	
	comp=Z,5.7nm,1.1s						
WB2	**Warramunga Arr**	**49.83**	**257**	P	**P**	**20 04 05.2**	**+0.9**
WB2				IAmb	IAmb	20 04 19.4	
	comp=Z,6.7nm,1.2s						
WRAB	**Tennant Creek**	**49.83**	**257**	P	**P**	**20 04 03.0**	**-1.2**
WRAB				IAmb	IAmb	20 04 04.5	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**49.84**	**257**	P	**P**	**20 04 05.5**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=97,slow=5.9,SNR=11						
WRA	**Warramunga Arr**	**49.84**	**257**	P	**P**	**20 04 05.3**	**+1.0**
AS31	**Alice Springs**	**50.13**	**252**	P	**P**	**20 04 07.0**	**+0.4**
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**20 04 07.4**	**+0.9**
	comp=Z,3.0nm,1.0s,baz=89,slow=7.6,SNR=36						
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**20 04 07.1**	**+0.6**
NWAO	**Narrogin (SRO)**	**64.70**	**240**	P	**P**	**20 05 46.6**	**-2.5**
PETK	**Petropavlovsk-**	**72.33**	**342**	P	**P**	**20 06 38.1**	**+2.0**
	comp=Z,4.4nm,1.1s,baz=146,slow=18,SNR=3.9						
YBH	**Yreka Blue Hor**	**73.40**	**37**	LR	LR	20 31 14.8	
	comp=Z,51nm,19.7s,baz=195,slow=30						
NVAR	**Mina Array Bea**	**74.16**	**42**	P	**P**	**20 06 49.5**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=222,slow=7.9,SNR=4.3						
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**20 06 53.5**	**+1.9**
QSPA				IAmb	IAmb	20 06 56.3	
	comp=Z,5.7nm,0.9s						
TXAR	**Lajitas Array**	**80.50**	**56**	P	**P**	**20 07 24.8**	**+1.5**
	comp=Z,1.0nm,1.0s,baz=245,slow=5.3,SNR=7.0						
PDAR	**Pinedale Array**	**82.09**	**42**	P	**P**	**20 07 32.9**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=209,slow=3.6,SNR=11						
PDAR	**Pinedale Array**	**82.09**	**42**	P	**P**	**20 07 32.2**	**+0.7**
ILAR	**Eielson Array**	**82.17**	**11**	P	**P**	**20 07 32.3**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=225,slow=5.6,SNR=11						
YKA	**Yellowknife Ar**	**89.85**	**23**	P	**P**	**20 08 10.7**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=233,slow=4.2,SNR=9.5						
KHC	**Kasperske Hory**	**145.57**	**352**	*e*PKP	**PKPab**	**20 14 51.4**	**+2.1**
GERES	**GERESS Array B**	**145.84**	**352**	PKPbc	**PKPab**	**20 14 51.8**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=64,slow=3.1,SNR=5.8						
BRTR	**Keskin Array B**	**145.88**	**321**	PKPbc	**PKiKP**	**20 14 53.2**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=98,slow=2.7,SNR=14						

*IDC **15** 20:05:17.1±4.7, 53˚.60N×164˚.87W, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.3/71, mbtmp3.5/4, ML2.9/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/37, Error ellipse: s-maj=86.3km s-min=40.8km az=103.0*

*AEIC **15** 20:05:19±0.4, 53˚.52N±0˚.09×165˚.5W±0˚.1, h59km±10km, ML3.3/17, Error ellipse: s-maj=15.0km s-min=6.2km az=149.0*

*NEIC **15** 20:05:20±0.5, 53˚.5N±0˚.1×165˚.4W±0˚.1, h43km±59km, Error ellipse: s-maj=21.3km s-min=3.0km az=153.0*

ISC 15 20:05:17.4±1.1,**53˚.38N**±0˚.10×**165˚.27W**±0˚.05,**h32**km,**n38,** σ1§**68**/28,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKSA	**Akutan Strait**	**0.80**	**342**		**Pn**	**20 05 33.3**	**+0.9**
AKUT	**Akutan**	**0.81**	**339**		**Pb**	**20 05 33.7**	**+0.6**
AKBBA	**Akutan Broad B**	**0.82**	**332**		**Pb**	**20 05 33.6**	**+0.4**
AKMO	**Akutan Morgan**	**0.84**	**329**		**Pb**	**20 05 34.0**	**+0.5**
AKLV	**Akutan Long Va**	**0.88**	**333**		**Pb**	**20 05 34.3**	**+0.1**
AKRB	**Akutan Reef Bi**	**0.89**	**328**		**Pb**	**20 05 34.6**	**+0.3**
MREP	**Makushin Rep't**	**0.98**	**297**		**Pb**	**20 05 36.1**	**+0.2**
MNAT	**Makushin Natee**	**0.98**	**302**		**Pb**	**20 05 36.0**	**+0.1**
MGOD	**Makushin Gods**	**1.04**	**294**		**Pb**	**20 05 36.8**	**-0.1**
MSW	**Makushin Switc**	**1.05**	**301**		**Pb**	**20 05 37.0**	**0.0**
MAPS	**Pakushin South**	**1.08**	**294**		**Pb**	**20 05 37.4**	**-0.2**
WESP	**Westdahl Peak**	**1.16**	**16**		**Pb**	**20 05 39.3**	**+0.3**
WEBT	**Westdahl Beart**	**1.25**	**14**		**Pb**	**20 05 40.8**	**+0.3**
SSLS	**Shishaldin Sou**	**1.53**	**29**		**Pb**	**20 05 44.6**	**-0.5**
SSBA	**Shishaldin**	**1.55**	**25**		**Pb**	**20 05 45.1**	**-0.4**
SSLW	**Shishaldin Wes**	**1.55**	**25**		**Pb**	**20 05 45.0**	**-0.5**
SSLN	**Shishaldin Nor**	**1.62**	**27**		**Pb**	**20 05 46.6**	**-0.1**
OKWE	**Okmok W'ng Wal**	**1.78**	**274**		**Pb**	**20 05 47.6**	**-1.8**
OKSP	**Okmok Steeple**	**1.82**	**267**		**Pb**	**20 05 47.5**	**+1.1**
FALS	**False Pass**	**1.84**	**36**		**Pb**	**20 05 48.9**	**-1.4**
NIKH	**Nikolski High**	**2.19**	**261**		**Pn**	**20 05 53.2**	**+1.6**
DT1	**Dutton Round H**	**2.46**	**44**		**Pn**	**20 05 57.6**	**+2.3**
SDPT	**Sand Point**	**3.43**	**53**		**Pn**	**20 06 10.8**	**+2.3**
KDAK	**Kodiak Island**	**8.43**	**53**	Pn	**Pn**	**20 07 17.6**	**+0.5**
	0.2nm,0.3s,baz=143,slow=19,SNR=1.8						
KDAK				Sn	**Sn**	**20 08 46.3**	**-4.7**
	0.2nm,0.3s,baz=50,slow=12,SNR=1.8						
ILAR	**Eielson Array**	**14.74**	**32**	Pn	**Pn**	**20 08 39.5**	**-3.9**
	0.0nm,0.3s,baz=208,slow=9.2,SNR=1.6						
INK	**Inuvik**	**21.14**	**33**	LR	LR	20 17 17.0	
	comp=Z,41nm,18.9s,baz=57,slow=35						
YKA	**Yellowknife Ar**	**27.69**	**51**	P	**P**	**20 11 04.9**	**+2.8**
	0.2nm,0.6s,baz=272,slow=9.5,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**39.85**	**223**	T	T	20 55 32.0	
	baz=26,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**39.85**	**223**	T	T	20 55 33.6	
	baz=26,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**39.86**	**223**	T	T	20 55 37.2	
	baz=26,slow=76,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**41.02**	**223**	T	T	20 57 01.5	
	baz=25,slow=76,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**41.04**	**223**	T	T	20 56 57.2	
	baz=25,slow=76,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**41.04**	**223**	T	T	20 56 57.1	
	baz=25,slow=76,SNR=8.3						
MJAR	**Matsushiro Arr**	**42.20**	**270**	LR	LR	20 32 34.5	
	comp=Z,19nm,20.1s,baz=275,slow=39						
TXAR	**Lajitas Array**	**50.28**	**93**	P	**P**	**20 14 12.7**	**+1.9**
	0.6nm,0.7s,baz=302,slow=4.7,SNR=5.9						
H03N2	**Juan Fernandez**	**114.03**	**114**	T	T	22 28 30.6	
	baz=322,slow=77,SNR=4.6						
H03N1	**Juan Fernandez**	**114.04**	**114**	T	T	22 28 27.7	
	baz=322,slow=77,SNR=6.3						
H03N3	**Juan Fernandez**	**114.04**	**114**	T	T	22 28 29.6	
	baz=322,slow=77,SNR=8.8						

IDC 15 20:06:14.1±5.6,**15˚.28S**×**173˚.29W**,**h0**km,**mb3.9**/2, **mb1 4.2**/2,**mb1mx3.5**/59,**mbtmp3.9**/2,**MS3.4**/6,**Ms1 3.4**/6, **ms1mx3.2**/31,**Error ellipse: s-maj=315.1km s-min=27.6km az=146.0**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.00**	**47**	Pn	**Pn**	**20 06 47.7**	**-1.5**
	10nm,0.3s,baz=248,slow=23,SNR=4.3						
AFI				Sn	Sn	20 07 10.8	-4.2
	42nm,0.3s,baz=162,slow=21,SNR=7.7						
DZM	**Mont Dzumac**	**20.34**	**248**	LR	LR	20 17 17.2	
	comp=Z,202nm,18.7s,baz=116,slow=33						
PPT	**Papeete**	**22.86**	**99**	LR	LR	20 19 07.6	
	comp=Z,32nm,19.1s,baz=2.0,slow=34						
HNR	**Honiara**	**26.77**	**279**	LR	LR	20 20 04.2	
	comp=Z,126nm,20.2s,baz=116,slow=31						
WRA	**Warramunga Arr**	**49.98**	**257**	P	P	20 15 09.8	-0.7
	0.6nm,0.8s,baz=91,slow=7.5,SNR=5.2						
ASAR	**Alice Springs**	**50.25**	**252**	P	P	20 15 12.0	-0.5
	2.2nm,0.6s,baz=88,slow=7.8,SNR=31						
MJAR	**Matsushiro Arr**	**68.92**	**320**	LR	LR	20 46 36.7	
	comp=Z,24nm,18.4s,baz=295,slow=35						
KSRS	**Korea Array**	**76.15**	**315**	LR	LR	20 48 43.9	
	comp=Z,28nm,19.5s,baz=322,slow=34						
PLCA	**Paso Flores**	**89.51**	**132**	LR	LR	20 50 38.0	
	comp=Z,21nm,18.8s,baz=177,slow=30						
BRTR	**Keskin Array B**	**146.13**	**321**	PKPbc	PKPab	20 25 58.0	+0.6
	0.7nm,0.8s,baz=95,slow=1.6,SNR=4.2						

*MOS **15** 20:21:06.6±0.8, 36˚.72N×71˚.50E, h180km, mb4.2/9, Error ellipse: s-maj=7.3km s-min=4.3km az=84.3*

*NEIC **15** 20:21:06.9±2.6, 36˚.69N±0˚.08×71˚.3E±0˚.1, h178km±2km, mb4.2/18, Error ellipse: s-maj=13.5km s-min=10.6km az=65.0*

*BJI **15** 20:21:06.5±0.0, 36˚.87N×71˚.34E, h171km, mB4.7/14, mb4.2/22*

*IDC **15**

AAK	**Ala-Archa**	**6.48**	**20**			**Pn**	**20 22 39.2**	**-0.8**
KK31	**Karatay Array**	**6.55**	**354**		PN	**Pn**	**20 22 39.5**	**-1.3**
KK31	**Karatay Array**	**6.55**	**354**			**Pn**	**20 22 39.5**	**-1.3**
KKAR	**Karatay Array**	**6.55**	**354**		PN	**Pn**	**20 22 39.5**	**-1.3**
KKAR					SN	**Sn**	**20 23 54.0**	**-1.1**
KKAR	**Karatay Array**	**6.55**	**354**			**Pn**	**20 22 39.5**	**-1.3**
KKAR	**Karatay Array**	**6.55**	**354**		Pn	**Pn**	**20 22 39.2**	**-1.6**
BRLS	**Borolday**	**6.56**	**350**	*eP*		**Pn**	**20 22 37.0**	**-3.9**
	comp=Z,12nm,0.6s,baz=348							
BRLS	**Borolday**	**6.56**	**350**	*e*PN		**Pn**	**20 22 37.0**	**-3.9**
BRLS					pmax	pmax		
	comp=Z,12nm,0.6s							
BHK	**Bhakra**	**6.60**	**140**	*eP*		**Pn**	**20 22 43.8**	**+2.2**
BHK				*eS*		**Sn**	**20 23 56.4**	**+0.1**
KBK	**Karagaybulak**	**6.63**	**23**	P		**Pn**	**20 22 41.7**	**-0.3**
	SNR=35							
ULHL	**Ulahol**	**6.76**	**32**	P		**Pn**	**20 22 43.5**	**-0.2**
	SNR=45							
CHMS	**Chumysh**	**6.89**	**21**	P		**Pn**	**20 22 44.3**	**-1.0**
	SNR=42							
USP	**Ospenovka**	**7.07**	**18**	P		**Pn**	**20 22 46.3**	**-1.4**
	SNR=37							
TKM2	**Tokmak 2**	**7.08**	**25**	P		**Pn**	**20 22 47.7**	**-0.3**
	SNR=25							
TKM2	**Tokmak 2**	**7.08**	**25**	*i* PN		**Pn**	**20 22 47.3**	**-0.7**
TKM2				S		**Sn**	**20 24 04.0**	**-4.0**
SMLA	**Simla**	**7.22**	**137**	*eP*		**Pn**	**20 22 50.9**	**+1.2**
SMLA				*eS*		**Sn**	**20 24 08.7**	**-2.4**
SMLA					IAML		20 24 12.6	
	comp=N,493nm,0.6s							
SMLA					IAML		20 24 13.8	
	comp=E,430nm,0.2s							
TNSS	**Tian-Shan**	**7.70**	**32**	*eP*		**Pn**	**20 22 55.3**	**-1.0**
	baz=32							
TNSS	**Tian-Shan**	**7.70**	**32**	*e*PN		**Pn**	**20 22 55.3**	**-1.0**
HRA	**Herat**	**7.83**	**256**	Pn		**Pn**	**20 22 57.8**	**-0.2**
AAA	**Alma-Ata**	**7.83**	**31**	*eP*		**Pn**	**20 22 57.1**	**-0.6**
	comp=E,14nm,0.6s,baz=31							
AAA	**Alma-Ata**	**7.83**	**31**	*e*PN		**Pn**	**20 22 57.1**	**-0.6**
AAA					pmax	pmax		
	comp=Z,14nm,0.6s							
MDOK	**Medeo**	**7.85**	**31**	*eP*		**Pn**	**20 22 57.3**	**-0.8**
	baz=32							
MDOK	**Medeo**	**7.85**	**31**	PN		**Pn**	**20 22 57.0**	**-1.1**
MDOK				S		**Sn**	**20 24 25.0**	**-1.1**
KUU	**Kurty**	**8.20**	**26**	*eP*		**Pn**	**20 23 02.1**	**-0.4**
	baz=26							
KUU	**Kurty**	**8.20**	**26**	*e*PN		**Pn**	**20 23 02.1**	**-0.4**
SATY	**Saty**	**8.39**	**37**	*eP*		**Pn**	**20 23 03.6**	**-1.5**
	comp=Z,5.7nm,0.7s,baz=38							
SATY	**Saty**	**8.39**	**37**	*e*PN		**Pn**	**20 23 03.6**	**-1.5**
SATY					pmax	pmax		
	comp=Z,6.0nm,0.7s							
UZB	**Uzynbulak**	**8.76**	**39**	*eP*		**Pn**	**20 23 10.3**	**+0.3**
	comp=Z,5.4nm,0.3s,baz=40							
UZB	**Uzynbulak**	**8.76**	**39**	*e*PN		**Pn**	**20 23 10.3**	**+0.3**
UZB					pmax	pmax		
	comp=Z,5.0nm,0.3s							
KPKS	**Kokpek**	**8.83**	**37**	*eP*		**Pn**	**20 23 09.6**	**-1.3**
	comp=Z,16nm,0.5s,baz=37							
KPKS	**Kokpek**	**8.83**	**37**	*e*PN		**Pn**	**20 23 09.5**	**-1.3**
KPKS					pmax	pmax		
	comp=Z,16nm,0.5s							
PDGK	**Podgornoye**	**9.13**	**40**	P		**Pn**	**20 23 14.0**	**-0.9**
PDGK				S		**Sn**	**20 25 00.0**	**+3.3**
NDI	**New Delhi**	**9.25**	**147**	*eP*		**Pn**	**20 23 18.0**	**+1.5**
NDI				*eS*		**Sn**	**20 24 56.0**	**-3.7**
GEYT	**Alibeck**	**10.72**	**281**	P		**Pn**	**20 23 32.6**	**-3.1**
	comp=Z,2.0nm,0.3s,baz=115,slow=10,SNR=35							
GEYT				S		**Sn**	**20 25 30.9**	**-3.8**
	comp=Z,4.5nm,0.3s,baz=181,slow=25,SNR=7.5							
GEYT	**Alibeck**	**10.72**	**281**	Pn		**Pn**	**20 23 31.9**	**-3.7**
GYA0	**ALIBECK ARRAY**	**10.72**	**281**	P		**Pn**	**20 23 31.0**	**-4.6**
GYA0B	**ALIBECK ARRAY**	**10.72**	**281**	Pn		**Pn**	**20 23 32.0**	**-3.6**
MAKZ	**Makanchi**	**12.88**	**34**	P		**Pn**	**20 24 01.8**	**-1.4**
MAKZ	**Makanchi**	**12.88**	**34**	Pn		**Pn**	**20 24 01.8**	**-1.4**
MK31	**Makanchi Array**	**13.01**	**35**	*i* P		**Pn**	**20 24 04.5**	**-0.4**
MK31					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MK31	**Makanchi Array**	**13.01**	**35**	P		**Pn**	**20 24 04.0**	**-0.9**
MKAR	**Makanchi Array**	**13.01**	**35**	P		**Pn**	**20 24 04.1**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=225,slow=14,SNR=43							
MKAR	**Makanchi Array**	**13.01**	**35**	Pn		**Pn**	**20 24 04.0**	**-1.0**
GKN	**Gorkha**	**14.04**	**124**	*e*Pn		**Pn**	**20 24 18.6**	**+0.4**
GKN				*e*Sn		Sn	20 26 45.3	-9.3
	comp=Z,71nm,0.4s							
BHPL	**Bhopal**	**14.27**	**157**	*eP*		**Pn**	**20 24 21.9**	**+1.0**
BHPL				*i* x		x	20 24 25.6	
BHPL				*eS*		**Sn**	**20 26 51.7**	**-8.1**
WMQ	**Urumqi**	**14.35**	**55**	P		**Pn**	**20 24 21.5**	**-0.3**
WMQ					pmax	pmax		
	comp=Z,18nm,1.1s							
WMQ					pmax	pmax		
	comp=Z,120nm,5.3s							
WMQ	**Urumqi**	**14.35**	**55**	P		**Pn**	**20 24 21.3**	**-0.5**
WMQ	**Urumqi**	**14.35**	**55**	Pn		**Pn**	**20 24 21.3**	**-0.5**
KKN	**Kakani**	**14.61**	**123**	*e*Pn		**Pn**	**20 24 26.1**	**+0.7**
DMN	**Daman**	**14.61**	**124**	*e*Pn		**Pn**	**20 24 25.6**	**+0.2**
DMN				*e*Sn		Sn	20 26 59.4	-9.0
	comp=Z,66nm,0.6s							
ZSN	**Zaisan**	**14.71**	**38**	*eP*		**Pn**	**20 24 25.9**	**-0.3**
	baz=39							
ZSN	**Zaisan**	**14.71**	**38**	*e*P		**Pn**	**20 24 25.9**	**-0.3**
PKIN	**Phulchoki**	**14.83**	**123**	*e*Pn		**P**	**20 24 29.8**	**+0.3**
PKIN				*e*Sn		Sn	20 27 03.6	-10
	comp=Z,45nm,0.5s							
PKI	**Pulchoki**	**14.84**	**123**	*e*Pn		**P**	**20 24 29.1**	**-0.6**
PKI				*e*Sn		Sn	20 27 03.6	-10
	comp=Z,34nm,0.4s							
KURBB	**Kurchatov Arra**	**14.93**	**18**	P		**Pn**	**20 24 28.4**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=208,slow=10,SNR=38							
KURBB				S		**S**	**20 27 16.2**	**-1.0**
	baz=208,slow=20,SNR=4.9							
GUN	**Gumba**	**14.94**	**121**	*e*Pn		**Pn**	**20 24 29.2**	**-0.4**
KURK	**Kurchatov**	**15.03**	**18**	P		**Pn**	**20 24 28.4**	**-1.7**
AB31	**Akbulak array**	**15.19**	**330**	*eP*		**Pn**	**20 24 31.1**	**-0.9**
AB31					pmax	pmax		
	comp=Z,2.0nm,0.3s							
ABKAR	**Akbulak array**	**15.19**	**330**	P		**Pn**	**20 24 31.1**	**-0.9**
ABKAR	**Akbulak array**	**15.19**	**330**	P		**Pn**	**20 24 31.0**	**-1.1**
BVAR	**Borovoye Array**	**16.45**	**358**	P		**P**	**20 24 46.3**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=100,slow=10,SNR=24							
BRVK	**Borovoye**	**16.49**	**358**	*ce*P		**Pn**	**20 24 47.8**	**0.0**
BRVK					pmax	pmax		
	comp=Z,12nm,1.0s							
BRVK	**Borovoye**	**16.49**	**358**			**P**	**20 24 45.7**	**-1.6**
BRVK					IAmb	IAmb	20 24 48.4	
	comp=Z,11nm,1.0s							
TAPN	**Taplejung**	**16.56**	**119**	*e*Pn		**Pn**	**20 24 50.2**	**+1.0**
ODAN	**Odare**	**16.65**	**121**	*e*Sn		**S**	**20 27 43.9**	**-10**
	comp=Z,44nm,0.6s							
AKTO	**Aktyubinsk**	**16.89**	**329**	P		**Pn**	**20 24 52.0**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=138,slow=9.7,SNR=48							
AKTO				S		**S**	**20 27 58.4**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=153,slow=20,SNR=4.7							
AKTO	**Aktyubinsk**	**16.89**	**329**	P		**Pn**	**20 24 54.0**	**+1.4**
AKTO				S		**S**	**20 27 57.0**	**-1.6**
DGZ	**Jazzator, Alta**	**17.49**	**36**	*c i* P		**Pn**	**20 24 59.7**	**-0.2**
DGZ					pmax	pmax		
	comp=Z,7.0nm,0.4s							
ZAA0	**Zalesovo Array**	**19.69**	**24**	P		**P**	**20 25 21.8**	**-0.2**
ZALV	**Zalesovo Beam**	**19.69**	**24**	P		**P**	**20 25 22.0**	**0.0**
	comp=Z,4.4nm,0.3s,baz=225,slow=11,SNR=43							
ZALV	**Zalesovo Beam**	**19.69**	**24**	P		**P**	**20 25 21.8**	**-0.3**
SHL	**Shillong**	**20.61**	**116**	P		**P**	**20 25 34.6**	**+2.1**
SHL					pmax	pmax		
	comp=Z,8.0nm,0.7s							
SHL	**Shillong**	**20.61**	**116**	P		**P**	**20 25 34.6**	**+2.1**
SHL					IAmb	IAmb	20 25 36.8	
	comp=Z,8.1nm,0.7s							
ARU	**Arti**	**21.67**	**340**	P		**P**	**20 25 43.2**	**0.0**
	comp=Z,2.1nm,0.4s,baz=146,slow=7.5,SNR=14							
ARU	**Arti**	**21.67**	**340**	*c i* P		**P**	**20 25 42.8**	**-0.4**
ARU				*PP		**pP**	**20 26 15.1**	**+0.6**
ARU				S		**S**	**20 29 31.3**	**+0.3**
ARU					pmax	pmax		
	comp=Z,16nm,1.5s							
ARU	**Arti**	**21.67**	**340**	P		**P**	**20 25 42.0**	**-1.1**
ARU					IAmb	IAmb	20 25 45.1	
	comp=Z,6.2nm,0.6s							
GTA	**Gaotai**	**22.49**	**74**	⇑P		**P**	**20 25 53.0**	**+1.5**
GTA				pP		pP	20 26 23.3	-1.1
GTA				sP		PP	20 26 41.4	-5.0
KBZ	**Khabaz**	**22.89**	**297**	P		**P**	**20 25 55.3**	**+0.4**
	comp=Z,13nm,0.7s,baz=57,slow=13,SNR=4.8							
KBZ	**Khabaz**	**22.89**	**297**	*i* P		**P**	**20 25 54.9**	**+0.1**
KBZ					pmax	pmax		
	comp=Z,1.0nm,0.7s							
BELG	**Belogornoye**	**23.05**	**321**	P		**P**	**20 25 56.0**	**-0.3**
	comp=Z,11nm,0.5s,baz=14,slow=2.0,SNR=8.0							
BELG	**Belogornoye**	**23.05**	**321**	*i* P		**P**	**20 25 56.2**	**0.0**
BELG					pmax	pmax		
	comp=Z,2.0nm,0.6s							
KIV	**Kislovodsk**	**23.07**	**298**	*eP*		**P**	**20 25 57.0**	**+0.3**
KIV				*eS*		**S**	**20 29 55.1**	**+0.9**
KIV					pmax	pmax		
	comp=Z,11nm,1.1s							
SONM	**Songino Array**	**27.98**	**55**	P		**P**	**20 26 41.9**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=265,slow=9.2,SNR=14							
SONM					pP	**pP**	**20 27 21.2**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=246,slow=11,SNR=2.9							
SONM	**Songino Array**	**27.98**	**55**	P		**P**	**20 26 42.6**	**+1.7**
ULN	**Ulaanbaatar**	**28.43**	**55**	*ce*P		**P**	**20 26 45.3**	**+0.5**
ULN					pmax	pmax		
	comp=Z,1.0nm,0.9s							
BRTR	**Keskin Array B**	**29.76**	**288**	P		**P**	**20 26 57.6**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=98,slow=10,SNR=5.3							
BRTR	**Keskin Array B**	**29.76**	**288**	*i* P		**P**	**20 27 00.1**	**+3.4**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**30.17**	**119**	P		**P**	**20 27 02.0**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=298,slow=8.5,SNR=8.7							
CMAR					pP	**pP**	**20 27 39.5**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=310,slow=10,SNR=1.9							
HHC	**Hu-ho-hao-te**	**31.39**	**70**	*eP*		**P**	**20 27 13.6**	**+2.6**
HHC					pmax	pmax		
	comp=Z,8.0nm,0.8s							
HHC					pmax	pmax		
	comp=Z,100nm,6.6s							
AKASG	**Malin Array Be**	**33.18**	**309**	P		**P**	**20 27 26.4**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=80,slow=7.6,SNR=16							
AKASG	**Malin Array Be**	**33.18**	**309**	*ce*P		**P**	**20 27 26.3**	**+0.1**
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.4s							
AKASG	**Malin Array Be**	**33.18**	**309**	P		**P**	**20 27 26.0**	**-0.2**
AKBB	**Malin Array Si**	**33.18**	**309**	P		**P**	**20 27 26.0**	**-0.3**
AKBB					pmax	pmax		
	comp=Z,5.0nm,0.9s							
AKBB	**Malin Array Si**	**33.18**	**309**	P		**P**	**20 27 25.9**	**-0.3**
AKBB					IAmb	IAmb	20 27 27.1	
	comp=Z,4.6nm,0.9s							
SORM	**Soroca**	**33.46**	**304**	⇑P		**P**	**20 27 29.0**	**+0.2**
SORM	**Soroca**	**33.46**	**304**	⇑P		**P**	**20 27 29.0**	**+0.2**
VRI	**Vrincioaia**	**34.50**	**300**	⇓P		**P**	**20 27 39.4**	**+1.6**
TESR	**Tescani**	**34.56**	**301**	⇓P		**P**	**20 27 39.4**	**+1.1**
PLOR	**Plostina**	**34.56**	**300**	⇓P		**P**	**20 27 40.4**	**+2.1**
PLOR	**Plostina**	**34.56**	**300**	⇓P		**P**	**20 27 40.4**	**+2.1**
MLR	**Muntele Rosu**	**35.06**	**299**	⇑P		**P**	**20 27 45.0**	**+2.3**
MLR	**Muntele Rosu**	**35.06**	**299**	⇑P		**P**	**20 27 45.0**	**+2.3**
NACGM	**Naroch**	**35.41**	**316**	*i* P		**P**	**20 27 46.2**	**+0.8**
NACGM				*i* P		**P**	**20 27 46.2**	**+0.8**
NACGM				*i* P		**P**	**20 27 46.2**	**+0.8**
NACGM				*i* pP		**pP**	**20 28 20.3**	**-3.1**
NACGM				*i* PP		**PnPn**	**20 29 10.1**	**-0.4**
NACGM				*i* S		**S**	**20 33 09.8**	**+3.1**
NACGM				*i* sS		**sS**	**20 34 15.6**	**+1.7**
NACGM				*i* SS		**SnSn**	**20 35 50.4**	**+2.6**
DOPR	**Dopca**	**35.44**	**300**	⇑P		**P**	**20 27 47.3**	**+1.5**
BURAR	**Bucovina Array**	**35.55**	**303**	⇑P		**P**	**20 27 47.7**	**+0.9**
VOIR		**35.69**	**299**	⇑P		**P**	**20 27 49.2**	**+1.1**
VOIR		**35.69**	**299**	⇑P		**P**	**20 27 49.2**	**+1.1**
ARR	**Arges**	**35.99**	**299**	⇑P		**P**	**20 27 51.6**	**+1.1**
DRGR		**37.27**	**301**	⇑P		**P**	**20 28 02.7**	**+1.3**
DRGR		**37.27**	**301**	P		**P**	**20 28 02.6**	**+1.3**
GZR	**Gura Zlata**	**37.29**	**299**	⇑P		**P**	**20 28 02.9**	**+1.3**
KOLS	**Kolonicke sedl**	**37.53**	**305**	*eP*		**P**	**20 28 04.6**	**+1.1**
KOLS	**Kolonicke sedl**	**37.53**	**305**	*eP*		**P**	**20 28 04.6**	**+1.1**
FINES	**FINESS Array B**	**37.62**	**326**	P		**P**	**20 28 04.3**	**+0.3**
	comp=Z,3.9nm,0.4s,baz=120,slow=9.3,SNR=57							
BZS	**Buzias**	**38.09**	**300**	⇑P		**P**	**20 28 09.6**	**+1.4**
BZS	**Buzias**	**38.09**	**300**	⇑P		**P**	**20 28 09.6**	**+1.4**
MORC	**Moravsky Berou**	**40.61**	**306**	⇑P		**P**	**20 28 29.8**	**+0.8**
MORC	**Moravsky Berou**	**40.61**	**306**	*eP*		**P**	**20 28 29.9**	**+0.9**
MORC	**Moravsky Berou**	**40.61**	**306**	⇑P		**P**	**20 28 29.8**	**+0.8**
KRLC	**Kraliky**	**41.09**	**307**	*eP*		**P**	**20 28 33.4**	**+0.5**
KRLC	**Kraliky**	**41.09**	**307**	*eP*		**P**	**20 28 33.4**	**+0.5**
ARCES	**ARCESS Array B**	**41.21**	**337**	P		**P**	**20 28 34.2**	**+0.6**
	comp=Z,5.8nm,0.6s,baz=114,slow=8.6,SNR=32							
VRAC	**Vranov**	**41.25**	**306**	⇓P		**P**	**20 28 36.0**	**+1.8**
VRAC	**Vranov**	**41.25**	**306**	*eP*		**P**	**20 28 35.1**	**+0.9**
VRAC	**Vranov**	**41.25**	**306**	⇓P		**P**	**20 28 36.0**	**+1.8**
DPC	**Dobruska-Polom**	**41.37**	**307**	*eP*		**P**	**20 28 36.1**	**+0.9**
DPC	**Dobruska-Polom**	**41.37**	**307**	*eP*		**P**	**20 28 36.1**	**+0.9**
KRUC	**Moravsky**	**41.39**	**305**	*eP*		**P**	**20 28 35.9**	**+0.5**
CONA	**Conrad Observa**	**41.84**	**304**	*eP*		**P**	**20 28 40.3**	**+1.2**
	comp=Z,2.5nm,0.6s							
SOKA	**Soboth**	**42.54**	**302**	*eP*		**P**	**20 28 45.9**	**+1.1**
	comp=Z,3.7nm,0.7s,SNR=6.3							
CKRC	**Cesky Krumlov**	**42.78**	**305**	*eP*		**P**	**20 28 47.6**	**+0.9**
MOA	**Molln**	**42.91**	**304**	*eP*		**P**	**20 28 47.9**	**+0.2**
	comp=Z,1.8nm,0.7s							
GERES	**GERESS Array B**	**43.18**	**305**	P		**P**	**20 28 50.5**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=90,slow=6.7,SNR=4.0							
KHC	**Kasperske Hory**	**43.23**	**306**	*eP*		**P**	**20 28 50.8**	**+0.5**
KHC	**Kasperske Hory**	**43.23**	**306**	*eP*		**P**	**20 28 50.8**	**+0.5**
KBA	**Koelnbreinsper**	**43.63**	**303**	*eP*		**P**	**20 28 54.3**	**+0.7**
	comp=Z,5.3nm,1.2s							
YAK	**Yakutsk**	**43.68**	**35**	*ce*P		**P**	**20 28 53.7**	**+0.1**
YAK					pmax	pmax		
	comp=Z,7.0nm,0.7s							
NB201	**NORSAR Array S**	**44.50**	**323**	P		**P**	**20 29 00.2**	**0.0**
KSRS	**Korea Array**	**44.50**	**71**	P		**P**	**20 29 00.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=272,slow=6.6,SNR=4.7							
NB2	**NORSAR Subarra**	**44.53**	**323**	P		**P**	**20 29 00.2**	**-0.3**
	comp=Z,4.6nm,0.5s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.53**	**323**	P		**P**	**20 29 00.2**	**-0.3**
	comp=Z,7.0nm,0.7s,baz=96,slow=7.7,SNR=47							
NBO00	**NORSAR Array S**	**44.74**	**323**	P		**P**	**20 29 02.0**	**-0.1**
NBO00					IAmb	IAmb	20 29 12.3	
	comp=Z,8.5nm,1.1s							
WTTA	**Wattenberg**	**44.76**	**303**	*i* P		**P**	**20 29 03.7**	**+1.1**
	comp=Z,1.0nm,0.4s							
NC204	**NORSAR Array S**	**44.77**	**323**	P		**P**	**20 29 02.2**	**-0.1**
KLR	**Kul'dur**	**44.80**	**54**	P		**P**	**20 29 03.7**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=298,slow=9.1,SNR=5.7							
SQTA	**Sankt Quirin**	**45.05**	**303**	*i* P		**P**	**20 29 04.9**	**0.0**
	comp=Z,1.7nm,0.5s							
MOTA	**Moosalm**	**45.10**	**303**	*eP*		**P**	**20 29 05.0**	**-0.3**
	comp=Z,3.8nm,0.8s							
FETA	**Feichten**	**45.41**	**303**	*eP*		**P**	**20 29 07.4**	**-0.3**
	comp=Z,1.0nm,0.5s							
TIXI	**Tiksi**	**45.56**	**22**	*c i* P		**P**	**20 29 08.4**	**+0.1**
TIXI	**Tiksi**	**45.56**	**22**	P		**P**	**20 29 08.3**	**+0.1**
TIXI					IAmb	IAmb	20 29 09.2	
	comp=Z,6.0nm,0.5s							
DAVA	**Damuels**	**45.93**	**304**	*eP*		**P**	**20 29 12.0**	**+0.2**
	comp=Z,5.9nm,0.5s							
DAG	**Danmarks Havn**	**54.75**	**344**	*i* P		**P**	**20 30 17.8**	**+0.6**
	comp=Z,5.6nm,0.7s							
DAG	**Danmarks Havn**	**54.75**	**344**	*i* P		**P**	**20 30 17.8**	**+0.6**
DAG					pmax	pmax		
	comp=Z,6.0nm,0.7s							
DAG	**Danmarks Havn**	**54.75**	**344**	*i* P		**P**	**20 30 17.9**	**+0.6**
DAG					IAmb	IAmb	20 30 18.7	
	comp=Z,5.6nm,0.7s							
ESDC	**Sonseca Array**	**57.74**	**298**	P		**P**	**20 30 39.0**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=55,slow=7.3,SNR=14							
ESDC					pP	**pP**	**20 31 21.3**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=51,slow=8.4,SNR=2.0							
PETK	**Petropavlovsk-**	**59.65**	**44**	P		**P**	**20 30 51.2**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=12,slow=7.6,SNR=4.4							
SUMG	**Summit**	**61.10**	**341**	*i* P		**P**	**20 31 03.0**	**+1.1**
	comp=Z,25nm,0.6s							
SUMG	**Summit**	**61.10**	**341**	*i* P		**P**	**20 31 03.0**	**+1.1**
SUMG					pmax	pmax		
	comp=Z,25nm,0.6s							
SUMG	**Summit**	**61.10**	**341**	P		**P**	**20 31 03.2**	**+1.3**
SUMG	**Summit**	**61.10**	**341**	*i* P		**P**	**20 31 03.1**	**+1.1**
SUMG					IAmb	IAmb	20 31 03.7	
	comp=Z,25nm,0.6s							
TORD	**Torodi Ar. Bea**	**66.09**	**269**	P		**P**	**20 31 33.5**	**-1.5**
	comp=Z,2.5nm,0.7s,baz=48,slow=5.8,SNR=2.0							
TOLK	**Toolik Lake Re**	**70.75**	**15**	P		**P**	**20 32 04.0**	**+0.8**
TOLK					IAmb	IAmb	20 32 04.6	
	comp=Z,5.3nm,0.8s							
C36M	**Paulatuk**	**73.76**	**6**	P		**P**	**20 32 21.0**	**+0.2**
INK	**Inuvik**	**73.76**	**9**	P		**P**	**20 32 21.3**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=342,slow=8.1,SNR=12							
ILAR	**Eielson Array**	**74.60**	**16**	P		**P**	**20 32 25.1**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=318,slow=5.7,SNR=12							
ILAR					pP	**pP**	**20 33 10.2**	**+0.5**
	comp=Z,0.9nm,1.1s,baz=310,slow=5.8,SNR=3.5							
YKA	**Yellowknife Ar**	**81.14**	**3**	P		**P**	**20 33 02.3**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=355,slow=5.0,SNR=55							
YKA					pP	**pP**	**20 33 47.2**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=355,slow=5.3,SNR=2.7							
WRA	**Warramunga Arr**	**81.72**	**122**	P		**P**	**20 33 05.4**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=323,slow=4.8,SNR=31							
WRAB	**Tennant Creek**	**81.72**	**122**	P		**P**	**20 33 05.5**	**-0.1**
WRAB					pmax	pmax		
	comp=Z,4.0nm,0.9s							
WRAB	**Tennant Creek**	**81.72**	**122**	P		**P**	**20 33 05.5**	**-0.1**
WRAB					IAmb	IAmb	20 33 06.4	
	comp=Z,4.2nm,0.9s							
WB2	**Warramunga Arr**	**81.73**	**122**	P		**P**	**20 33 05.6**	**-0.1**
WB2					IAmb	IAmb	20 33 06.2	
	comp=Z,4.1nm,0.9s							
WR0	**Warramunga Arr**	**81.87**	**122**	P		**P**	**20 33 06.1**	**-0.3**
WR0					IAmb	IAmb	20 33 06.7	
	comp=Z,5.5nm,0.9s							
AS31	**Alice Springs**	**84.00**	**125**	P		**P**	**20 33 16.9**	**-0.5**
ASAR	**Alice Springs**	**84.00**	**125**	P		**P**	**20 33 17.2**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=310,slow=5.1,SNR=37							
ASAR	**Alice Springs**	**84.00**	**125**	P		**P**	**20 33 16.3**	**-1.0**

IDC ***15*** *20:24:23.2±1.7, 17°.11S×179°.23W, h549km±9km, mb3.0/6, mb1 3.3/7, mb1mx3.0/35, mbtmp3.8/7, Error ellipse: s-maj=80.9km s-min=18.1km az=149.0*

ISC 15 20:24:21.8±1.4, 17°.1S±0°.5×179°.1W±0°.3, h533km, n17, σ1s07/18, mb3.4/6, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.84**	**256**	P	**P**	**20 25 36.1**	**+1.6**
	2.3nm,0.3s,baz=96,slow=5.6,SNR=7.2						
MSVF				S	**S**	**20 26 36.3**	**+2.6**
	6.4nm,0.3s,baz=2.2,slow=0.5,SNR=7.4						
STKA	**Stephens Creek**	**38.51**	**240**	P	**P**	**20 30 57.4**	**-1.1**
	0.8nm,0.4s,baz=85,slow=9.8,SNR=4.9						
WRA	**Warramunga Arr**	**44.18**	**259**	P	**P**	**20 31 42.0**	**-1.7**
	0.8nm,0.7s,baz=96,slow=7.7,SNR=18						
ASAR	**Alice Springs**	**44.43**	**253**	P	**P**	**20 31 44.6**	**-0.9**
	3.5nm,0.7s,baz=88,slow=8.2,SNR=60						
ILAR	**Eielson Array**	**85.20**	**13**	P	**P**	**20 36 01.1**	**-0.4**
	0.2nm,0.4s,baz=225,slow=5.4,SNR=7.5						
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**20 36 07.0**	**+0.5**
	0.6n

IL31		16.77	34	Pn		Pn	21 10 03.3	-1.0
ILAR	Eielson Array	16.77	34	Pn		Pn	21 10 02.5	-1.7
	comp=Z,0.2nm,0.3s,baz=225,slow=10,SNR=10.0							
ILAR	Eielson Array	16.77	34	Pn		Pn	21 10 03.0	-1.3
YAH	Yahtse	16.97	52			Pn	21 10 07.3	+0.2
GRNC	Granite Creek	17.07	50	Pn		Pn	21 10 07.9	-0.3
CTGM	Chitina Glacie	17.33	50			Pn	21 10 11.2	-0.3
CTGM				IAmb		IAmb	21 10 14.3	
	comp=Z,11nm,0.8s							
SCRK	Sand Creek	17.39	39	P		Pn	21 10 11.7	-0.5
LOGN	Logan Glacier	17.45	50			P	21 10 13.5	-0.3
LOGN				IAmb		IAmb	21 10 51.2	
	comp=Z,50nm,1.8s							
BCAR	Beaver Creek A	17.86	43			Pn	21 10 17.1	-0.8
K27K	Chicken	18.16	40			Pn	21 10 20.9	-0.6
FYU	Fort Yukon	18.41	31			P	21 10 23.9	-0.3
FYU				IAmb		IAmb	21 10 58.9	
	comp=Z,56nm,1.9s							
EGAK	Eagle	18.86	38			Pn	21 10 29.8	-0.1
EGAK				IAmb		IAmb	21 10 37.0	
	comp=Z,20nm,1.8s							
DAWY	Dawson	19.25	41			Pn	21 10 34.1	-0.5
PEA0B	Petropavlovsk-	19.98	285			P	21 10 40.0	-1.5
PEA0B				IAmb		IAmb	21 10 53.1	
	comp=Z,30nm,1.4s							
PETK	Petropavlovsk-	19.98	285	P		P	21 10 40.5	-1.0
	comp=Z,0.5nm,0.3s,baz=86,slow=14,SNR=15							
PETK	Petropavlovsk-	19.98	285	P		P	21 10 40.8	-0.7
WHY	Whitehorse	20.35	53	P		P	21 10 45.3	-0.3
WHY				IAmb		IAmb	21 10 50.9	
	comp=Z,14nm,0.8s							
EPYK	Eagle Plains	21.22	37	P		P	21 10 53.1	-1.8
EPYK				IAmb		IAmb	21 10 58.7	
	comp=Z,12nm,0.8s							
DLBC	Dease Lake	22.70	59	P		P	21 11 11.3	+0.5
	comp=Z,3.3nm,1.0s,baz=240,slow=24,SNR=6.6							
SEY	Seymchan	22.70	312	P		P	21 11 10.3	-0.4
	comp=Z,0.7nm,0.6s,baz=113,slow=9.8,SNR=5.5							
INK	Inuvik	23.17	33	P		P	21 11 13.3	-2.1
	comp=Z,1.4nm,0.5s,baz=255,slow=9.2,SNR=12							
INK				LR		LR	21 20 36.9	
	comp=Z,79nm,18.4s,baz=185,slow=38							
INK	Inuvik	23.17	33	P		P	21 11 14.4	-1.0
INK				IAmb		IAmb	21 11 18.0	
	comp=Z,8.6nm,1.4s							
MA2	Magadan	23.20	304	P		P	21 11 15.5	-0.4
	comp=Z,0.8nm,0.3s,baz=93,slow=12,SNR=4.1							
YKA	Yellowknife Ar	30.05	49	P		P	21 12 18.5	+0.7
	comp=Z,1.4nm,0.6s,baz=272,slow=7.5,SNR=25							
TIXI	Tiksi	32.72	329	P		P	21 12 41.5	+0.4
	comp=Z,1.3nm,0.4s,baz=23,slow=0.7,SNR=5.5							
NEW	Newport	32.84	76	P		P	21 12 42.8	+0.3
	comp=Z,1.4nm,0.8s,baz=1,6,slow=20,SNR=3.2							
NEW	Newport	32.84	76	P		P	21 12 42.1	-0.5
YAK	Yakutsk	33.21	311	P		P	21 12 45.1	-0.4
	comp=Z,4.3nm,0.5s,baz=157,slow=1.0,SNR=4.2							
EGMT	Eagleton	37.29	72	P		P	21 13 21.4	+0.5
H11N2	WAKE ISLAND Hy	37.64	219	T		T	21 54 12.3	
	baz=24,slow=76,SNR=47							
H11N3	WAKE ISLAND Hy	37.64	219	T		T	21 54 12.8	
	baz=24,slow=76,SNR=75							
H11N1	WAKE ISLAND Hy	37.66	219	T		T	21 53 56.3	
	baz=24,slow=76,SNR=38							
H11S1	WAKE ISLAND Hy	38.83	218	T		T	21 55 21.6	
	baz=23,slow=76,SNR=234							
H11S2	WAKE ISLAND Hy	38.84	218	T		T	21 54 57.5	
	baz=23,slow=76,SNR=132							
H11S3	WAKE ISLAND Hy	38.84	218	T		T	21 54 57.7	
	baz=23,slow=76,SNR=105							
PD31	Pinedale Array	40.23	79	P		P	21 13 45.6	-0.2
PD31				IAmb		IAmb	21 14 34.9	
	comp=Z,4.2nm,0.5s							
PDAR	Pinedale Array	40.23	79	P		P	21 13 46.5	+0.7
	comp=Z,0.8nm,0.5s,baz=288,slow=3.7,SNR=7.0							
PDAR	Pinedale Array	40.23	79	P		P	21 13 45.3	-0.5
RDMU	Red Mountain	41.53	82	P		P	21 13 56.0	-0.5
SRU	San Rafael Swe	41.84	85	P		P	21 13 58.4	-0.7
O20A	White River Ci	42.60	82	P		P	21 14 04.8	-0.4
PV13	Radium Mtn., P	43.48	84	P		P	21 14 12.3	-0.1
PV13				IAmb		IAmb	21 14 14.0	
	comp=Z,8.4nm,1.1s							
PV02	Paradox Valley	43.50	84	P		P	21 14 11.6	-0.9
PV02				IAmb		IAmb	21 14 13.7	
	comp=Z,6.5nm,0.9s							
PV01	Paradox Valley	43.65	84	P		P	21 14 13.4	-0.3
PV01				IAmb		IAmb	21 14 15.9	
	comp=Z,13nm,1.6s							
ULM	Lac du Bonnet	43.96	62	P		P	21 14 15.2	-0.6
	comp=Z,2.4nm,0.8s,baz=296,slow=4.6,SNR=3.5							
KSRS	Korea Array	45.54	277	P		P	21 14 29.6	+1.1
	comp=Z,0.4nm,0.5s,baz=54,slow=7.9,SNR=2.6							
SONM	Songino Array	51.37	301	P		P	21 15 13.6	+0.2
	comp=Z,0.6nm,0.5s,baz=53,slow=5.8,SNR=7.2							
TXAR	Lajitas Array	52.60	89	P		P	21 15 23.1	+0.4
	comp=Z,1.0nm,0.7s,baz=294,slow=5.7,SNR=14							
TXAR	Lajitas Array	52.60	89	P		P	21 15 22.3	-0.5
MKAR	Makanchi Array	63.84	313	P		P	21 16 40.5	-0.5
FINES	FINESS Array B	65.78	352	P		P	21 16 52.9	-0.4
	comp=Z,0.6nm,0.4s,baz=28,slow=8.6,SNR=9.2							
NB2	NORSAR Subarra	66.83	360	P		P	21 16 59.8	-0.3
	comp=Z,0.8nm,0.6s,baz=358,slow=6.2							
NOA	NORSAR Array B	66.83	360	P		P	21 17 00.2	0.0
	comp=Z,1.4nm,0.7s,baz=360,slow=6.3,SNR=8.1							
CMAR	Chiang Mai Arr	76.74	283	P		P	21 18 00.8	+0.6
	comp=Z,0.6nm,0.3s,baz=25,slow=6.2,SNR=8.3							
GERES	GERESS Array B	79.02	358	P		P	21 18 12.4	-0.2
	comp=Z,0.5nm,0.6s,baz=29,slow=3.0,SNR=3.8							
CONA	Conrad Observa	79.88	357	*eP*		P	21 18 18.4	+1.1
	comp=Z,0.5nm,0.3s							
KBA	Koelnbreinsper	80.79	358	*eP*		P	21 18 23.6	+1.2
	comp=Z,2.7nm,0.6s							
FETA	Feichten	80.87	0	*i* P		P	21 18 24.2	+1.5
	comp=Z,1.6nm,0.7s							
SOKA	Soboth	81.15	357	*i* P		P	21 18 25.2	+1.1
	comp=Z,1.6nm,0.6s							
OBKA	Obir	81.33	357	*i* P		P	21 18 26.6	+1.5
	comp=Z,1.3nm,0.6s							
ESDC	Sonseca Array	87.31	11	P		P	21 18 55.5	0.0
	comp=Z,0.7nm,0.5s,baz=350,slow=4.8,SNR=12							
PSI	Prapat	88.99	273	P		P	21 19 06.0	+2.1
	comp=Z,3.7nm,0.6s,baz=180,slow=16,SNR=5.1							

*NNC **15** 21:11:27.8±5.1,36˚.70N×70˚.92E,h69km±143km,mb3.7, mpv4.0,Error ellipse: s-maj=47.7km s-min=37.1km az=64.0*

ISC 15 21:11:25.4±3.2,**36˚.5N**±0˚.2×**71˚.1E**±0˚.2,**h100**km,**n12**, σ0**81**/14,**2C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AML	Almayashu	5.95	19	P		Pn	21 12 52.1	+0.8
	SNR=37							
UCH	Uchtor	6.28	24	P		Pn	21 12 56.6	+0.7
	SNR=7.1							
EKS2	Erkin-Say	6.47	18	P		Pn	21 12 59.3	+1.2
	SNR=38							
KK31	Karatay Array	6.57	356	P		Pn	21 13 00.3	+0.8
	6.1nm,0.3s,baz=174,slow=12,SNR=161							
KK31				⇑S		Sn	21 14 12.2	-0.7
	1.4nm,0.3s,baz=177,slow=24,SNR=6.2							
AAK	Ala-Archa	6.64	22	P		Pn	21 13 01.4	+0.9
	SNR=13							
AAK	Ala-Archa	6.64	22	⇓P		Pn	21 13 01.3	+0.7
	5.8nm,0.4s							
AAK				S		Sn	21 14 14.7	-0.1
	4.3nm,0.6s							
CHMS	Chumysh	7.05	23	P		Pn	21 13 06.7	+0.8
	SNR=8.1							
USP	Ospenovka	7.22	20	P		Pn	21 13 09.2	+0.9
	SNR=13							
TKM2	Tokmak 2	7.27	27	P		Pn	21 13 09.8	+0.7
	SNR=6.0							
TKM2	Tokmak 2	7.27	27	⇑P		Pn	21 13 09.0	-0.1
	3.4nm,0.5s							
MK31	Makanchi Array	13.23	36	⇓P		P	21 14 34.8	-0.6
	0.6nm,0.7s,baz=206,slow=9.5,SNR=6.9							
AB31	Akbulak array	15.07	331	⇓P		Pn	21 14 52.5	-0.4
	0.4nm,0.4s,baz=1.3,slow=26,SNR=18							

*GII **15** 21:14:02.1±0.0,33˚.54N×35˚.57E,h1km*
*GRAL **15** 21:14:03.4±0.3,33˚.54N×35˚.58E,h5km,4km,MD2.9*
ISC 15 21:14:03.0±1.1,**33˚.55N**±0˚.03×**35˚.56E**±0˚.05,**h7**km±11km,

2015 MAR

n13,σ0**56**/21,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
QRWL	Qaraoun	0.10	89	*eP*		Pg	21 14 05.1	-0.2
DQRL	Deir Qamar	0.16	2	*eP*		Pg	21 14 06.4	+0.1
DQRL				*eS*		Sg	21 14 08.8	+0.3
RCY	Rachaya	0.23	102	*eP*		Pg	21 14 07.4	-0.2
RCY				*eS*		Sg	21 14 10.4	-0.4
NATI	Neve Ativ	0.32	153	Pg		Pg	21 14 08.9	-0.3
NATI				Sg		Sg	21 14 13.9	+0.5
GEM	Giv'at Ha'Em	0.35	166	Pg		Pg	21 14 09.5	-0.2
GEM				Sg		Sg	21 14 15.2	+0.9
BHL	Bhannes	0.36	12	*eP*		Pg	21 14 09.8	-0.3
BHL				*eS*		Sg	21 14 15.0	0.0
MMA0B	Mount Meron ar	0.55	194	Pg		Pg	21 14 13.2	-0.3
MMA0B				Sg		Sb	21 14 23.3	+0.2
HWQ	Hawqa	0.80	24	*eP*		Pg	21 14 17.8	-0.6
BLGI	Bet Lehem HaGe	0.87	201	Pg		Pg	21 14 19.5	-0.2
OFRI	`Ofer	1.04	208	Pg		Pg	21 14 22.1	-0.9
OFRI				Sg		Sg	21 14 36.8	+0.3
MMLI	Mount Malkishu	1.11	186	Pg		Pg	21 14 23.7	-0.6
HMDT	Nahal Hemdat	1.29	181	Pg		Pg	21 14 26.9	-0.8
SLTI	Sal'it	1.38	199	Pn		Pn	21 14 28.3	-0.3
SLTI				Sn		Sn	21 14 48.2	+1.1

*IDC **15** 21:18:22.9±6.8,5˚.99S×151˚.90E,h63km±54km,mb3.5/4, mb1 3.8/5,mb1mx3.4/52,mbtmp3.9/5,ML1.9/1,Error ellipse: s-maj=100.8km s-min=34.5km az=129.0*

ISC 15 21:18:19.6±2.0,**6˚.0S**±0˚.7×**152˚.2E**±0˚.6,**h36**km,**n6**,σ1**87**/7, **mb3.6**/4,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	Port Moresby	5.99	236	P		Pn	21 19 47.9	+2.3
	2.3nm,0.3s,baz=52,slow=18,SNR=2.5							
PMG				S		Sn	21 20 50.6	-2.4
	2.5nm,0.3s,baz=336,slow=23,SNR=2.7							
WRA	Warramunga Arr	22.16	230	P		P	21 23 12.4	-0.1
	0.7nm,0.4s,baz=54,slow=9.9,SNR=9.0							
ASAR	Alice Springs	24.82	223	P		P	21 23 37.5	-1.1
	1.1nm,0.7s,baz=56,slow=9.2,SNR=13							
FITZ	Fitzroy Crossi	28.52	243	P		P	21 24 12.6	+0.6
	2.7nm,0.3s,baz=38,slow=12,SNR=1.5							
ILAR	Eielson Array	83.54	22	P		P	21 30 43.2	-0.3
	0.5nm,1.0s,baz=238,slow=5.2,SNR=4.4							
TORD	Torodi Ar. Bea	150.06	286	PKPbc		PKPbc	21 38 06.4	-1.1
	0.8nm,0.5s,baz=74,slow=1.8,SNR=3.8							

*DJA **15** 21:19:12.5±0.4,10˚.S×6˚×11˚.3E±˚,h10km,M5.0/18, mB5.4/16,mb5.3/18,MLv5.2/16,Mw(mB)4.8/16*
*MOS **15** 21:19:13.9±0.9,9˚.28S×112˚.94E,h45km,mb5.2/41,Error ellipse: s-maj=9.0km s-min=5.1km az=112.9*
*NEIC **15** 21:19:13.9±0.8,9˚.69S±0˚.04×112˚.89E±0˚.05,h50km±5km, mb5.0/56,Error ellipse: s-maj=7.7km s-min=5.1km az=51.0*
*BJI **15** 21:19:13.0±0.0,9˚.70S×112˚.80E,h54km,mB5.1/38, mb5.2/63,Ms4.6/15,Ms7 4.2/14*
*IDC **15** 21:19:16.2±2.4,9˚.35S×113˚.01E,h51km±22km,mb4.6/37, mb1 4.6/40,mb1mx4.4/59,mbtmp4.8/40,ML4.8/3,MS3.8/9, Ms1 3.8/9,ms1mx3.6/34,Error ellipse: s-maj=13.3km s-min=10.9km az=61.0*

ISC 15 21:19:14.2±0.3,**9.71S**±0˚.05×**112˚.96E**±0˚.04,**h50**km,**n352**, σ1**33**/350,**mb5.0**/122,**MS4.2**/12,**21C-3D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAGI	Jajag, Banyuwa	1.70	44	Pn		Pn	21 19 42.2	+0.7
JAGI				Sn		Sn	21 20 03.1	+0.9
JAGI	Jajag, Banyuwa	1.70	44	P		Pn	21 19 42.0	+0.5
ABJI	Asem Bagus	2.28	34	P		Pn	21 19 51.9	+2.5
DNP	Denpasar	2.45	65	P		Pn	21 19 54.6	+2.9
SRBI	Singaraja	2.75	54	P		Pn	21 19 58.0	+2.2
KMMI	Kalianget	2.82	21	P		Pn	21 19 58.9	+2.0
UGM	Wanagama	3.00	306	Pn		Pn	21 19 58.5	-0.8
UGM				Sn		Sn	21 20 31.9	-2.2
UGM	Wanagama	3.00	306	P		Pn	21 19 58.9	-0.4
SMRI	Semarang	3.63	316			Pn	21 20 08.3	+0.3
SMRI				Sn		Sn	21 20 46.5	-3.1
SMRI	Semarang	3.63	316	P		Pn	21 20 08.3	+0.3
TWSI	Taliwang, Sumb	3.99	76	P		Pn	21 20 16.0	+3.1
PLAI	Plampang	4.83	80	P		Pn	21 20 27.6	+3.1
CISI	Cisompet, Garu	5.52	292	Pn		Pn	21 20 32.4	-1.6
CISI	Cisompet, Garu	5.52	292	P		Pn	21 20 33.5	-0.4
	5.5nm,0µm744nm,0.6s							
JCJI	Jatiwangi	5.64	304	P		Pn	21 20 39.2	+3.7
LEM	Lembang	6.01	298	P		Pn	21 20 41.4	+0.6
	9.7nm,0.3s,baz=96,slow=10,SNR=5.8							
LEM				S		Sn	21 21 53.4	+4.9
	16nm,0.3s,baz=328,slow=20,SNR=3.7							
LEM				LR		LR	21 23 03.9	
	comp=Z,744nm,20.9s,baz=162,slow=39							
LEM	Lembang	6.01	298	P		Pn	21 20 43.2	+2.4
	0.8nm1µm111nm,1.3s							
BBKI	Banjar Paru	6.48	17	P		Pn	21 20 49.9	+2.8
	2µm175nm,0.7s							
DBJI	Dramaga	6.90	297	P		Pn	21 20 55.7	+2.8
KBKI	Kotabaru	7.12	27	P		Pn	21 20 58.2	+2.3
	875nm81nm,0.6s							
XMI	Christmas Isla	7.20	264	P		Pn	21 20 55.4	-1.5
	233nm,0.6s							
XMIS	Christmas Isla	7.24	263	Pn		Pn	21 20 55.6	-1.9
XMIS	Christmas Isla	7.24	263	P		Pn	21 20 55.7	-1.8
	146nm,0.6s							
KAPI	Kappang	8.19	56	P		Pn	21 21 10.9	+0.3
	18nm,0.3s,baz=214,slow=7.0,SNR=44							
KAPI				LR		LR	21 24 51.1	
	comp=Z,646nm,19.0s,baz=238,slow=42							
KAPI	Kappang	8.19	56	P		Pn	21 21 11.2	+0.7
KAPI	Kappang	8.19	56	Pn		Pn	21 21 11.2	+0.7
TPI	Tanjungpandan	8.69	322	P		Pn	21 21 31.2	+14
BLSI	Bandar Lampung	8.78	299	P		Pn	21 21 22.4	+3.8
BNSI	Bone	8.84	54	P		Pn	21 21 25.4	+6.0
	1µm57nm,0.6s							
SPSI	Sidrap Palu	8.85	50	P		Pn	21 21 23.2	+3.7
	610nm45nm,0.8s							
MTKI	Muara Teweh, K	8.92	13	P		Pn	21 21 23.9	+3.3
	2µm108nm,0.9s							
MMRI	Maumere	9.22	84	Pn		Pn	21 21 26.8	+2.2
MMRI	Maumere	9.22	84	P		Pn	21 21 32.7	+8.0
KASI	Kota Agung	9.36	296	P		Pn	21 21 26.1	-0.5
	1µm112nm,0.6s							
TTSI	Tana Toraja	9.50	46	P		Pn	21 21 35.9	+7.4
KLSI		9.57	301	P		Pn	21 21 31.1	+1.7
	9.7nm,1.0s							
LWLI	Liwa	9.98	297	P		Pn	21 21 35.4	+0.2
	5µm121nm,0.4s							
PPBI	Pangkal Pinang	10.11	317	P		Pn	21 21 38.7	+1.8
	858nm39nm,0.6s							
MDSI	Maura Dua	10.14	300	P		Pn	21 21 38.0	+0.7
	30nm,1.0s							
BATI	Baumata	10.55	94	P		Pn	21 21 45.1	+2.1
	11nm,0.3s,baz=280,slow=3.8,SNR=12							
BATI	Baumata	10.55	94	P		Pn	21 21 56.3	+13
LHSI	Lahat	11.04	301	P		Pn	21 21 51.1	+1.5
	943nm68nm,0.8s							
SOEI	Soe	11.15	91	Pn		Pn	21 21 51.1	0.0
SOEI	Soe	11.15	91	P		Pn	21 21 58.9	+7.8
MNAI	Manna	11.26	297	Pn		Pn	21 21 51.0	-1.5
MNAI	Manna	11.26	297	P		Pn	21 21 51.2	-1.4
	8µm792nm,0.8s							
KSM	Kuching	11.42	346			Pn	21 21 54.1	-0.7
KSI	Kapahiang	11.92	300	P		Pn	21 22 00.3	-1.4
	8µm784nm,0.7s							
SBUM	Sibu	12.10	356			Pn	21 22 03.7	-0.4
GIRL	Giralia	12.92	175	Pn		Pn	21 22 13.6	-1.5
TOLI2	Tolitoli	13.28	36	Pn		Pn	21 22 19.6	-0.5
PSA00	Pilbara Seismi	13.53	152	Pn		Pn	21 22 22.5	-1.0
FITZ	Fitzroy Crossi	14.86	125	P		Pn	21 22 41.6	+0.3
	0.5nm,0.3s,baz=299,slow=8.1,SNR=17							
FITZ				S		Sn	21 25 16.6	-8.2
	0.6nm,0.3s,baz=49,slow=23,SNR=3.0							
FITZ				LR		LR	21 28 46.0	
	comp=Z,408nm,20.4s,baz=302,slow=38							
FITZ	Fitzroy Crossi	14.86	125			Pn	21 22 42.5	+1.2
BKNI	Bangkinang	15.50	309	P		Pn	21 22 47.6	-2.1
IPM	Ipoh	18.44	319	P		Pn	21 23 24.7	-1.7
PSI	Prapat	18.71	311	LR		LR	21 31 29.5	
	comp=Z,316nm,20.1s,baz=91,slow=40							
GSI	Gunungsitoli	18.83	305	P		P	21 23 23.9	-6.1
GSI				IAmb		IAmb	21 23 25.7	

	comp=Z,30nm,0.5s							
MORW	Morawa	19.47	172	Pn		Pn	21 23 38.6	0.0
SWI	Sorong	20.21	65	P		Pn	21 23 47.8	+0.3
SWI				pmax		pmax		
	comp=Z,55nm,0.9s							
SIJI	Sorong	20.22	65	P		P	21 23 44.5	-0.7
	comp=Z,33nm,0.8s,baz=252,slow=6.9,SNR=9.4							
SIJI				LR		LR	21 31 45.6	
	comp=Z,202nm,21.1s,baz=224,slow=37							
FAKI	Fak Fak	20.31	72	P		P	21 23 46.0	-0.2
FAKI				IAmb		IAmb	21 23 51.7	
	comp=Z,46nm,0.7s							
DAV	Davao City (W)	20.88	37	LR		LR	21 32 26.0	
	comp=Z,219nm,21.9s,baz=296,slow=38							
DLV	T Lat	21.97	348	P		P	21 24 03.1	-1.1
KRAB	Krabi	22.48	322	P		P	21 24 10.0	+0.5
	comp=Z,6µmcomp=Z,490nm,0.8s							
WB0	Warramunga Arr	22.98	118	P		P	21 24 15.2	+0.4
WRA	Warramunga Arr	23.01	119	P		P	21 24 17.4	+2.3
	comp=Z,4.0nm,0.6s,baz=291,slow=11,SNR=19							
WRAB	Tennant Creek	23.01	119	*ce*P		P	21 24 16.5	+1.4
WRAB				pmax		pmax		
	comp=Z,8.0nm,1.0s							
WB2	Warramunga Arr	23.02	119	P		P	21 24 16.1	+1.0
WR0	Warramunga Arr	23.19	119	P		P	21 24 17.1	+0.3
NWAO	Narrogin (SRO)	23.44	171	LR		LR	21 34 22.9	
	comp=Z,386nm,19.1s,baz=328,slow=38							
ASAR	Alice Springs	24.34	127	P		P	21 24 31.0	+3.4
	comp=Z,1.1nm,0.7s,baz=304,slow=9.1,SNR=84							
ASAR				PcP		PcP	21 28 08.2	+1.9
	comp=Z,1.4nm,0.7s,baz=319,slow=1.8,SNR=4.3							
ASAR	Alice Springs	24.34	127	P		P	21 24 28.6	+1.0
PHET	Kaeng Krachan	26.08	329	P		P	21 24 44.7	+1.3
	comp=Z,520nmcomp=Z,40nm,0.8s							
CHAI	Chaiyaphum	27.67	337	P		P	21 24 58.0	+0.4
	comp=Z,29nm,0.7s							
UTHA	Uthaitani	28.45	332	P		P	21 25 06.1	+1.5
	comp=Z,9.5nm,0.8s							
NONG	Nongkai	29.25	341	P		P	21 25 12.0	+0.3
	comp=Z,21nm,1.0s							
UMPA	Umpang Tak	29.29	331	P		P	21 25 13.3	+1.2
	comp=Z,16nm,0.9s							
UTTA	Uttaradit	29.91	336	P		P	21 25 18.1	+0.6
	comp=Z,312nmcomp=Z,30nm,0.9s							
CM13	Chiang Mai Arr	31.20	334	P		P	21 25 29.2	+0.3
	comp=Z,135nmcomp=Z,16nm,0.9s							
CM31	Chiang Mai Arr	31.22	334	P		P	21 25 29.9	+0.7
	comp=Z,4µmcomp=Z,441nm,0.7s							
CM31	Chiang Mai Arr	31.22	334	P		P	21 25 28.3	-0.8
CM31				IAmb		IAmb	21 25 30.7	
	comp=Z,19nm,1.0s							
CMAR	Chiang Mai Arr	31.22	334	P		P	21 25 28.9	-0.2
	comp=Z,13nm,0.9s,baz=168,slow=8.2,SNR=85							
CMAR				PcP		PcP	21 28 25.8	+2.7
	comp=Z,1.0nm,0.4s,baz=197,slow=2.9,SNR=5.2							
CMAR				pPcP			21 28 40.9	
	comp=Z,1.6nm,0.7s,baz=197,slow=3.5,SNR=4.4							
CMAR				LR		LR	21 39 08.9	
	comp=Z,252nm,18.3s,baz=192,slow=39							
CMAR	Chiang Mai Arr	31.22	334	P		P	21 25 28.2	-0.9
CM15	Chiang Mai Arr	31.23	334	P		P	21 25 29.5	+0.3
	comp=Z,10nm,0.5s							
MHMT	Maesariang	31.43	332	P		P	21 25 31.0	0.0
	comp=Z,781nmcomp=Z,11nm,0.6s							
CM32	Chiang Mai Arr	31.44	334	P		P	21 25 31.0	0.0
CMMT	Chiang Mai	31.53	334	P		P	21 25 31.0	-0.9
	comp=Z,3.8nm,1.1s							
CHTO	Chiang Mai	31.54	334	P		P	21 25 30.8	-1.1
CHTO				pmax		pmax		
	comp=Z,5.0nm,0.9s							
CHTO	Chiang Mai	31.54	334	P		P	21 25 30.8	-1.1
STKA	Stephens Creek	34.49	134	P		P	21 26 01.1	+3.5
	comp=Z,5.0nm,0.7s,baz=308,slow=8.8,SNR=9.4							
STKA	Stephens Creek	34.49	134	*i* P		P	21 26 01.7	+4.1
STKA	Stephens Creek	34.49	134	P		P	21 25 58.1	+0.5
KMI	Kunming	36.03	344	⇓P		P	21 26 13.0	+1.9
KMI				pP		pP	21 26 20.3	-3.0
KMI				sP		sP	21 26 27.5	-1.3
KMI				pmax		pmax		
	comp=Z,7.0nm,1.1s							
KMI				pmax		pmax		
	comp=Z,99nm,4.2s							
KMI				LR		LR		
	comp=Z,190nm,17.8s							
KMI				LR		LR		
	com

JHS **Saijyo** 48.38 22 P **P** 21 27 51.0 -0.3
JHS IAmb IAmb 21 27 52.8
comp=Z,23nm,1.0s
KSAR **Wonju Array Be** 48.95 16 P **P** 21 27 55.6 +0.1
KSAR **Wonju Array Be** 48.95 16 P **P** 21 27 55.6 +0.1
KSRS **Korea Array** 48.97 16 P **P** 21 27 54.9 -0.8
comp=Z,8.8nm,1.0s,baz=197,slow=7.3,SNR=32
JWT **Wachi** 49.52 24 P **P** 21 27 59.9 -0.1
BJT **Baijiatuau** 49.56 3 P **P** 21 27 59.7 -0.5
BJT pmax pmax
comp=Z,26nm,0.8s
BJT **Baijiatuau** 49.56 3 P **P** 21 27 59.7 -0.5
BJI **Beijing** 49.59 3 P **P** 21 28 00.1 -0.2
BJI pmax pmax
comp=Z,33nm,0.7s
BJI pmax pmax
comp=Z,120nm,4.7s
BTO **Baotou** 50.14 357⇑ *e*P **P** 21 28 05.9 +1.2
BTO S **S** 21 35 11.8 -1.1
BTO LR LR
comp=Z,1μm,12.4s
BTO LR LR
comp=Z,680nm,6.0s
BTO LR LR
comp=Z,750nm,19.2s
INU **Inuyama** 50.25 26 P **P** 21 28 05.0 -0.6
INU IAmb IAmb 21 28 06.1
comp=Z,32nm,1.0s
HHC **Hu-ho-hao-te** 50.32 359 *e*P **P** 21 28 06.4 +0.3
HHC pmax pmax
comp=Z,32nm,0.9s
HHC pmax pmax
comp=Z,130nm,6.6s
GTA **Gaotai** 50.37 347 ⇑P **P** 21 28 07.3 +0.8
GTA pP pP 21 28 18.5 -0.7
GTA sP sP 21 28 23.8 -0.8
GTA PcP **PcP** **21 29 26.6 +2.1**
GTA pmax pmax
comp=Z,14nm,0.7s
GTA pmax pmax
comp=Z,130nm,8.3s
GTA LR LR
comp=Z,200nm,18.5s
GTA LR LR
comp=Z,280nm,16.0s
GTA LR LR
comp=Z,210nm,17.4s
JGF **Kuroka** 50.61 26 P **P** 21 28 07.6 -0.7
MAJO **Matsushiro** 51.77 26 P **P** 21 28 16.0 -1.0
MAJO pmax pmax
comp=Z,14nm,0.9s
MAJO **Matsushiro** 51.77 26 P **P** 21 28 16.0 -1.0
MAJO IAmb IAmb 21 28 16.7
comp=Z,14nm,0.8s
MAT **Matsushiro** 51.77 26 P **P** 21 28 15.5 -1.5
MJAR **Matsushiro Arr** 51.77 26 P **P** 21 28 15.7 -1.3
comp=Z,18nm,0.8s,baz=198,slow=7.6,SNR=24
MJAR **Matsushiro Arr** 51.77 26 P **P** 21 28 15.9 -1.1
MJAR pmax pmax
comp=Z,9.0nm,0.9s
MJAR **Matsushiro Arr** 51.77 26 P **P** 21 28 15.9 -1.1
JSD **Sado** 53.06 25 P **P** 21 28 25.9 -0.5
MSHR **Mys Shultsa** 54.64 16 *ce*P **P** 21 28 37.8 0.0
MSHR pmax pmax
comp=Z,13nm,1.0s
MDJ **Mudanjiang** 56.13 14 P **P** 21 28 48.3 -0.2
MDJ pmax pmax
comp=Z,26nm,1.0s
MDJ pmax pmax
comp=Z,97nm,6.9s
MDJ **Mudanjiang** 56.13 14 P **P** 21 28 48.4 -0.2
MDJ IAmb IAmb 21 28 49.3
comp=Z,17nm,0.8s
USA0B **Ussuriysk Arra** 56.36 16 P **P** 21 28 50.1 -0.1
USA0B pmax pmax
comp=Z,27nm,1.1s
USA0B **Ussuriysk Arra** 56.36 16 P **P** 21 28 50.1 -0.1
USA0B IAmb IAmb 21 28 51.2
comp=Z,27nm,1.1s
USRK **Ussuriysk Ar.** 56.36 16 P **P** 21 28 50.1 -0.1
comp=Z,20nm,0.9s,baz=203,slow=5.4,SNR=27
JTM **Tenmabayashi** 56.55 25 P **P** 21 28 50.5 -1.1
NIL **Nilore** 57.30 321 P **P** 21 28 55.8 -1.4
NIL pmax pmax
comp=Z,16nm,0.6s
NIL **Nilore** 57.30 321 P **P** 21 28 55.8 -1.4
NIL IAmb IAmb 21 28 56.1
comp=Z,16nm,0.6s
ULN **Ulaanbaatar** 57.56 355 *ce*P **P** 21 28 58.8 0.0
ULN pmax pmax
comp=Z,39nm,0.9s
ULN **Ulaanbaatar** 57.56 355 P **P** 21 28 58.2 -0.6
SONM **Songino Array** 57.59 355 P **P** 21 28 59.1 +0.1
comp=Z,31nm,0.7s,baz=174,slow=9.0,SNR=268
SONM **Songino Array** 57.59 355 P **P** 21 28 58.6 -0.4
SONM pmax pmax
comp=Z,26nm,0.8s
SONM **Songino Array** 57.59 355 P **P** 21 28 58.6 -0.4
WMQ **Urumqi** 58.01 339 *e*P **P** 21 29 02.6 +0.6
WMQ pP pP 21 29 12.8 -2.1
WMQ sP sP 21 29 20.4 +0.1
WMQ pmax pmax
comp=Z,39nm,0.9s
WMQ pmax pmax
comp=Z,190nm,4.9s
WMQ **Urumqi** 58.01 339 P **P** 21 29 01.6 -0.4
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ **Urumqi** 58.01 339 P **P** 21 29 01.6 -0.4
ERM **Erimo** 58.45 26 *ce*P **P** 21 29 05.3 +0.3
ERM pmax pmax
comp=Z,9.0nm,1.0s
KSH **Kashi** 59.80 327 P **P** 21 29 13.0 -1.6
KSH pmax pmax
comp=Z,13nm,1.0s
KSH pmax pmax
comp=Z,200nm,7.5s
ASAJ **Asahikawa** 59.94 24 P **P** 21 29 14.9 -0.3
comp=Z,13nm,0.8s,baz=247,slow=10,SNR=7.1
ASAJ **Asahikawa** 59.94 24 P **P** 21 29 15.1 -0.1
ASAJ pmax pmax
comp=Z,25nm,1.0s
JKA **Kamikawa-asahi** 59.94 24 P **P** 21 29 15.1 -0.2
KBL **Kabul** 60.55 319 P **P** 21 29 18.7 -1.2
KBL pmax pmax
comp=Z,10.0nm,0.9s
KBL **Kabul** 60.55 319 P **P** 21 29 18.6 -1.2
KBL IAmb IAmb 21 29 20.2
comp=Z,10nm,0.9s
SHLS **Shalkode** 60.83 332 *e*P **P** 21 29 20.1 -1.5
comp=Z,19nm,0.7s,baz=333
SHLS **Shalkode** 60.83 332 *e*P **P** 21 29 20.0 -1.5
SHLS pmax pmax
comp=Z,19nm,0.7s
PDGK **Podgornoye** 60.95 333 *i* P **P** 21 29 22.3 -0.1
PDGK pmax pmax
comp=Z,22nm,0.7s
KLR **Kul'dur** 60.97 14 P **P** 21 29 21.4 -0.7
comp=Z,4.2nm,0.7s,baz=219,slow=3.9,SNR=17
KLR **Kul'dur** 60.97 14 *ce*P **P** 21 29 21.5 -0.7
KLR pmax pmax
comp=Z,12nm,1.5s
UZB **Uzynbulak** 61.02 332 *e*P **P** 21 29 22.4 -0.6
comp=Z,16nm,0.8s,baz=332
UZB *e*S **S** 21 37 39.0 +0.8
baz=332
UZB **Uzynbulak** 61.02 332 *e*P **P** 21 29 22.3 -0.6
UZB *e*S **S** 21 37 38.9 +0.8
UZB pmax pmax
comp=Z,16nm,0.8s
SATY **Saty** 61.24 332 *e*P **P** 21 29 23.7 -0.6
comp=Z,11nm,1.0s,baz=332
SATY **Saty** 61.24 332 *e*P **P** 21 29 23.7 -0.6
SATY pmax pmax
comp=Z,11nm,1.0s
KPKS **Kokpek** 61.43 332 *e*P **P** 21 29 24.9 -0.7
comp=Z,27nm,1.0s,baz=332
KPKS **Kokpek** 61.43 332 *e*P **P** 21 29 24.8 -0.7
KPKS pmax pmax
comp=Z,27nm,1.0s
TLY **Talaya** 61.67 353 P **P** 21 29 26.3 -0.6
comp=Z,3.2nm,0.4s,baz=202,slow=5.7,SNR=11
TLY **Talaya** 61.67 353 *e*P **P** 21 29 27.5 +0.6
TLY pmax pmax
comp=Z,31nm,0.9s
TLY MLR MLR
comp=Z,312nm,14.0s
TLY **Talaya** 61.67 353 P **P** 21 29 26.7 -0.2
TLY IAmb IAmb 21 29 28.5
comp=Z,10nm,0.8s
TNSS **Tian-Shan** 61.92 331 *e*P **P** 21 29 28.9 -0.4
baz=331
TNSS **Tian-Shan** 61.92 331 *e*P **P** 21 29 28.8 -0.4
MDOK **Medeo** 61.97 331 *e*P **P** 21 29 28.6 -0.6
baz=331
MDOK **Medeo** 61.97 331 *e*P **P** 21 29 28.6 -0.6
AAA **Alma-Ata** 62.06 331 *e*P **P** 21 29 29.3 -0.5
comp=Z,9.3nm,0.7s,baz=331
AAA **Alma-Ata** 62.06 331 *e*P **P** 21 29 29.3 -0.5
AAA pmax pmax
comp=Z,9.0nm,0.7s
ZSN **Zaisan** 62.15 339 *e*P **P** 21 29 29.7 -0.5
comp=Z,9.4nm,0.8s,baz=339
ZSN **Zaisan** 62.15 339 *e*P **P** 21 29 29.7 -0.5
ZSN pmax pmax
comp=Z,9.0nm,0.8s
YSS **Yuzh-Sakhalins** 62.35 23 *ce*P **P** 21 29 31.9 +0.4
YSS pmax pmax
comp=Z,35nm,1.3s
WSAR **Wadi Sarin** 62.42 303 P **P** 21 29 33.0 +0.5
comp=Z,13nm,0.7s,baz=120,slow=5.9,SNR=12
TKM2 **Tokmak 2** 62.49 330 P **P** 21 29 32.9 +0.1
SNR=21
TKM2 **Tokmak 2** 62.49 330 *i* P **P** 21 29 32.4 -0.4
TKM2 pmax pmax
comp=Z,18nm,0.7s
SOCY **Socotra** 62.50 289 P **P** 21 29 32.9 -0.4
SOCY IAmb IAmb 21 29 35.0
comp=Z,20nm,1.0s
UCH **Uchtor** 62.53 329 P **P** 21 29 33.5 0.0
SNR=7.8
MK31 **Makanchi Array** 62.56 337 *i* P **P** 21 29 32.6 -0.4
MK31 pmax pmax
comp=Z,16nm,0.7s
MK31 **Makanchi Array** 62.56 337 P **P** 21 29 32.5 -0.4
MK31 IAmb IAmb 21 29 33.6
comp=Z,14nm,0.9s
MKAR **Makanchi Array** 62.56 337 P **P** 21 29 32.7 -0.3
comp=Z,22nm,0.8s,baz=149,slow=7.3,SNR=170
KBK **Karagaybulak** 62.62 329 P **P** 21 29 34.2 +0.6
SNR=19
MAKZ **Makanchi** 62.69 337 P **P** 21 29 33.5 -0.4
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
MAKZ **Makanchi** 62.69 337 P **P** 21 29 33.5 -0.4
MAKZ IAmb IAmb 21 29 34.4
comp=Z,8.4nm,0.8s
TDK **Taldyqorghan** 62.75 333 *e*P **P** 21 29 33.6 -0.6
comp=Z,38nm,0.7s,baz=333
TDK **Taldyqorghan** 62.75 333 *e*P **P** 21 29 33.6 -0.6
TDK pmax pmax
comp=Z,38nm,0.7s
AAK **Ala-Archa** 62.84 329 P **P** 21 29 35.4 +0.3
comp=Z,14nm,0.8s,baz=148,slow=5.6,SNR=43
AAK **Ala-Archa** 62.84 329 P **P** 21 29 35.4 +0.3
SNR=20
AAK **Ala-Archa** 62.84 329 *i* P **P** 21 29 35.4 +0.3
SNR=23
AAK **Ala-Archa** 62.84 329 *i* P **P** 21 29 35.2 +0.1
AAK pmax pmax
comp=Z,76nm,1.1s
AAK **Ala-Archa** 62.84 329 P **P** 21 29 34.4 -0.7
AAK IAmb IAmb 21 29 36.4
comp=Z,21nm,1.0s
KUU **Kurty** 62.85 331 *e*P **P** 21 29 33.9 -1.1
comp=Z,18nm,0.7s,baz=331
KUU **Kurty** 62.85 331 *e*P **P** 21 29 33.9 -1.1
KUU pmax pmax
comp=Z,18nm,0.7s
AML **Almayashu** 62.89 328 P **P** 21 29 35.9 +0.2
SNR=23
EKS2 **Erkin-Say** 63.22 329 P **P** 21 29 38.0 +0.4
SNR=26
DGZ **Jazzator, Alta** 63.24 342 *c i*P **P** 21 29 38.1 +0.5
DGZ pmax pmax
comp=Z,57nm,0.7s
USP **Ospenovka** 63.29 329 P **P** 21 29 37.8 -0.1
SNR=12
SGDS **Sogindy** 63.36 330 *e*P **P** 21 29 37.1 -1.4
comp=Z,7.0nm,0.8s,baz=330
SGDS **Sogindy** 63.36 330 *e*P **P** 21 29 37.0 -1.4
SGDS pmax pmax
comp=Z,7.0nm,0.8s
ZEA **Zeya** 64.36 9 *e*P **P** 21 29 45.2 +0.5
ZEA pmax pmax
comp=Z,10.0nm,1.2s
DZA **Taraz** 64.67 327 *e*P **P** 21 29 45.8 -1.1
comp=Z,6.8nm,1.1s,baz=328
DZA **Taraz** 64.67 327 *e*P **P** 21 29 45.8 -1.1
DZA pmax pmax
comp=Z,7.0nm,1.1s
BTLS **Baital** 64.81 331 *e*P **P** 21 29 46.0 -1.9
baz=331
BTLS **Baital** 64.81 331 *e*P **P** 21 29 45.9 -1.9
IUG **Iuzhnay** 64.86 326 *e*P **P** 21 29 47.8 -0.6
comp=Z,12nm,0.9s,baz=326
IUG **Iuzhnay** 64.86 326 *e*P **P** 21 29 47.7 -0.6
IUG pmax pmax
comp=Z,12nm,0.9s
UOSS **Minazif** 65.14 303 P **P** 21 29 50.4 0.0
HATD **Hatta, Dubai** 65.15 303 P **P** 21 29 50.9 +0.4
ASHO **Ashiyiah** 65.16 303 *i* P **P** 21 29 50.7 +0.2
SNR=6.3
MDH **Madha** 65.22 304 P **P** 21 29 50.1 -0.7
KK31 **Karatay Array** 65.25 327 P **P** 21 29 50.2 -0.5
KK31 pmax pmax
comp=Z,9.0nm,1.1s
KK31 **Karatay Array** 65.25 327 P **P** 21 29 50.2 -0.5
KKAR **Karatay Array** 65.25 327 P **P** 21 29 50.0 -0.7
KKAR pmax pmax
comp=Z,9.0nm,1.1s
KKAR **Karatay Array** 65.25 327 P **P** 21 29 50.0 -0.7
KKAR IAmb IAmb 21 29 52.6
comp=Z,9.0nm,1.1s
KKAR **Karatay Array** 65.25 327 P **P** 21 29 50.0 -0.7
MSFE **Esma-Masafi** 65.35 304 P **P** 21 29 51.3 -0.5
FAQ **Al Faqa, Dubai** 65.57 303 *i* P **P** 21 29 53.4 +0.3
SNR=28
NAZ **Nazwa, Dubai** 65.61 303 P **P** 21 29 53.3 -0.2
SHME **Shamm** 65.66 304 P **P** 21 29 53.7 0.0
ASUD **Al Ashush, Dub** 65.74 303 *i* P **P** 21 29 54.7 +0.5
SNR=12
KURBB **Kurchatov Arra** 67.12 337 P **P** 21 30 02.1 -0.4
comp=Z,9.1nm,0.8s,baz=153,slow=4.9,SNR=57
KURK **Kurchatov** 67.16 337 P **P** 21 30 02.2 -0.6
KURK **Kurchatov** 67.16 337 P **P** 21 30 02.1 -0.6
BOD **Bodaibo** 67.30 1 *e*P **P** 21 30 03.0 -0.5
BOD pmax pmax
comp=Z,16nm,1.1s
ZAA0 **Zalesovo Array** 67.75 342 P **P** 21 30 05.8 -0.6
ZALV **Zalesovo Beam** 67.75 342 P **P** 21 30 05.8 -0.7
comp=Z,23nm,0.6s,baz=148,slow=4.5,SNR=104
BRZS **Berezniki** 69.05 333 *e*P **P** 21 30 14.1 -0.7
comp=Z,5.2nm,1.0s,baz=334
BRZS **Berezniki** 69.05 333 *e*P **P** 21 30 14.0 -0.7
BRZS pmax pmax
comp=Z,5.0nm,1.0s
GEYT **Alibeck** 69.74 316 P **P** 21 30 19.1 -0.2
comp=Z,6.5nm,0.5s,baz=166,slow=7.6,SNR=24
GEYT **Alibeck** 69.74 316 P **P** 21 30 18.9 -0.4
GYA0B **ALIBECK ARRAY** 69.74 316 P **P** 21 30 18.7 -0.5
GYA0B IAmb IAmb 21 30 21.5
comp=Z,20nm,1.0s
BVAR **Borovoye Array** 72.24 335 P **P** 21 30 33.4 -0.6
comp=Z,3.5nm,0.7s,baz=146,slow=14,SNR=21
VNDA **Vanda** 72.27 170 P P 21 30 38.0 +4.1
comp=Z,1.6nm,0.8s,baz=293,slow=6.3,SNR=8.3
BRVK **Borovoye** 72.31 335 P **P** 21 30 34.3 -0.1
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK **Borovoye** 72.31 335 P **P** 21 30 34.3 -0.1
YAK **Yakutsk** 72.70 8 *c i*P **P** 21 30 36.0 -0.5
YAK *e**PP **pP** 21 30 46.0 -3.8
YAK *e* 21 30 56.3
YAK *e*S **S** 21 39 59.4 +1.5
YAK *e**SS **sS** 21 40 21.9 +1.7
YAK *e* 21 40 39.4
YAK pmax pmax
comp=Z,37nm,0.8s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK smax smax
comp=E,86nm,4.0s
YAK smax smax
comp=N,30nm,3.8s
YAK **Yakutsk** 72.70 8 P **P** 21 30 36.1 -0.4
PETK **Petropavlovsk-** 73.23 26 P **P** 21 30 39.8 -0.1
comp=N,8.7nm,1.0s,baz=183,slow=2.7,SNR=8.7
PETK **Petropavlovsk-** 73.23 26 P **P** 21 30 40.0 +0.1
RAYN **Ar Rayn** 73.72 298 *i* P **P** 21 30 43.4 0.0
SNR=7.0
RAYN **Ar Rayn** 73.72 298 P **P** 21 30 42.8 -0.7
RAYN pmax pmax
comp=Z,4.0nm,0.8s
RAYN **Ar Rayn** 73.72 298 P **P** 21 30 42.8 -0.7
AB31 **Akbulak array** 74.81 327 *e*P **P** 21 30 49.5 +0.3
AB31 pmax pmax
comp=Z,13nm,0.4s
ABKAR **Akbulak array** 74.81 327 P **P** 21 30 49.1 -0.1
ABKAR **Akbulak array** 74.81 327 P **P** 21 30 49.3 +0.1
SYO **Syowa Base** 75.05 201⇑ *e*P **P** 21 30 50.2 -0.1
MA2 **Magadan** 75.39 19 P **P** 21 30 52.6 +0.3
comp=Z,12nm,0.8s,baz=194,slow=8.2,SNR=4.8
MA2 **Magadan** 75.39 19 *ce*P **P** 21 30 52.7 +0.4
MA2 pmax pmax
comp=Z,17nm,1.0s
MA2 **Magadan** 75.39 19 P **P** 21 30 52.8 +0.5
MA2 IAmb IAmb 21 30 54.0
comp=Z,16nm,0.9s
KMBO **Kilima Mbogo** 75.72 271 P **P** 21 30 58.5 +3.0
comp=Z,4.4nm,0.9s,baz=70,slow=7.2,SNR=16
AKTO **Aktyubinsk** 76.51 327 P **P** 21 30 59.2 +0.3
comp=Z,13nm,0.7s,baz=121,slow=3.8,SNR=42
SEY **Seymchan** 78.50 17 P **P** 21 31 10.1 +0.3
comp=Z,9.4nm,0.7s,baz=218,slow=4.5,SNR=37
SEY **Seymchan** 78.50 17 *i* P **P** 21 31 10.5 +0.8
ARU **Arti** 79.66 333 P **P** 21 31 16.4 +0.2
comp=Z,3.4nm,0.4s,baz=125,slow=3.5,SNR=26
ARU **Arti** 79.66 333 *d i*P **P** 21 31 16.2 0.0
ARU S **S** 21 41 16.5 +1.9
ARU pmax pmax
comp=Z,29nm,1.2s
ARU **Arti** 79.66 333 P **P** 21 31 16.3 0.0
ARU IAmb IAmb 21 31 17.5
comp=Z,14nm,0.7s
GNI **Garni** 80.05 314 *i* P **P** 21 31 19.9 +1.0
GNI pmax pmax
comp=Z,3.0nm,0.7s
GROC **Groznyy** 80.48 317 *e*P **P** 21 31 22.1 +1.2
GROC *e* 21 34 25.9
GROC pmax pmax
comp=Z,11nm,0.7s
ZEI **Tsey** 81.61 316 *e*P **P** 21 31 27.8 +0.6
ZEI pmax pmax
comp=Z,5.0nm,0.7s
TIXI **Tiksi** 81.87 5 P **P** 21 31 27.0 -0.7
comp=Z,23nm,0.8s,baz=204,slow=2.6,SNR=24
TIXI **Tiksi** 81.87 5 *c i*P **P** 21 31 27.4 -0.3
TIXI **Tiksi** 81.87 5 P **P** 21 31 27.2 -0.5
TIXI IAmb IAmb 21 31 28.3
comp=Z,24nm,0.8s
MBAR **Mbarara** 82.23 271 *ce*P **P** 21 31 34.3 +3.2
MBAR pmax pmax
comp=Z,7.0nm,0.8s
LSZ **Lusaka** 82.50 256 P **P** 21 31 34.6 +2.2
comp=Z,3.0nm,0.6s,baz=84,slow=4.7,SNR=11
NEY **Neytrino** 82.58 316 *i* P **P** 21 31 33.7 +1.4
NEY pmax pmax
comp=Z,4.0nm,0.9s
KBZ **Khabaz** 82.63 317 P **P** 21 31 33.5 +1.2
comp=Z,8.0nm,1.0s,baz=135,slow=4.0,SNR=14
KBZ **Khabaz** 82.63 317 *i* P **P** 21 31 33.4 +1.2
KBZ pmax pmax
comp=Z,11nm,1.0s
KIV **Kislovodsk** 82.85 317 *e*P **P** 21 31 33.5 -0.1
KIV pmax pmax
comp=Z,17nm,1.1s
BELG **Belogornoye** 83.13 326 *i* P **P** 21 31 34.8 +0.2
BELG pmax pmax
comp=Z,5.0nm,1.0s
BOSA **Boshof** 83.42 242 P **P** 21 31 39.6 +2.6
comp=Z,4.0nm,0.9s,baz=106,slow=9.5,SNR=3.7
SOC **Sochi** 84.75 316 *e*P **P** 21 31 42.5 -0.7
SOC *e* 21 34 56.1
SOC *e*PPP PPP 21 36 49.7
SOC *e*S **S** **21 42 03.9 -3.4**
SOC *e*SS **SS** **21 47 37.4 -3.0**
SOC *e*SSS SSS 21 51 12.4
SOC MLR MLR
comp=Z,156nm,13.0s
MMAI **Mount Meron Ar** 84.97 305 P **P** 21 31 46.2 +1.6
comp=Z,7.3nm,0.8s,baz=105,slow=8.9,SNR=8.1
KIRV **Kirov** 84.99 332 *ce*P **P** 21 31 44.4 +0.4
VRH **Novokhopyorsk** 86.03 323 *e*P **P** 21 31 48.9 -0.4
VRH pmax pmax
comp=Z,10.0nm,0.6s
TOKA **Tokat** 86.09 312 P **P** 21 31 49.5 -0.5
TOKA IAmb IAmb 21 31 52.7
comp=Z,11nm,0.8s
ANN **Anapa** 86.69 316 *e*P P 21 31 45.6 -7.1
ANN pmax pmax
comp=Z,99nm,1.4s
VSR **Storozhevoye** 87.55 323 *e*P **P** 21 31 56.5 -0.2
VSR pmax pmax
comp=Z,20nm,0.8s
BR131 **Keskin Array S** 88.04 311 P **P** 21 31 59.3 -0.3
BR131 pmax pmax
comp=Z,13nm,0.8s
BR131 **Keskin Array S** 88.04 311 P **P** 21 31 59.3 -0.3
BR131 IAmb IAmb 21 32 01.3
comp=Z,13nm,0.8s
BRTR **Keskin Array B** 88.04 311 P **P** 21 32 00.3 +0.7
comp=Z,7.9nm,0.8s,baz=132,slow=6.4,SNR=41
BRTR **Keskin Array B** 88.04 311 P **P** 21 31 59.0 -0.6
PRGR **Permogore** 88.04 334 *e*P **P** 21 31 56.5 -2.3
PRGR pmax pmax
comp=Z,10.0nm,0.8s
LPSR **Galich'ya Gora** 88.13 324 *e*P **P** 21 32 00.0 +0.5
LPSR pmax pmax
comp=Z,20nm,0.8s
SNAA **Sanae** 88.67 197 P **P** 21 32 05.5 +3.6
SNAA **Sanae** 88.67 197 P P 21 32 05.7 +3.8
comp=Z,3.4nm,0.7s,baz=181,slow=5.8,SNR=9.4
SNAA **Sanae** 88.67 197 *ce*P P 21 32 07.1 +5.2
SNAA pmax pmax
comp=Z,7.0nm,1.7s
SNAA **Sanae** 88.67 197 P **P** 21 32 02.6 +0.8
SNAA IAmb IAmb 21 32 21.2
comp=Z,10nm,0.9s
OBN **Obninsk** 90.22 326 ⇓ *i*P **P** 21 32 10.4 +1.2
OBN *e* 21 32 24.4
OBN *e*SP **sP** **21 32 28.0 -0.2**
OBN *e*SS SS 21 48 55.5 -4.1
OBN pmax pmax
comp=Z,15nm,1.1s
VNA2 **Neumayer--Watz** 90.32 196 P **P** 21 32 11.0 +1.5
baz=104,slow=4.7
KLMR **Klimovskoe** 90.49 332 *e*P **P** 21 32 08.5 -1.8
KLMR pmax pmax
comp=Z,18nm,1.2s
KLMR **Klimovskoe** 90.49 332 *e*P **P** 21 32 08.6 -1.8
KLMR AMP 21 32 11.9
comp=Z,18nm,1.2s
VNA1 **Neumayer--Stat** 90.71 197 P **P** 21 32 10.3 -1.0
VNA3 **Neumayer Olymp** 90.77 196 P **P** 21 32 09.9 -1.7
AKASG **Malin Array Be** 93.49 321 P **P** 21 32 24.6 +0.1
comp=Z,2.5nm,0.6s,baz=82,slow=4.4,SNR=9.1
AKASG **Malin Array Be** 93.49 321 P **P** 21 32 24.3 -0.2
AKASG pmax pmax
comp=Z,2.0nm,1.0s
AKASG **Malin Array Be** 93.49 321 P **P** 21 32 24.3 -0.2
FINES **FINESS Array B** 96.96 331 P **P** 21 32 40.0 0.0
comp=Z,2.8nm,0.9s,baz=124,slow=5.4,SNR=7.9
FINES **FINESS Array B** 96.96 331 P **P** 21 32 40.3 +0.2
FINES **FINESS Array B** 96.96 331 P **P** 21 32 40.3 +0.2
KOLS **Kolonicke sedl** 97.69 318 *e*P Pdif 21 32 44.8 +1.0
KOLS **Kolonicke sedl** 97.69 318 *e*PDIFF Pdif 21 32 44.8 +1.0
NOA **NORSAR Array B** 104.13 331 PP **PKiKP** **21 37 29.6 +0.7**
comp=Z,1.0nm,0.8s,baz=84,slow=7.6,SNR=3.8
YKA **Yellowknife Ar** 117.21 23 PKP **PKiKP** **21 37 55.2 +1.7**
comp=Z,1.1nm,0.8s,baz=309,slow=1.2,SNR=16
DBIC **Dimbokro** 118.44 272 PKP **PKiKP** **21 37 59.0 +1.6**
comp=Z,4.5nm,0.9s,baz=155,slow=4.6,SNR=3.4
DBIC **Dimbokro** 118.44 272 PKIKP **PKiKP** **21 37 59.0 +1.6**

ESJX	Sierra Juarez	129.71	56			PKPdf	21 38 17.7	-1.1
ULM	Lac du Bonnet	133.07	25	PKP		PKiKP	21 38 26.2	+0.8
	comp=Z,1.2nm,0.6s,baz=316,slow=3.6,SNR=4.1							
TXAR	Lajitas Array	140.58	55	PKhKP		PKPpre	21 38 32.9	
	comp=Z,0.4nm,0.6s,baz=243,slow=1.4,SNR=6.2							
JCT	Junction City	143.16	51	PKIKP		PKPdf	21 38 42.8	-0.7
JCT	Junction City	143.16	51	PKPdf		PKPdf	21 38 42.8	-0.7
R40A	Maddies Statio	143.63	34	PKPdf		PKPdf	21 38 43.0	-1.0
P43A	Skaggs, Pawnee	144.08	30			PKPdf	21 38 43.5	-1.2
WHTX	Lake Whitney,	144.17	47	P			21 38 46.1	
	baz=302							
CCM	Cathedral Cave	144.36	34	PKIKP		PKPdf	21 38 44.9	-0.4
CCM	Cathedral Cave	144.36	34	PKPdf		PKPdf	21 38 44.9	-0.4
CCM	Cathedral Cave	144.36	34	P			21 38 45.2	
	baz=316							
MGMO	Mountain Grove	144.42	36	PKPdf		PKPdf	21 38 45.0	-0.5
L48A	N Adams	144.43	23			PKPdf	21 38 45.1	-0.2
G64A	Maxfield	144.56	2	P			21 38 46.1	
	baz=357							
U40A	Yellville	144.62	37			PKPdf	21 38 45.5	-0.3
U40A	Yellville	144.62	37	P			21 38 45.9	
	baz=312							
SFIN	Lafayette	144.65	27	P			21 38 46.4	
	baz=324							
H59A	Cadyville	144.72	8	P			21 38 46.4	
	baz=349							
W39A	Magazine	144.81	40	P			21 38 46.8	
	baz=310							
N47A	Urbana	144.84	25	PKPdf		PKPdf	21 38 45.8	-0.3
FVM	French Village	144.86	33	PKIKP		PKPdf	21 38 46.0	-0.1
FVM	French Village	144.86	33			PKPdf	21 38 46.0	-0.1
H58A	Gabriels	144.87	9	P			21 38 46.7	
	baz=348							
H60A	Morristown	144.94	7	P			21 38 47.3	
	baz=350							
H61A	Lyndonville	145.05	6	P			21 38 48.1	
	baz=352							
H63A	New Sharon	145.08	4	P			21 38 47.7	
	baz=355							
H62A	Milan	145.08	5	P			21 38 48.0	
	baz=353							
I57A	Carthage	145.09	11	P			21 38 47.2	
	baz=345							
T42A	Van Buren	145.18	35			PKPdf	21 38 46.3	-0.4
LBNH	Lisbon	145.34	6	P			21 38 48.7	
	baz=352							
MIAR	Mount Ida	145.35	40	P			21 38 49.2	
	baz=310							
FCAR	Ozark Folk Cen	145.37	37			PKPab	21 38 46.7	-0.5
N49A	Columbus Grove	145.41	23			PKPab	21 38 46.8	-0.3
M50A	Fremont	145.42	21			PKPab	21 38 46.8	-0.4
I58A	Old Forge	145.45	10	P			21 38 48.7	
	baz=346							
I59A	Olmsteadville	145.53	9	P			21 38 49.1	
	baz=348							
J57A	Williamstown	145.53	12			PKPab	21 38 46.8	-0.7
J57A	Williamstown	145.53	12	P			21 38 49.1	
	baz=344,SNR=6.1							
I60A	Shoreham	145.56	8	P			21 38 49.6	
	baz=349							
I63A	Otisfield	145.65	5	P			21 38 50.7	
	baz=354							
WHAR	Wooly Hollow	145.67	38			PKPab	21 38 47.3	-1.0
J59A	Piesco	145.75	10	P			21 38 49.9	
	baz=347							
I62A	Tamworth	145.76	6	P			21 38 50.4	
	baz=353							
ERPA	Erie	145.77	17	P			21 38 49.8	
	baz=337,SNR=5.2							
W41B	Gary Mavity, V	145.77	38	P			21 38 49.7	
	baz=312							
L53A	Girard	145.84	18	P			21 38 49.9	
	baz=336,SNR=6.2							
X40A	Basin Creek Fa	145.86	40	P			21 38 51.4	
	baz=310							
WVNY	West Valley, N	145.89	15			PKPab	21 38 47.7	-1.2
K57A	Scipio Center	146.08	13	P			21 38 50.6	
	baz=343							
J61A	Chester	146.15	7	P			21 38 51.5	
	baz=350							
M53A	Wt Miller and	146.18	19	P			21 38 51.2	
	baz=336,SNR=6.3							
P49A	Miami Univ. Ec	146.37	25	P			21 38 51.6	
	baz=328,SNR=7.2							
L56A	Greenwood	146.40	14	P			21 38 51.8	
	baz=341							
M54A	Oil Creek Stat	146.43	17	P			21 38 51.8	
	baz=337							
ACSO	Alum Creek Sta	146.46	22	P			21 38 52.0	
	baz=331,SNR=6.2							
Z41A	Richland Creek	146.66	42	P			21 38 53.7	
	baz=309							
WCI	Wyandotte Cave	146.75	28	PKP2		PKiKP	21 38 52.6	-1.2
WCI	Wyandotte Cave	146.75	28	PKPab		PKiKP	21 38 52.6	-1.2
WCI	Wyandotte Cave	146.75	28	P			21 38 52.5	
	baz=324							
N54A	Moraine State	146.83	18	P			21 38 53.1	
	baz=336,SNR=5.2							
M56A	Emporium	146.86	15			PKPab	21 38 50.9	-1.8
M56A	Emporium	146.86	15	P			21 38 52.7	
	baz=340							
L58A	Harry Jones Me	146.87	12	P			21 38 53.4	
	baz=344							
L59A	Walton	146.89	11	P			21 38 53.3	
	baz=346							
O53A	New Philadelph	147.08	20	P			21 38 53.5	
	baz=334							
M57A	Sunshine Farm,	147.26	14	P			21 38 54.3	
	baz=342							
P52A	Corning	147.30	22	P			21 38 54.1	
	baz=332							
N56A	West Decatur	147.36	16	P			21 38 54.5	
	baz=339							
M58A	Price's Panora	147.39	13	P			21 38 54.7	
	baz=343							
M59A	Waymart	147.44	12	P			21 38 54.9	
	baz=345							
R50A	Paris	147.59	26			PKPbc	21 38 53.2	-0.2
WVT	Waverly	147.62	32	P			21 38 55.5	
	baz=320							
N57A	Milroy	147.71	15	P			21 38 55.4	
	baz=340							
N59A	State Game Lan	147.97	13	P			21 38 56.5	
	baz=344							
ODNJ	Ogdensburg	148.04	11			PKPab	21 38 56.8	-0.5
MCWV	Mont Chateau	148.06	19	P			21 38 56.8	
	baz=336							
Y45A	Yeager Farm, C	148.30	37	PKPab		PKPab	21 38 58.3	-0.3
T50A	Nancy	148.40	28	PKPbc		PKiKP	21 38 55.5	-1.8
V48A	Smith Brothers	148.44	32	PKPbc		PKPab	21 38 57.4	-1.7
P56A	Dayton Farm, R	148.52	18	P			21 38 57.9	
	baz=338							
BDFB	Brasilia	148.54	217	PKPbc		PKPab	21 38 59.9	-0.2
	comp=Z,3.0nm,0.8s,baz=137,slow=8.7,SNR=5.2							
P57A	Homestead Farm	148.77	17	P			21 38 58.2	
	baz=339							
Q56A	Snyder Ridge,	148.84	18	P			21 38 58.5	
	baz=337							
Q57A	Strasburg	149.08	17	P			21 38 58.8	
	baz=338							
S54A	Dingess, Beckl	149.22	22	P			21 38 59.5	
	baz=332							
X48A	Hartselle	149.30	34			PKiKP	21 38 57.9	-1.3
R56A	Bull Pasture M	149.34	19	P			21 39 00.1	
	baz=336							
Q58A	Fox Den Farm,	149.37	16	P			21 38 59.8	
	baz=339							
R57A	Stanardsville	149.72	18	P			21 39 01.1	
	baz=337							
R58A	Rapidan	149.88	17	P			21 39 01.5	
	baz=338							
R58B	Mineral	150.22	17	P			21 39 02.2	
	baz=338							
T56A	Rocky Mt	150.37	21	P			21 39 02.4	
	baz=334							
LRAL	Lakeview Retre	150.38	35	P			21 39 02.8	
	baz=317							
S58A	Poland Farm, P	150.50	18	P			21 39 03.0	
	baz=338							
T57A	Hurt	150.67	20	P			21 39 03.3	
	baz=335							
U56A	King	150.85	22	P			21 39 03.8	
	baz=332							
T58A	Grand View Acr	150.96	19	P			21 39 03.8	
	baz=336							
U57A	Blanch	151.15	21	P			21 39 04.1	
	baz=334							
V56A	Mocksville	151.28	23	P			21 39 04.6	
	baz=332							
U58A	Oxford	151.46	20	P			21 39 04.6	
	baz=336							
V57A	Coltrane Farms	151.48	22	P			21 39 05.2	
	baz=333							
KMSC	Kings Mountain	151.52	25	P			21 39 05.3	
	baz=330							
BRAL	Brewton	151.68	38	P			21 39 06.8	
	baz=315							
GOGA	Godfrey	151.98	30	P			21 39 06.5	
	baz=324							

IDC ***15*** *21:20:50.1±33.0, 17°.54N×122°.92E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/63, mbtmp3.4/4, Error ellipse: s-maj=614.0km s-min=66.8km az=147.0*

MAN ***15*** *21:20:56.7, 18°.23N×122°.57E, h14km, mb4.5, ML3.3, MS3.2*

ISC 15 21:20:54.2±0.9, 17°.99N±0°.04×122°.66E±0°.07, h10km, n12, σ1§42/17, mb3.5/3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.63	293		*e*P	Pb	21 21 06.7	-0.7
SGCP					*e*S	Sg	21 21 12.9	-1.9
CAUP	Cauayan	1.31	217		*e*P	Pg	21 21 25.9	+6.5
APYP	Conner	1.35	265		*e*P	Pg	21 21 20.2	0.0
APYP					*e*S	Sg	21 21 37.8	+0.1
BALP	Baler	2.46	205		*e*P	Pg	21 21 42.0	+0.5
BALP					*e*S	Sg	21 22 13.7	+0.2
BBP	Basco	2.52	345		*e*P	Pn	21 21 33.8	-1.5
POLP	Polilio Island	3.32	192		*e*P	Pb	21 21 52.5	-0.7
POLP					*e*S	Sb	21 22 33.9	+0.2
JCNP	Jose Panganiba	3.68	179		*e*P	Pb	21 21 58.4	-1.0
JCNP					*e*S	Sb	21 22 40.9	-3.3
LQP	Lukban	4.00	196	↓	*e*P	Pg	21 22 11.2	+0.2
LQP					*e*S	Sb	21 22 55.2	+1.6
KSRS	Korea Array	19.93	12		P	Pn	21 25 27.6	-0.3
	0.4nm,0.3s,baz=192,slow=11,SNR=5.0							
SONM	Songino Array	32.60	340		P	P	21 27 27.9	+1.8
	0.2nm,0.7s,baz=164,slow=10.0,SNR=2.5							
MKAR	Makanchi Array	43.84	320		P	P	21 29 02.3	+1.7
	0.6nm,0.8s,baz=112,slow=8.9,SNR=6.5							
KURBB	Kurchatov Arra	47.79	323		P	P	21 29 32.8	+1.1
	0.5nm,0.7s,baz=119,slow=7.6,SNR=4.2							

IDC ***15*** *21:21:15.2±5.6, 0°.03N×17°.96W, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.6/47, mbtmp4.1/5, ML4.2/2, MS3.2/3, Ms1 3.2/3, ms1mx3.0/31, Error ellipse: s-maj=188.3km s-min=34.0km az=163.0*

ISC 15 21:21:20.3±2.5, 0°.8N±0°.5×18°.0W±0°.2, h10km, n14, σ1§98/9, mb4.0/3, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	9.21	158		T	T	21 31 57.7	
	baz=335,slow=73,SNR=17							
H10N3	ASCENSION HYDR	9.21	158		T	T	21 32 01.0	
	baz=335,slow=73,SNR=26							
H10N1	ASCENSION HYDR	9.22	158		T	T	21 31 45.3	
	baz=335,slow=73,SNR=143							
H10S3	ASCENSION HYDR	10.19	161		T	T	21 33 38.3	
	baz=339,slow=74,SNR=22							
H10S2	ASCENSION HYDR	10.20	161		T	T	21 33 49.0	
	baz=241,slow=74,SNR=7.3							
LIC	Lamto	13.99	67		*e*P	P	21 24 46.8	0.0
	45nm,1.3s							
TIC	Toumodi	14.16	65		*e*P	Pn	21 24 43.2	+2.1
KIC	Kosan Boka	14.30	67		*e*P	Pn	21 24 45.0	+1.9
	7.8nm,0.4s							
DBIC	Dimbokro	14.32	65	Pn		Pn	21 24 43.5	+0.2
	2.0nm,0.3s,baz=236,slow=15,SNR=27							
DBIC				Sn		Sn	21 27 19.3	-2.9
	0.6nm,0.3s,baz=134,slow=17,SNR=4.7							
RCBR	Riachuelo	19.08	250	LR		LR	21 31 18.0	
	comp=Z,37nm,20.7s,baz=138,slow=32							
KOWA	Kowa	19.39	45	P		Pn	21 25 49.9	+2.2
	0.3nm,0.3s,baz=243,slow=9.3,SNR=13							
KOWA				LR		LR	21 32 36.7	
	comp=Z,135nm,18.7s,baz=192,slow=34							
TORD	Torodi Ar. Bea	23.02	57	P		P	21 26 26.4	+0.6
	4.6nm,0.9s,baz=242,slow=9.4,SNR=9.3							
TORD				LR		LR	21 33 45.1	
	comp=Z,66nm,18.7s,baz=335,slow=32							
FINES	FINESS Array B	69.08	21	P		P	21 32 26.2	0.0
	2.1nm,1.0s,baz=225,slow=4.6,SNR=4.5							
TXAR	Lajitas Array	85.89	299	P		P	21 33 59.9	-1.3
	0.3nm,0.8s,baz=120,slow=5.3,SNR=4.2							

MOS ***15*** *21:29:53.7±1.0, 15°.07S×166°.74E, h33km, mb5.5/29, MS4.7/4, Error ellipse: s-maj=7.9km s-min=6.3km az=129.9*

IDC ***15*** *21:29:54.9±1.5, 15°.08S×166°.90E, h33km±10km, mb4.8/25, mb1 4.9/27, mb1mx4.9/34, mbtmp5.0/27, ML4.9/2, MS4.8/35, Ms1 4.8/35, ms1mx4.7/44, Error ellipse: s-maj=15.2km s-min=12.2km az=88.0*

NOU ***15*** *21:29:55.8, 15°.11S×166°.79E, h29km, mb5.4, Vanuatu Islands*

BJI ***15*** *21:29:56.0±0.0, 15°.10S×166°.90E, h60km, mB5.3/50, mb5.2/74, Ms5.0/50, Ms7 4.8/51*

GCMT ***15*** *21:29:57.1±0.1, 15°.12S±0°.01×166°.62E±0°.01, h30km, MW5.4/126, Moment Tensor Solution. s126,c208; s118,c186; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr1.22±.02; Mθθ-0.16±.02; Mφφ-1.06±.02; Mrθ0.35±.03; Mθφ0.53±.01; Mφr-0.55±.03; Best double couple: M01.42000×10^17 NP1:φ§339.00000°, δ32.00000°, λ96.00000°. NP2:φ§151.00000°, δ59.00000°, λ86.00000°. Principal axes: T 1.3780, Plg76.0000°, Azm50.0000°; N 0.0800, Plg3.0000°, Azm153.0000°; P -1.4620, Plg13.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *21:29:59.1±1.2, 15°.18S±0°.08×166°.78E±0°.09, h75km±4km, mb5.2/217 Error ellipse: s-maj=12.7km s-min=11.0km az=79.0*

ISC 15 21:29:57.3±0.5, 15°.21S±0°.04×166°.84E±0°.05, h57km±3km, h57km:pP-P, n571, σ1§60/543, mb5.2/166, MS4.8/57, 36C-20D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	5.55	176		P	Pn	21 31 16.6	-0.8
KOUNC	Koumac, New Ca	5.84	204		P	Pn	21 31 20.8	-0.6
MARNC	Mare, Loyalty	6.34	170		P	Pn	21 31 28.9	+0.7
YATNC	Mamie plateau,	6.82	180		P	Pn	21 31 34.0	-0.7
DZM	Mont Dzumac	6.84	183		*e*P	Pn	21 31 34.3	-0.8
	125nm,0.3s							
DZM					*e*Sn	Sn	21 32 44.7	-7.0
	153nm,0.3s							
DZM					*e*LR	LR	21 33 05.8	
	comp=Z,18μm,23.9s							
DZM	Mont Dzumac	6.84	183	Pn		Pn	21 31 34.0	-1.1
	18nm,0.3s,baz=359,slow=13,SNR=111							
DZM					Sn	Sn	21 32 48.3	-3.4
	baz=31,slow=12,SNR=1.6							
DZM					LR	LR	21 34 10.6	
	comp=Z,15μm,18.3s,baz=357,slow=37							
DZM	Mont Dzumac	6.84	183			Pn	21 31 34.5	-0.7
DZM					Sn	Sn	21 32 52.0	+0.4
DZM	Mont Dzumac	6.84	183	P		Pn	21 31 33.9	-1.2
ONTNC	Ouen Toro	7.07	183	P		Pn	21 31 38.1	-0.1
OUENC	Ouen Island, N	7.17	180	P		Pn	21 31 39.7	+0.1
HNR	Honiara	8.84	310	Pn		Pn	21 32 00.9	-1.6
	17nm,0.3s,baz=195,slow=8.6,SNR=5.6							
HNR				LR		LR	21 35 09.5	
	comp=Z,8μm,19.3s,baz=152,slow=36							
HNR	Honiara	8.84	310			Pn	21 32 00.4	-2.1
HNR	Honiara	8.84	310	P		Pn	21 32 00.5	-2.1
MSVF	Nonsavu	11.05	105	Pn		Pn	21 32 33.9	+1.2
	1.3nm,0.3s,baz=269,slow=9.0,SNR=22							
MSVF				LR		LR	21 36 01.1	
	comp=Z,16μm,18.1s,baz=294,slow=33							
MSVF	Nonsavu	11.05	105	*i* P		Pn	21 32 35.9	+3.2
MSVF	Nonsavu	11.05	105	Pn		Pn	21 32 34.7	+2.0
MSVF	Nonsavu	11.05	105	P		Pn	21 32 33.5	+0.8
EIDS	Eidsvold	17.89	233	P		Pn	21 34 05.7	+3.5
PMG	Port Moresby	20.06	284	P		Pn	21 34 27.6	-0.7
	36nm,0.9s,baz=68,slow=7.8,SNR=5.1							
PMG					LR	LR	21 41 30.2	
	comp=Z,3μm,18.3s,baz=73,slow=35							
PMG	Port Moresby	20.06	284	*i* P		Pn	21 34 27.5	-0.8
PMG					pmax	pmax		
	comp=Z,30nm,0.8s							
PMG	Port Moresby	20.06	284			Pn	21 34 30.9	+2.6
PMG	Port Moresby	20.06	284		P	P	21 34 26.5	+0.4
CTA	Charters Tower	20.20	253		P	P	21 34 28.2	+0.6
	comp=Z,55nm,0.9s,baz=80,slow=14,SNR=34							
CTA					LR	LR	21 41 50.5	
	comp=Z,5μm,18.1s,baz=83,slow=35							
CTAO	Charters Tower	20.20	253		P	P	21 34 28.2	+0.6
CTAO					pmax	pmax		
	comp=Z,84nm,1.0s							
CTAO	Charters Tower	20.20	253		P	P	21 34 28.2	+0.6
CTAO					IAmb	IAmb	21 34 30.5	
	comp=Z,84nm,0.9s							
ARMA	Armidale	20.60	220		P	P	21 34 31.7	-0.2
AFI	Afiamalu	20.74	89		LR	LR	21 40 43.1	
	comp=Z,2μm,20.4s,baz=256,slow=31							
AFI	Afiamalu	20.74	89		P	P	21 34 33.9	+0.4
AFI					pmax	pmax		
	comp=Z,124nm,1.0s							
AFI	Afiamalu	20.74	89		P	P	21 34 33.9	+0.4
AFI					IAmb	IAmb	21 34 50.6	
	comp=Z,124nm,1.0s							
AFI	Afiamalu	20.74	89		P	Pn	21 34 36.5	+0.1
OUZ	Omahuta	20.83	164		P	Pn	21 34 37.8	+0.5
OUZ					IAmb	IAmb	21 34 42.3	
	comp=Z,134nm,0.9s							
COEN	Coen	22.93	270		P	P	21 34 56.2	-0.7
PATS	Pohnpei	23.47	338		P	P	21 35 01.8	-0.2
HIZ	Hauiti	24.27	165		P	P	21 35 10.7	+1.6
HIZ					IAmb	IAmb	21 35 25.2	
	comp=Z,97nm,1.1s							
KNTN	Kanton	24.48	62		P	P	21 35 13.4	+2.1
URZ	Urewera	24.69	160		P	P	21 35 15.5	+2.5
	comp=Z,30nm,0.8s,baz=289,slow=7.6,SNR=4.3							
URZ					LR	LR	21 44 20.3	
	comp=Z,2μm,19.1s,baz=30,slow=35							
URZ	Urewera	24.69	160		P	P	21 35 13.3	+0.4
BKZ	Black Stump Fm	25.33	162		P	P	21 35 20.3	+1.4
BKZ					IAmb	IAmb	21 35 36.6	
	comp=Z,48nm,0.7s							
TUWZ	Tuamarina	26.85	168		P	P	21 35 34.5	+2.1
THZ	Tophouse	26.98	170		P	P	21 35 35.4	+1.8
THZ					IAmb	IAmb	21 35 43.2	
	comp=Z,217nm,2.0s							
MSWZ	Moikau Station	27.12	166		P	P	21 35 35.7	+0.8
PLWZ	Palliser	27.26	166		P	P	21 35 37.2	+0.9
KHZ	Kahutara	27.72	169		P	P	21 35 42.1	+1.9
KHZ					IAmb	IAmb	21 35 44.8	
	comp=Z,128nm,1.5s							
LTZ	Lake Taylor	27.88	171		P	P	21 35 42.1	+0.4
LTZ					IAmb	IAmb	21 35 48.3	
	comp=Z,44nm,0.7s							
STKA	Stephens Creek	28.37	230		P	P	21 35 48.7	+2.5
	comp=Z,14nm,1.1s,baz=54,slow=10,SNR=8.4							
STKA					LR	LR	21 46 23.6	
	comp=Z,3μm,20.6s,baz=61,slow=35							
STKA	Stephens Creek	28.37	230		P	P	21 35 47.7	+1.5
STKA					pmax	pmax		
	comp=Z,4.0nm,0.9s							
STKA	Stephens Creek	28.37	230		P	P	21 35 47.6	+1.5
OXZ	Oxford	28.38	172		P	P	21 35 46.5	+0.4
OXZ					IAmb	IAmb	21 36 01.7	
	comp=Z,164nm,1.8s							
RPZ	Rata Peaks	28.64	174		P	P	21 35 49.1	+0.6
	comp=Z,23nm,0.8s,baz=119,slow=4.2,SNR=6.7							
RPZ					LR	LR	21 47 32.5	
	comp=Z,2μm,18.1s,baz=359,slow=37							
RPZ	Rata Peaks	28.64	174		P	P	21 35 48.8	+0.3
RPZ					IAmb	IAmb	21 36 37.4	
	comp=Z,156nm,1.6s							
TOO	Toolangi	29.22	216		P	P	21 35 53.6	-0.1
TOO					pmax	pmax		
	comp=Z,18nm,1.0s							
TOO	Toolangi	29.22	216		P	P	21 35 53.6	-0.1
WR0	Warramunga Arr	31.12	257		P	P	21 36 10.5	-0.2
WB0	Warramunga Arr	31.25	257		P	P	21 36 11.3	-0.5
WB2	Warramunga Arr	31.29	257		P	P	21 36 11.7	-0.6
WRAB	Tennant Creek	31.30	257		P	P	21 36 11.4	-0.8
WRAB					pmax	pmax		
	comp=Z,17nm,1.0s							
WRAB	Tennant Creek	31.30	257		P	P	21 36 11.4	-0.8
WRA	Warramunga Arr	31.30	257		P	P	21 36 11.8	-0.5
	comp=Z,9.3nm,0.9s,baz=83,slow=9.3,SNR=26							
WRA					PcP	PcP	21 39 05.9	+0.4
	comp=Z,4.6nm,0.9s,baz=84,slow=2.9,SNR=4.5							
WRA					PKiKP	PKiKP	21 46 34.3	-1.1
	comp=Z,1.2nm,0.8s,baz=20,slow=0.7,SNR=6.4							
WRA					LR	LR	21 48 38.1	
	comp=Z,5μm,18.1s,baz=80,slow=36							
AS31	Alice Springs	32.11	250		P	P	21 36 19.0	-0.4
ASAR	Alice Springs	32.11	250		P	P	21 36 18.8	-0.6
	comp=Z,23nm,1.1s,baz=78,slow=9.1,SNR=56							
ASAR					PcP	PcP	21 39 08.2	+0.5
	comp=Z,3.6nm,0.8s,baz=75,slow=3.0,SNR=4.4							
ASAR					PKiKP	PKiKP	21 46 34.4	-1.5
	comp=Z,0.8nm,0.8s,baz=107,slow=1.5,SNR=5.1							
ASAR					LR	LR	21 48 49.1	
	comp=Z,4μm,18.9s,baz=80,slow=35							
BBOO	Buckleboo	32.96	232		P	P	21 36 26.5	-0.1
BBOO					IAmb	IAmb	21 36 42.2	
	comp=Z,23nm,0.8s							
WAKE	Wake Island	34.27	360		P	P	21 36 38.0	-0.1
FAKI	Fak Fak	36.20	286		P	P	21 36 55.6	+0.8
FAKI					IAmb	IAmb	21 37 03.4	
	comp=Z,46nm,1.2s							
SIJI	Sorong	37.90	289		LR	LR	21 52 39.5	
	comp=Z,1μm,21.0s,baz=104,slow=36							
SWI	Sorong	37.90	289		P	P	21 37 17.9	+8.6
FORT	Forrest	38.70	240		P	P	21 37 16.6	+0.8
FITZ	Fitzroy Crossi	39.52	260		LR	LR	21 53 40.6	
	comp=Z,4μm,18.4s,baz=86,slow=36							
FITZ	Fitzroy Crossi	39.52	260		P	P	21 37 22.5	-0.3
FITZ					IAmb	IAmb	21 37 27.0	
	comp=Z,39nm,0.8s							
NLAI	Namlea	40.90	283		P	P	21 37 43.7	+9.4
PPT2	Papeete2	41.82	99		*e*S	S	21 44 10.9	+15
	comp=Z,464nm,26.5s							
PPT2					*e*LQ	LQ	21 47 51.3	
	comp=Z,2μm,28.8s							
PPT2					*e*LR	LR	21 49 43.6	
	comp=Z,2μm,24.8s,baz=253							
PPT	Papeete	41.82	99		LR	LR	21 50 21.3	
	comp=Z,783nm,21.8s,baz=233,slow=29							
SOEI	Soe	41.86	272		P	P	21 37 41.8	-0.5
SOEI					IAmb	IAmb	21 38 32.5	
	comp=Z,47nm,1.0s							
SOEI	Soe	41.86	272		P	P	21 37 50.0	+7.6
TBI	Tubuai	41.91	108		*e*S	S	21 44 10.8	+14
	comp=Z,382nm,29.2s							
TBI					*e*LQ	LQ	21 47 53.7	
	comp=

comp=Z,33nm,0.8s
PLAI Plampang 48.32 272 P P 21 38 35.5 +2.0
TOLI2 Tolitoli 48.33 285 P P 21 38 33.1 -0.4
MORW Morawa 48.68 245 P P 21 38 36.0 -0.1
MORW IAmb IAmb 21 38 38.1
comp=Z,32nm,0.8s
TWSI Taliwang, Sumb 49.20 272 P P 21 38 42.3 +2.0
OPA Opana 50.33 44 P P 21 38 48.7 +0.1
OPA pmax pmax
comp=Z,728nm,1.8s
OPA Opana 50.33 44 P P 21 38 48.6 +0.1
HMH Humu'ula Sheep 50.70 48 P P 21 38 51.4 -0.4
DNP Denpasar 50.83 271 P P 21 38 56.5 +3.9
HLK Haleakala 50.91 46 P P 21 38 52.9 -0.4
SRBI Singaraja 50.96 272 P P 21 38 55.3 +1.8
KBKI Kotabaru 51.26 278 P P 21 38 57.5 +1.7
JAGI Jajag, Banyuwa 51.90 271 P P 21 38 59.6 -0.9
JAGI Jajag, Banyuwa 51.90 271 P P 21 39 01.2 +0.6
ABJI Asem Bagus 51.97 272 P P 21 39 03.2 +2.1
MYLDM Lahad Datu 51.99 289 P P 21 39 00.6 -0.6
BBKI Banjar Baru 52.48 277 P P 21 39 06.9 +2.0
MTKI Muara Teweh, K 53.18 280 P P 21 39 12.0 +1.9
TGY Tagaytay City 53.93 300 LR LR 22 00 14.5
comp=Z,450nm,21.7s,baz=131,slow=34
KKM Kota Kinabalu 54.42 289 P P 21 39 18.3 -0.9
RKT Rikitea 55.23 108 *e*S S 21 47 17.0 +12
comp=Z,581nm,32.5s
RKT *e*LR LR 21 55 56.3
comp=Z,2µm,24.0s
SBUM Sibu 56.81 283 P P 21 39 35.8 -0.5
SBUM IAmb IAmb 21 39 39.2
comp=Z,26nm,1.2s
SBUM Sibu 56.81 283 P P 21 39 38.0 +1.7
INU Inuyama 57.68 331 P P 21 39 41.9 -0.1
JGF Kuroka 57.73 332 P P 21 39 42.2 -0.2
JGF IAmb IAmb 21 39 52.5
comp=Z,20nm,0.7s
JMN Monobe 57.92 328 P P 21 39 43.5 -0.3
JSU Suzuyama 58.11 323 P P 21 39 44.9 -0.1
MJAR Matsushiro Arr 58.13 333 P P 21 39 44.0 -1.1
comp=Z,14nm,0.9s,baz=168,slow=8.0,SNR=38
MJAR LR LR 22 02 40.4
comp=Z,128nm,21.9s,baz=170,slow=34
MJAR Matsushiro Arr 58.13 333 P P 21 39 44.1 -1.1
MAJO Matsushiro 58.14 333 P P 21 39 45.1 -0.1
MAJO pmax pmax
comp=Z,29nm,0.9s
MAJO Matsushiro 58.14 333 P P 21 39 45.1 -0.1
MAJO IAmb IAmb 21 39 50.1
comp=Z,29nm,0.9s
MAT Matsushiro 58.14 333 P P 21 39 43.2 -2.0
MAT *e*S **S** 21 47 39.4 -3.0
JMM Marumori 58.19 336 P P 21 39 45.3 -0.1
KSM Kuching 58.29 281 P P 21 39 47.5 +0.8
KSM Kuching 58.29 281 P P 21 39 48.0 +1.3
JWT Wachi 58.40 330 P P 21 39 46.6 -0.4
JWT IAmb IAmb 21 39 52.5
comp=Z,37nm,1.1s
LEM Lembang 58.57 271 P P 21 39 48.8 -0.1
comp=Z,74nm,0.8s,baz=347,slow=23,SNR=16
JNU Nakatsue 59.07 325 P P 21 39 51.4 -0.4
JHS Saijyo 59.31 328 P P 21 39 52.9 -0.5
JSD Sado 59.37 334 P P 21 39 53.5 -0.2
YHNB Yeheng 59.48 311 P P 21 39 54.2 -0.6
JTM Tenmabayashi 60.62 338 P P 21 40 02.5 +0.3
ERM Erimo 60.98 340 P P 21 40 05.3 +0.7
ERM pmax pmax
comp=Z,23nm,0.9s
ERM Erimo 60.98 340 P P 21 40 05.3 +0.7
ERM IAmb IAmb 21 40 33.1
comp=Z,23nm,0.9s
QZH Quanzhou 61.68 310⇓ *i*P **P 21 40 11.8 +2.1**
QZH S **S** 21 48 28.5 +0.2
QZH LR LR
comp=Z,240nm,17.1s
QZH LR LR
comp=Z,380nm,17.4s
QZH LR LR
comp=Z,350nm,17.4s
YUK Yuzh-Kuril'sk 61.99 343 *e*P **P 21 40 10.4 -1.0**
YUK *i* S **S** 21 48 29.3 -2.1
YUK pmax pmax
comp=Z,141nm,1.3s
YUK pmax pmax
comp=N,99nm,0.8s
YUK pmax pmax
comp=E,103nm,1.0s
VNDA Vanda 62.38 181 P **P 21 40 15.1 +1.5**
comp=E,14nm,0.7s,baz=1.7,slow=6.3,SNR=58
VNDA LR LR 22 05 30.9
comp=E,465nm,18.1s,baz=2.5,slow=34
VNDA Vanda 62.38 181 P **P 21 40 15.1 +1.5**
VNDA pmax pmax
comp=Z,21nm,0.8s
VNDA Vanda 62.38 181 P **P 21 40 15.1 +1.5**
VNDA IAmb IAmb 21 40 17.5
comp=Z,21nm,0.8s
SBA Scott Base 62.66 180 P **P 21 40 16.8 +1.3**
SBA pmax pmax
comp=Z,95nm,0.9s
SBA Scott Base 62.66 180 P **P 21 40 16.8 +1.3**
CASY Casey 62.93 202 P **P 21 40 19.2 +1.8**
JKA Kamikawa-asahi 63.05 341 P **P 21 40 19.6 +1.2**
ASAJ Asahikawa 63.05 341 P **P 21 40 17.9 -0.6**
comp=Z,46nm,0.8s,baz=211,slow=9.1,SNR=22
ASAJ Asahikawa 63.05 341 P **P 21 40 19.6 +1.2**
ASAJ pmax pmax
comp=Z,91nm,1.1s
TJN Taejon 63.41 325 *i* P **P 21 40 21.1 +0.1**
KSRS Korea Array 63.90 326 P **P 21 40 24.3 +0.1**
comp=Z,8.4nm,0.9s,baz=139,slow=7.0,SNR=41
KSRS LR LR 22 06 22.6
comp=Z,204nm,20.6s,baz=154,slow=34
KSAR Wonju Array Be 63.91 326 P **P 21 40 24.1 -0.2**
KSAR Wonju Array Be 63.91 326 P **P 21 40 24.1 -0.2**
KS19 Wonju Array Si 63.96 326 P **P 21 40 24.5 -0.2**
YSS Yuzh-Sakhalins 65.55 342 *e*P **P 21 40 35.5 +0.8**
YSS *e**SP **sP 21 40 59.8 +3.1**
YSS *e*S **S** 21 49 15.8 +0.3
YSS *e* 21 49 34.0
YSS pmax pmax
comp=Z,90nm,0.9s
YSS pmax pmax
comp=Z,200nm,6.4s
YSS Yuzh-Sakhalins 65.55 342 P **P 21 40 35.3 +0.5**
QIZ Qiongzhong 65.60 299 P **P 21 40 36.6 +0.9**
QIZ S **S** 21 49 19.0 +1.7
QIZ SS **SS** 21 53 34.8 +2.4
QIZ LR LR
comp=Z,190nm,18.9s
QIZ LR LR
comp=Z,190nm,22.3s
QIZ LR LR
comp=Z,410nm,18.6s
NJ2 Nanjing 65.73 316 *e*P **P 21 40 36.3 +0.1**
NJ2 pP **pP 21 40 48.8 -3.3**
NJ2 pmax pmax
comp=Z,24nm,1.0s
NJ2 LR LR
comp=Z,440nm,19.7s
NJ2 LR LR
comp=Z,590nm,19.2s
NJ2 LR LR
comp=Z,640nm,21.8s
TEY Ternei 65.94 337⇓ *e*P **P 21 40 36.4 -0.9**
TEY pmax pmax
comp=E,10.0nm,1.0s
TEY pmax pmax
comp=Z,20nm,1.3s
TEY pmax pmax
comp=N,10.0nm,1.0s
USA0B Ussuriysk Arra 67.12 334 P **P 21 40 44.8 0.0**
USA0B pmax pmax
comp=Z,58nm,1.3s
USA0B Ussuriysk Arra 67.12 334 P **P 21 40 44.8 0.0**
USA0B IAmb IAmb 21 40 51.4
comp=Z,58nm,1.2s
USRK Ussuriysk Ar. 67.12 334 P **P 21 40 45.4 +0.5**
comp=Z,28nm,1.0s,baz=137,slow=5.1,SNR=33
USRK LR LR 22 08 09.3
comp=Z,167nm,19.9s,baz=136,slow=34
USRK Ussuriysk Ar. 67.12 334 P **P 21 40 45.7 +0.9**
USRK Ussuriysk Ar. 67.12 334 P **P 21 40 45.7 +0.9**
UGL Uglegorsk 67.67 343⇓ *i*P **P 21 40 49.4 +1.2**
UGL *e*S S 21 49 50.7 +10
UGL pmax pmax
comp=Z,70nm,0.9s
UGL smax smax
comp=E,1µm,19.0s
UBPT Khong Chiam 67.78 294 P **P 21 40 48.9 -0.6**
WHN Wuhan 67.95 312⇑ P **P 21 40 51.1 +0.7**
WHN pmax pmax
comp=E,38nm,0.8s
WHN LR LR
comp=E,1µm,22.3s
IPM Ipoh 68.03 281 P **P 21 40 50.7 -0.6**
IPM IAmb IAmb 21 40 53.5
comp=Z,26nm,0.9s
IPM Ipoh 68.03 281 P **P 21 40 52.0 +0.7**
PET Petropavlovsk 68.31 355 *e*P **P 21 40 53.1 +0.9**
PET *e*S **S 21 49 51.3 +2.7**
PET pmax pmax
comp=Z,73nm,1.5s
PET pmax pmax
comp=Z,200nm,12.7s
PET MLR MLR
comp=Z,400nm,18.0s
PET Petropavlovsk 68.31 355 P **P 21 40 52.4 +0.3**
DL2 Dalian 68.43 323 P **P 21 40 54.0 +0.8**
DL2 pP **pP 21 41 12.0 +2.8**
DL2 S **S 21 49 53.3 +2.7**
DL2 pmax pmax
comp=Z,75nm,0.9s
DL2 pmax pmax
comp=Z,370nm,5.0s
DL2 LR LR
comp=Z,270nm,18.3s
DL2 LR LR
comp=Z,340nm,16.1s
DL2 LR LR
comp=Z,360nm,22.2s
PEA0B Petropavlovsk- 68.49 354 P **P 21 40 53.5 +0.2**
PEA0B pmax pmax
comp=Z,64nm,0.9s
PEA0B Petropavlovsk- 68.49 354 P **P 21 40 53.5 +0.2**
PETK Petropavlovsk- 68.49 354 P **P 21 40 53.0 -0.3**
comp=Z,46nm,0.8s,baz=145,slow=6.8,SNR=50
PETK LR LR 22 05 32.7
comp=Z,562nm,21.9s,baz=160,slow=31
MDJ Mudanjiang 68.50 332 P **P 21 40 53.8 +0.2**
MDJ S **S 21 49 55.8 +4.5**
MDJ ScS **SKSac 21 50 46.3 -1.3**
MDJ pmax pmax
comp=Z,36nm,1.0s
MDJ pmax pmax
comp=Z,270nm,8.9s
MDJ LR LR
comp=Z,310nm,22.7s
MDJ LR LR
comp=Z,240nm,15.7s
MDJ LR LR
comp=Z,520nm,21.2s
MDJ Mudanjiang 68.50 332 P **P 21 40 53.1 -0.5**
MDJ IAmb IAmb 21 40 59.9
comp=Z,45nm,1.1s
KULM Kulim 68.64 282 P **P 21 40 53.9 -1.2**
KULM IAmb IAmb 21 40 57.3
comp=Z,25nm,1.0s
TYV Tymovskoe 69.11 344 *e*P **P 21 40 57.2 0.0**
TYV pmax pmax
comp=Z,13nm,1.1s
TIA Tai'an 69.42 319 P **P 21 40 59.3 -0.2**
TIA pmax pmax
comp=Z,10.0nm,0.7s
TIA pmax pmax
comp=Z,160nm,3.6s
TIA LR LR
comp=Z,420nm,17.1s
TIA LR LR
comp=Z,300nm,16.4s
TIA LR LR
comp=Z,380nm,16.4s
RPSI Rantau Prapat 69.48 279 P **P 21 40 59.2 -1.1**
RPSI IAmb IAmb 21 41 01.8
comp=Z,36nm,1.1s
PSI Prapat 69.52 279 P **P 21 40 59.2 -1.5**
PSI pmax pmax
comp=Z,36nm,1.1s
CN2 Changchun 69.84 329⇑ P **P 21 41 02.1 +0.2**
CN2 *e*S **S 21 50 05.3 -1.7**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,500nm,19.0s
GSI Gunungsitoli 70.37 277 P **P 21 41 04.8 -1.0**
GRNR Gornyy 70.89 340⇓ *i*P **P 21 41 09.2 +1.0**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,150nm,16.0s
NIKH Nikolski High 71.06 15 P 21 41 08.0
baz=205
KLR Kul'dur 71.27 337 *i* P **P 21 41 10.7 +0.2**
KLR pmax pmax
comp=Z,39nm,1.4s
ENH Enshi 71.34 310 P **P 21 41 10.5 -0.8**
SLVN Son La 71.62 299 P **P 21 41 12.0 -1.2**
GYA Guiyang 71.64 305⇑ P **P 21 41 13.9 +0.5**
GYA pP PcP 21 41 31.0 -1.3
GYA S **S 21 50 31.0 +2.0**
GYA pmax pmax
comp=Z,11nm,0.8s
GYA LR LR
comp=Z,360nm,16.7s
BJT Baijiatuan 72.36 321 P **P 21 41 16.6 -0.6**
BJT pmax pmax
comp=Z,21nm,0.9s
BJT Baijiatuan 72.36 321 P **P 21 41 16.6 -0.6**
BJT IAmb IAmb 21 41 19.3
comp=Z,21nm,0.9s
BJI Beijing 72.37 321 P **P 21 41 17.5 +0.2**
BJI S **S 21 50 38.8 +2.3**
BJI pmax pmax
comp=Z,25nm,1.0s
BJI pmax pmax
comp=Z,290nm,6.1s
BJI LR LR
comp=Z,160nm,22.2s
BJI LR LR
comp=Z,220nm,20.0s
TIY Taiyuan 73.33 318 *e*P **P 21 41 24.3 +1.2**
TIY pmax pmax
comp=Z,59nm,1.0s
XAN Xi'an 73.70 313 P **P 21 41 25.8 +0.4**
XAN pP PcP 21 41 40.3 -0.6
XAN S **S 21 50 54.6 +2.6**
XAN SKS **SKSac 21 51 25.0 -2.5**
XAN pmax pmax
comp=Z,55nm,0.9s
XAN pmax pmax
comp=Z,250nm,5.7s
XAN LR LR
comp=Z,400nm,21.7s
XAN LR LR
comp=Z,570nm,19.5s
XAN LR LR
comp=Z,840nm,23.5s
XAN Xi'an 73.70 313 P **P 21 41 24.3 -1.0**
XAN pmax pmax
comp=Z,38nm,0.8s
XAN Xi'an 73.70 313 P **P 21 41 24.3 -1.0**
XAN IAmb IAmb 21 41 27.3
comp=Z,38nm,0.8s
KMI Kunming 74.20 302⇑ P **P 21 41 30.3 +1.6**
KMI pP PcP 21 41 40.0 -3.4
KMI sP sP 21 41 49.8 -0.9
KMI PP **PP 21 44 13.8 -1.4**
KMI S **S 21 50 59.4 +1.1**
KMI sS sS 21 51 21.0 -2.2
KMI SS **SS 21 55 46.8 +1.7**
KMI pmax pmax
comp=Z,20nm,0.8s
KMI pmax pmax
comp=Z,340nm,6.4s
KMI LR LR
comp=Z,210nm,16.1s
KMI LR LR
comp=Z,240nm,17.0s
KMI LR LR
comp=Z,410nm,21.7s
KMI Kunming 74.20 302 P **P 21 41 27.4 -1.3**
KMI pmax pmax
comp=Z,41nm,0.9s
KMI Kunming 74.20 302 P **P 21 41 27.4 -1.3**
KMI IAmb IAmb 21 41 32.0
comp=Z,41nm,0.9s
CM36 Chiang Mai Arr 74.65 294 P **P 21 41 32.0 +0.9**
CM35 Chiang Mai Arr 74.66 295 P **P 21 41 32.5 +1.3**
CM04 Chiang Mai Arr 74.71 294 P **P 21 41 33.4 +1.9**
CM09 Chiang Mai Arr 74.71 294 P **P 21 41 33.7 +2.2**
CM34 Chiang Mai Arr 74.73 295 P **P 21 41 33.0 +1.4**
CM01 Chiang Mai Arr 74.73 294 P **P 21 41 33.8 +2.1**
CM05 Chiang Mai Arr 74.74 294 P **P 21 41 33.0 +1.3**
CM31 Chiang Mai Arr 74.76 294 P **P 21 41 33.0 +1.2**
CM31 Chiang Mai Arr 74.76 294 P **P 21 41 30.9 -0.8**
CM31 IAmb IAmb 21 41 35.1
comp=Z,28nm,0.9s
CMAR Chiang Mai Arr 74.76 294 P **P 21 41 33.5 +1.8**
comp=Z,17nm,0.9s,baz=127,slow=4.5,SNR=71
CMAR LR LR 22 13 28.8
comp=Z,90nm,20.2s,baz=125,slow=35
CMAR Chiang Mai Arr 74.76 294 P **P 21 41 30.7 -1.1**
CM15 Chiang Mai Arr 74.78 294 P **P 21 41 33.9 +2.0**
CM13 Chiang Mai Arr 74.78 294 P **P 21 41 33.6 +1.8**
QSPA South Pole Qui 74.82 180 P **P 21 41 31.9 +0.4**
CM33 Chiang Mai Arr 74.89 295 P **P 21 41 33.0 +0.5**
CHTO Chiang Mai 74.89 295 P **P 21 41 31.4 -1.1**
CHTO pmax pmax
comp=Z,30nm,1.2s
CHTO Chiang Mai 74.89 295 P **P 21 41 31.4 -1.1**
CHTO IAmb IAmb 21 41 35.6
comp=Z,30nm,1.1s
MA2 Magadan 75.65 352⇑ *i*P **P 21 41 34.8 -1.2**
MA2 pmax pmax
comp=Z,15nm,0.7s
MA2 Magadan 75.65 352 P **P 21 41 35.0 -1.0**
MA2 IAmb IAmb 21 41 36.5
comp=Z,21nm,0.8s
HHC Hu-ho-hao-te 75.68 320 *e*P **P 21 41 38.3 +1.6**
HHC pmax pmax
comp=Z,28nm,1.0s
HHC pmax pmax
comp=Z,270nm,9.5s
CD2 Chengdu 75.97 308⇓ *i*P **P 21 41 39.6 +1.1**
CD2 pP pP 21 41 55.4 +0.7
CD2 sP sP 21 42 03.0 +1.8
CD2 S **S 21 51 18.9 +1.5**
CD2 SS **SS 21 56 14.1 +2.6**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,360nm,9.8s
CD2 LR LR
comp=Z,430nm,17.8s
CD2 LR LR
comp=Z,600nm,21.0s
CD2 LR LR
comp=Z,720nm,24.1s
HIA Hailar 76.49 330 *i* P **P 21 41 41.3 +0.3**
HIA pmax pmax
comp=Z,9.0nm,1.0s
HIA Hailar 76.49 330 P **P 21 41 40.6 -0.4**
BTO Baotou 76.51 319 *e*P **P 21 41 43.8 +2.4**
BTO pmax pmax
comp=Z,58nm,1.6s
BTO LR LR
comp=Z,660nm,26.4s
BTO LR LR
comp=Z,2µm,17.8s
BTO LR LR
comp=Z,2µm,21.4s
ZEA Zeya 76.57 337 *e*P **P 21 41 42.3 +1.0**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,200nm,0.8s
LZH Lanzhou 78.33 313⇑ P **P 21 41 53.3 +1.5**
LZH pP pP 21 42 08.3 +0.2
LZH sP sP 21 42 15.9 +1.4
LZH SKS **SKSac 21 51 59.8 -2.1**
LZH SS **SS 21 56 46.0 -1.2**
LZH pmax pmax
comp=Z,90nm,1.3s
LZH pmax pmax
comp=Z,330nm,7.2s
LZH LR LR
comp=Z,550nm,16.3s
LZH LR LR
comp=Z,750nm,16.9s
LZH LR LR
comp=Z,630nm,18.5s
DGPR DIGLIPUR 78.37 287 *e*P **P 21 41 54.5 +2.3**
DGPR IAmb IAmb 21 41 58.2
comp=Z,19nm,0.9s
SEY Seymchan 78.70 353⇑ *i*P **P 21 41 52.7 -0.3**
OHAK Old Harbor 79.38 21 P 21 41 56.4
baz=219
OHAK Old Harbor 79.38 21 P **P 21 41 56.6 -0.2**
CIT Chita 81.27 330 *e*P **P 21 42 07.4 +0.2**
CIT *e* 21 42 20.7
CIT pmax pmax
comp=Z,46nm,1.5s
MAW Mawson 81.29 202 LR LR 22 13 05.7
comp=Z,921nm,21.0s,baz=82,slow=32
SAIH SAIHA 81.42 296 *e*P **P 21 42 09.4 +0.7**
SAIH IAmb IAmb 21 42 13.7
comp=Z,15nm,0.9s
MOKO MOKOCHONG 81.48 300 *e*P **P 21 42 09.3 +0.3**
MOKO IAmb IAmb 21 42 10.8
comp=Z,46nm,0.8s
RSO Redoubt South 82.08 19 P **P 21 42 11.3 -0.1**
BRSE Bradley Lake S 82.17 20 P 21 42 11.6
baz=221
ULN Ulaanbaatar 82.27 324 *i* P **P 21 42 13.5 +0.8**
ULN pmax pmax
comp=Z,24nm,1.0s
ULN Ulaanbaatar 82.27 324 P **P 21 42 12.0 -0.7**
ANM Nome 82.31 12 P 21 42 13.2
baz=207
ANM Nome 82.31 12 P **P 21 42 12.3 -0.1**
ANM pmax pmax
comp=Z,45nm,1.0s
ANM Nome 82.31 12 P **P 21 42 12.3 -0.1**
ANM IAmb IAmb 21 42 14.2
comp=Z,45nm,1.0s
YAK Yakutsk 82.36 343 *e*P **P 21 42 12.3 -0.3**
YAK *e* 21 42 17.5
YAK *e**PP **pP 21 42 26.7 -2.1**
YAK *e* 21 45 18.3
YAK *e*S **S 21 52 24.0 +0.1**
YAK pmax pmax
comp=Z,87nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,112nm,3.8s
YAK pmax pmax
comp=N,99nm,3.8s
YAK pmax pmax
comp=E,86nm,3.8s
YAK smax smax
comp=E,125nm,4.0s
YAK smax smax
comp=N,63nm,3.0s
YAK Yakutsk 82.36 343 P **P 21 42 12.5 -0.1**
SILR SILCHAR 82.37 298 *e*P **P 21 42 15.5 +2.0**
SILR IAmb IAmb 21 42 19.1
comp=Z,97nm,1.3s
SONM Songino Array 82.63 324 P **P 21 42 14.8 +0.3**
comp=Z,5.8nm,0.8s,baz=148,slow=6.5,SNR=45
SONM PKKPbc **PKKPbc 22 00 39.9 -1.7**
comp=Z,0.4nm,0.8s,baz=279,slow=1.7,SNR=3.6
SONM LR LR 22 19 56.5
comp=Z,147nm,18.5s,baz=120,slow=36
SONM Songino Array 82.63 324 P **P 21 42 13.9 -0.6**
SONM pmax pmax
comp=Z,10.0nm,1.0s

SONM	Songino Array	82.63	324	P		P		21 42 13.9	-0.6	
GTA	Gaotai	82.69	314	⇑P		P		21 42 16.0	+0.9	
GTA				pP		pP		21 42 32.5	+1.0	
GTA				sP		sP		21 42 39.8	+1.9	
GTA				S		S		21 52 28.3	-0.3	
GTA				sS		sS		21 52 55.8	-0.3	
GTA				pmax		pmax				
	comp=Z,20nm,1.0s									
GTA				pmax		pmax				
	comp=Z,180nm,8.9s									
GTA				LR		LR				
	comp=Z,230nm,19.3s									
GTA				LR		LR				
	comp=Z,470nm,20.4s									
GTA				LR		LR				
	comp=Z,570nm,20.4s									
SEW	Seward	82.88	20	P				21 42 15.0		
	baz=222									
SEW	Seward	82.88	20	P		P		21 42 15.6	+0.3	
SEW				IAmb		IAmb		21 42 16.3		
	comp=Z,39nm,0.9s									
BELO	BELONIA	83.01	296	eP		P		21 42 17.4	+0.5	
O22K	Cooper Landing	83.07	20	P				21 42 16.7		
	baz=222,SNR=5.1									
O22K	Cooper Landing	83.07	20	P		P		21 42 16.4	+0.1	
SHL	Shillong	83.42	299	P		P		21 42 18.2	-1.1	
SHL				pmax		pmax				
	comp=Z,63nm,0.9s									
SHL	Shillong	83.42	299	eP		P		21 42 19.4	+0.2	
SHL				IAmb		IAmb		21 42 22.5		
	comp=Z,16nm,0.7s									
SHL	Shillong	83.42	299	P		P		21 42 18.1	-1.1	
SUA	Susitna One	83.47	19	P				21 42 17.9		
	baz=221,SNR=8.7									
SUA	Susitna One	83.48	19	P		P		21 42 18.4	-0.2	
SUA				IAmb		IAmb		21 42 21.5		
	comp=Z,36nm,0.9s									
RC01	Rabbit Creek A	83.52	20	P		P		21 42 18.6	0.0	
RC01				IAmb		IAmb		21 42 21.5		
	comp=Z,51nm,1.2s									
RC01	Rabbit Creek A	83.52	20	P				21 42 18.1		
	baz=222									
PWL	Port Wells	83.81	20	P		P		21 42 19.8	-0.4	
PMR	Palmer	84.09	20	P				21 42 20.8		
	baz=222									
PMR	Palmer	84.09	20	P		P		21 42 21.6	+0.1	
PMR				pmax		pmax				
	comp=Z,23nm,0.8s									
PMR	Palmer	84.09	20	P		P		21 42 21.6	+0.1	
PMR				IAmb		IAmb		21 42 22.9		
	comp=Z,23nm,0.8s									
PPLA	Purkeypile	84.14	18	P				21 42 21.4		
	baz=220									
KNK	Knik Glacier	84.17	20	P				21 42 21.6		
	baz=223,SNR=6.6									
KNK	Knik Glacier	84.17	20	P		P		21 42 21.7	-0.3	
GLI	Glacier Island	84.24	21	P		P		21 42 22.4	0.0	
GLI	Glacier Island	84.24	21	P				21 42 21.9		
	baz=224									
GHO	Glory Hole Cre	84.29	19	P		P		21 42 22.4	-0.3	
GHO				IAmb		IAmb		21 42 25.1		
	comp=Z,27nm,0.8s									
CUT	Chulitna	84.33	19	P				21 42 22.4		
	baz=221									
CUT	Chulitna	84.34	19	P		P		21 42 22.6	-0.2	
EYAK	Cordova Ski Ar	84.47	21	P				21 42 23.0		
	baz=226									
SML	Sawmill	84.50	20	P		P		21 42 23.6	-0.2	
SML				IAmb		IAmb		21 42 31.7		
	comp=Z,26nm,0.8s									
SML	Sawmill	84.50	20	P				21 42 23.5		
	baz=223									
BOD	Bodaibo	84.72	335	eP		P		21 42 25.2	+0.4	
BOD				pmax		pmax				
	comp=Z,30nm,1.6s									
SCM	Sheep Creek Mo	84.85	20	P		P		21 42 25.7	+0.2	
SCM				pmax		pmax				
	comp=Z,31nm,0.8s									
SCM	Sheep Creek Mo	84.85	20	P		P		21 42 25.7	+0.2	
SCM				IAmb		IAmb		21 42 26.1		
	comp=Z,31nm,0.8s									
CHUM	Lake Minchumin	84.86	17	P				21 42 24.8		
	baz=219,SNR=7.3									
SAO	San Andreas Ge	84.96	50	P		P		21 42 25.9	-0.6	
SAO				pmax		pmax				
	comp=Z,9.0nm,1.0s									
SAO	San Andreas Ge	84.96	50	P		P		21 42 25.9	-0.6	
KTH	Kantishna Hill	85.01	18	P		P		21 42 25.4	-0.8	
KTH				IAmb		IAmb		21 42 28.6		
	comp=Z,22nm,0.9s									
KLU	Klutina	85.08	21	P				21 42 26.1		
	baz=225									
KLU	Klutina	85.08	21	P		P		21 42 26.4	-0.2	
KLU				IAmb		IAmb		21 42 33.2		
	comp=Z,28nm,1.2s									
TRF	Thorofare Moun	85.12	18	P				21 42 25.6		
	baz=221									
TRF	Thorofare Moun	85.12	18	P		P		21 42 26.3	-0.7	
TRF				IAmb		IAmb		21 42 29.4		
	comp=Z,16nm,0.8s									
BMRM	Bremner River	85.17	22	P				21 42 26.4		
	baz=227									
PMPB	Monarch Peak	85.23	51	P		P		21 42 27.7	-0.3	
WAT2	Susitna Watana	85.27	19	P				21 42 27.2		
	baz=223,SNR=10									
O02D	Mt. Diablo Mer	85.36	46	P				21 42 28.4		
	baz=246									
BPAW	Bear Paw Mtn.	85.41	17	P				21 42 27.9		
	baz=221									
BPAW	Bear Paw Mtn.	85.41	17	P		P		21 42 28.2	0.0	
BPAW				IAmb		IAmb		21 42 44.5		
	comp=Z,51nm,1.7s									
M24K	Tolsona, Glenn	85.43	20	P				21 42 28.9		
	baz=225									
M24K	Tolsona, Glenn	85.43	20	P		P		21 42 28.5	+0.1	
M24K				IAmb		IAmb		21 42 43.3		
	comp=Z,39nm,0.9s									
PAGB	Antelope Grade	85.45	51	P		P		21 42 28.8	-0.3	
LSA	Lhasa	85.46	302	P		P		21 42 30.6	+0.8	
LSA				pmax		pmax				
	comp=Z,66nm,1.7s									
LSA	Lhasa	85.46	302	P		P		21 42 28.6	-1.2	
LSA				pmax		pmax				
	comp=Z,64nm,1.8s									
LSA	Lhasa	85.46	302	P		P		21 42 28.6	-1.2	
LSA				IAmb		IAmb		21 42 31.9		
	comp=Z,64nm,1.8s									
PKM	Mcpherson Peak	85.47	52	P				21 42 29.7		
	baz=248									
RND	Reindeer	85.52	18	P		P		21 42 28.8	0.0	
RND				pmax		pmax				
	comp=Z,98nm,1.6s									
RND	Reindeer	85.52	18	P		P		21 42 28.8	0.0	
CRQM	Cirque	85.56	22	P		P		21 42 28.9	-0.2	
CRQM				IAmb		IAmb		21 42 42.6		
	comp=Z,21nm,0.9s									
CRQE	Cirque	85.57	22	P				21 42 28.4		
	baz=228									
N25K	Chitina, Valde	85.61	21	P				21 42 28.6		
	baz=227,SNR=9.1									
N25K	Chitina, Valde	85.62	21	P		P		21 42 29.4	+0.1	
N25K				IAmb		IAmb		21 42 30.4		
	comp=Z,18nm,0.7s									
WDC	Whiskeytown Da	85.69	46	P		P		21 42 29.7	-0.4	
WDC				pmax		pmax				
	comp=Z,24nm,1.6s									
WDC	Whiskeytown Da	85.69	46	P		P		21 42 29.7	-0.4	
ZAK	Zakamensk	85.70	325	eP		P		21 42 29.2	-0.8	
ZAK				pmax		pmax				
	comp=Z,18nm,1.1s									
MCK	McKinley	85.73	18	P				21 42 29.4		
	baz=222,SNR=13									
MCK	McKinley	85.73	18	IAmb		IAmb		21 42 41.7		
	comp=Z,26nm,0.9s									
N02D	Trinity Center	85.74	46	P				21 42 30.4		
	baz=246									
VRDI	Verde Repeater	85.76	22	IAmb		IAmb		21 42 30.9		
	comp=Z,13nm,0.6s									
M02C	Callahan	85.81	45	P				21 42 30.5		
	baz=246									
RDOG	Red Dog Mine	85.87	11	P				21 42 30.8		
	baz=209									
GRNC	Granite Creek	86.05	23	IAmb		IAmb		21 42 32.3		
	comp=Z,15nm,0.7s									
YBH	Yreka Blue Hor	86.05	45	IAmb		IAmb		21 42 33.1		
	comp=Z,19nm,1.1s									
O03E	Paynes Creek	86.09	47	P				21 42 32.0		
	baz=246									
IRK	Irkutsk	86.10	327	eP		P		21 42 31.7	-0.2	
IRK				pmax		pmax				
	comp=Z,35nm,2.4s									
IMAR	Indian Mountai	86.13	15	P		P		21 42 31.4	-0.3	
TLY	Talaya	86.15	326	P		P		21 42 31.6	-0.6	
	comp=Z,8.9nm,0.7s,baz=183,slow=1.9,SNR=29									
TLY	Talaya	86.15	326	eP		P		21 42 32.7	+0.6	
TLY				e				21 53 11.3		
TLY				pmax		pmax				
	comp=Z,62nm,1.4s									
TLY				MLR		MLR				
	comp=Z,277nm,14.0s									
TLY	Talaya	86.15	326	P		P		21 42 31.4	-0.7	
TLY				IAmb		IAmb		21 42 33.6		
	comp=Z,15nm,0.9s									
NEA2	Nenana	86.33	18	P				21 42 31.8		
	baz=222									
CTG	Chitina Glacier	86.35	23	P				21 42 32.9		
	baz=230,SNR=5.5									
CTGM	Chitina Glacie	86.36	23	P		P		21 42 32.7	-0.4	
CTGM				IAmb		IAmb		21 42 44.5		
	comp=Z,22nm,1.0s									
VES	Vestal, Richgr	86.38	52	P				21 42 32.5		
	baz=248									
LOGN	Logan Glacier	86.39	23	IAmb		IAmb		21 42 34.2		
	comp=Z,13nm,0.6s									
WRH	Wood River Hil	86.53	18	IAmb		IAmb		21 42 35.9		
	comp=Z,22nm,1.0s									
MWC	Mount Wilson	86.58	53	IAmb		IAmb		21 42 35.4		
	comp=Z,22nm,1.2s									
I23K	Minto, Yukon-K	86.66	17	P				21 42 35.0		
	baz=222									
CCB	Clear Creek Bu	86.74	18	IAmb		IAmb		21 42 36.9		
	comp=Z,11nm,0.8s									
ISA	Isabella, Lake	86.77	52	P				21 42 35.3		
	baz=249,SNR=8.9									
GTK	Tadong	86.78	299	eP		P		21 42 37.4	+1.5	
GTK				IAmb		IAmb		21 42 41.3		
	comp=Z,15nm,0.9s									
HDA	Harding Lake	86.83	18	P				21 42 33.9		
	baz=224,SNR=27									
HDA				P				21 42 33.9		
	baz=224,SNR=27									
MDM	Murphy Dome	86.85	18	IAmb		IAmb		21 42 37.1		
	comp=Z,16nm,1.0s									
EDW2	Edwards Air Fo	86.86	53	P				21 42 35.7		
	baz=249,SNR=15									
TCOL	CIGO, UAF Yank	86.89	18	IAmb		IAmb		21 42 37.3		
	comp=Z,22nm,0.8s									
TCOL	CIGO, UAF Yank	86.89	18	P				21 42 34.5		
	baz=223									
BFSC	Mount Baldy Ra	86.89	53	P				21 42 35.1		
	baz=249									
COLA	College	86.89	18	P				21 42 34.5		
	baz=223									
COLA	College	86.89	18	P		P		21 42 35.2	-0.2	
COLA				pmax		pmax				
	comp=Z,22nm,0.8s									
COLA	College	86.89	18	P		P		21 42 35.2	-0.2	
COLA				IAmb		IAmb		21 42 37.3		
	comp=Z,22nm,0.8s									
IL31		87.11	18	IAmb		IAmb		21 42 38.5		
	comp=Z,14nm,0.8s									
ILAR	Eielson Array	87.11	18	P		P		21 42 34.4	-2.1	
	comp=Z,8.8nm,0.7s,baz=237,slow=4.9,SNR=165									
ILAR				PKKPbc		PKKPdf		22 00 28.4	+3.0	
	comp=Z,1.1nm,0.9s,baz=291,slow=1.8,SNR=8.3									
ILAR				LR		LR		22 16 23.2		
	comp=Z,873nm,20.3s,baz=245,slow=32									
ILAR	Eielson Array	87.11	18	P		P		21 42 34.8	-1.7	
ILAR	Eielson Array	87.11	18	P		P		21 42 34.8	-1.7	
POKR	Poker Plat Res	87.19	18	P				21 42 35.4		
	baz=224									
POKR	Poker Plat Res	87.19	18	IAmb		IAmb		21 42 38.7		
	comp=Z,13nm,0.9s									
DOT	Dot Lake	87.20	20	IAmb		IAmb		21 42 38.5		
	comp=Z,11nm,0.7s									
LRMC	Laurel Mtn Rad	87.31	52	P				21 42 38.2		
	baz=249									
CWC	Cottonwood Cre	87.35	51	P				21 42 37.8		
	baz=249									
MONP2	Monument Peak	87.40	55	P				21 42 38.4		
	baz=250,SNR=9.5									
SCRK	Sand Creek	87.45	20	P				21 42 37.7		
	baz=227,SNR=6.6									
SCRK	Sand Creek	87.45	20	IAmb		IAmb		21 42 43.1		
	comp=Z,50nm,1.8s									
IKP	In-Ko-Pah, Jac	87.56	55	P				21 42 39.3		
	baz=250									
BCAR	Beaver Creek A	87.57	21	P		P		21 42 37.5	-1.4	
PFO	Pinyon Flats O	87.61	54	P		P		21 42 39.2	-0.6	
PFO	Pinyon Flats O	87.61	54	P		P		21 42 39.2	-0.6	
PFO	Pinyon Flats O	87.61	54	P				21 42 39.4		
	baz=250									
XPFO	Pion Flat	87.61	54	P		P		21 42 39.3	-0.5	
NVAR	Mina Array Bea	87.90	49	P		P		21 42 41.2	+0.1	
	comp=Z,5.5nm,0.8s,baz=232,slow=7.9,SNR=13									
NVAR				LR		LR		22 13 50.2		
	comp=Z,1μm,21.0s,baz=258,slow=30									
SWSC	Sam W. Stewart	87.91	55	P				21 42 41.1		
	baz=250									
GSC	Goldstone, Bar	87.92	53	P				21 42 41.3		
	baz=250									
COLD	Coldfoot	88.00	15	P				21 42 41.9		
	baz=227,SNR=9.0									
COLD	Coldfoot	88.00	15	IAmb		IAmb		21 42 42.9		
	comp=Z,13nm,1.0s									
BOK	Bokaro	88.02	295	eP		P		21 42 42.7	+0.8	
BOK				IAmb		IAmb		21 42 45.2		
	comp=Z,10.0nm,0.8s									
PRP	Porcupine Dome	88.04	18	P				21 42 39.6		
	baz=226									
BELC	Belle Mtn. Jos	88.10	54	P				21 42 42.0		
	baz=250,SNR=14									
K27K	Chicken	88.11	20	P				21 42 41.7		
	baz=229									
K27K	Chicken	88.11	20	IAmb		IAmb		21 45 46.4		
	comp=Z,39nm,1.9s									
HEC	Hector,Ludlow	88.12	53	P				21 42 42.7		
	baz=250									
SYO	Syowa Base	88.13	197	‖eP		cP		PcP	21 42 43.7	+0.5
D03D	Eldon	88.21	40	P				21 42 41.4		
	baz=245									
FURC	Furnace Creek,	88.28	52	P				21 42 43.0		
	baz=250									
BC3	Big Chuckawall	88.42	55	P				21 42 43.5		
	baz=251,SNR=6.5									
SHOC	Shoshone, Teco	88.53	52	P				21 42 44.4		
	baz=250									
GMRC	Granite Mounta	88.63	53	P				21 42 44.4		
	baz=250,SNR=10									
GLA	Glamis	88.72	55	IAmb		IAmb		21 42 47.7		
	comp=Z,13nm,0.7s									
GLA	Glamis	88.72	55	P				21 42 45.5		
	baz=251									
IRM	Iron Mountain	88.82	54	P				21 42 45.6		
	baz=251,SNR=12									
EGAK	Eagle	88.90	20	P				21 42 44.1		
	baz=230									
EGAK	Eagle	88.90	20	P		P		21 42 44.4	-0.6	
EGAK				IAmb		IAmb		21 42 51.4		
	comp=Z,11nm,0.8s									
TPNV	Topopah Spring	88.91	51	P				21 42 45.8		
	baz=250,SNR=7.9									
WVOR	Wild Horse Val	89.11	46	IAmb		IAmb		21 42 56.9		
	comp=Z,20nm,1.4s									
B05A	Bryant	89.12	39	P				21 42 46.3		
	baz=246									
I07A	Izee	89.14	44	IAmb		IAmb		21 42 50.3		
	comp=Z,15nm,1.0s									
TOLK	Toolik Lake Re	89.22	15	P				21 42 47.3		
	baz=222,SNR=9.3									
TOLK	Toolik Lake Re	89.22	15	IAmb		IAmb		21 42 49.4		
	comp=Z,22nm,1.2s									
DLBC	Dease Lake	89.56	28	LR		LR		22 14 43.6		
	comp=Z,493nm,21.8s,baz=282,slow=30									
SHPR	Sheep Range	89.58	52	IAmb		IAmb		21 42 52.1		
	comp=Z,11nm,1.0s									
BMAR	Burnt Mountain	89.65	17	P		P		21 42 48.8	+0.3	
PDMCI	Parker Dam,Lak	89.66	54	P				21 42 49.5		
	baz=251,SNR=14									
E07A	Sunnyside	89.85	41	IAmb		IAmb		21 42 51.4		
	comp=Z,17nm,1.0s									
R11A	Troy Canyon, C	89.87	50	P				21 42 49.7		
	baz=250									
G08A	Pilot Rock	89.95	43	IAmb		IAmb		21 42 52.4		
	comp=Z,23nm,0.9s									
PRN	Pahroc Range	89.96	51	IAmb		IAmb		21 42 53.7		
	comp=Z,24nm,1.0s									
214A	Organ Pipe Nat	89.99	57	P				21 42 51.2		
	baz=252									
HAWA	Hanford	89.99	42	IAmb		IAmb		21 42 51.5		
	comp=Z,10nm,0.8s									
E08A	Dider Farm, El	90.33	42	IAmb		IAmb		21 42 55.7		
	comp=Z,24nm,0.9s									
TIXI	Tiksi	90.35	349	i P		P		21 42 51.4	-0.2	
TIXI	Tiksi	90.35	349	P		P		21 42 51.2	-0.4	
TIXI				IAmb		IAmb		21 42 54.5		
	comp=Z,15nm,0.9s									
D08A	Wollman Farm,	90.63	41	IAmb		IAmb		21 42 56.3		
	comp=Z,14nm,1.1s									
B08A	Colville Reser	90.85	40	IAmb		IAmb		21 42 56.9		
	comp=Z,12nm,0.9s									
BMO	Blue Mountains	90.88	44	IAmb		IAmb		21 42 58.0		
	comp=Z,10nm,1.0s									
ELK	Elko	90.92	48	LR		LR		22 15 09.4		
	comp=Z,795nm,21.9s,baz=230,slow=30									
E09A	Wood Farm, Sta	90.93	42	IAmb		IAmb		21 42 57.5		
	comp=Z,19nm,1.1s									
SPR3	Spring Creek 3	91.01	50	IAmb		IAmb		21 42 58.2		
	comp=Z,16nm,1.2s									
MFID	Camas Ranch	91.39	45	IAmb		IAmb		21 42 59.1		
	comp=Z,9.3nm,1.0s									
TUC	Tucson	91.73	57	P				21 42 59.7		
	baz=253									
TUC	Tucson	91.73	57	P		P		21 42 58.2	-0.9	
TUC				pmax		pmax				
	comp=Z,4.0nm,0.9s									
TUC	Tucson	91.73	57	P		P		21 42 58.2	-0.9	
U15A	North Rim	91.75	53	IAmb		IAmb		21 43 29.6		
	comp=Z,8.3nm,0.9s									
WUAZ	Wupatki	92.19	54	IAmb		IAmb		21 43 04.5		
	comp=Z,7.2nm,0.9s									
WUAZ	Wupatki	92.19	54	P				21 43 01.4		
	baz=253									
NEW	Newport	92.19	40	P				21 43 00.5		
	baz=250,SNR=10									
NEW	Newport	92.20	40	IAmb		IAmb		21 43 02.0		
	comp=Z,7.9nm,0.8s									
NVL	N'lazarevskaya	92.52	188	eP		P		21 43 02.5	+0.6	
NVL				pmax		pmax				
	comp=Z,31nm,0.9s									
WMQ	Urumqi	92.76	315	P		P		21 43 05.3	+1.7	
WMQ				pP		pP		21 43 18.8	-1.3	
WMQ				sP		sP		21 43 27.0	+0.6	
WMQ				pmax		pmax				
	comp=Z,36nm,1.5s									
WMQ				pmax		pmax				
	comp=Z,220nm,7.1s									
WMQ				LR		LR				
	comp=Z,310nm,19.1s									
WMQ				LR		LR				
	comp=Z,590nm,22.1s									
WMQ				LR		LR				
	comp=Z,670nm,23.3s									
HYB	Hyderabad	92.86	287	i P		P		21 43 05.0	+0.4	
SNAA	Sanae	93.05	183	P		P		21 43 05.1	+0.6	
SNAA	Sanae	93.05	183	sP		sP		21 43 27.4	-0.2	
SNAA	Sanae	93.05	183	P		P		21 43 04.9	+0.4	
INK	Inuvik	93.47	19	P		P		21 43 07.7	+1.5	
	comp=Z,1.0nm,0.5s,baz=317,slow=4.3,SNR=7.0									
INK	Inuvik	93.47	19	IAmb		IAmb		21 43 10.3		
	comp=Z,10nm,1.6s									
VNA3	Neumayer, Olymp	93.73	181	P		P		21 43 07.7	+0.2	
VNA2	Neumayer--Watz	93.99	182	P		P		21 43 09.2	+0.5	
	baz=148,slow=5.1									
VNA2	Neumayer--Watz	93.99	182	sP		sP		21 43 32.3	+0.4	
VNA1	Neumayer--Stat	94.29	182	P		P		21 43 10.8	+0.8	
VNA1	Neumayer--Stat	94.29	182	sP		sP		21 43 33.7	+0.5	
DGZ	Jazzator, Alta	94.76	320	i P		P		21 43 12.2	-0.5	
DGZ				pmax		pmax				
	comp=Z,9.0nm,1.1s									
PV04	Paradox Valley	94.89	52	IAmb		IAmb		21 43 15.9		
	comp=Z,9.3nm,1.2s									
PV22	Blue Mesa, Par	95.02	52	IAmb		IAmb		21 43 16.2		
	comp=Z,8.7nm,0.8s									
BHPL	Bhopal	95.34	293	eP		P		21 43 15.4	-0.5	
BHPL				IAmb		IAmb		21 43 20.9		
	comp=Z,5.6nm,0.6s									
PDAR	Pinedale Array	95.58	47	P		P		21 43 16.4	-0.4	
	comp=Z,0.6nm,0.5s,baz=251,slow=5.5,SNR=2.3									
PDAR				LR		LR		22 21 00.2		
	comp=Z,336nm,19.0s,baz=276,slow=32									
ZSN	Zaisan	95.73	318	eP		P		21 43 17.0	-0.1	
	comp=Z,6.2nm,0.9s,baz=318									
ZSN	Zaisan	95.73	318	eP		P		21 43 16.9	-0.1	
ZSN				pmax		pmax				
	comp=Z,6.0nm,0.9s									
ANMO	Albuquerque	95.92	56	P		P		21 43 17.5	-0.9	
ANMO				pmax		pmax				
	comp=Z,8.0nm,1.7s									
ANMO	Albuquerque	95.92	56	P		P		21 43 17.5	-0.9	
ANMO	Albuquerque	95.92	56	P				21 43 19.3		
	baz=256									
S22A	4UR Ranch, Cre	96.31	53	P				21 43 22.8		
	baz=256									
EGMT	Eagleton	96.82	42	IAmb		IAmb		21 43 24.3		
	comp=Z,7.0nm,0.9s									
TX32	Lajitas Array	96.87	62	IAmb		IAmb		21 43 51.6		
	comp=Z,18nm,1.9s									
TXAR	Lajitas Array	96.87	62	P		P		21 43 23.1	+0.4	
	comp=Z,0.8nm,0.6s,baz=230,slow=4.9,SNR=9.7									
TXAR				PP		PP		21 47 19.4	+0.5	
	comp=Z,1.9nm,1.2s,baz=220,slow=7.6,SNR=7.2									
TXAR				LR		LR		22 21 55.8		
	comp=Z,242nm,18.6s,baz=0.0,slow=32									
TXAR	Lajitas Array	96.87	62	P		P		21 43 22.0	-0.7	
C36M	Paulatuk	96.98	20	IAmb		IAmb		21 43 21.7		
	comp=Z,5.2nm,0.6s									
MK31	Makanchi Array	97.26	316	d i P		Pdif		21 43 24.9	+0.8	
MK31	Makanchi Array	97.26	316	IAmb		IAmb		21 43 25.8		
	comp=Z,11nm,1.1s									
MKAR	Makanchi Array	97.26	316	P		Pdif		21 43 24.2	+0.1	
	comp=Z,6.3nm,0.8s,baz=102,slow=5.4,SNR=52									
MKAR				PKiKP		PKiKP		21 48 00.8	+1.7	
	comp=Z,0.3nm,0.6s,baz=177,slow=2.5,SNR=4.1									
MKAR			

ARU					SS	SS		21 55 36.3	
ARU								22 04 46.1	-5.9
P52A	**Corning**	**115.67**	**53**	P				21 48 32.1	
	baz=271								
Q53A	**Leroy**	**116.16**	**54**	P				21 48 33.4	
	baz=271								
KMSC	**Kings Mountain**	**116.33**	**58**	P				21 48 34.4	
	baz=270								
S54A	**Dingess, Beckl**	**116.34**	**55**	P				21 48 34.2	
	baz=271								
O53A	**New Philadelph**	**116.36**	**52**	P				21 48 34.1	
	baz=272								
M53A	**WI Miller and**	**116.71**	**51**	P				21 48 34.6	
	baz=273								
V56A	**Mocksville**	**117.02**	**57**	P				21 48 36.0	
	baz=270								
BLA	**Blacksburg**	**117.06**	**56**	P				21 48 35.7	
	baz=271								
N54A	**Moraine State**	**117.25**	**52**	P				21 48 36.1	
	baz=273								
R55A	**Marlinton**	**117.27**	**55**	P				21 48 36.3	
	baz=272								
LPAZ	**La Paz**	**117.36**	**118**		PKP		**PKiKP**	**21 48 38.4**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=326,slow=2.3,SNR=6.9								
T56A	**Rocky Mt**	**117.38**	**56**	P				21 48 36.5	
	baz=271								
M54A	**Oil Creek Stat**	**117.47**	**51**	P				21 48 36.4	
	baz=274								
V57A	**Coltrane Farms**	**117.60**	**57**	P				21 48 37.1	
	baz=271								
PRGR	**Permogore**	**117.90**	**332**	*e*PKiKP		**PKPdf**		**21 48 34.8**	**-2.2**
PRGR				pmax		pmax			
	comp=Z,11nm,0.9s								
Q56A	**Snyder Ridge,**	**117.97**	**54**	P				21 48 37.7	
	baz=273								
H53A	**Bobcaygeon**	**117.99**	**47**	P				21 48 37.2	
	baz=276								
T57A	**Hurt**	**118.00**	**56**	P				21 48 37.6	
	baz=272								
ALGO	**Algonquin Park**	**118.20**	**46**	P				21 48 37.2	
	baz=277								
G54A	**Lake Saint Pet**	**118.24**	**46**	P				21 48 37.6	
	baz=277								
O56A	**Blue Knob Stat**	**118.38**	**52**	P				21 48 38.4	
	baz=274								
N56A	**West Decatur**	**118.54**	**52**	P				21 48 38.1	
	baz=274								
T58A	**Grand View Acr**	**118.58**	**56**	P				21 48 38.7	
	baz=272								
M56A	**Emporium**	**118.58**	**51**	P				21 48 38.6	
	baz=275								
U58A	**Oxford**	**118.58**	**57**	P				21 48 38.9	
	baz=272								
L56A	**Greenwood**	**118.98**	**50**	P				21 48 39.4	
	baz=276								
N57A	**Milroy**	**119.11**	**52**	P				21 48 39.6	
	baz=275								
M57A	**Sunshine Farm,**	**119.38**	**51**	P				21 48 40.4	
	baz=276								
L57A	**Andrews Acres**	**119.52**	**50**	P				21 48 40.0	
	baz=276								
O58A	**Lewisberry**	**119.64**	**52**	P				21 48 40.7	
	baz=275								
K57A	**Scipio Center**	**119.69**	**49**	P				21 48 40.5	
	baz=277								
N58A	**Sunbury**	**119.74**	**51**	P				21 48 40.9	
	baz=276								
D55A	**Sainte-Anne-du**	**119.81**	**44**	P				21 48 40.1	
	baz=280								
M58A	**Price's Panora**	**119.88**	**51**	P				21 48 41.2	
	baz=276								
J57A	**Williamstown**	**119.98**	**48**	P				21 48 41.1	
	baz=278								
I57A	**Carthage**	**120.15**	**48**	P				21 48 41.4	
	baz=278								
O59A	**Robesonia**	**120.19**	**52**	P				21 48 41.8	
	baz=276								
L58A	**Harry Jones Me**	**120.26**	**50**	P				21 48 41.9	
	baz=277								
D56A	**ZEC Mazanza, M**	**120.28**	**44**	P				21 48 41.2	
	baz=281								
CPUP	**Villa Florida**	**120.43**	**134**		PKP		**PKPdf**	**21 48 41.9**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=294,slow=1.0,SNR=11								
CPUP	**Villa Florida**	**120.43**	**134**		PKiKP		**PKPdf**	**21 48 42.1**	**-0.9**
CPUP	**Villa Florida**	**120.43**	**134**		PKPdf		**PKPdf**	**21 48 42.1**	**-0.9**
G57A	**Newington**	**120.46**	**46**	P				21 48 41.8	
	baz=279								
ARCES	**ARCESS Array B**	**120.60**	**345**		PKP		**PKiKP**	**21 48 42.8**	**+0.6**
	comp=Z,6.0nm,0.5s,baz=83,slow=1.2,SNR=21								
ARCES	**ARCESS Array B**	**120.60**	**345**		PKPdf		**PKPdf**	**21 48 42.0**	**-0.1**
M59A	**Waymart**	**120.63**	**51**	P				21 48 42.9	
	baz=277								
SUMG	**Summit**	**120.77**	**9**		PKiKP		**PKPdf**	**21 48 42.3**	**-0.5**
SUMG	**Summit**	**120.77**	**9**		PKPdf		**PKPdf**	**21 48 42.3**	**-0.5**
KLMR	**Klimovskoe**	**120.92**	**333**	*e*PKiKP			**PKPdf**	**21 48 42.7**	**-0.1**
KLMR				pmax		pmax			
	comp=Z,25nm,1.2s								
KLMR	**Klimovskoe**	**120.92**	**333**	*e*PKPdf			**PKPdf**	**21 48 42.7**	**-0.1**
KLMR				AMP				21 48 48.2	
	comp=Z,25nm,1.2s								
J59A	**Piesco**	**121.05**	**48**	P				21 48 43.0	
	baz=279								
E58A	**La Victoria**	**121.41**	**45**	P				21 48 43.4	
	baz=281								
I59A	**Olmsteadville**	**121.45**	**48**	P				21 48 44.1	
	baz=279								
D58A	**Chemin du LacG**	**121.53**	**44**	P				21 48 43.7	
	baz=282								
F60A	**Warwick**	**122.39**	**45**	P				21 48 45.9	
	baz=282								
J61A	**Chester**	**122.47**	**48**	P				21 48 46.7	
	baz=280								
L61B	**Northampton**	**122.53**	**49**	P				21 48 46.4	
	baz=279								
E60A	**Ste Agathe de**	**122.65**	**44**	P				21 48 46.1	
	baz=283								
BOSA	**Boshof**	**122.74**	**221**		PKP		**PKiKP**	**21 48 47.9**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=83,slow=2.7,SNR=5.8								
D60A	**Saint Jean D'O**	**122.88**	**44**	P				21 48 46.5	
	baz=284								
F61A	**St Evariste**	**123.05**	**45**	P				21 48 47.2	
	baz=283								
E61A	**Lac Etchemin**	**123.28**	**44**	P				21 48 47.4	
	baz=284								
VRH	**Novokhopyorsk**	**123.50**	**322**	*e*PKiKP			**PKPdf**	**21 48 47.4**	**-0.7**
VRH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
G62A	**West of Eustis**	**123.53**	**46**	P				21 48 48.3	
	baz=283								
SDV	**Santo Domingo**	**123.57**	**89**		PKPdf		**PKPdf**	**21 48 48.4**	**-1.2**
D62A	**Allapoint, All**	**124.08**	**43**	P				21 48 48.9	
	baz=285								
GNI	**Garni**	**124.10**	**308**		PKiKP		**PKPdf**	**21 48 49.1**	**-0.7**
GNI	**Garni**	**124.10**	**308**		PKPdf		**PKPdf**	**21 48 49.1**	**-0.7**
ZEI	**Tsey**	**124.25**	**312**	*i* PKiKP			**PKPdf**	**21 48 49.1**	**-1.0**
ZEI				pmax		pmax			
	comp=Z,5.0nm,1.0s								
RAYN	**Ar Rayn**	**124.35**	**288**		PKiKP		**PKPdf**	**21 48 49.4**	**-1.2**
RAYN	**Ar Rayn**	**124.35**	**288**		PKPdf		**PKPdf**	**21 48 49.4**	**-1.2**
LPSR	**Galich'ya Gora**	**124.63**	**324**	*e*PKiKP			**PKiKP**	**21 48 51.1**	**+0.6**
LPSR				pmax		pmax			
	comp=Z,20nm,1.0s								
D63A	**Stockholm**	**124.71**	**43**	P				21 48 50.1	
	baz=286								
G64A	**Maxfield**	**124.74**	**45**	P				21 48 50.9	
	baz=284								
KBZ	**Khabaz**	**124.77**	**313**		PKP		**PKPdf**	**21 48 50.5**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=248,slow=3.0,SNR=6.3								
AKH	**Akhalkalaki**	**124.81**	**310**	⇑P			**PKiKP**	**21 48 51.9**	**+0.4**
KIV	**Kislovodsk**	**124.87**	**313**	⇑P			**PKiKP**	**21 48 52.6**	**+1.1**
KIV	**Kislovodsk**	**124.87**	**313**	*i* PKiKP			**PKiKP**	**21 48 53.1**	**+1.7**
KIV				pmax		pmax			
	comp=Z,22nm,1.1s								
KIV				MLR		MLR			
	comp=Z,392nm,23.0s								
KIV	**Kislovodsk**	**124.87**	**313**				**PKPdf**	**21 48 50.4**	**-0.7**
OBN	**Obninsk**	**124.88**	**328**	⇑*i* PKiKP			**PKiKP**	**21 48 51.6**	**+0.7**
OBN				*e*				21 49 00.9	
OBN				*e*				21 49 05.4	
OBN				PPP		PPP		21 53 21.0	
OBN				PS		**PS**		**22 00 31.0**	**-9.0**
OBN				pmax		pmax			
	comp=Z,8.0nm,0.5s								
SAML	**Samuel**	**124.93**	**113**	*c i* PKiKP			**PKiKP**	**21 48 52.5**	**+0.2**
SAML				pmax		pmax			
	comp=Z,15nm,2.5s								
SAML	**Samuel**	**124.93**	**113**	PKPdf			**PKPdf**	**21 48 50.9**	**-1.0**
VSR	**Storozhevoye**	**125.01**	**323**	*e*PKiKP			**PKPdf**	**21 48 50.7**	**-0.3**
VSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
E64A	**Bridgewater**	**125.06**	**44**	P				21 48 50.9	
	baz=286								
FINES	**FINESS Array B**	**126.01**	**338**		PKP		**PKPdf**	**21 48 51.8**	**-0.8**
	comp=Z,6.9nm,0.8s,baz=67,slow=5.0,SNR=14								
FINES	**FINESS Array B**	**126.01**	**338**		PKiKP		**PKPdf**	**21 48 52.7**	**+0.1**
FINES	**FINESS Array B**	**126.01**	**338**				**PKPdf**	**21 48 52.7**	**+0.1**
KMBO	**Kilima Mbogo**	**127.59**	**257**		PKP		**PKiKP**	**21 48 57.9**	**0.0**
	comp=Z,3.0nm,1.0s,baz=9.6,slow=4.0,SNR=5.5								
VSU	**Vasula**	**127.67**	**335**	*e*P			**PKiKP**	**21 49 00.0**	**+3.6**
MTSE	**Matsula**	**128.67**	**336**	*e*P			**PKiKP**	**21 49 00.9**	**+2.5**
OBIP	**Obispado Ponce**	**128.86**	**79**		PKPdf		**PKPdf**	**21 48 58.4**	**-0.9**
AAL	**Aland**	**129.03**	**339**	*e*P			**PKiKP**	**21 48 58.7**	**-0.3**
LSZ	**Lusaka**	**129.14**	**235**		PKiKP		**PKPdf**	**21 48 58.5**	**-1.6**
LSZ	**Lusaka**	**129.14**	**235**				**PKPdf**	**21 48 58.5**	**-1.6**
SJG	**San Juan**	**129.29**	**79**		PKiKP		**PKPdf**	**21 48 59.2**	**-0.9**
SJG	**San Juan**	**129.29**	**79**				**PKPdf**	**21 48 59.2**	**-0.9**
HUMP	**Col San Antoni**	**129.58**	**79**				**PKPdf**	**21 48 59.3**	**-1.4**
ISAL	**Salakas**	**129.71**	**332**	*e*P			**PKiKP**	**21 49 01.7**	**+1.1**
IIGN	**Ignalina**	**129.80**	**332**	*e*P			**PKiKP**	**21 49 02.0**	**+1.3**
NACGM	**Naroch**	**129.81**	**331**	*i* PKP			**PKiKP**	**21 49 01.8**	**+0.9**
NACGM				*i* PKP			**PKiKP**	**21 49 01.8**	**+0.9**
NACGM				*i* PKP			**PKiKP**	**21 49 01.8**	**+0.9**
	comp=Z,10.0nm,0.7s								
NACGM				*i* PP			**PP**	**21 51 04.7**	**-6.8**
NACGM				*i* PPP			PPP	21 53 49.7	
NACGM				*i* SKS			**SKSdf**	**21 56 02.3**	**-4.3**
NACGM				*i* PS			PS	22 01 02.8	-20
NACGM				*i* SS			SS	22 08 14.1	-17
NACGM				*i* SSS			SSS	22 12 31.3	
NACGM				*i* LQ			LQ	22 29 21.8	
NACGM				*i* LR			LR	22 37 11.6	
UPP	**Uppsala**	**130.06**	**340**	*e*P			**PKiKP**	**21 49 05.0**	**+3.9**
PABE	**Paberze**	**130.71**	**333**	*e*P			**PKiKP**	**21 49 02.7**	**+0.1**
AKASG	**Malin Array Be**	**130.89**	**325**		PKP		**PKiKP**	**21 49 02.8**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=52,slow=2.6,SNR=8.1								
AKASG					SKP			21 52 34.2	
	comp=Z,6.2nm,0.8s,baz=44,slow=4.4,SNR=13								
AKASG	**Malin Array Be**	**130.89**	**325**				**PKPdf**	**21 49 02.1**	**-0.1**
NB2	**NORSAR Subarra**	**130.97**	**345**		PKPdf		**PKiKP**	**21 49 03.7**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**130.97**	**345**		PKP		**PKiKP**	**21 49 02.6**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=33,slow=2.0,SNR=18								
NOA					SKP			21 52 34.5	
	comp=Z,18nm,0.8s,baz=30,slow=3.1,SNR=46								
PTGA	**Pitinga**	**131.11**	**105**		PKPdf		**PKPdf**	**21 49 02.5**	**-1.3**
BRTR	**Keskin Array B**	**132.50**	**310**		PKiKP		PKPpre	21 48 54.2	
	comp=Z,1.0nm,0.8s,baz=157,slow=4.0,SNR=5.6								
BRTR					PKP		**PKiKP**	**21 49 07.2**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=112,slow=2.4,SNR=5.6								
BRTR					SKP			21 52 39.6	
	comp=Z,1.2nm,0.9s,baz=131,slow=4.0,SNR=2.5								
SORM	**Soroca**	**132.67**	**323**	⇑P			**PKPdf**	**21 49 05.7**	**0.0**
SORM	**Soroca**	**132.67**	**323**	⇑PKiKP			**PKPdf**	**21 49 05.7**	**0.0**
KIS	**Kishinev**	**132.94**	**321**	*e*PKP			PKPdf	21 48 56.0	-10
KIS	**Kishinev**	**132.94**	**321**	*e*PP			PP	21 51 35.0	+2.9
KIS				*e*SKS			SKSdf	21 56 56.0	+43
KIS	**Kishinev**	**132.94**	**321**	*e*PKHKP			PKPpre	21 48 56.0	
KIS				*e*				21 51 35.0	
BDFB	**Brasilia**	**133.91**	**130**		PKP		**PKPdf**	**21 49 09.3**	**+0.2**
	comp=Z,7.4nm,0.7s,baz=267,slow=0.6,SNR=16								
BDFB	**Brasilia**	**133.91**	**130**		PKPdf		**PKPdf**	**21 49 07.8**	**-1.3**
BIZ	**Bicaz**	**134.59**	**322**	⇑P			**PKiKP**	**21 49 12.0**	**+1.2**
BURAR	**Bucovina Array**	**134.75**	**324**	⇑P			**PKiKP**	**21 49 13.0**	**+1.8**
BURAR	**Bucovina Array**	**134.75**	**324**	⇑PKiKP			**PKiKP**	**21 49 13.0**	**+1.8**
BURAR	**Bucovina Array**	**134.75**	**324**	PKPdf			**PKPdf**	**21 49 09.4**	**-0.4**
NEHR	**Nehoiu**	**135.23**	**321**	⇑P			**PKiKP**	**21 49 11.6**	**-0.5**
MLR	**Muntele Rosu**	**135.41**	**321**	⇑P			**PKiKP**	**21 49 12.1**	**-0.6**
MLR	**Muntele Rosu**	**135.41**	**321**	⇑PKiKP			**PKiKP**	**21 49 12.1**	**-0.6**
KOLS	**Kolonicke sedl**	**135.62**	**327**	*e*PKiKP			**PKiKP**	**21 49 13.1**	**+0.3**
KOLS	**Kolonicke sedl**	**135.62**	**327**	*e*PKP			**PKiKP**	**21 49 13.1**	**+0.3**
UZH	**Uzhgorod**	**135.78**	**327**	*e*PKiKP			**PKiKP**	**21 49 13.2**	**+0.1**
UZH				*e*				21 49 22.6	
UZH				*e*				21 49 28.0	
VOIR		**135.99**	**321**	⇑P			**PKiKP**	**21 49 13.5**	**-0.2**
VOIR		**135.99**	**321**	⇑PKiKP			**PKiKP**	**21 49 13.5**	**-0.2**
CRVS	**Cervenica-Dubn**	**136.06**	**327**	*e*PKiKP			**PKiKP**	**21 49 14.8**	**+1.1**
CRVS	**Cervenica-Dubn**	**136.06**	**327**	*e*PKP			**PKiKP**	**21 49 14.8**	**+1.1**
CJR	**Cluj-Napoca**	**136.16**	**324**	⇑P			**PKiKP**	**21 49 13.3**	**-0.7**
CJR	**Cluj-Napoca**	**136.16**	**324**	⇑PKiKP			**PKiKP**	**21 49 13.3**	**-0.7**
ARR	**Arges**	**136.27**	**321**	⇑P			**PKiKP**	**21 49 14.6**	**+0.3**
DRGR		**136.63**	**324**	⇑P			**PKiKP**	**21 49 15.0**	**0.0**
LANS	**Liptovska Anna**	**136.92**	**329**	*e*PKiKP			**PKiKP**	**21 49 19.2**	**+3.7**
LANS	**Liptovska Anna**	**136.92**	**329**	*e*PKP			**PKiKP**	**21 49 19.2**	**+3.7**
PLVB	**Pleven**	**137.28**	**319**	⇑P			**PKiKP**	**21 49 17.8**	**+1.5**
GZR	**Gura Zlata**	**137.37**	**322**	⇑P			**PKiKP**	**21 49 15.4**	**+0.8**
GZR	**Gura Zlata**	**137.37**	**322**	⇑PKiKP			**PKiKP**	**21 49 15.4**	**+0.8**
OSTC	**Ostas**	**137.51**	**332**	*e*PKPDF			**PKPdf**	**21 49 10.0**	**-4.7**
DPC	**Dobruska-Polom**	**137.60**	**332**	*e*PKHKP			PKPpre	21 49 07.5	
DPC	**Dobruska-Polom**	**137.60**	**332**	*e*PKPpre			PKPpre	21 49 07.5	
DPC				*e*PKS			**PKSdf**	**21 52 54.8**	**+3.9**
BZS	**Buzias**	**137.92**	**323**	⇑P			**PKiKP**	**21 49 16.2**	**+0.7**
PVCC	**Panska Ves**	**138.25**	**334**	*e*PKiKP			**PKiKP**	**21 49 17.5**	**-0.6**
PVCC	**Panska Ves**	**138.25**	**334**	*e*PKPDF			**PKiKP**	**21 49 17.5**	**-0.6**
BRG	**Berggiesshubel**	**138.26**	**334**	*e*PKP			**PKPdf**	**21 49 10.9**	**-5.1**
BRG				Amp				21 49 14.2	
	comp=Z,7.0nm,1.2s								
CLL	**Collm**	**138.31**	**335**	*i* PKPdf			**PKiKP**	**21 49 19.1**	**+0.9**
	comp=Z,3.0nm,0.6s								
CLL				Lm		MLR		22 52 00.0	
	comp=Z,400nm,18.3s								
CLL	**Collm**	**138.31**	**335**	*i* PKiKP			**PKiKP**	**21 49 19.1**	**+0.9**
CLL				pmax		pmax			
	comp=Z,3.0nm,0.6s								
MODS	**Modra-Piesok**	**138.52**	**329**	*e*PKiKP			**PKPdf**	**21 49 17.4**	**+0.8**
MODS	**Modra-Piesok**	**138.52**	**329**	*e*PKP			**PKPdf**	**21 49 17.4**	**+0.8**
VTS	**Vitosha**	**138.54**	**319**	⇑P			**PKPdf**	**21 49 13.2**	**-3.8**
VTS	**Vitosha**	**138.54**	**319**	⇑PKiKP			**PKPdf**	**21 49 13.2**	**-3.8**
PRU	**Pruhonice**	**138.66**	**333**	*e*PKiKP			**PKiKP**	**21 49 18.8**	**-0.1**
PRU	**Pruhonice**	**138.66**	**333**	*e*PKPDF			**PKiKP**	**21 49 18.8**	**-0.1**
BOVS	**Bovan**	**138.97**	**321**	⇑P			**PKPdf**	**21 49 17.2**	**-0.3**
MORH	**Mrgy, Hungar**	**139.22**	**326**	⇓P			**PKPdf**	**21 49 18.9**	**+1.0**
NKC	**Novy Kostel**	**139.37**	**335**	*e*PKiKP			**PKiKP**	**21 49 20.2**	**-0.2**
NKC	**Novy Kostel**	**139.37**	**335**	*e*PKPDF			**PKiKP**	**21 49 20.2**	**-0.2**
CONA	**Conrad Observa**	**139.52**	**330**	*e*P			**PKPdf**	**21 49 16.5**	**-2.1**
	comp=Z,9.3nm,0.9s								
CKRC	**Cesky Krumlov**	**139.62**	**332**	*e*PKP			**PKPdf**	**21 49 12.0**	**-6.6**
CKRC				*e*PKS			**PKSdf**	**21 53 01.3**	**+6.8**
KHC	**Kasperske Hory**	**139.72**	**333**	*e*PKiKP			**PKPdf**	**21 49 19.0**	**+0.2**
KHC	**Kasperske Hory**	**139.72**	**333**	*e*PKPDF			**PKPdf**	**21 49 19.0**	**+0.2**
KHC				*ex*			x	21 53 03.1	
GERES	**GERESS Array B**	**139.87**	**332**		PKhKP		PKPpre	21 49 10.2	
	comp=Z,0.9nm,0.8s,baz=44,slow=3.0,SNR=4.2								
GERES					PKP		**PKPdf**	**21 49 17.2**	**-1.9**
	comp=Z,1.8nm,0.7s,baz=45,slow=2.1,SNR=9.1								
GERES					SKPbc		**SKiKP**	**21 52 53.1**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=347,slow=2.1,SNR=1.9								
MOA	**Molln**	**140.34**	**331**	*e*P			**PKPdf**	**21 49 18.8**	**-1.2**
	comp=Z,3.1nm,0.7s								
PDG	**Podgorica**	**141.13**	**321**	⇑P			**PKPdf**	**21 49 15.8**	**-5.7**
KBA	**Koelnbreinsper**	**141.33**	**331**	*e*P			**PKPdf**	**21 49 19.3**	**-2.7**
	comp=Z,2.8nm,0.6s								
BTNL	**Ternell**	**141.41**	**340**	*d*PKPdf			**PKPdf**	**21 49 20.2**	**-1.6**
BTNL				*d*PKP			**PKiKP**	**21 49 26.5**	**+1.9**
MEM	**Membach**	**141.44**	**340**	*d*PKPdf			**PKPdf**	**21 49 19.4**	**-2.4**
MEM				*d*PKP			**PKiKP**	**21 49 26.5**	**+1.9**
MEM				*dp*PKP			**pPKPdf**	**21 49 38.7**	**-0.2**
RICI	**Ricice**	**141.76**	**324**	P			**PKPdf**	**21 49 16.7**	**-5.9**
UDBI	**Udbina**	**141.86**	**326**	*i* P			**PKPdf**	**21 49 17.8**	**-5.1**
WATA	**Walderalm**	**141.95**	**332**	*i* P			**PKPdf**	**21 49 23.6**	**+0.6**
	comp=Z,17nm,1.2s								
MAKA	**Makarska**	**141.95**	**323**	*i* P			**PKPdf**	**21 49 17.9**	**-5.0**
ABTA	**Abfaltersbach**	**141.96**	**331**	*e*P			**PKPdf**	**21 49 17.7**	**-5.3**
	comp=Z,8.5nm,0.9s								
BMRD	**Maredsous**	**142.09**	**341**	*d*PKPdf			**PKPdf**	**21 49 22.2**	**-0.8**
BMRD				*d*PKP			**PKiKP**	**21 49 28.2**	**+2.3**
MOTA	**Moosalm**	**142.15**	**333**	*e*P			**PKPdf**	**21 49 20.2**	**-3.2**
	comp=Z,12nm,1.2s								
RETA	**Reutte**	**142.19**	**333**	*e*P			**PKPdf**	**21 49 20.2**	**-3.2**
	comp=Z,11nm,1.0s								
WLF	**Walferdange**	**142.20**	**339**	*d*PKPdf			**PKPdf**	**21 49 23.0**	**-0.2**
WLF				*dx*			x	21 49 27.5	
SQTA	**Sankt Quirin**	**142.20**	**333**	*e*P			**PKPdf**	**21 49 19.1**	**-4.3**
	comp=Z,18nm,1.6s								
MORI	**Morici**	**142.32**	**325**	*i* P			**PKPdf**	**21 49 19.3**	**-4.3**
DOU	**Dourbes**	**142.33**	**341**	*d*PKPdf			**PKPdf**	**21 49 22.9**	**-0.5**
DOU				*d*PKiKP			**PKiKP**	**21 49 25.9**	**-0.6**
DOU				*d*PKP			pPKPdf	21 49 29.7	-11
STRD	**Stroud**	**142.47**	**349**	*e*P			**PKPdf**	**21 49 19.2**	**-4.4**
FETA	**Feichten**	**142.56**	**333**	*i* P			**PKPdf**	**21 49 21.1**	**-3.0**
	comp=Z,33nm,1.0s,SNR=10.0								
DAVA	**Damuels**	**142.72**	**334**	*e*P			**PKPdf**	**21 49 22.5**	**-1.9**
	comp=Z,15nm,1.0s,SNR=6.0								
WOL	**Wolverton**	**142.72**	**348**	*e*P			**PKPdf**	**21 49 20.2**	**-3.9**
TUE	**Stuetta**	**143.59**	**334**		PKPdf		PKPbc	21 49 24.5	+1.0
HTL	**Hartland**	**143.62**	**351**	*e*P			PKPbc	21 49 23.8	+0.7
MATE	**Matera**	**143.72**	**320**	⇑P			PKPbc	21 49 24.2	+0.4
TIP	**Timpagrande**	**144.52**	**318**	⇑P			**PKPdf**	**21 49 27.8**	**+0.1**
TIP	**Timpagrande**	**144.52**	**318**		PKPdf		PKPbc	21 49 26.9	+0.5
JLP	**Les Platons**	**144.87**	**347**	*e*P			PKPbc	21 49 27.3	+0.3
JQE	**Queens East**	**144.90**	**347**	*e*P			**PKPdf**	**21 49 27.8**	**-0.1**
JVM	**Valle D.L. Mar**	**144.91**	**347**	*e*P			**PKPdf**	**21 49 28.3**	**+0.4**
JSA	**Saint Aubin**	**144.94**	**347**	*e*P			**PKPab**	**21 49 26.7**	**-0.5**
BNI	**Bardonecchia**	**145.85**	**335**		PKiKP		**PKPdf**	**21 49 29.1**	**-0.8**
BNI	**Bardonecchia**	**145.85**	**335**		PKPdf		**PKPdf**	**21 49 29.1**	**-0.8**
RAFF	**Raffo Rosso**	**147.18**	**317**				**PKPbc**	**21 49 35.0**	**+0.5**
KEST	**Kesra**	**151.31**	**320**		PKPbc		**PKiKP**	**21 49 45.7**	**+0.2**
	comp=Z,33nm,0.9s,baz=155,slow=2.3,SNR=20								
KEST	**Kesra**	**151.31**	**320**		PKPdf		**PKPdf**	**21 49 38.0**	**-0.9**
PBRG	**Braganca**	**152.92**	**349**	*e*PKiKP			**PKiKP**	**21 49 49.9**	**+1.3**
PBRG	**Braganca**	**152.92**	**349**	*e*PKPab			**PKPab**	**21 50 00.5**	**+0.9**
PGAV	**Gavieira, Arco**	**153.00**	**352**	*e*PKiKP			**PKiKP**	**21 49 43.5**	**+0.5**
PGAV	**Gavieira, Arco**	**153.00**	**352**	*e*PKPab			**PKPab**	**21 50 00.7**	**+0.7**
POLO	**Lamas de Olo**	**153.51**	**351**	*e*PKiKP			**PKiKP**	**21 49 50.0**	**+0.1**
POLO	**Lamas de Olo**	**153.51**	**351**	*e*PKPab			**PKPab**	**21 50 02.9**	**+0.7**
MVO	**Moncorvo**	**153.59**	**350**	*e*PKPdf			**PKiKP**	**21 49 51.0**	**+1.0**
MVO	**Moncorvo**	**153.59**	**350**	*e*PKPab			**PKPab**	**21 50 03.5**	**+1.0**
PVRL	**Vila Real**	**153.60**	**351**	*e*PKPdf			**PKiKP**	**21 49 52.0**	**+2.0**
PVRL	**Vila Real**	**153.60**	**351**	*e*PKPab			**PKPab**	**21 50 03.3**	**+0.8**
PTO	**Porto**	**153.86**	**352**	*e*PKPdf			**PKiKP**	**21 49 52.6**	**+2.2**
PTO	**Porto**	**153.86**	**352**	*e*PKPab			**PKPab**	**21 50 04.3**	**+0.8**
PVIS	**Viseu**	**154.17**	**351**	*e*PKPab			**PKPab**	**21 50

0.4nm,0.6s,baz=303,slow=8.6,SNR=6.7
SONM Songino Array 57.49 355 P **P 22 03 41.6 -0.1**
0.7nm,0.6s,baz=172,slow=7.8,SNR=8.5
MKAR Makanchi Array 62.42 337 P **P 22 04 15.4 0.0**
0.4nm,0.6s,baz=146,slow=8.5,SNR=8.0
ZALV Zalesovo Beam 67.62 343 P **P 22 04 48.9 -0.1**
1.0nm,0.5s,baz=148,slow=4.1,SNR=4.7

IDC ***15*** *22:22:35.0±2.2, 9˚.26S×112˚.99E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/29, mbtmp3.6/6, Error ellipse: s-maj=87.4km s-min=22.6km az=51.0*
DJA ***15*** *22:22:39.1±1.9, 10˚S±18˚×11˚3E±˚, h10km, M3.7/7, MLv3.7/7*
ISC 15 22:22:38.4±1.6, **9˚.6S**±0˚.2×**112˚.6E**±0˚.2, **h35**km, **n11,** σ1**§38**/10, **mb3.8/6, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.89**	**53**	P	**Pn**	**22 23 07.5**	**-0.7**
ABJI	**Asem Bagus**	**2.41**	**41**	P	**Pn**	**22 23 17.4**	**+2.1**
SRBI	**Singaraja**	**2.97**	**59**	P	**Pn**	**22 23 23.7**	**+0.6**
TWSI	**Taliwang, Sumb**	**4.28**	**78**	P	**Pn**	**22 23 41.5**	**+0.3**
MTKI	**Muara Teweh, K**	**8.91**	**15**	P	Pn	22 24 57.3	+13
WRA	**Warramunga Arr**	**23.33**	**119**	P	**P**	**22 27 44.6**	**+0.9**
	0.2nm,0.5s,baz=287,slow=12,SNR=1.9						
ASAR	**Alice Springs**	**24.65**	**127**	P	**P**	**22 27 56.7**	**+0.6**
	0.5nm,0.6s,baz=308,slow=9.2,SNR=5.6						
MJAR	**Matsushiro Arr**	**51.84**	**26**	P	**P**	**22 31 40.7**	**-2.5**
	1.4nm,0.8s,baz=215,slow=9.6,SNR=2.7						
SONM	**Songino Array**	**57.47**	**355**	P	**P**	**22 32 24.4**	**+0.4**
	0.7nm,0.5s,baz=173,slow=8.7,SNR=9.3						
MKAR	**Makanchi Array**	**62.35**	**337**	P	**P**	**22 32 58.0**	**+0.6**
	0.4nm,0.4s,baz=150,slow=7.6,SNR=13						
ZALV	**Zalesovo Beam**	**67.57**	**343**	P	**P**	**22 33 31.1**	**0.0**
	0.3nm,0.3s,baz=161,slow=5.2,SNR=4.1						

IDC 15 22:37:19.9±1.7, **8˚.4S**×**124˚.6E, h0km, mb3.2/1, mb1 3.7/4, mb1mx3.3/37, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=54.4km s-min=23.7km az=77.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.92**	**204**	Pn	Pn	22 37 54.5	+0.6
	23nm,0.3s,baz=355,slow=2.0,SNR=24						
FITZ	**Fitzroy Crossi**	**9.67**	**173**	Pn	Pn	22 39 39.3	-1.1
	0.8nm,0.3s,baz=11,slow=9.4,SNR=18						
FITZ				Sn	Sn	22 41 21.4	-8.5
	0.6nm,0.3s,baz=274,slow=2.7,SNR=6.0						
WRA	**Warramunga Arr**	**14.91**	**141**	Pn	Pn	22 40 52.3	+0.2
	0.3nm,0.3s,baz=315,slow=15,SNR=17						
WRA				Sn	Sn	22 43 31.9	-6.2
	0.2nm,0.3s,baz=320,slow=26,SNR=3.4						
ASAR	**Alice Springs**	**17.64**	**150**	P	Pn	22 41 27.7	+0.4
	0.2nm,0.3s,baz=322,slow=12,SNR=8.0						
MKAR	**Makanchi Array**	**66.56**	**330**	P	P	22 48 11.8	-0.1
	0.1nm,0.5s,baz=125,slow=9.1,SNR=3.0						

BGR ***15*** *22:47:25.2±0.0, 28˚.18S×12˚.08W, h33km, mb5.2*
MOS ***15*** *22:47:33.6±1.0, 26˚.13S×11˚.62W, h10km, mb5.3/18, Error ellipse: s-maj=11.6km s-min=7.7km az=54.9*
IDC ***15*** *22:47:34.0±0.4, 26˚.14S×11˚.50W, h0km, mb4.8/26, mb1 4.9/26, mb1mx4.8/37, mbtmp4.8/26, MS4.5/14, Ms1 4.5/14, ms1mx4.2/34, Error ellipse: s-maj=14.9km s-min=10.6km az=165.0*
BJI ***15*** *22:47:34.0±0.0, 26˚.10S×11˚.60W, h10km, mB5.4/5, Ms6.2/4, Ms7 6.1/3*
NEIC ***15*** *22:47:35.5±1.1, 26˚.1S±0˚.1×11˚.6W±0˚.1, h15km±3km, mb5.4/112, Error ellipse: s-maj=15.7km s-min=13.1km az=139.0*
GCMT ***15*** *22:47:37.5±0.2, 26˚.16S±0˚.03×11˚.54W±0˚.02, h12km, MW5.0/105, Moment Tensor Solution. s32,c35; s105,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.99±.10; $M_{\theta\theta}$-1.74±.11; $M_{\phi\phi}$-2.25±.10; $M_{r\theta}$-0.11±.45; $M_{\theta\phi}$-1.39±.09; $M_{\phi r}$-1.38±.44; Best double couple: M_o3.93500×10^{16} NP1:ϕ_s48.00000°, δ37.00000°, λ105.00000°. NP2:ϕ_s210.00000°, δ54.00000°, λ79.00000°. Principal axes: T 4.2870, Plg78.0000°, Azm82.0000°; N -0.7050, Plg9.0000°, Azm216.0000°; P -3.5820, Plg9.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 22:47:35.0±0.3, **26˚.07S**±0˚.06×**11˚.50W**±0˚.06, **h10**km, **n384,** σ1**§31**/366, **mb5.2**/113, **MS4.6**/20, **29C-21D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09W1	**TRISTAN DA CUN**	**11.02**	**184**	T	T	23 01 20.3	
	SNR=16						
SHEL	**Horse Pasture**	**11.40**	**29**	P	**Pn**	**22 50 17.6**	**-0.5**
SHEL	**Horse Pasture**	**11.40**	**29**	Pn	**Pn**	**22 50 17.6**	**-0.5**
TSUM	**Tsumeb**	**27.66**	**82**	P	**P**	**22 53 23.5**	**+0.1**
	26nm,0.8s,baz=244,slow=9.7,SNR=51						
TSUM				LR	LR	23 02 12.6	
	comp=Z,577nm,21.7s,baz=246,slow=32						
TSUM	**Tsumeb**	**27.66**	**82**	P	**P**	**22 53 23.5**	**+0.1**
TSUM	**Tsumeb**	**27.66**	**82**	*i* P	**P**	**22 53 22.7**	**-0.6**
TSUM	**Tsumeb**	**27.66**	**82**	*i* P	**P**	**22 53 22.7**	**-0.6**
NAN01	**Guarapari, ES**	**27.74**	**281**	*e*P	**P**	**22 53 25.0**	**+1.0**
CAM01	**Campos-RJ**	**27.85**	**272**	*e*P	**P**	**22 53 25.5**	**+0.6**
BSFB	**Barra de Sao F**	**28.02**	**279**	*e*P	**P**	**22 53 26.8**	**+0.3**
NBRF	**Rio Formoso -**	**28.33**	**303**	*e*P	**P**	**22 53 30.1**	**+0.8**
SJMB	**Sao Joao De Ma**	**28.37**	**279**	*e*P	**P**	**22 53 30.4**	**+0.8**
DUB01	**Friburgo-RJ**	**28.43**	**271**	*e*P	**P**	**22 53 30.5**	**+0.3**
NBAN	**Anadia - AL**	**28.59**	**300**	*e*P	**P**	**22 53 31.8**	**+0.2**
SUR	**Sutherland**	**28.82**	**110**	P	**P**	**22 53 33.8**	**+0.1**
	37nm,0.9s,baz=279,slow=9.0,SNR=16						
SUR				LR	LR	23 02 34.2	
	comp=Z,1μm,20.1s,baz=261,slow=31						
SUR	**Sutherland**	**28.82**	**110**	P	**P**	**22 53 32.9**	**-0.8**
SUR				IAmb	IAmb	22 53 37.1	
	comp=Z,48nm,0.9s						
NBLA	**Lagarto - SE**	**29.01**	**296**	*e*P	**P**	**22 53 35.5**	**+0.2**
GDU01	**Guandu, BA**	**29.05**	**290**	*e*P	**P**	**22 53 36.1**	**+0.5**
VAS01	**Vassouras-RJ**	**29.35**	**271**	*e*P	**P**	**22 53 38.7**	**+0.4**
MAN01	**Angra dos Reis**	**29.68**	**269**	*e*P	**P**	**22 53 41.8**	**+0.5**
ESAR	**Angra dos Reis**	**30.08**	**269**	*e*P	**P**	**22 53 45.6**	**+0.9**
NBTA	**Tacaratu-PE**	**30.32**	**299**	*e*P	**P**	**22 53 47.2**	**+0.3**
RCBR	**Riachuelo**	**30.80**	**307**	LR	LR	23 03 14.7	
	comp=Z,510nm,20.2s,baz=138,slow=30						
BSCB	**Bom Sucesso**	**30.87**	**272**	*e*P	**P**	**22 53 51.5**	**-0.4**
PARB	**Paraibuna**	**31.07**	**268**	*e*P	**P**	**22 53 53.9**	**+0.4**
VAO	**Valinhos**	**32.35**	**268**	*e*P	**P**	**22 54 05.0**	**+0.2**
JANB	**Januaria**	**32.53**	**283**	*e*P	**P**	**22 54 06.2**	**-0.2**
SPB	**Sao Paulo**	**32.64**	**266**	P	**P**	**22 54 05.8**	**-1.6**
SPB	**Sao Paulo**	**32.64**	**266**	*e*P	**P**	**22 54 08.7**	**+1.4**
BOSA	**Boshof**	**32.66**	**103**	P	**P**	**22 54 07.8**	**+0.2**
	comp=Z,80nm,0.8s,baz=269,slow=7.9,SNR=78						
BOSA				LR	LR	23 05 43.6	
	comp=Z,848nm,18.3s,baz=272,slow=33						
BOSA	**Boshof**	**32.66**	**103**	P	**P**	**22 54 07.6**	**0.0**
BOSA				pmax	pmax		
	comp=Z,90nm,0.9s						
BOSA	**Boshof**	**32.66**	**103**	P	**P**	**22 54 07.6**	**0.0**
LIC	**Lamto**	**32.71**	**12**	*e*P	**P**	**22 54 08.8**	**+0.9**
	comp=Z,128nm,1.4s						
KIC	**Kosan Boka**	**32.90**	**12**	*e*P	**P**	**22 54 10.4**	**+0.9**
	comp=Z,124nm,1.4s						
TIC	**Toumodi**	**33.12**	**12**	*e*P	**P**	**22 54 12.3**	**+0.8**
DBIC	**Dimbokro**	**33.18**	**12**	P	**P**	**22 54 13.0**	**+1.0**
	comp=Z,8.2nm,0.6s,baz=147,slow=12,SNR=24						
DBIC	**Dimbokro**	**33.18**	**12**	P	**P**	**22 54 12.5**	**+0.5**
DBIC				pmax	pmax		
	comp=Z,74nm,1.5s						
DBIC	**Dimbokro**	**33.18**	**12**	P	**P**	**22 54 12.5**	**+0.5**
DBIC				IAmb	IAmb	22 54 15.2	
	comp=Z,74nm,1.4s						
LBTB	**Lobatse**	**33.41**	**96**	P	**P**	**22 54 13.6**	**-0.6**
LBTB				pmax	pmax		
	comp=Z,70nm,1.1s						
LBTB	**Lobatse**	**33.41**	**96**	P	**P**	**22 54 13.6**	**-0.6**
LBTB				IAmb	IAmb	22 54 16.5	
	comp=Z,70nm,1.1s						
LBTB	**Lobatse**	**33.41**	**96**	*i* P	**P**	**22 54 14.4**	**+0.2**
LBTB	**Lobatse**	**33.41**	**96**	*i* P	**P**	**22 54 14.4**	**+0.2**
TER01	**Tubaro-SC**	**33.44**	**257**	*e*P	**P**	**22 54 15.6**	**+1.3**
SDBA	**SAO DESIDERIO**	**34.23**	**287**	*e*P	**P**	**22 54 21.0**	**-0.3**
BB19B	**Bebedouro**	**34.23**	**270**	*e*P	**P**	**22 54 21.2**	**0.0**
FRTB	**Fartura**	**34.61**	**266**	*e*P	**P**	**22 54 25.1**	**+0.5**
IPMB	**Ipameri, GO**	**34.88**	**276**	*e*P	**P**	**22 54 26.2**	**-0.7**
BDFB	**Brasilia**	**35.56**	**280**	P	**P**	**22 54 32.3**	**-0.5**
	comp=Z,24nm,0.8s,baz=108,slow=7.3,SNR=40						
BDFB				LR	LR	23 07 21.8	
	comp=Z,759nm,18.1s,baz=113,slow=33						
BDFB	**Brasilia**	**35.56**	**280**	P	**P**	**22 54 32.1**	**-0.7**
BDFB				pmax	pmax		
	comp=Z,62nm,1.2s						
BDFB	**Brasilia**	**35.56**	**280**	P	**P**	**22 54 32.1**	**-0.7**
BDFB				IAmb	IAmb	22 54 34.7	
	comp=Z,62nm,1.2s						
ITAB	**Concordia**	**36.23**	**259**	*e*P	**P**	**22 54 39.3**	**+1.0**
ITRB	**Iturama**	**36.26**	**272**	*e*P	**P**	**22 54 39.3**	**+0.6**
PCMB	**Pacaembu**	**36.55**	**268**	*e*P	**P**	**22 54 41.8**	**+0.7**
PTGB	**Pitanga**	**36.57**	**263**	*e*P	**P**	**22 54 42.6**	**+1.2**
CPSB	**Cacapava Do Su**	**37.05**	**253**	*e*P	**P**	**22 54 46.4**	**+1.0**
MATP	**Matopo**	**37.07**	**90**	*i* P	**P**	**22 54 45.5**	**-0.3**
MATP	**Matopo**	**37.07**	**90**	*i* P	**P**	**22 54 45.5**	**-0.3**
PLTB	**Pedras Altas**	**37.12**	**251**	*e*P	**P**	**22 54 47.0**	**+1.1**
BLWY	**Bulawayo**	**37.25**	**89**	*i* P	**P**	**22 54 48.0**	**+0.7**
BLWY	**Bulawayo**	**37.25**	**89**	*i* P	**P**	**22 54 48.0**	**+0.7**
PEXB	**Peixe**	**37.30**	**285**	*e*P	**P**	**22 54 47.5**	**-0.1**
SMTB	**Santa Maria do**	**38.27**	**290**	*e*P	**P**	**22 54 56.7**	**+0.9**
LSZ	**Lusaka**	**38.51**	**82**	P	**P**	**22 54 57.5**	**-0.5**
LSZ				pmax	pmax		
	comp=Z,21nm,0.9s						
LSZ	**Lusaka**	**38.51**	**82**	P	**P**	**22 54 57.5**	**-0.5**
LSZ	**Lusaka**	**38.51**	**82**	*i* P	**P**	**22 54 58.6**	**+0.6**
LSZ	**Lusaka**	**38.51**	**82**	*i* P	**P**	**22 54 58.6**	**+0.6**
ARAG	**Araguaiana, MT**	**38.91**	**277**	*e*P	**P**	**22 55 01.9**	**+0.7**
ITQB	**Itaqui**	**39.87**	**254**	*e*P	**P**	**22 55 10.1**	**+1.1**
SNDB	**Serra Nova Dou**	**39.98**	**283**	*e*P	**P**	**22 55 10.2**	**+0.1**
AQDB	**Aquidauana**	**40.84**	**268**	*e*P	**P**	**22 55 18.2**	**+1.0**
CPUP	**Villa Florida**	**40.95**	**259**	P	**P**	**22 55 18.1**	**+0.1**
	comp=Z,22nm,0.9s,baz=104,slow=9.0,SNR=34						
CPUP				LR	LR	23 09 08.6	
	comp=Z,257nm,20.9s,baz=100,slow=32						
CPUP	**Villa Florida**	**40.95**	**259**	P	**P**	**22 55 16.9**	**-1.2**
CPUP				pmax	pmax		
	comp=Z,77nm,1.4s						
CPUP	**Villa Florida**	**40.95**	**259**	P	**P**	**22 55 16.9**	**-1.2**
CPUP				IAmb	IAmb	22 55 20.4	
	comp=Z,77nm,1.4s						
KOWA	**Kowa**	**40.98**	**11**	P	**P**	**22 55 18.7**	**+0.5**
KOWA				IAmb	IAmb	22 55 21.6	
	comp=Z,168nm,1.8s						
PP1B	**Ponte de Pedra**	**40.99**	**273**	*e*P	**P**	**22 55 19.2**	**+0.8**
TOA0	**Torodi Ar. Sit**	**41.04**	**20**	P	**P**	**22 55 19.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**41.04**	**20**	P	**P**	**22 55 19.4**	**+0.7**
	comp=Z,3.7nm,0.5s,baz=196,slow=7.2,SNR=18						
TORD				ScP	**ScP**	**23 01 14.1**	**+5.5**
	comp=Z,1.5nm,0.9s,baz=197,slow=6.6,SNR=3.8						
TORD				LR	LR	23 09 01.0	
	comp=Z,673nm,20.4s,baz=135,slow=31						
TORD	**Torodi Ar. Bea**	**41.04**	**20**	P	**P**	**22 55 19.3**	**+0.5**
PRPB	**Parauapebas**	**41.56**	**292**	*e*P	**P**	**22 55 24.1**	**+1.0**
EFI	**East Falkland**	**43.36**	**221**	*i* P	**P**	**22 55 37.8**	**+0.5**
EFI				pmax	pmax		
	comp=Z,27nm,1.0s						
CLDB	**Colider**	**44.42**	**281**	*e*P	**P**	**22 55 46.8**	**+0.4**
VNA1	**Neumayer--Stat**	**44.65**	**178**	P	**P**	**22 55 48.2**	**+0.8**
VNA1	**Neumayer--Stat**	**44.65**	**178**	sP	sP	22 55 54.2	+4.0
VNA2	**Neumayer--Watz**	**44.95**	**178**	P	**P**	**22 55 50.1**	**+0.3**
	baz=345,slow=9.3						
VNA2	**Neumayer--Watz**	**44.95**	**178**	sP	sP	22 55 56.1	+3.5
VNA3	**Neumayer Olymp**	**45.22**	**179**	P	**P**	**22 55 52.2**	**+0.3**
VNA3	**Neumayer Olymp**	**45.22**	**179**	sP	sP	22 55 58.6	+3.8
PTLB	**Pontes e Lacer**	**45.56**	**274**	*e*P	**P**	**22 55 56.7**	**+1.3**
NPGB	**Novo Progresso**	**45.82**	**286**	*e*P	**P**	**22 55 57.9**	**+0.4**
SNAA	**Sanae**	**45.90**	**176**	P	**P**	**22 55 57.1**	**-0.2**
SNAA	**Sanae**	**45.90**	**176**	sP	sP	22 56 03.6	+3.4
SNAA	**Sanae**	**45.90**	**176**	P	**P**	**22 55 58.0**	**+0.6**
	comp=Z,20nm,1.0s,baz=348,slow=7.5,SNR=19						
SNAA	**Sanae**	**45.90**	**176**	*ce*P	**P**	**22 55 57.8**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,20nm,0.9s						
SNAA	**Sanae**	**45.90**	**176**	P	**P**	**22 55 57.2**	**-0.2**
TCA	**Tanti**	**46.50**	**251**	*i* P	**P**	**22 56 01.6**	**-1.3**
NVL	**N'lazarevskaya**	**46.68**	**170**	*e*P	**P**	**22 56 03.7**	**+0.2**
NVL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MCPB	**Macapa, AP**	**46.69**	**297**	*e*P	**P**	**22 56 05.2**	**+0.9**
SIV	**San Ignacio**	**47.11**	**272**	P	**P**	**22 56 09.1**	**+1.5**
	comp=Z,8.1nm,0.8s,baz=118,slow=8.1,SNR=31						
VILB	**Vilhena**	**47.47**	**276**	*e*P	**P**	**22 56 11.9**	**+1.4**
ITTB	**Itaituba**	**47.50**	**289**	*e*P	**P**	**22 56 11.1**	**+0.4**
MALB	**Monte Alegre**	**47.63**	**293**	*e*P	**P**	**22 56 12.2**	**+0.6**
MBAR	**Mbarara**	**47.90**	**65**	P	**P**	**22 56 14.1**	**+0.2**
MBAR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MBAR	**Mbarara**	**47.90**	**65**	P	**P**	**22 56 14.1**	**+0.2**
ACHE	**Chepes**	**48.28**	**251**	*i* P	**P**	**22 56 15.8**	**-0.9**
AVFE	**Valle Fertil**	**49.03**	**251**	*i* P	**P**	**22 56 21.3**	**-1.2**
RFA	**San Rafael**	**49.33**	**246**	*i* P	**P**	**22 56 23.9**	**-0.7**
RTCV	**Cerro Valdivia**	**49.76**	**249**	*i* P	**P**	**22 56 27.2**	**-0.8**
RTLL	**Cerro Villicun**	**49.79**	**250**	*i* P	**P**	**22 56 27.4**	**-0.8**
ZON	**Zonda**	**49.93**	**250**	P	**P**	**22 56 28.4**	**-0.9**
ZON				pmax	pmax		
	comp=Z,25nm,0.9s						
ZON	**Zonda**	**49.93**	**250**	P	**P**	**22 56 28.4**	**-0.9**
ZON				IAmb	IAmb	22 56 30.8	
	comp=Z,25nm,0.9s						
ZON	**Zonda**	**49.93**	**250**	*i* P	**P**	**22 56 27.2**	**-2.1**
VCA	**Vinchina**	**50.01**	**253**	*i* P	**P**	**22 56 29.0**	**-1.1**
RTLS	**Leoncito**	**50.41**	**249**	*i* P	**P**	**22 56 33.0**	**-0.2**
ACCO	**Cerro Coronel**	**50.41**	**251**	*i* P	**P**	**22 56 32.4**	**-0.8**
AUSP	**Uspallata**	**50.42**	**249**	*i* P	**P**	**22 56 32.9**	**-0.4**
PLCA	**Paso Flores**	**50.54**	**238**	P	**P**	**22 56 33.5**	**-0.2**
	comp=Z,8.6nm,0.8s,baz=85,slow=6.8,SNR=13						
PLCA				LR	LR	23 17 48.2	
	comp=Z,128nm,18.1s,baz=82,slow=36						
PLCA	**Paso Flores**	**50.54**	**238**	P	**P**	**22 56 32.9**	**-0.9**
PLCA				pmax	pmax		
	comp=Z,11nm,0.9s						
PLCA	**Paso Flores**	**50.54**	**238**	P	**P**	**22 56 32.9**	**-0.9**
PLCA	**Paso Flores**	**50.54**	**238**	*e*P	**P**	**22 56 33.9**	**+0.1**
AROD	**Rodeo**	**50.83**	**251**	*i* P	**P**	**22 56 36.8**	**+0.4**
AC02	**Maricunga**	**51.21**	**256**	P	**P**	**22 56 38.0**	**-1.5**
BO02	**Sierra Bellavi**	**51.22**	**245**	P	**P**	**22 56 38.2**	**-0.7**
BO02				IAmb	IAmb	22 56 40.4	
	comp=Z,71nm,1.0s						
TAM	**Tamanrasset**	**51.30**	**20**	P	**P**	**22 56 40.1**	**+0.5**
TAM				pmax	pmax		
	comp=Z,34nm,1.9s						
TAM	**Tamanrasset**	**51.30**	**20**	P	**P**	**22 56 40.1**	**+0.5**
VA03	**San Esteban**	**51.31**	**248**	P	**P**	**22 56 38.9**	**-0.8**
VA03				IAmb	IAmb	22 56 40.7	
	comp=Z,114nm,1.9s						
PEL	**Peldehue**	**51.36**	**247**	P	**P**	**22 56 39.2**	**-0.8**
PEL				pmax	pmax		
	comp=Z,32nm,1.1s						
PEL	**Peldehue**	**51.36**	**247**	P	**P**	**22 56 39.2**	**-0.8**
PEL				IAmb	IAmb	22 56 39.9	
	comp=Z,32nm,1.1s						
CO01	**Juntas del Tor**	**51.40**	**251**	P	**P**	**22 56 39.6**	**-1.0**
CO01				IAmb	IAmb	22 56 43.7	
	comp=Z,45nm,1.0s						
ROC1	**El Roble**	**51.66**	**247**	*i* P	**P**	**22 56 40.5**	**-2.0**
CO03	**El Pedregal**	**51.74**	**250**	P	**P**	**22 56 42.5**	**-0.5**
AC05	**El Transito**	**51.77**	**253**	P	**P**	**22 56 42.4**	**-0.9**
AC05				IAmb	IAmb	22 56 45.7	
	comp=Z,59nm,1.1s						
SAML	**Samuel**	**51.80**	**279**	P	**P**	**22 56 42.9**	**-0.5**
SAML				pmax	pmax		
	comp=Z,50nm,1.1s						
SAML	**Samuel**	**51.80**	**279**	P	**P**	**22 56 42.9**	**-0.5**
SAML				IAmb	IAmb	22 56 46.6	
	comp=Z,50nm,1.1s						
CO02	**Combarbal**	**51.94**	**250**	P	**P**	**22 56 43.5**	**-1.0**
CO02				IAmb	IAmb	22 56 46.0	
	comp=Z,40nm,0.8s						
GO04	**Tololo Observa**	**51.96**	**251**	P	**P**	**22 56 43.7**	**-1.1**
GO04				IAmb	IAmb	22 56 46.4	
	comp=Z,73nm,0.9s						
GO04	**Tololo Observa**	**51.96**	**251**	*i* P	**P**	**22 56 44.2**	**-0.6**
GO03	**Copiap**	**52.00**	**254**	P	**P**	**22 56 44.0**	**-0.9**
GO03				IAmb	IAmb	22 56 47.0	
	comp=Z,82nm,1.1s						
GO02	**Mina Guanaco**	**52.00**	**257**	P	**P**	**22 56 44.0**	**-1.3**
LVC	**Limon Verde**	**52.07**	**261**	P	**P**	**22 56 45.4**	**-0.4**
	comp=Z,18nm,0.8s,baz=99,slow=3.6,SNR=22						
LVC	**Limon Verde**	**52.07**	**261**	P	**P**	**22 56 44.6**	**-1.3**
LVC				pmax	pmax		
	comp=Z,19nm,0.8s						
LVC	**Limon Verde**	**52.07**	**261**	P	**P**	**22 56 44.6**	**-1.3**
LVC	**Limon Verde**	**52.07**	**261**	*e*P	**P**	**22 56 45.5**	**-0.4**
LCO	**Las Campanas**	**52.10**	**252**	P	**P**	**22 56 44.8**	**-1.1**
LCO				pmax	pmax		
	comp=Z,97nm,1.4s						
LCO	**Las Campanas**	**52.10**	**252**	P	**P**	**22 56 44.8**	**-1.1**
LCO				IAmb	IAmb	22 56 47.6	
	comp=Z,97nm,1.4s						
SYO	**Syowa Base**	**52.32**	**159‖**	*e*P	**P**	**22 56 43.8**	**-2.7**
MACA	**Manacapuru-AM**	**52.34**	**287**	*e*P	**P**	**22 56 48.9**	**+1.4**
PB15	**IPOC Station P**	**52.40**	**260**	P	**P**	**22 56 47.0**	**-1.1**
PB15				IAmb	IAmb	22 56 49.3	
	comp=Z,51nm,0.7s						
PB09	**IPOC Station P**	**52.59**	**262**	P	**P**	**22 56 48.5**	**-1.1**
PB09				IAmb	IAmb	22 57 03.0	
	comp=Z,50nm,1.1s						
PB06	**IPOC Station P**	**52.63**	**260**	P	**P**	**22 56 48.8**	**-0.9**
PB06				IAmb	IAmb	22 56 51.7	
	comp=Z,49nm,0.9s						
AC01	**Pan de Azucar**	**52.65**	**256**	P	**P**	**22 56 48.9**	**-0.8**
BI03	**Tigo**	**52.78**	**242**	P	**P**	**22 56 49.7**	**-0.7**
BI03				IAmb	IAmb	22 56 53.6	
	comp=Z,55nm,0.9s						
PB14	**IPOC Station P**	**52.85**	**258**	P	**P**	**22 56 50.3**	**-1.3**
PB14				IAmb	IAmb	22 56 54.4	
	comp=Z,36nm,1.1s						
BELA	**Belgrano 2**	**52.98**	**186**	P	**P**	**22 56 51.5**	**+0.1**
PTGA	**Pitinga**	**53.00**	**290**	P	**P**	**22 56 53.4**	**+1.0**
	comp=Z,9.4nm,0.5s,baz=118,slow=9.0,SNR=18						
PTGA				PcP	**PcP**	**22 58 01.2**	**+0.1**
	comp=Z,2.5nm,0.4s,baz=116,slow=8.6,SNR=4.2						
PTGA	**Pitinga**	**53.00**	**290**	P	**P**	**22 56 51.8**	**-0.6**
PTGA	**Pitinga**	**53.00**	**290**	*e*P	**P**	**22 56 53.7**	**+1.3**
PB08	**IPOC Station P**	**53.01**	**264**	P	**P**	**22 56 51.6**	**-1.2**
KMBO	**Kilima Mbogo**	**53.02**	**70**	P	**P**	**22 56 55.4**	**+2.6**
	comp=Z,2.1nm,0.7s,baz=221,slow=7.4,SNR=8.1						
KMBO				LR	LR	23 17 34.4	
	comp=Z,378nm,20.2s,baz=154,slow=34						
PB01	**IPOC Station P**	**53.03**	**262**	P	**P**	**22 56 51.8**	**-0.9**
PB01				IAmb	IAmb	22 56 54.4	
	comp=Z,88nm,1.1s						
PB07	**IPOC Station P**	**53.19**	**262**	P	**P**	**22 56 52.2**	**-1.7**
PB10	**IPOC Station P**	**53.28**	**259**	P	**P**	**22 56 52.9**	**-1.4**
PB10				IAmb	IAmb	22 56 56.0	
	comp=Z,70nm,0.9s						
LPAZ	**La Paz**	**53.35**	**269**	P	**P**	**22 56 56.4**	**+0.7**
	comp=Z,8.5nm,0.8s,baz=96,slow=5.7,SNR=20						
LPAZ				LR	LR	23 17 31.2	
	comp=Z,578nm,21.5s,baz=106,slow=34						
LPAZ	**La Paz**	**53.35**	**269**	P	**P**	**22 56 53.4**	**-2.3**
LPAZ				pmax	pmax		
	comp=Z,18nm,1.1s						
LPAZ	**La Paz**	**53.35**	**269**	P	**P**	**22 56 53.4**	**-2.3**
LPAZ	**La Paz**	**53.35**	**269**	*e*P	**P**	**22 56 56.0**	**+0.4**
MNMC	**Minye Minye**	**53.72**	**265**	P	**P**	**22 56 56.1**	**-1.8**
MNMC				IAmb	IAmb	22 56 59.7	
	comp=Z,59nm,1.1s						
PB16	**IPOC Station P**	**53.90**	**266**	P	**P**	**22 56 57.5**	**-2.2**
PB16				IAmb	IAmb	22 57 01.9	
	comp=Z,70nm,1.1s						
PSGCX	**Pisagua**	**54.04**	**264**	P	**P**	**22 56 58.4**	**-1.7**
PSGCX				IAmb	IAmb	22 57 01.6	
	comp=Z,51nm,1.1s						
ETMB	**Extrema**	**54.12**	**277**	*e*P	**P**	**22 57 01.3**	**+0.7**
SVB	**Belmont**	**62.22**	**303**	P	**P**	**22 57 55.8**	**-1.4**
QSPA	**South Pole Qui**	**64.15**	**180**	P	**P**	**22 58 09.7**	**+0.2**
QSPA				IAmb	IA

SBA	**Scott Base**	**76.30**	**180**	P	**P**	**22 59 23.7**	**+0.1**
SBA				pmax	pmax		
	comp=Z,43nm,1.3s						
SBA	**Scott Base**	**76.30**	**180**	P	**P**	**22 59 23.7**	**+0.1**
SBA				IAmb	IAmb	22 59 27.1	
	comp=Z,43nm,1.3s						
VNDA	**Vanda**	**76.57**	**179**	P	**P**	**22 59 25.8**	**+0.7**
	comp=Z,6.3nm,0.9s,baz=216,slow=5.8,SNR=21						
VNDA	**Vanda**	**76.57**	**179**	P	**P**	**22 59 25.1**	**0.0**
VNDA				pmax	pmax		
	comp=Z,17nm,1.2s						
VNDA	**Vanda**	**76.57**	**179**	P	**P**	**22 59 25.1**	**0.0**
ARSA	**Arzberg**	**76.95**	**19**	*e*P	**P**	**22 59 28.6**	**+1.1**
	comp=Z,16nm,1.6s						
MORH	**Mrgy, Hungar**	**76.97**	**21**	⇓P	**P**	**22 59 28.5**	**+1.0**
WLF	**Walferdange**	**77.02**	**12**	*d*P	**P**	**22 59 28.5**	**+0.7**
WLF				*d*x	x	23 00 07.6	
HERR	**Herculane**	**77.10**	**24**	⇑P	**P**	**22 59 28.9**	**+0.5**
MOA	**Molln**	**77.14**	**17**	*e*P	**P**	**22 59 29.1**	**+0.5**
	comp=Z,8.3nm,1.3s						
DOU	**Dourbes**	**77.16**	**11**	*b*P	**P**	**22 59 30.3**	**+1.7**
DOU				*d*x	x	22 59 57.5	
DOU				*d*x	x	23 00 52.6	
BMRD	**Maredsous**	**77.39**	**11**	*d*P	**P**	**22 59 31.7**	**+1.8**
BMRD				*d*x	x	22 59 45.9	
BZS	**Buzias**	**77.45**	**23**	⇑P	**P**	**22 59 30.3**	**-0.1**
BGES	**Gesves**	**77.53**	**11**	*d*P	**P**	**22 59 31.3**	**+0.7**
BCLA	**Clavier**	**77.59**	**11**	*d*P	**P**	**22 59 31.2**	**+0.2**
	comp=Z,14nm,1.8s						
CONA	**Conrad Observa**	**77.66**	**18**	*e*P	**P**	**22 59 33.2**	**+1.7**
	comp=Z,15nm,1.5s						
GZR	**Gura Zlata**	**77.67**	**24**	⇑P	**P**	**22 59 31.8**	**+0.1**
GZR	**Gura Zlata**	**77.67**	**24**	⇑P	**P**	**22 59 31.8**	**+0.1**
HUMR	**Humele**	**77.77**	**26**	⇑P	**P**	**22 59 32.9**	**+0.8**
BSTI	**Sart Tilman**	**77.80**	**11**	*d*P	**P**	**22 59 34.5**	**+2.4**
UCC	**Uccle**	**77.81**	**10**	*d*P	**P**	**22 59 32.8**	**+0.6**
UCC				*d*PcP	**PcP**	**22 59 43.0**	**+0.9**
UCC				*d*x	x	23 00 03.5	
BR131	**Keskin Array S**	**77.81**	**34**	*i* P	**P**	**22 59 33.5**	**+0.8**
BRTR	**Keskin Array B**	**77.81**	**34**	P	**P**	**22 59 35.1**	**+2.4**
	comp=Z,3.6nm,0.9s,baz=202,slow=5.3,SNR=17						
BRTR	**Keskin Array B**	**77.81**	**34**	P	**P**	**22 59 32.7**	**0.0**
MEM	**Membach**	**77.90**	**11**	*d*P	**P**	**22 59 32.9**	**+0.2**
MEM				*d*pP	**sP**	**22 59 36.7**	**+1.1**
MEM				*d*x	x	23 00 23.2	
GERES	**GERESS Array B**	**77.91**	**17**	P	**P**	**22 59 33.5**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=188,slow=4.0,SNR=7.0						
GERES				PP	**PP**	**23 02 29.2**	**0.0**
	comp=Z,0.8nm,0.9s,baz=260,slow=8.0,SNR=4.2						
GERES	**GERESS Array B**	**77.91**	**17**	P	**P**	**22 59 33.0**	**+0.1**
BEBN	**Eben Emael**	**78.02**	**11**	*d*P	**P**	**22 59 34.4**	**+1.1**
BEBN				*d*x	x	23 00 02.0	
BEBN				*d*x	x	23 00 24.2	
SIRR	**Siria**	**78.02**	**23**	⇑P	**P**	**22 59 34.5**	**+0.9**
CKRC	**Cesky Krumlov**	**78.05**	**17**	*e*P	**P**	**22 59 33.7**	**+0.1**
GRF	**Grafenberg Arr**	**78.09**	**15**	*e*P	**P**	**22 59 34.8**	**+1.0**
	comp=Z,69nm,2.1s,baz=199,slow=5.8						
KHC	**Kasperske Hory**	**78.14**	**17**	*e*P	**P**	**22 59 34.1**	**-0.1**
KHC				*e*		23 02 31.0	
KHC	**Kasperske Hory**	**78.14**	**17**	*e*P	**P**	**22 59 34.1**	**-0.1**
KHC				*e*PP	**PP**	**23 02 31.0**	**-0.1**
ARR	**Arges**	**78.34**	**25**	⇑P	**P**	**22 59 36.3**	**+0.9**
MODS	**Modra-Piesok**	**78.47**	**19**	*e*P	**P**	**22 59 38.4**	**+2.4**
MODS	**Modra-Piesok**	**78.47**	**19**	*e*P	**P**	**22 59 38.3**	**+2.3**
KRUC	**Moravsky**	**78.84**	**18**	*e*P	**P**	**22 59 38.3**	**+0.3**
DRGR		**78.84**	**23**	⇑P	**P**	**22 59 38.6**	**+0.4**
PSZ	**Piszkesteto**	**78.87**	**21**	⇑P	**P**	**22 59 39.7**	**+1.4**
PSZ	**Piszkesteto**	**78.87**	**21**	⇑P	**P**	**22 59 39.7**	**+1.4**
MLR	**Muntele Rosu**	**78.95**	**26**	⇑P	**P**	**22 59 39.6**	**+0.7**
MLR	**Muntele Rosu**	**78.95**	**26**	⇑P	**P**	**22 59 39.6**	**+0.7**
MLR	**Muntele Rosu**	**78.95**	**26**	IAmb	IAmb	22 59 57.4	
	comp=Z,38nm,1.4s						
KOLL	**Kolacno**	**78.99**	**20**	*e*P	**P**	**22 59 40.0**	**+1.2**
JAVC	**Velka Javorina**	**79.02**	**19**	*e*P	**P**	**22 59 40.9**	**+1.8**
VYHS	**Vyhne**	**79.05**	**20**	*e*P	**P**	**22 59 40.4**	**+1.2**
VYHS	**Vyhne**	**79.05**	**20**	*e*P	**P**	**22 59 40.4**	**+1.2**
VRAC	**Vranov**	**79.11**	**18**	*e*P	**P**	**22 59 39.9**	**+0.4**
DOPR	**Dopca**	**79.13**	**25**	⇑P	**P**	**22 59 40.6**	**+0.9**
VRI	**Vrincioaia**	**79.57**	**26**	⇑P	**P**	**22 59 40.6**	**-1.5**
VRI	**Vrincioaia**	**79.57**	**26**	⇑P	**P**	**22 59 40.6**	**-1.5**
ARCR	**ARCALIA**	**79.69**	**24**	⇑P	**P**	**22 59 44.1**	**+1.4**
MORC	**Moravsky Berou**	**79.81**	**19**	*e*P	**P**	**22 59 43.0**	**-0.3**
JTS	**Las Juntas de**	**79.95**	**287**	LR	LR	23 34 32.5	
	comp=Z,282nm,18.0s,baz=196,slow=35						
JTS	**Las Juntas de**	**79.95**	**287**	*i* P	**P**	**22 59 44.3**	**-0.6**
JTS				pmax	pmax		
	comp=Z,12nm,1.2s						
DPC	**Dobruska-Polom**	**79.98**	**18**	*e*P	**P**	**22 59 44.3**	**+0.1**
DPC	**Dobruska-Polom**	**79.98**	**18**	*e*P	**P**	**22 59 44.3**	**+0.1**
CLL	**Collm**	**80.01**	**15**	*e*P	**P**	**22 59 46.0**	**+1.7**
	comp=Z,28nm,1.8s						
CLL	**Collm**	**80.01**	**15**	*e*P	**P**	**22 59 46.0**	**+1.7**
CLL				pmax	pmax		
	comp=Z,28nm,1.8s						
CHVC	**Chvalec**	**80.12**	**17**	*e*P	**P**	**22 59 44.5**	**-0.5**
OSTC	**Ostas**	**80.14**	**18**	*e*P	**P**	**22 59 44.3**	**-0.8**
BIZ	**Bicaz**	**80.22**	**25**	⇑P	**P**	**22 59 46.5**	**+1.0**
CRVS	**Cervenica-Dubn**	**80.24**	**21**	*e*P	**P**	**22 59 47.7**	**+2.1**
CRVS	**Cervenica-Dubn**	**80.24**	**21**	*e*P	**P**	**22 59 47.7**	**+2.1**
CRVS				*e*		23 31 05.7	
UZH	**Uzhgorod**	**80.28**	**22**	*e*P	**P**	**22 59 46.2**	**+0.4**
UZH				*e*		22 59 50.8	
BURAR	**Bucovina Array**	**80.45**	**24**	⇑P	**P**	**22 59 48.6**	**+1.7**
BURAR	**Bucovina Array**	**80.45**	**24**	P	**P**	**22 59 47.0**	**+0.1**
KOLS	**Kolonicke sedl**	**80.54**	**22**	*e*P	**P**	**22 59 51.5**	**+4.3**
KOLS	**Kolonicke sedl**	**80.54**	**22**	*e*P	**P**	**22 59 51.5**	**+4.3**
KOLS				*e*		23 31 01.4	
GEVA	**Gevas**	**81.93**	**40**	P	**P**	**22 59 55.1**	**0.0**
SORM	**Soroca**	**82.07**	**26**	⇑P	**P**	**22 59 55.5**	**+0.2**
SORM	**Soroca**	**82.07**	**26**	⇑P	**P**	**22 59 55.5**	**+0.2**
UOSS	**Minazif**	**82.73**	**58**	P	**P**	**22 59 59.4**	**0.0**
SOC	**Sochi**	**83.73**	**35**	*e*P	**P**	**23 00 02.7**	**-1.4**
SOC				*e*		23 03 14.8	
SOC				*e*PPP	PPP	23 05 08.1	
SOC				*e*S	**S**	**23 10 23.9**	**-3.0**
SOC				*e*SS	**SS**	**23 15 56.9**	**+2.3**
SOC				*e*SSS	SSS	23 19 25.2	
SOC				MLR	MLR		
	comp=Z,1μm,15.0s						
GNI	**Garni**	**84.12**	**40**	*i* P	**P**	**23 00 07.4**	**+1.0**
GNI				pmax	pmax		
	comp=Z,11nm,1.2s						
GNI	**Garni**	**84.12**	**40**	P	**P**	**23 00 06.5**	**+0.1**
GNI				IAmb	IAmb	23 00 10.4	
	comp=Z,30nm,1.2s						
AKH	**Akhalkalaki**	**84.25**	**38**	⇑P	**P**	**23 00 09.4**	**+2.3**
AKH	**Akhalkalaki**	**84.25**	**38**	P	**P**	**23 00 10.7**	**+3.6**
AKASG	**Malin Array Be**	**84.48**	**25**	P	**P**	**23 00 08.2**	**+0.5**
	comp=Z,3.7nm,0.5s,baz=222,slow=5.2,SNR=28						
AKASG	**Malin Array Be**	**84.48**	**25**	P	**P**	**23 00 08.1**	**+0.3**
AKBB	**Malin Array Si**	**84.48**	**25**	*ce*P	**P**	**23 00 08.6**	**+0.9**
AKBB	**Malin Array Si**	**84.48**	**25**	IAmb	IAmb	23 00 10.0	
	comp=Z,32nm,1.8s						
SOR	**Soroa**	**84.56**	**298**	IAmb	IAmb	23 00 12.3	
	comp=Z,30nm,0.9s						
SUW	**Suwalki**	**85.20**	**20**	IAmb	IAmb	23 00 14.4	
	comp=Z,32nm,1.0s						
KBZ	**Khabaz**	**85.50**	**36**	P	**P**	**23 00 14.4**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=248,slow=11,SNR=2.5						
KBZ	**Khabaz**	**85.50**	**36**	*i* P	**P**	**23 00 14.3**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KIV	**Kislovodsk**	**85.54**	**36**	*e*P	**P**	**23 00 13.7**	**+0.3**
KIV				pmax	pmax		
	comp=Z,16nm,1.1s						
APG	**El Apazote**	**86.91**	**288**	LR	LR	23 37 38.2	
	comp=Z,513nm,22.0s,baz=92,slow=35						
NACGM	**Naroch**	**87.08**	**21**	*i* P	**P**	**23 00 21.6**	**+1.1**
NACGM				*i* P	**P**	**23 00 21.6**	**+1.1**
NACGM				*i* P	**P**	**23 00 21.6**	**+1.1**
NACGM				*i* PP	**PP**	**23 03 37.0**	**-7.4**
NACGM				*i* PPP	PPP	23 05 24.2	
NACGM				*i* SKS	S	23 10 00.4	-59
NACGM				*i* PS	PnS	23 12 18.4	+19
NACGM				*i* SS	**SS**	**23 16 40.0**	**-3.4**
NACGM				*i* SSS	SSS	23 20 37.0	
NACGM				*i* LQ	LQ	23 31 17.2	
NACGM				*i* LR	LR	23 34 49.0	
MNK	**Minsk**	**87.11**	**22**	*i* P	**P**	**23 00 19.0**	**-1.7**
	comp=E,3.0nm,1.3s						
MNK				*i* P	**P**	**23 00 19.0**	**-1.7**
	comp=N,12nm,1.2s						
MNK				*i* P	**P**	**23 00 19.0**	**-1.7**
	comp=Z,17nm,1.3s						
MNK				*i* PP	**PP**	**23 03 42.4**	**-2.2**
MNK				*i* PPP	PPP	23 05 37.0	
MNK				*i* S	**SKSac**	**23 10 45.7**	**-2.0**
MNK				*i* SS	**SS**	**23 16 43.8**	**-0.1**
MNK				*i* SSS	SSS	23 20 16.7	
MNK				*i* LQ	LQ	23 33 42.4	
MNK				*i* LR	LR	23 36 37.8	
MNK				*i* LRM	MLR	23 40 34.8	
	comp=E,82nm,17.8s						
MNK				*i* LRM	MLR	23 40 34.8	
	comp=N,1μm,15.9s						
MNK				*i* LRM	MLR	23 40 34.8	
	comp=Z,337nm,16.3s						
MAK	**Makhachkala**	**87.52**	**39**	*e*P	**P**	**23 00 19.7**	**-3.2**
MAK				*e*		23 10 44.0	
MAK				*e*SS	SS	23 16 46.3	-4.1
MAK				*e*SSS	SSS	23 20 23.8	
MAK				MLR	MLR		
	comp=Z,400nm,14.0s						
NHSC	**New Hope**	**87.89**	**309**	P		23 00 27.2	
	baz=123						
V59A	**Middlesex**	**88.02**	**312**	P		23 00 27.1	
	baz=124						
J63A	**Strafford**	**88.05**	**321**	P		23 00 27.7	
	baz=129						
U59A	**Littleton**	**88.06**	**312**	IAmb	IAmb	23 00 29.1	
	comp=Z,24nm,1.1s						
M61A	**Granite Spring**	**88.41**	**318**	P		23 00 28.5	
	baz=127						
V58A	**Windy Hill, Pi**	**88.63**	**311**	IAmb	IAmb	23 00 32.1	
	comp=Z,37nm,1.1s						
NB2	**NORSAR Subarra**	**88.74**	**11**	P	**P**	**23 00 30.2**	**+1.8**
	comp=Z,36nm,2.0s,baz=200,slow=4.8						
NB2	**NORSAR Subarra**	**88.74**	**11**	P	**P**	**23 00 30.2**	**+1.8**
	baz=200,slow=4.8						
NOA	**NORSAR Array B**	**88.74**	**11**	P	**P**	**23 00 30.1**	**+1.7**
	comp=Z,1.7nm,0.6s,baz=200,slow=4.4,SNR=15						
VORD	**Divnogorie**	**88.80**	**29**	*e*P	**P**	**23 00 29.7**	**+0.9**
VORD				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VSR	**Storozhevoye**	**88.93**	**29**	*e*P	**P**	**23 00 30.0**	**+0.6**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
J61A	**Chester**	**88.94**	**320**	P		23 00 31.4	
	baz=128						
N60A	**Cedar Hill Far**	**88.95**	**317**	P		23 00 31.1	
	baz=126						
U57A	**Blanch**	**89.13**	**312**	P		23 00 32.8	
	baz=124						
W56A	**Indian Trail**	**89.27**	**310**	P		23 00 32.5	
	baz=123						
JSC	**Jenkinsville**	**89.28**	**309**	IAmb	IAmb	23 00 35.4	
	comp=Z,19nm,1.0s						
R58A	**Rapidan**	**89.29**	**314**	P		23 00 33.6	
	baz=125						
D62A	**Allapoint, All**	**89.39**	**325**	P		23 00 32.7	
	baz=131						
T57A	**Hurt**	**89.39**	**312**	IAmb	IAmb	23 00 35.8	
	comp=Z,27nm,1.2s						
T57A	**Hurt**	**89.39**	**312**	P		23 00 33.9	
	baz=124						
V56A	**Mocksville**	**89.58**	**311**	P		23 00 34.9	
	baz=123						
L59A	**Walton**	**89.70**	**318**	P		23 00 35.0	
	baz=126						
U56A	**King**	**89.79**	**311**	P		23 00 35.9	
	baz=123						
KMSC	**Kings Mountain**	**89.79**	**310**	P		23 00 36.0	
	baz=123						
LPSR	**Galich'ya Gora**	**89.82**	**28**	*e*P	**P**	**23 00 35.0**	**+1.4**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HODGE	**Hodges**	**89.96**	**309**	IAmb	IAmb	23 00 38.4	
	comp=Z,26nm,1.1s						
I59A	**Olmsteadville**	**89.97**	**320**	P		23 00 35.2	
	baz=127						
VRH	**Novokhopyorsk**	**90.06**	**30**	*e*P	**P**	**23 00 35.7**	**+1.0**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
O57A	**Amberson**	**90.14**	**316**	P		23 00 37.3	
	baz=125						
GOGA	**Godfrey**	**90.39**	**307**	IAmb	IAmb	23 00 40.2	
	comp=Z,15nm,1.1s						
Q56A	**Snyder Ridge,**	**90.48**	**314**	P		23 00 39.0	
	baz=124						
OBN	**Obninsk**	**90.71**	**25**	⇑*i*P	**P**	**23 00 39.7**	**+2.1**
OBN				*e*		23 00 46.6	
OBN				pmax	pmax		
	comp=Z,41nm,1.7s						
OBN				MLR	MLR		
	comp=Z,637nm,16.0s						
U54A	**Nelsons Funny**	**90.86**	**311**	P		23 00 40.7	
	baz=122						
U54A	**Nelsons Funny**	**90.86**	**311**	IAmb	IAmb	23 00 42.4	
	comp=Z,22nm,0.9s						
152A	**Waverly Hall**	**90.91**	**306**	IAmb	IAmb	23 00 42.0	
	comp=Z,12nm,1.0s						
G57A	**Newington**	**91.39**	**321**	P		23 00 42.2	
	baz=127						
MOS	**Moscow**	**91.58**	**25**	*e*P	**P**	**23 00 41.7**	**0.0**
MOS				pmax	pmax		
	comp=Z,43nm,1.4s						
CMIG	**Matias Romero**	**91.64**	**288**	LR	LR	23 42 44.1	
	comp=Z,286nm,18.2s,baz=150,slow=36						
Q53A	**Leroy**	**91.91**	**313**	P		23 00 44.9	
	baz=122						
FINES	**FINESS Array B**	**92.34**	**17**	P	**P**	**23 00 46.4**	**+1.3**
	comp=Z,3.5nm,0.7s,baz=191,slow=3.5,SNR=21						
FINES	**FINESS Array B**	**92.34**	**17**	P	**P**	**23 00 45.6**	**+0.5**
O53A	**New Philadelph**	**92.44**	**314**	P		23 00 47.1	
	baz=123						
S51A	**Beattyville**	**92.66**	**311**	IAmb	IAmb	23 00 49.9	
	comp=Z,12nm,0.8s						
P52A	**Corning**	**92.72**	**313**	P		23 00 48.7	
	baz=122						
D55A	**Sainte-Anne-du**	**92.80**	**322**	P		23 00 48.4	
	baz=126						
SWET	**Sewanee**	**93.06**	**308**	IAmb	IAmb	23 00 50.9	
	comp=Z,24nm,1.3s						
T50A	**Nancy**	**93.19**	**310**	IAmb	IAmb	23 00 52.0	
	comp=Z,10.0nm,0.8s						
ACSO	**Alum Creek Sta**	**93.59**	**313**	P		23 00 51.9	
	baz=122						
CLTN	**Cedars of Leba**	**93.77**	**308**	IAmb	IAmb	23 00 54.7	
	comp=Z,19nm,1.0s						
V48A	**Smith Brothers**	**93.95**	**308**	IAmb	IAmb	23 00 55.8	
	comp=Z,44nm,1.6s						
T47A	**Sharon Grove**	**94.75**	**309**	IAmb	IAmb	23 00 58.4	
	comp=Z,9.9nm,0.9s						
TXAR	**Lajitas Array**	**104.05**	**296**	Pdiff	**Pdif**	**23 01 39.3**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=121,slow=8.7,SNR=3.3						
TXAR				PP	**PP**	**23 05 53.1**	**-3.8**
	comp=Z,0.4nm,0.8s,baz=125,slow=11,SNR=4.7						
KURBB	**Kurchatov Arra**	**109.71**	**43**	PKKPab	PKKPab	23 17 21.5	+1.9
	comp=Z,0.9nm,0.7s,baz=74,slow=3.8,SNR=4.1						
MKAR	**Makanchi Array**	**111.00**	**47**	PKKPab	PKKPab	23 17 14.4	+0.3
	comp=Z,1.2nm,1.0s,baz=64,slow=4.8,SNR=5.3						
WMQ	**Urumqi**	**113.93**	**51**	*e*PKP	**PKiKP**	**23 06 13.8**	**-0.5**
WMQ				LR	LR		
	comp=Z,2μm,15.5s						
WMQ				LR	LR		
	comp=Z,4μm,19.5s						
ZALV	**Zalesovo Beam**	**114.27**	**40**	PKKPab	PKKPab	23 16 59.3	0.0
	comp=Z,0.3nm,0.3s,baz=32,slow=5.6,SNR=4.6						
YKA	**Yellowknife Ar**	**118.81**	**329**	PKP	**PKPdf**	**23 06 22.6**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=91,slow=2.4,SNR=13						
YKA				PKKPbc	**PKKPbc**	**23 16 40.5**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=278,slow=3.7,SNR=4.2						
ASAR	**Alice Springs**	**120.29**	**143**	PKP	**PKPdf**	**23 06 26.9**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=185,slow=2.2,SNR=16						
ASAR				PKKPab	**PKKPbc**	**23 16 33.6**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=44,slow=5.6,SNR=5.1						
ASAR	**Alice Springs**	**120.29**	**143**		**PKPdf**	**23 06 26.3**	**-0.9**
KMI	**Kunming**	**121.28**	**75**	⇑PKP	**PKPdf**	**23 06 28.4**	**-0.8**
KMI				sPKP		23 06 35.0	
KMI				LR	LR		
	comp=Z,2μm,12.6s						
KMI				LR	LR		
	comp=Z,3μm,14.0s						
GTA	**Gaotai**	**121.98**	**58**	⇑PKP	**PKiKP**	**23 06 31.0**	**+0.9**
WRA	**Warramunga Arr**	**123.50**	**141**	PKP	**PKPdf**	**23 06 33.0**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=242,slow=2.1,SNR=18						
WRA	**Warramunga Arr**	**123.50**	**141**	PKIKP	**PKPdf**	**23 06 33.0**	**-0.4**
LZH	**Lanzhou**	**124.62**	**63**	*e*PKP	**PKPdf**	**23 06 34.3**	**-0.9**
LZH				sPKP		23 06 42.6	
INK	**Inuvik**	**125.67**	**337**	PKP	**PKPdf**	**23 06 35.8**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=91,slow=2.2,SNR=8.0						
SONM	**Songino Array**	**127.34**	**48**	PKP	**PKiKP**	**23 06 40.3**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=228,slow=2.9,SNR=13						
SONM	**Songino Array**	**127.34**	**48**		**PKPdf**	**23 06 39.8**	**-0.1**
ULN	**Ulaanbaatar**	**127.78**	**48***c*	*i*PKIKP	**PKiKP**	**23 06 41.6**	**+0.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,2.5s						
XAN	**Xi'an**	**128.44**	**66**	PKP	PKiKP	23 06 54.1	+11
XAN				pPKP	sPKPdf	23 07 03.0	+18
BMAR	**Burnt Mountain**	**129.82**	**338**		**PKPdf**	**23 06 44.3**	**+0.3**
TOLK	**Toolik Lake Re**	**130.68**	**341**	PKPdf	**PKPdf**	**23 06 46.0**	**+0.3**
TOLK	**Toolik Lake Re**	**130.68**	**341**	P		23 06 46.3	
	baz=52						
HHC	**Hu-ho-hao-te**	**131.07**	**57**	*e*PKP	**PKPdf**	**23 06 43.8**	**-3.5**
COLD	**Coldfoot**	**131.74**	**340**	P		23 06 49.1	
	baz=53						
IL31		**132.02**	**336**		**PKPdf**	**23 06 48.4**	**+0.3**
ILAR	**Eielson Array**	**132.02**	**336**	PKP	**PKPdf**	**23 06 48.5**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=353,slow=1.4,SNR=21						
HDA	**Harding Lake**	**132.23**	**336**	P		23 06 49.4	
	baz=58						
HDA				P		23 06 49.4	
	baz=58						
IMAR	**Indian Mountai**	**133.62**	**340**		**PKPdf**	**23 06 51.5**	**+0.4**
NJ2	**Nanjing**	**136.50**	**70**	*e*PKP	**PKPdf**	**23 06 57.1**	**-0.5**
WAMI	**Wamena**	**138.53**	**132**	PKP	**PKiKP**	**23 07 10.1**	**+6.1**
CN2	**Changchun**	**141.02**	**52**	*e*PKP	**PKPdf**	**23 07 01.0**	**-4.5**
HNR	**Honiara**	**143.74**	**166**	PKP	PKPbc	23 07 09.8	+1.2
	comp=Z,68nm,0.6s,baz=217,slow=5.1,SNR=3.8						
KSRS	**Korea Array**	**143.93**	**62**	PKP	PKPbc	23 07 09.1	+0.5
	comp=Z,1.9nm,0.7s,baz=289,slow=2.1,SNR=7.5						
MA2	**Magadan**	**144.32**	**15**	PKIKP	PKPbc	23 07 09.6	+0.5
MA2	**Magadan**	**144.32**	**15**	PKPdf	PKPbc	23 07 09.6	+0.4
USRK	**Ussuriysk Ar.**	**145.45**	**49**	PKPbc	**PKPbc**	**23 07 13.2**	**-0.1**
	comp=Z,5.9nm,0.7s,baz=297,slow=4.2,SNR=24						
USRK	**Ussuriysk Ar.**	**145.45**	**49**	PKPdf	**PKPbc**	**23 07 12.6**	**-0.7**
YSS	**Yuzh-Sakhalins**	**150.85**	**38**	*e*PKIKP	**PKiKP**	**23 07 28.9**	**+0.6**
PETK	**Petropavlovsk-**	**151.81**	**14**	PKPbc	**PKPbc**	**23 07 29.6**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=56,slow=2.5,SNR=7.8						
PETK	**Petropavlovsk-**	**151.81**	**14**	PKIKP	**PKPbc**	**23 07 29.8**	**+0.1**
PETK	**Petropavlovsk-**	**151.81**	**14**		**PKPbc**	**23 07 29.8**	**+0.1**
MAJO	**Matsushiro**	**152.19**	**61**	PKIKP	**PKPbc**	**23 07 31.0**	**-0.2**
MAJO	**Matsushiro**	**152.19**	**61**		**PKPbc**	**23 07 31.0**	**-0.2**
MAT	**Matsushiro**	**152.19**	**61**	PKP	**PKPbc**	**23 07 30.9**	**-0.2**
MJAR	**Matsushiro Arr**	**152.19**	**61**	PKPbc	**PKiKP**	**23 07 31.5**	**0.0**
	comp=Z,6.6nm,0.8s,baz=271,slow=1.6,SNR=19						
MJAR	**Matsushiro Arr**	**152.19**	**61**		**PKPbc**	**23 07 31.0**	**-0.1**

MOS ***15*** *23:17:15.3±1.2,0.°45S±122.°41E,h33km,mb5.7/38, MS5.4/31,Error ellipse: s-maj=6.9km s-min=4.3km az=116.8*

NEIC ***15*** *23:17:16.9±2.1,0.°54S±0.°05×122.°31E±0.°04,h31km±2km, mb5.8/171,Ms_20 5.6/348,Mwb5.9/31,Mww6.1, Mwc6.0(GCMT),Error ellipse: s-maj=8.0km s-min=6.3km az=175.0*

IDC ***15*** *23:17:16.7±1.6,0.°48S×122.°44E,h33km±12km,mb4.5/37, mb1 4.6/41,mb1mx4.5/48,mbtmp4.7/41,ML4.9/6,MS5.4/43, Ms1 5.4/43,ms1mx5.2/63,Error ellipse: s-maj=11.8km s-min=7.1km az=70.0*

DJA ***15*** *23:17:17.5±0.3,1.°S±1.°×12.°2E±.°,h30km±3km,M5.9/110, mB6.3/90,mb5.9/110,MLv6.4/21,Mw(mB)6.0/90, MwMwp5.8/73,Mwp5.9/73*

KLM ***15*** *23:17:18,0.°60S×122.°44E,h38km,mb5.9*

NEIC ***15*** *23:17:18.6,0.°54S×122.°30E,h34km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr3.84; Mθθ 1.72; Mφφ-5.55; Mrθ-2.60; Mθφ-1.39; Mφr5.35; Fault plane solution: M0 7.84000×10^17^ NP1:φs220.75000°, δ30.11000°,λ145.00000°. NP2:φs341.95000°,δ73.27000°, λ64.59000°. Principal axes: T 7.7020, Plg55.0000°, Azm220.0000°; N 0.2755, Plg24.0000°, Azm350.0000°; P -7.9775, Plg24.0000°, Azm91.0000°;*

GCMT ***15*** *23:17:27.9±0.1,0.°53S×122.°35E,h25km,MW6.1/169, Moment Tensor Solution. s158,c331; s169,c530; Duration: ≥6 Moment tensor: Scale 10^18^Nm; Mrr-0.42±.01; Mθθ 0.58±.01; Mφφ-0.16±.01; Mrθ-0.41±.01; Mθφ-0.64±.01; Mφr1.25±.02; Best double couple: M0 1.54900×10^18^ NP1:φs263.00000°,δ29.00000°,

BNDI Bandanaira 8.44 118 P **Pn** **23 19 18.7 +1.3**
27µm56µm5µm.1.2s
SWI Sorong 8.86 92 P **Pn** **23 19 24.1 +0.9**
24µm21µm2µm.0.9s
SIJI Sorong 8.87 92 Pn **Pn** **23 19 24.3 +1.0**
17nm,0.3s,baz=239,slow=11,SNR=53
SIJI Sn Sn 23 21 12.6 +10
baz=31,slow=16,SNR=1.2
KKM Kota Kinabalu 9.05 317 **Pn** **23 19 26.9 +1.0**
WSI Waingapu 9.23 193 P **Pn** **23 19 32.2 +3.9**
30µm3µm.0.8s
SOEI Soe 9.27 169 Pn **Pn** **23 19 33.2 +4.3**
SOEI Soe 9.27 169 P Pn 23 19 33.9 +5.0
27µm26µm2µm.0.9s
PLAI Plampang 9.37 209 P **Pn** **23 19 30.1 -0.1**
61µm9µm1µm.0.9s
BATI Baumata 9.61 173 Pn **Pn** **23 19 35.5 +2.0**
3.7nm,0.3s,baz=152,slow=1.8,SNR=11
BATI LR LR 23 23 28.3
comp=Z,32µm,20.1s,baz=344,slow=38
BATI Baumata 9.61 173 P **Pn** **23 19 37.3 +3.8**
17µm10µm552nm,0.9s
BASI Baing, Sumba 9.71 191 P **Pn** **23 19 35.6 +0.7**
34µm19µm2µm.1.1s
TWSI Taliwang, Sumb 9.76 214 P **Pn** **23 19 34.2 -1.4**
36µm3µm91nm,0.8s
BUTP Butuan 10.05 19 *e*P **Pn** **23 19 43.1 +3.6**
FAKI Fak Fak 10.10 103 Pn **Pn** **23 19 39.4 -0.8**
FAKI Fak Fak 10.10 103 P **Pn** **23 19 39.3 -1.0**
16µm11µm2µm.1.0s
SRBI Singaraja 10.31 224 P **Pn** **23 19 43.2 +0.1**
52µm7µm510nm,0.9s
CNOP Candoni, Negro 10.38 1 *e*P **Pn** **23 19 44.4 +0.4**
BATP Bataraza 10.41 334 *e*P Pn 23 19 51.2 +6.7
KMMI Kalianget 10.56 233 P **Pn** **23 19 49.2 +2.6**
36µm7µm604nm,1.0s
SBUM Sibu 10.63 287 **Pn** **23 19 46.5 -1.0**
SBUM Sibu 10.63 287 P **Pn** **23 19 48.0 +0.6**
DNP Denpasar 10.74 222 P **Pn** **23 19 52.7 +3.7**
63µm483nm,0.8s
ABJI Asem Bagus 10.82 229 P **Pn** **23 19 50.9 +0.8**
51µm7µm142nm,0.9s
MSLP Maasin 10.96 13 *e*P Pn 23 19 56.7 +4.8
LLP Lapu-Lapu 10.97 8 *e*P Pn 23 20 08.9 +17
GLSP General Luna, 10.98 20 *e*P **Pn** **23 19 53.8 +1.6**
JAGI Jajag, Banyuwa 11.33 226 Pn **Pn** **23 19 57.2 +0.1**
JAGI Jajag, Banyuwa 11.33 226 P **Pn** **23 19 57.3 +0.2**
47µm8µm530nm,0.8s
CUYO Cuyo Island 11.47 353 *e*P **Pn** **23 20 00.8 +1.8**
SAUI Saumlaki 11.49 130 **Pn** **23 20 03.6 +4.3**
SAUI Saumlaki 11.49 130 P Pn 23 20 04.2 +4.9
40µm39µm2µm.1.6s
ENPP El Nido 12.11 346 *e*P **Pn** **23 20 10.1 +2.4**
KSM Kuching 12.27 280 **Pn** **23 20 09.1 -0.8**
KSM Kuching 12.27 280 P **Pn** **23 20 11.0 +1.1**
BUSP Coron 12.73 350 *e*P **P** **23 20 24.9 -2.0**
SMRI Semarang 13.53 242 Pn **Pn** **23 20 27.9 +0.7**
SMRI Semarang 13.53 242 P **Pn** **23 20 29.9 +2.7**
35µm13µm968nm,1.1s
BAKI Biak 13.71 92 P **Pn** **23 20 30.9 +1.2**
16µm924nm,1.6s
UGM Wanagama 13.88 238 **Pn** **23 20 33.3 +1.3**
UGM Wanagama 13.88 238 P **Pn** **23 20 33.5 +1.5**
29µm16µm1µm.1.3s
SRPI Serui, Papua 13.89 95 P **Pn** **23 20 34.7 +2.6**
13µm946nm,1.0s
PGP Puerto Galera 14.10 354‖ *e*P **P** **23 20 43.8 +1.6**
SCSP San Jose Seism 14.22 4 *e*P Pn 23 20 30.8 -5.8
MACP Maragondon, Ca 14.88 354 *e*P **Pn** **23 20 46.6 +1.1**
TPI Tanjungpandan 14.89 262 P **Pn** **23 20 45.1 -0.6**
18µm6µm226nm,1.4s
JCJI Jatiwangi 15.26 247 P **P** **23 20 53.0 -2.1**
42µm17µm645nm,1.8s
KDU Kakadu 15.60 141 P **Pn** **23 20 55.2 +0.1**
baz=16,SNR=35
LEM Lembang 15.99 247 Pn **Pn** **23 21 01.1 +1.0**
6.8nm,0.3s,baz=110,slow=10,SNR=22
LEM LR LR 23 27 58.6
comp=Z,38µm,21.3s,baz=56,slow=40
LEM Lembang 15.99 247 P **P** **23 21 02.6 -0.8**
25µm10µm419nm,1.1s
CISI Cisompet, Garu 16.09 244 P **Pn** **23 21 00.7 -0.7**
CISI IAmb IAmb 23 21 42.8
comp=Z,730nm,0.9s
CISI Cisompet, Garu 16.09 244 P **Pn** **23 21 01.9 +0.5**
comp=Z,43µmcomp=Z,17µmcomp=Z,734nm,1.3s
KNRA Kununurra 16.23 158 Pn **P** **23 21 10.4 +4.6**
BALP Baler 16.27 357 *e*P **P** **23 21 08.5 +2.1**
PPBI Pangkal Pinang 16.33 264 P **P** **23 21 06.6 -0.5**
comp=Z,29µmcomp=Z,15µmcomp=Z,704nm,1.1s
CBJI Citeko 16.55 249 P **P** **23 21 08.9 -0.6**
comp=Z,48µmcomp=Z,29µmcomp=Z,1µm,0.8s
DBJI Dramaga 16.69 249 P **P** **23 21 10.1 -1.0**
comp=Z,25µmcomp=Z,487nm,1.1s
BOLP Bolinao 17.07 352 *e*P **P** **23 21 14.4 -0.8**
FITZ Fitzroy Crossi 17.66 170 P **P** **23 21 22.6 +0.9**
comp=Z,0.8nm,0.3s,baz=6.0,slow=8.3,SNR=19
FITZ S Sn 23 24 37.5 +0.5
comp=Z,0.5nm,0.3s,baz=14,slow=19,SNR=0.9
FITZ LR LR 23 29 24.8
comp=Z,11µm,20.9s,baz=350,slow=41
FITZ Fitzroy Crossi 17.66 170 P **P** **23 21 22.7 +1.0**
baz=18,SNR=17
FITZ Fitzroy Crossi 17.66 170 P **P** **23 21 22.1 +0.4**
BLSI Bandar Lampung 17.77 254 P **P** **23 21 23.6 +0.6**
comp=Z,43µmcomp=Z,12µmcomp=Z,778nm,0.9s
PMBI Palembang 17.77 262 Pn **P** **23 21 25.0 +2.1**
PMBI Palembang 17.77 262 P **P** **23 21 25.6 +2.6**
comp=Z,46µmcomp=Z,25µmcomp=Z,2µm,1.1s
GENI Genyem 17.86 97 P **P** **23 21 24.2 +0.2**
comp=Z,50µmcomp=Z,33µmcomp=Z,2µm,1.2s
KLSI 18.11 257 P **Pn** **23 21 26.2 -0.4**
comp=Z,15µmcomp=Z,5µmcomp=Z,156nm,1.0s
SZP Santa 18.16 354 P **P** **23 21 27.1 0.0**
SZP IAmb IAmb 23 22 11.8
comp=Z,537nm,1.0s
JAY Jayapura 18.39 96 P **P** **23 21 29.9 0.0**
comp=Z,4.0nm,0.3s,baz=313,slow=12,SNR=10
JAY Jayapura 18.39 96 P **Pn** **23 21 30.4 +0.3**
comp=Z,24µmcomp=Z,5µmcomp=Z,247nm,1.0s
APYP Conner 18.40 356 *e*P **Pn** **23 21 30.0 0.0**
KASI Kota Agung 18.53 254 P **Pn** **23 21 32.2 +0.5**
comp=Z,49µmcomp=Z,16µmcomp=Z,1µm,1.0s
MDSI Maura Dua 18.61 268 P **P** **23 21 32.2 0.0**
comp=Z,45µmcomp=Z,13µmcomp=Z,498nm,1.4s
DLV T Lat 18.62 313 **P** **23 21 32.0 -0.5**
MYKOM Kota Tinggi 18.70 277 P **P** **23 21 32.6 -0.7**
MYKOM IAmb IAmb 23 21 53.2
comp=Z,460nm,1.1s
JMBI JAMBI 18.79 267 P **Pn** **23 21 36.6 +1.8**
comp=Z,32µmcomp=Z,10µmcomp=Z,448nm,0.9s
LWLI Liwa 18.83 256 P **Pn** **23 21 35.5 0.0**
comp=Z,14µmcomp=Z,465nm,0.7s
LHSI Lahat 19.13 260 P **Pn** **23 21 39.1 +0.1**
comp=Z,48µmcomp=Z,21µmcomp=Z,798nm,1.2s
XMIS Christmas Isla 19.32 239 P **P** **23 21 37.7 -2.3**
XMIS IAmb IAmb 23 21 53.8
comp=Z,346nm,0.9s
MMPI Merauke 19.53 114 P **Pn** **23 21 45.2 +1.4**
comp=Z,46µmcomp=Z,2µm,0.7s
MNAI Manna 19.78 259 P **P** **23 21 45.3 +0.2**
MNAI Manna 19.78 259 P **Pn** **23 21 46.7 0.0**
comp=Z,58µmcomp=Z,26µmcomp=Z,914nm,1.3s
KSI Kapahiang 20.02 261 P **P** **23 21 48.5 +0.7**
comp=Z,16µmcomp=Z,680nm,1.0s
MBWA Marble Bar 20.58 187 P **P** **23 21 54.0 +0.3**
MBWA P **P** **23 21 54.0 +0.3**
PSA00 Pilbara Seismi 20.98 187 P **P** **23 21 58.0 0.0**
PSA00 IAmb IAmb 23 22 18.9
comp=Z,435nm,0.9s
PSA00 Pilbara Seismi 20.98 187 P **P** **23 21 57.5 -0.4**
PSA00 IAmb IAmb 23 22 18.8
comp=Z,180nm,0.9s
BKNI Bangkinang 21.38 272 P **P** **23 22 02.5 0.0**
BKNI IAMs_20 IAMs_20 23 31 30.0
comp=Z,25µm,19.0s
BKNI Bangkinang 21.38 272 P **P** **23 22 03.0 +0.6**
comp=Z,35µmcomp=Z,15µmcomp=Z,1µm,1.0s
IPM Ipoh 21.95 284 P **P** **23 22 08.0 -0.6**
IPM IAmb IAmb 23 22 29.3
comp=Z,713nm,1.2s
IPM IAMs_20 IAMs_20 23 31 35.0
comp=Z,21µm,22.0s
IPM Ipoh 21.95 284 P **P** **23 22 09.0 +0.5**
WB0 Warramunga Arr 22.36 149 P **P** **23 22 12.6 -0.3**
WRAB Tennant Creek 22.48 149 P **P** **23 22 14.7 +0.6**
WRAB pmax pmax
comp=Z,718nm,1.0s
WRAB Tennant Creek 22.48 149 P **P** **23 22 14.7 +0.6**
WRA Warramunga Arr 22.48 149 P **P** **23 22 13.3 -0.9**
comp=Z,134nm,0.8s,baz=330,slow=11,SNR=327
WRA S **S** **23 26 19.8 +0.7**
comp=Z,6.6nm,0.8s,baz=337,slow=14,SNR=1.3
WRA ScP **ScP** **23 29 42.7 -0.6**
comp=Z,13nm,1.1s,baz=345,slow=2.6,SNR=5.1
WRA LR LR 23 33 20.9
comp=Z,8µm,18.8s,baz=320,slow=43
WB2 Warramunga Arr 22.49 149 P **P** **23 22 14.5 +0.3**
KULM Kulim 22.50 285 P **P** **23 22 13.2 -1.3**
KULM IAmb IAmb 23 22 36.2
comp=Z,508nm,1.3s
KULM Kulim 22.50 285 P **P** **23 22 14.0 -0.5**
WR0 Warramunga Arr 22.60 149 P **P** **23 22 14.6 -0.8**
MNSI Mandailing Nat 22.87 273 P **P** **23 22 17.6 -0.7**
comp=Z,27µmcomp=Z,12µmcomp=Z,440nm,0.8s
UBPT Khong Chiam 23.02 314 P **P** **23 22 19.0 -0.8**
comp=Z,2µmcomp=Z,147nm,1.1s
UBPT Khong Chiam 23.02 314 P **P** **23 22 18.3 -1.5**
UBPT IAmb IAmb 23 22 46.6
comp=Z,348nm,1.2s
QIZ Qiongzhong 23.09 328 P **P** **23 22 19.4 -1.1**
QIZ S **S** **23 26 28.5 -1.2**
QIZ pmax pmax
comp=Z,2µm,12.0s
QIZ LR LR
comp=Z,5µm,17.2s
QIZ LR LR
comp=Z,8µm,20.6s
QIZ LR LR
comp=Z,11µm,20.8s
QIZ Qiongzhong 23.09 328 P **P** **23 22 19.8 -0.7**
GIRL Giralia 23.29 199 P **P** **23 22 23.5 +1.0**
baz=23,SNR=6.1
GIRL Giralia 23.29 199 P **P** **23 22 23.1 +0.6**
GIRL IAmb IAmb 23 22 50.8
comp=Z,326nm,0.8s
TWG Pinlang 23.33 357 P **P** **23 22 21.6 -1.2**
TWG IAmb IAmb 23 22 41.7
comp=Z,288nm,0.7s
RPSI Rantau Prapat 23.70 278 IAMs_20 IAMs_20 23 33 19.3
comp=Z,14µm,19.0s
PSI Prapat 23.72 278 P **P** **23 22 26.2 -0.7**
comp=Z,126nm,0.9s,baz=179,slow=2.8,SNR=79
PSI LR LR 23 34 03.7
comp=Z,12µm,18.9s,baz=90,slow=42
YULB Yu-li 23.89 357 IAmb IAmb 23 23 04.4
comp=Z,463nm,1.0s
TSI Tuntungan 24.18 280 P **P** **23 22 31.4 +0.4**
comp=Z,25µmcomp=Z,17µmcomp=Z,754nm,0.9s
SSLB Suanglung 24.30 357 P **P** **23 22 30.9 -1.1**
COEN Coen 24.46 124 IAmb IAmb 23 23 04.9
comp=Z,175nm,0.9s
NACB Ninganchiao 24.66 358 P **P** **23 22 34.4 -0.9**
NACB IAmb IAmb 23 23 07.5
comp=Z,168nm,0.9s
KRAB Krabi 24.74 291 P **P** **23 22 36.0 -0.2**
comp=Z,22µmcomp=Z,3µm,0.8s
SRAK Srakaew 24.86 307 P **P** **23 22 33.0 -4.2**
comp=Z,13µmcomp=Z,1µm,0.9s
GSI Gunungsitoli 24.90 274 P **P** **23 22 35.9 -1.7**
GSI IAMs_20 IAMs_20 23 33 11.4
comp=Z,21µm,21.0s
GSI Gunungsitoli 24.90 274 P **P** **23 22 35.9 -1.7**
comp=Z,25µmcomp=Z,17µmcomp=Z,1µm,1.3s
WRKA Warakurna 24.94 167 P **P** **23 22 37.8 0.0**
baz=25,SNR=33
YOJ Yonaguni jima 24.94 1 P **P** **23 22 38.3 +0.5**
YOJ pmax pmax
comp=Z,417nm,0.8s
YOJ Yonaguni jima 24.94 1 P **P** **23 22 38.3 +0.5**
MANU Manus Island 25.00 93 P **P** **23 22 40.4 +1.9**
MANU IAmb IAmb 23 23 08.7
comp=Z,325nm,1.1s
YHNB Yeheng 25.16 358 IAmb IAmb 23 23 11.8
comp=Z,331nm,0.9s
YHNB IAMs_20 IAMs_20 23 33 16.6
comp=Z,14µm,20.0s
GZH Guangzhou 25.16 340 P **P** **23 22 44.3 +4.5**
GZH S **S** **23 27 10.1 +7.2**
GZH LR LR
comp=Z,6µm,16.1s
GZH LR LR
comp=Z,9µm,17.1s
KNMB Chin-men Tao 25.23 351 P **P** **23 22 40.3 -0.1**
KNMB IAmb IAmb 23 22 55.7
comp=Z,179nm,1.0s
SURT Suratani 25.37 293 P **P** **23 22 42.9 +1.1**
comp=Z,61nmcomp=Z,7.1nm,1.1s
PKDT Phuket 25.44 290 P **P** **23 22 48.7 +6.2**
comp=Z,156nm,0.9s
TATO Taipei 25.46 358 P **P** **23 22 42.1 -0.4**
TATO IAmb IAmb 23 22 59.2
comp=Z,425nm,1.4s
ASAR Alice Springs 25.49 155 P **P** **23 22 43.0 +0.2**
comp=Z,17nm,0.7s,baz=324,slow=7.0,SNR=167
ASAR PcP **PcP** **23 26 14.5 +0.2**
comp=Z,7.5nm,0.7s,baz=2.5,slow=3.2,SNR=1.9
ASAR S **S** **23 27 17.3 +9.0**
comp=Z,2.9nm,0.8s,baz=356,slow=26,SNR=1.1
ASAR ScP **ScP** **23 29 52.3 +0.8**
comp=Z,5.9nm,0.9s,baz=341,slow=3.1,SNR=4.7
ASAR LR LR 23 33 57.2
comp=Z,10µm,19.6s,baz=326,slow=39
ASAR Alice Springs 25.49 155 P **P** **23 22 43.4 +0.6**
TPTI 25.50 279 P **P** **23 22 42.3 -0.8**
comp=Z,10µmcomp=Z,3µmcomp=Z,148nm,1.4s
KHON Khomkaen 25.64 312 P **P** **23 22 45.3 +1.1**
comp=Z,4µmcomp=Z,601nm,0.9s
QZH Quanzhou 25.68 352‖ *i*P **P** **23 22 43.6 -0.9**
QZH sP **sP** **23 23 01.1 +4.0**
QZH S **S** **23 27 07.3 -3.7**
QZH pmax pmax
comp=Z,130nm,1.3s
QZH pmax pmax
comp=Z,3µm,6.7s
QZH LR LR
comp=Z,7µm,17.2s
QZH LR LR
comp=Z,5µm,15.6s
QZH LR LR
comp=Z,9µm,18.8s
QIS Mount Isa 25.99 141 P **P** **23 22 47.4 -0.1**
baz=26,SNR=24
CHAI Chaiyaphum 26.00 310 P **P** **23 22 47.9 +0.3**
comp=Z,4µmcomp=Z,616nm,1.0s
LHMI Lhok Sumawe 26.08 283 P **P** **23 22 49.4 +1.1**
LHMI Lhok Sumawe 26.08 283 P **P** **23 22 49.5 +1.2**
comp=Z,22µmcomp=Z,12µmcomp=Z,684nm,1.2s
PMG Port Moresby 26.14 110 P **P** **23 22 49.4 +0.6**
comp=Z,113nm,0.8s,baz=292,slow=5.3,SNR=21
PMG Port Moresby 26.14 110 P **P** **23 22 49.2 +0.4**
PMG pmax pmax
comp=Z,353nm,0.9s
PMG Port Moresby 26.14 110 P **P** **23 22 49.2 +0.4**
PMG IAmb IAmb 23 23 17.6
comp=Z,353nm,0.9s
PHET Kaeng Krachan 26.28 302 P **P** **23 22 51.0 +0.9**
comp=Z,3µmcomp=Z,244nm,1.0s
NONG Nongkai 26.52 315 P **P** **23 22 52.0 -0.3**
comp=Z,270nm,0.8s
SRDT SRDT 27.43 304 P **P** **23 23 03.0 +2.6**
comp=Z,1µmcomp=Z,46nm,1.1s
JMZ Minamidaito 2 27.63 17 P **P** **23 23 01.2 -0.8**
JMZ IAmb IAmb 23 23 56.3
comp=Z,340nm,1.4s
MTSU Mount Surprise 27.69 130 P **P** **23 23 03.7 +0.9**
baz=28,SNR=5.6
UTHA Uthaitani 27.80 306 P **P** **23 23 03.9 +0.2**
comp=Z,2µmcomp=Z,331nm,0.9s
COCO West Island 27.85 245 IAMs_20 IAMs_20 23 35 02.9
comp=Z,12µm,20.0s
JOW Kunigami 27.87 11 LR LR 23 36 56.5
comp=Z,9µm,18.0s,baz=172,slow=42
PHIT Phitsanulok 27.97 310 P **P** **23 23 07.0 +1.7**
comp=Z,8µmcomp=Z,1µm,1.1s
UTTA Uttaradit 28.20 311 P **P** **23 23 07.6 +0.2**
comp=Z,2µmcomp=Z,164nm,1.2s
SLVN Son La 28.33 321 P **P** **23 23 08.5 0.0**
UMPA Umpang Tak 28.62 307 P **P** **23 23 11.9 +0.7**
comp=Z,2µmcomp=Z,292nm,1.0s
SUKH Sukhothai 28.75 310 P **P** **23 23 12.0 -0.2**
comp=Z,2µmcomp=Z,244nm,0.9s
NANT Nan 28.76 313 P P 23 23 20.4 +8.1
MORW Morawa 28.94 192 P **P** **23 23 12.7 -1.0**
baz=29,SNR=4.7
MORW Morawa 28.94 192 P **P** **23 23 12.9 -0.9**
MORW IAmb IAmb 23 23 38.7
comp=Z,144nm,1.1s
LAMP Lampang 29.37 312 P **P** **23 23 18.7 +1.0**
comp=Z,2µmcomp=Z,218nm,0.8s
CM36 Chiang Mai Arr 29.77 311 P **P** **23 23 21.0 -0.3**
CM04 Chiang Mai Arr 29.79 311 P **P** **23 23 22.1 +0.7**
comp=Z,934nmcomp=Z,128nm,0.9s
CM09 Chiang Mai Arr 29.81 311 P **P** **23 23 23.0 +1.4**
comp=Z,751nmcomp=Z,89nm,0.9s
CM05 Chiang Mai Arr 29.82 311 P **P** **23 23 22.3 +0.6**
comp=Z,630nmcomp=Z,95nm,0.9s
CM01 Chiang Mai Arr 29.82 311 P **P** **23 23 22.0 +0.3**
CM35 Chiang Mai Arr 29.82 311 P **P** **23 23 22.0 +0.2**
CM02 Chiang Mai Arr 29.84 311 P **P** **23 23 22.9 +1.0**
comp=Z,917nmcomp=Z,138nm,0.9s
CM31 Chiang Mai Arr 29.85 311 P **P** **23 23 26.0 +4.0**
comp=Z,18µmcomp=Z,3µm,0.9s
CM31 Chiang Mai Arr 29.85 311 P **P** **23 23 22.1 +0.2**
CM31 IAmb IAmb 23 23 44.5
comp=Z,99nm,0.8s
CMAR Chiang Mai Arr 29.85 311 P **P** **23 23 22.0 0.0**
comp=Z,6.5nm,0.8s,baz=136,slow=7.9,SNR=26
CMAR ScP **ScP** **23 30 03.7 -1.1**
comp=Z,1.0nm,0.3s,baz=150,slow=2.2,SNR=4.2
CMAR LR LR 23 35 50.8
comp=Z,8µm,21.5s,baz=176,slow=37
CMAR Chiang Mai Arr 29.85 311 P **P** **23 23 21.8 -0.2**
CM13 Chiang Mai Arr 29.86 311 P **P** **23 23 22.0 0.0**
comp=Z,975nmcomp=Z,148nm,0.9s
CM15 Chiang Mai Arr 29.86 311 P **P** **23 23 23.0 +0.9**
comp=Z,948nmcomp=Z,143nm,0.9s
CM34 Chiang Mai Arr 29.93 311 P **P** **23 23 23.0 +0.3**
RABL Rabaul 29.94 97 P **P** **23 23 22.9 +0.1**
CM32 Chiang Mai Arr 30.04 311 P **P** **23 23 24.0 +0.3**
CMMT Chiang Mai 30.06 311 P **P** **23 23 23.1 -0.8**
comp=Z,2µmcomp=Z,124nm,1.1s
CHTO Chiang Mai 30.07 311 P **P** **23 23 23.5 -0.4**
CHTO pmax pmax
comp=Z,320nm,1.2s
CHTO MLR MLR
comp=Z,9µm,22.0s
CHTO Chiang Mai 30.07 311 IAmb IAmb 23 23 46.9
comp=Z,320nm,1.2s
CHTO Chiang Mai 30.07 311 P **P** **23 23 23.5 -0.4**
CHTO Chiang Mai 30.07 311 P **P** **23 23 24.2 +0.3**
CHTO P **P** **23 23 24.2 +0.3**
CM33 Chiang Mai Arr 30.07 311 P **P** **23 23 23.0 -0.9**
CTA Charters Tower 30.32 131 P **P** **23 23 27.1 +1.0**
comp=Z,20nmcomp=Z,8nm,baz=309,slow=11,SNR=20
CTAO Charters Tower 30.32 131 P **P** **23 23 26.5 +0.4**
CTAO pmax pmax
comp=Z,129nm,1.2s
CTAO MLR MLR
comp=Z,8µm,19.0s
CTAO Charters Tower 30.32 131 P **P** **23 23 26.5 +0.4**
CTAO IAmb IAmb 23 23 56.3
comp=Z,129nm,1.1s
BLDU Ballidu 30.32 190 P **P** **23 23 25.4 -0.6**
baz=30,SNR=9.0
MHMT Maesarieng 30.46 309 P **P** **23 23 26.9 -0.5**
FORT Forrest 30.47 170 P **P** **23 23 27.5 +0.2**
FORT IAmb IAmb 23 23 47.8
comp=Z,156nm,0.9s
KMBL Kambalda 30.59 181 P **P** **23 23 28.8 +0.5**
baz=31,SNR=6.8
GYA Guiyang 30.90 332 ⇑P **P** **23 23 32.6 +1.3**
GYA pP sP 23 23 45.3 +1.3
GYA S **S** **23 28 29.0 -4.6**
GYA sS pS 23 28 45.8 +1.6
GYA pmax pmax
comp=Z,17nm,0.6s
GYA pmax pmax
comp=Z,190nm,5.4s
GYA LR LR
comp=Z,4µm,13.5s
GYA LR LR
comp=Z,4µm,17.9s
GYA LR LR
comp=Z,4µm,13.2s
KLBR Kellerberrin 31.12 188 P **P** **23 23 34.4 +1.4**
baz=31,SNR=5.2
SSE Sheshan 31.56 358 P **P** **23 23 41.3 +4.4**
SSE S **S** **23 28 47.9 +4.4**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,920nm,6.1s
SSE LR LR
comp=Z,850nm,16.8s
SSE LR LR
comp=Z,3µm,15.3s
SSE Sheshan 31.56 358 P **P** **23 23 37.0 +0.1**
MUN Mundaring 31.74 190 P **P** **23 23 38.0 -0.5**
baz=32,SNR=4.9
PBA Port Blair 31.89 293 *ex* x 23 23 34.3
PBA *eP* P 23 23 40.0 +0.1
PBA Port Blair 31.89 293 P P 23 23 38.7 -1.3
PBA IAmb IAmb 23 24 39.8
comp=Z,237nm,1.3s
PBA IAMs_20 IAMs_20 23 38 50.1
comp=Z,16µm,20.0s
PBA Port Blair 31.89 293 P P 23 23 46.5 +6.5
KMI Kunming 31.89 325 ⇑P **P** **23 23 42.3 +2.1**
KMI sP sP 23 23 54.6 +1.8
KMI PP **PnPn** **23 24 47.9 +2.4**
KMI S **S** **23 28 50.3 +1.0**
KMI sS sS 23 29 03.4 -1.0
KMI pmax pmax
comp=Z,7.0nm,0.8s
KMI pmax pmax
comp=Z,560nm,4.1s
KMI LR LR
comp=Z,4µm,17.1s
KMI LR LR
comp=Z,6µm,16.1s
KMI LR LR
comp=Z,8µm,17.1s
KMI Kunming 31.89 325 P **P** **23 23 40.9 +0.7**
KMI pmax pmax
comp=Z,89nm,1.0s
KMI MLR MLR
comp=Z,4µm,21.0s
KMI Kunming 31.89 325 P **P** **23 23 40.9 +0.7**
KMI IAmb IAmb 23 24 25.4
comp=Z,89nm,1.0s
WHN Wuhan 31.92 347‖ *i*P **P** **23 23 40.8 +0.7**
WHN pP **sP** **23 23 53.4 +0.6**
WHN S **S** **23 28 53.5 +4.3**
WHN pmax pmax
comp=Z,48nm,0.6s
WHN LR LR
comp=Z,16µm,21.4s
WHN LR LR
comp=Z,6µm,14.7s
WHN LR LR
comp=Z,23µm,21.6s
DGPR DIGLIPUR 32.28 296 *e*P **P** **23 23 46.1 +2.7**
NWAO Narrogin (SRO) 32.51 188 P **P** **23 23 44.5 -0.7**
comp=Z,6.0nm,0.8s,baz=11,slow=11,SNR=2.3
NWAO LR LR 23 39 23.4
comp=Z,10µm,18.4s,baz=18,slow=41
NWAO Narrogin (SRO) 32.51 188 P **P** **23 23 46.5 +1.3**
baz=33,SNR=4.5
NWAO Narrogin (SRO) 32.51 188 P **P** **23 23 46.8 +1.6**
NWAO pmax pmax
comp=Z,84nm,1.2s
NWAO MLR MLR
comp=Z,10µm,18.0s
NWAO Narrogin (SRO) 32.51 188 P **P** **23 23 46.0 +0.8**
NWAO Narrogin (SRO) 32.51 188 P **P** **23 23 46.8 +1.6**
NWAO IAmb IAmb 23 24 04.9
comp=Z,84nm,1.1s
NWAO Narrogin (SRO) 32.51 188 IAMs_20 IAMs_20 23 39 12.5
comp=Z,10µm,18.0s
NWAO Narrogin (SRO) 32.51 188 P **P** **23 23 44.9 -0.3**
NWAO P **P** **23 23 44.9 -0.3**
NJ2 Nanjing 32.66 354 ⇑P **P** **23 23 47.4 +0.8**
NJ2 pP **sP** **23 23 59.0 -0.3**
NJ2 sP pP 23 24 04.4 +8.7
NJ2 PP **PnPn** **23 24 54.8 -0.4**
NJ2 S **S** **23 28 59.3 -1.4**
NJ2 sS **sS** **23 29 17.9 +1.8**

NJ2 ScS **ScS** **23 34 11.0 -2.6**
NJ2 pmax pmax
comp=Z,21nm,0.6s
NJ2 pmax pmax
comp=Z,450nm,4.1s
NJ2 LR LR
comp=Z,7μm,17.1s
NJ2 LR LR
comp=Z,4μm,15.9s
NJ2 LR LR
comp=Z,8μm,19.4s
JSU Suzuyama 32.85 13 P **P** **23 23 47.2 -1.0**
ENH Enshi 33.09 339 **P** **23 23 49.8 -0.6**
QLP Quilpie 33.28 143 P **P** **23 23 52.6 +0.5**
baz=33,SNR=6.5
JCJ Chichijima 33.49 33 P **P** **23 23 51.1 -2.8**
comp=Z,135nm,0.5s,baz=273,slow=6.6,SNR=18
JCJ LR LR 23 35 43.4
comp=Z,6μm,21.9s,baz=217,slow=33
JNU Nakatsue 34.50 13 P **P** **23 23 58.9 -3.7**
comp=Z,8.3nm,0.9s,baz=225,slow=10.0,SNR=2.8
JNU LR LR 23 37 13.0
comp=Z,5μm,21.4s,baz=173,slow=35
JNU Nakatsue 34.50 13 P **P** **23 24 00.8 -1.8**
BBOO Buckleboo 34.51 159 P **P** **23 24 02.6 -0.1**
baz=35,SNR=14
BBOO Buckleboo 34.51 159 P **P** **23 24 02.6 -0.1**
BBOO IAmb IAmb 23 24 24.6
comp=Z,111nm,0.8s
JTU Tsushima 35.57 10 P **P** **23 24 11.1 -0.6**
JTU IAmb IAmb 23 25 24.4
comp=Z,152nm,1.6s
JMN Monobe 35.83 16 P **P** **23 24 12.6 -1.4**
JMN IAmb IAmb 23 24 51.1
comp=Z,133nm,1.1s
STKA Stephens Creek 36.00 152 P **P** **23 24 15.7 +0.2**
comp=Z,30nm,0.7s,baz=319,slow=8.8,SNR=54
STKA LR LR 23 43 15.8
comp=Z,4μm,18.4s,baz=329,slow=43
STKA Stephens Creek 36.00 152 P **P** **23 24 15.8 +0.2**
baz=36,SNR=43
STKA Stephens Creek 36.00 152 P **P** **23 24 15.7 +0.2**
STKA pmax pmax
comp=Z,27nm,0.9s
STKA Stephens Creek 36.00 152 P **P** **23 24 15.7 +0.2**
CD2 Chengdu 36.02 332 P **P** **23 24 15.3 -0.4**
CD2 sP sP 23 24 29.6 +1.1
CD2 PP **PP** **23 25 39.6 +1.6**
CD2 S **S** **23 29 54.4 +1.7**
CD2 sS sS 23 30 08.8 +1.0
CD2 ScS **ScS** **23 34 30.0 -1.6**
CD2 pmax pmax
comp=Z,70nm,0.7s
CD2 pmax pmax
comp=Z,1μm,6.7s
CD2 LR LR
comp=Z,13μm,18.4s
CD2 LR LR
comp=Z,7μm,15.1s
CD2 LR LR
comp=Z,13μm,17.7s
RMQ Roma 36.12 138 P **P** **23 24 17.0 +0.3**
baz=36,SNR=4.8
HTT Hallett 36.14 156 P **P** **23 24 17.3 +0.6**
baz=36,SNR=17
PATS Pohnpei 36.59 78 P **P** **23 24 18.1 -2.6**
baz=37,SNR=4.5
PATS Pohnpei 36.59 78 P **P** **23 24 20.1 -0.6**
SAIH SAIHA 36.73 311 *eP* **P** **23 24 23.6 +1.6**
XAN Xi'an 36.73 341 P **P** **23 24 21.3 -0.4**
XAN sP sP 23 24 33.8 -0.7
XAN PcP **PcP** **23 26 46.9 +3.0**
XAN S **S** **23 30 00.9 -2.5**
XAN pmax pmax
comp=Z,140nm,0.8s
XAN pmax pmax
comp=Z,2μm,6.9s
XAN LR LR
comp=Z,8μm,20.6s
XAN LR LR
comp=Z,5μm,21.7s
XAN LR LR
comp=Z,8μm,18.4s
XAN Xi'an 36.73 341 IAmb IAmb 23 24 48.1
comp=Z,107nm,0.8s
JHS Saijyo 36.82 15 P **P** **23 24 21.3 -1.2**
TIA Tai'an 36.97 353 P **P** **23 24 24.0 +0.3**
TIA pP **sP** **23 24 35.6 -0.9**
TIA S **S** **23 30 03.9 -3.1**
TIA pmax pmax
comp=Z,10.0nm,0.8s
TIA LR LR
comp=Z,4μm,21.4s
TIA LR LR
comp=Z,3μm,21.4s
TIA LR LR
comp=Z,5μm,20.6s
EIDS Eidsvold 37.04 134 P **P** **23 24 22.9 -1.5**
baz=37,SNR=3.0
EIDS Eidsvold 37.04 134 P **P** **23 24 24.6 +0.1**
JWT Wachi 37.72 18 P **P** **23 24 28.5 -1.6**
JWT IAmb IAmb 23 24 50.9
comp=Z,77nm,0.8s
CMSA Cobar Meteorol 37.83 147 P **P** **23 24 31.7 +0.6**
baz=38,SNR=15
MOKO MOKOCHONG 37.95 317 *ex* **P** **23 24 31.7 -0.7**
MOKO *i* x x 23 24 50.7
JSG Sagara 38.09 21 P **P** **23 24 33.7 +0.5**
JSG IAmb IAmb 23 25 02.8
comp=Z,230nm,0.9s
INCN Inchon 38.11 5 P **P** **23 24 32.1 -1.3**
INCN pmax pmax
comp=Z,20nm,0.8s
INCN MLR MLR
comp=Z,6μm,20.0s
INCN Inchon 38.11 5 P **P** **23 24 32.1 -1.3**
SILR SILCHAR 38.20 313 *eP* **P** **23 24 38.7 +4.5**
KSAR Wonju Array Be 38.21 7 P **P** **23 24 34.1 0.0**
KSAR Wonju Array Be 38.21 7 P **P** **23 24 34.1 0.0**
KSRS Korea Array 38.22 7 P **P** **23 24 33.0 -1.2**
comp=Z,2.0nm,0.6s,baz=186,slow=10.0,SNR=10
KSRS ScP **ScP** **23 30 32.0 -2.0**
comp=Z,0.8nm,0.4s,baz=180,slow=3.5,SNR=2.5
KSRS LR LR 23 42 32.8
comp=Z,5μm,18.6s,baz=188,slow=40
KS19 Wonju Array Si 38.26 7 P **P** **23 24 33.3 -1.3**
INU Inuyama 38.30 19 IAmb IAmb 23 24 56.0
comp=Z,116nm,0.9s
INU IAMs_20 IAMs_20 23 38 22.0
comp=Z,9μm,21.0s
HNR Honiara 38.37 104 P **P** **23 24 35.0 -0.9**
comp=Z,82nm,0.3s,baz=200,slow=8.7,SNR=3.8
HNR Honiara 38.37 104 P **P** **23 24 34.9 -1.0**
HNR pmax pmax
comp=Z,371nm,0.8s
HNR MLR MLR
comp=Z,5μm,19.0s
HNR Honiara 38.37 104 P **P** **23 24 34.9 -1.0**
JORH JORHAT 38.41 317 *eP* **P** **23 24 37.7 +1.7**
JORH IAMs_20 IAMs_20 23 46 29.5
comp=Z,4μm,21.0s
ITAN ITANAGAR 39.03 317 *eP* **P** **23 24 42.0 +0.8**
TIY Taiyuan 39.24 347 *eP* P 23 24 48.4 +5.5
TIY S **S** **23 30 39.8 -1.6**
TIY LR LR
comp=Z,3μm,12.9s
TIY LR LR
comp=Z,2μm,14.0s
TIY LR LR
comp=Z,5μm,19.3s
DL2 Dalian 39.34 359 P **P** **23 24 46.8 +3.2**
DL2 S **S** **23 30 50.4 +7.7**
DL2 pmax pmax
comp=Z,54nm,0.7s
DL2 pmax pmax
comp=Z,1μm,6.8s
DL2 LR LR
comp=Z,4μm,19.9s
DL2 LR LR
comp=Z,4μm,17.6s
DL2 LR LR
comp=Z,6μm,18.6s
SHL Shillong 39.34 314 P **P** **23 24 43.1 -0.9**
SHL pmax pmax
comp=Z,168nm,0.9s
SHL Shillong 39.34 314 *eP* **P** **23 24 43.1 -0.9**
SHL IAmb IAmb 23 24 51.8
comp=Z,43nm,1.0s
SHL IAMs_20 IAMs_20 23 44 03.1
comp=Z,4μm,21.0s
SHL Shillong 39.34 314 P **P** **23 24 43.1 -0.9**
SHL IAmb IAmb 23 25 18.8
comp=Z,168nm,0.9s
SHL Shillong 39.34 314 P **P** **23 24 44.1 0.0**
SNR=21
MAJO Matsushiro 39.78 20 P **P** **23 24 44.0 -3.4**
MAJO pmax pmax
comp=Z,111nm,0.9s
MAJO MLR MLR
comp=Z,7μm,19.0s
MAJO Matsushiro 39.78 20 P **P** **23 24 44.0 -3.4**
MAJO IAmb IAmb 23 25 27.0
comp=Z,111nm,0.9s
MAJO Matsushiro 39.78 20 IAMs_20 IAMs_20 23 42 20.2
comp=Z,7μm,19.0s
MAT Matsushiro 39.78 20 P **P** **23 24 44.0 -3.4**
MAT S **S** **23 30 47.4 -2.1**
MJAR Matsushiro Arr 39.78 20 P **P** **23 24 44.6 -2.7**
comp=Z,16nm,0.7s,baz=190,slow=8.9,SNR=43
MJAR ScP **ScP** **23 30 37.8 -2.2**
comp=Z,3.0nm,0.8s,baz=194,slow=4.4,SNR=2.8
MJAR LR LR 23 42 30.9
comp=Z,5μm,18.8s,baz=200,slow=38
MJAR Matsushiro Arr 39.78 20 P **P** **23 24 44.2 -3.2**
MJAR pmax pmax
comp=Z,59nm,0.8s
MJAR Matsushiro Arr 39.78 20 P **P** **23 24 44.2 -3.2**
MJB9 Matsu-Tunnel 39.78 20 P **P** **23 24 46.7 -0.7**
MJB9 IAmb IAmb 23 25 27.0
comp=Z,162nm,0.9s
GUWA GUWAHATI 39.85 314 *eP* **P** **23 24 48.6 +0.6**
JYT Yasato 40.22 22 P **P** **23 24 50.7 -0.2**
ARPS Mount Arapiles 40.22 156 P **P** **23 24 51.7 +0.7**
baz=40,SNR=17
LZH Lanzhou 40.40 337 ⇓P **P** **23 24 53.1 +0.4**
LZH pP sP 23 25 04.8 -0.7
LZH sP pP 23 25 10.1 +8.0
LZH S **S** **23 30 59.8 +0.7**
LZH sS sS 23 31 16.4 +2.0
LZH pmax pmax
comp=Z,300nm,1.3s
LZH pmax pmax
comp=Z,2μm,5.7s
LZH LR LR
comp=Z,14μm,14.2s
LZH LR LR
comp=Z,11μm,14.2s
LZH LR LR
comp=Z,13μm,16.4s
ARMA Armidale 40.60 140 P **P** **23 24 56.3 +1.8**
baz=41,SNR=13
ARMA Armidale 40.60 140 P **P** **23 24 56.1 +1.7**
BJI Beijing 40.86 353 P **P** **23 24 55.3 -0.9**
BJI S **S** **23 31 05.5 0.0**
BJI pmax pmax
comp=Z,8.0nm,0.6s
BJI pmax pmax
comp=Z,490nm,7.9s
BJI LR LR
comp=Z,3μm,19.9s
BJI LR LR
comp=Z,3μm,17.2s
BJI LR LR
comp=Z,5μm,24.8s
JSD Sado 41.15 19 IAmb IAmb 23 25 18.5
comp=Z,118nm,0.9s
JSD IAMs_20 IAMs_20 23 40 23.5
comp=Z,8μm,22.0s
YNG Young 41.40 147 P **P** **23 25 02.7 +1.8**
baz=42,SNR=6.2
JMM Marumori 41.89 22 IAmb IAmb 23 25 27.4
comp=Z,154nm,0.8s
SNY Shenyang 42.26 1 ⇑P P 23 25 18.4 +11
SNY S **S** **23 31 29.3 +3.1**
SNY pmax pmax
comp=Z,22nm,1.6s
SNY pmax pmax
comp=Z,1μm,6.9s
SNY LR LR
comp=N,8μm,19.6s
SNY LR LR
comp=E,3μm,19.6s
SNY LR LR
comp=Z,9μm,18.6s
PALK Pallekele 42.33 281 P **P** **23 25 07.8 -1.0**
comp=Z,9.2nm,0.9s,baz=249,slow=5.7,SNR=3.5
PALK LR LR 23 43 03.2
comp=Z,14μm,21.6s,baz=206,slow=36
PALK Pallekele 42.33 281 P **P** **23 25 08.6 -0.2**
PALK pmax pmax
comp=Z,95nm,1.1s
PALK MLR MLR
comp=Z,13μm,21.0s
PALK Pallekele 42.33 281 P **P** **23 25 08.6 -0.2**
PALK Pallekele 42.33 281 P **P** **23 25 07.7 -1.0**
PALK P **P** **23 25 07.7 -1.0**
PALK S **S** **23 31 30.7 +2.6**
PALK S **S** **23 31 30.7 +2.6**
LSA Lhasa 42.40 318 P **P** **23 25 10.5 +0.9**
LSA pP **pP** **23 25 16.9 -1.9**
LSA S **S** **23 31 31.1 +1.6**
LSA pmax pmax
comp=Z,69nm,0.7s
LSA LR LR
comp=Z,10μm,19.9s
LSA LR LR
comp=Z,9μm,18.5s
LSA LR LR
comp=Z,12μm,18.5s
LSA Lhasa 42.40 318 *i* P **P** **23 25 10.1 +0.5**
SNR=11
LSA Lhasa 42.40 318 P **P** **23 25 09.3 -0.3**
LSA pmax pmax
comp=Z,149nm,0.7s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 42.40 318 **P** **23 25 09.3 -0.3**
LSA IAmb IAmb 23 25 37.0
comp=Z,149nm,0.7s
LSA Lhasa 42.40 318 P **P** **23 25 11.2 +1.6**
LSA P **P** **23 25 11.2 +1.6**
LSA S S 23 31 42.9 +13
LSA S S 23 31 42.9 +13
HHC Hu-ho-hao-te 42.43 348 *eP* **P** **23 25 09.5 +0.2**
HHC sP sP 23 25 21.8 -0.3
HHC S **S** **23 31 28.8 -0.2**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,500nm,6.6s
HHC LR LR
comp=Z,4μm,18.4s
HHC LR LR
comp=Z,4μm,17.6s
HHC LR LR
comp=Z,5μm,22.5s
TOO Toolangi 42.49 153 P **P** **23 25 11.4 +1.7**
baz=43,SNR=5.8
TOO Toolangi 42.49 153 P **P** **23 25 11.5 +1.8**
TOO pmax pmax
comp=Z,112nm,1.2s
TOO Toolangi 42.49 153 P **P** **23 25 11.5 +1.8**
CAN Canberra 42.49 147 P **P** **23 25 11.3 +1.5**
CAN pmax pmax
comp=Z,97nm,0.8s
CAN Canberra 42.49 147 P **P** **23 25 11.3 +1.5**
BTO Baotou 42.55 346 *eP* **P** **23 25 12.5 +2.3**
BTO S **S** **23 31 28.4 -2.3**
BTO pmax pmax
comp=Z,38nm,1.9s
BTO LR LR
comp=Z,16μm,12.4s
BTO LR LR
comp=Z,15μm,13.2s
GTK Tadong 42.74 313 *eP* **P** **23 25 12.5 +0.5**
BOK Bokaro 42.96 307 *eP* **P** **23 25 13.8 +0.1**
BOK *ex* x 23 25 34.5
BOK IAmb IAmb 23 25 36.8
comp=Z,63nm,1.3s
ODAN Odare 43.38 312 *eP* **P** **23 25 17.4 +0.1**
comp=Z,142nm,0.9s
TAPN Taplejung 43.41 313 *eP* **P** **23 25 17.7 0.0**
comp=Z,20nm,0.5s
MSHR Mys Shultsa 43.72 9 *i* P **P** **23 25 17.2 -2.2**
MDRS Chennai 43.95 290 *eP* **P** **23 25 21.7 -0.1**
MDRS IAmb IAmb 23 25 35.7
comp=Z,84nm,1.0s
MDRS IAMs_20 IAMs_20 23 42 56.4
comp=Z,9μm,19.6s
RAMN Ramite 44.02 311 *eP* **P** **23 25 22.1 -0.4**
comp=Z,104nm,0.7s
CN2 Changchun 44.31 3 *eP* **P** **23 25 25.3 +1.1**
CN2 *es*P sP 23 25 38.0 +0.9
CN2 *eS* **S** **23 31 57.8 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,400nm,6.0s
CN2 LR LR
comp=Z,4μm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,4μm,18.0s
JTM Tenmabayashi 44.57 20 P **P** **23 25 24.5 -1.8**
GTA Gaotai 44.89 335 ⇓P **P** **23 25 29.3 +0.2**
GTA pP sP 23 25 41.1 -0.9
GTA sP pP 23 25 46.0 +7.4
GTA S **S** **23 32 07.1 +2.1**
GTA sS sS 23 32 22.0 +1.5
GTA pmax pmax
comp=Z,50nm,0.8s
GTA pmax pmax
comp=Z,210nm,6.9s
GTA LR LR
comp=Z,4μm,17.1s
GTA LR LR
comp=Z,8μm,17.5s
GTA LR LR
comp=Z,8μm,17.8s
GUN Gumba 45.08 312 *eP* **P** **23 25 30.5 -0.5**
comp=Z,115nm,0.4s
PKI Pulchoki 45.25 311 *eP* **P** **23 25 31.3 -1.1**
comp=Z,92nm,1.1s
PKIN Phulchoki 45.26 311 *eP* **P** **23 25 31.4 -1.0**
comp=Z,40nm,0.7s
USA0B Ussuriysk Arra 45.43 10 P **P** **23 25 31.1 -2.0**
USA0B pmax pmax
comp=Z,56nm,0.8s
USA0B MLR MLR
comp=Z,11μm,22.0s
USA0B Ussuriysk Arra 45.43 10 P **P** **23 25 31.1 -2.0**
USRK Ussuriysk Ar. 45.43 10 P **P** **23 25 31.2 -1.9**
comp=Z,9.1nm,0.7s,baz=193,slow=7.2,SNR=32
USRK LR LR 23 43 27.5
comp=Z,6μm,21.7s,baz=180,slow=35
USRK Ussuriysk Ar. 45.43 10 P **P** **23 25 30.9 -2.3**
KKN Kakani 45.46 311 *eP* **P** **23 25 33.1 -0.8**
comp=Z,68nm,0.8s
KOUNC Koumac, New Ca 45.46 119 P **P** **23 25 34.8 +1.1**
MDJ Mudanjiang 45.49 7 P **P** **23 25 32.0 -1.6**
MDJ S **S** **23 32 16.1 +2.9**
MDJ pmax pmax
comp=Z,22nm,0.9s
MDJ pmax pmax
comp=Z,720nm,8.5s
MDJ LR LR
comp=Z,9μm,24.1s
MDJ Mudanjiang 45.49 7 IAmb IAmb 23 26 11.9
comp=Z,74nm,0.9s
DMN Daman 45.50 311 *eP* **P** **23 25 33.6 -0.7**
comp=Z,58nm,0.7s
GKN Gorkha 46.06 311 *eP* **P** **23 25 37.7 -0.9**
comp=Z,73nm,0.6s
TRD Trivandrum 46.18 282 *eP* **P** **23 25 38.5 -1.1**
TRD IAMs_20 IAMs_20 23 43 52.9
comp=Z,48μm,25.6s
ERM Erimo 46.40 21 *ce*P **P** **23 25 39.5 -1.2**
ERM pmax pmax
comp=Z,17nm,0.7s
ERM Erimo 46.40 21 P **P** **23 25 39.6 -1.1**
ERM IAmb IAmb 23 25 59.7
comp=Z,70nm,0.8s
JEM Erimo 46.40 21 P P 23 25 50.1 +9.4
JEM IAmb IAmb 23 25 59.7
comp=Z,75nm,0.9s
JEW Eniwo 46.53 19 P **P** **23 25 42.3 +0.5**
JEW IAmb IAmb 23 26 29.2
comp=Z,168nm,0.9s
JEW IAMs_20 IAMs_20 23 46 02.7
comp=Z,7μm,20.0s
HYB Hyderabad 46.74 295 *i* P **P** **23 25 43.0 -0.9**
comp=Z,230nm,1.0s
HYB Hyderabad 46.74 295 *eP* **P** **23 25 40.8 -3.1**
HYB IAMs_20 IAMs_20 23 44 52.6
comp=Z,6μm,17.7s
TEY Ternei 47.17 14 ⇓*e*P P 23 25 53.3 +6.5
TEY *e* 23 26 00.3
TEY pmax pmax
comp=N,10.0nm,1.0s
TEY pmax pmax
comp=Z,30nm,0.9s
TAU Tasmania Unive 47.66 155 P **P** **23 25 51.7 +1.1**
TAU pmax pmax
comp=Z,84nm,1.3s
TAU Tasmania Unive 47.66 155 P **P** **23 25 51.7 +1.1**
TAU IAmb IAmb 23 26 33.8
comp=Z,84nm,1.2s
DZM Mont Dzumac 47.88 120 *eP* **P** **23 25 53.9 +1.1**
comp=Z,345nm,1.1s
DZM *eS* **S** **23 32 49.5 +1.2**
comp=Z,7μm,26.6s
DZM *eLR* LR 23 39 33.6
comp=Z,6μm,30.6s
DZM Mont Dzumac 47.88 120 P **P** **23 25 53.8 +1.1**
DZM IAmb IAmb 23 26 12.7
comp=Z,116nm,0.9s
DZM Mont Dzumac 47.88 120 P **P** **23 25 53.6 +0.8**
ASAJ Asahikawa 48.05 20 P **P** **23 25 51.9 -1.7**
comp=Z,27nm,0.6s,baz=246,slow=10,SNR=16
ASAJ LR LR 23 47 13.1
comp=Z,6μm,19.2s,baz=219,slow=38
JKA Kamikawa-asahi 48.05 20 IAmb IAmb 23 26 10.0
comp=Z,93nm,0.8s
JKA IAMs_20 IAMs_20 23 47 30.8
comp=Z,7μm,19.0s
YATNC Mamie plateau, 48.26 119 P **P** **23 25 57.4 +1.8**
YUK Yuzh-Kuril'sk 49.14 22 *c i*P **P** **23 26 04.1 +2.1**
YUK *i* S **S** **23 33 09.4 +4.2**
YUK pmax pmax
comp=Z,410nm,1.1s
YUK pmax pmax
comp=N,89nm,0.7s
YUK pmax pmax
comp=E,300nm,0.9s
BHPL Bhopal 49.73 302 *eP* **P** **23 26 04.9 -2.0**
BHPL IAmb IAmb 23 26 14.5
comp=Z,58nm,0.6s
BHPL *i* x x 23 28 19.5
BHPL *eS* **S** **23 33 12.3 -2.0**
BHPL IAMs_20 IAMs_20 23 45 21.0
comp=Z,3μm,22.1s
HIA Hailar 49.74 358 P **P** **23 26 05.5 -1.1**
HIA pmax pmax
comp=Z,68nm,1.2s
HIA MLR MLR
comp=Z,7μm,21.0s
HIA Hailar 49.74 358 P **P** **23 26 05.5 -1.1**
HIA Hailar 49.74 358 IAMs_20 IAMs_20 23 46 46.0
comp=Z,7μm,21.0s
MNCI Minicoy 49.97 281 P **P** **23 26 08.8 0.0**
MNCI IAMs_20 IAMs_20 23 46 52.5
comp=Z,6μm,21.0s
MNCY Minicoy 49.99 281 IAMs_20 IAMs_20 23 44 58.9
comp=Z,9μm,19.9s
ULN Ulaanbaatar 50.10 347 P **P** **23 26 09.2 -0.3**
ULN pmax pmax
comp=Z,272nm,1.3s
ULN MLR MLR
comp=Z,4μm,19.0s
ULN Ulaanbaatar 50.10 347 P **P** **23 26 09.2 -0.3**
ULN Ulaanbaatar 50.10 347 IAMs_20 IAMs_20 23 48 37.8
comp=Z,4μm,19.0s
ULN Ulaanbaatar 50.10 347 P **P** **23 26 09.4 -0.1**
ULN P **P** **23 26 09.4 -0.1**
ULN S **S** **23 33 24.2 +5.3**
ULN S **S** **23 33 24.2 +5.3**
SONM Songino Array 50.23 346 P **P** **23 26 10.0 -0.5**

comp=Z,23nm,0.7s,baz=161,slow=7.1,SNR=89
SONM LR LR 23 48 54.5
comp=Z,5μm,19.1s,baz=156,slow=38
SONM PKPPKP **P'P'df** **23 56 55.8 -4.1**
comp=Z,0.7nm,1.0s,baz=132,slow=2.2,SNR=3.6
SONM Songino Array 50.23 346 P **P** **23 26 09.1 -1.4**
SONM pmax pmax
comp=Z,100nm,0.9s
SONM Songino Array 50.23 346 P **P** **23 26 09.1 -1.4**
SONM IAmb IAmb 23 26 32.1
comp=Z,100nm,0.9s
DGAR Diego Garcia 50.25 261 P **P** **23 26 09.0 -2.0**
DGAR pmax pmax
comp=Z,195nm,1.2s
DGAR MLR MLR
comp=Z,8μm,20.0s
DGAR Diego Garcia 50.25 261 P **P** **23 26 08.9 -2.0**
DGAR IAmb IAmb 23 26 30.9
comp=Z,195nm,1.2s
KLR Kul'dur 50.30 8 *e*P **P** **23 26 08.4 -2.4**
comp=Z,2.1nm,0.8s,baz=214,slow=5.5,SNR=12
KLR LR LR 23 50 20.1
comp=Z,4μm,18.6s,baz=192,slow=40
KLR Kul'dur 50.30 8 *ce*P **P** **23 26 08.3 -2.4**
KLR pmax pmax
comp=Z,24nm,0.9s
GOA Goa 50.58 291 *e*P **P** **23 26 11.6 -1.8**
GOA *i* x x 23 26 28.4
GOA *ex* x 23 33 39.2
GOA IAMs_20 IAMs_20 23 45 12.5
comp=Z,7μm,21.2s
YSS Yuzh-Sakhalins 50.62 18 *e*P **P** **23 26 10.6 -2.6**
YSS *e* 23 26 23.2
YSS *e*S **S** **23 33 19.6 -6.2**
YSS smax smax
comp=N,1μm,13.6s
YSS smax smax
comp=E,1μm,13.0s
YSS MLR MLR
comp=Z,2μm,19.0s
YSS MLR MLR
comp=N,2μm,18.0s
YSS Yuzh-Sakhalins 50.62 18 P **P** **23 26 14.7 +1.5**
YSS IAmb IAmb 23 26 46.2
comp=Z,73nm,0.8s
KAD Karad 50.71 293 ‖ *i*P **P** **23 26 12.9 -1.5**
KUR Kuril'sk 50.92 23 *e*P **P** **23 26 18.9 +3.4**
KUR *e* 23 27 32.7
KUR *e* 23 28 11.5
KUR *e*PPP PPP 23 29 03.2
KUR *e*S **S** **23 33 36.6 +6.6**
KUR pmax pmax
comp=Z,1μm,8.8s
KUR pmax pmax
comp=Z,207nm,1.2s
KUR MLR MLR
comp=Z,1μm,15.0s
POO Poona 51.35 294 *e*P **P** **23 26 17.9 -1.3**
POO *e*P **pP** **23 26 23.0 -5.6**
comp=Z,80nm,0.5s
POO *ex* x 23 33 21.0
POO *ex* x 23 33 36.3
NDI New Delhi 52.11 308 *e*P **P** **23 26 24.0 -0.7**
NDI *ex* x 23 33 56.0
DDI Dehra Dun 52.20 310 *ex* P 23 26 36.4 +11
DDI IAmb IAmb 23 27 17.9
comp=Z,119nm,0.8s
UGL Uglegorsk 52.33 16 *e*P **P** **23 26 24.5 -1.4**
UGL *e*S **S** **23 33 49.5 +0.2**
UGL *e* 23 37 17.0
UGL pmax pmax
comp=Z,2μm,11.0s
UGL smax smax
comp=N,2μm,12.0s
UGL MLR MLR
comp=E,2μm,14.0s
UGL MLR MLR
comp=N,2μm,16.0s
GRNR Gornyy 52.57 11 *e*P **P** **23 26 31.1 +3.4**
CIT Chita 52.98 353 *e*P P 23 26 47.2 +16
CIT *e* 23 26 59.1
CIT pmax pmax
comp=Z,234nm,2.3s
SMLA Simla 53.25 311 *e*P **P** **23 26 32.3 -0.8**
SMLA *e*S **S** **23 33 59.8 -2.7**
SMLA *ex* x 23 34 04.1
ZAK Zakamensk 53.37 345 *e*P **P** **23 26 32.7 -1.1**
ZAK pmax pmax
comp=Z,42nm,1.4s
WMQ Urumqi 54.01 329 P **P** **23 26 38.5 -0.1**
WMQ pP pP 23 26 48.8 +0.9
WMQ sP sP 23 26 53.3 +1.7
WMQ PcP **PcP** **23 27 40.8 -2.6**
WMQ S **S** **23 34 15.5 +2.9**
WMQ SS **SKiKP** **23 37 50.8 +1.6**
WMQ pmax pmax
comp=Z,160nm,1.1s
WMQ pmax pmax
comp=Z,2μm,7.5s
WMQ LR LR
comp=Z,7μm,18.3s
WMQ LR LR
comp=Z,5μm,18.1s
WMQ LR LR
comp=Z,10μm,21.3s
WMQ Urumqi 54.01 329 IAmb IAmb 23 27 02.2
comp=Z,109nm,0.9s
TYV Tymovskoe 54.11 16 *e*P P 23 26 54.4 +15
TYV *e* 23 34 03.7
TYV pmax pmax
comp=Z,11nm,0.4s
ZEA Zeya 54.32 4 *e*P **P** **23 26 43.5 +3.0**
ZEA *e* 23 28 49.2
ZEA *e*S **S** **23 34 23.4 +7.3**
ZEA *e* 23 39 54.4
ZEA pmax pmax
comp=N,300nm,7.6s
ZEA pmax pmax
comp=Z,600nm,11.5s
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,40nm,0.9s
ZEA pmax pmax
comp=Z,500nm,10.8s
ZEA smax smax
comp=E,900nm,16.9s
ZEA MLR MLR
comp=E,1μm,18.0s
ZEA MLR MLR
comp=N,2μm,19.0s
ZEA MLR MLR
comp=Z,2μm,18.0s
TLY Talaya 54.47 346 P **P** **23 26 41.1 -0.6**
comp=Z,6.6nm,0.6s,baz=201,slow=6.4,SNR=5.2
TLY LR LR 23 51 21.1
comp=Z,3μm,19.3s,baz=147,slow=38
TLY Talaya 54.47 346 *e*P P 23 26 48.8 +7.1
TLY *e*S S 23 34 27.9 +10
TLY *e*SSS SSS 23 39 53.0
TLY pmax pmax
comp=Z,193nm,1.4s
TLY MLR MLR
comp=Z,8μm,18.0s
TLY Talaya 54.47 346 P **P** **23 26 41.9 +0.3**
TLY IAmb IAmb 23 27 10.5
comp=Z,78nm,1.1s
TLY IAMs_20 IAMs_20 23 51 17.2
comp=Z,3μm,18.0s
TLY Talaya 54.47 346 P **P** **23 26 42.0 +0.3**
TLY P **P** **23 26 42.0 +0.3**
TLY S **S** **23 34 27.0 +8.6**
TLY S **S** **23 34 27.0 +8.6**
IRK Irkutsk 54.84 346 *e*P P 23 26 50.1 +5.8
IRK *e*S S 23 34 35.1 +12
IRK pmax pmax
comp=Z,150nm,2.1s
BHUJ Bhuj 56.46 299 *ex* **S** **23 34 50.2 +4.4**
FUNA Funafuti 57.10 100 P **P** **23 27 01.6 +0.4**
MSVF Nonsavu 57.25 111 P **P** **23 27 03.1 +0.8**
MSVF pmax pmax
comp=Z,117nm,1.1s
MSVF Nonsavu 57.25 111 P **P** **23 27 03.1 +0.8**
MSVF IAmb IAmb 23 27 41.5
comp=Z,117nm,1.1s
NIL Nilore 57.34 311 P **P** **23 27 01.6 -1.0**
NIL pmax pmax
comp=Z,96nm,0.9s
NIL MLR MLR
comp=Z,2μm,20.0s
NIL Nilore 57.34 311 P **P** **23 27 01.6 -1.0**
NIL IAmb IAmb 23 27 38.9
comp=Z,96nm,0.8s
NIL Nilore 57.34 311 P **P** **23 27 01.5 -1.1**
NIL P **P** **23 27 01.5 -1.1**
NIL S **S** **23 35 00.9 +3.7**
NIL S **S** **23 35 00.9 +3.7**
ZSN Zaisan 57.98 331 *e*P **P** **23 27 05.7 -1.1**
comp=Z,50nm,1.7s,baz=331
ZSN Zaisan 57.98 331 *e*P **P** **23 27 05.7 -1.1**
ZSN pmax pmax
comp=Z,50nm,1.7s
SHLS Shalkode 58.10 324 *e*P **P** **23 27 05.0 -3.0**
comp=Z,49nm,1.1s,baz=324
SHLS Shalkode 58.10 324 *e*P **P** **23 27 04.9 -3.0**
SHLS pmax pmax
comp=Z,49nm,1.1s
PDGK Podgornoye 58.19 324 *i* P **P** **23 27 06.0 -2.5**
PDGK pmax pmax
comp=Z,121nm,1.0s
KSH Kashi 58.24 319 P **P** **23 27 08.4 -0.6**
KSH pP sP 23 27 20.3 -1.7
KSH S **S** **23 35 05.8 -3.2**
KSH SS **SS** **23 39 00.3 -1.0**
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH pmax pmax
comp=Z,310nm,6.5s
KSH LR LR
comp=Z,6μm,15.8s
KSH LR LR
comp=Z,3μm,14.5s
KSH LR LR
comp=Z,3μm,22.1s
UZB Uzynbulak 58.36 324 *e*P **P** **23 27 08.3 -1.5**
baz=324
UZB *e*S **S** **23 35 08.3 -2.2**
baz=324
UZB Uzynbulak 58.36 324 *e*P **P** **23 27 08.2 -1.5**
UZB *e*S **S** **23 35 08.3 -2.2**
DGZ Jazzator, Alta 58.41 334 *i* P **P** **23 27 09.0 -0.9**
DGZ pmax pmax
comp=Z,141nm,1.2s
SKR Severo-Kuril's 58.61 24 *e*P P 23 27 18.9 +7.8
SKR *e* 23 27 36.9
SKR *e* 23 28 02.5
SKR *e*S S 23 35 23.0 +10
SKR *e*SS **SS** **23 38 56.5 -10**
SKR pmax pmax
comp=Z,44nm,1.1s
SKR pmax pmax
comp=Z,1.0nm,8.2s
BOD Bodaibo 58.64 355 *e*P **P** **23 27 08.8 -2.4**
BOD pmax pmax
comp=Z,135nm,2.0s
SATY Saty 58.67 323 *e*P **P** **23 27 10.9 -1.0**
comp=Z,61nm,0.8s,baz=323
SATY Saty 58.67 323 *e*P **P** **23 27 10.9 -1.0**
SATY pmax pmax
comp=Z,61nm,0.8s
KPKS Kokpek 58.74 324 *e*P **P** **23 27 11.0 -1.4**
comp=Z,74nm,0.9s,baz=324
KPKS *e*S **S** **23 35 13.7 -1.7**
baz=324
KPKS Kokpek 58.74 324 *e*P **P** **23 27 10.9 -1.4**
KPKS *e*S **S** **23 35 13.7 -1.7**
KPKS pmax pmax
comp=Z,74nm,0.9s
MK31 Makanchi Array 58.83 329 *i* P **P** **23 27 11.1 -1.7**
MK31 pmax pmax
comp=Z,65nm,0.8s
MK31 Makanchi Array 58.83 329 IAmb IAmb 23 27 31.3
comp=Z,109nm,1.3s
MKAR Makanchi Array 58.83 329 P **P** **23 27 11.5 -1.3**
comp=Z,18nm,0.7s,baz=128,slow=8.0,SNR=122
MKAR PKPPKP 23 56 51.9
comp=Z,0.7nm,1.0s,baz=325,slow=3.4,SNR=3.7
MKAR Makanchi Array 58.83 329 P **P** **23 27 11.2 -1.5**
MAKZ Makanchi 59.00 329 P **P** **23 27 12.4 -1.5**
MAKZ pmax pmax
comp=Z,73nm,1.0s
MAKZ MLR MLR
comp=Z,3μm,20.0s
MAKZ Makanchi 59.00 329 P **P** **23 27 12.4 -1.5**
MAKZ IAmb IAmb 23 27 44.2
comp=Z,73nm,1.0s
DCZ Deep Cove 59.51 145 P **P** **23 27 19.4 +1.9**
DCZ IAmb IAmb 23 27 54.6
comp=Z,86nm,1.1s
TNSS Tian-Shan 59.54 323 *e*P **P** **23 27 17.6 -0.7**
baz=323
TNSS Tian-Shan 59.54 323 *e*P **P** **23 27 17.5 -0.7**
MDOK Medeo 59.55 323 *e*P **P** **23 27 16.3 -1.7**
baz=323
MDOK *e*S **S** **23 35 23.7 -2.3**
baz=323
MDOK LR LR 23 56 48.7
comp=Z,901nm,15.1s,baz=323
MDOK Medeo 59.55 323 *e*P **P** **23 27 16.2 -1.7**
MDOK *e*S **S** **23 35 23.6 -2.3**
AAA Alma-Ata 59.65 323 *e*P **P** **23 27 17.5 -1.2**
baz=323
AAA *e*S **S** **23 35 25.5 -1.7**
baz=323
AAA LR LR 23 57 21.1
comp=Z,966nm,17.7s,baz=323
AAA Alma-Ata 59.65 323 *e*P **P** **23 27 17.4 -1.2**
AAA *e*S **S** **23 35 25.4 -1.7**
TDK Taldyqorghan 59.81 325 *e*P **P** **23 27 18.2 -1.5**
comp=Z,241nm,1.3s,baz=325
TDK LR LR 23 57 50.7
comp=Z,2μm,18.0s,baz=325
TDK Taldyqorghan 59.81 325 *e*P **P** **23 27 18.1 -1.5**
TDK pmax pmax
comp=Z,241nm,1.3s
MLZ Mavora Lakes 60.02 144 P **P** **23 27 21.2 +0.1**
FOZ Fox Glacier 60.03 142 P **P** **23 27 21.3 +0.2**
FOZ IAmb IAmb 23 27 51.8
comp=Z,107nm,1.3s
WHZ Wether Hill Ro 60.21 145 P **P** **23 27 23.4 +1.0**
WHZ IAmb IAmb 23 27 42.8
comp=Z,116nm,1.1s
WKZ Wanaka 60.24 143 IAMs_20 IAMs_20 23 53 27.5
comp=Z,6μm,20.0s
TKM2 Tokmak 2 60.30 322 *i* P **P** **23 27 22.5 -0.7**
TKM2 pmax pmax
comp=Z,73nm,1.3s
KUU Kurty 60.38 323 *e*P **P** **23 27 22.2 -1.4**
comp=Z,176nm,1.5s,baz=323
KUU *e*S **S** **23 35 34.5 -1.9**
baz=323
KUU Kurty 60.38 323 *e*P **P** **23 27 22.1 -1.4**
KUU *e*S **S** **23 35 34.5 -1.9**
KUU pmax pmax
comp=Z,176nm,1.5s
QRZ Quartz Range 60.43 138 P **P** **23 27 25.2 +1.3**
QRZ Quartz Range 60.43 138 P **P** **23 27 24.8 +0.9**
LBZ Lake Benmore 60.71 142 P **P** **23 27 26.6 +0.8**
AAK Ala-Archa 60.83 321 P **P** **23 27 26.4 -0.4**
comp=Z,4.7nm,0.8s,baz=144,slow=3.9,SNR=11
AAK Ala-Archa 60.83 321 *i* P **P** **23 27 27.0 +0.2**
SNR=16
AAK Ala-Archa 60.83 321 P **P** **23 27 26.4 -0.4**
AAK pmax pmax
comp=Z,42nm,0.8s
AAK MLR MLR
comp=Z,4μm,20.0s
AAK Ala-Archa 60.83 321 P **P** **23 27 26.4 -0.4**
AAK IAmb IAmb 23 27 48.5
comp=Z,42nm,0.8s
AAK Ala-Archa 60.83 321 IAMs_20 IAMs_20 23 58 48.5
comp=Z,4μm,20.0s
AAK Ala-Archa 60.83 321 P **P** **23 27 25.9 -1.0**
AAK P **P** **23 27 25.9 -1.0**
KBL Kabul 60.88 311 P **P** **23 27 26.5 -0.9**
KBL pmax pmax
comp=Z,153nm,0.8s
KBL MLR MLR
comp=Z,1μm,22.0s
KBL Kabul 60.88 311 P **P** **23 27 26.5 -0.9**
SNR=29
KBL Kabul 60.88 311 P **P** **23 27 26.8 -0.5**
KBL P **P** **23 27 26.8 -0.5**
SNR=29
KBL S **S** **23 35 41.8 -1.7**
KBL S **S** **23 35 41.8 -1.7**
RPZ Rata Peaks 60.90 141 LR LR 23 53 59.3
comp=Z,7μm,20.2s,baz=295,slow=36
RPZ Rata Peaks 60.90 141 P **P** **23 27 28.3 +1.3**
HIZ Hauiti 61.01 135 P **P** **23 27 28.5 +0.6**
HIZ IAmb IAmb 23 28 07.2
comp=Z,108nm,1.2s
PEA0B Petropavlovsk- 61.09 23 *i* P **P** **23 27 26.7 -1.4**
PEA0B Petropavlovsk- 61.09 23 IAmb IAmb 23 28 09.1
comp=Z,85nm,1.0s
PEA0B IAMs_20 IAMs_20 23 55 24.7
comp=Z,4μm,20.0s
PETK Petropavlovsk- 61.09 23 P **P** **23 27 26.5 -1.6**
comp=Z,5.5nm,0.6s,baz=201,slow=1.9,SNR=12
PETK LR LR 23 52 12.6
comp=Z,3μm,21.5s,baz=222,slow=34
PETK Petropavlovsk- 61.09 23 P **P** **23 27 26.4 -1.8**
THZ Tophouse 61.12 139 P **P** **23 27 30.4 +1.7**
THZ IAmb IAmb 23 28 13.6
comp=Z,116nm,1.1s
THZ Tophouse 61.12 139 P **P** **23 27 30.3 +1.6**
SGDS Sogindy 61.18 322 *e*P **P** **23 27 27.8 -1.2**
baz=322
SGDS Sogindy 61.18 322 *e*P **P** **23 27 27.8 -1.2**
NNZ Nelson 61.18 138 P **P** **23 27 29.6 +0.6**
NNZ IAmb IAmb 23 27 43.7
comp=Z,112nm,1.3s
LTZ Lake Taylor 61.20 140 P **P** **23 27 31.4 +2.3**
PET Petropavlovsk 61.41 24 *e*P **P** **23 27 33.4 +3.2**
PET *e*S **S** **23 35 51.8 +2.8**
PET *e*SS **SS** **23 39 50.6 +0.4**
PET pmax pmax
comp=Z,2μm,13.3s
PET pmax pmax
comp=Z,2μm,14.0s
PET pmax pmax
comp=Z,96nm,1.3s
PET MLR MLR
comp=Z,3μm,19.0s
PET MLR MLR
comp=Z,2μm,19.0s
PET Petropavlovsk 61.41 24 P **P** **23 27 29.5 -0.7**
PET IAmb IAmb 23 28 01.2
comp=Z,99nm,1.2s
BSWZ Blackbirch Sta 61.74 138 P **P** **23 27 33.8 +1.0**
KHZ Kahutara 61.85 139 P **P** **23 27 33.9 +0.5**
KHZ Kahutara 61.85 139 P **P** **23 27 33.8 +0.3**
MQZ McQueen's Vall 61.90 141 P **P** **23 27 34.8 +1.1**
SNZO South Karori 62.12 138 P **P** **23 27 35.9 +0.6**
BHW Baring Head 62.27 138 P **P** **23 27 36.2 -0.1**
BKZ Black Stump Fm 62.44 135 P **P** **23 27 37.7 +0.1**
BKZ IAmb IAmb 23 28 29.1
comp=Z,133nm,1.2s
URZ Urewera 62.52 134 P **P** **23 27 38.7 +0.6**
MSWZ Moikau Station 62.53 137 P **P** **23 27 38.2 +0.1**
PLWZ Palliser 62.60 138 P **P** **23 27 38.8 +0.2**
ZAA0 Zalesovo Array 62.63 336 IAmb IAmb 23 27 58.9
comp=Z,76nm,0.8s
ZALV Zalesovo Beam 62.63 336 P **P** **23 27 35.5 -2.9**
comp=Z,6.9nm,0.6s,baz=123,slow=5.5,SNR=24
ZALV S **S** **23 36 07.5 +3.1**
comp=Z,0.4nm,0.4s,baz=137,slow=17,SNR=1.9
ZALV LR LR 23 55 19.4
comp=Z,2μm,21.5s,baz=136,slow=36
ZALV PKP2bc 23 56 49.6
comp=Z,0.4nm,0.3s,baz=354,slow=1.5,SNR=4.2
ZALV Zalesovo Beam 62.63 336 *i* P **P** **23 27 36.2 -2.2**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
YAK Yakutsk 62.73 4 P **P** **23 27 36.8 -2.2**
comp=Z,11nm,0.4s,baz=220,slow=1.2,SNR=2.7
YAK Yakutsk 62.73 4 *e*P **P** **23 27 36.3 -2.6**
YAK *e**PP **pP** **23 27 46.8 -1.7**
YAK *e* 23 29 57.2
YAK *e*S **S** **23 36 03.6 -1.7**
YAK *e**SS sS 23 36 33.4 +12
YAK *e* 23 37 27.3
YAK *e*SS **SS** **23 40 07.9 -2.6**
YAK pmax pmax
comp=Z,76nm,1.4s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,397nm,4.8s
YAK pmax pmax
comp=N,76nm,1.7s
YAK pmax pmax
comp=E,20nm,1.1s
YAK smax smax
comp=E,617nm,4.8s
YAK smax smax
comp=N,420nm,3.2s
YAK MLR MLR
comp=Z,3μm,17.0s
YAK MLR MLR
comp=N,3μm,23.0s
YAK MLR MLR
comp=E,1μm,17.0s
YAK Yakutsk 62.73 4 P **P** **23 27 36.7 -2.2**
YAK IAMs_20 IAMs_20 23 58 20.0
comp=Z,4μm,19.0s
DZA Taraz 62.97 320 *e*P **P** **23 27 40.2 -0.8**
baz=320
DZA Taraz 62.97 320 *e*P **P** **23 27 40.2 -0.8**
MXZ Matakaoa Point 63.13 132 P **P** **23 27 41.6 -0.5**
KURBB Kurchatov Arra 63.20 330 P **P** **23 27 41.1 -1.2**
comp=Z,5.9nm,0.7s,baz=116,slow=5.8,SNR=50
KURBB PKPPKP **P'P'df** **23 56 43.4 +2.3**
comp=Z,0.8nm,0.9s,baz=279,slow=3.3,SNR=5.2
KURK Kurchatov 63.21 330 P **P** **23 27 41.1 -1.3**
KURK Kurchatov 63.21 330 P **P** **23 27 41.1 -1.3**
IUG Iuzhnay 63.46 319 *e*P **P** **23 27 43.2 -1.2**
baz=319
IUG Iuzhnay 63.46 319 *e*P **P** **23 27 43.2 -1.2**
RAO Raoul Island 63.49 123 P **P** **23 27 43.5 -1.2**
RAO Raoul Island 63.49 123 P **P** **23 27 43.5 -1.2**
KK31 Karatay Array 63.60 320 P **P** **23 27 44.6 -0.6**
KK31 pmax pmax
comp=Z,48nm,0.9s
KK31 Karatay Array 63.60 320 P **P** **23 27 44.6 -0.6**
KK31 IAmb IAmb 23 28 05.2
comp=Z,48nm,0.8s
KKAR Karatay Array 63.60 320 P **P** **23 27 44.3 -0.8**
KKAR pmax pmax
comp=Z,48nm,0.9s
KKAR Karatay Array 63.60 320 P **P** **23 27 43.8 -1.4**
KKAR Karatay Array 63.60 320 P **P** **23 27 44.3 -0.8**
KKAR IAmb IAmb 23 28 05.2
comp=Z,48nm,0.8s
MA2 Magadan 63.98 16 LR LR 23 54 55.9
comp=Z,2μm,21.4s,baz=198,slow=35
MA2 Magadan 63.98 16 *ce*P **P** **23 27 46.0 -1.3**
MA2 pmax pmax
comp=Z,75nm,0.8s
MA2 Magadan 63.98 16 P **P** **23 27 45.8 -1.6**
MA2 IAmb IAmb 23 28 25.9
comp=Z,96nm,0.8s
MIDW Midway 64.33 58 P **P** **23 27 49.4 -0.8**
MIDW IAmb IAmb 23 28 12.0
comp=Z,144nm,1.1s
JLN Jalan Bani Buh 65.36 295 P **P** **23 27 54.7 -2.4**
JLN P **P** **23 27 54.7 -2.4**
JLN S **S** **23 36 46.4 +7.0**
JLN S **S** **23 36 46.4 +7.0**
BRZS Berezniki 65.85 327 *e*P **P** **23 27 57.7 -2.1**
comp=Z,65nm,1.6s,baz=327
BRZS *e*S **S** **23 36 41.9 -2.6**
baz=327
BRZS Berezniki 65.85 327 *e*P **P** **23 27 57.6 -2.1**
BRZS *e*S **S** **23 36 41.9 -2.6**
BRZS pmax pmax
comp=Z,65nm,1.6s
CASY Casey 66.07 185 P **P** **23 28 00.8 +0.1**
CASY IAmb IAmb 23 28 34.5
comp=Z,79nm,0.9s
CASY Casey 66.07 185 IAMs_20 IAMs_20 23 58 26.9
comp=Z,3μm,18.0s
HRA Herat 66.08 308 P **P** **23 28 01.3 -0.5**

HRA IAmb IAmb 23 28 33.6
comp=Z,156nm,1.8s
AFI Afiamalu 66.40 105 P **P** **23 28 02.8 -1.2**
comp=Z,18nm,0.6s,baz=7.7,slow=19,SNR=1.8
AFI LR LR 23 55 48.2
comp=Z,1μm,21.0s,baz=280,slow=35
MHTO MHTO 66.46 293 P **P** **23 28 04.5 +0.4**
SNR=9.8
MHTO S **S** **23 36 48.6 -4.2**
SEY Seymchan 67.25 14 P **P** **23 28 07.0 -1.4**
comp=Z,6.0nm,0.9s,baz=188,slow=3.6,SNR=1.0
SEY LR LR 23 56 24.8
comp=Z,3μm,21.4s,baz=202,slow=35
BRVK Borovoye 68.77 329 *i* P **P** **23 28 16.2 -2.0**
BRVK pmax pmax
comp=Z,109nm,1.4s
BRVK Borovoye 68.77 329 P **P** **23 28 16.1 -2.0**
BRVK IAmb IAmb 23 28 39.2
comp=Z,57nm,0.9s
ASHO Ashiyiah 68.87 297 P **P** **23 28 20.1 +0.7**
ALNE Al Ain 69.03 296 *i* P **P** **23 28 20.1 -0.3**
SNR=17
SHME Shamm 69.06 298 P **P** **23 28 20.0 -0.4**
SOCY Socotra 69.06 283 P **P** **23 28 19.9 -0.9**
SOCY IAMs_20 IAMs_20 23 57 12.1
comp=Z,3μm,21.0s
ASUD Al Ashush, Dub 69.51 297 *i* P **P** **23 28 23.2 -0.1**
SNR=19
AJN Ajban 69.80 296 *i* P **P** **23 28 24.9 -0.1**
SNR=17
GEYT Alibeck 70.33 311 P **P** **23 28 28.0 -0.2**
comp=Z,2.3nm,0.8s,baz=149,slow=3.1,SNR=5.5
GEYT LR LR 00 04 29.4
comp=Z,1μm,20.1s,baz=85,slow=40
GEYT Alibeck 70.33 311 P **P** **23 28 27.9 -0.2**
GYA0 ALIBECK ARRAY 70.33 311 P **P** **23 28 27.5 -0.7**
GYA0 pmax pmax
comp=Z,48nm,1.0s
GYA0B ALIBECK ARRAY 70.33 311 P **P** **23 28 27.5 -0.7**
TIXI Tiksi 72.27 2 P **P** **23 28 36.4 -2.6**
comp=Z,22nm,0.8s,baz=172,slow=2.0,SNR=17
TIXI Tiksi 72.27 2*c e*P **P** **23 28 35.8 -3.3**
TIXI Tiksi 72.27 2 P **P** **23 28 35.7 -3.3**
TIXI IAmb IAmb 23 28 58.1
comp=Z,87nm,0.9s
TIXI IAMs_20 IAMs_20 00 01 46.7
comp=Z,3μm,20.0s
AB31 Akbulak array 72.85 323 *e*P **P** **23 28 41.5 -1.5**
AB31 pmax pmax
comp=Z,26nm,0.9s
ABKAR Akbulak array 72.85 323 P **P** **23 28 41.4 -1.6**
ABKAR Akbulak array 72.85 323 P **P** **23 28 41.8 -1.2**
ABKAR IAmb IAmb 23 29 02.7
comp=Z,31nm,0.9s
AKTO Aktyubinsk 74.44 323 LR LR 00 05 23.0
comp=Z,2μm,21.6s,baz=104,slow=39
AKTO Aktyubinsk 74.44 323 *i* P **P** **23 28 51.1 -1.2**
AKTO pmax pmax
comp=Z,51nm,0.9s
ABPO Ambohimpanom 75.79 251 IAMs_20 IAMs_20 23 56 38.4
comp=Z,4μm,22.0s
ARU Arti 76.35 329 P **P** **23 29 00.9 -2.3**
comp=Z,1.4nm,0.6s,baz=43,slow=5.2,SNR=6.7
ARU LR LR 00 06 16.4
comp=Z,835nm,18.8s,baz=107,slow=39
ARU Arti 76.35 329*c i*P **P** **23 29 01.8 -1.3**
ARU 23 31 52.4
ARU PPP PPP 23 33 38.1
ARU S **S** **23 38 47.8 +1.9**
ARU SS **SS** **23 43 32.0 -8.5**
ARU SSS SSS 23 47 01.3
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 76.35 329 P **P** **23 29 00.6 -2.5**
ARU IAmb IAmb 23 29 21.2
comp=Z,88nm,1.2s
MAW Mawson 78.22 200 LR LR 23 58 45.8
comp=Z,4μm,21.5s,baz=52,slow=32
RAYN Ar Rayn 78.24 294 P **P** **23 29 12.9 -1.6**
RAYN Ar Rayn 78.24 294 P **P** **23 29 13.0 -1.6**
RAYN pmax pmax
comp=Z,78nm,1.4s
RAYN MLR MLR
comp=Z,6μm,22.0s
RAYN Ar Rayn 78.24 294 P **P** **23 29 13.0 -1.6**
AKT Akhty 78.96 312 *e*P **P** **23 29 18.4 +0.2**
AKT *e* 23 29 26.3
AKT pmax pmax
comp=Z,9.0nm,0.8s
MAK Makhachkala 79.40 314 *e*P **P** **23 29 16.9 -3.5**
MAK *e* 23 32 17.1
MAK *e*PPP PPP 23 34 10.3
MAK *e*S **S** **23 39 15.9 -3.4**
MAK *e*SS **SS** **23 44 20.2 -6.8**
MAK pmax pmax
comp=Z,212nm,1.3s
VNDA Vanda 79.72 172 P **P** **23 29 21.8 +0.3**
comp=Z,6.6nm,0.8s,baz=315,slow=6.9,SNR=21
VNDA LR LR 00 06 02.4
comp=Z,4μm,18.7s,baz=328,slow=37
VNDA Vanda 79.72 172 P **P** **23 29 22.0 +0.5**
VNDA pmax pmax
comp=Z,37nm,0.9s
VNDA Vanda 79.72 172 P **P** **23 29 22.0 +0.5**
GROC Groznyy 80.67 314 *e*P **P** **23 29 26.8 -0.5**
GROC *e**PP **sP** **23 29 38.7 -2.0**
GROC *e**SP **pP** **23 29 43.2 +6.2**
GROC *e*S **S** **23 39 32.2 -0.5**
GROC pmax pmax
comp=Z,10.0nm,1.0s
SBA Scott Base 80.68 171 P **P** **23 29 28.7 +2.1**
SBA pmax pmax
comp=Z,79nm,1.2s
SBA Scott Base 80.68 171 P **P** **23 29 28.7 +2.1**
SBA IAmb IAmb 23 30 38.2
comp=Z,79nm,1.2s
SBA Scott Base 80.68 171 IAMs_20 IAMs_20 00 03 41.5
comp=Z,3μm,21.0s
GNI Garni 80.97 311 LR LR 00 10 59.5
comp=Z,454nm,21.8s,baz=108,slow=40
GNI Garni 80.97 311 P P 23 29 35.2 +6.0
GNI Garni 80.97 311 *i* P **P** **23 29 26.4 -2.8**
GNI pmax pmax
comp=Z,50nm,1.0s
BELG Belogornoye 81.23 323 *i* P **P** **23 29 29.9 -0.1**
BELG pmax pmax
comp=Z,13nm,1.1s
TEND Ethiopian Broa 81.71 282⇓ *e*P P 23 29 26.2 -7.2
TEND *e*S **S** **23 39 50.5 +5.9**
KIRV Kirov 81.71 330*c e*P **P** **23 29 31.1 -1.3**
ZEI Tsey 81.98 313 *e*P **P** **23 29 32.5 -2.0**
ZEI pmax pmax
comp=Z,31nm,1.4s
GEVA Gevas 82.02 309 IAmb IAmb 23 30 16.3
comp=Z,104nm,1.3s
AKH Akhalkalaki 82.09 312 ⇑P P 23 29 44.1 +9.0
AKH Akhalkalaki 82.09 312 P **P** **23 29 36.2 +1.1**
KBZ Khabaz 82.84 314 P **P** **23 29 37.9 -0.8**
comp=Z,3.0nm,0.8s,baz=114,slow=3.5,SNR=8.0
KBZ LR LR 00 14 03.8
comp=Z,570nm,18.3s,baz=88,slow=41
KBZ Khabaz 82.84 314 *i* P **P** **23 29 36.9 -1.8**
KBZ pmax pmax
comp=Z,15nm,0.9s
MLH Mauna Loa 82.86 70 P **P** **23 29 40.2 +0.6**
ANKE Ethiopia-Afar 82.87 280⇓ *e*P P 23 29 50.0 +10
ANKE *e*S S 23 40 07.2 +10
NEY Neytrino 82.90 314 *i* P **P** **23 29 39.0 -0.3**
NEY pmax pmax
comp=Z,7.0nm,1.0s
GOF Gofitskoye 82.92 315⇑ *e*P P 23 29 54.0 +15
GOF pmax pmax
comp=Z,41nm,1.3s
ANM Nome 82.98 24 P **P** **23 29 38.1 -0.9**
ANM pmax pmax
comp=Z,24nm,0.9s
ANM Nome 82.98 24 P **P** **23 29 38.1 -0.9**
ANM Nome 82.98 24 P 23 29 38.1
baz=254
KIV Kislovodsk 83.02 314 *e*P **P** **23 29 39.3 -0.5**
KIV *e* 23 32 50.8
KIV *e*S **S** **23 39 56.0 -1.1**
KIV *e*SS **SS** **23 45 20.1 -1.2**
KIV pmax pmax
comp=Z,13nm,1.1s

DESE Dese 83.02 281 *e*P P 23 29 52.0 +11
DESE *e*S **S** **23 39 52.5 -6.2**
AAE Adis Abeba 83.81 279⇓ *e*P P 23 29 54.1 +9.4
AAE *e*S **S** **23 40 15.3 +8.7**
FURI Furi 83.89 279 IAMs_20 IAMs_20 00 05 15.1
comp=Z,4μm,21.0s
FURI Furi 83.89 279 *e*P P 23 29 56.1 +11
FURI *e*S **S** **23 40 16.4 +8.9**
PRGR Permogore 84.27 332 *e*P **P** **23 29 41.8 -3.8**
PRGR pmax pmax
comp=Z,39nm,1.1s
VRH Novokhopyorsk 84.63 321 *e*P **P** **23 29 48.1 +0.4**
VRH *e**SP **sP** **23 30 04.0 +2.9**
VRH *e*S **S** **23 40 08.8 -4.0**
VRH pmax pmax
comp=Z,20nm,1.2s
VRH smax smax
comp=N,2μm,11.4s
RDOG Red Dog Mine 84.87 21 IAmb IAmb 23 30 15.1
comp=Z,55nm,0.9s
RDOG Red Dog Mine 84.87 21 P 23 29 47.4
baz=256
KMBO Kilima Mbogo 85.14 269 P **P** **23 29 51.3 -0.1**
comp=Z,0.7nm,0.5s,baz=6.7,slow=2.2,SNR=4.3
KMBO LR LR 00 05 02.1
comp=Z,5μm,20.8s,baz=92,slow=34
VORD Divnogorie 86.13 321 *e*P **P** **23 29 54.7 -0.5**
VORD *e**SP **sP** **23 30 10.4 +1.8**
VORD pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 86.23 321 *e*P **P** **23 29 54.9 -0.8**
VSR *e**SP **sP** **23 30 10.8 +1.7**
VSR *e*S **S** **23 40 28.2 -0.4**
VSR *e*SS **SS** **23 46 09.8 +1.8**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR smax smax
comp=N,730nm,8.6s
VORR Voronezh 86.25 322 *e*P **P** **23 29 53.0 -2.8**
VORR pmax pmax
comp=Z,250nm,1.0s
LPSR Galich'ya Gora 86.51 323 *e*P **P** **23 29 57.5 +0.5**
LPSR *e**SP **sP** **23 30 13.2 +2.7**
LPSR *e*S **S** **23 40 30.1 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR smax smax
comp=N,2μm,9.6s
GAZ Gaziantep 86.53 307 IAMs_20 IAMs_20 00 16 14.0
comp=Z,3μm,20.0s
SYO Syowa Base 86.84 201⇑ *e*PcP **PcP** **23 30 00.8 +0.3**
SYO Syowa Base 86.84 201⇓ *e*pP pP 23 30 08.6 +0.1
SYO Syowa Base 86.84 201 *e*sP sP 23 30 12.2 +0.5
KLMR Klimovskoe 87.06 331 *e*P **P** **23 29 57.5 -2.0**
KLMR *e* 23 33 26.7
KLMR *e*S **SKSac** **23 40 22.1 -2.2**
KLMR *e*SS **SS** **23 46 25.2 +5.6**
KLMR pmax pmax
comp=Z,76nm,1.5s
KLMR Klimovskoe 87.06 331 *e*P **P** **23 29 57.5 -2.0**
KLMR AMP 23 30 16.7
comp=Z,76nm,1.5s
KLMR *e*PP **PP** **23 33 26.8 +3.8**
KLMR *e*S **SKSac** **23 40 22.2 -2.1**
KLMR *e*S **SKSac** **23 40 22.2 -2.1**
KLMR *e*SS **SS** **23 46 25.2 +5.6**
KLMR *e*SS **SS** **23 46 25.2 +5.6**
KLMR LQ LQ 00 02 32.5
KLMR LQ LQ 00 02 32.5
KLMR LR LR 00 10 01.4
KLMR LR LR 00 10 01.4
KLMR LR LR 00 10 01.4
MOS Moscow 87.56 326 *e*P P 23 30 11.0 +9.0
MOS *e* 23 30 28.7
MOS *e* 23 33 34.0
MOS *e*S **S** **23 40 44.7 +3.5**
MOS pmax pmax
comp=Z,88nm,1.8s
MMAI Mount Meron Ar 87.81 303 LR LR 00 15 46.1
comp=Z,2μm,19.4s,baz=115,slow=40
KDAK Kodiak Island 87.85 32 P **P** **23 30 02.8 -0.6**
comp=Z,12nm,0.9s,baz=169,slow=10,SNR=3.2
KDAK Kodiak Island 87.85 32 IAMs_20 IAMs_20 00 00 00.6
comp=Z,3μm,21.0s
PPT Papeete 87.93 107 LR LR 00 07 12.4
comp=Z,410nm,21.8s,baz=274,slow=34
PPT2 Papeete2 87.93 107 *e*PP PP 23 33 30.6 -0.7
comp=Z,473nm,26.2s
PPT2 *e*S **S** **23 40 42.7 -3.7**
comp=Z,2μm,26.2s
PPT2 *e*SS **SS** **23 46 35.9 +1.4**
comp=Z,1μm,27.0s
PPT2 Papeete2 87.93 107 *e*LR LR 23 57 59.7
comp=Z,7μm,38.8s
IMAR Indian Mountai 88.05 24 P **P** **23 30 01.8 -2.3**
TBI Tubuai 88.05 113 *e*PP PP 23 33 31.2 -0.8
comp=Z,392nm,27.5s
TBI *e*S **S** **23 40 46.9 -0.3**
comp=Z,2μm,29.8s
TBI Tubuai 88.05 113 *e*LR LR 23 58 09.6
comp=Z,2μm,33.5s
EIL Elat 88.08 300 LR LR 00 15 04.4
comp=Z,2μm,18.4s,baz=108,slow=39
OBN Obninsk 88.11 325 LR LR 00 10 12.9
comp=Z,74nm,21.0s,baz=86,slow=36
OBN Obninsk 88.11 325⇑ P P 23 30 14.0 +9.4
OBN Obninsk 88.11 325⇑ *e*P **P** **23 30 05.8 +1.1**
OBN *PP **pP** **23 30 15.0 +0.5**
OBN *SP **sP** **23 30 19.0 +0.9**
OBN 23 33 32.0
OBN PPP PPP 23 35 25.0
OBN *e* 23 40 41.1
OBN *e*PS **PS** **23 41 51.2 -2.0**
OBN pmax pmax
comp=Z,64nm,1.3s
OBN MLR MLR
comp=Z,2μm,24.0s
SUA Susitna One 89.03 29 IAMs_20 IAMs_20 00 04 20.3
comp=Z,2μm,21.0s
CUT Chulitna 89.30 28 IAMs_20 IAMs_20 00 05 45.5
comp=Z,2μm,22.0s
QSPA South Pole Qui 89.32 180 P **P** **23 30 11.0 +0.7**
QSPA IAmb IAmb 23 30 44.7
comp=Z,90nm,1.1s
BRTR Keskin Array B 89.44 310 P **P** **23 30 08.8 -2.7**
comp=Z,0.8nm,0.8s,baz=64,slow=5.7,SNR=5.7
BRTR PP **PP** **23 33 36.4 -6.6**
comp=Z,2.4nm,0.9s,baz=81,slow=7.9,SNR=2.6
BRTR LR LR 00 16 17.3
comp=Z,2μm,21.5s,baz=107,slow=40
BRTR Keskin Array B 89.44 310 P **P** **23 30 09.8 -1.7**
BRTR Keskin Array B 89.44 310 P **P** **23 30 09.8 -1.7**
O22K Cooper Landing 89.48 30 IAMs_20 IAMs_20 00 07 35.4
comp=Z,2μm,21.0s
COLD Coldfoot 89.55 23 P **P** **23 30 09.5 -1.7**
CSS Mathiatis 89.59 305 IAMs_20 IAMs_20 00 17 16.1
comp=Z,2μm,19.0s
I23K Minto, Yukon-K 89.81 25 IAmb IAmb 23 30 38.0
comp=Z,38nm,0.9s
I23K IAMs_20 IAMs_20 00 08 19.7
comp=Z,3μm,21.0s
I23K Minto, Yukon-K baz=268 **89.81 25** P 23 30 11.1
TOLK Toolik Lake Re 89.85 21 P **P** **23 30 12.5 -0.1**
GHO Glory Hole Cre 89.91 28 IAMs_20 IAMs_20 00 09 20.6
comp=Z,2μm,20.0s
NEA2 Nenana 89.92 26 P **P** **23 30 12.4 -0.6**
MCK McKinley 89.95 26 P **P** **23 30 10.6 -2.6**
MCK pmax pmax
comp=Z,98nm,0.4s
MCK MLR MLR
comp=Z,2μm,22.0s
MCK McKinley 89.95 26 P **P** **23 30 10.6 -2.6**
MCK IAMs_20 IAMs_20 00 08 35.6
comp=Z,2μm,22.0s
MCK McKinley baz=269 **89.95 26** P 23 30 10.9
RND Reindeer 89.98 27 P **P** **23 30 15.1 +1.6**
RND pmax pmax
comp=Z,77nm,0.7s
RND MLR MLR
comp=Z,2μm,20.0s
RND Reindeer 89.98 27 P **P** **23 30 15.1 +1.6**
RND IAMs_20 IAMs_20 00 08 40.3
comp=Z,2μm,20.0s

KNK Knik Glacier 90.12 29 IAMs_20 IAMs_20 00 11 13.3
comp=Z,2μm,22.0s
PWL Port Wells 90.17 29 IAMs_20 IAMs_20 00 06 14.8
comp=Z,2μm,21.0s
APA Apatity 90.18 337⇓ *i*P P 23 30 02.2 -12
APA pmax pmax
comp=Z,7.0nm,1.2s
MDM Murphy Dome 90.28 25 P **P** **23 30 14.8 +0.1**
WRH Wood River Hil 90.34 26 IAMs_20 IAMs_20 00 08 38.7
comp=Z,2μm,22.0s
TCOL CIGO, UAF Yank 90.44 25 IAMs_20 IAMs_20 00 08 30.4
comp=Z,2μm,22.0s
COLA College 90.44 25 IAMs_20 IAMs_20 00 08 30.4
comp=Z,2μm,22.0s
CCB Clear Creek Bu 90.46 26 P **P** **23 30 15.0 -0.5**
CCB IAMs_20 IAMs_20 00 08 42.0
comp=Z,2μm,22.0s
HDA Harding Lake 90.83 26 P 23 30 14.6
baz=270
HDA P 23 30 14.6
baz=270
ILAR Eielson Array 90.86 25 P **P** **23 30 14.4 -3.0**
comp=Z,0.6nm,0.6s,baz=245,slow=5.4,SNR=9.0
ILAR PKKPbc PKKPbc 23 47 53.5 +8.3
comp=Z,2.2nm,1.0s,baz=15,slow=2.2,SNR=4.7
ILAR LR LR 00 10 33.9
comp=Z,1μm,21.9s,baz=239,slow=35
HIN Hinchinbrook I 91.08 30 IAMs_20 IAMs_20 00 10 56.8
comp=Z,2μm,20.0s
KLU Klutina 91.34 29 IAMs_20 IAMs_20 00 12 11.5
comp=Z,2μm,21.0s
PRP Porcupine Dome 91.42 25 P **P** **23 30 20.2 0.0**
MBAR Mbarara 91.66 269⇓ *e*P P 23 30 33.2 +11
MBAR *e*S S 23 41 03.4 -18
BMAR Burnt Mountain 91.73 23 P **P** **23 30 19.7 -1.7**
N25K Chitina, Valde 91.97 29 IAMs_20 IAMs_20 00 12 31.2
comp=Z,2μm,22.0s
BMRM Bremner River 91.99 29 IAMs_20 IAMs_20 00 13 58.9
comp=Z,2μm,20.0s
SCRK Sand Creek 92.14 26 P **P** **23 30 23.6 +0.1**
SCRK IAMs_20 IAMs_20 00 09 37.4
comp=Z,3μm,22.0s
HMT Hamilton 92.19 30 IAMs_20 IAMs_20 00 10 06.1
comp=Z,3μm,22.0s
BERG Berg Lake 92.47 30 IAMs_20 IAMs_20 00 10 15.4
comp=Z,2μm,21.0s
AKASG Malin Array Be 92.49 321 P **P** **23 30 22.7 -2.6**
comp=Z,0.5nm,0.5s,baz=69,slow=4.9,SNR=5.6
AKASG PKKPbc PKKPbc 23 47 48.8 +8.3
comp=Z,0.6nm,0.6s,baz=274,slow=3.2,SNR=5.7
AKASG Malin Array Be 92.49 321 P **P** **23 30 24.4 -0.8**
AKASG pmax pmax
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 92.49 321 P **P** **23 30 24.4 -0.8**
CRQM Cirque 92.72 29 IAMs_20 IAMs_20 00 10 25.7
comp=Z,2μm,21.0s
K27K Chicken 92.98 26 IAmb IAmb 23 30 53.8
comp=Z,24nm,0.9s
K27K Chicken 92.98 26 P 23 30 27.0
baz=275
ARCES ARCESS Array B 93.00 340 P **P** **23 30 26.9 -0.4**
comp=Z,4.5nm,1.0s,baz=76,slow=7.5,SNR=1.5
EGAK Eagle 93.31 25 P **P** **23 30 28.9 +0.2**
EGAK IAMs_20 IAMs_20 00 10 25.4
comp=Z,2μm,21.0s
GRNC Granite Creek 93.40 29 IAMs_20 IAMs_20 00 08 22.1
comp=Z,2μm,22.0s
YAH Yahtse 93.44 30 IAMs_20 IAMs_20 00 09 43.0
comp=Z,2μm,21.0s
VSU Vasula 93.50 328 *e*P **P** **23 30 27.6 -2.1**
FINES FINESS Array B 93.57 331 P **P** **23 30 27.0 -3.0**
comp=Z,1.7nm,0.8s,baz=1.7,slow=6.3,SNR=3.8
FINES FINESS Array B 93.57 331 P **P** **23 30 27.0 -3.0**
CTG Chitna Glacier 93.58 29 P 23 30 29.7
baz=275
CTGM Chitina Glacie 93.59 29 IAmb IAmb 23 30 56.5
comp=Z,44nm,1.0s
TABL Table Mountain 93.73 30 IAMs_20 IAMs_20 00 07 14.7
comp=Z,2μm,22.0s
IDID Didziasalis 93.74 325 *e*P **P** **23 30 27.8 -3.1**
NACGM Naroch 93.74 325 *i* P **P** **23 30 29.9 -1.0**
NACGM *i* P **P** **23 30 29.9 -1.0**
NACGM *i* P **P** **23 30 29.9 -1.0**
NACGM *i* PP **PP** **23 34 20.2 +3.9**
NACGM *i* PPP PPP 23 36 18.6
NACGM *i* SKS S 23 40 42.8 -55
NACGM *i* SS SS 23 47 35.2 -21
NACGM *i* SSS SSS 23 51 25.9
NACGM *i* LQ LQ 00 01 44.0
NACGM *i* LR LR 00 09 04.0
LOGN Logan Glacier 93.76 29 IAMs_20 IAMs_20 00 08 32.5
comp=Z,2μm,22.0s
LSZ Lusaka 93.91 255 P **P** **23 30 30.2 -2.5**
LSZ pmax pmax
comp=Z,27nm,1.1s
LSZ Lusaka 93.91 255 P **P** **23 30 30.2 -2.5**
LSZ IAmb IAmb 23 31 05.6
comp=Z,27nm,1.1s
IIGN Ignalina 94.03 325 *e*P **P** **23 30 28.7 -3.5**
ISAL Salakas 94.07 326 *e*P **P** **23 30 29.6 -2.7**
DAWY Dawson 94.15 26 IAmb IAmb 23 31 04.8
comp=Z,29nm,1.2s
EPYK Eagle Plains baz=280 **94.92 23** P 23 30 34.7
MTSE Matsula 94.99 329 *e*P P 23 30 31.1 -5.4
PABE Paberze 95.29 326 *e*P **P** **23 30 35.0 -3.0**
BURAR Bucovina Array 95.31 318⇑ P P 23 30 47.6 +9.2
BURAR Bucovina Array 95.31 318 P **P** **23 30 38.9 +0.5**
BURAR Bucovina Array 95.31 318 P **P** **23 30 38.9 +0.5**
INK Inuvik 95.76 21 P **P** **23 30 38.1 -1.8**
comp=Z,2.8nm,1.0s,baz=247,slow=3.7,SNR=4.8
SUW Suwalki 95.92 324 *e*P **P** **23 30 39.4 -1.6**
BOSA Boshof 95.99 241 P **P** **23 30 42.5 +0.5**
comp=Z,2.2nm,0.9s,baz=9.8,slow=11,SNR=2.3
BOSA LR LR 00 08 39.3
comp=Z,6μm,21.1s,baz=95,slow=32
BMR Baia Mare 96.46 318⇑ P P 23 30 54.5 +11
WHY Whitehorse 96.76 29 IAmb IAmb 23 31 10.4
comp=Z,30nm,0.8s
NOR Nord 96.99 354 *i* P P 23 30 58.5 +13
NOR Nord 96.99 354 *e*P P 23 30 58.5 +13
UZH Uzhgorod 97.15 319 *e*P Pdif 23 30 47.4 +0.7
UZH *e* 23 31 02.2
VTS Vitosha 97.17 313 IAMs_20 IAMs_20 00 21 54.1
comp=Z,2μm,22.0s
JIS Juneau Island 97.46 31 IAMs_20 IAMs_20 00 09 15.6
comp=Z,3μm,22.0s
ALE Alert 98.13 1 IAMs_20 IAMs_20 00 16 15.9
comp=Z,2μm,22.0s
C36M Paulatuk 98.72 19 IAmb IAmb 23 31 31.0
comp=Z,19nm,0.9s
C36M Paulatuk baz=292 **98.72 19** P 23 30 52.2
WRAK Wrangell Islan 98.92 33 IAMs_20 IAMs_20 00 15 15.7
comp=Z,1μm,20.0s
EUNU Eureka 99.37 5 IAMs_20 IAMs_20 00 22 11.8
comp=Z,2μm,21.0s
SUR Sutherland baz=153,slow=16 **99.46 237** P **Pdif** **23 30 58.3 +0.7**
OKC Ostrava-Krasne 99.65 320 AMS AMS 00 24 40.0
comp=Z,2μm,22.8s
HFS Hagfors 99.78 331 LR LR 00 18 41.0
comp=Z,726nm,21.4s,baz=70,slow=37
TIR Tirane 99.82 312 IAMs_20 IAMs_20 00 23 39.3
comp=Z,2μm,21.0s
SNAA Sanae 99.93 195 P **Pdif** **23 31 00.5 +1.8**
comp=Z,1.6nm,1.0s,baz=289,slow=18,SNR=1.7
KRLC Kraliky 100.47 321 AMS AMS 00 27 30.0
comp=Z,1μm,18.7s
NB2 NORSAR Subarra 100.67 332 P **Pdif** **23 31 13.2 +11**
comp=Z,13nm,1.4s,baz=73,slow=4.4
NB2 NORSAR Subarra 100.67 332 P **Pdif** **23 31 07.0 +4.8**
comp=Z,12nm,1.4s,baz=73,slow=4.4
NB2 NORSAR Subarra baz=73,slow=4.4 **100.67 332** P **Pdif** **23 31 13.2 +11**
NOA NORSAR Array B 100.67 332 P **Pdif** **23 31 04.2 +2.1**
comp=Z,0.4nm,1.0s,baz=261,slow=18,SNR=2.8
NOA PP **PP** **23 35 07.8 -1.6**
comp=Z,2.2nm,1.0s,baz=71,slow=7.1,SNR=4.0
DPC Dobruska-Polom 100.70 321 *e*PP **PKiKP** **23 35 23.7 -4.9**
DPC AMS AMS 00 23 00.0
comp=Z,2μm,19.8s
OSTC Ostas 100.72 321 *e*PP **PKiKP** **23 35 25.8 -2.8**
OSTC *e*SDIF 23 42 51.2
OSTC AMS AMS 00 22 10.0
comp=Z,2μm,19.7s

CHVC	**Chvalec**	**100.82**	**321**	AMS	AMS	23 22 10.0				
	comp=Z,2μm,20.8s									
CHVC				*e*PP	**PKiKP**	**23 35 30.0**	**+1.3**			
UPC	**Upice**	**100.86**	**321**	*e*PP	**PKiKP**	**23 35 23.1**	**-5.7**			
UPC				AMS	AMS	00 22 10.0				
	comp=Z,2μm,21.6s									
DAG	**Danmarks Havn**	**100.92**	**352**	*i* P	**Pdif**	**23 30 55.6**	**-7.3**			
DAG	**Danmarks Havn**	**100.92**	**352**	*e*P	**Pdif**	**23 30 55.6**	**-7.3**			
DAG	**Danmarks Havn**	**100.92**	**352**	*e*P	**Pdif**	**23 30 55.6**	**-7.3**			
RKT	**Rikitea**	**101.36**	**114**	*e*PP	**PP**	**23 35 15.4**	**-0.3**			
	comp=Z,292nm,28.8s									
RKT				*e*S	**Sdif**	**23 42 39.0**	**-5.3**			
	comp=Z,2μm,27.2s									
RKT	**Rikitea**	**101.36**	**114**	*e*LR	LR	00 04 20.9				
	comp=Z,1μm,24.5s									
TREC	**Trest**	**101.45**	**320**	AMS	AMS	00 28 30.0				
	comp=Z,2μm,21.9s									
CONA	**Conrad Observa**	**101.50**	**319**	P	**PKiKP**	**23 35 26.8**	**-3.4**			
	comp=Z,14nm,1.6s									
PRU	**Pruhonice**	**101.90**	**321**	*e*PP	**PKiKP**	**23 35 34.6**	**+4.0**			
PRU				*e*SDIF		23 42 56.7				
PRU				AMS	AMS	00 22 40.0				
	comp=Z,2μm,22.7s									
PRA	**Prague**	**101.94**	**321**	AMS	AMS	00 22 40.0				
	comp=Z,1μm,21.0s									
CKRC	**Cesky Krumlov**	**102.31**	**320**	*e*PP	**PKiKP**	**23 35 38.2**	**+6.7**			
CKRC				*e*SDIF		23 42 56.1				
CKRC				AMS	AMS	00 24 00.0				
	comp=Z,1μm,20.4s									
SOKA	**Soboth**	**102.32**	**318**	*e*P	**PKiKP**	**23 35 36.0**	**+4.3**			
	comp=Z,11nm,1.1s									
CLL	**Collm**	**102.52**	**323**	*e*PP	**PP**	**23 35 21.0**	**-2.5**			
CLL				*e*PKiKP	**PKiKP**	**23 35 28.0**	**-3.7**			
CLL				*i* sPKiKP	sPKiKP	23 35 44.2	-1.5			
	comp=Z,25nm,1.6s									
CLL				*e*PPP	PPP	23 37 30.0				
CLL				*e*PPPP		23 39 12.0				
CLL				*e*SKSac	**SKSac**	**23 41 44.0**	**-3.9**			
CLL				*e*sSdiff	sS	23 43 11.0	+1.2			
CLL				*e*PS	**PS**	**23 44 38.0**	**+7.1**			
CLL				*e*SS	**SS**	**23 50 08.0**	**+8.1**			
CLL				*e*SSS	SSS	23 53 54.0				
CLL				LmV		00 27 00.0				
	comp=Z,2μm,20.2s									
GEC2	**GERESS Array S**	**102.70**	**320**	IAMs_20	IAMs_20	00 24 53.8				
	comp=Z,2μm,20.0s									
GERES	**GERESS Array B**	**102.70**	**320**	PP	PKiKP	23 35 24.1	-8.2			
	comp=Z,1.1nm,0.9s,baz=53,slow=5.4,SNR=2.4									
KHC	**Kasperske Hory**	**102.71**	**320**	*e*PP	PKiKP	23 35 45.7	+13			
KHC				*e*SDIF		23 42 50.0				
KHC				AMS	AMS	00 23 10.0				
	comp=Z,2μm,22.3s									
NKC	**Novy Kostel**	**103.14**	**322**	AMS	AMS	00 26 10.0				
	comp=Z,2μm,21.0s									
KBA	**Koelnbreinsper**	**103.35**	**318**	P	PKiKP	23 35 41.5	+7.9			
	comp=Z,8.9nm,1.4s									
ZOU	**Zoufplan**	**103.73**	**318**	IAMs_20	IAMs_20	00 27 00.1				
	comp=Z,1μm,19.0s									
ABTA	**Abfaltersbach**	**103.99**	**318**	*e*P	PKiKP	23 35 46.3	+12			
	comp=Z,9.1nm,1.2s									
AQU	**L'Aquila**	**104.39**	**314**	IAMs_20	IAMs_20	00 27 12.0				
	comp=Z,2μm,22.0s									
WATA	**Walderalm**	**104.46**	**319**	P	PKiKP	23 35 49.2	+14			
	comp=Z,31nm,1.6s									
CTI	**Castel Tesino**	**104.74**	**318**	IAMs_20	IAMs_20	00 28 31.0				
	comp=Z,1μm,18.0s									
MOTA	**Moosalm**	**104.77**	**319**	*e*P	PKiKP	23 35 50.1	+14			
	comp=Z,28nm,1.5s									
YKA	**Yellowknife Ar**	**105.20**	**24**	Pdiff	**Pdif**	**23 31 21.6**	**-0.7**			
	comp=Z,0.2nm,0.6s,baz=302,slow=3.6,SNR=3.4									
YKA				PP	**PP**	**23 35 41.9**	**-1.2**			
	comp=Z,1.1nm,0.9s,baz=292,slow=5.6,SNR=2.6									
YKA				PKKPbc	**PKKPbc**	**23 47 01.7**	**-3.4**			
	comp=Z,0.4nm,0.9s,baz=115,slow=3.0,SNR=4.2									
OSSC	**Osservatorio P**	**105.66**	**315**	IAMs_20	IAMs_20	00 27 58.5				
	comp=Z,2μm,21.0s									
VLC	**Villacollemand**	**106.09**	**316**	IAMs_20	IAMs_20	00 28 47.0				
	comp=Z,2μm,21.0s									
A05A	**Maple Falls**	**106.96**	**38**	IAMs_20	IAMs_20	00 11 48.1				
	comp=Z,2μm,22.0s									
ECH	**Echery**	**107.05**	**321**	IAMs_20	IAMs_20	00 28 14.8				
	comp=Z,2μm,19.0s									
WLF	**Walferdange**	**107.19**	**322**	IAMs_20	IAMs_20	00 29 38.3				
	comp=Z,2μm,19.0s									
BMRD	**Maredsous**	**107.80**	**323**	*d*Pdif	**Pdif**	**23 31 38.1**	**+4.1**			
HUMO	**Hull Mountain**	**108.36**	**45**	IAMs_20	IAMs_20	00 14 02.9				
	comp=Z,2μm,22.0s									
B08A	**Colville Reser**	**108.89**	**38**	IAMs_20	IAMs_20	00 12 46.2				
	comp=Z,2μm,22.0s									
HOPS	**Hopland Field**	**109.28**	**49**	IAMs_20	IAMs_20	00 16 14.8				
	comp=Z,2μm,21.0s									
MCCM	**Marconi Center**	**109.65**	**50**	IAMs_20	IAMs_20	00 16 43.7				
	comp=Z,1μm,20.0s									
NEW	**Newport**	**110.29**	**38**	IAMs_20	IAMs_20	00 16 39.2				
	comp=Z,2μm,21.0s									
ORV	**Oroville**	**110.29**	**48**	IAMs_20	IAMs_20	00 16 16.5				
	comp=Z,2μm,21.0s									
SAO	**San Andreas Ge**	**111.12**	**51**	IAMs_20	IAMs_20	00 22 37.7				
	comp=Z,1μm,20.0s									
WVOR	**Wild Horse Val**	**111.45**	**44**	IAMs_20	IAMs_20	00 16 07.7				
	comp=Z,2μm,21.0s									
BMO	**Blue Mountains**	**111.48**	**41**	IAMs_20	IAMs_20	00 18 47.3				
	comp=Z,1μm,20.0s									
CMB	**Columbia Colle**	**111.57**	**49**	IAMs_20	IAMs_20	00 17 45.5				
	comp=Z,1μm,21.0s									
YERR	**Yerington**	**112.14**	**48**	IAMs_20	IAMs_20	00 15 09.6				
	comp=Z,2μm,22.0s									
MSO	**Missoula**	**112.85**	**38**	IAMs_20	IAMs_20	00 17 45.8				
	comp=Z,2μm,21.0s									
NVAR	**Mina Array Bea**	**113.01**	**48**	PKiKP	**PKiKP**	**23 35 51.2**	**-0.8**			
	comp=Z,0.6nm,0.8s,baz=235,slow=3.2,SNR=2.1									
NVAR				PKKP	**PKKPdf**	**23 46 58.2**	**-2.3**			
	comp=Z,0.9nm,0.8s,baz=137,slow=3.6,SNR=4.8									
MFID	**Camas Ranch**	**113.01**	**42**	IAMs_20	IAMs_20	00 15 14.9				
	comp=Z,2μm,22.0s									
EDW2	**Edwards Air Fo**	**114.34**	**52**	P		23 35 53.8				
	baz=288									
PASC	**Pasadena Art C**	**114.40**	**52**	IAMs_20	IAMs_20	00 25 01.0				
	comp=Z,2μm,19.0s									
ELK	**Elko**	**114.43**	**45**	IAMs_20	IAMs_20	00 18 00.8				
	comp=Z,2μm,21.0s									
BOZ	**Bozeman (W)**	**114.83**	**39**	IAMs_20	IAMs_20	00 16 20.4				
	comp=Z,2μm,22.0s									
TAM	**Tamanrasset**	**114.92**	**295**	IAMs_20	IAMs_20	00 25 32.8				
	comp=Z,2μm,22.0s									
TPNV	**Topopah Spring**	**115.03**	**49**	IAMs_20	IAMs_20	00 20 08.4				
	comp=Z,2μm,19.0s									
FFC	**Flin Flon**	**115.04**	**27**	IAMs_20	IAMs_20	00 20 51.9				
	comp=Z,2μm,21.0s									
GSC	**Goldstone, Bar**	**115.14**	**51**	P		23 35 55.8				
	baz=289									
109C	**Camp Elliot, M**	**115.64**	**54**	IAMs_20	IAMs_20	00 26 24.9				
	comp=Z,1μm,20.0s									
PFO	**Pinyon Flats O**	**115.94**	**53**	PKP	**PKPdf**	**23 35 56.3**	**-1.3**			
	comp=Z,2.7nm,1.0s,baz=59,slow=1.9,SNR=3.8									
PFO	**Pinyon Flats O**	**115.94**	**53**	PKiKP	**PKPdf**	**23 35 56.3**	**-1.3**			
PFO				MLR	MLR					
	comp=Z,1μm,18.0s									
PFO	**Pinyon Flats O**	**115.94**	**53**	IAMs_20	IAMs_20	00 27 53.8				
	comp=Z,1μm,18.0s									
XPFO	**Pion Flat**	**115.94**	**53**	IAMs_20	IAMs_20	00 27 53.8				
	comp=Z,1μm,18.0s									
TPFO	**Pinon Flats**	**115.94**	**53**	P		23 35 57.4				
	baz=288									
BAR	**Barrett**	**116.05**	**54**	IAMs_20	IAMs_20	00 20 38.1				
	comp=Z,1μm,22.0s									
LKWY	**Lake**	**116.08**	**39**	IAMs_20	IAMs_20	00 19 16.5				
	comp=Z,2μm,22.0s									
BELC	**Belle Mtn. Jos**	**116.18**	**52**	P		23 35 57.8				
	baz=289									
GMRC	**Granite Mounta**	**116.20**	**51**	P		23 35 57.8				
	baz=289									
REDW	**Red Top Meadow**	**116.33**	**41**	IAMs_20	IAMs_20	00 17 32.5				
	comp=Z,2μm,21.0s									
CART	**Cartagena**	**116.35**	**312**	IAMs_20	IAMs_20	00 30 01.8				
	comp=Z,2μm,22.0s									
DUG	**Dugway, Tooele**	**116.35**	**45**	IAMs_20	IAMs_20	00 19 13.5				
	comp=Z,1μm,22.0s									
DUG	**Dugway, Tooele**	**116.35**	**45**	P		23 35 57.9				
	baz=294									
AHID	**Auburn Hatcher**	**116.44**	**41**	IAMs_20	IAMs_20	00 19 54.3				
	comp=Z,1μm,22.0s									
IKP	**In-Ko-Pah, Jac**	**116.51**	**54**	P		23 35 58.2				
	baz=288									
RLMT	**Red Lodge**	**116.53**	**38**	IAMs_20	IAMs_20	00 17 03.2				
	comp=Z,2μm,22.0s									
HWUT	**Hardware Ranch**	**116.63**	**43**	IAMs_20	IAMs_20	00 17 44.6				
	comp=Z,2μm,22.0s									
BW06	**Boulder Array**	**117.45**	**41**	IAMs_20	IAMs_20	00 18 18.0				
	comp=Z,2μm,22.0s									
PDAR	**Pinedale Array**	**117.45**	**41**	PKP	**PKiKP**	**23 36 03.5**	**+3.0**			
	comp=Z,0.2nm,0.5s,baz=75,slow=1.0,SNR=2.3									
PDAR				PKKPbc	**PKKPbc**	**23 46 25.1**	**+0.6**			
	comp=Z,0.7nm,0.7s,baz=111,slow=3.3,SNR=5.4									
PDAR	**Pinedale Array**	**117.45**	**41**	PKPdf	**PKPdf**	**23 35 59.7**	**-0.7**			
SPX	**San Pedro Mart**	**117.52**	**55**	IAMs_20	IAMs_20	00 23 03.1				
	comp=Z,1μm,21.0s									
LAO	**LASA Array**	**117.56**	**36**	IAMs_20	IAMs_20	00 18 30.2				
	comp=Z,2μm,21.0s									
ES02	**SONSECA Array**	**117.65**	**315**	IAMs_20	IAMs_20	00 34 19.9				
	comp=Z,1μm,19.0s									
ES07	**SONSECA Array**	**117.66**	**315**	IAMs_20	IAMs_20	00 31 48.1				
	comp=Z,1μm,22.0s									
ES06	**SONSECA Array**	**117.66**	**315**	IAMs_20	IAMs_20	00 36 56.2				
	comp=Z,2μm,20.0s									
ES04	**SONSECA Array**	**117.67**	**315**	IAMs_20	IAMs_20	00 34 13.3				
	comp=Z,2μm,21.0s									
ES17	**SONSECA Array**	**117.67**	**315**	IAMs_20	IAMs_20	00 36 57.3				
	comp=Z,2μm,18.0s									
ESDC	**Sonseca Array**	**117.67**	**315**	PKP	**PKiKP**	**23 36 02.5**	**+1.8**			
	comp=Z,0.6nm,0.8s,baz=28,slow=3.0,SNR=3.5									
ESDC				PP	**PP**	**23 37 20.4**	**+7.1**			
	comp=Z,1.1nm,0.9s,baz=60,slow=7.6,SNR=2.0									
ESDC				PKKPab	**PKKPab**	**23 46 33.2**	**+7.1**			
	comp=Z,0.7nm,0.9s,baz=214,slow=4.3,SNR=2.8									
DGMT	**Dagmar**	**117.72**	**33**	IAMs_20	IAMs_20	00 24 10.8				
	comp=Z,1μm,20.0s									
WUAZ	**Wupatki**	**119.22**	**49**		**PKPdf**	**23 36 04.0**	**0.0**			
WUAZ				IAMs_20	IAMs_20	00 24 37.4				
	comp=Z,2μm,21.0s									
WUAZ	**Wupatki**	**119.22**	**49**	P		23 36 04.1				
	baz=293									
RWWY	**Rawlins**	**119.50**	**41**	IAMs_20	IAMs_20	00 20 55.2				
	comp=Z,1μm,21.0s									
O20A	**White River Ci**	**119.54**	**43**	P		23 36 03.4				
	baz=298									
TOA0	**Torodi Ar. Sit**	**119.99**	**285**		**PKPdf**	**23 36 03.5**	**-2.2**			
TORD	**Torodi Ar. Bea**	**119.99**	**285**	PKP	**PKPdf**	**23 36 03.5**	**-2.3**			
	comp=Z,2.1nm,0.7s,baz=69,slow=1.8,SNR=11									
TORD				PKKPab	PKKPab	23 46 27.9	+12			
	comp=Z,2.1nm,0.7s,baz=285,slow=4.1,SNR=5.6									
RSSD	**Black Hills**	**120.25**	**37**	IAMs_20	IAMs_20	00 32 08.2				
	comp=Z,1μm,19.0s									
RSSD	**Black Hills**	**120.25**	**37**	P		23 36 04.6				
	baz=303									
MVCO	**Mesa Verde**	**120.66**	**46**	P		23 36 06.1				
	baz=296									
ULM	**Lac du Bonnet**	**120.81**	**28**	PKP	**PKPdf**	**23 36 03.3**	**-3.1**			
	comp=Z,0.7nm,0.3s,baz=270,slow=1.0,SNR=2.9									
ULM	**Lac du Bonnet**	**120.81**	**28**	PKIKP	**PKiKP**	**23 36 07.4**	**+0.9**			
ULM	**Lac du Bonnet**	**120.81**	**28**		**PKiKP**	**23 36 07.4**	**+0.9**			
PHWY	**Pilot Hill**	**120.83**	**41**	IAMs_20	IAMs_20	00 22 13.5				
	comp=Z,1μm,22.0s									
SMCO	**Snowmass**	**120.85**	**43**	IAMs_20	IAMs_20	00 22 27.4				
	comp=Z,1μm,21.0s									
TUC	**Tucson**	**120.87**	**52**	PKIKP	**PKPdf**	**23 36 06.6**	**-0.5**			
TUC	**Tucson**	**120.87**	**52**		**PKPdf**	**23 36 06.6**	**-0.5**			
TUC	**Tucson**	**120.87**	**52**	P		23 36 06.6				
	baz=291									
PVAQ	**Vaqueiros**	**121.31**	**315**	IAMs_20	IAMs_20	00 35 31.7				
	comp=Z,2μm,21.0s									
ISCO	**Idaho Springs**	**121.47**	**42**	IAMs_20	IAMs_20	00 23 46.8				
	comp=Z,1μm,22.0s									
ISCO	**Idaho Springs**	**121.47**	**42**	P		23 36 07.0				
	baz=300									
S22A	**4UR Ranch, Cre**	**121.61**	**45**	P		23 36 08.2				
	baz=298									
AGMN	**Agassiz Nation**	**122.16**	**29**	IAMs_20	IAMs_20	00 33 05.7				
	comp=Z,1μm,20.0s									
ANMO	**Albuquerque**	**123.13**	**48**	PKP	**PKPdf**	**23 36 10.2**	**-1.3**			
	comp=Z,2.3nm,0.8s,baz=218,slow=4.2,SNR=9.4									
ANMO	**Albuquerque**	**123.13**	**48**	PKIKP	**PKPdf**	**23 36 10.9**	**-0.6**			
ANMO				MLR	MLR					
	comp=Z,1μm,22.0s									
ANMO	**Albuquerque**	**123.13**	**48**		**PKPdf**	**23 36 10.9**	**-0.6**			
ANMO	**Albuquerque**	**123.13**	**48**	IAMs_20	IAMs_20	00 26 07.5				
	comp=Z,1μm,22.0s									
ANMO	**Albuquerque**	**123.13**	**48**	P		23 36 11.2				
	baz=296									
121A	**Cookes Peak, D**	**123.13**	**51**	P		23 36 11.4				
	baz=294									
Y22D	**IRIS-PASSCAL I**	**123.16**	**49**	IAMs_20	IAMs_20	00 23 03.2				
	comp=Z,2μm,21.0s									
OGNE	**Ogallala**	**123.22**	**39**	IAMs_20	IAMs_20	00 21 45.5				
	comp=Z,2μm,21.0s									
T25A	**Trinidad**	**123.59**	**44**	P		23 36 11.9				
	baz=299									
SLBS	**Sierra La Lagu**	**124.35**	**62**	IAMs_20	IAMs_20	00 24 48.2				
	comp=Z,1μm,20.0s									
EPT	**El Paso**	**124.43**	**51**	IAMs_20	IAMs_20	00 33 46.3				
	comp=Z,1μm,19.0s									
EYMN	**Ely**	**124.47**	**27**	IAMs_20	IAMs_20	00 28 35.5				
	comp=Z,1μm,22.0s									
ECSD	**EROS Data Cent**	**124.79**	**34**	IAMs_20	IAMs_20	00 23 24.0				
	comp=Z,2μm,22.0s									
ECSD	**EROS Data Cent**	**124.79**	**34**	P		23 36 12.9				
	baz=310									
F36A	**Milaca**	**124.99**	**30**		**PKiKP**	**23 36 15.1**	**+0.2**			
MNTX	**Cornudas Mount**	**125.33**	**51**	IAMs_20	IAMs_20	00 32 59.4				
	comp=Z,1μm,20.0s									
MNTX	**Cornudas Mount**	**125.33**	**51**	P		23 36 15.3				
	baz=295									
CBKS	**Cedar Bluff**	**125.87**	**40**	IAMs_20	IAMs_20	00 24 10.8				
	comp=Z,2μm,22.0s									
MSTX	**Muleshoe**	**126.28**	**47**	P		23 36 16.5				
	baz=299									
AMTX	**Amarillo**	**126.63**	**45**	IAMs_20	IAMs_20	00 28 34.7				
	comp=Z,2μm,20.0s									
COWI	**Conover**	**126.92**	**27**	IAMs_20	IAMs_20	00 36 57.3				
	comp=Z,1μm,19.0s									
KIC	**Kosan Boka**	**126.96**	**277**	*e*PKP2	**PKPdf**	**23 36 19.0**	**-0.2**			
	comp=Z,22nm,1.1s									
DBIC	**Dimbokro**	**127.06**	**278**	PKP	**PKPdf**	**23 36 17.7**	**-1.7**			
	comp=Z,1.8nm,0.5s,baz=3.9,slow=1.2,SNR=4.3									
TIC	**Toumodi**	**127.22**	**278**	*e*PKP2	**PKPdf**	**23 36 17.8**	**-1.9**			
LIC	**Lamto**	**127.26**	**277**	*e*PKP2	**PKPdf**	**23 36 19.5**	**-0.2**			
	comp=Z,16nm,0.5s									
TXAR	**Lajitas Array**	**127.66**	**53**	PKP	**PKPdf**	**23 36 19.3**	**-1.0**			
	comp=Z,1.0nm,0.8s,baz=179,slow=0.9,SNR=10									
TXAR				SKP		23 39 44.3				
	comp=Z,1.9nm,0.9s,baz=296,slow=4.9,SNR=1.9									
KSU1	**Kansas State U**	**127.68**	**38**	IAMs_20	IAMs_20	00 24 12.4				
	comp=Z,2μm,22.0s									
JFWS	**Jewell Farm**	**128.74**	**31**	IAMs_20	IAMs_20	00 27 43.1				
	comp=Z,1μm,21.0s									
OK029	**Liberty Lake**	**129.07**	**42**	IAMs_20	IAMs_20	00 27 44.6				
	comp=Z,1μm,21.0s									
OK025	**Westminster Rd**	**129.27**	**42**	IAMs_20	IAMs_20	00 34 03.9				
	comp=Z,1μm,21.0s									
JCT	**Junction City**	**130.15**	**49**	IAMs_20	IAMs_20	00 33 11.8				
	comp=Z,1μm,19.0s									
JCT	**Junction City**	**130.15**	**49**	P		23 36 24.7				
	baz=299									
L44A	**Lake County Fo**	**130.45**	**30**	IAMs_20	IAMs_20	00 45 04.0				
	comp=Z,1μm,18.0s									
S39A	**Bolivar**	**130.58**	**38**		**PKPdf**	**23 36 24.1**	**-1.3**			
HQIL	**Hanson Quary C**	**130.76**	**30**	IAMs_20	IAMs_20	00 44 16.2				
	comp=Z,1μm,22.0s									
HDIL	**Hopedale**	**130.93**	**32**	IAMs_20	IAMs_20	00 26 56.3				
	comp=Z,1μm,22.0s									
CCM	**Cathedral Cave**	**131.58**	**36**	IAMs_20	IAMs_20	00 43 47.0				
	comp=Z,1μm,18.0s									
435B	**Jarrell**	**131.67**	**48**	IAMs_20	IAMs_20	00 37 30.4				
	comp=Z,1μm,20.0s									
U40A	**Yellville**	**131.72**	**39**	IAMs_20	IAMs_20	00 32 47.0				
	comp=Z,2μm,22.0s									
U40A	**Yellville**	**131.72**	**39**	P		23 36 26.1				
	baz=310									
SADO	**Sadowa**	**132.07**	**21**	SKP		23 40 01.2				
	comp=Z,18nm,1.1s,baz=324,slow=2.7,SNR=6.3									
SFIN	**Lafayette**	**132.20**	**31**	IAMs_20	IAMs_20	00 27 50.7				
	comp=Z,1μm,21.0s									
AAM	**Ann Arbor**	**132.34**	**26**	IAMs_20	IAMs_20	00 33 38.8				
	comp=Z,1μm,21.0s									
MIAR	**Mount Ida**	**132.37**	**41**	PKIKP	**PKPdf**	**23 36 28.9**	**0.0**			
MIAR	**Mount Ida**	**132.37**	**41**		**PKPdf**	**23 36 28.9**	**0.0**			
MIAR	**Mount Ida**	**132.38**	**41**	P		23 36 28.6				
	baz=308									
WLAR	**White Oak Lake**	**133.20**	**42**	IAMs_20	IAMs_20	00 28 25.1				
	comp=Z,2μm,21.0s									
NATX	**Nacogdoches**	**133.26**	**45**	IAMs_20	IAMs_20	00 37 45.2				
	comp=Z,1μm,20.0s									
HKT	**Hockley**	**133.39**	**48**	IAMs_20	IAMs_20	00 33 52.8				
	comp=Z,2μm,20.0s									
P49A	**Miami Univ. Ec**	**134.03**	**29**	IAMs_20	IAMs_20	00 47 46.7				
	comp=Z,1μm,20.0s									
WCI	**Wyandotte Cave**	**134.22**	**32**	IAMs_20	IAMs_20	00 31 40.0				
	comp=Z,1μm,21.0s									
M53A	**WI Miller and**	**134.32**	**24**	IAMs_20	IAMs_20	00 40 52.6				
	comp=Z,2μm,21.0s									
J57A	**Williamstown**	**134.33**	**19**	IAMs_20	IAMs_20	00 32 51.0				
	comp=Z,2μm,20.0s									
WVT	**Waverly**	**134.88**	**35**	PKIKP	**PKPdf**	**23 36 33.8**	**+0.2**			
WVT	**Waverly**	**134.88**	**35**		**PKPdf**	**23 36 33.8**	**+0.2**			
PLAL	**Pickwick Lake**	**135.54**	**36**	IAMs_20	IAMs_20	00 36 21.1				
	comp=Z,1μm,22.0s									
Q56A	**Snyder Ridge,**	**136.95**	**25**	IAMs_20	IAMs_20	00 40 10.3				
	comp=Z,1μm,21.0s									
S54A	**Dingess, Beckl**	**137.03**	**28**	IAMs_20	IAMs_20	00 49 50.9				
	comp=Z,1μm,19.0s									
V51A	**Loudon**	**137.06**	**32**	IAMs_20	IAMs_20	00 37 19.4				
	comp=Z,1μm,22.0s									
PLCA	**Paso Flores**	**137.19**	**165**	PKP	**PKPdf**	**23 36 37.0**	**-0.8**			
	comp=Z,2.4nm,0.8s,baz=251,slow=1.9,SNR=3.0									
LRAL	**Lakeview Retre**	**137.53**	**38**	IAMs_20	IAMs_20	00 37 44.9				
	comp=Z,1μm,22.0s									
U54A	**Nelsons Funny**	**137.81**	**29**	IAMs_20	IAMs_20	00 35 46.7				
	comp=Z,1μm,21.0s									
BLA	**Blacksburg**	**137.92**	**28**	IAMs_20	IAMs_20	00 46 58.5				
	comp=Z,1μm,19.0s									
S57A	**Dark Hollow, R**	**138.13**	**26**	IAMs_20	IAMs_20	00 48 01.5				
	comp=Z,1μm,20.0s									
CBN	**Corbin Frederi**	**138.41**	**24**	IAMs_20	IAMs_20	00 47 30.8				
	comp=Z,1μm,20.0s									
T57A	**Hurt**	**138.63**	**27**	IAMs_20	IAMs_20	00 41 16.0				
	comp=Z,1μm,21.0s									
S58A	**Poland Farm, P**	**138.63**	**25**	IAMs_20	IAMs_20	00 40 58.9				
	comp=Z,1μm,22.0s									
U56A	**King**	**138.64**	**28**	IAMs_20	IAMs_20	00 49 19.6				
	comp=Z,1μm,21.0s									
BRAL	**Brewton**	**138.75**	**40**	IAMs_20	IAMs_20	00 38 35.6				
	comp=Z,1μm,20.0s									
GOGA	**Godfrey**	**139.33**	**34**	IAMs_20	IAMs_20	00 44 27.7				
	comp=Z,1μm,20.0s									
T60A	**Surry**	**139.58**	**24**	IAMs_20	IAMs_20	00 37 26.8				
	comp=Z,1μm,22.0s									
JSC	**Jenk

	comp=N,2μm,0.2s										
AC05	**El Transito**		**2.07**	**108**	*e*P		**Pn**	**23 28 11.3**	**+0.4**
AC05					*i* S		**Sn**	**23 28 35.7**	**-1.3**
AC05					IAML			23 28 37.4	
	comp=N,587nm,0.1s								
GO03	**Copiap**		**2.12**	**73**	*e*P		**Pn**	**23 28 12.2**	**+0.7**
GO03					*i* S		**Sn**	**23 28 37.8**	**-0.3**
GO03	**Copiap**		**2.12**	**73**	*e*P		**Pn**	**23 28 12.9**	**+1.4**
GO03					*e*S		**Sn**	**23 28 38.1**	**0.0**
GO04	**Tololo Observa**		**2.46**	**143**	*e*P		**Pn**	**23 28 15.4**	**-0.9**
GO04					*i* S		**Sn**	**23 28 44.3**	**-2.3**
GO04	**Tololo Observa**		**2.46**	**143**	*e*P		**Pn**	**23 28 15.8**	**-0.6**
GO04					*e*S		**Sn**	**23 28 44.4**	**-2.3**
AC01	**Pan de Azucar**		**2.69**	**40**	*e*P		**Pn**	**23 28 18.9**	**-0.4**
AC01					*e*S		**Sn**	**23 28 50.1**	**-1.9**
AC01					IAML			23 28 52.6	
	comp=E,168nm,0.2s								
CO01	**Juntas del Tor**		**2.75**	**130**	*e*P		**Pn**	**23 28 20.9**	**+0.5**
CO01					*e*S		**Sn**	**23 28 52.3**	**-1.6**
CO01					IAML			23 28 55.6	
	comp=N,336nm,0.3s								
CO03	**El Pedregal**		**3.06**	**149**	*e*P		**Pn**	**23 28 23.4**	**-1.0**
CO02	**Combarbal**		**3.25**	**156**	*e*P		**Pn**	**23 28 26.1**	**-1.0**
AROD	**Rodeo**		**3.30**	**127**	*e*P		**Pn**	**23 28 30.4**	**+2.5**
AROD					*e*S		**Sn**	**23 29 10.4**	**+2.9**
AC02	**Maricunga**		**3.32**	**66**	*i* S		**Sn**	**23 29 10.1**	**+1.8**
ACCO	**Cerro Coronel**		**3.83**	**129**	*e*P		**Pn**	**23 28 38.6**	**+3.4**
ACCO					*e*S		**Sn**	**23 29 23.2**	**+2.6**
ACCO					IAML			23 29 40.3	
	comp=Z,123nm,0.5s								
VCA	**Vinchina**		**3.84**	**99**	*e*P		**Pb**	**23 28 41.2**	**-2.6**
VCA					*e*S		**Sb**	**23 29 28.0**	**-2.4**
VCA					IAML			23 29 37.2	
	comp=Z,114nm,1.0s								
GO02	**Mina Guanaco**		**4.02**	**41**	*e*P		**Pn**	**23 28 39.1**	**+1.2**
PB14	**IPOC Station P**		**4.06**	**28**	*e*P		**Pn**	**23 28 37.5**	**-0.9**
RTLS	**Leoncito**		**4.53**	**143**	*e*P		**Pn**	**23 28 47.5**	**+2.6**
RTLS					*e*S		**Sn**	**23 29 40.1**	**+2.2**
RTLS					IAML			23 29 54.4	
	comp=Z,88nm,1.0s								
ZON	**Zonda**		**4.70**	**136**	*e*P		Pn	23 28 51.9	+4.9
ZON					IAML			23 30 07.8	
	comp=Z,30nm,0.7s								
AUSP	**Uspallata**		**4.82**	**146**	*e*P		**Pn**	**23 28 51.2**	**+2.3**
AUSP					*e*S		**Sn**	**23 29 45.8**	**+0.7**
VA03	**San Esteban**		**4.83**	**160**	*e*P		**Pn**	**23 28 49.0**	**+0.1**
RTCV	**Cerro Valdivia**		**5.01**	**137**	*e*P		**Pn**	**23 28 53.8**	**+2.6**
RTCV					IAML			23 30 19.8	
	comp=Z,60nm,3.0s								
PB10	**IPOC Station P**		**5.02**	**21**	*e*P		**Pn**	**23 28 50.5**	**-0.8**
PB10					*e*S		**Sn**	**23 29 47.8**	**-1.6**
PB10					IAML			23 29 49.4	
	comp=Z,24nm,0.3s								
PEL	**Peldehue**		**5.15**	**163**	*e*P		**Pn**	**23 28 53.0**	**-0.2**
PEL					*e*S		Sn	23 29 39.7	-13
PB06	**IPOC Station P**		**6.11**	**27**	*e*P		**Pn**	**23 29 06.4**	**-0.1**
PB06					*e*S		**Sn**	**23 30 15.0**	**-1.6**
PB06					IAML			23 30 57.8	
	comp=Z,21nm,2.1s								
FSA	**Cafayete**		**6.20**	**72**	*e*P		Pn	23 29 14.3	+6.6
PB04	**IPOC Station P**		**6.25**	**21**	*e*P		**Pn**	**23 29 08.5**	**+0.1**
PB04					*e*S		**Sn**	**23 30 19.7**	**-0.3**
PB04					IAML			23 30 21.0	
	comp=Z,28nm,1.3s								
LVC	**Limon Verde**		**6.48**	**31**	Pn		**Pn**	**23 29 12.7**	**+1.0**
	comp=Z,2.7nm,0.3s,baz=168,slow=7.8,SNR=35								
LVC					Sn		**Sn**	**23 30 25.5**	**-0.5**
	comp=Z,2.8nm,0.3s,baz=79,slow=23,SNR=7.0								
LVC					LR		LR	23 31 12.0	
	comp=Z,59nm,18.5s,baz=51,slow=34								
LVC	**Limon Verde**		**6.48**	**31**	*e*P		**Pn**	**23 29 12.7**	**+1.0**
LVC					IAML			23 31 11.6	
	comp=Z,7.8nm,2.2s								
AHML	**Horco Molle**		**6.55**	**79**	*e*P		**Pb**	**23 29 31.6**	**+1.7**
AHML					*e*S		**Sn**	**23 30 28.2**	**+1.0**
AHML					IAML			23 31 07.1	
	comp=Z,13nm,2.5s								
MRA	**San Martin**		**7.22**	**127**	*e*P		**Pn**	**23 29 22.7**	**+1.1**
MRA					*e*S		**Sn**	**23 30 43.0**	**-0.8**
MRA					IAML			23 31 19.4	
	comp=Z,22nm,0.7s								
RFA	**San Rafael**		**7.39**	**153**	*e*P		**Pn**	**23 29 24.1**	**+0.2**
RFA					IAML			23 31 33.1	
	comp=Z,8.1nm,3.0s								
H03N1	**Juan Fernandez**		**7.56**	**225**	T		T	23 37 05.7	
	baz=56								
H03N2	**Juan Fernandez**		**7.57**	**225**	T		T	23 37 04.3	
	baz=56								
H03N3	**Juan Fernandez**		**7.58**	**225**	T		T	23 37 03.0	
	baz=56								
SIV	**San Ignacio**		**16.14**	**43**	Pn		**Pn**	**23 31 22.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=242,slow=12,SNR=4.6								
BDFB	**Brasilia**		**25.90**	**66**	P		**P**	**23 33 08.9**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=220,slow=8.8,SNR=4.0								
NVAR	**Mina Array Bea**		**78.92**	**325**	P		**P**	**23 39 43.2**	**+3.3**
	comp=Z,0.7nm,0.7s,baz=145,slow=6.6,SNR=3.0								
ULM	**Lac du Bonnet**		**80.83**	**345**	P		**P**	**23 39 48.4**	**-1.3**
	comp=Z,3.7nm,0.9s,baz=180,slow=4.0,SNR=3.6								
TORD	**Torodi Ar. Bea**		**82.68**	**71**	P		**P**	**23 40 02.2**	**+2.0**
	comp=Z,2.0nm,0.7s,baz=267,slow=4.8,SNR=4.3								
WRA	**Warramunga Arr**		**125.52**	**211**	PKP		**PKiKP**	**23 46 38.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=160,slow=1.8,SNR=12								
KURBB	**Kurchatov Arra**		**148.71**	**36**	PKPbc		**PKiKP**	**23 47 25.2**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=303,slow=3.4,SNR=13								
ZALV	**Zalesovo Beam**		**149.41**	**27**	PKP		**PKPbc**	**23 47 22.6**	**-2.2**
	comp=Z,3.4nm,0.7s,baz=309,slow=3.0,SNR=4.1								
ZALV					PKPbc		**sPKPbc**	**23 47 27.2**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=335,slow=1.2,SNR=13								
AAK	**Ala-Archa**		**149.74**	**53**	PKPbc		**PKPab**	**23 47 29.4**	**-2.2**
	comp=Z,1.6nm,0.9s,baz=228,slow=5.6,SNR=6.5								
MKAR	**Makanchi Array**		**152.94**	**40**	PKPbc		**PKPbc**	**23 47 33.3**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=329,slow=1.4,SNR=5.9								

DJA ***15*** *23:31:02.6±0.3, 1°S±3°×12°2E±°, h10km, M4.3/8, mb4.5/1, MLv4.2/8*

IDC ***15*** *23:31:04.6±1.4, 0°.97S×122°.40E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/51, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=45.3km s-min=23.0km az=84.0*

ISC 15 23:31:01.5±1.0, 0°.56S±0°.06×122°.33E±0°.05, h10km, n12, σ0§42/13, mb3.5/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.65**	**137**	P	**Pb**	**23 31 15.3**	**+0.3**
LUWI				S	**Sb**	**23 31 24.4**	**+0.2**
APSI	**Ampana**	**0.76**	**243**	P	**Pg**	**23 31 15.9**	**-0.3**
APSI				S	**Sg**	**23 31 26.2**	**+0.1**
MRSI	**Marisa**	**1.10**	**340**	P	**Pn**	**23 31 23.5**	**+0.4**
GTOI	**Gorontalo**	**1.38**	**30**	P	**Pn**	**23 31 26.3**	**-0.5**
KMSI	**Cibinong**	**2.00**	**56**	P	**Pg**	**23 31 39.8**	**-0.2**
TTSI	**Tana Toraja**	**3.51**	**225**	P	**Pn**	**23 31 56.6**	**+0.4**
SPSI	**Sidrap Palu**	**4.24**	**217**	P	**Pn**	**23 32 06.0**	**-0.2**
BNSI	**Bone**	**4.41**	**210**	P	**Pn**	**23 32 08.8**	**+0.2**
KAPI	**Kappang**	**5.11**	**210**	Pn	**Pn**	**23 32 17.8**	**-0.4**
	6.8nm,0.3s,baz=44,slow=5.6,SNR=16						
KAPI				Sn	**Sn**	**23 33 16.7**	**-0.7**
	baz=252,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**22.57**	**149**	P	**P**	**23 36 02.6**	**+0.4**
	0.8nm,0.9s,baz=326,slow=10,SNR=3.7						
SONM	**Songino Array**	**50.16**	**346**	P	P	23 40 05.0	+7.6
	0.2nm,0.3s,baz=164,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**58.74**	**329**	P	P	23 41 07.0	+7.3
	0.9nm,1.1s,baz=122,slow=7.9,SNR=3.2						

ISK ***15*** *23:31:06.8, 38°.25N×26°.64E, h3km, ML2.7/15*

DDA ***15*** *23:31:07.2, 38°.26N×26°.62E, h4km±2km, ML2.5*

ISC 15 23:31:06.8±1.0, 38°.25N±0°.02×26°.70E±0°.02, h19km±1km, n29, σ1§49/51, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.14**	**324**	PG	**Pb**	**23 31 09.6**	**+0.3**
URLA				SG	**Sb**	**23 31 12.1**	**+1.4**
URLA	**Izmir**	**0.14**	**324**	*i* P	**Pb**	**23 31 09.5**	**+0.2**
URLA				*i* S	**Sb**	**23 31 10.8**	**+0.1**
ZEYE	**Izmir, Urla-Ze**	**0.15**	**266**	*i* P	**Pb**	**23 31 10.3**	**+0.4**
ZEYE				*i* S	**Sb**	**23 31 11.7**	**0.0**
ZEYE				IAML		23 31 12.0	
	comp=E,3μm,0.1s						
ZEYE				IAML		23 31 13.0	
	comp=N,2μm,0.2s						
GMLD	**Gumuldur**	**0.24**	**135**	PG	**Pg**	**23 31 13.4**	**+0.9**
GMLD				SG	**Sg**	**23 31 17.7**	**+1.4**
DGB	**zmir**	**0.25**	**144**	*i* P	**Pb**	**23 31 13.1**	**+0.7**
DGB				*i* S	**Sb**	**23 31 15.4**	**-0.8**
DGB				IAML		23 31 17.0	
	comp=N,2μm,0.1s						
DGB				IAML		23 31 17.0	
	comp=E,2μm,0.2s						
BLCB	**Balcova**	**0.30**	**64**	PG	**Pg**	**23 31 14.5**	**+1.1**
BLCB				SG	**Sg**	**23 31 19.6**	**+1.7**
KRBN	**Karaburun**	**0.36**	**342**	PG	**Pg**	**23 31 14.7**	**+0.3**
KRBN				SG	**Sb**	**23 31 20.6**	**+0.5**
FOCM	**Foa**	**0.46**	**3**	PG	**Pg**	**23 31 16.5**	**+0.3**
FOCM				SG	**Sb**	**23 31 23.6**	**+0.7**
CHOS	**Chios island**	**0.52**	**285**	PG	**Pb**	**23 31 16.9**	**-0.5**
CHOS				SG	**Sb**	**23 31 24.2**	**-0.4**
GCAM	**G?zelcaml?**	**0.69**	**142**	PG	**Pg**	**23 31 21.4**	**+0.9**
GCAM				SG	**Sn**	**23 31 31.6**	**-0.3**
GCAM	**G?zelcaml?**	**0.69**	**142**	*i* P	**Pb**	**23 31 21.0**	**+0.7**
GCAM				*i* S	**Sb**	**23 31 26.3**	**-3.1**
GCAM				IAML		23 31 32.0	
	comp=N,304nm,0.4s						
GCAM				IAML		23 31 32.0	
	comp=E,150nm,0.3s						
ZEDA	**zmir-Bergama**	**0.77**	**22**	*i* P	**Pn**	**23 31 22.6**	**-0.1**
ZEDA				*i* S	**Sb**	**23 31 31.7**	**-0.2**
DKL	**Dikili**	**0.83**	**11**	PG	**Pn**	**23 31 23.7**	**+0.1**
DKL				SG	**Sn**	**23 31 36.5**	**+1.1**
DDIM	**Aydin, Didim**	**0.90**	**151**	*i* P	**Pn**	**23 31 25.3**	**+0.8**
DDIM				*i* S	**Sb**	**23 31 34.0**	**-1.4**
DDIM				IAML		23 31 39.0	
	comp=N,114nm,1.3s						
AYDB	**Zeytinkoy-Aydi**	**0.99**	**108**	PG	**Pg**	**23 31 27.2**	**+1.2**
AYVA	**Ayvalik**	**1.06**	**360**	*i* P	**Pg**	**23 31 28.0**	**+0.7**
AYVA				*i* S	**Sb**	**23 31 37.5**	**-2.4**
AKHS	**Akhisar**	**1.08**	**54**	*i* P	**Pg**	**23 31 28.9**	**+1.2**
AKHS				*i* S	**Sb**	**23 31 39.1**	**-1.5**
SIGR	**SIGRI**	**1.16**	**326**	PN	**Pn**	**23 31 28.8**	**+0.7**
BUHA	**Balikesir, Bur**	**1.28**	**13**	*i* P	**Pg**	**23 31 31.9**	**+0.3**
BUHA				*i* S	**Sb**	**23 31 44.9**	**-1.6**
BUHA				IAML		23 31 52.0	
	comp=N,80nm,0.7s						
BUHA				IAML		23 31 53.0	
	comp=E,133nm,0.5s						
BDRM	**Kayabasi**	**1.32**	**153**	*i* P	**Pn**	**23 31 31.0**	**+0.7**
BDRM				*i* S	**Sn**	**23 31 44.2**	**-3.3**
KOCA	**Canakkale, Ayv**	**1.32**	**341**	*i* P	**Pb**	**23 31 31.9**	**+0.9**
KOCA				*i* S	**Sn**	**23 31 43.8**	**-3.7**
KOCA				IAML		23 31 53.0	
	comp=E,87nm,0.5s						
STEP	**BALIKESIR_Sava**	**1.38**	**35**	*i* P	**Pg**	**23 31 34.1**	**+0.7**
STEP				*i* S	**Sn**	**23 31 46.9**	**-2.0**
STEP				IAML		23 31 57.0	
	comp=E,75nm,0.6s						
MANT	**Manisa**	**1.48**	**80**	*i* P	**Pg**	**23 31 35.9**	**+0.5**
MANT				*i* S	**Sn**	**23 31 50.0**	**-1.7**
MANT				IAML		23 31 58.0	
	comp=E,52nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**1.49**	**356**	*i* P	**Pn**	**23 31 33.1**	**+0.4**
BAYC				*i* S	**Sn**	**23 31 46.4**	**-5.3**
KULA	**Kula-Manisa**	**1.56**	**80**	PN	**Pg**	**23 31 37.6**	**+0.6**
BOZC	**Bozcaada**	**1.67**	**343**	PN	**Pb**	**23 31 37.9**	**+1.0**
YER	**Yerkesik**	**1.68**	**131**	PN	**Pb**	**23 31 38.2**	**+1.0**
TURN	**Turunc**	**1.92**	**140**	PN	**Pb**	**23 31 41.5**	**+0.3**
SIMA	**Simav-Kutahya**	**1.97**	**64**	PN	**Pb**	**23 31 42.7**	**+0.5**

IDC ***15*** *23:39:16.5±1.5, 15°.08S×167°.03E, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/52, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=40.7km s-min=24.2km az=116.0*

ISC 15 23:39:24.1±1.2, 15°.19S±0°.10×167°.0E±0°.2, h57km, n8, σ1§21/9, mb3.9/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.87**	**185**	Pn	**Pn**	**23 41 01.9**	**-0.4**
	3.5nm,0.3s,baz=311,slow=12,SNR=21						
DZM				Sn	**Sn**	**23 42 20.1**	**+0.9**
	1.4nm,0.3s,baz=343,slow=19,SNR=2.8						
CTA	**Charters Tower**	**20.38**	**253**	P	**P**	**23 43 56.8**	**+0.4**
	6.7nm,0.8s,baz=75,slow=8.1,SNR=5.6						
WRA	**Warramunga Arr**	**31.49**	**257**	P	**P**	**23 45 39.6**	**-1.3**
	0.9nm,0.9s,baz=87,slow=8.5,SNR=4.0						
ASAR	**Alice Springs**	**32.29**	**250**	P	**P**	**23 45 46.4**	**-1.5**
	1.5nm,0.8s,baz=81,slow=8.5,SNR=9.6						
CMAR	**Chiang Mai Arr**	**74.92**	**294**	P	**P**	**23 51 01.1**	**+1.5**
	1.0nm,0.3s,baz=116,slow=4.8,SNR=4.8						
SONM	**Songino Array**	**82.73**	**324**	P	**P**	**23 51 42.1**	**+0.2**
	1.0nm,1.2s,baz=131,slow=7.9,SNR=3.6						
ILAR	**Eielson Array**	**87.03**	**18**	P	**P**	**23 52 02.0**	**-1.0**
	0.4nm,0.5s,baz=238,slow=4.9,SNR=11						
MKAR	**Makanchi Array**	**97.37**	**316**	P	**P**	**23 52 52.1**	**+0.8**
	0.7nm,1.0s,baz=104,slow=5.8,SNR=4.1						

IDC ***15*** *23:45:16.3±1.4, 0°.61S×122°.32E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/47, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=44.0km s-min=24.8km az=79.0*

DJA ***15*** *23:45:19.1±0.2, 1°S±2°×12°2E±°, h10km, M4.3/10, mb4.5/4, MLv4.2/10*

ISC 15 23:45:18.5±0.7, 0°.59S±0°.05×122°.33E±0°.05, h10km, n16, σ1§42/21, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.63**	**135**	P	**Pn**	**23 45 32.7**	**-0.8**
LUWI				S	**Sn**	**23 45 42.3**	**-1.2**
APSI	**Ampana**	**0.75**	**245**	P	**Pg**	**23 45 33.2**	**+0.1**
APSI				S	**Sg**	**23 45 42.7**	**-0.2**
MRSI	**Marisa**	**1.13**	**340**	P	**Pb**	**23 45 40.0**	**-0.2**
MRSI				S	**Sb**	**23 45 54.2**	**-0.8**
GTOI	**Gorontalo**	**1.40**	**29**	P	**Pb**	**23 45 44.6**	**-0.1**
GTOI				S	**Sn**	**23 46 00.6**	**-2.0**
KMSI	**Cibinong**	**2.02**	**55**	P	**Pb**	**23 45 55.2**	**-0.1**
TTSI	**Tana Toraja**	**3.50**	**226**	P	**Pn**	**23 46 13.7**	**+0.7**
SPSI	**Sidrap Palu**	**4.21**	**217**	P	**Pn**	**23 46 23.4**	**+0.5**
BNSI	**Bone**	**4.39**	**210**	P	**Pn**	**23 46 26.1**	**+0.9**
KAPI	**Kappang**	**5.09**	**210**	Pn	**Pn**	**23 46 35.4**	**+0.5**
	11nm,0.3s,baz=26,slow=5.3,SNR=36						
KAPI				Sn	**Sn**	**23 47 32.3**	**-1.5**
	2.1nm,0.3s,baz=233,slow=20,SNR=1.3						
NLAI	**Namlea**	**5.44**	**119**	P	**Pn**	**23 46 42.1**	**+2.3**
EDFI	**Ende, Flores**	**8.13**	**184**	P	**Pn**	**23 47 17.7**	**+0.9**
WRA	**Warramunga Arr**	**22.54**	**149**	P	**P**	**23 50 19.6**	**+0.7**
	1.5nm,0.8s,baz=330,slow=10,SNR=7.1						
ASAR	**Alice Springs**	**25.54**	**155**	P	**P**	**23 50 46.0**	**-1.7**
	0.2nm,0.3s,baz=336,slow=8.1,SNR=3.2						
SONM	**Songino Array**	**50.19**	**346**	P	**P**	**23 54 15.9**	**+1.3**
	0.4nm,0.7s,baz=167,slow=7.8,SNR=2.7						
MKAR	**Makanchi Array**	**58.77**	**329**	P	**P**	**23 55 19.0**	**+2.1**
	0.1nm,0.5s,baz=123,slow=8.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**119.92**	**285**	PKP	**PKPdf**	**00 04 07.3**	**-3.1**
	0.5nm,0.5s,baz=66,slow=1.1,SNR=5.3						

IDC ***16*** *00:09:11.6±0.7, 13°.03N×123°.44E, h0km, mb4.0/16, mb1 4.1/16, mb1mx3.9/43, mbtmp4.0/16, ML5.1/1, MS4.1/15, Ms1 4.1/15, ms1mx3.9/46, Error ellipse: s-maj=24.8km s-min=14.6km az=70.0*

MAN ***16*** *00:09:12.2, 13°.18N×123°.45E, h16km, MS4.2*

MAN INTENSITY III - NAGA CITY; IRIGA CITY; INTENSITY II - CAMALIG.

GCMT ***16*** *00:09:14.5±0.4, 13°.11N±0°.02×123°.32E±0°.03, h15km±2km, MW4.8/69, Moment Tensor Solution. s8,c8; s69,c102; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.22±.14; Mθθ 1.01±.10; Mϕϕ -1.22±.15; Mrθ -0.74±.28; Mθϕ -1.76±.10; Mϕr -0.40±.25; Best double couple: M0.2.23900×10^16 NP1:ϕs343.00000°, δ69.00000°, λ-1.00000°. NP2: ϕs74.00000°, δ89.00000°, λ-159.00000°. Principal axes: T 2.0960, Plg14.0000°, Azm206.0000°; N 0.2940, Plg69.0000°, Azm75.0000°; P -2.3830, Plg15.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***16*** *00:09:16.5±1.5, 13°.02N±0°.08×123°.41E±0°.06, h35km±2km, mb4.4/21 Error ellipse: s-maj=14.8km s-min=5.1km az=147.0*

ISC 16 00:09:12.1±1.8, 13°.14N±0°.03×123°.36E±0°.04, h2km±12km, n80, σ1§51/71, mb4.3/33, MS3.9/11, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCSP	**San Jose Seism**	**0.53**	**17**	*e*P	**Pb**	**00 09 22.7**	**-1.5**
SCSP				*e*S	**Sn**	**00 09 33.1**	**-3.2**
MMPH	**Masbate**	**0.82**	**162**	*i*P	**Pb**	**00 09 27.8**	**-1.3**
MMPH				*e*S	**Sb**	**00 09 38.9**	**-1.8**
GQP	**Guinayangan**	**1.17**	**311**	*e*P	**Pn**	**00 09 33.0**	**-2.6**
GQP				*e*S	**Sg**	**00 09 52.0**	**+2.3**
JCNP	**Jose Panganiba**	**1.31**	**331**	*e*P	**Pn**	**00 09 34.6**	**-2.9**
JCNP				*e*S	**Sg**	**00 09 55.1**	**+0.8**
BOAC	**Boac**	**1.51**	**282**	*e*P	**Pn**	**00 09 39.5**	**-0.7**
BOAC				*e*S	**Sn**	**00 10 00.4**	**-0.1**
LQP	**Lukban**	**2.02**	**299**	*e*P	**Pn**	**00 09 47.2**	**-0.2**
LQP				*e*S	**Sn**	**00 10 07.2**	**-6.2**
PGP	**Puerto Galera**	**2.37**	**279**	*e*P	**Pb**	**00 09 54.2**	**-1.4**
TGY	**Tagaytay City**	**2.54**	**292**	Pn	**Pb**	**00 09 57.5**	**-1.0**
	324nm,0.3s,baz=137,slow=3.3,SNR=58						
TGY				Sn	**Sg**	**00 10 34.4**	**+0.5**
	281nm,0.3s,baz=107,slow=22,SNR=5.3						
TGY	**Tagaytay City**	**2.54**	**292**	*e*P	**Pb**	**00 09 56.6**	**-2.0**
TGY				*i* S	**Sg**	**00 10 33.8**	**-0.1**
GUIM	**Jordan**	**2.61**	**197**	*e*P	**Pn**	**00 09 55.9**	**+0.4**
GUIM				*e*S	**Sb**	**00 10 30.7**	**-1.6**
MACP	**Maragondon, Ca**	**2.80**	**294**	*e*P	**Pn**	**00 10 00.1**	**+2.1**
MACP				*e*S	**Sb**	**00 10 36.4**	**-1.3**
LLP	**Lapu-Lapu**	**2.87**	**168**	*e*P	**Pn**	**00 10 00.4**	**+1.4**
LLP				*e*S	**Sb**	**00 10 39.5**	**-0.3**
BALP	**Baler**	**3.11**	**326**	*e*P	**Pn**	**00 10 02.0**	**-0.2**
MSLP	**Maasin**	**3.33**	**154**	*e*P	Pb	00 10 07.5	-4.5
MSLP				*e*S	**Sb**	**00 10 49.7**	**-3.3**
CNOP	**Candoni, Negro**	**3.37**	**192**	*e*P	**Pn**	**00 10 05.6**	**-0.3**
CNOP				*e*S	**Sn**	**00 10 47.3**	**+0.8**
SZP	**Santa**	**5.20**	**328**	Pn	**Pn**	**00 10 33.2**	**+2.2**
DAV	**Davao City (W)**	**6.42**	**160**	LR	LR	00 13 51.6	
	comp=Z,1μm,19.5s,baz=328,slow=45						
MYLDM	**Lahad Datu**	**9.25**	**212**	Pn	**Pn**	**00 11 25.9**	**-0.8**
JOW	**Kunigami**	**14.38**	**18**	LR	LR	00 17 42.0	
	comp=Z,946nm,20.9s,baz=199,slow=35						
SBUM	**Sibu**	**15.31**	**227**	Pn	**Pn**	**00 12 50.2**	**+0.7**
SBUM				IAmb	IAmb	00 12 59.5	
	comp=Z,15nm,0.8s						
SIJI	**Sorong**	**15.98**	**150**	LR	LR	00 20 49.2	
	comp=Z,528nm,18.7s,baz=92,slow=44						
KSM	**Kuching**	**17.36**	**229**	Pn	**Pn**	**00 13 14.9**	**-0.9**
KAPI	**Kappang**	**18.39**	**191**	LR	LR	00 20 26.2	
	comp=Z,610nm,20.5s,baz=358,slow=37						
NONG	**Nongkai**	**20.07**	**287**	P	Pn	00 13 56.8	+8.0
	comp=Z,11μmcomp=Z,18nm,2.6s						
SLVN	**Son La**	**20.27**	**296**	P	Pn	00 13 50.5	-0.7
CHAI	**Chaiyaphum**	**20.87**	**280**	P	Pn	00 14 03.0	+4.8
	comp=Z,23nm,0.8s						
JNU	**Nakatsue**	**21.04**	**18**	LR	LR	00 23 02.5	
	comp=Z,475nm,18.8s,baz=256,slow=39						
ENH	**Enshi**	**21.33**	**325**	P	**P**	**00 14 03.4**	**+2.7**
ENH				IAmb	IAmb	00 14 10.9	
	comp=Z,9.9nm,0.7s						
JCJ	**Chichijima**	**22.43**	**49**	LR	LR	00 21 05.6	
	comp=Z,312nm,21.1s,baz=306,slow=32						
SUKH	**Sukhothai**	**23.28**	**284**	P	P	00 14 27.5	+6.1
	comp=Z,333nmcomp=Z,17nm,1.1s						
CM09	**Chiang Mai Arr**	**24.02**	**286**	P	P	00 14 37.0	+8.2
	comp=Z,10nm,0.8s						
CM04	**Chiang Mai Arr**	**24.03**	**286**	P	P	00 14 37.3	+8.5
	comp=Z,7.6nm,1.0s						
CM05	**Chiang Mai Arr**	**24.06**	**286**	P	P	00 14 37.5	+8.3
	comp=Z,52nmcomp=Z,5.2nm,1.0s						
CM02	**Chiang Mai Arr**	**24.06**	**286**	P	P	00 14 36.8	+7.6
	comp=Z,7.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**24.07**	**286**	P	**P**	**00 14 29.3**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=94,slow=7.9,SNR=8.9						
CMAR				LR	LR	00 24 12.6	
	comp=Z,335nm,19.4s,baz=139,slow=37

comp=Z,0.1nm,0.5s,baz=317,slow=4.4,SNR=1.7

DJA 16 00:14:07.8±0.3,1°S±3'×12°2E±°,h10km,M4.0/9,mb4.3/1, MLv3.8/9,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.62**	**139**	P	Pb	00 14 20.9	+0.1
LUWI				S	Sb	00 14 29.5	-0.1
APSI	**Ampana**	**0.79**	**245**	P	Pg	00 14 22.8	-0.2
APSI				S	Sb	00 14 34.0	-0.3
MRSI	**Marisa**	**1.12**	**338**	P	Pb	00 14 28.6	-0.7
GTOI	**Gorontalo**	**1.36**	**29**	P	Pn	00 14 32.7	-0.2
TTSI	**Tana Toraja**	**3.54**	**226**	P	Pn	00 15 03.0	+0.2
SPSI	**Sidrap Palu**	**4.25**	**217**	P	Pn	00 15 12.8	+0.1
BNSI	**Bone**	**4.42**	**211**	P	Pn	00 15 15.4	+0.4

IDC ***16*** *00:19:13.3±4.2,2°.56N×128°.35E,h133km±46km,mb3.4/5, mb1 3.4/6,mb1mx3.1/40,mbtmp3.8/6,MS3.6/1,Ms1 3.8/1, ms1mx3.1/22,Error ellipse: s-maj=75.9km s-min=18.2km az=74.0*

NEIC ***16*** *00:19:14.5±0.6,2°.59N±0°.09×128°.4E±0'.2,h147km±9km, mb4.0/11,Error ellipse: s-maj=24.1km s-min=9.7km az=68.0*

ISC 16 00:19:14.5±0.7,2°.55N±0°.09×128°.3E±0'.1,h150km,n22, σ0s94/21,mb3.8/11,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.48**	**139**	P	**Pn**	**00 20 20.9**	**-0.2**
	2.5nm,0.3s,baz=224,slow=22,SNR=12						
SIJI				S	**Sn**	**00 21 10.7**	**-2.3**
	5.3nm,0.3s,baz=47,slow=23,SNR=8.2						
FAKI	**Fak Fak**	**6.69**	**144**	Pn	**Pn**	**00 20 50.4**	**0.0**
TOLI2	**Tolitoli**	**7.69**	**259**		**Pn**	**00 21 01.5**	**-2.3**
KAPI	**Kappang**	**11.40**	**229**	Pn	**Pn**	**00 21 53.9**	**+0.9**
WB0	**Warramunga Arr**	**22.96**	**165**	P	**P**	**00 24 06.7**	**+0.7**
WB0				IAmb	IAmb	00 24 09.2	
	comp=Z,20nm,1.8s						
YHNB	**Yeheng**	**23.00**	**344**	P	**P**	**00 24 06.4**	**+0.1**
YHNB				IAmb	IAmb	00 24 09.0	
	comp=Z,17nm,1.0s						
WRA	**Warramunga Arr**	**23.11**	**165**	P	**P**	**00 24 08.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=344,slow=10,SNR=18						
WB2	**Warramunga Arr**	**23.12**	**165**	P	**P**	**00 24 07.7**	**+0.3**
WB2				IAmb	IAmb	00 24 11.0	
	comp=Z,2.0nm,1.0s						
WR0	**Warramunga Arr**	**23.18**	**165**	P	**P**	**00 24 08.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**32.85**	**301**	LR	LR	00 40 54.5	
	comp=Z,92nm,18.6s,baz=275,slow=40						
KSRS	**Korea Array**	**34.74**	**359**	P	**P**	**00 25 50.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=178,slow=12,SNR=4.1						
BBOO	**Buckleboo**	**35.92**	**169**	P	**P**	**00 26 00.8**	**+0.4**
BBOO				IAmb	IAmb	00 26 12.8	
	comp=Z,7.6nm,1.1s						
JSD	**Sado**	**36.47**	**13**	P	**P**	**00 26 04.6**	**-0.5**
JSD				IAmb	IAmb	00 26 15.3	
	comp=Z,6.3nm,1.1s						
STKA	**Stephens Creek**	**36.48**	**161**	P	**P**	**00 26 05.2**	**0.0**
	comp=Z,0.7nm,0.2s,baz=315,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**36.48**	**161**	P	**P**	**00 26 06.4**	**+1.2**
STKA				IAmb	IAmb	00 26 15.1	
	comp=Z,1.7nm,1.4s						
USRK	**Ussuriysk Ar.**	**41.60**	**4**	P	**P**	**00 26 47.5**	**-0.1**
SONM	**Songino Array**	**48.93**	**340**	P	**P**	**00 27 45.5**	**0.0**
	comp=Z,0.5nm,0.6s,baz=143,slow=9.9,SNR=4.6						
SONM	**Songino Array**	**48.93**	**340**	IAmb	IAmb	00 27 47.1	
	comp=Z,0.6nm,0.8s						
MLZ	**Mavora Lakes**	**59.34**	**148**	P	**P**	**00 29 00.7**	**-0.1**
MK31	**Makanchi Array**	**59.44**	**325**	P	**P**	**00 29 02.1**	**+0.6**
MK31				IAmb	IAmb	00 29 02.9	
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**59.44**	**325**	P	**P**	**00 29 02.3**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=116,slow=8.2,SNR=20						
RPZ	**Rata Peaks**	**59.88**	**145**	P	**P**	**00 29 04.8**	**+0.3**

DJA 16 00:23:11.0±0.4,1°S±3'×12°2E±°,h10km,M3.9/7,mb4.5/1, MLv3.7/7,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.63**	**143**	P	Pb	00 23 24.3	+0.2
LUWI				S	Sb	00 23 32.5	-0.4
APSI	**Ampana**	**0.83**	**244**	P	Pg	00 23 26.8	-0.2
APSI				S	Sg	00 23 38.2	+0.4
MRSI	**Marisa**	**1.11**	**336**	P	Pb	00 23 30.7	-1.5
GTOI	**Gorontalo**	**1.32**	**28**	P	Pn	00 23 35.3	-0.2
TTSI	**Tana Toraja**	**3.58**	**226**	P	Pn	00 24 06.7	+0.1
SPSI	**Sidrap Palu**	**4.29**	**218**	P	Pn	00 24 16.9	+0.5
BNSI	**Bone**	**4.46**	**211**	P	Pn	00 24 19.0	+0.2

NOU ***16*** *00:28:00.6,18°.32S×177°.57W,h625km,mb4.6,Fiji Islands Region*

NEIC ***16*** *00:28:02.8±1.5,18°.2S±0'.1×177°.9W±0'.1,h618km±7km, mb4.4/121,Error ellipse: s-maj=18.3km s-min=13.7km az=146.0*

IDC ***16*** *00:28:02.5±1.2,18°.22S×177°.89W,h616km±12km, mb3.8/16,mb1 4.0/19,mb1mx3.7/35,mbtmp4.7/19,Error ellipse: s-maj=28.9km s-min=10.4km az=152.0*

ISC 16 00:28:02.2±0.4,18°.29S±0'.08×177°.85W±0'.06,h616km, n221,σ0s87/210,mb4.4/69,1C-12D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.94**	**277**	P	**P**	**00 29 29.3**	**+0.7**
	63nm,0.3s,baz=141,slow=5.3,SNR=194						
MSVF				S	**S**	**00 30 42.2**	**+3.3**
	baz=134,slow=22,SNR=7.7						
MSVF	**Nonsavu**	**3.94**	**277**	P	**P**	**00 29 29.3**	**+0.7**
AFI	**Afiamalu**	**7.28**	**54**	P	**P**	**00 29 53.9**	**-1.8**
	5.1nm,0.3s,baz=6.3,slow=5.4,SNR=5.8						
AFI				S	**S**	**00 31 30.8**	**+2.4**
	25nm,0.3s,baz=232,slow=24,SNR=12						
AFI	**Afiamalu**	**7.28**	**54**	P	**P**	**00 29 54.6**	**-1.0**
AFI					**S**	**00 31 30.2**	**+1.7**
NIUE	**Niue**	**7.55**	**97**	P	**P**	**00 29 57.0**	**-1.0**
FUNA	**Funafuti**	**10.12**	**343**	P	**P**	**00 30 20.9**	**-1.7**
YATNC	**Mamie plateau,**	**14.80**	**253**	P	**P**	**00 31 08.3**	**+0.3**
DZM	**Mont Dzumac**	**15.21**	**253**	P	**P**	**00 31 11.4**	**-0.4**
	0.5nm,0.3s,baz=122,slow=19,SNR=1.5						
DZM	**Mont Dzumac**	**15.21**	**253**	P	**P**	**00 31 11.6**	**-0.3**
DZM	**Mont Dzumac**	**15.21**	**253**	P	**P**	**00 31 13.1**	**+1.3**
KNTN	**Kanton**	**16.55**	**22**	P	**P**	**00 31 22.5**	**-1.5**
OUZ	**Omahuta**	**18.50**	**203**	P	**P**	**00 31 43.0**	**+1.6**
OUZ				IAmb	IAmb	00 31 46.9	
	comp=Z,14nm,1.0s						
URZ	**Urewera**	**20.38**	**191**	P	**P**	**00 31 57.0**	**-1.4**
BKZ	**Black Stump Fm**	**21.37**	**192**	P	**P**	**00 32 05.3**	**-2.1**
BKZ				IAmb	IAmb	00 32 07.6	
	comp=Z,17nm,1.1s						
BFZ	**Birch Farm**	**22.89**	**192**	P	**P**	**00 32 19.2**	**-1.6**
QRZ	**Quartz Range**	**23.93**	**198**	P	**P**	**00 32 31.4**	**+1.4**
QRZ				IAmb	IAmb	00 32 40.7	
	comp=Z,13nm,1.0s						
NNZ	**Nelson**	**24.06**	**196**	P	**P**	**00 32 31.6**	**+0.5**
TUWZ	**Tuamarina**	**24.11**	**195**	P	**P**	**00 32 33.1**	**+1.6**
THZ	**Tophouse**	**24.69**	**197**	P	**P**	**00 32 37.0**	**+0.2**
THZ				IAmb	IAmb	00 32 43.3	
	comp=Z,13nm,1.0s						
KHZ	**Kahutara**	**25.14**	**195**	P	**P**	**00 32 39.9**	**-0.7**
LTZ	**Lake Taylor**	**25.81**	**197**	P	**P**	**00 32 47.3**	**+0.7**
LTZ				IAmb	IAmb	00 32 57.6	
	comp=Z,6.1nm,0.9s						
PPTF	**Pamatai, Papee**	**26.91**	**93**	P	**P**	**00 32 57.5**	**+0.9**
RPZ	**Rata Peaks**	**27.02**	**198**	P	**P**	**00 32 58.0**	**+0.9**
FOZ	**Fox Glacier**	**27.23**	**200**	P	**P**	**00 32 58.8**	**-0.1**
MLZ	**Mavora Lakes**	**29.42**	**200**	P	**P**	**00 33 16.7**	**-1.2**
EIDS	**Eidsvold**	**29.64**	**251**	P	**P**	**00 33 19.9**	**-0.1**
DCZ	**Deep Cove**	**29.83**	**201**	P	**P**	**00 33 22.2**	**+0.8**
DCZ				IAmb	IAmb	00 33 29.3	
	comp=Z,16nm,1.1s						
WHZ	**Wether Hill Ro**	**29.94**	**200**	P	**P**	**00 33 24.5**	**+2.1**
WHZ				IAmb	IAmb	00 33 29.0	
	comp=Z,18nm,1.1s						
CAN	**Canberra**	**33.90**	**233**	P	**P**	**00 33 56.8**	**+0.8**
CAN				IAmb	IAmb	00 34 10.9	
	comp=Z,8.6nm,1.0s						
CTAO	**Charters Tower**	**33.91**	**261**	P	**P**	**00 33 56.3**	**0.0**
CTAO				IAmb	IAmb	00 33 56.6	
	comp=Z,13nm,0.8s						
PATS	**Pohnpei**	**34.30**	**315**	P	**P**	**00 33 59.4**	**-0.1**
TOO	**Toolangi**	**37.34**	**231**	P	**P**	**00 34 24.6**	**+0.3**
TOO				IAmb	IAmb	00 34 27.3	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**38.91**	**242**	P	**P**	**00 34 37.8**	**+0.8**
	comp=Z,3.8nm,0.7s,baz=84,slow=8.1,SNR=6.8						
STKA	**Stephens Creek**	**38.91**	**242**	P	**P**	**00 34 37.9**	**+0.8**
JAY	**Jayapura**	**43.52**	**286**	P	**P**	**00 35 14.0**	**+0.4**
	comp=Z,28nm,0.6s,baz=127,slow=2.7,SNR=13						
HMH	**Humu'ula Sheep**	**43.59**	**31**	P	**P**	**00 35 14.2**	**-0.1**
BBOO	**Buckleboo**	**43.69**	**241**	P	**P**	**00 35 14.9**	**+0.3**
BBOO				IAmb	IAmb	00 35 24.3	
	comp=Z,9.9nm,1.0s						
WR0	**Warramunga Arr**	**44.89**	**260**	P	**P**	**00 35 23.8**	**-0.2**
WB0	**Warramunga Arr**	**45.05**	**260**	P	**P**	**00 35 25.0**	**-0.2**
WB0				IAmb	IAmb	00 35 25.2	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**45.07**	**260**	P	**P**	**00 35 24.9**	**-0.4**
WB2				IAmb	IAmb	00 35 26.8	
	comp=Z,6.4nm,0.8s						
WRA	**Warramunga Arr**	**45.08**	**260**	P	**P**	**00 35 24.9**	**-0.6**
	comp=Z,4.7nm,0.3s,baz=97,slow=7.1,SNR=245						
WRA				S	**S**	**00 41 19.0**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=99,slow=12,SNR=5.6						
AS31	**Alice Springs**	**45.20**	**255**	P	**P**	**00 35 26.1**	**-0.2**
ASAR	**Alice Springs**	**45.20**	**255**	P	**P**	**00 35 26.1**	**-0.2**
	comp=Z,5.0nm,0.4s,baz=90,slow=8.2,SNR=79						
ASAR				PcP	**PcP**	**00 36 52.9**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=103,slow=4.2,SNR=9.7						
ASAR				ScP	**ScP**	**00 39 49.4**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=99,slow=4.8,SNR=4.4						
ASAR				S	**S**	**00 41 21.1**	**-1.8**
	comp=Z,2.4nm,0.6s,baz=90,slow=16,SNR=18						
ASAR	**Alice Springs**	**45.20**	**255**	P	**P**	**00 35 25.6**	**-0.7**
MTN	**Manton Dam**	**49.32**	**269**	P	**P**	**00 35 56.6**	**-0.4**
MTN				IAmb	IAmb	00 35 57.5	
	comp=Z,10nm,0.8s						
FORT	**Forrest**	**50.32**	**245**	P	**P**	**00 36 03.8**	**-0.4**
FORT				IAmb	IAmb	00 36 05.2	
	comp=Z,18nm,0.9s						
FAKI	**Fak Fak**	**51.17**	**281**	P	**P**	**00 36 10.1**	**-0.5**
FAKI				IAmb	IAmb	00 36 18.0	
	comp=Z,16nm,1.0s						
FITZ	**Fitzroy Crossi**	**53.49**	**261**	P	**P**	**00 36 26.9**	**-0.1**
PSA00	**Pilbara Seismi**	**58.33**	**256**	P	**P**	**00 36 59.4**	**-0.9**
MORW	**Morawa**	**60.81**	**246**	P	**P**	**00 37 15.9**	**-0.7**
GIRL	**Giralia**	**63.29**	**253**	P	**P**	**00 37 32.3**	**-0.4**
MJAR	**Matsushiro Arr**	**68.53**	**323**	P	**P**	**00 38 04.7**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=154,slow=6.8,SNR=7.4						
MAT	**Matsushiro**	**68.53**	**323**	P	**P**	**00 38 04.4**	**-0.3**
PETK	**Petropavlovsk-**	**74.18**	**345**	P	**P**	**00 38 37.1**	**0.0**
	comp=Z,4.6nm,0.7s,baz=134,slow=8.5,SNR=8.7						
SCZ2	**Santa Cruz Isl**	**75.99**	**47**	P		00 38 48.8	
	baz=236						
SAO	**San Andreas Ge**	**76.33**	**44**	P	**P**	**00 38 50.0**	**+0.5**
SAO				IAmb	IAmb	00 38 51.4	
	comp=Z,9.9nm,0.8s						
PKM	**Mcpherson Peak**	**76.36**	**46**	P		00 38 51.1	
	baz=236						
ARVC	**Arvin**	**77.16**	**46**	P		00 38 54.9	
	baz=237						
MWC	**Mount Wilson**	**77.21**	**47**	P	**P**	**00 38 55.1**	**+0.6**
MWC				IAmb	IAmb	00 38 55.8	
	comp=Z,12nm,0.7s						
BAR	**Barrett**	**77.37**	**49**	P	**P**	**00 38 56.2**	**+0.9**
VES	**Vestal, Richgr**	**77.38**	**45**	P		00 38 55.6	
	baz=236,SNR=5.8						
VOG	**Valley Oaks Go**	**77.45**	**45**	P		00 38 56.3	
	baz=236						
MURC	**Murrieta**	**77.48**	**48**	P		00 38 56.5	
	baz=238						
BFSC	**Mount Baldy Ra**	**77.49**	**47**	P		00 38 56.5	
	baz=238						
O02D	**Mt. Diablo Mer**	**77.50**	**40**	P		00 38 57.2	
	baz=233						
EDW2	**Edwards Air Fo**	**77.61**	**47**	P		00 38 57.3	
	baz=237,SNR=16						
MONP2	**Monument Peak**	**77.66**	**49**	P		00 38 58.0	
	baz=239						
ISA	**Isabella, Lake**	**77.70**	**46**	P		00 38 57.9	
	baz=237,SNR=11						
ISA	**Isabella, Lake**	**77.70**	**46**	P	**P**	**00 38 57.8**	**+0.8**
ISA				IAmb	IAmb	00 38 58.8	
	comp=Z,13nm,0.9s						
CMB	**Columbia Colle**	**77.75**	**43**	P	**P**	**00 38 57.7**	**+0.5**
CMB				IAmb	IAmb	00 38 58.7	
	comp=Z,9.8nm,0.9s						
IKP	**In-Ko-Pah, Jac**	**77.76**	**49**	P		00 38 58.4	
	baz=239						
AFDM	**Forest Hills D**	**77.91**	**42**	P	**P**	**00 38 58.8**	**+0.8**
AFDM				IAmb	IAmb	00 38 59.5	
	comp=Z,11nm,1.1s						
ORV	**Oroville**	**77.93**	**41**	P	**P**	**00 38 58.6**	**+0.5**
PFO	**Pinyon Flats O**	**78.01**	**49**	P		00 38 59.5	
	baz=238						
PFO	**Pinyon Flats O**	**78.01**	**49**	P	**P**	**00 38 59.9**	**+1.1**
TPFO	**Pinon Flats**	**78.01**	**49**	P		00 38 59.6	
	baz=238						
XPFO	**Pion Flat**	**78.01**	**49**	P	**P**	**00 38 59.5**	**+0.7**
N02D	**Trinity Center**	**78.03**	**39**	P		00 38 59.8	
	baz=233						
SWSC	**Sam W. Stewart**	**78.14**	**49**	P		00 39 00.1	
	baz=239						
LRMC	**Laurel Mtn Rad**	**78.14**	**46**	P		00 39 00.1	
	baz=237						
O03E	**Paynes Creek**	**78.18**	**40**	P		00 39 00.7	
	baz=234						
M02C	**Callahan**	**78.19**	**39**	P		00 39 00.9	
	baz=233						
CWC	**Cottonwood Cre**	**78.39**	**45**	P		00 39 01.6	
	baz=237						
BELC	**Belle Mtn. Jos**	**78.54**	**48**	P		00 39 02.4	
	baz=239,SNR=9.3						
WAKR	**Walker**	**78.64**	**43**	P	**P**	**00 39 03.5**	**+1.4**
WAKR				IAmb	IAmb	00 39 04.1	
	comp=Z,16nm,0.9s						
GSC	**Goldstone, Bar**	**78.65**	**47**	P		00 39 02.9	
	baz=238						
GSC	**Goldstone, Bar**	**78.65**	**47**	P	**P**	**00 39 03.0**	**+0.9**
HEC	**Hector,Ludlow**	**78.73**	**48**	P		00 39 03.2	
	baz=238						
BC3	**Big Chuckawall**	**78.75**	**49**	P		00 39 03.8	
	baz=239						
BEKR	**Beckworth**	**78.82**	**41**	P	**P**	**00 39 03.8**	**+0.7**
GLA	**Glamis**	**78.89**	**50**	P		00 39 04.9	
	baz=240						
L04D	**Klamath Falls**	**79.02**	**39**	P		00 39 04.8	
	baz=233						
YERR	**Yerington**	**79.03**	**43**	P	**P**	**00 39 05.3**	**+1.1**
YERR				IAmb	IAmb	00 39 05.8	
	comp=Z,15nm,0.7s						
M04C	**Macdoel**	**79.04**	**39**	P		00 39 04.8	
	baz=233						
LHV	**Little Huntoon**	**79.10**	**44**	P	**P**	**00 39 05.8**	**+1.5**
LHV				IAmb	IAmb	00 39 06.5	
	comp=Z,16nm,1.0s						
GMRC	**Granite Mounta**	**79.18**	**48**	P		00 39 05.5	
	baz=239						
IRM	**Iron Mountain**	**79.23**	**49**	P		00 39 06.1	
	baz=239,SNR=7.0						
FURC	**Furnace Creek,**	**79.23**	**46**	P		00 39 06.1	
	baz=238						
RYN	**Ryan**	**79.30**	**43**	P	**P**	**00 39 06.3**	**+0.7**
NVAR	**Mina Array Bea**	**79.33**	**44**	P	**P**	**00 39 06.5**	**+0.7**
	comp=Z,7.2nm,0.8s,baz=224,slow=9.1,SNR=63						
NVAR	**Mina Array Bea**	**79.33**	**44**	P	**P**	**00 39 06.6**	**+0.8**
PAHR	**Pah Rah Range**	**79.35**	**42**	P	**P**	**00 39 06.3**	**+0.5**
PAHR				IAmb	IAmb	00 39 07.5	
	comp=Z,9.4nm,1.0s						
NV11	**Mina Array Sit**	**79.43**	**44**	IAmb	IAmb	00 39 07.9	
	comp=Z,9.2nm,0.9s						
J04D	**Umpqua Nationa**	**79.75**	**38**	P		00 39 09.1	
	baz=233						
KVN	**Kaiserville**	**79.81**	**43**	P	**P**	**00 39 08.9**	**+0.6**
KVN				IAmb	IAmb	00 39 09.7	
	comp=Z,8.7nm,0.9s						
214A	**Organ Pipe Nat**	**79.83**	**52**	P		00 39 09.6	
	baz=241						
TPNV	**Topopah Spring**	**79.90**	**46**	P		00 39 09.7	
	baz=238						
TPNV	**Topopah Spring**	**79.91**	**46**	P	**P**	**00 39 09.9**	**+1.1**
I04A	**Tendick Farm,**	**79.91**	**37**	P		00 39 09.5	
	baz=233						
PDMCI	**Parker Dam,Lak**	**80.02**	**49**	P		00 39 10.1	
	baz=240,SNR=6.2						
MOD	**Modoc Plateau**	**80.04**	**40**	IAmb	IAmb	00 39 10.9	
	comp=Z,9.7nm,0.8s						
J05D	**Fort Rock, OR**	**80.29**	**38**	P		00 39 11.8	
	baz=234						
I05D	**Terrebonne, OR**	**80.86**	**37**	P		00 39 14.3	
	baz=233						
PRN	**Pahroc Range**	**80.96**	**46**	IAmb	IAmb	00 39 16.3	
	comp=Z,14nm,0.9s						
R11A	**Troy Canyon, C**	**81.09**	**45**	P		00 39 15.4	
	baz=238						
WVOR	**Wild Horse Val**	**81.36**	**40**	IAmb	IAmb	00 39 17.9	
	comp=Z,13nm,1.0s						
TUC	**Tucson**	**81.51**	**52**	P		00 39 18.7	
	baz=242						
TUC	**Tucson**	**81.52**	**52**	P	**P**	**00 39 18.7**	**+1.7**
TUC				IAmb	IAmb	00 39 19.7	
	comp=Z,14nm,1.0s						
D04E	**Lakebay**	**81.78**	**34**	P		00 39 19.7	
	baz=232						
D03D	**Eldon**	**81.83**	**34**	P		00 39 19.5	
	baz=232						
319A	**Douglas**	**82.23**	**53**	P	**P**	**00 39 22.4**	**+1.7**
319A				IAmb	IAmb	00 39 23.9	
	comp=Z,19nm,0.9s						
KNB	**Kanab**	**82.30**	**47**	P	**P**	**00 39 22.3**	**+1.3**
U15A	**North Rim**	**82.38**	**48**	P	**P**	**00 39 23.2**	**+1.6**
SUA	**Susitna One**	**82.38**	**13**	P		00 39 20.1	
	baz=206						
ELK	**Elko**	**82.57**	**43**	IAmb	IAmb	00 39 23.9	
	comp=Z,8.1nm,0.9s						
WUAZ	**Wupatki**	**82.59**	**49**	P		00 39 23.3	
	baz=241						
WUAZ	**Wupatki**	**82.59**	**49**	IAmb	IAmb	00 39 25.2	
	comp=Z,8.9nm,0.9s						
EYAK	**Cordova Ski Ar**	**82.73**	**15**	P		00 39 24.5	
	baz=211						
B05A	**Bryant**	**82.81**	**34**	P		00 39 24.2	
	baz=232						
KNK	**Knik Glacier**	**82.84**	**14**	P		00 39 22.4	
	baz=208						
PKCU	**Pink Cliffs**	**82.86**	**47**	P	**P**	**00 39 25.8**	**+1.7**
X18A	**Snowflake**	**83.16**	**50**	P	**P**	**00 39 26.3**	**+0.9**
X18A				IAmb	IAmb	00 39 27.4	
	comp=Z,5.1nm,0.7s						
HPIG		**83.17**	**59**	P	**P**	**00 39 25.9**	**+0.2**
HPIG				IAmb	IAmb	00 39 27.2	
	comp=Z,5.8nm,0.6s						
MTPU	**Mount Pierson**	**83.24**	**46**	P	**P**	**00 39 26.4**	**+0.5**
BMRM	**Bremner River**	**83.38**	**16**	P		00 39 25.3	
	baz=212						
MSU	**Marysvale**	**83.48**	**46**	P	**P**	**00 39 28.0**	**+1.1**
CRQE	**Cirque**	**83.59**	**16**	P		00 39 26.8	
	baz=213						
WRAK	**Wrangell Islan**	**83.64**	**24**	P		00 39 26.8	
	baz=223						
PINM	**Pinnacle**	**83.84**	**18**	P		00 39 27.7	
	baz=216						
121A	**Cookes Peak, D**	**83.88**	**53**	P	**P**	**00 39 29.6**	**+0.6**
121A				IAmb	IAmb	00 39 31.3	
	comp=Z,5.5nm,0.8s						
N25K	**Chitina, Valde**	**83.93**	**15**	P		00 39 28.2	
	baz=212						
M24K	**Tolsona, Glenn**	**83.97**	**14**	P		00 39 28.9	
	baz=210						
F10A	**Beach Ranch, E**	**84.18**	**38**	IAmb	IAmb	00 39 31.2	
	comp=Z,12nm,0.9s						
WAT2	**Susitna Watana**	**84.18**	**13**	P		00 39 29.1	
	baz=208						
CTG	**Chitna Glacier**	**84.25**	**17**	P		00 39 30.0	
	baz=215						
SEY	**Seymchan**	**84.27**	**347**	P	**P**	**00 39 29.4**	**-0.5**
	comp=Z,4.6nm,0.6s,baz=147,slow=4.3,SNR=18						
TRF	**Thorofare Moun**	**84.27**	**12**	P		00 39 29.3	
	baz=206						
B08A	**Colville Reser**	**84.35**	**35**	IAmb	IAmb	00 39 31.4	
	comp=Z,9.1nm,0.9s						
Q16A	**Castle Valley**	**84.36**	**46**	P	**P**	**00 39 31.5**	**+0.3**
RND	**Reindeer**	**84.52**	**13**	P	**P**	**00 39 31.0**	**-0.3**
MCK	**McKinley**	**84.80**	**12**	P		00 39 32.1	
	baz=208						
PAX	**Paxson**	**84.89**	**14**	P		00 39 32.5	
	baz=211						
SRU	**San Rafael Swe**	**84.90**	**46**	P	**P**	**00 39 34.2**	**+0.4**
MNTX	**Cornudas Mount**	**85.36**	**55**	P	**P**	**00 39 35.8**	**-0.2**
MNTX	**Cornudas Mount**	**85.36**	**55**	P		00 39 36.9	
	baz=245						
MVCO	**Mesa Verde**	**85.43**	**49**	P		00 39 36.7	
	baz=243						
NEW	**Newport**	**85.51**	**36**	P		00 39 36.3	
	baz=236						
NEW	**Newport**	**85.51**	**36**	P	**P**	**00 39 36.3**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=205,slow=3.4,SNR=5.8						
PV14	**Lion Creek, Pa**	**85.59**	**47**	P	**P**	**00 39 37.3**	**+0.1**
PV14				IAmb	IAmb	00 39 40.7	
	comp=Z,5.0nm,0.8s						
TXAR	**Lajitas Array**	**85.75**	**57**	P	**P**	**00 39 39.5**	**+1.5**
	comp=Z,12nm,0.8s,baz=219,slow=6.3,SNR=147						
TXAR	**Lajitas Array**	**85.75**	**57**	P	**P**	**00 39 39.4**	**+1.3**
PV01	**Paradox Valley**	**85.80**	**48**	P	**P**	**00 39 38.4**	**+0.2**
HDA	**Harding Lake**	**85.81**	**13**	P		00 39 37.1	
	baz=209						
HDA				P		00 39 37.1	
	baz=209						
PV22	**Blue Mesa, Par**	**85.83**	**47**	P	**P**	**00 39 39.0**	**+0.7**
CCB	**Clear Creek Bu**	**85.84**	**12**	IAmb	IAmb	00 39 36.8	
	comp=Z,8.0nm,0.6s						
ANMO	**Albuquerque**	**85.92**	**51**	P		00 39 39.9	
	baz=244						
ANMO	**Albuquerque**	**85.92**	**51**	P	**P**	**00 39 39.6**	**+0.8**
ANMO				IAmb	IAmb	00 39 40.9	
	comp=Z,8.6nm,1.1s						
**D

EGAK	**Eagle**	**87.44**	**15**	P	**P**	**00 39 45.1**	**+0.2**
EGAK				IAmb	IAmb	00 39 45.8	
	comp=Z,5.9nm,0.8s						
COLD	**Coldfoot**	**87.69**	**10**	P		00 39 46.6	
	baz=206						
COLD	**Coldfoot**	**87.69**	**10**	IAmb	IAmb	00 39 46.7	
	comp=Z,5.6nm,0.8s						
HHC	**Hu-ho-hao-te**	**87.92**	**314**	*e*P	**P**	**00 39 49.1**	**+1.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,190nm,5.5s						
MSTX	**Muleshoe**	**88.29**	**53**	P		00 39 50.2	
	baz=247						
MSTX	**Muleshoe**	**88.29**	**53**	IAmb	IAmb	00 39 51.1	
	comp=Z,11nm,1.0s						
T25A	**Trinidad**	**88.35**	**50**	P		00 39 50.8	
	baz=246						
RLMT	**Red Lodge**	**88.55**	**41**	P		00 39 51.9	
	baz=242						
RLMT	**Red Lodge**	**88.55**	**41**	IAmb	IAmb	00 39 52.8	
	comp=Z,6.1nm,0.9s						
ISCO	**Idaho Springs**	**88.60**	**47**	P		00 39 52.2	
	baz=245						
N23A	**Red Feather La**	**88.84**	**46**	P		00 39 52.0	
	baz=245						
TOLK	**Toolik Lake Re**	**89.07**	**10**	P		00 39 52.8	
	baz=207						
K22A	**Casper**	**89.21**	**44**	P		00 39 54.2	
	baz=244						
JCT	**Junction City**	**89.29**	**58**	P		00 39 55.2	
	baz=248						
AMTX	**Amarillo**	**89.48**	**53**	P		00 39 55.3	
	baz=247						
CMAR	**Chiang Mai Arr**	**89.51**	**290**	P	**P**	**00 39 56.9**	**+1.2**
	comp=Z,1.3nm,0.4s,baz=115,slow=2.8,SNR=6.5						
CMAR	**Chiang Mai Arr**	**89.51**	**290**	P	**P**	**00 39 56.3**	**+0.6**
EPYK	**Eagle Plains**	**89.83**	**15**	P		00 39 56.0	
	baz=219						
ABTX	**Abilene, Hawle**	**90.20**	**56**	P		00 39 59.4	
	baz=248						
SNAA	**Sanae**	**90.20**	**178**	P	**P**	**00 39 57.5**	**-0.5**
VNA3	**Neumayer Olymp**	**90.33**	**176**	P	**P**	**00 39 57.7**	**-0.8**
VNA2	**Neumayer--Watz**	**90.77**	**177**	P	**P**	**00 40 00.3**	**-0.2**
VNA1	**Neumayer--Stat**	**91.00**	**177**	P	**P**	**00 40 00.2**	**-1.3**
LAO	**LASA Array**	**91.15**	**41**	P		00 40 04.1	
	baz=244						
RSSD	**Black Hills**	**91.47**	**44**		**P**	**00 40 04.7**	**+0.3**
RSSD				IAmb	IAmb	00 40 05.4	
	comp=Z,5.4nm,0.8s						
RSSD	**Black Hills**	**91.47**	**44**	P		00 40 04.7	
	baz=246						
WHTX	**Lake Whitney,**	**91.71**	**57**	P		00 40 06.1	
	baz=250						
INK	**Inuvik**	**92.11**	**15**	P	**P**	**00 40 05.9**	**-0.6**
	comp=Z,4.6nm,0.9s,baz=220,slow=4.1,SNR=14						
YKA	**Yellowknife Ar**	**94.46**	**25**	P	**P**	**00 40 16.9**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=237,slow=4.2,SNR=21						
KSU1	**Kansas State U**	**94.78**	**51**	P		00 40 20.0	
	baz=250						
C36M	**Paulatuk**	**95.31**	**17**	P		00 40 20.6	
	baz=230						
ECSD	**EROS Data Cent**	**96.31**	**46**	P		00 40 25.8	
	baz=251						
MKAR	**Makanchi Array**	**109.78**	**314**	PKiKP	**PKiKP**	**00 45 23.2**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=138,slow=1.1,SNR=7.4						
Q59A	**Harwood**	**109.81**	**54**	P		00 45 22.8	
	baz=262						
P59A	**Jarrettsville**	**110.08**	**54**	P		00 45 25.4	
	baz=263						
J57A	**Williamstown**	**110.85**	**50**	P		00 45 26.8	
	baz=264						
M60A	**Port Jervis**	**111.65**	**52**	P		00 45 27.9	
	baz=264						
D56A	**ZEC Mazanza, M**	**112.01**	**46**	P		00 45 28.9	
	baz=267						
ARCES	**ARCESS Array B**	**126.78**	**350**	PKP	**PKPdf**	**00 45 55.7**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=345,slow=3.8,SNR=13						
FINES	**FINESS Array B**	**133.70**	**344**	PKhKP	PKPpre	00 46 03.5	
	comp=Z,1.0nm,0.8s,baz=0.0,slow=0.2,SNR=4.5						
FINES				PKP	**PKPdf**	**00 46 09.9**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=72,slow=2.6,SNR=8.6						
FINES	**FINESS Array B**	**133.70**	**344**	PKPdf	**PKPdf**	**00 46 10.1**	**+0.5**
NOA	**NORSAR Array B**	**136.81**	**354**	PKP	**PKPdf**	**00 46 16.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=19,slow=3.9,SNR=3.7						
AKASG	**Malin Array Be**	**141.14**	**333**	PKhKP	PKPpre	00 46 17.5	
	comp=Z,0.8nm,0.3s,baz=43,slow=4.1,SNR=7.0						
BSEG	**Bad Segeberg**	**143.87**	**352**	*e*PKPbc	PKPbc	00 46 27.8	+0.1
	baz=16,slow=2.6						
GAZ	**Gaziantep**	**143.98**	**309**		PKPbc	00 46 28.9	+0.1
RUE	**Ruedersdorf**	**144.68**	**348**	*e*PKPbc	PKPbc	00 46 30.4	+0.1
	baz=16,slow=2.6						
OJC	**Ojcow**	**145.15**	**340**		**PKPbc**	**00 46 31.8**	**0.0**
BURAR	**Bucovina Array**	**145.20**	**332**		**PKPbc**	**00 46 32.1**	**0.0**
FLTG	**Flechtingen**	**145.29**	**350**	*e*PKPbc	**PKPbc**	**00 46 32.0**	**0.0**
	baz=16,slow=2.6						
KOLS	**Kolonicke sedl**	**145.36**	**336**	*e*PKP	**PKPbc**	**00 46 32.7**	**+0.3**
BR131	**Keskin Array S**	**145.43**	**315**		**PKPbc**	**00 46 33.0**	**-0.2**
BRTR	**Keskin Array B**	**145.43**	**315**	PKPbc	**PKPdf**	**00 46 32.4**	**+0.7**
	comp=Z,5.1nm,1.0s,baz=124,slow=3.7,SNR=17						
BRTR	**Keskin Array B**	**145.43**	**315**		**PKPdf**	**00 46 32.5**	**+0.9**
ASSE	**Asse, Remlinge**	**145.57**	**351**	*e*PKPbc	**PKPbc**	**00 46 33.2**	**+0.4**
	baz=16,slow=2.6						
CRVS	**Cervenica-Dubn**	**145.69**	**337**	*e*PKP	**PKPbc**	**00 46 33.8**	**+0.4**
IBBN	**Ibbenburen**	**145.77**	**354**	*e*PKPbc	**PKPab**	**00 46 35.0**	**-0.4**
	baz=16,slow=2.6						
CLZ	**Clausthal**	**145.90**	**351**	*e*PKPbc	**PKPbc**	**00 46 34.3**	**+0.4**
	baz=16,slow=2.6						
OSTC	**Ostas**	**145.90**	**344**	*e*PKP	**PKPbc**	**00 46 34.4**	**+0.5**
CHVC	**Chvalec**	**145.92**	**344**	*e*PKP	**PKPbc**	**00 46 34.2**	**+0.2**
CLL	**Collm**	**145.95**	**348**	⇓*i*PKPbc	**PKPbc**	**00 46 34.0**	**0.0**
	comp=Z,23nm,0.8s						
CLL	**Collm**	**145.95**	**348**	*e*PKPbc	**PKPbc**	**00 46 34.2**	**+0.2**
	baz=16,slow=2.6						
UPC	**Upice**	**146.00**	**344**	*e*PKP	**PKPbc**	**00 46 34.3**	**+0.1**
DPC	**Dobruska-Polom**	**146.06**	**344**	*e*PKP	**PKPbc**	**00 46 34.7**	**+0.3**
DPC				*ex*	x	00 46 37.2	
BRG	**Berggiesshubel**	**146.16**	**347**	*i* PKP	**PKPbc**	**00 46 34.7**	**+0.1**
BRG				Amp		00 46 35.8	
	comp=Z,12nm,0.9s						
BRG	**Berggiesshubel**	**146.16**	**347**	*e*PKPbc	**PKPbc**	**00 46 34.9**	**+0.3**
	baz=16,slow=2.6						
KRLC	**Kraliky**	**146.19**	**343**	*e*PKP	**PKPbc**	**00 46 35.1**	**+0.3**
MORC	**Moravsky Berou**	**146.24**	**342**	*e*PKP	**PKPbc**	**00 46 35.2**	**+0.3**
FBE	**Freiberg**	**146.24**	**347**	*e*PKPbc	**PKPbc**	**00 46 35.5**	**+0.7**
	baz=16,slow=2.6						
GTTG	**Gottingen**	**146.25**	**351**	*e*PKPbc	**PKPbc**	**00 46 35.2**	**+0.4**
	baz=16,slow=2.6						
NEUB	**Neuenburg**	**146.28**	**349**	*e*PKPbc	**PKPbc**	**00 46 35.2**	**+0.4**
	baz=16,slow=2.6						
PVCC	**Panska Ves**	**146.34**	**346**	*e*PKP	**PKPbc**	**00 46 35.4**	**+0.3**
KASTN	**Kahler Asten**	**146.78**	**353**	*e*PKPbc	**PKPbc**	**00 46 36.5**	**+0.2**
	baz=16,slow=2.6						
MOX	**Moxa**	**146.85**	**349**	*e*PKPbc	**PKPbc**	**00 46 36.7**	**+0.2**
	baz=16,slow=2.6						
PRU	**Pruhonice**	**146.85**	**345**	*e*PKP	**PKPbc**	**00 46 36.5**	**0.0**
PLN	**Plauen**	**146.90**	**348**	*e*PKPbc	**PKPbc**	**00 46 37.0**	**+0.4**
	baz=16,slow=2.6						
TANN	**Tannenbergstha**	**146.90**	**348**	*e*PKPbc	**PKPbc**	**00 46 37.0**	**+0.3**
	baz=16,slow=2.6						
VRAC	**Vranov**	**146.93**	**343**	*e*PKP	**PKPbc**	**00 46 37.2**	**+0.5**
VRAC				*e*		00 46 40.6	
VYHS	**Vyhne**	**146.96**	**339**	*e*PKP	**PKPbc**	**00 46 37.3**	**+0.5**
GUNZ	**Gunzen**	**146.98**	**348**	*e*PKPbc	**PKPbc**	**00 46 37.2**	**+0.4**
	baz=16,slow=2.6						
JAVC	**Velka Javorina**	**147.01**	**341**	*e*PKP	**PKiKP**	**00 46 38.3**	**-0.5**
JAVC				*e*		00 46 41.8	
KRUC	**Moravsky**	**147.21**	**343**	*e*PKP	**PKPbc**	**00 46 37.4**	**-0.1**
KRUC				*e*		00 46 41.6	
MANZ	**Manzenberg**	**147.38**	**348**	*e*PKPbc	**PKPbc**	**00 46 38.4**	**+0.4**
	baz=16,slow=2.6						
SMOL	**Smolenice**	**147.39**	**341**	*e*PKP	**PKPbc**	**00 46 38.7**	**+0.7**
MODS	**Modra-Piesok**	**147.56**	**341**	*e*PKP	**PKPbc**	**00 46 38.2**	**-0.2**
ROTZ	**Rotzenmuhle**	**147.57**	**348**	*e*PKPbc	**PKPbc**	**00 46 38.7**	**+0.3**
	baz=16,slow=2.6						
MEM	**Membach**	**147.61**	**355**	*d*PKPbc	**PKPbc**	**00 46 38.2**	**-0.2**
BTNL	**Ternell**	**147.62**	**355**	*d*PKPdf	**PKPdf**	**00 46 35.0**	**+0.2**
BTNL				*d*PKP	**PKPbc**	**00 46 38.6**	**+0.1**
BSTI	**Sart Tilman**	**147.66**	**356**	*d*PKPbc	**PKPbc**	**00 46 38.4**	**-0.2**
SNF	**Seneffe**	**147.81**	**357**	*d*PKP	**PKPbc**	**00 46 39.0**	**+0.1**
KHC	**Kasperske Hory**	**147.88**	**346**	*e*PKP	**PKPbc**	**00 46 39.2**	**0.0**
BGES	**Gesves**	**147.89**	**356**	*d*PKPdf	**PKPdf**	**00 46 35.5**	**+0.3**
BGES				*d*PKPbc	**PKPbc**	**00 46 38.4**	**-0.8**
CKRC	**Cesky Krumlov**	**147.99**	**345**	*e*PKP	**PKPbc**	**00 46 39.6**	**+0.1**
BMRD	**Maredsous**	**147.99**	**357**	*d*PKPbc	**PKPbc**	**00 46 39.5**	**+0.2**
GEC2	**GERESS Array S**	**148.11**	**345**	*e*PKPbc	**PKPbc**	**00 46 40.2**	**+0.3**
	baz=16,slow=2.6						
GERES	**GERESS Array B**	**148.11**	**345**	PKPbc	**PKPbc**	**00 46 40.0**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=29,slow=3.0,SNR=21						
GERES	**GERESS Array B**	**148.11**	**345**		**PKPbc**	**00 46 39.7**	**-0.2**
DOU	**Dourbes**	**148.21**	**357**	*d*PKPdf	**PKPdf**	**00 46 35.7**	**0.0**
DOU				*d*PKPbc	**PKPbc**	**00 46 39.7**	**-0.3**
CONA	**Conrad Observa**	**148.39**	**342**	*i* P	**PKPbc**	**00 46 41.0**	**+0.4**
	comp=Z,12nm,1.0s						
WLF	**Walferdange**	**148.53**	**355**	*d*PKP	**PKPbc**	**00 46 41.3**	**+0.6**
WLF	**Walferdange**	**148.53**	**355**	*e*PKPbc	**PKPbc**	**00 46 41.6**	**+0.8**
	baz=16,slow=2.6						
ARSA	**Arzberg**	**149.10**	**342**	*i* P	**PKPbc**	**00 46 41.0**	**-1.2**
	comp=Z,2.1nm,0.3s,SNR=4.7						
FUR	**Furstenfeldbru**	**149.28**	**348**	*e*PKPbc	**PKPbc**	**00 46 42.9**	**+0.2**
	baz=16,slow=2.6						
RJOB	**Jochberg**	**149.36**	**346**	*e*PKPbc	**PKPbc**	**00 46 42.9**	**0.0**
	baz=16,slow=2.6						
BFO	**Black Forest**	**149.62**	**352**		**PKPbc**	**00 46 43.6**	**+0.1**
BFO	**Black Forest**	**149.62**	**352**	*e*PKPbc	**PKPbc**	**00 46 43.6**	**+0.1**
	baz=16,slow=2.6						
SOKA	**Soboth**	**149.76**	**342**	*i* P	**PKPdf**	**00 46 36.6**	**-1.8**
	comp=Z,2.5nm,0.2s						
KBA	**Koelnbreinsper**	**149.85**	**345**	*i* P	**PKPbc**	**00 46 43.6**	**-0.6**
	comp=Z,5.5nm,0.8s,SNR=7.8						
WATA	**Walderalm**	**150.01**	**347**	*e*P	**PKPbc**	**00 46 44.1**	**-0.5**
	comp=Z,4.4nm,0.6s						
RETA	**Reutte**	**150.03**	**348**	*e*P	**PKPbc**	**00 46 44.4**	**-0.1**
	comp=Z,9.0nm,1.1s						
OBKA	**Obir**	**150.05**	**343**	*i* P	**PKPdf**	**00 46 37.5**	**-1.4**
	comp=Z,0.9nm,0.3s						
WTTA	**Wattenberg**	**150.07**	**347**	*e*P	**PKPbc**	**00 46 44.7**	**0.0**
	comp=Z,5.7nm,0.6s						
MOTA	**Moosalm**	**150.10**	**348**	*e*P	**PKPbc**	**00 46 44.4**	**-0.4**
	comp=Z,5.4nm,0.9s						
MYKA	**Terra Mystica**	**150.19**	**344**	*e*P	**PKPbc**	**00 46 43.9**	**-1.0**
	comp=Z,3.6nm,0.5s,SNR=4.6						
SQTA	**Sankt Quirin**	**150.20**	**348**	*e*P	**PKPbc**	**00 46 44.8**	**-0.2**
	comp=Z,7.1nm,0.8s,SNR=4.1						
ABTA	**Abfaltersbach**	**150.36**	**346**	*e*P	**PKPbc**	**00 46 44.5**	**-0.8**
	comp=Z,5.7nm,0.6s,SNR=10						
DAVA	**Damuels**	**150.39**	**349**	*i* P	**PKiKP**	**00 46 46.0**	**+0.1**
	comp=Z,11nm,1.0s						
FETA	**Feichten**	**150.49**	**348**	*e*P	**PKPbc**	**00 46 45.7**	**0.0**
	comp=Z,4.3nm,0.7s						
ESDC	**Sonseca Array**	**158.04**	**13**	PKPab	**PKPab**	**00 47 27.6**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=359,slow=4.9,SNR=6.3						
ESDC	**Sonseca Array**	**158.04**	**13**		**PKPab**	**00 47 27.6**	**0.0**
TORD	**Torodi Ar. Bea**	**174.87**	**175**	PKP	**PKPdf**	**00 47 02.1**	**-1.2**
	comp=Z,1.6nm,1.0s,baz=280,slow=0.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**174.87**	**175**		**PKPdf**	**00 47 02.4**	**-0.9**

PDG **16** *00:45:27.6±0.5, 43.°02N×18.°34E, h12km, MD3.0/6, ML3.0/12, Error ellipse: s-maj=0.6km s-min=1.0km az=0.0*
BEO **16** *00:45:27.7±0.3, 43.°08N×18.°33E, h3km, 2km, ML2.8/10*
RHSSO **16** *00:45:28.7±0.2, 43.°03N×18.°41E, h9km, 2km, ML2.9/14*
THE **16** *00:45:30.1, 42.°78N×18.°01E, h17km±27km, ML3.0/3, Error ellipse: s-maj=36.1km s-min=1.6km az=319.0*

ISC 16 00:45:28.2±0.8, 43°04'N±0'02×18°41'E±0'02, h15km±6km, n100, σ1⅋27/161, 23C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.17**	**145**	⇑*i*	Pg	**Pg**	**00 45 32.4**	**0.0**
BRY					*e*Sg	**Sg**	**00 45 36.0**	**+0.7**
BRY	**Bratogost**	**0.17**	**145**	⇑*i*	Pg	**Pg**	**00 45 32.3**	**-0.1**
BRY					*i* Sg	**Sg**	**00 45 35.6**	**+0.3**
TREB	**Trebinje**	**0.33**	**187**	*e*	P*g*	**Pg**	**00 45 34.5**	**-0.4**
TREB					*e*Sg	**Sg**	**00 45 39.4**	**-0.1**
TREB	**Trebinje**	**0.33**	**187**	⇑*i*	P*g*	**Pg**	**00 45 34.4**	**-0.4**
TREB					*e*Sg	**Sg**	**00 45 40.0**	**+0.5**
UPM	**Unac-Piva**	**0.40**	**66**	⇑*i*	P*g*	**Pb**	**00 45 36.3**	**-0.8**
UPM					*e*Sg	**Sb**	**00 45 43.2**	**+0.1**
UPM	**Unac-Piva**	**0.40**	**66**	⇑*i*	P*g*	**Pb**	**00 45 36.3**	**-0.8**
UPM					*i* Sg	**Sb**	**00 45 43.5**	**+0.4**
DBRK	**Dubrovnik**	**0.42**	**207**	*i*	P*g*	**Pg**	**00 45 34.9**	**-1.6**
DBRK					Sg	**Sg**	**00 45 41.5**	**-0.8**
NKME	**Niksic**	**0.48**	**124**	⇑*i*	P*g*	**Pg**	**00 45 37.4**	**-0.4**
NKME					*i* Sg	**Sb**	**00 45 45.5**	**+0.1**
NKY	**Niksic**	**0.49**	**118**	⇑*i*	P*g*	**Pb**	**00 45 37.6**	**-0.9**
NKY					*i* Sg	**Sb**	**00 45 45.7**	**+0.2**
STON	**Ston**	**0.55**	**252**	*i*	P*g*	**Pg**	**00 45 39.8**	**-2.1**
STON					Sg	**Sg**	**00 45 45.0**	**+1.2**
HCY	**Herceg Novi**	**0.60**	**174**	⇑*i*	P*g*	**Pg**	**00 45 39.1**	**-0.8**
HCY					*e*Sg	**Sb**	**00 45 48.7**	**+0.1**
HCY	**Herceg Novi**	**0.60**	**174**	⇓*i*	P*g*	**Pg**	**00 45 39.0**	**-0.8**
HCY					*i* Sg	**Sg**	**00 45 47.5**	**-0.3**
CEME	**Cevo**	**0.62**	**143**	⇑*i*	P*g*	**Pg**	**00 45 39.4**	**-0.9**
CEME					*i* Sg	**Sb**	**00 45 49.6**	**+0.3**
PLE	**Pljevlja**	**0.77**	**68**	⇑*i*	P*g*	**Pb**	**00 45 43.2**	**-0.2**
PLE					*i* Sg	**Sn**	**00 45 56.1**	**-0.1**
BUM	**Brajici-Budva**	**0.82**	**154**	⇓*i*	P*g*	**Pg**	**00 45 43.2**	**-0.9**
BUM					*i* Sg	**Sb**	**00 45 56.1**	**+1.0**
KOME	**Kolasin**	**0.83**	**103**	⇑*i*	P*g*	**Pb**	**00 45 44.0**	**-0.5**
KOME					*i* Sg	**Sn**	**00 45 57.9**	**+0.2**
PDG	**Podgorica**	**0.87**	**134**	*e*	P*g*	**Pg**	**00 45 43.8**	**-1.3**
PDG					*e*Sg	**Sn**	**00 45 58.0**	**-0.5**
PDG	**Podgorica**	**0.87**	**134**	⇓	P	**Pg**	**00 45 44.1**	**-1.0**
PDG				⇑	S	**Sn**	**00 45 58.4**	**0.0**
PDG	**Podgorica**	**0.87**	**134**	*e*	P*g*	**Pg**	**00 45 44.0**	**-1.0**
PDG					*e*Sg	**Sn**	**00 45 57.9**	**-0.5**
TTG	**Podgorica**	**0.87**	**134**	⇑*i*	P*g*	**Pg**	**00 45 43.8**	**-1.3**
TTG					*i* Sg	**Sn**	**00 45 58.3**	**-0.1**
RUDO	**Rudo**	**0.91**	**50**	⇓*i*	P*g*	**Pg**	**00 45 44.7**	**-1.1**
RUDO					*e*Sg	**Sb**	**00 45 58.3**	**+0.7**
RICI	**Ricice**	**1.03**	**296**	*e*	P*g*	**Pg**	**00 45 46.5**	**-1.6**
MAKA	**Makarska**	**1.04**	**284**	*e*	P*g*	**Pg**	**00 45 46.4**	**-2.0**
BBLS	**Lazići**	**1.10**	**41**	*e*	P*g*	**Pb**	**00 45 49.1**	**+0.1**
BBLS					*e*Sg	**Sb**	**00 46 02.8**	**-0.4**
BBLS	**Lazići**	**1.10**	**41**	*e*	P*g*	**Pb**	**00 45 48.9**	**-0.1**
BBLS					*e*Sg	**Sn**	**00 46 04.1**	**-0.1**
IVA	**Berane**	**1.10**	**98**	⇑*i*	P*g*	**Pb**	**00 45 48.9**	**-0.1**
IVA					*i* Sg	**Sn**	**00 46 06.7**	**+2.4**
HAPS	**Han Pijesak,Bl**	**1.12**	**21**	*e*	P*g*	**Pg**	**00 45 48.3**	**-1.5**
HAPS					*e*Sg	**Sb**	**00 46 04.2**	**+0.5**
HAPS	**Han Pijesak,Bl**	**1.12**	**21**	⇑*i*	P*g*	**Pg**	**00 45 48.7**	**-1.1**
HAPS					*e*Sg	**Sb**	**00 46 04.5**	**+0.8**
PVY	**Plav**	**1.23**	**111**	⇑*i*	P*g*	**Pn**	**00 45 51.2**	**+0.3**
PVY					*i* Sg	**Sn**	**00 46 10.4**	**+3.1**
ULC	**Ulcinj**	**1.24**	**150**	⇑*i*	P*g*	**Pg**	**00 45 50.6**	**-1.5**
ULC					*i* Sg	**Sn**	**00 46 09.4**	**+1.8**
IVAS	**Ivanjica**	**1.38**	**67**	*e*	P*n*	**Pg**	**00 45 53.7**	**-1.1**
IVAS					*e*Sg	**Sn**	**00 46 12.9**	**+1.8**
HVAR	**Hvar**	**1.44**	**276**	*e*	P*n*	**Pn**	**00 45 53.7**	**-0.1**
HVAR					Sn	**Sn**	**00 46 13.6**	**+1.2**
DIVS	**Divibare**	**1.56**	**47**	*e*	P*g*	**Pb**	**00 45 56.3**	**-0.6**
DIVS					*e*Sg	**Sb**	**00 46 16.2**	**-0.3**
DIVS	**Divibare**	**1.56**	**47**	⇓*i*	P*n*	**Pn**	**00 45 56.1**	**+0.5**
DIVS					*e*Sn	**Sg**	**00 46 17.5**	**-1.0**
MGRS	**Mrkonjic Grad**	**1.68**	**326**	⇓*i*	P*n*	**Pn**	**00 45 58.7**	**+1.6**
MGRS					*e*Sn	**Sn**	**00 46 20.3**	**+1.9**
TEKS	**Tekeris**	**1.71**	**28**	*e*	P*n*	**Pb**	**00 45 59.0**	**-0.4**
TEKS					*e*Sn	**Sn**	**00 46 20.2**	**+1.0**
TEKS	**Tekeris**	**1.71**	**28**	*e*	P*n*	**Pn**	**00 45 58.1**	**+0.5**
TEKS					*e*Sn	**Sb**	**00 46 21.1**	**+0.3**
KLJV	**Kijevo**	**1.75**	**304**	*e*	P*n*	**Pn**	**00 45 59.5**	**+1.5**
TRUS	**Trudelj**	**1.87**	**50**	*e*	P*n*	**Pn**	**00 46 00.3**	**+0.6**
TRUS					*e*Sn	**Sg**	**00 46 26.2**	**-2.2**
GRUS	**Gruza**	**1.88**	**62**	*e*	P*n*	**Pb**	**00 46 01.1**	**-1.2**
GRUS					*e*Sg	**Sg**	**00 46 28.2**	**-0.5**
BLY	**Banja Luka**	**1.92**	**333**	*e*	P*g*	**Pn**	**00 46 01.7**	**+1.3**
BLY					*e*Sg	**Sb**	**00 46 27.7**	**+0.9**
BLY	**Banja Luka**	**1.92**	**333**	⇓*i*	P*n*	**Pn**	**00 46 01.5**	**+1.1**
BLY					*e*Sn	**Sn**	**00 46 26.2**	**+1.8**
TIR	**Tirane**	**2.01**	**147**		P	**Pn**	**00 46 02.5**	**+0.9**
TIR					S	**Sn**	**00 46 26.8**	**+0.3**
TIR	**Tirane**	**2.01**	**147**	⇑	P	**Pn**	**00 46 03.2**	**+1.6**
TIR				⇑	S	**Sb**	**00 46 30.0**	**+0.8**
PHP	**Peshkopia**	**2.03**	**131**		P	**Pb**	**00 46 04.9**	**+0.1**
ZIRJ	**Zirje**	**2.11**	**288**	*i*	P*n*	**Pn**	**00 46 04.2**	**+1.3**
MORI	**Morici**	**2.13**	**294**	*e*	P*n*	**Pn**	**00 46 05.4**	**+2.2**
MRAK	**Mrakovica**	**2.25**	**332**	*e*	P*n*	**Pn**	**00 46 06.8**	**+1.5**
MRAK					*e*Sn	**Sn**	**00 46 33.8**	**+1.2**
PRIJ	**Prijedor**	**2.29**	**328**	*e*	P*n*	**Pn**	**00 46 07.0**	**+1.6**
PRIJ					*e*Sn	**Sn**	**00 46 35.1**	**+1.8**
FRGS	**Fruska Gora**	**2.34**	**25**	*e*	P*n*	**Pn**	**00 46 05.8**	**-0.4**
FRGS					*e*Sn	**Sn**	**00 46 35.7**	**+0.9**
FRGS	**Fruska Gora**	**2.34**	**25**	⇓	P	**Pn**	**00 46 05.9**	**-0.3**
FRGS	**Fruska Gora**	**2.34**	**25**	*e*	P*n*	**Pn**	**00 46 07.4**	**+1.2**
FRGS					*e*Sn	**Sn**	**00 46 36.0**	**+1.2**
UDBI	**Udbina**	**2.42**	**309**	*e*	P*n*	**Pn**	**00 46 10.5**	**+3.1**
BOVS	**Bovan**	**2.48**	**75**	*e*	P*n*	**Pn**	**00 46 10.0**	**+2.0**
BOVS					*e*Sn	**Sb**	**00 46 42.5**	**-0.3**
BOVS	**Bovan**	**2.48**	**75**	⇓	P	**Pn**	**00 46 07.9**	**-0.1**
BARS	**Barje**	**2.51**	**94**	*e*	P*n*	**Pn**	**00 46 10.2**	**+1.7**
BARS					*e*Sn	**Sb**	**00 46 41.8**	**-2.0**
DUGI	**Dugi Otok**	**2.62**	**292**	*i*	P*n*	**Pn**	**00 46 11.1**	**+1.1**
MATE	**Matera**	**2.71**	**209**	⇓	P	**Pn**	**00 46 13.5**	**+2.3**
MOSL	**Moslavina**	**2.83**	**336**	*e*	P*n*	**Pn**	**00 46 13.3**	**+0.4**
NVLJ	**Novalja**	**2.98**	**302**	*e*	P*n*	**Pn**	**00 46 16.4**	**+1.6**
KBN	**Korca**	**3.00**	**143**		P	**Pn**	**00 46 16.9**	**+1.6**
BOSS	**Bosilegrad**	**3.05**	**99**	*e*	P*n*	**Pn**	**00 46 17.1**	**+1.2**
BOSS					*e*Sn	**Sn**	**00 46 54.4**	**+2.3**
ZAPS	**Zavoj**	**3.10**	**84**	*e*	P*n*	**Pn**	**00 46 18.7**	**+2.1**
ZAPS					*e*Sn	**Sn**	**00 46 55.9**	**+2.4**
STIP	**Stip**	**3.11**	**114**	*i*	P*n*	**Pb**	**00 46 20.8**	**-2.4**
FNA	**Florina**	**3.16**	**135**		P	**Pn**	**00 46 19.8**	**+2.3**
FNA					S	**Sn**	**00 46 58.5**	**+3.5**
	70nm,0.5s							
MORH	**Mrgy, Hungar**	**3.18**	**3**	⇑	P	**Pn**	**00 46 17.6**	**0.0**
MORH	**Mrgy, Hungar**	**3.18**	**3**	*e*	P*n*	**Pn**	**00 46 18.5**	**+0.9**
MORH					*e*Sn	**Sn**	**00 46 56.3**	**+1.0**
LSK	**Leskovik**	**3.32**	**150**		P	**Pn**	**00 46 21.0**	**+1.3**
BOJS	**Bojanci**	**3.35**	**318**	*i*	P*n*	**Pn**	**00 46 22.2**	**+2.3**
SRN	**Sarande**	**3.38**	**159**		P	**Pn**	**00 46 20.7**	**+0.3**
SRN					S	**Sn**	**00 46 59.9**	**-0.3**
HERR	**Herculane**	**3.43**	**56**	⇑	P	**Pn**	**00 46 21.4**	**+0.3**
BZS	**Buzias**	**3.46**	**41**	⇓	P	**Pn**	**00 46 21.5**	**0.0**
KEK	**Kerkira**	**3.49**	**162**		P	**Pn**	**00 46 22.0**	**+0.1**
KEK					S	**Sn**	**00 47 02.2**	**-0.7**
CRES	**Cresnjev**	**3.50**	**324**	*e*	P*n*	**Pn**	**00 46 23.8**	**+1.8**
CRES					*e*Sn	**Sn**	**00 47 04.2**	**+1.0**
VTS	**Vitosha**	**3.58**	**95**	⇑	P	**Pn**	**00 46 23.7**	**+0.5**
BEHE	**Becsehely**	**3.62**	**342**	*e*	P*n*	**Pn**	**00 46 25.1**	**+1.4**
BEHE					*e*Sn	**Sn**	**00 47 07.0**	**+0.8**
GRG	**Griva**	**3.63**	**124**		P	**Pn**	**00 46 26.1**	**+2.2**
IGT	**Igoumenitsa**	**

UREC	**San Jos de Ur**	**3.01**	**324**	⇑*i*P		**Pn**	**00 48 37.8**	**-1.1**
UREC				*i*			00 48 38.2	
	comp=Z,427nm,0.1s							
UREC				*e*S		**Sn**	**00 49 13.9**	**-2.1**
BETC	**Betania**	**3.12**	**213**	⇑*i*P		**Pn**	**00 48 39.6**	**-0.8**
BETC				*e*S		**Sn**	**00 49 15.5**	**-3.1**
MACC	**Macarena, Meta**	**3.15**	**182**	⇑*i*P		**Pn**	**00 48 39.4**	**-1.3**
MACC				*i*			00 48 39.7	
	comp=Z,290nm,0.3s							
MACC				*e*S		**Sn**	**00 49 15.3**	**-3.9**
MARP	**Paez Belalcaza**	**3.31**	**222**	*e*P		**Pn**	**00 48 42.3**	**-0.6**
MARP				*e*S		**Sn**	**00 49 19.6**	**-3.5**
SMLC	**San Martn de**	**3.48**	**354**	*e*P		**Pn**	**00 48 44.2**	**-0.7**
SMLC				*e*S		**Sn**	**00 49 26.6**	**0.0**
SMLC				*i*			00 49 34.7	
	comp=Z,319nm,0.1s							
GARC	**Garzon, Huila**	**3.57**	**210**	⇑*i*P		**Pn**	**00 48 45.7**	**-0.6**
GARC				*i*			00 48 46.8	
	comp=Z,218nm,0.2s							
GARC				*e*S		**Sn**	**00 49 26.6**	**-2.5**
SOLC	**Bahia Solano**	**3.77**	**284**	*e*P		**Pn**	**00 48 49.0**	**+0.4**
SOLC				*i*			00 48 51.2	
	comp=Z,27nm,0.3s							
MALC	**Bahia Malaga**	**3.82**	**250**	*e*P		**Pn**	**00 48 51.0**	**+1.8**
MALC				*e*S		**Sn**	**00 49 33.1**	**-1.2**
MOTC	**Monteria, Cord**	**3.94**	**331**	⇑*e*P		**Pn**	**00 48 49.3**	**-1.5**
MOTC				*i*			00 48 49.9	
	comp=Z,107nm,0.3s							
MOTC				*e*S		**Sn**	**00 49 34.1**	**-3.1**
PCON	**Cinco Dias**	**3.99**	**222**	⇑*e*P		**Pn**	**00 48 52.3**	**+0.4**
PCON				*i*			00 50 00.5	
	comp=Z,25nm,0.4s							
SOTA	**Rioblanco**	**4.27**	**222**	*e*P		**Pn**	**00 48 56.6**	**+1.0**
LCBC	**Los crdobas,**	**4.38**	**324**	⇓*i*P		**Pn**	**00 48 56.1**	**-0.4**
LCBC				*e*S		**Sn**	**00 49 45.8**	**-1.9**
LCBC				*i*			00 49 57.8	
	comp=Z,85nm,0.4s							
ARGC	**Ariguani, Magd**	**4.54**	**354**	*e*P		**Pn**	**00 48 60.0**	**+1.3**
ARGC				*e*S		**Sn**	**00 49 51.9**	**+0.5**
ARGC				*i*			00 50 14.5	
	comp=Z,64nm,0.3s							
SDV	**Santo Domingo**	**4.69**	**41**	P		**Pn**	**00 49 01.7**	**+0.9**
	comp=Z,14nm,0.3s,baz=209,slow=1.4,SNR=69							
SDV				S		**Sn**	**00 49 53.0**	**-2.2**
	comp=Z,14nm,0.3s,baz=235,slow=23,SNR=16							
SDV	**Santo Domingo**	**4.69**	**41**	*e*P		**Pn**	**00 49 01.2**	**+0.4**
SDV				*e*S		**Sn**	**00 49 53.0**	**-2.2**
SDV				*i*			00 50 01.3	
	comp=Z,50nm,0.5s							
BBAC	**Balboa, Cauca**	**4.80**	**227**	*e*P		**Pn**	**00 49 03.3**	**+1.0**
BBAC				*i*			00 49 05.8	
	comp=Z,16nm,0.4s							
BBAC				*e*S		**Sn**	**00 49 56.8**	**-0.9**
CRJC	**Cerrejon, Guaj**	**5.73**	**8**	*e*P		**Pn**	**00 49 13.6**	**-0.9**
CRJC				*e*S		**Sn**	**00 50 14.8**	**-4.8**
CRJC				*i*			00 50 26.6	
	comp=Z,72nm,0.4s							
SMRC	**Santa Marta, M**	**5.83**	**355**	*e*P		**Pn**	**00 49 14.9**	**-0.8**
SMRC				*e*S		**Sn**	**00 50 15.4**	**-6.5**
SMRC				*i*			00 50 33.6	
	comp=Z,35nm,0.4s							
URIC	**Uribia, Colomb**	**6.57**	**15**	*e*P		**Pn**	**00 49 23.6**	**-1.9**
URIC				*e*S		**Sn**	**00 50 32.3**	**-7.3**
URIC				*i*			00 50 42.7	
	comp=Z,19nm,0.5s							
PCRV	**Puerto La Cruz**	**10.22**	**61**	P		**Pn**	**00 50 15.6**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=41,slow=9.3,SNR=3.2							
YKA	**Yellowknife Ar**	**64.46**	**340**	P		**P**	**00 58 11.6**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=132,slow=6.8,SNR=20							
ILAR	**Eielson Array**	**78.06**	**335**	P		**P**	**00 59 33.2**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=97,slow=3.4,SNR=4.3							

IDC ***16*** *00:54:12.1±1.2,0.˚56S×122.˚45E, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.5/39, mbtmp3.6/5, ML4.4/1, Error ellipse: s-maj=52.8km s-min=20.3km az=71.0*

DJA ***16*** *00:54:12.9±0.2, 1˚S±3˚×12˚2E±˚, h10km, M4.4/13, mb4.6/4, mB5.0/3, MLv4.3/13, Mw(mB)4.3/3*

ISC 16 00:54:13.0±0.8, 0.˚55S±0.˚06×122.˚41E±0.˚06, h10km, n15, σ1§18, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**0.84**	**245**	P	**Pb**	**00 54 29.4**	**-0.2**
APSI				S	**Sb**	**00 54 41.1**	**+0.1**
MRSI	**Marisa**	**1.12**	**335**	P	**Pb**	**00 54 33.5**	**-1.0**
GTOI	**Gorontalo**	**1.32**	**27**	P	**Pb**	**00 54 37.7**	**-0.2**
GTOI				S	**Sb**	**00 54 54.2**	**-0.8**
KMSI	**Cibinong**	**1.93**	**55**	P	**Pn**	**00 54 45.7**	**-0.2**
TTSI	**Tana Toraja**	**3.58**	**226**	P	**Pn**	**00 55 09.9**	**+1.3**
SANI	**Sanana**	**3.88**	**113**	P	**Pn**	**00 55 12.5**	**-0.2**
SPSI	**Sidrap Palu**	**4.29**	**218**	P	**Pn**	**00 55 18.8**	**+0.4**
BNSI	**Bone**	**4.46**	**211**	P	**Pn**	**00 55 20.2**	**-0.5**
KAPI	**Kappang**	**5.17**	**211**	Pn	**Pn**	**00 55 31.2**	**+0.8**
	14nm,0.3s,baz=19,slow=6.1,SNR=25						
KAPI				Sn	**Sn**	**00 56 27.1**	**-3.0**
	7.8nm,0.3s,baz=214,slow=21,SNR=6.1						
NLAI	**Namlea**	**5.40**	**120**	P	**Pn**	**00 55 34.7**	**+1.1**
	0.3nm3µm27nm,0.5s						
BSSI	**Bau Bau, Buton**	**5.88**	**199**	P	**Pn**	**00 55 40.1**	**-0.1**
WRA	**Warramunga Arr**	**22.54**	**150**	P	**P**	**00 59 13.3**	**0.0**
	1.4nm,0.8s,baz=330,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**25.54**	**155**	P	**P**	**00 59 42.5**	**+0.3**
	0.5nm,0.6s,baz=343,slow=14,SNR=6.9						
SONM	**Songino Array**	**50.17**	**346**	P	**P**	**01 03 11.3**	**+2.4**
	0.2nm,0.5s,baz=168,slow=7.4,SNR=2.7						
MKAR	**Makanchi Array**	**58.77**	**329**	P	**P**	**01 04 10.8**	**-0.5**
	0.3nm,0.7s,baz=128,slow=7.5,SNR=3.7						

DJA ***16*** *00:55:43.8±0.3, 1˚S±2˚×12˚2E±˚, h10km, M4.4/10, mb4.7/4, mB5.0/3, MLv4.3/10, Mw(mB)4.4/3*

IDC ***16*** *00:55:43.2±1.1, 0.˚53S×122.˚48E, h0km, mb3.9/5, mb1 4.2/7, mb1mx3.8/40, mbtmp4.0/7, ML3.9/2, Error ellipse: s-maj=37.7km s-min=19.2km az=65.0*

ISC 16 00:55:43.6±0.7, 0.˚52S±0.˚04×122.˚40E±0.˚05, h10km, n17, σ1§47/21, mb3.9/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.64**	**144**	P	**Pb**	**00 55 56.9**	**0.0**
LUWI				S	**Sb**	**00 56 05.4**	**-0.5**
APSI	**Ampana**	**0.84**	**243**	P	**Pb**	**00 56 00.3**	**-0.1**
APSI				S	**Sb**	**00 56 12.2**	**+0.4**
MRSI	**Marisa**	**1.09**	**335**	P	**Pb**	**00 56 04.0**	**-0.6**
MRSI				S	**Sb**	**00 56 18.6**	**-0.3**
GTOI	**Gorontalo**	**1.30**	**28**	P	**Pg**	**00 56 08.1**	**-0.5**
KMSI	**Cibinong**	**1.92**	**56**	P	**Pn**	**00 56 15.1**	**-1.3**
TTSI	**Tana Toraja**	**3.60**	**226**	P	**Pn**	**00 56 40.2**	**+0.7**
SPSI	**Sidrap Palu**	**4.32**	**217**	P	**Pn**	**00 56 50.2**	**+0.8**
BNSI	**Bone**	**4.48**	**211**	P	**Pn**	**00 56 52.5**	**+0.8**
KAPI	**Kappang**	**5.19**	**211**	Pn	**Pn**	**00 57 01.6**	**+0.2**
	16nm,0.3s,baz=32,slow=4.2,SNR=9.5						
KAPI				Sn	**Sn**	**00 57 56.4**	**-5.0**
	baz=218,slow=20,SNR=3.7						
NLAI	**Namlea**	**5.42**	**120**	P	**Pn**	**00 57 05.2**	**+0.6**
	0.3nm3µm45nm,0.8s						
BSSI	**Bau Bau, Buton**	**5.90**	**199**	P	**Pn**	**00 57 11.9**	**+0.7**
SIJI	**Sorong**	**8.87**	**92**	Pn	**Pn**	**00 57 51.8**	**-0.3**
	0.4nm,0.3s,baz=225,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**22.57**	**150**	P	**P**	**01 00 44.4**	**0.0**
	1.3nm,0.5s,baz=329,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**25.57**	**155**	P	**P**	**01 01 14.1**	**+1.0**
	4.8nm,0.3s,baz=347,slow=15,SNR=5.4						
SONM	**Songino Array**	**50.14**	**346**	P	**P**	**01 04 40.1**	**+0.8**
	0.6nm,0.7s,baz=162,slow=8.7,SNR=2.4						
MKAR	**Makanchi Array**	**58.74**	**329**	P	**P**	**01 05 42.5**	**+0.6**
	0.4nm,0.4s,baz=130,slow=8.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**62.54**	**336**	P	**P**	**01 06 10.0**	**+2.5**
	0.5nm,0.4s,baz=132,slow=6.0,SNR=3.0						

NEIC ***16*** *00:59:41.3±2.5, 14.˚34S±0.˚09×73.˚7W±0.˚1, h70km±8km, mb4.1/15, Error ellipse: s-maj=17.5km s-min=9.6km az=51.0*

VAO ***16*** *00:59:42.9±0.7, 14.˚07S×73.˚05W, h10km, mb4.1*

IDC ***16*** *00:59:42.0±1.8, 14.˚25S×73.˚58W, h69km±16km, mb3.7/7, mb1 3.9/12, mb1mx3.7/35, mbtmp4.0/12, Error ellipse: s-maj=31.2km s-min=12.2km az=40.0*

ISC 16 00:59:43.0±0.5, 14.˚38S±0.˚05×73.˚69W±0.˚07, h87km, n83, σ2§31/89, mb4.0/14, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.89**	**307**	P	**Pn**	**01 00 40.5**	**-0.1**
	73nm,0.3s,baz=122,slow=11,SNR=68						
NNA				S	**Sn**	**01 01 24.6**	**-0.5**
	32nm,0.3s,baz=35,slow=18,SNR=5.7						
NNA	**Nana**	**3.89**	**307**	Pn	**Pn**	**01 00 40.6**	**0.0**
PB16	**IPOC Station P**	**5.62**	**135**	Pn	**Pn**	**01 01 05.9**	**+1.4**
LPAZ	**La Paz**	**5.69**	**110**	P	**Pn**	**01 01 07.9**	**+2.3**
	9.1nm,0.3s,baz=292,slow=9.3,SNR=184						
LPAZ				S	**Sn**	**01 02 11.8**	**+1.9**
	baz=218,slow=24,SNR=7.2						
LPAZ	**La Paz**	**5.69**	**110**	Pn	**Pn**	**01 01 08.1**	**+2.5**
MNMC	**Minye Minye**	**6.14**	**141**		**Pn**	**01 01 10.8**	**-0.6**
PSGCX	**Pisagua**	**6.21**	**147**	Pn	**Pn**	**01 01 11.0**	**-1.2**
PSGCX					**Sn**	**01 02 18.3**	**-3.5**
CZSB	**Cruzeiro do Su**	**6.68**	**8**	*e*P	**Pn**	**01 01 15.7**	**-2.9**
TA01	**Diego Aracena**	**7.00**	**152**	Pn	**Pn**	**01 01 21.6**	**-1.3**
PB08	**IPOC Station P**	**7.18**	**144**		**Pn**	**01 01 24.7**	**-1.0**
PB01	**IPOC Station P**	**7.74**	**149**		**Pn**	**01 01 31.5**	**-1.6**
PB01					**Sn**	**01 02 53.1**	**-6.0**
PB07	**IPOC Station P**	**8.15**	**154**		**Pn**	**01 01 37.5**	**-1.2**
PB07					**Sn**	**01 03 04.9**	**-4.4**
PB09	**IPOC Station P**	**8.50**	**151**	Pn	**Pn**	**01 01 42.7**	**-0.8**
PB09					**Sn**	**01 03 15.7**	**-2.1**
ATAH	**Atahualpa**	**8.56**	**327**	P	**Pn**	**01 01 43.0**	**-1.6**
	0.5nm,0.3s,baz=291,slow=8.6,SNR=4.0						
ATAH				S	**Sn**	**01 03 16.2**	**-3.5**
	0.7nm,0.3s,baz=336,slow=19,SNR=1.4						
PB04	**IPOC Station P**	**8.59**	**158**	Pn	**Pn**	**01 01 42.5**	**-2.3**
PB06	**IPOC Station P**	**9.15**	**155**	Pn	**Pn**	**01 01 49.8**	**-2.6**
LVC	**Limon Verde**	**9.35**	**152**	P	**Pn**	**01 01 54.6**	**-0.7**
	1.3nm,0.3s,baz=359,slow=8.3,SNR=21						
LVC				S	**Sn**	**01 03 35.2**	**-3.8**
	0.7nm,0.3s,baz=187,slow=17,SNR=3.2						
LVC	**Limon Verde**	**9.35**	**152**	Pn	**Pn**	**01 01 55.0**	**-0.4**
PB10	**IPOC Station P**	**9.55**	**162**	Pn	**Pn**	**01 01 55.3**	**-2.4**
PB15	**IPOC Station P**	**9.64**	**156**	Pn	**Pn**	**01 01 57.9**	**-1.3**
PB14	**IPOC Station P**	**10.65**	**164**	Pn	**Pn**	**01 02 11.4**	**-1.6**
GO02	**Mina Guanaco**	**11.39**	**161**	Pn	**Pn**	**01 02 21.1**	**-2.0**
SAML	**Samuel**	**11.62**	**63**	Pn	**Pn**	**01 02 21.6**	**-4.3**
AC01	**Pan de Azucar**	**12.06**	**167**	Pn	**Pn**	**01 02 29.6**	**-2.2**
SIV	**San Ignacio**	**12.28**	**99**	P	**Pn**	**01 02 32.2**	**-2.7**
	1.1nm,0.3s,baz=282,slow=11,SNR=23						
PTLB	**Pontes e Lacer**	**14.10**	**96**	*e*P	**Pn**	**01 02 56.3**	**-2.6**
CO03	**El Pedregal**	**16.61**	**171**		**Pn**	**01 03 31.0**	**+0.3**
CO03				IAmb	IAmb	01 03 31.8	
	comp=Z,9.9nm,1.1s						
SOTA	**Rioblanco**	**16.66**	**350**	*e*P	**Pn**	**01 03 31.6**	**-0.2**
PCON	**Cinco Dias**	**16.82**	**351**	*e*P	**P**	**01 03 36.2**	**+1.6**
MARP	**Paez Belalcaza**	**17.26**	**352**	*e*P	**Pn**	**01 03 38.7**	**-0.2**
AQDB	**Aquidauana**	**18.19**	**112**	*e*P	**P**	**01 03 49.4**	**+0.2**
ORTC	**Ortega, Tolima**	**18.24**	**355**	*e*P	**Pn**	**01 03 50.3**	**-0.3**
TOLC	**Tolima**	**18.91**	**355**	*e*P	**Pn**	**01 04 00.9**	**+2.0**
ROSC	**El Rosal**	**19.11**	**358**	P	**P**	**01 03 59.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=163,slow=19,SNR=2.1						
PTGA	**Pitinga**	**19.19**	**46**	*e*P	**P**	**01 03 59.8**	**-0.2**
RREF	**El Recreo**	**19.23**	**355**	*e*P	**Pn**	**01 04 05.7**	**+2.8**
CPUP	**Villa Florida**	**19.38**	**130**	P	**P**	**01 04 03.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=319,slow=10,SNR=10						
CPUP	**Villa Florida**	**19.38**	**130**		**P**	**01 04 03.0**	**+1.0**
NPGB	**Novo Progresso**	**19.42**	**70**	*e*P	**P**	**01 04 02.1**	**-0.4**
GUY2C	**Guyana, Caldas**	**19.55**	**355**	*e*P	**Pn**	**01 04 08.0**	**+1.4**
NORC	**Norcasia**	**19.85**	**357**	*e*P	**P**	**01 04 07.5**	**+0.2**
RUSC	**La Rusia**	**20.15**	**2**	*e*P	**P**	**01 04 10.5**	**-0.5**
CBOC	**Ciudad Bolivar**	**20.25**	**353**	*e*P	Pn	01 04 14.0	-0.4
ITTB	**Itaituba**	**20.30**	**62**	*e*P	**P**	**01 04 11.1**	**-1.0**
BO02	**Sierra Bellavi**	**20.49**	**173**	P	Pn	01 04 17.1	+0.1
BO02				IAmb	IAmb	01 04 27.2	
	comp=Z,11nm,1.1s						
PTBC	**PUERTO BERRIO,**	**20.80**	**358**	*e*P	**P**	**01 04 16.5**	**-0.9**
DBBC	**Dabeiba**	**21.41**	**353**	*e*P	**P**	**01 04 23.6**	**-0.4**
ITQB	**Itaqui**	**21.90**	**137**	*e*P	**P**	**01 04 34.5**	**+5.4**
SNDB	**Serra Nova Dou**	**21.93**	**86**	*e*P	**P**	**01 04 29.0**	**-0.6**
BI02	**San Fabin de**	**22.29**	**175**	P	**P**	**01 04 36.7**	**+3.4**
BI02				IAmb	IAmb	01 04 42.8	
	comp=Z,5.4nm,0.9s						
PCMB	**Pacaembu**	**22.49**	**112**	*e*P	**P**	**01 04 37.0**	**+1.5**
PTGB	**Pitanga**	**22.79**	**120**	*e*P	**P**	**01 04 42.2**	**+3.5**
SMLC	**San Martn de**	**23.04**	**359**	*e*P	**P**	**01 04 38.5**	**-2.5**
SDV	**Santo Domingo**	**23.32**	**8**	P	**P**	**01 04 43.9**	**0.0**
	comp=Z,3.9nm,0.7s,baz=259,slow=10,SNR=5.7						
ITAB	**Concordia**	**23.82**	**126**	*e*P	**P**	**01 04 53.2**	**+5.1**
FRTB	**Fartura**	**24.48**	**115**	*e*P	**P**	**01 04 59.2**	**+5.1**
CPSB	**Cacapava Do Su**	**24.52**	**134**	*e*P	**P**	**01 05 01.2**	**+6.7**
PLTB	**Pedras Altas**	**25.23**	**137**	*e*P	**P**	**01 05 07.1**	**+6.2**
VAO	**Valinhos**	**26.69**	**113**	*e*P	**P**	**01 05 18.0**	**+3.7**
BSFB	**Barra de Sao F**	**31.75**	**103**	*e*P	**P**	**01 06 02.8**	**+3.7**
344A	**Westbrook Farm**	**48.42**	**340**	P	**P**	**01 08 17.1**	**+0.6**
V52A	**Sevierville**	**50.82**	**350**	P	**P**	**01 08 34.1**	**-0.7**
V48A	**Smith Brothers**	**51.38**	**346**	P	**P**	**01 08 37.5**	**-1.4**
V48A				IAmb	IAmb	01 08 37.7	
	comp=Z,1.7nm,0.6s						
MIAR	**Mount Ida**	**52.20**	**339**	P	**P**	**01 08 45.5**	**+0.4**
MIAR				IAmb	IAmb	01 08 45.8	
	comp=Z,3.0nm,0.8s						
TX32	**Lajitas Array**	**52.22**	**326**	P	**P**	**01 08 46.2**	**+0.8**
TX32				IAmb	IAmb	01 08 47.2	
	comp=Z,1.1nm,0.7s						
TXAR	**Lajitas Array**	**52.22**	**326**	P	**P**	**01 08 46.3**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=152,slow=9.2,SNR=9.7						
TXAR	**Lajitas Array**	**52.22**	**326**	P	**P**	**01 08 46.2**	**+0.8**
TX31	**Lajitas Ar. Si**	**52.22**	**326**	P	**P**	**01 08 45.3**	**-0.1**
TX31				IAmb	IAmb	01 08 47.2	
	comp=Z,3.2nm,0.8s						
WCI	**Wyandotte Cave**	**53.65**	**348**	P	**P**	**01 08 54.6**	**-1.1**
BATG	**Bathurst New B**	**61.76**	**6**	P	**P**	**01 09 52.4**	**+0.1**
PV13	**Radium Mtn., P**	**61.78**	**329**	P	**P**	**01 09 53.9**	**+1.0**
PV13				IAmb	IAmb	01 09 54.7	
	comp=Z,2.1nm,0.8s						
DRLN	**Deer Lake**	**64.96**	**12**	P	**P**	**01 10 13.0**	**-0.4**
B35A	**Bob, Littlefor**	**64.96**	**345**	P	**P**	**01 10 13.0**	**-0.4**
B35A				IAmb	IAmb	01 10 20.6	
	comp=Z,1.3nm,0.8s						
PDAR	**Pinedale Array**	**65.72**	**332**	P	**P**	**01 10 19.7**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=116,slow=8.1,SNR=2.4						
ULM	**Lac du Bonnet**	**67.25**	**345**	P	**P**	**01 10 27.0**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=187,slow=6.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**79.49**	**73**	P	**P**	**01 11 40.4**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=262,slow=5.6,SNR=13						
YKA	**Yellowknife Ar**	**83.03**	**342**	P	**P**	**01 11 58.7**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=133,slow=5.6,SNR=16						
ESDC	**Sonseca Array**	**84.13**	**47**	P	**P**	**01 12 05.5**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=268,slow=5.6,SNR=10.0						
WRA	**Warramunga Arr**	**136.14**	**220**	PKP	**PKiKP**	**01 18 57.3**	**+0.5**
	comp=Z,0.9nm,1.1s,baz=147,slow=1.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**137.06**	**19**	PKP	**PKiKP**	**01 18 57.1**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=294,slow=2.4,SNR=7.4						
MKAR	**Makanchi Array**	**141.95**	**27**	PKP	**PKPdf**	**01 19 06.4**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=294,slow=3.8,SNR=3.8						
SONM	**Songino Array**	**146.65**	**360**	PKPbc	**PKPab**	**01 19 15.9**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=331,slow=2.8,SNR=16						
KSRS	**Korea Array**	**150.05**	**324**	PKPbc	**PKPbc**	**01 19 23.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=0.0,slow=1.3,SNR=6.3						

NNC 16 00:59:54.3±7.9, 37.˚69N×71.˚60E, h0km, mb3.6, mpv3.0, 2C-2D, Error ellipse: s-maj=63.1km s-min=48.6km az=162.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.42**	**23**	⇑P	Pn	01 01 16.5	0.0
	1.9nm,0.7s						
AAK				⇓S	Sn	01 02 19.6	0.0
	2.2nm,0.9s						
KK31	**Karatay Array**	**5.47**	**352**	⇑P	Pn	01 01 18.8	+1.7
	0.3nm,0.2s,baz=175,slow=13,SNR=14						
KK31				S	Sn	01 02 22.6	+1.8
	1.1nm,0.4s,baz=173,slow=23,SNR=9.1						
AB31	**Akbulak array**	**14.31**	**328**	⇓P	Pn	01 03 14.4	-3.6
	2.0nm,0.7s,baz=92,slow=8.2,SNR=11						

ISK 16 01:00:01.2, 38.˚51N×26.˚54E, h11km±1km, ML1.6/4, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBN	**Karaburun**	**0.08**	**10**	PG	Pg	01 00 03.9	+0.2
KRBN				SG	Sg	01 00 05.9	+0.4
URLA	**Izmir**	**0.16**	**163**	PG	Pg	01 00 05.0	+0.2
URLA				SG	Sg	01 00 08.2	+0.8
CHOS	**Chios island**	**0.40**	**252**	PG	Pg	01 00 09.4	+0.3
CHOS				SG	Sb	01 00 15.9	-0.5
BLCB	**Balcova**	**0.42**	**108**	PG	Pb	01 00 10.1	-0.5

DDA 16 01:00:54.5, 39.˚05N×28.˚00E, h7km±2km, ML0.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.22**	**221**	*i* P	Pg	01 00 59.5	+0.5
AKHS				*i* S	Sg	01 01 02.2	+0.3
DEMI	**Demirci**	**0.56**	**90**	*i* P	Pg	01 01 05.7	+0.5
DEMI				*i* S	Sg	01 01 13.1	+0.6
DEMI				IAML		01 01 16.0	
	comp=E,9.5nm,0.5s						
DEMI				IAML		01 01 19.0	
	comp=Z,7.1nm,1.9s						
DEMI				IAML		01 01 20.0	
	comp=N,7.6nm,0.4s						

IDC ***16*** *01:01:53.3±5.2, 26.˚54S×179.˚64E, h504km±58km, mb3.6/9, mb1 3.8/10, mb1mx3.5/33, mbtmp4.5/10, Error ellipse: s-maj=28.0km s-min=20.2km az=51.0*

NEIC ***16*** *01:01:55.1±1.2, 26.˚3S±0.˚2×179.˚5E±0.˚1, h516km±12km, mb4.5/13, Error ellipse: s-maj=27.0km s-min=10.4km az=149.0*

ISC 16 01:01:53.9±0.8, 26.˚3S±0.˚1×179.˚5E±0.˚1, h500km, n29, σ1§05/29, mb4.4/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.75**	**143**	P	**P**	**01 03 12.6**	**+2.4**
OUZ	**Omahuta**	**10.29**	**208**	P	**P**	**01 04 14.8**	**+0.6**
DZM	**Mont Dzumac**	**12.65**	**286**	P	**P**	**01 04 40.0**	**+0.5**
	1.4nm,0.3s,baz=104,slow=12,SNR=13						
DZM	**Mont Dzumac**	**12.65**	**286**	P	**P**	**01 04 40.1**	**+0.5**
QRZ	**Quartz Range**	**15.65**	**200**	P	**P**	**01 05 11.7**	**+1.0**
KHZ	**Kahutara**	**16.85**	**195**	P	**P**	**01 05 22.6**	**-0.6**
EIDS	**Eidsvold**	**25.60**	**266**	P	**P**	**01 06 43.3**	**+0.4**
EIDS				IAmb	IAmb	01 06 45.2	
	comp=Z,15nm,1.4s						
CTA	**Charters Tower**	**31.14**	**274**	P	**P**	**01 07 31.6**	**+0.4**
	comp=Z,4.2nm,0.3s,baz=92,slow=11,SNR=13						
CTAO	**Charters Tower**	**31.14**	**274**	P	**P**	**01 07 31.7**	**+0.4**
CTAO				IAmb	IAmb	01 07 32.8	
	comp=Z,7.3nm,0.6s						
STKA	**Stephens Creek**	**33.51**	**251**	P	**P**	**01 07 52.0**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=94,slow=12,SNR=5.7						
STKA	**Stephens Creek**	**33.51**	**251**	P	**P**	**01 07 52.4**	**+1.1**
COEN	**Coen**	**36.13**	**283**	P	**P**	**01 08 13.8**	**+0.4**
COEN				IAmb	IAmb	01 08 24.2	
	comp=Z,18nm,1.5s						
BBOO	**Buckleboo**	**38.17**	**250**	P	**P**	**01 08 29.6**	**-0.5**
BBOO				IAmb	IAmb	01 08 40.5	
	comp=Z,36nm,1.4s						
AS31	**Alice Springs**	**41.28**	**263**	P	**P**	**01 08 55.4**	**+0.1**
ASAR	**Alice Springs**	**41.28**	**263**	P	**P**	**01 08 55.2**	**-0.1**
	comp=Z,5.7nm,0.5s,baz=90,slow=7.2,SNR=63						
WR0	**Warramunga Arr**	**41.69**	**269**	P	**P**	**01 08 57.8**	**-0.7**
WB2	**Warramunga Arr**	**41.86**	**269**	P	**P**	**01 08 59.3**	**-0.6**
WB2				IAmb	IAmb	01 08 59.9	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**41.88**	**269**	P	**P**	**01 08 59.5**	**-0.5

mb1 3.3/4, mb1mx3.1/29, mbtmp3.4/4, ML2.3/2, Error ellipse: s-maj=70.2km s-min=54.9km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.23**	**175**	P	Pn	01 33 47.6	-0.4
	3.2nm,0.3s,baz=323,slow=10,SNR=3.5						
PMG				S	Sn	01 34 25.8	+0.5
	5.5nm,0.3s,baz=139,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**18.31**	**220**	P	P	01 37 08.0	-0.3
	0.1nm,0.3s,baz=36,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**21.40**	**214**	P	P	01 37 41.2	-0.5
	0.3nm,0.5s,baz=57,slow=8.4,SNR=5.1						
FITZ	**Fitzroy Crossi**	**23.86**	**238**	P	P	01 38 05.6	-1.1
	6.2nm,1.2s,baz=53,slow=13,SNR=2.9						
TORD	**Torodi Ar. Bea**	**145.00**	**284**	PKPbc	PKPdf	01 52 30.2	+0.3
	0.4nm,0.5s,baz=87,slow=3.7,SNR=2.9						

IDC ***16*** *01:39:40.0±1.5, 9.42S×112.93E, h0km, mb4.2/10, mb1 4.2/11, mb1mx4.0/32, mbtmp4.1/11, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=55.8km s-min=15.9km az=53.0*

DJA ***16*** *01:39:43.0±0.6, 10°S±7°×112°3E±°, h10km, M4.4/12, mb4.5/2, MLv4.3/12*

NEIC ***16*** *01:39:46.4±1.8, 9.75S±0.08×112.83E±0.07, h59km±9km, mb4.2/15, Error ellipse: s-maj=11.9km s-min=9.7km az=177.0*

ISC 16 01:39:44.9±0.6, 9.67S±0.08×112.86E±0.07, h36km, n56, σ1s69/55, mb4.3/19, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.75**	**47**	Pn	**Pn**	**01 40 12.7**	**+0.1**
JAGI	**Jajag, Banyuwa**	**1.75**	**47**	P	**Pn**	**01 40 13.2**	**+0.6**
ABJI	**Asem Bagus**	**2.31**	**36**	P	**Pn**	**01 40 22.9**	**+2.6**
DNP	**Denpasar**	**2.52**	**67**	P	**Pn**	**01 40 25.3**	**+2.0**
SRBI	**Singaraja**	**2.81**	**56**	P	**Pn**	**01 40 28.6**	**+1.4**
KMMI	**Kalianget**	**2.83**	**23**	P	**Pn**	**01 40 30.1**	**+2.6**
UGM	**Wanagama**	**2.90**	**307**		**Pn**	**01 40 30.4**	**+1.9**
UGM	**Wanagama**	**2.90**	**307**	P	**Pn**	**01 40 30.4**	**+1.9**
SMRI	**Semarang**	**3.54**	**317**	Pn	**Pn**	**01 40 39.7**	**+2.3**
TWSI	**Taliwang, Sumb**	**4.08**	**77**	P	**Pn**	**01 40 47.4**	**+2.7**
PLAI	**Plampang**	**4.92**	**81**	P	**Pn**	**01 40 58.7**	**+2.4**
CISI	**Cisompet, Garu**	**5.42**	**292**	Pn	**Pn**	**01 41 07.0**	**+3.9**
BBKI	**Banjar Baru**	**6.47**	**18**	P	Pn	01 41 23.1	+5.4
XMIS	**Christmas Isla**	**7.15**	**263**	Pn	**Pn**	**01 41 25.9**	**-1.0**
KAPI	**Kappang**	**8.25**	**56**	Pn	**Pn**	**01 41 43.2**	**+1.2**
	1.0nm,0.3s,baz=94,slow=19,SNR=2.9						
KAPI				LR	LR	01 45 39.5	
	comp=Z,108nm,18.4s,baz=268,slow=45						
KAPI	**Kappang**	**8.25**	**56**		**Pn**	**01 41 44.8**	**+2.7**
MMRI	**Maumere**	**9.31**	**84**	Pn	**Pn**	**01 41 58.6**	**+2.0**
MNAI	**Manna**	**11.16**	**298**	Pn	**Pn**	**01 42 22.7**	**+0.7**
KSI	**Kapahiang**	**11.82**	**300**	P	**Pn**	**01 42 35.0**	**+3.9**
GIRL	**Giralia**	**12.96**	**174**	Pn	**Pn**	**01 42 46.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**14.96**	**125**	Pn	**Pn**	**01 43 12.4**	**-1.3**
	0.2nm,0.3s,baz=309,slow=11,SNR=11						
FITZ				Sn	Sn	01 45 47.1	-11
	0.3nm,0.3s,baz=188,slow=18,SNR=5.5						
FITZ	**Fitzroy Crossi**	**14.96**	**125**	Pn	**Pn**	**01 43 12.6**	**-1.1**
FAKI	**Fak Fak**	**20.39**	**72**	P	**P**	**01 44 19.2**	**+0.4**
FAKI				IAmb	IAmb	01 44 35.5	
	comp=Z,15nm,0.8s						
WB0	**Warramunga Arr**	**23.09**	**118**	P	**P**	**01 44 49.1**	**+1.5**
WRA	**Warramunga Arr**	**23.11**	**119**	P	**P**	**01 44 48.5**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=291,slow=11,SNR=17						
WRAB	**Tennant Creek**	**23.11**	**119**	P	**P**	**01 44 45.0**	**-2.9**
WB2	**Warramunga Arr**	**23.12**	**119**	P	**P**	**01 44 49.2**	**+1.2**
WB2				IAmb	IAmb	01 44 50.1	
	comp=Z,11nm,1.5s						
WR0	**Warramunga Arr**	**23.29**	**118**	P	**P**	**01 44 50.3**	**+0.7**
WR0				IAmb	IAmb	01 44 51.7	
	comp=Z,7.2nm,1.2s						
NWAO	**Narrogin (SRO)**	**23.49**	**171**	P	**P**	**01 44 50.8**	**-0.6**
AS31	**Alice Springs**	**24.44**	**127**	P	**P**	**01 45 02.2**	**+1.7**
ASAR	**Alice Springs**	**24.44**	**127**	P	**P**	**01 45 02.0**	**+1.6**
	comp=Z,3.2nm,0.7s,baz=304,slow=8.9,SNR=36						
ASAR	**Alice Springs**	**24.44**	**127**	P	**P**	**01 45 02.5**	**+2.0**
CMAR	**Chiang Mai Ar**	**31.14**	**334**	P	**P**	**01 45 59.4**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=170,slow=8.1,SNR=8.3						
CMAR	**Chiang Mai Ar**	**31.14**	**334**	P	**P**	**01 46 00.1**	**-0.3**
STKA	**Stephens Creek**	**34.59**	**134**	P	**P**	**01 46 32.3**	**+1.8**
	comp=Z,1.1nm,0.4s,baz=319,slow=15,SNR=3.1						
STKA	**Stephens Creek**	**34.59**	**134**	P	**P**	**01 46 32.7**	**+2.3**
SHL	**Shillong**	**40.55**	**330**	P	**P**	**01 47 21.0**	**-0.1**
CD2	**Chengdu**	**41.28**	**348**	P	**P**	**01 47 26.5**	**-0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN	**Xi'an**	**43.63**	**355**	P	**P**	**01 47 45.4**	**-0.5**
XAN				pP	pwP	01 47 58.9	-0.6
XAN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSRS	**Korea Array**	**48.96**	**16**	P	**P**	**01 48 26.9**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=202,slow=6.3,SNR=4.7						
HHC	**Hu-ho-hao-te**	**50.28**	**359**	*eP*	**P**	**01 48 38.0**	**+0.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,76nm,5.4s						
MJAR	**Matsushiro Arr**	**51.78**	**26**	P	**P**	**01 48 46.5**	**-2.6**
	comp=Z,3.8nm,1.0s,baz=197,slow=8.1,SNR=6.2						
MJAR	**Matsushiro Arr**	**51.78**	**26**	P	**P**	**01 48 47.6**	**-1.5**
USRK	**Ussuriysk Ar.**	**56.35**	**16**	P	**P**	**01 49 21.6**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=192,slow=5.7,SNR=4.0						
SONM	**Songino Array**	**57.54**	**355**	P	**P**	**01 49 30.0**	**-0.8**
	comp=Z,3.8nm,0.8s,baz=175,slow=9.0,SNR=28						
SONM	**Songino Array**	**57.54**	**355**	P	**P**	**01 49 30.3**	**-0.5**
WMQ	**Urumqi**	**57.94**	**339**	*eP*	**P**	**01 49 35.0**	**+1.3**
MK31	**Makanchi Array**	**62.48**	**337**	P	**P**	**01 50 03.9**	**-0.8**
MK31				IAmb	IAmb	01 50 04.4	
	comp=Z,1.8nm,0.7s						
MKAR	**Makanchi Array**	**62.48**	**337**	P	**P**	**01 50 03.9**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=150,slow=7.6,SNR=37						
MKAR	**Makanchi Array**	**62.48**	**337**	P	**P**	**01 50 03.8**	**-0.9**
MAKZ	**Makanchi**	**62.62**	**337**	P	**P**	**01 50 05.5**	**0.0**
MAKZ				IAmb	IAmb	01 50 08.8	
	comp=Z,3.4nm,1.4s						
ZAA0	**Zalesovo Array**	**67.68**	**343**	P	**P**	**01 50 36.6**	**-1.6**
ZAA0				IAmb	IAmb	01 50 37.5	
	comp=Z,2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**67.68**	**343**	P	**P**	**01 50 36.6**	**-1.5**
	comp=Z,2.5nm,0.5s,baz=153,slow=4.0,SNR=14						
ZALV	**Zalesovo Beam**	**67.68**	**343**	P	**P**	**01 50 37.5**	**-0.7**
ABKAR	**Akbulak array**	**74.73**	**327**	P	**P**	**01 51 20.4**	**-0.5**
TIXI	**Tiksi**	**81.84**	**5**	P	**P**	**01 51 58.4**	**-1.4**
TIXI				IAmb	IAmb	01 51 59.5	
	comp=Z,2.7nm,0.8s						

IDC 16 01:46:01.4±3.6, 4.90S×151.75E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, Error ellipse: s-maj=142.2km s-min=46.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.61**	**227**	P	P	01 51 03.8	-0.1
	0.3nm,0.5s,baz=53,slow=9.8,SNR=3.9						
ASAR	**Alice Springs**	**25.38**	**221**	P	P	01 51 31.1	+0.5
	0.4nm,0.8s,baz=48,slow=10,SNR=4.1						
FITZ	**Fitzroy Crossi**	**28.70**	**241**	P	P	01 51 59.7	-0.8
	2.7nm,1.0s,baz=42,slow=12,SNR=2.6						
TORD	**Torodi Ar. Bea**	**149.34**	**288**	PKPbc	PKPbc	02 05 53.1	-0.3
	0.1nm,0.4s,baz=105,slow=2.8,SNR=2.9						

DJA 16 01:50:48.4±0.4, 1°S±3°×12°2E±°, h10km, M3.0/6, MLv3.0/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.67**	**135**	P	Pb	01 51 02.4	+0.2
LUWI				S	Sb	01 51 11.2	-0.4
APSI	**Ampana**	**0.74**	**242**	P	Pg	01 51 03.0	+0.3
MRSI	**Marisa**	**1.09**	**341**	P	Pb	01 51 07.0	-2.4
MRSI				S	Sn	01 51 24.9	0.0
GTOI	**Gorontalo**	**1.38**	**31**	P	Pb	01 51 14.3	-0.1
SPSI	**Sidrap Palu**	**4.22**	**217**	P	Pn	01 51 53.1	+0.2

IDC 16 01:51:58.1±15.0, 7.28S×128.17E, h177km±163km, mb3.4/1, mb1 3.2/4, mb1mx2.9/27, mbtmp3.6/4, ML3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.6/17, Error ellipse: s-maj=138.5km s-min=52.2km az=40.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.67**	**285**	LR	LR	01 57 43.2	
	comp=Z,90nm,20.6s,baz=238,slow=40						
FITZ	**Fitzroy Crossi**	**11.03**	**193**	P	Pn	01 54 31.6	+0.5
	0.4nm,0.3s,baz=20,slow=11,SNR=18						
FITZ				S	Sn	01 56 25.8	-7.9
	0.3nm,0.3s,baz=221,slow=9.3,SNR=1.9						
WRA	**Warramunga Arr**	**13.94**	**155**	P	Pn	01 55 07.2	-1.0
	0.2nm,0.3s,baz=324,slow=14,SNR=15						
WRA				S	Sn	01 57 28.9	-14
	0.1nm,0.3s,baz=330,slow=20,SNR=1.8						
ASAR	**Alice Springs**	**17.20**	**162**	P	P	01 55 47.1	+0.3
	0.1nm,0.3s,baz=339,slow=9.9,SNR=7.6						
MKAR	**Makanchi Array**	**67.48**	**328**	P	P	02 02 34.9	0.0
	0.7nm,0.5s,baz=118,slow=7.4,SNR=14						

IDC ***16*** *02:18:36.2±1.0, 4.78S×133.59E, h0km, mb3.9/5, mb1 4.1/10, mb1mx3.9/34, mbtmp4.0/10, ML4.1/5, Error ellipse: s-maj=45.7km s-min=19.4km az=78.0*

NEIC ***16*** *02:18:41.2±2.0, 4.72S±0.09×133.6E±0.1, h31km±8km, mb4.0/6, Error ellipse: s-maj=20.3km s-min=11.9km az=68.0*

ISC 16 02:18:39.2±0.7, 4.89S±0.06×133.6E±0.1, h25km, n26, σ2s9/30, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.36**	**326**		**Pn**	**02 19 15.9**	**-0.5**
SIJI	**Sorong**	**4.61**	**330**	Pn	**Pn**	**02 19 45.8**	**-1.5**
	2.0nm,0.3s,baz=159,slow=6.3,SNR=4.2						
SIJI				Sn	**Sn**	**02 20 35.7**	**-4.4**
	3.4nm,0.3s,baz=91,slow=18,SNR=3.6						
SOEI	**Soe**	**10.41**	**242**	Pn	**Pn**	**02 21 10.2**	**+3.1**
COEN	**Coen**	**13.07**	**134**	Pn	**Pn**	**02 21 43.3**	**-0.1**
WB0	**Warramunga Arr**	**14.81**	**177**	Pn	**Pn**	**02 22 06.6**	**-0.5**
WRAB	**Tennant Creek**	**14.97**	**177**	Pn	**Pn**	**02 22 10.3**	**+1.0**
WRAB				IAmb	IAmb	02 22 21.2	
	comp=Z,7.7nm,0.6s						
WB2	**Warramunga Arr**	**14.98**	**177**	Pn	**Pn**	**02 22 09.1**	**-0.4**
WB2				IAmb	IAmb	02 22 20.6	
	comp=Z,7.6nm,0.8s						
WRA	**Warramunga Arr**	**14.98**	**177**	Pn	**Pn**	**02 22 08.9**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=5.3,slow=13,SNR=38						
WRA				Sn	**Sn**	**02 24 49.5**	**-5.2**
	comp=Z,0.7nm,0.3s,baz=358,slow=23,SNR=6.2						
WR0	**Warramunga Arr**	**15.01**	**176**		**Pn**	**02 22 10.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.24**	**210**	Pn	**Pn**	**02 22 12.5**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=31,slow=11,SNR=28						
FITZ				Sn	**Sn**	**02 24 56.8**	**-4.3**
	comp=Z,0.8nm,0.3s,baz=198,slow=11,SNR=8.2						
FITZ	**Fitzroy Crossi**	**15.24**	**210**	Pn	**Pn**	**02 22 13.9**	**+1.0**
FITZ				IAmb	IAmb	02 22 20.5	
	comp=Z,12nm,1.5s						
AS31	**Alice Springs**	**18.67**	**179**	P	**Pn**	**02 22 58.6**	**+2.7**
ASAR	**Alice Springs**	**18.67**	**179**	P	**Pn**	**02 22 57.4**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=356,slow=9.1,SNR=43						
ASAR				S	**Sn**	**02 26 22.1**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=1.7,slow=27,SNR=4.9						
ASAR	**Alice Springs**	**18.67**	**179**	P	**Pn**	**02 22 59.3**	**+3.3**
CTA	**Charters Tower**	**19.51**	**142**	P	**Pn**	**02 23 07.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=297,slow=14,SNR=4.3						
USRK	**Ussuriysk Ar.**	**48.89**	**358**	P	**P**	**02 27 22.7**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=172,slow=8.8,SNR=5.3						
USRK	**Ussuriysk Ar.**	**48.89**	**358**	P	**P**	**02 27 23.0**	**+0.2**
KLR	**Kul'dur**	**53.92**	**359**	P	**P**	**02 28 01.2**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=261,slow=2.5,SNR=6.3						
MK31	**Makanchi Array**	**68.49**	**325**	P	**P**	**02 29 40.3**	**+0.9**
MK31				IAmb	IAmb	02 29 41.7	
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**68.49**	**325**	P	**P**	**02 29 41.0**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=116,slow=8.5,SNR=15						
MKAR	**Makanchi Array**	**68.49**	**325**	P	**P**	**02 29 40.7**	**+1.3**
ZALV	**Zalesovo Beam**	**71.34**	**332**	P	**P**	**02 29 55.3**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=111,slow=3.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**71.34**	**332**	P	**P**	**02 29 56.6**	**0.0**
ABKAR	**Akbulak array**	**83.11**	**321**	P	**P**	**02 31 04.2**	**+1.4**
ILAR	**Eielson Array**	**89.95**	**25**	P	**P**	**02 31 35.5**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=226,slow=3.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**131.84**	**283**	PKP	**PKiKP**	**02 37 54.1**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=97,slow=3.2,SNR=2.5						

NOU ***16*** *02:24:08.4, 38.92S×174.82E, h249km, MLv3.8, North Island, New Zealand*

WEL 16 02:24:12.4, 39°S±3°×177°5E±°, h223km±5km, M3.2/41, MLv3.2/41, Error ellipse: s-maj=0.0km s-min=0.0km az=132.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.21**	**230**	P	Pn	02 24 40.9	-0.6
TWVZ	**Taurewa**	**0.38**	**103**	P	Pn	02 24 41.7	-0.2
PKVZ	**Pokaka**	**0.42**	**136**	P	Pn	02 24 41.9	-0.1
PKVZ				S	S	02 25 03.7	-1.5
HIZ	**Hauiti**	**0.48**	**349**	P	Pn	02 24 41.7	-0.4
HIZ				S	S	02 25 05.1	-0.3
WTVZ	**West Tongariro**	**0.50**	**105**	P	Pn	02 24 42.2	-0.1
MHEZ	**Mangahewa**	**0.51**	**260**	P	Pn	02 24 42.2	0.0
NGZ	**Ngauruhoe**	**0.53**	**111**	P	Pn	02 24 42.5	0.0
FWVZ	**Far West T-bar**	**0.53**	**121**	P	Pn	02 24 42.5	-0.1
FWVZ				S	S	02 25 03.6	-2.5
KRVZ	**Karewarewa**	**0.53**	**102**	P	Pn	02 24 42.5	0.0
TRVZ	**Turoa**	**0.55**	**125**	P	Pn	02 24 42.6	0.0
MTVZ	**Mangateitei**	**0.56**	**136**	P	Pn	02 24 42.4	-0.1
KATZ	**Kakaramea**	**0.57**	**89**	P	Pn	02 24 42.4	-0.2
WHVZ	**Whangaehu Hut**	**0.57**	**122**	P	Pn	02 24 42.7	0.0
OTVZ	**Oturere**	**0.57**	**108**	P	Pn	02 24 42.7	+0.1
TMVZ	**Te Maari**	**0.59**	**103**	P	Pn	02 24 42.8	+0.2
ETVZ	**East Tongariro**	**0.60**	**105**	P	Pn	02 24 42.9	+0.2
WNVZ	**Wahianoa**	**0.60**	**125**	P	Pn	02 24 42.8	+0.1
WNVZ				S	S	02 25 05.4	-1.0
TUVZ	**Tukino**	**0.60**	**118**	P	Pn	02 24 42.8	+0.1
TUVZ				S	S	02 25 04.8	-1.6
RATZ	**Rangitukua**	**0.64**	**79**	P	Pn	02 24 42.5	-0.2
LREZ	**Lake Rotokare**	**0.65**	**223**	P	Pn	02 24 42.7	0.0
LREZ				S	S	02 25 06.6	+0.2
WATZ	**Wairara**	**0.66**	**65**	P	Pn	02 24 43.1	+0.2
RITZ	**Rihia Road**	**0.69**	**90**	P	Pn	02 24 43.1	+0.1
PREZ	**Palmer Road**	**0.72**	**240**	P	Pn	02 24 43.1	0.0
NEZ	**North Egmont**	**0.74**	**247**	P	Pn	02 24 43.1	-0.1
MOVZ	**Moawhango**	**0.74**	**125**	P	Pn	02 24 42.8	-0.4
MOVZ				S	S	02 25 04.9	-2.5
WAZ	**Wanganui**	**0.77**	**179**	P	Pn	02 24 43.4	+0.1
WAZ				S	S	02 25 05.6	-1.9
PKE	**Pukeiti**	**0.79**	**254**	P	Pn	02 24 43.2	-0.2
TLZ	**Tolley Road**	**0.79**	**34**	P	Pn	02 24 43.5	0.0
KHEZ	**Kahui Hut**	**0.80**	**247**	P	Pn	02 24 43.3	-0.2
KUTZ	**Kaahu Road**	**0.83**	**54**	P	Pn	02 24 43.9	+0.2
HATZ	**Hinemaiaia**	**0.88**	**84**	P	Pn	02 24 43.5	-0.4
HATZ				S	S	02 25 06.1	-2.3
NBEZ	**Newall Road No**	**0.90**	**251**	P	Pn	02 24 43.8	-0.1
NMEZ	**Namu Road**	**0.95**	**243**	P	Pn	02 24 44.0	-0.2
BHHZ	**Black Hill Sta**	**0.99**	**121**	P	Pn	02 24 44.2	-0.3
BHHZ				S	S	02 25 06.9	-2.7
WPRZ	**Whakapapatarin**	**1.04**	**64**	P	Pn	02 24 44.6	-0.3
MRHZ	**Matea Rd**	**1.14**	**83**	P	Pn	02 24 44.9	-0.6
ALRZ	**Allen Road**	**1.15**	**69**	P	Pn	02 24 45.3	-0.3
BKZ	**Black Stump Fm**	**1.20**	**99**	P	Pn	02 24 45.6	-0.3
KWHZ	**Kaweka Forest**	**1.21**	**112**	P	Pn	02 24 46.2	+0.2
OHWZ	**Ohakea**	**1.25**	**168**	P	Pn	02 24 46.4	+0.3
KRHZ	**Kereru**	**1.27**	**122**	P	Pn	02 24 46.4	0.0
TSZ	**Takapari Road**	**1.32**	**145**	P	Pn	02 24 46.8	+0.1
TOZ	**Tahuroa Road**	**1.32**	**19**	P	Pn	02 24 46.6	-0.2
PNHZ	**Pukenui**	**1.33**	**135**	P	Pn	02 24 46.8	0.0
MCHZ	**McNeill Hill**	**1.42**	**109**	P	Pn	02 24 48.1	+0.7
NMHZ	**Naumai**	**1.44**	**95**	P	Pn	02 24 48.4	+0.7
MTHZ	**Maungataniwha**	**1.47**	**85**	P	Pn	02 24 47.7	-0.3
MUGZ	**Murupara**	**1.50**	**71**	P	Pn	02 24 47.3	-0.8
POWZ	**Post Office Ro**	**1.53**	**157**	P	Pn	02 24 47.9	-0.5
WPHZ	**Waipukurau**	**1.57**	**134**	P	Pn	02 24 48.8	+0.1
ARHZ	**Aropaoanui**	**1.60**	**101**	P	Pn	02 24 49.4	+0.5
DVHZ	**Dannevirke**	**1.60**	**145**	P	Pn	02 24 48.6	-0.4
RTZ	**Ruatahuna**	**1.61**	**77**	P	Pn	02 24 48.7	-0.5
RAHZ	**Arahi**	**1.65**	**88**	P	Pn	02 24 49.7	+0.2
KAHZ	**Kahuranaki**	**1.68**	**119**	P	Pn	02 24 49.9	+0.2
MRZ	**Mangatainoka R**	**1.74**	**165**	P	Pn	02 24 49.4	-0.8
PRWZ	**Pori Road**	**1.75**	**154**	P	Pn	02 24 49.9	-0.3
WHHZ	**Waihua**	**1.77**	**94**	P	Pn	02 24 50.6	+0.1
CKHZ	**Cape Kidnapper**	**1.77**	**113**	P	Pn	02 24 50.9	+0.5
PXZ	**Pawanui**	**1.80**	**126**	P	Pn	02 24 50.7	0.0
PRHZ	**Porangahau**	**1.81**	**135**	P	Pn	02 24 50.8	-0.1
URZ	**Urewera**	**1.83**	**67**	P	Pn	02 24 50.0	-1.0
OGWZ	**Otaki Gorge**	**1.83**	**175**	P	Pn	02 24 50.4	-0.6
SNGZ	**Shannon Statio**	**1.86**	**84**	P	Pn	02 24 51.3	0.0
KIW	**Kapiti Island**	**1.87**	**181**	P	Pn	02 24 50.4	-1.0
ANWZ	**Angora Road**	**1.88**	**142**	P	Pn	02 24 51.3	-0.1
TIWZ	**Tintock**	**1.92**	**159**	P	Pn	02 24 51.1	-0.7
AWAZ	**Awhitu Peninsu**	**1.94**	**352**	P	Pn	02 24 51.8	-0.3
HOWZ	**Holdsworth Sta**	**1.96**	**168**	P	Pn	02 24 51.1	-1.1
BFZ	**Birch Farm**	**1.96**	**150**	P	Pn	02 24 51.5	-0.7
DUWZ	**D'Urville Isla**	**1.98**	**204**	P	Pn	02 24 51.3	-1.1
ETAZ	**East Tamaki Re**	**2.03**	**359**	P	Pn	02 24 52.9	-0.1
WTAZ	**Waiatarua**	**2.07**	**351**	P	Pn	02 24 53.3	-0.1
MWZ	**Matawai**	**2.11**	**73**	P	Pn	02 24 53.1	-0.6
KNZ	**Kokohu**	**2.11**	**92**	P	Pn	02 24 53.6	-0.1
CAW	**Cannon Point**	**2.12**	**178**	P	Pn	02 24 52.7	-1.1
CPWZ	**Castlepoint**	**2.14**	**154**	P	Pn	02 24 53.7	-0.3
WIAZ	**Waiheke Island**	**2.19**	**3**	P	Pn	02 24 54.4	-0.3
RIGZ	**Rimuhau**	**2.20**	**84**	P	Pn	02 24 54.6	-0.1
MTW	**Mount Morrison**	**2.21**	**170**	P	Pn	02 24 53.3	-1.3
MBAZ	**Motutapu North**	**2.21**	**359**	P	Pn	02 24 54.6	-0.2
TMWZ	**Te Maipa**	**2.23**	**162**	P	Pn	02 24 53.9	-1.1
TCW	**Tory Channel**	**2.29**	**193**	P	Pn	02 24 54.3	-1.1
MHGZ	**Mahia Peninsul**	**2.29**	**95**	P	Pn	02 24 55.9	+0.3
WEL	**Wellington**	**2.30**	**184**	P	Pn	02 24 54.2	-1.3
TKGZ	**Te Karaka**	**2.32**	**77**	P	Pn	02 24 57.1	+1.3
PAWZ	**Paruwai Farm**	**2.42**	**172**	P	Pn	02 24 55.5	-1.4
BHW	**Baring Head**	**2.42**	**182**	P	Pn	02 24 55.3	-1.5
MSWZ	**Moikau Station**	**2.44**	**175**	P	Pn	02 24 55.6	-1.5
TRWZ	**Traveller**	**2.47**	**167**	P	Pn	02 24 56.1	-1.3
HAZ	**Te Kaha**	**2.53**	**62**	P	Pn	02 24 56.5	-1.5
NNZ	**Nelson**	**2.54**	**208**	P	Pn	02 24 56.4	-1.7
TUWZ	**Tuamarina**	**2.56**	**198**	P	Pn	02 24 56.9	-1.4
CNGZ	**Carnagh Statio**	**2.58**	**80**	P	Pn	02 24 59.8	+1.2
PLWZ	**Palliser**	**2.59**	**175**	P	Pn	02 24 57.1	-1.6
QRZ	**Quartz Range**	**2.63**	**225**	P	Pn	02 24 56.6	-2.5
BSWZ	**Blackbirch Sta**	**2.85**	**197**	P	Pn	02 25 00.2	-1.4
WCZ	**Waipu Caves**	**3.08**	**351**	P	Pn	02 25 04.0	-0.3
THZ	**Tophouse**	**3.19**	**209**	P	Pn	02 25 03.2	-2.3
KHZ	**Kahutara**	**3.59**	**197**	P	Pn	02 25 08.0	-2.0
DSZ	**Denniston Nort**	**3.67**	**220**	P	Pn	02 25 08.0	-3.0
GVZ	**Greta Valley S**	**4.24**	**200**	P	Pn	02 25 15.2	-2.7
LTZ	**Lake Taylor**	**4.31**	**207**	P	Pn	02 25 15.7	-3.1
AMCZ	**Amberley**	**4.54**	**202**	P	Pn	02 25 18.6	-2.9

IDC 16 02:25:22.4±3.5, 0.60S×17.79W, h0km, mb3.4/3, mb1 3.9/5, mb1mx3.5/42, mbtmp3.8/5, ML4.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/33, Error ellipse: s-maj=142.5km s-min=28.5km az=152.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.89**	**155**	T	T	02 35 52.8	
	ba

LVC	**Limon Verde**	**2.30**	**311**	*i* P	**Pn**	**02 30 23.4**	**+1.6**
LVC				*e*S	**Sn**	**02 30 54.6**	**+0.4**
LVC				IAML		02 30 59.3	
	comp=Z,171nm,0.6s						
LVC	**Limon Verde**	**2.30**	**311**	*i* P	**Pn**	**02 30 23.5**	**+1.6**
LVC				*e*S	**Sn**	**02 30 55.2**	**+1.0**
YJA	**Yavi**	**2.40**	**36**	*i* P	**Pn**	**02 30 23.8**	**+0.7**
YJA				IAML		02 31 03.0	
	comp=Z,18nm,1.8s						
YJA	**Yavi**	**2.40**	**36**	*i* P	**Pn**	**02 30 24.0**	**+0.9**
YJA				*e*S	**Sn**	**02 30 56.7**	**+0.3**
PB15	**IPOC Station P**	**2.42**	**292**	⇑*i*P	**Pn**	**02 30 24.6**	**+1.6**
PB15				*i* S	**Sn**	**02 30 56.5**	**+0.2**
PB15	**IPOC Station P**	**2.42**	**292**		**Pn**	**02 30 24.6**	**+1.6**
PB15					**Sn**	**02 30 56.8**	**+0.5**
PB15	**IPOC Station P**	**2.42**	**292**	*i* P	**Pn**	**02 30 24.7**	**+1.6**
PB15				*e*S	**Sn**	**02 30 57.0**	**+0.7**
PB15				IAML		02 30 59.3	
	comp=Z,2µm,0.2s						
PB15	**IPOC Station P**	**2.42**	**292**	*i* P	**Pn**	**02 30 24.7**	**+1.6**
PB15				*e*S	**Sn**	**02 30 56.6**	**+0.4**
GO02	**Mina Guanaco**	**2.54**	**246**	⇑*i*P	**Pn**	**02 30 25.7**	**+1.2**
GO02				*i* S	**Sn**	**02 30 59.9**	**+1.0**
GO02				IAML		02 31 02.6	
	comp=N,2µm,0.3s						
GO02	**Mina Guanaco**	**2.54**	**246**		**Pn**	**02 30 25.6**	**+1.1**
GO02					**Sn**	**02 30 59.7**	**+0.8**
PB06	**IPOC Station P**	**2.73**	**301**	⇑*i*P	**Pn**	**02 30 28.0**	**+1.4**
PB06				*i* S	**Sn**	**02 31 02.5**	**-0.1**
PB06				IAML		02 31 06.4	
	comp=E,1µm,0.2s						
PB06	**IPOC Station P**	**2.73**	**301**		**Pn**	**02 30 27.9**	**+1.4**
PB06					**Sn**	**02 31 02.9**	**+0.2**
PB06	**IPOC Station P**	**2.73**	**301**	*i* P	**Pn**	**02 30 27.8**	**+1.3**
PB06				*i* S	**Sn**	**02 31 03.8**	**+1.1**
PB06				IAML		02 31 06.8	
	comp=Z,774nm,0.3s						
PB06	**IPOC Station P**	**2.73**	**301**	*i* P	**Pn**	**02 30 28.1**	**+1.5**
PB06				*e*S	**Sn**	**02 31 02.5**	**-0.1**
PB06				IAML		02 31 06.8	
	comp=Z,774nm,0.3s						
AHML	**Horco Molle**	**3.05**	**150**	*i* P	**Pn**	**02 30 30.5**	**+0.3**
AHML				*e*S	**Sn**	**02 31 07.3**	**-2.0**
PB09	**IPOC Station P**	**3.09**	**318**	⇑*i*P	**Pn**	**02 30 32.7**	**+1.8**
PB09				*e*S	**Sn**	**02 31 11.3**	**+1.0**
PB09				IAML		02 31 12.8	
	comp=N,372nm,0.5s						
PB09	**IPOC Station P**	**3.09**	**318**	Pn	**Pn**	**02 30 32.6**	**+1.8**
PB09	**IPOC Station P**	**3.09**	**318**	*i* P	**Pn**	**02 30 32.5**	**+1.6**
PB09				*e*S	**Sn**	**02 31 11.4**	**+1.0**
PB09				IAML		02 31 13.8	
	comp=Z,302nm,0.5s						
PB09	**IPOC Station P**	**3.09**	**318**	*i* P	**Pn**	**02 30 32.7**	**+1.8**
PB09				*e*S	**Sn**	**02 31 10.4**	**0.0**
PB09				IAML		02 31 13.8	
	comp=Z,302nm,0.5s						
PB14	**IPOC Station P**	**3.11**	**260**	*e*P	**Pn**	**02 30 31.9**	**+0.7**
PB14				*i* S	**Sn**	**02 31 09.9**	**-1.1**
PB14				IAML		02 31 12.0	
	comp=E,212nm,0.3s						
PB14	**IPOC Station P**	**3.11**	**260**		**Pn**	**02 30 31.8**	**+0.6**
PB14					**Sn**	**02 31 09.5**	**-1.4**
PB14	**IPOC Station P**	**3.11**	**260**	*i* P	**Pn**	**02 30 31.9**	**+0.7**
PB14				IAML		02 31 20.3	
	comp=Z,156nm,0.4s						
PB14	**IPOC Station P**	**3.11**	**260**	*i* P	**Pn**	**02 30 31.9**	**+0.7**
PB14				*e*S	**Sn**	**02 31 09.7**	**-1.3**
PB14				IAML		02 31 12.0	
	comp=Z,250nm,0.3s						
PB05	**IPOC Station P**	**3.18**	**293**	*e*P	**Pn**	**02 30 32.5**	**+0.6**
PB05				*i* S	**Sn**	**02 31 10.5**	**-1.5**
PB05				IAML		02 31 15.7	
	comp=N,371nm,0.3s						
PB05	**IPOC Station P**	**3.18**	**293**	*i* P	**Pn**	**02 30 32.4**	**+0.6**
PB05				IAML		02 31 20.0	
	comp=Z,204nm,0.2s						
PB05	**IPOC Station P**	**3.18**	**293**	*i* P	**Pn**	**02 30 32.9**	**+1.1**
PB05				*i* S	**Sn**	**02 31 10.5**	**-1.5**
PB05				IAML		02 31 20.0	
	comp=Z,204nm,0.2s						
PB03	**IPOC Station P**	**3.25**	**309**	⇑*i*P	**Pn**	**02 30 33.7**	**+1.0**
PB03				*i* S	**Sn**	**02 31 13.1**	**-0.8**
PB03				IAML		02 31 14.8	
	comp=N,830nm,0.3s						
PB03	**IPOC Station P**	**3.25**	**309**	*i* P	**Pn**	**02 30 33.6**	**+0.9**
PB03				*i* S	**Sn**	**02 31 14.9**	**+1.1**
PB03				IAML		02 31 16.8	
	comp=Z,421nm,0.2s						
PB03	**IPOC Station P**	**3.25**	**309**	*e*P	**Pn**	**02 30 33.8**	**+1.0**
PB03				*i* S	**Sn**	**02 31 13.0**	**-0.8**
PB03				IAML		02 31 14.3	
	comp=Z,738nm,0.3s						
PB10	**IPOC Station P**	**3.28**	**280**	⇓*i*P	**Pn**	**02 30 33.6**	**+0.7**
PB10				*e*S	**Sn**	**02 31 12.8**	**-1.4**
PB10	**IPOC Station P**	**3.28**	**280**		**Pn**	**02 30 34.0**	**+1.1**
PB10	**IPOC Station P**	**3.28**	**280**	*i* P	**Pn**	**02 30 33.6**	**+0.7**
PB10				*i* S	**Sn**	**02 31 14.7**	**+0.6**
PB10				IAML		02 31 18.2	
	comp=Z,280nm,0.3s						
PB10	**IPOC Station P**	**3.28**	**280**	*i* P	**Pn**	**02 30 34.2**	**+1.3**
PB10				*e*S	**Sn**	**02 31 13.1**	**-1.0**
PB10				IAML		02 31 18.2	
	comp=Z,281nm,0.3s						
AC02	**Maricunga**	**3.29**	**215**	⇑*i*P	**Pn**	**02 30 34.6**	**+1.1**
AC02				*e*S	**Sn**	**02 31 15.9**	**+0.8**
AC02	**Maricunga**	**3.29**	**215**		**Pn**	**02 30 34.6**	**+1.1**
PB04	**IPOC Station P**	**3.38**	**301**	*e*P	**Pn**	**02 30 35.2**	**+1.0**
PB04				*i* S	**Sn**	**02 31 15.3**	**-1.2**
PB04				IAML		02 31 18.4	
	comp=E,636nm,0.4s						
PB04	**IPOC Station P**	**3.38**	**301**		**Pn**	**02 30 35.3**	**+1.0**
PB04	**IPOC Station P**	**3.38**	**301**	*i* P	**Pn**	**02 30 35.0**	**+0.7**
PB04				*i* S	**Sn**	**02 31 17.1**	**+0.5**
PB04				IAML		02 31 18.5	
	comp=Z,416nm,0.2s						
PB04	**IPOC Station P**	**3.38**	**301**	*i* P	**Pn**	**02 30 35.3**	**+1.0**
PB04				*e*S	**Sn**	**02 31 15.2**	**-1.4**
PB07	**IPOC Station P**	**3.56**	**312**	*e*P	**Pn**	**02 30 37.7**	**+1.2**
PB07				*i* S	**Sn**	**02 31 19.1**	**-1.5**
PB07				IAML		02 31 20.2	
	comp=E,651nm,0.3s						
PB07	**IPOC Station P**	**3.56**	**312**		**Pn**	**02 30 37.3**	**+0.8**
PB07	**IPOC Station P**	**3.56**	**312**	*i* P	**Pn**	**02 30 37.3**	**+0.8**
PB07				*e*S	**Sn**	**02 31 19.0**	**-1.5**
PB07				IAML		02 31 23.6	
	comp=Z,450nm,0.3s						
PB07	**IPOC Station P**	**3.56**	**312**	*i* P	**Pn**	**02 30 37.4**	**+0.9**
PB07				*e*S	**Sn**	**02 31 19.2**	**-1.3**
PB07				IAML		02 31 20.2	
	comp=Z,458nm,0.7s						
AC01	**Pan de Azucar**	**3.80**	**237**	⇑*i*P	**Pn**	**02 30 39.0**	**-0.3**
AC01				*e*S	**Sn**	**02 31 23.4**	**-2.2**
AC01	**Pan de Azucar**	**3.80**	**237**	Pn	**Pn**	**02 30 39.0**	**-0.3**
PB01	**IPOC Station P**	**3.82**	**323**	*i* P	**Pn**	**02 30 40.2**	**+0.5**
PB01				*i* S	**Sn**	**02 31 24.4**	**-1.9**
PB01				IAML		02 31 28.5	
	comp=E,349nm,0.2s						
PB01	**IPOC Station P**	**3.82**	**323**		**Pn**	**02 30 40.3**	**+0.5**
PB01	**IPOC Station P**	**3.82**	**323**	*i* P	**Pn**	**02 30 40.4**	**+0.7**
PB01				*e*S	**Sn**	**02 31 25.6**	**-0.8**
PB01				IAML		02 31 28.9	
	comp=Z,174nm,0.4s						
PB08	**IPOC Station P**	**4.43**	**333**	Pn	**Pn**	**02 30 49.0**	**+1.3**
PB08	**IPOC Station P**	**4.43**	**333**	*i* P	**Pn**	**02 30 48.8**	**+1.1**
PB08				*e*S	**Sn**	**02 31 40.5**	**-0.1**
PB08				IAML		02 31 45.0	
	comp=Z,111nm,0.6s						
GO03	**Copiap**	**4.49**	**219**		**Pn**	**02 30 47.3**	**-0.7**
GO03	**Copiap**	**4.49**	**219**	*i* P	**Pn**	**02 30 47.5**	**-0.5**
GO03				*e*S	**Sn**	**02 31 39.3**	**-2.0**
TA01	**Diego Aracena**	**4.59**	**320**	Pn	**Pn**	**02 30 50.4**	**+1.1**
VCA	**Vinchina**	**4.70**	**193**	*i* P	**Pn**	**02 30 53.2**	**+2.4**
VCA	**Vinchina**	**4.70**	**193**	*i* P	**Pn**	**02 30 52.9**	**+2.1**
PSGCX	**Pisagua**	**5.35**	**327**	Pn	**Pn**	**02 30 58.4**	**-0.7**
AC04	**Llanos de Chal**	**5.44**	**221**	Pn	**Pn**	**02 30 58.8**	**-1.3**
AC05	**El Transito**	**5.51**	**211**	Pn	**Pn**	**02 31 00.6**	**-0.5**
MNMC	**Minye Minye**	**5.52**	**334**	Pn	**Pn**	**02 31 01.5**	**0.0**
MNMCX	**Minye Minye**	**5.52**	**334**	*i* P	**Pn**	**02 31 01.4**	**-0.1**
LCO	**Las Campanas**	**5.86**	**213**	Pn	**Pn**	**02 31 04.5**	**-1.3**
PB16	**IPOC Station P**	**6.22**	**338**	Pn	**Pn**	**02 31 11.2**	**+0.4**
AROD	**Rodeo**	**6.39**	**199**	*i* P	**Pn**	**02 31 13.8**	**+1.1**
CO01	**Juntas del Tor**	**6.43**	**204**	Pn	**Pn**	**02 31 12.8**	**-0.3**

ACCO	**Cerro Coronel**	**6.67**	**195**	*i* P	**Pn**	**02 31 17.1**	**+0.7**
ACCO				IAML		02 32 35.1	
	comp=Z,14nm,0.8s						
GO04	**Tololo Observa**	**6.88**	**208**	Pn	**Pn**	**02 31 17.2**	**-1.8**
CO03	**El Pedregal**	**7.42**	**205**	Pn	**Pn**	**02 31 23.8**	**-2.2**
CO02	**Combarbal**	**7.87**	**206**	Pn	**Pn**	**02 31 30.6**	**-1.2**
LPAZ	**La Paz**	**7.88**	**352**	P	**Pn**	**02 31 33.4**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=191,slow=3.9,SNR=31						
LPAZ				S	**Sn**	**02 32 59.2**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=198,slow=19,SNR=2.1						
LPAZ	**La Paz**	**7.88**	**352**	*e*P	**Pn**	**02 31 33.7**	**+1.2**
CPUP	**Villa Florida**	**9.05**	**106**	P	**Pn**	**02 31 46.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=297,slow=12,SNR=4.4						
CPUP	**Villa Florida**	**9.05**	**106**	Pn	**Pn**	**02 31 45.5**	**-1.7**
CPUP	**Villa Florida**	**9.05**	**106**	*e*P	Pn	02 31 52.3	+5.1
SIV	**San Ignacio**	**9.85**	**36**	P	**Pn**	**02 31 55.9**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=228,slow=10,SNR=22						
ITQB	**Itaqui**	**10.80**	**123**	*e*P	**Pn**	**02 32 09.2**	**-0.7**
AQDB	**Aquidauana**	**11.10**	**73**	*e*P	**P**	**02 32 17.7**	**-2.6**
BO02	**Sierra Bellavi**	**11.11**	**196**	Pn	**Pn**	**02 32 11.3**	**-2.6**
BI02	**San Fabin de**	**13.01**	**195**	P	**Pn**	**02 32 39.0**	**+1.0**
CPSB	**Cacapava Do Su**	**13.60**	**120**	*e*P	**P**	**02 32 47.7**	**-0.3**
PTGB	**Pitanga**	**13.65**	**96**	*e*P	**P**	**02 32 49.7**	**+1.0**
ITAB	**Concordia**	**13.79**	**106**	*e*P	**P**	**02 32 49.8**	**-0.3**
PLTB	**Pedras Altas**	**14.08**	**126**	*e*P	**Pn**	**02 32 50.6**	**-0.8**
PCMB	**Pacaembu**	**14.75**	**83**	*e*P	**P**	**02 33 02.1**	**+1.2**
FRTB	**Fartura**	**16.02**	**91**	*e*P	**Pn**	**02 33 15.8**	**+0.7**
ITRB	**Iturama**	**16.09**	**77**	*e*P	**Pn**	**02 33 16.8**	**+0.8**
ARAG	**Araguaiana, MT**	**16.58**	**62**	*e*P	**Pn**	**02 33 22.3**	**+0.4**
PLCA	**Paso Flores**	**16.81**	**189**	P	**Pn**	**02 33 24.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=358,slow=18,SNR=2.3						
CLDB	**Colider**	**16.98**	**41**	*e*P	**P**	**02 33 24.9**	**-0.6**
BB19B	**Bebedouro**	**17.36**	**84**	*e*P	**P**	**02 33 30.1**	**+0.6**
VAO	**Valinhos**	**18.43**	**91**	*e*P	**P**	**02 33 40.7**	**-0.6**
IPMB	**Ipameri, GO**	**18.59**	**74**	*e*P	**P**	**02 33 43.0**	**-0.1**
SNDB	**Serra Nova Dou**	**19.22**	**54**	*e*P	**P**	**02 33 49.3**	**-0.5**
PARB	**Paraibuna**	**19.62**	**92**	*e*P	**P**	**02 33 54.2**	**+0.1**
BDFB	**Brasilia**	**19.76**	**68**	P	**P**	**02 33 55.8**	**0.0**
	comp=Z,1.3nm,0.3s,baz=243,slow=9.8,SNR=28						
BDFB	**Brasilia**	**19.76**	**68**	P	**P**	**02 33 55.9**	**+0.1**
NPGB	**Novo Progresso**	**20.35**	**35**	*e*P	**P**	**02 33 59.9**	**-2.0**
ESAR	**Angra dos Reis**	**20.74**	**92**	*e*P	**P**	**02 34 06.0**	**0.0**
BSCB	**Bom Sucesso**	**20.79**	**86**	*e*P	**P**	**02 34 06.2**	**-0.4**
PEXB	**Peixe**	**21.42**	**59**	*e*P	**P**	**02 34 12.2**	**-1.0**
MACA	**Manacapuru-AM**	**21.73**	**17**	*e*P	**P**	**02 34 14.4**	**-2.1**
ITTB	**Itaituba**	**22.47**	**31**	*e*P	**P**	**02 34 22.0**	**-1.5**
DIAM	**Diamantina, MG**	**22.52**	**80**	*e*P	**P**	**02 34 23.7**	**-0.4**
JANB	**Januaria**	**23.20**	**71**	*e*P	**P**	**02 34 29.1**	**-1.0**
SDBA	**SAO DESIDERIO**	**23.99**	**65**	*e*P	**P**	**02 34 36.4**	**-1.0**
SMTB	**Santa Maria do**	**24.00**	**54**	*e*P	**P**	**02 34 37.2**	**-0.1**
PRPB	**Parauapebas**	**24.34**	**46**	*e*P	**P**	**02 34 39.7**	**-0.8**
NAN01	**Guarapari, ES**	**25.86**	**81**	*e*P	**P**	**02 34 53.1**	**-1.1**
OTAV	**Otavalo**	**26.64**	**334**	P	**P**	**02 34 57.6**	**-4.0**
OTAV	**Otavalo**	**26.64**	**334**	*e*P	**P**	**02 34 57.4**	**-4.3**
GDU01	**Guandu, BA**	**27.91**	**73**	*e*P	**P**	**02 35 11.1**	**-1.4**
NBLA	**Lagarto - SE**	**30.71**	**70**	*e*P	**P**	**02 35 35.6**	**-1.6**
NBTA	**Tacaratu-PE**	**31.42**	**67**	*e*P	**P**	**02 35 42.8**	**-0.7**
VNA3	**Neumayer Olymp**	**57.03**	**161**	P	**P**	**02 39 05.8**	**+0.3**
VNA2	**Neumayer--Watz**	**57.60**	**160**	P	**P**	**02 39 10.2**	**+0.7**
	baz=294,slow=6.7						
SNAA	**Sanae**	**59.23**	**161**	P	**P**	**02 39 21.0**	**+0.2**
SNAA	**Sanae**	**59.23**	**161**	P	**P**	**02 39 22.2**	**+1.4**
SNAA				IAmb	IAmb	02 39 23.3	
	comp=Z,7.4nm,1.3s						
TXAR	**Lajitas Array**	**63.77**	**324**	P	**P**	**02 39 54.0**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=153,slow=8.1,SNR=3.8						
TXAR	**Lajitas Array**	**63.77**	**324**	P	**P**	**02 39 53.5**	**+1.7**
QSPA	**South Pole Qui**	**66.07**	**180**	P	**P**	**02 40 08.2**	**+2.0**
QSPA				IAmb	IAmb	02 40 08.3	
	comp=Z,10nm,1.4s						
TOA0	**Torodi Ar. Sit**	**76.64**	**69**	P	**P**	**02 41 10.6**	**+0.5**
TOA0				IAmb	IAmb	02 41 16.9	
	comp=Z,3.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**76.64**	**69**	P	**P**	**02 41 10.5**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=269,slow=5.8,SNR=15						
TORD	**Torodi Ar. Bea**	**76.64**	**69**	P	**P**	**02 41 10.5**	**+0.4**
PDAR	**Pinedale Array**	**77.25**	**329**	P	**P**	**02 41 15.4**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=158,slow=9.7,SNR=2.3						
PDAR	**Pinedale Array**	**77.25**	**329**	P	**P**	**02 41 14.5**	**+1.3**
YKA	**Yellowknife Ar**	**94.24**	**340**	P	**P**	**02 42 38.4**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=126,slow=5.2,SNR=8.6						
ASAR	**Alice Springs**	**128.32**	**205**	PKP	**PKiKP**	**02 48 25.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=133,slow=1.3,SNR=4.4						
ASAR	**Alice Springs**	**128.32**	**205**		**PKiKP**	**02 48 25.4**	**+0.4**
WB2	**Warramunga Arr**	**131.49**	**207**	PKPdf	**PKiKP**	**02 48 32.5**	**+1.1**
WRA	**Warramunga Arr**	**131.49**	**207**	PKP	**PKiKP**	**02 48 31.8**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=155,slow=1.8,SNR=13						
ABKAR	**Akbulak array**	**131.85**	**45**		**PKiKP**	**02 48 32.0**	**+0.8**
ZALV	**Zalesovo Beam**	**143.53**	**28**	PKP	**PKPdf**	**02 48 51.7**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=285,slow=2.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**143.53**	**28**		**PKPdf**	**02 48 51.5**	**+0.1**
MK31	**Makanchi Array**	**146.65**	**40**		**PKPab**	**02 49 00.4**	**-0.2**
MKAR	**Makanchi Array**	**146.65**	**40**	PKPbc	**PKPbc**	**02 48 59.0**	**0.0**
	comp=Z,1.6nm,0.8s,baz=300,slow=2.9,SNR=15						
MKAR	**Makanchi Array**	**146.65**	**40**		**PKPbc**	**02 48 58.9**	**0.0**

*SOME **16** 02:35:35.5, 41.00N×73.47E, h10km*
*KNET **16** 02:35:38.0±0.5, 41.02N×73.48E, h19km±5km, ml2.2, Error ellipse: s-maj=4.6km s-min=2.0km az=99.0*
*NNC **16** 02:35:38.4±3.0, 41.07N×73.39E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=29.8km s-min=12.8km az=155.0*

ISC 16 02:35:36.9±2.7, 41.0N±0.1×73.39E±0.05, h1km±15km, n18, σ1°21/30, 7C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**1.13**	**11**	⇓P	**Pg**	**02 35 58.9**	**+0.3**
	13nm,0.1s,SNR=62						
AML				⇑S	**Sn**	**02 36 15.8**	**-0.8**
	29nm,0.3s						
UCH	**Uchtor**	**1.47**	**34**	⇓P	**Pn**	**02 36 04.7**	**-0.3**
	2.3nm,0.1s,SNR=17						
UCH				⇓S	**Sg**	**02 36 25.2**	**+1.1**
	15nm,0.2s						
EKS2	**Erkin-Say**	**1.67**	**10**	⇑P	**Pb**	**02 36 08.5**	**+0.1**
	1.8nm,0.1s,SNR=19						
EKS2				⇓S	**Sg**	**02 36 31.2**	**+0.8**
	6.9nm,0.2s						
AAK	**Ala-Archa**	**1.81**	**27**	⇓P	**Pb**	**02 36 10.7**	**-0.3**
	6.1nm,0.2s,SNR=17						
AAK				⇑S	**Sg**	**02 36 35.9**	**+0.7**
	21nm,0.3s						
AAK	**Ala-Archa**	**1.81**	**27**	⇑Pn	**Pb**	**02 36 10.8**	**-0.2**
	1.9nm,0.3s						
AAK				⇑Sn	**Sg**	**02 36 35.9**	**+0.7**
	14nm,0.4s						
KBK	**Karagaybulak**	**2.01**	**35**	P	**Pb**	**02 36 13.5**	**-0.8**
	1.9nm,0.1s,SNR=6.2						
TKM2	**Tokmak 2**	**2.51**	**40**	⇓Pg	**Pb**	**02 36 21.4**	**-1.5**
	2.4nm,0.9s						
TKM2				⇓Lg	Lg	02 36 56.4	
	2.3nm,0.4s						
IUG	**Iuzhnay**	**2.76**	**295**	*e*P	**Pb**	**02 36 27.5**	**+0.4**
	0.8nm,0.0s						
IUG				*e*S	**Sg**	**02 37 04.6**	**-0.9**
	32nm,0.6s						
KST	**Kastek**	**2.79**	**43**	*e*P	**Pb**	**02 36 26.8**	**-0.7**
	0.7nm,0.1s						
KST				*e*S	**Sb**	**02 37 03.3**	**+1.1**
	2.6nm,0.2s						
KST	**Kastek**	**2.79**	**43**	Pg	**Pb**	**02 36 27.7**	**+0.2**
	0.7nm,0.1s						
KST				Lg	Lg	02 37 03.5	
	2.7nm,0.2s						
DGS	**Degeres**	**2.84**	**38**	*e*P	**Pb**	**02 36 28.7**	**+0.3**
	1.3nm,0.6s						
DGS				*e*S	**Sg**	**02 37 07.0**	**-1.1**
	5.6nm,0.4s						
DGS	**Degeres**	**2.84**	**38**	Pg	**Pb**	**02 36 29.5**	**+1.1**
	1.3nm,0.6s						
DGS				Lg	Lg	02 37 06.9	
	5.6nm,0.4s						
KK31	**Karatay Array**	**2.99**	**315**	⇑Pn	**Pn**	**02 36 25.4**	**0.0**
	0.1nm,0.2s,baz=134,slow=16,SNR=10						
KK31				⇓Pg	**Pb**	**02 36 31.1**	**+0.2**
	0.3nm,0.3s,baz=129,slow=18,SNR=7.8						
KK31				⇑Lg	Lg	02 37 11.1	
	3.5nm,0.5s,baz=125,slow=31,SNR=14						
KRBS	**Karabastau**	**3.17**	**32**	*e*P	**Pb**	**02 36 34.7**	**+0.7**
	0.4nm,0.2s						
KRBS				*e*S	**Sg**	**02 37 16.7**	**-1.8**
	3.7nm,0.5s						
KRBS	**Karabastau**	**3.17**	**32**	Pg	**Pb**	**02 36 35.5**	**+1.6**
	0.4nm,0.2s						
KRBS				Lg	Lg	02 37 17.0	
	3.7nm,0.5s						
KUU	**Kurty**	**3.60**	**36**	*e*P	**Pb**	**02 36 42.7**	**+1.3**
	0.2nm,0.1s						
KUU				*e*S	**Sg**	**02 37 30.6**	**-2.0**
	3.2nm,0.5s						
KUU	**Kurty**	**3.60**	**36**	Pg	**Pb**	**02 36 43.4**	**+2.0**
	0.2nm,0.1s						
KUU				Lg	Lg	02 37 30.3	
	3.2nm,0.5s						
BTLS	**Baital**	**4.05**	**7**	*e*P	**Pb**	**02 36 50.2**	**+1.3**
	0.5nm,0.3s						
BTLS				*e*S	**Sg**	**02 37 44.0**	**-2.8**
	1.6nm,0.3s						

*ISN **16** 02:53:27.6±0.3, 31.77N×47.57E, h23km±2km, ML3.1*
*TEH **16** 02:53:28.0, 31.67N×47.53E, h15km, ML3.2*

ISC 16 02:53:30.9±1.4, 31.60N±0.06×47.49E±0.05, h35km, n26, σ0.75/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**1.02**	**105**	*e*Pg	**Pn**	**02 53 47.5**	**-1.3**
DHL1	**Dehloran**	**1.10**	**351**	*e*Pg	**Pn**	**02 53 48.2**	**-1.6**
NSR	**Nassriya**	**1.29**	**243**	*e*Pg	**Pn**	**02 53 52.0**	**-0.5**
NSR				*e*Sg	**Sn**	**02 54 10.0**	**+1.5**
NSR				AML	AML	02 54 37.5	
	comp=E,607nm,0.6s						
IKFM	**Kafar-mosalman**	**1.95**	**9**	*e*Pg	**Pn**	**02 54 01.6**	**+0.1**
IKFM				*e*		02 54 30.4	
	comp=Z,99nm,0.4s						
IBDR	**Badra**	**2.00**	**319**	*e*Pg	**Pn**	**02 54 02.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**02 54 27.0**	**+0.9**
IBDR				AML	AML	02 54 50.0	
	comp=E,175nm,0.6s						
IBDR				AML	AML	02 54 51.0	
	comp=N,123nm,0.8s						
IKMR	**Kamar-syah**	**2.06**	**21**	*e*Pn	**Pn**	**02 54 03.1**	**+0.1**
IKMR				*e*		02 54 46.7	
	comp=Z,99nm,0.5s						
IDOB	**Doab**	**2.26**	**15**	*e*Pn	**Pn**	**02 54 05.9**	**-0.1**
KCHF	**Cheshme Sefid,**	**2.70**	**352**	*e*		02 55 16.5	
	comp=Z,99nm,0.8s						
HSAM	**Samen**	**2.77**	**20**	*e*Pn	**Pn**	**02 54 13.2**	**+0.1**
KER	**Kermanshah**	**2.80**	**354**	*e*Pn	**Pn**	**02 54 13.1**	**-0.2**
IGHG	**Ghaleghazi**	**2.83**	**344**	*e*Pn	**Pn**	**02 54 13.7**	**-0.2**
IGHG				*e*		02 55 31.0	
	comp=Z,99nm,0.8s						
SHK1	**Shahrekord**	**2.98**	**75**	*e*		02 55 14.6	
	comp=Z,99nm,1.0s						
IPIR	**Pirpir**	**3.09**	**69**	*e*Pn	**Pn**	**02 54 17.5**	**+0.1**
BHD	**Baghdad**	**3.11**	**303**	*e*Pn	**Pn**	**02 54 17.0**	**-0.5**
BHD				*e*Sn	**Sn**	**02 54 53.0**	**-0.4**
IDHR	**Dehrash**	**3.23**	**344**	*e*Pn	**Pn**	**02 54 18.8**	**-0.5**
IDHR				*e*		02 55 00.0	
	comp=Z,99nm,0.3s						
IALM	**Almabolaq**	**3.31**	**10**	*e*Pn	**Pn**	**02 54 20.4**	**0.0**
ILIN	**Lien**	**3.34**	**353**	*e*Pn	**Pn**	**02 54 20.4**	**-0.5**
ILIN				*e*		02 55 18.5	
	comp=Z,99nm,1.0s						
HAGD	**Aghdareh**	**3.50**	**23**	*e*Pn	**Pn**	**02 54 23.2**	**+0.1**
HAGD				*e*		02 55 38.2	
	comp=Z,99nm,0.8s						
KLNJ	**Kolan

	baz=260							
YHNB				S		**Sn**	02 57 10.1	+0.1
	baz=260							
NSK	**Sanguang**	**1.34**	**262**	P		**Pn**	02 56 51.1	+0.5
	baz=260							
NSK				*e*S		**Sn**	02 57 10.1	-0.2
	baz=260							
TWD	**Chiawan**	**1.36**	**235**	S		**Sn**	02 57 10.1	-0.5
	baz=233							
NNSB	**Datong**	**1.38**	**252**	P		**Pn**	02 56 51.5	+0.5
	baz=250							
NNSB				*e*S		**Sn**	02 57 10.3	-0.8
	baz=250							
NNSH	**Datong**	**1.38**	**252**	*e*S		**Sn**	02 57 10.6	-0.5
	baz=250							
NNS	**Nan Shan**	**1.38**	**252**	*e*P		**Pn**	02 56 51.7	+0.6
	baz=250							
NNS				*e*S		**Sn**	02 57 10.8	-0.5
	baz=250							
ETLH	**Xiulin Townshi**	**1.38**	**242**	*e*P		**Pn**	02 56 51.6	+0.5
	baz=240							
ETLH				S		**Sn**	02 57 10.5	-0.6
	baz=240							
JISG	**Ishigakijimahi**	**1.39**	**101**	P		**Pn**	02 56 50.8	-0.1
JISG				S		**Sn**	02 57 09.9	-1.1
FUSS	**Fushou**	**1.56**	**247**	P		**Pn**	02 56 54.1	+0.8
	baz=245							
FUSS				*e*S		**Sn**	02 57 14.4	-0.6
	baz=245							
NJD	**Zhudong**	**1.58**	**266**	*e*S		**Sn**	02 57 14.8	-0.1
	baz=264							
TWT	**Tachien**	**1.62**	**248**	*e*P		**Pn**	02 56 54.8	+0.9
	baz=247							
TWT				*e*S		**Sn**	02 57 16.1	+0.1
	baz=247							
TDCB	**Techi**	**1.63**	**248**	P		**Pn**	02 56 55.3	+1.4
	baz=247							
TDCB				S		**Sn**	02 57 15.5	-0.8
	baz=247							
HSN1	**Hsinchu**	**1.64**	**267**	*e*S		**Sn**	02 57 16.6	+0.4
	baz=266							
ESL	**Shilin**	**1.64**	**231**	*e*S		**Sn**	02 57 15.0	-1.3
	baz=229							
NSTT	**Nanjuang**	**1.67**	**262**	P		**Pn**	02 56 54.8	+0.6
	baz=261							
NSTT				S		**Sn**	02 57 16.5	-0.4
	baz=261							
JTJ	**Tarama**	**1.73**	**97**	P		**Pn**	02 56 55.0	+0.1
JTJ				*e*S		**Sn**	02 57 17.3	-0.7
WHP	**Taichung City**	**1.80**	**251**	P		**Pn**	02 56 56.8	+0.8
	baz=250							
WHP				S		**Sn**	02 57 19.9	0.0
	baz=250							
HGSD	**Ruisui**	**1.87**	**223**	P		**Pn**	02 56 57.9	+1.2
	baz=222							
HGSD				S		**Sn**	02 57 20.8	-0.4
	baz=222							
VWDT	**VWDT**	**1.89**	**234**	P		**Pn**	02 56 58.3	+1.4
	baz=233							
VWDT				S		**Sn**	02 57 21.3	-0.3
	baz=233							
DPDB	**Guoxing**	**1.91**	**245**	*e*S		**Sn**	02 57 22.1	-0.1
	baz=243							
WCS	**Beigang Elemen**	**1.92**	**246**	*e*S		**Sn**	02 57 22.8	+0.7
	baz=244							
NSY	**Sanyi**	**1.93**	**257**	*e*S		**Sn**	02 57 22.3	-0.1
	baz=255							
TWQ1	**Liyutan**	**1.93**	**255**	*e*S		**Sn**	02 57 22.8	+0.3
	baz=253							
SMLT	**Sun Moon Lake**	**2.01**	**241**	*e*P		**Pn**	02 56 59.9	+1.4
	baz=239							
SMLT				S		**Sn**	02 57 24.1	-0.2
	baz=239							
SSLB	**Suanglung**	**2.01**	**238**	P		**Pn**	02 57 00.0	+1.6
	baz=237							
SSLB				S		**Sn**	02 57 24.0	-0.3
	baz=237							
TYC	**Yuchr**	**2.03**	**242**	P		**Pn**	02 56 59.6	+1.0
	baz=241							
TYC				S		**Sn**	02 57 24.3	-0.3
	baz=241							
EYUL	**Yuli**	**2.04**	**222**	*e*S		**Sn**	02 57 25.4	+0.5
	baz=221							
TWF1	**Yuli**	**2.05**	**223**	*e*P		**Pn**	02 56 59.9	+0.9
	baz=221							
TWF1				*e*S		**Sn**	02 57 25.4	+0.3
	baz=221							
FULB	**Fuli**	**2.17**	**220**	*e*S		**Sn**	02 57 28.0	+0.2
	baz=219							
WNT1	**Nantou City**	**2.17**	**244**	*e*S		**Sn**	02 57 28.5	+0.7
	baz=243							
WJS	**Zhushan**	**2.17**	**242**	*e*S		**Sn**	02 57 28.3	+0.4
	baz=240							
YUS	**Yu-Shan**	**2.19**	**232**	*e*P		**Pn**	02 57 01.8	+0.8
	baz=230							
YUS				S		**Sn**	02 57 28.6	-0.4
	baz=230							
JIKM	**Ikemajima**	**2.21**	**88**	P		**Pn**	02 57 01.9	+1.1
JIKM				S		**Sn**	02 57 29.0	+0.5
JMJ	**Miyako jima 2**	**2.25**	**91**	P		**Pn**	02 57 02.2	+0.9
	baz=91							
JMJ				S		**Sn**	02 57 30.3	+0.8
	baz=91							
ALS	**Alishan**	**2.28**	**234**	P		**Pn**	02 57 02.7	+0.6
	baz=233							
ALS				S		**Sn**	02 57 30.8	+0.1
	baz=233							
JMJ2	**Miyako jima3**	**2.28**	**93**	P		**Pn**	02 57 02.4	+0.6
JMJ2				*e*S		**Sn**	02 57 30.4	+0.1
CHN5	**Tsauling**	**2.33**	**238**	S		**Sn**	02 57 31.4	-0.1
	baz=236							
EDH	**Donghe**	**2.34**	**217**	*e*P		**Pn**	02 57 02.2	-0.3
	baz=215							
EDH				*e*S		**Sn**	02 57 30.1	-1.6
	baz=215							
ELDTW	**Lidau**	**2.35**	**225**	*e*S		**Sn**	02 57 31.4	-0.6
	baz=223							
WRL	**Guolierlin Hig**	**2.42**	**247**	*e*S		**Sn**	02 57 33.4	-0.1
	baz=246							
LONT	**Longtian**	**2.49**	**219**	*e*S		**Sn**	02 57 34.7	-0.3
	baz=217							
LDUT	**Ludao**	**2.51**	**210**	*e*P		**Pn**	02 57 04.0	-0.7
	baz=209							
LDUT				*e*S		**Sn**	02 57 33.7	-1.8
	baz=209							
STYH	**Taoyuan**	**2.52**	**228**	*e*S		**Sn**	02 57 36.0	+0.3
	baz=227							
CHN4	**Tsaushan**	**2.53**	**234**	P		**Pn**	02 57 06.3	+1.3
	baz=232							
CHN4				*e*S		**Sn**	02 57 36.0	0.0
	baz=232							
STYT	**Tauyuan**	**2.54**	**228**	*e*P		**Pn**	02 57 06.3	+1.2
	baz=227							
STYT				*e*S		**Sn**	02 57 36.5	+0.3
	baz=227							
TPUB	**Ta-pu**	**2.54**	**233**	*e*S		**Sn**	02 57 36.0	-0.1
	baz=231							
WTP	**Ta-pu**	**2.58**	**232**	*e*S		**Sn**	02 57 37.3	+0.1
	baz=230							
TWGBT	**Beinan**	**2.59**	**218**	*e*P		**Pn**	02 57 05.3	-0.4
	baz=217							
TWGBT				*e*S		**Sn**	02 57 35.7	-1.5
	baz=217							
TWG	**Pinlang**	**2.59**	**219**	*e*P		**Pn**	02 57 05.8	+0.1
	baz=217							
TWG				*e*S		**Sn**	02 57 35.7	-1.6
	baz=217							
TWK	**Hsinying**	**2.66**	**234**	*e*S		**Sn**	02 57 39.4	+0.3
	baz=232							
CHN1	**Nanshi**	**2.68**	**232**	*e*S		**Sn**	02 57 39.6	+0.1
	baz=230							
SLGT	**Liugui**	**2.73**	**227**	*e*S		**Sn**	02 57 40.6	+0.2
	baz=226							
MASBT	**Mashibuluo**	**3.01**	**222**	*e*P		**Pn**	02 57 12.5	+1.4
	baz=221							
MASBT				*e*S		**Sn**	02 57 46.8	-0.2
	baz=221							
LAY	**Lan-yu**	**3.05**	**203**	*e*P		**Pn**	02 57 10.7	-1.0
	baz=202							
LAY				*e*S		**Sn**	02 57 46.1	-1.9
	baz=202							
VWUC	**VWUC**	**3.06**	**273**	*e*P		**Pn**	02 57 11.5	-0.3
	baz=271							
VWUC				*e*S		**Sn**	02 57 45.5	-2.7
	baz=271							
EAST	**Anshuo**	**3.06**	**217**	*e*P		**Pn**	02 57 13.6	+1.7
	baz=215							
EAST				*e*S		**Sn**	02 57 48.1	-0.2
	baz=215							
SLIU	**Shizi**	**3.23**	**216**	*e*P		**Pn**	02 57 15.6	+1.6
	baz=214							
SLIU				*e*S		**Sn**	02 57 52.2	+0.1
	baz=214							
LYJJ	**Jianjiangzhen**	**3.23**	**302**	*e*P		**Pn**	02 57 13.6	-0.4
	baz=301							
PNG	**Penghu**	**3.25**	**247**	*e*S		**Sn**	02 57 50.4	-2.2
	baz=246							
PHUB	**P'eng-hu**	**3.26**	**246**	*e*S		**Sn**	02 57 50.2	-2.6
	baz=245							

WEL 16 02:56:40.4±1.0, 36°S±13°×17°8E±1°7, h223km±11km, M3.6/15, MLv3.6/15, Error ellipse: s-maj=0.0km s-min=0.0km az=122.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.43**	**189**	P	Pn	02 57 15.5	0.0
HAZ				S	S	02 57 41.9	-1.1
PKGZ	**Pakihiroa**	**1.54**	**180**	P	Pn	02 57 16.5	0.0
MWZ	**Matawai**	**2.03**	**192**	P	Pn	02 57 20.5	-0.5
MWZ				S	S	02 57 54.0	+1.3
URZ	**Urewera**	**2.06**	**202**	P	Pn	02 57 21.2	0.0
URZ				S	S	02 57 53.6	+0.6
TKGZ	**Te Karaka**	**2.10**	**185**	P	Pn	02 57 21.9	+0.4
TKGZ				S	S	02 57 54.8	+1.0
CNGZ	**Carnagh Statio**	**2.14**	**177**	P	Pn	02 57 22.9	+0.9
MUGZ	**Murupara**	**2.37**	**206**	P	Pn	02 57 24.4	0.0
RAHZ	**Arahi**	**2.69**	**197**	P	Pn	02 57 28.2	+0.5
RAHZ				S	S	02 58 06.8	+2.1
NMHZ	**Naumai**	**2.93**	**200**	P	Pn	02 57 31.3	+0.8
ARHZ	**Aropaoanui**	**3.04**	**196**	P	Pn	02 57 31.6	0.0
BKZ	**Black Stump Fm**	**3.08**	**204**	P	Pn	02 57 32.0	-0.2
BKZ				S	S	02 58 13.5	+0.6
MCHZ	**McNeill Hill**	**3.28**	**199**	P	Pn	02 57 35.0	+0.5
KWHZ	**Kaweka Forest**	**3.34**	**203**	P	Pn	02 57 35.1	0.0
KWHZ				S	S	02 58 19.8	+1.6
HIZ	**Hauiti**	**3.35**	**229**	P	Pn	02 57 36.2	+1.0
BHHZ	**Black Hill Sta**	**3.52**	**206**	P	Pn	02 57 36.7	-0.6
BHHZ				S	S	02 58 22.2	+0.2
MOVZ	**Moawhango**	**3.57**	**210**	P	Pn	02 57 37.1	-0.8
KAHZ	**Kahuranaki**	**3.57**	**195**	P	Pn	02 57 38.1	+0.2
PXZ	**Pawanui**	**3.80**	**194**	P	Pn	02 57 40.1	-0.5
PXZ				S	S	02 58 27.6	-0.4
PNHZ	**Pukenui**	**3.86**	**202**	P	Pn	02 57 40.4	-0.8
PNHZ				S	S	02 58 28.8	-0.5
PRHZ	**Porangahau**	**4.08**	**196**	P	Pn	02 57 43.8	-0.1
PRWZ	**Pori Road**	**4.52**	**201**	P	Pn	02 57 48.5	-0.8
PRWZ				S	S	02 58 43.0	-0.6
BFZ	**Birch Farm**	**4.56**	**198**	P	Pn	02 57 49.0	-0.9
BFZ				S	S	02 58 42.4	-2.2
MRZ	**Mangatainoka R**	**4.73**	**204**	P	Pn	02 57 50.4	-1.6
TIWZ	**Tintock**	**4.75**	**201**	P	Pn	02 57 51.0	-1.1
HOWZ	**Holdsworth Sta**	**4.97**	**203**	P	Pn	02 57 53.3	-1.6
KIW	**Kapiti Island**	**5.15**	**208**	P	Pn	02 57 55.2	-1.9

BJI ***16*** *03:00:02.8±0.0, 4.°10S×152.°62E, h205km, mB5.8/69, mb5.9/87*

MOS ***16*** *03:00:05.1±1.0, 4.°04S×151.°98E, h196km, mb5.9/50, Error ellipse: s-maj=6.8km s-min=4.7km az=112.5*

NEIC ***16*** *03:00:05.9, 4.°12S×152.°02E, h199km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.38; Mθθ=0.86; Mθφ=-0.49; Mrθ=0.02; Mφφ=0.09; Mrφ=-0.66; Fault plane solution: Mw9.80000×10^17 NP1:φs=311.00000°, δ64.00000°, λ-35.00000°. NP2:φs=58.00000°, δ58.00000°, λ-150.00000°. Principal axes: T 0.8709, Plg4.0000°, Azm5.0000°; N 0.2265, Plg47.0000°, Azm100.0000°; P -1.0974, Plg42.0000°, Azm272.0000°;*

NEIC ***16*** *03:00:06.0±1.9, 4.°07S±0.°07×152.°03E±0.°07, h196km±1km, mb5.6/278, Mwb6.0/30, Mwc5.9/37, Mww5.9, Mwc5.9(GCMT) Error ellipse: s-maj=11.6km s-min=11.3km az=62.0*

IDC ***16*** *03:00:06.2±0.6, 4.°16S×151.°98E, h198km±4km, mb5.4/40, mb1 5.4/44, mb1mx5.4/47, mbtmp5.9/44, MS4.7/11, Ms1 4.7/11, ms1mx4.4/38, Error ellipse: s-maj=7.3km s-min=6.0km az=64.0*

NEIC ***16*** *03:00:06.3, 4.°09S×152.°02E, h199km, Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr=0.62; Mθθ=0.92; Mφφ=-0.30; Mrθ=0.03; Mθφ=0.06; Mrφ=-0.77; Fault plane solution: Mw1.12000×10^18 NP1:φs=299.59000°, δ56.64000°, λ-40.86000°. NP2:φs=55.02000°, δ56.88000°, λ-138.97000°. Principal axes: T 0.9199, Plg0.0000°, Azm177.0000°; N 0.3295, Plg39.0000°, Azm87.0000°; P -1.2494, Plg51.0000°, Azm267.0000°;*

GCMT ***16*** *03:00:06.9±0.1, 4.°09S×152.°00E, h198km, MW5.9/165, Moment Tensor Solution. s164,c358; s165,c554; Duration: ≥3 Moment tensor: Scale 10^18 Nm; Mrr=0.38±.01; Mθθ=0.87±.01; Mφφ=-0.49±.01; Mrθ=0.01±.01; Mφφ-0.10±.01; Mφr-0.68±.01; Best double couple: Mw0.99900×10^18 NP1:φs=58.00000°, δ59.00000°, λ-149.00000°. NP2:φs=311.00000°, δ64.00000°, λ-35.00000°. Principal axes: T 0.8820, Plg3.0000°, Azm6.0000°; N 0.2340, Plg47.0000°, Azm99.0000°; P -1.1150, Plg43.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

DJA ***16*** *03:00:06.9±0.3, 4.°S±2.°×15.°2E±.°, h204km±3km, M5.9/118, mB6.3/103, mb6.0/118, MLv5.6/3, Mw(mB)6.0/103, MwMwp5.6/45, Mwp5.8/45*

NEIC ***16*** *03:00:08, 4.°10S×152.°04E, h200km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=3.51; Mθθ=8.00; Mφφ=-4.49; Mrθ=0.54; Mθφ=0.17; Mφr-5.72; Fault plane solution: Mw9.01000×10^17 NP1:φs=53.00000°, δ59.00000°, λ-149.00000°. NP2:φs=306.00000°, δ64.00000°, λ-35.00000°. Principal axes: T 8.0221, Plg3.0000°, Azm1.0000°; N 1.7272, Plg47.0000°, Azm94.0000°; P -9.7493, Plg43.0000°, Azm268.0000°;*

NEIC ***16*** *03:00:20.4, 4.°26S×151.°70E, h230km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-3.36; Mθθ8.26; Mφφ-4.90; Mrθ0.61; Mθφ-0.91; Mφr-6.43; Fault plane solution: Mw9.53000×10^17 NP1:φs=311.99000°, δ67.36000°, λ-36.75000°. NP2:φs=58.03000°, δ56.48000°, λ-152.50000°. Principal axes: T 8.4499, Plg7.0000°, Azm7.0000°; N 2.1645, Plg48.0000°, Azm105.0000°; P -10.6143, Plg42.0000°, Azm271.0000°;*

ISC 16 03:00:06.2±0.2, 4.°11S±0.°03×152.°04E±0.°03, h203km±1km, h204km: pP-P, n1327, σ1°55/1489, mb5.8/332, 89C-93D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.15**	**123**		**Pn**	**03 00 32.4**	**-0.4**
RABL				Sn	**S**	**03 00 53.3**	**-0.3**
RABL	**Rabaul**	**0.15**	**123**	P	**Pn**	**03 00 32.2**	**-0.6**
MANU	**Manus Island**	**5.10**	**294**		**Pn**	**03 01 23.4**	**+1.4**
PMG	**Port Moresby**	**7.15**	**222**	P	**Pn**	**03 01 47.9**	**-0.5**
	189nm,0.3s,baz=50,slow=5.7,SNR=70						
PMG				S	**S**	**03 03 07.5**	**-2.1**
	124nm,0.3s,baz=118,slow=20,SNR=7.9						
PMG	**Port Moresby**	**7.15**	**222**	Pn	**Pn**	**03 01 48.0**	**-0.5**
PMG	**Port Moresby**	**7.15**	**222**	P	**Pn**	**03 01 48.4**	**-0.1**
HNR	**Honiara**	**9.46**	**124**	P	**Pn**	**03 02 18.0**	**-0.5**
	69nm,0.3s,baz=244,slow=2.5,SNR=15						
HNR				S	**S**	**03 04 00.4**	**-4.3**
	baz=4.8,slow=12,SNR=1.3						
HNR				LR	LR	03 05 46.4	
	comp=Z,9μm,18.1s,baz=315,slow=36						
HNR	**Honiara**	**9.46**	**124**		**Pn**	**03 02 17.3**	**-1.2**
HNR	**Honiara**	**9.46**	**124**	P	**Pn**	**03 02 19.1**	**+0.6**
JAY	**Jayapura**	**11.43**	**278**	P	**Pn**	**03 02 44.4**	**+0.5**
	34nm,0.3s,baz=102,slow=4.5,SNR=250						
JAY				S	**S**	**03 04 50.2**	**-1.0**
	baz=229,slow=20,SNR=0.9						
JAY	**Jayapura**	**11.43**	**278**	P	**Pn**	**03 02 45.0**	**+1.1**
GENI	**Genyem**	**11.95**	**277**	P	**Pn**	**03 02 51.6**	**+1.1**
	35μm61μm8μm,1.0s						
MMPI	**Merauke**	**12.37**	**249**	P	P	03 03 08.3	+8.5
PATS	**Pohnpei**	**12.55**	**30**	P	**Pn**	**03 02 58.1**	**0.0**
	baz=13,SNR=42						
PATS	**Pohnpei**	**12.55**	**30**	Pn	**Pn**	**03 02 57.8**	**-0.2**
COEN	**Coen**	**13.12**	**221**	P	**Pn**	**03 03 06.2**	**+1.0**
	baz=13						
COEN				S	**S**	**03 05 31.2**	**-0.3**
	baz=13						
COEN	**Coen**	**13.12**	**221**	Pn	**Pn**	**03 03 06.2**	**+1.0**
MTSU	**Mount Surprise**	**15.86**	**208**	P	**Pn**	**03 03 40.1**	**+1.3**
	baz=16,SNR=294						
SRPI	**Serui, Papua**	**15.93**	**278**	P	**Pn**	**03 03 40.7**	**+0.9**
	51μm5μm,1.2s						
BAKI	**Biak**	**16.18**	**280**	P	**Pn**	**03 03 43.5**	**+0.8**
	58μm73μm6μm,1.4s						
CTA	**Charters Tower**	**16.85**	**199**	P	**Pn**	**03 03 51.1**	**+0.4**
	29nm,0.3s,baz=26,slow=13,SNR=206						
CTA				S	**S**	**03 06 56.7**	**+1.6**
	baz=307,slow=23,SNR=7.2						
CTA				ScP	**ScP**	**03 11 41.7**	**+0.4**
	0.7nm,0.3s,baz=68,slow=4.6,SNR=6.3						
CTAO	**Charters Tower**	**16.85**	**199**	P	**Pn**	**03 03 51.7**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,2μm,1.0s						
CTAO	**Charters Tower**	**16.85**	**199**	Pn	**Pn**	**03 03 51.7**	**+1.0**
GUMO	**Guam**	**18.97**	**338**	P	**Pn**	**03 04 14.5**	**-1.1**
GUMO				pmax	pmax		
	comp=Z,5μm,1.1s						
GUMO	**Guam**	**18.97**	**338**		**Pn**	**03 04 14.5**	**-1.1**
GUMO	**Guam**	**18.97**	**338**	P	**Pn**	**03 04 15.3**	**-0.3**
	comp=Z,5μm,1.3s						
FAKI	**Fak Fak**	**19.79**	**273**	P	**P**	**03 04 21.8**	**+0.4**
FAKI	**Fak Fak**	**19.79**	**273**	P	**P**	**03 04 22.2**	**+0.8**
	comp=Z,23μmcomp=Z,43μmcomp=Z,3μm,0.8s						
KWAJ	**Kwajalein Atol**	**20.14**	**50**	P	**P**	**03 04 25.3**	**+0.2**
KWAJ				pmax	pmax		
	comp=Z,734nm,1.0s						
KWAJ	**Kwajalein Atol**	**20.14**	**50**	P	**P**	**03 04 25.3**	**+0.2**
KOUNC	**Koumac, New Ca**	**20.23**	**145**	P	**P**	**03 04 27.6**	**+1.7**
	comp=Z,410nm,1.0s						
QIS	**Mount Isa**	**20.34**	**215**	P	**P**	**03 04 26.8**	**-0.4**
	baz=20,SNR=368						
SAUI	**Saumlaki**	**20.98**	**258**	P	**P**	**03 04 34.3**	**+0.3**
SIJI	**Sorong**	**21.00**	**278**	P	**P**	**03 04 34.4**	**+0.1**
	comp=Z,5μm,0.8s,baz=73,slow=7.6,SNR=496						
SIJI				S	**S**	**03 08 21.1**	**+4.8**
	comp=Z,22nm,0.8s,baz=300,slow=20,SNR=1.8						
SIJI				ScP	**ScP**	**03 11 50.5**	**-0.2**
	comp=Z,23nm,0.8s,baz=61,slow=5.0,SNR=4.8						
SWI	**Sorong**	**21.01**	**278**	P	**P**	**03 04 35.3**	**+1.0**
	comp=Z,9μm,0.9s						
KDU	**Kakadu**	**21.13**	**245**	P	**P**	**03 04 33.5**	**-2.1**
	baz=21,SNR=647						
EIDS	**Eidsvold**	**21.16**	**182**	P	**P**	**03 04 36.7**	**+1.0**
	baz=21,SNR=64						
EIDS	**Eidsvold**	**21.16**	**182**	P	**P**	**03 04 35.6**	**-0.1**
LIFNC	**LIFOU**	**22.21**	**140**	P	**P**	**03 04 47.2**	**+1.0**
	comp=Z,4μm,1.2s						
RMQ	**Roma**	**22.47**	**188**	P	**P**	**03 04 49.0**	**+0.3**
	baz=22,SNR=195						
DZM	**Mont Dzumac**	**22.67**	**143**	*e*P	**P**	**03 04 50.6**	**0.0**
	comp=Z,3μm,1.4s						
DZM	**Mont Dzumac**	**22.67**	**143**	P	**P**	**03 04 50.1**	**-0.5**
	comp=Z,533nm,0.5s,baz=313,slow=6.4,SNR=146						
DZM				ScP	**ScP**	**03 11 57.7**	**+2.9**
	comp=Z,36nm,0.8s,baz=114,slow=23,SNR=13						
DZM	**Mont Dzumac**	**22.67**	**143**	P	**P**	**03 04 50.9**	**+0.4**
DZM	**Mont Dzumac**	**22.67**	**143**	P	**P**	**03 04 51.4**	**+0.8**
	comp=Z,1μm,1.5s						
ONTNC	**Ouen Toro**	**22.86**	**144**	P	**P**	**03 04 53.2**	**+1.1**
	comp=Z,843nm,1.7s						
YATNC	**Mamie plateau,**	**22.93**	**142**	P	**P**	**03 04 54.3**	**+1.5**
	comp=Z,1μm,1.6s						
OUENC	**Ouen Island, N**	**23.17**	**143**	P	**P**	**03 04 56.8**	**+1.9**
	comp=Z,518nm,2.0s						
WB0	**Warramunga Arr**	**23.20**	**226**	P	**P**	**03 04 55.4**	**+0.1**
WR0	**Warramunga Arr**	**23.22**	**226**	P	**P**	**03 04 55.5**	**0.0**
MARNC	**Mare, Loyalty**	**23.22**	**139**	P	**P**	**03 04 57.4**	**+2.0**
	comp=Z,15nm,1.1s						
WRAB	**Tennant Creek**	**23.34**	**226**	*ce*P	**P**	**03 04 56.4**	**-0.1**
WRAB	**Tennant Creek**	**23.34**	**226**	P	**P**	**03 04 56.6**	**+0.1**
WRAB				PcP	**PcP**	**03 08 38.4**	**+0.8**
WC3	**Warramunga Arr**	**23.34**	**226**	P	**P**	**03 04 56.6**	**0.0**
	baz=23						
WB2	**Warramunga Arr**	**23.34**	**226**	P	**P**	**03 04 56.7**	**+0.1**
WB2				PcP	**PcP**	**03 08 38.3**	**+0.7**
WRA	**Warramunga Arr**	**23.35**	**226**	P	**P**	**03 04 55.4**	**-1.3**
	comp=Z,3μm,0.6s,baz=50,slow=9.4,SNR=1942						
WRA				S	**S**	**03 08 51.1**	**-3.2**
	comp=Z,232nm,0.8s,baz=49,slow=16,SNR=14						
WRA				ScP	**ScP**	**03 11 57.0**	**+0.4**
	comp=Z,86nm,0.8s,baz=48,slow=2.7,SNR=10						
WRA				PKiKP	**PKiKP**	**03 16 20.5**	**-1.2**
	comp=Z,4.7nm,0.5s,baz=314,slow=1.0,SNR=11						
WRA				P3KP		03 39 17.6	
	comp=Z,0.6nm,0.8s,baz=165,slow=2.3,SNR=4.5						
WRA	**Warramunga Arr**	**23.35**	**226**	*i*P	**P**	**03 04 54.7**	**-2.0**
I07AU	**WARRAMUNGA INE**	**23.35**	**226**	P	**P**	**03 04 57.5**	**+0.8**
	baz=44,slow=9.2,SNR=2.0						
QLP	**Quilpie**	**23.56**	**198**	P	**P**	**03 04 58.5**	**0.0**
	baz=24,SNR=86						
NLAI	**Namlea**	**24.90**	**271**	P	**P**	**03 05 11.4**	**+0.6**
	comp=Z,6μmcomp=Z,508nm,1.2s						
KNRA	**Kununurra**	**25.61**	**242**	P	**P**	**03 05 18.8**	**+1.6**
	baz=26,SNR=4.9						
KNRA	**Kununurra**	**25.61**	**242**	P	**P**	**03 05 16.8**	**-0.4**
KNRA				IAmb	IAmb	03 05 21.3	
	comp=Z,251nm,0.9s						
AS31	**Alice Springs**	**26.16**	**220**	P	**P**	**03 05 21.4**	**-0.7**
AS31				IAmb	IAmb	03 05 24.6	
	comp=Z,90nm,0.5s						
ASAR	**Alice Springs**	**26.16**	**220**	P	**P**	**03 05 21.4**	**-0.7**
	comp=Z,172nm,0.5s,baz=55,slow=8.5,SNR=842						
ASAR				PcP	**PcP**	**03 08 43.5**	**-0.4**
	comp=Z,76nm,1.0s,baz=43,slow=5.5,SNR=5.8						
ASAR				S	**S**	**03 09 36.0**	**-2.9**
	comp=Z,70nm,0.7s,baz=56,slow=13,SNR=8.4						
ASAR				ScP	**ScP**	**03 12 04.9**	**+0.4**
	comp=Z,34nm,0.9s,baz=41,slow=4.1,SNR=4.7						
ASAR				PKiKP	**PKiKP**	**03 16 22.2**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=35,slow=1.8,SNR=4.4						
ASAR	**Alice Springs**	**26.16**	**220**	P	**P**	**03 05 21.2**	**-0.9**
ASAR				PcP	**PcP**	**03 08 44.8**	**+0.9**
ASAR				ScP	**ScP**	**03 12 05.0**	**+0.5**
ARMA	**Armidale**	**26.17**	**181**	P	**P**	**03 05 23.9**	**+1.7**
	ba

FITZ **Fitzroy Crossi** 29.34 240 P **P** 03 05 49.9 -0.4
FITZ PcP **PcP** 03 08 52.2 +0.5
FITZ **ScP** 03 12 14.0 -0.3
BUTP **Butuan** 29.37 296 *e*P **P** 03 05 51.7 +1.0
GTOI **Gorontalo** 29.39 279 P **P** 03 05 52.7 +1.9
comp=Z,9µmcomp=Z,850nm,0.8s
LUWI **Luwuk** 29.39 275 P **P** 03 05 51.3 +0.4
SKMP **Bagumbayan, Su** 29.41 291 *e*P **P** 03 05 50.3 -0.7
RIV **Riverview** 29.58 181 P **P** 03 05 54.2 +2.0
baz=30,SNR=6.2
MMRI **Maumere** 29.95 260 P **P** 03 05 54.3 -1.5
CGP **Cagayan de Oro** 29.99 295⇓ *e*P **P** 03 05 58.0 +1.9
YNG **Young** 30.23 186 P **P** 03 05 59.4 +1.4
baz=30,SNR=33
MRSI **Marisa** 30.42 278 P **P** 03 06 00.0 +0.1
comp=Z,4µmcomp=Z,379nm,0.9s
APSI **Ampana** 30.52 275 P **P** 03 06 02.2 +1.4
comp=Z,12µmcomp=Z,894nm,1.2s
BESP **Borongan** 30.72 301 *e*P **P** 03 06 04.4 +1.8
WRKA **Warakurna** 30.89 225 P **P** 03 06 03.0 -1.0
baz=31,SNR=1000
PAGZ **Pagadian** 30.96 293 *e*P **P** 03 06 05.7 +1.1
CNB **Canberra Magne** 31.15 184 P **P** 03 06 07.0 +0.8
baz=31,SNR=31
OCLP **Ormoc** 31.18 299 *e*P **P** 03 06 06.9 +0.4
CAN **Canberra** 31.18 185 P **P** 03 06 08.5 +2.1
CAN pmax pmax
comp=Z,193nm,0.7s
CAN **Canberra** 31.18 185 P **P** 03 06 08.4 +2.1
CAN IAmb IAmb 03 06 09.3
comp=Z,193nm,0.7s
LLP **Lapu-Lapu** 31.42 297 *e*P **P** 03 06 07.7 -0.9
BSSI **Bau Bau, Buton** 31.49 265 P **P** 03 06 10.0 +0.7
comp=Z,5µmcomp=Z,328nm,1.4s
HTT **Hallett** 31.64 201 P **P** 03 06 10.1 -0.3
baz=32,SNR=88
TOLI2 **Tolitoli** 31.66 279 P **P** 03 06 09.5 -1.3
BASI **Baing, Sumba** 31.78 257 P **P** 03 06 11.9 0.0
comp=Z,5µmcomp=Z,5µmcomp=Z,789nm,1.0s
BNSI **Bone** 31.85 268 P **P** 03 06 13.4 +1.0
comp=Z,9µmcomp=Z,639nm,1.4s
WSI **Waingapu** 31.98 258 P **P** 03 06 09.7 -3.9
comp=Z,57µmcomp=Z,4µm,1.0s
TTSI **Tana Toraja** 32.17 271 P **P** 03 06 17.0 +1.7
comp=Z,10µmcomp=Z,6µmcomp=Z,283nm,1.9s
SPSI **Sidrap Palu** 32.19 269 P **P** 03 06 15.5 +0.1
comp=Z,8µmcomp=Z,4µmcomp=Z,358nm,1.1s
KAPI **Kappang** 32.20 267 P **P** 03 06 14.5 -1.0
comp=Z,158nm,0.6s,baz=97,slow=5.5,SNR=87
KAPI PcP **PcP** 03 09 00.6 +1.2
comp=Z,74nm,1.1s,baz=92,slow=3.8,SNR=3.8
KAPI ScP **ScP** 03 12 24.4 +0.5
comp=Z,55nm,1.0s,baz=311,slow=0.6,SNR=8.5
KAPI **Kappang** 32.20 267 P **P** 03 06 16.0 +0.5
KAPI IAmb IAmb 03 06 17.3
comp=Z,288nm,0.9s
KAPI PcP **PcP** 03 09 00.0 +0.7
KAPI **Kappang** 32.20 267 P **P** 03 06 14.6 -1.0
BBOO **Buckleboo** 32.23 206 P **P** 03 06 14.7 -0.8
baz=32,SNR=160
BBOO **Buckleboo** 32.23 206 P **P** 03 06 14.3 -1.3
BBOO PcP **PcP** 03 08 58.8 -0.3
CNOP **Candoni, Negro** 32.40 295 *e*P **P** 03 06 17.6 +0.4
JCJ **Chichijima** 32.45 343 P **P** 03 06 15.8 -1.7
comp=Z,71nm,0.7s,baz=308,slow=9.1,SNR=7.5
JCJ **Chichijima** 32.45 343 P **P** 03 06 15.4 -2.1
JCJ IAmb IAmb 03 06 25.3
comp=Z,317nm,1.0s
JCJ PcP **PcP** 03 08 59.6 -0.2
GUIM **Jordan** 32.77 297 *e*P **P** 03 06 21.2 +0.7
ARPS **Mount Arapiles** 33.83 195 P **P** 03 06 29.6 +0.3
baz=34,SNR=35
TOO **Toolangi** 33.84 189 P **P** 03 06 30.2 +0.8
baz=34,SNR=14
TOO **Toolangi** 33.84 189 P **P** 03 06 30.3 +0.8
TOO pmax pmax
comp=Z,242nm,1.7s
TOO **Toolangi** 33.84 189 P **P** 03 06 30.3 +0.8
TOO IAmb IAmb 03 06 33.8
comp=Z,242nm,1.6s
CUYO **Cuyo Island** 34.27 296 *e*P **P** 03 06 34.5 +1.0
JCNP **Jose Panganiba** 34.36 303 *e*P **P** 03 06 34.3 +0.1
SGKI **Sangatta, Kali** 34.59 275 P **P** 03 06 40.1 +3.9
comp=Z,7µmcomp=Z,14µmcomp=Z,1µm,1.2s
BOAC **Boac** 34.69 301 *e*P **P** 03 06 38.8 +1.8
MYLDM **Lahad Datu** 34.75 285 P **P** 03 06 40.3 +2.8
FORT **Forrest** 34.85 218 P **P** 03 06 37.6 -0.6
baz=35,SNR=328
FORT **Forrest** 34.85 218 P **P** 03 06 37.2 -1.0
SJMP **San Jose** 34.86 299 *e*P **P** 03 06 39.8 +1.3
SMKI **Samarinda** 34.99 275 P **P** 03 06 40.2 +0.6
comp=Z,11µmcomp=Z,13µmcomp=Z,1µm,1.1s
TWSI **Taliwang, Sumb** 35.23 261 P **P** 03 06 39.0 -2.6
comp=Z,3µmcomp=Z,2µmcomp=Z,305nm,0.9s
LQP **Lukban** 35.26 301⇓ *i*P **P** 03 06 43.1 +1.1
BUSP **Coron** 35.48 297 *e*P **P** 03 06 44.8 +1.1
MBWA **Marble Bar** 35.67 239 P **P** 03 06 43.0 -2.2
PSA00 **Pilbara Seismi** 35.74 238 P **P** 03 06 43.0 -2.9
TGY **Tagaytay City** 35.77 301 P **P** 03 06 47.4 +1.1
comp=Z,2µm,1.0s,baz=140,slow=2.8,SNR=31
KBKI **Kotabaru** 35.81 270 P **P** 03 06 47.5 +0.9
comp=Z,2µmcomp=Z,198nm,0.8s
JMZ **Minamidaito 2** 35.95 327 P **P** 03 06 47.9 +0.3
QVP **Quezon City--P** 35.95 302 *e*P **P** 03 06 49.4 +1.6
MACP **Maragondon, Ca** 36.03 301 *e*P **P** 03 06 47.7 -0.7
LUBP **Lubang** 36.19 300 *e*P **P** 03 06 49.3 -0.5
KNTN **Kanton** 36.20 89 P **P** 03 06 50.8 +0.9
KNTN IAmb IAmb 03 06 54.6
comp=Z,224nm,1.1s
KNTN **Kanton** 36.20 89 P **P** 03 06 51.4 +1.5
comp=Z,269nm,1.2s
SPMM **Sapulut** 36.60 283 P **P** 03 06 55.0 +1.6
SRBI **Singaraja** 36.82 262 P **P** 03 06 53.6 -1.5
comp=Z,4µmcomp=Z,4µmcomp=Z,264nm,0.9s
OUZ **Omahuta** 36.83 150 P **P** 03 06 57.3 +2.4
OUZ IAmb IAmb 03 06 59.0
comp=Z,225nm,1.1s
OUZ PcP **PcP** 03 09 14.7 +2.3
DNP **Denpasar** 36.87 261 P **P** 03 06 54.5 -1.0
comp=Z,24µmcomp=Z,690nm,0.7s
SGCP **Mt. Cagua** 36.98 308 *e*P **P** 03 06 57.0 +0.6
AFI **Afiamalu** 36.98 108 P **P** 03 06 56.1 -0.5
comp=Z,76nm,0.7s,baz=103,slow=0.7,SNR=7.5
AFI **Afiamalu** 36.98 108 P **P** 03 06 57.7 +1.1
AFI pmax pmax
comp=Z,133nm,1.0s
AFI **Afiamalu** 36.98 108 P **P** 03 06 57.7 +1.1
AFI IAmb IAmb 03 06 58.9
comp=Z,133nm,1.0s
AFI **Afiamalu** 36.98 108 P **P** 03 06 58.6 +2.0
comp=Z,156nm,1.3s
BBKI **Banjar Baru** 37.12 270 P **P** 03 06 57.8 +0.1
comp=Z,12µmcomp=Z,746nm,1.5s
KKM **Kota Kinabalu** 37.17 286 P **P** 03 06 59.1 +0.8
MTKI **Muara Teweh, K** 37.24 274 P **P** 03 06 58.4 -0.3
comp=Z,3µmcomp=Z,341nm,0.9s
SCZP **Santa Cruz** 37.43 303 *e*P **P** 03 07 00.5 +0.3
BOLP **Bolinao** 37.73 303 *e*P **P** 03 07 02.5 -0.2
ABJI **Asem Bagus** 37.77 263 P **P** 03 07 02.5 -0.6
comp=Z,5µmcomp=Z,4µmcomp=Z,275nm,1.1s
SZP **Santa** 37.88 306 P **P** 03 07 03.8 -0.2
KMMI **Kalianget** 38.00 264 P **P** 03 07 06.2 +1.2
comp=Z,5µmcomp=Z,4µmcomp=Z,241nm,2.0s
JOW **Kunigami** 38.40 325 P **P** 03 07 10.1 +1.9
comp=Z,710nm,1.0s,baz=154,slow=10,SNR=26
JOW **Kunigami** 38.40 325 P **P** 03 07 09.9 +1.7
TAU **Tasmania Unive** 38.86 186 P **P** 03 07 13.2 +1.4
TAU IAmb IAmb 03 08 12.8
comp=Z,183nm,1.2s
TAU PcP **PcP** 03 09 19.6 +1.1
KMBL **Kambalda** 39.23 223 P **P** 03 07 14.0 -1.1
baz=39,SNR=426
NIUE **Niue** 39.99 115 P **P** 03 07 22.4 +1.0
baz=40,SNR=3.8
NIUE **Niue** 39.99 115 P **P** 03 07 22.5 +1.0
NIUE IAmb IAmb 03 07 24.7
comp=Z,415nm,1.1s
NIUE **Niue** 39.99 115 P **P** 03 07 25.1 +3.6
comp=Z,344nm,1.1s
YOJ **Yonaguni jima** 40.05 317 P **P** 03 07 23.7 +1.8
YOJ pmax pmax
comp=Z,482nm,0.9s
YOJ **Yonaguni jima** 40.05 317 P **P** 03 07 23.7 +1.8
HIZ **Hauiti** 40.05 152 P **P** 03 07 23.9 +2.1
HIZ IAmb IAmb 03 07 25.8
comp=Z,424nm,1.3s
HIZ PcP **PcP** 03 09 23.8 +1.4
HIZ **Hauiti** 40.05 152 P **P** 03 07 24.5 +2.7
SBUM **Sibu** 40.33 279 P **P** 03 07 26.2 +1.9
SBUM **Sibu** 40.33 279 P **P** 03 07 26.0 +1.7
TWG **Pinlang** 40.39 313 P **P** 03 07 24.2 -0.5
TWG IAmb IAmb 03 07 30.1
comp=Z,118nm,0.9s
OMRZ **Omania** 40.47 150 P **P** 03 07 29.2 +4.0
YULB **Yu-li** 40.58 314 IAmb IAmb 03 07 31.0
comp=Z,354nm,0.9s
RRRZ **Republican Roa** 40.72 150 P **P** 03 07 24.6 -2.7
JSG **Sagara** 40.72 342 IAmb IAmb 03 07 27.9
comp=Z,438nm,1.1s
STKI **Sintang** 40.74 275 P **P** 03 07 30.3 +2.6
comp=Z,110nm,0.4s
TWVZ **Taurewa** 40.77 152 P **P** 03 07 30.5 +2.8
HAZ **Te Kaha** 40.93 148 P **P** 03 07 31.5 +2.6
QRZ **Quartz Range** 40.94 156 P **P** 03 07 31.5 +2.6
QRZ IAmb IAmb 03 07 32.6
comp=Z,223nm,0.9s
GIRL **Giralia** 40.95 240 P **P** 03 07 29.1 -0.2
baz=41,SNR=51
GIRL **Giralia** 40.95 240 P **P** 03 07 29.2 -0.1
JSU **Suzuyama** 40.96 331 P **P** 03 07 30.2 +1.0
JSU PcP **PcP** 03 09 26.5 +0.9
URZ **Urewera** 40.96 149 P **P** 03 07 29.9 +0.7
comp=Z,57nm,0.4s,baz=264,slow=2.3,SNR=40
URZ PcP **PcP** 03 09 24.5 -0.8
comp=Z,55nm,0.8s,baz=5.0,slow=3.3,SNR=3.6
URZ ScP **ScP** 03 12 56.4 +0.5
comp=Z,49nm,1.0s,baz=8.2,slow=7.8,SNR=6.4
URZ **Urewera** 40.96 149 P **P** 03 07 30.5 +1.3
FWVZ **Far West T-bar** 40.97 152 P **P** 03 07 32.3 +2.8
TPUB **Ta-pu** 41.00 313 IAmb IAmb 03 07 31.3
comp=Z,271nm,0.8s
TRVZ **Turoa** 41.01 152 P **P** 03 07 32.7 +2.9
WNVZ **Wahianoa** 41.05 152 P **P** 03 07 33.7 +3.6
SSLB **Suanglung** 41.07 314 P **P** 03 07 31.5 +1.2
SSLB IAmb IAmb 03 07 32.5
comp=Z,491nm,1.2s
SSLB PcP **PcP** 03 09 25.9 -0.2
PKGZ **Pakihiroa** 41.18 148 P **P** 03 07 32.8 +1.8
MOVZ **Moawhango** 41.19 152 P **P** 03 07 33.3 +2.2
MWZ **Matawai** 41.23 149 P **P** 03 07 32.9 +1.5
BKZ **Black Stump Fm** 41.35 151 P **P** 03 07 32.8 +0.4
BKZ IAmb IAmb 03 07 40.5
comp=Z,66nm,0.6s
BKZ **Black Stump Fm** 41.35 151 P **P** 03 07 32.1 -0.3
TATO **Taipei** 41.44 316 P **P** 03 07 34.4 +1.2
TATO **Taipei** 41.44 316 P **P** 03 07 33.5 +0.3
SNGZ **Shannon Statio** 41.48 150 P **P** 03 07 34.6 +1.2
NNZ **Nelson** 41.61 156 IAmb IAmb 03 07 37.0
comp=Z,215nm,1.1s
INU **Inuyama** 41.71 341 P **P** 03 07 34.6 -0.6
INU IAmb IAmb 03 07 35.9
comp=Z,174nm,1.1s
JGF **Kuroka** 41.84 342 IAmb IAmb 03 07 38.4
comp=Z,76nm,0.7s
THZ **Tophouse** 41.88 156 IAmb IAmb 03 07 39.0
comp=Z,213nm,1.0s
KSM **Kuching** 42.07 277 P **P** 03 07 39.1 +0.5
KSM **Kuching** 42.07 277 P **P** 03 07 40.0 +1.4
JNU **Nakatsue** 42.11 333 P **P** 03 07 39.3 +0.7
comp=Z,882nm,1.0s,baz=128,slow=4.2,SNR=248
JNU ScP **ScP** 03 12 60.0 -0.6
comp=Z,15nm,0.8s,baz=112,slow=4.9,SNR=4.5
JNU **Nakatsue** 42.11 333 P **P** 03 07 38.9 +0.3
JNU PcP **PcP** 03 09 30.9 +1.6
JWT **Wachi** 42.19 340 IAmb IAmb 03 07 40.2
comp=Z,196nm,1.0s
MORW **Morawa** 42.20 230 P **P** 03 07 37.9 -1.5
baz=42,SNR=230
MORW **Morawa** 42.20 230 P **P** 03 07 38.1 -1.3
KLBR **Kellerberrin** 42.23 226 P **P** 03 07 38.0 -1.7
baz=42,SNR=97
SNZO **South Karori** 42.25 154 P **P** 03 07 40.2 +0.7
SNZO IAmb IAmb 03 07 41.9
comp=Z,600nm,1.4s
BFZ **Birch Farm** 42.43 152 IAmb IAmb 03 07 43.2
comp=Z,272nm,1.2s
MJAR **Matsushiro Arr** 42.46 343 P **P** 03 07 40.1 -1.2
comp=Z,98nm,1.0s,baz=166,slow=8.7,SNR=124
MJAR PcP **PcP** 03 09 31.0 +0.6
comp=Z,23nm,0.6s,baz=159,slow=3.8,SNR=14
MJAR ScP **ScP** 03 13 02.6 +0.7
comp=Z,22nm,1.1s,baz=176,slow=4.8,SNR=9.4
MJAR **Matsushiro Arr** 42.46 343 P **P** 03 07 39.7 -1.6
MJAR PcP **PcP** 03 09 30.8 +0.4
MAJO **Matsushiro** 42.46 343 *d*P **P** 03 07 40.3 -1.0
MAJO **Matsushiro** 42.46 343 P **P** 03 07 40.3 -1.0
MAJO IAmb IAmb 03 07 41.6
comp=Z,206nm,1.1s
MAT **Matsushiro** 42.46 343 P **P** 03 07 40.1 -1.2
MAT S **S** 03 13 41.6 -6.2
BLDU **Ballidu** 42.47 228 P **P** 03 07 40.1 -1.5
baz=42,SNR=171
LTZ **Lake Taylor** 42.51 158 IAmb IAmb 03 07 44.3
comp=Z,260nm,1.2s
KHZ **Kahutara** 42.69 156 P **P** 03 07 43.4 +0.4
KHZ IAmb IAmb 03 07 44.7
comp=Z,533nm,1.4s
JHS **Saijyo** 42.78 337 P **P** 03 07 43.7 -0.2
JHS PcP **PcP** 03 09 32.4 +0.9
RPZ **Rata Peaks** 42.88 160 P **P** 03 07 44.8 +0.2
comp=Z,338nm,1.0s,baz=347,slow=3.0,SNR=46
RPZ **Rata Peaks** 42.88 160 P **P** 03 07 45.8 +1.2
RPZ IAmb IAmb 03 07 47.7
comp=Z,421nm,1.1s
OXZ **Oxford** 42.89 158 IAmb IAmb 03 07 46.4
comp=Z,218nm,1.3s
JMM **Marumori** 43.05 347 IAmb IAmb 03 07 47.2
comp=Z,183nm,1.0s
LBZ **Lake Benmore** 43.18 161 P **P** 03 07 46.9 -0.1
LBZ IAmb IAmb 03 08 42.6
comp=Z,138nm,1.2s
WKZ **Wanaka** 43.21 162 P **P** 03 07 48.8 +1.5
WKZ IAmb IAmb 03 08 42.4
comp=Z,98nm,1.0s
DCZ **Deep Cove** 43.26 164 P **P** 03 07 48.2 +0.6
NWAO **Narrogin (SRO)** 43.34 224 P **P** 03 07 47.5 -0.9
comp=Z,158nm,1.1s,baz=59,slow=7.8,SNR=35
NWAO LR LR 03 27 51.0
comp=Z,1µm,20.3s,baz=64,slow=38
NWAO **Narrogin (SRO)** 43.34 224 P **P** 03 07 47.3 -1.2
baz=43,SNR=27
NWAO **Narrogin (SRO)** 43.34 224 P **P** 03 07 47.7 -0.8
NWAO pmax pmax
comp=Z,194nm,1.1s
NWAO **Narrogin (SRO)** 43.34 224 P **P** 03 07 47.7 -0.8
NWAO IAmb IAmb 03 09 32.3
comp=Z,194nm,1.1s
NWAO **Narrogin (SRO)** 43.34 224 P **P** 03 07 46.4 -2.1
MLZ **Mavora Lakes** 43.44 164 IAmb IAmb 03 08 45.3
comp=Z,164nm,1.1s
QZH **Quanzhou** 43.48 313⇓ *i*P **P** 03 07 50.5 +0.9
QZH S **S** 03 14 01.4 -1.5
QZH ScS **ScS** 03 17 26.5 -1.2
QZH pmax pmax
comp=Z,420nm,1.1s
QZH pmax pmax
comp=Z,1µm,5.1s
MUN **Mundaring** 43.55 226 P **P** 03 07 49.7 -0.5
baz=44,SNR=17
JCJI **Jatiwangi** 43.64 265 P **P** 03 07 51.6 +0.5
comp=Z,19µmcomp=Z,1µm,1.6s
JSD **Sado** 43.84 344 P **P** 03 07 51.7 -0.6
JSD IAmb IAmb 03 07 54.2
comp=Z,386nm,1.1s
JSD PcP **PcP** 03 09 35.6 +0.6
JTU **Tsushima** 43.95 333 P **P** 03 07 54.3 +1.0
JTU **PcP** 03 09 35.9 +0.4
LEM **Lembang** 44.29 264 P **P** 03 07 56.8 +0.3
comp=Z,434nm,0.9s,baz=62,slow=6.8,SNR=60
LEM PcP **PcP** 03 09 37.8 +0.5
comp=Z,250nm,1.1s,baz=139,slow=6.8,SNR=3.7
LEM ScP **ScP** 03 13 09.8 -0.3
comp=Z,22nm,0.3s,baz=338,slow=5.4,SNR=3.6
TPI **Tanjungpandan** 44.32 270 P **P** 03 07 57.4 +0.8
comp=Z,9µmcomp=Z,851nm,1.0s
CBJI **Citeko** 45.05 265 P **P** 03 08 01.2 -1.1
comp=Z,13µmcomp=Z,510nm,1.0s
DBJI **Dramaga** 45.15 265 P **P** 03 08 02.4 -0.7
comp=Z,13µmcomp=Z,320nm,1.3s
HKC **Hong Kong Obse** 45.38 307 ⇑P **P** 03 08 07.0 +2.2
SSE **Sheshan** 45.73 322 P **P** 03 08 08.4 +1.0
SSE S **S** 03 14 36.3 +1.1
SSE sS **sS** 03 15 55.3 +2.9
SSE pmax pmax
comp=Z,200nm,1.4s
SSE pmax pmax
comp=Z,1µm,3.8s
SSE LR LR
comp=Z,1µm,21.3s
PPBI **Pangkal Pinang** 45.87 271 P **P** 03 08 08.8 0.0
comp=Z,22µmcomp=Z,386nm,1.0s
DLV **T Lat** 46.15 291 IAmb IAmb 03 08 14.2
comp=Z,380nm,0.9s
XMI **Christmas Isla** 46.37 260 P **P** 03 08 13.3 +0.7
comp=Z,713nm,1.3s
XMIS **Christmas Isla** 46.41 260 P **P** 03 08 12.3 -0.6
XMIS IAmb IAmb 03 08 14.8
comp=Z,467nm,1.1s
XMIS **PcP** 03 09 44.6 +0.1
XMIS **Christmas Isla** 46.41 260 P **P** 03 08 13.2 +0.3
comp=Z,553nm,1.3s
TJN **Taejon** 46.41 332 *ce*P **P** 03 08 13.8 +1.2
GZH **Guangzhou** 46.44 307⇓ *i*P **P** 03 08 15.3 +2.3
GZH sP **sP** 03 09 19.8 +0.9
GZH PP **PP** 03 10 07.3 +2.3
GZH S **S** 03 14 49.0 +3.5
GZH pmax pmax
comp=Z,2µm,3.0s
ERM **Erimo** 46.61 351 P **P** 03 08 15.1 +1.1
ERM pmax pmax
comp=Z,87nm,1.2s
ERM **Erimo** 46.61 351 P **P** 03 08 15.1 +1.1
BLSI **Bandar Lampung** 46.64 267 P **P** 03 08 14.1 -0.7
comp=Z,271nm,1.2s
KSRS **Korea Array** 47.05 334 P **P** 03 08 18.8 +1.3
comp=Z,132nm,0.8s,baz=150,slow=8.9,SNR=405
KSRS PcP **PcP** 03 09 47.5 +1.4
comp=Z,13nm,0.6s,baz=152,slow=3.4,SNR=8.8
KSRS ScP **ScP** 03 13 20.4 -0.4
comp=Z,9.4nm,1.0s,baz=144,slow=4.6,SNR=5.4
KSAR **Wonju Array Be** 47.05 334 P **P** 03 08 18.0 +0.5
KSAR 03 09 47.3
KSAR **Wonju Array Be** 47.05 334 P **P** 03 08 18.0 +0.5
KSAR PcP **PcP** 03 09 47.3 +1.1
KS19 **Wonju Array Si** 47.11 334 IAmb IAmb 03 08 20.0
comp=Z,284nm,1.1s
KLSI **47.17 267** P **P** 03 08 17.7 -1.2
comp=Z,850nmcomp=Z,67nm,1.4s
KASI **Kota Agung** 47.39 266 P **P** 03 08 18.3 -2.2
comp=Z,6µmcomp=Z,646nm,1.1s
QIZ **Qiongzhong** 47.47 300 P **P** 03 08 22.0 +0.9
QIZ sP **sP** 03 09 25.3 -1.7
QIZ S **S** 03 15 02.8 +2.5
QIZ SS **SS** 03 18 35.0 +3.9
QIZ pmax pmax
comp=Z,81nm,1.5s
QIZ pmax pmax
comp=Z,2µm,4.0s
QIZ LR LR
comp=Z,340nm,16.2s
QIZ LR LR
comp=Z,440nm,16.2s
QIZ LR LR
comp=Z,470nm,15.5s
INCN **Inchon** 47.65 332 P **P** 03 08 23.7 +1.5
INCN pmax pmax
comp=Z,1µm,1.0s
INCN **Inchon** 47.65 332 P **P** 03 08 23.7 +1.5
INCN **Inchon** 47.65 332 P **P** 03 08 23.5 +1.3
MDSI **Maura Dua** 47.72 268 P **P** 03 08 21.5 -1.6
comp=Z,6µmcomp=Z,498nm,1.2s
LWLI **Liwa** 47.83 267 P **P** 03 08 22.6 -1.5
comp=Z,8µmcomp=Z,627nm,1.0s
NJ2 **Nanjing** 47.84 321⇓ *i*P **P** 03 08 25.6 +2.0
NJ2 pP **pP** 03 09 11.3 +3.6
NJ2 sP **sP** 03 09 32.3 +2.1
NJ2 PcP **PcP** 03 09 50.6 +1.5
NJ2 PP **PP** 03 10 18.1 +0.5
NJ2 ScP **ScP** 03 13 24.8 +0.6
NJ2 S **S** 03 15 07.4 +2.4
NJ2 sS **sS** 03 16 21.3 -1.5
NJ2 ScS **ScS** 03 17 53.6 -2.1
NJ2 SS **SS** 03 18 35.0 -1.6
NJ2 pmax pmax
comp=Z,190nm,1.5s
NJ2 pmax pmax
comp=Z,2µm,3.5s
NJ2 LR LR
comp=Z,3µm,20.8s
NJ2 LR LR
comp=Z,3µm,20.4s
NJ2 LR LR
comp=Z,2µm,14.9s
YUK **Yuzh-Kuril'sk** 48.25 354 *e*P **P** 03 08 26.7 +0.2
YUK *i* S **S** 03 15 09.9 -0.4
YUK *i* 03 18 01.0
YUK pmax pmax
comp=Z,329nm,1.3s
YUK pmax pmax
comp=N,267nm,0.9s
YUK pmax pmax
comp=E,164nm,0.9s
JMBI **JAMBI** 48.39 271 P **P** 03 08 30.4 +2.1
comp=E,5µmcomp=E,463nm,1.5s
LHSI **Lahat** 48.40 269 P **P** 03 08 27.8 -0.5
comp=E,4µmcomp=E,314nm,1.0s
MYKOM **Kota Tinggi** 48.51 276 P **P** 03 08 31.0 +1.8
JKA **Kamikawa-asahi** 48.75 351 IAmb IAmb 03 08 32.9
comp=Z,236nm,1.1s
ASAJ **Asahikawa** 48.75 351 P **P** 03 08 31.5 +1.1
comp=Z,112nm,1.0s,baz=202,slow=12,SNR=41
ASAJ ScP **ScP** 03 13 28.7 +0.9
comp=Z,12nm,0.8s,baz=238,slow=15,SNR=4.3
KUR **Kuril'sk** 49.26 356 *e*P **P** 03 08 35.3 +1.0
KUR *e* 03 09 54.7
KUR *e* 03 10 31.7
KUR *i* PPP PPP 03 11 30.4
KUR *e*S **S** 03 15 23.8 -0.7
KUR pmax pmax
comp=Z,463nm,1.3s
KUR pmax pmax
comp=E,72nm,1.4s
KUR pmax pmax
comp=N,76nm,0.9s
KUR MLR MLR
comp=Z,684nm,13.0s
KUR MLR MLR
comp=N,675nm,12.0s
KUR MLR MLR
comp=E,413nm,12.0s
KSI **Kapahiang** 49.33 269 P **P** 03 08 34.0 -1.5
comp=E,122nm,0.9s
RAR **Rarotonga** 49.75 114 P **P** 03 08 40.6 +2.2
comp=E,26nm,0.4s,baz=254,slow=7.4,SNR=7.8
RAR LR LR 03 27 56.4
comp=E,340nm,20.6s,baz=302,slow=34
RAR **Rarotonga** 49.75 114 P **P** 03 08 40.9 +2.5
RAR pmax pmax
comp=Z,130nm,1.0s
RAR **Rarotonga** 49.75 114 P **P** 03 08 40.9 +2.5
RAR IAmb IAmb 03 08 42.0
comp=Z,130nm,0.9s
RAR **Rarotonga** 49.75 114 P **P** 03 08 41.3 +2.9
comp=Z,211nm,1.7s
WHN **Wuhan** 49.84 316 ⇑P **P** 03 08 40.8 +1.9
WHN S **S** 03 15 30.9 -2.1
WHN pmax pmax
comp=Z,430nm,1.1s
WHN pmax pmax
comp=Z,3µm,3.7s
WHN LR LR
comp=Z,4µm,17.0s
WHN LR LR
comp=Z,3µm,13.7s
WHN LR LR
comp=Z,4µm,24.3s
JRMM **Jerantut** 50.16 278 P **P** 03 08 42.0 +0.4
MSHR **Mys Shultsa** 50.18 340 *ce*P **P** 03 08 42.3 +1.0
MSHR pmax pmax
comp=Z,234nm,1.3s
XMAS **Kiritimati** 50.85 84 P **P** 03 08 48.1 +1.3
XMAS IAmb IAmb 03 08 51.4
comp=Z,174nm,0.9s
XMAS **Kiritimati** 50.85 84 P **P** 03 08 48.9 +2.1
comp=Z,241nm,0.9s
DL2 **Dalian** 51.20 330⇓ *i*P **P** 03 08 49.8 +0.9

DL2 pP **pP** **03 09 35.3 +1.4**
DL2 sP **sP** **03 09 53.6 -2.9**
DL2 PcP **PcP** **03 10 02.5 +1.2**
DL2 S **S** **03 15 51.8 +0.3**
DL2 sS **sS** **03 17 10.9 +0.8**
DL2 pmax pmax
comp=Z,570nm,1.0s
DL2 pmax pmax
comp=Z,830nm,7.6s
USA0B Ussuriysk Arra 51.36 342 *d* iP **P** **03 08 50.8 +0.8**
USA0B Ussuriysk Arra 51.36 342 IAmb IAmb 03 08 52.2
comp=Z,275nm,0.9s
USRK Ussuriysk Ar. 51.36 342 P **P** **03 08 50.9 +0.9**
comp=Z,130nm,0.8s,baz=170,slow=8.3,SNR=316
USRK PcP **PcP** **03 10 02.1 +0.3**
comp=Z,19nm,0.9s,baz=130,slow=3.0,SNR=4.6
USRK ScP **ScP** **03 13 39.7 +0.7**
comp=Z,4.7nm,0.8s,baz=190,slow=3.6,SNR=6.7
USRK PKP2bc 03 40 02.8
comp=Z,4.0nm,0.9s,baz=343,slow=4.5,SNR=8.3
USRK Ussuriysk Ar. 51.36 342 P **P** **03 08 50.8 +0.8**
YSS Yuzh-Sakhalins 51.50 352 ⇓ *i* P **P** **03 08 51.6 +0.6**
YSS *e**PP **pP** **03 09 35.7 0.0**
YSS *e**SP **sP** **03 09 58.6 +0.6**
YSS *e* 03 10 50.2
YSS *e*S **S** **03 15 52.1 -3.2**
YSS *e**SS **sS** **03 17 13.6 -0.5**
YSS *e*SS **SS** **03 19 28.2 -6.2**
YSS *e*SSS SSS 03 21 26.5
YSS pmax pmax
comp=Z,120nm,1.2s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 51.50 352 P **P** **03 08 51.6 +0.6**
YSS IAmb IAmb 03 08 52.8
comp=Z,190nm,1.2s
IPM Ipoh 51.68 279 P **P** **03 08 52.8 -0.2**
IPM PcP **PcP** **03 10 04.5 +0.8**
IPM Ipoh 51.68 279 P **P** **03 08 54.0 +1.0**
TIA Tai'an 51.71 324 P **P** **03 08 53.5 +0.7**
TIA S **S** **03 15 56.4 -2.3**
TIA pmax pmax
comp=Z,250nm,1.2s
TIA pmax pmax
comp=Z,2μm,10.2s
TIA LR LR
comp=Z,1μm,20.4s
TIA LR LR
comp=Z,1μm,16.7s
TIA LR LR
comp=Z,790nm,21.6s
MDJ Mudanjiang 52.51 340 P **P** **03 08 59.6 +1.1**
MDJ S **S** **03 16 07.6 -1.7**
MDJ sS sS 03 17 25.1 -3.2
MDJ ScS **ScS** **03 18 27.8 +0.5**
MDJ pmax pmax
comp=Z,300nm,1.4s
MDJ pmax pmax
comp=Z,1μm,6.6s
MDJ Mudanjiang 52.51 340 IAmb IAmb 03 09 00.7
comp=Z,370nm,1.2s
SNY Shenyang 52.55 333 ⇓ P **P** **03 08 59.8 +1.0**
SNY S **S** **03 16 07.5 -2.3**
SNY pmax pmax
comp=Z,62nm,1.1s
SNY pmax pmax
comp=Z,860nm,2.8s
SNY LR LR
comp=Z,3μm,21.6s
SNY LR LR
comp=Z,2μm,23.5s
SNY LR LR
comp=Z,760nm,18.0s
MNSI Mandailing Nat 52.65 274 P **P** **03 08 59.3 -0.8**
comp=Z,9μmcomp=Z,428nm,1.2s
KHON Khomkaen 52.72 284 P **P** **03 09 02.0 +1.4**
comp=Z,7μmcomp=Z,689nm,0.8s
SRAK Srakaew 52.76 291 P **P** **03 08 58.4 -2.4**
comp=Z,20μmcomp=Z,1μm,1.1s
SISI Saibi 52.95 271 P **P** **03 09 01.4 -0.9**
comp=Z,6μmcomp=Z,440nm,1.4s
NONG Nongkai 52.99 296 P **P** **03 09 04.1 +1.6**
comp=Z,10μmcomp=Z,646nm,1.2s
CHAI Chaiyaphum 53.35 293 P **P** **03 09 07.1 +1.9**
comp=Z,3μmcomp=Z,391nm,0.9s
CN2 Changchun 53.36 336 ⇓ *i* P **P** **03 09 05.4 +0.6**
CN2 *ep* pP pP 03 09 53.3 +3.1
CN2 PcP **PcP** **03 10 09.1 -0.3**
CN2 ScP **ScP** **03 13 48.5 +0.7**
CN2 *e*S **S** **03 16 19.6 -1.2**
CN2 sS sS 03 17 41.1 +1.1
CN2 pmax pmax
comp=Z,180nm,1.2s
CN2 pmax pmax
comp=Z,700nm,3.0s
GYA Guiyang 53.38 307 ⇑ P **P** **03 09 07.8 +2.5**
GYA PcP **PcP** **03 10 10.8 +0.8**
GYA S **S** **03 16 23.3 +1.5**
GYA sS sS 03 17 44.3 +3.3
GYA SS **SS** **03 20 10.1 +5.1**
GYA pmax pmax
comp=Z,190nm,1.3s
GYA pmax pmax
comp=Z,2μm,4.1s
SLVN Son La 53.50 300 IAmb IAmb 03 09 09.9
comp=Z,236nm,1.1s
RPSI Rantau Prapat 53.51 276 IAmb IAmb 03 09 07.3
comp=Z,420nm,1.3s
PATY Pattaya 53.57 289 P **P** **03 09 08.8 +2.0**
comp=Z,7μmcomp=Z,481nm,1.0s
UGL Uglegorsk 53.68 352 *e*P **P** **03 09 07.6 +0.7**
UGL *e*S **S** **03 16 22.7 -2.0**
UGL pmax pmax
comp=Z,200nm,1.2s
UGL smax smax
comp=E,2μm,12.0s
PBSI Pulau Batu 53.86 273 P **P** **03 09 08.4 -0.6**
comp=E,5μmcomp=E,183nm,1.2s
TSI Tuntungan 53.97 277 P **P** **03 09 10.3 +0.6**
comp=E,6μmcomp=E,8μmcomp=E,648nm,1.2s
KRAB Krabi 54.11 283 P **P** **03 09 10.9 +0.2**
comp=E,40μmcomp=E,4μm,0.8s
SKR Severo-Kuril's 54.69 3 *e*P **P** **03 09 15.1 +0.9**
SKR *e**PP **pP** **03 09 58.6 -0.7**
SKR *e* 03 10 23.2
SKR *e*S **S** **03 16 37.5 -0.7**
SKR *e**SS **sS** **03 17 58.9 +1.1**
SKR *e* 03 18 35.2
SKR 03 22 29.0
SKR pmax pmax
comp=Z,53nm,1.2s
SKR MLR MLR
comp=Z,600nm,15.0s
SKR MLR MLR
comp=Z,500nm,14.0s
PHET Kaeng Krachan 54.73 289 P **P** **03 09 17.0 +1.9**
comp=Z,7μmcomp=Z,604nm,1.0s
BJI Beijing 54.90 327 P **P** **03 09 16.9 +1.0**
BJI pP **pP** **03 10 03.8 +2.6**
BJI PcP **PcP** **03 10 16.4 +1.0**
BJI sP **sP** **03 10 23.8 -0.2**
BJI ScP **ScP** **03 13 55.3 +0.7**
BJI S **S** **03 16 41.8 +0.3**
BJI sS **sS** **03 17 59.6 -1.5**
BJI pmax pmax
comp=Z,150nm,1.4s
BJI pmax pmax
comp=Z,1μm,3.9s
BJI LR LR
comp=Z,2μm,18.8s
BJI LR LR
comp=Z,1μm,19.2s
BJI LR LR
comp=Z,770nm,20.8s
KIP Kipapa 55.09 60 *ce*P **P** **03 09 18.2 +0.5**
KIP pmax pmax
comp=Z,81nm,1.3s
COCO West Island 55.15 258 P **P** **03 09 18.9 +0.8**
COCO pmax pmax
comp=Z,521nm,1.1s
COCO West Island 55.15 258 P **P** **03 09 18.9 +0.8**
COCO **PcP** **03 10 18.2 +1.4**
OPA Opana 55.20 60 IAmb IAmb 03 09 20.8
comp=Z,207nm,1.0s
UTTA Uttaradit 55.22 295 P **P** **03 09 20.2 +1.6**
comp=Z,6μmcomp=Z,849nm,0.8s
TPTI 55.31 277 P **P** **03 09 17.8 -1.5**
comp=Z,3μmcomp=Z,176nm,1.4s
TYV Tymovskoe 55.35 353 *e*P **P** **03 09 19.5 +0.6**
TYV *e*S **S** **03 16 47.7 +0.7**
TYV pmax pmax
comp=Z,500nm,1.8s
TYV pmax pmax
comp=Z,117nm,1.4s
TYV smax smax
comp=E,700nm,6.4s
NANT Nan 55.43 296 P **P** **03 09 22.1 +2.0**
comp=E,71μmcomp=E,8μm,0.8s
TIY Taiyuan 55.52 322 *e*P **P** **03 09 21.3 +0.8**
TIY sP **sP** **03 10 29.4 +1.4**
TIY S **S** **03 16 50.3 +0.3**
TIY pmax pmax
comp=E,140nm,1.1s
TIY pmax pmax
comp=E,1μm,3.9s
TIY LR LR
comp=E,2μm,16.1s
TIY LR LR
comp=E,1μm,12.8s
TIY LR LR
comp=E,980nm,13.9s
SRDT SRDT 55.57 290 P **P** **03 09 21.8 +0.7**
comp=E,5μmcomp=E,478nm,1.2s
UTHA Uthaitani 55.60 292 P **P** **03 09 22.8 +1.5**
comp=E,6μmcomp=E,810nm,0.8s
XAN Xi'an 55.60 317 ⇓ P **P** **03 09 21.3 +0.2**
XAN pP pwP 03 10 12.9 +4.3
XAN PcP **PcP** **03 10 19.4 +1.1**
XAN sP sP 03 10 29.6 +1.2
XAN PP **PP** **03 11 28.8 +1.1**
XAN PcS **PcS** **03 14 18.4 -0.5**
XAN S **S** **03 16 48.8 -2.4**
XAN sS sS 03 18 09.6 -1.4
XAN ScS **ScS** **03 18 47.1 -2.8**
XAN SS **SS** **03 20 38.6 -1.1**
XAN pmax pmax
comp=E,380nm,1.3s
XAN pmax pmax
comp=E,2μm,4.8s
XAN LR LR
comp=E,1μm,16.2s
XAN LR LR
comp=E,660nm,18.4s
XAN LR LR
comp=E,960nm,21.7s
KMI Kunming 55.98 304 ⇓ P **P** **03 09 26.0 +1.8**
KMI pP pP 03 10 10.6 +1.3
KMI PcP **PcP** **03 10 21.8 +1.6**
KMI sP sP 03 10 32.3 +1.0
KMI ScP **ScP** **03 14 02.0 +2.0**
KMI S **S** **03 16 59.1 +2.4**
KMI sS sS 03 18 16.6 0.0
KMI ScS **ScS** **03 18 52.4 -0.9**
KMI SS **SS** **03 20 45.3 -0.9**
KMI pmax pmax
comp=E,330nm,1.3s
KMI pmax pmax
comp=E,2μm,5.2s
KMI LR LR
comp=E,290nm,20.6s
KMI LR LR
comp=E,740nm,17.2s
KMI LR LR
comp=E,580nm,24.0s
KLR Kul'dur 55.98 344 *ce*P **P** **03 09 24.1 +0.7**
KLR pmax pmax
comp=Z,522nm,1.5s
GRNR Gornyy 56.29 348 ⇓ *i* P **P** **03 09 26.4 +0.8**
GRNR *e*S **S** **03 17 01.6 +2.1**
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR smax smax
comp=N,3.0nm,0.9s
LAMP Lampang 56.30 295 P **P** **03 09 28.3 +2.0**
comp=N,8μmcomp=N,1μm,0.8s
UMPA Umpang Tak 56.32 292 P **P** **03 09 28.3 +1.8**
comp=N,6μmcomp=N,652nm,1.1s
KHLU Kahalu`u 56.33 63 P **P** **03 09 27.7 +1.1**
KHLU IAmb IAmb 03 09 28.8
comp=Z,263nm,1.1s
HUH Hualalai 56.41 63 IAmb IAmb 03 09 30.2
comp=Z,237nm,1.2s
KHU Kahuku 56.47 64 P **P** **03 09 28.8 +1.1**
KHU pmax pmax
comp=Z,219nm,1.0s
KHU Kahuku 56.47 64 P **P** **03 09 28.8 +1.1**
KHU IAmb IAmb 03 09 35.6
comp=Z,219nm,1.0s
AIN Ainahou 56.65 64 IAmb IAmb 03 09 33.5
comp=Z,187nm,0.9s
POHA Pohakuloa 56.71 63 P **P** **03 09 30.1 +0.7**
POHA IAmb IAmb 03 09 31.6
comp=Z,251nm,0.9s
CM35 Chiang Mai Arr 56.78 295 P **P** **03 09 31.0 +1.3**
CM36 Chiang Mai Arr 56.78 295 P **P** **03 09 30.0 +0.3**
CM34 Chiang Mai Arr 56.83 296 P **P** **03 09 31.0 +0.9**
CM04 Chiang Mai Arr 56.85 295 P **P** **03 09 32.0 +1.8**
comp=Z,5μmcomp=Z,593nm,0.9s
CM09 Chiang Mai Arr 56.85 295 P **P** **03 09 32.2 +2.0**
comp=Z,214nmcomp=Z,5μmcomp=Z,660nm,0.8s
CM01 Chiang Mai Arr 56.88 295 P **P** **03 09 32.2 +1.9**
comp=Z,4μmcomp=Z,591nm,1.0s
CM05 Chiang Mai Arr 56.88 295 P **P** **03 09 32.2 +1.8**
comp=Z,4μmcomp=Z,445nm,0.9s
CM02 Chiang Mai Arr 56.89 295 P **P** **03 09 32.4 +1.9**
comp=Z,5μmcomp=Z,605nm,0.9s
CM31 Chiang Mai Arr 56.90 295 P **P** **03 09 32.0 +1.5**
comp=Z,143μmcomp=Z,17μm,0.8s
CMAR Chiang Mai Arr 56.90 295 P **P** **03 09 32.0 +1.5**
comp=Z,373nm,0.8s,baz=115,slow=5.1,SNR=660
CMAR ScP **ScP** **03 14 05.5 +1.6**
comp=Z,1.7nm,0.4s,baz=108,slow=2.9,SNR=1.6
CMAR PKP2bc 03 39 30.8
comp=Z,7.8nm,0.9s,baz=275,slow=4.0,SNR=8.1
CMAR Chiang Mai Arr 56.90 295 P **P** **03 09 32.4 +1.8**
CM15 Chiang Mai Arr 56.91 295 P **P** **03 09 32.5 +1.9**
comp=Z,5μmcomp=Z,647nm,0.9s
CM13 Chiang Mai Arr 56.92 295 P **P** **03 09 32.0 +1.3**
comp=Z,4μmcomp=Z,490nm,0.9s
CMMT Chiang Mai 57.00 295 P **P** **03 09 31.8 +0.5**
comp=Z,2μmcomp=Z,210nm,1.2s
CM33 Chiang Mai Arr 57.01 295 P **P** **03 09 32.0 +0.7**
CHTO Chiang Mai 57.01 295 P **P** **03 09 32.7 +1.4**
CHTO pmax pmax
comp=Z,440nm,1.1s
CHTO Chiang Mai 57.01 295 P **P** **03 09 32.7 +1.4**
CHTO Chiang Mai 57.01 295 P **P** **03 09 32.1 +0.8**
CM32 Chiang Mai Arr 57.05 295 P **P** **03 09 34.0 +2.4**
PET Petropavlovsk 57.19 5 *e*P **P** **03 09 33.5 +1.6**
PET *e**PP **pP** **03 10 19.5 +2.1**
PET *e* 03 10 24.4
PET *e*PPP PPP 03 13 06.2
PET *i* S **S** **03 17 12.0 +0.8**
PET *e*SSS SSS 03 23 31.1
PET pmax pmax
comp=Z,54nm,2.1s
PET MLR MLR
comp=Z,600nm,17.0s
PET MLR MLR
comp=Z,700nm,17.0s
PET Petropavlovsk 57.19 5 P **P** **03 09 32.3 +0.4**
PEA0B Petropavlovsk- 57.20 4 P **P** **03 09 32.8 +0.8**
PEA0B pmax pmax
comp=Z,275nm,1.5s
PEA0B Petropavlovsk- 57.20 4 P **P** **03 09 32.8 +0.8**
PEA0B IAmb IAmb 03 09 35.0
comp=Z,275nm,1.5s
PETK Petropavlovsk- 57.20 4 P **P** **03 09 33.0 +1.0**
comp=Z,24nm,0.6s,baz=170,slow=7.3,SNR=39
PETK PcP **PcP** **03 10 25.5 +1.4**
comp=Z,31nm,0.9s,baz=160,slow=4.7,SNR=5.6
PETK ScP **ScP** **03 14 06.0 +1.5**
comp=Z,4.5nm,0.8s,baz=167,slow=7.1,SNR=3.2
PETK LR LR 03 30 45.2
comp=Z,753nm,21.0s,baz=224,slow=32
PETK PKP2bc 03 39 27.1
comp=Z,1.3nm,0.4s,baz=10,slow=9.0,SNR=3.6
PETK Petropavlovsk- 57.20 4 P **P** **03 09 32.3 +0.3**
CD2 Chengdu 57.72 311 ⇓ *i* P **P** **03 09 36.8 +0.7**
CD2 PcP **pwP** **03 10 25.3 +1.2**
CD2 PP **PP** **03 11 45.8 -0.7**
CD2 S **S** **03 17 19.3 +0.3**
CD2 sS sS 03 18 39.8 +0.4
CD2 ScS **ScS** **03 19 05.4 -0.1**
CD2 pmax pmax
comp=Z,740nm,0.9s
CD2 pmax pmax
comp=Z,2μm,4.9s
CD2 LR LR
comp=Z,2μm,19.6s
CD2 LR LR
comp=Z,2μm,17.6s
CD2 LR LR
comp=Z,2μm,18.0s
MHMT Maesarieng 57.73 294 P **P** **03 09 37.0 +0.7**
comp=Z,6μmcomp=Z,699nm,0.9s
NKL Nikolayevsk 57.85 352 *e*P **P** **03 09 36.3 -0.1**
NKL *e* 03 10 22.1
NKL *e*S **S** **03 17 13.2 -6.5**
NKL pmax pmax
comp=Z,50nm,2.3s
NKL smax smax
comp=N,20nm,2.1s
NKL smax smax
comp=E,112nm,2.1s
NKL MLR MLR
comp=E,2μm,11.0s
NKL MLR MLR
comp=N,139nm,17.0s
NKL MLR MLR
comp=Z,400nm,15.0s
HHC Hu-ho-hao-te 58.05 325 ⇓ *i* P **P** **03 09 39.9 +1.6**
HHC sP sP 03 10 47.6 +1.5
HHC S **S** **03 17 23.0 -0.1**
HHC sS sS 03 18 44.5 +0.9
HHC SS **SS** **03 21 19.6 +1.6**
HHC pmax pmax
comp=Z,280nm,1.2s
HHC pmax pmax
comp=Z,870nm,5.4s
PPT Papeete 58.66 108 P **P** **03 09 45.5 +2.7**
comp=Z,131nm,0.8s,baz=254,slow=17,SNR=6.9
PPT LR LR 03 29 57.7
comp=Z,254nm,21.1s,baz=268,slow=30
PPT2 Papeete2 58.66 108 *e*P **P** **03 09 44.9 +2.0**
comp=Z,136nm,1.0s
PAE Paea 58.66 108 *e*P **P** **03 09 44.5 +1.7**
comp=Z,42nm,1.1s
BTO Baotou 58.80 323 ⇓ *e*P **P** **03 09 46.0 +2.5**
BTO S **S** **03 17 35.9 +3.1**
BTO pmax pmax
comp=Z,750nm,1.5s
BTO LR LR
comp=Z,6μm,26.9s
BTO LR LR
comp=Z,6μm,30.2s
BTO LR LR
comp=Z,5μm,16.8s
TBI Tubuai 59.53 115 *e*P **P** **03 09 50.2 +1.5**
comp=Z,322nm,1.1s
HIA Hailar 60.10 336 IAmb IAmb 03 09 54.2
comp=Z,190nm,1.1s
MEH Mehetia 60.12 108 *e*P **P** **03 09 54.5 +1.7**
comp=Z,85nm,1.0s
LZH Lanzhou 60.21 316 *e*P **P** **03 09 54.8 +1.5**
LZH pP pwP 03 10 46.5 +4.4
LZH sP sP 03 11 02.8 +2.0
LZH S **S** **03 17 51.8 +0.6**
LZH sS sS 03 19 14.6 +4.8
LZH pmax pmax
comp=Z,610nm,1.3s
LZH pmax pmax
comp=Z,2μm,6.0s
PBA Port Blair 61.01 286 *e*P P 03 09 57.7 -1.1
PBA Port Blair 61.01 286 P P 03 09 57.9 -1.0
PBA IAmb IAmb 03 10 02.6
comp=Z,212nm,0.8s
PBA Port Blair 61.01 286 P P 03 09 57.2 -1.7
SNR=24
DGPR DIGLIPUR 61.14 287 *e*P **P** **03 09 58.4 -1.3**
DGPR IAmb IAmb 03 10 07.7
comp=Z,390nm,1.4s
ZEA Zeya 61.27 343 *de*P **P** **03 10 00.8 +1.0**
ZEA *e* 03 10 41.1
ZEA *e**SP **sP** **03 11 07.5 -1.1**
ZEA *e* 03 12 16.5
ZEA *e*S **S** **03 18 02.4 -1.1**
ZEA *e**SS **SKKSac** **03 19 27.7 -3.0**
ZEA *e*SS **SS** **03 22 13.8 +6.0**
ZEA pmax pmax
comp=N,70nm,1.1s
ZEA pmax pmax
comp=Z,110nm,1.7s
ZEA pmax pmax
comp=Z,200nm,2.1s
ZEA pmax pmax
comp=N,100nm,6.7s
ZEA pmax pmax
comp=Z,200nm,4.8s
ZEA smax smax
comp=E,700nm,8.6s
IMP Imphal 63.30 300 *e*P **P** **03 10 14.3 +0.3**
IMP IAmb IAmb 03 10 24.1
comp=Z,87nm,0.9s
MOKO MOKOCHONG 63.30 302 *e*P **P** **03 10 14.2 +0.1**
MOKO IAmb IAmb 03 10 19.3
comp=Z,522nm,1.7s
SAIH SAIHA 63.43 298 *e*P **P** **03 10 14.9 0.0**
MA2 Magadan 63.50 359 *d* iP **P** **03 10 14.7 +0.2**
MA2 pmax pmax
comp=Z,111nm,1.3s
MA2 Magadan 63.50 359 P **P** **03 10 13.7 -0.8**
MA2 IAmb IAmb 03 10 16.7
comp=Z,118nm,1.2s
JORH JORHAT 63.67 302 *e*P **P** **03 10 17.2 +1.0**
ITAN ITANAGAR 64.25 303 *e*P **P** **03 10 21.1 +1.0**
ITAN IAmb IAmb 03 10 30.5
comp=Z,267nm,0.4s
ITAN *i* x x 03 10 53.0
GTA Gaotai 64.64 317 ⇓ P **P** **03 10 23.6 +1.1**
GTA pP pP 03 11 08.0 -0.9
GTA sP sP 03 11 29.3 -1.3
GTA S **S** **03 18 44.5 -1.7**
GTA ScS **SKSac** **03 19 56.8 -0.5**
GTA pmax pmax
comp=Z,340nm,1.3s
GTA pmax pmax
comp=Z,2μm,3.8s
GTA LR LR
comp=Z,430nm,17.5s
GTA LR LR
comp=Z,720nm,17.9s
GTA LR LR
comp=Z,790nm,19.9s
CIT Chita 64.75 335 *e*P **P** **03 10 24.3 +1.4**
CIT *e* 03 10 55.9
CIT *e* 03 11 11.8
CIT pmax pmax
comp=Z,470nm,1.4s
BELO BELONIA 65.01 298 *e*P **P** **03 10 26.1 +1.1**
ULN Ulaanbaatar 65.01 328 *d* iP **P** **03 10 25.9 +1.1**
ULN pmax pmax
comp=Z,349nm,1.7s
ULN Ulaanbaatar 65.01 328 P **P** **03 10 26.1 +1.4**
ULN IAmb IAmb 03 10 27.9
comp=Z,220nm,1.1s
ULN Ulaanbaatar 65.01 328 P **P** **03 10 26.2 +1.4**
SHL Shillong 65.31 300 P **P** **03 10 27.8 +0.6**
SHL pmax pmax
comp=Z,678nm,0.8s
SHL Shillong 65.31 300 *e*P **P** **03 10 27.2 0.0**
SHL IAmb IAmb 03 10 32.6
comp=Z,171nm,0.5s
SHL Shillong 65.31 300 P **P** **03 10 27.8 +0.6**
SHL Shillong 65.31 300 P **P** **03 10 27.4 +0.3**
SNR=346
SONM Songino Array 65.34 328 P **P** **03 10 28.2 +1.4**
comp=Z,58nm,0.7s,baz=146,slow=5.5,SNR=335
SONM PcP **PcP** **03 10 58.2 +0.8**
comp=Z,28nm,0.6s,baz=151,slow=3.5,SNR=9.2
SONM PKPPKP **P'P'df** **03 39 05.3 -0.6**
comp=Z,1.7nm,0.9s,baz=325,slow=2.2,SNR=6.5
SONM Songino Array 65.34 328 P **P** **03 10 28.1 +1.2**
SONM IAmb IAmb 03 10 29.9

comp=Z,298nm,1.5s
SONM PcP **PcP** **03 10 58.3 +1.0**
AGT **Agartala** **65.36 298** *e*P **P** **03 10 28.3 +1.0**
AGT IAmb IAmb 03 10 32.9
comp=Z,162nm,0.9s
GUWA **GUWAHATI** **65.66 301** *e*P **P** **03 10 29.8 +0.6**
GUWA IAmb IAmb 03 10 34.7
comp=Z,188nm,1.1s
SEY **Seymchan** **66.86 0** *i*P **P** **03 10 36.0 0.0**
LSA **Lhasa** **67.23 304** P **P** **03 10 40.6 +1.0**
LSA pmax pmax
comp=Z,610nm,0.9s
LSA **Lhasa** **67.23 304** P **P** **03 10 40.9 +1.2**
LSA **Lhasa** **67.23 304** IAmb IAmb 03 10 42.7
comp=Z,310nm,1.1s
YAK **Yakutsk** **68.15 349** *d i*P **P** **03 10 44.4 +0.3**
YAK *e* 03 13 20.9
YAK *e*PPP PPP 03 15 05.1
YAK *e*S **S** **03 19 25.9 -1.4**
YAK *e*SS **SS** **03 23 51.9 -2.5**
YAK *e*SSS SSS 03 27 06.4
YAK pmax pmax
comp=Z,254nm,1.4s
YAK pmax pmax
comp=E,31nm,1.4s
YAK pmax pmax
comp=N,115nm,1.4s
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=N,34nm,1.3s
YAK smax smax
comp=N,75nm,2.4s
YAK smax smax
comp=E,741nm,4.0s
YAK **Yakutsk** **68.15 349** P **P** **03 10 44.7 +0.6**
YAK IAmb IAmb 03 10 46.7
comp=Z,235nm,1.1s
CASY **Casey** **68.45 197** P **P** **03 10 45.5 -0.4**
CASY IAmb IAmb 03 10 47.7
comp=Z,191nm,1.1s
ZAK **Zakamensk** **68.51 329** *e*P **P** **03 10 47.2 +0.4**
ZAK *e* 03 11 32.4
ZAK pmax pmax
comp=Z,195nm,1.4s
GTK **Tadong** **68.63 301** *e*P **P** **03 10 49.3 +1.2**
GTK IAmb IAmb 03 10 56.8
comp=Z,80nm,0.6s
BOD **Bodaibo** **68.88 339**⇑ *i*P **P** **03 10 48.1 -0.6**
TLY **Talaya** **69.11 330** *e*P **P** **03 10 51.7 +1.4**
TLY *e* 03 12 03.9
TLY *e*S **S** **03 19 42.4 +3.3**
TLY *e* 03 20 35.9
TLY pmax pmax
comp=Z,287nm,1.2s
TLY **Talaya** **69.11 330** P **P** **03 10 50.9 +0.7**
TLY IAmb IAmb 03 10 52.9
comp=Z,102nm,1.1s
TLY **Talaya** **69.11 330** P **P** **03 10 51.0 +0.7**
IRK **Irkutsk** **69.14 331** *e*P **P** **03 10 50.6 +0.1**
IRK pmax pmax
comp=Z,247nm,2.8s
TAPN **Taplejung** **69.40 301** *e*P **P** **03 10 54.3 +1.3**
comp=Z,1μm,0.9s
ODAN **Odare** **69.54 300** *e*P **P** **03 10 54.7 +0.9**
comp=Z,2μm,0.8s
BOK **Bokaro** **70.07 297** *e*P **P** **03 10 57.9 +1.1**
BOK IAmb IAmb 03 11 04.4
comp=Z,52nm,0.9s
RAMN **Ramite** **70.25 300** *e*P **P** **03 10 58.4 +0.3**
comp=Z,385nm,0.8s
MOY **Mondy** **70.44 329** *e*P **P** **03 10 59.1 +0.6**
MOY pmax pmax
comp=Z,458nm,1.6s
VIS **Vishakhapatnam** **71.12 290** *e*P **P** **03 11 03.9 +0.8**
GUN **Gumba** **71.12 301** *e*P **P** **03 11 03.8 +0.4**
comp=Z,2μm,0.8s
PKI **Pulchoki** **71.43 301** *e*P **P** **03 11 05.2 -0.1**
comp=Z,1μm,1.2s
PKIN **Phulchoki** **71.44 301** *e*P **P** **03 11 05.3 0.0**
comp=Z,1μm,1.2s
KKN **Kakani** **71.60 301** *e*P **P** **03 11 06.4 +0.2**
comp=Z,933nm,0.8s
DMN **Daman** **71.70 301** *e*P **P** **03 11 07.4 +0.6**
comp=Z,2μm,1.0s
PALK **Pallekele** **72.08 279** *i*P **P** **03 11 09.1 +0.1**
PALK pmax pmax
comp=Z,661nm,1.6s
PALK **Pallekele** **72.08 279** P **P** **03 11 09.5 +0.5**
PALK **Pallekele** **72.08 279** P **P** **03 11 09.1 +0.1**
GKN **Gorkha** **72.20 301** *e*P **P** **03 11 09.7 0.0**
comp=Z,2μm,1.1s
MDRS **Chennai** **73.28 285** *e*P **P** **03 11 15.8 -0.2**
MDRS IAmb IAmb 03 11 17.8
comp=Z,258nm,1.6s
VNDA **Vanda** **73.54 178** P **P** **03 11 16.7 +0.3**
comp=Z,31nm,0.6s,baz=331,slow=6.5,SNR=126
VNDA LR LR 03 41 12.2
comp=Z,408nm,18.8s,baz=357,slow=34
VNDA **Vanda** **73.54 178** P **P** **03 11 16.5 +0.1**
VNDA pmax pmax
comp=Z,122nm,1.4s
VNDA **Vanda** **73.54 178** P **P** **03 11 16.5 +0.1**
VNDA IAmb IAmb 03 11 18.6
comp=Z,122nm,1.4s
SBA **Scott Base** **74.10 177** P **P** **03 11 20.7 +1.1**
SBA pmax pmax
comp=Z,128nm,1.4s
SBA **Scott Base** **74.10 177** P **P** **03 11 20.7 +1.1**
SBA IAmb IAmb 03 11 23.1
comp=Z,128nm,1.4s
SII **Sitkinak Islan** **74.51 28** P 03 11 23.3
baz=237
WMQ **Urumqi** **74.72 317** P **P** **03 11 25.4 +1.5**
WMQ PcP **PcP** **03 11 41.0 +3.9**
WMQ pP pwP 03 12 16.3 +1.7
WMQ sP sP 03 12 33.3 +0.4
WMQ S **S** **03 20 43.5 0.0**
WMQ sS sS 03 22 08.3 +0.9
WMQ SS **SS** **03 25 37.8 +2.0**
WMQ pmax pmax
comp=Z,580nm,1.3s
WMQ pmax pmax
comp=Z,3μm,3.7s
WMQ LR LR
comp=Z,3μm,22.1s
WMQ LR LR
comp=Z,1μm,21.1s
WMQ LR LR
comp=Z,2μm,25.7s
AIS **Amsterdam Isla** **75.23 232** P **P** **03 11 27.9 +1.1**
OHAK **Old Harbor** **75.28 27** P 03 11 27.9
baz=237
ANM **Nome** **75.35 18** P **P** **03 11 28.1 +1.1**
ANM pmax pmax
comp=Z,112nm,1.4s
ANM **Nome** **75.35 18** P **P** **03 11 28.1 +1.1**
ANM IAmb IAmb 03 12 19.0
comp=Z,112nm,1.4s
ANM **Nome** **75.35 18** P 03 11 28.5
baz=224
HYB **Hyderabad** **75.55 289** *i*P **P** **03 11 28.0 -1.1**
comp=Z,1μm,1.0s
HYB *e*PcP **PcP** **03 11 39.5 -1.7**
HYB *e*pP **pP** **03 12 14.0 -2.8**
HYB *e*sP **sP** **03 12 36.0 -2.3**
HYB *e*PP **PP** **03 14 21.0 -0.5**
HYB **Hyderabad** **75.55 289** *e*P **P** **03 11 27.1 -2.1**
TRD **Trivandrum** **75.91 280** *e*P **P** **03 11 31.3 +0.2**
KDAK **Kodiak Island** **75.91 27** LR LR 03 40 57.1
comp=Z,385nm,21.1s,baz=231,slow=32
DGZ **Jazzator, Alta** **77.08 323** *i*P **P** **03 11 37.9 +0.7**
DGZ pmax pmax
comp=Z,629nm,1.2s
TIXI **Tiksi** **77.12 353** *d i*P **P** **03 11 35.8 -1.0**
TIXI **Tiksi** **77.12 353** P **P** **03 11 36.0 -0.7**
CNPM **China Poot** **77.43 26** IAmb IAmb 03 11 42.2
comp=Z,123nm,0.7s
BHPL **Bhopal** **77.56 295** *e*P **P** **03 11 38.9 -1.4**
BHPL IAmb IAmb 03 11 42.4
comp=Z,184nm,0.3s
BHPL *i* pP pwP 03 12 39.8 +8.5
BRSE **Bradley Lake S** **77.75 26** P 03 11 41.1
baz=239
ZSN **Zaisan** **77.86 320**⇓ *i*P **P** **03 11 42.6 +1.2**
comp=Z,237nm,1.2s,baz=320
ZSN *i* S **S** **03 21 18.7 +1.3**
comp=Z,175nm,4.8s,baz=320
ZSN **Zaisan** **77.86 320** *d i*P **P** **03 11 42.6 +1.2**
ZSN *i* S **S** **03 21 18.7 +1.3**
ZSN pmax pmax
comp=Z,237nm,1.2s
ZSN smax smax
comp=N,175nm,4.8s
CAPN **Captain Cook N** **78.11 25** P 03 11 42.2
baz=238
DDI **Dehra Dun** **78.33 302** *e*P **P** **03 11 45.0 +0.5**
DDI IAmb IAmb 03 11 49.0
comp=Z,203nm,0.4s
SEW **Seward** **78.50 26** P 03 11 45.2
baz=240
RDOG **Red Dog Mine** **78.53 16** IAmb IAmb 03 11 47.9
comp=Z,68nm,1.2s
RDOG **Red Dog Mine** **78.53 16** P 03 11 45.7
baz=226
O22K **Cooper Landing** **78.57 25** P 03 11 45.0
baz=240
SKT **Skwentna** **78.59 24** P 03 11 45.3
baz=238
SUA **Susitna One** **78.64 24** P 03 11 45.2
baz=239,SNR=7.5
NDI **New Delhi** **78.73 300** *e*P **P** **03 11 46.5 -0.1**
PPLA **Purkeypile** **78.83 23** IAmb IAmb 03 13 02.0
comp=Z,134nm,1.7s
PPLA **Purkeypile** **78.83 23** P 03 11 46.4
baz=237
RC01 **Rabbit Creek A** **78.87 25** P 03 11 46.8
baz=240
RC01 **Rabbit Creek A** **78.87 25** IAmb IAmb 03 12 41.5
comp=Z,106nm,1.3s
DGAR **Diego Garcia** **79.17 263** *ce*P **P** **03 11 49.9 +0.7**
DGAR pmax pmax
comp=Z,962nm,1.5s
DGAR **Diego Garcia** **79.17 263** P **P** **03 11 49.9 +0.7**
DGAR **Diego Garcia** **79.17 263** P **P** **03 11 50.0 +0.7**
SMLA **Simla** **79.25 303** *e*P **P** **03 11 49.0 -0.3**
SMLA *i* pP pwP 03 12 49.2 +8.6
MK31 **Makanchi Array** **79.31 319** *d i*P **P** **03 11 50.4 +1.0**
MKAR **Makanchi Array** **79.31 319** P **P** **03 11 50.5 +1.1**
comp=Z,236nm,0.9s,baz=99,slow=5.5,SNR=793
MKAR PKKPbc **PKKPbc** **03 30 38.9 -1.4**
comp=Z,3.6nm,0.8s,baz=285,slow=2.1,SNR=16
MKAR PKPPKP 03 38 47.1
comp=Z,3.0nm,0.9s,baz=318,slow=1.6,SNR=8.8
MKAR **Makanchi Array** **79.31 319** *i*P **P** **03 11 49.5 +0.1**
MKAR pmax pmax
comp=Z,235nm,0.9s
MKAR **Makanchi Array** **79.31 319** P **P** **03 11 49.9 +0.5**
CHUM **Lake Minchumin** **79.32 22** P 03 11 49.8
baz=237
CUT **Chulitna** **79.32 24** P **P** **03 11 49.9 +0.9**
CUT IAmb IAmb 03 11 50.6
comp=Z,172nm,1.6s
CUT **Chulitna** **79.32 24** P 03 11 50.1
baz=239
PWL **Port Wells** **79.35 25** IAmb IAmb 03 12 00.1
comp=Z,77nm,0.9s
PMR **Palmer** **79.37 25** P 03 11 49.5
baz=240
MAKZ **Makanchi** **79.52 319** P **P** **03 11 51.4 +0.9**
MAKZ pmax pmax
comp=Z,488nm,1.0s
MAKZ **Makanchi** **79.52 319** P **P** **03 11 51.4 +0.9**
GHO **Glory Hole Cre** **79.55 24** IAmb IAmb 03 11 52.5
comp=Z,146nm,1.7s
KNK **Knik Glacier** **79.57 25** IAmb IAmb 03 12 49.7
comp=Z,79nm,1.2s
KNK **Knik Glacier** **79.57 25** P 03 11 50.7
baz=241
KAD **Karad** **79.67 288**⇓ *i*P **P** **03 11 52.1 +0.2**
MNCY **Minicoy** **79.74 279** *e*P **P** **03 11 52.2 -0.1**
GOA **Goa** **79.78 286** *e*P **P** **03 11 51.9 -0.6**
GOA IAmb IAmb 03 11 57.6
comp=Z,190nm,1.3s
SML **Sawmill** **79.81 25** IAmb IAmb 03 12 47.1
comp=Z,100nm,1.1s
SML **Sawmill** **79.81 25** P 03 11 51.9
baz=241,SNR=8.5
TRF **Thorofare Moun** **79.86 23** P 03 11 51.1
baz=239
GLI **Glacier Island** **79.89 26** P 03 11 51.0
baz=242
GLI **Glacier Island** **79.89 26** IAmb IAmb 03 11 54.9
comp=Z,55nm,0.7s
BPAW **Bear Paw Mtn.** **79.93 22** P 03 11 52.1
baz=238
BHK **Bhakra** **79.93 303** *ex* **P** **03 11 54.0 +0.9**
BPAW **Bear Paw Mtn.** **79.93 22** P **P** **03 11 52.3 0.0**
BPAW IAmb IAmb 03 11 54.2
comp=Z,120nm,1.9s
POO **Poona** **80.14 290**⇓ *i*P **P** **03 11 51.5 -3.0**
comp=Z,510nm,0.5s
POO *e*P **PcP** **03 11 54.6 -6.5**
ZAA0 **Zalesovo Array** **80.16 326** P **P** **03 11 53.0 -0.7**
ZAA0 IAmb IAmb 03 11 54.9
comp=Z,225nm,0.9s
ZALV **Zalesovo Beam** **80.16 326** P **P** **03 11 53.4 -0.4**
comp=Z,196nm,0.7s,baz=110,slow=5.4,SNR=481
ZALV S **S** **03 21 38.7 -2.7**
comp=Z,1.9nm,0.9s,baz=114,slow=7.1,SNR=6.0
ZALV PKKPbc **PKKPbc** **03 30 36.0 -2.7**
comp=Z,1.9nm,0.5s,baz=284,slow=2.4,SNR=8.4
ZALV PKPPKP **P'P'df** **03 38 34.8 -5.0**
comp=Z,1.0nm,0.7s,baz=326,slow=7.7,SNR=4.0
ZALV **Zalesovo Beam** **80.16 326** P **P** **03 11 52.8 -1.0**
SHLS **Shalkode** **80.21 315**⇓ *i*P **P** **03 11 54.1 -0.4**
comp=Z,213nm,1.1s,baz=315
SHLS *e*S **S** **03 21 40.8 -1.9**
baz=315
SHLS **Shalkode** **80.21 315** *d i*P **P** **03 11 54.0 -0.4**
SHLS *e*S **S** **03 21 40.7 -1.9**
SHLS pmax pmax
comp=Z,213nm,1.1s
SCM **Sheep Creek Mo** **80.24 25** IAmb IAmb 03 12 46.1
comp=Z,314nm,2.0s
WAT2 **Susitna Watana** **80.28 24** P 03 11 54.1
baz=241,SNR=8.2
EYAK **Cordova Ski Ar** **80.33 26** P 03 11 54.8
baz=244
RND **Reindeer** **80.39 23** IAmb IAmb 03 12 49.5
comp=Z,91nm,1.3s
UZB **Uzunbulak** **80.52 315**⇓ *i*P **P** **03 11 57.2 +1.1**
comp=Z,210nm,1.2s,baz=315
UZB *e*S **S** **03 21 47.0 +1.0**
baz=315
UZB **Uzunbulak** **80.52 315** *d i*P **P** **03 11 57.2 +1.1**
UZB *e*S **S** **03 21 46.9 +1.0**
UZB pmax pmax
comp=Z,210nm,1.2s
MCK **McKinley** **80.52 23** IAmb IAmb 03 12 50.2
comp=Z,166nm,1.4s
MCK **McKinley** **80.52 23** P 03 11 55.1
baz=240,SNR=18
AJM **Ajmer** **80.59 298**⇓ *i*P **P** **03 11 56.0 -0.7**
KAIM **Kayak Island** **80.66 27** P 03 11 55.7
baz=245
KLU **Klutina** **80.68 25** IAmb IAmb 03 12 53.9
comp=Z,61nm,1.0s
KLU **Klutina** **80.68 25** P 03 11 57.3
baz=243
KPKS **Kokpek** **80.84 315**⇑ *i*P **P** **03 11 58.7 +1.0**
comp=Z,283nm,1.6s,baz=315
KPKS **Kokpek** **80.84 315** *c i*P **P** **03 11 58.7 +1.0**
KPKS pmax pmax
comp=Z,283nm,1.6s
M24K **Tolsona, Glenn** **80.85 25** IAmb IAmb 03 12 00.6
comp=Z,327nm,1.7s
M24K **Tolsona, Glenn** **80.85 25** P 03 11 57.6
baz=243
NEA2 **Nenana** **80.90 22** P 03 11 57.1
baz=240,SNR=13
NEA2 **Nenana** **80.90 22** IAmb IAmb 03 11 59.2
comp=Z,91nm,1.5s
SATY **Saty** **80.94 315** *i*P **P** **03 11 59.3 +1.0**
comp=Z,182nm,1.5s,baz=315
SATY *e*S **S** **03 21 51.1 +0.9**
baz=315
SATY **Saty** **80.94 315** *c i*P **P** **03 11 59.3 +1.0**
SATY *e*S **S** **03 21 51.1 +0.9**
SATY pmax pmax
comp=Z,182nm,1.5s
BMRM **Bremner River** **81.02 26** IAmb IAmb 03 12 50.4
comp=Z,159nm,1.5s
BMRM **Bremner River** **81.02 26** P 03 11 58.4
baz=244
I23K **Minto, Yukon-K** **81.08 21** P 03 11 58.1
baz=240,SNR=7.5
I23K **Minto, Yukon-K** **81.08 21** P **P** **03 11 59.0 +0.7**
I23K IAmb IAmb 03 12 51.5
comp=Z,152nm,1.9s
WRH **Wood River Hil** **81.21 22** IAmb IAmb 03 12 53.1
comp=Z,161nm,1.6s
N25K **Chitina, Valde** **81.30 26** IAmb IAmb 03 12 52.3
comp=Z,143nm,1.7s
N25K **Chitina, Valde** **81.30 26** P 03 11 59.9
baz=244
MDM **Murphy Dome** **81.40 22** IAmb IAmb 03 12 54.9
comp=Z,123nm,1.8s
CCB **Clear Creek Bu** **81.40 22** IAmb IAmb 03 12 53.9
comp=Z,86nm,1.4s
TDK **Taldyqorghan** **81.42 316** *i*P **P** **03 12 02.0 +1.3**
comp=Z,470nm,1.1s,baz=316
TDK **Taldyqorghan** **81.42 316** *i*P **P** **03 12 01.9 +1.3**
TDK pmax pmax
comp=Z,471nm,1.1s
TCOL **CIGO, UAF Yank** **81.49 22** P 03 11 59.9
baz=241,SNR=13
COLA **College** **81.50 22** P 03 12 00.2
baz=241
COLA **College** **81.50 22** *i*P **P** **03 12 00.0 -0.5**
COLA pmax pmax
comp=Z,47nm,1.1s
COLA **College** **81.50 22** P **P** **03 12 00.1 -0.4**
PAX **Paxson** **81.54 24** P 03 12 00.9
baz=243
CRQM **Cirque** **81.58 27** IAmb IAmb 03 12 53.6
comp=Z,167nm,1.7s
CRQE **Cirque** **81.60 27** P 03 12 00.5
baz=246
HDA **Harding Lake** **81.61 23** P 03 12 00.7
baz=242,SNR=7.2
HDA P 03 12 00.7
baz=242,SNR=7.2
TGL **Tana Glacier** **81.72 27** IAmb IAmb 03 12 57.5
comp=Z,117nm,1.6s
POKR **Poker Plat Res** **81.77 22** P 03 12 01.1
baz=241,SNR=9.3
IL31 **81.81 22** IAmb IAmb 03 12 55.0
comp=Z,146nm,1.9s
ILAR **Eielson Array** **81.81 22** P **P** **03 12 01.2 -1.0**
comp=Z,23nm,0.8s,baz=247,slow=4.8,SNR=105
ILAR S **S** **03 21 54.5 -3.5**
comp=Z,1.4nm,1.0s,baz=250,slow=10,SNR=5.8
ILAR PKKPbc **PKKPbc** **03 30 31.4 -4.1**
comp=Z,6.6nm,0.8s,baz=355,slow=1.9,SNR=45
ILAR PKPPKP P'P'df 03 38 21.2 -15
comp=Z,0.7nm,0.9s,baz=54,slow=4.6,SNR=3.1
ILAR **Eielson Array** **81.81 22** P **P** **03 12 00.6 -1.6**
COLD **Coldfoot** **81.86 19** P **P** **03 12 03.5 +1.0**
COLD IAmb IAmb 03 12 57.5
comp=Z,105nm,1.6s
COLD **Coldfoot** **81.86 19** P 03 12 03.3
baz=238,SNR=19
MCARA **McCarthy VSAT** **81.89 26** P 03 12 03.0
baz=246
KSH **Kashi** **81.91 311** P **P** **03 12 05.4 +1.9**
KSH sP sP 03 13 16.8 +3.7
KSH S **S** **03 22 00.8 +0.4**
KSH pmax pmax
comp=Z,4μm,3.3s
MDOK **Medeo** **81.92 314** *e*P **P** **03 12 04.9 +1.4**
baz=314
MDOK **Medeo** **81.92 314** *e*P **P** **03 12 04.9 +1.4**
TNSS **Tian-Shan** **81.97 314**⇓ *i*P **P** **03 12 05.7 +1.6**
baz=314
TNSS **Tian-Shan** **81.97 314**⇓ *i*P **P** **03 12 05.7 +1.6**
AAA **Alma-Ata** **82.03 314** *e*P **P** **03 12 05.2 +1.3**
comp=Z,114nm,1.1s,baz=314
AAA **Alma-Ata** **82.03 314** *e*P **P** **03 12 05.2 +1.3**
AAA pmax pmax
comp=Z,114nm,1.1s
ULHL **Ulahol** **82.30 313** P **P** **03 12 07.3 +1.7**
SNR=17
A21K **Barrow** **82.34 15** P 03 12 05.1
baz=232,SNR=6.4
DOT **Dot Lake** **82.41 24** IAmb IAmb 03 13 00.9
comp=Z,72nm,1.1s
CTG **Chitna Glacier** **82.47 27** P 03 12 06.0
baz=247
CTGM **Chitina Glacie** **82.48 27** IAmb IAmb 03 12 10.5
comp=Z,212nm,1.9s
LOGN **Logan Glacier** **82.57 27** P **P** **03 12 07.2 +0.7**
SCRK **Sand Creek** **82.58 24** P 03 12 06.7
baz=245
SCRK **Sand Creek** **82.58 24** IAmb IAmb 03 12 58.4
comp=Z,116nm,1.7s
KUU **Kurty** **82.59 315**⇓ *i*P **P** **03 12 07.7 +0.9**
comp=Z,494nm,0.9s,baz=315
KUU **Kurty** **82.59 315** *d i*P **P** **03 12 07.7 +0.9**
KUU pmax pmax
comp=Z,494nm,0.9s
PINM **Pinnacle** **82.65 28** P 03 12 06.9
baz=248
PRP **Porcupine Dome** **82.67 22** P 03 12 06.7
baz=243
KURK **Kurchatov** **82.76 322** P **P** **03 12 07.8 +0.4**
KURBB **Kurchatov Arra** **82.79 322** P **P** **03 12 07.8 +0.2**
comp=Z,207nm,1.0s,baz=108,slow=4.3,SNR=395
TOLK **Toolik Lake Re** **82.80 18** P 03 12 08.2
baz=239,SNR=24
TKM2 **Tokmak 2** **82.91 314** P **P** **03 12 10.3 +1.6**
SNR=18
NIL **Nilore** **82.96 304** P **P** **03 12 09.1 +0.2**
NIL pmax pmax
comp=Z,1μm,1.3s
NIL **Nilore** **82.96 304** P **P** **03 12 09.1 +0.2**
FYU **Fort Yukon** **83.25 21** IAmb IAmb 03 12 12.5
comp=Z,149nm,1.6s
KBK **Karagaybulak** **83.32 314** P **P** **03 12 12.3 +1.5**
SNR=6.5
K27K **Chicken** **83.36 24** P 03 12 10.7
baz=246
CHMS **Chumysh** **83.53 314** P **P** **03 12 13.1 +1.5**
SNR=5.6
UCH **Uchtor** **83.55 313** P **P** **03 12 13.1 +0.8**
SNR=237
AAK **Ala-Archa** **83.64 314** P **P** **03 12 13.3 +0.9**
comp=Z,228nm,0.8s,baz=117,slow=4.5,SNR=441
AAK **Ala-Archa** **83.64 314** P **P** **03 12 13.5 +1.1**
SNR=189
AAK **Ala-Archa** **83.64 314** *i*P **P** **03 12 12.7 +0.3**
SNR=198
AAK **Ala-Archa** **83.64 314** *ce*P **P** **03 12 13.3 +0.9**
AAK pmax pmax
comp=Z,2μm,1.3s
AAK **Ala-Archa** **83.64 314** P **P** **03 12 13.0 +0.6**
AAK **Ala-Archa** **83.64 314** P **P** **03 12 13.1 +0.7**
SGDS **Sogindy** **83.71 314**⇓ *e*P **P** **03 12 13.5 +0.9**
comp=Z,126nm,0.9s,baz=314
SGDS *e*S **S** **03 22 16.2 -2.1**
baz=314
SGDS **Sogindy** **83.71 314** *de*P **P** **03 12 13.5 +0.9**
SGDS *e*S **S** **03 22 16.1 -2.1**
SGDS pmax pmax
comp=Z,126nm,0.9s
USP **Ospenovka** **83.77 314** P **P** **03 12 14.4 +1.6**
SNR=18
EGAK **Eagle** **84.03 23** P 03 12 14.3
baz=247,SNR=16
SIT **Sitka** **84.08 32** P 03 12 14.6
baz=253
AML **Almayashu** **84.13 313** P **P** **03 12 16.1 +1.0**
SNR=703
EKS2 **Erkin-Say** **84.17 313** P **P** **03 12 15.9 +0.9**
SNR=304
BTLS **Baital** **84.44 316** *e*P **P** **03 12 17.2 +1.1**
comp=Z,289nm,1.0s,baz=316
BTLS **Baital** **84.44 316** *e*P **P** **03 12 17.2 +1.1**
BTLS pmax pmax
comp=Z,289nm,1.0s
DAWY **Dawson** **84.47 24** IAmb IAmb 03 13 09.0
comp=Z,152nm,1.9s
BHUJ **Bhuj** **84.63 294** *e*P **P** **03 12 18.5 +1.0**
BESE **Bessie Mountai** **84.77 30** IAmb IAmb 03 13 10.4
comp=Z,140nm,1.5s
SKAG **Skagway** **84.79 29** P 03 12 17.7
baz=253
CRAG **Craig** **84.83 33** P 03 12 18.5
baz=255

WHY Whitehorse 85.35 28 IAmb IAmb 03 13 13.5
comp=Z,104nm,1.8s
WRAK Wrangell Islan 85.50 33 P **P** **03 12 23.4 +2.3**
WRAK IAmb IAmb 03 12 24.6
comp=Z,139nm,1.6s
WRAK Wrangell Islan 85.50 33 P 03 12 21.8
baz=256,SNR=6.6
MAW Mawson 85.91 203 P **P** **03 12 23.7 +0.8**
comp=Z,115nm,0.9s,baz=88,slow=5.6,SNR=14
MAW Mawson 85.91 203 P **P** **03 12 23.7 +0.8**
baz=86,SNR=7.2
MAW Mawson 85.91 203 IAmb IAmb 03 12 24.5
comp=Z,53nm,1.1s
DZA Taraz 85.98 313 *e*P **P** **03 12 24.0 +0.1**
comp=Z,78nm,0.8s,baz=313
DZA Taraz 85.98 313 *e*P **P** **03 12 24.0 +0.1**
DZA pmax pmax
comp=Z,78nm,0.8s
BRZS Berezniki 86.30 321 ⇓ *i*P **P** **03 12 25.0 -0.3**
comp=Z,67nm,1.2s,baz=320
BRZS Berezniki 86.30 321 *d i*P **P** **03 12 24.9 -0.3**
BRZS pmax pmax
comp=Z,67nm,1.2s
EPYK Eagle Plains 86.32 22 IAmb IAmb 03 12 27.8
comp=Z,236nm,1.5s
EPYK Eagle Plains 86.32 22 P 03 12 25.3
baz=251,SNR=43
KBL Kabul 86.55 305 P **P** **03 12 26.1 -0.9**
KBL pmax pmax
comp=Z,111nm,0.8s
KBL Kabul 86.55 305 P **P** **03 12 26.1 -0.9**
KBL IAmb IAmb 03 12 27.8
comp=Z,111nm,0.8s
KBL Kabul 86.55 305 P **P** **03 12 25.8 -1.2**
SNR=61
KK31 Karatay Array 86.61 313 IAmb IAmb 03 12 28.6
comp=Z,93nm,0.7s
KKAR Karatay Array 86.61 313 P **P** **03 12 26.8 -0.1**
KKAR Karatay Array 86.61 313 P **P** **03 12 26.8 -0.1**
IUG luzhnay 86.82 312 *e*P **P** **03 12 28.9 +0.8**
comp=Z,57nm,0.9s,baz=312
IUG luzhnay 86.82 312 *e*P **P** **03 12 28.9 +0.8**
IUG pmax pmax
comp=Z,57nm,0.9s
BRLS Borolday 87.09 313 *e*P **P** **03 12 30.1 +0.8**
baz=313
BRLS Borolday 87.09 313 *e*P **P** **03 12 30.0 +0.8**
DLBC Dease Lake 87.18 31 PKKPbc PKKPbc 03 30 20.9 -1.6
comp=Z,8.1nm,1.1s,baz=90,slow=3.2,SNR=8.1
DLBC Dease Lake 87.18 31 IAmb IAmb 03 13 22.7
comp=Z,132nm,1.6s
INK Inuvik 88.08 21 P **P** **03 12 33.5 +0.3**
comp=Z,37nm,1.2s,baz=247,slow=5.7,SNR=26
INK PKKP **PKKPdf** **03 30 14.9 +0.6**
comp=Z,15nm,1.0s,baz=53,slow=4.4,SNR=24
INK Inuvik 88.08 21 IAmb IAmb 03 13 25.8
comp=Z,70nm,1.4s
BVAR Borovoye Array 88.24 323 P **P** **03 12 33.8 -0.6**
comp=Z,159nm,0.7s,baz=112,slow=9.8,SNR=609
BRVK Borovoye 88.31 323 *ce*P **P** **03 12 33.5 -1.2**
BRVK pmax pmax
comp=Z,539nm,1.7s
BRVK Borovoye 88.31 323 P **P** **03 12 33.9 -0.9**
BRVK Borovoye 88.31 323 P **P** **03 12 34.4 -0.3**
J01E Myrtle Point 88.43 47 P 03 12 36.1
baz=263
K02D Willamette Mer 88.57 47 P 03 12 36.5
baz=263
I03D Drain, OR 88.91 46 P 03 12 37.9
baz=263
O02D Mt. Diablo Mer 88.94 50 P 03 12 38.0
baz=264,SNR=7.7
M02C Callahan 89.02 49 P 03 12 39.5
baz=264,SNR=8.0
HUMO Hull Mountain 89.08 47 IAmb IAmb 03 12 41.9
comp=Z,44nm,1.1s
N02D Trinity Center 89.08 49 P 03 12 39.5
baz=264,SNR=14
YBH Yreka Blue Hor 89.16 48 P **P** **03 12 40.4 +1.2**
comp=Z,11nm,0.9s,baz=205,slow=2.6,SNR=19
H04D Lebanon 89.44 45 P 03 12 40.8
baz=264
L04D Klamath Falls 89.51 48 P 03 12 41.0
baz=264
D03D Eldon 89.54 42 P 03 12 40.9
baz=264
I04A Tendick Farm, 89.60 46 P 03 12 40.9
baz=264
O03E Paynes Creek 89.70 50 P 03 12 42.0
baz=264,SNR=7.2
J04D Umpqua Nationa 89.76 47 P 03 12 42.9
baz=264,SNR=7.8
E04D Cinebar 89.78 43 P 03 12 42.9
baz=264
M04C Macdoel 89.81 48 P 03 12 43.5
baz=264,SNR=8.9
ORV Oroville 89.86 51 P **P** **03 12 42.2 -0.1**
ORV Oroville 89.86 51 P **P** **03 12 42.2 -0.1**
K04D Chiloquin, OR 89.96 47 P 03 12 43.4
baz=264
B05A Bryant 90.28 42 P 03 12 44.8
baz=264
J05D Fort Rock, OR 90.40 47 P 03 12 46.5
baz=265,SNR=13
I05D Terrebonne, OR 90.42 46 P 03 12 45.5
baz=265
F05D White Salmon 90.48 44 P 03 12 45.3
baz=265
K05A Summer Lake 90.60 47 IAmb IAmb 03 12 49.0
comp=Z,39nm,1.0s
PINE Pine Mountain 90.66 46 IAmb IAmb 03 12 49.5
comp=Z,80nm,1.5s
SMMC Simmler 90.69 55 P 03 12 47.1
baz=266
PKM Mcpherson Peak 90.80 55 P 03 12 47.0
baz=266,SNR=7.8
SNCC San Nicolas Is 90.92 57 P 03 12 47.6
baz=266
LTY Liberty 91.14 43 IAmb IAmb 03 13 48.6
comp=Z,83nm,1.9s
VOG Valley Oaks Go 91.26 54 P 03 12 49.0
baz=266
PNTR Pine Nut 91.29 51 P **P** **03 12 51.3 +2.1**
PNTR IAmb IAmb 03 12 52.4
comp=Z,41nm,1.4s
VES Vestal, Richgr 91.47 54 P 03 12 49.9
baz=266,SNR=8.6
ARVC Arvin 91.62 55 P 03 12 51.1
baz=266
C36M Paulatuk 91.66 21 IAmb IAmb 03 12 50.9
comp=Z,38nm,1.3s
C36M Paulatuk 91.66 21 P 03 12 49.5
baz=263,SNR=23
MLAC Mammoth, Mammo 91.79 53 P 03 12 52.4
baz=266
CIS Catalina Islan 91.86 57 P 03 12 51.2
baz=266
ISA Isabella, Lake 91.95 55 P 03 12 52.1
baz=266,SNR=11
DECC Green Verdugo 91.98 56 P 03 12 52.7
baz=266
PNT Penticton 92.00 41 P **P** **03 12 51.3 -0.7**
PNT pmax pmax
comp=Z,41nm,1.4s
LHV Little Huntoon 92.09 52 P **P** **03 12 54.8 +2.2**
B08A Colville Reser 92.12 42 IAmb IAmb 03 12 54.9
comp=Z,56nm,1.9s
HRA Herat 92.13 304 IAmb IAmb 03 12 54.3
comp=Z,156nm,1.1s
MWC Mount Wilson 92.20 56 IAmb IAmb 03 12 56.6
comp=Z,39nm,1.0s
NVAR Mina Array Bea 92.26 52 P **P** **03 12 53.7 0.0**
comp=Z,12nm,0.7s,baz=256,slow=5.8,SNR=57
NVAR PKKPbc **PKKPbc** **03 30 09.4 +0.2**
comp=Z,0.9nm,0.5s,baz=108,slow=2.9,SNR=8.7
NVAR PKPPKP **P'P'df** **03 38 12.6 -6.4**
comp=Z,0.6nm,0.7s,baz=81,slow=4.3,SNR=5.2
NVAR LR LR 03 50 58.8
comp=Z,518nm,18.5s,baz=268,slow=33
NVAR Mina Array Bea 92.26 52 P **P** **03 12 54.0 +0.2**
EDW2 Edwards Air Fo 92.29 55 P 03 12 54.0
baz=267,SNR=14
CWC Cottonwood Cre 92.31 54 P 03 12 54.4
baz=267
BFSC Mount Baldy Ra 92.53 56 P 03 12 55.3
baz=267,SNR=7.4
LRMC Laurel Mtn Rad 92.58 55 P 03 12 55.4
baz=267,SNR=26
C09A Chrisman Ranch 92.80 42 IAmb IAmb 03 12 58.0
comp=Z,42nm,1.7s
E09A Wood Farm, Sta 92.82 44 IAmb IAmb 03 13 47.5
comp=Z,111nm,2.0s
MURC Murrieta 92.88 57 P 03 12 56.7
baz=267
GRAC Grapevine Rang 92.92 53 P 03 12 57.1
baz=267
109C Camp Elliot, M 92.92 57 P **P** **03 12 59.1 +2.4**
109C IAmb IAmb 03 13 00.2
comp=Z,26nm,1.1s
109C Camp Elliot, M 92.92 57 P 03 12 57.9
baz=267,SNR=6.1
TPH Tonopah 93.09 52 IAmb IAmb 03 13 00.9
comp=Z,96nm,1.2s
RRX Edison Barstow 93.11 55 P 03 12 58.1
baz=267
BBRC Big Bear Solar 93.14 56 P 03 12 58.5
baz=267
GSC Goldstone, Bar 93.29 55 P 03 12 58.5
baz=267,SNR=11
FURC Furnace Creek, 93.30 54 P 03 12 58.9
baz=267,SNR=17
MONP2 Monument Peak 93.50 57 P 03 12 59.5
baz=267,SNR=18
PFO Pinyon Flats O 93.50 57 *i*P **P** **03 13 00.1 +0.6**
PFO pmax pmax
comp=Z,32nm,1.1s
PFO Pinyon Flats O 93.50 57 P **P** **03 13 00.0 +0.6**
PFO Pinyon Flats O 93.50 57 P 03 12 59.9
baz=267,SNR=9.0
XPFO Pion Flat 93.50 57 P **P** **03 13 00.3 +0.8**
TPFO Pinon Flats 93.50 57 P 03 12 59.4
baz=267,SNR=8.5
NEW Newport 93.59 42 P **P** **03 12 59.4 0.0**
comp=Z,5.4nm,0.9s,baz=299,slow=3.8,SNR=9.9
NEW Newport 93.59 42 P 03 12 59.9
baz=268
HEC Hector,Ludlow 93.65 55 P 03 13 00.6
baz=268,SNR=9.0
SHOC Shoshone, Teco 93.75 54 P 03 13 01.2
baz=268,SNR=6.6
IKP In-Ko-Pah, Jac 93.75 58 P 03 13 02.1
baz=268,SNR=8.1
TPNV Topopah Spring 93.81 53 IAmb IAmb 03 13 03.8
comp=Z,32nm,1.0s
TPNV Topopah Spring 93.81 53 P 03 13 01.3
baz=268,SNR=30
BELC Belle Mtn. Jos 93.90 56 P 03 13 02.1
baz=268,SNR=12
JLN Jalan Bani Buh 93.96 292 P **P** **03 13 01.0 -0.7**
SNR=24
SWSC Sam W. Stewart 94.02 57 P 03 13 02.8
baz=268,SNR=9.4
SYO Syowa Base 94.06 200 ⇓ *i*P **P** **03 13 01.0 -0.1**
GMRC Granite Mounta 94.21 56 P 03 13 03.5
baz=268,SNR=16
BC3 Big Chuckawall 94.34 57 P 03 13 04.1
baz=268,SNR=15
MFID Camas Ranch 94.35 47 IAmb IAmb 03 13 55.5
comp=Z,53nm,2.0s
R11A Troy Canyon, C 94.39 52 P 03 13 04.1
baz=268,SNR=7.3
WBK Wadi Bani Khal 94.39 292 P **P** **03 13 03.2 -0.5**
SNR=44
ABKAR Akbulak array 94.46 319 P **P** **03 13 01.6 -1.7**
IRM Iron Mountain 94.61 56 P 03 13 05.5
baz=268,SNR=20
PRN Pahroc Range 94.78 53 IAmb IAmb 03 13 09.1
comp=Z,31nm,1.2s
GLA Glamis 94.84 57 P 03 13 06.4
baz=268
NEE2 Needles Airpor 95.06 56 P 03 13 07.2
baz=269
YKA Yellowknife Ar 95.17 28 P **P** **03 13 06.4 +0.2**
comp=Z,5.5nm,0.7s,baz=268,slow=4.2,SNR=57
YKA PKiKP **PKiKP** **03 17 46.5 +0.4**
comp=Z,1.9nm,0.7s,baz=275,slow=1.0,SNR=15
YKA PKKPbc **PKKPdf** **03 29 59.1 -2.5**
comp=Z,8.2nm,0.7s,baz=88,slow=3.7,SNR=39
YKA PKPPKP P'P'df 03 37 55.5 -16
comp=Z,0.4nm,0.9s,baz=140,slow=3.1,SNR=3.8
YKA LR LR 03 52 17.6
comp=Z,448nm,20.4s,baz=0.0,slow=33
JMDO Jabal Madar 95.18 292 P **P** **03 13 06.3 -0.9**
SNR=16
BIDO Bidbid 95.21 293 P **P** **03 13 06.6 -0.7**
SNR=54
MHTO MHTO 95.25 291 P **P** **03 13 06.7 -0.9**
SNR=30
SMDO Samad 95.26 293 P **P** **03 13 06.7 -0.9**
SNR=20
ARU Arti 95.33 326 *c i*P **P** **03 13 05.6 -1.5**
ARU *PP **pP** **03 13 55.7 -0.9**
ARU 03 16 58.6
ARU S **SKSac** **03 23 21.7 -1.6**
ARU SS **SS** **03 30 33.3 -3.7**
ARU pmax pmax
comp=Z,196nm,1.1s
ARU Arti 95.33 326 P **P** **03 13 05.1 -2.0**
SPR3 Spring Creek 3 95.38 51 IAmb IAmb 03 13 11.7
comp=Z,25nm,1.3s
PDMCI Parker Dam,Lak 95.45 56 P 03 13 09.3
baz=269,SNR=12
GEYT Alibeck 95.60 308 P **P** **03 13 09.2 +0.3**
comp=Z,17nm,0.9s,baz=174,slow=3.0,SNR=24
GEYT PP **PP** **03 17 06.0 +3.2**
comp=Z,25nm,1.1s,baz=79,slow=9.4,SNR=7.7
GEYT LR LR 03 58 07.4
comp=Z,170nm,19.8s,baz=285,slow=36
GEYT Alibeck 95.60 308 P **P** **03 13 08.3 -0.6**
GEYT IAmb IAmb 03 13 09.9
comp=Z,21nm,1.0s
GYA0B ALIBECK ARRAY 95.60 308 IAmb IAmb 03 13 09.9
comp=Z,35nm,1.1s
DQM DQM 95.61 290 P **P** **03 13 08.5 -0.7**
SNR=9.7
W13A Hualapai Mount 95.67 55 IAmb IAmb 03 13 12.8
comp=Z,21nm,1.2s
AKTO Aktyubinsk 95.71 320 P **P** **03 13 07.9 -1.1**
comp=Z,41nm,1.0s,baz=90,slow=5.4,SNR=70
AKTO PKiKP **PKiKP** **03 17 48.2 +0.7**
comp=Z,2.3nm,0.7s,baz=83,slow=8.1,SNR=1.0
AKTO PKKPbc **PKKPbc** **03 29 57.6 -2.8**
comp=Z,1.6nm,0.8s,baz=196,slow=5.9,SNR=3.8
WALA Waterton Lakes 95.73 41 IAmb IAmb 03 13 11.4
comp=Z,68nm,1.8s
HOQ Hoqain 95.96 293 P **P** **03 13 10.1 -0.6**
SNR=48
BSY Bisya 96.03 292 P **P** **03 13 10.2 -0.9**
SNR=28
CCUT Cedar City 96.13 53 P **P** **03 13 12.4 +0.9**
214A Organ Pipe Nat 96.52 58 P 03 13 12.5
baz=269
KNB Kanab 96.56 53 IAmb IAmb 03 13 17.5
comp=Z,26nm,1.2s
DUG Dugway, Tooele 96.56 50 P 03 13 12.5
baz=270
ARQ Araqi 96.67 293 P **P** **03 13 13.2 -0.8**
SNR=26
SOHO SOHO 96.68 294 *i*P **P** **03 13 12.4 -1.6**
SNR=40
SOHO SOHO 96.68 294 P **P** **03 13 13.1 -0.9**
MDH Madha 96.93 295 *i*P **P** **03 13 13.5 -1.6**
SNR=6.0
BANOM Banah 96.94 295 *i*P **P** **03 13 14.4 -0.8**
baz=23
BANOM Banah 96.94 295 P **P** **03 13 14.5 -0.7**
BANOM P **PcP** **03 13 16.0 +0.7**
SNR=17
PKCU Pink Cliffs 96.96 53 IAmb IAmb 03 13 20.1
comp=Z,33nm,1.3s
UOSS Minazif 97.00 295 *i*P **P** **03 13 13.9 -1.5**
SNR=13
UOSS Minazif 97.00 295 P **P** **03 13 13.9 -1.5**
MSFE Esma-Masafi 97.05 295 *i*P **P** **03 13 14.7 -1.0**
SNR=27
MASF Masafi 97.05 295 P **P** **03 13 15.2 -0.5**
SNR=25
MTPU Mount Pierson 97.06 52 IAmb IAmb 03 14 19.0
comp=Z,27nm,1.6s
HATD Hatta, Dubai 97.07 294 *i*P **P** **03 13 14.7 -1.0**
SNR=14
HATD Hatta, Dubai 97.07 294 P **P** **03 13 15.0 -0.7**
SNR=15
SHME Shamm 97.08 296 *i*P **P** **03 13 14.8 -1.0**
SNR=17
SHME Shamm 97.08 296 P **P** **03 13 15.2 -0.6**
SNR=21
ASHO Ashiyiah 97.13 294 P **P** **03 13 15.1 -1.0**
BOZ Bozeman (W) 97.35 45 P 03 13 16.7
baz=272
SHAO Shalim 97.35 288 P **P** **03 13 16.1 -1.0**
SHAO Shalim 97.35 288 P **P** **03 13 16.1 -1.0**
ALNE Al Ain 97.40 294 *i*P **P** **03 13 16.7 -0.5**
SNR=17
ALNE Al Ain 97.40 294 P **P** **03 13 16.5 -0.7**
SNR=35
NAZ Nazwa, Dubai 97.50 295 *i*P **P** **03 13 16.3 -1.3**
SNR=12
NAZ Nazwa, Dubai 97.50 295 P **P** **03 13 16.5 -1.2**
SNR=17
FAQ Al Faqa, Dubai 97.56 294 *i*P **P** **03 13 16.2 -1.7**
SNR=15
FAQ Al Faqa, Dubai 97.56 294 P **P** **03 13 16.8 -1.2**
SNR=18
WUAZ Wupatki 97.73 55 P Pdif 03 13 20.9 +2.2
WUAZ Wupatki 97.73 55 P 03 13 19.4
baz=270,SNR=7.4
ASUD Al Ashush, Dub 97.79 294 *i*P **P** **03 13 17.5 -1.5**
SNR=20
ASUD Al Ashush, Dub 97.79 294 P **P** **03 13 18.0 -1.0**
SNR=26
Q16A Castle Valley 97.85 51 IAmb IAmb 03 13 22.2
comp=Z,23nm,1.7s
DMTO DMTO 97.99 287 P **P** **03 13 18.7 -1.2**
BELA Belgrano 2 98.04 179 IAmb IAmb 03 15 30.7
comp=Z,30nm,1.1s
AJN Ajban 98.10 294 *i*P **P** **03 13 18.9 -1.5**
SNR=18
AJN Ajban 98.10 294 P **P** **03 13 19.7 -0.7**
SNR=14
EGMT Eagleton 98.53 42 P 03 13 21.7
baz=273
RBK Rabkut 98.69 287 P **P** **03 13 22.0 -1.2**
SNR=14
SOCY Socotra 98.72 282 P **P** **03 13 22.5 -0.9**
SNR=7.3
DOK Doka 98.79 288 P **P** **03 13 22.2 -1.3**
SNR=19
BW06 Boulder Array 98.94 48 P **P** **03 13 23.8 -0.3**
BW06 Boulder Array 98.94 48 P 03 13 24.0
baz=273
PDAR Pinedale Array 98.94 48 P **P** **03 13 23.8 -0.3**
comp=Z,3.1nm,0.7s,baz=211,slow=2.5,SNR=20
PDAR PKiKP **PKiKP** **03 17 54.0 +0.3**
comp=Z,0.7nm,0.6s,baz=198,slow=2.1,SNR=4.9
PDAR PKKPbc **PKKPbc** **03 29 47.1 -4.4**
comp=Z,4.4nm,0.9s,baz=108,slow=5.3,SNR=11
PDAR LR LR 03 55 45.6
comp=Z,387nm,18.2s,baz=278,slow=34
PDAR Pinedale Array 98.94 48 P **P** **03 13 23.3 -0.7**
W18A Petrified Fore 99.08 55 P 03 13 25.4
baz=271,SNR=8.0
WHFO Wadi Hawf 99.11 287 P **Pdif** **03 13 23.5 -1.5**
SNR=14
ABTO Aybut 99.55 287 P **Pdif** **03 13 26.0 -1.0**
SNR=25
RES Resolute Bay 99.93 14 PKKPbc PKKPbc 03 29 45.3 -4.1
comp=Z,1.6nm,0.8s,baz=113,slow=3.4,SNR=4.2
MVCO Mesa Verde 100.01 53 P 03 13 28.9
baz=272,SNR=6.7
O20A White River Ci 100.07 50 P 03 13 29.3
baz=273
KIRV Kirov 100.07 329 *ce*P **Pdif** **03 13 27.5 -0.8**
NVL N'lazarevskaya 100.77 192 *e*P **Pdif** **03 13 28.9 -2.3**
NVL *e*S **SKSac** **03 23 54.1 +3.7**
NVL *e*SS **SS** **03 31 58.6 +6.8**
NVL pmax pmax
comp=Z,19nm,0.9s
K22A Casper 101.18 47 P 03 13 33.9
baz=275
S22A 4UR Ranch, Cre 101.31 52 P 03 13 34.6
baz=274
PRGR Permogore 101.37 332 *e*P **Pdif** **03 13 30.4 -3.6**
PRGR *e* 03 17 42.2
PRGR pmax pmax
comp=Z,55nm,1.1s
N23A Red Feather La 101.76 49 P 03 13 36.0
baz=275
ANMO Albuquerque 101.77 55 P 03 13 36.1
baz=273
BELG Belogornoye 102.03 323 *d i*P **Pdif** **03 13 35.5 -1.7**
BELG pmax pmax
comp=Z,21nm,1.0s
ISCO Idaho Springs 102.10 50 P 03 13 38.9
baz=275
SNAA Sanae 102.60 188 P **Pdif** **03 13 39.7 +0.2**
SNAA Sanae 102.60 188 PKiKP **PKiKP** **03 17 56.0 -3.4**
SNAA Sanae 102.60 188 Pdiff **Pdif** **03 13 39.5 0.0**
comp=Z,9.1nm,1.1s,baz=188,slow=2.8,SNR=8.3
MAK Makhachkala 103.42 313 *i*P **Pdif** **03 13 41.2 -2.4**
MAK *i* 03 18 00.6
MAK *e* 03 23 58.8
MAK *e*PS **PS** **03 27 14.6 -1.7**
MAK *e*SS SS 03 32 31.3 +0.9
MAK *e*SSS SSS 03 36 30.5
MAK pmax pmax
comp=Z,191nm,1.4s
AKT Akhty 103.43 312 *e*P **Pdif** **03 13 43.3 -0.6**
AKT *i* 03 18 01.4
AKT pmax pmax
comp=Z,58nm,1.1s
VNA3 Neumayer Olymp 103.83 186 P **Pdif** **03 13 44.9 0.0**
VNA3 Neumayer Olymp 103.83 186 PKiKP **PKiKP** **03 18 02.0 +0.5**
VNA2 Neumayer--Watz 103.88 187 P **Pdif** **03 13 45.4 +0.3**
baz=164,slow=4.6
VNA2 Neumayer--Watz 103.88 187 PKiKP **PKiKP** **03 18 02.5 +0.8**
KLMR Klimovskoe 104.42 332 *e*P **Pdif** **03 13 44.9 -2.7**
KLMR pmax pmax
comp=Z,83nm,1.4s
KLMR Klimovskoe 104.42 332 *e*Pdif **Pdif** **03 13 45.0 -2.7**
KLMR AMP 03 13 48.1
comp=Z,83nm,1.4s
KLMR *e*PP **PP** **03 18 03.2 -5.4**
KLMR *e*PKKPbc **PKKPbc** **03 29 30.8 -5.1**
APA Apatity 104.43 340 ⇓ *i*P **Pdif** **03 13 58.1 +11**
APA pmax pmax
comp=Z,9.0nm,1.1s
TXAR Lajitas Array 104.46 61 Pdiff **Pdif** **03 13 52.7 +4.0**
comp=Z,0.2nm,0.5s,baz=258,slow=4.4,SNR=3.7
TXAR PKiKP **PKiKP** **03 18 05.0 +1.1**
comp=Z,1.0nm,0.8s,baz=236,slow=1.2,SNR=7.0
TXAR PKKPbc **PKKPbc** **03 29 35.8 +1.0**
comp=Z,5.3nm,0.7s,baz=111,slow=4.9,SNR=27
TXAR PKPPKP **P'P'df** **03 37 54.7 -1.5**
comp=Z,0.5nm,0.8s,baz=146,slow=4.8,SNR=4.2
GROC Groznyy 104.63 313 *e*P **Pdif** **03 13 48.1 -0.9**
GROC pmax pmax
comp=Z,33nm,1.1s
VRH Novokhopyorsk 105.86 322 *e*P **Pdif** **03 13 56.0 +1.8**
VRH pmax pmax
comp=Z,20nm,0.7s
ARCES ARCESS Array B 105.99 343 Pdiff **Pdif** **03 13 55.0 +0.6**
comp=Z,3.3nm,0.8s,baz=52,slow=4.8,SNR=7.1
ARCES PKiKP **PKiKP** **03 18 05.3 -0.2**
comp=Z,8.4nm,0.7s,baz=109,slow=1.4,SNR=22
ARCES PKKPbc **PKKPbc** **03 29 28.9 -2.6**
comp=Z,6.9nm,1.1s,baz=264,slow=2.3,SNR=6.6
ZEI Tsey 106.07 313 *e*P **Pdif** **03 13 52.2 -3.5**
ZEI pmax pmax
comp=Z,26nm,1.3s
TASB TASBURUN-IGDIR 106.25 310 *e*P **PP** **03 18 23.3 +0.3**
GOF Gofitskoye 106.28 316 ⇑ *e*P **Pdif** **03 13 56.0 -0.3**
KBZ Khabaz 106.63 314 Pdiff **Pdif** **03 13 57.8 0.0**
comp=Z,5.8nm,0.9s,baz=226,slow=0.1,SNR=13
KIV Kislovodsk 106.74 315 *i*P **Pdif** **03 13 57.3 -1.2**
KIV *e* 03 24 16.7
KIV *e*PS PS 03 27 48.2 -2.4
KIV *e*SS SS 03 33 14.2 -1.5
KIV MLR MLR
comp=Z,893nm,21.0s
KIV Kislovodsk 106.74 315 Pdif **Pdif** **03 13 57.6 -0.8**
CBKS Cedar Bluff 106.75 51 P 03 18 08.3
baz=278
RAYN Ar Rayn 106.79 293 P **Pdif** **03 13 58.4 -0.7**
RAYN Ar Rayn 106.79 293 Pdif **Pdif** **03 13 58.4 -0.7**
MOS Moscow 106.97 327 *i*P **Pdif** **03 13 57.3 -1.8**
MOS *e* 03 18 26.1
MOS *e*PS PS 03 27 56.8 +4.6
MOS pmax pmax
comp=Z,80nm,1.3s
MOS MLR MLR

comp=Z,900nm,21.0s
VANB Van 107.11 309 *e*P **PP** **03 18 27.8 -1.5**
CUKT Cukurca 107.13 308 *e*P **PP** **03 18 29.7 +0.1**
LPSR Galich'ya Gora 107.17 324 *e*P **Pdif** **03 13 58.5 -1.5**
LPSR pmax pmax
comp=Z,20nm,1.0s
ULM Lac du Bonnet 107.18 39 Pdiff **Pdif** **03 14 02.2 +2.0**
comp=Z,1.3nm,0.6s,baz=296,slow=2.0,SNR=3.4
ULM PKiKP **PKiKP** **03 18 07.4 -0.8**
comp=Z,1.2nm,0.3s,baz=330,slow=2.8,SNR=6.4
ULM PKKP **PKKPdf** **03 29 38.8 -0.5**
comp=Z,5.8nm,0.9s,baz=111,slow=6.2,SNR=7.1
VSR Storozhevoye 107.41 323 *e*P **Pdif** **03 13 59.3 -1.8**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=Z,20nm,1.4s
SENK Senkaya-Erzuru 107.59 311 *e*P **PP** **03 18 33.1 +0.2**
ABTX Abilene, Hawle 107.62 57 P 03 18 09.4
baz=277
AGMN Agassiz Nation 107.67 40 P 03 18 09.4
baz=284
MLAZ Malazgirt-MUS 107.67 310 *e*P **PP** **03 18 31.9 -1.6**
JCT Junction City 107.71 59 P 03 18 09.9
baz=276
WMOK Wichita Mounta 108.07 55 P 03 18 10.5
baz=278,SNR=6.4
GURO Guroymak-BITLI 108.17 309 *e*P **PP** **03 18 38.2 +1.1**
ECSD EROS Data Cent 108.19 45 P 03 18 10.4
baz=282
VRTB Varto-Mus 108.51 310 *e*P **PP** **03 18 37.7 -1.8**
CHOM Cayeli-Rize 108.67 312 *e*P **PP** **03 18 41.6 +1.1**
SVAN Silvan-Diyarba 108.88 309 *e*P **PP** **03 18 43.8 +1.7**
KSU1 Kansas State U 109.10 50 P 03 18 12.4
baz=281
YEDI Yedisu-Bingol 109.15 310 *e*P **PP** **03 18 44.9 +0.7**
KTUT Trabzon 109.43 312 *e*P **PP** **03 18 47.6 +1.7**
WHTX Lake Whitney, 109.54 58 P 03 18 12.7
baz=278
FINES FINESS Array B 110.11 336 Pdiff **Pdif** **03 14 11.6 -1.4**
comp=Z,3.9nm,0.5s,baz=77,slow=4.9,SNR=42
FINES PKiKP **PKiKP** **03 18 13.4 0.0**
comp=Z,7.4nm,0.7s,baz=114,slow=4.6,SNR=15
FINES PP **PP** **03 18 51.1 +1.1**
comp=Z,10nm,0.9s,baz=66,slow=9.2,SNR=6.1
FINES SKP 03 21 30.1
comp=Z,5.6nm,0.9s,baz=193,slow=7.8,SNR=3.9
FINES PKKPbc **PKKPbc** **03 29 15.6 -2.6**
comp=Z,2.2nm,0.8s,baz=256,slow=1.4,SNR=7.8
FINES PKKPab **PKKPab** **03 29 28.6 +0.8**
comp=Z,1.8nm,0.7s,baz=156,slow=5.2,SNR=6.0
FINES FINESS Array B 110.11 336 Pdiff **Pdif** **03 14 11.0 -1.9**
ANN Anapa 110.22 316 *i* P **Pdif** **03 14 08.6 -5.2**
ANN *i* 03 18 11.2
ANN *e* 03 18 49.4
ANN *e* 03 19 04.1
ANN *e* 03 24 28.9
ANN *e*SS SS 03 34 00.7 -1.4
ANN pmax pmax
comp=Z,114nm,1.8s
ANN pmax pmax
comp=Z,48nm,1.1s
TUL1 Leonard 110.31 53 P 03 18 14.6
baz=280
SPMN Marine on St. 110.49 43 P 03 18 14.8
baz=286
EYMN Ely 110.58 40 P 03 18 14.7
baz=288
ILIC ilic-Erzincan 110.65 311 *e*P **PP** **03 18 56.7 +1.8**
URFA Urfa 110.86 308 *e*P **PP** **03 18 56.1 -0.3**
MALT Malatya 110.99 309 *e*P **PP** **03 18 58.5 +1.1**
VSU Vasula 111.32 333 *e*P **PKiKP** **03 18 17.0 +1.2**
RSDY Resadiye-TOKAT 111.37 312 *e*P **PP** **03 19 00.7 +0.8**
DARE Darende-Malaty 111.66 310 *e*P **PP** **03 19 03.9 +1.7**
SVSK Karacayir 111.73 311 *e*P **PP** **03 19 04.3 +1.9**
TOKT Tokat 111.97 312 *e*P **PP** **03 19 04.9 +0.7**
W39A Magazine 112.05 54 P 03 18 17.9
baz=281,SNR=5.1
GAZ Gaziantep 112.17 308 *e*P **PP** **03 19 05.8 0.0**
MIAR Mount Ida 112.34 54 P 03 18 18.5
baz=281
KMRS Kahramanmaras 112.34 309 *e*P **PP** **03 19 06.6 -0.4**
MTSE Matsula 112.51 334 *e*P **PKiKP** **03 18 17.5 -0.5**
SARI SarD1z-Kayseri 112.52 310 *e*P **PP** **03 19 09.1 +0.8**
U40A Yellville 112.56 52 P 03 18 18.7
baz=282,SNR=20
MNK Minsk 112.61 328 *i* PKP **PKiKP** **03 18 23.3 +5.0**
comp=E,2.0nm,1.0s
MNK *i* PKP **PKiKP** **03 18 23.3 +5.0**
comp=N,11nm,1.0s
MNK *i* PKP **PKiKP** **03 18 23.3 +5.0**
comp=Z,18nm,1.3s
MNK *i* pPKP PP 03 18 41.6 -26
MNK *i* PP PP 03 19 29.1 +21
MNK *i* SKS **SKSdf** **03 25 16.1 +5.0**
MNK *i* PKKP **PKKPab** **03 29 19.1 +2.3**
MNK *i* SS **SS** **03 34 43.1 +10**
MNK *i* SKKS **SKKSdf** **03 36 15.4 -7.1**
MNK *i* LR LR 04 05 52.9
MNK *i* LRM MLR 04 07 38.3
comp=E,36nm,16.8s
MNK *i* LRM MLR 04 07 53.0
comp=N,216nm,19.2s
MNK *i* LRM MLR 04 07 53.0
comp=Z,261nm,18.2s
IDID Didziasalis 112.83 330 *e*P **PKiKP** **03 18 18.4 -0.3**
BNN Bunyan 112.85 311 *e*P **PP** **03 19 09.6 -1.0**
JFWS Jewell Farm 112.90 45 P 03 18 19.1
baz=287
ISAL Salakas 113.01 330 *e*P **PKiKP** **03 18 17.7 -1.3**
IIGN Ignalina 113.07 330 *e*P **PKiKP** **03 18 19.6 +0.4**
TAHT Tahtakopru-Hat 113.15 308 *e*P **PP** **03 19 10.8 -1.8**
KOZT Kozan 113.18 309 *e*P **PP** **03 19 13.0 +0.1**
CMIG Matias Romero 113.25 73 PKKPbc PKKPbc 03 29 08.3 +1.8
comp=Z,22nm,0.9s,baz=140,slow=5.6,SNR=3.8
CMIG PKKPab **PKKPab** **03 29 14.0 -0.5**
comp=Z,21nm,0.9s,baz=64,slow=5.4,SNR=13
W41B Gary Mavity, V 113.29 53 P 03 18 19.7
baz=282,SNR=7.6
AAL Aland 113.30 336 *e*P **PKiKP** **03 18 19.1 -0.4**
CEYT Ceyhan 113.35 309 *e*P **PP** **03 19 14.9 +0.9**
BZK Bozkurt 113.40 314 *e*P **PP** **03 19 12.9 -1.2**
CCM Cathedral Cave 113.43 50 P 03 18 20.4
baz=284
AKASG Malin Array Be 113.50 324 Pdiff **Pdif** **03 14 27.2 -1.0**
comp=Z,7.2nm,0.9s,baz=50,slow=4.5,SNR=24
AKASG PKiKP **PKiKP** **03 18 19.6 -0.5**
comp=Z,8.1nm,0.5s,baz=53,slow=2.6,SNR=79
AKASG PP **PP** **03 19 11.1 -3.4**
comp=Z,8.7nm,0.9s,baz=55,slow=6.6,SNR=8.0
AKASG SKP 03 21 35.2
comp=Z,4.3nm,0.9s,baz=56,slow=2.5,SNR=5.4
AKASG PKKPbc **PKKPbc** **03 29 04.4 -2.3**
comp=Z,2.2nm,0.5s,baz=260,slow=3.6,SNR=16
AKASG Malin Array Be 113.50 324 **Pdif** **03 14 26.8 -1.4**
AKASG **PKiKP** **03 18 19.0 -1.1**
SLIT Slitere, Latvi 113.77 333 *e*P **PKiKP** **03 18 21.9 +1.5**
KARA Karaisali 113.83 309 *e*P **PP** **03 19 17.8 +0.3**
CANT Cankiri 114.05 313 *e*P **PP** **03 19 17.6 -1.3**
PABE Paberze 114.11 331 *e*P PKPdf 03 18 20.8 -0.3
HDIL Hopedale 114.25 47 P 03 18 21.8
baz=286
BRTR Keskin Array B 114.28 312 Pdiff **Pdif** **03 14 32.2 +0.1**
comp=Z,2.0nm,0.9s,baz=117,slow=4.4,SNR=7.6
BRTR PKP PKPdf 03 18 21.8 -0.5
comp=Z,4.7nm,0.6s,baz=120,slow=2.1,SNR=24
BRTR PP **PP** **03 19 22.2 +1.5**
comp=Z,14nm,1.1s,baz=93,slow=6.2,SNR=7.8
BRTR PKKPbc **PKKPbc** **03 29 03.9 0.0**
comp=Z,2.9nm,0.8s,baz=208,slow=3.5,SNR=13
BRTR Keskin Array B 114.28 312 Pdif **Pdif** **03 14 31.3 -0.9**
BRTR PKiKP PKPdf 03 18 21.2 -1.0
UPP Uppsala 114.44 337 *e*P PKPdf 03 18 20.7 -0.9
MMAI Mount Meron Ar 114.48 304 PKKPbc PKKPbc 03 29 03.5 +0.6
comp=Z,3.2nm,0.6s,baz=217,slow=4.0,SNR=5.5
X43A Marvell 114.52 54 P 03 18 23.0
baz=283
KMBO Kilima Mbogo 114.63 267 Pdiff **Pdif** **03 14 34.9 +0.5**
comp=Z,2.8nm,0.9s,baz=62,slow=4.4,SNR=8.3
KMBO PKP **PKiKP** **03 18 24.6 +0.8**
comp=Z,4.6nm,0.7s,baz=1.6,slow=2.1,SNR=12
YESY Yesilyurt 114.71 310 *e*P **PP** **03 19 22.6 -1.2**
SULT Sultanhani-AKS 114.78 310 *e*P **PP** **03 19 23.7 -0.5**
PBUR Paburge 114.82 332 *e*P PKPdf 03 18 22.6 +0.1
LOD Lodumlu 114.88 312 *e*P **PP** **03 19 22.7 -2.1**
SORM Soroca 115.05 322 ⇑P **PKiKP** **03 18 22.7 -0.5**
SORM Soroca 115.05 322 ⇑P **PKKPbc** **03 28 59.1 -2.3**
SORM Soroca 115.05 322 ⇑PKiKP **PKiKP** **03 18 22.7 -0.5**
KIS Kishinev 115.21 321 *e*PKP **PKiKP** **03 18 22.0 -1.6**
KIS Kishinev 115.21 321 *e*PKiKP **PKiKP** **03 18 22.0 -1.6**
KIS *e* 03 19 24.0
SUW Suwalki 115.27 329 *e*P **PKiKP** **03 18 23.4 -0.1**
SFJD Kangerlussuaq 115.29 10 PKiKP **PKiKP** **03 18 22.2 -0.9**
SFJD Kangerlussuaq 115.29 10 **PKiKP** **03 18 22.2 -0.9**
EIL Elat 115.49 301 PKKPbc PKKPbc 03 29 00.6 +1.4
comp=Z,6.0nm,0.6s,baz=294,slow=3.8,SNR=4.6
TEKE Tekeli-Mersin 115.61 308 *e*P **PP** **03 19 28.8 -1.2**
LADK Ladik-KONYA 115.65 311 *e*P **PP** **03 19 27.7 -2.6**
Y45A Yeager Farm, C 115.75 54 **PKiKP** **03 18 25.2 +0.2**
HFS Hagfors 115.76 338 PKP **PKPdf** **03 18 23.6 -0.6**
comp=Z,6.6nm,0.6s,baz=109,slow=3.6,SNR=34
HFS PP **PP** **03 19 29.3 -0.7**
comp=Z,13nm,1.2s,baz=70,slow=9.3,SNR=5.5
HFS PKKPbc **PKKPbc** **03 28 57.5 -1.8**
comp=Z,3.8nm,0.9s,baz=197,slow=4.6,SNR=5.7
SFIN Lafayette 115.90 47 P 03 18 24.5
baz=288,SNR=5.3
TLCR 115.90 319 ⇑P **PKiKP** **03 18 25.2 +0.3**
TLCR 115.90 319 ⇑PKiKP **PKiKP** **03 18 25.2 +0.3**
SVRH Sivrihisar-ESK 115.93 312 *e*P **PP** **03 19 35.1 +2.9**
DOMB Dombas 115.98 342 *e*PKPdf **PKiKP** **03 18 24.8 +0.1**
NC204 NORSAR Array S 115.99 340 **PKPdf** **03 18 24.1 -0.7**
NB2 NORSAR Subarra1 16.01 340 PKPdf **PKPdf** **03 18 23.8 -1.0**
comp=Z,4.1nm,0.6s,baz=44,slow=1.9
NB2 NORSAR Subarra1 16.01 340 PKPdf **PKPdf** **03 18 23.8 -1.0**
baz=44,slow=1.9
NOA NORSAR Array B 116.01 340 PKP **PKPdf** **03 18 24.4 -0.3**
comp=Z,9.4nm,0.7s,baz=46,slow=1.9,SNR=63
NOA PP **PP** **03 19 29.8 -1.9**
comp=Z,7.5nm,1.1s,baz=46,slow=6.4,SNR=5.1
NOA SKP 03 21 41.0
comp=Z,4.9nm,0.9s,baz=46,slow=2.0,SNR=7.3
NOA PKKPbc **PKKPbc** **03 28 55.4 -3.2**
comp=Z,0.8nm,1.1s,baz=28,slow=3.9,SNR=5.8
LEF Lefka 116.04 307 ⇑P **PKiKP** **03 18 25.6 +0.1**
MOL Molde 116.05 343 *e*PKPdf **PKPdf** **03 18 24.1 -0.5**
GLMI Grayling 116.11 41 P 03 18 25.2
baz=292
NC602 NORSAR Array S 116.11 340 *e*PKPdf **PKPdf** **03 18 24.5 -0.4**
GAZI Gazipasa 116.22 308 *e*P **PP** **03 19 32.3 -1.9**
CFR Carcaliu 116.35 319 ⇓P **PKPdf** **03 18 23.8 -2.0**
CFR Carcaliu 116.35 319 ⇓PKiKP **PKPdf** **03 18 23.8 -2.0**
GULT Gulveren 116.37 313 *e*P **PP** **03 19 38.1 +3.0**
SRCK Saricakaya, Es 116.41 313 *e*P **PP** **03 19 38.2 +2.9**
AKN Aaknes 116.51 343 *e*PKPdf **PKiKP** **03 18 26.2 +0.5**
MFTR Murfatlar 116.54 318 ⇓P **PKiKP** **03 18 26.5 +0.3**
WVT Waverly 116.56 52 PKiKP **PKPdf** **03 18 25.6 -0.9**
WVT Waverly 116.56 52 **PKPdf** **03 18 25.6 -0.9**
WVT Waverly 116.56 52 P 03 18 25.9
baz=285
TLBR Topalu 116.65 318 ⇓P **PKiKP** **03 18 26.4 0.0**
HARR Harsova 116.67 319 ⇓P **PKiKP** **03 18 27.0 +0.6**
HARR Harsova 116.67 319 ⇓PKiKP **PKiKP** **03 18 27.0 +0.6**
TESR Tescani 116.77 321 ⇑P **PKiKP** **03 18 26.7 +0.1**
T47A Sharon Grove 116.89 50 **PKPdf** **03 18 26.8 -0.3**
BIZ Bicaz 116.93 322 ⇓P **PKiKP** **03 18 27.6 +0.7**
BIZ Bicaz 116.93 322 ⇑P **PKKPbc** **03 28 57.6 +2.8**
VRI Vrincioaia 116.99 320 ⇑P **PKPdf** **03 18 26.8 -0.3**
VRI Vrincioaia 116.99 320 ⇑PKiKP **PKPdf** **03 18 26.8 -0.3**
PLOR Plostina 117.04 320 ⇑P **PKPdf** **03 18 26.9 -0.3**
PLOR Plostina 117.04 320 ⇑P **PKKPbc** **03 28 53.3 -1.1**
PLOR Plostina 117.04 320 ⇑PKiKP **PKPdf** **03 18 26.9 -0.3**
WCI Wyandotte Cave 117.15 49 P 03 18 27.6
baz=288
BURAR Bucovina Array 117.19 322 ⇑P **PKiKP** **03 18 27.9 +0.4**
BURAR Bucovina Array 117.19 322 ⇑P **PKKPbc** **03 28 54.6 +0.6**
BURAR Bucovina Array 117.19 322 ⇑PKiKP **PKiKP** **03 18 27.9 +0.4**
BURAR Bucovina Array 117.19 322 **PKiKP** **03 18 27.7 +0.2**
SKAR Skarslia 117.25 341 *e*PKPdf **PKiKP** **03 18 27.7 +0.5**
NEHR Nehoiu 117.44 320 ⇑P **PKPdf** **03 18 27.6 -0.3**
NEHR Nehoiu 117.44 320 ⇑P **PKKPbc** **03 28 52.4 -0.6**
TVSB Tavsanli 117.45 313 *e*P **PP** **03 19 43.8 +1.1**
OZUR 117.49 321 ⇑P **PKKPbc** **03 28 52.5 -0.3**
HYA Hoyanger 117.54 342 *e*PKPdf **PKPdf** **03 18 25.3 -2.3**
FOO Floro 117.55 343 *e*PKPdf **PKiKP** **03 18 27.9 +0.2**
KONO Kongsberg 117.57 340 *e*PKPdf **PKPdf** **03 18 27.7 0.0**
MLR Muntele Rosu 117.64 320 PKP **PKPdf** **03 18 27.6 -0.9**
comp=Z,9.2nm,0.8s,baz=311,slow=3.6,SNR=16
MLR PKKPbc **PKKPbc** **03 28 49.8 -2.6**
comp=Z,6.7nm,0.7s,baz=292,slow=3.9,SNR=17
MLR Muntele Rosu 117.64 320 ⇑P **PKPdf** **03 18 27.6 -0.9**
MLR Muntele Rosu 117.64 320 ⇑P **PKKPbc** **03 28 51.7 -0.7**
AAM Ann Arbor 117.69 44 P 03 18 28.3
baz=292
KWP Kalwaria Pacla 117.72 325 *e*PKPdf **PKiKP** **03 18 28.6 +0.3**
SECR 117.75 320 ⇑P **PKiKP** **03 18 28.6 0.0**
DOPR Dopca 117.80 321 ⇓P **PKiKP** **03 18 29.1 +0.4**
P49A Miami Univ. Ec 117.90 47 **PKPdf** **03 18 29.0 0.0**
P49A Miami Univ. Ec 117.90 47 P 03 18 28.6
baz=289,SNR=7.7
LRAL Lakeview Retre 118.01 55 P 03 18 29.3
baz=284
MATQ Matagami 118.22 34 P 03 18 29.0
baz=300
VOIR 118.24 320 ⇑P **PKPdf** **03 18 29.5 -0.1**
VOIR 118.24 320 ⇑P **PKKPbc** **03 28 50.4 +0.2**
VOIR 118.24 320 ⇑PKiKP **PKPdf** **03 18 29.5 -0.1**
SWET Sewanee 118.29 52 **PKPdf** **03 18 29.1 -0.9**
KOLS Kolonicke sedl 118.31 325 *e*PKiKP **PKiKP** **03 18 30.3 +0.7**
KOLS Kolonicke sedl 118.31 325 *e*PKP **PKiKP** **03 18 30.3 +0.7**
KULA Kula-Manisa 118.34 312 *e*P **PP** **03 19 50.6 +1.7**
ODD1 Odda 118.38 341 *e*PKPdf **PKiKP** **03 18 29.5 +0.1**
BRAL Brewton 118.42 57 P 03 18 30.5
baz=283
BER Bergen 118.42 342 *e*PKPdf **PKPdf** **03 18 28.9 -0.4**
UZH Uzhgorod 118.45 325 *e*P **Pdif** **03 14 49.6 -0.7**
UZH *e* 03 18 28.6
ARR Arges 118.53 320 ⇓P **PKiKP** **03 18 30.5 +0.3**
ARR Arges 118.53 320 ⇑P **PKKPbc** **03 28 48.8 -0.4**
CJR Cluj-Napoca 118.58 322 ⇓P **PKPdf** **03 18 29.7 -0.5**
CJR Cluj-Napoca 118.58 322 ⇓PKiKP **PKPdf** **03 18 29.7 -0.5**
GKP Gorka Klasztor 118.63 331 *e*P PKPdf 03 18 19.6 -10
HJMR Humele 118.67 319 ⇓P **PKPdf** **03 18 30.2 -0.1**
COPA Copaceanca 118.68 319 ⇓P **PKPdf** **03 18 30.2 -0.1**
COPA Copaceanca 118.68 319 ⇑P **PKKPbc** **03 28 48.0 -0.5**
FPAL Fort Paine 118.73 53 **PKPdf** **03 18 30.1 -0.8**
CRVS Cervenica-Dubn 118.79 325 *e*PKiKP **PKiKP** **03 18 31.0 +0.5**
CRVS Cervenica-Dubn 118.79 325 *e*PKP **PKiKP** **03 18 31.0 +0.5**
BLS5 Blasjo 118.81 341 *e*PKPdf **PKPdf** **03 18 30.0 -0.2**
I51A Listowel 118.89 41 P 03 18 30.7
baz=294,SNR=5.6
ACSO Alum Creek Sta 118.92 46 P 03 18 30.8
baz=291,SNR=13
HOMB Homborsund 118.97 339 *e*PKPdf **PKiKP** **03 18 30.8 +0.3**
OJC Ojcow 119.03 327 *e*PKPdf **PKiKP** **03 18 31.2 +0.3**
M51A Elyria 119.08 44 P 03 18 31.2
baz=292
DRGR 119.08 323 ⇑P **PKiKP** **03 18 31.0 -0.1**
DRGR 119.08 323 ⇑P **PKKPbc** **03 28 46.8 -0.4**
NIE Niedzica 119.18 326 *e*PKPdf **PKiKP** **03 18 32.1 +0.8**
TURN Turunc 119.20 310 *e*P **PP** **03 19 56.2 +1.5**
TEIG Tepich 119.23 69 **PKiKP** **03 18 32.9 +0.8**
TEIG Tepich 119.23 69 *e*P **PKiKP** **03 18 32.8 +0.8**
KMY Karmoy 119.36 341 *e*PKPdf **PKiKP** **03 18 31.8 +0.5**
SNART Snartemo 119.38 340 *e*PKPdf **PKiKP** **03 18 31.6 +0.3**
PLVB Pleven 119.38 318 ⇑P **PKiKP** **03 18 32.0 +0.2**
BOSA Boshof 119.42 234 PKP **PKiKP** **03 18 32.9 +0.4**
comp=Z,19nm,0.6s,baz=115,slow=1.7,SNR=70
BOSA PKKPbc **PKKPbc** **03 28 45.0 -0.6**
comp=Z,2.1nm,0.7s,baz=335,slow=3.7,SNR=3.8
GCAM G?zelcaml? 119.67 311 *e*P **PP** **03 19 59.7 +1.8**
GZR Gura Zlata 119.69 321 ⇑P **PKPdf** **03 18 32.0 -0.3**
GZR Gura Zlata 119.69 321 ⇑P **PKKPbc** **03 28 44.8 -0.2**
SADO Sadowa 119.69 40 **PKPdf** **03 18 31.6 -0.7**
P52A Corning 119.74 46 P 03 18 32.3
baz=292,SNR=9.3
LANS Liptovska Anna 119.79 326 *e*PKiKP **PKiKP** **03 18 33.6 +1.1**
LANS Liptovska Anna 119.79 326 *e*PKP **PKiKP** **03 18 33.6 +1.1**
ALGO Algonquin Park 119.83 38 P 03 18 32.2
baz=298,SNR=8.8
TKL Tuckaleechee C 119.85 51 SKP 03 21 50.9
baz=324,slow=2.2
TKL PKKPab PKKPab 03 28 43.8 -1.4
comp=Z,2.4nm,0.7s,baz=154,slow=4.7,SNR=6.5
SIRR Siria 119.97 322 ⇑P **PKiKP** **03 18 33.2 +0.3**
G54A Lake Saint Pet 120.07 39 P 03 18 33.0
baz=298,SNR=7.4
M53A WI Miller and 120.08 44 P 03 18 32.9
baz=294,SNR=8.4
H53A Bobcaygeon 120.14 40 P 03 18 33.2
baz=297,SNR=6.6
HERR Herculane 120.15 321 ⇑P **PKPdf** **03 18 33.1 -0.1**
L53A Girard 120.16 43 P 03 18 33.1
baz=294
O53A New Philadelph 120.17 45 P 03 18 33.3
baz=292,SNR=7.3
PSZ Piszkesteto 120.19 325 ⇑P **PKiKP** **03 18 33.6 +0.3**
PSZ Piszkesteto 120.19 325 ⇑PKiKP **PKiKP** **03 18 33.6 +0.3**
N53A Lisbon 120.22 44 **PKiKP** **03 18 33.9 +0.3**
ERPA Erie 120.28 43 P 03 18 33.0
baz=294
BZS Buzias 120.31 322 ⇑P **PKPdf** **03 18 32.6 -0.8**
BZS Buzias 120.31 322 ⇑P **PKKPbc** **03 28 39.1 -3.5**
BZS Buzias 120.31 322 ⇑PKiKP **PKPdf** **03 18 32.6 -0.8**
Q53A Leroy 120.46 47 P 03 18 33.7
baz=292,SNR=10
VYHS Vyhne 120.49 326 *e*PKiKP **PKiKP** **03 18 33.9 +0.1**
VYHS *e* 03 20 06.2
VYHS Vyhne 120.49 326 *e*PKP **PKiKP** **03 18 33.9 +0.1**
VYHS *e*PP **PP** **03 20 06.2 +3.2**
MORC Moravsky Berou 120.49 328 ⇑P **PKiKP** **03 18 34.4 +0.6**
MORC Moravsky Berou 120.49 328 ⇑P **PKKPbc** **03 28 41.9 -0.2**
MORC Moravsky Berou 120.49 328 *e*PKP **PKiKP** **03 18 33.9 +0.1**
MORC *e* 03 21 50.8
MORC *e*PKKP **PKKPbc** **03 28 41.3 -0.8**
LBTB Lobatse 120.51 238 PKiKP **PKPdf** **03 18 34.3 -0.3**
LBTB Lobatse 120.51 238 **PKPdf** **03 18 34.3 -0.3**
KSP Ksiaz 120.53 329 *e*PKPdf **PKiKP** **03 18 34.1 +0.3**
VTS Vitosha 120.63 318 ⇑P **PKPdf** **03 18 34.0 -0.4**
VTS Vitosha 120.63 318 ⇑PKiKP **PKPdf** **03 18 34.0 -0.4**
MDVR Moldovita 120.64 321 ⇑P **PKiKP** **03 18 34.4 +0.1**
BG3 Lake Jocassee 120.71 51 **PKiKP** **03 18 34.9 +0.3**
BANR Banloc 120.72 322 ⇓P **PKiKP** **03 18 34.7 +0.4**
KRLC Kraliky 120.73 328 *e*PKiKP **PKiKP** **03 18 34.8 +0.5**
KRLC Kraliky 120.73 328 *e*PKPDF **PKiKP** **03 18 34.8 +0.5**
OSTG Ostas 120.74 329 *e*PKPDF **PKiKP** **03 18 34.7 +0.4**
TGUH Tegucigalpa,Un 120.74 76i *e*P **PKiKP** **03 18 36.4 +1.1**
N54A Moraine State 120.75 44 P 03 18 34.5
baz=294,SNR=6.2
M54A Oil Creek Stat 120.75 43 P 03 18 34.5
baz=294,SNR=7.3
GOGA Godfrey 120.76 53 P 03 18 34.6
baz=287,SNR=11
PLCA Paso Flores 120.78 143 PKP **PKiKP** **03 18 35.5 +0.7**
comp=Z,12nm,0.7s,baz=238,slow=2.5,SNR=45
PLCA SKP 03 21 52.9
comp=Z,7.6nm,0.8s,baz=261,slow=2.9,SNR=7.7
PLCA PKKPbc **PKKPbc** **03 28 40.7 -0.2**
comp=Z,11nm,0.8s,baz=45,slow=4.0,SNR=21
PLCA Paso Flores 120.78 143 *e*P **PKPdf** **03 18 34.2 -0.5**
E55A Montcerf-Lytto 120.80 37 P 03 18 33.8
baz=300,SNR=7.3
CHVC Chvalec 120.80 329 *e*PKPDF **PKiKP** **03 18 34.7 +0.3**
DPC Dobruska-Polom 120.81 329 *e*PKiKP **PKiKP** **03 18 34.8 +0.4**
DPC Dobruska-Polom 120.81 329 *e*PKPDF **PKiKP** **03 18 34.8 +0.4**
DPC *ex* x 03 19 53.6
DPC *e*SKKP 03 32 11.7
D55A Sainte-Anne-du 120.86 36 P 03 18 34.0
baz=301,SNR=5.3
UPC Upice 120.87 329 *e*PKiKP **PKiKP** **03 18 35.0 +0.5**
UPC Upice 120.87 329 *e*PKPDF **PKiKP** **03 18 35.0 +0.5**
JAVC Velka Javorina 120.94 327 *e*PKP **PKiKP** **03 18 36.0 +1.2**
JAVC *e* 03 21 51.7
JAVC *e*PKKP **PKKPbc** **03 28 40.5 0.0**
JAVC *e* 03 32 11.0
S54A Dingess, Beckl 121.00 48 P 03 18 35.3
baz=291,SNR=11
U54A Nelsons Funny 121.07 49 P 03 18 35.4
baz=290,SNR=5.5
R54A Victor 121.10 47 P 03 18 35.0
baz=292
SRO Srobarova 121.15 325 *e*PKiKP **PKiKP** **03 18 35.4 +0.3**
SRO Srobarova 121.15 325 *e*PKP **PKiKP** **03 18 35.4 +0.3**
MBAR Mbarara 121.16 267c *i* PKiKP **PKiKP** **03 18 36.9 +0.6**
MBAR pmax pmax
comp=Z,49nm,1.7s
MBAR Mbarara 121.16 267 **PKiKP** **03 18 36.4 0.0**
BOVS Bovan 121.18 320 ⇓P **PKPdf** **03 18 34.8 -0.4**
TIGA Tifton 121.22 56 P 03 18 36.1
baz=286,SNR=12
SUR Sutherland 121.22 228 PKP **PKiKP** **03 18 37.3 +1.3**
comp=Z,13nm,0.6s,baz=151,slow=4.8,SNR=33
SUR Sutherland 121.22 228 **PKiKP** **03 18 36.5 +0.5**
D56A ZEC Mazanza, M 121.26 36 P 03 18 34.9
baz=302,SNR=5.5
SMOL Smolenice 121.26 326 *e*PKiKP **PKiKP** **03 18 35.9 +0.6**
SMOL Smolenice 121.26 326 *e*PKP **PKiKP** **03 18 35.9 +0.6**
VRAC Vranov 121.27 328 PKP **PKiKP** **03 18 35.8 +0.5**
comp=Z,6.1nm,0.8s,baz=167,slow=1.9,SNR=6.6
VRAC Vranov 121.27 328 ⇓P **PKPdf** **03 18 35.2 0.0**
VRAC Vranov 121.27 328 *e*PKP **PKiKP** **03 18 35.5 +0.2**
VRAC *e* 03 21 52.0
VRAC *e* 03 32 08.3
BSEG Bad Segeberg 121.36 335 *e*PKPdf **PKiKP** **03 18 36.2 +0.9**
baz=49,slow=1.9
E56A St. Veronique 121.36 36 P 03 18 34.9
baz=301
MCWV Mont Chateau 121.37 45 **PKPdf** **03 18 35.5 -0.1**
MCWV Mont Chateau 121.37 45 P 03 18 35.8
baz=293
MODS Modra-Piesok 121.42 326 *e*PKiKP **PKPdf** **03 18 35.4 -0.1**
MODS Modra-Piesok 121.42 326 *e*PKP **PKPdf** **03 18 35.4 -0.1**
KRUC Moravsky 121.52 327 *e*PKP **PKPdf** **03 18 35.7 0.0**
KRUC *e* 03 21 52.4
KRUC *e*PKKP **PKKPab** **03 28 36.6 -1.1**
KRUC *e* 03 32 07.7
PVCC Panska Ves 121.60 330 *e*PKiKP **PKiKP** **03 18 36.4 +0.5**
PVCC Panska Ves 121.60 330 *e*PKPDF **PKiKP** **03 18 36.4 +0.5**
ZST Bratislava 121.62 326 *e*PKiKP **PKiKP** **03 18 36.1 +0.1**
ZST Bratislava 121.62 326 *e*PKP **PKiKP** **03 18 36.1 +0.1**
FRGS Fruska Gora 121.64 322 ⇑P **PKPdf** **03 18 36.1 0.0**
FRGS Fruska Gora 121.64 322 ⇓P **PKPdf** **03 18 35.6 -0.5**
BRG Berggiesshubel 121.70 330 *i* PKP **PKiKP** **03 18 36.1 0.0**
BRG Amp 03 18 37.8
comp=Z,23nm,0.8s
BRG pPKP **pPKPdf** **03 19 28.6 +0.8**
BRG Amp 03 19 31.9
comp=Z,5.5nm,0.9s
BRG PP **PP** **03 20 05.0 -6.0**
BRG Amp 03 20 06.7
comp=Z,14nm,1.2s
BRG SKP 03 21 53.7
BRG Amp 03 21 54.8
comp=Z,6.9nm,0.8s
BRG PKKP **PKKPab** **03 28 36.8 -0.1**
BRG Amp 03 28 37.8
comp=Z,4.9nm,1.0s
BRG SS SS 03 36 38.0 +7.3
BRG Berggiesshubel 121.70 330 *e*PKPdf **PKiKP** **03 18 36.7 +0.6**
baz=49,slow=1.9
R55A Marlinton 121.70 47 **PKPdf** **03 18 36.0 -0.4**
R55A Marlinton 121.70 47 P 03 18 36.3
baz=292,SNR=16
M56A Emporium 121.77 43 P 03 18 36.7
baz=296,SNR=5.5
K56A Middlesex 121.80 41 P 03 18 36.4
baz=297
MORH Mrgy, Hungar 121.81 324 ⇑P **PKiKP** **03 18 36.7 +0.2**
MORH Mrgy, Hungar 121.81 324 ⇑P **PKKPbc** **03 28 35.5 -1.5**
MORH Mrgy, Hungar 121.81 324 ⇓P **PKPdf** **03 18 36.0 -0.3**
J56A Wolcott 121.84 40 P 03 18 36.2
baz=298
BLA Blacksburg 121.88 48 P 03 18 36.8
baz=292,SNR=14
CLL Collm 121.89 331 *i* PKPdf **PKiKP** **03 18 36.1 -0.2**
comp=Z,24nm,0.7s
CLL *i* 03 18 38.0
comp=Z,28nm,1.0s
CLL *e*pPKPdf **pPKPdf** **03 19 25.0 -3.2**
CLL *e* 03 19 39.0
CLL *e*PP **PP** **03 20 10.0 -2.2**
comp=Z,57nm,1.7s
CLL *es*PP 03 21 24.0
CLL *e*SKPdf **SKiKP** **03 21 54.0 +0.9**
comp=Z,13nm,1.0s
CLL *e*SKKSac **SKKSac** **03 26 48.0 -3.3**
CLL *e*PKKPab **PKKPab** **03 28 36.0 -0.1**
CLL *e*PS **PS** **03 30 12.0 +3.0**
CLL *es*PS 03 31 00.0
CLL *e*SS **SS** **03 36 30.0 -3.0**
CLL *es*SS 03 38 00.0
CLL *e*SSS SSS 03 41 06.0

CLL es SSS 03 42 48.0
CLL e SSSS 03 44 30.0
CLL Collm 121.89 331 *i* PKIKP **PKPdf** **03 18 36.1 -0.2**
CLL *e* 03 19 25.0
CLL pmax pmax
comp=Z,24nm,0.7s
CLL Collm 121.89 331 *e*PKPdf **PKiKP** **03 18 36.8 +0.4**
baz=49,slow=1.9
L56A Greenwood 121.90 42 P 03 18 36.7
baz=297,SNR=6.2
KMSC Kings Mountain 121.90 51 P 03 18 37.3
baz=290,SNR=15
N56A West Decatur 121.93 43 P 03 18 36.8
baz=295,SNR=9.7
F57A Harrington 121.94 37 P 03 18 36.5
baz=301
PRU Pruhonice 121.94 329 *e*PKIKP **PKiKP** **03 18 36.8 +0.2**
PRU Pruhonice 121.94 329 *e*PKPDF **PKiKP** **03 18 36.8 +0.2**
PRU *e*SKKP 03 32 08.2
FBE Freiberg 121.96 330 *e*PKPdf **PKiKP** **03 18 37.4 +0.8**
baz=49,slow=1.9
O56A Blue Knob Stat 122.02 44 P 03 18 37.4
baz=295,SNR=8.6
FLTG Flechtingen 122.05 333 *e*PKPdf **PKiKP** **03 18 37.1 +0.4**
baz=49,slow=1.9
DIVS Divibare 122.05 321 ⇓ *i* P **PKPdf** **03 18 36.8 -0.2**
Q56A Snyder Ridge, 122.08 46 P 03 18 37.2
baz=294
SKO Skopje 122.11 318 *i* P **PKPdf** **03 18 36.9 -0.2**
G57A Newington 122.13 38 P 03 18 36.8
baz=301,SNR=6.6
P56A Dayton Farm, R 122.14 45 P 03 18 37.2
baz=294,SNR=9.7
R56A Bull Pasture M 122.17 47 P 03 18 37.4
baz=293
H57A Richville 122.20 39 P 03 18 37.1
baz=300
LATQ La Tuque 122.21 34 P 03 18 36.2
baz=304
U56A King 122.21 49 P 03 18 37.6
baz=291,SNR=5.5
T56A Rocky Mt 122.23 48 P 03 18 37.5
baz=292,SNR=10
JSC Jenkinsville 122.24 52 PKIKP **PKiKP** **03 18 38.2 +0.5**
JSC Jenkinsville 122.24 52 **PKiKP** **03 18 38.2 +0.5**
IDI Anoyia 122.26 310 PKP **PKiKP** **03 18 37.9 +0.2**
comp=Z,30nm,0.6s,baz=78,slow=2.4
IDI PKKPab **PKKPbc** **03 28 36.6 +1.6**
comp=Z,12nm,0.9s,baz=137,slow=22,SNR=5.2
IDI Anoyia 122.26 310 ⇑⇑P **PKiKP** **03 18 39.1 +1.3**
IDI Anoyia 122.26 310 **PKPdf** **03 18 37.5 -0.1**
I57A Carthage 122.29 39 P 03 18 37.0
baz=299
D58A Chemin du LacG 122.31 35 P 03 18 36.9
baz=304,SNR=5.6
K57A Scipio Center 122.31 41 P 03 18 37.2
baz=298,SNR=5.3
V56A Mocksville 122.32 50 P 03 18 37.7
baz=291,SNR=8.8
J57A Williamstown 122.33 40 P 03 18 37.1
baz=299
S56A Natural Bridge 122.33 47 P 03 18 37.5
baz=292
PBCC Pribram 122.41 329 *e*PKPDF **PKiKP** **03 18 37.8 +0.2**
L57A Andrews Acres 122.43 42 P 03 18 37.9
baz=297,SNR=5.3
F58A St-Lin Laurent 122.44 36 P 03 18 37.9
baz=302
ASSE Asse, Remlinge 122.44 333 *e*PKPdf **PKiKP** **03 18 38.1 +0.6**
baz=49,slow=1.9
NRDL Niedersach Rie 122.44 333 *e*PKPdf **PKiKP** **03 18 38.4 +1.0**
baz=49,slow=1.9
CONA Conrad Observa 122.46 327 *e*P **PKPdf** **03 18 37.7 +0.1**
comp=Z,9.5nm,0.6s,SNR=11
CONA *e*P **PKKPab** **03 28 33.9 +0.1**
comp=Z,5.6nm,0.8s
E58A La Victoria 122.48 36 P 03 18 37.4
baz=303
W56A Indian Trail 122.48 51 P 03 18 38.0
baz=290,SNR=9.4
N57A Milroy 122.51 43 P 03 18 38.0
baz=296,SNR=6.9
BBLS Lazići 122.53 321 ⇓ *i* P **PKPdf** **03 18 37.9 0.0**
NEUB Neuenburg 122.54 332 *e*PKPdf **PKiKP** **03 18 38.2 +0.4**
baz=49,slow=1.9
M57A Sunshine Farm, 122.54 43 P 03 18 38.1
baz=297,SNR=8.3
BIGH Upper Bighouse 122.61 345 *e*P **PKPdf** **03 18 37.4 0.0**
LONY Lake Ozonia 122.62 38 **PKPdf** **03 18 38.1 +0.1**
LONY Lake Ozonia 122.62 38 P 03 18 37.7
baz=301,SNR=5.8
Q57A Strasburg 122.64 45 P 03 18 38.3
baz=294,SNR=6.2
G58A Ormstown 122.67 37 P 03 18 37.6
baz=302
RUDO Rudo 122.68 321 *e*P **PKPdf** **03 18 36.7 -1.4**
O57A Amberson 122.69 44 P 03 18 38.4
baz=296,SNR=7.3
TANN Tannenbergstha 122.72 330 *e*PKPdf **PKiKP** **03 18 38.6 +0.4**
baz=49,slow=1.9
TANN *e*PP **PP** **03 20 17.9 -0.1**
baz=46,slow=7.8
P57A Homestead Farm 122.73 45 P 03 18 38.4
baz=295,SNR=6.7
S57A Dark Hollow, R 122.75 47 P 03 18 38.2
baz=293
BI02 San Fabin de 122.77 139 **PKiKP** **03 18 38.8 0.0**
CLZ Clausthal 122.77 333 *e*PKPdf **PKiKP** **03 18 39.1 +0.9**
baz=49,slow=1.9
CKRC Cesky Krumlov 122.77 328 *e*PKPDF **PKPdf** **03 18 38.1 0.0**
CKRC *e*SKKP 03 32 04.2
WERD Werda 122.78 331 *e*PKPdf **PKiKP** **03 18 38.7 +0.4**
baz=49,slow=1.9
WERD *e*PP **PP** **03 20 18.2 -0.1**
baz=46,slow=7.8
GUNZ Gunzen 122.82 330 *e*PKPdf **PKiKP** **03 18 38.9 +0.5**
baz=49,slow=1.9
GUNZ *e*PP **PP** **03 20 18.7 +0.1**
baz=46,slow=7.8
T57A Hurt 122.82 48 P 03 18 38.6
baz=292,SNR=9.2
PLN Plauen 122.82 331 *e*PKPdf **PKiKP** **03 18 38.8 +0.4**
baz=49,slow=1.9
PLN *e*PP **PP** **03 20 18.6 0.0**
baz=46,slow=7.8
V57A Coltrane Farms 122.84 49 P 03 18 38.6
baz=291,SNR=12
I58A Old Forge 122.84 39 P 03 18 38.3
baz=300
NKC Novy Kostel 122.84 330 *e*PKIKP **PKiKP** **03 18 38.8 +0.4**
NKC Novy Kostel 122.84 330 *e*PKPDF **PKiKP** **03 18 38.8 +0.4**
WERN Wernitzgruen 122.84 330 *e*PKPdf **PKiKP** **03 18 39.0 +0.6**
baz=49,slow=1.9
WERN *e*PP **PP** **03 20 18.8 0.0**
baz=46,slow=7.8
R57A Stanardsville 122.85 46 P 03 18 38.9
baz=294
K58A Earlville 122.86 40 P 03 18 38.6
baz=299
BINY Binghamton 122.91 41 P 03 18 38.3
baz=298
OHR Ohrid 122.92 317 *i* P **PKPdf** **03 18 38.4 -0.3**
D59A Saint-Raymond 122.95 34 P 03 18 38.4
baz=305,SNR=6.3
KHC Kasperske Hory 122.96 329 *e*PKIKP **PKPdf** **03 18 38.5 0.0**
KHC Kasperske Hory 122.96 329 *e*PKPDF **PKPdf** **03 18 38.5 0.0**
KHC *ex* x 03 19 23.0
KHC *e*SKKP 03 32 29.5
H58A Gabriels 122.97 38 P 03 18 38.7
baz=301,SNR=7.7
U57A Blanch 122.97 49 P 03 18 39.0
baz=292,SNR=7.6
M58A Price's Panora 122.98 42 P 03 18 38.7
baz=297
MOX Moxa 122.98 331 *e*PKPdf **PKiKP** **03 18 39.0 +0.3**
baz=49,slow=1.9
ARSA Arzberg 123.04 326 *i* P **PKPdf** **03 18 38.4 -0.2**
comp=Z,3.5nm,0.7s
ARSA *e*S **SKiKP** **03 21 55.9 +0.4**
comp=Z,11nm,1.4s
N58A Sunbury 123.05 43 P 03 18 38.9
baz=297,SNR=8.4
L58A Harry Jones Me 123.07 41 P 03 18 39.0
baz=298
GEC2 GERESS Array S 123.07 328 *e*PKPdf **PKiKP** **03 18 39.2 +0.2**
baz=49,slow=1.9
GERES GERESS Array B 123.07 328 PKP **PKiKP** **03 18 39.2 +0.2**
comp=Z,17nm,0.6s,baz=80,slow=1.9,SNR=133
GERES SKP 03 21 56.3
comp=Z,4.8nm,0.9s,baz=79,slow=2.9,SNR=4.7
GERES PKKPbc **PKKPab** **03 28 31.6 +0.4**
comp=Z,1.3nm,0.6s,baz=194,slow=2.7,SNR=10
GERES GERESS Array B 123.07 328 **PKPdf** **03 18 37.9 -0.9**
H59A Cadyville 123.15 38 P 03 18 39.1
baz=302
GTTG Gottingen 123.16 333 *e*PKPdf **PKiKP** **03 18 39.7 +0.8**
baz=49,slow=1.9
MANZ Manzenberg 123.17 330 *e*PKPdf **PKiKP** **03 18 39.6 +0.5**
baz=49,slow=1.9
NCB Newcomb 123.17 39 **PKiKP** **03 18 39.4 +0.1**
UPM Unac-Piva 123.18 320 *e*P **PKPdf** **03 18 38.3 -1.0**
JTS Las Juntas de 123.19 80 PKIKP **PKiKP** **03 18 40.3 +0.2**
JTS Las Juntas de 123.19 80 PKPdf **PKiKP** **03 18 40.3 +0.2**
JTS Las Juntas de 123.19 80 *e*P **PKiKP** **03 18 40.2 +0.2**
Q58A Fox Den Farm, 123.19 45 P 03 18 39.2
baz=295,SNR=5.8
O58A Lewisberry 123.22 44 P 03 18 39.4
baz=296,SNR=7.1
R58A Rapidan 123.23 46 P 03 18 39.2
baz=294
J59A Piesco 123.25 39 P 03 18 39.3
baz=300,SNR=5.3
ROTZ Rotzenmuhle 123.26 330 *e*PKPdf **PKiKP** **03 18 39.5 +0.3**
baz=49,slow=1.9
WET Wettzell 123.31 329 *e*PKPdf **PKiKP** **03 18 39.8 +0.4**
baz=49,slow=1.9
PDG Podgorica 123.33 319 ⇓⇓ P **PKPdf** **03 18 38.9 -0.4**
PDG Podgorica 123.33 319 ⇑⇑ P **PKKPbc** **03 28 30.8 -0.2**
PDG Podgorica 123.33 319 ⇓ *i* P **PKPdf** **03 18 38.8 -0.5**
K59A Cooperstown 123.37 40 P 03 18 39.3
baz=299
T58A Grand View Acr 123.37 48 P 03 18 39.7
baz=293,SNR=10
MOA Molln 123.38 327 *i* P **PKPdf** **03 18 38.9 -0.4**
comp=Z,6.8nm,0.6s
MOA *e*S **SKiKP** **03 21 56.5 +0.2**
comp=Z,8.7nm,1.2s
MOA *e*P **PKKPab** **03 28 30.2 +0.4**
comp=Z,4.5nm,0.9s
TIR Tirane 123.44 318 ⇓⇓ P **PKiKP** **03 18 40.2 +0.4**
TIR Tirane 123.44 318 ⇑⇑ P **PKKPbc** **03 28 31.4 +0.9**
TIR Tirane 123.44 318 ⇓ PKIKP **PKiKP** **03 18 40.2 +0.4**
R58B Mineral 123.45 46 P 03 18 39.8
baz=294,SNR=6.7
BLY Banja Luka 123.45 323 *e*P **PKPdf** **03 18 37.7 -1.8**
S58A Poland Farm, P 123.47 47 P 03 18 39.9
baz=294,SNR=7.3
F60A Warwick 123.47 36 P 03 18 39.6
baz=304
I59A Olmsteadville 123.48 39 P 03 18 39.6
baz=301
NHSC New Hope 123.48 53 P 03 18 40.6
baz=289
GROS Grobnik 123.50 325 *i* PKPdf **PKPdf** **03 18 39.1 -0.6**
D60A Saint Jean D'O 123.52 34 P 03 18 39.5
baz=306
L59A Walton 123.53 41 P 03 18 39.8
baz=299
E60A Ste Agathe de 123.54 35 P 03 18 39.7
baz=305
BRY Bratogost 123.56 320 *e*P **PKPdf** **03 18 39.6 -0.4**
U58A Oxford 123.57 48 P 03 18 40.3
baz=292,SNR=14
M59A Waymart 123.58 42 P 03 18 40.0
baz=298,SNR=5.5
SDMD Soldier's Deli 123.59 44 **PKiKP** **03 18 40.3 +0.1**
IBBN Ibbenburen 123.60 335 *e*PKPdf **PKiKP** **03 18 40.5 +0.7**
baz=49,slow=1.9
UBBA Unterbreizbach 123.63 332 *e*PKPdf **PKiKP** **03 18 40.3 +0.5**
baz=49,slow=1.9
LEWI Lewis, Hebride 123.64 347 *e*P **PKPdf** **03 18 39.3 -0.1**
SOKA Soboth 123.64 326 *i* P **PKPdf** **03 18 39.6 -0.3**
comp=Z,4.1nm,0.4s,SNR=5.4
SOKA *e*S **SKiKP** **03 21 57.0 +0.1**
comp=Z,9.7nm,1.2s
O59A Robesonia 123.64 43 P 03 18 40.4
baz=297
N59A State Game Lan 123.65 42 P 03 18 40.4
baz=298,SNR=5.6
MDO Dochfour 123.65 345 *e*P **PKPdf** **03 18 39.1 -0.4**
MGRS Mrkonjic Grad 123.69 322 *e*P **PKPdf** **03 18 39.2 -0.8**
CBN Corbin Frederi 123.72 46 P 03 18 40.3
baz=294,SNR=7.0
G60A Masonville 123.73 37 P 03 18 40.3
baz=303
D61A St Aubert, Com 123.76 33 P 03 18 39.9
baz=306
TREB Trebinje 123.77 320 *e*P **PKPdf** **03 18 39.4 -0.8**
P59A Jarrettsville 123.78 44 P 03 18 40.4
baz=296
GRF Grafenberg Arr 123.80 330 *e*PKPdf **PKiKP** **03 18 40.7 +0.4**
baz=49,slow=1.9
GRFO Grafenberg 123.80 330 PKIKP **PKiKP** **03 18 40.3 0.0**
GRFO Grafenberg 123.80 330 **PKiKP** **03 18 40.3 0.0**
H60A Morristown 123.80 37 P 03 18 40.5
baz=302
HCY Herceg Novi 123.81 320 *e*P **PKPdf** **03 18 39.6 -0.7**
I60A Shoreham 123.81 38 P 03 18 40.6
baz=302,SNR=8.3
KAC Achnashellach 123.84 345 *e*P **PKPdf** **03 18 39.6 -0.2**
CRES Cresnjev 123.88 325 ⇓ *i* P **PKPdf** **03 18 39.8 -0.5**
R59A King George, V 123.90 46 P 03 18 39.9
baz=295,SNR=5.2
DWPF Disney Wildern 123.90 59 **PKPdf** **03 18 40.2 -0.6**
DWPF Disney Wildern 123.90 59 P 03 18 41.0
baz=285
DBRK Dubrovnik 123.93 320 *i* P **PKPdf** **03 18 38.6 -1.8**
Q59A Harwood 123.95 45 P 03 18 40.9
baz=296
S59A Mechanicsville 123.96 46 P 03 18 40.9
baz=294
OBKA Obir 124.01 326 *i* P **PKPdf** **03 18 40.3 -0.4**
comp=Z,2.6nm,0.5s
OBKA *e*P **PKKPbc** **03 28 30.8 +2.2**
comp=Z,4.1nm,0.7s
F61A St Evariste 124.02 35 P 03 18 41.0
baz=305
E61A Lac Etchemin 124.04 34 P 03 18 40.8
baz=306,SNR=9.9
V59A Middlesex 124.04 49 P 03 18 41.2
baz=292,SNR=6.7
J60A Lant Hill Farm 124.04 39 P 03 18 40.9
baz=301
K60A Five Rivers En 124.07 40 P 03 18 41.0
baz=300
KPL Plockton 124.07 346 ⇑ *e*P **PKiKP** **03 18 40.6 0.0**
KASTN Kahler Asten 124.10 333 *e*PKPdf **PKiKP** **03 18 41.5 +0.6**
baz=49,slow=1.9
G61A St-Isidore-de- 124.10 36 P 03 18 41.0
baz=304
STON Ston 124.11 321 *i* P **PKPdf** **03 18 39.2 -1.5**
N60A Cedar Hill Far 124.12 42 P 03 18 40.8
baz=298
RICI Ricice 124.14 321 P **PKPdf** **03 18 40.8 -0.1**
L60A Shokan 124.16 41 P 03 18 41.1
baz=300
O60A Telford 124.17 43 P 03 18 41.2
baz=296,SNR=6.0
BOJS Bojanci 124.18 324 *i* PKPdf **PKPdf** **03 18 41.0 +0.1**
WUPA West Chester U 124.21 43 PKPdf **PKiKP** **03 18 41.4 0.0**
M60A Port Jervis 124.22 41 P 03 18 41.4
baz=299
RJOB Jochberg 124.23 328 *e*PKPdf **PKPdf** **03 18 41.0 0.0**
baz=49,slow=1.9
P60A Greenville 124.24 44 P 03 18 41.6
baz=297
R60A Leonardtown, M 124.26 46 P 03 18 41.8
baz=295
H61A Lyndonville 124.28 37 P 03 18 42.0
baz=303
LJU Ljubljana 124.29 325 *i* PKPdf **PKiKP** **03 18 41.3 -0.1**
LJU Ljubljana 124.29 325 ⇓ *i* P **PKPdf** **03 18 41.1 0.0**
KIJV Kijevo 124.32 322 *i* P **PKPdf** **03 18 40.7 -0.5**
KBA Koelnbreinsper 124.34 327 *e*P **PKPdf** **03 18 40.5 -0.9**
comp=Z,11nm,1.0s
UDBI Udbina 124.43 323 *i* P **PKPdf** **03 18 41.4 -0.1**
BUG Bochum--Univer 124.44 334 *e*PKPdf **PKiKP** **03 18 41.8 +0.4**
baz=49,slow=1.9
K61A Williamstown 124.44 39 P 03 18 41.9
baz=301,SNR=6.8
LBNH Lisbon 124.44 37 P 03 18 42.0
baz=303
S60A Water View 124.44 46 P 03 18 41.6
baz=295,SNR=5.7
MYKA Terra Mystica 124.44 326 *i* P **PKPdf** **03 18 40.5 -0.9**
comp=Z,4.7nm,0.5s
MYKA *e*P **PKKPbc** **03 28 26.4 -0.6**
comp=Z,4.1nm,0.7s
INVG Invergeldie, C 124.46 344 ⇑ *e*P **PKiKP** **03 18 41.3 -0.1**
ESY Stoneypath 124.49 343 *e*P **PKPdf** **03 18 40.8 -0.3**
CNNC Cliffs of the 124.50 49 PKPdf **PKPdf** **03 18 42.0 +0.2**
CNNC Cliffs of the 124.50 49 P 03 18 42.4
baz=292,SNR=7.3
CEY Cerknica 124.53 325 ⇓ *i* P **PKPdf** **03 18 41.3 -0.3**
J61A Chester 124.53 38 P 03 18 42.3
baz=302
U60A Pendleton 124.58 48 P 03 18 42.0
baz=294,SNR=7.4
T60A Surry 124.62 47 P 03 18 42.2
baz=294
EDI Edinburgh 124.65 343 *e*P **PKiKP** **03 18 41.7 -0.1**
X60A Albert Glenn T 124.69 50 P 03 18 42.5
baz=292,SNR=19
N61A South Mountain 124.71 42 P 03 18 42.9
baz=299
G62A West of Eustis 124.72 36 P 03 18 42.0
baz=305
HVAR Hvar 124.73 321 *i* P **PKPdf** **03 18 41.8 -0.2**
EBL Broad Law 124.74 343 *e*P **PKPdf** **03 18 41.2 -0.5**
EAB Aberfoyle 124.75 344 *e*P **PKPdf** **03 18 41.7 +0.1**
FUR Furstenfeldbru 124.76 329 *e*PKPdf **PKiKP** **03 18 42.5 +0.2**
baz=49,slow=1.9
TNS Taunus Mts 124.77 332 *e*PKPdf **PKiKP** **03 18 42.8 +0.5**
baz=49,slow=1.9
V60A Jim Taylor Roa 124.78 49 P 03 18 42.5
baz=293,SNR=5.2
M61A Granite Spring 124.79 41 P 03 18 42.7
baz=300
MORI Morici 124.82 323 *i* P **PKPdf** **03 18 41.8 -0.3**
PAL Palisades 124.85 42 P 03 18 42.8
baz=299
L61B Northampton 124.92 39 P 03 18 42.7
baz=301
NVLJ Novalja 124.94 324 *i* P **PKPdf** **03 18 41.9 -0.5**
LAWE Loch Awe, Argy 124.96 345 ⇑ *e*P **PKPdf** **03 18 42.0 -0.1**
LAWE IAmb IAmb 03 18 42.8
comp=Z,45nm,0.9s
ZIRJ Zirje 124.98 322 *i* P **PKPdf** **03 18 42.0 -0.5**
D63A Stockholm 124.99 33 P 03 18 42.3
baz=308
ABTA Abfaltersbach 124.99 327 *i* P **PKPdf** **03 18 41.6 -0.9**
comp=Z,11nm,0.7s,SNR=12
ABTA *e*P **PKKPbc** **03 28 24.5 -0.4**
comp=Z,9.3nm,0.7s
I62A Tamworth 124.99 37 P 03 18 43.0
baz=303
J62A Henniker 125.05 38 P 03 18 43.3
baz=303
K62A Royalston 125.09 39 P 03 18 43.4
baz=302
WATA Walderalm 125.13 328 *i* P **PKPdf** **03 18 42.5 -0.3**
comp=Z,18nm,0.6s,SNR=13
WATA *e*S **SKiKP** **03 22 00.4 +0.5**
comp=Z,9.7nm,1.0s
WTTA Wattenberg 125.14 328 *e*P **PKPdf** **03 18 42.5 -0.4**
comp=Z,29nm,0.6s,SNR=13
WTTA *e*P **PP** **03 20 39.4 +5.0**
comp=Z,43nm,1.3s
WTTA *e*P **PKKPbc** **03 28 24.1 -0.2**
comp=Z,8.9nm,0.9s
EKA Eskdalemuir Ar 125.16 343 PKhKP PKPpre 03 18 35.6
comp=Z,1.2nm,0.6s,baz=33,slow=2.2,SNR=3.6
EKA PKP **PKiKP** **03 18 42.6 -0.1**
comp=Z,7.1nm,0.5s,baz=18,slow=2.7,SNR=46
EKA SKPab SKiKP 03 21 40.4 -19
comp=Z,3.9nm,0.9s,baz=49,slow=2.5,SNR=5.7
EKA SKP 03 22 00.6
comp=Z,4.5nm,0.7s,baz=40,slow=2.4,SNR=5.8
EKA PKKPab **PKKPab** **03 28 20.5 -1.5**
comp=Z,2.5nm,0.8s,baz=197,slow=2.6,SNR=4.3
AHRW Bad Neuenahr-A 125.17 333 *e*PKPdf **PKiKP** **03 18 43.5 +0.5**
baz=49,slow=1.9
ESK Eskdalemuir 125.18 343 *e*P **PKPdf** **03 18 42.7 +0.2**
E63A Oxbow 125.20 33 P 03 18 43.1
baz=308
EDMD Edmundbyers 125.22 342 *e*P **PKPdf** **03 18 42.6 0.0**
F63A Nahmakanta, Br 125.25 34 P 03 18 43.2
baz=307
G63A Kingsbury 125.31 35 P 03 18 43.2
baz=306
MOTA Moosalm 125.37 328 *i* P **PKPdf** **03 18 42.9 -0.4**
comp=Z,29nm,0.6s,SNR=10
MOTA *e*P **PP** **03 20 41.3 +5.4**
comp=Z,36nm,1.3s
MOTA *e*S **SKiKP** **03 21 59.5 -1.0**
comp=Z,11nm,0.9s
SQTA Sankt Quirin 125.39 328 *e*P **PKPdf** **03 18 43.2 -0.2**
comp=Z,17nm,0.6s,SNR=12
SQTA *e*P **PP** **03 20 40.8 +4.8**
comp=Z,29nm,1.2s
SQTA *e*S **SKiKP** **03 21 59.6 -0.8**
comp=Z,26nm,1.3s
SQTA *e*P **PKKPbc** **03 28 22.6 -0.8**
comp=Z,9.2nm,1.0s
STU Stuttgart 125.40 331 *e*PKPdf **PKiKP** **03 18 43.8 +0.3**
baz=49,slow=1.9
PKME Peaks-Kenny Pk 125.41 35 P 03 18 43.9
baz=306
RETA Reute 125.46 329 *i* P **PKPdf** **03 18 43.2 -0.1**
comp=Z,6.5nm,0.5s
J63A Strafford 125.48 38 P 03 18 44.3
baz=303
VA03 San Esteban 125.48 136 PKPdf **PKPdf** **03 18 43.7 -0.2**
K63A Dunstable 125.52 39 P 03 18 43.9
baz=302
E64A Bridgewater 125.52 33 P 03 18 43.8
baz=308
BTNL Ternell 125.55 334 *d*PKP **PKiKP** **03 18 44.0 +0.3**
F64A Sherman 125.58 34 P 03 18 44.1
baz=308
MEM Membach 125.59 334 *d*PKPdf **PKiKP** **03 18 43.8 0.0**
MEM *d*PKiKP **PKPdf** **03 18 45.2 +1.8**
BEBN Eben Emael 125.59 334 *d*PKP **PKiKP** **03 18 43.6 -0.1**
HRV Adam Dziewonsk 125.60 39 P 03 18 43.8
baz=302
NEWG New Galloway 125.65 343 ⇑ *e*P **PKPdf** **03 18 43.4 +0.1**
NEWG IAmb IAmb 03 18 44.1
comp=Z,22nm,0.7s
UBR Ueberruh 125.67 329 *e*PKPdf **PKiKP** **03 18 44.1 -0.1**
baz=49,slow=1.9
G64A Maxfield 125.72 35 P 03 18 44.2
baz=307
BHOU Houvegnez 125.78 334 *d*PKP **PKiKP** **03 18 44.4 +0.1**
FETA Feichten 125.78 328 *i* P **PKPdf** **03 18 44.1 0.0**
comp=Z,11nm,0.7s,SNR=12
KESW Keswick, Cumbr 125.78 342 ⇑ *e*P **PKiKP** **03 18 44.0 -0.1**
KESW IAmb IAmb 03 18 44.2
comp=Z,110nm,1.2s
BSTI Sart Tilman 125.80 334 *d*PKPdf **PKiKP** **03 18 44.4 +0.1**
HPK Haverah Park 125.85 341 ⇑ *e*P **PKiKP** **03 18 44.0 -0.2**
MATE Matera 125.87 319 ⇑⇑ P **PKPdf** **03 18 44.4 +0.2**
L63A North Scituate 125.91 40 P 03 18 44.8
baz=302
I64A Boothbay 125.99 36 P 03 18 44.2
baz=305
BCLA Clavier 126.03 334 *d*PKP **PKPdf** **03 18 44.5 +0.2**
DAVA Damuels 126.05 329 *i* P **PKPdf** **03 18 44.8 +0.1**
comp=Z,20nm,0.7s,SNR=8.0
DAVA *e*P **PP** **03 20 38.1 -2.2**
comp=Z,21nm,1.2s
BFO Black Forest 126.12 331 PKIKP **PKPdf** **03 18 44.0 -0.6**
BFO Black Forest 126.12 331 **PKPdf** **03 18 44.0 -0.6**
BFO Black Forest 126.12 331 *e*PKPdf **PKiKP** **03 18 44.8 -0.2**
baz=49,slow=1.9
BGES Gesves 126.15 334 *d*PKP **PKPdf** **03 18 44.6 +0.1**
UCC Uccle 126.15 335 *d*PKP **PKPdf** **03 18 44.6 +0.1**
CLGH Cloghs, Cushen 126.20 345 *e*P **PKiKP** **03 18 44.8 -0.1**
WLF Walferdange 126.21 333 *d*PKPdf **PKiKP** **03 18 45.4 +0.3**
WLF Walferdange 126.21 333 *e*PKPdf **PKiKP** **03 18 46.0 +0.9**
baz=49,slow=1.9
RCHB Rochefort 126.26 334 *d*PKP **PKPdf** **03 18 44.8 +0.1**
H65A Eastbrook 126.34 35 P 03 18 45.2
baz=307
BMRD Maredsous 126.35 335 *d*PKPdf **PKiKP** **03 18 45.3 0.0**
BMRD *d*PKiKP **PKPdf** **03 18 47.0 +2.1**
L64A Middleborough 126.35 39 P 03 18 45.0
baz=303
LBWR Ladybower, Pea 126.35 341 ⇑ *e*P **PKPdf** **03 18 45.0 +0.2**
LBWR IAmb IAmb 03 18 47.1

comp=Z,70nm,1.0s
DAVOX **Davos/Dischmat** **126.38 328** PKhKP PKPpre 03 18 36.8
comp=Z,2.3nm,0.6s,baz=241,slow=8.1,SNR=6.9
DAVOX PKP **PKiK** **03 18 45.8 +0.1**
comp=Z,21nm,0.5s,baz=224,slow=4.1,SNR=52
SNF Seneffe **126.40 335** *d*PKPdf **PKiK** **03 18 45.4 0.0**
G65A Princeton **126.42 34** P 03 18 45.4
baz=308
IOMK Kirk Michael **126.49 343** *e*P **PKPdf** **03 18 44.4 -0.7**
IOMK IAmb IAmb 03 18 47.2
comp=Z,515nm,1.9s
TIP Timpagrande **126.56 317** ⇑P **PKiK** **03 18 46.6 +0.4**
TIP Timpagrande **126.56 317** PKPdf **PKPdf** **03 18 45.7 0.0**
DOU Dourbes **126.58 334** *d*PKP **PKiK** **03 18 45.8 0.0**
WIM Isle of Man **126.62 343**⇓*e*P **PKiK** **03 18 45.6 -0.2**
CWF Charnwood Fore **126.77 340** *e*P **PKPdf** **03 18 43.9 -1.7**
H66A Whiting **126.81 34** P 03 18 46.3
baz=308
NRCA Norcia **126.97 323** PKPdf **PKPdf** **03 18 45.7 -0.7**
AQU L'Aquila **127.06 322** *e*P **PKiK** **03 18 48.0 +0.9**
WME Myndd Eilian **127.17 342**⇓*e*P **PKiK** **03 18 46.2 -0.1**
WLF1 Llynfaes **127.29 342**⇑*e*P **PKPdf** **03 18 46.8 +0.2**
WLF1 IAmb IAmb 03 18 48.8
comp=Z,137nm,1.1s
YLL Llanberis **127.35 342**⇑*e*P **PKiK** **03 18 47.1 -0.2**
YRC Rhoscolyn **127.38 343**⇑*e*P **PKiK** **03 18 47.2 0.0**
LCO Las Campanas **127.39 132** PKIKP **PKiK** **03 18 48.8 +0.3**
LCO Las Campanas **127.39 132** PKPdf **PKiK** **03 18 48.8 +0.3**
AC05 El Transito **127.81 132** PKPdf **PKiK** **03 18 49.5 +0.4**
STRD Stroud **127.86 340** *e*P **PKPdf** **03 18 47.9 +0.2**
STRD IAmb IAmb 03 18 49.8
comp=Z,86nm,0.9s
MCH1 Michaelchurch **127.95 341**⇑*e*P **PKiK** **03 18 48.5 0.0**
MCH1 IAmb IAmb 03 18 48.9
comp=Z,29nm,0.7s
SWN1 Swindon **127.95 340**⇑*e*P **PKiK** **03 18 48.4 -0.1**
SWN1 IAmb IAmb 03 18 50.2
comp=Z,230nm,1.1s
ATAH Atahualpa **128.44 102** PKP **PKiK** **03 18 52.5 +1.4**
comp=Z,71nm,0.9s,baz=297,slow=1.2,SNR=40
ATAH SKPab SKPab 03 21 57.8
comp=Z,53nm,0.8s,baz=260,slow=2.2,SNR=15
UPA Univ. de Panam **128.57 82** *e*P **PKPdf** **03 18 50.1 0.0**
NNA Nana **128.84 109** PKP **PKiK** **03 18 52.2 +0.8**
comp=Z,54nm,0.9s,baz=275,slow=4.9,SNR=20
NNA SKPab SKPab 03 21 56.3
comp=Z,65nm,1.2s,baz=266,slow=5.9,SNR=8.4
NNA Nana **128.84 109***c i*PKIKP **PKiK** **03 18 52.1 +0.7**
NNA pmax pmax
comp=Z,168nm,1.3s
NNA Nana **128.84 109** **PKiK** **03 18 52.0 +0.6**
OTAV Otavalo **129.41 93** PKIKP **PKiK** **03 18 53.0 -0.1**
OTAV Otavalo **129.41 93** **PKiK** **03 18 53.0 -0.1**
OTAV Otavalo **129.41 93**⇓*e*P **PKiK** **03 18 53.1 0.0**
OTAV Otavalo **129.41 93** *e*P **PKPdf** **03 18 51.6 -0.7**
TSUM Tsumeb **129.56 241** **PKiK** **03 18 52.7 -0.1**
JSA Saint Aubin **130.01 338** *e*P **PKPdf** **03 18 50.9 -0.9**
JSA IAmb IAmb 03 18 52.3
comp=Z,21nm,0.5s
SOLC Bahia Solano **130.72 85** *e*P **PKiK** **03 18 55.8 +0.7**
BBAC Balboa, Cauca **130.75 91**⇓*i*P **PKiK** **03 18 55.2 -0.3**
MALC Bahia Malaga **130.75 88** *e*P **PKiK** **03 18 55.6 +0.3**
PIZC Pizarro, Choco **130.75 87** *e*P **PKiK** **03 18 55.8 +0.6**
POPC Popayan, Colom **131.35 90** *e*P **PKiK** **03 18 56.3 -0.4**
SOTA Rioblanco **131.39 91** *e*P **PKiK** **03 18 57.9 +0.7**
PCON Cinco Dias **131.61 91** *e*P **PKiK** **03 18 58.4 +0.7**
YOTC Yotoco, Valle **131.74 88** *e*P **PKPdf** **03 18 55.8 -0.6**
PLMC San Jos del P **131.83 87** *e*P **PKPdf** **03 18 56.8 +0.4**
DBBC Dabeiba **131.91 84**⇓*i*P **PKPdf** **03 18 52.9 -3.7**
LVC Limon Verde **131.99 125** PKP **PKiK** **03 18 58.9 +1.0**
comp=Z,21nm,0.6s,baz=250,slow=2.1,SNR=6.4
LVC SKPbc **SKPab** **03 22 06.9 +1.8**
comp=Z,60nm,0.9s,baz=247,slow=3.6,SNR=22
LVC Limon Verde **131.99 125** **PKiK** **03 18 58.2 +0.2**
LVC Limon Verde **131.99 125** *e*P **PKPdf** **03 18 55.9 -1.0**
MARP Paez Belalcaza **132.08 90** *e*P **PKiK** **03 18 58.4 +0.2**
CBOC Ciudad Bolivar **132.11 86**⇓*e*P **PKiK** **03 18 58.3 +0.1**
MOTC Monteria, Cord **132.40 82** *e*P **PKiK** **03 18 58.5 0.0**
GARC Garzon, Huila **132.50 91**⇓*e*P **PKiK** **03 18 59.0 -0.1**
UREC San Jos de Ur **132.56 83** *e*P **PKPdf** **03 18 51.9 -5.8**
BETC Betania **132.59 90** *e*P **PKiK** **03 18 59.2 +0.2**
HELC Santa Helena **132.59 85** *e*P **PKiK** **03 18 59.1 -0.2**
ANIL Santa Ana **132.69 88**⇓*e*P **PKiK** **03 18 59.2 -0.3**
GUY2C Guyana, Caldas **132.75 87** *e*P **PKPdf** **03 18 55.7 -3.0**
RREF El Recreo **132.76 87** *e*P **PKPdf** **03 18 55.3 -3.6**
TOLC Tolima **132.78 88** *e*P **PKPdf** **03 18 53.8 -4.8**
ORTC Ortega, Tolima **132.83 88** *e*P **PKPdf** **03 18 58.9 +0.6**
MNMC Minye Minye **132.97 121** PKPdf **PKiK** **03 19 00.2 +0.2**
PRAC Prado **133.19 89** *e*P **PKiK** **03 18 59.6 -0.6**
NORC Norcasia **133.24 86** *e*P **PKPdf** **03 18 55.0 -4.1**
KEST Kesra **133.39 317** PKhKP PKPpre 03 18 53.9
comp=Z,3.9nm,0.8s,baz=163,slow=3.0,SNR=3.6
KEST PKP **PKPdf** **03 18 59.0 +0.2**
comp=Z,11nm,0.6s,baz=101,slow=0.9,SNR=14
KEST SKPbc **SKPbc** **03 22 06.5 -1.7**
comp=Z,17nm,0.8s,baz=210,slow=4.6,SNR=3.7
PTBC PUERTO BERRIO **133.65 85** *e*P PKPpre 03 18 56.3
SMRC Santa Marta, M **133.66 79** *e*P **PKiK** **03 19 00.9 -0.1**
ROSC El Rosal **133.78 87** PKP **PKPdf** **03 18 58.7 -1.9**
comp=Z,20nm,0.5s,baz=32,slow=0.7,SNR=15
ROSC SKP 03 22 14.5
comp=Z,92nm,0.8s,baz=94,slow=1.4,SNR=24
ROSC El Rosal **133.78 87** *e*P **PKPdf** **03 18 57.1 -3.4**
CZSB Cruzeiro do Su **133.83 105** *e*P **PKPdf** **03 18 59.6 -0.6**
SMLC San Martn de **133.97 82** *e*P **PKPdf** **03 18 58.9 -1.5**
SPBC San Pablo de B **134.04 86** *e*P PKPpre 03 18 57.1
MACC Macarena, Meta **134.14 91** *e*P **PKPdf** **03 19 01.2 +0.4**
BRRC Barranca, Sant **134.38 84** *e*P **PKPdf** **03 19 01.5 +0.4**
OCAC Ocana **134.74 83** *e*P **PKPdf** **03 19 02.2 +0.2**
BARC Barichara **134.92 85** *e*P **PKPdf** **03 19 01.2 -1.3**
CRJC Cerrejon, Guaj **134.99 79**⇓*i*P **PKiK** **03 19 03.7 -0.1**
RUSC La Rusia **135.02 86** *e*P PKPpre 03 18 57.4
SDDR Presa de Saban **135.21 67** *e*P **PKiK** **03 19 03.5 -0.7**
PAMC Pamplona, Colo **135.38 84** *e*P **PKPdf** **03 19 03.2 -0.4**
GUVC San Jose del G **135.38 91** *e*P **PKPdf** **03 19 00.9 -2.1**
LPAZ La Paz **135.41 118** PKhKP PKPpre 03 18 52.1
comp=Z,6.3nm,0.8s,baz=250,slow=3.3,SNR=10
LPAZ PKP **PKiK** **03 19 05.5 +0.2**
comp=Z,30nm,0.7s,baz=61,slow=4.2,SNR=16
LPAZ SKP 03 22 19.2
comp=Z,56nm,1.0s,baz=297,slow=1.6,SNR=22
LPAZ La Paz **135.41 118** *e*P **PKiK** **03 19 05.5 +0.2**
LPAZ La Paz **135.41 118** *e*P **PKPdf** **03 19 01.8 -1.9**
URIC Uribia, Colomb **135.79 78** *e*P **PKiK** **03 19 04.7 -0.7**
PTGC Puerto Gaitan, **135.95 88** *e*P **PKPdf** **03 19 03.2 -0.9**
TAMC Tame, Arauca **136.30 85** *e*P PKPpre 03 18 56.5
ITQB Itaqui **136.61 143** *e*P **PKPdf** **03 19 04.2 -0.7**
PLTB Pedras Altas **136.78 147** *e*P **PKPdf** **03 19 04.0 -1.2**
SDV Santo Domingo **137.36 81** PKhKP PKPpre 03 18 59.1
comp=Z,5.6nm,0.6s,baz=275,slow=1.7,SNR=6.2
SDV PKP **PKiK** **03 19 08.4 -0.4**
comp=Z,155nm,0.8s,baz=243,slow=1.0,SNR=20
SDV SKP 03 22 24.1
comp=Z,76nm,0.9s,baz=186,slow=2.1,SNR=16
SDV Santo Domingo **137.36 81** PKPpre 03 18 59.5
SDV PKPdf **PKPdf** **03 19 07.5 +0.6**
SDV Santo Domingo **137.36 81** *e*P PKPpre 03 18 59.9
SDV Santo Domingo **137.36 81** *e*P **PKPdf** **03 19 05.6 -1.3**
UCM Universidad Co **137.63 332** PKP PKPpre 03 18 55.9
UCM Universidad Co **137.63 332** PP PP 03 22 20.8 +27
CPSB Cacapava Do Su **137.91 146** *e*P **PKPdf** **03 19 06.7 -0.6**
PBRG Braganca **137.94 336** *e*PKP PKPpre 03 18 58.4
PBRG Braganca **137.94 336** *e*PKPdf **PKiK** **03 19 09.0 -0.1**
PGAV Gavieira, Arco **138.40 338** *e*PKP PKPpre 03 19 02.5
PGAV Gavieira, Arco **138.40 338** *e*PKPdf **PKiK** **03 19 09.2 -0.9**
ESDC Sonseca Array **138.47 332** PKhKP PKPpre 03 18 58.6
comp=Z,1.9nm,0.8s,baz=11,slow=3.3,SNR=11
ESDC PKP **PKiK** **03 19 09.4 -0.8**
comp=Z,3.9nm,0.6s,baz=21,slow=2.6,SNR=13
ESDC PP **PP** **03 21 57.4 -2.1**
comp=Z,11nm,1.1s,baz=37,slow=6.2,SNR=8.8
ESDC SKPbc **SKPbc** **03 22 24.6 +1.0**
comp=Z,6.7nm,0.9s,baz=19,slow=3.5,SNR=5.3
ESDC Sonseca Array **138.47 332** PKPpre 03 18 58.3
ESDC PKPdf **PKPdf** **03 19 09.0 +0.9**
CPUP Villa Florida **138.48 138** PKhKP PKPpre 03 18 58.3
comp=Z,2.9nm,0.5s,baz=246,slow=3.8,SNR=17
CPUP PKP **PKPdf** **03 19 09.5 +1.1**
comp=Z,26nm,0.9s,baz=253,slow=2.0,SNR=24
CPUP SKPbc **SKPbc** **03 22 25.4 +1.5**
comp=Z,67nm,1.1s,baz=243,slow=2.4,SNR=18
CPUP Villa Florida **138.48 138** *e*P **PKPdf** **03 19 07.5 -0.9**
MVO Moncorvo **138.60 336** *e*PKP PKPpre 03 19 02.2
MVO Moncorvo **138.60 336** *e*PKPdf **PKiK** **03 19 11.0 +0.5**
POLO Lamas de Olo **138.72 337** *e*PKPdf **PKiK** **03 19 09.8 -1.0**
PAB San Pablo **138.75 332** PKHKP PKPpre 03 18 59.3
PAB San Pablo **138.75 332** PKPpre PKPpre 03 18 59.3
PVRL Vila Real **138.78 337** *e*PKP PKPpre 03 19 00.4
PVRL Vila Real **138.78 337** *e*PKPdf **PKiK** **03 19 09.9 -0.9**
PTO Porto **139.24 337** *e*PKPdf **PKPdf** **03 19 10.5 +1.1**
PVIS Viseu **139.32 336** *e*PKP PKPpre 03 19 02.4
PVIS Viseu **139.32 336** *e*PKPdf **PKiK** **03 19 12.1 +0.1**
MTE Manteigas **139.45 336** *e*PKP PKPpre 03 19 04.0
MTE Manteigas **139.45 336** *e*PKPdf **PKPdf** **03 19 10.4 +0.5**
ETMB Extrema **139.46 110** *e*P **PKPdf** **03 19 09.7 -0.8**
PCBR Castelo Branco **139.90 335** *e*PKP PKPpre 03 19 06.0
PCBR Castelo Branco **139.90 335** *e*PKPdf **PKPdf** **03 19 10.9 +0.3**
COI Coimbra **139.96 337** *e*PKPdf **PKPdf** **03 19 11.8 +1.1**
PCAS Casmilo, Conde **140.13 336** *e*PKP **PKPdf** **03 19 03.9 -7.2**
PCAS Casmilo, Conde **140.13 336** *e*PKPdf **PKPdf** **03 19 12.2 +1.1**
SJG San Juan **140.14 67** PKhKP PKPpre 03 19 04.7
comp=Z,8.5nm,0.7s,baz=353,slow=8.4,SNR=2.6
SJG PKP **PKPdf** **03 19 12.8 +1.2**
comp=Z,51nm,0.8s,baz=17,slow=2.2,SNR=3.7
SJG SKPbc **SKPbc** **03 22 29.0 +0.3**
comp=Z,15nm,0.6s,baz=81,slow=4.6,SNR=6.7
SJG San Juan **140.14 67** **PKPdf** **03 19 11.7 +0.1**
SJG San Juan **140.14 67** *e*P **PKPdf** **03 19 11.4 -0.2**
PMRV Marv??o **140.20 335** *e*PKP **PKPdf** **03 19 04.6 -6.6**
PMRV Marv??o **140.20 335** *e*PKPdf **PKPdf** **03 19 11.6 +0.4**
PSBE So Bento **140.71 336** *e*PKP **PKPdf** **03 19 07.5 -4.6**
PSBE So Bento **140.71 336** *e*PKPdf **PKPdf** **03 19 11.1 -1.0**
PMTG Montargil **140.86 335** *e*PKPdf **PKPdf** **03 19 07.4 -5.0**
EMAL Malaga-Limoner **140.97 329** PKP **PKPdf** **03 19 06.8 -5.8**
EMAL Malaga-Limoner **140.97 329** PP PP 03 22 30.6 +16
ITAB Concordia **141.06 145** *e*P **PKPdf** **03 19 12.8 -0.3**
PBAR Barrancos **141.09 333** *e*PKPdf **PKPdf** **03 19 08.0 -4.8**
EVO Evora **141.22 335** PKP **PKPdf** **03 19 07.2 -5.8**
EVO Evora **141.22 335** PP PP 03 22 31.8 +16
EVO Evora **141.22 335** *e*PKPdf **PKPdf** **03 19 07.4 -5.6**
PBEJ Beja **141.58 334** *e*PKPdf **PKPdf** **03 19 08.9 -4.8**
SIV San Ignacio **141.63 122** PKhKP PKPpre 03 19 08.5
comp=Z,21nm,0.7s,baz=249,slow=3.6,SNR=122
SIV PKP **PKiK** **03 19 16.6 -0.7**
comp=Z,23nm,0.5s,baz=250,slow=5.1,SNR=13
SIV SKPbc **SKPbc** **03 22 33.5 +0.8**
comp=Z,65nm,1.0s,baz=242,slow=3.2,SNR=20
TER01 Tubaro-SC **141.68 149** *e*P **PKPdf** **03 19 13.4 -0.8**
PNCL Nicolau / Gran **141.79 335** *e*PKPdf **PKPdf** **03 19 09.0 -5.1**
PNCL *i* LQ LQ 03 20 07.8
MESJ Messejana **141.89 334** *e*PKPdf **PKPdf** **03 19 11.0 -3.2**
MESJ Messejana **141.89 334** *e*PKPdf **PKPdf** **03 19 10.0 -4.2**
PCVE Castro Verde **141.98 334** *e*PKPdf **PKPdf** **03 19 11.2 -3.2**
PVAQ Vaqueiros **142.03 333** *e*PKPdf **PKPdf** **03 19 11.4 -3.1**
CEU Ceuta **142.12 329** PKP **PKPdf** **03 19 08.5 -6.2**
CEU Ceuta **142.12 329** PP PP 03 22 32.4 +11
PVLZ Peæn de **142.12 328** PKP **PKPdf** **03 19 08.0 -6.7**
PVLZ Peæn de **142.12 328** PP PP 03 22 31.5 +10
PBDV Barranco-do-Ve **142.26 333** PKPdf **PKPdf** **03 19 11.4 -3.6**
PTEO Sao Teotonio **142.35 335** *e*PKPdf **PKPdf** **03 19 12.0 -3.1**
MORF Marmelete **142.52 334** *e*PKPdf **PKPdf** **03 19 12.7 -2.8**
MORF Marmelete **142.52 334** *e*PKPdf **PKPdf** **03 19 13.3 -2.2**
SAML Samuel **142.56 110** *e*P **PKPdf** **03 19 15.4 -0.7**
PFVI Vila Bisbo **142.74 334** *e*PKPdf **PKPdf** **03 19 13.9 -1.9**
EKNA AfricaArray - **142.81 272**⇓*e*P **PKPdf** **03 19 13.6 -3.0**
PTGB Pitanga **142.98 142** *e*P **PKPdf** **03 19 15.4 -1.3**
PCRV Puerto La Cruz **143.14 79** PKhKP PKPpre 03 19 12.8
comp=Z,39nm,0.7s,baz=0.0,slow=3.6,SNR=15
AQDB Aquidauana **143.41 133** *e*P PKPbc 03 19 15.5 +0.3
PTLB Pontes e Lacer **143.52 123** *e*P **PKPdf** **03 19 17.1 -0.6**
VILB Vilhena **143.77 118** *e*P PKPbc 03 19 16.5 +0.1
IFR Ifrane **143.82 327** PKP PKPab 03 19 14.3 -1.2
IFR Ifrane **143.82 327** PP PP 03 22 33.0 +0.7
MDT Midelt **144.05 325** PKP PKPbc 03 19 17.2 +0.3
comp=Z,38nm,0.7s,baz=292,slow=1.5,SNR=90
ANBD Bethesda, Anti **144.45 66** *e*P **PKPab** **03 19 17.6 -0.5**
H07S1 FLORES T-PHASE **144.77 4** *e*PKP **PKPab** **03 19 18.2 -0.5**
CBE Ff, Capester **144.87 68** *e*P **PKPab** **03 19 19.8 0.0**
TDBA Terre de Bas, **144.91 68** *e*P **PKPdf** **03 19 20.6 +0.5**
AVE Averroes **145.20 329** PKP **PKPab** **03 19 20.8 +0.3**
AVE Averroes **145.20 329** PP PP 03 22 40.0 -0.3
SRBC Serra Branca **145.23 0** *e*PKP **PKPdf** **03 19 20.0 -0.1**
PGRA Graciosa **145.24 0** *e*PKP **PKPdf** **03 19 19.6 -0.5**
PAGU Agualva, Azore **145.50 359** *e*PKP **PKPdf** **03 19 19.5 -1.0**
FRTB Fartura **145.52 143** *e*P **PKPab** **03 19 22.1 0.0**
ADH Angra Heroismo **145.61 359** *e*PKP **PKPab** **03 19 22.2 +0.4**
FDF Fort de France **145.65 70** *e*P **PKPbc** **03 19 22.1 -0.1**
PCMB Pacaembu **145.74 139** *e*P **PKPdf** **03 19 20.8 -0.6**
PICO Pico **145.77 1** *e*PKP **PKPdf** **03 19 20.3 -0.8**
PP1B Ponte de Pedra **145.78 130** *e*P **PKPdf** **03 19 21.2 -0.4**
BIM Bigot **145.78 70** *e*P **PKPab** **03 19 22.0 -0.1**
SVB Belmont **145.90 72** *e*P **PKPdf** **03 19 22.1 +0.2**
ILAM Ilet Lapin Mar **145.90 70** *e*P **PKPbc** **03 19 22.6 -0.3**
SLBI Saint Lucia, B **145.99 71** *e*P **PKPdf** **03 19 22.2 +0.3**
MPOM Morne Pois Mar **146.00 70** *e*P **PKPbc** **03 19 23.4 +0.3**
PET01 Itanhaem-SP **146.08 147** *e*P **PKPdf** **03 19 21.0 -0.9**
TRN Trinidad (W) **146.23 77** *e*P **PKPbc** **03 19 23.2 -0.6**
PSET Sete Cidades **146.38 357** *e*PKP **PKPdf** **03 19 21.6 -0.5**
BART Pico Bartolome **146.39 356** *e*PKP **PKPbc** **03 19 23.2 -0.6**
MACA Manacapuru-AM **146.51 102** *e*P **PKPdf** **03 19 22.3 -0.7**
SPB Sao Paulo **146.55 146** *e*P **PKPdf** **03 19 22.1 -0.7**
PSMN Pico do Norte, **147.16 356** *e*PKP **PKPbc** **03 19 24.8 -1.1**
VAO Valinhos **147.28 146** *e*P **PKPdf** **03 19 23.7 -0.4**
BOAV Boa Vista **147.45 92** *e*P **PKPdf** **03 19 23.7 -0.8**
PTGA Pitinga **147.66 98** PKP **PKPdf** **03 19 25.5 +0.6**
comp=Z,247nm,0.7s,baz=271,slow=4.6,SNR=51
PTGA PKPbc **PKPbc** **03 19 28.7 +0.8**
comp=Z,247nm,0.7s,baz=268,slow=4.3,SNR=107
PTGA Pitinga **147.66 98** *e*P **PKPdf** **03 19 23.8 -1.1**
ITRB Iturama **147.67 138** *e*P **PKPdf** **03 19 24.1 -0.6**
PARB Paraibuna **147.73 149** *e*P **PKPdf** **03 19 23.9 -0.9**
BB19B Bebedouro **147.86 142** *e*P **PKPdf** **03 19 25.1 0.0**
CLDB Colider **148.55 118** *e*P **PKPdf** **03 19 25.9 -0.4**
ESAR Angra dos Reis **148.60 150** *e*P **PKPdf** **03 19 25.1 -1.1**
MAN01 Angra dos Reis **148.97 150** *e*P **PKPdf** **03 19 25.5 -1.4**
ARAG Araguaiana, MT **149.26 130** *e*P **PKPdf** **03 19 26.3 -1.1**
TORD Torodi Ar. Bea **149.37 289** PKP **PKPdf** **03 19 27.6 0.0**
comp=Z,90nm,0.7s,baz=67,slow=1.5,SNR=261
TORD PKPbc **PKPbc** **03 19 32.1 -0.1**
comp=Z,172nm,0.6s,baz=54,slow=2.5,SNR=120
TORD PP **PP** **03 23 06.8 +0.6**
comp=Z,23nm,1.1s,baz=51,slow=4.6,SNR=4.8
TORD Torodi Ar. Bea **149.37 289** PKPdf **PKPdf** **03 19 27.1 -0.5**
TORD PKPbc **PKPbc** **03 19 31.5 -0.7**
TORD PKPab **PKPab** **03 19 37.2 -0.4**
VAS01 Vassouras-RJ **149.71 151** *e*P **PKPdf** **03 19 27.1 -0.9**
BSCB Bom Sucesso **150.09 147** *e*P **PKPdf** **03 19 27.9 -0.8**
IPMB Ipameri, GO **150.32 138** *e*P **PKPdf** **03 19 27.9 -1.2**
SHEL Horse Pasture **150.32 227** PKIKP **PKiK** **03 19 35.6 +0.4**
SHEL Horse Pasture **150.32 227** **PKiK** **03 19 35.6 +0.4**
DUB01 Friburgo-RJ **150.39 152** *e*P **PKPdf** **03 19 28.3 -0.8**
NPGB Novo Progresso **150.49 112** *e*P **PKPdf** **03 19 28.8 -0.7**
CAM01 Campos-RJ **150.94 153** *e*P **PKPdf** **03 19 29.2 -0.7**
ITTB Itatiuba **151.00 107** *e*P **PKPdf** **03 19 30.0 -0.2**
SNDB Serra Nova Dou **151.83 125** *e*P **PKPdf** **03 19 30.4 -1.0**
BDFB Brasilia **152.09 135** PKP **PKPdf** **03 19 32.4 +0.5**
comp=Z,46nm,0.8s,baz=79,slow=0.7,SNR=77
BDFB PKPbc **PKiK** **03 19 39.3 +0.3**
comp=Z,167nm,0.7s,baz=176,slow=1.7,SNR=64
ALF01 Guarapari-ES **152.42 153** *e*P **PKPdf** **03 19 31.6 -0.5**
DIAM Diamantina, MG **152.88 146** *e*P **PKPdf** **03 19 31.6 -1.4**
MALB Monte Alegre **153.05 102** *e*P **PKPdf** **03 19 32.9 -0.4**
RIB01 Linhares ES **153.70 153** *e*P **PKPdf** **03 19 33.0 -1.1**
SJMB Sao Joao De Ma **153.85 151** *e*P **PKPdf** **03 19 33.8 -0.5**
BSFB Barra de Sao F **153.91 151** *e*P **PKPdf** **03 19 33.2 -1.2**
PEXB Peixe **154.15 129** *e*P **PKPdf** **03 19 34.5 -0.3**
KOWA Kowa **154.25 295** PP PP 03 23 30.4 -3.4
comp=Z,64nm,1.0s,baz=53,slow=4.9,SNR=10
KOWA Kowa **154.25 295** **PKPdf** **03 19 34.6 -0.2**
KOWA PKPbc **PKiK** **03 19 43.4 +0.1**
KOWA PKPab **PKPab** **03 19 58.0 0.0**
JANB Januaria **155.00 140** *e*P **PKPdf** **03 19 34.5 -1.5**
NAN01 Guarapari, ES **155.10 152** *e*P **PKPdf** **03 19 34.9 -1.1**
MDP Montagnes des **155.38 87** PKP **PKPdf** **03 19 38.1 +1.6**
comp=Z,28nm,0.9s,baz=253,slow=2.0,SNR=4.7
MCPB Macapa, AP **155.52 100** *e*P **PKPdf** **03 19 36.6 -0.2**
PRPB Parauapebas **155.91 115** *e*P **PKPdf** **03 19 36.1 -1.1**
SDBA SAO DESIDERIO **156.49 134** *e*P **PKPdf** **03 19 37.0 -1.0**
SMTB Santa Maria do **156.57 123** *e*P **PKPdf** **03 19 37.0 -1.1**
KIC Kosan Boka **156.77 277** *e*PKP1 **PKPdf** **03 19 37.4 -0.9**
comp=Z,176nm,1.5s
KIC Kosan Boka **156.77 277** *e*P **PP** **03 23 49.2 +1.0**
comp=Z,125nm,1.2s
DBIC Dimbokro **156.86 277** PKP **PKPdf** **03 19 38.4 -0.1**
comp=Z,19nm,1.0s,baz=79,slow=4.6,SNR=9.8
DBIC PKPab **PKPab** **03 20 09.9 +0.6**
comp=Z,132nm,0.8s,baz=74,slow=4.9,SNR=39
DBIC PP **PP** **03 23 48.8 +0.1**
comp=Z,39nm,1.1s,baz=66,slow=5.5,SNR=8.3
DBIC Dimbokro **156.86 277** PKIKP **PKPdf** **03 19 38.6 +0.1**
DBIC Dimbokro **156.86 277** **PKPdf** **03 19 38.6 +0.1**
DBIC PKPab **PKPab** **03 20 09.4 +0.1**
TIC Toumodi **157.03 277** *e*PKP1 **PKPdf** **03 19 38.5 -0.2**
TIC Toumodi **157.03 277** *e*P **PP** **03 23 50.1 +0.5**
LIC Lamto **157.07 276** *e*PKP1 **PKPdf** **03 19 37.6 -1.1**
comp=Z,184nm,1.5s
LIC Lamto **157.07 276** *e*P **PP** **03 23 50.6 +0.8**
comp=Z,210nm,1.4s
NBIT Itapeh - BA **157.93 149** *e*P **PKPdf** **03 19 39.0 -0.7**
GDU01 Guandu, BA **158.87 147** *e*P **PKPdf** **03 19 40.7 -0.2**
TMAB Tom-Au,PA,Br **158.87 107** *e*P **PKPdf** **03 19 40.3 -0.7**
NBPN Ponto Novo - B **160.78 141** *e*P **PKPdf** **03 19 42.3 -0.8**
ASCN Ascension **161.91 229** PKPab **PKPab** **03 20 31.7 +0.6**
NBLA Lagarto - SE **162.09 147** *e*P **PKPdf** **03 19 44.0 -0.4**
ROSB Rosrio **162.41 113** *e*P **PKPdf** **03 19 44.4 -0.4**
NBTA Tacaratu-PE **163.44 143** *e*P **PKPdf** **03 19 44.8 -1.0**
NBAN Anadia - AL **164.00 149** *e*P **PKPdf** **03 19 45.5 -0.7**
NBPS Pedro II - PI **164.10 122** *e*P **PKPdf** **03 19 45.7 -0.8**
NBMA Muriti-CE **164.31 137** *e*P **PKPdf** **03 19 46.5 -0.1**
NBPB Pedra_Branca-C **164.94 129** *e*P **PKPdf** **03 19 46.3 -0.8**
NBRF Rio Formoso - **165.42 151** *e*P **PKPdf** **03 19 46.3 -1.1**
NBLI Livramento-PB **165.50 142** *e*P **PKPdf** **03 19 46.5 -1.1**
NBMO Morrinhos-CE **165.85 121** *e*P **PKPdf** **03 19 47.1 -0.7**
NBPA Parau_RN **166.60 137** *e*P **PKPdf** **03 19 47.6 -0.9**
NBCL Cascavel-CE **166.77 129** *e*P **PKPdf** **03 19 48.4 -0.2**
NBPV Pedro Velho **167.24 145** *e*P **PKPdf** **03 19 48.8 -0.1**
RCBR Riachuelo **167.34 141** PKP **PKPdf** **03 19 49.8 +0.8**
comp=Z,39nm,1.0s,baz=181,slow=1.8
RCBR Riachuelo **167.34 141** PKPdf **PKPdf** **03 19 49.6 +0.6**
RCBR Riachuelo **167.34 141** *e*P **PKPdf** **03 19 48.4 -0.7**
SACV Santiago Islan **168.39 339** PKPdf **PKPdf** **03 19 50.2 +0.6**

TRN 16 03:05:14.0, 17°.37N × 61°.62W, h37 km, MD3.9, 1D,
Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANBD	**Bethesda, Anti**	**0.35**	**204**	⇓*i*P	Pn	03 05 24.3	+1.9
ANBD				*e*S	Sn	03 05 30.6	+1.4
ABD	**La Joyeuse, An**	**0.90**	**172**	*e*P	Pn	03 05 31.6	+1.6
ABD				*e*S	Sn	03 05 43.5	+1.7
SKI	**Saint Kitts**	**1.07**	**268**	*e*P	Pn	03 05 34.2	+1.7
SKI				*e*S	Sn	03 05 48.0	+1.9
CBE	**Ff, Capester**	**1.29**	**180**	*e*P	Pn	03 05 37.2	+1.8
CBE				*e*S	Sn	03 05 54.7	+3.2
MAGL	**Barre de l'ile**	**1.45**	**167**	*e*P	Pn	03 05 39.4	+1.8
MAGL				*e*S	Sn	03 05 57.7	+2.4
TBG	**Guadaloupe-3**	**1.51**	**181**	*e*P	Pn	03 05 40.1	+1.7
TBG				*e*S	Sn	03 05 59.6	+2.9
TDBA	**Terre de Bas,**	**1.51**	**181**	*e*P	Pn	03 05 40.7	+2.2
TDBA				*e*S	Sn	03 05 59.3	+2.5
DSLB	**Salisbury**	**1.93**	**174**	*e*P	Pn	03 05 46.3	+2.0
DSLB				*e*S	Sn	03 06 10.3	+3.1
FDF	**Fort de France**	**2.66**	**170**	*e*P	Pn	03 05 57.0	+2.8
FDF				*e*S	Sn	03 06 26.1	+0.8
ILAM	**Ilet Lapin Mar**	**2.67**	**164**	*e*S	Sn	03 06 26.8	+1.2
BIM	**Bigot**	**2.88**	**169**	*e*P	Pn	03 05 58.2	+0.9
BIM				*e*S	Sn	03 06 31.6	+0.8
MPOM	**Morne Pois Mar**	**3.00**	**166**	*e*P	Pn	03 06 01.2	+2.3
MPOM				*e*S	Sn	03 06 34.7	+1.2
SLBI	**Saint Lucia, B**	**3.38**	**169**	*e*P	Pn	03 06 06.2	+2.0
SLBI				*e*S	Sn	03 06 44.4	+1.4

DJA ***16*** *03:21:43.2±1.4, 4°.5S±10°.×15°.2E±1°.6, h199 km±4km, M4.0/10, mb4.5/10, MLv3.8/2*
NEIC ***16*** *03:21:43.8±1.6, 4°.1S±0°.1×152°.0E±0°.1, h199 km±3km, mb4.6/22, Error ellipse: s-maj=19.5km s-min=14.6km az=89.0*
IDC ***16*** *03:21:46.9±1.9, 4°.25S×151°.99E, h228 km±15km, mb3.8/10, mb1 3.9/12, mb1mx3.6/39, mbtmp4.4/12, Error ellipse: s-maj=20.2km s-min=10.0km az=108.0*

ISC 16 03:21:44.4±1.0, 4°.20S±0°.07×152°.0E±0°.1, h203 km±8km, n55, σ1°.08/59, mb4.3/22, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

CMAR	**Chiang Mai Arr**	**56.91**	**295**	P		**P**	**03 31 10.2**	**+1.5**
	comp=Z,4.6nm,0.7s,baz=115,slow=5.4,SNR=21							
CMAR	**Chiang Mai Arr**	**56.91**	**295**	P		**P**	**03 31 09.6**	**+0.9**
HHC	**Hu-ho-hao-te**	**58.10**	**325**	*e*P		**P**	**03 31 16.3**	**-0.5**
HHC				pmax	pmax			
	comp=Z,8.0nm,1.2s							
HHC				pmax	pmax			
	comp=Z,160nm,6.0s							
SONM	**Songino Array**	**65.40**	**328**	P		**P**	**03 32 05.5**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=145,slow=6.0,SNR=3.9							
SONM	**Songino Array**	**65.40**	**328**	P		**P**	**03 32 06.4**	**+1.1**
VNDA	**Vanda**	**73.46**	**178**	P		**P**	**03 32 54.2**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=44,slow=5.7,SNR=5.5							
VNDA	**Vanda**	**73.46**	**178**	P		**P**	**03 32 54.6**	**+0.5**
WMQ	**Urumqi**	**74.76**	**317**	*e*P		**P**	**03 33 03.5**	**+1.2**
WMQ				pmax	pmax			
	comp=Z,12nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,150nm,9.9s							
MK31	**Makanchi Array**	**79.35**	**319**	P		**P**	**03 33 27.7**	**0.0**
MKAR	**Makanchi Array**	**79.35**	**319**	P		**P**	**03 33 27.7**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=99,slow=7.3,SNR=11							
MAKZ	**Makanchi**	**79.56**	**319**	P		**P**	**03 33 28.9**	**+0.1**
MAKZ				IAmb	IAmb		03 33 29.4	
	comp=Z,4.4nm,1.0s							
ZALV	**Zalesovo Beam**	**80.22**	**326**	P		**P**	**03 33 30.8**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=112,slow=6.1,SNR=7.7							
ZALV	**Zalesovo Beam**	**80.22**	**326**	P		**P**	**03 33 31.1**	**-1.1**
QSPA	**South Pole Qui**	**85.76**	**180**	P		**P**	**03 34 00.6**	**+0.1**
QSPA				IAmb	IAmb		03 34 01.4	
	comp=Z,15nm,1.4s							
GERES	**GERESS Array B**	**123.13**	**328**	PKP		**PKPdf**	**03 40 16.1**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=2.9,SNR=2.6							
GERES	**GERESS Array B**	**123.13**	**328**			**PKPdf**	**03 40 16.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**149.37**	**289**	PKPbc		**PKPbc**	**03 41 09.1**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=73,slow=2.2,SNR=27							
BDFB	**Brasilia**	**152.05**	**135**	PKPbc		**PKPbc**	**03 41 16.2**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=77,slow=4.6,SNR=7.0							
BDFB	**Brasilia**	**152.05**	**135**			**PKPbc**	**03 41 16.4**	**-0.3**

*IDC **16** 03:23:10.5±2.1,27.2°S×70.8°W,h0km,mb4.3/2,*
mb1 4.1/4,mb1mx3.7/35,mbtmp4.1/4,ML3.6/2,Error
ellipse: s-maj=84.2km s-min=25.9km az=107.0
*SJA **16** 03:23:10.4±0.4,27.0°S×71.2°W,h25km±6km,ML3.6,*
MW4.0
*GUC **16** 03:23:12.4±0.5,27.2°S×71.4°W,h15km±5km,ML3.6*

ISC 16 03:23:08.6±1.7,**27.22S**±0.03×**71.26W**±0.07,**h2**km±11km,
n29,σ**8°01**/31,**3C-2D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO03	**Copiap**	**0.98**	**112**	⇓*i*P		**Pn**	**03 23 30.4**	**+1.0**
GO03				*i* S		**Sn**	**03 23 44.1**	**+0.2**
GO03				IAML			03 23 51.7	
	comp=E,2μm,0.4s							
GO03	**Copiap**	**0.98**	**112**	*e*P		**Pn**	**03 23 30.4**	**+1.0**
GO03				*e*S		**Sn**	**03 23 45.2**	**+1.3**
AC04	**Llanos de Chal**	**0.99**	**171**	⇓*i*P		**Pb**	**03 23 28.8**	**+0.3**
AC04				*e*S		**Sb**	**03 23 41.4**	**-0.6**
AC04				IAML			03 23 44.3	
	comp=E,4μm,0.3s							
AC01	**Pan de Azucar**	**1.22**	**29**	⇑*i*P		**Pb**	**03 23 33.1**	**+0.7**
AC01				*i* S		**Sg**	**03 23 49.8**	**+1.9**
AC01				IAML			03 23 53.9	
	comp=N,1μm,0.3s							
AC05	**El Transito**	**1.83**	**152**	⇑*i*P		**Pg**	**03 23 43.3**	**-0.3**
AC05				*i* S		**Sg**	**03 24 07.9**	**+0.5**
AC05				IAML			03 24 13.6	
	comp=N,915nm,0.7s							
AC02	**Maricunga**	**1.94**	**79**	⇑*i*P		**Pg**	**03 23 46.6**	**+0.8**
AC02				*e*S		**Sg**	**03 24 13.2**	**+2.3**
AC02				IAML			03 24 19.5	
	comp=N,1μm,0.5s							
GO02	**Mina Guanaco**	**2.54**	**37**	*e*P		**Pn**	**03 23 53.1**	**+2.1**
GO02				IAML			03 24 39.9	
	comp=N,551nm,0.5s							
PB14	**IPOC Station P**	**2.70**	**17**	*i* P		**Pn**	**03 23 52.9**	**-0.3**
PB14	**IPOC Station P**	**2.70**	**17**	*e*S		**Sn**	**03 24 25.2**	**-1.4**
PB14				IAML			03 24 47.3	
	comp=Z,272nm,0.5s							
CO01	**Juntas del Tor**	**2.93**	**160**	*e*P		**Pb**	**03 23 59.3**	**-2.4**
CO01				IAML			03 24 47.6	
	comp=E,191nm,0.5s							
GO04	**Tololo Observa**	**2.97**	**172**	*e*P		**Pn**	**03 23 58.0**	**+1.1**
GO04	**Tololo Observa**	**2.97**	**172**	*e*P		**Pn**	**03 23 58.9**	**+2.0**
VCA	**Vinchina**	**3.09**	**120**	*e*P		**Pb**	**03 24 03.8**	**-0.6**
VCA				IAML			03 25 10.0	
	comp=Z,132nm,1.4s							
AROD	**Rodeo**	**3.33**	**152**	*e*P		**Pb**	**03 24 06.3**	**-2.2**
PB10	**IPOC Station P**	**3.75**	**10**	*e*P		**Pn**	**03 24 06.1**	**-1.2**
ACCO	**Cerro Coronel**	**3.87**	**151**	*e*P		**Pb**	**03 24 13.9**	**-3.8**
ACCO				IAML			03 25 23.5	
	comp=Z,74nm,1.1s							
RTLL	**Cerro Villicun**	**4.76**	**150**	*e*P		Pb	03 24 27.5	-5.2
RTLL				IAML			03 25 58.8	
	comp=Z,44nm,0.8s							
RTLS	**Leoncito**	**4.87**	**160**	*e*P		**Pn**	**03 24 27.6**	**+4.5**
RTLS				IAML			03 25 49.5	
	comp=Z,110nm,1.0s							
LVC	**Limon Verde**	**5.06**	**25**	Pn		**Pn**	**03 24 27.4**	**+1.6**
	comp=Z,2.8nm,0.3s,baz=186,slow=7.3,SNR=26							
LVC				Sn		**Sn**	**03 25 25.1**	**+0.1**
	comp=Z,5.8nm,0.3s,baz=318,slow=23,SNR=3.5							
LVC				Lg		Lg	03 25 47.8	
	comp=Z,13nm,0.3s,baz=148,slow=21,SNR=8.4							
RTCV	**Cerro Valdivia**	**5.20**	**154**	*e*P		Pn	03 24 32.9	+5.6
RTCV				IAML			03 26 00.6	
	comp=Z,41nm,1.0s							
AHML	**Horco Molle**	**5.30**	**87**	*e*P		**Pb**	**03 24 37.5**	**-4.5**
AHML				IAML			03 26 05.1	
	comp=Z,20nm,0.9s							
H03N1	**Juan Fernandez**	**9.06**	**225**	T		T	03 34 47.1	
	baz=52,slow=71,SNR=99							
H03N2	**Juan Fernandez**	**9.07**	**225**	T		T	03 34 47.3	
	baz=52,slow=71,SNR=92							
H03N3	**Juan Fernandez**	**9.08**	**225**	T		T	03 34 47.9	
	baz=52,slow=71,SNR=129							
SIV	**San Ignacio**	**14.64**	**42**	Pn		**Pn**	**03 26 33.8**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=243,slow=12,SNR=6.3							
KOWA	**Kowa**	**77.26**	**66**	P		**P**	**03 35 05.5**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=202,slow=4.6,SNR=9.4							
TORD	**Torodi Ar. Bea**	**81.29**	**70**	P		**P**	**03 35 27.5**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=258,slow=4.6,SNR=10							
ZALV	**Zalesovo Beam**	**148.01**	**27**	PKPbc		**PKPbc**	**03 42 56.5**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=295,slow=3.3,SNR=5.4							
MKAR	**Makanchi Array**	**151.45**	**40**	PKPbc		**PKPbc**	**03 43 05.0**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=325,slow=2.7,SNR=5.6							

*SOME **16** 03:23:53.4,39.7°N×72.9°E,h15km*
*NNC **16** 03:23:56.6±1.7,39.8°N×72.9°E,h0km,mb4.0,mpv3.7,*
Error ellipse: s-maj=13.8km s-min=6.1km az=178.0
*ISU **16** 03:24:54,39.8°N×72.6°E,h5km*

ISC 16 03:23:56.0±1.6,**39.84N**±0.09×**72.92E**±0.03,**h10**km,**n51,**
σ**2s75**/72,**7C-1D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHH	**Osh**	**0.69**	**351**	*e*P		**Pg**	**03 24 07.0**	**-2.4**
OHH				*e*S		**Sg**	**03 24 17.0**	**-1.4**
FRG	**Fergana**	**1.25**	**316**	*e*P		Pn	03 24 13.0	-6.5
FRG				*e*S		Sb	03 24 27.0	-8.8
NAM	**Namangan**	**1.50**	**320**	*e*P		**Pn**	**03 24 23.0**	**0.0**
NAM				*e*S		**Sg**	**03 24 46.0**	**+1.8**
BTK	**Batken**	**1.63**	**278**	*e*P		Pn	03 24 21.0	-3.9
BTK				*e*S		**Sn**	**03 24 45.0**	**-1.0**
AML	**Almayashu**	**2.36**	**14**	P		**Pn**	**03 24 36.6**	**+1.4**
	SNR=68							
UCH	**Uchtor**	**2.67**	**26**	P		**Pg**	**03 24 46.7**	**-0.6**
	SNR=8.9							
CHRV	**Charvak**	**2.88**	**310**	*e*P		**Pb**	**03 24 46.0**	**-1.6**
EKS2	**Erkin-Say**	**2.89**	**13**	P		**Pn**	**03 24 44.3**	**+2.1**
	SNR=10.0							
AAK	**Ala-Archa**	**3.04**	**22**	P		**Pb**	**03 24 50.5**	**+0.3**
	SNR=15							
AAK	**Ala-Archa**	**3.04**	**22**	⇑Pg		**Pb**	**03 24 49.4**	**-0.8**
	23nm,0.6s							
AAK				⇑Lg		Lg	03 25 31.7	
	32nm,0.5s							
IUG	**luzhnay**	**3.18**	**317**	*e*P		**Pb**	**03 24 52.4**	**-0.2**
	27nm,0.3s							
IUG				*e*S		**Sb**	**03 25 34.1**	**+2.7**
	151nm,0.5s							
IUG	**luzhnay**	**3.18**	**317**	Pg		**Pb**	**03 24 52.4**	**-0.2**
	32nm,0.3s							
IUG				Lg		Lg	03 25 34.9	
	151nm,0.5s							
KBK	**Karagaybulak**	**3.20**	**28**	P		**Pb**	**03 24 53.5**	**+0.5**
	SNR=9.5							
DZA	**Taraz**	**3.27**	**339**	Pg		**Pg**	**03 24 58.1**	**-0.7**
	52nm,0.1s							
DZA				Lg		Lg	03 25 43.5	
	200nm,0.3s							
USP	**Ospenovka**	**3.62**	**19**	P		**Pb**	**03 25 00.5**	**+0.3**
	SNR=5.6							
TKM2	**Tokmak 2**	**3.68**	**32**	⇑Pn		**Pn**	**03 24 54.9**	**+1.8**
	3.0nm,0.8s							
TKM2				⇑Pg		**Pb**	**03 25 02.5**	**+1.3**
	4.0nm,0.5s							
TKM2				⇓Lg		Lg	03 25 51.5	
	14nm,0.5s							
KK31	**Karatay Array**	**3.73**	**332**	Pn		**Pn**	**03 24 53.4**	**-0.2**
	1.0nm,0.3s,baz=156,slow=14,SNR=48							
KK31				⇑Pg		**Pb**	**03 25 01.8**	**-0.2**
	1.7nm,0.2s,baz=154,slow=15							
KK31				⇑Sn		**Sn**	**03 25 40.6**	**+3.0**
	10nm,0.3s,baz=147,slow=23,SNR=4.6							
KK31				⇑Lg		Lg	03 25 51.3	
	5.1nm,0.2s,baz=154,slow=24,SNR=4.2							
SGDS	**Sogindy**	**3.83**	**19**	Pg		**Pb**	**03 25 04.7**	**+1.0**
	10.0nm,0.6s							
SGDS				Lg		Lg	03 25 55.5	
	15nm,0.5s							
KST	**Kastek**	**3.93**	**35**	*e*P		**Pb**	**03 25 08.3**	**+2.8**
	9.1nm,0.4s							
KST				*e*S		**Sg**	**03 26 01.6**	**-0.6**
	34nm,0.4s							
KST	**Kastek**	**3.93**	**35**	Pg		**Pg**	**03 25 08.7**	**-2.6**
	9.1nm,0.4s							
KST				Lg		Lg	03 26 01.3	
	34nm,0.4s							
BRLS	**Borolday**	**3.94**	**325**	*e*P		**Pb**	**03 25 05.7**	**+0.2**
	18nm,0.3s							
BRLS				*e*S		**Sb**	**03 25 57.0**	**+3.7**
	53nm,0.4s							
BRLS	**Borolday**	**3.94**	**325**	Pg		**Pb**	**03 25 06.6**	**+1.0**
	34nm,0.3s							
BRLS				Lg		Lg	03 25 58.1	
	53nm,0.4s							
DGS	**Degeres**	**4.01**	**31**	*e*P		**Pb**	**03 25 08.7**	**+1.9**
	12nm,0.6s							
DGS				*e*S		**Sg**	**03 26 02.3**	**-2.6**
	25nm,0.9s							
DGS	**Degeres**	**4.01**	**31**	Pg		**Pb**	**03 25 09.1**	**+2.2**
	12nm,0.6s							
DGS				Lg		Lg	03 26 02.8	
	25nm,0.9s							
MTBS	**Maitube**	**4.21**	**38**	*e*P		**Pg**	**03 25 13.4**	**-3.2**
	8.4nm,0.4s							
MTBS				*e*S		**Sg**	**03 26 10.4**	**-0.8**
	18nm,0.5s							
MTBS	**Maitube**	**4.21**	**38**	Pg		**Pg**	**03 25 13.6**	**-3.0**
	8.4nm,0.4s							
MTBS				Lg		Lg	03 26 09.8	
	18nm,0.5s							
IZV	**Izvestkoviy**	**4.23**	**40**	*e*P		**Pb**	**03 25 12.8**	**+2.2**
	13nm,0.7s							
IZV				*e*S		**Sg**	**03 26 09.3**	**-2.5**
	48nm,0.6s							
IZV	**Izvestkoviy**	**4.23**	**40**	Pg		**Pg**	**03 25 13.8**	**-3.2**
	13nm,0.7s							
IZV				Lg		Lg	03 26 10.1	
	48nm,0.6s							
KRBS	**Karabastau**	**4.37**	**27**	*e*P		**Pb**	**03 25 15.6**	**+2.7**
	5.1nm,0.4s							
KRBS				*e*S		**Sg**	**03 26 14.0**	**-2.2**
	18nm,0.4s							
KRBS	**Karabastau**	**4.37**	**27**	Pg		**Pb**	**03 25 15.6**	**+2.7**
	5.1nm,0.4s							
KRBS				Lg		Lg	03 26 13.1	
	18nm,0.4s							
TNSS	**Tian-Shan**	**4.40**	**42**	*e*P		**Pb**	**03 25 16.1**	**+2.5**
	8.4nm,1.1s							
TNSS				*e*S		**Sg**	**03 26 14.8**	**-2.4**
	13nm,0.3s							
TNSS	**Tian-Shan**	**4.40**	**42**	Pg		**Pb**	**03 25 16.7**	**+3.1**
	8.4nm,1.1s							
TNSS				Lg		Lg	03 26 14.9	
	13nm,0.3s							
MDOK	**Medeo**	**4.54**	**42**	*e*P		**Pb**	**03 25 18.4**	**+2.5**
	13nm,0.5s							
MDOK				*e*S		**Sg**	**03 26 18.8**	**-3.0**
	43nm,0.9s							
MDOK	**Medeo**	**4.54**	**42**	Pg		**Pb**	**03 25 19.1**	**+3.3**
	17nm,1.6s							
MDOK				Lg		Lg	03 26 19.2	
	43nm,0.9s							
KOTS	**Kotyrbulak**	**4.62**	**41**	*e*P		**Pb**	**03 25 19.1**	**+1.9**
	22nm,0.6s							
KOTS				*e*S		**Sg**	**03 26 20.0**	**-4.5**
	90nm,0.5s							
KOTS	**Kotyrbulak**	**4.62**	**41**	Pg		**Pg**	**03 25 20.8**	**-3.7**
	22nm,0.6s							
KOTS				Lg		Lg	03 26 22.1	
	90nm,0.5s							
KTBS	**Karatobe**	**4.78**	**35**	*e*P		**Pb**	**03 25 23.0**	**+3.1**
	5.5nm,0.6s							
KTBS				*e*S		**Sg**	**03 26 26.7**	**-2.8**
	43nm,0.6s							
KTBS	**Karatobe**	**4.78**	**35**	Pg		**Pb**	**03 25 23.1**	**+3.1**
	5.5nm,0.6s							
KTBS				Lg		Lg	03 26 26.0	
	43nm,0.6s							
KUU	**Kurty**	**4.79**	**31**	*e*P		**Pb**	**03 25 22.8**	**+2.8**
	5.4nm,0.5s							
KUU				*e*S		**Sg**	**03 26 26.6**	**-3.0**
	24nm,0.8s							
KUU	**Kurty**	**4.79**	**31**	Pg		**Pb**	**03 25 22.7**	**+2.8**
	5.4nm,0.5s							
KUU				Lg		Lg	03 26 26.0	
	24nm,0.8s							
SATY	**Saty**	**5.23**	**50**	*e*P		**Pg**	**03 25 32.3**	**-3.8**
	26nm,2.2s							
SATY				*e*S		**Sg**	**03 26 43.0**	**-0.8**
	41nm,1.1s							
SATY	**Saty**	**5.23**	**50**	Pg		**Pg**	**03 25 32.2**	**-3.8**
	26nm,2.2s							
SATY				Lg		Lg	03 26 41.7	
	41nm,1.1s							
BTLS	**Baital**	**5.26**	**9**	*e*P		**Pb**	**03 25 30.8**	**+2.8**
	1.4nm,0.3s							
BTLS				*e*S		**Sg**	**03 26 40.0**	**-4.9**
	8.7nm,0.4s							
UZB	**Uzynbulak**	**5.65**	**52**	*e*P		**Pb**	**03 25 38.3**	**+3.6**
	8.8nm,0.4s							
UZB				*e*S		**Sg**	**03 26 52.9**	**-4.3**
	13nm,0.7s							
UZB	**Uzynbulak**	**5.65**	**52**	Pg		**Pb**	**03 25 38.7**	**+4.0**
	8.8nm,0.4s							
UZB				Lg		Lg	03 26 52.6	
	13nm,0.7s							
ARXS	**Arharly**	**5.69**	**38**	*e*P		**Pb**	**03 25 39.0**	**+3.5**
	1.1nm,0.3s							
ARXS				*e*S		**Sg**	**03 26 54.2**	**-4.5**
	16nm,0.6s							
ARXS	**Arharly**	**5.69**	**38**	Pg		**Pb**	**03 25 39.4**	**+4.0**
	9.6nm,0.6s							
ARXS				Lg		Lg	03 26 54.3	
	16nm,0.6s							
MNBS	**Baschi**	**5.88**	**42**	*e*P		**Pb**	**03 25 43.3**	**+4.7**
	2.6nm,0.6s							
MNBS				*e*S		**Sg**	**03 27 01.6**	**-3.2**
	17nm,0.6s							
MNBS	**Baschi**	**5.88**	**42**	Pg		**Pb**	**03 25 43.4**	**+4.7**
	2.6nm,0.6s							
MNBS				Lg		Lg	03 27 00.8	
	17nm,0.6s							
SHLS	**Shalkode**	**5.92**	**54**	Pg		**Pg**	**03 25 48.8**	**-0.6**
	7.0nm,0.5s							
SHLS				Lg		Lg	03 27 09.8	
	21nm,0.8s							
PDGK	**Podgornoye**	**6.03**	**53**	Pg		**Pg**	**03 25 46.7**	**-4.8**
	3.9nm,1.7s							
PDGK				Lg		Lg	03 27 06.6	
	9.6nm,1.4s							

*RHSSO **16** 03:34:29.6±0.9,41.7°N×19.7°E,h6km±5km,ML2.2/5*
*PDG **16** 03:34:30.9±0.2,42.0°N×19.8°E,h15km,ML2.1/13,Error*
ellipse: s-maj=0.3km s-min=0.5km az=0.0

*TIR **16** 03:34:30.3,42.7°N×19.8°E,h2km±6km,Md2.6,Ml2.6*
*BEO **16** 03:34:32.4±0.3,42.0°N×19.6°E,h0km,ML2.0/8*

ISC 16 03:34:30.7±0.9,**42.06N**±0.02×**19.85E**±0.02,**h3**km±7km,
n40,σ**1s13/77,5C-6D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PUK	**Puka**	**0.04**	**119**	P		**Pg**	**03 34 31.4**	**-0.3**
	baz=155							
PUK				S		**Sg**	**03 34 31.7**	**-0.6**
	baz=155							
PUK				AMP				
	comp=N,105nm,0.1s,baz=155							
BCI	**Bajram Curri**	**0.35**	**28**	P		**Pg**	**03 34 37.4**	**0.0**
	baz=25							
BCI				S		**Sg**	**03 34 43.1**	**+1.2**
	baz=25							
ULC	**Ulcinj**	**0.46**	**258**	⇓*i*Pg		**Pg**	**03 34 40.2**	**+0.7**
ULC				*i* Sg		**Sb**	**03 34 48.1**	**-0.6**
PVY	**Plav**	**0.54**	**9**	⇑*i*Pg		**Pg**	**03 34 41.3**	**+0.2**
PVY				*e*Sg		**Sb**	**03 34 49.9**	**-1.2**
PDG	**Podgorica**	**0.57**	**310**	*e*Pg		**Pg**	**03 34 41.8**	**0.0**
PDG				*e*Sg		**Sb**	**03 34 51.1**	**-0.9**
PDG	**Podgorica**	**0.57**	**310**	*e*Pg		**Pg**	**03 34 41.7**	**0.0**
PDG				*e*Sg		**Sb**	**03 34 51.9**	**-0.1**
TTG	**Podgorica**	**0.57**	**310**	⇑*i*Pg		**Pg**	**03 34 41.5**	**-0.2**
TTG				*i* Sg		**Sb**	**03 34 51.8**	**-0.2**
PHP	**Peshkopia**	**0.58**	**130**	P		**Pg**	**03 34 41.7**	**-0.1**
	baz=132							
PHP				S		**Sb**	**03 34 51.1**	**-1.1**
	baz=132							
PHP				AMP				
	comp=N,0.4nm,0.2s,baz=132							
TIR	**Tirane**	**0.71**	**179**	*e*Pg		**Pg**	**03 34 44.4**	**0.0**
TIR				*e*Sg		**Sb**	**03 34 55.7**	**-0.2**
BUM	**Brajici-Budva**	**0.75**	**289**	⇓*i*Pg		**Pb**	**03 34 45.6**	**-0.8**
BUM				*i* Sg		**Sn**	**03 34 57.8**	**-2.3**
IVA	**Berane**	**0.81**	**2**	*e*Pg		**Pg**	**03 34 46.4**	**+0.1**
IVA				*i* Sg		**Sb**	**03 34 59.0**	**+0.1**
KOME	**Kolasin**	**0.83**	**343**	*e*Pg		**Pg**	**03 34 46.4**	**-0.1**
KOME				*i* Sg		**Sb**	**03 34 59.4**	**+0.1**
CEME	**Cevo**	**0.84**	**305**	⇓*i*Pg		**Pg**	**03 34 46.9**	**0.0**
CEME				*i* Sg		**Sn**	**03 35 00.9**	**-1.6**
NKME	**Niksic**	**0.97**	**317**	⇓*i*Pg		**Pg**	**03 34 49.4**	**+0.1**
NKME				*i* Sg		**Sn**	**03 35 04.5**	**-1.0**
NKY	**Niksic**	**0.98**	**320**	⇓*i*Pg		**Pg**	**03 34 49.5**	**0.0**
NKY				*i* Sg		**Sn**	**03 35 04.9**	**-1.1**
HCY	**Herceg Novi**	**1.08**	**291**	*e*Pg		**Pg**	**03 34 50.9**	**-0.4**
HCY				*e*Sg		**Sn**	**03 35 07.4**	**-0.7**
HCY	**Herceg Novi**	**1.08**	**291**	⇑*i*Pg		**Pg**	**03 34 50.9**	**-0.4**
HCY				*i* Sg		**Sn**	**03 35 08.4**	**+0.3**
BRY	**Bratogost**	**1.28**	**311**	*e*Pg		**Pn**	**03 34 54.8**	**-0.8**
BRY				*e*Sg		**Sn**	**03 35 14.9**	**+1.5**
BRY	**Bratogost**	**1.28**	**311**	⇓*i*Pg		**Pb**	**03 34 55.2**	**-0.4**
BRY				*i* Sg		**Sn**	**03 35 15.2**	**+1.8**
TREB	**Trebinje**	**1.29**	**301**	*e*Pg		**Pg**	**03 34 56.7**	**+1.3**
TREB				*e*Sg		**Sg**	**03 35 13.9**	**+1.8**
TREB	**Trebinje**	**1.29**	**301**	*e*Pg		**Pg**	**03 34 55.3**	**-0.1**
TREB				*e*Sg		**Sg**	**03 35 14.9**	**+2.8**
PLE	**Pljevlja**	**1.31**	**345**	⇑*i*Pg		**Pn**	**03 34 55.0**	**-1.0**
PLE				*i* Sg		**Sg**	**03 35 15.4**	**+2.5**
UPM	**Unac-Piva**	**1.34**	**329**	*e*Pg		**Pg**	**03 34 56.3**	**0.0**
UPM				*e*Sg		**Pg**	**03 35 16.0**	**+2.3**
UPM	**Unac-Piva**	**1.34**	**329**	⇑*i*Pg		**Pn**	**03 34 55.4**	**-1.0**
UPM				*i* Sg		**Sg**	**03 35 16.4**	**+2.7**
DBRK	**Dubrovnik**	**1.40**	**296**	*e*Pn		**Pn**	**03 34 56.1**	**-1.0**
DBRK				Sn		**Sg**	**03 35 18.4**	**+2.8**
IVAS	**Ivanjica**	**1.53**	**8**	*e*Pg		**Pn**	**03 34 58.6**	**-0.4**
IVAS				*e*Sg		**Sg**	**03 35 20.3**	**+0.4**
RUDO	**Rudo**	**1.59**	**347**	*e*Pn		**Pb**	**03 34 59.7**	**-1.1**
RUDO				*e*Sn		**Sg**	**03 35 21.6**	**-0.3**
BARS	**Barje**	**1.64**	**62**	*e*Pn		**Pg**	**03 35 01.7**	**-0.4**
BARS				*e*Sn		**Sg**	**03 35 23.4**	**0.0**
STIP	**Stip**	**1.78**	**101**	*i* Pn		**Pb**	**03 35 04.2**	**+0.1**
STON	**Ston**	**1.78**	**298**	*e*Pn		**Pn**	**03 35 02.3**	**-0.1**
STON				Sn		**Sg**	**03 35 29.4**	**+1.4**
BBLS	**Lazići**	**1.83**	**350**	*e*Pg		**Pg**	**03 35 05.8**	**0.0**
BBLS				*e*Sg		**Sg**	**03 35 30.4**	**+0.8**
BBLS	**Lazići**	**1.83**	**350**	*e*Pn		**Pn**	**03 35 03.3**	**+0.1**
BBLS				*e*Sn		**Sb**	**03 35 27.9**	**-0.4**
BOSS	**Bosilegrad**	**2.00**	**77**	*e*Pn		**Pb**	**03 35 07.8**	**+0.1**
BOSS				*e*Sg		**Sg**	**03 35 35.4**	**+0.4**
DIVS	**Divibare**	**2.04**	**3**	*e*Pn		**Pb**	**03 35 08.3**	**-0.1**
DIVS				*e*Sn		**Sb**	**03 35 33.3**	**-0.9**
DIVS	**Divibare**	**2.04**	**3**	*e*Pn		**Pn**	**03 35 05.6**	**-0.4**
DIVS				*e*Sn		**Sb**	**03 35 32.5**	**-1.7**
BOVS	**Bovan**	**2.08**	**40**	*e*Pn		**Pn**	**03 35 07.1**	**+0.6**
BOVS				*e*Sn		**Sb**	**03 35 35.0**	**-0.4**
HAPS	**Han Pijesak,BI**	**2.13**	**342**	*e*Pg		**Pb**	**03

JCJ	**Chichijima**	**4.75**	**351**	P	Pn	03 53 33.5	+2.0
	14nm,0.3s,baz=342,slow=22,SNR=9.9						
JCJ				S	Sn	03 54 25.4	-0.8
	3.4nm,0.3s,baz=253,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**42.92**	**192**	P	P	04 00 05.7	0.0
	0.2nm,0.5s,baz=16,slow=9.3,SNR=7.9						
STKA	**Stephens Creek**	**53.98**	**181**	P	P	04 01 29.6	-0.5
	1.7nm,0.8s,baz=0.0,slow=13,SNR=2.5						
YKA	**Yellowknife Ar**	**75.92**	**28**	P	P	04 03 51.8	+0.3
	0.2nm,0.6s,baz=293,slow=5.3,SNR=4.1						

IDC ***16*** *04:15:22.1±1.4,0.˚82S×122.˚75E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/35, mbtmp3.2/4, ML4.3/1, Error ellipse: s-maj=52.5km s-min=23.9km az=72.0*

DJA ***16*** *04:15:22.1±0.5,1˚S×3˚×12˚2E±˚, h11km±5km, M4.1/7, mb4.7/1, mB4.6/1, MLv3.8/7, Mw(mB)3.8/1*

ISC 16 04:15:22.3±0.9, 0.64S±0.˚05×122.˚44E±0.˚06, h10km, n13, σ2s00/16, mb3.2/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.52**	**141**	P	**Pn**	**04 15 34.7**	**-1.1**
APSI	**Ampana**	**0.84**	**251**	P	**Pg**	**04 15 38.1**	**-0.4**
APSI				S	**Sg**	**04 15 49.4**	**-0.1**
MRSI	**Marisa**	**1.21**	**335**	P	**Pb**	**04 15 43.9**	**-1.5**
MRSI				S	**Sb**	**04 15 57.3**	**-3.8**
GTOI	**Gorontalo**	**1.38**	**24**	P	**Pn**	**04 15 47.1**	**-0.6**
KMSI	**Cibinong**	**1.95**	**52**	P	**Pn**	**04 15 55.3**	**-0.2**
TTSI	**Tana Toraja**	**3.55**	**228**	P	**Pn**	**04 16 17.2**	**-0.3**
SPSI	**Sidrap Palu**	**4.25**	**219**	P	**Pn**	**04 16 27.7**	**+0.6**
BNSI	**Bone**	**4.41**	**212**	P	**Pn**	**04 16 29.1**	**-0.2**
KAPI	**Kappang**	**5.11**	**212**	Pn	**Pn**	**04 16 39.6**	**+0.6**
	11nm,0.3s,baz=26,slow=5.9,SNR=28						
KAPI				Sn	**Sn**	**04 17 36.3**	**-1.9**
	1.5nm,0.3s,baz=18,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**22.45**	**149**	P	**P**	**04 20 19.6**	**-2.1**
	0.7nm,1.0s,baz=330,slow=10,SNR=2.5						
WRA				S	S	04 24 17.1	-11
	0.4nm,1.0s,baz=358,slow=27,SNR=1.3						
ASAR	**Alice Springs**	**25.45**	**155**	P	**P**	**04 20 49.6**	**-1.0**
	0.2nm,0.3s,baz=338,slow=7.3,SNR=1.6						
SONM	**Songino Array**	**50.26**	**346**	P	**P**	**04 24 22.1**	**+3.2**
	0.4nm,0.7s,baz=163,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**58.86**	**329**	P	**P**	**04 25 24.9**	**+3.6**
	0.1nm,0.5s,baz=120,slow=8.5,SNR=2.3						

IDC ***16*** *04:18:19.2±0.7,53˚48S×24˚91E, h0km, mb4.2/10, mb1 4.2/10, mb1mx4.0/33, mbtmp4.2/10, Error ellipse: s-maj=27.5km s-min=17.7km az=77.0*

NEIC ***16*** *04:18:21.1±1.3,53˚5S±0.˚1×24˚9E±0.˚2, h10km±1km, mb4.5/23, Error ellipse: s-maj=22.8km s-min=19.9km az=79.0*

ISC 16 04:18:21.1±0.6, 53˚48S±0.˚09×24˚9E±0.˚1, h10km, n42, σ0s79/39, mb4.4/18, 1C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.02**	**162**	*eP*	**Pn**	**04 22 16.9**	**-1.9**
CRZF	**Crozet Islands**	**18.66**	**79**	P	**Pn**	**04 22 40.6**	**+1.3**
CRZF				IAmb	IAmb	04 22 59.9	
	comp=Z,54nm,0.9s						
SUR	**Sutherland**	**21.30**	**350**	P	**P**	**04 23 08.8**	**+0.9**
	comp=Z,11nm,1.0s,baz=172,slow=8.7,SNR=12						
SUR	**Sutherland**	**21.30**	**350**	P	**P**	**04 23 09.1**	**+1.2**
SUR				IAmb	IAmb	04 23 25.6	
	comp=Z,38nm,1.4s						
SNAA	**Sanae**	**21.88**	**203**	P	**P**	**04 23 14.2**	**+0.5**
	comp=Z,8.5nm,0.8s,baz=69,slow=9.2,SNR=12						
SNAA	**Sanae**	**21.88**	**203**	P	**P**	**04 23 15.2**	**+1.4**
BOSA	**Boshof**	**24.85**	**1**	P	**P**	**04 23 43.8**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=184,slow=14,SNR=2.3						
BOSA	**Boshof**	**24.85**	**1**	P	**P**	**04 23 44.0**	**+0.4**
BOSA				IAmb	IAmb	04 23 52.9	
	comp=Z,9.3nm,1.1s						
LBTB	**Lobatse**	**28.44**	**1**	P	**P**	**04 24 15.6**	**-0.4**
BELA	**Belgrano 2**	**32.03**	**200**	P	**P**	**04 24 48.4**	**+1.2**
QSPA	**South Pole Qui**	**36.74**	**180**	P	**P**	**04 25 27.7**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=258,slow=2.0,SNR=26						
QSPA	**South Pole Qui**	**36.74**	**180**	P	**P**	**04 25 28.0**	**-0.2**
CASY	**Casey**	**41.27**	**142**	P	**P**	**04 26 06.3**	**+0.4**
CASY				IAmb	IAmb	04 26 12.9	
	comp=Z,10nm,1.2s						
PLCA	**Paso Flores**	**61.43**	**239**	P	**P**	**04 28 38.4**	**+1.0**
H01W2	**Cape Leeuwin H**	**62.42**	**112**	T	T	05 37 03.4	
	baz=222,slow=75						
H01W3	**Cape Leeuwin H**	**62.43**	**112**	T	T	05 37 02.8	
	baz=222,slow=75						
H01W1	**Cape Leeuwin H**	**62.43**	**112**	T	T	05 37 06.4	
	baz=222,slow=75						
CPUP	**Villa Florida**	**64.76**	**259**	P	**P**	**04 28 58.8**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=154,slow=4.5,SNR=5.3						
CPUP	**Villa Florida**	**64.76**	**259**	P	**P**	**04 28 58.9**	**-0.7**
DBIC	**Dimbokro**	**64.98**	**327**	P	**P**	**04 28 59.7**	**-1.3**
	comp=Z,4.2nm,0.8s,baz=134,slow=5.9,SNR=3.7						
DBIC	**Dimbokro**	**64.98**	**327**	P	**P**	**04 29 00.4**	**-0.5**
MT02	**Curacav**	**67.35**	**245**	P	**P**	**04 29 16.2**	**0.0**
BDFB	**Brasilia**	**67.41**	**274**	P	**P**	**04 29 17.0**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=124,slow=18,SNR=3.3						
CO03	**El Pedregal**	**68.96**	**247**	P	**P**	**04 29 26.7**	**+0.3**
CO03				IAmb	IAmb	04 29 43.5	
	comp=Z,6.1nm,1.1s						
TOA0	**Torodi Ar. Sit**	**69.27**	**336**	P	**P**	**04 29 28.4**	**+0.2**
TOA0				IAmb	IAmb	04 29 33.9	
	comp=Z,8.2nm,1.5s						
TORD	**Torodi Ar. Bea**	**69.27**	**336**	P	**P**	**04 29 27.4**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=178,slow=5.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**69.27**	**336**	P	**P**	**04 29 26.6**	**-1.6**
CO01	**Juntas del Tor**	**69.29**	**248**	P	**P**	**04 29 29.6**	**+0.9**
AC05	**El Transito**	**70.27**	**248**	P	**P**	**04 29 34.5**	**0.0**
AC05				IAmb	IAmb	04 29 35.0	
	comp=Z,8.8nm,1.1s						
LCO	**Las Campanas**	**70.37**	**248**	P	**P**	**04 29 34.9**	**-0.5**
AC02	**Maricunga**	**71.18**	**250**	P	**P**	**04 29 41.1**	**+0.6**
AC02				IAmb	IAmb	04 29 44.9	
	comp=Z,2.9nm,0.9s						
KOWA	**Kowa**	**72.10**	**331**	P	**P**	**04 29 45.9**	**+0.4**
KOWA				IAmb	IAmb	04 30 05.3	
	comp=Z,7.0nm,1.5s						
ASAR	**Alice Springs**	**81.87**	**119**	P	**P**	**04 30 40.4**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=207,slow=5.3,SNR=15						
WRA	**Warramunga Arr**	**85.15**	**117**	P	**P**	**04 30 56.9**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=210,slow=4.1,SNR=11						
WB2	**Warramunga Arr**	**85.16**	**117**	P	**P**	**04 30 57.6**	**+0.1**
WB2				IAmb	IAmb	04 31 11.4	
	comp=Z,2.1nm,0.9s						
WR0	**Warramunga Arr**	**85.24**	**117**	P	**P**	**04 30 57.6**	**-0.3**
WR0				IAmb	IAmb	04 30 58.2	
	comp=Z,2.8nm,0.9s						
WB0	**Warramunga Arr**	**85.32**	**117**	P	**P**	**04 30 58.0**	**-0.3**
PV15	**Paradox Valley**	**144.88**	**264**	PKPdf	**PKPdf**	**04 37 57.8**	**-0.2**
MTPU	**Mount Pierson**	**146.88**	**260**	PKPbc	**PKPbc**	**04 38 03.4**	**-0.1**
NVAR	**Mina Array Bea**	**150.70**	**254**	PKPbc	**PKiKP**	**04 38 13.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=142,slow=2.3,SNR=4.5						
NVAR	**Mina Array Bea**	**150.70**	**254**		**PKiKP**	**04 38 13.3**	**-0.5**
YKA	**Yellowknife Ar**	**157.08**	**309**	PKPab	**PKPab**	**04 38 46.2**	**0.0**
	comp=Z,0.8nm,0.7s,baz=91,slow=5.1,SNR=13						

DJA 16 04:22:21.8±0.6, 1˚S±4˚×12˚2E±˚, h11km±5km, M3.8/7, mb4.3/1, MLv3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.67**	**248**	P	Pg	04 22 34.8	0.0
APSI				S	Sb	04 22 44.9	+0.1
MRSI	**Marisa**	**1.18**	**344**	P	Pb	04 22 44.0	-0.2
GTOI	**Gorontalo**	**1.48**	**30**	P	Pn	04 22 48.2	-0.3
TTSI	**Tana Toraja**	**3.41**	**226**	P	Pn	04 23 15.3	+0.4
TTSI				S	Sn	04 23 55.6	+0.2
SANI	**Sanana**	**3.96**	**110**	P	Pn	04 23 22.5	-0.1
SPSI	**Sidrap Palu**	**4.12**	**217**	P	Pn	04 23 25.2	+0.4
BNSI	**Bone**	**4.30**	**210**	P	Pn	04 23 26.5	-0.7

IDC ***16*** *04:36:56.9±0.6,2˚15S×139˚32E, h0km, mb4.1/10, mb1 4.3/13, mb1mx4.1/39, mbtmp4.2/13, ML4.3/3, MS3.6/6, Ms1 3.6/6, ms1mx3.2/37, Error ellipse: s-maj=16.1km s-min=11.9km az=32.0*

DJA ***16*** *04:36:58.2±0.6,2˚S±5˚×13˚9E±˚, h12km±4km, M4.4/12, mB5.7/2, mb4.5/12, MLv4.3/4, Mw(mB)5.2/2*

NEIC ***16*** *04:37:02.7±1.3,2˚18S±0.˚09×139˚23E±0.˚04, h41km±8km, mb4.6/20, Error ellipse: s-maj=13.9km s-min=3.7km az=195.0*

ISC 16 04:37:00.3±0.4, 2˚22S±0.˚05×139˚31E±0.˚05, h27km, n65, σ1s68/63, mb4.5/16, MS3.5/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.64**	**291**	P	**Pb**	**04 37 11.4**	**-1.6**
GENI	**Genyem**	**0.94**	**113**	P	**Pn**	**04 37 16.4**	**-1.3**
JAY	**Jayapura**	**1.43**	**102**	Pg	**Pn**	**04 37 23.2**	**-1.3**
	79nm,0.3s,baz=245,slow=10,SNR=164						
JAY				Lg	Lg	04 37 42.7	
	108nm,0.3s,baz=101,slow=22,SNR=20						
JAY				LR	LR	04 37 56.2	
	comp=Z,842nm,20.2s,baz=242,slow=41						
JAY	**Jayapura**	**1.43**	**102**	P	**Pn**	**04 37 22.9**	**-1.6**
JAY				S	**Sn**	**04 37 41.3**	**-1.1**
SOEI	**Soe**	**1.75**	**200**	P	**Pb**	**04 37 32.4**	**+0.5**
SRPI	**Serui, Papua**	**3.08**	**276**	P	**Pn**	**04 37 47.1**	**-0.2**
FAKI	**Fak Fak**	**7.08**	**264**		**Pn**	**04 38 43.0**	**+0.7**
SIJI	**Sorong**	**8.15**	**279**	LR	LR	04 42 40.2	
	comp=Z,512nm,18.9s,baz=92,slow=42						
COEN	**Coen**	**12.27**	**162**	Pn	**Pn**	**04 39 56.5**	**+3.1**
SOEI	**Soe**	**16.72**	**243**	P	**P**	**04 40 57.0**	**+2.0**
SOEI				IAmb	IAmb	04 41 14.8	
	comp=Z,52nm,0.9s						
SOEI	**Soe**	**16.72**	**243**	P	**P**	**04 40 55.0**	**-0.1**
	comp=Z,48nm,1.2s						
BATI	**Baumata**	**17.45**	**242**	P	**P**	**04 41 03.1**	**+0.1**
	comp=Z,3.1nm,0.3s,baz=90,slow=6.1,SNR=1.9						
APSI	**Ampana**	**17.70**	**274**	P	**Pn**	**04 41 04.8**	**-0.3**
	comp=Z,24nm,1.1s						
WB0	**Warramunga Arr**	**18.09**	**195**		**Pn**	**04 41 10.2**	**+0.3**
WR0	**Warramunga Arr**	**18.23**	**194**	P	**Pn**	**04 41 13.4**	**+1.8**
WRAB	**Tennant Creek**	**18.26**	**195**	P	**Pn**	**04 41 12.6**	**+0.7**
WRAB				IAmb	IAmb	04 41 21.9	
	comp=Z,22nm,1.1s						
WB2	**Warramunga Arr**	**18.27**	**195**	P	**P**	**04 41 10.3**	**-1.8**
WB2				IAmb	IAmb	04 41 22.0	
	comp=Z,24nm,1.2s						
WRA	**Warramunga Arr**	**18.27**	**195**	P	**P**	**04 41 12.3**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=19,slow=12,SNR=24						
WRA				S	**Sn**	**04 44 29.4**	**-6.0**
	comp=Z,0.0nm,0.3s,baz=10,slow=24,SNR=1.8						
WRA				LR	LR	04 47 48.1	
	comp=Z,89nm,20.1s,baz=10.0,slow=36						
TOLI2	**Tolitoli**	**18.82**	**280**	P	**P**	**04 41 17.2**	**-1.0**
CTA	**Charters Tower**	**19.01**	**160**	P	**Pn**	**04 41 22.7**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=337,slow=13,SNR=2.1						
BNSI	**Bone**	**19.29**	**263**	P	**Pn**	**04 41 25.1**	**+0.6**
	comp=Z,16nm,1.5s						
SPSI	**Sidrap Palu**	**19.59**	**264**	P	**Pn**	**04 41 26.9**	**-1.1**
	comp=Z,14nm,0.9s						
KAPI	**Kappang**	**19.71**	**261**	LR	LR	04 50 25.0	
	comp=Z,119nm,18.9s,baz=117,slow=41						
FITZ	**Fitzroy Crossi**	**20.70**	**219**	P	**P**	**04 41 39.8**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=69,slow=8.6,SNR=2.3						
FITZ				S	**S**	**04 45 21.6**	**-7.2**
	comp=Z,5.0nm,1.1s,baz=10.0,slow=17,SNR=3.0						
FITZ				LR	LR	04 50 38.1	
	comp=Z,192nm,18.9s,baz=32,slow=40						
AS31	**Alice Springs**	**21.95**	**193**	P	**P**	**04 41 53.6**	**+1.5**
ASAR	**Alice Springs**	**21.95**	**193**	P	**P**	**04 41 53.4**	**+1.3**
	comp=Z,2.4nm,0.6s,baz=28,slow=11,SNR=23						
ASAR				S	**S**	**04 45 50.3**	**-3.0**
	comp=Z,0.3nm,0.7s,baz=10.0,slow=27,SNR=1.6						
ASAR	**Alice Springs**	**21.95**	**193**		**P**	**04 41 53.7**	**+1.6**
BBKI	**Banjar Baru**	**24.47**	**267**	P	**P**	**04 42 18.8**	**+1.4**
EIDS	**Eidsvold**	**25.66**	**155**	P	**P**	**04 42 31.8**	**+3.7**
JMZ	**Minamidaito 2**	**28.95**	**345**	P	**P**	**04 42 57.0**	**-0.7**
STKA	**Stephens Creek**	**29.57**	**176**	P	**P**	**04 43 03.4**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=325,slow=12,SNR=1.5						
STKA				LR	LR	04 55 42.5	
	comp=Z,211nm,19.5s,baz=5.2,slow=38						
FORT	**Forrest**	**30.33**	**199**	P	**P**	**04 43 10.6**	**+0.8**
BBOO	**Buckleboo**	**30.58**	**185**	P	**P**	**04 43 12.7**	**+0.7**
BBOO				IAmb	IAmb	04 43 30.9	
	comp=Z,22nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**33.91**	**51**	T	T	05 19 17.2	
	baz=236,slow=76,SNR=103						
H11S2	**WAKE ISLAND Hy**	**33.92**	**51**	T	T	05 19 18.0	
	baz=236,slow=76,SNR=71						
H11S1	**WAKE ISLAND Hy**	**33.93**	**51**	T	T	05 19 18.5	
	baz=236,slow=76,SNR=79						
MORW	**Morawa**	**34.69**	**217**	P	**P**	**04 43 48.7**	**+0.7**
H11N1	**WAKE ISLAND Hy**	**34.77**	**50**	T	T	05 20 20.5	
	baz=233,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**34.78**	**50**	T	T	05 20 25.7	
	baz=233,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**34.78**	**50**	T	T	05 20 26.6	
	baz=233,slow=76,SNR=16						
NWAO	**Narrogin (SRO)**	**36.90**	**212**	P	**P**	**04 44 07.0**	**0.0**
	comp=Z,16nm,1.0s,baz=45,slow=1.7,SNR=4.2						
NWAO	**Narrogin (SRO)**	**36.90**	**212**	P	**P**	**04 44 06.8**	**-0.1**
NWAO				IAmb	IAmb	04 44 10.1	
	comp=Z,12nm,0.9s						
KSRS	**Korea Array**	**40.87**	**346**	P	**P**	**04 44 39.8**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=154,slow=8.3,SNR=5.7						
KSRS				PcP	**PcP**	**04 46 42.1**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=163,slow=4.5,SNR=4.6						
KSRS				LR	LR	05 02 45.3	
	comp=Z,53nm,18.6s,baz=159,slow=38						
CM31	**Chiang Mai Arr**	**44.72**	**299**	P	**P**	**04 45 12.1**	**+0.4**
CM31				IAmb	IAmb	04 45 12.5	
	comp=Z,14nm,1.4s						
CMAR	**Chiang Mai Arr**	**44.72**	**299**	P	**P**	**04 45 12.2**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=120,slow=5.9,SNR=12						
CMAR				PcP	**PP**	**04 46 55.4**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=160,slow=2.2,SNR=5.0						
CMAR	**Chiang Mai Arr**	**44.72**	**299**	P	**P**	**04 45 11.9**	**+0.3**
PETK	**Petropavlovsk-**	**57.25**	**13**	P	**P**	**04 46 45.4**	**+0.1**
SONM	**Songino Array**	**57.54**	**334**	P	**P**	**04 46 48.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=154,slow=8.2,SNR=5.6						
SONM	**Songino Array**	**57.54**	**334**	P	**P**	**04 46 48.5**	**+0.9**
MK31	**Makanchi Array**	**69.77**	**322**	P	**P**	**04 48 08.5**	**+0.2**
MK31				IAmb	IAmb	04 48 14.1	
	comp=Z,4.3nm,1.1s						
MKAR	**Makanchi Array**	**69.77**	**322**	P	**P**	**04 48 08.9**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=107,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**69.77**	**322**	P	**P**	**04 48 08.4**	**+0.1**
MAKZ	**Makanchi**	**69.97**	**322**	P	**P**	**04 48 09.5**	**0.0**
MAKZ				IAmb	IAmb	04 48 12.8	
	comp=Z,4.6nm,0.7s						
NIL	**Nilore**	**71.52**	**307**	P	**P**	**04 48 19.3**	**+0.1**
NIL				IAmb	IAmb	04 48 23.0	
	comp=Z,8.5nm,0.8s						
ZALV	**Zalesovo Beam**	**71.82**	**330**	P	**P**	**04 48 20.2**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=100,slow=7.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**71.82**	**330**	P	**P**	**04 48 19.8**	**-0.7**
KKAR	**Karatay Array**	**76.20**	**315**	P	**P**	**04 48 46.7**	**+0.3**
BRVK	**Borovoye**	**79.33**	**325**	P	**P**	**04 49 04.1**	**+0.5**
BRVK				IAmb	IAmb	04 49 07.3	
	comp=Z,4.3nm,0.7s						
CCB	**Clear Creek Bu**	**84.73**	**24**	P	**P**	**04 49 32.4**	**+0.7**
CCB				IAmb	IAmb	04 49 34.6	
	comp=Z,8.9nm,1.1s						
ABKAR	**Akbulak array**	**84.74**	**320**	P	**P**	**04 49 32.0**	**-0.1**
ILAR	**Eielson Array**	**85.15**	**24**	P	**P**	**04 49 33.2**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=267,slow=4.4,SNR=13						
TORD	**Torodi Ar. Bea**	**136.69**	**287**	PKP	**PKiKP**	**04 56 21.9**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=32,slow=2.3,SNR=3.7						
LPAZ	**La Paz**	**147.24**	**125**	PKPbc	**PKPab**	**04 56 44.1**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=68,slow=5.3,SNR=6.8						
CPUP	**Villa Florida**	**149.48**	**152**	PKPbc	**PKPab**	**04 56 43.4**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=272,slow=1.4,SNR=4.7						
SDV	**Santo Domingo**	**149.49**	**76**	PKPbc	**PKiKP**	**04 56 49.0**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=274,slow=12,SNR=4.2						

JMA ***16*** *04:39:30.8±0.3,26˚02N×126˚88E, h45km±3km, M2.8*

IDC ***16*** *04:39:33.0±4.7,26˚39N×126˚86E, h70km±51km, mb3.3/4, mb1 3.4/4, mb1mx3.1/56, mbtmp3.6/4, Error ellipse: s-maj=51.7km s-min=29.5km az=66.0*

ISC 16 04:39:31.2±1.1, 26˚2N±0.˚1×126˚81E±0.˚07, h55km±7km, n11, σ0s90/18, mb3.7/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.15**	**353**	P	**Pn**	**04 39 39.6**	**-0.3**
JKE				S	**Sn**	**04 39 46.3**	**+0.2**
JAGN	**Aguni-jima**	**0.57**	**43**	P	**Pn**	**04 39 43.6**	**0.0**
JAGN				S	**Sn**	**04 39 53.5**	**+0.9**
JJT3	**Tamagusuku3**	**0.88**	**92**	P	**Pn**	**04 39 46.8**	**-0.7**
JJT3				*eS*	**Sn**	**04 39 58.3**	**-1.2**
JNTH	**Nagotoyohara**	**1.14**	**72**	P	**Pn**	**04 39 50.7**	**-0.3**
JNTH				*eS*	**Sn**	**04 40 05.9**	**+0.2**
JOW	**Kunigami**	**1.47**	**63**	P	**Pn**	**04 39 55.5**	**+0.1**
	23nm,0.3s,baz=260,slow=18,SNR=24						
JOW				S	**Sn**	**04 40 12.9**	**-0.7**
	43nm,0.3s,baz=134,slow=29,SNR=15						
JOW	**Kunigami**	**1.47**	**63**	P	**Pn**	**04 39 55.5**	**+0.1**
JOW				*eS*	**Sn**	**04 40 14.1**	**+0.5**
JYRO	**Yoronjima**	**1.70**	**60**	P	**Pn**	**04 39 58.7**	**+0.2**
JYRO				*eS*	**Sn**	**04 40 19.5**	**+0.4**
MKAR	**Makanchi Array**	**40.62**	**312**	P	**P**	**04 47 06.0**	**+0.3**
	0.3nm,0.4s,baz=93,slow=9.7,SNR=8.0						
WRA	**Warramunga Arr**	**46.42**	**170**	P	**P**	**04 47 54.5**	**+2.0**
	0.9nm,1.1s,baz=345,slow=11,SNR=1.2						
AKASG	**Malin Array Be**	**74.74**	**319**	P	**P**	**04 51 03.4**	**-1.8**
	0.4nm,0.3s,baz=62,slow=5.4,SNR=4.8						
HFS	**Hagfors**	**78.27**	**332**	P	**P**	**04 51 24.6**	**-0.3**
	2.1nm,1.0s,baz=60,slow=5.7,SNR=1.9						

BJI ***16*** *04:45:37.5±0.0, 17˚90S×178˚60W, h550km, mB4.9/15, mb4.6/27*

IDC ***16*** *04:45:40.5±0.8, 17˚86S×178˚67W, h569km±7km, mb3.8/26, mb1 4.0/28, mb1mx3.9/46, mbtmp4.7/28, Error ellipse: s-maj=14.5km s-min=8.4km az=146.0*

NEIC ***16*** *04:45:41.0±2.2, 17˚7S±0.˚1×178˚6W±0.˚1, h573km±6km, mb4.5/160, Error ellipse: s-maj=16.9km s-min=13.7km az=133.0*

NOU ***16*** *04:45:52.0, 18˚00S×179˚66W, h645km, mb5.0, Fiji Islands Region*

ISC 16 04:45:40.8±0.3, 17˚82S±0.˚07×178˚57W±0.˚06, h579km, n334, σ1s17/310, mb4.5/129, 16C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.22**	**271**	P	**P**	**04 46 57.7**	**-2.0**
	42nm,0.3s,baz=123,slow=5.1,SNR=215						
MSVF				S	**S**	**04 48 02.6**	**-1.2**
	baz=273,slow=22,SNR=8.3						
MSVF	**Nonsavu**	**3.22**	**271**	P	**P**	**04 46 57.1**	**-2.5**
AFI	**Afiamalu**	**7.61**	**60**	P	P	04 47 30.4	-5.4
	9.0nm,0.3s,baz=38,slow=5.8,SNR=16						
AFI				S	S	04 49 01.0	-8.9
	3.3nm,0.3s,baz=37,slow=20,SNR=1.7						
NIUE	**Niue**	**8.30**	**100**	P	**P**	**04 47 40.0**	**-2.3**
	baz=8.2,SNR=7.3						
NIUE	**Niue**	**8.30**	**100**	P	**P**	**04 47 40.0**	**-2.3**
DZM	**Mont Dzumac**	**14.71**	**251**	P	**P**	**04 48 44.4**	**-2.5**
	2.4nm,0.3s,baz=73,slow=17,SNR=40						
DZM	**Mont Dzumac**	**14.71**	**251**	P	**P**	**04 48 48.2**	**+1.3**
KNTN	**Kanton**	**16.40**	**25**	P	**P**	**04 49 00.9**	**-2.0**
KOUNC	**Koumac, New Ca**	**16.42**	**258**	P	**P**	**04 49 02.1**	**-0.9**
URZ	**Urewera**	**20.71**	**190**	P	**P**	**04 49 39.6**	**-2.0**
	13nm,0.7s,baz=265,slow=1.6,SNR=5.6						
THZ	**Tophouse**	**24.95**	**195**	P	**P**	**04 50 20.1**	**+0.6**
THZ				IAmb	IAmb	04 50 35.7	
	comp=Z,19nm,1.2s						
LTZ	**Lake Taylor**	**26.07**	**195**	P	**P**	**04 50 27.7**	**-1.6**
LTZ				IAmb	IAmb	04 50 28.8	
	comp=Z,12nm,1.0s						
WKZ	**Wanaka**	**28.86**	**198**	P	**P**	**04 50 51.8**	**-1.9**
EIDS	**Eidsvold**	**29.15**	**250**	P	**P**	**04 50 55.4**	**-1.0**
	baz=29,SNR=21						
EIDS	**Eidsvold**	**29.15**	**250**	P	**P**	**04 50 55.4**	**-1.0**
MLZ	**Mavora Lakes**	**29.63**	**199**	P	**P**	**04 51 00.0**	**-0.2**
MLZ				IAmb	IAmb	04 51 01.4	
	comp=Z,18nm,1.0s						
ARMA	**Armidale**	**29.85**	**240**	P	**P**	**04 51 02.7**	**+0.2**
	baz=30,SNR=36						
ARMA	**Armidale**	**29.85**	**240**	P	**P**	**04 51 02.7**	**+0.2**
WHZ	**Wether Hill Ro**	**30.15**	**199**	P	**P**	**04 51 05.0**	**+0.3**
WHZ				IAmb	IAmb	04 51 07.2	

FORT Forrest 49.90 245 P P 04 53 41.6 -0.7
FAKI Fak Fak 50.41 281 P P 04 53 44.9 -1.3
comp=Z,29nm,0.9s
SWI Sorong 52.07 283 P P 04 53 58.0 -0.2
comp=Z,2µmcomp=Z,250nm,0.8s
SWI Sorong 52.07 283 P P 04 53 58.1 -0.2
comp=Z,2µmcomp=Z,250nm,0.8s
FITZ Fitzroy Crossi 52.89 261 P P 04 54 03.6 -0.4
baz=53,SNR=15
FITZ Fitzroy Crossi 52.89 261 P P 04 54 04.1 +0.1
FITZ IAmb IAmb 04 54 04.4
comp=Z,14nm,0.7s
NLAI Namlea 55.13 279 P P 04 54 18.5 -1.3
comp=Z,3µmcomp=Z,74nm,0.6s
NLAI Namlea 55.13 279 P P 04 54 19.9 +0.1
comp=Z,3µmcomp=Z,74nm,0.6s
KMBL Kambalda 55.21 244 P P 04 54 19.2 -0.9
baz=55,SNR=6.2
PSA00 Pilbara Seismi 57.78 255 P P 04 54 37.4 -0.5
PSA00 IAmb IAmb 04 54 38.2
comp=Z,52nm,0.7s
PSA00 Pilbara Seismi 57.78 255 P P 04 54 36.6 -1.3
PSA00 IAmb IAmb 04 54 37.3
comp=Z,28nm,0.8s
MMRI Maumere 58.14 271 IAmb IAmb 04 54 40.2
comp=Z,42nm,0.7s
KLBR Kellerberrin 58.73 243 P P 04 54 43.6 -0.5
baz=59,SNR=9.9
NWAO Narrogin (SRO) 59.11 242 P P 04 54 46.6 -0.1
baz=59,SNR=3.9
NWAO Narrogin (SRO) 59.11 242 P P 04 54 46.8 +0.1
NWAO IAmb IAmb 04 54 47.2
comp=Z,80nm,1.4s
BLDU Ballidu 59.68 245 P P 04 54 49.7 -0.8
baz=60,SNR=14
GTOI Gorontalo 60.30 281 P P 04 54 56.4 +1.6
comp=Z,31nm,0.9s
MORW Morawa 60.37 246 P P 04 54 54.4 -0.7
baz=60,SNR=8.8
MORW Morawa 60.37 246 P P 04 54 54.6 -0.5
MORW IAmb IAmb 04 54 54.9
comp=Z,16nm,0.7s
VNDA Vanda 60.52 185 P P 04 54 56.0 +0.9
comp=Z,1.2nm,0.7s,baz=342,slow=7.1,SNR=6.4
VNDA Vanda 60.52 185 P P 04 54 56.7 +1.6
APSI Ampana 61.04 279 P P 04 54 58.4 -1.3
comp=Z,879nmcomp=Z,91nm,1.0s
MRSI Marisa 61.24 281 P P 04 55 00.0 -1.0
comp=Z,44nm,0.8s
MRSI Marisa 61.24 281 P P 04 55 01.4 +0.4
comp=Z,44nm,0.8s
BNSI Bone 61.38 275 P P 04 55 01.9 0.0
comp=Z,53nm,1.1s
BNSI Bone 61.38 275 P P 04 55 02.2 +0.3
comp=Z,53nm,1.1s
KAPI Kappang 61.53 274 P P 04 55 02.9 0.0
KAPI IAmb IAmb 04 55 03.1
comp=Z,12nm,0.7s
SPSI Sidrap Palu 61.83 275 P P 04 55 03.9 -1.0
comp=Z,41nm,0.8s
TOLI2 Tolitoli 62.55 281 IAmb IAmb 04 55 13.1
comp=Z,18nm,0.7s
GIRL Giralia 62.77 253 P P 04 55 11.6 +0.8
baz=63,SNR=8.9
GIRL Giralia 62.77 253 P P 04 55 11.7 +0.8
TWSI Taliwang, Sumb 63.22 269 P P 04 55 13.4 -0.4
comp=Z,539nmcomp=Z,72nm,0.9s
TWSI Taliwang, Sumb 63.22 269 P P 04 55 13.1 -0.7
comp=Z,539nmcomp=Z,72nm,0.9s
SRBI Singaraja 64.98 269 P P 04 55 23.6 -1.3
comp=Z,62nm,1.0s
SRBI Singaraja 64.98 269 P P 04 55 24.5 -0.4
comp=Z,62nm,1.0s
KBKI Kotabaru 65.46 275 P P 04 55 26.6 -1.3
comp=Z,26nm,0.8s
KBKI Kotabaru 65.46 275 P P 04 55 27.3 -0.6
comp=Z,26nm,0.8s
CASY Casey 66.15 205 P P 04 55 31.9 +0.6
CASY IAmb IAmb 04 55 32.8
comp=Z,18nm,1.1s
JGF Kuroka 67.58 322 P P 04 55 41.2 +0.7
JGF IAmb IAmb 04 55 41.4
comp=Z,12nm,0.8s
MJAR Matsushiro Arr 67.75 323 P P 04 55 41.3 -0.3
comp=Z,10.0nm,0.7s,baz=156,slow=6.3,SNR=19
MJAR Matsushiro Arr 67.75 323 P P 04 55 41.6 0.0
MAJO Matsushiro 67.75 323 P P 04 55 42.0 +0.4
MAJO IAmb IAmb 04 55 42.3
comp=Z,11nm,0.8s
MAT Matsushiro 67.75 323 P P 04 55 41.5 -0.1
JWT Wachi 68.52 321 P P 04 55 46.9 +0.7
JWT IAmb IAmb 04 55 47.9
comp=Z,22nm,1.3s
KKM Kota Kinabalu 68.57 284 P P 04 55 47.5 +0.3
JSD Sado 68.78 325 P P 04 55 49.0 +1.2
WOJI Wonogiri, Jawa 69.13 268 P P 04 55 50.7 +0.3
comp=Z,59nm,0.9s
JHS Saijyo 69.73 319 P P 04 55 54.5 +1.0
JHS IAmb IAmb 04 55 55.4
comp=Z,25nm,0.8s
NIKH Nikolski High 71.00 6 P 04 56 03.5
baz=190
SBUM Sibu 71.04 279 P P 04 56 03.0 +1.3
YULB Yu-li 71.59 303 P P 04 56 03.7 -1.0
YULB IAmb IAmb 04 56 10.4
comp=Z,11nm,0.7s
SSLB Suanglung 72.06 303 P P 04 56 06.9 -0.6
SSLB IAmb IAmb 04 56 07.5
comp=Z,20nm,0.5s
TPUB Ta-pu 72.08 302 P P 04 56 07.1 -0.5
QSPA South Pole Qui 72.23 180 P P 04 56 09.0 +1.1
QSPA IAmb IAmb 04 56 09.9
comp=Z,14nm,0.9s
KSM Kuching 72.52 277 P P 04 56 11.4 +1.1
KSM Kuching 72.52 277 P P 04 56 11.0 +0.7
LEM Lembang 72.56 268 P P 04 56 11.2 +0.4
comp=Z,111nm,0.7s,baz=54,slow=5.5,SNR=20
LEM Lembang 72.56 268 P P 04 56 11.4 +0.7
comp=Z,1µmcomp=Z,87nm,0.8s
CBJI Citeko 73.41 268 P P 04 56 14.3 -1.1
comp=Z,17µmcomp=Z,110nm,0.4s
CBJI Citeko 73.41 268 P P 04 56 15.0 -0.4
comp=Z,17µmcomp=Z,110nm,0.4s
DBJI Dramaga 73.47 268 P P 04 56 15.9 +0.2
comp=Z,120nm,0.8s
DBJI Dramaga 73.47 268 P P 04 56 15.9 +0.2
comp=Z,120nm,0.8s
SKJI Sukabumi 73.52 268 P P 04 56 15.3 -0.7
PETK Petropavlovsk- 73.56 345 P P 04 56 15.6 +0.3
comp=Z,3.0nm,0.8s,baz=116,slow=10,SNR=3.7
KSRS Korea Array 74.53 318 P P 04 56 22.3 +1.1
comp=Z,1.5nm,0.7s,baz=129,slow=6.9,SNR=8.3
KSAR Wonju Array Be 74.55 318 P P 04 56 22.3 +1.0
KASI Kota Agung 75.91 269 P P 04 56 28.6 -0.8
comp=Z,1µmcomp=Z,124nm,0.8s
KLSI 75.93 270 P P 04 56 29.1 -0.4
comp=Z,2.8nm,1.3s
SCZ2 Santa Cruz Isl 76.17 47 P 04 56 31.9
baz=237
SCI2 San Clemente I 76.39 49 P 04 56 33.3
baz=238
USRK Ussuriysk Ar. 76.46 326 P P 04 56 33.1 +1.4
comp=Z,1.2nm,0.5s,baz=122,slow=2.7,SNR=4.9
USRK Ussuriysk Ar. 76.46 326 P P 04 56 32.2 +0.5
LWLI Liwa 76.47 269 P P 04 56 30.7 -1.9
comp=Z,78nm,0.7s
SAO San Andreas Ge 76.47 44 P P 04 56 33.6 +1.7
SAO IAmb IAmb 04 56 34.5
comp=Z,15nm,0.9s
MDSI Maura Dua 76.51 270 P P 04 56 29.3 -3.4
comp=Z,1µmcomp=Z,26nm,0.8s
PKM Mcpherson Peak 76.53 46 P 04 56 33.6
baz=237,SNR=5.3
PMPB Monarch Peak 76.59 45 P P 04 56 34.6 +1.9
PMPB IAmb IAmb 04 56 35.0
comp=Z,13nm,0.8s
SMMC Simmler 76.64 46 P 04 56 34.6
baz=237
KMRM Mail Ridge 77.05 40 P P 04 56 36.5 +1.3
KMRM IAmb IAmb 04 56 38.0
comp=Z,28nm,0.8s
ARVC Arvin 77.34 47 P 04 56 38.1
baz=238
109C Camp Elliot, M 77.38 49 P 04 56 38.3
baz=239
MWC Mount Wilson 77.40 48 P P 04 56 38.3 +1.0
MWC IAmb IAmb 04 56 39.3
comp=Z,11nm,0.8s
CBX Cerro Bola 77.41 50 P P 04 56 39.1 +1.7
VES Vestal, Richgr 77.55 46 P 04 56 39.1
baz=237,SNR=6.0
O02D Mt. Diablo Mer 77.59 40 P 04 56 40.1
baz=234
BAR Barrett 77.59 50 P P 04 56 39.2 +1.1
MURC Murrieta 77.68 49 P 04 56 39.7
baz=239
BFSC Mount Baldy Ra 77.69 48 P 04 56 39.6
baz=238
NJ2 Nanjing 77.77 310 eP P 04 56 41.3 +2.2
NJ2 pmax pmax
comp=Z,14nm,0.6s
EDW2 Edwards Air Fo 77.79 47 P 04 56 40.2
baz=238,SNR=13
DLV T Lat 77.82 287 P P 04 56 41.3 +1.3
DLV IAmb IAmb 04 56 42.0
comp=Z,18nm,0.8s
ISA Isabella, Lake 77.87 46 P 04 56 41.1
baz=238,SNR=14
ISA Isabella, Lake 77.87 46 IAmb IAmb 04 56 42.2
comp=Z,16nm,1.0s
MONP2 Monument Peak 77.88 50 P 04 56 41.1
baz=240,SNR=16
CMB Columbia Colle 77.88 43 P P 04 56 40.5 +0.9
CMB IAmb IAmb 04 56 41.8
comp=Z,12nm,1.0s
IKP In-Ko-Pah, Jac 77.98 50 P 04 56 41.5
baz=240,SNR=8.4
RMX La Rumorosa 77.98 50 IAmb IAmb 04 56 43.2
comp=Z,11nm,0.8s
MDJ Mudanjiang 78.03 325 IAmb IAmb 04 56 42.6
comp=Z,13nm,0.8s
N02D Trinity Center 78.11 40 P 04 56 42.3
baz=234
PFO Pinyon Flats O 78.22 49 P P 04 56 43.0 +1.4
comp=Z,3.4nm,1.0s,baz=239,slow=6.4,SNR=5.8
PFO Pinyon Flats O 78.22 49 P P 04 56 42.9 +1.2
PFO Pinyon Flats O 78.22 49 P 04 56 42.5
baz=239
TPFO Pinon Flats 78.22 49 P 04 56 42.6
baz=239
XPFO Pion Flat 78.22 49 P P 04 56 42.9 +1.2
M02C Callahan 78.27 39 P 04 56 43.3
baz=234
L02E Cave Junction 78.28 38 P 04 56 43.6
baz=233
LRMC Laurel Mtn Rad 78.32 47 P 04 56 43.5
baz=238
SWSC Sam W. Stewart 78.36 50 P 04 56 43.6
baz=240,SNR=5.2
KDAK Kodiak Island 78.36 14 P P 04 56 41.9 +0.3
comp=Z,6.7nm,0.7s,baz=272,slow=13,SNR=1.6
CWC Cottonwood Cre 78.55 46 P 04 56 44.5
baz=238
YBH Yreka Blue Hor 78.56 39 P P 04 56 44.7 +1.4
comp=Z,7.6nm,0.8s,baz=178,slow=1.5,SNR=19
YBH Yreka Blue Hor 78.56 39 IAmb IAmb 04 56 45.9
comp=Z,12nm,0.9s
MLAC Mammoth, Mammo 78.68 44 P 04 56 45.4
baz=237,SNR=7.0
BELC Belle Mtn. Jos 78.74 49 P 04 56 45.6
baz=240,SNR=7.9
WAKR Walker 78.77 43 IAmb IAmb 04 56 47.2
comp=Z,12nm,0.9s
TIN Tinemaha, Big 78.78 45 P 04 56 46.0
baz=238,SNR=5.6
GSC Goldstone, Bar 78.84 47 P 04 56 46.2
baz=239
HEC Hector,Ludlow 78.92 48 P 04 56 46.6
baz=239
BC3 Big Chuckawall 78.96 49 P 04 56 47.1
baz=240
PNTR Pine Nut 78.98 43 IAmb IAmb 04 56 48.2
comp=Z,22nm,0.8s
L04D Klamath Falls 79.09 39 P 04 56 47.7
baz=234
M04C Macdoel 79.11 40 P 04 56 47.4
baz=234
GLA Glamis 79.12 50 P P 04 56 47.9 +1.6
GLA IAmb IAmb 04 56 49.4
comp=Z,10.0nm,0.8s
GLA Glamis 79.12 50 P 04 56 48.2
baz=240
YERR Yerington 79.16 43 P P 04 56 48.1 +1.5
YERR IAmb IAmb 04 56 48.5
comp=Z,12nm,0.8s
LHV Little Huntoon 79.24 44 IAmb IAmb 04 56 49.6
comp=Z,17nm,1.0s
GRAC Grapevine Rang 79.33 46 P 04 56 49.3
baz=238
GMRC Granite Mounta 79.38 48 P 04 56 49.2
baz=240
FURC Furnace Creek, 79.40 46 P 04 56 49.0
baz=239
IRM Iron Mountain 79.43 49 P 04 56 49.1
baz=240,SNR=5.6
NVAR Mina Array Bea 79.47 44 P P 04 56 49.6 +1.3
comp=Z,7.4nm,0.8s,baz=225,slow=8.8,SNR=65
NVAR Mina Array Bea 79.47 44 P P 04 56 49.4 +1.1
NV11 Mina Array Sit 79.57 44 IAmb IAmb 04 56 51.1
comp=Z,13nm,1.1s
J04D Umpqua Nationa 79.81 38 P 04 56 51.3
baz=234
CN2 Changchun 79.86 322 eP P 04 56 51.3 +1.4
CN2 pmax pmax
comp=Z,10.0nm,1.2s
KVN Kaiserville 79.94 43 IAmb IAmb 04 56 52.9
comp=Z,14nm,1.2s
KLR Kul'dur 79.96 329 P P 04 56 51.2 +1.0
comp=Z,1.5nm,0.7s,baz=134,slow=5.0,SNR=5.1
TPNV Topopah Spring 80.07 46 P 04 56 52.2
baz=239,SNR=6.8
TPNV Topopah Spring 80.07 46 P P 04 56 52.8 +1.4
214A Organ Pipe Nat 80.08 52 P 04 56 53.4
baz=242
MOD Modoc Plateau 80.12 40 P P 04 56 52.9 +1.4
MOD IAmb IAmb 04 56 53.3
comp=Z,10nm,0.8s
PDMCI Parker Dam,Lak 80.23 49 P 04 56 53.8
baz=241
J05D Fort Rock, OR 80.35 39 P 04 56 54.7
baz=234
JRMM Jerantut 80.70 277 P P 04 56 56.0 +1.0
PINE Pine Mountain 80.82 38 P P 04 56 56.0 +0.8
PINE IAmb IAmb 04 56 57.7
comp=Z,20nm,0.9s
I05D Terrebonne, OR 80.90 38 P 04 56 56.6
baz=234
PRN Pahroc Range 81.13 46 IAmb IAmb 04 56 59.7
comp=Z,15nm,1.0s
R11A Troy Canyon, C 81.24 45 P 04 56 58.6
baz=239
R11A Troy Canyon, C 81.24 45 P P 04 56 58.2 +0.7
WVOR Wild Horse Val 81.44 40 IAmb IAmb 04 57 11.4
comp=Z,14nm,0.9s
G05D Wamic, OR 81.45 37 P 04 57 00.2
baz=234
F05D White Salmon 81.74 36 P 04 57 01.3
baz=234
TUC Tucson 81.77 52 P 04 57 02.7
baz=243
TUC Tucson 81.77 52 P P 04 57 02.0 +1.8
TUC IAmb IAmb 04 57 03.6
comp=Z,10nm,1.0s
D04E Lakebay 81.79 35 P 04 57 02.3
baz=233
J08A Circle Bar Ran 82.05 40 IAmb IAmb 04 57 03.7
comp=Z,13nm,1.0s
SUA Susitna One 82.08 13 P 04 57 01.3
baz=207
IPM Ipoh 82.26 277 IAmb IAmb 04 57 04.6
comp=Z,30nm,0.7s
IPM Ipoh 82.26 277 P P 04 57 04.0 +1.1
BELA Belgrano 2 82.27 173 P P 04 57 01.9 +0.1
CCUT Cedar City 82.37 47 P P 04 57 05.0 +1.7
SKT Skwentna 82.38 13 P 04 57 04.3
baz=206
SPR3 Spring Creek 3 82.42 45 P P 04 57 04.1 +0.5
319A Douglas 82.50 54 IAmb IAmb 04 57 07.3
comp=Z,14nm,1.1s
U15A North Rim 82.58 48 P P 04 57 06.6 +2.2
U15A IAmb IAmb 04 57 07.4
comp=Z,16nm,0.9s
ELK Elko 82.70 43 P P 04 57 06.1 +1.3
comp=Z,6.0nm,0.9s,baz=262,slow=5.0,SNR=21
WUAZ Wupatki 82.81 49 IAmb IAmb 04 57 08.3
comp=Z,13nm,1.1s
WUAZ Wupatki 82.81 49 P 04 57 07.4
baz=242
B05A Bryant 82.81 34 P 04 57 06.2
baz=233
KULM Kulim 82.87 278 P P 04 57 07.0 +1.0
HAWA Hanford 83.13 37 P P 04 57 07.2 +0.7
HAWA IAmb IAmb 04 57 08.7
comp=Z,11nm,1.0s
KLU Klutina 83.23 15 P 04 57 09.0
baz=211
MSU Marysvale 83.65 46 P P 04 57 11.2 +1.6
SEY Seymchan 83.66 347 P P 04 57 08.9 +0.2
comp=Z,1.2nm,0.5s,baz=143,slow=7.0,SNR=10
N25K Chitina, Valde 83.66 16 P 04 57 09.3
baz=212
RPSI Rantau Prapat 83.69 275 IAmb IAmb 04 57 10.9
comp=Z,21nm,0.7s
M24K Tolsona, Glenn 83.70 15 P 04 57 09.6
baz=211
MFID Camas Ranch 83.71 41 IAmb IAmb 04 57 12.0
comp=Z,7.5nm,0.9s
CHUM Lake Minchumin 83.95 11 P 04 57 09.0
baz=205
TRF Thorofare Moun 83.96 12 P 04 57 10.6
baz=207
TRF Thorofare Moun 83.96 12 IAmb IAmb 04 57 10.8
comp=Z,18nm,0.9s
CTG Chitna Glacier 84.00 17 P 04 57 11.4
baz=215
DUG Dugway, Tooele 84.03 45 P 04 57 12.7
baz=241
ENH Enshi 84.10 304 IAmb IAmb 04 57 14.0
comp=Z,28nm,0.8s
121A Cookes Peak, D 84.15 53 P 04 57 14.0
baz=245
F10A Beach Ranch, E 84.23 38 IAmb IAmb 04 57 13.9
comp=Z,16nm,1.0s
B08A Colville Reser 84.36 35 P P 04 57 12.9 +0.3
B08A IAmb IAmb 04 57 14.0
comp=Z,10nm,0.9s
MCK McKinley 84.49 13 P 04 57 12.9
baz=208
TRTT Trang 84.58 280 P P 04 57 15.1 +0.6
comp=Z,46nm,0.9s
PAX Paxson 84.61 15 P 04 57 13.4
baz=212
GYA Guiyang 84.86 300 ⇑P P 04 57 17.0 +1.3
GYA pmax pmax
comp=Z,7.0nm,1.2s
HDA Harding Lake 85.51 13 P 04 57 17.7
baz=210
HDA P 04 57 17.7
baz=210
TPTI 85.52 275 P P 04 57 19.4 +0.4
TPTI 85.52 275 P P 04 57 20.0 +1.0
NEW Newport 85.53 36 P P 04 57 18.1 -0.2
comp=Z,3.1nm,0.8s,baz=235,slow=6.9,SNR=7.6
NEW Newport 85.53 36 P 04 57 18.5
baz=237
MNTX Cornudas Mount 85.66 55 P P 04 57 20.8 +1.5
MNTX Cornudas Mount 85.66 55 P 04 57 20.7
baz=246
PV20 West Nyswonger 85.81 48 P P 04 57 21.9 +1.8
DLBC Dease Lake 85.81 23 P P 04 57 19.6 +0.2
comp=Z,2.5nm,0.9s,baz=163,slow=7.2,SNR=4.1
SCRK Sand Creek 85.82 15 P 04 57 19.8
baz=213
ILAR Eielson Array 85.84 13 P P 04 57 18.6 -0.7
comp=Z,1.5nm,0.6s,baz=221,slow=5.1,SNR=24
ILAR Eielson Array 85.84 13 P P 04 57 18.2 -1.2
POKR Poker Plat Res 86.02 13 P 04 57 19.9
baz=210
TX31 Lajitas Ar. Si 86.08 58 IAmb IAmb 04 57 24.9
comp=Z,30nm,1.0s
TX32 Lajitas Array 86.08 58 IAmb IAmb 04 57 24.9
comp=Z,10nm,1.0s
TXAR Lajitas Array 86.08 58 P P 04 57 23.8 +2.3
comp=Z,5.2nm,0.8s,baz=219,slow=6.0,SNR=66
TXAR Lajitas Array 86.08 58 P P 04 57 23.2 +1.8
XAN Xi'an 86.09 307 P P 04 57 22.6 +1.3
XAN pmax pmax
comp=Z,30nm,1.1s
XAN Xi'an 86.09 307 IAmb IAmb 04 57 23.6
comp=Z,24nm,1.0s
ANMO Albuquerque 86.17 52 P 04 57 22.9
baz=245
ANMO Albuquerque 86.17 52 P P 04 57 23.0 +1.2
PHET Kaeng Krachan 86.28 285 P P 04 57 24.0 +1.5
MLSI Meulaboh, Aceh 86.57 276 P P 04 57 24.6 +0.7
MSO Missoula 86.61 38 P 04 57 24.0
baz=240
REDW Red Top Meadow 86.83 43 IAmb IAmb 04 57 27.4
comp=Z,8.9nm,1.0s
SNOW Snow King Moun 86.94 42 IAmb IAmb 04 57 28.0
comp=Z,8.8nm,0.9s
S22A 4UR Ranch, Cre 87.07 49 P 04 57 28.0
baz=245
HHC Hu-ho-hao-te 87.10 315 eP P 04 57 28.3 +2.3
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,70nm,5.5s
O20A White River Ci 87.11 46 P 04 57 27.5
baz=244
SRDT SRDT 87.21 286 P P 04 57 28.2 +1.3
comp=Z,9.7nm,0.9s
FLWY Flagg Ranch 87.27 42 P P 04 57 28.7 +1.9
FLWY IAmb IAmb 04 57 29.7
comp=Z,8.6nm,0.9s
COLD Coldfoot 87.36 11 P 04 57 27.4
baz=207
BW06 Boulder Array 87.40 43 P 04 57 28.4
baz=243
PDAR Pinedale Array 87.40 43 P P 04 57 28.1 +0.7
comp=Z,2.9nm,0.7s,baz=216,slow=3.1,SNR=24
PDAR PP PP 05 01 00.0 -3.3
comp=Z,0.5nm,0.7s,baz=239,slow=8.3,SNR=6.3
PDAR PKKPbc PKKPbc 05 15 14.6 -0.5
comp=Z,0.4nm,0.8s,baz=79,slow=1.9,SNR=3.5
BOZ Bozeman (W) 87.40 40 P 04 57 28.5
baz=241
H17A Grant Village 87.49 42 P 04 57 30.7
baz=242
H17A Grant Village 87.49 42 IAmb IAmb 04 57 32.0
comp=Z,8.2nm,1.1s
KMI Kunming 87.66 297 ⇓P P 04 57 30.8 +1.7
KMI pmax pmax
comp=Z,17nm,0.9s
LKWY Lake 87.68 42 IAmb IAmb 04 57 32.6
comp=Z,8.8nm,1.1s
LAMP Lampang 88.11 290 P P 04 57 33.0 +2.0
comp=Z,354nmcomp=Z,25nm,0.6s
MSTX Muleshoe 88.57 54 P 04 57 33.7
baz=248
T25A Trinidad 88.57 50 P 04 57 35.2
baz=246
CM36 Chiang Mai Arr 88.59 290 P P 04 57 34.0 +0.7
BMAR Burnt Mountain 88.61 12 P P 04 57 32.7 +0.3
RLMT Red Lodge 88.65 41 P 04 57 34.9
baz=243
CM34 Chiang Mai Arr 88.65 290 P P 04 57 35.0 +1.4
CM04 Chiang Mai Arr 88.66 290 P P 04 57 35.0 +1.4
comp=Z,123nmcomp=Z,15nm,0.9s
CM09 Chiang Mai Arr 88.66 290 P P 04 57 36.0 +2.4
comp=Z,11nm,0.9s
CM01 Chiang Mai Arr 88.68 290 P P 04 57 36.2 +2.5
comp=Z,219nmcomp=Z,12nm,1.0s
CM05 Chiang Mai Arr 88.69 290 P P 04 57 35.8 +2.0
comp=Z,78nmcomp=Z,9.4nm,0.9s
CM02 Chiang Mai Arr 88.70 290 P P 04 57 36.0 +2.2
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 88.71 290 P P 04 57 35.4 +1.5
comp=Z,7.1nm,0.9s,baz=107,slow=2.8,SNR=37
CM15 Chiang Mai Arr 88.72 290 P P 04 57 36.0 +2.1
TOLK Toolik Lake Re 88.73 10 P 04 57 33.6
baz=208
CM13 Chiang Mai Arr 88.73 290 P P 04 57 36.0 +2.1
comp=Z,75nmcomp=Z,10nm,0.9s
ISCO Idaho Springs 88.79 47 P 04 57 35.6
baz=246
CMMT Chiang Mai 88.82 290 P P 04 57 34.9 +0.5
comp=Z,296nmcomp=Z,7.0nm,0.9s
CM33 Chiang Mai Arr 88.82 290 P P 04 57 35.0 +0.6
CHTO Chiang Mai 88.83 290 P P 04 57 35.5 +1.1
CHTO IAmb IAmb 04 57 36.6

comp=Z,13nm,1.0s
N23A Red Feather La 89.01 46 P 04 57 36.7
baz=245
EPYK Eagle Plains 89.56 16 P 04 57 37.6
baz=220
JCT Junction City 89.62 58 P 04 57 38.9
baz=249
ABTX Abilene, Hawle 90.51 56 P 04 57 43.1
baz=249
ABTX Abilene, Hawle 90.51 56 IAmb IAmb 04 57 44.0
comp=Z,11nm,1.1s
SNAA Sanae 90.69 179 P **P** **04 57 42.1 0.0**
SNAA Sanae 90.69 179 IAmb IAmb 04 57 43.0
comp=Z,12nm,1.2s
VNA3 Neumayer Olymp 90.83 176 P **P** **04 57 43.3 +0.6**
LAO LASA Array 91.25 41 P 04 57 46.8
baz=245
VNA2 Neumayer--Watz 91.27 177 P **P** **04 57 44.9 +0.2**
VNA1 Neumayer--Stat 91.50 177 P **P** **04 57 46.9 +1.2**
RSSD Black Hills 91.61 44 P 04 57 48.3
baz=247
RSSD Black Hills 91.61 44 P **P** **04 57 47.5 +0.5**
RSSD IAmb IAmb 04 57 48.6
comp=Z,3.5nm,0.9s
INK Inuvik 91.84 15 P **P** **04 57 47.2 +0.1**
comp=Z,2.9nm,0.9s,baz=218,slow=5.7,SNR=5.2
INK Inuvik 91.84 15 IAmb IAmb 04 57 48.0
comp=Z,3.8nm,1.0s
DGMT Dagmar 93.23 40 P 04 57 55.3
baz=247
SONM Songino Array 93.39 319 P **P** **04 57 54.6 -0.3**
comp=Z,0.5nm,0.5s,baz=131,slow=4.0,SNR=5.6
SONM PP **PP** **05 01 52.5 +2.9**
comp=Z,0.6nm,0.8s,baz=85,slow=4.8,SNR=4.1
SONM Songino Array 93.39 319 P **P** **04 57 54.9 -0.1**
YKA Yellowknife Ar 94.32 25 P **P** **04 57 58.2 -0.4**
comp=Z,1.3nm,0.8s,baz=238,slow=4.2,SNR=19
YKA PP **PP** **05 01 50.5 -5.8**
comp=Z,0.8nm,1.0s,baz=239,slow=6.5,SNR=5.3
KSU1 Kansas State U 95.02 51 P 04 58 03.9
baz=251
ECSD EROS Data Cent 96.49 46 P 04 58 09.3
baz=252
O53A New Philadelph 106.81 52 P 05 03 01.8
baz=261
ZALV Zalesovo Beam 108.07 322 PKiKP **PKiKP** **05 03 02.7 -0.5**
comp=Z,1.0nm,0.6s,baz=149,slow=2.0,SNR=4.8
MKAR Makanchi Array 108.97 314 PKiKP **PKiKP** **05 03 04.8 -0.3**
comp=Z,1.0nm,0.5s,baz=200,slow=0.5,SNR=23
MKAR PP **PP** **05 03 40.5 -4.4**
comp=Z,0.6nm,0.9s,baz=89,slow=5.1,SNR=4.1
I62A Tamworth 114.47 49 P 05 03 16.9
baz=268
H62A Milan 114.62 49 P 05 03 17.0
baz=269
M66A Nantucket 115.28 52 P 05 03 18.7
baz=268
BVAR Borovoye Array 116.68 321 PKP **PKPdf** **05 03 19.1 -0.6**
comp=Z,1.7nm,0.6s,baz=171,slow=10,SNR=11
ARU Arti 122.69 326 PKP **PKPdf** **05 03 31.2 +0.1**
comp=Z,1.8nm,0.3s,baz=19,slow=2.8,SNR=5.7
ABKAR Akbulak array 123.77 318 PKPdf **PKPdf** **05 03 33.5 +0.1**
AKTO Aktyubinsk 124.70 320 PKP **PKPdf** **05 03 35.5 +0.4**
comp=Z,2.1nm,0.7s,baz=66,slow=2.3,SNR=6.7
FINES FINESS Array B 133.06 344 SKPbc **SKPab** **05 06 28.2 +0.6**
comp=Z,1.6nm,0.7s,baz=49,slow=3.5,SNR=4.2
AKASG Malin Array Be 140.41 332 PKhKP PKPpre 05 03 58.0
comp=Z,0.8nm,0.4s,baz=43,slow=3.9,SNR=7.7
AKASG PKP **PKiKP** **05 04 06.7 -0.5**
comp=Z,0.7nm,0.4s,baz=46,slow=2.8,SNR=4.4
EKA Eskdalemuir Ar 142.40 4 PKhKP PKPpre 05 04 03.3
comp=Z,0.9nm,0.7s,baz=354,slow=2.5,SNR=3.7
SORM Soroca 142.64 330 ⇑P **PKPdf** **05 04 06.1 -2.5**
GAZ Gaziantep 143.16 309 PKPbc 05 04 08.7 +0.4
TLCR 144.42 326 ⇑P **PKPab** **05 04 12.9 +0.6**
BURAR Bucovina Array 144.47 332 ⇑P **PKPab** **05 04 13.6 +1.0**
BIZ Bicaz 144.56 330 ⇑P **PKPab** **05 04 14.0 +1.1**
TESR Tescani 144.61 329 ⇓P PKPbc 05 04 13.0 +0.6
BR131 Keskin Array S 144.61 315 **PKPdf** **05 04 13.0 +0.5**
BRTR Keskin Array B 144.61 315 PKP PKPbc 05 04 13.2 +0.4
comp=Z,9.0nm,0.8s,baz=119,slow=2.1,SNR=53
BRTR Keskin Array B 144.61 315 **PKPdf** **05 04 12.9 +0.4**
KOLS Kolonicke sedl 144.66 336 *e*PKP **PKPab** **05 04 13.6 +0.4**
CFR Carcaliu 144.78 327 ⇑P **PKPab** **05 04 13.9 +0.1**
TPGR Topolog 144.84 326 ⇑P **PKPab** **05 04 14.6 +0.5**
NIE Niedzica 144.99 338 *e*PKP **PKPab** **05 04 15.0 +0.5**
CRVS Cervenica-Dubn 145.00 337 *e*PKP **PKPab** **05 04 14.8 +0.3**
VRI Vrincioaia 145.03 329 ⇑P **PKPab** **05 04 14.8 0.0**
PLOR Plostina 145.08 329 ⇑P **PKPbc** **05 04 14.6 +0.7**
BR231 Keskin MP Arra 145.14 316 PKPdf **PKPbc** **05 04 14.6 +0.2**
ARCR ARCALIA 145.25 332 ⇑P **PKPab** **05 04 15.9 +0.3**
OSTC Ostas 145.26 342 *e*PKP **PKPab** **05 04 15.8 +0.3**
CHVC Chvalec 145.28 344 *e*PKP **PKPbc** **05 04 15.3 +1.0**
OZUR 145.32 330 ⇓P **PKPbc** **05 04 15.6 +1.0**
CLL Collm 145.35 347 *i* PKPbc **PKPbc** **05 04 14.8 +0.4**
comp=Z,10.0nm,1.0s
DPC Dobruska-Polom 145.42 343 *e*PKP **PKPbc** **05 04 16.0 +1.2**
LANS Liptovska Anna 145.50 339 *e*PKP **PKPab** **05 04 16.9 +0.4**
KRLC Kraliky 145.54 342 *e*PKP **PKPbc** **05 04 15.9 +0.8**
BRG Berggiesshubel 145.55 346 *e*PKP **PKPbc** **05 04 16.2 +1.2**
BRG Amp 05 04 17.6
comp=Z,16nm,1.6s
NEHR Nehoiu 145.55 328 ⇓P **PKiKP** **05 04 18.1 0.0**
MORC Moravsky Berou 145.58 341 ⇓P **PKPbc** **05 04 16.1 +0.8**
MORC Moravsky Berou 145.58 341 *e*PKP **PKPbc** **05 04 16.3 +1.1**
DOPR Dopca 145.61 330 ⇓P **PKPab** **05 04 17.0 -0.1**
MLR Muntele Rosu 145.68 329 PKPbc **PKPbc** **05 04 16.3 +0.6**
comp=Z,5.8nm,0.8s,baz=28,slow=10,SNR=7.1
MLR Muntele Rosu 145.68 329 ⇓P **PKPbc** **05 04 17.0 +1.3**
MLR Muntele Rosu 145.68 329 **PKPbc** **05 04 16.8 +1.0**
MBAR Mbarara 145.84 241 PKPbc **PKPbc** **05 04 18.2 +1.0**
CJR Cluj-Napoca 145.87 332 ⇑P **PKPab** **05 04 17.7 -0.4**
VOIR 146.16 330 ⇓P **PKPbc** **05 04 18.3 +1.2**
DRGR 146.19 333 ⇓P **PKPbc** **05 04 18.1 +1.0**
PRU Pruhonice 146.22 345 *e*PKP **PKPbc** **05 04 17.8 +0.9**
VRAC Vranov 146.28 342 PKPbc **PKPbc** **05 04 18.1 +0.9**
comp=Z,1.7nm,0.3s,baz=59,slow=1.2,SNR=3.5
VRAC Vranov 146.28 342 *e*PKP **PKPbc** **05 04 17.6 +0.4**
VYHS Vyhne 146.28 339 *e*PKP **PKPbc** **05 04 18.7 +1.5**
JAVC Velka Javorina 146.34 341 *e*PKP **PKiKP** **05 04 19.2 -0.4**
PSZ Piszkesteto 146.40 337 ⇑P **PKPbc** **05 04 18.8 +1.2**
PSZ Piszkesteto 146.40 337 PKPbc **PKPbc** **05 04 18.4 +0.8**
ARR Arges 146.41 330 ⇑P **PKiKP** **05 04 19.5 -0.3**
KRUC Moravsky 146.56 342 *e*PKP **PKPbc** **05 04 18.7 +0.8**
MODS Modra-Piesok 146.90 341 *e*PKP **PKPbc** **05 04 19.5 +0.6**
CSS Mathiatis 146.91 307 PKPbc **PKPbc** **05 04 19.2 -0.1**
LEF Lefka 147.18 308 ⇓P **PKPbc** **05 04 20.3 +0.4**
GZR Gura Zlata 147.25 332 ⇓P **PKPbc** **05 04 20.5 +0.5**
KHC Kasperske Hory 147.25 345 *e*PKP **PKPbc** **05 04 20.8 +1.0**
CKRC Cesky Krumlov 147.36 344 *e*PKP **PKPbc** **05 04 21.3 +1.2**
GERES GERESS Array B 147.49 345 PKPbc **PKPbc** **05 04 21.3 +0.8**
comp=Z,4.2nm,0.7s,baz=33,slow=3.2,SNR=27
GERES GERESS Array B 147.49 345 **PKPbc** **05 04 21.2 +0.7**
BZS Buzias 147.59 333 ⇓P **PKPbc** **05 04 21.2 +0.5**
CONA Conrad Observa 147.74 342 *e*P **PKPbc** **05 04 22.4 +1.3**
comp=Z,5.0nm,0.7s
HERR Herculane 147.81 331 ⇓P **PKPbc** **05 04 22.1 +0.8**
MORH Mrgy, Hungar 148.29 337 ⇑P **PKPbc** **05 04 23.1 +0.7**
FRGS Fruska Gora 148.72 335 ⇓P **PKPbc** **05 04 24.3 +0.7**
BFO Black Forest 149.06 351 PKPbc **PKPbc** **05 04 24.8 +0.5**
BOVS Bovan 149.09 331 ⇑P **PKPbc** **05 04 24.7 +0.2**
VTS Vitosha 149.10 328 ⇓P **PKPbc** **05 04 25.5 +0.7**
KBA Koelnbreinsper 149.22 344 *e*P **PKPbc** **05 04 25.4 +0.4**
comp=Z,3.9nm,0.6s
WTTA Wattenberg 149.46 346 *e*P **PKPbc** **05 04 26.2 +0.7**
comp=Z,5.7nm,0.5s,SNR=5.6
MYKA Terra Mystica 149.55 343 *i* P **PKPbc** **05 04 25.4 -0.2**
comp=Z,5.0nm,0.7s
SQTA Sankt Quirin 149.60 347 *e*P **PKPbc** **05 04 26.5 +0.7**
comp=Z,7.1nm,0.7s
ABTA Abfaltersbach 149.74 345 *e*P **PKPbc** **05 04 26.4 +0.3**
comp=Z,8.2nm,0.7s,SNR=6.9
DAVOX Davos/Dischmat 150.29 348 PKPbc **PKiKP** **05 04 28.5 +0.5**
comp=Z,10nm,0.7s,baz=246,slow=0.6,SNR=18
TUE Stuetta 150.69 349 PKPbc **PKPbc** **05 04 28.8 +0.4**
PDG Podgorica 151.15 332 ⇑P **PKPbc** **05 04 29.6 +0.3**
FNA Florina 151.39 327 PKPbc **PKPbc** **05 04 29.6 -0.4**
ESDC Sonseca Array 157.73 11 PKPab **PKPab** **05 05 07.1 -1.1**
comp=Z,0.4nm,0.6s,baz=328,slow=4.6,SNR=2.9
ESDC Sonseca Array 157.73 11 **PKPab** **05 05 07.4 -0.8**
TORD Torodi Ar. Bea 175.34 183 PKP **PKPdf** **05 04 45.3 -0.5**
comp=Z,0.3nm,0.5s,baz=38,slow=0.9,SNR=4.0
TORD PKPab **PKPab** **05 06 26.4 +0.1**
comp=Z,0.8nm,0.8s,baz=177,slow=4.6,SNR=3.0
TORD Torodi Ar. Bea 175.34 183 **PKPdf** **05 04 45.0 -0.7**
TORD **PKPab** **05 06 26.9 +0.6**

NNC 16 05:04:05.8±3.4, 37.75N×71.31E, h0km, mb 3.9, mpv 3.5, 3C-2D, Error ellipse: s-maj=36.3km s-min=20.3km az=146.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.38**	**354**	⇑P	Pn	05 05 27.9	+0.5
	3.1nm,0.5s,baz=184,slow=12,SNR=20						
KK31				⇓S	Sn	05 06 31.6	+1.6
	1.1nm,0.3s,baz=175,slow=20,SNR=4.0						
AAK	**Ala-Archa**	**5.46**	**26**	⇓P	Pn	05 05 28.5	0.0
	3.1nm,0.5s						
AAK				⇑S	Sn	05 06 32.9	+0.8
	6.3nm,0.7s						
AKTO	**Aktyubinsk**	**15.84**	**327**	⇑P	Pn	05 07 48.5	-1.5
	1.5nm,0.6s						

ASRS 16 05:28:31.5±0.3, 51°N±1°×9°4E±°, h5km, MLh 3.1/11, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**0.23**	**3**	Pg	Pg	05 28 37.2	+1.2
KZLR				Sg	Sg	05 28 39.7	+0.6
ARDR	**Aradan**	**1.27**	**331**	Pg	Pn	05 28 57.0	+1.0
ARDR				Sg	Sn	05 29 15.4	+2.0
TDJR	**Todzha**	**1.39**	**47**	Pg	Pn	05 28 57.0	-0.6
TDJR				Sg	Sn	05 29 20.7	+4.4
BLRR	**Bol'shaya Rech**	**2.00**	**323**	Pg	Pg	05 29 11.2	+1.5
BLRR				Sg	Sg	05 29 37.3	+1.7
KNGR	**Kungurtug, Tuv**	**2.13**	**113**	Pg	Pg	05 29 11.7	-0.6
KNGR				Sg	Sg	05 29 40.5	+0.7
DJOS	**Djoyskaya Sosn**	**2.29**	**306**	Pg	Pg	05 29 17.4	+2.0
DJOS				Sg	Sg	05 29 46.9	+1.8
CERR	**Cheremushki**	**2.32**	**308**	Pg	Pg	05 29 17.4	+1.5
CERR				Sg	Sg	05 29 48.4	+2.5
DJO	**Djoy, Khakassi**	**2.38**	**305**	Pg	Pg	05 29 17.5	+0.5
DJO				Sg	Sg	05 29 49.1	+1.3
TEL	**Teeli**	**2.70**	**262**	Pg	Pg	05 29 25.2	+2.0
TEL				Sg	Sg	05 29 59.5	+1.3
TBTR	**Tabat**	**2.71**	**304**	Pg	Pb	05 29 19.0	-1.5
TBTR				Sg	Sb	05 29 53.4	-0.7
ABNR	**Abakan**	**2.91**	**322**	Pg	Pg	05 29 32.1	+5.0
ABNR				Sg	Sb	05 30 00.6	+1.1
KTRR	**Kuturchin**	**3.48**	**358**	Pg	Pb	05 29 34.5	+1.1
KTRR				Sg	Sg	05 30 25.8	+2.8
ORY	**Orie**	**3.56**	**6**	Sg	Sb	05 30 18.3	-0.1
SHRR	**Shira**	**3.98**	**321**	Pg	Pb	05 29 41.9	-0.1
SHRR				Sg	Sg	05 30 40.7	+1.5
CUR	**Chagan-Uzun**	**4.10**	**253**	Pg	Pg	05 29 52.4	+2.4
CUR				Sg	Sg	05 30 45.3	+2.3
ULGR	**Ulagan, Altay**	**4.17**	**261**	Pg	Pg	05 29 53.9	+2.5
ULGR				Sg	Sg	05 30 46.4	+1.0
TASR	**Tashtagol**	**4.24**	**290**	Pg	Pg	05 29 54.9	+2.2
TASR				Sg	Sg	05 30 51.8	+4.1
ARTR	**Artybash**	**4.47**	**277**	Pg	Pg	05 29 55.5	-1.5
ARTR				Sg	Sg	05 31 00.5	+5.6
CHBI	**Chibit, Altay**	**4.54**	**258**	Pg	Pg	05 29 58.6	+0.2
CHBI				Sg	Sg	05 31 04.5	+7.4
DGZ	**Jazzator, Alta**	**4.80**	**251**	Pg	Pg	05 30 02.3	-1.1
DGZ				Sg	Sg	05 31 10.0	+4.4
ELT	**Eltsovka**	**5.33**	**293**	Pg	Pb	05 30 07.1	+2.0
ELT				Sg	Sg	05 31 25.6	+3.1
BRCR	**Berchikul'**	**5.54**	**321**	Sg	Sg	05 31 27.7	-1.6

IDC 16 05:31:25.2±2.7, 24.40S×116.52W, h0km, mb 3.9/5, mb 1 4.1/5, mb1mx3.8/29, mbtmp3.9/5, MS3.5/4, Ms1 3.5/4, ms1mx3.1/29, Error ellipse: s-maj=88.6km s-min=35.4km az=29.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**7.02**	**114**	LR	LR	05 35 05.5	
	comp=Z,412nm,18.6s,baz=284,slow=31						
H03N2	**Juan Fernandez**	**33.96**	**114**	T	T	06 13 34.6	
	baz=280,slow=75,SNR=49						
H03N3	**Juan Fernandez**	**33.97**	**114**	T	T	06 13 36.6	
	baz=280,slow=75,SNR=66						
H03N1	**Juan Fernandez**	**33.98**	**114**	T	T	06 13 38.4	
	baz=280,slow=75,SNR=66						
ATAH	**Atahualpa**	**40.32**	**71**	P	P	05 39 05.5	+0.4
	6.0nm,0.7s,baz=211,slow=13,SNR=4.1						
PLCA	**Paso Flores**	**41.53**	**125**	LR	LR	05 51 28.9	
	comp=Z,63nm,21.1s,baz=213,slow=29						
LPAZ	**La Paz**	**45.89**	**89**	P	P	05 39 49.8	-0.7
	2.1nm,0.9s,baz=225,slow=11,SNR=4.8						
LPAZ				LR	LR	05 54 53.1	
	comp=Z,30nm,19.8s,baz=161,slow=31						
AFI	**Afiamalu**	**52.94**	**271**	LR	LR	05 57 39.7	
	comp=Z,95nm,20.7s,baz=218,slow=30						
BDFB	**Brasilia**	**64.41**	**96**	P	P	05 42 04.0	+0.2
	2.2nm,0.8s,baz=202,slow=19,SNR=4.3						
PDAR	**Pinedale Array**	**67.14**	**6**	P	P	05 42 20.4	-0.5
	0.2nm,0.7s,baz=171,slow=6.4,SNR=1.5						
H11S2	**WAKE ISLAND Hy**	**86.08**	**292**	T	T	07 19 52.2	
	baz=118,slow=75,SNR=158						
H11S1	**WAKE ISLAND Hy**	**86.09**	**292**	T	T	07 19 53.1	
	baz=118,slow=75,SNR=153						
H11S3	**WAKE ISLAND Hy**	**86.09**	**292**	T	T	07 19 53.5	
	baz=118,slow=75,SNR=100						
H11N3	**WAKE ISLAND Hy**	**86.46**	**293**	T	T	07 20 23.2	
	baz=119,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**86.48**	**293**	T	T	07 20 24.1	
	baz=119,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**86.48**	**293**	T	T	07 20 24.9	
	baz=119,slow=75,SNR=27						
YKA	**Yellowknife Ar**	**86.60**	**1**	P	P	05 44 10.3	+0.5
	0.3nm,0.8s,baz=172,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**153.06**	**331**	PKPbc	PKPbc	05 51 24.5	-0.1
	0.4nm,1.0s,baz=51,slow=2.8,SNR=2.4						

*IDC **16** 05:48:25.7±0.9, 37.36N×97.86W, h0km, mb1 3.8/5, mb1mx3.4/54, mbtmp3.5/5, ML2.7/3, Error ellipse: s-maj=11.4km s-min=10.1km az=166.0*
*ANF **16** 05:48:27.2±0.2, 37.22N×97.88W, h8km, ML4.4/24, Error ellipse: s-maj=2.6km s-min=2.0km az=66.0*
*NEIC **16** 05:48:27.1±1.3, 37.21N±0.03×97.88W±0.03, h9km±4km, mb_Lg3.5/132, Error ellipse: s-maj=4.4km s-min=3.3km az=214.0*

ISC 16 05:48:26.8±0.8, 37.21N±0.03×97.88W±0.03, h11km±5km, n185, σ1§09/176, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN08	**Anthony NE Sta**	**0.08**	**283**	Pg	**Pg**	**05 48 29.2**	**-0.1**
KAN08					**Sg**	**05 48 30.6**	**-0.5**
KAN05	**Bluff City Nor**	**0.10**	**179**	Pg	**Pg**	**05 48 29.5**	**0.0**
KAN05				Sg	**Sg**	**05 48 31.2**	**-0.2**
KAN12	**Harper NE Stat**	**0.13**	**312**	Pg	**Pg**	**05 48 30.2**	**+0.1**
KAN12				Sg	**Sg**	**05 48 32.2**	**-0.1**
KAN10	**Anthony SW Sta**	**0.20**	**244**	Pg	**Pg**	**05 48 31.0**	**0.0**
KAN10				Sg	**Sg**	**05 48 33.6**	**-0.2**
GC02	**Grant County #**	**0.36**	**178**		**Pg**	**05 48 34.1**	**+0.2**
KAN13	**South Haven SW**	**0.37**	**121**	Pg	**Pg**	**05 48 34.6**	**+0.4**
KAN13				Sg	**Sg**	**05 48 40.0**	**+0.8**
OK032	**Salt Plains WL**	**0.48**	**214**	Pg	**Pg**	**05 48 36.3**	**0.0**
OK032				Sg	**Sg**	**05 48 42.9**	**+0.2**
CROK	**Carrier**	**0.71**	**187**		**Pg**	**05 48 40.4**	**-0.2**
CROK				Sg	**Sg**	**05 48 49.9**	**+0.1**
T35A	**Sooner Cattle**	**1.13**	**105**		**Pg**	**05 48 48.5**	**-0.1**
T35A				Sg	**Sg**	**05 49 03.6**	**+0.3**
T35B	**Sooner Cattle**	**1.13**	**105**	P	**Pg**	**05 48 48.4**	**-0.1**
	baz=286						
T35B				S	**Sg**	**05 49 03.5**	**+0.3**
	baz=286						
T35B	**Sooner Cattle**	**1.13**	**105**	P		05 48 48.4	
	baz=286						
T35B				S		05 49 03.5	
	baz=286						
U32A	**Winter Ranch,**	**1.23**	**228**	Pn	**Pb**	**05 48 49.6**	**-0.5**
U32A	**Winter Ranch,**	**1.23**	**228**	P	**Pb**	**05 48 49.5**	**-0.6**
	baz=47						
U32A	**Winter Ranch,**	**1.23**	**228**	P		05 48 49.5	
	baz=47						
R32A	**Long Quarter,**	**1.38**	**332**	Pn	**Pn**	**05 48 52.6**	**+0.5**
R32A					Sn	**Sb**	**05 49 10.7**	**+0.3**
R32A	**Long Quarter,**	**1.38**	**332**	P	**Pn**	**05 48 52.6**	**+0.5**
	baz=151						
R32A				S	**Sg**	**05 49 11.3**	**0.0**
	baz=151						
R32A	**Long Quarter,**	**1.38**	**332**	P		05 48 52.6	
	baz=151						
R32A				S		05 49 11.3	
	baz=151						
QUOK	**Quay**	**1.40**	**137**	Pn	**Pn**	**05 48 52.8**	**+0.5**
QUOK					**Sb**	**05 49 11.7**	**+0.9**
OK029	**Liberty Lake**	**1.45**	**166**	Pn	**Pn**	**05 48 53.6**	**+0.5**
OK029				IAmb_Lg		05 49 15.6	
	comp=Z,341nm,0.8s						
OK031	**S. Brethren Rd**	**1.50**	**146**	Pn	**Pn**	**05 48 54.4**	**+0.6**
OK030	**Cody Creek RV**	**1.55**	**145**	Pn	**Pn**	**05 48 55.3**	**+0.9**
BCOK	**Bluff Creek, N**	**1.56**	**172**	Pn	**Pn**	**05 48 55.2**	**+0.6**
OK025	**Westminster Rd**	**1.68**	**165**		**Pn**	**05 48 57.2**	**+0.9**
OKCFA	**Oklahoma City**	**1.82**	**169**		**Pn**	**05 48 59.1**	**+0.9**
OKCFA	**Oklahoma City**	**1.82**	**169**	P	**Pn**	**05 48 59.1**	**+0.9**
	baz=349,SNR=30						
OKCFA				S	**Sb**	**05 49 23.5**	**+0.4**
	baz=349						
OKCFA	**Oklahoma City**	**1.82**	**169**	P		05 48 59.1	
	baz=349,SNR=30						
OKCFA				S		05 49 23.5	
	baz=349						
OKCSW	**OKLAHOMA CITY**	**1.83**	**169**		**Pn**	**05 48 59.1**	**+0.8**
FNO	**Franklin**	**1.98**	**169**		**Pn**	**05 49 01.2**	**+0.8**
TUL1	**Leonard**	**2.12**	**127**	P	**Pn**	**05 49 03.8**	**+1.6**
	baz=308,SNR=21						
TUL1				Sb	**Sb**	**05 49 33.1**	**+1.5**
	baz=308						
TUL1	**Leonard**	**2.12**	**127**	P		05 49 03.9	
	baz=308,SNR=58						
TUL1				S		05 49 32.5	
	baz=308						
TUL1	**Leonard**	**2.12**	**127**	P		05 49 03.8	
	baz=308,SNR=21						
TUL1				Sb		05 49 33.1	
	baz=308						
KSU1	**Kansas State U**	**2.14**	**27**	Pn	**Pn**	**05 49 04.2**	**+1.7**
KSU1				IAmb_Lg		05 49 37.7	
	comp=Z,317nm,0.8s						
KSU1	**Kansas State U**	**2.14**	**27**	P	**Pn**	**05 49 04.1**	**+1.5**
	baz=208,SNR=18						
KSU1				Sb	**Sb**	**05 49 33.6**	**+1.5**
	baz=208						
KSU1	**Kansas State U**	**2.14**	**27**	P		05 49 04.1	
	baz=208,SNR=31						
KSU1				S		05 49 31.0	
	baz=208						
KSU1	**Kansas State U**	**2.14**	**27**	P		05 49 04.1	
	baz=208,SNR=18						
KSU1				Sb		05 49 33.6	
	baz=208						
CBKS	**Cedar Bluff**	**2.18**	**318**	Pn	**Pn**	**05 49 03.9**	**+0.8**
CBKS	**Cedar Bluff**	**2.18**	**318**	P	**Pn**	**05 49 04.5**	**+1.4**
	baz=137						
CBKS				Sb	**Sb**	**05 49 34.6**	**+1.3**
	baz=137						
CBKS	**Cedar Bluff**	**2.18**	**318**	P		05 49 04.3	
	baz=137,SNR=45						
CBKS				S		05 49 32.0	
	baz=137						
CBKS	**Cedar Bluff**	**2.18**	**318**	P		05 49 04.5	
	baz=137						
CBKS				Sb		05 49 34.6	
	baz=137						
WMOK	**Wichita Mounta**	**2.57**	**197**		**Pn**	**05 49 08.6**	**+0.1**
WMOK	**Wichita Mounta**	**2.57**	**197**	P	**Pn**	**05 49 10.1**	**+1.6**
	baz=16						
WMOK	**Wichita Mounta**	**2.57**	**197**	P		05 49 09.9	
	baz=16						
WMOK				S		05 49 41.8	
	baz=16						
WMOK	**Wichita Mounta**	**2.57**	**197**	P		05 49 10.1	
	baz=16						
U38A	**Gravette**	**2.90**	**104**		**Pn**	**05 49 13.4**	**+0.4**
U38A				IAmb_Lg		05 50 06.2	
	comp=Z,153nm,0.8s						
HHAR	**Hobbs**	**3.29**	**105**	Pn	**Pn**	**05 49 19.9**	**+1.4**
HHAR				IAmb_Lg		05 50 20.6	
	comp=Z,93nm,0.7s						
HHAR	**Hobbs**	**3.29**	**105**	P	**Pn**	**05 49 19.7**	**+1.3**
	baz=288,SNR=15						
HHAR	**Hobbs**	**3.29**	**105**	P		05 49 19.7	
	baz=288,SNR=15						
X37A	**Clayton**	**3.31**	**141**	Pn	**Pn**	**05 49 20.2**	**+1.5**
X37A				IAmb_Lg		05 50 17.7	
	comp=Z,169nm,0.9s						
X37A	**Clayton**	**3.31**	**141**	P	**Pn**	**05 49 20.0**	**+1.4**
	baz=323						
X37A	**Clayton**	**3.31**	**141**	P		05 49 20.0	
	baz=323						
N33B	**J Bar K, Exete**	**3.54**	**5**	P	**Pn**	**05 49 22.3**	**+0.5**
	baz=186,SNR=8.5						
N33B				S	**Sn**	**05 50 04.4**	**+0.8**
	baz=186						
N33B	**J Bar K, Exete**	**3.54**	**5**	P		05 49 22.3	
	baz=186,SNR=8.5						
N33B				S		05 50 04.4	
	baz=186						
N33A	**J Bar K, Exete**	**3.54**	**5**	Pn	**Pn**	**05 49 23.0**	**+1.1**
S39A	**Bolivar**	**3.65**	**81**		**Pn**	**05 49 24.5**	**+1.1**
S39A	**Bolivar**	**3.65**	**81**	P	**Pn**	**05 49 24.4**	**+1.0**
	baz=264						
S39A	**Bolivar**	**3.65**	**81**	P		05 49 24.4	
	baz=264						
AMTX	**Amarillo**	**3.86**	**234**		**Pn**	**05 49 27.4**	**+1.1**
AMTX				IAmb_Lg		05 50 31.1	
	comp=Z,144nm,0.7s						
AMTX	**Amarillo**	**3.86**	**234**	P	**Pn**	**05 49 27.8**	**+1.5**
	baz=52,SNR=11						
AMTX	**Amarillo**	**3.86**	**234**	P		05 49 27.0	
	baz=52						
AMTX				S		05 50 11.5	
	baz=52						
AMTX	**Amarillo**	**3.86**	**234**	P		05 49 27.8	
	baz=52,SNR=11						
W39A	**Magazine**	**3.87**	**120**	Pn	**Pn**	**05 49 26.9**	**+0.6**
W39A	**Magazine**	**3.87**	**120**	P	**Pn**	**05 49 28.0**	**+1.7**
	baz=303,SNR=7.0						
W39A	**Magazine**	**3.87**	**120**	P		05 49 26.9	
	baz=303						
W39A				S		05 50 12.3	
	baz=303						
W39A	**Magazine**	**3.87**	**120

BGNE	**Belgrade**	**4.20**	**357**	P			05 49 31.5	
	baz=177							
BGNE				S			05 50 19.3	
	baz=177							
BGNE	**Belgrade**	**4.20**	**357**	P			05 49 31.5	
	baz=177,SNR=9.2							
MIAR	**Mount Ida**	**4.39**	**126**	Pn		**Pn**	**05 49 33.4**	**0.0**
MIAR				lAmb_Lg			05 50 56.4	
	comp=Z,85nm,0.8s							
MIAR	**Mount Ida**	**4.39**	**126**	P		**Pn**	**05 49 34.5**	**+1.0**
	baz=309,SNR=20							
MIAR	**Mount Ida**	**4.39**	**126**	P			05 49 34.2	
	baz=309,SNR=5.5							
MIAR				S			05 50 25.3	
	baz=309							
MIAR	**Mount Ida**	**4.39**	**126**	P			05 49 34.5	
	baz=309,SNR=20							
MGMO	**Mountain Grove**	**4.48**	**89**	Pn		**Pn**	**05 49 36.4**	**+1.7**
R40A	**Maddies Statio**	**4.57**	**75**	Pn		**Pn**	**05 49 36.7**	**+0.7**
R40A				lAmb_Lg			05 51 01.7	
	comp=Z,76nm,0.9s							
R40A	**Maddies Statio**	**4.57**	**75**	P		**Pn**	**05 49 37.2**	**+1.2**
	baz=258,SNR=20							
R40A	**Maddies Statio**	**4.57**	**75**	P			05 49 37.2	
	baz=258,SNR=20							
Z38A	**Mt. Pleasant**	**4.59**	**148**	Pn		**Pn**	**05 49 37.1**	**+0.9**
Z38A				lAmb_Lg			05 50 60.0	
	comp=Z,59nm,0.8s							
Z38A	**Mt. Pleasant**	**4.59**	**148**	P		**Pn**	**05 49 37.2**	**+0.9**
	baz=330,SNR=7.1							
Z38A	**Mt. Pleasant**	**4.59**	**148**	P			05 49 37.2	
	baz=330,SNR=7.1							
ABTX	**Abilene, Hawle**	**4.80**	**198**	Pn		**Pn**	**05 49 42.2**	**+3.0**
ABTX				lAmb_Lg			05 50 58.1	
	comp=Z,64nm,0.9s							
ABTX	**Abilene, Hawle**	**4.80**	**198**	P			05 49 39.9	
	baz=17							
ABTX				S			05 50 34.6	
	baz=17							
FCAR	**Ozark Folk Cen**	**4.81**	**104**			**Pn**	**05 49 39.9**	**+0.6**
FCAR				lAmb_Lg			05 51 04.2	
	comp=Z,80nm,0.8s							
WHAR	**Wooly Hollow**	**4.90**	**111**	Pn		**Pn**	**05 49 41.7**	**+1.2**
WHAR				lAmb_Lg			05 51 10.7	
	comp=Z,111nm,1.0s							
X40A	**Basin Creek Fa**	**4.91**	**122**	Pn		**Pn**	**05 49 41.9**	**+1.3**
X40A				lAmb_Lg			05 51 13.2	
	comp=Z,92nm,1.0s							
X40A	**Basin Creek Fa**	**4.91**	**122**	P			05 49 42.1	
	baz=305							
X40A				S			05 50 37.3	
	baz=305							
OGNE	**Ogallala**	**4.94**	**320**			**Pn**	**05 49 42.8**	**+1.7**
OGNE				lAmb_Lg			05 51 13.6	
	comp=Z,74nm,0.8s							
OGNE	**Ogallala**	**4.94**	**320**	P			05 49 41.9	
	baz=138							
OGNE				S			05 50 37.8	
	baz=138							
W41B	**Gary Mavity, V**	**4.98**	**112**	P		**Pn**	**05 49 42.6**	**+0.9**
	baz=296,SNR=16							
W41B	**Gary Mavity, V**	**4.98**	**112**	P			05 49 42.5	
	baz=296							
W41B				S			05 50 38.5	
	baz=296							
W41B	**Gary Mavity, V**	**4.98**	**112**	P			05 49 42.6	
	baz=296,SNR=16							
N38A	**Joes South For**	**5.09**	**44**			**Pn**	**05 49 44.0**	**+1.0**
N38A	**Joes South For**	**5.09**	**44**	P		**Pn**	**05 49 43.9**	**+0.8**
	baz=227,SNR=16							
N38A	**Joes South For**	**5.09**	**44**	P			05 49 43.9	
	baz=227,SNR=16							
P40A	**Paris**	**5.13**	**61**			**Pn**	**05 49 44.7**	**+1.0**
P40A				lAmb_Lg			05 51 08.5	
	comp=Z,64nm,0.9s							
P40A	**Paris**	**5.13**	**61**	P		**Pn**	**05 49 44.5**	**+0.8**
	baz=245,SNR=8.8							
P40A	**Paris**	**5.13**	**61**	P			05 49 44.5	
	baz=245,SNR=8.8							
MSTX	**Muleshoe**	**5.13**	**232**			**Pn**	**05 49 44.8**	**+1.0**
MSTX	**Muleshoe**	**5.13**	**232**	P			05 49 43.9	
	baz=49							
MSTX				S			05 50 42.4	
	baz=49							
WHTX	**Lake Whitney,**	**5.22**	**176**			**Pn**	**05 49 44.8**	**-0.1**
WHTX				lAmb_Lg			05 51 19.0	
	comp=Z,54nm,1.1s							
WHTX	**Lake Whitney,**	**5.22**	**176**	P		**Pn**	**05 49 44.7**	**-0.1**
	baz=356,SNR=18							
WHTX	**Lake Whitney,**	**5.22**	**176**	P			05 49 44.8	
	baz=356,SNR=6.6							
WHTX				S			05 50 43.8	
	baz=356							
WHTX	**Lake Whitney,**	**5.22**	**176**	P			05 49 44.7	
	baz=356,SNR=18							
T25A	**Trinidad**	**5.22**	**271**			**Pn**	**05 49 45.8**	**+0.7**
T25A	**Trinidad**	**5.22**	**271**	P			05 49 45.3	
	baz=87							
T25A				S			05 50 44.1	
	baz=87							
WLAR	**White Oak Lake**	**5.24**	**131**	Pn		**Pn**	**05 49 45.7**	**+0.6**
WLAR				lAmb_Lg			05 51 26.6	
	comp=Z,68nm,1.0s							
CCM	**Cathedral Cave**	**5.33**	**79**	Pn		**Pn**	**05 49 47.2**	**+0.8**
CCM	**Cathedral Cave**	**5.33**	**79**	P			05 49 46.7	
	baz=263							
CCM				S			05 50 46.7	
	baz=263							
T42A	**Van Buren**	**5.42**	**90**			**Pn**	**05 49 48.7**	**+1.1**
T42A				lAmb_Lg			05 51 22.8	
	comp=Z,75nm,0.7s							
T42A	**Van Buren**	**5.42**	**90**	P		**Pn**	**05 49 48.4**	**+0.8**
	baz=274,SNR=14							
T42A	**Van Buren**	**5.42**	**90**	P			05 49 48.4	
	baz=274,SNR=14							
K31A	**O'Neill**	**5.45**	**353**	Pn		**Pn**	**05 49 48.9**	**+0.9**
K31A	**O'Neill**	**5.45**	**353**	P		**Pn**	**05 49 49.2**	**+1.1**
	baz=173,SNR=7.2							
K31A	**O'Neill**	**5.45**	**353**	P			05 49 49.2	
	baz=173,SNR=7.2							
237A	**Washetta, Mont**	**5.47**	**161**	P			05 49 48.1	
	baz=342,SNR=15							
237A	**Washetta, Mont**	**5.47**	**161**			**Pn**	**05 49 48.0**	**-0.2**
237A				lAmb_Lg			05 51 33.8	
	comp=Z,73nm,1.0s							
237A	**Washetta, Mont**	**5.47**	**161**	P		**Pn**	**05 49 48.1**	**-0.2**
	baz=342,SNR=15							
Z41A	**Richland Creek**	**5.72**	**132**	S			05 50 55.5	
	baz=315							
SCIA	**State Center**	**5.91**	**36**	P			05 49 54.3	
	baz=219							
SCIA				S			05 51 01.3	
	baz=219							
CCAR	**Cane Creek**	**5.96**	**122**	lAmb_Lg			05 51 51.5	
	comp=Z,81nm,0.9s							
FVM	**French Village**	**5.96**	**80**			**Pn**	**05 49 54.7**	**-0.5**
FVM	**French Village**	**5.96**	**80**	P		**Pn**	**05 49 55.4**	**+0.3**
	baz=265,SNR=6.7							
FVM	**French Village**	**5.97**	**80**	P			05 49 55.4	
	baz=265,SNR=6.7							
PBMO	**Poplar Bluff**	**5.97**	**92**			**Pn**	**05 49 55.5**	**+0.3**
Q24A	**Divide**	**6.00**	**289**	S			05 51 02.8	
	baz=105							
NATX	**Nacogdoches**	**6.05**	**153**	Pn		**Pn**	**05 49 56.8**	**+0.5**
NATX	**Nacogdoches**	**6.05**	**153**	P			05 49 56.1	
	baz=335,SNR=5.2							
NATX				S			05 51 03.8	
	baz=335							
SLM	**Saint Louis**	**6.21**	**74**	lAmb_Lg			05 51 41.7	
	comp=Z,67nm,0.8s							
X43A	**Marvell**	**6.28**	**113**	S			05 51 09.7	
	baz=297							
435B	**Jarrell**	**6.41**	**178**	lAmb_Lg			05 52 05.6	
	comp=Z,89nm,0.8s							
435B	**Jarrell**	**6.41**	**178**	S			05 51 12.5	
	baz=358							
GNAR	**Gosnell**	**6.44**	**99**	Pn		**Pn**	**05 50 02.7**	**+1.0**
ECSD	**EROS Data Cent**	**6.59**	**8**	Pn		**Pn**	**05 50 03.7**	**0.0**
ECSD				lAmb_Lg			05 52 01.2	
	comp=Z,43nm,1.1s							
ECSD	**EROS Data Cent**	**6.59**	**8**	P		**Pn**	**05 50 03.7**	**0.0**
	baz=189,SNR=17							
ECSD	**EROS Data Cent**	**6.59**	**8**	P			05 50 03.6	
	baz=189							
ECSD				S			05 51 16.7	
	baz=189							
ECSD	**EROS Data Cent**	**6.59**	**8**	P			05 50 03.7	
	baz=189,SNR=17							
ISCO	**Idaho Springs**	**6.60**	**295**			**Pn**	**05 50 05.2**	**+1.2**
ISCO	**Idaho Springs**	**6.60**	**295**	P			05 50 05.0	
	baz=111							
ISCO				S			05 51 17.9	
	baz=111							
S44A	**Carbondale**	**6.88**	**83**			**Pn**	**05 50 08.9**	**+1.3**
JCT	**Junction City**	**6.90**	**194**	lAmb_Lg			05 52 19.5	
	comp=Z,72nm,1.0s							
SIUC	**Southern Illin**	**6.91**	**83**			**Pn**	**05 50 08.6**	**+0.6**
143A	**Socs Landing,**	**6.96**	**128**	lAmb_Lg			05 52 10.1	
	comp=Z,35nm,0.7s							
P43A	**Skaggs, Pawnee**	**6.99**	**67**	Pn		**Pn**	**05 50 09.9**	**+0.7**
P43A				lAmb_Lg			05 52 12.2	
	comp=Z,77nm,0.9s							
L40A	**Anamosa**	**7.06**	**45**			**Pn**	**05 50 10.1**	**0.0**
L40A				lAmb_Lg			05 52 12.2	
	comp=Z,76nm,0.8s							
PHWY	**Pilot Hill**	**7.16**	**307**	Pn		**Pn**	**05 50 12.3**	**+0.4**
PHWY				lAmb_Lg			05 52 25.0	
	comp=Z,34nm,0.7s							
Q44A	**Meyer Farm, Va**	**7.19**	**74**	Pn		**Pn**	**05 50 12.4**	**+0.5**
SUSD	**Miller**	**7.27**	**354**	lAmb_Lg			05 52 26.7	
	comp=Z,59nm,1.0s							
SUSD	**Miller**	**7.27**	**354**	P			05 50 13.6	
	baz=173							
N23A	**Red Feather La**	**7.28**	**303**	P			05 50 13.9	
	baz=118							
ANMO	**Albuquerque**	**7.31**	**255**	Pn		**Pn**	**05 50 15.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=74,slow=7.4,SNR=1.8							
ANMO				Pg		Pb	05 50 40.6	+6.8
	comp=Z,0.9nm,0.3s,baz=73,slow=15,SNR=18							
ANMO				Lg		Lg	05 52 12.0	
	comp=Z,2.0nm,0.3s,baz=134,slow=9.1,SNR=3.1							
W45A	**Hickory Valley**	**7.32**	**104**	Pn		**Pn**	**05 50 13.8**	**+0.1**
W45A				lAmb_Lg			05 52 24.1	
	comp=Z,74nm,0.8s							
HDIL	**Hopedale**	**7.48**	**61**			**Pn**	**05 50 16.6**	**+0.7**
HDIL				lAmb_Lg			05 52 45.3	
	comp=Z,46nm,0.7s							
HDIL	**Hopedale**	**7.48**	**61**	P			05 50 15.8	
	baz=246,SNR=6.1							
Y45A	**Yeager Farm, C**	**7.57**	**114**	Pn		**Pn**	**05 50 18.7**	**+1.6**
Y45A				lAmb_Lg			05 52 42.3	
	comp=Z,65nm,0.8s							
I37A	**Lemond, Waseca**	**7.60**	**25**	lAmb_Lg			05 52 47.5	
	comp=Z,69nm,0.8s							
BNM	**Barren Site**	**7.75**	**249**	Pn		**Pn**	**05 50 21.5**	**+1.6**
OLIL	**Olney**	**7.87**	**76**	lAmb_Lg			05 52 51.3	
	comp=Z,62nm,0.9s							
O44A	**Mansfield**	**7.92**	**65**	lAmb_Lg			05 52 48.5	
	comp=Z,56nm,0.8s							
L42A	**Oliver, Polo**	**7.94**	**50**	Pn		**Pn**	**05 50 22.6**	**+0.4**
L42A				lAmb_Lg			05 52 42.8	
	comp=Z,63nm,1.0s							
Y22D	**IRIS PASSCAL I**	**8.00**	**250**	lAmb_Lg			05 52 58.4	
	comp=Z,59nm,0.8s							
USIN	**University of**	**8.14**	**82**	lAmb_Lg			05 52 59.6	
	comp=Z,61nm,0.8s							
WVT	**Waverly**	**8.14**	**95**	Pn		**Pn**	**05 50 24.6**	**-0.4**
WVT				lAmb_Lg			05 52 43.3	
	comp=Z,33nm,0.8s							
JFWS	**Jewell Farm**	**8.16**	**43**	Pn		**Pn**	**05 50 25.3**	**0.0**
JFWS				lAmb_Lg			05 52 52.8	
	comp=Z,53nm,0.8s							
JFWS	**Jewell Farm**	**8.16**	**43**	P		**Pn**	**05 50 25.1**	**-0.2**
	baz=228,SNR=11							
JFWS	**Jewell Farm**	**8.16**	**43**	P			05 50 25.1	
	baz=228							
JFWS	**Jewell Farm**	**8.16**	**43**	P			05 50 25.1	
	baz=228,SNR=11							
PLAL	**Pickwick Lake**	**8.24**	**103**	lAmb_Lg			05 52 45.9	
	comp=Z,30nm,0.8s							
MNTX	**Cornudas Mount**	**8.28**	**231**	Pn		**Pn**	**05 50 26.9**	**-0.1**
MNTX	**Cornudas Mount**	**8.28**	**231**	P			05 50 26.9	
	baz=46							
735A	**Kenedy**	**8.33**	**180**	lAmb_Lg			05 53 10.1	
	comp=Z,50nm,0.9s							
RSSD	**Black Hills**	**8.34**	**328**	Pn		**Pn**	**05 50 30.7**	**+2.8**
RSSD	**Black Hills**	**8.34**	**328**	P			05 50 29.9	
	baz=144							
RWWY	**Rawlins**	**8.49**	**305**	lAmb_Lg			05 53 02.9	
	comp=Z,41nm,1.1s							
PV01	**Paradox Valley**	**8.53**	**279**	lAmb_Lg			05 53 08.4	
	comp=Z,29nm,1.2s							
146A	**Union**	**8.56**	**120**	lAmb_Lg			05 53 09.4	
	comp=Z,39nm,0.8s							
K22A	**Casper**	**8.58**	**312**	Pn		**Pn**	**05 50 32.1**	**+0.9**
T47A	**Sharon Grove**	**8.61**	**88**	Pn		**Pn**	**05 50 31.7**	**+0.3**
T47A				lAmb_Lg			05 53 14.1	
	comp=Z,64nm,1.0s							
I40A	**Norwalk**	**8.66**	**37**	Pn		**Pn**	**05 50 31.5**	**-0.6**
M44A	**Midewin, Midew**	**8.69**	**58**	Pn		**Pn**	**05 50 32.3**	**-0.2**
M44A				lAmb_Lg			05 53 04.0	
	comp=Z,39nm,1.0s							
F33A	**5 Mile Ranch,**	**8.71**	**7**	Pn		**Pn**	**05 50 30.3**	**-2.4**
F33A				lAmb_Lg			05 53 07.0	
	comp=Z,26nm,0.9s							
P46A	**Rosedale**	**8.71**	**71**	lAmb_Lg			05 53 02.2	
	comp=Z,56nm,0.8s							
PV12	**Saucer Basin,**	**8.73**	**281**	lAmb_Lg			05 53 13.3	
	comp=Z,36nm,1.1s							
PV11	**David Mesa, Pa**	**8.78**	**280**	lAmb_Lg			05 53 09.7	
	comp=Z,38nm,1.0s							
PV16	**Nyswonger Mesa**	**8.81**	**281**	lAmb_Lg			05 53 11.3	
	comp=Z,25nm,1.3s							
SPMN	**Marine on St.**	**8.87**	**24**	Pn		**Pn**	**05 50 35.0**	**+0.1**
SPMN				lAmb_Lg			05 53 06.5	
	comp=Z,28nm,0.8s							
SPMN	**Marine on St.**	**8.87**	**24**	P			05 50 34.7	
	baz=207							
Z47A	**Carrollton**	**8.96**	**114**	Pn		**Pn**	**05 50 37.5**	**+1.2**
Z47A				lAmb_Lg			05 53 22.9	
	comp=Z,38nm,0.9s							
SFIN	**Lafayette**	**8.99**	**66**	lAmb_Lg			05 53 11.9	
	comp=Z,36nm,0.8s							
V48A	**Smith Brothers**	**9.02**	**96**	lAmb_Lg			05 53 23.8	
	comp=Z,31nm,0.8s							
BLO	**Bloomington**	**9.15**	**74**			**Pn**	**05 50 38.8**	**-0.1**
BLO				lAmb_Lg			05 53 20.3	
	comp=Z,58nm,0.8s							
K43A	**Burlington**	**9.15**	**50**	Pn		**Pn**	**05 50 39.7**	**+0.9**
K43A				lAmb_Lg			05 53 31.1	
	comp=Z,44nm,0.8s							
TX31	**Lajitas Ar. Si**	**9.23**	**213**	Pn		**Pn**	**05 50 40.7**	**+0.7**
TX31	**Lajitas Ar. Si**	**9.23**	**213**	P		**Pn**	**05 50 40.5**	**+0.5**
	baz=30,SNR=8.2							
TX31	**Lajitas Ar. Si**	**9.23**	**213**	P			05 50 40.5	
	baz=30,SNR=8.2							
TX32	**Lajitas Array**	**9.23**	**213**			**Pn**	**05 50 40.7**	**+0.7**
TXAR	**Lajitas Array**	**9.23**	**213**	Pn		**Pn**	**05 50 40.4**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=37,slow=12,SNR=26							
TXAR				Pg			05 51 12.6	
	comp=Z,1.0nm,0.3s,baz=37,slow=12,SNR=8.1							
TXAR				Lg		Lg	05 53 14.7	
	comp=Z,1.8nm,0.3s,baz=28,slow=24,SNR=3.3							
WCI	**Wyandotte Cave**	**9.23**	**80**	Pn		**Pn**	**05 50 41.7**	**+1.7**
WCI				lAmb_Lg			05 53 21.3	
	comp=Z,32nm,0.7s							
F36A	**Milaca**	**9.24**	**19**	Pn		**Pn**	**05 50 38.9**	**-1.1**
I42A	**Draeger Farm,**	**9.54**	**43**	Pn		**Pn**	**05 50 43.8**	**-0.4**
E28A	**Huff**	**9.59**	**348**	lAmb_Lg			05 53 38.9	
	comp=Z,40nm,1.0s							
U49A	**Red Boiling Sp**	**9.72**	**90**	Pn		**Pn**	**05 50 48.9**	**+2.2**
U49A				lAmb_Lg			05 53 55.7	
	comp=Z,27nm,0.9s							
LRAL	**Lakeview Retre**	**9.83**	**112**	Pn		**Pn**	**05 50 48.4**	**+0.2**
SWET	**Sewanee**	**9.85**	**98**	lAmb_Lg			05 53 37.9	
	comp=Z,28nm,0.8s							
G40A	**Rib Lake**	**9.91**	**33**	Pn		**Pn**	**05 50 50.0**	**+0.8**
Y49A	**Blount Mountai**	**9.92**	**106**	lAmb_Lg			05 53 51.0	
	comp=Z,32nm,0.8s							
D32A	**Dogwood Acres,**	**9.94**	**3**	lAmb_Lg			05 53 50.3	
	comp=Z,30nm,0.9s							
P48A	**Milroy**	**10.04**	**73**	Pn		**Pn**	**05 50 50.3**	**-0.6**
R49A	**Shelbyville**	**10.12**	**80**	Pn		**Pn**	**05 50 53.2**	**+1.1**
T50A	**Nancy**	**10.41**	**87**	Pn		**Pn**	**05 50 56.9**	**+0.8**
PD31	**Pinedale Array**	**10.54**	**305**	Pn		**Pn**	**05 50 58.5**	**+0.5**
PDAR	**Pinedale Array**	**10.54**	**305**	Pn		**Pn**	**05 50 57.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=116,slow=15,SNR=9.7							
PDAR				Pg			05 51 38.1	
	comp=Z,0.7nm,0.3s,baz=113,slow=14,SNR=3.8							
PDAR				Lg		Lg	05 53 51.5	
	comp=Z,0.7nm,0.3s,baz=113,slow=32,SNR=2.8							
PDAR	**Pinedale Array**	**10.54**	**305**			**Pn**	**05 50 58.2**	**+0.2**
BW06	**Boulder Array**	**10.54**	**305**	Pn		**Pn**	**05 50 58.6**	**+0.5**
R50A	**Paris**	**10.78**	**80**	Pn		**Pn**	**05 51 01.7**	**+0.5**
CPCT	**Cooper Cave**	**10.91**	**95**	Pn		**Pn**	**05 51 04.8**	**+1.8**
V51A	**Loudon**	**10.98**	**93**	Pn		**Pn**	**05 51 05.3**	**+1.5**
O49A	**Covington**	**10.99**	**70**	Pn		**Pn**	**05 51 02.6**	**-1.4**
COWI	**Conover**	**11.02**	**34**	Pn		**Pn**	**05 51 03.5**	**-0.9**
N49A	**Columbus Grove**	**11.27**	**67**	Pn		**Pn**	**05 51 07.0**	**-0.9**
S51A	**Beattyville**	**11.37**	**84**	Pn		**Pn**	**05 51 09.8**	**+0.6**
L48A	**N Adams**	**11.40**	**61**	Pn		**Pn**	**05 51 09.0**	**-0.6**
TKL	**Tuckaleechee C**	**11.47**	**94**	Pn		**Pn**	**05 51 09.7**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=280,slow=17,SNR=7.6							
TKL				Sn		**Sn**	**05 53 13.9**	**-4.7**
	comp=Z,0.6nm,0.3s,baz=198,slow=19,SNR=2.6							
TKL				Lg		Lg	05 54 21.7	
	comp=Z,0.6nm,0.3s,baz=180,slow=23,SNR=3.9							
TKL	**Tuckaleechee C**	**11.47**	**94**	Pn		**Pn**	**05 51 11.2**	**+0.6**
V52A	**Sevierville**	**11.57**	**92**	Pn		**Pn**	**05 51 11.6**	**-0.4**
J47A	**Sunmer**	**11.65**	**55**	Pn		**Pn**	**05 51 13.3**	**+0.3**
EYMN	**Ely**	**11.71**	**22**	Pn		**Pn**	**05 51 11.3**	**-2.6**
D41A	**Chassel**	**12.02**	**32**	Pn		**Pn**	**05 51 16.3**	**-1.7**
G45A	**Suttons Bay**	**12.08**	**46**	Pn		**Pn**	**05 51 16.7**	**-2.2**
DGMT	**Dagmar**	**12.17**	**340**	Pn		**Pn**	**05 51 19.9**	**-0.2**
E43A	**Lone Tree Farm**	**12.23**	**38**	Pn		**Pn**	**05 51 18.0**	**-3.0**
V53A	**Saluda**	**12.23**	**93**	Pn		**Pn**	**05 51 19.4**	**-1.6**
Q52A	**Bidwell**	**12.42**	**77**	Pn		**Pn**	**05 51 23.7**	**+0.1**
P52A	**Corning**	**12.58**	**74**	Pn		**Pn**	**05 51 24.8**	**-1.0**
ULM	**Lac du Bonnet**	**13.12**	**6**	Pn		**Pn**	05 51 28.2	-4.8
	comp=Z,0.2nm,0.3s,baz=184,slow=11,SNR=1.8							
ULM				Sn		Sn	05 53 45.2	-14
	comp=Z,0.8nm,0.3s,baz=185,slow=12,SNR=3.2							
ULM				Lg		Lg	05 55 08.4	
	comp=Z,0.4nm,0.3s,baz=276,slow=17,SNR=4.1							
O53A	**New Philadelph**	**13.36**	**72**	Pn		**Pn**	**05 51 34.1**	**-2.3**
V55A	**Taylorsville**	**13.47**	**91**	Pn		**Pn**	**05 51 37.1**	**-0.8**
E46A	**Sault Ste Mari**	**13.63**	**44**	Pn		**Pn**	**05 51 39.2**	**-0.9**

IDC 16 06:11:53.7±1.4, 23°.84N×103°.14E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/42, mbtmp3.5/5, ML4.2/1, MS2.8/2, Ms1 2.9/2, ms1mx2.6/42, Error ellipse: s-maj=38.2km s-min=21.1km az=100.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.63**	**217**	Pn	Pn	06 13 33.2	+0.8
	1.2nm,0.3s,baz=27,slow=12,SNR=4.8						
CMAR				Pg	Pg	06 14 00.3	-0.4
	0.6nm,0.3s,baz=38,slow=18,SNR=14						
CMAR				Lg	Lg	06 15 23.6	
	0.8nm,0.3s,baz=52,slow=33,SNR=8.6						
CMAR				LR	LR	06 16 16.9	
	comp=Z,48nm,18.0s,baz=136,slow=40						
SONM	**Songino Array**	**24.09**	**5**	P	P	06 17 11.2	+0.2
	1.0nm,0.7s,baz=181,slow=11,SNR=6.6						
MKAR	**Makanchi Array**	**28.36**	**329**	P	P	06 17 48.9	-0.6
	0.2nm,0.5s,baz=134,slow=10,SNR=2.6						
MJAR	**Matsushiro Arr**	**32.67**	**59**	LR	LR	06 32 17.2	
	comp=Z,24nm,18.1s,baz=0.0,slow=37						
ZALV	**Zalesovo Beam**	**33.07**	**340**	P	P	06 18 31.3	+0.3
	0.6nm,0.3s,baz=168,slow=8.8,SNR=1.5						
WRA	**Warramunga Arr**	**53.09**	**142**	P	P	06 21 12.9	-0.3
	0.6nm,0.9s,baz=330,slow=8.3,SNR=2.1						

*ANF **16** 06:13:12.5±0.4, 37°.20N×97°.90W, h8km, ML3.5/15, Error ellipse: s-maj=4.9km s-min=3.5km az=60.0*
*NEIC **16** 06:13:12.4±0.8, 37°.19N±0°.04×97°.87W±0°.03, h7km±6km, mb_Lg2.8/38, Error ellipse: s-maj=6.2km s-min=3.4km az=200.0*
ISC 16 06:13:12.2±0.8, 37°.20N±0°.02×97°.88W±0°.02, h8km±6km, n69, σ0°64/74, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.08**	**292**		**Pg**	**06 13 14.2**	**-0.1**
KAN08				Sg	**Sg**	**06 13 15.8**	**-0.1**
KAN05	**Bluff City Nor**	**0.09**	**177**	Pg	**Pg**	**06 13 14.6**	**+0.1**
KAN05				Sg	**Sg**	**06 13 16.1**	**+0.1**
KAN12	**Harper NE Stat**	**0.14**	**316**		**Pg**	**06 13 15.2**	**0.0**
KAN12				Sg	**Sg**	**06 13 17.4**	**0.0**
KAN10	**Anthony SW Sta**	**0.19**	**247**		**Pg**	**06 13 16.1**	**0.0**
KAN10				Sg	**Sg**	**06 13 18.8**	**0.0**
GC02	**Grant County #**	**0.34**	**178**	Pg	**Pg**	**06 13 19.1**	**+0.1**
GC02				Sg	**Sg**	**06 13 23.6**	**+0.1**
KAN13	**South Haven SW**	**0.37**	**120**	Pg	**Pg**	**06 13 19.6**	**+0.1**
KAN13				Sg	**Sg**	**06 13 24.9**	**+0.6**
OK032	**Salt Plains WL**	**0.47**	**214**	Pg	**Pg**	**06 13 21.4**	**0.0**
OK032				Sg	**Sg**	**06 13 27.8**	**+0.2**
CROK	**Carrier**	**0.70**	**187**	Pg	**Pg**	**06 13 25.3**	**-0.3**
T35A	**Sooner Cattle**	**1.13**	**104**		**Pg**	**06 13 33.3**	**-0.5**
T35A				Sg	**Sg**	**06 13 48.2**	**-0.3**
T35B	**Sooner Cattle**	**1.13**	**104**	P	**Pg**	**06 13 33.3**	**-0.6**
	baz=285,SNR=91

U38A	**Gravette**	**2.90**	**104**		**Pn**	**06 13 59.4**	**+0.8**
U38A	**Gravette**	**2.90**	**104**	P	**Pn**	**06 13 59.3**	**+0.6**
	baz=286,SNR=36						
U38A	**Gravette**	**2.90**	**104**	P		06 13 59.3	
	baz=286,SNR=36						
HHAR	**Hobbs**	**3.29**	**105**		**Pn**	**06 14 05.1**	**+1.1**
HHAR	**Hobbs**	**3.29**	**105**	P	**Pn**	**06 14 04.8**	**+0.8**
	baz=287,SNR=7.1						
HHAR	**Hobbs**	**3.29**	**105**	P		06 14 04.8	
	baz=287,SNR=7.1						
X37A	**Clayton**	**3.30**	**141**		**Pn**	**06 14 04.9**	**+0.7**
X37A				lAmb_Lg		06 15 02.6	
	comp=Z,35nm,0.8s						
X37A	**Clayton**	**3.30**	**141**	P	**Pn**	**06 14 04.8**	**+0.7**
	baz=323,SNR=31						
X37A	**Clayton**	**3.30**	**141**	P		06 14 04.8	
	baz=323,SNR=31						
N33B	**J Bar K, Exete**	**3.55**	**5**	S	**Sn**	**06 14 49.5**	**-0.3**
	baz=186						
N33B	**J Bar K, Exete**	**3.55**	**5**	S		06 14 49.5	
	baz=186						
N33A	**J Bar K, Exete**	**3.55**	**5**	Pn	**Pn**	**06 14 07.8**	**+0.2**
N33A				lAmb_Lg		06 15 06.1	
	comp=Z,22nm,0.7s						
S39A	**Bolivar**	**3.66**	**81**		**Pn**	**06 14 09.5**	**+0.4**
S39A	**Bolivar**	**3.66**	**81**	P	**Pn**	**06 14 09.4**	**+0.4**
	baz=264,SNR=13						
S39A	**Bolivar**	**3.66**	**81**	P		06 14 09.4	
	baz=264,SNR=13						
AMTX	**Amarillo**	**3.85**	**234**	lAmb_Lg		06 15 20.9	
	comp=Z,27nm,0.7s						
Z35A	**Perchaven, San**	**3.89**	**172**	Pn	**Pn**	**06 14 13.1**	**+0.8**
N35A	**Tabor**	**4.05**	**25**	Pn	**Pn**	**06 14 15.2**	**+0.7**
U40A	**Yellville**	**4.12**	**100**	Pn	**Pn**	**06 14 15.7**	**+0.3**
U40A				lAmb_Lg		06 15 22.4	
	comp=Z,33nm,0.8s						
U40A	**Yellville**	**4.12**	**100**	P	**Pn**	**06 14 15.8**	**+0.4**
	baz=283,SNR=13						
U40A	**Yellville**	**4.12**	**100**	P		06 14 15.8	
	baz=283,SNR=13						
U40A				P		06 14 15.8	
	baz=283,SNR=13						
KSCO	**Kaye Shedlock'**	**4.16**	**297**	lAmb_Lg		06 15 35.6	
	comp=Z,30nm,0.8s						
P38A	**Dawn**	**4.19**	**53**	P	**Pn**	**06 14 16.7**	**+0.4**
	baz=236						
P38A	**Dawn**	**4.19**	**53**	P		06 14 16.7	
	baz=236						
MGMO	**Mountain Grove**	**4.48**	**89**	Pn	**Pn**	**06 14 21.2**	**+0.8**
MGMO				lAmb_Lg		06 15 35.9	
	comp=Z,24nm,0.8s						
R40A	**Maddies Statio**	**4.58**	**74**	Pn	**Pn**	**06 14 22.2**	**+0.5**
R40A	**Maddies Statio**	**4.58**	**74**	P	**Pn**	**06 14 22.1**	**+0.4**
	baz=258,SNR=12						
R40A	**Maddies Statio**	**4.58**	**74**	P		06 14 22.1	
	baz=258,SNR=12						
Z38A	**Mt. Pleasant**	**4.59**	**148**	Pn	**Pn**	**06 14 22.1**	**+0.4**
Z38A				lAmb_Lg		06 15 41.9	
	comp=Z,14nm,0.7s						
ABTX	**Abilene, Hawle**	**4.79**	**198**	Pn	**Pn**	**06 14 27.2**	**+2.6**
FCAR	**Ozark Folk Cen**	**4.81**	**104**	Pn	**Pn**	**06 14 24.8**	**-0.1**
FCAR				lAmb_Lg		06 15 49.1	
	comp=Z,15nm,0.9s						
WHAR	**Wooly Hollow**	**4.90**	**111**	Pn	**Pn**	**06 14 26.7**	**+0.6**
WHAR				lAmb_Lg		06 15 53.9	
	comp=Z,21nm,1.1s						
X40A	**Basin Creek Fa**	**4.91**	**122**	lAmb_Lg		06 15 57.7	
	comp=Z,16nm,0.7s						
OGNE	**Ogallala**	**4.95**	**320**	Pn	**Pn**	**06 14 28.6**	**+1.7**
OGNE				lAmb_Lg		06 15 54.4	
	comp=Z,17nm,0.7s						
MSTX	**Muleshoe**	**5.12**	**233**	Pn	**Pn**	**06 14 29.6**	**+0.3**
P40A	**Paris**	**5.14**	**61**	Pn	**Pn**	**06 14 29.7**	**+0.3**
WHTX	**Lake Whitney,**	**5.20**	**176**	Pn	**Pn**	**06 14 30.6**	**+0.3**
WHTX	**Lake Whitney,**	**5.20**	**176**	P	**Pn**	**06 14 30.2**	**-0.1**
	baz=356,SNR=7.2						
WHTX	**Lake Whitney,**	**5.20**	**176**	P		06 14 30.2	
	baz=356,SNR=7.2						
T25A	**Trinidad**	**5.22**	**271**	Pn	**Pn**	**06 14 31.2**	**+0.5**
T25A				lAmb_Lg		06 15 58.5	
	comp=Z,18nm,0.9s						
WLAR	**White Oak Lake**	**5.23**	**131**	lAmb_Lg		06 16 11.0	
	comp=Z,15nm,1.0s						
CCM	**Cathedral Cave**	**5.33**	**79**	lAmb_Lg		06 16 12.3	
	comp=Z,25nm,1.3s						
237A	**Washetta, Mont**	**5.46**	**161**	Pn	**Pn**	**06 14 33.4**	**-0.4**
K31A	**O'Neill**	**5.46**	**353**	lAmb_Lg		06 16 16.3	
	comp=Z,22nm,0.7s						
FVM	**French Village**	**5.97**	**80**	lAmb_Lg		06 16 22.9	
	comp=Z,18nm,1.2s						
435B	**Jarrell**	**6.40**	**178**	lAmb_Lg		06 16 36.0	
	comp=Z,13nm,0.9s						
JCT	**Junction City**	**6.89**	**194**	lAmb_Lg		06 17 08.8	
	comp=Z,11nm,0.8s						

NEIC ***16*** *06:44:41.3±1.2, 17°.5S±0°.2×178°.7W±0°.1, h560km±11km, mb4.2/12, Error ellipse: s-maj=24.6km s-min=15.2km az=204.0*

IDC ***16*** *06:44:43.4±2.4, 17°.56S×178°.84W, h582km±20km, mb3.1/6, mb1 3.4/7, mb1mx3.0/44, mbtmp4.0/7, Error ellipse: s-maj=82.4km s-min=20.6km az=147.0*

ISC 16 06:44:41.0±0.7, 17°.6S±0°.2×178°.7W±0°.1, h550km, n26, σ1§21/27, mb4.1/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.06**	**266**	P	**P**	**06 46 00.5**	**+4.0**
	1.3nm,0.3s,baz=140,slow=21,SNR=4.5						
AFI	**Afiamalu**	**7.62**	**63**	P	**P**	**06 46 35.4**	**+0.2**
NIUE	**Niue**	**8.51**	**102**	P	**P**	**06 46 44.2**	**+0.3**
DZM	**Mont Dzumac**	**14.64**	**250**	P	**P**	**06 47 47.5**	**+0.6**
HNR	**Honiara**	**22.22**	**289**	P	**P**	**06 48 56.0**	**-1.3**
EIDS	**Eidsvold**	**29.09**	**249**	P	**P**	**06 49 56.4**	**-1.3**
CTA	**Charters Tower**	**33.19**	**260**	P	**P**	**06 50 32.8**	**-0.1**
	baz=78,slow=14						
CTAO	**Charters Tower**	**33.19**	**260**	P	**P**	**06 50 33.1**	**+0.2**
CTAO				lAmb	lAmb	06 50 39.7	
	comp=Z,10nm,1.2s						
TOO	**Toolangi**	**37.15**	**230**	P	**P**	**06 51 05.5**	**-0.1**
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**06 51 16.9**	**+0.1**
	comp=Z,2.2nm,0.4s,baz=81,slow=9.8,SNR=9.5						
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**06 51 17.4**	**+0.6**
BBOO	**Buckleboo**	**43.30**	**241**	P	**P**	**06 51 54.7**	**0.0**
BBOO				lAmb	lAmb	06 51 58.2	
	comp=Z,14nm,1.2s						
WR0	**Warramunga Arr**	**44.19**	**259**	P	**P**	**06 52 01.7**	**-0.1**
WB0	**Warramunga Arr**	**44.35**	**259**	P	**P**	**06 52 02.2**	**-0.8**
WB2	**Warramunga Arr**	**44.37**	**259**	P	**P**	**06 52 02.5**	**-0.7**
WB2				lAmb	lAmb	06 52 23.1	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**06 52 02.3**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=96,slow=7.4,SNR=52						
AS31	**Alice Springs**	**44.58**	**254**	P	**P**	**06 52 04.5**	**-0.3**
AS31				lAmb	lAmb	06 52 05.1	
	comp=Z,3.7nm,0.7s						
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**06 52 04.4**	**-0.4**
	comp=Z,14nm,0.6s,baz=89,slow=8.1,SNR=224						
ASAR				PcP	**PcP**	**06 53 32.7**	**-3.2**
	comp=Z,0.3nm,0.4s,baz=100,slow=4.5,SNR=2.4						
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**06 52 04.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.77**	**260**	P	**P**	**06 53 05.2**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=97,slow=6.9,SNR=6.1						
FITZ	**Fitzroy Crossi**	**52.77**	**260**	P	**P**	**06 53 06.3**	**+0.8**
FITZ				lAmb	lAmb	06 53 13.5	
	comp=Z,10nm,1.4s						
PSA00	**Pilbara Seismi**	**57.69**	**255**	P	**P**	**06 53 39.4**	**-0.3**
PSA00				lAmb	lAmb	06 53 47.4	
	comp=Z,20nm,1.5s						
QSPA	**South Pole Qui**	**72.50**	**180**	P	**P**	**06 55 11.8**	**-0.3**
NVAR	**Mina Array Bea**	**79.39**	**44**	P	**P**	**06 55 51.4**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=226,slow=7.3,SNR=2.4						
ILAR	**Eielson Array**	**85.62**	**13**	P	**P**	**06 56 20.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=226,slow=5.2,SNR=4.6						
BFO	**Black Forest**	**148.77**	**351**		**PKPbc**	**07 03 26.2**	**-0.5**

JMA ***16*** *07:27:08.4±0.2, 24°.59N×122°.34E, h91km±2km, M2.7*
TAP ***16*** *07:27:08.6, 24°.63N×122°.35E, h92km, ML3.4, B*

ISC 16 07:27:08.7±1.3, 24°.62N±0°.03×122°.37E±0°.02, h89km±6km, n106, σ1§04/201, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.47**	**269**	P	**Pn**	**07 27 23.1**	**0.0**
	baz=267						
TWC				S	**Sn**	**07 27 33.1**	**-0.8**
	baz=267						
TWB1	**Santiao Chiao**	**0.52**	**318**	P	**Pn**	**07 27 23.6**	**+0.1**
	baz=314						
TWB1				S	**Sn**	**07 27 34.2**	**-0.3**
	baz=314						
NTC	**Toucheng**	**0.54**	**296**	P	**Pn**	**07 27 23.6**	**-0.1**
	baz=295						
NTC				eS	**Sn**	**07 27 34.4**	**-0.5**
	baz=295						
JYNG	**Yonagunijimaku**	**0.55**	**108**	P	**Pn**	**07 27 24.1**	**+0.4**
JYNG				eS	**Sn**	**07 27 35.2**	**+0.2**
ILA	**Ilan**	**0.58**	**285**	eP	**Pn**	**07 27 24.1**	**+0.1**
	baz=284						
ILA				eS	**Sn**	**07 27 36.0**	**+0.5**
	baz=284						
NDS	**Dongshan**	**0.59**	**271**	P	**Pn**	**07 27 24.5**	**+0.3**
	baz=270						
NDS				S	**Sn**	**07 27 35.8**	**+0.1**
	baz=270						
ENA	**Nanau**	**0.60**	**252**	P	**Pn**	**07 27 24.6**	**+0.4**
	baz=247						
ENA				S	**Sn**	**07 27 36.4**	**+0.6**
	baz=247						
YOJ	**Yonaguni jima**	**0.60**	**105**	eP	**Pn**	**07 27 24.7**	**+0.4**
	baz=111						
YOJ				eS	**Sn**	**07 27 36.0**	**+0.1**
	baz=111						
YOJ	**Yonaguni jima**	**0.60**	**105**	P	**Pn**	**07 27 24.5**	**+0.3**
YOJ				eS	**Sn**	**07 27 35.8**	**0.0**
TIPB	**Shuangxi**	**0.61**	**305**	*i* P	**Pn**	**07 27 24.3**	**0.0**
	baz=301						
TIPB				S	**Sn**	**07 27 35.7**	**-0.3**
	baz=301						
TWE	**Neicheng**	**0.65**	**279**	P	**Pn**	**07 27 24.9**	**+0.3**
	baz=278						
TWE				S	**Sn**	**07 27 36.0**	**-0.5**
	baz=278						
NWF	**Wu-fen Shan**	**0.70**	**310**	eP	**Pn**	**07 27 25.3**	**+0.1**
	baz=305						
NWF				eS	**Sn**	**07 27 37.4**	**-0.1**
	baz=305						
WFSB	**Wu-fen Shan**	**0.70**	**310**	P	**Pn**	**07 27 25.2**	**+0.1**
	baz=305						
WFSB				S	**Sn**	**07 27 37.4**	**+0.1**
	baz=305						
ENTT	**Nioudou**	**0.73**	**272**	P	**Pn**	**07 27 26.2**	**+0.7**
	baz=271						
ENTT				eS	**Sn**	**07 27 38.8**	**+0.8**
	baz=271						
TNOU	**National Taiwa**	**0.76**	**314**	eP	**Pn**	**07 27 26.1**	**+0.5**
	baz=313						
TNOU				eS	**Sn**	**07 27 37.6**	**-0.8**
	baz=313						
NDT	**Datong Townshi**	**0.78**	**269**	*i* P	**Pn**	**07 27 26.6**	**+0.7**
	baz=268						
NDT				*i* S	**Sn**	**07 27 39.5**	**+0.6**
	baz=268						
TWA	**Mucha**	**0.80**	**297**	P	**Pn**	**07 27 26.0**	**-0.2**
	baz=290						
TWA				S	**Sn**	**07 27 38.5**	**-0.8**
	baz=290						
NWLT	**Wulai**	**0.80**	**281**	P	**Pn**	**07 27 26.2**	**0.0**
	baz=287						
NWLT				eS	**Sn**	**07 27 38.9**	**-0.5**
	baz=287						
NACB	**Ninganchiao**	**0.83**	**238**	P	**Pn**	**07 27 26.3**	**-0.2**
	baz=236						
NACB				S	**Sn**	**07 27 39.2**	**-0.6**
	baz=236						
NHDH	**Xindian Distri**	**0.84**	**294**	eP	**Pn**	**07 27 26.4**	**-0.1**
	baz=287						
NHDH				eS	**Sn**	**07 27 38.9**	**-1.1**
	baz=287						
TATO	**Taipei**	**0.88**	**294**	eP	**Pn**	**07 27 26.7**	**-0.2**
	baz=288						
TATO				eS	**Sn**	**07 27 39.3**	**-1.3**
	baz=288						
TWD	**Chiawan**	**0.89**	**233**	P	**Pn**	**07 27 26.8**	**-0.2**
	baz=231						
TWD				S	**Sn**	**07 27 40.7**	**-0.1**
	baz=231						
YM01	**YM01**	**0.90**	**306**	eP	**Pn**	**07 27 26.1**	**-1.1**
	baz=298						
YM01				eS	**Sn**	**07 27 39.6**	**-1.5**
	baz=298						
YM11	**YM11**	**0.90**	**307**	eP	**Pn**	**07 27 27.2**	**-0.1**
	baz=300						
YM11				eS	**Sn**	**07 27 39.9**	**-1.4**
	baz=300						
YHNB	**Yeheng**	**0.91**	**273**	P	**Pn**	**07 27 27.8**	**+0.4**
	baz=267						
YHNB				S	**Sn**	**07 27 41.7**	**+0.3**
	baz=267						
ETLH	**Xiulin Townshi**	**0.91**	**243**	eP	**Pn**	**07 27 27.3**	**-0.1**
	baz=237						
ETLH				eS	**Sn**	**07 27 40.9**	**-0.5**
	baz=237						
YM08	**YM08**	**0.91**	**309**	eP	**Pn**	**07 27 27.0**	**-0.3**
	baz=302						
YM08				eS	**Sn**	**07 27 39.9**	**-1.4**
	baz=302						
YM10	**YM10**	**0.91**	**306**	eP	**Pn**	**07 27 27.1**	**-0.2**
	baz=299						
YM10				eS	**Sn**	**07 27 40.4**	**-0.9**
	baz=299						
YM05	**YM05**	**0.91**	**307**	eP	**Pn**	**07 27 27.1**	**-0.3**
	baz=300						
YM05				eS	**Sn**	**07 27 40.2**	**-1.2**
	baz=300						
NNSH	**Datong**	**0.92**	**258**	P	**Pn**	**07 27 27.8**	**+0.2**
	baz=251						
NNSH				S	**Sn**	**07 27 42.5**	**+0.9**
	baz=251						
NNSB	**Datong**	**0.92**	**258**	P	**Pn**	**07 27 27.6**	**+0.1**
	baz=251						
NNSB				eS	**Sn**	**07 27 41.6**	**-0.1**
	baz=251						
NSK	**Sanguang**	**0.92**	**274**	P	**Pn**	**07 27 27.9**	**+0.3**
	baz=267						
NSK				eS	**Sn**	**07 27 41.9**	**+0.2**
	baz=267						
NNS	**Nan Shan**	**0.93**	**259**	P	**Pn**	**07 27 27.9**	**+0.3**
	baz=252						
NNS				eS	**Sn**	**07 27 41.6**	**-0.2**
	baz=252						
YM04	**YM04**	**0.93**	**305**	eP	**Pn**	**07 27 27.1**	**-0.4**
	baz=298						
YM04				eS	**Sn**	**07 27 40.0**	**-1.6**
	baz=298						
HWA	**Hwalien**	**0.95**	**228**	eP	**Pn**	**07 27 28.7**	**+1.0**
	baz=219						
HWA				eS	**Sn**	**07 27 43.2**	**+1.2**
	baz=219						
TWY	**Chenhua**	**0.96**	**313**	eP	**Pn**	**07 27 28.1**	**+0.3**
	baz=305						
TWY				eS	**Sn**	**07 27 43.7**	**+1.5**
	baz=305						
TWS1	**Kuangyinshan**	**0.99**	**299**	eP	**Pn**	**07 27 28.2**	**0.0**
	baz=299						
TWS1				eS	**Sn**	**07 27 42.6**	**-0.2**
	baz=299						
NTST	**Danshui**	**1.00**	**303**	eP	**Pn**	**07 27 28.2**	**0.0**
	baz=303						
NTST				eS	**Sn**	**07 27 42.3**	**-0.7**
	baz=303						
PCYT	**Pengchaiyu**	**1.04**	**345**	eP	**Pn**	**07 27 29.2**	**+0.4**
	baz=338						
PCYT				eS	**Sn**	**07 27 45.4**	**+1.5**
	baz=338						
FUSS	**Fushou**	**1.09**	**250**	eP	**Pn**	**07 27 30.2**	**+0.6**
	baz=244						
FUSS				eS	**Sn**	**07 27 44.9**	**-0.4**
	baz=244						
WHF	**Hehuan Shan**	**1.11**	**245**	*i* P	**Pn**	**07 27 30.2**	**+0.1**
	baz=243						
WHF				S	**Sn**	**07 27 45.8**	**-0.3**
	baz=243						
NCU	**National Centr**	**1.13**	**288**	eP	**Pn**	**07 27 30.2**	**+0.3**
	baz=280						
NCU				eS	**Sn**	**07 27 46.6**	**+0.9**
	baz=280						
NCUH	**Zhongli**	**1.13**	**288**	eP	**Pn**	**07 27 30.2**	**+0.4**
	baz=280						
NCUH				eS	**Sn**	**07 27 46.2**	**+0.4**
	baz=280						
TWT	**Tachien**	**1.15**	**252**	eP	**Pn**	**07 27 31.1**	**+0.8**
	baz=243						
TWT				eS	**Sn**	**07 27 47.0**	**+0.6**
	baz=243						
TDCB	**Techi**	**1.16**	**252**	P	**Pn**	**07 27 31.1**	**+0.7**
	baz=244						
TDCB				eS	**Sn**	**07 27 46.8**	**+0.1**
	baz=244						
ESL	**Shilin**	**1.17**	**227**	eP	**Pn**	**07 27 30.8**	**+0.4**
	baz=234						
ESL				eS	**Sn**	**07 27 44.9**	**-1.7**
	baz=234						
HSN1	**Hsinchu**	**1.24**	**278**	eS	**Sn**	**07 27 48.6**	**+0.5**
	baz=277						
NSTT	**Nanjuang**	**1.25**	**271**	eP	**Pn**	**07 27 31.4**	**+0.2**
	baz=270						
NSTT				eS	**Sn**	**07 27 48.2**	**0.0**
	baz=270						
IRIF	**Iriomote-Funau**	**1.27**	**103**	P	**Pn**	**07 27 31.7**	**+0.2**
IRIF				S	**Sn**	**07 27 49.3**	**+0.5**
WHP	**Taichung City**	**1.34**	**256**	eP	**Pn**	**07 27 33.5**	**+1.0**
	baz=255						
WHP				eS	**Sn**	**07 27 51.5**	**+1.1**
	baz=255						
VWDT	**VWDT**	**1.42**	**233**	eP	**Pn**	**07 27 33.6**	**+0.3**
	baz=226						
VWDT				eS	**Sn**	**07 27 51.7**	**-0.2**
	baz=226						
HGSD	**Ruisui**	**1.42**	**218**	eP	**Pn**	**07 27 33.1**	**-0.3**
	baz=210						
HGSD				eS	**Sn**	**07 27 51.9**	**-0.1**
	baz=210						
WPL	**Puli Township**	**1.42**	**245**	eP	**Pn**	**07 27 34.3**	**+0.8**
	baz=244						
WPL				eS	**Sn**	**07 27 53.4**	**+1.3**
	baz=244						
HATJ	**Hateruma jima**	**1.42**	**113**	eS	**Sn**	**07 27 53.1**	**+1.0**
NMLH	**Miaoli**	**1.44**	**267**	eP	**Pn**	**07 27 34.2**	**+0.5**
	baz=266						
NMLH				eS	**Sn**	**07 27 52.4**	**-0.1**
	baz=266						
DPDB	**Guoxing**	**1.44**	**246**	eP	**Pn**	**07 27 34.8**	**+1.1**
	baz=245						
DPDB				eS	**Sn**	**07 27 54.4**	**+1.8**
	baz=245						
WCS	**Beigang Elemen**	**1.44**	**247**	eP	**Pn**	**07 27 34.6**	**+1.0**
	baz=246						
WCS				eS	**Sn**	**07 27 54.4**	**+1.8**
	baz=246						
NSY	**Sanyi**	**1.48**	**262**	eP	**Pn**	**07 27 34.8**	**+0.6**
	baz=262						
NSY				eS	**Sn**	**07 27 54.2**	**+0.8**
	baz=262						
TWQ1	**Liyutan**	**1.48**	**260**	eP	**Pn**	**07 27 32.8**	**-1.4**
	baz=259						
TWQ1				eS	**Sn**	**07 27 54.2**	**+0.8**
	baz=259						
SMLT	**Sun Moon Lake**	**1.53**	**242**	eP	**Pn**	**07 27 36.3**	**+1.4**
	baz=234						
SMLT				eS	**Sn**	**07 27 57.2**	**+2.5**
	baz=234						
SSLB	**Suanglung**	**1.54**	**238**	eP	**Pn**	**07 27 35.0**	**+0.2**
	baz=233						
SSLB				eS	**Sn**	**07 27 55.6**	**+0.9**
	baz=233						
JKRS	**Kuro-shima**	**1.54**	**104**	P	**Pn**	**07 27 35.6**	**+0.7**
JKRS				S	**Sn**	**07 27 55.3**	**+0.5**
TYC	**Yuchr**	**1.55**	**243**	eP	**Pn**	**07 27 36.4**	**+1.3**
	baz=245						
TYC				eS	**Sn**	**07 27 57.2**	**+2.1**
	baz=245						
YULB	**Yu-li**	**1.57**	**219**	eP	**Pn**	**07 27 34.4**	**-0.9**
	baz=217						
YULB				eS	**Sn**	**07 27 54.0**	**-1.4**
	baz=217						
EYUL	**Yuli**	**1.59**	**217**	eP	**Pn**	**07 27 35.6**	**0.0**
	baz=224						
EYUL				eS	**Sn**	**07 27 56.9**	**+1.0**
	baz=224						
WDJ	**Dajia District**	**1.60**	**261**	eP	**Pn**	**07 27 36.0**	**+0.3**
	baz=260						
WDJ				eS	**Sn**	**07 27 56.7**	**+0.6**
	baz=260						
JIJ	**Ishigaki jima**	**1.64**	**99**	P	**Pn**	**07 27 36.2**	**+0.1**
JIJ				S	**Sn**	**07 27 56.3**	**-0.6**
WJS	**Zhushan**	**1.70**	**242**	eP	**Pn**	**07 27 38.3**	**+1.4**
	baz=251						
WJS				eS	**Sn**	**07 28 00.8**	**+2.5**
	baz=251						
WNT1	**Nantou City**	**1.70**	**246**	eP	**Pn**	**07 27 39.2**	**+2.3**
	baz=255						
WNT	**Mingjian**	**1.71**	**245**	eP	**Pn**	**07 27 38.4**	**+1.3**
	baz=243						
WNT				eS	**Sn**	**07 28 01.3**	**+2.8**
	baz=243						
FULB	**Fuli**	**1.72**	**215**	eP	**Pn**	**07 27 37.0**	**-0.3**
	baz=223						
FULB				eS	**Sn**	**07 27 58.5**	**-0.5**
	baz=223						
JISG	**Ishigakijimahi**	**1.77**	**91**	S	**Sn**	**07 27 59.9**	**-0.1**
CHKT	**Chengkung**	**1.77**	**211**	eS	**Sn**	**07 27 58.0**	**-2.0**
	baz=203						
ALS	**Alishan**	**1.81**	**233**	eP	**Pn**	**07 27 39.7**	**+1.0**
	baz=224						
ALS				eS	**Sn**	**07 28 03.6**	**+2.2**
	baz=224						
CHN5	**Tsauling**	**1.85**	**237**	eP	**Pn**	**07 27 40.1**	**+1.1**
	baz=246						
CHN5				eS	**Sn**	**07 28 03.8**	**+1.8**
	baz=246						
ELDTW	**Lidau**	**1.89**	**221**	eP	**Pn**	**07 27 40.8**	**+1.3**
	baz=215						
ELDTW				eS	**Sn**	**07 28 02.2**	**-0.7**
	baz=215						
EDH	**Donghe**	**1.91**	**211**	eP	**Pn**	**07 27 39.1**	**-0.6**
	baz=203						
EDH				eS	**Sn**	**07 28 01.6**	**-1.6**
	baz=203						
WDLH	**Douliu**	**1.91**	**241**	eP	**Pn**	**07 27 40.5**	**+0.8**
	baz=251						
WDLH				eS	**Sn**	**07 28 05.4**	**+2.1**
	baz=251						
WRL	**Guolierlin Hig**	**1.95**	**249**	eP	**Pn**	**07 27 40.5**	**+0.2**
	baz=257						
WRL				eS	**Sn**	**07 28 04.5**	**+0.1**
	baz=257						
WTK	**Tuku**	**2.03**	**243**	eP	**Pn**	**07 27 41.5**	**+0.2**
	baz=242						
WTK				eS	**Sn**	**07 28 07.5**	**+1.3**
	baz=242						
LONT	**Longtian**	**2.05**	**214**	eS	**Sn**	**07 28 04.1**	**-2.5**
	baz=212						
STYH	**Taoyuan**	**2.05**	**226**	eP	**Pn**	**07 27 41.1**	**-0.4**
	baz=217						
STYH				eS	**Sn**	**07 28 07.1**	**+0.5**
	baz=217						
CHN4	**Tsaushan**	**2.06**	**233**	eP	**Pn**	**07 27 42.5**	**+0.9**
	baz=231						
CHN4				eS	**Sn**	**07 28 09.2**	**+2.4**
	baz=231						
TPUB	**Ta-pu**	**2.06**	**231**	eP	**Pn**	**07 27 42.5**	**+0.8**
	baz=229						
TPUB				eS	**Sn**	**07 28 07.6**	**+0.7**
	baz=229						
STYT	**Tauyuan**	**2.07**	**226**	eP	**Pn**	**07 27 43.2**	**+1.3**
	baz=217						
STYT				eS	**Sn**	**07 28 09.0**	**+1.9**
	baz=217						
LDUT	**Ludao**	**2.11**	**203**	eP	**Pn**	**07 27 41.5**	**-0.7**
	baz=205						
LDUT				eS	**Sn**	**07 28 05.7**	**-2.2**
	baz=205						
JTJ	**Tarama**	**2.12**	**89**	eS	**Sn**	**07 28 09.5**	**+1.2**
TWGBT	**Beinan**	**2.15**	**214**	eP	**Pn**	**07 27 42.9**	**0.0**
	baz=

SLGT	**Liugui**	**2.26**	**225**	*eP*	**Pn**	**07 27 45.9**	**+1.6**
	baz=232							
SLGT				*eS*	**Sn**	**07 28 13.9**	**+2.3**
	baz=232							
TSMG	**Majia**	**2.48**	**220**	*eP*	**Pn**	**07 27 47.6**	**+0.4**
	baz=218							
TSMG				*eS*	**Sn**	**07 28 19.0**	**+2.3**
	baz=218							
MASBT	**Mashibuluo**	**2.56**	**219**	*eP*	**Pn**	**07 27 49.3**	**+1.0**
	baz=217							
MASBT				*eS*	**Sn**	**07 28 19.3**	**+0.7**
	baz=217							
MATB	**Ma-tsu**	**2.67**	**305**	*eP*	**Pn**	**07 27 50.5**	**+0.7**
	baz=304							
MATB				*eS*	**Sn**	**07 28 21.6**	**+0.3**
	baz=304							
LAY	**Lan-yu**	**2.68**	**196**	*eP*	**Pn**	**07 27 48.1**	**-1.8**
	baz=194							
LAY				*eS*	**Sn**	**07 28 19.4**	**-2.1**
	baz=194							
VWUC	**VWUC**	**2.68**	**279**	*eP*	**Pn**	**07 27 49.0**	**-0.8**
	baz=279							
VWUC				*eS*	**Sn**	**07 28 21.2**	**-0.3**
	baz=279							
PHUB	**P'eng-hu**	**2.78**	**247**	*eP*	**Pn**	**07 27 50.2**	**-1.0**
	baz=246							
PHUB				*eS*	**Sn**	**07 28 21.9**	**-2.2**
	baz=246							
SLIU	**Shizi**	**2.79**	**211**	*eP*	**Pn**	**07 27 52.2**	**+0.8**
	baz=205							
SLIU				*eS*	**Sn**	**07 28 22.4**	**-1.9**
	baz=205							
WDGT	**Dungji**	**2.82**	**242**	*eP*	**Pn**	**07 27 51.3**	**-0.5**
	baz=240							
WDGT				*eS*	**Sn**	**07 28 24.3**	**-0.8**
	baz=240							
PTMZ	**Houxiangcun**	**2.98**	**279**	*eP*	**Pn**	**07 27 53.4**	**-0.5**
	baz=279							
PTMZ				*eS*	**Sn**	**07 28 28.4**	**-0.4**
	baz=279							
XPSS	**Dashiqiu**	**3.03**	**320**	*eP*	**Pn**	**07 27 55.2**	**+0.7**
	baz=319							
MHZQ	**Yeshan**	**3.36**	**297**	*eS*	**Sn**	**07 28 37.6**	**-0.4**
	baz=296							
KNMB	**Chin-men Tao**	**3.63**	**268**	*eP*	**Pn**	**07 28 01.5**	**-1.2**
	baz=269							
AXDP	**Jialang**	**4.01**	**275**	*eP*	**Pn**	**07 28 08.2**	**+0.4**
	baz=275							
AXDP				*eS*	**Sn**	**07 28 51.8**	**-1.9**
	baz=275							
ZPLA	**Ao Xicun**	**4.27**	**262**	*eP*	**Pn**	**07 28 10.4**	**-1.0**
	baz=262							

IDC 16 08:07:35.1±2.9, 20°.14S×177°.31W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/28, mbtmp3.6/5, Error ellipse: s-maj=228.7km s-min=26.1km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.17**	**264**	P		P	08 14 24.0	+1.6
	1.8nm,0.4s,baz=77,slow=8.8,SNR=5.6							
ASAR	**Alice Springs**	**45.23**	**256**	P		P	08 15 53.1	-1.4
	0.2nm,0.4s,baz=98,slow=7.3,SNR=6.2							
WRA	**Warramunga Arr**	**45.29**	**262**	P		P	08 15 54.6	-0.4
	0.7nm,0.4s,baz=95,slow=8.3,SNR=35							
NVAR	**Mina Array Bea**	**80.33**	**43**	P		P	08 19 47.9	-0.6
	0.2nm,0.6s,baz=254,slow=6.5,SNR=2.1							
TXAR	**Lajitas Array**	**86.32**	**57**	P		P	08 20 20.2	+0.7
	0.2nm,0.9s,baz=210,slow=6.9,SNR=2.9							

*SOME **16** 08:21:41.1, 40°.88N×77°.77E, h10km*
*NNC **16** 08:21:44.5±2.5, 40°.97N×77°.93E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=17.1km s-min=10.9km az=171.0*

ISC 16 08:21:43.5±2.4, 41°.0N±0°.1×77°.80E±0°.04, h10km, n47, σ1§11/71, 4C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**2.12**	**12**	⇓*eP*		**Pb**	**08 22 22.9**	**+0.8**
	31nm,0.5s							
SATY				*eS*		**Sg**	**08 22 52.8**	**+1.0**
	17nm,0.3s							
SATY	**Saty**	**2.12**	**12**	Pg		**Pb**	**08 22 22.8**	**+0.6**
	31nm,0.5s							
SATY				Lg		Lg	08 22 52.7	
	17nm,0.3s							
TNSS	**Tian-Shan**	**2.15**	**343**	*eP*		**Pb**	**08 22 23.4**	**+0.6**
	12nm,0.3s							
TNSS				*eS*		**Sg**	**08 22 53.8**	**+1.2**
	9.7nm,0.3s							
TNSS	**Tian-Shan**	**2.15**	**343**	Pg		**Pb**	**08 22 23.3**	**+0.5**
	12nm,0.3s							
TNSS				Lg		Lg	08 22 53.6	
	9.7nm,0.3s							
IZV	**Izvestkoviy**	**2.24**	**337**	*eP*		**Pb**	**08 22 24.5**	**+0.4**
	20nm,0.5s							
IZV				*eS*		**Sg**	**08 22 55.5**	**+0.1**
	36nm,0.4s							
IZV	**Izvestkoviy**	**2.24**	**337**	Pg		**Pb**	**08 22 24.3**	**+0.3**
	20nm,0.5s							
IZV				Lg		Lg	08 22 55.9	
	36nm,0.4s							
MDOK	**Medeo**	**2.25**	**346**	*eP*		**Pb**	**08 22 24.8**	**+0.4**
	19nm,0.4s							
MDOK				*eS*		**Sg**	**08 22 56.2**	**+0.4**
	12nm,0.5s							
MDOK	**Medeo**	**2.25**	**346**	Pn		**Pb**	**08 22 24.3**	**0.0**
	12nm,0.5s,baz=114,slow=26							
MDOK				⇓Sn		**Sg**	**08 22 55.4**	**-0.4**
	12nm,0.6s,baz=114,slow=26							
MDOK	**Medeo**	**2.25**	**346**	Pg		**Pb**	**08 22 24.8**	**+0.4**
	19nm,0.4s							
MDOK				Lg		Lg	08 22 56.2	
	12nm,0.5s							
KOTS	**Kotyrbulak**	**2.31**	**347**	*eP*		**Pb**	**08 22 26.1**	**+0.8**
	39nm,0.4s							
KOTS				*eS*		**Sg**	**08 22 58.5**	**+0.9**
	57nm,0.4s							
KOTS	**Kotyrbulak**	**2.31**	**347**	Pg		**Pb**	**08 22 26.1**	**+0.8**
	39nm,0.4s							
KOTS				Lg		Lg	08 22 58.5	
	57nm,0.4s							
KNDC	**Almaty**	**2.32**	**345**	⇑Pn		**Pb**	**08 22 25.1**	**-0.3**
	24nm,0.4s							
KNDC				⇑Sn		**Sg**	**08 22 59.1**	**+1.1**
	60nm,0.5s							
UZB	**Uzynkulak**	**2.35**	**22**	*eP*		**Pb**	**08 22 26.4**	**+0.5**
	5.0nm,0.1s							
UZB				*eS*		**Sg**	**08 22 59.0**	**+0.1**
	12nm,0.3s							
UZB	**Uzynkulak**	**2.35**	**22**	Pg		**Pb**	**08 22 26.4**	**+0.5**
	5.0nm,0.1s							
UZB				Lg		Lg	08 22 59.0	
	12nm,0.3s							
MTBS	**Maitube**	**2.38**	**335**	*eP*		**Pb**	**08 22 27.2**	**+0.8**
	6.7nm,0.2s							
MTBS				*eS*		**Sg**	**08 23 00.3**	**+0.5**
	20nm,0.2s							
MTBS	**Maitube**	**2.38**	**335**	Pg		**Pb**	**08 22 27.2**	**+0.8**
	6.7nm,0.2s							
MTBS				Lg		Lg	08 23 00.3	
	20nm,0.2s							
KST	**Kastek**	**2.47**	**327**	*eP*		**Pb**	**08 22 28.9**	**+0.8**
	6.3nm,0.3s							
KST				*eS*		**Sg**	**08 23 03.1**	**+0.2**
	12nm,0.3s							
KST	**Kastek**	**2.47**	**327**	Pg		**Pb**	**08 22 28.9**	**+0.8**
	6.3nm,0.3s							
KST				Lg		Lg	08 23 03.1	
	12nm,0.3s							
SHLS	**Shalkode**	**2.50**	**29**	*eP*		**Pg**	**08 22 30.6**	**-0.8**
	28nm,0.2s							
SHLS				*eS*		**Sg**	**08 23 06.2**	**+2.4**
	25nm,0.6s							
SHLS	**Shalkode**	**2.50**	**29**	Pg		**Pb**	**08 22 28.8**	**+0.2**
	28nm,0.2s							
SHLS				Lg		Lg	08 23 03.0	
	25nm,0.6s							
KURS	**Kuram**	**2.52**	**6**	*eP*		**Pb**	**08 22 29.4**	**+0.6**
	19nm,0.6s							
KURS				*eS*		**Sg**	**08 23 04.1**	**-0.3**
	11nm,0.6s							
KURS	**Kuram**	**2.52**	**6**	Pg		**Pb**	**08 22 29.4**	**+0.6**
	19nm,0.6s							
KURS				Lg		Lg	08 23 04.1	
	11nm,0.6s							
TKM2	**Tokmak 2**	**2.54**	**320**	⇓Pn		**Pb**	**08 22 28.7**	**-0.6**
	0.4nm,0.2s,baz=114,slow=26							
TKM2				⇑Sn		**Sg**	**08 23 05.0**	**-0.1**
	14nm,0.7s,baz=114,slow=26							
KPKS	**Kokpek**	**2.57**	**15**	*eP*		**Pb**	**08 22 30.5**	**+0.8**
	17nm,0.3s							
KPKS				*eS*		**Sg**	**08 23 05.8**	**-0.2**
	20nm,0.5s							
PDGK	**Podgornoye**	**2.66**	**28**	Pg		**Pb**	**08 22 31.4**	**+0.1**
	5.7nm,0.3s							
PDGK				Lg		Lg	08 23 07.5	
	17nm,0.7s							
PDGK	**Podgornoye**	**2.66**	**28**	⇓Pn		**Pb**	**08 22 31.1**	**-0.2**
	4.4nm,0.3s,baz=114,slow=26							
PDGK				⇑Sn		**Sg**	**08 23 08.0**	**-1.0**
	37nm,0.8s,baz=114,slow=26							
DGS	**Degeres**	**2.72**	**327**	*eP*		**Pb**	**08 22 33.1**	**+0.9**
	10nm,0.5s							
DGS				*eS*		**Sg**	**08 23 10.8**	**+0.1**
	13nm,0.4s							
DGS	**Degeres**	**2.72**	**327**	Pg		**Pb**	**08 22 33.1**	**+0.9**
	10nm,0.5s							
DGS				Lg		Lg	08 23 10.8	
	13nm,0.4s							
KTBS	**Karatobe**	**2.85**	**343**	*eP*		**Pb**	**08 22 35.0**	**+0.5**
	8.9nm,0.5s							
KTBS				*eS*		**Sg**	**08 23 13.6**	**-1.5**
	33nm,0.3s							
KTBS	**Karatobe**	**2.85**	**343**	Pg		**Pb**	**08 22 35.0**	**+0.5**
	8.9nm,0.5s							
KTBS				Lg		Lg	08 23 13.6	
	33nm,0.3s							
AAK	**Ala-Archa**	**2.97**	**305**	Pn		**Pb**	**08 22 37.1**	**+0.5**
	1.3nm,0.3s,baz=114,slow=26							
AAK				Sn		**Sg**	**08 23 17.8**	**-1.2**
	24nm,0.8s,baz=114,slow=26							
KUU	**Kurty**	**3.10**	**340**	*eP*		**Pb**	**08 22 39.8**	**+1.1**
	1.9nm,0.4s							
KUU				*eS*		**Sg**	**08 23 22.2**	**-1.0**
	15nm,0.4s							
KUU	**Kurty**	**3.10**	**340**	Pg		**Pb**	**08 22 39.4**	**+0.6**
	3.5nm,0.6s							
KUU				Lg		Lg	08 23 22.2	
	15nm,0.4s							
KTMS	**Ketmen**	**3.11**	**37**	*eP*		**Pb**	**08 22 39.7**	**+0.8**
	9.3nm,0.2s							
KTMS				*eS*		**Sg**	**08 23 22.1**	**-1.2**
	16nm,0.6s							
KTMS	**Ketmen**	**3.11**	**37**	Pg		**Pb**	**08 22 39.6**	**+0.8**
	9.3nm,0.2s							
KTMS				Lg		Lg	08 23 21.7	
	16nm,0.6s							
MNBS	**Baschi**	**3.13**	**8**	*eP*		**Pb**	**08 22 40.6**	**+1.3**
	4.4nm,0.2s							
MNBS				*eS*		**Sg**	**08 23 23.2**	**-0.7**
	18nm,0.4s							
MNBS	**Baschi**	**3.13**	**8**	Pg		**Pb**	**08 22 40.6**	**+1.3**
	4.4nm,0.2s							
MNBS				Lg		Lg	08 23 23.2	
	18nm,0.4s							
KRBS	**Karabastau**	**3.14**	**331**	*eP*		**Pb**	**08 22 39.3**	**-0.1**
	6.9nm,0.5s							
KRBS				*eS*		**Sg**	**08 23 21.7**	**-2.5**
	6.2nm,0.5s							
KRBS	**Karabastau**	**3.14**	**331**	Pg		**Pb**	**08 22 39.3**	**-0.1**
	6.9nm,0.5s							
KRBS				Lg		Lg	08 23 21.7	
	6.2nm,0.5s							
ARXS	**Arharly**	**3.23**	**0**	*eP*		**Pb**	**08 22 41.8**	**+0.9**
	10nm,0.4s							
ARXS				*eS*		**Sg**	**08 23 25.5**	**-1.7**
	25nm,0.6s							
ARXS	**Arharly**	**3.23**	**0**	Pg		**Pb**	**08 22 41.8**	**+0.9**
	10nm,0.4s							
ARXS				Lg		Lg	08 23 25.5	
	25nm,0.6s							
SGDS	**Sogindy**	**3.41**	**317**	Pg		**Pb**	**08 22 45.5**	**+1.5**
	1.4nm,0.3s							
SGDS				Lg		Lg	08 23 31.7	
	7.4nm,0.4s							
DJR	**Jarkent**	**3.66**	**23**	*eP*		**Pb**	**08 22 49.3**	**+1.1**
	2.1nm,0.3s							
DJR				*eS*		**Sg**	**08 23 38.4**	**-2.5**
	5.5nm,0.4s							
DJR	**Jarkent**	**3.66**	**23**	Pg		**Pb**	**08 22 49.3**	**+1.1**
	2.1nm,0.3s							
DJR				Lg		Lg	08 23 38.4	
	5.5nm,0.4s							
BTLS	**Baital**	**4.90**	**327**	*eP*		**Pb**	**08 23 12.3**	**+2.9**
	1.4nm,0.5s							
BTLS				*eS*		**Sg**	**08 24 17.8**	**-3.0**
	3.3nm,0.5s							
BTLS	**Baital**	**4.90**	**327**	Pg		**Pb**	**08 23 12.3**	**+2.9**
	1.4nm,0.5s							
BTLS				Lg		Lg	08 24 17.8	
	3.3nm,0.5s							
KK31	**Karatay Array**	**5.83**	**294**	⇓Lg		Lg	08 24 45.0	
	1.6nm,0.7s,baz=114,slow=26							

*GCG **16** 08:30:51.8±1.0, 13°.82N×92°.71W, h30km, MD3.7*
*IDC **16** 08:30:56.4±13.0, 14°.89N×90°.64W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/31, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=278.0km s-min=109.2km az=5.0*

ISC 16 08:30:51.3±4.9, 13°.0N±0°.5×92°.4W±0°.2, h35km, n6, σ1§35/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**2.08**	**45**	*eP*		**Pn**	**08 31 22.4**	**-1.6**
PCG	**Pacaya**	**2.22**	**50**	*eP*		**Pn**	**08 31 26.0**	**+0.1**
NBG	**Las Nubes**	**2.54**	**51**	*eP*		**Pn**	**08 31 31.3**	**+1.0**
NBG				*eS*		**Sn**	**08 32 00.4**	**+0.3**
TXAR	**Lajitas Array**	**19.36**	**329**	P		**Pn**	**08 35 16.6**	**+1.1**
	0.0nm,0.3s,baz=152,slow=12,SNR=1.8							
NVAR	**Mina Array Bea**	**34.25**	**322**	P		P	08 37 40.9	+6.6
	0.4nm,0.8s,baz=124,slow=8.0,SNR=3.6							
YKA	**Yellowknife Ar**	**51.94**	**347**	P		**P**	**08 39 55.8**	**-0.7**
	0.3nm,0.6s,baz=146,slow=8.0,SNR=5.7							

*IDC **16** 08:34:34.2±1.4, 5°.33S×150°.75E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/43, mbtmp3.7/6, ML1.9/1, Error ellipse: s-maj=58.3km s-min=26.3km az=127.0*

ISC 16 08:34:38.9±1.2, 5°.1S±0°.3×150°.6E±0°.4, h35km, n7, σ1§84/8, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.49**	**218**	Pn		**Pn**	**08 35 56.4**	**-1.9**
	2.4nm,0.3s,baz=49,slow=18,SNR=4.2							
PMG				Sn		**Sn**	**08 37 03.1**	**+2.8**
	2.3nm,0.3s,baz=238,slow=20,SNR=1.9							
WRA	**Warramunga Arr**	**21.66**	**226**	P		**P**	**08 39 25.2**	**-1.4**
	0.6nm,0.4s,baz=54,slow=10,SNR=8.6							
ASAR	**Alice Springs**	**24.51**	**219**	P		**P**	**08 39 53.8**	**-1.4**
	1.4nm,0.7s,baz=52,slow=9.9,SNR=15							
FITZ	**Fitzroy Crossi**	**27.62**	**240**	P		**P**	**08 40 24.1**	**+0.7**
	1.9nm,0.8s,baz=44,slow=9.5,SNR=2.1							
VNDA	**Vanda**	**72.63**	**177**	P		**P**	**08 46 03.0**	**+0.6**
	0.4nm,0.5s,baz=0.0,slow=9.1,SNR=3.5							
ILAR	**Eielson Array**	**83.25**	**23**	P		**P**	**08 47 02.2**	**+0.7**
	0.2nm,0.6s,baz=247,slow=4.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**148.32**	**287**	PKPbc		**PKiKP**	**08 54 24.3**	**0.0**
	0.3nm,0.6s,baz=86,slow=4.5,SNR=2.2							

*ATH **16** 08:39:12.8, 36°.08N×28°.06E, h111km±9km, ML3.2/6, Error ellipse: s-maj=9.5km s-min=3.1km az=118.0*
*ISK **16** 08:39:18.4, 36°.02N×28°.11E, h67km±1km, ML3.1/14*
*NIC **16** 08:39:19.4±0.0, 35°.76N×28°.22E, h26km±2km, MI3.5/3*
*DDA **16** 08:39:19.7, 36°.02N×28°.02E, h33km±3km, ML2.9*
*THE **16** 08:39:19.6, 36°.08N×28°.10E, h65km±1km, ML3.2/5, Error ellipse: s-maj=1.7km s-min=0.7km az=156.0*
*HLW **16** 08:39:24.6, 35°.35N×28°.32E, h24km±28km, Md3.9, MI3.7*

ISC 16 08:39:18.3±1.2, 36°.00N±0°.03×28°.12E±0°.03, h71km±7km, n67, σ0§91/95, 3C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.22**	**2**	P		**Pn**	**08 39 29.3**	**+0.2**
ARG				AML		AML	08 39 37.1	
	comp=E,5870μm,0.2s							
ARG				AML		AML	08 39 37.4	
	comp=N,4168μm,0.1s							
ARG	**Arkhangelos**	**0.22**	**2**	P		**Pn**	**08 39 29.3**	**+0.2**
ARG				S		**Sn**	**08 39 36.4**	**-0.5**
	comp=N,3μm,0.1s							
ARG	**Arkhangelos**	**0.22**	**2**	PG		**Pn**	**08 39 29.3**	**+0.2**
ARG				SG		**Sn**	**08 39 36.6**	**-0.4**
ARG	**Arkhangelos**	**0.22**	**2**	P		**Pn**	**08 39 29.3**	**+0.2**
ARG				S		**Sn**	**08 39 36.5**	**-0.4**
MRSB	**Marmaris-Mugla**	**0.72**	**5**	PG		**Pn**	**08 39 33.9**	**+0.4**
MRSB				SG		**Sn**	**08 39 44.9**	**+0.2**
TURN	**Turunc**	**0.78**	**8**	PG		**Pn**	**08 39 34.7**	**+0.6**
TURN				SG		**Sn**	**08 39 46.1**	**+0.2**
TURN	**Turunc**	**0.78**	**8**	*iP*		**Pn**	**08 39 35.0**	**+0.8**
TURN				*iS*		**Sn**	**08 39 46.1**	**+0.2**
TURN				IAML			08 39 47.0	
	comp=N,318nm,0.4s							
TURN				IAML			08 39 47.0	
	comp=E,360nm,0.4s							
DATC	**Datca-Mugla**	**0.84**	**334**	PG		**Pn**	**08 39 35.0**	**+0.1**
DATC				SG		**Sn**	**08 39 47.1**	**-0.1**
KARP	**Karpathos**	**0.90**	**240**	P		**Pn**	**08 39 36.5**	**+0.9**
KARP				AML		AML	08 39 49.0	
	comp=E,2536μm,0.1s							
KARP				AML		AML	08 39 49.5	
	comp=N,2728μm,0.1s							
KARP	**Karpathos**	**0.90**	**240**	P		**Pn**	**08 39 36.5**	**+0.9**
KARP				S		**Sn**	**08 39 48.8**	**+0.4**
	comp=N,1μm,0.1s							
KARP	**Karpathos**	**0.90**	**240**	PG		**Pn**	**08 39 36.3**	**+0.7**
KARP	**Karpathos**	**0.90**	**240**	P		**Pn**	**08 39 36.4**	**+0.9**
KARP				S		**Sn**	**08 39 48.6**	**+0.2**
KARP				AML		AML	08 39 48.6	
	comp=N,2.5nm,0.1s							
KARP				AML		AML	08 39 48.6	
	comp=N,2.5nm,0.1s							
KARP				AML		AML	08 39 49.0	
	comp=N,2.7nm,0.1s							
KARP				AML		AML	08 39 49.0	
	comp=N,2.7nm,0.1s							
DALY	**Dalyan (Mula)**	**0.92**	**28**	PG		**Pn**	**08 39 36.5**	**+0.7**
DALY				SG		**Sn**	**08 39 49.0**	**+0.1**
DALY	**Dalyan (Mula)**	**0.92**	**28**	*iP*		**Pn**	**08 39 36.5**	**+0.7**
DALY				*iS*		**Sn**	**08 39 49.0**	**+0.1**
NIS1	**Nisyros Isl.**	**0.97**	**309**	P		**Pn**	**08 39 36.6**	**+0.2**
NIS1				AML		AML	08 39 53.4	
	comp=N,2228μm,0.3s							
NIS1				AML		AML	08 39 57.5	
	comp=E,2032μm,0.4s							
NIS1	**Nisyros Isl.**	**0.97**	**309**	P		**Pn**	**08 39 36.2**	**-0.2**
NIS1				S		**Sn**	**08 39 49.3**	**-0.6**
	comp=E,1μm,0.3s							
NIS1	**Nisyros Isl.**	**0.97**	**309**	PG		**Pn**	**08 39 36.8**	**+0.4**
FETY	**Fethiye**	**1.01**	**51**	P		**Pn**	**08 39 36.3**	**-0.6**
FETY				S		**Sn**	**08 39 50.0**	**-0.8**
FETY	**Fethiye**	**1.01**	**51**	PG		**Pn**	**08 39 36.8**	**-0.1**
YER	**Yerkesik**	**1.14**	**7**	PN		**Pn**	**08 39 39.8**	**+1.1**
BDRM	**Kayabasi**	**1.19**	**333**	*iP*		**Pn**	**08 39 39.2**	**0.0**
BDRM				*iS*		**Sn**	**08 39 53.7**	**-1.3**
BDRM				IAML			08 39 54.0	
	comp=N,220nm,0.3s							
KSL	**Kastellorizon**	**1.20**	**82**	P		**Pn**	**08 39 40.3**	**+1.0**
KSL				AML		AML	08 39 56.4	
	comp=N,408μm,0.4s							
KSL				AML		AML	08 39 57.0	
	comp=E,442μm,0.3s							
KSL	**Kastellorizon**	**1.20**	**82**	P		**Pn**	**08 39 40.3**	**+1.0**
KSL				S		**Sn**	**08 39 55.5**	**+0.5**
	comp=E,210nm,0.3s							
KSL	**Kastellorizon**	**1.20**	**82**	⇑P		**Pn**	**08 39 40.4**	**+1.0**
AKAS	**Kas**	**1.23**	**79**	PN		**Pn**	**08 39 39.7**	**-0.1**
AKAS	**Kas**	**1.23**	**79**	*iP*		**Pn**	**08 39 39.2**	**-0.6**
AKAS				*iS*		**Sn**	**08 39 54.3**	**-1.7**
BODT	**Bodrum**	**1.24**	**329**	P		**Pn**	**08 39 39.0**	**-0.9**
BODT				S		**Sn**	**08 39 54.3**	**-1.8**
MULA	**Mugla, Merkez-**	**1.27**	**7**	*iP*		**Pn**	**08 39 41.6**	**+1.4**
YKAV	**Yalikavak-Bodr**	**1.31**	**329**	PN		**Pn**	**08 39 41.4**	**+0.7**
CAEL	**Denizli, Camel**	**1.48**	**40**	*iP*		**Pn**	**08 39 44.2**	**+1.0**
CAEL				*iS*		**Sn**	**08 40 02.9**	**+1.0**
CAEL				IAML			08 40 05.0	
	comp=N,173nm,0.3s							
CAEL				IAML			08 40 10.0	
	comp=E,241nm,0.5s							
TAVA	**DENIZLI_Tavas**	**1.60**	**23**	*iP*		**Pn**	**08 39 45.6**	**+1.0**
TAVA				*iS*		**Sn**	**08 40 04.7**	**+0.1**
DDIM	**Aydin, Didim**	**1.62**	**334**	*iP*		**Pn**	**08 39 45.4**	**+0.7**
DDIM				*iS*		**Sn**	**08 40 04.2**	**-0.6**
DDIM				IAML			08 40 05.0	
	comp=E,298nm,0.7s							
DDIM				IAML			08 40 08.0	
	comp=N,154nm,0.6s							
GOLH	**Golhisar**	**1.70**	**43**	*iP*		**Pn**	**08 39 47.7**	**+1.8**
GOLH				*iS*		**Sn**	**08 40 08.1**	**+1.1**
GOLH				IAML			08 40 09.0	
	comp=N,136nm,0.4s							
ZKR	**Zakros**	**1.78**	**241**	PN		**Pn**	**08 39 48.3**	**+1.3**
ZKR	**Zakros**	**1.78**	**241**	S		**Sn**	**08 40 10.6**	**+1.8**
AKUM	**Antalya-Kumluc**	**1.83**	**79**	*iP*		**Pn**	**08 39 48.6**	**+0.9**
AKUM				*iS*		**Sn**	**08 40 10.3**	**+0.4**
GCAM	**G?zelcaml?**	**1.84**	**338**	PN		**Pn**	**08 39 48.1**	**+0.4**
GCAM	**G?zelcaml?**	**1.84**	**338**	*iP*		**Pn**	**08 39 48.1**	**+0.4**
GCAM				*iS*		**Sn**	**08 40 08.9**	**-1.3**
GCAM				IAML			08 40 11.0	
	comp=N,126nm,0.9s							
AYDB	**Zeytinkoy-Aydi**	**1.95**	**355**	PN		**Pn**	**08 39 49.6**	**+0.2**
SMG	**Samos**	**1.99**	**329**	P		**Pn**	**08 39 49.7**	**-0.1**
SMG				AML		AML	08 40 14.2	
	comp=N,640μm,0.5s							
SMG				AML		AML	08 40 14.4	
	comp=E,668μm,0.3s							
SMG	**Samos**	**1.99**	**329**	P		**Pn**	**08 39 49.9**	**+0.1**
SMG				S		**Sn**	**08 40 12.8**	**-1.0**
	comp=E,330nm,0.4s							
KORT	**Korkueli**	**2.06**	**60**	PN		**Pn**	**08 39 51.9**	**+1.0**
KORT	**Korkueli**	**2.06**	**60**	*iP*		**Pn**	**08 39 53.2**	**+2.3**
KORT				*iS*		**Sn**	**08 40 17.3**	**+1.6**
NPS	**Neapolis**	**2.17**	**251**	P		**Pn**	**08 39 52.5**	**+0.3**
NPS				AML		AML	08 40 18.2	
	comp=E,711μm,0.2s							
NPS				AML		AML	08 40 19.3	
	comp=N,424μm,0.2s							
NPS	**Neapolis**	**2.17**	**251**	P		**Pn**	**08 39 53.2**	**+1.0**
LAST	**Lasithi**	**2.31**	**250**	P		**Pn**	**

SWA2		7.10	199	P		Pn	08 41 00.4	+0.9
	baz=203							
RYAN	Fayoum	7.13	165	S		Sn	08 42 08.9	-11
	baz=164							
SUZ	Suez	7.31	146	P		Pn	08 41 02.6	+0.3
	baz=144							

IDC ***16*** *08:41:13.4±1.1, 41°.28N×131°.66E, h549km±9km, mb2.6/4, mb1 3.0/9, mb1mx2.7/48, mbtmp3.6/9, Error ellipse: s-maj=23.4km s-min=20.2km az=171.0*
JMA ***16*** *08:41:15.8±0.4, 41°.06N×132°.41E, h605km, M3.5*
ISC 16 08:41:13.6±1.0, 41°.2N±0°.1×131°.90E±0°.10, h550km, n26, σ1§57/29, mb3.0/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USRK	Ussuriysk Ar.	2.96	1	P	P	08 42 28.0	-0.2
	baz=185,slow=4.0,SNR=50						
USRK				S	S	08 43 29.0	-0.2
	baz=191,slow=13,SNR=1.4						
KSRS	Korea Array	4.88	220	P	P	08 42 41.3	-1.1
	1.3nm,0.3s,baz=27,slow=8.6,SNR=34						
JSD	Sado	5.86	121	P	P	08 42 53.0	+2.1
JIW	Iwasaki	6.18	93	P	P	08 42 55.9	+2.1
JSH	Shimam	6.24	74	P	P	08 42 56.4	+2.2
MJAR	Matsushiro Arr	6.80	132	P	P	08 43 01.4	+1.7
	0.1nm,0.3s,baz=315,slow=10,SNR=12						
JNG	Nsakai	6.84	133	P	P	08 43 01.7	+1.6
JKB	Kayabe	6.88	82	P	P	08 43 01.8	+1.5
JOT	Ohata	6.89	86	P	P	08 43 02.9	+2.5
JRG	Rokugo	6.93	103	P	P	08 43 02.3	+1.5
JMK	Ichinoseki	7.50	105	P	P	08 43 07.1	+0.7
JFT	Otama	7.52	117	P	P	08 43 07.7	+1.1
JRY	Ryogami san	7.57	131	P	P	08 43 07.6	+0.5
JMM	Marumori	7.66	113	P	P	08 43 08.9	+1.0
JHR	Hokuryu	7.68	68	P	P	08 43 09.9	+1.9
JHR				eS	S	08 44 40.8	-1.1
JFK	Kawauchi	7.96	116	P	P	08 43 11.3	+0.3
ASAJ	Asahikawa	8.39	66	P	P	08 43 16.2	+1.2
	1.6nm,0.3s,baz=267,slow=7.1,SNR=7.8						
JCH	Churui	8.66	77	P	P	08 43 18.3	+0.6
JCH				eS	S	08 44 55.9	-3.8
JTKR	Abashiri--Toko	9.27	69	P	P	08 43 25.2	+1.4
BSO1	Boso 1	9.73	130	P	P	08 43 28.6	+0.5
NEM2	Nemuro 2	10.47	74	P	P	08 43 37.4	+1.2
SONM	Songino Array	19.29	299	P	P	08 45 01.3	-1.8
	0.2nm,0.3s,baz=106,slow=9.2,SNR=7.5						
ILAR	Eielson Array	50.01	34	P	P	08 49 16.5	-0.7
	0.2nm,0.5s,baz=292,slow=7.7,SNR=5.5						
YKA	Yellowknife Ar	63.77	28	P	P	08 50 51.6	+0.3
	0.5nm,0.7s,baz=312,slow=6.4,SNR=9.5						
NVAR	Mina Array Bea	78.12	49	P	P	08 52 17.5	+1.2
	0.4nm,0.7s,baz=293,slow=6.2,SNR=4.5						
PDAR	Pinedale Array	79.69	41	P	P	08 52 25.4	+0.7
	0.4nm,0.6s,baz=163,slow=0.7,SNR=4.9						

NNC ***16*** *08:45:05.7±2.4, 39°.64N×76°.06E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=16.4km s-min=15.6km az=145.0*
SOME ***16*** *08:45:05.9, 39°.63N×75°.77E, h10km*
ISC 16 08:45:09.4±2.8, 39°.8N±0°.1×75°.87E±0°.07, h10km, n33, σ1§98/45, 5C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	Ala-Archa	3.00	340	⇑Pg	Pg	08 46 03.3	-3.6
	5.3nm,0.6s						
AAK				⇓Lg	Lg	08 46 44.7	
	18nm,0.7s						
TKM2	Tokmak 2	3.10	356	⇓Pg	Pg	08 46 07.4	-1.5
	5.9nm,0.7s						
TKM2				⇑Lg	Lg	08 46 52.9	
	8.8nm,0.5s						
KST	Kastek	3.22	1	eP	Pg	08 46 09.1	-2.0
	9.8nm,0.5s						
KST				eS	Sg	08 46 54.5	+1.7
	15nm,0.5s						
KST	Kastek	3.22	1	Pg	Pb	08 46 06.6	-0.2
	9.8nm,0.5s						
KST				Lg	Lg	08 46 54.7	
	15nm,0.5s						
IZV	Izvestkoviy	3.26	10	eP	Pg	08 46 09.6	-2.3
	6.4nm,0.5s						
IZV				eS	Sg	08 46 55.1	+1.0
	12nm,0.6s						
IZV	Izvestkoviy	3.26	10	Pg	Pb	08 46 08.3	+0.8
	6.4nm,0.5s						
IZV				Lg	Lg	08 46 57.5	
	12nm,0.6s						
TNSS	Tian-Shan	3.31	14	eP	Pg	08 46 10.6	-2.3
	5.1nm,0.6s						
TNSS				eS	Sg	08 46 57.1	+1.3
	9.0nm,0.5s						
TNSS	Tian-Shan	3.31	14	Pg	Pb	08 46 08.3	-0.2
	5.2nm,0.5s						
TNSS				Lg	Lg	08 46 57.3	
	9.0nm,0.5s						
MTBS	Maitube	3.33	7	eP	Pg	08 46 11.5	-1.8
	2.1nm,0.2s						
MTBS				eS	Sg	08 46 58.6	+2.2
	8.6nm,0.3s						
DGS	Degeres	3.42	359	eP	Pg	08 46 11.7	-3.2
	10nm,0.7s						
DGS				eS	Sg	08 46 59.0	-0.2
	9.8nm,0.7s						
DGS	Degeres	3.42	359	Pg	Pb	08 46 11.5	+1.4
	10nm,0.7s						
DGS				Lg	Lg	08 47 03.6	
	9.8nm,0.7s						
MDOK	Medeo	3.45	14	eP	Pg	08 46 13.0	-2.6
	6.5nm,0.6s						
MDOK				eS	Sg	08 47 01.1	+0.8
	17nm,0.8s						
MDOK	Medeo	3.45	14	Pn	Pn	08 46 06.2	+2.7
	7.0nm,0.8s						
MDOK				Lg	Lg	08 47 01.8	
	16nm,0.6s						
MDOK	Medeo	3.45	14	Pg	Pb	08 46 10.5	-0.3
	12nm,1.4s						
MDOK				Lg	Lg	08 47 01.5	
	17nm,0.8s						
KOTS	Kotyrbulak	3.53	15	eP	Pg	08 46 15.1	-2.0
	18nm,0.7s						
KOTS				eS	Sg	08 47 04.8	+1.8
	56nm,0.5s						
KOTS	Kotyrbulak	3.53	15	Pg	Pb	08 46 11.8	-0.3
	9.5nm,0.5s						
KOTS				Lg	Lg	08 47 03.8	
	56nm,0.5s						
SGDS	Sogindy	3.75	346	Pg	Pg	08 46 17.5	-3.6
	3.8nm,0.5s						
SGDS				Lg	Lg	08 47 13.6	
	5.7nm,0.4s						
SATY	Saty	3.75	30	eP	Pb	08 46 17.6	+1.7
	5.9nm,0.9s						
SATY				eS	Sg	08 47 09.1	-0.8
	7.0nm,0.4s						
KRBS	Karabastau	3.87	358	eP	Pb	08 46 19.7	+1.8
	3.0nm,0.4s						
KRBS				eS	Sg	08 47 12.7	-1.1
	6.8nm,0.6s						
KRBS	Karabastau	3.87	358	Pg	Pb	08 46 19.1	+1.2
	3.0nm,0.4s						
KRBS				Lg	Lg	08 47 16.2	
	6.8nm,0.6s						
KTBS	Karatobe	3.93	9	eP	Pg	08 46 21.2	-3.6
	3.5nm,0.5s						
KTBS				eS	Sg	08 47 15.1	-0.6
	11nm,0.7s						
KTBS	Karatobe	3.93	9	Pg	Pb	08 46 18.8	-0.1
	3.1nm,0.4s						
KTBS				Lg	Lg	08 47 15.8	
	11nm,0.7s						
KUU	Kurty	4.08	5	eP	Pg	08 46 25.1	-2.6
	2.2nm,0.4s						
KUU				eS	Sg	08 47 22.0	+1.5
	23nm,0.6s						
KUU	Kurty	4.08	5	Pg	Pb	08 46 21.6	+0.2
	1.9nm,0.3s						
KUU				Lg	Lg	08 47 20.5	
	23nm,0.6s						
KPKS	Kokpek	4.21	29	eP	Pb	08 46 25.1	+1.5
	8.2nm,0.4s						
KPKS				eS	Sg	08 47 22.1	-2.4
	21nm,0.4s						
SHLS	Shalkode	4.29	38	Pg	Pg	08 46 28.6	-3.0
	4.1nm,0.2s						
SHLS				Lg	Lg	08 47 33.0	
	13nm,0.9s						
PDGK	Podgornoye	4.43	37	Pg	Pb	08 46 28.3	+0.9
	1.4nm,0.6s						
PDGK				Lg	Lg	08 47 32.1	
	3.3nm,0.7s						
PDGK	Podgornoye	4.43	37	⇑Pn	Pb	08 46 22.6	-4.9
	3.3nm,0.8s						
PDGK				⇑Lg	Lg	08 47 26.7	
	10nm,0.8s						
ARXS	Arharly	4.62	18	Pg	Pb	08 46 31.4	+0.7
	6.8nm,0.4s						
ARXS				Lg	Lg	08 47 37.2	
	5.4nm,0.4s						
MNBS	Baschi	4.65	23	eP	Pb	08 46 34.1	+2.9
	1.5nm,0.4s						
MNBS				eS	Sg	08 47 37.7	-1.1
	6.9nm,0.4s						
MNBS	Baschi	4.65	23	Pg	Pb	08 46 31.4	+0.2
	3.8nm,0.6s						
MNBS				Lg	Lg	08 47 37.2	
	6.9nm,0.4s						
KK31	Karatay Array	5.19	311	⇑Lg	Lg	08 47 57.8	
	0.6nm,0.4s,baz=121,slow=28						
BTLS	Baital	5.39	346	eP	Pg	08 46 49.7	-2.9
	0.9nm,0.4s						
BTLS				eS	Sg	08 48 04.5	+2.1
	1.7nm,0.6s						

IDC ***16*** *08:52:38.5±0.9, 38°.89N×73°.41E, h0km, mb3.8/12, mb1 4.1/16, mb1mx3.8/44, mbtmp3.9/16, ML3.7/4, Error ellipse: s-maj=17.0km s-min=15.4km az=131.0*
SOME ***16*** *08:52:47.6, 39°.12N×73°.43E, h15km*
NNC ***16*** *08:52:48.6±3.4, 39°.46N×73°.09E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=28.3km s-min=16.9km az=0.0*
BJI ***16*** *08:52:49.5±0.0, 39°.40N×73°.57E, h99km, mb4.0/1*
NEIC ***16*** *08:52:51.6±1.3, 39°.34N±0°.05×73°.42E±0.08, h90km±7km, mb4.4/20, Error ellipse: s-maj=10.8km s-min=3.2km az=50.0*
ISC 16 08:52:41.7±0.8, 39°.01N±0°.06×73°.45E±0°.04, h10km, n95, σ2§26/99, mb4.0/19, 6C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	3.12	3	P	Pn	08 53 34.5	+3.2
	SNR=37						
UCH	Uchtor	3.31	14	P	Pn	08 53 37.5	+3.5
	SNR=106						
EKS2	Erkin-Say	3.65	4	P	Pn	08 53 42.0	+3.6
	SNR=18						
AAK	Ala-Archa	3.71	12	Pn	Pn	08 53 42.6	+3.4
	12nm,0.3s,baz=168,slow=6.4,SNR=138						
AAK				Sn	Sn	08 54 22.8	-0.2
	9.6nm,0.3s,baz=3.4,slow=19,SNR=7.0						
AAK				Lg	Lg	08 54 41.3	
	6.6nm,0.3s,baz=354,slow=14,SNR=10						
AAK	Ala-Archa	3.71	12	P	Pn	08 53 42.9	+3.7
	SNR=47						
AAK	Ala-Archa	3.71	12	⇑P	Pn	08 53 42.8	+3.7
	20nm,0.5s						
AAK				⇑S	Sn	08 54 22.8	-0.2
	23nm,0.6s						
AAK	Ala-Archa	3.71	12	Pn	Pn	08 53 42.9	+3.7
KBK	Karagaybulak	3.81	17	P	Pn	08 53 44.0	+3.4
	SNR=21						
ULHL	Ulahol	3.87	32	P	Pn	08 53 44.8	+3.4
	SNR=19						
IUG	Iuzhnay	4.07	321	eP	Pg	08 54 01.4	+1.7
	34nm,0.2s						
IUG				eS	Sg	08 54 54.3	+1.9
	130nm,0.5s						
IUG	Iuzhnay	4.07	321	Pg	Pn	08 53 48.7	+4.6
	80nm,0.2s						
IUG				Lg	Lg	08 54 31.9	
	327nm,0.5s						
CHMS	Chumysh	4.10	14	P	Pn	08 53 47.9	+3.3
	SNR=10						
DZA	Taraz	4.19	338	Pg	Pn	08 53 50.3	+4.5
	122nm,0.1s						
DZA				Lg	Lg	08 54 34.2	
	450nm,0.4s						
TKM2	Tokmak 2	4.23	22	P	Pn	08 53 49.6	+3.2
	SNR=9.5						
TKM2	Tokmak 2	4.23	22	⇓P	Pn	08 53 50.1	+3.7
	5.9nm,0.5s						
USP	Ospenovka	4.32	10	P	Pn	08 53 50.5	+2.9
	SNR=7.0						
KST	Kastek	4.45	25	eP	Pg	08 54 06.7	-0.3
	20nm,0.5s						
KST				eS	Sg	08 55 03.8	-0.8
	49nm,0.6s						
DGS	Degeres	4.57	22	eP	Pg	08 54 11.4	+2.1
	15nm,0.6s						
DGS				eS	Sg	08 55 11.9	+3.4
	51nm,0.5s						
DGS	Degeres	4.57	22	Pg	Pg	08 54 06.8	-2.5
	24nm,0.7s						
DGS				Lg	Lg	08 55 02.5	
	51nm,0.7s						
KK31	Karatay Array	4.65	332	P	Pn	08 53 55.6	+3.6
	3.1nm,0.3s,baz=138,slow=12,SNR=72						
KK31				⇑S	Sn	08 54 44.7	-1.3
	33nm,0.4s,baz=149,slow=24,SNR=8.6						
KK31	Karatay Array	4.65	332	Pn	Pn	08 53 55.5	+3.6
KKAR	Karatay Array	4.65	332		Pn	08 53 55.4	+3.4
KKAR	Karatay Array	4.65	332	Pn	Pn	08 53 55.1	+3.1
IZV	Izvestkoviy	4.68	30	eP	Pg	08 54 11.8	+0.5
	18nm,0.6s						
IZV				eS	Sg	08 55 12.4	+0.6
	53nm,0.7s						
IZV	Izvestkoviy	4.68	30	Pg	Pg	08 54 12.4	+1.1
	18nm,0.6s						
IZV				Lg	Lg	08 55 12.1	
	53nm,0.7s						
MTBS	Maitube	4.69	28	eP	Pg	08 54 10.1	-1.4
	28nm,0.8s						
MTBS				eS	Sg	08 55 09.6	-2.7
	34nm,0.6s						
TNSS	Tian-Shan	4.81	32	eP	Pg	08 54 15.3	+1.4
	12nm,0.3s						
TNSS				eS	Sg	08 55 18.4	+2.1
	14nm,0.6s						
TNSS	Tian-Shan	4.81	32	Pg	Pg	08 54 14.3	+0.4
	12nm,0.7s						
TNSS				Lg	Lg	08 55 16.4	
	14nm,0.6s						
MDOK	Medeo	4.96	32	eP	Pg	08 54 16.3	-0.4
	7.0nm,0.4s						
MDOK				eS	Sg	08 55 20.1	-0.8
	16nm,0.4s						
KRBS	Karabastau	4.97	19	eP	Pg	08 54 19.1	+2.2
	6.6nm,0.5s						
KRBS				eS	Sg	08 55 24.9	+3.7
	9.8nm,0.4s						
KRBS	Karabastau	4.97	19	Pg	Pg	08 54 16.8	-0.1
	9.1nm,0.7s						
KRBS				Lg	Lg	08 55 20.2	
	16nm,0.5s						
KOTS	Kotyrbulak	5.04	32	eP	Pg	08 54 18.7	+0.4
	14nm,0.4s						
KOTS				eS	Sg	08 55 24.5	+0.9
	126nm,0.6s						
KTBS	Karatobe	5.29	26	eP	Pg	08 54 24.1	+1.1
	7.6nm,0.5s						
KTBS				eS	Sg	08 55 33.5	+2.1
	30nm,0.5s						
KUU	Kurty	5.34	23	eP	Pg	08 54 21.4	-2.5
	3.5nm,0.6s						
KUU				eS	Sg	08 55 28.9	-4.1
	33nm,0.6s						
NIL	Nilore	5.36	182		Pn	08 54 13.5	+12
SATY	Saty	5.51	41	eP	Pg	08 54 29.4	+2.1
	21nm,0.7s						
SATY				eS	Sg	08 55 42.6	+3.9
	27nm,0.8s						
UZB	Uzynbulak	5.90	44	Pg	Pg	08 54 36.3	+1.7
	8.7nm,0.5s						
UZB				Lg	Lg	08 55 53.0	
	12nm,0.5s						
BTLS	Baital	6.04	4	eP	Pg	08 54 36.3	-1.0
	1.9nm,0.4s						
BTLS				eS	Sg	08 55 54.8	-0.7
	13nm,0.5s						
PDGK	Podgornoye	6.27	45	⇓P	Pn	08 54 16.6	+2.1
	6.7nm,0.6s						
THW	Thamme Wali	6.36	193	P	Pn	08 54 26.0	+10
SMLA	Simla	8.44	158	eP	Pn	08 54 51.4	+7.4
SMLA				eS	Sn	08 56 18.6	-0.7
SMLA				IAML		08 56 26.0	
	comp=N,220nm,0.3s						
SMLA				IAML		08 56 26.4	
	comp=E,185nm,0.3s						
MAKZ	Makanchi	9.98	36	Pn	Pn	08 55 08.6	+3.4
MK31	Makanchi Array	10.12	37	⇑P	Pn	08 55 10.0	+3.0
	comp=E,4.7nm,0.7s,baz=211,slow=12,SNR=39						
MK31	Makanchi Array	10.12	37		Pn	08 55 10.2	+3.2
MKAR	Makanchi Array	10.12	37	Pn	Pn	08 55 09.6	+2.5
	comp=E,0.6nm,0.3s,baz=225,slow=14,SNR=47						
MKAR				Lg	Lg	08 58 04.5	
	comp=E,0.1nm,0.3s,baz=204,slow=25,SNR=1.8						
MKAR	Makanchi Array	10.12	37	Pn	Pn	08 55 09.1	+2.0
WMQ	Urumqi	11.72	61	eP	Pn	08 55 31.6	+2.5
GEYT	Alibeck	12.07	270	Pn	Pn	08 55 35.3	+1.5
	comp=E,0.6nm,0.3s,baz=92,slow=10,SNR=2.0						
GEYT				Sn	Sn	08 57 41.1	-7.3
	comp=E,0.4nm,0.3s,baz=100,slow=16,SNR=2.0						
GEYT	Alibeck	12.07	270		Pn	08 55 38.9	+5.2
AB31	Akbulak array	14.08	321	P	Pn	08 56 00.4	-0.7
	comp=E,3.3nm,0.6s,baz=130,slow=13,SNR=54						
ABKAR	Akbulak array	14.08	321	Pn	Pn	08 56 00.6	-0.6
BVAR	Borovoye Array	14.17	352	Pn	Pn	08 56 02.3	-0.1
	comp=E,0.1nm,0.3s,baz=168,slow=16,SNR=2.7						
BVAR				Sn	Sn	08 58 26.6	-13
	comp=E,0.4nm,0.3s,baz=187,slow=20,SNR=5.1						
BRVK	Borovoye	14.21	352	⇑P	P	08 56 10.4	0.0
	comp=E,7.0nm,0.5s						
BRVK	Borovoye	14.21	352	P	P	08 56 10.4	0.0
AKTO	Aktyubinsk	15.79	321	Pn	Pn	08 56 22.5	-1.6
	comp=E,0.2nm,0.3s,baz=127,slow=11,SNR=6.8						
AKTO				Sn	Sn	08 59 04.5	-15
	comp=E,0.2nm,0.3s,baz=331,slow=11,SNR=3.0						
AKTO	Aktyubinsk	15.79	321	⇑P	Pn	08 56 27.0	+2.9
	comp=E,2.8nm,0.8s						
ZAA0	Zalesovo Array	16.83	24	P	Pn	08 56 37.1	-0.2
ZAA0				IAmb	IAmb	08 56 39.8	
	comp=Z,16nm,1.4s						
ZALV	Zalesovo Beam	16.83	24	Pn	Pn	08 56 35.8	-1.5
	comp=Z,1.4nm,0.3s,baz=215,slow=12,SNR=22						
ZALV	Zalesovo Beam	16.83	24		Pn	08 56 36.0	-1.3
GTA	Gaotai	20.42	81	eP	P	08 57 21.6	+2.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KBZ	Khabaz	23.33	292	P	P	08 57 49.9	0.0
	comp=Z,1.3nm,0.6s,baz=105,slow=13,SNR=2.4						
TLY	Talaya	24.52	49	P	P	08 58 00.3	-0.9
	comp=Z,1.3nm,0.5s,baz=235,slow=6.0,SNR=3.8						
TLY	Talaya	24.52	49	IAmb	IAmb	08 58 02.2	
	comp=Z,2.4nm,0.9s						
SONM	Songino Array	25.34	59	P	P	08 58 08.3	-0.5
	comp=Z,2.0nm,0.7s,baz=273,slow=10.0,SNR=14						
SONM	Songino Array	25.34	59	P	P	08 58 09.4	+0.6
ANTO	Ankara	31.22	285	P	P	08 58 58.2	-3.1
ANTO					PcP	09 01 56.2	+0.4
FINES	FINESS Array B	36.55	324	P	P	08 59 46.5	-0.8
	comp=Z,1.0nm,0.3s,baz=115,slow=8.9,SNR=15						
ARCES	ARCESS Array B	39.60	336	P	P	09 00 11.9	-1.0
	comp=Z,2.6nm,0.7s,baz=104,slow=8.1,SNR=8.7						
ARCES	ARCESS Array B	39.60	336	P	P	09 00 12.3	-0.7
TIXI	Tiksi	42.72	23	P	P	09 00 36.4	-2.0
TIXI				IAmb	IAmb	09 00 37.3	
	comp=Z,4.2nm,0.6s						
NB2	NORSAR Subarra	43.59	321	P	P	09 00 44.8	-0.9
	comp=Z,2.2nm,0.8s,baz=90,slow=7.9						
NOA	NORSAR Array B	43.59	321	P	P	09 00 44.4	-1.3
	comp=Z,0.8nm,0.7s,baz=90,slow=7.9,SNR=4.5						
NC204	NORSAR Array S	43.81	322	P	P	09 00 46.1	-1.4
NC204				IAmb	IAmb	09 01 06.8	
	comp=Z,11nm,1.2s						
RES	Resolute Bay	66.32	357	P	P	09 03 28.6	-1.2
TORD	Torodi Ar. Bea	67.71	269	P	P	09 03 37.5	-2.0
	comp=Z,0.3nm,0.4s,baz=50,slow=6.5,SNR=2.5						
TORD	Torodi Ar. Bea	67.71	269	P	P	09 03 36.8	-2.8
TORD				IAmb	IAmb	09 04 02.6	
	comp=Z,2.4nm,1.4s						
TOLK	Toolik Lake Re	67.99	16	P	P	09 03 39.2	-1.4
TOLK				IAmb	IAmb	09 03 40.5	
	comp=Z,4.1nm,0.9s						
IMAR	Indian Mountai	69.18	19	P	P	09 03 46.0	-2.0
INK	Inuvik	71.10	10	P	P	09 03 57.9	-1.8
	comp=Z,1.0nm,0.6s,baz=9.1,slow=5.1,SNR=4.8						
INK	Inuvik	71.10	10	P	P	09 03 58.3	-1.4
INK				IAmb	IAmb	09 04 20.6	
	comp=Z,3.7nm,1.2s						
C36M	Paulatuk	71.18	6	P	P	09 03 58.2	-2.0
MDM	Murphy Dome	71.36	17	P	P	09 03 59.9	-1.5
ILAR	Eielson Array	71.82	17	P	P	09 04 01.4	-2.8
	comp=Z,0.8nm,0.8s,baz=323,slow=5.4,SNR=10						
ILAR	Eielson Array	71.82	17	P	P	09 04 01.6	-2.6
KTH	Kantishna Hill	71.87	19	P	P	09 04 02.7	-1.8
KTH				IAmb	IAmb	09 04 22.1	
	comp=Z,12nm,1.3s						
MCK	McKinley	72.22	18	P	P	09 04 04.8	-1.7
MCK				IAmb	IAmb	09 04 16.5	
	comp=Z,13nm,1.5s						
CUT	Chulitna	72.98	20	P	P	09 04 08.8	-2.3
SKT	Skwentna	73.00	20	P	P	09 04 09.0	-2.3
SKT				IAmb	IAmb	09 04 35.1	
	comp=Z,8.3nm,1.2s						
SUA	Susitna One	73.64	20	P	P	09 04 13.4	-1.8
SUA				IAmb	IAmb	09 04 40.9	
	comp=Z,9.0nm,1.2s						
GHO	Glory Hole Cre	73.86	19	P	P	09 04 14.7	-1.7
SCM	Sheep Creek Mo	74.22	19	P	P	09 04 16.7	-1.8
M24K	Tolsona, Glenn	74.27	18	P	P	09 04 17.8	-1.0
YKA	Yellowknife Ar	78.63	4	P	P	09 04 41.5	-1.8
	comp=Z,0.4nm,0.6s,baz=356,slow=5.3,SNR=12						
WRA	Warramunga Arr	81.72	124	P	P	09 04 59.4	-1.2
	comp=Z,0.9nm,0.9s,baz=326,slow=5.1,SNR=10						
ASAR	Alice Springs	84.15	127	P	P	09 05 12.1	-1.1
	comp=Z,0.2nm,0.6s,baz=336,slow=5.9,SNR=4.5						

IDC 16 09:44:44.6±7.7, 53°.78S×144°.50E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/19, mbtmp3.6/2, MS3.7/4, Ms1 3.6/4, ms1mx3.1/24, Error ellipse: s-maj=458.7km s-min=70.7km az=86.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	Rata Peaks	20.09	71	LR	LR	09 55 28.0	
	comp=Z,251nm,18.7s,baz=248,slow=32						
URZ	Urewera	27.15	68	LR	LR	10 00 34.9	
	comp=Z,173nm,18.2s,baz=211,slow=35						
H01W1	Cape Leeuwin H	28.44	299	T	T	10 20 32.4	
	baz=142,slow=75,SNR=17						
H01W2	Cape Leeuwin H	28.44	299	T	T	10 20 33.7	
	baz=142,slow=75,SNR=16						
H01W3	Cape Leeuwin H	28.45	299	T	T	10 20 33.6	
	baz=142,slow=75,SNR=12						
NWAO	Narrogin (SRO)	28.47	306	LR	LR	09 59 24.3	
	comp=Z,82nm,19.7s,baz=136,slow=31						
ASAR	Alice Springs	31.11	341	P	P	09 51 06.3	+1.6
	0.4nm,0.8s,baz=164,slow=9.5,SNR=6.0						
WRA	Warramunga Arr	34.67	343	P	P	09 51 34.2	-1.6
	1.2nm,1.0s,baz=171,slow=9.6,SNR=6.

108nm,0.3s,baz=311,slow=18,SNR=62
LEM S Sn 10 04 48.0 +13
27nm,0.3s,baz=117,slow=23,SNR=2.4
LEM LR LR 10 05 55.9
comp=Z,69nm,19.0s,baz=261,slow=48
LEM Lembang 1.47 76 P **Pn 10 04 16.1 +0.8**
CISI Cisompet, Garu 1.67 103 P **Pn 10 04 18.7 +1.1**
CISI S **Sn 10 04 39.9 +0.7**
KASI Kota Agung 2.34 314 P **Pn 10 04 27.9 +1.6**
KLSI 2.86 330 P **Pn 10 04 33.5 +0.3**
MDSI Maura Dua 3.33 323 P **Pn 10 04 40.1 +0.6**
MNAI Manna 4.26 311 P **Pn 10 04 52.6 +0.6**
WRA Warramunga Arr 30.11 118 P **P 10 09 47.5 -2.1**
0.3nm,0.3s,baz=290,slow=10.0,SNR=16
ASAR Alice Springs 31.25 125 P **P 10 09 58.6 -1.2**
0.2nm,0.4s,baz=298,slow=8.3,SNR=6.7
STKA Stephens Creek 41.13 131 P **P 10 11 23.6 -0.1**
1.2nm,0.4s,baz=324,slow=6.1,SNR=5.0

CRAAG ***16*** *11:13:09.6,36˚.44N×3˚.04E,Ml4.1*
IDC ***16*** *11:13:09.4±0.8,36˚.49N×3˚.08E,h0km,mb3.8/12, mb1 4.0/16,mb1mx3.7/48,mbtmp3.8/16,ML3.8/4,MS3.1/4, Ms1 3.2/4,ms1mx2.8/49,Error ellipse: s-maj=22.0km s-min=15.4km az=157.0*
NEIC ***16*** *11:13:11.3±2.7,36˚.51N±0˚.07×3˚.02E±0˚.07,h10km±1km, mb3.7/3,Error ellipse: s-maj=12.1km s-min=9.0km az=149.0*
LDG ***16*** *11:13:12.3±0.5,36˚.65N×2˚.88E,h2km,Ml3.8/27,Error ellipse: s-maj=9.8km s-min=6.3km az=154.0*
MDD ***16*** *11:13:12.6±0.6,36˚.65N×2˚.98E,h26km±5km,mb4.6/33, Error ellipse: s-maj=7.0km s-min=4.5km az=141.0, PRXIMO*
ISC 16 11:13:12.3±0.5,36˚.54N±0˚.04×3˚.03E±0˚.03,h18km,n201, σ2s71/299,mb3.8/14,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.26**	**1**	P	**Pg**	**11 13 17.5**	**-0.8**
ABA	**Alger-Bouzarea**	**0.26**	**1**	P	**Pg**	**11 13 17.5**	**-0.8**
ABMS	**Boumerdes**	**0.42**	**60**	P	**Pg**	**11 13 19.9**	**-1.0**
ABMS	**Boumerdes**	**0.42**	**60**	P	**Pg**	**11 13 19.9**	**-1.0**
ADJB	**Djebel Djouab**	**0.50**	**139**	P	**Pg**	**11 13 19.7**	**-2.8**
ADJB	**Djebel Djouab**	**0.50**	**139**	P	**Pg**	**11 13 19.7**	**-2.8**
EBNR	**Beni Rached**	**1.24**	**259**	P	**Pb**	**11 13 35.3**	**+0.1**
ECHA	**Ech Chlef**	**1.40**	**254**	P	**Pb**	**11 13 38.4**	**+0.5**
ECHF	**Ech Chlef**	**1.42**	**255**	P	**Pb**	**11 13 38.4**	**+0.1**
EANR	**'Ain N'Sour**	**1.67**	**250**	P	**Pb**	**11 13 42.5**	**-0.1**
EANR	**'Ain N'Sour**	**1.67**	**250**	P	**Pb**	**11 13 42.5**	**-0.1**
SET	**Setif**	**1.94**	**99**	P	**Pn**	**11 13 45.0**	**+0.5**
SET	**Setif**	**1.94**	**99**	P	**Pn**	**11 13 45.0**	**+0.5**
OKGL	**Djebel Kef Gue**	**1.99**	**256**	P	**Pb**	**11 13 47.0**	**-1.1**
OKGL	**Djebel Kef Gue**	**1.99**	**256**	P	**Pn**	**11 13 44.1**	**-1.1**
	201nm,0.3s,SNR=7.9						
OKGL				S	**Sn**	**11 14 08.7**	**-1.0**
	144nm,0.2s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**1.99**	**256**		**Pn**	**11 13 45.1**	**-0.1**
OKGL					**Sn**	**11 14 08.8**	**-1.0**
OJGS	**Djebel Guires**	**2.12**	**242**	P	**Pn**	**11 13 45.0**	**-1.9**
OJGS	**Djebel Guires**	**2.12**	**242**	P	**Pn**	**11 13 45.0**	**-1.9**
DFRA	**Djebel Bou Aff**	**2.29**	**89**	P	**Pn**	**11 13 48.6**	**-0.7**
DFRA	**Djebel Bou Aff**	**2.29**	**89**	P	**Pn**	**11 13 48.6**	**-0.7**
OJBR	**Djebel Berber**	**2.38**	**247**	P	**Pn**	**11 13 49.0**	**-1.5**
OJBR	**Djebel Berber**	**2.38**	**247**	P	**Pn**	**11 13 49.0**	**-1.5**
CASM	**Ain Smara**	**2.80**	**95**	P	**Pn**	**11 13 52.2**	**-4.1**
CASM	**Ain Smara**	**2.80**	**95**	P	**Pn**	**11 13 52.2**	**-4.1**
EIBI	**Ibiza**	**2.82**	**332**	P	**Pn**	**11 13 56.7**	**+0.1**
	72nm,0.2s,SNR=29						
EIBI				S	**Sn**	**11 14 28.6**	**-1.4**
	46nm,0.1s,SNR=6.8						
EIBI	**Ibiza**	**2.82**	**332**		**Pn**	**11 13 56.9**	**+0.4**
EIBI					**Sn**	**11 14 28.6**	**-1.4**
ODJA	**Bouhanifia**	**2.85**	**246**	P	**Pb**	**11 14 04.0**	**+1.3**
ODJA	**Bouhanifia**	**2.85**	**246**	P	**Pb**	**11 14 04.0**	**+1.3**
CAEH	**'Ain El Ouahch**	**3.08**	**84**	P	**Pn**	**11 14 00.8**	**+0.7**
CAEH	**'Ain El Ouahch**	**3.08**	**84**	P	**Pn**	**11 14 00.8**	**+0.7**
ETOS	**Mallorca**	**3.23**	**357**	P	**Pn**	**11 14 02.4**	**+0.3**
	53nm,0.4s,SNR=81						
ETOS				S	**Sn**	**11 14 38.3**	**-1.9**
	2.8nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**3.23**	**357**		**Pn**	**11 14 02.4**	**+0.3**
ETOS					**Sn**	**11 14 38.2**	**-1.9**
EBEN2	**Beniarda presa**	**3.33**	**311**	P	**Pn**	**11 14 03.7**	**+0.1**
	18nm,0.3s,SNR=7.9						
EBEN2				S	**Sn**	**11 14 41.2**	**-1.5**
	7.8nm,0.3s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.33**	**311**		**Pn**	**11 14 03.6**	**+0.1**
EBEN2					**Sn**	**11 14 41.2**	**-1.5**
ETRV	**Los Montesinos**	**3.37**	**297**	S	**Sn**	**11 14 41.7**	**-1.9**
	125nm,0.2s,SNR=7.9						
CART	**Cartagena**	**3.39**	**289**	P	**Pn**	**11 14 03.9**	**-0.4**
CART				S	**Sn**	**11 14 39.3**	**-4.8**
CART	**Cartagena**	**3.39**	**289**	*e*P	**Pn**	**11 14 03.9**	**-0.4**
CART				*e*S	**Sn**	**11 14 39.3**	**-4.8**
CART	**Cartagena**	**3.39**	**289**		**Pn**	**11 14 03.2**	**-1.2**
MAHO	**Mahon**	**3.49**	**16**	P	**Pn**	**11 14 05.3**	**-0.4**
MAHO				S	**Sn**	**11 14 42.4**	**-4.2**
MAHO	**Mahon**	**3.49**	**16**	*e*P	**Pn**	**11 14 05.3**	**-0.4**
MAHO				*e*S	**Sn**	**11 14 42.4**	**-4.2**
MAHO				*e*		11 17 04.1	
CMAH	**Djebel Manchou**	**3.53**	**87**	P	**Pn**	**11 14 05.8**	**-0.6**
CMAH	**Djebel Manchou**	**3.53**	**87**	P	**Pn**	**11 14 05.8**	**-0.6**
AFON	**Font Roja**	**3.54**	**308**	P	**Pn**	**11 14 07.8**	**+1.2**
	12nm,0.3s,SNR=7.9						
AFON				S	**Sn**	**11 14 46.2**	**-1.8**
	3.7nm,0.4s,SNR=7.9						
AFON	**Font Roja**	**3.54**	**308**		**Pn**	**11 14 07.8**	**+1.2**
AFON					**Sn**	**11 14 46.2**	**-1.8**
EMUR	**La Murta**	**3.65**	**292**	P	**Pn**	**11 14 07.8**	**-0.2**
	12nm,0.2s,SNR=23						
EMUR				S	**Sn**	**11 14 48.9**	**-1.7**
	7.9nm,0.2s,SNR=5.7						
EMUR	**La Murta**	**3.65**	**292**		**Pn**	**11 14 07.8**	**-0.2**
EMUR					**Sn**	**11 14 48.9**	**-1.7**
TLOR	**Lorca, Murcia**	**3.94**	**288**	S	**Sn**	**11 14 54.9**	**-2.7**
	231nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.20**	**301**	P	**Pn**	**11 14 15.9**	**+0.4**
	23nm,0.2s,SNR=55						
ETOB				S	**Sn**	**11 15 02.2**	**-2.0**
	8.7nm,0.2s,SNR=4.6						
ETOB	**Tobarra**	**4.20**	**301**		**Pn**	**11 14 15.9**	**+0.4**
ETOB					**Sn**	**11 15 02.2**	**-2.0**
ENIJ	**Nijar**	**4.23**	**277**	S	**Sn**	**11 15 00.9**	**-3.9**
	17nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**4.23**	**277**		**Sn**	**11 15 02.8**	**-2.1**
ECHE	**Chera**	**4.39**	**315**	P	**Pn**	**11 14 18.2**	**+0.2**
	16nm,0.3s,SNR=7.9						
ECHE				S	**Sn**	**11 15 06.4**	**-2.3**
	0.9nm,0.3s,SNR=7.9						
ECHE	**Chera**	**4.39**	**315**		**Pn**	**11 14 18.2**	**+0.2**
ECHE					**Sn**	**11 15 06.4**	**-2.3**
EMOS	**Mosqueruela**	**4.71**	**325**	P	**Pn**	**11 14 23.1**	**+0.5**
	22nm,0.2s,SNR=26						
EMOS				S	**Sn**	**11 15 15.2**	**-1.6**
	11nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.71**	**325**		**Pn**	**11 14 23.1**	**+0.5**
EMOS					**Sn**	**11 15 15.2**	**-1.6**
SESP	**Santiago Espad**	**4.72**	**291**	P	**Pn**	**11 14 23.3**	**+0.6**
	22nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**11 15 14.5**	**-2.6**
	21nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.77**	**276**	P	**Pn**	**11 14 22.1**	**-1.4**
	4.0nm,0.2s,SNR=16						
EBER				S	**Sn**	**11 15 16.4**	**-2.0**
	5.7nm,0.2s,SNR=11						
EBER	**Berja**	**4.77**	**276**		**Pn**	**11 14 22.1**	**-1.4**
EBER					**Sn**	**11 15 16.4**	**-2.0**
ERTA	**Horta de San J**	**4.89**	**335**	P	**Pn**	**11 14 26.5**	**+1.5**
	9.9nm,0.3s,SNR=5.9						
ERTA				S	**Sn**	**11 15 18.5**	**-2.6**
	8.0nm,0.2s,SNR=8.7						
ERTA	**Horta de San J**	**4.89**	**335**		**Pn**	**11 14 26.5**	**+1.5**
ERTA					**Sn**	**11 15 18.6**	**-2.6**
EQES	**Quesada**	**5.04**	**286**	P	**Pn**	**11 14 28.1**	**+1.0**
	34nm,0.5s,SNR=7.9						
EQES				S	**Sn**	**11 15 22.8**	**-2.1**
	6.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.04**	**286**		**Pn**	**11 14 28.1**	**+1.0**
EQES					**Sn**	**11 15 22.8**	**-2.1**
KEST	**Kesra**	**5.17**	**97**	Pn	**Pn**	**11 14 29.0**	**+0.1**
	6.7nm,0.3s,baz=44,slow=15,SNR=23						
KEST				Sn	**Sn**	**11 15 27.7**	**-0.5**
	2.0nm,0.3s,baz=82,slow=13,SNR=1.6						
KEST	**Kesra**	**5.17**	**97**		**Pn**	**11 14 30.0**	**+1.1**
EQUE	**Quentar**	**5.23**	**279**	P	**Pn**	**11 14 29.9**	**+0.1**
	5.8nm,0.4s,SNR=6.9						
EQUE				S	**Sn**	**11 15 26.7**	**-2.9**
	1.1nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**5.24**	**355**	P	**Pn**	**11 14 30.0**	**+0.2**
	10nm,0.2s,SNR=25						
CFON				S	**Sn**	**11 15 26.9**	**-2.8**
	25nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.24**	**355**		**Pn**	**11 14 30.0**	**+0.2**
CFON					**Sn**	**11 15 26.9**	**-2.8**
ELGU	**Los Guajares,**	**5.36**	**275**	P	**Pn**	**11 14 31.2**	**-0.3**
	3.1nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**11 15 29.7**	**-3.1**
	8.8nm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**5.36**	**275**		**Sn**	**11 15 30.1**	**-2.7**
EMIR	**Miracle**	**5.49**	**348**	P	**Pn**	**11 14 35.3**	**+2.0**
	38nm,0.2s,SNR=27						
EMIR				S	**Sn**	**11 15 33.3**	**-2.8**
	16nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.49**	**348**		**Pn**	**11 14 34.5**	**+1.2**
EMIR					**Sn**	**11 15 34.2**	**-1.9**
EGOR	**Sierra Gorda,**	**5.76**	**278**	P	**Pn**	**11 14 38.4**	**+1.3**
	5.1nm,0.5s,SNR=7.9						
EGOR				S	**Sn**	**11 15 42.2**	**-0.5**
	0.8nm,0.4s,SNR=7.9						
EGOR	**Sierra Gorda,**	**5.76**	**278**		**Pn**	**11 14 38.4**	**+1.3**
EGOR					**Sn**	**11 15 42.2**	**-0.5**
VSL	**Villasalto**	**5.81**	**58**	Pn	**Pn**	**11 14 36.5**	**-1.2**
ETOR	**Torete**	**5.84**	**319**	P	**Pn**	**11 14 40.1**	**+2.1**
	12nm,0.3s,SNR=15						
ETOR				S	**Sn**	**11 15 44.5**	**-0.1**
	0.4nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**5.90**	**359**	P	**Pn**	**11 14 40.6**	**+1.7**
	5.6nm,0.2s,SNR=15						
EJON				S	**Sn**	**11 15 42.8**	**-3.3**
	2.5nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**5.90**	**359**		**Pn**	**11 14 40.6**	**+1.7**
EJON					**Sn**	**11 15 42.8**	**-3.3**
SJAF	**Saint Jean de**	**5.94**	**359**	P	**Pn**	**11 14 39.7**	**+0.3**
	7.2nm,0.3s,SNR=7.9						
SJAF				S	**Sn**	**11 15 44.4**	**-2.5**
	1.5nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**5.94**	**359**		**Pn**	**11 14 39.7**	**+0.3**
SJAF					**Sn**	**11 15 44.4**	**-2.5**
CLLI	**Llivia**	**5.99**	**352**	P	**Pn**	**11 14 41.4**	**+1.2**
	12nm,0.5s,SNR=21						
CLLI				S	**Sn**	**11 15 45.4**	**-3.0**
	2.5nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**5.99**	**352**		**Pn**	**11 14 42.6**	**+2.4**
CLLI					**Sn**	**11 15 46.2**	**-2.1**
CSOR	**Sort**	**6.01**	**346**	P	**Pn**	**11 14 41.7**	**+1.2**
	8.2nm,0.2s,SNR=18						
CSOR				S	**Sn**	**11 15 46.1**	**-2.8**
	3.0nm,0.2s,SNR=7.9						
CSOR	**Sort**	**6.01**	**346**		**Pn**	**11 14 41.7**	**+1.2**
CSOR					**Sn**	**11 15 47.1**	**-1.7**
EADA	**Adamuz**	**6.28**	**287**	P	**Pn**	**11 14 43.8**	**-0.2**
	0.9nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**11 15 52.7**	**-2.5**
	1.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.28**	**287**		**Pn**	**11 14 44.2**	**+0.2**
EADA					**Sn**	**11 15 53.0**	**-2.2**
ESBB	**Sonseca Array**	**6.34**	**302**		**Pn**	**11 14 43.8**	**-1.1**
ESBB	**Sonseca Array**	**6.34**	**302**		**Sn**	**11 15 54.6**	**-2.3**
ESDC	**Sonseca Array**	**6.34**	**302**	Pn	**Pn**	**11 14 44.8**	**-0.1**
	1.0nm,0.3s,baz=116,slow=13,SNR=19						
ESDC				Sn	**Sn**	**11 15 53.7**	**-3.3**
	0.8nm,0.3s,baz=113,slow=25,SNR=5.0						
ESDC				LR	LR	11 17 10.5	
	comp=Z,99nm,18.1s,baz=155,slow=38						
ESDC	**Sonseca Array**	**6.34**	**302**	P	**Pn**	**11 14 44.8**	**-0.1**
	3.6nm,0.2s,baz=117,slow=13,SNR=15						
ESDC				S	**Sn**	**11 15 54.5**	**-2.4**
	6.8nm,0.7s,baz=116,slow=24,SNR=6.8						
ESDC	**Sonseca Array**	**6.34**	**302**		**Pn**	**11 14 45.8**	**+0.8**
ESDC	**Sonseca Array**	**6.34**	**302**		**Sn**	**11 15 54.5**	**-2.4**
ECHI	**Chisagues Biel**	**6.50**	**341**	P	**Pn**	**11 14 48.3**	**+1.1**
	2.5nm,0.4s,SNR=7.9						
ECHI				S	**Sn**	**11 15 56.8**	**-4.0**
	0.9nm,0.1s,SNR=7.9						
ECHI	**Chisagues Biel**	**6.50**	**341**		**Pn**	**11 14 48.3**	**+1.1**
ECHI					**Sn**	**11 15 56.8**	**-4.0**
PAB	**San Pablo**	**6.55**	**299**	P	**Pn**	**11 14 47.4**	**-0.4**
	1.8nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**11 15 59.0**	**-3.2**
	0.5nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**6.55**	**299**		**Pn**	**11 14 47.7**	**-0.1**
PAB	**San Pablo**	**6.55**	**299**		**Sn**	**11 15 59.0**	**-3.2**
EPF	**Esparros**	**6.81**	**343**	P	**Pn**	**11 14 52.7**	**+1.4**
EPF				S	**Sn**	11 15 58.3	-10
	3.9nm,0.3s						
EPF	**Esparros**	**6.81**	**343**	*e*P	**Pn**	**11 14 52.7**	**+1.4**
EPF				*e*Sn	**Sn**	11 15 58.3	-10
	7.8nm,0.3s						
MTLF	**Montolieu**	**6.82**	**355**	P	**Pn**	**11 14 53.0**	**+1.5**
MTLF				S	**Sn**	**11 16 00.1**	**-8.6**
	4.5nm,0.4s						
MTLF	**Montolieu**	**6.82**	**355**	*e*P	**Pn**	**11 14 53.0**	**+1.5**
MTLF				*e*Sn	**Sn**	**11 16 00.1**	**-8.6**
	9.0nm,0.4s						
ECAB	**El Cabril**	**6.91**	**285**	P	**Pn**	**11 14 51.8**	**-0.9**
	2.1nm,0.3s,SNR=9.6						
ECAB				S	**Sn**	**11 16 07.9**	**-3.0**
	0.3nm,0.4s,SNR=6.4						
ECAB	**El Cabril**	**6.91**	**285**		**Pn**	**11 14 51.8**	**-0.9**
ECAB					**Sn**	**11 16 07.9**	**-3.0**
ETSF	**Etsaut**	**6.93**	**338**	*e*P	**Pn**	**11 14 54.5**	**+1.5**
ETSF				*e*Sn	**Sn**	11 16 00.5	-11
	10nm,0.4s						
GUD	**Guadarrama**	**6.96**	**308**	P	**Pn**	**11 14 54.5**	**+0.9**
	2.7nm,0.3s,SNR=6.6						
GUD				S	**Sn**	**11 16 07.7**	**-4.6**
	0.8nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**6.96**	**308**		**Pn**	**11 14 54.5**	**+0.9**
GUD					**Sn**	**11 16 07.7**	**-4.6**
ATE	**Arette**	**7.14**	**337**	P	**Pn**	**11 14 57.6**	**+1.7**
	1.9nm,0.3s,SNR=7.9						
ATE				S	**Sn**	**11 16 13.7**	**-2.9**
	3.4nm,0.2s,SNR=7.9						
ATE	**Arette**	**7.14**	**337**		**Pn**	**11 14 57.6**	**+1.7**
ATE					**Sn**	**11 16 12.7**	**-3.9**
EORO	**Oroz-Betelu**	**7.17**	**334**	P	**Pn**	**11 14 56.9**	**+0.5**
	5.4nm,0.4s,SNR=9.9						
EORO				S	**Sn**	**11 16 13.7**	**-3.7**
	2.1nm,0.3s,SNR=7.9						
EORO	**Oroz-Betelu**	**7.17**	**334**		**Pn**	**11 14 56.9**	**+0.5**
EORO					**Sn**	**11 16 13.7**	**-3.7**
LMR	**La Mourre**	**7.29**	**20**	P	**Pn**	**11 14 57.2**	**-0.7**
LMR				S	**Sn**	**11 16 14.8**	**-5.4**
	6.9nm,0.2s						
LMR	**La Mourre**	**7.29**	**20**	*e*Pn	**Pn**	**11 14 57.2**	**-0.7**
LMR				*e*Sn	**Sn**	**11 16 14.8**	**-5.4**
	14nm,0.2s						
MDT	**Midelt**	**7.31**	**242**	Pn	**Pn**	**11 14 58.5**	**+0.2**
	0.7nm,0.3s,baz=318,slow=6.3,SNR=13						
MDT				Lg	Lg	11 17 02.8	
	0.5nm,0.3s,baz=252,slow=20,SNR=2.1						
MDT				LR	LR	11 18 11.2	
	comp=Z,91nm,18.3s,baz=12,slow=41						
SJPF	**Ste Jean**	**7.34**	**335**	P	**Pn**	**11 15 00.1**	**+1.5**
SJPF	**Ste Jean**	**7.34**	**335**	*e*P	**Pn**	**11 15 00.1**	**+1.5**
SJPF				*e*Sn	**Sn**	11 16 09.9	-11
	47nm,1.0s						
FRF	**La Foret Royal**	**7.54**	**20**	P	**Pn**	**11 15 00.7**	**-0.6**
FRF				S	**Sn**	**11 16 21.2**	**-5.1**
	15nm,0.3s						
FRF	**La Foret Royal**	**7.54**	**20**	*e*Pn	**Pn**	**11 15 00.7**	**-0.6**
FRF				*e*Sn	**Sn**	**11 16 21.2**	**-5.1**
	30nm,0.3s						
LASF	**Ste Croix**	**7.55**	**5**	P	**Pn**	**11 15 02.2**	**+0.6**
LASF				S	**Sn**	**11 16 18.2**	**-8.5**
	5.2nm,0.4s						
LASF	**Ste Croix**	**7.55**	**5**	*e*P	**Pn**	**11 15 02.2**	**+0.6**
LASF				*e*Sn	**Sn**	**11 16 18.2**	**-8.5**
	10nm,0.4s						
PGF	**Pioggiola**	**7.57**	**36**	P	**Pn**	**11 15 01.3**	**-0.5**
PGF				S	**Sn**	**11 16 22.2**	**-4.9**
	6.8nm,0.3s						
PGF	**Pioggiola**	**7.57**	**36**	*e*Pn	**Pn**	**11 15 01.3**	**-0.5**
PGF				*e*Sn	**Sn**	**11 16 22.2**	**-4.9**
	14nm,0.3s						
SMRF	**Simiane la Rot**	**7.68**	**14**	P	**Pn**	**11 15 05.1**	**+1.8**
SMRF				S	**Sn**	**11 16 23.4**	**-6.4**
	7.3nm,0.6s						
EMIN	**Mina Concepcio**	**7.85**	**282**	P	**Pn**	**11 15 04.6**	**-0.9**
	3.0nm,0.6s,SNR=7.9						
EMIN				S	**Sn**	**11 16 29.2**	**-4.7**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.85**	**282**		**Pn**	**11 15 04.6**	**-0.9**
EMIN					**Sn**	**11 16 29.2**	**-4.7**
SBF	**Sospel**	**8.05**	**23**	P	**Pn**	**11 15 08.0**	**-0.4**
SBF				S	**Sn**	**11 16 33.5**	**-5.5**
	12nm,0.4s						
SBF	**Sospel**	**8.05**	**23**	*e*Pn	**Pn**	**11 15 08.0**	**-0.4**
SBF				*e*Sn	**Sn**	**11 16 33.5**	**-5.5**
	23nm,0.4s						
PBAR	**Barrancos**	**8.19**	**285**	P	**Pn**	**11 15 13.7**	**+3.5**
PBAR				S	**Sn**	**11 16 39.6**	**-2.6**
PBAR	**Barrancos**	**8.19**	**285**	*e*Pn	**Pn**	**11 15 13.7**	**+3.5**
PBAR				*e*Sn	**Sn**	**11 16 39.6**	**-2.6**
ELAN	**Lanestosa**	**8.33**	**325**	P	**Pn**	**11 15 13.8**	**+1.7**
	1.8nm,0.2s,SNR=7.9						
ELAN				S	**Sn**	**11 16 40.5**	**-5.2**
	0.1nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**8.33**	**325**		**Pn**	**11 15 13.8**	**+1.7**
ELAN					**Sn**	**11 16 41.6**	**-4.1**
VIVF	**Saint-Julien-l**	**8.40**	**8**	P	**Pn**	**11 15 14.7**	**+1.5**
VIVF				S	**Sn**	**11 16 40.3**	**-7.3**
	7.1nm,0.5s						
VIVF	**Saint-Julien-l**	**8.40**	**8**	*e*P	**Pn**	**11 15 14.7**	**+1.5**
VIVF				*e*Sn	**Sn**	**11 16 40.3**	**-7.3**
	14nm,0.5s						
CAF	**Calviac**	**8.41**	**355**	P	**Pn**	**11 15 16.3**	**+3.0**
CAF				S	Sn	11 16 37.8	-10
	0.8nm,0.3s						
CAF	**Calviac**	**8.41**	**355**	*e*P	**Pn**	**11 15 16.3**	**+3.0**
CAF				*e*Sn	Sn	11 16 37.8	-10
	1.5nm,0.3s						
LFF	**La Frestale**	**8.57**	**349**	P	**Pn**	**11 15 17.9**	**+2.5**
LFF	**La Frestale**	**8.57**	**349**	*e*P	**Pn**	**11 15 17.9**	**+2.5**
ORIF	**Oris-en-Rattie**	**8.64**	**14**	P	**Pn**	**11 15 19.3**	**+2.7**
ORIF				S	**Sn**	**11 16 46.5**	**-7.1**
	1.1nm,0.5s						
ORIF	**Oris-en-Rattie**	**8.64**	**14**	*e*P	**Pn**	**11 15 19.3**	**+2.7**
ORIF				*e*Sn	**Sn**	**11 16 46.5**	**-7.1**
	2.2nm,0.5s						
PVAQ	**Vaqueiros**	**8.65**	**279**	P	**Pn**	**11 15 17.7**	**+1.2**
PVAQ				S	**Sn**	**11 16 50.3**	**-3.3**
PVAQ	**Vaqueiros**	**8.65**	**279**	*e*Pn	**Pn**	**11 15 17.7**	**+1.2**
PVAQ				*e*Sn	**Sn**	**11 16 50.3**	**-3.3**
PVAQ	**Vaqueiros**	**8.65**	**279**	Pn	**Pn**	**11 15 16.4**	**-0.1**
MBDF	**Montbardon**	**8.66**	**18**	P	**Pn**	**11 15 16.6**	**-0.2**
MBDF				S	**Sn**	**11 16 47.1**	**-6.9**
	1.8nm,0.3s						
MBDF	**Montbardon**	**8.66**	**18**	*e*Pn	**Pn**	**11 15 16.6**	**-0.2**
MBDF				*e*Sn	**Sn**	**11 16 47.1**	**-6.9**
	3.5nm,0.3s						
CASP	**Castiglione de**	**8.68**	**42**	Pn	**Pn**	**11 15 16.6**	**-0.4**
PESTR	**Estremoz**	**8.73**	**289**	*e*Pn	**Pn**	**11 15 17.6**	**-0.1**
PESTR				*e*Sn	**Sn**	**11 16 53.7**	**-2.0**
SSB	**Saint Sauveur**	**8.81**	**7**	Pn	**Pn**	**11 15 20.4**	**+1.6**
RJF	**Les Rejaudoux**	**8.83**	**353**	*e*P	**Pn**	**11 15 21.2**	**+2.1**
RJF				*e*Sn	Sn	11 16 47.7	-10
	2.1nm,0.3s						
BNI	**Bardonecchia**	**8.94**	**17**	Pn	**Pn**	**11 15 22.2**	**+1.5**
EARI	**Arriondas**	**9.25**	**319**	P	**Pn**	**11 15 26.5**	**+1.6**
	6.3nm,0.3s,SNR=15						
EARI				S	**Sn**	**11 17 03.4**	**-5.1**
	0.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**9.25**	**319**		**Pn**	**11 15 26.5**	**+1.6**
EARI					**Sn**	**11 17 03.5**	**-5.1**
ECAL	**Calabor**	**9.30**	**308**	P	**Pn**	**11 15 26.1**	**+0.5**
	10nm,0.3s,SNR=41						
ECAL				S	**Sn**	**11 17 06.9**	**-2.8**
	3.4nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**9.30**	**308**		**Pn**	**11 15 26.1**	**+0.5**
LPG	**La Plagne**	**9.38**	**16**	*e*P	**Pn**	**11 15 30.6**	**+3.8**
TCF	**Toulx Ste Croi**	**9.76**	**357**	*e*P	**Pn**	**11 15 34.0**	**+2.2**
BGF	**Bois d'Agland**	**10.01**	**359**	*e*P	**Pn**	**11 15 38.2**	**+3.0**
SMF	**Signal de Mont**	**10.12**	**3**	*e*P	**Pn**	**

comp=Z,0.7nm,0.3s,baz=110,slow=16,SNR=3.5
TXAR Lajitas Array 85.02 303 P P 11 25 47.8 +0.6
comp=Z,0.3nm,0.7s,baz=74,slow=9.3,SNR=3.5
PETK Petropavlovsk- 88.05 15 LR LR 12 08 40.0
comp=Z,22nm,21.1s,baz=316,slow=38

ATH ***16*** *11:18:32.9, 37.30N×20.01E, h8km±1km, ML4.5/15, Error ellipse: s-maj=2.4km s-min=1.1km az=64.0*
IDC ***16*** *11:18:33.8±0.7, 37.50N×20.31E, h0km, mb4.0/22, mb1 4.2/33, mb1mx4.1/52, mbtmp4.1/33, ML3.9/10, MS3.5/13, Ms1 3.6/13, ms1mx3.2/53, Error ellipse: s-maj=15.0km s-min=11.5km az=173.0*
THE ***16*** *11:18:34.5, 37.34N×20.10E, h0km±1km, ML4.5/6, Error ellipse: s-maj=2.3km s-min=0.9km az=251.0*
PDG ***16*** *11:18:34.5±0.7, 37.36N×20.03E, h17km±1km, MD6.8/1, ML4.2/12, Error ellipse: s-maj=2.0km s-min=2.4km az=0.0*
NEIC ***16*** *11:18:35.6±2.7, 37.39N±0.08×20.15E±0.07, h16km±6km, mb4.4/19, ML4.5(ATH), Error ellipse: s-maj=12.1km s-min=7.2km az=194.0*
MOS ***16*** *11:18:35.1±1.2, 37.41N×20.20E, h25km, mb4.6/22, Error ellipse: s-maj=8.3km s-min=3.8km az=69.7*
BEO ***16*** *11:18:37.9±0.6, 37.44N×20.04E, h34km±8km, ML4.5/11*
MED_RC ***16*** *11:18:38.0±0.9, 37.39N×20.14E, h27km±3km, MW4.5/7, Moment Tensor Solution.Mantle waves: s7,c9; Duration: 1s0 Moment tensor: Scale 10[15]Nm; Mrr2.76±1.31; Mθθ-0.79±.81; Mϕϕ-1.97±.79; Mrθ1.59±.50; Mrϕ0.68±.39; Mθϕ-5.51±1.06; Best double couple: M₀6.76000×10[15] NP1:ϕs293.00000°, δ21.00000°, λ43.00000°. NP2: ϕs162.00000°, δ76.00000°, λ106.00000°. Principal axes: T 6.3900, Plg56.0000°, Azm92.0000°; N 0.7400, Plg15.0000°, Azm338.0000°; P -7.1300, Plg29.0000°, Azm240.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ISC 16 11:18:36.7±0.6, 37.40N±0.03×20.14E±0.03, h25km±4km, h25km:pP-P,n415,σ1s93/493, mb4.4/43, MS3.7/8, 30C-20D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VLMS	**Volimes, Zakyn**	**0.63**	**41**	P		**Pb**		**11 18 47.1**	**-2.0**
VLMS				S		**Sn**		**11 18 59.0**	**-0.3**
VLMS				AML		AML		11 19 00.3	
VLMS				AML		AML		11 19 04.9	
VLMS	**Volimes, Zakyn**	**0.63**	**41**	P		**Pb**		**11 18 47.2**	**-1.9**
VLMS				S		**Sb**		**11 18 58.2**	**+0.7**
	63μm,0.5s								
LTHK	**Lithakia**	**0.63**	**61**	P		**Pb**		**11 18 47.1**	**-2.0**
LTHK				S		**Sb**		**11 18 58.3**	**+0.8**
LTHK				AML		AML		11 18 59.6	
LTHK				AML		AML		11 19 01.0	
LTHK	**Lithakia**	**0.63**	**61**	P		**Pb**		**11 18 47.3**	**-1.8**
LTHK				S		**Sb**		**11 18 58.0**	**+0.5**
	57μm,0.8s								
ZAK2	**Zakynthos**	**0.71**	**57**	P		**Pb**		**11 18 47.9**	**-2.6**
ZAK2				S		**Sn**		**11 19 00.8**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.79**	**26**	P		**Pb**		**11 18 49.8**	**-1.9**
PSDA				S		**Sn**		**11 19 03.2**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.79**	**26**	P		**Pb**		**11 18 49.9**	**-1.9**
PSDA				S		**Sn**		**11 19 03.9**	**+0.7**
KEF3	**Kipouria, Keph**	**0.81**	**11**	P		**Pb**		**11 18 50.8**	**-1.4**
KEF3				S		**Sn**		**11 19 03.8**	**0.0**
KEF3	**Kipouria, Keph**	**0.81**	**11**	P		**Pb**		**11 18 51.1**	**-1.1**
KEF3				S		**Sn**		**11 19 04.5**	**+0.7**
ARGA	**Argostoli. Kep**	**0.82**	**19**	P		**Pb**		**11 18 50.6**	**-1.6**
ARGA				S		**Sn**		**11 19 03.9**	**+0.1**
ARG2	**Argostoli**	**0.82**	**19**	P		**Pb**		**11 18 51.1**	**-1.2**
ARG2				S		**Sn**		**11 19 05.6**	**+1.6**
LXRA	**Lixouri, Kepha**	**0.83**	**16**	P		**Pb**		**11 18 51.5**	**-1.0**
LXRA				S		**Sn**		**11 19 04.7**	**+0.5**
VLS	**Valsamata**	**0.85**	**24**	P		**Pb**		**11 18 50.8**	**-2.0**
VLS				S		**Sn**		**11 19 04.8**	**+0.1**
VLS				AML		AML		11 19 09.6	
	comp=E,40416μm,0.5s								
VLS				AML		AML		11 19 11.8	
	comp=N,58127μm,0.8s								
VLS	**Valsamata**	**0.85**	**24**	P		**Pb**		**11 18 51.0**	**-1.8**
VLS				S		**Sn**		**11 19 04.6**	**-0.2**
VLS	**Valsamata**	**0.85**	**24**	P		**Pb**		**11 18 52.7**	**-0.1**
VLS				S		**Sn**		**11 19 04.9**	**+0.1**
DMLN	**Damoulianata-K**	**0.85**	**12**	P		**Pb**		**11 18 51.6**	**-1.3**
DMLN				S		**Sn**		**11 19 05.2**	**+0.4**
DMLN	**Damoulianata-K**	**0.85**	**12**	P		**Pb**		**11 18 51.3**	**-1.6**
KEF4	**Livadi, Kephal**	**0.88**	**15**	P		**Pb**		**11 18 51.5**	**-1.9**
KEF4				S		**Sn**		**11 19 05.7**	**+0.3**
KEF4	**Livadi, Kephal**	**0.88**	**15**	P		**Pb**		**11 18 51.7**	**-1.6**
KEF5	**Kardakata, Kep**	**0.91**	**16**	P		**Pb**		**11 18 51.9**	**-1.9**
KEF5				S		**Sn**		**11 19 07.2**	**+0.9**
KEF5	**Kardakata, Kep**	**0.91**	**16**	P		**Pb**		**11 18 52.0**	**-1.9**
KEF5				S		**Sn**		**11 19 07.7**	**+1.5**
VSK1	**VASILIKIADES**	**1.06**	**18**	P		**Pn**		**11 18 55.0**	**-0.9**
FSK	**Fiskardo**	**1.11**	**17**	P		**Pn**		**11 18 55.0**	**-1.6**
FSK				S		**Sn**		**11 19 12.3**	**+1.3**
FSK				AML		AML		11 19 19.1	
	comp=N,30655μm,0.5s								
FSK				AML		AML		11 19 21.8	
	comp=E,44115μm,0.7s								
FSK	**Fiskardo**	**1.11**	**17**	P		**Pn**		**11 18 55.5**	**-1.1**
FSK				S		**Sn**		**11 19 12.4**	**+1.4**
	comp=E,19μm,0.6s								
RLS	**Riolos of Patr**	**1.24**	**58**	P		**Pn**		**11 18 58.0**	**-0.4**
RLS				AML		AML		11 19 23.5	
	comp=N,20664μm,0.8s								
RLS				AML		AML		11 19 27.4	
	comp=E,25232μm,0.8s								
RLS	**Riolos of Patr**	**1.24**	**58**	P		**Pn**		**11 18 57.8**	**-0.6**
AMT	**Artemida-Makis**	**1.25**	**84**	P		**Pn**		**11 18 58.3**	**-0.3**
AMT				S		**Sb**		**11 19 16.1**	**+0.7**
AMT				AML		AML		11 19 38.5	
	comp=N,22064μm,0.8s								
AMT				AML		AML		11 19 40.7	
	comp=E,24741μm,0.6s								
AMT	**Artemida-Makis**	**1.25**	**84**	P		**Pn**		**11 18 58.8**	**+0.2**
EVGI	**Lefkada island**	**1.28**	**18**	P		**Pn**		**11 18 58.9**	**-0.1**
EVGI				S		**Sb**		**11 19 17.5**	**+1.3**
EVGI	**Lefkada island**	**1.28**	**18**	P		**Pn**		**11 18 58.7**	**-0.3**
DRO	**Drossia**	**1.36**	**66**	P		**Pn**		**11 19 00.6**	**+0.5**
DRO				S		**Sb**		**11 19 19.3**	**+0.9**
DRO				AML		AML		11 19 29.7	
	comp=E,30491μm,0.6s								
DRO				AML		AML		11 19 42.1	
	comp=N,25005μm,0.6s								
DRO	**Drossia**	**1.36**	**66**	P		**Pn**		**11 19 00.6**	**+0.5**
DRO				S		**Sb**		**11 19 21.3**	**+2.8**
PYL	**PYLOS**	**1.38**	**111**	P		**Pn**		**11 19 00.1**	**-0.2**
PYL	**PYLOS**	**1.38**	**111**	P		**Pn**		**11 19 00.2**	**-0.1**
PYL				S		**Sb**		**11 19 18.5**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.38**	**18**	P		**Pn**		**11 19 00.9**	**+0.6**
NYDR	**Nydri-Lefkada**	**1.38**	**18**	P		**Pb**		**11 19 01.3**	**-0.5**
ITM	**Ithomi**	**1.44**	**98**	P		**Pn**		**11 19 01.4**	**+0.2**
ITM				AML		AML		11 19 41.6	
	comp=N,7914μm,0.6s								
ITM				AML		AML		11 19 44.0	
	comp=E,8881μm,0.8s								
ITM	**Ithomi**	**1.44**	**98**	P		**Pn**		**11 19 01.3**	**+0.2**
ITM	**Ithomi**	**1.44**	**98**	*eP*		**Pn**		**11 19 01.4**	**+0.2**
ITM	**Ithomi**	**1.44**	**98**			**Pn**		**11 19 01.4**	**+0.2**
LKD2	**Lefkada island**	**1.44**	**16**	P		**Pb**		**11 19 02.1**	**-0.9**
LKD2				S		**Sb**		**11 19 21.5**	**+0.7**
LKD2				AML		AML		11 19 34.9	
	comp=E,25234μm,0.6s								
LKD2				AML		AML		11 19 36.0	
	comp=N,25317μm,0.7s								
LKD2	**Lefkada island**	**1.44**	**16**	P		**Pb**		**11 19 02.0**	**-0.9**
LKD2				S		**Sb**		**11 19 23.9**	**+3.1**
PDO	**Prodromos**	**1.45**	**34**	P		**Pb**		**11 19 02.1**	**-0.9**
PDO				AML		AML		11 19 30.1	
	comp=N,33266μm,0.6s								
PDO				AML		AML		11 19 33.3	
	comp=E,27906μm,0.6s								
PDO	**Prodromos**	**1.45**	**34**	P		**Pb**		**11 19 02.8**	**-0.2**
TSLK	**Tsoukalades, L**	**1.48**	**16**	P		**Pn**		**11 19 02.1**	**+0.5**
TSLK				S		**Sb**		**11 19 23.8**	**+2.0**
TSLK				AML		AML		11 19 31.6	
	comp=E,34569μm,0.7s								
TSLK				AML		AML		11 19 35.5	
	comp=N,32638μm,0.5s								
TSLK	**Tsoukalades, L**	**1.48**	**16**	P		**Pb**		**11 19 03.1**	**-0.4**
TSLK				S		**Sb**		**11 19 25.0**	**+3.2**
	comp=N,16μm,0.7s								
UPR	**University Cam**	**1.57**	**55**	P		**Pb**		**11 19 04.9**	**-0.2**
LAKA	**Lakka**	**1.68**	**60**	P		**Pb**		**11 19 06.1**	**-0.8**
LAKA	**Lakka**	**1.68**	**60**	P		**Pb**		**11 19 06.1**	**-0.8**
LAKA				S		**Sb**		**11 19 28.8**	**+1.2**
KLV	**Kalavryta, Ach**	**1.72**	**67**	P		**Pb**		**11 19 06.2**	**-1.3**
KLV	**Kalavryta, Ach**	**1.72**	**67**	P		**Pb**		**11 19 06.2**	**-1.3**
EFP	**Efpalio**	**1.73**	**53**	P		**Pb**		**11 19 06.9**	**-0.8**
EFP				AML		AML		11 19 48.1	
	comp=N,12832μm,0.7s								
EFP				AML		AML		11 19 54.1	
	comp=E,16793μm,0.8s								
EFP	**Efpalio**	**1.73**	**53**	P		**Pb**		**11 19 06.6**	**-1.2**
EFP				S		**Sb**		**11 19 30.4**	**+1.4**
ALIK	**Aliki, Aigiali**	**1.78**	**61**	P		**Pb**		**11 19 07.5**	**-1.1**
VLX	**Vlachokerasia**	**1.78**	**90**	P		**Pn**		**11 19 06.5**	**+0.6**
VLX				AML		AML		11 19 47.3	
	comp=N,9126μm,1.1s								
VLX				AML		AML		11 19 54.6	
	comp=E,8358μm,0.7s								
VLX	**Vlachokerasia**	**1.78**	**90**	P		**Pn**		**11 19 06.9**	**+0.9**
TRIZ	**Trizonia**	**1.81**	**57**	P		**Pb**		**11 19 07.8**	**-1.2**
TRIZ				S		**Sb**		**11 19 32.9**	**+1.7**
SERG	**Sergoula**	**1.82**	**56**	P		**Pb**		**11 19 08.2**	**-1.2**
SERG				AML		AML		11 19 47.9	
	comp=E,16234μm,1.0s								
SERG				AML		AML		11 19 50.5	
	comp=N,14364μm,0.5s								
SERG	**Sergoula**	**1.82**	**56**	P		**Pb**		**11 19 08.1**	**-1.2**
KALE	**Kalithea**	**1.86**	**57**	P		**Pb**		**11 19 08.5**	**-1.5**
KALE	**Kalithea**	**1.86**	**57**	P		**Pb**		**11 19 08.7**	**-1.4**
EVR	**Evrytania**	**2.00**	**40**	P		**Pb**		**11 19 11.0**	**-1.5**
EVR				S		**Sb**		**11 19 38.1**	**+1.1**
	comp=N,5μm,0.7s								
THAL	**Thalero**	**2.10**	**72**	P		**Pn**		**11 19 11.5**	**+1.3**
IGT	**Igoumenitsa**	**2.13**	**4**	P		**Pb**		**11 19 13.1**	**-1.5**
IGT	**Igoumenitsa**	**2.13**	**4**	P		**Pb**		**11 19 12.8**	**-1.8**
IGT	**Igoumenitsa**	**2.13**	**4**	*ePn*		**Pn**		**11 19 11.0**	**+0.3**
IGT				*eSn*		**Sn**		**11 19 35.8**	**-0.6**
DSF	**Desfina**	**2.14**	**61**	P		**Pn**		**11 19 12.5**	**+1.7**
DSF				AML		AML		11 20 03.6	
	comp=E,5695μm,0.8s								
DSF				AML		AML		11 20 04.1	
	comp=N,6331μm,0.9s								
DSF	**Desfina**	**2.14**	**61**	P		**Pn**		**11 19 12.2**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.25**	**44**	P		**Pb**		**11 19 14.8**	**-1.8**
JAN	**Janina**	**2.32**	**14**	P		**Pn**		**11 19 15.7**	**-2.1**
LOUT	**Loutraki**	**2.32**	**75**	P		**Pn**		**11 19 14.0**	**+0.7**
KEK	**Kerkira**	**2.32**	**353**	P		**Pn**		**11 19 13.7**	**+0.4**
LTK	**Loutraki**	**2.32**	**74**	P		**Pn**		**11 19 14.1**	**+0.8**
VLI	**Veliai**	**2.34**	**106**	P		**Pn**		**11 19 16.0**	**-2.1**
VLI	**Veliai**	**2.34**	**106**	P		**Pn**		**11 19 15.5**	**+2.0**
AGG	**Agios Georgios**	**2.36**	**46**	P		**Pn**		**11 19 15.6**	**+1.6**
AGG	**Agios Georgios**	**2.36**	**46**	*eP*		**Pn**		**11 19 15.5**	**+1.6**
AGG	**Agios Georgios**	**2.36**	**46**	P		**Pn**		**11 19 15.5**	**+1.6**
AGG	**Agios Georgios**	**2.36**	**46**	Pn		**Pn**		**11 19 15.5**	**+1.6**
EPID	**Epidavros**	**2.38**	**84**	P		**Pn**		**11 19 14.7**	**+0.6**
AXAR	**Agios Charalam**	**2.41**	**55**	P		**Pn**		**11 19 16.0**	**+1.5**
SRN	**Sarande**	**2.48**	**357**	P		**Pn**		**11 19 15.9**	**+0.5**
KTHR	**Kythira**	**2.56**	**116**	P		**Pn**		**11 19 18.2**	**+1.6**
LKR	**Lokris**	**2.58**	**60**	P		**Pn**		**11 19 17.7**	**+0.9**
KTHA	**Kythira Island**	**2.61**	**115**	P		**Pn**		**11 19 18.9**	**+1.7**
KTHA	**Kythira Island**	**2.61**	**115**	*eP*		**Pn**		**11 19 19.6**	**+2.4**
THL	**Klokotos Trika**	**2.61**	**34**	P		**Pn**		**11 19 18.8**	**+1.6**
ATAL	**Atalanti**	**2.61**	**60**	P		**Pn**		**11 19 18.2**	**+0.9**
VILL	**Villia**	**2.62**	**72**	P		**Pn**		**11 19 17.6**	**+0.1**
KPRO	**Kipourio**	**2.72**	**22**	P		**Pn**		**11 19 21.3**	**+2.4**
LSK	**Leskovik**	**2.77**	**7**	P		**Pn**		**11 19 21.9**	**+2.4**
SMIA	**Simia**	**2.83**	**58**	P		**Pn**		**11 19 21.1**	**+0.8**
ATH	**Athens Observa**	**2.89**	**78**	P		**Pn**		**11 19 22.7**	**+1.6**
ATH	**Athens Observa**	**2.89**	**78**	P		**Pn**		**11 19 22.7**	**+1.6**
PENT	**Pentalofos**	**2.90**	**15**	P		**Pn**		**11 19 24.0**	**+2.7**
ANKY	**Antikythira Is**	**2.97**	**120**	P		**Pn**		**11 19 24.8**	**+2.6**
SCTE	**Santa Cesarea**	**2.97**	**334**			**Pn**		**11 19 22.7**	**+0.5**
NEO	**Neokhori**	**3.08**	**51**	P		**Pn**		**11 19 24.1**	**+0.4**
DION	**Dionisos Attik**	**3.08**	**76**	P		**Pn**		**11 19 24.0**	**+0.3**
NEST	**Nestorio**	**3.09**	**13**	P		**Pn**		**11 19 26.7**	**+2.8**
XOR	**Xorichti**	**3.10**	**50**	P		**Pn**		**11 19 25.1**	**+1.1**
EREA	**Eretria**	**3.16**	**70**	P		**Pn**		**11 19 25.6**	**+0.7**
KZN	**Kozani**	**3.17**	**23**	P		**Pn**		**11 19 27.3**	**+2.3**
TIP	**Timpagrande**	**3.20**	**305**	Pn		**Pn**		**11 19 26.2**	**+0.8**
KBN	**Korca**	**3.25**	**9**	P		**Pn**		**11 19 28.7**	**+2.5**
LIT	**Litokhoron**	**3.26**	**34**	P		**Pn**		**11 19 27.1**	**+0.9**
LIT	**Litokhoron**	**3.26**	**34**	P		**Pn**		**11 19 26.9**	**+0.7**
LIT	**Litokhoron**	**3.26**	**34**	Pn		**Pn**		**11 19 26.9**	**+0.7**
CEL	**Celeste**	**3.47**	**286**	Pn		**Pn**		**11 19 30.4**	**+1.3**
FNA	**Florina**	**3.51**	**15**	P		**Pn**		**11 19 31.2**	**+1.5**
FNA	**Florina**	**3.51**	**15**	*ePn*		**Pn**		**11 19 30.8**	**+1.1**
FNA				*eSn*		**Sn**		**11 20 09.2**	**-1.2**
FNA	**Florina**	**3.51**	**15**	*ePn*		**Pn**		**11 19 31.0**	**+1.3**
FNA				*eSn*		**Sn**		**11 20 02.4**	**-8.0**
FNA	**Florina**	**3.51**	**15**	*eP*		**Pn**		**11 19 30.9**	**+1.3**
FNA	**Florina**	**3.51**	**15**	P		**Pn**		**11 19 31.0**	**+1.3**
FNA	**Florina**	**3.51**	**15**			**Pn**		**11 19 31.0**	**+1.3**
IMMV	**Iera Moni Meta**	**3.65**	**121**	P		**Pn**		**11 19 32.9**	**+1.3**
IMMV	**Iera Moni Meta**	**3.65**	**121**	*eP*		**Pn**		**11 19 31.3**	**-0.3**
OHR	**Ohrid**	**3.74**	**8**	*i Pn*		**Pn**		**11 19 34.0**	**+1.2**
PLG	**Polygyros**	**3.93**	**40**	P		**Pn**		**11 19 35.9**	**+0.5**
HORT	**Hortiatis**	**3.94**	**35**	P		**Pn**		**11 19 36.0**	**+0.5**
HORT	**Hortiatis**	**3.94**	**35**	*eP*		**Pn**		**11 19 35.8**	**+0.3**
TIR	**Tirane**	**3.95**	**357**	*ePn*		**Pn**		**11 19 35.6**	**0.0**
TIR				*eSn*		**Sn**		**11 20 20.7**	**-0.2**
TIR	**Tirane**	**3.95**	**357**	*ePn*		**Pn**		**11 19 36.8**	**+1.8**
TIR				*eSn*		Sn		11 20 11.4	-10
TIR	**Tirane**	**3.95**	**357**	||P	**Pn**		**11 19 37.1**	**+1.5**
TIR	**Tirane**	**3.95**	**357**	||P	**Pn**		**11 19 37.1**	**+1.5**
TIR	**Tirane**	**3.95**	**357**	Pn		**Pn**		**11 19 36.6**	**+1.0**
GRG	**Griva**	**3.96**	**26**	P		**Pn**		**11 19 36.3**	**+0.5**
GRG	**Griva**	**3.96**	**26**	*eP*		**Pn**		**11 19 36.1**	**+0.3**
GVD	**Gavdhos**	**4.09**	**128**	*eP*		**Pn**		**11 19 37.8**	**+0.2**
OUR	**Ouranopolis**	**4.19**	**44**	P		**Pn**		**11 19 39.5**	**+0.6**
OUR	**Ouranopolis**	**4.19**	**44**	*eP*		**Pn**		**11 19 39.6**	**+0.6**
SOH	**Sokhos**	**4.23**	**35**	P		**Pn**		**11 19 40.9**	**+1.3**
THR5	**Thira Island,**	**4.29**	**102**	P		**Pn**		**11 19 41.1**	**+0.8**
APE	**Apeiranthos**	**4.31**	**93**	*eP*		**Pn**		**11 19 40.5**	**-0.2**
APE	**Apeiranthos**	**4.31**	**93**	||*eP*	**Pn**		**11 19 40.5**	**-0.2**
KNT	**Kendrikon**	**4.32**	**29**	P		**Pn**		**11 19 41.7**	**+0.9**
KNT	**Kendrikon**	**4.32**	**29**	*eP*		**Pn**		**11 19 41.3**	**+0.5**
THR6	**Thira Island,**	**4.34**	**102**	P		**Pn**		**11 19 42.0**	**+1.0**
IDI	**Anoyia**	**4.38**	**117**	Pn		**Pn**		**11 19 42.2**	**+0.6**
	comp=N,1.7nm,0.3s,baz=220,slow=7.2,SNR=20								
IDI					Sn	**Sn**		**11 20 31.2**	**-0.6**
	comp=N,19nm,0.3s,baz=294,slow=20,SNR=8.4								
IDI					LR	LR		11 21 53.0	
	comp=N,542nm,18.4s,baz=276,slow=46								
IDI	**Anoyia**	**4.38**	**117**	*eP*		**Pn**		**11 19 41.6**	**0.0**
IDI	**Anoyia**	**4.38**	**117**			**Pn**		**11 19 42.4**	**+0.8**
VAE	**Valguarnera**	**4.56**	**273**	Pn		**Pn**		**11 19 46.6**	**+2.5**
	comp=N,3.0nm,0.3s,baz=283,slow=19,SNR=4.5								
VAE					Sn	**Sn**		**11 20 38.6**	**+2.3**
	comp=N,8.3nm,0.3s,baz=291,slow=7.0,SNR=5.5								
STIP	**Stip**	**4.57**	**20**	*i Pn*		**Pn**		**11 19 46.1**	**+2.0**
SRS	**Serrai**	**4.57**	**35**	P		**Pn**		**11 19 44.6**	**+0.3**
SRS	**Serrai**	**4.57**	**35**	*ePn*		**Pn**		**11 19 44.3**	**0.0**
SRS				*eSn*		**Sn**		**11 20 34.7**	**-1.9**
SRS	**Serrai**	**4.57**	**35**	*ePn*		**Pn**		**11 19 44.4**	**+0.1**
SRS				*eSn*		**Sn**		**11 20 29.2**	**-7.4**
ULC	**Ulcinj**	**4.61**	**352**	||*i Pn*	**Pn**		**11 19 44.6**	**-0.1**
ULC				*i Sn*		**Sn**		**11 20 36.3**	**-1.1**
RAFF	**Raffo Rosso**	**4.61**	**270**	Pn		**Pn**		**11 19 45.4**	**+0.6**
SKO	**Skopje**	**4.67**	**12**	*ePn*		**Pn**		**11 19 45.7**	**+0.1**
SKO	**Skopje**	**4.67**	**12**	*ePn*		**Pn**		**11 19 45.5**	**-0.1**
SKO				*eSn*		Sn		11 20 29.9	-9.1
SIGR	**SIGRI**	**4.84**	**66**	*eP*		**Pn**		**11 19 48.3**	**+0.4**
NVR	**Nevrokopi**	**4.88**	**35**	P		**Pn**		**11 19 48.9**	**+0.4**
KAVA	**Kavala**	**4.94**	**42**	P		**Pn**		**11 19 48.9**	**-0.4**
BUM	**Brajici-Budva**	**4.99**	**349**	||*i Pn*	**Pn**		**11 19 49.6**	**-0.4**
BUM				*eSn*		**Sn**		**11 20 44.7**	**-2.1**
PDG	**Podgorica**	**5.07**	**353**	*ePn*		**Pn**		**11 19 50.0**	**-1.0**
PDG				*eSn*		**Sn**		**11 20 46.5**	**-2.2**
PDG	**Podgorica**	**5.07**	**353**	*ePn*		**Pn**		**11 19 51.1**	**+0.1**
PDG				*eSn*		Sn		11 20 39.7	-9.0
PDG	**Podgorica**	**5.07**	**353**	*ePn*		**Pn**		**11 19 51.3**	**+0.3**
PDG	**Podgorica**	**5.07**	**353**	Pn		**Pn**		**11 19 51.9**	**+0.9**
TTG	**Podgorica**	**5.07**	**353**	||*i Pn*	**Pn**		**11 19 51.2**	**+0.3**
TTG				*i Sn*		**Sn**		**11 20 46.7**	**-2.0**
PVY	**Plav**	**5.19**	**358**	||*i Pn*	**Pn**		**11 19 52.9**	**+0.1**
PVY				*i Sn*		**Sn**		**11 20 50.3**	**-1.6**
HCY	**Herceg Novi**	**5.20**	**346**	*ePn*		**Pn**		**11 19 53.3**	**+0.5**
HCY	**Herceg Novi**	**5.20**	**346**	||*i Pn*	**Pn**		**11 19 52.5**	**-0.3**
HCY				*i Sn*		**Sn**		**11 20 50.0**	**-1.9**
CEME	**Cevo**	**5.22**	**350**	||*i Pn*	**Pn**		**11 19 52.0**	**-1.2**
CEME				*i Sn*		**Sn**		**11 20 50.2**	**-2.4**
BOSS	**Bosilegrad**	**5.39**	**19**	*ePn*		**Pn**		**11 19 56.0**	**+0.5**
BOSS	**Bosilegrad**	**5.39**	**19**	*ePn*		**Pn**		**11 19 55.8**	**+0.3**
BOSS				*eSn*		Sn		11 20 44.7	-12
NKME	**Niksic**	**5.43**	**351**	||*i Pn*	**Pn**		**11 19 56.3**	**+0.2**
NKME				*eSn*		**Sn**		**11 20 55.9**	**-1.9**
KOME	**Kolasin**	**5.46**	**355**	||*i Pn*	**Pn**		**11 19 57.1**	**+0.6**
KOME				*i Sn*		**Sn**		**11 20 57.0**	**-1.6**
IVA	**Berane**	**5.47**	**358**	||*i Pn*	**Pn**		**11 19 57.2**	**+0.6**
IVA				*i Sn*		**Sn**		**11 20 56.9**	**-1.8**
NKY	**Niksic**	**5.47**	**351**	||*i Pn*	**Pn**		**11 19 56.6**	**-0.1**
NKY				*eSn*		**Sn**		**11 20 56.8**	**-2.1**
DBRK	**Dubrovnik**	**5.48**	**344**	*ePn*		**Pn**		**11 19 55.3**	**-1.4**
DBRK				Sn		**Sn**		**11 20 53.5**	**-5.3**
TREB	**Trebinje**	**5.48**	**346**	*ePn*		**Pn**		**11 19 56.2**	**-0.5**
TREB				*eSn*		**Sn**		**11 20 54.8**	**-4.2**
TREB	**Trebinje**	**5.48**	**346**	*ePn*		**Pn**		**11 19 52.6**	**-4.1**
SGRT	**San Giovanni R**	**5.52**	**323**			**Pn**		**11 19 57.8**	**+0.5**
BARS	**Barje**	**5.56**	**13**	*ePn*		**Pn**		**11 19 57.7**	**-0.1**
BARS	**Barje**	**5.56**	**13**	*ePn*		**Pb**		**11 20 14.4**	**+1.4**
BARS				*eSn*		**Sn**		**11 20 57.9**	**-2.9**
BARS	**Barje**	**5.56**	**13**	*ePn*		**Pn**		**11 19 57.5**	**-0.3**
BARS				*eSn*		Sn		11 20 49.5	-11
RDO	**Rodhopi**	**5.61**	**47**	P		**Pn**		**11 19 58.5**	**0.0**
BRY	**Bratogost**	**5.63**	**348**	*ePn*		**Pn**		**11 19 57.4**	**-1.4**
BRY	**Bratogost**	**5.63**	**348**	||*i Pn*	**Pn**		**11 19 58.3**	**-0.6**
BRY				*i Sn*		**Sn**		**11 21 00.2**	**-2.5**
PAOL	**Paolisi**	**5.64**	**312**	Pn		**Pn**		**11 20 00.7**	**+1.7**
VTS	**Vitosha**	**5.72**	**24**	||P	**Pn**		**11 20 00.9**	**+0.7**
VTS	**Vitosha**	**5.72**	**24**	||P	**Pn**		**11 20 00.9**	**+0.7**
VTS	**Vitosha**	**5.72**	**24**	Pn		**Pn**		**11 20 00.1**	**-0.1**
ALN	**Alexandroupoli**	**5.76**	**51**	P		**Pn**		**11 20 00.4**	**-0.2**
ALN	**Alexandroupoli**	**5.76**	**51**			**Pn**		**11 20 00.3**	**-0.2**
GELI	**Tayfur-Gelibol**	**5.77**	**57**	*eP*		**Pn**		**11 20 01.6**	**+0.9**
STON	**Ston**	**5.77**	**342**	*ePn*		**Pn**		**11 19 58.8**	**-1.9**
STON				Sn		**Sn**		**11 21 00.0**	**-

KBA eSn **Sn** **11 23 06.6 -5.7**
comp=N,6.3nm,0.6s
ABTA Abfaltersbach 10.92 331 eSn **Sn** **11 23 08.6 -4.0**
comp=N,12nm,0.7s
CONA Conrad Observa 10.98 345 ePn **Pn** **11 21 14.5 +2.4**
comp=N,0.7nm,0.3s
VYHS Vyhne 11.13 355 eP Pn 11 21 19.0 +4.9
VYHS Vyhne 11.13 355 ePN Pn 11 21 19.0 +4.9
MOA Molln 11.30 339 ePn **Pn** **11 21 16.8 +0.3**
comp=N,2.3nm,0.2s
MOA eSn **Sn** **11 23 18.6 -3.3**
comp=N,4.0nm,0.4s
CRVS Cervenica-Dubn 11.53 4 eP **Pn** **11 21 23.0 +3.3**
CRVS Cervenica-Dubn 11.53 4 ePN **Pn** **11 21 23.0 +3.3**
KOLS Kolonicke sedl 11.63 7 eP **Pn** **11 21 22.9 +1.9**
KOLS Kolonicke sedl 11.63 7 ePN **Pn** **11 21 22.9 +1.9**
WTTA Wattenberg 11.68 330 ePn **Pn** **11 21 22.9 +1.0**
comp=N,0.7nm,0.3s
WTTA eSn **Sn** **11 23 28.2 -3.3**
comp=N,13nm,0.6s
WATA Walderalm 11.77 330 *i* Sn **Sn** **11 23 29.2 -4.2**
comp=N,4.2nm,0.3s
SQTA Sankt Quirin 11.82 329 eSn **Sn** **11 23 28.7 -6.1**
comp=N,7.7nm,0.5s
FETA Feichten 11.87 327 ePn **Pn** **11 21 26.3 +1.9**
comp=N,1.0nm,0.6s
FETA eSn **Sn** **11 23 31.9 -4.1**
comp=N,4.3nm,0.6s
MOTA Moosalm 11.96 329 eSn **Sn** **11 23 34.8 -3.6**
comp=N,6.6nm,0.5s
DAVOX Davos/Dischmat 12.07 324 Pn **Pn** **11 21 30.0 +2.9**
comp=N,0.3nm,0.3s,baz=148,slow=16,SNR=7.2
DAVOX Sn Sn 11 23 31.2 -10
comp=N,0.3nm,0.3s,baz=164,slow=13,SNR=2.4
VRAC Vranov 12.18 349 LR LR 11 27 22.2
comp=N,175nm,19.7s,baz=170,slow=44
RETA Reutte 12.22 329 *i* Sn **Sn** **11 23 42.8 -1.7**
comp=N,3.6nm,0.5s
GERES GERESS Array B 12.36 340 Pn **Pn** **11 21 30.4 -0.6**
comp=N,0.4nm,0.3s,baz=167,slow=14,SNR=7.8
GERES Sn Sn 11 23 34.2 -14
comp=N,0.2nm,0.3s,baz=155,slow=12,SNR=1.2
GERES LR LR 11 26 46.5
comp=N,69nm,19.1s,baz=128,slow=40
GERES GERESS Array B 12.36 340 P **Pn** **11 21 32.2 +1.2**
GERES GERESS Array B 12.36 340 **Pn** **11 21 32.2 +1.2**
DAVA Damuels 12.45 326 eSn **Sn** **11 23 47.5 -2.6**
comp=N,12nm,0.5s
KHC Kasperske Hory 12.65 340 eP **Pn** **11 21 36.4 +1.4**
KHC *e* 11 23 50.0
KHC Kasperske Hory 12.65 340 ePN **Pn** **11 21 36.4 +1.4**
KHC eSN **Sn** **11 23 50.0 -5.0**
MMAI Mount Meron Ar 13.22 105 Pn **Pn** **11 21 40.4 -2.4**
comp=N,1.7nm,0.3s,baz=295,slow=11,SNR=2.5
MMAI Sn Sn 11 23 55.5 -14
comp=N,1.4nm,0.3s,baz=332,slow=20,SNR=1.6
EIL Elat 14.55 118 Pn **Pn** **11 21 58.7 -2.3**
comp=N,0.5nm,0.3s,baz=328,slow=3.5,SNR=11
EIL Sn Sn 11 24 27.1 -14
comp=N,0.8nm,0.3s,baz=45,slow=17,SNR=3.3
AKASG Malin Array Be 14.79 23 Pn **Pn** **11 22 02.2 -1.9**
comp=N,0.6nm,0.3s,baz=213,slow=12,SNR=7.0
AKASG Sn Sn **11 24 54.7 +7.6**
comp=N,1.1nm,0.3s,baz=210,slow=19,SNR=8.3
AKASG Malin Array Be 14.79 23 *i* P **Pn** **11 22 02.9 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 14.79 23 Pn **Pn** **11 22 05.2 +1.1**
AKBB Malin Array Si 14.79 23⇓ *e*P **Pn** **11 22 02.2 -1.9**
AKBB pmax pmax
comp=Z,7.0nm,1.1s
AKBB Malin Array Si 14.79 23 **Pn** **11 22 03.8 -0.3**
ANN Anapa 14.97 55 eP Pn 11 21 58.9 -7.6
ANN pmax pmax
comp=Z,179nm,1.9s
SOC Sochi 16.11 61 eP **Pn** **11 22 19.0 -2.3**
SOC *e* 11 25 17.2
SOC MLR MLR
comp=Z,71nm,14.0s
MARD Mardin 16.41 84 P **P** **11 22 27.2 -0.8**
MARD IAmb IAmb 11 22 37.9
comp=Z,11nm,0.6s
MNK Minsk 17.91 15 eP **Pn** **11 22 40.0 -3.8**
MNK eS **Sn** **11 25 57.0 -5.6**
MNK Minsk 17.91 15 *i* P **Pn** **11 22 40.5 -3.3**
comp=E,1.0nm,0.7s
MNK *i* P **Pn** **11 22 40.5 -3.3**
comp=N,6.0nm,0.7s
MNK *i* P **Pn** **11 22 40.5 -3.3**
comp=Z,4.0nm,0.5s
MNK *i* PP **sP** **11 22 51.5 -1.5**
MNK *i* S **Sn** **11 25 58.1 -4.5**
MNK *i* SS **SnSn** **11 26 13.7 -2.5**
MNK *i* PcP **PcP** **11 27 16.1 -2.7**
MNK *i* LQ LQ 11 28 01.1
MNK *i* LR LR 11 29 21.9
MNK *i* LRM MLR 11 30 39.0
comp=Z,120nm,14.4s
MNK *i* LRM MLR 11 30 39.6
comp=N,355nm,15.4s
MNK *i* LRM MLR 11 30 40.2
comp=E,39nm,16.7s
NACGM Naroch 18.08 12 *i* P **Pn** **11 22 44.2 -1.7**
NACGM *i* P **Pn** **11 22 44.2 -1.7**
NACGM *i* P **Pn** **11 22 44.2 -1.7**
NACGM *i* PP PnPn 11 23 48.8 +52
NACGM *i* S **Sn** **11 26 01.5 -5.4**
NACGM *i* SS **SnSn** **11 26 34.4 +14**
NACGM *i* LQ LQ 11 28 08.2
NACGM *i* LR LR 11 29 38.7
KIV Kislovodsk 18.28 62 eP **P** **11 22 49.9 +1.3**
KIV pmax pmax
comp=Z,32nm,1.1s
KIV MLR MLR
comp=Z,140nm,14.0s
KVAR Kislovodsk Arr 18.29 62 P **Pn** **11 22 47.1 -1.6**
baz=277,slow=19,SNR=1.7
PABE Paberze 18.29 7 eP **P** **11 22 47.5 -1.0**
PABE IAmb IAmb 11 22 56.4
comp=Z,71nm,0.8s
KBZ Khabaz 18.38 63 P **P** **11 22 48.5 -1.0**
comp=Z,0.2nm,0.3s,baz=282,slow=6.1,SNR=5.8
KBZ Khabaz 18.38 63⇓ *e*P **Pn** **11 22 50.7 +1.1**
KBZ pmax pmax
comp=Z,9.0nm,1.1s
IIGN Ignalina 18.42 11 eP **P** **11 22 49.0 -0.9**
IIGN IAmb IAmb 11 22 57.8
comp=Z,9.6nm,0.7s
IDID Didziasalis 18.47 12 eP **P** **11 22 49.4 -1.0**
ISAL Salakas 18.62 11 eP **P** **11 22 51.0 -1.1**
ISAL IAmb IAmb 11 22 55.2
comp=Z,10nm,0.7s
GOF Gofitskoye 18.81 59⇑ *e*P **Pn** **11 22 56.8 +2.0**
ZEI Tsey 18.93 66 eP **Pn** **11 22 56.8 +0.2**
ZEI pmax pmax
comp=Z,24nm,1.0s
ESBB Sonseca Array 18.98 284 P **P** **11 22 56.0 -0.3**
ESDC Sonseca Array 18.98 284 P **Pn** **11 22 57.9 +0.8**
comp=Z,0.1nm,0.3s,baz=77,slow=12,SNR=14
ESDC LR LR 11 29 26.2
comp=Z,107nm,18.3s,baz=85,slow=34
ESDC Sonseca Array 18.98 284 P **P** **11 22 56.6 +0.3**
VSR Storozhevoye 19.31 38 eP **P** **11 22 57.9 -1.8**
VSR pmax pmax
comp=Z,60nm,0.9s
GNI Garni 19.36 74 P **P** **11 23 00.0 -0.5**
comp=Z,0.8nm,0.3s,baz=209,slow=4.1,SNR=8.0
GNI Garni 19.36 74⇓ *i*P **Pn** **11 23 01.2 -0.5**
GNI pmax pmax
comp=Z,42nm,1.7s
GNI Garni 19.36 74 P **P** **11 22 59.8 -0.7**
GNI IAmb IAmb 11 23 02.5
comp=Z,24nm,1.0s
LPSR Galich'ya Gora 20.09 35 eP **P** **11 23 07.0 -1.2**
LPSR pmax pmax
comp=Z,50nm,1.0s
GROC Groznyy 20.36 65 eP **P** **11 23 11.9 +0.6**
GROC *e**PP **pwP** **11 23 24.3 +2.2**
GROC *e* 11 23 30.3
GROC eS **S** **11 26 57.4 -0.8**
GROC pmax pmax
comp=Z,57nm,1.4s
VRH Novokhopyorsk 20.61 41 eP **P** **11 23 13.7 -0.1**
VRH pmax pmax
comp=Z,30nm,0.6s

MDT Midelt 20.74 265 P Pn 11 23 17.2 -0.8
comp=Z,4.4nm,0.8s,baz=74,slow=6.4,SNR=8.1
OBN Obninsk 20.95 27 P **P** **11 23 17.0 -0.4**
comp=Z,3.4nm,0.4s,baz=214,slow=23,SNR=4.0
OBN Obninsk 20.95 27 *i* P **P** **11 23 15.4 -2.0**
OBN *i* 11 23 24.3
OBN *i* 11 23 39.6
OBN pmax pmax
comp=Z,42nm,1.6s
OBN MLR MLR
comp=Z,185nm,15.0s
MTSE Matsula 21.46 5 eP **P** **11 23 23.5 +0.6**
VSU Vasula 21.51 9 eP **P** **11 23 23.7 +0.3**
VSU Vasula 21.51 9 *ce*P **P** **11 23 23.2 -0.2**
VSU pmax pmax
comp=Z,103nm,0.7s
MOS Moscow 21.81 27 eP **P** **11 23 25.9 -0.8**
MOS pmax pmax
comp=Z,50nm,0.7s
AAL Aland 22.80 360 eP **P** **11 23 37.0 -0.1**
HFS Hagfors 23.12 352 P **P** **11 23 40.4 -0.1**
comp=Z,5.9nm,0.7s,baz=163,slow=10,SNR=13
EKA Eskdalemuir Ar 23.89 326 P **P** **11 23 49.0 +0.9**
comp=Z,0.9nm,0.4s,baz=126,slow=8.6,SNR=5.5
NC602 NORSAR Array S 23.98 350 P **P** **11 23 49.6 +0.7**
NC602 IAmb IAmb 11 23 59.3
comp=Z,18nm,0.7s
NAO01 NORSAR Array S 24.18 349 P **P** **11 23 50.9 +0.1**
NAO01 IAmb IAmb 11 24 01.6
comp=Z,14nm,0.8s
NC405 NORSAR Array S 24.32 350 P **P** **11 23 52.4 +0.4**
NB2 NORSAR Subarra 24.32 349 P **P** **11 23 52.2 +0.1**
comp=Z,30nm,1.7s,baz=162,slow=9.3
NOA NORSAR Array B 24.32 349 P **P** **11 23 52.5 +0.4**
comp=Z,1.7nm,0.7s,baz=162,slow=8.8,SNR=12
FINES FINESS Array B 24.35 7 P **P** **11 23 51.8 -0.5**
comp=Z,5.5nm,0.7s,baz=172,slow=10.0,SNR=22
FINES LR LR 11 34 33.6
comp=Z,300nm,18.1s,baz=193,slow=40
FINES FINESS Array B 24.35 7 *i* P **P** **11 23 51.7 -0.5**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FIA1 FINESS Array S 24.35 7 P **P** **11 23 51.6 -0.7**
FIA1 IAmb IAmb 11 24 01.5
comp=Z,17nm,0.8s
BELG Belogornoye 24.37 43 P **P** **11 23 51.9 -0.6**
comp=Z,24nm,0.7s,baz=28,slow=6.0,SNR=5.0
BELG Belogornoye 24.37 43 *e*P **P** **11 23 52.3 -0.2**
BELG pmax pmax
comp=Z,6.0nm,0.9s
NBO00 NORSAR Array S 24.38 349 P **P** **11 23 52.7 +0.1**
VALR Valaam 24.91 12 eP **P** **11 23 57.0 -0.3**
VALR pmax pmax
comp=Z,24nm,0.9s
KLMR Klimovskoe 26.47 21 eP **P** **11 24 09.9 -1.6**
KLMR pmax pmax
comp=Z,23nm,1.2s
KLMR Klimovskoe 26.47 21 *e*P **P** **11 24 09.9 -1.6**
KLMR AMP 11 24 19.9
comp=Z,23nm,1.2s
KIRV Kirov 28.47 32⇑ *e*P **P** **11 24 28.3 -1.1**
TORD Torodi Ar. Bea 29.24 219 P **P** **11 24 38.6 +2.0**
comp=Z,3.1nm,0.4s,baz=34,slow=9.3,SNR=12
TORD LR LR 11 37 29.2
comp=Z,54nm,18.2s,baz=335,slow=39
AKTO Aktyubinsk 29.89 52 P **P** **11 24 40.7 -1.5**
comp=Z,1.6nm,0.7s,baz=248,slow=9.8,SNR=5.5
GEYT Alibeck 29.93 77 P **P** **11 24 42.5 -0.2**
comp=Z,1.3nm,0.4s,baz=236,slow=12,SNR=1.7
ABKAR Akbulak array 30.93 55 P **P** **11 24 51.1 -0.2**
ABKAR Akbulak array 30.93 55 P **P** **11 24 50.2 -1.1**
ABKAR **pP** **11 24 58.1 +0.5**
KOWA Kowa 31.33 230 P **P** **11 24 57.2 +2.1**
comp=Z,2.2nm,0.8s,baz=14,slow=4.2,SNR=2.8
KOWA LR LR 11 38 49.5
comp=Z,132nm,18.5s,baz=21,slow=39
ARCES ARCESS Array B 32.32 4 P **P** **11 25 03.2 -0.1**
comp=Z,3.5nm,0.9s,baz=195,slow=10,SNR=5.5
ARCES ARCESS Array B 32.32 4 P **P** **11 25 02.7 -0.6**
ARCES pmax pmax
comp=Z,28nm,1.5s
ARCES ARCESS Array B 32.32 4 P **P** **11 25 02.7 -0.6**
SVE Sverdlovsk 33.05 41 *e*P **P** **11 25 09.3 -0.6**
SVE pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 37.79 49⇓ *i*P **P** **11 25 50.2 -0.4**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BRVK Borovoye 37.79 49 P **P** **11 25 50.0 -0.5**
BRVK IAmb IAmb 11 26 00.2
comp=Z,7.2nm,0.9s
DBIC Dimbokro 38.12 223 LR LR 11 43 14.6
comp=Z,56nm,19.8s,baz=16,slow=39
KK31 Karatay Array 38.39 65 P **P** **11 25 55.8 0.0**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KK31 Karatay Array 38.39 65 P **P** **11 25 55.8 0.0**
KKAR Karatay Array 38.39 65 P **P** **11 25 56.0 +0.2**
KKAR Karatay Array 38.39 65 P **P** **11 25 56.0 +0.2**
NIL Nilore 42.92 78 P **P** **11 26 33.8 +0.5**
NIL pmax pmax
comp=Z,8.0nm,0.9s
NIL Nilore 42.92 78 P **P** **11 26 33.8 +0.5**
NIL IAmb IAmb 11 26 35.2
comp=Z,8.0nm,0.8s
MAKZ Makanchi 45.75 58 P **P** **11 26 54.6 -1.3**
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
MAKZ Makanchi 45.75 58 P **P** **11 26 54.6 -1.3**
MAKZ IAmb IAmb 11 27 07.6
comp=Z,2.8nm,0.9s
MK31 Makanchi Array 45.97 58 P **P** **11 26 56.1 -1.5**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 45.97 58 P **P** **11 26 56.1 -1.5**
MK31 IAmb IAmb 11 27 05.5
comp=Z,2.8nm,0.8s
MKAR Makanchi Array 45.97 58 P **P** **11 26 56.5 -1.1**
comp=Z,1.1nm,0.3s,baz=276,slow=7.6,SNR=25
MKAR Makanchi Array 45.97 58 P **P** **11 26 56.1 -1.5**
MKAR **pP** **11 27 03.9 -0.1**
ZAA0 Zalesovo Array 46.43 48 P **P** **11 27 00.1 -1.0**
ZAA0 **pP** **11 27 08.0 +0.3**
ZALV Zalesovo Beam 46.43 48 P **P** **11 27 00.1 -0.9**
comp=Z,7.1nm,0.6s,baz=277,slow=8.6,SNR=27
ZALV Zalesovo Beam 46.43 48 P **P** **11 27 00.0 -1.0**
DGZ Jazzator, Alta 48.73 53 *i*P **P** **11 27 18.3 -0.9**
DGZ pmax pmax
comp=Z,6.0nm,2.0s
WMQ Urumqi 50.40 60 eP **P** **11 27 34.4 +2.5**
WMQ pmax pmax
comp=Z,19nm,0.6s
WMQ pmax pmax
comp=Z,100nm,4.7s
ZAK Zakamensk 58.30 48 eP **P** **11 28 28.6 -0.7**
ZAK pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 60.48 20⇑ *e*P **P** **11 28 44.0 +0.2**
SONM Songino Array 61.18 50 P **P** **11 28 49.1 -0.1**
comp=Z,1.8nm,0.7s,baz=281,slow=8.5,SNR=14
SONM Songino Array 61.18 50 P **P** **11 28 48.1 -1.1**
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 61.18 50 P **P** **11 28 48.1 -1.1**
SONM pwP **pP** **11 28 56.8 +0.8**
SONM IAmb IAmb 11 28 57.9
comp=Z,3.6nm,0.7s
ULN Ulaanbaatar 61.57 50⇓ *e*P **P** **11 28 52.2 +0.3**
ULN pmax pmax
comp=Z,3.0nm,0.8s
BOSA Boshof 65.84 175 LR LR 12 02 22.4
comp=Z,85nm,18.5s,baz=116,slow=40
YAK Yakutsk 65.93 29⇓ *i*P **P** **11 29 20.3 +0.2**
YAK pmax pmax
comp=Z,16nm,0.8s
HHC Hu-ho-hao-te 67.72 55 eP **P** **11 29 33.3 +1.2**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,79nm,5.4s
XAN Xi'an 69.45 62 P P 11 29 50.8 +7.9
XAN pmax pmax
comp=Z,5.0nm,1.2s
CMAR Chiang Mai Arr 70.30 82 P **P** **11 29 48.3 +0.1**
comp=Z,0.9nm,0.7s,baz=298,slow=6.4,SNR=5.4

SEY Seymchan 72.97 21⇑ *e*P **P** **11 30 02.8 -0.8**
YKA Yellowknife Ar 74.01 340 P **P** **11 30 10.8 +1.0**
comp=Z,0.1nm,0.4s,baz=34,slow=9.1,SNR=2.9
CN2 Changchun 74.64 46 *e*P P **11 30 22.3 +8.6**
CN2 pmax pmax
comp=Z,20nm,0.8s
KLR Kul'dur 74.66 39⇓ *e*P **P** **11 30 13.9 +0.1**
KLR pmax pmax
comp=Z,2.0nm,1.1s
MA2 Magadan 75.12 24⇓ *e*P **P** **11 30 17.9 +1.7**
MA2 pmax pmax
comp=Z,5.0nm,1.0s
ULM Lac du Bonnet 76.14 324 P **P** **11 30 23.4 +1.1**
comp=Z,0.7nm,0.4s,baz=23,slow=13,SNR=1.6
ILAR Eielson Array 77.65 354 P **P** **11 30 31.7 +1.2**
comp=Z,0.2nm,0.8s,baz=358,slow=3.4,SNR=1.3
KSRS Korea Array 80.05 50 P **P** **11 30 45.0 +0.8**
comp=Z,3.0nm,1.1s,baz=316,slow=3.5,SNR=6.6
KSRS Korea Array 80.05 50 P **P** **11 30 45.0 +0.8**
YSS Yuzh-Sakhalins 81.57 36 eP P 11 31 02.9 +11
BDFB Brasilia 82.91 244 LR LR 12 09 20.3
comp=Z,78nm,18.1s,baz=120,slow=37
MJAR Matsushiro Arr 86.74 45 P **P** **11 31 20.1 +1.4**
comp=Z,0.7nm,0.6s,baz=314,slow=2.2,SNR=1.8
PDAR Pinedale Array 88.02 325 P **P** **11 31 27.9 +3.0**
comp=Z,0.1nm,0.5s,baz=77,slow=5.6,SNR=1.3
NVAR Mina Array Bea 95.37 328 LR LR 12 16 48.6
comp=Z,39nm,18.7s,baz=234,slow=37

DDA 16 11:18:56.5, 40.25N×29.23E, h2km±1km, ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGD	**Bursa**	**0.03**	**307**	*i* P	Pg	11 18 57.5	+0.3
IGD				IAML		11 18 58.0	
	comp=N,690nm,0.3s						
IGD				IAML		11 18 58.0	
	comp=E,397nm,0.1s						
IGD				*i* S	Sg	11 18 58.1	+0.5
ULDT	**Uludag**	**0.13**	**215**	*i* P	Pg	11 18 59.8	+0.8
ULDT				*i* S	Sg	11 19 02.2	+1.4

*NEIC **16** 11:23:08.7±1.0, 20.3°S±0.2°×177.8°W±0.1°, h506km±11km, mb4.3/20, Error ellipse: s-maj=22.0km s-min=17.8km az=177.0*
*IDC **16** 11:23:10.2±1.7, 20.40°S×177.81°W, h516km±17km, mb3.4/14, mb1 3.6/17, mb1mx3.5/34, mbtmp4.3/17, Error ellipse: s-maj=24.2km s-min=12.4km az=146.0*
ISC 16 11:23:11.3±0.6, 20.4°S±0.1°×177.8°W±0.0°, h534km, n49, σ1°06/48, mb4.3/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.71**	**304**	P	**P**	**11 24 36.3**	**-1.6**
	24nm,0.3s,baz=66,slow=23,SNR=32						
MSVF	**Nonsavu**	**4.71**	**304**	P	**P**	**11 24 34.0**	**-3.9**
NIUE	**Niue**	**7.56**	**81**	P	P	11 24 59.1	-5.1
DZM	**Mont Dzumac**	**14.76**	**261**	P	**P**	**11 26 17.9**	**-0.7**
	1.3nm,0.3s,baz=80,slow=20,SNR=12						
DZM	**Mont Dzumac**	**14.76**	**261**	P	**P**	**11 26 17.7**	**-0.9**
OUZ	**Omahuta**	**16.59**	**205**	P	**P**	**11 26 37.5**	**+0.8**
RAR	**Rarotonga**	**16.91**	**96**	P	**P**	**11 26 38.0**	**-1.9**
URZ	**Urewera**	**18.33**	**193**	P	**P**	**11 26 51.6**	**-1.1**
	1.0nm,0.3s,baz=333,slow=4.5,SNR=1.7						
URZ	**Urewera**	**18.33**	**193**	P	**P**	**11 26 51.3**	**-1.4**
WHZ	**Wether Hill Ro**	**27.99**	**201**	P	**P**	**11 28 18.0**	**-0.9**
EIDS	**Eidsvold**	**29.03**	**254**	P	**P**	**11 28 27.4**	**-0.9**
EIDS				IAmb	IAmb	11 28 38.8	
	comp=Z,12nm,1.2s						
ARMA	**Armidale**	**29.25**	**244**	P	**P**	**11 28 30.4**	**0.0**
ARMA				IAmb	IAmb	11 28 31.7	
	comp=Z,7.1nm,0.7s						
CTAO	**Charters Tower**	**33.66**	**264**	P	**P**	**11 29 08.3**	**+0.3**
TOO	**Toolangi**	**36.08**	**234**	P	**P**	**11 29 28.2**	**+0.2**
TOO				IAmb	IAmb	11 29 29.4	
	comp=Z,7.4nm,0.7s						
COEN	**Coen**	**37.73**	**273**	P	**P**	**11 29 41.9**	**+0.1**
COEN				IAmb	IAmb	11 29 47.9	
	comp=Z,19nm,1.5s						
STKA	**Stephens Creek**	**37.97**	**244**	P	**P**	**11 29 44.1**	**+0.6**
	comp=Z,5.9nm,0.8s,baz=91,slow=12,SNR=16						
STKA	**Stephens Creek**	**37.97**	**244**	P	**P**	**11 29 44.2**	**+0.6**
BBOO	**Buckleboo**	**42.73**	**243**	P	**P**	**11 30 21.8**	**+0.2**
WR0	**Warramunga Arr**	**44.58**	**262**	P	**P**	**11 30 35.6**	**-0.5**
AS31	**Alice Springs**	**44.69**	**257**	P	**P**	**11 30 37.1**	**+0.1**
ASAR	**Alice Springs**	**44.70**	**257**	P	**P**	**11 30 37.2**	**+0.2**
	comp=Z,20nm,0.7s,baz=95,slow=7.6,SNR=364						
ASAR				PcP	**PcP**	**11 32 08.8**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=98,slow=3.6,SNR=4.4						
ASAR				S	**S**	**11 36 36.4**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=90,slow=16,SNR=6.5						
ASAR	**Alice Springs**	**44.70**	**257**	P	**P**	**11 30 37.0**	**0.0**
WB0	**Warramunga Arr**	**44.75**	**262**	P	**P**	**11 30 36.9**	**-0.5**
WB2	**Warramunga Arr**	**44.76**	**262**	P	**P**	**11 30 37.3**	**-0.2**
WB2				IAmb	IAmb	11 30 37.6	
	comp=Z,7.8nm,0.7s						
WRAB	**Tennant Creek**	**44.76**	**262**	P	**P**	**11 30 36.8**	**-0.7**
WRAB				IAmb	IAmb	11 30 37.5	
	comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	**44.77**	**262**	P	**P**	**11 30 37.0**	**-0.5**
	comp=Z,5.8nm,0.6s,baz=97,slow=7.5,SNR=152						
FORT	**Forrest**	**49.48**	**247**	P	**P**	**11 31 12.9**	**0.0**
FITZ	**Fitzroy Crossi**	**53.20**	**262**	P	**P**	**11 31 40.4**	**+0.4**
SIJI	**Sorong**	**53.36**	**285**	P	**P**	**11 31 41.2**	**0.0**
	comp=Z,18nm,0.7s,baz=70,slow=7.2,SNR=8.5						
PSA00	**Pilbara Seismi**	**57.84**	**257**	P	**P**	**11 32 12.2**	**0.0**
PSA00				IAmb	IAmb	11 32 12.9	
	comp=Z,14nm,0.8s						
MORW	**Morawa**	**60.01**	**248**	P	**P**	**11 32 26.9**	**+0.2**
MORW				IAmb	IAmb	11 32 28.2	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**69.67**	**180**	P	**P**	**11 33 27.7**	**+0.7**
MJAR	**Matsushiro Arr**	**70.22**	**324**	P	**P**	**11 33 30.1**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=146,slow=5.6,SNR=3.4						
PETK	**Petropavlovsk-**	**76.21**	**345**	P	**P**	**11 34 04.3**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=117,slow=7.7,SNR=15						
PETK	**Petropavlovsk-**	**76.21**	**345**	P	**P**	**11 34 04.2**	**-0.3**
KSRS	**Korea Array**	**76.92**	**318**	P	**P**	**11 34 10.4**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=101,slow=6.3,SNR=2.2						
USRK	**Usuriysk Ar.**	**78.97**	**326**	P	**P**	**11 34 21.2**	**+1.7**
	comp=Z,1.8nm,0.7s,baz=145,slow=3.0,SNR=5.1						
NVAR	**Mina Array Bea**	**80.84**	**43**	P	**P**	**11 34 30.5**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=235,slow=9.6,SNR=5.5						
KLR	**Kul'dur**	**82.52**	**329**	P	**P**	**11 34 39.1**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=110,slow=10,SNR=1.9						
TXAR	**Lajitas Array**	**86.87**	**57**	P	**P**	**11 35 00.9**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=221,slow=7.2,SNR=10						
ILAR	**Eielson Array**	**88.18**	**13**	P	**P**	**11 35 03.9**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=217,slow=5.5,SNR=9.2						
PDAR	**Pinedale Array**	**88.78**	**43**	P	**P**	**11 35 08.4**	**0.0**
	comp=Z,0.4nm,0.6s,baz=217,slow=3.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**90.23**	**290**	P	**P**	**11 35 17.6**	**+2.1**
	comp=Z,2.1nm,0.6s,baz=125,slow=2.8,SNR=13						
HFS	**Hagfors**	**139.46**	**351**	PKhKP	PKPpre	11 41 31.6	
	comp=Z,2.0nm,0.9s,baz=42,slow=4.5,SNR=1.9						
AKASG	**Malin Array Be**	**143.00**	**331**	PKhKP	PKPpre	11 41 41.3	
	comp=Z,2.2nm,0.4s,baz=43,slow=4.5,SNR=10						
EKA	**Eskdalemuir Ar**	**144.89**	**5**	PKP	**PKPdf**	**11 41 47.0**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=341,slow=4.1,SNR=2.6						
BRTR	**Keskin Array B**	**146.89**	**313**	PKPbc	**PKPbc**	**11 41 53.5**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=125,slow=3.3,SNR=2.8						
MMAI	**Mount Meron Ar**	**147.90**	**300**	PKPbc	**PKiKP**	**11 41 58.1**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=79,slow=6.0,SNR=3.7						
KOWA	**Kowa**	**171.68**	**134**		**PKPdf**	**11 42 20.6**	**+1.2**

*IDC **16** 11:28:01.6±2.0, 37.35N×20.10E, h0km, mb3.7/5, mb1 3.7/8, mb1mx3.5/46, mbtmp3.7/8, ML3.2/3, Error ellipse: s-maj=40.7km s-min=26.9km az=30.0*
*ATH **16** 11:28:02.9, 37.32N×20.01E, h7km±2km, ML3.5/13, Error ellipse: s-maj=3.9km s-min=1.5km az=62.0*
*THE **16** 11:28:03.3, 37.30N×20.08E, h13km±2km, ML3.3/7, Error ellipse: s-maj=4.0km s-min=1.7km az=249.0*
ISC 16 11:28:02.4±1.5, 37.30N±0.04×20.02E±0.04, h14km±9km, n74, σ1°61/93, mb3.6/5, 4C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTHK	**Lithakia**	**0.77**	**57**	P	**Pg**	**11 28 17.0**	**-0.5**
LTHK				AML	AML	11 28 29.5	
	comp=N,11773μm,0.3s						
LTHK				AML	AML	11 28 30.8	
	comp=E,12249μm,0.3s						

LTHK	**Lithakia**	**0.77**	**57**	P	**Pb**	**11 28 17.3**	**-0.3**
VLMS	**Volimes, Zakyn**	**0.78**	**41**	P	**Pg**	**11 28 17.0**	**-0.5**
VLMS				S	**Sb**	**11 28 28.0**	**-0.1**
VLMS				AML	AML	11 28 28.7	
	comp=E,14815μm,0.5s						
VLMS				AML	AML	11 28 30.6	
	comp=N,19040μm,0.3s						
VLMS	**Volimes, Zakyn**	**0.78**	**41**	P	**Pg**	**11 28 17.0**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.93**	**29**	P	**Pg**	**11 28 19.6**	**-0.9**
KEF3	**Kipouria, Keph**	**0.94**	**16**	P	**Pb**	**11 28 20.9**	**+0.4**
KEF3				S	**Sb**	**11 28 33.8**	**+0.9**
KEF3	**Kipouria, Keph**	**0.94**	**16**	P	**Pb**	**11 28 21.1**	**+0.5**
KEF3				S	**Sn**	**11 28 35.0**	**+0.5**
ARGA	**Argostoli. Kep**	**0.95**	**23**	P	**Pg**	**11 28 20.6**	**-0.3**
LXRA	**Lixouri, Kepha**	**0.96**	**20**	P	**Pb**	**11 28 21.2**	**+0.3**
LXRA				S	**Sb**	**11 28 34.2**	**+0.8**
VLS	**Valsamata**	**0.99**	**27**	P	**Pg**	**11 28 20.6**	**-1.0**
VLS				S	**Sb**	**11 28 34.2**	**-0.1**
VLS				AML	AML	11 28 35.6	
	comp=E,3866μm,0.2s						
VLS				AML	AML	11 28 42.1	
	comp=N,5818μm,0.5s						
VLS	**Valsamata**	**0.99**	**27**	P	**Pg**	**11 28 20.8**	**-0.8**
VLS				S	**Sb**	**11 28 34.9**	**+0.6**
	comp=N,2μm,0.4s						
KEF4	**Livadi, Kephal**	**1.01**	**19**	P	**Pg**	**11 28 21.6**	**-0.4**
KEF4				S	**Sb**	**11 28 35.7**	**+0.8**
KEF4	**Livadi, Kephal**	**1.01**	**19**	P	**Pg**	**11 28 21.8**	**-0.2**
KEF4				S	**Sn**	**11 28 36.4**	**+0.2**
KEF5	**Kardakata, Kep**	**1.04**	**20**	P	**Pg**	**11 28 21.7**	**-0.9**
KEF5	**Kardakata, Kep**	**1.04**	**20**	P	**Pg**	**11 28 21.9**	**-0.7**
KEF5				S	**Sb**	**11 28 37.0**	**+1.2**
FSK	**Fiskardo**	**1.24**	**20**	P	**Pg**	**11 28 24.9**	**-1.4**
FSK				S	**Sg**	**11 28 41.4**	**-1.0**
FSK				AML	AML	11 28 48.6	
	comp=N,2666μm,0.3s						
FSK				AML	AML	11 28 51.9	
	comp=E,3446μm,0.4s						
FSK	**Fiskardo**	**1.24**	**20**	P	**Pg**	**11 28 25.2**	**-1.1**
AMT	**Artemida-Makis**	**1.37**	**80**	P	**Pg**	**11 28 28.3**	**-0.5**
AMT				AML	AML	11 28 55.8	
	comp=E,2228μm,0.5s						
AMT				AML	AML	11 29 05.0	
	comp=N,3043μm,0.6s						
AMT	**Artemida-Makis**	**1.37**	**80**	P	**Pn**	**11 28 26.7**	**-0.4**
RLS	**Riolos of Patr**	**1.38**	**56**	P	**Pg**	**11 28 28.5**	**-0.5**
RLS				AML	AML	11 28 53.3	
	comp=N,1708μm,0.9s						
RLS				AML	AML	11 28 57.1	
	comp=E,1757μm,0.8s						
RLS	**Riolos of Patr**	**1.38**	**56**	P	**Pn**	**11 28 27.2**	**0.0**
EVGI	**Lefkada island**	**1.42**	**21**	P	**Pn**	**11 28 28.4**	**+0.7**
PYL	**PYLOS**	**1.44**	**106**	P	**Pg**	**11 28 29.8**	**-0.2**
DRO	**Drossia**	**1.50**	**64**	P	**Pg**	**11 28 30.4**	**-0.8**
DRO				AML	AML	11 28 58.8	
	comp=N,3275μm,0.4s						
DRO				AML	AML	11 29 05.2	
	comp=E,3551μm,0.4s						
DRO	**Drossia**	**1.50**	**64**	P	**Pn**	**11 28 28.4**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.51**	**21**	P	**Pg**	**11 28 31.1**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.51**	**21**	P	**Pn**	**11 28 29.2**	**+0.1**
ITM	**Ithomi**	**1.53**	**94**	P	**Pg**	**11 28 31.2**	**-0.7**
ITM				AML	AML	11 29 03.8	
	comp=N,784μm,0.7s						
ITM				AML	AML	11 29 04.9	
	comp=E,890μm,0.7s						
ITM	**Ithomi**	**1.53**	**94**	P	**Pn**	**11 28 28.9**	**-0.4**
ITM				S	**Sn**	**11 28 47.2**	**-1.8**
	comp=E,300nm,0.5s						
LKD2	**Lefkada island**	**1.57**	**19**	P	**Pb**	**11 28 31.7**	**+0.3**
LKD2				AML	AML	11 29 01.6	
	comp=E,1949μm,0.5s						
LKD2				AML	AML	11 29 01.8	
	comp=N,1450μm,0.3s						
LKD2	**Lefkada island**	**1.57**	**19**	P	**Pn**	**11 28 30.0**	**0.0**
LKD2				S	**Sn**	**11 28 50.0**	**-0.1**
	comp=N,982nm,0.5s						
PDO	**Prodromos**	**1.59**	**35**	P	**Pb**	**11 28 31.7**	**0.0**
PDO				AML	AML	11 29 00.9	
	comp=N,3619μm,0.3s						
PDO				AML	AML	11 29 02.4	
	comp=E,4076μm,0.5s						
PDO	**Prodromos**	**1.59**	**35**	P	**Pn**	**11 28 31.1**	**+0.9**
TSLK	**Tsoukalades, L**	**1.61**	**18**	P	**Pb**	**11 28 32.3**	**+0.4**
TSLK				AML	AML	11 29 00.1	
	comp=E,2714μm,0.4s						
TSLK				AML	AML	11 29 07.4	
	comp=N,3710μm,0.7s						
LAKA	**Lakka**	**1.82**	**58**	P	**Pb**	**11 28 36.1**	**+0.6**
KLV	**Kalavryta, Ach**	**1.85**	**66**	P	**Pb**	**11 28 36.0**	**-0.1**
KLV	**Kalavryta, Ach**	**1.85**	**66**	P	**Pb**	**11 28 35.9**	**-0.1**
KLV				S	**Sg**	**11 29 00.2**	**-1.8**
	comp=N,158nm,0.8s						
VLX	**Vlachokerasia**	**1.89**	**87**	P	**Pb**	**11 28 36.9**	**+0.2**
VLX				AML	AML	11 29 18.9	
	comp=N,930μm,0.5s						
VLX				AML	AML	11 29 27.3	
	comp=E,1054μm,0.6s						
TRIZ	**Trizonia**	**1.95**	**56**	P	**Pb**	**11 28 37.3**	**-0.4**
SERG	**Sergoula**	**1.96**	**55**	P	**Pb**	**11 28 38.0**	**+0.1**
SERG				AML	AML	11 29 15.1	
	comp=E,1366μm,0.6s						
SERG				AML	AML	11 29 16.5	
	comp=N,1138μm,0.5s						
KALE	**Kalithea**	**2.01**	**56**	P	**Pb**	**11 28 38.6**	**-0.1**
EVR	**Evrytania**	**2.15**	**41**	P	**Pb**	**11 28 41.2**	**0.0**
DSF	**Desfina**	**2.28**	**60**	P	**Pn**	**11 28 40.1**	**+0.4**
MAKR	**Makrakomi, Fth**	**2.39**	**44**	P	**Pb**	**11 28 44.5**	**-0.8**
VLI	**Veliai**	**2.41**	**103**	P	**Pn**	**11 28 41.0**	**-0.4**
VLI				S	**Sn**	**11 29 07.2**	**-3.5**
KEK	**Kerkira**	**2.42**	**356**	P	**Pn**	**11 28 42.3**	**+0.7**
LKR	**Lokris**	**2.72**	**59**	P	**Pn**	**11 28 44.8**	**-0.8**
LSK	**Leskovik**	**2.89**	**9**	P	**Pn**	**11 28 48.9**	**+0.9**
DION	**Dionisos Attik**	**3.20**	**75**	P	**Pn**	**11 28 51.5**	**-0.9**
XOR	**Xorichti**	**3.24**	**49**	P	**Pn**	**11 28 52.6**	**-0.3**
LIT	**Litokhoron**	**3.40**	**34**	P	**Pn**	**11 28 55.4**	**+0.3**
LIT				S	**Sn**	**11 29 35.1**	**-0.2**
	comp=N,72nm,0.3s						
HORT	**Hortiatis**	**4.08**	**35**	P	**Pn**	**11 29 04.6**	**+0.1**
SOH	**Sokhos**	**4.38**	**35**	P	**Pn**	**11 29 09.5**	**+1.0**
IDI	**Anoyia**	**4.42**	**116**	Pn	**Pn**	**11 29 11.4**	**+2.3**
	comp=N,0.3nm,0.3s,baz=86,slow=16,SNR=0.6						
SRS	**Serrai**	**4.72**	**35**	P	**Pn**	**11 29 14.3**	**+1.1**
DBRK	**Dubrovnik**	**5.55**	**346**	*i* Pn	**Pn**	**11 29 22.8**	**-1.9**
DBRK				Sn	**Sn**	**11 30 24.1**	**-4.1**
STON	**Ston**	**5.84**	**343**	*i* Pn	**Pn**	**11 29 28.3**	**-0.3**
STON				Sn	**Sn**	**11 30 29.4**	**-5.9**
VTS	**Vitosha**	**5.86**	**24**	⇑P	**Pn**	**11 29 30.4**	**+1.4**
RICI	**Ricice**	**6.57**	**341**	*e*Pn	**Pn**	**11 29 39.0**	**+0.4**
RICI				Sn	**Sn**	**11 30 49.5**	**-3.8**
ZIRJ	**Zirje**	**7.17**	**334**	*e*Pn	**Pn**	**11 29 48.9**	**+2.1**
ZIRJ				Sn	**Sn**	**11 31 03.0**	**-5.1**
KIJV	**Kijevo**	**7.24**	**339**	*e*Pn	**Pn**	**11 29 49.5**	**+1.8**
KIJV				Sn	**Sn**	**11 31 06.2**	**-3.6**
MORI	**Morici**	**7.33**	**335**	*e*Pn	**Pn**	**11 29 50.7**	**+1.7**
MORI				Sn	**Sn**	**11 31 08.0**	**-4.1**
DUGI	**Dugi Otok**	**7.68**	**332**	*e*Pn	**Pn**	**11 29 55.5**	**+1.7**
DUGI				Sn	**Sn**	**11 31 15.3**	**-5.2**
KEST	**Kesra**	**8.73**	**263**	Pn	**Pn**	**11 30 09.6**	**+1.2**
	comp=N,0.3nm,0.3s,baz=344,slow=7.4,SNR=1.6						
MLR	**Muntele Rosu**	**9.32**	**27**	Pn	Pn	11 30 21.3	+4.9
	comp=N,0.8nm,0.3s,baz=205,slow=5.4,SNR=7.7						
MLR	**Muntele Rosu**	**9.32**	**27**	⇑P	Pn	11 30 21.7	+5.3
TIRR	**Tirgusor**	**9.57**	**39**	⇑P	Pn	11 30 33.5	+14
PLOR	**Plostina**	**9.88**	**28**	⇑P	**Pn**	**11 30 27.3**	**+3.2**
EIL	**Elat**	**14.59**	**117**	Pn	**Pn**	**11 31 27.9**	**-0.5**
	comp=N,0.4nm,0.3s,baz=64,slow=16,SNR=2.0						
HFS	**Hagfors**	**23.21**	**352**	P	**P**	**11 33 10.3**	**+1.6**
	comp=N,0.9nm,0.4s,baz=159,slow=13,SNR=5.2						
FINES	**FINESS Array B**	**24.47**	**7**	P	**P**	**11 33 21.6**	**+1.0**
	comp=N,1.1nm,0.6s,baz=170,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**46.11**	**58**	P	**P**	**11 36 26.2**	**+0.1**
	comp=N,0.3nm,0.4s,baz=275,slow=7.6,SNR=10						
ZALV	**Zalesovo Beam**	**46.58**	**47**	P	**P**	**11 36 29.8**	**+0.2**
	comp=N,1.2nm,0.4s,baz=270,slow=8.6,SNR=6.7						
SONM	**Songino Array**	**61.33**	**50**	P	**P**	**11 38 18.2**	**+0.6**
	comp=N,0.2nm,0.4s,baz=280,slow=8.1,SNR=2.4						

*CRAAG **16** 11:37:23.6,36˚.44N×3˚.02E,Ml3.7*
*IDC **16** 11:37:23.0±1.8,36˚.60N×2˚.85E,h0km,mb3.4/3,mb1 3.5/6, mb1mx3.3/40,mbtmp3.4/6,ML3.2/3,Error ellipse: s-maj=45.2km s-min=23.7km az=3.0*

*MDD **16** 11:37:25.8±0.6,36˚.47N×3˚.05E,h8km±7km,mb4.2/15, Error ellipse: s-maj=7.2km s-min=5.1km az=104.0, PRXIMO*
*LDG **16** 11:37:30.0±0.3,36˚.75N×2˚.76E,h30km,Ml3.2/17,Error ellipse: s-maj=5.5km s-min=2.9km az=159.0*
ISC 16 11:37:24.2±0.8,36.49N±0.04×3.03E±0.03,h10km,n86,
σ2$37/101,mb3.5/3,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.31**	**0**	P		P	**Pg**	**11 37 31.7**	**+1.2**
ABA	**Alger-Bouzarea**	**0.31**	**0**	P		P	**Pg**	**11 37 31.7**	**+1.2**
ABMS	**Boumerdes**	**0.45**	**54**	P		P	**Pg**	**11 37 33.9**	**+1.0**
ABMS	**Boumerdes**	**0.45**	**54**	P		P	**Pg**	**11 37 33.9**	**+1.0**
ADJB	**Djebel Djouab**	**0.47**	**135**	P		P	**Pg**	**11 37 33.7**	**+0.4**
ADJB	**Djebel Djouab**	**0.47**	**135**	P		P	**Pg**	**11 37 33.7**	**+0.4**
EBNR	**Beni Rached**	**1.23**	**261**	P		P	**Pg**	**11 37 49.0**	**+1.2**
ECHA	**Ech Chlef**	**1.39**	**256**	P		P	**Pn**	**11 37 50.1**	**+0.5**
ECHF	**Ech Chlef**	**1.41**	**257**	P		P	**Pn**	**11 37 50.1**	**+0.2**
EANR	**'Ain N'Sour**	**1.65**	**252**	P		P	**Pn**	**11 37 52.9**	**-0.4**
EANR	**'Ain N'Sour**	**1.65**	**252**	P		P	**Pn**	**11 37 52.9**	**-0.4**
SET	**Setif**	**1.93**	**98**	P		P	**Pg**	**11 38 04.0**	**+2.7**
SET	**Setif**	**1.93**	**98**	P		P	**Pg**	**11 38 04.0**	**+2.7**
OKGL	**Djebel Kef Gue**	**1.98**	**258**	P		P	**Pg**	**11 38 04.0**	**+1.8**
OJGS	**Djebel Guires**	**2.10**	**243**	P		P	**Pb**	**11 38 02.0**	**-0.4**
OJGS	**Djebel Guires**	**2.10**	**243**	P		P	**Pb**	**11 38 02.0**	**-0.4**
OJBR	**Djebel Berber**	**2.36**	**248**	P		P	**Pn**	**11 38 03.0**	**0.0**
OJBR	**Djebel Berber**	**2.36**	**248**	P		P	**Pn**	**11 38 03.0**	**0.0**
EIBI	**Ibiza**	**2.87**	**333**	P		P	**Pn**	**11 38 10.9**	**+0.9**
	19nm,0.3s,SNR=6.9								
EIBI					S		**Sn**	**11 38 42.6**	**-1.9**
	14nm,0.3s,SNR=7.8								
ETOS	**Mallorca**	**3.28**	**357**	P		P	**Pn**	**11 38 16.5**	**+0.9**
	18nm,0.5s,SNR=16								
ETOS					S		**Sn**	**11 38 52.2**	**-2.5**
	13nm,0.4s,SNR=4.7								
EBEN2	**Beniarda presa**	**3.36**	**311**	P		P	**Pn**	**11 38 18.1**	**+1.3**
	1.3nm,0.1s,SNR=7.9								
EBEN2					S		**Sn**	**11 38 54.5**	**-2.4**
	4.3nm,0.3s,SNR=7.9								
CART	**Cartagena**	**3.41**	**290**	S			**Sn**	**11 38 54.9**	**-2.9**
CART	**Cartagena**	**3.41**	**290**	*e*P			**Pb**	**11 38 24.1**	**-0.6**
CART				*e*S			**Sn**	**11 38 54.9**	**-2.9**
MAHO	**Mahon**	**3.54**	**16**	S			**Sn**	**11 38 56.2**	**-4.8**
MAHO	**Mahon**	**3.54**	**16**	*e*S			**Sn**	**11 38 56.2**	**-4.8**
EMUR	**La Murta**	**3.67**	**293**	P		P	**Pn**	**11 38 22.7**	**+1.7**
	6.3nm,0.3s,SNR=7.9								
EMUR					S		**Sn**	**11 39 02.6**	**-1.8**
	0.7nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**4.23**	**302**	P		P	**Pn**	**11 38 30.2**	**+1.5**
	5.0nm,0.1s,SNR=7.9								
ENIJ	**Nijar**	**4.24**	**278**	S			**Sn**	**11 39 14.7**	**-3.6**
	0.1nm,0.4s,SNR=7.9								
ECHE	**Chera**	**4.42**	**316**	P		P	**Pn**	**11 38 33.5**	**+2.1**
	5.1nm,0.3s,SNR=7.9								
ECHE					S		**Sn**	**11 39 20.5**	**-2.5**
	0.8nm,0.7s,SNR=7.9								
SESP	**Santiago Espad**	**4.74**	**292**	P		P	**Pn**	**11 38 37.7**	**+1.9**
	4.4nm,0.2s,SNR=7.9								
SESP					S		**Sn**	**11 39 30.2**	**-0.6**
	11nm,0.6s,SNR=7.9								
EMOS	**Mosqueruela**	**4.75**	**326**	P		P	**Pn**	**11 38 37.5**	**+1.5**
	4.3nm,0.2s,SNR=12								
EMOS					S		**Sn**	**11 39 28.9**	**-2.3**
	2.8nm,0.6s,SNR=7.9								
EBER	**Berja**	**4.78**	**277**	P		P	**Pn**	**11 38 37.1**	**+0.7**
	3.2nm,0.2s,SNR=5.8								
EBER					S		**Sn**	**11 39 30.4**	**-1.5**
	0.6nm,0.5s,SNR=5.3								
ERTA	**Horta de San J**	**4.94**	**336**	S			**Sn**	**11 39 32.9**	**-2.7**
	3.6nm,0.7s,SNR=7.9								
EQES	**Quesada**	**5.05**	**287**	P		P	**Pn**	**11 38 41.6**	**+1.5**
	2.9nm,0.3s,SNR=6.5								
EQES					S		**Sn**	**11 39 39.1**	**+0.6**
	16nm,0.7s,SNR=5.6								
KEST	**Kesra**	**5.17**	**97**	Pn			**Pn**	**11 38 43.7**	**+2.0**
	2.0nm,0.3s,baz=255,slow=7.0,SNR=12								
KEST					Sn		**Sn**	**11 39 35.3**	**-6.1**
	baz=161,slow=24,SNR=1.2								
CFON	**Fontmartina**	**5.29**	**355**	P		P	**Pn**	**11 38 44.2**	**+0.9**
	2.3nm,0.2s,SNR=7.5								
CFON					S		**Sn**	**11 39 40.1**	**-4.2**
	0.0nm,0.3s,SNR=7.9								
ELGU	**Los Guajares,**	**5.37**	**276**	P		P	**Pn**	**11 38 45.7**	**+1.3**
	2.4nm,0.2s,SNR=7.9								
ELGU					S		**Sn**	**11 39 43.5**	**-2.7**
	0.2nm,0.4s,SNR=7.9								
EJON	**La Jonquera**	**5.95**	**359**	P		P	**Pn**	**11 38 54.1**	**+1.7**
	4.4nm,0.4s,SNR=7.9								
SJAF	**Saint Jean de**	**5.99**	**359**	P		P	**Pn**	**11 38 55.0**	**+2.1**
	0.9nm,0.2s,SNR=7.9								
CLLI	**Llivia**	**6.04**	**353**	P		P	**Pn**	**11 38 56.1**	**+2.4**
	2.6nm,0.4s,SNR=6.7								
CLLI					S		**Sn**	**11 39 59.9**	**-3.0**
	5.2nm,0.8s,SNR=7.9								
CSOR	**Sort**	**6.06**	**347**	P		P	**Pn**	**11 38 55.4**	**+1.5**
	2.0nm,0.3s,SNR=7.9								
CSOR					S		**Sn**	**11 40 00.3**	**-3.2**
	0.7nm,0.4s,SNR=7.9								
EADA	**Adamuz**	**6.29**	**288**	S			**Sn**	**11 40 06.2**	**-2.9**
	2.2nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**6.37**	**302**	Pn			**Pn**	**11 38 56.6**	**-1.5**
	0.2nm,0.3s,baz=114,slow=13,SNR=3.6								
ESDC					Sn		**Sn**	**11 40 09.4**	**-1.5**
	0.2nm,0.3s,baz=115,slow=25,SNR=3.2								
EPF	**Esparros**	**6.85**	**343**	P			**Pn**	**11 39 06.8**	**+2.0**
EPF					S		Sn	11 40 12.5	-10
	1.6nm,0.6s								
EPF	**Esparros**	**6.85**	**343**	*e*P			**Pn**	**11 39 06.8**	**+2.0**
EPF					*e*Sn		Sn	11 40 12.5	-10
	3.1nm,0.6s								
MTLF	**Montolieu**	**6.87**	**355**	P			**Pn**	**11 39 07.7**	**+2.7**
MTLF	**Montolieu**	**6.87**	**355**	*e*P			**Pn**	**11 39 07.7**	**+2.7**
ECAB	**El Cabril**	**6.92**	**286**	P			**Pn**	**11 39 05.8**	**+0.1**
	0.1nm,0.1s,SNR=7.9								
ECAB					S		**Sn**	**11 40 23.4**	**-1.2**
	0.3nm,0.1s,SNR=7.9								
ETSF	**Etsaut**	**6.97**	**338**	P			**Pn**	**11 39 08.4**	**+1.9**
ETSF					S		Sn	11 40 13.9	-12
	1.2nm,0.4s								
ETSF	**Etsaut**	**6.97**	**338**	*e*P			**Pn**	**11 39 08.4**	**+1.9**
ETSF					*e*Sn		Sn	11 40 13.9	-12
	2.4nm,0.4s								
MDT	**Midelt**	**7.28**	**242**	Pn			**Pn**	**11 39 09.3**	**-1.5**
	0.1nm,0.3s,baz=90,slow=13,SNR=1.7								
MDT					Lg		Lg	11 41 16.9	
	0.3nm,0.3s,baz=68,slow=19,SNR=2.0								
LMR	**La Mourre**	**7.34**	**20**	P			**Pn**	**11 39 11.1**	**-0.3**
LMR					S		Sn	11 40 27.1	-7.6
	1.4nm,0.2s								
LMR	**La Mourre**	**7.34**	**20**	*e*Pn			**Pn**	**11 39 11.1**	**-0.3**
LMR					*e*Sn		Sn	11 40 27.1	-7.6
	2.9nm,0.2s								
SJPF	**Ste Jean**	**7.38**	**335**	P			**Pn**	**11 39 11.1**	**-0.9**
SJPF					S		Sn	11 40 24.2	-12
	0.8nm,0.3s								
SJPF	**Ste Jean**	**7.38**	**335**	*e*P			**Pn**	**11 39 11.1**	**-0.9**
SJPF					*e*Sn		Sn	11 40 24.2	-12
	1.5nm,0.3s								
FRF	**La Foret Royal**	**7.59**	**20**	P			**Pn**	**11 39 15.0**	**+0.2**
FRF					S		Sn	11 40 32.4	-8.4
	4.9nm,0.3s								
FRF	**La Foret Royal**	**7.59**	**20**	*e*Pn			**Pn**	**11 39 15.0**	**+0.2**
FRF					*e*Sn		Sn	11 40 32.4	-8.4
	9.8nm,0.3s								
LASF	**Ste Croix**	**7.61**	**4**	P			**Pn**	**11 39 16.1**	**+1.0**
LASF					S		Sn	11 40 31.5	-10
	0.9nm,0.3s								
LASF	**Ste Croix**	**7.61**	**4**	*e*P			**Pn**	**11 39 16.1**	**+1.0**
LASF					*e*Sn		Sn	11 40 31.5	-10
	1.9nm,0.3s								
PGF	**Pioggiola**	**7.61**	**35**	P			**Pn**	**11 39 15.9**	**+0.7**
PGF					S		Sn	11 40 34.4	-7.1
	1.4nm,0.3s								
PGF	**Pioggiola**	**7.61**	**35**	*e*Pn			**Pn**	**11 39 15.9**	**+0.7**
PGF					*e*Sn		Sn	11 40 34.4	-7.1
	2.9nm,0.3s								
SMRF	**Simiane la Rot**	**7.73**	**14**	P			**Pn**	**11 39 19.4**	**+2.6**
SMRF					S		Sn	11 40 35.5	-8.8
	0.6nm,0.3s								
SMRF	**Simiane la Rot**	**7.73**	**14**	*e*P			**Pn**	**11 39 19.4**	**+2.6**
SMRF					*e*Sn		Sn	11 40 35.5	-8.8
	0.6nm,0.3s								
SBF	**Sospel**	**8.10**	**23**	P			**Pn**	**11 39 21.7**	**-0.2**
SBF					S		Sn	11 40 44.3	-9.2
	1.4nm,0.2s								
SBF	**Sospel**	**8.10**	**23**	*e*Pn			**Pn**	**11 39 21.7**	**-0.2**
SBF					*e*Sn		Sn	11 40 44.3	-9.2
	2.7nm,0.2s								
VIVF	**Saint-Julien-l**	**8.45**	**8**	P			**Pn**	**11 39 28.7**	**+2.0**
VIVF					S		Sn	11 40 51.7	-10
	1.2nm,0.4s								
VIVF	**Saint-Julien-l**	**8.45**	**8**	*e*P			**Pn**	**11 39 28.7**	**+2.0**
VIVF					*e*Sn		Sn	11 40 51.7	-10
	2.4nm,0.4s								
CAF	**Calviac**	**8.46**	**355**	P			**Pn**	**11 39 30.2**	**+3.4**
CAF					S		Sn	11 40 50.6	-12
	0.6nm,0.3s								
CAF	**Calviac**	**8.46**	**355**	*e*P			**Pn**	**11 39 30.2**	**+3.4**
CAF					*e*Sn		Sn	11 40 50.6	-12
	1.3nm,0.3s								
ORIF	**Oris-en-Rattie**	**8.69**	**14**	P			**Pn**	**11 39 34.6**	**+4.5**
ORIF	**Oris-en-Rattie**	**8.69**	**14**	*e*P			**Pn**	**11 39 34.6**	**+4.5**
MBDF	**Montbardon**	**8.71**	**18**	P			**Pn**	**11 39 34.9**	**+4.6**
MBDF					S		Sn	11 40 59.8	-8.8
	0.9nm,0.4s								
MBDF	**Montbardon**	**8.71**	**18**	*e*P			**Pn**	**11 39 34.9**	**+4.6**
MBDF					*e*Sn		Sn	11 40 59.8	-8.8
	1.8nm,0.4s								
RJF	**Les Rejaudoux**	**8.88**	**353**	S			Sn	11 41 01.2	-11
	0.8nm,0.5s								
RJF	**Les Rejaudoux**	**8.88**	**353**	*e*Sn			Sn	11 41 01.2	-11
	1.5nm,0.5s								
LPL	**La Plagne**	**9.44**	**16**	P			**Pn**	**11 39 45.0**	**+4.6**
LPL					S		Sn	11 41 16.9	-10
	1.4nm,0.3s								
LPL	**La Plagne**	**9.44**	**16**	*e*P			**Pn**	**11 39 45.0**	**+4.6**
LPL					*e*Sn		Sn	11 41 16.9	-10
	2.7nm,0.3s								
TCF	**Toulx Ste Croi**	**9.81**	**357**	P			**Pn**	**11 39 48.3**	**+3.0**
TCF	**Toulx Ste Croi**	**9.81**	**357**	*e*P			**Pn**	**11 39 48.3**	**+3.0**
BGF	**Bois d'Agland**	**10.06**	**359**	P			**Pn**	**11 39 52.2**	**+3.5**
BGF	**Bois d'Agland**	**10.06**	**359**	*e*P			**Pn**	**11 39 52.2**	**+3.5**
SMF	**Signal de Mont**	**10.17**	**3**	P			**Pn**	**11 39 53.2**	**+3.0**
SMF					S		Sn	11 41 32.2	-12
	0.6nm,0.3s								
SMF	**Signal de Mont**	**10.17**	**3**	*e*P			**Pn**	**11 39 53.2**	**+3.0**
SMF					*e*Sn		Sn	11 41 32.2	-12
	1.1nm,0.3s								
ZALV	**Zalesovo Beam**	**56.93**	**44**	P			**P**	**11 47 10.7**	**+1.4**
	0.7nm,0.7s,baz=270,slow=9.8,SNR=2.4								
MKAR	**Makanchi Array**	**57.77**	**53**	P			**P**	**11 47 15.8**	**+0.4**
	0.2nm,0.5s,baz=278,slow=4.2,SNR=3.2								
YKA	**Yellowknife Ar**	**69.46**	**334**	P			**P**	**11 48 31.0**	**-1.3**
	0.2nm,0.6s,baz=63,slow=8.4,SNR=2.6								

*MOS **16** 11:56:46.3±1.1,43˚.32N×146˚.05E,h61km,mb4.5/21,Error ellipse: s-maj=9.1km s-min=5.8km az=93.1*
MOS Felt (III) at Malokuril'skoe; (II) at Yuzhno-Kuril'sk, Lagunnoe.
*JMA **16** 11:56:48.1±0.1,43˚.39N×145˚.91E,h65km±1km,M4.3*
JMA Felt III J1.
*NIED **16** 11:56:48.2,43˚.39N×145˚.92E,h65km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.60; $M_{\theta\theta}$-0.64; $M_{\phi\phi}$0.04; $M_{r\theta}$-1.54; $M_{\theta\phi}$-0.14; $M_{\phi r}$-1.64; Fault plane solution: $M_0$2.33000×10^{15} NP1: ϕ_s225.00000°,δ83.00000°,λ2.00000°. NP2:ϕ_s97.00000°, δ11.00000°,λ142.00000°.*
*SKHL **16** 11:56:48.2±0.5,43˚.34N×146˚.

comp=E,136nm,0.2s
KUR pmax pmax
comp=N,144nm,0.3s
KUR smax smax
comp=E,1µm,0.3s
KUR smax smax
comp=N,344nm,0.2s
KUR Kuril'sk 2.27 37 *i* P **Pn 11 57 24.3 +1.1**
KUR AMB AMB 11 57 26.0
comp=N,390nm,0.4s
KUR *i* S **Sn 11 57 50.4 +0.3**
KUR A A 11 57 57.4
comp=N,360nm,0.2s
KUR A A 11 57 57.4
comp=N,1µm,0.2s
JEM Erimo 2.50 237 Pn 11 57 27.3 +1.0
ERM Erimo 2.50 237 PN **Pn 11 57 27.0 +0.7**
ERM Erimo 2.50 237 Pn **Pn 11 57 27.0 +0.7**
JKA Kamikawa-asahi 2.53 287 Pn **Pn 11 57 28.1 +1.4**
JKA Kamikawa-asahi 2.53 287 *e*P **Pn 11 57 28.2 +1.4**
ASAJ Asahikawa 2.53 287 P **Pn 11 57 28.2 +1.4**
comp=N,35nm,0.3s,baz=116,slow=9.7,SNR=336
ASAJ S **Sn 11 58 01.6 +5.2**
comp=N,72nm,0.3s,baz=334,slow=32,SNR=2.8
ASAJ LR LR 11 58 36.0
comp=N,374nm,20.0s,baz=122,slow=43
JEW Eniwo 3.35 261 Pn **Pn 11 57 39.2 +1.3**
YSS Yuzh-Sakhalins 4.19 328 ǁ *i* PN **Pn 11 57 51.0 +1.6**
YSS *e*S **Sn 11 58 36.6 -0.5**
YSS pmax pmax
comp=Z,40nm,0.7s
YSS smax smax
comp=E,130nm,1.3s
YSS MLR MLR
comp=Z,200nm,13.0s
YSS Yuzh-Sakhalins 4.19 328 Pn **Pn 11 57 50.7 +1.3**
YSS Yuzh-Sakhalins 4.19 328 *i* P **Pn 11 57 51.0 +1.6**
YSS AMB AMB 11 57 51.5
comp=Z,40nm,0.7s
YSS *e*S **Sn 11 58 37.4 +0.3**
YSS A A 11 58 38.4
comp=Z,130nm,1.0s
JTM Tenmabayashi 4.49 236 Pn **Pn 11 57 54.3 +0.7**
UGL Uglegorsk 6.26 336 *e*PN Pn 11 58 25.2 +7.4
UGL Uglegorsk 6.26 336 *e*P **Pn 11 58 20.3 +2.5**
UGL AMB AMB 11 58 25.9
comp=Z,30nm,0.6s
JMM Marumori 6.80 217 Pn 11 58 24.7 -0.4
TEY Ternei 6.91 287 *e*P **Pn 11 58 30.2 +3.6**
TYV Tymovskoe 7.77 344 *e*PN **Pn 11 58 41.2 +2.8**
TYV pmax pmax
comp=Z,11nm,0.7s
TYV pmax pmax
comp=Z,200nm,3.6s
TYV Tymovskoe 7.77 344 *e*P **Pn 11 58 41.2 +2.8**
TYV AMB AMB 11 58 41.6
comp=Z,10.0nm,0.6s
TYV *e*S **Sn 12 00 04.5 -0.3**
TYV A A 12 00 08.3
comp=Z,7.0nm,0.9s
TYV A A 12 00 08.3
comp=Z,10.0nm,0.9s
JSD Sado 7.94 230 Pn **Pn 11 58 40.2 -0.6**
JYT Yasato 8.44 214 Pn **Pn 11 58 46.9 -0.8**
MAJO Matsushiro 9.09 223 PN **Pn 11 58 56.0 -0.4**
MAJO Matsushiro 9.09 223 Pn **Pn 11 58 56.0 -0.4**
MJAR Matsushiro Arr 9.09 223 P **Pn 11 58 55.7 -0.7**
comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=9.1
MJAR LR LR 12 02 51.1
comp=Z,49nm,19.7s,baz=120,slow=40
MJAR Matsushiro Arr 9.09 223 PN **Pn 11 58 56.3 -0.2**
MJAR Matsushiro Arr 9.09 223 Pn 11 58 56.3 -0.2
SKR Severo-Kuril's 10.03 40 *e*PN **Pn 11 59 09.5 +0.2**
SKR pmax pmax
comp=Z,45nm,0.9s
SKR MLR MLR
comp=Z,400nm,14.0s
SKR MLR MLR
comp=Z,500nm,13.0s
SKR Severo-Kuril's 10.03 40 *e*P **Pn 11 59 10.0 +0.7**
SKR AMB AMB 11 59 12.0
comp=Z,50nm,0.7s
SKR *e*S **Sn 12 00 57.0 -3.1**
USRK Ussuriysk Ar. 10.13 279 P **Pn 11 59 13.0 +2.4**
baz=83,slow=14,SNR=2.8
JGF Kuroka 10.25 223 Pn **Pn 11 59 11.1 -1.3**
OKH Okha 10.33 350 *e*P **Pn 11 59 17.0 +3.7**
NKL Nikolayevsk 10.34 342 *i* P **Pn 11 59 15.0 +1.5**
NKL AMB AMB 11 59 17.4
comp=Z,30nm,0.6s
PAU Pauzhetka 10.89 39 *e*P **Pn 11 59 22.0 +1.1**
PAU AMB AMB 11 59 27.2
comp=Z,20nm,0.5s
JHJ Hachijo jima 2 11.37 207 S Sn 12 01 20.8 -12
comp=Z,6.8nm,0.3s,baz=102,slow=22,SNR=2.6
KLR Kul'dur 11.40 306 P **Pn 11 59 30.8 +2.9**
comp=Z,0.3nm,0.3s,baz=108,slow=15,SNR=18
KLR Kul'dur 11.40 306 *ce*PN **Pn 11 59 31.8 +3.8**
KLR pmax pmax
comp=Z,7.0nm,0.9s
PETK Petropavlovsk- 12.44 35 P **Pn 11 59 42.6 +0.6**
baz=202,slow=11,SNR=2.6
EKMR Ekimchan 12.95 323 *i* P **Pn 11 59 50.0 +0.9**
EKMR AMB AMB 11 59 55.0
comp=Z,7.0nm,0.8s
KSRS Korea Array 14.96 253 P **Pn 12 00 12.8 -2.9**
comp=Z,0.2nm,0.3s,baz=53,slow=12,SNR=1.7
KSRS LR LR 12 05 22.9
comp=Z,28nm,20.4s,baz=20,slow=34
ZEA Zeya 16.06 316 *e*P P 12 00 45.4 +13
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA Zeya 16.06 316 *e*P **Pn 12 00 27.6 -2.1**
MA2 Magadan 16.44 9 P **Pn 12 00 32.6 -1.8**
comp=Z,0.5nm,0.3s,baz=179,slow=8.6,SNR=9.2
MA2 LR LR 12 07 55.6
comp=Z,93nm,18.2s,baz=300,slow=41
MA2 Magadan 16.44 9ǁ *e*P **Pn 12 00 35.2 +0.8**
MA2 pmax pmax
comp=Z,4.0nm,0.8s
MA2 Magadan 16.44 9 P **P 12 00 36.3 +0.1**
MA2 Magadan 16.44 9 *e*P **Pn 12 00 35.2 +0.8**
KROS Kirovskiy 16.58 318 *e*P **Pn 12 00 35.4 -0.8**
SEY Seymchan 19.90 9 P **P 12 01 12.8 -1.3**
comp=Z,0.4nm,0.3s,baz=168,slow=8.1,SNR=17
SEY Seymchan 19.90 9ǁ *e*P **P 12 01 14.1 +0.1**
YAK Yakutsk 20.97 338ǁ *e*P Pn 12 01 28.3 -0.5
YAK pmax pmax
comp=Z,16nm,0.7s
YAK Yakutsk 20.97 338 *e*P Pn 12 01 28.3 -0.5
ULN Ulaanbaatar 27.35 293ĥ *e*P **P 12 02 27.1 -0.1**
ULN pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 27.80 293 P **P 12 02 31.0 -0.1**
comp=Z,3.4nm,0.9s,baz=83,slow=8.6,SNR=14
SONM LR LR 12 14 26.4
comp=Z,98nm,18.1s,baz=106,slow=38
SONM Songino Array 27.80 293 P **P 12 02 31.7 +0.6**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 27.80 293 P **P 12 02 31.7 +0.6**
H11N2 WAKE ISLAND Hy 29.44 137 T T 12 33 40.7
baz=328,slow=76
H11N1 WAKE ISLAND Hy 29.45 137 T T 12 33 41.7
baz=328,slow=76
H11N3 WAKE ISLAND Hy 29.46 137 T T 12 33 42.0
baz=328,slow=76
H11S1 WAKE ISLAND Hy 30.38 138 T T 12 34 51.0
baz=329,slow=76
H11S3 WAKE ISLAND Hy 30.39 138 T T 12 34 48.7
baz=329,slow=76
H11S2 WAKE ISLAND Hy 30.40 138 T T 12 34 51.0
baz=329,slow=76,SNR=6961
A21K Barrow 39.21 25 P **P 12 04 08.7 -0.8**
A21K IAmb IAmb 12 04 13.1
comp=Z,5.8nm,1.2s
IMAR Indian Mountai 39.40 34 P **P 12 04 11.3 +0.1**
DGZ Jazzator, Alta 39.83 300ĥ *i* P **P 12 04 17.7 +2.6**
DGZ pmax pmax
comp=Z,18nm,5.2s
KDAK Kodiak Island 40.11 47 P **P 12 04 16.9 -0.2**
comp=Z,13nm,0.8s,baz=243,slow=4.5,SNR=5.9
KDAK Kodiak Island 40.11 47 P **P 12 04 17.2 +0.1**
KDAK pmax pmax
comp=Z,27nm,1.1s
KDAK Kodiak Island 40.11 47 P **P 12 04 17.2 +0.1**
ZALV Zalesovo Beam 40.50 307 P **P 12 04 19.9 -0.5**
comp=Z,0.9nm,0.4s,baz=92,slow=9.5,SNR=3.8
ZALV LR LR 12 20 53.0
comp=Z,56nm,18.1s,baz=50,slow=36
SUA Susitna One 40.71 41 P **P 12 04 23.4 +1.1**
COLD Coldfoot 40.89 32 P **P 12 04 24.3 +0.8**
TOLK Toolik Lake Re 41.20 30 P **P 12 04 26.2 +0.1**
TOLK IAmb IAmb 12 04 39.2
comp=Z,4.8nm,1.4s
MCK McKinley 41.42 38 P **P 12 04 28.5 +0.6**
MCK pmax pmax
comp=Z,5.0nm,1.0s
MCK McKinley 41.42 38 P **P 12 04 28.4 +0.6**
MCK IAmb IAmb 12 04 30.1
comp=Z,4.8nm,1.0s
COLA College 41.84 36ǁ *e*P **P 12 04 32.6 +1.3**
COLA pmax pmax
comp=Z,32nm,3.5s
IL31 42.26 36 P **P 12 04 35.8 +1.1**
IL31 IAmb IAmb 12 04 44.3
comp=Z,4.9nm,1.3s
ILAR Eielson Array 42.26 36 P **P 12 04 35.4 +0.7**
comp=Z,0.8nm,0.5s,baz=275,slow=9.9,SNR=22
ILAR Eielson Array 42.26 36 P **P 12 04 34.8 +0.1**
MK31 Makanchi Array 43.97 298 P **P 12 04 48.0 -0.7**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 43.97 298 P **P 12 04 48.0 -0.7**
MK31 IAmb IAmb 12 04 50.3
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 43.97 298 *e*P **P 12 04 48.2 -0.5**
comp=Z,1.5nm,0.6s,baz=82,slow=8.0,SNR=16
MKAR Makanchi Array 43.97 298 *ce*P **P 12 04 53.2 +4.5**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 43.97 298 P **P 12 04 48.0 -0.7**
MKAR Makanchi Array 43.97 298 *e*P **P 12 04 53.2 +4.5**
MAKZ Makanchi 44.16 298 P **P 12 04 49.1 -1.2**
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 44.16 298 P **P 12 04 49.1 -1.2**
K27K Chicken 44.41 37 P **P 12 04 53.3 +1.2**
K27K IAmb IAmb 12 04 57.1
comp=Z,4.3nm,0.8s
BCAR Beaver Creek A 44.69 38 P **P 12 04 55.7 +1.4**
CMAR Chiang Mai Arr 46.60 253 P **P 12 05 11.2 +1.3**
comp=Z,0.3nm,0.2s,baz=48,slow=11,SNR=1.3
INK Inuvik 47.12 30 P **P 12 05 14.3 +1.0**
INK pmax pmax
comp=Z,7.0nm,1.5s
INK Inuvik 47.12 30 P **P 12 05 14.3 +1.0**
INK IAmb IAmb 12 05 31.2
comp=Z,6.8nm,1.5s
BRVK Borovoye 49.08 309ĥ *e*P **P 12 05 30.2 +1.5**
BRVK pmax pmax
comp=Z,5.0nm,1.9s
BRVK Borovoye 49.08 309 *e*P **P 12 05 30.2 +1.5**
C36M Paulatuk 50.17 28 P **P 12 05 37.6 +0.9**
AAK Ala-Archa 50.71 295ĥ *e*P **P 12 05 43.3 +1.9**
AAK pmax pmax
comp=Z,9.0nm,1.3s
AAK Ala-Archa 50.71 295 *e*P **P 12 05 43.3 +1.9**
KK31 Karatay Array 53.09 298 P **P 12 05 57.4 -1.5**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KK31 Karatay Array 53.09 298 P **P 12 05 57.4 -1.5**
KK31 IAmb IAmb 12 06 04.0
comp=Z,2.4nm,0.8s
KKAR Karatay Array 53.09 298 P **P 12 05 58.3 -0.6**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 53.09 298 P **P 12 05 58.3 -0.6**
KKAR IAmb IAmb 12 06 03.9
comp=Z,2.4nm,0.8s
KKAR Karatay Array 53.09 298 P **P 12 05 57.9 -1.0**
EUNU Eureka 53.33 10 P **P 12 06 00.0 -0.2**
RES Resolute Bay 55.53 16 P **P 12 06 16.2 +0.2**
RES pmax pmax
comp=Z,7.0nm,0.7s
RES Resolute Bay 55.53 16 P **P 12 06 16.2 +0.2**
YKA Yellowknife Ar 56.55 33 P **P 12 06 24.1 +0.8**
comp=Z,0.8nm,0.6s,baz=302,slow=6.4,SNR=12
YKA Yellowknife Ar 56.55 33 *ce*P **P 12 06 24.3 +0.8**
YKA pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 56.59 308 P **P 12 06 23.5 -0.5**
ABKAR Akbulak array 56.59 308 P **P 12 06 23.7 -0.2**
AKTO Aktyubinsk 57.09 310 LR LR 12 31 18.5
comp=Z,91nm,19.7s,baz=359,slow=36
ARCES ARCESS Array B 59.25 339 P **P 12 06 41.9 -0.4**
comp=Z,8.5nm,1.1s,baz=36,slow=9.0,SNR=3.9
BELG Belogornoye 61.54 316ǁ *e*P **P 12 06 59.7 +1.6**
BELG pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 63.95 192 P **P 12 07 13.9 -0.5**
comp=Z,1.0nm,0.8s,baz=10,slow=6.9,SNR=6.7
WRA Warramunga Arr 63.95 192 *i* P **P 12 07 14.0 -0.5**
WRA pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 64.77 333 P **P 12 07 18.4 -1.0**
comp=Z,4.5nm,0.5s,baz=44,slow=8.2,SNR=28
FINES FINESS Array B 64.77 333 P **P 12 07 18.1 -1.2**
OBN Obninsk 65.06 323 *i* P **P 12 07 24.5 +3.2**
OBN *i* 12 07 56.2
OBN pmax pmax
comp=Z,5.0nm,0.6s
OBN Obninsk 65.06 323 *e*P **P 12 07 24.5 +3.2**
VSU Vasula 66.69 330ǁ *e*P **P 12 07 33.1 +1.4**
VSU pmax pmax
comp=Z,23nm,0.7s
ASAR Alice Springs 67.67 192 P **P 12 07 38.5 +0.1**
comp=Z,0.7nm,0.6s,baz=7.2,slow=5.5,SNR=17
ASAR Alice Springs 67.67 192 P **P 12 07 37.3 -1.1**
BOZ Bozeman (W) 67.80 48 P **P 12 07 39.6 +0.3**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 67.80 48 P **P 12 07 39.6 +0.3**
BOZ IAmb IAmb 12 08 00.9
comp=Z,1.9nm,0.8s
NVAR Mina Array Bea 68.49 57 P **P 12 07 45.0 +1.2**
comp=Z,1.0nm,0.7s,baz=292,slow=6.7,SNR=10.0
MNK Minsk 69.12 327 *i* P P 12 07 42.7 -4.4
comp=E,3.0nm,0.8s
MNK *i* P P 12 07 42.7 -4.4
comp=N,21nm,1.0s
MNK *i* P P 12 07 42.7 -4.4
comp=Z,15nm,0.6s
MNK *i* PcP pP 12 08 05.7 +1.4
MNK *i* PP **PP** 12 10 16.2 -3.7
MNK *i* PPP PPP 12 11 57.2
MNK *i* S **S** 12 16 44.7 -2.7
MNK *i* ScS **SKSac** 12 17 39.3 -1.8
MNK *i* SS **SS** 12 21 15.0 +1.6
MNK *i* SSS SSS 12 24 30.3
MNK *i* LQ LQ 12 33 23.2
MNK *i* LR LR 12 38 40.0
MNK *i* LRM MLR 12 40 51.8
comp=Z,66nm,11.9s
MNK *i* LRM MLR 12 40 59.2
comp=N,115nm,14.5s
MNK *i* LRM MLR 12 41 07.9
comp=E,54nm,19.3s
KIV Kislovodsk 69.33 311 *e*P **P 12 07 49.3 +0.6**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 69.33 311 *e*P **P 12 07 49.3 +0.6**
KBZ Khabaz 69.36 311 P **P 12 07 49.1 +0.3**
comp=Z,1.7nm,0.5s,baz=161,slow=5.2,SNR=7.0
NB2 NORSAR Subarra 69.59 338 P **P 12 07 48.8 -1.2**
comp=Z,1.1nm,0.7s,baz=34,slow=6.5
NOA NORSAR Array B 69.59 338 P **P 12 07 49.1 -0.8**
comp=Z,1.4nm,0.7s,baz=33,slow=6.2,SNR=7.7
PDAR Pinedale Array 70.78 49 P **P 12 07 58.1 +0.3**
comp=Z,0.7nm,0.6s,baz=266,slow=1.7,SNR=7.9
AKASG Malin Array Be 71.32 323 P **P 12 07 59.9 -0.8**
comp=Z,4.4nm,0.6s,baz=40,slow=6.0,SNR=18
AKASG Malin Array Be 71.32 323 *ce*P **P 12 08 02.2 +1.6**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 71.32 323 P **P 12 07 59.4 -1.3**
AKBB Malin Array Si 71.32 323ǁ *e*P **P 12 08 01.9 +1.3**
AKBB pmax pmax
comp=Z,6.0nm,0.6s
ULM Lac du Bonnet 72.28 36 P **P 12 08 06.6 +0.2**
comp=Z,0.9nm,0.5s,baz=348,slow=9.8,SNR=3.3
STKA Stephens Creek 75.04 184 P **P 12 08 22.8 +0.2**
comp=Z,0.7nm,0.8s,baz=284,slow=19,SNR=1.0
CRVS Cervenica-Dubn 75.97 326 *e*P **P 12 08 30.6 +2.6**
CRVS Cervenica-Dubn 75.97 326 *e*P **P 12 08 30.6 +2.6**
BRTR Keskin Array B 77.13 313 P **P 12 08 35.4 +0.5**
comp=Z,0.6nm,0.5s,baz=86,slow=2.9,SNR=1.9
VYHS Vyhne 77.35 327 *e*P **P 12 08 38.2 +2.5**
VYHS Vyhne 77.35 327 *e*P **P 12 08 38.1 +2.4**
KHC Kasperske Hory 78.82 330ĥ *e*P **P 12 08 46.3 +2.4**
KHC pmax pmax
comp=Z,39nm,2.1s
GERES GERESS Array B 79.01 330 P **P 12 08 46.1 +1.1**
comp=Z,1.2nm,0.6s,baz=30,slow=6.2,SNR=4.9
GERES LR LR 12 47 19.1
comp=Z,77nm,18.4s,baz=58,slow=38
TXAR Lajitas Array 83.55 55 P **P 12 09 10.2 +0.8**
comp=Z,1.1nm,0.7s,baz=294,slow=3.6,SNR=16
ESDC Sonseca Array 92.92 337 P **P 12 09 54.2 +0.1**
comp=Z,0.5nm,0.5s,baz=35,slow=4.7,SNR=2.4
H03N2 Juan Fernandez 143.84 89 T T 14 57 20.6
baz=302,slow=77,SNR=8.3
H03N3 Juan Fernandez 143.85 89 T T 14 57 21.6
baz=302,slow=77,SNR=13
H03N1 Juan Fernandez 143.85 89 T T 14 56 53.2
baz=302,slow=77,SNR=13

IDC ***16*** *12:02:21.4±1.4,31.03N×141.86E,h0km,mb3.5/4, mb1 3.7/7,mb1mx3.5/41,mbtmp3.6/7,ML3.0/3, Error ellipse: s-maj=45.3km s-min=20.7km az=72.0*

ISC 16 12:02:26.8±1.1,31.00N±0.09×141.7E±0.2,h37km,n7, σ0s90/8,mb3.5/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**3.91**	**173**	Pn		**Pn**	**12 03 24.4**	**+0.1**
	3.1nm,0.3s,baz=126,slow=20,SNR=1.9							
JCJ				Sn		**Sn**	**12 04 08.9**	**-0.1**
	2.2nm,0.3s,baz=265,slow=18,SNR=1.2							
MJAR	**Matsushiro Arr**	**6.24**	**333**	Pn		**Pn**	**12 03 56.1**	**-0.2**
	0.1nm,0.3s,baz=133,slow=13,SNR=5.4							
JNU	**Nakatsue**	**9.40**	**286**	Pn		**Pn**	**12 04 38.7**	**-0.9**
	0.1nm,0.3s,baz=204,slow=20,SNR=1.3							
SONM	**Songino Array**	**31.68**	**312**	P		**P**	**12 08 48.0**	**+1.2**
	0.3nm,0.8s,baz=97,slow=7.4,SNR=2.6							
WRA	**Warramunga Arr**	**51.13**	**189**	P		**P**	**12 11 26.8**	**+0.7**
	0.3nm,0.4s,baz=6.1,slow=7.5,SNR=11							
ASAR	**Alice Springs**	**54.86**	**189**	P		**P**	**12 11 53.6**	**+0.1**
	0.3nm,0.7s,baz=12,slow=8.0,SNR=6.1							
TXAR	**Lajitas Array**	**93.62**	**53**	P		**P**	**12 15 38.6**	**-1.0**
	0.3nm,0.8s,baz=307,slow=4.6,SNR=3.5							

IDC ***16*** *12:23:39.7±1.6,5.35S×146.31E,h0km,mb3.6/3, mb1 3.8/6,mb1mx3.4/37,mbtmp3.7/6,ML3.5/2,MS2.6/1, Ms1 2.6/1,ms1mx2.3/34, Error ellipse: s-maj=51.6km s-min=25.9km az=114.0*

ISC 16 12:23:51.2±1.5,5.38S±0.1×146.6E±0.2,h100km,n6, σ1s01/7,mb3.7/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.62**	**171**	Pn		**Pn**	**12 24 44.1**	**-1.3**
	3.7nm,0.3s,baz=112,slow=5.1,SNR=11							
PMG				Sn		**Sn**	**12 25 27.4**	**+0.2**
	4.1nm,0.3s,baz=182,slow=17,SNR=3.3							
PMG				LR		LR	12 26 24.7	
	comp=Z,84nm,20.2s,baz=80,slow=40							
CTA	**Charters Tower**	**14.20**	**181**	Pn		**Pn**	**12 27 09.1**	**+1.3**
	0.2nm,0.3s,baz=6.5,slow=15,SNR=1.9							
WRA	**Warramunga Arr**	**18.43**	**219**	P		**P**	**12 27 58.3**	**-0.6**
	0.1nm,0.3s,baz=42,slow=12,SNR=11							
ASAR	**Alice Springs**	**21.56**	**213**	P		**P**	**12 28 33.2**	**+0.4**
	0.8nm,0.7s,baz=49,slow=8.4,SNR=16							
FITZ	**Fitzroy Crossi**	**23.83**	**237**	P		**P**	**12 28 54.8**	**-0.5**
	3.7nm,1.0s,baz=59,slow=13,SNR=3.0							
ILAR	**Eielson Array**	**85.46**	**23**	P		**P**	**12 36 17.6**	**+0.2**
	0.5nm,0.6s,baz=256,slow=4.7,SNR=7.4							

NEIC ***16*** *13:19:00.8±0.6,35.84N±0.01×97.27W±0.02,h8km±7km, Error ellipse: s-maj=2.8km s-min=1.7km az=118.0*
TUL ***16*** *13:19:00.7±1.1,35.81N±0.01×97.23W±0.02,h7km±7km, ML3.2,mb_Lg3.1/55(NEIC), Error ellipse: s-maj=2.9km s-min=1.5km az=121.0*
ANF ***16*** *13:19:00.0±0.3,35.84N×97.24W,h3km±2km,ML3.5/10, Error ellipse: s-maj=2.3km s-min=1.6km az=139.0*

ISC 16 13:19:00.8±0.9,35.84N±0.02×97.25W±0.02,h8km±8km, n73,σ0s47/68,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK029	**Liberty Lake**	**0.17**	**257**			**Pg**	**13 19 04.6**	**+0.1**
OK029				Sg		**Sg**	**13 19 07.2**	**+0.2**
OK005	**Luther M Schoo**	**0.19**	**166**	Pg		**Pg**	**13 19 04.8**	**+0.1**
OK025	**Westminster Rd**	**0.27**	**196**			**Pg**	**13 19 05.9**	**-0.2**
OK025				Sg		**Sg**	**13 19 09.6**	**-0.1**
OK001	**Jones High Sch**	**0.28**	**187**	Pg		**Pg**	**13 19 06.0**	**-0.3**
OK001				Sg		**Sg**	**13 19 09.8**	**-0.2**
OK009	**Oakdale Elemen**	**0.29**	**210**	Pg		**Pg**	**13 19 06.8**	**+0.2**
OK009				Sg		**Sg**	**13 19 10.2**	**-0.3**
BCOK	**Bluff Creek, N**	**0.35**	**239**			**Pg**	**13 19 07.5**	**-0.2**
OK031	**S. Brethren Rd**	**0.35**	**70**			**Pg**	**13 19 07.9**	**+0.2**
OK031				Sg		**Sg**	**13 19 12.9**	**+0.6**
OK030	**Cody Creek RV**	**0.39**	**76**			**Pg**	**13 19 08.5**	**+0.1**
OK030				Sg		**Sg**	**13 19 14.0**	**+0.5**
OKCFA	**Oklahoma City**	**0.45**	**202**			**Pg**	**13 19 09.2**	**-0.3**
OKCFA				Sg		**Sg**	**13 19 15.5**	**0.0**
OKCFA	**Oklahoma City**	**0.45**	**202**	P		**Pg**	**13 19 09.3**	**-0.3**
	baz=24,SNR=24							
OKCFA				S		**Sg**	**13 19 15.6**	**0.0**
	baz=24							
OKCFA	**Oklahoma City**	**0.45**	**202**	P			13 19 09.3	
	baz=24,SNR=24							
OKCFA				S			13 19 15.6	
	baz=24							
OKCSW	**OKLAHOMA CITY**	**0.46**	**200**			**Pg**	**13 19 09.1**	**-0.6**
OKCSW				Sg		**Sg**	**13 19 15.5**	**-0.2**
QUOK	**Quay**	**0.55**	**52**			**Pg**	**13 19 11.7**	**+0.2**
QUOK				Sg		**Sg**	**13 19 19.1**	**+0.5**
OK011	**Prague**	**0.57**	**127**	Sg		**Sg**	**13 19 19.2**	**-0.3**
FNO	**Franklin**	**0.59**	**192**			**Pg**	**13 19 12.1**	**-0.1**
FNO				Sg		**Sg**	**13 19 20.2**	**+0.2**
CROK	**Carrier**	**0.90**	**318**			**Pg**	**13 19 17.9**	**-0.1**
GC02	**Grant County #**	**1.13**	**334**			**Pg**	**13 19 22.1**	**-0.3**
GC02				Sg		**Sg**	**13 19 36.1**	**-1.0**
TUL1	**Leonard**	**1.18**	**86**	P		**Pg**	**13 19 21.9**	**-1.6**
	baz=265,SNR=38							
TUL1				S		**Sg**	**13 19 38.1**	**-0.8**
	baz=265							
TUL1	**Leonard**	**1.18**	**86**	P			13 19 21.9	
	baz=265,SNR=38							
TUL1				S			13 19 38.1	
	baz=265							
KAN13	**South Haven SW**	**1.19**	**351**			**Pg**	**13 19 23.4**	**-0.3**
T35A	**Sooner Cattle**	**1.23**	**29**			**Pb**	**13 19 23.6**	**-0.7**
T35B	**Sooner Cattle**	**1.23**	**29**	P		**Pb**	**13 19 23.5**	**-0.8**
	baz=208,SNR=27							
T35B				S		**Sb**	**13 19 40.6**	**+0.2**
	baz=208							
T35B	**Sooner Cattle**	**1.23**	**29**	P			13 19 23.5	
	baz=208,SNR=27							
T35B				S			13 19 40.6	
	baz=208							
OK032	**Salt Plains WL**	**1.24**	**321**			**Pb**	**13 19 24.1**	**-0.4**
KAN05	**Bluff City Nor**	**1.37**	**338**			**Pn**	**13 19 26.2**	**+0.1**
KAN10	**Anthony SW Sta**	**1.46**	**332**			**Pn**	**13 19 27.7**	**+0.3**
KAN08	**Anthony NE Sta**	**1.51**	**337**			**Pn**	**13 19 28.5**	**+0.4**
U32A	**Winter Ranch,**	**1.52**	**291**			**Pn**	**13 19 28.4**	**+0.1**
U32A	**Winter Ranch,**	**1.52**	**291**	P		**Pn**	**13 19 28.5**	**+0.2**
	baz=111,SNR=20							
U32A				S		**Sb**	**13 19 49.2**	**+0.5**
	baz=111							
U32A	**Winter Ranch,**	**1.52**	**291**	P			13 19 28.5	
	baz=111,SNR=20							
U32A				S			13 19 49.2	
	baz=111							
KAN12	**Harper NE Stat**	**1.58**	**338**			**Pn**	**13 19 29.6**	**+0.5**
WMOK	**Wichita Mounta**	**1.67**	**229**			**Pn**	**13 19 30.7**	**+0.3**
WMOK	**Wichita Mounta**	**1.67**	**229**	P		**Pn**	**13 19 30.2**	**-0.1**
	baz=49,SNR=114							
WMOK				S		**Sn**	**13 19 52.4**	**+0.6**
	baz=49							

WMOK	**Wichita Mounta**	**1.67**	**229**	P			13 19 30.2	
	baz=49,SNR=114							
WMOK				S			13 19 52.4	
	baz=49							
X37A	**Clayton**	**1.98**	**128**			**Pn**	**13 19 34.9**	**+0.4**
X37A				IAmb_Lg			13 20 04.6	
	comp=Z,59nm,0.8s							
X37A	**Clayton**	**1.98**	**128**	P		**Pn**	**13 19 34.8**	**+0.2**
	baz=309,SNR=25							
X37A				Sb		**Sb**	**13 20 02.8**	**+1.0**
	baz=309							
X37A	**Clayton**	**1.98**	**128**	P			13 19 34.8	
	baz=309,SNR=25							
X37A				Sb			13 20 02.8	
	baz=309							
U38A	**Gravette**	**2.39**	**75**			**Pn**	**13 19 41.5**	**+1.3**
U38A				IAmb_Lg			13 20 14.7	
	comp=Z,46nm,0.8s							
Z35A	**Perchaven, San**	**2.50**	**180**	Pn		**Pn**	**13 19 42.2**	**+0.5**
Z35A	**Perchaven, San**	**2.50**	**180**	P		**Pn**	**13 19 42.2**	**+0.5**
	baz=0.4							
Z35A	**Perchaven, San**	**2.50**	**180**	P			13 19 42.2	
	baz=0.4							
HHAR	**Hobbs**	**2.71**	**80**			**Pn**	**13 19 44.5**	**-0.3**
HHAR	**Hobbs**	**2.71**	**80**	P		**Pn**	**13 19 45.2**	**+0.5**
	baz=261							
HHAR	**Hobbs**	**2.71**	**80**	P			13 19 45.2	
	baz=261							
W39A	**Magazine**	**2.90**	**102**			**Pn**	**13 19 46.8**	**-0.3**
W39A	**Magazine**	**2.90**	**102**	P		**Pn**	**13 19 47.0**	**-0.2**
	baz=283,SNR=14							
W39A	**Magazine**	**2.90**	**102**	P			13 19 47.0	
	baz=283,SNR=14							
Z38A	**Mt. Pleasant**	**3.18**	**143**	IAmb_Lg			13 20 44.7	
	comp=Z,35nm,0.8s							
MIAR	**Mount Ida**	**3.27**	**112**	Pn		**Pn**	**13 19 52.5**	**+0.1**
MIAR				IAmb_Lg			13 20 53.0	
	comp=Z,45nm,0.7s							
KSU1	**Kansas State U**	**3.30**	**9**	IAmb_Lg			13 20 53.6	
	comp=Z,41nm,0.8s							
CBKS	**Cedar Bluff**	**3.58**	**327**	IAmb_Lg			13 20 57.6	
	comp=Z,42nm,0.7s							
U40A	**Yellville**	**3.59**	**80**	Pn		**Pn**	**13 19 56.6**	**-0.2**
U40A				IAmb_Lg			13 20 57.7	
	comp=Z,31nm,0.8s							
U40A	**Yellville**	**3.59**	**80**	P		**Pn**	**13 19 56.9**	**+0.1**
	baz=262,SNR=8.0							
U40A	**Yellville**	**3.59**	**80**	P			13 19 56.9	
	baz=262,SNR=8.0							
U40A				P			13 19 56.9	
	baz=262,SNR=8.0							
S39A	**Bolivar**	**3.65**	**58**			**Pn**	**13 19 57.9**	**+0.3**
S39A	**Bolivar**	**3.65**	**58**	S		**Sn**	**13 20 41.8**	**+0.9**
	baz=240							
S39A	**Bolivar**	**3.65**	**58**	S			13 20 41.8	
	baz=240							
AMTX	**Amarillo**	**3.75**	**257**	Pn		**Pn**	**13 19 58.9**	**-0.1**
WHTX	**Lake Whitney,**	**3.84**	**183**	Pn		**Pn**	**13 19 60.0**	**-0.2**
WLAR	**White Oak Lake**	**4.02**	**121**	IAmb_Lg			13 21 10.6	
	comp=Z,31nm,0.7s							
WHAR	**Wooly Hollow**	**4.08**	**96**	Pn		**Pn**	**13 20 03.3**	**-0.1**
W41B	**Gary Mavity, V**	**4.13**	**98**	P		**Pn**	**13 20 04.4**	**+0.2**
	baz=280,SNR=18							
W41B	**Gary Mavity, V**	**4.13**	**98**	P			13 20 04.4	
	baz=280,SNR=18							
FCAR	**Ozark Folk Cen**	**4.16**	**88**	Pn		**Pn**	**13 20 04.4**	**-0.2**
FCAR				IAmb_Lg			13 21 14.6	
	comp=Z,31nm,0.8s							
MGMO	**Mountain Grove**	**4.22**	**70**	Pn		**Pn**	**13 20 05.5**	**+0.1**
MGMO				IAmb_Lg			13 21 14.1	
	comp=Z,39nm,1.1s							
R40A	**Maddies Statio**	**4.67**	**57**	IAmb_Lg			13 21 28.1	
	comp=Z,32nm,1.1s							
CCAR	**Cane Creek**	**4.89**	**111**	IAmb_Lg			13 21 46.6	
	comp=Z,27nm,0.8s							
MSTX	**Muleshoe**	**4.91**	**249**	Pn		**Pn**	**13 20 15.1**	**+0.1**
T42A	**Van Buren**	**5.10**	**75**	Pn		**Pn**	**13 20 17.4**	**-0.1**
CCM	**Cathedral Cave**	**5.29**	**63**	IAmb_Lg			13 21 51.6	
	comp=Z,24nm,0.9s							
KSCO	**Kaye Shedlock'**	**5.33**	**308**	IAmb_Lg			13 22 02.1	
	comp=Z,30nm,0.7s							
HBAR	**Harrisburg**	**5.37**	**91**	IAmb_Lg			13 21 59.9	
	comp=Z,37nm,0.7s							
PBMO	**Poplar Bluff**	**5.58**	**78**	IAmb_Lg			13 22 00.9	
	comp=Z,39nm,0.8s							
JCT	**Junction City**	**5.76**	**203**	IAmb_Lg			13 22 12.9	
	comp=Z,34nm,0.9s							
FVM	**French Village**	**5.87**	**67**	IAmb_Lg			13 22 15.0	
	comp=Z,27nm,1.2s							
T25A	**Trinidad**	**5.92**	**285**	IAmb_Lg			13 22 13.1	
	comp=Z,26nm,0.8s							
PARMO	**Parma**	**6.11**	**80**	IAmb_Lg			13 22 17.1	
	comp=Z,33nm,0.7s							
OGNE	**Ogallala**	**6.34**	**325**	IAmb_Lg			13 22 32.1	
	comp=Z,31nm,0.7s							
S44A	**Carbondale**	**6.68**	**72**	IAmb_Lg			13 22 39.5	
	comp=Z,24nm,0.7s							
SIUC	**Southern Illin**	**6.71**	**71**	IAmb_Lg			13 22 34.9	
	comp=Z,28nm,0.8s							
SCIA	**State Center**	**6.83**	**26**	IAmb_Lg			13 22 43.5	
	comp=Z,25nm,0.8s							
T45A	**Paducah**	**7.03**	**78**	IAmb_Lg			13 22 57.1	
	comp=Z,30nm,0.7s							
Q44A	**Meyer Farm, Va**	**7.23**	**63**	IAmb_Lg			13 22 53.7	
	comp=Z,26nm,1.0s							
L40A	**Anamosa**	**7.79**	**35**	IAmb_Lg			13 23 20.4	
	comp=Z,17nm,0.8s							
W50A	**Signal Mountai**	**9.75**	**90**	IAmb_Lg			13 24 16.1	
	comp=Z,10nm,1.0s							

DJA 16 13:29:21.9±0.6, 0°S±5°×12°4E±°, h82km±17km, M3.8/9, mb4.2/2, MLv3.5/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.75**	**4**	P		Pn	13 29 39.3	+1.0
GTOI	**Gorontalo**	**1.23**	**311**	P		Pn	13 29 46.0	+2.2
LUWI	**Luwuk**	**1.44**	**234**	P		Pn	13 29 46.8	+0.3
MRSI	**Marisa**	**2.09**	**288**	P		Pn	13 29 54.0	-1.1
APSI	**Ampana**	**2.39**	**252**	P		Pn	13 29 59.4	+0.3
SANI	**Sanana**	**2.77**	**132**	P		Pn	13 30 03.0	-1.2
TTSI	**Tana Toraja**	**5.00**	**235**	P		Pn	13 30 34.7	+0.2
	0.1nm18nm,0.7s							
SPSI	**Sidrap Palu**	**5.61**	**228**	P		Pn	13 30 44.0	+1.2

NNC 16 13:46:54.8±5.1, 36°72N×69°49E, h0km, mb3.5, mpv3.2, 4C, Error ellipse: s-maj=41.1km s-min=32.1km az=164.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.42**	**7**	⇑P		Pn	13 48 32.1	+1.4
	0.8nm,0.4s,baz=188,slow=14,SNR=8.7							
KK31				⇑S		Sn	13 49 46.6	+1.8
	1.3nm,0.6s,baz=189,slow=24							
AAK	**Ala-Archa**	**7.06**	**32**	⇑P		Pn	13 48 39.4	-0.2
	0.7nm,0.3s							
AAK				⇑S		Sn	13 50 00.7	+0.1
	0.8nm,0.5s							
AB31	**Akbulak array**	**14.33**	**334**	P		Pn	13 50 17.8	-1.1
	0.3nm,0.5s,baz=149,slow=12,SNR=11							

RSNC ***16*** *13:48:38.2±1.2, 7°.85N×72°.04W, h0km±5km, ML4.1, Mw4.2*
FUNV ***16*** *13:48:38.4, 7°.81N×72°.08W, h5km, MW4.4*
CAR ***16*** *13:48:38.6±1.3, 7°.82N±0°.06×72°.06W±0°.05, h5km±4km, Error ellipse: s-maj=8.6km s-min=7.0km az=165.0*
IDC ***16*** *13:48:39.8±1.6, 7°.86N×71°.90W, h32km±12km, mb4.0/17, mb1 4.2/21, mb1mx4.1/39, mbtmp4.2/21, ML3.7/3, MS3.3/14, Ms1 3.3/14, ms1mx3.2/33, Error ellipse: s-maj=13.0km s-min=9.9km az=126.0*
NEIC ***16*** *13:48:41.0±1.1, 7°.77N±0°.07×71°.95W±0°.07, h43km±6km, mb4.5/102, Mwr4.0(CAR), Error ellipse: s-maj=11.0km s-min=8.8km az=132.0*

ISC 16 13:48:37.0±0.8, 7°.82N±0°.03×72°.01W±0°.03, h12km±4km, n217, σ1°33/245, mb4.5/64, MS3.4/8, 2C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.31**	**278**	*eP*		**Pg**	**13 48 42.4**	**-1.0**
CAPV				*eS*		**Sg**	**13 48 46.6**	**-1.0**
PAMC	**Pamplona, Colo**	**0.84**	**235**	*eP*		**Pg**	**13 48 52.3**	**-1.0**
PAMC				*i*			13 49 10.4	
	comp=Z,2μm,0.4s							
SOCV	**Socops**	**1.23**	**68**	*eS*		**Sg**	**13 49 19.8**	**+3.2**
OCAC	**Ocana**	**1.36**	**288**	*eP*		**Pn**	**13 49 01.4**	**-0.6**
OCAC				*eS*		**Sg**	**13 49 20.3**	**-0.7**
OCAC				*i*			13 49 24.5	
	comp=Z,11μm,0.4s							
TAMC	**Tame, Arauca**	**1.40**	**171**	⇑*iP*		**Pn**	**13 49 03.9**	**+1.5**
TAMC				*eS*		**Sn**	**13 49 23.9**	**+3.1**
TAMC				*i*			13 49 26.1	
	comp=Z,2μm,0.3s							
BARC	**Barichara**	**1.69**	**224**	⇓*eP*		**Pn**	**13 49 08.5**	**+2.0**
BARC				*eS*		**Sg**	**13 49 30.8**	**-0.7**
BARC				*i*			13 49 36.7	
	comp=Z,1μm,0.3s							
SDV	**Santo Domingo**	**1.72**	**52**	Pg		**Pn**	**13 49 09.4**	**+2.4**
	comp=Z,365nm,0.3s,baz=222,slow=14,SNR=519							
SDV				Lg		Lg	13 49 31.6	
	comp=Z,736nm,0.3s,baz=57,slow=19,SNR=12							
SDV	**Santo Domingo**	**1.72**	**52**	Pn		**Pn**	**13 49 08.7**	**+1.7**
SDV	**Santo Domingo**	**1.72**	**52**	⇓*eP*		**Pn**	**13 49 08.6**	**+1.6**
SDV				*eS*		**Sn**	**13 49 31.6**	**+2.6**
SDV				*i*			13 49 36.8	
	comp=Z,4μm,0.5s							
SDV	**Santo Domingo**	**1.72**	**52**	*eP*		**Pn**	**13 49 09.2**	**+2.2**
SDV				*eS*		**Sn**	**13 49 31.8**	**+2.8**
BRRC	**Barranca, Sant**	**1.83**	**247**	*eP*		**Pb**	**13 49 10.6**	**+0.1**
BRRC				*eS*		**Sb**	**13 49 34.0**	**+0.5**
RUSC	**La Rusia**	**2.20**	**209**	*eP*		**Pn**	**13 49 15.2**	**+1.4**
RUSC				*eS*		**Sb**	**13 49 44.3**	**0.0**
RUSC				*i*			13 49 51.0	
	comp=Z,470nm,0.4s							
RUSC	**La Rusia**	**2.20**	**209**	*eP*		**Pn**	**13 49 14.8**	**+1.1**
RUSC				*eS*		**Sn**	**13 49 40.0**	**-1.2**
SMLC	**San Martn de**	**2.26**	**296**	⇓*eP*		**Pn**	**13 49 14.8**	**+0.6**
SMLC				*eS*		**Sn**	**13 49 43.8**	**+1.7**
SMLC				*eS*		**Sb**	**13 49 45.0**	**-0.8**
SMLC				*i*			13 49 46.6	
	comp=Z,4μm,0.3s							
MCQV	**Machiques**	**2.27**	**347**	*eP*		**Pn**	**13 49 15.9**	**+1.5**
MCQV				*eS*		**Sn**	**13 49 44.4**	**+2.0**
ELOV	**Elorza**	**2.63**	**108**	*eP*		**Pn**	**13 49 21.4**	**+2.1**
ELOV				*eS*		**Sn**	**13 49 54.0**	**+2.8**
ZARC	**Zaragoza, Cauc**	**2.85**	**264**	⇑*eP*		**Pn**	**13 49 23.7**	**+1.5**
ZARC				*eS*		**Sn**	**13 49 58.7**	**+2.1**
ZARC				*i*			13 50 05.4	
	comp=Z,1μm,0.6s							
SANV	**Sanarito**	**2.96**	**56**	*eP*		**Pn**	**13 49 26.0**	**+2.1**
SANV				*eS*		**Sn**	**13 50 01.4**	**+1.9**
CURV	**Curarigua**	**2.97**	**43**	*eP*		**Pn**	**13 49 25.9**	**+1.9**
CURV				*eS*		**Sn**	**13 50 01.7**	**+2.0**
SPBC	**San Pablo de B**	**2.98**	**224**	*eP*		**Pn**	**13 49 26.3**	**+2.1**
SPBC				*i*			13 50 21.6	
	comp=Z,325nm,0.5s							
ARGC	**Ariguani, Magd**	**3.00**	**313**	*eP*		**Pn**	**13 49 25.6**	**+1.2**
DABV	**Dabajuro**	**3.36**	**24**	*eP*		**Pn**	**13 49 30.9**	**+1.5**
DABV				*eS*		**Sn**	**13 50 10.4**	**+1.1**
UREC	**San Jos de Ur**	**3.50**	**269**	*eP*		**Pn**	**13 49 33.6**	**+2.4**
UREC				*i*			13 50 28.1	
	comp=Z,522nm,0.4s							
SIQV	**Siquisique**	**3.55**	**38**	*eP*		**Pn**	**13 49 33.9**	**+1.9**
SIQV				*eS*		**Sn**	**13 50 14.8**	**+0.8**
PTGC	**Puerto Gaitan,**	**3.60**	**182**	*eP*		**Pn**	**13 49 32.3**	**-0.4**
MOTC	**Monteria, Cord**	**3.74**	**285**	*eP*		**Pn**	**13 49 36.9**	**+2.3**
MOTC				*eS*		**Sn**	**13 50 21.9**	**+3.3**
MOTC				*i*			13 50 44.4	
	comp=Z,287nm,0.7s							
ROSC	**El Rosal**	**3.75**	**218**	Pn		**Pn**	**13 49 38.3**	**+3.2**
	comp=Z,15nm,0.3s,baz=8.3,slow=14,SNR=13							
ROSC				Pg		**Pg**	**13 49 49.1**	**+0.2**
	comp=Z,28nm,0.3s,baz=112,slow=23,SNR=13							
ROSC				Sn		**Sn**	**13 50 21.5**	**+2.1**
	comp=Z,22nm,0.3s,baz=347,slow=20,SNR=4.0							
ROSC				Lg		Lg	13 50 42.6	
	comp=Z,35nm,0.3s,baz=275,slow=23,SNR=6.9							
ROSC	**El Rosal**	**3.75**	**218**			**Pn**	**13 49 37.9**	**+2.8**
ROSC	**El Rosal**	**3.75**	**218**	*eP*		**Pn**	**13 49 38.2**	**+3.1**
HELC	**Santa Helena**	**3.85**	**245**	*eP*		**Pn**	**13 49 38.1**	**+1.7**
HELC	**Santa Helena**	**3.85**	**245**	*eP*		**Pn**	**13 49 37.1**	**+0.6**
HELC				*eS*		**Sn**	**13 50 20.7**	**-1.2**
URIC	**Uribia, Colomb**	**3.85**	**0**	*eP*		**Pn**	**13 49 35.8**	**-0.4**
SMRC	**Santa Marta, M**	**3.98**	**327**	*eP*		**Pn**	**13 49 36.9**	**-1.0**
MAPV	**Macapo**	**4.04**	**60**	*eP*		**Pn**	**13 49 40.8**	**+2.1**
MAPV				*eS*		**Sn**	**13 50 27.4**	**+1.5**
BAUV	**El Baul**	**4.08**	**74**	*eP*		**Pn**	**13 49 40.5**	**+1.3**
BAUV				*eS*		**Sn**	**13 50 27.5**	**+0.6**
GUY2C	**Guyana, Caldas**	**4.22**	**232**	*eP*		**Pn**	**13 49 43.4**	**+1.8**
JACV	**Jacura**	**4.51**	**44**	*eP*		**Pn**	**13 49 46.5**	**+1.3**
JACV				*eS*		**Sn**	**13 50 37.5**	**-0.2**
MONV	**Montecano**	**4.57**	**26**	*eP*		**Pn**	**13 49 47.1**	**+1.1**
MONV				*eS*		**Sn**	**13 50 38.4**	**-0.7**
TOLC	**Tolima**	**4.61**	**226**	*eP*		**Pn**	**13 49 48.9**	**+2.2**
ANIL	**Santa Ana**	**4.73**	**226**	*eP*		**Pn**	**13 49 50.6**	**+2.1**
TURV	**Turiamo**	**4.87**	**57**	*eP*		**Pn**	**13 49 52.0**	**+1.8**
TURV				*eS*		**Sn**	**13 50 46.7**	**+0.2**
PAYV	**Puerto Ayacuch**	**4.94**	**119**	*eP*		**Pn**	**13 49 51.8**	**+0.8**
PAYV				*eS*		**Sn**	**13 50 47.2**	**-1.0**
PRAC	**Prado**	**4.99**	**215**	*eP*		**Pn**	**13 49 52.9**	**+1.1**
ORTC	**Ortega, Tolima**	**5.05**	**220**	*eP*		**Pn**	**13 49 54.0**	**+1.3**
PLMC	**San Jos del P**	**5.14**	**236**	*eP*		**Pn**	**13 49 56.9**	**+2.9**
GUVC	**San Jose del G**	**5.28**	**187**	*eP*		**Pn**	**13 49 55.8**	**0.0**
TACV	**Tcata**	**5.43**	**65**	*eP*		**Pn**	**13 49 59.3**	**+1.4**
TACV				*eS*		**Sn**	**13 50 59.0**	**-1.4**
YOTC	**Yotoco, Valle**	**5.76**	**229**	*eP*		**Pn**	**13 50 03.8**	**+1.4**
FUNV	**FUNVISIS**	**5.76**	**62**	*eP*		**Pn**	**13 50 03.4**	**+0.8**
FUNV				*eS*		**Sn**	**13 51 06.5**	**-2.3**
MERV	**Las Mercedes**	**5.82**	**75**	*eP*		**Pn**	**13 50 04.3**	**+1.1**
MERV				*eS*		**Sn**	**13 51 08.2**	**-1.8**
MACC	**Macarena, Meta**	**5.93**	**198**	*eP*		**Pn**	**13 50 04.1**	**-0.6**
BETC	**Betania**	**6.15**	**214**	*eP*		**Pn**	**13 50 09.5**	**+1.7**
BIRV	**Birongo**	**6.25**	**65**	*eP*		**Pn**	**13 50 10.6**	**+1.5**
BIRV				*eS*		**Sn**	**13 51 18.4**	**-2.1**
GARC	**Garzon, Huila**	**6.59**	**212**	*eP*		**Pn**	**13 50 14.6**	**+0.6**
PCON	**Cinco Dias**	**6.99**	**219**	*eP*		**Pn**	**13 50 21.6**	**+1.8**
PCRV	**Puerto La Cruz**	**7.65**	**72**	Pn		**Pn**	**13 50 30.0**	**+1.7**
	comp=Z,9.0nm,0.3s,baz=319,slow=3.6,SNR=25							
PCRV				Sn		**Sn**	**13 51 54.7**	**-0.3**
	comp=Z,9.1nm,0.3s,baz=37,slow=24,SNR=7.3							
PCRV				Lg		Lg	13 52 47.9	
	comp=Z,4.2nm,0.3s,baz=316,slow=3.2,SNR=3.3							
PCRV	**Puerto La Cruz**	**7.65**	**72**	*eP*		**Pn**	**13 50 29.8**	**+1.5**
PCRV				*eS*		**Sn**	**13 51 52.0**	**-3.0**
BBAC	**Balboa, Cauca**	**7.78**	**222**	*eP*		**Pn**	**13 50 34.6**	**+4.3**
BCIP	**Isla Barro Col**	**7.86**	**280**	Pn		**Pn**	**13 50 31.9**	**+0.7**
OTAV	**Otavalo**	**9.90**	**221**	Pn		**Pn**	**13 51 02.4**	**+2.7**
RIOV	**Rio Grande**	**10.10**	**88**	*eP*		**Pn**	**13 51 01.7**	**-0.3**
RIOV				*eS*		Sn	13 52 47.4	-8.0
BANI	**BANI**	**10.63**	**9**	Pn		**Pn**	**13 51 09.9**	**+0.6**
LUEV	**Luepa**	**10.65**	**100**	*eP*		**Pn**	**13 51 09.7**	**0.0**
LUEV				*eS*		Sn	13 53 00.4	-8.8
SDDR	**Presa de Saban**	**11.12**	**4**			**Pn**	**13 51 16.9**	**+1.0**
ICMP	**Isla Caja de M**	**11.34**	**28**	Pn		**Pn**	**13 51 17.0**	**-1.9**
PDPR	**Patillas Dam,**	**11.69**	**29**	Pn		Pn	13 51 21.6	-2.1
SJG	**San Juan**	**11.71**	**29**	LR		LR	13 56 17.2	
	comp=Z,106nm,21.5s,baz=220,slow=39							
GCPR	**Guaynabo City**	**11.91**	**28**	Pn		**Pn**	**13 51 25.5**	**-1.3**
CBYP	**Canovanas**	**11.99**	**29**	Pn		**Pn**	**13 51 26.3**	**-1.5**
MTP	**Monte Pirata**	**11.99**	**31**	Pn		**Pn**	**13 51 26.4**	**-1.4**
CUPR	**Culebra, Puert**	**12.30**	**31**	Pn		**Pn**	**13 51 30.7**	**-1.5**
JTS	**Las Juntas de**	**13.02**	**282**	LR		LR	13 57 19.9	
	comp=Z,97nm,20.8s,baz=122,slow=40							
PTGA	**Pitinga**	**14.71**	**125**	Pn		Pn	13 52 03.1	-1.9
	comp=Z,1.0nm,0.3s,baz=322,slow=14,SNR=6.7							
PTGA				Sn		Sn	13 54 38.0	-10
	comp=Z,1.7nm,0.3s,baz=21,slow=19,SNR=8.0							
PTGA				Lg		Lg	13 56 17.9	
	comp=Z,4.4nm,0.3s,baz=32,slow=23,SNR=7.0							
PTGA				LR		LR	13 58 11.7	
	comp=Z,61nm,21.9s,baz=284,slow=39							
ATAH	**Atahualpa**	**16.17**	**203**	LR		LR	13 59 44.4	
	comp=Z,142nm,20.8s,baz=0.1,slow=41							
SAML	**Samuel**	**18.84**	**152**	P		**P**	**13 52 56.4**	**-0.5**
MDP	**Montagnes des**	**19.43**	**97**	LR		LR	14 00 49.1	
	comp=Z,52nm,19.3s,baz=254,slow=38							
APG	**El Apazote**	**19.44**	**293**	P		**Pn**	**13 53 06.7**	**+1.7**
	baz=124,slow=5.4,SNR=3.7							
APG				LR		LR	14 02 27.1	
	comp=Z,38nm,18.4s,baz=84,slow=42							
TEIG	**Tepich**	**20.00**	**310**	P		**P**	**13 53 11.4**	**+1.7**
TEIG						IAmb	IAmb	13 53 33.3
	comp=Z,32nm,1.4s							
NNA	**Nana**	**20.26**	**194**	LR		LR	14 02 30.3	
	comp=Z,112nm,21.0s,baz=4.5,slow=41							
CMIG	**Matias Romero**	**24.14**	**295**	LR		LR	14 04 51.3	
	comp=Z,43nm,18.4s,baz=88,slow=40							
LPAZ	**La Paz**	**24.26**	**171**	P		**P**	**13 53 55.8**	**+0.9**
	comp=Z,12nm,1.0s,baz=7.2,slow=12,SNR=17							
LPAZ	**La Paz**	**24.26**	**171**	P		**P**	**13 53 54.5**	**-0.4**
LPAZ						IAmb	IAmb	13 54 04.1
	comp=Z,12nm,1.0s							
SIV	**San Ignacio**	**26.02**	**155**	P		**P**	**13 54 10.8**	**+0.6**
	comp=Z,7.2nm,0.8s,baz=352,slow=8.1,SNR=26							
SIV				LR		LR	14 04 43.8	
	comp=Z,96nm,18.8s,baz=354,slow=37							
PB16	**IPOC Station P**	**26.11**	**175**	P		**P**	**13 54 10.6**	**-1.0**
MNMC	**Minye Minye**	**26.89**	**175**	P		**P**	**13 54 18.0**	**-0.3**
PB01	**IPOC Station P**	**28.79**	**175**	P		**P**	**13 54 34.4**	**-0.7**
PB01						IAmb	IAmb	13 54 35.4
	comp=Z,7.6nm,1.0s							
TKL	**Tuckaleechee C**	**29.73**	**340**	LR		LR	14 08 08.6	
	comp=Z,84nm,19.3s,baz=134,slow=39							
CPCT	**Cooper Cave**	**29.79**	**339**	P		**P**	**13 54 45.2**	**+1.4**
LVC	**Limon Verde**	**30.40**	**174**	P		**P**	**13 54 48.3**	**-1.4**
P60A	**Greenville**	**32.02**	**355**	P		**P**	**13 55 03.2**	**-0.1**
BDFB	**Brasilia**	**33.29**	**134**	LR		LR	14 10 29.5	
	comp=Z,36nm,18.4s,baz=52,slow=39							
T42A	**Van Buren**	**33.86**	**332**	P		**P**	**13 55 19.8**	**+0.3**
T42A						IAmb	IAmb	13 55 20.3
	comp=Z,3.1nm,0.7s							
U40A	**Yellville**	**34.18**	**329**	P		**P**	**13 55 22.2**	**-0.2**
U40A						IAmb	IAmb	13 55 23.6
	comp=Z,8.0nm,1.0s							
P46A	**Rosedale**	**34.47**	**339**	P		**P**	**13 55 25.8**	**+1.0**
CCM	**Cathedral Cave**	**34.77**	**333**	P		**P**	**13 55 27.2**	**-0.1**
CCM						IAmb	IAmb	13 55 28.5
	comp=Z,3.9nm,0.8s							
SFIN	**Lafayette**	**35.11**	**340**	P		**P**	**13 55 30.8**	**+0.6**
SFIN						IAmb	IAmb	13 55 32.0
	comp=Z,12nm,0.9s							
WMOK	**Wichita Mounta**	**36.37**	**321**	P		**P**	**13 55 40.7**	**-0.5**
WMOK						IAmb	IAmb	13 55 42.4
	comp=Z,4.4nm,1.0s							
AC05	**El Transito**	**36.48**	**177**	P		**P**	**13 55 42.0**	**-0.4**
AC05						IAmb	IAmb	13 55 42.7
	comp=Z,6.7nm,0.7s							
LCO	**Las Campanas**	**36.64**	**178**	P		**P**	**13 55 42.3**	**-1.5**
TXAR	**Lajitas Array**	**36.65**	**310**	P		**P**	**13 55 43.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=129,slow=9.6,SNR=11							
TXAR						PcP	**PcP**	**13 58 07.7**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=142,slow=6.6,SNR=9.6							
TXAR	**Lajitas Array**	**36.65**	**310**	P		**P**	**13 55 43.8**	**0.0**
TX31	**Lajitas Ar. Si**	**36.65**	**310**	P		**P**	**13 55 44.1**	**+0.3**
TX32	**Lajitas Array**	**36.65**	**310**	P		**P**	**13 55 44.1**	**+0.3**
CPUP	**Villa Florida**	**36.82**	**158**	LR		LR	14 12 18.9	
	comp=Z,67nm,18.7s,baz=264,slow=39							
FRNY	**Flat Rock**	**36.90**	**358**	P		**P**	**13 55 47.0**	**+1.4**
FRNY						IAmb	IAmb	13 56 13.4
	comp=Z,16nm,1.4s							
EMMW	**East Machias**	**36.96**	**5**	P		**P**	**13 55 47.1**	**+1.0**
G62A	**West of Eustis**	**37.28**	**2**	P		**P**	**13 55 50.3**	**+1.5**
SADO	**Sadowa**	**37.33**	**352**	P		**P**	**13 55 49.8**	**+0.6**
GGN	**Saint George**	**37.42**	**6**	P		**P**	**13 55 51.2**	**+1.2**
K43A	**Burlington**	**37.60**	**340**	P		**P**	**13 55 51.6**	**0.0**
TRQ	**Mont Tremblant**	**38.32**	**357**	P		**P**	**13 55 58.4**	**+0.8**
E63A	**Oxbow**	**38.58**	**4**	P		**P**	**13 56 01.3**	**+1.5**
I42A	**Draeger Farm,**	**38.85**	**340**	P		**P**	**13 56 02.7**	**+0.6**
I42A						IAmb	IAmb	13 56 12.5
	comp=Z,8.2nm,1.1s							
**MNT

BOZ	**Bozeman (W)**	**50.79**	**325**	P	**P**	**13 57 37.7**	**+0.3**
BOZ				IAmb	IAmb	13 57 40.5	
	comp=Z,4.8nm,1.4s						
MCMT	**McKenzie Canyo**	**51.07**	**323**	P	**P**	**13 57 40.0**	**+0.3**
BCYI	**Bear Canyon**	**51.12**	**322**	P	**P**	**13 57 40.1**	**+0.1**
NVAR	**Mina Array Bea**	**51.58**	**314**	P	**P**	**13 57 43.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=117,slow=6.8,SNR=7.2						
NVAR				PcP	**PcP**	**13 58 57.1**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=132,slow=4.5,SNR=8.5						
NVAR	**Mina Array Bea**	**51.58**	**314**	P	**P**	**13 57 43.4**	**-0.2**
NVAR					**PcP**	**13 58 56.7**	**-0.8**
YERR	**Yerington**	**52.48**	**314**	P	**P**	**13 57 50.3**	**+0.1**
YERR				IAmb	IAmb	13 57 51.8	
	comp=Z,8.8nm,1.3s						
FCC	**Fort Churchill**	**53.57**	**346**	P	**P**	**13 57 56.9**	**-0.7**
FCC				IAmb	IAmb	13 57 57.3	
	comp=Z,4.6nm,0.9s						
F10A	**Beach Ranch, E**	**54.29**	**322**	P	**P**	**13 58 03.4**	**+0.1**
F10A				IAmb	IAmb	13 58 10.0	
	comp=Z,2.6nm,0.8s						
G08A	**Pilot Rock**	**55.03**	**321**	P	**P**	**13 58 09.1**	**+0.4**
YBH	**Yreka Blue Hor**	**55.99**	**316**	P	**P**	**13 58 14.5**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=165,slow=12,SNR=1.9						
B08A	**Colville Reser**	**56.72**	**324**	P	**P**	**13 58 20.9**	**+0.2**
B08A				IAmb	IAmb	13 58 21.6	
	comp=Z,8.2nm,1.1s						
YKA	**Yellowknife Ar**	**62.72**	**339**	P	**P**	**13 59 01.4**	**-0.2**
	comp=Z,4.9nm,0.7s,baz=128,slow=7.6,SNR=88						
YKA				LR	LR	14 26 33.9	
	comp=Z,30nm,20.5s,baz=0.0,slow=36						
ICESG	**Greenland Ices**	**64.74**	**12**	*eP*	**P**	**13 59 14.0**	**-1.4**
ICESG				IAmb	IAmb	13 59 15.8	
	comp=Z,8.1nm,1.1s						
DBIC	**Dimbokro**	**66.56**	**86**	P	**P**	**13 59 26.4**	**-1.3**
	comp=Z,3.1nm,0.4s,baz=249,slow=4.9,SNR=6.5						
DBIC	**Dimbokro**	**66.56**	**86**	IAmb	IAmb	13 59 33.2	
	comp=Z,23nm,1.4s						
SUMG	**Summit**	**67.81**	**10**	*i* P	**P**	**13 59 35.0**	**0.0**
	comp=Z,16nm,0.5s						
SUMG	**Summit**	**67.81**	**10**	P	**P**	**13 59 34.9**	**0.0**
SUMG	**Summit**	**67.81**	**10**	*i* P	**P**	**13 59 35.0**	**0.0**
SUMG				IAmb	IAmb	13 59 35.6	
	comp=Z,16nm,0.5s						
TOA0	**Torodi Ar. Sit**	**72.46**	**79**	P	**P**	**14 00 03.0**	**-1.0**
TOA0				IAmb	IAmb	14 00 08.8	
	comp=Z,8.0nm,1.5s						
TORD	**Torodi Ar. Bea**	**72.46**	**79**	P	**P**	**14 00 03.1**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=270,slow=4.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**72.46**	**79**	P	**P**	**14 00 02.4**	**-1.7**
TORD				IAmb	IAmb	14 00 15.5	
	comp=Z,7.0nm,0.9s						
INK	**Inuvik**	**72.47**	**340**	P	**P**	**14 00 03.0**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=79,slow=3.2,SNR=6.0						
INK	**Inuvik**	**72.47**	**340**	P	**P**	**14 00 03.0**	**-0.2**
INK				IAmb	IAmb	14 00 04.2	
	comp=Z,5.0nm,1.1s						
DAWY	**Dawson**	**73.20**	**335**	P	**P**	**14 00 08.0**	**+0.3**
CTGM	**Chitina Glacie**	**73.22**	**332**	P	**P**	**14 00 09.4**	**+1.4**
MCARA	**McCarthy VSAT**	**74.12**	**332**	P	**P**	**14 00 14.5**	**+1.5**
BMRM	**Bremner River**	**74.78**	**331**	P	**P**	**14 00 17.6**	**+0.7**
N25K	**Chitina, Valde**	**74.90**	**332**	P	**P**	**14 00 18.7**	**+1.0**
DOT	**Dot Lake**	**75.09**	**334**	P	**P**	**14 00 19.1**	**+0.4**
DOT				IAmb	IAmb	14 00 20.3	
	comp=Z,9.3nm,0.9s						
SCRK	**Sand Creek**	**75.13**	**334**	P	**P**	**14 00 19.5**	**+0.5**
SCRK				IAmb	IAmb	14 00 20.6	
	comp=Z,9.3nm,1.1s						
SCM	**Sheep Creek Mo**	**76.22**	**332**	P	**P**	**14 00 26.1**	**+0.8**
IL31		**76.53**	**335**	P	**P**	**14 00 27.1**	**+0.3**
IL31				IAmb	IAmb	14 00 46.8	
	comp=Z,7.0nm,1.5s						
ILAR	**Eielson Array**	**76.53**	**335**	P	**P**	**14 00 26.6**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=120,slow=4.4,SNR=13						
ILAR				LR	LR	14 36 11.9	
	comp=Z,27nm,18.1s,baz=325,slow=37						
ILAR	**Eielson Array**	**76.53**	**335**	P	**P**	**14 00 26.8**	**0.0**
KNK	**Knik Glacier**	**76.69**	**331**	P	**P**	**14 00 29.3**	**+1.4**
GHO	**Glory Hole Cre**	**76.96**	**332**	P	**P**	**14 00 30.3**	**+0.8**
MDM	**Murphy Dome**	**77.13**	**335**	P	**P**	**14 00 30.5**	**+0.3**
RND	**Reindeer**	**77.16**	**333**	P	**P**	**14 00 31.0**	**+0.5**
MCK	**McKinley**	**77.24**	**334**	P	**P**	**14 00 31.5**	**+0.6**
MCK				IAmb	IAmb	14 00 33.3	
	comp=Z,11nm,1.2s						
I23K	**Minto, Yukon-K**	**77.63**	**335**	P	**P**	**14 00 33.7**	**+0.7**
I23K				IAmb	IAmb	14 00 37.5	
	comp=Z,2.9nm,0.8s						
CUT	**Chulitna**	**77.67**	**332**	P	**P**	**14 00 34.2**	**+0.9**
BRLK	**Bradley Lake**	**77.68**	**329**	P	**P**	**14 00 33.8**	**+0.4**
SUA	**Susitna One**	**77.79**	**321**	P	**P**	**14 00 34.7**	**+0.5**
KTH	**Kantishna Hill**	**78.10**	**333**	P	**P**	**14 00 35.7**	**0.0**
KTH				IAmb	IAmb	14 00 45.0	
	comp=Z,11nm,1.1s						
SKT	**Skwentna**	**78.21**	**332**	P	**P**	**14 00 36.8**	**+0.4**
SKT				IAmb	IAmb	14 00 39.1	
	comp=Z,8.0nm,1.2s						
TOLK	**Toolik Lake Re**	**78.23**	**339**	P	**P**	**14 00 36.1**	**-0.2**
COLD	**Coldfoot**	**78.26**	**337**	P	**P**	**14 00 37.6**	**+1.1**
PPLA	**Purkeypile**	**78.61**	**333**	P	**P**	**14 00 38.4**	**-0.3**
NB2	**NORSAR Subarra**	**79.92**	**29**	P	**P**	**14 00 46.5**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=265,slow=5.6						
NOA	**NORSAR Array B**	**79.92**	**29**	P	**P**	**14 00 46.6**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=267,slow=5.5,SNR=5.6						
GERES	**GERESS Array B**	**81.34**	**42**	P	**P**	**14 00 52.5**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=282,slow=4.8,SNR=4.0						
ARCES	**ARCESS Array B**	**85.35**	**20**	P	**P**	**14 01 12.6**	**-1.3**
	comp=Z,7.8nm,1.1s,baz=258,slow=4.5,SNR=4.7						
FINES	**FINESS Array B**	**87.04**	**28**	P	**P**	**14 01 21.7**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=266,slow=4.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**115.43**	**15**	PKP	**PKiKP**	**14 07 15.6**	**-3.2**
	comp=Z,0.5nm,0.6s,baz=338,slow=3.4,SNR=2.4						
MKAR	**Makanchi Array**	**121.01**	**20**	PKP	**PKPdf**	**14 07 28.4**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=306,slow=2.4,SNR=11						
SONM	**Songino Array**	**124.57**	**1**	PKP	**PKPdf**	**14 07 35.9**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=353,slow=1.9,SNR=4.5						
KSRS	**Korea Array**	**131.25**	**339**	PKP	**PKPdf**	**14 07 50.3**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=35,slow=3.6,SNR=2.7						
ASAR	**Alice Springs**	**150.59**	**235**	PKP	**PKPdf**	**14 08 23.7**	**-0.7**
	comp=Z,3.7nm,0.9s,baz=124,slow=2.6,SNR=5.7						
ASAR				PKPbc	**pPKPdf**	**14 08 28.4**	**-0.5**
	comp=Z,5.2nm,0.8s,baz=121,slow=2.9,SNR=20						
WRA	**Warramunga Arr**	**151.78**	**242**	PKPbc	**PKPdf**	**14 08 31.4**	**+5.1**
	comp=Z,13nm,0.8s,baz=110,slow=2.3,SNR=46						
CMAR	**Chiang Mai Arr**	**152.40**	**19**	PKP	**PKPdf**	**14 08 26.4**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=316,slow=3.0,SNR=5.1						
CMAR				PKPbc	**sPKPdf**	**14 08 33.6**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=313,slow=2.7,SNR=21						

IDC ***16*** *13:54:46.7±0.7,28°.11N×131°.10E,h0km,mb3.8/15, mb1 4.0/20,mb1mx3.9/41,mbtmp3.8/20,ML3.7/3,MS3.2/8, Ms1 3.2/8,ms1mx3.0/41,Error ellipse: s-maj=22.2km s-min=15.5km azi=93.0*

JMA ***16*** *13:54:47.6,28°.03N×131°.17E,h86km±2km,M3.7*

NIED ***16*** *13:54:47.7,28°.03N×131°.17E,h86km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-2.24; Mθθ0.61; Mφφ 1.63; Mrθ-0.26; Mθφ0.61; Mφr-0.06; Fault plane solution: Mo2.10000×10¹⁵ NP1:φs30.00000°, δ47.00000°,λ-84.00000°. NP2:φs201.00000°,δ43.00000°, λ-97.00000°.*

NEIC ***16*** *13:54:48.9±1.4,28°.06N±0°.05×131°.07E±0°.08,h18km±4km, mb4.6/15 Error ellipse: s-maj=10.2km s-min=7.8km az=91.0*

ISC 16 13:54:49.0±2.8,28°.05N±0°.03×131°.16E±0°.04,h16km±18km, n83,σ1§65/98,mb4.0/26,MS3.6/4,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.08**	**285**	P	**Pb**	**13 55 08.5**	**-0.8**
JZK				*eS*	**Sn**	**13 55 24.2**	**+0.1**
JAM	**Amami Oshima**	**1.42**	**285**	P	**Pn**	**13 55 12.8**	**-1.3**
JAM				S	**Sn**	**13 55 31.2**	**-1.2**
JAMN	**Amaminishikomi**	**1.76**	**277**	P	**Pn**	**13 55 17.1**	**-1.7**
JAMN				*eS*	**Sn**	**13 55 39.7**	**-1.2**
JTK	**Tokunoshima**	**1.97**	**263**	P	**Pn**	**13 55 20.2**	**-1.5**
JTK				S	**Sn**	**13 55 44.8**	**-1.3**
JTAJ	**Takarajima**	**2.04**	**303**	P	**Pn**	**13 55 21.1**	**-1.6**
JTAJ				*eS*	**Sn**	**13 55 46.1**	**-1.7**
JKDJ	**Kitadaitoujima**	**2.09**	**177**	P	**Pn**	**13 55 21.3**	**-2.1**
JKDJ				*eS*	**Sn**	**13 55 46.2**	**-2.9**
JNN	**Nakanoshima**	**2.11**	**328**	P	**Pn**	**13 55 22.1**	**-1.6**
JNN				S	**Sn**	**13 55 48.4**	**-1.2**
JMZ	**Minamidaito 2**	**2.22**	**178**	P	**Pn**	**13 55 22.9**	**-2.3**
JMZ				S	**Sn**	**13 55 48.5**	**-3.7**
JMZ	**Minamidaito 2**	**2.22**	**178**	Pn	**Pn**	**13 55 23.9**	**-1.3**
JYAK	**Yakushimahirau**	**2.26**	**346**	P	**Pn**	**13 55 24.1**	**-1.6**
JYAK				S	**Sn**	**13 55 50.0**	**-3.2**
JMTN	**Minamitane**	**2.35**	**355**	P	**Pn**	**13 55 25.2**	**-1.8**
JMTN				S	**Sn**	**13 55 53.5**	**-2.1**
JOKE	**Okinoerabujima**	**2.39**	**254**	P	**Pn**	**13 55 25.8**	**-1.7**
JOKE				*eS*	**Sn**	**13 55 54.4**	**-2.1**
JKC	**Kuchinoerabu**	**2.55**	**341**	P	**Pn**	**13 55 28.1**	**-1.6**
JKC				*eS*	**Sn**	**13 55 57.9**	**-2.5**
JTN	**Tanegashima 3**	**2.60**	**357**	P	**Pn**	**13 55 28.7**	**-1.8**
JTN				S	**Sn**	**13 55 59.2**	**-2.6**
JYRO	**Yoronjima**	**2.61**	**248**	P	**Pn**	**13 55 28.4**	**-2.1**
JYRO				*eS*	**Sn**	**13 55 59.4**	**-2.5**
JOW	**Kunigami**	**2.83**	**245**	Pn	**Pn**	**13 55 31.9**	**-1.7**
	30nm,0.3s,baz=113,slow=23,SNR=61						
JOW				Sn	**Sn**	**13 56 04.5**	**-2.8**
	23nm,0.3s,baz=144,slow=25,SNR=6.6						
JOW				LR	LR	13 56 13.3	
	comp=Z,119nm,20.9s,baz=298,slow=31						
JOW	**Kunigami**	**2.83**	**245**	P	**Pn**	**13 55 31.7**	**-1.9**
JOW	**Kunigami**	**2.83**	**245**	Pn	**Pn**	**13 55 31.6**	**-1.9**
JIH	**Iheya**	**3.00**	**251**	P	**Pn**	**13 55 34.0**	**-2.0**
JIH				*eS*	**Sn**	**13 56 08.9**	**-2.7**
JNTH	**Nagotoyohara**	**3.18**	**242**	P	**Pn**	**13 55 36.3**	**-2.0**
JNTH				*eS*	**Sn**	**13 56 12.7**	**-3.2**
JSU	**Suzuyama**	**3.50**	**350**	Pn	**Pn**	**13 55 41.0**	**-1.8**
JJT3	**Tamagusuku3**	**3.55**	**239**	P	**Pn**	**13 55 41.9**	**-1.6**
JAGN	**Aguni-jima**	**3.77**	**248**	P	**Pn**	**13 55 44.9**	**-1.6**
JIU3	**Izumi3**	**4.50**	**356**	P	**Pn**	**13 55 54.9**	**-1.6**
JNU	**Nakatsue**	**5.07**	**357**	Pn	**Pn**	**13 56 02.9**	**-1.4**
	3.8nm,0.3s,baz=3.1,slow=2.4,SNR=33						
JNU				Sn	**Sn**	**13 56 58.8**	**-3.7**
	4.1nm,0.3s,baz=21,slow=15,SNR=6.9						
JNU				LR	LR	13 58 03.9	
	comp=Z,67nm,19.0s,baz=183,slow=39						
JNU	**Nakatsue**	**5.07**	**357**	Pn	**Pn**	**13 56 02.7**	**-1.6**
JMN	**Monobe**	**6.13**	**22**	Pn	**Pn**	**13 56 17.2**	**-1.7**
JTU	**Tsushima**	**6.63**	**347**	Pn	**Pn**	**13 56 25.0**	**-0.8**
JHS	**Saijyo**	**7.13**	**13**		**Pn**	**13 56 31.7**	**-1.0**
JWT	**Wachi**	**8.07**	**26**	Pn	**Pn**	**13 56 44.4**	**-1.1**
INU	**Inuyama**	**8.83**	**33**		**Pn**	**13 56 55.9**	**-0.1**
JHJ	**Hachijo jima 2**	**8.99**	**54**	LR	LR	13 59 56.4	
	comp=Z,202nm,21.2s,baz=62,slow=34						
JGF	**Kuroka**	**9.19**	**33**	Pn	**Pn**	**13 57 00.1**	**-0.9**
KSRS	**Korea Array**	**9.77**	**345**	Pn	**Pn**	**13 57 06.2**	**-2.7**
	baz=160,slow=13,SNR=2.8						
KSRS				LR	LR	14 01 20.5	
	comp=Z,66nm,18.4s,baz=145,slow=41						
JCJ	**Chichijima**	**9.83**	**93**	LR	LR	14 00 17.7	
	comp=Z,235nm,18.9s,baz=220,slow=34						
JCJ	**Chichijima**	**9.83**	**93**	Pn	**Pn**	**13 57 10.9**	**+1.1**
MAJO	**Matsushiro**	**10.36**	**33**	Pn	**Pn**	**13 57 17.7**	**+0.8**
MJAR	**Matsushiro Arr**	**10.36**	**33**	Pn	**Pn**	**13 57 17.9**	**+1.0**
	0.1nm,0.3s,baz=127,slow=14,SNR=6.5						
MJAR	**Matsushiro Arr**	**10.36**	**33**	Pn	**Pn**	**13 57 17.7**	**+0.8**
NJ2	**Nanjing**	**11.38**	**294**	*eP*	**Pn**	**13 57 30.6**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
NJ2				LR	LR		
	comp=N,250nm,6.6s						
NJ2				LR	LR		
	comp=E,310nm,6.6s						
NJ2				LR	LR		
	comp=Z,180nm,6.7s						
JMM	**Marumori**	**12.70**	**37**	Pn	**Pn**	**13 57 50.5**	**+1.6**
USA0B	**Ussuriysk Arra**	**16.14**	**2**	Pn	**Pn**	**13 58 33.7**	**-1.3**
USRK	**Ussuriysk Ar.**	**16.14**	**2**	Pn	**Pn**	**13 58 33.2**	**-1.8**
	baz=160,slow=8.9,SNR=2.0						
USRK	**Ussuriysk Ar.**	**16.14**	**2**	Pn	**Pn**	**13 58 34.1**	**-1.0**
CN2	**Changchun**	**16.38**	**345**	*eP*	**P**	**13 58 42.5**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,300nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
XAN	**Xi'an**	**19.95**	**293**	P	**Pn**	**13 59 22.6**	**+0.4**
XAN				pP	pwP	13 59 28.3	-0.7
XAN				pmax	pmax		
	comp=Z,18nm,1.5s						
XAN				pmax	pmax		
	comp=Z,190nm,4.9s						
XAN				LR	LR		
	comp=N,230nm,15.2s						
XAN	**Xi'an**	**19.95**	**293**	P	**P**	**13 59 19.2**	**-1.2**
XAN				IAmb	IAmb	13 59 24.0	
	comp=Z,16nm,1.1s						
HHC	**Hu-ho-hao-te**	**20.54**	**314**	*eP*	Pn	13 59 28.4	-0.7
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
KLR	**Kul'dur**	**21.16**	**1**	P	**P**	**13 59 32.8**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=186,slow=7.6,SNR=6.0						
SONM	**Songino Array**	**27.58**	**322**	P	**P**	**14 00 34.9**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=137,slow=9.5,SNR=6.4						
SONM				LR	LR	14 13 13.2	
	comp=Z,126nm,18.6s,baz=138,slow=40						
GTA	**Gaotai**	**28.29**	**302**	*eP*	**P**	**14 00 46.3**	**+4.4**
GTA				pP	pwP	14 00 50.6	0.0
GTA				sP	sP	14 00 53.5	+6.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,74nm,6.4s						
GTA				LR	LR		
	comp=N,110nm,12.3s						
GTA				LR	LR		
	comp=E,150nm,13.1s						
GTA				LR	LR		
	comp=Z,260nm,13.5s						
CMAR	**Chiang Mai Arr**	**31.02**	**259**	P	**P**	**14 01 08.5**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=52,slow=7.3,SNR=1.4						
CMAR				LR	LR	14 15 52.7	
	comp=Z,36nm,18.8s,baz=133,slow=41						
PETK	**Petropavlovsk-**	**31.80**	**31**	P	**P**	**14 01 12.5**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=210,slow=8.3,SNR=3.7						
WMQ	**Urumqi**	**38.09**	**306**	*eP*	**P**	**14 02 07.6**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,71nm,4.9s						
MKAR	**Makanchi Array**	**42.33**	**310**	P	**P**	**14 02 43.0**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=88,slow=11,SNR=5.3						
MKAR				LR	LR	14 21 53.1	
	comp=Z,87nm,18.2s,baz=347,slow=38						
ZALV	**Zalesovo Beam**	**42.44**	**321**	P	**P**	**14 02 43.3**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=92,slow=7.4,SNR=4.9						
WB0	**Warramunga Arr**	**47.63**	**176**	P	**P**	**14 03 24.3**	**-0.2**
WRAB	**Tennant Creek**	**47.80**	**176**	P	**P**	**14 03 25.5**	**-0.3**
WRAB				IAmb	IAmb	14 03 28.4	
	comp=Z,10.0nm,1.4s						
WRA	**Warramunga Arr**	**47.80**	**176**	P	**P**	**14 03 25.8**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=354,slow=8.6,SNR=11						
WB2	**Warramunga Arr**	**47.81**	**176**	P	**P**	**14 03 26.0**	**+0.2**
WB2				IAmb	IAmb	14 03 28.5	
	comp=Z,8.6nm,1.2s						
WR0	**Warramunga Arr**	**47.84**	**176**	P	**P**	**14 03 26.3**	**+0.2**
WR0				IAmb	IAmb	14 03 29.8	
	comp=Z,8.6nm,1.1s						
AS31	**Alice Springs**	**51.48**	**177**	P	**P**	**14 03 54.3**	**+0.5**
ASAR	**Alice Springs**	**51.48**	**177**	P	**P**	**14 03 55.2**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=9.8,slow=13,SNR=24						
ASAR	**Alice Springs**	**51.48**	**177**	P	**P**	**14 03 54.1**	**+0.2**
ABKAR	**Akbulak array**	**57.33**	**313**	P	**P**	**14 04 35.7**	**-0.4**
A21K	**Barrow**	**58.01**	**21**	P	**P**	**14 04 40.7**	**+0.1**
A21K				IAmb	IAmb	14 04 42.0	
	comp=Z,6.6nm,1.1s						
DZM	**Mont Dzumac**	**60.36**	**142**	P	**P**	**14 04 58.0**	**+0.4**
BBOO	**Buckleboo**	**60.70**	**175**	P	**P**	**14 04 59.5**	**-0.1**
MCK	**McKinley**	**60.81**	**30**	P	**P**	**14 04 59.8**	**-0.3**
MCK				IAmb	IAmb	14 05 02.5	
	comp=Z,11nm,1.4s						
MDM	**Murphy Dome**	**61.01**	**29**	P	**P**	**14 05 01.7**	**+0.3**
MDM				IAmb	IAmb	14 05 02.4	
	comp=Z,8.6nm,1.4s						
ILAR	**Eielson Array**	**61.60**	**29**	P	**P**	**14 05 04.6**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=240,slow=5.1,SNR=2.0						
SCRK	**Sand Creek**	**62.95**	**30**	P	**P**	**14 05 14.2**	**-0.5**
SCRK				IAmb	IAmb	14 05 14.4	
	comp=Z,7.3nm,1.4s						
INK	**Inuvik**	**66.19**	**24**	P	**P**	**14 05 35.0**	**-0.5**
INK				IAmb	IAmb	14 05 46.8	
	comp=Z,6.6nm,1.5s						
FINES	**FINESS Array B**	**72.56**	**331**	P	**P**	**14 06 14.8**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=34,slow=10,SNR=1.9						
FINES	**FINESS Array B**	**72.56**	**331**	P	**P**	**14 06 14.7**	**-0.4**
RES	**Resolute Bay**	**73.27**	**12**	P	**P**	**14 06 19.6**	**+0.6**
YKA	**Yellowknife Ar**	**75.77**	**26**	P	**P**	**14 06 33.5**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=299,slow=4.8,SNR=9.1						
AKASG	**Malin Array Be**	**75.83**	**320**	P	**P**	**14 06 32.9**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=50,slow=7.4,SNR=4.8						
BRTR	**Keskin Array B**	**77.96**	**309**	P	**P**	**14 06 47.8**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=106,slow=3.7,SNR=4.4						
NOA	**NORSAR Array B**	**78.82**	**335**	P	**P**	**14 06 49.7**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=49,slow=5.3,SNR=2.4						
CLL	**Collm**	**84.13**	**326**	*eP*	**P**	**14 07 19.0**	**-0.2**
NVAR	**Mina Array Bea**	**87.37**	**47**	P	**P**	**14 07 37.3**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=301,slow=0.9,SNR=3.5						
PDAR	**Pinedale Array**	**90.11**	**40**	P	**P**	**14 07 49.3**	**+0.6**
	comp=Z,1.0nm,1.1s,baz=338,slow=1.0,SNR=3.0						

MAN ***16*** *14:14:03.2,9°.89N×126°.47E,h6km,MS3.0*

IDC ***16*** *14:14:06.3±2.3,7°.90N×121°.52E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.5/37,mbtmp3.7/4,MS2.7/1,Ms1 2.7/1, ms1mx2.4/43,Error ellipse: s-maj=325.8km s-min=26.9km az=62.0*

ISC 16 14:14:02.5±2.4,10°.05N±0°.06×126°.30E±0°.09,h5km±14km, n12,σ1§76/16,mb3.7/4,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.31**	**213**	*eP*	**Pb**	**14 14 10.2**	**-0.4**
GLSP				*eS*	**Sb**	**14 14 17.8**	**+1.8**
BUTP	**Butuan**	**1.26**	**212**	*eP*	**Pn**	**14 14 26.3**	**-0.6**
BUTP				*eS*	**Sn**	**14 14 43.8**	**-0.4**
MSLP	**Maasin**	**1.42**	**274**	*eP*	**Pn**	**14 14 28.9**	**-0.1**
MSLP				*eS*	**Sn**	**14 14 47.6**	**-0.5**
OCLP	**Ormoc**	**1.94**	**301**	*eP*	**Pg**	**14 14 40.1**	**+0.4**
CGP	**Cagayan de Oro**	**2.24**	**225**	*eP*	**Pb**	**14 14 43.0**	**-0.5**
CGP				*eS*	**Sg**	**14 15 12.9**	**-1.6**
LLP	**Lapu-Lapu**	**2.31**	**277**	*eP*	**Pb**	**14 14 44.6**	**-0.2**
LLP				*eS*	**Sg**	**14 15 16.9**	**+0.1**
CNOP	**Candoni, Negro**	**3.61**	**267**	*eP*	**Pn**	**14 15 01.5**	**+2.4**
KAPI	**Kappang**	**16.32**	**204**	LR	LR	14 22 48.4	
	comp=Z,32nm,18.1s,baz=122,slow=40						
WRA	**Warramunga Arr**	**30.84**	**165**	P	**P**	**14 20 20.3**	**+0.5**
	0.7nm,0.3s,baz=335,slow=9.9,SNR=25						
ASAR	**Alice Springs**	**34.32**	**168**	P	**P**	**14 20 48.5**	**-1.8**
	0.3nm,0.4s,baz=336,slow=7.5,SNR=14						
STKA	**Stephens Creek**	**44.18**	**161**	P	**P**	**14 22 15.9**	**+3.3**
	1.9nm,1.0s,baz=331,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**52.22**	**323**	P	**P**	**14 23 11.4**	**-3.1**
	0.3nm,0.7s,baz=134,slow=6.2,SNR=3.7						

JMA ***16*** *14:19:41.3,34°.51N×136°.41E,h391km,M2.2*

IDC ***16*** *14:19:43.5±1.6,34°.31N×136°.42E,h361km±30km,mb2.5/3, mb1 2.6/5,mb1mx2.4/51,mbtmp3.1/5,Error ellipse: s-maj=58.3km s-min=23.9km az=48.0*

ISC 16 14:19:43.0±0.9,34°.6N±0°.1×136°.58E±0°.08,h400km,n19, σ2§43/21,mb2.6/3,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.22**	**150**	P	**Pn**	**14 20 29.9**	**-2.6**
JKN2	**Miekihoku**	**0.42**	**216**	P	**Pn**	**14 20 29.6**	**-3.1**
JAA	**Atsumi**	**0.47**	**84**	P	**Pn**	**14 20 30.7**	**-1.9**
JAO	**Obara**	**0.88**	**39**	P	**Pn**	**14 20 32.1**	**-1.6**
JWY	**Kouya**	**0.89**	**246**	P	**Pn**	**14 20 30.6**	**-3.2**
HMMJ	**Hamamatsu 2**	**0.98**	**73**	P	**Pn**	**14 20 32.4**	**-1.5**
**T

JKE Kume jima 2 1.39 250 P **Pn** 14 24 14.2 -0.5
JKE S **Sn** 14 24 31.5 -0.5
JMZ Minamidaito 2 2.85 110 **Pn** 14 24 32.6 -2.1
JSU Suzuyama 5.07 22 **Pn** 14 25 04.3 -0.8
YOJ Yonaguni jima 5.27 245 **Pn** 14 25 06.9 -0.9
TATO Taipei 6.35 255 **Pn** 14 25 23.3 +0.5
YHNB Yeheng 6.54 253 **Pn** 14 25 25.2 -0.3
NACB Ninganchiao 6.55 248 **Pn** 14 25 23.0 -2.5
JNU Nakatsue 6.70 19 P **Pn** 14 25 28.8 +1.2
24nm,0.3s,baz=194,slow=5.3,SNR=203
JNU S **Sn** **14 26 42.8 +0.3**
baz=47,slow=19,SNR=0.8
JNU LR LR 14 28 16.4
comp=Z,144nm,21.3s,baz=208,slow=40
JNU Nakatsue 6.70 19 Pn **Pn** **14 25 28.5 +1.0**
YULB Yu-li 7.15 243 Pn **Pn** **14 25 29.7 -4.1**
SSLB Suanglung 7.25 247 Pn **Pn** **14 25 32.1 -3.0**
TWG Pinlang 7.62 240 Pn Pn 14 25 35.3 -5.0
TPUB Ta-pu 7.73 245 **Pn** **14 25 39.2 -2.5**
JMN Monobe 8.45 34 Pn **Pn** **14 25 49.8 -1.7**
JHS Saijyo 9.18 26 Pn **Pn** **14 26 00.4 -1.1**
KNMB Chin-men Tao 9.19 257 Pn **Pn** **14 25 59.8 -1.8**
NJ2 Nanjing 9.71 305 *eP* **Pn** **14 26 08.1 -0.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
JWT Wachi 10.44 34 Pn **Pn** **14 26 16.8 -2.0**
KSRS Korea Array 10.62 359 P **Pn** **14 26 22.4 +1.2**
0.1nm,0.3s,baz=177,slow=14,SNR=11
KSRS LR LR 14 29 54.6
comp=Z,91nm,19.7s,baz=175,slow=34
INU Inuyama 11.36 39 Pn **Pn** **14 26 30.6 -0.6**
JGF Kuroka 11.73 39 Pn **Pn** **14 26 36.0 -0.4**
JHJ Hachijo jima 2 11.82 55 P **Pn** **14 26 38.2 +0.7**
12nm,0.3s,baz=60,slow=22,SNR=1.7
JHJ LR LR 14 31 02.5
comp=Z,133nm,19.4s,baz=144,slow=36
JCJ Chichijima 12.45 86 LR LR 14 31 30.9
comp=Z,73nm,18.9s,baz=222,slow=37
MAJO Matsushiro 12.88 39 Pn **Pn** **14 26 51.1 -1.0**
MJAR Matsushiro Arr 12.88 39 P **Pn** **14 26 51.8 -0.3**
0.1nm,0.3s,baz=244,slow=13,SNR=9.0
MJAR LR LR 14 32 03.0
comp=Z,70nm,18.2s,baz=150,slow=38
MJB9 Matsu-Tunnel 12.88 39 Pn **Pn** **14 26 52.4 +0.2**
JYT Yasato 13.85 44 Pn **Pn** **14 27 04.0 -1.3**
JSD Sado 14.02 35 Pn **Pn** **14 27 06.5 -1.1**
JMM Marumori 15.29 41 Pn **Pn** **14 27 23.3 -0.8**
JMM IAmb IAmb 14 27 39.2
comp=Z,17nm,1.0s
USRK Ussuriysk Ar. 17.62 9 P **P** **14 27 54.8 +1.1**
baz=171,slow=10,SNR=3.0
XAN Xi'an 18.14 298 P **Pn** **14 28 05.5 +5.6**
XAN pP pP 14 28 13.6 +2.3
XAN sP sP 14 28 17.8 -0.1
XAN pmax pmax
comp=Z,11nm,0.6s
ERM Erimo 19.49 35 P **P** **14 28 12.4 -1.9**
ERM IAmb IAmb 14 28 19.0
comp=Z,16nm,0.8s
HHC Hu-ho-hao-te 19.65 320 *eP* **Pn** **14 28 17.9 -0.1**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,96nm,5.6s
ASAJ Asahikawa 20.80 30 P **P** **14 28 28.8 +0.2**
comp=Z,8.7nm,0.9s,baz=248,slow=13,SNR=7.1
JKA Kamikawa-asahi 20.80 30 P **P** **14 28 27.3 -1.3**
JKA IAmb IAmb 14 28 39.1
comp=Z,30nm,1.4s
KLR Kul'dur 22.55 6 P **P** **14 28 47.7 +0.4**
comp=Z,0.5nm,0.4s,baz=164,slow=8.7,SNR=2.2
KLR LR LR 14 38 14.9
comp=Z,61nm,19.0s,baz=185,slow=38
LZH Lanzhou 22.73 300 *eP* **P** **14 28 51.0 +1.5**
LZH pP pP 14 29 02.5 +1.1
LZH pmax pmax
comp=Z,17nm,1.0s
KMI Kunming 22.98 272 ⇓P **P** **14 28 52.6 +0.4**
KMI pmax pmax
comp=Z,11nm,0.7s
YSS Yuzh-Sakhalins 23.15 26 P **P** **14 28 52.7 -0.7**
YSS IAmb IAmb 14 28 54.8
comp=Z,25nm,1.1s
GTA Gaotai 26.80 305 *eP* **P** **14 29 26.3 -0.8**
GTA pP pP 14 29 38.5 -1.9
GTA sP sP 14 29 44.0 -2.6
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,120nm,9.2s
GTA LR LR
comp=Z,130nm,15.5s
GTA LR LR
comp=Z,120nm,13.5s
GTA LR LR
comp=Z,130nm,13.5s
SONM Songino Array 27.08 327 P **P** **14 29 29.7 +0.2**
comp=Z,1.0nm,0.7s,baz=146,slow=10,SNR=4.7
SONM LR LR 14 40 41.4
comp=Z,60nm,19.1s,baz=142,slow=37
SONM Songino Array 27.08 327 P **P** **14 29 29.1 -0.3**
CHTO Chiang Mai 28.10 260 P **P** **14 29 38.6 -0.2**
CHTO IAmb IAmb 14 29 40.0
comp=Z,8.8nm,0.7s
CMAR Chiang Mai Arr 28.24 259 P **P** **14 29 40.5 +0.5**
comp=Z,1.8nm,0.7s,baz=57,slow=7.9,SNR=16
CMAR LR LR 14 41 58.2
comp=Z,58nm,18.9s,baz=60,slow=38
CMAR Chiang Mai Arr 28.24 259 P **P** **14 29 39.5 -0.4**
TLY Talaya 31.02 330 LR LR 14 44 12.7
comp=Z,53nm,19.7s,baz=138,slow=39
PEA0B Petropavlovsk- 34.20 32 P **P** **14 30 31.5 -0.5**
PETK Petropavlovsk- 34.20 32 P **P** **14 30 32.1 0.0**
comp=Z,2.4nm,0.7s,baz=204,slow=3.3,SNR=6.9
PETK LR LR 14 46 02.3
comp=Z,38nm,18.6s,baz=208,slow=39
PETK Petropavlovsk- 34.20 32 P **P** **14 30 31.7 -0.4**
TAPN Taplejung 35.98 280 *eP* **P** **14 30 48.2 +0.2**
comp=Z,6.9nm,0.5s
H11N2 WAKE ISLAND Hy 36.10 93 T T 15 09 09.2
baz=289,slow=75,SNR=26
H11N1 WAKE ISLAND Hy 36.10 93 T T 15 09 05.0
baz=289,slow=75,SNR=25
H11N3 WAKE ISLAND Hy 36.12 93 T T 15 09 04.7
baz=289,slow=75,SNR=27
H11S3 WAKE ISLAND Hy 36.32 95 T T 15 09 23.0
baz=290,slow=75,SNR=23
H11S1 WAKE ISLAND Hy 36.33 95 T T 15 09 21.1
baz=290,slow=75,SNR=18
ODAN Odare 36.34 280 *eP* **P** **14 30 50.5 -0.5**
comp=Z,39nm,0.5s
H11S2 WAKE ISLAND Hy 36.34 95 T T 15 09 25.2
baz=290,slow=75,SNR=18
WMQ Urumqi 36.76 308 *eP* **P** **14 30 54.1 -0.2**
WMQ pP pP 14 31 07.9 0.0
WMQ pmax pmax
comp=Z,18nm,0.8s
WMQ pmax pmax
comp=Z,170nm,6.3s
PSI Prapat 36.86 235 LR LR 14 44 11.0
comp=Z,45nm,18.9s,baz=100,slow=33
RAMN Ramite 37.02 280 *eP* **P** **14 30 56.1 -0.7**
comp=Z,8.8nm,0.5s
BATI Baumata 37.06 187 P **P** **14 30 58.4 +1.5**
comp=Z,12nm,0.6s,baz=333,slow=2.6,SNR=2.6
GUN Gumba 37.50 282 *eP* **P** **14 31 00.7 -0.3**
comp=Z,10nm,0.4s
PKI Pulchoki 37.97 281 *eP* **P** **14 31 04.3 -0.6**
comp=Z,15nm,0.5s
PKIN Phulchoki 37.98 281 *eP* **P** **14 31 04.1 -0.9**
comp=Z,12nm,0.4s
DMN Daman 38.23 281 *eP* **P** **14 31 06.0 -1.1**
GKN Gorkha 38.58 282 *eP* **P** **14 31 09.2 -0.7**
MK31 Makanchi Array 41.16 311 P **P** **14 31 29.8 -1.1**
MKAR Makanchi Array 41.16 311 P **P** **14 31 30.2 -0.7**
comp=Z,1.1nm,0.5s,baz=90,slow=10.0,SNR=14
MKAR Makanchi Array 41.16 311 P **P** **14 31 29.8 -1.2**
MAKZ Makanchi 41.37 311 P **P** **14 31 32.1 -0.6**
MAKZ IAmb IAmb 14 31 39.4
comp=Z,7.1nm,1.5s
ZALV Zalesovo Beam 41.80 322 P **P** **14 31 36.0 +0.1**
comp=Z,1.9nm,0.5s,baz=122,slow=8.0,SNR=8.9
ZALV LR LR 14 50 14.7
comp=Z,620nm,20.0s,baz=359,slow=38
ZALV Zalesovo Beam 41.80 322 P **P** **14 31 36.4 +0.5**

COEN Coen 43.04 158 P **P** **14 31 46.9 +0.4**
COEN IAmb IAmb 14 31 48.0
comp=Z,18nm,1.4s
KURK Kurchatov 44.41 316 P **P** **14 31 56.6 -0.5**
KURBB Kurchatov Arra 44.44 316 P **P** **14 31 56.6 -0.7**
comp=Z,1.1nm,0.4s,baz=104,slow=9.0,SNR=14
TIXI Tiksi 44.88 0 P **P** **14 32 00.0 -0.5**
comp=Z,0.3nm,0.3s,baz=158,slow=2.7,SNR=3.7
KSH Kashi 44.98 300 *eP* **P** **14 32 03.8 +1.8**
KSH pmax pmax
comp=Z,9.0nm,0.3s
AMKA Amchitka 45.45 43 P **P** **14 32 04.0 -1.3**
AAK Ala-Archa 46.15 304 P **P** **14 32 10.9 -0.3**
comp=Z,1.6nm,0.4s,baz=90,slow=7.1,SNR=3.9
AAK Ala-Archa 46.15 304 P **P** **14 32 11.2 -0.1**
AAK IAmb IAmb 14 32 16.0
comp=Z,2.0nm,0.5s
WB0 Warramunga Arr 46.68 172 P **P** **14 32 14.3 -1.1**
WB0 IAmb IAmb 14 32 38.9
comp=Z,3.2nm,0.9s
WRAB Tennant Creek 46.84 172 P **P** **14 32 15.9 -0.7**
WRAB IAmb IAmb 14 32 17.6
comp=Z,6.5nm,1.1s
WRA Warramunga Arr 46.85 172 P **P** **14 32 16.2 -0.4**
comp=Z,3.3nm,0.9s,baz=354,slow=8.5,SNR=17
WB2 Warramunga Arr 46.85 172 P **P** **14 32 16.2 -0.4**
WB2 IAmb IAmb 14 32 41.1
comp=Z,8.5nm,1.1s
WR0 Warramunga Arr 46.89 172 P **P** **14 32 16.6 -0.3**
WR0 IAmb IAmb 14 32 34.1
comp=Z,11nm,1.4s
PALK Pallekele 49.08 256 LR LR 14 53 36.5
comp=Z,50nm,21.1s,baz=183,slow=36
KKAR Karatay Array 49.09 305 P **P** **14 32 33.6 -0.2**
COCO West Island 49.33 222 P **P** **14 32 33.2 -2.6**
CTA Charters Tower 49.78 158 P **P** **14 32 39.6 +0.4**
comp=Z,5.3nm,0.9s,baz=334,slow=12,SNR=3.9
BVAR Borovoye Array 49.85 318 P **P** **14 32 39.8 +0.3**
comp=Z,0.7nm,0.5s,baz=174,slow=14,SNR=4.4
AS31 Alice Springs 50.48 173 P **P** **14 32 44.7 +0.2**
ASAR Alice Springs 50.48 173 P **P** **14 32 44.7 +0.2**
comp=Z,2.8nm,0.7s,baz=3.7,slow=13,SNR=36
ABKAR Akbulak array 56.26 313 P **P** **14 33 26.1 -0.6**
FORT Forrest 57.26 180 P **P** **14 33 34.1 +0.2**
STKA Stephens Creek 59.73 167 P **P** **14 33 51.1 0.0**
comp=Z,1.8nm,0.7s,baz=352,slow=7.1,SNR=5.0
STKA Stephens Creek 59.73 167 P **P** **14 33 50.9 -0.1**
BBOO Buckleboo 59.75 172 P **P** **14 33 51.6 +0.4**
ILAR Eielson Array 63.93 28 P **P** **14 34 19.6 +0.7**
comp=Z,0.3nm,0.7s,baz=280,slow=5.4,SNR=2.5
RAGM Ragged Mountai 65.67 33 P **P** **14 34 28.5 -1.9**
INK Inuvik 68.36 23 P **P** **14 34 48.1 +0.9**
comp=Z,0.8nm,0.5s,baz=302,slow=6.7,SNR=3.7
INK Inuvik 68.36 23 IAmb IAmb 14 35 04.0
comp=Z,5.2nm,1.1s
KBZ Khabaz 68.80 309 P **P** **14 34 50.7 +0.2**
comp=Z,2.2nm,0.8s,baz=80,slow=2.5,SNR=3.6
ARCES ARCESS Array B 69.47 339 P **P** **14 34 55.9 +1.7**
comp=Z,1.4nm,0.7s,baz=57,slow=6.6,SNR=0.7
SOCY Socotra 70.66 274 P **P** **14 35 01.2 -1.2**
FINES FINESS Array B 72.37 330 P **P** **14 35 11.7 -0.1**
comp=Z,1.2nm,0.4s,baz=71,slow=5.8,SNR=7.8
FINES FINESS Array B 72.37 330 P **P** **14 35 11.2 -0.6**
AKASG Malin Array Be 75.10 319 P **P** **14 35 28.0 0.0**
comp=Z,1.6nm,0.5s,baz=62,slow=6.0,SNR=3.9
BRTR Keskin Array B 76.69 308 P **P** **14 35 38.2 +0.7**
comp=Z,0.5nm,0.4s,baz=108,slow=4.7,SNR=1.7
BRTR LR LR 15 14 53.5
comp=Z,62nm,18.5s,baz=356,slow=40
YKA Yellowknife Ar 78.00 25 P **P** **14 35 44.8 +0.6**
comp=Z,0.7nm,0.7s,baz=298,slow=4.9,SNR=12
NB2 NORSAR Subarra 78.80 334 P **P** **14 35 50.1 +1.4**
comp=Z,1.6nm,0.6s,baz=53,slow=5.9
NOA NORSAR Array B 78.80 334 P **P** **14 35 49.2 +0.5**
comp=Z,0.6nm,0.6s,baz=52,slow=5.6,SNR=3.8
GERES GERESS Array B 84.75 323 P **P** **14 36 22.1 +1.7**
comp=Z,0.6nm,0.6s,baz=72,slow=3.2,SNR=2.0
NVAR Mina Array Bea 90.10 46 P **P** **14 36 45.6 -0.9**
comp=Z,0.2nm,0.7s,baz=303,slow=4.2,SNR=1.7
PDAR Pinedale Array 92.71 39 P **P** **14 36 59.6 +1.0**
comp=Z,0.2nm,0.6s,baz=0.0,slow=3.4,SNR=3.5

*IDC **16** 14:25:47.5±1.1,0.°35N×98.°39E, h0km, mb3.7/9, mb1 3.7/11, mb1mx3.6/46, mbtmp3.7/11, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/42, Error ellipse: s-maj=37.0km s-min=19.7km az=73.0*
*DJA **16** 14:25:52.2±0.5, 1.°N±4.4×9.°8E±.°, h10km, M4.2/10, mb4.2/4, mB5.6/1, MLv4.2/10, Mw(mB)5.1/1*
ISC 16 14:25:54.4±0.8, 0.°59N±0.°08×98.°26E±0.°08, h43km, n21, σ1§95/19, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.99**	**316**	P	**Pn**	**14 26 10.7**	**-1.1**
MNSI	**Mandailing Nat**	**1.34**	**81**	P	**Pn**	**14 26 14.0**	**-2.5**
PSI	**Prapat**	**2.30**	**17**	Pn	**Pn**	**14 26 28.1**	**-1.8**
	5.2nm,0.3s,baz=180,slow=9.6,SNR=6.9						
PSI				Sn	**Sn**	**14 27 00.9**	**+3.8**
	15nm,0.3s,baz=180,slow=6.6,SNR=4.7						
PSI				LR	LR	14 27 21.4	
	comp=Z,106nm,18.4s,baz=88,slow=39						
BKNI	**Bangkinang**	**2.79**	**95**	P	**Pn**	**14 26 37.4**	**+0.8**
TPTI		**2.87**	**338**	P	**Pn**	**14 26 37.3**	**-0.3**
KSI	**Kapahiang**	**6.04**	**134**	P	**Pn**	**14 27 23.4**	**+2.1**
CMAR	**Chiang Mai Arr**	**17.77**	**2**	P	**Pn**	**14 29 59.1**	**+0.4**
	0.2nm,0.3s,baz=190,slow=14,SNR=4.8						
H08S2	**Diego Garcia H**	**26.96**	**252**	T	T	14 58 55.0	
	baz=73,slow=76,SNR=65						
H08S3	**Diego Garcia H**	**26.97**	**252**	T	T	14 58 55.3	
	baz=73,slow=76,SNR=157						
H08S1	**Diego Carcia H**	**26.98**	**252**	T	T	14 58 55.7	
	baz=73,slow=76,SNR=44						
WRA	**Warramunga Arr**	**40.81**	**122**	P	**P**	**14 33 29.4**	**-2.7**
	0.7nm,0.8s,baz=304,slow=8.5,SNR=1.6						
ASAR	**Alice Springs**	**42.18**	**127**	P	**P**	**14 33 39.2**	**-4.1**
	0.4nm,0.7s,baz=296,slow=7.1,SNR=1.1						
KSRS	**Korea Array**	**45.76**	**33**	P	**P**	**14 34 10.8**	**-0.9**
	0.8nm,0.8s,baz=219,slow=8.0,SNR=3.0						
SONM	**Songino Array**	**47.59**	**7**	P	**P**	**14 34 26.7**	**+0.7**
	1.1nm,0.7s,baz=190,slow=10,SNR=8.5						
SONM				PcP	**PcP**	**14 35 56.8**	**+1.5**
	0.3nm,0.6s,baz=126,slow=2.6,SNR=3.8						
MKAR	**Makanchi Array**	**48.10**	**345**	P	**P**	**14 34 30.7**	**+0.9**
	0.7nm,0.4s,baz=159,slow=8.5,SNR=9.1						
KURBB	**Kurchatov Arra**	**52.60**	**344**	P	**P**	**14 35 04.3**	**+0.6**
	1.1nm,0.8s,baz=164,slow=7.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**54.33**	**350**	P	**P**	**14 35 16.8**	**+0.4**
	0.6nm,0.3s,baz=183,slow=5.3,SNR=4.1						
KLR	**Kul'dur**	**56.34**	**26**	P	**P**	**14 35 31.9**	**+0.9**
	1.1nm,0.6s,baz=216,slow=8.7,SNR=5.1						
SUR	**Sutherland**	**79.72**	**237**	LR	LR	15 08 41.5	
	comp=Z,57nm,19.7s,baz=140,slow=32						
FINES	**FINESS Array B**	**81.03**	**332**	P	**P**	**14 38 04.8**	**+0.3**
	1.1nm,0.7s,baz=121,slow=5.4,SNR=1.7						
CPUP	**Villa Florida**	**145.25**	**221**	PKPbc	**PKPab**	**14 45 27.6**	**-0.5**
	0.8nm,0.4s,baz=102,slow=2.3,SNR=3.7						

*IDC **16** 14:39:37.5±0.7, 34.°32N×141.°66E, h0km, mb3.8/16, mb1 4.0/21, mb1mx3.8/44, mbtmp3.8/21, ML3.5/5, MS3.1/2, Ms1 3.1/2, ms1mx2.6/42, Error ellipse: s-maj=17.8km s-min=12.8km az=101.0*
*JMA **16** 14:39:39.2±0.8, 34.°27N×141.°61E, h27km, M3.3*
*NEIC **16** 14:39:40.4±1.7, 34.°32N±0.°05×141.°70E±0.°09, h24km±5km, mb4.3/16, Error ellipse: s-maj=11.0km s-min=6.8km az=107.0*
ISC 16 14:39:40.9±0.5, 34.°33N±0.°05×141.°68E±0.°06, h27km, n70, σ1§34/74, mb3.9/23, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.66**	**299**	P	**Pb**	**14 39 51.6**	**-2.0**
BSO3	**Boso 3**	**1.07**	**296**	P	**Pn**	**14 39 58.6**	**-1.3**
BSO4	**Boso 4**	**1.29**	**301**	P	**Pn**	**14 40 02.6**	**-0.4**
JKUC	**kamogawauchiur**	**1.47**	**304**	P	**Pn**	**14 40 04.8**	**-0.9**
CHOJ	**Chosi**	**1.52**	**334**	P	**Pn**	**14 40 05.8**	**-0.6**
CHOJ				eS	**Sn**	**14 40 24.7**	**-0.6**
JMKN	**Mikurajimanish**	**1.79**	**256**	P	**Pn**	**14 40 08.5**	**-1.5**
JIM2	**Oshima 3**	**1.90**	**282**	eS	**Sn**	**14 40 32.0**	**-2.6**
JHJ2	**Mitsune**	**1.98**	**232**	Pn	**Pn**	**14 40 12.1**	**-0.5**
JHJ	**Hachijo jima 2**	**2.00**	**233**	Pn	**Pn**	**14 40 12.2**	**-0.6**
	23nm,0.3s,baz=55,slow=10,SNR=17						
JHJ				Sn	**Sn**	**14 40 37.0**	**0.0**
	43nm,0.3s,baz=69,slow=23,SNR=7.7						
JYT	**Yasato**	**2.25**	**328**		**Pn**	**14 40 15.6**	**-0.8**
JOD2	**Odawara 2**	**2.33**	**294**	P	**Pn**	**14 40 16.1**	**-1.4**
JIZS	**Izushimoda**	**2.35**	**280**	P	**Pn**	**14 40 16.0**	**-1.7**
JSG	**Sagara**	**2.91**	**278**	Pn	**Pn**	**14 40 26.4**	**+1.0**
MJAR	**Matsushiro Arr**	**3.59**	**309**	Pn	**Pn**	**14 40 34.7**	**-0.1**
	1.1nm,0.3s,baz=128,slow=9.9,SNR=38						
MJAR				Sn	**Sn**	**14 41 17.1**	**+0.8**
	0.4nm,0.3s,baz=37,slow=23,SNR=5.7						
MJAR	**Matsushiro Arr**	**3.59**	**309**		**Pn**	**14 40 34.9**	**+0.1**
MAJO	**Matsushiro**	**3.59**	**309**		**Pn**	**14 40 35.0**	**+0.1**
MAT	**Matsushiro**	**3.59**	**309**	P	**Pn**	**14 40 35.0**	**+0.1**
MAT				eS	**Sn**	**14 41 17.8**	**+1.4**
JMM	**Marumori**	**3.60**	**349**		**Pn**	**14 40 34.0**	**-0.9**
JGF	**Kuroka**	**3.77**	**291**		**Pn**	**14 40 37.8**	**+0.5**
INU	**Inuyama**	**3.97**	**286**		**Pn**	**14 40 40.5**	**+0.5**
JSD	**Sado**	**4.62**	**324**		**Pn**	**14 40 48.1**	**-0.7**
JWT	**Wachi**	**5.25**	**282**	Pn	**Pn**	**14 40 57.5**	**-0.1**
JTM	**Tenmabayashi**	**6.46**	**356**	Pn	**Pn**	**14 41 13.2**	**-1.0**
JCJ	**Chichijima**	**7.23**	**176**	Pn	**Pn**	**14 41 25.1**	**+0.3**
	4.9nm,0.3s,baz=342,slow=16,SNR=2.8						
JCJ				Sn	**Sn**	**14 42 42.4**	**-3.6**
	3.9nm,0.3s,baz=289,slow=18,SNR=1.3						
JCJ	**Chichijima**	**7.23**	**176**		**Pn**	**14 41 24.8**	**0.0**
ERM	**Erimo**	**7.75**	**8**	Pn	**Pn**	**14 41 29.8**	**-2.1**
JEW	**Eniwo**	**8.49**	**359**	Pn	**Pn**	**14 41 41.7**	**-0.4**
ASAJ	**Asahikawa**	**9.79**	**4**	Pn	**Pn**	**14 41 57.6**	**-2.3**
	0.8nm,0.3s,baz=215,slow=13,SNR=14						
ASAJ				Sn	**Sn**	**14 43 42.6**	**-6.3**
	0.6nm,0.3s,baz=257,slow=17,SNR=2.3						
ASAJ				LR	LR	14 45 48.3	
	comp=Z,73nm,18.0s,baz=174,slow=38						
JKA	**Kamikawa-asahi**	**9.79**	**4**		**Pn**	**14 41 57.6**	**-2.3**
KSRS	**Korea Array**	**11.59**	**290**	Pn	**Pn**	**14 42 25.5**	**+1.1**
	0.1nm,0.3s,baz=97,slow=14,SNR=4.0						
KLR	**Kul'dur**	**16.60**	**337**	Pn	**P**	**14 43 33.6**	**-0.3**
	0.1nm,0.3s,baz=153,slow=9.0,SNR=2.3						
KLR				LR	LR	14 50 12.4	
	comp=Z,77nm,18.5s,baz=140,slow=38						
MA2	**Magadan**	**25.95**	**11**	P	**P**	**14 45 12.1**	**+1.3**
	0.8nm,0.3s,baz=169,slow=16,SNR=3.6						
SEY	**Seymchan**	**29.40**	**10**	P	**P**	**14 45 43.7**	**+2.1**
	0.4nm,0.7s,baz=192,slow=14,SNR=4.0						
SONM	**Songino Array**	**29.55**	**308**	P		**14 45 44.0**	**+0.7**
	1.0nm,0.7s,baz=103,slow=9.6,SNR=8.0						
SONM	**Songino Array**	**29.55**	**308**	IAmb	IAmb	14 45 46.7	
	comp=Z,0.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.10**	**259**	P	**P**	**14 47 21.3**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=51,slow=8.4,SNR=4.1						
ZAA0	**Zalesovo Array**	**43.93**	**314**	P	**P**	**14 47 44.4**	**-0.8**
ZAA0				IAmb	IAmb	14 48 06.8	
	comp=Z,2.2nm,1.0s						
ZALV	**Zalesovo Beam**	**43.93**	**314**	P	**P**	**14 47 45.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=100,slow=7.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**43.93**	**314**	P	**P**	**14 47 44.2**	**-0.9**
MK31	**Makanchi Array**	**45.78**	**304**	P	**P**	**14 47 59.3**	**-0.8**
MKAR	**Makanchi Array**	**45.78**	**304**	P	**P**	**14 48 00.7**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=83,slow=8.0,SNR=9.1						
MKAR	**Makanchi Array**	**45.78**	**304**	P	**P**	**14 47 59.3**	**-0.8**
MAKZ	**Makanchi**	**45.99**	**304**	P	**P**	**14 48 01.4**	**-0.3**
MAKZ				IAmb	IAmb	14 48 04.6	
	comp=Z,1.3nm,0.8s						
MTN	**Manton Dam**	**47.98**	**194**	P	**P**	**14 48 17.6**	**+0.2**
A21K	**Barrow**	**48.86**	**22**	P	**P**	**14 48 25.5**	**+1.9**
ILAR	**Eielson Array**	**51.57**	**31**	P	**P**	**14 48 46.6**	**+1.6**
	comp=Z,1.0nm,0.9s,baz=269,slow=6.5,SNR=6.1						
FITZ	**Fitzroy Crossi**	**54.33**	**199**	P	**P**	**14 49 06.2**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=23,slow=7.7,SNR=6.5						
FITZ	**Fitzroy Crossi**	**54.33**	**199**	P	**P**	**14 49 05.2**	**+0.1**
FITZ				IAmb	IAmb	14 49 08.2	
	comp=Z,2.8nm,0.8s						
WRAB	**Tennant Creek**	**54.42**	**188**	P	**P**	**14 49 05.3**	**-0.4**
WRAB				IAmb	IAmb	14 49 24.5	
	comp=Z,14nm,1.5s						
WR0	**Warramunga Arr**	**54.42**	**188**	P	**P**	**14 49 05.8**	**+0.1**
WR0				IAmb	IAmb	14 49 19.3	
	comp=Z,13nm,1.5s						
WB2	**Warramunga Arr**	**54.42**	**188**	P	**P**	**14 49 05.9**	**+0.2**
WB2				IAmb	IAmb	14 49 32.2	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**54.43**	**189**	P	**P**	**14 49 06.3**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=5.4,slow=7.5,SNR=13						
KK31	**Karatay Array**	**54.70**	**302**	P	**P**	**14 49 08.1**	**+0.4**
KK31				IAmb	IAmb	14 49 10.6	
	comp=Z,2.4nm,0.9s						
KKAR	**Karatay Array**	**54.70**	**302**	P	**P**	**14 49 08.2**	**+0.5**
AS31	**Alice Springs**	**58.15**	**188**	P	**P**	**14 49 31.4**	**-1.0**
ASAR	**Alice Springs**	**58.15**	**188**	P	**P**	**14 49 32.6**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=3.9,slow=6.8,SNR=9.9						
ASAR	**Alice Springs**	**58.15**	**188**	P	**P**	**14 49 31.6**	**-0.8**
ABKAR	**Akbulak array**	**59.87**	**311**	P	**P**	**14 49 44.5**	**+0.4**
ABKAR				IAmb	IAmb	14 49 46.5	
	comp=Z,1.9nm,0.7s						
EUNU	**Eureka**	**62.82**	**8**	P	**P**	**14 50 04.2**	**+0.6**
YKA	**Yellowknife Ar**	**66.03**	**30**	P	**P**	**14 50 24.0**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=298,slow=5.6,SNR=4.4						
TULEG	**Thule**	**67.74**	**7**	P	**P**	**14 50 36.2**	**+0.7**
FINES	**FINESS Array B**	**71.31**	**333**	P	**P**	**14 50 57.4**	**-0.3**
	comp=Z,2.9nm,1.0s,baz=46,slow=6.0,SNR=2.0						
KBZ	**Khabaz**	**72.84**	**311**	P	**P**	**14 51 08.5**	**+1.3**
	comp=Z,2.3nm,0.9s,baz=27,slow=2.3,SNR=3.9						
NVAR	**Mina Array Bea**	**76.44**	**53**	P	**P**	**14 51 29.2**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=296,slow=6.7,SNR=2.3						
AKASG	**Malin Array Be**	**76.57**	**323**	P	**P**	**14 51 29.4**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=46,slow=6.4,SNR=5.5						
AKASG	**Malin Array Be**	**76.57**	**323**	IAmb	IAmb	14 51 31.5	
	comp=Z,1.0nm,1.0s						
NC204	**NORSAR Array S**	**76.72**	**338**	P	**P**	**14 51 29.5**	**+0.1**
NB2	**NORSAR Subarra**	**76.76**	**338**	P	**P**	**14 51 30.3**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**76.76**	**338**	P	**P**	**14 51 30.6**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=40,slow=5.7,SNR=4.0						
LPAZ	**La Paz**	**147.78**	**64**	PKPbc	**PKiKP**	**14 59 25.8**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=302,slow=6.1,SNR=3.6						

*IDC **16** 14:44:26.3±2.8, 4.°32S×101.°95E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/37, mbtmp3.7/7, MS4.2/1, Ms1 4.2/1, ms1mx2.7/36, Error ellipse: s-maj=126.8km s-min=19.4km az=56.0*
*NEIC **16** 14:44:35.1±1.6, 4.°5S±0.°1×102.°0E±0.°1, h71km±5km, mb4.1/7, Error ellipse: s-maj=18.5km s-min=11.6km az=45.0*
*DJA **16** 14:44:40.2±0.5, 4.°5S±4.4×10.°2E±.°, h58km±5km, M4.0/10, mb4.6/2, mB4.8/1, MLv3.7/10, Mw(mB)4.1/1*
**ISC 16 14:44:31.5±0.9, 4.°47S±0.°07×101.°79E±0.°09, h37km, n37, σ1

	comp=Z,6.1nm,1.2s							
WB2	**Warramunga Arr**	**35.24 119**	P	**P**	**14 51 21.1**	**-1.7**		
WB2			IAmb	IAmb	14 51 22.4			
	comp=Z,5.5nm,1.2s							
WR0	**Warramunga Arr**	**35.41 119**	P	**P**	**14 51 21.7**	**-2.6**		
AS31	**Alice Springs**	**36.38 125**	P	**P**	**14 51 32.1**	**-0.4**		
ASAR	**Alice Springs**	**36.38 125**	P	**P**	**14 51 32.3**	**-0.2**		
	comp=Z,0.4nm,0.3s,baz=301,slow=7.6,SNR=14							
ASAR			PcP	**PcP**	**14 53 57.1**	**+0.5**		
	comp=Z,0.2nm,0.6s,baz=296,slow=2.5,SNR=1.5							
CTA	**Charters Tower**	**45.96 114**	LR	LR	15 13 54.4			
	comp=Z,288nm,19.3s,baz=258,slow=39							
STKA	**Stephens Creek**	**46.19 131**	P	**P**	**14 52 53.3**	**+0.4**		
	comp=Z,1.0nm,0.8s,baz=302,slow=9.4,SNR=1.3							
STKA	**Stephens Creek**	**46.19 131**	IAmb	IAmb	14 53 05.5			
	comp=Z,1.3nm,1.2s							
SONM	**Songino Array**	**52.24 4**	P	**P**	**14 53 38.9**	**-0.2**		
	comp=Z,0.5nm,0.6s,baz=184,slow=9.0,SNR=5.6							
SONM	**Songino Array**	**52.24 4**	P	**P**	**14 53 38.8**	**-0.2**		
SONM			IAmb	IAmb	14 53 39.6			
	comp=Z,0.6nm,0.8s							
MKAR	**Makanchi Array**	**53.88 344**	P	**P**	**14 53 51.1**	**+0.1**		
	comp=Z,0.3nm,0.5s,baz=155,slow=8.5,SNR=3.6							
MKAR	**Makanchi Array**	**53.88 344**	P	**P**	**14 53 51.4**	**+0.4**		
ZALV	**Zalesovo Beam**	**59.92 348**	P	**P**	**14 54 31.4**	**-2.3**		
	comp=Z,0.4nm,0.3s,baz=160,slow=4.6,SNR=2.7							
ABKAR	**Akbulak array**	**64.65 331**	P	**P**	**14 55 05.8**	**+0.3**		
TXAR	**Lajitas Array**	**145.47 41**	PKPbc	**PKPdf**	**15 04 06.0**	**-0.6**		
	comp=Z,0.4nm,0.6s,baz=287,slow=1.6,SNR=4.3							
TXAR	**Lajitas Array**	**145.47 41**		**PKPdf**	**15 04 05.6**	**-0.9**		

JMA 16 15:19:43.4±0.1, 24°25N×123°76E, h16km±1km, M1.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.09**	**342**	P	Pg	15 19 46.5	-0.2
IRIF				S	Sg	15 19 49.0	+0.1
HATJ	**Hateruma jima**	**0.20**	**168**	P	Pg	15 19 47.9	-0.2
HATJ				S	Sg	15 19 51.4	+0.2
JKRS	**Kuro-shima**	**0.23**	**93**	P	Pg	15 19 48.8	+0.2
JKRS				S	Sb	15 19 53.0	0.0
JIJ	**Ishigaki jima**	**0.37**	**72**	P	Pg	15 19 50.8	-0.2
JIJ				S	Sg	15 19 56.1	0.0
JISG	**Ishigakijimahi**	**0.60**	**56**	P	Pg	15 19 55.2	-0.1
JISG				S	Sb	15 20 03.7	-0.2
YOJ	**Yonaguni jima**	**0.71**	**287**	P	Pg	15 19 57.4	0.0
YOJ				*e*S	Sg	15 20 06.9	0.0
JYNG	**Yonagunijimaku**	**0.77**	**285**	P	Pb	15 19 58.0	-0.4
JYNG				*e*S	Sb	15 20 09.1	+0.5
JTJ	**Tarama**	**0.94**	**65**	P	Pb	15 20 01.2	-0.2
JTJ				S	Sg	15 20 14.6	+0.5

TAP 16 15:20:40.9, 24°67N×121°68E, h13km, ML1.5, 1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWE	**Neicheng**	**0.05**	**352**	*i* P	Pg	15 20 43.8	+0.5
	baz=8.0						
TWE				*i* S	Sg	15 20 45.3	+0.3
	baz=8.0						
NDS	**Dongshan**	**0.05**	**135**	*i* P	Pg	15 20 44.0	+0.7
	baz=134						
NDS				S	Sg	15 20 45.2	+0.1
	baz=134						
ENTT	**Nioudou**	**0.10**	**253**	*i* P	Pb	15 20 45.0	+0.2
	baz=250						
ENTT				S	Sb	15 20 47.0	-0.4
	baz=250						
ILA	**Ilan**	**0.12**	**35**	*e*P	Pg	15 20 44.5	+0.5
	baz=38						
ILA				S	Sb	15 20 47.3	-0.4
	baz=38						
NDT	**Datong Townshi**	**0.16**	**245**	P	Pb	15 20 46.1	+0.4
	baz=245						
NDT				S	Sb	15 20 48.5	-0.5
	baz=245						
TWC	**Suao**	**0.17**	**111**	*i* P	Pb	15 20 45.4	-0.5
	baz=110						
TWC				*i* S	Sb	15 20 49.3	+0.1
	baz=110						
NWLT	**Wulai**	**0.19**	**304**	P	Pb	15 20 46.4	+0.1
	baz=304						
NWLT				S	Sb	15 20 49.1	-0.7
	baz=304						
ENA	**Nanau**	**0.25**	**166**	*i* P	Pb	15 20 47.2	0.0
	baz=164						
ENA				S	Sb	15 20 50.9	-0.6
	baz=164						
YHNB	**Yeheng**	**0.27**	**270**	P	Pb	15 20 47.9	+0.2
	baz=269						
YHNB				S	Sb	15 20 51.7	-0.5
	baz=269						
NSK	**Sanguang**	**0.29**	**271**	*i* P	Pb	15 20 48.1	+0.2
	baz=270						
NSK				*i* S	Sb	15 20 52.0	-0.7
	baz=270						
TWA	**Mucha**	**0.32**	**345**	*e*P	Pb	15 20 48.1	-0.4
	baz=346						
TIPB	**Shuangxi**	**0.33**	**25**	*e*P	Pg	15 20 48.1	+0.5
	baz=24						
TIPB				*e*S	Sg	15 20 52.2	+0.1
	baz=24						
TATO	**Taipei**	**0.35**	**331**	*e*S	Sb	15 20 53.8	-0.5
	baz=331						
NNS	**Nan Shan**	**0.36**	**230**	P	Pg	15 20 48.6	+0.5
	baz=229						
NNS				S	Sb	15 20 54.1	-0.6
	baz=229						
NNSB	**Datong**	**0.36**	**228**	P	Pb	15 20 49.4	+0.2
	baz=227						
NNSB				S	Sb	15 20 54.1	-0.7
	baz=227						
YM10	**YM10**	**0.49**	**348**	*e*P	Pb	15 20 51.4	-0.1
	baz=347						
ETLH	**Xiulin Townshi**	**0.49**	**201**	*e*P	Pg	15 20 51.0	+0.4
	baz=200						
ETLH				S	Sb	15 20 58.9	+0.2
	baz=200						
NACB	**Ninganchiao**	**0.50**	**188**	*e*P	Pb	15 20 51.5	0.0
	baz=188						
NACB				*e*S	Sb	15 20 58.7	0.0
	baz=188						

WEL **16** *15:21:41.2±0.6,34°S±7°×18°0W±1°5, h208km±12km, M4.4/26, mB4.8/13, MLv5.1/26, Mw(mB)4.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=114.1*

NEIC **16** *15:21:41.1±1.1, 33°40S±0°09×179°8E±0°2, h238km±7km, mb4.5/25, Error ellipse: s-maj=19.1km s-min=13.5km az=80.0*

NOU **16** *15:21:41.1, 33°66S×179°83W, h273km, mb4.3, South of Kermadec Islands*

IDC **16** *15:21:42.1±1.8, 33°46S×179°78E, h248km±17km, mb3.9/7, mb1 4.0/11, mb1mx3.7/26, mbtmp4.5/11, Error ellipse: s-maj=18.7km s-min=16.3km az=178.0*

ISC 16 15:21:41.3±0.5, 33°47S±0°05×179°98E±0°08, h250km, n130, σ1s89/158, mb4.3/18, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.30**	**198**	S	**S**	**15 23 41.3**	**-0.9**
WMGZ	**Waiomatatini S**	**4.52**	**196**	P	**Pn**	**15 22 52.4**	**+1.2**
WMGZ				S	**S**	**15 23 48.0**	**+1.2**
GLKZ	**Green Lake**	**4.56**	**24**	P	Pn	15 22 44.0	-7.8
GLKZ				S	**S**	**15 23 41.2**	**-6.8**
HAZ	**Te Kaha**	**4.63**	**202**	P	**Pn**	**15 22 54.0**	**+1.5**
HAZ				S	**S**	**15 23 48.1**	**-1.2**
PKGZ	**Pakihiroa**	**4.67**	**199**	P	**Pn**	**15 22 53.0**	**-0.1**
PKGZ				S	**S**	**15 23 49.7**	**-0.5**
KUZ	**Kuaotunu**	**4.78**	**226**	P	**Pn**	**15 22 57.5**	**+3.2**
PUZ	**Puketiti**	**4.80**	**196**	P	**Pn**	**15 22 55.0**	**+0.4**
PUZ				S	**S**	**15 23 52.0**	**-1.0**
RUGZ	**Raukumara Rang**	**4.86**	**202**	P	**Pn**	**15 22 56.2**	**+0.9**
RUGZ				S	**S**	**15 23 52.1**	**-2.4**
CNGZ	**Carnagh Statio**	**5.20**	**196**	P	**Pn**	**15 23 00.5**	**+1.0**
MARZ	**Manawahe**	**5.24**	**210**	P	**Pn**	**15 23 04.1**	**+4.1**
MARZ				S	**S**	**15 24 05.3**	**+2.4**
MWZ	**Matawai**	**5.24**	**202**	P	**Pn**	**15 23 00.3**	**+0.3**
MWZ				S	**S**	**15 24 01.7**	**-1.2**
TKGZ	**Te Karaka**	**5.25**	**199**	P	**Pn**	**15 23 00.2**	**+0.2**
TKGZ				S	**S**	**15 24 02.4**	**-0.5**
URZ	**Urewera**	**5.32**	**205**	P	**Pn**	**15 23 00.3**	**-0.5**
	4.2nm,0.3s,baz=253,slow=8.4,SNR=30						
URZ				S	**S**	**15 24 04.0**	**-0.3**
	41nm,0.3s,baz=8.7,slow=20,SNR=24						
URZ	**Urewera**	**5.32**	**205**	P	**Pn**	**15 23 00.4**	**-0.4**
URZ				S	**S**	**15 24 05.1**	**+0.8**
RIGZ	**Rimuhau**	**5.52**	**198**	P	**Pn**	**15 23 03.3**	**-0.1**
RIGZ				S	**S**	**15 24 08.5**	**-0.6**
OUZ	**Omahuta**	**5.56**	**250**		**Pn**	**15 23 05.3**	**+1.4**
RRRZ	**Republican Roa**	**5.61**	**209**	P	**Pn**	**15 23 06.3**	**+1.8**
MUGZ	**Murupara**	**5.63**	**207**	P	**Pn**	**15 23 04.8**	**0.0**
MUGZ				S	**S**	**15 24 11.2**	**-0.3**
SNGZ	**Shannon Statio**	**5.71**	**201**	P	**Pn**	**15 23 05.7**	**-0.1**
SNGZ				S	**S**	**15 24 13.2**	**-0.1**
PRRZ	**Plateau Road**	**5.80**	**209**	P	**Pn**	**15 23 07.9**	**+1.1**
ALRZ	**Allen Road**	**5.87**	**209**	P	**Pn**	**15 23 08.9**	**+1.2**
RAHZ	**Arahi**	**5.92**	**202**	P	**Pn**	**15 23 08.1**	**-0.2**
RAHZ				S	**S**	**15 24 16.5**	**-1.4**
MTHZ	**Maungataniwha**	**5.94**	**204**	P	**Pn**	**15 23 09.5**	**+0.9**
MTHZ				S	**S**	**15 24 18.3**	**-0.2**
KUTZ	**Kaahu Road**	**6.03**	**213**	P	**Pn**	**15 23 13.2**	**+3.4**
TLZ	**Tolley Road**	**6.04**	**215**	P	**Pn**	**15 23 14.5**	**+4.6**
MRHZ	**Matea Rd**	**6.08**	**207**	P	**Pn**	**15 23 11.9**	**+1.5**
MRHZ				S	**S**	**15 24 20.3**	**-1.3**
NMHZ	**Naumai**	**6.17**	**204**	P	**Pn**	**15 23 11.3**	**-0.3**
NMHZ				S	**S**	**15 24 23.0**	**-0.8**
HATZ	**Hinemaiaia**	**6.25**	**209**	P	**Pn**	**15 23 12.5**	**0.0**
HATZ				S	**S**	**15 24 25.4**	**-0.3**
WATZ	**Wairara**	**6.25**	**212**	P	**Pn**	**15 23 15.6**	**+3.1**
BKZ	**Black Stump Fm**	**6.34**	**205**	Pn	**Pn**	**15 23 12.5**	**-1.2**
BKZ	**Black Stump Fm**	**6.34**	**205**	P	**Pn**	**15 23 12.7**	**-0.9**
BKZ				S	**S**	**15 24 26.6**	**-1.0**
KATZ	**Kakaramea**	**6.49**	**211**	P	**Pn**	**15 23 17.4**	**+1.8**
KATZ				S	**S**	**15 24 32.0**	**+0.8**
MCHZ	**McNeill Hill**	**6.52**	**203**	P	**Pn**	**15 23 16.2**	**+0.4**
MCHZ				S	**S**	**15 24 30.5**	**-1.1**
KWHZ	**Kaweka Forest**	**6.59**	**205**	P	**Pn**	**15 23 15.7**	**-1.1**
KWHZ				S	**S**	**15 24 31.8**	**-1.6**
OTVZ	**Oturere**	**6.66**	**210**	P	**Pn**	**15 23 18.6**	**+0.8**
BHHZ	**Black Hill Sta**	**6.78**	**207**	P	**Pn**	**15 23 17.7**	**-1.5**
BHHZ				S	**S**	**15 24 35.1**	**-2.6**
KAHZ	**Kahuranaki**	**6.79**	**201**	P	**Pn**	**15 23 18.2**	**-1.0**
KAHZ				S	**S**	**15 24 34.5**	**-3.2**
FWVZ	**Far West T-bar**	**6.79**	**210**	P	**Pn**	**15 23 21.5**	**+2.1**
FWVZ				S	**S**	**15 24 36.2**	**-1.8**
KRHZ	**Kereru**	**6.81**	**204**	P	**Pn**	**15 23 17.8**	**-1.7**
KRHZ				S	**S**	**15 24 34.5**	**-3.7**
WNVZ	**Wahianoa**	**6.83**	**210**	P	**Pn**	**15 23 19.4**	**-0.5**
MOVZ	**Moawhango**	**6.83**	**209**	P	**Pn**	**15 23 19.4**	**-0.4**
MOVZ				S	**S**	**15 24 34.9**	**-4.0**
PKVZ	**Pokaka**	**6.90**	**211**	P	**Pn**	**15 23 22.0**	**+1.3**
MTVZ	**Mangateitei**	**6.93**	**210**	P	**Pn**	**15 23 20.4**	**-0.7**
PXZ	**Pawanui**	**7.01**	**200**	P	**Pn**	**15 23 21.6**	**-0.3**
PXZ				S	**S**	**15 24 38.6**	**-4.1**
VRZ	**Vera Road**	**7.04**	**215**	P	**Pn**	**15 23 24.6**	**+2.2**
PNHZ	**Pukenui**	**7.11**	**204**	P	**Pn**	**15 23 21.2**	**-2.1**
PNHZ				S	**S**	**15 24 40.1**	**-5.1**
WPHZ	**Waipukurau**	**7.17**	**202**	P	**Pn**	**15 23 22.1**	**-1.9**
WPHZ				S	**S**	**15 24 41.9**	**-4.5**
TSZ	**Takapari Road**	**7.32**	**205**	P	**Pn**	**15 23 23.5**	**-2.4**
WAZ	**Wanganui**	**7.45**	**211**	P	**Pn**	**15 23 27.7**	**+0.2**
DVHZ	**Dannevirke**	**7.47**	**203**	P	**Pn**	**15 23 25.2**	**-2.6**
PKEZ	**Pukeiti**	**7.48**	**219**	P	**Pn**	**15 23 32.2**	**+4.2**
ANWZ	**Angora Road**	**7.52**	**201**	P	**Pn**	**15 23 28.9**	**+0.5**
POWZ	**Post Office Ro**	**7.69**	**205**	P	**Pn**	**15 23 30.2**	**-0.3**
PRWZ	**Pori Road**	**7.76**	**203**	P	**Pn**	**15 23 31.7**	**+0.3**
BFZ	**Birch Farm**	**7.79**	**201**	Pn	**Pn**	**15 23 29.5**	**-2.3**
BFZ	**Birch Farm**	**7.79**	**201**	P	**Pn**	**15 23 30.0**	**-1.8**
TIWZ	**Tintock**	**7.99**	**203**	P	**Pn**	**15 23 32.6**	**-1.8**
MRZ	**Mangatainoka R**	**7.99**	**205**	P	**Pn**	**15 23 31.6**	**-2.8**
HOWZ	**Holdsworth Sta**	**8.22**	**204**	P	**Pn**	**15 23 36.9**	**-0.4**
OGWZ	**Otaki Gorge**	**8.27**	**206**	P	**Pn**	**15 23 35.2**	**-2.8**
KIW	**Kapiti Island**	**8.41**	**207**	P	**Pn**	**15 23 37.2**	**-2.5**
MTW	**Mount Morrison**	**8.46**	**204**	P	**Pn**	**15 23 38.4**	**-1.9**
MSWZ	**Moikau Station**	**8.78**	**204**	Pn	**Pn**	**15 23 43.8**	**-0.5**
MSWZ	**Moikau Station**	**8.78**	**204**	P	**Pn**	**15 23 42.7**	**-1.5**
SNZO	**South Karori**	**8.88**	**207**	Pn	**Pn**	**15 23 42.3**	**-3.2**
BHW	**Baring Head**	**8.90**	**206**	Pn	**Pn**	**15 23 44.5**	**-1.3**
TUWZ	**Tuamarina**	**9.28**	**209**		**Pn**	**15 23 46.7**	**-3.9**
NNZ	**Nelson**	**9.35**	**212**	Pn	**Pn**	**15 23 48.8**	**-2.6**
QRZ	**Quartz Range**	**9.44**	**217**	Pn	**Pn**	**15 23 50.1**	**-1.7**
BSWZ	**Blackbirch Sta**	**9.54**	**209**	Pn	**Pn**	**15 23 53.1**	**-0.8**
BSWZ	**Blackbirch Sta**	**9.54**	**209**	P	**Pn**	**15 23 53.2**	**-0.8**
THZ	**Tophouse**	**9.99**	**212**	Pn	**Pn**	**15 23 58.2**	**-1.5**
RPZ	**Rata Peaks**	**12.37**	**212**	P	**Pn**	**15 24 27.8**	**-1.6**
	1.1nm,0.3s,baz=106,slow=7.4,SNR=13						
RPZ				S	S	15 26 34.5	-13
	2.3nm,0.3s,baz=128,slow=23,SNR=16						
ODZ	**Otahua Downs**	**13.62**	**209**	Pn	**Pn**	**15 24 43.6**	**-1.1**
MSVF	**Nonsavu**	**15.77**	**353**	P	**Pn**	**15 25 10.1**	**-0.7**
	1.0nm,0.3s,baz=107,slow=19,SNR=4.3						
MSVF	**Nonsavu**	**15.77**	**353**	IAmb	IAmb	15 25 16.0	
	comp=Z,52nm,1.5s						
YATNC	**Mamie plateau,**	**16.21**	**311**	P	**Pn**	**15 25 15.6**	**-0.4**
DZM	**Mont Dzumac**	**16.49**	**310**	P	**P**	**15 25 17.1**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=155,slow=9.5,SNR=10						
DZM	**Mont Dzumac**	**16.49**	**310**	Pn	**Pn**	**15 25 18.2**	**-1.1**
DZM				IAmb	IAmb	15 25 42.6	
	comp=Z,36nm,1.3s						
DZM	**Mont Dzumac**	**16.49**	**310**	P	**Pn**	**15 25 18.4**	**-0.9**
KOUNC	**Koumac, New Ca**	**18.97**	**309**	P	**P**	**15 25 45.7**	**+1.3**
EIDS	**Eidsvold**	**26.37**	**280**	P	**P**	**15 26 55.6**	**+0.8**
EIDS				IAmb	IAmb	15 27 09.5	
	comp=Z,21nm,1.5s						
HNR	**Honiara**	**30.21**	**318**	P	**P**	**15 27 27.1**	**-1.8**
KNTN	**Kanton**	**31.51**	**16**	P	**P**	**15 27 41.1**	**+0.8**
STKA	**Stephens Creek**	**32.23**	**262**	P	**P**	**15 27 47.2**	**+0.8**
CTA	**Charters Tower**	**32.77**	**285**	P	**P**	**15 27 51.5**	**+0.3**
	comp=Z,7.6nm,0.5s,baz=124,slow=10,SNR=18						
CTAO	**Charters Tower**	**32.77**	**285**	P	**P**	**15 27 51.6**	**+0.4**
BBOO	**Buckleboo**	**36.58**	**259**	P	**P**	**15 28 22.8**	**-0.8**
BBOO				IAmb	IAmb	15 28 25.4	
	comp=Z,23nm,1.4s						
PMG	**Port Moresby**	**38.53**	**301**	P	**P**	**15 28 40.1**	**0.0**
	comp=Z,8.6nm,0.8s,baz=115,slow=14,SNR=1.5						
PMG	**Port Moresby**	**38.53**	**301**	P	**P**	**15 28 39.7**	**-0.4**
COEN	**Coen**	**38.62**	**291**	P	**P**	**15 28 40.6**	**-0.2**
COEN				IAmb	IAmb	15 28 42.0	
	comp=Z,11nm,1.3s						
RABL	**Rabaul**	**39.00**	**312**	P	**P**	**15 28 43.8**	**-0.2**
AS31	**Alice Springs**	**41.34**	**271**	P	**P**	**15 29 02.7**	**-0.4**
ASAR	**Alice Springs**	**41.34**	**271**	P	**P**	**15 29 02.9**	**-0.2**
	comp=Z,4.0nm,0.6s,baz=109,slow=7.7,SNR=150						
ASAR				S	**S**	**15 34 56.9**	**-1.7**
	comp=Z,0.8nm,1.0s,baz=117,slow=16,SNR=3.7						
ASAR	**Alice Springs**	**41.34**	**271**	P	**P**	**15 29 02.3**	**-0.8**
WR0	**Warramunga Arr**	**42.44**	**277**	P	**P**	**15 29 10.0**	**-2.0**
WB2	**Warramunga Arr**	**42.61**	**277**	P	**P**	**15 29 12.4**	**-0.9**
WB2				IAmb	IAmb	15 29 13.8	
	comp=Z,9.5nm,1.1s						
WRAB	**Tennant Creek**	**42.61**	**277**	P	**P**	**15 29 12.1**	**-1.3**
WRA	**Warramunga Arr**	**42.62**	**277**	P	**P**	**15 29 12.8**	**-0.6**
	comp=Z,3.0nm,0.3s,baz=116,slow=7.7,SNR=127						
WB0	**Warramunga Arr**	**42.65**	**277**	P	**P**	**15 29 12.9**	**-0.8**
WB0				IAmb	IAmb	15 29 13.9	
	comp=Z,21nm,1.2s						
MTN	**Manton Dam**	**48.87**	**283**	P	**P**	**15 30 01.7**	**-0.5**
MTN				IAmb	IAmb	15 30 12.7	
	comp=Z,26nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.73**	**273**	P	**P**	**15 30 15.8**	**-0.3**
NWAO	**Narrogin (SRO)**	**51.76**	**252**	P	**P**	**15 30 23.2**	**-0.4**
NWAO				IAmb	IAmb	15 30 32.0	
	comp=Z,30nm,1.4s						
MORW	**Morawa**	**54.07**	**256**	P	**P**	**15 30 39.7**	**-0.8**
MORW				IAmb	IAmb	15 30 54.1	
	comp=Z,8.6nm,1.2s						
SOEI	**Soe**	**56.18**	**281**	P	**P**	**15 30 52.8**	**-3.0**
SOEI				IAmb	IAmb	15 31 19.9	
	comp=Z,25nm,1.1s						
QSPA	**South Pole Qui**	**56.65**	**180**	P	P	15 31 03.6	+5.2
QSPA				IAmb	IAmb	15 31 04.8	
	comp=Z,7.1nm,0.8s						
MMRI	**Maumere**	**58.47**	**281**	P	**P**	**15 31 11.0**	**-0.6**
SNAA	**Sanae**	**75.13**	**179**	P	**P**	**15 32 59.4**	**+3.8**
SNAA	**Sanae**	**75.13**	**179**	P	**P**	**15 32 58.9**	**+3.3**
VNA3	**Neumayer Olymp**	**75.35**	**177**	P	**P**	**15 33 00.8**	**+4.0**
VNA2	**Neumayer--Watz**	**75.77**	**178**	P	**P**	**15 33 03.3**	**+4.2**
	baz=178,slow=5.3						
VNA1	**Neumayer--Stat**	**76.01**	**177**	P	**P**	**15 33 04.8**	**+4.3**
GSI	**Gunungsitoli**	**84.37**	**275**	P	**P**	**15 33 45.0**	**-1.0**
GSI				IAmb	IAmb	15 33 47.0	
	comp=Z,10nm,0.8s						
KSRS	**Korea Array**	**85.61**	**321**	P	**P**	**15 33 51.9**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=145,slow=5.7,SNR=4.7						
PETK	**Petropavlovsk-**	**88.38**	**347**	P	**P**	**15 34 05.0**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=112,slow=7.3,SNR=34						
PETK	**Petropavlovsk-**	**88.38**	**347**	P	**P**	**15 34 04.7**	**+0.3**
NVAR	**Mina Array Bea**	**91.65**	**44**	P	**P**	**15 34 21.1**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=236,slow=4.2,SNR=3.7						
ILAR	**Eielson Array**	**101.30**	**14**	PKiKP	**PKiKP**	**15 39 28.2**	**+2.3**
	comp=Z,0.3nm,0.8s,baz=198,slow=2.7,SNR=2.0						
YKA	**Yellowknife Ar**	**108.95**	**27**	PKiKP	**PKiKP**	**15 39 41.1**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=265,slow=5.8,SNR=4.4						
MKAR	**Makanchi Array**	**118.41**	**309**	PKP	**PKPdf**	**15 39 58.2**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=56,slow=1.7,SNR=6.8						
ARCES	**ARCESS Array B**	**141.18**	**346**	PKhKP	PKPpre	15 40 37.2	
	comp=Z,14nm,1.2s,baz=333,slow=1.9,SNR=7.5						
FINES	**FINESS Array B**	**147.36**	**337**	PKPbc	**PKPbc**	**15 40 54.6**	**0.0**
	comp=Z,7.6nm,0.4s,baz=41,slow=4.4,SNR=91						
NC303	**NORSAR Array S**	**151.27**	**349**		**PKiKP**	**15 41 05.1**	**+0.4**
NB2	**NORSAR Subarra**	**151.47**	**349**	PKP	**PKiKP**	**15 41 05.8**	**+0.6**
	comp=Z,3.0nm,0.5s,baz=14,slow=2.5						
NOA	**NORSAR Array B**	**151.47**	**349**	PKPbc	**PKiKP**	**15 41 05.5**	**+0.3**
	comp=Z,3.2nm,0.4s,baz=16,slow=4.1,SNR=26						
AKASG	**Malin Array Be**	**152.55**	**318**	PKPbc	**PKiKP**	**15 41 07.8**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=63,slow=2.2,SNR=13						
AKASG	**Malin Array Be**	**152.55**	**318**		**PKiKP**	**15 41 07.6**	**-0.1**
DBIC	**Dimbokro**	**152.96**	**169**	PKPbc	**PKiKP**	**15 41 11.1**	**+1.4**
	comp=Z,1.8nm,0.4s,baz=137,slow=3.1,SNR=7.3						
TORD	**Torodi Ar. Bea**	**159.71**	**185**	PKPab	**PKPab**	**15 41 52.7**	**+2.2**
	comp=Z,1.6nm,0.9s,baz=177,slow=4.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**159.71**	**185**		**PKPab**	**15 41 52.4**	**+1.8**

IDC **16** *15:45:15.2±0.9, 30°08N×131°09E, h0km, mb3.7/9, mb1 3.7/14, mb1mx3.6/62, mbtmp3.6/14, ML3.1/5, MS3.3/7, Ms1 3.4/7, ms1mx3.0/46, Error ellipse: s-maj=23.8km s-min=16.1km az=94.0*

JMA **16** *15:45:17.9±0.1, 30°02N×131°26E, h25km±1km, M3.6*

NIED **16** *15:45:17.9, 30°02N×131°26E, h25km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.91; Mθθ-0.52; Mφφ-1.39; Mrθ0.40; Mrφ-1.19; Mθφ1.40; Fault plane solution: M₀2.53000×10¹⁵ NP1:φs23.00000°, δ63.00000°, λ78.00000°. NP2:φs229.00000°, δ30.00000°, λ113.00000°.*

ISC 16 15:45:16.3±1.6, 30°02N±0°03×131°25E±0°05, h13km±10km, n39, σ1s34/48, mb3.6/9, MS3.3/3, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMTN	**Minamitake**	**0.48**	**322**	P	**Pn**	**15 45 27.6**	**-1.3**
JMTN				*e*S	**Sb**	**15 45 34.4**	**+0.8**
JYAK	**Yakushimahirau**	**0.67**	**289**	P	**Pn**	**15 45 30.9**	**-0.6**
JYAK				*e*S	**Sn**	**15 45 39.8**	**-2.1**
JTN	**Tanegashima 3**	**0.68**	**340**	P	**Pn**	**15 45 31.0**	**-0.6**
JTN				*e*S	**Sn**	**15 45 40.3**	**-1.7**
JKC	**Kuchinoerabu**	**1.01**	**296**	P	**Pn**	**15 45 36.8**	**+0.7**
JKC				*e*S	**Sn**	**15 45 50.1**	**-0.1**
JTSR	**Tashiro 2**	**1.18**	**346**	P	**Pg**	**15 45 38.8**	**-0.2**
JNN	**Nakanoshima**	**1.20**	**262**	P	**Pg**	**15 45 39.6**	**+0.1**
JNN				*e*S	**Sn**	**15 45 54.9**	**0.0**
JNAR	**Kushima--Naru**	**1.50**	**1**	P	**Pb**	**15 45 43.6**	**-0.5**
JTAJ	**Takarajima**	**1.98**	**245**	P	**Pb**	**15 45 51.9**	**-0.2**
JZK	**Kikaishima**	**2.03**	**214**	P	**Pb**	**15 45 52.0**	**-1.0**
JAM	**Amami Oshima**	**2.15**	**222**	P	**Pn**	**15 45 53.0**	**+1.2**
JAM				S	**Sn**	**15 46 18.8**	**+0.5**
JAMN	**Amaminishikomi**	**2.53**	**226**	P	**Pn**	**15 45 58.6**	**+1.6**
JAMN				*e*S	**Sn**	**15 46 28.6**	**+0.9**
JTK	**Tokunoshima**	**3.00**	**223**	P	**Pn**	**15 46 05.2**

*BUC **16** 15:49:49.1±0.2,45°.60N×26°.45E,h118km±2km,ml4.7/68,*
Error ellipse: s-maj=1.9km s-min=1.5km az=14.0
*THE **16** 15:49:51.3,45°.30N×26°.26E,h134km±24km,ML4.2/4,*
Error ellipse: s-maj=25.1km s-min=2.7km az=175.0
*PRU **16** 15:49:52.0±0.0,45°.55N×26°.36E,h88km,M4.5*
ISC 16 15:49:49.2±0.4,**45°.63N**±0°.02×**26°.43E**±0°.02,**h121**km±3km,
h121km:pP-P,n724,σ**1**.**955**/915,**mb4.4**/99,**198C-119D,**
Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.22**	**112**	⇑P			**Pn**	**15 50 06.3**	**+0.3**
BISRR				⇑S			**Sn**	**15 50 19.8**	**+1.0**
BISRR	**Bisoca**	**0.22**	**112**	⇑P			**Pn**	**15 50 06.3**	**+0.3**
BISRR				⇑S			**Sn**	**15 50 19.8**	**+1.0**
BISRR	**Bisoca**	**0.22**	**112**				**Pn**	**15 50 06.4**	**+0.3**
NEHR	**Nehoiu**	**0.22**	**204**	⇓P			**Pn**	**15 50 06.2**	**+0.2**
NEHR				⇑S			**Sn**	**15 50 18.2**	**-0.5**
NEHR	**Nehoiu**	**0.22**	**204**	⇓P			**Pn**	**15 50 06.2**	**+0.2**
NEHR				⇑S			**Sn**	**15 50 18.2**	**-0.5**
NEHR	**Nehoiu**	**0.22**	**204**				**Pn**	**15 50 06.2**	**+0.2**
NEHR							**Sn**	**15 50 18.2**	**-0.5**
PLOR	**Plostina**	**0.27**	**35**	⇑P			**Pn**	**15 50 05.9**	**-0.3**
PLOR				⇑S			**Sn**	**15 50 18.7**	**-0.4**
PLOR	**Plostina**	**0.27**	**35**	⇑P			**Pn**	**15 50 05.9**	**-0.3**
PLOR				⇑S			**Sn**	**15 50 18.7**	**-0.4**
PLOR	**Plostina**	**0.27**	**35**	P			**Pn**	**15 50 05.9**	**-0.3**
PLOR								15 50 18.7	
PLOR	**Plostina**	**0.27**	**35**				**Pn**	**15 50 05.9**	**-0.3**
PLOR							**Sn**	**15 50 18.7**	**-0.4**
VRI	**Vrincioaia**	**0.32**	**42**	⇑P			**Pn**	**15 50 06.3**	**-0.1**
VRI				⇓S			**Sn**	**15 50 18.6**	**-0.6**
VRI	**Vrincioaia**	**0.32**	**42**	⇑P			**Pn**	**15 50 06.3**	**-0.1**
VRI				⇓S			**Sn**	**15 50 18.6**	**-0.6**
VRI	**Vrincioaia**	**0.32**	**42**	P			**Pn**	**15 50 06.2**	**-0.1**
VRI				S			**Sn**	**15 50 18.6**	**-0.6**
VRI	**Vrincioaia**	**0.32**	**42**	P			**Pn**	**15 50 06.3**	**-0.1**
VRI								15 50 18.6	
VRI	**Vrincioaia**	**0.32**	**42**				**Pn**	**15 50 06.3**	**-0.1**
VRI							**Sn**	**15 50 18.6**	**-0.6**
MLR	**Muntele Rosu**	**0.36**	**248**	⇑P			**Pn**	**15 50 06.8**	**+0.1**
MLR				⇑S			**Sn**	**15 50 19.4**	**-0.4**
MLR	**Muntele Rosu**	**0.36**	**248**	P			**Pn**	**15 50 06.6**	**-0.1**
	2μm,0.3s,baz=347,slow=3.6								
MLR				S			**Sn**	**15 50 18.4**	**-1.4**
	3μm,0.3s,baz=239,slow=19,SNR=17								
MLR	**Muntele Rosu**	**0.36**	**248**	*e*Pg			**Pn**	**15 50 06.5**	**-0.2**
MLR				*e*Sg			**Sn**	**15 50 17.3**	**-2.5**
MLR	**Muntele Rosu**	**0.36**	**248**	⇑P			**Pn**	**15 50 06.8**	**+0.1**
MLR				⇑S			**Sn**	**15 50 19.4**	**-0.4**
MLR	**Muntele Rosu**	**0.36**	**248**	P			**Pn**	**15 50 06.8**	**+0.1**
MLR				S			**Sn**	**15 50 19.2**	**-0.6**
MLR	**Muntele Rosu**	**0.36**	**248**				**Pn**	**15 50 06.8**	**+0.1**
GRER		**0.46**	**123**	⇓P			**Pn**	**15 50 08.0**	**+0.9**
GRER				⇑S			**Sn**	**15 50 21.5**	**+1.1**
GRER		**0.46**	**123**	⇓P			**Pn**	**15 50 08.0**	**+0.9**
GRER				⇑S			**Sn**	**15 50 21.5**	**+1.1**
ODBI	**Odobesti**	**0.46**	**73**	⇑P			**Pn**	**15 50 07.8**	**+0.8**
ODBI				⇓S			**Sn**	**15 50 21.4**	**+1.0**
ODBI	**Odobesti**	**0.46**	**73**	⇑P			**Pn**	**15 50 07.8**	**+0.8**
ODBI				⇓S			**Sn**	**15 50 21.4**	**+1.0**
ISR	**Istrita**	**0.52**	**171**	⇑P			**Pn**	**15 50 07.7**	**+0.2**
ISR				⇑S			**Sn**	**15 50 20.5**	**-0.7**
ISR	**Istrita**	**0.52**	**171**	⇑P			**Pn**	**15 50 07.7**	**+0.2**
ISR				⇓S			**Sn**	**15 50 20.5**	**-0.7**
ISR	**Istrita**	**0.52**	**171**	P			**Pn**	**15 50 07.7**	**+0.2**
ISR	**Istrita**	**0.52**	**171**				**Pn**	**15 50 07.7**	**+0.2**
PETR	**Petresti**	**0.57**	**80**	⇑P			**Pn**	**15 50 08.1**	**+0.4**
PETR				⇑S			**Sn**	**15 50 21.7**	**+0.1**
PETR	**Petresti**	**0.57**	**80**	⇑P			**Pn**	**15 50 08.1**	**+0.4**
PETR				⇑S			**Sn**	**15 50 21.7**	**+0.1**
PETR	**Petresti**	**0.57**	**80**				**Pn**	**15 50 08.1**	**+0.4**
PETR							**Sn**	**15 50 21.7**	**+0.1**
OZUR		**0.65**	**316**	⇑P			**Pn**	**15 50 07.9**	**-0.3**
OZUR		**0.65**	**316**	⇑P			**Pn**	**15 50 07.9**	**-0.3**
SECR		**0.65**	**203**	⇑P			**Pn**	**15 50 08.8**	**+0.6**
SECR				⇑S			**Sn**	**15 50 23.4**	**+0.8**
SECR		**0.65**	**203**	⇑P			**Pn**	**15 50 08.8**	**+0.6**
SECR				⇑S			**Sn**	**15 50 23.4**	**+0.8**
SECR		**0.65**	**203**				**Pn**	**15 50 08.8**	**+0.6**
SECR							**Sn**	**15 50 23.4**	**+0.8**
PLAR	**PLOIESTI**	**0.77**	**202**	⇓P			**Pn**	**15 50 09.8**	**+0.6**
PLAR				⇓S			**Sn**	**15 50 25.4**	**+1.2**
PLAR	**PLOIESTI**	**0.77**	**202**	⇓P			**Pn**	**15 50 09.8**	**+0.6**
PLAR				⇓S			**Sn**	**15 50 25.4**	**+1.2**
PLAR	**PLOIESTI**	**0.77**	**202**				**Pn**	**15 50 09.8**	**+0.6**
PLAR							**Sn**	**15 50 25.4**	**+1.2**
DOPR	**Dopca**	**0.80**	**295**	⇑P			**Pn**	**15 50 09.4**	**-0.1**
DOPR				⇑S			**Sn**	**15 50 24.0**	**-0.8**
DOPR	**Dopca**	**0.80**	**295**	⇑P			**Pn**	**15 50 09.4**	**-0.1**
DOPR				⇑S			**Sn**	**15 50 24.0**	**-0.8**
DOPR	**Dopca**	**0.80**	**295**				**Pn**	**15 50 09.4**	**-0.1**
DOPR							**Sn**	**15 50 24.0**	**-0.8**
PGOR	**Pogoanele**	**0.82**	**151**	⇑P			**Pn**	**15 50 10.0**	**+0.4**
PGOR				⇑S			**Sn**	**15 50 25.6**	**+0.6**
PGOR	**Pogoanele**	**0.82**	**151**	⇑P			**Pn**	**15 50 10.0**	**+0.4**
PGOR				⇑S			**Sn**	**15 50 25.6**	**+0.6**
PGOR	**Pogoanele**	**0.82**	**151**				**Pn**	**15 50 10.0**	**+0.4**
PGOR							**Sn**	**15 50 26.0**	**+0.9**
TUDR		**0.87**	**92**	⇑P			**Pn**	**15 50 09.6**	**-0.4**
TUDR				⇑S			**Sn**	**15 50 24.8**	**-1.0**
TUDR		**0.87**	**92**	⇑P			**Pn**	**15 50 09.6**	**-0.4**
TUDR				⇑S			**Sn**	**15 50 24.8**	**-1.0**
TUDR		**0.87**	**92**				**Pn**	**15 50 09.6**	**-0.4**
TUDR							**Sn**	**15 50 24.8**	**-1.0**
TESR	**Tescani**	**0.90**	**10**	⇑P			**Pn**	**15 50 10.1**	**-0.3**
TESR				⇓S			**Sn**	**15 50 24.9**	**-1.4**
TESR	**Tescani**	**0.90**	**10**	⇑P			**Pn**	**15 50 10.1**	**-0.3**
TESR				⇓S			**Sn**	**15 50 24.9**	**-1.4**
TESR	**Tescani**	**0.90**	**10**				**Pn**	**15 50 10.1**	**-0.3**
TESR							**Sn**	**15 50 24.9**	**-1.4**
SULR		**0.96**	**187**	⇑P			**Pn**	**15 50 11.3**	**+0.4**
SULR				⇑S			**Sn**	**15 50 27.9**	**+0.7**
SULR		**0.96**	**187**	⇑P			**Pn**	**15 50 11.3**	**+0.4**
SULR				⇑S			**Sn**	**15 50 27.9**	**+0.7**
VOIR		**0.99**	**259**	⇑P			**Pn**	**15 50 11.2**	**-0.1**
VOIR				⇑S			**Sn**	**15 50 26.8**	**-1.1**
VOIR		**0.99**	**259**	⇑P			**Pn**	**15 50 11.2**	**-0.1**
VOIR				⇑S			**Sn**	**15 50 26.8**	**-1.1**
VOIR		**0.99**	**259**	P			**Pn**	**15 50 11.2**	**-0.1**
VOIR		**0.99**	**259**				**Pn**	**15 50 11.2**	**-0.1**
SCHL	**Schela**	**1.00**	**97**	⇑P			**Pn**	**15 50 10.6**	**-0.6**
SCHL				⇑S			**Sn**	**15 50 26.0**	**-1.9**
SCHL	**Schela**	**1.00**	**97**	⇑P			**Pn**	**15 50 10.6**	**-0.6**
SCHL				⇑S			**Sn**	**15 50 26.0**	**-1.9**
VARL	**Varlezi**	**1.03**	**74**	⇑P			**Pn**	**15 50 11.6**	**0.0**
VARL	**Varlezi**	**1.03**	**74**	⇑P			**Pn**	**15 50 11.6**	**0.0**
VARL	**Varlezi**	**1.03**	**74**				**Pn**	**15 50 11.6**	**0.0**
MTUR	**Matau**	**1.04**	**248**	⇑P			**Pn**	**15 50 12.3**	**+0.5**
MTUR	**Matau**	**1.04**	**248**	⇑P			**Pn**	**15 50 12.3**	**+0.5**
BIR	**Birlad**	**1.05**	**52**	⇓P			**Pn**	**15 50 11.9**	**+0.1**
BIR				⇑S			**Sn**	**15 50 27.9**	**-1.0**
BIR	**Birlad**	**1.05**	**52**	⇓P			**Pn**	**15 50 11.9**	**+0.1**
BIR				⇑S			**Sn**	**15 50 27.9**	**-1.0**
BIR	**Birlad**	**1.05**	**52**	P			**Pn**	**15 50 11.9**	**+0.1**
BIR								15 50 27.3	
BIR	**Birlad**	**1.05**	**52**				**Pn**	**15 50 11.9**	**+0.1**
BIR							**Sn**	**15 50 27.3**	**-1.6**
GISR	**Galati**	**1.16**	**99**	⇑P			**Pn**	**15 50 13.1**	**+0.2**
GISR				⇓S			**Sn**	**15 50 30.0**	**-0.8**
GISR	**Galati**	**1.16**	**99**	⇑P			**Pn**	**15 50 13.1**	**+0.2**
GISR				⇓S			**Sn**	**15 50 30.0**	**-0.8**
GISR	**Galati**	**1.16**	**99**				**Pn**	**15 50 13.1**	**+0.2**
GISR							**Sn**	**15 50 30.0**	**-0.8**
LEHL	**Lehliu**	**1.19**	**166**	⇓P			**Pn**	**15 50 13.6**	**+0.3**
LEHL				⇑S			**Sn**	**15 50 31.6**	**+0.2**
LEHL	**Lehliu**	**1.19**	**166**	⇓P			**Pn**	**15 50 13.6**	**+0.3**
LEHL				⇑S			**Sn**	**15 50 31.6**	**+0.2**
LEHL	**Lehliu**	**1.19**	**166**				**Pn**	**15 50 13.6**	**+0.3**
LEHL							**Sn**	**15 50 31.6**	**+0.2**
INCR	**INCERC-Sediu C**	**1.20**	**189**	⇑P			**Pn**	**15 50 13.5**	**+0.1**
INCR				⇓S			**Sn**	**15 50 31.4**	**-0.3**
INCR	**INCERC-Sediu C**	**1.20**	**189**	⇑P			**Pn**	**15 50 13.5**	**+0.1**
INCR				⇓S			**Sn**	**15 50 31.4**	**-0.3**
AMRR	**Amara**	**1.21**	**147**	⇑P			**Pn**	**15 50 13.6**	**+0.2**
AMRR				⇑S			**Sn**	**15 50 31.4**	**-0.3**
AMRR	**Amara**	**1.21**	**147**	⇑P			**Pn**	**15 50 13.6**	**+0.2**
AMRR				⇑S			**Sn**	**15 50 31.4**	**-0.3**
AMRR	**Amara**	**1.21**	**147**	P			**Pn**	**15 50 13.6**	**+0.2**
AMRR								15 50 31.4	
AMRR	**Amara**	**1.21**	**147**				**Pn**	**15 50 13.6**	**+0.2**
AMRR							**Sn**	**15 50 31.4**	**-0.3**
JOSR	**Joseni**	**1.25**	**330**	⇑P			**Pn**	**15 50 13.6**	**-0.3**
JOSR	**Joseni**	**1.25**	**330**	⇑P			**Pn**	**15 50 13.6**	**-0.3**
GIUM	**Giurgiulesti**	**1.26**	**96**	⇑P			**Pn**	**15 50 14.0**	**+0.1**
GIUM				⇑S			**Sn**	**15 50 32.4**	**-0.4**
GIUM	**Giurgiulesti**	**1.26**	**96**	⇑P			**Pn**	**15 50 14.0**	**+0.1**
GIUM				⇑S			**Sn**	**15 50 32.4**	**-0.4**
GIUM	**Giurgiulesti**	**1.26**	**96**	P			**Pn**	**15 50 13.9**	**-0.1**
ARR	**Arges**	**1.29**	**259**	⇓P			**Pn**	**15 50 14.5**	**+0.2**
ARR				⇑S			**Sn**	**15 50 32.5**	**-0.9**
ARR	**Arges**	**1.29**	**259**	⇓P			**Pn**	**15 50 14.5**	**+0.2**
ARR				⇑S			**Sn**	**15 50 32.5**	**-0.9**
ARR	**Arges**	**1.29**	**259**				**Pn**	**15 50 14.5**	**+0.2**
ARR							**Sn**	**15 50 32.5**	**-0.9**
CFR	**Carcaliu**	**1.29**	**110**	⇑P			**Pn**	**15 50 13.8**	**-0.4**
CFR				⇑S			**Sn**	**15 50 31.2**	**-2.0**
CFR	**Carcaliu**	**1.29**	**110**	⇑P			**Pn**	**15 50 13.8**	**-0.4**
CFR				⇑S			**Sn**	**15 50 31.2**	**-2.0**
CFR	**Carcaliu**	**1.29**	**110**	P			**Pn**	**15 50 13.8**	**-0.4**
CFR	**Carcaliu**	**1.29**	**110**				**Pn**	**15 50 13.8**	**-0.4**
STFAR	**Stefanesti-Arg**	**1.29**	**234**	⇓P			**Pn**	**15 50 14.8**	**+0.5**
STFAR	**Stefanesti-Arg**	**1.29**	**234**	⇓P			**Pn**	**15 50 14.8**	**+0.5**
BUC1	**Bucharest**	**1.31**	**193**	⇑P			**Pn**	**15 50 14.7**	**+0.2**
BUC1				⇑S			**Sn**	**15 50 32.9**	**-0.9**
BUC1	**Bucharest**	**1.31**	**193**	⇑P			**Pn**	**15 50 14.7**	**+0.2**
BUC1				⇑S			**Sn**	**15 50 32.9**	**-0.9**
BUC1	**Bucharest**	**1.31**	**193**	P			**Pn**	**15 50 14.6**	**0.0**
GIRR	**Girov**	**1.33**	**2**	⇑P			**Pn**	**15 50 15.0**	**+0.3**
GIRR	**Girov**	**1.33**	**2**	⇑P			**Pn**	**15 50 15.0**	**+0.3**
BIZ	**Bicaz**	**1.33**	**350**	⇑P			**Pn**	**15 50 15.7**	**+0.9**
BIZ				⇑S			**Sn**	**15 50 33.8**	**-0.3**
BIZ	**Bicaz**	**1.33**	**350**	⇑P			**Pn**	**15 50 15.7**	**+0.9**
BIZ				⇑S			**Sn**	**15 50 33.8**	**-0.3**
BIZ	**Bicaz**	**1.33**	**350**				**Sn**	**15 50 33.8**	**-0.3**
VASR	**Vaslui**	**1.39**	**43**	⇓P			**Pn**	**15 50 15.4**	**0.0**
VASR				⇑S			**Sn**	**15 50 34.0**	**-1.3**
VASR	**Vaslui**	**1.39**	**43**	⇓P			**Pn**	**15 50 15.4**	**0.0**
VASR				⇑S			**Sn**	**15 50 34.0**	**-1.3**
HARR	**Harsova**	**1.42**	**131**	⇑P			**Pn**	**15 50 15.6**	**-0.2**
HARR	**Harsova**	**1.42**	**131**	⇑P			**Pn**	**15 50 15.6**	**-0.2**
HUMR	**Humele**	**1.50**	**223**	⇓P			**Pn**	**15 50 16.5**	**-0.2**
HUMR				⇓S			**Sn**	**15 50 36.9**	**-0.7**
HUMR	**Humele**	**1.50**	**223**	⇓P			**Pn**	**15 50 16.5**	**-0.2**
HUMR				⇓S			**Sn**	**15 50 36.9**	**-0.7**
HUMR	**Humele**	**1.50**	**223**				**Pn**	**15 50 16.5**	**-0.2**
HUMR							**Sn**	**15 50 36.9**	**-0.7**
RASA	**Rasa**	**1.51**	**160**	⇑P			**Pn**	**15 50 16.7**	**0.0**
RASA				⇓S			**Sn**	**15 50 36.7**	**-1.0**
RASA	**Rasa**	**1.51**	**160**	⇑P			**Pn**	**15 50 16.7**	**0.0**
RASA				⇓S			**Sn**	**15 50 36.7**	**-1.0**
MDB	**Medias**	**1.52**	**290**	⇑P			**Pn**	**15 50 17.7**	**+0.9**
MDB				⇓S			**Sn**	**15 50 39.5**	**+1.6**
MDB	**Medias**	**1.52**	**290**	⇑P			**Pn**	**15 50 17.7**	**+0.9**
MDB				⇓S			**Sn**	**15 50 39.5**	**+1.6**
TLBR	**Topalu**	**1.58**	**133**	⇑P			**Pn**	**15 50 17.5**	**-0.1**
TLBR				⇓S			**Sn**	**15 50 37.2**	**-1.9**
TLBR	**Topalu**	**1.58**	**133**	⇑P			**Pn**	**15 50 17.5**	**-0.1**
TLBR				⇓S			**Sn**	**15 50 37.2**	**-1.9**
TPGR	**Topolog**	**1.61**	**118**	⇓P			**Pn**	**15 50 17.4**	**-0.6**
TPGR				⇑S			**Sn**	**15 50 37.6**	**-2.2**
TPGR	**Topolog**	**1.61**	**118**	⇓P			**Pn**	**15 50 17.4**	**-0.6**
TPGR				⇑S			**Sn**	**15 50 37.6**	**-2.2**
RMVG	**GOVORA**	**1.62**	**249**	⇓S			**Sn**	**15 50 39.9**	**-0.2**
RMVG	**GOVORA**	**1.62**	**249**	⇓S			**Sn**	**15 50 39.9**	**-0.2**
COPA	**Copaceanca**	**1.73**	**210**	⇓P			**Pn**	**15 50 19.2**	**-0.1**
COPA				⇑S			**Sn**	**15 50 41.4**	**-0.8**
COPA	**Copaceanca**	**1.73**	**210**	⇓P			**Pn**	**15 50 19.2**	**-0.1**
COPA				⇑S			**Sn**	**15 50 41.4**	**-0.8**
CVDA	**Cernavoda**	**1.73**	**138**	⇑P			**Pn**	**15 50 19.3**	**-0.1**
CVDA				⇑S			**Sn**	**15 50 40.5**	**-1.8**
CVDA	**Cernavoda**	**1.73**	**138**	⇑P			**Pn**	**15 50 19.3**	**-0.1**
CVDA				⇑S			**Sn**	**15 50 40.5**	**-1.8**
PRAR	**RASCA**	**1.74**	**356**	⇑P			**Pn**	**15 50 20.2**	**+0.7**
PRAR	**RASCA**	**1.74**	**356**	⇑P			**Pn**	**15 50 20.2**	**+0.7**
TLCR		**1.74**	**104**	⇑P			**Pn**	**15 50 19.2**	**-0.3**
TLCR				⇑S			**Sn**	**15 50 41.8**	**-0.8**
TLCR		**1.74**	**104**	⇑P			**Pn**	**15 50 19.2**	**-0.3**
TLCR				⇑S			**Sn**	**15 50 41.8**	**-0.8**
TLCR		**1.74**	**104**	P			**Pn**	**15 50 19.2**	**-0.3**
TLCR								15 50 41.8	
TLCR		**1.74**	**104**				**Pn**	**15 50 19.2**	**-0.3**
TLCR							**Sn**	**15 50 41.8**	**-0.8**
IAS	**Iasi**	**1.75**	**26**	⇑P			**Pn**	**15 50 19.4**	**-0.2**
IAS	**Iasi**	**1.75**	**26**	⇑P			**Pn**	**15 50 19.4**	**-0.2**
ICOR	**Ion Corvin**	**1.80**	**147**	⇑P			**Pn**	**15 50 20.5**	**+0.2**
ICOR				⇑S			**Sn**	**15 50 42.6**	**-1.3**
ICOR	**Ion Corvin**	**1.80**	**147**	⇑P			**Pn**	**15 50 20.5**	**+0.2**
ICOR				⇑S			**Sn**	**15 50 42.6**	**-1.3**
TIRR	**Tirgusor**	**1.83**	**129**	⇑P			**Pn**	**15 50 20.4**	**-0.2**
TIRR				⇓S			**Sn**	**15 50 42.5**	**-2.1**
TIRR	**Tirgusor**	**1.83**	**129**	⇑P			**Pn**	**15 50 20.4**	**-0.2**
TIRR				⇓S			**Sn**	**15 50 42.5**	**-2.1**
TIRR	**Tirgusor**	**1.83**	**129**	P			**Pn**	**15 50 20.4**	**-0.2**
TIRR	**Tirgusor**	**1.83**	**129**				**Pn**	**15 50 20.4**	**-0.2**
TIRR	**Tirgusor**	**1.83**	**129**	Pn			**Pn**	**15 50 20.3**	**-0.3**
LOT	**Lotru**	**1.88**	**265**	P			**Pn**	**15 50 20.8**	**-0.5**
JURR	**Jurilovca**	**1.94**	**116**	⇓P			**Pn**	**15 50 22.0**	**+0.1**
JURR	**Jurilovca**	**1.94**	**116**	⇓P			**Pn**	**15 50 22.0**	**+0.1**
MFTR	**Murfatlar**	**2.03**	**135**	⇑P			**Pn**	**15 50 23.0**	**0.0**
MFTR				⇑S			**Sn**	**15 50 47.6**	**-1.4**
MFTR	**Murfatlar**	**2.03**	**135**	⇑P			**Pn**	**15 50 23.0**	**0.0**
MFTR				⇑S			**Sn**	**15 50 47.6**	**-1.4**
ARCR	**ARCALIA**	**2.04**	**316**	⇓P			**Pn**	**15 50 23.4**	**+0.2**
ARCR	**ARCALIA**	**2.04**	**316**	⇓P			**Pn**	**15 50 23.4**	**+0.2**
RAZG	**Razgrad**	**2.06**	**178**	⇓P			**Pn**	**15 50 23.5**	**-0.1**
RAZG				⇑S			**Sn**	**15 50 47.9**	**-1.8**
RAZG	**Razgrad**	**2.06**	**178**	⇓P			**Pn**	**15 50 23.5**	**-0.1**
RAZG				⇑S			**Sn**	**15 50 47.9**	**-1.8**
ZIMR		**2.11**	**201**	⇓P			**Pn**	**15 50 23.9**	**-0.2**
ZIMR				⇑S			**Sn**	**15 50 49.2**	**-1.6**
ZIMR		**2.11**	**201**	⇓P			**Pn**	**15 50 23.9**	**-0.2**
ZIMR				⇑S			**Sn**	**15 50 49.2**	**-1.6**
KIS	**Kishinev**	**2.15**	**50**	⇓*i*P			**Pn**	**15 50 24.3**	**-0.2**
	3μm,0.2s								
KIS				*e*S			**Sn**	**15 50 49.7**	**-1.9**
	6μm,0.8s								
KIS	**Kishinev**	**2.15**	**50**	⇑P			**Pn**	**15 50 24.4**	**-0.2**
KIS	**Kishinev**	**2.15**	**50**	⇑P			**Pn**	**15 50 24.4**	**-0.2**
KIS	**Kishinev**	**2.15**	**50**	*d*iP			**Pn**	**15 50 24.3**	**-0.2**
KIS				*i* S			**Sn**	**15 50 49.7**	**-1.9**
KIS					pmax		pmax		
	comp=Z,4μm,0.6s								
KIS					smax		smax		
	comp=N,6μm,0.8s								
KIS					smax		smax		
	comp=E,6μm,1.0s								
KIS	**Kishinev**	**2.15**	**50**				**Pn**	**15 50 24.4**	**-0.2**
KIS	**Kishinev**	**2.15**	**50**	⇓*i*P			**Pn**	**15 50 24.3**	**-0.2**
KIS				Pm				15 50 24.5	
KIS				*e*S			**Sn**	**15 50 49.7**	**-1.9**
KIS				Sm				15 50 50.5	
BURAR	**Bucovina Array**	**2.15**	**338**	⇓P			**Pn**	**15 50 25.7**	**+1.0**
BURAR	**Bucovina Array**	**2.15**	**338**	⇓P			**Pn**	**15 50 25.7**	**+1.0**
BURAR	**Bucovina Array**	**2.15**	**338**	P			**Pn**	**15 50 26.2**	**+1.5**
BURAR	**Bucovina Array**	**2.15**	**338**	Pn			**Pn**	**15 50 25.5**	**+0.8**
TSCT	**Constanta Port**	**2.16**	**132**	⇑P			**Pn**	**15 50 24.7**	**0.0**
TSCT				⇑S			**Sn**	**15 50 50.0**	**-1.8**
TSCT	**Constanta Port**	**2.16**	**132**	⇑P			**Pn**	**15 50 24.7**	**0.0**
TSCT				⇑S			**Sn**	**15 50 50.0**	**-1.8**
VLAD	**Vladila**	**2.17**	**222**	⇓P			**Pn**	**15 50 24.4**	**-0.5**
VLAD				⇓S			**Sn**	**15 50 50.5**	**-1.7**
VLAD	**Vladila**	**2.17**	**222**	⇓P			**Pn**	**15 50 24.4**	**-0.5**
VLAD				⇓S			**Sn**	**15 50 50.5**	**-1.7**
BUR08	**Bucovina Ar. S**	**2.18**	**338**	Pn			**Pn**	**15 50 26.0**	**+0.9**
EFOR	**EFORIE**	**2.21**	**134**	⇑P			**Pn**	**15 50 25.0**	**-0.3**
EFOR				⇓S			**Sn**	**15 50 51.4**	**-1.5**
EFOR	**EFORIE**	**2.21**	**134**	⇑P			**Pn**	**15 50 25.0**	**-0.3**
EFOR				⇓S			**Sn**	**15 50 51.4**	**-1.5**
CJR	**Cluj-Napoca**	**2.24**	**300**	⇑P			**Pn**	**15 50 26.0**	**+0.2**
CJR	**Cluj-Napoca**	**2.24**	**300**	⇑P			**Pn**	**15 50 26.0**	**+0.2**
PSN	**Preselentsi**	**2.32**	**147**	P			**Pn**	**15 50 27.3**	**+0.6**
PSN					SN		**Sn**	**15 50 52.8**	**-2.6**
PSN	**Preselentsi**	**2.32**	**147**	P			**Pn**	**15 50 27.2**	**+0.6**
TSSL	**Sulina**	**2.37**	**100**	⇑P			**Pn**	**15 50 27.4**	**0.0**
TSSL				⇑S			**Sn**	**15 50 56.0**	**-0.6**
TSSL	**Sulina**	**2.37**	**100**	⇑P			**Pn**	**15 50 27.4**	**0.0**
TSSL				⇑S			**Sn**	**15 50 56.0**	**-0.6**
MANR	**Mangalia**	**2.38**	**139**	⇓P			**Pn**	**15 50 27.6**	**+0.2**
MANR				⇑S			**Sn**	**15 50 55.3**	**-1.5**
MANR	**Mangalia**	**2.38**	**139**	⇓P			**Pn**	**15 50 27.6**	**+0.2**
MANR				⇑S			**Sn**	**15 50 55.3**	**-1.5**
SZH	**Strazhica**	**2.39**	**189**	*i* P			**Pn**	**15 50 27.4**	**-0.2**
TSMN	**Mangalia Port-**	**2.40**	**139**	⇑S			**Sn**	**15 50 55.8**	**-1.3**
TSMN	**Mangalia Port-**	**2.40**	**139**	⇑S			**Sn**	**15 50 55.8**	**-1.3**
SRE	**Strehaia**	**2.48**	**248**	⇓P			**Pn**	**15 50 28.5**	**-0.2**
SRE				⇑S			**Sn**	**15 50 57.9**	**-1.1**
SRE	**Strehaia**	**2.48**	**248**	⇓P			**Pn**	**15 50 28.5**	**-0.2**
SRE				⇑S			**Sn**	**15 50 57.9**	**-1.1**
DEV	**Deva**	**2.48**	**277**	⇓P			**Pn**	**15 50 29.4**	**+0.7**
DEV				⇑S			**Sn**	**15 50 59.9**	**+0.8**
DEV	**Deva**	**2.48**	**277**	⇓P			**Pn**	**15 50 29.4**	**+0.7**
DEV				⇑S			**Sn**	**15 50 59.9**	**+0.8**
PRD	**Provadia**	**2.53**	**164**	*i* P			**Pn**	**15 50 30.2**	**+0.8**
PVL	**Pavlikeni**	**2.54**	**198**	*i* P			**Pn**	**15 50 31.2**	**+1.7**

BGKT Bogazkoy 4.76 158 eP Pn 15 50 58.5 -0.5
KLYT Kilyos 4.77 156 eP Pn 15 50 58.4 -0.7
DIVS Divibare 4.82 254 ePn Pn 15 50 58.7 -1.1
DIVS eSn Sn 15 51 49.7 -5.0
DIVS Divibare 4.82 254 ⇓iPn Pn 15 50 58.8 -1.1
MAR4 Marsite Statio 4.88 172 eP Pn 15 50 59.8 -0.9
ENEZ Enez 4.90 182 eP Pn 15 51 00.0 -0.8
GZKV Gazikoy-Tekird 4.92 172 eP Pn 15 51 00.8 -0.3
MAR3 Marsite Statio 4.93 172 eP Pn 15 51 00.8 -0.4
IVAS Ivanjica 4.93 248 ePn Pn 15 50 59.6 -1.6
IVAS eSn Sn 15 51 51.7 -5.5
ISK Istanbul-Kandi 4.95 156 eP Pn 15 51 01.1 -0.4
KAVV Kandilli-Istan 4.95 156 eP Pn 15 51 00.9 -0.6
MAR2 Marsite Statio 4.95 172 eP Pn 15 51 00.6 -0.9
ERIK Erikli-Kesan 4.96 179 eP Pn 15 51 00.9 -0.7
KECS Kecovo 4.96 307 eP Pn 15 51 01.1 -0.5
KECS Kecovo 4.96 307 eP Pn 15 51 01.1 -0.5
SRS Serrai 4.96 206 P Pn 15 51 01.4 -0.3
MAR6 Marsite Statio 4.96 173 eP Pn 15 51 01.1 -0.6
RKY Sarkoy-Tekirda 4.97 173 eP Pn 15 51 01.2 -0.6
STIP Stip 4.99 219 i Pn Pn 15 50 59.3 -2.7
TEKS Tekeris 5.00 260 ePn Pn 15 51 00.8 -1.4
TEKS eSn Sn 15 51 53.1 -5.8
TEKS Tekeris 5.00 260 ePn Pn 15 51 01.0 -1.2
PSZ Piszkesteto 5.04 299 P Pn 15 51 01.8 -0.9
PSZ Piszkesteto 5.04 299 Pn Pn 15 51 01.8 -0.9
SILT Sile 5.05 151 eP Pn 15 51 02.3 -0.5
KNT Kendrikon 5.15 211 P Pn 15 51 04.2 0.0
THAS Thassos island 5.17 195 P Pn 15 51 03.4 -1.1
SMTH Samothraki Isl 5.20 188 P Pn 15 51 03.6 -1.2
GELI Tayfur-Gelibol 5.23 180 eP Pn 15 51 03.9 -1.3
SEV Sevastopol' 5.24 99⇓eP Pn 15 51 03.9 -1.5
SEV eS Sn 15 52 06.2 +1.5
SEV pmax pmax
comp=Z,176nm,0.3s
SEV smax smax
comp=N,158nm,0.4s
SEV smax smax
comp=E,166nm,0.4s
LPK Lapseki 5.26 177 eP Pn 15 51 03.9 -1.8
KRBG Karabiga-Canak 5.27 173 eP Pn 15 51 05.1 -0.7
BBLS Lazići 5.30 253 ePn Pn 15 51 05.5 -0.8
BBLS eSn Sn 15 52 00.3 -5.9
BBLS Lazići 5.30 253 ⇓iPn Pn 15 51 05.5 -0.8
SOH Sokhos 5.30 206 P Pn 15 51 06.2 -0.1
HRT Hereke 5.36 153 eP Pn 15 51 06.7 -0.3
EDC Edincik 5.38 168 eP Pn 15 51 06.9 -0.5
TRML Termal-Yalova 5.41 157 eP Pn 15 51 07.2 -0.4
AKASG Malin Array Be 5.41 19 P Pn 15 51 06.2 -1.3
comp=E,48nm,0.3s,baz=204,slow=11,SNR=155
AKASG S Sn 15 52 04.5 -4.1
comp=E,52nm,0.3s,baz=202,slow=21,SNR=5.3
AKASG Malin Array Be 5.41 19 P Pn 15 51 04.4 -3.1
AKASG 15 52 04.5
AKASG Malin Array Be 5.41 19 Pn Pn 15 51 04.4 -3.1
AKBB Malin Array Si 5.41 19 deP Pn 15 51 06.2 -1.4
AKBB pmax pmax
comp=Z,31nm,0.7s
AKBB Malin Array Si 5.41 19 Pn Pn 15 51 06.2 -1.4
RUDO Rudo 5.42 251 ePn Pn 15 51 06.0 -1.8
IVA Berane 5.44 242 ⇓iPn Pn 15 51 07.9 -0.3
IVA i Sn Sn 15 52 07.4 -2.2
GADA Gvkgeada 5.45 184 eP Pn 15 51 07.9 -0.3
MORH Mrgy, Hungar 5.46 279 ⇑iP Pn 15 51 08.7 +0.4
MORH Mrgy, Hungar 5.46 279 ⇑iP Pn 15 51 08.7 +0.4
MORH Mrgy, Hungar 5.46 279 ⇓iPn Pn 15 51 08.4 +0.1
SIM Simferopol' 5.47 94 ciP Pn 15 51 06.4 -2.0
SIM i S Sn 15 52 06.4 -3.8
SIM pmax pmax
comp=Z,14nm,0.5s
SIM smax smax
comp=N,52nm,1.2s
SIM smax smax
comp=E,38nm,0.9s
YLV Yalova 5.50 156 eP Pn 15 51 08.4 -0.6
GRG Griva 5.52 214 P Pn 15 51 08.7 -0.5
GRG Griva 5.52 214 eP Pn 15 51 08.2 -0.9
HAPS Han Pijesak,BI 5.53 256 ⇓iPn Pn 15 51 07.6 -1.8
PLE Pljevlja 5.53 248 ⇑iPn Pn 15 51 09.1 -0.3
PLE i Sn Sn 15 52 08.8 -3.1
KCTX Karacabey (Bur 5.55 165 eP Pn 15 51 08.8 -0.7
PVY Plav 5.56 239 ⇓iPn Pn 15 51 09.2 -0.6
PVY i Sn Sn 15 52 09.7 -2.8
HORT Hortiatis 5.59 207 P Pn 15 51 09.8 -0.3
HORT Hortiatis 5.59 207 eP Pn 15 51 09.5 -0.6
OUR Ouranopolis 5.59 200 P Pn 15 51 09.1 -1.0
OUR Ouranopolis 5.59 200 eP Pn 15 51 08.5 -1.6
YAL Yalta 5.59 99⇑iP Pn 15 51 08.4 -1.7
YAL eS Sn 15 52 10.1 -3.0
NIE Niedzica 5.62 315 ePn Pn 15 51 11.5 +1.1
KDZE Karadeniz Ereo 5.65 138 eP Pn 15 51 10.1 -0.8
SAUV Serdivan-Sakar 5.66 148 eP Pn 15 51 10.0 -1.0
KOME Kolasin 5.69 243 ⇑iPn Pn 15 51 11.2 -0.3
KOME i Sn Sn 15 52 12.8 -2.8
PLG Polygyros 5.69 204 P Pn 15 51 10.9 -0.6
SPNC Sapanca-Adapaz 5.70 149 eP Pn 15 51 10.9 -0.7
ALU Alushta 5.72 97 ⇓iP Pn 15 51 04.4 -7.4
ALU eS Sn 15 52 07.9 -8.3
ALU pmax pmax
comp=Z,63nm,0.4s
ALU smax smax
comp=N,651nm,0.5s
ALU smax smax
comp=E,397nm,0.5s
ADVT Abdulvahap 5.73 154 eP Pn 15 51 10.9 -1.1
BOZC Bozcaada 5.79 183 eP Pn 15 51 12.1 -0.7
EZN Ezine 5.80 181 eP Pn 15 51 12.2 -0.7
MASR Amasra-Bartin 5.84 129 eP Pn 15 51 12.7 -0.8
PHP Peshkopia 5.86 230 P Pn 15 51 14.1 +0.3
LANS Liptovska Anna 5.89 309 eP Pn 15 51 14.0 -0.1
LANS Liptovska Anna 5.89 309 eP Pn 15 51 14.0 -0.1
UPM Unac-Piva 5.91 248 ePn Pn 15 51 13.9 -0.6
UPM Unac-Piva 5.91 248 ⇓iPn Pn 15 51 14.1 -0.4
UPM i Sn Sn 15 52 17.6 -3.4
VYHS Vyhne 5.92 302 eP Pn 15 51 15.0 +0.5
VYHS Vyhne 5.92 302 eP Pn 15 51 15.0 +0.5
KURC Kurucasile-Bar 5.94 127 eP Pn 15 51 12.4 -2.4
CAVI Cavuskoy 5.98 154 eP Pn 15 51 14.7 -0.6
GULT Gulveren 6.00 149 eP Pn 15 51 14.9 -0.8
NKY Niksic 6.04 245 ⇑iPn Pn 15 51 15.8 -0.4
NKY i Sn Sn 15 52 21.0 -3.1
PAIG Paliouri 6.05 200 P Pn 15 51 15.1 -1.2
PDG Podgorica 6.08 241 ePn Pn 15 51 16.6 0.0
PDG Podgorica 6.08 241 Pn Pn 15 51 16.1 -0.5
TTG Podgorica 6.08 241 ⇓iPn Pn 15 51 16.7 +0.1
TTG i Sn Sn 15 52 21.8 -3.0
NKME Niksic 6.08 245 ⇓iPn Pn 15 51 16.5 -0.3
NKME i Sn Sn 15 52 22.1 -3.0
FNA Florina 6.09 219 P Pn 15 51 17.0 +0.1
FNA Florina 6.09 219 eP Pn 15 51 15.9 -1.0
FNA Florina 6.09 219 P Pn 15 51 16.7 -0.2
FNA Florina 6.09 219 Pn 15 51 16.7 -0.2
OHR Ohrid 6.10 224 iPn Pn 15 51 17.5 +0.4
SUDU Sudak 6.10 94 ⇓iP Pn 15 51 15.6 -1.3
SUDU i S Sn 15 52 22.5 -2.8
SUDU pmax pmax
comp=Z,55nm,0.5s
SUDU smax smax
comp=E,171nm,0.5s
SUDU smax smax
comp=N,228nm,0.6s
CEME Cevo 6.22 243 ⇓iPn Pn 15 51 18.5 -0.2
CEME i Sn Sn 15 52 25.4 -3.1
MDUB Mudurnu 6.23 144 eP Pn 15 51 17.4 -1.4
LIT Litokhoron 6.24 209 P Pn 15 51 17.7 -1.1
LIT Litokhoron 6.24 209 P Pn 15 51 17.3 -1.6
LIT Litokhoron 6.24 209 Pn Pn 15 51 17.3 -1.6
DRME Dracevica, Mon 6.26 239 ePn Pn 15 51 20.5 +1.4
DRME Dracevica, Mon 6.26 239 ⇑iPn Pn 15 51 20.3 +1.2
DRME i Sn Sn 15 52 26.3 -3.0
BRY Bratogost 6.28 247 ePn Pn 15 51 19.1 -0.5
BRY Bratogost 6.28 247 ⇓iPn Pn 15 51 19.1 -0.5
BRY i Sn Sn 15 52 26.9 -3.2
FEO Feodosiya 6.35 92 ⇑iP Pn 15 51 17.6 -2.7
FEO eS Sn 15 52 30.1 -1.3
FEO pmax pmax
comp=Z,42nm,0.3s
FEO smax smax
comp=E,74nm,0.3s
FEO smax smax
comp=N,132nm,0.4s

ULC Ulcinj 6.36 237 ⇓iPn Pn 15 51 20.6 +0.1
ULC i Sn Sn 15 52 28.7 -3.0
BUM Brajici-Budva 6.37 241 ⇑iPn Pn 15 51 20.6 -0.1
BUM i Sn Sn 15 52 29.2 -2.9
TREB Trebinje 6.50 246 ePn Pn 15 51 23.7 +1.4
NEST Nestorio 6.53 219 P Pn 15 51 23.0 +0.1
HCY Herceg Novi 6.54 244 ePn Pn 15 51 23.9 +1.0
HCY Herceg Novi 6.54 244 ⇑iPn Pn 15 51 23.0 +0.1
HCY i Sn Sn 15 52 32.9 -3.2
BLY Banja Luka 6.59 266 ⇓iPn Pn 15 51 23.4 -0.1
DBRK Dubrovnik 6.65 246 ePn Pn 15 51 24.6 +0.2
DBRK Sn Sn 15 52 36.0 -2.7
XOR Xorichti 6.70 202 P Pn 15 51 24.1 -1.0
MGRS Mrkonjic Grad 6.73 263 ePn Pn 15 51 25.6 +0.1
NEO Neokhori 6.75 202 P Pn 15 51 24.5 -1.3
JAVC Velka Javorina 6.78 302 ePN Pn 15 51 26.5 +0.4
STON Ston 6.84 249 ePn Pn 15 51 26.6 -0.3
STON Sn Sn 15 52 41.9 -1.5
RICI Ricice 6.97 255 i Pn Pn 15 51 31.1 +2.3
KALN Kalnik 6.98 278 ePn Pn 15 51 29.3 +0.5
KERU Kerch 7.06 89 eP Pn 15 51 27.9 -2.0
KERU pmax pmax
comp=Z,7.0nm,0.3s
MAKA Makarska 7.12 254 ePn Pn 15 51 32.4 +1.7
AGG Agios Georgios 7.27 206 P Pn 15 51 32.4 -0.4
AGG Agios Georgios 7.27 206 Pn Pn 15 51 32.4 -0.4
MORC Moravsky Berou 7.29 308 ePN Pn 15 51 32.1 -0.9
MORC Moravsky Berou 7.29 308 P Pn 15 51 32.3 -0.7
MORC Moravsky Berou 7.29 308 Pn Pn 15 51 32.3 -0.7
KJJV Kijevo 7.31 261 ePn Pn 15 51 34.1 +0.8
PTJ Puntijarka 7.32 276 iPn Pn 15 51 34.4 +0.9
HVAR Hvar 7.55 255 ePn Pn 15 51 37.5 +0.9
HVAR Sn Sn 15 52 59.1 -1.5
GOLS Golise 7.56 277 i P Pn 15 51 38.1 +1.5
CONA Conrad Observa 7.61 291 ePn Pn 15 51 37.7 +0.4
comp=Z,3.4nm,0.6s
VRAC Vranov 7.61 302 P Pn 15 51 37.6 +0.3
comp=Z,0.2nm,0.3s,baz=119,slow=11,SNR=6.5
VRAC Vranov 7.61 302 ePN Pn 15 51 37.1 -0.2
KRUC Moravsky 7.63 300 ePN Pn 15 51 37.3 -0.2
CRES Cresnjev 7.68 275 ePn Pn 15 51 39.2 +0.9
ARSA Arzberg 7.70 286 ePn Pn 15 51 39.6 +1.0
comp=Z,4.5nm,0.6s
LEGS Legarje 7.77 276 iP Pn 15 51 41.0 +1.5
ANN Anapa 7.82 92 eP Pn 15 51 34.8 -5.3
ANN eS Sn 15 52 58.3 -8.7
ANN pmax pmax
comp=Z,77nm,1.2s
MORI Morici 7.83 261 ePn Pn 15 51 42.1 +1.8
MORI Sn Sn 15 53 08.8 +1.5
PERS Pernice 7.92 281 eP Pn 15 51 42.7 +1.1
BR131 Keskin Array S 7.94 135 ⇓eP Pn 15 51 43.7 +1.7
BR131 Keskin Array S 7.94 135 Pn Pn 15 51 41.1 -0.9
BRTR Keskin Array B 7.94 135 P Pn 15 51 41.3 -0.7
comp=Z,0.4nm,0.3s,baz=136,slow=2.9,SNR=10
BRTR S Sn 15 53 05.0 -5.2
comp=Z,0.5nm,0.3s,baz=50,slow=25,SNR=1.7
BRTR Keskin Array B 7.94 135 iP Pn 15 51 43.4 +1.4
BRTR pmax pmax
comp=Z,1.0nm,0.3s
BRTR Keskin Array B 7.94 135 Pn Pn 15 51 41.2 -0.8
SOKA Soboth 7.98 282 i Pn Pn 15 51 43.8 +1.4
comp=Z,5.4nm,0.3s,SNR=7.3
DUGI Dugi Otok 8.25 263 ePn Pn 15 51 46.6 +0.7
OBKA Obir 8.31 280 ePn Pn 15 51 48.0 +1.2
comp=Z,12nm,0.8s
LJU Ljubljana 8.32 277 ⇓iPn Pn 15 51 48.7 +1.8
CEY Cerknica 8.40 275 ePn Pn 15 51 49.4 +1.3
MNK Minsk 8.93 5 eP Pn 15 51 52.0 -3.1
MNK eS Sn 15 53 24.0 -10
MNK Minsk 8.93 5 iP Pn 15 51 52.4 -2.7
comp=E,1.0nm,0.7s
MNK i P Pn 15 51 52.4 -2.7
comp=N,31nm,1.0s
MNK i P Pn 15 51 52.4 -2.7
comp=Z,32nm,1.0s
MNK i S Sn 15 53 29.6 -4.2
MNK i LRM MLR 15 55 30.5
comp=Z,565nm,4.1s
MNK i LRM MLR 15 55 31.7
comp=N,512nm,3.3s
MNK i LRM MLR 15 55 32.4
comp=E,39nm,1.8s
MYKA Terra Mystica 8.94 281 i Pn Pn 15 51 56.6 +1.3
comp=E,2.5nm,0.6s
KBA Koelnbreinsper 9.16 284 ePn Pn 15 52 00.6 +2.1
comp=E,8.0nm,0.7s,SNR=8.6
GERES GERESS Array B 9.23 295 P Pn 15 51 59.0 -0.3
comp=E,0.3nm,0.3s,baz=108,slow=13,SNR=15
GERES GERESS Array B 9.23 295 P Pn 15 51 59.2 -0.1
GERES GERESS Array B 9.23 295 Pn Pn 15 51 59.2 -0.1
NACGM Naroch 9.29 1 iP Pn 15 51 57.4 -2.5
NACGM i P Pn 15 51 57.4 -2.5
NACGM i P Pn 15 51 57.4 -2.5
NACGM i S Sn 15 53 44.8 +2.4
NACGM i LQ LQ 15 54 03.1
NACGM i LR LR 15 54 29.5
KHC Kasperske Hory 9.39 296 ⇑iP Pn 15 52 02.9 +1.5
KHC pmax pmax
comp=Z,13nm,0.8s
KHC Kasperske Hory 9.39 296 ePN Pn 15 52 01.7 +0.3
KHC Kasperske Hory 9.39 296 Pn Pn 15 52 02.2 +0.9
STAL STALIGIAL 9.58 279 Pn 15 52 03.8 -0.1
TIP Timpagrande 9.62 231 Pn Pn 15 52 04.5 -0.1
IDID Didziasalis 9.70 1 eP Pn 15 52 03.4 -2.0
SOC Sochi 9.70 97 eP Pn 15 52 06.2 +0.7
SOC e 15 53 53.7
SOC pmax pmax
comp=Z,15nm,0.6s
ABTA Abfaltersbach 9.72 282 ePn Pn 15 52 08.1 +2.2
comp=Z,4.3nm,0.7s,SNR=4.4
IIGN Ignalina 9.73 359 eP Pn 15 52 03.8 -2.1
IIGN IAmb IAmb 15 52 25.8
comp=Z,16nm,0.7s
INTR Introdacqua 9.74 253 Pn Pn 15 52 05.2 -1.1
AQU L'Aquila 9.94 255 P Pn 15 52 08.6 -0.3
AQU L'Aquila 9.94 255 ePn Pn 15 52 08.7 -0.1
AQU L'Aquila 9.94 255 Pn Pn 15 52 08.6 -0.3
NRCA Norcia 9.96 258 Pn 15 52 08.8 -0.3
ISAL Salakas 9.96 359 eP Pn 15 52 06.6 -2.3
ISAL IAmb IAmb 15 52 07.9
comp=Z,15nm,0.8s
PABE Paberze 10.01 352 eP Pn 15 52 07.0 -2.6
PABE IAmb IAmb 15 52 09.3
comp=Z,26nm,0.5s
VORD Divnogorie 10.10 53 eP Pn 15 52 08.9 -1.9
VORD pmax pmax
comp=Z,70nm,0.4s
VSR Storozhevoye 10.14 52 eP Pn 15 52 09.6 -1.8
VSR pmax pmax
comp=Z,70nm,0.4s
LPSR Galich'ya Gora 10.75 45 eP Pn 15 52 16.9 -2.7
LPSR pmax pmax
comp=Z,30nm,0.5s
PBUR Paburge 10.79 346 eP Pn 15 52 13.9 -6.1
FETA Feichten 10.95 283 i Pn Pn 15 52 22.7 +0.3
comp=Z,4.2nm,0.8s
MOX Moxa 11.09 302 P Pn 15 52 25.5 +1.3
OBN Obninsk 11.48 31 P Pn 15 52 25.9 -3.3
comp=Z,11nm,0.3s,baz=24,slow=1.8,SNR=19
OBN S Sn 15 54 24.1 -11
comp=Z,4.9nm,0.3s,baz=227,slow=22,SNR=7.3
OBN Obninsk 11.48 31 ciP Pn 15 52 25.5 -3.8
OBN pmax pmax
comp=Z,35nm,0.6s
OBN Obninsk 11.48 31 Sn 15 54 27.1 -8.3
DAVOX Davos/Dischmat 11.53 282 P Pn 15 52 31.9 +1.7
comp=Z,0.2nm,0.3s,baz=302,slow=7.0,SNR=1.5
VRH Novokhopyorsk 11.59 56 eP Pn 15 52 27.9 -2.8
VRH pmax pmax
comp=Z,470nm,0.6s
KIV Kislovodsk 11.68 92 eP Pn 15 52 31.8 -0.3
KIV pmax pmax
comp=Z,35nm,1.1s
KVAR Kislovodsk Arr 11.69 92 P Pn 15 52 33.2 +1.0
baz=282,slow=20,SNR=2.3
GOF Gofitskoye 11.71 87⇓eP Pn 15 52 32.2 -0.3
GOF eS Sn 15 54 34.5 -6.8
GOF pmax pmax
comp=Z,21nm,0.4s
GOF smax smax
comp=E,59nm,0.8s
GOF smax smax

comp=N,128nm,1.2s
KBZ Khabaz 11.88 93 P Pn 15 52 33.6 -1.1
comp=N,0.7nm,0.3s,baz=89,slow=3.7,SNR=12
KBZ Khabaz 11.88 93⇓eP Pn 15 52 37.5 +2.8
KBZ pmax pmax
comp=Z,3.0nm,0.7s
SLIT Slitere, Latvi 12.28 349 eP Pn 15 52 35.9 -3.9
MOS Moscow 12.35 31 eP Pn 15 52 35.8 -4.8
MOS eS Sn 15 54 47.7 -8.7
MOS pmax pmax
comp=Z,58nm,0.5s
VSU Vasula 12.85 1 eP Pn 15 52 43.6 -3.7
VSU Vasula 12.85 1 ceP Pn 15 52 44.6 -2.6
VSU pmax pmax
comp=Z,54nm,0.5s
ZEI Tsey 12.86 97 eP Pn 15 52 48.3 +0.6
ZEI pmax pmax
comp=Z,7.0nm,0.7s
MTSE Matsula 13.20 354 eP Pn 15 52 48.6 -3.1
GROC Groznyy 14.06 93 eP Pn 15 53 01.7 -1.2
GROC pmax pmax
comp=Z,17nm,0.6s
GNI Garni 14.49 106 P Pn 15 53 09.0 +0.3
comp=Z,1.0nm,0.3s,baz=16,slow=3.7,SNR=6.0
GNI Garni 14.49 106 P P 15 53 11.5 -0.4
GNI Garni 14.49 106 P 15 53 11.4 -0.4
AAL Aland 15.07 348 eP Pn 15 53 13.2 -2.4
UPP Uppsala 15.19 343 eP Pn 15 53 17.1 0.0
BELG Belogornoye 15.44 56 P Pn 15 53 17.6 -2.5
comp=Z,7.1nm,0.3s,baz=326,slow=1.5,SNR=24
BELG Belogornoye 15.44 56 deP Pn 15 53 18.0 -2.2
BELG pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 15.85 359 P Pn 15 53 20.2 -5.0
comp=Z,1.3nm,0.3s,baz=170,slow=13,SNR=19
FINES S Sn 15 56 14.3 -6.3
comp=Z,0.3nm,0.3s,baz=181,slow=18,SNR=2.1
FINES FINESS Array B 15.85 359 iP Pn 15 53 22.7 -2.5
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 15.85 359 Pn Pn 15 53 19.9 -5.3
FIA1 FINESS Array S 15.85 359 Pn Pn 15 53 20.1 -5.1
FIA1 IAmb IAmb 15 53 23.3
comp=Z,26nm,1.4s
VALR Valaam 15.97 8 eP Pn 15 53 25.4 -1.4
VALR pmax pmax
comp=Z,23nm,0.7s
KEST Kesra 16.27 239 P Pn 15 53 30.1 -0.6
comp=Z,0.4nm,0.3s,baz=5.4,slow=5.3,SNR=5.1
KEST Kesra 16.27 239 P P 15 53 32.9 +1.4
KEST IAmb IAmb 15 53 35.3
comp=Z,48nm,1.4s
HFS Hagfors 16.39 337 P Pn 15 53 32.0 +0.1
comp=Z,0.7nm,0.3s,baz=144,slow=13,SNR=17
HFS Hagfors 16.39 337 P Pn 15 53 32.0 +0.1
KLMR Klimovskoe 17.09 22 eP P 15 53 35.7 -4.5
KLMR e 15 56 37.8
KLMR pmax pmax
comp=Z,27nm,0.7s
KLMR Klimovskoe 17.09 22 ePn P 15 53 35.8 -4.5
KLMR AMP 15 53 41.2
comp=Z,27nm,0.7s
KLMR eSn Sn 15 56 37.8 -13
KLMR eSn Sn 15 56 37.8 -13
KONO Kongsberg 17.28 330 P P 15 53 41.8 -0.6
KONO pmax pmax
comp=Z,20nm,1.1s
KONO Kongsberg 17.28 330 P P 15 53 41.8 -0.6
KONO IAmb IAmb 15 54 06.9
comp=Z,20nm,1.1s
NC602 NORSAR Array S 17.49 335 P 15 53 44.0 -0.7
NC602 IAmb IAmb 15 53 45.9
comp=Z,22nm,0.8s
NC405 NORSAR Array S 17.75 336 P P 15 53 47.3 -0.3
NAO01 NORSAR Array S 17.77 335 P P 15 53 47.6 -0.2
NAO01 IAmb IAmb 15 53 49.1
comp=Z,26nm,0.9s
NB201 NORSAR Array S 17.82 335 P P 15 53 47.9 -0.4
NB201 IAmb IAmb 15 53 50.6
comp=Z,30nm,1.2s
NB2 NORSAR Subarra 17.83 335 P P 15 53 48.3 -0.2
comp=Z,5.2nm,1.0s,baz=144,slow=12
NOA NORSAR Array B 17.83 335 P P 15 53 48.4 -0.2
comp=Z,0.1nm,0.3s,baz=144,slow=11,SNR=13
NBO00 NORSAR Array S 17.95 335 P P 15 53 49.8 0.0
NBO00 IAmb IAmb 15 53 51.9
comp=Z,18nm,0.8s
NC204 NORSAR Array S 18.15 335 P P 15 53 51.9 -0.2
NC204 IAmb IAmb 15 54 15.5
comp=Z,29nm,1.4s
KIRV Kirov 19.04 39 P P 15 54 02.1 +0.5
comp=Z,5.3nm,0.3s,baz=242,slow=3.7,SNR=12
PRGR Permogore 19.54 28 eP P 15 54 07.7 +0.8
PRGR e 15 57 41.3
PRGR pmax pmax
comp=Z,41nm,0.6s
EKA Eskdalemuir Ar 21.03 308 P P 15 54 22.6 -0.5
comp=Z,2.3nm,0.7s,baz=103,slow=10,SNR=4.3
ESK Eskdalemuir 21.05 308 P P 15 54 22.9 -0.4
ESK pmax pmax
comp=Z,8.0nm,0.9s
ESK Eskdalemuir 21.05 308 P P 15 54 22.9 -0.4
AKTO Aktyubinsk 21.57 66 P P 15 54 30.0 +1.1
comp=Z,2.6nm,0.6s,baz=283,slow=5.2,SNR=6.6
ARU Arti 22.70 50 P P 15 54 41.2 +0.8
comp=Z,2.1nm,0.4s,baz=238,slow=4.7,SNR=10
ARU Arti 22.70 50 diP P 15 54 40.4 -0.1
ARU *PP pP 15 55 01.0 -2.5
ARU 15 55 14.3
ARU S S 15 58 40.3 +0.8
ARU SS SnSn 15 59 28.5 +5.0
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 22.70 50 P P 15 54 39.9 -0.5
ARU IAmb IAmb 15 55 02.5
comp=Z,17nm,0.5s
LVZ Lovozero 22.73 8 P P 15 54 40.7 0.0
LVZ pmax pmax
comp=Z,37nm,0.8s
LVZ Lovozero 22.73 8 P P 15 54 40.6 0.0
ABKAR Akbulak array 22.85 69 P P 15 54 42.6 +0.6
ABKAR Akbulak array 22.85 69 P P 15 54 42.4 +0.5
ABKAR IAmb IAmb 15 54 55.6
comp=Z,12nm,0.7s
ESBB Sonseca Array 23.04 266 P P 15 54 43.2 -0.7
ESDC Sonseca Array 23.04 266 P P 15 54 42.3 -1.6
comp=Z,1.4nm,0.6s,baz=62,slow=9.0,SNR=13
PAB San Pablo 23.37 266 P P 15 54 46.0 -1.0
PAB pmax pmax
comp=Z,5.0nm,1.2s
PAB San Pablo 23.37 266 P P 15 54 46.0 -1.0
ARCES ARCESS Array B 23.98 359 P P 15 54 52.4 +0.3
comp=Z,5.0nm,0.9s,baz=172,slow=9.8,SNR=9.2
ARCES ARCESS Array B 23.98 359 P P 15 54 52.4 +0.3
ARCES pmax pmax
comp=Z,33nm,1.5s
ARCES ARCESS Array B 23.98 359 IAmb IAmb 15 54 55.0
comp=Z,32nm,1.4s
GEYT Alibeck 24.73 97 P P 15 55 01.3 +2.0
comp=Z,5.4nm,0.7s,baz=289,slow=9.2,SNR=7.7
GEYT Alibeck 24.73 97 P P 15 55 01.6 +2.2
GYA0B ALIBECK ARRAY 24.73 97 P P 15 55 01.4 +2.1
PESTR Estremoz 25.93 267 P P 15 55 09.0 -1.1
BRVK Borovoye 29.14 59 diP P 15 55 40.3 +1.8
BRVK pmax pmax
comp=Z,6.0nm,1.6s
BRVK Borovoye 29.14 59 P P 15 55 39.9 +1.4
BRVK IAmb IAmb 15 56 08.5
comp=Z,4.3nm,0.6s
BVAR Borovoye Array 29.20 59 P P 15 55 40.2 +1.0
comp=Z,0.6nm,0.6s,baz=277,slow=25,SNR=3.5
KK31 Karatay Array 31.32 79 P P 15 55 59.7 +1.8
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KK31 Karatay Array 31.32 79 P P 15 55 59.7 +1.8
KKAR Karatay Array 31.32 79 P P 15 55 59.6 +1.7
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 31.32 79 P P 15 55 59.6 +1.7
KKAR Karatay Array 31.32 79 P P 15 55 59.6 +1.7
KKAR IAmb IAmb 15 56 00.3
comp=Z,2.2nm,0.7s
UOSS Minazif 31.60 121 P P 15 55 59.8 -0.7
UOSS IAmb IAmb 15 56 01.5
comp=Z,3.8nm,0.7s

SPITS **Spitsbergen Ar** 32.90 356 P **P** 15 56 12.2 +0.9
comp=Z,15nm,1.0s,baz=148,slow=8.5,SNR=1.4
AAK **Ala-Archa** 34.22 77⇑*iP* **P** 15 56 25.6 +2.2
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK **Ala-Archa** 34.22 77 P **P** 15 56 23.9 +0.5
AAK IAmb IAmb 15 56 26.7
comp=Z,3.0nm,0.7s
KSH **Kashi** 36.52 82 *e*P P 15 56 37.0 -6.0
KSH pmax pmax
comp=Z,13nm,0.4s
KSH pmax pmax
comp=Z,74nm,4.6s
ZAA0 **Zalesovo Array** 37.62 56 P **P** 15 56 52.9 +0.9
ZAA0 IAmb IAmb 15 56 53.9
comp=Z,3.7nm,0.7s
ZALV **Zalesovo Beam** 37.62 56 P **P** 15 56 53.2 +1.2
comp=Z,3.9nm,0.5s,baz=282,slow=8.8,SNR=18
ZALV pP **pP** 15 57 19.0 +0.1
comp=Z,2.0nm,0.5s,baz=281,slow=9.0,SNR=5.1
ZALV **Zalesovo Beam** 37.62 56 P **P** 15 56 53.0 +1.0
MAKZ **Makanchi** 37.77 68 P **P** 15 56 54.6 +1.2
MAKZ pmax pmax
comp=Z,1.0nm,0.9s
MAKZ **Makanchi** 37.77 68 P **P** 15 56 54.6 +1.2
MK31 **Makanchi Array** 37.98 68 P **P** 15 56 56.4 +1.3
MK31 pmax pmax
comp=Z,1.0nm,0.6s
MK31 **Makanchi Array** 37.98 68 P **P** 15 56 56.4 +1.3
MKAR **Makanchi Array** 37.98 68 P **P** 15 56 56.5 +1.4
comp=Z,2.0nm,0.5s,baz=272,slow=8.4,SNR=57
MKAR pP **pP** 15 57 22.4 +0.3
comp=Z,1.6nm,0.6s,baz=276,slow=8.4,SNR=7.8
TOA0 **Torodi Ar. Sit** 38.57 221 P **P** 15 56 60.0 -0.3
TOA0 IAmb IAmb 15 57 10.6
comp=Z,8.1nm,1.4s
TORD **Torodi Ar. Bea** 38.57 221 P **P** 15 57 00.7 +0.4
comp=Z,1.9nm,0.6s,baz=20,slow=8.4,SNR=9.5
TORD pP **pP** 15 57 26.3 -1.0
comp=Z,1.7nm,0.7s,baz=24,slow=9.3,SNR=3.5
TORD PcP **PcP** 15 59 10.0 -0.4
comp=Z,1.2nm,0.6s,baz=11,slow=1.4,SNR=5.0
TORD **Torodi Ar. Bea** 38.57 221 P **P** 15 57 00.1 -0.2
TORD **PcP** 15 59 10.0 -0.4
ANGG **Ammassalik, Gr** 39.14 324 P **P** 15 57 02.5 -2.0
SUMG **Summit** 39.72 335 P **P** 15 57 12.1 +2.4
SUMG **Summit** 39.72 335 P **P** 15 57 12.1 +2.4
KOWA **Kowa** 40.26 229 P **P** 15 57 14.6 +0.3
comp=Z,0.9nm,0.4s,baz=24,slow=10.0,SNR=1.9
KOWA PcP **PcP** 15 59 15.6 -0.2
comp=Z,2.6nm,0.6s,baz=336,slow=5.7,SNR=4.6
KOWA **Kowa** 40.26 229 P **P** 15 57 14.6 +0.3
KOWA IAmb IAmb 15 57 16.7
comp=Z,6.9nm,1.5s
DGZ **Jazzator, Alta** 40.30 61*ce*P **P** 15 57 16.4 +1.9
DGZ pmax pmax
comp=Z,5.0nm,0.7s
SOCY **Socotra** 40.74 136 P **P** 15 57 16.2 -2.2
SOCY IAmb IAmb 15 57 37.1
comp=Z,8.7nm,1.0s
WMQ **Urumqi** 42.63 70 *e*P **P** 15 57 35.1 +1.6
WMQ pP pP 15 58 01.8 +0.9
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,200nm,5.1s
MBAR **Mbarara** 46.19 174*ce*P **P** 15 58 04.3 +2.1
MBAR pmax pmax
comp=Z,5.0nm,1.3s
DBIC **Dimbokro** 47.32 225 P **P** 15 58 10.4 -0.3
comp=Z,3.0nm,0.3s,baz=12,slow=8.8,SNR=16
DBIC **Dimbokro** 47.32 225 P **P** 15 58 10.2 -0.6
DBIC pmax pmax
comp=Z,15nm,1.2s
DBIC **Dimbokro** 47.32 225 P **P** 15 58 10.2 -0.6
DBIC IAmb IAmb 15 58 10.6
comp=Z,14nm,1.1s
GKN **Gorkha** 48.73 90 *e*P **P** 15 58 23.0 +1.3
comp=Z,34nm,0.7s
TLY **Talaya** 49.14 53 P **P** 15 58 26.1 +1.7
comp=Z,2.1nm,0.4s,baz=245,slow=13,SNR=5.5
DMN **Daman** 49.30 90 *e*P **P** 15 58 27.6 +1.4
comp=Z,12nm,0.5s
KKN **Kakani** 49.31 90 *e*P **P** 15 58 27.2 +1.0
comp=Z,27nm,0.6s
PKIN **Phulchoki** 49.52 90 *e*P **P** 15 58 28.9 +1.0
comp=Z,8.7nm,0.6s
PKI **Pulchoki** 49.53 90 *e*P **P** 15 58 28.9 +0.8
GUN **Gumba** 49.66 90 *e*P **P** 15 58 30.2 +1.2
comp=Z,12nm,0.5s
RAMN **Ramite** 50.75 90 *e*P **P** 15 58 38.2 +1.0
TIXI **Tiksi** 51.10 23⇑*iP* **P** 15 58 38.8 0.0
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI **Tiksi** 51.10 23 P **P** 15 58 39.8 +1.0
TAPN **Taplejung** 51.28 89 *e*P **P** 15 58 42.4 +1.2
comp=Z,6.4nm,0.4s
ODAN **Odare** 51.36 90 *e*P **P** 15 58 43.1 +1.4
comp=Z,14nm,0.7s
SONM **Songino Array** 52.49 57 P **P** 15 58 51.1 +1.4
comp=Z,2.6nm,0.5s,baz=296,slow=8.3,SNR=29
SONM pP **pP** 15 59 18.3 +0.2
comp=Z,0.9nm,0.4s,baz=286,slow=8.4,SNR=3.8
SONM **Songino Array** 52.49 57 P **P** 15 58 51.2 +1.5
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM **Songino Array** 52.49 57 P **P** 15 58 51.2 +1.5
SONM IAmb IAmb 15 58 52.0
comp=Z,2.5nm,0.7s
ULN **Ulaanbaatar** 52.87 56⇑*eP* **P** 15 58 52.9 +0.4
ULN pmax pmax
comp=Z,1.0nm,0.7s
YAK **Yakutsk** 56.46 33⇓*eP* **P** 15 59 19.0 +1.1
YAK pmax pmax
comp=Z,6.0nm,0.8s
HHC **Hu-ho-hao-te** 59.38 61 *e*P **P** 15 59 42.1 +3.3
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,200nm,5.4s
CD2 **Chengdu** 60.24 75 P **P** 15 59 46.9 +2.2
CD2 pmax pmax
comp=Z,20nm,0.5s
PALK **Pallekele** 60.26 112 P **P** 15 59 45.8 +0.8
PALK pmax pmax
comp=Z,12nm,0.8s
PALK **Pallekele** 60.26 112 P **P** 15 59 45.8 +0.8
GGN **Saint George** 61.65 307 P **P** 15 59 54.7 +0.8
XAN **Xi'an** 61.77 69 P **P** 15 59 55.9 +0.9
XAN pP pP 16 00 15.4 -8.8
XAN pmax pmax
comp=Z,8.0nm,0.8s
KMI **Kunming** 63.17 81 ⇑P **P** 16 00 03.9 -0.8
KMI pmax pmax
comp=Z,18nm,1.0s
C36M **Paulatuk** 63.29 349 P **P** 16 00 05.0 +0.5
SEY **Seymchan** 63.57 24⇑*eP* **P** 16 00 07.8 +1.4
CHTO **Chiang Mai** 64.66 89 P **P** 16 00 14.5 +0.3
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO **Chiang Mai** 64.66 89 P **P** 16 00 14.5 +0.3
CHTO IAmb IAmb 16 00 15.7
comp=Z,6.8nm,0.9s
CM33 **Chiang Mai Arr** 64.66 89 P **P** 16 00 14.0 -0.2
CM34 **Chiang Mai Arr** 64.78 88 P **P** 16 00 16.0 +1.0
CM15 **Chiang Mai Arr** 64.89 89 P **P** 16 00 16.9 +1.1
CM13 **Chiang Mai Arr** 64.89 89 P **P** 16 00 16.0 +0.2
CM31 **Chiang Mai Arr** 64.89 89 P **P** 16 00 18.1 +2.3
CM31 **Chiang Mai Arr** 64.89 89 P **P** 16 00 16.5 +0.8
CM31 IAmb IAmb 16 00 17.3
comp=Z,6.6nm,1.1s
CM35 **Chiang Mai Arr** 64.89 89 P **P** 16 00 16.0 +0.2
CMAR **Chiang Mai Arr** 64.89 89 P **P** 16 00 16.6 +0.8
comp=Z,3.4nm,0.6s,baz=304,slow=7.6,SNR=39
CMAR pP **pP** 16 00 45.8 +0.6
comp=Z,0.9nm,0.7s,baz=307,slow=7.3,SNR=2.5
CMAR **Chiang Mai Arr** 64.89 89 P **P** 16 00 16.4 +0.6
CM02 **Chiang Mai Arr** 64.91 89 P **P** 16 00 17.1 +1.2
CM01 **Chiang Mai Arr** 64.93 89 P **P** 16 00 17.2 +1.2
CM05 **Chiang Mai Arr** 64.93 89 P **P** 16 00 16.0 0.0
CM09 **Chiang Mai Arr** 64.94 89 P **P** 16 00 17.3 +1.3
CM04 **Chiang Mai Arr** 64.96 89 P **P** 16 00 17.0 +0.8
CM36 **Chiang Mai Arr** 64.96 89 P **P** 16 00 17.0 +0.8
FCC **Fort Churchill** 65.01 330 P **P** 16 00 15.7 -0.2
FCC pmax pmax
comp=Z,2.0nm,0.9s
FCC **Fort Churchill** 65.01 330 P **P** 16 00 15.7 -0.2
KLR **Kul'dur** 65.39 44 P **P** 16 00 19.4 +0.9
baz=274,slow=3.8
KLR **Kul'dur** 65.39 44⇑*eP* **P** 16 00 19.4 +0.9
KLR pmax pmax
comp=Z,4.0nm,1.4s
INK **Inuvik** 65.40 352 P **P** 16 00 18.0 -0.2
INK pmax pmax
comp=Z,3.0nm,0.5s
INK **Inuvik** 65.40 352 P **P** 16 00 18.0 -0.2
INK IAmb IAmb 16 00 18.5
comp=Z,3.5nm,0.5s
VLDQ **Val d'Or** 65.42 314 P **P** 16 00 19.6 +0.9
VLDQ IAmb IAmb 16 00 28.9
comp=Z,6.0nm,1.4s
FRNY **Flat Rock** 65.55 310 P **P** 16 00 20.4 +0.7
FRNY IAmb IAmb 16 00 45.8
comp=Z,9.2nm,1.2s
MA2 **Magadan** 65.68 27⇓*iP* **P** 16 00 21.9 +1.7
MA2 pmax pmax
comp=Z,8.0nm,2.5s
TOLK **Toolik Lake Re** 66.01 358 P **P** 16 00 23.4 +1.1
J59A **Piesco** 66.95 309 P **P** 16 00 29.5 +0.9
UTHA **Uthaitani** 67.21 91 P **P** 16 00 32.6 +2.1
PLVO **Plevna** 67.27 312 P **P** 16 00 30.9 +0.3
PLVO IAmb IAmb 16 00 53.6
comp=Z,7.6nm,1.3s
COLD **Coldfoot** 67.44 359 P **P** 16 00 32.6 +1.3
EPYK **Eagle Plains** 67.58 353 P **P** 16 00 32.6 +0.3
EPYK IAmb IAmb 16 00 33.6
comp=Z,5.4nm,0.8s
YKA **Yellowknife Ar** 67.81 342 P **P** 16 00 33.4 -0.3
comp=Z,1.0nm,0.5s,baz=29,slow=6.3,SNR=21
YKA pP **pP** 16 01 02.9 -0.6
comp=Z,0.4nm,0.6s,baz=27,slow=6.4,SNR=3.1
YKA **Yellowknife Ar** 67.81 342 *i* P **P** 16 00 33.7 +0.1
YKA pmax pmax
comp=Z,1.0nm,0.6s
L59A **Walton** 68.09 308 P **P** 16 00 36.6 +0.8
L59A IAmb IAmb 16 01 04.9
comp=Z,6.9nm,1.1s
USA0B **Ussuriysk Arra** 68.92 48 P **P** 16 00 41.8 +0.9
USA0B pmax pmax
comp=Z,5.0nm,1.1s
USA0B **Ussuriysk Arra** 68.92 48 P **P** 16 00 41.8 +0.9
USA0B IAmb IAmb 16 01 00.5
comp=Z,5.3nm,1.1s
USRK **Ussuriysk Ar.** 68.92 48 P **P** 16 00 41.3 +0.4
comp=Z,1.3nm,0.5s,baz=266,slow=6.8,SNR=6.2
USRK **Ussuriysk Ar.** 68.92 48 P **P** 16 00 41.7 +0.8
USRK **Ussuriysk Ar.** 68.92 48 P **P** 16 00 41.7 +0.8
NJ2 **Nanjing** 69.45 65 *e*P **P** 16 00 44.3 0.0
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
EGAK **Eagle** 69.50 354 P **P** 16 00 44.9 +0.8
EGAK IAmb IAmb 16 00 52.6
comp=Z,4.5nm,1.1s
I23K **Minto, Yukon-K** 69.51 358 P **P** 16 00 44.9 +0.7
MDM **Murphy Dome** 69.67 358 P **P** 16 00 46.2 +1.0
MDM IAmb IAmb 16 00 47.4
comp=Z,13nm,1.3s
COLA **College** 69.75 357⇓*eP* **P** 16 00 46.9 +1.3
COLA pmax pmax
comp=Z,15nm,2.4s
ANM **Nome** 69.76 5 P **P** 16 00 46.4 +0.7
ANM pmax pmax
comp=Z,5.0nm,1.1s
ANM **Nome** 69.76 5 P **P** 16 00 46.4 +0.7
ANM IAmb IAmb 16 00 47.4
comp=Z,5.3nm,1.1s
IL31 69.81 357 P **P** 16 00 46.9 +0.9
ILAR **Eielson Array** 69.81 357 P **P** 16 00 46.7 +0.7
comp=Z,0.7nm,0.6s,baz=355,slow=5.3,SNR=14
ILAR **Eielson Array** 69.81 357 P **P** 16 00 46.6 +0.6
CCB **Clear Creek Bu** 69.97 357 P **P** 16 00 47.7 +0.7
E46A **Sault Ste Mari** 70.00 316 P **P** 16 00 48.0 +0.6
E46A IAmb IAmb 16 00 48.5
comp=Z,5.7nm,0.5s
DAWY **Dawson** 70.08 353 P **P** 16 00 48.7 +0.9
WRH **Wood River Hil** 70.16 357 P **P** 16 00 49.1 +1.0
M56A **Emporium** 70.29 309 P **P** 16 00 49.8 +0.4
LBTB **Lobatse** 70.31 181 P **P** 16 00 50.4 +0.9
LBTB pmax pmax
comp=Z,7.0nm,0.8s
LBTB **Lobatse** 70.31 181 P **P** 16 00 50.4 +0.9
LBTB IAmb IAmb 16 00 51.0
comp=Z,6.5nm,0.8s
SCRK **Sand Creek** 70.47 356 P **P** 16 00 51.0 +0.8
M55A **Ridgway** 70.62 310 P **P** 16 00 52.0 +0.6
M55A IAmb IAmb 16 01 03.9
comp=Z,5.0nm,1.3s
DOT **Dot Lake** 70.81 356 P **P** 16 00 53.5 +1.4
MCK **McKinley** 70.92 358 P **P** 16 00 54.1 +1.3
MCK pmax pmax
comp=Z,5.0nm,1.1s
MCK **McKinley** 70.92 358 P **P** 16 00 54.1 +1.3
MCK IAmb IAmb 16 01 02.5
comp=Z,5.2nm,1.1s
M54A **Oil Creek Stat** 71.07 310 P **P** 16 00 54.5 +0.4
KTH **Kantishna Hill** 71.14 359 P **P** 16 00 54.6 +0.4
RND **Reindeer** 71.25 358 P **P** 16 00 55.2 +0.4
RND pmax pmax
comp=Z,15nm,1.4s
RND **Reindeer** 71.25 358 P **P** 16 00 55.2 +0.4
RND IAmb IAmb 16 01 18.1
comp=Z,15nm,1.4s
E43A **Lone Tree Farm** 71.28 318 P **P** 16 00 55.3 +0.1
KSAR **Wonju Array Be** 71.31 55 P **P** 16 00 55.9 +0.3
KSAR **Wonju Array Be** 71.31 55 P **P** 16 00 55.9 +0.3
KSRS **Korea Array** 71.33 55 P **P** 16 00 55.9 +0.2
comp=Z,1.5nm,0.7s,baz=321,slow=5.0,SNR=8.3
D41A **Chassel** 71.50 319 P **P** 16 00 56.7 +0.2
D41A IAmb IAmb 16 00 57.0
comp=Z,12nm,1.1s
PAX **Paxson** 71.56 356 P **P** 16 00 57.7 +0.9
PAX pmax pmax
comp=Z,12nm,1.4s
PAX **Paxson** 71.56 356 P **P** 16 00 57.6 +0.9
PAX IAmb IAmb 16 01 03.5
comp=Z,12nm,1.4s
G45A **Suttons Bay** 71.61 316 P **P** 16 00 57.4 +0.1
G45A IAmb IAmb 16 00 58.2
comp=Z,7.6nm,0.6s
PPLA **Purkeypile** 71.82 359 P **P** 16 00 58.5 +0.2
EYMN **Ely** 72.15 321 P **P** 16 01 00.2 -0.2
YSS **Yuzh-Sakhalins** 72.19 40⇑*eP* **P** 16 01 01.7 +1.1
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS **Yuzh-Sakhalins** 72.19 40 P **P** 16 01 01.8 +1.2
YSS IAmb IAmb 16 01 02.7
comp=Z,8.7nm,1.0s
ULM **Lac du Bonnet** 72.21 325 P **P** 16 00 60.0 -0.7
comp=Z,1.7nm,0.6s,baz=29,slow=8.0,SNR=4.8
ULM **Lac du Bonnet** 72.21 325 P **P** 16 01 00.0 -0.7
ULM pmax pmax
comp=Z,5.0nm,1.5s
ULM **Lac du Bonnet** 72.21 325 P **P** 16 01 00.0 -0.7
CUT **Chulitna** 72.28 358 P **P** 16 01 00.9 0.0
M24K **Tolsona, Glenn** 72.45 356 P **P** 16 01 03.0 +0.9
SKT **Skwentna** 72.73 359 P **P** 16 01 03.9 +0.2
SKT IAmb IAmb 16 01 04.2
comp=Z,11nm,1.1s
SCM **Sheep Creek Mo** 72.77 357 P **P** 16 01 05.1 +1.1
SCM pmax pmax
comp=Z,44nm,1.5s
SCM **Sheep Creek Mo** 72.77 357 P **P** 16 01 05.1 +1.1
N25K **Chitina, Valde** 72.87 356 P **P** 16 01 05.5 +1.0
N25K IAmb IAmb 16 01 15.5
comp=Z,15nm,1.3s
GHO **Glory Hole Cre** 72.89 358 P **P** 16 01 05.2 +0.6
WHY **Whitehorse** 72.98 350 P **P** 16 01 05.0 -0.2
WHY IAmb IAmb 16 01 05.7
comp=Z,7.1nm,1.4s
KLU **Klutina** 73.05 356 P **P** 16 01 06.2 +0.6
KLU IAmb IAmb 16 01 19.0
comp=Z,15nm,1.3s
KNK **Knik Glacier** 73.23 357 P **P** 16 01 07.2 +0.5
SUA **Susitna One** 73.24 359 P **P** 16 01 07.2 +0.4
CTGM **Chitina Glacie** 73.30 354 P **P** 16 01 08.3 +1.2
RC01 **Rabbit Creek A** 73.59 358 P **P** 16 01 09.7 +1.0
G40A **Rib Lake** 73.60 319 P **P** 16 01 08.9 -0.2
G40A IAmb IAmb 16 01 10.0
comp=Z,4.6nm,0.5s
BOSA **Boshof** 73.90 181 P **P** 16 01 11.4 +0.5
comp=Z,1.4nm,0.5s,baz=26,slow=3.9,SNR=1.5
BOSA **Boshof** 73.90 181 P **P** 16 01 11.4 +0.5
BOSA pmax pmax
comp=Z,13nm,1.5s
BOSA **Boshof** 73.90 181 P **P** 16 01 11.4 +0.5
BOSA IAmb IAmb 16 01 22.7
comp=Z,13nm,1.5s
JTU **Tsushima** 74.22 57 P **P** 16 01 13.2 +0.4
F36A **Milaca** 74.64 321 P **P** 16 01 14.5 -0.6
F36A IAmb IAmb 16 01 15.3
comp=Z,4.7nm,0.6s
BRLK **Bradley Lake** 74.94 359 P **P** 16 01 17.7 +1.1
BESE **Bessie Mountai** 75.00 350 P **P** 16 01 18.6 +1.6
KULM **Kulim** 75.21 98 P **P** 16 01 19.1 +0.3
KULM IAmb IAmb 16 01 19.9
comp=Z,6.4nm,0.9s
RCBR **Riachuelo** 75.38 246 P **P** 16 01 21.2 +1.4
RCBR pmax pmax
comp=Z,22nm,1.3s
RCBR **Riachuelo** 75.38 246 P **P** 16 01 21.2 +1.4
ERM **Erimo** 76.12 43 P **P** 16 01 25.1 +1.5
ERM pmax pmax
comp=Z,22nm,1.2s
ERM **Erimo** 76.12 43 P **P** 16 01 25.1 +1.5
KDAK **Kodiak Island** 76.95 359 P **P** 16 01 28.8 +0.8
comp=Z,4.5nm,0.6s,baz=131,slow=17,SNR=1.5
KDAK **Kodiak Island** 76.95 359 P **P** 16 01 29.0 +1.1
KDAK pmax pmax
comp=Z,91nm,1.5s
KDAK **Kodiak Island** 76.95 359 P **P** 16 01 29.0 +1.1
OHAK **Old Harbor** 77.52 360 P **P** 16 01 32.1 +1.1
ECSD **EROS Data Cent** 77.67 322 P **P** 16 01 32.2 -0.1
ECSD IAmb IAmb 16 01 32.7
comp=Z,4.1nm,0.5s
PDPR **Patillas Dam,** 79.02 284 P **P** 16 01 40.2 +0.2
EGMT **Eagleton** 79.15 332 P **P** 16 01 40.8 +0.4
EGMT IAmb IAmb 16 01 41.6
comp=Z,6.9nm,0.7s
WALA **Waterton Lakes** 79.55 335 P **P** 16 01 42.5 -0.1
LOHW **Long Hollow** 83.29 330 P **P** 16 02 03.5 +0.9
PDAR **Pinedale Array** 83.66 329 P **P** 16 02 04.4 -0.1
comp=Z,0.8nm,0.5s,baz=66,slow=5.9,SNR=11
PDAR **Pinedale Array** 83.66 329 P **P** 16 02 04.0 -0.5
BMO **Blue Mountains** 84.35 335 P **P** 16 02 07.2 -0.6
BMO pmax pmax
comp=Z,6.0nm,0.7s
BMO **Blue Mountains** 84.35 335 P **P** 16 02 07.2 -0.6
BMO IAmb IAmb 16 02 08.9
comp=Z,5.8nm,0.7s
MFID **Camas Ranch** 85.20 333 P **P** 16 02 12.2 +0.1
MFID IAmb IAmb 16 02 13.3
comp=Z,2.8nm,0.7s
BDFB **Brasilia** 90.55 248 P **P** 16 02 38.3 +0.5
comp=Z,1.0nm,0.3s,baz=51,slow=6.5,SNR=3.1
BDFB **Brasilia** 90.55 248 P **P** 16 02 38.3 +0.5
BDFB pmax pmax
comp=Z,3.0nm,0.9s
BDFB **Brasilia** 90.55 248 IAmb IAmb 16 02 40.5
comp=Z,3.0nm,0.9s
TXAR **Lajitas Array** 92.71 318 P **P** 16 02 47.9 0.0
comp=Z,0.4nm,0.9s,baz=101,slow=4.7,SNR=2.7
WRA **Warramunga Arr** 116.40 92 PKP **PKPdf** 16 08 18.2 -0.5
comp=Z,0.3nm,0.4s,baz=321,slow=1.6,SNR=12
ASAR **Alice Springs** 118.53 95 PKP **PKPdf** 16 08 22.4 -0.3
comp=Z,1.0nm,0.6s,baz=320,slow=1.6,SNR=24
STKA **Stephens Creek** 128.93 98 PKP **PKPdf** 16 08 42.7 +0.3
comp=Z,1.5nm,0.5s,baz=294,slow=3.4,SNR=4.9

DJA 16 16:00:30.0±0.3,1°S±3°×12°2E±°, h10km,M3.7/9,mb3.9/2, MLv3.6/9,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.67**	**138**	P	Pb	16 00 43.8	0.0
APSI	**Ampana**	**0.77**	**241**	P	Pg	16 00 44.3	-0.5
MRSI	**Marisa**	**1.08**	**339**	P	Pg	16 00 50.1	-0.7
GTOI	**Gorontalo**	**1.36**	**31**	P	Pn	16 00 54.9	-0.1
TTSI	**Tana Toraja**	**3.53**	**225**	P	Pn	16 01 25.3	+0.4
SANI	**Sanana**	**3.96**	**112**	P	Pn	16 01 30.2	-0.7
SPSI	**Sidrap Palu**	**4.25**	**217**	P	Pn	16 01 35.1	+0.2
BNSI	**Bone**	**4.43**	**210**	P	Pn	16 01 37.7	+0.4

IDC ***16*** *16:07:43.6±2.8,5.°69S×146.°56E,h71km±27km,mb3.5/11, mb1 3.7/14,mb1mx3.6/29,mbtmp3.9/14,MS3.1/1, Ms1 3.1/1,ms1mx2.6/18,Error ellipse: s-maj=24.5km s-min=17.1km az=75.0*

NEIC ***16*** *16:07:44.0±2.1,5.°66S±0.°07×146.°4E±0.°1,h75km±7km, mb4.1/16,Error ellipse: s-maj=20.1km s-min=9.9km az=94.0*

ISC 16 16:07:44.1±0.7,5.°70S±0.°06×146.°5E±0.°1,h75km,n40, σ0s92/42,mb3.9/15,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.74**	**14**	Pn	**Pn**	**16 08 39.0**	**-0.6**
PMG	**Port Moresby**	**3.75**	**169**	P	**Pn**	**16 08 39.8**	**+0.2**
	7.5nm,0.3s,baz=344,slow=7.4,SNR=34						
PMG				S	**Sn**	**16 09 22.3**	**-0.3**
	10.0nm,0.3s,baz=155,slow=22,SNR=6.4						
PMG				LR	LR	16 10 35.6	
	comp=Z,222nm,18.8s,baz=78,slow=46						
PMG	**Port Moresby**	**3.75**	**169**		**Pn**	**16 08 39.5**	**-0.1**
COEN	**Coen**	**8.82**	**201**	Pn	**Pn**	**16 09 49.9**	**+0.9**
CTA	**Charters Tower**	**14.30**	**181**	P	**P**	**16 11 05.7**	**-2.3**
	0.3nm,0.3s,baz=0.9,slow=12,SNR=2.2						
CTAO	**Charters Tower**	**14.30**	**181**	Pn	**Pn**	**16 11 05.2**	**+2.2**
SIJI	**Sorong**	**15.90**	**287**	P	**P**	**16 11 26.2**	**+0.3**
	1.4nm,0.3s,baz=117,slow=14,SNR=4.8						
MTN	**Manton Dam**	**16.70**	**244**	Pn	**Pn**	**16 11 32.9**	**-0.7**
MTN				IAmb	IAmb	16 11 44.9	
	comp=Z,42nm,1.5s						
WB0	**Warramunga Arr**	**18.26**	**219**	P	**P**	**16 11 51.6**	**-0.2**
WR0	**Warramunga Arr**	**18.31**	**218**	P	**P**	**16 11 51.6**	**-0.8**
WR0				IAmb	IAmb	16 11 56.6	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**18.41**	**219**	P	**P**	**16 11 52.3**	**-1.2**
WRAB				IAmb	IAmb	16 12 00.5	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**18.41**	**219**	P	**P**	**16 11 52.6**	**-0.9**
WRA	**Warramunga Arr**	**18.42**	**219**	P	**P**	**16 11 52.5**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=42,slow=12,SNR=21						
WRA				PcP	**PcP**	**16 12 22.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=21,slow=1.7,SNR=2.4						
AS31	**Alice Springs**	**21.57**	**213**	P	**P**	**16 12 27.5**	**-0.2**
ASAR	**Alice Springs**	**21.57**	**213**	P	**P**	**16 12 27.8**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=44,slow=9.0,SNR=28						
ASAR				PcP	**PcP**	**16 28.7**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=46,slow=2.7,SNR=1.8						
ASAR	**Alice Springs**	**21.57**	**213**	P	**P**	**16 12 27.3**	**-0.5**
SOEI	**Soe**	**22.35**	**258**	P	**P**	**16 12 36.5**	**+0.1**
BATI	**Baumata**	**23.01**	**257**	P	**P**	**16 12 44.3**	**+1.2**
	comp=Z,12nm,0.7s,baz=38,slow=7.0,SNR=3.8						
FITZ	**Fitzroy Crossi**	**23.77**	**237**	P	**P**	**16 12 50.2**	**+0.2**
	comp=Z,23nm,0.4s,baz=59,slow=8.8,SNR=15						
FITZ	**Fitzroy Crossi**	**23.77**	**237**	P	**P**	**16 12 49.5**	**-0.6**
MMRI	**Maumere**	**24.21**	**262**	P	**P**	**16 12 54.4**	**+0.4**
STKA	**Stephens Creek**	**26.44**	**189**	P	**P**	**16 13 15.4**	**+1.3**
KAPI	**Kappang**	**26.60**	**270**	P	**P**	**16 13 13.9**	**-1.8**
KAPI				IAmb	IAmb	16 13 15.8	
	comp=Z,16nm,1.1s						
XMIS	**Christmas Isla**	**40.66**	**261**	P	**P**	**16 15 17.1**	**-0.4**
JSD	**Sado**	**44.18**	**351**	P	**P**	**16 15 46.9**	**+1.3**
JSD				IAmb	IAmb	16 16 06.2	
	comp=Z,7.0nm,1.2s						
KSRS	**Korea Array**	**46.28**	**340**	P	**P**	**16 16 01.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=158,slow=10,SNR=2.8						
USRK	**Ussuriysk Ar.**	**51.35**	**347**	P	**P**	**16 16 41.5**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=146,slow=8.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**52.63**	**298**	P	**P**	**16 16 51.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=118,slow=5.8,SNR=6.8						
SONM	**Songino Array**	**63.88**	**331**	P	**P**	**16 18 09.7**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=123,slow=5.3,SNR=4.6						
CASY	**Casey**	**65.40**	**195**	P	**P**	**16 18 18.9**	**+0.4**
VNDA	**Vanda**	**72.24**	**177**	P	**P**	**16 19 01.0**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=345,slow=5.0,SNR=5.8						
VNDA	**Vanda**	**72.24**	**177**	IAmb	IAmb	16 19 04.7	
	comp=Z,1.5nm,0.9s						
MK31	**Makanchi Array**	**76.92**	**321**	P	**P**	**16 19 28.0**	**-0.5**
MK31				IAmb	IAmb	16 19 29.3	
	comp=Z,1.9nm,1.4s						
MKAR	**Makanchi Array**	**76.92**	**321**	P	**P**	**16 19 28.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=98,slow=6.7,SNR=5.4						

MKAR	Makanchi Array	76.92	321	P	P	16 19 27.9	-0.6
MAKZ	Makanchi	77.13	321	P	P	16 19 29.3	-0.3
MAKZ				IAmb	IAmb	16 19 48.5	
	comp=Z,2.3nm,1.4s						
ZALV	Zalesovo Beam	78.47	328	P	P	16 19 36.2	-0.7
	comp=Z,0.6nm,0.6s,baz=118,slow=7.7,SNR=2.7						
ZALV	Zalesovo Beam	78.47	328	P	P	16 19 35.7	-1.2
ILAR	Eielson Array	85.42	23	P	P	16 20 12.1	-1.0
	comp=Z,1.3nm,0.6s,baz=253,slow=5.0,SNR=20						
TORD	Torodi Ar. Bea	144.50	285	PKP	PKPab	16 27 11.5	+0.1
	comp=Z,1.0nm,1.0s,baz=66,slow=1.7,SNR=1.9						

JMA 16 16:21:09.5±0.1, 37.57N×141.94E, h33$^{km}_{\pm 3km}$, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	Ishinomakikobu	0.83	333	P	Pn	16 21 24.8	-0.1
JIKH				S	Sn	16 21 35.1	-0.8
JMST	Minamisoumatoc	0.85	281	P	Pn	16 21 25.1	0.0
JMST				eS	Sn	16 21 36.1	-0.3
JFK	Kawauchi	0.87	257	P	Pn	16 21 25.4	-0.1
JFK				S	Sn	16 21 36.5	-0.5
JMM	Marumori	0.96	288	P	Pn	16 21 26.9	+0.3
JMM				S	Sn	16 21 39.0	-0.1
JIO	Ouri	1.00	332	P	Pn	16 21 27.4	+0.2
JIO				S	Sn	16 21 39.3	-0.8
ONAJ	Iwakimizuishiy	1.02	243	P	Pn	16 21 27.4	-0.2
ONAJ				S	Sn	16 21 39.9	-0.9
JFT	Otama	1.27	268	P	Pb	16 21 32.2	-0.8
JFT				S	Sb	16 21 48.1	-1.0
JOU	Okura	1.28	309	P	Pb	16 21 32.3	-0.8
JOU				S	Sb	16 21 48.5	-0.8
JKMT	Kesennumamotoy	1.29	344	P	Pn	16 21 31.6	+0.4
JKMT				eS	Sn	16 21 47.1	-0.3
JMK	Ichinoseki	1.49	338	P	Pn	16 21 34.9	+0.9
JMK				eS	Sn	16 21 53.1	+0.8
JYS	Shirataka	1.62	294	eS	Sb	16 21 58.3	-0.6
JOM	Ohasama	1.97	345	P	Pn	16 21 41.7	+1.2
MAT	Matsushiro	3.16	252	P	Pn	16 22 00.8	+3.9
MAT				eS	Sn	16 22 37.5	+4.1

IDC ***16*** *17:39:24.4±0.7, 0.29S×119.92E, h0^{km}, mb4.1/16, mb1 4.2/19, mb1mx4.1/43, mbtmp4.2/19, ML3.8/3, MS3.4/8, Ms1 3.4/8, ms1mx3.1/35, Error ellipse: s-maj=24.5km s-min=12.1km az=77.0*

DJA ***16*** *17:39:28.3±0.4, 0°S×4°×12°0E±°, h67$^{km}_{\pm 31km}$, M4.5/16, mb4.5/4, mB4.8/1, MLv4.5/16, Mw(mB)4.1/1*

NEIC ***16*** *17:39:29.3±1.8, 0.39S±0.03×119.98E±0.07, h37$^{km}_{\pm 8km}$, mb4.3/20, Error ellipse: s-maj=10.1km s-min=3.8km az=90.0*

ISC 16 17:39:30.5±0.5, 0.30S±0.05×119.96E±0.05, h45^{km}, n75, σ1^{s}59/70, mb4.3/27, MS3.3/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOLI2	Tolitoli	1.62	30		Pn	17 39 56.2	-0.5
APSI	Ampana	1.79	110	P	Pn	17 39 58.1	-0.9
MRSI	Marisa	2.12	69	P	Pn	17 40 00.4	-3.1
SGKI	Sangatta, Kali	2.37	264	P	Pn	17 40 05.3	-1.6
TTSI	Tana Toraja	2.73	183	P	Pn	17 40 10.8	-1.1
LUWI	Luwuk	2.90	105	Pn	Pn	17 40 12.4	-1.9
LUWI	Luwuk	2.90	105	P	Pn	17 40 13.6	-0.7
GTOI	Gorontalo	3.19	73	P	Pn	17 40 14.5	-3.6
BKB	Balikpapan	3.21	253	Pn	Pn	17 40 14.9	-3.6
BKB	Balikpapan	3.21	253	P	Pn	17 40 14.9	-3.6
SPSI	Sidrap Palu	3.64	183	P	Pn	17 40 23.2	-1.2
BNSI	Bone	4.07	178	P	Pn	17 40 30.1	-0.3
KMSI	Cibinong	4.11	78	P	Pn	17 40 28.9	-1.9
KAPI	Kappang	4.69	183	Pn	Pn	17 40 37.8	-1.0
	11nm,0.3s,baz=347,slow=6.1,SNR=10						
KAPI				Sn	Sn	17 41 34.4	+2.5
	4.0nm,0.3s,baz=210,slow=20,SNR=1.5						
KAPI				LR	LR	17 42 44.0	
	comp=Z,428nm,19.3s,baz=354,slow=42						
KAPI	Kappang	4.69	183	Pn	Pn	17 40 38.0	-0.8
KBKI	Kotabaru	4.82	232	P	Pn	17 40 36.0	-4.6
MTKI	Muara Teweh, K	5.11	263	P	Pn	17 40 41.8	-2.8
MYLDM	Lahad Datu	5.64	345	Pn	Pn	17 40 53.2	+1.4
BSSI	Bau Bau, Buton	5.83	175	P	Pn	17 40 54.2	-0.2
	0.2nm40nm,1.3s						
SANI	Sanana	6.27	106	P	Pn	17 40 58.3	-2.2
	0.2nm36nm,0.6s						
DAV	Davao City (W)	9.22	37	LR	LR	17 45 53.8	
	comp=Z,185nm,19.2s,baz=164,slow=42						
BATI	Baumata	10.51	160	LR	LR	17 46 19.5	
	comp=Z,200nm,19.1s,baz=176,slow=39						
SIJI	Sorong	11.32	93	Pn	Pn	17 42 09.1	-0.7
	0.4nm,0.3s,baz=255,slow=20,SNR=2.3						
LEM	Lembang	13.92	242	LR	LR	17 48 24.7	
	comp=Z,102nm,18.5s,baz=52,slow=39						
FITZ	Fitzroy Crossi	18.55	163	P	P	17 43 43.4	-0.2
	0.1nm,0.3s,baz=336,slow=10.0,SNR=4.6						
FITZ	Fitzroy Crossi	18.55	163	P	P	17 43 42.6	-1.0
PSI	Prapat	21.26	278	LR	LR	17 53 44.3	
	comp=Z,150nm,18.1s,baz=91,slow=41						
WRAB	Tennant Creek	24.07	145	P	P	17 44 40.4	-1.4
WRAB				IAmb	IAmb	17 44 44.4	
	comp=Z,16nm,1.2s						
WRA	Warramunga Arr	24.07	145	P	P	17 44 40.5	-1.4
	comp=Z,6.6nm,1.1s,baz=325,slow=9.9,SNR=14						
WB2	Warramunga Arr	24.07	145	P	P	17 44 40.4	-1.5
WB2				IAmb	IAmb	17 44 45.0	
	comp=Z,12nm,1.0s						
WR0	Warramunga Arr	24.20	145	P	P	17 44 41.4	-1.7
WR0				IAmb	IAmb	17 44 44.9	
	comp=Z,6.4nm,0.9s						
ASAR	Alice Springs	26.88	151	P	P	17 45 09.0	+1.6
	comp=Z,0.9nm,0.7s,baz=345,slow=15,SNR=17						
ASAR				PcP	PcP	17 48 28.1	-1.0
	comp=Z,0.3nm,0.6s,baz=346,slow=2.5,SNR=5.8						
ASAR	Alice Springs	26.88	151	P	P	17 45 07.1	-0.3
CMAR	Chiang Mai Arr	27.83	313	P	P	17 45 16.4	+0.5
	comp=Z,0.4nm,0.6s,baz=136,slow=7.9,SNR=6.9						
CMAR				LR	LR	17 57 55.3	
	comp=Z,51nm,18.4s,baz=95,slow=40						
CMAR	Chiang Mai Arr	27.83	313	P	P	17 45 14.8	-1.1
STKA	Stephens Creek	37.48	149	P	P	17 46 39.9	-0.1
	comp=Z,2.1nm,0.7s,baz=319,slow=8.0,SNR=4.4						
STKA	Stephens Creek	37.48	149	IAmb	IAmb	17 46 43.2	
	comp=Z,2.8nm,1.3s						
KSAR	Wonju Array Be	38.26	10	P	P	17 46 45.6	-0.9
KSRS	Korea Array	38.28	10	P	P	17 46 48.0	+1.4
	comp=Z,1.5nm,0.8s,baz=184,slow=9.3,SNR=11						
KSRS				LR	LR	18 04 46.4	
	comp=Z,39nm,18.2s,baz=206,slow=40						
KS19	Wonju Array Si	38.32	10	P	P	17 46 45.7	-1.2
MAT	Matsushiro	40.38	23	P	P	17 47 03.9	-0.3
MJAR	Matsushiro Arr	40.38	23	P	P	17 47 03.8	-0.4
	comp=Z,6.8nm,1.0s,baz=189,slow=8.6,SNR=10						
MJAR	Matsushiro Arr	40.38	23	P	P	17 47 00.5	-3.8
HHC	Hu-ho-hao-te	41.66	350	eP	P	17 47 17.1	+2.3
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,5.8s						
JSD	Sado	41.71	22	P	P	17 47 15.1	0.0
JSD				IAmb	IAmb	17 47 18.3	
	comp=Z,6.5nm,0.9s						
GTA	Gaotai	43.62	337	eP	P	17 47 32.6	+1.9
GTA				pP	pP	17 47 36.8	-6.4
GTA				sP	sP	17 47 39.6	-8.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MDJ	Mudanjiang	45.54	10	P	P	17 47 47.4	+1.6
USA0B	Ussuriysk Arra	45.59	12	P	P	17 47 46.5	+0.3
USRK	Ussuriysk Ar.	45.59	12	P	P	17 47 46.4	+0.2
	comp=Z,6.6nm,0.8s,baz=181,slow=6.8,SNR=14						
USRK	Ussuriysk Ar.	45.59	12	P	P	17 47 47.4	+1.2
ASAJ	Asahikawa	48.61	22	P	P	17 48 09.8	+0.1
	comp=Z,6.6nm,0.8s,baz=204,slow=4.9,SNR=6.4						
JKA	Kamikawa-asahi	48.61	22	P	P	17 48 09.5	-0.3
ULN	Ulaanbaatar	49.27	349	P	P	17 48 16.1	+1.1
ULN				IAmb	IAmb	17 48 22.3	
	comp=Z,3.5nm,1.1s						
SONM	Songino Array	49.38	348	P	P	17 48 15.5	-0.2
	comp=Z,1.0nm,0.6s,baz=168,slow=8.3,SNR=11						
SONM	Songino Array	49.38	348	P	P	17 48 17.1	+1.4
KLR	Kul'dur	50.38	10	P	P	17 48 23.6	+0.5
	comp=Z,2.6nm,0.8s,baz=232,slow=6.3,SNR=9.0						
WMQ	Urumqi	52.52	331	eP	P	17 48 41.6	+2.2
KSH	Kashi	56.41	320	eP	P	17 49 12.4	+4.6
KSH				pP	pP	17 49 19.3	-1.3
KSH				pmax	pmax		
	comp=Z,13nm,1.3s						
KSH				pmax	pmax		
	comp=Z,260nm,4.6s						
MK31	Makanchi Array	57.31	330	P	P	17 49 14.8	+0.9
MKAR	Makanchi Array	57.31	330	P	P	17 49 13.8	-0.1
	comp=Z,1.0nm,0.6s,baz=136,slow=7.6,SNR=13						
MKAR	Makanchi Array	57.31	330	P	P	17 49 14.8	+0.9
AAK	Ala-Archa	59.07	322	LR	LR	18 17 10.5	
	comp=Z,39nm,19.1s,baz=13,slow=38						
AAK	Ala-Archa	59.07	322	P	P	17 49 26.6	+0.1
AAK				IAmb	IAmb	17 49 35.4	
	comp=Z,1.2nm,0.8s						
ZAA0	Zalesovo Array	61.37	337	P	P	17 49 41.8	+0.1
ZAA0				IAmb	IAmb	17 49 43.9	
	comp=Z,2.7nm,1.0s						
ZALV	Zalesovo Beam	61.37	337	P	P	17 49 41.5	-0.3
	comp=Z,1.3nm,0.6s,baz=126,slow=5.6,SNR=6.5						
ZALV	Zalesovo Beam	61.37	337	P	P	17 49 41.6	-0.2
PETK	Petropavlovsk-	61.80	25	P	P	17 49 44.6	0.0
	comp=Z,3.8nm,0.8s,baz=222,slow=4.0,SNR=6.6						
PETK	Petropavlovsk-	61.80	25	P	P	17 49 44.3	-0.4
MA2	Magadan	64.37	17	P	P	17 50 02.1	+0.5
	comp=Z,3.6nm,0.8s,baz=190,slow=7.1,SNR=11						
MA2	Magadan	64.37	17	P	P	17 50 02.0	+0.5
ABKAR	Akbulak array	71.13	323	P	P	17 50 45.6	+1.3
ABKAR				IAmb	IAmb	17 50 51.8	
	comp=Z,5.6nm,1.3s						
ABKAR	Akbulak array	71.13	323	P	P	17 50 44.4	+0.1
TIXI	Tiksi	72.06	3	P	P	17 50 48.4	-1.1
	comp=Z,2.3nm,0.8s,baz=164,slow=2.4,SNR=7.4						
TIXI	Tiksi	72.06	3	P	P	17 50 48.5	-1.0
TIXI				IAmb	IAmb	17 50 53.2	
	comp=Z,3.1nm,0.8s						
KMBO	Kilima Mbogo	82.71	269	P	P	17 51 50.5	-0.1
	comp=Z,1.3nm,0.7s,baz=43,slow=11,SNR=3.7						

GCG ***16*** *17:53:40.1±0.5, 12.83N×88.75W, h30$^{km}_{\pm 259km}$, MD4.2*

SNET ***16*** *17:53:40.8±1.1, 12.96N×88.80W, h52$^{km}_{\pm 9km}$, ML4.2*

INET ***16*** *17:53:40.6, 12.88N×88.81W, h35^{km}, MW3.7*

IDC ***16*** *17:53:43.1±2.2, 13.09N×88.70W, h79$^{km}_{\pm 18km}$, mb3.2/5, mb1 3.6/9, mb1mx3.5/37, mbtmp3.6/9, MS3.3/2, Ms1 3.3/2, ms1mx2.6/17, Error ellipse: s-maj=49.7km s-min=22.5km az=46.0*

ISC 16 17:53:40.5±1.2, 12.93N±0.09×88.75W±0.04, h53$^{km}_{\pm 9km}$, n43, σ1^{s}65/57, mb3.5/5, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALJI	Alcalda de J	0.43	24	eP	Pn	17 53 51.7	+0.5
ALJI				eS	Sn	17 54 00.4	+1.5
ALJI				IAML		17 54 03.0	
	comp=Z,18μm,0.2s						
JUCU	Jucuarın	0.58	56	eP	Pn	17 53 53.3	+0.3
JUCU				eS	Sn	17 54 03.1	+1.0
COEB	Comit de Eme	0.60	21	i P	Pn	17 53 53.8	+0.4
COEB				eS	Sn	17 54 03.7	+1.1
COEB				IAML		17 54 07.7	
	comp=Z,13μm,0.3s						
TECA	Tecapa	0.61	23	i P	Pn	17 53 54.0	+0.5
LCY	Lacayo	0.66	42	eP	Pn	17 53 54.5	+0.5
PACA	Pacayal	0.68	38	eP	Pn	17 53 55.0	+0.8
PACA				eS	Sn	17 54 05.5	+1.3
COEG	Centro de Oper	0.70	349	eP	Pn	17 53 54.4	0.0
COEG				eS	Sn	17 54 04.8	+0.2
COEG				IAML		17 54 08.8	
	comp=Z,13μm,0.4s						
PQSS	Presa 15 de Se	0.71	15	eP	Pn	17 53 55.2	+0.6
PQSS				eS	Sn	17 54 06.1	+1.3
PQSS				IAML		17 54 09.1	
	comp=Z,8μm,0.2s						
LFRS	El Faro	0.75	336	i P	Pn	17 53 55.0	-0.2
LALI	Alcalda de L	0.79	315	eP	Pn	17 53 55.0	-0.5
LALI				eS	Sn	17 54 05.8	-0.6
SNET	Serv Nac Est T	0.89	328	eP	Pn	17 53 56.6	-0.3
SNET				eS	Sn	17 54 08.7	-0.2
SNET				IAML		17 54 10.5	
	comp=Z,5μm,0.2s						
OPAM	Oficina de Pla	0.89	331	IAML		17 54 12.7	
	comp=Z,4μm,0.3s						
UEES	Universidad Ev	0.92	329	eS	Sn	17 54 09.4	-0.2
UEES				IAML		17 54 15.7	
	comp=Z,4μm,0.6s						
LCND	La Caada	0.92	66	eP	Pn	17 53 58.0	+0.8
LCND				eS	Sn	17 54 11.2	+1.7
LCND				IAML		17 54 15.1	
	comp=Z,8μm,0.3s						
BOQS	Boqueron	0.95	327	eP	Pn	17 53 58.0	+0.1
BOQS				eS	Sn	17 54 10.9	+0.3
CNCH	Conchagua	0.95	69	eP	Pn	17 53 58.4	+0.6
CNCH				eS	Sn	17 54 12.3	+1.7
JAYA	Jayaque - finc	0.99	317	eP	Pn	17 53 58.2	-0.2
CEDA	San Andres	1.07	324	IAML		17 54 16.9	
	comp=Z,3μm,0.3s						
TACO	Tacachico	1.19	330	eP	Pn	17 54 00.9	0.0
TACO				eS	Sn	17 54 16.4	+0.4
CEVE	Cerro Verde	1.23	316	eP	Pn	17 54 01.9	+0.3
CEVE				eS	Sn	17 54 17.8	+0.3
CEVE				IAML		17 54 25.2	
	comp=Z,5μm,0.4s						
SBLS	San Blas	1.24	317	eP	Pn	17 54 02.1	+0.4
SNJE	San Jose	1.25	318	eP	Pn	17 54 02.1	+0.3
MTO3	Montecristo	1.58	338	eP	Pn	17 54 06.4	+0.1
TGUH	Tegucigalpa,Un	1.82	52	i P	Pn	17 54 10.4	+0.8
NBG	Las Nubes	2.26	317	eP	Pn	17 54 17.5	+1.8
PCG	Pacaya	2.32	309	eP	Pn	17 54 18.1	+1.7
PCG				eS	Sn	17 54 47.3	+3.3
MRL	Marmol	2.32	337	eP	Pn	17 54 18.2	+1.7
MRL				eS	Sn	17 54 48.3	+4.3
FUG	Fuego 3	2.53	307	eP	Pn	17 54 21.8	+2.5
FUG				eS	Sn	17 54 52.3	+3.2
APG	El Apazote	2.65	321	P	Pn	17 54 21.7	+0.7
	comp=Z,2.7nm,0.3s,baz=116,slow=8.6,SNR=10						
APG				S	Sn	17 54 58.3	+6.3
	comp=Z,3.9nm,0.3s,baz=22,slow=22,SNR=5.0						
JTS	Las Juntas de	4.55	125	P	Pn	17 54 50.4	+3.6
	comp=Z,9.1nm,0.3s,baz=21,slow=14,SNR=6.6						
JTS				S	Sn	17 55 37.0	-1.5
	baz=270,slow=18,SNR=1.6						
CMIG	Matias Romero	7.23	306	P	Pn	17 55 24.2	+0.6
	comp=Z,0.6nm,0.3s,baz=109,slow=9.2,SNR=2.6						
CMIG				S	Sn	17 56 44.1	-0.3
	comp=Z,0.7nm,0.3s,baz=70,slow=13,SNR=2.4						
CMIG				LR	LR	17 58 26.1	
	comp=Z,55nm,21.7s,baz=164,slow=39						
TEIG	Tepich	7.27	4	P	Pn	17 55 26.0	+1.9
	comp=Z,2.5nm,0.3s,baz=194,slow=5.5,SNR=11						
TXAR	Lajitas Array	21.41	322	P	P	17 58 25.1	+1.0
	comp=Z,0.6nm,0.6s,baz=139,slow=11,SNR=10						
NNA	Nana	27.43	154	LR	LR	18 09 15.1	
	comp=Z,266nm,20.0s,baz=250,slow=34						
PDAR	Pinedale Array	34.76	333	P	P	18 00 25.7	-0.3
	comp=Z,0.3nm,0.4s,baz=130,slow=12,SNR=3.9						
NVAR	Mina Array Bea	36.51	319	P	P	18 00 41.9	+0.8
	comp=Z,0.4nm,0.7s,baz=122,slow=6.7,SNR=2.5						
NVAR				PcP	PcP	18 03 03.7	-0.3
	comp=Z,0.5nm,0.6s,baz=117,slow=3.3,SNR=5.7						
H03N2	Juan Fernandez	47.05	169	T	T	18 52 26.6	
	baz=348						
H03N1	Juan Fernandez	47.06	169	T	T	18 52 21.8	
	baz=348						
H03N3	Juan Fernandez	47.07	169	T	T	18 52 24.3	
	baz=348						
YKA	Yellowknife Ar	52.82	345	P	P	18 02 48.2	-2.0
	comp=Z,0.8nm,0.4s,baz=139,slow=8.2,SNR=27						
ILAR	Eielson Array	65.07	336	P	P	18 04 12.7	-2.5
	comp=Z,0.3nm,0.6s,baz=128,slow=5.4,SNR=5.7						
WRA	Warramunga Arr	138.18	255	PKP	PKPdf	18 13 00.2	-0.3
	comp=Z,0.4nm,0.8s,baz=89,slow=2.2,SNR=5.2						
ASAR	Alice Springs	138.26	249	PKP	PKPdf	18 12 59.7	-0.9
	comp=Z,0.1nm,0.3s,baz=90,slow=3.1,SNR=1.6						

MEX ***16*** *17:56:46.8±0.6, 14.63N×92.53W, h79$^{km}_{\pm 7km}$, MD4.0*

GCG ***16*** *17:56:49.5±0.3, 13.98N×92.42W, h35^{km}, MD3.8*

ISC 16 17:56:48.1±1.8, 14.7N±0.1×92.61W±0.08, h57$^{km}_{\pm 14km}$, n8, σ1^{s}19/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		0.38	61	i P	Pn	17 56 58.1	-0.5
THIG				i S	Sn	17 57 06.7	+0.5
PCIG		1.14	329	eP	Pn	17 57 08.0	+0.1
PCIG				eS	Sn	17 57 23.7	+1.0
CCIG	Comitan	1.62	16	i P	Pn	17 57 13.8	-0.7
CCIG				i S	Sn	17 57 33.9	-0.5
FUG	Fuego 3	1.73	99	eP	Pn	17 57 15.8	-0.3
FUG				eS	Sn	17 57 36.5	-0.7
PCG	Pacaya	1.97	99	eP	Pn	17 57 18.0	-1.3
PCG				eS	Sn	17 57 42.2	-0.9
TGIG		2.10	346	i P	Pn	17 57 20.8	-0.2
TGIG				eS	Sn	17 57 46.6	+0.4
NBG	Las Nubes	2.19	93	eP	Pn	17 57 23.3	+0.8
NBG				eS	Sn	17 57 51.7	+3.1
CMIG	Matias Romero	3.22	317	i P	Pn	17 57 35.4	-0.8
CMIG				eS	Sn	17 58 13.8	+0.5

PGC ***16*** *18:05:36.7±1.1, 49.06N×129.81W, h10^{km}, mb4.0, MLSn3.2/31, Mw3.8/31, 250km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region*

IDC ***16*** *18:05:37.0±1.2, 49.14N×129.78W, h0^{km}, mb3.7/5, mb1 4.0/14, mb1mx3.7/55, mbtmp3.8/14, ML3.6/9, MS3.3/14, Ms1 3.3/14, ms1mx3.2/42, Error ellipse: s-maj=22.7km s-min=11.6km az=54.0*

NEIC ***16*** *18:05:38.5±2.6, 49.30N±0.08×129.6W±0.1, h10$^{km}_{\pm 2km}$, mb4.0/58, Mwr3.8(OTT), Error ellipse: s-maj=17.8km s-min=10.7km az=230.0*

ANF ***16*** *18:05:43.7±0.5, 49.17N×128.96W, h0^{km}, ML3.5/2, Error ellipse: s-maj=8.0km s-min=4.9km az=81.0, Hypocentre not reviewed by the ISC*

ISC 16 18:05:40.1±3.3, 49.17N±0.06×129.61W±0.06, h22$^{km}_{\pm 27km}$, n198, σ1^{s}45/208, mb3.9/11, MS3.1/5, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	Holberg	1.75	33	Pn	Pn	18 06 07.7	-1.4
HOLB				Sn	Sn	18 06 29.8	-1.0
EDB	Eliza Dome	1.77	66	Pn	Pn	18 06 07.4	-1.9
EDB				Sn	Sn	18 06 30.7	-0.4
FHRB	Fair Harbour	1.85	61	Pn	Pn	18 06 08.9	-1.4
MAYB	Maynard	2.00	51	Pn	Pn	18 06 11.1	-1.5
ETB	Estevan Point	2.02	83	Pn	Pn	18 06 11.1	-1.6
PHC	Port Hardy	2.08	42	Pn	Pn	18 06 12.6	-0.9
PHC				Sn	Sn	18 06 38.4	-0.4
WOSB	Woss	2.21	62	Pn	Pn	18 06 14.5	-0.9
GDR	Gold River	2.41	74	Pn	Pn	18 06 16.7	-1.4
TOFB	Tofino	2.43	89	Pn	Pn	18 06 16.6	-1.8
TOFB				Sn	Sn	18 06 45.4	-2.1
NCRB	Newcastle Ridg	2.61	61	Pn	Pn	18 06 20.7	-0.3
B012	Ucluelet	2.69	94	Pn	Pn	18 06 19.8	-2.2
B012				Sn	Sn	18 06 51.3	-2.4
BTB	Buttle Lake	2.69	82	Pn	Pn	18 06 20.8	-1.3
BTB				Sn	Sn	18 06 53.4	-0.8
OZB	Mount Ozzard	2.72	93	Pn	Pn	18 06 20.2	-2.2
OZB				Sn	Sn	18 06 52.1	-2.4
CBB	Campbell River	2.90	71	Pn	Pn	18 06 24.2	-0.6
B928	Bamfield	2.97	95	Pn	Pn	18 06 23.5	-2.2
B928				Sn	Sn	18 06 59.0	-1.6
B927	Port Alberni	3.15	87	Pn	Pn	18 06 27.4	-0.9
BBB	Bella Bella	3.16	17	Pn	Pn	18 06 27.8	-0.6
	21nm,0.3s,baz=211,slow=11,SNR=252						
BBB				Sn	Sn	18 07 03.0	-2.3
	58nm,0.3s,baz=118,slow=24,SNR=12						
BBB	Bella Bella	3.16	17	Pn	Pn	18 06 27.8	-0.6
BBB				Sn	Sn	18 07 03.4	-2.0
BBB	Bella Bella	3.16	17	Pn	Pn	18 06 27.7	-0.7
MGB	Mount Grey	3.24	91	Pn	Pn	18 06 27.9	-1.7
MGB				Sn	Sn	18 07 05.7	-1.9
HG4B	Hotspring	3.28	343	Pn	Pn	18 06 28.1	-2.0
OCP	Olym-Cheeka Pk	3.42	103	Pn	Pn	18 06 30.2	-1.7
TXB	Texada	3.42	79	Pn	Pn	18 06 31.2	-0.8
TXB				Sn	Sn	18 07 11.1	-0.7
PFB	Port Renfrew	3.47	98	Pn	Pn	18 06 30.8	-1.8
PFB				Sn	Sn	18 07 10.9	-2.1
GHNB	Nanoose	3.53	86	Pn	Pn	18 06 33.1	-0.3
GHNB				Sn	Sn	18 07 13.9	-0.5
B926	Mesachie Lake	3.63	94	Pn	Pn	18 06 33.4	-1.5
B926				Sn	Sn	18 07 16.3	-0.6
BNB	Barry Inlet	3.67	339	Pn	Pn	18 06 32.9	-2.5
NLLB	Nanaimo Lost L	3.69	87	P	Pn	18 06 35.3	-0.3
NLLB				Sn	Sn	18 07 19.0	+0.5
SHB	Sechelt	3.77	81	Pn	Pn	18 06 35.5	-1.5
OBC	Olympics--Boni	3.85	105	Pn	Pn	18 06 36.4	-1.5
GOBB	Galiano Island	4.02	91	Pn	Pn	18 06 40.1	-0.1
STW	Striped Peak	4.07	102	Pn	Pn	18 06 39.4	-1.5
B010	North Saanich	4.10	95	Pn	Pn	18 06 40.2	-1.1
B010				Sn	Sn	18 07 27.3	-1.2
B009	North Saanich	4.10	95	Pn	Pn	18 06 40.2	-1.1
B009				Sn	Sn	18 07 27.2	-1.3
PGC	Sidney	4.10	95	Pn	Pn	18 06 40.0	-1.2
PGC	Sidney	4.10	95

J05D	**Fort Rock, OR**	**8.27**	**132**	P			18 07 41.1	
	baz=319							
NEW	**Newport**	**8.31**	**92**	Pn		**Pn**	**18 07 39.2**	**+0.1**
	0.8nm,0.3s,baz=287,slow=15,SNR=5.2							
NEW				LR		LR	18 10 53.3	
	comp=Z,422nm,19.2s,baz=235,slow=38							
NEW	**Newport**	**8.31**	**92**	Pn		**Pn**	**18 07 38.6**	**-0.5**
NEW	**Newport**	**8.31**	**92**	P			18 07 38.8	
	baz=282							
NBC4	**NorthernBC 4**	**8.51**	**37**	Pn		**Pn**	**18 07 44.4**	**+2.5**
L04D	**Klamath Falls**	**8.63**	**141**	P			18 07 46.3	
	baz=327							
YBH	**Yreka Blue Hor**	**8.88**	**144**	Pn		**Pn**	**18 07 49.6**	**+2.6**
	0.2nm,0.3s,baz=338,slow=12,SNR=19							
YBH				LR		LR	18 10 42.6	
	comp=Z,140nm,18.4s,baz=332,slow=34							
YBH	**Yreka Blue Hor**	**8.88**	**144**	Pn		**Pn**	**18 07 49.4**	**+2.3**
M02C	**Callahan**	**9.12**	**146**	P			18 07 53.7	
	baz=332,SNR=6.8							
M04C	**Macdoel**	**9.19**	**141**	P			18 07 53.7	
	baz=327,SNR=7.2							
DLBC	**Dease Lake**	**9.28**	**359**	Pn		**Pn**	**18 07 54.1**	**+1.6**
	0.2nm,0.3s,baz=184,slow=16,SNR=3.7							
DLBC				LR		LR	18 11 22.5	
	comp=Z,245nm,19.6s,baz=180,slow=37							
DLBC	**Dease Lake**	**9.28**	**359**			**Pn**	**18 07 51.8**	**-0.7**
NBC5	**NorthernBC 5**	**9.33**	**24**	Pn		**Pn**	**18 07 55.7**	**+2.6**
BMO	**Blue Mountains**	**9.45**	**113**			**Pn**	**18 07 55.6**	**+0.7**
N02D	**Trinity Center**	**9.54**	**147**	P			18 07 59.6	
	baz=332,SNR=10							
WDC	**Whiskeytown Da**	**9.95**	**147**	Pn		**Pn**	**18 08 04.2**	**+2.7**
WVOR	**Wild Horse Val**	**10.20**	**127**	Pn		**Pn**	**18 08 05.6**	**+0.5**
JTMT	**Jette**	**10.29**	**92**	Pn		**Pn**	**18 08 05.7**	**-0.6**
WALA	**Waterton Lakes**	**10.30**	**85**	Pn		**Pn**	**18 08 05.5**	**-1.0**
O03E	**Paynes Creek**	**10.47**	**145**	P			18 08 11.8	
	baz=331							
MSO	**Missoula**	**10.76**	**97**	P			18 08 12.5	
	baz=289							
SKAG	**Skagway**	**10.83**	**344**	P			18 08 21.4	
	baz=159							
ORV	**Oroville**	**11.23**	**146**	Pn		**Pn**	**18 08 21.9**	**+2.9**
BEKR	**Beckworth**	**11.40**	**141**	Pn		**Pn**	**18 08 22.4**	**+0.8**
PAHR	**Pah Rah Range**	**11.95**	**139**	Pn		**Pn**	**18 08 29.0**	**0.0**
AFDM	**Forest Hills D**	**11.96**	**146**			**Pn**	**18 08 31.6**	**+2.6**
VCNR	**Virginia City**	**12.18**	**140**	Pn		**Pn**	**18 08 33.5**	**+1.2**
MCMT	**McKenzie Canyo**	**12.24**	**104**	Pn		**Pn**	**18 08 35.2**	**+2.1**
BOZ	**Bozeman (W)**	**12.70**	**100**	Pn		**Pn**	**18 08 40.1**	**+0.8**
BOZ	**Bozeman (W)**	**12.70**	**100**	P			18 08 40.0	
	baz=294							
KVN	**Kaiserville**	**13.05**	**137**	Pn		**Pn**	**18 08 45.3**	**+1.0**
EGMT	**Eagleton**	**13.20**	**87**	Pn		**Pn**	**18 08 44.7**	**-1.3**
EGMT	**Eagleton**	**13.20**	**87**	P			18 08 45.8	
	baz=283							
ELK	**Elko**	**13.20**	**124**	LR		LR	18 13 26.7	
	comp=Z,85nm,18.7s,baz=318,slow=35							
RYN	**Ryan**	**13.22**	**139**	Pn		**Pn**	**18 08 48.8**	**+2.4**
YHL	**Hebgen Lake**	**13.29**	**102**			**Pn**	**18 08 49.9**	**+2.3**
YHB	**Horse Butte**	**13.33**	**102**	Pn		**Pn**	**18 08 46.2**	**-1.7**
NVAR	**Mina Array Bea**	**13.48**	**139**	Pn		**Pn**	**18 08 52.7**	**+2.7**
	0.5nm,0.3s,baz=310,slow=13,SNR=2.4							
NVAR				LR		LR	18 14 18.3	
	comp=Z,80nm,18.5s,baz=6.5,slow=38							
YMR	**Madison River**	**13.51**	**102**	Pn		**Pn**	**18 08 50.5**	**+0.1**
YHH	**Holmes Hill**	**13.53**	**102**			**Pn**	**18 08 51.5**	**+0.6**
LHV	**Little Huntoon**	**13.54**	**140**			**Pn**	**18 08 51.8**	**+1.2**
NV11	**Mina Array Sit**	**13.54**	**138**			**Pn**	**18 08 53.2**	**+2.4**
YNR	**Norris Junctio**	**13.68**	**102**	Pn		**Pn**	**18 08 50.4**	**-2.3**
YPP	**Pitchstone Pla**	**13.79**	**104**	Pn		**Pn**	**18 08 52.7**	**-1.7**
H17A	**Grant Village**	**13.88**	**103**			**Pn**	**18 08 58.4**	**+2.8**
GCMT	**Greyclif**	**13.90**	**97**	Pn		**Pn**	**18 08 56.8**	**+1.1**
HVU	**Hansel Valley**	**13.92**	**116**	Pn		**Pn**	**18 08 56.4**	**+0.4**
FLWY	**Flagg Ranch**	**13.95**	**104**	Pn		**Pn**	**18 08 56.0**	**-0.4**
YNE	**Yellowstone No**	**13.98**	**100**			**Pn**	**18 08 57.7**	**+0.7**
YMP	**Mirror Lake Pl**	**14.00**	**101**	Pn		**Pn**	**18 08 54.8**	**-2.4**
LOHW	**Long Hollow**	**14.24**	**106**	Pn		**Pn**	**18 08 59.0**	**-1.3**
RLMT	**Red Lodge**	**14.42**	**99**			**Pn**	**18 09 03.2**	**+0.4**
PAGB	**Antelope Grade**	**15.09**	**149**	Pn		**Pn**	**18 09 13.1**	**+1.3**
PAGB				IAmb		IAmb	18 09 19.4	
	comp=Z,7.8nm,0.8s							
BW06	**Boulder Array**	**15.32**	**107**	P		**Pn**	**18 09 16.6**	**+1.5**
PD31	**Pinedale Array**	**15.32**	**107**			**Pn**	**18 09 14.5**	**-0.5**
PDAR	**Pinedale Array**	**15.32**	**107**	Pn		**P**	**18 09 18.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=311,slow=14,SNR=5.2							
PDAR				LR		LR	18 15 22.5	
	comp=Z,251nm,18.5s,baz=307,slow=38							
PDAR	**Pinedale Array**	**15.32**	**107**	P		**Pn**	**18 09 17.1**	**+2.0**
PSUT	**Pine Spring**	**15.54**	**127**	Pn		**Pn**	**18 09 17.9**	**+0.1**
TPNV	**Topopah Spring**	**15.61**	**137**	Pn		**Pn**	**18 09 18.9**	**+0.1**
YKA	**Yellowknife Ar**	**15.72**	**26**	Pn		**Pn**	**18 09 19.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=9.7							
ISA	**Isabella, Lake**	**15.79**	**145**	P		**P**	**18 09 24.4**	**-0.2**
PRN	**Pahroc Range**	**15.80**	**133**	P		**Pn**	**18 09 22.0**	**+0.8**
DGMT	**Dagmar**	**16.73**	**83**	P		**Pn**	**18 09 32.4**	**-0.6**
DGMT				IAmb		IAmb	18 09 39.6	
	comp=Z,17nm,0.9s							
EGAK	**Eagle**	**16.81**	**343**			**P**	**18 09 36.7**	**+1.0**
EGAK				IAmb		IAmb	18 09 41.6	
	comp=Z,11nm,1.1s							
K22A	**Casper**	**17.30**	**103**	P		**Pn**	**18 09 39.3**	**-0.9**
K22A				IAmb		IAmb	18 09 51.0	
	comp=Z,9.2nm,0.9s							
FFC	**Flin Flon**	**17.85**	**61**			**Pn**	**18 09 45.5**	**-1.2**
U15A	**North Rim**	**17.94**	**129**	P		**P**	**18 09 51.0**	**+2.3**
ILAR	**Eielson Array**	**18.14**	**336**	P		**P**	**18 09 51.7**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=138,slow=9.6,SNR=11							
ILAR				LR		LR	18 15 41.5	
	comp=Z,86nm,18.3s,baz=158,slow=33							
ILAR	**Eielson Array**	**18.14**	**336**	P		**Pn**	**18 09 48.6**	**-1.5**
RSSD	**Black Hills**	**18.23**	**96**	P		**Pn**	**18 09 51.5**	**-0.2**
RSSD				IAmb		IAmb	18 10 03.2	
	comp=Z,8.7nm,0.9s							
CCB	**Clear Creek Bu**	**18.30**	**335**			**Pn**	**18 09 54.1**	**+2.1**
PV10	**Paradox Valley**	**18.30**	**118**			**P**	**18 09 51.4**	**-1.2**
PV10				IAmb		IAmb	18 10 08.9	
	comp=Z,17nm,1.1s							
PV14	**Lion Creek, Pa**	**18.32**	**118**	P		**P**	**18 09 53.1**	**+0.3**
PV14				IAmb		IAmb	18 10 04.6	
	comp=Z,13nm,1.0s							
PV22	**Blue Mesa, Par**	**18.34**	**118**	P		**P**	**18 09 50.7**	**-2.3**
PV04	**Paradox Valley**	**18.37**	**118**	P		**P**	**18 09 51.6**	**-1.7**
PV04				IAmb		IAmb	18 10 05.3	
	comp=Z,11nm,1.0s							
PV20	**West Nyswonger**	**18.37**	**118**	P		**P**	**18 09 52.0**	**-1.4**
PV20				IAmb		IAmb	18 10 07.3	
	comp=Z,14nm,1.1s							
PFO	**Pinyon Flats O**	**18.37**	**143**	LR		LR	18 16 01.8	
	comp=Z,63nm,20.1s,baz=334,slow=34							
PFO	**Pinyon Flats O**	**18.37**	**143**	P		**Pn**	**18 09 53.8**	**+0.4**
XPFO	**Pion Flat**	**18.38**	**143**			**P**	**18 09 53.2**	**-0.1**
PV19	**Morning Glory**	**18.38**	**118**	P		**P**	**18 09 51.2**	**-2.3**
PV19				IAmb		IAmb	18 10 05.8	
	comp=Z,9.6nm,0.9s							
PV17	**East Wray Mesa**	**18.42**	**119**	P		**P**	**18 09 51.9**	**-2.0**
PV17				IAmb		IAmb	18 10 07.8	
	comp=Z,16nm,1.0s							
PV16	**Nyswonger Mesa**	**18.42**	**118**	P		**P**	**18 09 53.3**	**-0.6**
PV16				IAmb		IAmb	18 10 10.6	
	comp=Z,18nm,1.0s							
PV11	**David Mesa, Pa**	**18.45**	**118**	P		**Pn**	**18 09 55.0**	**+0.5**
PV11				IAmb		IAmb	18 10 05.7	
	comp=Z,14nm,0.9s							
PV18	**Skein Mesa, Pa**	**18.47**	**118**	P		**P**	**18 09 54.6**	**+0.1**
PV18				IAmb		IAmb	18 10 06.2	
	comp=Z,13nm,1.0s							
PV05	**Paradox Valley**	**18.47**	**119**			**P**	**18 09 54.0**	**-0.5**
PV05				IAmb		IAmb	18 10 07.1	
	comp=Z,16nm,1.3s							
PV12	**Saucer Basin,**	**18.48**	**118**	P		**P**	**18 09 54.3**	**-0.2**
PV12				IAmb		IAmb	18 10 08.7	
	comp=Z,12nm,0.9s							
PV03	**Paradox Valley**	**18.50**	**118**	P		**P**	**18 09 54.5**	**-0.2**
PV03				IAmb		IAmb	18 10 07.1	
	comp=Z,11nm,1.0s							
POKR	**Poker Plat Res**	**18.56**	**336**	P		**P**	**18 09 52.9**	**-2.1**
POKR				IAmb		IAmb	18 10 04.8	
	comp=Z,12nm,1.4s							
PV13	**Radium Mtn., P**	**18.58**	**119**	P		**P**	**18 09 54.4**	**-1.3**
PV13				IAmb		IAmb	18 10 08.1	
	comp=Z,17nm,1.0s							
PV02	**Paradox Valley**	**18.59**	**118**	P		**P**	**18 09 55.3**	**-0.6**
PV02				IAmb		IAmb	18 10 07.7	
	comp=Z,10nm,1.0s							
PV15	**Paradox Valley**	**18.65**	**118**	P		**P**	**18 09 56.1**	**-0.3**
PV15				IAmb		IAmb	18 10 13.9	
	comp=Z,6.6nm,0.8s							
PHWY	**Pilot Hill**	**18.69**	**106**	P		**P**	**18 09 53.7**	**-3.2**
PV01	**Paradox Valley**	**18.74**	**118**	P		**Pn**	**18 09 58.9**	**+1.0**
PV01				IAmb		IAmb	18 10 10.7	
	comp=Z,14nm,1.4s							
SMCO	**Snowmass**	**19.00**	**113**	P		**P**	**18 10 00.7**	**+0.2**
SMCO				IAmb		IAmb	18 10 29.8	
	comp=Z,10nm,1.5s							
INK	**Inuvik**	**19.29**	**356**	P		**Pn**	**18 10 05.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=172,slow=17,SNR=4.5							
INK				LR		LR	18 17 34.4	
	comp=Z,93nm,20.9s,baz=131,slow=37							
INK	**Inuvik**	**19.29**	**356**	P		**P**	**18 10 00.2**	**-2.7**
INK				IAmb		IAmb	18 10 10.8	
	comp=Z,14nm,1.4s							
MVCO	**Mesa Verde**	**19.42**	**120**			**Pn**	**18 10 06.1**	**0.0**
MVCO				IAmb		IAmb	18 10 22.5	
	comp=Z,6.7nm,1.0s							
CBX	**Cerro Bola**	**19.45**	**145**	P		**Pn**	**18 10 06.1**	**-0.2**
E28A	**Huff**	**19.52**	**87**	P		**P**	**18 10 03.2**	**-2.6**
SPX	**San Pedro Mart**	**21.04**	**144**	P		**P**	**18 10 24.4**	**+1.8**
SPX				IAmb		IAmb	18 10 32.4	
	comp=Z,5.2nm,1.1s							
ULM	**Lac du Bonnet**	**21.74**	**74**	P		**P**	**18 10 30.7**	**+1.1**
	comp=Z,26nm,0.8s,baz=281,slow=11,SNR=16							
ULM				LR		LR	18 19 08.3	
	comp=Z,222nm,20.7s,baz=288,slow=37							
ULM	**Lac du Bonnet**	**21.74**	**74**	P		**P**	**18 10 30.5**	**+0.9**
KSCO	**Kaye Shedlock'**	**21.78**	**108**	P		**P**	**18 10 32.1**	**+1.8**
ANMO	**Albuquerque**	**22.19**	**121**	P		**P**	**18 10 36.1**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=315,slow=4.3,SNR=1.9							
ANMO				LR		LR	18 18 32.0	
	comp=Z,49nm,18.1s,baz=317,slow=35							
BNM	**Barren Site**	**22.68**	**123**	P		**P**	**18 10 37.3**	**-2.8**
FCC	**Fort Churchill**	**22.73**	**52**	P		**P**	**18 10 40.9**	**+0.8**
ECSD	**EROS Data Cent**	**23.26**	**91**	P		**P**	**18 10 46.6**	**+0.9**
ECSD				IAmb		IAmb	18 10 53.8	
	comp=Z,5.3nm,1.1s							
121A	**Cookes Peak, D**	**23.30**	**127**	P		**P**	**18 10 47.4**	**+1.0**
121A				IAmb		IAmb	18 10 59.6	
	comp=Z,4.7nm,1.0s							
B35A	**Bob, Littlefor**	**23.54**	**78**	P		**P**	**18 10 49.2**	**+0.8**
F36A	**Milaca**	**24.45**	**84**	P		**P**	**18 10 57.8**	**+0.8**
EYMN	**Ely**	**25.09**	**78**	P		**P**	**18 11 03.9**	**+1.2**
SPMN	**Marine on St.**	**25.16**	**85**	P		**P**	**18 11 05.6**	**+2.3**
MNTX	**Cornudas Mount**	**25.22**	**125**	P		**P**	**18 11 05.3**	**+1.1**
E38A	**The Farm, Brul**	**25.47**	**81**	P		**P**	**18 11 05.2**	**-1.1**
E38A				IAmb		IAmb	18 11 17.2	
	comp=Z,5.5nm,0.9s							
WMOK	**Wichita Mounta**	**26.86**	**111**	P		**P**	**18 11 17.8**	**-1.2**
WMOK				IAmb		IAmb	18 11 19.3	
	comp=Z,4.2nm,1.2s							
L40A	**Anamosa**	**27.55**	**90**	P		**P**	**18 11 26.6**	**+1.6**
TXAR	**Lajitas Array**	**27.99**	**126**	P		**P**	**18 11 31.2**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=350,slow=9.2,SNR=2.5							
TXAR				LR		LR	18 23 19.4	
	comp=Z,46nm,18.1s,baz=0.0,slow=38							
LPIG	**La Paz**	**29.26**	**142**	LR		LR	18 23 10.4	
	comp=Z,39nm,18.9s,baz=4.0,slow=36							
MGMO	**Mountain Grove**	**29.47**	**100**	P		**P**	**18 11 42.6**	**+0.4**
V53A	**Saluda**	**36.51**	**94**	P		**P**	**18 12 46.0**	**+2.4**
PETK	**Petropavlovsk-**	**43.97**	**304**	P		**P**	**18 13 44.4**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=60,slow=11,SNR=5.6							
HAL	**Halifax**	**44.05**	**70**	P		**P**	**18 13 44.5**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**58.05**	**263**	T		T	19 18 08.3	
	baz=43,slow=75,SNR=101							
H11N3	**WAKE ISLAND Hy**	**58.05**	**263**	T		T	19 18 08.4	
	baz=43,slow=75,SNR=122							
H11N1	**WAKE ISLAND Hy**	**58.07**	**263**	T		T	19 18 09.6	
	baz=43,slow=75,SNR=126							
H11S1	**WAKE ISLAND Hy**	**59.06**	**263**	T		T	19 19 26.6	
	baz=34,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**59.07**	**263**	T		T	19 19 30.4	
	baz=34,slow=75,SNR=8.5							
H11S3	**WAKE ISLAND Hy**	**59.08**	**263**	T		T	19 19 25.4	
	baz=34,slow=75,SNR=7.0							
KSRS	**Korea Array**	**69.87**	**304**	LR		LR	18 45 47.9	
	comp=Z,23nm,18.1s,baz=2.0,slow=34							
HHC	**Hu-ho-hao-te**	**75.43**	**317**	*eP*		**P**	**18 17 22.9**	**+0.9**
HHC				pmax		pmax		
	comp=Z,8.0nm,1.1s							
HHC				pmax		pmax		
	comp=Z,190nm,5.5s							
MKAR	**Makanchi Array**	**80.48**	**338**	P		**P**	**18 17 49.5**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=40,slow=4.7,SNR=3.3							
WMQ	**Urumqi**	**81.79**	**334**	*eP*		**P**	**18 17 59.1**	**+2.1**

IDC 16 18:08:17.3±1.1, 38°42N×109°98E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.4/41, mbtmp3.5/6, Error ellipse: s-maj=37.8km s-min=18.3km az=75.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.77**	**346**	Pn	Pn	18 10 40.2	+1.1
	baz=162,slow=12,SNR=8.3						
SONM				Sn	Sn	18 12 30.1	+0.6
	baz=173,slow=18,SNR=5.2						
SONM				Lg	Lg	18 13 24.7	
	0.1nm,0.3s,baz=162,slow=28,SNR=2.6						
MKAR	**Makanchi Array**	**21.94**	**301**	P	P	18 13 12.5	+0.1
	1.0nm,0.8s,baz=101,slow=12,SNR=9.1						
CMAR	**Chiang Mai Arr**	**22.09**	**209**	P	P	18 13 14.2	0.0
	1.8nm,0.9s,baz=12,slow=9.3,SNR=18						
WRA	**Warramunga Arr**	**62.40**	**154**	P	P	18 18 41.9	-0.1
	0.7nm,1.0s,baz=349,slow=8.6,SNR=5.2						
ASAR	**Alice Springs**	**65.71**	**156**	P	P	18 19 03.6	-0.2
	0.8nm,0.8s,baz=344,slow=6.6,SNR=7.5						
YKA	**Yellowknife Ar**	**73.24**	**20**	P	P	18 19 50.2	+0.4
	0.1nm,0.5s,baz=319,slow=3.6,SNR=2.9						

*DJA **16** 19:07:25.8±0.3, 4°S±4°×12°8E±°, h10km, M4.4/15, mb4.7/8, mB4.9/4, MLv4.2/15, Mw(mB)4.1/4*
*NEIC **16** 19:07:26.8±1.5, 3°90S±0°07×127°86E±0°07, h45km±8km, mb4.2/33, Error ellipse: s-maj=10.6km s-min=9.9km az=46.0*
*IDC **16** 19:07:28.9±2.3, 3°76S×127°90E, h51km±22km, mb3.9/13, mb1 4.1/15, mb1mx3.9/38, mbtmp4.2/15, ML4.3/2, MS3.2/2, Ms1 3.3/2, ms1mx2.7/35, Error ellipse: s-maj=20.0km s-min=13.9km az=115.0*

ISC 16 19:07:26.3±0.4, 3°89S±0°06×127°86E±0°06, h35km, n76, σ1¶43/77, mb4.2/24, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.00**	**310**	P	**Pn**	**19 07 40.6**	**-3.2**
BNDI	**Bandanaira**	**2.13**	**107**	P	**Pn**	**19 08 02.8**	**+3.4**
SANI	**Sanana**	**2.61**	**314**	P	**Pn**	**19 08 05.2**	**-0.8**
FAKI	**Fak Fak**	**4.48**	**78**	Pn	**Pn**	**19 08 34.6**	**+2.9**
FAKI	**Fak Fak**	**4.48**	**78**	P	**Pn**	**19 08 34.8**	**+3.1**
SIJI	**Sorong**	**4.53**	**49**	P	**Pn**	**19 08 33.8**	**+1.4**
	33nm,0.3s,baz=224,slow=12,SNR=109						
SIJI				S	**Sn**	**19 09 24.0**	**+0.1**
	0.9nm,0.3s,baz=205,slow=23,SNR=1.2						
SWI	**Sorong**	**4.53**	**49**	P	**Pn**	**19 08 33.8**	**+1.4**
TNTI	**Ternate**	**4.65**	**354**	Pn	**Pn**	**19 08 34.8**	**+0.7**
TNTI	**Ternate**	**4.65**	**354**	P	**Pn**	**19 08 34.3**	**+0.2**
LUWI	**Luwuk**	**5.82**	**299**	Pn	**Pn**	**19 08 50.9**	**+0.8**
LUWI	**Luwuk**	**5.82**	**299**	P	**Pn**	**19 08 50.7**	**+0.6**
	0.3nm79nm,0.6s						
KMSI	**Cibinong**	**5.89**	**319**	P	**Pn**	**19 08 51.1**	**0.0**
	0.4nm1µm97nm,0.6s						
GTOI	**Gorontalo**	**6.61**	**313**	P	**Pn**	**19 09 04.5**	**+3.5**
	0.1nm466nm34nm,0.6s						
APSI	**Ampana**	**6.88**	**295**	P	**Pn**	**19 09 04.8**	**+0.2**
	0.3nm700nm85nm,0.8s						
MRSI	**Marisa**	**7.34**	**306**	P	**Pn**	**19 09 12.2**	**+1.2**
	0.3nm765nm78nm,0.6s						
BATI	**Baumata**	**7.54**	**213**	P	**Pn**	**19 09 18.2**	**+4.4**
	2.3nm,0.3s,baz=154,slow=3.5,SNR=7.2						
BATI	**Baumata**	**7.54**	**213**	P	**Pn**	**19 09 17.8**	**+4.0**
	0.1nm13nm,0.7s						
BSSI	**Bau Bau, Buton**	**7.68**	**253**	P	**Pn**	**19 09 18.3**	**+2.6**
	0.1nm23nm,0.7s						
SPSI	**Sidrap Palu**	**8.08**	**269**	P	**Pn**	**19 09 21.6**	**+0.5**
TOLI2	**Toitoli**	**8.64**	**305**	Pn	**Pn**	**19 09 31.5**	**+2.6**
FITZ	**Fitzroy Crossi**	**14.29**	**189**	P	**Pn**	**19 10 45.0**	**-1.2**
	0.1nm,0.3s,baz=18,slow=17,SNR=2.4						
FITZ	**Fitzroy Crossi**	**14.29**	**189**		**Pn**	**19 10 46.1**	**-0.1**
WB0	**Warramunga Arr**	**17.02**	**159**	Pn	**Pn**	**19 11 20.2**	**-1.6**
WRAB	**Tennant Creek**	**17.16**	**159**	P	**Pn**	**19 11 22.2**	**-1.2**
WRAB				IAmb	IAmb	19 11 39.4	
	comp=Z,13nm,1.0s						
WRA	**Warramunga Arr**	**17.16**	**159**	P	**Pn**	**19 11 22.3**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=341,slow=12,SNR=4.7						
WRA				PcP	**PcP**	**19 16 06.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=322,slow=1.5,SNR=1.8						
WB2	**Warramunga Ar**	**17.17**	**159**	Pn	**Pn**	**19 11 22.4**	**-1.2**
WB2				IAmb	IAmb	19 11 39.5	
	comp=Z,15nm,0.9s						
WR0	**Warramunga Arr**	**17.25**	**158**	Pn	**Pn**	**19 11 23.7**	**-0.9**
UGM	**Wanagama**	**17.70**	**256**		**Pn**	**19 11 30.0**	**-0.2**
COEN	**Coen**	**18.12**	**124**	P	**Pn**	**19 11 33.7**	**-1.7**
PSA00	**Pilbara Seismi**	**19.23**	**203**	P	**Pn**	**19 11 48.2**	**-0.5**
PSA00	**Pilbara Seismi**	**19.23**	**203**	P	**P**	**19 11 47.0**	**-0.6**
PSA00				IAmb	IAmb	19 11 58.6	
	comp=Z,21nm,1.3s						
CISI	**Cisompet, Garu**	**20.28**	**259**	P	**P**	**19 11 59.6**	**+0.5**
LEM	**Lembang**	**20.37**	**261**	P	Pn	19 12 01.8	-0.6
	comp=Z,6.8nm,0.4s,baz=284,slow=3.7,SNR=4.2						
AS31	**Alice Springs**	**20.51**	**164**	Pn	Pn	19 12 04.0	+0.1
ASAR	**Alice Springs**	**20.51**	**164**	P	Pn	19 12 04.3	+0.4
	comp=Z,5.0nm,0.7s,baz=342,slow=11,SNR=77						
ASAR				PcP	**PcP**	**19 16 12.7**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=349,slow=2.4,SNR=8.3						
ASAR	**Alice Springs**	**20.51**	**164**	Pn	Pn	19 12 03.6	-0.3
TPUB	**Ta-pu**	**27.93**	**346**	P	**P**	**19 13 12.9**	**-0.5**
IPM	**Ipoh**	**28.07**	**287**	P	**P**	**19 13 14.7**	**-0.1**
IPM				IAmb	IAmb	19 13 25.7	
	comp=Z,7.9nm,0.9s						
KULM	**Kulim**	**28.67**	**288**	P	**P**	**19 13 19.7**	**-0.4**
KULM				IAmb	IAmb	19 13 31.7	
	comp=Z,8.2nm,1.1s						
YHNB	**Yeheng**	**29.08**	**348**	P	**P**	**19 13 23.3**	**-0.4**
NWAO	**Narrogin (SRO)**	**30.56**	**198**	P	**P**	**19 13 36.3**	**-0.4**
STKA	**Stephens Creek**	**30.69**	**157**	P	**P**	**19 13 39.7**	**+1.9**
	comp=Z,2.3nm,0.8s,baz=0.5,slow=14,SNR=3.7						
CMAR	**Chiang Mai Arr**	**36.12**	**309**	P	**P**	**19 14 26.7**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=139,slow=7.5,SNR=7.2						
CMAR				PcP	**PcP**	**19 16 52.6**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=183,slow=3.0,SNR=5.8						
CHTO	**Chiang Mai**	**36.33**	**309**	P	**P**	**19 14 26.3**	**-0.8**
CHTO				IAmb	IAmb	19 14 29.1	
	comp=Z,2.3nm,0.8s						
KSRS	**Korea Array**	**41.13**	**0**	P	**P**	**19 15 07.8**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=178,slow=9.9,SNR=11						
KSRS				LR	LR	19 31 12.7	
	comp=Z,8.1nm,21.7s,baz=345,slow=35						
MJAR	**Matsushiro Arr**	**41.36**	**13**	P	**P**	**19 15 08.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=170,slow=7.4,SNR=2.5						
MJAR	**Matsushiro Arr**	**41.36**	**13**	P	**P**	**19 15 08.7**	**-0.3**
LSA	**Lhasa**	**48.49**	**316**	P	**P**	**19 16 06.8**	**+0.4**
ULN	**Ulaanbaatar**	**54.67**	**343**	P	**P**	**19 16 52.2**	**+0.3**
ULN				IAmb	IAmb	19 16 52.8	
	comp=Z,2.2nm,0.9s						
SONM	**Songino Array**	**54.84**	**342**	P	**P**	**19 16 52.7**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=139,slow=5.5,SNR=6.5						
SONM				PcP	**PcP**	**19 17 55.8**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=167,slow=3.5,SNR=5.8						
SONM	**Songino Array**	**54.84**	**342**	P	**P**

BGU	**Big Grassy Mou**	**1.92**	**246**	Pn		**Pn**	**19 11 05.0**	**-0.1**
NLU	**North Lily Min**	**2.06**	**210**	Pn		**Pn**	**19 11 07.7**	**+0.6**
DUG	**Dugway, Tooele**	**2.21**	**226**	Pn		**Pn**	**19 11 09.2**	**+0.1**
P17A	**Butcher Ranch,**	**2.27**	**180**			**Pn**	**19 11 09.9**	**0.0**
P17A				IAML			19 11 46.8	
	comp=N,37nm,1.1s							
P17A				IAML			19 11 52.1	
	comp=E,24nm,1.0s							
FLWY	**Flagg Ranch**	**2.34**	**0**			**Pn**	**19 11 12.8**	**+1.8**
FLWY				IAML			19 12 01.3	
	comp=E,23nm,3.4s							
FLWY				IAML			19 12 12.5	
	comp=E,27nm,4.0s							
TMUT	**Trail Mountain**	**2.47**	**189**			**Pn**	**19 11 14.5**	**+1.7**
TMUT				IAML			19 11 58.9	
	comp=N,24nm,0.8s							
TMUT				IAML			19 12 04.8	
	comp=E,21nm,1.0s							
O20A	**White River Ci**	**2.47**	**130**			**Pn**	**19 11 14.4**	**+1.6**
O20A				IAML			19 11 52.3	
	comp=N,36nm,1.1s							
O20A				IAML			19 11 57.2	
	comp=E,42nm,0.7s							
YPP	**Pitchstone Pla**	**2.53**	**359**			**Pb**	**19 11 16.4**	**-1.1**
SRU	**San Rafael Swe**	**2.63**	**177**			**Pn**	**19 11 17.1**	**+2.2**
SRU				IAML			19 12 00.7	
	comp=E,31nm,1.0s							
SRU				IAML			19 12 03.3	
	comp=N,29nm,0.8s							
RWWY	**Rawlins**	**2.63**	**90**			**Pn**	**19 11 17.0**	**+1.9**
RWWY				IAML			19 11 57.0	
	comp=N,30nm,3.5s							
RWWY				IAML			19 12 03.2	
	comp=N,44nm,3.8s							
H17A	**Grant Village**	**2.66**	**2**			**Pn**	**19 11 17.8**	**+2.4**
H17A				IAML			19 11 59.0	
	comp=E,14nm,4.5s							
Q16A	**Castle Valley**	**2.84**	**187**			**Pn**	**19 11 19.1**	**+1.3**
Q16A				IAML			19 12 04.3	
	comp=E,14nm,2.7s							
Q16A				IAML			19 12 19.8	
	comp=N,14nm,4.2s							
YMR	**Madison River**	**2.93**	**357**			**Pn**	**19 11 21.1**	**+1.9**
YMR				IAML			19 12 13.4	
	comp=N,21nm,4.1s							
YMR				IAML			19 12 30.6	
	comp=E,13nm,3.7s							
YHB	**Horse Butte**	**3.03**	**354**			**Pn**	**19 11 22.2**	**+1.8**
YHB				IAML			19 11 57.9	
	comp=E,10nm,3.8s							
YHB				IAML			19 13 12.3	
	comp=N,12nm,4.6s							
YHH	**Holmes Hill**	**3.05**	**358**			**Pn**	**19 11 22.7**	**+1.9**
YHH				IAML			19 12 07.8	
	comp=N,11nm,5.0s							
YHH				IAML			19 12 46.6	
	comp=E,12nm,4.5s							
YHL	**Hebgen Lake**	**3.13**	**354**			**Pn**	**19 11 25.0**	**+3.1**
YHL				IAML			19 12 21.4	
	comp=N,12nm,3.3s							
YHL				IAML			19 12 30.3	
	comp=E,12nm,3.8s							
BCYI	**Bear Canyon**	**3.23**	**323**			**Pn**	**19 11 23.9**	**+0.7**
K22A	**Casper**	**3.25**	**72**			**Pn**	**19 11 24.0**	**+0.6**
K22A				IAML			19 12 46.9	
	comp=N,28nm,1.0s							
K22A				IAML			19 12 50.4	
	comp=E,25nm,0.5s							
YNE	**Yellowstone No**	**3.31**	**9**			**Pn**	**19 11 27.0**	**+2.7**
YNE				IAML			19 12 06.8	
	comp=N,11nm,4.1s							
YNE				IAML			19 12 29.7	
	comp=E,9.5nm,4.7s							
MSU	**Marysvale**	**3.41**	**200**	Pn		**Pn**	**19 11 26.0**	**+0.3**
MCMT	**McKenzie Canyo**	**3.45**	**334**			**Pn**	**19 11 27.1**	**+0.8**
PV22	**Blue Mesa, Par**	**3.53**	**154**			**Pn**	**19 11 27.7**	**+0.4**
ELK	**Elko**	**3.54**	**255**	Pg		**Pb**	**19 11 34.6**	**-0.1**
	comp=E,0.1nm,0.3s,baz=75,slow=17,SNR=2.2							
ELK				Lg		Lg	19 12 24.4	
	comp=E,0.1nm,0.3s,baz=180,slow=21,SNR=1.5							
ELK	**Elko**	**3.54**	**255**			**Pn**	**19 11 26.7**	**-0.8**
PV10	**Paradox Valley**	**3.60**	**158**	Pn		**Pn**	**19 11 30.0**	**+1.7**
PV14	**Lion Creek, Pa**	**3.61**	**158**			**Pn**	**19 11 26.3**	**-2.1**
PV04	**Paradox Valley**	**3.62**	**157**			**Pn**	**19 11 29.9**	**+1.3**
PV20	**West Nyswonger**	**3.65**	**158**			**Pn**	**19 11 28.5**	**-0.5**
PV07	**Paradox Valley**	**3.66**	**154**			**Pn**	**19 11 29.0**	**-0.1**
PV07				IAML			19 12 36.9	
	comp=N,18nm,0.8s							
PV07				IAML			19 12 39.5	
	comp=E,15nm,2.1s							
PV19	**Morning Glory**	**3.68**	**158**			**Pn**	**19 11 29.8**	**+0.4**
PV19				IAML			19 12 42.2	
	comp=N,17nm,2.5s							
PV19				IAML			19 13 34.2	
	comp=E,15nm,5.0s							
PV16	**Nyswonger Mesa**	**3.70**	**157**			**Pn**	**19 11 30.2**	**+0.6**
PV16				IAML			19 12 41.5	
	comp=E,22nm,0.7s							
PV17	**East Wray Mesa**	**3.71**	**158**			**Pn**	**19 11 31.4**	**+1.5**
PV17				IAML			19 12 36.5	
	comp=E,15nm,2.5s							
PV11	**David Mesa, Pa**	**3.72**	**157**			**Pn**	**19 11 30.7**	**+0.7**
PV12	**Saucer Basin,**	**3.73**	**156**			**Pn**	**19 11 31.1**	**+1.1**
PV18	**Skein Mesa, Pa**	**3.76**	**158**	Pn		**Pn**	**19 11 31.1**	**+0.6**
PV18				IAML			19 12 24.9	
	comp=N,16nm,4.7s							
PV18				IAML			19 13 46.9	
	comp=E,15nm,4.8s							
PV03	**Paradox Valley**	**3.77**	**157**			**Pb**	**19 11 38.0**	**-0.6**
PV03				IAML			19 12 40.7	
	comp=N,19nm,1.7s							
PV15	**Paradox Valley**	**3.81**	**152**			Pn	19 11 36.2	+5.0
SMCO	**Snowmass**	**3.84**	**131**			**Pb**	**19 11 38.1**	**-1.8**
SMCO				IAML			19 12 37.1	
	comp=N,18nm,1.4s							
SMCO				IAML			19 13 55.5	
	comp=N,14nm,4.6s							
PV02	**Paradox Valley**	**3.85**	**156**			**Pn**	**19 11 33.9**	**+2.2**
PV05	**Paradox Valley**	**3.87**	**161**			**Pn**	**19 11 30.0**	**-1.9**
PV13	**Radium Mtn., P**	**3.87**	**157**			**Pn**	**19 11 31.8**	**-0.2**
SPR3	**Spring Creek 3**	**3.88**	**226**	Pn		**Pn**	**19 11 30.3**	**-2.0**
PV01	**Paradox Valley**	**3.96**	**155**			**Pb**	**19 11 41.9**	**0.0**
PV01				IAML			19 12 41.2	
	comp=N,17nm,3.3s							
PSUT	**Pine Spring**	**4.00**	**218**			**Pn**	**19 11 34.8**	**+1.0**
PSUT				IAML			19 12 56.2	
	comp=N,6.0nm,4.5s							
PSUT				IAML			19 13 18.1	
	comp=E,6.6nm,4.8s							
GCMT	**Greycliff**	**4.12**	**10**			**Pb**	**19 11 45.4**	**+0.8**
MFID	**Camas Ranch**	**4.12**	**296**	Pn		**Pn**	**19 11 37.1**	**+1.8**
MFID				IAML			19 12 38.5	
	comp=E,9.4nm,4.6s							
MFID				IAML			19 12 46.6	
	comp=E,8.1nm,4.9s							
ISCO	**Idaho Springs**	**4.34**	**115**	Pn		**Pn**	**19 11 40.3**	**+1.8**
ISCO				IAML			19 13 51.9	
	comp=E,10nm,4.5s							
ISCO				IAML			19 14 18.0	
	comp=E,10nm,4.3s							
MVCO	**Mesa Verde**	**4.84**	**158**	Pn		**Pn**	**19 11 46.7**	**+1.4**
U15A	**North Rim**	**5.44**	**193**			**Pb**	**19 12 09.3**	**+2.1**
RSSD	**Black Hills**	**5.46**	**62**	Pg		**Pb**	**19 12 07.8**	**+0.4**
MSO	**Missoula**	**5.58**	**337**	Pn		**Pn**	**19 11 55.4**	**0.0**
F10A	**Beach Ranch, E**	**6.32**	**314**	Pg		**Pb**	**19 12 19.8**	**-2.1**
W18A	**Petrified Fore**	**6.66**	**173**	Pn		**Pn**	**19 12 14.3**	**+4.0**
NVAR	**Mina Array Bea**	**6.69**	**243**	Pn		**Pn**	**19 12 13.3**	**+2.7**
	comp=E,0.1nm,0.3s,baz=64,slow=10,SNR=5.7							
NVAR	**Mina Array Bea**	**6.69**	**243**			**Pn**	**19 12 12.3**	**+1.6**
YKA	**Yellowknife Ar**	**20.91**	**355**	P		**P**	**19 15 14.8**	**0.0**
	comp=E,0.3nm,0.8s,baz=165,slow=12,SNR=2.2							

*IDC **16** 19:20:11.3±1.6, 1°.99S×126°.63E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/30, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=34.5km s-min=26.4km az=61.0*
*DJA **16** 19:20:14.2±0.3, 2°.5S±4°×12°.7E±°, h10km, M3.6/8, mb3.9/2, mB4.7/1, MLv3.5/8, Mw(mB)3.9/1*

ISC 16 19:20:15.4±0.9, 2°.04S±0°.09×126°.66E±0°.06, h27km, n10, σ1§24/11, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**0.67**	**269**	P	**Pb**	**19 20 27.5**	**-1.1**
NLAI	**Namlea**	**1.27**	**160**	P	**Pb**	**19 20 38.3**	**-0.5**
TNTI	**Ternate**	**2.88**	**14**	P	**Pn**	**19 20 59.1**	**-0.5**
GTOI	**Gorontalo**	**4.51**	**306**	P	**Pn**	**19 21 24.5**	**+2.5**
SIJI	**Sorong**	**4.75**	**76**	Pn	**Pn**	**19 21 25.8**	**+0.5**
	1.0nm,0.3s,baz=111,slow=23,SNR=25						
SIJI				Sn	**Sn**	**19 22 21.2**	**+1.6**
	0.6nm,0.3s,baz=205,slow=22,SNR=1.3						
APSI	**Ampana**	**5.13**	**283**	P	**Pn**	**19 21 31.3**	**+0.7**
MRSI	**Marisa**	**5.34**	**298**	P	**Pn**	**19 21 33.7**	**+0.3**
WRA	**Warramunga Arr**	**19.32**	**158**	P	**Pn**	**19 24 39.0**	**-0.8**
	0.1nm,0.3s,baz=339,slow=12,SNR=8.0						
ASAR	**Alice Springs**	**22.62**	**163**	P	**P**	**19 25 14.2**	**-0.1**
	1.0nm,0.7s,baz=346,slow=12,SNR=12						
MKAR	**Makanchi Array**	**62.28**	**327**	P	**P**	**19 30 34.6**	**-0.6**
	0.5nm,0.9s,baz=114,slow=7.3,SNR=4.7						

*ISK **16** 19:29:28.9, 36°.64N×26°.80E, h140km±1km, ML2.9/17*
*ATH **16** 19:29:28.2, 36°.64N×26°.52E, h102km±9km, ML3.1/5, Error ellipse: s-maj=10.1km s-min=2.4km az=138.0*
*THE **16** 19:29:31.6, 36°.68N×26°.69E, h137km±3km, ML3.0/6, Error ellipse: s-maj=3.6km s-min=0.9km az=77.0*
*DDA **16** 19:29:31.0, 36°.63N×26°.98E, h123km±10km, ML2.9*
*IDC **16** 19:29:32.5±3.4, 37°.21N×26°.25E, h171km±29km, mb3.5/3, mb1 3.6/4, mb1mx3.0/31, mbtmp4.0/4, Error ellipse: s-maj=219.9km s-min=18.9km az=142.0*

ISC 16 19:29:29.1±0.8, 36°.64N±0°.04×26°.81E±0°.04, h139km±5km, n72, σ1§17/102, mb3.8/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOSK	**Kos Island**	**0.17**	**51**	P	**Pn**	**19 29 48.4**	**+0.5**
KOSK	**Kos Island**	**0.17**	**51**	PG	**Pn**	**19 29 48.1**	**+0.2**
KOSK				SG	**Sn**	**19 30 02.2**	**-0.1**
BODT	**Bodrum**	**0.58**	**44**	P	**Pn**	**19 29 48.9**	**-0.7**
BODT				S	**Sn**	**19 30 04.0**	**-1.3**
BODT	**Bodrum**	**0.58**	**44**	PG	**Pn**	**19 29 48.7**	**-0.9**
BDRM	**Kayabasi**	**0.66**	**50**	*i* P	**Pn**	**19 29 50.2**	**0.0**
BDRM				*i* S	**Sn**	**19 30 04.2**	**-2.0**
DATC	**Datca-Mugla**	**0.69**	**80**	PG	**Pn**	**19 29 50.8**	**+0.5**
DDIM	**Aydin, Didim**	**0.88**	**23**	*i* P	**Pn**	**19 29 52.1**	**+0.3**
SMG	**Samos**	**1.06**	**1**	P	**Pn**	**19 29 53.3**	**-0.1**
SMG	**Samos**	**1.06**	**1**	P	**Pn**	**19 29 53.3**	**-0.1**
GCAM	**G?zelcaml?**	**1.11**	**18**	PN	**Pn**	**19 29 54.1**	**+0.4**
GCAM	**G?zelcaml?**	**1.11**	**18**	*i* P	**Pn**	**19 29 54.1**	**+0.4**
APE	**Apeiranthos**	**1.11**	**293**	PN	**Pn**	**19 29 54.2**	**+0.3**
SANT	**Santorini**	**1.12**	**256**	PN	**Pn**	**19 29 54.2**	**+0.2**
KARP	**Karpathos**	**1.13**	**165**	P	**Pn**	**19 29 54.5**	**+0.4**
KARP				S	**Sn**	**19 30 12.6**	**-0.5**
KARP				AML	AML	19 30 16.1	
	comp=E,1628μm,0.2s						
KARP				AML	AML	19 30 16.3	
	comp=N,2206μm,0.1s						
KARP	**Karpathos**	**1.13**	**165**	P	**Pn**	**19 29 54.5**	**+0.4**
KARP				S	**Sn**	**19 30 12.6**	**-0.5**
	comp=N,975nm,0.1s						
KARP	**Karpathos**	**1.13**	**165**	PN	**Pn**	**19 29 54.4**	**+0.3**
KARP				SN	**Sn**	**19 30 12.9**	**-0.2**
THT2	**Imerovigli**	**1.14**	**260**	PN	**Pn**	**19 29 54.4**	**+0.3**
ARG	**Arkhangelos**	**1.14**	**112**	P	**Pn**	**19 29 54.9**	**+0.8**
ARG				AML	AML	19 30 16.4	
	comp=E,533μm,0.3s						
ARG				AML	AML	19 30 16.6	
	comp=N,411μm,0.3s						
ARG	**Arkhangelos**	**1.14**	**112**	P	**Pn**	**19 29 54.9**	**+0.8**
ARG				S	**Sn**	**19 30 13.7**	**+0.5**
	comp=N,240nm,0.3s						
ARG	**Arkhangelos**	**1.14**	**112**	PN	**Pn**	**19 29 54.7**	**+0.6**
TURN	**Turunc**	**1.16**	**83**	PN	**Pn**	**19 29 54.8**	**+0.6**
TURN				SN	**Sn**	**19 30 13.7**	**+0.3**
TURN	**Turunc**	**1.16**	**83**	*i* P	**Pn**	**19 29 54.6**	**+0.4**
TURN				*i* S	**Sn**	**19 30 12.7**	**-0.7**
TURN				IAML		19 30 14.0	
	comp=N,133nm,0.2s						
YER	**Yerkesik**	**1.28**	**67**	PN	**Pn**	**19 29 56.3**	**+0.8**
YER				SN	**Sn**	**19 30 15.6**	**-0.1**
MULA	**Mugla, Merkez-**	**1.35**	**63**	*i* P	**Pn**	**19 29 57.1**	**+0.8**
MULA				*i* S	**Sn**	**19 30 16.3**	**-0.8**
DALY	**Dalyan (Mula)**	**1.49**	**83**	PN	**Pn**	**19 29 58.8**	**+1.2**
DALY				SN	**Sn**	**19 30 19.6**	**+0.1**
DALY	**Dalyan (Mula)**	**1.49**	**83**	*i* P	**Pn**	**19 29 58.9**	**+1.2**
DALY				*i* S	**Sn**	**19 30 18.4**	**-1.1**
DALY				IAML		19 30 21.0	
	comp=N,247nm,0.5s						
STIA	**Sitia Lasithi**	**1.55**	**202**	P	**Pn**	**19 29 58.9**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.56**	**33**	PN	**Pn**	**19 29 59.1**	**+0.5**
ZKR	**Zakros**	**1.60**	**198**	P	**Pn**	**19 29 59.9**	**+0.9**
ZKR				S	**Sn**	**19 30 22.3**	**+0.5**
ZKR				AML	AML	19 30 24.4	
	comp=N,348μm,0.2s						
ZKR				AML	AML	19 30 24.5	
	comp=E,806μm,0.3s						
ZKR	**Zakros**	**1.60**	**198**	P	**Pn**	**19 29 59.9**	**+0.9**
ZKR				S	**Sn**	**19 30 21.8**	**0.0**
	comp=E,288nm,0.3s						
ZKR	**Zakros**	**1.60**	**198**	PN	**Pn**	**19 29 59.4**	**+0.4**
NPS	**Neapolis**	**1.69**	**216**	P	**Pn**	**19 30 00.1**	**+0.2**
NPS				S	**Sn**	**19 30 21.7**	**-1.8**
NPS				AML	AML	19 30 24.2	
	comp=N,554μm,0.4s						
NPS				AML	AML	19 30 25.1	
	comp=E,586μm,0.4s						
NPS	**Neapolis**	**1.69**	**216**	P	**Pn**	**19 30 00.1**	**+0.2**
NPS				S	**Sn**	**19 30 21.7**	**-1.8**
	comp=E,282nm,0.3s						
FETY	**Fethiye**	**1.83**	**90**	PN	**Pn**	**19 30 01.5**	**0.0**
FETY	**Fethiye**	**1.83**	**90**	*i* P	**Pn**	**19 30 01.1**	**-0.4**
FETY				*i* S	**Sn**	**19 30 22.0**	**-4.3**
LAST	**Lasithi**	**1.83**	**217**	P	**Pn**	**19 30 01.9**	**+0.1**
LAST				S	**Sn**	**19 30 25.5**	**-1.1**
LAST	**Lasithi**	**1.83**	**217**	P	**Pn**	**19 30 01.8**	**+0.1**
LAST				S	**Sn**	**19 30 25.5**	**-1.1**
	comp=E,158nm,0.4s						
TAVA	**DENIZLI_Tavas**	**1.87**	**63**	*i* P	**Pn**	**19 30 02.8**	**+0.7**
TAVA				*i* S	**Sn**	**19 30 26.0**	**-1.4**
HRKL	**Herakleio**	**1.92**	**227**	PN	**Pn**	**19 30 03.1**	**+0.5**
KSTL	**Kastelli Herak**	**1.95**	**227**	P	**Pn**	**19 30 02.2**	**-0.7**
IDI	**Anoyia**	**2.06**	**230**	P	**Pn**	**19 30 04.2**	**-0.1**
IDI				S	**Sn**	**19 30 29.2**	**-2.2**
IDI	**Anoyia**	**2.06**	**230**	P	**Pn**	**19 30 04.2**	**-0.1**
IDI				S	**Sn**	**19 30 29.2**	**-2.2**
	comp=E,102nm,0.3s						
IDI	**Anoyia**	**2.06**	**230**	PN	**Pn**	**19 30 04.3**	**-0.1**
CAEL	**Denizli, Camel**	**2.07**	**76**	*i* P	**Pn**	**19 30 05.2**	**+0.8**
CAEL				*i* S	**Sn**	**19 30 30.1**	**-1.5**
CAEL				IAML		19 30 35.0	
	comp=E,81nm,0.5s						
CAEL				IAML		19 30 35.0	
	comp=N,100nm,0.8s						
GOLH	**Golhisar**	**2.28**	**74**	*i* P	**Pn**	**19 30 08.1**	**+1.1**
GOLH				*i* S	**Sn**	**19 30 35.5**	**-0.7**
GOLH				IAML		19 30 38.0	
	comp=N,64nm,0.4s						
AKAS	**Kas**	**2.29**	**100**	PN	**Pn**	**19 30 06.9**	**-0.3**
AKAS	**Kas**	**2.29**	**100**	*i* P	**Pn**	**19 30 06.4**	**-0.8**
AKAS				*i* S	**Sn**	**19 30 33.8**	**-2.6**
AKAS				IAML		19 30 41.0	
	comp=N,58nm,0.5s						
KSL	**Kastellorizon**	**2.29**	**102**	P	**Pn**	**19 30 07.7**	**+0.7**
SIVA	**Sivas**	**2.30**	**226**	P	**Pn**	**19 30 07.9**	**+0.7**
SIVA	**Sivas**	**2.30**	**226**	P	**Pn**	**19 30 07.9**	**+0.7**
VAM	**Vamos**	**2.45**	**241**	P	**Pn**	**19 30 09.3**	**+0.3**
VAM	**Vamos**	**2.45**	**241**	P	**Pn**	**19 30 09.3**	**+0.3**
DEMR	**Demre-Antalya**	**2.53**	**98**	PN	**Pn**	**19 30 10.6**	**+0.6**
IMMV	**Iera Moni Meta**	**2.58**	**244**	P	**Pn**	**19 30 11.0**	**+0.3**
IMMV	**Iera Moni Meta**	**2.58**	**244**	P	**Pn**	**19 30 11.0**	**+0.3**
IMMV	**Iera Moni Meta**	**2.58**	**244**	PN	**Pn**	**19 30 11.1**	**+0.4**
USAK	**Uak-Merkez**	**2.71**	**40**	*i* P	**Pn**	**19 30 13.1**	**+0.8**
KHAL	**Karahalli**	**2.74**	**50**	*i* P	**Pn**	**19 30 15.9**	**+3.2**
KHAL				IAML		19 30 46.0	
	comp=E,71nm,0.3s						
BRDR	**BURDUR-Merkez**	**2.80**	**67**	*i* P	**Pn**	**19 30 14.2**	**+0.7**
BRDR				*i* S	**Sn**	**19 30 45.1**	**-2.7**
GVDS	**Gavdos**	**2.85**	**232**	P	**Pn**	**19 30 15.2**	**+1.1**
GVDS	**Gavdos**	**2.85**	**232**	PN	**Pn**	**19 30 14.7**	**+0.6**
GVD	**Gavdhos**	**2.86**	**232**	P	**Pn**	**19 30 14.9**	**+0.7**
GVD				AML	AML	19 30 51.0	
	comp=E,546μm,0.2s						
GVD				AML	AML	19 30 52.4	
	comp=N,437μm,0.5s						
GVD	**Gavdhos**	**2.86**	**232**	P	**Pn**	**19 30 14.9**	**+0.7**
GVD	**Gavdhos**	**2.86**	**232**	PN	**Pn**	**19 30 14.9**	**+0.7**
KORT	**Korkueli**	**2.86**	**82**	PN	**Pn**	**19 30 14.9**	**+0.6**
KORT	**Korkueli**	**2.86**	**82**	*i* P	**Pn**	**19 30 14.6**	**+0.3**
KORT				IAML		19 30 51.0	
	comp=E,40nm,0.5s						
AKUM	**Antalya-Kumluc**	**2.86**	**95**	*i* P	**Pn**	**19 30 14.5**	**+0.3**
AKUM				*i* S	**Sn**	**19 30 44.4**	**-4.6**
AKUM				IAML		19 30 51.0	
	comp=E,36nm,0.3s						
BASM	**Basmaki-Afyon**	**2.88**	**63**	PN	**Pn**	**19 30 14.9**	**+0.4**
KBZ	**Khabaz**	**14.17**	**55**	P	**P**	**19 32 48.4**	**+1.8**
	comp=E,0.2nm,0.3s,baz=252,slow=12,SNR=8.0						
TORD	**Torodi Ar. Bea**	**32.47**	**230**	P	**P**	**19 35 47.0**	**+0.7**
	comp=E,0.9nm,0.4s,baz=31,slow=8.9,SNR=7.6						
MKAR	**Makanchi Array**	**41.84**	**58**	P	**P**	**19 37 05.5**	**+0.4**
	comp=E,0.5nm,0.3s,baz=267,slow=8.5,SNR=19						
MKAR				PcP	**PcP**	**19 38 58.3**	**0.0**
	comp=E,0.2nm,0.6s,baz=259,slow=2.9,SNR=2.0						
MKAR				ScP	**ScP**	**19 42 32.6**	**-3.0**
	comp=E,0.2nm,0.6s,baz=279,slow=2.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**43.01**	**47**	P	**P**	**19 37 14.1**	**-0.3**
	comp=E,1.0nm,0.4s,baz=267,slow=9.8,SNR=5.8						

KRSC 16 19:58:11.9±2.1, 50°.25N×157°.43E, h65km±26km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.94**	**298**	*eP*	Pn	19 58 30.5	+1.1
SKR				*eS*	Sn	19 58 42.8	+0.4
PAU	**Pauzhetka**	**1.28**	**342**	*eP*	Pn	19 58 36.1	+2.3
PAU				*eS*	Sn	19 58 52.7	+2.5
ALID	**Alaid**	**1.35**	**298**	*eP*	Pn	19 58 36.0	+1.1
ALID				*eS*	Sn	19 58 52.5	+0.4
KDTR	**Khodutka, Kamc**	**1.62**	**14**	*eP*	Pn	19 58 40.7	+2.4
KDTR				*eS*	Sn	19 59 00.6	+2.4
MIPR	**Malaya Ipel'ka**	**2.08**	**349**	*eP*	Pn	19 58 47.1	+2.6
ASAK	**Asacha**	**2.16**	**8**	*eP*	Pn	19 58 48.4	+2.7
ASAK				*eS*	Sn	19 59 14.2	+2.8
MTVR	**Mutnovka**	**2.29**	**12**	*eP*	Pn	19 58 50.3	+2.8
MTVR				*eS*	Sn	19 59 17.6	+2.9
RUS	**Russkaya**	**2.29**	**17**	*eP*	Pn	19 58 49.7	+2.3
RUS				*eS*	Sn	19 59 16.4	+1.9
GRL	**Gorelyy**	**2.34**	**10**	*eP*	Pn	19 58 51.4	+3.2
GRL				*eS*	Sn	19 59 19.1	+3.1
KRMR	**Karymshinskiy**	**2.62**	**9**	*eP*	Pn	19 58 56.1	+4.2
KRMR				*eS*	Sn	19 59 26.6	+4.0
APC	**Apacha**	**2.69**	**357**	*eP*	Pn	19 58 55.8	+3.0
PET	**Petropavlovsk**	**2.88**	**15**	*eP*	Pn	19 58 58.3	+2.9
DALK	**Dalny**	**2.91**	**16**	*eP*	Pn	19 58 58.6	+2.8
DALK				*eS*	Sn	19 59 31.6	+2.1
UGLR	**Uglovaya**	**3.09**	**16**	*eP*	Pn	19 59 01.8	+3.4
AVH	**Avacha**	**3.13**	**15**	*eP*	Pn	19 59 02.7	+3.8
SMAR	**Somma**	**3.14**	**15**	*eP*	Pn	19 59 02.2	+3.1
KOK	**Koryaka**	**3.14**	**13**	*eP*	Pn	19 59 03.2	+4.2
SDLR	**Sedlovina**	**3.17**	**16**	*eP*	Pn	19 59 02.2	+2.8
KRER	**Koryakskii**	**3.17**	**14**	*eP*	Pn	19 59 03.2	+3.7
KRX	**Arik**	**3.21**	**13**	*eP*	Pn	19 59 03.7	+3.7
SPN	**Mys Shipunski**	**3.28**	**28**	*eP*	Pn	19 59 03.8	+3.0
SPN				*eS*	Sn	19 59 41.1	+2.5
GNL	**Ganaly**	**3.47**	**5**	*eP*	Pn	19 59 06.5	+3.0
KII	**Karymskiy**	**3.99**	**17**	*eP*	Pn	19 59 14.6	+3.9
MKZ	**Mys Kozlova**	**5.06**	**30**	*eP*	Pn	19 59 27.2	+2.1
KBTR	**Krutoberegovo**	**6.79**	**26**	*eP*	Pn	19 59 51.1	+2.3
BKI	**Bering**	**7.18**	**43**	*eS*	Sn	20 01 11.2	-2.8

*NEIC **16** 20:05:06.5±1.8, 43°.82N±0°.05×105°.10W±0°.08, h0km±2km, ML3.4/58, Error ellipse: s-maj=9.6km s-min=8.8km az=96.0*
*IDC **16** 20:05:08.2±1.9, 43°.93N×105°.64W, h0km, mb1 3.4/5, mb1mx3.2/67, mbtmp3.2/5, ML2.8/4, Error ellipse: s-maj=60.4km s-min=9.1km az=146.0*

ISC 16 20:05:05.8±1.0, 43°.77N±0°.05×105°.16W±0°.06, h0km, n67, σ1§46/66, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.88**	**66**		**Pn**	**20 05 26.3**	**+0.6**
K22A	**Casper**	**1.50**	**222**	Pn	**Pn**	**20 05 33.7**	**-0.4**
K22A				IAML		20 05 58.1	
	comp=E,443nm,0.3s						
K22A				IAML		20 06 01.2	
	comp=N,333nm,0.3s						
PHWY	**Pilot Hill**	**2.47**	**185**	Pn	**Pn**	**20 05 50.3**	**+2.7**
RWWY	**Rawlins**	**2.57**	**217**	Pn	**Pn**	**20 05 50.9**	**+1.9**
RWWY				IAML		20 06 26.7	
	comp=N,114n

BOZ				IAML			20 07 40.9	
	comp=N,15nm,1.4s							
KSCO	**Kaye Shedlock'**	**5.12**	**157**		**Pn**		**20 06 24.0**	**+0.2**
HWUT	**Hardware Ranch**	**5.19**	**248**		**Pn**		**20 06 25.9**	**+0.9**
HWUT				IAML			20 07 53.4	
	comp=N,22nm,1.1s							
HWUT				IAML			20 08 00.4	
	comp=N,23nm,1.8s							
TCUT	**Toone Canyon**	**5.33**	**242**		**Pn**		**20 06 26.8**	**-0.1**
EGMT	**Eagleton**	**5.33**	**325**		**Pn**		**20 06 26.1**	**-0.7**
HRY	**Holter Researc**	**5.56**	**304**		**Pn**		**20 06 29.3**	**-0.5**
LRM	**Limekiln Ridge**	**5.58**	**294**	Pn	**Pn**		**20 06 29.2**	**-1.2**
MCMT	**McKenzie Canyo**	**5.62**	**284**		**Pn**		**20 06 30.7**	**-0.2**
MDND	**Maddock**	**5.63**	**42**	Pn	**Pn**		**20 06 28.3**	**-2.5**
PV22	**Blue Mesa, Par**	**5.90**	**209**		**Pn**		**20 06 36.9**	**+2.3**
SPUT	**South Promonto**	**5.92**	**248**	Pn	**Pn**		**20 06 37.0**	**+2.1**
PV07	**Paradox Valley**	**5.94**	**208**		**Pn**		**20 06 37.0**	**+1.8**
HVU	**Hansel Valley**	**5.95**	**253**	Pn	**Pn**		**20 06 37.3**	**+2.0**
BCYI	**Bear Canyon**	**5.97**	**278**	Pn	**Pn**		**20 06 37.7**	**+2.0**
PV15	**Paradox Valley**	**5.97**	**206**	Pn	**Pn**		**20 06 34.9**	**-0.8**
P17A	**Butcher Ranch,**	**5.99**	**226**	Pn	**Pn**		**20 06 37.6**	**+1.7**
PV04	**Paradox Valley**	**6.07**	**209**		**Pn**		**20 06 38.6**	**+1.6**
PV12	**Saucer Basin,**	**6.10**	**208**	Pn	**Pn**		**20 06 37.6**	**+0.2**
PV14	**Lion Creek, Pa**	**6.13**	**210**	Pn	**Pn**		**20 06 37.2**	**-0.7**
PV20	**West Nyswonger**	**6.14**	**209**		**Pn**		**20 06 37.3**	**-0.6**
PV11	**David Mesa, Pa**	**6.14**	**208**		**Pn**		**20 06 39.6**	**+1.6**
PV16	**Nyswonger Mesa**	**6.14**	**209**		**Pn**		**20 06 37.5**	**-0.5**
SRU	**San Rafael Swe**	**6.16**	**223**		**Pn**		**20 06 39.0**	**+0.9**
PV19	**Morning Glory**	**6.17**	**209**	Pn	**Pn**		**20 06 37.8**	**-0.6**
PV03	**Paradox Valley**	**6.17**	**208**		**Pn**		**20 06 40.4**	**+2.0**
PV02	**Paradox Valley**	**6.18**	**207**		**Pn**		**20 06 41.0**	**+2.5**
ECSD	**EROS Data Cent**	**6.19**	**87**	Pn	**Pn**		**20 06 38.0**	**-0.4**
PV13	**Radium Mtn., P**	**6.25**	**208**		**Pn**		**20 06 41.4**	**+1.9**
TMUT	**Trail Mountain**	**6.37**	**228**		**Pn**		**20 06 42.9**	**+1.7**
PV05	**Paradox Valley**	**6.42**	**209**	Pn	**Pn**		**20 06 41.1**	**-0.7**
BGU	**Big Grassy Mou**	**6.49**	**247**	Pn	**Pn**		**20 06 43.7**	**+1.0**
T25A	**Trinidad**	**6.64**	**175**	Pg	**Pg**		**20 07 10.0**	**-3.1**
DUG	**Dugway, Tooele**	**6.73**	**241**	Pn	**Pn**		**20 06 47.0**	**+1.0**
ELK	**Elko**	**8.06**	**251**	Pn	**Pn**		**20 07 06.0**	**+1.6**
	comp=N,0.4nm,0.3s,baz=50,slow=13,SNR=5.6							
ELK				Lg	Lg		20 09 13.4	
	comp=N,0.1nm,0.3s,baz=190,slow=20,SNR=1.7							
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**		**20 07 20.1**	**+2.2**
	comp=N,0.8nm,0.3s,baz=238,slow=12,SNR=5.9							
ULM				Pg			20 07 49.9	
	comp=N,0.5nm,0.3s,baz=226,slow=13,SNR=4.8							
ULM				Lg	Lg		20 09 49.8	
	comp=N,0.3nm,0.3s,baz=121,slow=17,SNR=4.3							
NEW	**Newport**	**9.46**	**303**	Lg	Lg		20 09 49.9	
	comp=N,0.2nm,0.3s,baz=217,slow=3.2,SNR=2.3							
NVAR	**Mina Array Bea**	**11.26**	**246**	Pn	**Pn**		**20 07 48.8**	**+0.6**
	comp=N,0.1nm,0.3s,baz=68,slow=13,SNR=2.1							
YKA	**Yellowknife Ar**	**19.56**	**347**	P	**P**		**20 09 34.1**	**-0.7**
	comp=N,0.1nm,0.3s,baz=156,slow=13,SNR=3.3							

IDC 16 20:06:23.2E72.0,**17°68S**×**174°86W**,**h0**km,**mb4.0**/3, **mb1 4.2**/3,**mb1mx3.6**/36,**mbtmp4.0**/3,**Error ellipse: s-maj=1365.0km s-min=195.9km az=81.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.70**	**242**	P	P	20 14 14.7	+0.7
	0.7nm,0.5s,baz=79,slow=10,SNR=1.4						
WRA	**Warramunga Arr**	**47.99**	**259**	P	P	20 15 04.0	-0.3
	1.1nm,0.3s,baz=102,slow=7.8,SNR=62						
ASAR	**Alice Springs**	**48.10**	**254**	P	P	20 15 04.8	-0.4
	1.8nm,0.5s,baz=91,slow=7.5,SNR=32						

NIC ***16*** *20:09:31.7±0.0,36°54N×27°91E,h1km±2km,Ml4.5/4*
IDC ***16*** *20:09:31.4±0.8,36°45N×27°86E,h0km,mb3.8/13, mb1 3.9/19,mb1mx3.7/62,mbtmp3.8/19,ML3.5/5,MS3.0/8, Ms1 3.0/8,ms1mx2.8/47,Error ellipse: s-maj=17.7km s-min=12.2km az=153.0*
NEIC ***16*** *20:09:32.7±1.3,36°46N±0°05×27°86E±0°05,h7km±5km, Error ellipse: s-maj=7.8km s-min=5.6km az=152.0*
ISK ***16*** *20:09:32.8,36°51N×27°89E,h16km,ML3.9/25*
MOS ***16*** *20:09:32.3±1.1,36°46N×27°81E,h14km±3km,mb4.5/6,Error ellipse: s-maj=7.8km s-min=5.9km az=95.9*
ATH ***16*** *20:09:33.6,36°50N×27°87E,h14km±3km,ML3.9/6,Error ellipse: s-maj=3.7km s-min=1.4km az=203.0*
THE ***16*** *20:09:33.2,36°51N×27°90E,h2km±2km,ML4.0/6,Error ellipse: s-maj=2.4km s-min=0.8km az=314.0*
DDA ***16*** *20:09:33.6,36°52N×27°90E,h18km±1km,MW4.0*
HLW ***16*** *20:09:44.3,35°72N×28°32E,h15km±16km,Md4.0,Ml4.5*
ISC 16 20:09:33.8±0.9,**36°48N**±0°02×**27°89E**±0°02,**h14**km±6km, **n242,σ1s54/282,mb3.9**/21,**10C-5D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.32**	**143**	P	**Pg**	**20 09 40.3**	**-0.2**
ARG				S	**Sb**	**20 09 45.6**	**-0.7**
ARG				AML	AML	20 09 47.4	
ARG				AML	AML	20 09 48.5	
	comp=N,81989μm,0.3s						
ARG	**Arkhangelos**	**0.32**	**143**	P	**Pg**	**20 09 40.3**	**-0.2**
ARG				S	**Sb**	**20 09 45.7**	**-0.7**
	comp=N,50μm,0.3s						
ARG	**Arkhangelos**	**0.32**	**143**	PG	**Pg**	**20 09 40.3**	**-0.2**
ARG				SG	**Sb**	**20 09 45.7**	**-0.7**
ARG	**Arkhangelos**	**0.32**	**143**	↑↑P	**Pg**	**20 09 40.3**	**-0.2**
ARG				S	**Sb**	**20 09 46.0**	**-0.5**
DATC	**Datca-Mugla**	**0.34**	**327**	PG	**Pg**	**20 09 40.0**	**-0.8**
MRSB	**Marmaris-Mugla**	**0.34**	**46**	PG	**Pg**	**20 09 39.9**	**-1.0**
TURN	**Turunc**	**0.41**	**44**	PG	**Pg**	**20 09 41.4**	**-0.7**
TURN	**Turunc**	**0.41**	**44**	*i* P	**Pg**	**20 09 41.3**	**-0.9**
TURN				*i* S	**Sg**	**20 09 47.3**	**-0.5**
NIS1	**Nisyros Isl.**	**0.58**	**283**	P	**Pg**	**20 09 44.9**	**-0.4**
NIS1				S	**Sg**	**20 09 52.6**	**-0.5**
NIS1				AML	AML	20 09 57.9	
	comp=E,75423μm,0.7s						
NIS1				AML	AML	20 10 00.2	
	comp=N,61371μm,0.4s						
NIS1	**Nisyros Isl.**	**0.58**	**283**	P	**Pg**	**20 09 45.0**	**-0.4**
NIS1				S	**Sb**	**20 09 54.6**	**+0.6**
	comp=N,34μm,0.6s						
NIS1	**Nisyros Isl.**	**0.58**	**283**	PG	**Pg**	**20 09 44.8**	**-0.6**
NISR	**Nisiros**	**0.63**	**283**	P	**Pg**	**20 09 45.2**	**-0.9**
NISR				AML	AML	20 10 03.7	
	comp=E,21027μm,0.7s						
NISR				AML	AML	20 10 04.3	
	comp=N,13902μm,0.8s						
NISR	**Nisiros**	**0.63**	**283**	P	**Pg**	**20 09 45.7**	**-0.4**
BDRM	**Kayabasi**	**0.69**	**329**	*i* P	**Pg**	**20 09 46.4**	**-0.9**
BDRM				*i* P	**Pb**	**20 09 46.7**	**-1.0**
BDRM				*i* S	**Sg**	**20 09 55.9**	**-0.5**
DALY	**Dalyan (Mula)**	**0.70**	**61**	PG	**Pg**	**20 09 46.2**	**-1.4**
DALY				SG	**Sg**	**20 09 56.7**	**-0.1**
DALY	**Dalyan (Mula)**	**0.70**	**61**	*i* P	**Pg**	**20 09 46.5**	**-1.0**
DALY				*i* S	**Sg**	**20 09 56.2**	**-0.6**
YER	**Yerkesik**	**0.73**	**26**	P	**Pg**	**20 09 47.2**	**-0.9**
YER				S	**Sb**	**20 09 58.3**	**+0.1**
YER	**Yerkesik**	**0.73**	**26**	PG	**Pg**	**20 09 47.1**	**-1.0**
BODT	**Bodrum**	**0.75**	**322**	P	**Pg**	**20 09 46.5**	**-1.9**
BODT				S	**Sb**	**20 09 58.2**	**-0.5**
BODT	**Bodrum**	**0.75**	**322**	PG	**Pg**	**20 09 46.5**	**-1.9**
KOSK	**Kos Island**	**0.78**	**291**	P	**Pb**	**20 09 49.1**	**-0.1**
KOSK	**Kos Island**	**0.78**	**291**	PG	**Pb**	**20 09 48.8**	**-0.4**
YKAV	**Yalikavak-Bodr**	**0.81**	**323**	PG	**Pg**	**20 09 48.6**	**-1.0**
MULA	**Mugla, Merkez-**	**0.85**	**24**	*i* P	**Pg**	**20 09 49.9**	**-0.5**
MULA				*i* S	**Sg**	**20 10 00.8**	**-0.8**
FETY	**Fethiye**	**0.97**	**80**	P	**Pg**	**20 09 50.7**	**-2.0**
FETY				S	**Sn**	**20 10 06.1**	**-0.6**
FETY	**Fethiye**	**0.97**	**80**	PG	**Pg**	**20 09 50.9**	**-1.8**
FETY	**Fethiye**	**0.97**	**80**	*i* P	**Pg**	**20 09 49.9**	**-2.8**
KARP	**Karpathos**	**1.10**	**213**	P	**Pb**	**20 09 54.1**	**-0.5**
KARP				AML	AML	20 10 11.0	
	comp=N,13578μm,0.4s						
KARP				AML	AML	20 10 13.2	
	comp=E,16419μm,0.2s						
KARP	**Karpathos**	**1.10**	**213**	P	**Pb**	**20 09 54.2**	**-0.5**
KARP				S	**Sn**	**20 10 10.3**	**+0.5**
	comp=E,7μm,0.2s						
KARP	**Karpathos**	**1.10**	**213**	PN	**Pb**	**20 09 54.4**	**-0.2**
KARP				SN	**Sn**	**20 10 10.2**	**+0.5**
KARP	**Karpathos**	**1.10**	**213**		**Pb**	**20 09 54.1**	**-0.5**
KARP	**Karpathos**	**1.10**	**213**	↑↑P	**Pb**	**20 09 54.0**	**-0.5**
KARP				S	**Sn**	**20 10 10.5**	**+0.7**
KARP				AML	AML	20 10 12.7	
	comp=E,16nm,0.2s						
KARP				AML	AML	20 10 12.7	
	comp=E,16nm,0.2s						
KARP				AML	AML	20 10 12.9	
	comp=E,18nm,0.6s						
KARP				AML	AML	20 10 12.9	
	comp=E,18nm,0.6s						
DDIM	**Aydin, Didim**	**1.11**	**332**	*i* P	**Pb**	**20 09 54.0**	**-0.7**
DDIM				*i* S	**Sb**	**20 10 07.0**	**-2.1**
TAVA	**DENIZLI_Tavas**	**1.28**	**39**	*i* P	**Pg**	**20 09 58.2**	**-0.4**
TAVA				*i* S	**Sg**	**20 10 16.5**	**+1.1**
CAEL	**Denizli, Camel**	**1.32**	**60**	*i* P	**Pg**	**20 10 00.8**	**+1.5**
CAEL				*i* S	**Sg**	**20 10 19.9**	**+3.5**
GCAM	**G?zelcaml?**	**1.33**	**337**	PN	**Pn**	**20 09 57.2**	**-0.7**
GCAM	**G?zelcaml?**	**1.33**	**337**	*i* P	**Pn**	**20 09 57.8**	**-0.1**
GCAM				*i* S	**Sg**	**20 10 16.0**	**-0.8**
AKAS	**Kas**	**1.41**	**99**	PN	**Pn**	**20 09 58.6**	**-0.6**
AKAS	**Kas**	**1.41**	**99**	*i* P	**Pn**	**20 09 59.2**	**+0.1**
AKAS	**Kas**	**1.41**	**99**		**Pn**	**20 09 59.2**	**+0.1**
KSL	**Kastellorizon**	**1.41**	**103**	P	**Pg**	**20 10 00.1**	**-0.8**
KSL	**Kastellorizon**	**1.41**	**103**	P	**Pb**	**20 09 59.6**	**-0.3**
KSL	**Kastellorizon**	**1.41**	**103**	P	**Pb**	**20 09 59.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**0**	PN	**Pn**	**20 09 59.3**	**-0.7**
SMG	**Samos**	**1.49**	**326**	P	**Pn**	**20 09 59.1**	**-1.1**
SMG				AML	AML	20 10 26.7	
	comp=N,4848μm,0.5s						
SMG				AML	AML	20 10 28.0	
	comp=E,6246μm,0.4s						
SMG	**Samos**	**1.49**	**326**	P	**Pn**	**20 09 59.0**	**-1.1**
GOLH	**Golhisar**	**1.54**	**60**	*i* P	**Pg**	**20 10 02.6**	**-0.9**
GOLH				*i* S	**Sb**	**20 10 21.6**	**0.0**
DGB	**zmir**	**1.77**	**333**	*i* P	**Pn**	**20 10 03.3**	**-0.6**
ZKR	**Zakros**	**1.92**	**225**	P	**Pn**	**20 10 06.7**	**+0.5**
ZKR				AML	AML	20 10 39.1	
	comp=E,3558μm,0.5s						
ZKR				AML	AML	20 10 44.6	
	comp=N,1699μm,0.5s						
ZKR	**Zakros**	**1.92**	**225**	P	**Pn**	**20 10 06.4**	**+0.3**
ZKR	**Zakros**	**1.92**	**225**	PN	**Pn**	**20 10 06.9**	**+0.8**
ZKR	**Zakros**	**1.92**	**225**	P	**Pn**	**20 10 06.8**	**+0.8**
STIA	**Sitia Lasithi**	**1.94**	**229**	P	**Pn**	**20 10 06.8**	**+0.5**
SANT	**Santorini**	**1.96**	**268**		**Pn**	**20 10 05.2**	**-1.5**
APE	**Apeiranthos**	**1.98**	**288**	PN	**Pn**	**20 10 06.5**	**-0.5**
APE	**Apeiranthos**	**1.98**	**288**	*de*P	**Pn**	**20 10 06.4**	**-0.5**
APE	**Apeiranthos**	**1.98**	**288**	↑↑P	**Pn**	**20 10 06.6**	**-0.5**
AKUM	**Antalya-Kumluc**	**1.99**	**94**	*i* P	**Pb**	**20 10 08.4**	**-1.3**
BLCB	**Balcova**	**2.02**	**341**	P	**Pn**	**20 10 06.3**	**-1.2**
BLCB	**Balcova**	**2.02**	**341**	PN	**Pn**	**20 10 06.5**	**-1.0**
ZEYE	**Izmir, Urla-Ze**	**2.08**	**328**	*i* P	**Pn**	**20 10 06.9**	**-1.3**
MANT	**Manisa**	**2.08**	**15**	*i* P	**Pb**	**20 10 09.8**	**-1.6**
MANT	**Manisa**	**2.08**	**15**	Pn	**Pn**	**20 10 08.4**	**-0.1**
BRDR	**BURDUR-Merkez**	**2.12**	**54**	*i* P	**Pb**	**20 10 12.2**	**+0.1**
KULA	**Kula-Manisa**	**2.12**	**17**	PN	**Pn**	**20 10 08.4**	**-0.6**
URLA	**Izmir**	**2.14**	**332**	PN	**Pn**	**20 10 08.1**	**-1.1**
URLA	**Izmir**	**2.14**	**332**	*i* P	**Pn**	**20 10 08.2**	**-0.9**
NPS	**Neapolis**	**2.21**	**237**	P	**Pn**	**20 10 10.0**	**-0.1**
NPS				S	**Sn**	**20 10 37.3**	**+0.1**
	comp=N,2μm,0.5s						
ANTB	**Antalya**	**2.26**	**78**	PN	**Pn**	**20 10 10.6**	**-0.2**
KHAL	**Karahalli**	**2.28**	**34**	*i* P	**Pn**	**20 10 11.1**	**-0.1**
BUCA	**Burdur, Bucak-**	**2.30**	**68**	*i* P	**Pb**	**20 10 14.5**	**-0.7**
LAST	**Lasithi**	**2.36**	**237**	P	**Pn**	**20 10 12.4**	**+0.2**
BCK	**Bucak**	**2.38**	**65**	PN	**Pn**	**20 10 12.2**	**-0.2**
AKHS	**Akhisar**	**2.40**	**359**	*i* P	**Pn**	**20 10 11.9**	**-0.8**
CHOS	**Chios island**	**2.40**	**323**	PN	**Pn**	**20 10 11.9**	**-0.9**
USAK	**Uak-Merkez**	**2.41**	**22**	*i* P	**Pn**	**20 10 12.3**	**-0.5**
ISP	**Isparta**	**2.50**	**57**	PN	**Pn**	**20 10 13.9**	**-0.2**
ISP	**Isparta**	**2.50**	**57**	P	**Pn**	**20 10 13.4**	**-0.7**
ISP	**Isparta**	**2.50**	**57**		**Pn**	**20 10 13.4**	**-0.7**
KZIL	**AFYON_Kizioren**	**2.53**	**45**	*i* P	**Pn**	**20 10 13.8**	**-0.7**
HRKL	**Herakleio**	**2.54**	**244**	PN	**Pn**	**20 10 14.9**	**+0.3**
ZEDA	**zmir-Bergama**	**2.57**	**346**	*i* P	**Pn**	**20 10 14.3**	**-0.7**
DKL	**Dikili**	**2.71**	**344**	PN	**Pn**	**20 10 16.6**	**-0.3**
IDI	**Anoyia**	**2.71**	**245**	Pn	**Pn**	**20 10 17.1**	**+0.1**
	comp=N,6.0nm,0.3s,baz=45,slow=7.7,SNR=49						
IDI				Sn	**Sn**	**20 10 48.1**	**-1.5**
	comp=N,18nm,0.3s,baz=249,slow=5.6,SNR=14						
IDI	**Anoyia**	**2.71**	**245**	P	**Pn**	**20 10 16.8**	**-0.2**
IDI	**Anoyia**	**2.71**	**245**	PN	**Pn**	**20 10 16.7**	**-0.2**
IDI	**Anoyia**	**2.71**	**245**	Pn	**Pn**	**20 10 16.9**	**-0.2**
SIMA	**Simav-Kutahya**	**2.74**	**18**	PN	**Pn**	**20 10 17.0**	**-0.5**
BAGO	**Egridir - ISPA**	**2.76**	**56**	P	**Pn**	**20 10 20.1**	**+2.4**
GEDZ	**Gediz**	**2.83**	**25**	PN	**Pn**	**20 10 18.1**	**-0.6**
SIVA	**Sivas**	**2.90**	**241**	P	**Pn**	**20 10 20.6**	**+1.1**
STEP	**BALIKESIR_Sava**	**2.90**	**357**	P	**Pn**	**20 10 19.0**	**-0.5**
SHUT	**Suhut-Afyon**	**2.96**	**45**	PN	**Pn**	**20 10 20.4**	**-0.1**
AYVA	**Ayvalik**	**2.98**	**342**	*i* P	**Pb**	**20 10 27.1**	**+0.4**
AFYO	**Afyonkarahisar**	**3.00**	**39**	*i* P	**Pn**	**20 10 22.8**	**+1.8**
BUHA	**Balikesir, Bur**	**3.09**	**348**	*i* P	**Pn**	**20 10 21.8**	**-0.3**
YVAC	**Isparta, Yalva**	**3.21**	**55**	*i* P	**Pn**	**20 10 26.4**	**+2.4**
SEDI	**Konya, Seydise**	**3.25**	**71**	*i* P	**Pb**	**20 10 28.2**	**-3.1**
BALY	**Balya**	**3.27**	**356**	*i* P	**Pn**	**20 10 23.2**	**-1.4**
KOCA	**Canakkale, Ayv**	**3.32**	**336**	*i* P	**Pn**	**20 10 25.5**	**+0.1**
ANDZ	**Kutahya, Merke**	**3.42**	**27**	*i* P	**Pn**	**20 10 26.9**	**+0.1**
DOGA	**KONYA_Doganhis**	**3.42**	**61**	*i* P	**Pb**	**20 10 31.0**	**-3.4**
BAYC	**CANAKKALE_Bayr**	**3.43**	**342**	*i* P	**Pn**	**20 10 26.4**	**-0.4**
GAZI	**Gazipasa**	**3.58**	**93**	*i* P	**Pn**	**20 10 28.7**	**-0.2**
ULDT	**Uludag**	**3.79**	**15**	*i* P	**Pn**	**20 10 31.4**	**-0.5**
KONT	**Konya--Tatoy**	**3.86**	**66**	*i* P	**Pn**	**20 10 36.0**	**+3.3**
AKMS	**Akamas**	**3.90**	**111**	P	**Pn**	**20 10 33.6**	**+0.3**
AKMS				AML	AML	20 11 16.8	
	comp=N,1.3nm,0.5s						
AKMS				AML	AML	20 11 18.5	
	comp=N,2.6nm,0.5s						
GOKA	**anakkale-Gk**	**4.02**	**338**	*i* P	**Pn**	**20 10 34.4**	**-0.5**
ALFC	**Alefka**	**4.05**	**108**	P	**Pn**	**20 10 35.5**	**+0.1**
ALFC				AML	AML	20 11 24.5	
	comp=N,2.8nm,0.6s						
ALFC				AML	AML	20 11 24.5	
	comp=N,2.8nm,0.6s						
ALFC				AML	AML	20 11 24.7	
	comp=N,1.5nm,0.4s						
ALFC				AML	AML	20 11 24.7	
	comp=N,1.5nm,0.4s						
ALFC				S	**Sn**	**20 11 25.1**	**+2.5**
OSC1	**CSNet OBS 1**	**4.07**	**136**	P	**Pn**	**20 10 35.3**	**-0.3**
KKBE	**Karaman, Kazim**	**4.12**	**78**	*i* P	**Pn**	**20 10 40.7**	**+4.2**
NATA	**Nata**	**4.17**	**113**	P	**Pn**	**20 10 37.5**	**+0.5**
NATA				S	**Sn**	**20 11 28.6**	**+3.0**
ALIN	**Konya, Altinte**	**4.37**	**64**	*i* P	**Pn**	**20 10 41.6**	**+1.7**
SZAC	**Souni**	**4.42**	**111**	↑↑P	**Pn**	**20 10 40.6**	**+0.1**
SZAC				AML	AML	20 11 32.4	
	comp=N,1.8nm,0.4s						
SZAC				AML	AML	20 11 32.8	
	comp=N,2.1nm,0.5s						
GULN	**MERSIN_Gulnar**	**4.58**	**92**	*i* P	**Pn**	**20 10 43.8**	**+1.2**
GULN				*i* S	**Sn**	**20 11 34.6**	**-0.9**
ALN	**Alexandroupoli**	**4.64**	**342**	P	**Pn**	**20 10 42.9**	**-0.6**
ALN	**Alexandroupoli**	**4.64**	**342**		**Pn**	**20 10 42.9**	**-0.6**
ATHAL	**Athalassa**	**4.67**	**105**	P	**Pn**	**20 10 44.2**	**+0.3**
CSS	**Mathiatis**	**4.68**	**107**	Pn	**Pn**	**20 10 44.4**	**+0.4**
CSS	**Mathiatis**	**4.68**	**107**	↑↑P	**Pn**	**20 10 44.0**	**-0.1**
ASGA	**Asgata**	**4.68**	**110**	P	**Pn**	**20 10 44.5**	**+0.5**
MDUB	**Mudurnu**	**4.76**	**32**	Pn	**Pn**	**20 10 45.6**	**+0.4**
KKUL	**Konya-Kulu**	**4.80**	**54**	*i* P	**Pn**	**20 10 49.9**	**+4.1**
ITM	**Ithomi**	**4.83**	**280**	Pn	**Pn**	**20 10 49.0**	**+2.8**
MVOU	**Mavrovouni**	**4.89**	**106**	↑↑P	**Pn**	**20 10 46.4**	**-0.6**
OSC2	**CSNet OBS 4**	**4.95**	**132**	P	**Pn**	**20 10 47.5**	**-0.2**
KIZK	**Mersin**	**5.04**	**88**	*i* P	**Pn**	**20 10 51.9**	**+2.9**
KIZK				*i* S	**Sn**	**20 11 45.3**	**-1.7**
KERG	**Konya-Eregli**	**5.08**	**78**	*i* P	**Pn**	**20 10 54.0**	**+4.3**
KERG				*i* S	**Sn**	**20 11 46.9**	**-1.3**
AGG	**Agios Georgios**	**5.08**	**302**	P	**Pn**	**20 10 51.5**	**+1.9**
AGG	**Agios Georgios**	**5.08**	**302**	Pn	**Pn**	**20 10 51.5**	**+1.9**
VIZE	**Kirklareli, Vi**	**5.09**	**360**	*i* P	**Pn**	**20 10 48.6**	**-1.1**
AKSY	**AKSARAY - Alti**	**5.14**	**63**	*i* P	**Pn**	**20 10 52.6**	**+2.1**
EREN	**Erenkoy**	**5.18**	**99**	*i* P	**Pn**	**20 10 54.1**	**+3.2**
EREN				*i* S	**Sn**	**20 11 45.9**	**-4.5**
CMDR	**Camlidere-ANKA**	**5.39**	**41**	*i* P	**Pn**	**20 10 55.9**	**+2.0**
SLUM	**Salum**	**5.45**	**205**	P	**Pn**	**20 10 53.8**	**-0.8**
	baz=213						
SLUM				S	**Sn**	**20 11 53.3**	**-3.7**
	baz=213						
BR131	**Keskin Array S**	**5.58**	**53**	*c* P	**Pn**	**20 10 59.4**	**+3.0**
BR131	**Keskin Array S**	**5.58**	**53**	Pn	**Pn**	**20 10 58.0**	**+1.5**
BRTR	**Keskin Array B**	**5.58**	**53**	Pn	**Pn**	**20 10 59.5**	**+3.0**
	comp=N,1.0nm,0.3s,baz=238,slow=16,SNR=18						
BRTR				Sn	**Sn**	**20 12 02.7**	**+2.4**
	comp=N,0.1nm,0.3s,baz=238,slow=22,SNR=1.8						
BRTR	**Keskin Array B**	**5.58**	**53**	*i* P	**Pn**	**20 10 59.5**	**+3.0**
BRTR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BRTR	**Keskin Array B**	**5.58**	**53**	P	**Pn**	**20 10 57.0**	**+0.6**
LIT	**Litokhoron**	**5.58**	**312**	P	**Pn**	**20 10 55.8**	**-0.6**
LIT	**Litokhoron**	**5.58**	**312**	Pn	**Pn**	**20 10 55.8**	**-0.6**
FNA	**Florina**	**6.67**	**312**	P	**Pn**	**20 11 10.7**	**-0.7**
FNA	**Florina**	**6.67**	**312**	Pn	**Pn**	**20 11 10.7**	**-0.7**
BHL	**Bhannes**	**6.86**	**110**	*e*P	**Pn**	**20 11 11.2**	**-2.8**
DQRL	**Deir Qamar**	**6.88**	**111**	*e*P	**Pn**	**20 11 13.5**	**-0.8**
HWQ	**Hawqa**	**6.94**	**106**	*e*P	**Pn**	**20 11 14.7**	**-0.5**
QRWL	**Qaraoun**	**7.03**	**112**	*e*P	**Pn**	**20 11 15.3**	**-1.1**
MMAI	**Mount Meron Ar**	**7.08**	**117**	Pn	**Pn**	**20 11 16.5**	**-0.6**
	comp=Z,12nm,0.3s,baz=311,slow=13,SNR=43						
MMAI				Sn	**Sn**	**20 12 34.4**	**-3.0**
	comp=Z,20nm,0.3s,baz=314,slow=24,SNR=12						
MMAI				LR	LR	20 14 50.3	
	comp=Z,46nm,18.2s,baz=290,slow=45						
VTS	**Vitosha**	**7.11**	**331**	P	**Pn**	**20 11 16.7**	**-0.8**
VTS	**Vitosha**	**7.11**	**331**	Pn	**Pn**	**20 11 16.7**	**-0.8**
RCY	**Rachaya**	**7.17**	**112**	*e*P	**Pn**	**20 11 17.5**	**-0.9**
KOT	**Kottamia**	**7.32**	**152**	P	**Pn**	**20 11 19.9**	**-0.4**
	baz=151						
HHAG	**Hagoal**	**7.40**	**150**	P	**Pn**	**20 11 20.6**	**-0.8**
	baz=150						
HHAG				S	Sn	20 12 31.8	-13
	baz=150						
HSAF	**As Saff**	**7.50**	**155**	P	**Pn**	**20 11 21.9**	**-0.9**
	baz=154						
GAZ	**Gaziantep**	**7.51**	**82**	Pn	**Pn**	**20 11 22.7**	**-0.3**
GLL	**Jalalah**	**7.59**	**154**	P	**Pn**	**20 11 23.0**	**-1.1**
	baz=154						
RYAN	**Fayoum**	**7.64**	**164**	P	**Pn**	**20 11 23.7**	**-1.0**
	baz=165						
RYAN				AMP		20 12 00.0	
	baz=165						
SUZ	**Suez**	**7.81**	**147**	P	**Pn**	**20 11 27.2**	**+0.2**
	baz=145						
EIL	**Elat**	**9.01**	**137**	Pn	**Pn**	**20 11 42.6**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=223,slow=5.3,SNR=13						
EIL				Sn	**Sn**	**20 13 17.0**	**-7.7**
	comp=Z,4.2nm,0.3s,baz=306,slow=15,SNR=5.1						
EIL				LR	LR	20 16 53.6	
	comp=Z,48nm,18.8s,baz=291,slow=49						
MLR	**Muntele Rosu**	**9.12**	**351**	Pn	**Pn**	**20 11 46.2**	**+

VALR	**Valaam**	**24.98**	**3**	*eP*	**P**	**20 15 00.0**	**+3.4**
VALR				pmax	pmax		
	comp=Z,12nm,1.0s						
FINES	**FINESS Array B**	**25.02**	**358**	P	**P**	**20 14 56.3**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=141,slow=12,SNR=5.6						
FINES	**FINESS Array B**	**25.02**	**358**	P	**P**	**20 14 56.5**	**-0.5**
FINES	**FINESS Array B**	**25.02**	**358**	P	**P**	**20 14 56.5**	**-0.5**
ESBB	**Sonseca Array**	**25.20**	**287**	P	**P**	**20 14 58.9**	**-0.1**
ESDC	**Sonseca Array**	**25.21**	**287**	P	**P**	**20 14 58.8**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=82,slow=9.3,SNR=33						
ESDC	**Sonseca Array**	**25.21**	**287**	P	**P**	**20 14 58.6**	**-0.4**
HFS	**Hagfors**	**25.37**	**343**	P	**P**	**20 14 59.6**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=159,slow=12,SNR=1.9						
KLMR	**Klimovskoe**	**25.50**	**13**	*eP*	**P**	**20 15 00.5**	**-0.8**
KLMR				pmax	pmax		
	comp=Z,15nm,0.8s						
KLMR	**Klimovskoe**	**25.50**	**13**	*eP*	**P**	**20 15 00.6**	**-0.8**
KLMR				AMP		20 15 02.1	
	comp=Z,15nm,0.8s						
PAB	**San Pablo**	**25.51**	**287**	P	**P**	**20 15 01.6**	**-0.3**
PAB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PAB	**San Pablo**	**25.51**	**287**	P	**P**	**20 15 01.6**	**-0.3**
PAB				IAmb	IAmb	20 15 02.2	
	comp=Z,3.1nm,0.8s						
AKTO	**Aktyubinsk**	**25.73**	**48**	LR	LR	20 29 52.4	
	comp=Z,87nm,18.7s,baz=356,slow=47						
NOA	**NORSAR Array B**	**26.77**	**342**	P	**P**	**20 15 12.2**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=146,slow=9.6,SNR=3.4						
NOA				LR	LR	20 26 56.0	
	comp=Z,39nm,18.7s,baz=25,slow=39						
MDT	**Midelt**	**26.91**	**272**	P	**P**	**20 15 14.2**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=97,slow=11,SNR=4.5						
ARU	**Arti**	**28.68**	**36**	P	**P**	**20 15 30.5**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=232,slow=13,SNR=2.3						
TOA0	**Torodi Ar. Sit**	**33.04**	**232**	P	**P**	**20 16 09.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**33.04**	**232**	P	**P**	**20 16 08.6**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=36,slow=9.1,SNR=9.4						
TORD	**Torodi Ar. Bea**	**33.04**	**232**	P	**P**	**20 16 08.9**	**+0.1**
TORD				IAmb	IAmb	20 16 15.8	
	comp=Z,1.5nm,0.8s						
MK31	**Makanchi Array**	**41.20**	**58**	P	**P**	**20 17 19.1**	**+1.2**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.3s						
MK31	**Makanchi Array**	**41.20**	**58**	P	**P**	**20 17 19.1**	**+1.2**
MK31				IAmb	IAmb	20 17 39.5	
	comp=Z,2.8nm,1.3s						
MKAR	**Makanchi Array**	**41.20**	**58**	P	**P**	**20 17 17.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=266,slow=8.5,SNR=6.6						
MKAR	**Makanchi Array**	**41.20**	**58**	P	**P**	**20 17 18.4**	**+0.5**
MKAR	**Makanchi Array**	**41.20**	**58**	P	**P**	**20 17 18.4**	**+0.5**
DBIC	**Dimbokro**	**42.12**	**233**	P	**P**	**20 17 24.8**	**-1.0**
	comp=Z,3.2nm,0.7s,baz=40,slow=5.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**42.49**	**47**	P	**P**	**20 17 27.8**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=261,slow=7.2,SNR=1.9						
ZALV	**Zalesovo Beam**	**42.49**	**47**	P	**P**	**20 17 28.7**	**+0.4**
ZALV	**Zalesovo Beam**	**42.49**	**47**	P	**P**	**20 17 28.7**	**+0.4**
DGZ	**Jazzator, Alta**	**44.32**	**53**	*eP*	**P**	**20 17 44.5**	**+1.1**
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.9s						
SONM	**Songino Array**	**56.93**	**52**	P	**P**	**20 19 18.9**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=303,slow=6.9,SNR=4.7						
SONM	**Songino Array**	**56.93**	**52**	P	**P**	**20 19 18.9**	**+0.3**
ULN	**Ulaanbaatar**	**57.34**	**52**	*eP*	**P**	**20 19 22.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**64.24**	**85**	P	**P**	**20 20 08.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=291,slow=8.1,SNR=4.2						

*IDC **16** 20:10:39.0±2.9, 36˚.28N×71˚.05E, h232km±26km, mb3.2/11, mb1 3.3/16, mb1mx3.0/71, mbtmp3.9/16, Error ellipse: s-maj=23.7km s-min=16.2km az=28.0*
*NEIC **16** 20:10:40.8±1.2, 36˚.48N±0˚.07×71˚.1E±0˚.1, h240km±6km, mb4.1/8, Error ellipse: s-maj=13.2km s-min=10.4km az=89.0*
*NNC **16** 20:10:43.1±9.2, 36˚.79N×70˚.75E, h210km±120km, mb3.2, mpv4.2, Error ellipse: s-maj=91.5km s-min=53.1km az=179.0*

ISC 16 20:10:40.7±0.5, **36˚.46N**±0˚.06×**71˚.20E**±0˚.06, **h250**km, **n67,** σ1§**34**/73, **mb3.5**/10, **4C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBL	**Kabul**	**2.60**	**223**	Pn		**Pn**	**20 11 28.6**	**-0.7**
NIL	**Nilore**	**3.27**	**148**	Pn		**Pn**	**20 11 36.8**	**+0.5**
THW	**Thamme Wali**	**3.69**	**173**	P		**Pn**	**20 11 40.7**	**-0.3**
SARP	**Sargodha**	**4.69**	**164**	P		**Pn**	**20 11 52.5**	**-0.3**
THN	**Thein Dam**	**5.48**	**136**	*eP*		**Pn**	**20 12 03.0**	**+0.5**
THN				*eS*		**S**	**20 13 06.0**	**-1.7**
AML	**Almayashu**	**5.98**	**18**	P		**Pn**	**20 12 08.8**	**-0.2**
	SNR=192							
UCH	**Uchtor**	**6.31**	**23**	P		**Pn**	**20 12 13.1**	**+0.1**
	SNR=199							
EKS2	**Erkin-Say**	**6.50**	**17**	P		**Pn**	**20 12 15.8**	**+0.6**
	SNR=13							
KK31	**Karatay Array**	**6.66**	**356**	P		**Pn**	**20 12 16.3**	**-0.7**
	9.4nm,0.5s,baz=182,slow=14,SNR=127							
KK31				⇓S		**S**	**20 13 29.4**	**-4.7**
	28nm,0.6s,baz=184,slow=22,SNR=3.5							
KK31	**Karatay Array**	**6.66**	**356**	Pn		**Pn**	**20 12 16.6**	**-0.3**
KKAR	**Karatay Array**	**6.66**	**356**			**Pn**	**20 12 16.7**	**-0.3**
KKAR	**Karatay Array**	**6.66**	**356**	Pn		**Pn**	**20 12 16.5**	**-0.5**
AAK	**Ala-Archa**	**6.67**	**21**	P		**Pn**	**20 12 17.6**	**+0.2**
	9.5nm,0.3s,baz=197,slow=6.2,SNR=199							
AAK				S		**S**	**20 13 32.1**	**-2.7**
	3.1nm,0.3s,baz=322,slow=23,SNR=18							
AAK	**Ala-Archa**	**6.67**	**21**	P		**Pn**	**20 12 17.6**	**+0.2**
	SNR=47							
AAK	**Ala-Archa**	**6.67**	**21**	⇑P		**Pn**	**20 12 17.7**	**+0.4**
	15nm,0.4s							
AAK				⇓S		**S**	**20 13 32.4**	**-2.4**
	26nm,0.6s							
AAK	**Ala-Archa**	**6.67**	**21**			**Pn**	**20 12 17.3**	**-0.1**
KBK	**Karagaybulak**	**6.83**	**24**	P		**Pn**	**20 12 19.9**	**+0.6**
	SNR=15							
ULHL	**Ulahol**	**6.97**	**33**	P		**Pn**	**20 12 21.0**	**-0.2**
	SNR=12							
CHMS	**Chumysh**	**7.08**	**22**	P		**Pn**	**20 12 23.1**	**+0.8**
	SNR=16							
USP	**Ospenovka**	**7.26**	**19**	P		**Pn**	**20 12 26.5**	**+2.0**
	SNR=8.3							
SMLA	**Simla**	**7.28**	**135**	*eP*		**Pn**	**20 12 24.8**	**-0.1**
SMLA				*eS*		**S**	**20 13 43.4**	**-5.1**
SMLA				IAML			20 13 46.9	
	comp=N,90nm,0.6s							
SMLA				IAML			20 13 47.6	
	comp=E,88nm,0.5s							
TKM2	**Tokmak 2**	**7.29**	**26**	P		**Pn**	**20 12 25.8**	**+0.7**
	SNR=25							
TKM2	**Tokmak 2**	**7.29**	**26**	⇑P		**Pn**	**20 12 25.4**	**+0.3**
	comp=E,14nm,0.6s							
TKM2				⇓S		**S**	**20 13 46.2**	**-2.8**
	comp=E,2.4nm,0.4s							
HRA	**Herat**	**7.60**	**257**	Pn		**Pn**	**20 12 28.3**	**-0.9**
MDOK	**Medeo**	**8.06**	**32**	⇑P		**Pn**	**20 12 35.0**	**+0.1**
	comp=E,2.1nm,0.4s							
GEYT	**Alibeck**	**10.54**	**282**	P		**Pn**	**20 13 04.2**	**-1.9**
	comp=E,0.7nm,0.3s,baz=109,slow=11,SNR=9.9							
GEYT				S		S	20 14 52.6	-12
	comp=E,0.4nm,0.3s,baz=92,slow=16,SNR=4.1							
GEYT	**Alibeck**	**10.54**	**282**	Pn		**Pn**	**20 13 04.7**	**-1.4**
GYA0B	**ALIBECK ARRAY**	**10.54**	**282**	Pn		**Pn**	**20 13 04.4**	**-1.7**
MAKZ	**Makanchi**	**13.10**	**35**	⇑P		**Pn**	**20 13 37.6**	**-0.1**
	comp=E,1.3nm,0.5s							
MAKZ	**Makanchi**	**13.10**	**35**	Pn		**Pn**	**20 13 37.7**	**0.0**
MK31	**Makanchi Array**	**13.23**	**35**			**Pn**	**20 13 40.1**	**+0.7**
MKAR	**Makanchi Array**	**13.23**	**35**	P		**Pn**	**20 13 40.1**	**+0.7**
	comp=E,0.3nm,0.3s,baz=214,slow=10,SNR=22							
MKAR	**Makanchi Array**	**13.23**	**35**	Pn		**Pn**	**20 13 39.9**	**+0.5**
GKN	**Gorkha**	**14.15**	**123**	*eP*		**Pn**	**20 13 50.9**	**0.0**
	comp=E,19nm,0.3s							
DMN	**Daman**	**14.72**	**123**	*eP*		**P**	**20 13 58.1**	**+0.3**
	comp=E,22nm,0.5s							
KKN	**Kakani**	**14.72**	**122**	*eP*		**P**	**20 13 58.1**	**+0.3**
	comp=E,17nm,0.4s							
PKIN	**Phulchoki**	**14.94**	**122**	*eP*		**P**	**20 14 00.7**	**+0.5**
	comp=E,12nm,0.2s							
PKI	**Pulchoki**	**14.95**	**122**	*eP*		**P**	**20 14 00.8**	**+0.4**
	comp=E,8.9nm,0.2s							
GUN	**Gumba**	**15.06**	**120**	*eP*		**P**	**20 14 02.1**	**+0.5**
	comp=E,12nm,0.2s							
AB31	**Akbulak array**	**15.20**	**331**	P		**Pn**	**20 14 02.5**	**-0.6**
	comp=E,1.1nm,0.5s,baz=148,slow=10,SNR=27							
ABKAR	**Akbulak array**	**15.20**	**331**			**Pn**	**20 14 02.7**	**-0.4**
ABKAR				IAmb		IAmb	20 14 06.0	
	comp=Z,4.3nm,0.9s							
ABKAR	**Akbulak array**	**15.20**	**331**			**Pn**	**20 14 02.5**	**-0.6**
RAMN	**Ramite**	**16.16**	**122**	*eP*		**Pn**	**20 14 15.6**	**+0.6**
	comp=Z,19nm,0.4s							
BVAR	**Borovoye Array**	**16.57**	**358**	P		**Pn**	**20 14 19.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=98,slow=11,SNR=6.7							
BRVK	**Borovoye**	**16.61**	**358**	P		**P**	**20 14 18.3**	**+0.4**
TAPN	**Taplejung**	**16.69**	**118**	*eP*		**Pn**	**20 14 22.9**	**+1.6**
	comp=Z,12nm,0.3s							
AKTO	**Aktyubinsk**	**16.89**	**330**	P		**Pn**	**20 14 22.8**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=138,slow=10,SNR=26							
AKTO	**Aktyubinsk**	**16.89**	**330**	⇓P		**Pn**	**20 14 22.7**	**-0.4**
	comp=Z,11nm,0.6s							
LSA	**Lhasa**	**18.01**	**106**	P		**P**	**20 14 35.6**	**+1.6**
LSA				IAmb		IAmb	20 14 41.8	
	comp=Z,2.8nm,0.5s							
ZALV	**Zalesovo Beam**	**19.89**	**24**	P		**P**	**20 14 55.1**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=214,slow=12,SNR=2.5							
ZALV	**Zalesovo Beam**	**19.89**	**24**	P		**P**	**20 14 54.9**	**+1.7**
ARU	**Arti**	**21.72**	**341**	P		**P**	**20 15 13.6**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=166,slow=6.8,SNR=3.6							
ARU	**Arti**	**21.72**	**341**	P		**P**	**20 15 13.2**	**+1.3**
ARU				IAmb		IAmb	20 15 13.7	
	comp=Z,5.1nm,1.3s							
BELG	**Belogornoye**	**23.02**	**321**	P		**P**	**20 15 23.3**	**-0.4**
	comp=Z,9.1nm,0.9s,baz=101,slow=5.2,SNR=2.7							
FINES	**FINESS Array B**	**37.60**	**326**	P		**P**	**20 17 32.2**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=106,slow=15,SNR=1.9							
SCTE	**Santa Cesarea**	**41.06**	**292**	P		**P**	**20 18 01.3**	**+1.3**
ARCES	**ARCESS Array B**	**41.24**	**338**	P		**P**	**20 18 02.2**	**+1.2**
	comp=Z,3.4nm,1.1s,baz=110,slow=6.8,SNR=3.7							
ARCES	**ARCESS Array B**	**41.24**	**338**	P		**P**	**20 18 03.0**	**+2.0**
ARCES				IAmb		IAmb	20 18 11.7	
	comp=Z,26nm,1.4s							
HFS	**Hagfors**	**43.20**	**322**	P		**P**	**20 18 17.1**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=94,slow=10,SNR=2.6							
NB201	**NORSAR Array S**	**44.47**	**323**	P		**P**	**20 18 27.8**	**+0.7**
NOA	**NORSAR Array B**	**44.51**	**323**	P		**P**	**20 18 26.5**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=102,slow=7.7,SNR=2.2							
NC204	**NORSAR Array S**	**44.75**	**323**	P		**P**	**20 18 30.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**65.88**	**269**	P		**P**	**20 20 59.1**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=44,slow=6.0,SNR=1.9							
YKA	**Yellowknife Ar**	**81.28**	**3**	P		**P**	**20 22 30.0**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=360,slow=4.6,SNR=2.6							
WRA	**Warramunga Arr**	**81.83**	**122**	P		**P**	**20 22 32.5**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=324,slow=4.9,SNR=25							
ASAR	**Alice Springs**	**84.10**	**125**	P		**P**	**20 22 44.2**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=307,slow=5.0,SNR=24							
ASAR	**Alice Springs**	**84.10**	**125**	P		**P**	**20 22 44.5**	**+0.7**

*NIED **16** 20:26:23.2, 38˚.93N×142˚.93E, h13km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.09; $M_{\theta\theta}$=4.72; $M_{\phi\phi}$=0.37; $M_{r\theta}$=0.71; $M_{\theta\phi}$=-2.07; $M_{\phi r}$=0.63; Fault plane solution: M_0=5.40000×10^{14} NP1: ϕ_s=296.00000°, δ=50.00000°, λ=-85.00000°. NP2: ϕ_s=108.00000°, δ=40.00000°, λ=-96.00000°.*
*JMA **16** 20:26:23.1±0.1, 38˚.93N×142˚.93E, h13km±2km, M3.8*
*IDC **16** 20:26:29.2±2.7, 38˚.88N×142˚.95E, h54km±24km, mb3.3/12, mb1 3.5/17, mb1mx3.4/46, mbtmp3.6/17, ML3.2/4, MS3.0/4, Ms1 3.0/4, ms1mx2.7/27, Error ellipse: s-maj=24.2km s-min=15.2km az=110.0*

ISC 16 20:26:25.1±2.6, **38˚.92N**±0˚.04×**142˚.86E**±0˚.06, **h17**km±15km, **n41,** σ1§**61**/44, **mb3.7**/12, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OFUJ	**Ofunato**	**0.94**	**280**	P		**Pb**	**20 26 41.9**	**-1.0**
OFUJ				*eS*		**Sg**	**20 26 55.4**	**-0.2**
MIYJ	**Miyakonagasawa**	**1.04**	**309**	P		**Pb**	**20 26 42.6**	**-2.0**
MIYJ				*eS*		**Sb**	**20 26 57.0**	**-0.9**
JKMT	**Kesennumamotoy**	**1.08**	**265**	P		**Pb**	**20 26 44.2**	**-1.2**
JKMT				S		**Sb**	**20 26 59.2**	**0.0**
JIO	**Ouri**	**1.27**	**249**	P		**Pn**	**20 26 46.5**	**-1.5**
JIO				S		**Sb**	**20 27 03.6**	**-0.9**
JTH	**Tanohata**	**1.27**	**323**	P		**Pn**	**20 26 47.0**	**-1.1**
JTH				*eS*		**Sb**	**20 27 04.0**	**-0.7**
JMK	**Ichinoseki**	**1.28**	**272**	P		**Pn**	**20 26 47.3**	**-0.8**
JMK				*eS*		**Sb**	**20 27 04.9**	**+0.2**
JOM	**Ohasama**	**1.33**	**295**	P		**Pn**	**20 26 48.1**	**-0.8**
JOM				*eS*		**Sn**	**20 27 05.9**	**-0.3**
JKZ	**Kuzumaki**	**1.59**	**312**	P		**Pn**	**20 26 51.8**	**-0.6**
JKZ				*eS*		**Sb**	**20 27 13.3**	**-0.5**
JANG	**Nango**	**1.78**	**325**	P		**Pn**	**20 26 54.5**	**-0.6**
JANG				*eS*		**Sb**	**20 27 18.1**	**-1.2**
JRG	**Rokugo**	**1.79**	**286**	P		**Pb**	**20 26 55.8**	**-1.6**
JOU	**Okura**	**1.80**	**253**	P		**Pn**	**20 26 55.8**	**+0.4**
JOU				*eS*		**Sn**	**20 27 18.9**	**+1.0**
JMM	**Marumori**	**1.93**	**238**	P		**Pn**	**20 26 56.9**	**-0.2**
JMM				*eS*		**Sn**	**20 27 22.2**	**+1.2**
JYK	**Kaneyama**	**1.95**	**271**	P		**Pn**	**20 26 58.0**	**+0.7**
MJAR	**Matsushiro Arr**	**4.38**	**239**	P		**Pn**	**20 27 34.1**	**+3.3**
	0.5nm,0.3s,baz=48,slow=11,SNR=30							
MJAR				LR		LR	20 29 00.0	
	comp=Z,30nm,21.0s,baz=25,slow=34							
MAT	**Matsushiro**	**4.38**	**239**	P		**Pn**	**20 27 33.4**	**+2.5**
MAT				*eS*		**Sb**	**20 28 28.5**	**-5.7**
ASAJ	**Asahikawa**	**5.19**	**358**	P		**Pn**	**20 27 43.4**	**+1.4**
	1.4nm,0.3s,baz=240,slow=9.3,SNR=15							
ASAJ				S		**Sn**	**20 28 39.5**	**-2.0**
	0.2nm,0.3s,baz=20,slow=31,SNR=1.2							
JHJ	**Hachijo jima 2**	**6.30**	**204**	LR		LR	20 30 13.1	
	comp=Z,125nm,18.3s,baz=262,slow=36							
USRK	**Ussuriysk Ar.**	**9.70**	**306**	P		Pn	20 28 49.1	+5.4
	baz=118,slow=15,SNR=2.9							
JNU	**Nakatsue**	**11.29**	**243**	LR		LR	20 33 05.6	
	comp=Z,87nm,18.4s,baz=42,slow=35							
KSRS	**Korea Array**	**11.84**	**268**	P		**Pn**	**20 29 16.7**	**+3.5**
	0.1nm,0.3s,baz=80,slow=14,SNR=2.0							
KLR	**Kul'dur**	**13.02**	**326**	P		**Pn**	**20 29 32.4**	**+3.3**
	0.1nm,0.3s,baz=146,slow=15,SNR=4.4							
MA2	**Magadan**	**21.28**	**11**	P		**P**	**20 31 10.8**	**+0.4**
	3.6nm,0.7s,baz=187,slow=8.9,SNR=9.0							
SEY	**Seymchan**	**24.73**	**10**	P		**P**	**20 31 45.7**	**+0.5**
	1.5nm,0.8s,baz=185,slow=7.2,SNR=8.2							
SONM	**Songino Array**	**27.74**	**301**	P		**P**	**20 32 13.1**	**+0.4**
	0.3nm,0.4s,baz=88,slow=10,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**28.23**	**126**	T		T	21 01 36.3	
	baz=319,slow=74							
H11N1	**WAKE ISLAND Hy**	**28.24**	**126**	T		T	21 01 36.5	
	baz=319,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.25**	**126**	T		T	21 01 36.4	
	baz=319,slow=74							
H11S1	**WAKE ISLAND Hy**	**29.02**	**128**	T		T	21 02 40.7	
	baz=320,slow=76							
H11S3	**WAKE ISLAND Hy**	**29.02**	**128**	T		T	21 02 40.9	
	baz=320,slow=76							
H11S2	**WAKE ISLAND Hy**	**29.04**	**128**	T		T	21 02 41.3	
	baz=320,slow=76							
ZALV	**Zalesovo Beam**	**41.52**	**311**	P		**P**	**20 34 11.1**	**-0.1**
	0.4nm,0.4s,baz=92,slow=10,SNR=2.1							
MKAR	**Makanchi Array**	**44.11**	**301**	P		**P**	**20 34 32.8**	**+0.5**
	0.9nm,0.8s,baz=67,slow=9.2,SNR=12							
ILAR	**Eielson Array**	**47.29**	**33**	P		**P**	**20 34 56.9**	**-0.3**
	0.8nm,0.8s,baz=264,slow=6.2,SNR=8.4							
PSI	**Prapat**	**53.74**	**239**	LR		LR	21 03 21.0	
	comp=Z,45nm,18.2s,baz=108,slow=41							
WRA	**Warramunga Arr**	**59.10**	**189**	P		**P**	**20 36 23.3**	**-1.1**
	1.5nm,0.9s,baz=7.4,slow=7.1,SNR=13							
YKA	**Yellowknife Ar**	**61.60**	**31**	P		**P**	**20 36 40.9**	**-0.3**
	0.2nm,0.7s,baz=301,slow=6.4,SNR=2.5							
ASAR	**Alice Springs**	**62.82**	**189**	P		**P**	**20 36 49.2**	**-0.6**
	0.5nm,0.7s,baz=12,slow=7.0,SNR=4.5							
NB2	**NORSAR Subarra**	**72.88**	**338**	P		**P**	**20 37 52.0**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=38,slow=5.9							
NOA	**NORSAR Array B**	**72.88**	**338**	P		**P**	**20 37 52.2**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=39,slow=5.8,SNR=1.7							
AKASG	**Malin Array Be**	**73.50**	**323**	P		**P**	**20 37 56.4**	**-0.1**
	comp=Z,0.2nm,0.2s,baz=45,slow=6.7,SNR=1.8							
TXAR	**Lajitas Array**	**88.07**	**53**	P		**P**	**20 39 14.5**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=292,slow=4.8,SNR=2.1							

*IDC **16** 20:33:16.2±1.0, 4˚.98S×140˚.10E, h0km, mb3.9/6, mb1 4.1/12, mb1mx3.9/26, mbtmp4.0/12, ML4.0/6, Error ellipse: s-maj=28.8km s-min=15.8km az=91.0*
*NEIC **16** 20:33:18.5±2.2, 5˚.16S±0˚.07×140˚.17E±0˚.06, h27km±6km, mb4.0/14, Error ellipse: s-maj=10.5km s-min=7.1km az=213.0*
*DJA **16** 20:33:19.9±0.6, 5˚S±7˚×14˚0E±˚, h83km±35km, M4.1/3, mb3.8/2, MLv4.3/3*

ISC 16 20:33:19.4±0.6, **5˚.22S**±0˚.05×**140˚.12E**±0˚.09, **h35**km, **n37,** σ2§**13**/40, **mb3.9**/8, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GENI	**Genyem**	**2.61**	**1**	P		**Pn**	**20 33 59.1**	**-0.1**
JAY	**Jayapura**	**2.75**	**12**	Pn		**Pn**	**20 33 59.6**	**-1.5**
	20nm,0.3s,baz=211,slow=12,SNR=50							
JAY				Sn		**Sn**	**20 34 32.4**	**-0.8**
	41nm,0.3s,baz=89,slow=22,SNR=13							
JAY	**Jayapura**	**2.75**	**12**	P		**Pn**	**20 33 59.1**	**-2.0**
FAKI	**Fak Fak**	**8.18**	**286**	Pn		**Pn**	**20 35 15.4**	**-0.3**
FAKI	**Fak Fak**	**8.18**	**286**	P		**Pn**	**20 35 15.5**	**-0.2**
	21nm,1.8s							
SAUI	**Saumlaki**	**9.18**	**252**	Pn		**Pn**	**20 35 29.8**	**+0.4**
COEN	**Coen**	**9.19**	**161**	Pn		**Pn**	**20 35 30.3**	**+0.7**
SIJI	**Sorong**	**9.84**	**296**	Pn		**Pn**	**20 35 37.9**	**-0.6**
	1.6nm,0.3s,baz=88,slow=11,SNR=4.7							
MTN	**Manton Dam**	**11.66**	**229**	Pn		**Pn**	**20 36 04.5**	**+1.1**
WB0	**Warramunga Arr**	**15.49**	**201**	Pn		**Pn**	**20 36 56.6**	**+1.2**
WB0				IAmb		IAmb	20 37 07.9	
	comp=Z,11nm,1.3s							
WR0	**Warramunga Arr**	**15.62**	**200**			**Pn**	**20 36 56.8**	**-0.3**
WR0				IAmb		IAmb	20 37 09.0	
	comp=Z,11nm,1.2s							
WRAB	**Tennant Creek**	**15.66**	**200**			**Pn**	**20 36 57.5**	**-0.2**
WRAB				IAmb		IAmb	20 37 06.2	
	comp=Z,5.9nm,0.8s							
WB2	**Warramunga Arr**	**15.67**	**200**			**Pn**	**20 36 58.2**	**+0.4**
WB2				IAmb		IAmb	20 37 09.7	
	comp=Z,9.9nm,1.0s							
WRA	**Warramunga Arr**	**15.68**	**201**	Pn		**Pn**	**20 36 57.8**	**0.0**
	comp=Z,0.3nm,0.3s,baz=17,slow=13,SNR=18							
WRA				Sn		**Sn**	**20 39 43.9**	**-6.6**
	comp=Z,0.2nm,0.3s,baz=24,slow=21,SNR=2.4							
WRA				Lg		Lg	20 41 34.0	
	comp=Z,0.4nm,0.3s,baz=19,slow=34,SNR=4.6							
CTA	**Charters Tower**	**15.94**	**159**	Pn		**P**	**20 37 05.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=25,slow=9.9,SNR=2.0							
CTA				Lg		Lg	20 41 48.3	
	comp=Z,0.1nm,0.3s,baz=246,slow=19,SNR=3.4							
SOEI	**Soe**	**16.34**	**253**			**Pn**	**20 37 04.9**	**-1.6**
BATI	**Baumata**	**17.04**	**252**	P		**P**	**20 37 17.6**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=60,slow=8.1,SNR=2.1							
FITZ	**Fitzroy Crossi**	**19.08**	**227**	P		**Pn**	**20 37 41.6**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=47,slow=12,SNR=8.3							
FITZ				S		Sn	20 41 01.1	-12
	comp=Z,0.6nm,0.3s,baz=116,slow=14,SNR=4.1							
FITZ	**Fitzroy Crossi**	**19.08**	**227**	P		**Pn**	**20 37 41.3**	**+1.2**
AS31	**Alice Springs**	**19.29**	**197**	P		**Pn**	**20 37 43.8**	**+1.1**
ASAR	**Alice Springs**	**19.29**	**197**	P		**Pn**	**20 37 44.5**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=26,slow=7.7,SNR=21							
ASAR				S		**S**	**20 41 10.6**	**-7.5**
	comp=Z,0.1nm,0.3s,baz=12,slow=27,SNR=3.3							
ASAR			

BODT	**Bodrum**	**2.11 347**	PN	**Pn**	**21 47 03.9**	**+0.7**
YER	**Yerkesik**	**2.15 8**	PN	**Pn**	**21 47 04.4**	**+0.7**

IDC ***16*** *21:50:19.7±2.4,6.04S×146.19E,h107km±44km,mb3.4/3, mb1 3.6/6,mb1mx3.3/25,mbtmp3.9/6,Error ellipse: s-maj=63.3km s-min=18.1km az=85.0*

ISC 16 21:50:12.5±2.1,6.1S±0.1×146.2E±0.2,h32km,n8, σ1§55/10,mb3.5/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.44 164**		P		**Pb**		**21 51 12.4**	**-0.5**
	35nm,0.3s,baz=323,slow=10,SNR=27								
PMG				S		**Sb**		**21 51 53.0**	**-1.3**
	22nm,0.3s,baz=159,slow=21,SNR=14								
PMG	**Port Moresby**	**3.44 164**		P		**Pb**		**21 51 12.5**	**-0.4**
CTA	**Charters Tower**	**13.93 180**		P		**P**		**21 53 37.4**	**+1.8**
	2.4nm,0.3s,baz=358,slow=13,SNR=13								
SIJI	**Sorong**	**15.77 289**		P		**P**		**21 53 55.5**	**-0.5**
	1.8nm,0.3s,baz=111,slow=14,SNR=3.7								
WRA	**Warramunga Arr**	**17.97 219**		P		**P**		**21 54 21.6**	**+1.3**
	0.2nm,0.3s,baz=42,slow=12,SNR=14								
ASAR	**Alice Springs**	**21.11 213**		P		**P**		**21 54 56.4**	**+1.6**
	0.4nm,0.3s,baz=50,slow=9.2,SNR=7.5								
ASAR				S		**S**		**21 58 46.2**	**-2.0**
	0.6nm,0.9s,baz=37,slow=22,SNR=3.6								
FITZ	**Fitzroy Crossi**	**23.35 237**		P		**P**		**21 55 19.4**	**+1.0**
	0.9nm,0.5s,baz=43,slow=12,SNR=1.6								
CMAR	**Chiang Mai Arr**	**52.58 299**		P		**P**		**21 59 22.3**	**-1.4**
	1.2nm,0.4s,baz=110,slow=5.1,SNR=6.1								

BJI ***16*** *22:06:30.9±0.0,5.72S×151.72E,h73km,mB5.2/49, mb5.1/75,Ms4.8/56,Ms7 4.6/56*

MOS ***16*** *22:06:34.3±1.2,5.49S×150.95E,h66km,mb5.1/28,Error ellipse: s-maj=8.0km s-min=6.1km az=107.9*

IDC ***16*** *22:06:34.5±1.6,5.56S×151.09E,h58km±13km,mb4.6/38, mb1 4.7/40,mb1mx4.6/49,mbtmp4.8/40,MS4.4/41, Ms1 4.4/41,ms1mx4.4/52,Error ellipse: s-maj=10.9km s-min=8.1km az=100.0*

DJA ***16*** *22:06:35.6±0.4,6.3S±3.1×15.1E±.1,h67km±4km,M5.4/42, mb5.2/42,mB5.5/9,MLv5.8/3,Mw(mB)5.0/9,MwMwp5.5/2, Mwp5.7/2*

GCMT ***16*** *22:06:35.6±0.2,5.70S±0.01×151.13E±0.01,h33km, MW5.2/102,Moment Tensor Solution. s102,c133; s102,c145; Duration: 1§0 Moment tensor: Scale 10¹⁶ Nm; Mrr6.28±.16; Mθθ-3.87±.12; Mϕϕ-2.40±.13; Mrθ3.36±.20; Mθϕ4.33±.09; Mϕr1.96±.21; Best double couple: Mo7.98000×10¹⁶ NP1:ϕs335.00000°, δ46.00000°, λ129.00000°. NP2:ϕs105.00000°, δ57.00000°, λ57.00000°. Principal axes: T 8.2960, Plg62.0000°, Azm319.0000°; N -0.6230, Plg27.0000°, Azm125.0000°; P -7.6630, Plg6.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***16*** *22:06:36.6±2.5,5.69S±0.07×151.08E±0.07,h80km±4km, mb5.1/147 Error ellipse: s-maj=11.2km s-min=8.9km az=131.0*

ISC 16 22:06:35.1±0.2,5.65S±0.04×151.11E±0.04,h65km,n481, σ1§42/462,mb5.0/153,12C-9D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.79 36**					**Pn**	**22 07 02.4**	**-1.5**
MANU	**Manus Island**	**5.17 314**					**Pn**	**22 07 53.2**	**+3.2**
PMG	**Port Moresby**	**5.41 226**		P			**Pn**	**22 07 53.3**	**0.0**
	132nm,0.3s,baz=56,slow=6.7,SNR=200								
PMG				S			**Sn**	**22 08 51.9**	**-2.3**
	34nm,0.3s,baz=68,slow=12,SNR=1.9								
PMG				LR		LR		22 09 38.1	
	comp=Z,4μm,18.9s,baz=116,slow=34								
PMG	**Port Moresby**	**5.41 226**	*ce*	P			**Pn**	**22 07 53.3**	**0.0**
PMG				pmax		pmax			
	comp=Z,3μm,0.8s								
PMG	**Port Moresby**	**5.41 226**		P			**Pn**	**22 07 53.6**	**+0.3**
HNR	**Honiara**	**9.54 114**		P			**Pn**	**22 08 52.4**	**+2.7**
	comp=Z,14nm,0.3s,baz=219,slow=6.3,SNR=1.8								
HNR				LR		LR		22 12 43.7	
	comp=Z,1μm,21.1s,baz=284,slow=38								
HNR	**Honiara**	**9.54 114**		P			Pn	22 09 01.6	+12
JAY	**Jayapura**	**10.83 286**		P			**Pn**	**22 09 06.8**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=111,slow=5.4,SNR=4.4								
JAY				LR		LR		22 12 44.2	
	comp=Z,3μm,19.7s,baz=97,slow=34								
JAY	**Jayapura**	**10.83 286**		P			**Pn**	**22 09 10.0**	**+2.5**
	comp=Z,μmcomp=Z,49nm,1.1s								
GENI	**Genyem**	**11.32 285**		P			**Pn**	**22 09 16.1**	**+1.9**
	comp=Z,220nm,1.1s								
COEN	**Coen**	**11.37 223**		P			**Pn**	**22 09 13.5**	**-1.2**
	baz=11								
COEN	**Coen**	**11.37 223**		Pn			**Pn**	**22 09 13.2**	**-1.5**
MTSU	**Mount Surprise**	**14.07 208**		P			**Pn**	**22 09 52.2**	**+0.8**
	baz=14,SNR=9.5								
CTA	**Charters Tower**	**15.11 198**		P			**P**	**22 10 06.9**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=29,slow=16,SNR=4.5								
CTA				LR		LR		22 15 38.9	
	comp=Z,2μm,19.5s,baz=14,slow=36								
CTAO	**Charters Tower**	**15.11 198**		P			**P**	**22 10 07.5**	**-1.2**
CTAO				pmax		pmax			
	comp=Z,48nm,0.9s								
CTAO	**Charters Tower**	**15.11 198**		P			**P**	**22 10 07.5**	**-1.2**
QIS	**Mount Isa**	**18.56 216**		P			**Pn**	**22 10 47.8**	**+0.1**
	baz=19,SNR=24								
FAKI	**Fak Fak**	**19.00 277**					**Pn**	**22 10 53.9**	**+0.9**
EIDS	**Eidsvold**	**19.61 180**		P			**Pn**	**22 11 00.6**	**+0.4**
	baz=20,SNR=8.0								
EIDS	**Eidsvold**	**19.61 180**		P			**P**	**22 10 59.2**	**+0.9**
KDU	**Kakadu**	**19.67 248**		P			**P**	**22 10 58.2**	**-0.8**
	baz=20,SNR=40								
GUMO	**Guam**	**20.09 342**		P			Pn	22 11 06.1	+0.2
GUMO				pmax		pmax			
	comp=Z,371nm,1.0s								
GUMO	**Guam**	**20.09 342**		P			Pn	22 11 06.1	+0.2
GUMO	**Guam**	**20.09 342**		P			Pn	22 11 06.4	+0.5
SIJI	**Sorong**	**20.36 283**		P			**P**	**22 11 07.5**	**+0.9**
	comp=Z,33nm,0.9s,baz=102,slow=9.1,SNR=9.3								
SWI	**Sorong**	**20.37 283**		P			Pn	22 11 10.5	+1.3
	comp=Z,105nm,0.8s								
RMQ	**Roma**	**20.84 186**		P			Pn	22 11 13.9	-0.9
	baz=21,SNR=8.8								
WB0	**Warramunga Arr**	**21.48 228**		P			**P**	**22 11 18.0**	**-0.5**
WR0	**Warramunga Arr**	**21.49 227**		P			**P**	**22 11 18.6**	**0.0**
WC3	**Warramunga Arr**	**21.61 227**		P			**P**	**22 11 19.7**	**-0.2**
	baz=22								
WRAB	**Tennant Creek**	**21.61 227**	*ce*	P			**P**	**22 11 19.8**	**-0.2**
WRAB				pmax		pmax			
	comp=Z,129nm,0.8s								
WRAB	**Tennant Creek**	**21.61 227**		P			**P**	**22 11 19.5**	**-0.5**
WB2	**Warramunga Arr**	**21.62 227**		P			**P**	**22 11 19.7**	**-0.3**
WRA	**Warramunga Arr**	**21.63 227**		P			**P**	**22 11 20.0**	**-0.1**
	comp=Z,94nm,0.6s,baz=51,slow=10,SNR=233								
WRA				S			**S**	**22 15 12.7**	**-3.6**
	comp=Z,5.3nm,0.9s,baz=49,slow=18,SNR=2.5								
WRA				ScP			**ScP**	**22 18 53.9**	**+2.3**
	comp=Z,6.4nm,1.1s,baz=49,slow=2.8,SNR=7.6								
WRA				LR		LR		22 20 24.0	
	comp=Z,2μm,18.4s,baz=60,slow=38								
WRA				PKiKP			**PKiKP**	**22 23 05.6**	**-1.0**
	comp=Z,0.9nm,1.0s,baz=322,slow=1.2,SNR=6.7								
WRA	**Warramunga Arr**	**21.63 227**	*i*	P			**P**	**22 11 20.0**	**-0.1**
WRA				pmax		pmax			
	comp=Z,94nm,0.6s								
QLP	**Quilpie**	**21.83 197**		P			**P**	**22 11 23.2**	**+1.1**
	baz=22,SNR=4.9								
DZM	**Mont Dzumac**	**22.06 139**		*e*S			**S**	**22 15 24.8**	**+0.2**
	comp=Z,782nm,24.4s								
DZM				*e*LR		LR		22 16 54.8	
	comp=Z,4μm,23.4s								
DZM	**Mont Dzumac**	**22.06 139**		P			**P**	**22 11 24.4**	**-0.4**
	comp=Z,12nm,0.8s,baz=24,slow=12,SNR=4.5								
DZM				LR		LR		22 19 08.1	
	comp=Z,2μm,20.1s,baz=319,slow=34								
DZM	**Mont Dzumac**	**22.06 139**		P			**P**	**22 11 23.9**	**-0.9**
AS31	**Alice Springs**	**24.40 221**		P			**P**	**22 11 48.0**	**+0.4**
ASAR	**Alice Springs**	**24.40 221**		P			**P**	**22 11 48.3**	**+0.7**
	comp=Z,65nm,0.8s,baz=54,slow=8.8,SNR=304								
ASAR				PcP			**PcP**	**22 15 26.4**	**+0.9**
	comp=Z,9.5nm,0.8s,baz=61,slow=2.6,SNR=7.2								
ASAR				S			**S**	**22 16 05.1**	**+2.1**
	comp=Z,7.4nm,1.0s,baz=42,slow=13,SNR=4.8								
ASAR				ScP			**ScP**	**22 19 00.1**	**+1.3**
	comp=Z,2.1nm,0.8s,baz=58,slow=3.0,SNR=4.5								
ASAR				LR		LR		22 21 26.8	
	comp=Z,1μm,20.2s,baz=46,slow=36								
ASAR				PKiKP			**PKiKP**	**22 23 06.9**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=94,slow=0.8,SNR=5.1								
ASAR	**Alice Springs**	**24.40 221**		P			**P**	**22 11 47.4**	**-0.2**
ASPA	**Alice Springs**	**24.40 221**		P			**P**	**22 11 48.4**	**+0.8**
	baz=24								
ARMA	**Armidale**	**24.65 179**		P			**P**	**22 11 51.4**	**+1.5**
	baz=25,SNR=4.9								
ARMA	**Armidale**	**24.65 179**		P			**P**	**22 11 51.2**	**+1.3**
SANI	**Sanana**	**25.31 277**		P			**P**	**22 11 57.8**	**+1.8**
	comp=Z,24nm,0.8s								
CMSA	**Cobar Meteorol**	**26.25 190**		P			**P**	**22 12 05.1**	**+0.8**
	baz=26,SNR=8.2								
BATI	**Baumata**	**27.55 259**		P			**P**	**22 12 17.1**	**+0.9**
	comp=Z,42nm,0.7s,baz=130,slow=3.3,SNR=5.2								
BATI	**Baumata**	**27.55 259**		P			**P**	**22 12 17.7**	**+1.5**
	comp=Z,53nm,0.8s								
STKA	**Stephens Creek**	**27.57 198**		P			**P**	**22 12 16.2**	**+0.1**
	comp=Z,4.7nm,0.5s,baz=0.9,slow=6.7,SNR=9.6								
STKA				ScP			**ScP**	**22 19 10.9**	**+3.1**
	comp=Z,11nm,1.0s,baz=83,slow=6.6,SNR=6.8								
STKA				LR		LR		22 24 00.5	
	comp=Z,2μm,18.5s,baz=0.7,slow=38								
STKA	**Stephens Creek**	**27.57 198**		P			**P**	**22 12 16.8**	**+0.7**
	baz=28,SNR=5.9								
STKA	**Stephens Creek**	**27.57 198**		P			**P**	**22 12 15.5**	**-0.6**
STKA				pmax		pmax			
	comp=Z,6.0nm,0.8s								
STKA	**Stephens Creek**	**27.57 198**		P			**P**	**22 12 15.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**27.77 241**		P			**P**	**22 12 17.7**	**-0.4**
	comp=Z,51nm,0.5s,baz=86,slow=4.7,SNR=171								
FITZ				S			**S**	**22 16 56.6**	**+0.2**
	comp=Z,23nm,1.1s,baz=302,slow=16,SNR=2.7								
FITZ	**Fitzroy Crossi**	**27.77 241**		P			**P**	**22 12 17.7**	**-0.4**
	baz=28,SNR=82								
FITZ	**Fitzroy Crossi**	**27.77 241**		P			**P**	**22 12 17.6**	**-0.4**
FITZ				IAmb		IAmb		22 12 19.4	
	comp=Z,58nm,0.7s								
DAV	**Davao City (W)**	**28.43 296**		LR		LR		22 23 20.2	
	comp=Z,536nm,19.2s,baz=132,slow=35								
YNG	**Young**	**28.62 185**		P			**P**	**22 12 26.8**	**+1.3**
	baz=29,SNR=12								
MMRI	**Maumere**	**28.79 262**		P			**P**	**22 12 25.9**	**-1.3**
MMRI				IAmb		IAmb		22 12 49.0	
	comp=Z,59nm,0.8s								
MSVF	**Nonsavu**	**28.94 117**		LR		LR		22 23 47.7	
	comp=Z,577nm,19.8s,baz=313,slow=36								
WRKA	**Warakurna**	**29.15 226**		P			**P**	**22 12 30.3**	**0.0**
	baz=29,SNR=46								
HTT	**Hallett**	**29.88 201**		P			**P**	**22 12 37.5**	**+0.9**
	baz=30,SNR=12								
BBOO	**Buckleboo**	**30.45 206**		P			**P**	**22 12 42.3**	**+0.6**
	baz=31,SNR=5.3								
BASI	**Baing, Sumba**	**30.56 260**		P			**P**	**22 12 46.6**	**+3.7**
	comp=Z,1μmcomp=Z,80nm,0.7s								
TOLI2	**Tolitoli**	**31.02 282**		P			**P**	**22 12 45.6**	**-1.4**
KAPI	**Kappang**	**31.22 270**		P			**P**	**22 12 49.1**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=190,slow=17,SNR=4.1								
KAPI				LR		LR		22 27 05.0	
	comp=Z,280nm,21.5s,baz=92,slow=39								
ARPS	**Mount Arapiles**	**32.12 194**		P			**P**	**22 12 58.3**	**+2.0**
	baz=32,SNR=5.3								
TOO	**Toolangi**	**32.19 188**		P			**P**	**22 12 59.1**	**+2.2**
	baz=32,SNR=5.1								
FORT	**Forrest**	**33.08 218**		P			**P**	**22 13 03.6**	**-1.2**
PLAI	**Plampang**	**33.20 263**		P			**P**	**22 13 03.4**	**-2.7**
	comp=Z,69nm,0.8s								
JCJ	**Chichijima**	**33.67 346**		LR		LR		22 25 48.0	
	comp=Z,477nm,20.9s,baz=163,slow=34								
TWSI	**Taliwang, Sumb**	**34.08 263**		P			**P**	**22 13 12.0**	**-1.8**
	comp=Z,368nmcomp=Z,18nm,0.8s								
PSA00	**Pilbara Seismi**	**34.15 239**		P			**P**	**22 13 13.7**	**-0.6**
PSA00				IAmb		IAmb		22 13 15.5	
	comp=Z,42nm,1.0s								
TGY	**Tagaytay City**	**35.79 304**		P			**P**	**22 13 29.2**	**+0.7**
	comp=Z,213nm,0.4s,baz=116,slow=3.3,SNR=4.1								
JAGI	**Jajag, Banyuwa**	**36.77 263**		P			**P**	**22 13 35.3**	**-1.6**
MOO	**Moorlands**	**36.81 185**		P			P	22 13 46.8	+10
	baz=37,SNR=3.5								
KMBL	**Kambalda**	**37.48 223**		P			**P**	**22 13 42.8**	**+0.2**
	baz=38,SNR=69								
JOW	**Kunigami**	**39.13 327**		P			**P**	**22 13 57.6**	**+1.1**
	comp=Z,100nm,0.9s,baz=137,slow=9.6,SNR=14								
JOW				LR		LR		22 27 02.8	
	comp=Z,886nm,21.0s,baz=131,slow=31								
JOW	**Kunigami**	**39.13 327**		P			**P**	**22 13 58.2**	**+1.7**
GIRL	**Giralia**	**39.38 241**		P			**P**	**22 13 59.3**	**+0.6**
	baz=39,SNR=18								
GIRL	**Giralia**	**39.38 241**		P			**P**	**22 13 59.5**	**+0.8**
JHJ	**Hachijo jima 2**	**40.02 345**		LR		LR		22 27 53.5	
	comp=Z,562nm,20.9s,baz=150,slow=32								
URZ	**Urewera**	**40.15 148**		P			**P**	**22 14 05.8**	**+1.0**
	comp=Z,14nm,1.1s,baz=200,slow=18,SNR=2.3								
URZ				PcP			**PcP**	**22 16 07.1**	**-1.1**
	comp=Z,19nm,0.9s,baz=306,slow=4.7,SNR=4.7								
URZ				LR		LR		22 28 17.7	
	comp=Z,702nm,20.1s,baz=28,slow=32								
UGM	**Wanagama**	**40.35 264**		P			**P**	**22 14 07.7**	**+0.8**
KLBR	**Kellerberrin**	**40.50 226**		P			**P**	**22 14 07.5**	**-0.4**
	baz=41,SNR=15								
MORW	**Morawa**	**40.51 231**		P			**P**	**22 14 07.8**	**-0.2**
	baz=40,SNR=29								
MORW	**Morawa**	**40.51 231**		P			**P**	**22 14 07.6**	**-0.3**
BLDU	**Balliduq**	**40.76 228**		P			**P**	**22 14 09.6**	**-0.4**
	baz=41,SNR=24								
YULB	**Yu-li**	**40.99 316**		P			**P**	**22 14 14.4**	**+2.4**
YULB				IAmb		IAmb		22 14 28.8	
	comp=Z,26nm,1.0s								
TUWZ	**Tuamarina**	**41.05 154**		P			**P**	**22 14 13.5**	**+1.3**
NACB	**Ninganchiao**	**41.30 317**		P			**P**	**22 14 17.6**	**+3.1**
TPUB	**Ta-pu**	**41.40 315**		P			**P**	**22 14 15.2**	**-0.1**
TPUB				IAmb		IAmb		22 14 31.0	
	comp=Z,38nm,0.8s								
SSLB	**Suanglung**	**41.49 316**		P			**P**	**22 14 18.1**	**+2.1**
SSLB				IAmb		IAmb		22 14 24.9	
	comp=Z,33nm,0.8s								
NWAO	**Narrogin (SRO)**	**41.60 225**		P			**P**	**22 14 16.1**	**-0.8**
	comp=Z,24nm,1.0s,baz=57,slow=9.1,SNR=6.4								
NWAO				LR		LR		22 32 05.5	
	comp=Z,987nm,20.2s,baz=52,slow=37								
NWAO	**Narrogin (SRO)**	**41.60 225**		P			**P**	**22 14 16.4**	**-0.5**
	baz=42,SNR=4.8								
NWAO	**Narrogin (SRO)**	**41.60 225**		P			**P**	**22 14 15.4**	**-1.5**
NWAO				pmax		pmax			
	comp=Z,24nm,0.8s								
NWAO	**Narrogin (SRO)**	**41.60 225**		P			**P**	**22 14 15.3**	**-1.5**
NWAO				IAmb		IAmb		22 14 30.9	
	comp=Z,24nm,0.8s								
YHNB	**Yeheng**	**41.78 317**		P			**P**	**22 14 19.7**	**+1.2**
RPZ	**Rata Peaks**	**41.79 158**		P			**P**	**22 14 19.9**	**+1.7**
	comp=Z,14nm,0.7s,baz=28,slow=2.2,SNR=6.2								
RPZ				LR		LR		22 30 43.0	
	comp=Z,1μm,18.8s,baz=360,slow=35								
MUN	**Mundaring**	**41.82 227**		P			**P**	**22 14 19.0**	**+0.2**
	baz=42,SNR=20								
JSU	**Suzuyama**	**41.87 333**		P			**P**	**22 14 19.2**	**+0.1**
JSU				IAmb		IAmb		22 14 20.9	
	comp=Z,40nm,0.9s								
JMN	**Monobe**	**42.42 339**		P			**P**	**22 14 24.4**	**+0.8**
JMN				IAmb		IAmb		22 14 48.8	
	comp=Z,22nm,0.9s								
CISI	**Cisompet, Garu**	**43.03 265**		P			**P**	**22 14 28.5**	**-0.4**
CISI	**Cisompet, Garu**	**43.03 265**		P			**P**	**22 14 29.6**	**+0.7**
	comp=Z,93nm,0.8s								
JNU	**Nakatsue**	**43.07 335**		P			**P**	**22 14 29.4**	**+0.5**
	comp=Z,77nm,0.9s,baz=124,slow=3.8,SNR=33								
JNU				LR		LR		22 30 35.9	
	comp=Z,218nm,18.4s,baz=144,slow=34								
JNU	**Nakatsue**	**43.07 335**		P			**P**	**22 14 29.8**	**+1.0**
LEM	**Lembang**	**43.24 266**		LR		LR		22 35 52.9	
	comp=Z,273nm,21.0s,baz=89,slow=41								
LEM	**Lembang**	**43.24 266**		P			**P**	**22 14 30.8**	**+0.2**
	comp=Z,37nm,0.8s								
JWT	**Wachi**	**43.31 341**		P			**P**	**22 14 32.2**	**+1.5**
TPI	**Tanjungpandan**	**43.42 272**		P			**P**	**22 14 33.0**	**+1.1**
	comp=Z,17nm,0.9s								
MJAR	**Matsushiro Arr**	**43.67 345**		P			**P**	**22 14 32.0**	**-1.5**
	comp=Z,4.1nm,0.9s,baz=168,slow=8.3,SNR=6.2								
MJAR				LR		LR		22 32 27.0	
	comp=Z,412nm,18.1s,baz=190,slow=36								
MJAR	**Matsushiro Arr**	**43.67 345**		P			**P**	**22 14 35.2**	**+1.6**
MJAR				pmax		pmax			
	comp=Z,3.0nm,0.8s								
MJAR	**Matsushiro Arr**	**43.67 345**		P			**P**	**22 14 35.2**	**+1.6**
MAJO	**Matsushiro**	**43.67 345**	‖ *e*	P			**P**	**22 14 34.8**	**+1.2**
MAJO				pmax		pmax			
	comp=Z,9.0nm,0.9s								
MAT	**Matsushiro**	**43.67 345**		P			**P**	**22 14 33.4**	**-0.2**
KNMB	**Chin-men Tao**	**43.72 315**		P			**P**	**22 14 35.1**	**+1.1**
JHS	**Saijyo**	**43.84 339**		P			**P**	**22 14 36.5**	**+1.5**
QZH	**Quanzhou**	**43.87 315**	⇑ *i*	P			**P**	**22 14 36.3**	**+0.9**
QZH				*e*S			**S**	**22 21 01.1**	**-1.0**
QZH				pmax		pmax			
	comp=Z,49nm,0.9s								
QZH				LR		LR			
	comp=Z,420nm,15.0s								
QZH				LR		LR			
	comp=Z,230nm,15.0s								
QZH				LR		LR			
	comp=Z,440nm,17.2s								
JSD	**Sado**	**45.07 346**		P			**P**	**22 14 45.9**	**+1.2**
JSD				IAmb		IAmb		22 14 46.6	
	comp=Z,20nm,1.1s								
XMIS	**Christmas Isla**	**45.23 261**		P			**P**	**22 14 46.9**	**+0.5**
XMIS				IAmb		IAmb		22 14 47.8	
	comp=Z,42nm,0.8s								
DLV	**T Lat**	**45.84 293**		P			**P**	**22 14 52.5**	**+1.0**
DLV				IAmb		IAmb		22 14 58.3	
	comp=Z,17nm,1.1s								
MDSI	**Maura Dua**	**46.75 269**		P			**P**	**22 14 57.0**	**-1.4**
	comp=Z,8.6nm,1.1s								
LWLI	**Liwa**	**46.84 268**		P			**P**	**22 14 59.5**	**+0.3**
	comp=Z,23nm,0.7s								
TJN	**Taejon**	**47.35 334**	*c i*	P			**P**	**22 15 03.1**	**+0.5**
QIZ	**Qiongzhong**	**47.47 302**		P			**P**	**22 15 04.4**	**+0.6**
QIZ				S			**S**	**22 21 55.0**	**+1.0**
QIZ				LR		LR			
	comp=Z,310nm,21.0s								
QIZ				LR		LR			
	comp=Z,430nm,23.1s								
QIZ				LR		LR			
	comp=Z,850nm,23.3s								
KSRS	**Korea Array**	**48.02 335**		P			**P**	**22 15 08.6**	**+0.8**
	comp=Z,11nm,0.9s,baz=153,slow=8.4,SNR=31								
KSRS				LR		LR		22 33 45.6	
	comp=Z,245nm,21.6s,baz=138,slow=34								
KSAR	**Wonju Array Be**	**48.03 335**		P			**P**	**22 15 08.3**	**+0.5**
KSAR	**Wonju Array Be**	**48.03 335**		P			**P**	**22 15 08.3**	**+0.5**
KS19	**Wonju Array Si**	**48.08 335**		P			**P**	**22 15 09.2**	**+0.9**
NJ2	**Nanjing**	**48.46 323**	*e*	P			**P**	**22 15 12.5**	**+1.2**
NJ2				pmax		pmax			
	comp=Z,20nm,1.1s								
NJ2				LR		LR			
	comp=Z,380nm,16.9s								
NJ2				LR		LR			
	comp=Z,380nm,18.9s								
NJ2				LR		LR			
	comp=Z,370nm,16.7s								
INCN	**Inchon**	**48.60 334**		P			**P**	**22 15 13.1**	**+0.8**
INCN				pmax		pmax			
	comp=Z,44nm,1.1s								
INCN	**Inchon**	**48.60 334**		P			**P**	**22 15 13.1**	**+0.8**
ASAJ	**Asahikawa**	**50.12 352**		P			**P**	**22 15 23.6**	**-0.1**
	comp=Z,7.3nm,0.8s,baz=61,slow=25,SNR=2.8								
ASAJ				LR		LR		22 35 11.1	
	comp=Z,352nm,21.2s,baz=228,slow=34								
WHN	**Wuhan**	**50.32 318**	‖	P			**P**	**22 15 27.3**	**+1.8**
WHN				pmax		pmax			
	comp=Z,78nm,0.9s								
WHN				pmax		pmax			
	comp=Z,450nm,11.8s								
WHN				LR		LR			
	comp=Z,1μm,24.9s								
IPM	**Ipoh**	**51.01 280**		P			**P**	**22 15 30.4**	**-0.7**
IPM				IAmb		IAmb		22 15 31.7	
	comp=Z,9.4nm,0.8s								
MNSI	**Mandailing Nat**	**51.85 275**		P			**P**	**22 15 35.8**	**-1.5**
	comp=Z,18nm,0.8s								
XMAS	**Kiritimati**	**51.95 83**		P			**P**	**22 15 39.5**	**+1.5**
TIA	**Tai'an**	**52.42 325**		P			**P**	**22 15 41.0**	**-0.1**
TIA				pmax		pmax			
	comp=Z,16nm,1.0s								
USRK	**Ussuriysk Ar.**	**52.52 343**		P			**P**	**22 15 41.8**	**0.0**
	comp=Z,4.9nm,1.0s,baz=156,slow=8.1,SNR=9.9								
USRK				LR		LR		22 36 22.3	
	comp=Z,249nm,21.5s,baz=148,slow=34								
USRK	**Ussuriysk Ar.**	**52.52 343**		P			**P**	**22 15 40.8**	**-1.0**

comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 56.72 296 P **P** **22 16 13.0 +0.4**
OPA Opana 56.77 60 P **P** **22 16 13.6 +0.7**
OPA pmax pmax
comp=Z,91nm,0.8s
OPA Opana 56.77 60 P **P** **22 16 13.6 +0.7**
CHTO Chiang Mai 56.84 297 P **P** **22 16 13.6 +0.1**
CHTO pmax pmax
comp=Z,6.0nm,1.1s
CHTO Chiang Mai 56.84 297 P **P** **22 16 13.6 +0.1**
KLR Kul'dur 57.20 345 P **P** **22 16 14.8 -0.6**
comp=Z,5.0nm,0.8s,baz=161,slow=3.0,SNR=22
KLR PcP **PcP** **22 17 09.3 +0.1**
comp=Z,3.3nm,0.7s,baz=171,slow=4.0,SNR=4.4
KLR LR LR 22 37 33.5
comp=Z,354nm,21.9s,baz=166,slow=32
KLR Kul'dur 57.20 345*c i* P **P** **22 16 14.5 -0.9**
KLR pmax pmax
comp=Z,7.0nm,0.9s
HLK Haleakala 57.95 61 P **P** **22 16 22.5 +0.9**
KHU Kahuku 57.98 63 P **P** **22 16 22.0 +0.2**
KHU Kahuku 57.98 63 P **P** **22 16 22.0 +0.2**
CD2 Chengdu 58.02 312 P **P** **22 16 22.6 +1.0**
CD2 S **S** **22 24 18.8 +1.1**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,260nm,4.8s
CD2 LR LR
comp=Z,600nm,22.6s
CD2 LR LR
comp=Z,670nm,22.4s
CD2 LR LR
comp=Z,950nm,19.7s
HMH Humu'ula Sheep 58.22 63 P **P** **22 16 24.5 +1.0**
POHA Pohakuloa 58.23 63 P **P** **22 16 24.1 +0.7**
HHC Hu-ho-hao-te 58.77 326 *e*P **P** **22 16 28.4 +1.7**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC LR LR
comp=Z,340nm,20.8s
HHC LR LR
comp=Z,250nm,19.6s
HHC LR LR
comp=Z,600nm,22.2s
PET Petropavlovsk 58.80 5 *e*P **P** **22 16 26.8 +0.3**
PET *e**PP **pP** **22 16 46.4 +2.6**
PET *e*S **S** **22 24 24.8 -2.0**
PET *e*SS **SS** **22 28 20.2 -1.1**
PETK Petropavlovsk- 58.80 5 P **P** **22 16 25.5 -1.1**
comp=Z,13nm,0.9s,baz=164,slow=6.0,SNR=12
PETK LR LR 22 37 55.8
comp=Z,384nm,21.9s,baz=184,slow=32
BTO Baotou 59.48 324 *e*P **P** **22 16 34.3 +2.6**
BTO S **S** **22 24 43.3 +6.8**
BTO pmax pmax
comp=Z,25nm,0.8s
BTO LR LR
comp=Z,1μm,21.3s
BTO LR LR
comp=Z,1μm,22.9s
BTO LR LR
comp=Z,2μm,21.2s
TBI Tubuai 59.76 114 *e*S **S** **22 24 42.6 +2.2**
comp=Z,118nm,30.0s
TBI *e*LR LR 22 34 27.5
comp=Z,317nm,32.8s
LZH Lanzhou 60.67 317 *e*P **P** **22 16 40.8 +0.8**
LZH pP pP 22 16 57.3 +0.1
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,170nm,6.0s
LZH LR LR
comp=Z,260nm,13.0s
LZH LR LR
comp=Z,350nm,15.2s
LZH LR LR
comp=Z,430nm,15.2s
HIA Hailar 61.13 337 IAmb IAmb 22 16 43.6
comp=Z,13nm,0.9s
ZEA Zeya 62.48 344 *e*P **P** **22 16 51.6 +0.1**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 65.02 360 P **P** **22 17 06.9 -1.2**
comp=Z,8.0nm,0.6s,baz=130,slow=5.4,SNR=11
MA2 LR LR 22 41 07.0
comp=Z,374nm,21.8s,baz=188,slow=32
MA2 Magadan 65.02 360‖ *e*P **P** **22 17 07.1 -1.0**
MA2 pmax pmax
comp=Z,12nm,1.0s
MA2 Magadan 65.02 360 P **P** **22 17 06.9 -1.2**
MA2 IAmb IAmb 22 17 26.7
comp=Z,11nm,0.6s
GTA Gaotai 65.14 318 P **P** **22 17 10.4 +0.8**
GTA pP pP 22 17 29.8 +2.8
GTA sP PcP 22 17 38.8 -3.0
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,140nm,10.4s
GTA LR LR
comp=Z,130nm,15.1s
GTA LR LR
comp=Z,310nm,16.7s
GTA LR LR
comp=Z,240nm,17.5s
ULN Ulaanbaatar 65.83 329*c i* P **P** **22 17 14.3 +0.4**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 65.83 329 P **P** **22 17 14.4 +0.4**
SONM Songino Array 66.15 329 P **P** **22 17 16.6 +0.7**
comp=Z,11nm,0.8s,baz=133,slow=3.8,SNR=64
SONM LR LR 22 45 37.2
comp=Z,509nm,21.3s,baz=122,slow=36
SONM PKP2bc 22 45 54.9
comp=Z,1.6nm,1.0s,baz=327,slow=2.7,SNR=5.0
SONM Songino Array 66.15 329 P **P** **22 17 16.3 +0.4**
SONM pmax pmax
comp=Z,13nm,1.0s
SONM Songino Array 66.15 329 P **P** **22 17 16.2 +0.4**
CASY Casey 66.72 197 P **P** **22 17 19.6 +0.6**
CASY IAmb IAmb 22 17 22.3
comp=Z,35nm,1.1s
LSA Lhasa 67.33 305 P **P** **22 17 24.9 +0.7**
LSA pmax pmax
comp=Z,31nm,0.9s
SEY Seymchan 68.39 1 LR LR 22 43 50.2
comp=Z,255nm,21.8s,baz=190,slow=33
SEY Seymchan 68.39 1‖ *e*P **P** **22 17 25.6 -4.0**
ZAK Zakamensk 69.35 330 *e*P **P** **22 17 35.4 -0.5**
ZAK pmax pmax
comp=Z,20nm,0.9s
TAPN Taplejung 69.41 302 *e*P **P** **22 17 36.8 -0.2**
YAK Yakutsk 69.48 349 P **P** **22 17 35.5 -0.8**
comp=Z,8.2nm,0.4s,baz=341,slow=2.8,SNR=5.6
YAK LR LR 22 46 06.6
comp=Z,155nm,21.6s,baz=112,slow=34
YAK Yakutsk 69.48 349‖ *e*P **P** **22 17 35.2 -1.1**
YAK pmax pmax
comp=Z,15nm,0.6s
YAK Yakutsk 69.48 349 P **P** **22 17 35.0 -1.3**
YAK IAmb IAmb 22 17 38.0
comp=Z,34nm,1.1s
TLY Talaya 69.97 331 P **P** **22 17 39.8 +0.1**
comp=Z,3.0nm,0.7s,baz=149,slow=2.7,SNR=4.6
TLY LR LR 22 47 51.0
comp=Z,215nm,20.6s,baz=116,slow=35
TLY Talaya 69.97 331 *e*P **P** **22 17 39.7 +0.1**
TLY pmax pmax
comp=Z,17nm,0.9s
TLY MLR MLR
comp=Z,511nm,20.0s
TLY Talaya 69.97 331 P **P** **22 17 39.6 +0.1**
BOD Bodaibo 69.99 340 *e*P **P** **22 17 38.0 -1.5**
BOD pmax pmax
comp=Z,11nm,1.2s
GUN Gumba 71.12 302 *e*P **P** **22 17 47.7 +0.2**
comp=Z,24nm,0.7s
MOY Mondy 71.28 330 *e*P **P** **22 17 46.5 -1.2**
MOY pmax pmax
comp=Z,24nm,1.9s
PALK Pallekele 71.41 280 P **P** **22 17 49.3 +0.2**
comp=Z,8.1nm,0.9s,baz=193,slow=6.6,SNR=3.2
PALK Pallekele 71.41 280 P **P** **22 17 48.3 -0.9**
PALK pmax pmax
comp=Z,23nm,1.1s
PALK Pallekele 71.41 280 P **P** **22 17 48.3 -0.9**
PALK IAmb IAmb 22 18 01.2
comp=Z,22nm,1.1s
PKI Pulchoki 71.42 301 *e*P **P** **22 17 48.9 -0.4**
PKIN Phulchoki 71.43 301 *e*P **P** **22 17 50.0 +0.7**
KKN Kakani 71.59 302 *e*P **P** **22 17 50.0 -0.2**
DMN Daman 71.69 301 *e*P **P** **22 17 51.0 +0.1**
VNDA Vanda 72.06 178 P **P** **22 17 53.0 +1.1**
comp=Z,11nm,0.9s,baz=328,slow=6.3,SNR=39
VNDA LR LR 22 48 47.4
comp=Z,193nm,18.1s,baz=348,slow=35
VNDA Vanda 72.06 178 P **P** **22 17 53.2 +1.4**
VNDA pmax pmax
comp=Z,12nm,0.9s
VNDA Vanda 72.06 178 P **P** **22 17 53.2 +1.4**
GKN Gorkha 72.20 302 *e*P **P** **22 17 53.5 -0.3**
comp=Z,34nm,1.0s
WMQ Urumqi 75.23 318 *e*P **P** **22 18 12.1 +1.0**
WMQ sP sP 22 18 39.4 +3.4
WMQ pmax pmax
comp=Z,21nm,1.3s
WMQ pmax pmax
comp=Z,160nm,5.1s
WMQ LR LR
comp=Z,410nm,26.5s
WMQ LR LR
comp=Z,470nm,29.2s
WMQ Urumqi 75.23 318 IAmb IAmb 22 18 16.3
comp=Z,16nm,1.1s
KDAK Kodiak Island 77.69 27 LR LR 22 45 16.8
comp=Z,318nm,21.9s,baz=252,slow=30
DGZ Jazzator, Alta 77.75 323‖ *e*P **P** **22 18 24.4 -0.9**
DGZ pmax pmax
comp=Z,7.0nm,0.9s
ZSN Zaisan 78.44 321 *e*P **P** **22 18 27.1 -1.9**
baz=321
ZSN Zaisan 78.44 321 *e*P **P** **22 18 27.9 -1.1**
TIXI Tiksi 78.52 353 P **P** **22 18 27.5 -1.5**
comp=Z,1.7nm,0.4s,baz=282,slow=1.4,SNR=11
TIXI Tiksi 78.52 353‖ *e*P **P** **22 18 27.1 -1.8**
TIXI pmax pmax
comp=Z,22nm,1.3s
TIXI Tiksi 78.52 353 P **P** **22 18 27.4 -1.5**
MK31 Makanchi Array 79.86 319 P **P** **22 18 36.2 -0.6**
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 79.86 319 P **P** **22 18 36.2 -0.6**
MKAR Makanchi Array 79.86 319 P **P** **22 18 36.5 -0.3**
comp=Z,3.8nm,0.8s,baz=108,slow=6.0,SNR=35
MKAR PKKPbc **PKKPbc** **22 37 23.1 -1.5**
comp=Z,0.7nm,0.8s,baz=315,slow=2.4,SNR=7.8
MKAR LR LR 22 54 46.3
comp=Z,118nm,19.3s,baz=85,slow=36
MKAR Makanchi Array 79.86 319 P **P** **22 18 36.0 -0.8**
MAKZ Makanchi 80.07 319 P **P** **22 18 37.3 -0.6**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
MAKZ Makanchi 80.07 319 P **P** **22 18 37.3 -0.6**
RDOG Red Dog Mine 80.25 16 P **P** **22 18 38.4 -0.1**
SUA Susitna One 80.42 24 P 22 18 39.8
baz=239
SHLS Shalkode 80.63 315 *e*P **P** **22 18 38.5 -2.8**
comp=Z,6.2nm,0.9s,baz=315
SHLS Shalkode 80.63 315 *e*P **P** **22 18 38.4 -2.8**
SHLS pmax pmax
comp=Z,6.0nm,0.9s
PDGK Podgornoye 80.66 315 *i* P **P** **22 18 40.6 -0.8**
PDGK pmax pmax
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 80.92 327 P **P** **22 18 40.9 -1.4**
comp=Z,8.5nm,0.8s,baz=108,slow=5.2,SNR=38
ZALV PP **PP** **22 21 47.4 -0.3**
comp=Z,1.0nm,0.8s,baz=103,slow=10,SNR=2.4
ZALV LR LR 22 55 04.5
comp=Z,136nm,20.4s,baz=104,slow=36
ZALV Zalesovo Beam 80.92 327 P **P** **22 18 40.4 -1.9**
UZB Uzynbulak 80.94 315 *e*P **P** **22 18 41.5 -1.3**
comp=Z,7.5nm,0.9s,baz=315
UZB Uzynbulak 80.94 315 *e*P **P** **22 18 41.5 -1.3**
UZB pmax pmax
comp=Z,7.0nm,0.9s
PMR Palmer 81.15 25 P 22 18 43.9
baz=240
KPKS Kokpek 81.27 315 *e*P **P** **22 18 43.7 -0.9**
baz=315
KPKS Kokpek 81.27 315 *e*P **P** **22 18 43.6 -0.9**
SATY Saty 81.35 315 *e*P **P** **22 18 44.3 -0.7**
comp=Z,4.9nm,1.1s,baz=315
SATY Saty 81.35 315 *e*P **P** **22 18 44.3 -0.7**
SATY pmax pmax
comp=Z,5.0nm,1.1s
SML Sawmill 81.59 25 P 22 18 45.6
baz=241
IMAR Indian Mountai 81.74 20 P **P** **22 18 44.9 -1.5**
TDK Taldyqorghan 81.89 317 *e*P **P** **22 18 46.7 -0.9**
comp=Z,13nm,1.3s,baz=317
TDK Taldyqorghan 81.89 317 *e*P **P** **22 18 46.7 -0.9**
TDK pmax pmax
comp=Z,13nm,1.3s
WAT2 Susitna Watana 82.05 24 P 22 18 48.3
baz=241
RND Reindeer 82.16 23 IAmb IAmb 22 18 51.4
comp=Z,16nm,1.0s
KSH Kashi 82.21 311 P **P** **22 18 50.9 +1.3**
KSH S **S** **22 29 02.4 +2.3**
KSH pmax pmax
comp=Z,23nm,0.9s
KSH pmax pmax
comp=Z,390nm,4.9s
MCK McKinley 82.29 23 IAmb IAmb 22 18 53.3
comp=Z,49nm,1.4s
MCK McKinley 82.29 23 P 22 18 48.8
baz=240
MDOK Medeo 82.33 315 *e*P **P** **22 18 49.0 -1.2**
baz=315
MDOK Medeo 82.33 315 *e*P **P** **22 18 49.0 -1.2**
TNSS Tian-Shan 82.37 315 *e*P **P** **22 18 50.6 -0.1**
baz=315
TNSS Tian-Shan 82.37 315 *e*P **P** **22 18 50.6 -0.1**
AAA Alma-Ata 82.44 315 *i* P **P** **22 18 50.2 -0.4**
baz=315
AAA Alma-Ata 82.44 315 *i* P **P** **22 18 50.2 -0.4**
KLU Klutina 82.46 26 P 22 18 50.8
baz=243
M24K Tolsona, Glenn 82.63 25 P 22 18 51.7
baz=243
NEA2 Nenana 82.67 22 IAmb IAmb 22 19 03.1
comp=Z,56nm,2.0s
ULHL Ulahol 82.67 314 P **P** **22 18 52.4 +0.3**
SNR=7.6
I23K Minto, Yukon-K 82.84 22 P 22 18 52.7
baz=240
WRH Wood River Hil 82.98 22 P **P** **22 18 51.8 -1.0**
WRH IAmb IAmb 22 18 59.7
comp=Z,43nm,1.8s
KUU Kurty 83.02 315 *e*P **P** **22 18 52.2 -1.5**
comp=Z,24nm,1.0s,baz=315
KUU Kurty 83.02 315 *e*P **P** **22 18 52.1 -1.5**
KUU pmax pmax
comp=Z,24nm,1.0s
NIL Nilore 83.06 305 P **P** **22 18 52.5 -1.6**
NIL pmax pmax
comp=Z,26nm,0.8s
NIL Nilore 83.06 305 P **P** **22 18 52.5 -1.6**
NIL IAmb IAmb 22 18 54.7
comp=Z,26nm,0.8s
CCB Clear Creek Bu 83.17 22 IAmb IAmb 22 18 58.1
comp=Z,38nm,2.0s
TCOL CIGO, UAF Yank 83.26 22 P 22 18 53.4
baz=241
COLA College 83.26 22‖ *i* P **P** **22 18 52.9 -1.4**
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA College 83.26 22 P 22 18 53.5
baz=241
TKM2 Tokmak 2 83.30 314 P **P** **22 18 55.2 -0.1**
SNR=13
TKM2 Tokmak 2 83.30 314 *i* P **P** **22 18 54.7 -0.6**
TKM2 pmax pmax
comp=Z,8.0nm,0.7s
HDA Harding Lake 83.38 23 P 22 18 54.1
baz=242
HDA P 22 18 54.1
baz=242
ILAR Eielson Array 83.58 22 P **P** **22 18 54.0 -1.9**
comp=Z,5.8nm,0.9s,baz=251,slow=5.1,SNR=34
ILAR LR LR 22 54 41.2
comp=Z,397nm,19.1s,baz=270,slow=35
COLD Coldfoot 83.61 20 P 22 18 56.0
baz=239
KBK Karagaybulak 83.70 314 P **P** **22 18 57.5 +0.2**
SNR=9.5
UCH Uchtor 83.92 313 P **P** **22 18 58.3 -0.5**
SNR=18
CHMS Chumysh 83.92 314 P **P** **22 18 58.0 -0.3**
SNR=9.1
MENT Mentasta 84.02 25 IAmb IAmb 22 19 04.1
comp=Z,19nm,1.1s
AAK Ala-Archa 84.03 314 P **P** **22 18 58.9 0.0**
SNR=10
AAK Ala-Archa 84.03 314‖ *i* P **P** **22 18 58.6 -0.4**
AAK pmax pmax
comp=Z,28nm,1.0s
AAK Ala-Archa 84.03 314 P **P** **22 18 58.2 -0.8**
SGDS Sogindy 84.12 315 *e*P **P** **22 18 58.1 -1.2**
baz=315
SGDS Sogindy 84.12 315 *e*P **P** **22 18 58.1 -1.2**
MAW Mawson 84.14 203 P **P** **22 18 57.9 -0.9**
comp=Z,34nm,0.9s,baz=275,slow=18,SNR=4.0
MAW Mawson 84.14 203 P **P** **22 18 58.1 -0.7**
MAW pmax pmax
comp=Z,22nm,1.4s
MAW Mawson 84.14 203 P **P** **22 18 58.1 -0.7**
MAW IAmb IAmb 22 19 18.3
comp=Z,22nm,1.4s
USP Ospenovka 84.17 314 P **P** **22 18 59.2 -0.3**
SNR=21
DOT Dot Lake 84.18 24 IAmb IAmb 22 19 01.0
comp=Z,12nm,0.9s
CTG Chitna Glacier 84.26 27 P 22 18 59.2
baz=248
QSPA South Pole Qui 84.32 180 P **P** **22 19 00.0 +0.1**
QSPA IAmb IAmb 22 19 11.2
comp=Z,25nm,0.8s
SCRK Sand Creek 84.35 24 IAmb IAmb 22 19 01.2
comp=Z,16nm,1.4s
SCRK Sand Creek 84.35 24 P 22 18 59.7
baz=245
AML Almayashu 84.49 313 P **P** **22 19 01.9 +0.2**
SNR=56
TOLK Toolik Lake Re 84.54 18 P 22 19 00.6
baz=239
EKS2 Erkin-Say 84.55 314 P **P** **22 19 01.8 +0.2**
SNR=35
BCAR Beaver Creek A 84.88 25 P **P** **22 19 01.9 -0.7**
BTLS Baital 84.89 316 *e*P **P** **22 19 02.2 -0.9**
comp=Z,9.3nm,0.9s,baz=316
BTLS Baital 84.89 316 *e*P **P** **22 19 02.1 -0.9**
BTLS pmax pmax
comp=Z,9.0nm,0.9s
K27K Chicken 85.14 24 IAmb IAmb 22 19 06.4
comp=Z,13nm,1.1s
BMAR Burnt Mountain 85.62 20 P **P** **22 19 05.8 -0.5**
EGAK Eagle 85.80 23 P **P** **22 19 06.6 -0.5**
EGAK IAmb IAmb 22 19 09.3
comp=Z,13nm,1.1s
EGAK Eagle 85.80 23 P 22 19 06.4
baz=247
DZA Taraz 86.36 314 *e*P **P** **22 19 09.3 -1.2**
comp=Z,19nm,0.9s,baz=314
DZA Taraz 86.36 314 *e*P **P** **22 19 09.2 -1.2**
DZA pmax pmax
comp=Z,19nm,0.9s
KBL Kabul 86.66 305 P **P** **22 19 09.7 -2.6**
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 86.66 305 P **P** **22 19 09.7 -2.6**
BRZS Berezniki 86.89 321 *e*P **P** **22 19 12.1 -0.8**
baz=321
BRZS Berezniki 86.89 321 *e*P **P** **22 19 12.0 -0.8**
KK31 Karatay Array 86.99 314 IAmb IAmb 22 19 14.8
comp=Z,18nm,1.0s
KKAR Karatay Array 86.99 314 P **P** **22 19 12.3 -1.2**
KKAR pmax pmax
comp=Z,18nm,1.0s
KKAR Karatay Array 86.99 314 P **P** **22 19 12.3 -1.2**
KKAR IAmb IAmb 22 19 14.8
comp=Z,18nm,1.0s
IUG Iuzhnay 87.16 313 *e*P **P** **22 19 13.5 -1.0**
comp=Z,5.8nm,0.9s,baz=313
IUG Iuzhnay 87.16 313 *e*P **P** **22 19 13.4 -1.0**
IUG pmax pmax
comp=Z,6.0nm,0.9s
EPYK Eagle Plains 88.09 23 P 22 19 17.8
baz=251
BBB Bella Bella 88.79 37 LR LR 22 51 34.7
comp=Z,401nm,21.5s,baz=264,slow=30
BVAR Borovoye Array 88.91 323 P **P** **22 19 20.7 -1.7**
comp=Z,5.5nm,0.8s,baz=138,slow=12,SNR=24
BRVK Borovoye 88.97 323 P **P** **22 19 20.3 -2.4**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 88.97 323 P **P** **22 19 20.3 -2.4**
INK Inuvik 89.84 21 P **P** **22 19 24.9 -1.5**
comp=Z,2.3nm,0.9s,baz=258,slow=5.9,SNR=6.8
INK PKKP **PKKPdf** **22 36 57.3 +0.3**
comp=Z,0.6nm,0.5s,baz=90,slow=5.2,SNR=5.1
INK Inuvik 89.84 21 P **P** **22 19 24.2 -2.2**
INK pmax pmax
comp=Z,20nm,1.9s
INK Inuvik 89.84 21 P **P** **22 19 24.2 -2.2**
INK IAmb IAmb 22 19 59.7
comp=Z,20nm,1.9s
J01E Myrtle Point 90.15 47 P 22 19 27.2
baz=262
L02E Cave Junction 90.27 48 P 22 19 28.2
baz=263
K02D Willamette Mer 90.29 47 P 22 19 28.2
baz=263
I02D Swisshome 90.34 46 P 22 19 29.2
baz=262
O02D Mt. Diablo Mer 90.63 50 P 22 19 30.4
baz=263
I03D Drain, OR 90.64 46 P 22 19 30.3
baz=263
M02C Callahan 90.73 49 P 22 19 30.6
baz=263,SNR=10
N02D Trinity Center 90.79 49 P 22 19 31.1
baz=263
HUMO Hull Mountain 90.80 47 P **P** **22 19 31.9 +0.5**
YBH Yreka Blue Hor 90.87 48 IAmb IAmb 22 19 34.6
comp=Z,9.5nm,0.9s
L04D Klamath Falls 91.23 48 P 22 19 33.3
baz=264,SNR=7.2
I04A Tendick Farm, 91.33 46 P 22 19 34.0
baz=264
O03E Paynes Creek 91.39 50 P 22 19 33.7
baz=264
D04E Lakebay 91.47 43 P 22 19 34.6
baz=263
J04D Umpqua Nationa 91.49 47 P 22 19 34.8
baz=264,SNR=14
M04C Macdoel 91.53 48 P 22 19 35.0
baz=264,SNR=10
E04D Cinebar 91.53 44 P 22 19 34.6
baz=263
K04D Chiloquin, OR 91.68 48 P 22 19 35.3
baz=264
AFDM Forest Hills D 91.89 51 IAmb IAmb 22 19 39.1
comp=Z,8.3nm,0.9s
J05D Fort Rock, OR 92.13 47 P 22 19 38.2
baz=264,SNR=16
HRA Herat 92.21 304 P **P** **22 19 36.7 -1.8**
HRA IAmb IAmb 22 19 38.2
comp=Z,8.3nm,0.9s
CMB Columbia Colle 92.26 52 IAmb IAmb 22 19 40.8
comp=Z,8.7nm,1.1s
SYO Syowa Base 92.31 200‖ *e*X P 22 19 50.6 +13
PINE Pine Mountain 92.39 46 IAmb IAmb 22 19 41.4
comp=Z,9.3nm,0.9s
PKM Mcpherson Peak 92.44 55 P 22 19 39.1
baz=265
BEKR Beckworth 92.45 50 IAmb IAmb 22 19 43.0
comp=Z,7.0nm,1.0s
MOD Modoc Plateau 92.68 48 IAmb IAmb 22 19 42.2
comp=Z,7.6nm,0.9s
PNTR Pine Nut 92.97 51 P **P** **22 19 42.4 +0.5**
PNTR IAmb IAmb 22 19 44.1
comp=Z,11nm,0.8s
WAKR Walker 93.05 52 IAmb IAmb 22 19 45.0
comp=Z,9.5nm,1.1s
PAHR Pah Rah Range 93.19 51 IAmb IAmb 22 19 54.6

comp=Z,4.8nm,0.9s
C36M **Paulatuk** 93.41 21 P 22 19 43.0
baz=263
I07A **Izee** 93.45 46 IAmb IAmb 22 19 55.4
comp=Z,9.1nm,1.4s
CIS **Catalina Islan** 93.47 57 P 22 19 43.9
baz=266,SNR=5.5
ISA **Isabella, Lake** 93.59 55 P 22 19 44.5
baz=266,SNR=5.5
ISA **Isabella, Lake** 93.59 55 IAmb IAmb 22 19 46.7
comp=Z,5.0nm,0.9s
PNT **Penticton** 93.77 41 P **P** **22 19 42.4 -2.6**
PNT pmax pmax
comp=Z,11nm,0.8s
RYN **Ryan** 93.77 52 IAmb IAmb 22 19 57.5
comp=Z,9.3nm,1.0s
B08A **Colville Reser** 93.88 42 IAmb IAmb 22 19 47.6
comp=Z,4.0nm,0.8s
TIN **Tinemaha, Big** 93.89 53 P 22 19 46.6
baz=266
EDW2 **Edwards Air Fo** 93.93 55 P 22 19 46.5
baz=266,SNR=10
NVAR **Mina Array Bea** 93.93 52 P **P** **22 19 46.9 +0.5**
comp=Z,11nm,0.9s,baz=257,slow=6.4,SNR=48
NVAR LR LR 22 54 19.4
comp=Z,569nm,21.5s,baz=259,slow=30
NVAR **Mina Array Bea** 93.93 52 P **P** **22 19 46.4 +0.1**
WVOR **Wild Horse Val** 93.96 48 IAmb IAmb 22 20 01.0
comp=Z,5.6nm,0.9s
CWC **Cottonwood Cre** 93.97 54 P 22 19 46.8
baz=266
NV11 **Mina Array Sit** 94.05 52 P **P** **22 19 46.6 -0.1**
NV11 IAmb IAmb 22 19 49.4
comp=Z,10nm,1.1s
KVN **Kaiserville** 94.13 51 IAmb IAmb 22 19 48.7
comp=Z,5.1nm,0.9s
BFSC **Mount Baldy Ra** 94.16 56 P 22 19 47.2
baz=266
LRMC **Laurel Mtn Rad** 94.22 55 P 22 19 47.4
baz=266
MURC **Murrieta** 94.50 57 P 22 19 48.7
baz=266
E09A **Wood Farm, Sta** 94.57 44 IAmb IAmb 22 19 50.5
comp=Z,8.4nm,0.9s
GSC **Goldstone, Bar** 94.93 55 IAmb IAmb 22 19 53.8
comp=Z,5.9nm,1.0s
GSC **Goldstone, Bar** 94.93 55 P 22 19 50.7
baz=267,SNR=5.3
FURC **Furnace Creek,** 94.95 54 P 22 19 50.9
baz=267,SNR=5.4
ABKAR **Akbulak array** 94.99 319 P **P** **22 19 48.0 -2.6**
MONP2 **Monument Peak** 95.10 58 P 22 19 51.8
baz=267,SNR=9.2
PFO **Pinyon Flats O** 95.11 57 P **P** **22 19 52.8 +1.1**
PFO pmax pmax
comp=Z,11nm,0.9s
PFO **Pinyon Flats O** 95.11 57 P **P** **22 19 52.8 +1.1**
PFO IAmb IAmb 22 19 54.9
comp=Z,11nm,0.9s
PFO **Pinyon Flats O** 95.11 57 P 22 19 52.0
baz=267,SNR=10
XPFO **Pion Flat** 95.12 57 P **P** **22 19 52.8 +1.1**
TPFO **Pinon Flats** 95.12 57 P 22 19 52.2
baz=267,SNR=9.7
F10A **Beach Ranch, E** 95.18 44 IAmb IAmb 22 19 53.0
comp=Z,7.1nm,0.8s
HEC **Hector,Ludlow** 95.29 56 P 22 19 52.3
baz=267
IKP **In-Ko-Pah, Jac** 95.35 58 P 22 19 52.9
baz=267
NEW **Newport** 95.35 42 P **P** **22 19 51.6 -0.8**
comp=Z,2.0nm,0.6s,baz=246,slow=8.4,SNR=3.8
NEW **Newport** 95.35 42 IAmb IAmb 22 19 52.9
comp=Z,4.9nm,1.1s
NEW **Newport** 95.35 42 P 22 19 52.9
baz=268
ESJX **Sierra Juarez** 95.45 58 IAmb IAmb 22 19 57.3
comp=Z,4.1nm,1.0s
TPNV **Topopah Spring** 95.47 54 P 22 19 53.5
baz=267,SNR=9.5
BELC **Belle Mtn. Jos** 95.52 56 P 22 19 53.8
baz=267,SNR=10
GEYT **Alibeck** 95.79 307 P **P** **22 19 52.9 -1.7**
comp=Z,1.8nm,0.5s,baz=207,slow=9.0,SNR=5.5
GEYT LR LR 23 04 52.2
comp=Z,137nm,20.5s,baz=205,slow=36
GEYT **Alibeck** 95.79 307 P **P** **22 19 52.1 -2.4**
GMRC **Granite Mounta** 95.84 56 P 22 19 55.3
baz=267,SNR=8.2
BC3 **Big Chuckawall** 95.95 57 P 22 19 55.8
baz=267,SNR=7.3
R11A **Troy Canyon, C** 96.06 52 P 22 19 55.9
baz=268
IRM **Iron Mountain** 96.23 56 P 22 19 57.0
baz=267,SNR=6.9
SHPR **Sheep Range** 96.32 54 IAmb IAmb 22 20 00.8
comp=Z,4.3nm,0.9s
ELK **Elko** 96.42 50 IAmb IAmb 22 20 18.3
comp=Z,12nm,1.8s
PRN **Pahroc Range** 96.44 53 IAmb IAmb 22 20 21.2
comp=Z,5.2nm,1.0s
BELA **Belgrano 2** 96.53 179 P **P** **22 19 57.0 -0.1**
NEE2 **Needles Airpor** 96.69 56 P 22 19 58.4
baz=268
YKA **Yellowknife Ar** 96.96 28 P **P** **22 19 58.0 -1.2**
comp=Z,1.5nm,0.9s,baz=269,slow=4.2,SNR=14
YKA PKiKP **PKiKP** **22 24 33.9 -1.2**
comp=Z,0.3nm,0.7s,baz=260,slow=1.2,SNR=2.9
YKA PKKPbc **PKKPbc** **22 36 40.1 -2.7**
comp=Z,1.3nm,0.8s,baz=92,slow=3.3,SNR=20
YKA LR LR 23 00 08.7
comp=Z,353nm,20.6s,baz=0.0,slow=33
SPR3 **Spring Creek 3** 97.06 52 IAmb IAmb 22 20 16.2
comp=Z,4.2nm,0.8s
PDMCI **Parker Dam,Lak** 97.07 56 P 22 20 00.9
baz=268
W13A **Hualapai Mount** 97.31 55 IAmb IAmb 22 20 05.2
comp=Z,4.5nm,0.9s
MSO **Missoula** 97.47 44 P 22 20 02.5
baz=270
WALA **Waterton Lakes** 97.50 41 P Pdif 22 20 02.5 +0.3
WALA IAmb IAmb 22 20 04.0
comp=Z,6.1nm,0.9s
U15A **North Rim** 98.63 54 IAmb IAmb 22 20 11.2
comp=Z,3.5nm,0.9s
BOZ **Bozeman (W)** 99.09 45 P 22 20 09.3
baz=271
WUAZ **Wupatki** 99.37 55 IAmb IAmb 22 20 16.1
comp=Z,4.9nm,0.8s
H17A **Grant Village** 99.87 46 P 22 20 13.3
baz=272
BW06 **Boulder Array** 100.66 48 P 22 20 16.5
baz=272
PDAR **Pinedale Array** 100.66 48 P **Pdif** **22 20 16.0 -0.6**
comp=Z,3.9nm,0.9s,baz=238,slow=1.7,SNR=15
PDAR PKKPbc **PKKPbc** **22 36 31.4 -0.6**
comp=Z,0.7nm,0.8s,baz=107,slow=5.1,SNR=6.0
PDAR **Pinedale Array** 100.66 48 Pdif **Pdif** **22 20 15.6 -1.1**
S22A **4UR Ranch, Cre** 102.97 53 P 22 20 26.4
baz=273
N23A **Red Feather La** 103.46 49 P 22 20 28.3
baz=274
APA **Apatity** 105.53 339 *i*P **Pdif** **22 20 33.9 -3.5**
APA pmax pmax
comp=Z,1.0nm,1.1s
APA MLR MLR
comp=Z,700nm,14.0s
TXAR **Lajitas Array** 106.02 61 Pdiff **Pdif** **22 20 46.5 +6.0**
comp=Z,0.5nm,0.8s,baz=325,slow=1.5,SNR=5.5
TXAR PKiKP **PKiKP** **22 24 53.3 +0.7**
comp=Z,0.8nm,0.9s,baz=195,slow=1.9,SNR=5.3
TXAR PP **PP** **22 25 05.6 +0.9**
comp=Z,1.1nm,0.9s,baz=263,slow=6.1,SNR=6.7
TXAR PKKPab **PKKPab** **22 36 32.5 +1.1**
comp=Z,1.1nm,0.9s,baz=120,slow=7.4,SNR=6.9
ARCES **ARCESS Array B** 107.17 343 PKiKP **PKiKP** **22 24 53.2 -0.2**
comp=Z,2.8nm,0.8s,baz=90,slow=2.4,SNR=4.2
WMOK **Wichita Mounta** 109.71 55 P 22 24 58.2
baz=277
ECSD **EROS Data Cent** 109.93 46 P 22 24 58.8
baz=282
FINES **FINESS Array B** 111.11 335 PKiKP **PKiKP** **22 25 00.7 -0.3**
comp=Z,1.9nm,0.8s,baz=72,slow=3.6,SNR=6.8
FINES **FINESS Array B** 111.11 335 **PKiKP** **22 25 00.4 -0.6**
AKASG **Malin Array Be** 114.19 324 PKP PKPdf 22 25 06.0 -1.1
AKASG PKKPbc **PKKPbc** **22 35 48.0 -1.6**
comp=Z,1.2nm,0.7s,baz=262,slow=3.6,SNR=4.9
AKASG **Malin Array Be** 114.19 324 *i* PKiKP **PKiKP** **22 25 08.0 +0.8**
AKASG **Malin Array Be** 114.19 324 **PKiKP** **22 25 08.0 +0.8**
U40A **Yellville** 114.23 53 P 22 25 07.4
baz=281
W41B **Gary Mavity, V** 114.94 54 P 22 25 08.5
baz=281
L44A **Lake County Fo** 116.50 45 P 22 25 11.6
baz=288
NB2 **NORSAR Subarra** 117.12 339 PKPdf **PKPdf** **22 25 11.3 -1.3**
comp=Z,3.2nm,0.9s,baz=44,slow=1.9
NOA **NORSAR Array B** 117.12 339 PKP **PKPdf** **22 25 10.9 -1.7**
comp=Z,1.7nm,0.8s,baz=48,slow=1.9,SNR=12
SFIN **Lafayette** 117.62 47 P 22 25 14.0
baz=287
BOSA **Boshof** 117.77 234 PKP **PKPdf** **22 25 14.6 -0.4**
comp=Z,3.2nm,0.9s,baz=109,slow=14,SNR=3.1
BURAR **Bucovina Array** 117.82 322 PKPdf **PKiKP** **22 25 14.6 +0.1**
WVT **Waverly** 118.24 52 P 22 25 14.5
baz=285
KOLS **Kolonicke sedl** 119.01 324 *e*PKiKP **PKiKP** **22 25 16.8 +0.2**
KOLS **Kolonicke sedl** 119.01 324 *e*PKP **PKiKP** **22 25 16.8 +0.2**
P49A **Miami Univ. Ec** 119.62 47 P 22 25 17.9
baz=289
LRAL **Lakeview Retre** 119.65 55 P 22 25 18.0
baz=284
LSZ **Lusaka** 119.76 249 PKiKP **PKiKP** **22 25 20.7 +1.5**
LSZ **Lusaka** 119.76 249 **PKiKP** **22 25 20.7 +1.5**
MATQ **Matagami** 120.00 34 P 22 25 18.1
baz=300
PLCA **Paso Flores** 120.10 144 PKP **PKPdf** **22 25 18.4 -0.6**
comp=Z,3.0nm,0.8s,baz=203,slow=2.8,SNR=4.0
MBAR **Mbarara** 120.14 266 PKiKP **PKPdf** **22 25 17.6 -2.4**
MBAR **Mbarara** 120.14 266 **PKPdf** **22 25 17.6 -2.4**
LANS **Liptovska Anna** 120.52 325 *e*PKiKP **PKiKP** **22 25 20.1 +0.5**
LANS **Liptovska Anna** 120.52 325 *e*PKP **PKiKP** **22 25 20.1 +0.5**
ACSO **Alum Creek Sta** 120.65 46 P 22 25 19.4
baz=290
I51A **Listowel** 120.65 42 P 22 25 19.5
baz=294
VLDQ **Val d'Or** 120.93 36 **PKPdf** **22 25 19.4 -0.9**
P52A **Corning** 121.47 46 P 22 25 20.9
baz=291
OSTC **Ostas** 121.55 328 *e*PKPDF **PKPdf** **22 25 21.4 0.0**
ALGO **Algonquin Park** 121.61 38 P 22 25 21.2
baz=298
CHVC **Chvalec** 121.62 328 *e*PKPDF **PKPdf** **22 25 20.7 -0.9**
M53A **WI Miller and** 121.83 44 P 22 25 21.4
baz=293
G54A **Lake Saint Pet** 121.84 39 P 22 25 21.3
baz=298
O53A **New Philadelph** 121.91 46 P 22 25 22.3
baz=292
H53A **Bobcaygeon** 121.91 40 P 22 25 21.9
baz=297
Q53A **Leroy** 122.19 47 P 22 25 22.8
baz=291
BI02 **San Fabin de** 122.21 140 PKPdf **PKiKP** **22 25 23.8 +0.3**
GOGA **Godfrey** 122.42 54 P 22 25 23.0
baz=286
N54A **Moraine State** 122.49 44 P 22 25 23.0
baz=293
M54A **Oil Creek Stat** 122.50 44 P 22 25 23.1
baz=294
BRG **Berggiesshubel** 122.55 329 *e*PKP **PKPdf** **22 25 22.8 -0.5**
BRG Amp 22 25 24.3
comp=Z,3.7nm,0.8s
BRG *ex* x 22 25 33.1
BRG Amp 22 25 34.2
comp=Z,3.3nm,0.9s
E55A **Montcerf-Lytto** 122.58 37 P 22 25 23.1
baz=300
D55A **Sainte-Anne-du** 122.64 36 P 22 25 22.7
baz=301
Q54A **Coxs Mills** 122.64 47 PKPdf **PKPdf** **22 25 23.9 +0.1**
S54A **Dingess, Beckl** 122.72 48 P 22 25 23.2
baz=290
CLL **Collm** 122.76 330 *e*PKPdf **PKiKP** **22 25 24.0 +0.1**
comp=Z,6.0nm,0.9s
CLL *i* 22 25 25.6
comp=Z,5.0nm,0.9s
CLL Lm MLR 23 18 00.0
comp=Z,200nm,20.7s
CLL **Collm** 122.76 330 *e*PKiKP **PKiKP** **22 25 24.0 +0.1**
CLL pmax pmax
comp=Z,6.0nm,0.9s
PRU **Pruhonice** 122.76 328 *e*PKiKP **PKPdf** **22 25 23.4 -0.3**
PRU **Pruhonice** 122.76 328 *e*PKPDF **PKPdf** **22 25 23.4 -0.3**
R54A **Victor** 122.82 48 P 22 25 23.8
baz=291
D56A **ZEC Mazanza, M** 123.04 36 P 22 25 23.7
baz=302
MCWV **Mont Chateau** 123.10 46 P 22 25 24.1
baz=293
FNA **Florina** 123.14 316 PKiKP **PKPdf** **22 25 23.8 -1.0**
FNA **Florina** 123.14 316 **PKPdf** **22 25 23.8 -1.0**
E56A **St. Veronique** 123.14 36 P 22 25 24.0
baz=301
CONA **Conrad Observa** 123.20 326 *i* P **PKPdf** **22 25 24.4 -0.3**
comp=Z,2.3nm,0.6s
R55A **Marlinton** 123.42 47 P 22 25 24.7
baz=292
M56A **Emporium** 123.52 43 P 22 25 25.0
baz=295
CKRC **Cesky Krumlov** 123.56 327 *e*PKPDF **PKPdf** **22 25 24.9 -0.4**
K56A **Middlesex** 123.56 41 P 22 25 25.4
baz=297
BLA **Blacksburg** 123.59 49 P 22 25 25.1
baz=291
KMSC **Kings Mountain** 123.59 51 P 22 25 25.5
baz=289
J56A **Wolcott** 123.61 41 P 22 25 25.2
baz=298
L56A **Greenwood** 123.66 42 P 22 25 25.7
baz=296
N56A **West Decatur** 123.68 44 P 22 25 25.7
baz=295
O56A **Blue Knob Stat** 123.76 45 P 22 25 25.7
baz=294
KHC **Kasperske Hory** 123.77 328 PKiKP **PKPdf** **22 25 25.9 +0.1**
KHC **Kasperske Hory** 123.77 328 *e*PKPDF **PKPdf** **22 25 25.4 -0.4**
KHC **Kasperske Hory** 123.77 328 PKPdf **PKPdf** **22 25 25.9 +0.1**
Q56A **Snyder Ridge,** 123.81 46 P 22 25 25.5
baz=293
GERES **GERESS Array B** 123.87 327 PKP **PKPdf** **22 25 25.2 -0.8**
comp=Z,3.1nm,0.7s,baz=102,slow=2.0,SNR=24
GERES PKKPbc **PKKPab** **22 35 13.5 +1.0**
comp=Z,0.3nm,0.6s,baz=178,slow=3.6,SNR=3.6
GERES **GERESS Array B** 123.87 327 PKiKP **PKPdf** **22 25 25.6 -0.5**
GERES **GERESS Array B** 123.87 327 PKPdf **PKPdf** **22 25 25.6 -0.5**
P56A **Dayton Farm, R** 123.88 46 P 22 25 26.0
baz=294
R56A **Bull Pasture M** 123.90 47 P 22 25 25.7
baz=292
G57A **Newington** 123.90 38 P 22 25 25.8
baz=300
T56A **Rocky Mt** 123.94 49 P 22 25 25.7
baz=291
LATQ **La Tuque** 124.00 35 P 22 25 25.7
baz=304
V56A **Mocksville** 124.01 50 P 22 25 25.8
baz=290
S56A **Natural Bridge** 124.05 48 P 22 25 26.0
baz=292
I57A **Carthage** 124.06 39 P 22 25 25.7
baz=299
K57A **Scipio Center** 124.08 41 P 22 25 26.3
baz=298
D58A **Chemin du LacG** 124.10 35 P 22 25 25.9
baz=304
J57A **Williamstown** 124.10 40 P 22 25 26.1
baz=298
MOA **Molln** 124.14 326 *i* P **PKPdf** **22 25 25.4 -1.1**
comp=Z,2.6nm,1.0s
L57A **Andrews Acres** 124.19 42 P 22 25 26.4
baz=297
N57A **Milroy** 124.26 44 P 22 25 26.3
baz=295
E58A **La Victoria** 124.26 36 P 22 25 26.3
baz=303
M57A **Sunshine Farm,** 124.30 43 P 22 25 26.3
baz=296
SOKA **Soboth** 124.36 325 *i* P **PKPdf** **22 25 26.6 -0.5**
comp=Z,3.8nm,0.8s
Q57A **Strasburg** 124.37 46 P 22 25 26.5
baz=294
LONY **Lake Ozonia** 124.40 38 P 22 25 27.0
baz=300
O57A **Amberson** 124.44 44 P 22 25 26.9
baz=295
G58A **Ormstown** 124.45 37 P 22 25 26.8
baz=301
P57A **Homestead Farm** 124.47 45 P 22 25 26.8
baz=294
T57A **Hurt** 124.53 48 P 22 25 26.9
baz=292
V57A **Coltrane Farms** 124.54 50 P 22 25 26.8
baz=290
R57A **Stanardsville** 124.58 47 P 22 25 26.8
baz=293
I58A **Old Forge** 124.61 39 P 22 25 26.9
baz=300
K58A **Earlville** 124.63 41 P 22 25 26.7
baz=298
BINY **Binghamton** 124.67 41 P 22 25 27.5
baz=298
U57A **Blanch** 124.68 49 P 22 25 27.9
baz=291
M58A **Price's Panora** 124.73 43 P 22 25 27.5
baz=297
H58A **Gabriels** 124.75 38 P 22 25 27.7
baz=301
N58A **Sunbury** 124.80 43 P 22 25 27.6
baz=296
F59A **Saint Guilaume** 124.83 36 P 22 25 27.6
baz=303
L58A **Harry Jones Me** 124.83 42 P 22 25 27.8
baz=298
Q58A **Fox Den Farm,** 124.93 46 P 22 25 28.0
baz=294
R58A **Rapidan** 124.95 47 P 22 25 27.5
baz=293
O58A **Lewisberry** 124.97 44 P 22 25 28.1
baz=296
J59A **Piesco** 125.02 39 P 22 25 27.5
baz=300
T58A **Grand View Acr** 125.09 48 P 22 25 27.9
baz=292
K59A **Cooperstown** 125.14 40 P 22 25 27.8
baz=299
R58B **Mineral** 125.18 47 P 22 25 28.4
baz=293
I59A **Olmsteadville** 125.25 39 P 22 25 28.0
baz=301
F60A **Warwick** 125.25 36 P 22 25 28.0
baz=304
U58A **Oxford** 125.28 49 P 22 25 28.2
baz=292
L59A **Walton** 125.30 41 P 22 25 28.3
baz=298
E60A **Ste Agathe de** 125.32 35 P 22 25 28.8
baz=304
M59A **Waymart** 125.34 42 P 22 25 28.7
baz=298
O59A **Robesonia** 125.39 44 P 22 25 28.6
baz=296
N59A **State Game Lan** 125.40 43 P 22 25 28.8
baz=297
G60A **Masonville** 125.51 37 P 22 25 28.6
baz=303
P59A **Jarrettsville** 125.53 44 P 22 25 29.0
baz=296
D61A **St Aubert, Com** 125.55 34 P 22 25 28.8
baz=306
H60A **Morristown** 125.58 37 P 22 25 28.8
baz=302
I60A **Shoreham** 125.59 38 P 22 25 29.0
baz=301
V59A **Middlesex** 125.75 49 P 22 25 29.1
baz=292
ABTA **Abfaltersbach** 125.75 326 *i* P **PKPdf** **22 25 29.0 -0.7**
comp=Z,5.5nm,0.8s
F61A **St Evariste** 125.81 35 P 22 25 29.2
baz=305
J60A **Lant Hill Farm** 125.82 39 P 22 25 29.0
baz=301
E61A **Lac Etchemin** 125.83 34 P 22 25 29.8
baz=306
N60A **Cedar Hill Far** 125.88 42 P 22 25 30.0
baz=298
WATA **Walderalm** 125.92 327 *i* P **PKPdf** **22 25 29.2 -0.8**
comp=Z,5.0nm,0.9s
O60A **Telford** 125.92 43 P 22 25 30.0
baz=297
WTTA **Wattenberg** 125.93 327 *e*P **PKPdf** **22 25 29.5 -0.7**
comp=Z,9.3nm,0.9s
H61A **Lyndonville** 126.06 37 P 22 25 30.2
baz=303
MOTA **Moosalm** 126.17 327 *e*P **PKPdf** **22 25 30.3 -0.3**
comp=Z,8.1nm,0.8s
SQTA **Sankt Quirin** 126.18 327 *e*P **PKPdf** **22 25 30.5 -0.1**
comp=Z,4.9nm,0.7s
K61A **Williamstown** 126.20 40 P 22 25 30.7
baz=300
RETA **Reutte** 126.26 328 *i* P **PKPdf** **22 25 30.8 +0.2**
comp=Z,6.0nm,1.1s
U60A **Pendleton** 126.29 48 P 22 25 30.5
baz=293
J61A **Chester** 126.31 39 P 22 25 31.0
baz=302
T60A **Surry** 126.34 47 P 22 25 31.1
baz=294
V60A **Jim Taylor Roa** 126.48 49 P 22 25 31.0
baz=292
MEM **Membach** 126.54 333 *d*PKP **PKiKP** **22 25 31.4 -0.1**
M61A **Granite Spring** 126.56 41 P 22 25 31.1
baz=299
FETA **Feichten** 126.57 327 *e*P **PKPdf** **22 25 31.5 +0.2**
comp=Z,10nm,1.2s
PAL **Palisades** 126.61 42 P 22 25 31.1
baz=299
L61B **Northampton** 126.69 40 P 22 25 31.8
baz=301
I62A **Tamworth** 126.77 38 P 22 25 31.6
baz=303
J62A **Henniker** 126.83 38 P 22 25 31.8
baz=302
DAVA **Damuels** 126.86 328 *e*P **PKPdf** **22 25 31.8 0.0**
comp=Z,5.1nm,0.7s
K62A **Royalston** 126.86 39 P 22 25 32.1
baz=302
LCO **Las Campanas** 127.06 133 PKIKP **PKiKP** **22 25 33.9 +0.4**
LCO **Las Campanas** 127.06 133 PKPdf **PKiKP** **22 25 33.9 +0.4**
G63A **Kingsbury** 127.09 35 P 22 25 32.2
baz=306
H63A **New Sharon** 127.11 36 P 22 25 32.3
baz=305
J63A **Strafford** 127.25 38 P 22 25 32.6
baz=303
K63A **Dunstable** 127.29 39 P 22 25 31.8
baz=302
E64A **Bridgewater** 127.31 33 P 22 25 31.9
baz=308
BMRD **Maredsous** 127.31 333 *d*PKP **PKiKP** **22 25 32.9 0.0**
F64A **Sherman** 127.36 34 P 22 25 32.4
baz=307
AC05 **El Transito** 127.47 133 PKPdf **PKiKP** **22 25 34.7 +0.6**
H64A **Troy** 127.60 36 P 22 25 33.4
baz=306
L63A **North Scituate** 127.67 40 P 22 25 33.8
baz=302
ATAH **Atahualpa** 129.00 104 PKP **PKiKP** **22 25 39.6 +1.7**
comp=Z,25nm,0.9s,baz=179,slow=1.3,SNR=11
NNA **Nana** 129.20 110 PKP **PKiKP** **22 25 38.7 +0.8**
comp=Z,5.6nm,0.4s,baz=289,slow=3.1,SNR=6.1
OTAV **Otavalo** 130.24 94 *e*P **PKiKP** **22 25 43.9 +3.4**
BBAC **Balboa, Cauca** 131.63 92 *e*P **PKPdf** **22 25 42.4 +0.4**
POPC **Popayan, Colom** 132.25 92 *e*P **PKPdf** **22 25 43.8 +0.6**
SOTA **Rioblanco** 132.28 92 *e*P **PKiKP** **22 25 44.6 -0.1**
PCON **Cinco Dias** 132.51 92 *e*P **PKiKP** **22 25 45.4 +0.1**
YOTC **Yotoco, Valle** 132.70 90 *e*P **PKPdf** **22 25 43.9 0.0**
MARP **Paez Belalcaza** 133.00 91 *e*P **PKiKP** **22 25 45.6 -0.2**
HELC **Santa Helena** 133.62 87 *e*P **PKPdf** **22 25 46.1 +0.2**
GUY2C **Guyana, Caldas** 133.75 88 *e*P **PKiKP** **22 25 47.2 -0.4**
RREF **El Recreo** 133.75 89 *e*P **PKiKP** **22 25 47.9 +0.1**
TOLC **Tolima** 133.76 89 *e*P **PKPdf** **22 25 46.9 +0.8**
ORTC **Ortega, Tolima** 133.79 90 *e*P **PKPdf** **22 25 46.3 +0.4**
PRAC **Prado** 134.13 90 *e*P **PKPdf** **22 25 47.1 +0.6**
NORC **Norcasia** 134.25 88 *e*P **PKPdf** **22 25 47.4 +0.6**
ZARC **Zaragoza, Cauc** 134.32 85 *e*P **PKPdf** **22 25 40.4 -6.4**
PTBC **PUERTO BERRIO** 134.70 86 *e*P **PKPdf** **22 25 41.6 -5.9**
ROSC **El Rosal** 134.77 89 PKP **PKiKP** **22 25 49.1 -0.5**
comp=Z,27nm,0.8s,baz=236,slow=21,SNR=8.2
ROSC **El Rosal** 134.77 89 *e*P **PKiKP** **22 25 49.0 -0.5**
MACC **Macarena, Meta** 135.03 93 *e*P **PKPdf** **22 25 48.8 +0.7**

SPBC	**San Pablo de B**	**135.05**	**88**	*e*P		**PKPdf**	**22 25 48.0**	**-0.3**
SMLC	**San Martn de**	**135.09**	**83**	*e*P		**PKPdf**	**22 25 44.8**	**-3.4**
LPAZ	**La Paz**	**135.48**	**120**	PKhKP	PKPpre		22 25 40.0	
	comp=Z,2.2nm,0.8s,baz=338,slow=3.2,SNR=5.3							
LPAZ				PKP		**PKiKP**	**22 25 51.2**	**0.0**
	comp=Z,17nm,0.9s,baz=280,slow=2.6,SNR=18							
LPAZ	**La Paz**	**135.48**	**120**	*e*P		**PKPdf**	**22 25 49.7**	**+0.1**
BARC	**Barichara**	**135.97**	**86**	*e*P		**PKPdf**	**22 25 46.4**	**-3.8**
RUSC	**La Rusia**	**136.04**	**87**	*e*P		**PKPdf**	**22 25 44.5**	**-6.1**
PAMC	**Pamplona, Colo**	**136.46**	**85**	*e*P		**PKPdf**	**22 25 49.8**	**-1.6**
CPUP	**Villa Florida**	**137.93**	**140**	PKP		**PKiKP**	**22 25 54.5**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=268,slow=1.2,SNR=6.2							
SDV	**Santo Domingo**	**138.49**	**83**	PKP		**PKPdf**	**22 25 55.9**	**+1.1**
	comp=Z,65nm,0.8s,baz=258,slow=1.3,SNR=48							
SDV	**Santo Domingo**	**138.49**	**83**	PKPdf		**PKiKP**	**22 25 56.0**	**-0.8**
SDV	**Santo Domingo**	**138.49**	**83**	*e*P		**PKPdf**	**22 25 55.2**	**+0.5**
ESDC	**Sonseca Array**	**139.35**	**330**	PKhKP	PKPpre		22 25 48.1	
	comp=Z,0.2nm,0.9s,baz=115,slow=15,SNR=3.0							
ESDC				PKP		**PKiKP**	**22 25 57.1**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=4.4,slow=2.8,SNR=5.4							
ESDC				PP		**PP**	**22 28 48.4**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=26,slow=6.6,SNR=5.3							
MVO	**Moncorvo**	**139.59**	**334**	*e*PKPdf		**PKPdf**	**22 25 57.0**	**+1.1**
POLO	**Lamas de Olo**	**139.74**	**335**	*e*PKPdf		**PKiKP**	**22 25 59.4**	**+0.8**
MTE	**Manteigas**	**140.44**	**334**	*e*PKPdf		**PKPdf**	**22 25 56.8**	**-0.6**
MLPR	**Magueyes Islan**	**140.80**	**68**	PKPdf		**PKPdf**	**22 25 60.0**	**+1.5**
PCBR	**Castelo Branco**	**140.87**	**334**	*e*PKPdf		**PKPdf**	**22 25 58.9**	**+0.8**
PCAS	**Casmilo, Conde**	**141.14**	**335**	*e*PKPdf		**PKiKP**	**22 26 00.5**	**-0.8**
OBIP	**Obispado Ponce**	**141.18**	**68**	PKPdf		**PKPdf**	**22 25 59.2**	**-0.1**
SIV	**San Ignacio**	**141.57**	**125**	PKhKP	PKPpre		22 25 54.7	
	comp=Z,11nm,0.9s,baz=247,slow=3.2,SNR=43							
PMTG	**Montargil**	**141.83**	**334**	*e*PKPdf		**PKPdf**	**22 25 58.6**	**-1.3**
PBAR	**Barrancos**	**142.01**	**332**	*e*PKPdf		**PKiKP**	**22 26 02.7**	**-0.5**
EVO	**Evora**	**142.18**	**333**	*e*PKPdf		**PKPdf**	**22 25 56.7**	**-3.8**
PBDV	**Barranco-do-Ve**	**143.18**	**332**	*e*PKPdf		**PKPab**	22 25 55.5	-2.5
PCRV	**Puerto La Cruz**	**144.33**	**80**	PKP		**PKPab**	**22 26 02.6**	**-0.5**
	comp=Z,37nm,0.9s,baz=334,slow=20,SNR=4.5							
BPA	**Boggy Peak**	**145.82**	**68**	*e*		**PKPdf**	**22 26 07.8**	**+0.4**
ANBD	**Bethesda, Anti**	**145.90**	**68**	*e*		**PKPdf**	**22 26 07.3**	**-0.2**
CBE	**Ff, Capester**	**146.30**	**69**	*e*		**PKPab**	**22 26 10.5**	**+0.1**
FDF	**Fort de France**	**147.03**	**72**	*e*		**PKPab**	**22 26 13.2**	**-0.1**
BIM	**Bigot**	**147.16**	**72**	*e*		**PKPbc**	**22 26 12.1**	**+0.1**
SVB	**Belmont**	**147.23**	**74**	*e*		**PKPbc**	**22 26 11.9**	**-0.3**
SVB	**Belmont**	**147.23**	**74**			**PKPbc**	**22 26 11.9**	**-0.3**
SVV	**Soufriere Volc**	**147.25**	**74**	*e*		**PKPbc**	**22 26 13.0**	**+0.8**
ILAM	**Ilet Lapin Mar**	**147.29**	**71**	*e*		**PKPbc**	**22 26 12.0**	**-0.3**
SLBI	**Saint Lucia, B**	**147.35**	**73**	*e*		**PKPbc**	**22 26 12.1**	**-0.4**
MPOM	**Morne Pois Mar**	**147.37**	**72**	*e*		**PKPbc**	**22 26 13.3**	**+0.8**
MCLT	**Moule a Chique**	**147.44**	**73**	*e*		**PKPbc**	**22 26 12.2**	**-0.6**
TRN	**Trinidad (W)**	**147.45**	**79**	*e*		**PKPbc**	**22 26 13.3**	**+0.5**
PTGA	**Pitinga**	**148.33**	**101**	PKP		**PKPdf**	**22 26 12.3**	**+0.5**
	comp=Z,57nm,0.8s,baz=254,slow=3.1,SNR=30							
PTGA				PKPbc		**PKPbc**	**22 26 16.0**	**+0.7**
	comp=Z,57nm,0.8s,baz=249,slow=3.4,SNR=45							
PTGA	**Pitinga**	**148.33**	**101**			**PKPdf**	**22 26 13.5**	**+1.7**
PTGA				PKPab		**PKiKP**	**22 26 16.4**	**-0.4**
PTGA	**Pitinga**	**148.33**	**101**	*e*P		**PKPbc**	**22 26 15.9**	**+0.7**
SHEL	**Horse Pasture**	**148.60**	**227**	PKP2		**PKiKP**	**22 26 18.2**	**+0.9**
SHEL	**Horse Pasture**	**148.60**	**227**			**PKiKP**	**22 26 18.2**	**+0.9**
TOA0	**Torodi Ar. Sit**	**148.94**	**286**	PKPdf		**PKPdf**	**22 26 11.7**	**-1.0**
TORD	**Torodi Ar. Bea**	**148.94**	**286**	PKP		**PKPdf**	**22 26 12.4**	**-0.2**
	comp=Z,39nm,0.8s,baz=0.8,slow=1.9,SNR=16							
TORD				PKPbc		**PKPbc**	**22 26 15.9**	**-0.9**
	comp=Z,46nm,0.8s,baz=55,slow=2.2,SNR=72							
TORD	**Torodi Ar. Bea**	**148.94**	**286**			**PKPdf**	**22 26 12.3**	**-0.4**
BDFB	**Brasilia**	**151.61**	**138**	PKP		**PKPdf**	**22 26 18.1**	**+1.1**
	comp=Z,9.1nm,0.8s,baz=239,slow=0.8,SNR=16							
BDFB				PKPbc		**PKiKP**	**22 26 23.9**	**+0.2**
	comp=Z,19nm,0.5s,baz=187,slow=4.6,SNR=23							
BDFB				PKPab		**PKPab**	**22 26 33.0**	**+1.1**
	comp=Z,30nm,1.0s,baz=186,slow=4.3,SNR=13							
BDFB	**Brasilia**	**151.61**	**138**	PKPdf		**PKPdf**	**22 26 17.1**	**+0.1**
KOWA	**Kowa**	**154.00**	**292**	PKPdf		**PKPdf**	**22 26 21.0**	**+0.7**
KIC	**Kosan Boka**	**155.97**	**273**	*e*PKIKP		**PKPdf**	**22 26 22.3**	**-0.8**
	comp=Z,66nm,1.2s							
DBIC	**Dimbokro**	**156.08**	**274**	PKP		**PKPdf**	**22 26 23.6**	**+0.3**
	comp=Z,15nm,0.9s,baz=63,slow=2.4,SNR=14							
DBIC	**Dimbokro**	**156.08**	**274**	PKPdf		**PKPdf**	**22 26 23.1**	**-0.1**
TIC	**Toumodi**	**156.24**	**274**	*e*PKIKP		**PKPdf**	**22 26 22.7**	**-0.8**
LIC	**Lamto**	**156.25**	**273**	*e*PKIKP		**PKPdf**	**22 26 22.5**	**-1.0**
	comp=Z,65nm,1.2s							

ANF 16 22:08:02.1±0.2, 35°.49N×92°.31W, h5^{km}, ML3.3/11, Error ellipse: s-maj=2.3km s-min=1.7km az=86.0, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W41B	**Gary Mavity, V**	**0.32**	**171**	P	Pg	22 08 08.0	-0.3
	baz=356,SNR=190						
W41B				S	Sg	22 08 12.6	0.0
	baz=356						
W41B	**Gary Mavity, V**	**0.32**	**171**	P		22 08 08.0	
	baz=356,SNR=190						
W41B				S		22 08 12.6	
	baz=356						
U40A	**Yellville**	**0.97**	**333**	P	Pg	22 08 20.2	-0.5
	baz=151,SNR=190						
U40A				S	Sg	22 08 33.1	-0.1
	baz=151						
U40A				S	Sg	22 08 33.1	-0.1
	baz=151						
U40A	**Yellville**	**0.97**	**333**	P		22 08 20.2	
	baz=151,SNR=190						
U40A				P		22 08 20.2	
	baz=151,SNR=190						
U40A				S		22 08 33.1	
	baz=151						
U40A				S		22 08 33.1	
	baz=151						
X40A	**Basin Creek Fa**	**1.09**	**203**	P	Pg	22 08 22.8	-0.2
	baz=24,SNR=75						
X40A	**Basin Creek Fa**	**1.09**	**203**	P		22 08 22.8	
	baz=24,SNR=75						
X40A				P		22 08 22.8	
	baz=24,SNR=75						
W39A	**Magazine**	**1.24**	**257**	P	Pg	22 08 25.8	-0.1
	baz=76,SNR=45						
W39A				S	Sn	22 08 42.9	-0.3
	baz=76						
W39A	**Magazine**	**1.24**	**257**	P		22 08 25.8	
	baz=76,SNR=45						
W39A				S		22 08 42.9	
	baz=76						
MIAR	**Mount Ida**	**1.40**	**228**	P	Pn	22 08 28.2	-0.1
	baz=48,SNR=69						
MIAR				S	Sn	22 08 47.8	+0.6
	baz=48						
MIAR	**Mount Ida**	**1.40**	**228**	P		22 08 28.2	
	baz=48,SNR=69						
MIAR				S		22 08 47.8	
	baz=48						
X43A	**Marvell**	**1.52**	**129**	S	Sb	22 08 50.7	+0.2
	baz=311						
X43A	**Marvell**	**1.52**	**129**	S		22 08 50.7	
	baz=311						
HHAR	**Hobbs**	**1.54**	**301**	P	Pn	22 08 30.7	+0.4
	baz=120						
HHAR	**Hobbs**	**1.54**	**301**	P		22 08 30.7	
	baz=120						
CCAR	**Cane Creek**	**1.63**	**164**	S	Sg	22 08 54.5	-0.1
	baz=346						
CCAR	**Cane Creek**	**1.63**	**164**	S		22 08 54.5	
	baz=346						
T42A	**Van Buren**	**1.82**	**32**	P	Pn	22 08 34.3	+0.1
	baz=212,SNR=79						
T42A				S	Sn	22 08 58.3	+0.7
	baz=212						
T42A	**Van Buren**	**1.82**	**32**	P		22 08 34.3	
	baz=212,SNR=79						
T42A				S		22 08 58.3	
	baz=212						
U38A	**Gravette**	**1.93**	**300**	P	Pn	22 08 36.7	+1.1
	baz=118,SNR=44						
U38A	**Gravette**	**1.93**	**300**	P		22 08 36.7	
	baz=118,SNR=44						
PBMO	**Poplar Bluff**	**1.99**	**49**	S	Sn	22 09 02.7	+0.9
	baz=230						
PBMO	**Poplar Bluff**	**1.99**	**49**	S		22 09 02.7	
	baz=230						
Z41A	**Richland Creek**	**2.27**	**190**	P	Pn	22 08 40.6	+0.4
	baz=11,SNR=6.2						
Z41A				S	Sn	22 09 09.9	+1.3
	baz=11						
Z41A				S	Sn	22 09 09.9	+1.3
	baz=11						
Z41A	**Richland Creek**	**2.27**	**190**	P		22 08 40.6	
	baz=11,SNR=6.2						
Z41A				P		22 08 40.6	
	baz=11,SNR=6.2						
Z41A				S		22 09 09.9	
	baz=11						
Z41A				S		22 09 09.9	
	baz=11						
S39A	**Bolivar**	**2.34**	**340**	P	Pn	22 08 42.5	+1.3
	baz=159,SNR=28						
S39A	**Bolivar**	**2.34**	**340**	P		22 08 42.5	
	baz=159,SNR=28						

*NEIC **16** 22:26:53.0±0.6, 15°.71S±0°.07×173°.9W±0°.1, h39^{km}±6^{km}, mb4.5/16, Error ellipse: s-maj=15.1km s-min=9.9km az=87.0*
*IDC **16** 22:26:53.8±2.9, 15°.60S×173°.92W, h48^{km}±27^{km}, mb3.9/12, mb1 4.1/13, mb1mx3.9/62, mbtmp4.2/13, ML4.6/1, Error ellipse: s-maj=35.4km s-min=14.6km az=143.0*
ISC 16 22:26:52.4±0.5, 15°.67S±0°.09×173°.80W±0°.09, h35^{km}, n41, σ0^{s}.96/42, mb4.3/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.63**	**49**	P	**Pn**	**22 27 34.1**	**+1.7**
	116nm,0.3s,baz=191,slow=3.6,SNR=118						
AFI				S	**Sn**	**22 28 01.2**	**-1.9**
	248nm,0.3s,baz=245,slow=21,SNR=13						
AFI	**Afiamalu**	**2.63**	**49**		**Pn**	**22 27 34.0**	**+1.7**
AFI				Sn	**Sn**	**22 28 01.7**	**-1.3**
NIUE	**Niue**	**5.02**	**133**		**Pn**	**22 28 06.1**	**+1.0**
ODZ	**Otahua Downs**	**32.09**	**201**	P	P	22 33 07.7	-8.4
WHZ	**Wether Hill Ro**	**33.80**	**203**	P	P	**22 33 30.7**	**-0.3**
ARMA	**Armidale**	**34.87**	**239**	P	P	**22 33 40.9**	**+0.2**
ARMA				IAmb	IAmb	22 33 54.5	
	comp=Z,11nm,1.2s						
COEN	**Coen**	**41.58**	**267**	P	P	**22 34 38.7**	**+1.6**
STKA	**Stephens Creek**	**43.57**	**240**	P	P	**22 34 51.6**	**-1.6**
	comp=Z,1.6nm,0.4s,baz=101,slow=11,SNR=4.4						
STKA	**Stephens Creek**	**43.57**	**240**	P	P	**22 34 52.0**	**-1.1**
BBOO	**Buckleboo**	**48.34**	**240**	P	P	**22 35 30.4**	**-0.4**
WR0	**Warramunga Arr**	**49.22**	**257**	P	P	**22 35 38.5**	**+0.8**
WR0				IAmb	IAmb	22 35 42.2	
	comp=Z,10nm,1.5s						
WB0	**Warramunga Arr**	**49.37**	**257**	P	P	**22 35 38.5**	**-0.3**
WB0				IAmb	IAmb	22 35 39.1	
	comp=Z,4.5nm,0.9s						
WB2	**Warramunga Arr**	**49.39**	**257**	P	P	**22 35 38.7**	**-0.4**
WB2				IAmb	IAmb	22 35 39.5	
	comp=Z,3.3nm,0.8s						
WRAB	**Tennant Creek**	**49.40**	**257**	P	P	**22 35 38.2**	**-0.8**
WRAB				IAmb	IAmb	22 35 42.0	
	comp=Z,2.8nm,0.8s						
WRA	**Warramunga Arr**	**49.41**	**257**	P	P	**22 35 38.6**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=93,slow=7.3,SNR=19						
AS31	**Alice Springs**	**49.66**	**252**	P	P	**22 35 40.9**	**-0.2**
AS31				IAmb	IAmb	22 35 42.0	
	comp=Z,3.2nm,0.8s						
ASAR	**Alice Springs**	**49.66**	**252**	P	P	**22 35 40.3**	**-0.8**
	comp=Z,15nm,0.6s,baz=85,slow=8.5,SNR=124						
ASAR	**Alice Springs**	**49.66**	**252**	P	P	**22 35 39.9**	**-1.2**
FORT	**Forrest**	**54.95**	**243**	P	P	**22 36 20.0**	**-0.2**
SIJI	**Sorong**	**56.12**	**280**	P	P	**22 36 28.6**	**-0.3**
	comp=Z,3.8nm,0.4s,baz=327,slow=2.9,SNR=3.7						
PSA00	**Pilbara Seismi**	**62.76**	**254**	P	P	**22 37 14.1**	**-0.5**
VNDA	**Vanda**	**63.07**	**186**	P	P	**22 37 16.1**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=360,slow=7.0,SNR=7.8						
YBH	**Yreka Blue Hor**	**74.05**	**37**	P	P	**22 38 26.2**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=275,slow=2.3,SNR=5.5						
YBH	**Yreka Blue Hor**	**74.05**	**37**	P	P	**22 38 25.5**	**+0.7**
QSPA	**South Pole Qui**	**74.38**	**180**	P	P	**22 38 26.6**	**+0.1**
QSPA				IAmb	IAmb	22 38 30.4	
	comp=Z,9.5nm,1.2s						
NVAR	**Mina Array Bea**	**74.79**	**42**	P	P	**22 38 29.9**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=227,slow=10.0,SNR=8.6						
ELK	**Elko**	**78.04**	**42**	P	P	**22 38 48.2**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=246,slow=5.1,SNR=2.3						
ELK	**Elko**	**78.04**	**42**	P	P	**22 38 49.7**	**+1.9**
TXAR	**Lajitas Array**	**81.08**	**56**	P	P	**22 39 04.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=219,slow=7.6,SNR=4.8						
MDM	**Murphy Dome**	**82.71**	**11**	P	P	**22 39 11.8**	**-0.3**
MDM				IAmb	IAmb	22 39 28.9	
	comp=Z,7.1nm,1.4s						
PDAR	**Pinedale Array**	**82.72**	**42**	P	P	**22 39 12.4**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=214,slow=4.3,SNR=4.8						
ILAR	**Eielson Array**	**82.78**	**11**	P	P	**22 39 11.7**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=238,slow=6.6,SNR=12						
ILAR	**Eielson Array**	**82.78**	**11**	P	P	**22 39 12.9**	**+0.5**
IMAR	**Indian Mountai**	**82.79**	**8**	P	P	**22 39 13.5**	**+1.1**
YKA	**Yellowknife Ar**	**90.50**	**24**	P	P	**22 39 48.5**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=231,slow=4.4,SNR=5.6						
CLL	**Collm**	**144.03**	**353**	*e*PKPdf	**PKiKP**	**22 46 27.0**	**-0.7**
KMBO	**Kilima Mbogo**	**145.07**	**244**	PKPbc	**PKPab**	**22 46 26.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=52,slow=23,SNR=2.5						
KMBO	**Kilima Mbogo**	**145.07**	**244**	P	**PKPab**	**22 46 27.0**	**+0.1**
BRTR	**Keskin Array B**	**146.12**	**320**	PKPbc	**PKPdf**	**22 46 28.0**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=136,slow=2.4,SNR=3.3						
GERES	**GERESS Array B**	**146.35**	**351**	PKPbc	**PKPdf**	**22 46 27.7**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=56,slow=5.0,SNR=4.0						
GERES	**GERESS Array B**	**146.35**	**351**		**PKPdf**	**22 46 28.9**	**+0.5**

*IDC **16** 22:28:42.5±1.4, 29°.69S×176°.09W, h0^{km}, mb4.3/6, mb1 4.4/8, mb1mx4.1/54, mbtmp4.3/8, ML4.0/2, MS3.8/5, Ms1 3.8/5, ms1mx3.3/36, Error ellipse: s-maj=45.9km s-min=24.5km az=137.0*
*NEIC **16** 22:28:49.1±2.3, 29°.85S±0°.1×176°.2W±0°.2, h43^{km}±9^{km}, mb4.5/10, Error ellipse: s-maj=20.7km s-min=17.1km az=50.0*
ISC 16 22:28:47.3±1.1, 29°.85S±0°.1×176°.0W±0°.2, h35^{km}, n34, σ1^{s}.32/31, mb4.5/9, MS4.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.76**	**287**	Pn	**Pn**	**22 29 14.9**	**-0.4**
URZ	**Urewera**	**10.22**	**212**	Pn	**Pn**	**22 31 11.9**	**+0.5**
	0.7nm,0.3s,baz=95,slow=9.1,SNR=1.3						
URZ				Sn	**Sn**	**22 33 06.7**	**+2.0**
	1.8nm,0.3s,baz=158,slow=8.0,SNR=3.0						
URZ	**Urewera**	**10.22**	**212**		**Pn**	**22 31 10.7**	**-0.7**
BKZ	**Black Stump Fm**	**11.23**	**211**	Pn	**Pn**	**22 31 25.4**	**0.0**
NNZ	**Nelson**	**14.32**	**214**		**P**	**22 32 13.7**	**-0.4**
KHZ	**Kahutara**	**15.18**	**211**	P	P	**22 32 20.4**	**-3.2**
KHZ				IAmb	IAmb	22 32 20.7	
	comp=Z,80nm,1.4s						
LTZ	**Lake Taylor**	**16.05**	**213**	P	P	**22 32 31.1**	**-2.2**
RPZ	**Rata Peaks**	**17.33**	**213**	P	P	**22 32 46.6**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=314,slow=17,SNR=1.8						
RPZ	**Rata Peaks**	**17.33**	**213**	P	P	**22 32 47.1**	**-0.5**
RPZ				IAmb	IAmb	22 33 01.9	
	comp=Z,39nm,1.2s						
DZM	**Mont Dzumac**	**17.55**	**292**	LR	LR	22 39 00.4	
	comp=Z,124nm,18.8s,baz=20,slow=35						
CTA	**Charters Tower**	**35.44**	**277**	P	P	**22 35 39.5**	**-0.9**
	comp=Z,5.5nm,0.8s,baz=98,slow=23,SNR=2.5						
CTAO	**Charters Tower**	**35.44**	**277**	P	P	**22 35 41.6**	**+1.2**
STKA	**Stephens Creek**	**36.32**	**256**	P	P	**22 35 47.8**	**0.0**
	comp=Z,4.2nm,0.7s,baz=96,slow=11,SNR=5.6						
BBOO	**Buckleboo**	**40.82**	**253**	P	P	**22 36 27.1**	**+1.5**
ASAR	**Alice Springs**	**44.89**	**265**	P	P	**22 36 58.5**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=103,slow=8.2,SNR=5.8						
ASAR	**Alice Springs**	**44.89**	**265**	P	P	**22 36 58.8**	**+0.1**
WR0	**Warramunga Arr**	**45.64**	**271**	P	P	**22 37 03.9**	**-0.8**
WR0				IAmb	IAmb	22 37 07.2	
	comp=Z,7.3nm,1.1s						
WB2	**Warramunga Arr**	**45.81**	**270**	P	P	**22 37 02.9**	**-3.2**
WB2				IAmb	IAmb	22 37 07.6	
	comp=Z,4.0nm,0.7s						
WRAB	**Tennant Creek**	**45.82**	**270**	P	P	**22 37 04.3**	**-1.8**
WRA	**Warramunga Arr**	**45.83**	**270**	P	P	**22 37 05.0**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=110,slow=6.1,SNR=12						
WB0	**Warramunga Arr**	**45.84**	**271**	P	P	**22 37 05.0**	**-1.3**
WB0				IAmb	IAmb	22 37 09.1	
	comp=Z,4.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**54.11**	**268**	P	P	**22 38 08.7**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=183,slow=7.0,SNR=3.6						
FITZ				LR	LR	23 00 15.3	
	comp=Z,95nm,19.0s,baz=120,slow=35						
FITZ	**Fitzroy Crossi**	**54.11**	**268**	P	P	**22 38 09.2**	**+0.2**
FITZ				IAmb	IAmb	22 38 21.9	
	comp=Z,12nm,1.4s						
BATI	**Baumata**	**59.31**	**276**	LR	LR	23 06 44.2	
	comp=Z,135nm,18.5s,baz=148,slow=38						
JHJ	**Hachijo jima 2**	**75.27**	**323**	LR	LR	23 12 05.8	
	comp=Z,38nm,18.2s,baz=218,slow=35						
KSRS	**Korea Array**	**85.02**	**318**	P	P	**22 41 21.0**	**+2.0**
	comp=Z,0.9nm,0.7s,baz=124,slow=4.7,SNR=2.4						
LPAZ	**La Paz**	**96.80**	**113**	LR	LR	23 17 19.9	
	comp=Z,78nm,20.6s,baz=302,slow=30						
MKAR	**Makanchi Array**	**118.70**	**310**	PKP	**PKPdf**	**22 47 30.3**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=100,slow=2.0,SNR=3.4						
FRB	**Frobisher Bay**	**123.94**	**31**	PKP	**PKiKP**	**22 47 41.2**	**0.0**
	comp=Z,1.5nm,0.7s,baz=270,slow=1.0,SNR=3.7						
FINES	**FINESS Array B**	**145.13**	**342**	PKPbc	**PKPbc**	**22 48 19.6**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=70,slow=2.6,SNR=6.8						
NB2	**NORSAR Subarra**	**148.36**	**353**	PKP	**PKPbc**	**22 48 29.7**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=9.1,slow=2.8						
NOA	**NORSAR Array B**	**148.36**	**353**	PKPbc	**PKPbc**	**22 48 29.7**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=12,slow=4.5,SNR=5.1						
AKASG	**Malin Array Be**	**151.82**	**325**	PKPbc	**PKiKP**	**22 48 38.6**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=44,slow=2.8,SNR=6.4						
AKASG	**Malin Array Be**	**151.82**	**325**		**PKiKP**	**22 48 38.8**	**+0.4**

*MOS **16** 22:33:26.9±0.9, 27°.99N×139°.51E, h497^{km}, mb4.5/34, Error ellipse: s-maj=8.3km s-min=4.7km az=112.6*
*JMA **16** 22:33:26.4±0.3, 28°.09N×140°.21E, h519^{km}±4^{km}, M4.5*
*NEIC **16** 22:33:27.9±1.4, 28°.01N±0°.09×139°.6E±0°.1, h492^{km}±6^{km}, mb4.4/122, Error ellipse: s-maj=14.8km s-min=12.5km az=104.0*
*IDC **16** 22:33:28.4±0.6, 28°.03N×139°.66E, h502^{km}±5^{km}, mb3.7/35, mb1 3.8/42, mb1mx3.7/62, mbtmp4.6/42, Error ellipse: s-maj=9.1km s-min=7.2km az=99.0*
ISC 16 22:33:27.8±0.4, 28°.00N±0°.04×139°.72E±0°.05, h497^{km}±4^{km}, h497^{km}:pP-n410, σ1^{s}28/474, mb4.4/161, 10C-16D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.37**	**112**	P	**P**	**22 34 33.7**	**-0.9**
CBIJ				S	**S**	**22 35 26.1**	**-2.7**
JCJ	**Chichijima**	**2.37**	**112**	P	**P**	**22 34 34.0**	**-0.6**
JCJ				S	**S**	**22 35 25.4**	**-3.5**
	547nm,0.3s,baz=338,slow=21,SNR=20						
JCJ	**Chichijima**	**2.37**	**112**	P	**P**	**22 34 33.7**	**-1.0**
JCJ				S	**S**	**22 35 25.9**	**-3.0**
JHH2	**Haha-jima-NKT2**	**2.58**	**121**	P	**P**	**22 34 35.5**	**-0.4**
JHH2				S	**S**	**22 35 30.0**	**-1.1**
JHJ2	**Mitsune**	**5.10**	**1**	P	**P**	**22 34 55.3**	**-0.1**
JHJ2	**Mitsune**	**5.10**	**1**	P	**P**	**22 34 55.3**	**-0.1**
JHJ	**Hachijo jima 2**	**5.10**	**1**	P	**P**	**22 34 55.4**	**0.0**
	47nm,0.3s,baz=256,slow=21,SNR=26						
JHJ				S	**S**	**22 36 01.7**	**-5.4**
	22nm,0.3s,baz=52,slow=14,SNR=2.6						
BSO1	**Boso 1**	**6.72**	**9**	P	**P**	**22 35 10.7**	**+0.4**
BSO1				*e*S	**S**	**22 36 34.7**	**+0.2**
JTNC	**Tanabenakahech**	**6.79**	**330**	P	**P**	**22 35 12.9**	**+1.2**
BSO3	**Boso 3**	**6.81**	**6**	P	**P**	**22 35 11.5**	**-0.1**
BSO3				*e*S	**S**	**22 36 34.3**	**-2.4**
JIE	**Ise**	**6.87**	**339**	P	**P**	**22 35 14.6**	**+2.1**
JIE				*e*S	**S**	**22 36 39.8**	**+1.5**
JKN2	**Miekihoku**	**6.88**	**335**	P	**P**	**22 35 14.3**	**+1.7**
JKN2				S	**S**	**22 36 39.9**	**+1.4**
BSO4	**Boso 4**	**6.99**	**4**	P	**P**	**22 35 14.1**	**+0.6**
BSO4				*e*S	**S**	**22 36 39.7**	**-0.5**
HMMJ	**Hamamatsu 2**	**7.04**	**346**	P	**P**	**22 35 14.9**	**+0.7**
JOD2	**Odawara 2**	**7.26**	**356**	P	**P**	**22 35 16.6**	**+0.2**
JOD2				*e*S	**S**	**22 36 43.8**	**-1.7**
JNY

comp=Z,3.1nm,0.7s,baz=186,slow=0.8,SNR=12
WHN Wuhan 22.26 283 ⇓P **P 22 37 47.0 -0.1**
HIA Hailar 26.20 330 P **P 22 38 21.8 -0.1**
HIA pmax pmax
comp=Z,14nm,0.7s
HIA Hailar 26.20 330 P **P 22 38 21.8 -0.1**
HIA IAmb IAmb 22 38 22.6
comp=Z,14nm,0.7s
HHC Hu-ho-hao-te 26.40 306 *e*P **P 22 38 24.8 +0.9**
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,50nm,5.4s
ENH Enshi 26.47 282 P **P 22 38 23.3 -1.3**
XAN Xi'an 27.01 291 P **P 22 38 28.5 -0.7**
XAN pmax pmax
comp=Z,19nm,0.9s
XAN LR LR
comp=N,220nm,14.1s
XAN LR LR
comp=E,200nm,17.4s
XAN LR LR
comp=Z,210nm,17.4s
XAN Xi'an 27.01 291 P **P 22 38 28.2 -1.0**
XAN pmax pmax
comp=Z,13nm,0.8s
XAN Xi'an 27.01 291 P **P 22 38 28.2 -1.0**
XAN IAmb IAmb 22 38 29.5
comp=Z,13nm,0.8s
ZEA Zeya 27.30 344 *e*P **P 22 38 32.2 +0.7**
ZEA pmax pmax
comp=Z,20nm,0.5s
GYA Guiyang 29.38 275 ⇑P **P 22 38 49.9 -0.3**
GYA pmax pmax
comp=Z,23nm,1.3s
CD2 Chengdu 31.36 284 P **P 22 39 06.6 -0.6**
CD2 pmax pmax
comp=Z,80nm,0.9s
ULN Ulaanbaatar 32.16 317*d i*P **P 22 39 13.7 -0.2**
ULN pmax pmax
comp=Z,28nm,1.3s
ULN Ulaanbaatar 32.16 317 P **P 22 39 13.9 0.0**
ULN IAmb IAmb 22 39 14.9
comp=Z,17nm,0.8s
MA2 Magadan 32.47 10 P **P 22 39 16.5 +0.4**
comp=Z,12nm,0.7s,baz=189,slow=8.3,SNR=11
MA2 Magadan 32.47 10*ce*P **P 22 39 16.7 +0.6**
MA2 pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 32.47 10 P **P 22 39 16.8 +0.6**
MA2 IAmb IAmb 22 39 17.5
comp=Z,17nm,0.9s
SONM Songino Array 32.55 317 P **P 22 39 16.9 -0.3**
comp=Z,7.6nm,0.8s,baz=134,slow=10.0,SNR=59
SONM PcP **PcP 22 41 48.2 -1.0**
comp=Z,0.6nm,0.5s,baz=133,slow=2.4,SNR=4.5
SONM ScP **ScP 22 44 45.0 -0.7**
comp=Z,1.6nm,0.7s,baz=149,slow=4.1,SNR=8.7
SONM Songino Array 32.55 317 P **P 22 39 16.9 -0.3**
SONM 22 41 49.6
SONM pmax pmax
comp=Z,8.0nm,1.1s
SONM Songino Array 32.55 317 P **P 22 39 16.9 -0.3**
SONM PcP **PcP 22 41 49.6 +0.4**
SONM ScP **ScP 22 44 45.6 -0.1**
KMI Kunming 33.12 274 ⇑P **P 22 39 22.8 +0.3**
KMI pmax pmax
comp=Z,23nm,1.2s
SLVN Son La 33.13 267 P **P 22 39 22.7 +0.3**
SLVN IAmb IAmb 22 39 23.6
comp=Z,13nm,0.9s
UBPT Khong Chiam 34.13 255 P **P 22 39 32.0 +1.2**
comp=Z,5.3nm,1.2s
BOD Bodaibo 34.83 336 *e*P **P 22 39 35.5 -0.6**
BOD pmax pmax
comp=Z,9.0nm,1.0s
GTA Gaotai 34.83 300 ⇓P **P 22 39 35.9 -0.7**
GTA pmax pmax
comp=Z,24nm,0.8s
NONG Nongkai 34.96 262 P **P 22 39 38.2 +0.4**
comp=Z,19µmcomp=Z,64nm,1.0s
ZAK Zakamensk 35.49 319 *e*P **P 22 39 40.8 -1.1**
ZAK pmax pmax
comp=Z,12nm,1.1s
TLY Talaya 35.86 321 P **P 22 39 45.3 +0.5**
comp=Z,6.2nm,0.7s,baz=178,slow=5.6,SNR=5.1
TLY Talaya 35.86 321 *e*P **P 22 39 45.4 +0.5**
TLY pmax pmax
comp=Z,20nm,0.9s
TLY Talaya 35.86 321 P **P 22 39 44.7 -0.1**
TLY IAmb IAmb 22 39 47.0
comp=Z,6.9nm,0.8s
SEY Seymchan 35.91 10 P **P 22 39 45.8 +0.8**
comp=Z,3.7nm,0.6s,baz=200,slow=5.9,SNR=16
SEY Seymchan 35.91 10 ⇓*i*P **P 22 39 45.1 +0.1**
CHAI Chaiyaphum 36.86 259 P **P 22 39 54.1 +0.5**
comp=Z,645nmcomp=Z,82nm,0.9s
UTTA Uttaradit 37.36 263 P **P 22 39 57.6 0.0**
comp=Z,270nmcomp=Z,33nm,0.8s
SRAK Srakaew 37.66 256 P **P 22 39 56.0 -4.1**
comp=Z,4µmcomp=Z,611nm,0.9s
PHIT Phitsanulok 37.70 262 P **P 22 40 02.6 +2.2**
comp=Z,54nm,0.9s
LAMP Lampang 37.87 264 P **P 22 40 02.7 +0.8**
comp=Z,20nm,0.8s
CM34 Chiang Mai Arr 38.18 265 P **P 22 40 03.0 -1.4**
CM35 Chiang Mai Arr 38.23 265 P **P 22 40 04.0 -0.8**
SUKH Sukhothai 38.27 263 P **P 22 40 07.1 +2.0**
comp=Z,5.8nm,0.7s
CM36 Chiang Mai Arr 38.35 265 P **P 22 40 05.0 -0.7**
CM33 Chiang Mai Arr 38.37 265 P **P 22 40 05.0 -0.9**
CMMT Chiang Mai 38.37 265 P **P 22 40 04.4 -1.5**
comp=Z,302nmcomp=Z,11nm,0.9s
CHTO Chiang Mai 38.37 265 P **P 22 40 05.5 -0.5**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 38.37 265 P **P 22 40 05.5 -0.5**
CHTO IAmb IAmb 22 40 06.6
comp=Z,17nm,0.8s
CM09 Chiang Mai Arr 38.47 265 P **P 22 40 07.2 +0.4**
comp=Z,118nmcomp=Z,10.0nm,0.8s
CM04 Chiang Mai Arr 38.49 265 P **P 22 40 07.2 +0.3**
comp=Z,84nmcomp=Z,11nm,0.9s
CM01 Chiang Mai Arr 38.50 265 P **P 22 40 07.5 +0.5**
comp=Z,66nmcomp=Z,8.8nm,1.0s
CMAR Chiang Mai Arr 38.50 265 P **P 22 40 07.0 0.0**
comp=Z,3.9nm,0.7s,baz=53,slow=9.0,SNR=36
CMAR PcP **PcP 22 42 08.0 +0.5**
comp=Z,1.1nm,0.3s,baz=60,slow=1.1,SNR=7.3
CMAR Chiang Mai Arr 38.50 265 *i* P **P 22 40 07.0 0.0**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CM02 Chiang Mai Arr 38.51 265 P **P 22 40 07.4 +0.3**
comp=Z,7.8nm,0.9s
CM32 Chiang Mai Arr 38.52 265 P **P 22 40 07.0 -0.1**
CM15 Chiang Mai Arr 38.52 265 P **P 22 40 09.2 +2.0**
CM05 Chiang Mai Arr 38.52 265 P **P 22 40 07.0 -0.2**
comp=Z,54nmcomp=Z,8.3nm,1.0s
CM13 Chiang Mai Arr 38.55 265 P **P 22 40 07.8 +0.4**
comp=Z,72nmcomp=Z,8.3nm,0.8s
UTHA Uthaitani 39.22 260 P **P 22 40 13.4 +0.6**
comp=Z,312nmcomp=Z,30nm,0.8s
UMPA Umpang Tak 39.46 261 P **P 22 40 16.0 +1.2**
comp=Z,562nmcomp=Z,30nm,1.0s
MHMT Maesariang 39.50 265 P **P 22 40 14.4 -0.7**
comp=Z,32nm,0.9s
PHET Kaeng Krachan 40.24 256 P **P 22 40 22.0 +0.9**
comp=Z,26nm,0.9s
COEN Coen 41.84 175 P **P 22 40 34.6 +0.9**
LSA Lhasa 42.33 284 P **P 22 40 38.7 +0.6**
LSA pmax pmax
comp=Z,5.0nm,0.9s
LSA Lhasa 42.33 284 P **P 22 40 38.7 +0.6**
LSA IAmb IAmb 22 40 39.3
comp=Z,5.4nm,0.9s
SURT Suratani 42.92 252 P P 22 40 47.9 +5.6
comp=Z,0.4nm,1.1s
KULM Kulim 43.41 246 P **P 22 40 46.2 0.0**
IPM Ipoh 43.59 245 P **P 22 40 47.1 -0.5**
IPM IAmb IAmb 22 40 48.3
comp=Z,12nm,0.8s
PKDT Phuket 43.87 251 P **P 22 40 49.0 -0.7**
TIXI Tiksi 44.11 355 P **P 22 40 50.2 -0.5**
comp=Z,1.8nm,0.3s,baz=150,slow=9.4,SNR=9.6
TIXI S **S 22 46 44.2 -2.1**
comp=Z,0.8nm,0.6s,baz=295,slow=20,SNR=19

TIXI Tiksi 44.11 355 ⇓*i*P **P 22 40 50.2 -0.5**
TIXI pmax pmax
comp=Z,26nm,2.5s
TIXI Tiksi 44.11 355 P **P 22 40 50.4 -0.3**
WMQ Urumqi 44.27 305 P **P 22 40 53.0 +0.4**
WMQ pP PcP 22 42 26.5 +0.2
WMQ pmax pmax
comp=Z,35nm,0.9s
WMQ pmax pmax
comp=Z,160nm,5.7s
WMQ Urumqi 44.27 305 P **P 22 40 52.6 0.0**
WMQ pmax pmax
comp=Z,43nm,1.2s
WMQ Urumqi 44.27 305 P **P 22 40 52.6 0.0**
DGZ Jazzator, Alta 45.06 313*d i*P **P 22 40 58.8 +0.1**
DGZ pmax pmax
comp=Z,25nm,0.9s
TAPN Taplejung 45.77 282 *e*P **P 22 41 05.0 +0.4**
ODAN Odare 46.16 281 *e*P **P 22 41 07.6 0.0**
comp=Z,84nm,1.0s
PSI Prapat 46.27 245 P **P 22 41 07.7 -0.6**
PSI pmax pmax
comp=Z,20nm,0.9s
RPSI Rantau Prapat 46.33 244 P **P 22 41 07.7 -1.0**
LEM Lembang 46.47 227 P **P 22 41 09.6 -0.3**
comp=Z,36nm,0.7s,baz=131,slow=4.0,SNR=7.2
ZSN Zaisan 46.49 310 *e*P **P 22 41 09.1 -0.4**
baz=310
ZSN Zaisan 46.49 310 *e*P **P 22 41 09.1 -0.4**
RAMN Ramite 46.82 282 *e*P **P 22 41 12.5 -0.1**
comp=Z,68nm,0.9s
GUN Gumba 47.22 283 *e*P **P 22 41 16.1 +0.4**
comp=Z,114nm,0.9s
ZAA0 Zalesovo Array 47.37 319 P **P 22 41 14.6 -1.4**
ZAA0 IAmb IAmb 22 41 16.1
comp=Z,11nm,0.8s
ZAA0 PcP **PcP 22 42 36.1 -0.9**
ZALV Zalesovo Beam 47.37 319 P **P 22 41 15.2 -0.8**
comp=Z,20nm,0.9s,baz=103,slow=7.2,SNR=43
ZALV PcP **PcP 22 42 36.1 -0.9**
comp=Z,2.3nm,0.4s,baz=120,slow=3.7,SNR=8.0
ZALV ScP **ScP 22 45 41.0 -2.3**
comp=Z,1.7nm,0.8s,baz=111,slow=3.3,SNR=3.6
ZALV Zalesovo Beam 47.37 319 P **P 22 41 14.8 -1.2**
ZALV 22 42 36.5
ZALV Zalesovo Beam 47.37 319 P **P 22 41 14.8 -1.2**
ZALV PcP **PcP 22 42 36.5 -0.5**
PKI Pulchoki 47.70 283 *e*P **P 22 41 19.0 -0.3**
comp=Z,55nm,1.1s
PKIN Phulchoki 47.71 283 *e*P **P 22 41 18.9 -0.4**
KKN Kakani 47.76 283 *e*P **P 22 41 19.4 -0.2**
comp=Z,58nm,1.0s
WB0 Warramunga Arr 47.76 187 P **P 22 41 18.9 -0.5**
WB0 IAmb IAmb 22 41 20.5
comp=Z,9.9nm,1.0s
FITZ Fitzroy Crossi 47.81 198 P **P 22 41 19.9 +0.3**
comp=Z,3.9nm,0.6s,baz=29,slow=8.2,SNR=23
FITZ ScP **ScP 22 45 44.2 -1.4**
comp=Z,2.9nm,0.9s,baz=117,slow=8.2,SNR=3.1
FITZ Fitzroy Crossi 47.81 198 P **P 22 41 20.0 +0.3**
FITZ IAmb IAmb 22 41 20.7
comp=Z,12nm,1.4s
WRAB Tennant Creek 47.93 187⇑*i*P **P 22 41 20.4 -0.2**
WRAB pmax pmax
comp=Z,17nm,1.9s
WRAB Tennant Creek 47.93 187 P **P 22 41 20.3 -0.4**
WRAB IAmb IAmb 22 41 22.3
comp=Z,6.7nm,0.8s
WR0 Warramunga Arr 47.94 187 P **P 22 41 20.3 -0.4**
WR0 IAmb IAmb 22 41 20.9
comp=Z,7.8nm,0.4s
WB2 Warramunga Arr 47.94 187 P **P 22 41 20.2 -0.5**
WB2 IAmb IAmb 22 41 22.4
comp=Z,5.8nm,0.7s
WRA Warramunga Arr 47.94 187 P **P 22 41 20.5 -0.2**
comp=Z,5.1nm,0.4s,baz=2.1,slow=7.7,SNR=196
WRA PcP **PcP 22 42 39.6 +0.1**
comp=Z,1.5nm,0.6s,baz=359,slow=4.1,SNR=4.6
WRA ScP **ScP 22 45 45.5 -0.7**
comp=Z,2.0nm,0.8s,baz=360,slow=4.4,SNR=9.4
WRA S **S 22 47 37.4 -3.9**
comp=Z,0.7nm,0.6s,baz=358,slow=12,SNR=5.8
DMN Daman 47.95 283 *e*P **P 22 41 20.9 -0.2**
comp=Z,32nm,0.8s
MK31 Makanchi Array 48.21 309 P **P 22 41 22.1 -0.4**
MK31 22 42 40.0
MK31 pmax pmax
comp=Z,14nm,1.0s
MK31 Makanchi Array 48.21 309 P **P 22 41 22.1 -0.4**
MK31 IAmb IAmb 22 41 23.2
comp=Z,14nm,0.9s
MK31 PcP **PcP 22 42 40.0 -0.3**
MK31 ScP **ScP 22 45 46.1 -1.0**
MKAR Makanchi Array 48.21 309 P **P 22 41 22.2 -0.3**
comp=Z,12nm,0.8s,baz=94,slow=9.4,SNR=113
MKAR PcP **PcP 22 42 40.0 -0.3**
comp=Z,3.0nm,0.7s,baz=91,slow=4.9,SNR=7.3
MKAR ScP **ScP 22 45 45.1 -2.0**
comp=Z,1.6nm,0.6s,baz=81,slow=4.8,SNR=9.8
MKAR Makanchi Array 48.21 309 P **P 22 41 22.1 -0.3**
MKAR PcP **PcP 22 42 40.1 -0.2**
MKAR ScP **ScP 22 45 46.0 -1.1**
CTAO Charters Tower 48.22 172 P **P 22 41 23.5 +0.7**
CTAO pmax pmax
comp=Z,27nm,1.3s
CTAO Charters Tower 48.22 172 P **P 22 41 23.5 +0.7**
CTAO IAmb IAmb 22 41 24.1
comp=Z,27nm,1.3s
GSI Gunungsitoli 48.24 244 P **P 22 41 22.6 -0.5**
GKN Gorkha 48.26 284 *e*P **P 22 41 23.3 0.0**
comp=Z,82nm,1.1s
MAKZ Makanchi 48.42 309 P **P 22 41 23.8 -0.2**
MAKZ pmax pmax
comp=Z,24nm,1.2s
MAKZ Makanchi 48.42 309 P **P 22 41 23.8 -0.2**
MAKZ IAmb IAmb 22 41 24.9
comp=Z,24nm,1.1s
ANM Nome 50.15 27 P **P 22 41 37.8 +1.3**
ANM pmax pmax
comp=Z,10.0nm,0.8s
ANM Nome 50.15 27 P **P 22 41 37.8 +1.3**
ANM IAmb IAmb 22 41 38.9
comp=Z,9.8nm,0.8s
SHLS Shalkode 50.26 304 *e*P **P 22 41 34.8 -3.0**
comp=Z,5.9nm,0.6s,baz=304
SHLS Shalkode 50.26 304 *e*P **P 22 41 34.8 -3.0**
SHLS pmax pmax
comp=Z,6.0nm,0.6s
UZB Uzynbulak 50.58 304 *e*P **P 22 41 39.5 -0.7**
baz=304
UZB Uzynbulak 50.58 304 *e*P **P 22 41 39.5 -0.7**
KPKS Kokpek 50.81 305 *e*P **P 22 41 41.1 -0.8**
comp=Z,7.7nm,0.7s,baz=305
KPKS Kokpek 50.81 305 *e*P **P 22 41 41.0 -0.8**
KPKS pmax pmax
comp=Z,8.0nm,0.7s
TDK Taldyqorghan 50.93 307 *e*P **P 22 41 42.1 -0.5**
comp=Z,14nm,1.0s,baz=307
TDK Taldyqorghan 50.93 307 *e*P **P 22 41 42.1 -0.5**
TDK pmax pmax
comp=Z,14nm,1.0s
SATY Saty 51.04 304 *e*P **P 22 41 43.0 -0.6**
baz=304
SATY Saty 51.04 304 *e*P **P 22 41 42.9 -0.6**
AS31 Alice Springs 51.67 187 P **P 22 41 48.0 -0.1**
ASAR Alice Springs 51.67 187 P **P 22 41 48.0 -0.1**
comp=Z,2.1nm,0.6s,baz=16,slow=14,SNR=36
ASAR PcP **PcP 22 42 54.4 +1.0**
comp=Z,1.5nm,0.8s,baz=15,slow=4.9,SNR=7.9
ASAR ScP **ScP 22 46 01.6 -0.6**
comp=Z,0.7nm,0.8s,baz=5.0,slow=4.7,SNR=4.2
ASAR S **S 22 48 28.6 -3.4**
comp=Z,0.8nm,0.8s,baz=0.3,slow=12,SNR=6.6
CHGN Chignik 51.67 39 P **P 22 41 47.2 -0.5**
MDOK Medeo 52.02 304 *e*P **P 22 41 50.2 -0.5**
baz=304
MDOK Medeo 52.02 304 *e*P **P 22 41 50.1 -0.6**
TNSS Tian-Shan 52.10 304 *e*P **P 22 41 51.3 -0.4**
baz=304
TNSS Tian-Shan 52.10 304 *e*P **P 22 41 51.2 -0.4**
AAA Alma-Ata 52.11 305 *e*P **P 22 41 51.0 -0.2**
comp=Z,26nm,0.9s,baz=304
AAA Alma-Ata 52.11 305 *e*P **P 22 41 51.0 -0.2**
AAA pmax pmax
comp=Z,26nm,0.9s
KUU Kurty 52.48 305 *e*P **P 22 41 53.3 -0.5**
comp=Z,33nm,0.7s,baz=305
KUU Kurty 52.48 305 *e*P **P 22 41 53.2 -0.5**
KUU pmax pmax
comp=Z,33nm,0.7s
ULHL Ulahol 52.70 303 P **P 22 41 56.0 +0.4**
SNR=16
PSA00 Pilbara Seismi 52.89 203 P **P 22 41 56.9 0.0**
PSA00 IAmb IAmb 22 42 08.9
comp=Z,18nm,1.1s
TKM2 Tokmak 2 53.10 304 P **P 22 41 58.9 +0.4**
SNR=15
KSH Kashi 53.23 300 P **P 22 42 02.8 +3.4**
KSH pmax pmax
comp=Z,51nm,0.8s
KSH pmax pmax
comp=Z,210nm,3.9s
KSH LR LR
comp=N,340nm,6.1s
KSH LR LR
comp=E,530nm,5.6s
KSH LR LR
comp=Z,610nm,6.9s
KBK Karagaybulak 53.60 304 P **P 22 42 02.5 +0.4**
SNR=33
CHMS Chumysh 53.71 304 P **P 22 42 02.6 0.0**
SNR=10
SGDS Sogindy 53.75 305 *e*P **P 22 42 02.3 -0.7**
baz=305
SGDS Sogindy 53.75 305 *e*P **P 22 42 02.2 -0.7**
USP Ospenovka 53.86 305 P **P 22 42 03.7 0.0**
SNR=14
AAK Ala-Archa 53.94 304 P **P 22 42 04.4 0.0**
comp=Z,6.1nm,0.6s,baz=123,slow=5.5,SNR=48
AAK PcP **PcP 22 43 01.9 -0.2**
comp=Z,2.1nm,0.6s,baz=124,slow=6.3,SNR=4.2
AAK ScP **ScP 22 46 10.5 -1.7**
comp=Z,0.6nm,0.5s,baz=139,slow=9.3,SNR=2.8
AAK Ala-Archa 53.94 304 P **P 22 42 04.5 0.0**
SNR=11
AAK Ala-Archa 53.94 304⇓*i*P **P 22 42 04.1 -0.3**
AAK pmax pmax
comp=Z,57nm,1.7s
AAK Ala-Archa 53.94 304 P **P 22 42 04.5 +0.1**
AAK IAmb IAmb 22 42 05.4
comp=Z,8.8nm,0.8s
AAK PcP **PcP 22 43 02.0 -0.1**
AAK ScP **ScP 22 46 11.4 -0.8**
UCH Uchtor 53.97 304 P **P 22 42 05.9 +0.9**
SNR=33
BTLS Baital 54.01 307 *e*P **P 22 42 04.1 -0.6**
comp=Z,17nm,0.9s,baz=307
BTLS Baital 54.01 307 *e*P **P 22 42 04.0 -0.6**
BTLS pmax pmax
comp=Z,17nm,0.9s
SII Sitkinak Islan 54.04 39 P **P 22 42 06.0 +1.4**
EKS2 Erkin-Say 54.46 304 P **P 22 42 08.3 +0.2**
SNR=10
OHAK Old Harbor 54.56 38 P **P 22 42 09.1 +0.8**
OHAK IAmb IAmb 22 42 23.7
comp=Z,30nm,1.2s
AML Almayashu 54.59 303 P **P 22 42 10.0 +0.7**
SNR=6.5
BRZS Berezniki 54.59 313 *e*P **P 22 42 07.8 -0.9**
baz=313
BRZS Berezniki 54.59 313 *e*P **P 22 42 07.8 -0.9**
KDAK Kodiak Island 54.96 37 P **P 22 42 11.2 +0.1**
comp=Z,7.1nm,0.4s,baz=351,slow=5.0,SNR=26
KDAK Kodiak Island 54.96 37 P **P 22 42 11.5 +0.4**
KDAK pmax pmax
comp=Z,25nm,1.1s
KDAK Kodiak Island 54.96 37 P **P 22 42 11.5 +0.4**
KDAK IAmb IAmb 22 42 16.2
comp=Z,25nm,1.1s
RSO Redoubt South 55.03 34 P **P 22 42 13.2 +1.4**
A21K Barrow 55.35 21 P **P 22 42 15.3 +1.7**
A21K IAmb IAmb 22 42 15.5
comp=Z,15nm,0.7s
PPLA Purkeypile 55.51 31 P **P 22 42 16.7 +1.7**
PPLA IAmb IAmb 22 42 17.2
comp=Z,37nm,1.4s
SKT Skwentna 55.74 32 P **P 22 42 16.9 +0.4**
CNPM China Poot 55.74 35 P **P 22 42 16.9 +0.3**
BRVK Borovoye 55.96 317*d i*P **P 22 42 17.7 -0.4**
BRVK pmax pmax
comp=Z,48nm,1.3s
BRVK Borovoye 55.96 317 P **P 22 42 18.2 +0.1**
BRVK PcP **PcP 22 43 09.3 -0.2**
BRVK ScP **ScP 22 46 19.4 -1.2**
DZM Mont Dzumac 56.07 150 P **P 22 42 20.8 +1.4**
comp=Z,7.9nm,0.9s,baz=149,slow=8.3,SNR=3.2
DZM Mont Dzumac 56.07 150 P **P 22 42 20.3 +0.8**
SUA Susitna One 56.08 33 P **P 22 42 18.9 -0.1**
SUA IAmb IAmb 22 42 24.7
comp=Z,16nm,1.3s
KTH Kantishna Hill 56.14 30 P **P 22 42 21.2 +1.9**
DZA Taraz 56.22 305 *e*P **P 22 42 19.8 -0.4**
baz=305
DZA Taraz 56.22 305 *e*P **P 22 42 19.8 -0.4**
NIL Nilore 56.49 293 P **P 22 42 21.9 -0.3**
NIL pmax pmax
comp=Z,24nm,0.8s
NIL Nilore 56.49 293 P **P 22 42 21.9 -0.3**
NIL IAmb IAmb 22 42 24.3
comp=Z,24nm,0.8s
KK31 Karatay Array 56.78 305 P **P 22 42 24.2 +0.1**
KK31 pmax pmax
comp=Z,35nm,0.8s
KK31 Karatay Array 56.78 305 P **P 22 42 24.1 +0.1**
KKAR Karatay Array 56.78 305 P **P 22 42 24.1 0.0**
KKAR ScP **ScP 22 46 23.0 -1.5**
COLD Coldfoot 56.81 26 P **P 22 42 25.2 +1.4**
I23K Minto, Yukon-K 56.95 28 P **P 22 42 26.7 +1.9**
GHO Glory Hole Cre 56.96 33 P **P 22 42 25.4 +0.3**
GHO IAmb IAmb 22 42 30.8
comp=Z,14nm,1.0s
MCK McKinley 57.04 30 P **P 22 42 26.5 +1.0**
MCK pmax pmax
comp=Z,19nm,0.9s
MCK McKinley 57.04 30 P **P 22 42 26.5 +1.0**
MCK IAmb IAmb 22 42 26.7
comp=Z,19nm,0.9s
RND Reindeer 57.06 31 P **P 22 42 26.1 +0.4**
RND pmax pmax
comp=Z,9.0nm,0.8s
RND Reindeer 57.06 31 P **P 22 42 26.1 +0.4**
RND IAmb IAmb 22 42 26.6
comp=Z,8.8nm,0.8s
KNK Knik Glacier 57.17 33 P **P 22 42 26.8 +0.4**
KNK IAmb IAmb 22 42 29.4
comp=Z,34nm,1.3s
TOLK Toolik Lake Re 57.21 24 P **P 22 42 28.1 +1.5**
TOLK IAmb IAmb 22 42 28.8
comp=Z,22nm,1.5s
SML Sawmill 57.24 32 P **P 22 42 27.1 +0.2**
SML IAmb IAmb 22 42 28.5
comp=Z,21nm,1.0s
IUG Iuzhnay 57.28 304 *e*P **P 22 42 27.3 -0.3**
comp=Z,16nm,0.9s,baz=304
IUG Iuzhnay 57.28 304 *e*P **P 22 42 27.3 -0.3**
IUG pmax pmax
comp=Z,16nm,0.9s
MDM Murphy Dome 57.41 29 P **P 22 42 29.0 +1.0**
MDM IAmb IAmb 22 42 29.6
comp=Z,5.5nm,0.6s
WRH Wood River Hil 57.45 29 P **P 22 42 29.3 +1.0**
COLA College 57.57 29⇓*e*P **P 22 42 29.9 +0.9**
COLA pmax pmax
comp=Z,22nm,2.6s
SCM Sheep Creek Mo 57.72 32 P **P 22 42 30.8 +0.6**
SCM pmax pmax
comp=Z,4.0nm,0.8s
SCM Sheep Creek Mo 57.72 32 P **P 22 42 30.8 +0.6**
POKR Poker Plat Res 57.76 29 P **P 22 42 32.0 +1.6**
POKR IAmb IAmb 22 42 32.4
comp=Z,10nm,0.8s
IL31 57.98 29 P **P 22 42 31.5 -0.3**
ILAR Eielson Array 57.98 29 P **P 22 42 31.4 -0.4**
comp=Z,1.7nm,0.4s,baz=247,slow=5.6,SNR=54
ILAR Eielson Array 57.98 29 P **P 22 42 31.5 -0.3**
KLU Klutina 58.39 33 P **P 22 42 36.0 +1.2**
KLU IAmb IAmb 22 42 43.0
comp=Z,28nm,1.2s
PAX Paxson 58.58 31 P **P 22 42 36.7 +0.6**
PAX pmax pmax
comp=Z,8.0nm,1.0s

PAX	Paxson	58.58	31	P		P		22 42 36.7	+0.6
BMAR	Burnt Mountain	58.99	26	P		P		22 42 40.5	+1.7
N25K	Chitina, Valde	59.02	33	P		P		22 42 40.5	+1.4
BMRM	Bremner River	59.04	33	P		P		22 42 40.3	+1.1
DOT	Dot Lake	59.21	30	P		P		22 42 40.6	+0.4
DOT				IAmb		IAmb		22 42 41.7	
	comp=Z,10nm,0.9s								
SCRK	Sand Creek	59.23	30	P		P		22 42 40.9	+0.4
SCRK				IAmb		IAmb		22 42 41.6	
	comp=Z,10nm,0.6s								
GLB	Gilahina Butte	59.41	33	P		P		22 42 42.5	+0.9
GLB				IAmb		IAmb		22 42 55.8	
	comp=Z,20nm,1.3s								
FORT	Forrest	59.50	192	P		P		22 42 42.9	+0.4
KBL	Kabul	59.66	295	P		P		22 42 44.3	+0.3
KBL				pmax		pmax			
	comp=Z,20nm,0.9s								
KBL	Kabul	59.66	295	P		P		22 42 44.3	+0.3
KBL				IAmb		IAmb		22 42 45.2	
	comp=Z,20nm,0.9s								
MCARA	McCarthy VSAT	59.79	33	P		P		22 42 45.0	+0.9
MCARA				IAmb		IAmb		22 43 03.0	
	comp=Z,24nm,1.3s								
BCAR	Beaver Creek A	60.26	31	P		P		22 42 48.0	+0.8
BBOO	Buckleboo	60.58	184	P		P		22 42 49.8	+0.2
BBOO				IAmb		IAmb		22 42 58.3	
	comp=Z,17nm,1.4s								
CTGM	Chitina Glacie	60.64	33	P		P		22 42 51.1	+1.2
CTGM				IAmb		IAmb		22 43 02.2	
	comp=Z,11nm,1.1s								
SVE	Sverdlovsk	61.17	322	*e*P		P		22 42 53.5	+0.2
SVE				pmax		pmax			
	comp=Z,19nm,0.8s								
DAWY	Dawson	61.25	30	P		P		22 42 54.5	+0.7
EPYK	Eagle Plains	62.14	27	P		P		22 43 00.9	+1.4
ARU	Arti	62.37	322	*c i* P		P		22 43 00.4	-0.7
ARU								22 45 25.8	
ARU				S		S		22 50 48.6	+0.1
ARU				SS		SS		22 54 59.0	-3.9
ARU				pmax		pmax			
	comp=Z,27nm,0.8s								
ARU	Arti	62.37	322	P		P		22 43 00.6	-0.5
ABKAR	Akbulak array	62.89	314	P		P		22 43 04.2	-0.5
INK	Inuvik	63.12	25	P		P		22 43 05.7	0.0
	comp=Z,1.5nm,0.3s,baz=303,slow=10,SNR=18								
INK	Inuvik	63.12	25	P		P		22 43 06.1	+0.3
INK				pmax		pmax			
	comp=Z,5.0nm,1.5s								
INK	Inuvik	63.12	25	P		P		22 43 06.1	+0.3
NWAO	Narrogin (SRO)	64.25	201	P		P		22 43 13.9	+0.4
NWAO				pmax		pmax			
	comp=Z,31nm,1.5s								
NWAO	Narrogin (SRO)	64.25	201	P		P		22 43 13.9	+0.4
HRA	Herat	65.09	297	P		P		22 43 19.7	+0.4
C36M	Paulatuk	66.25	23	P		P		22 43 25.8	+0.2
C36M				IAmb		IAmb		22 43 26.6	
	comp=Z,6.6nm,0.7s								
KIRV	Kirov	66.71	325	*ce*P		P		22 43 28.2	-0.4
DLBC	Dease Lake	66.73	35	P		P		22 43 30.8	+1.9
DLBC				IAmb		IAmb		22 43 37.5	
	comp=Z,13nm,1.5s								
GEYT	Alibeck	67.17	302	P		P		22 43 31.9	0.0
	comp=Z,5.2nm,0.8s,baz=50,slow=2.3,SNR=8.9								
PRGR	Permogore	67.65	329	*e*P		P		22 43 33.2	-1.2
PRGR				pmax		pmax			
	comp=Z,18nm,0.7s								
SPA0	Spitsbergen Ar	69.10	349	P		P		22 43 44.0	+1.1
EUNU	Eureka	69.31	8	P		P		22 43 44.8	+0.5
BELG	Belogornoye	69.56	319	*d* i P		P		22 43 45.4	-0.7
BELG				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KLMR	Klimovskoe	70.70	329	*e*P		P		22 43 50.7	-2.0
KLMR				pmax		pmax			
	comp=Z,6.0nm,0.6s								
KLMR	Klimovskoe	70.70	329	*e*P		P		22 43 50.7	-2.0
KLMR				AMP				22 43 52.4	
	comp=Z,6.0nm,0.6s								
KEV	Kevo	71.40	340	P		P		22 43 57.0	+0.3
KEV				pmax		pmax			
	comp=Z,46nm,1.3s								
KEV	Kevo	71.40	340	P		P		22 43 57.0	+0.3
ARCES	ARCESS Array B	71.96	340	P		P		22 44 00.3	+0.3
	comp=Z,4.7nm,0.6s,baz=71,slow=9.1,SNR=21								
YKA	Yellowknife Ar	72.38	28	P		P		22 44 02.5	0.0
	comp=Z,1.7nm,0.5s,baz=295,slow=5.3,SNR=31								
YKA				pP		pP		22 45 46.9	+0.4
	comp=Z,0.2nm,0.7s,baz=299,slow=6.3,SNR=1.8								
UOSS	Minazif	73.35	290	P		P		22 44 08.7	-0.2
UOSS				IAmb		IAmb		22 44 09.4	
	comp=Z,19nm,1.2s								
VRH	Novokhopyorsk	73.40	319	*e*P		P		22 44 06.6	-2.0
VRH				pmax		pmax			
	comp=Z,20nm,0.6s								
AKT	Akhty	73.43	308	*e*P		P		22 44 08.7	-0.5
AKT				*e*				22 44 22.1	
AKT				*e**PP		pwP		22 46 00.2	+1.2
AKT				*e**SP		sP		22 46 46.8	+2.2
AKT				*e*				22 46 59.0	
AKT				pmax		pmax			
	comp=Z,17nm,0.6s								
NLWA	Neilton Lookou	74.01	45	P		P		22 44 14.1	+1.8
NLWA				IAmb		IAmb		22 44 26.1	
	comp=Z,18nm,1.4s								
VALR	Valaam	74.23	332	*i* P		P		22 44 12.6	-0.5
VALR				pmax		pmax			
	comp=Z,17nm,0.8s								
LPSR	Galich'ya Gora	74.39	322	*e*P		P		22 44 12.6	-1.6
LPSR				pmax		pmax			
	comp=Z,10.0nm,1.2s								
OBN	Obninsk	74.53	325	*i* P		P		22 44 13.7	-1.3
OBN				pmax		pmax			
	comp=Z,13nm,0.9s								
VSR	Storozhevoye	74.86	320	*e*P		P		22 44 15.5	-1.4
VSR				pmax		pmax			
	comp=Z,20nm,1.1s								
VORD	Divnogorie	74.89	320	*e*P		P		22 44 15.3	-1.8
VORD				pmax		pmax			
	comp=Z,10.0nm,1.1s								
LON	Longmire	75.55	45	P		P		22 44 22.6	+1.6
LON				pmax		pmax			
	comp=Z,2.0nm,0.9s								
LON	Longmire	75.55	45	P		P		22 44 22.6	+1.6
KBZ	Khabaz	75.78	312	P		P		22 44 22.6	+0.4
	comp=Z,16nm,0.8s,baz=103,slow=3.9,SNR=32								
KBZ	Khabaz	75.78	312	*d* i P		P		22 44 21.9	-0.3
KBZ				pmax		pmax			
	comp=Z,23nm,0.9s								
KIV	Kislovodsk	75.83	312	*e*P		P		22 44 23.5	+0.9
KIV				pmax		pmax			
	comp=Z,29nm,1.0s								
KIV	Kislovodsk	75.83	312	P		P		22 44 23.9	+1.3
KIV				IAmb		IAmb		22 44 24.7	
	comp=Z,7.8nm,0.8s								
FIA1	FINESS Array S	76.16	333	P		P		22 44 23.5	-0.5
FINES	FINESS Array B	76.16	333	P		P		22 44 23.3	-0.6
	comp=Z,14nm,0.4s,baz=69,slow=5.0,SNR=137								
FINES	FINESS Array B	76.16	333	P		P		22 44 23.6	-0.3
FINES	FINESS Array B	76.16	333	P		P		22 44 23.6	-0.3
B08A	Colville Reser	76.35	42	P		P		22 44 26.1	+0.7
B08A				IAmb		IAmb		22 44 27.1	
	comp=Z,5.6nm,0.8s								
KHMM	Horse Mountain	76.83	51	P		P		22 44 30.3	+2.0
KHMM				IAmb		IAmb		22 44 38.2	
	comp=Z,23nm,1.5s								
YBH	Yreka Blue Hor	77.14	50	P		P		22 44 29.9	0.0
	comp=Z,1.9nm,0.6s,baz=246,slow=2.7,SNR=5.7								
D08A	Wollman Farm,	77.19	43	P		P		22 44 31.0	+1.1
PINE	Pine Mountain	77.40	47	P		P		22 44 33.7	+2.3
PINE				IAmb		IAmb		22 44 33.9	
	comp=Z,11nm,0.8s								
VSU	Vasula	77.54	330	*e*P		P		22 44 31.1	-0.5
VSU	Vasula	77.54	330	‖ *e*P		P		22 44 30.7	-0.8
VSU				pmax		pmax			
	comp=Z,43nm,1.0s								
NEW	Newport	77.71	42	P		P		22 44 32.7	-0.1
	comp=Z,2.9nm,0.8s,baz=271,slow=6.0,SNR=4.8								
NEW	Newport	77.71	42	P		P		22 44 33.8	+1.0
NEW				pmax		pmax			
	comp=Z,4.0nm,0.9s								
NEW	Newport	77.71	42	P		P		22 44 33.8	+1.0
WDC	Whiskeytown Da	77.77	51	P		P		22 44 34.2	+1.0
WDC				pmax		pmax			
	comp=Z,7.0nm,1.5s								
WDC	Whiskeytown Da	77.77	51	P		P		22 44 34.2	+1.0
I07A	Izee	78.19	46	P		P		22 44 37.0	+1.4
MTSE	Matsula	78.65	331	*e*P		P		22 44 34.2	-3.3
ORV	Oroville	78.94	51	P		P		22 44 40.8	+1.3
ORV				pmax		pmax			
	comp=Z,2.0nm,1.1s								
ORV	Oroville	78.94	51	P		P		22 44 40.8	+1.3
WALA	Waterton Lakes	79.17	40	P		P		22 44 42.1	+1.4
BMO	Blue Mountains	79.22	45	P		P		22 44 42.7	+1.7
BMO				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BMO	Blue Mountains	79.22	45	P		P		22 44 42.7	+1.7
IDID	Didziasalis	79.29	328	*e*P		P		22 44 41.1	+0.1
AAL	Aland	79.32	334	*e*P		P		22 44 39.5	-1.6
ISAL	Salakas	79.43	328	*e*P		P		22 44 41.5	-0.3
NACGM	Naroch	79.50	327	*i* P		P		22 44 42.0	-0.1
NACGM				*i* P		P		22 44 42.0	-0.1
NACGM				*i* P		P		22 44 42.0	-0.1
NACGM				*i* pP		pP		22 46 18.1	-10
NACGM				*i* sP		sP		22 47 10.8	-8.6
NACGM				*i* PP		PP		22 48 02.8	+12
NACGM				*i* PPP		PPP		22 49 36.5	
NACGM				*i* S		S		22 54 09.6	+7.4
NACGM				*i* SKS		ScS		22 54 28.0	+8.3
NACGM				*i* PS				22 55 03.9	
NACGM				*i* sS		sS		22 57 33.1	+21
NACGM				*i* SS		SS		23 00 00.4	+38
NACGM				*i* SSS		SSS		23 03 48.3	
IIGN	Ignalina	79.51	328	*e*P		P		22 44 41.9	-0.3
JTMT	Jette	79.62	41	P		P		22 44 43.9	+0.8
SUMG	Summit	79.69	359	P		P		22 44 44.2	+0.9
SUMG				pmax		pmax			
	comp=Z,13nm,1.5s								
SUMG	Summit	79.69	359	P		P		22 44 44.2	+0.9
SUMG				IAmb		IAmb		22 44 49.5	
	comp=Z,13nm,1.5s								
MARD	Mardin	80.08	307	P		P		22 44 46.5	+0.8
MARD				IAmb		IAmb		22 44 46.5	
	comp=Z,8.6nm,0.7s								
PAHR	Pah Rah Range	80.32	50	P		P		22 44 48.3	+1.3
UPP	Uppsala	80.44	334	*e*P		P		22 44 45.5	-1.4
PABE	Paberze	80.47	329	*e*P		P		22 44 46.7	-0.5
AKASG	Malin Array Be	80.59	323	P		P		22 44 46.5	-1.4
	comp=Z,1.9nm,0.3s,baz=53,slow=5.2,SNR=4.2								
AKASG	Malin Array Be	80.59	323	P		P		22 44 47.6	-0.3
AKASG				pmax		pmax			
	comp=Z,5.0nm,1.0s								
AKASG	Malin Array Be	80.59	323	P		P		22 44 47.6	-0.3
AKBB	Malin Array Si	80.59	323	P		P		22 44 47.6	-0.3
AKBB				pmax		pmax			
	comp=Z,16nm,1.2s								
AKBB	Malin Array Si	80.59	323	P		P		22 44 47.6	-0.3
AKBB				IAmb		IAmb		22 44 47.8	
	comp=Z,16nm,1.1s								
SOCY	Socotra	80.66	279	P		P		22 44 47.2	-1.8
SOCY				IAmb		IAmb		22 44 50.7	
	comp=Z,24nm,1.2s								
MFID	Camas Ranch	80.85	46	P		P		22 44 51.2	+1.6
MFID				IAmb		IAmb		22 44 51.7	
	comp=Z,4.4nm,0.6s								
KVN	Kaiserville	81.50	50	P		P		22 44 54.0	+0.8
KVN				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KVN	Kaiserville	81.50	50	P		P		22 44 54.0	+0.8
NVAR	Mina Array Bea	81.67	51	P		P		22 44 55.1	+1.0
	comp=Z,1.6nm,0.6s,baz=294,slow=5.7,SNR=12								
NVAR	Mina Array Bea	81.67	51	P		P		22 44 55.4	+1.4
NC405	NORSAR Array S	81.73	337	P		P		22 44 52.8	-0.8
SUW	Suwalki	81.73	328	*e*P		P		22 44 53.0	-0.8
SUW	Suwalki	81.73	328	P		P		22 44 53.2	-0.5
SUW				pmax		pmax			
	comp=Z,21nm,0.9s								
SUW	Suwalki	81.73	328	P		P		22 44 53.2	-0.5
NC303	NORSAR Array S	81.76	337	P		P		22 44 53.2	-0.6
NB2	NORSAR Subarra	81.95	337	P		P		22 44 53.2	-1.6
	comp=Z,3.7nm,0.6s,baz=48,slow=4.8								
NOA	NORSAR Array B	81.95	337	P		P		22 44 53.5	-1.3
	comp=Z,5.4nm,0.6s,baz=46,slow=4.9,SNR=37								
BOZ	Bozeman (W)	82.30	42	P		P		22 44 58.4	+1.3
BOZ				pmax		pmax			
	comp=Z,1.0nm,1.1s								
BOZ	Bozeman (W)	82.30	42	P		P		22 44 58.4	+1.3
ELK	Elko	82.57	48	P		P		22 44 59.4	+0.7
	comp=Z,1.6nm,0.5s,baz=309,slow=7.3,SNR=7.9								
ELK	Elko	82.57	48	P		P		22 45 00.2	+1.5
ELK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
ELK	Elko	82.57	48	P		P		22 45 00.2	+1.5
RAYN	Ar Rayn	82.78	293	P		P		22 45 00.0	+0.2
RAYN				pmax		pmax			
	comp=Z,30nm,0.8s								
RAYN	Ar Rayn	82.78	293	P		P		22 44 60.0	+0.2
HVU	Hansel Valley	83.63	46	P		P		22 45 05.8	+2.0
HVU				pmax		pmax			
	comp=Z,5.0nm,0.7s								
HVU	Hansel Valley	83.63	46	P		P		22 45 05.8	+2.0
BRTR	Keskin Array B	83.78	312	P		P		22 45 03.8	-0.8
	comp=Z,3.2nm,0.8s,baz=124,slow=2.9,SNR=7.6								
BRTR	Keskin Array B	83.78	312	P		P		22 45 04.5	-0.1
BRTR	Keskin Array B	83.78	312	P		P		22 45 04.5	-0.1
BUR08	Bucovina Ar. S	84.50	322	P		P		22 45 08.0	0.0
BUR08				IAmb		IAmb		22 45 08.1	
	comp=Z,4.2nm,0.8s								
BURAR	Bucovina Array	84.50	322	‖ P		P		22 45 07.7	-0.2
BURAR	Bucovina Array	84.50	322	P		P		22 45 07.6	-0.3
PFO	Pinyon Flats O	85.35	54	P		P		22 45 12.8	+0.4
	comp=Z,3.9nm,0.8s,baz=284,slow=4.7,SNR=6.6								
DOPR	Dopca	85.38	320	⇑P		P		22 45 12.1	-0.1
FRB	Frobisher Bay	85.88	12	P		P		22 45 14.0	-0.1
	comp=Z,0.6nm,0.3s,baz=343,slow=4.3,SNR=4.7								
ARR	Arges	86.16	320	⇑P		P		22 45 15.2	-0.8
ULM	Lac du Bonnet	87.86	32	P		P		22 45 23.5	-0.3
	comp=Z,0.8nm,0.4s,baz=9.5,slow=1.6,SNR=2.4								
SMOL	Smolenice	88.01	326	*e*P		P		22 45 24.5	0.0
SMOL	Smolenice	88.01	326	*e*P		P		22 45 24.5	0.0
CLL	Collm	88.18	330	*e*P		P		22 45 24.0	-1.2
CLL	Collm	88.18	330	*e*P		P		22 45 24.0	-1.2
KHC	Kasperske Hory	89.45	328	*e*P		P		22 45 24.5	-6.8
KHC	Kasperske Hory	89.45	328	*e*P		P		22 45 24.5	-6.8
GERES	GERESS Array B	89.59	328	P		P		22 45 30.7	-1.3
	comp=Z,0.9nm,0.5s,baz=46,slow=5.8,SNR=7.4								
ANMO	Albuquerque	91.56	49	‖ *e*P		P		22 45 42.8	+1.3
TXAR	Lajitas Array	96.79	52	P		P		22 46 06.0	+0.7
	comp=Z,0.3nm,0.7s,baz=285,slow=2.1,SNR=5.3								
TXAR				pP		pP		22 47 56.7	+1.4
	comp=Z,0.4nm,0.8s,baz=279,slow=1.7,SNR=2.8								
TXAR	Lajitas Array	96.79	52	P		P		22 46 06.1	+0.8
TORD	Torodi Ar. Bea	122.33	310	PKP		PKPdf		22 51 26.0	-0.8
	comp=Z,1.2nm,0.6s,baz=20,slow=2.1,SNR=6.5								
TORD	Torodi Ar. Bea	122.33	310			PKPdf		22 51 25.6	-1.1
KOWA	Kowa	125.06	316	PKP		PKPdf		22 51 31.2	-0.7
	comp=Z,2.2nm,0.4s,baz=59,slow=2.6,SNR=14								
LPAZ	La Paz	151.77	72	PKPbc		PKiKP		22 52 27.9	+0.4
	comp=Z,0.7nm,0.4s,baz=334,slow=5.1,SNR=2.8								
LPAZ				pPKPbc		pPKPab		22 54 27.3	-2.4
	comp=Z,1.5nm,0.7s,baz=32,slow=3.7,SNR=4.0								
PLCA	Paso Flores	152.12	125	PKPbc		PKiKP		22 52 27.4	+0.5
	comp=Z,1.4nm,0.4s,baz=212,slow=3.6,SNR=4.7								
PLCA	Paso Flores	152.12	125	PKIKP		PKiKP		22 52 27.6	+0.7
PLCA	Paso Flores	152.12	125			PKiKP		22 52 27.6	+0.7

ANF ***16*** *22:46:09.2s 0.2, 35°.85N × 97°.24W, h7km, ML3.6/15, Error ellipse: s-maj=2.6km s-min=2.0km az=145.0*
TUL ***16*** *22:46:09.3s 1.4, 35°.81N ± 0°.03 × 97°.24W ± 0°.04, h7km ± 7km, ML3.4, mb_Lg3.2/64(NEIC), Error ellipse: s-maj=6.1km s-min=1.8km az=136.0*
NEIC ***16*** *22:46:09.5s 0.7, 35°.84N ± 0°.03 × 97°.27W ± 0°.04, h6km ± 7km, Error ellipse: s-maj=6.0km s-min=1.9km az=133.0*
ISC 16 22:46:08.6 ± 1.2, 35°.87N ± 0°.03 × 97°.22W ± 0°.03, h1 km ± 11 km, n85, σ0 s72 s84, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.21	249		Pg	22 46 13.2	+0.7
OK029				Sg	Sg	22 46 15.9	+0.7
OK025	Westminster Rd	0.30	199		Pg	22 46 14.5	+0.2
OK025				Sg	Sg	22 46 18.2	-0.1
OK001	Jones High Sch	0.31	191	Pg	Pg	22 46 14.7	+0.1
OK001				Sg	Sg	22 46 18.6	0.0
OK031	S. Brethren Rd	0.32	75		Pb	22 46 16.5	-0.5
OK031				Sg	Sb	22 46 21.6	-1.1
OK009	Oakdale Elemen	0.33	210	Pg	Pg	22 46 15.1	+0.2
OK009				Sg	Sg	22 46 19.4	+0.1
OK030	Cody Creek RV	0.36	80		Pb	22 46 17.1	-0.6
OK030				Sg	Sb	22 46 22.6	-1.2
BCOK	Bluff Creek, N	0.38	236		Pg	22 46 16.1	+0.2
BCOK				Sg	Sg	22 46 21.2	+0.3
OKCFA	Oklahoma City	0.49	203		Pg	22 46 17.9	0.0
OKCFA				Sg	Sg	22 46 24.0	-0.3
OKCFA	Oklahoma City	0.49	203	P	Pg	22 46 18.0	0.0
	baz=24,SNR=76						
OKCFA				S	Sg	22 46 24.3	-0.1
	baz=24						
OKCFA	Oklahoma City	0.49	203	P		22 46 18.0	
	baz=24,SNR=76						
OKCFA				S		22 46 24.3	
	baz=24						
OKCSW	OKLAHOMA CITY	0.50	201		Pg	22 46 18.0	-0.1
OKCSW				Sg	Sg	22 46 24.2	-0.3
QUOK	Quay	0.51	54		Pb	22 46 20.3	-0.1
QUOK				Sg	Sb	22 46 27.8	-0.5
CROK	Carrier	0.89	316		Pn	22 46 26.6	-1.5
GC02	Grant County #	1.11	332		Pn	22 46 30.7	-0.5
TUL1	Leonard	1.16	88	P	Pg	22 46 30.5	-0.3
	baz=266,SNR=135						
TUL1				S	Sb	22 46 46.7	-0.2
	baz=266						
TUL1	Leonard	1.16	88	P		22 46 30.6	
	baz=266						
TUL1				S		22 46 46.8	
	baz=266						
TUL1	Leonard	1.16	88	P		22 46 30.5	
	baz=266,SNR=135						
TUL1				S		22 46 46.7	
	baz=266						
KAN13	South Haven SW	1.16	350		Pn	22 46 31.9	0.0
T35A	Sooner Cattle	1.19	28		Pn	22 46 32.2	-0.1
T35B	Sooner Cattle	1.19	28	P	Pn	22 46 32.2	-0.2
	baz=208,SNR=76						
T35B				S	Sn	22 46 49.2	0.0
	baz=208						
T35B	Sooner Cattle	1.19	28	P		22 46 32.2	
	baz=208,SNR=76						
T35B				S		22 46 49.2	
	baz=208						
OK032	Salt Plains WL	1.23	320		Pn	22 46 32.8	-0.1
KAN05	Bluff City Nor	1.34	337		Pb	22 46 35.0	+0.5
KAN10	Anthony SW Sta	1.44	331	Pn	Pg	22 46 36.2	+0.1
KAN08	Anthony NE Sta	1.48	336	Pn	Pg	22 46 37.0	0.0
U32A	Winter Ranch,	1.53	290	Pn	Pg	22 46 37.0	-0.9
U32A	Winter Ranch,	1.53	290	P	Pg	22 46 37.1	-0.8
	baz=111,SNR=26						
U32A				Sb	Sg	22 46 58.4	+0.6
	baz=111						
U32A	Winter Ranch,	1.53	290	P		22 46 37.1	
	baz=111,SNR=26						
U32A				Sb		22 46 58.4	
	baz=111						
KAN12	Harper NE Stat	1.56	336	Pn	Pg	22 46 38.5	0.0
WMOK	Wichita Mounta	1.71	229		Pn	22 46 39.0	-0.4
WMOK	Wichita Mounta	1.71	229	P	Pn	22 46 39.0	-0.4
	baz=49,SNR=92						
WMOK				S	Sn	22 47 01.5	-0.4
	baz=49						
WMOK	Wichita Mounta	1.71	229	P		22 46 39.3	
	baz=49						
WMOK				S		22 47 01.6	
	baz=49						
WMOK	Wichita Mounta	1.71	229	P		22 46 39.0	
	baz=49,SNR=92						
WMOK				S		22 47 01.5	
	baz=49						
X37A	Clayton	1.98	130		Pn	22 46 43.9	+0.7
X37A				IAmb_Lg		22 47 14.5	
	comp=Z,108nm,0.8s						
X37A	Clayton	1.98	130	P	Pn	22 46 43.4	+0.3
	baz=309,SNR=41						
X37A				S	Sn	22 47 09.7	+1.1
	baz=309						
X37A	Clayton	1.98	130	P		22 46 43.4	
	baz=309,SNR=41						
X37A				S		22 47 09.7	
	baz=309						
U38A	Gravette	2.36	75		Pn	22 46 49.7	+1.2
U38A	Gravette	2.36	75	P	Pn	22 46 49.3	+0.9
	baz=256,SNR=39						
U38A	Gravette	2.36	75	P		22 46 49.3	
	baz=256,SNR=39						
Z35A	Perchaven, San	2.53	181	Pn	Pn	22 46 50.9	+0.1
Z35A	Perchaven, San	2.53	181	P	Pn	22 46 50.7	-0.1
	baz=0.3,SNR=14						
Z35A	Perchaven, San	2.53	181	P		22 46 50.7	
	baz=0.3,SNR=14						
HHAR	Hobbs	2.69	80	P	Pn	22 46 53.8	+0.9
	baz=261,SNR=7.1						
HHAR	Hobbs	2.69	80	P		22 46 53.8	
	baz=261,SNR=7.1						
R32A	Long Quarter,	2.81	335	Pn	Pn	22 46 55.1	+0.4
W39A	Magazine	2.88	102		Pn	22 46 56.2	+0.7
W39A	Magazine	2.88	102	P	Pn	22 46 55.9	+0.3
	baz=283,SNR=32						
W39A	Magazine	2.88	102	P		22 46 56.0	
	baz=283						
W39A	Magazine	2.88	102	P		22 46 55.9	
	baz=283,SNR=32						
Z38A	Mt. Pleasant	3.19	144	IAmb_Lg		22 47 57.2	
	comp=Z,38nm,0.8s						
Z38A	Mt. Pleasant	3.19	144	P	Pn	22 47 00.1	+0.3
	baz=325						
Z38A	Mt. Pleasant	3.19	144	P		22 47 00.1	
	baz=325						
MIAR	Mount

WHAR				IAmb_Lg			22 48 22.1	
	comp=Z,28nm,0.9s							
W41B	**Gary Mavity, V**	**4.11**	**98**	P		**Pn**	**22 47 13.0**	**+0.5**
	baz=280,SNR=36							
W41B	**Gary Mavity, V**	**4.11**	**98**	P			22 47 13.0	
	baz=280							
W41B				S			22 48 01.1	
	baz=280							
W41B	**Gary Mavity, V**	**4.11**	**98**	P			22 47 13.0	
	baz=280,SNR=36							
FCAR	**Ozark Folk Cen**	**4.14**	**88**			**Pn**	**22 47 12.9**	**0.0**
MGMO	**Mountain Grove**	**4.19**	**71**	Pn		**Pn**	**22 47 14.6**	**+1.0**
MGMO				IAmb_Lg			22 48 22.6	
	comp=Z,43nm,1.0s							
Z41A	**Richland Creek**	**4.48**	**124**	S			22 48 08.8	
	baz=306							
R40A	**Maddies Statio**	**4.64**	**57**			**Pn**	**22 47 20.7**	**+1.0**
R40A				IAmb_Lg			22 48 48.1	
	comp=Z,26nm,0.7s							
P38A	**Dawn**	**4.75**	**37**	IAmb_Lg			22 48 51.9	
	comp=Z,38nm,0.8s							
MSTX	**Muleshoe**	**4.94**	**249**	Pn		**Pn**	**22 47 23.4**	**-0.6**
T42A	**Van Buren**	**5.07**	**75**	Pn		**Pn**	**22 47 25.6**	**-0.1**
T42A				IAmb_Lg			22 48 56.0	
	comp=Z,36nm,1.1s							
N35A	**Tabor**	**5.13**	**13**	Pn		**Pn**	**22 47 27.4**	**+0.8**
CCM	**Cathedral Cave**	**5.26**	**64**	Pn		**Pn**	**22 47 28.8**	**+0.6**
CCM				IAmb_Lg			22 49 01.1	
	comp=Z,36nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.33**	**308**	IAmb_Lg			22 49 11.6	
	comp=Z,51nm,0.9s							
P40A	**Paris**	**5.49**	**47**	Pn		**Pn**	**22 47 33.1**	**+1.7**
PBMO	**Poplar Bluff**	**5.55**	**79**	IAmb_Lg			22 49 07.6	
	comp=Z,43nm,0.8s							
143A	**Socs Landing,**	**5.76**	**122**	IAmb_Lg			22 49 20.6	
	comp=Z,21nm,0.8s							
JCT	**Junction City**	**5.79**	**203**	Pn		**Pn**	**22 47 36.5**	**+0.8**
T25A	**Trinidad**	**5.93**	**284**	Pn		**Pn**	**22 47 38.2**	**+0.5**
T25A				IAmb_Lg			22 49 26.2	
	comp=Z,29nm,0.9s							
L34A	**Svendsen Farm,**	**6.12**	**6**	IAmb_Lg			22 49 32.7	
	comp=Z,46nm,0.8s							
CPRX	**Cap Rock**	**6.18**	**245**	Pn		**Pn**	**22 47 39.1**	**-1.9**
SLM	**Saint Louis**	**6.21**	**62**	IAmb_Lg			22 49 28.6	
	comp=Z,26nm,0.7s							
S44A	**Carbondale**	**6.64**	**72**	IAmb_Lg			22 49 42.5	
	comp=Z,33nm,0.8s							
SIUC	**Southern Illin**	**6.68**	**72**	IAmb_Lg			22 49 38.9	
	comp=Z,42nm,0.8s							
P43A	**Skaggs, Pawnee**	**7.17**	**56**	IAmb_Lg			22 50 06.5	
	comp=Z,35nm,0.8s							
K38A	**Parkersburg**	**7.60**	**26**	IAmb_Lg			22 50 25.1	
	comp=Z,37nm,0.8s							
L40A	**Anamosa**	**7.75**	**35**	IAmb_Lg			22 50 28.9	
	comp=Z,27nm,0.9s							
ECSD	**EROS Data Cent**	**7.87**	**3**	Pn		**Pn**	**22 48 04.6**	**+0.5**
MNTX	**Cornudas Mount**	**7.97**	**241**	Pn		**Pn**	**22 48 05.4**	**-0.1**
PHWY	**Pilot Hill**	**8.43**	**313**	IAmb_Lg			22 50 38.7	
	comp=Z,13nm,1.0s							
TXAR	**Lajitas Array**	**8.49**	**222**	Pn		**Pn**	**22 48 14.4**	**+1.7**
I40A	**Norwalk**	**9.48**	**30**	IAmb_Lg			22 51 25.6	
	comp=Z,12nm,0.7s							
K43A	**Burlington**	**9.69**	**43**	IAmb_Lg			22 51 26.3	
	comp=Z,24nm,0.8s							
K22A	**Casper**	**9.89**	**316**	IAmb_Lg			22 51 38.8	
	comp=Z,21nm,1.1s							

CRAAG ***16*** *22:50:15.3, 35˚.77N×5˚.73E, Ml3.6*
IDC ***16*** *22:50:16.1±1.3, 35˚.73N×5˚.77E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.3/49, mbtmp3.5/7, ML3.4/3, Error ellipse: s-maj=32.4km s-min=21.0km az=158.0*
NEIC ***16*** *22:50:18.6±2.5, 35˚.75N±0˚.08×5˚.67E±0˚.07, h10km±1km, mb4.0/3, Error ellipse: s-maj=13.9km s-min=9.8km az=191.0*
MDD ***16*** *22:50:19.3±0.8, 35˚.79N×5˚.71E, h0km, mb4.4/27, Error ellipse: s-maj=9.3km s-min=4.4km az=172.0, PRXIMO*
LDG ***16*** *22:50:21.2±0.4, 35˚.86N×5˚.24E, h10km, Ml3.0/14, Error ellipse: s-maj=9.0km s-min=4.5km az=144.0*

ISC 16 22:50:18.8±0.7, 35.89N±0˚.05×5.69E±0.03, h10km, n136, σ1ᵎ87/192, mb3.7/6, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CKHR	**Kef el Ahmar**	**0.19**	**312**	P		**Pg**	**22 50 22.6**	**-0.3**
CKHR	**Kef el Ahmar**	**0.19**	**312**	P		**Pg**	**22 50 22.6**	**-0.3**
SET	**Setif**	**0.39**	**323**	P		**Pg**	**22 50 28.0**	**+1.5**
SET	**Setif**	**0.39**	**323**	P		**Pg**	**22 50 28.0**	**+1.5**
CTEI	**Djebel Teioual**	**0.61**	**73**	P		**Pg**	**22 50 30.1**	**-0.5**
CTEI	**Djebel Teioual**	**0.61**	**73**	P		**Pg**	**22 50 30.1**	**-0.5**
DFRA	**Djebel Bou Aff**	**0.67**	**13**	P		**Pb**	**22 50 35.0**	**+2.3**
DFRA	**Djebel Bou Aff**	**0.67**	**13**	P		**Pb**	**22 50 35.0**	**+2.3**
CASM	**Ain Smara**	**0.75**	**60**	P		**Pg**	**22 50 32.9**	**-0.3**
CASM	**Ain Smara**	**0.75**	**60**	P		**Pg**	**22 50 32.9**	**-0.3**
CKFL	**Kef-Lekhel**	**0.98**	**58**	P		**Pg**	**22 50 38.3**	**+0.7**
CKFL	**Kef-Lekhel**	**0.98**	**58**	P		**Pg**	**22 50 38.3**	**+0.7**
CAEH	**'Ain El Ouahch**	**1.29**	**46**	P		**Pn**	**22 50 43.7**	**+0.8**
CAEH	**'Ain El Ouahch**	**1.29**	**46**	P		**Pn**	**22 50 43.7**	**+0.8**
CMAH	**Djebel Manchou**	**1.58**	**62**	P		**Pg**	**22 50 50.0**	**+0.9**
CMAH	**Djebel Manchou**	**1.58**	**62**	P		**Pg**	**22 50 50.0**	**+0.9**
EMHD	**Djebel Mahouad**	**2.24**	**279**	P		**Pb**	**22 50 59.0**	**-0.4**
EMHD	**Djebel Mahouad**	**2.24**	**279**	P		**Pb**	**22 50 59.0**	**-0.4**
KEST	**Kesra**	**2.98**	**92**	Pn		**Pn**	**22 51 05.7**	**-0.5**
	4.0nm,0.3s,baz=244,slow=2.5,SNR=46							
KEST				Sn		**Sn**	**22 51 39.0**	**-3.0**
	1.7nm,0.3s,baz=314,slow=21,SNR=1.5							
KEST	**Kesra**	**2.98**	**92**			**Pn**	**22 51 06.3**	**+0.1**
EBNR	**Beni Rached**	**3.39**	**278**	P		**Pn**	**22 51 13.3**	**+1.5**
ECHA	**Ech Chlef**	**3.51**	**275**	P		**Pn**	**22 51 16.0**	**+2.6**
ECHF	**Ech Chlef**	**3.53**	**276**	P		**Pn**	**22 51 16.0**	**+2.3**
EANR	**'Ain N'Sour**	**3.72**	**272**	P		**Pn**	**22 51 17.0**	**+0.6**
EANR	**'Ain N'Sour**	**3.72**	**272**	P		**Pn**	**22 51 17.0**	**+0.6**
OKGL	**Djebel Kef Gue**	**4.09**	**274**	P		**Pn**	**22 51 21.9**	**+0.4**
	20nm,0.2s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**4.09**	**274**			**Pn**	**22 51 21.6**	**+0.2**
OKGL						**Sn**	**22 52 07.6**	**-1.8**
ETOS	**Mallorca**	**4.49**	**330**	P		**Pn**	**22 51 28.3**	**+1.4**
	12nm,0.3s,SNR=24							
ETOS				S		**Sn**	**22 52 22.0**	**+2.8**
	4.5nm,0.3s							
ETOS	**Mallorca**	**4.49**	**330**			**Pn**	**22 51 28.3**	**+1.4**
ETOS						**Sn**	**22 52 20.1**	**+0.9**
EIBI	**Ibiza**	**4.66**	**313**	P		**Pn**	**22 51 31.1**	**+1.8**
	25nm,0.3s,SNR=25							
EIBI				S		**Sn**	**22 52 23.5**	**+0.1**
	20nm,0.5s,SNR=7.9							
EIBI	**Ibiza**	**4.66**	**313**			**Pn**	**22 51 30.5**	**+1.3**
EIBI						**Sn**	**22 52 23.5**	**+0.1**
EBEN2	**Beniarda presa**	**5.45**	**302**	P		**Pn**	**22 51 41.8**	**+1.7**
	16nm,0.5s,SNR=7.9							
EBEN2				S		**Sn**	**22 52 43.0**	**+0.1**
	24nm,0.5s,SNR=7.9							
EBEN2	**Beniarda presa**	**5.45**	**302**			**Pn**	**22 51 41.8**	**+1.7**
EBEN2						**Sn**	**22 52 43.0**	**+0.1**
ETRV	**Los Montesinos**	**5.58**	**294**			**Pn**	**22 51 43.7**	**+1.8**
ETRV						**Sn**	**22 52 49.3**	**+3.2**
CART	**Cartagena**	**5.63**	**289**	Pn		**Pn**	**22 51 42.1**	**-0.5**
AFON	**Font Roja**	**5.69**	**301**	P		**Pn**	**22 51 44.8**	**+1.4**
	7.7nm,0.4s,SNR=7.9							
AFON	**Font Roja**	**5.69**	**301**			**Pn**	**22 51 44.1**	**+0.7**
AFON						**Sn**	**22 52 48.5**	**-0.3**
EMUR	**La Murta**	**5.88**	**291**	P		**Pn**	**22 51 46.5**	**+0.4**
	4.4nm,0.3s,SNR=13							
EMUR	**La Murta**	**5.88**	**291**			**Pn**	**22 51 46.5**	**+0.4**
EMUR						**Sn**	**22 52 54.2**	**+0.6**
CFON	**Fontmartina**	**6.39**	**338**	P		**Pn**	**22 51 54.2**	**+1.1**
	1.5nm,0.2s,SNR=7.9							
CFON				S		**Sn**	**22 53 06.1**	**0.0**
	4.3nm,0.4s,SNR=7.9							
CFON	**Fontmartina**	**6.39**	**338**			**Pn**	**22 51 53.5**	**+0.4**
CFON						**Sn**	**22 53 05.2**	**-0.9**
ETOB	**Tobarra**	**6.39**	**298**	P		**Pn**	**22 51 54.5**	**+1.4**
	7.2nm,0.4s,SNR=17							
ETOB				S		**Sn**	**22 53 07.1**	**+1.0**
	9.0nm,0.7s,SNR=13							
ETOB	**Tobarra**	**6.39**	**298**			**Pn**	**22 51 54.5**	**+1.4**
ETOB						**Sn**	**22 53 07.1**	**+1.0**
ECHE	**Chera**	**6.44**	**307**	P		**Pn**	**22 51 55.9**	**+2.2**
	4.8nm,0.4s,SNR=7.9							
ECHE				S		**Sn**	**22 53 08.5**	**+1.3**
	8.1nm,0.6s,SNR=7.9							
ECHE	**Chera**	**6.44**	**307**			**Pn**	**22 51 55.2**	**+1.5**
ECHE						**Sn**	**22 53 08.5**	**+1.3**
ENIJ	**Nijar**	**6.46**	**282**	P		**Pn**	**22 51 54.5**	**+0.6**
	9.1nm,0.5s,SNR=7.9							
ENIJ				S		**Sn**	**22 53 06.3**	**-1.3**
	15nm,0.6s,SNR=4.0							
ENIJ	**Nijar**	**6.46**	**282**			**Pn**	**22 51 53.1**	**-0.8**
ENIJ						**Sn**	**22 53 06.3**	**-1.3**
EPOB	**Poblet**	**6.54**	**328**	P		**Pn**	**22 51 57.1**	**+2.0**
	1.5nm,0.2s,SNR=7.9							
EPOB				S		**Sn**	**22 53 07.9**	**-1.9**
	1.6nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**6.54**	**328**			**Pn**	**22 51 56.7**	**+1.6**
EPOB						**Sn**	**22 53 07.9**	**-1.9**
ERTA	**Horta de San J**	**6.58**	**322**	P		**Pn**	**22 51 57.5**	**+2.0**
	1.3nm,0.3s,SNR=7.9							
ERTA	**Horta de San J**	**6.58**	**322**			**Pn**	**22 51 56.5**	**+1.0**
ERTA						**Sn**	**22 53 13.1**	**+2.5**
EMOS	**Mosqueruela**	**6.59**	**314**	P		**Pn**	**22 51 57.2**	**+1.3**
	2.8nm,0.4s,SNR=9.0							
EMOS				S		**Sn**	**22 53 09.7**	**-1.6**
	5.9nm,0.6s,SNR=7.9							
EMOS	**Mosqueruela**	**6.59**	**314**			**Pn**	**22 51 56.9**	**+1.0**
EMOS						**Sn**	**22 53 09.7**	**-1.6**
EMIR	**Miracle**	**6.83**	**333**	P		**Pn**	**22 52 01.8**	**+2.7**
	11nm,0.3s,SNR=7.9							
EMIR				S		**Sn**	**22 53 16.5**	**-0.5**
	14nm,0.7s,SNR=7.9							
EMIR	**Miracle**	**6.83**	**333**			**Pn**	**22 52 01.5**	**+2.3**
EMIR						**Sn**	**22 53 16.5**	**-0.5**
EJON	**La Jonquera**	**6.90**	**342**	P		**Pn**	**22 52 02.7**	**+2.7**
	1.5nm,0.3s,SNR=4.0							
EJON				S		**Sn**	**22 53 18.3**	**-0.2**
	2.5nm,0.5s,SNR=4.0							
EJON	**La Jonquera**	**6.90**	**342**			**Pn**	**22 52 01.2**	**+1.2**
EJON						**Sn**	**22 53 18.3**	**-0.2**
SJAF	**Saint Jean de**	**6.94**	**343**			**Pn**	**22 52 01.6**	**+1.1**
SESP	**Santiago Espad**	**6.95**	**291**	P		**Pn**	**22 52 02.2**	**+1.3**
	12nm,0.4s,SNR=7.9							
SESP				S		**Sn**	**22 53 21.4**	**+1.3**
	26nm,0.9s,SNR=7.9							
EBER	**Berja**	**6.99**	**281**	P		**Pn**	**22 52 01.1**	**-0.3**
	8.1nm,0.5s,SNR=10							
EBER				S		**Sn**	**22 53 21.9**	**+0.9**
	6.3nm,0.5s,SNR=7.9							
EBER	**Berja**	**6.99**	**281**			**Pn**	**22 52 01.1**	**-0.3**
EBER						**Sn**	**22 53 21.9**	**+0.9**
RAFF	**Raffo Rosso**	**7.11**	**77**	Pn		**Pn**	**22 52 04.2**	**+1.3**
PGF	**Pioggiola**	**7.13**	**20**	P		**Pn**	**22 52 05.0**	**+1.8**
PGF				S		**Sn**	**22 53 22.8**	**-1.5**
	2.4nm,0.6s							
PGF	**Pioggiola**	**7.13**	**20**	*e*Pn		**Pn**	**22 52 05.0**	**+1.8**
PGF				*e*Sn		**Sn**	**22 53 22.8**	**-1.5**
	4.8nm,0.6s							
CLLI	**Llivia**	**7.18**	**337**	P		**Pn**	**22 52 06.8**	**+2.8**
	0.6nm,0.2s,SNR=6.4							
CLLI				S		**Sn**	**22 53 25.8**	**+0.1**
	1.1nm,0.5s,SNR=7.9							
CLLI	**Llivia**	**7.18**	**337**			**Pn**	**22 52 05.6**	**+1.6**
CLLI						**Sn**	**22 53 25.8**	**+0.1**
GORA	**Gorafe**	**7.19**	**285**	P		**Pn**	**22 52 06.6**	**+2.6**
	4.7nm,0.2s,SNR=4.0							
GORA				S		**Sn**	**22 53 28.8**	**+3.0**
	24nm,0.8s,SNR=7.9							
EQES	**Quesada**	**7.28**	**288**	P		**Pn**	**22 52 06.8**	**+1.5**
	7.5nm,0.4s,SNR=20							
EQES				S		**Sn**	**22 53 29.1**	**+1.2**
	27nm,0.8s,SNR=7.9							
EQES	**Quesada**	**7.28**	**288**			**Pn**	**22 52 06.8**	**+1.5**
EQES						**Sn**	**22 53 29.1**	**+1.2**
CSOR	**Sort**	**7.38**	**333**	P		**Pn**	**22 52 09.2**	**+2.5**
	5.4nm,0.4s,SNR=13							
CSOR				S		**Sn**	**22 53 32.1**	**+1.6**
	4.1nm,0.4s,SNR=7.8							
CSOR	**Sort**	**7.38**	**333**			**Pn**	**22 52 09.0**	**+2.4**
CSOR						**Sn**	**22 53 32.1**	**+1.6**
LMR	**La Mourre**	**7.46**	**5**	P		**Pn**	**22 52 09.7**	**+2.0**
LMR				S		**Sn**	**22 53 29.2**	**-3.1**
	0.9nm,0.6s							
LMR	**La Mourre**	**7.46**	**5**	*e*Pn		**Pn**	**22 52 09.7**	**+2.0**
LMR	**La Mourre**	**7.46**	**5**	*e*P		Pn	22 52 14.9	+7.2
LMR				*e*Sn		**Sn**	**22 53 29.2**	**-3.1**
	1.9nm,0.6s							
EQUE	**Quentar**	**7.46**	**283**	P		**Pn**	**22 52 08.9**	**+1.1**
	4.3nm,0.3s,SNR=9.2							
EQUE				S		**Sn**	**22 53 33.3**	**+0.7**
	6.9nm,0.6s,SNR=4.0							
ELGU	**Los Guajares,**	**7.58**	**280**	P		**Pn**	**22 52 09.8**	**+0.5**
	5.1nm,0.4s,SNR=7.9							
ELGU				S		**Sn**	**22 53 33.1**	**-2.2**
	5.3nm,0.4s,SNR=7.9							
ELGU	**Los Guajares,**	**7.58**	**280**			**Pn**	**22 52 09.4**	**+0.1**
ELGU						**Sn**	**22 53 33.1**	**-2.2**
FRF	**La Foret Royal**	**7.70**	**5**	P		**Pn**	**22 52 12.6**	**+1.7**
FRF				S		**Sn**	**22 53 35.5**	**-2.6**
	1.6nm,0.4s							
FRF	**La Foret Royal**	**7.70**	**5**	*e*Pn		**Pn**	**22 52 12.6**	**+1.7**
FRF	**La Foret Royal**	**7.70**	**5**	*e*P		Pn	22 52 18.7	+7.8
FRF				*e*Sn		**Sn**	**22 53 35.5**	**-2.6**
	3.2nm,0.4s							
ETOR	**Torete**	**7.82**	**311**	P		**Pn**	**22 52 16.7**	**+4.0**
	5.2nm,0.4s,SNR=7.0							
ETOR				S		**Sn**	**22 53 42.7**	**+1.4**
	12nm,0.9s,SNR=6.9							
MTLF	**Montolieu**	**7.91**	**341**	P		**Pn**	**22 52 13.3**	**-0.5**
MTLF				S		Sn	22 53 35.4	-7.9
	0.2nm,0.2s							
MTLF	**Montolieu**	**7.91**	**341**	*e*Pn		**Pn**	**22 52 13.3**	**-0.5**
MTLF				*e*Sn		Sn	22 53 35.4	-7.9
	0.4nm,0.2s							
EGOR	**Sierra Gorda,**	**7.98**	**282**	P		**Pn**	**22 52 16.2**	**+1.2**
	3.3nm,0.4s,SNR=7.9							
EGOR				S		**Sn**	**22 53 49.3**	**+3.9**
	6.9nm,0.5s,SNR=4.0							
EGOR	**Sierra Gorda,**	**7.98**	**282**			**Pn**	**22 52 17.2**	**+2.2**
EGOR						**Sn**	**22 53 49.3**	**+3.9**
ECHI	**Chisagues Biel**	**7.99**	**329**	P		**Pn**	**22 52 17.4**	**+2.3**
	1.1nm,0.4s,SNR=7.9							
ECHI	**Chisagues Biel**	**7.99**	**329**			**Pn**	**22 52 18.3**	**+3.2**
SBF	**Sospel**	**8.07**	**9**	S		**Sn**	**22 53 45.7**	**-1.8**
	0.8nm,0.3s							
SBF	**Sospel**	**8.07**	**9**	*e*Sn		**Sn**	**22 53 45.7**	**-1.8**
	1.5nm,0.3s							
SMRF	**Simiane la Rot**	**8.08**	**359**	P		**Pn**	**22 52 18.2**	**+2.0**
SMRF				S		**Sn**	**22 53 43.8**	**-3.7**
	2.2nm,0.5s							
SMRF	**Simiane la Rot**	**8.08**	**359**	*e*Pn		**Pn**	**22 52 18.2**	**+2.0**
SMRF				*e*Sn		**Sn**	**22 53 43.8**	**-3.7**
	2.2nm,0.5s							
EPF	**Esparros**	**8.24**	**332**	P		**Pn**	**22 52 21.7**	**+3.3**
EPF				S		Sn	22 53 44.0	-7.6
	1.3nm,0.6s							
EPF	**Esparros**	**8.24**	**332**	*e*P		**Pn**	**22 52 21.7**	**+3.3**
EPF				*e*Sn		Sn	22 53 44.0	-7.6
	2.6nm,0.6s							
LASF	**Ste Croix**	**8.29**	**351**	P		**Pn**	**22 52 19.3**	**+0.2**
LASF				S		Sn	22 53 46.7	-6.2
	0.2nm,0.4s							
LASF	**Ste Croix**	**8.29**	**351**	*e*Pn		**Pn**	**22 52 19.3**	**+0.2**
LASF				*e*Sn		Sn	22 53 46.7	-6.2
	0.5nm,0.4s							
ETSF	**Etsaut**	**8.50**	**327**	P		**Pn**	**22 52 25.6**	**+3.6**
ETSF				S		Sn	22 53 49.4	-8.7
	0.6nm,0.3s							
ETSF	**Etsaut**	**8.50**	**327**	*e*P		**Pn**	**22 52 25.6**	**+3.6**
ETSF				*e*Sn		Sn	22 53 49.4	-8.7
	1.2nm,0.3s							
EADA	**Adamuz**	**8.52**	**289**	P		**Pn**	**22 52 23.1**	**+0.9**
	0.8nm,0.3s,SNR=7.9							
EADA				S		**Sn**	**22 54 00.9**	**+2.5**
	2.0nm,0.5s,SNR=7.9							
EADA	**Adamuz**	**8.52**	**289**			**Pn**	**22 52 22.1**	**-0.1**
EADA						**Sn**	**22 54 00.9**	**+2.5**
ESBB	**Sonseca Array**	**8.52**	**299**	Pn		**Pn**	**22 52 23.8**	**+1.5**
ESDC	**Sonseca Array**	**8.52**	**299**	Pn		**Pn**	**22 52 23.4**	**+1.1**
	0.2nm,0.3s,baz=116,slow=13,SNR=7.2							
ESDC	**Sonseca Array**	**8.52**	**299**	Pn		**Pn**	**22 52 23.5**	**+1.2**
ATE	**Arette**	**8.72**	**327**	P		**Pn**	**22 52 27.4**	**+2.5**
	0.9nm,0.3s,SNR=7.9							
ATE				S		**Sn**	**22 54 03.9**	**+0.7**
	1.7nm,0.5s,SNR=7.9							
ATE	**Arette**	**8.72**	**327**			**Pn**	**22 52 27.4**	**+2.5**
ATE						**Sn**	**22 54 04.0**	**+0.7**
PAB	**San Pablo**	**8.75**	**298**	P		**Pn**	**22 52 26.5**	**+1.1**
	0.7nm,0.4s,SNR=7.9							
PAB	**San Pablo**	**8.75**	**298**	Pn		**Pn**	**22 52 26.3**	**+0.9**
EORO	**Oroz-Betelu**	**8.84**	**324**	P		**Pn**	**22 52 28.1**	**+1.5**
	1.0nm,0.2s,SNR=7.9							
EORO	**Oroz-Betelu**	**8.84**	**324**			**Pn**	**22 52 27.5**	**+0.8**
MBDF	**Montbardon**	**8.87**	**5**	P		Pn	22 52 34.4	+7.3
MBDF				S		**Sn**	**22 54 03.0**	**-4.1**
	0.0nm,0.4s							
MBDF	**Montbardon**	**8.87**	**5**	*e*P		Pn	22 52 34.4	+7.3
MBDF				*e*Sn		**Sn**	**22 54 03.0**	**-4.1**
	1.0nm,0.4s							
SJPF	**Ste Jean**	**8.97**	**326**	P		**Pn**	**22 52 32.0**	**+3.6**
SJPF				S		Sn	22 54 00.4	-9.1
	0.2nm,0.3s							
SJPF	**Ste Jean**	**8.97**	**326**	*e*P		**Pn**	**22 52 32.0**	**+3.6**
SJPF				*e*Sn		Sn	22 54 00.4	-9.1
	0.5nm,0.3s							
VIVF	**Saint-Julien-l**	**8.99**	**355**	P		Pn	22 52 34.2	+5.5
VIVF				S		**Sn**	**22 54 04.6**	**-5.3**
	0.4nm,0.4s							
VIVF	**Saint-Julien-l**	**8.99**	**355**	*e*P		Pn	22 52 34.2	+5.5
VIVF				*e*Sn		**Sn**	**22 54 04.6**	**-5.3**
	0.8nm,0.4s							
MDT	**Midelt**	**9.05**	**253**	Pn		**Pn**	**22 52 28.9**	**-0.7**
	0.2nm,0.3s,baz=281,slow=11,SNR=7.2							
ECAB	**El Cabril**	**9.15**	**287**	P		**Pn**	**22 52 30.6**	**-0.2**
	1.4nm,0.3s,SNR=10							
ECAB				S		**Sn**	**22 54 13.8**	**-0.1**
	1.5nm,0.5s,SNR=4.0							
ECAB	**El Cabril**	**9.15**	**287**			**Pn**	**22 52 30.6**	**-0.2**
ECAB						**Sn**	**22 54 13.8**	**-0.1**
EMIN	**Mina Concepcio**	**10.08**	**284**	P		**Pn**	**22 52 43.0**	**-0.7**
	0.6nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**10.08**	**284**			**Pn**	**22 52 43.0**	**-0.7**
EGRO	**El Granado**	**10.70**	**283**	P		**Pn**	**22 52 52.2**	**+0.1**
	0.5nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**10.70**	**283**			**Pn**	**22 52 52.2**	**+0.1**
PVAQ	**Vaqueiros**	**10.88**	**282**	Pn		**Pn**	**22 52 54.4**	**-0.1**
ECAL	**Calabor**	**11.40**	**306**	P		**Pn**	**22 53 03.8**	**+2.0**
	3.3nm,0.4s,SNR=5.4							
ECAL	**Calabor**	**11.40**	**306**			**Pn**	**22 53 03.8**	**+2.0**
GERES	**GERESS Array B**	**14.22**	**22**	Pn		**P**	**22 53 46.1**	**-1.7**
	0.2nm,0.3s,baz=202,slow=10,SNR=4.0							
GERES	**GERESS Array B**	**14.22**	**22**	P		**P**	**22 53 48.9**	**+1.1**
BURAR	**Bucovina Array**	**18.64**	**45**	P		**Pn**	**22 54 41.3**	**+4.4**
AKASG	**Malin Array Be**	**22.51**	**42**	P		**P**	**22 55 18.2**	**-0.2**
	1.0nm,0.6s,baz=236,slow=8.8,SNR=1.9							
TORD	**Torodi Ar. Bea**	**22.93**	**190**	P		**P**	**22 55 20.0**	**-3.1**
	0.7nm,0.6s,baz=5.4,slow=9.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	**22.93**	**190**	P		**P**	**22 55 21.8**	**-1.3**
BRVK	**Borovoye**	**47.50**	**48**	P		**P**	**22 58 55.0**	**+1.2**
BRVK				IAmb		IAmb	22 59 13.7	
	comp=Z,4.3nm,1.4s							
ZALV	**Zalesovo Beam**	**55.86**	**45**	P		**P**	**22 59 55.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=275,slow=7.3,SNR=3.8							
ZALV	**Zalesovo Beam**	**55.86**	**45**	P		**P**	**22 59 57.5**	**+1.3**
MK31	**Makanchi Array**	**56.40**	**53**	P		**P**	**22 59 59.6**	**-0.7**
MK31				IAmb		IAmb	23 00 13.2	
	comp=Z,0.6nm,0.9s							
MKAR	**Makanchi Array**	**56.40**	**53**	P		**P**	**22 59 59.2**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=283,slow=6.5,SNR=13							
MKAR	**Makanchi Array**	**56.40**	**53**	P		**P**	**22 59 59.4**	**-0.9**

IDC ***16*** *22:54:44.9±1.2, 14˚.20N×118˚.65E, h0km, mb3.7/4, mb1 4.1/6, mb1mx3.6/42, mbtmp3.9/6, ML4.7/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/49, Error ellipse:

SONM				PcP	PcP	23 08 30.3	+0.2	
	0.3nm,0.7s,baz=174,slow=4.2,SNR=2.8							
MKAR	**Makanchi Array**	**54.28**	**326**	P	**P**	**23 08 11.3**	**+0.6**	
	0.9nm,0.6s,baz=122,slow=7.6,SNR=14							
MKAR				PcP	PcP	23 09 06.1	-0.2	
	0.6nm,0.6s,baz=122,slow=4.6,SNR=6.3							
MKAR				ScP	ScP	23 12 12.2	+0.1	
	0.2nm,0.6s,baz=105,slow=4.2,SNR=2.5							
ZALV	**Zalesovo Beam**	**57.49**	**334**	P	**P**	**23 08 32.1**	**-0.6**	
	0.4nm,0.4s,baz=114,slow=6.5,SNR=2.2							
TORD	**Torodi Ar. Bea**	**119.68**	**289**	PKP	**PKPdf**	**23 17 23.8**	**-1.0**	
	0.4nm,0.4s,baz=37,slow=1.9,SNR=1.7							

NEIC ***16*** *23:34:31.9±1.2,2.7S±0.1×101.4E±0.2, h100km±11km, mb4.1/6, Error ellipse: s-maj=27.7km s-min=9.9km az=58.0*

IDC ***16*** *23:34:31.3±3.3,2.7S×101.8E, h92km±24km, mb3.5/9, mb1 3.6/10,mb1mx3.3/52, mbtmp3.8/10, MS3.3/1, Ms1 3.2/1,ms1mx2.5/25, Error ellipse: s-maj=62.2km s-min=15.1km az=57.0*

DJA ***16*** *23:34:32.0±0.8,3°S±5°×10°E±°, h63km±9km, M4.0/10, MLv4.0/10*

ISC 16 23:34:32.0±0.8,**2°69S**±0.09×**101°4E**±0.1,**h100**km,**n42,** σ0.72/41,**mb3.9**/12,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.54**	**128**	P	**Pn**	**23 34 58.3**	**-0.5**
MNAI	**Manna**	**2.28**	**137**		**Pn**	**23 35 08.2**	**-0.1**
MNAI				Sn	**Sn**	**23 35 36.7**	**+0.6**
MNAI	**Manna**	**2.28**	**137**	P	**Pn**	**23 35 08.3**	**0.0**
LHSI	**Lahat**	**2.42**	**118**	P	**Pn**	**23 35 10.2**	**+0.2**
JMBI	**JAMBI**	**2.49**	**65**	P	**Pn**	**23 35 09.8**	**-1.2**
BKNI	**Bangkinang**	**3.02**	**354**	Pn	**Pn**	**23 35 17.5**	**-0.6**
BKNI	**Bangkinang**	**3.02**	**354**	P	**Pn**	**23 35 17.4**	**-0.6**
MDSI	**Maura Dua**	**3.31**	**123**	P	**Pn**	**23 35 22.9**	**+1.0**
KLSI		**3.89**	**121**	P	**Pn**	**23 35 30.5**	**+0.8**
KASI	**Kota Agung**	**4.19**	**132**	P	**Pn**	**23 35 34.5**	**+0.7**
GSI	**Gunungsitoli**	**5.50**	**316**		**Pn**	**23 35 51.3**	**-0.2**
RPSI	**Rantau Prapat**	**5.89**	**335**		**Pn**	**23 35 57.4**	**+0.6**
RPSI	**Rantau Prapat**	**5.89**	**335**	Pn	**Pn**	**23 35 57.2**	**+0.4**
PSI	**Prapat**	**5.98**	**336**	P	**Pn**	**23 35 57.4**	**-0.8**
	baz=180,slow=19,SNR=1.0							
IPM	**Ipoh**	**7.13**	**357**	Pn	**Pn**	**23 36 14.6**	**+0.9**
KULM	**Kulim**	**7.96**	**355**		**Pn**	**23 36 25.7**	**+0.7**
LHMI	**Lhok Sumawe**	**9.03**	**331**	Pn	**Pn**	**23 36 39.5**	**0.0**
DLV	**T Lat**	**16.17**	**26**		**Pn**	**23 38 13.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.15**	**354**	P	**P**	**23 39 10.6**	**+1.4**
	0.9nm,0.3s,baz=177,slow=9.0,SNR=1.9							
QIZ	**Qiongzhong**	**23.14**	**21**	P	**P**	**23 39 28.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**28.28**	**124**	P	**P**	**23 40 14.5**	**-1.7**
	2.4nm,1.0s,baz=297,slow=9.0,SNR=2.1							
H08S2	**Diego Garcia H**	**29.18**	**259**	T	T	00 10 19.7		
	baz=81							
H08S3	**Diego Garcia H**	**29.18**	**259**	T	T	00 10 23.5		
	baz=81							
H08S1	**Diego Carcia H**	**29.20**	**259**	T	T	00 10 19.5		
	baz=81							
WRA	**Warramunga Arr**	**36.45**	**121**	P	**P**	**23 41 27.5**	**0.0**	
	0.2nm,0.4s,baz=302,slow=10,SNR=12							
ASAR	**Alice Springs**	**37.73**	**126**	P	**P**	**23 41 38.7**	**+0.3**	
	0.3nm,0.3s,baz=301,slow=7.9,SNR=5.0							
ASAR				ScP	**ScP**	**23 47 32.8**	**+0.6**	
	0.4nm,0.6s,baz=298,slow=3.9,SNR=4.5							
ASAR	**Alice Springs**	**37.73**	**126**	P	**P**	**23 41 37.7**	**-0.6**	
KSRS	**Korea Array**	**46.93**	**29**	P	**P**	**23 42 52.7**	**+0.1**	
	0.5nm,0.4s,baz=198,slow=7.7,SNR=1.4							
STKA	**Stephens Creek**	**47.66**	**132**	LR	LR	00 05 15.1		
	comp=Z,31nm,19.2s,baz=213,slow=39							
SONM	**Songino Array**	**50.51**	**4**	P	**P**	**23 43 21.2**	**+1.2**	
	1.7nm,0.7s,baz=184,slow=9.7,SNR=18							
SONM				PcP	**PcP**	**23 44 37.5**	**+0.9**	
	0.1nm,0.4s,baz=198,slow=5.4,SNR=1.4							
SONM	**Songino Array**	**50.51**	**4**	P	**P**	**23 43 20.6**	**+0.6**	
SONM				IAmb	IAmb	23 43 21.9		
	comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**52.07**	**343**	P	**P**	**23 43 31.8**	**+0.2**	
	comp=Z,0.4nm,0.5s,baz=158,slow=9.0,SNR=11							
MKAR	**Makanchi Array**	**52.07**	**343**	P	**P**	**23 43 31.2**	**-0.4**	
KK31	**Karatay Array**	**53.40**	**332**	P	**P**	**23 43 41.1**	**-0.4**	
KK31				IAmb	IAmb	23 43 42.0		
	comp=Z,4.3nm,1.5s							
KKAR	**Karatay Array**	**53.40**	**332**	P	**P**	**23 43 41.2**	**-0.3**	
USRK	**Ussuriysk Ar.**	**54.13**	**27**	P	**P**	**23 43 46.6**	**-0.1**	
	comp=Z,1.3nm,0.5s,baz=232,slow=7.1,SNR=3.2							
USRK	**Ussuriysk Ar.**	**54.13**	**27**	P	**P**	**23 43 45.8**	**-0.9**	
ZALV	**Zalesovo Beam**	**58.11**	**349**	P	**P**	**23 44 14.7**	**-0.1**	
	comp=Z,0.7nm,0.3s,baz=151,slow=3.4,SNR=11							
BRVK	**Borovoye**	**61.38**	**339**	P	**P**	**23 44 37.2**	**-0.1**	
BRVK				IAmb	IAmb	23 44 39.6		
	comp=Z,2.4nm,0.8s							
ABKAR	**Akbulak array**	**62.91**	**331**	P	**P**	**23 44 46.8**	**-0.8**	
ABKAR	**Akbulak array**	**62.91**	**331**	P	**P**	**23 44 47.4**	**-0.2**	
ABKAR				IAmb	IAmb	23 44 48.2		
	comp=Z,1.2nm,0.8s							
TXAR	**Lajitas Array**	**144.38**	**39**	PKP	**PKPdf**	**23 53 57.8**	**+0.4**	
	comp=Z,0.5nm,0.5s,baz=206,slow=0.7,SNR=16							

AEIC ***17*** *00:03:48.3±3.1,64.86N±0.04×168.70W±0.2, h26km±9km, ML4.0/11,ML4.4/6(NEIC), Error ellipse: s-maj=15.7km s-min=4.5km az=80.0*

NEIC ***17*** *00:03:48.5±2.7,64.93N±0.07×167.7W±0.2, h13km±9km, Error ellipse: s-maj=14.0km s-min=9.3km az=60.0*

IDC ***17*** *00:03:52.6±1.5,65.87N×167.25W, h0km, mb3.1/3, mb1 3.5/5,mb1mx3.3/49, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=40.9km s-min=16.0km az=12.0*

ISC 17 00:03:51.0±1.1,**65°11N**±0.09×**167°06W**±0.09,**h10**km,**n44,** σ1.9**75**/45,**mb3.4**/3,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANM	**Nome**	**0.90**	**126**		**Pg**	**00 04 08.9**	**+0.6**
ANM				Sn	**Sn**	**00 04 24.6**	**+1.7**
ANM				IAML		00 04 25.9	
	comp=N,7μm,0.6s						
ANM				IAML		00 04 26.1	
	comp=E,7μm,0.6s						
RDOG	**Red Dog Mine**	**3.39**	**27**	Pn	**Pn**	**00 04 45.6**	**+1.7**
RDOG				IAML		00 05 41.8	
	comp=E,212nm,0.6s						
IMAR	**Indian Mountai**	**5.60**	**75**		**Pn**	**00 05 14.6**	**+0.4**
SVW2	**Sparrevohn**	**6.58**	**122**	Pn	**Pn**	**00 05 27.6**	**-0.1**
CAST	**Castle Rocks**	**6.74**	**98**	Pn	**Pn**	**00 05 29.8**	**-0.1**
PPLA	**Purkeypile**	**6.90**	**102**	Pn	**Pn**	**00 05 33.0**	**+0.8**
BPAW	**Bear Paw Mtn.**	**6.99**	**91**	Pn	**Pn**	**00 05 33.6**	**+0.3**
COLD	**Coldfoot**	**7.15**	**65**	Pn	**Pn**	**00 05 37.7**	**+2.3**
KTH	**Kantishna Hill**	**7.18**	**95**	Pn	**Pn**	**00 05 36.7**	**+0.7**
A21K	**Barrow**	**7.34**	**27**	Pn	**Pn**	**00 05 38.7**	**+0.7**
I23K	**Minto, Yukon-K**	**7.46**	**82**	Pn	**Pn**	**00 05 41.9**	**+2.2**
TRF	**Thorofare Moun**	**7.48**	**95**	Pn	**Pn**	**00 05 40.8**	**+0.7**
SKT	**Skwentna**	**7.61**	**107**	Pn	**Pn**	**00 05 43.5**	**+1.7**
MCK	**McKinley**	**7.96**	**92**	Pn	**Pn**	**00 05 46.2**	**-0.4**
MDM	**Murphy Dome**	**7.96**	**83**	Pn	**Pn**	**00 05 50.8**	**+4.1**
RSO	**Redoubt South**	**8.03**	**119**	Pn	**Pn**	**00 05 47.2**	**-0.6**
RND	**Reindeer**	**8.10**	**94**		**Pn**	**00 05 49.3**	**+0.7**
WRH	**Wood River Hil**	**8.12**	**86**	Pn	**Pn**	**00 05 48.7**	**0.0**
SUA	**Susitna One**	**8.20**	**109**	Pn	**Pn**	**00 05 52.1**	**+2.1**
CCB	**Clear Creek Bu**	**8.20**	**84**	Pn	**Pn**	**00 05 50.1**	**+0.2**
POKR	**Poker Plat Res**	**8.27**	**81**	Pn	**Pn**	**00 05 51.2**	**+0.3**
IL31		**8.56**	**83**	Pn	**Pn**	**00 05 54.1**	**-0.7**
ILAR	**Eielson Array**	**8.56**	**83**	Pn	**Pn**	**00 05 53.0**	**-1.8**
	comp=E,0.2nm,0.3s,baz=279,slow=14,SNR=12						
ILAR				Pg	Pg	00 06 14.6	-20
	comp=E,0.5nm,0.3s,baz=281,slow=13,SNR=10						
ILAR				Sn	**Sn**	**00 07 26.3**	**-5.1**
	comp=E,0.2nm,0.3s,baz=287,slow=13,SNR=1.3						
ILAR				Lg	Lg	00 08 26.4	
	comp=E,0.1nm,0.3s,baz=292,slow=24,SNR=4.5						
ILAR	**Eielson Array**	**8.56**	**83**		**Pn**	**00 05 55.4**	**+0.6**
GHO	**Glory Hole Cre**	**8.78**	**104**	Pn	**Pn**	**00 05 57.8**	**0.0**
PMR	**Palmer**	**8.78**	**105**	Pn	**Pn**	**00 05 57.0**	**-0.8**
SML	**Sawmill**	**9.00**	**103**	Pn	**Pn**	**00 06 02.5**	**+1.6**
KNK	**Knik Glacier**	**9.15**	**105**	Pn	**Pn**	**00 06 04.8**	**+1.9**
BMAR	**Burnt Mountain**	**9.33**	**66**	Pn	**Pn**	**00 06 09.5**	**+4.1**
SCM	**Sheep Creek Mo**	**9.40**	**101**	Pn	**Pn**	**00 06 08.7**	**+2.3**
PWL	**Port Wells**	**9.51**	**108**	Pn	**Pn**	**00 06 08.5**	**+0.7**
PAX	**Paxson**	**9.69**	**93**	Pn	**Pn**	**00 06 11.3**	**+0.9**
M24K	**Tolsona, Glenn**	**9.76**	**98**	Pn	**Pn**	**00 06 12.8**	**+1.5**
DOT	**Dot Lake**	**10.05**	**88**	Pn	**Pn**	**00 06 16.9**	**+1.7**
KDAK	**Kodiak Island**	**10.07**	**130**	Pn	Pn	00 06 22.5	+6.9
	comp=E,0.4nm,0.3s,baz=326,slow=11,SNR=2.0							
KDAK	**Kodiak Island**	**10.07**	**130**	Pn	**Pn**	**00 06 12.8**	**-2.7**
KLU	**Klutina**	**10.16**	**101**	Pn	**Pn**	**00 06 18.7**	**+2.0**
OHAK	**Old Harbor**	**10.31**	**134**	Pn	**Pn**	**00 06 20.3**	**+1.6**
EYAK	**Cordova Ski Ar**	**10.73**	**105**	Pn	**Pn**	**00 06 24.6**	**+0.1**
K27K	**Chicken**	**10.77**	**84**	Pn	**Pn**	**00 06 26.6**	**+1.6**
BMRM	**Bremner River**	**10.97**	**102**	Pn	**Pn**	**00 06 29.6**	**+1.7**
YKA	**Yellowknife Ar**	**22.75**	**72**	P	**P**	**00 08 53.0**	**+0.1**
	comp=E,1.1nm,1.0s,baz=301,slow=9.8,SNR=5.2							
SONM	**Songino Array**	**46.63**	**292**	P	**P**	**00 12 19.2**	**+0.1**	
	comp=E,0.3nm,0.8s,baz=39,slow=7.4,SNR=1.9							
ZALV	**Zalesovo Beam**	**49.23**	**312**	P	**P**	**00 12 38.3**	**-0.7**	
	comp=E,0.3nm,0.4s,baz=31,slow=8.6,SNR=1.8							

IDC ***17*** *00:41:20.6±1.0,38.98N×144.46E, h0km, mb3.7/9, mb1 3.9/14,mb1mx3.7/40, mbtmp3.8/14, ML3.4/5, Error ellipse: s-maj=24.5km s-min=16.8km az=108.0*

JMA ***17*** *00:41:25.8±0.2,39.19N×144.20E, h50km, M3.8*

NEIC ***17*** *00:41:26±1.1,39.05N±0.07×144.3E±0.1, h34km±7km, mb4.2/8, Error ellipse: s-maj=16.5km s-min=8.2km az=119.0*

ISC 17 00:41:23.5±0.7,**39°07N**±0.04×**144°38E**±0.07,**h19**km,**n56,** σ2.5**07**/77,**mb3.8**/10,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.05**	**285**	P	**Pn**	**00 41 56.5**	**-0.4**
MIYJ				S	Sn	**00 42 18.9**	**-3.1**
OFUJ	**Ofunato**	**2.11**	**271**	P	**Pn**	**00 41 57.5**	**-0.3**
OFUJ				S	Sn	**00 42 20.9**	**-2.6**
JTH	**Tanohata**	**2.13**	**295**	P	**Pn**	**00 41 57.4**	**-0.7**
JTH				eS	Sn	**00 42 21.1**	**-2.9**
JOM	**Ohasama**	**2.43**	**281**	P	**Pn**	**00 42 02.3**	**+0.1**
JOM				S	Sn	**00 42 29.4**	**-2.0**
JMK	**Ichinoseki**	**2.46**	**268**	P	**Pn**	**00 42 02.8**	**+0.2**
JMK				S	Sn	**00 42 30.0**	**-2.2**
JANG	**Nango**	**2.57**	**301**	P	**Pn**	**00 42 02.9**	**-1.1**
JMM	**Marumori**	**3.06**	**248**		**Pn**	**00 42 10.3**	**-0.5**
JMM				Sn	Sn	**00 42 43.9**	**-3.0**
JTM	**Tenmabayashi**	**3.07**	**305**		**Pn**	**00 42 11.1**	**+0.1**
ERM	**Erimo**	**3.09**	**343**		**Pn**	**00 42 11.9**	**+0.7**
JYK	**Kaneyama**	**3.14**	**269**	P	**Pn**	**00 42 12.6**	**+0.7**
JYK				eS	Sn	**00 42 47.6**	**-1.2**
JNBK	**Urakawa-nobuka**	**3.44**	**339**	P	**Pn**	**00 42 15.5**	**-0.5**
JNBK				eS	Sn	**00 42 53.8**	**-2.5**
JOT	**Ohata**	**3.44**	**313**	P	**Pn**	**00 42 15.4**	**-0.7**
JFT	**Otama**	**3.54**	**245**	P	**Pn**	**00 42 18.1**	**+0.7**
JFT				eS	Sn	**00 42 57.0**	**-1.7**
JCH	**Churui**	**3.63**	**348**	P	**Pn**	**00 42 17.8**	**-0.8**
JCH				eS	Sn	**00 42 57.1**	**-3.8**
JKB	**Kayabe**	**3.80**	**319**	P	**Pn**	**00 42 19.6**	**-1.4**
JAK	**Akkeshi**	**3.93**	**3**	P	**Pn**	**00 42 21.1**	**-1.7**
JAK				eS	Sn	**00 43 03.4**	**-5.0**
JYT	**Yasato**	**4.37**	**231**		**Pn**	**00 42 27.8**	**-1.0**
JYT					Sn	**00 43 16.2**	**-2.9**
JEW	**Eniwo**	**4.37**	**330**	Pn	**Pn**	**00 42 29.5**	**+0.7**
JEW				Sn	Sn	**00 43 19.0**	**-0.3**
NEM2	**Nemuro 2**	**4.42**	**13**	P	**Pn**	**00 42 26.9**	**-2.5**
NEM2				S	Sn	**00 43 14.1**	**-6.2**
JOSM	**Okushiri--Mats**	**4.80**	**310**	P	**Pn**	**00 42 35.4**	**+0.7**
JSD	**Sado**	**4.91**	**260**		**Pn**	**00 42 36.0**	**-0.1**
JTKR	**Abashiri--Toko**	**4.91**	**356**	P	**Pn**	**00 42 35.0**	**-1.2**
JTKR				S	Sn	**00 43 27.5**	**-5.0**
JHR	**Hokuryu**	**5.08**	**338**	P	**Pn**	**00 42 39.7**	**+1.1**
JHR				S	Sn	**00 43 35.3**	**-1.4**
BSO1	**Boso 1**	**5.18**	**213**	P	**Pn**	**00 42 38.7**	**-0.8**
BSO1				eS	Sn	**00 43 37.3**	**-1.1**
JKA	**Kamikawa-asahi**	**5.22**	**346**		**Pn**	**00 42 40.0**	**-0.4**
ASAJ	**Asahikawa**	**5.22**	**346**	Pn	**Pn**	**00 42 39.9**	**-0.6**
	3.7nm,0.3s,baz=216,slow=15,SNR=5.8							
ASAJ				Sn	**Sn**	**00 43 36.1**	**-4.1**
	0.3nm,0.3s,baz=55,slow=32,SNR=1.3							
JRY	**Ryogami san**	**5.31**	**237**	P	**Pn**	**00 42 41.9**	**+0.1**
JRY				eS	Sn	**00 43 39.3**	**-3.2**
MJAR	**Matsushiro Arr**	**5.50**	**245**	Pn	**Pn**	**00 42 44.9**	**+0.5**
	0.8nm,0.3s,baz=64,slow=11,SNR=36							
MJAR	**Matsushiro Arr**	**5.50**	**245**		**Pn**	**00 42 45.3**	**+1.0**
MAJO	**Matsushiro**	**5.50**	**245**		**Pn**	**00 42 45.4**	**+1.0**
MAT	**Matsushiro**	**5.50**	**245**	P	**Pn**	**00 42 46.2**	**+1.8**
MAT				eS	Sn	**00 43 45.8**	**-1.3**
JGF	**Kuroka**	**6.58**	**240**		**Pn**	**00 42 59.8**	**+0.6**
JHJ	**Hachijo jima 2**	**7.00**	**213**	Pn	**Pn**	**00 43 03.0**	**-2.0**
	8.3nm,0.3s,baz=52,slow=11,SNR=1.4							
JHJ				Sn	**Sn**	**00 44 15.9**	**-8.2**
	8.2nm,0.3s,baz=54,slow=13,SNR=2.2							
JWT	**Wachi**	**8.10**	**245**		**Pn**	**00 43 20.9**	**+0.8**
USRK	**Ussuriysk Ar.**	**10.60**	**303**	Pn	**Pn**	**00 43 55.5**	**+1.4**
	baz=95,slow=14,SNR=6.1							
MDJ	**Mudanjiang**	**12.34**	**301**	Pn	**Pn**	**00 44 18.0**	**0.0**
KLR	**Kul'dur**	**13.60**	**322**	Pn	**Pn**	**00 44 36.0**	**+0.8**
	0.1nm,0.3s,baz=132,slow=14,SNR=6.6							
PET	**Petropavlovsk**	**17.07**	**30**	Pn	**Pn**	**00 45 22.6**	**+1.8**
PET				IAmb	IAmb	00 45 27.9		
	comp=Z,30nm,1.3s							
MA2	**Magadan**	**20.93**	**9**	P	**P**	**00 46 05.1**	**+0.3**
	comp=Z,3.6nm,0.3s,baz=192,slow=15,SNR=4.0							
MA2	**Magadan**	**20.93**	**9**	P	**P**	**00 46 05.6**	**+0.9**
MA2				IAmb	IAmb	00 46 06.6		
	comp=Z,6.3nm,0.8s							
BJT	**Baijiatuau**	**21.75**	**281**	P	**P**	**00 46 12.7**	**-1.0**
NACB	**Ninganchiao**	**24.34**	**239**	P	**P**	**00 46 39.5**	**-0.6**
NACB				IAmb	IAmb	00 46 40.9		
	comp=Z,13nm,0.7s							
SEY	**Seymchan**	**24.38**	**9**	P	**P**	**00 46 41.3**	**+1.1**
	comp=Z,1.6nm,0.3s,baz=182,slow=6.9,SNR=11							
KNMB	**Chin-men Tao**	**26.34**	**244**	P	**P**	**00 46 58.4**	**+0.1**
SONM	**Songino Array**	**28.69**	**300**	P	**P**	**00 47 20.2**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=88,slow=10,SNR=3.5							
RDOG	**Red Dog Mine**	**40.63**	**27**	P	**P**	**00 49 02.9**	**+1.1**
RDOG				IAmb	IAmb	00 49 19.2		
	comp=Z,3.6nm,1.0s							
ZALV	**Zalesovo Beam**	**42.32**	**311**	P	**P**	**00 49 16.9**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=83,slow=9.7,SNR=2.0							
IMAR	**Indian Mountai**	**43.70**	**31**	P	**P**	**00 49 29.4**	**+2.5**
MK31	**Makanchi Array**	**45.06**	**301**	P	**P**	**00 49 37.9**	**-0.1**
MKAR	**Makanchi Array**	**45.06**	**301**	P	**P**	**00 49 38.6**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=83,slow=10,SNR=3.3							
ILAR	**Eielson Array**	**46.52**	**33**	P	**P**	**00 49 49.9**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=255,slow=6.2,SNR=8.8							
ILAR	**Eielson Array**	**46.52**	**33**	P	**P**	**00 49 50.1**	**+0.9**
WRA	**Warramunga Arr**	**59.45**	**191**	P	**P**	**00 51 24.6**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=14,slow=7.5,SNR=3.4							
YKA	**Yellowknife Ar**	**60.87**	**31**	P	**P**	**00 51 34.6**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=304,slow=6.3,SNR=5.3							
ASAR	**Alice Springs**	**63.17**	**191**	P	**P**	**00 51 49.9**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=359,slow=5.2,SNR=5.4							
PSA00	**Pilbara Seismi**	**64.55**	**205**	P	**P**	**00 51 59.8**	**+0.6**

NNC 17 00:44:05.2±8.3,**36°14N**×70°40E,**h46**km±179km,**mb3.7, mpv3.5,3C-3D,Error ellipse: s-maj=65.1km s-min=57.8km az=27.0,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.96**	**1**	⇑P	Pn	00 45 45.6	+1.1
	2.1nm,0.3s,baz=177,slow=12,SNR=47						
KK31				⇓S	Sn	00 47 04.8	+2.5
	1.2nm,0.3s,baz=186,slow=24,SNR=5.1						
AAK	**Ala-Archa**	**7.22**	**25**	P	Pn	00 45 47.3	-1.1
	1.0nm,0.7s						
AAK				⇓S	Sn	00 47 07.8	-1.3
	1.9nm,0.6s						
AB31	**Akbulak array**	**15.18**	**333**	P	Pn	00 47 35.5	-0.8
	0.3nm,0.3s,baz=268,slow=35,SNR=36						
AB31				⇓S	Sn	00 50 22.6	-0.6
	0.8nm,0.6s						
AKTO	**Aktyubinsk**	**16.86**	**332**	⇑P	P	00 47 59.1	-0.2
	3.5nm,1.1s						
AKTO				⇑S	Sn	00 51 04.0	0.0
	2.2nm,1.2s						

EAF ***17*** *00:54:01.4±3.0,3.01N×35.86E, h314km±113km, MD3.6*

IDC ***17*** *00:54:01.6±1.0,3.07N×35.98E, h0km, mb3.7/8, mb1 4.0/10,mb1mx3.7/39, mbtmp3.8/10, ML4.0/2, MS3.4/8, Ms1 3.4/8,ms1mx3.0/40, Error ellipse: s-maj=25.9km s-min=20.8km az=77.0*

NEIC ***17*** *00:54:02.9±2.2,2.99N±0.06×35.8E±0.1, h10km±1km, mb4.2/11, Error ellipse: s-maj=18.1km s-min=9.4km az=98.0*

ISC 17 00:54:03.4±0.6,**3°11N**±0.06×**35°88E**±0.07,**h10**km,**n45,** σ1.9**63**/44,**mb4.1**/13,**MS3.4**/6,**5D,Kenya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**4.43**	**162**	Pn	**Pn**	**00 55 09.7**	**-1.3**
	2.0nm,0.3s,baz=337,slow=15,SNR=17						
KMBO				Pg	**Pb**	**00 55 21.7**	**+0.2**
	7.9nm,0.3s,baz=332,slow=19,SNR=17						
KMBO				Lg	Lg	00 56 09.6	
	25nm,0.3s,baz=239,slow=21,SNR=13						
TEBE	**Entebbe**	**4.57**	**228**	*eP*	**Pn**	**00 55 13.7**	**+1.0**
TEBE				*eS*	**Sn**	**00 56 07.2**	**+1.1**
TEBE	**Entebbe**	**4.57**	**228**	*i P*	**Pn**	**00 55 13.7**	**+1.0**
TEBE				*i S*	**Sn**	**00 56 07.8**	**+1.8**
MBAR	**Mbarara**	**6.33**	**234**	Pn	**Pn**	**00 55 36.5**	**-0.5**
	13nm,0.3s,baz=232,slow=18,SNR=67						
MBAR				Sn	**Sn**	**00 56 46.9**	**-2.7**
	62nm,0.3s,baz=325,slow=21,SNR=15						
MBAR				Lg	Lg	00 57 20.7	
	128nm,0.3s,baz=317,slow=22,SNR=19						
MBAR				LR	LR	00 58 11.9	
	comp=Z,323nm,19.0s,baz=40,slow=39						
MBAR	**Mbarara**	**6.33**	**234**		**Pn**	**00 55 35.8**	**-1.2**
MBAR	**Mbarara**	**6.33**	**234**	*eP*	**Pn**	**00 55 36.5**	**-0.5**
MBAR				*eS*	**Sn**	**00 56 47.4**	**-2.1**
MBAR	**Mbarara**	**6.33**	**234**	*i P*	**Pn**	**00 55 36.8**	**-0.2**
MBAR				*i S*	**Sn**	**00 56 45.2**	**-4.3**
MBAR				IAML		00 57 37.0	
	comp=Z,844nm,0.8s						
FURI	**Furi**	**6.38**	**26**	Pn	**Pn**	**00 55 40.4**	**+2.6**
FURI	**Furi**	**6.38**	**26**	*eP*	**Pn**	**00 55 39.2**	**+1.3**
FURI				*eS*	**Sg**	**00 57 25.8**	**-2.7**
AAE	**Adis Abeba**	**6.54**	**26**	⇓*eP*	Pn	00 55 45.0	+5.1
AAE				⇓*eS*	**Sg**	**00 57 35.3**	**+1.9**
ANKE	**Ethiopia-Afar**	**7.49**	**31**	*eP*	Pn	00 56 00.5	+7.4
ANKE				*eS*	**Sg**	**00 57 59.6**	**-4.3**
TGO	**Tongo**	**7.88**	**237**	*i P*	**Pn**	**00 55 55.7**	**-2.6**
TGO				IAML		00 58 22.1	
	comp=Z,1μm,0.7s						
GOM	**Goma**	**8.18**	**234**	*i P*	Pn	00 56 07.9	+5.5
GOM				IAML		00 58 32.9	
	comp=Z,350nm,0.7s						
BOBN	**Bobandana**	**8.37**	**235**	*i P*	**Pn**	**00 56 04.7**	**-0.4**
BOBN				IAML		00 58 42.0	
	comp=Z,336nm,0.9s						
DESE	**Dese**	**8.78**	**25**	⇓*eP*	Pn	00 56 24.0	+13
DESE				⇓*eS*	**Sg**	**00 58 43.0**	**-2.4**
BUJA	**Bujumbura/Buru**	**9.16**	**225**	*i P*	**Pn**	**00 56 16.6**	**+0.8**
BUJA				IAML		00 58 46.9	
	comp=Z,29nm,1.0s						
TEND	**Ethiopian Broa**	**10.00**	**30**	*eP*	Pn	00 56 40.9	+14
TEND				⇓*eS*		00 59 25.6	
LSZ	**Lusaka**	**19.80**	**202**	Lg	Lg	01 04 17.4	
	comp=Z,0.2nm,0.3s,baz=325,slow=20,SNR=4.2						
LSZ				LR	LR	01 07 06.5	
	comp=Z,92nm,18.7s,baz=94,slow=40						
SOCY	**Socotra**	**20.06**	**62**	P	Pn	00 58 38.1	-0.9
SOCY				IAmb	IAmb	00 58 41.6	
	comp

KOCA	**Canakkale, Ayv**	**0.64**	**346**	*i* P		**Pb**	**01 03 19.8**	**+0.3**
KOCA				*i* S		**Sb**	**01 03 29.6**	**+1.0**
ZEYE	**Izmir, Urla-Ze**	**0.66**	**169**	*i* P		**Pb**	**01 03 20.1**	**+0.3**
ZEYE				*i* S		**Sb**	**01 03 28.8**	**-0.4**
ZEYE				IAML			01 03 32.0	
	comp=E,422nm,0.4s							
ZEYE				IAML			01 03 33.0	
	comp=N,408nm,0.3s							
PSRA	**Psara**	**0.70**	**241**	P		**Pb**	**01 03 20.6**	**+0.1**
PSRA				S		**Sb**	**01 03 30.3**	**-0.1**
PSRA				AML	AML		01 03 32.1	
	comp=N,1404μm,0.2s							
PSRA				AML	AML		01 03 32.6	
	comp=E,1634μm,0.2s							
BLCB	**Balcova**	**0.74**	**132**	P		**Pn**	**01 03 23.2**	**+0.2**
BLCB	**Balcova**	**0.74**	**132**	PG		**Pn**	**01 03 22.6**	**-0.4**
BUHA	**Balikesir, Bur**	**0.84**	**43**	*i* P		**Pn**	**01 03 24.0**	**-0.3**
BUHA				*i* S		**Sn**	**01 03 36.1**	**-1.0**
BUHA				IAML			01 03 40.0	
	comp=E,217nm,0.5s							
BAYC	**CANAKKALE_Bayr**	**0.87**	**10**	*i* P		**Pn**	**01 03 24.1**	**-0.7**
BAYC				*i* S		**Sb**	**01 03 36.1**	**+0.8**
BAYC				IAML			01 03 38.0	
	comp=E,215nm,0.2s							
GMLD	**Gumuldur**	**0.93**	**151**	PG		**Pn**	**01 03 25.2**	**-0.3**
DGB	**zmir**	**0.94**	**153**	*i* P		**Pn**	**01 03 25.4**	**-0.2**
DGB				*i* S		**Sb**	**01 03 37.7**	**+0.5**
EZN	**Ezine**	**0.94**	**359**	P		**Pn**	**01 03 25.9**	**+0.2**
EZN				S		**Sn**	**01 03 39.7**	**+0.2**
EZN	**Ezine**	**0.94**	**359**	PG		**Pn**	**01 03 25.8**	**+0.1**
BOZC	**Bozcaada**	**0.98**	**347**	PG		**Pn**	**01 03 26.6**	**+0.3**
BOZC	**Bozcaada**	**0.98**	**347**	*i* P		**Pn**	**01 03 26.2**	**-0.1**
BOZC				*i* S		**Sb**	**01 03 38.4**	**-0.1**
AKHS	**Akhisar**	**1.15**	**90**	*i* P		**Pn**	**01 03 29.4**	**+0.8**
ECEA	**Canakkale, Ece**	**1.16**	**354**	*i* P		**Pn**	**01 03 30.2**	**+1.5**
ECEA				*i* S		**Sn**	**01 03 45.2**	**+0.1**
ECEA				IAML			01 03 49.0	
	comp=E,193nm,0.9s							
ECEA				IAML			01 03 49.0	
	comp=N,245nm,0.3s							
STEP	**BALIKESIR_Sava**	**1.18**	**65**	*i* P		**Pn**	**01 03 29.7**	**+0.7**
STEP				*i* S		**Sn**	**01 03 46.0**	**+0.6**
STEP				IAML			01 03 51.0	
	comp=N,118nm,0.3s							
SMG	**Samos**	**1.24**	**162**	P		**Pn**	**01 03 30.5**	**+0.7**
SMG				S		**Sn**	**01 03 48.1**	**+1.1**
SMG				AML	AML		01 03 50.7	
	comp=E,500μm,0.3s							
SMG				AML	AML		01 03 52.0	
	comp=N,696μm,0.5s							
SMG	**Samos**	**1.24**	**162**	P		**Pn**	**01 03 30.5**	**+0.7**
SMG				S		**Sn**	**01 03 47.2**	**+0.3**
	comp=N,300nm,0.4s							
GOMA	**Golmarmara-Man**	**1.24**	**98**	PN		**Pn**	**01 03 30.9**	**+1.0**
BALY	**Balya**	**1.31**	**49**	*i* P		**Pn**	**01 03 29.7**	**-1.1**
BALY				*i* S		**Sn**	**01 03 48.9**	**+0.2**
BALY				IAML			01 03 52.0	
	comp=N,134nm,0.4s							
GOKA	**anakkale-Gk**	**1.34**	**346**	*i* P		**Pg**	**01 03 31.2**	**-0.4**
GOKA				*i* S		**Sb**	**01 03 47.6**	**-1.4**
GOKA				IAML			01 03 56.0	
	comp=E,267nm,0.3s							
GADA	**Gvkgeada**	**1.35**	**345**	P		**Pg**	**01 03 32.3**	**+0.7**
GADA				S		**Sn**	**01 03 49.9**	**+0.3**
GADA	**Gvkgeada**	**1.35**	**345**	PN		**Pg**	**01 03 32.3**	**+0.7**
LIA	**Limnos Island**	**1.35**	**319**	P		**Pg**	**01 03 32.0**	**+0.3**
LIA	**Limnos Island**	**1.35**	**319**	P		**Pg**	**01 03 32.0**	**+0.3**
LIA				S		**Sn**	**01 03 49.1**	**-0.6**
GCAM	**G?zelcaml?**	**1.38**	**149**	PN		**Pg**	**01 03 32.3**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.51**	**4**	PN		**Pg**	**01 03 34.6**	**-0.2**
LPK	**Lapseki**	**1.52**	**12**	PN		**Pg**	**01 03 34.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**127**	PN		**Pg**	**01 03 34.8**	**-0.5**
KRBG	**Karabiga-Canak**	**1.68**	**26**	PN		**Pb**	**01 03 37.1**	**0.0**
ERIK	**Erikli-Kesan**	**1.79**	**4**	PN		**Pb**	**01 03 38.9**	**-0.1**
DURS	**Dursunbey**	**1.80**	**66**	*i* P		**Pb**	**01 03 39.0**	**-0.4**
KULA	**Kula-Manisa**	**1.85**	**101**	PN		**Pb**	**01 03 39.7**	**-0.5**
ENEZ	**Enez**	**1.85**	**356**	PN		**Pb**	**01 03 39.8**	**-0.4**
DEMI	**Demirci**	**1.86**	**84**	*i* P		**Pn**	**01 03 38.6**	**+0.2**
DEMI				*i* S		**Sg**	**01 04 06.1**	**+0.7**
EDC	**Edincik**	**1.87**	**38**	PN		**Pb**	**01 03 39.8**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.91**	**19**	PN		**Pb**	**01 03 40.5**	**-0.7**
SART	**Tekirdag**	**1.91**	**19**	*i* P		**Pb**	**01 03 41.3**	**+0.1**
SART				IAML			01 04 12.0	
	comp=N,74nm,0.3s							
SART				IAML			01 04 14.0	
	comp=E,90nm,1.0s							
APE	**Apeiranthos**	**1.93**	**200**	PN		**Pb**	**01 03 39.8**	**-1.6**
MAR6	**Marsite Statio**	**1.95**	**21**	PN		**Pb**	**01 03 41.2**	**-0.6**
KESN	**Edirne-Kesan**	**1.95**	**8**	*i* P		**Pg**	**01 03 43.0**	**-0.3**
KESN				*i* S		**Sn**	**01 04 05.7**	**+0.5**
MRMT	**Marmara Adasi**	**1.97**	**29**	PN		**Pb**	**01 03 41.6**	**-0.6**
MAR2	**Marsite Statio**	**1.97**	**22**	PN		**Pb**	**01 03 41.7**	**-0.5**
BODT	**Bodrum**	**1.98**	**157**	PN		**Pn**	**01 03 40.5**	**+0.5**
MAR3	**Marsite Statio**	**1.99**	**21**	PN		**Pb**	**01 03 42.1**	**-0.5**
GZKV	**Gazikoy-Tekird**	**2.01**	**22**	PN		**Pb**	**01 03 41.9**	**-0.9**
ALN	**Alexandroupoli**	**2.02**	**354**	PN		**Pb**	**01 03 42.2**	**-0.8**
SIMA	**Simav-Kutahya**	**2.07**	**84**	PN		**Pb**	**01 03 42.9**	**-1.0**
KCTX	**Karacabey (Bur**	**2.08**	**48**	PN		**Pb**	**01 03 42.7**	**-1.3**
TVSB	**Tavsanli**	**2.49**	**76**	PN		**Pn**	**01 03 48.7**	**+1.6**

IDC 17 01:11:15.1±2.8, 7°11S×128°35E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.2/20, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=304.5km s-min=33.5km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.02**	**156**	Pn	Sn	01 14 33.8	-1.3
	0.1nm,0.3s,baz=333,slow=13,SNR=9.3						
WRA				Sn	Sn	01 16 55.7	-16
	0.3nm,0.3s,baz=333,slow=23,SNR=9.3						
ASAR	**Alice Springs**	**17.30**	**163**	P	P	01 15 19.4	-0.4
	0.1nm,0.3s,baz=340,slow=8.9,SNR=5.8						
ASAR				S	Sn	01 18 19.4	-12
	0.1nm,0.3s,baz=359,slow=25,SNR=1.3						
MKAR	**Makanchi Array**	**67.43**	**328**	P	P	01 22 12.6	0.0
	0.1nm,0.3s,baz=118,slow=6.5,SNR=2.6						

*ECX **17** 02:01:53.7±0.7, 31°.59N×115°.59W, h7km±3km, MD1.9, ML2.1*
*MEX **17** 02:01:54.9±0.3, 31°.55N×115°.50W, h13km±7km, MD3.5*
ISC 17 02:01:53.0±1.3, 31°.57N±0°.09×115°.57W±0°.05, h17km±14km, n11, σ0s99/22, 3C, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTX	**Valle De La Tr**	**0.26**	**225**	⇑*i* P	**Pg**	**02 01 58.6**	**-0.2**
VTX				*e*S	**Sg**	**02 02 02.7**	**-0.1**
SJX	**San Joaquin**	**0.38**	**300**	*e*P	**Pb**	**02 02 02.9**	**+1.7**
SJX				*e*S	**Sb**	**02 02 10.0**	**+3.1**
SJX				IAML		02 02 11.1	
	comp=N,122nm,0.1s						
SJX				*e*		02 02 11.1	
SPIG	**San Pedro Mart**	**0.53**	**170**	*e*P	**Pg**	**02 02 03.8**	**+0.1**
SPIG				*e*S	**Sg**	**02 02 11.0**	**0.0**
SPIG	**San Pedro Mart**	**0.53**	**170**	*e*P	**Pg**	**02 02 03.7**	**-0.1**
SPIG				*e*S	**Sg**	**02 02 11.2**	**+0.2**
SPX	**San Pedro Mart**	**0.54**	**170**	*e*P	**Pg**	**02 02 03.8**	**-0.1**
SPX				*e*S	**Sg**	**02 02 11.2**	**-0.1**
SPX				⇑*e*		02 02 11.2	
SPX				IAML		02 02 12.2	
	comp=N,81nm,0.1s						
SFX	**San Felipe**	**0.81**	**131**	*e*P	**Pg**	**02 02 08.4**	**-0.5**
SFX				*e*S	**Sg**	**02 02 20.0**	**+0.3**
SQX	**San Quintin**	**1.03**	**195**	*e*P	**Pg**	**02 02 12.0**	**-0.9**
SQX				*e*S	**Sg**	**02 02 25.8**	**-0.6**
CBX	**Cerro Bola**	**1.19**	**309**	*e*P	**Pb**	**02 02 14.4**	**-0.7**
CBX				*e*S	**Sb**	**02 02 29.8**	**-0.4**
CBX				IAML		02 02 30.4	
	comp=N,69nm,0.3s						
CBX				⇑*e*		02 02 30.4	
TJIG	**Tijuana**	**1.27**	**313**	*e*P	**Pn**	**02 02 15.7**	**-0.3**
TJIG				*e*S	**Sb**	**02 02 31.6**	**-0.9**
TJIG	**Tijuana**	**1.27**	**313**	*e*P	**Pn**	**02 02 15.7**	**-0.3**
TJIG				*e*S	**Sb**	**02 02 31.7**	**-0.8**
214A	**Organ Pipe Nat**	**2.38**	**80**	*e*P	**Pn**	**02 02 31.9**	**+0.6**
214A				*e*S	**Sn**	**02 02 59.1**	**-0.9**

IDC 17 02:42:02.2±3.1, 4°.89S×133°.44E, h0km, mb3.4/1, mb1 3.8/5, mb1mx3.6/23, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=124.1km s-min=25.9km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.55**	**331**	Pn	Pn	02 43 12.6	+0.2
	1.5nm,0.3s,baz=168,slow=23,SNR=1.5						
SIJI				Sn	Sn	02 44 00.5	-5.5
	1.5nm,0.3s,baz=256,slow=23,SNR=1.6						
WRA	**Warramunga Arr**	**14.98**	**177**	Pn	Pn	02 45 34.3	-1.1
	0.2nm,0.3s,baz=352,slow=13,SNR=15						
WRA				Sn	Sn	02 48 14.2	-8.2
	0.2nm,0.3s,baz=4.7,slow=23,SNR=5.5						
FITZ	**Fitzroy Crossi**	**15.18**	**210**	Pn	Pn	02 45 38.0	-0.1
	0.3nm,0.3s,baz=34,slow=11,SNR=17						
FITZ				Sn	Sn	02 48 19.9	-7.0
	0.1nm,0.3s,baz=240,slow=22,SNR=2.2						
ASAR	**Alice Springs**	**18.67**	**179**	P	Pn	02 46 22.5	+0.2
	0.3nm,0.3s,baz=9.2,slow=11,SNR=16						
ASAR				S	Sn	02 49 44.1	-7.7
	0.1nm,0.3s,baz=2.2,slow=26,SNR=2.1						
MKAR	**Makanchi Array**	**68.41**	**325**	P	P	02 53 05.9	-0.1
	0.3nm,0.7s,baz=106,slow=7.8,SNR=4.4						

*JMA **17** 02:59:44.1±0.4, 37°.39N×134°.41E, h422km±5km, M3.2*
*IDC **17** 02:59:45.9±2.0, 37°.43N×134°.42E, h399km±19km, mb2.5/4, mb1 2.7/7, mb1mx2.6/45, mbtmp3.3/7, Error ellipse: s-maj=44.8km s-min=22.9km az=2.0*
ISC 17 02:59:45.4±0.9, 37°.4N±0°.1×134°.53E±0°.08, h400km, n21, σ1s28/22, mb2.8/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKSM	**Kasumi**	**1.77**	**176**	P	**Pn**	**03 00 40.8**	**+0.7**
JKY	**Yasaka**	**1.79**	**165**	P	**Pn**	**03 00 41.3**	**+1.0**
JWT	**Wachi**	**2.19**	**161**	P	**Pn**	**03 00 44.0**	**+1.3**
JHS	**Saijyo**	**2.62**	**206**	P	**Pn**	**03 00 46.3**	**+0.5**
JSD	**Sado**	**3.04**	**76**	P	**Pn**	**03 00 50.1**	**+1.2**
MJAR	**Matsushiro Arr**	**3.06**	**104**	P	**Pn**	**03 00 50.9**	**+1.7**
	0.2nm,0.3s,baz=286,slow=10,SNR=8.2						
JAG	**Ashikaga**	**4.06**	**102**	P	**Pn**	**03 01 00.1**	**+2.1**
JFT	**Otama**	**4.63**	**86**	P	**Pn**	**03 01 05.0**	**+1.4**
JYT	**Yasato**	**4.69**	**102**	P	**Pn**	**03 01 04.4**	**+0.2**
JHO	**Hitachi**	**4.89**	**97**	P	**Pn**	**03 01 06.5**	**+0.2**
JHO				*e*S	**S**	**03 02 09.2**	**-2.9**
JMM	**Marumori**	**5.00**	**82**	P	**Pn**	**03 01 08.5**	**+1.1**
JFK	**Kawauchi**	**5.06**	**88**	P	**Pn**	**03 01 08.4**	**+0.4**
JRG	**Rokugo**	**5.21**	**65**	P	**Pn**	**03 01 10.8**	**+1.3**
BSO4	**Boso 4**	**5.26**	**115**	P	**Pn**	**03 01 11.6**	**+1.5**
JMK	**Ichinoseki**	**5.51**	**71**	P	**Pn**	**03 01 13.4**	**+0.7**
USRK	**Usuriysk Ar.**	**7.10**	**345**	P	**P**	**03 01 30.3**	**-0.2**
	baz=154,slow=10,SNR=4.3						
ASAJ	**Asahikawa**	**9.11**	**40**	P	**P**	**03 01 52.4**	**-0.5**
	1.7nm,0.3s,baz=230,slow=17,SNR=11						
SONM	**Songino Array**	**23.08**	**306**	P	**P**	**03 04 17.2**	**-0.6**
	0.2nm,0.3s,baz=99,slow=8.9,SNR=2.6						
MKAR	**Makanchi Array**	**39.26**	**301**	P	**P**	**03 06 36.6**	**-0.6**
	0.2nm,0.6s,baz=96,slow=9.9,SNR=4.2						
ILAR	**Eielson Array**	**52.16**	**32**	P	**P**	**03 08 16.3**	**0.0**
	0.3nm,0.7s,baz=278,slow=6.8,SNR=5.3						
YKA	**Yellowknife Ar**	**66.21**	**28**	P	**P**	**03 09 52.6**	**+1.2**
	0.2nm,0.8s,baz=306,slow=6.5,SNR=3.7						

*ANF **17** 03:20:19.0±0.1, 33°.23N×115°.97W, h15km, ML2.9/21, Error ellipse: s-maj=1.3km s-min=1.0km az=116.0, Hypocentre not reviewed by the ISC*
*SCEDC **17** 03:20:20.1, 33°.23N×115°.96W, h1km, Hypocentre not reviewed by the ISC*
*PAS **17** 03:20:20.4±1.2, 33°.228N±0°.009×115°.97W±0°.01, h6km±5km, ML3.0/127, ML2.7/48(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=58.0*
NEIC 17 03:20:20.1±1.3, 33°.242N±0°.008×115°.99W±0°.01, h17km±2km, Error ellipse: s-maj=1.5km s-min=0.9km az=130.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.19**	**132**		Pg	03 20 24.3	-0.4
SLH	**Sleepy Hollow**	**0.23**	**258**		Pg	03 20 25.3	-0.1
SLH					Sg	03 20 29.2	+0.3
SUP	**Superstition M**	**0.32**	**154**		Pg	03 20 26.2	-0.6
FRK	**Frink**	**0.33**	**61**		Pg	03 20 26.7	-0.4
SWSC	**Sam W. Stewart**	**0.34**	**152**		Pg	03 20 26.4	-0.7
SWSC					Sg	03 20 30.9	-1.0
SWSC	**Sam W. Stewart**	**0.34**	**152**	P		03 20 26.4	
	baz=334,SNR=419						
SWSC				S		03 20 30.8	
	baz=334						
CRR	**Carrizo Plain**	**0.35**	**177**		Pg	03 20 26.9	-0.5
CRR					Sg	03 20 31.9	-0.5
BORC	**Borrego Spring**	**0.36**	**274**		Pg	03 20 27.5	-0.1
WEMD	**Westmorland, C**	**0.40**	**121**		Pg	03 20 27.5	-0.7
WEMD					Sb	03 20 34.8	+0.3
CBKC	**Canebrake**	**0.41**	**213**		Pg	03 20 27.9	-0.5
CTCC	**Cactus City**	**0.41**	**360**		Pg	03 20 28.6	+0.1
CTCC					Sg	03 20 34.4	+0.2
CTW	**Cottonwood Mou**	**0.45**	**13**		Pg	03 20 29.1	0.0
CTW					Sb	03 20 35.6	-0.3
COK2	**Cook Ranch 2**	**0.45**	**151**		Pg	03 20 28.9	-0.2
COK2					Sb	03 20 35.8	0.0
MONP2	**Monument Peak**	**0.50**	**226**		Pg	03 20 29.9	-0.3
MONP2					Sg	03 20 36.9	-0.2
MONP2	**Monument Peak**	**0.50**	**226**	P		03 20 29.9	
	baz=49,SNR=59						
MONP2				S		03 20 36.5	
	baz=49						
PMD	**Palm Desert**	**0.52**	**321**		Pg	03 20 30.2	-0.2
PMD					Sg	03 20 37.2	-0.2
HAY	**Hayfield**	**0.53**	**29**		Pg	03 20 30.8	+0.1
HAY					Sb	03 20 38.4	+0.1
XPFO	**Pion Flat**	**0.54**	**313**	IAML		03 20 38.6	
	609nm,0.5s						
XPFO				IAML		03 20 39.0	
	463nm,0.7s						
XPFO	**Pion Flat**	**0.54**	**313**		Pg	03 20 30.7	-0.2
XPFO					Sg	03 20 38.1	0.0
XPFO	**Pion Flat**	**0.54**	**313**		Pg	03 20 30.8	0.0
PFO	**Pinyon Flats O**	**0.54**	**313**		Pg	03 20 30.8	-0.1
PFO				IAML		03 20 38.6	
	624nm,0.5s						
PFO				IAML		03 20 39.0	
	466nm,0.7s						
PFO	**Pinyon Flats O**	**0.54**	**313**		Pg	03 20 30.8	-0.1
PFO	**Pinyon Flats O**	**0.54**	**313**	P		03 20 30.8	
	baz=133,SNR=192						
PFO				S		03 20 38.0	
	baz=133						
MATG	**Mataguay Scout**	**0.55**	**266**		Pg	03 20 31.0	-0.1
MATG					Sb	03 20 38.9	-0.2
FRD	**Ford Ranch, An**	**0.57**	**296**		Pg	03 20 31.6	+0.1
FRD					Sb	03 20 39.8	+0.2
FRD	**Ford Ranch, An**	**0.57**	**296**		Pg	03 20 31.5	+0.1
FRD					Sb	03 20 39.6	0.0
YUH	**Yuha Desert**	**0.59**	**175**		Pg	03 20 31.1	-0.8
YUH					Sg	03 20 39.2	-0.6
IKP	**In-Ko-Pah, Jac**	**0.60**	**190**		Pg	03 20 31.2	-0.7
IKP					Sb	03 20 40.4	+0.1
IKP	**In-Ko-Pah, Jac**	**0.60**	**190**	P		03 20 31.2	
	baz=12,SNR=238						
IKP				S		03 20 39.4	
	baz=12						
SNR	**Schaffner Ranc**	**0.60**	**129**		Pg	03 20 31.6	-0.3
SNDA	**J Saunders Pla**	**0.61**	**301**		Pg	03 20 32.2	+0.1
SNDA					Sb	03 20 41.2	+0.6
BC3	**Big Chuckawall**	**0.61**	**47**		Pg	03 20 31.7	-0.4
BC3					Sg	03 20 40.1	-0.2
BC3	**Big Chuckawall**	**0.61**	**47**	P		03 20 31.7	
	baz=225,SNR=99						
BC3				S		03 20 39.9	
	baz=225						
BZNA	**Buzz No.'s Pla**	**0.62**	**294**		Pg	03 20 32.2	-0.1
BZNA					Sb	03 20 41.1	+0.1
DNR	**Dunn Ranch,Anz**	**0.63**	**301**		Pb	03 20 32.6	0.0
DNR					Sb	03 20 41.4	+0.2
DREC	**Desert Rsrch C**	**0.63**	**134**		Pg	03 20 32.2	-0.2
SGL	**Mount Signal**	**0.63**	**159**		Pg	03 20 31.6	-0.9
SGL					Sg	03 20 39.9	-1.0
RMX	**La Rumorosa**	**0.64**	**187**		Pb	03 20 32.9	-0.1
RMX				IAML		03 20 43.0	
	comp=E,330nm,0.2s						
CRY	**Cary Ranch**	**0.70**	**297**		Pb	03 20 34.0	0.0
CRY					Sb	03 20 43.7	+0.3
PLM	**Palomar**	**0.74**	**279**		Pb	03 20 34.6	0.0
PLM					Sb	03 20 45.0	+0.5
BELC	**Belle Mtn. Jos**	**0.76**	**359**		Pb	03 20 34.6	-0.3
BELC					Sb	03 20 45.1	+0.1
BELC	**Belle Mtn. Jos**	**0.76**	**359**	P		03 20 34.6	
	baz=178,SNR=146						
BELC				S		03 20 44.9	
	baz=178						
EW2	**E Wide Canyon**	**0.78**	**333**		Pb	03 20 35.2	0.0
EW2					Sg	03 20 46.3	+0.6
BAR	**Barrett**	**0.80**	**226**		Pb	03 20 34.9	-0.7
BAR					Sb	03 20 45.9	-0.3
COA	**Coachella**	**0.82**	**117**		Pb	03 20 34.6	-1.2
COA					Sb	03 20 46.6	0.0
DPP	**Dos Picos Cty**	**0.83**	**253**		Pb	03 20 35.8	-0.3
DPP					Sb	03 20 47.1	0.0
HWB	**Hans Werner Br**	**0.84**	**255**		Pb	03 20 35.9	-0.4
HWB					Sb	03 20 47.3	-0.1
DEVC	**Devers**	**0.85**	**325**		Sg	03 20 48.6	+0.7
TKX	**Tecate**	**0.85**	**218**		Pb	03 20 34.8	-1.6
TPC	**Twentynine Pal**	**0.86**	**357**		Pb	03 20 36.4	-0.2
BLAC	**Blackrock camp**	**0.89**	**338**		Pb	03 20 37.1	-0.1
RUN	**Ruthven**	**0.89**	**107**		Pb	03 20 35.7	-1.4
POB	**Polly Butte**	**0.90**	**300**		Pb	03 20 37.1	-0.2
POB					Sn	03 20 50.2	-0.5
DGR	**Domenigoni Val**	**0.95**	**296**		Pb	03 20 37.7	-0.3
DGR					Sg	03 20 51.1	+0.2
SDRC	**San Diego Road**	**0.95**	**238**		Pb	03 20 37.6	-0.4
SDRC					Sb	03 20 49.9	-0.4
BACC	**Bachelor Mtn.**	**0.95**	**293**		Pn	03 20 38.8	0.0
BACC					Sg	03 20 51.4	+0.2
HMTC	**Hemet**	**0.97**	**299**		Pb	03 20 38.1	-0.3
GLA	**Glamis**	**0.99**	**101**		Pb	03 20 37.3	-1.5
GLA				IAML		03 20 53.6	
	comp=E,277nm,0.7s						
GLA				IAML		03 20 54.2	
	comp=N,239nm,0.6s						
GLA	**Glamis**	**0.99**	**101**	P		03 20 37.3	
	baz=281,SNR=53						
GLA				S		03 20 49.9	
	baz=281						
109C	**Camp Elliot, M**	**1.00**	**250**		Pb	03 20 38.0	-0.9
109C				IAML		03 20 53.8	
	comp=E,239nm,0.3s						
109C	**Camp Elliot, M**	**1.00**	**250**	P		03 20 37.9	
	baz=70,SNR=23						
109C				S		03 20 51.5	
	baz=70						
CPE	**Camp Elliot**	**1.00**	**250**		Sb	03 20 51.5	-0.3
OLP	**Otay Lakes Par**	**1.01**	**232**		Pb	03 20 39.0	-0.2
OLP					Sb	03 20 52.1	-0.1
GORC	**Green Oak Ranc**	**1.04**	**266**		Pb	03 20 39.0	-0.7
GORC					Sb	03 20 53.5	+0.4
BBSC	**Beaumont Base**	**1.07**	**310**		Sg	03 20 54.5	-0.3
MURC	**Murrieta**	**1.07**	**290**		Pn	03 20 40.5	+0.2
MURC					Sn	03 20 55.1	+0.3
MURC	**Murrieta**	**1.07**	**290**	P		03 20 39.4	
	baz=110,SNR=83						
MURC				Sg		03 20 55.1	
	baz=110						
CBX	**Cerro Bola**	**1.09**	**212**		Pb	03 20 39.7	-0.8
CBX				IAML		03 20 57.4	
	comp=N,228nm,0.5s						
GTM	**Goat Mountain**	**1.09**	**344**		Pb	03 20 40.6	0.0
GTM					Sg	03 20 55.8	+0.2
IRM	**Iron Mountain**	**1.15**	**37**		Pn	03 20 41.2	-0.3
IRM	**Iron Mountain**	**1.15**	**37**	P		03 20 40.2	
	baz=216,SNR=58						
IRM				S		03 20 56.3	
	baz=216						
TJX	**Tijuana**	**1.16**	**231**		Pg	03 20 42.4	0.0
ESJX	**Sierra Juarez**	**1.23**	**178**		Pn	03 20 41.3	-1.4
ELS	**Elsinore Mount**	**1.27**	**289**		Pb	03 20 43.8	+0.2
BBRC	**Big Bear Solar**	**1.28**	**323**		Pg	03 20 44.4	-0.5
BBRC	**Big Bear Solar**	**1.28**	**323**	Pg		03 20 44.3	
	baz=142,SNR=16						
BBRC				Sb		03 21 01.5	
	baz=142						
SME	**Santa Rosa Min**	**1.28**	**297**		Pn	03 20 42.7	-0.5
SIL	**Silver Peak**	**1.31**	**328**		Pg	03 20 44.8	-0.5
BTL	**Butler Peak**	**1.32**	**320**		Pg	03 20 45.3	-0.3
DANC	**Danby, Needles**	**1.48**	**20**		Pg	03 20 47.9	-0.7
CCX	**Cicese**	**1.48**	**203**		Pn	03 20 46.5	+0.6
CCX				IAML		03 21 08.8	
	comp=E,99nm,0.4s						
CCX				IAML		03 21 11.6	
	comp=N,86nm,0.5s						
CSP	**Cedar Springs**	**1.55**	**313**		Pg	03 20 49.5	-0.5
GMRC	**Granite Mounta**	**1.56**	**10**	P		03 20 46.1	
	baz=189,SNR=84						
GMRC				Sb		03 21 09.2	
	baz=189						
SS2	**San Sevaine**	**1.59**	**308**		Pb	03 20 49.7	+0.8
HEC	**Hector,Ludlow**	**1.61**	**350**	Pg		03 20 50.0	
	baz=169,SNR=22						
HEC				Sg		03 21 13.0	
	baz=169						
BFSC	**Mount Baldy Ra**	**1.71**	**306**	Pb		03 20 50.9	

DJA 17 04:11:44.3±0.8,8°S±6'×11°9E±°, h272km±9km, M3.6/6, mb4.6/1, mB5.0/1, MLv3.1/6, Mw(mB)4.3/1
IDC 17 04:11:44.9±3.6,6°97S×120°03E, h281km×36km, mb3.1/3, mb1 3.0/6, mb1mx2.8/34, mbtmp3.6/6, Error ellipse: s-maj=127.4km s-min=22.3km az=58.0
ISC 17 04:11:44.1±1.0, 7°57S±0°09×119°30E±0°07, h300km, n12, σ2s87/15, mb3.6/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSSI	**Bau Bau, Buton**	**1.85**	**40**	P	**Pn**	**04 12 28.2**	**-1.5**
PLAI	**Plampang**	**1.95**	**230**	P	**Pn**	**04 12 28.5**	**-2.0**
PLAI				S	**S**	**04 13 03.0**	**-4.5**
EDFI	**Ende, Flores**	**2.64**	**116**	P	**Pn**	**04 12 34.3**	**-2.2**
TWSI	**Taliwang, Sumb**	**2.66**	**244**	P	**Pn**	**04 12 34.6**	**-1.9**
BASI	**Baing, Sumba**	**2.92**	**154**	P	**Pn**	**04 12 37.0**	**-2.0**
BATI	**Baumata**	**5.05**	**122**	P	**Pn**	**04 13 00.5**	**-1.7**
	6.8nm,0.3s,baz=307,slow=5.1,SNR=5.0						
BATI				S	**S**	**04 13 59.2**	**-5.7**
	9.8nm,0.3s,baz=152,slow=15,SNR=2.9						
SOEI	**Soe**	**5.37**	**114**	P	**Pn**	**04 13 05.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**12.15**	**150**	P	**P**	**04 14 33.0**	**+3.4**
	0.1nm,0.3s,baz=309,slow=14,SNR=1.9						
FITZ				S	**S**	**04 16 45.3**	**+1.6**
	0.1nm,0.3s,baz=324,slow=22,SNR=1.7						
WRA	**Warramunga Arr**	**19.07**	**132**	P	**P**	**04 15 46.0**	**+0.7**
	0.1nm,0.3s,baz=304,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**21.27**	**140**	P	**P**	**04 16 10.1**	**+2.5**
	0.4nm,0.3s,baz=310,slow=8.3,SNR=5.4						
MKAR	**Makanchi Array**	**63.33**	**332**	P	**P**	**04 21 43.2**	**+1.6**
	0.6nm,0.4s,baz=153,slow=7.0,SNR=14						
ZALV	**Zalesovo Beam**	**67.82**	**339**	P	**P**	**04 22 10.5**	**+0.5**
	0.7nm,0.4s,baz=137,slow=4.3,SNR=2.5						

IDC 17 04:33:05.7±2.3, 6°24S×130°58E, h174km±33km, mb3.0/1, mb1 3.0/5, mb1mx2.9/30, mbtmp3.5/5, Error ellipse: s-maj=63.3km s-min=19.8km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.38**	**7**	P	Pn	04 34 24.9	+0.3
	1.6nm,0.3s,baz=239,slow=23,SNR=15						
SIJI				S	Sn	04 35 21.2	-5.3
	6.4nm,0.3s,baz=238,slow=22,SNR=7.9						
FITZ	**Fitzroy Crossi**	**12.73**	**202**	P	Pn	04 35 59.5	-1.2
	0.2nm,0.3s,baz=32,slow=10,SNR=8.6						
FITZ				S	Sn	04 38 08.3	-14
	0.2nm,0.3s,baz=355,slow=15,SNR=2.7						
WRA	**Warramunga Arr**	**14.10**	**165**	P	Pn	04 36 17.4	-0.7
	0.3nm,0.3s,baz=347,slow=11,SNR=26						
WRA				S	Sn	04 38 46.9	-8.1
	0.4nm,0.3s,baz=341,slow=21,SNR=8.3						
ASAR	**Alice Springs**	**17.62**	**170**	P	Pn	04 37 01.0	+0.2
	0.2nm,0.3s,baz=343,slow=12,SNR=4.7						
MKAR	**Makanchi Array**	**67.91**	**326**	P	P	04 43 45.5	-0.2
	0.2nm,0.5s,baz=126,slow=6.2,SNR=4.3						

DDA 17 04:41:33.4, 36°21N×28°94E, h27km, ML3.0
NIC 17 04:41:33.6±0.0, 36°19N×29°03E, h20km±2km, MI3.5/2
ISK 17 04:41:33.4, 36°24N×28°97E, h19km, ML3.2/25
THE 17 04:41:34.0, 36°28N×28°92E, h0km, ML2.6/3, Error ellipse: s-maj=1.1km s-min=0.7km az=166.0
ATH 17 04:41:34.3, 35°89N×28°92E, h10km±31km, ML2.8/2, Error ellipse: s-maj=31.6km s-min=1.9km az=0.0
ISC 17 04:41:33.4±1.0, 36°21N±0°02×28°95E±0°02, h17km±8km, n72, σ0s81/100, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.44**	**15**	P	**Pg**	**04 41 41.9**	**-0.6**
FETY				S	**Sg**	**04 41 48.5**	**0.0**
FETY	**Fethiye**	**0.44**	**15**	PG	**Pg**	**04 41 41.9**	**-0.6**
FETY				SG	**Sg**	**04 41 48.7**	**+0.2**
KSL	**Kastellorizon**	**0.52**	**96**	P	**Pb**	**04 41 44.9**	**+0.9**
KSL				S	**Sn**	**04 41 54.7**	**+0.3**
KSL				AML	AML	04 41 56.4	
	comp=E,2836μm,0.5s						
KSL				AML	AML	04 41 57.8	
	comp=N,2019μm,0.4s						
KSL	**Kastellorizon**	**0.52**	**96**	P	**Pb**	**04 41 45.0**	**+0.9**
KSL				S	**Sn**	**04 41 55.5**	**+1.1**
	comp=N,1μm,0.5s						
KSL	**Kastellorizon**	**0.52**	**96**	P	**Pg**	**04 41 43.7**	**-0.1**
AKAS	**Kas**	**0.53**	**87**	PG	**Pg**	**04 41 44.1**	**-0.1**
AKAS	**Kas**	**0.53**	**87**	*i* P	**Pg**	**04 41 44.1**	**-0.1**
AKAS				*i* S	**Sb**	**04 41 53.2**	**+1.4**
AKAS				IAML		04 41 58.0	
	comp=E,511nm,0.3s						
AKAS				IAML		04 41 59.0	
	comp=N,707nm,0.3s						
DALY	**Dalyan (Mula)**	**0.65**	**339**	PG	**Pb**	**04 41 46.3**	**0.0**
DALY				SG	**Sg**	**04 41 55.9**	**+0.9**
DALY	**Dalyan (Mula)**	**0.65**	**339**	*i* P	**Pb**	**04 41 46.4**	**0.0**
DALY				*i* S	**Sg**	**04 41 55.6**	**+0.6**
DALY				IAML		04 41 58.0	
	comp=N,1μm,0.6s						
DALY				IAML		04 41 58.0	
	comp=E,692nm,0.4s						
ARG	**Arkhangelos**	**0.66**	**271**	P	**Pn**	**04 41 47.4**	**-0.6**
ARG				S	**Sn**	**04 41 58.3**	**+0.3**
ARG				AML	AML	04 42 01.0	
	comp=E,1937μm,0.4s						
ARG				AML	AML	04 42 01.6	
	comp=N,968μm,0.6s						
ARG	**Arkhangelos**	**0.66**	**271**	P	**Pn**	**04 41 47.4**	**-0.6**
ARG				S	**Sn**	**04 41 58.0**	**0.0**
	comp=N,712nm,0.5s						
ARG	**Arkhangelos**	**0.66**	**271**	PG	**Pn**	**04 41 47.3**	**-0.6**
ARG				SG	**Sn**	**04 41 57.6**	**-0.4**
ARG	**Arkhangelos**	**0.66**	**271**	P	**Pn**	**04 41 47.4**	**-0.6**
ARG				S	**Sn**	**04 41 58.6**	**+0.6**
DEMR	**Demre-Antalya**	**0.78**	**88**	PG	**Pg**	**04 41 48.7**	**+0.1**
MRSB	**Marmaris-Mugla**	**0.79**	**310**	PG	**Pg**	**04 41 49.1**	**+0.2**
MRSB				SG	**Sn**	**04 42 00.6**	**-0.6**
TURN	**Turunc**	**0.80**	**315**	PG	**Pg**	**04 41 49.2**	**+0.1**
TURN	**Turunc**	**0.80**	**315**	*i* P	**Pg**	**04 41 49.4**	**+0.4**
TURN				*i* S	**Sb**	**04 41 59.5**	**+0.1**
CAEL	**Denizli, Camel**	**0.96**	**18**	*i* P	**Pg**	**04 41 52.0**	**-0.1**
CAEL				*i* S	**Sn**	**04 42 05.7**	**0.0**
CAEL				IAML		04 42 17.0	
	comp=E,322nm,0.7s						
CAEL				IAML		04 42 19.0	
	comp=N,423nm,0.7s						
YER	**Yerkesik**	**1.07**	**330**	P	**Pn**	**04 41 53.8**	**+0.1**
YER				S	**Sg**	**04 42 08.8**	**+0.6**
YER	**Yerkesik**	**1.07**	**330**	PG	**Pn**	**04 41 53.9**	**+0.2**
AKUM	**Antalya-Kumluc**	**1.14**	**84**	*i* P	**Pn**	**04 41 54.4**	**-0.1**
AKUM				*i* S	**Sg**	**04 42 10.6**	**+0.3**
GOLH	**Golhisar**	**1.14**	**26**	*i* P	**Pg**	**04 41 55.3**	**-0.2**
GOLH				*i* S	**Sg**	**04 42 11.6**	**+1.1**
GOLH				IAML		04 42 14.0	
	comp=N,539nm,0.4s						
GOLH				IAML		04 42 14.0	
	comp=E,238nm,0.4s						
MULA	**Mugla, Merkez-**	**1.16**	**335**	*i* P	**Pg**	**04 41 56.0**	**+0.1**
MULA				*i* S	**Sg**	**04 42 11.1**	**0.0**
MULA				IAML		04 42 15.0	
	comp=E,310nm,0.5s						
DATC	**Datca-Mugla**	**1.17**	**298**	PN	**Pb**	**04 41 55.5**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.26**	**359**	*i* P	**Pg**	**04 41 57.4**	**-0.3**
TAVA				*i* S	**Sg**	**04 42 13.9**	**-0.3**
TAVA				IAML		04 42 15.0	
	comp=N,640nm,0.4s						
TAVA				IAML		04 42 16.0	
	comp=E,315nm,0.3s						
KEMT	**Kemer-ANTALYA**	**1.36**	**73**	PN	**Pn**	**04 41 57.9**	**+0.4**
KORT	**Korkueli**	**1.38**	**55**	PN	**Pb**	**04 41 58.5**	**-0.3**
KORT	**Korkueli**	**1.38**	**55**	*i* P	**Pb**	**04 41 59.3**	**+0.4**
KORT				*i* S	**Sg**	**04 42 17.9**	**-0.2**
KORT				IAML		04 42 22.0	
	comp=N,220nm,0.7s						
KORT				IAML		04 42 23.0	
	comp=E,393nm,0.7s						
NIS1	**Nisyros Isl.**	**1.48**	**286**	PN	**Pb**	**04 41 59.9**	**-0.6**
BDRM	**Kayabasi**	**1.48**	**306**	*i* P	**Pb**	**04 42 00.4**	**-0.1**
BDRM				*i* S	**Sb**	**04 42 18.7**	**-0.3**
ANTB	**Antalya**	**1.54**	**63**	PN	**Pn**	**04 42 00.2**	**+0.2**
BODT	**Bodrum**	**1.57**	**303**	P	**Pn**	**04 42 00.1**	**-0.4**
BODT	**Bodrum**	**1.57**	**303**	PN	**Pn**	**04 42 00.1**	**-0.4**
KARP	**Karpathos**	**1.59**	**246**	P	**Pb**	**04 42 02.0**	**-0.4**
KARP	**Karpathos**	**1.59**	**246**	P	**Pb**	**04 42 01.9**	**-0.5**
KARP				S	**Sg**	**04 42 23.7**	**-1.1**
	comp=E,98nm,0.3s						
KARP	**Karpathos**	**1.59**	**246**	PN	**Pb**	**04 42 01.9**	**-0.5**
KARP	**Karpathos**	**1.59**	**246**	P	**Pb**	**04 42 01.8**	**-0.6**
KARP				S	**Sb**	**04 42 23.5**	**+1.3**
KOSK	**Kos Island**	**1.68**	**289**	PN	**Pn**	**04 42 02.6**	**+0.7**
BUCA	**Burdur, Bucak-**	**1.71**	**49**	*i* P	**Pb**	**04 42 03.9**	**-0.5**
BUCA				IAML		04 42 47.0	
	comp=E,96nm,0.8s						
BRDR	**BURDUR-Merkez**	**1.73**	**31**	*i* P	**Pb**	**04 42 04.5**	**-0.3**
BRDR				*i* S	**Sn**	**04 42 24.9**	**+0.3**
BRDR				IAML		04 42 31.0	
	comp=E,94nm,0.5s						
BCK	**Bucak**	**1.82**	**46**	PN	**Pn**	**04 42 04.2**	**+0.2**
DDIM	**Aydin, Didim**	**1.85**	**313**	*i* P	**Pn**	**04 42 05.5**	**+1.1**
DDIM				IAML		04 42 44.0	
	comp=N,150nm,1.0s						
DDIM				IAML		04 43 16.0	
	comp=E,191nm,1.9s						
BASM	**Basmaki-Afyon**	**1.92**	**27**	PN	**Pn**	**04 42 05.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.93**	**334**	PN	**Pn**	**04 42 05.9**	**+0.3**
GCAM	**G?zelcami?**	**2.02**	**318**	PN	**Pn**	**04 42 07.5**	**+0.8**
GCAM	**G?zelcami?**	**2.02**	**318**	*i* P	**Pn**	**04 42 06.7**	**0.0**
GCAM				IAML		04 42 48.0	
	comp=N,96nm,1.0s						
ISP	**Isparta**	**2.05**	**38**	PN	**Pn**	**04 42 07.3**	**+0.1**
KHAL	**Karahalli**	**2.20**	**11**	*i* P	**Pn**	**04 42 10.1**	**+0.8**
KHAL				*i* S	**Sn**	**04 42 37.4**	**+1.2**
KZIL	**AFYON_Kizioren**	**2.26**	**25**	*i* P	**Pb**	**04 42 12.4**	**-1.4**
SMG	**Samos**	**2.26**	**312**	P	**Pn**	**04 42 10.7**	**+0.7**
MANT	**Manisa**	**2.30**	**352**	*i* P	**Pn**	**04 42 10.8**	**+0.1**
KULA	**Kula-Manisa**	**2.31**	**354**	PN	**Pn**	**04 42 11.1**	**+0.3**
DGB	**zmir**	**2.47**	**319**	*i* P	**Pn**	**04 42 12.9**	**+0.1**
DGB				*i* S	**Sn**	**04 42 38.6**	**-4.0**
ZKR	**Zakros**	**2.48**	**245**	P	**Pn**	**04 42 14.9**	**+2.0**
ZKR	**Zakros**	**2.48**	**245**	PN	**Pn**	**04 42 14.3**	**+1.4**
ZKR	**Zakros**	**2.48**	**245**	P	**Pn**	**04 42 14.7**	**+1.7**
USAK	**Uak-Merkez**	**2.50**	**1**	*i* P	**Pn**	**04 42 12.6**	**-0.8**
USAK				IAML		04 43 41.0	
	comp=E,63nm,3.1s						
BLCB	**Balcova**	**2.65**	**326**	PN	**Pn**	**04 42 16.2**	**+0.8**
SHUT	**Suhut-Afyon**	**2.67**	**28**	PN	**Pn**	**04 42 15.9**	**+0.2**
GAZI	**Gazipasa**	**2.73**	**88**	PN	**Pn**	**04 42 15.6**	**-0.8**
URLA	**Izmir**	**2.85**	**320**	PN	**Pn**	**04 42 18.7**	**+0.6**
NPS	**Neapolis**	**2.87**	**252**	P	**Pn**	**04 42 19.5**	**+1.1**
SIMA	**Simav-Kutahya**	**2.87**	**1**	PN	**Pn**	**04 42 18.3**	**-0.2**
AKMS	**Akamas**	**3.01**	**112**	P	**Pn**	**04 42 19.3**	**-0.9**
AKMS				AML	AML	04 42 54.2	
	comp=E,0.8nm,0.5s						
AKMS				AML	AML	04 42 54.2	
	comp=E,0.8nm,0.5s						
AKMS				S	**Sn**	**04 42 54.7**	**-1.1**
AKMS				AML	AML	04 42 55.4	
	comp=E,0.4nm,0.3s						
AKMS				AML	AML	04 42 55.4	
	comp=E,0.4nm,0.3s						
LAST	**Lasithi**	**3.01**	**251**	P	**Pn**	**04 42 21.6**	**+1.2**
ALFC	**Alefka**	**3.15**	**108**	P	**Pn**	**04 42 20.7**	**-1.6**
ALFC				S	**Sn**	**04 42 58.3**	**-1.3**
ALFC				AML	AML	04 42 59.3	
	comp=E,0.3nm,0.2s						
ALFC				AML	AML	04 42 59.3	
	comp=E,0.3nm,0.2s						
ALFC				AML	AML	04 43 00.6	
	comp=E,0.3nm,0.3s						
ALFC				AML	AML	04 43 00.6	
	comp=E,0.3nm,0.3s						
NATA	**Nata**	**3.28**	**115**	P	**Pn**	**04 42 23.5**	**-0.6**
OSC1	**CSNet OBS 1**	**3.31**	**144**	P	**Pn**	**04 42 23.2**	**-1.2**
SZAC	**Souni**	**3.52**	**113**	P	**Pn**	**04 42 26.5**	**-0.8**
CSS	**Mathiatis**	**3.78**	**108**	P	**Pn**	**04 42 30.8**	**-0.2**
ASGA	**Asgata**	**3.79**	**111**	P	**Pn**	**04 42 30.7**	**-0.3**
OSC2	**CSNet OBS 4**	**4.15**	**138**	P	**Pn**	**04 42 35.8**	**-0.2**

TAP 17 04:46:38.6, 24°52N×122°32E, h15km, ML3.1, D
JMA 17 04:46:39.1, 24°50N×122°33E, h28km±3km, M2.8
ISC 17 04:46:38.4±1.0, 24°48N±0°02×122°35E±0°02, h11km±9km, n73, σ0s67/132, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.47**	**286**	P	**Pg**	**04 46 47.1**	**-0.6**
	baz=282						
TWC				*e*S	**Sg**	**04 46 54.7**	**+0.7**
	baz=282						
JYNG	**Yonagunijimaku**	**0.54**	**93**	P	**Pb**	**04 46 50.1**	**+0.1**
JYNG				S	**Sb**	**04 46 58.5**	**+0.7**
ENA	**Nanau**	**0.56**	**265**	P	**Pg**	**04 46 49.2**	**-0.1**
	baz=268						
ENA				*e*S	**Sb**	**04 46 58.1**	**0.0**
	baz=268						
NDS	**Dongshan**	**0.60**	**285**	P	**Pg**	**04 46 49.6**	**-0.4**
	baz=282						
NDS				*e*S	**Sb**	**04 46 59.1**	**-0.3**
	baz=282						
NTC	**Toucheng**	**0.60**	**308**	*e*P	**Pg**	**04 46 50.0**	**-0.2**
	baz=307						
NTC				S	**Sg**	**04 46 58.5**	**+0.4**
	baz=307						
YOJ	**Yonaguni jima**	**0.60**	**92**	P	**Pg**	**04 46 51.0**	**+0.9**
	baz=94						
YOJ				S	**Sb**	**04 47 00.9**	**+1.4**
	baz=94						
YOJ	**Yonaguni jima**	**0.60**	**92**	P	**Pg**	**04 46 51.1**	**+0.9**
YOJ				*e*S	**Sb**	**04 47 00.2**	**+0.7**
ILA	**Ilan**	**0.62**	**298**	*e*S	**Sg**	**04 46 59.2**	**+0.6**
	baz=286						
TWB1	**Santiao Chiao**	**0.62**	**328**	*e*P	**Pg**	**04 46 50.3**	**-0.2**
	baz=328						
TWB1				*e*S	**Sg**	**04 46 59.1**	**+0.5**
	baz=328						
TWE	**Neicheng**	**0.67**	**291**	P	**Pg**	**04 46 50.9**	**-0.5**
	baz=289						
TWE				S	**Sb**	**04 47 01.1**	**-0.2**
	baz=289						
TIPB	**Shuangxi**	**0.68**	**316**	P	**Pg**	**04 46 51.7**	**0.0**
	baz=308						
TIPB				*e*S	**Sg**	**04 46 59.5**	**-1.2**
	baz=308						
ENTT	**Nioudou**	**0.73**	**283**	P	**Pg**	**04 46 52.4**	**-0.3**
	baz=280						
ENTT				S	**Sb**	**04 47 03.2**	**0.0**
	baz=280						
NACB	**Ninganchiao**	**0.75**	**246**	P	**Pg**	**04 46 53.1**	**+0.1**
	baz=251						
NACB				*e*S	**Sb**	**04 47 03.5**	**-0.3**
	baz=251						
NDT	**Datong Townshi**	**0.77**	**279**	*e*P	**Pg**	**04 46 53.1**	**-0.3**
	baz=277						
NDT				*e*S	**Sb**	**04 47 04.5**	**+0.1**
	baz=277						
NWF	**Wu-fen Shan**	**0.78**	**319**	*e*P	**Pg**	**04 46 53.4**	**-0.2**
	baz=319						
NWF				*e*S	**Sb**	**04 47 04.5**	**-0.3**
	baz=319						
WFSB	**Wu-fen Shan**	**0.78**	**319**	*e*P	**Pb**	**04 46 54.5**	**+0.4**
	baz=319						
WFSB				*e*S	**Sb**	**04 47 04.4**	**-0.3**
	baz=319						
TWD	**Chiawan**	**0.80**	**240**	*e*P	**Pn**	**04 46 55.0**	**-0.5**
	baz=237						
TWD				*e*S	**Sb**	**04 47 06.1**	**+1.0**
	baz=237						
NWLT	**Wulai**	**0.83**	**291**	*e*P	**Pg**	**04 46 54.5**	**+0.1**
	baz=290						
NWLT				*e*S	**Sb**	**04 47 05.9**	**0.0**
	baz=290						
ETLH	**Xiulin Townshi**	**0.84**	**251**	*e*P	**Pg**	**04 46 54.6**	**-0.1**
	baz=249						
ETLH				*e*S	**Sn**	**04 47 08.8**	**+0.2**
	baz=249						
TNOU	**National Taiwa**	**0.85**	**322**	*e*P	**Pg**	**04 46 54.7**	**-0.1**
	baz=322						
TNOU				*e*S	**Sg**	**04 47 05.8**	**-0.2**
	baz=322						
TWA	**Mucha**	**0.86**	**306**	*e*P	**Pb**	**04 46 55.8**	**+0.4**
	baz=305						
TWA				*e*S	**Sg**	**04 47 06.0**	**-0.2**
	baz=305						
NNSB	**Datong**	**0.88**	**267**	P	**Pg**	**04 46 55.2**	**-0.2**
	baz=264						
NNSB				*e*S	**Sb**	**04 47 07.4**	**-0.3**
	baz=264						
NNSH	**Datong**	**0.88**	**267**	P	**Pg**	**04 46 55.5**	**0.0**
	baz=264						
NNSH				*e*S	**Sb**	**04 47 08.5**	**+0.8**
	baz=264						
NHDH	**Xindian Distri**	**0.89**	**303**	*e*P	**Pn**	**04 46 56.8**	**-0.1**
	baz=302						
NHDH				*e*S	**Sg**	**04 47 07.3**	**0.0**
	baz=302						
NNS	**Nan Shan**	**0.89**	**268**	P	**Pg**	**04 46 55.5**	**-0.1**
	baz=265						
NNS				*e*S	**Sg**	**04 47 07.4**	**+0.1**
	baz=265						
YHNB	**Yeheng**	**0.91**	**282**	P	**Pg**	**04 46 55.9**	**0.0**
	baz=280						
YHNB				*e*S	**Sb**	**04 47 08.7**	**+0.4**
	baz=280						
NSK	**Sanguang**	**0.92**	**282**	P	**Pg**	**04 46 56.2**	**-0.1**
	baz=280						
NSK				S	**Sg**	**04 47 08.4**	**+0.1**
	baz=280						
TATO	**Taipei**	**0.93**	**302**	*e*P	**Pb**	**04 46 56.8**	**+0.3**
	baz=302						
TATO				*e*S	**Sb**	**04 47 08.9**	**+0.1**
	baz=302						
YM01	**YM01**	**0.97**	**313**	*e*P	**Pg**	**04 46 56.6**	**-0.5**
	baz=313						
YM01				*e*S	**Sg**	**04 47 08.4**	**-1.4**
	baz=313						
YM11	**YM11**	**0.98**	**314**	*e*P	**Pn**	**04 46 58.2**	**0.0**
	baz=314						
YM11				*e*S	**Sb**	**04 47 10.6**	**+0.1**
	baz=314						
YM10	**YM10**	**0.98**	**313**	*e*P	**Pb**	**04 46 58.0**	**+0.4**
	baz=313						
YM10				*e*S	**Sg**	**04 47 10.5**	**+0.3**
	baz=313						
YM05	**YM05**	**0.99**	**314**	*e*P	**Pb**	**04 46 57.9**	**+0.3**
	baz=314						
YM05				*e*S	**Sg**	**04 47 10.1**	**-0.2**
	baz=314						
YM08	**YM08**	**0.99**	**316**	*e*P	**Pg**	**04 46 57.4**	**-0.1**
	baz=316						
YM08				*e*S	**Sg**	**04 47 09.7**	**-0.7**
	baz=316						
YM04	**YM04**	**1.00**	**312**	*e*P	**Pg**	**04 46 58.2**	**+0.5**
	baz=312						
YM04				*e*S	**Sb**	**04 47 11.7**	**+0.7**
	baz=312						
FUSS	**Fushou**	**1.03**	**257**	*e*P	**Pg**	**04 46 58.4**	**0.0**
	baz=255						
FUSS				*e*S	**Sn**	**04 47 13.9**	**+0.2**
	baz=255						
WHF	**Hehuan Shan**	**1.04**	**252**	*e*P	**Pg**	**04 46 58.5**	**-0.1**
	baz=250						
WHF				*e*S	**Sb**	**04 47 12.9**	**+0.3**
	baz=250						
TWY	**Chenhua**	**1.04**	**319**	*e*P	**Pn**	**04 46 59.4**	**+0.4**
	baz=320						
TWY				*e*S	**Sb**	**04 47 12.2**	**-0.1**
	baz=320						
ESL	**Shilin**	**1.07**	**232**	*e*P	**Pn**	**04 46 59.4**	**0.0**
	baz=213						
TWT	**Tachien**	**1.09**	**258**	*e*P	**Pn**	**04 47 00.3**	**+0.5**
	baz=256						
TDCB	**Techi**	**1.11**	**259**	*e*P	**Pn**	**04 47 00.3**	**+0.2**
	baz=241						
TDCB				*e*S	**Sg**	**04 47 14.6**	**+0.3**
	baz=241						
PCYT	**Pengchaiyu**	**1.17**	**348**	*e*P	**Pb**	**04 46 59.4**	**-1.3**
	baz=348						
NSTT	**Nanjuang**	**1.24**	**277**	*e*P	**Pg**	**04 47 02.5**	**+0.3**
	baz=291						
NSTT				*e*S	**Sg**	**04 47 18.9**	**+0.6**
	baz=291						
IRIF	**Iriomote-Funau**	**1.27**	**96**	P	**Pn**	**04 47 01.6**	**-0.5**
IRIF				*e*S	**Sb**	**04 47 17.5**	**-1.1**
WHP	**Taichung City**	**1.30**	**261**	*e*P	**Pg**	**04 47 03.8**	**+0.4**
	baz=260						
WHP				*e*S	**Sg**	**04 47 20.3**	**+0.1**
	baz=260						
HGSD	**Ruisui**	**1.30**	**221**	*e*P	**Pb**	**04 47 03.1**	**+0.3**
	baz=206						
VWDT	**VWDT**	**1.32**	**237**	*e*P	**Pb**	**04 47 03.3**	**0.0**
	baz=236						
VWDT				*e*S	**Sg**	**04 47 21.0**	**+0.1**
	baz=236						
SSLB	**Suanglung**	**1.45**	**242**	P	**Pg**	**04 47 06.3**	**0.0**
	baz=226						
SSLB				*e*S	**Sg**	**04 47 24.5**	**-0.6**
	baz=226						
YULB	**Yu-li**	**1.45**	**222**	*e*P	**Pn**	**04 47 04.7**	**+0.1**
	baz=221						
SMLT	**Sun Moon Lake**	**1.45**	**246**	*e*P	**Pb**	**04 47 05.9**	**+0.3**
	baz=229						
SMLT				*e*S	**Sg**	**04 47 25.5**	**+0.3**
	baz=229						
EYUL	**Yuli**	**1.47**	**220**	*e*P	**Pn**	**04 47 05.1**	**+0.2**
	baz=237						
TWF1	**Yuli**	**1.48**	**221**	*e*P	**Pn**	**04 47 04.9**	**-0.2**
	baz=236						
TYC	**Yuchr**	**1.48**	**247**	*e*P	**Pb**	**04 47 06.3**	**+0.4**
	baz=233						
TYC				*e*S	**Sg**	**04 47 26.3**	**+0.3**
	baz=233						
JKRS	**Kuro-shima**	**1.53**	**99**	P	**Pn**	**04 47 05.9**	**+0.2**
JKRS				S	**Sn**	**04 47 25.2**	**-0.4**
FULB	**Fuli**	**1.60**	**217**	*e*P	**Pn**	**04 47 06.6**	**-0.1**
	baz=202						
FULB				*e*S	**Sb**	**04 47 28.8**	**+0.6**
	baz=202						
YUS	**Yu-Shan**	**1.61**	**233**	*e*P	**Pb**	**04 47 08.7**	**+0.1**
	baz=218						
JIJ	**Ishigaki jima**	**1.64**	**94**	P	**Pn**	**04 47 06.7**	**-0.5**
JIJ				*e*S	**Sn**	**04 47 26.8**	**-1.5**
ALS	**Alishan**	**1.71**	**236**	*e*P	**Pb**	**04 47 10.0**	**-0.1**
	baz=221						
ALS				*e*S	**Sg**	**04 47 33.2**	**-0.4**
	baz=221						
CHN5	**Tsauling**	**1.76**	**240**	*e*P	**Pb**	**04 47 11.4**	**+0.5**
	baz=224						
CHN5				*e*S	**Sg**	**04 47 35.6**	**+0.5**
	baz=224						
ELDTW	**Lidau**	**1.77**	**224**	*e*P	**Pn**	**04 47 09.6**	**+0.5**
	baz=223						
EDH	**Donghe**	**1.78**	**213**	*e*S	**Sn**	**04 47 30.9**	**-0.8**
	baz=200						
JISG	**Ishigakijimahi**	**1.79**	**86**	P	**Pn**	**04 47 09.4**	**+0.1**
JISG				S

IDC 17 04:58:32.6±19.0, 40.59N×141.34E, h66km±87km, mb3.5/4, mb1 3.6/5, mb1mx3.6/2/39, mbtmp3.7/5, ML2.0/1, Error ellipse: s-maj=291.8km s-min=31.1km az=170.0
JMA 17 04:58:46.7±0.1, 42.09N×140.92E, h117km±1km, M2.8
ISC 17 04:58:46.2±0.9, 42.04N±0.05×140.90E±0.04, h122km±6km, n20, σ0949/31, mb3.5/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.18**	**148**	P	**Pn**	**04 59 03.0**	**-0.1**
JKB				eS	**Sn**	**04 59 15.5**	**-0.2**
JYM2	**Yakumo 2**	**0.40**	**281**	P	**Pn**	**04 59 04.0**	**+0.1**
JNB	**Noboribetsu**	**0.44**	**13**	P	**Pn**	**04 59 03.6**	**-0.4**
JNB				eS	**Sn**	**04 59 16.8**	**-0.7**
JSR	**Shiriuchi**	**0.63**	**215**	P	**Pn**	**04 59 05.6**	**+0.3**
JSR				eS	**Sn**	**04 59 19.6**	**0.0**
JOT	**Ohata**	**0.67**	**171**	P	**Pn**	**04 59 05.8**	**+0.2**
JOT				eS	**Sn**	**04 59 20.4**	**+0.3**
JHST	**Hiyamasetana**	**0.85**	**297**	P	**Pn**	**04 59 07.0**	**0.0**
JHST				eS	**Sn**	**04 59 22.3**	**-0.4**
JSH	**Shimam**	**0.87**	**314**	P	**Pn**	**04 59 07.5**	**+0.3**
JSH				eS	**Sn**	**04 59 23.3**	**+0.2**
JIAM	**Iburiatsuma**	**0.95**	**52**	P	**Pn**	**04 59 08.3**	**+0.4**
JOSM	**Okushiri--Mats**	**1.06**	**273**	P	**Pn**	**04 59 08.9**	**-0.1**
JOSM				eS	**Sn**	**04 59 25.8**	**-0.5**
JBT2	**Biratori 2**	**1.31**	**55**	P	**Pn**	**04 59 11.5**	**-0.1**
JBT2				eS	**Sn**	**04 59 30.6**	**-0.3**
JSK	**Shakotan**	**1.35**	**347**	P	**Pn**	**04 59 12.1**	**+0.1**
JNBK	**Urakawa-nobuka**	**1.40**	**80**	P	**Pn**	**04 59 12.5**	**-0.1**
JNBK				eS	**Sn**	**04 59 32.2**	**-0.4**
JANG	**Nango**	**1.73**	**164**	P	**Pn**	**04 59 16.5**	**0.0**
JANG				eS	**Sn**	**04 59 39.0**	**-0.6**
JHR	**Hokuryu**	**1.80**	**19**	P	**Pn**	**04 59 18.1**	**+0.8**
JCH	**Churui**	**1.91**	**72**	P	**Pn**	**04 59 18.6**	**0.0**
JCH				eS	**Sn**	**04 59 42.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**6.87**	**291**	P	**Pn**	**05 00 23.3**	**-1.0**
	baz=121,slow=14,SNR=5.3						
ZALV	**Zalesovo Beam**	**38.39**	**308**	P	**P**	**05 05 56.4**	**+1.2**
	2.6nm,0.4s,baz=76,slow=8.2,SNR=8.6						
MKAR	**Makanchi Array**	**41.29**	**297**	P	**P**	**05 06 19.6**	**+0.2**
	0.5nm,0.5s,baz=84,slow=10,SNR=7.9						
ILAR	**Eielson Array**	**45.54**	**35**	P	**P**	**05 06 53.4**	**+0.1**
	0.3nm,0.8s,baz=280,slow=7.3,SNR=4.1						
YKA	**Yellowknife Ar**	**59.71**	**31**	P	**P**	**05 08 37.0**	**-0.4**
	0.2nm,0.5s,baz=309,slow=6.0,SNR=4.2						

IDC 17 05:03:30.8±1.7, 2.98N×125.28E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/35, mbtmp3.7/4, Error ellipse: s-maj=119.1km s-min=22.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.95**	**179**	P	P	05 08 14.9	-0.6
	1.8nm,0.4s,baz=354,slow=5.9,SNR=26						
WRA	**Warramunga Arr**	**24.46**	**159**	P	P	05 08 52.4	+0.7
	0.8nm,0.4s,baz=340,slow=9.8,SNR=38						
ASAR	**Alice Springs**	**27.79**	**163**	P	P	05 09 21.3	-0.5
	0.3nm,0.5s,baz=336,slow=7.3,SNR=4.6						
MKAR	**Makanchi Array**	**57.35**	**326**	P	P	05 13 20.8	-0.1
	0.4nm,0.3s,baz=128,slow=7.6,SNR=17						

NEIC 17 05:07:11.1±1.6, 12.19N±0.07×87.20W±0.07, h76km±6km, mb4.3/57, Error ellipse: s-maj=12.5km s-min=6.8km az=47.0
INET 17 05:07:11.4, 12.15N×87.24W, h54km, MW4.0
SNET 17 05:07:11.8±0.9, 12.25N×87.32W, h22km±4km, ML3.5
IDC 17 05:07:11.1±1.3, 12.39N×86.92W, h78km±14km, mb3.7/9, mb1 3.9/13, mb1mx3.6/39, mbtmp3.9/13, MS2.9/4, Ms1 2.9/4, ms1mx2.7/32, Error ellipse: s-maj=30.7km s-min=10.7km az=52.0
UCR 17 05:07:13.7±1.7, 12.06N×87.07W, h35km±999km, MW3.9, mb4.3(NEIC)
ISC 17 05:07:10.3±0.8, 12.18N±0.06×87.19W±0.05, h75km±7km, n106, σ1903/105, mb4.3/37, 3C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.53**	**15**		**Pn**	**05 07 24.0**	**0.0**
CNGN	**Cerro Negro**	**0.57**	**56**	*eP*	**Pn**	**05 07 24.2**	**-0.1**
CNGN				eS	**Sn**	**05 07 33.6**	**-1.0**
CNCH	**Conchagua**	**1.26**	**330**	*eP*	**Pn**	**05 07 32.5**	**+0.1**
CNCH				eS	**Sn**	**05 07 48.4**	**-0.6**
LCND	**La Caada**	**1.31**	**329**	*eP*	**Pn**	**05 07 33.1**	**+0.1**
LCND				eS	**Sn**	**05 07 49.2**	**-0.8**
MATN	**Matagalpa**	**1.44**	**59**		**Pn**	**05 07 35.9**	**+1.1**
BOAB	**BOACO BROADBAN**	**1.51**	**80**		**Pn**	**05 07 35.8**	**+0.3**
VSM	**San Miguel**	**1.63**	**320**	*eP*	**Pn**	**05 07 37.9**	**+0.5**
VSM				eS	**Sn**	**05 07 58.8**	**+0.9**
LCY	**Lacayo**	**1.64**	**319**	*eP*	**Pn**	**05 07 37.8**	**+0.4**
PACA	**Pacayal**	**1.69**	**319**	*eP*	**Pn**	**05 07 38.7**	**+0.6**
PACA				eS	**Sn**	**05 07 59.1**	**0.0**
ALJI	**Alcalda de J**	**1.77**	**310**	*eP*	**Pn**	**05 07 38.9**	**-0.1**
TECA	**Tecapa**	**1.83**	**316**	*eP*	**Pn**	**05 07 40.3**	**+0.3**
TECA				eS	**Sn**	**05 08 02.1**	**-0.4**
COEB	**Comit de Eme**	**1.85**	**315**	*eP*	**Pn**	**05 07 40.4**	**+0.2**
COEB				eS	**Sn**	**05 08 03.6**	**+0.7**
COEB				IAML		05 08 12.3	
	comp=Z,1μm,0.4s						
TGUH	**Tegucigalpa,Un**	**1.87**	**357**	*eP*	**Pn**	**05 07 41.5**	**+1.1**
TGUH	**Tegucigalpa,Un**	**1.87**	**357**		**Pn**	**05 07 41.5**	**+1.1**
PQSS	**Presa 15 de Se**	**1.96**	**317**	*eP*	**Pn**	**05 07 42.0**	**+0.5**
PQSS				eS	**Sn**	**05 08 05.8**	**+0.4**
PQSS				IAML		05 08 08.1	
	comp=Z,307nm,0.1s						
ACON	**Acoyapa**	**1.98**	**96**		**Pn**	**05 07 41.9**	**+0.1**
COEG	**Centro de Oper**	**2.18**	**311**	*eP*	**Pn**	**05 07 44.6**	**0.0**
COEG				eS	**Sn**	**05 08 10.4**	**-0.4**
COEG				IAML		05 08 13.8	
	comp=Z,750nm,0.3s						
LFRS	**El Faro**	**2.32**	**308**	*eP*	**Pn**	**05 07 46.8**	**+0.3**
LBRS	**Las Brisas**	**2.38**	**311**	*eP*	**Pn**	**05 07 48.4**	**+1.2**
HORNC	**Hornillas**	**2.45**	**126**	*iP*	**Pn**	**05 07 48.8**	**+0.5**
HORNC				*iS*	**Sn**	**05 08 16.9**	**-0.5**
LALI	**Alcalda de L**	**2.45**	**302**	*eP*	**Pn**	**05 07 48.6**	**+0.5**
ORTG	**Ortega, Santa**	**2.48**	**137**		**Pn**	**05 07 48.9**	**+0.3**
SNET	**Serv Nac Est T**	**2.49**	**307**	*eP*	**Pn**	**05 07 49.2**	**+0.5**
SNET				IAML		05 08 19.0	
	comp=Z,429nm,0.3s						
SNET	**Serv Nac Est T**	**2.49**	**307**		**Pn**	**05 07 49.5**	**+0.7**
CUI	**Cuipilapa**	**2.50**	**127**	*iP*	**Pn**	**05 07 49.3**	**+0.5**
CUI				*iS*	**Sn**	**05 08 18.8**	**+0.5**
GUAI	**GUAI**	**2.51**	**139**	*iP*	**Pn**	**05 07 49.9**	**+0.9**
GUAI				*iS*	**Sn**	**05 08 17.5**	**-1.1**
UEES	**Universidad Ev**	**2.52**	**308**	*eP*	**Pn**	**05 07 49.7**	**+0.6**
JAYA	**Jayaque - finc**	**2.65**	**304**	*eP*	**Pn**	**05 07 51.3**	**+0.4**
TACO	**Tacachico**	**2.76**	**310**	*eP*	**Pn**	**05 07 52.8**	**+0.5**
TACO				IAML		05 08 26.5	
	comp=Z,67nm,0.6s						
ESPN	**Las Esperanzas**	**2.82**	**89**		**Pn**	**05 07 54.1**	**+1.0**
JTS	**Las Juntas de**	**2.89**	**130**	P	**Pn**	**05 07 54.7**	**+0.6**
	comp=Z,6.0nm,0.3s,baz=193,slow=23,SNR=28						
JTS				S	**Sn**	**05 08 28.0**	**+0.2**
	comp=Z,47nm,0.3s,baz=26,slow=17,SNR=8.5						
MTO3	**Montecristo**	**3.06**	**316**	*eP*	**Pn**	**05 07 57.4**	**+0.8**
MTO3	**Montecristo**	**3.06**	**316**		**Pn**	**05 07 57.5**	**+1.0**
ESQI	**Esquipulas**	**3.16**	**319**	*eP*	**Pn**	**05 07 59.2**	**+1.3**
ESQI	**Esquipulas**	**3.16**	**319**		**Pn**	**05 07 59.1**	**+1.3**
APG	**El Apazote**	**4.25**	**312**	P	**Pn**	**05 08 14.4**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=104,slow=15,SNR=4.9						
APG				LR	LR	05 10 04.2	
	comp=Z,93nm,21.8s,baz=86,slow=40						
PEZE	**Perez Zeledon,**	**4.43**	**129**		**Pn**	**05 08 18.3**	**+3.1**
LPLA	**Las Palmas La**	**5.17**	**127**	*eP*	**Pn**	**05 08 27.7**	**+2.4**
CCIG	**Comitan**	**6.30**	**311**		**Pn**	**05 08 42.8**	**+2.1**
TEIG	**Tepich**	**8.07**	**353**	P	**Pn**	**05 09 04.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=289,slow=1.8,SNR=2.5						
CMIG	**Matias Romero**	**8.90**	**304**	P	**Pn**	**05 09 18.1**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=159,slow=9.5,SNR=18						
CMIG				LR	LR	05 12 36.9	
	comp=Z,28nm,20.6s,baz=196,slow=36						
MTDJ	**Mount Denham**	**11.09**	**56**	Pn	**Pn**	**05 09 49.3**	**+3.2**
ROSC	**El Rosal**	**14.66**	**119**	LR	LR	05 16 10.0	
	comp=Z,58nm,20.1s,baz=160,slow=37						
HKT	**Hockley**	**19.42**	**337**	Pn	**Pn**	**05 11 32.8**	**+0.5**
152A	**Waverly Hall**	**20.52**	**6**	P	Pn	05 11 46.4	+1.1
LRAL	**Lakeview Retre**	**20.76**	**0**	P	Pn	05 11 50.0	+1.9
WHTX	**Lake Whitney,**	**21.86**	**336**	P	**P**	**05 11 54.9**	**-2.1**
WHTX				IAmb	IAmb	05 12 01.5	
	comp=Z,13nm,1.1s						
TX31	**Lajitas Ar. Si**	**22.94**	**321**	P	**P**	**05 12 08.9**	**+0.4**
TX32	**Lajitas Array**	**22.94**	**321**	P	**P**	**05 12 08.9**	**+0.4**
TX32				IAmb	IAmb	05 12 10.6	
	comp=Z,7.9nm,0.7s						
TXAR	**Lajitas Array**	**22.94**	**321**	P	**P**	**05 12 09.0**	**+0.4**
	comp=Z,7.1nm,0.6s,baz=137,slow=9.7,SNR=131						
TXAR				PcP	**PcP**	**05 15 57.6**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=139,slow=4.7,SNR=4.0						
TXAR	**Lajitas Array**	**22.94**	**321**	P	**P**	**05 12 08.9**	**+0.4**
MIAR	**Mount Ida**	**23.01**	**346**	P	**P**	**05 12 09.6**	**+0.6**
CPCT	**Cooper Cave**	**23.29**	**6**	P	**P**	**05 12 12.5**	**+0.8**
TKL	**Tuckaleechee C**	**23.58**	**7**	P	**P**	**05 12 14.1**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=130,slow=4.2,SNR=5.7						
TKL	**Tuckaleechee C**	**23.58**	**7**	P	**P**	**05 12 15.3**	**+1.0**
WMOK	**Wichita Mounta**	**24.80**	**337**	P	**P**	**05 12 27.5**	**+2.1**
MNTX	**Cornudas Mount**	**25.66**	**322**	P	**P**	**05 12 33.8**	**+0.6**
MSTX	**Muleshoe**	**25.93**	**329**	P	**P**	**05 12 36.2**	**+0.4**
MSTX				IAmb	IAmb	05 12 36.8	
	comp=Z,14nm,0.9s						
S39A	**Bolivar**	**25.99**	**349**	IAmb	IAmb	05 12 37.7	
	comp=Z,4.7nm,0.7s						
ANMO	**Albuquerque**	**28.62**	**326**	P	**P**	**05 13 00.9**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=140,slow=8.7,SNR=8.3						
ANMO	**Albuquerque**	**28.62**	**326**	P	**P**	**05 13 01.8**	**+1.8**
W18A	**Petrified Fore**	**30.64**	**322**	P	**P**	**05 13 17.9**	**0.0**
W18A				IAmb	IAmb	05 13 20.6	
	comp=Z,4.6nm,0.8s						
WUAZ	**Wupatki**	**31.91**	**321**	P	**P**	**05 13 29.3**	**+0.3**
WUAZ				IAmb	IAmb	05 13 32.0	
	comp=Z,3.6nm,0.8s						
PV13	**Radium Mtn., P**	**32.27**	**327**	IAmb	IAmb	05 13 34.5	
	comp=Z,3.0nm,0.8s						
PV03	**Paradox Valley**	**32.36**	**327**	P	**P**	**05 13 33.8**	**+0.9**
PV05	**Paradox Valley**	**32.37**	**327**	IAmb	IAmb	05 13 34.8	
	comp=Z,3.5nm,0.7s						
PV12	**Saucer Basin,**	**32.38**	**327**	P	**P**	**05 13 33.3**	**+0.2**
PV16	**Nyswonger Mesa**	**32.44**	**327**	P	**P**	**05 13 34.8**	**+1.1**
ECSD	**EROS Data Cent**	**32.48**	**347**	IAmb	IAmb	05 13 34.3	
	comp=Z,3.4nm,0.7s						
PV20	**West Nyswonger**	**32.49**	**327**	P	**P**	**05 13 34.8**	**+0.8**
PV20				IAmb	IAmb	05 13 36.0	
	comp=Z,5.5nm,0.6s						
PV04	**Paradox Valley**	**32.49**	**327**	P	**P**	**05 13 34.8**	**+0.7**
PV04				IAmb	IAmb	05 13 35.9	
	comp=Z,5.1nm,0.9s						
PV14	**Lion Creek, Pa**	**32.54**	**327**	IAmb	IAmb	05 13 36.4	
	comp=Z,5.5nm,0.7s						
SADO	**Sadowa**	**33.20**	**10**	P	**P**	**05 13 39.7**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=217,slow=7.0,SNR=4.4						
O20A	**White River Ci**	**33.47**	**330**	P	**P**	**05 13 43.0**	**+0.5**
O20A				IAmb	IAmb	05 13 45.4	
	comp=Z,5.1nm,0.7s						
KNB	**Kanab**	**33.77**	**321**	IAmb	IAmb	05 13 49.0	
	comp=Z,3.5nm,0.9s						
MTPU	**Mount Pierson**	**34.07**	**323**	P	**P**	**05 13 49.7**	**+1.7**
MTPU				IAmb	IAmb	05 13 51.3	
	comp=Z,3.2nm,0.7s						
P17A	**Butcher Ranch,**	**34.26**	**327**	IAmb	IAmb	05 13 51.3	
	comp=Z,5.7nm,0.8s						
SZCU	**Shurtz Canyon**	**34.31**	**322**	IAmb	IAmb	05 13 52.9	
	comp=Z,4.1nm,0.9s						
TCRU	**Three Creeks R**	**34.60**	**324**	IAmb	IAmb	05 13 58.0	
	comp=Z,6.5nm,1.2s						
PSUT	**Pine Spring**	**35.38**	**323**	IAmb	IAmb	05 14 02.5	
	comp=Z,2.7nm,0.9s						
TPNV	**Topopah Spring**	**35.89**	**318**	P	**P**	**05 14 05.8**	**+2.3**
TPNV				IAmb	IAmb	05 14 06.4	
	comp=Z,2.1nm,0.9s						
SPR3	**Spring Creek 3**	**35.96**	**323**	IAmb	IAmb	05 14 06.1	
	comp=Z,2.6nm,0.8s						
PDAR	**Pinedale Array**	**36.13**	**332**	P	**P**	**05 14 05.9**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=129,slow=9.7,SNR=18						
HWUT	**Hardware Ranch**	**36.24**	**328**	P	**P**	**05 14 06.7**	**+0.3**
LOHW	**Long Hollow**	**37.27**	**332**	P	**P**	**05 14 16.0**	**+0.8**
LOHW				IAmb	IAmb	05 14 32.9	
	comp=Z,3.2nm,1.2s						
ELK	**Elko**	**37.63**	**324**	IAmb	IAmb	05 14 20.4	
	comp=Z,2.3nm,0.8s						
NVAR	**Mina Array Bea**	**38.07**	**319**	P	**P**	**05 14 22.9**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=138,slow=7.7,SNR=11						
NVAR				PcP	**PcP**	**05 16 36.6**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=132,slow=3.7,SNR=14						
NVAR	**Mina Array Bea**	**38.07**	**319**	P	**P**	**05 14 23.0**	**+0.9**
YNE	**Yellowstone No**	**38.09**	**334**	P	**P**	**05 14 22.3**	**+0.2**
LHV	**Little Huntoon**	**38.10**	**318**	IAmb	IAmb	05 14 27.8	
	comp=Z,5.5nm,1.2s						
KVN	**Kaiserville**	**38.30**	**320**	P	**P**	**05 14 25.5**	**+1.6**
KVN				IAmb	IAmb	05 14 26.0	
	comp=Z,2.3nm,0.9s						
ULM	**Lac du Bonnet**	**38.62**	**351**	P	**P**	**05 14 24.3**	**-1.9**
	comp=Z,2.4nm,0.5s,baz=168,slow=7.2,SNR=7.4						
ULM	**Lac du Bonnet**	**38.62**	**351**	IAmb	IAmb	05 14 26.0	
	comp=Z,3.4nm,0.7s						
LRM	**Limekiln Ridge**	**39.80**	**332**	P	**P**	**05 14 36.6**	**+0.1**
WVOR	**Wild Horse Val**	**40.67**	**324**	P	**P**	**05 14 43.2**	**-0.3**
WVOR				IAmb	IAmb	05 14 44.5	
	comp=Z,2.4nm,0.9s						
BMO	**Blue Mountains**	**41.50**	**327**	P	**P**	**05 14 50.2**	**0.0**
D08A	**Wollman Farm,**	**43.81**	**329**	P	**P**	**05 15 09.5**	**+0.7**
D08A				IAmb	IAmb	05 15 09.7	
	comp=Z,2.8nm,0.6s						
E07A	**Sunnyside**	**43.97**	**328**	P	**P**	**05 15 10.1**	**0.0**
E07A				IAmb	IAmb	05 15 11.1	
	comp=Z,6.9nm,0.9s						
FRB	**Frobisher Bay**	**53.14**	**10**	LR	LR	05 40 01.9	
	comp=Z,40nm,18.1s,baz=346,slow=37						
YKA	**Yellowknife Ar**	**53.94**	**345**	P	**P**	**05 16 23.7**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=138,slow=7.9,SNR=12						
YKA				pP	**pP**	**05 16 44.3**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=133,slow=8.5,SNR=6.2						
YKA				PcP	**PcP**	**05 17 29.6**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=140,slow=4.6,SNR=11						
ILAR	**Eielson Array**	**66.37**	**336**	P	**P**	**05 17 50.0**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=134,slow=6.4,SNR=2.1						
KSRS	**Korea Array**	**120.64**	**328**	PKP	**PKPdf**	**05 25 53.2**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=0.0,slow=2.3,SNR=4.7						
ASAR	**Alice Springs**	**139.41**	**248**	PKP	**PKPdf**	**05 26 30.2**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=102,slow=1.8,SNR=9.1						
WRA	**Warramunga Arr**	**139.44**	**254**	PKP	**PKiKP**	**05 26 31.4**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=90,slow=2.6,SNR=17						
FITZ	**Fitzroy Crossi**	**147.80**	**255**	PKPbc	**PKiKP**	**05 26 49.1**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=105,slow=4.2,SNR=6.0						
CMAR	**Chiang Mai Arr**	**148.96**	**349**	PKPbc	**PKPbc**	**05 26 50.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=348,slow=4.1,SNR=5.3						

IDC 17 05:11:41.6±1.2, 5.79S×151.07E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.7/36, mbtmp3.9/5, Error ellipse: s-maj=83.2km s-min=23.1km az=134.0
ISC 17 05:11:47.1±1.2, 5.65S±0.5×151.08E±0.6, h35km, n10, σ0991/8, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.32**	**225**	Sn	**Sn**	**05 14 05.4**	**+1.1**
	5.9nm,0.3s,baz=318,slow=22,SNR=2.8						
WRA	**Warramunga Arr**	**21.54**	**227**	P	**P**	**05 16 32.9**	**-0.7**
	1.8nm,0.5s,baz=54,slow=10,SNR=26						
WRA				PcP	**PcP**	**05 20 34.9**	**-0.5**
	0.4nm,1.1s,baz=53,slow=1.8,SNR=4.8						
ASAR	**Alice Springs**	**24.32**	**221**	P	**P**	**05 17 00.5**	**-1.2**
	2.5nm,0.6s,baz=57,slow=9.3,SNR=27						
FITZ	**Fitzroy Crossi**	**27.67**	**241**	P	**P**	**05 17 31.6**	**-0.4**
	1.7nm,0.7s,baz=42,slow=7.2,SNR=8.1						
ILAR	**Eielson Array**	**83.62**	**22**	P	**P**	**05 24 11.8**	**+0.2**
	0.4nm,0.7s,baz=246,slow=5.1,SNR=6.6						
NVAR	**Mina Array Bea**	**94.03**	**52**	P	**P**	**05 25 03.0**	**+0.7**
	0.5nm,0.7s,baz=248,slow=6.7,SNR=5.2						
H03S2	**Juan Fernandez**	**118.64**	**133**	T	T	07 41 19.4	
	baz=242,slow=74,SNR=55						
H03S1	**Juan Fernandez**	**118.66**	**134**	T	T	07 41 19.7	
	baz=242,slow=74,SNR=51						
H03S3	**Juan Fernandez**	**118.66**	**133**	T	T	07 41 21.9	
	baz=242,slow=74,SNR=64						
TORD	**Torodi Ar. Bea**	**148.82**	**286**	PKPbc	**PKPbc**	**05 31 32.1**	**0.0**
	2.7nm,0.7s,baz=60,slow=3.3,SNR=12						

IDC 17 05:27:46.3±2.3, 66.84N×174.12W, h0km, mb3.3/4, mb1 3.6/6, mb1mx3.3/44, mbtmp3.3/6, ML3.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/36, Error ellipse: s-maj=88.7km s-min=25.2km az=11.0
ISC 17 05:27:49.0±1.7, 67.1N±0.4×173.2W±0.1, h10km, n7, σ2940/7, mb3.3/4, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**10.95**	**90**	Pn	**Pn**	**05 30 24.4**	**-1.1**
	0.1nm,0.3s,baz=294,slow=14,SNR=4.3						
ILAR				Sn	**Sn**	**05 32 25.2**	**-2.7**
	0.1nm,0.3s,baz=295,slow=24,SNR=2.2						
INK	**Inuvik**	**14.93**	**67**	Pn	**Pn**	**05 31 20.1**	**+0.5**
	0.1nm,0.3s,baz=295,slow=9.4,SNR=2.3						
INK				Sn	Sn	05 33 46.8	-18
	0.1nm,0.3s,baz=39,slow=5.4,SNR=3.1						
YKA	**Yellowknife Ar**	**24.53**	**73**	P	**P**	**05 33 11.2**	**+3.0**
	0.2nm,0.7s,baz=309,slow=12,SNR=2.4						
PDAR	**Pinedale Array**	**41.37**	**93**	P	**P**	**05 35 36.2**	**+1.2**
	0.3nm,0.6s,baz=311,slow=4.2,SNR=2.6						
ARCES	**ARCESS Array B**	**43.02**	**350**	LR	LR	05 54 48.3	
	comp=Z,42nm,19.4s,baz=35,slow=38						
ZALV	**Zalesovo Beam**	**46.03**	**307**	P	**P**	**05 36 10.2**	**-1.9**
	0.4nm,0.3s,baz=46,slow=4.2,SNR=2.0						
TXAR	**Lajitas Array**	**55.39**	**96**	P	**P**	**05 37 23.8**	**+0.7**
	0.3nm,0.7s,baz=330,slow=5.2,SNR=5.1						

SKHL 17 05:29:40.7±0.6, 45.30N×144.20E, h254km±21km, mb4.4/13, msha4.7/7
IDC 17 05:29:41.8±1.2, 45.38N×143.67E, h276km±13km, mb3.2/15, mb1 3.5/19, mb1mx3.3/45, mbtmp4.0/19, Error ellipse: s-maj=18.1km s-min=13.7km az=148.0
JMA 17 05:29:41.7±0.2, 45.24N×143.69E, h273km, M3.5
ISC 17 05:29:40.8±0.6, 45.28N±0.04×143.88E±0.06, h268km±6km, n43, σ1932/51, mb3.4/15, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.97**	**251**	P	**Pn**	**05 30 18.2**	**+0.7**
JTKR	**Asashiri--Toko**	**1.31**	**179**	P	**Pn**	**05 30 21.2**	**+1.7**
JMP	**Maruseppu**	**1.32**	**196**	P	**Pn**	**05 30 20.9**	**+1.2**
JWK2	**Keihoku**	**1.40**	**272**	P	**Pn**	**05 30 21.0**	**+1.0**
JWK2				eS	**S**	**05 30 51.2**	**+0.1**
ASAJ	**Asahikawa**	**1.48**	**219**	P	**Pn**	**05 30 22.0**	**+1.4**
	29nm,0.3s,baz=26,slow=3.4,SNR=78						
ASAJ	**Asahikawa**	**1.48**	**219**	P	**Pn**	**05 30 21.9**	**+1.2**
JRA	**Rausu**	**1.61**	**146**	P	**Pn**	**05 30 23.8**	**+2.2**
JKK2	**Kamakawa 2**	**1.62**	**210**	P	**Pn**	**05 30 22.7**	**+1.0**
JSS	**Shosan**	**1.69**	**239**	P	**Pn**	**05 30 23.2**	**+1.0**
YSS	**Yuzh-Sakhalins**	**1.85**	**335**	*eP*	**Pn**	**05 30 23.8**	**+0.5**
YSS				AMB	AMB	05 30 24.3	
	70nm,0.3s						
YSS				eS	**S**	**05 30 57.0**	**-0.2**
YSS				A	A	05 30 57.6	
	60nm,0.8s						
YSS				A	A	05 30 57.6	
	60nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**1.88**	**131**	*eP*	**Pn**	**05 30 21.5**	**-2.2**
YUK				AMB	AMB	05 30 23.2	
	210nm,0.4s						
JAR	**Ashorobuto**	**1.98**	**182**	P	**Pn**	**05 30 26.1**	**+1.5**
JHR	**Hokuryu**	**2.17**	**226**	P	**Pn**	**05 30 27.1**	**+0.8**
JFR	**Furan**	**2.31**	**204**	P	**Pn**	**05 30 28.8**	**+1.2**
NMR	**Nemuro--Hokkai**	**2.32**	**145**	*eP*	**Pn**	**05 30 27.5**	**-0.1**
NMR				AMB	AMB	05 30 27.8	
	30nm,0.8s						
NMR				eS	**S**	**05 31 04.0**	**-0.8**
NMR				A	A	05 31 05.1	
	70nm,0.3s						
NMR				A	A	05 31 05.1	
	60nm,0.3s						
NEM2	**Nemuro 2**	**2.33**	**144**	P	**Pn**	**05 30 27.8**	**+0.1**
NEM2				eS	**S**	**05 31 03.8**	**-1.2**
JAK	**Akkeshi**	**2.36**	**165**	P	**Pn**	**05 30 28.2**	**+0.2**
AKK	**Akkeshi**	**2.36**	**163**	*eP*	**Pn**	**05 30 27.8**	**-0.2**
AKK				AMB	AMB

LMEM Manzanita Entr 0.53 318 Pg 05 36 58.0 -0.9
O03E Paynes Creek 0.56 286 P 05 36 58.3
baz=102,SNR=1000
O03E S 05 37 06.1
baz=102
BEKR Beckworth 0.64 116 Pg 05 36 59.3 -1.6
ORV Oroville 0.67 208 Pg 05 37 00.3 -1.1
ORV Oroville 0.67 208 Sg 05 37 09.6 -0.5
ORV Oroville 0.67 208 IAML 05 37 10.0
comp=E,4µm,0.5s
HATC Hat Creek Radi 0.72 338 Pg 05 37 01.1 -1.4
LTCM Tuscan Springs 0.79 275 Pg 05 37 02.8 -0.8
SUTB Sutter Butte 1.06 210 Pg 05 37 07.6 -1.2
WDC Whiskeytown Da 1.18 292 Pg 05 37 08.4 -2.9
AFDM Forest Hills D 1.20 175 Pg 05 37 09.4 -2.2
AFDM IAML 05 37 30.6
comp=N,1µm,0.5s
O02D Mt. Diablo Mer 1.29 272 P 05 37 10.9
baz=90,SNR=587
O02D S 05 37 29.8
baz=90
RUBR Rubicon Trail 1.31 146 Pn 05 37 11.9 -1.7
GASB Alder Springs 1.33 249 Pn 05 37 12.4 -1.4
PAHR Pah Rah Range 1.39 108 Pn **Pn 05 37 12.7 -1.9**
PAHR IAML 05 37 31.7
comp=E,1µm,0.5s
PAHR IAML 05 37 33.4
comp=N,1µm,0.5s
VCNR Virginia City 1.41 127 Pn 05 37 13.3 -1.5
VCNR IAML 05 37 35.7
comp=N,1µm,1.0s
LGBM Gray Butte 1.46 326 Pn 05 37 13.7 -1.9
N02D Trinity Center 1.48 305 P 05 37 13.2
baz=122,SNR=557
N02D S 05 37 33.7
baz=122
PNTR Pine Nut 1.57 132 Pn 05 37 16.5 -0.5
MNRC McLaughlin Min 1.64 220 Pn 05 37 17.0 -0.8
LHEM Herd Peak 1.71 331 Pn 05 37 18.3 -0.7
M04C Macdoel 1.73 341 Pb 05 37 18.3
baz=160,SNR=509
GSGM Seigler Mounta 1.78 225 Pn 05 37 19.8 0.0
M02C Callahan 1.82 314 Pb 05 37 19.6
baz=131,SNR=161
M02C Sb 05 37 44.5
baz=131
YERR Yerington 1.85 128 Pn 05 37 20.2 -0.7
YERR IAML 05 37 53.7
comp=N,664nm,0.8s
GCRM Castle Rock Sp 1.85 223 Pn 05 37 20.6 -0.2
MOD Modoc Plateau 1.86 19 Pn 05 37 20.1 -0.8
GDXM Geysers 1.87 225 Pn 05 37 20.9 -0.2
HOPS Hopland Field 1.91 234 Pn 05 37 21.1 -0.4
KBSM Bell Springs 1.93 264 Pn 05 37 22.4 +0.5
KCPM Cahto Peak 1.96 257 Pn 05 37 22.4 0.0
KCPM IAML 05 38 00.9
comp=E,630nm,1.2s
KCPM IAML 05 38 08.6
comp=N,502nm,0.8s
KMRM Mail Ridge 2.00 273 Pn 05 37 22.8 -0.1
KMRM IAML 05 38 04.5
comp=N,491nm,0.8s
KMRM IAML 05 38 04.9
comp=E,383nm,1.2s
YBH Yreka Blue Hor 2.00 323 Pn **Pn 05 37 23.0 +0.1**
comp=E,22nm,0.3s,baz=133,slow=10,SNR=235
YBH Lg Lg 05 37 50.0
comp=E,36nm,0.3s,baz=56,slow=22,SNR=16
YBH LR LR 05 38 20.5
comp=E,156nm,20.2s,baz=166,slow=47
YBH Yreka Blue Hor 2.00 323 Pn 05 37 22.1 -0.8
CVS Carmenet Viney 2.08 211 Pn 05 37 23.0 -1.0
WAKR Walker 2.09 141 Pn 05 37 24.6 +0.4
WAKR IAML 05 37 57.0
comp=N,463nm,0.7s
WAKR IAML 05 37 59.9
comp=E,558nm,0.9s
KCRM Chalk Rock 2.10 279 Pn 05 37 24.2 0.0
KOMM Orleans Mounta 2.12 303 Pn 05 37 23.7 -0.8
KHMM Horse Mountain 2.13 291 Pn 05 37 24.9 +0.1
KHMM IAML 05 38 00.3
comp=N,319nm,1.1s
KHMM IAML 05 38 12.1
comp=E,293nm,1.0s
GNAM Navarro Ridge 2.17 245 Pn 05 37 24.9 -0.3
CMB Columbia Colle 2.18 165 Pn 05 37 25.2 -0.2
CMB Columbia Colle 2.18 165 IAML 05 38 00.7
comp=N,391nm,0.4s
CMB IAML 05 38 05.9
comp=E,454nm,0.8s
L04D Klamath Falls 2.26 337 Pb 05 37 27.3
baz=155,SNR=267
L04D Sb 05 37 58.0
baz=155
BDM Black Diamond 2.27 195 Pn 05 37 26.6 +0.1
FTR Fort Ross 2.27 225 Pn 05 37 26.8 +0.1
HERB Hercules 2.31 203 Pn 05 37 25.2 -1.9
JCC Jacoby Creek, 2.33 288 Pn 05 37 26.9 -0.4
KSMM Slide Mountain 2.35 272 Pn 05 37 27.8 0.0
MCCM Marconi Confer 2.43 215 Pn 05 37 28.6 -0.1
MCCM IAML 05 37 58.5
comp=E,274nm,0.7s
MCCM IAML 05 38 03.7
comp=N,241nm,0.7s
BKS Berkeley--Byer 2.43 202 Pn 05 37 28.6 -0.2
VAK Adit at Lawren 2.43 202 Pn 05 37 28.8 0.0
BL67 Building 67, L 2.44 202 Pn 05 37 28.9 +0.1
BRK Berkeley--Havi 2.44 202 Pn 05 37 28.9 +0.1
RYN Ryan 2.51 126 Pn 05 37 29.7 -0.3
RYN IAML 05 38 09.7
comp=E,236nm,0.9s
RYN IAML 05 38 11.6
comp=N,243nm,1.2s
K04D Chiloquin, OR 2.52 349 Pb 05 37 31.2
baz=168,SNR=63
KRMB Red Mountain 2.54 304 Pn 05 37 29.8 -0.5
KVN Kaiserville 2.56 114 Pn 05 37 29.9 -0.8
KVN IAML 05 38 08.9
comp=E,307nm,0.9s
KVN IAML 05 38 13.0
comp=N,316nm,0.9s
WENL Wente Vineyard 2.57 192 Pn 05 37 31.7 +1.1
K05A Summer Lake 2.58 3 Pn 05 37 31.1 +0.1
K05A IAML 05 38 14.3
comp=N,313nm,0.8s
K05A IAML 05 38 21.8
comp=E,233nm,1.2s
L02E Cave Junction 2.76 318 Pb 05 37 35.5
baz=135
LHV Little Huntoon 2.77 132 Pn 05 37 34.0 +0.7
LHV IAML 05 38 18.4
comp=E,336nm,1.0s
LHV IAML 05 38 21.9
comp=N,310nm,0.6s
NVAR Mina Array Bea 2.77 127 Pn **Pn 05 37 33.4 -0.2**
comp=N,7.6nm,0.3s,baz=305,slow=13,SNR=85
NVAR Lg Lg 05 38 15.1
comp=N,27nm,0.3s,baz=319,slow=23,SNR=6.9
NVAR LR LR 05 38 24.1
comp=N,37nm,20.0s,baz=100,slow=34
NVAR Mina Array Bea 2.77 127 Pn **Pn 05 37 33.0 -0.6**
HUMO Hull Mountain 2.83 331 Pn 05 37 34.6 +0.4
MHC Mount Hamilton 2.83 189 Pn 05 37 35.0 +0.7
NV11 Mina Array Sit 2.86 126 Pn 05 37 34.5 -0.3
NV11 IAML 05 38 23.6
comp=E,187nm,1.5s
NV11 IAML 05 38 27.7
comp=N,178nm,1.1s
WVOR Wild Horse Val 2.95 38 Pn 05 37 34.1 -1.8
WVOR IAML 05 38 21.1
comp=N,280nm,0.8s
WVOR IAML 05 38 26.1
comp=N,284nm,1.2s
WVOR Wild Horse Val 2.95 38 Pb 05 37 39.5 -2.1
MLAC Mammoth, Mammo 3.07 144 Pg 05 37 43.9
baz=326
J05D Fort Rock, OR 3.14 358 Pb 05 37 41.8
baz=178
J05D Sb 05 38 24.5
baz=178
J04D Umpqua Nationa 3.18 347 Pb 05 37 43.1
baz=165
SAO San Andreas Ge 3.39 185 Pn **Pn 05 37 43.2 +1.3**
PINE Pine Mountain 3.65 2 Pn 05 37 46.9 +1.2
PINE IAML 05 38 10.2
comp=N,78nm,0.8s
TPH Tonopah 3.66 123 Pn 05 37 45.8 0.0
TPH Tonopah 3.66 123 IAML 05 38 47.7
comp=E,88nm,0.9s
TPH IAML 05 38 48.5
comp=N,107nm,0.9s
J08A Circle Bar Ran 3.76 31 Pn **Pn 05 37 48.4 +1.2**
PMPB Monarch Peak 3.93 176 Pn **Pn 05 37 50.5 +1.1**
I07A Izee 4.11 16 Pn 05 37 54.6 +2.7
I07A IAML 05 38 58.8
comp=N,68nm,1.0s
PAGB Antelope Grade 4.46 171 Pn **Pn 05 37 57.7 +1.1**
PAGB IAML 05 39 26.1
comp=E,65nm,1.0s
PAGB IAML 05 39 40.7
comp=N,75nm,1.6s
ELK Elko 4.51 80 Pn **Pn 05 37 56.5 -1.1**
comp=N,0.6nm,0.3s,baz=251,slow=10,SNR=9.3
ELK Pg **Pb 05 38 07.5 -0.7**
comp=N,4.1nm,0.3s,baz=271,slow=14,SNR=19
ELK Lg Lg 05 39 08.4
comp=N,6.8nm,0.3s,baz=180,slow=18,SNR=12
ELK LR LR 05 40 03.4
comp=N,79nm,18.6s,baz=216,slow=44
ELK Elko 4.51 80 Pn **Pn 05 37 55.8 -1.8**
H04A Detroit Lake 4.61 350 Pn 05 38 00.8 +2.1
R11A Troy Canyon, C 4.64 111 Pn 05 37 58.9 -0.4
R11A IAML 05 39 13.6
comp=N,58nm,1.2s
ISA Isabella, Lake 4.93 154 Pn **Pn 05 38 05.4 +2.2**
ISA IAML 05 39 28.7
comp=N,62nm,0.9s
TPNV Topopah Spring 4.96 128 Pn **Pn 05 38 04.5 +0.8**
TPNV IAML 05 39 39.1
comp=N,60nm,1.4s
MFID Camas Ranch 5.12 49 Pn 05 38 04.2 -1.7
MFID IAML 05 39 30.8
comp=N,57nm,0.8s
MFID IAML 05 39 33.1
comp=N,59nm,0.9s
SPR3 Spring Creek 3 5.36 100 Pn **Pn 05 38 09.8 +0.5**
SPR3 IAML 05 39 37.6
comp=E,33nm,0.7s
SPR3 IAML 05 39 42.3
comp=N,29nm,0.6s
PRN Pahroc Range 5.46 118 Pn 05 38 11.0 +0.5
BMO Blue Mountains 5.48 30 Pn 05 38 11.3 +0.6
PSUT Pine Spring 5.84 104 Pn 05 38 15.7 -0.1
GSC Goldstone, Bar 5.91 144 Pn **Pn 05 38 19.2 +2.5**
SHPR Sheep Range 5.92 126 Pn **Pn 05 38 17.8 +1.0**
BGU Big Grassy Mou 6.20 80 Pn 05 38 20.0 -0.6
HAWA Hanford 6.35 10 Pn **Pn 05 38 24.0 +1.5**
DUG Dugway, Tooele 6.35 87 Pn **Pn 05 38 22.9 +0.1**
CCUT Cedar City 6.57 111 Pn **Pn 05 38 26.7 +0.8**
SZCU Shurtz Canyon 6.75 110 Lg 05 40 20.5
TCRU Three Creeks R 6.88 100 Pn 05 38 31.8 +1.7
BCYI Bear Canyon 7.07 51 Pn **Pn 05 38 34.0 +1.4**
MSU Marysvale 7.11 100 Pn **Pn 05 38 34.3 +1.0**
KNB Kanab 7.20 113 Pn **Pn 05 38 35.9 +1.5**
MTPU Mount Pierson 7.25 104 Pn 05 38 36.2 +1.0
PKCU Pink Cliffs 7.38 109 Pn 05 38 38.5 +1.5
NEW Newport 8.60 18 LR LR 05 42 22.9
comp=N,81nm,19.1s,baz=190,slow=39
PDAR Pinedale Array 9.06 69 Pn 05 39 02.3 +2.4
comp=N,0.1nm,0.3s,baz=254,slow=16,SNR=3.5
PDAR LR LR 05 43 13.4
comp=N,36nm,18.6s,baz=273,slow=43
TXAR Lajitas Array 17.90 122 P **P 05 41 00.5 +1.6**
comp=N,0.0nm,0.3s,baz=315,slow=6.2,SNR=7.6
TXAR LR LR 05 48 09.8
comp=N,36nm,21.2s,baz=0.0,slow=38
ULM Lac du Bonnet 20.36 52 P Pn 05 41 26.2 -1.3
comp=N,0.7nm,0.4s,baz=193,slow=11,SNR=3.0
ULM LR LR 05 49 18.1
comp=N,55nm,18.1s,baz=198,slow=37
YKA Yellowknife Ar 22.72 8 P P 05 41 52.0 +1.3
comp=N,0.4nm,0.6s,baz=195,slow=11,SNR=3.6
ILAR Eielson Array 28.83 337 P **P 05 42 49.1 +2.0**
comp=N,0.5nm,0.7s,baz=144,slow=7.3,SNR=6.4

*JMA **17** 05:45:52.9±0.2, 39˚.68N×143˚.66E, h27km, M4.5*
JMA Felt I J1.
*NIED **17** 05:45:52.9, 39˚.68N×143˚.66E, h27km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr 1.67; Mθθ -0.18; Mφφ -1.48; Mrθ 0.73; Mθφ -0.68; Mφr 1.04; Fault plane solution: Mo 2.14000×10^15 NP1 φs 30.00000°, δ 63.00000°, λ 97.00000°. NP2 φs 195.00000°, δ 27.00000°, λ 77.00000°.*
*MOS **17** 05:45:54.2±0.9, 39˚.67N×143˚.53E, h23km, mb4.7/23 Error ellipse: s-maj=7.5km s-min=4.9km az=96.2*
*NEIC **17** 05:45:57.1±2.0, 39˚.60N±0˚.06×143˚.5E±0˚.1, h32km±6km, mb4.5/20, Error ellipse: s-maj=13.2km s-min=8.0km az=110.0*
*IDC **17** 05:45:58.4±2.2, 39˚.63N×143˚.37E, h40km±19km, mb3.9/16, mb1 4.1/23, mb1mx4.0/39, mbtmp4.2/23, ML3.5/6, MS3.4/12, Ms1 3.4/12, ms1mx3.1/60, Error ellipse: s-maj=19.1km s-min=13.3km az=110.0*
ISC 17 05:45:53.4±0.5, 39˚.62N±0˚.05×143˚.65E±0˚.05, h11km, n150, σ1 s55/157, mb4.4/38, 7C-11D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
JTH	**Tanohata**	**1.41**	**284**	P	**Pn**	**05 46 17.1**	**-1.9**
JTH				*e*S	**Sn**	**05 46 35.2**	**-2.4**
MIYJ	**Miyakonagasawa**	**1.42**	**269**	P	**Pn**	**05 46 17.6**	**-1.5**
MIYJ				*e*S	**Sn**	**05 46 36.0**	**-1.7**
JKEN	**Kujiedanarisaw**	**1.60**	**292**	P	**Pn**	**05 46 19.9**	**-1.7**
JKEN				*e*S	**Sn**	**05 46 39.7**	**-2.6**
JANG	**Nango**	**1.80**	**295**	P	**Pn**	**05 46 22.5**	**-1.9**
JOM	**Ohasama**	**1.83**	**266**	P	**Pn**	**05 46 23.9**	**-0.8**
JOM				*e*S	**Sn**	**05 46 46.5**	**-1.4**
JMK	**Ichinoseki**	**2.00**	**251**	P	**Pn**	**05 46 26.3**	**-0.8**
JIO	**Ouri**	**2.14**	**238**	P	**Pn**	**05 46 27.9**	**-1.1**
JTM	**Tenmabayashi**	**2.29**	**301**	P	**Pn**	**05 46 30.6**	**-0.5**
JTM	**Tenmabayashi**	**2.29**	**301**	Pn	**Pn**	**05 46 30.4**	**-0.7**
ERM	**Erimo**	**2.42**	**351**	*i*P	**Pn**	**05 46 34.0**	**+1.1**
ERM				pmax	pmax		
comp=Z,52nm,1.3s							
ERM	**Erimo**	**2.42**	**351**		**Pn**	**05 46 33.3**	**+0.4**
JYK	**Kaneyama**	**2.65**	**256**	P	**Pn**	**05 46 35.7**	**-0.3**
JOT	**Ohata**	**2.65**	**312**	P	**Pn**	**05 46 35.5**	**-0.5**
JMM	**Marumori**	**2.84**	**233**		**Pn**	**05 46 37.5**	**-1.1**
JCH	**Churui**	**3.00**	**356**	P	**Pn**	**05 46 40.8**	**0.0**
JCH				*e*S	**Sn**	**05 47 14.3**	**-2.4**
JKB	**Kayabe**	**3.01**	**320**	P	**Pn**	**05 46 41.9**	**+0.9**
JFT	**Otama**	**3.34**	**232**	P	**Pn**	**05 46 45.1**	**-0.4**
JFT				*e*S	**Sn**	**05 47 23.7**	**-1.5**
JAK	**Akkeshi**	**3.46**	**13**	*e*S	**Sn**	**05 47 26.0**	**-2.2**
JEW	**Eniwo**	**3.62**	**333**		**Pn**	**05 46 51.7**	**+2.3**
NMR	**Nemuro--Hokkai**	**4.06**	**22**	*i*P	**Pn**	**05 46 55.3**	**0.0**
NMR				*i* S	**Sn**	**05 47 39.5**	**-3.3**
GLVR	**Golovnino**	**4.35**	**18**	*e*P	**Pn**	**05 46 59.1**	**-0.2**
GLVR				*e*S	**Sn**	**05 47 47.8**	**-2.1**
GLVR				pmax	pmax		
comp=Z,233nm,0.5s							
GLVR				smax	smax		
comp=N,715nm,0.4s							
GLVR				smax	smax		
comp=E,607nm,0.4s							
JYT	**Yasato**	**4.35**	**220**		**Pn**	**05 46 57.5**	**-1.9**
JSD	**Sado**	**4.50**	**251**	Pn	**Pn**	**05 47 01.3**	**-0.1**
JKA	**Kamikawa-asahi**	**4.56**	**350**		**Pn**	**05 47 03.3**	**+1.0**
ASAJ	**Asahikawa**	**4.56**	**350**	P	**Pn**	**05 47 03.2**	**+1.0**
comp=E,4.3nm,0.3s,baz=213,slow=14,SNR=12							
ASAJ				S	**Sn**	**05 47 52.0**	**-3.3**
comp=E,3.8nm,0.3s,baz=213,slow=20,SNR=5.0							
ASAJ				LR	LR	05 48 59.2	
comp=E,121nm,20.2s,baz=134,slow=40							
RUSJ	**Misakicho**	**4.64**	**14**	*e*P	**Pn**	**05 47 04.8**	**+1.5**
RUSJ				*e*S	**Sn**	**05 47 56.3**	**-0.8**
GRPR	**Tuman**	**4.65**	**19**	*e*P	**Pn**	**05 47 02.0**	**-1.5**
GRPR				*e*S	**Sn**	**05 47 54.3**	**-3.1**
GRPR				pmax	pmax		
comp=Z,94nm,0.2s							
GRPR				smax	smax		
comp=N,667nm,0.4s							
GRPR				smax	smax		
comp=E,226nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**4.71**	**20**	*e*P	**Pn**	**05 47 03.6**	**-0.7**
YUK				*e*S	**Sn**	**05 47 56.0**	**-2.9**
YUK				pmax	pmax		
comp=Z,128nm,0.3s							
YUK				pmax	pmax		
comp=Z,346nm,1.3s							
YUK				smax	smax		
comp=E,663nm,1.5s							
YUK				smax	smax		
comp=N,651nm,0.5s							
YUK				smax	smax		
comp=N,812nm,0.5s							
YUK				smax	smax		
comp=E,137nm,0.4s							
MJA0	**Matsu Arr-Jizo**	**5.25**	**236**	*e*P	**Pn**	**05 47 13.3**	**+1.4**
MJA0				pmax	pmax		
comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**5.28**	**236**	P	**Pn**	**05 47 12.2**	**0.0**
comp=Z,0.8nm,0.3s,baz=38,slow=12,SNR=70							
MJAR				LR	LR	05 49 25.7	
comp=Z,264nm,19.3s,baz=45,slow=41							
MAJO	**Matsushiro**	**5.28**	**236**	*c i*P	**Pn**	**05 47 13.0**	**+0.8**
MAJO				pmax	pmax		
comp=Z,52nm,0.6s							
MAJO	**Matsushiro**	**5.28**	**236**		**Pn**	**05 47 12.6**	**+0.4**
MAT	**Matsushiro**	**5.28**	**236**	P	**Pn**	**05 47 13.1**	**+0.9**
MAT				*e*S	**Sn**	**05 48 15.4**	**+2.3**
JGF	**Kuroka**	**6.41**	**233**		**Pn**	**05 47 28.3**	**+0.6**
KUR	**Kuril'sk**	**6.42**	**28**	*e*P	**Pn**	**05 47 31.0**	**+3.2**
KUR				*e*S	**Sn**	**05 48 38.4**	**-2.5**
KUR				pmax	pmax		
comp=Z,56nm,0.6s							
KUR				pmax	pmax		
comp=E,24nm,0.2s							
KUR				pmax	pmax		
comp=N,48nm,0.4s							
KUR				smax	smax		
comp=E,115nm,0.5s							
KUR				smax	smax		
comp=N,71nm,0.3s							
JSG	**Sagara**	**6.59**	**223**		**Pn**	**05 47 27.8**	**-2.4**
INU	**Inuyama**	**6.78**	**233**	Pn	**Pn**	**05 47 32.9**	**+0.1**
JHJ	**Hachijo jima 2**	**7.20**	**207**	P	**Pn**	**05 47 39.2**	**+0.6**
comp=N,21nm,0.3s,baz=150,slow=7.2,SNR=4.8							
JHJ				S	**Sn**	**05 48 53.1**	**-7.2**
comp=N,12nm,0.3s,baz=246,slow=22,SNR=2.4							
YSS	**Yuzh-Sakhalins**	**7.36**	**355**	*e*P	**Pn**	**05 47 41.2**	**+0.5**
YSS				*e*S	**Sn**	**05 49 01.9**	**-2.2**
YSS				pmax	pmax		
comp=Z,20nm,1.0s							
YSS				MLR	MLR		
comp=Z,400nm,10.0s							
YSS				MLR	MLR		
comp=N,300nm,13.0s							
YSS				MLR	MLR		
comp=E,200nm,13.0s							
JWT	**Wachi**	**7.86**	**239**	Pn	**Pn**	**05 47 48.0**	**+0.4**
USA0B	**Ussuriysk Arra**	**9.82**	**302**	*d i*P	**Pn**	**05 48 16.3**	**+1.8**
USA0B	**Ussuriysk Arra**	**9.82**	**302**		**Pn**	**05 48 15.5**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.82**	**302**	P	**Pn**	**05 48 14.6**	**+0.1**
baz=101,slow=12,SNR=30							
USRK				LR	LR	05 51 58.8	
comp=E,255nm,18.9s,baz=134,slow=37							
USRK	**Ussuriysk Ar.**	**9.82**	**302**	P	**Pn**	**05 48 15.8**	**+1.3**
USRK	**Ussuriysk Ar.**	**9.82**	**302**	Pn	**Pn**	**05 48 15.8**	**+1.3**
JNU	**Nakatsue**	**12.16**	**242**	LR	LR	05 53 52.4	
comp=E,226nm,19.5s,baz=45,slow=40							
KSRS	**Korea Array**	**12.51**	**265**	P	**Pn**	**05 48 51.0**	**-0.2**
comp=E,0.3nm,0.3s,baz=88,slow=14,SNR=9.9							
KSRS				LR	LR	05 53 18.1	
comp=E,181nm,18.4s,baz=82,slow=36							
KSRS	**Korea Array**	**12.51**	**265**	*e*P	**Pn**	**05 48 54.6**	**+3.4**
KLR	**Kul'dur**	**12.81**	**322**	P	**Pn**	**05 48 56.1**	**+0.7**
comp=E,0.1nm,0.3s,baz=144,slow=11,SNR=8.5							
KLR				LR	LR	05 54 08.1	
comp=E,254nm,18.1s,baz=64,slow=39							
KLR	**Kul'dur**	**12.81**	**322**	*e*P	**Pn**	**05 48 56.5**	**+1.1**
KLR				pmax	pmax		
comp=Z,3.0nm,0.6s							
TJN	**Taejon**	**13.25**	**261**	*e*P	**Pn**	**05 49 01.4**	**+0.1**
PETK	**Petropavlovsk-**	**16.57**	**31**	P	**P**	**05 49 48.6**	**+0.6**
baz=233,slow=7.2,SNR=3.6							
PETK				LR	LR	05 57 24.6	
comp=Z,54nm,18.0s,baz=202,slow=41							
ZEA	**Zeya**	**17.99**	**327**	*e*P	**Pn**	**05 50 00.8**	**-2.5**
ZEA				pmax	pmax		
comp=E,10.0nm,0.7s							
ZEA				pmax	pmax		
comp=N,10.0nm,0.8s							
ZEA				pmax	pmax		
comp=Z,10.0nm,0.5s							
ZEA				MLR	MLR		
comp=Z,200nm,13.0s							
HIA	**Hailar**	**19.53**	**307**	P	**P**	**05 50 18.2**	**-2.6**
HIA				pmax	pmax		
comp=Z,8.0nm,0.7s							
HIA	**Hailar**	**19.53**	**307**		**P**	**05 50 18.1**	**-2.6**
MA2	**Magadan**	**20.48**	**10**	P	Pn	05 50 32.8	-0.3
comp=Z,16nm,0.7s,baz=192,slow=9.8,SNR=15							
MA2				LR	LR	05 59 23.5	
comp=Z,73nm,18.1s,baz=196,slow=39							
MA2	**Magadan**	**20.48**	**10**	*d i*P	Pn	05 50 33.1	0.0
MA2				pmax	pmax		
comp=Z,15nm,0.8s							
MA2	**Magadan**	**20.48**	**10**	P	Pn	05 50 32.6	-0.5
MA2				IAmb	IAmb	05 50 34.1	
comp=Z,17nm,0.8s							
SEY	**Seymchan**	**23.93**	**10**	P	**P**	**05 51 08.4**	**+1.4**
comp=Z,11nm,0.9s,baz=197,slow=7.4,SNR=35							
YAK	**Yakutsk**	**24.00**	**344**	*e*P	**P**	**05 51 07.3**	**-0.5**
YAK				pmax	pmax		
comp=Z,28nm,1.0s							
BOD	**Bodaibo**	**26.39**	**323**	*e*P	**P**	**05 51 29.5**	**0.0**
BOD				pmax	pmax		
comp=Z,18nm,0.9s							
ULN	**Ulaanbaatar**	**27.48**	**300**	*de*P	**P**	**05 51 40.2**	**+0.5**
ULN				pmax	pmax		
comp=Z,9.0nm,1.3s							
ULN	**Ulaanbaatar**	**27.48**	**300**	P	**P**	**05 51 39.2**	**-0.5**
ULN				IAmb	IAmb	05 51 40.8	
comp=Z,9.7nm,1.1s							
SONM	**Songino Array**	**27.93**	**299**	P	**P**	**05 51 43.0**	**-0.6**
comp=Z,4.9nm,0.8s,baz=93,slow=8.4,SNR=26							
SONM				LR	LR	06 03 23.8	
comp=Z,179nm,19.2s,baz=64,slow=38							
SONM	**Songino Array**	**27.93**	**299**	*e*P	**P**	**05 51 43.8**	**+0.2**
SONM				pmax	pmax		
comp=Z,5.0nm,0.8s							
SONM	**Songino Array**	**27.93**	**299**	P	**P**	**05 51 43.2**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**28.16**	**128**	T	T	06 22 49.6	
baz=318,slow=75,SNR=190							
H11N1	**WAKE ISLAND Hy**	**28.16**	**128**	T	T	06 22 52.6	
baz=318,slow=75,SNR=175							
H11N3	**WAKE ISLAND Hy**	**28.17**	**128**	T	T	06 22 58.8	
baz=318,slow=75,SNR=116							
ENH	**Enshi**	**29.37**	**262**	P	**P**	**05 51 55.7**	**-0.8**
TLY	**Talaya**	**30.07**	**307**	LR	LR	06 04 23.9	
comp=Z,40nm,19.0s,baz=76,slow=37							
ZAK	**Zakamensk**	**30.16**	**304**	*e*P	**P**	**05 52 03.2**	**-0.1**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.0s							
TIXI	**Tiksi**	**32.96**	**351**	*e*P	**P**	**05 52 27.9**	**+0.3**
DGZ	**Jazzator, Alta**	**40.37**	**304**	*de*P	**P**	**05 53 32.3**	**+1.1**
DGZ				pmax	pmax		
comp=Z,9.0nm,0.7s							
ZAA0	**Zalesovo Array**	**41.53**	**310**	P	**P**	**05 53 40.4**	**-0.1**
ZALV	**Zalesovo Beam**	**41.53**	**310**	P	**P**	**05 53 40.8**	**+0.3**
comp=Z,3.8nm,0.6s,baz=86,slow=7.8,SNR=16							
ZALV				PcP	**PcP**	**05 55 37.6**	**-0.1**
comp=Z,0.5nm,0.3s,baz=98,slow=3.0,SNR=3.8							
ZALV	**Zalesovo Beam**	**41.53**	**310**	P	**P**	**05 53 40.2**	**-0.2**
ZSN	**Zaisan**	**42.43**	**301**	*e*P	**P**	**05 53 48.0**	**+0.1**
baz=300							
ZSN	**Zaisan**	**42.43**	**301**	*e*P	**P**	**05 53 48.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**43.87**	**254**	P	**P**	**05 54 00.3**	**+0.4**
comp=Z,1.0nm,0.3s,baz=48,slow=6.7,SNR=5.1							
MK31	**Makanchi Array**	**44.29**	**300**	P	**P**	**05 54 02.6**	**-0.4**
MK31				pmax	pmax		
comp=Z,5.0nm,0.9s							
MK31	**Makanchi Array**	**44.29**	**300**	P	**P**	**05 54 02.6**	**-0.4**
MKAR	**Makanchi Array**	**44.29**	**300**	P	**P**	**05 54 02.9**	**-0.1**
comp=Z,4.5nm,0.8s,baz=82,slow=9.1,SNR=49							
MAKZ	**Makanchi**	**44.49**	**300**	P	**P**	**05 54 04.6**	**-0.1**
MAKZ				pmax	pmax		
comp=Z,6.0nm,1.0s							
MAKZ	**Makanchi**	**44.49**	**300**	P	**P**	**05 54 04.6**	**-0.1**
MAKZ				IAmb	IAmb	05 54 05.5	
comp=Z,5.8nm,0.9s							
PMR	**Palmer**	**45.51**	**38**	P	**P**	**05 54 13.1**	**+0.7**

PMR					pmax	pmax		
	comp=Z,18nm,1.4s							
PMR	**Palmer**	**45.51**	**38**	P		**P**	**05 54 13.1**	**+0.7**
SML	**Sawmill**	**45.87**	**38**	P		**P**	**05 54 16.1**	**+0.7**
COLA	**College**	**45.95**	**34⇑**	*e*P		**P**	**05 54 16.7**	**+0.8**
COLA					pmax	pmax		
	comp=Z,41nm,3.2s							
ILAR	**Eielson Array**	**46.37**	**34**	P		**P**	**05 54 21.4**	**+2.2**
	comp=Z,0.7nm,0.8s,baz=272,slow=6.0,SNR=8.5							
SHLS	**Shalkode**	**47.23**	**296**	*e*P		**P**	**05 54 23.6**	**-2.9**
	baz=296							
SHLS	**Shalkode**	**47.23**	**296**	*e*P		**P**	**05 54 23.5**	**-2.9**
KPKS	**Kokpek**	**47.67**	**297**	*e*P		**P**	**05 54 29.2**	**-0.7**
	baz=297							
KPKS	**Kokpek**	**47.67**	**297**	*e*P		**P**	**05 54 29.1**	**-0.7**
SATY	**Saty**	**48.00**	**296**	*e*P		**P**	**05 54 32.1**	**-0.3**
	baz=296							
SATY	**Saty**	**48.00**	**296**	*e*P		**P**	**05 54 32.1**	**-0.3**
MDOK	**Medeo**	**48.90**	**297**	*e*P		**P**	**05 54 39.0**	**-0.4**
	baz=297							
MDOK	**Medeo**	**48.90**	**297**	*e*P		**P**	**05 54 38.9**	**-0.4**
TNSS	**Tian-Shan**	**49.01**	**297**	*e*P		**P**	**05 54 40.5**	**0.0**
	baz=297							
TNSS	**Tian-Shan**	**49.01**	**297**	*e*P		**P**	**05 54 40.5**	**0.0**
KUU	**Kurty**	**49.14**	**298**	*e*P		**P**	**05 54 40.1**	**-1.0**
	comp=Z,7.0nm,0.7s,baz=298							
KUU	**Kurty**	**49.14**	**298**	*e*P		**P**	**05 54 40.0**	**-1.0**
KUU					pmax	pmax		
	comp=Z,7.0nm,0.7s							
BRZS	**Berezniki**	**49.64**	**307**	*e*P		**P**	**05 54 44.0**	**-0.7**
	baz=307							
BRZS	**Berezniki**	**49.64**	**307**	*e*P		**P**	**05 54 44.0**	**-0.7**
BRVK	**Borovoye**	**50.22**	**311⇑**	*e*P		**P**	**05 54 49.3**	**+0.2**
BRVK					pmax	pmax		
	comp=Z,6.0nm,1.3s							
BRVK	**Borovoye**	**50.22**	**311**	P		**P**	**05 54 49.7**	**+0.7**
BRVK					IAmb	IAmb	05 54 50.7	
	comp=Z,4.2nm,0.8s							
BTLS	**Baital**	**50.30**	**300**	*e*P		**P**	**05 54 48.8**	**-1.1**
	baz=300							
BTLS	**Baital**	**50.30**	**300**	*e*P		**P**	**05 54 48.7**	**-1.1**
AAK	**Ala-Archa**	**50.84**	**297⇑**	*e*P		**P**	**05 54 53.8**	**-0.4**
AAK					pmax	pmax		
	comp=Z,3.0nm,0.7s							
KKAR	**Karatay Array**	**53.38**	**299**	P		**P**	**05 55 12.3**	**-0.5**
KKAR	**Karatay Array**	**53.38**	**299**	P		**P**	**05 55 12.3**	**-0.5**
IUG	**Luzhnay**	**54.08**	**298**	*e*P		**P**	**05 55 18.1**	**0.0**
	baz=298							
IUG	**Luzhnay**	**54.08**	**298**	*e*P		**P**	**05 55 18.1**	**0.0**
ARU	**Arti**	**55.61**	**318**	*d i*P		**P**	**05 55 29.6**	**+0.8**
ARU							05 56 24.9	
ARU							05 57 31.5	
ARU					S	**S**	**06 03 14.6**	**+0.3**
ARU					SS	**SS**	**06 06 51.2**	**-7.5**
ARU					pmax	pmax		
	comp=Z,13nm,1.1s							
ARU					MLR	MLR		
	comp=Z,228nm,18.0s							
ABKAR	**Akbulak array**	**57.63**	**310**	P		**P**	**05 55 43.2**	**-0.2**
ABKAR	**Akbulak array**	**57.63**	**310**	IAmb		IAmb	05 55 44.2	
	comp=Z,4.9nm,0.7s							
KIRV	**Kirov**	**59.26**	**323⇑**	*e*P		**P**	**05 55 54.4**	**-0.1**
WB0	**Warramunga Arr**	**59.71**	**190**	P		**P**	**05 55 58.6**	**+0.6**
WB0				IAmb		IAmb	05 56 25.4	
	comp=Z,5.7nm,1.1s							
WR0	**Warramunga Arr**	**59.88**	**190**	P		**P**	**05 55 59.2**	**0.0**
WR0				IAmb		IAmb	05 56 25.1	
	comp=Z,5.2nm,1.2s							
WB2	**Warramunga Arr**	**59.89**	**190**	P		**P**	**05 55 59.6**	**+0.4**
WRA	**Warramunga Arr**	**59.89**	**190**	P		**P**	**05 55 59.5**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=5.7,slow=7.2,SNR=11							
WRA	**Warramunga Arr**	**59.89**	**190**	*e*P		**P**	**05 56 00.5**	**+1.3**
WRA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**60.69**	**31**	P		**P**	**05 56 05.9**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=294,slow=6.3,SNR=4.1							
ARCES	**ARCESS Array B**	**62.20**	**339**	LR		LR	06 25 06.4	
	comp=Z,60nm,18.7s,baz=255,slow=38							
BELG	**Belogornoye**	**63.11**	**317**	*de*P		**P**	**05 56 21.3**	**+0.6**
BELG					pmax	pmax		
	comp=Z,4.0nm,0.9s							
ASAR	**Alice Springs**	**63.61**	**190**	P		**P**	**05 56 24.6**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=9.1,slow=7.9,SNR=6.2							
VALR	**Valaam**	**65.63**	**331**	*e*P		**P**	**05 56 37.6**	**+0.6**
VALR					pmax	pmax		
	comp=Z,18nm,1.2s							
FIA1	**FINESS Array S**	**67.34**	**333**	P		**P**	**05 56 46.8**	**-1.2**
FINES	**FINESS Array B**	**67.34**	**333**	P		**P**	**05 56 47.5**	**-0.5**
	comp=Z,3.8nm,0.7s,baz=46,slow=5.5,SNR=11							
FINES					LR	LR	06 29 28.4	
	comp=Z,126nm,18.1s,baz=307,slow=39							
FINES	**FINESS Array B**	**67.34**	**333**	*e*P		**P**	**05 56 48.3**	**+0.3**
FINES					pmax	pmax		
	comp=Z,4.0nm,0.7s							
SUMG	**Summit**	**68.09**	**1**	P		**P**	**05 56 53.7**	**+0.6**
SUMG					pmax	pmax		
	comp=Z,4.0nm,1.1s							
SUMG	**Summit**	**68.09**	**1**	P		**P**	**05 56 53.7**	**+0.6**
SUMG					IAmb	IAmb	05 56 57.2	
	comp=Z,3.6nm,1.1s							
KIV	**Kislovodsk**	**70.53**	**311**	*e*P		**P**	**05 57 09.1**	**+0.8**
KIV					pmax	pmax		
	comp=Z,42nm,1.1s							
KBZ	**Khabaz**	**70.55**	**311**	P		**P**	**05 57 07.9**	**-0.3**
	comp=Z,4.8nm,0.8s,baz=42,slow=1.8,SNR=6.6							
KBZ	**Khabaz**	**70.55**	**311**	*e*P		**P**	**05 57 10.2**	**+2.0**
KBZ					pmax	pmax		
	comp=Z,5.0nm,0.8s							
NVAR	**Mina Array Bea**	**72.05**	**55**	P		**P**	**05 57 20.9**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=280,slow=5.0,SNR=2.9							
NB2	**NORSAR Subarra**	**72.47**	**338**	P		**P**	**05 57 20.0**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**72.47**	**338**	P		**P**	**05 57 19.2**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=38,slow=6.0,SNR=15							
NOA	**NORSAR Array B**	**72.47**	**338**	*e*P		**P**	**05 57 20.4**	**+0.8**
NOA					pmax	pmax		
	comp=Z,3.0nm,0.8s							
AKASG	**Malin Array Be**	**73.32**	**323**	P		**P**	**05 57 23.8**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=44,slow=6.1,SNR=9.0							
AKASG	**Malin Array Be**	**73.32**	**323**	*i* P		**P**	**05 57 25.2**	**+0.5**
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.7s							
BUR08	**Bucovina Ar. S**	**77.34**	**322**			**P**	**05 57 49.2**	**+1.1**
BUR08					IAmb	IAmb	05 57 50.5	
	comp=Z,3.4nm,0.9s							
BURAR	**Bucovina Array**	**77.36**	**322**			**P**	**05 57 47.4**	**-0.8**
BURAR					IAmb	IAmb	05 57 50.5	
	comp=Z,2.8nm,0.8s							
VYHS	**Vyhne**	**79.58**	**326**	*e*P		P	05 57 54.3	-6.0
VYHS					pmax	pmax		
	comp=Z,12nm,1.9s							
VYHS	**Vyhne**	**79.58**	**326**	*e*P		P	05 57 54.3	-6.0
CLL	**Collm**	**79.71**	**331**	*e*P		**P**	**05 58 01.0**	**+0.1**
	comp=Z,4.0nm,1.0s							
CLL	**Collm**	**79.71**	**331**	*e*P		**P**	**05 58 01.0**	**+0.1**
CLL					pmax	pmax		
	comp=Z,4.0nm,1.0s							
KHC	**Kasperske Hory**	**81.24**	**329⇓**	*i* P		**P**	**05 58 10.8**	**+1.5**
KHC					pmax	pmax		
	comp=Z,42nm,5.2s							
GERES	**GERESS Array B**	**81.42**	**329**	P		**P**	**05 58 10.0**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=41,slow=4.3,SNR=4.6							
GERES	**GERESS Array B**	**81.42**	**329**	*e*P		**P**	**05 58 12.0**	**+1.7**
GERES					pmax	pmax		
	comp=Z,1.0nm,0.9s							

IDC 17 05:46:13.7±3.9, 3°.55S×151°.69E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/32, mbtmp3.4/2, Error ellipse: s-maj=159.0km s-min=51.2km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.49**	**225**	P	P	05 51 25.5	+0.1
	0.3nm,0.3s,baz=49,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**26.36**	**219**	P	P	05 51 52.2	+0.4
	0.2nm,0.3s,baz=60,slow=8.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.85**	**290**	PKPbc	PKPbc	06 06 03.4	-1.1
	0.4nm,0.4s,baz=83,slow=1.0,SNR=3.3						

*ANF **17** 05:50:10.1±0.2, 37°.02N×97°.84W, h5km, ML3.9/20, Error ellipse: s-maj=2.9km s-min=2.5km az=76.0*
*NEIC **17** 05:50:10.3±1.2, 37°.01N±0°.01×97°.82W±0°.06, h5km±2km,*

mb_Lg3.2/88, Error ellipse: s-maj=7.7km s-min=3.1km az=279.0

ISC 17 05:50:10.2±1.0, 37°.03N±0°.02×97°.82W±0°.02, h6km±8km, n100, σ0.54/85, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.09**	**334**		**Pg**	**05 50 12.0**	**-0.3**
GC02	**Grant County #**	**0.18**	**190**		**Pg**	**05 50 13.9**	**+0.1**
GC02				Sg	**Sg**	**05 50 16.5**	**+0.4**
KAN08	**Anthony NE Sta**	**0.23**	**329**		**Pg**	**05 50 14.8**	**0.0**
KAN08				Sg	**Sg**	**05 50 18.3**	**+0.3**
KAN10	**Anthony SW Sta**	**0.24**	**294**		**Pg**	**05 50 14.8**	**-0.1**
KAN10				Sg	**Sg**	**05 50 18.2**	**+0.1**
KAN13	**South Haven SW**	**0.28**	**93**		**Pg**	**05 50 15.7**	**+0.1**
KAN12	**Harper NE Stat**	**0.31**	**333**		**Pg**	**05 50 16.0**	**-0.1**
OK032	**Salt Plains WL**	**0.38**	**235**		**Pg**	**05 50 17.6**	**+0.1**
CROK	**Carrier**	**0.54**	**194**		**Pg**	**05 50 20.6**	**+0.1**
CROK				Sg	**Sg**	**05 50 28.1**	**+0.6**
T35A	**Sooner Cattle**	**1.05**	**96**		**Pg**	**05 50 29.9**	**-0.5**
T35B	**Sooner Cattle**	**1.05**	**96**	P	**Pg**	**05 50 29.8**	**-0.7**
	baz=275,SNR=220						
T35B				S	**Sg**	**05 50 43.7**	**-0.4**
	baz=275						
T35B	**Sooner Cattle**	**1.05**	**96**	P		05 50 29.8	
	baz=275,SNR=220						
T35B				S		05 50 43.7	
	baz=275						
U32A	**Winter Ranch,**	**1.15**	**236**		**Pg**	**05 50 31.5**	**-0.7**
U32A				Sg	**Sg**	**05 50 46.1**	**-0.9**
U32A	**Winter Ranch,**	**1.15**	**236**	P	**Pg**	**05 50 31.5**	**-0.7**
	baz=56,SNR=66						
U32A	**Winter Ranch,**	**1.15**	**236**	P		05 50 31.5	
	baz=56,SNR=66						
QUOK	**Quay**	**1.24**	**133**		**Pg**	**05 50 33.2**	**-0.7**
OK029	**Liberty Lake**	**1.26**	**166**		**Pg**	**05 50 33.7**	**-0.7**
OK031	**S. Brethren Rd**	**1.33**	**143**		**Pn**	**05 50 34.8**	**-0.4**
BCOK	**Bluff Creek, N**	**1.38**	**173**		**Pn**	**05 50 35.6**	**-0.3**
OK030	**Cody Creek RV**	**1.38**	**142**		**Pn**	**05 50 35.6**	**-0.3**
OK025	**Westminster Rd**	**1.49**	**165**		**Pn**	**05 50 37.5**	**+0.1**
R32A	**Long Quarter,**	**1.56**	**333**		**Pn**	**05 50 38.7**	**+0.3**
R32A	**Long Quarter,**	**1.56**	**333**	P	**Pn**	**05 50 38.8**	**+0.3**
	baz=153,SNR=31						
R32A				S	**Sn**	**05 50 59.1**	**+0.1**
	baz=153						
R32A	**Long Quarter,**	**1.56**	**333**	P		05 50 38.8	
	baz=153,SNR=31						
R32A				S		05 50 59.1	
	baz=153						
OKCFA	**Oklahoma City**	**1.64**	**169**		**Pn**	**05 50 39.9**	**+0.4**
OKCFA	**Oklahoma City**	**1.64**	**169**	P	**Pn**	**05 50 39.9**	**+0.4**
	baz=350,SNR=15						
OKCFA				Sb	**Sg**	**05 51 03.0**	**+0.3**
	baz=350						
OKCFA	**Oklahoma City**	**1.64**	**169**	P		05 50 39.9	
	baz=350,SNR=15						
OKCFA				Sb		05 51 03.0	
	baz=350						
OKCSW	**OKLAHOMA CITY**	**1.65**	**169**		**Pn**	**05 50 40.1**	**+0.5**
FNO	**Franklin**	**1.80**	**169**		**Pb**	**05 50 42.8**	**-0.7**
TUL1	**Leonard**	**1.98**	**124**	P	**Pn**	**05 50 44.3**	**+0.2**
	baz=304,SNR=182						
TUL1				S	**Sb**	**05 51 12.2**	**+0.8**
	baz=304						
TUL1	**Leonard**	**1.98**	**124**	P		05 50 44.7	
	baz=304						
TUL1				S		05 51 12.1	
	baz=304						
TUL1	**Leonard**	**1.98**	**124**	P		05 50 44.3	
	baz=304,SNR=182						
TUL1				S		05 51 12.2	
	baz=304						
KSU1	**Kansas State U**	**2.28**	**24**	Pn	**Pn**	**05 50 49.0**	**+0.7**
KSU1	**Kansas State U**	**2.28**	**24**	P	**Pn**	**05 50 48.9**	**+0.6**
	baz=205,SNR=13						
KSU1				S	**Sb**	**05 51 20.8**	**+0.6**
	baz=205						
KSU1	**Kansas State U**	**2.28**	**24**	P		05 50 49.1	
	baz=205						
KSU1				S		05 51 20.3	
	baz=205						
KSU1	**Kansas State U**	**2.28**	**24**	P		05 50 48.9	
	baz=205,SNR=13						
KSU1				S		05 51 20.8	
	baz=205						
CBKS	**Cedar Bluff**	**2.34**	**320**		**Pn**	**05 50 49.9**	**+0.7**
CBKS				IAmb_Lg		05 51 25.6	
	comp=Z,74nm,0.9s						
CBKS	**Cedar Bluff**	**2.34**	**320**	P	**Pn**	**05 50 49.1**	**-0.1**
	baz=140						
CBKS	**Cedar Bluff**	**2.34**	**320**	P		05 50 49.9	
	baz=140						
CBKS	**Cedar Bluff**	**2.34**	**320**	P		05 50 49.1	
	baz=140						
WMOK	**Wichita Mounta**	**2.41**	**199**		**Pn**	**05 50 50.6**	**+0.4**
WMOK	**Wichita Mounta**	**2.41**	**199**	P	**Pn**	**05 50 50.5**	**+0.4**
	baz=19,SNR=51						
WMOK	**Wichita Mounta**	**2.41**	**199**	P		05 50 50.6	
	baz=19						
WMOK	**Wichita Mounta**	**2.41**	**199**	P		05 50 50.5	
	baz=19,SNR=51						
U38A	**Gravette**	**2.82**	**101**		**Pn**	**05 50 56.5**	**+0.7**
U38A	**Gravette**	**2.82**	**101**	P	**Pn**	**05 50 56.7**	**+1.0**
	baz=283,SNR=28						
U38A	**Gravette**	**2.82**	**101**	P		05 50 56.7	
	baz=283,SNR=28						
X37A	**Clayton**	**3.14**	**140**		**Pn**	**05 51 00.2**	**+0.1**
X37A				IAmb_Lg		05 51 57.6	
	comp=Z,42nm,0.9s						
X37A	**Clayton**	**3.14**	**140**	P	**Pn**	**05 51 00.9**	**+0.8**
	baz=321,SNR=19						
X37A	**Clayton**	**3.14**	**140**	P		05 51 00.9	
	baz=321,SNR=19						
HHAR	**Hobbs**	**3.21**	**102**		**Pn**	**05 51 02.2**	**+1.1**
HHAR	**Hobbs**	**3.21**	**102**	P	**Pn**	**05 51 01.9**	**+0.9**
	baz=284,SNR=17						
HHAR	**Hobbs**	**3.21**	**102**	P		05 51 01.9	
	baz=284,SNR=17						
S39A	**Bolivar**	**3.65**	**78**		**Pn**	**05 51 07.3**	**+0.2**
S39A	**Bolivar**	**3.65**	**78**	P	**Pn**	**05 51 07.1**	**0.0**
	baz=260,SNR=39						
S39A	**Bolivar**	**3.65**	**78**	P		05 51 07.1	
	baz=260,SNR=39						
Z35A	**Perchaven, San**	**3.72**	**173**	IAmb_Lg		05 52 13.2	
	comp=Z,35nm,1.0s						
Z35A	**Perchaven, San**	**3.72**	**173**	P	**Pn**	**05 51 08.8**	**+0.8**
	baz=353						
Z35A				S	**Sn**	**05 51 53.4**	**+1.2**
	baz=353						
Z35A	**Perchaven, San**	**3.72**	**173**	P		05 51 08.8	
	baz=353						
Z35A				S		05 51 53.4	
	baz=353						
N33A	**J Bar K, Exete**	**3.72**	**4**	IAmb_Lg		05 52 08.3	
	comp=Z,48nm,0.8s						
W39A	**Magazine**	**3.74**	**118**	Pb		05 51 17.5	
	baz=300						
AMTX	**Amarillo**	**3.79**	**237**	IAmb_Lg		05 52 19.1	
	comp=Z,60nm,1.0s						
AMTX	**Amarillo**	**3.79**	**237**	Pb		05 51 19.0	
	baz=55						
AMTX				Sb		05 52 09.4	
	baz=55						
U40A	**Yellville**	**4.05**	**98**	Pn	**Pn**	**05 51 13.1**	**+0.4**
U40A				IAmb_Lg		05 52 17.5	
	comp=Z,55nm,0.8s						
U40A	**Yellville**	**4.05**	**98**	P	**Pn**	**05 51 13.0**	**+0.4**
	baz=281,SNR=34						
U40A				S	**Sn**	**05 51 59.9**	**-0.4**
	baz=281						
U40A				S	**Sn**	**05 51 59.9**	**-0.4**
	baz=281						
U40A	**Yellville**	**4.05**	**98**	P		05 51 13.0	
	baz=281						
U40A				S		05 52 00.5	
	baz=281						
U40A	**Yellville**	**4.05**	**98**	P		05 51 13.0	
	baz=281,SNR=34						
U40A				P		05 51 13.0	
	baz=281,SNR=34						
U40A				S		05 51 59.9	
	baz=281						
U40A				S		05 51 59.9	
	baz=281						
MIAR	**Mount Ida**	**4.25**	**124**	Pn	**Pn**	**05 51 16.6**	**+1.2**
MIAR				IAmb_Lg		05 52 29.2	
	comp=Z,37nm,0.7s						
MIAR	**Mount Ida**	**4.25**	**124**	P	**Pn**	**05 51 15.4**	**0.0**
	baz=307,SNR=14						
MIAR				S	**Sn**	**05 52 06.0**	**+0.8**
	baz=307						
MIAR	**Mount Ida**	**4.25**	**124**	Pb		05 51 25.0	
	baz=307						
MIAR				S		05 52 06.0	
	baz=307						
MIAR	**Mount Ida**	**4.25**	**124**	P		05 51 15.4	
	baz=307,SNR=14						
MIAR				S		05 52 06.0	
	baz=307						
P38A	**Dawn**	**4.25**	**51**		**Pn**	**05 51 15.9**	**+0.4**
P38A	**Dawn**	**4.25**	**51**	P	**Pn**	**05 51 15.9**	**+0.4**
	baz=233,SNR=9.7						
P38A	**Dawn**	**4.25**	**51**	P		05 51 15.9	
	baz=233,SNR=9.7						
KSCO	**Kaye Shedlock'**	**4.28**	**299**	IAmb_Lg		05 52 38.3	
	comp=Z,46nm,1.0s						
BGNE	**Belgrade**	**4.38**	**357**	IAmb_Lg		05 52 41.6	
	comp=Z,63nm,0.7s						
Z38A	**Mt. Pleasant**	**4.42**	**147**		**Pn**	**05 51 18.2**	**+0.5**
Z38A				IAmb_Lg		05 52 34.2	
	comp=Z,39nm,0.8s						
MGMO	**Mountain Grove**	**4.44**	**87**	Pn	**Pn**	**05 51 18.5**	**+0.4**
R40A	**Maddies Statio**	**4.58**	**72**		**Pn**	**05 51 20.3**	**+0.3**
R40A				IAmb_Lg		05 52 37.4	
	comp=Z,30nm,0.8s						
R40A	**Maddies Statio**	**4.58**	**72**	P	**Pn**	**05 51 20.2**	**+0.3**
	baz=255,SNR=28						
R40A	**Maddies Statio**	**4.58**	**72**	P		05 51 20.2	
	baz=255,SNR=28						
ABTX	**Abilene, Hawle**	**4.64**	**199**	Pn	**Pn**	**05 51 20.8**	**0.0**
ABTX	**Abilene, Hawle**	**4.64**	**199**	P	**Pn**	**05 51 20.8**	**0.0**
	baz=18						
ABTX	**Abilene, Hawle**	**4.64**	**199**	P		05 51 20.8	
	baz=18						
FCAR	**Ozark Folk Cen**	**4.73**	**102**	Pn	**Pn**	**05 51 21.9**	**-0.1**
FCAR				IAmb_Lg		05 52 41.4	
	comp=Z,42nm,0.7s						
X40A	**Basin Creek Fa**	**4.78**	**121**	Pn	**Pn**	**05 51 23.4**	**+0.7**
X40A				IAmb_Lg		05 52 45.4	
	comp=Z,56nm,0.8s						
WHAR	**Wooly Hollow**	**4.80**	**110**	Pn	**Pn**	**05 51 23.2**	**+0.3**
WHAR				IAmb_Lg		05 52 50.0	
	comp=Z,57nm,0.9s						
WHTX	**Lake Whitney,**	**5.03**	**176**	Pn	**Pn**	**05 51 26.0**	**-0.1**
WHTX	**Lake Whitney,**	**5.03**	**176**	P	**Pn**	**05 51 26.2**	**0.0**
	baz=357						
WHTX	**Lake Whitney,**	**5.03**	**176**	P		05 51 26.2	
	baz=357						
WHTX	**Lake Whitney,**	**5.03**	**176**	P		05 51 26.2	
	baz=357						
WLAR	**White Oak Lake**	**5.09**	**129**	Pn	**Pn**	**05 51 27.8**	**+0.9**
WLAR				IAmb_Lg		05 52 53.8	
	comp=Z,44nm,0.9s						
OGNE	**Ogallala**	**5.11**	**321**	Pn	**Pn**	**05 51 28.5**	**+1.3**
OGNE				IAmb_Lg		05 53 07.2	
	comp=Z,35nm,0.8s						
P40A	**Paris**	**5.18**	**59**	Pn	**Pn**	**05 51 29.1**	**+0.8**
N38A	**Joes South For**	**5.19**	**42**	IAmb_Lg		05 53 04.5	
	comp=Z,35nm,0.8s						
T25A	**Trinidad**	**5.27**	**273**	Pn	**Pn**	**05 51 30.6**	**+1.0**
T25A				IAmb_Lg		05 53 07.6	
	comp=Z,36nm,0.8s						
237A	**Washetta, Mont**	**5.28**	**161**	P	**Pn**	**05 51 29.2**	**-0.4**
	baz=342,SNR=6.2						
237A	**Washetta, Mont**	**5.28**	**161**	P		05 51 29.2	
	baz=342,SNR=6.2						
CCM	**Cathedral Cave**	**5.33**	**77**	Pn	**Pn**	**05 51 30.7**	**+0.6**
CCM	**Cathedral Cave**	**5.33**	**77**	P	**Pn**	**05 51 30.5**	**+0.3**
	baz=261,SNR=7.5						
CCM	**Cathedral Cave**	**5.33**	**77**	P		05 51 30.6	
	baz=261						
CCM	**Cathedral Cave**	**5.33**	**77**	P		05 51 30.5	
	baz=261,SNR=7.5						
T42A	**Van Buren**	**5.38**	**88**	Pn	**Pn**	**05 51 31.3**	**+0.3**
T42A				IAmb_Lg		05 53 02.5	
	comp=Z,26nm,0.7s						
T42A	**Van Buren**	**5.38**	**88**	P	**Pn**	**05 51 31.0**	**+0.1**
	baz=272,SNR=6.2						
T42A	**Van Buren**	**5.38**	**88**	P		05 51 31.0	
	baz=272,SNR=6.2						
CCAR	**Cane Creek**	**5.83**	**120**	IAmb_Lg		05 53 26.1	
	comp=Z,44nm,0.9s						
FVM	**French Village**	**5.96**	**79**	Pn	**Pn**	**05 51 38.5**	**-0.4**
FVM				IAmb_Lg		05 53 17.0	
	comp=Z,24nm,0.9s						
435B	**Jarrell**	**6.23**	**178**	IAmb_Lg		05 53 35.2	
	comp=Z,31nm,0.8s						
N41A	**Harden Midland**	**6.56**	**54**	IAmb_Lg		05 53 42.5	
	comp=Z,34nm,0.8s						
JCT	**Junction City**	**6.73**	**195**	IAmb_Lg		05 54 00.8	
	comp=Z,17nm,0.8s						
ECSD	**EROS Data Cent**	**6.76**	**7**	Pn	**Pn**	**05 51 49.8**	**-0.1**
ECSD	**EROS Data Cent**	**6.76**	**7**	P	**Pn**	**05 51 49.8**	**-0.1**
	baz=188,SNR=7.9						
ECSD	**EROS Data Cent**	**6.76**	**7**	P		05 51 49.8	
	baz=188,SNR=7.9						
143A	**Socs Landing,**	**6.81**	**127**	IAmb_Lg		05 53 54.9	
	comp=Z,18nm,0.8s						
K38A	**Parkersburg**	**6.83**	**33**	IAmb_Lg		05 54 01.2	
	comp=Z,31nm,0.9s						
S44A	**Carbondale**	**6.86**	**82**	IAmb_Lg		05 53 48.1	
	comp=Z,34nm,0.8s						
SIUC	**Southern Illin**	**6.89**	**82**	IAmb_Lg		05 53 56.4	
	comp=Z,26nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.03**	**66**	IAmb_Lg		05 53 56.1	
	comp=Z,31nm,0.8s						
L40A	**Anamosa**	**7.16**	**43**	IAmb_Lg		05 54 04.7	
	comp=Z,21nm,0.9s						
W45A	**Hickory Valley**	**7.24**	**102**	IAmb_Lg		05 54 03.1	
	comp=Z,32nm,0.8s						
Y45A	**Yeager Farm, C**	**7.46**	**113**	IAmb_Lg		05 54 16.3	
	comp=Z,30nm,0.8s						
SUSD	**Miller**	**7.46**	**354**	IAmb_Lg		05 54 19.7	
	comp=Z,32nm,1.2s						
HDIL	**Hopedale**	**7.53**	**60**

TGY	**Tagaytay City**	**4.71**	**186**	LR	LR	06 11 40.1	
	comp=Z,1µm,21.0s,baz=294,slow=47						
SSLB	**Suanglung**	**4.97**	**354**	Pn	**Pn**	**06 09 29.2**	**-0.2**
NACB	**Ninganchiao**	**5.34**	**1**		**Pn**	**06 09 33.6**	**-0.7**
YOJ	**Yonaguni jima**	**5.80**	**14**	Pn	**Pn**	**06 09 40.4**	**-0.3**
YHNB	**Yeheng**	**5.83**	**359**		**Pn**	**06 09 41.2**	**0.0**
JOW	**Kunigami**	**10.14**	**37**	Pn	**Pn**	**06 10 41.1**	**+0.8**
	3.5nm,0.3s,baz=209,slow=13,SNR=3.9						
QIZ	**Qiongzhong**	**11.02**	**273**		Pn	06 10 47.8	-4.6
JNU	**Nakatsue**	**16.58**	**29**	LR	LR	06 18 19.2	
	comp=Z,264nm,21.7s,baz=242,slow=36						
SBUM	**Sibu**	**18.62**	**210**	P	**P**	**06 12 31.1**	**-0.8**
KSRS	**Korea Array**	**19.41**	**16**	P	**Pn**	**06 12 41.2**	**-0.4**
	0.4nm,0.3s,baz=200,slow=12,SNR=6.5						
KSRS				LR	LR	06 20 42.9	
	comp=Z,192nm,18.9s,baz=197,slow=38						
JWT	**Wachi**	**20.52**	**34**		**P**	**06 12 52.0**	**-0.4**
JWT				IAmb	IAmb	06 12 59.9	
	comp=Z,8.8nm,0.8s						
SUKH	**Sukhothai**	**20.81**	**270**	P	Pn	06 13 01.0	+2.7
	comp=Z,9.9nm,0.7s						
CM34	**Chiang Mai Arr**	**21.14**	**274**	P	**P**	**06 13 00.0**	**+0.7**
UTHA	**Uthaitani**	**21.30**	**265**	P	**P**	**06 13 04.6**	**+3.6**
	comp=Z,15nm,0.7s						
CM09	**Chiang Mai Arr**	**21.32**	**273**	P	**P**	**06 13 05.0**	**+3.8**
	comp=Z,5.9nm,1.3s						
CMMT	**Chiang Mai**	**21.33**	**274**	P	**P**	**06 13 04.2**	**+2.8**
	comp=Z,250nmcomp=Z,4.0nm,1.2s						
CM04	**Chiang Mai Arr**	**21.33**	**273**	P	**P**	**06 13 04.3**	**+3.0**
	comp=Z,111nmcomp=Z,8.8nm,1.0s						
CM33	**Chiang Mai Arr**	**21.33**	**274**	P	**P**	**06 13 04.0**	**+2.6**
CM01	**Chiang Mai Arr**	**21.35**	**273**	P	**P**	**06 13 05.0**	**+3.4**
	comp=Z,6.7nm,1.2s						
CM02	**Chiang Mai Arr**	**21.36**	**273**	P	**P**	**06 13 05.0**	**+3.3**
	comp=Z,6.5nm,1.2s						
CMAR	**Chiang Mai Arr**	**21.36**	**273**	P	**P**	**06 12 59.0**	**-2.7**
	comp=Z,2.3nm,0.5s,baz=86,slow=8.7,SNR=15						
CMAR				LR	LR	06 21 01.5	
	comp=Z,55nm,18.7s,baz=290,slow=36						
CM05	**Chiang Mai Arr**	**21.36**	**273**	P	**P**	**06 13 05.2**	**+3.4**
	comp=Z,80nmcomp=Z,5.7nm,1.2s						
CM13	**Chiang Mai Arr**	**21.40**	**273**	P	**P**	**06 13 05.5**	**+3.5**
	comp=Z,81nmcomp=Z,6.7nm,1.1s						
JHJ	**Hachijo jima 2**	**21.71**	**45**	LR	LR	06 19 53.4	
	comp=Z,97nm,21.0s,baz=270,slow=32						
SRDT	**SRDT**	**21.88**	**262**	P	**P**	**06 13 09.2**	**+2.0**
	comp=Z,6.4nm,1.0s						
MJAR	**Matsushiro Arr**	**22.99**	**36**	P	**P**	**06 13 20.5**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=215,slow=7.4,SNR=1.7						
KAPI	**Kapang**	**23.74**	**184**	LR	LR	06 23 24.9	
	comp=Z,125nm,19.3s,baz=1.0,slow=39						
JAY	**Jayapura**	**28.41**	**136**	LR	LR	06 24 40.0	
	comp=Z,118nm,19.1s,baz=246,slow=35						
KLR	**Kul'dur**	**31.45**	**13**	P	**P**	**06 14 36.9**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=276,slow=3.5,SNR=4.0						
SONM	**Songino Array**	**31.45**	**340**	P	**P**	**06 14 34.8**	**-0.6**
	comp=Z,3.0nm,1.0s,baz=159,slow=9.3,SNR=13						
SONM				LR	LR	06 28 39.6	
	comp=Z,175nm,18.1s,baz=170,slow=39						
SONM	**Songino Array**	**31.45**	**340**	P	**P**	**06 14 35.8**	**+0.4**
SONM				IAmb	IAmb	06 14 36.9	
	comp=Z,1.9nm,0.9s						
TLY	**Talaya**	**35.69**	**341**	P	**P**	**06 15 11.3**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=232,slow=4.1,SNR=4.3						
TLY				LR	LR	06 31 08.1	
	comp=Z,102nm,19.0s,baz=113,slow=38						
TLY	**Talaya**	**35.69**	**341**	IAmb	IAmb	06 15 18.9	
	comp=Z,4.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**36.91**	**173**	P	**P**	**06 15 20.5**	**-2.3**
FITZ				IAmb	IAmb	06 15 36.4	
	comp=Z,5.0nm,1.1s						
PSA00	**Pilbara Seismi**	**40.17**	**182**	P	**P**	**06 15 49.8**	**-0.3**
PSA00				IAmb	IAmb	06 16 07.2	
	comp=Z,7.1nm,0.8s						
WB0	**Warramunga Arr**	**40.38**	**161**	P	**P**	**06 15 49.3**	**-2.6**
WB0				IAmb	IAmb	06 16 01.1	
	comp=Z,5.0nm,1.1s						
WRAB	**Tennant Creek**	**40.52**	**161**	P	**P**	**06 15 50.6**	**-2.5**
WRAB				IAmb	IAmb	06 16 00.5	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**40.53**	**161**	P	**P**	**06 15 50.3**	**-2.9**
	comp=Z,1.2nm,0.6s,baz=334,slow=10,SNR=26						
WB2	**Warramunga Arr**	**40.53**	**161**	P	**P**	**06 15 50.5**	**-2.6**
WB2				IAmb	IAmb	06 15 52.0	
	comp=Z,2.9nm,0.9s						
WR0	**Warramunga Arr**	**40.60**	**161**	P	**P**	**06 15 51.3**	**-2.5**
WR0				IAmb	IAmb	06 16 02.5	
	comp=Z,6.3nm,1.3s						
MK31	**Makanchi Array**	**42.50**	**320**	P	**P**	**06 16 09.2**	**+0.1**
MKAR	**Makanchi Array**	**42.50**	**320**	P	**P**	**06 16 09.1**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=110,slow=8.1,SNR=20						
MKAR				LR	LR	06 36 02.9	
	comp=Z,76nm,18.6s,baz=62,slow=39						
MKAR	**Makanchi Array**	**42.50**	**320**	P	**P**	**06 16 09.3**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**42.74**	**83**	T	T	07 01 52.1	
	baz=279,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**42.75**	**83**	T	T	07 01 57.2	
	baz=279,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy**	**42.76**	**83**	T	T	07 01 56.2	
	baz=279,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**42.78**	**81**	T	T	07 01 52.0	
	baz=277,slow=75,SNR=107						
H11N2	**WAKE ISLAND Hy**	**42.78**	**81**	T	T	07 02 12.2	
	baz=277,slow=75,SNR=79						
H11N3	**WAKE ISLAND Hy**	**42.80**	**81**	T	T	07 01 53.8	
	baz=277,slow=75,SNR=57						
AS31	**Alice Springs**	**43.93**	**163**	P	**P**	**06 16 19.8**	**-1.0**
ASAR	**Alice Springs**	**43.93**	**163**	P	**P**	**06 16 18.1**	**-2.7**
	comp=Z,0.6nm,0.4s,baz=339,slow=7.2,SNR=12						
ASAR				LR	LR	06 36 05.5	
	comp=Z,57nm,20.1s,baz=356,slow=38						
PETK	**Petropavlovsk-**	**44.24**	**31**	P	**P**	**06 16 24.5**	**+1.5**
	comp=Z,4.0nm,0.9s,baz=163,slow=5.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**44.95**	**330**	P	**P**	**06 16 28.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=98,slow=10,SNR=1.5						
ZALV				LR	LR	06 36 02.4	
	comp=Z,82nm,20.2s,baz=78,slow=37						
MA2	**Magadan**	**45.86**	**20**	LR	LR	06 38 02.7	
	comp=Z,82nm,18.3s,baz=222,slow=39						
KURK	**Kurchatov**	**46.46**	**323**	P	**P**	**06 16 39.2**	**-1.4**
KURBB	**Kurchatov Arra**	**46.47**	**323**	P	**P**	**06 16 39.2**	**-1.5**
	comp=Z,1.4nm,0.9s,baz=118,slow=7.8,SNR=11						
KKAR	**Karatay Array**	**49.07**	**311**	P	**P**	**06 17 01.2**	**+0.1**
BVAR	**Borovoye Array**	**52.06**	**323**	P	**P**	**06 17 22.3**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=123,slow=16,SNR=4.9						
TIXI	**Tiksi**	**53.02**	**3**	LR	LR	06 42 50.4	
	comp=Z,139nm,18.3s,baz=212,slow=39						
BBOO	**Buckleboo**	**53.19**	**165**	P	**P**	**06 17 30.9**	**-1.0**
ABKAR	**Akbulak array**	**57.46**	**317**	P	**P**	**06 18 02.0**	**-0.6**
ABKAR	**Akbulak array**	**57.46**	**317**	P	**P**	**06 18 02.1**	**-0.4**
ABKAR				IAmb	IAmb	06 18 03.2	
	comp=Z,2.6nm,1.0s						
GEYT	**Alibeck**	**57.86**	**303**	LR	LR	06 48 40.6	
	comp=Z,42nm,18.3s,baz=340,slow=42						
AKTO	**Aktyubinsk**	**58.87**	**318**	LR	LR	06 46 15.2	
	comp=Z,63nm,20.1s,baz=84,slow=39						
RND	**Reindeer**	**73.22**	**28**	P	**P**	**06 19 44.7**	**+0.2**
ILAR	**Eielson Array**	**73.86**	**26**	P	**P**	**06 19 46.6**	**-1.5**
	comp=Z,0.1nm,0.5s,baz=266,slow=4.1,SNR=1.7						
BRTR	**Keskin Array B**	**76.61**	**308**	LR	LR	06 56 46.9	
	comp=Z,44nm,19.8s,baz=32,slow=38						
AKASG	**Malin Array Be**	**77.08**	**319**	LR	LR	06 58 49.9	
	comp=Z,28nm,20.3s,baz=55,slow=39						
NOA	**NORSAR Array B**	**83.09**	**333**	LR	LR	07 01 25.0	
	comp=Z,101nm,18.8s,baz=60,slow=38						
YKA	**Yellowknife Ar**	**87.79**	**23**	P	**P**	**06 21 02.2**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=315,slow=4.1,SNR=15						
YKA				LR	LR	07 01 51.0	
	comp=Z,23nm,20.7s,baz=0.0,slow=37						

*NEIC **17** 06:29:55.7±0.8, 53°.95N×0°.10×158°.6W×0°.1, h26km±9km, Error ellipse: s-maj=15.3km s-min=8.3km az=158.0*

AEIC 17 06:29:56±1.1, **53°.99N**±0°.05×**158.76W**±0°.06, **h26**km±8km, **ML3.3**/30, **ML3.5**/14(NEIC), **Error ellipse: s-maj=7.2km s-min=4.9km az=155.0, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**1.69**	**324**		Pn	06 30 24.3	+0.6
SDPT					Sn	06 30 45.5	+1.0
PVV	**Pavlof Volcano**	**2.24**	**309**		Pn	06 30 32.7	+1.3
PVV					Sn	06 31 00.0	+1.9
PS4A	**Pavlof South-4**	**2.26**	**308**		Pn	06 30 32.9	+1.3
PS4A					Sn	06 31 00.6	+2.1
HAG	**Hague Volcano**	**2.26**	**307**		Pn	06 30 33.1	+1.4
HAG					Sb	06 31 01.7	-1.9
CHGN	**Chignik**	**2.33**	**5**	Pn	Pn	06 30 31.3	-1.1
CHGN					Sn	06 31 00.9	+0.8
CHGN				IAML		06 31 02.6	
	comp=E,138nm,0.2s						
CHGN				IAML		06 31 02.7	
	comp=N,92nm,0.2s						
DT1	**Dutton Round H**	**2.34**	**300**		Pn	06 30 33.2	+0.6
PN6	**Pavlof North-6**	**2.35**	**310**		Pn	06 30 35.1	+2.2
PN6					Sb	06 31 03.8	-2.4
FALS	**False Pass**	**2.86**	**290**		Pn	06 30 41.2	+1.4
FALS					Sn	06 31 16.4	+3.1
BRPK	**Brown Peak**	**2.99**	**285**		Pn	06 30 43.0	+1.3
SSLS	**Shishaldin Sou**	**3.15**	**285**		Pn	06 30 45.6	+1.7
SSLN	**Shishaldin Nor**	**3.17**	**287**		Pn	06 30 46.2	+2.1
SSLN					Sn	06 31 23.6	+2.5
SSLW	**Shishaldin Wes**	**3.23**	**286**		Pn	06 30 46.5	+1.5
SSBA	**Shishaldin**	**3.24**	**286**		Pn	06 30 46.5	+1.5
WESP	**Westdahl Peak**	**3.54**	**281**		Pn	06 30 50.5	+1.2
WESP					Sn	06 31 31.9	+1.8
SII	**Sitkinak Islan**	**3.67**	**44**	Pn	Pn	06 30 50.0	-1.0
AKSA	**Akutan Strait**	**4.09**	**275**		Pn	06 30 57.7	+0.9
AKUT	**Akutan**	**4.14**	**275**	Pn	Pn	06 30 58.6	+1.2
ZRO	**Akutan Zero**	**4.26**	**274**		Pn	06 31 00.4	+1.3
AKMO	**Akutan Morgan**	**4.28**	**274**		Pn	06 31 00.6	+1.3
OHAK	**Old Harbor**	**4.48**	**42**	Pn	Pn	06 31 01.4	-0.7
OHAK				IAML		06 33 39.3	
	comp=N,67nm,4.5s						
OHAK				IAML		06 33 58.4	
	comp=E,54nm,5.0s						
MNAT	**Makushin Natee**	**4.69**	**272**		Pn	06 31 05.9	+1.0
MREP	**Makushin Rep't**	**4.73**	**271**		Pn	06 31 07.0	+1.4
MSW	**Makushin Switc**	**4.74**	**272**		Pn	06 31 06.7	+1.0
MGOD	**Makushin Gods**	**4.80**	**271**		Pn	06 31 07.8	+1.1
MAPS	**Pakushin South**	**4.84**	**271**		Pn	06 31 08.2	+1.1
KDAK	**Kodiak Island**	**5.15**	**40**	IAML		06 32 26.3	
	comp=E,55nm,4.5s						
KDAK	**Kodiak Island**	**5.15**	**40**	Pn	Pn	06 31 10.2	-1.1
OKSP	**Okmok Steeple**	**5.72**	**266**		Pn	06 31 20.1	+0.9

*JMA **17** 06:35:27.2±0.2, 43°.66N×147°.07E, h36km±4km, M3.7*
*SKHL **17** 06:35:27.8±0.1, 44°.80N×145°.80E, h78km±2km, mb4.2/7*
*MOS **17** 06:35:27.0±0.7, 44°.80N×145°.87E, h66km, mb4.2/8, Error ellipse: s-maj=13.6km s-min=8.5km az=86.3*

ISC 17 06:35:28.9±0.5, **44°.71N**±0°.07×**146°.02E**±0°.06, **h82**km±9km, **n47**, σ**1**s**98**/49, **mb3.9**/7, **4C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.68**	**190**	*e*PN	**Pn**	**06 35 43.8**	**-0.7**
YUK				*e*S	**Sn**	**06 35 55.9**	**-0.1**
YUK				pmax	pmax		
	comp=Z,944nm,0.2s						
YUK				smax	smax		
	comp=E,752nm,0.3s						
YUK				smax	smax		
	comp=N,1µm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.68**	**190**	*e*P	**Pn**	**06 35 43.9**	**-0.6**
YUK				AMB	AMB	06 35 44.0	
	comp=N,90nm,0.2s						
YUK				*e*S	**Sn**	**06 35 55.9**	**-0.1**
YUK				A	A	06 35 57.0	
	comp=N,1µm,0.3s						
YUK				A	A	06 35 57.0	
	comp=N,750nm,0.3s						
GRPR	**Tuman**	**0.74**	**194**	*e*PN	**Pn**	**06 35 43.8**	**-1.3**
GRPR				*e*S	**Sn**	**06 35 56.4**	**-0.7**
GRPR				pmax	pmax		
	comp=Z,185nm,0.3s						
GRPR				smax	smax		
	comp=N,2µm,0.3s						
GRPR				smax	smax		
	comp=E,1µm,0.2s						
GRPR	**Tuman**	**0.74**	**194**	*e*P	**Pn**	**06 35 43.8**	**-1.3**
GRPR				AMB	AMB	06 35 45.0	
	comp=E,190nm,0.3s						
GRPR				*e*S	**Sn**	**06 35 56.6**	**-0.5**
GRPR				A	A	06 35 59.0	
	comp=E,2µm,0.3s						
GRPR				A	A	06 35 59.0	
	comp=E,1µm,0.3s						
RUSJ	**Misakicho**	**0.82**	**223**	*e*PN	Pn	06 35 50.5	+4.5
JRA	**Rausu**	**1.00**	**220**	P	Pn	06 35 51.4	+3.3
GLVR	**Golovnino**	**1.03**	**201**	⇓ *i*PN	**Pn**	**06 35 47.3**	**-1.1**
GLVR				*e*S	**Sn**	**06 36 02.5**	**-0.5**
GLVR	**Golovnino**	**1.03**	**201**	*e*S	**Sn**	**06 36 00.5**	**-2.5**
JNSB	**Nemuroshibetsu**	**1.18**	**219**	P	**Pn**	**06 35 52.8**	**+2.5**
JNSB				*e*S	**Sn**	**06 36 11.4**	**+5.1**
NMR	**Nemuro--Hokkai**	**1.35**	**189**	⇑ *i*PN	Pn	06 35 45.3	-7.1
NEM2	**Nemuro 2**	**1.36**	**189**	P	Pn	06 35 45.2	-7.2
NEM2				*e*S	Sn	06 35 58.4	-12
KUR	**Kuril'sk**	**1.41**	**67**	*e*PN	**Pn**	**06 35 52.7**	**-0.4**
KUR				*i* S	**Sn**	**06 36 11.4**	**+0.1**
KUR				pmax	pmax		
	comp=N,33nm,0.1s						
KUR				pmax	pmax		
	comp=Z,82nm,0.1s						
KUR				pmax	pmax		
	comp=E,23nm,0.2s						
KUR				smax	smax		
	comp=N,593nm,0.2s						
KUR				smax	smax		
	comp=E,340nm,0.1s						
KUR	**Kuril'sk**	**1.41**	**67**	*e*P	**Pn**	**06 35 52.7**	**-0.4**
KUR				AMB	AMB	06 35 54.0	
	comp=E,80nm,0.2s						
KUR				*e*S	**Sn**	**06 36 11.4**	**+0.1**
KUR				A	A	06 36 13.0	
	comp=E,590nm,0.2s						
KUR				A	A	06 36 13.0	
	comp=E,330nm,0.2s						
JNK	**Nakash**	**1.46**	**220**	P	**Pn**	**06 35 55.1**	**+1.3**
JNK				*e*S	**Sn**	**06 36 16.0**	**+3.4**
JTKR	**Abashiri--Toko**	**1.69**	**245**	P	Pn	06 36 04.2	+7.5
JKHN	**Kushirohamanak**	**1.74**	**201**	P	Pn	06 35 52.6	-4.8
JKHN				*e*S	**Sn**	**06 36 11.0**	**-7.9**
JAK	**Akkeshi**	**1.96**	**210**	P	**Pn**	**06 35 57.4**	**-2.9**
JAK				*e*S	**Sn**	**06 36 19.2**	**-5.0**
JAR	**Ashorobuto**	**2.15**	**230**	P	Pn	06 36 06.3	+3.5
JAR				*e*S	Sn	06 36 35.4	+6.6
JOB	**Onbets**	**2.40**	**222**	P	**Pn**	**06 36 06.6**	**+0.5**
JOB				*e*S	**Sn**	**06 36 35.9**	**+1.2**
JCH	**Churui**	**2.85**	**224**	P	**Pn**	**06 36 12.2**	**0.0**
JCH				*e*S	**Sn**	**06 36 45.7**	**+0.3**
YSS	**Yuzh-Sakhalins**	**3.21**	**316**	*e*PN	Pn	06 36 14.5	-2.5
YSS	**Yuzh-Sakhalins**	**3.21**	**316**	*e*P	Pn	06 36 12.6	-4.4
YSS				AMB	AMB	06 36 14.6	
	comp=E,30nm,0.6s						
ERM	**Erimo**	**3.41**	**219**	*e*PN	**Pn**	**06 36 20.6**	**+0.9**
TYV	**Tymovskoe**	**6.56**	**341**	*e*P	Pn	06 37 00.5	-2.2
TYV				AMB	AMB	06 37 02.8	
	comp=E,10.0nm,0.6s						
MAJO	**Matsushiro**	**10.08**	**219**	*e*PN	**Pn**	**06 37 50.8**	**0.0**
KLR	**Kul'dur**	**10.75**	**300**	⇑ *i*PN	**Pn**	**06 37 57.6**	**-2.2**
KLR	**Kul'dur**	**10.75**	**300**	*e*P	Pn	06 37 57.1	-2.7
PEA0B	**Petropavlovsk-**	**11.38**	**38**	*e*PN	**Pn**	**06 38 10.0**	**+1.8**
PET	**Petropavlovsk**	**11.75**	**40**	*e*PN	**Pn**	**06 38 12.5**	**-0.8**
PET	**Petropavlovsk**	**11.75**	**40**	*e*P	**Pn**	**06 38 12.8**	**-0.5**
MA2	**Magadan**	**15.17**	**9**	⇑ *i*P	**Pn**	**06 38 57.4**	**-0.9**
ULN	**Ulaanbaatar**	**26.92**	**291**	*e*P	**P**	**06 41 03.0**	**+0.6**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ULN	**Ulaanbaatar**	**26.92**	**291**	*e*P	**P**	**06 41 03.0**	**+0.6**
TIXI	**Tiksi**	**28.26**	**349**	*i* P	**P**	**06 41 15.2**	**+1.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TIXI	**Tiksi**	**28.26**	**349**	*e*P	**P**	**06 41 15.2**	**+1.4**
KDAK	**Kodiak Island**	**39.20**	**48**	*i* P	**P**	**06 42 49.4**	**+0.8**
DGZ	**Jazzator, Alta**	**39.24**	**299**	⇑ *i*P	**P**	**06 42 49.2**	**-0.1**
DGZ				pmax	pmax		
	comp=Z,9.0nm,3.9s						
MK31	**Makanchi Array**	**43.43**	**296**	*i* P	**P**	**06 43 22.9**	**-0.5**
BRVK	**Borovoye**	**48.32**	**308**	*e*P	**P**	**06 44 01.1**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,2.0s						
BRVK	**Borovoye**	**48.32**	**308**	*e*P	**P**	**06 44 01.1**	**-0.6**
AAK	**Ala-Archa**	**50.22**	**294**	*e*P	**P**	**06 44 17.2**	**+0.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AAK	**Ala-Archa**	**50.22**	**294**	*e*P	**P**	**06 44 17.2**	**+0.6**
ARU	**Arti**	**53.10**	**316**	*i* P	**P**	**06 44 37.9**	**+0.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.9s						
ARU	**Arti**	**53.10**	**316**	*e*P	**P**	**06 44 37.9**	**+0.4**
BELG	**Belogornoye**	**60.65**	**316**	⇓ *i*P	**P**	**06 45 30.0**	**-0.9**
BELG				pmax	pmax		
	comp=Z,2.0nm,1.6s						
OBN	**Obninsk**	**64.06**	**323**	⇓ *e*P	**P**	**06 45 54.7**	**+1.0**
OBN				*e*		06 48 17.2	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,87nm,16.0s						
OBN	**Obninsk**	**64.06**	**323**	*e*P	**P**	**06 45 54.7**	**+1.0**

*IDC **17** 06:45:52.4±1.6, 19°.71S×173°.72W, h0km, mb4.0/5, mb1 4.2/7, mb1mx3.9/29, mbtmp4.1/7, ML4.1/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/33, Error ellipse: s-maj=54.0km s-min=23.3km az=136.0*

ISC 17 06:45:55.9±1.3, **19.7S**±0°.2×**173.7W**±0°.2, **h25**km, **n8**, σ**0**s**79**/7, **mb4.0**/4, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.04**	**18**	Pn	**Pn**	**06 47 23.3**	**-0.5**
	11nm,0.3s,baz=319,slow=1.3,SNR=12						
MSVF	**Nonsavu**	**8.07**	**283**	LR	LR	06 50 43.0	
	comp=Z,68nm,20.0s,baz=209,slow=36						
DZM	**Mont Dzumac**	**18.71**	**259**	P	**Pn**	**06 50 14.2**	**+0.9**
	0.2nm,0.3s,baz=90,slow=19,SNR=2.5						
URZ	**Urewera**	**20.15**	**201**	P	**P**	**06 50 27.7**	**-0.5**
	8.1nm,0.7s,baz=0.0,slow=2.0,SNR=1.9						
STKA	**Stephens Creek**	**41.78**	**244**	P	**P**	**06 53 43.5**	**-0.1**
	2.4nm,0.9s,baz=90,slow=11,SNR=2.3						
ASAR	**Alice Springs**	**48.65**	**255**	P	**P**	**06 54 38.0**	**-0.3**
	1.7nm,0.7s,baz=92,slow=7.7,SNR=21						
WRA	**Warramunga Arr**	**48.73**	**260**	P	**P**	**06 54 38.3**	**-0.6**
	1.0nm,0.3s,baz=97,slow=7.1,SNR=73						
NVAR	**Mina Array Bea**	**77.70**	**41**	P	**P**	**06 57 51.8**	**+0.9**
	0.3nm,0.7s,baz=221,slow=8.1,SNR=3.8						

DJA 17 06:46:17.5±2.3, **9°S**±8°×**11°1E**±°, **h12**km±18km, **M3.9**/8, **mb4.0**/2, **MLv3.8**/8, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.24**	**330**	P	Pn	06 46 40.6	-0.1
SMRI	**Semarang**	**2.06**	**340**	P	Pn	06 46 52.2	+0.2
JAGI	**Jajag, Banyuwa**	**3.02**	**80**	P	Pn	06 47 03.4	-1.8
ABJI	**Asem Bagus**	**3.29**	**69**	P	Pn	06 47 09.5	+0.7
CISI	**Cisompet, Garu**	**3.59**	**293**	P	Pn	06 47 13.0	-0.1
PLAI	**Plampang**	**6.56**	**89**	P	P	06 47 54.6	+0.7

*THE **17** 06:47:15.8, 40°.17N×19°.81E, h0km±1km, ML3.0/6, Error ellipse: s-maj=1.2km s-min=0.5km az=306.0*
*BEO **17** 06:47:15.5±0.5, 40°.08N×19°.63E, h13km±3km, ML2.8/8*
*TIR **17** 06:47:15.4, 40°.16N×19°.85E, h5km, Md3.1, Ml3.2*
*ATH **17** 06:47:16.1, 40°.15N×19°.84E, h13km±4km, ML2.8/8, Error ellipse: s-maj=4.8km s-min=1.2km az=194.0*

ISC 17 06:47:15.6±0.9, **40°.15N**±0°.02×**19°.80E**±0°.02, **h12**km±7km, **n63**, σ**0**s**98**/97, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.21**	**48**	P	**Pg**	**06 47 19.5**	**-0.7**
	baz=42						
TPE				S	**Sg**	**06 47 22.9**	**-0.5**
	baz=42						
SRN	**Sarande**	**0.31**	**151**	P	**Pg**	**06 47 21.9**	**-0.1**
SRN				S	**Sg**	**06 47 27.1**	**+0.9**
	4µm,0.3s						
SRN	**Sarande**	**0.31**	**151**	P	**Pg**	**06 47 21.8**	**-0.1**
	baz=157						
SRN				S	**Sg**	**06 47 27.0**	**+0.8**
	baz=157						
SRN				AMP			
	comp=N,21nm,0.3s,baz=157						
VLO	**Vlora**	**0.39**	**323**	P	**Pg**	**06 47 23.0**	**-0.5**
VLO				S	**Sg**	**06 47 29.3**	**+0.6**
	comp=N,7µm,0.5s						
VLO	**Vlora**	**0.39**	**323**	P	**Pg**	**06 47 23.9**	**+0.5**
	baz=319						
VLO				S	**Sb**	**06 47 30.7**	**+0.2**
	baz=319						
VLO				AMP			
	comp=E,29nm,0.5s,baz=319						
KASA	**Kassiopi**	**0.42**	**166**	P	**Pg**	**06 47 23.8**	**-0.2**
KASA				S	**Sg**	**06 47 30.5**	**+1.0**
KASA				AML	AML	06 47 33.0	
	comp=E,4179µm,0.3s						
KASA				AML	AML	06 47 33.5	
	comp=

FNA	**Florina**	**1.36**	**62**	P	**Pb**	**06 47 40.8**	**-0.2**
FNA				S	**Sg**	**06 48 01.1**	**+1.8**
FNA	**Florina**	**1.36**	**62**	*e*Pn	**Pb**	**06 47 40.6**	**-0.4**
FNA				*e*Sn	**Sg**	**06 48 02.0**	**+2.7**
TSLK	**Tsoukalades, L**	**1.48**	**153**	P	**Pb**	**06 47 42.8**	**-0.3**
TSLK	**Tsoukalades, L**	**1.48**	**153**	P	**Pb**	**06 47 43.0**	**-0.1**
TSLK				S	**Sg**	**06 48 04.7**	**+1.4**
KZN	**Kozani**	**1.52**	**84**	P	**Pg**	**06 47 44.1**	**-0.6**
KZN				AML	AML	06 48 11.1	
	comp=E,542μm,0.6s						
KZN				AML	AML	06 48 16.1	
	comp=N,467μm,0.5s						
KZN	**Kozani**	**1.52**	**84**	P	**Pb**	**06 47 43.8**	**+0.1**
KZN				S	**Sg**	**06 48 04.2**	**-0.2**
LKD2	**Lefkada island**	**1.52**	**154**	P	**Pb**	**06 47 43.2**	**-0.4**
LKD2				AML	AML	06 48 08.4	
	comp=E,761μm,0.4s						
LKD2				AML	AML	06 48 09.8	
	comp=N,687μm,0.4s						
LKD2	**Lefkada island**	**1.52**	**154**	P	**Pb**	**06 47 43.3**	**-0.4**
LKD2				S	**Sg**	**06 48 04.8**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.60**	**154**	P	**Pn**	**06 47 44.3**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.60**	**154**	P	**Pn**	**06 47 44.3**	**+0.7**
NYDR				S	**Sg**	**06 48 06.7**	**-0.3**
PHP	**Peshkopia**	**1.60**	**17**	P	**Pb**	**06 47 45.4**	**+0.2**
	baz=16						
PHP				S	**Sg**	**06 48 09.0**	**+1.7**
	baz=16						
PHP				AMP			
	comp=N,0.8nm,1.0s,baz=16						
EVGI	**Lefkada island**	**1.67**	**156**	P	**Pn**	**06 47 45.3**	**+0.6**
EVGI	**Lefkada island**	**1.67**	**156**	P	**Pb**	**06 47 46.0**	**-0.2**
EVGI				S	**Sg**	**06 48 08.3**	**-0.9**
THL	**Klokotos Trika**	**1.80**	**108**	P	**Pb**	**06 47 48.6**	**0.0**
PDO	**Prodromos**	**1.89**	**145**	P	**Pn**	**06 47 48.6**	**+0.9**
LIT	**Litokhoron**	**2.06**	**91**	P	**Pb**	**06 47 52.4**	**-0.6**
MAKR	**Makrakomi, Fth**	**2.13**	**122**	P	**Pb**	**06 47 53.8**	**-0.4**
SKO	**Skopje**	**2.20**	**34**	*e*Pn	**Pn**	**06 47 53.4**	**+1.4**
SKO				*e*Sn	**Sb**	**06 48 23.0**	**+0.5**
AGG	**Agios Georgios**	**2.26**	**119**	P	**Pb**	**06 47 54.8**	**-1.6**
PDG	**Podgorica**	**2.31**	**350**	*e*Pn	**Pn**	**06 47 55.1**	**+1.6**
PDG				*e*Sn	**Sb**	**06 48 24.0**	**-1.8**
STIP	**Stip**	**2.37**	**49**	*i* Pn	**Pb**	**06 47 59.0**	**+0.7**
DBRK	**Dubrovnik**	**2.81**	**334**	*e*Pn	**Pn**	**06 47 59.9**	**-0.4**
BOSS	**Bosilegrad**	**3.09**	**40**	*e*Pn	**Pn**	**06 48 05.5**	**+1.3**
BOSS				*e*Sn	**Sb**	**06 48 44.2**	**-4.0**
STON	**Ston**	**3.14**	**331**	*e*Pn	**Pn**	**06 48 03.2**	**-1.7**
STON				Sn	**Sn**	**06 48 40.2**	**-2.1**
IVAS	**Ivanjica**	**3.43**	**4**	*e*Pn	**Pn**	**06 48 08.9**	**-0.1**
BOVS	**Bovan**	**3.76**	**22**	*e*Pn	**Pn**	**06 48 13.9**	**+0.5**
ZAPS	**Zavoj**	**3.77**	**33**	*e*Pn	**Pn**	**06 48 15.6**	**+2.0**
HVAR	**Hvar**	**3.93**	**321**	*e*Pn	**Pn**	**06 48 15.5**	**-0.2**
HVAR				Sn	**Sn**	**06 48 59.7**	**-2.1**
DIVS	**Divibare**	**3.94**	**2**	*e*Pn	**Pn**	**06 48 16.9**	**+0.8**
DIVS				*e*Sn	**Sn**	**06 49 02.4**	**+0.1**
TRUS	**Trudelj**	**4.09**	**6**	*e*Pn	**Pn**	**06 48 19.1**	**+1.1**
KIJV	**Kijevo**	**4.61**	**328**	*e*Pn	**Pn**	**06 48 25.6**	**+0.5**
ZIRJ	**Zirje**	**4.68**	**320**	*e*Pn	**Pn**	**06 48 25.1**	**-0.8**
MORI	**Morici**	**4.80**	**322**	*e*Pn	**Pn**	**06 48 27.5**	**-0.2**
DUGI	**Dugi Otok**	**5.21**	**319**	*e*Pn	**Pn**	**06 48 33.2**	**-0.2**
NVLJ	**Novalja**	**5.72**	**322**	*e*Pn	**Pn**	**06 48 40.0**	**-0.4**

CFUSG ***17*** *06:54:58.0,45°.73N×35°.82E,h17km, Sea of Azov district 7*

MOS ***17*** *06:55:00.6±0.0,44°.39N×35°.73E,h8km±1km,MPVA3.5*

ISC 17 06:54:55.4±1.9,**45°.8N**±0°.1×**35°.82E**±0°.03,**h10**km,**n14,** σ2**s40**/31,**2D,Crimea region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KERU	**Kerch**	**0.70**	**140**	⇓ *i* Pg		**Pn**	**06 55 12.7**	**+1.4**
KERU				Pgm			06 55 19.8	
	comp=Z,6.0nm,0.2s							
KERU				*i* Sg		**Sn**	**06 55 26.2**	**+4.0**
KERU				Sgm			06 55 26.4	
	comp=E,15nm,0.4s							
KERU				Sgm			06 55 27.0	
	comp=N,23nm,0.4s							
KERU				Sgm			06 55 28.3	
	comp=N,39nm,0.5s,comp=E,21nm,0.5s							
FEO	**Feodosiya**	**0.88**	**200**	*ex*		**Sg**	**06 55 24.4**	**+0.7**
FEO				*e*Sg		**Sb**	**06 55 24.9**	**+0.4**
FEO				Sgm			06 55 26.1	
	comp=E,99nm,0.2s							
FEO				Sgm			06 55 26.7	
	comp=N,141nm,0.2s							
FEO	**Feodosiya**	**0.88**	**200**	*e*Pg		**Pn**	**06 55 14.0**	**+0.2**
FEO				*e*Sg		**Sg**	**06 55 24.4**	**+0.7**
SUDU	**Sudak**	**1.11**	**212**	*e*Pg		**Pn**	**06 55 18.9**	**+1.8**
SUDU				Pgm			06 55 19.5	
	comp=Z,17nm,0.2s							
SUDU				*e*Sg		**Sn**	**06 55 33.1**	**+0.6**
SUDU				Sgm			06 55 33.7	
	comp=E,90nm,0.4s							
SUDU				Sgm			06 55 35.7	
	comp=N,40nm,0.2s							
SUDU				Sgm			06 55 35.7	
	comp=E,124nm,0.5s							
SIM	**Simferopol'**	**1.50**	**234**	⇓ *e*P		**Pn**	**06 55 23.4**	**+1.1**
SIM				P		**Pn**	**06 55 23.5**	**+1.1**
	comp=Z,14nm,0.2s							
SIM				*e*S		**Sn**	**06 55 41.6**	**-0.3**
SIM				S		**Sg**	**06 55 44.2**	**+0.7**
	comp=N,55nm,0.2s							
SIM				S		**Sb**	**06 55 44.4**	**+2.1**
	comp=E,23nm,0.1s							
SIM	**Simferopol'**	**1.50**	**234**	*e*Pg		**Pn**	**06 55 23.4**	**+1.1**
SIM				*e*Sg		**Sn**	**06 55 41.6**	**-0.3**
ALU	**Alushta**	**1.53**	**221**	*ex*		Pn	06 55 18.1	-4.7
ALU				*e*Sg		**Sn**	**06 55 36.7**	**-6.1**
ALU				Sgm			06 55 38.1	
	comp=E,61nm,0.4s							
ALU				Sgm			06 55 39.2	
	comp=N,75nm,0.2s							
ALU	**Alushta**	**1.53**	**221**	*e*Pg		Pn	06 55 18.1	-4.7
ALU				*e*Sg		**Sn**	**06 55 36.7**	**-6.1**
YAL	**Yalta**	**1.80**	**222**	*e*S		**Sn**	**06 55 48.6**	**-0.6**
SEV	**Sevastopol'**	**2.00**	**230**	*e*P		**Pn**	**06 55 30.2**	**+1.0**
SEV				P		**Pb**	**06 55 31.4**	**-0.5**
	comp=Z,6.0nm,0.2s							
SEV				*e*S		**Sn**	**06 55 53.4**	**-0.9**
SEV				S		**Sb**	**06 55 56.5**	**-0.3**
	comp=E,32nm,0.2s							
SEV				S		**Sb**	**06 55 56.5**	**-0.3**
	comp=N,27nm,0.2s							
SEV	**Sevastopol'**	**2.00**	**230**	*e*Pg		Pn	**06 55 30.2**	**+1.0**
SEV				*e*Sg		**Sn**	**06 55 53.4**	**-0.9**
TPSR	**Tuapse**	**2.92**	**126**	*e*Pn		**Pn**	**06 55 43.3**	**+1.4**
TPSR				*e*Sn		**Sn**	**06 56 13.2**	**-3.7**
LZRR	**Lazarevskoye**	**3.17**	**126**	*e*Pn		**Pn**	**06 55 46.4**	**+1.0**
LZRR				*e*Sn		**Sn**	**06 56 17.8**	**-5.4**
GUZR	**Guzeripl'**	**3.57**	**120**	*i* Pn		**Pn**	**06 55 52.2**	**+1.3**
GUZR				*i* Sn		**Sn**	**06 56 31.1**	**-2.0**

IDC ***17*** *07:13:52.9±2.2,5°.78S×129°.50E,h318km±28km,mb3.0/2, mb1 3.4/6,mb1mx3.0/37,mbtmp4.0/6, Error ellipse: s-maj=54.4km s-min=11.7km az=75.0*

ISC 17 07:13:50.9±0.9,**5°.85S**±0°.07×**129°.2E**±0°.2,**h300**km,**n6,** σ2**s16**/10,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.36**	**23**	P		**Pn**	**07 15 13.0**	**+0.3**
	1.2nm,0.3s,baz=194,slow=22,SNR=9.1							
SIJI				S		**S**	**07 16 15.3**	**-3.1**
	6.3nm,0.3s,baz=112,slow=23,SNR=11							
FITZ	**Fitzroy Crossi**	**12.66**	**196**	P		**P**	**07 16 42.8**	**+0.6**
	0.6nm,0.3s,baz=28,slow=11,SNR=14							
FITZ				S		**S**	**07 18 57.9**	**-4.1**
	0.4nm,0.3s,baz=133,slow=19,SNR=2.6							
WRA	**Warramunga Arr**	**14.88**	**161**	P		**Pn**	**07 17 08.3**	**+0.4**
	1.3nm,0.3s,baz=340,slow=11,SNR=112							
WRA				S		**S**	**07 19 48.9**	**-0.4**
	0.3nm,0.3s,baz=345,slow=21,SNR=7.1							
ASAR	**Alice Springs**	**18.29**	**166**	P		**P**	**07 17 45.6**	**+1.9**
	1.5nm,0.3s,baz=348,slow=12,SNR=76							
ASAR				S		**S**	**07 20 57.5**	**+0.5**
	0.2nm,0.3s,baz=344,slow=19,SNR=9.9							
MKAR	**Makanchi Array**	**66.83**	**327**	P		**P**	**07 24 11.8**	**+0.9**
	0.5nm,0.5s,baz=127,slow=7.6,SNR=6.8							
KURBB	**Kurchatov Arra**	**71.12**	**329**	P		**P**	**07 24 37.8**	**+0.8**
	0.4nm,0.6s,baz=124,slow=5.2,SNR=5.2							

NNC ***17*** *07:28:10.3±0.4,50°.01N×78°.74E,h0km, mb3.6,mpv3.4, Error ellipse: s-maj=6.6km s-min=1.9km az=80.0, Suspected Mining explosion.*

ISC 17 07:28:04.5±0.8,**49°.97N**±0°.05×**79°.33E**±0°.04,**h0**km,**n21,** σ1**s64**/30,**10C,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.83**	**322**	⇑ P		**Pb**	**07 28 22.5**	**+0.6**
	49nm,0.3s							
KURBB				⇑ S		**Sg**	**07 28 31.6**	**+0.4**
	185nm,0.8s							
UKR	**Ust'-Kan**	**3.61**	**72**	P		**Pg**	**07 29 14.7**	**+1.1**
UKR				S		**Sb**	**07 29 56.9**	**+3.3**
MAKZ	**Makanchi**	**3.62**	**150**	P		**Pg**	**07 29 13.4**	**-0.4**
MAKZ				S		**Sg**	**07 30 03.2**	**+2.5**
MAKZ	**Makanchi**	**3.62**	**150**	⇑ Pg		Pg	07 29 19.7	+5.9
	3.2nm,0.6s							
MAKZ				⇑ Lg		Lg	07 30 09.2	
	13nm,0.8s							
MK31	**Makanchi Array**	**3.74**	**147**	⇑ Pn		**Pg**	**07 29 14.7**	**-1.4**
	0.4nm,0.3s,baz=277,slow=6.7,SNR=50							
MK31				⇑ Pg		Pb	07 29 22.8	+11
	1.3nm,0.3s,baz=323,slow=13,SNR=28							
MK31				⇑ Lg		Lg	07 30 16.9	
	5.0nm,0.5s,baz=323,slow=26,SNR=24							
MKAR	**Makanchi Array**	**3.74**	**147**	P		**Pg**	**07 29 15.0**	**-1.1**
MKAR				S		**Sg**	**07 30 03.5**	**-1.0**
BRZS	**Berezniki**	**4.29**	**273**	Pg		**Pb**	**07 29 20.7**	**-0.1**
	6.9nm,0.3s							
BRZS				Lg		Lg	07 30 13.1	
	7.8nm,0.4s							
KAPS	**Kapalarasan**	**4.69**	**180**	Pg		**Pg**	**07 29 35.7**	**+1.5**
	3.0nm,0.4s							
KAPS				Lg		Lg	07 30 40.5	
	24nm,0.6s							
DGZ	**Jazzator, Alta**	**5.25**	**90**	P		**Pb**	**07 29 38.2**	**+1.1**
DGZ				S		**Sb**	**07 30 39.4**	**-1.3**
CHBI	**Chibit, Altay**	**5.27**	**83**	P		**Pb**	**07 29 37.6**	**+0.2**
CHBI				S		**Sb**	**07 30 40.6**	**-0.6**
ARTR	**Artybash**	**5.36**	**67**	P		**Pb**	**07 29 38.8**	**-0.1**
ARTR				S		**Sb**	**07 30 41.0**	**-2.6**
ULGR	**Ulagan, Altay**	**5.57**	**80**	P		**Pb**	**07 29 42.2**	**-0.4**
ULGR				S		**Sb**	**07 30 46.4**	**-3.5**
CUR	**Chagan-Uzun**	**5.81**	**85**	P		**Pb**	**07 29 46.0**	**-0.8**
CUR				S		**Sb**	**07 30 56.1**	**-0.8**
BTLS	**Baital**	**6.09**	**218**	Pg		**Pg**	**07 29 58.5**	**-2.6**
	0.9nm,0.3s							
BTLS				Lg		Lg	07 31 18.0	
	4.0nm,0.8s							
KUU	**Kurty**	**6.41**	**200**	Pg		**Pg**	**07 30 06.1**	**-1.2**
	1.2nm,0.5s							
KUU				Lg		Lg	07 31 31.8	
	8.9nm,0.6s							
BRVK	**Borovoye**	**6.44**	**302**	⇑ Pn		**Pn**	**07 29 42.5**	**+2.0**
	1.1nm,0.6s							
BRVK				⇑ Sn		**Sn**	**07 30 52.2**	**-2.4**
	5.0nm,0.7s							
BRVK				⇑ Lg		Lg	07 31 26.5	
	3.0nm,0.8s							
KTBS	**Karatobe**	**6.52**	**197**	Pg		**Pg**	**07 30 08.2**	**-1.1**
	0.8nm,0.4s							
KTBS				Lg		Lg	07 31 35.4	
	12nm,0.5s							
KRBS	**Karabastau**	**6.76**	**203**	Pg		**Pg**	**07 30 13.3**	**-0.6**
	1.4nm,0.4s							
KRBS				Lg		Lg	07 31 43.3	
	5.0nm,0.6s							
TNSS	**Tian-Shan**	**7.12**	**194**	Pg		**Pg**	**07 30 21.2**	**+0.2**
	0.9nm,0.1s							
TNSS				Lg		Lg	07 31 58.2	
	2.9nm,0.6s							
IZV	**Izvestkoviy**	**7.18**	**196**	Pg		**Pg**	**07 30 21.9**	**-0.1**
	1.0nm,0.3s							
IZV				Lg		Lg	07 31 58.2	
	7.4nm,0.2s							
KST	**Kastek**	**7.30**	**200**	Pg		**Pg**	**07 30 22.7**	**-1.7**
	1.3nm,0.4s							
KST				Lg		Lg	07 31 59.3	
	6.1nm,0.6s							

KRSC ***17*** *07:30:04.0±0.7,54°.58N×161°.40E,h71km±8km,ML4.5*
MOS ***17*** *07:30:05.0±0.7,54°.61N×161°.34E,h82km,mb4.2/2, Error ellipse: s-maj=9.1km s-min=4.0km az=74.0*
IDC ***17*** *07:30:06.1±0.7,54°.64N×161°.23E,h70km±7km, mb3.5/13, mb1 3.8/16,mb1mx3.5/53,mbtmp3.8/16,MS2.9/3, Ms1 2.9/3,ms1mx2.5/40, Error ellipse: s-maj=21.1km s-min=8.7km az=146.0*

ISC 17 07:30:05.5±0.6,**54°.59N**±0°.03×**161°.34E**±0°.03,**h69**km±5km, **n124,** σ1**s34**/183,**mb3.9**/16,**1C-1D,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.23**	**99**	PN		**Pn**	**07 30 16.8**	**+0.8**
MKZ				S		**Sn**	**07 30 25.0**	**+1.3**
MKZ	**Mys Kozlova**	**0.23**	**99**	*e*P		**Pn**	**07 30 16.8**	**+0.8**
MKZ				*e*S		**Sn**	**07 30 25.0**	**+1.3**
KZV	**Kizimen**	**0.80**	**311**	PN		**Pn**	**07 30 21.5**	**-0.1**
KZV				S		**Sn**	**07 30 32.9**	**-0.6**
KZV	**Kizimen**	**0.80**	**311**	*e*P		**Pn**	**07 30 21.5**	**-0.1**
KZV				*e*S		**Sn**	**07 30 32.9**	**-0.6**
TUMD	**Tumrok D**	**0.82**	**319**	*e*P		**Pn**	**07 30 21.3**	**-0.4**
TUMD				*e*S		**Sn**	**07 30 32.8**	**-0.9**
TUMR	**Tumrok**	**0.98**	**316**	PN		**Pn**	**07 30 23.9**	**+0.2**
TUMR				S		**Sn**	**07 30 37.5**	**+0.2**
TUMR	**Tumrok**	**0.98**	**316**	*e*P		**Pn**	**07 30 23.9**	**+0.2**
TUMR				*e*S		**Sn**	**07 30 37.5**	**+0.2**
KII	**Karymskiy**	**1.24**	**244**	PN		**Pn**	**07 30 27.4**	**+0.4**
KII				S		**Sn**	**07 30 43.7**	**+0.5**
KII	**Karymskiy**	**1.24**	**244**	*e*P		**Pn**	**07 30 27.4**	**+0.4**
KII				*e*S		**Sn**	**07 30 43.7**	**+0.5**
KMNR	**Kamenistaya**	**1.33**	**332**	PN		**Pn**	**07 30 29.0**	**+0.8**
KMNR				S		**Sn**	**07 30 47.9**	**+2.6**
KMNR	**Kamenistaya**	**1.33**	**332**	*e*P		**Pn**	**07 30 29.0**	**+0.8**
KMNR				*e*S		**Sn**	**07 30 47.9**	**+2.6**
BZGR	**Bezymyannyi-Gr**	**1.40**	**345**	PN		**Pn**	**07 30 29.9**	**+0.7**
BZGR				S		**Sn**	**07 30 48.1**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**1.40**	**345**	*e*P		**Pn**	**07 30 29.9**	**+0.7**
BZGR				*e*S		**Sn**	**07 30 48.1**	**+1.1**
BZMR	**Bezymyannaya**	**1.43**	**340**	PN		**Pn**	**07 30 30.4**	**+0.8**
BZMR				S		**Sn**	**07 30 49.2**	**+1.4**
BZMR	**Bezymyannaya**	**1.43**	**340**	*e*P		**Pn**	**07 30 30.4**	**+0.8**
BZMR				*e*S		**Sn**	**07 30 49.2**	**+1.4**
BZWR	**Bezymyannyi-We**	**1.46**	**341**	PN		**Pn**	**07 30 31.1**	**+1.1**
BZWR				S		**Sn**	**07 30 50.8**	**+2.4**
BZWR	**Bezymyannyi-We**	**1.46**	**341**	*e*P		**Pn**	**07 30 31.1**	**+1.1**
BZWR				*e*S		**Sn**	**07 30 50.8**	**+2.4**
ZLN	**Zelenaya**	**1.46**	**348**	PN		**Pn**	**07 30 31.0**	**+1.0**
ZLN				S		**Sn**	**07 30 50.3**	**+1.9**
ZLN	**Zelenaya**	**1.46**	**348**	*e*P		**Pn**	**07 30 31.0**	**+1.0**
ZLN				*e*S		**Sn**	**07 30 50.3**	**+1.9**
KIRR	**Kirishev**	**1.48**	**338**	PN		**Pn**	**07 30 31.2**	**+1.0**
KIRR				S		**Sn**	**07 30 50.6**	**+1.7**
KIRR	**Kirishev**	**1.48**	**338**	*e*P		**Pn**	**07 30 31.2**	**+1.0**
KIRR				*e*S		**Sn**	**07 30 50.6**	**+1.7**
LGNR	**Loginova**	**1.54**	**346**	*e*S		**Sn**	**07 30 52.7**	**+2.2**
CIRR	**Tsirk**	**1.57**	**348**	PN		**Pn**	**07 30 30.5**	**-0.9**
CIRR	**Tsirk**	**1.57**	**348**	*e*P		**Pn**	**07 30 30.5**	**-0.9**
SPN	**Mys Shipunski**	**1.69**	**208**	PN		**Pn**	**07 30 32.8**	**0.0**
SPN				S		**Sn**	**07 30 53.2**	**-0.4**
SPN	**Mys Shipunski**	**1.69**	**208**	*e*P		**Pn**	**07 30 32.8**	**0.0**
SPN				*e*S		**Sn**	**07 30 53.2**	**-0.4**
KRSR	**Krestovskiy**	**1.69**	**345**	PN		**Pn**	**07 30 33.4**	**+0.4**
KRSR				S		**Sn**	**07 30 54.3**	**+0.5**
KRSR	**Krestovskiy**	**1.69**	**345**	*e*P		**Pn**	**07 30 33.4**	**+0.4**
KRSR				*e*S		**Sn**	**07 30 54.3**	**+0.5**
KOZ	**Kozyrevsk**	**1.69**	**331**	PN		**Pn**	**07 30 33.6**	**+0.7**
KOZ				S		**Sn**	**07 30 55.4**	**+1.6**
KOZ	**Kozyrevsk**	**1.69**	**331**	*e*P		**Pn**	**07 30 33.6**	**+0.7**
KOZ				*e*S		**Sn**	**07 30 55.4**	**+1.6**
KLY	**Klyuchi**	**1.77**	**347**	PN		**Pn**	**07 30 34.3**	**+0.4**
KLY				S		**Sn**	**07 30 56.1**	**+0.6**
KLY	**Klyuchi**	**1.77**	**347**	*e*P		**Pn**	**07 30 34.3**	**+0.4**
KLY				*e*S		**Sn**	**07 30 56.1**	**+0.6**
KBTR	**Krutoberegovo**	**1.83**	**27**	PN		**Pn**	**07 30 35.3**	**+0.6**
KBTR	**Krutoberegovo**	**1.83**	**27**	*e*P		**Pn**	**07 30 35.3**	**+0.6**
KBG	**Krutoberegovo**	**1.84**	**24**	PN		**Pn**	**07 30 35.6**	**+0.8**
KBG	**Krutoberegovo**	**1.84**	**24**	*e*P		**Pn**	**07 30 35.6**	**+0.8**
NLC	**Nalytchevo**	**1.85**	**221**	PN		**Pn**	**07 30 35.6**	**+0.6**
NLC				S		**Sn**	**07 30 58.5**	**+1.1**
NLC	**Nalytchevo**	**1.85**	**221**	*e*P		**Pn**	**07 30 35.6**	**+0.6**
NLC				*e*S		**Sn**	**07 30 58.5**	**+1.1**
SDLR	**Sedlovina**	**1.96**	**229**	PN		**Pn**	**07 30 37.6**	**+1.0**
SDLR				S		**Sn**	**07 31 01.7**	**+1.4**
SDLR	**Sedlovina**	**1.96**	**229**	*e*P		**Pn**	**07 30 37.6**	**+1.0**
SDLR				*e*S		**Sn**	**07 31 01.7**	**+1.4**
SRDR	**Sredinnyy**	**1.96**	**332**	PN		**Pn**	**07 30 36.7**	**+0.1**
SRDR	**Sredinnyy**	**1.96**	**332**	*e*P		**Pn**	**07 30 36.7**	**+0.1**
BDR	**Baidarnaya**	**1.98**	**358**	PN		**Pn**	**07 30 37.9**	**+1.0**
BDR				S		**Sn**	**07 31 02.9**	**+2.1**
BDR	**Baidarnaya**	**1.98**	**358**	*e*P		**Pn**	**07 30 37.9**	**+1.0**
BDR				*e*S		**Sn**	**07 31 02.9**	**+2.1**
SMKR	**Semkarok**	**2.00**	**2**	PN		**Pn**	**07 30 38.2**	**+1.1**
SMKR	**Semkarok**	**2.00**	**2**	*e*P		**Pn**	**07 30 38.2**	**+1.1**
KRER	**Koryakskii**	**2.00**	**231**	PN		**Pn**	**07 30 38.4**	**+1.1**
KRER				S		**Sn**	**07 31 03.3**	**+1.8**
KRER	**Koryakskii**	**2.00**	**231**	*e*P		**Pn**	**07 30 38.4**	**+1.1**
KRER				*e*S		**Sn**	**07 31 03.3**	**+1.8**
SMAR	**Somma**	**2.01**	**230**	PN		**Pn**	**07 30 38.4**	**+1.1**
SMAR				S		**Sn**	**07 31 02.7**	**+1.1**
SMAR	**Somma**	**2.01**	**230**	*e*P		**Pn**	**07 30 38.4**	**+1.1**
SMAR				*e*S		**Sn**	**07 31 02.7**	**+1.1**
KRX	**Arik**	**2.01**	**233**	PN		**Pn**	**07 30 38.0**	**+0.6**
KRX				S		**Sn**	**07 31 03.3**	**+1.7**
KRX	**Arik**	**2.01**	**233**	*e*P		**Pn**	**07 30 38.0**	**+0.6**
KRX				*e*S		**Sn**	**07 31 03.3**	**+1.7**
ESO	**Esso**	**2.02**	**313**	PN		**Pn**	**07 30 38.1**	**+0.8**
ESO				S		**Sn**	**07 31 01.8**	**+0.2**
ESO	**Esso**	**2.02**	**313**	*e*P		**Pn**	**07 30 38.1**	**+0.8**
ESO				*e*S		**Sn**	**07 31 01.8**	**+0.2**
AVH	**Avacha**	**2.03**	**230**	PN		**Pn**	**07 30 38.7**	**+1.1**
AVH				S		**Sn**	**07 31 03.9**	**+1.9**
AVH	**Avacha**	**2.03**	**230**	*e*P		**Pn**	**07 30 38.7**	**+1.1**
AVH				*e*S		**Sn**	**07 31 03.9**	**+1.9**
UGLR	**Uglovaya**	**2.04**	**228**	PN		**Pn**	**07 30 38.7**	**+1.1**
UGLR				S		**Sn**	**07 31 03.4**	**+1.3**
UGLR	**Uglovaya**	**2.04**	**228**	*e*P		**Pn**	**07 30 38.7**	**+1.1**
UGLR				*e*S		**Sn**	**07 31 03.4**	**+1.3**
KOK	**Koryaka**	**2.06**	**232**	PN		**Pn**	**07 30 38.8**	**+0.8**
KOK	**Koryaka**	**2.06**	**232**	*e*P		**Pn**	**07 30 38.8**	**+0.8**
SRKR	**Sorokina**	**2.07**	**357**	PN		**Pn**	**07 30 39.0**	**+0.9**
SRKR				S		**Sn**	**07 31 04.4**	**+1.5**
SRKR	**Sorokina**	**2.07**	**357**	*e*P		**Pn**	**07 30 39.0**	**+0.9**
SRKR				*e*S		**Sn**	**07 31 04.4**	**+1.5**
DALK	**Dalny**	**2.19**	**226**	PN		**Pn**	**07 30 39.8**	**+0.2**
DALK				S		**Sn**	**07 31 06.6**	**+0.9**
DALK	**Dalny**	**2.19**	**226**	*e*P		**Pn**	**07 30 39.8**	**+0.2**
DALK				*e*S		**Sn**	**07 31 06.6**	**+0.9**
GNL	**Ganaly**	**2.19**	**247**	PN		**Pn**	**07 30 40.8**	**+1.0**
GNL	**Ganaly**	**2.19**	**247**	*e*P		**Pn**	**07 30 40.8**	**+1.0**
PET	**Petropavlovsk**	**2.24**	**227**	⇓ *i*PN		**Pn**	**07 30 41.3**	**+1.1**
PET				*e*S		**Sn**	**07 31 07.5**	**+0.7**
PET				pmax		pmax		
	comp=Z,786nm,0.3s							
PET				smax		smax		
	comp=E,783nm,0.3s							
PET				smax		smax		
	comp=N,1μm,0.4s							
PET	**Petropavlovsk**	**2.24**	**227**	*e*P		**Pn**	**07 30 41.3**	**+1.1**
PET				*e*S		**Sn**	**07 31 08.1**	**+1.3**
KRMR	**Karymshinskiy**	**2.60**	**229**	PN		**Pn**	**07 30 47.0**	**+1.9**
KRMR				S		**Sn**	**07 31 18.6**	**+3.0**
KRMR	**Karymshinskiy**	**2.60**	**229**	*e*P		**Pn**	**07 30 47.0**	**+1.9**
KRMR				*e*S		**Sn**	**07 31 18.6**	**+3.0**
PEA0B	**Petropavlovsk-**	**2.62**	**237**	*c i*PN		**Pn**	**07 30 45.9**	**+0.5**
PETK	**Petropavlovsk-**	**2.62**	**237**	P		**Pn**	**07 30 46.5**

TXAR			pP	PcP	07 41 24.9	-4.1
	comp=Z,0.3nm,0.6s,baz=299,slow=5.0,SNR=2.7					
WRA	Warramunga Arr	77.75 206	P	P	07 41 54.8	0.0
	comp=Z,0.8nm,0.6s,baz=20,slow=6.1,SNR=12					
ASAR	Alice Springs	81.43 205	P	P	07 42 15.2	+0.5
	comp=Z,0.9nm,0.5s,baz=18,slow=5.4,SNR=17					
ESDC	Sonseca Array	85.26 349	P	P	07 42 34.0	-0.4
	comp=Z,1.0nm,0.9s,baz=358,slow=5.2,SNR=4.3					

NEIC **17** *07:43:28.8±0.7,24°.3S±0°.2×179°.7W±0°.2,h492km±18km, mb4.2/19,Error ellipse: s-maj=25.8km s-min=20.9km az=205.0*

IDC **17** *07:43:31.6±1.6,24°.36S×179°.95W,h488km±16km,mb3.7/7, mb1 3.8/11,mb1mx3.4/44,mbtmp4.5/11,Error ellipse: s-maj=23.1km s-min=19.0km az=142.0*

NOU **17** *07:43:33.3,24°.53S×179°.61E,h443km,mb4.4,South of Fiji Islands*

ISC 17 07:43:30.7±0.6,24°.32S±0°.08×179°.77W±0°.09,h500km, n50,σ1$51/53,mb4.2/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.86	342	P	P	07 45 16.7	+1.0
	7.7nm,0.3s,baz=165,slow=6.2,SNR=28						
MSVF	Nonsavu	6.86	342	P	P	07 45 12.7	-3.0
MSVF	Nonsavu	6.86	342	P	P	07 45 17.5	+1.8
NIUE	Niue	10.53	62	P	P	07 45 50.8	-2.9
NIUE	Niue	10.53	62	P	P	07 46 03.1	+9.3
AFI	Afiamalu	12.81	38	P	P	07 46 19.0	+1.0
	2.1nm,0.3s,baz=102,slow=20,SNR=1.2						
AFI				S	S	07 48 35.3	-0.7
	2.4nm,0.3s,baz=194,slow=19,SNR=1.4						
DZM	Mont Dzumac	12.87	277	P	P	07 46 19.0	+0.4
	0.5nm,0.3s,baz=60,slow=17,SNR=6.8						
DZM	Mont Dzumac	12.87	277	P	P	07 46 17.8	-0.8
HAZ	Te Kaha	13.56	188	P	P	07 46 28.2	+2.7
RUGZ	Raukumara Rang	13.78	188	P	P	07 46 29.9	+2.0
TWGZ	Tauwhareparae	13.95	187	P	P	07 46 32.2	+2.5
URZ	Urewera	14.15	190	P	P	07 46 32.1	+0.4
	1.4nm,0.3s,baz=270,slow=3.0,SNR=8.6						
URZ				S	S	07 49 01.0	-0.1
	1.6nm,0.3s,baz=251,slow=23,SNR=13						
URZ	Urewera	14.15	190	P	P	07 46 30.7	-1.0
URZ	Urewera	14.15	190	P	P	07 46 29.8	-1.9
MWZ	Matawai	14.16	189	P	P	07 46 33.5	+1.6
MUGZ	Murupara	14.42	191	P	P	07 46 33.6	-1.0
BKZ	Black Stump Fm	15.14	191	P	P	07 46 40.9	-1.3
BKZ	Black Stump Fm	15.14	191	P	P	07 46 42.4	+0.3
OTVZ	Oturere	15.30	194	P	P	07 46 43.4	-0.6
KWHZ	Kaweka Forest	15.40	191	P	P	07 46 45.8	+0.9
VRZ	Vera Road	15.47	196	P	P	07 46 50.7	+5.1
BHHZ	Black Hill Sta	15.53	192	P	P	07 46 45.4	-0.9
TUWZ	Tuamarina	17.85	196	P	P	07 47 08.4	-1.1
THZ	Tophouse	18.43	198	P	P	07 47 14.2	-0.7
THZ				IAmb	IAmb	07 47 15.6	
	comp=Z,3.0nm,0.5s						
LTZ	Lake Taylor	19.55	198	P	P	07 47 23.5	-1.6
RPZ	Rata Peaks	20.76	199	P	P	07 47 36.5	+0.5
	comp=Z,8.6nm,0.5s,baz=64,slow=1.1,SNR=6.2						
ARMA	Armidale	26.07	250	P	P	07 48 22.9	-0.9
ARMA				IAmb	IAmb	07 48 26.6	
	comp=Z,6.5nm,0.9s						
EIDS	Eidsvold	26.45	262	P	P	07 48 26.3	-0.8
CAN	Canberra	29.11	241	P	P	07 48 50.4	0.0
CTA	Charters Tower	31.69	271	P	P	07 49 13.3	+0.6
	comp=Z,1.6nm,0.4s,baz=92,slow=11,SNR=37						
CTAO	Charters Tower	31.69	271	P	P	07 49 12.2	-0.5
TOO	Toolangi	32.40	238	P	P	07 49 18.3	-0.3
TOO				IAmb	IAmb	07 49 41.3	
	comp=Z,20nm,1.4s						
STKA	Stephens Creek	34.76	249	P	P	07 49 39.5	+0.9
	comp=Z,1.3nm,0.3s,baz=106,slow=14,SNR=2.8						
COEN	Coen	36.39	280	P	P	07 49 52.4	0.0
BBOO	Buckleboo	39.47	247	P	P	07 50 16.5	-0.8
BBOO				IAmb	IAmb	07 50 18.1	
	comp=Z,12nm,0.9s						
AS31	Alice Springs	42.17	261	P	P	07 50 38.9	-0.2
ASAR	Alice Springs	42.17	261	P	P	07 50 39.2	+0.1
	comp=Z,3.0nm,0.5s,baz=92,slow=6.5,SNR=75						
ASAR				ScP	ScP	07 55 26.6	+1.9
	comp=Z,0.7nm,0.8s,baz=98,slow=4.1,SNR=4.7						
ASAR	Alice Springs	42.17	261	P	P	07 50 38.5	-0.5
WR0	Warramunga Arr	42.40	267	P	P	07 50 40.2	-0.7
WR0				IAmb	IAmb	07 50 41.7	
	comp=Z,9.6nm,1.3s						
WB2	Warramunga Arr	42.58	267	P	P	07 50 41.3	-0.9
WRAB	Tennant Creek	42.58	267	P	P	07 50 41.0	-1.2
WB0	Warramunga Arr	42.58	267	P	P	07 50 41.9	-0.5
WB0				IAmb	IAmb	07 50 42.7	
	comp=Z,9.4nm,0.7s						
WRA	Warramunga Arr	42.59	267	P	P	07 50 42.1	-0.3
	comp=Z,7.4nm,0.4s,baz=99,slow=8.3,SNR=204						
WRA				ScP	ScP	07 55 29.3	+2.8
	comp=Z,2.0nm,0.9s,baz=100,slow=4.1,SNR=7.0						
FORT	Forrest	46.36	250	P	P	07 51 10.6	-0.8
FITZ	Fitzroy Crossi	51.00	266	P	P	07 51 46.7	+0.6
	comp=Z,5.9nm,0.6s,baz=117,slow=6.5,SNR=18						
FITZ	Fitzroy Crossi	51.00	266	P	P	07 51 45.7	-0.4
FITZ				IAmb	IAmb	07 51 47.9	
	comp=Z,5.1nm,0.6s						
MORW	Morawa	56.93	250	P	P	07 52 27.7	-0.3
MORW				IAmb	IAmb	07 52 27.7	
	comp=Z,14nm,1.4s						
QSPA	South Pole Qui	65.77	180	P	P	07 53 24.4	-1.0
QSPA				IAmb	IAmb	07 53 41.4	
	comp=Z,7.4nm,1.4s						
TXAR	Lajitas Array	90.48	58	P	P	07 55 42.0	+3.0
	comp=Z,0.3nm,0.6s,baz=204,slow=6.1,SNR=7.0						
CLL	Collm	151.31	343	*e*PKPbc	PKiKP	08 02 27.0	-0.4

IDC **17** *07:47:59.8±9.4,51°.91N×178°.38E,h86km±86km,mb3.4/13, mb1 3.7/14,mb1mx3.5/47,mbtmp3.8/14,ML4.1/1,Error ellipse: s-maj=32.3km s-min=18.5km az=3.0*

NEIC **17** *07:48:00.6±1.0,51°.79N±0°.07×178°.35E±0°.10, h109km±4km,ML3.5/16(AEIC),Error ellipse: s-maj=11.1km s-min=7.1km az=216.0*

AEIC **17** *07:48:02±0.7,51°.81N±0°.07×178°.43E±0°.08,h101km±2km, Error ellipse: s-maj=9.8km s-min=6.3km az=200.0*

ISC 17 07:48:01.4±0.8,51°.8N±0°.1×178°.40E±0°.07,h103km±6km, n35,σ0$60/39,mb3.6/13,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	Little Sitkin	0.13	31		Pn	07 48 15.8	+0.1
LSSE	Little Sitkin	0.14	47		Pn	07 48 15.8	0.0
LSNW	Little Sitkin	0.15	28		Pn	07 48 15.9	+0.2
LSPA	Little Sitkin	0.16	42		Pn	07 48 15.8	0.0
LSPA					Sn	07 48 27.5	+0.9
CETU	Semis' Tuman	0.69	79		Pn	07 48 19.4	+0.4
CESW	Semis' Southwe	0.72	85		Pn	07 48 19.1	-0.2
CESW					Sn	07 48 31.9	-0.7
AMKA	Amchitka	0.72	129		Pn	07 48 19.2	-0.1
AMKA					Sn	07 48 32.2	-0.5
CEAP	Semis' Anvil P	0.74	77		Pn	07 48 19.6	+0.2
CEAP					Sn	07 48 33.2	+0.2
CERB	Semis' Cerberu	0.77	83		Pn	07 48 19.8	+0.2
CERB					Sn	07 48 33.2	-0.1
CERAA	Semis' Rag'd T	0.80	85		Pn	07 48 19.9	0.0
CERAA					Sn	07 48 33.2	-0.6
SMY	Shemya	2.79	290	Pn	Pn	07 48 43.9	-0.4
ADK	Adak	3.05	87	Pn	Pn	07 48 47.6	-0.1
ATKA	Atka Island	4.59	83	Pn	Pn	07 49 08.6	+0.2
NIKH	Nikolski High	7.88	77	Pn	Pn	07 49 53.8	+0.8
SPIA	Saint Paul Isl	8.49	47	Pn	Pn	07 50 02.2	+0.9
AKUT	Akutan	9.82	70	Pn	Pn	07 50 20.3	+0.9
KDAK	Kodiak Island	17.66	59	P	P	07 51 58.4	-1.5
	0.7nm,0.3s,baz=282,slow=3.9,SNR=22						
ILAR	Eielson Array	22.00	41	P	P	07 52 46.0	-0.8
	0.4nm,0.5s,baz=256,slow=11,SNR=9.9						
TOLK	Toolik Lake Re	22.71	30	P	P	07 52 54.7	+0.5
K27K	Chicken	23.81	44	P	P	07 53 04.6	+0.2
INK	Inuvik	28.09	36	P	P	07 53 42.2	-0.7
	0.4nm,0.3s,baz=228,slow=5.6,SNR=1.8						
DLBC	Dease Lake	29.56	57	P	P	07 53 56.2	+0.2
	1.6nm,1.0s,baz=270,slow=6.1,SNR=1.4						
H11N2	WAKE ISLAND Hy	33.29	200	T	T	08 30 02.2	
	baz=11,slow=76,SNR=5.8						
H11N3	WAKE ISLAND Hy	33.30	200	T	T	08 30 04.8	
	baz=11,slow=76,SNR=4.0						
H11N1	WAKE ISLAND Hy	33.31	200	T	T	08 29 54.3	
	baz=11,slow=76,SNR=3.3						
YKA	Yellowknife Ar	36.18	46	P	P	07 54 53.9	+0.5
	0.2nm,0.4s,baz=284,slow=7.9,SNR=5.0						
SONM	Songino Array	44.88	295	P	P	07 56 05.9	+0.6
	0.7nm,0.5s,baz=62,slow=7.1,SNR=4.5						
SONM				PcP	PcP	07 57 45.6	+0.5
	0.4nm,0.5s,baz=75,slow=3.1,SNR=2.6						
NVAR	Mina Array Bea	45.22	81	P	P	07 56 08.9	+0.7
	0.6nm,0.5s,baz=294,slow=7.3,SNR=7.9						
PDAR	Pinedale Array	47.82	71	P	P	07 56 27.9	-0.6
	0.3nm,0.5s,baz=341,slow=2.3,SNR=5.4						
MKAR	Makanchi Array	58.37	307	P	P	07 57 45.0	-0.5
	0.3nm,0.3s,baz=41,slow=6.6,SNR=6.8						
TXAR	Lajitas Array	60.30	79	P	P	07 57 59.2	+0.1
	0.4nm,0.5s,baz=307,slow=5.4,SNR=14						
AKASG	Malin Array Be	74.55	340	P	P	07 59 27.4	-1.0
	0.8nm,0.4s,baz=22,slow=6.2,SNR=1.5						
WRA	Warramunga Arr	81.17	221	P	P	08 00 05.6	+0.1
	0.6nm,0.4s,baz=30,slow=5.8,SNR=8.4						
FITZ	Fitzroy Crossi	83.40	230	P	P	08 00 17.8	+0.7
	1.8nm,0.8s,baz=56,slow=7.3,SNR=2.6						
ASAR	Alice Springs	84.68	220	P	P	08 00 24.1	+0.6
	0.6nm,0.8s,baz=17,slow=2.4,SNR=6.5						

DJA 17 08:09:26.5±0.4,8°S±5°×107°9E±°,h10km,M4.1/11,mb4.5/2, mB4.9/1,MLv3.9/11,Mw(mB)4.2/1,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	1.41	310	P	Pn	08 09 50.9	-1.5
UGM	Wanagama	1.70	71	P	Pn	08 09 54.9	-1.4
LEM	Lembang	2.08	322	P	Pn	08 10 01.6	0.0
SMRI	Semarang	2.09	47	P	Pn	08 10 01.2	-0.4
SKJI	Sukabumi	2.75	302	P	Pn	08 10 11.6	+0.9
DBJI	Dramaga	2.87	312	P	Pn	08 10 12.9	+0.6
JAGI	Jajag, Banyuwa	5.20	90	P	Pn	08 10 45.4	+1.0
	0.2nm1um26nm,0.6s						
PLAI	Plampang	8.78	93	P	Pn	08 11 33.7	0.0

IDC **17** *08:17:03.8±1.4,3°.03S×139°.65E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.5/36,mbtmp3.6/4,ML3.7/1,MS3.1/1, Ms1 3.1/1,ms1mx2.5/27,Error ellipse: s-maj=35.4km s-min=12.5km az=146.0*

DJA **17** *08:17:11.7±0.7,3°.5±9°×14°.0E±°,h45km±15km,M3.9/4, MLv3.9/4*

ISC 17 08:17:06.9±0.9,3°.47S±0°.07×140°.0E±0°.1,h35km,n9, σ3$07/13,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.88	8	P	Pn	08 17 23.4	+0.5
GENI				S	Sn	08 17 33.0	-1.4
JAY	Jayapura	1.16	35	Pg	Pn	08 17 27.8	+1.0
	67nm,0.3s,baz=215,slow=9.5,SNR=87						
JAY				Lg	Lg	08 17 40.9	
	216nm,0.3s,baz=38,slow=19,SNR=40						
JAY	Jayapura	1.16	35	P	Pn	08 17 27.7	+1.0
JAY				S	Sn	08 17 39.3	-2.0
WAMI	Wamena	1.39	253	P	Pn	08 17 36.7	+6.9
SMPI	Sarmi	1.98	318	P	Pn	08 17 39.6	+1.6
WRA	Warramunga Arr	17.29	198	P	P	08 21 09.6	+2.6
	0.3nm,0.3s,baz=17,slow=12,SNR=16						
WRA				S	Sn	08 24 12.8	-4.4
	0.1nm,0.3s,baz=31,slow=13,SNR=2.3						
FITZ	Fitzroy Crossi	20.26	223	P	P	08 21 42.0	+2.5
	1.8nm,0.9s,baz=54,slow=11,SNR=2.3						
FITZ				S	S	08 25 19.5	-5.5
	3.5nm,0.8s,baz=159,slow=7.7,SNR=4.8						
ASAR	Alice Springs	20.94	196	P	P	08 21 51.1	+4.3
	1.5nm,0.6s,baz=26,slow=9.6,SNR=15						
ASAR				S	S	08 25 39.3	+0.9
	0.6nm,0.7s,baz=12,slow=28,SNR=4.5						
ASAR				LR	LR	08 30 54.8	
	comp=Z,55nm,20.2s,baz=112,slow=39						
MKAR	Makanchi Array	71.20	322	P	P	08 28 21.2	-1.2
	0.2nm,0.5s,baz=101,slow=6.4,SNR=3.5						

IDC **17** *09:36:50.1±1.3,24°.38N×122°.74E,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.3/64,mbtmp3.7/5,ML2.8/1,MS2.9/2, Ms1 3.0/2,ms1mx2.5/49,Error ellipse: s-maj=42.1km s-min=24.8km az=64.0*

JMA **17** *09:36:55.3,24°.36N×122°.97E,h49km±1km,M3.5*

JMA Felt I J1.

TAP **17** *09:36:55.3,24°.34N×122°.94E,h44km,ML4.2,C*

ISC 17 09:36:56.0±0.9,24°.31N±0°.03×122°.96E±0°.02,h43km±6km, n148,σ1$23/233,mb3.8/4,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.14	355	P	Pn	09 37 02.9	-0.3
JYNG				S	Sn	09 37 08.2	0.0
YOJ	Yonaguni jima	0.15	18	*i*P	Pn	09 37 03.1	-0.2
	baz=25						
YOJ				*i* S	Sn	09 37 08.4	+0.1
	baz=25						
YOJ	Yonaguni jima	0.15	18	P	Pn	09 37 03.1	-0.2
YOJ				S	Sn	09 37 08.5	+0.1
IRIF	Iriomote-Funau	0.70	88	P	Pn	09 37 08.8	-0.8
IRIF				*e*S	Sn	09 37 19.0	-0.3
HATJ	Hateruma jima	0.81	108	P	Pn	09 37 10.6	-0.5
HATJ				*e*S	Sn	09 37 22.0	0.0
JKRS	Kuro-shima	0.96	94	P	Pn	09 37 12.7	-0.4
JKRS				S	Sn	09 37 25.6	0.0
TWC	Suao	1.05	286	P	Pn	09 37 13.1	-1.2
	baz=286						
TWC				*e*S	Sn	09 37 25.6	-2.2
	baz=286						
EGS		1.07	300	*e*P	Pn	09 37 15.2	+0.6
	baz=299						
JIJ	Ishigaki jima	1.08	87	P	Pn	09 37 13.8	-0.9
JIJ				S	Sn	09 37 27.2	-1.3
ENA	Nanau	1.11	276	*e*P	Pn	09 37 14.8	-0.4
	baz=284						
ENA				*e*S	Sn	09 37 27.7	-1.6
	baz=284						
TWB1	Santiao Chiao	1.12	308	*e*P	Pn	09 37 14.5	-0.7
	baz=317						
TWB1				S	Sn	09 37 27.4	-2.1
	baz=317						
NTC	Toucheng	1.16	298	*e*P	Pn	09 37 15.3	-0.4
	baz=297						
NTC				*e*S	Sn	09 37 28.7	-1.7
	baz=297						
NDS	Dongshan	1.18	286	P	Pn	09 37 15.4	-0.6
	baz=294						
NDS				*e*S	Sn	09 37 29.4	-1.4
	baz=294						
ILA	Ilan	1.19	292	*e*P	Pn	09 37 15.4	-0.8
	baz=292						
ILA				*e*S	Sn	09 37 30.1	-1.1
	baz=292						
TIPB	Shuangxi	1.22	303	P	Pn	09 37 15.9	-0.8
	baz=312						
TIPB				S	Sn	09 37 30.1	-1.8
	baz=312						
TWE	Neicheng	1.24	289	P	Pn	09 37 16.5	-0.4
	baz=289						
TWE				S	Sn	09 37 31.0	-1.5
	baz=289						
NACB	Ninganchiao	1.25	264	P	Pn	09 37 16.4	-0.6
	baz=263						
NACB				S	Sn	09 37 32.4	-0.3
	baz=263						
JISG	Ishigakijimahi	1.26	77	P	Pn	09 37 16.4	-0.8
JISG				S	Sn	09 37 31.8	-1.2
TWD	Chiawan	1.27	260	P	Pn	09 37 16.7	-0.5
	baz=245						
TWD				*e*S	Sn	09 37 32.1	-0.9
	baz=245						
ENTT	Nioudou	1.31	285	*e*P	Pn	09 37 18.0	+0.2
	baz=291						
ENTT				*e*S	Sn	09 37 32.6	-1.6
	baz=291						
NWF	Wu-fen Shan	1.31	305	*e*P	Pn	09 37 17.3	-0.6
	baz=305						
NWF				S	Sn	09 37 33.2	-1.1
	baz=305						
WFSB	Wu-fen Shan	1.31	305	P	Pn	09 37 17.4	-0.4
	baz=305						
WFSB				*e*S	Sn	09 37 32.5	-1.5
	baz=305						
NDT	Datong Townshi	1.35	283	*e*P	Pn	09 37 19.1	+0.7
	baz=289						
NDT				S	Sn	09 37 34.7	-0.4
	baz=289						
ETLH	Xiulin Townshi	1.35	266	P	Pn	09 37 17.9	-0.5
	baz=265						
ETLH				*e*S	Sn	09 37 34.6	-0.7
	baz=265						
TNOU	National Taiwa	1.36	308	*e*P	Pn	09 37 17.8	-0.7
	baz=314						
TNOU				S	Sn	09 37 33.9	-1.5
	baz=314						
NWLT	Wulai	1.40	289	*e*P	Pn	09 37 19.4	+0.2
	baz=289						
NWLT				*e*S	Sn	09 37 35.0	-1.5
	baz=289						
TWA	Mucha	1.42	298	*e*P	Pn	09 37 19.4	+0.2
	baz=308						
TWA				*e*S	Sn	09 37 35.0	-1.7
	baz=308						
NNSB	Datong	1.44	275	*e*P	Pn	09 37 19.9	+0.1
	baz=274						
NNSH	Datong	1.44	275	*e*P	Pn	09 37 19.8	0.0
	baz=274						
NNS	Nan Shan	1.45	275	*e*P	Pn	09 37 20.1	+0.2
	baz=274						
NHDH	Xindian Distri	1.46	297	*e*P	Pn	09 37 20.3	+0.5
	baz=296						
NHDH				*e*S	Sn	09 37 36.5	-1.2
	baz=296						
ESL	Shilin	1.48	251	P	Pn	09 37 19.4	-0.8
	baz=249						
ESL				*e*S	Sn	09 37 35.8	-2.5
	baz=249						
YHNB	Yeheng	1.48	284	*e*P	Pn	09 37 21.1	+0.8
	baz=292						
TATO	Taipei	1.49	297	P	Pn	09 37 20.0	-0.3
	baz=296						
TATO				S	Sn	09 37 37.6	-0.9
	baz=296						
TAP1	Taipei	1.49	299	*e*S	Sn	09 37 37.5	-1.0
	baz=308						
NSK	Sanguang	1.50	284	*e*P	Pn	09 37 21.4	+0.9
	baz=293						
NSK				*e*S	Sn	09 37 37.8	-1.1
	baz=293						
TAP	Taipei	1.50	299	*e*S	Sn	09 37 37.5	-1.4
	baz=308						
YM01	YM01	1.51	304	*e*P	Pn	09 37 19.6	-1.0
	baz=303						
YM01				*e*S	Sn	09 37 36.9	-2.2
	baz=303						
YM11	YM11	1.52	304	*e*P	Pn	09 37 21.5	+0.8
	baz=304						
YM08	YM08	1.52	305	*e*P	Pn	09 37 21.0	+0.3
	baz=305						
YM10	YM10	1.52	304	P	Pn	09 37 20.4	-0.4
	baz=303						
YM10				*e*S	Sn	09 37 37.9	-1.5
	baz=303						
YM05	YM05	1.52	304	*e*P	Pn	09 37 20.1	-0.7
	baz=304						
PCYT	Pengchaiyu	1.54	329	P	Pn	09 37 21.1	+0.1
	baz=319						
YM04	YM04	1.54	303	P	Pn	09 37 20.4	-0.6
	baz=303						
YM04				S	Sn	09 37 38.2	-1.6
	baz=303						
EGFH	Guangfu	1.54	246	*e*P	Pn	09 37 20.9	-0.1
	baz=244						
WHF	Hehuan Shan	1.55	264	P	Pn	09 37 21.1	-0.5
	baz=251						
FUSS	Fushou	1.56	268	*e*P	Pn	09 37 21.7	+0.2
	baz=267						
TWS1	Kuangyinshan	1.60	300	*e*P	Pn	09 37 22.5	+0.6
	baz=299						
NTST	Danshui	1.61	302	*e*P	Pn	09 37 21.5	-0.4
	baz=302						
JTJ	Tarama	1.62	78	P	Pn	09 37 22.0	-0.1
JTJ				*e*S	Sn	09 37 41.0	-0.8
HGSD	Ruisui	1.62	240	*e*P	Pn	09 37 20.8	-1.3
	baz=239						
HGSD				*e*S	Sn	09 37 39.7	-2.1
	baz=239						
TWT	Tachien	1.63	268	*e*P	Pn	09 37 23.0	+0.7
	baz=267						
TWT				*e*S	Sn	09 37 43.2	+1.0
	baz=267						
TDCB	Techi	1.64	268	*e*P	Pn	09 37 22.9	+0.4
	baz=257						
NTY	Taoyuan	1.66	295	*e*S	Sn	09 37 42.4	-0.2
	baz=294						
EHY	Hungye	1.70	242	*e*P	Pn	09 37 22.1	-1.1
	baz=253						
NCUH	Zhongli	1.74	292	*e*P	Pn	09 37 25.3	+1.5
	baz=303						
VWDT	VWDT	1.75	252	P	Pn	09 37 23.8	-0.1
	baz=241						
VWDT				*e*S	Sn	09 37 44.3	-0.7
	baz=241						
YULB	Yu-li	1.77	239	*e*P	Pn	09 37 23.2	-1.0
	baz=252						
YULB				*e*S	Sn	09 37 44.5	-1.2
	baz=252						
EYUL	Yuli	1.78	238	*e*P	Pn	09 37 23.4	-0.9
	baz=236						
EYUL				*e*S	Sn	09 37 45.1	-0.6
	baz=236						
TWF1	Yuli	1.80	238	*e*P	Pn	09 37 23.9	-0.6
	baz=237						
TWF1				*e*S	Sn	09 37 44.8	-1.3
	baz=237						
NSTT	Nanjuang	1.81	280	*e*P	Pn	09 37 25.6	+0.9
	baz=280						
WHP	Taichung City	1.84	269	*e*P	Pn	09 37 25.9	+0.7
	baz=258						
WHP				*e*S	Sn	09 37 47.8	+0.6
	baz=258						
WPL	Puli Township	1.85	261	*e*P	Pn	09 37 25.7	+0.4
	baz=251						
WPL				*e*S	Sn	09 37 47.5	0.0
	baz=251						
DPDB	Guoxing	1.88	262	*e*P	Pn	09 37 26.1	+0.5
	baz=252						
DPDB				*e*S	Sn	09 37 48.3	+0.1
	baz=252						
FULB	Fuli	1.89	234	*e*P	Pn	09 37 24.3	-1.4
	baz=223						
WCS	Beigang Elemen	1.89	263	*e*P	Pn	09 37 26.6	+0.9
	baz=254						
CHKT	Chengkung	1.90	231	*e*P	Pn	09 37 25.9	+0.1
	baz=220						
SSLB	Suanglung	1.91	254	*e*P	Pn	09 37 25.8	-0.2
	baz=254						
SSLB				*e*S	Sn	09 37 48.0	-0.9
	baz=254						
SMLT	Sun Moon Lake	1.93	258	P	Pn	09 37 26.4	0.0
	baz=247						
SMLT				S	Sn	09 37 49.1	-0.5
	baz=247						
TYC	Yuchr	1.96	258	P	Pn	09 37 27.1	+0.3
	baz=248						
TYC				*e*S	Sn	09 37 49.6	-0.6
	baz=248						
NSY	Sanyi	2.01	273	*e*P	Pn	09 37 28.2	+0.8
	baz=273						
YUS	Yu-Shan	2.01	246	*e*P	Pn	09 37 27.9	0.0
	baz=245						
YUS				*e*S	Sn	09 37 50.7	-1.4

	baz=259								
WNT	**Mingjian**	**2.12**	**259**	*eP*	**Pn**	**09 37 30.5**	**+1.6**
	baz=246								
WNT				*eS*	**Sn**	**09 37 55.7**	**+1.6**
	baz=246								
ALS	**Alishan**	**2.13**	**248**	*eP*	**Pn**	**09 37 29.8**	**+0.4**
	baz=247								
ALS				*eS*	**Sn**	**09 37 54.1**	**-0.6**
	baz=247								
LDUT	**Ludao**	**2.13**	**220**	*eP*	**Pn**	**09 37 27.0**	**-2.1**
	baz=210								
LDUT				*eS*	**Sn**	**09 37 50.1**	**-4.1**
	baz=210								
JMJ	**Miyako jima 2**	**2.19**	**76**	*eP*	**Pn**	**09 37 30.7**	**+0.9**
	baz=77								
JMJ				*eS*	**Sn**	**09 37 56.1**	**+0.4**
	baz=77								
LONT	**Longtian**	**2.19**	**230**	*eP*	**Pn**	**09 37 28.6**	**-1.2**
	baz=241								
LONT				*eS*	**Sn**	**09 37 53.6**	**-2.0**
	baz=241								
WCHH	**Zhanghua**	**2.20**	**264**	*eP*	**Pn**	**09 37 31.6**	**+1.5**
	baz=277								
CHN5	**Tsauling**	**2.20**	**252**	*eP*	**Pn**	**09 37 31.0**	**+0.8**
	baz=242								
CHN5				*eS*	**Sn**	**09 37 57.2**	**+0.9**
	baz=242								
TTN	**Taitung**	**2.27**	**227**	*eP*	**Pn**	**09 37 31.8**	**+0.7**
	baz=217								
TWGBT	**Beinan**	**2.28**	**230**	*eP*	**Pn**	**09 37 30.0**	**-1.1**
	baz=240								
TWGBT				*eS*	**Sn**	**09 37 55.5**	**-2.5**
	baz=240								
WGK	**Gukeng**	**2.28**	**255**	*eP*	**Pn**	**09 37 32.9**	**+1.8**
	baz=254								
TWG	**Pinlang**	**2.28**	**230**	*eP*	**Pn**	**09 37 30.0**	**-1.2**
	baz=240								
TWG				*eS*	**Sn**	**09 37 55.6**	**-2.4**
	baz=240								
WDLH	**Douliu**	**2.30**	**255**	*eP*	**Pn**	**09 37 32.5**	**+1.1**
	baz=243								
WDLH				*eS*	**Sn**	**09 38 00.1**	**+1.6**
	baz=243								
STYH	**Taoyuan**	**2.30**	**241**	*eP*	**Pn**	**09 37 31.7**	**+0.3**
	baz=232								
STYH				*eS*	**Sn**	**09 37 57.7**	**-0.8**
	baz=232								
STYT	**Tauyuan**	**2.32**	**241**	*eP*	**Pn**	**09 37 32.2**	**+0.4**
	baz=232								
STYT				*eS*	**Sn**	**09 37 58.9**	**-0.2**
	baz=232								
TPUB	**Ta-pu**	**2.36**	**245**	*eP*	**Pn**	**09 37 33.3**	**+1.0**
	baz=244								
TPUB				*eS*	**Sn**	**09 38 01.1**	**+1.0**
	baz=244								
CHN4	**Tsaushan**	**2.37**	**247**	*eP*	**Pn**	**09 37 33.6**	**+1.3**
	baz=245								
CHN4				*eS*	**Sn**	**09 38 01.7**	**+1.5**
	baz=245								
WRL	**Guolierlin Hig**	**2.39**	**261**	*eP*	**Pn**	**09 37 34.3**	**+1.6**
	baz=260								
WRL				*eS*	**Sn**	**09 38 02.1**	**+1.3**
	baz=260								
WTP	**Ta-pu**	**2.40**	**244**	*eP*	**Pn**	**09 37 33.8**	**+1.0**
	baz=243								
WTP				*eS*	**Sn**	**09 38 02.0**	**+1.1**
	baz=243								
CHN2	**Minshiung**	**2.40**	**252**	*eP*	**Pn**	**09 37 33.5**	**+0.7**
	baz=251								
WTK	**Tuku**	**2.43**	**256**	*eP*	**Pn**	**09 37 34.6**	**+1.5**
	baz=245								
WTK				*eS*	**Sn**	**09 38 03.6**	**+1.9**
	baz=245								
CHY	**Chiayi**	**2.46**	**251**	*eP*	**Pn**	**09 37 34.9**	**+1.3**
	baz=250								
CHY				*eS*	**Sn**	**09 38 04.2**	**+1.8**
	baz=250								
TWK	**Hsinying**	**2.49**	**246**	*eP*	**Pn**	**09 37 35.1**	**+1.0**
	baz=244								
TWK				*eS*	**Sn**	**09 38 04.3**	**+1.0**
	baz=244								
CHN1	**Nanshi**	**2.49**	**244**	*eP*	**Pn**	**09 37 35.4**	**+1.3**
	baz=242								
CHN1				*eS*	**Sn**	**09 38 05.0**	**+1.6**
	baz=242								
SLGT	**Liugui**	**2.49**	**239**	*eP*	**Pn**	**09 37 35.6**	**+1.5**
	baz=230								
SLGT				*eS*	**Sn**	**09 38 03.9**	**+0.6**
	baz=230								
SGST	**Jiashian**	**2.50**	**241**	*eP*	**Pn**	**09 37 34.5**	**+0.3**
	baz=240								
SGST				*eS*	**Sn**	**09 38 04.3**	**+0.9**
	baz=240								
SNST	**Tainan City**	**2.50**	**245**	*eP*	**Pn**	**09 37 35.7**	**+1.5**
	baz=244								
SNST				*eS*	**Sn**	**09 38 05.2**	**+1.7**
	baz=244								
ECL	**Taimali**	**2.51**	**228**	*eP*	**Pn**	**09 37 33.1**	**-1.2**
	baz=236								
WSF	**Szhu**	**2.59**	**256**	*eS*	**Sn**	**09 38 07.8**	**+2.1**
	baz=269								
LAY	**Lan-yu**	**2.61**	**210**	*eP*	**Pn**	**09 37 33.2**	**-2.5**
	baz=208								
LAY				*eS*	**Sn**	**09 38 01.6**	**-4.6**
	baz=208								
ICHU	**Yijhu**	**2.63**	**249**	*eP*	**Pn**	**09 37 37.2**	**+1.2**
	baz=248								
ICHU				*eS*	**Sn**	**09 38 08.0**	**+1.3**
	baz=248								
SSD	**Sandimen**	**2.64**	**234**	*eP*	**Pn**	**09 37 37.8**	**+1.7**
	baz=229								
SSD				*eS*	**Sn**	**09 38 09.1**	**+2.1**
	baz=229								
TSMG	**Majia**	**2.66**	**233**	*eP*	**Pn**	**09 37 37.2**	**+0.9**
	baz=226								
SCST	**Cishan**	**2.67**	**238**	*eP*	**Pn**	**09 37 38.1**	**+1.6**
	baz=250								
SCST				*eS*	**Sn**	**09 38 10.7**	**+3.1**
	baz=250								
CHN3	**Shinhua**	**2.68**	**243**	*eP*	**Pn**	**09 37 37.3**	**+0.8**
	baz=242								
CHN8	**Yiju**	**2.69**	**250**	*eS*	**Sn**	**09 38 09.2**	**+1.0**
	baz=248								
MASBT	**Mashibuluo**	**2.73**	**232**	*eP*	**Pn**	**09 37 37.1**	**-0.2**
	baz=227								
MASBT				*eS*	**Sn**	**09 38 09.6**	**+0.6**
	baz=227								
EAST	**Anshuo**	**2.73**	**226**	*eP*	**Pn**	**09 37 36.0**	**-1.4**
	baz=224								
TWM1	**Shoushan**	**2.76**	**238**	*eP*	**Pn**	**09 37 40.0**	**+2.2**
	baz=237								
SCLT	**Jiali**	**2.77**	**246**	*eS*	**Sn**	**09 38 12.0**	**+1.8**
	baz=245								
SSPT	**Xinbi**	**2.85**	**231**	*eP*	**Pn**	**09 37 39.7**	**+0.7**
	baz=225								
SLIU	**Shizi**	**2.88**	**224**	*eP*	**Pn**	**09 37 38.1**	**-1.3**
	baz=214								
SCZT	**Fangliau**	**2.89**	**228**	*eP*	**Pn**	**09 37 40.9**	**+1.4**
	baz=221								
TSEB	**Hengchuen, Pin**	**3.06**	**219**	*eS*	**Sn**	**09 38 17.3**	**+0.1**
	baz=217								
WLCH	**Liuqiu**	**3.07**	**231**	*eP*	**Pn**	**09 37 45.2**	**+3.2**
	baz=244								
TWKBT	**Hengchun**	**3.08**	**220**	*eP*	**Pn**	**09 37 42.2**	**+0.1**
	baz=218								
TWKBT				*eS*	**Sn**	**09 38 17.1**	**-0.7**
	baz=218								
TWK1	**Hengchun**	**3.08**	**220**	*eP*	**Pn**	**09 37 42.4**	**+0.2**
	baz=218								
TWK1				*eS*	**Sn**	**09 38 17.2**	**-0.6**
	baz=218								
WDGT	**Dungji**	**3.20**	**252**	*eP*	**Pn**	**09 37 43.8**	**+0.1**
	baz=250								
WDGT				*eS*	**Sn**	**09 38 19.5**	**-1.2**
	baz=250								
PHUB	**P'eng-hu**	**3.20**	**256**	*eP*	**Pn**	**09 37 43.7**	**-0.1**
	baz=256								
PHUB				*eS*	**Sn**	**09 38 20.1**	**-0.5**
	baz=256								
PNG	**Penghu**	**3.20**	**257**	*eP*	**Pn**	**09 37 43.9**	**+0.1**
	baz=257								
PNG				*eS*	**Sn**	**09 38 19.9**	**-0.8**
	baz=257								
VWUC	**VWUC**	**3.26**	**283**	*eP*	**Pn**	**09 37 44.4**	**-0.2**
	baz=283								
VWUC				*eS*	**Sn**	**09 38 20.7**	**-1.5**
	baz=283								
MATB	**Ma-tsu**	**3.28**	**304**	*eP*	**Pn**	**09 37 45.2**	**+0.3**
	baz=304								
VCHM	**Qimei**	**3.41**	**252**	*eP*	**Pn**	**09 37 46.9**	**+0.2**
	baz=251								
VCHM				*eS*	**Sn**	**09 38 24.9**	**-1.1**
	baz=251								
PTMZ	**Houxiangcun**	**3.56**	**282**	*eP*	**Pn**	**09 37 49.3**	**+0.5**
	baz=283								
PTMZ				*eS*	**Sn**	**09 38 28.0**	**-1.7**
	baz=283								
XPSS	**Dashiqiu**	**3.61**	**317**	*eP*	**Pn**	**09 37 49.4**	**0.0**
	baz=317								
LYJJ	**Jianjiangzhen**	**3.65**	**308**	*eP*	**Pn**	**09 37 50.3**	**+0.4**
	baz=308								
LYJJ				*eS*	**Sn**	**09 38 29.9**	**-1.8**
	baz=308								
MHZQ	**Yeshan**	**3.98**	**297**	*eP*	**Pn**	**09 37 54.9**	**+0.4**
	baz=297								
KNM	**Kinmen**	**4.13**	**272**	*eS*	**Sn**	**09 38 44.2**	**+0.7**
	baz=272								
KNMB	**Chin-men Tao**	**4.17**	**273**	*eP*	**Pn**	**09 37 57.0**	**-0.1**
	baz=273								
AXDP	**Jialang**	**4.58**	**278**	*eP*	**Pn**	**09 38 02.7**	**0.0**
	baz=279								
AXDP				*eS*	**Sn**	**09 38 52.3**	**-2.3**
	baz=279								
ZPLA	**Ao Xicun**	**4.77**	**266**	*eP*	**Pn**	**09 38 04.8**	**-0.6**
	baz=267								
JOW	**Kunigami**	**5.42**	**61**	Pn	**Pn**	**09 38 13.9**	**-0.3**
	0.6nm,0.3s,baz=105,slow=19,SNR=3.1								
JOW	**Kunigami**	**5.42**	**61**	*eP*	**Pn**	**09 38 14.9**	**+0.7**
	baz=59								
CMAR	**Chiang Mai Arr**	**23.09**	**260**	LR	LR	09 52 01.2			
	comp=Z,18nm,18.4s,baz=350,slow=40								
SONM	**Songino Array**	**26.91**	**335**	LR	LR	09 55 06.9			
	comp=Z,32nm,18.5s,baz=172,slow=41								
MKAR	**Makanchi Array**	**39.38**	**315**	P	**P**	**09 44 19.7**	**-1.7**
	0.3nm,0.7s,baz=100,slow=7.9,SNR=2.7								
WRA	**Warramunga Arr**	**45.37**	**165**	P	**P**	**09 45 09.5**	**-0.7**
	1.6nm,0.8s,baz=347,slow=8.8,SNR=11								
ASAR	**Alice Springs**	**48.86**	**167**	P	**P**	**09 45 38.6**	**+1.1**
	0.4nm,0.6s,baz=354,slow=14,SNR=9.2								
STKA	**Stephens Creek**	**58.65**	**161**	P	**P**	**09 46 51.6**	**+2.7**
	2.8nm,0.8s,baz=319,slow=9.3,SNR=4.3								

*SKHL **17** 09:38:04.0±0.7, 45°.80N×153°.50E, h33km±5km, mb4.5/3*
*IDC **17** 09:38:04.5±1.3, 45°.63N×153°.24E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.2/63, mbtmp3.5/4, ML3.5/1, MS2.5/1, Ms1 2.5/1, ms1mx2.0/26, Error ellipse: s-maj=62.7km s-min=25.3km az=131.0*
*MOS **17** 09:38:07.5±1.7, 45°.75N×152°.98E, h36km, mb4.2/1, Error ellipse: s-maj=45.9km s-min=15.0km az=154.2*
ISC 17 09:38:09.5±1.2, 45.7N±0.2×153.2E±0.1, h35km, n20, σ2s30/20, mb3.3/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.80**	**265**	*e*PN	**Pn**	**09 39 02.9**	**-2.6**
KUR				*e*S	**Sn**	**09 39 51.8**	**+2.8**
KUR				pmax	pmax		
	comp=Z,42nm,0.3s						
KUR				smax	smax		
	comp=N,124nm,0.4s						
KUR				smax	smax		
	comp=E,65nm,0.4s						
KUR	**Kuril'sk**	**3.80**	**265**	*e*P	**Pn**	**09 39 03.0**	**-2.6**
KUR				AMB	AMB	09 39 03.0	
	comp=E,40nm,0.3s						
KUR				*e*S	**Sn**	**09 39 47.7**	**-1.3**
KUR				A	A	09 39 59.0	
	comp=E,120nm,0.4s						
KUR				A	A	09 39 59.0	
	comp=E,70nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.50**	**255**	PN	Pn	09 39 23.2	-5.6
YUK				pmax	pmax		
	comp=Z,53nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.50**	**255**	*e*P	**Pn**	**09 39 27.3**	**-1.5**
YUK				AMB	AMB	09 39 30.2	
	comp=Z,50nm,0.5s						
YUK				*e*S	**Sn**	**09 40 29.8**	**-1.0**
YUK				A	A	09 40 42.4	
	comp=Z,120nm,0.6s						
YUK				A	A	09 40 42.4	
	comp=Z,110nm,0.6s						
GRPR	**Tuman**	**5.57**	**255**	PN	**Pn**	**09 39 29.0**	**-0.9**
GRPR				*e*S	**Sn**	**09 40 39.7**	**+7.0**
GRPR				pmax	pmax		
	comp=Z,46nm,0.4s						
GRPR	**Tuman**	**5.57**	**255**	*e*P	**Pn**	**09 39 29.0**	**-0.9**
GRPR				AMB	AMB	09 39 31.0	
	comp=Z,20nm,0.5s						
NMR	**Nemuro--Hokkai**	**5.85**	**249**	*e*PN	**Pn**	**09 39 32.1**	**-1.6**
NMR				*e*S	**Sn**	**09 40 40.9**	**+1.4**
NMR	**Nemuro--Hokkai**	**5.85**	**249**	*e*P	**Pn**	**09 39 32.1**	**-1.6**
NMR				*e*S	**Sn**	**09 40 38.5**	**-1.0**
RUSJ	**Misakicho**	**5.89**	**257**	*e*PN	**Pn**	**09 39 33.8**	**-0.5**
RUSJ				*e*S	**Sn**	**09 40 41.4**	**+0.9**
JKA	**Kamikawa-asahi**	**7.71**	**262**	*e*P	**Pn**	**09 39 58.1**	**-1.2**
ASAJ	**Asahikawa**	**7.71**	**262**	Pn	**Pn**	**09 39 58.1**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=80,slow=6.1,SNR=5.0						
ASAJ				LR	LR	09 44 06.6	
	comp=Z,30nm,18.1s,baz=4.5,slow=47						
H11N2	**WAKE ISLAND Hy**	**28.26**	**152**	T	T	10 15 27.4	
	baz=340,slow=76,SNR=96						
H11N1	**WAKE ISLAND Hy**	**28.28**	**152**	T	T	10 15 28.6	
	baz=340,slow=76,SNR=54						
H11N3	**WAKE ISLAND Hy**	**28.28**	**152**	T	T	10 15 28.7	
	baz=340,slow=76,SNR=59						
H11S1	**WAKE ISLAND Hy**	**29.34**	**153**	T	T	10 16 50.0	
	baz=341,slow=76,SNR=61						
H11S3	**WAKE ISLAND Hy**	**29.35**	**153**	T	T	10 16 51.0	
	baz=341,slow=76,SNR=49						
H11S2	**WAKE ISLAND Hy**	**29.36**	**153**	T	T	10 16 50.0	
	baz=341,slow=76,SNR=44						
ILAR	**Eielson Array**	**37.31**	**38**	P	**P**	**09 45 18.4**	**+0.5**
	comp=Z,0.6nm,1.1s,baz=257,slow=8.1,SNR=4.2						
YKA	**Yellowknife Ar**	**51.71**	**36**	P	**P**	**09 47 13.2**	**+0.5**
	comp=Z,2nm,0.6s,baz=299,slow=6,SNR=3.7						
ASAR	**Alice Springs**	**71.25**	**199**	P	**P**	**09 49 24.9**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=11,slow=4.7,SNR=3.5						

*NEIC **17** 09:59:10.9±1.2, 27°.86N±0°.07×139°.4E±0°.1, h509km±7km, mb4.3/145, Error ellipse: s-maj=15.0km s-min=10.3km az=84.0*
*MOS **17** 09:59:10.9±0.8, 27°.90N×139°.35E, h528km, mb4.3/40, Error ellipse: s-maj=9.4km s-min=5.3km az=100.9*
*IDC **17** 09:59:10.2±0.5, 27°.84N×139°.47E, h507km±5km, mb3.7/29, mb1 3.7/37, mb1mx3.6/59, mbtmp4.5/37, Error ellipse: s-maj=10.2km s-min=6.8km az=86.0*
*JMA **17** 09:59:11.1±0.1, 28°.13N×140°.14E, h528km, M4.1*
ISC 17 09:59:10.5±0.4, 27°.90N±0°.04×139°.45E±0°.06, h511km±4km, h510km; pP-P, n340, σ1s32/371, mb4.3/120, 12C-1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.56**	**108**	P	**P**	**10 00 19.1**	**-0.5**
CBIJ				*e*S	**S**	**10 01 13.1**	**-2.7**
JCJ	**Chichijima**	**2.56**	**108**	P	**P**	**10 00 19.5**	**-0.1**
	44nm,0.3s,baz=298,slow=22,SNR=59						
JCJ				S	**S**	**10 01 13.3**	**-2.5**
	91nm,0.3s,baz=294,slow=20,SNR=15						
JHH2	**Haha-jima-NKT2**	**2.74**	**117**	P	**P**	**10 00 21.4**	**+0.7**
JHH2				S	**S**	**10 01 16.7**	**-1.1**
JHJ2	**Mitsune**	**5.20**	**3**	P	**P**	**10 00 40.4**	**+0.7**
JHJ2	**Mitsune**	**5.20**	**3**	P	**P**	**10 00 40.5**	**+0.8**
JHJ	**Hachijo jima 2**	**5.21**	**3**	P	**P**	**10 00 40.2**	**+0.4**
	40nm,0.3s,baz=6.7,slow=24,SNR=22						
JHJ				S	**S**	**10 01 49.2**	**-3.6**
	16nm,0.3s,baz=357,slow=18,SNR=2.7						
TTO1	**TONANKAI O.B.S**	**6.14**	**339**	P	**P**	**10 00 52.5**	**+4.3**
BSO1	**Boso 1**	**6.85**	**11**	P	**P**	**10 00 55.8**	**+0.9**
JKN2	**Miekihoku**	**6.88**	**337**	P	**P**	**10 00 59.0**	**+3.3**
JKN2				S	**S**	**10 02 24.1**	**+2.2**
JIE	**Ise**	**6.88**	**341**	P	**P**	**10 00 59.0**	**+3.3**
JIE				S	**S**	**10 02 24.5**	**+2.5**
BSO3	**Boso 3**	**6.94**	**7**	P	**P**	**10 00 56.2**	**+0.2**
BSO3				S	**S**	**10 02 19.7**	**-2.8**
BSO4	**Boso 4**	**7.10**	**6**	P	**P**	**10 00 58.4**	**+0.6**
JOD2	**Odawara 2**	**7.34**	**358**	P	**P**	**10 01 00.9**	**+0.5**
JOD2				*e*S	**S**	**10 02 30.5**	**0.0**
JMN	**Monobe**	**7.53**	**322**		**P**	**10 01 04.8**	**+2.5**
JNY	**Yasuok**	**7.55**	**350**	P	**P**	**10 01 03.8**	**+1.2**
JTO	**Tosashimizu**	**7.57**	**312**	P	**P**	**10 01 05.1**	**+2.4**
JAO	**Obara**	**7.57**	**346**	P	**P**	**10 01 05.1**	**+2.3**
JAO				*e*S	**S**	**10 02 35.2**	**+0.4**
JMZ	**Minamidaito 2**	**7.64**	**256**	P	**P**	**10 00 59.6**	**-4.0**
INU	**Inuyama**	**7.71**	**345**		**P**	**10 01 05.8**	**+1.8**
JGF	**Kuroka**	**7.88**	**347**	P	**P**	**10 01 07.4**	**+1.6**
JHU	**Hanno**	**7.92**	**359**	P	**P**	**10 01 05.6**	**-0.7**
JRY	**Ryogami san**	**8.10**	**357**	P	**P**	**10 01 08.4**	**+0.3**
JRY				*e*S	**S**	**10 02 41.1**	**-3.6**
JWT	**Wachi**	**8.12**	**336**		**P**	**10 01 10.1**	**+1.8**
JYT	**Yasato**	**8.32**	**4**	P	**P**	**10 01 10.0**	**-0.3**
JYT	**Yasato**	**8.32**	**4**	P	**P**	**10 01 10.3**	**0.0**
JAG	**Ashikaga**	**8.50**	**0**	P	**P**	**10 01 11.4**	**-0.7**
MJAR	**Matsushiro Arr**	**8.68**	**353**	P	**P**	**10 01 13.5**	**-0.5**
	0.2nm,0.3s,baz=174,slow=11,SNR=14						
MJAR				S	**S**	**10 02 49.3**	**-6.2**
	0.1nm,0.3s,baz=144,slow=16,SNR=3.7						
MAJO	**Matsushiro**	**8.68**	**353**	P	**P**	**10 01 14.5**	**+0.4**
MAJO	**Matsushiro**	**8.68**	**353**		**P**	**10 01 14.5**	**+0.4**
MAT	**Matsushiro**	**8.68**	**353**	P	**P**	**10 01 13.6**	**-0.4**
MAT				S	**S**	**10 02 52.0**	**-3.5**
JHO	**Hitachi**	**8.73**	**6**	P	**P**	**10 01 15.0**	**+0.4**
JHS	**Saijyo**	**8.90**	**324**	P	**P**	**10 01 18.5**	**+2.1**
JNU	**Nakatsue**	**9.04**	**307**	P	**P**	**10 01 19.6**	**+1.8**
	1.0nm,0.3s,baz=105,slow=5.1,SNR=11						
JNU	**Nakatsue**	**9.04**	**307**	P	**P**	**10 01 19.1**	**+1.3**
JOW	**Kunigami**	**9.99**	**266**	P	**P**	**10 01 28.8**	**+0.8**
	2.6nm,0.3s,baz=143,slow=4.1,SNR=5.2						
JOW	**Kunigami**	**9.99**	**266**	P	**P**	**10 01 28.2**	**+0.2**
JMM	**Marumori**	**10.00**	**6**	P	**P**	**10 01 29.1**	**+1.3**
JSD	**Sado**	**10.15**	**355**	P	**P**	**10 01 29.1**	**-0.4**
JTU	**Tsushima**	**10.84**	**310**	P	**P**	**10 01 37.9**	**+1.2**
JTM	**Tenmabayashi**	**12.92**	**5**	P	**P**	**10 01 58.6**	**+0.1**
KSRS	**Korea Array**	**13.59**	**317**	P	**P**	**10 02 05.0**	**-0.6**
	0.4nm,0.3s,baz=138,slow=10,SNR=10.0						
KSRS				S	**S**	**10 04 38.5**	**+8.6**
	0.3nm,0.3s,baz=148,slow=16,SNR=5.0						
KSRS	**Korea Array**	**13.59**	**317**	P	**P**	**10 02 05.0**	**-0.6**
KSAR	**Wonju Array Be**	**13.60**	**317**	P	**P**	**10 02 05.2**	**-0.6**
KSAR	**Wonju Array Be**	**13.60**	**317**	P	**P**	**10 02 05.2**	**-0.6**
KS19	**Wonju Array Si**	**13.65**	**317**	P	**P**	**10 02 07.2**	**+0.9**
ERM	**Erimo**	**14.40**	**11**	*i* P	**P**	**10 02 15.3**	**+1.3**
ERM	**Erimo**	**14.40**	**11**	P	**P**	**10 02 15.2**	**+1.1**
JEW	**Eniwo**	**14.99**	**6**	P	**P**	**10 02 21.4**	**+1.2**
MSHR	**Mys Shultsa**	**16.12**	**337**	*ce*P	**P**	**10 02 31.9**	**-0.1**
MSHR				pmax	pmax		
	comp=Z,38nm,1.7s						
ASAJ	**Asahikawa**	**16.38**	**8**	P	**P**	**10 02 34.4**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=209,slow=8.7,SNR=10						
ASAJ	**Asahikawa**	**16.38**	**8**	P	**P**	**10 02 35.5**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,38nm,1.5s						
JKA	**Kamikawa-asahi**	**16.38**	**8**	P	**P**	**10 02 35.5**	**+0.9**
YHNB	**Yeheng**	**16.53**	**263**	P	**P**	**10 02 35.4**	**-1.1**
YULB	**Yu-li**	**16.97**	**259**	P	**P**	**10 02 40.5**	**-0.4**
YULB				IAmb	IAmb	10 02 48.8	
	comp=Z,14nm,0.9s						
SSLB	**Suanglung**	**17.15**	**260**	P	**P**	**10 02 42.8**	**+0.2**
USA0B	**Ussuriysk Arra**	**17.33**	**342**	*c i* P	**P**	**10 02 44.1**	**+0.1**
USA0B	**Ussuriysk Arra**	**17.33**	**342**	P	**P**	**10 02 44.9**	**+1.0**
USRK	**Ussuriysk Ar.**	**17.33**	**342**	P	**P**	**10 02 44.7**	**+0.7**
	baz=163,slow=9.9,SNR=99						
TPUB	**Ta-pu**	**17.58**	**259**	P	**P**	**10 02 48.1**	**+1.5**
MDJ	**Mudanjiang**	**18.45**	**337**	P	**P**	**10 02 55.8**	**+1.6**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,170nm,5.0s						
MDJ	**Mudanjiang**	**18.45**	**337**	P	**P**	**10 02 55.6**	**+1.3**
MDJ				IAmb	IAmb	10 03 00.7	
	comp=Z,9.4nm,0.9s						
WHN	**Wuhan**	**22.05**	**283**	⇓P	**P**	**10 03 27.8**	**+0.7**
KLR	**Kul'dur**	**22.11**	**346**	P	**P**	**10 03 28.3**	**+1.0**
	comp=Z,9.1nm,0.6s,baz=164,slow=6.6,SNR=38						
KLR	**Kul'dur**	**22.11**	**346**	*ce*P	**P**	**10 03 27.7**	**+0.4**
KLR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HIA	**Hailar**	**26.16**	**330**	P	**P**	**10 04 04.1**	**+0.6**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HIA	**Hailar**	**26.16**	**330**	P	**P**	**10 04 04.1**	**+0.6**
HIA				IAmb	IAmb	10 04 04.5	
	comp=Z,6.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**26.27**	**307**	*e*P	**P**	**10 04 05.0**	**+0.4**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,5.4s						
ZEA	**Zeya**	**27.33**	**344**	*e*P	**P**	**10 04 14.4**	**+0.8**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.4s						
ZEA				pmax	pmax		
	comp=E,10.0nm,0.4s						
PEA0B	**Petropavlovsk-**	**28.58**	**23**	P	**P**	**10 04 26.5**	**+1.9**
PEA0B				pmax	pmax		
	comp=Z,23nm,1.2s						
PEA0B	**Petropavlovsk-**	**28.58**	**23**	P	**P**	**10 04 26.5**	**+1.9**
PEA0B				IAmb	IAmb	10 04 40.8	
	comp=Z,23nm,1.2s						
PETK	**Petropavlovsk-**	**28.58**	**23**	P	**P**	**10 04 26.8**	**+2.2**
	comp=Z,1.1nm,0.4s,baz=206,slow=2.7,SNR=9.0						
PETK	**Petropavlovsk-**	**28.58**	**23**	P	**P**	**10 04 26.3**	**+1.8**
PET	**Petropavlovsk**	**28.85**	**24**	*i* P	**P**	**10 04 26.9**	**0.0**
PET				pmax	pmax		
	comp=Z,40nm,1.2s						
SIJI	**Sorong**	**29.67**	**197**	P	**P**	**10 04 35.1**	**+0.6**
	comp=Z,12nm,0.5s,baz=358,slow=20,SNR=5.1						
CD2	**Chengdu**	**31.16**	**284**	P	**P**	**10 04 47.8**	**+0.5**
CD2				pmax	pmax		

CM05 Chiang Mai Arr 38.28 265 P **P** **10 05 48.7 +1.7**
comp=Z,4.2nm,0.8s
KSM Kuching 38.31 232 P **P** **10 05 45.6 -1.7**
KSM IAmb IAmb 10 05 50.2
comp=Z,6.0nm,0.7s
UTHA Uthaitani 38.97 260 P **P** **10 05 53.9 +1.3**
comp=Z,18nm,0.7s
MTN Manton Dam 41.30 192 P **P** **10 06 10.7 -0.5**
TRTT Trang 42.51 250 P **P** **10 06 21.6 +0.7**
KULM Kulim 43.16 246 P **P** **10 06 26.2 +0.3**
BILL Bilibino 43.24 14 *i*P **P** **10 06 26.2 +0.4**
BILL *e**PP **pwP** **10 08 01.4 -0.4**
BILL *e* 10 08 23.2
BILL pmax pmax
comp=Z,17nm,0.9s
BILL Bilibino 43.24 14 P **P** **10 06 26.9 +1.0**
WMQ Urumqi 44.13 305 *e*P **P** **10 06 34.6 +1.4**
TIXI Tiksi 44.18 355 P **P** **10 06 32.9 -0.2**
comp=Z,2.7nm,0.3s,baz=138,slow=5.3,SNR=14
TIXI Tiksi 44.18 355 *ce*P **P** **10 06 32.3 -0.7**
TIXI pmax pmax
comp=Z,19nm,0.8s
TIXI Tiksi 44.18 355 P **P** **10 06 32.7 -0.3**
TIXI IAmb IAmb 10 06 33.8
comp=Z,4.8nm,0.8s
DGZ Jazzator, Alta 44.95 314 *i* P **P** **10 06 39.9 +0.3**
DGZ pmax pmax
comp=Z,6.0nm,0.6s
PSI Prapat 46.01 244 P **P** **10 06 48.2 +0.1**
PSI pmax pmax
comp=Z,14nm,0.8s
RPSI Rantau Prapat 46.08 244 P **P** **10 06 48.2 -0.3**
RPSI IAmb IAmb 10 06 49.4
comp=Z,14nm,0.8s
ZAA0 Zalesovo Array 47.29 319 P **P** **10 06 56.2 -0.9**
ZALV Zalesovo Beam 47.29 319 P **P** **10 06 57.0 -0.1**
comp=Z,3.3nm,0.4s,baz=104,slow=7.3,SNR=12
ZALV ScP **ScP** **10 11 21.6 -1.5**
comp=Z,1.9nm,0.5s,baz=117,slow=3.3,SNR=8.3
ZALV Zalesovo Beam 47.29 319 *i* P **P** **10 06 57.0 -0.1**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV Zalesovo Beam 47.29 319 P **P** **10 06 56.4 -0.6**
ZALV **ScP** **10 11 21.5 -1.6**
MNAI Manna 47.60 233 P **P** **10 07 00.2 +0.2**
WB0 Warramunga Arr 47.64 186 P **P** **10 06 59.8 -0.4**
FITZ Fitzroy Crossi 47.65 198 P **P** **10 07 00.5 +0.3**
FITZ IAmb IAmb 10 07 01.5
comp=Z,8.7nm,0.6s
WRAB Tennant Creek 47.81 186 P **P** **10 07 01.3 -0.1**
WRAB pmax pmax
comp=Z,12nm,0.7s
WRAB Tennant Creek 47.81 186 P **P** **10 07 01.3 -0.1**
WRAB IAmb IAmb 10 07 01.7
comp=Z,12nm,0.7s
WR0 Warramunga Arr 47.82 186 P **P** **10 07 01.1 -0.4**
WR0 IAmb IAmb 10 07 02.1
comp=Z,17nm,0.8s
WB2 Warramunga Arr 47.82 186 P **P** **10 07 01.2 -0.2**
WB2 IAmb IAmb 10 07 02.1
comp=Z,13nm,0.7s
WRA Warramunga Arr 47.82 186 P **P** **10 07 01.4 -0.2**
comp=Z,11nm,0.5s,baz=1.1,slow=7.8,SNR=221
WRA ScP **ScP** **10 11 24.9 -0.9**
comp=Z,1.4nm,0.7s,baz=359,slow=4.7,SNR=9.4
WRA S **S** **10 13 16.6 -3.9**
comp=Z,0.8nm,0.8s,baz=1.2,slow=14,SNR=5.4
WRA Warramunga Arr 47.82 186 *i* P **P** **10 07 01.3 -0.2**
WRA pmax pmax
comp=Z,12nm,0.5s
GSI Gunungsitoli 47.98 244 P **P** **10 07 02.9 0.0**
MK31 Makanchi Array 48.09 309 P **P** **10 07 03.4 +0.1**
MK31 pmax pmax
comp=Z,5.0nm,1.2s
MK31 Makanchi Array 48.09 309 P **P** **10 07 03.4 +0.1**
MKAR Makanchi Array 48.09 309 P **P** **10 07 03.5 +0.3**
comp=Z,1.9nm,0.4s,baz=88,slow=10,SNR=37
MKAR PcP **PcP** **10 08 20.7 -0.5**
comp=Z,0.3nm,0.5s,baz=100,slow=3.4,SNR=3.3
MKAR ScP **ScP** **10 11 25.4 -1.4**
comp=Z,1.1nm,0.7s,baz=83,slow=4.6,SNR=8.4
MKAR Makanchi Array 48.09 309 P **P** **10 07 03.3 +0.1**
MAKZ Makanchi 48.30 309 P **P** **10 07 05.0 +0.2**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
MAKZ Makanchi 48.30 309 P **P** **10 07 05.0 +0.2**
ANM Nome 50.35 27 P **P** **10 07 21.3 +1.7**
ANM pmax pmax
comp=Z,10.0nm,0.8s
ANM Nome 50.35 27 P **P** **10 07 21.3 +1.7**
ANM IAmb IAmb 10 07 22.3
comp=Z,9.5nm,0.8s
KURK Kurchatov 50.69 314 P **P** **10 07 22.8 +0.5**
KURK Kurchatov 50.69 314 P **P** **10 07 22.8 +0.5**
KURBB Kurchatov Arra 50.74 314 P **P** **10 07 22.8 +0.1**
comp=Z,14nm,0.5s,baz=91,slow=8.1,SNR=106
AS31 Alice Springs 51.55 186 P **P** **10 07 29.1 +0.2**
AS31 IAmb IAmb 10 07 30.8
comp=Z,5.2nm,0.5s
ASAR Alice Springs 51.55 186 P **P** **10 07 28.9 -0.1**
comp=Z,4.4nm,0.5s,baz=1.6,slow=6.9,SNR=154
ASAR PcP **PcP** **10 08 35.1 +0.8**
comp=Z,1.1nm,0.7s,baz=0.6,slow=3.8,SNR=5.1
ASAR ScP **ScP** **10 11 40.9 -0.9**
comp=Z,0.3nm,0.7s,baz=5.7,slow=5.5,SNR=3.4
ASAR Alice Springs 51.55 186 P **P** **10 07 28.6 -0.3**
MDOK Medeo 51.88 304 *e*P **P** **10 07 31.9 +0.5**
baz=304
MDOK Medeo 51.88 304 *e*P **P** **10 07 31.8 +0.5**
TNSS Tian-Shan 51.96 304 *e*P **P** **10 07 32.4 +0.2**
baz=304
TNSS Tian-Shan 51.96 304 *e*P **P** **10 07 32.4 +0.2**
KUU Kurty 52.34 305 *e*P **P** **10 07 34.5 0.0**
comp=Z,9.2nm,0.7s,baz=306
KUU Kurty 52.34 305 *e*P **P** **10 07 34.4 0.0**
KUU pmax pmax
comp=Z,9.0nm,0.7s
RDOG Red Dog Mine 52.45 24 P **P** **10 07 36.0 +1.2**
RDOG IAmb IAmb 10 07 37.2
comp=Z,7.0nm,0.7s
PSA00 Pilbara Seismi 52.71 203 P **P** **10 07 37.2 0.0**
PSA00 IAmb IAmb 10 07 38.2
comp=Z,19nm,0.7s
PSA00 Pilbara Seismi 52.71 203 P **P** **10 07 36.8 -0.5**
PSA00 IAmb IAmb 10 07 38.3
comp=Z,12nm,0.6s
AAK Ala-Archa 53.80 304 P **P** **10 07 45.8 +0.8**
comp=Z,1.2nm,0.3s,baz=140,slow=8.7,SNR=4.3
AAK Ala-Archa 53.80 304 *ce*P **P** **10 07 45.8 +0.8**
AAK pmax pmax
comp=Z,7.0nm,1.7s
AAK Ala-Archa 53.80 304 P **P** **10 07 46.1 +1.1**
BTLS Baital 53.88 307 *e*P **P** **10 07 45.3 -0.2**
baz=307
BTLS Baital 53.88 307 *e*P **P** **10 07 45.2 -0.2**
SVW2 Sparrevohn 53.92 33 P **P** **10 07 47.3 +1.9**
SVW2 IAmb IAmb 10 07 57.0
comp=Z,17nm,1.5s
EIDS Eidsvold 54.14 167 P **P** **10 07 48.7 +1.3**
BRZS Berezniki 54.49 313 *e*P **P** **10 07 49.1 -0.5**
baz=313
BRZS Berezniki 54.49 313 *e*P **P** **10 07 49.1 -0.5**
OHAK Old Harbor 54.78 38 P **P** **10 07 52.1 +0.6**
OHAK IAmb IAmb 10 08 01.2
comp=Z,14nm,1.0s
KDAK Kodiak Island 55.18 37 P **P** **10 07 55.2 +0.9**
KDAK pmax pmax
comp=Z,23nm,1.4s
KDAK Kodiak Island 55.18 37 P **P** **10 07 55.1 +0.9**
KDAK IAmb IAmb 10 08 17.9
comp=Z,23nm,1.4s
A21K Barrow 55.53 21 P **P** **10 07 58.1 +1.7**
A21K IAmb IAmb 10 07 58.6
comp=Z,17nm,0.7s
PPLA Purkeypile 55.71 31 P **P** **10 08 00.0 +1.9**
PPLA IAmb IAmb 10 08 12.1
comp=Z,16nm,1.3s
BVAR Borovoye Array 55.80 317 P **P** **10 07 58.5 -0.2**
comp=Z,8.7nm,0.4s,baz=145,slow=18,SNR=67
BRVK Borovoye 55.87 317 P **P** **10 07 59.4 +0.3**
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 55.87 317 P **P** **10 07 59.4 +0.3**
BRVK IAmb IAmb 10 08 00.3
comp=Z,12nm,0.8s

CNPM China Poot 55.95 35 P **P** **10 08 00.4 +0.8**
BRLK Bradley Lake 56.14 35 P **P** **10 08 01.2 +0.3**
SUA Susitna One 56.28 33 P **P** **10 08 02.6 +0.5**
SUA IAmb IAmb 10 08 03.7
comp=Z,8.9nm,1.0s
KTH Kantishna Hill 56.34 30 P **P** **10 08 03.3 +1.0**
BPAW Bear Paw Mtn. 56.36 30 P **P** **10 08 03.7 +1.3**
BPAW IAmb IAmb 10 08 04.6
comp=Z,7.1nm,0.5s
TRF Thorofare Moun 56.62 30 P **P** **10 08 05.6 +1.3**
KK31 Karatay Array 56.64 305 P **P** **10 08 05.1 +0.4**
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KK31 Karatay Array 56.64 305 P **P** **10 08 05.1 +0.4**
KK31 IAmb IAmb 10 08 05.6
comp=Z,5.2nm,0.5s
KKAR Karatay Array 56.64 305 P **P** **10 08 05.1 +0.4**
KKAR pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 56.64 305 P **P** **10 08 05.1 +0.4**
KKAR IAmb IAmb 10 08 05.6
comp=Z,5.2nm,0.5s
RC01 Rabbit Creek A 56.75 33 P **P** **10 08 06.2 +1.0**
RC01 IAmb IAmb 10 08 20.7
comp=Z,10nm,1.0s
SEW Seward 56.87 34 P **P** **10 08 06.6 +0.7**
COLD Coldfoot 57.00 26 P **P** **10 08 08.0 +1.3**
PMR Palmer 57.06 33 P **P** **10 08 07.8 +0.6**
PMR pmax pmax
comp=Z,19nm,1.4s
PMR Palmer 57.06 33 P **P** **10 08 07.8 +0.6**
PMR IAmb IAmb 10 08 08.8
comp=Z,20nm,1.4s
IUG luzhnay 57.14 304 *e*P **P** **10 08 08.8 +0.5**
baz=304
IUG luzhnay 57.14 304 *e*P **P** **10 08 08.8 +0.5**
I23K Minto, Yukon-K 57.14 28 P **P** **10 08 09.2 +1.5**
GHO Glory Hole Cre 57.17 32 P **P** **10 08 09.0 +0.9**
GHO IAmb IAmb 10 08 37.7
comp=Z,20nm,1.2s
NEA2 Nenana 57.23 29 P **P** **10 08 09.7 +1.4**
NEA2 IAmb IAmb 10 08 10.3
comp=Z,10nm,0.6s
MCK McKinley 57.24 30 P **P** **10 08 09.2 +0.7**
MCK pmax pmax
comp=Z,18nm,0.8s
MCK McKinley 57.24 30 P **P** **10 08 09.2 +0.7**
MCK IAmb IAmb 10 08 10.0
comp=Z,18nm,0.8s
RND Reindeer 57.26 31 P **P** **10 08 09.1 +0.4**
RND pmax pmax
comp=Z,10.0nm,0.6s
RND Reindeer 57.26 31 P **P** **10 08 09.1 +0.4**
RND IAmb IAmb 10 08 09.8
comp=Z,10nm,0.6s
KNK Knik Glacier 57.38 33 P **P** **10 08 10.2 +0.8**
KNK IAmb IAmb 10 08 12.9
comp=Z,35nm,1.4s
TOLK Toolik Lake Re 57.39 24 P **P** **10 08 11.1 +1.7**
PWL Port Wells 57.43 34 P **P** **10 08 10.8 +1.0**
SML Sawmill 57.45 32 P **P** **10 08 10.9 +1.0**
SML IAmb IAmb 10 08 37.2
comp=Z,30nm,1.4s
MDM Murphy Dome 57.61 29 P **P** **10 08 12.0 +1.1**
MDM IAmb IAmb 10 08 12.8
comp=Z,5.8nm,0.5s
WRH Wood River Hil 57.65 29 P **P** **10 08 12.0 +0.8**
TCOL CIGO, UAF Yank 57.76 29 P **P** **10 08 13.3 +1.4**
TCOL IAmb IAmb 10 08 14.5
comp=Z,22nm,1.5s
COLA College 57.77 29 *i* P **P** **10 08 11.9 -0.1**
COLA pmax pmax
comp=Z,26nm,3.0s
CCB Clear Creek Bu 57.78 29 P **P** **10 08 12.3 +0.3**
SCM Sheep Creek Mo 57.92 32 P **P** **10 08 14.1 +0.9**
SCM pmax pmax
comp=Z,32nm,1.1s
SCM Sheep Creek Mo 57.92 32 P **P** **10 08 14.1 +0.9**
SCM IAmb IAmb 10 08 14.9
comp=Z,32nm,1.1s
POKR Poker Plat Res 57.95 29 P **P** **10 08 14.2 +0.9**
GLI Glacier Island 58.04 34 P **P** **10 08 14.0 +0.1**
IL31 58.17 29 P **P** **10 08 14.7 0.0**
ILAR Eielson Array 58.17 29 P **P** **10 08 14.4 -0.3**
comp=Z,1.8nm,0.4s,baz=251,slow=5.5,SNR=78
ILAR Eielson Array 58.17 29 P **P** **10 08 14.6 -0.2**
ILAR Eielson Array 58.17 29 P **P** **10 08 14.6 -0.2**
KLU Klutina 58.60 33 P **P** **10 08 19.0 +1.2**
KLU IAmb IAmb 10 08 20.1
comp=Z,26nm,1.4s
EYAK Cordova Ski Ar 58.71 34 P **P** **10 08 19.9 +1.5**
PAX Paxson 58.79 31 P **P** **10 08 20.1 +1.0**
PAX pmax pmax
comp=Z,12nm,1.5s
PAX Paxson 58.79 31 P **P** **10 08 20.1 +1.0**
PAX IAmb IAmb 10 08 39.2
comp=Z,12nm,1.5s
FYU Fort Yukon 58.91 27 P **P** **10 08 21.8 +2.1**
FYU IAmb IAmb 10 08 23.1
comp=Z,18nm,1.3s
ARMA Armidale 59.15 168 P **P** **10 08 23.3 +1.4**
ARMA IAmb IAmb 10 08 35.5
comp=Z,25nm,1.4s
N25K Chitina, Valde 59.23 33 P **P** **10 08 23.6 +1.5**
RAGM Ragged Mountai 59.25 34 P **P** **10 08 23.6 +1.5**
BMRM Bremner River 59.25 33 P **P** **10 08 23.6 +1.5**
FORT Forrest 59.36 191 P **P** **10 08 23.6 +0.5**
DOT Dot Lake 59.41 30 P **P** **10 08 23.9 +0.8**
DOT IAmb IAmb 10 08 24.5
comp=Z,11nm,0.8s
SCRK Sand Creek 59.43 30 P **P** **10 08 24.0 +0.5**
SCRK IAmb IAmb 10 08 24.7
comp=Z,11nm,0.6s
HMT Hamilton 59.45 34 P **P** **10 08 24.7 +1.2**
STKA Stephens Creek 59.48 178 P **P** **10 08 24.2 +0.3**
comp=Z,4.2nm,0.6s,baz=346,slow=7.1,SNR=13
STKA Stephens Creek 59.48 178 P **P** **10 08 24.4 +0.4**
STKA Stephens Creek 59.48 178 P **P** **10 08 24.4 +0.4**
MENT Mentasta 59.59 31 P **P** **10 08 25.8 +1.4**
MENT IAmb IAmb 10 08 26.1
comp=Z,10nm,0.5s
GLB Gilahina Butte 59.61 33 P **P** **10 08 25.3 +0.8**
GLB IAmb IAmb 10 08 26.3
comp=Z,12nm,1.1s
BERG Berg Lake 59.73 34 P **P** **10 08 26.7 +1.4**
VRDI Verde Repeater 59.80 33 P **P** **10 08 26.9 +0.9**
VRDI IAmb IAmb 10 08 52.9
comp=Z,35nm,1.4s
CRQM Cirque 59.98 34 P **P** **10 08 28.5 +1.3**
MCARA McCarthy VSAT 59.99 33 P **P** **10 08 28.4 +1.4**
MCARA IAmb IAmb 10 08 29.1
comp=Z,15nm,0.9s
TGL Tana Glacier 60.13 34 P **P** **10 08 29.3 +1.2**
K27K Chicken 60.27 30 P **P** **10 08 30.4 +1.5**
BBOO Buckleboo 60.47 183 P **P** **10 08 30.9 +0.4**
EGAK Eagle 60.63 29 P **P** **10 08 31.7 +0.5**
GRNC Granite Creek 60.66 34 P **P** **10 08 33.0 +1.3**
GRNC IAmb IAmb 10 08 41.1
comp=Z,25nm,1.4s
BARN Barnard Glacie 60.68 33 P **P** **10 08 33.0 +1.2**
BARN IAmb IAmb 10 08 49.2
comp=Z,25nm,1.5s
CTGM Chitina Glacie 60.84 33 P **P** **10 08 34.2 +1.4**
CTGM IAmb IAmb 10 08 52.6
comp=Z,21nm,1.4s
MORW Morawa 60.92 203 P **P** **10 08 33.4 -0.2**
MORW IAmb IAmb 10 08 34.8
comp=Z,13nm,1.2s
DAWY Dawson 61.45 30 P **P** **10 08 38.0 +1.4**
ARU Arti 62.29 322 *c*/P **P** **10 08 42.1 -0.1**
ARU S **S** **10 16 30.1 +1.8**
ARU SS **SS** **10 20 40.5 -2.4**
ARU pmax pmax
comp=Z,7.0nm,0.5s
ARU Arti 62.29 322 P **P** **10 08 42.5 +0.2**
EPYK Eagle Plains 62.33 27 P **P** **10 08 43.6 +1.3**
EPYK IAmb IAmb 10 08 44.0
comp=Z,9.6nm,0.7s
AB31 Akbulak array 62.79 314 *e*P **P** **10 08 45.3 -0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 62.79 314 P **P** **10 08 45.5 0.0**
ABKAR IAmb IAmb 10 08 46.2
comp=Z,5.0nm,0.7s

INK Inuvik 63.30 25 P **P** **10 08 48.9 +0.4**
comp=Z,2.8nm,0.3s,baz=280,slow=5.4,SNR=24
INK Inuvik 63.30 25 P **P** **10 08 49.1 +0.6**
INK pmax pmax
comp=Z,4.0nm,1.5s
INK Inuvik 63.30 25 P **P** **10 08 49.1 +0.6**
WHY Whitehorse 64.02 33 P **P** **10 08 55.2 +1.8**
WHY IAmb IAmb 10 08 55.7
comp=Z,4.8nm,0.8s
NWAO Narrogin (SRO) 64.07 201 P **P** **10 08 54.2 +0.3**
NWAO pmax pmax
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 64.07 201 P **P** **10 08 54.2 +0.3**
JIS Juneau Island 64.75 36 P **P** **10 08 59.9 +2.0**
JIS IAmb IAmb 10 09 00.5
comp=Z,15nm,1.1s
C36M Paulatuk 66.43 23 P **P** **10 09 08.7 +0.4**
C36M IAmb IAmb 10 09 09.0
comp=Z,8.2nm,0.6s
KIRV Kirov 66.65 325 *ce*P **P** **10 09 09.9 +0.1**
DLBC Dease Lake 66.94 35 P **P** **10 09 12.7 +1.0**
DLBC IAmb IAmb 10 09 14.2
comp=Z,13nm,1.4s
SPA0 Spitsbergen Ar 69.15 349 P **P** **10 09 25.9 +1.1**
SPA0 Spitsbergen Ar 69.15 349 *e*P **P** **10 09 25.3 +0.5**
KBS Kingsbay 69.36 351 P **P** **10 09 27.4 +1.4**
KBS pmax pmax
comp=Z,49nm,1.4s
KBS Kingsbay 69.36 351 P **P** **10 09 27.4 +1.4**
KBS Kingsbay 69.36 351 *e*P **P** **10 09 27.0 +1.0**
EUNU Eureka 69.43 8 P **P** **10 09 27.4 +0.9**
EUNU IAmb IAmb 10 09 27.8
comp=Z,4.4nm,0.8s
BELG Belogornoye 69.48 319 *i* P **P** **10 09 27.3 +0.2**
BELG pmax pmax
comp=Z,2.0nm,0.9s
HSPB Hornsund (broa 70.02 348 *e*P **P** **10 09 30.2 +0.2**
KEV Kevo 71.41 340 P **P** **10 09 38.9 +0.6**
KEV Kevo 71.41 340 P **P** **10 09 38.9 +0.6**
RES Resolute Bay 71.84 13 P **P** **10 09 41.4 +0.7**
RES pmax pmax
comp=Z,8.0nm,0.8s
RES Resolute Bay 71.84 13 P **P** **10 09 41.4 +0.7**
RES IAmb IAmb 10 09 42.2
comp=Z,8.0nm,0.8s
HAMF Hammerfest 71.90 342 *e*P **P** **10 09 40.5 -0.7**
ARA0 ARCESS Array S 71.97 340 *e*P **P** **10 09 42.1 +0.5**
ARCES ARCESS Array B 71.97 340 P **P** **10 09 42.2 +0.5**
comp=Z,7.3nm,0.6s,baz=68,slow=8.2,SNR=42
ARCES ARCESS Array B 71.97 340 P **P** **10 09 42.1 +0.5**
ARCES pmax pmax
comp=Z,31nm,1.5s
ARCES ARCESS Array B 71.97 340 P **P** **10 09 42.1 +0.5**
ARCES IAmb IAmb 10 09 48.3
comp=Z,31nm,1.5s
YKA Yellowknife Ar 72.58 28 P **P** **10 09 45.2 +0.1**
comp=Z,6.3nm,0.8s,baz=296,slow=5.1,SNR=60
KTK1 Kautokeino 72.94 340 *e*P **P** **10 09 47.8 +0.6**
JETT Jettan, Norway 73.45 341 *e*P **P** **10 09 50.4 +0.3**
TRO Tromso 73.82 342 *e*P **P** **10 09 52.4 +0.3**
NLWA Neilton Lookou 74.24 45 P **P** **10 09 57.2 +2.1**
NLWA IAmb IAmb 10 09 57.5
comp=Z,18nm,1.4s
KBZ Khabaz 75.67 312 P **P** **10 10 03.5 +0.4**
comp=Z,2.9nm,1.0s,baz=90,slow=10,SNR=2.4
STEI Steigen 75.94 341 *e*P **P** **10 10 04.2 +0.2**
FINES FINESS Array B 76.14 333 P **P** **10 10 05.1 -0.2**
comp=Z,8.1nm,0.3s,baz=67,slow=5.1,SNR=113
FINES FINESS Array B 76.14 333 P **P** **10 10 05.2 -0.1**
FAUS Fauske 76.29 341 *e*P **P** **10 10 05.9 -0.1**
B08A Colville Reser 76.58 42 P **P** **10 10 09.4 +1.3**
MOR8 Moi Rana 77.34 340 *e*P **P** **10 10 10.8 -1.1**
D08A Wollman Farm, 77.42 43 P **P** **10 10 13.9 +1.2**
KONS Konsvik 77.51 341 *e*P **P** **10 10 13.0 +0.3**
PINE Pine Mountain 77.64 47 P **P** **10 10 15.8 +1.6**
PINE IAmb IAmb 10 10 16.9
comp=Z,12nm,0.8s
E09A Wood Farm, Sta 78.15 44 P **P** **10 10 17.6 +1.1**
JMIC Jan Mayen 78.82 350 *e*P **P** **10 10 17.7 -1.9**
MNK Minsk 79.14 326 *i* P **P** **10 10 18.5 -3.2**
comp=E,2.0nm,0.7s
MNK *i* P **P** **10 10 18.5 -3.2**
comp=N,16nm,0.8s
MNK *i* P **P** **10 10 18.5 -3.2**
comp=Z,7.0nm,0.7s
MNK *i* pP **pP** **10 12 10.0 -0.3**
MNK *i* sP **sP** **10 13 00.8 -1.8**
MNK *i* PP **PP** **10 13 26.8 -2.7**
MNK *i* PPP PPP 10 15 16.3
MNK *i* S **S** **10 19 34.7 -4.3**
MNK *i* sS **sS** **10 22 50.6 -2.5**
MNK *i* SS SS 10 24 35.6 -23
MNK *i* SSS SSS 10 28 28.6
MNK *i* LRM MLR 10 48 11.2
comp=N,202nm,19.6s
MNK *i* LRM MLR 10 48 11.2
comp=Z,63nm,17.4s
MNK *i* LRM MLR 10 48 19.8
comp=E,18nm,16.6s
ORV Oroville 79.18 51 P **P** **10 10 22.8 +0.5**
ORV pmax pmax
comp=Z,3.0nm,0.8s
ORV Oroville 79.18 51 P **P** **10 10 22.8 +0.5**
NSS Namsos 79.23 340 *e*P **P** **10 10 22.1 +0.1**
J08A Circle Bar Ran 79.43 47 P **P** **10 10 24.8 +1.1**
J08A IAmb IAmb 10 10 25.9
comp=Z,5.3nm,0.6s
BMO Blue Mountains 79.45 45 P **P** **10 10 24.9 +1.2**
BMO pmax pmax
comp=Z,3.0nm,0.7s
BMO Blue Mountains 79.45 45 P **P** **10 10 24.9 +1.2**
BEKR Beckworth 79.82 50 P **P** **10 10 26.9 +1.0**
AKASG Malin Array Be 80.52 323 P **P** **10 10 28.4 -0.7**
comp=Z,0.5nm,0.3s,baz=54,slow=5.3,SNR=2.4
PAHR Pah Rah Range 80.56 50 P **P** **10 10 30.7 +1.0**
YERR Yerington 81.00 51 P **P** **10 10 33.1 +1.1**
MFID Camas Ranch 81.09 46 P **P** **10 10 33.4 +1.1**
NC405 NORSAR Array S 81.72 337 P **P** **10 10 34.4 -0.7**
KVN Kaiserville 81.75 50 P **P** **10 10 36.8 +0.9**
KVN pmax pmax
comp=Z,8.0nm,1.4s
KVN Kaiserville 81.75 50 P **P** **10 10 36.8 +0.9**
KVN IAmb IAmb 10 10 37.7
comp=Z,8.5nm,1.4s
HRY Holter Researc 81.81 41 P **P** **10 10 37.2 +1.2**
NVAR Mina Array Bea 81.91 51 P **P** **10 10 38.0 +1.2**
comp=Z,1.1nm,0.5s,baz=294,slow=5.8,SNR=20
NVAR pP **pwP** **10 12 32.6 +1.6**
comp=Z,0.3nm,0.6s,baz=276,slow=5.8,SNR=3.5
NVAR Mina Array Bea 81.91 51 P **P** **10 10 37.2 +0.5**
NC204 NORSAR Array S 81.93 338 P **P** **10 10 35.0 -1.1**
NC204 IAmb IAmb 10 10 36.3
comp=Z,17nm,0.8s
DOMB Dombas 81.93 339 *e*P **P** **10 10 34.7 -1.4**
NB2 NORSAR Subarra 81.95 337 P **P** **10 10 35.0 -1.2**
comp=Z,2.0nm,0.5s,baz=48,slow=4.8
NB2 NORSAR Subarra 81.95 337 P **P** **10 10 35.0 -1.2**
baz=48,slow=4.8
NOA NORSAR Array B 81.95 337 P **P** **10 10 35.5 -0.7**
comp=Z,3.2nm,0.6s,baz=46,slow=4.9,SNR=19
NC602 NORSAR Array S 82.05 337 *e*P **P** **10 10 35.5 -1.2**
AKN Aaknes 82.48 340 *e*P **P** **10 10 38.7 -0.2**
BOZ Bozeman (W) 82.53 42 P **P** **10 10 39.8 +0.1**
BOZ pmax pmax
comp=Z,3.0nm,1.3s
BOZ Bozeman (W) 82.53 42 P **P** **10 10 39.8 +0.1**
ELK Elko 82.81 48 P **P** **10 10 42.1 +0.8**
ELK pmax pmax
comp=Z,3.0nm,1.1s
ELK Elko 82.81 48 P **P** **10 10 42.0 +0.8**
TPH Tonopah 82.83 51 P **P** **10 10 41.3 -0.1**
TPH pmax pmax
comp=Z,29nm,1.2s
TPH Tonopah 82.83 51 P **P** **10 10 41.3 -0.1**
SKAR Skarslia 83.19 338 *e*P **P** **10 10 42.6 +0.1**
YHL Hebgen Lake 83.20 43 P **P** **10 10 44.2 +1.0**
YMR Madison River 83.42 43 P **P** **10 10 43.9 -0.4**
KONO Kongsberg 83.51 337 *e*P **P** **10 10 44.2 +0.1**
BRTR Keskin Array B 83.66 312 P **P** **10 10 44.8 -0.6**
comp=Z,0.6nm,0.7s,baz=76,slow=3.7,SNR=1.6
TPNV Topopah Spring 84.06 51 P **P** **10 10 47.9 +0.4**
TPNV pmax pmax
comp=Z,4.0nm,0.9s
TPNV Topopah Spring 84.06 51 P **P** **10 10 47.9 +0.4**

TPNV				IAmb	IAmb	10 10 49.3	
	comp=Z,4.0nm,0.8s						
HWUT	**Hardware Ranch**	**84.72**	**45**	P	**P**	**10 10 51.8**	**+1.1**
BLS5	**Blasjo**	**84.75**	**338**	*e*P	**P**	**10 10 49.7**	**-0.5**
PDAR	**Pinedale Array**	**85.33**	**44**	P	**P**	**10 10 54.4**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=302,slow=1.7,SNR=6.3						
PDAR	**Pinedale Array**	**85.33**	**44**	P	**P**	**10 10 53.9**	**+0.2**
ANMO	**Albuquerque**	**91.79**	**49**	*ce*P	**P**	**10 11 22.4**	**-1.6**
ANMO				pmax	pmax		
	comp=Z,9.0nm,3.1s						
ANMO	**Albuquerque**	**91.79**	**49**	P	**P**	**10 11 24.4**	**+0.3**
ANMO				IAmb	IAmb	10 11 26.6	
	comp=Z,1.9nm,0.8s						
TXAR	**Lajitas Array**	**97.04**	**52**	P	Pdif	10 11 49.1	+1.3
	comp=Z,0.5nm,0.7s,baz=298,slow=2.5,SNR=7.3						
TXAR				pP	pP	10 13 42.0	+1.6
	comp=Z,0.1nm,0.5s,baz=322,slow=5.7,SNR=2.7						
TXAR	**Lajitas Array**	**97.04**	**52**	P	Pdif	10 11 48.6	+0.8
DBIC	**Dimbokro**	**131.32**	**309**	SKPbc	**SKPbc**	**10 20 01.7**	**-0.8**
	comp=Z,2.8nm,0.5s,baz=39,slow=4.5,SNR=5.4						

DDA ***17*** *10:04:45.7, 41.50N×34.79E, h9km±4km, ML1.8*
ISK ***17*** *10:04:45.3, 41.53N×34.75E, h8km, ML2.7/5*

ISC 17 10:04:45.7±1.1, 41.52N±0.05×34.78E±0.03, h9km±8km, n13, σ0.82/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOYA	**Sinop/Boyabat-**	**0.07**	**283**	*i* P	**Pg**	**10 04 48.1**	**+0.2**
DIKM	**Dikmen**	**0.38**	**69**	PG	**Pg**	**10 04 53.7**	**+0.4**
DIKM				SG	**Sb**	**10 04 59.8**	**-0.9**
BZK	**Bozkurt**	**0.73**	**308**	PG	**Pg**	**10 04 59.4**	**-0.4**
KMON	**Kastamonu**	**0.76**	**260**	PG	**Pg**	**10 04 59.8**	**-0.6**
HAVZ	**Havza**	**0.83**	**122**	*i* P	**Pb**	**10 05 02.0**	**-0.4**
HAVZ				*i* S	**Sn**	**10 05 16.3**	**+0.2**
HAVZ				IAML		10 05 26.0	
	comp=E,37nm,0.6s						
HAVZ				IAML		10 05 27.0	
	comp=N,45nm,1.8s						
CTAK	**Corum_Osmancik**	**0.87**	**179**	*i* P	**Pb**	**10 05 02.6**	**-0.4**
CTAK				IAML		10 05 14.0	
	comp=N,101nm,1.7s						
CTAK				IAML		10 05 16.0	
	comp=E,24nm,1.1s						
CTAK				*i* S	**Sn**	**10 05 17.5**	**+0.4**
ILGA	**Ilgaz**	**0.92**	**240**	*i* P	**Pg**	**10 05 03.3**	**-0.2**
ILGA				*i* S	**Sn**	**10 05 20.4**	**+1.8**
ILGA				IAML		10 05 25.0	
	comp=E,31nm,0.4s						
ILGA				IAML		10 05 25.0	
	comp=N,28nm,0.7s						
KVT	**Kavak**	**1.05**	**114**	PG	**Pn**	**10 05 06.3**	**-0.3**
KVT				SG	**Sn**	**10 05 21.5**	**+0.1**
PELI	**Kastamonı-Ara**	**1.12**	**259**	*i* P	**Pg**	**10 05 06.8**	**-0.5**
PELI				*i* S	**Sn**	**10 05 25.2**	**+1.9**
PELI				IAML		10 05 35.0	
	comp=E,42nm,0.6s						
PELI				IAML		10 05 36.0	
	comp=N,14nm,0.8s						
CANT	**Cankiri**	**1.26**	**224**	PN	**Pg**	**10 05 09.9**	**0.0**
CORM	**Corum**	**1.34**	**185**	PN	**Pb**	**10 05 10.7**	**-0.4**
CORM				SN	**Sn**	**10 05 30.1**	**+1.4**
DELI	**KIRIKKALE**	**1.65**	**204**	*i* P	**Pb**	**10 05 16.1**	**-0.3**
DELI				IAML		10 05 36.0	
	comp=N,11nm,1.2s						
DELI				*i* S	**Sg**	**10 05 38.5**	**-0.2**
DELI				IAML		10 05 46.0	
	comp=E,6.0nm,0.4s						
ERBA	**Erbaa**	**1.71**	**119**	*i* P	**Pb**	**10 05 17.5**	**+0.1**
ERBA				*i* S	**Sg**	**10 05 41.5**	**+0.8**

ISC 17 10:07:03.3±1.4, 49.00N±0.05×18.30E±0.05, h9km±16km, n5, σ0.61/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOLL	**Kolacno**	**0.42**	**171**	*e*PG	**Pg**	**10 07 10.9**	**-0.6**
KOLL				*e*SG	**Sg**	**10 07 17.1**	**0.0**
JAVC	**Velka Javorina**	**0.44**	**252**	*e*PG	**Pg**	**10 07 11.3**	**-0.5**
JAVC				*e*SG	**Sg**	**10 07 18.7**	**+1.1**
VYHS	**Vyhne**	**0.61**	**145**	*e*PG	**Pg**	**10 07 15.5**	**+0.3**
VYHS				*e*SG	**Sg**	**10 07 23.4**	**+0.2**
MODS	**Modra-Piesok**	**0.92**	**228**	*e*PG	**Pb**	**10 07 21.4**	**-0.1**
MODS				*e*SG	**Sb**	**10 07 34.0**	**+0.2**
MORC	**Moravsky Berou**	**0.93**	**328**	*e*PG	**Pg**	**10 07 20.9**	**-0.2**
MORC				*e*SG	**Sb**	**10 07 33.9**	**-0.1**

ATH ***17*** *10:11:10.3, 36.37N×26.58E, h165km±6km, ML4.5/10, Error ellipse: s-maj=6.5km s-min=1.8km az=116.0*
MED_RC ***17*** *10:11:15.0±0.7, 36.25N×26.57E, h125km±6km, MW4.5/16, Moment Tensor Solution. Mantle waves: s16,c20; Duration: 1s0 Moment tensor: Scale 10^15 Nm; Mrr0.54±.48; Mθθ-6.50±.52; Mφφ5.96±.47; Mrθ2.15±.47; Mθφ2.38±.63; Mφr-1.50±.40; Best double couple: M6.7 13000×10^15 NP1:φs234.00000°, δ71.00000°, λ-4.00000°. NP2:φs326.00000°, δ86.00000°, λ-160.00000°. Principal axes: T 6.6100, Plg11.0000°, Azm99.0000°; N 1.0300, Plg70.0000°, Azm336.0000°; P -7.6400, Plg16.0000°, Azm192.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
NEIC ***17*** *10:11:18.9±2.1, 36.31N×0.05×26.57E±0.05, h115km±7km Error ellipse: s-maj=7.5km s-min=5.1km az=212.0*
MOS ***17*** *10:11:18.8±0.9, 36.39N×26.61E, h130km, mb4.4/15, Error ellipse: s-maj=6.2km s-min=4.5km az=91.9*
IDC ***17*** *10:11:18.4±0.7, 36.34N×26.57E, h109km±7km, mb3.9/20, mb1 4.0/28, mb1mx3.8/70, mbtmp4.3/28, MS3.1/6, Ms1 3.1/6, ms1mx2.8/51, Error ellipse: s-maj=11.2km s-min=7.2km az=145.0*
ISK ***17*** *10:11:18.9, 36.42N×26.60E, h108km, ML4.1/31*
THE ***17*** *10:11:20.7, 36.36N×26.56E, h119km±2km, ML4.3/22, Error ellipse: s-maj=2.2km s-min=0.6km az=81.0*
NIC ***17*** *10:11:20.2±0.0, 35.94N×26.96E, h138km±1km, Ml4.9/4*
DDA ***17*** *10:11:20.5, 36.59N×26.65E, h27km±3km, MW4.4*
HLW ***17*** *10:11:31.6, 35.13N×26.97E, h20km±9km, Md4.5, Ml4.9*

ISC 17 10:11:18.8±0.5, 36.33N±0.03×26.61E±0.03, h118km±4km, n410, σ1.45/470, mb4.3/49, 13C-17D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.50**	**55**	P	**Pn**	**10 11 36.6**	**+0.2**
NISR				AML	AML	10 11 50.0	
	comp=N,17216μm,0.9s						
NISR				AML	AML	10 11 56.3	
	comp=E,10084μm,0.7s						
NISR	**Nisiros**	**0.50**	**55**	P	**Pn**	**10 11 36.8**	**+0.4**
NISR				S	**Sn**	**10 11 49.5**	**-0.2**
	comp=E,7μm,0.9s						
KOSK	**Kos Island**	**0.52**	**35**	P	**Pn**	**10 11 36.9**	**+0.4**
KOSK				S	**Sn**	**10 11 48.0**	**-1.9**
	comp=E,4μm,0.8s						
KOSK	**Kos Island**	**0.52**	**35**	PG	**Pn**	**10 11 35.8**	**-0.7**
KOSK				SG	**Sn**	**10 11 47.9**	**-1.9**
NIS1	**Nisyros Isl.**	**0.53**	**59**	P	**Pn**	**10 11 36.9**	**+0.3**
NIS1				AML	AML	10 11 54.2	
	comp=E,14362μm,0.8s						
NIS1				AML	AML	10 12 04.9	
	comp=N,12125μm,0.9s						
NIS1	**Nisyros Isl.**	**0.53**	**59**	P	**Pn**	**10 11 36.9**	**+0.3**
NIS1				S	**Sn**	**10 11 50.3**	**+0.2**
	comp=N,7μm,0.8s						
NIS1	**Nisyros Isl.**	**0.53**	**59**	PG	**Pn**	**10 11 36.0**	**-0.6**
NIS1				SG	**Sn**	**10 11 48.6**	**-1.5**
KARP	**Karpathos**	**0.90**	**150**	P	**Pn**	**10 11 40.3**	**+0.7**
KARP				AML	AML	10 11 56.9	
	comp=N,15231μm,0.2s						
KARP				AML	AML	10 11 59.1	
	comp=E,22520μm,0.3s						
KARP	**Karpathos**	**0.90**	**150**	P	**Pn**	**10 11 40.2**	**+0.6**
KARP				S	**Sn**	**10 11 55.5**	**+0.1**
	comp=E,9μm,0.2s						
KARP	**Karpathos**	**0.90**	**150**	PG	**Pn**	**10 11 40.3**	**+0.7**
KARP	**Karpathos**	**0.90**	**150**	Pn	**Pn**	**10 11 40.1**	**+0.5**
KARP				Sn	**Sn**	**10 11 55.4**	**+0.1**
KARP	**Karpathos**	**0.90**	**150**	⇑P	**Pn**	**10 11 40.2**	**+0.5**
KARP				S	**Sn**	**10 11 55.3**	**0.0**
KARP				AML	AML	10 11 56.4	
	comp=E,15nm,0.2s						
KARP				AML	AML	10 11 56.4	
	comp=E,15nm,0.2s						
KARP				AML	AML	10 11 58.6	
	comp=E,22nm,0.3s						
KARP				AML	AML	10 11 58.6	
	comp=E,22nm,0.3s						
BODT	**Bodrum**	**0.92**	**37**	P	**Pn**	**10 11 39.2**	**-0.6**
BODT				S	**Sn**	**10 11 54.5**	**-1.3**
BODT	**Bodrum**	**0.92**	**37**	PG	**Pn**	**10 11 39.1**	**-0.7**
BODT				SG	**Sn**	**10 11 53.8**	**-2.0**
SANT	**Santorini**	**0.93**	**273**	P	**Pn**	**10 11 40.1**	**+0.1**
SANT	**Santorini**	**0.93**	**273**	P	**Pn**	**10 11 40.1**	**+0.1**
SANT				S	**Sn**	**10 11 54.5**	**-1.4**
	comp=E,5μm,0.7s						
SANT	**Santorini**	**0.93**	**273**	⇓P	**Pn**	**10 11 39.5**	**-0.4**
SANT				⇓S	**Sn**	**10 11 55.3**	**-0.7**
SANT	**Santorini**	**0.93**	**273**	PG	**Pn**	**10 11 39.7**	**-0.2**
SANT	**Santorini**	**0.93**	**273**	Pn	**Pn**	**10 11 40.0**	**+0.1**
SANT				Sn	**Sn**	**10 11 54.6**	**-1.4**
DATC	**Datca-Mugla**	**0.95**	**63**	PG	**Pn**	**10 11 39.7**	**-0.3**
YKAV	**Yalikavak-Bodr**	**0.96**	**34**	PG	**Pn**	**10 11 39.5**	**-0.6**
SNT1	**Gialos, Santor**	**0.96**	**276**	P	**Pn**	**10 11 40.3**	**+0.1**
THT2	**Imerovigli**	**0.97**	**277**	PG	**Pn**	**10 11 40.2**	**0.0**
SNT5	**Nea Kammeni, S**	**0.99**	**275**	P	**Pn**	**10 11 40.6**	**+0.2**
THR9	**Santorini-Faro**	**1.02**	**272**	P	**Pn**	**10 11 40.7**	**0.0**
APE	**Apeiranthos**	**1.14**	**311**	P	**Pn**	**10 11 42.1**	**0.0**
APE				AML	AML	10 11 58.9	
	comp=N,11179μm,1.1s						
APE				AML	AML	10 11 59.0	
	comp=E,7544μm,0.8s						
APE	**Apeiranthos**	**1.14**	**311**	P	**Pn**	**10 11 42.1**	**0.0**
APE				S	**Sn**	**10 11 58.4**	**-1.4**
	comp=E,5μm,0.9s						
APE	**Apeiranthos**	**1.14**	**311**	⇓P	**Pn**	**10 11 41.9**	**-0.1**
APE				⇓S	**Sn**	**10 11 58.7**	**-1.0**
APE	**Apeiranthos**	**1.14**	**311**	PG	**Pn**	**10 11 41.4**	**-0.7**
APE	**Apeiranthos**	**1.14**	**311**	*i* P	**Pn**	**10 11 41.9**	**-0.1**
STIA	**Sitia Lasithi**	**1.20**	**201**	P	**Pn**	**10 11 43.2**	**+0.6**
STIA				S	**Sn**	**10 12 00.2**	**-0.5**
ARG	**Arkhangelos**	**1.23**	**95**	P	**Pn**	**10 11 43.9**	**+1.0**
ARG	**Arkhangelos**	**1.23**	**95**	P	**Pn**	**10 11 43.9**	**+1.0**
ARG				S	**Sn**	**10 12 01.6**	**+0.4**
	comp=E,8μm,0.4s						
ARG	**Arkhangelos**	**1.23**	**95**	PN	**Pn**	**10 11 43.4**	**+0.5**
ARG	**Arkhangelos**	**1.23**	**95**	P	**Pn**	**10 11 43.8**	**+1.0**
ARG				S	**Sn**	**10 12 01.8**	**+0.6**
ARG	**Arkhangelos**	**1.23**	**95**	⇑P	**Pn**	**10 11 43.9**	**+1.0**
ARG				S	**Sn**	**10 12 01.3**	**+0.1**
DDIM	**Aydin, Didim**	**1.24**	**24**	*i* P	**Pn**	**10 11 43.6**	**+0.6**
ZKR	**Zakros**	**1.25**	**195**	P	**Pn**	**10 11 44.4**	**+1.3**
ZKR	**Zakros**	**1.25**	**195**	P	**Pn**	**10 11 44.5**	**+1.3**
ZKR				S	**Sn**	**10 12 02.6**	**+0.9**
	comp=E,6μm,0.4s						
ZKR	**Zakros**	**1.25**	**195**	PN	**Pn**	**10 11 44.5**	**+1.3**
MRSB	**Marmaris-Mugla**	**1.33**	**73**	PN	**Pn**	**10 11 44.3**	**+0.2**
NPS	**Neapolis**	**1.34**	**218**	P	**Pn**	**10 11 44.4**	**+0.2**
NPS				AML	AML	10 12 03.6	
	comp=N,35757μm,0.4s						
NPS				AML	AML	10 12 03.8	
	comp=E,50650μm,0.4s						
TURN	**Turunc**	**1.39**	**71**	PN	**Pn**	**10 11 45.0**	**+0.3**
SMG	**Samos**	**1.39**	**7**	P	**Pn**	**10 11 44.9**	**+0.1**
SMG	**Samos**	**1.39**	**7**	P	**Pn**	**10 11 44.9**	**+0.1**
GCAM	**G?zelcaml?**	**1.46**	**20**	PN	**Pn**	**10 11 45.1**	**-0.4**
LAST	**Lasithi**	**1.48**	**219**	P	**Pn**	**10 11 46.1**	**+0.1**
LAST				AML	AML	10 12 06.5	
	comp=N,16416μm,0.4s						
LAST				AML	AML	10 12 13.3	
	comp=E,10521μm,0.7s						
FRMA	**Ierapetra Chan**	**1.49**	**209**	P	**Pn**	**10 11 46.8**	**+0.9**
FRMA				S	**Sn**	**10 12 05.8**	**-0.7**
	comp=E,4μm,0.5s						
YER	**Yerkesik**	**1.56**	**58**	PN	**Pn**	**10 11 46.9**	**+0.1**
YER	**Yerkesik**	**1.56**	**58**	P	**Pn**	**10 11 47.7**	**+0.9**
HRKL	**Herakleio**	**1.59**	**231**	P	**Pn**	**10 11 47.4**	**+0.3**
HRKL				S	**Sn**	**10 12 08.6**	**0.0**
	comp=E,14μm,0.5s						
IACM	**Heraklion**	**1.62**	**231**	P	**Pn**	**10 11 48.1**	**+0.7**
IACM	**Heraklion**	**1.62**	**231**	P	**Pn**	**10 11 48.1**	**+0.7**
IACM				S	**Sn**	**10 12 08.8**	**-0.3**
KSTL	**Kastelli Herak**	**1.62**	**231**	P	**Pn**	**10 11 46.9**	**-0.5**
KSTL				S	**Sn**	**10 12 06.8**	**-2.4**
MULA	**Mugla, Merkez-**	**1.66**	**55**	*i* P	**Pn**	**10 11 49.1**	**+1.2**
MULA				*i* S	**Sn**	**10 12 10.0**	**-0.2**
DALY	**Dalyan (Mula)**	**1.71**	**73**	PN	**Pn**	**10 11 48.9**	**+0.4**
DALY	**Dalyan (Mula)**	**1.71**	**73**	*i* P	**Pn**	**10 11 49.8**	**+1.3**
DALY				*i* S	**Sn**	**10 12 12.2**	**+1.1**
DGB	**zmir**	**1.74**	**7**	*i* P	**Pn**	**10 11 48.8**	**0.0**
IDI	**Anoyia**	**1.74**	**234**	P	**Pn**	**10 11 49.0**	**0.0**
	comp=E,161nm,0.3s,baz=344,slow=6.0,SNR=648						
IDI				S	**Sn**	**10 12 10.1**	**-2.0**
	comp=E,528nm,0.3s,baz=150,slow=20,SNR=36						
IDI				LR	LR	10 12 29.2	
	comp=E,467nm,19.0s,baz=80,slow=41						
IDI	**Anoyia**	**1.74**	**234**	P	**Pn**	**10 11 49.0**	**0.0**
IDI				AML	AML	10 12 11.3	
	comp=N,16828μm,0.6s						
IDI				AML	AML	10 12 13.5	
	comp=E,17033μm,0.6s						
IDI	**Anoyia**	**1.74**	**234**	P	**Pn**	**10 11 49.0**	**0.0**
IDI				S	**Sn**	**10 12 10.3**	**-1.7**
	comp=E,8μm,0.6s						
IDI	**Anoyia**	**1.74**	**234**	⇓P	**Pn**	**10 11 47.3**	**-1.7**
IDI				⇓S	**Sn**	**10 12 10.0**	**-2.0**
IDI	**Anoyia**	**1.74**	**234**	Pn	**Pn**	**10 11 48.8**	**-0.2**
IDI				Sn	**Sn**	**10 12 10.2**	**-1.7**
MHLA	**Plaka, Milos I**	**1.81**	**284**	P	**Pn**	**10 11 50.1**	**+0.3**
MHLO	**Agia Marina, M**	**1.82**	**282**	P	**Pn**	**10 11 50.5**	**+0.7**
MHLO	**Agia Marina, M**	**1.82**	**282**	P	**Pn**	**10 11 50.6**	**+0.8**
ZEYE	**Izmir, Urla-Ze**	**1.91**	**357**	*i* P	**Pn**	**10 11 50.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.91**	**32**	PN	**Pn**	**10 11 50.8**	**-0.3**
SIVA	**Sivas**	**1.96**	**229**	P	**Pn**	**10 11 52.6**	**+1.0**
SIVA				AML	AML	10 12 22.4	
	comp=E,43672μm,0.7s						
SIVA				AML	AML	10 12 22.6	
	comp=N,18719μm,0.6s						
FETY	**Fethiye**	**2.01**	**80**	PN	**Pn**	**10 11 51.9**	**-0.4**
URLA	**Izmir**	**2.03**	**360**	PN	**Pn**	**10 11 50.9**	**-1.6**
BLCB	**Balcova**	**2.08**	**9**	P	**Pn**	**10 11 53.4**	**+0.3**
BLCB	**Balcova**	**2.08**	**9**	Pn	**Pn**	**10 11 52.7**	**-0.4**
CHOS	**Chios island**	**2.10**	**348**	P	**Pn**	**10 11 53.5**	**0.0**
CHOS				AML	AML	10 12 19.2	
	comp=E,2612μm,1.0s						
CHOS				AML	AML	10 12 19.8	
	comp=N,4525μm,0.9s						
CHOS	**Chios island**	**2.10**	**348**	P	**Pn**	**10 11 53.4**	**0.0**
CHOS				S	**Sn**	**10 12 19.1**	**-0.9**
	comp=N,2μm,0.8s						
CHOS	**Chios island**	**2.10**	**348**	PN	**Pn**	**10 11 52.9**	**-0.5**
VAM	**Vamos**	**2.17**	**246**	P	**Pn**	**10 11 54.9**	**+0.8**
TAVA	**DENIZLI_Tavas**	**2.17**	**58**	*i* P	**Pn**	**10 11 55.3**	**+1.1**
TAVA				*i* S	**Sn**	**10 12 21.4**	**0.0**
IMMV	**Iera Moni Meta**	**2.31**	**249**	P	**Pn**	**10 11 56.0**	**+0.1**
IMMV				S	**Sn**	**10 12 23.1**	**-1.3**
	comp=N,10μm,0.7s						
CAEL	**Denizli, Camel**	**2.31**	**69**	*i* P	**Pn**	**10 11 57.1**	**+0.9**
CAEL				*i* S	**Sn**	**10 12 24.5**	**-0.4**
KSL	**Kastellorizon**	**2.41**	**93**	P	**Pn**	**10 11 58.3**	**+1.1**
KSL	**Kastellorizon**	**2.41**	**93**	P	**Pn**	**10 11 58.3**	**+1.1**
KSL				S	**Sn**	**10 12 26.0**	**-0.7**
	comp=N,5μm,0.6s						
KSL	**Kastellorizon**	**2.41**	**93**	⇑P	**Pn**	**10 11 58.1**	**+0.9**
KSL				S	**Sn**	**10 12 25.7**	**-1.0**
AKAS	**Kas**	**2.42**	**91**	PN	**Pn**	**10 11 57.5**	**0.0**
AKAS	**Kas**	**2.42**	**91**	Pn	**Pn**	**10 11 57.3**	**-0.2**
AKAS				Sn	**Sn**	**10 12 25.2**	**-2.0**
KARY	**Karystos**	**2.43**	**315**	P	**Pn**	**10 11 58.2**	**+0.7**
GVDS	**Gavdos**	**2.53**	**235**	P	**Pn**	**10 12 00.2**	**+1.3**
GVD	**Gavdhos**	**2.54**	**235**	P	**Pn**	**10 11 60.0**	**+1.1**
GVD				AML	AML	10 12 32.6	
	comp=N,22222μm,0.3s						
GVD				AML	AML	10 12 33.4	
	comp=E,23507μm,0.3s						
GVD	**Gavdhos**	**2.54**	**235**	P	**Pn**	**10 12 00.1**	**+1.2**
KNDR	**Palaiochora Ch**	**2.62**	**246**	P	**Pn**	**10 12 01.6**	**+1.7**
KNDR				S	**Sn**	**10 12 33.4**	**+1.8**
	comp=E,3μm,0.8s						
MANT	**Manisa**	**2.66**	**35**	*i* P	**Pn**	**10 12 01.4**	**+0.7**
MANT				*i* S	**Sn**	**10 12 31.4**	**-1.6**
MANT	**Manisa**	**2.66**	**35**	Pn	**Pn**	**10 12 01.0**	**+0.4**
DEMR	**Demre-Antalya**	**2.66**	**91**	PN	**Pn**	**10 12 00.7**	**+0.2**
ZEDA	**zmir-Bergama**	**2.66**	**8**	*i* P	**Pn**	**10 12 00.6**	**+0.1**
ANKY	**Antikythira Is**	**2.72**	**261**	P	**Pn**	**10 12 01.4**	**+0.1**
KULA	**Kula-Manisa**	**2.73**	**36**	PN	**Pn**	**10 12 01.4**	**0.0**
DKL	**Dikili**	**2.75**	**5**	PN	**Pn**	**10 12 01.4**	**-0.2**
DION	**Dionisos Attik**	**2.76**	**310**	P	**Pn**	**10 12 02.6**	**+0.7**
DION	**Dionisos Attik**	**2.76**	**310**	P	**Pn**	**10 12 02.6**	**+0.7**
DION				S	**Sn**	**10 12 33.5**	**-1.6**
	comp=E,3μm,1.0s						
PTL	**Penteli**	**2.79**	**309**	P	**Pn**	**10 12 02.9**	**+0.7**
ATHU	**Athens Univers**	**2.79**	**307**	P	**Pn**	**10 12 02.9**	**+0.7**
ATH	**Athens Observa**	**2.84**	**306**	P	**Pn**	**10 12 04.1**	**+1.3**
PRK	**Paraskevi**	**2.93**	**355**	P	**Pn**	**10 12 05.1**	**+1.1**
SIGR	**SIGRI**	**2.94**	**348**	P	**Pn**	**10 12 04.2**	**+0.1**
VLI	**Veliai**	**2.99**	**279**	P	**Pn**	**10 12 04.7**	**-0.1**
VLI				S	**Sn**	**10 12 38.8**	**-1.5**
	comp=E,1μm,0.9s						
EREA	**Eretria**	**2.99**	**315**	P	**Pn**	**10 12 05.7**	**+0.9**
EREA				S	**Sn**	**10 12 38.7**	**-1.6**
	comp=E,742nm,1.2s						
USAK	**Uak-Merkez**	**3.06**	**38**	*i* P	**Pn**	**10 12 06.8**	**+1.1**
USAK				*i* S	**Sn**	**10 12 40.8**	**-1.2**
KHL	**Karahalli**	**3.06**	**48**	PN	**Pn**	**10 12 05.2**	**-0.6**
KORT	**Korkueli**	**3.08**	**76**	PN	**Pn**	**10 12 06.8**	**+0.7**
BRDR	**BURDUR-Merkez**	**3.08**	**63**	*i* P	**Pn**	**10 12 06.9**	**+0.8**
BRDR				*i* S	**Sn**	**10 12 41.3**	**-1.2**
STEP	**BALIKESIR_Sava**	**3.17**	**16**	*i* P	**Pn**	**10 12 07.4**	**+0.2**
BASM	**Basmaki-Afyon**	**3.17**	**59**	PN	**Pn**	**10 12 07.6**	**+0.3**
KEMT	**Kemer-ANTALYA**	**3.19**	**84**	PN	**Pn**	**10 12 08.7**	**+1.3**
BUHA	**Balikesir, Bur**	**3.19**	**6**	*i* P	**Pn**	**10 12 07.8**	**+0.4**
KOCA	**Canakkale, Ayv**	**3.19**	**353**	*i* P	**Pn**	**10 12 07.4**	**0.0**
ANTB	**Antalya**	**3.30**	**79**	PN	**Pn**	**10 12 10.1**	**+1.2**
SIMA	**Simav-Kutahya**	**3.33**	**34**	PN	**Pn**	**10 12 09.3**	**-0.1**
BCK	**Bucak**	**3.38**	**69**	PN	**Pn**	**10 12 10.8**	**+0.8**
ISP	**Isparta**	**3.46**	**63**	PN	**Pn**	**10 12 11.6**	**+0.4**
ISP	**Isparta**	**3.46**	**63**	P	**Pn**	**10 12 11.8**	**+0.6**
ISP	**Isparta**	**3.46**	**63**	Pn	**Pn**	**10 12 11.8**	**+0.6**
ISP				Sn	**Sn**	**10 12 50.9**	**-0.7**
EZN	**Ezine**	**3.50**	**356**	P	**Pn**	**10 12 11.6**	**+0.1**
GEDZ	**Gediz**	**3.50**	**38**	PN	**Pn**	**10 12 11.9**	**+0.2**
SHUT	**Suhut-Afyon**	**3.84**	**53**	PN	**Pn**	**10 12 16.7**	**+0.5**
TVSB	**Tavsanli**	**3.85**	**35**	PN	**Pn**	**10 12 15.9**	**-0.3**
ITM	**Ithomi**	**3.86**	**284**	P	**Pn**	**10 12 17.1**	**+0.8**
ITM	**Ithomi**	**3.86**	**284**	Pn	**Pn**	**10 12 17.2**	**+0.8**
DSF	**Desfina**	**3.86**	**304**	P	**Pn**	**10 12 17.2**	**+0.8**
GADA	**Gvkgeada**	**3.90**	**352**	P	**Pn**	**10 12 17.0**	**+0.2**
KLV	**Kalavryta, Ach**	**3.96**	**297**	P	**Pn**	**10 12 18.5**	**+0.8**
AXAR	**Agios Charalam**	**3.98**	**309**	P	**Pn**	**10 12 19.1**	**+1.2**
AMT	**Artemida-Makis**	**4.11**	**288**	P	**Pn**	**10 12 20.4**	**+0.7**
KALE	**Kalithea**	**4.12**	**301**	P	**Pn**	**10 12 20.7**	**+0.9**
DRO	**Drossia**	**4.24**	**294**	P	**Pn**	**10 12 22.7**	**+1.3**
EFP	**Efpalio**	**4.30**	**301**	P	**Pn**	**10 12 23.3**	**+1.2**
AGG	**Agios Georgios**	**4.33**	**310**	P	**Pn**	**10 12 24.1**	**+1.4**
AGG	**Agios Georgios**	**4.33**	**310**	P	**Pn**	**10 12 24.1**	**+1.4**
AGG	**Agios Georgios**	**4.33**	**310**	Pn	**Pn**	**10 12 24.1**	**+1.4**
ALN	**Alexandroupoli**	**4.59**	**355**	P	**Pn**	**10 12 26.2**	**+0.2**
ALN	**Alexandroupoli**	**4.59**	**355**	P	**Pn**	**10 12 26.3**	**+0.2**
ALN	**Alexandroupoli**	**4.59**	**355**	Pn	**Pn**	**10 12 26.2**	**+0.2**
OSC1	**CSNet OBS 1**	**4.76**	**125**	P	**Pn**	**10 12 25.7**	**-2.6**
AKMS	**Akamas**	**4.84**	**104**	P	**Pn**	**10 12 28.2**	**-1.2**
AKMS				AML	AML	10 13 21.2	
	comp=E,8.4nm,0.7s						
AKMS				AML	AML	10 13 21.9	
	comp=E,5.3nm,0.6s						
RDO	**Rodhopi**	**4.89**	**350**	P	**Pn**	**10 12 30.4**	**+0.4**
SLUM	**Salum**	**4.96**	**194**	P	**Pn**	**10 12 30.8**	**-0.3**
	baz=203						
SLUM				AMP		10 13 00.0	
	baz=203						
LIT	**Litokhoron**	**4.97**	**320**	P	**Pn**	**10 12 32.5**	**+1.2**
LIT	**Litokhoron**	**4.97**	**320**	Pn	**Pn**	**10 12 32.5**	**+1.2**
MATC	**Matruh**	**4.99**	**174**	P	**Pn**	**10 12 31.8**	**+0.2**
	baz=176						
ALFC	**Alefka**	**5.01**	**102**	P	**Pn**	**10 12 30.2**	**-1.5**
ALFC				AML	AML	10 13 25.0	
	comp=E,2.3nm,0.7s						
ALFC

MLR	**Muntele Rosu**	**9.17**	**357**	⇑P		**Pn**	**10 13 27.3**	**-0.7**
MLR	**Muntele Rosu**	**9.17**	**357**	P		**Pn**	**10 13 28.4**	**+0.4**
MLR	**Muntele Rosu**	**9.17**	**357**	Pn		**Pn**	**10 13 28.4**	**+0.4**
VOIR		**9.18**	**353**	⇑P		**Pn**	**10 13 27.3**	**-0.8**
VOIR		**9.18**	**353**	P		**Pn**	**10 13 28.0**	**-0.1**
HFRF	**Wahat Farafira**	**9.26**	**171**	P		**Pn**	**10 13 27.7**	**-1.6**
	baz=171							
HFRF				AMP			10 15 00.0	
	baz=171							
DIVS	**Divibare**	**9.27**	**329**	*e*Pn		**Pn**	**10 13 29.2**	**-0.1**
DIVS	**Divibare**	**9.27**	**329**			**Pn**	**10 13 29.4**	**+0.1**
BBLS	**Lazići**	**9.34**	**326**	*e*Pn		**Pn**	**10 13 29.7**	**-0.5**
TAMRE	**El Minia**	**9.36**	**156**	P		**Pn**	**10 13 29.7**	**-0.9**
	baz=154							
STON	**Ston**	**9.48**	**316**	Sn		**Sn**	10 15 07.1	-10
GZR	**Gura Zlata**	**9.51**	**343**	⇓P		**Pn**	**10 13 30.8**	**-1.8**
PLOR	**Plostina**	**9.52**	**0**	⇓P		**Pn**	**10 13 32.2**	**-0.4**
PLOR	**Plostina**	**9.52**	**0**	P		**Pn**	**10 13 32.2**	**-0.4**
VRI	**Vrincioaia**	**9.53**	**0**	⇓P		**Pn**	**10 13 32.5**	**-0.4**
VRI	**Vrincioaia**	**9.53**	**0**	P		**Pn**	**10 13 32.4**	**-0.4**
EIL	**Elat**	**9.64**	**131**	P		**Pn**	**10 13 32.9**	**-1.6**
	comp=E,3.7nm,0.3s,baz=299,slow=3.0,SNR=35							
EIL				S		**Sn**	**10 15 14.3**	**-6.7**
	comp=E,25nm,0.3s,baz=260,slow=2.2,SNR=17							
EIL				LR		LR	10 18 35.3	
	comp=E,37nm,18.9s,baz=290,slow=45							
HAPS	**Han Pijesak,Bl**	**9.71**	**325**	*e*Pn		**Pn**	**10 13 35.0**	**-0.4**
VAE	**Valguarnera**	**9.84**	**280**	P		**Pn**	**10 13 36.6**	**-0.5**
	comp=E,4.3nm,0.3s,baz=185,slow=4.9,SNR=7.1							
VAE				S		Sn	10 15 14.9	-11
	comp=E,4.8nm,0.3s,baz=162,slow=6.4,SNR=3.4							
HBST	**Basata**	**9.84**	**134**	P		**Pn**	**10 13 36.4**	**-0.7**
	baz=129							
HBST				S		Sn	10 15 12.1	-14
	baz=129							
BZS	**Buzias**	**10.02**	**339**	⇑P		**Pn**	**10 13 37.3**	**-2.1**
SGRT	**San Giovanni R**	**10.04**	**306**	Pn		**Pn**	**10 13 37.2**	**-2.6**
MAKA	**Makarska**	**10.13**	**316**	*e*Pn		**Pn**	**10 13 38.1**	**-2.8**
MAKA				Sn		**Sn**	**10 15 25.3**	**-7.3**
HVAR	**Hvar**	**10.39**	**314**	*e*Pn		**Pn**	**10 13 40.8**	**-3.6**
HVAR				Sn		Sn	10 15 28.4	-10
MGRS	**Mrkonjic Grad**	**10.86**	**321**	*e*Pn		Pn	10 13 44.2	-6.6
KIJV	**Kijevo**	**10.94**	**318**	*i* Pn		**Pn**	**10 13 50.1**	**-1.7**
BLY	**Banja Luka**	**11.05**	**322**	*e*Pn		**Pn**	**10 13 50.4**	**-2.9**
ZIRJ	**Zirje**	**11.14**	**314**	*e*Pn		**Pn**	**10 13 51.7**	**-2.9**
MORI	**Morici**	**11.24**	**315**	*e*Pn		**Pn**	**10 13 53.7**	**-2.1**
BURAR	**Bucovina Array**	**11.33**	**355**	⇓P		**Pn**	**10 13 55.7**	**-1.3**
BURAR	**Bucovina Array**	**11.33**	**355**	P		**Pn**	**10 13 55.7**	**-1.3**
BURAR	**Bucovina Array**	**11.33**	**355**	Pn		**Pn**	**10 13 57.3**	**+0.2**
BUR08	**Bucovina Ar. S**	**11.36**	**355**			**Pn**	**10 13 57.6**	**+0.1**
MARD	**Mardin**	**11.40**	**81**			**Pn**	**10 13 58.0**	**-0.1**
DUGI	**Dugi Otok**	**11.69**	**314**	*i* Pn		**Pn**	**10 13 59.0**	**-2.7**
NVLJ	**Novalja**	**12.14**	**316**	*e*Pn		**Pn**	**10 14 05.3**	**-2.4**
NRCA	**Norcia**	**12.27**	**306**			**Pn**	**10 14 07.8**	**-1.7**
BOJS	**Bojanci**	**12.55**	**320**	*i* Pn		**Pn**	**10 14 10.9**	**-2.2**
CRES	**Cresnjev**	**12.67**	**322**	*e*Pn		**Pn**	**10 14 10.7**	**-4.0**
CEY	**Cerknica**	**13.14**	**319**	*e*Pn		**Pn**	**10 14 19.5**	**-1.3**
GEVA	**Gevas**	**13.24**	**76**	Pn		**Pn**	**10 14 23.8**	**+1.5**
VNDS	**Vrh nad Dolski**	**13.24**	**321**	*i* Pn		**Pn**	**10 14 20.7**	**-1.4**
VNDS				*i* P		**P**	**10 14 27.9**	**+0.2**
LJU	**Ljubljana**	**13.29**	**321**	*i* P		**P**	**10 14 28.6**	**+0.5**
SOKA	**Soboth**	**13.48**	**324**	*i* P		**Pn**	**10 14 25.1**	**-0.2**
	comp=E,1.2nm,0.2s							
OBKA	**Obir**	**13.60**	**322**	*i* P		**Pn**	**10 14 27.4**	**+0.6**
	comp=E,6.1nm,0.6s							
VOJS	**Vojsko**	**13.62**	**319**	*i* Pn		**Pn**	**10 14 27.0**	**0.0**
KEST	**Kesra**	**13.99**	**273**	P		**Pn**	**10 14 30.9**	**-1.0**
	comp=E,0.8nm,0.3s,baz=102,slow=4.4,SNR=11							
KEST				S		Sn	10 16 53.5	-13
	comp=E,0.4nm,0.3s,baz=304,slow=16,SNR=2.0							
KEST	**Kesra**	**13.99**	**273**			**Pn**	**10 14 31.7**	**-0.2**
MYKA	**Terra Mystica**	**14.14**	**321**	*e*P		**Pn**	**10 14 33.8**	**+0.1**
	comp=E,2.1nm,0.3s							
NEY	**Neytrino**	**14.17**	**56**	*i* P		**Pn**	**10 14 34.0**	**-0.3**
STAL	**STALIGIAL**	**14.39**	**318**			**Pn**	**10 14 35.5**	**-1.4**
ZOU	**Zoufplan**	**14.44**	**319**	Pn		**Pn**	**10 14 36.6**	**-1.1**
KIV	**Kislovodsk**	**14.45**	**53**	*e*P		**Pn**	**10 14 37.9**	**+0.2**
KIV				pmax		pmax		
	comp=Z,41nm,1.0s							
TEOL	**Teolo**	**14.45**	**313**	Pn		**Pn**	**10 14 35.3**	**-2.3**
KBZ	**Khabaz**	**14.49**	**54**	P		**P**	**10 14 44.1**	**+2.7**
	comp=Z,0.8nm,0.3s,baz=247,slow=7.9,SNR=30							
KBZ				LR		LR	10 21 15.4	
	comp=Z,80nm,18.4s,baz=252,slow=41							
KBZ	**Khabaz**	**14.49**	**54**	*i* P		**Pn**	**10 14 39.3**	**+1.3**
AKASG	**Malin Array Be**	**14.49**	**7**	P		**Pn**	**10 14 33.8**	**-4.2**
	comp=Z,0.6nm,0.3s,baz=193,slow=12,SNR=4.3							
AKASG	**Malin Array Be**	**14.49**	**7**	**P**		**Pn**	**10 14 37.9**	**-0.1**
AKASG	**Malin Array Si**	**14.49**	**7**	Pn		**Pn**	**10 14 37.9**	**-0.1**
AKBB	**Malin Array Si**	**14.49**	**7**	**P**		**P**	**10 14 39.9**	**-1.5**
AKBB	**Malin Array Si**	**14.49**	**7**	Pn		**P**	**10 14 39.9**	**-1.5**
KBA	**Koelnbreinsper**	**14.59**	**321**	*e*P		**Pn**	**10 14 38.3**	**-1.2**
	comp=Z,13nm,0.6s							
OJC	**Ojcow**	**14.74**	**343**	P		**Pn**	**10 14 40.9**	**-0.3**
OJC	**Ojcow**	**14.74**	**343**	Pn		**Pn**	**10 14 40.9**	**-0.3**
GNI	**Garni**	**14.75**	**70**	LR		LR	10 21 18.7	
	comp=Z,28nm,18.9s,baz=270,slow=41							
ZEI	**Tsey**	**14.80**	**59**	*e*P		**P**	**10 14 45.4**	**+0.3**
ZEI				pmax		pmax		
	comp=Z,10.0nm,1.2s							
ABTA	**Abfaltersbach**	**14.81**	**319**	*e*P		**Pn**	**10 14 41.3**	**-0.9**
	comp=Z,12nm,0.8s,SNR=5.3							
CTI	**Castel Tesino**	**14.85**	**315**	P		**Pn**	**10 14 41.7**	**-1.1**
CTI	**Castel Tesino**	**14.85**	**315**	Pn		**Pn**	**10 14 41.6**	**-1.1**
VRAC	**Vranov**	**14.89**	**334**	P		**P**	**10 14 45.3**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=163,slow=13,SNR=4.1							
MORC	**Moravsky Berou**	**14.97**	**337**	P		**Pn**	**10 14 43.2**	**-1.0**
MORC	**Moravsky Berou**	**14.97**	**337**	Pn		**Pn**	**10 14 43.2**	**-1.0**
MSSA	**Maissana**	**15.27**	**307**	Pn		**Pn**	**10 14 46.9**	**-1.1**
CKRC	**Cesky Krumlov**	**15.40**	**328**	*e*P		**P**	**10 14 51.0**	**-0.5**
WTTA	**Wattenberg**	**15.60**	**319**	*e*P		**Pn**	**10 14 52.5**	**+0.3**
	comp=Z,10nm,0.6s							
WATA	**Walderalm**	**15.67**	**319**	*e*P		**P**	**10 14 54.2**	**-0.5**
	comp=Z,14nm,0.5s,SNR=5.4							
GERES	**GERESS Array B**	**15.69**	**327**	P		**P**	**10 14 54.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=137,slow=12,SNR=15							
SQTA	**Sankt Quirin**	**15.80**	**318**	*i* P		**P**	**10 14 55.6**	**-0.4**
	comp=Z,11nm,0.6s,SNR=6.2							
DPC	**Dobruska-Polom**	**15.87**	**335**	*e*P		**P**	**10 14 58.0**	**+1.3**
DPC	**Dobruska-Polom**	**15.87**	**335**	*e*P		**P**	**10 14 58.0**	**+1.3**
MOTA	**Moosalm**	**15.93**	**319**	*i* P		**P**	**10 14 57.3**	**-0.2**
	comp=Z,9.3nm,0.7s,SNR=5.6							
FETA	**Feichten**	**15.94**	**317**	*e*P		**P**	**10 14 57.2**	**-0.4**
	comp=Z,26nm,0.7s,SNR=15							
KHC	**Kasperske Hory**	**15.95**	**327**	*e*P		**P**	**10 14 57.0**	**-0.7**
KHC	**Kasperske Hory**	**15.95**	**327**	*e*P		**P**	**10 14 57.0**	**-0.7**
KHC	**Kasperske Hory**	**15.95**	**327**	Pn		**P**	**10 14 57.3**	**-0.3**
RETA	**Reutte**	**16.20**	**318**	*i* P		**Pn**	**10 14 59.5**	**0.0**
	comp=Z,10.0nm,0.7s							
DAVOX	**Davos/Dischmat**	**16.28**	**315**	P		**P**	**10 15 01.3**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=133,slow=16,SNR=10							
TUE	**Stuetta**	**16.42**	**313**			**P**	**10 15 03.4**	**+0.4**
TUE				IAmb		IAmb	10 15 12.2	
	comp=Z,17nm,0.9s							
DAVA	**Damuels**	**16.56**	**317**	*e*P		**Pn**	**10 15 04.0**	**0.0**
	comp=Z,8.2nm,0.6s,SNR=6.5							
BNI	**Bardonecchia**	**17.42**	**306**	P		**P**	**10 15 13.0**	**-1.0**
BNI				pmax		pmax		
	comp=Z,17nm,1.3s							
BNI	**Bardonecchia**	**17.42**	**306**	P		**P**	**10 15 13.0**	**-1.0**
BNI				IAmb		IAmb	10 15 33.9	
	comp=Z,17nm,1.3s							
SENIN	**Lac Senin/Sane**	**17.59**	**311**	P		**P**	**10 15 16.1**	**+0.2**
SENIN				IAmb		IAmb	10 15 18.6	
	comp=Z,21nm,0.8s							
SUW	**Suwalki**	**17.85**	**353**	P		**P**	**10 15 17.1**	**-1.3**
SUW				pmax		pmax		
	comp=Z,42nm,0.5s							
SUW	**Suwalki**	**17.85**	**353**	P		**P**	**10 15 17.1**	**-1.3**
CLL	**Collm**	**17.86**	**331**	*e*(P)		**Pn**	**10 15 21.0**	**+1.4**
BFO	**Black Forest**	**18.02**	**317**	P		**P**	**10 15 20.1**	**-0.3**
BFO				pmax		pmax		
	comp=Z,8.0nm,0.7s							
BFO	**Black Forest**	**18.02**	**317**	P		**P**	**10 15 20.1**	**-0.3**
MNK	**Minsk**	**18.20**	**2**	*i* P		**P**	**10 15 20.9**	**-1.3**
	comp=E,2.0nm,0.7s							
MNK				*i* P		**P**	**10 15 20.9**	**-1.3**
	comp=N,39nm,1.1s							
MNK				*i* P		**P**	**10 15 20.9**	**-1.3**
	comp=Z,16nm,0.9s							
MNK				*i* pP		**pP**	**10 15 41.4**	**-2.1**
MNK				*i* PP		sP	10 15 47.6	-11
MNK				*i* S		**S**	**10 18 45.1**	**+0.7**
MNK				*i* sS		**sS**	**10 19 25.9**	**+6.8**
MNK				*i* LR		LR	10 22 02.8	
MNK				*i* LRM		MLR	10 23 43.8	
	comp=E,13nm,19.7s							
MNK				*i* LRM		MLR	10 23 43.8	
	comp=Z,73nm,16.3s							
MNK				*i* LRM		MLR	10 23 48.6	
	comp=N,141nm,21.0s							
MIB	**Mutribah**	**18.53**	**105**	*e*P			10 15 27.4	
NACGM	**Naroch**	**18.58**	**0**	*i* P		**P**	**10 15 26.1**	**-0.3**
NACGM				*i* P		**P**	**10 15 26.1**	**-0.3**
NACGM				*i* P		**P**	**10 15 26.1**	**-0.3**
NACGM				*i* PP		**pP**	**10 15 42.2**	**-5.5**
NACGM				*i* S		Sn	10 19 08.8	+13
NACGM				*i* LR		LR	10 23 00.2	
NACGM				*i* SS			10 58 08.0	
NACGM				*i* SSS		SSS	11 06 37.8	
UMR	**Umm Al-Rimmam**	**18.94**	**105**	*e*P			10 15 31.4	
RDF	**Al-Radifah**	**19.09**	**107**	*e*P			10 15 33.4	
OBN	**Obninsk**	**20.00**	**17**	⇓*e*P		**P**	**10 15 40.1**	**-1.6**
OBN				pmax		pmax		
	comp=Z,17nm,0.9s							
RAYN	**Ar Rayn**	**20.71**	**123**	P		**P**	**10 15 51.4**	**+1.6**
RAYN				pmax		pmax		
	comp=Z,17nm,0.8s							
RAYN	**Ar Rayn**	**20.71**	**123**	P		**P**	**10 15 51.4**	**+1.6**
RAYN				IAmb		IAmb	10 15 57.9	
	comp=Z,17nm,0.8s							
MOS	**Moscow**	**20.82**	**18**	*e*P		**P**	**10 15 44.8**	**-5.8**
MOS				*e*S		**S**	**10 19 28.2**	**-7.9**
MOS				pmax		pmax		
	comp=Z,39nm,0.6s							
BELG	**Belogornoye**	**21.87**	**36**	*i* P		**P**	**10 16 02.4**	**+0.6**
BELG				pmax		pmax		
	comp=Z,7.0nm,2.1s							
ESBB	**Sonseca Array**	**24.27**	**287**	P		**P**	**10 16 24.4**	**-0.6**
ESDC	**Sonseca Array**	**24.27**	**287**	P		**P**	**10 16 24.8**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=81,slow=9.8,SNR=29							
ESDC	**Sonseca Array**	**24.27**	**287**	P		**P**	**10 16 25.1**	**+0.1**
PAB	**San Pablo**	**24.57**	**287**	P		**P**	**10 16 28.0**	**+0.2**
PAB				pmax		pmax		
	comp=Z,15nm,1.2s							
PAB	**San Pablo**	**24.57**	**287**	P		**P**	**10 16 27.9**	**+0.2**
PAB				IAmb		IAmb	10 16 55.0	
	comp=Z,15nm,1.2s							
GEYT	**Alibeck**	**25.11**	**77**	P		**P**	**10 16 33.7**	**+1.1**
	comp=Z,12nm,0.5s,baz=280,slow=8.9,SNR=13							
GEYT	**Alibeck**	**25.11**	**77**	P		**P**	**10 16 34.0**	**+1.4**
GEYT				IAmb		IAmb	10 16 34.5	
	comp=Z,9.8nm,0.6s							
GYA0B	**ALIBECK ARRAY**	**25.11**	**77**	P		**P**	**10 16 33.4**	**+0.8**
GYA0B				IAmb		IAmb	10 16 34.2	
	comp=Z,13nm,0.6s							
FINES	**FINESS Array B**	**25.14**	**359**	P		**P**	**10 16 33.2**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=150,slow=12,SNR=15							
FINES	**FINESS Array B**	**25.14**	**359**	P		**P**	**10 16 33.5**	**+1.0**
FINES	**FINESS Array B**	**25.14**	**359**	P		**P**	**10 16 33.5**	**+1.0**
FIA1	**FINESS Array S**	**25.14**	**359**	P		**P**	**10 16 33.7**	**+1.1**
FIA1				IAmb		IAmb	10 16 34.1	
	comp=Z,8.4nm,0.8s							
HFS	**Hagfors**	**25.24**	**345**	P		**P**	**10 16 32.9**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=142,slow=13,SNR=4.6							
MDT	**Midelt**	**25.89**	**271**	P		**P**	**10 16 39.4**	**-0.4**
	comp=Z,3.8nm,0.9s,baz=203,slow=4.4,SNR=3.3							
KLMR	**Klimovskoe**	**25.89**	**14**	P		**P**	**10 16 37.7**	**-1.6**
KLMR				pmax		pmax		
	comp=Z,9.0nm,1.2s							
KLMR	**Klimovskoe**	**25.89**	**14**	P		**P**	**10 16 37.7**	**-1.6**
KLMR				AMP			10 16 45.7	
	comp=Z,9.0nm,1.2s							
PBRG	**Braganca**	**26.36**	**292**	*e*P		**P**	**10 16 46.1**	**+2.2**
	comp=Z,16nm,2.1s							
MVO	**Moncorvo**	**26.58**	**291**	*e*P		**P**	**10 16 47.9**	**+2.0**
	comp=Z,17nm,1.8s							
NB2	**NORSAR Subarra**	**26.60**	**343**	P		**P**	**10 16 43.6**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=151,slow=9.3							
NOA	**NORSAR Array B**	**26.60**	**343**	P		**P**	**10 16 44.6**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=143,slow=10,SNR=2.7							
NOA				LR		LR	10 29 02.4	
	comp=Z,38nm,18.4s,baz=290,slow=40							
ABKAR	**Akbulak array**	**27.42**	**51**	P		**P**	**10 16 56.6**	**+3.5**
EKA	**Eskdalemuir Ar**	**27.80**	**323**	P		**P**	**10 16 58.1**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=120,slow=9.2,SNR=4.9							
TOA0	**Torodi Ar. Sit**	**32.14**	**230**	P		**P**	**10 17 36.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**32.14**	**230**	P		**P**	**10 17 36.1**	**+0.9**
	comp=Z,10nm,0.7s,baz=36,slow=8.9,SNR=25							
TORD	**Torodi Ar. Bea**	**32.14**	**230**	P		**P**	**10 17 35.0**	**-0.2**
TORD				IAmb		IAmb	10 17 36.7	
	comp=Z,5.8nm,0.8s							
BRLS	**Borolday**	**33.64**	**65**	*i* S		**S**	**10 22 60.0**	**-2.2**
	baz=65							
IUG	**luzhnay**	**33.85**	**67**	*e*P		**P**	**10 17 50.0**	**0.0**
	baz=66							
IUG				*i* S		**S**	**10 23 04.6**	**-0.9**
	baz=66							
IUG	**luzhnay**	**33.85**	**67**	*e*P		**P**	**10 17 49.9**	**0.0**
KK31	**Karatay Array**	**34.13**	**65**	P		**P**	**10 17 53.1**	**+0.8**
KK31				pmax		pmax		
	comp=Z,6.0nm,1.4s							
KK31	**Karatay Array**	**34.13**	**65**	P		**P**	**10 17 53.0**	**+0.8**
KK31				IAmb		IAmb	10 17 54.0	
	comp=Z,6.0nm,1.4s							
KKAR	**Karatay Array**	**34.13**	**65**	P		**P**	**10 17 51.4**	**-0.9**
KKAR	**Karatay Array**	**34.13**	**65**	P		**P**	**10 17 51.4**	**-0.9**
KBL	**Kabul**	**34.42**	**80**	P		**P**	**10 17 55.4**	**+0.3**
KBL				pmax		pmax		
	comp=Z,8.0nm,1.1s							
KBL	**Kabul**	**34.42**	**80**	P		**P**	**10 17 55.4**	**+0.3**
KBL				IAmb		IAmb	10 17 57.9	
	comp=Z,8.4nm,1.1s							
KOWA	**Kowa**	**34.94**	**240**	P		**P**	**10 17 59.8**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=38,slow=7.9,SNR=6.2							
KOWA	**Kowa**	**34.94**	**240**	P		**P**	**10 18 00.4**	**+0.9**
KOWA				IAmb		IAmb	10 18 01.0	
	comp=Z,10nm,1.4s							
BTLS	**Baital**	**36.56**	**61**	*e*P		**P**	**10 18 13.2**	**+0.1**
	baz=61							
BTLS	**Baital**	**36.56**	**61**	*e*P		**P**	**10 18 13.1**	**+0.1**
AAK	**Ala-Archa**	**37.09**	**65**	P		**P**	**10 18 19.3**	**+1.6**
	comp=Z,2.8nm,0.5s,baz=238,slow=3.1,SNR=9.0							
AAK	**Ala-Archa**	**37.09**	**65**	*i* P		**P**	**10 18 17.3**	**-0.4**
AAK				pmax		pmax		
	comp=Z,10.0nm,1.0s							
AAK	**Ala-Archa**	**37.09**	**65**	P		**P**	**10 18 18.7**	**+1.0**
AAK				IAmb		IAmb	10 18 20.1	
	comp=Z,5.1nm,1.1s							
NIL	**Nilore**	**38.02**	**80**	P		**P**	**10 18 27.0**	**+1.5**
NIL				pmax		pmax		
	comp=Z,27nm,1.1s							
NIL	**Nilore**	**38.02**	**80**	P		**P**	**10 18 27.0**	**+1.5**
KUU	**Kurty**	**38.29**	**63**	*e*P		**P**	**10 18 27.3**	**-0.4**
	baz=63							
KUU	**Kurty**	**38.29**	**63**	*e*P		**P**	**10 18 27.2**	**-0.4**
KSH	**Kashi**	**38.68**	**70**	*e*P		**P**	**10 18 30.3**	**-0.8**
KSH				pmax		pmax		
	comp=Z,28nm,1.2s							
KSH				pmax		pmax		
	comp=Z,220nm,6.8s							
MDOK	**Medeo**	**38.89**	**64**	*e*P		**P**	**10 18 32.3**	**-0.6**
	baz=64							
MDOK	**Medeo**	**38.89**	**64**	*e*P		**P**	**10 18 32.2**	**-0.6**
KURBB	**Kurchatov Arra**	**39.47**	**52**	P		**P**	**10 18 37.9**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=277,slow=8.7,SNR=14							
KURK	**Kurchatov**	**39.53**	**52**	P		**P**	**10 18 37.9**	**+0.1**
KURK	**Kurchatov**	**39.53**	**52**	P		**P**	**10 18 37.9**	**+0.1**
SATY	**Saty**	**39.88**	**64**	*e*P		**P**	**10 18 41.1**	**-0.1**
	baz=64							
SATY	**Saty**	**39.88**	**64**	*e*P		**P**	**10 18 41.0**	**-0.1**
DBIC	**Dimbokro**	**41.22**	**232**	P		**P**	**10 18 52.4**	**+0.2**
	comp=Z,5.6nm,0.5s,baz=16,slow=8.9,SNR=12							
DBIC	**Dimbokro**	**41.22**	**232**	P		**P**	**10 18 52.3**	**+0.2**
DBIC				pmax		pmax		
	comp=Z,35nm,1.5s							
DBIC	**Dimbokro**	**41.22**	**232**	P		**P**	**10 18 52.3**	**+0.2**
TIC	**Toumodi**	**41.34**	**232**	*e*P		**P**	**10 18 53.3**	**+0.1**
KIC	**Kosan Boka**	**41.38**	**231**	*e*P		**P**	**10 18 53.7**	**+0.2**
	comp=Z,39nm,1.1s							
LIC	**Lamto**	**41.67**	**232**	*e*P		**P**	**10 18 55.9**	**+0.1**
	comp=Z,34nm,0.8s							
MAKZ	**Makanchi**	**41.93**	**58**	P		**P**	**10 18 58.1**	**+0.4**
MAKZ				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MAKZ	**Makanchi**	**41.93**	**58**	P		**P**	**10 18 58.0**	**+0.4**
MK31	**Makanchi Array**	**42.15**	**58**	*e*P		**P**	**10 19 00.0**	**+0.5**
MK31	**Makanchi Array**	**42.15**	**58**	P		**P**	**10 19 00.0**	**+0.5**
MKAR	**Makanchi Array**	**42.15**	**58**	P		**P**	**10 19 00.3**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=279,slow=6.9,SNR=42							
MKAR				ScP		**ScP**	**10 24 29.9**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=265,slow=3.6,SNR=4.2							
MKAR	**Makanchi Array**	**42.15**	**58**	P		**P**	**10 19 00.1**	**+0.7**
ZAA0	**Zalesovo Array**	**43.34**	**47**	P		**P**	**10 19 10.5**	**+1.5**
ZALV	**Zalesovo Beam**	**43.34**	**47**	P		**P**	**10 19 08.9**	**0.0**
	comp=Z,1.9nm,0.5s,baz=279,slow=7.9,SNR=6.4							
ZALV	**Zalesovo Beam**	**43.34**	**47**	*i* P		**P**	**10 19 09.0**	**0.0**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**43.34**	**47**	P		**P**	**10 19 08.6**	**-0.4**
ZSN	**Zaisan**	**43.82**	**56**	*e*P		**P**	**10 19 12.8**	**-0.1**
	baz=56							
ZSN	**Zaisan**	**43.82**	**56**	*e*P		**P**	**10 19 12.7**	**-0.1**
DGZ	**Jazzator, Alta**	**45.23**	**53**	*i* P		**P**	**10 19 22.5**	**-1.7**
DGZ				pmax		pmax		
	comp=Z,2.0nm,0.5s							
WMQ	**Urumqi**	**46.40**	**61**	*e*P		**P**	**10 19 35.4**	**+2.0**
WMQ				pmax		pmax		
	comp=Z,11nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,200nm,5.3s							
GKN	**Gorkha**	**49.19**	**82**	*e*P		**P**	**10 19 55.9**	**+0.7**
	comp=Z,46nm,0.6s							
DMN	**Daman**	**49.73**	**83**	*e*P		**P**	**10 20 00.3**	**+0.9**
	comp=Z,48nm,0.6s							
KKN	**Kakani**	**49.79**	**82**	*e*P		**P**	**10 20 00.6**	**+0.7**
	comp=Z,0.2nm,0.5s							
PKI	**Pulchoki**	**49.99**	**82**	*e*P		**P**	**10 20 01.9**	**+0.4**
	comp=Z,33nm,1.0s							
GUN	**Gumba**	**50.22**	**82**	*e*P		**P**	**10 20 03.9**	**+0.7**
	comp=Z,26nm,0.6s							
RAMN	**Ramite**	**51.21**	**83**	*e*P		**P**	**10 20 10.6**	**0.0**
	comp=Z,31nm,0.5s							
LSA	**Lhasa**	**53.64**	**77**	P		**P**	**10 20 29.7**	**+1.0**
LSA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
LSA	**Lhasa**	**53.64**	**77**	P		**P**	**10 20 29.7**	**+1.0**
SHL	**Shillong**	**56.06**	**81**	P		**P**	**10 20 45.2**	**-0.7**
SHL				pmax		pmax		
	comp=Z,9.0nm,0.7s							
SHL	**Shillong**	**56.06**	**81**	P		**P**	**10 20 45.2**	**-0.7**
MATP	**Matopo**	**56.47**	**178**	P		**P**	**10 20 50.2**	**+1.7**
	comp=Z,7.4nm,0.8s,baz=1.6,slow=6.9,SNR=17							
SONM	**Songino Array**	**57.83**	**52**	P		**P**	**10 20 58.8**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=288,slow=8.0,SNR=3.6							
CD2	**Chengdu**	**62.88**	**70**	P		**P**	**10 21 33.9**	**+1.4**
CD2				pmax		pmax		
	comp=Z,20nm,0.6s							
HHC	**Hu-ho-hao-te**	**64.01**	**57**	*e*P		**P**	**10 21 41.9**	**+2.0**
HHC				pmax		pmax		
	comp=Z,6.0nm

CMAR	**Chiang Mai Arr**	**16.57**	**8**	Pn	**Pn**	**10 24 52.4**	**-0.1**
	0.7nm,0.3s,baz=196,slow=12,SNR=11						
H08S2	**Diego Garcia H**	**25.90**	**248**	T	T	10 53 14.7	
	baz=70,slow=76,SNR=34						
H08S3	**Diego Garcia H**	**25.90**	**248**	T	T	10 53 15.2	
	baz=70,slow=76,SNR=175						
H08S1	**Diego Garcia H**	**25.92**	**248**	T	T	10 53 16.5	
	baz=70,slow=76,SNR=16						
WRA	**Warramunga Arr**	**42.91**	**122**	P	**P**	**10 28 58.4**	**-0.2**
	0.8nm,0.8s,baz=300,slow=9.2,SNR=7.0						
ASAR	**Alice Springs**	**44.29**	**127**	P	**P**	**10 29 09.8**	**+0.1**
	0.4nm,0.9s,baz=294,slow=7.0,SNR=2.6						
KSRS	**Korea Array**	**45.57**	**35**	P	**P**	**10 29 19.4**	**-0.1**
	0.2nm,0.3s,baz=224,slow=8.5,SNR=4.1						
MKAR	**Makanchi Array**	**46.39**	**346**	P	**P**	**10 29 25.8**	**-0.2**
	1.4nm,0.7s,baz=163,slow=7.7,SNR=16						
SONM	**Songino Array**	**46.49**	**9**	P	**P**	**10 29 27.1**	**+0.3**
	0.6nm,0.7s,baz=188,slow=8.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**52.74**	**351**	P	**P**	**10 30 14.3**	**+0.1**
	1.0nm,0.4s,baz=156,slow=4.0,SNR=5.0						
URZ	**Urewera**	**83.72**	**129**	LR	LR	11 15 51.5	
	comp=Z,59nm,18.1s,baz=34,slow=39						

NNC ***17*** *10:22:58.5±3.2, 40.92N×70.10E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=24.9km s-min=14.7km az=42.0*
KRNET ***17*** *10:23:00.8±0.1, 41.22N×70.27E, mb2.5*
ISC 17 10:23:01.8±1.6, 41.21N±0.04×70.36E±0.07, h12km±13km, n10, σ1§29/18, 11C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.67**	**61**	**⇑eP**		**Pg**	**10 23 14.8**	**+0.1**
	baz=70							
TRKS				⇑eS		**Sb**	**10 23 25.2**	**+0.5**
	baz=70							
BTK	**Batken**	**1.20**	**163**	**⇑iP**		**Pg**	**10 23 24.4**	**-0.5**
	baz=60							
BTK				⇑iS		**Sn**	**10 23 41.4**	**+0.6**
	baz=60							
KK31	**Karatay Array**	**1.89**	**3**	**⇑Pn**		**Pg**	**10 23 36.6**	**-1.5**
	0.8nm,0.3s,baz=192,slow=15,SNR=19							
KK31				⇓Sn		**Sg**	**10 24 05.3**	**+2.7**
	2.0nm,0.5s,baz=192,slow=27,SNR=7.4							
OHH	**Osh**	**1.96**	**110**	**⇑iP**		**Pb**	**10 23 38.4**	**+0.9**
	baz=9.0							
OHH				⇑iS		**Sg**	**10 24 05.6**	**+0.8**
	baz=9.0							
ARSB	**Arslanbob**	**1.98**	**86**	**⇓iP**		**Pb**	**10 23 38.5**	**+0.7**
	baz=86							
ARSB				⇓iS		**Sg**	**10 24 06.4**	**+1.1**
	baz=86							
MNAS	**Manas**	**2.04**	**51**	**⇓iP**		**Pb**	**10 23 39.3**	**+0.4**
	baz=52							
MNAS				⇓iS		**Sg**	**10 24 07.6**	**+0.1**
	baz=52							
AML	**Almayashu**	**2.66**	**69**	**⇑iP**		**Pb**	**10 23 47.8**	**-1.7**
	baz=69							
AML				⇑iS		**Sb**	**10 24 22.3**	**0.0**
	baz=69							
SFK	**Sufi-Kurgan**	**2.67**	**116**	**⇓iP**		**Pb**	**10 23 48.1**	**-1.6**
	baz=15							
SFK				⇓iS		**Sb**	**10 24 22.8**	**+0.2**
	baz=15							
AAK	**Ala-Archa**	**3.40**	**64**	**⇓Pg**		**Pg**	**10 24 05.0**	**-1.8**
	0.4nm,0.3s							
AAK				⇑Lg		Lg	10 24 59.1	
	1.3nm,0.6s							
TKM2	**Tokmak 2**	**4.25**	**65**	**⇑Pg**		**Pg**	**10 24 22.4**	**-0.8**
	2.2nm,0.9s							
TKM2				⇓Lg		Lg	10 25 21.0	
	2.3nm,1.0s							

DJA ***17*** *10:31:42.6±0.1, 1.3±2.2×12.2E±.1, h10km, M4.9/50, mb5.0/50, mB5.4/25, MLv5.2/22, Mw(mB)4.8/25, MwMwp5.6/1, Mwp5.7/1*
NEIC ***17*** *10:31:43.2±1.9, 0.61S±0.04×122.34E±0.06, h28km±3km, mb4.8/55, Error ellipse: s-maj=9.6km s-min=3.7km az=55.0*
BJI ***17*** *10:31:44.3±0.0, 0.47S×122.37E, h24km, mB5.0/26, mb4.6/49, Ms4.3/15, Ms7 4.1/16*
IDC ***17*** *10:31:45.6±2.0, 0.58S×122.36E, h44km±22km, mb4.2/14, mb1 4.4/18, mb1mx4.2/34, mbtmp4.5/18, ML4.6/5, MS3.8/16, Ms1 3.8/16, ms1mx3.6/46, Error ellipse: s-maj=15.9km s-min=11.7km az=61.0*
KLM ***17*** *10:31:46, 0.71S×122.45E, h46km, mb4.8*
ISC 17 10:31:45.5±0.3, 0.66S±0.04×122.32E±0.04, h46km, n200, σ1§89/197, mb4.7/59, MS3.9/19, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.59**	**131**			**Pn**	**10 31 55.1**	**-2.5**
LUWI					Sn	**Sn**	**10 32 04.2**	**-2.2**
LUWI	**Luwuk**	**0.59**	**131**	P		**Pn**	**10 31 55.0**	**-2.7**
APSI	**Ampana**	**0.72**	**249**	P		**Pn**	**10 31 54.9**	**-4.4**
MRSI	**Marisa**	**1.19**	**341**	P		**Pn**	**10 32 01.6**	**-4.1**
GTOI	**Gorontalo**	**1.46**	**28**	P		**Pn**	**10 32 06.6**	**-2.8**
KMSI	**Cibinong**	**2.06**	**54**	P		**Pn**	**10 32 19.3**	**+1.7**
TOLI2	**Tolitoli**	**2.33**	**319**	Pn		**Pn**	**10 32 19.2**	**-2.2**
TTSI	**Tana Toraja**	**3.45**	**226**	P		**Pn**	**10 32 35.9**	**-0.8**
SANI	**Sanana**	**3.92**	**111**	P		**Pn**	**10 32 41.0**	**-2.2**
SPSI	**Sidrap Palu**	**4.16**	**218**	P		**Pn**	**10 32 45.6**	**-0.9**
BNSI	**Bone**	**4.33**	**211**	P		**Pn**	**10 32 47.9**	**-0.9**
SGKI	**Sangatta, Kali**	**4.72**	**271**	P		**Pn**	**10 32 55.9**	**+1.7**
KAPI	**Kappang**	**5.03**	**211**	P		**Pn**	**10 32 57.6**	**-0.9**
	134nm,0.3s,baz=20,slow=6.7,SNR=475							
KAPI				S		**Sn**	**10 33 53.2**	**-2.3**
	17nm,0.3s,baz=4.4,slow=16,SNR=6.2							
KAPI					LR	LR	10 35 16.8	
	comp=Z,3μm,20.0s,baz=38,slow=41							
KAPI	**Kappang**	**5.03**	**211**	Pn		**Pn**	**10 32 57.4**	**-1.1**
TNTI	**Ternate**	**5.24**	**74**	Pn		**Pn**	**10 32 58.8**	**-2.5**
TNTI	**Ternate**	**5.24**	**74**	P		**Pn**	**10 33 04.2**	**+2.9**
	1.0nm2μm139nm,0.9s							
NLAI	**Namlea**	**5.42**	**118**	P		**Pn**	**10 33 04.3**	**+0.5**
	1.4nm3μm268nm,0.8s							
BKB	**Balikpapan**	**5.46**	**264**	Pn		**Pn**	**10 33 03.9**	**-0.4**
BKB	**Balikpapan**	**5.46**	**264**	P		**Pn**	**10 33 03.5**	**-0.8**
	2.1nm6μm325nm,0.7s							
BSSI	**Bau Bau, Buton**	**5.75**	**199**	P		**Pn**	**10 33 07.1**	**-1.2**
	0.8nm2μm218nm,0.7s							
KBKI	**Kotabaru**	**6.69**	**247**	P		**Pn**	**10 33 19.7**	**-1.5**
	0.9nm3μm269nm,0.8s							
MYLDM	**Lahad Datu**	**6.94**	**327**	Pn		**Pn**	**10 33 25.9**	**+1.2**
MTKI	**Muara Teweh, K**	**7.43**	**268**	P		**Pn**	**10 33 30.9**	**-0.5**
	0.5nm85nm,0.5s							
SKMP	**Bagumbayan, Su**	**7.46**	**17**	eP		**Pn**	**10 33 28.3**	**-3.6**
SKMP				eS		**Sn**	**10 34 53.1**	**-2.2**
DDMP	**Don Marcelino,**	**7.52**	**27**	eP		**Pn**	**10 33 31.0**	**-1.6**
DDMP				eS		**Sn**	**10 34 53.7**	**-3.0**
MMRI	**Maumere**	**7.93**	**181**	Pn		**Pn**	**10 33 37.9**	**-0.4**
MMRI	**Maumere**	**7.93**	**181**	P		**Pn**	**10 33 37.9**	**-0.4**
	0.8nm2μm215nm,0.6s							
BBKI	**Banjar Baru**	**7.98**	**249**	P		**Pn**	**10 33 38.6**	**-0.3**
	0.5nm107nm,0.7s							
EDFI	**Ende, Flores**	**8.07**	**184**	P		**Pn**	**10 33 39.3**	**-0.9**
	1μm110nm,0.6s							
KCP	**Kidapawan**	**8.10**	**20**	**⇑eP**		**Pn**	**10 33 40.3**	**-0.4**
PAGZ	**Pagadian**	**8.51**	**7**	eP		**Pn**	**10 33 45.1**	**-1.1**
PAGZ				eS		Sn	10 35 09.6	-11
BUKP	**Musuan**	**8.91**	**18**	eP		**Pn**	**10 33 50.7**	**-1.0**
BUKP				eS		**Sn**	**10 35 34.8**	**+4.0**
SWI	**Sorong**	**8.94**	**91**	P		**Pn**	**10 33 52.1**	**0.0**
	107nm,1.0s							
SIJI	**Sorong**	**8.95**	**91**	P		**Pn**	**10 33 52.7**	**+0.5**
	7.3nm,0.3s,baz=257,slow=9.1,SNR=22							
SIJI					S	**Sn**	**10 35 33.6**	**+1.9**
	1.9nm,0.3s,baz=152,slow=17,SNR=1.4							
KKM	**Kota Kinabalu**	**9.03**	**318**	Pn		**Pn**	**10 33 51.7**	**-1.7**
SOEI	**Soe**	**9.24**	**168**	Pn		**Pn**	**10 33 58.5**	**+2.1**
SOEI	**Soe**	**9.24**	**168**	P		**Pn**	**10 33 59.3**	**+2.9**
	2μm193nm,1.1s							
PLAI	**Plampang**	**9.29**	**209**	P		**Pn**	**10 33 55.6**	**-1.4**
	92nm,0.8s							
BATI	**Baumata**	**9.58**	**172**	P		**Pn**	**10 34 03.5**	**+2.5**
	3.4nm,0.3s,baz=215,slow=2.1,SNR=6.0							
BATI	**Baumata**	**9.58**	**172**	P		**Pn**	**10 34 01.9**	**+1.0**
	666nm51nm,1.1s							
BASI	**Baing, Sumba**	**9.66**	**190**	P		**Pn**	**10 34 01.8**	**-0.2**
	1μm141nm,1.5s							
TWSI	**Taliwang, Sumb**	**9.69**	**214**	P		**Pn**	**10 34 00.2**	**-2.1**
	10nm,0.9s							

FAKI	**Fak Fak**	**10.17**	**103**	Pn		**Pn**	**10 34 07.6**	**-1.4**
FAKI	**Fak Fak**	**10.17**	**103**	P		**Pn**	**10 34 06.5**	**-2.5**
	155nm,1.1s							
SRBI	**Singaraja**	**10.23**	**224**	P		**Pn**	**10 34 09.3**	**-0.5**
	57nm,0.7s							
KMMI	**Kalianget**	**10.48**	**232**	P		**Pn**	**10 34 13.9**	**+0.7**
	53nm,0.9s							
SBUM	**Sibu**	**10.56**	**287**	Pn		**Pn**	**10 34 15.2**	**+0.9**
SBUM	**Sibu**	**10.56**	**287**	P		**Pn**	**10 34 15.0**	**+0.7**
JAGI	**Jajag, Banyuwa**	**11.25**	**226**	Pn		**Pn**	**10 34 21.8**	**-2.0**
JAGI	**Jajag, Banyuwa**	**11.25**	**226**	P		**Pn**	**10 34 23.3**	**-0.4**
	85nm,0.7s							
KSM	**Kuching**	**12.20**	**280**	Pn		**Pn**	**10 34 33.9**	**-2.9**
KSM	**Kuching**	**12.20**	**280**	P		**Pn**	**10 34 37.0**	**+0.3**
MTN	**Manton Dam**	**14.93**	**145**	P		**P**	**10 35 18.4**	**-0.1**
KDU	**Kakadu**	**15.63**	**140**	P		**Pn**	**10 35 22.2**	**-0.5**
	baz=16,SNR=10							
LEM	**Lembang**	**15.90**	**247**	P		**Pn**	**10 35 26.8**	**+0.4**
	3.8nm,0.3s,baz=0.0,slow=20,SNR=4.1							
LEM					LR	LR	10 42 10.4	
	comp=Z,567nm,21.3s,baz=50,slow=39							
LEM	**Lembang**	**15.90**	**247**	P		**Pn**	**10 35 27.5**	**+1.1**
	30nm,1.2s							
CISI	**Cisompet, Garu**	**16.00**	**244**			**Pn**	**10 35 27.4**	**-0.2**
CISI					IAmb	IAmb	10 35 29.5	
	comp=Z,114nm,1.3s							
CISI	**Cisompet, Garu**	**16.00**	**244**	P		**Pn**	**10 35 28.2**	**+0.5**
	comp=Z,1μmcomp=Z,69nm,1.1s							
CBJI	**Citeko**	**16.46**	**249**	P		**P**	**10 35 36.2**	**+0.7**
	comp=Z,30μmcomp=Z,193nm,0.4s							
DBJI	**Dramaga**	**16.60**	**249**	P		**P**	**10 35 37.7**	**+0.6**
	comp=Z,53nm,0.8s							
FITZ	**Fitzroy Crossi**	**17.64**	**170**	P		**Pn**	**10 35 47.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=351,slow=6.0,SNR=5.7							
FITZ					LR	LR	10 43 47.8	
	comp=Z,170nm,19.5s,baz=348,slow=41							
FITZ	**Fitzroy Crossi**	**17.64**	**170**	P		**Pn**	**10 35 47.4**	**-0.6**
	baz=18,SNR=4.5							
FITZ	**Fitzroy Crossi**	**17.64**	**170**	P		**Pn**	**10 35 47.5**	**-0.5**
BLSI	**Bandar Lampung**	**17.68**	**254**	P		**P**	**10 35 49.1**	**+0.1**
	comp=Z,122nm,0.4s							
PMBI	**Palembang**	**17.68**	**262**	P		**P**	**10 35 51.8**	**+2.7**
	comp=Z,17μmcomp=Z,266nm,0.4s							
KLSI		**18.02**	**257**	P		**P**	**10 35 53.4**	**+0.6**
	comp=Z,344nmcomp=Z,15nm,0.9s							
KASI	**Kota Agung**	**18.44**	**254**	P		**Pn**	**10 35 58.7**	**+0.9**
	comp=Z,1μmcomp=Z,127nm,1.1s							
MDSI	**Maura Dua**	**18.52**	**258**	P		**Pn**	**10 36 00.0**	**+1.2**
	comp=Z,4μmcomp=Z,18nm,0.4s							
MYKOM	**Kota Tinggi**	**18.63**	**278**	P		**P**	**10 35 58.4**	**-1.0**
MYKOM					IAmb	IAmb	10 36 09.7	
	comp=Z,50nm,1.2s							
MYKOM	**Kota Tinggi**	**18.63**	**278**	P		**Pn**	**10 36 01.0**	**+0.9**
JMBI	**JAMBI**	**18.70**	**267**	P		**Pn**	**10 36 02.2**	**+1.2**
	comp=Z,155nm,0.4s							
LWLI	**Liwa**	**18.75**	**256**	P		**Pn**	**10 36 02.0**	**+0.3**
	comp=Z,60nm,0.8s							
LHSI	**Lahat**	**19.05**	**260**	P		**Pn**	**10 36 05.6**	**+0.5**
	comp=Z,5μmcomp=Z,50nm,1.6s							
XMIS	**Christmas Isla**	**19.23**	**239**	P		**P**	**10 36 02.6**	**-3.5**
XMIS					IAmb	IAmb	10 36 17.0	
	comp=Z,62nm,1.2s							
KSI	**Kapahiang**	**19.94**	**261**	P		**P**	**10 36 15.0**	**+1.2**
JRMM	**Jerantut**	**20.34**	**283**	P		**P**	**10 36 19.0**	**+0.8**
PSA00	**Pilbara Seismi**	**20.93**	**186**	P		**P**	**10 36 23.7**	**-0.7**
PSA00					IAmb	IAmb	10 36 25.7	
	comp=Z,63nm,0.9s							
PSA00	**Pilbara Seismi**	**20.93**	**186**	P		**P**	**10 36 24.5**	**+0.1**
PSA00					IAmb	IAmb	10 36 25.9	
	comp=Z,24nm,0.9s							
BKNI	**Bangkinang**	**21.30**	**273**	P		**P**	**10 36 30.2**	**+1.6**
BKNI	**Bangkinang**	**21.30**	**273**	P		**P**	**10 36 29.3**	**+0.7**
	comp=Z,3μmcomp=Z,113nm,1.3s							
IPM	**Ipoh**	**21.88**	**284**	P		**P**	**10 36 34.3**	**-0.5**
IPM					IAmb	IAmb	10 36 52.5	
	comp=Z,49nm,1.3s							
IPM	**Ipoh**	**21.88**	**284**	P		**P**	**10 36 41.0**	**+6.2**
WB0	**Warramunga Arr**	**22.37**	**149**	P		**P**	**10 36 39.9**	**0.0**
WB0					IAmb	IAmb	10 36 51.3	
	comp=Z,47nm,0.9s							
KULM	**Kulim**	**22.44**	**286**	P		**P**	**10 36 38.8**	**-1.9**
KULM					IAmb	IAmb	10 36 59.7	
	comp=Z,24nm,1.1s							
KULM	**Kulim**	**22.44**	**286**	P		**P**	**10 36 46.0**	**+5.3**
WRAB	**Tennant Creek**	**22.49**	**149**	P		**P**	**10 36 41.1**	**-0.1**
WRAB					IAmb	IAmb	10 36 50.3	
	comp=Z,46nm,0.9s							
WRA	**Warramunga Arr**	**22.49**	**149**	P		**P**	**10 36 41.3**	**+0.1**
	comp=Z,11nm,0.6s,baz=313,slow=8.2,SNR=80							
WRA					S	**S**	**10 40 44.3**	**-0.9**
	comp=Z,1.7nm,1.0s,baz=312,slow=13,SNR=4.6							
WRA					LR	LR	10 47 11.1	
	comp=Z,104nm,19.4s,baz=320,slow=41							
WB2	**Warramunga Arr**	**22.50**	**149**	P		**P**	**10 36 40.8**	**-0.5**
WB2					IAmb	IAmb	10 36 50.4	
	comp=Z,46nm,0.9s							
WR0	**Warramunga Arr**	**22.61**	**149**	P		**P**	**10 36 42.0**	**-0.5**
WR0					IAmb	IAmb	10 36 51.4	
	comp=Z,49nm,0.9s							
MNSI	**Mandailing Nat**	**22.79**	**274**	P		**P**	**10 36 44.8**	**+0.4**
QIZ	**Qiongzhong**	**23.08**	**329**	P		**P**	**10 36 48.0**	**+0.6**
QIZ					S	**S**	**10 40 59.1**	**+3.8**
QIZ					LR	LR		
	comp=Z,160nm,4.4s							
QIZ					LR	LR		
	comp=Z,240nm,13.7s							
QIZ					LR	LR		
	comp=Z,180nm,18.7s							
GIRL	**Giralia**	**23.23**	**199**	P		**P**	**10 36 47.6**	**-1.2**
	baz=23,SNR=3.1							
GIRL	**Giralia**	**23.23**	**199**	P		**P**	**10 36 48.2**	**-0.5**
TWG	**Pinlang**	**23.37**	**357**	P		**P**	**10 36 49.7**	**-0.4**
TWG					IAmb	IAmb	10 37 06.7	
	comp=Z,25nm,0.8s							
RPSI	**Rantau Prapat**	**23.63**	**278**	P		**P**	**10 36 53.5**	**+0.8**
RPSI					IAmb	IAmb	10 36 55.0	
	comp=Z,53nm,1.0s							
RPSI	**Rantau Prapat**	**23.63**	**278**	P		**P**	**10 36 53.2**	**+0.5**
PSI	**Prapat**	**23.64**	**278**	P		**P**	**10 36 53.2**	**+0.2**
	comp=Z,36nm,0.8s,baz=24,slow=0.2,SNR=29							
PSI					LR	LR	10 46 24.9	
	comp=Z,452nm,21.5s,baz=89,slow=37							
TPUB	**Ta-pu**	**23.87**	**356**	P		**P**	**10 36 53.2**	**-1.7**
YULB	**Yu-li**	**23.92**	**358**	P		**P**	**10 36 55.0**	**-0.4**
YULB					IAmb	IAmb	10 37 01.1	
	comp=Z,33nm,0.8s							
TRTT	**Trang**	**24.09**	**291**	P		**P**	**10 36 57.3**	**+0.3**
	comp=Z,2μmcomp=Z,24nm,1.1s							
SSLB	**Suanglung**	**24.33**	**357**	P		**P**	**10 36 59.7**	**+0.6**
COEN	**Coen**	**24.50**	**124**	P		**P**	**10 36 59.8**	**-1.0**
COEN					IAmb	IAmb	10 37 17.1	
	comp=Z,26nm,1.5s							
KRAB	**Krabi**	**24.68**	**291**	P		P	10 37 09.8	+7.5
	comp=Z,14μmcomp=Z,551nm,0.7s							
SRAK	**Srakaew**	**24.82**	**307**	P		**P**	**10 37 08.9**	**+5.3**
GSI	**Gunungsitoli**	**24.82**	**274**	P		**P**	**10 37 02.8**	**-0.9**
GSI	**Gunungsitoli**	**24.82**	**274**	P		**P**	**10 37 03.2**	**-0.5**
	comp=Z,81nm,1.1s							
WRKA	**Warakurna**	**24.92**	**167**	P		**P**	**10 37 04.7**	**+0.2**
	baz=25,SNR=7.6							
YHNB	**Yeheng**	**25.19**	**358**	P		**P**	**10 37 06.3**	**-0.7**
YHNB					IAmb	IAmb	10 37 17.4	
	comp=Z,27nm,1.0s							
AS31	**Alice Springs**	**25.48**	**155**	P		**P**	**10 37 09.6**	**0.0**
ASAR	**Alice Springs**	**25.49**	**155**	P		**P**	**10 37 10.3**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=345,slow=15,SNR=40							
ASAR					PcP	**PcP**	**10 40 41.0**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=351,slow=1.8,SNR=6.7							
ASAR	**Alice Springs**	**25.49**	**155**	P		**P**	**10 37 09.8**	**+0.1**
ASAR					PcP	**PcP**	**10 40 41.2**	**+0.5**
NAYO	**Nakonayok**	**25.56**	**306**	P		**P**	**10 37 05.0**	**-5.3**
	comp=Z,565μmcomp=Z,29μm,0.9s							
QIS	**Mount Isa**	**26.01**	**141**	P		**P**	**10 37 16.5**	**+2.1**
	baz=26,SNR=6.4							
PMG	**Port Moresby**	**26.20**	**110**	P		**P**	**10 37 16.4**	**+0.3**
	comp=Z,29nm,0.9s,baz=355,slow=4.2,SNR=6.6							
PMG	**Port Moresby**	**26.20**	**110**	P		**P**	**10 37 15.7**	**-0.5**
PMG					IAmb	IAmb	10 37 20.8	
	comp=Z,39nm,1.1s							
UTHA	**Uthaitani**	**27.76**	**306**	P		P	10 37 40.2	+10
UTTA	**Uttaradit**	**28.17**	**312**	P		P	10 37 41.0	+7.2
	comp=Z,14nm,0.8s							
SUKH	**Sukhothai**	**28.71**	**310**	P		P	10 37 47.0	+8.4
	comp=Z,9.9nm,1.1s							
CM36	**Chiang Mai Arr**	**29.74**	**311**	P		P	10 37 55.0	+7.3
CM04	**Chiang Mai Arr**	**29.75**	**311**	P		P	10 37 55.9	+8.0
	comp=Z,57nmcomp=Z,7.6nm,0.9s							
CM09	**Chiang Mai Arr**	**29.77**	**311**	P		P	10 38 01.0	+13
CM05	**Chiang Mai Arr**	**29.78**	**311**	P		P	10 37 55.6	+7.5
	comp=Z,4.0nm,0.8s							
CM01	**Chiang Mai Arr**	**29.78**	**311**	P		P	10 37 57.1	+9.0
CM35	**Chiang Mai Arr**	**29.79**	**311**	P		P	10 37 56.0	+7.8
CM02	**Chiang Mai Arr**	**29.80**	**311**	P		P	10 37 56.0	+7.7
	comp=Z,6.3nm,1.0s							
CMAR	**Chiang Mai Arr**	**29.82**	**311**	P		**P**	**10 37 50.2**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=141,slow=8.1,SNR=12							
CMAR					LR	LR	10 51 28.8	
	comp=Z,128nm,19.4s,baz=174,slow=40							
CMAR	**Chiang Mai Arr**	**29.82**	**311**	P		**P**	**10 37 51.1**	**+2.7**
CM13	**Chiang Mai Arr**	**29.82**	**311**	P		P	10 37 57.4	+8.9
	comp=Z,6.1nm,0.8s							
CM34	**Chiang Mai Arr**	**29.90**	**312**	P		**P**	**10 37 52.0**	**+2.8**
CM32	**Chiang Mai Arr**	**30.01**	**311**	P		P	10 37 58.0	+7.9
CMMT	**Chiang Mai**	**30.03**	**311**	P		**P**	**10 37 54.6**	**+4.3**
	comp=Z,205nmcomp=Z,6.8nm,1.4s							
CHTO	**Chiang Mai**	**30.03**	**311**	P		**P**	**10 37 49.3**	**-1.0**
CHTO					IAmb	IAmb	10 37 59.2	
	comp=Z,8.7nm,0.8s							
CTA	**Charters Tower**	**30.35**	**131**	P		**P**	**10 37 54.8**	**+1.6**
	comp=Z,9.8nm,1.0s,baz=313,slow=6.1,SNR=3.9							
MHMT	**Maesarieng**	**30.43**	**309**	P		P	10 38 00.7	+6.9
GYA	**Guiyang**	**30.90**	**332**	eP		**P**	**10 38 02.3**	**+4.3**
GYA					pP	pP	10 38 09.4	-0.7
GYA					pmax	pmax		
	comp=Z,13nm,0.7s							
NJ2	**Nanjing**	**32.70**	**355**	eP		**P**	**10 38 14.6**	**+1.0**
NJ2					pmax	pmax		
	comp=Z,7.0nm,0.5s							
ENH	**Enshi**	**33.10**	**339**	P		**P**	**10 38 19.2**	**+2.1**
JCJ	**Chichijima**	**33.57**	**33**	P		**P**	**10 38 19.7**	**-1.5**
BBOO	**Buckleboo**	**34.50**	**159**	P		**P**	**10 38 27.7**	**-1.6**
BBOO					IAmb	IAmb	10 38 37.0	
	comp=Z,18nm,0.9s							
JMN	**Monobe**	**35.89**	**17**	P		**P**	**10 38 40.6**	**-0.7**
JMN					IAmb	IAmb	10 39 04.0	
	comp=Z,21nm,1.3s							
STKA	**Stephens Creek**	**36.00**	**151**	P		**P**	**10 38 43.0**	**+0.7**
	comp=Z,7.2nm,0.9s,baz=330,slow=7.6,SNR=6.8							
STKA	**Stephens Creek**	**36.00**	**151**	P		**P**	**10 38 43.2**	**+1.0**
	baz=36,SNR=4.2							
STKA	**Stephens Creek**	**36.00**	**151**	P		**P**	**10 38 42.7**	**+0.5**
CD2	**Chengdu**	**36.01**	**332**	P		**P**	**10 38 44.3**	**+1.9**
CD2					pmax	pmax		
	comp=Z,30nm,0.6s							
CD2					LR	LR		
	comp=Z,380nm,10.2s							
CD2					LR	LR		
	comp=Z,400nm,14.3s							
CD2					LR	LR		
	comp=Z,670nm,13.9s							
HTT	**Hallett**	**36.14**	**156**	P		**P**	**10 38 45.0**	**+1.5**
	baz=36,SNR=5.1							
XAN	**Xi'an**	**36.74**	**341**	P		**P**	**10 38 49.3**	**+0.8**
XAN					pP	pP	10 38 59.5	-1.3
XAN					PcP	**PcP**	**10 41 13.8**	**+3.4**
XAN					S	**S**	**10 44 25.3**	**-3.9**
XAN					pmax	pmax		
	comp=Z,14nm,1.4s							
XAN					LR	LR		
	comp=Z,280nm,17.3s							
XAN					LR	LR		
	comp=Z,190nm,17.4s							
XAN	**Xi'an**	**36.74**	**341**	P		**P**	**10 38 48.0**	**-0.6**
XAN					IAmb	IAmb	10 38 54.0	
	comp=Z,11nm,1.0s							
JWT	**Wachi**	**37.78**	**18**	P		**P**	**10 38 56.1**	**-1.3**
KSRS	**Korea Array**	**38.27**	**7**	P		**P**	**10 39 01.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=192,slow=8.6,SNR=3.4							
KSRS					LR	LR	10 54 08.4	
	comp=Z,94nm,22.0s,baz=181,slow=35							
JGF	**Kuroka**	**38.70**	**20**	P		**P**	**10

PETK					LR	LR	11 06 05.8		
	comp=Z,54nm,21.7s,baz=231,slow=34								
PETK	**Petropavlovsk-**	**61.15**	**23**		P	**P**	**10 41 54.8**	**-0.4**	
ZAA0	**Zalesovo Array**	**62.63**	**336**		P	**P**	**10 42 04.4**	**-0.7**	
ZAA0					IAmb	IAmb	10 42 11.7		
	comp=Z,7.0nm,0.9s								
ZALV	**Zalesovo Beam**	**62.63**	**336**		P	**P**	**10 42 04.8**	**-0.3**	
	comp=Z,1.2nm,0.5s,baz=111,slow=6.5,SNR=5.3								
KKAR	**Karatay Array**	**63.57**	**320**		P	**P**	**10 42 10.9**	**-0.7**	
BRVK	**Borovoye**	**68.77**	**329**		P	**P**	**10 42 43.6**	**-1.1**	
BRVK					IAmb	IAmb	10 42 53.0		
	comp=Z,10nm,1.3s								
TIXI	**Tiksi**	**72.31**		**2**	P	**P**	**10 43 03.9**	**-2.0**	
TIXI					IAmb	IAmb	10 43 12.7		
	comp=Z,8.0nm,0.8s								
ABKAR	**Akbulak array**	**72.83**	**323**		P	**P**	**10 43 10.4**	**+1.0**	
AKTO	**Aktyubinsk**	**74.42**	**323**		LR	LR	11 19 51.0		
	comp=Z,69nm,18.0s,baz=103,slow=39								
VNDA	**Vanda**	**79.70**	**172**		P	**P**	**10 43 48.0**	**+0.2**	
	comp=Z,1.2nm,0.9s,baz=295,slow=2.7,SNR=5.0								
VNDA					LR	LR	11 20 27.3		
	comp=Z,63nm,19.3s,baz=283,slow=37								
VNDA	**Vanda**	**79.70**	**172**		P	**P**	**10 43 48.7**	**+0.9**	
KMBO	**Kilima Mbogo**	**85.06**	**269**		LR	LR	11 19 03.9		
	comp=Z,104nm,19.8s,baz=91,slow=33								
QSPA	**South Pole Qui**	**89.28**	**180**		P	**P**	**10 44 37.5**	**+0.9**	
BRTR	**Keskin Array B**	**89.40**	**310**		LR	LR	11 31 09.9		
	comp=Z,43nm,18.1s,baz=100,slow=40								
ILAR	**Eielson Array**	**90.93**		**25**	LR	LR	11 24 59.7		
	comp=Z,19nm,21.8s,baz=247,slow=35								
MNK	**Minsk**	**93.12**	**324**		*i* P	**P**	**10 44 54.2**	**-0.3**	
	comp=E,2.0nm,0.5s								
MNK					*i* P	**P**	**10 44 54.2**	**-0.3**	
	comp=N,13nm,0.4s								
MNK					*i* P	**P**	**10 44 54.2**	**-0.3**	
	comp=Z,15nm,0.4s								
MNK					*i* PP	**PP**	**10 48 37.6**	**-0.4**	
MNK					*i* PPP	PPP	10 50 37.9		
MNK					*i* SKS	**SKSac**	**10 55 14.7**	**-10**	
MNK					*i* S	SKKSac	10 55 25.3	-18	
MNK					*i* PS	**PS**	**10 57 16.2**	**+0.3**	
MNK					*i* SS	**SS**	**11 02 15.7**	**+2.7**	
MNK					*i* SSS	SSS	11 05 56.4		
MNK					*i* LQ	LQ	11 20 42.2		
MNK					*i* LR	LR	11 25 27.2		
MNK					*i* LRM	MLR	11 26 50.9		
	comp=Z,95nm,18.5s								
MNK					*i* LRM	MLR	11 27 10.7		
	comp=E,9.0nm,17.2s								
MNK					*i* LRM	MLR	11 27 27.9		
	comp=N,181nm,18.5s								
BOSA	**Boshof**	**95.90**	**241**		LR	LR	11 25 19.4		
	comp=N,104nm,18.3s,baz=157,slow=34								
CRVS	**Cervenica-Dubn**	**97.64**	**319**		*e*PDIFF	Pdif	10 45 15.8	+0.4	
REDW	**Red Top Meadow**	**116.42**		**41**		**PKPdf**	**10 50 24.5**	**-0.3**	
TXAR	**Lajitas Array**	**127.75**		**53**	PKP	**PKPdf**	**10 50 47.2**	**+0.4**	
	comp=N,0.1nm,0.5s,baz=277,slow=1.5,SNR=3.6								
LCO	**Las Campanas**	**147.98**	**158**		PKPbc	**PKiKP**	**10 51 28.3**	**-0.5**	

*IDC **17** 10:56:16.6±0.8, 0.°50S×122.°49E, h0km, mb4.0/9, mb1 4.2/11, mb1mx3.9/46, mbtmp4.1/11, ML3.9/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/42, Error ellipse: s-maj=26.2km s-min=15.4km az=72.0*

*DJA **17** 10:56:19.0±0.2, 1.°S±2.°×12.°2E±.°, h10km, M4.6/19, mb4.8/13, mB5.1/7, MLv4.7/19, Mw(mB)4.4/7*

*NEIC **17** 10:56:21.5±2.5, 0.°73S±0.°06×122.°33E±0.°06, h31km±7km, mb4.4/14, Error ellipse: s-maj=10.8km s-min=6.0km az=221.0*

ISC 17 10:56:22.8±0.5, 0.°72S±0.°05×122.°34E±0.°05, h46km, n65, σ1§60/66, mb4.3/19, MS3.1/4, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.54**	**126**			**Pn**	**10 56 32.4**	**-2.0**
LUWI						**Sn**	**10 56 40.3**	**-2.3**
LUWI	**Luwuk**	**0.54**	**126**	P		**Pn**	**10 56 32.3**	**-2.0**
APSI	**Ampana**	**0.72**	**255**	P		Pn	10 56 31.8	-4.9
MRSI	**Marisa**	**1.25**	**341**	P		Pn	10 56 38.3	-5.7
GTOI	**Gorontalo**	**1.50**	**26**	P		**Pn**	**10 56 43.9**	**-3.5**
KMSI	**Cibinong**	**2.08**	**52**	P		**Pn**	**10 56 53.8**	**-1.5**
TOLI2	**Tolitoli**	**2.40**	**319**	Pn		**Pn**	**10 56 57.5**	**-2.1**
TOLI2						Sn	**10 57 26.9**	**-0.9**
TTSI	**Tana Toraja**	**3.42**	**227**	P		**Pn**	**10 57 13.2**	**-0.4**
SANI	**Sanana**	**3.88**	**110**	P		**Pn**	**10 57 18.5**	**-1.5**
SPSI	**Sidrap Palu**	**4.12**	**219**	P		**Pn**	**10 57 22.9**	**-0.4**
BNSI	**Bone**	**4.28**	**211**	P		**Pn**	**10 57 25.2**	**-0.3**
KAPI	**Kappang**	**4.99**	**211**	Pn		**Pn**	**10 57 34.8**	**-0.4**
	32nm,0.3s,baz=25,slow=8.1,SNR=90							
KAPI						Sn	**10 58 31.1**	**-0.5**
	1.3nm,0.3s,baz=229,slow=19,SNR=3.1							
KAPI						LR	LR	10 59 53.8	
	comp=Z,550nm,19.2s,baz=48,slow=41							
KAPI	**Kappang**	**4.99**	**211**	Pn		**Pn**	**10 57 34.7**	**-0.5**
TNTI	**Ternate**	**5.24**	**74**			**Pn**	**10 57 40.0**	**+1.3**
NLAI	**Namlea**	**5.38**	**118**	P		**Pn**	**10 57 41.5**	**+1.0**
	0.6nm3µm115nm,0.7s							
BKB	**Balikpapan**	**5.47**	**264**	Pn		**Pn**	**10 57 41.5**	**-0.4**
BSSI	**Bau Bau, Buton**	**5.69**	**199**	P		**Pn**	**10 57 45.5**	**+0.6**
	0.2nm694nm49nm,0.6s							
KBKI	**Kotabaru**	**6.68**	**247**	P		**Pn**	**10 57 56.8**	**-1.7**
	0.2nm60nm,0.8s							
MYLDM	**Lahad Datu**	**7.00**	**327**	Pn		**Pn**	**10 58 03.4**	**+0.5**
MTKI	**Muara Teweh, K**	**7.45**	**268**	P		**Pn**	**10 58 08.6**	**-0.4**
BBKI	**Banjar Baru**	**7.97**	**250**	P		**Pn**	**10 58 15.6**	**-0.6**
	0.2nm26nm,0.7s							
EDFI	**Ende, Flores**	**8.00**	**185**	P		**Pn**	**10 58 16.6**	**-0.1**
	250nm28nm,0.6s							
KCP	**Kidapawan**	**8.15**	**20**	⇑	*e*P	**Pn**	**10 58 17.9**	**-0.8**
SIJI	**Sorong**	**8.93**	**91**	Pn		**Pn**	**10 58 28.6**	**-0.7**
	4.5nm,0.3s,baz=259,slow=5.5,SNR=8.9							
SIJI						Sn	**11 00 12.7**	**+4.1**
	0.7nm,0.3s,baz=37,slow=20,SNR=2.0							
KKM	**Kota Kinabalu**	**9.09**	**318**	Pn		**Pn**	**10 58 29.6**	**-2.0**
SOEI	**Soe**	**9.18**	**168**	Pn		**Pn**	**10 58 31.5**	**-1.4**
SOEI	**Soe**	**9.18**	**168**	P		**Pn**	**10 58 31.3**	**-1.6**
	40nm,0.7s							
PLAI	**Plampang**	**9.25**	**209**	P		**Pn**	**10 58 34.2**	**+0.5**
	27nm,0.9s							
FAKI	**Fak Fak**	**10.14**	**103**	Pn		**Pn**	**10 58 44.9**	**-1.1**
FAKI	**Fak Fak**	**10.14**	**103**	P		**Pn**	**10 58 44.5**	**-1.5**
JAGI	**Jajag, Banyuwa**	**11.21**	**226**	Pn		**Pn**	**10 58 59.4**	**-1.2**
LEM	**Lembang**	**15.89**	**247**	LR		LR	11 06 55.8	
	comp=Z,201nm,18.2s,baz=50,slow=40							
FITZ	**Fitzroy Crossi**	**17.57**	**170**	P		**Pn**	**11 00 23.7**	**-0.8**
	0.1nm,0.3s,baz=0.0,slow=10,SNR=3.4							
PSA00	**Pilbara Seismi**	**20.87**	**187**	P		**P**	**11 01 01.6**	**+0.5**
PSA00					IAmb	IAmb	11 01 02.7	
	comp=Z,16nm,0.9s							
WB0	**Warramunga Arr**	**22.31**	**149**	P		**P**	**11 01 18.2**	**+1.5**
WB0					IAmb	IAmb	11 01 28.3	
	comp=Z,12nm,1.0s							
WRAB	**Tennant Creek**	**22.42**	**149**	P		**P**	**11 01 18.7**	**+0.8**
WRAB					IAmb	IAmb	11 01 30.0	
	comp=Z,16nm,1.3s							
WRA	**Warramunga Arr**	**22.43**	**149**	P		**P**	**11 01 19.1**	**+1.2**
	comp=Z,3.8nm,0.6s,baz=326,slow=10,SNR=44							
WB2	**Warramunga Arr**	**22.43**	**149**	P		**P**	**11 01 18.3**	**+0.3**
WB2					IAmb	IAmb	11 01 30.0	
	comp=Z,22nm,1.4s							
WR0	**Warramunga Arr**	**22.54**	**149**	P		**P**	**11 01 18.8**	**-0.4**
WR0					IAmb	IAmb	11 01 28.4	
	comp=Z,8.8nm,0.8s							
UBPT	**Khong Chiam**	**23.04**	**314**	P		**P**	**11 01 24.2**	**-0.1**
RPSI	**Rantau Prapat**	**23.65**	**278**	P		**P**	**11 01 27.4**	**-2.9**
RPSI	**Rantau Prapat**	**23.65**	**278**	P		**P**	**11 01 31.5**	**+1.2**
PSI	**Prapat**	**23.67**	**279**	P		**P**	**11 01 31.5**	**+0.9**
	comp=Z,9.7nm,0.6s,baz=179,slow=0.4,SNR=8.6							
PSI						LR	LR	11 12 08.8	
	comp=Z,92nm,18.5s,baz=86,slow=40							
YULB	**Yu-li**	**23.99**	**358**	P		**P**	**11 01 31.6**	**-1.8**
COEN	**Coen**	**24.45**	**123**	P		**P**	**11 01 38.7**	**+1.0**
COEN						IAmb	IAmb	11 01 40.7	
	comp=Z,14nm,1.4s							
GSI	**Gunungsitoli**	**24.84**	**275**	P		**P**	**11 01 40.3**	**-0.9**
AS31	**Alice Springs**	**25.42**	**155**	P		**P**	**11 01 47.1**	**+1.4**
ASAR	**Alice Springs**	**25.42**	**155**	P		**P**	**11 01 48.0**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=346,slow=15,SNR=32							
ASAR					PcP	**PcP**	**11 05 18.1**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=336,slow=2.8,SNR=4.2							
ASAR	**Alice Springs**	**25.42**	**155**	P		**P**	**11 01 47.9**	**+1.5**
CMAR	**Chiang Mai Arr**	**29.87**	**311**	P		**P**	**11 02 26.6**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=138,slow=5.7,SNR=3.9							
CMAR						LR	LR	11 15 55.8	
	comp=Z,35nm,18.1s,baz=200,slow=40							
CD2	**Chengdu**	**36.08**	**332**		P	**P**	**11 03 23.1**	**+2.8**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
XAN	**Xi'an**	**36.80**	**341**		P	**P**	**11 03 30.1**	**+3.6**
XAN					pP	pP	11 03 38.0	-0.7
XAN					pmax	pmax		
	comp=Z,5.0nm,1.4s							
KSRS	**Korea Array**	**38.33**		**7**	LR	LR	11 18 22.3		
	comp=Z,20nm,21.7s,baz=195,slow=35							
MJAR	**Matsushiro Arr**	**39.90**	**20**		P	**P**	**11 03 49.5**	**-2.9**
	comp=Z,2.3nm,0.7s,baz=193,slow=9.3,SNR=6.4							
MJAR					LR	LR	11 21 32.1		
	comp=Z,25nm,18.9s,baz=195,slow=38							
HHC	**Hu-ho-hao-te**	**42.52**	**348**		*e*P	**P**	**11 04 16.4**	**+2.4**
HHC					pmax	pmax		
	comp=Z,8.0nm,1.1s							
HHC					pmax	pmax		
	comp=Z,52nm,5.6s							
SONM	**Songino Array**	**50.32**	**346**		P	**P**	**11 05 14.7**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=166,slow=7.7,SNR=5.0							
SONM	**Songino Array**	**50.32**	**346**		P	**P**	**11 05 15.6**	**+0.5**
SONM					IAmb	IAmb	11 05 21.9		
	comp=Z,3.2nm,0.8s							
WMQ	**Urumqi**	**54.07**	**329**		*e*P	**P**	**11 05 45.6**	**+2.6**
WMQ					sP	pP	11 05 53.6	-2.1
WMQ					pmax	pmax		
	comp=Z,14nm,0.9s							
WMQ					pmax	pmax		
	comp=Z,66nm,5.1s							
MK31	**Makanchi Array**	**58.88**	**329**		P	**P**	**11 06 16.2**	**-0.8**
MKAR	**Makanchi Array**	**58.88**	**329**		P	**P**	**11 06 16.4**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=122,slow=8.5,SNR=5.3							
MKAR	**Makanchi Array**	**58.88**	**329**		P	**P**	**11 06 16.9**	**-0.2**
PETK	**Petropavlovsk-**	**61.20**	**23**		P	**P**	**11 06 31.1**	**-1.7**
	comp=Z,3.0nm,0.9s,baz=197,slow=3.0,SNR=7.4							
PETK	**Petropavlovsk-**	**61.20**	**23**		P	**P**	**11 06 31.6**	**-1.3**
ZALV	**Zalesovo Beam**	**62.70**	**336**		P	**P**	**11 06 41.8**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=142,slow=7.3,SNR=2.4							
TIXI	**Tiksi**	**72.37**		**2**	P	**P**	**11 07 46.6**	**+3.0**
TIXI					IAmb	IAmb	11 07 48.8	
	comp=Z,5.3nm,1.1s							

*SOME **17** 10:58:13.8, 43.°65N×69.°70E*

*NNC **17** 10:58:14.9±1.3, 43.°67N×69.°77E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=7.1km s-min=4.5km az=132.0, Suspected Mining explosion.*

*KRNET **17** 10:58:15.8±0.1, 43.°86N×69.°49E, mb2.9*

ISC 17 10:58:15.9±2.6, 43.°60N±0.°09×69.°7E±0.°1, h0km, n16, σ0§95/26, 20C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.79**	**129**	⇑	P	**Pg**	**10 58 29.7**	**-1.4**
	1.4nm,0.3s,baz=322,slow=17,SNR=74							
KK31				⇑	S	**Sg**	**10 58 41.2**	**-0.1**
	11nm,0.3s,baz=314,slow=30,SNR=125							
IUG	**luzhnay**	**1.48**	**169**		P	**Pn**	**10 58 43.7**	**-0.2**
	23nm,0.2s							
IUG					S	**Sn**	**10 59 05.0**	**+1.1**
	60nm,0.5s							
TRKS	**Terek-Say**	**2.34**	**152**	⇑	*i*P	**Pb**	**10 58 58.1**	**-0.9**
	baz=52							
TRKS				⇑	*i*S	**Sb**	**10 59 29.2**	**+0.7**
	baz=52							
MNAS	**Manas**	**2.36**	**117**	⇑	*i*P	**Pn**	**10 58 56.7**	**+0.7**
	baz=21							
MNAS				⇑	*i*S	**Sn**	**10 59 26.7**	**+1.0**
	baz=21							
EKS2	**Erkin-Say**	**3.15**	**106**	⇑	*i*P	**Pn**	**10 59 07.5**	**+0.6**
	baz=9.0							
EKS2				⇑	*i*S	**Sn**	**10 59 45.0**	**-0.3**
	baz=9.0							
AML	**Almayashu**	**3.30**	**115**	⇑	*i*P	**Pn**	**10 59 10.2**	**+1.0**
	baz=18							
AML				⇑	*i*S	**Sn**	**10 59 49.5**	**+0.1**
	baz=18							
ARSB	**Arslanbob**	**3.34**	**132**	⇑	*i*P	**Pn**	**10 59 11.2**	**+1.6**
	baz=33							
ARSB				⇑	*i*S	**Sn**	**10 59 51.4**	**+1.3**
	baz=33							
USP	**Ospenovka**	**3.53**	**94**	⇑	*i*P	**Pn**	**10 59 12.1**	**0.0**
	baz=98							
USP				⇑	*i*S	**Sn**	**10 59 53.0**	**-1.6**
	baz=98							
SGDS	**Sogindy**	**3.61**	**91**		Pg	**Pb**	**10 59 21.1**	**+0.5**
	3.5nm,0.3s							
SGDS					Lg	Lg	11 00 10.1	
	8.3nm,0.7s							
AAK	**Ala-Archa**	**3.66**	**104**	⇑	*i*P	**Pn**	**10 59 14.4**	**+0.5**
	baz=7.0							
AAK				⇑	*i*S	**Sn**	**10 59 57.2**	**-0.7**
	baz=7.0							
AAK	**Ala-Archa**	**3.66**	**104**	⇓	Pg	**Pb**	**10 59 20.2**	**-1.3**
	1.4nm,0.3s							
AAK				⇓	Lg	Lg	11 00 09.8	
	2.2nm,0.5s							
UCH	**Uchtor**	**3.81**	**109**	⇑	*i*P	**Pn**	**10 59 17.0**	**+0.7**
	baz=12							
UCH				⇑	*e*S	**Sn**	**11 00 01.7**	**-0.4**
	baz=12							
KRBS	**Karabastau**	**4.36**	**87**		Pg	**Pb**	**10 59 33.3**	**-0.1**
	3.5nm,0.5s							
KRBS					Lg	Lg	11 00 30.6	
	5.8nm,0.4s							
TKM2	**Tokmak 2**	**4.38**	**97**	⇑	Pg	**Pb**	**10 59 33.8**	**-0.1**
	1.1nm,0.6s							
TKM2				⇑	Lg	Lg	11 00 33.0	
	4.7nm,0.8s							
DGS	**Degeres**	**4.46**	**93**		Pg	**Pb**	**10 59 36.5**	**+1.3**
	3.4nm,0.6s							
DGS					Lg	Lg	11 00 35.5	
	5.8nm,0.6s							
KST	**Kastek**	**4.63**	**95**		Pg	**Pb**	**10 59 39.1**	**+1.2**
	2.3nm,0.3s							
KST					Lg	Lg	11 00 40.6	
	5.8nm,0.6s							

*NEIC **17** 11:04:54.4±2.2, 24.°28S±0.°08×67.°1W±0.°1, h158km±2km, Error ellipse: s-maj=17.6km s-min=11.0km az=99.0*

*IDC **17** 11:04:55.5±3.8, 24.°17S×67.°10W, h161km±34km, mb1 3.6/4, mb1mx3.2/24, mbtmp4.1/4, Error ellipse: s-maj=56.5km s-min=18.7km az=161.0*

*GUC **17** 11:04:56.3±0.6, 24.°19S×67.°56W, h188km±10km, ML3.7*

ISC 17 11:04:54.4±0.9, 24.°26S±0.°05×67.°21W±0.°09, h164km±12km, n44, σ1§25/59, 12C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.26**	**316**		P	**Pn**	**11 05 35.7**	**+1.9**
	16nm,0.3s,baz=119,slow=7.0,SNR=202							
LVC					S	**Sn**	**11 06 05.2**	**+1.0**
	17nm,0.3s,baz=11,slow=21,SNR=50							
LVC	**Limon Verde**	**2.26**	**316**		*e*P	**Pn**	**11 05 35.7**	**+1.9**
LVC					*e*S	**Sn**	**11 06 05.1**	**+0.8**
PB15	**IPOC Station P**	**2.32**	**296**	⇑	*i*P	**Pn**	**11 05 35.9**	**+1.6**
PB15					*i*S	**Sn**	**11 06 05.6**	**+0.5**
PB15	**IPOC Station P**	**2.32**	**296**			**Pn**	**11 05 35.9**	**+1.6**
GO02	**Mina Guanaco**	**2.34**	**247**	⇑	*i*P	**Pn**	**11 05 36.1**	**+1.5**
GO02					*i*S	**Sn**	**11 06 07.1**	**+1.4**
GO02					IAML		11 06 09.4	
GO02	**Mina Guanaco**	**2.34**	**247**			**Pn**	**11 05 35.8**	**+1.1**
PB06	**IPOC Station P**	**2.66**	**305**	⇑	*i*P	**Pn**	**11 05 39.6**	**+1.3**
PB06					*i*S	**Sn**	**11 06 12.2**	**-0.2**
PB06					IAML		11 06 15.4	
	comp=N,282nm,0.3s							
PB06	**IPOC Station P**	**2.66**	**305**			**Pn**	**11 05 39.6**	**+1.3**
PB14	**IPOC Station P**	**2.93**	**262**	⇑	*i*P	**Pn**	**11 05 42.3**	**+0.5**
PB14					*i*S	**Sn**	**11 06 17.4**	**-1.1**
PB14					IAML		11 06 19.2	
	comp=E,95nm,0.4s							
PB14	**IPOC Station P**	**2.93**	**262**			**Pn**	**11 05 42.3**	**+0.5**
PB05	**IPOC Station P**	**3.08**	**296**	⇑	*i*P	**Pn**	**11 05 44.2**	**+0.8**
PB05					*i*S	**Sn**	**11 06 20.1**	**-1.4**
PB09	**IPOC Station P**	**3.08**	**322**	⇑	*i*P	**Pn**	**11 05 45.5**	**+1.9**
PB09					*i*S	**Sn**	**11 06 22.4**	**+0.7**
PB09					IAML		11 06 24.6	
	comp=N,127nm,0.3s							
PB09	**IPOC Station P**	**3.08**	**322**			**Pn**	**11 05 45.3**	**+1.7**
AC02	**Maricunga**	**3.10**	**214**			**Pn**	**11 05 45.5**	**+1.5**
PB10	**IPOC Station P**	**3.15**	**283**	⇑	*i*P	**Pn**	**11 05 45.0**	**+0.8**
PB10					*i*S	**Sn**	**11 06 21.3**	**-1.5**
PB10					IAML		11 06 28.5	
	comp=E,86nm,0.7s							
PB10	**IPOC Station P**	**3.15**	**283**			**Pn**	**11 05 45.3**	**+1.1**
PB03	**IPOC Station P**	**3.21**	**313**	⇑	*i*P	**Pn**	**11 05 46.1**	**+0.9**
PB03					*i*S	**Sn**	**11 06 23.0**	**-1.5**
PB03					IAML		11 06 24.4	
	comp=E,240nm,0.2s							
PB04	**IPOC Station P**	**3.31**	**305**	⇑	*i*P	**Pn**	**11 05 47.1**	**+0.6**
PB04					*i*S	**Sn**	**11 06 25.8**	**-1.0**
PB04	**IPOC Station P**	**3.31**	**305**			**Pn**	**11 05 47.0**	**+0.6**
PB07	**IPOC Station P**	**3.52**	**315**	⇑	*i*P	**Pn**	**11 05 49.9**	**+0.7**
PB07					*i*S	**Sn**	**11 06 29.8**	**-1.9**
PB07	**IPOC Station P**	**3.52**	**315**			**Pn**	**11 05 49.8**	**+0.7**
AC01	**Pan de Azucar**	**3.60**	**238**	⇑	*i*P	**Pn**	**11 05 49.7**	**-0.2**
AC01					*i*S	**Sn**	**11 06 30.8**	**-2.3**
AC01	**Pan de Azucar**	**3.60**	**238**	Pn		**Pn**	**11 05 49.6**	**-0.2**
PB01	**IPOC Station P**	**3.83**	**326**	⇑	*i*P	**Pn**	**11 05 53.2**	**+0.3**
PB01					*i*S	**Sn**	**11 06 37.0**	**-1.6**
PB01	**IPOC Station P**	**3.83**	**326**			**Pn**	**11 05 53.1**	**+0.2**
GO03	**Copiap**	**4.29**	**219**			**Pn**	**11 05 58.5**	**-0.3**
PB08	**IPOC Station P**	**4.47**	**336**			**Pn**	**11 06 02.5**	**+0.9**
TA01	**Diego Aracena**	**4.59**	**323**	Pn		**Pn**	**11 06 02.4**	**-0.3**
AC04	**Llanos de Chal**	**5.24**	**221**	Pn		**Pn**	**11 06 10.3**	**-0.9**
AC05	**El Transito**	**5.32**	**210**			**Pn**	**11 06 11.8**	**-0.5**
PSGCX	**Pisagua**	**5.37**	**329**	Pn		**Pn**	**11 06 11.4**	**-1.7**
MNMC	**Minye Minye**	**5.56**	**336**			**Pn**	**11 06 15.5**	**-0.3**
LCO	**Las Campanas**	**5.67**	**213**	Pn		**Pn**	**11 06 15.8**	**-1.3**
CO01	**Juntas del Tor**	**6.25**	**204**	Pn		**Pn**	**11 06 25.2**	**+0.5**
GO04	**Tololo Observa**	**6.70**	**208**	Pn		**Pn**	**11 06 29.6**	**-1.1**
CO03	**El Pedregal**	**7.24**	**204**	Pn		**Pn**	**11 06 37.3**	**-0.5**
LPAZ	**La Paz**	**7.98**	**354**	P		**Pn**	**11 06 49.3**	**+1.2**
	comp=E,1.1nm,0.3s,baz=157,slow=6.9,SNR=19							
SIV	**San Ignacio**	**10.04**		**36**	P	**Pn**	**11 07 13.0**	**-1.8**
	comp=E,0.8nm,0.3s,baz=221,slow=13,SNR=14							
SIV					S	**Sn**	**11 09 03.3**	**-3.1**
	comp=E,0.1nm,0.3s,baz=287,slow=19,SNR=2.7							
BDFB	**Brasilia**	**19.96**		**68**	P	**P**	**11 09 14.6**	**+0.4**
	comp=E,0.7nm,0.3s,baz=235,slow=10,SNR=11							
BDFB	**Brasilia**	**19.96**	**68**		P	**P**	**11 09 14.2**	**+0.1**
BDFB					IAmb	IAmb	11 09 15.2	
	comp=Z,7.1nm,0.7s							
QSPA	**South Pole Qui**	**65.95**	**180**		P	**P**	**11 15 24.2**	**+1.5**
QSPA					IAmb	IAmb	11 15 45.0	
	comp=Z,3.0nm,1.5s							
ASAR	**Alice Springs**	**128.14**	**205**		PKP	**PKPdf**	**11 23 42.5**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=167,slow=1.8,SNR=6.3							
WRA	**Warramunga Arr**	**131.31**	**207**		PKP	**PKPdf**	**11 23 48.4**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=170,slow=1.7,SNR=8.5							
MKAR	**Makanchi Array**	**146.85**		**40**	PKPbc	**PKPbc**	**11 24 18.2**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=283,slow=3.7,SNR=7.3							

*NEIC **17** 11:19:30.3±1.0, 18.°39S±0.°09×177.°8W±0.°1, h622km±14km, mb4.2/14, Error ellipse: s-maj=21.2km s-min=12.0km az=70.0*

*IDC **17** 11:19:32.4±2.5, 18.°21S×178.°10W, h631km±23km, mb3.0/6, mb1 3.3/7, mb1mx3.0/24, mbtmp4.0/7, Error ellipse: s-maj=89.4km s-min=18.4km az=150.0*

ISC 17 11:19:29.7±0.7, 18.°5S±0.°2×177.°8W±0.°1, h600km, n24, σ1§13/24, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.00**	**280**		P	**P**	**11 20 58.3**	**+3.0**
	2.5nm,0.3s,baz=125,slow=12,SNR=16							
AFI	**Afiamalu**	**7.38**		**53**	P	**P**	**11 21 23.8**	**+0.4**
OUZ	**Omahuta**	**18.32**	**203**		P	**P**	**11 23 09.3**	**+1.3**
CTAO	**Charters Tower**	**33.91**	**261**		P	**P**	**11 25 25.1**	**+0.3**
PMG	**Port Moresby**	**35.11**	**280**		P	**P**	**11 25 32.5**	**-2.2**
COEN	**Coen**	**37.67**	**271**		P	**P**	**11 25 56.5**	**+0.8**
COEN					IAmb	IAmb	11 25 57.1	
	comp=Z,5.3nm,0.8s				

PTCN	**Pitcairn Islan**	**42.15**	**103**	P		**P**	**12 00 01.9**	**+1.9**
BBOO	**Buckleboo**	**43.09**	**246**	P		**P**	**12 00 08.5**	**+1.1**
BBOO				IAmb		IAmb	12 00 28.8	
	comp=Z,21nm,1.2s							
AS31	**Alice Springs**	**45.63**	**259**	P		**P**	**12 00 28.6**	**+0.7**
ASAR	**Alice Springs**	**45.63**	**259**	P		**P**	**12 00 28.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=98,slow=7.3,SNR=23							
WR0	**Warramunga Arr**	**45.74**	**264**	P		**P**	**12 00 29.5**	**+0.7**
WR0				IAmb		IAmb	12 00 44.4	
	comp=Z,7.7nm,1.4s							
WB0	**Warramunga Arr**	**45.92**	**264**	P		**P**	**12 00 30.6**	**+0.5**
WB0				IAmb		IAmb	12 00 49.1	
	comp=Z,3.6nm,1.1s							
WB2	**Warramunga Arr**	**45.92**	**264**	P		**P**	**12 00 30.8**	**+0.7**
WB2				IAmb		IAmb	12 00 31.0	
	comp=Z,3.0nm,0.6s							
WRAB	**Tennant Creek**	**45.92**	**264**	P		**P**	**12 00 30.5**	**+0.4**
WRAB				IAmb		IAmb	12 00 33.7	
	comp=Z,7.4nm,1.4s							
WRA	**Warramunga Arr**	**45.93**	**264**	P		**P**	**12 00 29.2**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=98,slow=7.1,SNR=30							
FORT	**Forrest**	**49.96**	**248**	P		**P**	**12 01 00.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**54.36**	**263**	P		**P**	**12 01 36.1**	**+2.4**
QSPA	**South Pole Qui**	**67.45**	**180**	P		**P**	**12 03 00.6**	**-1.1**
TXAR	**Lajitas Array**	**86.87**	**57**	P		**P**	**12 04 50.9**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=201,slow=6.6,SNR=6.4							
TXAR	**Lajitas Array**	**86.87**	**57**	P		**P**	**12 04 50.2**	**-0.3**
ILAR	**Eielson Array**	**90.04**	**12**	P		**P**	**12 05 03.0**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=232,slow=4.0,SNR=5.3							
ILAR	**Eielson Array**	**90.04**	**12**	P		**P**	**12 05 04.9**	**+0.4**
ARCES	**ARCESS Array B**	**131.29**	**350**	PKP		**PKPdf**	**12 11 16.3**	**+0.2**
	comp=Z,6.8nm,1.1s,baz=24,slow=2.5,SNR=3.9							
ARCES	**ARCESS Array B**	**131.29**	**350**			**PKiKP**	**12 11 17.0**	**-0.1**
AKASG	**Malin Array Be**	**145.65**	**331**	PKPbc		**PKPbc**	**12 11 43.7**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=42,slow=4.5,SNR=6.0							
AKASG	**Malin Array Be**	**145.65**	**331**			**PKPdf**	**12 11 42.8**	**0.0**

*ATH **17** 11:58:57.1, 38.39N×21.91E, h9km±2km, ML2.0/9, Error ellipse: s-maj=2.0km s-min=0.7km az=85.0*
*THE **17** 11:58:57.3, 38.39N×21.92E, h8km±1km, ML2.1/10, Error ellipse: s-maj=1.2km s-min=0.4km az=104.0*
ISC 17 11:58:57.1±1.1, **38.40N**±0.02×**21.92E**±0.02, **h10**km±5km, **n30**, σ0°**46**/55, **Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.03**	**336**	P			**Pg**	**11 58 58.6**	**-0.3**
EFP				S			**Sg**	**11 58 59.8**	**-0.5**
EFP				AML			AML	11 58 59.8	
	comp=E,21074μm,0.1s								
EFP				AML			AML	11 58 60.0	
	comp=N,60066μm,0.1s								
EFP	**Efpalio**	**0.03**	**336**	P			**Pg**	**11 58 58.6**	**-0.3**
EFP				S			**Sg**	**11 58 59.8**	**-0.5**
	comp=N,21μm,0.1s								
SERG	**Sergoula**	**0.11**	**82**	P			**Pg**	**11 58 59.8**	**0.0**
SERG				S			**Sg**	**11 59 02.0**	**+0.2**
SERG				AML			AML	11 59 03.2	
	comp=E,2210μm,0.2s								
SERG				AML			AML	11 59 04.0	
	comp=N,2147μm,0.3s								
SERG	**Sergoula**	**0.11**	**82**	P			**Pg**	**11 58 59.8**	**0.0**
SERG				S			**Sg**	**11 59 02.4**	**+0.6**
	comp=N,1μm,0.2s								
TRIZ	**Trizonia**	**0.12**	**106**	P			**Pg**	**11 59 00.1**	**+0.1**
TRIZ				S			**Sg**	**11 59 02.4**	**+0.3**
TRIZ	**Trizonia**	**0.12**	**106**	P			**Pg**	**11 59 00.1**	**+0.1**
TRIZ				S			**Sg**	**11 59 02.4**	**+0.3**
	comp=N,2μm,0.3s								
LAKA	**Lakka**	**0.17**	**164**	P			**Pg**	**11 59 00.7**	**0.0**
LAKA				S			**Sg**	**11 59 03.5**	**+0.3**
LAKA	**Lakka**	**0.17**	**164**	P			**Pg**	**11 59 00.7**	**0.0**
LAKA				S			**Sg**	**11 59 03.7**	**+0.5**
	comp=N,595nm,0.3s								
KALE	**Kalithea**	**0.17**	**93**	P			**Pg**	**11 59 00.8**	**0.0**
KALE				S			**Sg**	**11 59 04.0**	**+0.5**
KALE				AML			AML	11 59 04.5	
	comp=N,1852μm,0.4s								
KALE				AML			AML	11 59 07.3	
	comp=E,837μm,0.3s								
KALE	**Kalithea**	**0.17**	**93**	P			**Pg**	**11 59 00.8**	**0.0**
KALE				S			**Sg**	**11 59 04.0**	**+0.5**
	comp=E,610nm,0.3s								
ANX	**Ano Chora**	**0.19**	**360**	P			**Pg**	**11 59 01.3**	**0.0**
ANX				S			**Sg**	**11 59 04.8**	**+0.7**
ANX				AML			AML	11 59 05.1	
	comp=N,3474μm,0.3s								
ANX				AML			AML	11 59 06.9	
	comp=E,2809μm,0.3s								
ANX	**Ano Chora**	**0.19**	**360**	P			**Pg**	**11 59 01.3**	**0.0**
ANX				S			**Sg**	**11 59 04.6**	**+0.5**
	comp=E,1μm,0.2s								
ALIK	**Aliki, Aigiali**	**0.20**	**133**	P			**Pg**	**11 59 01.7**	**+0.3**
ALIK				S			**Sg**	**11 59 04.9**	**+0.7**
PVO	**Paravola**	**0.38**	**305**	P			**Pg**	**11 59 04.5**	**-0.1**
PVO				S			**Sg**	**11 59 09.6**	**0.0**
PVO				AML			AML	11 59 14.8	
	comp=N,250μm,0.3s								
PVO				AML			AML	11 59 15.8	
	comp=E,363μm,0.2s								
PVO	**Paravola**	**0.38**	**305**	P			**Pg**	**11 59 04.6**	**-0.1**
KLV	**Kalavryta, Ach**	**0.40**	**153**	P			**Pg**	**11 59 04.6**	**-0.4**
KLV				S			**Sg**	**11 59 10.3**	**+0.1**
KLV	**Kalavryta, Ach**	**0.40**	**153**	P			**Pg**	**11 59 04.6**	**-0.4**
KLV				S			**Sg**	**11 59 10.5**	**+0.3**
	comp=E,50nm,0.2s								
DRO	**Drossia**	**0.48**	**201**	P			**Pg**	**11 59 06.2**	**-0.2**
DRO				S			**Sg**	**11 59 12.3**	**-0.4**
DRO				AML			AML	11 59 14.2	
	comp=N,474μm,0.2s								
DRO				AML			AML	11 59 14.6	
	comp=E,588μm,0.2s								
DSF	**Desfina**	**0.48**	**88**	P			**Pg**	**11 59 05.5**	**-0.9**
DSF				S			**Sg**	**11 59 13.8**	**+1.1**
DSF				AML			AML	11 59 14.0	
	comp=N,478μm,0.2s								
DSF				AML			AML	11 59 15.5	
	comp=E,238μm,0.1s								
DSF	**Desfina**	**0.48**	**88**	P			**Pg**	**11 59 05.8**	**-0.6**
RLS	**Riolos of Patr**	**0.49**	**227**	P			**Pg**	**11 59 06.8**	**+0.1**
EVR	**Evrytania**	**0.52**	**350**	P			**Pg**	**11 59 07.1**	**-0.3**
EVR				S			**Sg**	**11 59 14.6**	**+0.3**
EVR				AML			AML	11 59 17.0	
	comp=N,504μm,0.2s								
EVR				AML			AML	11 59 17.6	
	comp=E,439μm,0.2s								
EVR	**Evrytania**	**0.52**	**350**	P			**Pg**	**11 59 07.1**	**-0.3**
EVR				S			**Sg**	**11 59 15.2**	**+0.9**
	comp=E,225nm,0.2s								
PDO	**Prodromos**	**0.61**	**289**	P			**Pg**	**11 59 09.2**	**+0.2**
PDO				S			**Sb**	**11 59 18.3**	**-0.3**
	comp=E,205nm,0.2s								
MAKR	**Makrakomi, Fth**	**0.64**	**15**	P			**Pg**	**11 59 09.5**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.64**	**15**	P			**Pg**	**11 59 09.6**	**+0.1**
MAKR				S			**Sb**	**11 59 19.6**	**+0.3**
	comp=E,380nm,0.5s								
AXAR	**Agios Charalam**	**0.68**	**57**	P			**Pg**	**11 59 09.8**	**-0.6**
AXAR				S			**Sg**	**11 59 20.0**	**+0.6**
AXAR	**Agios Charalam**	**0.68**	**57**	P			**Pg**	**11 59 09.8**	**-0.6**
AXAR				S			**Sb**	**11 59 20.6**	**-0.1**
AGG	**Agios Georgios**	**0.70**	**27**	P			**Pg**	**11 59 09.7**	**-1.0**
AGG				S			**Sb**	**11 59 21.0**	**-0.2**
AGG				AML			AML	11 59 22.2	
	comp=E,222μm,0.3s								
AGG				AML			AML	11 59 26.3	
	comp=N,280μm,0.4s								
LKR	**Lokris**	**0.88**	**73**	P			**Pg**	**11 59 13.3**	**-0.8**

*IDC **17** 11:58:56.6±1.6, 35.34N×22.55E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.4/42, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=52.2km s-min=26.9km az=125.0*
*THE **17** 11:58:59.0, 35.01N×21.99E, h31km±27km, ML3.2/5, Error ellipse: s-maj=27.1km s-min=1.3km az=42.0*
ISC 17 11:58:58.5±2.0, **35.0N**±0.1×**22.0E**±0.1, **h49**km±18km, **n18**, σ1°**58**/23, **mb3.7**/5, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**1.35**	**51**	P			**Pn**	**11 59 21.1**	**+0.1**
ANKY				S			**Sn**	**11 59 39.0**	**+1.1**
	1μm,0.5s								
KNDR	**Palaiochora Ch**	**1.40**	**81**	P			**Pn**	**11 59 20.7**	**-0.9**
KNDR				S			**Sn**	**11 59 38.9**	**0.0**
	498nm,0.5s								
KTHR	**Kythira**	**1.48**	**33**	P			**Pn**	**11 59 23.1**	**+0.3**
KTHR				S			**Sn**	**11 59 41.1**	**+0.1**
	812nm,0.4s								
KTHA	**Kythira Island**	**1.50**	**35**	P			**Pn**	**11 59 23.5**	**+0.4**
IMMV	**Iera Moni Meta**	**1.68**	**74**	P			**Pn**	**11 59 25.9**	**+0.4**
IMMV				S			**Sn**	**11 59 46.7**	**+0.9**
GVD	**Gavdhos**	**1.73**	**96**	P			**Pn**	**11 59 26.3**	**+0.2**
GVD				S			**Sn**	**11 59 47.5**	**+0.5**
	602nm,0.3s								
GVDS	**Gavdos**	**1.73**	**95**	P			**Pn**	**11 59 26.4**	**+0.3**
GVDS				S			**Sn**	**11 59 47.0**	**0.0**
	465nm,0.4s								
VAM	**Vamos**	**1.84**	**77**	P			**Pn**	**11 59 28.4**	**+0.7**
ZIRJ	**Zirje**	**9.92**	**332**	*i* Pn			**Pn**	**12 01 16.7**	**-1.6**
ZIRJ				Sn			Sn	12 02 57.6	-11
MORI	**Morici**	**10.08**	**333**	*e*Pn			**Pn**	**12 01 19.9**	**-0.7**
MORI				Sn			Sn	12 03 02.8	-9.3
DUGI	**Dugi Otok**	**10.43**	**331**	*i* Pn			**Pn**	**12 01 25.0**	**-0.4**
DUGI				Sn			Sn	12 03 10.4	-10
NVLJ	**Novalja**	**10.98**	**332**	*e*Pn			**Pn**	**12 01 36.8**	**+3.9**
NVLJ				Sn			Sn	12 03 24.1	-10
AKASG	**Malin Array Be**	**16.52**	**16**	Pn			**Pn**	**12 02 42.5**	**-4.2**
	0.2nm,0.3s,baz=204,slow=11,SNR=1.3								
FINES	**FINESS Array B**	**26.56**	**4**	P			**P**	**12 04 34.2**	**+2.6**
	0.6nm,0.7s,baz=165,slow=11,SNR=3.5								
TORD	**Torodi Ar. Bea**	**28.49**	**225**	P			P	12 04 58.5	+9.2
	0.2nm,0.3s,baz=34,slow=10,SNR=1.2								
ARCES	**ARCESS Array B**	**34.62**	**2**	P			**P**	**12 05 42.8**	**+0.2**
	2.5nm,0.9s,baz=185,slow=9.8,SNR=1.2								
MKAR	**Makanchi Array**	**46.01**	**56**	P			**P**	**12 07 17.4**	**+0.4**
	0.5nm,0.5s,baz=282,slow=6.8,SNR=7.3								
ZALV	**Zalesovo Beam**	**46.96**	**46**	P			**P**	**12 07 24.2**	**-0.2**
	1.3nm,0.3s,baz=274,slow=7.9,SNR=3.5								

*IDC **17** 12:00:40.9±28.0, 5.70S×105.97E, h61km±11km, mb3.6/3, mb1 3.8/3, mb1mx3.2/36, mbtmp3.8/3, Error ellipse: s-maj=474.9km s-min=119.6km az=129.0*
*DJA **17** 12:01:12.2±0.4, 8.6S×107.9E±°, h10km, M4.3/10, mb4.4/5, mB5.0/2, MLv4.2/10, Mw(mB)4.3/2*
ISC 17 12:01:12.7±1.5, **8.6S**±0.2×**108.8E**±0.2, **h35**km, **n10**, σ1°**25**/13, **mb3.7**/3, **Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.38**	**318**	P			**Pn**	**12 01 36.6**	**+1.0**
UGM	**Wanagama**	**1.87**	**69**	P			**Pn**	**12 01 40.7**	**-1.6**
SMRI	**Semarang**	**2.26**	**48**	P			**Pn**	**12 01 47.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**5.34**	**89**	P			**Pn**	**12 02 30.7**	**+0.7**
	0.6nm2μm49nm,0.7s								
SRBI	**Singaraja**	**6.41**	**86**	P			**Pn**	**12 02 46.3**	**+1.6**
	0.2nm22nm,0.9s								
TWSI	**Taliwang, Sumb**	**8.04**	**92**	P			**Pn**	**12 03 07.7**	**+0.6**
	0.1nm7.6nm,0.9s								
PLAI	**Plampang**	**8.92**	**92**	P			**Pn**	**12 03 20.0**	**+0.8**
WRA	**Warramunga Arr**	**27.20**	**117**	P			**P**	**12 06 53.3**	**-0.1**
	1.5nm,0.8s,baz=291,slow=11,SNR=10								
WRA				pP			**pwP**	**12 07 08.8**	**+1.6**
	0.8nm,0.7s,baz=296,slow=11,SNR=2.5								
ASAR	**Alice Springs**	**28.36**	**125**	P			**P**	**12 07 03.9**	**+0.1**
	0.6nm,0.7s,baz=305,slow=8.5,SNR=7.2								
ASAR				pP			**pwP**	**12 07 18.4**	**+0.9**
	0.5nm,0.8s,baz=305,slow=8.4,SNR=3.6								
STKA	**Stephens Creek**	**38.30**	**132**	P			**P**	**12 08 28.0**	**-2.0**
	1.1nm,0.5s,baz=309,slow=10,SNR=2.0								
STKA				pP			**pwP**	**12 08 43.8**	**-0.2**
	1.8nm,0.8s,baz=320,slow=7.9,SNR=1.8								

DJA 17 12:01:24.6±0.3, **1°S**±3°×**12°2E**±°, **h10**km, **M3.8**/10, **mb3.9**/3, **MLv3.7**/10, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.67**	**134**	P			Pg	12 01 37.6	+0.1
APSI	**Ampana**	**0.72**	**243**	P			Pg	12 01 38.1	-0.4
MRSI	**Marisa**	**1.11**	**342**	P			Pb	12 01 45.4	-0.5
GTOI	**Gorontalo**	**1.41**	**31**	P			Pn	12 01 49.7	-0.6
TTSI	**Tana Toraja**	**3.48**	**225**	P			Pn	12 02 18.9	+0.1
SANI	**Sanana**	**3.98**	**112**	P			Pn	12 02 24.7	-1.0
SPSI	**Sidrap Palu**	**4.20**	**217**	P			Pn	12 02 28.9	+0.1
BNSI	**Bone**	**4.38**	**210**	P			Pn	12 02 31.6	+0.4
NLAI	**Namlea**	**5.49**	**119**	P			Pn	12 02 47.1	+0.7
	0.1nm7.7nm,0.9s								
BSSI	**Bau Bau, Buton**	**5.81**	**198**	P			Pn	12 02 51.1	+0.2

*NEIC **17** 12:02:35.9±1.0, 19.61N±0.02×66.06W±0.07, h22km±12km, Error ellipse: s-maj=9.7km s-min=1.5km az=71.0*
*RSPR **17** 12:02:36.2, 19.72N×66.10W, h8km±16km, MD3.4/6*
ISC 17 12:02:31.1±4.3, **19.8N**±0.2×**66.08W**±0.06, **h10**km, **n28**, σ0°**36**/32, **6C-3D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.34**	**198**	*e*P			**Pg**	**12 02 57.7**	**+0.8**
EMPR	**Esperanza - Ma**	**1.34**	**198**	*e*S			**Sb**	**12 03 13.4**	**-0.3**
EMPR	**Esperanza - Ma**	**1.34**	**198**				**Pg**	**12 02 57.7**	**+0.8**
EMPR							**Sb**	**12 03 13.4**	**-0.3**
GCPR	**Guaynabo City**	**1.44**	**180**	↓*e*P			**Pb**	**12 02 58.1**	**0.0**
GCPR	**Guaynabo City**	**1.44**	**180**				**Pb**	**12 02 58.1**	**0.0**
CBYP	**Canovanas**	**1.50**	**172**	↑*e*P			**Pb**	**12 02 58.8**	**-0.2**
CBYP	**Canovanas**	**1.50**	**172**	*e*S			**Sn**	**12 03 17.8**	**+0.1**
CBYP	**Canovanas**	**1.50**	**172**				**Pg**	**12 02 58.8**	**-0.2**
CBYP							**Sn**	**12 03 17.8**	**+0.1**
AOPR	**Arecibo Observ**	**1.54**	**204**	↑*e*P			**Pb**	**12 02 59.5**	**-0.3**
AOPR	**Arecibo Observ**	**1.54**	**204**	*e*S			**Sb**	**12 03 19.2**	**-0.2**
AOPR	**Arecibo Observ**	**1.54**	**204**				**Pb**	**12 02 59.5**	**-0.3**
AOPR							**Sb**	**12 03 19.2**	**-0.2**
HUMP	**Col San Antoni**	**1.62**	**172**	↑*e*P			**Pg**	**12 03 02.3**	**+0.1**
HUMP	**Col San Antoni**	**1.62**	**172**	*e*S			**Sn**	**12 03 20.9**	**+0.1**
HUMP	**Col San Antoni**	**1.62**	**172**				**Pg**	**12 03 02.3**	**+0.1**
HUMP							**Sn**	**12 03 20.9**	**+0.1**
CUPR	**Culebra, Puert**	**1.63**	**152**	↓*e*P			**Pb**	**12 03 01.4**	**+0.1**
CUPR	**Culebra, Puert**	**1.63**	**152**	*e*S			**Sb**	**12 03 21.7**	**-0.2**
CUPR	**Culebra, Puert**	**1.63**	**152**				**Pb**	**12 03 01.4**	**+0.1**
CUPR							**Sb**	**12 03 21.7**	**-0.2**
SJG	**San Juan**	**1.64**	**182**				**Pb**	**12 03 01.3**	**-0.1**
MTP	**Monte Pirata**	**1.73**	**163**	↓*e*P			**Pb**	**12 03 02.5**	**-0.5**
MTP	**Monte Pirata**	**1.73**	**163**	*e*S			**Sb**	**12 03 24.4**	**-0.3**
MTP	**Monte Pirata**	**1.73**	**163**				**Sb**	**12 03 24.4**	**-0.3**
MTP	**Monte Pirata**	**1.73**	**163**				**Pb**	**12 03 02.4**	**-0.5**
PDPR	**Patillas Dam,**	**1.73**	**178**	Pn			**Pg**	**12 03 04.6**	**+0.2**
CELP	**Cerrillos**	**1.74**	**196**	↑*e*P			**Pb**	**12 03 03.4**	**+0.2**
CELP	**Cerrillos**	**1.74**	**196**				**Pb**	**12 03 03.4**	**+0.2**
MLPR	**Magueyes Islan**	**2.00**	**207**	↑*e*P			**Pb**	**12 03 06.8**	**-0.8**
MLPR	**Magueyes Islan**	**2.00**	**207**				**Pb**	**12 03 06.8**	**-0.8**
SDDR	**Presa de Saban**	**4.97**	**262**	Pn			Pb	12 03 52.0	-6.3

*PRE **17** 12:21:16.3±0.8, 26.36S×27.55E, h2km, ML2.4*
*EAF **17** 12:21:21.9±0.8, 24.21S×23.63E, h10km, MD3.2*
*BUL **17** 12:21:21.9±0.8, 24.21S×23.63E, h10km, MD3.3*
ISC 17 12:21:16.5±1.0, **26.35S**±0.04×**27.56E**±0.04, **h4**km±7km, **n14**, σ1°**76**/28, **South Africa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.04**	**84**	*e*P			**Pg**	**12 21 17.7**	**-0.1**
KLOF				*e*S			**Sg**	**12 21 18.1**	**-0.6**
KLOF				AML			AML	12 21 22.7	
	comp=Z,2μm,0.1s								
WDLM	**Western Deep L**	**0.14**	**241**	*e*P			**Pg**	**12 21 19.1**	**-0.3**
WDLM				*e*S			**Sg**	**12 21 20.3**	**-1.0**
WDLM				AML			AML	12 21 25.4	
	comp=Z,734nm,0.3s								
PRYS	**Parys**	**0.60**	**198**	*e*P			**Pg**	**12 21 26.9**	**-1.1**
PRYS				*e*S			**Sg**	**12 21 36.2**	**+0.4**
PRYS				AML			AML	12 21 40.5	
	comp=Z,475nm,0.6s								
ERPM	**east rand prop**	**0.61**	**89**	*e*P			**Pg**	**12 21 28.0**	**-0.3**
ERPM				*e*S			**Sg**	**12 21 37.6**	**+1.4**
ERPM				AML			AML	12 21 47.2	
	comp=Z,98nm,0.7s								
SLR	**Silverton**	**0.90**	**47**	*e*P			**Pg**	**12 21 33.8**	**+0.2**
SLR				*e*S			**Sg**	**12 21 46.0**	**+0.7**
SLR				AML			AML	12 21 54.1	
	comp=Z,76nm,0.2s								
SWZ	**Schweizer**	**2.16**	**247**	*e*P			**Pn**	**12 21 54.4**	**+1.0**
SWZ				*e*S			**Sn**	**12 22 20.9**	**+0.3**
SWZ				AML			AML	12 22 22.2	
	comp=Z,62nm,0.7s								
LBTB	**Lobatse**	**2.22**	**307**	*e*P			**Pn**	**12 21 54.6**	**+0.4**
LBTB				*e*S			**Sn**	**12 22 22.7**	**+0.6**
LBTB				AML			AML	12 22 25.6	
	comp=Z,96nm,0.5s								
LBTB	**Lobatse**	**2.22**	**307**	*i* P			**Pn**	**12 21 55.5**	**+1.3**
LBTB				*i* Sg			**Sn**	**12 22 22.6**	**+0.5**
LBTB	**Lobatse**	**2.22**	**307**	*i* P			**Pn**	**12 21 55.5**	**+1.3**
LBTB				*i* Sg			**Sn**	**12 22 22.6**	**+0.5**
BOSA	**Boshof**	**3.04**	**222**	*e*P			**Pn**	**12 22 05.8**	**+0.2**
BOSA				*e*S			**Sn**	**12 22 42.5**	**0.0**
BOSA				AML			AML	12 22 54.1	
	comp=Z,18nm,0.6s								
MATP	**Matopo**	**5.96**	**9**	*i* P			**Pn**	**12 22 47.9**	**+2.2**
MATP				*i* S			**Sn**	**12 23 51.3**	**-3.3**
MATP	**Matopo**	**5.96**	**9**	*i* P			**Pn**	**12 22 47.9**	**+2.2**
MATP				*i* S			**Sn**	**12 23 51.3**	**-3.3**
BLWY	**Bulawayo**	**6.26**	**9**	*i* P			**Pn**	**12 22 51.4**	**+1.5**
BLWY				*i* S			**Sn**	**12 23 58.2**	**-3.7**
BLWY	**Bulawayo**	**6.26**	**9**	*i* P			**Pn**	**12 22 51.4**	**+1.5**
BLWY				*i* S			**Sn**	**12 23 58.2**	**-3.7**

*SJA **17** 12:43:56.3±0.7, 30.50S×72.54W, h40km±6km, ML4.2, MW4.5*
*NEIC **17** 12:43:56.7±2.7, 30.54S±0.04×72.26W±0.06, h10km±3km, mb4.5/8, ML4.1(GUC), Error ellipse: s-maj=7.2km s-min=5.4km az=91.0*
*IDC **17** 12:43:56.4±0.7, 30.55S×72.02W, h0km, mb4.2/6, mb1 4.3/10, mb1mx4.1/24, mbtmp4.1/10, ML4.1/4, MS3.2/6, Ms1 3.2/6, ms1mx3.0/24, Error ellipse: s-maj=26.6km s-min=21.7km az=109.0*
*GUC **17** 12:44:00.4±0.9, 30.56S×72.00W, h47km±14km, ML4.1*
ISC 17 12:43:55.6±0.7, **30.44S**±0.03×**72.13W**±0.04, **h3**km±3km, **h4**km:**pP-P**, **n101**, σ1°**60**/126, **mb4.3**/8, **4C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**1.18**	**77**	↑*i*P			**Pn**	**12 44 21.4**	**+2.2**
GO04				*e*S			**Sn**	**12 44 37.3**	**+1.3**
GO04				IAML				12 44 40.3	
	comp=N,17μm,0.3s								
GO04	**Tololo Observa**	**1.18**	**77**				**Pn**	**12 44 21.4**	**+2.2**
GO04						Sn	**Sn**	**12 44 38.5**	**+2.5**
GO04	**Tololo Observa**	**1.18**	**77**	*e*P			**Pn**	**12 44 21.6**	**+2.2**
GO04				*e*S			**Sn**	**12 44 38.6**	**+2.5**
CO02	**Combarbal**	**1.23**	**128**	↑*i*P			**Pn**	**12 44 20.7**	**+0.8**
CO02				*e*S			**Sn**	**12 44 35.9**	**-1.3**
CO02				IAML				12 44 37.9	
	comp=E,14μm,0.4s								
CO02	**Combarbal**	**1.23**	**128**				**Pn**	**12 44 20.7**	**+0.8**
CO02						Sn	**Sn**	**12 44 36.2**	**-0.9**
CO03	**El Pedregal**	**1.30**	**108**	↑*i*P			**Pn**	**12 44 22.3**	**+1.4**
CO03				*e*S			**Sn**	**12 44 38.5**	**-0.3**
CO03				IAML				12 44 41.5	
	comp=E,6μm,0.5s								
CO03	**El Pedregal**	**1.30**	**108**				**Pn**	**12 44 22.3**	**+1.4**
CO03						Sn	**Sn**	**12 44 40.0**	**+1.1**
CO01	**Juntas del Tor**	**1.82**	**76**	↑*i*P			**Pg**	**12 44 31.5**	**+0.9**
CO01				*e*S			**Sg**	**12 44 54.6**	**+0.4**
CO01				IAML				12 44 56.7	
	comp=N,1μm,0.4s								
CO01	**Juntas del Tor**	**1.82**	**76**				**Pg**	**12 44 31.5**	**+0.9**
LCO	**Las Campanas**	**1.89**	**41**				**Pg**	**12 44 31.8**	**-0.2**
LCO						Sn	**Sg**	**12 44 57.3**	**+0.8**
AC05	**El Transito**	**2.27**	**46**	↓*i*P			**Pg**	**12 44 37.6**	**-1.7**
AC05				IAML				12 45 22.3	
	comp=N,908nm,0.4s								
AC05	**El Transito**	**2.27**	**46**				**Pg**	**12 44 37.5**	**-1.8**
AC05						Sn	**Sg**	**12 45 05.1**	**-3.6**
AROD	**Rodeo**	**2.31**	**84**	*e*P			**Pg**	**12 44 40.0**	**0.0**
AROD				*e*S			**Sg**	**12 45 08.9**	**-1.1**
AC04	**Llanos de Chal**	**2.41**	**23**	↓*i*P			**Pb**	**12 44 37.8**	**-

FSA	**Cafayete**	**6.93**	**53**	*eP*		Pn	12 45 43.1	+4.8
PB10	**IPOC Station P**	**7.04**	**12**	*eP*		**Pn**	**12 45 38.9**	**-0.8**
PB10				*eS*		**Sn**	**12 46 59.0**	**-1.4**
PB10				IAML			12 48 03.8	
	comp=Z,22nm,1.8s							
PB15	**IPOC Station P**	**7.59**	**19**			**Pn**	**12 45 47.3**	**-0.1**
PB06	**IPOC Station P**	**8.04**	**17**	Pn		**Pn**	**12 45 52.3**	**-1.2**
LVC	**Limon Verde**	**8.32**	**21**	Pn		**Pn**	**12 45 57.2**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=165,slow=11,SNR=18							
LVC				Sn		**Sn**	**12 47 29.3**	**-2.9**
	comp=Z,0.7nm,0.3s,baz=180,slow=20,SNR=1.8							
LVC				Lg	Lg		12 48 22.0	
	comp=Z,1.0nm,0.3s,baz=127,slow=20,SNR=4.0							
LVC				LR	LR		12 49 30.7	
	comp=Z,228nm,19.2s,baz=200,slow=40							
LVC	**Limon Verde**	**8.32**	**21**	Pn		**Pn**	**12 45 57.7**	**+0.2**
PLCA	**Paso Flores**	**10.35**	**173**	Pn		**Pn**	**12 46 22.9**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=340,slow=13,SNR=12							
PLCA				LR	LR		12 50 51.1	
	comp=Z,151nm,18.6s,baz=305,slow=40							
PLCA	**Paso Flores**	**10.35**	**173**			**Pn**	**12 46 23.8**	**-1.2**
PSGCX	**Pisagua**	**10.95**	**10**	Pn		**Pn**	**12 46 32.5**	**-1.0**
MNMC	**Minye Minye**	**11.50**	**12**	Pn		**Pn**	**12 46 41.2**	**+0.1**
CPUP	**Villa Florida**	**13.65**	**76**	Lg	Lg		12 51 12.4	
	comp=Z,0.1nm,0.3s,baz=319,slow=20,SNR=2.9							
CPUP				LR	LR		12 51 49.0	
	comp=Z,50nm,19.5s,baz=238,slow=35							
LPAZ	**La Paz**	**14.56**	**15**	Pn		**Pn**	**12 47 24.9**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=186,slow=7.2,SNR=10							
LPAZ				LR	LR		12 52 43.1	
	comp=Z,51nm,18.5s,baz=184,slow=36							
LPAZ	**La Paz**	**14.56**	**15**	Pn		**P**	**12 47 27.2**	**-2.8**
SIV	**San Ignacio**	**17.59**	**38**	P		**Pn**	**12 48 02.1**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=223,slow=9.8,SNR=22							
SIV				LR	LR		12 55 21.7	
	comp=Z,70nm,18.3s,baz=218,slow=39							
NNA	**Nana**	**18.88**	**346**	LR	LR		12 54 34.6	
	comp=Z,71nm,18.4s,baz=163,slow=34							
BDFB	**Brasilia**	**26.55**	**62**	P		**P**	**12 49 36.2**	**+1.1**
	comp=Z,11nm,0.8s,baz=238,slow=9.5,SNR=15							
BDFB	**Brasilia**	**26.55**	**62**	P		**P**	**12 49 37.0**	**+1.9**
BDFB				IAmb	IAmb		12 49 37.4	
	comp=Z,11nm,0.8s							
VNA3	**Neumayer Olymp**	**52.68**	**159**	P		**P**	**12 53 11.9**	**+0.9**
VNA2	**Neumayer--Watz**	**53.32**	**158**	P		**P**	**12 53 16.4**	**+0.8**
	baz=283,slow=9.2							
SNAA	**Sanae**	**54.91**	**159**	P		**P**	**12 53 28.0**	**+0.7**
SNAA	**Sanae**	**54.91**	**159**	P		**P**	**12 53 28.0**	**+0.7**
QSPA	**South Pole Qui**	**59.78**	**180**	P		**P**	**12 54 02.7**	**+0.8**
QSPA				IAmb	IAmb		12 54 03.7	
	comp=Z,3.5nm,0.8s							
TX31	**Lajitas Ar. Si**	**66.61**	**330**	P		**P**	**12 54 48.7**	**+1.1**
TX31				IAmb	IAmb		12 55 03.3	
	comp=Z,1.8nm,0.9s							
TX32	**Lajitas Array**	**66.61**	**330**	P		**P**	**12 54 48.9**	**+1.4**
TXAR	**Lajitas Array**	**66.61**	**330**	P		**P**	**12 54 49.8**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=151,slow=8.1,SNR=10							
TXAR	**Lajitas Array**	**66.61**	**330**	P		**P**	**12 54 48.8**	**+1.3**
MNTX	**Cornudas Mount**	**69.39**	**330**	P		**P**	**12 55 06.6**	**+1.7**
DBIC	**Dimbokro**	**74.14**	**72**	P		**P**	**12 55 34.6**	**+0.8**
	comp=Z,3.0nm,0.9s,baz=189,slow=5.5,SNR=4.1							
DBIC	**Dimbokro**	**74.14**	**72**	P		**P**	**12 55 35.3**	**+1.4**
DBIC				IAmb	IAmb		12 55 36.3	
	comp=Z,4.6nm,1.1s							
PDAR	**Pinedale Array**	**80.57**	**333**	P		**P**	**12 56 11.2**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=146,slow=8.0,SNR=2.7							
PDAR	**Pinedale Array**	**80.57**	**333**	P		**P**	**12 56 09.0**	**-0.5**
NVAR	**Mina Array Bea**	**80.93**	**325**	P		**P**	**12 56 13.5**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=152,slow=6.7,SNR=4.3							
NVAR	**Mina Array Bea**	**80.93**	**325**	P		**P**	**12 56 12.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**83.08**	**70**	P		**P**	**12 56 23.9**	**+0.7**
	comp=Z,7.8nm,0.7s,baz=267,slow=4.8,SNR=32							
TORD	**Torodi Ar. Bea**	**83.08**	**70**	P		**P**	**12 56 24.4**	**+1.3**
WRA	**Warramunga Arr**	**123.80**	**210**	PKP		**PKPdf**	**13 02 55.2**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=150,slow=1.8,SNR=8.3							
H11S2	**WAKE ISLAND Hyl**	**25.67**	**272**	T		T	15 21 45.9	
	baz=116,slow=75,SNR=10							
H11S1	**WAKE ISLAND Hyl**	**25.68**	**272**	T		T	15 21 48.6	
	baz=116,slow=75,SNR=10							
H11S3	**WAKE ISLAND Hyl**	**25.69**	**272**	T		T	15 21 50.5	
	baz=116,slow=75,SNR=11							
BVAR	**Borovoye Array**	**144.66**	**39**	PKP		**PKPdf**	**13 03 33.7**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=270,slow=2.9,SNR=13							
KURBB	**Kurchatov Arra**	**150.25**	**39**	PKPbc		**PKiKP**	**13 03 49.4**	**+0.8**
	comp=Z,5.8nm,0.8s,baz=304,slow=3.0,SNR=36							
KURBB				PKPab		**sPKPab**	**13 03 55.4**	**+1.6**
	comp=Z,2.7nm,0.7s,baz=306,slow=3.1,SNR=12							
AAK	**Ala-Archa**	**150.74**	**56**	PKPbc		**PKiKP**	**13 03 51.5**	**+1.3**
	comp=Z,6.6nm,0.8s,baz=225,slow=4.3,SNR=18							
AAK				PKPab		**sPKPab**	**13 03 57.4**	**+1.1**
	comp=Z,3.5nm,0.6s,baz=346,slow=1.3,SNR=7.8							
AAK	**Ala-Archa**	**150.74**	**56**	PKPdf		**PKPdf**	**13 03 43.3**	**-0.7**
AAK						**PKiKP**	**13 03 51.8**	**+1.6**
AAK						**PKPab**	**13 03 56.6**	**0.0**
ZALV	**Zalesovo Beam**	**151.21**	**29**	PKP		**PKPdf**	**13 03 44.8**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=289,slow=4.4,SNR=1.6							
ZALV				PKPbc		**PKiKP**	**13 03 51.7**	**+1.2**
	comp=Z,18nm,0.7s,baz=298,slow=3.3,SNR=61							
ZALV				PKPab		**PKPab**	**13 03 57.2**	**-0.6**
	comp=Z,12nm,0.7s,baz=304,slow=3.1,SNR=18							
MKAR	**Makanchi Array**	**154.36**	**43**	PKP		**PKPdf**	**13 03 49.0**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=300,slow=1.2,SNR=2.5							
MKAR				PKPbc		**sPKPbc**	**13 03 58.6**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=316,slow=2.6,SNR=13							
MKAR				PKPab		**sPKPab**	**13 04 12.8**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=327,slow=3.3,SNR=3.5							
MKAR	**Makanchi Array**	**154.36**	**43**			**PKPdf**	**13 03 48.0**	**-1.0**
MKAR						**sPKPbc**	**13 03 58.3**	**+1.2**
MKAR				PKPab		**PKPab**	**13 04 09.1**	**-2.3**

IDC 17 12:49:13.9±2.2, 1.62N×125.98E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.0/32, mbtmp3.0/3, Error ellipse: s-maj=192.6km s-min=28.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.95**	**159**	P	P	12 54 19.5	-0.4
	0.2nm,0.7s,baz=338,slow=11,SNR=1.5						
ASAR	**Alice Springs**	**26.29**	**163**	P	P	12 54 51.7	+0.4
	0.3nm,1.0s,baz=349,slow=7.6,SNR=2.1						
MKAR	**Makanchi Array**	**58.87**	**326**	P	P	12 59 14.5	-0.1
	0.1nm,0.4s,baz=136,slow=6.2,SNR=4.4						

UPA 17 12:51:23.6±0.9, 6.95N×76.08W, h1km±6km, MW4.6
RSNC 17 12:51:26.1±1.3, 6.90N×76.16W, h0km±10km, ML2.6
ISC 17 12:51:24.1±1.2, 6.89N±0.03×76.13W±0.04, h15km±11km, n20, σ1°21/35, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.15**	**328**	⇑*iP*	**Pb**	**12 51 28.4**	**-0.2**
DBBC				*eS*	**Sb**	**12 51 31.5**	**-0.1**
HELC	**Santa Helena**	**0.92**	**139**	*eP*	**Pn**	**12 51 43.2**	**+0.4**
HELC				*eS*	**Sn**	**12 51 57.2**	**+1.3**
HELC	**Santa Helena**	**0.92**	**139**	*eP*	**Pn**	**12 51 43.0**	**+0.2**
HELC				⇓*iP*	**Pn**	**12 51 43.0**	**+0.2**
HELC				*eS*	**Sn**	**12 51 56.6**	**+0.7**
HELC				*i*		12 52 00.8	
	comp=Z,94nm,0.5s						
UREC	**San Jos de Ur**	**1.04**	**35**	*eP*	**Pn**	**12 51 45.1**	**+1.0**
UREC				*eS*	**Sg**	**12 51 58.9**	**+1.0**
UREC				*i*		12 52 02.2	
	comp=Z,185nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.40**	**65**	⇑*iP*	**Pg**	**12 51 51.4**	**+0.3**
ZARC				*eS*	**Sg**	**12 52 10.5**	**+1.2**
ZARC				*i*		12 52 13.4	
	comp=Z,167nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.70**	**102**	*eP*	**Pg**	**12 51 56.8**	**0.0**
PTBC				*eS*	**Sg**	**12 52 20.1**	**+1.2**
PTBC				*i*		12 52 22.8	
	comp=Z,110nm,0.2s						
NORC	**Norcasia**	**1.82**	**136**	⇑*iP*	**Pg**	**12 51 58.6**	**-0.5**
NORC				*eS*	**Sg**	**12 52 22.3**	**-0.5**
NORC				*i*		12 52 28.2	
	comp=Z,50nm,0.5s						
GUY2C	**Guyana, Caldas**	**1.82**	**155**	*eP*	**Pg**	**12 51 58.5**	**-0.7**
GUY2C				*eS*	**Sg**	**12 52 25.5**	**+2.5**
GUY2C				*i*		12 52 32.8	
	comp=Z,44nm,0.6s						
MONA	**Monteria**	**1.92**	**14**	*eP*	**Pn**	**12 51 56.3**	**-0.1**
MONA				*eS*	**Sn**	**12 52 20.2**	**-0.1**
MOTC	**Monteria, Cord**	**1.93**	**14**	*eP*	**Pn**	**12 51 56.0**	**-0.4**
MOTC				*eS*	**Sn**	**12 52 20.9**	**+0.5**
MOTC				*i*		12 52 36.6	
	comp=Z,20nm,0.5s						
RREF	**El Recreo**	**2.13**	**158**	*eP*	**Pg**	**12 52 04.1**	**-0.9**
RREF				*eS*	**Sg**	**12 52 33.9**	**+1.2**
RREF				*i*		12 52 37.6	
	comp=Z,39nm,0.4s						
CAP2	**Capurgana**	**2.13**	**325**	*eP*	**Pn**	**12 51 58.9**	**-0.2**
CAP2				*eS*	**Sn**	**12 52 26.9**	**+1.6**
SPBC	**San Pablo de B**	**2.39**	**121**	*eP*	**Pb**	**12 52 07.7**	**+0.8**
SPBC				*eS*	**Sg**	**12 52 41.1**	**+0.1**
SPBC				*i*		12 52 46.0	
	comp=Z,37nm,0.7s						
TOLC	**Tolima**	**2.43**	**161**	*eP*	**Pg**	**12 52 09.7**	**-1.1**
TOLC				*i*		12 52 56.8	
	comp=Z,10nm,0.5s						
UPD2	**Meteti**	**2.49**	**311**	*eP*	**Pn**	**12 52 05.2**	**+1.1**
UPD2				*eS*	**Sb**	**12 52 36.6**	**-2.3**
SMLC	**San Martn de**	**2.79**	**47**	*eP*	**Pb**	**12 52 13.2**	**-0.3**
SMLC				*i*		12 52 51.4	
	comp=Z,20nm,0.3s						
YOTC	**Yotoco, Valle**	**2.90**	**184**	*eP*	**Pn**	**12 52 11.6**	**+1.8**
PRAC	**Prado**	**3.39**	**159**	*eP*	**Pb**	**12 52 22.2**	**-1.7**
PAMC	**Pamplona, Colo**	**3.43**	**82**	*eP*	**Pb**	**12 52 21.8**	**-3.1**
PAMC				*i*		12 53 12.3	
	comp=Z,22nm,0.5s						
BCIP	**Isla Barro Col**	**4.31**	**302**	*eP*	**Pn**	**12 52 29.6**	**+0.5**

JMA 17 13:03:19.9±0.2, 24.99N×123.55E, h12km±4km, M3.4
IDC 17 13:03:33.5±6.2, 24.93N×123.52E, h125km±61km, mb3.3/9, mb1 3.5/10, mb1mx3.2/49, mbtmp3.7/10, MS3.3/6, Ms1 3.4/6, ms1mx3.0/22, Error ellipse: s-maj=26.6km s-min=16.1km az=82.0
ISC 17 13:03:23.3±0.7, 24.85N±0.06×123.54E±0.04, h35km, n26, σ1°38/29, mb3.6/9, MS3.7/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.54**	**161**	P	**Pn**	**13 03 32.9**	**-1.6**
IRIF				*eS*	**Sn**	**13 03 41.8**	**-0.5**
YOJ	**Yonaguni jima**	**0.61**	**231**	P	**Pn**	**13 03 33.6**	**-1.9**
YOJ				S	**Sn**	**13 03 42.8**	**-1.3**
JYNG	**Yonagunijimaku**	**0.67**	**234**	P	**Pn**	**13 03 34.4**	**-1.8**
JYNG				*eS*	**Sn**	**13 03 44.9**	**-0.5**
JIJ	**Ishigaki jima**	**0.73**	**131**	P	**Pn**	**13 03 35.1**	**-2.0**
JIJ				S	**Sn**	**13 03 45.7**	**-1.4**
JKRS	**Kuro-shima**	**0.74**	**144**	P	**Pn**	**13 03 36.0**	**-1.3**
JKRS				*eS*	**Sn**	**13 03 47.5**	**+0.2**
JISG	**Ishigakijimahi**	**0.75**	**110**	P	**Pn**	**13 03 35.1**	**-2.3**
JISG				S	**Sn**	**13 03 46.1**	**-1.4**
HATJ	**Hateruma jima**	**0.82**	**163**	P	**Pn**	**13 03 37.7**	**-0.7**
HATJ				*eS*	**Sn**	**13 03 50.3**	**+1.0**
JTJ	**Tarama**	**1.08**	**101**	P	**Pn**	**13 03 40.8**	**-1.1**
JTJ				*eS*	**Sn**	**13 03 55.4**	**-0.3**
JIRB	**Irabujima**	**1.49**	**90**	P	**Pn**	**13 03 46.6**	**-0.9**
JIKM	**Ikemajima**	**1.56**	**87**	P	**Pn**	**13 03 47.9**	**-0.6**
JMJ2	**Miyako jima3**	**1.63**	**93**	*eS*	**Sn**	**13 04 09.8**	**+0.5**
JOW	**Kunigami**	**4.71**	**64**	P	Pn	13 04 38.4	+6.5
	0.8nm,0.3s,baz=247,slow=13,SNR=3.6						
TGY	**Tagaytay City**	**10.96**	**193**	LR	LR	13 10 25.2	
	comp=Z,123nm,21.1s,baz=260,slow=37						
KSRS	**Korea Array**	**13.12**	**16**	P	**P**	**13 06 34.5**	**-2.3**
	0.1nm,0.3s,baz=199,slow=12,SNR=1.2						
KSRS				LR	LR	13 12 18.3	
	comp=Z,100nm,18.3s,baz=216,slow=40						
MJAR	**Matsushiro Arr**	**17.16**	**44**	LR	LR	13 13 48.6	
	comp=Z,36nm,20.7s,baz=300,slow=36						
CMAR	**Chiang Mai Arr**	**23.70**	**259**	P	**P**	**13 08 34.6**	**+2.5**
	0.7nm,0.3s,baz=60,slow=8.2,SNR=8.6						
KLR	**Kul'dur**	**25.18**	**13**	P	**P**	**13 08 46.8**	**+1.5**
	1.4nm,0.9s,baz=231,slow=7.4,SNR=3.1						
SONM	**Songino Array**	**26.66**	**334**	P	**P**	**13 08 59.9**	**+1.0**
	0.9nm,0.8s,baz=140,slow=9.7,SNR=6.7						
SONM				LR	LR	13 20 23.1	
	comp=Z,64nm,18.2s,baz=158,slow=38						
MKAR	**Makanchi Array**	**39.38**	**314**	P	**P**	**13 10 50.0**	**+0.5**
	0.5nm,0.7s,baz=99,slow=8.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**40.88**	**326**	P	**P**	**13 11 01.9**	**+0.2**
	0.7nm,0.3s,baz=140,slow=9.4,SNR=2.3						
WRA	**Warramunga Arr**	**45.74**	**166**	P	**P**	**13 11 42.4**	**+1.1**
	1.5nm,0.7s,baz=348,slow=8.6,SNR=7.3						
TIXI	**Tiksi**	**46.93**	**2**	P	**P**	**13 11 49.3**	**-0.8**
	0.6nm,0.3s,baz=131,slow=8.7,SNR=4.2						
ASAR	**Alice Springs**	**49.26**	**167**	P	**P**	**13 12 10.3**	**+1.6**
	0.4nm,0.7s,baz=350,slow=7.2,SNR=6.7						
NWAO	**Narrogin (SRO)**	**57.76**	**186**	LR	LR	13 39 37.2	
	comp=Z,55nm,18.3s,baz=196,slow=37						
ARCES	**ARCESS Array B**	**69.73**	**338**	LR	LR	13 51 01.9	
	comp=Z,66nm,18.9s,baz=230,slow=41						
YKA	**Yellowknife Ar**	**81.52**	**23**	P	**P**	**13 15 37.1**	**+0.2**
	0.3nm,0.7s,baz=311,slow=4.7,SNR=5.6						

IDC 17 13:04:45.0±6.8, 6.57S×149.43E, h98km±45km, mb3.1/2, mb1 3.3/4, mb1mx3.0/38, mbtmp3.5/4, Error ellipse: s-maj=84.1km s-min=49.8km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.60**	**218**	P	Pn	13 05 38.2	-0.6
	3.1nm,0.3s,baz=59,slow=12,SNR=9.5						
PMG				S	Sn	13 06 21.4	+1.0
	6.6nm,0.3s,baz=29,slow=21,SNR=7.8						
WRA	**Warramunga Arr**	**19.78**	**226**	P	P	13 09 07.6	0.0
	0.2nm,0.3s,baz=52,slow=11,SNR=23						
ASAR	**Alice Springs**	**22.62**	**220**	P	P	13 09 37.6	-0.3
	0.2nm,0.4s,baz=57,slow=9.4,SNR=14						
FITZ	**Fitzroy Crossi**	**25.87**	**242**	P	P	13 10 07.3	-0.4
	1.2nm,0.6s,baz=64,slow=11,SNR=2.2						
TORD	**Torodi Ar. Bea**	**147.57**	**284**	PKPbc	PKPbc	13 24 19.0	0.0
	0.3nm,0.6s,baz=68,slow=3.7,SNR=1.9						

JMA 17 13:08:15.6±0.2, 24.98N×123.54E, h20km±4km, M3.4
IDC 17 13:08:30.9±5.4, 24.97N×123.46E, h149km±55km, mb3.2/10, mb1 3.4/11, mb1mx3.2/45, mbtmp3.7/11, Error ellipse: s-maj=23.9km s-min=14.5km az=81.0
ISC 17 13:08:18.2±0.7, 24.88N±0.06×123.53E±0.04, h35km, n22, σ1°34/27, mb3.6/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.57**	**161**	P	**Pn**	**13 08 28.3**	**-1.6**
IRIF				S	**Sn**	**13 08 37.4**	**-0.6**
YOJ	**Yonaguni jima**	**0.63**	**229**	P	**Pn**	**13 08 29.1**	**-1.6**
YOJ				*eS*	**Sn**	**13 08 38.2**	**-1.3**
JYNG	**Yonagunijimaku**	**0.68**	**231**	P	**Pn**	**13 08 29.8**	**-1.6**
JYNG				*eS*	**Sn**	**13 08 39.4**	**-1.4**
JIJ	**Ishigaki jima**	**0.76**	**133**	P	**Pn**	**13 08 30.7**	**-1.7**
JIJ				S	**Sn**	**13 08 42.0**	**-0.6**
JISG	**Ishigakijimahi**	**0.77**	**112**	P	**Pn**	**13 08 30.6**	**-1.9**
JISG				S	**Sn**	**13 08 41.0**	**-1.8**
JKRS	**Kuro-shima**	**0.77**	**146**	P	**Pn**	**13 08 31.5**	**-1.1**
JKRS				*eS*	**Sn**	**13 08 42.8**	**-0.2**
HATJ	**Hateruma jima**	**0.86**	**163**	P	**Pn**	**13 08 33.2**	**-0.6**
HATJ				*eS*	**Sn**	**13 08 45.8**	**+0.8**
JTJ	**Tarama**	**1.09**	**102**	P	**Pn**	**13 08 36.0**	**-1.0**
JIRB	**Irabujima**	**1.49**	**92**	P	**Pn**	**13 08 42.1**	**-0.4**
JIKM	**Ikemajima**	**1.56**	**88**	P	**Pn**	**13 08 42.4**	**-1.0**
JOW	**Kunigami**	**4.70**	**65**	P	Pn	13 09 33.5	+6.9
	0.9nm,0.3s,baz=199,slow=12,SNR=2.4						
KSRS	**Korea Array**	**13.08**	**16**	P	**P**	**13 11 29.7**	**-1.6**
	0.1nm,0.3s,baz=201,slow=12,SNR=6.9						
USRK	**Ussuriysk Ar.**	**20.47**	**18**	P	Pn	13 12 56.6	+1.5
	0.7nm,0.6s,baz=213,slow=7.7,SNR=2.2						
CMAR	**Chiang Mai Arr**	**23.71**	**259**	P	**P**	**13 13 28.3**	**+1.3**
	0.8nm,0.4s,baz=62,slow=8.5,SNR=9.0						
KLR	**Kul'dur**	**25.14**	**13**	P	**P**	**13 13 41.5**	**+1.6**
	1.1nm,0.8s,baz=195,slow=12,SNR=3.6						
SONM	**Songino Array**	**26.63**	**334**	P	**P**	**13 13 53.6**	**+0.1**
	0.8nm,0.9s,baz=146,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**39.35**	**314**	P	**P**	**13 15 45.5**	**+1.3**
	0.5nm,0.6s,baz=103,slow=10,SNR=6.3						
ZALV	**Zalesovo Beam**	**40.85**	**326**	P	**P**	**13 15 57.3**	**+0.9**
	0.5nm,0.3s,baz=108,slow=9.5,SNR=1.7						
WRA	**Warramunga Arr**	**45.78**	**166**	P	**P**	**13 16 37.9**	**+1.4**
	2.2nm,0.7s,baz=348,slow=8.6,SNR=13						
TIXI	**Tiksi**	**46.90**	**2**	P	**P**	**13 16 44.6**	**-0.2**
	0.8nm,0.6s,baz=113,slow=6.1,SNR=1.6						
ASAR	**Alice Springs**	**49.30**	**167**	P	**P**	**13 17 06.0**	**+2.2**
	0.5nm,0.6s,baz=350,slow=8.0,SNR=16						
YKA	**Yellowknife Ar**	**81.49**	**23**	P	**P**	**13 20 30.5**	**-1.2**
	0.3nm,0.8s,baz=309,slow=3.9,SNR=4.6						

NOU 17 13:17:22.0, 37.60S×176.52E, h259km, MLv3.9, North Island, New Zealand
WEL 17 13:17:25.6, 38.3S±3.3°×177.6E±°, h224km±5km, M2.8/42, MLv2.8/42, Error ellipse: s-maj=0.0km s-min=0.0km az=20.9, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.20**	**212**	P	Pn	13 17 55.2	+0.5
OPRZ	**Ohinepanea**	**0.31**	**155**	P	Pn	13 17 55.0	+0.1
OMRZ	**Omania**	**0.54**	**182**	P	Pn	13 17 55.8	+0.2
MKRZ	**Makatiti**	**0.58**	**174**	P	Pn	13 17 59.8	+3.9
TOZ	**Tahuroa Road**	**0.73**	**256**	P	Pn	13 17 56.8	+0.4
RRRZ	**Republican Roa**	**0.78**	**173**	P	Pn	13 17 56.8	+0.2
HRRZ	**Handcock Road**	**0.83**	**186**	P	Pn	13 17 57.4	+0.5
URZ	**Urewera**	**0.90**	**141**	P	Pn	13 17 56.6	-0.6
URZ				S	S	13 18 19.7	-2.2
PRRZ	**Plateau Road**	**0.94**	**180**	P	Pn	13 17 57.8	+0.4
MUGZ	**Murupara**	**0.96**	**162**	P	Pn	13 17 57.3	-0.2
MUGZ				S	S	13 18 21.3	-1.4
KUZ	**Kuaotunu**	**0.98**	**326**	P	Pn	13 17 57.4	-0.3
TLZ	**Tolley Road**	**1.02**	**221**	P	Pn	13 17 58.7	+0.8
RUGZ	**Raukumara Rang**	**1.09**	**112**	P	Pn	13 17 57.5	-1.0
RUGZ				S	S	13 18 21.6	-2.7
HAZ	**Te Kaha**	**1.12**	**100**	P	Pn	13 17 58.0	-0.5
HAZ				S	S	13 18 22.3	-2.0
RTZ	**Ruatahuna**	**1.15**	**156**	P	Pn	13 17 58.7	-0.2
RTZ				S	S	13 18 23.4	-1.5
MWZ	**Matawai**	**1.18**	**131**	P	Pn	13 17 58.7	-0.4
MWZ				S	S	13 18 23.6	-1.6
WATZ	**Wairara**	**1.26**	**204**	P	Pn	13 18 00.2	+0.6
WIAZ	**Waiheke Island**	**1.27**	**307**	P	Pn	13 17 59.7	0.0
MRHZ	**Matea Rd**	**1.27**	**179**	P	Pn	13 17 59.5	-0.2
ETAZ	**East Tamaki Re**	**1.32**	**297**	P	Pn	13 18 00.3	+0.3
MTHZ	**Maungataniwha**	**1.33**	**165**	P	Pn	13 18 00.2	0.0
HATZ	**Hinemaiaia**	**1.35**	**190**	P	Pn	13 18 00.3	+0.1
PKGZ	**Pakihiroa**	**1.37**	**104**	P	Pn	13 17 59.9	-0.5
RATZ	**Rangitukua**	**1.39**	**200**	P	Pn	13 18 00.8	+0.2
SNGZ	**Shannon Statio**	**1.43**	**149**	P	Pn	13 18 01.2	+0.3
SNGZ				S	S	13 18 27.1	-1.3
MBAZ	**Motutapu North**	**1.43**	**303**	P	Pn	13 18 01.2	+0.3
TKGZ	**Te Karaka**	**1.45**	**128**	P	Pn	13 18 01.4	+0.5
TKGZ				S	S	13 18 27.5	-1.0
RAHZ	**Arahi**	**1.46**	**158**	P	Pn	13 18 01.5	+0.4
RAHZ				S	S	13 18 28.2	-0.7
AWAZ	**Awhitu Peninsu**	**1.48**	**289**	P	Pn	13 18 01.4	+0.2
HIZ	**Hauiti**	**1.54**	**232**	P	Pn	13 18 02.3	+0.5
NMHZ	**Naumai**	**1.57**	**168**	P	Pn	13 18 02.8	+0.8
RIGZ	**Rimuhau**	**1.57**	**137**	P	Pn	13 18 02.5	+0.5
ABAZ	**Army Bay**	**1.57**	**307**	P	Pn	13 18 02.5	+0.4
BKZ	**Black Stump Fm**	**1.60**	**177**	P	Pn	13 18 01.9	-0.4
BKZ				S	S	13 18 29.4	-1.7
WMGZ	**Waiomatatini S**	**1.62**	**100**	P	Pn	13 18 02.6	+0.1
WMGZ				S	S	13 18 29.9	-1.2
TMVZ	**Te Maari**	**1.64**	**199**	P	Pn	13 18 02.7	0.0
ETVZ	**East Tongariro**	**1.66**	**199**	P	Pn	13 18 03.0	+0.1
WTVZ	**West Tongariro**	**1.67**	**202**	P	Pn	13 18 03

0.1nm18nm,0.9s
BATI Baumata 7.28 239 P **Pn** **13 37 45.0 -0.9**
3.3nm,0.3s,baz=68,slow=5.4,SNR=2.0
BATI S **Sn** **13 39 04.6 -3.9**
3.7nm,0.3s,baz=76,slow=23,SNR=1.9
BATI Baumata 7.28 239 P **Pn** **13 37 47.2 +1.3**
FITZ Fitzroy Crossi 12.30 200 P **Pn** **13 38 50.5 -0.2**
0.3nm,0.3s,baz=30,slow=12,SNR=33
FITZ S Sn 13 40 57.5 -10
1.3nm,0.3s,baz=304,slow=21,SNR=8.0
WRA Warramunga Arr 14.02 163 P **Pn** **13 39 11.2 -1.0**
1.0nm,0.3s,baz=339,slow=13,SNR=60
WRA S S 13 41 39.0 -9.4
1.6nm,0.3s,baz=325,slow=23,SNR=7.1
ASAR Alice Springs 17.49 168 P **Pn** **13 39 56.4 +2.3**
0.6nm,0.3s,baz=344,slow=9.4,SNR=50
ASAR S **S** **13 43 03.6 -0.1**
0.5nm,0.3s,baz=327,slow=15,SNR=4.9
MJAR Matsushiro Arr 43.49 10 P **P** **13 43 50.0 +4.5**
1.3nm,0.7s,baz=189,slow=9.0,SNR=4.5
MKAR Makanchi Array 67.80 327 P P 13 46 45.5 +7.2
2.4nm,0.5s,baz=118,slow=7.9,SNR=55

IDC 17 14:29:31.7±2.3, 7.65S×127.99E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=287.9km s-min=31.5km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.69**	**154**	Pn	Pn	14 32 46.6	-0.7
	0.3nm,0.3s,baz=330,slow=13,SNR=34						
WRA				Sn	Sn	14 35 07.5	-13
	0.7nm,0.3s,baz=331,slow=22,SNR=14						
ASAR	**Alice Springs**	**16.91**	**161**	Pn	Pn	14 33 30.6	+0.6
	0.2nm,0.3s,baz=345,slow=10,SNR=13						
ASAR				Sn	Sn	14 36 29.5	-9.2
	0.2nm,0.3s,baz=348,slow=25,SNR=2.5						
MKAR	**Makanchi Array**	**67.69**	**328**	P	P	14 40 30.9	0.0
	0.3nm,0.4s,baz=115,slow=8.0,SNR=7.9						

IDC ***17*** *14:48:22.8±2.2, 35.71N×140.18E, h68km±20km, mb3.5/14, mb1 3.7/19, mb1mx3.6/39, mbtmp3.9/19, Error ellipse: s-maj=19.8km s-min=13.6km az=86.0*

NEIC ***17*** *14:48:26.4±1.2, 35.75N±0.05×140.07E±0.08, h99km±4km, mb4.3/23, Error ellipse: s-maj=9.4km s-min=7.3km az=119.0*

JMA ***17*** *14:48:27.4±0.1, 35.78N×139.99E, h93km±2km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs=318.00000°, δ52.00000°, λ177.00000°. NP2: ϕs=50.00000°, δ87.00000°, λ38.00000°. Principal axes: T Plg28.0000°, Azm281.0000°; N Plg52.0000°, Azm54.0000°; P Plg24.0000°, Azm178.0000°;*

JMA Felt I J1.

NIED ***17*** *14:48:27.4, 35.78N×139.99E, h93km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.51; Mθθ-7.50; Mϕϕ2.98; Mrθ2.45; Mθϕ1.32; Mrϕ2.38; Fault plane solution: M₀7.42000×10¹⁴ NP1:ϕs67.00000°, δ64.00000°, λ50.00000°. NP2:ϕs309.00000°, δ46.00000°, λ142.00000°.*

ISC 17 14:48:25.4±0.7, 35.78N±0.04×140.10E±0.05, h93km±6km, n90, σ1s52/96, mb4.1/28, 5C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.29**	**252**	⇑P	**Pn**	**14 48 41.3**	**+2.3**
JYT	**Yasato**	**0.46**	**10**	⇓P	**Pn**	**14 48 42.2**	**+2.1**
JYT				S	**Sn**	**14 48 52.7**	**+1.6**
JYT	**Yasato**	**0.46**	**10**	Pn	**Pn**	**14 48 42.3**	**+2.2**
JYT				Sn	**Sn**	**14 48 53.0**	**+2.0**
JAG	**Ashikaga**	**0.83**	**321**	⇓P	**Pn**	**14 48 45.1**	**+1.6**
JOD2	**Odawara 2**	**0.97**	**238**	⇑P	**Pn**	**14 48 45.7**	**+0.7**
JOD2				S	**Sn**	**14 48 59.6**	**-0.1**
JRY	**Ryogami san**	**1.00**	**284**	⇑P	**Pn**	**14 48 47.2**	**+1.9**
JRY				S	**Sn**	**14 49 02.2**	**+1.9**
BSO3	**Boso 3**	**1.03**	**161**	⇑P	**Pn**	**14 48 47.6**	**+2.2**
JIM2	**Oshima 3**	**1.19**	**207**	P	**Pn**	**14 48 48.0**	**+0.5**
JKT	**Katashina**	**1.20**	**326**	⇓P	**Pn**	**14 48 49.3**	**+1.6**
JKT				eS	**Sn**	**14 49 06.2**	**+1.6**
JFNN	**Fujinakano**	**1.29**	**244**	P	**Pn**	**14 48 49.5**	**+0.8**
JFNN				S	**Sn**	**14 49 06.3**	**0.0**
JYN	**Shimob**	**1.29**	**258**	⇑P	**Pn**	**14 48 49.7**	**+0.9**
JYN				S	**Sn**	**14 49 07.4**	**+0.9**
MJAR	**Matsushiro Arr**	**1.71**	**297**	P	**Pn**	**14 48 54.3**	**+0.4**
	7.2nm,0.3s,baz=70,slow=12,SNR=238						
MJAR				S	**Sn**	**14 49 16.6**	**+1.0**
	7.3nm,0.3s,baz=254,slow=32,SNR=4.4						
MJAR				LR	LR	14 49 46.0	
	comp=Z,31nm,21.7s,baz=285,slow=47						
MJAR	**Matsushiro Arr**	**1.71**	**297**		**Pn**	**14 48 54.4**	**+0.5**
MAJO	**Matsushiro**	**1.71**	**297**	Pn	**Pn**	**14 48 55.4**	**+1.4**
MAJO				Sn	**Sn**	**14 49 16.0**	**+0.3**
MAT	**Matsushiro**	**1.71**	**297**	P	**Pn**	**14 48 55.3**	**+1.3**
MAT				S	**Sn**	**14 49 17.3**	**+1.6**
JSG	**Sagara**	**1.91**	**235**	Pn	**Pn**	**14 48 58.1**	**+1.6**
JMM	**Marumori**	**2.16**	**15**		**Pn**	**14 49 02.1**	**+2.3**
JGF	**Kuroka**	**2.24**	**266**		**Pn**	**14 49 02.5**	**+1.6**
INU	**Inuyama**	**2.55**	**261**	Pn	**Pn**	**14 49 05.8**	**+1.0**
JHJ	**Hachijo jima 2**	**2.66**	**186**	P	**Pn**	**14 49 06.2**	**-0.3**
	262nm,0.3s,baz=85,slow=18,SNR=105						
JHJ				S	**Sn**	**14 49 38.3**	**+0.3**
	200nm,0.3s,baz=89,slow=23,SNR=8.4						
JHJ2	**Mitsune**	**2.67**	**185**	Pn	**Pn**	**14 49 07.4**	**+0.8**
JSD	**Sado**	**2.69**	**327**	Pn	**Pn**	**14 49 08.0**	**+1.2**
JWT	**Wachi**	**3.86**	**264**	Pn	**Pn**	**14 49 23.4**	**+0.9**
JTM	**Tenmabayashi**	**5.06**	**8**	Pn	**Pn**	**14 49 40.2**	**+1.4**
JMN	**Monobe**	**5.51**	**250**	Pn	**Pn**	**14 49 46.3**	**+1.3**
JHS	**Saijyo**	**5.75**	**264**	Pn	**Pn**	**14 49 50.1**	**+1.8**
ERM	**Erimo**	**6.67**	**20**	Pn	**Pn**	**14 49 59.7**	**-0.9**
JEW	**Eniwo**	**7.13**	**8**	Pn	**Pn**	**14 50 07.1**	**+0.1**
JNU	**Nakatsue**	**8.06**	**253**	P	**Pn**	**14 50 20.3**	**+0.6**
	0.3nm,0.3s,baz=36,slow=9.9,SNR=4.1						
ASAJ	**Asahikawa**	**8.55**	**12**	P	**Pn**	**14 50 23.8**	**-2.5**
	2.3nm,0.3s,baz=206,slow=11,SNR=30						
ASAJ				S	**Sn**	**14 51 53.4**	**-7.5**
	0.1nm,0.3s,baz=161,slow=30,SNR=1.4						
JKA	**Kamikawa-asahi**	**8.55**	**12**	Pn	**Pn**	**14 50 25.0**	**-1.2**
JCJ	**Chichijima**	**8.84**	**168**	P	**Pn**	**14 50 26.2**	**-4.0**
	22nm,0.3s,baz=284,slow=24,SNR=18						
JCJ				S	Sn	14 51 56.1	-12
	6.3nm,0.3s,baz=114,slow=23,SNR=1.8						
JCJ	**Chichijima**	**8.84**	**168**	Pn	**Pn**	**14 50 26.9**	**-3.3**
KSRS	**Korea Array**	**9.93**	**283**	P	**Pn**	**14 50 45.6**	**+0.5**
	0.2nm,0.3s,baz=102,slow=14,SNR=6.5						
KSAR	**Wonju Array Be**	**9.96**	**283**	Pn	**Pn**	**14 50 42.1**	**-3.4**
USRK	**Ussuriysk Ar.**	**10.46**	**326**	P	**Pn**	**14 50 51.6**	**-0.6**
	baz=144,slow=11,SNR=7.2						
USRK	**Ussuriysk Ar.**	**10.46**	**326**	Pn	**Pn**	**14 50 53.1**	**+0.9**
INCN	**Inchon**	**10.95**	**283**	Pn	**Pn**	**14 50 57.4**	**-1.7**
YSS	**Yuzh-Sakhalins**	**11.34**	**9**	Pn	**Pn**	**14 51 02.7**	**-1.5**
KLR	**Kul'dur**	**14.77**	**338**	P	**Pn**	**14 51 47.4**	**-2.0**
	0.2nm,0.3s,baz=150,slow=7.4,SNR=5.4						
HHC	**Hu-ho-hao-te**	**22.90**	**291**	*eP*	**P**	**14 53 22.0**	**+0.6**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,150nm,5.4s						
MA2	**Magadan**	**24.81**	**13**	P	**P**	**14 53 39.3**	**+0.8**
	comp=Z,4.3nm,0.8s,baz=182,slow=9.9,SNR=4.9						
XAN	**Xi'an**	**25.57**	**275**	P	**P**	**14 53 44.5**	**-1.3**
XAN				IAmb	IAmb	14 53 46.0	
	comp=Z,3.7nm,0.5s						
ENH	**Enshi**	**26.18**	**267**	P	**P**	**14 53 49.6**	**-1.7**
ENH				IAmb	IAmb	14 53 51.2	
	comp=Z,11nm,0.8s						
YAK	**Yakutsk**	**27.08**	**349**	P	**P**	**14 54 00.1**	**+1.1**
YAK				IAmb	IAmb	14 54 02.0	
	comp=Z,6.5nm,0.7s						
ULN	**Ulaanbaatar**	**27.22**	**307**	P	**P**	**14 54 00.2**	**-0.3**
SONM	**Songino Array**	**27.64**	**306**	P	**P**	**14 54 04.2**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=111,slow=12,SNR=4.7						
SONM	**Songino Array**	**27.64**	**306**	P	**P**	**14 54 04.2**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**28.47**	**117**	T	T	15 24 00.1	
	baz=308,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.48**	**117**	T	T	15 24 03.4	
	baz=308,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.49**	**117**	T	T	15 24 03.7	
	baz=308,slow=75,SNR=23						
H11S3	**WAKE ISLAND Hy**	**29.12**	**119**	T	T	15 25 26.3	
	baz=314,slow=76,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**29.12**	**119**	T	T	15 25 36.8	
	baz=314,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**29.14**	**119**	T	T	15 25 33.8	
	baz=314,slow=76,SNR=8.0						
TIXI	**Tiksi**	**36.42**	**354**	P	**P**	**14 55 21.9**	**+1.5**
TIXI				IAmb	IAmb	14 55 22.2	
	comp=Z,5.7nm,1.5s						
CMAR	**Chiang Mai Arr**	**40.15**	**256**	P	**P**	**14 55 52.3**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=116,slow=43,SNR=2.1						
WMQ	**Urumqi**	**40.47**	**298**	*eP*	**P**	**14 55 56.4**	**+1.5**
ZAA0	**Zalesovo Array**	**41.99**	**313**	P	**P**	**14 56 07.4**	**+0.3**
ZALV	**Zalesovo Beam**	**41.99**	**313**	P	**P**	**14 56 07.9**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=102,slow=9.2,SNR=5.1						
ZALV				PcP	**PcP**	**14 58 01.1**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=117,slow=2.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**41.99**	**313**	P	**P**	**14 56 07.2**	**+0.1**
MK31	**Makanchi Array**	**43.90**	**303**	P	**P**	**14 56 23.1**	**+0.4**
MKAR	**Makanchi Array**	**43.90**	**303**	P	**P**	**14 56 23.4**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=84,slow=9.2,SNR=29						
MKAR	**Makanchi Array**	**43.90**	**303**	P	**P**	**14 56 22.8**	**+0.2**
MAKZ	**Makanchi**	**44.11**	**303**	P	**P**	**14 56 24.7**	**+0.4**
MAKZ				IAmb	IAmb	14 56 25.5	
	comp=Z,1.6nm,0.4s						
SAUI	**Saumlaki**	**44.31**	**193**	P	**P**	**14 56 25.1**	**-1.0**
ILAR	**Eielson Array**	**51.12**	**32**	P	**P**	**14 57 18.2**	**-0.1**
	comp=Z,0.5nm,1.0s,baz=267,slow=5.4,SNR=2.7						
KKAR	**Karatay Array**	**52.84**	**301**	P	**P**	**14 57 31.0**	**-0.3**
KKAR	**Karatay Array**	**52.84**	**301**	P	**P**	**14 57 31.2**	**-0.1**
KKAR				IAmb	IAmb	14 57 34.9	
	comp=Z,1.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.30**	**197**	P	**P**	**14 57 49.8**	**+0.5**
FITZ				IAmb	IAmb	14 58 08.2	
	comp=Z,5.9nm,1.2s						
WB0	**Warramunga Arr**	**55.50**	**187**	P	**P**	**14 57 50.7**	**-0.1**
WB0				IAmb	IAmb	14 57 52.5	
	comp=Z,6.5nm,1.3s						
WRAB	**Tennant Creek**	**55.67**	**187**	P	**P**	**14 57 50.7**	**-1.3**
WB2	**Warramunga Arr**	**55.68**	**187**	P	**P**	**14 57 52.1**	**0.0**
WB2				IAmb	IAmb	14 58 11.5	
	comp=Z,6.6nm,1.3s						
WRA	**Warramunga Arr**	**55.68**	**187**	P	**P**	**14 57 50.8**	**-1.3**
	comp=Z,2.1nm,0.5s,baz=0.7,slow=7.7,SNR=45						
ARU	**Arti**	**56.60**	**319**	P	**P**	**14 57 58.6**	**+0.3**
ABKAR	**Akbulak array**	**57.94**	**310**	P	**P**	**14 58 08.4**	**+0.7**
ABKAR				IAmb	IAmb	14 58 13.1	
	comp=Z,1.7nm,1.0s						
MLOA	**Mauna Loa Obse**	**58.28**	**88**	P	**P**	**14 58 11.0**	**-0.1**
ASAR	**Alice Springs**	**59.41**	**187**	P	**P**	**14 58 18.6**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=1.8,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**59.41**	**187**	P	**P**	**14 58 18.3**	**+0.2**
PSA00	**Pilbara Seismi**	**60.18**	**202**	P	**P**	**14 58 23.8**	**+0.3**
PSA00				IAmb	IAmb	14 58 25.6	
	comp=Z,2.6nm,0.8s						
YKA	**Yellowknife Ar**	**65.42**	**30**	P	**P**	**14 58 57.5**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=292,slow=5.0,SNR=1.9						
FIA1	**FINESS Array S**	**69.43**	**332**	P	**P**	**14 59 23.4**	**+0.4**
FIA1				IAmb	IAmb	14 59 45.5	
	comp=Z,14nm,1.4s						
FINES	**FINESS Array B**	**69.43**	**332**	P	**P**	**14 59 23.9**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=71,slow=7.3,SNR=12						
FINES	**FINESS Array B**	**69.43**	**332**	P	**P**	**14 59 23.6**	**+0.6**
KRMB	**Red Mountain**	**71.30**	**52**	P	**P**	**14 59 34.1**	**-0.9**
KRMB				IAmb	IAmb	14 59 39.1	
	comp=Z,11nm,1.4s						
KMRM	**Mail Ridge**	**72.11**	**53**	P	**P**	**14 59 41.2**	**+1.4**
AKASG	**Malin Array Be**	**74.64**	**322**	P	**P**	**14 59 54.8**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=50,slow=6.0,SNR=6.2						
AKASG	**Malin Array Be**	**74.64**	**322**	IAmb	IAmb	14 59 55.5	
	comp=Z,1.1nm,1.1s						
NOA	**NORSAR Array B**	**74.93**	**337**	P	**P**	**14 59 56.1**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=36,slow=4.4,SNR=1.6						
PDAR	**Pinedale Array**	**79.30**	**45**	P	**P**	**15 00 21.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=282,slow=1.8,SNR=1.8						
TXAR	**Lajitas Array**	**91.73**	**52**	P	**P**	**15 01 24.5**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=322,slow=2.8,SNR=2.0						

IDC 17 14:52:54.0±8.7, 12.65N×94.09E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/33, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=195.5km s-min=45.4km az=99.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.43**	**38**	Pn	Pn	14 54 43.8	0.0
	0.1nm,0.3s,baz=232,slow=15,SNR=1.4						
WRA	**Warramunga Arr**	**51.16**	**129**	P	P	15 01 58.8	-0.5
	0.7nm,1.1s,baz=312,slow=7.6,SNR=6.0						
ASAR	**Alice Springs**	**53.09**	**133**	P	P	15 02 13.8	+0.2
	0.2nm,0.4s,baz=307,slow=7.0,SNR=9.6						

IDC 17 15:10:06.3±8.8, 6.30S×154.65E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/30, mbtmp3.7/3, Error ellipse: s-maj=145.0km s-min=95.9km az=23.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.94**	**234**	P	P	15 15 22.6	+0.2
	0.3nm,0.3s,baz=60,slow=9.6,SNR=8.3						
ASAR	**Alice Springs**	**26.38**	**227**	P	P	15 15 44.4	-0.2
	0.6nm,0.6s,baz=59,slow=8.5,SNR=11						
H11S3	**WAKE ISLAND Hy**	**27.35**	**26**	T	T	15 44 24.6	
	baz=208						
H11S2	**WAKE ISLAND Hy**	**27.36**	**26**	T	T	15 44 25.0	
	baz=208						
H11S1	**WAKE ISLAND Hy**	**27.37**	**26**	T	T	15 44 26.0	
	baz=208						
STKA	**Stephens Creek**	**28.22**	**204**	P	P	15 16 00.9	0.0
	1.4nm,0.7s,baz=20,slow=12,SNR=3.3						
H03S2	**Juan Fernandez**	**115.52**	**132**	T	T	17 34 31.6	
	baz=242,slow=74,SNR=23						
H03S1	**Juan Fernandez**	**115.53**	**132**	T	T	17 34 35.5	
	baz=242,slow=74,SNR=25						
H03S3	**Juan Fernandez**	**115.54**	**132**	T	T	17 34 30.4	
	baz=242,slow=74,SNR=24						
H03N3	**Juan Fernandez**	**115.70**	**132**	T	T	17 34 37.7	
	baz=247,slow=72,SNR=38						
H03N2	**Juan Fernandez**	**115.70**	**132**	T	T	17 34 32.3	
	baz=247,slow=72,SNR=36						
H03N1	**Juan Fernandez**	**115.71**	**132**	T	T	17 34 37.0	
	baz=247,slow=72,SNR=25						

ANF ***17*** *15:14:42.5±0.4, 63.56N×150.79W, h8km±3km, ML3.9/34, Error ellipse: s-maj=3.3km s-min=2.5km az=93.0, Hypocentre not reviewed by the ISC*

AEIC ***17*** *15:14:42.2, 1, 63.58N±0.02×150.76W±0.04, h11km±4km, ML3.5/64, ML3.7/105(NEIC), Error ellipse: s-maj=2.6km s-min=2.3km az=97.0*

IDC ***17*** *15:14:42.3±0.8, 63.77N×151.03W, h0km, mb3.6/6, mb1 3.7/10, mb1mx3.4/39, mbtmp3.5/10, ML3.0/4, Error ellipse: s-maj=16.2km s-min=10.9km az=141.0*

NEIC ***17*** *15:14:43.0±2.9, 63.55N±0.02×150.79W±0.04, h10km±4km, Error ellipse: s-maj=2.7km s-min=2.2km az=67.0*

ISC 17 15:14:42.8±0.9, 63.59N±0.02×150.76W±0.02, h12km±6km, n129, σ0s93/120, mb3.7/6, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.08**	**240**	Pg	**Pg**	**15 14 45.5**	**0.0**
TRF	**Thorofare Moun**	**0.26**	**124**		**Pg**	**15 14 48.4**	**+0.1**
TRF					**Sg**	**15 14 51.9**	**0.0**
TRF	**Thorofare Moun**	**0.26**	**124**	IAML		15 14 52.4	
	comp=N,9μm,0.2s						
TRF				IAML		15 14 52.8	
	comp=E,15μm,0.8s						
TRF	**Thorofare Moun**	**0.26**	**124**	P		15 14 48.4	
	baz=302						
TRF				S		15 14 51.9	
	baz=302						
BPAW	**Bear Paw Mtn.**	**0.52**	**349**		**Pg**	**15 14 53.6**	**+0.7**
BPAW					**Sg**	**15 15 00.8**	**+1.0**
BPAW	**Bear Paw Mtn.**	**0.52**	**349**	P		15 14 53.7	
	baz=169						
BPAW				S		15 15 00.7	
	baz=169						
CAST	**Castle Rocks**	**0.62**	**254**		Sg	15 14 53.9	-9.1
CAST	**Castle Rocks**	**0.62**	**254**	Pg	**Pg**	**15 14 53.6**	**-1.3**
CHUM	**Lake Minchumin**	**0.75**	**293**		**Pg**	**15 14 57.4**	**0.0**
CHUM					**Sg**	**15 15 07.0**	**-0.1**
CHUM	**Lake Minchumin**	**0.75**	**293**	P		15 14 57.3	
	baz=113,SNR=756						
CHUM				S		15 15 07.1	
	baz=113						
HUR	**Hurricane**	**0.80**	**140**		**Pg**	**15 14 57.6**	**-0.7**
MCK	**McKinley**	**0.83**	**80**		**Pg**	**15 14 58.6**	**-0.2**
MCK					**Sb**	**15 15 09.7**	**-0.5**
MCK	**McKinley**	**0.83**	**80**	IAML		15 15 13.1	
	comp=E,2μm,0.3s						
MCK	**McKinley**	**0.83**	**80**	P		15 14 58.6	
	baz=260,SNR=180						
MCK				S		15 15 09.8	
	baz=260						
RND	**Reindeer**	**0.88**	**102**		**Pg**	**15 14 59.3**	**-0.5**
RND					**Sb**	**15 15 11.0**	**-0.7**
RND	**Reindeer**	**0.88**	**102**	IAML		15 15 11.8	
	comp=N,2μm,0.4s						
PPLA	**Purkeypile**	**0.95**	**223**		**Pg**	**15 14 59.8**	**-1.5**
PPLA	**Purkeypile**	**0.95**	**223**	P		15 14 59.8	
	baz=43,SNR=167						
PPLA				S		15 15 12.0	
	baz=43						
WAT7	**Susitna Watana**	**1.16**	**131**		**Pb**	**15 15 04.1**	**-0.7**
WAT7					**Sb**	**15 15 18.7**	**-1.1**
WAT2	**Susitna Watana**	**1.17**	**122**		**Pb**	**15 15 04.5**	**-0.6**
WAT2					**Sb**	**15 15 19.4**	**-0.8**
WAT2	**Susitna Watana**	**1.17**	**122**	P		15 15 04.5	
	baz=303,SNR=938						
WAT2				S		15 15 19.4	
	baz=303						
CUT	**Chulitna**	**1.22**	**169**		**Pn**	**15 15 05.0**	**-0.6**
CUT	**Chulitna**	**1.22**	**169**	P		15 15 05.0	
	baz=349,SNR=108						
CUT				S		15 15 20.0	
	baz=349						
NEA2	**Nenana**	**1.25**	**36**		**Pn**	**15 15 05.4**	**-0.7**
NEA2	**Nenana**	**1.25**	**36**	P		15 15 05.4	
	baz=217,SNR=263						
NEA2				S		15 15 23.5	
	baz=217						
WAT1	**Susitna Watana**	**1.26**	**126**		**Pn**	**15 15 06.0**	**-0.3**
WAT1					**Sb**	**15 15 22.1**	**-0.7**
WRH	**Wood River Hil**	**1.47**	**52**		**Pn**	**15 15 08.6**	**-0.6**
WRH					**Sg**	**15 15 30.6**	**+0.6**
SKT	**Skwentna**	**1.66**	**193**		**Pn**	**15 15 11.6**	**-0.2**
SKT	**Skwentna**	**1.66**	**193**	IAML		15 15 35.1	
	comp=N,1μm,0.7s						
SKT	**Skwentna**	**1.66**	**193**	Pb		15 15 11.9	
	baz=12,SNR=124						
SKT				Sb		15 15 33.6	
	baz=12						
CCB	**Clear Creek Bu**	**1.67**	**50**		**Pn**	**15 15 11.3**	**-0.6**
CCB					**Sg**	**15 15 35.9**	**-0.7**
I23K	**Minto, Yukon-K**	**1.68**	**21**		**Pn**	**15 15 11.9**	**0.0**
I23K	**Minto, Yukon-K**	**1.68**	**21**	IAML		15 15 38.5	
	comp=E,631nm,0.7s						
I23K				IAML		15 15 39.6	
	comp=N,780nm,0.6s						
I23K	**Minto, Yukon-K**	**1.68**	**21**	P		15 15 11.9	
	baz=202,SNR=132						
I23K				Sb		15 15 36.2	
	baz=202						
MDM	**Murphy Dome**	**1.76**	**38**		**Pn**	**15 15 12.8**	**-0.4**
TCOL	**CIGO, UAF Yank**	**1.80**	**43**		**Pn**	**15 15 13.1**	**-0.6**
TCOL	**CIGO, UAF Yank**	**1.80**	**43**	Sb		15 15 40.1	
	baz=226						
COLA	**College**	**1.81**	**43**		**Pn**	**15 15 13.2**	**-0.6**
COLA	**College**	**1.81**	**43**	Sb		15 15 39.8	
	baz=226						
HDA	**Harding Lake**	**1.87**	**62**		**Pn**	**15 15 14.2**	**-0.4**
HDA					**Sg**	**15 15 42.0**	**-0.8**
HDA	**Harding Lake**	**1.87**	**62**	P		15 15 14.1	
	baz=245						
HDA				P		15 15 14.1	
	baz=245						
HDA				Sb		15 15 41.7	
	baz=245						
HDA				Sb		15 15 41.7	
	baz=245						
PS08	**TAPS Pump Stn8**	**1.98**	**59**		**Pn**	**15 15 15.5**	**-0.6**
GHO	**Glory Hole Cre**	**2.02**	**154**		**Pn**	**15 15 16.5**	**-0.2**
GHO	**Glory Hole Cre**	**2.02**	**154**	IAML		15 15 44.7	
	comp=E,676nm,0.6s						
PS07	**TAPS Pump Stn7**	**2.03**	**31**		**Pn**	**15 15 16.7**	**-0.1**
PS07					**Sb**	**15 15 44.9**	**+0.1**
IL31		**2.07**	**53**		**Pn**	**15 15 16.9**	**-0.4**
ILAR	**Eielson Array**	**2.07**	**53**	Pn	**Pn**	**15 15 16.9**	**-0.5**
	comp=E,2.0nm,0.3s,baz=236,slow=14,SNR=150						
ILAR				Lg	Lg	15 15 48.2	
	comp=E,44nm,0.3s,baz=239,slow=29,SNR=8.0						
ILAR	**Eielson Array**	**2.07**	**53**		**Pn**	**15 15 16.5**	**-0.9**
POKR	**Poker Plat Res**	**2.11**	**42**		**Pn**	**15 15 17.6**	**-0.2**
POKR	**Poker Plat Res**	**2.11**	**42**	P		15 15 17.6	
	baz=225,SNR=24						
POKR				Sb		15 15 48.7	
	baz=225						
SML	**Sawmill**	**2.12**	**147**		**Pn**	**15 15 17.7**	**-0.3**
SML	**Sawmill**	**2.12**	**147**	IAML		15 15 51.1	
	comp=N,547nm,0.9s						
SML				IAML		15 15 51.2	
	comp=E,511nm,0.8s						
SML	**Sawmill**	**2.12**	**147**	P		15 15 17.6	
	baz=329,SNR=65						
SML				S		15 15 43.8	
	baz=329						
SUA	**Susitna One**	**2.14**	**180**		**Pn**	**15 15 18.4**	**0.0**
SUA	**Susitna One**	**2.14**	**180**	IAML		15 15 52.4	
	comp=E,462nm,0.9s						
SUA				IAML		15 15 55.7	
	comp=N,622nm,0.8s						
SUA	**Susitna One**	**2.14**

comp=N,296nm,0.4s
PWL IAML 15 16 15.3
comp=E,283nm,0.7s
PRP Porcupine Dome 2.97 47 Pn 15 15 30.0 +0.1
PRP Porcupine Dome 2.97 47 P 15 15 30.0
baz=232,SNR=12
DOT Dot Lake 2.99 86 Pn **Pn 15 15 29.5 -0.6**
SCRK Sand Creek 3.03 80 Pn 15 15 30.0 -0.7
SCRK IAML 15 16 18.8
comp=N,157nm,0.9s
SCRK Sand Creek 3.03 80 P 15 15 30.4
baz=266
SCRK Sb 15 16 15.7
baz=266
KLU Klutina 3.08 131 Pn 15 15 32.5 +1.2
KLU Klutina 3.08 131 IAML 15 16 15.2
comp=N,220nm,0.6s
KLU IAML 15 16 17.1
comp=E,180nm,0.5s
KLU Klutina 3.08 131 P 15 15 32.0
baz=315
SLKM Skilak Lake 3.11 175 Pn 15 15 32.7 +1.0
JPK Jack Peak 3.20 141 Pn 15 15 33.9 +0.9
NCT North Crescent 3.21 200 Pn 15 15 34.5 +1.4
GLI Glacier Island 3.22 146 Pn 15 15 34.7 +1.6
GLI Glacier Island 3.22 146 IAML 15 16 23.6
comp=N,225nm,0.7s
GLI IAML 15 16 31.9
comp=E,251nm,0.7s
GLI Glacier Island 3.22 146 P 15 15 34.4
baz=329
RED Redoubt Volcan 3.33 197 Pn 15 15 35.8 +1.1
SVW2 Sparrevohn 3.37 224 Pn 15 15 34.3 -0.9
SVW2 IAML 15 16 35.6
comp=N,131nm,0.8s
DIV Divide 3.40 135 Pn 15 15 36.9 +1.2
N25K Chitina, Valde 3.48 122 Pn 15 15 38.2 +1.5
N25K Chitina, Valde 3.48 122 P 15 15 38.8
baz=308,SNR=16
FID Port Fidalgo 3.49 143 Pn 15 15 38.0 +1.2
FID Port Fidalgo 3.49 143 IAML 15 16 31.7
comp=N,161nm,0.5s
FID IAML 15 16 38.1
comp=E,181nm,0.8s
SEW Seward 3.56 169 P 15 15 39.2
baz=350
COLD Coldfoot 3.66 3 Pn 15 15 40.1 +1.0
COLD Coldfoot 3.66 3 P 15 15 40.0
baz=184,SNR=15
IVE Iliamna Volcan 3.75 198 Pn 15 15 41.7 +1.2
HIN Hinchinbrook I 3.79 146 Pn 15 15 42.0 +1.1
HIN Hinchinbrook I 3.79 146 IAML 15 16 47.1
comp=E,156nm,0.6s
HIN IAML 15 16 47.4
comp=N,194nm,1.1s
FYU Fort Yukon 3.79 36 Pn 15 15 40.6 -0.3
FYU IAML 15 16 52.4
comp=N,90nm,1.5s
FYU IAML 15 17 00.9
comp=E,84nm,1.1s
EYAK Cordova Ski Ar 3.86 140 Pn 15 15 42.0 0.0
EYAK Cordova Ski Ar 3.86 140 P 15 15 42.9
baz=324
BRSE Bradley Lake S 3.87 180 Pn 15 15 42.9 +0.8
K27K Chicken 3.88 80 Pn 15 15 41.9 -0.3
GLB Gilahina Butte 3.88 121 Pn 15 15 43.5 +1.3
GLB Gilahina Butte 3.88 121 IAML 15 16 33.8
comp=N,84nm,1.0s
BMRM Bremner River 3.90 130 Pn 15 15 43.6 +1.0
BMRM Bremner River 3.90 130 IAML 15 16 39.7
comp=E,147nm,0.6s
BMRM IAML 15 16 53.0
comp=N,155nm,1.1s
BMRM Bremner River 3.90 130 P 15 15 43.6
baz=315
BC03 4.08 93 Pn 15 15 45.4 +0.4
CNPM China Poot 4.09 183 Pn 15 15 46.7 +1.6
CNPM China Poot 4.09 183 IAML 15 16 44.3
comp=N,62nm,0.5s
CNPM IAML 15 16 54.2
comp=E,91nm,0.6s
VRDI Verde Repeater 4.15 122 Pn 15 15 47.8 +1.7
VRDI IAML 15 17 06.9
comp=N,62nm,1.1s
MCARA McCarthy VSAT 4.22 118 Pn 15 15 48.4 +1.5
MCARA McCarthy VSAT 4.22 118 IAML 15 16 55.4
comp=N,124nm,0.7s
MCARA IAML 15 16 57.1
comp=E,120nm,0.9s
MCARA McCarthy VSAT 4.22 118 P 15 15 49.2
baz=305,SNR=15
EGAK Eagle 4.36 70 Pn **Pn 15 15 48.4 -0.5**
EGAK IAML 15 17 04.2
comp=E,126nm,0.8s
EGAK IAML 15 17 04.3
comp=E,126nm,0.5s
EGAK Eagle 4.36 70 P 15 15 48.8
baz=258
HMT Hamilton 4.48 134 Pn 15 15 50.4 -0.1
PTPK Patty Peak 4.55 118 Pn 15 15 53.4 +1.8
CRQM Cirque 4.57 125 Pn 15 15 52.6 +0.7
BM03 Burnt Mountain 4.62 31 Pn 15 15 52.0 -0.3
BERG Berg Lake 4.62 131 Pn 15 15 52.6 +0.2
BM01 Burnt Mountain 4.66 31 Pn 15 15 52.7 -0.2
BALM Baldy 4.69 119 Pn 15 15 55.2 +1.7
KIAG Kiagna River 4.75 121 Pn 15 15 55.8 +1.4
GRIN Grindle Hills 4.84 130 Pn 15 15 56.6 +1.2
DAWY Dawson 5.06 80 Pn 15 15 58.0 -0.4
DAWY IAML 15 17 31.4
comp=E,42nm,0.4s
TOLK Toolik Lake Re 5.09 5 Pn 15 16 01.1 +2.2
TOLK Toolik Lake Re 5.09 5 IAML 15 17 02.6
comp=N,73nm,0.9s
TOLK IAML 15 17 02.7
comp=E,46nm,0.8s
TOLK Toolik Lake Re 5.09 5 P 15 16 00.5
baz=186,SNR=21
GRNC Granite Creek 5.11 120 Pn Pn 15 16 00.4 +1.2
GRNC IAML 15 17 22.8
comp=N,38nm,0.9s
CTG Chitna Glacier 5.13 117 P 15 16 00.9
baz=305
CTGM Chitina Glacie 5.13 117 Pn 15 16 01.4 +1.9
CTGM Chitina Glacie 5.13 117 IAML 15 17 05.1
comp=N,34nm,4.4s
LOGN Logan Glacier 5.34 117 Pn Pn 15 16 04.7 +2.2
LOGN IAML 15 17 29.8
comp=E,27nm,3.0s
LOGN IAML 15 17 31.0
comp=N,31nm,2.1s
YAH Yahtse 5.34 123 Pn 15 16 03.9 +1.4
TABL Table Mountain 5.52 121 Pn Pn 15 16 05.8 +0.8
KDAK Kodiak Island 5.90 190 Pn Pn 15 16 09.7 -0.2
comp=N,0.3nm,0.3s,baz=52,slow=11,SNR=23
KDAK Sn **Sn 15 17 16.6 -0.8**
comp=N,1.1nm,0.3s,baz=156,slow=21,SNR=13
KDAK Kodiak Island 5.90 190 Pn 15 16 10.0 +0.1
PCA Pinnacle 6.08 120 Pn 15 16 12.9 +0.4
PINM Pinnacle 6.09 120 P 15 16 14.1
baz=310
BCPM Bancas Point 6.42 120 Pn Pn 15 16 17.6 +0.6
ANM Nome 6.48 285 Pn 15 16 18.6 +0.7
ANM Nome 6.48 285 P 15 16 18.2
baz=92
EPYK Eagle Plains 6.57 59 Pn 15 16 18.7 -0.4
INK Inuvik 8.46 49 Pn **Pn 15 16 45.4 +0.5**
comp=N,0.6nm,0.3s,baz=227,slow=18,SNR=19
INK Sn **Sn 15 18 18.8 -1.3**
comp=N,0.2nm,0.3s,baz=285,slow=11,SNR=1.9
YKA Yellowknife Ar 16.29 78 Pn **Pn 15 18 30.9 -0.3**
comp=N,0.0nm,0.3s,baz=308,slow=12,SNR=2.3
SEY Seymchan 24.88 294 P **P 15 20 04.6 -0.3**
comp=N,0.7nm,0.8s,baz=78,slow=14,SNR=5.8
TXAR Lajitas Array 45.43 116 P **P 15 23 02.6 +1.2**
comp=N,0.5nm,0.7s,baz=331,slow=7.6,SNR=4.3
SONM Songino Array 53.56 305 P **P 15 24 03.7 +0.5**
comp=N,0.5nm,0.6s,baz=39,slow=5.7,SNR=6.2
ZALV Zalesovo Beam 55.10 324 P **P 15 24 14.0 -0.2**
comp=N,0.5nm,0.3s,baz=20,slow=4.9,SNR=3.6
MKAR Makanchi Array 62.27 322 P **P 15 25 03.5 -0.7**
comp=N,0.4nm,0.6s,baz=43,slow=6.2,SNR=7.1
ESDC Sonseca Array 73.74 26 P **P 15 26 17.2 +0.8**
comp=N,0.7nm,0.8s,baz=348,slow=6.7,SNR=5.1

*NEIC **17** 15:28:39.6±1.4,24°.3N±0°.1×94°.7E±0°.1, h99km±9km, mb4.3/9, Error ellipse: s-maj=21.0km s-min=12.7km az=46.0*
*NDI **17** 15:28:40.7±3.3,24°.48N×94°.93E, h100km, ML4.1, mb4.3(NEIC)*
*IDC **17** 15:28:41.6±3.7,24°.31N×94°.71E, h115km±34km, mb3.5/7, mb1 3.6/8, mb1mx3.2/45, mbtmp3.8/8, Error ellipse: s-maj=40.8km s-min=15.6km az=68.0*
ISC 17 15:28:40.4±0.7,24°.48N±0°.05×94°.76E±0°.06, h100km, n39, σ1§48/44, mb4.1/11, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**1.37**	**335**	*e*P	**Pn**	**15 29 05.5**	**+0.2**
KOHI				*e*S	**Sn**	**15 29 23.6**	**-0.5**
KOHI				IAML		15 29 27.6	
	comp=E,1μm,0.6s						
KOHI				IAML		15 29 28.1	
	comp=N,2μm,0.6s						
SILR	**SILCHAR**	**1.80**	**280**	*e*S	**Sn**	**15 29 36.3**	**+3.0**
SILR				IAML		15 29 44.9	
	comp=N,576nm,0.8s						
MOKO	**MOKOCHONG**	**1.85**	**353**	*e*P	**Pn**	**15 29 10.4**	**-0.8**
MOKO				*e*S	**Sn**	**15 29 35.1**	**+0.5**
MOKO				IAML		15 29 41.4	
	comp=N,614nm,0.5s						
MOKO				IAML		15 29 41.7	
	comp=E,1μm,0.1s						
JORH	**JORHAT**	**2.30**	**349**	*e*S	**Sn**	**15 29 47.8**	**+2.9**
JORH				IAML		15 29 52.6	
	comp=N,2μm,0.1s						
SAIH	**SAIHA**	**2.56**	**220**	*e*P	**Pn**	**15 29 22.1**	**+1.6**
SAIH				*e*S	**Sn**	**15 29 53.6**	**+2.4**
SHL	**Shillong**	**2.82**	**293**	*e*P	**Pn**	**15 29 24.0**	**+0.1**
SHL				*e*S	**Sn**	**15 29 59.4**	**+1.9**
SHL	**Shillong**	**2.82**	**293**		**Pn**	**15 29 23.4**	**-0.6**
GUWA	**GUWAHATI**	**3.26**	**302**	*ex*	**Sn**	**15 30 04.3**	**-3.3**
GUWA				IAML		15 30 06.7	
	comp=E,258nm,0.1s						
GUWA				IAML		15 30 06.7	
	comp=N,275nm,0.3s						
BELO	**BELONIA**	**3.27**	**249**	*e*S	**Sn**	**15 30 09.3**	**+1.4**
BELO				IAML		15 30 10.9	
	comp=N,14μm,0.0s						
BELO				IAML		15 30 11.3	
	comp=E,18μm,0.0s						
LSA	**Lhasa**	**6.11**	**329**		**Pn**	**15 30 09.5**	**+0.8**
GTK	**Tadong**	**6.22**	**298**	*e*S	**Sn**	**15 31 18.6**	**-1.1**
CHTO	**Chiang Mai**	**6.85**	**145**	Pn	**Pn**	**15 30 16.5**	**-1.8**
TAPN	**Taplejung**	**6.96**	**296**	*e*P	**Pn**	**15 30 20.8**	**+0.8**
	comp=E,15nm,0.3s						
ODAN	**Odare**	**7.06**	**291**	*e*P	**Pn**	**15 30 22.8**	**+1.5**
	comp=E,20nm,0.2s						
CMAR	**Chiang Mai Arr**	**7.15**	**146**	P	**Pn**	**15 30 22.2**	**-0.2**
	comp=E,0.2nm,0.3s,baz=319,slow=12,SNR=7.8						
CMAR	**Chiang Mai Arr**	**7.15**	**146**		**Pn**	**15 30 20.9**	**-1.5**
RAMN	**Ramite**	**7.76**	**290**	*e*P	**Pn**	**15 30 32.4**	**+1.6**
	comp=E,10nm,0.2s						
BOK	**Bokaro**	**8.13**	**267**	*ex*	**Sn**	**15 32 02.8**	**-3.2**
GUN	**Gumba**	**8.67**	**295**	*e*P	**Pn**	**15 30 43.4**	**0.0**
	comp=E,8.5nm,0.2s						
PKI	**Pulchoki**	**8.95**	**292**	*e*P	**Pn**	**15 30 46.9**	**-0.3**
	comp=E,5.6nm,0.3s						
PKIN	**Phulchoki**	**8.97**	**292**	*e*P	**Pn**	**15 30 47.0**	**-0.3**
	comp=E,6.3nm,0.2s						
DMN	**Daman**	**9.22**	**292**	*e*P	**Pn**	**15 30 51.1**	**+0.3**
	comp=E,6.8nm,0.4s						
GKN	**Gorkha**	**9.74**	**293**	*e*P	**Pn**	**15 30 57.0**	**-0.7**
	comp=E,15nm,0.5s						
WMQ	**Urumqi**	**20.15**	**345**	P	**P**	**15 33 06.5**	**-0.1**
WMQ				IAmb	IAmb	15 33 12.1	
	comp=Z,9.1nm,0.6s						
MK31	**Makanchi Array**	**24.40**	**339**	P	**P**	**15 33 50.7**	**+1.3**
MKAR	**Makanchi Array**	**24.40**	**339**	P	**P**	**15 33 51.0**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=152,slow=9.3,SNR=29						
MKAR	**Makanchi Array**	**24.40**	**339**	P	**P**	**15 33 50.4**	**+0.9**
SONM	**Songino Array**	**25.08**	**19**	P	**P**	**15 33 55.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=216,slow=7.1,SNR=3.5						
KSRS	**Korea Array**	**31.08**	**58**	P	**P**	**15 34 50.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=259,slow=8.6,SNR=1.8						
PETK	**Petropavlovsk-**	**54.65**	**41**	P	**P**	**15 38 00.7**	**+1.9**
	comp=Z,2.9nm,0.8s,baz=280,slow=8.6,SNR=2.9						
WB0	**Warramunga Arr**	**58.51**	**135**	P	**P**	**15 38 24.9**	**-1.6**
WB0				IAmb	IAmb	15 38 44.5	
	comp=Z,5.8nm,1.1s						
WRA	**Warramunga Arr**	**58.60**	**135**	P	**P**	**15 38 25.9**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=322,slow=7.3,SNR=19						
WRAB	**Tennant Creek**	**58.60**	**135**	P	**P**	**15 38 26.1**	**-1.1**
WRAB				IAmb	IAmb	15 38 40.7	
	comp=Z,4.0nm,1.2s						
WB2	**Warramunga Arr**	**58.61**	**135**	P	**P**	**15 38 25.9**	**-1.4**
WB2				IAmb	IAmb	15 38 42.0	
	comp=Z,4.3nm,1.2s						
ARCES	**ARCESS Array B**	**60.05**	**338**	P	**P**	**15 38 36.9**	**+0.4**
	comp=Z,16nm,1.2s,baz=97,slow=7.5,SNR=1.9						
ASAR	**Alice Springs**	**61.09**	**139**	P	**P**	**15 38 43.2**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=321,slow=6.8,SNR=29						
ASAR				PcP	**PcP**	**15 39 24.7**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=325,slow=4.0,SNR=1.5						
GRA1	**Grafenberg Arr**	**67.67**	**316**	P	**P**	**15 39 26.2**	**-0.6**
GRFO	**Grafenberg**	**67.67**	**316**	P	**P**	**15 39 26.4**	**-0.4**
LSZ	**Lusaka**	**76.01**	**246**	P	**P**	**15 40 16.7**	**-0.6**
LSZ				IAmb	IAmb	15 40 40.3	
	comp=Z,3.9nm,1.1s						

*IDC **17** 15:46:07.5±2.8,32°.81N×47°.72E, h0km, mb3.8/9, mb1 3.8/11, mb1mx3.5/78, mbtmp3.8/11, ML3.7/2, Error ellipse: s-maj=53.4km s-min=26.3km az=24.0*
*KISR **17** 15:46:08.9±0.9,32°.69N×47°.58E, h29km±999km, ML3.7, Hypocentre not reviewed by the ISC*
*ISN **17** 15:46:08.9±0.6,32°.84N×47°.73E, h26km±3km, ML3.3*
*TEH **17** 15:46:09.1,32°.76N×47°.67E, h9km, ML3.5*
*THR **17** 15:46:10.5±0.5,32°.80N×47°.67E, h14km±4km, ML3.4*
ISC 17 15:46:09.4±1.0,32°.77N±0°.03×47°.64E±0°.03, h12km±8km, n60, σ1§48/67, mb3.8/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.31**	**254**	*e*Pg	**Pg**	**15 46 15.4**	**-0.4**
DHL1				*e*Sg	**Sg**	**15 46 21.2**	**+1.1**
IKFM	**Kafar-mosalman**	**0.77**	**13**	*e*Pg	**Pg**	**15 46 24.4**	**0.0**
IKFM				*e*		15 46 39.6	
	comp=Z,99nm,0.4s						
IKMR	**Kamar-syah**	**0.97**	**40**	*e*Pg	**Pg**	**15 46 27.6**	**-0.5**
IKMR				*e*		15 46 47.7	
	comp=Z,99nm,0.4s						
IDOB	**Doab**	**1.11**	**24**	*e*Pg	**Pb**	**15 46 30.4**	**-0.3**
SHGR	**Shooshtar-Gavs**	**1.18**	**124**	*e*Pg	**Pn**	**15 46 32.4**	**+0.7**
SHGR				*e*Sg	**Sg**	**15 46 48.4**	**+0.9**
SHGR				IAML		15 46 51.9	
	comp=E,1μm,0.3s						
SHGR				IAML		15 46 57.3	
	comp=N,801nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.18**	**124**	*e*Pg	**Pn**	**15 46 32.4**	**+0.7**
IBDR	**Badra**	**1.48**	**284**	*e*Pg	**Pn**	**15 46 36.3**	**+0.5**
IBDR				*e*Sg	**Sg**	**15 46 57.0**	**+0.1**
IBDR				AML	AML	15 47 02.6	
	comp=E,390nm,0.7s						
IBDR				AML	AML	15 47 02.9	
	comp=N,367nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.58**	**342**	*e*Pn	**Pg**	**15 46 39.7**	**-0.1**
KCHF				*e*		15 47 05.5	
	comp=Z,99nm,0.7s						
HSAM	**Samen**	**1.65**	**29**	*e*Pg	**Pg**	**15 46 41.1**	**0.0**
HSAM				*e*		15 47 08.7	
	comp=Z,99nm,0.7s						
KER	**Kermanshah**	**1.67**	**345**	*e*Pn	**Pb**	**15 46 40.8**	**+0.7**
AHWZ	**Ahwaz**	**1.67**	**149**	*e*Pg	**Pb**	**15 46 40.7**	**+0.7**
IBZA	**Bozab**	**1.71**	**6**	*e*Pg	**Pg**	**15 46 42.2**	**0.0**
IBZA				*e*		15 46 45.4	
	comp=Z,99nm,0.4s						
IGHG	**Ghaleghazi**	**1.79**	**330**	*e*Pn	**Pb**	**15 46 42.9**	**+0.6**
IGHG				*e*		15 47 12.8	
	comp=Z,99nm,0.6s						
IALM	**Almabolaq**	**2.13**	**12**	*e*Pn	**Pb**	**15 46 47.9**	**-0.2**
NSR	**Nassriya**	**2.17**	**216**	*e*Pn	**Pn**	**15 46 46.0**	**+0.7**
NSR				*e*Sn	**Sn**	**15 47 13.0**	**+1.0**
NSR				AML	AML	15 47 17.6	
	comp=E,319nm,0.2s						
KHMZ	**Khomeyn**	**2.17**	**63**	*e*Pg	**Pb**	**15 46 49.2**	**+0.4**
KHMZ	**Khomeyn**	**2.17**	**63**	*e*Pg	**Pb**	**15 46 49.2**	**+0.4**
IDHR	**Dehrash**	**2.19**	**332**	*e*Pn	**Pb**	**15 46 48.3**	**-0.8**
IDHR				*e*		15 46 52.5	
	comp=Z,99nm,0.3s						
ILIN	**Lien**	**2.22**	**345**	*e*Pn	**Pb**	**15 46 48.4**	**-1.1**
ILIN				*e*		15 47 19.9	
	comp=Z,99nm,0.5s						
SNGE	**Sanandaj**	**2.33**	**354**	*e*Pn	**Pb**	**15 46 50.2**	**-1.3**
SNGE				*e*Sg	**Sg**	**15 47 22.9**	**-1.4**
SNGE				IAML		15 47 29.1	
	comp=N,119nm,0.5s						
SNGE	**Sanandaj**	**2.33**	**354**	*e*Pn	**Pb**	**15 46 50.2**	**-1.3**
HAGD	**Aghdareh**	**2.40**	**31**	*e*Pn	**Pb**	**15 46 51.3**	**-1.3**
HAGD				*e*		15 46 58.3	
	comp=Z,99nm,0.3s						
ASAO	**Ashtian**	**2.67**	**48**	*e*Pn	**Pn**	**15 46 54.9**	**+2.5**
ASAO				*e*Sg	**Sg**	**15 47 33.1**	**-2.0**
ASAO	**Ashtian**	**2.67**	**48**	*e*Pn	**Pn**	**15 46 54.9**	**+2.5**
IPIR	**Pirpir**	**2.74**	**91**	*e*Pn	**Pn**	**15 46 55.6**	**+2.1**
SHK1	**Shahrekord**	**2.78**	**98**	*e*Pn	**Pn**	**15 46 55.0**	**+1.1**
SHK1				*e*		15 47 41.7	
	comp=Z,99nm,0.6s						
BHD	**Baghdad**	**2.78**	**281**	*e*Pn	**Pn**	**15 46 55.0**	**+1.3**
BHD				*e*Sn	**Sn**	**15 47 28.0**	**+0.8**
BHD				AML	AML	15 47 38.9	
	comp=E,228nm,0.3s						
MIB	**Mutribah**	**2.97**	**185**	*e*P		15 46 56.3	
MIB				*e*S		15 47 31.3	
MIB				IAML		15 47 38.0	
	comp=Z,241nm,0.4s						
ABEH	**Behbahan**	**3.11**	**133**	*e*Pn	**Pn**	**15 47 00.0**	**+1.8**
UMR	**Umm Al-Rimmam**	**3.21**	**179**	*e*P		15 46 59.8	
IRAZ	**Razeghan**	**3.24**	**35**	*e*Pn	**Pn**	**15 47 03.0**	**+2.7**
QAM	**Ghamsar**	**3.33**	**72**	*e*Pn	**Pn**	**15 47 04.0**	**+2.5**
QABG	**Abgarm-Qazvin**	**3.34**	**28**	*e*Pn	**Pn**	**15 47 02.9**	**+1.2**
IQOM	**Qom**	**3.53**	**53**	*e*Pn	**Pn**	**15 47 06.4**	**+2.2**
IGAR	**Gharneh**	**3.73**	**94**	*e*Pn	**Pn**	**15 47 07.9**	**+0.8**
KLNJ	**Kolanjah**	**3.79**	**117**	*e*Pn	**Pn**	**15 47 08.7**	**+0.7**
KLNJ				*e*		15 48 24.8	
	comp=Z,99nm,0.8s						
RDF	**Al-Radifah**	**3.83**	**181**	*e*P		15 47 08.0	
RDF				*e*S		15 47 53.4	
RDF				IAML		15 47 59.8	
	comp=Z,136nm,0.3s						
IMHD	**Mahdasht**	**3.84**	**40**	*e*Pn	**Pn**	**15 47 11.3**	**+2.9**
KRSH	**Karshahi**	**3.95**	**71**	*e*Pn	**Pn**	**15 47 11.6**	**+1.7**
IZEF	**Zefreh**	**3.95**	**87**	*e*Pn	**Pn**	**15 47 11.6**	**+1.5**
QRN	**Al-Qurain**	**4.02**	**176**	*e*P		15 47 11.2	
QRN				*e*S		15 47 57.5	
IVRN	**Varamin**	**4.06**	**56**	*e*Pn	**Pn**	**15 47 13.2**	**+1.8**
IRAM	**Ramesheh**	**4.13**	**102**	*e*Pn	**Pn**	**15 47 12.8**	**+0.3**
ISFB	**Sefidab**	**4.15**	**66**	*e*Pn	**Pn**	**15 47 14.2**	**+1.5**
IGZV	**Ghazvin**	**4.19**	**30**	*e*Pn	**Pn**	**15 47 16.0**	**+2.7**
MAHB	**Mahabad**	**4.29**	**339**	*e*Pn	**Pn**	**15 47 17.2**	**+2.6**
QALM	**Alamut, Qazvin**	**4.42**	**33**	*e*Pn	**Pn**	**15 47 18.5**	**+2.1**
ILAS	**Lasjerd**	**5.13**	**58**	*e*Pn	**Pn**	**15 47 28.6**	**+2.4**
ANAR	**Anarak**	**5.14**	**84**	*e*Pn	**Pn**	**15 47 26.9**	**+0.7**
ISAD	**Sadrabad**	**5.19**	**98**	*e*Pn	**Pn**	**15 47 27.6**	**+0.5**
IPRN	**Peran**	**5.20**	**47**	*e*Pn	**Pn**	**15 47 29.5**	**+2.4**
IANJ	**Anjilo**	**5.86**	**61**	*e*Pn	**Pn**	**15 47 38.5**	**+2.2**
IGLO	**Ghaloghah**	**6.32**	**52**	*e*Pn	**Pn**	**15 47 45.4**	**+2.9**
WSAR	**Wadi Sarin**	**13.57**	**132**	Pn	**Pn**	**15 49 20.7**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=308,slow=12,SNR=2.1						
WSAR				Sn	Sn	15 51 40.6	-12
	comp=Z,0.1nm,0.3s,baz=239,slow=16,SNR=1.2						
AKTO	**Aktyubinsk**	**19.25**	**20**	P	**P**	**15 50 33.8**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=208,slow=9.6,SNR=6.7						
AKASG	**Malin Array Be**	**22.47**	**328**	P	**P**	**15 51 07.3**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=142,slow=10,SNR=1.5						
ARU	**Arti**	**24.84**	**15**	P	**P**	**15 51 30.5**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=234,slow=8.7,SNR=3.5						
BVAR	**Borovoye Array**	**26.02**	**32**	P	**P**	**15 51 39.6**	**-2.6**
	comp=Z,0.4nm,0.4s,baz=230,slow=3.6,SNR=4.0						
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**	**15 52 16.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=248,slow=7.5,SNR=14						
FINES	**FINESS Array B**	**31.91**	**340**	P	**P**	**15 52 34.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=141,slow=9.0,SNR=2.1						
ZALV	**Zalesovo Beam**	**33.77**	**40**	P	**P**	**15 52 50.2**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=258,slow=7.4,SNR=5.1						
HFS	**Hagfors**	**35.30**	**331**	P	**P**	**15 53 04.3**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=131,slow=7.9,SNR=5.6						
ARCES	**ARCESS Array B**	**38.85**	**348**	P	**P**	**15 53 34.2**	**+0.2**
	comp=Z,4.8nm,1.0s,baz=156,slow=6.1,SNR=4.8						
SEY	**Seymchan**	**67.61**	**29**	P	**P**	**15 57 05.5**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=332,slow=7.1,SNR=7.7						

*JMA **17** 15:47:58.2±0.3,44°.62N×147°.16E, h1km, M4.7*
*NIED **17** 15:47:58.3,44°.62N×147°.16E, h1km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-1.54; Mθθ-1.22; Mφφ2.76; Mrθ1.46; Mθφ-2.35; Mφr7.75; Fault plane solution: M08.56000×10^15 NP1: φs190.00000°,δ84.00000°,λ-70.00000°. NP2: φs296.00000°,δ20.00000°,λ-163.00000°.*
*BJI **17** 15:47:59.7±0.0,44°.68N×146°.91E, h0km, mb4.3/36, mb1 4.4/42, mb1mx4.2/82, mbtmp4.3/42, ML4.0/6, MS3.7/17, Ms1 3.7/17, ms1mx3.4/56, Error ellipse: s-maj=13.6km s-min=9.3km az=135.0*
*NEIC **17** 15:48:02.8±1.4,44°.59N±0°.07×146°.9E±0°.1, h18km±4km, mb4.7/92, Error ellipse: s-maj=12.3km s-min=9.1km az=122.0*
*SKHL **17** 15:48:04.1±0.2,44°.60N×146°.90E, h43km±4km, mb4.9/17, mbv5.1/2, ms4.5/4*
*MOS **17** 15:48:04.1±1.0,44°.57N×146°.83E, h44km, mb4.7/41, MS3.4/7, Error ellipse: s-maj=6.3km s-min=4.9km az=73.0*
ISC 17 15:48:03.1±0.4,44°.61N±0°.04×146°.97E±0°.04, h20km±3km, n365, σ1§55/402, mb4.6/120, MS3.8/18, 17C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.89**	**45**	*e*PN	**Pb**	**15 48 18.6**	**-1.2**
KUR				*e*S	**Sb**	**15 48 31.6**	**+0.4**
KUR				pmax	pmax		
	comp=Z,2μm,0.4s						
KUR				smax	smax		
	comp=E,6μm,0.4s						
KUR				smax	smax		
	comp=N,3μm,0.2s						
KUR	**Kuril'sk**	**0.89**	**45**	*e*P	**Pb**	**15 48 18.7**	**-1.1**
KUR				AMB	AMB	15 48 21.5	
	comp=N,4μm,0.7s						
KUR				*e*S	**Sb**	**15 48 31.6**	**+0.4**
KUR				A	A	15 48 33.1	
	comp=N,4μm,0.3s						
KUR				A	A	15 48 33.1	
	comp=N,6μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.98**	**235**	⇑*i*PN	**Pn**	**15 48 20.3**	**-1.4**
YUK				*i* S	**Sn**	**15 48 37.1**	**+2.1**
YUK				pmax	pmax		
	comp=N,4μm,0.2s						
YUK				pmax	pmax		
	comp=E,4μm,0.2s						
YUK				pmax	pmax		
	comp=Z,12μm,0.2s						
YUK				smax	smax		
	comp=N,10μm,0.4s						
YUK				smax	smax		
	comp=E,6μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.98**	**235**	*i* P	**Pn**	**15 48 20.4**	**-1.3**
YUK				AMB	AMB	15 48 22.4	
	comp=E,12μm,0.4s						
YUK				*e*S	**Sb**	**15 48 32.8**	**-1.1**
YUK				A	A	15 48 38.2	
	comp=E,10μm,0.4s						
YUK				A	A	15 48 38.2	
	comp=E,6μm,0.4s						
GRPR	**Tuman**	**1.06**	**235**	⇑*i*PN	**Pn**	**15

comp=E,12µm,0.5s
RUSJ Misakicho 1.34 248 *e*PN **Pn** **15 48 25.5 -1.0**
RUSJ *e*S **Sn** **15 48 44.8 +1.1**
GLVR Golovnino 1.36 231 *e*PN **Pn** **15 48 26.4 -0.5**
GLVR *e*S **Sn** **15 48 45.5 +1.2**
GLVR pmax pmax
comp=Z,2µm,0.2s
GLVR smax smax
comp=N,7µm,0.4s
GLVR smax smax
comp=E,8µm,0.3s
GLVR Golovnino 1.36 231 *e*P **Pn** **15 48 25.5 -1.4**
GLVR AMB AMB 15 48 32.2
comp=E,2µm,0.2s
GLVR *e*S **Sn** **15 48 41.5 -2.8**
GLVR A A 15 48 46.7
comp=E,7µm,0.4s
GLVR A A 15 48 46.7
comp=E,8µm,0.4s
JRA Rausu 1.49 244 P **Pn** **15 48 27.9 -0.7**
JRA *e*S **Sb** **15 48 49.3 +0.8**
NEM2 Nemuro 2 1.53 216 P **Pn** **15 48 27.7 -1.5**
NEM2 *e*S **Sn** **15 48 48.0 -0.4**
NMR Nemuro--Hokkai 1.53 216⇑ *i*PN **Pn** **15 48 28.1 -1.1**
NMR *e*S **Sn** **15 48 48.4 -0.1**
NMR Nemuro--Hokkai 1.53 216 *e*P **Pn** **15 48 28.1 -1.1**
NMR *e*S **Sn** **15 48 47.0 -1.5**
JNSB Nemuroshibetsu 1.64 240 P **Pn** **15 48 30.6 -0.2**
JNSB *e*S **Sb** **15 48 53.7 +0.8**
JNK Nakash 1.92 239 P **Pn** **15 48 34.2 -0.4**
JNK *e*S **Sb** **15 49 01.0 +0.1**
JKHN Kushirohamanak 2.01 221 P **Pn** **15 48 35.0 -0.8**
JKHN *e*S **Sn** **15 49 00.7 +0.3**
JTKR Abashiri--Toko 2.29 255 P **Pn** **15 48 39.2 -0.5**
JAK Akkeshi 2.31 226 P **Pn** **15 48 39.5 -0.4**
JAR Ashorobuto 2.66 242 P **Pn** **15 48 45.4 +0.6**
JMP Maruseppu 2.66 258 P **Pn** **15 48 44.8 0.0**
JMP *e*S **Sn** **15 49 18.5 +2.0**
JOB Onbets 2.84 234 P **Pn** **15 48 48.4 +1.1**
JOB *e*S **Sn** **15 49 24.7 +3.8**
JKK2 Kamakawa 2 3.12 258 P **Pn** **15 48 51.5 +0.3**
JKA Kamikawa-asahi 3.17 263 Pn **Pn** **15 48 51.9 +0.1**
JKA Kamikawa-asahi 3.17 263 **Sn** **15 49 31.3 +2.2**
JKA Kamikawa-asahi 3.17 263 *e*P **Pn** **15 48 52.0 +0.1**
ASAJ Asahikawa 3.18 263 Pn **Pn** **15 48 52.0 +0.1**
comp=E,42nm,0.3s,baz=100,slow=12,SNR=634
ASAJ Sn **Sn** **15 49 31.3 +2.1**
comp=E,11nm,0.3s,baz=280,slow=32,SNR=1.9
ASAJ LR LR 15 49 37.7
comp=E,161nm,20.3s,baz=129,slow=31
ASAJ Asahikawa 3.18 263 P **Pn** **15 48 52.2 +0.3**
JCH Churui 3.29 234 P **Pn** **15 48 54.0 +0.5**
JCH *e*S **Sn** **15 49 34.5 +2.5**
JFR Furan 3.48 247 P **Pn** **15 48 56.0 -0.1**
YSS Yuzh-Sakhalins 3.77 310 *e*PN **Pn** **15 48 59.8 -0.2**
YSS *e*S **Sn** **15 49 45.0 +1.3**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=Z,1µm,16.0s
YSS Yuzh-Sakhalins 3.77 310 Pn **Pn** **15 48 59.3 -0.7**
YSS Yuzh-Sakhalins 3.77 310 *e*P **Pn** **15 48 59.7 -0.2**
YSS AMB AMB 15 49 05.4
comp=Z,160nm,0.4s
YSS *e*S **Sn** **15 49 42.7 -1.0**
YSS A A 15 49 55.0
comp=Z,200nm,0.7s
YSS A A 15 49 55.0
comp=Z,270nm,0.7s
YSS AMS AMS 15 50 45.0
comp=Z,900nm,16.0s
YSS AMS AMS 15 50 45.0
comp=Z,1µm,16.0s
JEM Erimo 3.81 228 Pn Pn 15 48 51.7 -8.7
ERM Erimo 3.81 228*ce*PN **Pn** **15 49 01.6 +1.1**
ERM pmax pmax
comp=Z,355nm,1.0s
ERM Erimo 3.81 228 Pn **Pn** **15 49 01.0 +0.5**
JEW Eniwo 4.38 248 Pn **Pn** **15 49 09.1 +0.7**
UGL Uglegorsk 5.59 325 *e*P **Pn** **15 49 25.7 +0.7**
UGL AMB AMB 15 49 31.3
comp=Z,50nm,0.6s
UGL *e*S **Sn** **15 50 28.0 -0.6**
UGL A A 15 50 42.4
comp=Z,110nm,0.7s
UGL A A 15 50 42.4
comp=Z,120nm,0.7s
JTM Tenmabayashi 5.79 231 Pn **Pn** **15 49 28.9 +1.2**
TYV Tymovskoe 6.90 337 *e*PN **Pn** **15 49 47.6 +4.7**
TYV *e*S **Sn** **15 51 07.1 +6.3**
TYV pmax pmax
comp=Z,200nm,2.9s
TYV smax smax
comp=N,12nm,1.1s
TYV Tymovskoe 6.90 337 *e*P **Pn** **15 49 44.7 +1.8**
TYV AMB AMB 15 49 49.7
comp=N,50nm,0.7s
TYV AMB AMB 15 49 50.1
comp=N,200nm,3.0s
TYV *e*S **Sn** **15 50 59.7 -1.1**
TYV A A 15 51 11.3
comp=N,40nm,0.7s
TYV A A 15 51 11.3
comp=N,50nm,0.7s
TYV AMS AMS 15 52 04.0
comp=N,2µm,12.0s
TYV AMS AMS 15 52 04.0
comp=N,2µm,12.0s
TEY Ternei 7.39 277⇑ *e*PN Pn 15 49 58.6 +8.9
TEY pmax pmax
comp=Z,30nm,1.2s
TEY pmax pmax
comp=E,30nm,1.2s
JMM Marumori 8.19 217 **Pn** **15 49 59.3 -1.4**
SKR Severo-Kuril's 8.66 42 *e*PN Pn 15 50 12.1 +5.1
SKR pmax pmax
comp=Z,200nm,3.6s
SKR pmax pmax
comp=Z,600nm,2.0s
SKR MLR MLR
comp=Z,1µm,13.0s
SKR MLR MLR
comp=Z,2µm,14.0s
SKR Severo-Kuril's 8.66 42 *e*P **Pn** **15 50 09.2 +2.2**
SKR AMB AMB 15 50 15.1
comp=Z,200nm,4.0s
SKR *e*S **Sn** **15 51 42.0 -2.0**
SKR AMS AMS 15 53 57.0
comp=Z,800nm,13.0s
SKR AMS AMS 15 53 57.0
comp=Z,1µm,13.0s
SKR AMS AMS 15 53 57.0
comp=Z,2µm,13.0s
JSD Sado 9.27 228 Pn **Pn** **15 50 15.3 -0.2**
OKH Okha 9.33 345*de*PN **Pn** **15 50 14.5 -1.7**
OKH MLR MLR
comp=Z,200nm,17.0s
OKH MLR MLR
comp=E,800nm,12.0s
OKH MLR MLR
comp=N,500nm,13.0s
OKH Okha 9.33 345 *e*P **Pn** **15 50 18.4 +2.2**
OKH *e*S **Sn** **15 51 58.8 -1.7**
OKH AMS AMS 15 54 40.0
comp=N,900nm,16.0s
OKH AMS AMS 15 54 40.0
comp=N,1µm,16.0s
GRNR Gornyy 9.41 315⇓ *i*PN **Pn** **15 50 21.2 +3.8**
GRNR pmax pmax
comp=Z,4.0nm,0.7s
GRNR MLR MLR
comp=E,180nm,13.0s
GRNR MLR MLR
comp=N,130nm,10.0s
GRNR MLR MLR
comp=Z,230nm,14.0s
GRNR Gornyy 9.41 315 *e*P **Pn** **15 50 21.2 +3.8**
GRNR AMB AMB 15 50 22.3
NKL Nikolayevsk 9.49 336 *e*PN **Pn** **15 50 15.3 -3.2**
NKL *e*S **Sn** **15 52 10.5 +6.0**
NKL smax smax
comp=E,14nm,0.3s
NKL smax smax
comp=N,7.0nm,0.8s
NKL MLR MLR
comp=E,2µm,12.0s
NKL MLR MLR
comp=N,137nm,16.0s
NKL MLR MLR
comp=Z,267nm,10.0s
NKL Nikolayevsk 9.49 336 *e*P **Pn** **15 50 20.4 +1.9**
NKL AMB AMB 15 50 24.2
comp=Z,50nm,0.8s
NKL *e*S **Sn** **15 52 01.4 -3.1**
NKL A A 15 52 12.0
comp=Z,10.0nm,0.6s
NKL A A 15 52 12.0
comp=Z,10.0nm,0.6s
NKL AMS AMS 15 52 12.1
comp=Z,270nm,16.0s
NKL AMS AMS 15 52 12.1
comp=Z,2µm,16.0s
PAU Pauzhetka 9.51 40 *e*P **Pn** **15 50 21.8 +3.1**
PAU AMB AMB 15 50 25.1
comp=Z,40nm,0.6s
JYT Yasato 9.84 214 Pn **Pn** **15 50 21.7 -1.6**
MAJO Matsushiro 10.45 223*c i*PN **Pn** **15 50 31.6 -0.2**
MAJO Matsushiro 10.45 223 Pn **Pn** **15 50 30.0 -1.8**
MAT Matsushiro 10.45 223 P **Pn** **15 50 31.2 -0.6**
MAT S **Sn** **15 52 35.6 +7.4**
MJAR Matsushiro Arr 10.45 223 Pn **Pn** **15 50 31.1 -0.6**
comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=63
MJAR LR LR 15 55 21.0
comp=Z,625nm,18.7s,baz=40,slow=42
MJAR Matsushiro Arr 10.45 223 **Pn** **15 50 30.2 -1.6**
USA0B Ussuriysk Arra 10.73 273*c i*PN **Pn** **15 50 36.2 +0.7**
USRK Ussuriysk Ar. 10.73 273 Pn **Pn** **15 50 39.1 +3.6**
baz=82,slow=14,SNR=21
USRK LR LR 15 54 49.8
comp=Z,400nm,19.2s,baz=84,slow=38
USRK Ussuriysk Ar. 10.73 273 PN **Pn** **15 50 33.5 -2.0**
USRK Ussuriysk Ar. 10.73 273 Pn **Pn** **15 50 33.5 -2.0**
PEA0B Petropavlovsk- 11.04 36 PN **Pn** **15 50 42.0 +2.2**
PEA0B Petropavlovsk- 11.04 36 Pn **Pn** **15 50 42.0 +2.2**
PETK Petropavlovsk- 11.04 36 Pn **Pn** **15 50 43.4 +3.7**
comp=Z,0.7nm,0.3s,baz=193,slow=12,SNR=22
PETK LR LR 15 55 13.4
comp=Z,882nm,18.1s,baz=211,slow=39
PETK Petropavlovsk- 11.04 36 PN **Pn** **15 50 41.9 +2.1**
PETK Petropavlovsk- 11.04 36 **Pn** **15 50 41.9 +2.1**
KLR Kul'dur 11.39 299 Pn **Pn** **15 50 46.0 +1.6**
comp=Z,0.2nm,0.3s,baz=106,slow=14,SNR=28
KLR LR LR 15 55 35.8
comp=Z,310nm,18.3s,baz=112,slow=40
KLR Kul'dur 11.39 299*ce*PN **Pn** **15 50 45.3 +0.9**
KLR Kul'dur 11.39 299 *e*P **Pn** **15 50 44.0 -0.4**
PET Petropavlovsk 11.40 38 *i*PN **Pn** **15 50 43.4 -1.1**
PET Petropavlovsk 11.40 38 *e*P **Pn** **15 50 45.2 +0.7**
PET AMB AMB 15 50 48.0
comp=Z,30nm,0.9s
JGF Kuroka 11.62 223 **Pn** **15 50 46.1 -1.6**
INU Inuyama 11.98 223 Pn **Pn** **15 50 51.4 -1.3**
MDJ Mudanjiang 12.39 276 P **Pn** **15 51 02.1 +3.9**
MDJ pP P 15 51 08.4 -1.7
MDJ sP 15 51 12.6
MDJ S **Sn** **15 53 19.0 +3.4**
MDJ pmax pmax
comp=Z,40nm,1.5s
MDJ pmax pmax
comp=Z,710nm,3.9s
MDJ LR LR
comp=Z,1µm,11.4s
MDJ LR LR
comp=Z,1µm,13.5s
MDJ LR LR
comp=Z,2µm,13.5s
EKMR Ekimchan 12.51 318 *e*P **Pn** **15 50 59.7 -0.1**
EKMR AMB AMB 15 51 07.8
comp=Z,10.0nm,0.9s
JHJ Hachijo jima 2 12.76 208 LR LR 15 56 18.9
comp=Z,174nm,18.4s,baz=14,slow=39
JWT Wachi 12.86 228 Pn **Pn** **15 51 03.8 -0.8**
MA2 Magadan 15.16 7 Pn **Pn** **15 51 35.9 +0.1**
comp=Z,0.3nm,0.3s,baz=155,slow=19,SNR=2.2
MA2 LR LR 15 57 00.6
comp=Z,2µm,21.9s,baz=178,slow=36
MA2 Magadan 15.16 7*c i*P **P** **15 51 38.8 -2.0**
MA2 Magadan 15.16 7 P **P** **15 51 41.7 +0.9**
ZEA Zeya 15.76 312 *e*P **Pn** **15 51 45.1 +1.5**
ZEA *e*S **Sn** **15 54 33.9 -3.6**
ZEA pmax pmax
comp=E,200nm,4.8s
ZEA pmax pmax
comp=N,200nm,5.4s
ZEA pmax pmax
comp=Z,400nm,5.2s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,20nm,1.5s
ZEA pmax pmax
comp=Z,40nm,1.1s
ZEA smax smax
comp=N,100nm,8.8s
ZEA MLR MLR
comp=E,100nm,15.0s
ZEA MLR MLR
comp=N,100nm,10.0s
ZEA MLR MLR
comp=Z,200nm,12.0s
ZEA Zeya 15.76 312 *e*P **Pn** **15 51 42.0 -1.6**
ZEA AMB AMB 15 51 51.4
comp=Z,200nm,5.0s
ZEA AMB AMB 15 51 51.4
comp=Z,200nm,5.0s
KSRS Korea Array 16.04 250 Pn **Pn** **15 51 47.0 -0.2**
comp=Z,0.1nm,0.3s,baz=56,slow=12,SNR=8.8
KSRS PcP **PcP** **15 56 45.0 +1.8**
comp=Z,0.1nm,0.3s,baz=47,slow=0.5,SNR=6.4
KSRS LR LR 15 57 44.9
comp=Z,541nm,18.6s,baz=54,slow=36
KSAR Wonju Array Be 16.07 250 P **Pn** **15 51 45.5 -2.2**
KSAR Wonju Array Be 16.07 250 **Pn** **15 51 45.5 -2.2**
KROS Kirovskiy 16.23 314 *e*P **Pn** **15 51 48.3 -1.4**
KROS AMB AMB 15 51 52.1
comp=Z,6.0nm,0.9s
JNU Nakatsue 16.96 233 Pn **Pn** **15 51 59.8 +0.7**
comp=Z,0.3nm,0.3s,baz=37,slow=12,SNR=3.3
JNU LR LR 15 59 31.2
comp=Z,123nm,18.6s,baz=54,slow=41
TJN Taejon 17.00 248*ce*P **Pn** **15 51 58.5 -1.1**
SEY Seymchan 18.62 8 P **Pn** **15 52 19.3 0.0**
comp=Z,0.1nm,0.3s,baz=336,slow=23,SNR=11
SEY Seymchan 18.62 8 *i*P **Pn** **15 52 20.4 +1.1**
SEY Seymchan 18.62 8 *e*P **Pn** **15 52 20.4 +1.1**
HIA Hailar 19.12 294 P **P** **15 52 23.4 -1.2**
HIA pmax pmax
comp=Z,24nm,1.3s
HIA Hailar 19.12 294 P **P** **15 52 23.4 -1.2**
DL2 Dalian 19.71 262 P **P** **15 52 30.8 -0.3**
DL2 *e*S **S** **15 56 04.8 -7.5**
DL2 pmax pmax
comp=Z,23nm,0.9s
DL2 pmax pmax
comp=Z,190nm,5.3s
DL2 LR LR
comp=Z,390nm,11.9s
DL2 LR LR
comp=Z,310nm,10.1s
DL2 LR LR
comp=Z,390nm,13.9s
YAK Yakutsk 20.16 336 P **P** **15 52 35.9 +0.2**
comp=Z,28nm,0.8s,baz=74,slow=0.8,SNR=27
YAK Yakutsk 20.16 336 *e*P **P** **15 52 36.1 +0.3**
YAK *e* 15 52 54.2
YAK *e*S Sn 15 56 23.1 -0.7
YAK *e*SS **SnSn** **15 56 41.3 +3.1**
YAK *e*SSS SSS 15 56 55.8
YAK pmax pmax
comp=Z,40nm,0.8s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,28nm,1.6s
YAK pmax pmax
comp=N,33nm,1.4s
YAK pmax pmax
comp=E,45nm,1.4s
YAK smax smax
comp=E,108nm,3.5s
YAK smax smax
comp=N,64nm,2.2s
YAK MLR MLR
comp=Z,107nm,15.0s
YAK MLR MLR
comp=N,245nm,17.0s
YAK MLR MLR
comp=E,176nm,16.0s
YAK Yakutsk 20.16 336 P **P** **15 52 35.3 -0.4**
YAK Yakutsk 20.16 336 *e*P **P** **15 52 36.1 +0.3**
BJT Baijiatuao 23.16 269 P **P** **15 53 06.8 -1.3**
BJT pmax pmax
comp=Z,28nm,1.3s
BJT Baijiatuao 23.16 269 P **P** **15 53 06.8 -1.3**
BJT IAmb IAmb 15 53 09.9
comp=Z,28nm,1.3s
JOW Kunigami 23.25 227 P **P** **15 53 09.4 +0.3**
comp=Z,15nm,0.8s,baz=314,slow=9.8,SNR=4.3
JOW LR LR 16 02 45.1
comp=Z,140nm,21.2s,baz=115,slow=38
BOD Bodaibo 24.23 315 *e*P **P** **15 53 15.9 -2.3**
BOD pmax pmax
comp=Z,17nm,1.8s
SSE Sheshan 24.30 245 P **P** **15 53 18.8 -0.3**
SSE S **S** **15 57 38.0 +1.0**
SSE pmax pmax
comp=Z,22nm,0.7s
SSE pmax pmax
comp=Z,86nm,3.9s
SSE LR LR
comp=Z,140nm,15.6s
SSE LR LR
comp=Z,220nm,16.9s
BILL Bilibino 25.57 17*ce*P **P** **15 53 31.5 +1.2**
BILL *e* 15 54 05.0
BILL *e*S **S** **15 57 53.7 -3.0**
BILL pmax pmax
comp=Z,12nm,1.7s
BILL MLR MLR
comp=Z,263nm,15.0s
BILL Bilibino 25.57 17 P **P** **15 53 31.0 +0.8**
BILL Bilibino 25.57 17 *e*P **P** **15 53 31.5 +1.2**
HHC Hu-ho-hao-te 26.15 274 *e*P **P** **15 53 36.8 +0.8**
HHC S **S** **15 58 03.8 -2.8**
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,230nm,5.1s
HHC LR LR
comp=Z,270nm,10.8s
HHC LR LR
comp=Z,480nm,12.2s
HHC LR LR
comp=Z,640nm,12.2s
BTO Baotou 27.34 275 *e*P **P** **15 53 50.5 +3.9**
BTO S **S** **15 58 28.8 +3.5**
BTO LR LR
comp=Z,2µm,13.4s
BTO LR LR
comp=Z,2µm,15.3s
BTO LR LR
comp=Z,2µm,15.0s
ULN Ulaanbaatar 27.59 291 P **P** **15 53 49.0 +0.1**
ULN pmax pmax
comp=Z,8.0nm,1.3s
ULN Ulaanbaatar 27.59 291 P **P** **15 53 49.0 +0.1**
ULN Ulaanbaatar 27.59 291 *e*P **P** **15 53 49.0 +0.1**
SONM Songino Array 28.03 291 P **P** **15 53 53.0 +0.2**
comp=Z,1.4nm,0.9s,baz=83,slow=8.3,SNR=10
SONM PcP **PcP** **15 57 07.9 +0.8**
comp=Z,1.2nm,1.0s,baz=129,slow=2.1,SNR=4.4
SONM LR LR 16 05 23.6
comp=Z,186nm,20.4s,baz=88,slow=37
SONM Songino Array 28.03 291 P **P** **15 53 51.7 -1.1**
SONM 15 57 07.9
SONM pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 28.03 291 P **P** **15 53 51.6 -1.1**
TIXI Tiksi 28.49 348 P **P** **15 53 56.4 0.0**
comp=Z,1.5nm,0.7s,baz=130,slow=7.2,SNR=7.4
TIXI Tiksi 28.49 348*ce*P **P** **15 53 56.3 -0.1**
TIXI pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 28.49 348 P **P** **15 53 57.6 +1.2**
TIXI Tiksi 28.49 348 *e*P **P** **15 53 56.3 -0.1**
WHN Wuhan 29.20 252 P **P** **15 54 06.8 +3.6**
H11N2 WAKE ISLAND Hy 29.84 140 T T 16 24 57.1
baz=331,slow=75,SNR=372
H11N1 WAKE ISLAND Hy 29.85 140 T T 16 24 58.2
baz=331,slow=75,SNR=346
H11N3 WAKE ISLAND Hy 29.86 140 T T 16 24 58.6
baz=331,slow=75,SNR=392
H11S1 WAKE ISLAND Hy 30.82 141 T T 16 26 08.6
baz=332,slow=76,SNR=783
H11S3 WAKE ISLAND Hy 30.82 141 T T 16 26 03.7
baz=332,slow=76,SNR=337
H11S2 WAKE ISLAND Hy 30.83 141 T T 16 26 05.2
baz=332,slow=76,SNR=362
XAN Xi'an 31.02 263 P **P** **15 54 18.9 -0.4**
XAN pP pP 15 54 24.6 -0.7
XAN PcP **PcP** **15 57 16.1 +1.2**
XAN pmax pmax
comp=Z,7.0nm,1.3s
XAN LR LR
comp=Z,150nm,13.0s
XAN LR LR
comp=Z,200nm,14.1s
XAN LR LR
comp=Z,220nm,13.0s
ANM Nome 32.96 36 P **P** **15 54 37.6 +1.6**
ANM pmax pmax
comp=Z,4.0nm,0.8s
ANM Nome 32.96 36 P **P** **15 54 37.6 +1.6**
LZH Lanzhou 33.63 271 *e*P **P** **15 54 43.3 +1.0**
LZH pP sP 15 54 53.3 +2.3
LZH pmax pmax
comp=Z,18nm,1.3s
GTA Gaotai 35.03 278 *e*P **P** **15 54 54.8 +0.4**
GTA pP pP 15 55 01.8 +1.3
GTA sP sP 15 55 05.3 +2.2
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,67nm,6.0s
GTA LR LR
comp=Z,300nm,12.3s
GTA LR LR
comp=Z,320nm,11.6s
GTA LR LR
comp=Z,460nm,12.8s
CD2 Chengdu 36.38 263⇓ *i*P **P** **15 55 06.4 +0.5**
CD2 pmax pmax
comp=Z,30nm,1.1s
OHAK Old Harbor 38.46 49 P **P** **15 55 23.9 +0.8**
KDAK Kodiak Island 38.76 48 P **P** **15 55 26.5 +0.8**
comp=Z,15nm,0.8s,baz=325,slow=8.8,SNR=5.8
KDAK Kodiak Island 38.76 48 P **P** **15 55 26.5 +0.8**
KDAK pmax pmax
comp=Z,45nm,1.4s
BPAW Bear Paw Mtn. 39.12 38 P **P** **15 55 30.1 +1.4**
KTH Kantishna Hill 39.16 39 P **P** **15 55 29.3 +0.3**
KTH IAmb IAmb 15 55 35.3
comp=Z,23nm,1.2s
CNPM China Poot 39.26 45 P **P** **15 55 31.5 +1.6**
SUA Susitna One 39.34 42 P **P** **15 55 32.4 +1.8**
COLD Coldfoot 39.50 33 P **P** **15 55 33.1 +1.3**
COLD IAmb IAmb 15 55 37.1
comp=Z,14nm,1.5s
I23K Minto, Yukon-K 39.81 36 P **P** **15 55 35.5 +1.1**
TOLK Toolik Lake Re 39.81 31 P **P** **15 55 35.1 +0.7**
DGZ Jazzator, Alta 39.88 299 *i*P **P** **15 55 35.9 +0.5**
DGZ pmax pmax
comp=Z,3.0nm,1.3s
O22K Cooper Landing 39.92 44 P **P** **15 55 36.2 +0.9**
NEA2 Nenana 39.94 37 P **P** **15 55 36.1 +0.6**
NEA2 IAmb IAmb 15 55 40.7
comp=Z,14nm,0.9s
RND Reindeer 40.09 39 P **P** **15 55 37.9 +1.1**
RND pmax pmax
comp=Z,8.0nm,1.4s
RND Reindeer 40.09 39 P **P** **15 55 37.9 +1.1**
GHO Glory Hole Cre 40.18 42 P **P** **15 55 38.9 +1.3**
GHO IAmb IAmb 15 55 42.0
comp=Z,21nm,1.3s

MDM **Murphy Dome** 40.29 37 P **P** 15 55 38.8 +0.4
MDM IAmb IAmb 15 55 44.2
comp=Z,13nm,1.0s
WRH **Wood River Hil** 40.37 37 P **P** 15 55 40.4 +1.4
ZAA0 **Zalesovo Array** 40.38 306 PcP **PcP** 15 57 42.4 +0.3
ZALV **Zalesovo Beam** 40.38 306 P **P** 15 55 38.6 -0.7
comp=Z,0.3nm,0.3s,baz=50,slow=12,SNR=1.8
ZALV PcP **PcP** 15 57 42.8 +0.7
comp=Z,4.1nm,0.7s,baz=90,slow=3.0,SNR=15
ZALV ScP **ScP** **16 01 31.6 +1.6**
comp=Z,0.6nm,0.5s,baz=83,slow=4.6,SNR=1.9
ZALV LR LR 16 13 29.4
comp=Z,81nm,18.8s,baz=71,slow=38
ZALV **Zalesovo Beam** 40.38 306 PcP **PcP** 15 57 41.6 -0.4
KNK **Knik Glacier** 40.44 42 P **P** 15 55 40.8 +1.1
KNK IAmb IAmb 15 55 45.2
comp=Z,13nm,1.0s
TCOL **CIGO, UAF Yank** 40.45 37 P **P** 15 55 40.5 +0.9
TCOL IAmb IAmb 15 55 45.0
comp=Z,21nm,0.9s
COLA **College** 40.45 37 P **P** 15 55 40.4 +0.7
COLA pmax pmax
comp=Z,21nm,0.9s
COLA **College** 40.45 37 P **P** 15 55 40.4 +0.7
COLA IAmb IAmb 15 55 45.0
comp=Z,21nm,0.9s
SML **Sawmill** 40.45 41 P **P** 15 55 41.5 +1.6
SML IAmb IAmb 15 55 56.0
comp=Z,20nm,1.1s
CCB **Clear Creek Bu** 40.48 37 P **P** 15 55 42.4 +2.4
IL31 40.87 37 P **P** 15 55 43.7 +0.6
IL31 IAmb IAmb 15 55 48.4
comp=Z,12nm,0.9s
ILAR **Eielson Array** 40.87 37 P **P** 15 55 42.4 -0.8
comp=Z,7.3nm,0.9s,baz=269,slow=6.6,SNR=25
ILAR PcP **PcP** 15 57 42.7 -0.7
comp=Z,1.1nm,0.9s,baz=274,slow=4.6,SNR=4.9
ILAR LR LR 16 13 28.8
comp=Z,83nm,19.8s,baz=271,slow=37
ILAR **Eielson Array** 40.87 37 P **P** 15 55 43.5 +0.3
WMQ **Urumqi** 41.67 291 *e*P **P** 15 55 51.5 +1.4
WMQ pP pP 15 55 59.1 +2.9
WMQ sP sP 15 56 02.8 +4.2
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,140nm,4.9s
WMQ LR LR
comp=Z,410nm,14.5s
WMQ LR LR
comp=Z,720nm,17.3s
WMQ LR LR
comp=Z,560nm,15.9s
SCRK **Sand Creek** 42.20 38 P **P** 15 55 54.4 +0.2
BCAR **Beaver Creek A** 43.31 39 P **P** 15 56 03.3 +0.2
EGAK **Eagle** 43.31 36 P **P** 15 56 03.2 +0.1
EGAK IAmb IAmb 15 56 08.1
comp=Z,24nm,1.4s
CTGM **Chitina Glacie** 43.91 42 P **P** 15 56 08.7 +0.5
CTGM IAmb IAmb 15 56 14.5
comp=Z,13nm,1.0s
MK31 **Makanchi Array** 44.08 297 P **P** 15 56 08.0 -1.5
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK31 **Makanchi Array** 44.08 297 P **P** 15 56 08.0 -1.5
MKAR **Makanchi Array** 44.08 297 P **P** 15 56 09.3 -0.2
comp=Z,1.4nm,0.9s,baz=76,slow=4.6,SNR=9.9
MKAR PcP **PcP** 15 57 54.9 +0.4
comp=Z,1.4nm,0.6s,baz=57,slow=4.5,SNR=7.5
MKAR ScP **ScP** **16 01 47.5 +2.4**
comp=Z,0.6nm,1.0s,baz=64,slow=6.6,SNR=3.6
MKAR **Makanchi Array** 44.08 297 *i* P **P** 15 56 08.8 -0.7
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR **Makanchi Array** 44.08 297 P **P** 15 56 07.8 -1.7
MKAR **Makanchi Array** 44.08 297 *e*P **P** 15 56 10.0 +0.5
DAWY **Dawson** 44.19 37 P **P** 15 56 10.5 +0.4
MAKZ **Makanchi** 44.27 297 P **P** 15 56 10.9 -0.2
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
MAKZ **Makanchi** 44.27 297 P **P** 15 56 10.9 -0.2
INK **Inuvik** 45.73 31 P **P** 15 56 21.5 -0.7
comp=Z,2.5nm,0.6s,baz=304,slow=9.3,SNR=7.4
INK **Inuvik** 45.73 31 P **P** 15 56 23.2 +0.9
INK pmax pmax
comp=Z,7.0nm,1.3s
INK **Inuvik** 45.73 31 P **P** 15 56 23.2 +0.9
LAMP **Lampang** 47.14 252 P **P** 15 56 36.6 +2.6
comp=Z,22nm,0.9s
CM34 **Chiang Mai Arr** 47.24 253 P **P** 15 56 36.0 +1.2
TDK **Taldyqorghan** 47.28 296 *e*P **P** 15 56 34.4 -0.4
comp=Z,6.5nm,0.8s,baz=296
TDK **Taldyqorghan** 47.28 296 *e*P **P** 15 56 34.4 -0.4
TDK pmax pmax
comp=Z,6.0nm,0.8s
CM35 **Chiang Mai Arr** 47.36 253 P **P** 15 56 36.0 +0.3
SHLS **Shalkode** 47.40 293 *e*P **P** 15 56 33.0 -2.9
baz=293
SHLS **Shalkode** 47.40 293 *e*P **P** 15 56 33.0 -2.9
CM33 **Chiang Mai Arr** 47.40 253 P **P** 15 56 36.0 0.0
CMMT **Chiang Mai** 47.40 253 P **P** 15 56 36.2 +0.1
comp=Z,5.8nm,1.1s
CHTO **Chiang Mai** 47.41 253 P **P** 15 56 35.7 -0.4
CHTO pmax pmax
comp=Z,12nm,1.1s
CHTO **Chiang Mai** 47.41 253 P **P** 15 56 35.7 -0.4
CHTO IAmb IAmb 15 56 38.0
comp=Z,12nm,1.1s
CHAI **Chaiyaphum** 47.42 247 P **P** 15 56 38.8 +2.7
comp=Z,13nm,1.2s
CM36 **Chiang Mai Arr** 47.51 253 P **P** 15 56 38.0 +1.1
CM32 **Chiang Mai Arr** 47.58 253 P **P** 15 56 39.0 +1.6
CM09 **Chiang Mai Arr** 47.63 253 P **P** 15 56 40.1 +2.3
comp=Z,6.0nm,1.0s
CM31 **Chiang Mai Arr** 47.65 253 P **P** 15 56 40.4 +2.4
CMAR **Chiang Mai Arr** 47.65 253 P **P** 15 56 38.1 +0.1
comp=Z,3.0nm,0.8s,baz=34,slow=7.9,SNR=21
CMAR PcP **PcP** 15 58 07.4 0.0
comp=Z,1.0nm,0.3s,baz=41,slow=1.7,SNR=2.6
CMAR LR LR 16 18 22.1
comp=Z,168nm,18.1s,baz=100,slow=38
CMAR **Chiang Mai Arr** 47.65 253 *ce*P **P** 15 56 39.2 +1.2
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR **Chiang Mai Arr** 47.65 253 P **P** 15 56 37.5 -0.5
CM02 **Chiang Mai Arr** 47.67 253 P **P** 15 56 40.2 +2.2
comp=Z,43nmcomp=Z,5.8nm,1.1s
CM01 **Chiang Mai Arr** 47.67 253 P **P** 15 56 40.5 +2.4
comp=Z,44nmcomp=Z,5.6nm,1.2s
CM04 **Chiang Mai Arr** 47.67 253 P **P** 15 56 40.0 +1.9
comp=Z,53nmcomp=Z,5.0nm,1.1s
CM15 **Chiang Mai Arr** 47.67 253 P **P** 15 56 40.0 +1.9
comp=Z,236nmcomp=Z,4.2nm,0.9s
CM05 **Chiang Mai Arr** 47.69 253 P **P** 15 56 40.6 +2.3
comp=Z,36nmcomp=Z,4.1nm,1.2s
CM13 **Chiang Mai Arr** 47.70 253 P **P** 15 56 40.5 +2.1
comp=Z,39nmcomp=Z,5.1nm,1.1s
KPKS **Kokpek** 47.77 294 *e*P **P** 15 56 38.3 -0.4
comp=Z,5.1nm,1.5s,baz=294
KPKS **Kokpek** 47.77 294 *e*P **P** 15 56 38.3 -0.4
KPKS pmax pmax
comp=Z,5.0nm,1.5s
SATY **Saty** 48.13 294 *e*P **P** 15 56 41.3 -0.3
baz=294
SATY **Saty** 48.13 294 *e*P **P** 15 56 41.3 -0.3
MHMT **Maesarieng** 48.54 253 P P 15 56 51.0 +6.2
comp=Z,14nm,0.7s
BRZS **Berezniki** 48.75 304 *e*P **P** 15 56 45.6 -0.5
baz=304
BRZS **Berezniki** 48.75 304 *e*P **P** 15 56 45.6 -0.5
SRAK **Srakaew** 48.76 246 P **P** 15 56 45.8 -0.7
comp=Z,93nm,0.8s
BRVK **Borovoye** 48.91 309 *ce*P **P** 15 56 46.3 -1.0
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BRVK **Borovoye** 48.91 309 *e*P **P** 15 56 46.3 -1.0
MDOK **Medeo** 48.97 294 *e*P **P** 15 56 47.5 -0.6
baz=294
MDOK **Medeo** 48.97 294 *e*P **P** 15 56 47.4 -0.6
AAA **Alma-Ata** 49.04 294 *e*P **P** 15 56 48.4 -0.1
baz=294
AAA **Alma-Ata** 49.04 294 *e*P **P** 15 56 48.4 -0.1
AAA **Alma-Ata** 49.04 294 *e*P **P** 15 56 48.4 -0.1
KUU **Kurty** 49.10 296 *e*P **P** 15 56 47.2 -1.7
comp=Z,5.4nm,1.7s,baz=295
KUU **Kurty** 49.10 296 *e*P **P** 15 56 47.1 -1.7
KUU pmax pmax
comp=Z,5.0nm,1.7s
UTHA **Uthaitani** 49.35 250 P **P** 15 56 54.7 +3.6
comp=Z,8.6nm,0.9s
BTLS **Baital** 50.04 298 *e*P **P** 15 56 54.9 -1.1
baz=298
BTLS **Baital** 50.04 298 *e*P **P** 15 56 54.9 -1.1
DLBC **Dease Lake** 50.13 43 P **P** 15 56 57.8 +1.1
comp=Z,1.5nm,0.5s,baz=342,slow=7.3,SNR=3.1
SGDS **Sogindy** 50.40 296 *e*P **P** 15 56 56.9 -2.1
baz=296
SGDS **Sogindy** 50.40 296 *e*P **P** 15 56 56.8 -2.1
AAK **Ala-Archa** 50.88 295 P **P** 15 57 02.6 +0.1
comp=Z,1.3nm,0.7s,baz=28,slow=6.8,SNR=3.8
AAK **Ala-Archa** 50.88 295 *ce*P **P** 15 57 00.8 -1.8
AAK pmax pmax
comp=Z,19nm,1.7s
AAK **Ala-Archa** 50.88 295 *e*P **P** 15 57 03.1 +0.5
KSH **Kashi** 51.43 291 *e*P **P** 15 57 10.6 +3.8
KSH pmax pmax
comp=Z,110nm,2.2s
KSH pmax pmax
comp=Z,260nm,5.2s
EUNU **Eureka** 52.04 10 P **P** 15 57 10.8 +0.2
DZA **Taraz** 52.78 297 *e*P **P** 15 57 16.6 0.0
baz=296
DZA **Taraz** 52.78 297 *e*P **P** 15 57 16.6 0.0
KKAR **Karatay Array** 53.20 297 P **P** 15 57 18.8 -0.9
KKAR **Karatay Array** 53.20 297 P **P** 15 57 18.8 -0.9
IUG **Iuzhnay** 53.99 296 *e*P **P** 15 57 25.3 -0.4
comp=Z,3.8nm,1.5s,baz=296
IUG **Iuzhnay** 53.99 296 *e*P **P** 15 57 25.2 -0.4
IUG pmax pmax
comp=Z,4.0nm,1.5s
RES **Resolute Bay** 54.18 17 P **P** 15 57 25.6 -0.8
comp=Z,2.6nm,0.7s,baz=305,slow=7.1,SNR=8.9
RES PcP **PcP** 15 58 32.3 +1.7
comp=Z,2.0nm,0.7s,baz=320,slow=4.5,SNR=4.0
YKA **Yellowknife Ar** 55.16 34 P **P** 15 57 34.1 +0.5
comp=Z,9.2nm,0.8s,baz=302,slow=6.6,SNR=28
ABKAR **Akbulak array** 56.43 308 P **P** 15 57 39.5 -3.4
KBL **Kabul** 58.78 289 P **P** 15 57 59.0 -1.0
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL **Kabul** 58.78 289 P **P** 15 57 59.0 -1.0
KBL IAmb IAmb 15 58 01.9
comp=Z,4.9nm,0.8s
PSI **Prapat** 59.28 240 P **P** 15 58 02.7 -0.8
comp=Z,4.1nm,0.7s,baz=360,slow=1.2,SNR=3.9
RPSI **Rantau Prapat** 59.36 240 P **P** 15 58 02.7 -1.2
NEW **Newport** 61.86 49 P **P** 15 58 21.5 +0.8
comp=Z,4.4nm,1.0s,baz=331,slow=12,SNR=2.5
LEM **Lembang** 62.24 225 P **P** 15 58 22.9 -0.7
comp=Z,7.3nm,0.4s,baz=296,slow=22,SNR=2.5
YBH **Yreka Blue Hor** 62.54 58 P **P** 15 58 25.3 0.0
comp=Z,0.8nm,0.5s,baz=360,slow=2.0,SNR=3.9
SUMG **Summit** 63.05 2 P **P** 15 58 27.5 -1.2
SUMG pmax pmax
comp=Z,16nm,1.5s
SUMG **Summit** 63.05 2 P **P** 15 58 27.5 -1.2
FIA1 **FINESS Array S** 64.05 333 P **P** 15 58 32.7 -2.1
FIA1 IAmb IAmb 15 58 38.6
comp=Z,12nm,1.4s
FINES **FINESS Array B** 64.05 333 P **P** 15 58 33.1 -1.7
comp=Z,2.2nm,0.6s,baz=45,slow=6.9,SNR=9.3
FINES **FINESS Array B** 64.05 333 *i* P **P** 15 58 33.9 -1.0
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES **FINESS Array B** 64.05 333 P **P** 15 58 32.9 -2.0
MSO **Missoula** 64.44 49 P **P** 15 58 38.0 +0.1
MSO IAmb IAmb 15 58 44.6
comp=Z,8.8nm,1.1s
WVOR **Wild Horse Val** 64.53 55 P **P** 15 58 38.6 +0.1
WVOR pmax pmax
comp=Z,4.0nm,0.8s
WVOR **Wild Horse Val** 64.53 55 P **P** 15 58 38.6 +0.1
WVOR IAmb IAmb 15 58 44.9
comp=Z,3.8nm,0.8s
ORV **Oroville** 64.58 59 P **P** 15 58 39.0 +0.2
ORV pmax pmax
comp=Z,6.0nm,1.3s
ORV **Oroville** 64.58 59 P **P** 15 58 39.0 +0.2
ORV IAmb IAmb 15 58 44.4
comp=Z,5.9nm,1.2s
FFC **Flin Flon** 65.08 37 P **P** 15 58 41.5 -0.3
FFC pmax pmax
comp=Z,15nm,1.3s
FFC **Flin Flon** 65.08 37 P **P** 15 58 41.5 -0.3
WR0 **Warramunga Arr** 65.25 193 P **P** 15 58 42.9 -0.3
WR0 IAmb IAmb 15 58 46.8
comp=Z,5.8nm,0.9s
WRAB **Tennant Creek** 65.26 193 *ce*P **P** 15 58 42.9 -0.3
WRAB pmax pmax
comp=Z,22nm,2.5s
WRAB **Tennant Creek** 65.26 193 P **P** 15 58 42.9 -0.3
WRAB IAmb IAmb 15 58 44.9
comp=Z,8.8nm,1.1s
WB2 **Warramunga Arr** 65.27 193 P **P** 15 58 43.2 -0.1
WB2 IAmb IAmb 15 58 45.0
comp=Z,9.9nm,1.1s
WRA **Warramunga Arr** 65.27 193 P **P** 15 58 43.2 -0.1
comp=Z,4.8nm,0.9s,baz=11,slow=6.7,SNR=18
WRA **Warramunga Arr** 65.27 193 *i* P **P** 15 58 44.2 +0.9
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA **Warramunga Arr** 65.27 193 P **P** 15 58 43.4 +0.1
FCC **Fort Churchill** 65.34 30 P **P** 15 58 43.9 +0.6
FCC pmax pmax
comp=Z,29nm,1.4s
FCC **Fort Churchill** 65.34 30 P **P** 15 58 43.9 +0.6
FITZ **Fitzroy Crossi** 65.37 202 P **P** 15 58 45.2 +1.2
comp=Z,5.0nm,1.1s,baz=159,slow=15,SNR=3.7
BOZ **Bozeman (W)** 66.47 49 P **P** 15 58 51.3 +0.3
BOZ pmax pmax
comp=Z,8.0nm,0.9s
BOZ **Bozeman (W)** 66.47 49 P **P** 15 58 51.3 +0.3
KVN **Kaiserville** 66.96 57 P **P** 15 58 54.7 +0.4
KVN pmax pmax
comp=Z,12nm,1.1s
KVN **Kaiserville** 66.96 57 P **P** 15 58 54.7 +0.4
RYN **Ryan** 66.97 58 P **P** 15 58 54.1 -0.2
RYN IAmb IAmb 15 59 00.8
comp=Z,7.5nm,1.1s
LHV **Little Huntoon** 67.22 58 P **P** 15 58 56.0 +0.3
NVAR **Mina Array Bea** 67.23 58 P **P** 15 58 57.0 +0.9
comp=Z,4.4nm,0.9s,baz=292,slow=5.3,SNR=16
NVAR **Mina Array Bea** 67.23 58 P **P** 15 58 56.2 +0.1
YNE **Yellowstone No** 67.72 48 P **P** 15 58 59.3 +0.2
YNE IAmb IAmb 15 59 05.3
comp=Z,4.5nm,1.2s
TPH **Tonopah** 68.11 58 P **P** 15 59 02.6 +0.9
TPH pmax pmax
comp=Z,54nm,1.2s
TPH **Tonopah** 68.11 58 P **P** 15 59 02.6 +0.9
LOHW **Long Hollow** 68.32 50 P **P** 15 59 04.2 +1.3
LOHW IAmb IAmb 15 59 05.5
comp=Z,4.3nm,1.2s
FRB **Frobisher Bay** 68.39 16 P **P** 15 59 02.2 -0.4
comp=Z,1.4nm,0.5s,baz=337,slow=5.4,SNR=4.8
MNK **Minsk** 68.53 327 *i* P **P** 15 59 01.1 -2.7
comp=E,2.0nm,0.6s
MNK *i* P **P** 15 59 01.1 -2.7
comp=N,10.0nm,0.8s
MNK *i* P **P** 15 59 01.1 -2.7
comp=Z,6.0nm,0.5s
MNK *i* PcP **PcP** 15 59 26.1 -2.7
MNK *i* PP **PP** **16 01 32.0 -2.5**
MNK *i* PPP PPP 16 03 18.5
MNK *i* S **S** **16 08 02.8 -1.7**
MNK *i* ScS **SKKSac** **16 09 00.7 -0.7**
MNK *i* SS **SS** **16 12 24.5 -3.1**
MNK *i* SSS SSS 16 15 44.6
MNK *i* LR LR 16 29 42.0
MNK *i* LRM MLR 16 31 59.5
comp=N,205nm,17.2s
MNK *i* LRM MLR 16 32 08.6
comp=Z,111nm,19.0s
MNK *i* LRM MLR 16 32 37.5
comp=E,12nm,15.4s
NB2 **NORSAR Subarra** 68.75 339 P **P** 15 59 03.6 -1.4
comp=Z,0.8nm,0.6s,baz=32,slow=6.5
NOA **NORSAR Array B** 68.75 339 P **P** 15 59 03.7 -1.4
comp=Z,1.2nm,0.7s,baz=33,slow=6.3,SNR=6.2
HFS **Hagfors** 68.85 337 P **P** 15 59 03.6 -2.0
comp=Z,1.9nm,0.6s,baz=63,slow=6.8,SNR=6.9
R11A **Troy Canyon, C** 68.92 57 P **P** 15 59 07.1 +0.4
R11A IAmb IAmb 15 59 12.9
comp=Z,5.0nm,1.1s
ASAR **Alice Springs** 68.99 193 P **P** 15 59 08.0 +1.1
comp=Z,1.8nm,0.9s,baz=15,slow=6.1,SNR=10
ASAR PKP2bc 16 27 20.5
comp=Z,0.4nm,0.8s,baz=172,slow=2.3,SNR=5.5
ASAR **Alice Springs** 68.99 193 P **P** 15 59 08.0 +1.1
ASAR **Alice Springs** 68.99 193 P **P** 15 59 06.2 -0.6
KIV **Kislovodsk** 69.10 311 *e*P **P** 15 59 06.6 -1.0
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,247nm,17.0s
KIV **Kislovodsk** 69.10 311 *e*P **P** 15 59 06.6 -1.0
HWUT **Hardware Ranch** 69.11 52 P **P** 15 59 08.4 +0.6
HWUT IAmb IAmb 15 59 14.4
comp=Z,8.0nm,1.1s
KBZ **Khabaz** 69.14 311 P **P** 15 59 07.9 +0.3
comp=Z,3.1nm,0.8s,baz=30,slow=6.6,SNR=4.4
KBZ **Khabaz** 69.14 311 *i* P **P** 15 59 08.1 +0.5
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ **Khabaz** 69.14 311 *e*P **P** 15 59 08.1 +0.5
SPR3 **Spring Creek 3** 69.24 55 P **P** 15 59 09.6 +0.8
SPR3 IAmb IAmb 15 59 14.3
comp=Z,3.1nm,0.8s
DUG **Dugway, Tooele** 69.33 54 P **P** 15 59 09.9 +0.7
DUG pmax pmax
comp=Z,8.0nm,1.2s
DUG **Dugway, Tooele** 69.33 54 P **P** 15 59 09.9 +0.7
DUG IAmb IAmb 15 59 15.7
comp=Z,7.9nm,1.1s
TPNV **Topopah Spring** 69.43 58 P **P** 15 59 10.6 +0.8
TPNV pmax pmax
comp=Z,4.0nm,0.9s
TPNV **Topopah Spring** 69.43 58 P **P** 15 59 10.6 +0.8
TPNV IAmb IAmb 15 59 14.7
comp=Z,4.3nm,0.9s
BW06 **Boulder Array** 69.45 50 P **P** 15 59 10.6 +0.7
BW06 IAmb IAmb 15 59 11.6
comp=Z,7.5nm,1.4s
PD31 **Pinedale Array** 69.45 50 P **P** 15 59 10.7 +0.8
PD31 IAmb IAmb 15 59 11.6
comp=Z,7.6nm,1.4s
PDAR **Pinedale Array** 69.45 50 P **P** 15 59 10.4 +0.4
comp=Z,1.6nm,0.7s,baz=299,slow=3.1,SNR=11
PDAR LR LR 16 31 57.9
comp=Z,31nm,18.1s,baz=314,slow=38
PSUT **Pine Spring** 69.82 56 P **P** 15 59 12.9 +0.6
PSUT IAmb IAmb 15 59 18.5
comp=Z,4.4nm,1.1s
SHPR **Sheep Range** 70.38 58 P **P** 15 59 16.3 +0.6
SHPR IAmb IAmb 15 59 22.2
comp=Z,7.0nm,1.2s
GNI **Garni** 70.52 307 *i* P **P** 15 59 17.8 +1.3
GNI pmax pmax
comp=Z,7.0nm,1.2s
AKASG **Malin Array Be** 70.81 323 P **P** 15 59 17.0 -0.8
comp=Z,1.0nm,0.6s,baz=38,slow=6.3,SNR=5.4
AKASG **Malin Array Be** 70.81 323 P **P** 15 59 17.0 -0.8
ULM **Lac du Bonnet** 70.89 37 P **P** 15 59 18.3 0.0
comp=Z,4.4nm,0.7s,baz=329,slow=6.0,SNR=4.9
ULM **Lac du Bonnet** 70.89 37 P **P** 15 59 18.3 0.0
ULM pmax pmax
comp=Z,9.0nm,1.4s
ULM **Lac du Bonnet** 70.89 37 IAmb IAmb 15 59 28.4
comp=Z,8.9nm,1.4s
RDMU **Red Mountain** 70.92 52 P **P** 15 59 19.0 0.0
SRU **San Rafael Swe** 71.37 53 P **P** 15 59 22.3 +0.6
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU **San Rafael Swe** 71.37 53 P **P** 15 59 22.3 +0.6
SRU IAmb IAmb 15 59 27.8
comp=Z,7.7nm,0.8s
RSSD **Black Hills** 71.45 46 P **P** 15 59 22.8 +0.7
RSSD pmax pmax
comp=Z,4.0nm,1.0s
RSSD **Black Hills** 71.45 46 P **P** 15 59 22.8 +0.7
RSSD IAmb IAmb 15 59 26.9
comp=Z,4.1nm,0.9s
SNART **Snartemo** 72.12 339 *e* P 15 59 34.4 +8.8
baz=345,slow=16
SNART *i* P pP 15 59 34.9 +2.7
SNART *i* P sP 15 59 38.0 +3.6
SNART IAML 15 59 44.5
comp=Z,11nm,0.5s
PV17 **East Wray Mesa** 72.83 53 P **P** 15 59 32.4 +1.9
PV03 **Paradox Valley** 72.91 53 P **P** 15 59 30.9 -0.1
PV03 IAmb IAmb 15 59 37.2
comp=Z,12nm,1.4s
ISCO **Idaho Springs** 73.65 50 P **P** 15 59 36.1 +0.7
ISCO **Idaho Springs** 73.65 50 P **P** 15 59 36.1 +0.7
ISCO IAmb IAmb 15 59 44.5
comp=Z,9.2nm,1.4s
BURAR **Bucovina Array** 74.87 323 P **P** 15 59 43.0 +0.8
STKA **Stephens Creek** 76.28 185 P **P** 15 59 51.0 +1.0
comp=Z,1.2nm,0.5s,baz=3.9,slow=11,SNR=2.6
STKA **Stephens Creek** 76.28 185 P **P** 15 59 51.0 +1.0
STKA pmax pmax
comp=Z,3.0nm,1.5s
ANMO **Albuquerque** 76.60 54 *ce*P **P** 15 59 52.8 +0.4
ANMO pmax pmax
comp=Z,7.0nm,1.7s
LENM **Lemitar** 76.85 55 P **P** 15 59 55.4 +1.6
BRTR **Keskin Array B** 76.86 313 P **P** 15 59 53.6 -0.1
comp=Z,2.6nm,1.1s,baz=28,slow=16,SNR=2.0
VRAC **Vranov** 76.92 329 LR LR 16 38 02.7
comp=Z,42nm,19.6s,baz=13,slow=39
319A **Douglas** 77.44 58 P **P** 15 59 56.9 -0.2
KHC **Kasperske Hory** 78.15 331 *i* P **P** 16 00 02.0 +1.4
KHC pmax pmax
comp=Z,7.0nm,1.6s
GERES **GERESS Array B** 78.35 331 P **P** 16 00 01.7 -0.1
comp=Z,0.2nm,0.4s,baz=56,slow=5.3,SNR=2.3
MNTX **Cornudas Mount** 79.55 56 P **P** 16 00 09.0 +0.5
MNTX IAmb IAmb 16 00 14.7
comp=Z,5.1nm,1.1s
MMAI **Mount Meron Ar** 80.86 308 P **P** 16 00 16.3 +0.7
comp=Z,5.5nm,0.9s,baz=53,slow=7.4,SNR=6.7
S39A **Bolivar** 81.64 44 P **P** 16 00 19.3 -0.3
S39A IAmb IAmb 16 00 23.0
comp=Z,5.7nm,0.8s
R40A **Maddies Statio** 81.69 43 P **P** 16 00 19.5 -0.4
TX31 **Lajitas Ar. Si** 82.28 56 P **P** 16 00 23.6 +0.3
TX32 **Lajitas Array** 82.28 56 P **P** 16 00 23.4 +0.2
TX32 IAmb IAmb 16 00 28.1
comp=Z,4.6nm,0.9s
TXAR **Lajitas Array** 82.28 56 P **P** 16 00 24.1 +0.8
comp=Z,3.6nm,0.7s,baz=299,slow=4.3,SNR=32
TXAR **Lajitas Array** 82.28 56 P **P** 16 00 23.0 -0.2
U40A **Yellville** 82.92 45 P **P** 16 00 26.5 +0.1
FCAR **Ozark Folk Cen** 83.65 45 P **P** 16 00 29.8 -0.3
FCAR IAmb IAmb 16 00 33.4
comp=Z,5.5nm,0.8s
MIAR **Mount Ida** 83.96 46 P **P** 16 00 31.4 -0.3
MIAR pmax pmax
comp=Z,5.0nm,0.8s
MIAR **Mount Ida** 83.96 46 P **P** 16 00 31.4 -0.3
MIAR IAmb IAmb 16 00 35.8
comp=Z,5.4nm,0.8s
WHAR **Wooly Hollow** 84.04 45 P **P** 16 00 32.0 -0.1
IDI **Anoyia** 84.71 316 P **P** 16 00 36.6 +1.0
comp=Z,16nm,0.9s,baz=50,slow=7.9,SNR=2.6
U49A **Red Boiling Sp** 86.20 40 P **P** 16 00 43.4 +0.5
U49A IAmb IAmb 16 00 47.2
comp=Z,6.2nm,0.8s
SWET **Sewanee** 87.19 41 P **P** 16 00 47.8 0.0
ESDC **Sonseca Array** 92.11 338 LR LR 16 49 11.1
comp=Z,11nm,18.1s,baz=105,slow=40
VNDA **Vanda** 122.21 176 PKP **PKiKP** **16 06 55.5 +0.6**
comp=Z,1.0nm,0.9s,baz=335,slow=2.9,SNR=5.0
H03N2 **Juan Fernandez** 143.08 89 T T 18 46 25.6
baz=304,slow=77,SNR=5.3
H03N3 **Juan Fernandez** 143.09 89 T T 18 46 26.3
baz=304,slow=77,SNR=4.9
H03N1 **Juan Fernandez** 143.09 89 T T 18 46 26.8
baz=304,slow=77,SNR=5.3
NVL **N'lazarevskaya** 145.91 205 *e*PKP2 **PKiKP** **16 07 42.4 -0.7**
NVL pmax pmax
comp=Z,12nm,0.9s
BDFB **Brasilia** 148.46 28 PKPbc **PKPbc** **16 07 48.0 -0.6**
comp=Z,5.9nm,0.8s,baz=331,slow=3.6,SNR=3.2
BDFB **Brasilia** 148.46 28 PKP2 **PKPbc** **16 07 48.0 -0.6**
SNAA **Sanae** 149.23 198 PKPbc **PKiKP** **16 07 50.5 +0.5**

SNAA	**Sanae**	**149.23**	**198**	*i* PKP2	**PKPdf**	**16 07 46.5**	**+2.0**
VNA2	**Neumayer--Watz**	**150.77**	**197**	PKPbc	**PKiKP**	**16 07 53.8**	**+0.7**
VNA3	**Neumayer Olymp**	**150.97**	**195**	PKPbc	**PKiKP**	**16 07 54.1**	**+0.5**
VNA1	**Neumayer--Stat**	**151.17**	**197**	PKPbc	**PKPbc**	**16 07 53.1**	**-0.3**
PLCA	**Paso Flores**	**152.30**	**95**	PKPbc	**PKPbc**	**16 07 55.9**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=315,slow=1.4,SNR=4.0						
CPUP	**Villa Florida**	**153.25**	**55**	PKPbc	**PKPbc**	**16 07 59.0**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=315,slow=8.6,SNR=4.3						

IDC **17** *15:57:13.1±0.9, 36.°00N×0.°35E, h0km, mb3.8/13, mb1 3.8/18, mb1mx3.6/59, mbtmpg3.7/18, ML3.7/5, MS2.8/3, Ms1 2.8/3, ms1mx2.5/41, Error ellipse: s-maj=23.4km s-min=17.0km az=108.0*

CRAAG **17** *15:57:14.9, 36.°00N×0.°49E, Ml4.0*

NEIC **17** *15:57:15.2±1.8, 36.°04N±0.°05×0.°42E±0.°05, h14km±4km, mb4.2/10, Error ellipse: s-maj=7.6km s-min=4.9km az=141.0*

MDD **17** *15:57:15.9±0.4, 36.°04N×0.°44E, h8km±7km, mb4.5/32, Error ellipse: s-maj=7.3km s-min=4.3km az=129.0, PRXIMO*

INMG **17** *15:57:16.6±1.5, 36.°06N×0.°45E, h17km±11km, ML2.8, Error ellipse: s-maj=11.3km s-min=3.6km az=137.0*

LDG **17** *15:57:17.9±0.3, 36.°26N×0.°31E, h30km, Ml3.4/8, Error ellipse: s-maj=7.1km s-min=3.3km az=160.0*

ISC 17 15:57:15.2±0.9, **36.°07N**±0.°04×**0.°43E**±0.°03, **h16**km±6km, **n191**, σ1§**96**/266, **mb3.9**/16, **1C-1D**, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKGL	**Djebel Kef Gue**	**0.17**	**99**	P		**Pg**	**15 57 19.0**	**-0.6**
OKGL	**Djebel Kef Gue**	**0.17**	**99**	⇓P		**Pg**	**15 57 19.2**	**-0.5**
	61μm,0.1s,SNR=18							
OKGL				S		**Sb**	**15 57 23.2**	**-0.1**
	229μm,0.4s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**0.17**	**99**			**Pg**	**15 57 19.2**	**-0.5**
OKGL						**Sg**	**15 57 22.3**	**-0.2**
EANR	**'Ain N'Sour**	**0.55**	**102**	P		**Pg**	**15 57 25.9**	**-0.3**
EANR	**'Ain N'Sour**	**0.55**	**102**	P		**Pg**	**15 57 25.9**	**-0.3**
OJGS	**Djebel Guires**	**0.62**	**155**	P		**Pb**	**15 57 28.0**	**+0.3**
OJGS	**Djebel Guires**	**0.62**	**155**	P		**Pb**	**15 57 28.0**	**+0.3**
ECHF	**Ech Chlef**	**0.74**	**83**	P		**Pg**	**15 57 26.0**	**-3.7**
ECHA	**Ech Chlef**	**0.76**	**83**	P		**Pg**	**15 57 26.0**	**-4.1**
USTO	**Oran**	**0.86**	**248**	P		**Pn**	**15 57 34.0**	**+1.3**
USTO	**Oran**	**0.86**	**248**	P		**Pn**	**15 57 34.0**	**+1.3**
ODJA	**Bouhanifia**	**0.87**	**213**	P		**Pb**	**15 57 32.3**	**+0.2**
ODJA	**Bouhanifia**	**0.87**	**213**	P		**Pb**	**15 57 32.3**	**+0.2**
EBNR	**Beni Rached**	**0.92**	**75**	P		**Pg**	**15 57 33.5**	**+0.5**
ETRT	**Tiaret**	**0.97**	**133**	P		**Pb**	**15 57 32.4**	**-1.4**
ETRT	**Tiaret**	**0.97**	**133**	P		**Pb**	**15 57 32.4**	**-1.4**
OTSS	**Djebel Tessala**	**1.27**	**232**	P		**Pn**	**15 57 38.3**	**-0.1**
OTSS	**Djebel Tessala**	**1.27**	**232**	P		**Pn**	**15 57 38.3**	**-0.1**
CART	**Cartagena**	**1.91**	**323**	*e*P		**Pn**	**15 57 47.0**	**0.0**
CART				S		**Sn**	**15 58 07.6**	**-3.0**
CART	**Cartagena**	**1.91**	**323**	*e*P		**Pn**	**15 57 47.0**	**0.0**
CART				*e*S		**Sn**	**15 58 07.6**	**-3.0**
CART				*e*Cod			15 59 20.8	
CART	**Cartagena**	**1.91**	**323**			**Pn**	**15 57 46.5**	**-0.6**
ETRV	**Los Montesinos**	**2.17**	**334**	P		**Pn**	**15 57 51.6**	**+0.9**
	135nm,0.1s,SNR=7.9							
ETRV				S		**Sn**	**15 58 16.6**	**-0.7**
	142nm,0.2s,SNR=7.9							
ETRV	**Los Montesinos**	**2.17**	**334**			**Pn**	**15 57 50.9**	**+0.2**
ETRV						**Sn**	**15 58 16.6**	**-0.7**
EMUR	**La Murta**	**2.22**	**323**	P		**Pn**	**15 57 51.7**	**+0.2**
	18nm,0.2s,SNR=20							
EMUR				S		**Sn**	**15 58 18.2**	**-0.5**
	13nm,0.3s,SNR=6.4							
EMUR	**La Murta**	**2.22**	**323**			**Pn**	**15 57 51.7**	**+0.2**
EMUR						**Sn**	**15 58 18.2**	**-0.5**
ENIJ	**Nijar**	**2.31**	**294**	P		**Pn**	**15 57 53.9**	**+1.3**
	15nm,0.1s,SNR=7.9							
ENIJ				S		**Sn**	**15 58 17.7**	**-3.0**
	119nm,0.4s,SNR=7.9							
ENIJ	**Nijar**	**2.31**	**294**			**Pn**	**15 57 52.4**	**-0.3**
ENIJ						**Sn**	**15 58 19.3**	**-1.5**
TLOR	**Lorca, Murcia**	**2.33**	**314**	P		**Pn**	**15 57 53.9**	**+1.0**
	135nm,0.1s,SNR=7.9							
TLOR				S		**Sn**	**15 58 19.5**	**-1.6**
	746nm,0.5s,SNR=7.9							
TLOR	**Lorca, Murcia**	**2.33**	**314**			**Pn**	**15 57 53.9**	**+1.0**
TLOR						**Sn**	**15 58 19.5**	**-1.6**
EBEN2	**Beniarda presa**	**2.65**	**349**	P		**Pn**	**15 57 57.4**	**0.0**
	20nm,0.1s,SNR=4.0							
EBEN2				S		**Sn**	**15 58 28.3**	**-0.9**
	71nm,0.6s,SNR=7.9							
EBEN2	**Beniarda presa**	**2.65**	**349**			**Pn**	**15 57 57.4**	**0.0**
EBEN2						**Sn**	**15 58 28.3**	**-0.9**
AFON	**Font Roja**	**2.71**	**344**	P		**Pn**	**15 57 59.1**	**+0.9**
	14nm,0.1s,SNR=17							
AFON				S		**Sn**	**15 58 29.9**	**-0.8**
	63nm,0.7s,SNR=6.0							
AFON	**Font Roja**	**2.71**	**344**			**Pn**	**15 57 58.8**	**+0.6**
AFON						**Sn**	**15 58 29.9**	**-0.8**
EBER	**Berja**	**2.80**	**288**	P		**Pn**	**15 57 59.7**	**+0.2**
	31nm,0.2s,SNR=41							
EBER				S		**Sn**	**15 58 32.8**	**-0.4**
	60nm,0.4s,SNR=5.1							
EBER	**Berja**	**2.80**	**288**			**Pn**	**15 57 59.8**	**+0.2**
EBER						**Sn**	**15 58 34.0**	**+0.8**
ETOB	**Tobarra**	**3.02**	**329**	P		**Pn**	**15 58 03.5**	**+1.1**
	19nm,0.1s,SNR=82							
ETOB				S		**Sn**	**15 58 38.0**	**-0.3**
	38nm,0.4s,SNR=7.5							
ETOB	**Tobarra**	**3.02**	**329**			**Pn**	**15 58 03.5**	**+1.1**
ETOB						**Sn**	**15 58 38.0**	**-0.3**
EIBI	**Ibiza**	**3.04**	**13**	⇑P		**Pn**	**15 58 03.3**	**+0.6**
	34nm,0.2s,SNR=18							
EIBI				S		**Sn**	**15 58 38.1**	**-0.6**
	19nm,0.3s							
EIBI	**Ibiza**	**3.04**	**13**			**Pn**	**15 58 03.3**	**+0.6**
EIBI						**Sn**	**15 58 38.4**	**-0.3**
SESP	**Santiago Espad**	**3.14**	**312**	P		**Pn**	**15 58 06.9**	**+2.7**
	27nm,0.1s,SNR=7.9							
SESP				S		**Sn**	**15 58 40.6**	**-0.9**
	174nm,0.6s,SNR=7.9							
EQES	**Quesada**	**3.30**	**303**	P		**Pn**	**15 58 09.0**	**+2.6**
	71nm,0.3s,SNR=12							
EQES				S		**Sn**	**15 58 47.9**	**+2.6**
	129nm,0.5s,SNR=10							
EQES	**Quesada**	**3.30**	**303**			**Pn**	**15 58 07.4**	**+1.0**
EQES						**Sn**	**15 58 45.1**	**-0.1**
EQUE	**Quentar**	**3.32**	**291**	P		**Pn**	**15 58 08.1**	**+1.5**
	58nm,0.4s,SNR=9.3							
EQUE				S		**Sn**	**15 58 45.3**	**-0.3**
	27nm,0.5s,SNR=14							
ELGU	**Los Guajares,**	**3.37**	**285**	P		**Pn**	**15 58 07.5**	**+0.2**
	30nm,0.2s,SNR=7.9							
ELGU				S		**Sn**	**15 58 45.5**	**-1.4**
	45nm,0.4s,SNR=7.9							
ELGU	**Los Guajares,**	**3.37**	**285**			**Pn**	**15 58 08.1**	**+0.8**
ELGU						**Sn**	**15 58 47.1**	**+0.2**
ECHE	**Chera**	**3.69**	**343**	P		**Pn**	**15 58 12.9**	**+1.3**
	7.2nm,0.2s,SNR=7.9							
ECHE				S		**Sn**	**15 58 54.2**	**-0.6**
	44nm,0.5s,SNR=7.9							
ECHE	**Chera**	**3.69**	**343**			**Pn**	**15 58 12.9**	**+1.3**
ECHE						**Sn**	**15 58 53.0**	**-1.8**
EGOR	**Sierra Gorda,**	**3.80**	**287**	P		**Pn**	**15 58 16.6**	**+3.3**
	13nm,0.3s,SNR=7.9							
EGOR				S		**Sn**	**15 59 00.1**	**+2.4**
	19nm,0.4s,SNR=7.9							
EGOR	**Sierra Gorda,**	**3.80**	**287**			**Pn**	**15 58 14.1**	**+0.9**
EGOR						**Sn**	**15 58 56.9**	**-0.9**
EMAL	**Malaga-Limoner**	**3.98**	**281**	P		**Pn**	**15 58 15.0**	**-0.6**
EMAL				S		**Sn**	**15 58 58.8**	**-3.2**
EMAL	**Malaga-Limoner**	**3.98**	**281**	*e*P		**Pn**	**15 58 15.0**	**-0.6**
EMAL				*e*S		**Sn**	**15 58 58.8**	**-3.2**
SET	**Setif**	**4.02**	**87**	P		**Pb**	**15 58 25.0**	**-0.8**
ETOS	**Mallorca**	**4.15**	**26**	P		**Pn**	**15 58 17.6**	**-0.3**
	8.3nm,0.3s,SNR=7.9							
ETOS				S		**Sn**	**15 59 04.5**	**-1.6**
	5.6nm,0.6s,SNR=7.9							
ETOS	**Mallorca**	**4.15**	**26**			**Pn**	**15 58 17.6**	**-0.3**
ETOS						**Sn**	**15 59 04.5**	**-1.6**
EMOS	**Mosqueruela**	**4.35**	**351**	P		**Pn**	**15 58 22.5**	**+1.6**
	3.7nm,0.1s,SNR=20							
EMOS				S		**Sn**	**15 59 09.8**	**-1.4**
	12nm,0.6s							
EMOS	**Mosqueruela**	**4.35**	**351**			**Pn**	**15 58 21.5**	**+0.7**
EMOS						**Sn**	**15 59 09.8**	**-1.4**
EADA	**Adamuz**	**4.52**	**299**	P		**Pn**	**15 58 23.9**	**+0.8**
	1.3nm,0.1s,SNR=6.6							
EADA				S		**Sn**	**15 59 13.6**	**-1.7**
	6.9nm,0.3s,SNR=9.3							
EADA	**Adamuz**	**4.52**	**299**			**Pn**	**15 58 23.9**	**+0.8**
EADA						**Sn**	**15 59 13.6**	**-1.7**
ECEU	**Ceuta**	**4.71**	**270**	S		**Sn**	**15 59 18.8**	**-1.3**
	128nm,0.8s,SNR=7.9							
ECEU	**Ceuta**	**4.71**	**270**			**Sn**	**15 59 18.8**	**-1.3**
EJIF	**Jimena Fronter**	**4.79**	**276**			**Pn**	**15 58 28.0**	**+1.4**
EJIF						**Sn**	**15 59 20.7**	**-1.0**
ERTA	**Horta de San J**	**4.88**	**359**	P		**Pn**	**15 58 29.4**	**+1.3**
	7.5nm,0.2s,SNR=14							
ERTA				S		**Sn**	**15 59 21.3**	**-2.9**
	7.1nm,0.5s							
ERTA	**Horta de San J**	**4.88**	**359**			**Pn**	**15 58 29.4**	**+1.3**
ERTA						**Sn**	**15 59 21.3**	**-2.9**
ESDC	**Sonseca Array**	**5.01**	**317**	Pn		**Pn**	**15 58 31.3**	**+1.5**
	1.8nm,0.3s,baz=133,slow=12,SNR=9.9							
ESDC				Sn		**Sn**	**15 59 23.9**	**-3.4**
	1.1nm,0.3s,baz=131,slow=23,SNR=1.4							
ESDC				Lg		Lg	15 59 38.2	
	2.2nm,0.3s,baz=136,slow=29,SNR=6.1							
ESDC				LR		LR	16 00 10.7	
	comp=Z,60nm,20.4s,baz=125,slow=35							
ESDC	**Sonseca Array**	**5.01**	**317**	S		**Sn**	**15 59 25.3**	**-2.0**
	9.0nm,0.6s,baz=132,slow=23,SNR=4.0							
ESDC	**Sonseca Array**	**5.01**	**317**			**Sn**	**15 59 25.3**	**-2.0**
ECAB	**El Cabril**	**5.09**	**295**	P		**Pn**	**15 58 31.3**	**+0.4**
	5.2nm,0.3s,SNR=7.9							
ECAB				S		**Sn**	**15 59 26.8**	**-2.5**
	60nm,0.4s							
ECAB	**El Cabril**	**5.09**	**295**			**Pn**	**15 58 31.3**	**+0.4**
ECAB						**Sn**	**15 59 26.8**	**-2.5**
UCM	**Universidad Co**	**5.13**	**327**	P		**Pn**	**15 58 32.3**	**+0.9**
UCM				S		**Sn**	**15 59 28.6**	**-1.7**
UCM	**Universidad Co**	**5.13**	**327**	*e*P		**Pn**	**15 58 32.3**	**+0.9**
UCM				*e*S		**Sn**	**15 59 28.6**	**-1.7**
ESPR	**Espera**	**5.13**	**281**			**Pn**	**15 58 31.8**	**+0.4**
ETOR	**Torete**	**5.13**	**338**	P		**Pn**	**15 58 32.9**	**+1.4**
	5.8nm,0.3s,SNR=6.1							
ETOR				S		**Sn**	**15 59 28.4**	**-2.0**
	13nm,0.5s,SNR=4.0							
PAB	**San Pablo**	**5.14**	**314**	P		**Pn**	**15 58 32.6**	**+1.0**
	3.2nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**15 59 28.2**	**-2.4**
	30nm,1.0s,SNR=7.9							
PAB	**San Pablo**	**5.14**	**314**			**Pn**	**15 58 32.6**	**+1.0**
IFR	**Ifrane**	**5.23**	**243**	*e*P		Pn	15 58 26.1	-6.9
IFR				*e*S		**Sn**	**15 59 28.6**	**-4.5**
MDT	**Midelt**	**5.28**	**234**	Pn		**Pn**	**15 58 32.1**	**-1.4**
	2.9nm,0.3s,baz=308,slow=8.2,SNR=11							
MDT				Sn		**Sn**	**15 59 29.7**	**-4.4**
	1.3nm,0.3s,baz=242,slow=22,SNR=1.6							
MDT				LR		LR	16 00 33.4	
	comp=Z,70nm,20.1s,baz=356,slow=39							
GUD	**Guadarrama**	**5.82**	**323**	P		**Pn**	**15 58 41.8**	**+0.8**
	4.1nm,0.3s,SNR=7.0							
GUD				S		**Sn**	**15 59 44.0**	**-3.5**
	6.2nm,0.5s							
GUD	**Guadarrama**	**5.82**	**323**			**Pn**	**15 58 41.8**	**+0.8**
GUD						**Sn**	**15 59 44.0**	**-3.5**
CFON	**Fontmartina**	**5.90**	**15**			**Pn**	**15 58 42.5**	**+0.5**
CFON						**Sn**	**15 59 45.7**	**-3.6**
EMIR	**Miracle**	**5.90**	**8**			**Pn**	**15 58 42.7**	**+0.7**
EMIN	**Mina Concepcio**	**5.94**	**289**	P		**Pn**	**15 58 43.7**	**+1.2**
	1.7nm,0.2s							
EMIN				S		**Sn**	**15 59 47.2**	**-3.0**
	8.1nm,0.4s,SNR=10.0							
EMIN	**Mina Concepcio**	**5.94**	**289**			**Pn**	**15 58 43.7**	**+1.2**
EMIN						**Sn**	**15 59 48.2**	**-2.0**
CSOR	**Sort**	**6.33**	**5**	P		**Pn**	**15 58 49.3**	**+1.4**
	13nm,0.4s,SNR=24							
CSOR				S		**Sn**	**15 59 56.3**	**-3.6**
	78nm,1.8s							
CSOR	**Sort**	**6.33**	**5**			**Pn**	**15 58 49.3**	**+1.4**
CSOR						**Sn**	**15 59 56.3**	**-3.6**
PBAR	**Barrancos**	**6.33**	**292**	P		**Pn**	**15 58 49.1**	**+1.2**
PBAR				S		**Sn**	**15 59 58.4**	**-1.4**
	5.4nm,0.8s							
PBAR	**Barrancos**	**6.33**	**292**	*e*Pn		**Pn**	**15 58 49.1**	**+1.2**
PBAR				*e*Sn		**Sn**	**15 59 58.4**	**-1.4**
PBAR				A		A	16 00 27.5	
	5.4nm,0.8s							
EPLA	**Plasencia**	**6.51**	**310**			**Sn**	**16 00 00.5**	**-3.7**
CLLI	**Llivia**	**6.51**	**10**	P		**Pn**	**15 58 51.6**	**+1.1**
	3.9nm,0.3s,SNR=7.9							
CLLI	**Llivia**	**6.51**	**10**			**Pn**	**15 58 51.6**	**+1.1**
EGRO	**El Granado**	**6.52**	**285**	P		**Pn**	**15 58 51.6**	**+1.1**
	5.3nm,0.2s,SNR=6.9							
EGRO				S		**Sn**	**16 00 01.3**	**-3.2**
	25nm,0.3s							
EGRO	**El Granado**	**6.52**	**285**			**Pn**	**15 58 51.6**	**+1.1**
EGRO						**Sn**	**16 00 01.3**	**-3.2**
ECHI	**Chisagues Biel**	**6.59**	**358**	P		**Pn**	**15 58 52.4**	**+0.8**
	0.4nm,0.1s,SNR=7.9							
ECHI	**Chisagues Biel**	**6.59**	**358**			**Pn**	**15 58 52.4**	**+0.8**
ECHI						**Sn**	**16 00 02.9**	**-3.6**
PVAQ	**Vaqueiros**	**6.68**	**284**	P		**Pn**	**15 58 53.2**	**+0.5**
PVAQ				S		**Sn**	**16 00 05.1**	**-3.3**
	6.3nm,0.4s							
PVAQ	**Vaqueiros**	**6.68**	**284**	*e*Pn		**Pn**	**15 58 53.2**	**+0.5**
PVAQ				*e*Sn		**Sn**	**16 00 05.1**	**-3.3**
PVAQ				A		A	16 00 08.8	
	6.3nm,0.4s							
PVAQ	**Vaqueiros**	**6.68**	**284**	Pn		**Pn**	**15 58 52.3**	**-0.4**
PBDV	**Barranco-do-Ve**	**6.83**	**282**	P		**Pn**	**15 58 55.8**	**+1.1**
PBDV	**Barranco-do-Ve**	**6.83**	**282**	*e*Pn		**Pn**	**15 58 55.8**	**+1.1**
ETSF	**Etsaut**	**6.87**	**354**	P		**Pn**	**15 58 56.5**	**+1.2**
ETSF				S		Sn	16 00 03.2	-10
	1.5nm,0.5s							
ETSF	**Etsaut**	**6.87**	**354**	*e*P		**Pn**	**15 58 56.5**	**+1.2**
ETSF				*e*Sn		Sn	16 00 03.2	-10
	3.0nm,0.5s							
EORO	**Oroz-Betelu**	**6.95**	**349**	P		**Pn**	**15 58 58.7**	**+2.2**
	2.3nm,0.3s,SNR=6.7							
EORO	**Oroz-Betelu**	**6.95**	**349**			**Pn**	**15 58 57.4**	**+1.0**
EORO						**Sn**	**16 00 10.4**	**-4.7**
EPF	**Esparros**	**6.96**	**359**	P		**Pn**	**15 58 58.0**	**+1.5**
EPF				S		Sn	16 00 04.3	-11
	1.7nm,0.5s							
EPF	**Esparros**	**6.96**	**359**	*e*P		**Pn**	**15 58 58.0**	**+1.5**
EPF				*e*Sn		Sn	16 00 04.3	-11
	3.3nm,0.5s							
PESTR	**Estremoz**	**6.97**	**296**	*e*Pn		**Pn**	**15 58 58.3**	**+1.7**
PESTR				*e*Sn		**Sn**	**16 00 11.7**	**-3.8**
PCVE	**Castro Verde**	**6.97**	**285**	P		**Pn**	**15 58 57.0**	**+0.3**
PCVE	**Castro Verde**	**6.97**	**285**	*e*Pn		**Pn**	**15 58 57.0**	**+0.3**
PMRV	**Marv??o**	**7.05**	**301**	P		**Pn**	**15 58 59.9**	**+2.1**
PMRV				S		**Sn**	**16 00 13.7**	**-3.9**
PMRV	**Marv??o**	**7.05**	**301**	*e*Pn		**Pn**	**15 58 59.9**	**+2.1**
PMRV				*e*Sn		**Sn**	**16 00 13.7**	**-3.9**
ATE	**Arette**	**7.07**	**353**	P		**Pn**	**15 58 59.3**	**+1.3**
	1.8nm,0.4s,SNR=7.9							
ATE	**Arette**	**7.07**	**353**			**Pn**	**15 58 58.5**	**+0.5**
ATE						**Sn**	**16 00 14.0**	**-4.0**
MESJ	**Messejana**	**7.15**	**287**	P		**Pn**	**15 58 59.3**	**+0.2**
MESJ	**Messejana**	**7.15**	**287**	*e*Pn		**Pn**	**15 58 59.3**	**+0.2**
SJPF	**Ste Jean**	**7.15**	**350**	P		**Pn**	**15 59 00.7**	**+1.5**
SJPF				S		Sn	16 00 09.9	-10
	3.1nm,0.5s							
SJPF	**Ste Jean**	**7.15**	**350**	*e*P		**Pn**	**15 59 00.7**	**+1.5**
SJPF				*e*Sn		Sn	16 00 09.9	-10
	6.2nm,0.5s							
KEST	**Kesra**	**7.24**	**90**	Pn		**Pn**	**15 59 01.9**	**+1.4**
	1.5nm,0.3s,baz=189,slow=3.0,SNR=18							
KEST				Sn		**Sn**	**16 00 19.9**	**-2.5**
	0.9nm,0.3s,baz=240,slow=19,SNR=1.3							
KEST	**Kesra**	**7.24**	**90**			**Pn**	**15 59 02.1**	**+1.6**
PCBR	**Castelo Branco**	**7.30**	**303**	S		**Sn**	**16 00 20.8**	**-2.8**
PCBR	**Castelo Branco**	**7.30**	**303**	*e*Sn		**Sn**	**16 00 20.8**	**-2.8**
MTLF	**Montolieu**	**7.39**	**10**	P		**Pn**	**15 59 04.5**	**+2.0**
MTLF	**Montolieu**	**7.39**	**10**	*e*P		**Pn**	**15 59 04.5**	**+2.0**
MORF	**Marmelete**	**7.40**	**282**	P		**Pn**	**15 59 03.3**	**+0.6**
MORF	**Marmelete**	**7.40**	**282**	*e*Pn		**Pn**	**15 59 03.3**	**+0.6**
PNCL	**Nicolau / Gran**	**7.45**	**289**	P		**Pn**	**15 59 03.5**	**+0.3**
PNCL	**Nicolau / Gran**	**7.45**	**289**	*e*Pn		**Pn**	**15 59 03.5**	**+0.3**
PMTG	**Montargil**	**7.50**	**296**	P		**Pn**	**15 59 07.4**	**+3.5**
PMTG				S		**Sn**	**16 00 24.9**	**-3.7**
PMTG	**Montargil**	**7.50**	**296**	*e*Pn		**Pn**	**15 59 07.4**	**+3.5**
PMTG				*e*Sn		**Sn**	**16 00 24.9**	**-3.7**
PFVI	**Vila Bisbo**	**7.53**	**281**	P		**Pn**	**15 59 04.2**	**0.0**
	3.4nm,0.2s,SNR=8.4							
PFVI	**Vila Bisbo**	**7.53**	**281**	*e*Pn		**Pn**	**15 59 04.9**	**+0.6**
PFVI	**Vila Bisbo**	**7.53**	**281**			**Pn**	**15 59 04.2**	**0.0**
MVO	**Moncorvo**	**7.75**	**313**	P		**Pn**	**15 59 10.5**	**+3.1**
	3.7nm,0.3s,SNR=7.9							
MVO				S		**Sn**	**16 00 29.8**	**-5.0**
	6.6nm,0.6s,SNR=7.9							
MVO	**Moncorvo**	**7.75**	**313**			**Pn**	**15 59 07.3**	**-0.1**
MVO						**Sn**	**16 00 30.8**	**-4.0**
ELAN	**Lanestosa**	**7.75**	**339**	P		**Pn**	**15 59 09.6**	**+2.2**
	2.9nm,0.2s,SNR=7.9							
ELAN				S		**Sn**	**16 00 31.2**	**-3.7**
	SNR=7.9							
VSL	**Villasalto**	**7.87**	**62**	Pn		**Pn**	**15 59 07.8**	**-1.1**
ECAL	**Calabor**	**8.10**	**319**	P		**Pn**	**15 59 12.9**	**+0.8**
	14nm,0.4s,SNR=12							
ECAL	**Calabor**	**8.10**	**319**			**Pn**	**15 59 13.3**	**+1.1**
ECAL						**Sn**	**16 00 39.5**	**-3.9**
PMAFR	**Mafra**	**8.24**	**293**	S		**Sn**	**16 00 41.2**	**-5.7**
	196nm,2.3s,SNR=7.9							
PMAFR	**Mafra**	**8.24**	**293**			**Sn**	**16 00 41.2**	**-5.7**
LASF	**Ste Croix**	**8.42**	**17**	P		**Pn**	**15 59 18.4**	**+1.9**
LASF	**Ste Croix**	**8.42**	**17**	*e*P		**Pn**	**15 59 18.4**	**+1.9**
EARI	**Arriondas**	**8.43**	**331**	P		**Pn**	**15 59 18.3**	**+1.5**
	3.8nm,0.4s,SNR=9.8							
EARI	**Arriondas**	**8.43**	**331**			**Pn**	**15 59 18.3**	**+1.5**
LMR	**La Mourre**	**8.63**	**31**	P		**Pn**	**15 59 21.6**	**+2.1**
LMR	**La Mourre**	**8.63**	**31**	*e*P		**Pn**	**15 59 21.6**	**+2.1**
SMRF	**Simiane la Rot**	**8.83**	**25**	P		**Pn**	**15 59 25.1**	**+2.9**
SMRF	**Simiane la Rot**	**8.83**	**25**	*e*P		**Pn**	**15 59 25.1**	**+2.9**
FRF	**La Foret Royal**	**8.88**	**31**	P		**Pn**	**15 59 24.8**	**+2.0**
FRF	**La Foret Royal**	**8.88**	**31**	*e*P		**Pn**	**15 59 24.8**	**+2.0**
FRF				*e*Sn		Sn	16 00 53.0	-9.5
	15nm,0.7s							
CAF	**Calviac**	**8.94**	**7**	P		**Pn**	**15 59 25.8**	**+2.2**
CAF	**Calviac**	**8.94**	**7**	*e*P		**Pn**	**15 59 25.8**	**+2.2**
CAF				*e*Sn		Sn	16 00 52.3	-12
	2.9nm,0.5s							
RJF	**Les Rejaudoux**	**9.27**	**5**	P		**Pn**	**15 59 30.5**	**+2.4**
RJF	**Les Rejaudoux**	**9.27**	**5**	*e*P		**Pn**	**15 59 30.5**	**+2.4**
PGF	**Pioggiola**	**9.27**	**43**	*e*Pn		**Pn**	**15 59 25.5**	**-2.8**
PGF				*e*Sn		Sn	16 01 03.3	-8.9
	3.2nm,0.3s							
SBF	**Sospel**	**9.46**	**32**	*e*P		**Pn**	**15 59 34.4**	**+3.6**
ORIF	**Oris-en-Rattie**	**9.76**	**23**	*e*Pn		**Pn**	**15 59 32.4**	**-2.6**
ORIF				*e*Sn		Sn	16 01 13.9	-10
	1.1nm,0.3s							
MFF	**Saint Martin d**	**10.54**	**358**	P		**Pn**	**15 59 46.8**	**+1.3**
MFF	**Saint Martin d**	**10.54**	**358**	*e*P		**Pn**	**15 59 46.8**	**+1.3**
MFF				*e*Sn		Sn	16 01 30.0	-13
	3.2nm,0.4s							
BGF	**Bois d'Agland**	**10.64**	**9**	*e*P		**Pn**	**15 59 51.1**	**+4.2**
CABF	**La Chapelle**	**11.36**	**20**	P		**Pn**	**15 59 59.2**	**+2.4**
CABF	**La Chapelle**	**11.36**	**20**	*e*P		**Pn**	**15 59 59.2**	**+2.4**
ZOU	**Zoufplan**	**14.07**	**38**	Pn		**Pn**	**16 00 33.3**	**-0.8**
GERES	**GERESS Array B**	**16.06**	**33**	Pn		**Pn**	**16 01 01.3**	**+0.9**
	0.1nm,0.3s,baz=214,slow=15,SN

ASAJ	**Asahikawa**	**3.34**	**265**	P	**Pn**	**15 59 15.5 +1.1**
JCH	**Churui**	**3.39**	**237**	P	**Pn**	**15 59 17.1 +2.1**

IDC ***17*** *16:01:50.8±0.7,4.°67S×133.°68E, h0km, mb4.0/11, mb1 4.2/16, mb1mx4.0/37, mbtmp4.2/16, ML4.5/4, MS3.7/11, Ms1 3.7/11, ms1mx3.4/30, Error ellipse: s-maj=29.4km s-min=14.3km az=72.0*
NEIC ***17*** *16:01:54.6±1.6,4.°72S±0.°04×133.°6E±0.°1, h28km±5km, mb4.4/22, Error ellipse: s-maj=15.1km s-min=5.8km az=87.0*
DJA ***17*** *16:01:56.4±0.3,5.°5S±4.°×13.°4E±.°, h59km±16km, M4.6/12, mB5.1/6, mb4.8/12, MLv4.6/10, Mw(mB)4.4/6*
ISC 17 16:01:55.2±0.4,**4.°84S**±0.°04×**133.°55E**±0.°05,**h35**km,**n94,**
σ2°21/94, mb4.3/24, MS3.9/7, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.31**	**326**	Pn	**Pn**	**16 02 29.0**	**-1.9**
FAKI	**Fak Fak**	**2.31**	**326**	P	**Pn**	**16 02 29.1**	**-1.7**
FAKI				S	**Sn**	**16 02 55.7**	**-2.4**
BNDI	**Bandanaira**	**3.65**	**275**	P	**Pn**	**16 02 51.9**	**+2.6**
BNDI				S	**Sn**	**16 03 34.1**	**+3.0**
SAUI	**Saumlaki**	**3.84**	**216**	Pn	**Pn**	**16 02 53.5**	**+1.6**
SAUI	**Saumlaki**	**3.84**	**216**	P	**Pn**	**16 02 55.8**	**+3.9**
SRPI	**Serui, Papua**	**3.99**	**42**	P	**Pn**	**16 02 52.0**	**-1.9**
BAKI	**Biak**	**4.43**	**35**	P	**Pn**	**16 03 00.2**	**+0.1**
SIJI	**Sorong**	**4.56**	**330**	Pn	**Pn**	**16 03 01.1**	**-0.7**
	9.0nm,0.3s,baz=171,slow=23,SNR=21						
SIJI				Sn	**Sn**	**16 03 49.5**	**-4.1**
	7.9nm,0.3s,baz=275,slow=23,SNR=2.6						
SIJI				LR	LR	16 05 21.1	
	comp=Z,476nm,20.8s,baz=221,slow=47						
SWI	**Sorong**	**4.57**	**330**	P	**Pn**	**16 03 01.4**	**-0.5**
WAMI	**Wamena**	**5.23**	**80**	P	**Pn**	**16 03 14.5**	**+3.5**
	1.3nm3μm305nm,0.9s						
NLAI	**Namlea**	**6.63**	**284**	P	**Pn**	**16 03 33.2**	**+2.9**
	0.4nm2μm83nm,0.5s						
KDU	**Kakadu**	**7.87**	**188**	P	**Pn**	**16 03 48.7**	**+1.4**
	baz=7.9,SNR=110						
KDU				S	**Sn**	**16 05 15.8**	**+0.7**
	baz=7.9						
SANI	**Sanana**	**8.04**	**290**	P	**Pn**	**16 03 48.7**	**-1.0**
	31nm,0.8s						
SOEI	**Soe**	**10.42**	**242**		**Pn**	**16 04 23.8**	**+1.4**
SOEI	**Soe**	**10.42**	**242**	P	**Pn**	**16 04 24.6**	**+2.2**
	41nm,0.7s						
BATI	**Baumata**	**11.16**	**241**	Pn	**Pn**	**16 04 33.9**	**+1.4**
	4.8nm,0.3s,baz=77,slow=4.1,SNR=6.3						
BATI				Sn	**Sn**	**16 06 37.7**	**+1.7**
	4.1nm,0.3s,baz=288,slow=23,SNR=6.3						
BATI	**Baumata**	**11.16**	**241**	P	**Pn**	**16 04 33.8**	**+1.4**
	21nm,0.7s						
LUWI	**Luwuk**	**11.41**	**289**		**Pn**	**16 04 36.5**	**+0.7**
LUWI	**Luwuk**	**11.41**	**289**	P	**Pn**	**16 04 34.9**	**-0.9**
	31nm,0.7s						
KNRA	**Kununurra**	**11.75**	**203**	Pn	**Pn**	**16 04 40.3**	**-0.2**
MMRI	**Maumere**	**11.85**	**251**	Pn	**Pn**	**16 04 41.9**	**0.0**
EDFI	**Ende, Flores**	**12.40**	**251**	P	**Pn**	**16 04 53.6**	**+4.1**
	6.0nm,1.2s						
APSI	**Ampana**	**12.51**	**288**	P	**Pn**	**16 04 52.3**	**+1.4**
	39nm,1.1s						
COEN	**Coen**	**13.12**	**134**	Pn	**Pn**	**16 04 56.4**	**-2.8**
KAPI	**Kappang**	**13.75**	**269**	LR	LR	16 11 04.4	
	comp=Z,356nm,22.0s,baz=86,slow=40						
TOLI2	**Tolitoli**	**14.06**	**295**	Pn	**Pn**	**16 05 13.7**	**+1.6**
PMG	**Port Moresby**	**14.24**	**109**	Pn	**Pn**	**16 05 11.6**	**-3.0**
	baz=291,slow=17,SNR=1.5						
PMG				LR	LR	16 12 34.3	
	comp=Z,480nm,19.3s,baz=318,slow=45						
WB0	**Warramunga Arr**	**14.86**	**177**	Pn	**Pn**	**16 05 20.4**	**-2.5**
WRAB	**Tennant Creek**	**15.02**	**177**		**Pn**	**16 05 22.5**	**-2.6**
WRAB				IAmb	IAmb	16 05 35.2	
	comp=Z,27nm,0.7s						
WRA	**Warramunga Arr**	**15.03**	**177**	Pn	**Pn**	**16 05 22.8**	**-2.4**
	comp=Z,2.1nm,0.3s,baz=356,slow=13,SNR=85						
WRA				Sn	**Sn**	**16 08 04.8**	**-5.8**
	comp=Z,2.0nm,0.3s,baz=358,slow=23,SNR=13						
WRA				LR	LR	16 11 54.5	
	comp=Z,167nm,18.6s,baz=10.0,slow=40						
WRA	**Warramunga Arr**	**15.03**	**177**	Pn	**Pn**	**16 05 21.4**	**-3.8**
WB2	**Warramunga Arr**	**15.03**	**177**	Pn	**Pn**	**16 05 22.3**	**-2.9**
WR0	**Warramunga Arr**	**15.06**	**176**		**Pn**	**16 05 22.7**	**-2.9**
WR0				IAmb	IAmb	16 05 33.4	
	comp=Z,21nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.28**	**210**	Pn	**Pn**	**16 05 27.1**	**-1.3**
	comp=Z,2.6nm,0.3s,baz=37,slow=10,SNR=32						
FITZ				Sn	**Sn**	**16 08 10.9**	**-5.8**
	comp=Z,1.1nm,0.3s,baz=204,slow=10,SNR=12						
FITZ	**Fitzroy Crossi**	**15.28**	**210**	P	**Pn**	**16 05 27.4**	**-1.1**
	baz=15,SNR=12						
FITZ				S	**Sn**	**16 08 09.8**	**-6.9**
	baz=15						
FITZ	**Fitzroy Crossi**	**15.28**	**210**	Pn	**Pn**	**16 05 25.9**	**-2.6**
PLAI	**Plampang**	**16.15**	**255**	P	**Pn**	**16 05 40.6**	**+0.8**
	comp=Z,16nm,1.0s						
QIS	**Mount Isa**	**16.69**	**160**	P	**Pn**	**16 05 45.7**	**-1.0**
	baz=17,SNR=11						
QIS				S	Sn	16 08 40.3	-11
	baz=17						
AS31	**Alice Springs**	**18.72**	**179**		**P**	**16 06 10.6**	**-0.4**
ASAR	**Alice Springs**	**18.72**	**179**	P	**P**	**16 06 11.7**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=357,slow=8.0,SNR=76						
ASAR				S	**Sn**	**16 09 31.6**	**-8.5**
	comp=Z,0.3nm,0.3s,baz=3.3,slow=27,SNR=6.2						
ASAR				LR	LR	16 14 17.5	
	comp=Z,197nm,18.6s,baz=2.5,slow=40						
ASAR	**Alice Springs**	**18.72**	**179**	P	**P**	**16 06 11.5**	**+0.5**
CTA	**Charters Tower**	**19.56**	**142**	P	**Pn**	**16 06 21.6**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=322,slow=12,SNR=13						
CTAO	**Charters Tower**	**19.56**	**142**	P	**P**	**16 06 20.4**	**+0.2**
CTAO				IAmb	IAmb	16 06 23.9	
	comp=Z,33nm,1.1s						
KKM	**Kota Kinabalu**	**20.41**	**302**	P	**P**	**16 06 29.9**	**+0.3**
WRKA	**Warakurna**	**20.71**	**194**	P	**P**	**16 06 34.6**	**+1.9**
	baz=21,SNR=33						
PSA00	**Pilbara Seismi**	**21.29**	**217**	P	**P**	**16 06 40.4**	**+1.4**
PSA00				IAmb	IAmb	16 06 47.1	
	comp=Z,12nm,0.8s						
PSA00	**Pilbara Seismi**	**21.29**	**217**	P	**P**	**16 06 40.4**	**+1.4**
PSA00				IAmb	IAmb	16 06 46.3	
	comp=Z,3.7nm,0.6s						
SBUM	**Sibu**	**22.51**	**288**	P	**P**	**16 06 52.2**	**0.0**
SBUM				IAmb	IAmb	16 06 59.8	
	comp=Z,11nm,1.2s						
QLP	**Quilpie**	**23.91**	**156**	P	**P**	**16 07 07.4**	**+1.5**
	baz=24,SNR=9.9						
LEM	**Lembang**	**25.87**	**264**	LR	LR	16 19 45.9	
	comp=Z,159nm,19.5s,baz=55,slow=41						
RMQ	**Roma**	**25.97**	**148**	P	**P**	**16 07 26.2**	**+1.4**
	baz=26,SNR=4.6						
FORT	**Forrest**	**26.32**	**191**	P	**P**	**16 07 28.0**	**+0.2**
EIDS	**Eidsvold**	**26.45**	**142**	P	**P**	**16 07 28.8**	**-0.3**
EIDS				IAmb	IAmb	16 07 51.1	
	comp=Z,23nm,1.5s						
BBOO	**Buckleboo**	**27.93**	**175**	P	**P**	**16 07 44.0**	**+1.7**
STKA	**Stephens Creek**	**27.93**	**165**	P	**P**	**16 07 44.4**	**+2.0**
	comp=Z,2.2nm,0.7s,baz=346,slow=13,SNR=3.5						
STKA	**Stephens Creek**	**27.93**	**165**	P	**P**	**16 07 44.2**	**+1.8**
MORW	**Morawa**	**29.26**	**213**	P	**P**	**16 07 55.0**	**+0.8**
	baz=29,SNR=5.2						
BLDU	**Ballidu**	**30.15**	**210**	P	**P**	**16 08 04.8**	**+2.7**
	baz=30,SNR=7.2						
ARMA	**Armidale**	**30.62**	**148**	P	**P**	**16 08 07.4**	**+1.0**
QIZ	**Qiongzhong**	**33.28**	**316**	P	**P**	**16 08 29.1**	**-0.6**
QIZ				LR	LR		
	comp=N,200nm,10.6s						
QIZ				LR	LR		
	comp=E,280nm,14.3s						
QIZ				LR	LR		
	comp=Z,280nm,17.7s						
LHI	**Lord Howe Isla**	**35.74**	**141**	P	**P**	**16 08 51.5**	**+0.7**
	baz=36,SNR=3.2						
NJ2	**Nanjing**	**39.27**	**340**	*e*P	**P**	**16 09 22.5**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.23**	**305**	P	**P**	**16 09 38.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=128,slow=5.9,SNR=2.0						
MJAR	**Matsushiro Arr**	**41.40**	**6**	LR	LR	16 26 14.5	
	comp=Z,95nm,18.8s,baz=205,slow=36						
KMI	**Kunming**	**42.23**	**316**	⇑P	P	16 09 53.1	+7.5
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KSRS	**Korea Array**	**42.40**	**353**	LR	LR	16 27 28.8	
	comp=Z,40nm,19.7s,baz=165,slow=36						
USRK	**Ussuriysk Ar.**	**48.84**	**359**	P	**P**	**16 10 37.1**	**0.0**
	comp=Z,2.2nm,0.7s,baz=162,slow=5.4,SNR=8.0						
USRK	**Ussuriysk Ar.**	**48.84**	**359**	P	**P**	**16 10 36.5**	**-0.7**
MDJ	**Mudanjiang**	**49.36**	**356**	P	**P**	**16 10 40.0**	**-1.2**
MDJ				IAmb	IAmb	16 10 45.9	
	comp=Z,5.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**49.73**	**338**	*e*P	**P**	**16 10 44.0**	**-0.3**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,33nm,5.2s						
RPZ	**Rata Peaks**	**50.88**	**145**	LR	LR	16 31 48.8	
	comp=Z,164nm,20.0s,baz=298,slow=35						
TUWZ	**Tuamarina**	**51.25**	**141**	P	**P**	**16 10 56.7**	**+1.1**
URZ	**Urewera**	**51.67**	**136**	LR	LR	16 34 09.5	
	comp=Z,131nm,18.4s,baz=30,slow=38						
KLR	**Kul'dur**	**53.87**	**359**	P	**P**	**16 11 14.5**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=174,slow=3.7,SNR=6.7						
GTA	**Gaotai**	**53.92**	**328**	*e*P	**P**	**16 11 16.4**	**+0.8**
GTA				pP	pP	16 11 20.6	-4.7
GTA				sP	pwP	16 11 23.5	-5.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AFI	**Afiamalu**	**54.58**	**104**	LR	LR	16 33 17.5	
	comp=Z,114nm,21.0s,baz=274,slow=35						
SONM	**Songino Array**	**57.63**	**339**	P	**P**	**16 11 42.2**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=148,slow=9.1,SNR=3.4						
WMQ	**Urumqi**	**63.61**	**325**	*e*P	**P**	**16 12 24.0**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.5s						
YAK	**Yakutsk**	**66.75**	**358**	P	**P**	**16 12 42.7**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=166,slow=1.5,SNR=1.8						
MK31	**Makanchi Array**	**68.44**	**325**	P	**P**	**16 12 54.0**	**+0.3**
MK31				IAmb	IAmb	16 13 02.4	
	comp=Z,2.2nm,0.9s						
MKAR	**Makanchi Array**	**68.44**	**325**	P	**P**	**16 12 54.4**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=116,slow=7.9,SNR=26						
MKAR	**Makanchi Array**	**68.44**	**325**	P	**P**	**16 12 54.3**	**+0.5**
MAKZ	**Makanchi**	**68.63**	**325**	P	**P**	**16 12 55.0**	**+0.1**
MAKZ				IAmb	IAmb	16 13 03.5	
	comp=Z,3.2nm,0.9s						
SEY	**Seymchan**	**69.09**	**9**	P	**P**	**16 12 57.4**	**0.0**
	comp=Z,4.2nm,1.1s,baz=159,slow=2.8,SNR=7.9						
ZAA0	**Zalesovo Array**	**71.28**	**332**	P	**P**	**16 13 10.4**	**-0.6**
ZAA0				IAmb	IAmb	16 13 17.9	
	comp=Z,2.2nm,0.9s						
ZALV	**Zalesovo Beam**	**71.28**	**332**	P	**P**	**16 13 10.4**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=85,slow=4.9,SNR=6.3						
ZALV	**Zalesovo Beam**	**71.28**	**332**	P	**P**	**16 13 10.3**	**-0.7**
KKAR	**Karatay Array**	**74.11**	**317**	P	**P**	**16 13 28.6**	**+0.5**
VNDA	**Vanda**	**74.18**	**174**	P	**P**	**16 13 29.9**	**+2.1**
	comp=Z,0.9nm,0.8s,baz=340,slow=6.1,SNR=5.6						
VNDA	**Vanda**	**74.18**	**174**	IAmb	IAmb	16 13 51.4	
	comp=Z,3.0nm,1.2s						
BRVK	**Borovoye**	**78.25**	**327**	P	**P**	**16 13 49.9**	**-1.4**
BRVK				IAmb	IAmb	16 13 58.8	
	comp=Z,2.9nm,0.7s						
ILAR	**Eielson Array**	**89.91**	**25**	P	**P**	**16 14 49.0**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=280,slow=5.0,SNR=2.3						
CPUP	**Villa Florida**	**147.27**	**162**	PKPbc	**PKPab**	**16 21 37.0**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=213,slow=4.7,SNR=5.0						
LPAZ	**La Paz**	**149.99**	**135**	PKPbc	**PKiKP**	**16 21 45.8**	**+1.0**
	comp=Z,2.4nm,0.9s,baz=316,slow=2.4,SNR=5.2						

IDC ***17*** *16:05:28.4±3.4,36.°43N×136.°60E, h272km±29km, mb3.0/2, mb1 3.2/3, mb1mx2.7/47, mbtmp3.7/3, Error ellipse: s-maj=123.2km s-min=32.7km az=102.0*
JMA ***17*** *16:05:29.7±0.3,36.°23N×136.°99E, h276km±3km, M2.6*
ISC 17 16:05:28.4±1.2,**36.°3N**±0.°1×**136.°9E**±0.°1,**h300**km,**n17,**
σ2°21/18, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.32**	**105**	P	**Pn**	**16 06 05.2**	**-1.5**
JKG	**Kaga**	**0.49**	**267**	P	**Pn**	**16 06 05.7**	**-1.2**
JYTA	**Yamagatataniai**	**0.73**	**193**	P	**Pn**	**16 06 06.1**	**-1.6**
JYTA				*e*S	**S**	**16 06 33.5**	**-5.5**
MAT	**Matsushiro**	**1.05**	**77**	P	**Pn**	**16 06 07.9**	**-1.1**
MJAR	**Matsushiro Arr**	**1.05**	**77**	P	**Pn**	**16 06 07.7**	**-1.3**
	0.2nm,0.3s,baz=260,slow=6.8,SNR=14						
JSZ	**Suzu**	**1.19**	**17**	P	**Pn**	**16 06 09.0**	**-0.6**
JYN	**Shimodo**	**1.53**	**121**	P	**Pn**	**16 06 10.4**	**-1.5**
JWT	**Wachi**	**1.61**	**231**	P	**Pn**	**16 06 11.0**	**-1.3**
JIE	**Ise**	**1.92**	**186**	P	**Pn**	**16 06 13.7**	**-0.9**
JSD	**Sado**	**2.03**	**31**	P	**Pn**	**16 06 15.0**	**-0.3**
JOD2	**Odawara 2**	**2.04**	**120**	P	**Pn**	**16 06 14.5**	**-1.0**
JAG	**Ashikaga**	**2.04**	**86**	P	**Pn**	**16 06 14.3**	**-1.1**
JWY	**Kouya**	**2.35**	**208**	P	**Pn**	**16 06 17.5**	**-0.8**
JTNC	**Tanabenakahech**	**2.71**	**204**	P	**Pn**	**16 06 20.4**	**-1.0**
ASAJ	**Asahikawa**	**8.92**	**27**	P	**P**	**16 07 33.1**	**0.0**
	1.1nm,0.3s,baz=227,slow=11,SNR=22						
WRA	**Warramunga Arr**	**55.99**	**183**	P	**P**	**16 14 39.5**	**+3.2**
	0.4nm,0.4s,baz=359,slow=7.6,SNR=6.8						
ASAR	**Alice Springs**	**59.71**	**183**	P	**P**	**16 15 05.8**	**+3.8**
	0.3nm,0.6s,baz=3.5,slow=6.5,SNR=2.6						

IDC 17 16:15:16.7±23.0,**17.°45S×178.°59W, h493**km±211km,
mb2.7/3, mb1 3.0/3, mb1mx2.8/32, mbtmp3.6/3, Error ellipse: s-maj=275.3km s-min=49.8km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.55**	**259**	P	P	16 22 43.6	-0.6
	0.2nm,0.4s,baz=96,slow=7.8,SNR=9.0						
ASAR	**Alice Springs**	**44.75**	**254**	P	P	16 22 46.0	+0.3
	1.1nm,0.5s,baz=89,slow=7.8,SNR=57						
ASAR				PcP	PcP	16 24 17.4	-0.3
	0.1nm,0.5s,baz=101,slow=4.8,SNR=4.7						
ILAR	**Eielson Array**	**85.48**	**13**	P	P	16 27 01.3	0.0
	0.2nm,0.5s,baz=217,slow=6.1,SNR=4.2						
GERES	**GERESS Array B**	**147.13**	**345**	PKPbc	PKPbc	16 34 03.2	-0.7
	0.3nm,0.6s,baz=30,slow=2.6,SNR=3.5						

WEL 17 16:22:24.2±2.0,**38.°S**±16.°×**18.°0E**±1.°6,**h26**km±41km,
M3.0/13, ML3.1/13, MLv3.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=46.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.14**	**278**	P	Pn	16 22 43.8	-0.7
MXZ				S	Sn	16 22 59.4	+0.1
PUZ	**Puketiti**	**1.22**	**253**	P	Pn	16 22 45.4	-0.2
PUZ				S	Sn	16 23 01.5	+0.2
PKGZ	**Pakihiroa**	**1.32**	**262**	P	Pn	16 22 46.1	-0.9
CNGZ	**Carnagh Statio**	**1.42**	**237**	P	Pn	16 22 48.8	+0.4
TWGZ	**Tauwhareparae**	**1.46**	**251**	P	Pb	16 22 49.8	-0.9
TWGZ				S	Sn	16 23 07.8	+0.5
HAZ	**Te Kaha**	**1.55**	**268**	P	Pn	16 22 50.0	-0.1
HAZ				S	Sn	16 23 10.2	+0.9
RUGZ	**Raukumara Rang**	**1.65**	**261**	P	Pn	16 22 52.2	+0.6
TKGZ	**Te Karaka**	**1.65**	**244**	P	Pn	16 22 51.7	+0.2
TKGZ				S	Sb	16 23 13.2	-1.1
RIGZ	**Rimuhau**	**1.84**	**237**	P	Pn	16 22 54.3	+0.1
MWZ	**Matawai**	**1.85**	**250**	P	Pn	16 22 53.9	-0.3
RAGZ	**Rawiri**	**1.98**	**246**	P	Pn	16 22 56.1	-0.1
URZ	**Urewera**	**2.14**	**255**	P	Pn	16 22 59.5	+1.2
MUGZ	**Murupara**	**2.46**	**251**	P	Pn	16 23 02.9	+0.3
MTHZ	**Maungataniwha**	**2.54**	**243**	P	Pn	16 23 03.1	-0.7
MTHZ				S	Sn	16 23 33.6	-0.3
BKZ	**Black Stump Fm**	**2.92**	**239**	P	Pn	16 23 08.6	-0.5
BKZ				S	Sn	16 23 35.4	-8.0
BHHZ	**Black Hill Sta**	**3.37**	**237**	P	Pn	16 23 14.7	-0.6

IDC 17 16:27:44.0±3.3,**3.°00N×127.°17E, h0**km,**mb3.8/3, mb1 4.0/3, mb1mx3.4/45, mbtmp3.8/3, Error ellipse: s-maj=138.8km s-min=57.3km az=73.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.86**	**163**	P	P	16 32 59.5	+0.3
	0.8nm,0.3s,baz=342,slow=11,SNR=17						
ASAR	**Alice Springs**	**27.30**	**166**	P	P	16 33 31.1	+0.6
	0.7nm,0.5s,baz=354,slow=7.7,SNR=37						
ASAR				PcP	PcP	16 36 50.2	-0.2
	0.2nm,0.6s,baz=341,slow=1.9,SNR=4.4						
STKA	**Stephens Creek**	**37.30**	**160**	P	P	16 34 56.5	-1.4
	1.1nm,0.6s,baz=342,slow=9.8,SNR=1.5						

ISK ***17*** *16:28:35.6,36.°46N×28.°77E, h5km, ML3.3/25*
THE ***17*** *16:28:36.6,36.°48N×28.°80E, h2km±5km, ML3.1/3, Error ellipse: s-maj=5.1km s-min=1.5km az=111.0*
DDA ***17*** *16:28:36.3,36.°43N×28.°78E, h7km±3km, ML3.0*
NIC ***17*** *16:28:37.4±0.0,36.°65N×28.°86E, h18km±2km, MI3.3/3*
ATH ***17*** *16:28:37.4,36.°46N×28.°78E, h36km±7km, ML3.0/3, Error ellipse: s-maj=7.6km s-min=2.0km az=192.0*
IDC ***17*** *16:28:41.6±1.2,36.°30N×28.°88E, h46km±18km, mb3.5/4, mb1 3.6/9, mb1mx3.3/42, mbtmp3.6/9, ML3.4/5, Error ellipse: s-maj=18.3km s-min=9.4km az=164.0*
ISC 17 16:28:37.2±1.0,**36.°45N**±0.°02×**28.°77E**±0.°02,**h9**km±7km,
n67,σ1°28/89, mb3.7/4, 2C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.31**	**54**	P	**Pg**	**16 28 42.2**	**-1.3**
FETY				S	**Sg**	**16 28 46.6**	**-1.1**
FETY	**Fethiye**	**0.31**	**54**	PG	**Pg**	**16 28 42.5**	**-1.0**
FETY	**Fethiye**	**0.31**	**54**	*i* P	**Pg**	**16 28 42.2**	**-1.3**
FETY				*i* S	**Sg**	**16 28 47.8**	**+0.1**
DALY	**Dalyan (Mula)**	**0.37**	**346**	PG	**Pg**	**16 28 44.1**	**-0.5**
DALY				SG	**Sg**	**16 28 50.1**	**+0.5**
DALY	**Dalyan (Mula)**	**0.37**	**346**	*i* P	**Pg**	**16 28 44.2**	**-0.5**
DALY				*i* S	**Sg**	**16 28 50.3**	**+0.7**
DALY				IAML		16 28 51.0	
	comp=N,1μm,0.5s						
MRSB	**Marmaris-Mugla**	**0.53**	**300**	PG	**Pg**	**16 28 47.1**	**-0.4**
TURN	**Turunc**	**0.53**	**308**	PG	**Pg**	**16 28 47.0**	**-0.5**
TURN				SG	**Sb**	**16 28 55.5**	**-0.9**
TURN	**Turunc**	**0.53**	**308**	*i* P	**Pg**	**16 28 47.0**	**-0.5**
TURN				IAML		16 28 55.0	
	comp=N,2μm,0.6s						
TURN				*i* S	**Sb**	**16 28 55.5**	**-0.9**
ARG	**Arkhangelos**	**0.57**	**246**	P	**Pb**	**16 28 49.1**	**-0.3**
ARG				S	**Sb**	**16 28 58.0**	**+0.5**
ARG				AML	AML	16 28 59.6	
	comp=N,1851μm,0.3s						
ARG				AML	AML	16 29 00.9	
	comp=E,2567μm,0.3s						
ARG	**Arkhangelos**	**0.57**	**246**	P	**Pg**	**16 28 48.1**	**-0.1**
ARG				S	**Sb**	**16 28 57.4**	**-0.1**
	comp=E,1μm,0.6s						
ARG	**Arkhangelos**	**0.57**	**246**	PG	**Pg**	**16 28 47.9**	**-0.3**
AKAS	**Kas**	**0.71**	**108**	PG	**Pg**	**16 28 50.5**	**-0.5**
AKAS	**Kas**	**0.71**	**108**	*i* P	**Pg**	**16 28 50.3**	**-0.7**
KSL	**Kastellorizon**	**0.73**	**114**	P	**Pg**	**16 28 51.5**	**+0.3**
KSL				AML	AML	16 29 10.4	
	comp=E,2768μm,0.4s						
KSL				AML	AML	16 29 11.5	
	comp=N,740μm,0.4s						
KSL	**Kastellorizon**	**0.73**	**114**	P	**Pg**	**16 28 51.5**	**+0.3**
KSL				S	**Sb**	**16 29 01.3**	**-0.7**
	comp=N,1μm,0.5s						
KSL	**Kastellorizon**	**0.73**	**114**	P	**Pb**	**16 28 51.7**	**-0.3**
KSL				S	**Sn**	**16 29 04.1**	**-0.6**
YER	**Yerkesik**	**0.78**	**330**	P	**Pg**	**16 28 52.0**	**-0.3**
YER				S	**Sb**	**16 29 03.3**	**-0.5**
YER	**Yerkesik**	**0.78**	**330**	PG	**Pg**	**16 28 51.7**	**-0.6**
MULA	**Mugla, Merkez-**	**0.88**	**336**	*i* P	**Pb**	**16 28 54.7**	**+0.1**
MULA				*i* S	**Sb**	**16 29 06.4**	**-0.1**
MULA				IAML		16 29 18.0	
	comp=E,580nm,0.5s						
DATC	**Datca-Mugla**	**0.94**	**289**	PG	**Pg**	**16 28 54.8**	**-0.5**
DEMR	**Demre-Antalya**	**0.94**	**103**	PG	**Pg**	**16 28 54.9**	**-0.5**
GOLH	**Golhisar**	**1.01**	**39**	*i* P	**Pg**	**16 28 56.3**	**-0.3**
GOLH				*i* S	**Sn**	**16 29 11.9**	**-0.1**
GOLH				IAML		16 29 18.0	
	comp=N,382nm,0.4s						
NIS1	**Nisyros Isl.**	**1.29**	**277**	P	**Pb**	**16 29 01.7**	**+0.1**
NIS1				S	**Sg**	**16 29 20.2**	**+1.5**
	comp=N,3μm,0.7s						
NIS1	**Nisyros Isl.**	**1.29**	**277**	PN	**Pb**	**16 29 01.6**	**0.0**
BODT	**Bodrum**	**1.32**	**298**	P	**Pn**	**16 29 01.1**	**-0.7**
BODT				S	**Sb**	**16 29 17.3**	**-1.8**
BODT	**Bodrum**	**1.32**	**298**	PN	**Pn**	**16 29 01.2**	**-0.6**
NISR	**Nisiros**	**1.33**	**277**	P	**Pn**	**16 29 01.1**	**-0.8**
YKAV	**Yalikavak-Bodr**	**1.37**	**300**	PN	**Pb**	**16 29 02.9**	**-0.1**
**KOR

comp=E,0.4nm,0.3s,baz=180,slow=21,SNR=1.5
GERES GERESS Array B 16.58 323 P **P 16 32 32.8 +0.3**
comp=E,0.1nm,0.3s,baz=143,slow=9.9,SNR=2.3
FINES FINESS Array B 25.07 357 P **P 16 34 02.4 +0.7**
comp=E,1.7nm,0.6s,baz=159,slow=10,SNR=9.1
ESDC Sonseca Array 25.89 287 P **P 16 34 10.5 +1.1**
comp=E,0.4nm,0.5s,baz=92,slow=11,SNR=2.2
TORD Torodi Ar. Bea 33.59 233 P **P 16 35 17.8 0.0**
comp=E,0.9nm,0.8s,baz=44,slow=8.6,SNR=2.1
MKAR Makanchi Array 40.61 58 P **P 16 36 16.9 -0.3**
comp=E,0.7nm,0.5s,baz=286,slow=8.7,SNR=5.2

*ISK **17** 16:43:06.1, 38°22′N×26°35′E, h19km, ML2.5/9*
*DDA **17** 16:43:08.9, 38°22′N×26°48′E, h10km±2km, ML1.7*
ISC 17 16:43:06.6±1.0, 38°23′N±0′05×26°36′E±0′04, h17km±7km, n12, σ0°38′/18, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZEYE	**Izmir, Urla-Ze**	**0.12**	**84**	*i* P		**Pg**	**16 43 10.2**	**-0.1**
ZEYE				*i* S		**Sg**	**16 43 12.8**	**+0.1**
ZEYE				IAML			16 43 13.0	
	comp=E,754nm,0.2s							
ZEYE				IAML			16 43 13.0	
	comp=N,2μm,0.2s							
URLA	**Izmir**	**0.23**	**55**	PG		**Pg**	**16 43 11.5**	**-0.4**
URLA				SG		**Sb**	**16 43 16.3**	**0.0**
URLA	**Izmir**	**0.23**	**55**	*i* P		**Pg**	**16 43 11.5**	**-0.4**
URLA				IAML			16 43 16.0	
	comp=E,274nm,0.5s							
URLA				*i* S		**Sb**	**16 43 16.3**	**0.0**
URLA				IAML			16 43 17.0	
	comp=N,223nm,0.2s							
CHOS	**Chios island**	**0.28**	**304**	PG		**Pg**	**16 43 12.8**	**-0.1**
CHOS				SG		**Sg**	**16 43 17.6**	**+0.5**
DGB	**zmir**	**0.45**	**113**	*i* P		**Pg**	**16 43 15.6**	**-0.1**
DGB				*i* S		**Sb**	**16 43 22.1**	**-0.5**
DGB				IAML			16 43 23.0	
	comp=E,57nm,0.2s							
DGB				IAML			16 43 23.0	
	comp=N,47nm,0.3s							
BLCB	**Balcova**	**0.56**	**73**	PG		**Pb**	**16 43 18.2**	**+0.2**
BLCB				SG		**Sb**	**16 43 26.5**	**+0.7**
GCAM	**G?zelcaml?**	**0.87**	**127**	PG		**Pb**	**16 43 23.7**	**+0.4**
DKL	**Dikili**	**0.95**	**27**	PG		**Pb**	**16 43 24.9**	**+0.3**
SIGR	**SIGRI**	**1.06**	**338**	PG		**Pb**	**16 43 26.6**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.24**	**103**	PN		**Pn**	**16 43 29.2**	**-0.2**
APE	**Apeiranthos**	**1.33**	**210**	PN		**Pn**	**16 43 29.9**	**-0.6**
BODT	**Bodrum**	**1.39**	**147**	PN		**Pn**	**16 43 31.3**	**0.0**

IDC 17 17:04:37.6±27.0, 2°20′N×124°02′E, h317km±305km, mb3.0/5, mb1 3.2/5, mb1mx2.9/36, mbtmp3.7/5, Error ellipse: s-maj=158.9km s-min=28.7km az=50.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**20.23**	**176**	P		P	17 08 50.1	+0.1
	1.8nm,0.6s,baz=350,slow=7.8,SNR=22							
WRA	**Warramunga Arr**	**24.23**	**156**	P		P	17 09 26.2	-0.3
	0.7nm,0.4s,baz=334,slow=10,SNR=19							
ASAR	**Alice Springs**	**27.45**	**160**	P		P	17 09 55.2	-0.1
	0.2nm,0.5s,baz=344,slow=14,SNR=12							
STKA	**Stephens Creek**	**37.77**	**155**	P		P	17 11 24.4	+0.3
	1.8nm,0.7s,baz=336,slow=10.0,SNR=3.6							
MKAR	**Makanchi Array**	**57.31**	**327**	P		P	17 13 53.0	-0.1
	0.4nm,0.5s,baz=123,slow=8.6,SNR=8.4							

*EAF **17** 17:27:04.2±0.2, 19°16S×26°69E, h10km, MD3.7*
BUL 17 17:27:04.2±0.2, 19°16S×26°69E, h10km, MD4.0, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BLWY	**Bulawayo**	**2.05**	**119**	*i* P		Pn	17 27 38.8	-0.2
BLWY				*i* S		Sn	17 28 03.9	-0.8
BLWY	**Bulawayo**	**2.05**	**119**	*i* P		Pn	17 27 38.8	-0.2
BLWY				*i* S		Sn	17 28 03.9	-0.8
MATP	**Matopo**	**2.12**	**127**	*i* P		Pn	17 27 39.5	-0.4
MATP				*i* S		Sn	17 28 05.2	-1.1
MATP	**Matopo**	**2.12**	**127**	*i* P		Pn	17 27 39.5	-0.4
MATP				*i* S		Sn	17 28 05.2	-1.1
LSZ	**Lusaka**	**4.12**	**21**	*i* P		Pn	17 28 06.9	-0.4
LSZ	**Lusaka**	**4.12**	**21**	*i* P		Pn	17 28 06.9	-0.4
LBTB	**Lobatse**	**5.91**	**190**	*i* P		Pn	17 28 31.2	-0.9
LBTB				*i* S		Sn	17 29 34.9	-5.1
LBTB	**Lobatse**	**5.91**	**190**	*i* P		Pn	17 28 31.2	-0.9
LBTB				*i* S		Sn	17 29 34.9	-5.1
BOSA	**Boshof**	**9.50**	**188**	*i* P		Pn	17 29 19.1	-2.2
BOSA				*i* S		Sn	17 30 57.5	-11
BOSA	**Boshof**	**9.50**	**188**	*i* P		Pn	17 29 19.1	-2.2
BOSA				*i* S		Sn	17 30 57.5	-11

*VAO **17** 17:31:07.9±0.7, 24°38′S×67°49′W, h211km, mb4.0*
*NEIC **17** 17:31:07.8±2.4, 24°30′S±0°07×67°08′W±0°09, h164km±7km, mb4.2/14, Error ellipse: s-maj=12.2km s-min=9.7km az=77.0*
*IDC **17** 17:31:09.2±1.3, 24°14′S×67°01′W, h168km±10km, mb3.6/8, mb1 3.8/13, mb1mx3.7/33, mbtmp4.1/13, Error ellipse: s-maj=19.6km s-min=13.4km az=22.0*
*GUC **17** 17:31:09.9±0.5, 24°24′S×67°50′W, h212km±8km, ML4.7*
ISC 17 17:31:08.6±0.7, 24°26′S±0°04×67°22′W±0°06, h177km±7km, n100, σ1°23′/108, mb4.1/15, 13C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**2.26**	**316**	P		**Pn**	**17 31 50.1**	**+1.3**
	192nm,0.3s,baz=118,slow=7.9,SNR=1173							
LVC				S		**S**	**17 32 20.6**	**+0.8**
	145nm,0.3s,baz=5.9,slow=22,SNR=27							
LVC	**Limon Verde**	**2.26**	**316**	*eP*		**Pn**	**17 31 50.0**	**+1.3**
LVC				*i* S		**S**	**17 32 20.6**	**+0.8**
LVC	**Limon Verde**	**2.26**	**316**			**Pn**	**17 31 49.9**	**+1.2**
LVC					Sn	**S**	**17 32 21.0**	**+1.2**
LVC	**Limon Verde**	**2.26**	**316**	*eP*		**Pn**	**17 31 50.1**	**+1.3**
LVC				*eS*		**S**	**17 32 21.0**	**+1.2**
PB15	**IPOC Station P**	**2.31**	**296**	⇑*iP*		**Pn**	**17 31 50.6**	**+1.4**
PB15				*i* S		**S**	**17 32 21.1**	**+0.6**
PB15	**IPOC Station P**	**2.31**	**296**			**Pn**	**17 31 49.9**	**+0.7**
GO02	**Mina Guanaco**	**2.34**	**247**	⇑*iP*		**Pn**	**17 31 50.8**	**+1.2**
GO02				*i* S		**S**	**17 32 22.3**	**+1.0**
GO02				IAML			17 32 25.1	
	comp=E,4μm,0.1s							
GO02	**Mina Guanaco**	**2.34**	**247**			**Pn**	**17 31 50.8**	**+1.2**
GO02					Sn	**S**	**17 32 22.1**	**+0.9**
PB06	**IPOC Station P**	**2.65**	**305**	⇑*iP*		**Pn**	**17 31 54.3**	**+1.2**
PB06				*i* S		**S**	**17 32 27.6**	**-0.1**
PB06				IAML			17 32 29.3	
	comp=N,2μm,0.3s							
PB06	**IPOC Station P**	**2.65**	**305**			**Pn**	**17 31 53.4**	**+0.2**
PB06					Sn	**S**	**17 32 27.0**	**-0.6**
PB14	**IPOC Station P**	**2.92**	**262**	⇑*iP*		**Pn**	**17 31 57.0**	**+0.5**
PB14				*i* S		**S**	**17 32 32.6**	**-1.0**
PB14				IAML			17 32 34.2	
	comp=E,1μm,0.5s							
PB14	**IPOC Station P**	**2.92**	**262**			**Pn**	**17 31 56.8**	**+0.3**
PB14					Sn	**S**	**17 32 31.9**	**-1.8**
PB05	**IPOC Station P**	**3.07**	**296**	⇑*iP*		**Pn**	**17 31 58.8**	**+0.6**
PB05				*i* S		**S**	**17 32 35.2**	**-1.4**
PB05				IAML			17 32 38.7	
	comp=N,950nm,0.4s							
PB09	**IPOC Station P**	**3.08**	**322**	⇑*iP*		**Pn**	**17 31 59.6**	**+1.3**
PB09				*i* S		**S**	**17 32 37.0**	**+0.1**
PB09				IAML			17 32 38.5	
	comp=N,697nm,0.5s							
PB09	**IPOC Station P**	**3.08**	**322**			**Pn**	**17 31 59.6**	**+1.3**
AC02	**Maricunga**	**3.09**	**213**	*eP*		**Pn**	**17 32 00.2**	**+1.4**
AC02	**Maricunga**	**3.09**	**213**			**Pn**	**17 32 00.0**	**+1.3**
PB10	**IPOC Station P**	**3.14**	**283**	⇑*iP*		**Pn**	**17 31 59.7**	**+0.8**
PB10				*i* S		**S**	**17 32 36.8**	**-1.1**
PB10	**IPOC Station P**	**3.14**	**283**			**Pn**	**17 31 59.5**	**+0.7**
PB03	**IPOC Station P**	**3.20**	**313**	⇑*iP*		**Pn**	**17 32 00.5**	**+0.6**
PB03				*i* S		**S**	**17 32 38.7**	**-0.9**
PB03				IAML			17 32 39.5	
	comp=E,1μm,0.1s							
PB04	**IPOC Station P**	**3.30**	**305**	*eP*		**Pn**	**17 32 01.3**	**+0.2**
PB04				*i* S		**S**	**17 32 40.7**	**-1.2**
PB04	**IPOC Station P**	**3.30**	**305**			**Pn**	**17 32 01.3**	**+0.2**
PB07	**IPOC Station P**	**3.52**	**315**	⇑*iP*		**Pn**	**17 32 04.2**	**+0.4**
PB07				*i* S		**S**	**17 32 44.4**	**-2.3**
PB07	**IPOC Station P**	**3.52**	**315**			**Pn**	**17 32 03.8**	**0.0**
AC01	**Pan de Azucar**	**3.59**	**238**	⇑*iP*		**Pn**	**17 32 04.1**	**-0.4**
AC01				*i* S		**S**	**17 32 46.2**	**-1.9**
AC01	**Pan de Azucar**	**3.59**	**238**		Pn	**Pn**	**17 32 04.2**	**-0.4**
PB01	**IPOC Station P**	**3.82**	**326**	⇑*iP*		**Pn**	**17 32 07.5**	**-0.1**
PB01				*i* S		**S**	**17 32 51.7**	**-1.8**
PB01	**IPOC Station P**	**3.82**	**326**			**Pn**	**17 32 07.4**	**-0.1**
GO03	**Copiap**	**4.29**	**219**	⇑*iP*		**Pn**	**17 32 12.8**	**-0.6**
GO03				*i* S		**S**	**17 33 02.2**	**-1.9**
GO03	**Copiap**	**4.29**	**219**			**Pn**	**17 32 12.8**	**-0.6**
PB08	**IPOC Station P**	**4.47**	**336**	⇑*iP*		**Pn**	**17 32 16.6**	**+0.5**
PB08				*i* S		**S**	**17 33 07.4**	**-1.4**
PB08	**IPOC Station P**	**4.47**	**336**			**Pn**	**17 32 16.6**	**+0.5**
TA01	**Diego Aracena**	**4.58**	**323**	Pn		**Pn**	**17 32 16.0**	**-1.1**
AC04	**Llanos de Chal**	**5.24**	**221**	Pn		**Pn**	**17 32 23.6**	**-2.0**
AC05	**El Transito**	**5.32**	**210**	Pn		**Pn**	**17 32 25.7**	**-1.1**
PSGCX	**Pisagua**	**5.36**	**329**	Pn		**Pn**	**17 32 25.1**	**-2.3**
MNMC	**Minye Minye**	**5.56**	**336**			**Pn**	**17 32 29.1**	**-1.0**
LCO	**Las Campanas**	**5.67**	**213**	Pn		**Pn**	**17 32 30.0**	**-1.5**
CO01	**Juntas del Tor**	**6.25**	**204**			**Pn**	**17 32 37.4**	**-1.7**
PB16	**IPOC Station P**	**6.27**	**340**	Pn		**Pn**	**17 32 39.0**	**-0.7**
GO04	**Tololo Observa**	**6.70**	**208**			Pn	17 32 42.0	-3.0
CO03	**El Pedregal**	**7.24**	**204**	Pn		**Pn**	**17 32 50.2**	**-1.8**
CO02	**Combarbal**	**7.69**	**205**	Pn		**Pn**	**17 32 56.0**	**-1.8**
LPAZ	**La Paz**	**7.97**	**354**	P		**Pn**	**17 33 02.5**	**+0.2**
	comp=E,2.2nm,0.3s,baz=152,slow=6.5,SNR=48							
LPAZ				S		**S**	**17 34 29.9**	**-2.1**
	comp=E,0.4nm,0.3s,baz=354,slow=17,SNR=5.7							
LPAZ	**La Paz**	**7.97**	**354**	Pn		**Pn**	**17 33 02.3**	**0.0**
LPAZ	**La Paz**	**7.97**	**354**	*eP*		**Pn**	**17 33 02.7**	**+0.4**
CPUP	**Villa Florida**	**9.19**	**105**	P		Pn	17 33 15.7	-1.8
	comp=E,0.3nm,0.3s,baz=277,slow=13,SNR=7.9							
CPUP	**Villa Florida**	**9.19**	**105**	Pn		Pn	17 33 15.1	-2.4
PEL	**Peldehue**	**9.36**	**198**	Pn		**Pn**	**17 33 17.9**	**-2.0**
MT02	**Curacav**	**9.60**	**200**	Pn		**Pn**	**17 33 21.8**	**-1.2**
SIV	**San Ignacio**	**10.05**	**36**	P		**Pn**	**17 33 27.0**	**-2.0**
	comp=E,0.9nm,0.3s,baz=258,slow=10,SNR=9.9							
AQDB	**Aquidauana**	**11.30**	**73**	*eP*		**Pn**	**17 33 46.1**	**+0.9**
CPSB	**Cacapava Do Su**	**13.69**	**120**	*eP*		**Pn**	**17 34 15.1**	**-0.5**
PLTB	**Pedras Altas**	**14.15**	**125**	*eP*		**Pn**	**17 34 17.7**	**-0.7**
PCMB	**Pacaembu**	**14.94**	**83**	*eP*		**Pn**	**17 34 32.5**	**+1.4**
SAML	**Samuel**	**15.70**	**15**	P		**P**	**17 34 39.9**	**-1.0**
SAML	**Samuel**	**15.70**	**15**	*eP*		**P**	**17 34 39.7**	**-1.2**
ITRB	**Iturama**	**16.28**	**77**	*eP*		**P**	**17 34 47.1**	**-0.2**
PLCA	**Paso Flores**	**16.66**	**189**	P		Pn	17 34 59.9	+7.8
	comp=E,0.4nm,0.3s,baz=0.9,slow=12,SNR=7.0							
ARAG	**Araguaiana, MT**	**16.78**	**62**	*eP*		**P**	**17 34 53.9**	**+1.1**
CLDB	**Colider**	**17.18**	**41**	*eP*		**P**	**17 34 57.1**	**-0.1**
VAO	**Valinhos**	**18.60**	**90**	*eP*		**P**	**17 35 12.3**	**-0.5**
IPMB	**Ipameri, GO**	**18.79**	**74**	*eP*		**P**	**17 35 14.6**	**-0.1**
SNDB	**Serra Nova Dou**	**19.43**	**54**	*eP*		**P**	**17 35 20.6**	**-1.0**
BDFB	**Brasilia**	**19.97**	**68**	P		**P**	**17 35 26.9**	**-0.6**
	comp=E,1.0nm,0.3s,baz=231,slow=13,SNR=8.4							
BDFB	**Brasilia**	**19.97**	**68**	P		**P**	**17 35 27.2**	**-0.4**
BDFB					IAmb	IAmb	17 35 28.3	
	comp=E,9.0nm,1.0s							
PEXB	**Peixe**	**21.63**	**59**	*eP*		**P**	**17 35 43.6**	**-1.5**
JANB	**Januaria**	**23.41**	**71**	*eP*		**P**	**17 36 00.8**	**-1.1**
SDBA	**SAO DESIDERIO**	**24.20**	**65**	*eP*		**P**	**17 36 08.2**	**-0.9**
NAN01	**Guarapari, ES**	**26.05**	**81**	*eP*		**P**	**17 36 24.2**	**-1.6**
GDU01	**Guandu, BA**	**28.11**	**73**	*eP*		**P**	**17 36 42.8**	**-1.4**
SOR	**Soroa**	**49.22**	**341**	P		**P**	**17 39 40.2**	**+1.1**
SOR					IAmb	IAmb	17 39 41.1	
	comp=Z,11nm,1.0s							
VNA3	**Neumayer Olymp**	**56.98**	**161**	P		**P**	**17 40 36.7**	**+1.4**
VNA2	**Neumayer--Watz**	**57.54**	**160**	P		**P**	**17 40 40.7**	**+1.5**
	baz=291,slow=7.1							
SNAA	**Sanae**	**59.18**	**161**	P		**P**	**17 40 51.9**	**+1.3**
WVT	**Waverly**	**63.14**	**341**	P		**P**	**17 41 17.6**	**+0.2**
TXAR	**Lajitas Array**	**63.77**	**325**	P		P	17 41 23.6	+1.7
	comp=Z,0.7nm,0.7s,baz=149,slow=7.0,SNR=8.3							
W39A	**Magazine**	**64.27**	**336**	P		P	17 41 26.6	+1.7
W39A					IAmb	IAmb	17 41 27.6	
	comp=Z,5.5nm,0.8s							
S39A	**Bolivar**	**66.33**	**338**	P		**P**	**17 41 39.1**	**+1.0**
MNTX	**Cornudas Mount**	**66.54**	**325**			**P**	**17 41 40.2**	**+0.6**
VNDA	**Vanda**	**74.41**	**190**	P		P	17 42 30.1	+3.4
	comp=Z,0.5nm,0.6s,baz=75,slow=2.4,SNR=3.7							
KNB	**Kanab**	**74.56**	**324**			P	17 42 30.4	+2.1
KNB					IAmb	IAmb	17 42 32.5	
	comp=Z,6.0nm,1.0s							
CCUT	**Cedar City**	**75.24**	**324**	P		P	17 42 35.0	+2.7
CCUT					IAmb	IAmb	17 42 36.4	
	comp=Z,3.4nm,0.8s							
PSUT	**Pine Spring**	**76.23**	**324**	P		P	17 42 40.1	+2.4
PSUT					IAmb	IAmb	17 42 41.4	
	comp=Z,2.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.85**	**69**	P		**P**	**17 42 41.5**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=261,slow=5.8,SNR=6.1							
TORD	**Torodi Ar. Bea**	**76.85**	**69**		IAmb	IAmb	17 42 42.3	
	comp=Z,1.4nm,0.7s							
PDAR	**Pinedale Array**	**77.27**	**329**	P		P	17 42 45.4	+1.9
	comp=Z,0.4nm,0.4s,baz=132,slow=8.1,SNR=6.8							
ULM	**Lac du Bonnet**	**78.41**	**342**	P		**P**	**17 42 50.0**	**+0.8**
	comp=Z,2.2nm,0.5s,baz=154,slow=5.2,SNR=6.1							
NVAR	**Mina Array Bea**	**78.61**	**321**	P		P	17 42 53.1	+2.1
	comp=Z,0.5nm,0.6s,baz=152,slow=6.7,SNR=4.4							
KVN	**Kaiserville**	**78.93**	**322**	P		P	17 42 54.8	+2.1
KVN					IAmb	IAmb	17 42 55.6	
	comp=Z,2.0nm,0.7s							
YNE	**Yellowstone No**	**79.21**	**331**	P		P	17 42 56.3	+2.2
YNE					IAmb	IAmb	17 42 57.2	
	comp=Z,3.0nm,0.9s							
BOSA	**Boshof**	**80.80**	**117**	P		**P**	**17 43 03.5**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=154,slow=22,SNR=1.9							
YKA	**Yellowknife Ar**	**94.30**	**340**	P		**P**	**17 44 08.4**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=128,slow=5.2,SNR=17							
ASAR	**Alice Springs**	**128.14**	**205**	PKP		**PKiKP**	**17 49 55.3**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=136,slow=1.6,SNR=25							
WRA	**Warramunga Arr**	**131.31**	**207**	PKP		**PKiKP**	**17 50 01.8**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=163,slow=1.7,SNR=27							
PETK	**Petropavlovsk-**	**135.69**	**322**	PKP		**PKiKP**	**17 50 09.8**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=62,slow=3.7,SNR=4.4							
ZALV	**Zalesovo Beam**	**143.71**	**28**	PKP		**PKiKP**	**17 50 21.6**	**-4.0**
	comp=Z,2.6nm,0.5s,baz=292,slow=3.9,SNR=13							
MKAR	**Makanchi Array**	**146.85**	**40**	PKPbc		**PKPab**	**17 50 29.2**	**-2.4**
	comp=Z,3.6nm,0.6s,baz=298,slow=1.4,SNR=56							
MJAR	**Matsushiro Arr**	**154.96**	**305**	PKPab		**PKPab**	**17 51 06.7**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=97,slow=2.4,SNR=5.2							
SONM	**Songino Array**	**155.93**	**11**	PKP		**PKPdf**	**17 50 43.6**	**+2.0**
	comp=Z,0.3nm,0.8s,baz=114,slow=2.0,SNR=3.5							
SONM				PKPab		**PKPab**	**17 51 11.2**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=323,slow=4.3,SNR=5.6							

GUC 17 18:00:29.3±0.4, 23°05′S×66°97′W, h264km±20km, ML3.7, 5C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB15	**IPOC Station P**	**2.31**	**266**	*eP*		Pn	18 01 15.8	-0.1
PB15				*eS*		S	18 01 51.8	-1.1
PB06	**IPOC Station P**	**2.43**	**278**	*eP*		Pn	18 01 17.3	+0.3
PB06				*eS*		S	18 01 53.5	-1.3
PB06				IAML			18 01 56.8	
	comp=E,180nm,0.2s							
PB09	**IPOC Station P**	**2.45**	**300**	⇑*eP*		Pn	18 01 17.5	+0.2
PB09				IAML			18 01 58.0	
	comp=N,49nm,0.3s							
PB03	**IPOC Station P**	**2.76**	**291**	*eP*		Pn	18 01 20.5	+0.1
PB03				*eS*		S	18 01 59.2	-1.7
PB03				IAML			18 02 02.5	
	comp=E,148nm,0.2s							
PB05	**IPOC Station P**	**2.99**	**273**	⇑*iP*		Pn	18 01 23.0	+0.4
PB07	**IPOC Station P**	**3.00**	**295**	⇑*iP*		Pn	18 01 23.2	+0.3
PB07				*eS*		S	18 02 03.8	-1.6
PB04	**IPOC Station P**	**3.02**	**283**	*eP*		Pn	18 01 23.6	+0.6
PB01	**IPOC Station P**	**3.07**	**310**	*eP*		Pn	18 01 23.4	-0.2
GO02	**Mina Guanaco**	**3.19**	**228**	*eP*		Pn	18 01 24.8	-0.2
GO02				*eS*		S	18 02 08.0	-1.1
PB10	**IPOC Station P**	**3.33**	**261**	⇑*iP*		Pn	18 01 27.0	+0.8
PB08	**IPOC Station P**	**3.54**	**325**	⇑*iP*		Pn	18 01 29.2	+0.3
HMBC	**Humberstone**	**3.87**	**315**	*eP*		Pn	18 01 31.6	-0.9
HMBC				*eS*		S	18 02 20.2	-2.5
PSGC	**Pisagua**	**4.52**	**319**	*eP*		Pn	18 01 38.8	-1.2
MNMC	**Minye Minye**	**4.61**	**327**	*eP*		Pn	18 01 40.8	-0.4
GO03	**Copiap**	**5.40**	**212**	*eP*		Pn	18 01 48.5	-2.0

IDC 17 18:15:56.6±3.3, 7°01S×117°56E, h522km±33km, mb2.7/5, mb1 2.8/5, mb1mx2.5/44, mbtmp3.5/5, Error ellipse: s-maj=116.2km s-min=15.8km az=57.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**20.74**	**130**	P		P	18 20 00.8	-0.1
	0.6nm,0.5s,baz=311,slow=9.1,SNR=16							
ASAR	**Alice Springs**	**22.82**	**138**	P		P	18 20 19.4	-0.1
	0.2nm,0.4s,baz=315,slow=7.9,SNR=15							
ASAR					ScP	ScP	18 26 39.5	-0.6
	0.2nm,0.6s,baz=330,slow=3.0,SNR=6.2							
STKA	**Stephens Creek**	**33.38**	**141**	P		P	18 21 51.7	+0.1
	4.3nm,1.0s,baz=338,slow=13,SNR=2.1							
SONM	**Songino Array**	**55.50**	**351**	P		P	18 24 42.3	+0.3
	0.2nm,0.4s,baz=162,slow=6.1,SNR=2.3							
MKAR	**Makanchi Array**	**62.05**	**333**	P		P	18 25 25.9	-0.2
	0.4nm,0.5s,baz=153,slow=6.7,SNR=9.7							

*IDC **17** 18:19:22.4±2.2, 15°35S×174°21W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.6/38, mbtmp4.0/4, ML4.5/1, Error ellipse: s-maj=213.9km s-min=27.6km az=153.0*
*NEIC **17** 18:19:29.9±0.8, 15°48S±0°09×173°7W±0°2, h94km±19km, mb4.5/6, Error ellipse: s-maj=26.9km s-min=12.9km az=80.0*
ISC 17 18:19:29.9±0.9, 15°51S±0°07×173°52W±0°09, h100km, n13, σ1°903/15, mb4.1/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.32**	**47**	Pn		**Pn**	**18 20 07.9**	**+1.1**
	81nm,0.3s,baz=105,slow=0.8,SNR=76							
AFI				Sn		**Sn**	**18 20 34.7**	**-0.4**
	81nm,0.3s,baz=25,slow=21,SNR=9.4							
AFI	**Afiamalu**	**2.32**	**47**			**Pn**	**18 20 07.6**	**+0.8**
AFI					Sn	**Sn**	**18 20 33.7**	**-1.3**
NIUE	**Niue**	**4.93**	**136**			**Pn**	**18 20 43.5**	**+1.7**
NIUE					Sn	**Sn**	**18 21 35.7**	**-1.9**
STKA	**Stephens Creek**	**43.88**	**240**	P		**P**	**18 27 27.0**	**+0.3**
	1.3nm,0.8s,baz=99,slow=13,SNR=2.8							
STKA	**Stephens Creek**	**43.88**	**240**	P		**P**	**18 27 25.8**	**-0.9**
STKA					IAmb	IAmb	18 27 44.2	
	comp=Z,6.9nm,1.8s							
WB0	**Warramunga Arr**	**49.66**	**257**	P		**P**	**18 28 11.8**	**-0.2**
WB0					IAmb	IAmb	18 29 43.6	
	comp=Z,19nm,1.6s							
WB2	**Warramunga Arr**	**49.69**	**257**	P		**P**	**18 28 12.4**	**+0.3**
WB2					IAmb	IAmb	18 29 50.2	
	comp=Z,20nm,1.7s							
WRA	**Warramunga Arr**	**49.70**	**257**	P		**P**	**18 28 12.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=86,slow=7.0,SNR=6.9							
WRA	**Warramunga Arr**	**49.70**	**257**	IAmb		IAmb	18 28 21.9	
	comp=Z,0.2nm,0.5s							
AS31	**Alice Springs**	**49.96**	**252**	P		**P**	**18 28 13.8**	**-0.4**
AS31					IAmb	IAmb	18 29 38.4	
	comp=Z,2.1nm,1.4s							
ASAR	**Alice Springs**	**49.96**	**252**	P		**P**	**18 28 13.9**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=88,slow=7.8,SNR=78							
ASAR	**Alice Springs**	**49.96**	**252**	P		**P**	**18 28 13.2**	**-1.0**
NWAO	**Narrogin (SRO)**	**64.46**	**241**	P		**P**	**18 29 56.4**	**+0.2**

*IDC **17** 18:19:55.7±3.9, 44°33N×147°21E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.2/38, mbtmp3.4/4, ML3.4/1, MS3.6/1, Ms1 3.6/1, ms1mx2.3/31, Error ellipse: s-maj=144.6km s-min=32.9km az=162.0*
*JMA **17** 18:19:56.0±0.4, 44°57N×147°07E, h1km, M3.3*
*SKHL

IDC ***17*** *19:14:46.5±0.9,9.52N×126.22E,h0km,mb3.8/9, mb1 3.9/9,mb1mx3.7/41,mbtmp3.7/9,MS2.5/1,Ms1 2.5/1, ms1mx2.1/43,Error ellipse: s-maj=70.5km s-min=18.5km az=76.0*

MAN ***17*** *19:14:50.8,9.58N×126.40E,h6km,MS3.4*

NEIC ***17*** *19:14:53.8±1.6,9.45N±0.10×126.4E±0.2,h61km±11km, mb4.3/5,Error ellipse: s-maj=27.6km s-min=10.1km az=67.0*

ISC 17 19:14:48.9±2.7,9.52N±0.04×126.47E±0.07,h15km±16km, n33,σ1ş54/34,mb3.8/10,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.43**	**307**	*eP*			**Pb**	**19 14 59.2**	**+1.1**
GLSP				*eS*			**Sb**	**19 15 06.4**	**+1.9**
BUTP	**Butuan**	**1.00**	**237**	*eP*			**Pb**	**19 15 08.8**	**+0.9**
BUTP				*eS*			**Sn**	**19 15 23.2**	**+0.9**
MSLP	**Maasin**	**1.70**	**291**	*eP*			**Pn**	**19 15 19.5**	**+1.4**
MSLP				*eS*			**Sg**	**19 15 41.7**	**-2.0**
CGP	**Cagayan de Oro**	**2.05**	**239**	⇑*eP*			**Pn**	**19 15 24.9**	**+2.0**
CGP				*eS*			**Sb**	**19 15 50.4**	**-0.8**
BUKP	**Musuan**	**2.15**	**221**	*eP*			**Pn**	**19 15 26.0**	**+1.8**
BUKP				*eS*			**Sb**	**19 15 55.4**	**+1.4**
BESP	**Borongan**	**2.30**	**334**	*eP*			**Pn**	**19 15 27.0**	**+0.7**
BESP				*eS*			**Sb**	**19 15 59.7**	**+1.2**
OCLP	**Ormoc**	**2.38**	**310**	*eP*			**Pn**	**19 15 30.0**	**+2.6**
OCLP				*eS*			**Sn**	**19 15 53.2**	**-3.2**
LLP	**Lapu-Lapu**	**2.59**	**288**	*eP*			**Pn**	**19 15 33.1**	**+2.7**
LLP				*i* S			**Sb**	**19 16 05.8**	**-1.0**
KCP	**Kidapawan**	**2.85**	**209**	⇓*eP*			**Pb**	**19 15 38.8**	**-0.7**
CNOP	**Candoni, Negro**	**3.79**	**275**	*eP*			**Pn**	**19 15 48.5**	**+1.6**
MYLDM	**Lahad Datu**	**9.01**	**242**	Pn			**Pn**	**19 16 59.9**	**+1.4**
KAPI	**Kappang**	**15.92**	**205**	LR			LR	19 25 09.6	
	comp=Z,17nm,18.1s,baz=93,slow=39								
SAUI	**Saumlaki**	**18.04**	**164**	P			**Pn**	**19 18 57.1**	**-2.2**
SAUI				IAmb			IAmb	19 18 57.8	
	comp=Z,49nm,0.6s								
FITZ	**Fitzroy Crossi**	**27.46**	**182**	P			**P**	**19 20 35.1**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=5.9,slow=13,SNR=1.8								
FITZ	**Fitzroy Crossi**	**27.46**	**182**	P			**P**	**19 20 35.2**	**+0.7**
FITZ				IAmb			IAmb	19 20 50.8	
	comp=Z,11nm,1.4s								
WRA	**Warramunga Arr**	**30.29**	**165**	P			**P**	**19 21 00.1**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=349,slow=9.5,SNR=2.2								
ASAR	**Alice Springs**	**33.77**	**168**	P			**P**	**19 21 30.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=352,slow=7.5,SNR=5.0								
H11S3	**WAKE ISLAND Hy**	**39.95**	**73**	T			T	20 05 19.4	
	baz=250,SNR=12								
H11S1	**WAKE ISLAND Hy**	**39.96**	**73**	T			T	20 05 20.7	
	baz=250,SNR=10								
H11S2	**WAKE ISLAND Hy**	**39.96**	**73**	T			T	20 05 18.6	
	baz=250,SNR=14								
FORT	**Forrest**	**40.10**	**178**	P			**P**	**19 22 25.1**	**+1.1**
H11N1	**WAKE ISLAND Hy**	**40.31**	**71**	T			T	20 05 49.9	
	baz=265,slow=74,SNR=30								
H11N2	**WAKE ISLAND Hy**	**40.31**	**71**	T			T	20 05 53.0	
	baz=265,slow=74,SNR=30								
H11N3	**WAKE ISLAND Hy**	**40.32**	**71**	T			T	20 05 50.5	
	baz=265,slow=74,SNR=21								
SONM	**Songino Array**	**41.79**	**340**	P			**P**	**19 22 38.1**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=175,slow=7.2,SNR=1.6								
MK31	**Makanchi Array**	**52.74**	**323**	P			**P**	**19 24 02.1**	**-1.1**
MKAR	**Makanchi Array**	**52.74**	**323**	P			**P**	**19 24 02.3**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=123,slow=8.1,SNR=13								
MAKZ	**Makanchi**	**52.93**	**323**	P			**P**	**19 24 03.5**	**-1.1**
MAKZ				IAmb			IAmb	19 24 26.0	
	comp=Z,1.5nm,1.4s								
KKAR	**Karatay Array**	**58.92**	**315**	P			**P**	**19 24 46.6**	**-1.0**
TIXI	**Tiksi**	**62.09**	**1**	P			**P**	**19 25 09.0**	**+0.3**
	comp=Z,0.2nm,0.2s,baz=164,slow=5.1,SNR=4.4								
ARCES	**ARCESS Array B**	**84.96**	**340**	P			**P**	**19 27 22.0**	**-1.3**
	comp=Z,5.3nm,1.0s,baz=73,slow=9.5,SNR=4.4								
FINES	**FINESS Array B**	**86.64**	**332**	P			**P**	**19 27 30.4**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=74,slow=5.2,SNR=10								
YKA	**Yellowknife Ar**	**94.36**	**24**	P			**P**	**19 28 08.7**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=316,slow=1.9,SNR=4.0								

JMA ***17*** *19:33:03.6±0.2,23.17N×121.58E,h4km±3km,M3.5*

TAP ***17*** *19:33:05.9,23.22N×121.40E,h20km,ML4.0,B*

IDC ***17*** *19:33:09.3±4.5,23.24N×121.69E,h59km±46km,mb3.2/7, mb1 3.4/8,mb1mx3.1/49,mbtmp3.5/8,ML3.5/1,MS2.8/1, Ms1 3.0/1,ms1mx2.4/25,Error ellipse: s-maj=28.5km s-min=17.5km az=59.0*

ISC 17 19:33:04.5±0.8,23.18N±0.01×121.54E±0.02,h18km±5km, n165,σ1ş02/259,mb3.5/7,13C-21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.18**	**242**	⇑*iP*			**Pb**	**19 33 10.5**	**+1.3**
	baz=181								
CHKT				*i* S			**Sb**	**19 33 13.7**	**+1.4**
	baz=181								
FULB	**Fuli**	**0.22**	**274**	⇑*iP*			**Pg**	**19 33 10.1**	**+0.3**
	baz=257								
FULB				*i* S			**Sg**	**19 33 13.5**	**+0.1**
	baz=257								
EYUL	**Yuli**	**0.26**	**309**	⇑*iP*			**Pb**	**19 33 11.1**	**+0.4**
	baz=331								
EYUL				*eS*			**Sg**	**19 33 15.0**	**+0.7**
	baz=331								
TWF1	**Yuli**	**0.28**	**307**	⇓*iP*			**Pg**	**19 33 11.1**	**+0.4**
	baz=320								
TWF1				*i* S			**Sg**	**19 33 14.9**	**0.0**
	baz=320								
EDH	**Donghe**	**0.30**	**226**	⇓*iP*			**Pb**	**19 33 12.3**	**+0.9**
	baz=200								
EDH				*i* S			**Sb**	**19 33 16.9**	**+0.8**
	baz=200								
YULB	**Yu-li**	**0.30**	**313**	⇓*iP*			**Pg**	**19 33 11.5**	**+0.4**
	baz=321								
YULB				S			**Sg**	**19 33 15.5**	**-0.1**
	baz=321								
HGSD	**Ruisui**	**0.32**	**341**	⇑*iP*			**Pb**	**19 33 12.4**	**+0.6**
	baz=10.0								
HGSD				*eS*			**Sn**	**19 33 19.9**	**-0.8**
	baz=10.0								
EHY	**Hungye**	**0.38**	**328**	⇓*iP*			**Pb**	**19 33 12.7**	**-0.1**
	baz=333								
EHY				*eS*			**Sg**	**19 33 17.9**	**+0.2**
	baz=333								
LONT	**Longtian**	**0.47**	**234**	⇑*iP*			**Pg**	**19 33 14.3**	**+0.4**
	baz=229								
LONT				*eS*			**Sg**	**19 33 20.7**	**+0.4**
	baz=229								
ELDTW	**Lidau**	**0.48**	**271**	⇓*iP*			**Pg**	**19 33 13.3**	**-1.0**
	baz=265								
ELDTW				S			**Sg**	**19 33 18.1**	**-2.7**
	baz=265								
EGFH	**Guangfu**	**0.49**	**348**	*eP*			**Pb**	**19 33 15.1**	**+0.3**
	baz=349								
EGFH				*eS*			**Sb**	**19 33 22.4**	**+0.8**
	baz=349								
LDUT	**Ludao**	**0.51**	**187**	⇓*iP*			**Pn**	**19 33 16.2**	**-0.7**
	baz=170								
LDUT				S			**Sn**	**19 33 24.9**	**-0.4**
	baz=170								
TWGBT	**Beinan**	**0.56**	**229**	⇑*iP*			**Pg**	**19 33 15.6**	**-0.1**
	baz=228								
TWGBT				S			**Sg**	**19 33 22.1**	**-1.0**
	baz=228								
TTN	**Taitung**	**0.56**	**220**	*eP*			**Pb**	**19 33 16.7**	**+0.9**
	baz=220								
TTN				*eS*			**Sb**	**19 33 24.9**	**+1.4**
	baz=220								
TWG	**Pinlang**	**0.56**	**230**	⇑*iP*			**Pg**	**19 33 15.5**	**-0.2**
	baz=228								
TWG				S			**Sg**	**19 33 22.1**	**-1.1**
	baz=228								
YUS	**Yu-Shan**	**0.62**	**300**	⇓*iP*			**Pg**	**19 33 16.2**	**-0.8**
	baz=295								
YUS				*eS*			**Sg**	**19 33 23.5**	**-1.8**
	baz=295								
ESL	**Shilin**	**0.64**	**351**	⇑*eP*			**Pg**	**19 33 16.9**	**-0.1**
	baz=352								
ESL				*eS*			**Sb**	**19 33 25.5**	**-0.2**
	baz=352								
VWDT	**VWDT**	**0.67**	**327**	⇓*iP*			**Pb**	**19 33 17.5**	**-0.3**
	baz=336								
VWDT				S			**Sb**	**19 33 25.5**	**-1.3**
	baz=336								
STYH	**Taoyuan**	**0.70**	**269**	⇓*iP*			**Pb**	**19 33 17.3**	**-0.9**
	baz=260								
STYH				*eS*			**Sb**	**19 33 24.9**	**-2.7**
	baz=260								
STYT	**Tauyuan**	**0.72**	**269**	⇓*iP*			**Pb**	**19 33 17.6**	**-1.0**
	baz=265								
STYT				S			**Sb**	**19 33 25.5**	**-2.6**
	baz=265								
ALS	**Alishan**	**0.75**	**296**	⇓*iP*			**Pb**	**19 33 18.6**	**-0.6**
	baz=291								
ALS				*eS*			**Sb**	**19 33 27.3**	**-1.9**
	baz=291								
HWA	**Hwalien**	**0.79**	**4**	*eP*			**Pn**	**19 33 21.1**	**+0.3**
	baz=359								
HWA				*eS*			**Sn**	**19 33 32.4**	**+0.2**
	baz=359								
ECL	**Taimali**	**0.79**	**223**	⇑*iP*			**Pb**	**19 33 18.7**	**-1.1**
	baz=222								
ECL				*eS*			**Sb**	**19 33 28.6**	**-1.6**
	baz=222								
SSLB	**Suanglung**	**0.81**	**318**	⇓*iP*			**Pb**	**19 33 19.2**	**-0.9**
	baz=332								
SSLB				*eS*			**Sb**	**19 33 28.4**	**-2.2**
	baz=332								
WHYT	**Xinyi Township**	**0.81**	**309**	⇓*iP*			**Pb**	**19 33 19.9**	**-0.2**
	baz=322								
WHYT				*eS*			**Sb**	**19 33 29.1**	**-1.7**
	baz=322								
SLGT	**Liugui**	**0.84**	**257**	*i* P			**Pb**	**19 33 20.2**	**-0.4**
	baz=257								
SLGT				*eS*			**Sb**	**19 33 28.9**	**-2.7**
	baz=257								
TPUB	**Ta-pu**	**0.84**	**278**	⇓*iP*			**Pb**	**19 33 20.2**	**-0.5**
	baz=277								
TPUB				S			**Sb**	**19 33 30.2**	**-1.5**
	baz=277								
WTP	**Ta-pu**	**0.85**	**274**	⇓*iP*			**Pb**	**19 33 20.4**	**-0.4**
	baz=272								
WTP				S			**Sb**	**19 33 30.5**	**-1.5**
	baz=272								
CHN4	**Tsaushan**	**0.88**	**281**	⇓*iP*			**Pb**	**19 33 21.1**	**-0.3**
	baz=280								
CHN4				*eS*			**Sb**	**19 33 31.8**	**-1.1**
	baz=280								
SGST	**Jiashian**	**0.88**	**264**	*eP*			**Pb**	**19 33 20.0**	**-1.4**
	baz=258								
SGST				S			**Sb**	**19 33 30.5**	**-2.4**
	baz=258								
CHN5	**Tsauling**	**0.89**	**298**	⇓*iP*			**Pb**	**19 33 21.5**	**0.0**
	baz=299								
CHN5				S			**Sb**	**19 33 32.7**	**-0.5**
	baz=299								
TWD	**Chiawan**	**0.89**	**3**	*eP*			**Pn**	**19 33 21.9**	**-0.3**
	baz=355								
SMLT	**Sun Moon Lake**	**0.91**	**320**	⇓*iP*			**Pb**	**19 33 21.4**	**-0.5**
	baz=331								
SMLT				*eS*			**Sb**	**19 33 31.4**	**-2.3**
	baz=331								
CHN1	**Nanshi**	**0.93**	**270**	*eP*			**Pb**	**19 33 22.0**	**-0.1**
	baz=268								
CHN1				*eS*			**Sb**	**19 33 34.0**	**-0.2**
	baz=268								
SSD	**Sandimen**	**0.94**	**243**	⇑*iP*			**Pb**	**19 33 21.3**	**-1.0**
	baz=233								
SSD				*eS*			**Sb**	**19 33 32.4**	**-2.1**
	baz=233								
TSMG	**Majia**	**0.95**	**240**	*eP*			**Pb**	**19 33 21.2**	**-1.3**
	baz=231								
TSMG				*eS*			**Sb**	**19 33 32.8**	**-2.0**
	baz=231								
TYC	**Yuchr**	**0.95**	**319**	*eP*			**Pb**	**19 33 22.0**	**-0.5**
	baz=334								
TYC				*eS*			**Sb**	**19 33 35.2**	**+0.4**
	baz=334								
SNST	**Tainan City**	**0.96**	**272**	*eP*			**Pb**	**19 33 22.4**	**-0.2**
	baz=271								
SNST				*eS*			**Sb**	**19 33 34.9**	**-0.1**
	baz=271								
TWK	**Hsinying**	**0.97**	**275**	⇓*iP*			**Pb**	**19 33 22.5**	**-0.3**
	baz=274								
TWK				*eS*			**Sb**	**19 33 34.4**	**-1.0**
	baz=274								
WJS	**Zhushan**	**0.98**	**311**	*eP*			**Pn**	**19 33 23.5**	**+0.1**
	baz=322								
WJS				*eS*			**Sb**	**19 33 36.3**	**+0.8**
	baz=322								
WPL	**Puli Township**	**0.98**	**327**	*eP*			**Pb**	**19 33 22.6**	**-0.5**
	baz=341								
WPL				*eS*			**Sb**	**19 33 36.0**	**+0.3**
	baz=341								
NACB	**Ninganchiao**	**0.99**	**3**	P			**Pb**	**19 33 22.4**	**-0.7**
	baz=356								
WHF	**Hehuan Shan**	**0.99**	**345**	*eP*			**Pb**	**19 33 22.6**	**-0.8**
	baz=3.0								
WHF				*eS*			**Sb**	**19 33 35.1**	**-1.2**
	baz=3.0								
SCST	**Cishan**	**1.01**	**253**	*eP*			**Pb**	**19 33 23.7**	**+0.3**
	baz=250								
SCST				*eS*			**Sn**	**19 33 38.3**	**+0.8**
	baz=250								
MASBT	**Mashibuluo**	**1.01**	**236**	⇑*eP*			**Pb**	**19 33 22.6**	**-0.9**
	baz=230								
MASBT				*eS*			**Sb**	**19 33 35.0**	**-1.5**
	baz=230								
TAW	**Tawu**	**1.01**	**216**	*eP*			**Pb**	**19 33 21.4**	**-2.1**
	baz=217								
TAW				*eS*			**Sb**	**19 33 34.9**	**-1.6**
	baz=217								
DPDB	**Guoxing**	**1.01**	**327**	*eP*			**Pb**	**19 33 23.5**	**-0.1**
	baz=337								
EAST	**Anshuo**	**1.02**	**219**	*i* P			**Pb**	**19 33 22.5**	**-1.2**
	baz=213								
EAST				*eS*			**Sb**	**19 33 35.9**	**-0.9**
	baz=213								
ETLH	**Xiulin Townshi**	**1.02**	**357**	*eP*			**Pb**	**19 33 23.0**	**-0.7**
	baz=3.0								
ETLH				*eS*			**Sb**	**19 33 36.5**	**-0.4**
	baz=3.0								
WGK	**Gukeng**	**1.03**	**299**	⇑*iP*			**Pn**	**19 33 24.2**	**+0.2**
	baz=301								
CHN2	**Minshiung**	**1.04**	**290**	*eP*			**Pb**	**19 33 24.2**	**+0.3**
	baz=290								
CHN2				*eS*			**Sb**	**19 33 36.5**	**-0.7**
	baz=290								
WCS	**Beigang Elemen**	**1.04**	**327**	*eP*			**Pb**	**19 33 23.8**	**-0.3**
	baz=339								
WCS				*eS*			**Sb**	**19 33 38.0**	**+0.6**
	baz=339								
WNT	**Mingjian**	**1.04**	**312**	*eP*			**Pn**	**19 33 24.4**	**+0.1**
	baz=314								
WNT				*eS*			**Sb**	**19 33 38.3**	**+0.8**
	baz=314								
WDLH	**Douliu**	**1.05**	**299**	*eP*			**Pn**	**19 33 24.8**	**+0.4**
	baz=300								
WDLH				*eS*			**Sn**	**19 33 39.0**	**+0.5**
	baz=300								
WNT1	**Nantou City**	**1.07**	**313**	*eP*			**Pn**	**19 33 25.1**	**+0.5**
	baz=315								
WNT1				*eS*			**Sb**	**19 33 38.8**	**+0.7**
	baz=315								
CHY	**Chiayi**	**1.07**	**287**	⇓*iP*			**Pb**	**19 33 24.7**	**+0.2**
	baz=288								
CHY				*eS*			**Sb**	**19 33 38.7**	**+0.5**
	baz=288								
CHN3	**Shinhua**	**1.08**	**265**	⇑*iP*			**Pg**	**19 33 26.2**	**+0.7**
	baz=270								
CHN3				*eS*			**Sg**	**19 33 40.9**	**+1.1**
	baz=270								
TSPT	**Pingtung City**	**1.08**	**242**	*eP*			**Pb**	**19 33 25.3**	**+0.6**
	baz=238								
TWM1	**Shoushan**	**1.09**	**251**	*eP*			**Pg**	**19 33 25.9**	**+0.3**
	baz=249								
FUSS	**Fushou**	**1.09**	**346**	*eP*			**Pb**	**19 33 24.6**	**-0.4**
	baz=359								
TWT	**Tachien**	**1.11**	**343**	*eP*			**Pb**	**19 33 25.1**	**-0.3**
	baz=347								
TWT				*eS*			**Sb**	**19 33 38.0**	**-1.7**
	baz=347								
TDCB	**Techi**	**1.12**	**342**	*eP*			**Pn**	**19 33 25.2**	**-0.3**
	baz=345								
SSPT	**Xinbi**	**1.13**	**232**	*eP*			**Pn**	**19 33 25.5**	**0.0**
	baz=223								
SSPT				*eS*			**Sb**	**19 33 40.1**	**+0.1**
	baz=223								
LAY	**Lan-yu**	**1.14**	**179**	⇓*iP*			**Pn**	**19 33 25.1**	**-0.5**
	baz=159								
LAY				*eS*			**Sg**	**19 33 41.8**	**+0.3**
	baz=159								
WWF	**Wufeng**	**1.15**	**318**	*eP*			**Pg**	**19 33 26.6**	**-0.2**
	baz=321								
WWF				*eS*			**Sn**	**19 33 41.7**	**+0.6**
	baz=321								
WTK	**Tuku**	**1.17**	**296**	*eP*			**Pb**	**19 33 26.6**	**+0.4**
	baz=297								
WTK				*eS*			**Sb**	**19 33 41.3**	**+0.3**
	baz=297								
ICHU	**Yijhu**	**1.17**	**279**	*eP*			**Pb**	**19 33 26.6**	**+0.3**
	baz=278								
ICHU				*eS*			**Sb**	**19 33 41.4**	**+0.3**
	baz=278								
SCZT	**Fangliau**	**1.17**	**227**	*eP*			**Pn**	**19 33 25.5**	**-0.5**
	baz=219								
SCZT				*eS*			**Sb**	**19 33 40.1**	**-1.0**
	baz=219								
SLIU	**Shizi**	**1.18**	**215**	*eP*			**Pn**	**19 33 25.2**	**-1.0**
	baz=200								
SLIU				*eS*			**Sb**	**19 33 41.3**	**-0.1**
	baz=200								
SNJT	**Kaohsiung City**	**1.19**	**249**	*eP*			**Pg**	**19 33 28.2**	**+0.7**
	baz=248								
SNJT				*eS*			**Sg**	**19 33 45.6**	**+2.6**
	baz=248								
WHP	**Taichung City**	**1.22**	**334**	*eP*			**Pg**	**19 33 28.2**	**+0.1**
	baz=343								
WHP				*eS*			**Sb**	**19 33 41.7**	**-0.8**
	baz=343								
CHN8	**Yiju**	**1.23**	**278**	P			**Pn**	**19 33 27.3**	**+0.5**
	baz=277								
CHN8				*eS*			**Sb**	**19 33 43.4**	**+0.6**
	baz=277								
SCLT	**Jiali**	**1.24**	**270**	*eP*			**Pn**	**19 33 27.4**	**+0.5**
	baz=269								
SCLT				*eS*			**Sn**	**19 33 44.3**	**+1.2**
	baz=269								
TCU	**Taichung**	**1.24**	**321**	*eP*			**Pg**	**19 33 28.2**	**-0.3**
	baz=323								
TCU				*eS*			**Sn**	**19 33 44.2**	**+0.9**
	baz=323								
NNSB	**Datong**	**1.25**	**354**	*eP*			**Pn**	**19 33 26.9**	**-0.3**
	baz=8.0								
NNSB				*eS*			**Sb**	**19 33 42.4**	**-1.0**
	baz=8.0								
NNSH	**Datong**	**1.25**	**354**	*eP*			**Pb**	**19 33 27.5**	**-0.1**
	baz=7.0								
NNSH				*eS*			**Sb**	**19 33 42.2**	**-1.2**
	baz=7.0								
ENA	**Nanau**	**1.25**	**9**	P			**Pb**	**19 33 27.2**	**-0.4**
	baz=360								
ENA				*eS*			**Sg**	**19 33 43.8**	**-1.4**
	baz=360								
NNS	**Nan Shan**	**1.26**	**353**	*eP*			**Pb**	**19 33 27.4**	**-0.5**
	baz=8.0								
WCHH	**Zhanghua**	**1.27**	**315**	P			**Pb**	**19 33 28.2**	**+0.3**
	baz=317								
WCHH				*eS*			**Sb**	**19 33 44.7**	**+0.9**
	baz=317								
WRL	**Guolierlin Hig**	**1.28**	**304**	*eS*			**Sn**	**19 33 43.9**	**-0.4**
	baz=305								
KAU	**Kaohsiung**	**1.29**	**242**	*eP*			**Pg**	**19 33 30.0**	**+0.6**
	baz=241								
WSF	**Szhu**	**1.29**	**291**	P			**Pn**	**19 33 27.9**	**+0.2**
	baz=291								
WSF				S			**Sn**	**19 33 44.1**	**-0.4**
	baz=291								
WTCT	**Ta-ch'eng**	**1.34**	**301**	*eS*			**Sn**	**19 33 45.5**	**-0.2**
	baz=302								
WLCH	**Liuqiu**	**1.35**	**232**	*eP*			**Pg**	**19 33 31.4**	**+0.7**
	baz=214								
TWQ1	**Liyutan**	**1.35**	**329**	*eP*			**Pb**	**19 33 30.0**	**+0.6**
	baz=332								
TWQ1				*eS*			**Sg**	**19 33 47.9**	**-0.5**
	baz=332								
TWP	**Hsiaoliuchiu**	**1.37**	**233**	*eP*			**Pg**	**19 33 31.4**	**+0.5**
	baz=214								
HEN	**Hengchun**	**1.39**	**212**	*eP*			**Pn**	**19 33 29.4**	**+0.4**
	baz=202								
TSEB	**Hengchuen, Pin**	**1.41**	**205**	*eP*			**Pn**	**19 33 29.6**	**+0.3**
	baz=185								
TWKBT	**Hengchun**	**1.41**	**209**	*eP*			**Pn**	**19 33 28.6**	**-0.7**
	baz=191								
TWKBT				*eS*			**Sn**	**19 33 47.2**	**-0.2**
	baz=191								
TWK1	**Hengchun**	**1.41**	**209**	*eP*			**Pn**	**19 33 29.7**	**+0.4**
	baz=191								
NDT	**Datong Townshi**	**1.41**	**359**	*eP*			**Pg**	**19 33 31.0**	**-0.8**
NSY	**Sanyi**	**1.42**	**330**	*eP*			**Pg**	**19 33 31.3**	**-0.5**
	baz=333								
NSY				*eS*			**Sg**	**19 33 50.0**	**-0.4**
	baz=333								
WDJ	**Dajia District**	**1.42**	**325**	*eP*			**Pb**	**19 33 30.9**	**+0.3**
	baz=327								
WDJ				*eS*			**Sb**	**19 33 49.5**	**+1.2**
	baz=327								
TWC	**Suao**	**1.45**	**11**	*eP*			**Pb**	**19 33 31.1**	**+0.1**
	baz=2.0								
TWC				*eS*			**Sg**	**19 33 49.6**	**-1.7**
	baz=2.0								
ENTT	**Nioudou**	**1.45**	**1**	*eP*			**Pg**	**19 33 31.5**	**-1.0**
	baz=2.0								
NDS	**Dongshan**	**1.45**	**6**	*eP*			**Pb**	**19 33 31.4**	**+0.3**
	baz=9.0								
NDS				*eS*			**Sn**	**19 33 47.0**	**-1.5**
	baz=9.0								
YHNB	**Yeheng**	**1.49**	**354**	*eP*			**Pb**	**19 33 31.4**	**-0.3**
	baz=10.0								
YHNB				*eS*			**Sn**	**19 33 49.3**	**-0.2**
	baz=10.0								
NSK	**Sanguang**	**1.50**	**354**	*eP*			**Pb**	**19 33 31.5**	**-0.3**
	baz=10.0								
NSK				*eS*			**Sn**	**19 33 49.1**	**-0.6**
	baz=10.0								
NMLH	**Miaoli**	**1.51**	**333**	*eP*			**Pb**	**19 33 32.7**	**+0.7**
	baz=350								
NMLH				*eS*			**Sb**	**19 33 51.7**	**+0.8**
	baz=350								
NSTT	**Nanjuang**	**1.52**	**341**	*eP*			**Pb**	**19 33 32.0**	**-0.2**
	baz=343								
NSTT				*eS*			**Sg**	**19 33 52.9**	**-0.8**
	baz=343								
TWE	**Neicheng**	**1.54**	**4**	*eP*			**Pn**	**19 33 31.3**	**+0.2**
	baz=7.0								
TWE				*eS*			**Sb**	**19 33 51.4**	**-0.2**
	baz=7.0								
NWLT	**Wulai**	**1.59**	**359**	*eP*			**

baz=6.0
TWS1 Kuangyinshan 1.91 357 *e*P **Pb 19 33 38.8 -0.1**
baz=12
TWS1 *e*S **Sb 19 34 02.5 0.0**
baz=12
VCHM Qimei 1.94 271 *e*P **Pn 19 33 35.7 -0.9**
baz=271
YM01 YM01 1.95 1 *e*P **Pn 19 33 37.7 +0.9**
baz=360
YM04 YM04 1.96 360 *e*P **Pn 19 33 37.5 +0.5**
baz=15
YM10 YM10 1.96 1 *e*P **Pn 19 33 37.3 +0.3**
baz=359
YM05 YM05 1.97 1 *e*P **Pn 19 33 38.1 +1.0**
baz=359
NTST Danshui 1.97 358 *e*P **Pb 19 33 39.8 -0.2**
baz=13
YM11 YM11 1.97 1 *e*P **Pb 19 33 39.9 -0.1**
baz=360
YM08 YM08 2.00 1 *e*P **Pn 19 33 37.9 +0.4**
TWY Chenhua 2.08 2 *e*P **Pn 19 33 38.7 +0.1**
HATJ Hateruma jima 2.25 67 S **Sb 19 34 10.0 -2.3**
IRIF Iriomote-Funau 2.31 60 P **Pb 19 33 43.7 -2.0**
IRIF S **Sb 19 34 11.7 -2.3**
JKRS Kuro-shima 2.50 65 P **Pb 19 33 46.4 -2.5**
JKRS S **Sb 19 34 16.6 -2.7**
VWUC VWUC 2.62 314 *e*P **Pn 19 33 45.5 -0.6**
baz=313
JIJ Ishigaki jima 2.66 63 P **Pn 19 33 48.2 +1.7**
JIJ S **Sn 19 34 19.4 +1.0**
PTMZ Houxiangcun 2.88 310 *e*P **Pn 19 33 49.5 0.0**
baz=310
JISG Ishigakijimahi 2.90 61 P **Pn 19 33 51.2 +1.4**
JISG S **Sn 19 34 25.4 +1.2**
KNM Kinmen 3.10 294 *e*P **Pn 19 33 53.5 +1.0**
baz=293
KNMB Chin-men Tao 3.15 294 *e*P **Pn 19 33 52.5 -0.9**
baz=294
JTJ Tarama 3.24 63 P **Pn 19 33 56.5 +2.0**
JTJ S **Sn 19 34 35.1 +2.5**
MATB Ma-tsu 3.29 334 *e*P **Pn 19 33 55.0 -0.2**
baz=333
MSUT Lienchiang 3.31 334 *e*P **Pn 19 33 56.5 +1.0**
baz=333
ZPLA Ao Xicun 3.55 283 *e*P **Pn 19 33 57.8 -1.1**
baz=283
AXDP Jialang 3.68 298 *e*P **Pn 19 33 59.8 -0.8**
baz=298
MHZQ Yeshan 3.69 322 *e*P **Pn 19 34 00.8 0.0**
baz=322
JIRB Irabujima 3.71 63 P **Pn 19 34 02.7 +1.8**
JIRB S **Sn 19 34 45.9 +1.7**
LYJJ Jianjiangzhen 3.72 335 *e*P **Pn 19 34 01.6 +0.5**
baz=333
JMJ2 Miyako jima3 3.80 65 P **Pn 19 34 04.6 +2.4**
JMJ2 S **Sn 19 34 48.7 +2.3**
JIKM Ikemajima 3.81 62 P **Pn 19 34 03.9 +1.6**
JIKM S **Sn 19 34 48.0 +1.3**
XPSS Dashiqiu 3.92 342 *e*P **Pn 19 34 03.2 -0.7**
baz=340
JOW Kunigami 7.11 58 P **Pn 19 34 48.9 +1.2**
2.1nm,0.3s,baz=140,slow=16,SNR=1.8
JOW S **Sn 19 36 07.0 -1.0**
1.3nm,0.3s,baz=121,slow=25,SNR=1.3
KSRS Korea Array 15.25 20 P **P 19 36 43.8 +0.1**
0.1nm,0.3s,baz=196,slow=11,SNR=3.2
CMAR Chiang Mai Arr 21.63 262 P **P 19 37 56.7 +2.7**
0.3nm,0.4s,baz=70,slow=7.8,SNR=1.7
CMAR LR LR 19 48 04.1
comp=Z,23nm,19.7s,baz=184,slow=41
SONM Songino Array 27.41 338 P **P 19 38 49.5 +0.3**
0.3nm,0.9s,baz=168,slow=7.4,SNR=2.3
MKAR Makanchi Array 39.28 317 P **P 19 40 32.1 -0.2**
0.2nm,0.4s,baz=104,slow=8.9,SNR=7.7
ZALV Zalesovo Beam 41.26 328 P **P 19 40 49.1 +0.6**
0.4nm,0.3s,baz=120,slow=5.8,SNR=3.9
H11N1 WAKE ISLAND Hy 42.23 86 T T 20 26 14.0
baz=283,slow=75,SNR=26
H11N2 WAKE ISLAND Hy 42.23 86 T T 20 26 16.7
baz=283,slow=75,SNR=45
H11N3 WAKE ISLAND Hy 42.24 86 T T 20 26 17.8
baz=283,slow=75,SNR=32
H11S3 WAKE ISLAND Hy 42.34 88 T T 20 26 14.3
baz=284,slow=75,SNR=49
H11S1 WAKE ISLAND Hy 42.34 88 T T 20 26 15.0
baz=284,slow=75,SNR=31
H11S2 WAKE ISLAND Hy 42.35 88 T T 20 26 16.7
baz=284,slow=75,SNR=42
WRA Warramunga Arr 44.65 163 P **P 19 41 15.3 -1.0**
0.5nm,0.7s,baz=344,slow=8.9,SNR=12
ASAR Alice Springs 48.09 165 P **P 19 41 44.1 +0.7**
0.2nm,0.3s,baz=342,slow=7.3,SNR=5.7
ASAR PcP **PcP 19 43 10.7 -0.3**
0.2nm,0.5s,baz=354,slow=4.7,SNR=1.7
FINES FINESS Array B 72.47 330 P **P 19 44 29.1 -0.6**
1.0nm,0.8s,baz=100,slow=5.9,SNR=1.9

MOS ***17*** *19:37:51.3±0.9, 7.40S×156.07E, h26km, mb5.0/24, Error ellipse: s-maj=9.3km s-min=6.8km az=123.6*
NEIC ***17*** *19:37:52.3±1.9, 7.49S±0.06×156.19E±0.06, h26km±4km, mb5.0/77, Error ellipse: s-maj=10.0km s-min=6.2km az=139.0*
IDC ***17*** *19:37:53.3±0.8, 7.44S×156.14E, h26km±4km, mb4.3/22, mb1 4.3/24, mb1mx4.2/41, mbtmp4.4/24, ML4.1/2, MS3.8/10, Ms1 3.8/10, ms1mx3.5/40, Error ellipse: s-maj=17.4km s-min=12.4km az=109.0*
BJI ***17*** *19:38:00.6±0.0, 6.99S×155.66E, h73km, mB5.0/34, mb4.8/56, Ms4.5/9, Ms7 4.2/8*
DJA ***17*** *19:38:02.8±0.6, 9.3S×156.15E±, h140km±11km, M4.7/8, mB5.3/3, mb5.0/8, MLv4.5/1, Mw(mB)4.7/3*
ISC 17 19:37:52.3±0.6, 7.48S±0.05×156.22E±0.05, h25km±4km, h25km:pP-P,n279,σ1ᵍ14/274, mb5.0/103, MS3.9/12, 8C-2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
HNR	**Honiara**	**4.17**	**118**	Pn	**Pn**	**19 38 58.2**	**+3.9**
	40nm,0.3s,baz=208,slow=0.6,SNR=11						
HNR				Sn	**Sb**	**19 39 52.2**	**-2.7**
	33nm,0.3s,baz=207,slow=22,SNR=1.1						
HNR	**Honiara**	**4.17**	**118**	P	**Pn**	**19 38 57.5**	**+3.1**
HNR	**Honiara**	**4.17**	**118**		**Pn**	**19 38 54.6**	**+0.3**
RABL	**Rabaul**	**5.19**	**309**		**Pn**	**19 39 08.6**	**+0.1**
PMG	**Port Moresby**	**9.16**	**257**	Pn	Pn	19 40 07.8	+4.8
	1.2nm,0.3s,baz=29,slow=6.1,SNR=8.9						
PMG				Sn	**Sn**	**19 41 47.5**	**+2.2**
	baz=238,slow=19,SNR=1.6						
PMG				LR	LR	19 43 22.9	
	comp=Z,787nm,20.6s,baz=72,slow=36						
PMG	**Port Moresby**	**9.16**	**257**	P	**Pn**	**19 40 02.1**	**-0.9**
PMG	**Port Moresby**	**9.16**	**257**		**Pn**	**19 40 02.0**	**-0.9**
COEN	**Coen**	**14.33**	**242**	Pn	**Pn**	**19 41 10.3**	**-3.5**
PATS	**Pohnpei**	**14.38**	**8**	Pn	**Pn**	**19 41 14.2**	**-0.2**
CTA	**Charters Tower**	**15.82**	**217**	Pn	**Pn**	**19 41 34.9**	**+1.4**
	0.2nm,0.3s,baz=28,slow=14,SNR=2.6						
CTAO	**Charters Tower**	**15.82**	**217**	P	**Pn**	**19 41 32.9**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,63nm,1.7s						
CTAO	**Charters Tower**	**15.82**	**217**	Pn	**Pn**	**19 41 32.9**	**-0.6**
DZM	**Mont Dzumac**	**17.54**	**147**	*e*S	**Sn**	**19 45 07.8**	**-2.3**
	comp=Z,125nm,22.6s						
DZM				*e*LR	LR	19 46 00.7	
	comp=Z,368nm,24.7s						
DZM	**Mont Dzumac**	**17.54**	**147**	P	P	19 42 06.5	+10
	comp=Z,0.5nm,0.3s,baz=109,slow=5.6,SNR=4.5						
DZM	**Mont Dzumac**	**17.54**	**147**		**P**	**19 41 56.5**	**+0.2**
EIDS	**Eidsvold**	**18.45**	**195**		**Pn**	**19 42 06.5**	**+0.1**
FAKI	**Fak Fak**	**24.29**	**280**	P	**P**	**19 43 08.5**	**+0.5**
WR0	**Warramunga Arr**	**24.40**	**237**	P	**P**	**19 43 10.1**	**+1.2**
WB0	**Warramunga Arr**	**24.43**	**238**	P	**P**	**19 43 10.1**	**+0.8**
WB0				IAmb	IAmb	19 43 19.7	
	comp=Z,62nm,1.2s						
WRAB	**Tennant Creek**	**24.54**	**238**	P	**P**	**19 43 10.8**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,41nm,1.0s						
WRAB	**Tennant Creek**	**24.54**	**238**	P	**P**	**19 43 10.8**	**+0.5**
WRAB				IAmb	IAmb	19 43 20.7	
	comp=Z,41nm,1.0s						
WB2	**Warramunga Arr**	**24.55**	**237**	P	**P**	**19 43 11.5**	**+1.2**
WB2				IAmb	IAmb	19 43 20.8	
	comp=Z,40nm,1.0s						
WRA	**Warramunga Arr**	**24.56**	**238**	P	**P**	**19 43 11.2**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=62,slow=9.4,SNR=37						
WRA				pP	**pP**	**19 43 17.6**	**+0.1**
	comp=Z,26nm,0.9s,baz=63,slow=9.6,SNR=28						
WRA				PcP	**PcP**	**19 46 48.9**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=58,slow=2.4,SNR=6.7						
WRA				LR	LR	19 52 38.1	
	comp=Z,412nm,18.6s,baz=55,slow=36						
WRA	**Warramunga Arr**	**24.56**	**238**	P	**P**	**19 43 10.6**	**+0.2**
WRA					**PcP**	**19 46 49.0**	**+0.6**
SAUI	**Saumlaki**	**24.69**	**267**	P	**P**	**19 43 12.8**	**+1.2**
SIJI	**Sorong**	**25.72**	**284**	LR	LR	19 55 10.4	
	comp=Z,173nm,19.8s,baz=181,slow=40						
AS31	**Alice Springs**	**26.78**	**231**	P	**P**	**19 43 29.1**	**-1.4**
ASAR	**Alice Springs**	**26.78**	**231**	P	**P**	**19 43 30.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=64,slow=9.0,SNR=14						
ASAR				pP	**pP**	**19 43 39.0**	**+1.3**
	comp=Z,5.5nm,0.9s,baz=63,slow=9.2,SNR=21						
ASAR				PcP	**PcP**	**19 46 54.1**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=67,slow=2.3,SNR=6.0						
ASAR				LR	LR	19 54 04.4	
	comp=Z,278nm,18.2s,baz=83,slow=36						
ASAR	**Alice Springs**	**26.78**	**231**	P	**P**	**19 43 29.8**	**-0.7**
ASAR						19 46 53.7	
ASAR	**Alice Springs**	**26.78**	**231**	P	**P**	**19 43 29.8**	**-0.7**
ASAR					**PcP**	**19 46 53.7**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**27.80**	**22**	T	T	20 12 00.9	
	baz=202,slow=75,SNR=142						
H11S2	**WAKE ISLAND Hy**	**27.81**	**22**	T	T	20 12 04.0	
	baz=202,slow=75,SNR=150						
H11S1	**WAKE ISLAND Hy**	**27.82**	**22**	T	T	20 11 58.6	
	baz=202,slow=75,SNR=97						
STKA	**Stephens Creek**	**27.84**	**207**	P	**P**	**19 43 42.2**	**+2.4**
	comp=Z,3.9nm,1.0s,baz=42,slow=12,SNR=3.0						
STKA				LR	LR	19 54 50.7	
	comp=Z,351nm,18.3s,baz=19,slow=37						
STKA	**Stephens Creek**	**27.84**	**207**	P	**P**	**19 43 39.4**	**-0.5**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
STKA	**Stephens Creek**	**27.84**	**207**	P	**P**	**19 43 39.4**	**-0.5**
H11N1	**WAKE ISLAND Hy**	**29.00**	**21**	T	T	20 13 34.2	
	baz=202,slow=76,SNR=32						
H11N3	**WAKE ISLAND Hy**	**29.01**	**21**	T	T	20 13 27.5	
	baz=202,slow=76,SNR=41						
H11N2	**WAKE ISLAND Hy**	**29.02**	**21**	T	T	20 13 29.2	
	baz=202,slow=76,SNR=20						
SANI	**Sanana**	**30.59**	**279**	P	P	19 44 09.7	+5.2
FITZ	**Fitzroy Crossi**	**31.57**	**248**	P	**P**	**19 44 13.5**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=77,slow=9.9,SNR=7.2						
FITZ				pP	**sP**	**19 44 22.3**	**-1.0**
	comp=Z,14nm,0.7s,baz=74,slow=7.0,SNR=11						
FITZ				PcP	**PcP**	**19 47 05.8**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=138,slow=3.1,SNR=3.5						
FITZ				LR	LR	19 56 58.0	
	comp=Z,150nm,18.2s,baz=124,slow=36						
FITZ	**Fitzroy Crossi**	**31.57**	**248**	P	**P**	**19 44 13.5**	**+0.3**
FITZ				IAmb	IAmb	19 44 24.5	
	comp=Z,13nm,0.8s						
SOEI	**Soe**	**31.66**	**264**	P	**P**	**19 44 15.3**	**+1.2**
SOEI				IAmb	IAmb	19 44 31.6	
	comp=Z,12nm,0.8s						
BATI	**Baumata**	**32.27**	**263**	LR	LR	19 59 33.7	
	comp=Z,378nm,18.5s,baz=110,slow=40						
KMSI	**Cibinong**	**33.13**	**283**	P	**P**	**19 44 31.0**	**+4.1**
	comp=Z,1μmcomp=Z,131nm,0.6s						
MMRI	**Maumere**	**33.66**	**266**	P	**P**	**19 44 30.4**	**-1.0**
MMRI				IAmb	IAmb	19 44 41.0	
	comp=Z,32nm,1.0s						
MMRI	**Maumere**	**33.66**	**266**	P	**P**	**19 44 29.3**	**-2.2**
	comp=Z,40nm,0.9s						
LUWI	**Luwuk**	**33.94**	**279**	P	**P**	**19 44 34.5**	**+0.5**
LUWI	**Luwuk**	**33.94**	**279**	P	**P**	**19 44 36.2**	**+2.3**
	comp=Z,41nm,1.1s						
EDFI	**Ende, Flores**	**34.20**	**265**	P	**P**	**19 44 34.6**	**-1.7**
	comp=Z,14nm,0.8s						
APSI	**Ampana**	**35.07**	**279**	P	**P**	**19 44 45.2**	**+1.5**
	comp=Z,393nmcomp=Z,29nm,1.0s						
FORT	**Forrest**	**35.08**	**225**	P	**P**	**19 44 43.3**	**-0.4**
FORT				IAmb	IAmb	19 44 53.4	
	comp=Z,26nm,0.8s						
MRSI	**Marisa**	**35.09**	**282**	P	**P**	**19 44 46.5**	**+2.7**
BSSI	**Bau Bau, Buton**	**35.49**	**270**	P	P	19 44 57.7	+10
KAPI	**Kappang**	**36.32**	**272**	P	**P**	**19 44 54.7**	**+0.2**
	comp=Z,32nm,0.3s,baz=149,slow=12,SNR=3.5						
KAPI	**Kappang**	**36.32**	**272**	P	**P**	**19 44 53.0**	**-1.5**
KAPI				pmax	pmax		
	comp=Z,14nm,0.8s						
KAPI	**Kappang**	**36.32**	**272**	P	**P**	**19 44 53.0**	**-1.5**
KAPI				IAmb	IAmb	19 45 02.4	
	comp=Z,14nm,0.8s						
TOLI2	**Tolitoli**	**36.36**	**282**	P	**P**	**19 44 53.7**	**-1.1**
TOLI2				IAmb	IAmb	19 45 00.2	
	comp=Z,12nm,0.6s						
SPSI	**Sidrap Palu**	**36.42**	**273**	P	**P**	**19 44 58.4**	**+3.1**
TTSI	**Tana Toraja**	**36.50**	**275**	P	**P**	**19 44 58.9**	**+2.9**
THZ	**Tophouse**	**37.21**	**159**	P	**P**	**19 45 02.6**	**+0.9**
MYLDM	**Lahad Datu**	**39.68**	**287**	P	**P**	**19 45 22.3**	**-0.5**
BBKI	**Banjar Baru**	**41.37**	**273**	P	**P**	**19 45 37.8**	**+1.0**
KKM	**Kota Kinabalu**	**42.11**	**288**	P	**P**	**19 45 41.5**	**-1.4**
KKM				IAmb	IAmb	19 45 47.9	
	comp=Z,15nm,0.7s						
SBUM	**Sibu**	**44.99**	**281**	P	**P**	**19 46 05.8**	**-0.3**
YULB	**Yu-li**	**45.90**	**313**	P	**P**	**19 46 12.8**	**-0.3**
YULB				IAmb	IAmb	19 46 18.4	
	comp=Z,11nm,0.8s						
JSU	**Suzuyama**	**45.93**	**329**	P	**P**	**19 46 12.4**	**-0.9**
JYT	**Yasato**	**46.01**	**342**	P	**P**	**19 46 13.6**	**-0.2**
JMN	**Monobe**	**46.14**	**334**	P	**P**	**19 46 15.6**	**+0.7**
INU	**Inuyama**	**46.29**	**338**	P	**P**	**19 46 14.7**	**-1.2**
SSLB	**Suanglung**	**46.39**	**313**	P	**P**	**19 46 16.1**	**-0.9**
SSLB				IAmb	IAmb	19 46 21.9	
	comp=Z,11nm,0.8s						
JGF	**Kuroka**	**46.39**	**339**	P	**P**	**19 46 15.5**	**-1.4**
JGF				IAmb	IAmb	19 46 18.8	
	comp=Z,28nm,1.6s						
YHNB	**Yeheng**	**46.63**	**314**	P	**P**	**19 46 20.0**	**+1.1**
YHNB				IAmb	IAmb	19 46 26.0	
	comp=Z,21nm,1.1s						
KSM	**Kuching**	**46.65**	**279**	P	**P**	**19 46 18.9**	**-0.4**
KSM				IAmb	IAmb	19 46 24.4	
	comp=Z,14nm,0.7s						
JWT	**Wachi**	**46.85**	**337**	P	**P**	**19 46 20.4**	**0.0**
JWT				IAmb	IAmb	19 46 21.5	
	comp=Z,18nm,0.8s						
MJAR	**Matsushiro Arr**	**46.94**	**340**	P	**P**	**19 46 20.3**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=171,slow=8.3,SNR=6.3						
MJAR				LR	LR	20 03 58.9	
	comp=Z,42nm,21.9s,baz=195,slow=33						
MJAR	**Matsushiro Arr**	**46.94**	**340**	P	**P**	**19 46 21.0**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MJAR	**Matsushiro Arr**	**46.94**	**340**	P	**P**	**19 46 21.0**	**-0.1**
MAJO	**Matsushiro**	**46.94**	**340**	*i* P	**P**	**19 46 22.4**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,22nm,2.4s						
MAJO	**Matsushiro**	**46.94**	**340**	P	**P**	**19 46 19.7**	**-1.4**
MAT	**Matsushiro**	**46.94**	**340**	P	**P**	**19 46 20.6**	**-0.5**
JNU	**Nakatsue**	**47.02**	**331**	P	**P**	**19 46 22.3**	**+0.5**
	comp=Z,26nm,0.8s,baz=85,slow=1.3,SNR=16						
JNU	**Nakatsue**	**47.02**	**331**	P	**P**	**19 46 22.2**	**+0.3**
JHS	**Saijyo**	**47.55**	**334**	P	**P**	**19 46 26.3**	**+0.4**
JHS				IAmb	IAmb	19 46 27.2	
	comp=Z,11nm,0.8s						
CISI	**Cisompet, Garu**	**47.96**	**267**	P	**P**	**19 46 28.4**	**-1.2**
LEM	**Lembang**	**48.20**	**268**	P	**P**	**19 46 31.3**	**-0.2**
	comp=Z,7.7nm,0.4s,baz=291,slow=23,SNR=4.0						
JSD	**Sado**	**48.28**	**341**	P	**P**	**19 46 33.5**	**+2.0**
JSD				IAmb	IAmb	19 46 39.6	
	comp=Z,8.0nm,0.8s						
JTU	**Tsushima**	**48.88**	**330**	P	**P**	**19 46 36.7**	**+0.6**
ERM	**Erimo**	**50.69**	**347**	P	**P**	**19 46 47.6**	**-2.1**
ERM				pmax	pmax		
	comp=Z,41nm,1.2s						
ERM	**Erimo**	**50.69**	**347**	P	**P**	**19 46 47.6**	**-2.1**
DLV	**T Lat**	**51.23**	**292**	P	**P**	**19 46 54.2**	**-0.4**
DLV				IAmb	IAmb	19 46 59.6	
	comp=Z,17nm,0.9s						
TJN	**Taejon**	**51.35**	**330**	*ce* P	**P**	**19 46 55.6**	**+0.8**
KSRS	**Korea Array**	**51.94**	**331**	P	**P**	**19 46 60.0**	**+0.8**
	comp=Z,6.3nm,0.7s,baz=145,slow=7.0,SNR=28						
KSRS				PcP	**PcP**	**19 48 12.4**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=158,slow=3.7,SNR=4.9						
KSRS				LR	LR	20 09 23.2	
	comp=Z,28nm,18.4s,baz=155,slow=36						
KSRS	**Korea Array**	**51.94**	**331**	P	**P**	**19 47 00.0**	**+0.8**
KSAR	**Wonju Array Be**	**51.95**	**331**	P	**P**	**19 46 59.6**	**+0.3**
KSAR						19 48 12.3	
KSAR	**Wonju Array Be**	**51.95**	**331**	P	**P**	**19 46 59.6**	**+0.3**
KSAR				PcP	**PcP**	**19 48 12.3**	**+0.7**
KS19	**Wonju Array Si**	**52.00**	**331**	P	**P**	**19 46 59.3**	**-0.4**
NJ2	**Nanjing**	**53.06**	**320**	*e*P	**P**	**19 47 08.0**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TBI	**Tubuai**	**54.37**	**113**	*e*LR	LR	20 03 07.0	
	comp=Z,126nm,28.0s						
USRK	**Ussuriysk Ar.**	**55.91**	**339**	P	**P**	**19 47 28.7**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=103,slow=12,SNR=2.5						
IPM	**Ipoh**	**56.34**	**280**	P	**P**	**19 47 30.0**	**-1.8**
IPM				IAmb	IAmb	19 47 36.6	
	comp=Z,7.5nm,0.8s						
KULM	**Kulim**	**56.87**	**281**	P	**P**	**19 47 34.8**	**-0.7**
KULM				IAmb	IAmb	19 48 06.5	
	comp=Z,10nm,1.1s						
MDJ	**Mudanjiang**	**57.15**	**338**	P	**P**	**19 47 38.8**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CN2	**Changchun**	**58.15**	**334**	*e*P	P	19 47 49.4	+5.4
CN2				*e*S	S	19 55 31.8	-12
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,120nm,4.0s						
CN2				LR	LR		
	comp=Z,100nm,12.0s						
CN2				LR	LR		
	comp=Z,100nm,12.0s						
CN2				LR	LR		
	comp=Z,130nm,12.0s						
ENH	**Enshi**	**58.46**	**312**	IAmb	IAmb	19 47 55.0	
	comp=Z,20nm,1.3s						
COCO	**West Island**	**58.60**	**260**	*i* P	**P**	**19 47 48.7**	**+1.0**
GSI	**Gunungsitoli**	**59.14**	**276**	P	**P**	**19 47 50.3**	**-1.2**
GSI				IAmb	IAmb	19 48 21.1	
	comp=Z,13nm,0.9s						
PEA0B	**Petropavlovsk-**	**60.37**	**1**	P	**P**	**19 47 59.5**	**+0.3**
PEA0B				pmax	pmax		
	comp=Z,59nm,1.6s						
PEA0B	**Petropavlovsk-**	**60.37**	**1**	P	**P**	**19 47 59.5**	**+0.3**
PETK	**Petropavlovsk-**	**60.37**	**1**	P	**P**	**19 48 00.1**	**+1.0**
	comp=Z,7.4nm,1.0s,baz=150,slow=6.7,SNR=7.8						
PETK				LR	LR	20 11 30.3	
	comp=Z,97nm,20.5s,baz=156,slow=33						
KLR	**Kul'dur**	**60.40**	**342**	P	**P**	**19 48 01.4**	**+1.9**
	comp=Z,2.0nm,0.8s,baz=168,slow=6.6,SNR=8.5						
KLR	**Kul'dur**	**60.40**	**342**	*ce* P	**P**	**19 47 59.7**	**+0.2**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.9s						
XAN	**Xi'an**	**60.90**	**316**	P	**P**	**19 48 03.0**	**-0.2**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
XAN	**Xi'an**	**60.90**	**316**	P	**P**	**19 48 02.5**	**-0.7**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN	**Xi'an**	**60.90**	**316**	P	**P**	**19 48 02.5**	**-0.7**
KMI	**Kunming**	**61.29**	**304**	⇑P	**P**	**19 48 04.1**	**-2.2**
KMI				sP	PcP	19 48 36.0	-13
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
CM31	**Chiang Mai Arr**	**62.09**	**295**	P	**P**	**19 48 10.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**62.09**	**295**	P	**P**	**19 48 12.2**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=124,slow=5.4,SNR=24						
CMAR	**Chiang Mai Arr**	**62.09**	**295**	P	**P**	**19 48 11.1**	**-0.5**
CHTO	**Chiang Mai**	**62.20**	**296**	P	**P**	**19 48 12.5**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,12nm,1.3s						
CHTO	**Chiang Mai**	**62.20**	**296**	P	**P**	**19 48 12.5**	**+0.2**
CHTO				IAmb	IAmb	19 48 13.9	
	comp=Z,12nm,1.3s						
CD2	**Chengdu**	**63.05**	**310**	⇓P	**P**	**19 48 17.5**	**-0.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC	**Hu-ho-hao-te**	**63.20**	**323**	*e*P	**P**	**19 48 19.6**	**+0.9**
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
LZH	**Lanzhou**	**65.51**	**315**	*e*P	**P**	**19 48 36.9**	**+2.9**
LZH				sP	PcP	19 49 05.3	-0.3
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
ZEA	**Zeya**	**65.71**	**342**	*e*P	**P**	**19 48 35.7**	**+1.0**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA	**Gaotai**	**69.92**	**317**	P	**P**	**19 49 02.1**	**+0.4**
GTA				pP	PcP	19 49 22.1	-1.9
GTA				sP	sP	19 49 31.0	+19
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,130nm,9.6s						
GTA				LR	LR		
	comp=Z,64nm,11.9s						
GTA				LR	LR		
	comp=Z,98nm,15.1s						
ULN	**Ulaanbaatar**	**70.06**	**327**	*ce* P	**P**	**19 49 02.6**	**+0.2**
ULN				pmax	pmax		
	comp=Z,27nm,1.7s						
ULN	**Ulaanbaatar**	**70.06**	**327**	P	**P**	**19 49 02.8**	**+0.4**
ULN				IAmb	IAmb	19 49 04.7	
	comp=Z,14nm,0.9s						
VNDA	**Vanda**	**70.06**	**179**	P	**P**	**19 49 03.4**	**+1.7**
	comp=Z,0.8nm,0.9s,baz=335,slow=6.5,SNR=4.2						
VNDA	**Vanda**	**70.06**	**179**	P	**P**	**19 49 03.4**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
VNDA	**Vanda**	**70.06**	**179**	IAmb	IAmb	19 49 12.8	
	comp=Z,5.8nm,1.4s						
SEY	**Seymchan**	**70.27**	**358**	*i* P	**P**	**19 49 03.0**	**-0.1**
SONM	**Songino Array**	**70.40**	**327**	P	**P**	**19 49 05.5**	**+1.0**
	comp=Z,13nm,0.7s,baz=138,slow=6.9,SNR=112						
SONM	**Songino Array**	**70.40**	**327**	P	**P**	**19 49 04.9**	**+0.4**
SONM				pmax	pmax		
	comp=Z,14nm,0.8s						
SONM	**Songino Array**	**70.40**	**327**	P	**P**	**19 49 04.9**	**+0.4**
SONM				IAmb	IAmb	19 49 06.6	
	comp=Z,14nm,0.8s						
SHL	**Shillong**	**70.59**	**300**	P	**P**	**19 49 05.7**	**-0.4**
SHL				pmax	pmax		
	comp=Z,20nm,1.0s						
SHL	**Shillong**	**70.59**	**300**	P	**P**	**19 49 05.7**	**-0.4**
YAK	**Yakutsk**	**72.29**	**347**	P	**P**	**19 49 16.3**	**+1.0**
	comp=Z,4.4nm,0.4s,baz=57,slow=2.7,SNR=6.0						

	comp=Z,9.0nm,1.0s								
BILL	**Bilibino**	**75.68**	**4**	P		**P**	**19 49 35.1**	**0.0**	
GUN	**Gumba**	**76.41 301**		*eP*		**P**	**19 49 40.7**	**+0.2**	
	comp=Z,27nm,1.0s								
PKI	**Pulchoki**	**76.71 301**		*eP*		**P**	**19 49 41.9**	**-0.4**	
PALK	**Pallekele**	**76.72 279**		P		**P**	**19 49 42.1**	**0.0**	
	comp=Z,6.9nm,0.8s,baz=276,slow=0.7,SNR=3.5								
PALK	**Pallekele**	**76.72 279**		P		**P**	**19 49 42.2**	**0.0**	
PALK				pmax	pmax				
	comp=Z,15nm,1.2s								
PALK	**Pallekele**	**76.72 279**		P		**P**	**19 49 42.2**	**0.0**	
PALK				IAmb	IAmb		19 50 15.3		
	comp=Z,15nm,1.1s								
PKIN	**Phulchoki**	**76.73 301**		*eP*		**P**	**19 49 41.9**	**-0.4**	
	comp=Z,46nm,1.4s								
KKN	**Kakani**	**76.88 301**		*eP*		**P**	**19 49 42.6**	**-0.5**	
	comp=Z,9.9nm,0.8s								
DMN	**Daman**	**76.98 300**		*eP*		**P**	**19 49 43.9**	**+0.2**	
	comp=Z,37nm,1.1s								
GKN	**Gorkha**	**77.49 301**		*eP*		**P**	**19 49 46.2**	**-0.2**	
	comp=Z,42nm,1.2s								
CNPM	**China Poot**	**78.70**	**24**	P		**P**	**19 49 52.8**	**+0.6**	
WMQ	**Urumqi**	**80.01 317**		*eP*		**P**	**19 50 01.0**	**+1.2**	
WMQ				pP		sP	19 50 20.3	+10	
WMQ				pmax	pmax				
	comp=Z,20nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,200nm,5.5s								
TIXI	**Tiksi**	**81.01 352**		*ceP*		**P**	**19 50 03.8**	**-0.6**	
TIXI				pmax	pmax				
	comp=Z,18nm,1.3s								
TIXI	**Tiksi**	**81.01 352**		P		**P**	**19 50 03.8**	**-0.6**	
MCK	**McKinley**	**82.06**	**22**	P		**P**	**19 50 09.3**	**-1.0**	
MCK				pmax	pmax				
	comp=Z,15nm,1.2s								
MCK	**McKinley**	**82.06**	**22**	P		**P**	**19 50 09.2**	**-1.0**	
MCK				IAmb	IAmb		19 50 13.1		
	comp=Z,14nm,1.2s								
DGZ	**Jazzator, Alta**	**82.27 322**		*c iP*		**P**	**19 50 11.9**	**+0.1**	
DGZ				pmax	pmax				
	comp=Z,12nm,0.9s								
ZSN	**Zaisan**	**83.10 320**		*eP*		**P**	**19 50 15.5**	**-0.5**	
	comp=Z,13nm,1.2s,baz=320								
ZSN	**Zaisan**	**83.10 320**		*eP*		**P**	**19 50 15.5**	**-0.5**	
ZSN				pmax	pmax				
	comp=Z,13nm,1.2s								
COLA	**College**	**83.10**	**21**	*i* P		**P**	**19 50 14.2**	**-1.3**	
COLA				pmax	pmax				
	comp=Z,6.0nm,1.2s								
ILAR	**Eielson Array**	**83.39**	**21**	P		**P**	**19 50 16.1**	**-1.0**	
	comp=Z,0.8nm,0.4s,baz=245,slow=5.4,SNR=13								
ILAR	**Eielson Array**	**83.39**	**21**	P		**P**	**19 50 15.1**	**-2.0**	
ILAR	**Eielson Array**	**83.39**	**21**	P		**P**	**19 50 15.1**	**-2.0**	
CTGM	**Chitina Glacie**	**83.64**	**26**	P		**P**	**19 50 21.0**	**+2.4**	
CTGM				IAmb	IAmb		19 50 21.6		
	comp=Z,16nm,1.1s								
MK31	**Makanchi Array**	**84.57 318**		*i* P		**P**	**19 50 23.9**	**+0.3**	
MK31				pmax	pmax				
	comp=Z,55nm,0.8s								
MK31	**Makanchi Array**	**84.57 318**		P		**P**	**19 50 23.6**	**0.0**	
MKAR	**Makanchi Array**	**84.57 318**		P		**P**	**19 50 23.9**	**+0.4**	
	comp=Z,49nm,0.7s,baz=102,slow=5.9,SNR=421								
MKAR				pP		**pP**			
	comp=Z,22nm,0.8s,baz=100,slow=6.8,SNR=14								
MKAR	**Makanchi Array**	**84.57 318**		*i* P		**P**	**19 50 24.0**	**+0.4**	
MKAR				pmax	pmax				
	comp=Z,49nm,0.7s								
MKAR	**Makanchi Array**	**84.57 318**		P		**P**	**19 50 23.8**	**+0.2**	
MAKZ	**Makanchi**	**84.78 318**		P		**P**	**19 50 24.2**	**-0.4**	
MAKZ				pmax	pmax				
	comp=Z,62nm,0.9s								
MAKZ	**Makanchi**	**84.78 318**		P		**P**	**19 50 24.2**	**-0.4**	
ZAA0	**Zalesovo Array**	**85.26 326**		P		**P**	**19 50 26.0**	**-0.8**	
ZALV	**Zalesovo Beam**	**85.26 326**		P		**P**	**19 50 26.2**	**-0.5**	
	comp=Z,32nm,0.6s,baz=112,slow=5.7,SNR=123								
ZALV	**Zalesovo Beam**	**85.26 326**		P		**P**	**19 50 25.9**	**-0.9**	
SHLS	**Shalkode**	**85.52 314**		*eP*		**P**	**19 50 26.3**	**-2.2**	
	comp=Z,9.0nm,1.1s,baz=314								
SHLS	**Shalkode**	**85.52 314**		*eP*		**P**	**19 50 26.3**	**-2.2**	
SHLS				pmax	pmax				
	comp=Z,9.0nm,1.1s								
PDGK	**Podgornoye**	**85.55 315**		*i* P		**P**	**19 50 27.9**	**-0.8**	
PDGK				pmax	pmax				
	comp=Z,10.0nm,0.8s								
UZB	**Uzynbulak**	**85.83 314**		*eP*		**P**	**19 50 29.4**	**-0.7**	
	comp=Z,13nm,1.2s,baz=314								
UZB	**Uzynbulak**	**85.83 314**		*eP*		**P**	**19 50 29.4**	**-0.7**	
UZB				pmax	pmax				
	comp=Z,13nm,1.2s								
KPKS	**Kokpek**	**86.15 315**		*eP*		**P**	**19 50 30.6**	**-1.0**	
	comp=Z,15nm,1.3s,baz=314								
KPKS	**Kokpek**	**86.15 315**		*eP*		**P**	**19 50 30.6**	**-1.0**	
KPKS				pmax	pmax				
	comp=Z,15nm,1.3s								
SATY	**Saty**	**86.25 314**		*eP*		**P**	**19 50 31.4**	**-0.7**	
	comp=Z,6.0nm,1.2s,baz=314								
SATY	**Saty**	**86.25 314**		*eP*		**P**	**19 50 31.4**	**-0.7**	
SATY				pmax	pmax				
	comp=Z,6.0nm,1.2s								
TDK	**Taldyorghan**	**86.71 316**		*eP*		**P**	**19 50 33.1**	**-1.1**	
	comp=Z,8.9nm,0.9s,baz=316								
TDK	**Taldyorghan**	**86.71 316**		*eP*		**P**	**19 50 33.9**	**-0.3**	
TDK				pmax	pmax				
	comp=Z,9.0nm,0.9s								
MDOK	**Medeo**	**87.24 314**		*eP*		**P**	**19 50 36.2**	**-0.9**	
	baz=314								
MDOK	**Medeo**	**87.24 314**		*eP*		**P**	**19 50 36.1**	**-0.9**	
KSH	**Kashi**	**87.25 310**		P		**P**	**19 50 39.4**	**+2.3**	
KSH				pP		sP	19 51 01.0	+13	
KSH				pmax	pmax				
	comp=Z,15nm,1.0s								
KSH				pmax	pmax				
	comp=Z,240nm,5.5s								
TNSS	**Tian-Shan**	**87.28 314**		*eP*		**P**	**19 50 36.5**	**-1.1**	
	baz=314								
TNSS	**Tian-Shan**	**87.28 314**		*eP*		**P**	**19 50 36.4**	**-1.1**	
AAA	**Alma-Ata**	**87.34 314**		*eP*		**P**	**19 50 36.1**	**-1.3**	
	comp=Z,5.9nm,0.7s,baz=314								
AAA	**Alma-Ata**	**87.34 314**		*eP*		**P**	**19 50 36.9**	**-0.5**	
AAA				pmax	pmax				
	comp=Z,6.0nm,0.7s								
ULHL	**Ulahol**	**87.62 313**		P		**P**	**19 50 39.5**	**+0.5**	
	SNR=8.9								
EPYK	**Eagle Plains**	**87.86**	**22**	P		**P**	**19 50 39.2**	**-0.2**	
EPYK				IAmb	IAmb		19 50 54.1		
	comp=Z,10nm,1.2s								
KUU	**Kurty**	**87.90 315**		*eP*		**P**	**19 50 38.3**	**-1.7**	
	comp=Z,21nm,0.8s,baz=315								
KUU	**Kurty**	**87.90 315**		*eP*		**P**	**19 50 38.3**	**-1.7**	
KUU				pmax	pmax				
	comp=Z,21nm,0.8s								
TKM2	**Tokmak 2**	**88.23 314**		P		**P**	**19 50 42.3**	**+0.5**	
	SNR=9.0								
NIL	**Nilore**	**88.28 304**		P		**P**	**19 50 41.9**	**-0.2**	
NIL				pmax	pmax				
	comp=Z,7.0nm,0.8s								
NIL	**Nilore**	**88.28 304**		P		**P**	**19 50 41.9**	**-0.2**	
NIL				IAmb	IAmb		19 50 43.1		
	comp=Z,7.0nm,0.8s								
KBK	**Karagaybulak**	**88.64 313**		P		**P**	**19 50 45.0**	**+1.3**	
	SNR=5.0								
CHMS	**Chumysh**	**88.85 313**		P		**P**	**19 50 45.6**	**+1.0**	
	SNR=6.5								
UCH	**Uchtor**	**88.87 313**		P		**P**	**19 50 46.4**	**+1.2**	
	SNR=7.0								
AAK	**Ala-Archa**	**88.97 313**		P		**P**	**19 50 46.6**	**+1.3**	
	SNR=7.7								
AAK	**Ala-Archa**	**88.97 313**		*i* P		**P**	**19 50 45.3**	**0.0**	
AAK				pmax	pmax				
	comp=Z,5.0nm,0.7s								
AAK	**Ala-Archa**	**88.97 313**		P		**P**	**19 50 44.8**	**-0.5**	
AAK				IAmb	IAmb		19 50 47.1		
	comp=Z,5.2nm,0.8s								
USP	**Ospenovka**	**89.08 314**		P		**P**	**19 50 46.8**	**+1.1**	
	SNR=7.8								
AML	**Almayashu**	**89.45 312**		P		**P**	**19 50 48.7**	**+0.8**	
	SNR=17								
EKS2	**Erkin-Say**	**89.49 313**		P		**P**	**19 50 48.5**	**+0.8**	
	SNR=7.5								
BTLS	**Baital**	**89.74 315**		*eP*		**P**	**19 50 47.0**	**-1.7**	
	comp=Z,5.0nm,1.0s,baz=315								
BTLS	**Baital**	**89.74 315**		*eP*		**P**	**19 50 46.9**	**-1.7**	
BTLS				pmax	pmax				
	comp=Z,5.0nm,1.0s								
INK	**Inuvik**	**89.75**	**20**	P		**P**	**19 50 49.5**	**+1.4**	
	comp=Z,0.6nm,0.6s,baz=185,slow=5.4,SNR=3.5								
INK	**Inuvik**	**89.75**	**20**	P		**P**	**19 50 49.3**	**+1.2**	
INK				pmax	pmax				
	comp=Z,8.0nm,1.5s								
INK	**Inuvik**	**89.75**	**20**	P		**P**	**19 50 49.2**	**+1.2**	
INK				IAmb	IAmb		19 51 19.3		
	comp=Z,7.7nm,1.4s								
NVAR	**Mina Array Bea**	**91.07**	**52**	P		**P**	**19 50 57.7**	**+2.4**	
	comp=Z,1.2nm,1.0s,baz=249,slow=4.8,SNR=6.5								
NVAR	**Mina Array Bea**	**91.07**	**52**	P		**P**	**19 50 55.3**	**0.0**	
KK31	**Karatay Array**	**91.93 313**		P		**P**	**19 50 58.5**	**-0.4**	
KK31				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KK31	**Karatay Array**	**91.93 313**		P		**P**	**19 50 58.5**	**-0.4**	
KK31				IAmb	IAmb		19 51 06.3		
	comp=Z,4.1nm,0.9s								
KKAR	**Karatay Array**	**91.93 313**		P		**P**	**19 50 58.4**	**-0.5**	
KKAR				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KKAR	**Karatay Array**	**91.93 313**		P		**P**	**19 50 58.0**	**-0.9**	
KKAR	**Karatay Array**	**91.93 313**		P		**P**	**19 50 58.4**	**-0.5**	
KKAR				IAmb	IAmb		19 51 06.2		
	comp=Z,4.1nm,0.9s								
IUG	**luzhnay**	**92.15 312**		*eP*		**P**	**19 50 59.4**	**-0.7**	
	baz=312								
IUG	**luzhnay**	**92.15 312**		*eP*		**P**	**19 50 59.3**	**-0.7**	
SYO	**Syowa Base**	**92.26 199**	⇓	*ep*	P	pP	19 51 08.6	+0.8	
SYO	**Syowa Base**	**92.26 199**	‖	*es*	P	sP	19 51 12.8	+2.2	
BRVK	**Borovoye**	**93.48 323**		P		**P**	**19 51 04.7**	**-1.1**	
BRVK				pmax	pmax				
	comp=Z,10.0nm,1.2s								
BRVK	**Borovoye**	**93.48 323**		P		**P**	**19 51 04.7**	**-1.1**	
BRVK				IAmb	IAmb		19 51 05.8		
	comp=Z,10nm,1.1s								
PRN	**Pahroc Range**	**93.49**	**53**	P		**P**	**19 51 04.6**	**-1.8**	
PRN				IAmb	IAmb		19 51 09.8		
	comp=Z,5.5nm,1.2s								
YKA	**Yellowknife Ar**	**96.20**	**28**	P		**P**	**19 51 18.6**	**+0.6**	
	comp=Z,0.8nm,0.7s,baz=262,slow=4.0,SNR=13								
PV17	**East Wray Mesa**	**98.36**	**52**	P		**P**	**19 51 27.5**	**-1.1**	
FINES	**FINESS Array B**	**114.87 336**		PKP		**PKiKP**	**19 56 30.1**	**-0.4**	
	comp=Z,2.5nm,1.0s,baz=132,slow=2.8,SNR=5.5								
AKASG	**Malin Array Be**	**118.64 325**		PKP		**PKPdf**	**19 56 36.5**	**-1.6**	
	comp=Z,1.4nm,0.7s,baz=62,slow=2.4,SNR=5.8								
AKASG	**Malin Array Be**	**118.64 325**		PKIKP		**PKPdf**	**19 56 37.2**	**-0.9**	
AKASG	**Malin Array Be**	**118.64 325**				**PKPdf**	**19 56 37.2**	**-0.9**	
LANS	**Liptovska Anna**	**124.88 327**		*e*PKIKP		**PKPdf**	**19 56 48.3**	**-2.0**	
LANS	**Liptovska Anna**	**124.88 327**		*e*PKP		**PKPdf**	**19 56 48.3**	**-2.0**	
CLL	**Collm**	**126.81 332**		*i* PKPdf		**PKPdf**	**19 56 53.7**	**-0.1**	
	comp=Z,7.0nm,1.2s								
CLL				*i* pPKPdf		**pPKPdf**	**19 57 02.3**	**+0.3**	
CLL	**Collm**	**126.81 332**		*i* PKIKP		**PKPdf**	**19 56 53.7**	**-0.1**	
CLL				*i*			19 57 02.3		
CLL				pmax	pmax				
	comp=Z,7.0nm,1.2s								
CKRC	**Cesky Krumlov**	**127.80 329**		*e*PKPDF		**PKiKP**	**19 56 56.7**	**+0.3**	
KHC	**Kasperske Hory**	**127.97 330**		*e*PKIKP		**PKiKP**	**19 56 56.4**	**-0.4**	
KHC	**Kasperske Hory**	**127.97 330**		*e*PKPDF		**PKiKP**	**19 56 56.4**	**-0.4**	
GERES	**GERESS Array B**	**128.09 329**		PKP		**PKPdf**	**19 56 55.6**	**-0.9**	
	comp=Z,1.1nm,0.7s,baz=355,slow=1.6,SNR=8.0								
GERES	**GERESS Array B**	**128.09 329**		PKIKP		**PKPdf**	**19 56 55.9**	**-0.6**	
GERES	**GERESS Array B**	**128.09 329**				**PKPdf**	**19 56 55.9**	**-0.6**	
LPAZ	**La Paz**	**130.16 119**		PKP		**PKiKP**	**19 57 03.3**	**+0.5**	
	comp=Z,3.0nm,0.9s,baz=5.1,slow=4.6,SNR=9.0								
LPAZ	**La Paz**	**130.16 119**		PKIKP		**PKPdf**	**19 57 01.6**	**-0.4**	
LPAZ	**La Paz**	**130.16 119**		PKPdf		**PKPdf**	**19 57 01.6**	**-0.4**	
ESDC	**Sonseca Array**	**143.34 334**		PKhKP		PKPpre	19 57 21.3		
	comp=Z,2.3nm,0.9s,baz=22,slow=2.9,SNR=13								
PVIS	**Vau**	**144.00 339**		*e*PKPdf		**PKPdf**	**19 57 24.9**	**-1.2**	
MTE	**Manteigas**	**144.15 339**		*e*PKPdf		PKPbc	19 57 24.5	0.0	
PCBR	**Castelo Branco**	**144.62 338**		*e*PKPdf		**PKPdf**	**19 57 26.5**	**-0.7**	
PMRV	**Marv??o**	**144.95 338**		*e*PKPdf		**PKPdf**	**19 57 27.9**	**+0.1**	
PSBE	**So Bento**	**145.38 339**		*e*PKPdf		**PKPab**	**19 57 29.8**	**+1.2**	
PMTG	**Montargil**	**145.57 338**		*e*PKPdf		**PKPab**	**19 57 29.6**	**+0.4**	
PBAR	**Barrancos**	**145.90 336**		*e*PKPdf		**PKPab**	**19 57 30.2**	**-0.2**	
EVO	**Evora**	**145.97 338**		*e*PKPdf		**PKPab**	**19 57 30.3**	**-0.4**	
PBEJ	**Beja**	**146.35 337**		*e*PKPdf		**PKPab**	**19 57 32.2**	**0.0**	
PNCL	**Nicolau / Gran**	**146.53 338**		*e*PKPdf		**PKPab**	**19 57 33.3**	**+0.5**	
MESJ	**Messejana**	**146.65 337**		*e*PKPdf		**PKPbc**	**19 57 32.2**	**-0.1**	
BDFB	**Brasilia**	**146.77 134**		PKPbc		**PKPbc**	**19 57 33.0**	**-0.4**	
	comp=Z,7.6nm,0.7s,baz=185,slow=1.1,SNR=11								
BDFB	**Brasilia**	**146.77 134**		PKP2		**PKPbc**	**19 57 33.3**	**-0.1**	
BDFB	**Brasilia**	**146.77 134**				**PKPbc**	**19 57 33.2**	**-0.1**	
PBDV	**Barranco-do-Ve**	**147.06 336**		*e*PKPdf		**PKPab**	**19 57 34.6**	**-0.4**	
PTEO	**Sao Teotonio**	**147.10 338**		*e*PKPdf		**PKPab**	**19 57 35.1**	**0.0**	
TAM	**Tamanrasset**	**147.97 302**		PKP2		**PKPbc**	**19 57 36.9**	**+0.3**	
TAM	**Tamanrasset**	**147.97 302**				**PKPbc**	**19 57 36.9**	**+0.3**	
TORD	**Torodi Ar. Bea**	**154.32 285**		PKP		**PKPdf**	**19 57 42.4**	**-0.9**	
	comp=Z,0.8nm,0.3s,baz=18,slow=2.1,SNR=7.0								
TORD				PKPbc		**pPKPdf**	**19 57 51.5**	**+0.1**	
	comp=Z,1.6nm,0.6s,baz=73,slow=2.4,SNR=5.8								
DBIC	**Dimbokro**	**161.20 269**		PKPab		**PKPab**	**19 58 34.7**	**-0.6**	
	comp=Z,2.8nm,0.5s,baz=86,slow=4.6,SNR=6.9								

*MAN **17** 19:38:00.6,9.68N×126.74E,h9km,MS3.7*
*NEIC **17** 19:38:06.2±1.3,9.80N±0.09×126.76E±0.1,h76km±7km, mb4.4/18, Error ellipse: s-maj=21.3km s-min=11.2km az=68.0*
*IDC **17** 19:38:06.9±9.0,9.79N×126.28E,h59km±84km,mb3.9/12, mb1 4.0/12,mb1mx3.6/43,mbtmp4.2/12, Error ellipse: s-maj=53.3km s-min=13.4km az=70.0*

ISC 17 19:38:01.0±1.1,**9.88N**±0.05×**126.72E**±0.06,**h26**km±8km, **n66**,σ1°**91**/63,**mb4.1**/17,**2C-1D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLSP	**General Luna,**	**0.59**	**261**	*eP*		**Pb**	**19 38 12.6**	**-0.2**
GLSP				*eS*		**Sn**	**19 38 22.7**	**0.0**
BUTP	**Butuan**	**1.41**	**230**	*eP*		**Pn**	**19 38 24.9**	**-0.2**
BUTP				*eS*		**Sn**	**19 38 43.7**	**+0.8**
MSLP	**Maasin**	**1.85**	**278**	*eP*		**Pb**	**19 38 33.4**	**-0.8**
MSLP				*eS*		**Sb**	**19 38 58.5**	**+1.6**
OCLP	**Ormoc**	**2.38**	**299**	*eP*		**Pb**	**19 38 41.5**	**-1.7**
OCLP				*eS*		**Sn**	**19 38 58.8**	**-8.0**
CGP	**Cagayan de Oro**	**2.45**	**235**	‖ *eP*		**Pn**	**19 38 40.6**	**+1.2**
CGP				*i S*		**Sn**	**19 39 08.5**	**-0.1**
LLP	**Lapu-Lapu**	**2.75**	**279**	⇓ *eP*		**Pn**	**19 38 46.3**	**+2.8**
LLP				*i S*		**Sb**	**19 39 20.2**	**-2.5**
MATI	**Mati**	**2.95**	**189**	*eS*		**Sn**	**19 39 15.9**	**-5.1**
MATI	**Mati**	**2.95**	**189**	*eP*		**Pn**	**19 38 44.3**	**-2.1**
KCP	**Kidapawan**	**3.28**	**210**	‖ *eP*		**Pn**	**19 38 53.7**	**+2.9**
PAGZ	**Pagadian**	**3.87**	**239**	*eS*		Sn	19 39 32.0	-12
PAGZ	**Pagadian**	**3.87**	**239**	*eP*		**Pn**	**19 39 00.3**	**+1.4**
DDMP	**Don Marcelino,**	**3.88**	**195**	*eS*		**Sn**	**19 39 44.2**	**+0.2**
DDMP	**Don Marcelino,**	**3.88**	**195**	*eP*		**Pn**	**19 38 57.8**	**-1.4**
SKMP	**Bagumbayan, Su**	**3.97**	**213**	*eP*		**Pn**	**19 39 01.9**	**+1.5**
SKMP				*eS*		Sn	19 39 25.6	-21
GUIM	**Jordan**	**4.13**	**281**	*eS*		Sn	19 39 31.8	-18
GUIM	**Jordan**	**4.13**	**281**	*eP*		**Pn**	**19 39 04.0**	**+1.4**
TNTI	**Ternate**	**9.07**	**176**	Pn		**Pn**	**19 40 10.9**	**+0.5**
FAKI	**Fak Fak**	**13.86**	**156**	Pn		**Pn**	**19 41 14.5**	**-1.4**
YULB	**Yu-li**	**14.40**	**340**			**P**	**19 41 30.5**	**+0.5**
SSLB	**Suanglung**	**14.88**	**339**			**P**	**19 41 36.9**	**+1.5**
YHNB	**Yeheng**	**15.56**	**342**			**P**	**19 41 45.4**	**+2.4**
YHNB				IAmb		IAmb	19 42 07.7	
	comp=Z,47nm,1.4s							
SBUM	**Sibu**	**16.19**	**244**			**P**	**19 41 49.2**	**-0.7**
MMRI	**Maumere**	**18.93**	**194**	P		**Pn**	**19 42 22.1**	**+1.2**
MMRI				IAmb		IAmb	19 42 27.0	
	comp=Z,19nm,0.9s							
SOEI	**Soe**	**19.66**	**187**	P		**P**	**19 42 28.3**	**0.0**
SOEI				IAmb		IAmb	19 43 08.6	
	comp=Z,43nm,1.4s							
BATI	**Baumata**	**20.19**	**189**	P		**P**	**19 42 34.1**	**+0.2**
	comp=Z,54nm,0.7s,baz=88,slow=5.2,SNR=22							
MTN	**Manton Dam**	**23.00**	**169**	P		**P**	**19 43 04.5**	**+0.4**
MTN				IAmb		IAmb	19 43 27.4	
	comp=Z,18nm,0.8s							
KSAR	**Wonju Array Be**	**27.46**	**2**	P		**P**	**19 43 46.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**27.82**	**182**	P		**P**	**19 43 45.2**	**-3.2**
	comp=Z,2.3nm,0.7s,baz=357,slow=10,SNR=2.5							
FITZ	**Fitzroy Crossi**	**27.82**	**182**	P		**P**	**19 43 49.6**	**+1.2**
	comp=Z,3.1nm,0.5s,baz=6.0,slow=8.1,SNR=3.5							
FITZ	**Fitzroy Crossi**	**27.82**	**182**	P		**P**	**19 43 46.6**	**-1.8**
CMAR	**Chiang Mai Arr**	**28.21**	**291**	P		**P**	**19 43 52.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=107,slow=8.5,SNR=5.3							
MJB9	**Matsu-Tunnel**	**28.52**	**20**	P		**P**	**19 43 55.2**	**+0.6**
COEN	**Coen**	**28.77**	**145**	P		P	19 44 02.9	+6.0
COEN				IAmb		IAmb	19 44 06.2	
	comp=Z,7.3nm,1.2s							
XAN	**Xi'an**	**29.07**	**329**	P		**P**	**19 43 59.7**	**+0.2**
XAN				IAmb		IAmb	19 44 00.6	
	comp=Z,4.5nm,0.7s							
GSI	**Gunungsitoli**	**30.20**	**255**	P		**P**	**19 44 08.1**	**-1.6**
GSI				IAmb		IAmb	19 44 37.9	
	comp=Z,14nm,1.1s							
WRA	**Warramunga Arr**	**30.57**	**166**	P		**P**	**19 44 15.7**	**+2.8**
	comp=Z,1.8nm,1.0s,baz=344,slow=9.6,SNR=1.2							
ASAR	**Alice Springs**	**34.07**	**168**	P		**P**	**19 44 41.4**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=352,slow=6.6,SNR=4.6							
ASAR	**Alice Springs**	**34.07**	**168**	P		**P**	**19 44 45.7**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=345,slow=7.2,SNR=6.7							
ASAR	**Alice Springs**	**34.07**	**168**	P		**P**	**19 44 41.4**	**-2.2**
H11S3	**WAKE ISLAND Hy**	**39.61**	**73**	T		T	20 28 34.0	
	baz=251,SNR=7.8							
H11S1	**WAKE ISLAND Hy**	**39.62**	**73**	T		T	20 28 43.2	
	baz=251							
H11S2	**WAKE ISLAND Hy**	**39.63**	**73**	T		T	20 28 41.9	
	baz=251							
H11N1	**WAKE ISLAND Hy**	**39.96**	**71**	T		T	20 29 04.9	
	baz=264,slow=74,SNR=8.5							
H11N2	**WAKE ISLAND Hy**	**39.97**	**71**	T		T	20 29 01.0	
	baz=264,slow=74,SNR=6.3							
H11N3	**WAKE ISLAND Hy**	**39.98**	**71**	T		T	20 29 06.8	
	baz=264,slow=74,SNR=5.8							
MORW	**Morawa**	**40.07**	**195**	P		**P**	**19 45 33.9**	**-0.5**
MORW				IAmb		IAmb	19 46 03.3	
	comp=Z,11nm,0.9s							
SONM	**Songino Array**	**41.54**	**339**	P		**P**	**19 45 48.0**	**+1.5**
	comp=Z,0.8nm,0.4s,baz=154,slow=9.1,SNR=15							
BBOO	**Buckleboo**	**43.38**	**169**	P		**P**	**19 46 00.5**	**-1.0**
NWAO	**Narrogin (SRO)**	**43.52**	**192**	P		**P**	**19 46 02.6**	**0.0**
	comp=Z,7.1nm,0.7s,baz=23,slow=8.3,SNR=11							
NWAO	**Narrogin (SRO)**	**43.52**	**192**	P		**P**	**19 46 02.8**	**+0.2**
NWAO	**Narrogin (SRO)**	**43.52**	**192**	P		**P**	**19 46 02.8**	**+0.2**
NWAO				IAmb		IAmb	19 46 48.2	
	comp=Z,46nm,1.4s							
STKA	**Stephens Creek**	**43.90**	**162**	P		**P**	**19 46 04.2**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=328,slow=13,SNR=1.8							
STKA	**Stephens Creek**	**43.90**	**162**	P		**P**	**19 46 09.6**	**+4.0**
	comp=Z,1.7nm,0.7s,baz=326,slow=7.4,SNR=4.5							
STKA	**Stephens Creek**	**43.90**	**162**	P		**P**	**19 46 04.5**	**-1.2**
TLY	**Talaya**	**45.75**	**340**	P		**P**	**19 46 21.8**	**+1.6**
	comp=Z,2.5nm,0.7s,baz=175,slow=3.6,SNR=7.1							
MK31	**Makanchi Array**	**52.60**	**323**	P		**P**	**19 47 12.8**	**+0.1**
MKAR	**Makanchi Array**	**52.60**	**323**	P		P	19 47 07.4	-5.4
	comp=Z,0.1nm,0.4s,baz=119,slow=6.6,SNR=5.1							
MKAR	**Makanchi Array**	**52.60**	**323**	P		**P**	**19 47 13.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=114,slow=8.2,SNR=13							
MKAR	**Makanchi Array**	**52.60**	**323**	P		**P**	**19 47 13.0**	**+0.2**
MAKZ	**Makanchi**	**52.80**	**323**	P		**P**	**19 47 14

LKWY IAML 20 03 36.2
comp=E,59nm,0.6s
H17A Grant Village 3.88 280 Pn Pn 20 03 11.9 +1.6
LOHW Long Hollow 3.89 269 Pn Pn 20 03 11.4 +1.0
FLWY Flagg Ranch 3.94 276 Pn Pn 20 03 11.7 +0.6
FLWY IAML 20 04 22.4
comp=E,45nm,2.1s
FLWY IAML 20 04 24.8
comp=E,42nm,1.0s
YNR Norris Junctio 4.00 285 Pn Pn 20 03 13.6 +1.6
SNOW Snow King Moun 4.01 267 Pn Pn 20 03 13.3 +1.1
SNOW IAML 20 04 29.3
comp=E,45nm,1.1s
SNOW IAML 20 04 32.4
comp=E,40nm,0.6s
ISCO Idaho Springs 4.02 184 Pn Pn 20 03 12.5 +0.2
ISCO IAML 20 04 22.9
comp=E,30nm,0.8s
YPP Pitchstone Pla 4.03 278 Pn Pn 20 03 12.2 -0.2
REDW Red Top Meadow 4.09 266 Pn Pn 20 03 13.7 +0.5
REDW IAML 20 04 27.4
comp=E,56nm,0.8s
REDW IAML 20 04 39.1
comp=E,44nm,0.7s
YHH Holmes Hill 4.13 286 Pn Pn 20 03 13.8 -0.1
YMR Madison River 4.19 284 Pn Pn 20 03 14.0 -0.6
YMR IAML 20 04 33.6
comp=E,36nm,0.8s
YMR IAML 20 04 36.7
comp=N,41nm,0.8s
E28A Huff 4.24 48 Pn Pn 20 03 16.6 +1.5
O20A White River Ci 4.30 212 Pn Pn 20 03 16.5 +0.5
O20A IAML 20 04 28.6
comp=N,46nm,0.9s
O20A IAML 20 04 30.6
comp=E,36nm,0.7s
YHB Horse Butte 4.37 284 Pn Pn 20 03 17.7 +0.6
YHL Hebgen Lake 4.38 286 Pn Pn 20 03 17.1 -0.1
YHL IAML 20 04 34.9
comp=E,25nm,1.0s
YHL IAML 20 04 41.4
comp=N,24nm,1.2s
AHID Auburn Hatcher 4.40 258 Pn Pn 20 03 18.3 +0.9
AHID IAML 20 04 37.4
comp=N,42nm,0.7s
AHID IAML 20 04 46.1
comp=E,28nm,0.8s
ECR Eagle Creek 4.52 262 Pn Pn 20 03 19.8 +0.6
QLMT Earthquake Lak 4.55 285 Pn Pn 20 03 21.6 +2.1
RDMU Red Mountain 4.56 226 Pn Pn 20 03 20.9 +1.2
RDMU IAML 20 04 38.4
comp=E,27nm,1.1s
RDMU IAML 20 04 39.2
comp=N,25nm,1.1s
SUSD Miller 4.58 80 Pn Pn 20 03 21.2 +1.5
DGMT Dagmar 4.71 9 Pn Pn 20 03 22.3 +0.8
SMCO Snowmass 4.81 196 Pn Pn 20 03 24.2 +0.9
SMCO IAML 20 04 45.4
comp=N,20nm,0.9s
SMCO IAML 20 04 54.4
comp=N,24nm,0.8s
BOZ Bozeman (W) 4.88 294 Pn Pn 20 03 26.0 +2.0
BOZ IAML 20 04 50.1
comp=N,17nm,0.8s
K31A O'Neill 4.89 102 Pn Pn 20 03 27.0 +3.0
HWUT Hardware Ranch 5.15 247 Pn Pn 20 03 27.7 0.0
HWUT IAML 20 04 52.4
comp=N,24nm,0.8s
HWUT IAML 20 04 56.6
comp=N,28nm,1.0s
KSCO Kaye Shedlock' 5.19 157 Pn 20 03 28.3 +0.1
EGMT Eagleton 5.25 325 Pn Pn 20 03 27.6 -1.4
TCUT Toone Canyon 5.29 241 Pn 20 03 30.1 +0.4
HRY Holter Researc 5.47 304 Pn 20 03 31.8 -0.3
LRM Limekiln Ridge 5.50 294 Pn Pn 20 03 33.1 +0.6
MCMT McKenzie Canyo 5.54 283 Pn Pn 20 03 32.5 -0.6
JLU Jordanelle 5.61 237 Pn Pn 20 03 33.8 -0.3
MDND Maddock 5.64 42 Pn 20 03 35.0 +0.7
CTU Camp Tracy 5.74 239 Pn Pn 20 03 36.0 +0.2
BGNE Belgrade 5.76 112 Pn Pn 20 03 37.1 +1.1
SPUT South Promonto 5.88 247 Pn 20 03 37.9 +0.2
BCYI Bear Canyon 5.90 278 Pn 20 03 38.3 +0.3
HVU Hansel Valley 5.90 252 Pn 20 03 37.3 -0.6
PV22 Blue Mesa, Par 5.91 208 Pn 20 03 38.1 0.0
PV07 Paradox Valley 5.95 207 Pn 20 03 39.3 +0.6
P17A Butcher Ranch, 5.98 225 Pn 20 03 40.1 +1.0
PV15 Paradox Valley 5.99 205 Pn 20 03 40.0 +0.7
PV04 Paradox Valley 6.08 208 Pn 20 03 41.1 +0.7
MPU Maple Canyon 6.09 234 Pn 20 03 40.9 +0.3
PV12 Saucer Basin, 6.11 207 Pn Pn 20 03 41.9 +0.9
PV10 Paradox Valley 6.14 209 Pn Pn 20 03 43.2 +1.8
SRU San Rafael Swe 6.14 222 Pn 20 03 41.2 -0.2
PV20 West Nyswonger 6.15 208 Pn 20 03 41.4 0.0
PV11 David Mesa, Pa 6.15 208 Pn 20 03 41.6 +0.1
PV16 Nyswonger Mesa 6.16 208 Pn 20 03 41.5 -0.1
PV03 Paradox Valley 6.18 207 Pn 20 03 42.6 +0.6
PV02 Paradox Valley 6.19 206 Pn 20 03 44.2 +2.1
PV17 East Wray Mesa 6.20 208 Pn 20 03 42.6 +0.5
PV01 Paradox Valley 6.21 205 Pn Pn 20 03 42.6 +0.3
PV18 Skein Mesa, Pa 6.21 208 Pn Pn 20 03 42.7 +0.4
ECSD EROS Data Cent 6.25 88 Pn 20 03 43.4 +0.7
PV13 Radium Mtn., P 6.26 207 Pn 20 03 43.5 +0.5
TMUT Trail Mountain 6.35 227 Pn 20 03 44.6 +0.3
NLU North Lily Min 6.39 235 Pn Pn 20 03 45.1 +0.4
PV05 Paradox Valley 6.43 208 Pn 20 03 44.5 -0.9
BGU Big Grassy Mou 6.44 246 Pn Pn 20 03 45.3 -0.2
CBKS Cedar Bluff 6.50 138 Pn 20 03 46.5 +0.4
Q16A Castle Valley 6.62 224 Pn 20 03 47.6 -0.2
F33A 5 Mile Ranch, 6.68 69 Pn 20 03 47.3 -1.3
DUG Dugway, Tooele 6.69 240 Pn Pn 20 03 48.2 -0.6
T25A Trinidad 6.70 174 Pn Pn 20 03 49.4 +0.4
L34A Svendsen Farm, 6.78 103 Pn Pn 20 03 50.7 +0.8
MSO Missoula 6.83 299 Pn Pn 20 03 49.1 -1.6
MVCO Mesa Verde 7.05 202 Pn Pn 20 03 53.5 -0.3
JTMT Jette 7.44 305 Pn Pn 20 04 00.4 +1.4
MSU Marysvale 7.44 227 Pn Pn 20 03 59.6 +0.4
MTPU Mount Pierson 7.80 225 Pn Pn 20 04 04.0 -0.2
WALA Waterton Lakes 7.95 314 Pn 20 04 05.3 -0.8
ELK Elko 8.02 251 Pn Pn 20 04 07.3 +0.2
comp=N,0.3nm,0.3s,baz=85,slow=5.0,SNR=3.6
ELK Elko 8.02 251 Pn Pn 20 04 07.4 +0.3
I10CA LAC DU BONNET 8.97 41 *i* 20 57 40.0
baz=224,slow=330,SNR=3.8
ULM Lac du Bonnet 9.07 42 Pn Pn 20 04 21.5 +0.2
comp=N,1.6nm,0.3s,baz=234,slow=12,SNR=11
ULM Lg Lg 20 06 50.2
comp=N,0.4nm,0.3s,baz=143,slow=20,SNR=1.6
NVAR Mina Array Bea 11.21 246 Pn Pn 20 04 51.7 +0.8
comp=N,0.1nm,0.3s,baz=44,slow=13,SNR=7.0
YBH Yreka Blue Hor 13.00 267 Pn Pn 20 05 17.7 +2.5
comp=N,0.1nm,0.3s,baz=82,slow=14,SNR=1.7
YBH Yreka Blue Hor 13.00 267 Pn 20 05 16.5 +1.3
TXAR Lajitas Array 14.51 174 Pn P 20 05 43.0 +0.2
comp=N,0.1nm,0.3s,baz=356,slow=7.1,SNR=4.1
TXAR Pg 20 06 39.0
comp=N,0.1nm,0.3s,baz=1.8,slow=14,SNR=4.7
TXAR Lg Lg 20 09 48.5
comp=N,0.0nm,0.3s,baz=358,slow=26,SNR=3.4
YKA Yellowknife Ar 19.50 347 P P 20 06 36.3 -1.2
comp=N,0.1nm,0.3s,baz=160,slow=13,SNR=5.9
TEIG Tepich 27.46 144 LR LR 20 21 32.8
comp=N,18nm,19.9s,baz=96,slow=42
FINES FINESS Array B 67.95 23 P P 20 13 09.0 -0.4
comp=N,1.3nm,0.8s,baz=316,slow=6.9,SNR=3.9
MJAR Matsushiro Arr 81.46 313 LR LR 20 51 38.3
comp=N,18nm,20.4s,baz=40,slow=37
ZALV Zalesovo Beam 82.23 354 P P 20 14 31.7 -0.2
comp=N,0.7nm,0.6s,baz=5.7,slow=4.3,SNR=2.7
SONM Songino Array 84.57 339 P P 20 14 44.1 -0.2
comp=N,0.3nm,0.6s,baz=5.7,slow=4.4,SNR=3.1
MKAR Makanchi Array 89.53 355 P P 20 15 08.1 -0.2
comp=N,0.6nm,0.7s,baz=338,slow=3.8,SNR=4.2

*SOME **17** 20:11:01.2, 39°.23N×71°.78E, h10km*
*KRNET **17** 20:11:02.0±0.1, 39°.28N×71°.62E, h9km, mb3.9*
*ISU **17** 20:11:03, 39°.40N×71°.40E, h5km*
*NNC **17** 20:11:04.4±2.4, 39°.36N×71°.60E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=19.6km s-min=10.6km az=7.0*
*BJI **17** 20:11:05.1±0.0, 39°.20N×71°.58E, h50km, mb4.0/10*
*MOS **17** 20:11:06.8±0.8, 39°.30N×71°.60E, h58km, mb4.3/5, Error ellipse: s-maj=11.6km s-min=5.0km az=67.1*

*IDC **17** 20:11:06.8±3.5, 39°.13N×71°.67E, h46km±30km, mb3.5/11, mb1 3.7/15, mb1mx3.4/62, mbtmp3.8/15, ML3.0/4, Error ellipse: s-maj=28.6km s-min=18.8km az=175.0*
*NEIC **17** 20:11:07.9±2.7, 39°.23N±0°.06×71°.6E±0°.1, h59km±3km, mb4.1/12, Error ellipse: s-maj=12.4km s-min=8.5km az=103.0*

ISC 17 20:10:60.0±1.4, 39°16N±0°.05×71°59E±0°.03, h1km±8km, n143, σ2s78/171, mb4.0/13, 37C-17D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
DRK	**Karamyk** baz=36	**0.36**	**27**	⇑*i*P	**Pg**	**20 11 06.8**	**-0.2**
DRK				⇑*i*S	**Sg**	**20 11 10.6**	**-1.1**
BTK	**Batken** baz=22	**1.08**	**327**	⇓*i*P	**Pb**	**20 11 21.1**	**-0.4**
BTK				⇓*i*S	**Sb**	**20 11 35.1**	**-1.0**
BTK	**Batken**	**1.08**	**327**	*i* P	**Pb**	**20 11 21.0**	**-0.4**
BTK				*i* S	**Sg**	**20 11 34.0**	**-0.6**
FRG	**Fergana**	**1.58**	**5**	*e*P	Pn	20 11 24.0	-5.2
FRG				*e*S	Sn	20 11 39.0	-11
OHH	**Osh** baz=36	**1.65**	**34**	⇑*i*P	**Pn**	**20 11 31.1**	**+0.9**
OHH				⇑*i*S	**Sn**	**20 11 52.0**	**0.0**
SFK	**Sufi-Kurgan** baz=63	**1.71**	**59**	⇓*i*P	**Pb**	**20 11 32.7**	**+0.3**
SFK				⇓*i*S	**Sg**	**20 11 55.6**	**+0.6**
NAM	**Namangan**	**1.83**	**2**	*i* P	**Pg**	**20 11 36.0**	**+0.9**
NAM				S	**Sg**	**20 12 02.0**	**+3.1**
ARSB	**Arslanbob** baz=27	**2.41**	**26**	⇑*i*P	**Pb**	**20 11 43.2**	**-1.1**
ARSB				⇑*i*S	**Sn**	**20 12 13.0**	**+2.0**
CHMG	**Chimgan**	**2.68**	**334**	P	**Pg**	**20 11 51.0**	**-0.3**
CHMG				S	**Sg**	**20 12 26.0**	**0.0**
CHRV	**Charvak**	**2.78**	**334**	P	**Pb**	**20 11 51.0**	**+0.6**
CHRV				S	**Sg**	**20 12 28.0**	**-1.2**
TAS	**Tashkent**	**2.79**	**322**	P	**Pb**	**20 11 51.0**	**+0.4**
TAS				S	**Sg**	**20 12 29.0**	**-0.5**
IUG	**Iuzhnay** 48nm,0.4s	**3.21**	**339**	*e*P	**Pg**	**20 12 00.3**	**-1.2**
IUG				*e*S	**Sg**	**20 12 42.8**	**-0.4**
208nm,0.8s							
IUG	**Iuzhnay** 48nm,0.4s	**3.21**	**339**	Pg	**Pb**	**20 11 59.6**	**+1.7**
IUG				Lg	Lg	20 12 42.8	
208nm,0.8s							
AML	**Almayashu** baz=28	**3.38**	**28**	⇓*i*P	**Pn**	**20 11 57.2**	**+3.0**
AML				⇓*i*S	**Sn**	**20 12 36.6**	**+1.5**
baz=28							
AML	**Almayashu** SNR=121	**3.38**	**28**	P	**Pn**	**20 11 57.7**	**+3.5**
MNAS	**Manas** baz=12	**3.40**	**12**	⇑*i*P	**Pn**	**20 11 57.3**	**+3.0**
MNAS				⇑*i*S	**Sn**	**20 12 37.0**	**+1.7**
baz=12							
KSH	**Kashi**	**3.42**	**83**	P	**Pn**	**20 11 54.4**	**-0.2**
CHM	**Chimkent** 6.9nm,0.3s	**3.50**	**335**	*e*P	**Pg**	**20 12 07.2**	**+0.1**
CHM				*e*S	**Sg**	**20 12 54.4**	**+2.0**
325nm,0.4s							
DZA	**Taraz** 49nm,0.1s	**3.74**	**357**	*e*P	**Pb**	**20 12 08.8**	**+2.0**
DZA				*e*S	**Sg**	**20 12 57.5**	**-2.6**
161nm,0.5s							
DZA	**Taraz** baz=359	**3.74**	**357**	*e*P	**Pn**	**20 12 01.8**	**+3.0**
DZA	**Taraz** 45nm,0.6s	**3.74**	**357**	Pg	**Pb**	**20 12 07.4**	**+0.7**
DZA				Lg	Lg	20 12 57.5	
161nm,0.5s							
DZA	**Taraz**	**3.74**	**357**	*e*PN	**Pn**	**20 12 01.8**	**+3.0**
UCH	**Uchtor** baz=36	**3.79**	**35**	⇓*i*P	**Pn**	**20 12 02.9**	**+3.0**
UCH				⇓*i*S	**Sn**	**20 12 46.6**	**+1.2**
baz=36							
UCH	**Uchtor** SNR=73	**3.79**	**35**	P	**Pn**	**20 12 03.8**	**+3.9**
EKS2	**Erkin-Say** baz=25	**3.88**	**25**	⇓*i*P	**Pn**	**20 12 03.9**	**+3.1**
EKS2				⇓*i*S	**Sn**	**20 12 48.1**	**+1.1**
baz=25							
EKS2	**Erkin-Say** SNR=31	**3.88**	**25**	P	**Pn**	**20 12 04.8**	**+4.0**
KK31	**Karatay Array** 12nm,0.5s,baz=168,slow=13,SNR=181	**4.03**	**349**	⇑Pn	**Pn**	**20 12 06.1**	**+3.3**
KK31				⇓Sn	**Sn**	**20 12 55.3**	**+4.7**
16nm,0.4s,baz=165,slow=23,SNR=3.9							
KK31				⇑Lg	Lg	20 13 07.7	
17nm,0.4s,baz=165,slow=28,SNR=6.0							
KK31	**Karatay Array**	**4.03**	**349**	PN	**Pn**	**20 12 06.1**	**+3.3**
KK31				SN	**Sn**	**20 12 55.3**	**+4.7**
KK31	**Karatay Array**	**4.03**	**349**	Pn	**Pn**	**20 12 06.1**	**+3.3**
KKAR	**Karatay Array**	**4.03**	**349**	PN	**Pn**	**20 12 05.9**	**+3.1**
KKAR	**Karatay Array**	**4.03**	**349**		**Pn**	**20 12 06.2**	**+3.4**
KKAR	**Karatay Array**	**4.03**	**349**	Pn	**Pn**	**20 12 05.9**	**+3.1**
BRLS	**Borolday** 16nm,0.2s	**4.09**	**342**	*e*P	**Pb**	**20 12 12.0**	**-0.8**
BRLS				*e*S	**Sb**	**20 13 03.5**	**+0.8**
44nm,0.5s							
BRLS	**Borolday** 16nm,0.2s	**4.09**	**342**	Pg	**Pb**	**20 12 10.7**	**-2.1**
BRLS				Lg	Lg	20 13 03.5	
44nm,0.5s							
AAK	**Ala-Archa**	**4.12**	**31**	P	**Pn**	**20 12 08.0**	**+3.9**
8.8nm,0.3s,baz=207,slow=3.9,SNR=129							
AAK				S	**Sn**	**20 12 54.0**	**+1.0**
1.2nm,0.3s,baz=69,slow=14,SNR=1.8							
AAK	**Ala-Archa** baz=32	**4.12**	**31**	⇓*i*P	**Pn**	**20 12 07.2**	**+3.0**
AAK				⇓*i*S	**Sn**	**20 12 54.1**	**+1.0**
baz=32							
AAK	**Ala-Archa** SNR=43	**4.12**	**31**	P	**Pn**	**20 12 08.1**	**+3.9**
AAK	**Ala-Archa** 12nm,0.4s	**4.12**	**31**	⇑Pn	**Pn**	**20 12 08.4**	**+4.2**
AAK				⇑Pg	**Pg**	**20 12 19.6**	**+0.7**
29nm,0.6s							
AAK				⇑Lg	Lg	20 13 11.5	
19nm,0.5s							
AAK	**Ala-Archa**	**4.12**	**31**	PN	**Pn**	**20 12 08.3**	**+4.2**
AAK						20 12 54.0	
AAK	**Ala-Archa**	**4.12**	**31**	Pn	**Pn**	**20 12 08.3**	**+4.2**
FRU1	**Bishkek** baz=32	**4.32**	**31**	*e*P	**Pn**	**20 12 09.9**	**+3.1**
FRU1				⇑*i*S	**Sn**	**20 12 59.0**	**+1.2**
baz=32							
KBK	**Karagaybulak** baz=36	**4.33**	**35**	⇑*e*P	**Pn**	**20 12 10.2**	**+3.2**
KBK				⇑*i*S	**Sn**	**20 12 59.5**	**+1.3**
baz=36							
KBK	**Karagaybulak** SNR=71	**4.33**	**35**	P	**Pn**	**20 12 11.7**	**+4.6**
CHMS	**Chumysh** baz=32	**4.52**	**31**	⇑*i*P	**Pn**	**20 12 12.4**	**+2.8**
CHMS				⇑*i*S	**Sn**	**20 13 03.7**	**+0.9**
baz=32							
CHMS	**Chumysh** SNR=22	**4.52**	**31**	P	**Pn**	**20 12 14.2**	**+4.6**
USP	**Ospenovka** baz=28	**4.66**	**27**	⇓*i*P	**Pn**	**20 12 14.4**	**+2.9**
USP				⇓*i*S	**Sn**	**20 13 07.0**	**+0.8**
baz=28							
USP	**Ospenovka** SNR=47	**4.66**	**27**	P	**Pn**	**20 12 15.3**	**+3.8**
BOOM	**Boomskoye usch** baz=44	**4.69**	**43**	⇑*i*P	**Pn**	**20 12 15.3**	**+3.2**
BOOM				⇑*i*S	**Sn**	**20 13 08.7**	**+1.5**
baz=44							
ULHL	**Ulahol** baz=48	**4.70**	**47**	⇑*i*P	**Pn**	**20 12 15.3**	**+3.1**
ULHL				⇑*i*S	**Sn**	**20 13 08.7**	**+1.3**
baz=48							
ULHL	**Ulahol** SNR=8.9	**4.70**	**47**	P	**Pn**	**20 12 15.8**	**+3.6**
TKM2	**Tokmak 2** SNR=6.2	**4.83**	**38**	P	**Pn**	**20 12 18.4**	**+4.4**
TKM2	**Tokmak 2** 8.4nm,0.5s	**4.83**	**38**	⇑Pn	**Pn**	**20 12 17.8**	**+3.8**
TKM2				Lg	Lg	20 13 36.2	
10nm,0.6s							
TKM2	**Tokmak 2**	**4.83**	**38**	PN	**Pn**	**20 12 17.8**	**+3.8**
SGDS	**Sogindy** 5.7nm,0.6s,baz=28	**4.87**	**27**	*e*P	**Pn**	**20 12 17.6**	**+3.2**
SGDS	**Sogindy** 13nm,0.6s	**4.87**	**27**	Pg	**Pb**	**20 12 26.4**	**+0.4**
SGDS				Lg	Lg	20 13 29.9	
15nm,0.7s							
SGDS	**Sogindy**	**4.87**	**27**	*e*PN	**Pn**	**20 12 17.5**	**+3.2**
SGDS				pmax	pmax		
comp=Z,6.0nm,0.6s							
KBL	**Kabul**	**5.04**	**205**	PN	Pn	20 12 23.0	+6.1
KBL	**Kabul**	**5.04**	**205**	Pn	Pn	20 12 23.0	+6.1
KST	**Kastek** comp=Z,9.6nm,0.4s	**5.10**	**39**	*e*P	**Pb**	**20 12 34.2**	**+4.2**
KST				*e*S	**Sg**	**20 13 40.9**	**-2.8**
comp=Z,11nm,1.0s							
KST	**Kastek** comp=Z,6.8nm,0.6s	**5.10**	**39**	Pg	**Pb**	**20 12 31.2**	**+1.2**
KST				Lg	Lg	20 13 38.8	
comp=Z,11nm,1.0s							
KDJ	**Kajisay** baz=54	**5.19**	**53**	⇑*i*P	**Pn**	**20 12 22.6**	**+3.7**
KDJ				⇑*i*S	**Sn**	**20 13 20.9**	**+1.4**
baz=54							
MTBS	**Maitube** comp=Z,6.0nm,0.5s	**5.40**	**41**	*e*P	**Pg**	**20 12 39.9**	**-3.5**
MTBS				*e*S	**Sg**	**20 13 51.7**	**-1.6**
comp=Z,12nm,0.6s							
MTBS	**Maitube** comp=Z,6.0nm,0.5s	**5.40**	**41**	Pg	**Pb**	**20 12 39.2**	**+4.1**
MTBS				Lg	Lg	20 13 51.7	
comp=Z,12nm,0.6s							
KRBS	**Karabastau** comp=Z,4.3nm,0.5s	**5.48**	**33**	*e*P	**Pb**	**20 12 39.4**	**+3.0**
KRBS				*e*S	**Sg**	**20 13 50.7**	**-5.2**
comp=Z,11nm,0.9s							
KRBS	**Karabastau** comp=Z,6.0nm,0.8s	**5.48**	**33**	Pg	**Pb**	**20 12 37.9**	**+1.4**
KRBS				Lg	Lg	20 13 50.3	
comp=Z,11nm,0.9s							
TNSS	**Tian-Shan** comp=Z,2.9nm,0.6s	**5.61**	**45**	*e*P	**Pb**	**20 12 42.3**	**+3.5**
TNSS				*e*S	**Sg**	**20 13 55.2**	**-4.8**
comp=Z,6.8nm,0.8s							
TNSS	**Tian-Shan** baz=45	**5.61**	**45**	*e*P	**Pn**	**20 12 28.4**	**+3.5**
TNSS	**Tian-Shan** comp=Z,2.9nm,0.6s	**5.61**	**45**	Pg	**Pb**	**20 12 40.7**	**+1.9**
TNSS				Lg	Lg	20 13 54.6	
comp=Z,6.8nm,0.8s							
TNSS	**Tian-Shan**	**5.61**	**45**	*e*PN	**Pn**	**20 12 28.3**	**+3.5**
NIL	**Nilore**	**5.66**	**166**	PN	Pn	20 12 33.2	+8.0
NIL	**Nilore**	**5.66**	**166**	Pn	Pn	20 12 33.1	+7.9
AAA	**Alma-Ata** comp=Z,4.6nm,0.5s,baz=43	**5.71**	**43**	*e*P	**Pn**	**20 12 30.1**	**+4.2**
AAA	**Alma-Ata**	**5.71**	**43**	*e*PN	**Pn**	**20 12 30.1**	**+4.2**
AAA				pmax	pmax		
comp=Z,5.0nm,0.5s							
KNDC	**Almaty** comp=Z,20nm,0.6s	**5.74**	**43**	⇑Pg	**Pb**	**20 12 44.5**	**+3.7**
KNDC				⇑Lg	Lg	20 14 03.3	
comp=Z,31nm,0.7s							
MDOK	**Medeo** comp=Z,5.8nm,0.8s	**5.75**	**44**	*e*P	**Pb**	**20 12 45.6**	**+4.5**
MDOK				*e*S	**Sg**	**20 14 00.9**	**-3.6**
comp=Z,10nm,0.8s							
MDOK	**Medeo** baz=44	**5.75**	**44**	*e*P	**Pn**	**20 12 30.7**	**+4.2**
MDOK	**Medeo** comp=Z,2.2nm,0.5s	**5.75**	**44**	⇑Pn	**Pn**	**20 12 30.8**	**+4.3**
MDOK				⇑Pg	**Pg**	**20 12 49.2**	**-0.9**
comp=Z,8.3nm,0.6s							
MDOK				⇓Lg	Lg	20 14 07.1	
comp=Z,14nm,0.8s							
MDOK	**Medeo** comp=Z,4.8nm,0.8s	**5.75**	**44**	Pg	**Pb**	**20 12 43.3**	**+2.2**
MDOK				Lg	Lg	20 13 59.9	
comp=Z,10nm,0.8s							
MDOK	**Medeo**	**5.75**	**44**	*e*PN	**Pn**	**20 12 30.7**	**+4.2**
KUU	**Kurty** baz=36	**5.92**	**35**	*e*P	**Pn**	**20 12 32.3**	**+3.4**
KUU	**Kurty**	**5.92**	**35**	*e*PN	**Pn**	**20 12 32.3**	**+3.4**
SATY	**Saty** baz=51	**6.46**	**51**	*e*P	**Pn**	**20 12 39.3**	**+3.0**
SATY	**Saty**	**6.46**	**51**	*e*PN	**Pn**	**20 12 39.3**	**+3.0**
KPKS	**Kokpek** comp=Z,2.4nm,0.3s,baz=49	**6.86**	**49**	*e*P	**Pn**	**20 12 46.1**	**+4.3**
KPKS	**Kokpek**	**6.86**	**49**	*e*PN	**Pn**	**20 12 46.0**	**+4.3**
KPKS				pmax	pmax		
comp=Z,2.0nm,0.3s							
UZB	**Uzynbulak** baz=52	**6.88**	**52**	*e*P	**Pn**	**20 12 46.2**	**+4.0**
UZB	**Uzynbulak**	**6.88**	**52**	*e*PN	**Pn**	**20 12 46.1**	**+4.0**
SHLS	**Shalkode** baz=55	**7.16**	**54**	*e*P	Pn	20 12 52.9	+7.0
SHLS	**Shalkode**	**7.16**	**54**	*e*P	Pn	20 12 52.9	+7.0
PDGK	**Podgornoye** comp=Z,3.5nm,0.7s	**7.27**	**52**	⇓Pn	**Pn**	**20 12 50.3**	**+2.9**
PDGK				⇑Lg	Lg	20 14 53.4	
comp=Z,7.6nm,0.8s							
PDGK	**Podgornoye**	**7.27**	**52**	PN	**Pn**	**20 12 50.3**	**+2.9**
TDK	**Taldyqorghan** baz=39	**7.73**	**39**	*e*P	**Pn**	**20 12 57.2**	**+3.5**
TDK	**Taldyqorghan**	**7.73**	**39**	*e*P	**Pn**	**20 12 57.2**	**+3.5**
SMLA	**Simla**	**9.22**	**149**	*e*P	**Pn**	**20 13 18.6**	**+4.5**
SMLA				*e*S	**Sn**	**20 14 57.5**	**-0.9**
SMLA				IAML		20 15 02.2	
comp=N,13nm,0.5s							
SMLA				IAML		20 15 03.4	
comp=E,11nm,0.8s							
MAKZ	**Makanchi**	**10.78**	**41**	P	**Pn**	**20 13 39.1**	**+3.6**
MAKZ	**Makanchi**	**10.78**	**41**		**Pn**	**20 13 39.1**	**+3.6**
MKAR	**Makanchi Array** comp=E,0.1nm,0.3s,baz=234,slow=14,SNR=13	**10.94**	**42**	P	**Pn**	**20 13 40.7**	**+3.1**
MKAR	**Makanchi Array**	**10.94**	**42**	Pn	**Pn**	**20 13 40.4**	**+2.8**
MK31	**Makanchi Array**	**10.94**	**42**	*i* P	**Pn**	**20 13 41.0**	**+3.4**
MK31	**Makanchi Array**	**10.94**	**42**		**Pn**	**20 13 40.8**	**+3.2**
WMQ	**Urumqi**	**12.94**	**64**	*e*P	Pn	20 14 10.8	+5.8
AB31	**Akbulak array** comp=E,1.1nm,0.5s,baz=142,slow=12,SNR=39	**13.09**	**324**	⇑Pn	**Pn**	**20 14 06.9**	**0.0**
AB31				⇑Sn	**Sn**	**20 16 32.0**	**-1.1**
comp=E,1.8nm,0.5s,baz=136,slow=24,SNR=7.8							
AB31	**Akbulak array**	**13.09**	**324**	P	**Pn**	**20 14 06.9**	**0.0**
AB31				SN	**Sn**	**20 16 31.9**	**-1.1**
ABKAR	**Akbulak array**	**13.09**	**324**		**Pn**	**20 14 06.3**	**-0.5**
ABKAR					Sn	20 16 23.5	-10
ABKAR	**Akbulak array**	**13.09**	**324**		**Pn**	**20 14 06.4**	**-0.5**
ABKAR					**Sn**	**20 16 26.3**	**-6.7**
BVAR	**Borovoye Array** comp=E,0.2nm,0.3s,baz=174,slow=16,SNR=4.2	**13.90**	**357**	P	**Pn**	**20 14 14.3**	**-3.7**
BRVK	**Borovoye**	**13.93**	**357**	*i* P	**Pn**	**20 14 18.7**	**+0.3**
BRVK	**Borovoye**	**13.93**	**357**	Pn	**Pn**	**20 14 17.8**	**-0.6**
AKTO	**Aktyubinsk** comp=E,0.4nm,0.3s,baz=115,slow=14,SNR=3.8	**14.80**	**324**	P	**Pn**	**20 14 31.0**	**+0.7**
AKTO				S	**Sn**	**20 17 08.8**	**-6.1**
comp=E,0.1nm,0.3s,baz=205,slow=18,SNR=2.9							
AKTO	**Aktyubinsk** comp=E,6.6nm,0.7s	**14.80**	**324**	⇑Pn	**Pn**	**20 14 31.8**	**+1.5**
AKTO				⇑Sn	**Sn**	**20 17 15.9**	**+1.0**
comp=E,2.7nm,0.7s							
AKTO	**Aktyubinsk**	**14.80**	**324**	P	**Pn**	**20 14 31.8**	**+1.5**
AKTO				SN	**Sn**	**20 17 15.9**	**+1.0**
DGZ	**Jazzator, Alta** comp=Z,4.0nm,0.7s	**15.44**	**42**	*i* P	**Pn**	**20 14 39.3**	**+0.4**
DGZ				pmax	pmax		
comp=Z,4.0nm,0.7s							
ZAA0	**Zalesovo Array**	**17.32**	**27**	P	**Pn**	**20 15 02.1**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.3s,baz=212,slow=11,SNR=18	**17.32**	**27**	P	**Pn**	**20 15 03.5**	**+0.6**
ZALV	**Zalesovo Beam**	**17.32**	**27**		**Pn**	**20 15 02.8**	**-0.1**
ARU	**Arti** comp=Z,0.0nm,0.3s,baz=156,slow=6.7,SNR=5.0	**19.31**	**338**	P	**Pn**	**20 15 28.4**	**+1.2**
ARU	**Arti**	**19.31**	**338**	*c* *i*P	**P**	**20 15 24.4**	**-1.8**
ARU				S	**Sn**	**20 19 01.4**	**-2.7**
ARU

KIV	**Kislovodsk**	**22.09**	**292**	P	**P**	**20 15 55.8**	**-0.8**
KIV				IAmb	IAmb	20 16 25.2	
	comp=Z,4.5nm,1.1s						
SONM	**Songino Array**	**26.52**	**59**	P	**P**	**20 16 39.9**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=261,slow=7.6,SNR=4.9						
SONM	**Songino Array**	**26.52**	**59**	IAmb	IAmb	20 16 43.5	
	comp=Z,0.9nm,1.2s						
HHC	**Hu-ho-hao-te**	**30.49**	**74**	*e*P	P	20 17 20.3	+5.8
HHC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES	**FINESS Array B**	**35.58**	**324**	P	**P**	**20 18 00.2**	**+1.7**
	comp=Z,1.6nm,1.0s,baz=108,slow=12,SNR=1.7						
ARCES	**ARCESS Array B**	**38.89**	**336**	P	**P**	**20 18 27.8**	**+1.3**
	comp=Z,3.7nm,0.9s,baz=118,slow=9.3,SNR=1.6						
NOA	**NORSAR Array B**	**42.57**	**321**	P	**P**	**20 18 57.5**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=105,slow=7.5,SNR=1.6						
KULM	**Kulim**	**42.75**	**135**	P	**P**	**20 18 58.0**	**-1.0**
TIXI	**Tiksi**	**43.15**	**23**	*ce*P	**P**	**20 18 58.4**	**-3.2**
TIXI	**Tiksi**	**43.15**	**23**	P	**P**	**20 19 01.0**	**-0.6**
TIXI				IAmb	IAmb	20 19 02.9	
	comp=Z,2.2nm,0.6s						
YSS	**Yuzh-Sakhalins**	**50.95**	**57**	*i* P	**P**	**20 19 59.9**	**-2.9**
ESDC	**Sonseca Array**	**56.66**	**297**	P	**P**	**20 20 45.7**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=57,slow=7.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**66.26**	**268**	P	**P**	**20 21 50.4**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=50,slow=5.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	**66.26**	**268**	IAmb	IAmb	20 21 51.4	
	comp=Z,2.0nm,1.4s						
INK	**Inuvik**	**71.21**	**10**	P	**P**	**20 22 20.9**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=27,slow=10,SNR=4.1						
INK	**Inuvik**	**71.21**	**10**	P	**P**	**20 22 20.9**	**+0.8**
INK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
INK	**Inuvik**	**71.21**	**10**	IAmb	IAmb	20 22 31.2	
	comp=Z,5.5nm,1.4s						
ILAR	**Eielson Array**	**72.10**	**16**	P	**P**	**20 22 25.6**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=322,slow=4.8,SNR=5.2						
YKA	**Yellowknife Ar**	**78.57**	**3**	P	**P**	**20 23 03.5**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=358,slow=5.5,SNR=7.2						
WRA	**Warramunga Arr**	**83.01**	**123**	P	**P**	**20 23 26.7**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=325,slow=4.8,SNR=8.2						
WRA	**Warramunga Arr**	**83.01**	**123**	P	**P**	**20 23 26.7**	**-0.4**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						

BJI **17** *20:16:17.1±0.0, 17.˙48S×178.˙11W, h548km, mB5.2/44, mb5.3/76*

NOU **17** *20:16:17.8, 17.˙79S×178.˙61W, h532km, ML5.1, Fiji Islands Region*

MOS **17** *20:16:18.9±0.9, 17.˙73S×178.˙71W, h557km, mb5.5/19, Error ellipse: s-maj=7.0km s-min=6.2km az=86.6*

BGR **17** *20:16:19.2±0.0, 18.˙51S×177.˙75W, h560km±3km*

NEIC **17** *20:16:19.1±2.2, 17.˙82S±0.˙08×178.˙57W±0.˙02, h556km±4km, mb5.4/475, Mwb5.6/16, Mww5.5, Mwc5.6(GCMT), Error ellipse: s-maj=11.4km s-min=1.7km az=194.0*

NEIC **17** *20:16:19.4, 17.˙81S×178.˙61W, h557km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.47; $M_{\theta\theta}$-0.87; $M_{\phi\phi}$-2.60; $M_{r\theta}$1.37; $M_{r\phi}$0.87; $M_{\theta\phi}$-0.25; Fault plane solution: M_o3.53000×10^{17} NP1:ϕ_s350.10000°, δ39.83000°, λ112.80000°. NP2:ϕ_s141.40000°, δ53.81000°, λ72.09000°. Principal axes: T 3.8689, Plg74.0000°, Azm360.0000°; N -0.8136, Plg14.0000°, Azm152.0000°; P -3.0553, Plg7.0000°, Azm244.0000°;*

IDC **17** *20:16:20.1±0.3, 17.˙86S×178.˙69W, h563km±3km, mb4.8/56, mb1 4.8/59, mb1mx4.7/65, mbtmp5.6/59 Error ellipse: s-maj=7.1km s-min=4.7km az=166.0*

GCMT **17** *20:16:22.1±0.2, 17.˙79S±0.˙02×178.˙57W±0.˙02, h560km±1km, MW5.6/130, Moment Tensor Solution. s130, c191; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}2.45±.05; $M_{\theta\theta}$-0.16±.08; $M_{\phi\phi}$-2.29±.08; $M_{r\theta}$1.08±.08; $M_{\theta\phi}$1.39±.07; $M_{r\phi}$-0.01±.08; Best double couple: M_o2.95300×10^{17} NP1:ϕ_s355.00000°, δ44.00000°, λ122.00000°. NP2:ϕ_s133.00000°, δ54.00000°, λ63.00000°. Principal axes: T 2.8840, Plg67.0000°, Azm345.0000°; N 0.1360, Plg22.0000°, Azm150.0000°; P -3.0220, Plg5.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

NEIC **17** *20:16:22, 17.˙75S×178.˙51W, h565km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.52; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-2.47; $M_{r\theta}$0.93; $M_{\theta\phi}$1.31; $M_{r\phi}$0.03; Fault plane solution: M_o2.97000×10^{17} NP1:ϕ_s356.00000°, δ45.00000°, λ119.00000°. NP2:ϕ_s137.00000°, δ52.00000°, λ64.00000°. Principal axes: T 2.8570, Plg70.0000°, Azm345.0000°; N 0.2079, Plg20.0000°, Azm154.0000°; P -3.0649, Plg4.0000°, Azm245.0000°;*

NEIC **17** *20:16:23, 17.˙61S×178.˙71W, h570km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.16; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-2.14; $M_{r\theta}$0.45; $M_{\theta\phi}$0.91; $M_{r\phi}$0.41; Fault plane solution: M_o2.42000×10^{17} NP1:ϕ_s144.00000°, δ44.00000°, λ67.00000°. NP2:ϕ_s355.00000°, δ50.00000°, λ111.00000°. Principal axes: T 2.3338, Plg74.0000°, Azm330.0000°; N 0.1554, Plg16.0000°, Azm161.0000°; P -2.4892, Plg3.0000°, Azm70.0000°;*

ISC 17 20:16:18.8±0.2,**17.80S**±0.˙03×**178.˙56W**±0.˙03, **h557km**±2km,**h558km**:**pP-P,n1445,**σ1s**49**/1621,**mb5.4**/346, **184C-85D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.23**	**271**	P	**P**	**20 17 36.9**	**+1.0**
	117nm,0.3s,baz=125,slow=5.0,SNR=766						
MSVF				S	**S**	**20 18 41.2**	**+2.5**
	7.6nm,0.3s,baz=308,slow=23,SNR=21						
MSVF	**Nonsavu**	**3.23**	**271**	P	**P**	**20 17 37.1**	**+1.1**
MSVF				S	**S**	**20 18 41.6**	**+2.8**
AFI	**Afiamalu**	**7.59**	**60**	P	**P**	**20 18 10.1**	**-2.8**
	114nm,0.3s,baz=4.4,slow=1.3,SNR=72						
AFI				S	**S**	**20 19 42.7**	**-3.6**
	12nm,0.3s,baz=196,slow=19,SNR=2.0						
AFI	**Afiamalu**	**7.59**	**60**	P	**P**	**20 18 10.1**	**-2.8**
AFI				S	**S**	**20 19 40.5**	**-5.7**
AFI	**Afiamalu**	**7.59**	**60**	P	**P**	**20 18 10.1**	**-2.8**
AFI				S	**S**	**20 19 40.5**	**-5.7**
AFI	**Afiamalu**	**7.59**	**60**	P	**P**	**20 18 10.6**	**-2.3**
NIUE	**Niue**	**8.29**	**100**	P	**P**	**20 18 19.6**	**-0.1**
NIUE				S	**S**	**20 19 58.3**	**-0.5**
NIUE	**Niue**	**8.29**	**100**	P	**P**	**20 18 19.9**	**+0.2**
FUNA	**Funafuti**	**9.47**	**346**	P	**P**	**20 18 31.2**	**-0.4**
RIZ	**Raoul Island**	**11.41**	**177**	S	**S**	**20 20 58.2**	**+1.7**
GLKZ	**Green Lake**	**11.43**	**177**	P	**P**	**20 18 49.3**	**-2.1**
GLKZ				S	**S**	**20 20 49.7**	**-7.1**
MARNC	**Mare, Loyalty**	**13.15**	**252**	P	**P**	**20 19 07.2**	**-2.1**
YATNC	**Mamie plateau,**	**14.32**	**250**	P	**P**	**20 19 19.3**	**-2.0**
OUENC	**Ouen Island, N**	**14.46**	**249**	P	**P**	**20 19 21.3**	**-1.4**
DZM	**Mont Dzumac**	**14.73**	**251**	*e*P	**P**	**20 19 24.0**	**-1.5**
	1μm,1.4s						
DZM	**Mont Dzumac**	**14.73**	**251**	P	**P**	**20 19 24.0**	**-1.5**
	23nm,0.3s,baz=80,slow=11,SNR=129						
DZM				S	**S**	**20 21 59.1**	**0.0**
	baz=148,slow=17,SNR=1.6						
DZM	**Mont Dzumac**	**14.73**	**251**	P	**P**	**20 19 23.6**	**-1.9**
DZM	**Mont Dzumac**	**14.73**	**251**	P	**P**	**20 19 24.0**	**-1.5**
ONTNC	**Ouen Toro**	**14.78**	**250**	P	**P**	**20 19 24.4**	**-1.5**
KNTN	**Kanton**	**16.37**	**25**	P	**P**	**20 19 41.4**	**-0.3**
KNTN	**Kanton**	**16.37**	**25**	P	**P**	**20 19 41.7**	**0.0**
KOUNC	**Koumac, New Ca**	**16.43**	**258**	P	**P**	**20 19 41.8**	**-0.4**
NFK	**Norfolk Island**	**16.68**	**225**	P	**P**	**20 19 46.2**	**+1.9**
	baz=17,SNR=8.0						
NFK	**Norfolk Island**	**16.68**	**225**	P	**P**	**20 19 46.5**	**+2.2**
RAR	**Rarotonga**	**18.03**	**104**	P	**P**	**20 19 57.7**	**+1.0**
	6.8nm,0.3s,baz=253,slow=8.0,SNR=26						
RAR	**Rarotonga**	**18.03**	**104**	P	**P**	**20 19 57.8**	**+1.1**
RAR				pmax	pmax		
	comp=Z,193nm,1.1s						
RAR	**Rarotonga**	**18.03**	**104**	P	**P**	**20 19 57.8**	**+1.1**
RAR	**Rarotonga**	**18.03**	**104**	P	**P**	**20 19 58.1**	**+1.4**
OUZ	**Omahuta**	**18.70**	**200**	P	**P**	**20 20 04.5**	**+1.9**
OUZ				PcP	**PcP**	**20 24 04.5**	**+2.4**
OUZ	**Omahuta**	**18.70**	**200**	P	**P**	**20 20 04.9**	**+2.3**
GRZ	**Great Barrier**	**19.13**	**195**	P	**P**	**20 20 07.9**	**+1.4**
WCZ	**Waipu Caves**	**19.13**	**198**	P	**P**	**20 20 09.2**	**+2.7**
KUZ	**Kuaotunu**	**19.54**	**194**	P	**P**	**20 20 11.3**	**+1.1**
ABAZ	**Army Bay**	**19.62**	**196**	P	**P**	**20 20 13.1**	**+2.1**
WIAZ	**Waiheke Island**	**19.72**	**195**	P	**P**	**20 20 13.4**	**+1.5**
MBAZ	**Motutapu North**	**19.76**	**196**	P	**P**	**20 20 14.1**	**+1.9**
MXZ	**Matakaoa Point**	**19.88**	**187**	P	**P**	**20 20 11.4**	**-1.9**
EPAZ	**Eden Park BICE**	**19.90**	**196**	P	**P**	**20 20 15.7**	**+2.3**
ETAZ	**East Tamaki Re**	**19.93**	**195**	P	**P**	**20 20 15.6**	**+1.8**
WTAZ	**Waiatarua**	**20.00**	**196**	P	**P**	**20 20 15.9**	**+1.5**
WMGZ	**Waiomatatini S**	**20.12**	**187**	P	**P**	**20 20 15.2**	**-0.3**
WMGZ				S	**S**	**20 23 27.0**	**-0.2**
HAZ	**Te Kaha**	**20.14**	**188**	P	**P**	**20 20 13.5**	**-2.2**
HAZ				S	**S**	**20 23 20.5**	**-7.0**
PKGZ	**Pakihiroa**	**20.23**	**188**	P	**P**	**20 20 16.0**	**-0.6**
LIRZ	**Lichensteins R**	**20.61**	**191**	P	P	20 20 08.2	-12
URZ	**Urewera**	**20.73**	**190**	P	**P**	**20 20 18.0**	**-3.0**
	comp=Z,88nm,0.7s,baz=7.0,slow=2.4,SNR=40						
URZ				S	**S**	**20 23 32.0**	**-4.8**
	comp=Z,25nm,0.8s,baz=25,slow=15,SNR=3.8						
URZ	**Urewera**	**20.73**	**190**	P	**P**	**20 20 18.4**	**-2.7**
HIZ	**Hauiti**	**21.43**	**194**	P	**P**	**20 20 28.5**	**+1.2**
HIZ				IAmb	IAmb	20 20 32.0	
	comp=Z,176nm,1.3s						
BKZ	**Black Stump Fm**	**21.72**	**190**	P	**P**	**20 20 26.6**	**-3.4**
BKZ				IAmb	IAmb	20 20 36.8	
	comp=Z,54nm,0.6s						
HNR	**Honiara**	**22.46**	**289**	P	**P**	**20 20 36.2**	**-0.7**
	comp=Z,174nm,0.5s,baz=175,slow=3.7,SNR=7.6						
HNR				S	**S**	**20 24 06.9**	**+2.1**
	comp=Z,28nm,0.3s,baz=221,slow=14,SNR=1.1						
HNR	**Honiara**	**22.46**	**289**	P	P	**20 20 36.0**	**-0.9**
HNR	**Honiara**	**22.46**	**289**	P	**P**	**20 20 39.0**	**+2.1**
BFZ	**Birch Farm**	**23.24**	**190**	P	**P**	**20 20 40.7**	**-2.7**
MSWZ	**Moikau Station**	**24.13**	**191**	P	**P**	**20 20 48.6**	**-2.8**
SNZO	**South Karori**	**24.14**	**192**	P	**P**	**20 20 48.5**	**-2.8**
SNZO				IAmb	IAmb	20 20 49.9	
	comp=Z,186nm,1.1s						
BHW	**Baring Head**	**24.20**	**192**	P	**P**	**20 20 49.6**	**-2.3**
QRZ	**Quartz Range**	**24.20**	**197**	P	**P**	**20 20 51.6**	**-0.4**
PLWZ	**Palliser**	**24.28**	**191**	P	**P**	**20 20 50.7**	**-2.0**
NNZ	**Nelson**	**24.35**	**195**	P	**P**	**20 20 51.9**	**-1.4**
NNZ				IAmb	IAmb	20 21 46.3	
	comp=Z,198nm,1.5s						
TUWZ	**Tuamarina**	**24.41**	**194**	P	**P**	**20 20 51.7**	**-2.1**
LHI	**Lord Howe Isla**	**24.43**	**232**	P	**P**	**20 20 55.0**	**+0.9**
	baz=24,SNR=4.9						
LHI	**Lord Howe Isla**	**24.43**	**232**	P	**P**	**20 20 53.3**	**-0.9**
LHI	**Lord Howe Isla**	**24.43**	**232**	P	**P**	**20 20 55.3**	**+1.1**
CMWZ	**Cape Campbell**	**24.66**	**193**	P	**P**	**20 20 54.4**	**-1.6**
BSWZ	**Blackbirch Sta**	**24.70**	**194**	P	**P**	**20 20 54.9**	**-1.5**
THZ	**Tophouse**	**24.98**	**195**	P	**P**	**20 20 55.7**	**-3.2**
THZ				IAmb	IAmb	20 20 59.6	
	comp=Z,69nm,1.0s						
KHZ	**Kahutara**	**25.45**	**194**	P	**P**	**20 21 00.5**	**-2.5**
KHZ				IAmb	IAmb	20 21 02.7	
	comp=Z,73nm,0.5s						
LTZ	**Lake Taylor**	**26.10**	**195**	P	**P**	**20 21 06.1**	**-2.6**
LTZ				IAmb	IAmb	20 21 10.1	
	comp=Z,101nm,0.7s						
OXZ	**Oxford**	**26.66**	**195**	P	**P**	**20 21 11.9**	**-1.8**
OXZ				IAmb	IAmb	20 21 12.5	
	comp=Z,103nm,0.7s						
OXZ					**PcP**	**20 24 19.1**	**+0.4**
MQZ	**McQueen's Vall**	**26.87**	**194**	P	**P**	**20 21 12.8**	**-2.7**
RPZ	**Rata Peaks**	**27.29**	**197**	P	**P**	**20 21 17.2**	**-1.9**
	comp=Z,34nm,0.5s,baz=305,slow=1.7,SNR=19						
RPZ				PcP	**PcP**	**20 24 20.2**	**-0.1**
	comp=Z,14nm,0.5s,baz=323,slow=4.1,SNR=2.5						
RPZ	**Rata Peaks**	**27.29**	**197**	P	**P**	**20 21 16.9**	**-2.2**
RPZ				IAmb	IAmb	20 21 21.5	
	comp=Z,39nm,0.6s						
FOZ	**Fox Glacier**	**27.47**	**199**	P	**P**	**20 21 19.4**	**-1.3**
PAE	**Paea**	**27.59**	**94**	*e*P	**P**	**20 21 22.9**	**+0.8**
	comp=Z,21nm,0.8s						
PPT2	**Papeete2**	**27.60**	**94**	*e*P	**P**	**20 21 23.4**	**+1.1**
	comp=Z,125nm,0.8s						
PPT	**Papeete**	**27.61**	**94**	P	**P**	**20 21 23.5**	**+1.2**
	comp=Z,116nm,0.6s,baz=62,slow=2.3,SNR=23						
PPTF	**Pamatai, Papee**	**27.61**	**94**	P	**P**	**20 21 21.3**	**-1.1**
TBI	**Tubuai**	**27.77**	**106**	*e*P	**P**	**20 21 24.6**	**+1.0**
	comp=Z,116nm,0.8s						
LBZ	**Lake Benmore**	**28.15**	**197**	P	**P**	**20 21 24.5**	**-2.2**
LBZ				IAmb	IAmb	20 21 26.2	
	comp=Z,328nm,2.0s						
LBZ				PcP	**PcP**	**20 24 23.4**	**+1.0**
ODZ	**Otahua Downs**	**28.63**	**196**	P	**P**	**20 21 29.3**	**-1.5**
WKZ	**Wanaka**	**28.89**	**198**	P	**P**	**20 21 31.7**	**-1.5**
WKZ				IAmb	IAmb	20 21 32.3	
	comp=Z,76nm,0.5s						
MEH	**Mehetia**	**29.01**	**95**	*e*P	**P**	**20 21 35.1**	**+0.5**
	comp=Z,36nm,1.3s						
EIDS	**Eidsvold**	**29.17**	**250**	P	**P**	**20 21 35.3**	**-0.5**
	baz=29,SNR=53						
EIDS	**Eidsvold**	**29.17**	**250**	P	**P**	**20 21 35.3**	**-0.5**
EIDS				pP	**pP**	**20 23 04.9**	**-0.9**
EIDS				PcP	**PcP**	**20 24 26.4**	**+1.0**
MLZ	**Mavora Lakes**	**29.65**	**199**	P	**P**	**20 21 39.6**	**-0.1**
VAH	**Vaihoa**	**29.75**	**90**	*e*P	**P**	**20 21 41.4**	**+0.5**
	comp=Z,89nm,0.9s						
KWAJ	**Kwajalein Atol**	**29.75**	**332**	P	**P**	**20 21 41.7**	**+0.8**
KWAJ	**Kwajalein Atol**	**29.75**	**332**	P	**P**	**20 21 41.7**	**+0.8**
KWAJ	**Kwajalein Atol**	**29.75**	**332**	P	**P**	**20 21 41.5**	**+0.6**
ARMA	**Armidale**	**29.87**	**240**	P	**P**	**20 21 42.5**	**+0.6**
	baz=30,SNR=228						
ARMA	**Armidale**	**29.87**	**240**	P	**P**	**20 21 42.5**	**+0.6**
DCZ	**Deep Cove**	**30.05**	**200**	P	**P**	**20 21 42.2**	**-0.9**
DCZ				IAmb	IAmb	20 21 44.3	
	comp=Z,33nm,0.5s						
WHZ	**Wether Hill Ro**	**30.18**	**199**	P	**P**	**20 21 44.0**	**-0.2**
PYZ	**Puysegur Point**	**30.82**	**200**	P	**P**	**20 21 50.7**	**+1.0**
MGCD	**Mangrove Creek**	**31.24**	**235**	P	**P**	**20 21 54.1**	**+0.6**
	baz=31,SNR=68						
RMQ	**Roma**	**31.41**	**248**	P	**P**	**20 21 55.5**	**+0.4**
	baz=31,SNR=81						
RIV	**Riverview**	**31.44**	**234**	P	**P**	**20 21 56.0**	**+0.9**
	baz=32,SNR=4.6						
RABL	**Rabaul**	**31.69**	**292**		**PcP**	**20 24 33.6**	**+1.2**
CTA	**Charters Tower**	**33.32**	**260**	P	**P**	**20 22 10.9**	**-0.4**
	comp=Z,89nm,0.8s,baz=89,slow=10,SNR=66						
CTA				PcP	**PcP**	**20 24 37.7**	**+0.8**
	comp=Z,13nm,0.5s,baz=112,slow=3.0,SNR=2.4						
CTA				S	**S**	**20 26 50.2**	**-3.1**
	comp=Z,14nm,1.0s,baz=280,slow=16,SNR=3.5						
CTAO	**Charters Tower**	**33.32**	**260**	P	**P**	**20 22 11.0**	**-0.4**
CTAO				pP	**pP**	**20 23 43.7**	**0.0**
CTAO				PcP	**PcP**	**20 24 36.4**	**-0.5**
CNB	**Canberra Magne**	**33.38**	**232**	P	**P**	**20 22 12.4**	**+0.7**
	baz=34,SNR=138						
PATS	**Pohnpei**	**33.48**	**315**	P	**P**	**20 22 13.8**	**+1.1**
CAN	**Canberra**	**33.66**	**232**	P	**P**	**20 22 14.3**	**+0.3**
CAN				pmax	pmax		
	comp=Z,334nm,1.4s						
CAN	**Canberra**	**33.66**	**232**	P	**P**	**20 22 14.3**	**+0.3**
YNG	**Young**	**33.74**	**234**	P	**P**	**20 22 15.1**	**+0.4**
	baz=34,SNR=16						
PMG	**Port Moresby**	**34.30**	**280**	P	**P**	**20 22 19.8**	**+0.2**
	comp=Z,157nm,0.9s,baz=73,slow=5.4,SNR=42						
PMG				PcP	**PcP**	**20 24 40.2**	**+0.4**
	comp=Z,27nm,0.9s,baz=162,slow=3.2,SNR=3.9						
PMG				S	**S**	**20 27 08.2**	**+0.1**
	comp=Z,18nm,1.2s,baz=331,slow=18,SNR=1.7						
PMG	**Port Moresby**	**34.30**	**280**	P	**P**	**20 22 20.1**	**+0.4**
PMG				PcP	**PcP**	**20 24 41.1**	**+1.3**
PMG	**Port Moresby**	**34.30**	**280**	P	**P**	**20 22 20.4**	**+0.8**
CMSA	**Cobar Meteorol**	**35.08**	**240**	P	**P**	**20 22 26.0**	**+0.1**
	baz=35,SNR=344						
MTSU	**Mount Surprise**	**35.28**	**264**	P	**P**	**20 22 27.3**	**-0.5**
	baz=35,SNR=61						
QLP	**Quilpie**	**35.44**	**249**	P	**P**	**20 22 28.7**	**-0.2**
	baz=36,SNR=54						
JOHN	**Johnston Islan**	**35.45**	**15**	P	**P**	**20 22 29.7**	**+0.7**
MANU	**Manus Island**	**36.92**	**291**	P	**P**	**20 22 42.3**	**+0.9**
MANU				IAmb	IAmb	20 22 43.9	
	comp=Z,61nm,0.8s						
COEN	**Coen**	**36.96**	**270**	P	**P**	**20 22 41.9**	**+0.3**
COEN				IAmb	IAmb	20 22 43.0	
	comp=Z,147nm,1.2s						
COEN				PcP	**PcP**	**20 24 48.8**	**+1.0**
TOO	**Toolangi**	**37.13**	**231**	P	**P**	**20 22 43.3**	**+0.5**
	baz=37,SNR=141						
TOO	**Toolangi**	**37.13**	**231**	P	**P**	**20 22 43.2**	**+0.5**
TOO				pmax	pmax		
	comp=Z,611nm,1.3s						
TOO	**Toolangi**	**37.13**	**231**	P	**P**	**20 22 43.2**	**+0.5**
MOO	**Moorlands**	**38.08**	**222**	P	**P**	**20 22 51.1**	**+0.7**
	baz=38,SNR=3.9						
TAU	**Tasmania Unive**	**38.23**	**222**	P	**P**	**20 22 51.7**	**+0.2**
TAU				PcP	**PcP**	**20 24 52.9**	**+1.6**
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**20 22 55.0**	**+0.6**
	comp=Z,90nm,0.5s,baz=87,slow=10,SNR=545						
STKA				S	**S**	**20 28 10.1**	**-1.0**
	comp=Z,5.6nm,1.0s,baz=345,slow=23,SNR=1.9						
STKA				PKiKP	**PKiKP**	**20 32 03.8**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=87,slow=3.3,SNR=6.0						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**20 22 55.1**	**+0.6**
	baz=39,SNR=490						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**20 22 55.0**	**+0.6**
STKA				IAmb	IAmb	20 22 56.2	
	comp=Z,100nm,1.4s						
QIS	**Mount Isa**	**39.53**	**259**	P	**P**	**20 23 01.5**	**-1.0**
	baz=40,SNR=14						
ARPS	**Mount Arapiles**	**39.60**	**233**	P	**P**	**20 23 02.9**	**+0.1**
	baz=40,SNR=34						
WAKE	**Wake Island**	**39.61**	**338**	P	**P**	**20 23 03.2**	**+0.2**
H11N3	**WAKE ISLAND Hy**	**39.92**	**338**	P	**P**	**20 23 05.1**	**-0.1**
	baz=184,slow=12,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**39.92**	**338**	P	**P**	**20 23 05.3**	**+0.1**
	baz=184,slow=12,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**39.94**	**338**	P	**P**	**20 23 05.6**	**+0.3**
	baz=184,slow=12,SNR=4.8						
MCQ	**Macquarie Isla**	**40.51**	**200**	P	**P**	**20 23 09.9**	**+0.2**
MCQ				pmax	pmax		
	comp=Z,236nm,1.6s						
MCQ	**Macquarie Isla**	**40.51**	**200**	P	**P**	**20 23 09.9**	**+0.2**
MCQ				IAmb	IAmb	20 24 47.6	
	comp=Z,236nm,1.6s						
HTT	**Hallett**	**41.08**	**239**	P	**P**	**20 23 15.1**	**+0.4**
	baz=41,SNR=81						
JAY	**Jayapura**	**42.74**	**286**	P	**P**	**20 23 28.6**	**+0.7**
	comp=Z,38nm,0.8s,baz=123,slow=6.7,SNR=6.3						
JAY				S	**S**	**20 29 11.6**	**-0.5**
	comp=Z,20nm,0.9s,baz=309,slow=17,SNR=1.7						
KHU	**Kahuku**	**43.17**	**33**	P	**P**	**20 23 32.2**	**+0.8**
KHU				pmax	pmax		
	comp=Z,91nm,1.0s						
KHU	**Kahuku**	**43.17**	**33**	P	**P**	**20 23 32.2**	**+0.8**
KHU				IAmb	IAmb	20 23 39.1	
	comp=Z,91nm,1.0s						
KKH	**Kailua Kona**	**43.31**	**32**	P	**P**	**20 23 32.8**	**+0.7**
KKH	**Kailua Kona**	**43.31**	**32**	P	**P**	**20 23 32.8**	**+0.7**
KHLU	**Kahalu`u**	**43.31**	**32**	P	**P**	**20 23 33.0**	**+0.7**
BBOO	**Buckleboo**	**43.33**	**241**	P	**P**	**20 23 32.5**	**+0.1**
	baz=43,SNR=395						
BBOO	**Buckleboo**	**43.33**	**241**	P	**P**	**20 23 32.4**	**+0.1**
BBOO					**S**	**20 29 18.8**	**-1.2**
AIN	**Ainahou**	**43.35**	**33**	P	**P**	**20 23 33.7**	**+0.9**
AIN				IAmb	IAmb	20 25 11.5	
	comp=Z,76nm,0.7s						
HLP	**Hilina Pali**	**43.37**	**33**	P	**P**	**20 23 34.8**	**+2.0**
HLP				IAmb	IAmb	20 24 29.0	
	comp=Z,126nm,1.0s						
MWH	**Moku'aweowe**	**43.38**	**32**	P	**P**	**20 23 34.1**	**+0.8**
MWH				IAmb	IAmb	20 23 43.9	
	comp=Z,124nm,1.2s						
HUH	**Hualalai**	**43.42**	**32**	P	**P**	**20 23 33.5**	**+0.1**
HUH				IAmb	IAmb	20 23 35.6	
	comp=Z,101nm,0.7s						
MLOA	**Mauna Loa Obse**	**43.43**	**32**	P	**P**	**20 23 34.3**	**+0.7**
MLOA				IAmb	IAmb	20 23 35.5	
	comp=Z,120nm,1.0s						
SDHHI	**Sand Hill**	**43.45**	**33**	P	**P**	**20 23 34.2**	**+0.8**
SDHHI				IAmb	IAmb	20 23 36.0	
	comp=Z,87nm,0.6s						
WRMHI	**West Rim**	**43.46**	**33**	P	**P**	**20 23 34.8**	**+1.3**
WRMHI				IAmb	IAmb	20 23 36.1	
	comp=Z,70nm,0.6s						
RIM	**Rim**	**43.47**	**33**	P	**P**	**20 23 34.6**	**+1.1**
RIM				IAmb	IAmb	20 23 35.6	
	comp=Z,69nm,0.7s						
KKO	**Keanakako`i**	**43.47**	**33**	P	**P**	**20 23 35.1**	**+1.5**
KKO				IAmb	IAmb	20 23 42.5	
	comp=Z,322nm,1.7s						
NPH	**North Pit**	**43.48**	**33**	P	**P**	**20 23 35.3**	**+1.7**
NPH				IAmb	IAmb	20 24 00.8	
	comp=Z,157nm,1.6s

	comp=Z,0.3nm,0.5s,baz=276,slow=3.7,SNR=7.3							
ASAR	**Alice Springs**	**44.68**	**254**	P		**P**	**20 23 41.8**	**-1.1**
ASAR				PcP		**PcP**	**20 25 13.1**	**-0.3**
MIDW	**Midway**	**45.76**	**1**	P		**P**	**20 23 50.1**	**-0.7**
MIDW				IAmb		IAmb	20 23 54.5	
	comp=Z,130nm,1.0s							
KDU	**Kakadu**	**47.41**	**269**	P		**P**	**20 24 03.3**	**-0.4**
	baz=47,SNR=50							
GUMO	**Guam**	**47.70**	**308**	P		**P**	**20 24 06.0**	**+0.3**
GUMO				pmax		pmax		
	comp=Z,718nm,1.1s							
GUMO	**Guam**	**47.70**	**308**	P		**P**	**20 24 06.0**	**+0.3**
GUMO	**Guam**	**47.70**	**308**	P		**P**	**20 24 06.7**	**+1.0**
ANA2	**Anatahan**	**48.88**	**312**	P		**P**	**20 24 14.4**	**-0.1**
WRKA	**Warakurna**	**49.74**	**252**	P		**P**	**20 24 20.8**	**0.0**
	baz=50,SNR=782							
FORT	**Forrest**	**49.92**	**245**	P		**P**	**20 24 21.6**	**-0.5**
	baz=50,SNR=78							
FORT	**Forrest**	**49.92**	**245**	P		**P**	**20 24 21.4**	**-0.7**
FORT				IAmb		IAmb	20 24 22.4	
	comp=Z,97nm,0.7s							
FORT				PcP		**PcP**	**20 25 32.1**	**-0.1**
FAKI	**Fak Fak**	**50.42**	**281**	P		**P**	**20 24 25.4**	**-0.6**
FAKI				PcP		**PcP**	**20 25 33.6**	**-0.7**
SIJI	**Sorong**	**52.07**	**283**	P		**P**	**20 24 37.9**	**0.0**
	comp=Z,164nm,0.8s,baz=68,slow=6.1,SNR=28							
SIJI				S		**S**	**20 31 20.9**	**+0.1**
	comp=Z,8.5nm,0.9s,baz=265,slow=21,SNR=1.9							
FITZ	**Fitzroy Crossi**	**52.90**	**260**	P		**P**	**20 24 43.8**	**+0.1**
	comp=Z,7.3nm,0.5s,baz=82,slow=4.1,SNR=35							
FITZ				PcP		**PcP**	**20 25 44.4**	**+0.7**
	comp=Z,7.1nm,0.5s,baz=128,slow=6.1,SNR=5.4							
FITZ				pP		**pP**	**20 26 30.0**	**+1.7**
	comp=Z,12nm,1.0s,baz=104,slow=11,SNR=3.0							
FITZ				S		**S**	**20 31 30.9**	**-0.9**
	comp=Z,8.2nm,1.1s,baz=281,slow=21,SNR=7.8							
FITZ	**Fitzroy Crossi**	**52.90**	**260**	P		**P**	**20 24 44.1**	**+0.4**
	baz=53,SNR=36							
FITZ	**Fitzroy Crossi**	**52.90**	**260**	P		**P**	**20 24 43.5**	**-0.2**
FITZ				PcP		**PcP**	**20 25 43.9**	**+0.2**
KMBL	**Kambalda**	**55.23**	**244**	P		**P**	**20 24 59.2**	**-0.8**
	baz=55,SNR=11							
SOEI	**Soe**	**55.93**	**270**	P		**P**	**20 25 06.3**	**+1.2**
TNTI	**Ternate**	**56.30**	**283**	P		**P**	**20 25 07.7**	**+0.1**
BATI	**Baumata**	**56.39**	**269**	P		**P**	**20 25 09.1**	**+0.8**
	comp=Z,18nm,0.5s,baz=168,slow=3.2,SNR=8.0							
BATI				S		**S**	**20 32 17.8**	**+0.4**
	comp=Z,2.8nm,0.4s,baz=94,slow=16,SNR=1.7							
PSA00	**Pilbara Seismi**	**57.80**	**255**	P		**P**	**20 25 16.6**	**-1.1**
PSA00				PcP		**PcP**	**20 25 58.7**	**-4.1**
PSA00	**Pilbara Seismi**	**57.80**	**255**	P		**P**	**20 25 17.2**	**-0.6**
PSA00				IAmb		IAmb	20 25 18.1	
	comp=Z,24nm,0.7s							
MMRI	**Maumere**	**58.15**	**271**	P		**P**	**20 25 19.5**	**-0.7**
MMRI				PcP		**PcP**	**20 26 02.5**	**-1.8**
MMRI				IAmb		IAmb	20 26 06.5	
	comp=Z,209nm,1.5s							
MMRI	**Maumere**	**58.15**	**271**	P		**P**	**20 25 20.2**	**0.0**
	comp=Z,1µmcomp=Z,37nm,0.9s							
JCJ	**Chichijima**	**58.67**	**319**	P		**P**	**20 25 23.1**	**-0.3**
	comp=Z,79nm,0.7s,baz=99,slow=23,SNR=12							
JCJ	**Chichijima**	**58.67**	**319**	P		**P**	**20 25 22.9**	**-0.5**
JCJ				IAmb		IAmb	20 25 24.5	
	comp=Z,247nm,1.2s							
KLBR	**Kellerberrin**	**58.75**	**243**	P		**P**	**20 25 23.3**	**-0.7**
	baz=59,SNR=26							
NWAO	**Narrogin (SRO)**	**59.13**	**242**	P		**P**	**20 25 26.2**	**-0.4**
	comp=Z,6.6nm,0.5s,baz=110,slow=6.3,SNR=7.5							
NWAO	**Narrogin (SRO)**	**59.13**	**242**	P		**P**	**20 25 26.7**	**+0.1**
	baz=59,SNR=6.4							
NWAO	**Narrogin (SRO)**	**59.13**	**242**	P		**P**	**20 25 26.4**	**-0.2**
NWAO							20 26 06.2	
NWAO	**Narrogin (SRO)**	**59.13**	**242**	P		**P**	**20 25 26.4**	**-0.2**
NWAO				PcP		**PcP**	**20 26 06.2**	**-1.7**
NWAO	**Narrogin (SRO)**	**59.13**	**242**	P		**P**	**20 25 26.1**	**-0.4**
NWAO				IAmb		IAmb	20 26 12.7	
	comp=Z,38nm,1.3s							
BLDU	**Ballidu**	**59.70**	**245**	P		**P**	**20 25 29.9**	**-0.5**
	baz=60,SNR=18							
DDMP	**Don Marcelino,**	**59.91**	**288**	*eP*		**P**	**20 25 30.2**	**-1.8**
LUWI	**Luwuk**	**59.95**	**279**	P		**P**	**20 25 32.6**	**+0.3**
LUWI				IAmb		IAmb	20 25 34.1	
	comp=Z,209nm,1.2s							
LUWI	**Luwuk**	**59.95**	**279**	P		**P**	**20 25 32.8**	**+0.6**
MUN	**Mundaring**	**60.05**	**243**	P		**P**	**20 25 32.9**	**+0.2**
	baz=60,SNR=4.7							
MORW	**Morawa**	**60.39**	**246**	P		**P**	**20 25 34.6**	**-0.4**
	baz=60,SNR=15							
MORW	**Morawa**	**60.39**	**246**	P		**P**	**20 25 34.8**	**-0.2**
SBA	**Scott Base**	**60.52**	**184**	P		**P**	**20 25 37.2**	**+2.3**
SBA				pmax		pmax		
	comp=Z,40nm,1.1s							
SBA	**Scott Base**	**60.52**	**184**	P		**P**	**20 25 37.2**	**+2.3**
VNDA	**Vanda**	**60.54**	**185**	P		**P**	**20 25 36.2**	**+1.1**
	comp=Z,6.9nm,0.6s,baz=355,slow=7.7,SNR=75							
VNDA				PcP		**PcP**	**20 26 13.9**	**+1.1**
	comp=Z,2.9nm,0.7s,baz=331,slow=6.7,SNR=5.3							
VNDA				pP		**pP**	**20 27 27.3**	**+2.7**
	comp=Z,2.5nm,0.8s,baz=356,slow=6.4,SNR=1.2							
VNDA				ScP		**ScP**	**20 29 21.7**	**+1.0**
	comp=Z,2.9nm,0.7s,baz=12,slow=6.8,SNR=4.6							
VNDA				PKiKP		**PKiKP**	**20 32 27.7**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=84,slow=3.3,SNR=2.4							
VNDA				PKPPKP		**P'P'df**	**20 54 48.1**	**+0.7**
	comp=Z,1.2nm,1.1s,baz=230,slow=7.9,SNR=2.6							
VNDA	**Vanda**	**60.54**	**185**	P		**P**	**20 25 36.2**	**+1.1**
VNDA				PcP		**PcP**	**20 26 12.6**	**-0.1**
VNDA						**ScP**	**20 29 23.7**	**+3.1**
KCP	**Kidapawan**	**60.84**	**289⇑**	*iP*		**P**	**20 25 38.5**	**+0.3**
KCP	**Kidapawan**	**60.84**	**289⇑**	*eP*		**S**	**20 33 14.5**	**+0.8**
APSI	**Ampana**	**61.05**	**279**	P		**P**	**20 25 40.5**	**+1.0**
	comp=Z,1µmcomp=Z,134nm,1.2s							
GLSP	**General Luna,**	**61.11**	**292**	*eP*		**P**	**20 25 38.9**	**-1.0**
SKMP	**Bagumbayan, Su**	**61.14**	**288**	*eP*		**P**	**20 25 40.1**	**+0.1**
BUTP	**Butuan**	**61.20**	**291**	*eP*		**P**	**20 25 40.0**	**-0.5**
BUKP	**Musuan**	**61.23**	**290**	*eP*		**P**	**20 25 42.0**	**+1.2**
MRSI	**Marisa**	**61.25**	**281**	P		**P**	**20 25 39.8**	**-1.0**
	comp=Z,58nm,1.1s							
BNSI	**Bone**	**61.39**	**275**	P		**P**	**20 25 41.5**	**-0.2**
	comp=Z,805nmcomp=Z,81nm,1.1s							
KAPI	**Kappang**	**61.54**	**274**	P		**P**	**20 25 42.5**	**-0.2**
	comp=Z,14nm,0.9s,baz=115,slow=4.2,SNR=11							
KAPI				PcP		**PcP**	**20 26 18.5**	**+0.5**
	comp=Z,5.1nm,0.4s,baz=61,slow=15,SNR=3.7							
KAPI				S		**S**	**20 33 22.1**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=171,slow=19,SNR=1.5							
KAPI	**Kappang**	**61.54**	**274**	P		**P**	**20 25 42.7**	**-0.1**
KAPI				PcP		**PcP**	**20 26 18.9**	**+0.8**
CGP	**Cagayan de Oro**	**61.81**	**290⇓**	*eP*		**P**	**20 25 45.9**	**+1.5**
SPSI	**Sidrap Palu**	**61.84**	**275**	P		**P**	**20 25 43.7**	**-1.0**
	comp=Z,439nmcomp=Z,42nm,1.1s							
PLAI	**Plampang**	**62.35**	**269**	P		**P**	**20 25 47.8**	**-0.2**
	comp=Z,1µmcomp=Z,97nm,1.1s							
MSLP	**Maasin**	**62.38**	**292**	*eP*		**P**	**20 25 48.1**	**0.0**
TOLI2	**Tolitoli**	**62.55**	**281**	P		**P**	**20 25 48.8**	**-0.5**
PAGZ	**Pagadian**	**62.73**	**289**	*eP*		**P**	**20 25 51.1**	**+0.7**
GIRL	**Giralia**	**62.79**	**253**	P		**P**	**20 25 51.7**	**+1.0**
	baz=63,SNR=10							
GIRL	**Giralia**	**62.79**	**253**	P		**P**	**20 25 50.7**	**0.0**
GIRL				IAmb		IAmb	20 25 52.6	
	comp=Z,181nm,1.2s							
OCLP	**Ormoc**	**63.01**	**293**	*eP*		**P**	**20 25 51.8**	**-0.4**
TWSI	**Taliwang, Sumb**	**63.23**	**269**	P		**P**	**20 25 53.2**	**-0.4**
	comp=Z,689nmcomp=Z,75nm,1.0s							
CNOP	**Candoni, Negro**	**64.22**	**291**	*eP*		**P**	**20 25 58.4**	**-1.5**
JHJ2	**Mitsune**	**64.37**	**322**	P		**P**	**20 26 00.6**	**+0.2**
JHJ	**Hachijo jima 2**	**64.40**	**322**	P		**P**	**20 26 00.8**	**+0.1**
	comp=Z,265nm,0.4s,baz=149,slow=4.6,SNR=28							
SRBI	**Singaraja**	**64.99**	**269**	P		**P**	**20 26 05.2**	**+0.4**
	comp=Z,807nmcomp=Z,65nm,1.1s							
JAGI	**Jajag, Banyuwa**	**65.90**	**269**	P		**P**	**20 26 09.0**	**-1.5**
JAGI				IAmb		IAmb	20 26 10.2	
	comp=Z,121nm,1.1s							
JAGI	**Jajag, Banyuwa**	**65.90**	**269**	P		**P**	**20 26 08.5**	**-2.0**
ABJI	**Asem Bagus**	**66.00**	**269**	P		**P**	**20 26 11.8**	**+0.6**
CUYO	**Cuyo Island**	**66.10**	**291**	*eP*		**P**	**20 26 11.6**	**-0.1**
JCNP	**Jose Panganiba**	**66.12**	**295**	*eP*		**P**	**20 26 10.5**	**-1.3**
MYLDM	**Lahad Datu**	**66.14**	**284**	P		**P**	**20 26 13.6**	**+1.6**
MYLDM				IAmb		IAmb	20 26 16.1	
	comp=Z,105nm,1.1s							
CASY	**Casey**	**66.18**	**205**	P		**P**	**20 26 10.7**	**-0.5**
JYT	**Yasato**	**66.39**	**324**	P		**P**	**20 26 13.6**	**+0.5**
JYT						**PcP**	**20 26 38.7**	**+1.1**
JSG	**Sagara**	**66.43**	**322**	P		**P**	**20 26 14.5**	**+1.1**
KMMI	**Kalianget**	**66.46**	**270**	P		**P**	**20 26 13.6**	**-0.4**
BOAC	**Boac**	**66.50**	**294**	*eP*		**P**	**20 26 14.8**	**+0.7**
LQP	**Lukban**	**67.05**	**294⇓**	*iP*		**P**	**20 26 17.6**	**-0.2**
JMM	**Marumori**	**67.27**	**326**	P		**P**	**20 26 18.0**	**-0.4**
JMM				IAmb		IAmb	20 26 19.9	
	comp=Z,94nm,1.0s							
BUSP	**Coron**	**67.31**	**292**	*eP*		**P**	**20 26 19.4**	**+0.3**
JGF	**Kuroka**	**67.56**	**322**	P		**P**	**20 26 19.9**	**-0.4**
JGF				IAmb		IAmb	20 26 21.7	
	comp=Z,69nm,0.7s							
TGY	**Tagaytay City**	**67.57**	**294**	P		**P**	**20 26 20.2**	**-0.5**
	comp=Z,136nm,0.4s,baz=220,slow=7.9,SNR=4.8							
INU	**Inuyama**	**67.59**	**322**	P		**P**	**20 26 20.3**	**-0.2**
INU				IAmb		IAmb	20 26 22.1	
	comp=Z,115nm,1.3s							
INU						**PcP**	**20 26 43.2**	**+0.6**
ENPP	**El Nido**	**67.67**	**290**	*eP*		**P**	**20 26 21.6**	**+0.3**
MJAR	**Matsushiro Arr**	**67.73**	**323**	P		**P**	**20 26 21.4**	**+0.1**
	comp=Z,105nm,0.8s,baz=158,slow=6.2,SNR=250							
MJAR				PcP		**PcP**	**20 26 44.2**	**+1.0**
	comp=Z,15nm,0.7s,baz=153,slow=3.4,SNR=5.2							
MJAR				PKPPKP		**P'P'df**	**20 54 35.4**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=286,slow=2.2,SNR=5.1							
MJAR	**Matsushiro Arr**	**67.73**	**323**	P		**P**	**20 26 20.9**	**-0.4**
MJAR				PcP		**PcP**	**20 26 43.9**	**+0.6**
MAJO	**Matsushiro**	**67.73**	**323**	P		**P**	**20 26 21.6**	**+0.3**
MAJO				pmax		pmax		
	comp=Z,112nm,0.6s							
MAJO	**Matsushiro**	**67.73**	**323**	P		**P**	**20 26 21.6**	**+0.3**
MAJO				IAmb		IAmb	20 26 22.2	
	comp=Z,112nm,0.6s							
MAT	**Matsushiro**	**67.73**	**323**	P		**P**	**20 26 21.6**	**+0.3**
MAT				S		**S**	**20 34 35.6**	**+0.1**
MACP	**Maragondon, Ca**	**67.83**	**294**	*eP*		**P**	**20 26 23.0**	**+0.7**
LUBP	**Lubang**	**68.01**	**293**	*eP*		**P**	**20 26 20.9**	**-2.5**
JOW	**Kunigami**	**68.04**	**310**	P		**P**	**20 26 24.1**	**+0.8**
	comp=Z,69nm,0.7s,baz=133,slow=10,SNR=14							
JOW	**Kunigami**	**68.04**	**310**	P		**P**	**20 26 24.3**	**+1.0**
JOW				IAmb		IAmb	20 26 25.8	
	comp=Z,87nm,0.9s							
CAUP	**Cauayan**	**68.09**	**297**	*eP*		P	20 26 31.6	+7.8
BATP	**Bataraza**	**68.16**	**287**	*eP*		**P**	**20 26 24.2**	**-0.2**
JMN	**Monobe**	**68.42**	**319**	P		**P**	**20 26 26.8**	**+1.2**
JMN				IAmb		IAmb	20 26 28.1	
	comp=Z,182nm,1.1s							
SGCP	**Mt. Cagua**	**68.50**	**298**	*eP*		**P**	**20 26 26.2**	**-0.1**
JWT	**Wachi**	**68.51**	**321**	P		**P**	**20 26 26.7**	**+0.7**
JWT				IAmb		IAmb	20 26 27.8	
	comp=Z,128nm,1.1s							
KKM	**Kota Kinabalu**	**68.58**	**284**	P		**P**	**20 26 27.1**	**0.0**
KKM				IAmb		IAmb	20 26 27.9	
	comp=Z,65nm,0.5s							
JSD	**Sado**	**68.77**	**325**	P		**P**	**20 26 28.3**	**+0.8**
AMKA	**Amchitka**	**68.90**	**359**	P		**P**	**20 26 27.8**	**-0.2**
APYP	**Conner**	**69.00**	**298**	*eP*		**P**	**20 26 29.6**	**+0.3**
ERM	**Erimo**	**69.22**	**330**	P		**P**	**20 26 31.9**	**+1.7**
ERM				pmax		pmax		
	comp=Z,83nm,1.2s							
ERM	**Erimo**	**69.22**	**330**	P		**P**	**20 26 31.9**	**+1.7**
JSU	**Suzuyama**	**69.25**	**315**	P		**P**	**20 26 31.3**	**+0.7**
JSU				IAmb		IAmb	20 26 32.5	
	comp=Z,168nm,1.3s							
JTM	**Tenmabayashi**	**69.30**	**328**	P		**P**	**20 26 31.1**	**+0.4**
JTM				IAmb		IAmb	20 26 32.5	
	comp=Z,192nm,1.3s							
ADK	**Adak**	**69.40**	**1**	P		**P**	**20 26 31.2**	**+0.2**
ADK				pmax		pmax		
	comp=Z,717nm,1.6s							
ADK	**Adak**	**69.40**	**1**	P		**P**	**20 26 31.2**	**+0.2**
UGM	**Wanagama**	**69.51**	**268**	P		**P**	**20 26 32.5**	**-0.1**
UGM	**Wanagama**	**69.51**	**268**	P		**P**	**20 26 32.5**	**-0.1**
	comp=Z,184nm,0.5s							
JHS	**Saijyo**	**69.72**	**319**	P		**P**	**20 26 34.5**	**+1.1**
ATKA	**Atka Island**	**69.81**	**3**	P		**P**	**20 26 33.3**	**-0.1**
SMRI	**Semarang**	**69.82**	**269**	P		**P**	**20 26 35.3**	**+0.9**
JNU	**Nakatsue**	**69.96**	**316**	P		**P**	**20 26 35.2**	**+0.3**
	comp=Z,44nm,0.9s,baz=127,slow=3.6,SNR=17							
JNU	**Nakatsue**	**69.96**	**316**	P		**P**	**20 26 35.1**	**+0.2**
JNU				IAmb		IAmb	20 26 36.5	
	comp=Z,141nm,1.4s							
SMY	**Shemya**	**70.52**	**355**	P		**P**	**20 26 37.6**	**0.0**
SMY				pmax		pmax		
	comp=Z,404nm,1.2s							
SMY	**Shemya**	**70.52**	**355**	P		**P**	**20 26 37.6**	**0.0**
JEW	**Eniwo**	**70.67**	**330**	P		**P**	**20 26 40.1**	**+1.4**
YOJ	**Yonaguni jima**	**70.77**	**305**	P		**P**	**20 26 39.4**	**-0.3**
YOJ				pmax		pmax		
	comp=Z,227nm,1.1s							
YOJ	**Yonaguni jima**	**70.77**	**305**	P		**P**	**20 26 39.4**	**-0.3**
YOJ				IAmb		IAmb	20 26 41.1	
	comp=Z,227nm,1.1s							
NIKH	**Nikolski High**	**70.97**	**6**	P			20 26 39.8	
	baz=190							
NIKH	**Nikolski High**	**70.97**	**6**	P		**P**	**20 26 40.3**	**+0.1**
SBUM	**Sibu**	**71.05**	**279**	P		**P**	**20 26 42.4**	**+0.8**
SBUM	**Sibu**	**71.05**	**279**	P		**P**	**20 26 43.0**	**+1.4**
JKA	**Kamikawa-asahi**	**71.11**	**331**	P		**P**	**20 26 43.2**	**+1.9**
JKA				IAmb		IAmb	20 26 43.9	
	comp=Z,92nm,0.7s							
ASAJ	**Asahikawa**	**71.11**	**331**	P		**P**	**20 26 43.1**	**+1.8**
	comp=Z,84nm,0.7s,baz=217,slow=5.2,SNR=149							
ASAJ	**Asahikawa**	**71.11**	**331**	P		**P**	**20 26 43.3**	**+2.0**
ASAJ				pmax		pmax		
	comp=Z,92nm,0.7s							
TWG	**Pinlang**	**71.49**	**302**	P		**P**	**20 26 43.2**	**-0.8**
TWG				IAmb		IAmb	20 26 43.5	
	comp=Z,46nm,0.6s							
YULB	**Yu-li**	**71.59**	**303**	P		**P**	**20 26 43.8**	**-0.8**
SKR	**Severo-Kuril's**	**71.73**	**343**	*eP*		**P**	**20 26 44.4**	**-0.3**
SKR				*eS*		**SKiKP**	**20 35 28.0**	**+4.4**
SKR				pmax		pmax		
	comp=Z,155nm,0.7s							
SKR				pmax		pmax		
	comp=Z,200nm,1.3s							
SKR				pmax		pmax		
	comp=Z,100nm,3.3s							
NACB	**Ninganchiao**	**71.74**	**304**	P		**P**	**20 26 45.3**	**-0.1**
JTU	**Tsushima**	**71.79**	**317**	P		**P**	**20 26 45.4**	**-0.1**
SSLB	**Suanglung**	**72.06**	**303**	P		**P**	**20 26 46.4**	**-0.9**
SSLB				IAmb		IAmb	20 26 47.6	
	comp=Z,152nm,1.1s							
TPUB	**Ta-pu**	**72.08**	**302**	P		**P**	**20 26 46.6**	**-0.8**
YHNB	**Yeheng**	**72.16**	**304**	P		**P**	**20 26 47.5**	**-0.4**
YHNB				IAmb		IAmb	20 26 49.1	
	comp=Z,138nm,1.0s							
CISI	**Cisompet, Garu**	**72.18**	**268**	P		**P**	**20 26 47.0**	**-1.3**
CISI	**Cisompet, Garu**	**72.18**	**268**	P		**P**	**20 26 47.3**	**-1.0**
	comp=Z,2µmcomp=Z,134nm,1.1s							
TATO	**Taipei**	**72.22**	**304**	P		**P**	**20 26 48.6**	**+0.5**
QSPA	**South Pole Qui**	**72.25**	**180**	P		**P**	**20 26 48.5**	**+0.6**
QSPA				IAmb		IAmb	20 26 49.8	
	comp=Z,97nm,0.9s							
AKUT	**Akutan**	**72.48**	**8**	P		**P**	**20 26 47.9**	**-1.1**
KSM	**Kuching**	**72.53**	**277**	P		**P**	**20 26 50.9**	**+0.7**
KSM				IAmb		IAmb	20 26 52.2	
	comp=Z,177nm,1.0s							
KSM	**Kuching**	**72.53**	**277**	P		**P**	**20 26 51.0**	**+0.7**
LEM	**Lembang**	**72.58**	**268**	P		**P**	**20 26 51.1**	**+0.4**
	comp=Z,119nm,0.6s,baz=96,slow=9.2,SNR=42							
LEM				S		**S**	**20 35 30.1**	**-1.6**
	comp=Z,8.2nm,0.4s,baz=293,slow=20,SNR=9.8							
PET	**Petropavlovsk**	**73.23**	**346⇓**	*iP*		**P**	**20 26 53.1**	**-0.2**
PET				pmax		pmax		
	comp=Z,117nm,1.4s							
PET				pmax		pmax		
	comp=Z,100nm,13.7s							
PET	**Petropavlovsk**	**73.23**	**346**	P		**P**	**20 26 52.5**	**-0.8**
PET				IAmb		IAmb	20 26 54.0	
	comp=Z,77nm,0.6s							
YSS	**Yuzh-Sakhalins**	**73.25**	**333**	*eP*		**P**	**20 26 54.7**	**+1.1**
YSS				*e**PP		**pwP**	**20 28 51.5**	**-0.5**
YSS				*e*			20 29 47.7	
YSS				*eS*		**S**	**20 35 38.9**	**+1.5**
YSS				*e*			20 36 08.2	
YSS				pmax		pmax		
	comp=Z,150nm,1.1s							
YSS				pmax		pmax		
	comp=Z,800nm,3.3s							
YSS	**Yuzh-Sakhalins**	**73.25**	**333**	P		**P**	**20 26 55.0**	**+1.4**
YSS				IAmb		IAmb	20 26 56.3	
	comp=Z,186nm,1.1s							
XMI	**Christmas Isla**	**73.42**	**264**	P		**P**	**20 26 56.6**	**+1.3**
	comp=Z,86nm,1.3s							
CBJI	**Citeko**	**73.42**	**268**	P		**P**	**20 26 54.2**	**-1.1**
	comp=Z,176nm,0.9s							
DBJI	**Dramaga**	**73.48**	**268**	P		**P**	**20 26 55.7**	**0.0**
	comp=Z,2µmcomp=Z,110nm,1.1s							
FALS	**False Pass**	**73.51**	**9**	P			20 26 54.3	
	baz=195							
PEA0B	**Petropavlovsk-**	**73.54**	**345**	P		**P**	**20 26 55.6**	**+0.5**
PEA0B				pmax		pmax		
	comp=Z,752nm,1.6s							
PEA0B	**Petropavlovsk-**	**73.54**	**345**	P		**P**	**20 26 55.6**	**+0.5**
PETK	**Petropavlovsk-**	**73.54**	**345**	P		**P**	**20 26 55.6**	**+0.5**
	comp=Z,121nm,0.7s,baz=116,slow=7.7,SNR=202							
PETK				PKiKP		**PKiKP**	**20 32 44.7**	**-0.4**
	comp=Z,3.0nm,0.6s,baz=76,slow=3.6,SNR=10							
PETK	**Petropavlovsk-**	**73.54**	**345**	P		**P**	**20 26 55.7**	**+0.6**
TJN	**Taejon**	**74.23**	**317**	*ceP*		**P**	**20 26 59.7**	**+0.3**
KNMB	**Chin-men Tao**	**74.44**	**303**	P		**P**	**20 27 01.3**	**+0.4**
KNMB				IAmb		IAmb	20 27 02.7	
	comp=Z,97nm,1.0s							
SDPT	**Sand Point**	**74.46**	**11**	P			20 26 59.9	
	baz=198							
SDPT	**Sand Point**	**74.46**	**11**	P		**P**	**20 27 00.2**	**-0.1**
QZH	**Quanzhou**	**74.50**	**303⇑**	*iP*		**P**	**20 27 02.3**	**+1.1**
QZH				S		**S**	**20 35 52.9**	**+1.0**
QZH				pmax		pmax		
	comp=Z,110nm,1.0s							
KSRS	**Korea Array**	**74.52**	**318**	P		**P**	**20 27 02.4**	**+1.4**
	comp=Z,15nm,0.7s,baz=129,slow=6.1,SNR=64							
KSAR	**Wonju Array Be**	**74.54**	**318**	P		**P**	**20 27 02.1**	**+1.0**
KSAR	**Wonju Array Be**	**74.54**	**318**	P		**P**	**20 27 02.1**	**+1.0**
KS19	**Wonju Array Si**	**74.59**	**318**	P		**P**	**20 27 02.4**	**+1.0**
TEY	**Ternei**	**74.65**	**329⇑**	*iP*		**P**	**20 27 02.7**	**+1.2**
TEY				pmax		pmax		
	comp=Z,40nm,1.2s							
TEY				pmax		pmax		
	comp=Z,200nm,2.2s							
SPIA	**Saint Paul Isl**	**75.01**	**5**	P			20 27 02.2	
	baz=188							
SPIA	**Saint Paul Isl**	**75.01**	**5**	P		**P**	**20 27 03.0**	**-0.3**
UGL	**Uglegorsk**	**75.20**	**334⇑**	*iP*		**P**	**20 27 05.3**	**+0.8**
UGL				*eS*		**S**	**20 35 51.3**	**-7.2**
BLSI	**Bandar Lampung**	**75.25**	**269**	P		**P**	**20 27 03.9**	**-1.8**
	comp=Z,140nm,0.9s							
PPBI	**Pangkal Pinang**	**75.35**	**272**	P		**P**	**20 27 04.6**	**-1.6**
	comp=Z,1µmcomp=Z,72nm,1.0s							
INCN	**Inchon**	**75.36**	**318**	P		**P**	**20 27 06.5**	**+0.7**
INCN				pmax		pmax		
	comp=Z,49nm,1.0s							
INCN	**Inchon**	**75.36**	**318**	P		**P**	**20 27 06.5**	**+0.7**
SSE	**Sheshan**	**75.56**	**310**	P		**P**	**20 27 06.0**	**-1.0**
CHGN	**Chignik**	**75.74**	**11**	P			20 27 07.3	
	baz=200,SNR=5.0							
CHGN	**Chignik**	**75.74**	**11**	P		**P**	**20 27 07.0**	**-0.3**
CHGN				IAmb		IAmb	20 28 19.2	
	comp=Z,265nm,1.2s							
H06E1	**SOCORRO T-PHAS**	**75.75**	**65**	P		**P**	**20 27 09.8**	**+1.5**
	SNR=22							
SNCC	**San Nicolas Is**	**75.82**	**48**	P			20 27 10.2	
	baz=237							
MSHR	**Mys Shultsa**	**75.83**	**324**	*ceP*		**P**	**20 27 08.1**	**-0.1**
MSHR				pmax		pmax		
	comp=Z,281nm,1.3s							
KASI	**Kota Agung**	**75.92**	**269**	P		**P**	**20 27 09.3**	**-0.1**
	comp=Z,2µmcomp=Z,207nm,1.0s							
KLSI		**75.94**	**270**	P		**P**	**20 27 10.0**	**+0.5**
	comp=Z,7.0nm,1.

ESJX Sierra Juarez 77.75 51 P **P** **20 27 21.3 +2.1**
NJ2 Nanjing 77.76 310⇑*i*P **P** **20 27 20.3 +1.3**
NJ2 S **S** **20 36 24.5 -2.0**
NJ2 pmax pmax
comp=Z,93nm,0.9s
NJ2 pmax pmax
comp=Z,500nm,4.2s
EDW2 Edwards Air Fo 77.76 47 P 20 27 20.8
baz=238,SNR=63
DLV T Lat 77.83 287 P **P** **20 27 21.0 +1.1**
ISA Isabella, Lake 77.84 46 P 20 27 21.3
baz=238,SNR=56
ISA Isabella, Lake 77.84 46 P **P** **20 27 21.1 +1.6**
ISA pmax pmax
comp=Z,106nm,1.0s
ISA Isabella, Lake 77.84 46 P **P** **20 27 21.1 +1.6**
ISA IAmb IAmb 20 27 22.4
comp=Z,106nm,1.0s
MONP2 Monument Peak 77.85 50 P 20 27 21.7
baz=239,SNR=107
CMB Columbia Colle 77.86 43 P **P** **20 27 20.8 +1.3**
CMB pmax pmax
comp=Z,90nm,1.1s
CMB Columbia Colle 77.86 43 P **P** **20 27 20.8 +1.3**
KBO Bosley Butte 77.92 38 P **P** **20 27 21.6 +1.9**
KBO IAmb IAmb 20 27 23.2
comp=Z,168nm,1.4s
WDC Whiskeytown Da 77.95 40 P **P** **20 27 21.3 +1.5**
WDC pmax pmax
comp=Z,133nm,1.5s
WDC Whiskeytown Da 77.95 40 P **P** **20 27 21.3 +1.5**
RMX La Rumorosa 77.96 50 P **P** **20 27 21.8 +1.6**
RMX IAmb IAmb 20 27 23.4
comp=Z,83nm,0.9s
IKP In-Ko-Pah, Jac 77.96 50 P 20 27 22.1
baz=240,SNR=53
AFDM Forest Hills D 78.00 42 P **P** **20 27 21.4 +1.3**
ORV Oroville 78.00 42 P **P** **20 27 21.4 +1.3**
ORV pmax pmax
comp=Z,56nm,1.0s
ORV Oroville 78.00 42 P **P** **20 27 21.4 +1.3**
MDJ Mudanjiang 78.01 325 P **P** **20 27 21.8 +1.7**
MDJ pP pP 20 29 18.3 +1.3
MDJ sP sP 20 30 15.3 +1.7
MDJ S **S** **20 36 34.3 +5.7**
MDJ ScS **ScS** **20 36 51.1 +2.6**
MDJ SS **SS** **20 41 52.9 +6.4**
MDJ pmax pmax
comp=Z,230nm,0.8s
MDJ pmax pmax
comp=Z,810nm,3.0s
MDJ Mudanjiang 78.01 325 P **P** **20 27 21.4 +1.4**
MDJ IAmb IAmb 20 27 22.9
comp=Z,210nm,1.0s
N02D Trinity Center 78.08 40 P 20 27 22.8
baz=234,SNR=50
SFX San Felipe 78.09 52 P **P** **20 27 22.2 +1.4**
PFO Pinyon Flats O 78.19 49 P 20 27 23.1
baz=239,SNR=18
PFO Pinyon Flats O 78.19 49 P **P** **20 27 22.9 +1.4**
comp=Z,19nm,0.9s,baz=251,slow=4.2,SNR=25
PFO Pinyon Flats O 78.19 49 P **P** **20 27 22.8 +1.4**
PFO pmax pmax
comp=Z,26nm,0.9s
PFO Pinyon Flats O 78.19 49 P **P** **20 27 22.8 +1.3**
TPFO Pinon Flats 78.19 49 P 20 27 23.1
baz=239,SNR=16
XPFO Pion Flat 78.19 49 P **P** **20 27 22.8 +1.4**
BBRC Big Bear Solar 78.19 48 P 20 27 23.3
baz=239
M02C Callahan 78.24 39 P 20 27 23.7
baz=233,SNR=52
O03E Paynes Creek 78.24 41 P 20 27 22.9
baz=234,SNR=55
L02E Cave Junction 78.25 38 P 20 27 23.4
baz=233,SNR=19
KEBM Edson Butte 78.26 38 P **P** **20 27 23.2 +1.7**
KSI Kapahiang 78.28 270 P **P** **20 27 21.4 -0.9**
comp=Z,2µmcomp=Z,67nm,0.9s
LRMC Laurel Mtn Rad 78.29 47 P 20 27 23.6
baz=238
KDAK Kodiak Island 78.33 14 P 20 27 22.2
baz=205
KDAK Kodiak Island 78.33 14 P **P** **20 27 22.0 +0.6**
comp=Z,95nm,0.7s,baz=232,slow=2.1,SNR=41
KDAK Kodiak Island 78.33 14 P **P** **20 27 22.2 +0.8**
KDAK pmax pmax
comp=Z,458nm,1.6s
KDAK Kodiak Island 78.33 14 P **P** **20 27 22.2 +0.8**
SWSC Sam W. Stewart 78.33 50 P 20 27 23.7
baz=240
SRIG Santa Rosalia 78.36 56 P **P** **20 27 24.1 +1.7**
SRIG IAmb IAmb 20 27 25.5
comp=Z,501nm,2.0s
RRX Edison Barstow 78.46 48 P 20 27 24.4
baz=239
LPIG La Paz 78.51 60 P **P** **20 27 25.3 +2.2**
comp=Z,33nm,0.3s,baz=13,slow=0.8,SNR=10
CWC Cottonwood Cre 78.53 46 P 20 27 24.9
baz=238
YBH Yreka Blue Hor 78.53 39 P **P** **20 27 24.9 +1.9**
comp=Z,56nm,0.8s,baz=200,slow=1.3,SNR=160
YBH Yreka Blue Hor 78.53 39 P **P** **20 27 24.9 +1.9**
YBH pmax pmax
comp=Z,57nm,0.7s
YBH Yreka Blue Hor 78.53 39 P **P** **20 27 24.9 +1.9**
K02D Willamette Mer 78.54 38 P 20 27 24.8
baz=233,SNR=19
RUBR Rubicon Trail 78.58 43 P **P** **20 27 25.0 +1.5**
SLBS Sierra La Lagu 78.63 61 P **P** **20 27 26.4 +2.5**
MLAC Mammoth, Mammo 78.66 44 P 20 27 25.9
baz=237,SNR=9.0
J01E Myrtle Point 78.67 37 P 20 27 25.3
baz=232,SNR=6.0
BELC Belle Mtn. Jos 78.72 49 P 20 27 26.1
baz=240,SNR=46
WAKR Walker 78.74 43 P **P** **20 27 26.2 +1.8**
WAKR IAmb IAmb 20 27 27.5
comp=Z,268nm,1.5s
MYKOM Kota Tinggi 78.74 276 P **P** **20 27 25.2 +0.6**
MYKOM Kota Tinggi 78.74 276 P **P** **20 27 25.0 +0.3**
TIN Tinemaha, Big 78.75 45 P 20 27 26.3
baz=238,SNR=8.1
GSC Goldstone, Bar 78.81 47 P 20 27 26.2
baz=239,SNR=24
GSC Goldstone, Bar 78.81 47 P **P** **20 27 26.4 +1.7**
GSC pmax pmax
comp=Z,207nm,1.9s
GSC Goldstone, Bar 78.81 47 P **P** **20 27 26.4 +1.7**
GSC IAmb IAmb 20 27 27.6
comp=Z,207nm,1.9s
GRNR Gornyy 78.88 333⇑*i*P **P** **20 27 26.1 +1.6**
GRNR pmax pmax
comp=E,40nm,0.9s
GRNR pmax pmax
comp=N,40nm,1.0s
GRNR pmax pmax
comp=Z,170nm,1.0s
GRNR MLR MLR
comp=E,170nm,14.0s
GRNR MLR MLR
comp=N,130nm,11.0s
GRNR MLR MLR
comp=Z,50nm,15.0s
HEC Hector,Ludlow 78.90 48 P 20 27 26.7
baz=239,SNR=25
HUMO Hull Mountain 78.91 38 P **P** **20 27 26.8 +1.9**
BEKR Beckworth 78.91 42 P **P** **20 27 26.6 +1.4**
BEKR IAmb IAmb 20 27 27.3
comp=Z,65nm,0.6s
BC3 Big Chuckawall 78.94 49 P 20 27 27.3
baz=240,SNR=24
PNTR Pine Nut 78.96 43 P **P** **20 27 27.3 +1.7**
PNTR IAmb IAmb 20 27 28.5
comp=Z,161nm,0.8s
VCNR Virginia City 79.04 43 P **P** **20 27 27.5 +1.5**
VCNR IAmb IAmb 20 27 28.8
comp=Z,377nm,1.9s
L04D Klamath Falls 79.06 39 P 20 27 27.5
baz=234,SNR=61
M04C Macdoel 79.09 40 P 20 27 27.8
baz=234,SNR=36
GLA Glamis 79.09 50 P 20 27 28.4
baz=240,SNR=22
GLA Glamis 79.09 50 P **P** **20 27 28.3 +2.1**
GLA pmax pmax
comp=Z,75nm,1.0s
GLA Glamis 79.09 50 P **P** **20 27 28.2 +2.1**
YERR Yerington 79.13 43 P **P** **20 27 28.1 +1.7**
YERR IAmb IAmb 20 27 28.7
comp=Z,106nm,0.7s
LHV Little Huntoon 79.22 44 P **P** **20 27 28.6 +2.1**
LHV IAmb IAmb 20 27 29.9
comp=Z,134nm,1.0s
QIZ Qiongzhong 79.28 294 P **P** **20 27 29.1 +1.8**
I02D Swisshome 79.29 37 P 20 27 28.8
baz=232
GRAC Grapevine Rang 79.31 46 P 20 27 29.3
baz=238,SNR=18
I03D Drain, OR 79.33 37 P 20 27 28.8
baz=233,SNR=11
GMRC Granite Mounta 79.36 48 P 20 27 29.2
baz=240,SNR=25
FURC Furnace Creek, 79.38 46 P 20 27 29.1
baz=238,SNR=17
PIX Pinacate 79.39 52 P **P** **20 27 29.4 +1.8**
PIX IAmb IAmb 20 27 30.6
comp=Z,208nm,1.8s
RYN Ryan 79.41 44 P **P** **20 27 29.4 +1.5**
RYN IAmb IAmb 20 27 30.8
comp=Z,267nm,1.8s
IRM Iron Mountain 79.41 49 P 20 27 29.7
baz=240,SNR=35
DL2 Dalian 79.41 317⇑*i*P **P** **20 27 28.6 +1.0**
DL2 sP **sP** **20 30 18.8 -3.1**
DL2 S **S** **20 36 47.3 +4.0**
DL2 pmax pmax
comp=Z,73nm,0.8s
DL2 pmax pmax
comp=Z,370nm,4.8s
PAHR Pah Rah Range 79.44 42 P **P** **20 27 29.5 +1.5**
NVAR Mina Array Bea 79.44 44 P **P** **20 27 29.8 +1.6**
comp=Z,52nm,0.7s,baz=224,slow=8.5,SNR=356
NVAR pP **pwP** **20 29 28.9 +0.9**
comp=Z,4.4nm,1.0s,baz=228,slow=9.5,SNR=4.0
NVAR PKiKP **PKiKP** **20 32 55.8 +1.0**
comp=Z,0.8nm,0.8s,baz=215,slow=3.0,SNR=3.0
NVAR S **S** **20 36 47.9 +3.6**
comp=Z,0.6nm,1.0s,baz=226,slow=6.1,SNR=2.0
NVAR PKKPbc **PKKPbc** **20 46 11.6 -2.0**
comp=Z,0.6nm,0.6s,baz=64,slow=8.2,SNR=7.2
NVAR PKPPKP **P'P'df** **20 54 15.6 +0.5**
comp=Z,0.3nm,0.5s,baz=72,slow=4.4,SNR=5.7
NVAR Mina Array Bea 79.44 44 P **P** **20 27 28.5 +0.4**
SHOC Shoshone, Teco 79.49 47 P 20 27 29.6
baz=239,SNR=15
NV11 Mina Array Sit 79.54 44 P **P** **20 27 30.1 +1.5**
NV11 IAmb IAmb 20 27 31.5
comp=Z,163nm,1.4s
K04D Chiloquin, OR 79.63 39 P 20 27 30.6
baz=234,SNR=5.6
J04D Umpqua Nationa 79.78 38 P 20 27 31.6
baz=234,SNR=51
CN2 Changchun 79.85 322 *e*P **P** **20 27 30.8 +1.0**
CN2 *e*S **S** **20 36 50.4 +2.8**
CN2 pmax pmax
comp=Z,180nm,1.3s
COR Corvallis 79.90 37 P **P** **20 27 31.6 +1.6**
COR pmax pmax
comp=Z,52nm,0.8s
COR Corvallis 79.90 37 P **P** **20 27 31.6 +1.6**
KVN Kaiserville 79.91 43 P **P** **20 27 32.0 +1.5**
KVN pmax pmax
comp=Z,197nm,1.4s
KVN Kaiserville 79.91 43 P **P** **20 27 32.0 +1.5**
KVN IAmb IAmb 20 27 33.4
comp=Z,197nm,1.4s
I04A Tendick Farm, 79.93 38 P 20 27 31.6
baz=233,SNR=20
KLR Kul'dur 79.94 329 P **P** **20 27 31.1 +1.0**
comp=Z,21nm,0.7s,baz=107,slow=4.3,SNR=68
KLR PKiKP **PKiKP** **20 32 54.8 -0.1**
comp=Z,1.7nm,0.7s,baz=259,slow=1.0,SNR=4.9
KLR Kul'dur 79.94 329*ce*P **P** **20 27 31.3 +1.1**
KLR pmax pmax
comp=Z,48nm,1.1s
TPH Tonopah 79.97 45 P **P** **20 27 32.3 +1.4**
TPH pmax pmax
comp=Z,891nm,1.5s
TPH Tonopah 79.97 45 P **P** **20 27 32.3 +1.4**
TPNV Topopah Spring 80.05 46 P 20 27 33.0
baz=239,SNR=43
TPNV Topopah Spring 80.05 46 P **P** **20 27 32.8 +1.6**
TPNV pmax pmax
comp=Z,246nm,1.8s
TPNV Topopah Spring 80.05 46 P **P** **20 27 32.8 +1.6**
TPNV IAmb IAmb 20 27 34.3
comp=Z,246nm,1.8s
214A Organ Pipe Nat 80.06 52 P **P** **20 27 33.2 +2.0**
214A Organ Pipe Nat 80.06 52 P 20 27 33.5
baz=242,SNR=32
NEE2 Needles Airpor 80.09 49 P 20 27 33.0
baz=240
MOD Modoc Plateau 80.09 40 P **P** **20 27 32.9 +1.5**
HSIG 80.14 55 P **P** **20 27 33.3 +1.6**
H04D Lebanon 80.18 37 P 20 27 33.2
baz=233,SNR=9.7
PDMCI Parker Dam,Lak 80.20 49 P 20 27 33.9
241,SNR=28
K05A Summer Lake 80.21 39 P **P** **20 27 33.8 +1.8**
K05A IAmb IAmb 20 27 34.5
comp=Z,114nm,0.7s
CNPM China Poot 80.21 14 P **P** **20 27 31.9 +0.6**
CNPM IAmb IAmb 20 27 32.5
comp=Z,95nm,0.7s
HOM Homer 80.24 13 P **P** **20 27 32.6 +1.1**
G03D McMinnville, O 80.30 36 P 20 27 33.8
baz=233,SNR=9.8
J05D Fort Rock, OR 80.33 39 P 20 27 34.6
baz=234,SNR=144
WHN Wuhan 80.42 306⇑*i*P **P** **20 27 34.3 +1.2**
WHN S **S** **20 36 59.9 +5.8**
WHN pmax pmax
comp=Z,130nm,0.9s
WHN pmax pmax
comp=Z,810nm,2.8s
BRLK Bradley Lake 80.50 14 P **P** **20 27 33.2 +0.3**
BRLK IAmb IAmb 20 27 33.9
comp=Z,127nm,0.6s
BRSE Bradley Lake S 80.52 14 P 20 27 33.6
baz=207,SNR=24
SHPR Sheep Range 80.58 47 P **P** **20 27 35.6 +1.6**
SHPR IAmb IAmb 20 27 37.3
comp=Z,199nm,1.8s
H04A Detroit Lake 80.59 37 P **P** **20 27 34.8 +1.1**
H04A IAmb IAmb 20 27 35.4
comp=Z,75nm,0.6s
JRMM Jerantut 80.70 277 P **P** **20 27 36.0 +1.0**
RSO Redoubt South 80.73 13 P **P** **20 27 33.8 -0.4**
SVW2 Sparrevohn 80.76 11 P **P** **20 27 34.2 0.0**
W13A Hualapai Mount 80.78 49 P **P** **20 27 36.7 +1.6**
PINE Pine Mountain 80.79 38 P **P** **20 27 36.8 +1.8**
PINE IAmb IAmb 20 27 38.1
comp=Z,277nm,1.3s
I05D Terrebonne, OR 80.88 38 P 20 27 36.9
baz=234,SNR=9.4
E03A Lebam 80.95 35 P **P** **20 27 36.9 +1.5**
E03A IAmb IAmb 20 27 38.2
comp=Z,237nm,1.3s
BKNI Bangkinang 80.96 273 P **P** **20 27 36.5 +0.2**
BKNI IAmb IAmb 20 27 37.9
comp=Z,253nm,1.3s
BKNI Bangkinang 80.96 273 P **P** **20 27 33.4 -2.9**
comp=Z,2µmcomp=Z,165nm,1.2s
F04D Rainier, OR 80.97 36 P 20 27 37.6
baz=233
MA2 Magadan 81.05 345 P **P** **20 27 35.4 -0.2**
comp=Z,74nm,0.8s,baz=132,slow=8.0,SNR=61
MA2 Magadan 81.05 345*ce*P **P** **20 27 35.5 -0.2**
MA2 pmax pmax
comp=Z,172nm,1.7s
MA2 Magadan 81.05 345 P **P** **20 27 35.4 -0.2**
MA2 IAmb IAmb 20 27 36.2
comp=Z,80nm,0.7s
TIA Tai'an 81.07 312 P **P** **20 27 37.3 +0.9**
TIA pmax pmax
comp=Z,42nm,1.0s
DIB Dawson Inlet, 81.09 26 P **P** **20 27 36.6 +0.6**
DIB IAmb IAmb 20 27 38.2
comp=Z,76nm,1.0s
PRN Pahroc Range 81.10 46 P **P** **20 27 38.5 +1.8**
PRN IAmb IAmb 20 27 40.0
comp=Z,113nm,1.0s
SEW Seward 81.14 14 P 20 27 36.1
baz=208
SEW Seward 81.14 14 P **P** **20 27 35.9 -0.2**
SEW IAmb IAmb 20 27 37.3
comp=Z,115nm,1.0s
R11A Troy Canyon, C 81.22 45 P 20 27 38.7
baz=238,SNR=51
R11A Troy Canyon, C 81.22 45 P **P** **20 27 37.8 +0.5**
COCO West Island 81.30 260 P **P** **20 27 38.7 +0.7**
COCO pmax pmax
comp=Z,113nm,1.3s
COCO West Island 81.30 260 P **P** **20 27 38.7 +0.7**
COCO IAmb IAmb 20 28 34.0
comp=Z,113nm,1.3s
NLWA Neilton Lookou 81.30 34 P **P** **20 27 38.8 +1.5**
NLWA IAmb IAmb 20 27 40.2
comp=Z,118nm,1.2s
CAPN Captain Cook N 81.34 13 P 20 27 38.7
baz=206,SNR=5.0
CAPN Captain Cook N 81.35 13 P **P** **20 27 38.5 +1.4**
O22K Cooper Landing 81.41 14 P 20 27 37.7
baz=208,SNR=13
O22K Cooper Landing 81.41 14 P **P** **20 27 37.6 +0.1**
WVOR Wild Horse Val 81.42 40 P **P** **20 27 39.6 +1.5**
WVOR pmax pmax
comp=Z,161nm,1.1s
WVOR Wild Horse Val 81.42 40 P **P** **20 27 39.6 +1.5**
WVOR IAmb IAmb 20 27 41.1
comp=Z,161nm,1.1s
G05D Wamic, OR 81.42 37 P 20 27 39.4
baz=234,SNR=14
E04D Cinebar 81.50 35 P 20 27 40.1
baz=233,SNR=19
SPCR Spurr Chakacha 81.51 13 P 20 27 37.7
baz=205,SNR=27
F05D White Salmon 81.72 36 P 20 27 40.9
baz=234,SNR=16
TUC Tucson 81.75 52 P 20 27 42.6
baz=243
TUC Tucson 81.75 52 P **P** **20 27 42.4 +2.4**
TUC pmax pmax
comp=Z,111nm,1.2s
TUC Tucson 81.75 52 P **P** **20 27 42.4 +2.4**
TUC IAmb IAmb 20 27 43.8
comp=Z,111nm,1.1s
D04E Lakebay 81.76 35 P 20 27 41.9
baz=233,SNR=8.9
D03D Eldon 81.81 34 P 20 27 41.5
baz=232,SNR=28
I07A Izee 81.81 39 P **P** **20 27 41.7 +1.6**
I07A IAmb IAmb 20 27 42.5
comp=Z,89nm,0.8s
FIS Fire Island 81.89 13 P **P** **20 27 40.9 +1.0**
RC01 Rabbit Creek A 81.95 14 P 20 27 40.5
baz=208,SNR=30
RC01 Rabbit Creek A 81.95 14 P **P** **20 27 40.4 +0.2**
RC01 IAmb IAmb 20 27 41.7
comp=Z,161nm,1.2s
J08A Circle Bar Ran 82.03 40 P **P** **20 27 42.8 +1.5**
J08A IAmb IAmb 20 27 44.0
comp=Z,244nm,1.3s
LON Longmire 82.03 35 P **P** **20 27 42.0 +0.9**
LON pmax pmax
comp=Z,155nm,1.9s
LON Longmire 82.03 35 P **P** **20 27 42.0 +0.9**
LON IAmb IAmb 20 27 43.5
comp=Z,155nm,1.9s
SUA Susitna One 82.06 13 P 20 27 40.9
baz=207
SUA Susitna One 82.06 13 P **P** **20 27 40.9 0.0**
SUA IAmb IAmb 20 27 42.0
comp=Z,171nm,1.0s
PWL Port Wells 82.07 14 P **P** **20 27 41.0 +0.1**
PWL IAmb IAmb 20 27 41.6
comp=Z,135nm,0.7s
HIN Hinchinbrook I 82.11 15 P **P** **20 27 40.9 -0.2**
HIN IAmb IAmb 20 27 42.4
comp=Z,247nm,1.5s
LCMT Little Creek M 82.16 47 P **P** **20 27 43.9 +1.8**
D05A Enumclaw 82.19 35 P **P** **20 27 43.5 +1.7**
KAIM Kayak Island 82.26 17 P 20 27 42.8
baz=213
IPM Ipoh 82.27 277 IAmb IAmb 20 27 44.8
comp=Z,172nm,1.3s
IPM Ipoh 82.27 277 P **P** **20 27 44.0 +1.0**
BBB Bella Bella 82.29 29 P **P** **20 27 43.1 +1.0**
comp=Z,40nm,0.7s,baz=263,slow=3.2,SNR=27
BBB Bella Bella 82.29 29 P **P** **20 27 43.2 +1.1**
BBB IAmb IAmb 20 27 44.6
comp=Z,160nm,1.4s
BELA Belgrano 2 82.29 173 P **P** **20 27 42.0 0.0**
BELA IAmb IAmb 20 27 43.0
comp=Z,121nm,0.8s
PGC Sidney 82.30 33 IAmb IAmb 20 27 44.8
comp=Z,196nm,1.5s
CCUT Cedar City 82.34 47 IAmb IAmb 20 27 46.4
comp=Z,129nm,1.3s
SKT Skwentna 82.36 13 P 20 27 41.3
baz=206,SNR=17
SKT Skwentna 82.36 13 P **P** **20 27 41.2 -1.1**
GLI Glacier Island 82.38 15 P 20 27 42.7
baz=210
GLI Glacier Island 82.39 15 P **P** **20 27 42.5 +0.1**
SPR3 Spring Creek 3 82.39 45 P **P** **20 27 44.5 +1.0**
SPR3 IAmb IAmb 20 27 45.8
comp=Z,145nm,1.4s
FID Port Fidalgo 82.43 15 IAmb IAmb 20 27 43.7
comp=Z,154nm,1.3s
EYAK Cordova Ski Ar 82.44 16 P 20 27 42.9
baz=211,SNR=7.3
EYAK Cordova Ski Ar 82.44 16 IAmb IAmb 20 27 43.6
comp=Z,57nm,0.8s
KNB Kanab 82.46 47 IAmb IAmb 20 27 46.4
comp=Z,63nm,0.8s
CRAG Craig 82.47 24 P 20 27 44.5
baz=223
319A Douglas 82.48 54 P **P** **20 27 46.3 +2.5**
319A IAmb IAmb 20 27 47.6
comp=Z,194nm,1.2s
PSUT Pine Spring 82.49 46 IAmb IAmb 20 27 46.0
comp=Z,53nm,0.7s
KNK Knik Glacier 82.53 14 P 20 27 43.5
baz=209
KNK Knik Glacier 82.53 14 P **P** **20 27 43.4 +0.2**
KNK IAmb IAmb 20 27 44.5
comp=Z,103nm,0.8s
PMR Palmer 82.53 14 P 20 27 43.4
baz=208,SNR=23
PMR Palmer 82.53 14 IAmb IAmb 20 27 44.6
comp=Z,242nm,1.4s
U15A North Rim 82.55 48 IAmb IAmb 20 27 47.6
comp=Z,127nm,0.8s
SZCU Shurtz Canyon 82.55 47 IAmb IAmb 20 27 47.4
comp=Z,174nm,1.5s
RAGM Ragged Mountai 82.58 16 P **P** **20 27 43.9 +0.4**
RAGM IAmb IAmb 20 27 45.3
comp=Z,145nm,1.2s
F07A Phinny Hill Vi 82.59 37 IAmb IAmb 20 27 45.9
comp=Z,57nm,0.7s
HMT Hamilton 82.65 16 IAmb IAmb 20 27 44.9
comp=Z,82nm,0.8s
ELK Elko 82.68 43 P **P** **20 27 46.1 +1.4**
comp=Z,49nm,0.9s,baz=236,slow=6.6
ELK Elko 82.68 43 P **P** **20 27 46.1 +1.4**
ELK pmax pmax
comp=Z,76nm,1.1s
ELK Elko 82.68 43 P **P** **20 27 46.1 +1.4**
ANM Nome 82.73 6 P 20 27 45.2
baz=193
A04D Lummi Island 82.73 34 P 20 27 46.1
baz=233,SNR=28
GHO Glory Hole Cre 82.74 14 P **P** **20 27 44.7 +0.4**
B05A Bryant 82.78 34 P 20 27 46.2
baz=233,SNR=21
WUAZ Wupatki 82.78 49 P 20 27 47.3
baz=242,SNR=58
WUAZ Wupatki 82.78 49 IAmb IAmb 20 27 48.6
comp=Z,108nm,1.1s
G08A Pilot Rock 82.81 38 P **P** **20 27 46.5 +1.3**
G08A IAmb IAmb 20 27 47.9
comp=Z,245nm,1.5s
SIT Sitka 82.83 22 P 20 27 45.8
baz=221
BERG Berg Lake 82.85 17 IAmb IAmb 20 27 46.8
comp=Z,316nm,1.6s

KULM Kulim 82.88 278 P P 20 27 46.6 +0.6
KULM IAmb IAmb 20 27 48.1
comp=Z,137nm,1.5s
KULM Kulim 82.88 278 P P 20 27 47.0 +1.0
SML Sawmill 82.90 14 P 20 27 45.3
baz=209,SNR=18
SML Sawmill 82.90 14 IAmb IAmb 20 27 47.5
comp=Z,175nm,1.6s
CUT Chulitna 83.00 13 P 20 27 45.7
baz=207,SNR=45
CUT Chulitna 83.00 13 P P 20 27 45.6 +0.1
E07A Sunnyside 83.02 36 P P 20 27 47.5 +1.5
E07A IAmb IAmb 20 27 48.8
comp=Z,247nm,1.4s
PKCU Pink Cliffs 83.02 47 P P 20 27 49.2 +2.5
PPLA Purkeypile 83.06 12 P 20 27 44.6
baz=205,SNR=14
PPLA Purkeypile 83.06 12 IAmb IAmb 20 27 46.0
comp=Z,112nm,1.5s
HAWA Hanford 83.10 37 IAmb IAmb 20 27 48.6
comp=Z,88nm,0.7s
SCM Sheep Creek Mo 83.16 14 P P 20 27 46.8 +0.4
SCM pmax pmax
comp=Z,261nm,0.7s
SCM Sheep Creek Mo 83.16 14 P P 20 27 46.8 +0.4
KLU Klutina 83.20 15 P 20 27 47.0
baz=211
KLU Klutina 83.20 15 P P 20 27 46.9 +0.2
KLU IAmb IAmb 20 27 48.2
comp=Z,226nm,1.7s
C06D Leavenworth 83.23 35 P 20 27 47.8
baz=234
CRQM Cirque 83.31 17 P P 20 27 47.9 +0.6
CRQM IAmb IAmb 20 27 49.0
comp=Z,204nm,1.1s
YAH Yahtse 83.37 17 P P 20 27 48.5 +0.9
YAH IAmb IAmb 20 27 49.3
comp=Z,136nm,0.8s
TGL Tana Glacier 83.39 17 P P 20 27 48.1 +0.4
TGL IAmb IAmb 20 27 49.4
comp=Z,234nm,1.3s
MTPU Mount Pierson 83.39 47 IAmb IAmb 20 27 52.2
comp=Z,115nm,1.2s
E08A Dider Farm, El 83.43 37 IAmb IAmb 20 27 50.1
comp=Z,72nm,0.7s
WRAK Wrangell Islan 83.47 24 P 20 27 49.1
baz=224,SNR=12
WRAK Wrangell Islan 83.47 24 P P 20 27 49.6 +1.7
WRAK IAmb IAmb 20 27 50.5
comp=Z,101nm,1.1s
TCRU Three Creeks R 83.49 46 IAmb IAmb 20 27 52.3
comp=Z,96nm,1.3s
HPIG 83.50 59 IAmb IAmb 20 27 52.6
comp=Z,135nm,1.7s
BMO Blue Mountains 83.55 39 P P 20 27 49.8 +1.0
BMO pmax pmax
comp=Z,263nm,2.0s
BMO Blue Mountains 83.55 39 P P 20 27 49.8 +1.0
BMO IAmb IAmb 20 27 51.5
comp=Z,263nm,1.9s
PCA Pinnacle 83.59 18 P P 20 27 49.1 +0.5
PCA IAmb IAmb 20 27 50.3
comp=Z,103nm,1.2s
PINM Pinnacle 83.59 18 P 20 27 49.3
baz=216
BJT Baijiatuau 83.60 315 IAmb IAmb 20 27 51.4
comp=Z,255nm,1.6s
VRDI Verde Repeater 83.62 16 P P 20 27 49.1 +0.3
N25K Chitina, Valde 83.63 16 P 20 27 49.6
baz=212,SNR=85
N25K Chitina, Valde 83.64 16 P P 20 27 49.3 +0.5
SEY Seymchan 83.64 347 P P 20 27 49.0 +0.3
comp=Z,157nm,0.5s,baz=155,slow=5.3,SNR=1021
SEY PKiKP **PKiKP 20 33 00.5 +0.2**
comp=Z,0.7nm,0.5s,baz=43,slow=2.7,SNR=1.5
M24K Tolsona, Glenn 83.67 15 P 20 27 50.0
baz=211,SNR=42
GRNC Granite Creek 83.67 17 P P 20 27 49.8 +0.6
M24K Tolsona, Glenn 83.67 15 P P 20 27 49.9 +0.9
MFID Camas Ranch 83.68 41 IAmb IAmb 20 27 52.3
comp=Z,139nm,1.2s
RPSI Rantau Prapat 83.70 275 IAmb IAmb 20 27 51.1
comp=Z,65nm,0.8s
GLB Gilahina Butte 83.70 16 P P 20 27 49.5 +0.4
PSI Prapat 83.73 275 P P 20 27 49.7 -0.7
comp=Z,45nm,0.7s,baz=180,slow=2.6,SNR=46
W18A Petrified Fore 83.79 50 IAmb IAmb 20 27 53.5
comp=Z,105nm,1.4s
W18A Petrified Fore 83.79 50 P 20 27 52.1
baz=243,SNR=21
D08A Wollman Farm, 83.83 36 IAmb IAmb 20 27 52.1
comp=Z,74nm,0.8s
MCARA McCarthy VSAT 83.86 16 P 20 27 50.4
baz=214,SNR=21
MCARA McCarthy VSAT 83.86 16 P P 20 27 50.5 +0.6
MCARA IAmb IAmb 20 27 51.7
comp=Z,176nm,1.3s
WAT2 Susitna Watana 83.86 13 P 20 27 50.1
baz=209,SNR=51
KTH Kantishna Hill 83.90 12 IAmb IAmb 20 27 50.5
comp=Z,103nm,0.9s
MAW Mawson 83.91 200 P P 20 27 50.8 +0.7
comp=Z,27nm,0.5s,baz=124,slow=7.8,SNR=10
MAW Mawson 83.91 200 P P 20 27 51.2 +1.1
baz=84,SNR=5.5
CHUM Lake Minchumin 83.93 11 P 20 27 49.7
baz=205,SNR=62
TRF Thorofare Moun 83.93 12 P 20 27 50.1
baz=207
LOGN Logan Glacier 83.96 17 P P 20 27 51.1 +0.6
E09A Wood Farm, Sta 83.97 37 IAmb IAmb 20 27 53.1
comp=Z,235nm,1.7s
BARN Barnard Glacie 83.97 17 P P 20 27 51.2 +0.6
CTG Chitna Glacier 83.98 17 P 20 27 51.3
baz=215,SNR=29
CTGM Chitina Glacie 83.98 17 IAmb IAmb 20 27 51.9
comp=Z,91nm,0.7s
DUG Dugway, Tooele 84.00 45 P 20 27 52.5
baz=241,SNR=14
121A Cookes Peak, D 84.12 53 P P 20 27 54.1 +2.0
121A Cookes Peak, D 84.12 53 P 20 27 54.4
baz=245
BESE Bessie Mountai 84.14 21 IAmb IAmb 20 27 53.9
comp=Z,173nm,1.3s
F10A Beach Ranch, E 84.20 38 IAmb IAmb 20 27 54.2
comp=Z,157nm,1.1s
B08A Colville Reser 84.33 35 P P 20 27 53.0 +0.5
B08A IAmb IAmb 20 27 53.8
comp=Z,62nm,0.7s
BPAW Bear Paw Mtn. 84.38 12 P 20 27 51.3
baz=206
MCK McKinley 84.47 13 P 20 27 52.7
baz=208,SNR=54
Q16A Castle Valley 84.51 46 P P 20 27 55.7 +1.9
GSI Gunungsitoli 84.55 273 P P 20 27 55.4 +1.0
GSI Gunungsitoli 84.55 273 P P 20 27 54.1 -0.2
PAX Paxson 84.58 15 P 20 27 53.3
baz=212,SNR=37
C09A Chrisman Ranch 84.61 36 P P 20 27 54.8 +0.9
C09A IAmb IAmb 20 27 55.5
comp=Z,52nm,0.7s
SKAG Skagway 84.65 21 P 20 27 55.2
baz=221,SNR=11
SKAG Skagway 84.65 21 IAmb IAmb 20 27 56.8
comp=Z,280nm,1.8s
TMUT Trail Mountain 84.66 46 P P 20 27 56.5 +1.8
GYA Guiyang 84.86 300 ⇑P P 20 27 56.8 +1.1
GYA pP pP 20 29 57.3 +1.2
GYA S **S 20 37 40.3 +1.9**
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,320nm,3.9s
CTU Camp Tracy 84.95 45 P P 20 27 56.9 +1.0
MENT Mentasta 84.98 15 IAmb IAmb 20 27 56.6
comp=Z,60nm,0.7s
ZEA Zeya 85.02 331 *c e*P **P 20 27 57.0 +1.3**
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,60nm,0.9s
ZEA pmax pmax
comp=Z,120nm,0.9s
SRU San Rafael Swe 85.05 46 IAmb IAmb 20 27 58.9
comp=Z,44nm,0.7s
TIY Taiyuan 85.09 312 *e*P **P 20 27 57.9 +1.4**
TIY pmax pmax
comp=Z,170nm,0.9s
JLU Jordanelle 85.11 45 P P 20 27 57.9 +1.2
NEA2 Nenana 85.20 12 P 20 27 55.6
baz=208,SNR=18
TCUT Toone Canyon 85.38 44 P P 20 27 59.5 +1.5
TCUT IAmb IAmb 20 28 00.3
comp=Z,57nm,0.9s
HDA Harding Lake 85.48 13 P 20 27 57.8
baz=210
HDA P 20 27 57.8
baz=210
NEW Newport 85.51 36 P 20 27 59.0
baz=237,SNR=38
NEW Newport 85.51 36 P P 20 27 58.7 +0.5
comp=Z,28nm,0.6s,baz=239,slow=4.3,SNR=47
NEW Newport 85.51 36 P P 20 27 59.0 +0.8
NEW pmax pmax
comp=Z,39nm,0.8s
NEW Newport 85.51 36 P P 20 27 59.0 +0.8
CCB Clear Creek Bu 85.51 13 P P 20 27 57.2 -0.5
CCB IAmb IAmb 20 27 58.7
comp=Z,170nm,1.3s
HWUT Hardware Ranch 85.51 44 IAmb IAmb 20 28 01.1
comp=Z,99nm,1.8s
BCAR Beaver Creek A 85.58 16 P P 20 27 57.4 -0.8
IMAR Indian Mountai 85.60 10 P P 20 27 57.0 -1.2
MVCO Mesa Verde 85.61 49 P 20 28 00.4
baz=244
MNTX Comudas Mount 85.63 55 P 20 28 01.1
baz=246
I23K Minto, Yukon-K 85.63 12 P 20 27 57.9
baz=208,SNR=32
I23K Minto, Yukon-K 85.64 12 P P 20 27 57.7 -0.6
I23K IAmb IAmb 20 27 59.4
comp=Z,203nm,1.7s
BCYI Bear Canyon 85.65 41 P P 20 28 00.6 +1.4
MDM Murphy Dome 85.69 12 P P 20 27 58.2 -0.5
TCOL CIGO, UAF Yank 85.69 13 P 20 27 58.4
baz=209,SNR=29
COLA College 85.70 13 P 20 27 58.4
baz=209
COLA College 85.70 13 *c i*P **P 20 27 58.4 -0.2**
COLA pmax pmax
comp=Z,106nm,1.1s
COLA College 85.70 13 P P 20 27 58.3 -0.3
WHY Whitehorse 85.70 20 IAmb IAmb 20 28 00.7
comp=Z,54nm,0.9s
PV19 Morning Glory 85.76 48 IAmb IAmb 20 28 02.4
comp=Z,115nm,1.6s
PV17 East Wray Mesa 85.76 48 IAmb IAmb 20 28 02.6
comp=Z,133nm,1.6s
PV18 Skein Mesa, Pa 85.78 48 P P 20 28 00.9 +1.0
PV18 IAmb IAmb 20 28 02.6
comp=Z,89nm,1.6s
PV20 West Nyswonger 85.78 48 P P 20 28 00.9 +0.9
DLBC Dease Lake 85.79 23 P P 20 28 00.6 +1.2
comp=Z,34nm,0.8s,baz=218,slow=5.8,SNR=46
DLBC PKKP **PKKPdf 20 45 52.2 -0.2**
comp=Z,1.1nm,0.6s,baz=177,slow=19,SNR=1.8
DLBC PKKPbc **PKKPbc 20 45 58.4 -1.3**
comp=Z,1.2nm,0.8s,baz=231,slow=7.3,SNR=3.1
SCRK Sand Creek 85.79 15 P 20 27 59.7
baz=213,SNR=37
IL31 85.81 13 P P 20 27 58.6 -0.5
ILAR Eielson Array 85.81 13 P P 20 27 59.0 -0.3
comp=Z,26nm,0.4s,baz=220,slow=4.9,SNR=603
ILAR pP **pP 20 30 00.2 +1.0**
comp=Z,1.4nm,0.7s,baz=247,slow=4.4,SNR=3.2
ILAR PKiKP **PKiKP 20 33 03.6 -0.2**
comp=Z,0.6nm,0.4s,baz=278,slow=3.0,SNR=8.4
ILAR PKKP **PKKPdf 20 45 54.3 +1.8**
comp=Z,1.1nm,0.5s,baz=327,slow=1.9,SNR=5.1
ILAR Eielson Array 85.81 13 P P 20 27 57.5 -1.7
PV03 Paradox Valley 85.83 48 P P 20 28 01.3 +1.0
PV12 Saucer Basin, 85.89 48 IAmb IAmb 20 28 03.8
comp=Z,38nm,0.7s
PV22 Blue Mesa, Par 86.00 48 P P 20 28 02.1 +1.2
POKR Poker Plat Res 86.00 13 P 20 27 59.7
baz=210,SNR=40
TXAR Lajitas Array 86.06 58 P P 20 28 03.9 +2.6
comp=Z,54nm,0.7s,baz=217,slow=6.0,SNR=569
TXAR pP **pwP 20 30 03.9 -0.8**
comp=Z,1.2nm,0.9s,baz=223,slow=3.7,SNR=1.5
TXAR PKiKP **PKiKP 20 33 06.3 +0.9**
comp=Z,0.3nm,0.6s,baz=225,slow=2.2,SNR=1.9
TXAR PKKP **PKKPdf 20 45 51.6 +0.9**
comp=Z,0.4nm,0.7s,baz=122,slow=4.6,SNR=3.6
TXAR PKKPbc **PKKPbc 20 45 58.0 +0.4**
comp=Z,0.3nm,0.4s,baz=128,slow=3.5,SNR=8.2
TXAR Lajitas Array 86.06 58 P P 20 28 02.9 +1.5
XAN Xi'an 86.08 307 ⇑P P 20 28 02.5 +1.2
XAN S **S 20 37 55.4 +5.8**
XAN pmax pmax
comp=Z,260nm,1.3s
XAN pmax pmax
comp=Z,750nm,3.5s
PV15 Paradox Valley 86.12 48 P P 20 28 02.5 +0.8
ANMO Albuquerque 86.14 52 P 20 28 03.1
baz=245
ANMO Albuquerque 86.14 52 P P 20 28 02.8 +1.0
comp=Z,58nm,1.2s,baz=224,slow=4.7,SNR=46
ANMO pP **pwP 20 30 03.9 -1.7**
comp=Z,1.3nm,0.7s,baz=221,slow=10,SNR=1.8
ANMO Albuquerque 86.14 52 P P 20 28 02.7 +1.0
ANMO pmax pmax
comp=Z,61nm,1.3s
ANMO Albuquerque 86.14 52 P P 20 28 02.7 +1.0
HIA Hailar 86.20 325 *c i*P **P 20 28 01.5 +0.1**
HIA pmax pmax
comp=Z,53nm,1.2s
HIA Hailar 86.20 325 IAmb IAmb 20 28 03.6
comp=Z,127nm,1.4s
K27K Chicken 86.30 15 IAmb IAmb 20 28 04.0
comp=Z,99nm,1.4s
BILL Bilibino 86.31 354 *d i*P **P 20 28 01.7 +0.2**
BILL *e**PP **pwP 20 30 07.9 +3.0**
BILL *e* 20 31 30.3
BILL *e*PPP PPP 20 33 40.5
BILL pmax pmax
comp=Z,154nm,1.3s
BILL Bilibino 86.31 354 P P 20 28 01.6 +0.2
BILL IAmb IAmb 20 28 03.2
comp=Z,128nm,1.1s
LHMI Lhok Sumawe 86.36 277 P P 20 28 04.3 +1.3
AHID Auburn Hatcher 86.36 43 IAmb IAmb 20 28 05.5
comp=Z,62nm,1.1s
RDMU Red Mountain 86.37 45 P P 20 28 03.9 +1.2
RDOG Red Dog Mine 86.37 6 IAmb IAmb 20 28 04.2
comp=Z,100nm,1.5s
MSO Missoula 86.59 38 P 20 28 03.9
baz=240,SNR=20
MSO Missoula 86.59 38 IAmb IAmb 20 28 05.4
comp=Z,80nm,1.4s
USHA Ushuaia 86.67 147 P P 20 28 05.0 +1.4
comp=Z,19nm,0.4s,baz=353,slow=5.7,SNR=3.1
PRP Porcupine Dome 86.75 13 P 20 28 03.6
baz=211,SNR=28
PRP Porcupine Dome 86.75 13 IAmb IAmb 20 28 04.9
comp=Z,65nm,1.2s
REDW Red Top Meadow 86.81 43 IAmb IAmb 20 28 07.6
comp=Z,129nm,1.1s
JTMT Jette 86.85 38 P P 20 28 05.0 +0.2
SNOW Snow King Moun 86.92 42 IAmb IAmb 20 28 08.2
comp=Z,159nm,1.2s
LRM Limekiln Ridge 86.98 40 P P 20 28 05.1 -0.4
DAWY Dawson 87.02 16 IAmb IAmb 20 28 07.1
comp=Z,106nm,1.4s
S22A 4UR Ranch, Cre 87.04 49 P 20 28 07.7
baz=245
O20A White River Ci 87.08 46 P 20 28 07.5
baz=244
O20A White River Ci 87.08 46 IAmb IAmb 20 28 09.9
comp=Z,80nm,1.3s
LOHW Long Hollow 87.08 42 P P 20 28 07.3 +1.3
LOHW IAmb IAmb 20 28 08.2
comp=Z,42nm,0.8s
HHC Hu-ho-hao-te 87.09 315 ⇑*i*P P 20 28 07.5 +1.5
HHC SKS **SKSac 20 37 42.4 +1.9**
HHC S **S 20 38 00.5 +1.5**
HHC pmax pmax
comp=Z,82nm,1.2s
HHC pmax pmax
comp=Z,130nm,5.6s
QLMT Earthquake Lak 87.13 41 P P 20 28 08.3 +2.0
EGAK Eagle 87.14 15 P 20 28 06.1
baz=215,SNR=46
YHB Horse Butte 87.24 41 P P 20 28 08.6 +1.8
YHB IAmb IAmb 20 28 10.2
comp=Z,131nm,1.1s
YPP Pitchstone Pla 87.26 42 IAmb IAmb 20 28 10.5
comp=Z,98nm,1.8s
YHL Hebgen Lake 87.30 41 P P 20 28 09.2 +2.1
COLD Coldfoot 87.33 11 P 20 28 07.3
baz=207,SNR=82
COLD Coldfoot 87.33 11 IAmb IAmb 20 28 08.3
comp=Z,89nm,1.1s
BW06 Boulder Array 87.37 43 IAmb IAmb 20 28 09.1
comp=Z,45nm,0.7s
BW06 Boulder Array 87.37 43 P 20 28 08.5
baz=243,SNR=96
PD31 Pinedale Array 87.37 43 IAmb IAmb 20 28 09.1
comp=Z,40nm,0.7s
PDAR Pinedale Array 87.37 43 P P 20 28 08.3 +0.9
comp=Z,28nm,0.5s,baz=214,slow=3.3,SNR=381
PDAR PKiKP **PKiKP 20 33 08.0 +0.6**
comp=Z,0.3nm,0.5s,baz=305,slow=3.2,SNR=2.3
PDAR PKKPbc **PKKPbc 20 45 54.4 -1.0**
comp=Z,1.3nm,0.8s,baz=95,slow=6.0,SNR=8.8
PDAR Pinedale Array 87.37 43 P P 20 28 07.3 -0.1
BOZ Bozeman (W) 87.38 40 P P 20 28 08.6 +1.4
BOZ pmax pmax
comp=Z,89nm,1.3s
BOZ Bozeman (W) 87.38 40 P P 20 28 08.6 +1.4
BOZ IAmb IAmb 20 28 10.2
comp=Z,89nm,1.3s
BOZ Bozeman (W) 87.38 40 P 20 28 08.8
baz=241,SNR=75
H17A Grant Village 87.47 42 P 20 28 10.7
baz=242,SNR=33
H17A Grant Village 87.47 42 IAmb IAmb 20 28 11.8
comp=Z,75nm,0.9s
YHH Holmes Hill 87.48 41 IAmb IAmb 20 28 12.4
comp=Z,111nm,1.5s
YNM Yellowstone No 87.54 41 IAmb IAmb 20 28 12.7
comp=Z,70nm,0.8s
SMCO Snowmass 87.55 48 P P 20 28 09.7 +1.2
SMCO IAmb IAmb 20 28 11.4
comp=Z,70nm,1.4s
YNR Norris Junctio 87.55 41 IAmb IAmb 20 28 12.9
comp=Z,88nm,1.4s
KMI Kunming 87.65 297 ⇑P P 20 28 10.9 +1.8
KMI SKS **SKSac 20 37 48.8 +4.1**
KMI S **S 20 38 06.9 +1.8**
KMI SS **SS 20 44 11.3 +2.6**
KMI pmax pmax
comp=Z,66nm,1.1s
KMI pmax pmax
comp=Z,240nm,3.5s
KMI Kunming 87.65 297 IAmb IAmb 20 28 12.0
comp=Z,122nm,1.3s
LKWY Lake 87.66 42 IAmb IAmb 20 28 12.8
comp=Z,137nm,1.4s
FYU Fort Yukon 87.71 13 IAmb IAmb 20 28 09.4
comp=Z,34nm,0.6s
WALA Waterton Lakes 87.73 37 P P 20 28 09.3 +0.5
YMP Mirror Lake Pl 87.89 42 IAmb IAmb 20 28 27.6
comp=Z,64nm,1.3s
BTO Baotou 88.04 314 *e*P **P 20 28 12.4 +2.0**
BTO S **S 20 38 11.6 +3.8**
BTO pmax pmax
comp=Z,110nm,1.1s
YNE Yellowstone No 88.11 41 IAmb IAmb 20 28 14.0
comp=Z,140nm,1.4s
RWWY Rawlins 88.46 45 P P 20 28 13.3 +0.8
MSTX Muleshoe 88.54 54 P 20 28 14.1
baz=247
MSTX Muleshoe 88.54 54 IAmb IAmb 20 28 14.8
comp=Z,56nm,0.7s
T25A Trinidad 88.55 50 P 20 28 14.1
baz=246
T25A Trinidad 88.55 50 P P 20 28 13.8 +0.7
BMAR Burnt Mountain 88.58 12 P P 20 28 12.2 0.0
RLMT Red Lodge 88.63 41 P 20 28 15.0
baz=243,SNR=56
RLMT Red Lodge 88.63 41 IAmb IAmb 20 28 16.2
comp=Z,69nm,1.1s
TOLK Toolik Lake Re 88.70 10 P P 20 28 13.1 +0.3
TOLK Toolik Lake Re 88.70 10 P 20 28 13.3
baz=208,SNR=30
CM31 Chiang Mai Arr 88.71 290 IAmb IAmb 20 28 16.7
comp=Z,63nm,1.0s
CMAR Chiang Mai Arr 88.71 290 P P 20 28 15.4 +1.5
comp=Z,37nm,0.9s,baz=108,slow=2.9,SNR=203
CMAR pP **pP 20 30 16.7 +1.6**
comp=Z,1.8nm,0.9s,baz=131,slow=4.9,SNR=2.1
CMAR PKiKP **PKiKP 20 33 09.5 -0.5**
comp=Z,0.6nm,0.4s,baz=172,slow=0.9,SNR=2.1
CMAR PKKPbc **PKKPbc 20 45 52.0 +1.2**
comp=Z,2.8nm,0.8s,baz=284,slow=4.4,SNR=16
CMAR PKPPKP **P'P'df 20 53 54.5 -5.1**
comp=Z,0.2nm,0.4s,baz=270,slow=3.6,SNR=4.2
CMAR Chiang Mai Arr 88.71 290 *i*P **P 20 28 15.3 +1.4**
CMAR pmax pmax
comp=Z,37nm,0.9s
CMAR Chiang Mai Arr 88.71 290 P P 20 28 13.8 -0.1
Q24A Divide 88.75 48 P 20 28 15.4
baz=246
ISCO Idaho Springs 88.76 47 P 20 28 15.6
baz=246
ISCO Idaho Springs 88.77 47 IAmb IAmb 20 28 17.1
comp=Z,92nm,1.8s
CHTO Chiang Mai 88.83 290 P P 20 28 15.4 +1.0
CHTO pmax pmax
comp=Z,55nm,1.1s
CHTO Chiang Mai 88.83 290 P P 20 28 15.4 +1.0
CHTO IAmb IAmb 20 28 16.8
comp=Z,54nm,1.1s
CD2 Chengdu 88.89 303 ⇑*i*P **P 20 28 15.8 +1.3**
CD2 S **S 20 38 17.0 +1.1**
CD2 pmax pmax
comp=Z,70nm,1.3s
CD2 pmax pmax
comp=Z,440nm,5.4s
N23A Red Feather La 88.99 46 P 20 28 16.9
baz=245
833A Chaparral WMA, 89.17 60 P 20 28 17.6
baz=249
SYO Syowa Base 89.23 193 ⇑*e*P **P 20 28 15.0 -0.3**
SYO Syowa Base 89.23 193 ⇑*e*PcP **PcP 20 28 16.3 0.0**
SYO Syowa Base 89.23 193 ⇓*e*sP sP 20 31 12.1 -0.5
K22A Casper 89.33 45 P 20 28 17.7
baz=245
CMIG Matias Romero 89.33 72 P P 20 28 18.2 +1.5
comp=Z,19nm,0.8s,baz=279,slow=5.1,SNR=23
YAK Yakutsk 89.42 338 P P 20 28 15.7 -0.4
comp=Z,16nm,0.5s,baz=359,slow=0.3,SNR=13
YAK PP **PP 20 31 53.9 -4.0**
comp=Z,2.4nm,0.3s,baz=117,slow=6.8,SNR=1.6
YAK Yakutsk 89.42 338 *e*P **P 20 28 15.6 -0.5**
YAK *e* 20 31 52.9
YAK *e*S **SKSac 20 37 51.9 -0.9**
YAK *e* 20 38 15.8
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,17nm,1.1s
YAK pmax pmax
comp=Z,89nm,1.9s
YAK pmax pmax
comp=N,39nm,2.0s
YAK pmax pmax
comp=E,26nm,2.2s
YAK smax smax
comp=E,13nm,2.1s
YAK smax smax
comp=N,17nm,2.6s
YAK Yakutsk 89.42 338 P P 20 28 15.7 -0.5
YAK IAmb IAmb 20 28 16.4
comp=Z,54nm,0.8s
PHWY Pilot Hill 89.49 46 IAmb IAmb 20 28 19.2
comp=Z,32nm,0.8s
EPYK Eagle Plains 89.54 16 P 20 28 17.0
baz=220,SNR=6.7
JCT Junction City 89.60 58 P 20 28 19.1
baz=249
JCT Junction City 89.60 58 P P 20 28 18.5 +0.7
JCT pmax pmax
comp=Z,41nm,0.8s
JCT Junction City 89.60 58 P P 20 28 18.4 +0.7
JCT IAmb IAmb 20 28 20.1

comp=Z,41nm,0.8s
EGMT Eagleton 89.65 39 P 20 28 18.9
baz=243
AMTX Amarillo 89.72 53 P 20 28 19.4
baz=248
AMTX Amarillo 89.72 53 IAmb IAmb 20 28 20.0
comp=Z,36nm,0.8s
A21K Barrow 90.17 7 P 20 28 19.6
baz=201
A21K Barrow 90.17 7 P **P** **20 28 19.3 -0.1**
ABTX Abilene, Hawle 90.48 56 P 20 28 23.2
baz=249
ABTX Abilene, Hawle 90.48 56 P **P** **20 28 23.0 +1.1**
KSCO Kaye Shedlock' 90.58 49 P 20 28 23.6
baz=248
KSCO Kaye Shedlock' 90.58 49 IAmb IAmb 20 28 25.9
comp=Z,54nm,1.0s
LZH Lanzhou 90.71 308 *e*P **P** **20 28 24.3 +1.3**
LZH pP pP 20 30 28.4 +3.3
LZH S **S** **20 38 37.9 +5.6**
LZH sS sS 20 42 12.8 +3.3
LZH pmax pmax
comp=Z,140nm,1.2s
LZH pmax pmax
comp=Z,170nm,4.3s
SNAA Sanae 90.71 179 P **P** **20 28 21.9 -0.3**
SNAA Sanae 90.71 179 PKiKP **PKiKP** **20 33 11.5 -0.5**
SNAA x x 20 45 44.7
SNAA Sanae 90.71 179 P **P** **20 28 21.9 -0.3**
comp=Z,23nm,0.6s,baz=208,slow=6.9,SNR=216
SNAA PKiKP **PKiKP** **20 33 11.7 -0.4**
comp=Z,1.9nm,0.8s,baz=202,slow=5.4,SNR=2.5
SNAA PKKP **PKKPdf** **20 45 42.1 +0.7**
comp=Z,1.2nm,0.4s,baz=242,slow=5.0,SNR=19
SNAA Sanae 90.71 179 P **P** **20 28 21.9 -0.3**
SNAA pmax pmax
comp=Z,95nm,1.4s
SNAA Sanae 90.71 179 P **P** **20 28 21.9 -0.3**
SNAA IAmb IAmb 20 28 23.0
comp=Z,95nm,1.4s
VNA3 Neumayer Olymp 90.86 176 P **P** **20 28 23.1 +0.2**
VNA3 Neumayer Olymp 90.86 176 PKiKP **PKiKP** **20 33 11.7 -0.5**
VNA3 x x 20 45 43.7
CIT Chita 90.99 325 *e*P **P** **20 28 24.9 +1.2**
CIT pmax pmax
comp=Z,164nm,1.3s
LAO LASA Array 91.22 41 P 20 28 27.1
baz=245
VNA2 Neumayer--Watz 91.29 177 P **P** **20 28 24.9 +0.1**
baz=184,slow=4.7
VNA2 Neumayer--Watz 91.29 177 PKiKP **PKiKP** **20 33 13.1 +0.1**
VNA2 x x 20 45 43.0
NVL N'lazarevskaya 91.37 183 ⇓*i*P **P** **20 28 24.1 -1.1**
NVL *e**PP **pP** **20 30 28.8 +2.0**
NVL *e*S **SKSac** **20 38 08.5 +4.5**
NVL pmax pmax
comp=Z,29nm,0.7s
435B Jarrell 91.50 58 P 20 28 28.2
baz=250
PLCA Paso Flores 91.51 134 P **P** **20 28 28.2 +1.6**
comp=Z,4.8nm,0.7s,baz=232,slow=3.9,SNR=11
PLCA PKKP **PKKPdf** **20 45 42.1 +2.2**
comp=Z,2.7nm,1.0s,baz=57,slow=2.7,SNR=4.6
PLCA Paso Flores 91.51 134 P **P** **20 28 28.6 +2.0**
PLCA pmax pmax
comp=Z,13nm,1.1s
PLCA Paso Flores 91.51 134 P **P** **20 28 28.6 +2.0**
VNA1 Neumayer--Stat 91.52 177 P **P** **20 28 26.4 +0.5**
RSSD Black Hills 91.59 44 P 20 28 27.7
baz=247
OGNE Ogallala 91.73 47 P 20 28 28.5
baz=248
INK Inuvik 91.82 15 P **P** **20 28 26.7 -0.4**
comp=Z,56nm,0.9s,baz=213,slow=4.3,SNR=128
INK PKiKP **PKiKP** **20 33 15.3 +1.6**
comp=Z,2.1nm,0.9s,baz=360,slow=1.1,SNR=2.1
INK Inuvik 91.82 15 P **P** **20 28 26.9 -0.2**
INK pmax pmax
comp=Z,123nm,1.3s
INK Inuvik 91.82 15 P **P** **20 28 26.9 -0.2**
WHTX Lake Whitney, 92.00 57 P 20 28 30.0
baz=250
WHTX Lake Whitney, 92.00 57 IAmb IAmb 20 28 30.6
comp=Z,27nm,0.7s
PBA Port Blair 92.28 281 IAmb IAmb 20 28 30.6
comp=Z,27nm,0.7s
U32A Winter Ranch, 92.30 53 P **P** **20 28 31.3 +1.2**
CBKS Cedar Bluff 92.60 50 P 20 28 32.6
baz=249
HKT Hockley 92.65 60*c* *i*P **P** **20 28 33.5 +1.7**
HKT pmax pmax
comp=Z,12nm,1.1s
HKT Hockley 92.65 60 P **P** **20 28 33.5 +1.7**
HKT IAmb IAmb 20 28 35.1
comp=Z,60nm,1.8s
BI02 San Fabin de 92.69 130 IAmb IAmb 20 30 36.5
comp=Z,42nm,1.9s
APG El Apazote 92.73 75 P **P** **20 28 34.2 +1.4**
comp=Z,7.2nm,0.3s,baz=241,slow=5.5,SNR=8.3
ULN Ulaanbaatar 92.98 320*ce*P **P** **20 28 33.3 +0.2**
ULN pmax pmax
comp=Z,36nm,1.1s
ULN Ulaanbaatar 92.98 320 P **P** **20 28 33.3 +0.2**
ULN IAmb IAmb 20 28 34.8
comp=Z,34nm,0.9s
DGMT Dagmar 93.20 40 P 20 28 35.6
baz=247
DGMT Dagmar 93.20 40 P **P** **20 28 35.2 +1.2**
237A Washetta, Mont 93.33 58 P **P** **20 28 36.4 +1.5**
237A IAmb IAmb 20 28 37.8
comp=Z,37nm,0.8s
SONM Songino Array 93.37 319 P **P** **20 28 34.9 0.0**
comp=Z,5.2nm,0.5s,baz=130,slow=4.4,SNR=73
SONM pP **pP** **20 30 37.2 +0.1**
comp=Z,1.4nm,1.0s,baz=144,slow=10.0,SNR=2.7
SONM PP **PP** **20 32 26.4 -2.7**
comp=Z,1.5nm,1.0s,baz=112,slow=7.8,SNR=2.4
SONM PKiKP **PKiKP** **20 33 17.0 -0.2**
comp=Z,1.3nm,0.5s,baz=120,slow=1.6,SNR=9.7
SONM S **SKSac** **20 38 17.2 +1.3**
comp=Z,0.4nm,0.9s,baz=96,slow=10,SNR=1.0
SONM PKKP **PKKPdf** **20 45 38.2 -0.4**
comp=Z,1.4nm,0.9s,baz=239,slow=2.7,SNR=7.5
SONM Songino Array 93.37 319 P **P** **20 28 34.0 -0.9**
SONM pmax pmax
comp=Z,17nm,1.1s
SONM Songino Array 93.37 319 P **P** **20 28 34.0 -0.9**
BOD Bodaibo 93.50 330 *e*P **P** **20 28 34.4 -0.6**
BOD pmax pmax
comp=Z,28nm,1.4s
NATX Nacogdoches 94.18 58 P 20 28 40.3
baz=252
YKA Yellowknife Ar 94.29 25 P **P** **20 28 38.8 +0.3**
comp=Z,19nm,0.8s,baz=239,slow=4.1,SNR=201
YKA pP **pP** **20 30 41.3 +1.3**
comp=Z,0.5nm,0.7s,baz=230,slow=3.9,SNR=2.0
YKA PP **PP** **20 32 30.3 -5.2**
comp=Z,1.4nm,0.9s,baz=232,slow=7.7,SNR=4.9
YKA PKiKP **PKiKP** **20 33 18.1 -0.1**
comp=Z,0.6nm,0.6s,baz=240,slow=1.0,SNR=6.0
YKA PKKP **PKKPdf** **20 45 34.6 -2.7**
comp=Z,1.0nm,0.5s,baz=52,slow=2.6,SNR=17
YKA PKPPKP PKPPKPdf 20 53 47.8
comp=Z,0.8nm,0.9s,baz=67,slow=2.8,SNR=7.3
T35A Sooner Cattle 94.36 53 P **P** **20 28 40.3 +0.8**
T35A IAmb IAmb 20 28 42.0
comp=Z,23nm,0.7s
X37A Clayton 94.50 55 IAmb IAmb 20 28 42.3
comp=Z,49nm,1.7s
TUL1 Leonard 94.59 54 P 20 28 41.6
baz=251
K31A O'Neill 94.62 47 P **P** **20 28 41.6 +1.0**
BGNE Belgrade 94.63 48 P 20 28 42.4
baz=250
E28A Huff 94.69 43 P **P** **20 28 41.2 +0.4**
GTA Gaotai 94.85 310 ⇑P **P** **20 28 42.3 +0.5**
GTA pP pP 20 30 42.5 -1.7
GTA sP sP 20 31 35.6 -4.4
GTA pmax pmax
comp=Z,25nm,1.0s
KSU1 Kansas State U 94.99 51 P 20 28 44.0
baz=251
C36M Paulatuk 95.03 17 P 20 28 41.7
baz=231
C36M Paulatuk 95.03 17 IAmb IAmb 20 28 43.1
comp=Z,32nm,0.8s
MDND Maddock 95.83 42 P 20 28 46.5
baz=250
U38A Gravette 95.84 54 IAmb IAmb 20 28 49.9
comp=Z,51nm,1.7s
MIAR Mount Ida 95.89 56 P 20 28 47.4
baz=252
W39A Magazine 95.93 55 P 20 28 47.5
baz=252
TIXI Tiksi 96.01 345 P **P** **20 28 45.3 -0.7**
comp=Z,18nm,0.8s,baz=138,slow=5.5,SNR=84
TIXI PP **PP** **20 32 44.7 -3.7**
comp=Z,2.7nm,0.4s,baz=113,slow=9.9,SNR=5.7
TIXI Tiksi 96.01 345*ce*P **P** **20 28 45.4 -0.7**
TIXI pmax pmax
comp=Z,124nm,1.3s
TIXI Tiksi 96.01 345 P **P** **20 28 45.4 -0.7**
TIXI IAmb IAmb 20 28 46.2
comp=Z,16nm,0.7s
Z41A Richland Creek 96.13 57 P 20 28 48.4
baz=253
ZAK Zakamensk 96.21 321 *e*P **P** **20 28 46.8 -0.9**
ZAK pmax pmax
comp=Z,11nm,1.2s
TLY Talaya 96.45 322 *e*P **P** **20 28 48.5 -0.1**
TLY pmax pmax
comp=Z,29nm,1.0s
TLY Talaya 96.45 322 P **P** **20 28 48.3 -0.3**
ECSD EROS Data Cent 96.46 46 P 20 28 49.4
baz=252
ECSD EROS Data Cent 96.46 46 P **P** **20 28 49.3 +0.5**
ECSD IAmb IAmb 20 28 50.4
comp=Z,18nm,0.9s
JTS Las Juntas de 96.48 81 P **P** **20 28 50.3 +0.7**
comp=Z,4.1nm,0.5s,baz=225,slow=7.1,SNR=2.0
JTS Las Juntas de 96.48 81 P **P** **20 28 50.3 +0.7**
JTS pmax pmax
comp=Z,10.0nm,1.1s
JTS Las Juntas de 96.48 81 IAmb IAmb 20 28 59.0
comp=Z,10.0nm,1.1s
U40A Yellville 96.99 54 P 20 28 52.0
baz=253
S39A Bolivar 97.02 53 IAmb IAmb 20 28 55.0
comp=Z,53nm,1.8s
SHL Shillong 97.11 294 IAmb IAmb 20 28 54.5
comp=Z,14nm,1.1s
W41B Gary Mavity, V 97.12 55 P 20 28 52.7
baz=253
F33A 5 Mile Ranch, 97.33 44 P **P** **20 28 53.1 +0.4**
F33A IAmb IAmb 20 28 56.0
comp=Z,14nm,0.9s
P38A Dawn 97.42 51 IAmb IAmb 20 28 55.3
comp=Z,18nm,0.8s
AGMN Agassiz Nation 98.35 42 P 20 28 57.6
baz=253
CCM Cathedral Cave 98.70 53 P 20 29 00.5
baz=254
ULM Lac du Bonnet 98.92 40 P Pdif 20 28 59.2 -0.4
comp=Z,2.5nm,0.5s,baz=244,slow=5.1,SNR=6.7
ULM Lac du Bonnet 98.92 40 *i* P Pdif 20 28 58.9 -0.7
SPMN Marine on St. 99.50 46 P 20 29 03.1
baz=254
JFWS Jewell Farm 100.69 48 P 20 29 08.1
baz=256
WVT Waverly 100.85 56 P 20 29 08.7
baz=256
LPAZ La Paz 103.57 112 Pdiff **Pdif** **20 29 26.0 +4.1**
comp=Z,1.9nm,0.8s,baz=188,slow=1.5,SNR=8.6
LPAZ PKKPbc **PKKPbc** **20 45 10.8 -1.2**
comp=Z,1.4nm,0.5s,baz=304,slow=0.9,SNR=6.0
TKL Tuckaleechee C 103.95 57 Pdiff **Pdif** **20 29 20.3 -2.1**
comp=Z,5.8nm,0.6s,baz=56,slow=14,SNR=4.5
RES Resolute Bay 105.36 16 Pdiff **Pdif** **20 29 28.0 +0.4**
comp=Z,1.5nm,0.6s,baz=200,slow=4.5,SNR=6.6
RES PKiKP **PKiKP** **20 33 37.7 -0.1**
comp=Z,2.0nm,0.7s,baz=278,slow=3.0,SNR=6.3
RES Resolute Bay 105.36 16 P **Pdif** **20 29 28.5 +0.8**
RES Resolute Bay 105.36 16 Pdif **Pdif** **20 29 28.5 +0.8**
T56A Rocky Mt 107.17 56 P 20 33 42.2
baz=260
V57A Coltrane Farms 107.18 57 P 20 33 42.2
baz=260
ZSN Zaisan 107.29 315 *e*PKiKP **PKiKP** **20 33 41.3 -0.9**
baz=315
R55A Marlinton 107.31 55 P 20 33 42.4
baz=261
N54A Moraine State 107.81 52 P 20 33 43.2
baz=262
R56A Bull Pasture M 107.88 55 P 20 33 43.7
baz=261
CPUP Villa Florida 108.02 126 PKKPab PKKPab 20 45 12.1 -3.0
comp=Z,2.1nm,0.9s,baz=50,slow=7.2,SNR=4.2
ZALV Zalesovo Beam 108.06 322 Pdiff **Pdif** **20 29 40.0 -0.1**
comp=Z,2.4nm,0.9s,baz=104,slow=6.3,SNR=10.0
ZALV PKiKP **PKiKP** **20 33 42.5 -0.9**
comp=Z,11nm,0.5s,baz=111,slow=0.6,SNR=71
ZALV PP **PP** **20 34 13.7 -4.0**
comp=Z,3.5nm,1.0s,baz=91,slow=5.9,SNR=4.0
ZALV PKKPbc **PKKPbc** **20 44 57.1 -1.4**
comp=Z,1.6nm,0.5s,baz=257,slow=3.4,SNR=7.7
ZALV Zalesovo Beam 108.06 322 P **Pdif** **20 29 39.6 -0.5**
ZALV Zalesovo Beam 108.06 322 Pdif **Pdif** **20 29 39.6 -0.5**
M54A Oil Creek Stat 108.13 51 P 20 33 44.0
baz=262
P56A Dayton Farm, R 108.48 54 P 20 33 44.6
baz=262
S58A Poland Farm, P 108.82 56 P 20 33 45.2
baz=262
SADO Sadowa 108.92 48 PKiKP **PKiKP** **20 33 44.8 -0.5**
comp=Z,16nm,0.9s,baz=76,slow=22,SNR=19
MKAR Makanchi Array 108.96 314 Pdiff **Pdif** **20 29 44.1 -0.3**
comp=Z,0.8nm,0.5s,baz=79,slow=6.8,SNR=14
MKAR PKiKP **PKiKP** **20 33 44.7 -0.7**
comp=Z,13nm,0.5s,baz=178,slow=0.5,SNR=291
MKAR PP **PP** **20 34 21.0 -3.5**
comp=Z,2.1nm,0.7s,baz=90,slow=7.5,SNR=1.7
MKAR PKKPbc **PKKPbc** **20 44 54.9 -0.7**
comp=Z,2.2nm,0.7s,baz=273,slow=3.7,SNR=17
MKAR PKKPab **PKKPab** **20 45 08.8 +0.3**
comp=Z,1.2nm,1.0s,baz=260,slow=3.2,SNR=4.0
MKAR Makanchi Array 108.96 314 P **Pdif** **20 29 44.4 0.0**
MKAR Makanchi Array 108.96 314 **Pdif** **20 29 44.4 0.0**
N56A West Decatur 109.08 52 P 20 33 45.9
baz=263
M56A Emporium 109.23 52 P 20 33 46.0
baz=263
O57A Anderson 109.49 53 P 20 33 46.4
baz=263
N57A Milroy 109.62 52 P 20 33 46.5
baz=263
L56A Greenwood 109.77 51 P 20 33 47.1
baz=264
SIV San Ignacio 109.86 115 PKiKP **PKiKP** **20 33 47.6 -0.4**
comp=Z,0.6nm,0.3s,baz=266,slow=4.6,SNR=3.6
SIV PKKPbc **PKKPbc** **20 44 52.0 -0.2**
comp=Z,3.5nm,0.5s,baz=85,slow=4.0,SNR=16
SIV PKKPab **PKKPab** **20 45 05.9 -0.7**
comp=Z,2.0nm,0.5s,baz=36,slow=7.1,SNR=7.5
S60A Water View 109.93 56 P 20 33 47.6
baz=263
M57A Sunshine Farm, 110.00 52 P 20 33 47.7
baz=264
O58A Lewisberry 110.02 53 P 20 33 47.9
baz=263
N58A Sunbury 110.26 52 P 20 33 47.4
baz=264
L57A Andrews Acres 110.28 51 P 20 33 48.1
baz=264
P59A Jarrettsville 110.34 54 P 20 33 48.2
baz=263
M58A Price's Panora 110.51 52 P 20 33 48.3
baz=264
SHLS Shalkode 110.59 310 *e*PKiKP **PKiKP** **20 33 46.8 -1.9**
baz=310
SHLS Shalkode 110.59 310 *i* PKIKP **PKiKP** **20 33 46.8 -1.9**
K57A Scipio Center 110.60 50 P 20 33 48.6
baz=264
O59A Robesonia 110.60 53 P 20 33 48.5
baz=264
UZB Uzynbulak 110.92 310 *e*PKiKP **PKiKP** **20 33 48.1 -1.2**
comp=Z,7.5nm,1.2s,baz=310
UZB *e*PP **PP** **20 34 36.6 -2.0**
baz=310
UZB Uzynbulak 110.92 310 *i* PKIKP **PKiKP** **20 33 48.1 -1.2**
UZB *e* 20 34 36.6
UZB pmax pmax
comp=Z,8.0nm,1.2s
L58A Harry Jones Me 111.03 51 P 20 33 49.5
baz=265
J57A Williamstown 111.04 50 P 20 33 49.4
baz=265
KPKS Kokpek 111.19 310 *e*PKiKP **PKiKP** **20 33 48.9 -0.9**
baz=310
KPKS *e*PP **PP** **20 34 38.6 -1.8**
baz=310
KPKS Kokpek 111.19 310 *i* PKIKP **PKiKP** **20 33 48.9 -0.9**
KPKS *e* 20 34 38.6
E55A Montcerf-Lytto 111.23 46 P 20 33 49.3
baz=266
K58A Earlville 111.24 50 P 20 33 49.6
baz=265
M59A Waymart 111.29 52 P 20 33 49.9
baz=265
I57A Carthage 111.33 49 P 20 33 49.8
baz=266
SATY Saty 111.36 310 *e*PKiKP **PKiKP** **20 33 49.3 -0.9**
baz=310
SATY *e*PP **PP** **20 34 39.9 -1.9**
baz=310
SATY Saty 111.36 310 *i* PKIKP **PKiKP** **20 33 49.2 -0.9**
SATY *e* 20 34 39.8
TDK Taldyqorghan 111.50 312 *e*PKiKP **PKiKP** **20 33 49.2 -1.1**
comp=Z,10nm,0.8s,baz=312
TDK Taldyqorghan 111.50 312 *i* PKIKP **PKiKP** **20 33 49.1 -1.1**
TDK pmax pmax
comp=Z,10.0nm,0.8s
H57A Richville 111.56 49 P 20 33 49.9
baz=266
K59A Cooperstown 111.83 50 P 20 33 50.8
baz=266
E56A St. Veronique 111.94 46 P 20 33 50.5
baz=267
D56A ZEC Mazanza, M 112.16 46 P 20 33 51.0
baz=267
L60A Shokan 112.23 51 P 20 33 51.6
baz=266
MDOK Medeo 112.36 310 *e*PKiKP **PKiKP** **20 33 51.0 -1.2**
baz=310
MDOK Medeo 112.36 310 *i* PKIKP **PKiKP** **20 33 50.9 -1.2**
TNSS Tian-Shan 112.42 310 *e*PKiKP **PKiKP** **20 33 51.9 -0.7**
comp=Z,57nm,0.6s,baz=310
TNSS *e*PP **PP** **20 34 48.0 -1.5**
baz=310
TNSS Tian-Shan 112.42 310 *i* PKIKP **PKiKP** **20 33 51.9 -0.7**
TNSS *e* 20 34 48.0
TNSS pmax pmax
comp=Z,57nm,0.6s
H58A Gabriels 112.42 49 P 20 33 51.8
baz=267
AAA Alma-Ata 112.46 310 *e*PKiKP **PKiKP** **20 33 51.8 -0.4**
baz=310
AAA *e*PP **PP** **20 34 48.0 -1.3**
baz=310
AAA Alma-Ata 112.46 310 *i* PKIKP **PKiKP** **20 33 51.8 -0.4**
AAA *e* 20 34 48.0
G58A Ormstown 112.55 48 P 20 33 51.8
baz=267
I59A Olmsteadville 112.61 49 P 20 33 52.2
baz=267
ULHL Ulahol 112.89 309 P **PKiKP** **20 33 53.5 +0.3**
SNR=7.2
J60A Lant Hill Farm 112.91 50 P 20 33 53.0
baz=267
KUU Kurty 112.91 311 *e*PKiKP **PKiKP** **20 33 51.4 -1.5**
comp=Z,6.4nm,0.8s,baz=311
KUU *e*PP **PP** **20 34 49.9 -2.6**
baz=311
KUU Kurty 112.91 311 *i* PKIKP **PKiKP** **20 33 51.4 -1.5**
KUU *e* 20 34 49.8
KUU pmax pmax
comp=Z,6.0nm,0.8s
I60A Shoreham 113.03 49 P 20 33 53.2
baz=267
E58A La Victoria 113.15 47 P 20 33 53.3
baz=268
TKM2 Tokmak 2 113.40 310 P **PKiKP** **20 33 53.7 -0.5**
SNR=21
L61B Northampton 113.41 51 P 20 33 53.7
baz=267
D58A Chemin du LacG 113.44 46 P 20 33 53.2
baz=269
F59A Saint Guilaume 113.47 47 P 20 33 53.9
baz=268
H60A Morristown 113.49 49 P 20 33 54.1
baz=268
KBK Karagaybulak 113.87 309 P **PKiKP** **20 33 55.0 -0.1**
SNR=13
CHMS Chumysh 114.03 310 P PKPdf 20 33 54.9 -0.3
SNR=14
F60A Warwick 114.06 47 P 20 33 55.0
baz=269
J62A Henniker 114.08 50 P 20 33 55.0
baz=268
SGDS Sogindy 114.13 310 *e*PKiKP PKPdf 20 33 54.5 -0.9
baz=310
SGDS Sogindy 114.13 310 *i* PKIKP PKPdf 20 33 54.4 -1.0
UCH Uchtor 114.17 309 P **PKiKP** **20 33 56.0 0.0**
SNR=23
AAK Ala-Archa 114.20 309 PKKPbc PKKPbc 20 44 37.4 -1.2
comp=Z,1.7nm,0.9s,baz=232,slow=6.9,SNR=6.2
AAK PKKPab **PKKPab** **20 44 46.8 +1.3**
comp=Z,4.6nm,0.6s,baz=249,slow=4.4,SNR=15
AAK Ala-Archa 114.20 309 P PKPdf 20 33 55.5 -0.2
SNR=10
AAK Ala-Archa 114.20 309*c* *i* PKIKP PKPdf 20 33 55.4 -0.3
AAK pmax pmax
comp=Z,33nm,1.3s
USP Ospenovka 114.22 310 P PKPdf 20 33 55.2 -0.3
SNR=18
K63A Dunstable 114.27 51 P 20 33 55.3
baz=268
G61A St-Isidore-de- 114.34 48 P 20 33 55.5
baz=269
E60A Ste Agathe de 114.41 47 P 20 33 55.8
baz=270
I62A Tamworth 114.45 49 P 20 33 56.1
baz=268
NIL Nilore 114.56 299 *i* PKIKP PKPdf 20 33 55.1 -1.4
NIL Nilore 114.56 299 PKiKP PKPdf 20 33 55.1 -1.4
H62A Milan 114.59 49 P 20 33 56.4
baz=269
BTLS Baital 114.59 312 *e*PKP PKPdf 20 33 55.3 -0.8
comp=Z,7.7nm,0.6s,baz=312
BTLS Baital 114.59 312 *e*PKiKP PKPdf 20 33 55.3 -0.8
BTLS pmax pmax
comp=Z,8.0nm,0.6s
J63A Strafford 114.62 50 P 20 33 56.3
baz=268
EKS2 Erkin-Say 114.73 309 P PKPdf 20 33 56.5 -0.2
SNR=15
L64A Middleborough 114.75 52 P 20 33 56.4
baz=268
AML Almayashu 114.78 309 P **PKiKP** **20 33 57.1 0.0**
SNR=27
D60A Saint Jean D'O 114.78 46 P 20 33 56.5
baz=270
I63A Otisfield 115.00 49 P 20 33 57.1
baz=269
G62A West of Eustis 115.04 48 P 20 33 56.9
baz=270
E61A Lac Etchemin 115.08 47 P 20 33 57.3
baz=270
KULLO Kullorsuaq 115.17 15 *i* P **PKPdf** **20 33 55.9 -0.4**
comp=Z,13nm,0.5s
KULLO Kullorsuaq 115.17 15 *i* PKIKP **PKPdf** **20 33 55.9 -0.4**
KULLO Kullorsuaq 115.17 15 *i* P **PKPdf** **20 33 55.9 -0.4**
KULLO IAmb IAmb 20 33 56.2
comp=Z,13nm,0.5s
BRZS Berezniki 115.46 317 *e*PKP **PKPdf** **20 33 56.3 -1.3**
baz=318
BRZS Berezniki 115.46 317 *e*PKIKP **PKPdf** **20 33 56.3 -1.3**
I64A Boothbay 115.68 49 P 20 33 58.2
baz=270
G63A Kingsbury 115.69 48 P 20 33 58.2
baz=270
NOR Nord 115.70 3 *i* P **PKPdf** **20 33 56.9 -0.4**
comp=Z,2.5nm,0.6s
NOR Nord 115.70 3 *i* PKIKP **PKPdf** **20 33 56.9 -0.4**
NOR Nord 115.70 3 *i* P **PKPdf** **20 33 56.9 -0.4**
NOR IAmb IAmb 20 33 57.6
comp=Z,2.5nm,0.6s
PKME Peaks-Kenny Pk 115.92 48 P 20 33 58.7
baz=270
H64A Troy 115.97 49 P 20 33 58.5
baz=270

F63A	**Nahmakanta, Br**	**116.05**	**47**	P			20 33 59.2		
	baz=271								
SJG	**San Juan**	**116.06**	**78**	PKIKP	**PKPdf**		**20 33 59.0**	**-0.6**	
SJG	**San Juan**	**116.06**	**78**		**PKPdf**		**20 33 59.0**	**-0.6**	
UPNV	**Upernavik**	**116.24**	**16**⇑	*i*P	**PKPdf**		**20 33 58.3**	**-0.1**	
UPNV				IAmb	IAmb		20 33 58.8		
	comp=Z,26nm,0.5s								
G64A	**Maxfield**	**116.30**	**48**	P			20 33 59.4		
	baz=271								
E63A	**Oxbow**	**116.51**	**47**	P			20 33 59.6		
	baz=272								
DZA	**Taraz**	**116.54**	**310**	*e*PKP	**PKPdf**		**20 33 59.3**	**-0.7**	
	baz=310								
DZA	**Taraz**	**116.54**	**310**	*e*PKIKP	**PKPdf**		**20 33 59.2**	**-0.7**	
F64A	**Sherman**	**116.57**	**47**	P			20 33 59.6		
	baz=272								
BVAR	**Borovoye Array**	**116.67**	**321**	PKKPbc	PKKPbc		20 44 29.3	-0.9	
	comp=Z,0.6nm,0.6s,baz=216,slow=14,SNR=6.2								
BVAR				PKKPab	**PKKPab**		**20 44 35.2**	**+1.1**	
	comp=Z,1.1nm,0.6s,baz=191,slow=14,SNR=9.2								
D63A	**Stockholm**	**116.70**	**46**	P			20 33 59.8		
	baz=272								
BRVK	**Borovoye**	**116.73**	**321**	*c i*PKIKP	**PKPdf**		**20 33 59.5**	**-0.4**	
BRVK				pmax	pmax				
	comp=Z,39nm,1.3s								
BRVK	**Borovoye**	**116.73**	**321**	PKPdf	**PKPdf**		**20 33 59.6**	**-0.4**	
PQI	**Presque Isle**	**116.78**	**46**		**PKPdf**		**20 33 59.7**	**-0.5**	
PTGA	**Pitinga**	**116.88**	**100**	PKPdf	**PKPdf**		**20 34 00.2**	**-1.2**	
E64A	**Bridgewater**	**116.92**	**47**	P			20 34 00.4		
	baz=272								
KKAR	**Karatay Array**	**117.14**	**310**	PKIKP	**PKPdf**		**20 34 00.7**	**-0.4**	
KKAR	**Karatay Array**	**117.14**	**310**	PKPdf	**PKPdf**		**20 34 00.5**	**-0.6**	
KKAR	**Karatay Array**	**117.14**	**310**		**PKPdf**		**20 34 00.7**	**-0.4**	
G65A	**Princeton**	**117.14**	**48**	P			20 34 01.0		
	baz=272								
H66A	**Whiting**	**117.33**	**48**	P			20 34 01.4		
	baz=272								
IUG	**luzhnay**	**117.50**	**309**	*e*PKP	**PKPdf**		**20 34 01.4**	**-0.5**	
	comp=Z,11nm,1.1s,baz=309								
IUG	**luzhnay**	**117.50**	**309**	*e*PKIKP	**PKPdf**		**20 34 01.4**	**-0.5**	
IUG				pmax	pmax				
	comp=Z,11nm,1.1s								
NUUG	**Nuugaatsiaq**	**117.62**	**17**⇑	*i*P	**PKPdf**		**20 34 00.8**	**-0.3**	
NUUG				IAmb	IAmb		20 34 01.4		
	comp=Z,20nm,0.5s								
KBL	**Kabul**	**118.11**	**300**	PKIKP	**PKiKP**		**20 34 03.6**	**0.0**	
KBL	**Kabul**	**118.11**	**300**	PKPdf	**PKiKP**		**20 34 03.5**	**0.0**	
KBS	**Kingsbay**	**118.63**	**358**	*i* PKIKP	**PKPdf**		**20 34 02.9**	**-0.1**	
KBS	**Kingsbay**	**118.63**	**358**	*e*PKPdf	**PKiKP**		**20 34 03.8**	**+0.8**	
SPA0	**Spitsbergen Ar**	**119.15**	**357**	PKPdf	**PKPdf**		**20 34 04.0**	**0.0**	
SPA0	**Spitsbergen Ar**	**119.15**	**357**	*e*PKPdf	**PKPdf**		**20 34 04.0**	**0.0**	
SPITS	**Spitsbergen Ar**	**119.15**	**357**	PKP	**PKPdf**		**20 34 03.8**	**-0.2**	
	comp=Z,20nm,0.6s,baz=146,slow=9.1,SNR=60								
SPITS				PP	**PP**		**20 35 31.0**	**-3.2**	
	comp=Z,5.8nm,1.0s,baz=198,slow=7.9,SNR=3.7								
SPITS				PKKPbc	**PKKPbc**		**20 44 19.8**	**-2.2**	
	comp=Z,1.1nm,0.4s,baz=169,slow=14,SNR=8.2								
ILULI	**Ilulissat**	**119.38**	**19**⇑	*i*P	**PKPdf**		**20 34 04.2**	**-0.4**	
	comp=Z,33nm,0.5s								
ILULI	**Ilulissat**	**119.38**	**19**⇑	*i*PKIKP	**PKPdf**		**20 34 04.2**	**-0.4**	
ILULI	**Ilulissat**	**119.38**	**19**⇑	*i*P	**PKPdf**		**20 34 04.2**	**-0.4**	
ILULI				IAmb	IAmb		20 34 04.8		
	comp=Z,33nm,0.5s								
FDF	**Fort de France**	**120.08**	**83**	PKIKP	**PKPdf**		**20 34 07.3**	**-0.3**	
FDF	**Fort de France**	**120.08**	**83**		**PKPdf**		**20 34 07.3**	**-0.3**	
DAG	**Danmarks Havn**	**120.11**	**5**⇑	*i*P	**PKPdf**		**20 34 04.9**	**-0.9**	
	comp=Z,18nm,0.5s								
DAG	**Danmarks Havn**	**120.11**	**5**⇑	*i*PKIKP	**PKPdf**		**20 34 04.9**	**-0.9**	
DAG	**Danmarks Havn**	**120.11**	**5**⇑	*i*P	**PKPdf**		**20 34 05.0**	**-0.9**	
DAG				IAmb	IAmb		20 34 05.6		
	comp=Z,18nm,0.5s								
HSPB	**Hornsund (broa**	**120.34**	**356**	*e*PKPdf	**PKPdf**		**20 34 06.2**	**-0.1**	
SFJD	**Kangerlussuaq**	**120.64**	**21**	PKP	**PKPdf**		**20 34 06.4**	**-0.6**	
	comp=Z,17nm,0.5s,baz=231,slow=1.1,SNR=29								
SFJD				PP	**PP**		**20 35 38.1**	**-6.3**	
	comp=Z,8.8nm,0.9s,baz=233,slow=9.4,SNR=2.4								
SFJD				PKKPbc	**PKKPab**		**20 44 14.2**	**-2.1**	
	comp=Z,4.6nm,0.6s,baz=224,slow=4.2,SNR=5.4								
SFJD	**Kangerlussuaq**	**120.64**	**21**⇑	*i*P	**PKPdf**		**20 34 06.5**	**-0.5**	
	comp=Z,1.5nm,0.5s								
SFJD	**Kangerlussuaq**	**120.64**	**21**⇑	*i*PKIKP	**PKPdf**		**20 34 06.5**	**-0.5**	
SFJD	**Kangerlussuaq**	**120.64**	**21**⇑	*i*P	**PKPdf**		**20 34 06.5**	**-0.5**	
SFJD				IAmb	IAmb		20 34 07.1		
	comp=Z,1.5nm,0.5s								
SUMG	**Summit**	**120.66**	**13**	*i* P	**PKiKP**		**20 34 08.1**	**+0.5**	
	comp=Z,44nm,0.6s								
SUMG	**Summit**	**120.66**	**13**	*i* PKIKP	**PKiKP**		**20 34 08.1**	**+0.5**	
SUMG	**Summit**	**120.66**	**13**	*i* P	**PKiKP**		**20 34 08.2**	**+0.5**	
SUMG				IAmb	IAmb		20 34 08.9		
	comp=Z,44nm,0.6s								
BDFB	**Brasilia**	**121.02**	**121**	PKP	**PKPdf**		**20 34 09.2**	**-0.3**	
	comp=Z,4.8nm,0.6s,baz=313,slow=3.6,SNR=7.9								
BDFB				PKKPbc	**PKKPbc**		**20 44 15.3**	**+0.8**	
	comp=Z,4.4nm,0.5s,baz=107,slow=4.0,SNR=7.2								
SVE	**Sverdlovsk**	**121.47**	**326**	*e*PKIKP	**PKPdf**		**20 34 08.8**	**-0.1**	
SVE				pmax	pmax				
	comp=Z,56nm,0.8s								
NUUK	**Nuuk**	**121.55**	**24**	*i* P	**PKiKP**		**20 34 09.0**	**-0.1**	
NUUK				IAmb	IAmb		20 34 09.4		
	comp=Z,20nm,0.7s								
ABPO	**Ambohimpanom**	**122.02**	**233**	PKIKP	**PKPdf**		**20 34 11.5**	**+0.1**	
ABPO	**Ambohimpanom**	**122.02**	**233**	PKPdf	**PKPdf**		**20 34 11.5**	**+0.1**	
DBG	**Daneborg**	**122.23**	**7**⇑	*i*P	**PKPdf**		**20 34 09.8**	**-0.2**	
DBG				IAmb	IAmb		20 34 10.4		
	comp=Z,24nm,0.6s								
ARU	**Arti**	**122.68**	**326**	PKP	**PKPdf**		**20 34 11.3**	**0.0**	
	comp=Z,25nm,0.5s,baz=85,slow=1.2,SNR=155								
ARU				PP	**PP**		**20 35 53.0**	**-5.5**	
	comp=Z,1.0nm,0.6s,baz=102,slow=8.7,SNR=1.2								
ARU				PKKPbc	**PKKPab**		**20 44 07.7**	**0.0**	
	comp=Z,1.2nm,0.5s,baz=267,slow=4.4,SNR=9.9								
ARU	**Arti**	**122.68**	**326**	*i* PKIKP	**PKPdf**		**20 34 11.1**	**-0.2**	
ARU							20 36 01.9		
ARU							20 40 28.6		
ARU				SS	SS		20 51 56.6	-1.3	
ICESG	**Greenland Ices**	**122.78**	**16**⇑	*i*P	**PKPdf**		**20 34 11.3**	**-0.3**	
ICESG				IAmb	IAmb		20 34 11.5		
	comp=Z,35nm,0.6s								
ABKAR	**Akbulak array**	**123.75**	**318**	PKPdf	**PKPdf**		**20 34 13.1**	**-0.5**	
ISOG	**Isortoq, Green**	**125.32**	**19**⇑	*i*P	**PKPdf**		**20 34 15.7**	**-0.4**	
ISOG				IAmb	IAmb		20 34 16.3		
	comp=Z,36nm,0.6s								
SCO	**Scoresbysund**	**125.45**	**9**	*i* P	**PKiKP**		**20 34 16.7**	**+0.1**	
	comp=Z,382nm,2.7s								
SCO	**Scoresbysund**	**125.45**	**9**	*i* PKIKP	**PKiKP**		**20 34 16.7**	**+0.1**	
SCO	**Scoresbysund**	**125.45**	**9**	*i* P	**PKiKP**		**20 34 16.8**	**+0.1**	
SCO				IAmb	IAmb		20 34 18.0		
	comp=Z,383nm,2.7s								
HAMF	**Hammerfest**	**125.48**	**351**	*e*PKPdf	**PKPdf**		**20 34 16.1**	**-0.2**	
NRS	**Narsarsuaq**	**125.56**	**26**⇑	*i*P	**PKPdf**		**20 34 15.9**	**-0.7**	
	comp=Z,44nm,0.9s								
NRS	**Narsarsuaq**	**125.56**	**26**⇑	*i*PKIKP	**PKPdf**		**20 34 15.9**	**-0.7**	
NRS	**Narsarsuaq**	**125.56**	**26**⇑	*i*P	**PKPdf**		**20 34 15.9**	**-0.7**	
NRS				IAmb	IAmb		20 34 16.9		
	comp=Z,44nm,0.9s								
ANGG	**Ammassalik, Gr**	**125.69**	**19**	*i* P	**PKPdf**		**20 34 16.0**	**-0.8**	
ANGG				IAmb	IAmb		20 34 16.6		
	comp=Z,20nm,0.8s								
ARA0	**ARCESS Array S**	**126.18**	**350**	*e*PKPdf	**PKiKP**		**20 34 18.3**	**+0.1**	
ARCES	**ARCESS Array B**	**126.18**	**350**	PKhKP	PKPpre		20 34 01.1		
	comp=Z,7.7nm,1.0s,baz=12,slow=6.2,SNR=3.7								
ARCES				PKP	**PKPdf**		**20 34 17.5**	**-0.2**	
	comp=Z,28nm,0.7s,baz=27,slow=1.1,SNR=36								
ARCES				PKKPab	**PKKPab**		**20 43 52.8**	**+0.3**	
	comp=Z,1.6nm,0.6s,baz=354,slow=1.0,SNR=9.9								
ARCES	**ARCESS Array B**	**126.18**	**350**	PKPdf	**PKPdf**		**20 34 17.7**	**0.0**	
APA	**Apatity**	**126.21**	**345**	⇓*i*PKIKP	**PKPdf**		**20 34 15.8**	**-1.9**	
APA				*i* *PP	**PP**		**20 36 24.3**	**+3.1**	
APA				pmax	pmax				
	comp=Z,27nm,1.0s								
KIRV	**Kirov**	**126.36**	**331**	PKP	**PKiKP**		**20 34 18.7**	**-0.1**	
	comp=Z,65nm,0.5s,baz=78,slow=1.3,SNR=32								
KIRV				PP	**PP**		**20 36 19.8**	**-2.7**	
	comp=Z,3.2nm,0.4s,baz=31,slow=5.9,SNR=4.4								
KIRV	**Kirov**	**126.36**	**331**	*c i*PKIKP	**PKPdf**		**20 34 18.2**	**0.0**	
PRGR	**Permogore**	**126.38**	**336**	*e*PKIKP	**PKPdf**		**20 34 17.5**	**-0.7**	
PRGR				*e*			20 36 17.6		
PRGR				pmax	pmax				
	comp=Z,33nm,0.6s								
WSAR	**Wadi Sarin**	**126.44**	**286**	PKKPab	PKKPab		20 43 54.7	+2.0	
	comp=Z,1.9nm,0.5s,baz=246,slow=8.5,SNR=4.2								
SUR	**Sutherland**	**126.77**	**201**	PKP	**PKiKP**		**20 34 21.1**	**+0.3**	
	comp=Z,30nm,0.7s,baz=116,slow=1.6,SNR=31								
JETT	**Jettan, Norway**	**126.94**	**352**	*e*	**PKPdf**		**20 34 13.2**	**-5.9**	
JETT				*e*PKPdf	**PKiKP**		**20 34 19.3**	**-0.4**	
KTK1	**Kautokeino**	**127.02**	**350**	*e*PKPdf	**PKPdf**		**20 34 19.5**	**+0.2**	
TRO	**Tromso**	**127.06**	**352**	*e*PKPdf	**PKiKP**		**20 34 19.6**	**-0.2**	
BOSA	**Boshof**	**128.43**	**207**	PKhKP	PKPpre		20 34 09.4		
	comp=Z,2.1nm,0.9s,baz=180,slow=5.1,SNR=1.8								
BOSA				PKP	**PKiKP**		**20 34 24.2**	**+0.1**	
	comp=Z,13nm,0.8s,baz=172,slow=0.7,SNR=16								
BOSA				SKPbc	SKPbc		20 36 53.1		
	comp=Z,2.4nm,0.7s,baz=355,slow=2.7,SNR=3.9								
UOSS	**Minazif**	**128.79**	**288**	PKPdf	**PKPdf**		**20 34 22.9**	**-1.1**	
N2IH	**Innhavet**	**129.01**	**353**	*e*PKPdf	**PKPdf**		**20 34 23.3**	**+0.2**	
SOCY	**Socotra**	**129.06**	**271**	PKPdf	**PKPdf**		**20 34 24.5**	**-0.4**	
LOF	**Lofoten**	**129.10**	**354**	*e*	PKPdf		20 34 14.3	-8.9	
LOF				*e*PKPdf	**PKiKP**		**20 34 23.5**	**-0.5**	
STEI	**Steigen**	**129.12**	**353**	*e*	PKPpre		20 34 13.6		
STEI				*e*PKPdf	**PKiKP**		**20 34 23.8**	**-0.2**	
KLMR	**Klimovskoe**	**129.20**	**337**	*e*PKIKP	**PKPdf**		**20 34 22.3**	**-1.3**	
KLMR				pmax	pmax				
	comp=Z,37nm,0.7s								
KLMR	**Klimovskoe**	**129.20**	**337**	*e*PKPdf	**PKPdf**		**20 34 22.4**	**-1.2**	
KLMR				AMP			20 34 24.7		
	comp=Z,37nm,0.7s								
KLMR				*e*PP	**pPKPdf**		**20 36 34.5**	**+0.8**	
N2TV	**TYrnvik**	**129.48**	**353**	*e*PKPdf	**PKPdf**		**20 34 23.9**	**-0.1**	
N2VA	**Vr_y**	**129.64**	**354**	*e*PKPdf	**PKPdf**		**20 34 24.6**	**+0.4**	
NBB08	**Skaug oppvekst**	**129.71**	**353**	*e*PKPdf	**PKiKP**		**20 34 25.1**	**-0.1**	
N2RO	**R_st**	**129.83**	**355**	*e*PKPdf	**PKPdf**		**20 34 24.3**	**-0.3**	
NBB05	**Inndyr**	**130.11**	**354**	*e*	PKPpre		20 34 16.2		
NBB05	**Inndyr**	**130.11**	**354**	*e*PKPdf	**PKiKP**		**20 34 26.0**	**-0.1**	
BELG	**Belogornoye**	**130.11**	**325**	PKP	**PKPdf**		**20 34 25.7**	**+0.1**	
	comp=Z,154nm,0.9s,baz=36,slow=0.7,SNR=25								
BELG				SKPbc	**SKPab**		**20 36 59.6**	**+2.4**	
	comp=Z,26nm,1.0s,baz=92,slow=2.4,SNR=5.6								
BELG	**Belogornoye**	**130.11**	**325**	*c i*PKIKP	**PKPdf**		**20 34 25.3**	**-0.3**	
NBB30	**Finnes**	**130.20**	**354**	*e*PKPdf	**PKPdf**		**20 34 25.5**	**+0.2**	
NBB17	**Glomfjord B¥r**	**130.33**	**354**	*e*PKPdf	**PKPdf**		**20 34 25.9**	**+0.3**	
NBB40	**Tonnes**	**130.73**	**354**	*e*PKPdf	**PKPdf**		**20 34 26.6**	**+0.2**	
KONS	**Konsvik**	**130.73**	**354**	*e*	PKPpre		20 34 07.7		
KONS				*e*PKPdf	**PKPdf**		**20 34 26.8**	**+0.5**	
STOK	**Stokkvaagen**	**130.90**	**354**	*e*PKPdf	**PKiKP**		**20 34 27.8**	**+0.1**	
MOR8	**Moi Rana**	**130.90**	**353**	*e*	PKPdf		20 34 09.3	-17	
MOR8				*e*PKPdf	**PKiKP**		**20 34 26.3**	**-1.4**	
NSS	**Namsos**	**132.76**	**354**	*e*	PKPpre		20 34 16.4		
NSS				*e*PKPdf	**PKPdf**		**20 34 30.0**	**-0.2**	
FIA1	**FINESS Array S**	**133.04**	**344**		PKPpre		20 34 15.7		
FINES	**FINESS Array B**	**133.04**	**344**	PKhKP	PKPpre		20 34 15.9		
	comp=Z,2.1nm,0.5s,baz=56,slow=3.3,SNR=20								
FINES				PKP	**PKPdf**		**20 34 30.9**	**0.0**	
	comp=Z,18nm,0.5s,baz=64,slow=3.2,SNR=20								
FINES				SKPbc	**SKPbc**		**20 37 06.2**	**-0.7**	
	comp=Z,7.6nm,0.9s,baz=79,slow=7.2,SNR=6.3								
FINES	**FINESS Array B**	**133.04**	**344**		PKPpre		20 34 15.8		
MOS	**Moscow**	**133.27**	**333**	*i* PKIKP	**PKPdf**		**20 34 30.7**	**-0.7**	
MOS				*e*			20 37 09.5		
MOS				pmax	pmax				
	comp=Z,45nm,0.8s								
MATP	**Matopo**	**133.66**	**216**	PKhKP	PKPpre		20 34 15.1		
	comp=Z,1.0nm,0.5s,baz=155,slow=2.8,SNR=1.3								
MATP				PKP	**PKPdf**		**20 34 33.3**	**-0.2**	
	comp=Z,16nm,0.6s,baz=166,slow=0.9,SNR=30								
MATP				SKP	**SKPbc**		**20 37 12.7**	**+2.2**	
	comp=Z,34nm,1.1s,baz=150,slow=3.5,SNR=6.0								
VRH	**Novokhopyorsk**	**133.90**	**326**	*e*PKIKP	**PKPdf**		**20 34 32.4**	**-0.4**	
VRH				pmax	pmax				
	comp=Z,40nm,0.6s								
OBN	**Obninsk**	**134.13**	**333**	PKhKP	PKPpre		20 34 20.8		
	comp=Z,3.1nm,0.4s,baz=78,slow=2.9,SNR=3.7								
OBN				PKP	**PKPdf**		**20 34 33.2**	**+0.1**	
	comp=Z,12nm,0.5s,baz=68,slow=2.4,SNR=17								
OBN				SKPbc	**SKPbc**		**20 37 08.0**	**-2.6**	
	comp=Z,2.2nm,0.4s,baz=145,slow=8.5,SNR=4.3								
OBN	**Obninsk**	**134.13**	**333**	⇑*i*PKIKP	**PKPdf**		**20 34 32.8**	**-0.3**	
OBN				*e*			20 37 13.3		
OBN				pmax	pmax				
	comp=Z,48nm,0.6s								
LPSR	**Galich'ya Gora**	**134.58**	**329**	*e*PKIKP	**PKPdf**		**20 34 34.0**	**0.0**	
LPSR				pmax	pmax				
	comp=Z,40nm,0.9s								
GROC	**Groznyy**	**134.86**	**314**	*e*PKIKP	**PKPdf**		**20 34 34.8**	**0.0**	
GROC				*e*			20 36 44.9		
GROC				*e*			20 37 16.9		
GROC				*e*			20 40 58.6		
GROC				pmax	pmax				
	comp=Z,26nm,0.6s								
VSR	**Storozhevoye**	**135.25**	**327**	*e*PKIKP	**PKPdf**		**20 34 34.9**	**-0.4**	
VSR				pmax	pmax				
	comp=Z,90nm,1.1s								
VORD	**Divnogorie**	**135.32**	**327**	*e*PKIKP	**PKPdf**		**20 34 34.5**	**-0.9**	
VORD				pmax	pmax				
	comp=Z,40nm,0.6s								
VSU	**Vasula**	**135.33**	**341**	*e*P	PKPpre		20 34 29.6		
VSU	**Vasula**	**135.33**	**341**	*i* PKIKP	**PKPdf**		**20 34 34.4**	**-0.8**	
DOMB	**Dombas**	**135.48**	**355**	*e*PKPdf	**PKiKP**		**20 34 36.6**	**-0.5**	
AKN	**Aaknes**	**135.50**	**356**	*e*	PKPpre		20 34 19.6		
AKN				*e*PKPdf	**PKiKP**		**20 34 37.8**	**+0.6**	
AAL	**Aland**	**135.61**	**347**	*e*P	PKPpre		20 34 26.5		
MTSE	**Matsula**	**135.97**	**343**	*e*P	PKPpre		20 34 24.6		
GOF	**Gofitskoye**	**135.99**	**317**⇑	*e*PKIKP	**PKPdf**		**20 34 37.6**	**+0.7**	
GOF				pmax	pmax				
	comp=Z,69nm,1.4s								
NC303	**NORSAR Array S**	**136.05**	**353**		PKPpre		20 34 24.3		
FOO	**Floro**	**136.18**	**358**	*e*	PKPpre		20 34 24.7		
FOO				*e*PKPdf	**PKiKP**		**20 34 38.7**	**+0.2**	
NB2	**NORSAR Subarra**	**136.25**	**353**	PKPdf	PKPpre		20 34 24.7		
	comp=Z,5.3nm,0.5s,baz=27,slow=1.8								
NB2	**NORSAR Subarra**	**136.25**	**353**	PKPdf	PKPpre		20 34 24.7		
	baz=27,slow=1.8								
NOA	**NORSAR Array B**	**136.25**	**353**	PKhKP	PKPpre		20 34 25.1		
	comp=Z,0.5nm,0.4s,baz=18,slow=12,SNR=17								
NOA				PKP	**PKPdf**		**20 34 37.2**	**+0.2**	
	comp=Z,4.7nm,0.5s,baz=30,slow=2.2,SNR=11								
NOA				SKPbc	**SKPbc**		**20 37 16.0**	**-1.1**	
	comp=Z,2.3nm,1.1s,baz=8.3,slow=4.9,SNR=3.8								
UMR	**Umm Al-Rimmam**	**136.29**	**294**	*e*P			20 34 26.3		
RCBR	**Riachuelo**	**136.30**	**119**	PKhKP	PKPpre		20 34 29.3		
	comp=Z,3.1nm,0.5s,baz=226,slow=4.4,SNR=1.4								
NB000	**NORSAR Array S**	**136.31**	**353**		PKPpre		20 34 25.6		
UPP	**Uppsala**	**136.39**	**348**	*e*P	PKPpre		20 34 24.8		
RDF	**Al-Radifah**	**136.49**	**293**	*e*P			20 34 26.4		
NC602	**NORSAR Array S**	**136.51**	**353**		PKPpre		20 34 26.2		
NC602	**NORSAR Array S**	**136.51**	**353**	*e*	PKPpre		20 34 24.4		
NC602				*e*PKPdf	**PKiKP**		**20 34 38.8**	**-0.5**	
MIB	**Mutribah**	**136.60**	**295**	*e*P			20 34 26.1		
GNI	**Garni**	**136.60**	**310**	*e*PKIKP	**PKPdf**		**20 34 38.0**	**-0.4**	
KBZ	**Khabaz**	**136.63**	**316**	PKhKP	PKPpre		20 34 27.8		
	comp=Z,1.8nm,0.9s,baz=27,slow=2.3,SNR=3.1								
KBZ				PKP	**PKPdf**		**20 34 38.8**	**+0.7**	
	comp=Z,7.9nm,0.8s,baz=140,slow=1.7,SNR=14								
KBZ				PP	**PP**		**20 37 26.5**	**-1.6**	
	comp=Z,2.7nm,0.8s,baz=74,slow=7.4,SNR=3.8								
KBZ	**Khabaz**	**136.63**	**316**	*c i*PKIKP	**PKPdf**		**20 34 39.0**	**+0.9**	
KVAR	**Kislovodsk Arr**	**136.67**	**316**	PKP	**PKiKP**		**20 34 39.5**	**-0.7**	
	comp=Z,8.7nm,1.0s,baz=91,slow=23,SNR=3.3								
KIV	**Kislovodsk**	**136.68**	**316**	⇓P	**PKPdf**		**20 34 38.7**	**+0.4**	
KIV	**Kislovodsk**	**136.68**	**316**	*i* PKIKP	**PKPdf**		**20 34 37.8**	**-0.5**	
KIV				*e*			20 37 25.8		
KIV				*e*SS	SS		20 54 44.4	-4.0	
KIV				pmax	pmax				
	comp=Z,63nm,1.0s								
KIV	**Kislovodsk**	**136.68**	**316**	PKPdf	**PKPdf**		**20 34 38.1**	**-0.2**	
SUE	**Sulen**	**136.73**	**358**	*e*	PKPpre		20 34 26.8		
SUE				*e*PKPdf	**PKPdf**		**20 34 37.8**	**0.0**	
HFS	**Hagfors**	**136.80**	**351**	PKhKP	PKPpre		20 34 25.6		
	comp=Z,8.3nm,0.5s,baz=72,slow=4.8,SNR=36								
HFS				PKP	**PKPdf**		**20 34 37.2**	**-0.7**	
	comp=Z,12nm,0.6s,baz=90,slow=3.0,SNR=8.2								
HFS				SKPbc	**SKPbc**		**20 37 19.7**	**+1.0**	
	comp=Z,7.6nm,1.1s,baz=348,slow=3.5,SNR=4.1								
SKAR	**Skarslia**	**136.89**	**355**	*e*	PKPpre		20 34 27.9		
SKAR				*e*PKPdf	**PKiKP**		**20 34 40.1**	**0.0**	
NEY	**Neytrino**	**136.93**	**315**	*i* PKIKP	**PKPdf**		**20 34 39.8**	**+0.9**	
AKH	**Akhalkalaki**	**137.08**	**312**	⇑P	**PKPdf**		**20 34 40.1**	**+0.8**	
ASK	**Askoy**	**137.28**	**357**	*e*PKPdf	**PKiKP**		**20 34 40.9**	**+0.1**	
SLIT	**Slitere, Latvi**	**137.31**	**344**	*e*P	PKPpre		20 34 29.6		
BER	**Bergen**	**137.38**	**357**	*e*PKPdf	**PKPdf**		**20 34 39.0**	**+0.1**	
OSL	**Oslo**	**137.38**	**353**	*e*	PKPdf		20 34 27.5	-11	
OSL				*e*PKPdf	**PKiKP**		**20 34 38.7**	**-2.3**	
ODD1	**Odda**	**137.77**	**356**	*e*	PKPpre		20 34 27.1		
ODD1				*e*PKPdf	**PKPdf**		**20 34 40.2**	**+0.4**	
KONO	**Kongsberg**	**137.79**	**354**	*i* PKIKP	**PKPdf**		**20 34 39.8**	**+0.1**	
KONO	**Kongsberg**	**137.79**	**354**		PKPpre		20 34 30.0		
KONO	**Kongsberg**	**137.79**	**354**	*e*	PKPpre		20 34 31.2		
KONO				*e*PKPdf	**PKiKP**		**20 34 40.9**	**-0.9**	
LSZ	**Lusaka**	**137.86**	**220**	PKhKP	PKPpre		20 34 31.7		
	comp=Z,3.4nm,0.5s,baz=73,slow=2.4,SNR=14								
LSZ				PKP	**PKiKP**		**20 34 42.5**	**-1.0**	
	comp=Z,15nm,0.6s,baz=37,slow=1.3,SNR=23								
LSZ				SKPbc	**SKPbc**		**20 37 24.9**	**+1.5**	
	comp=Z,5.1nm,1.1s,baz=246,slow=3.5,SNR=4.4								
LSZ				SKPab	**SKPab**		**20 37 36.0**	**+3.7**	
	comp=Z,13nm,1.1s,baz=162,slow=5.6,SNR=6.2								
LSZ	**Lusaka**	**137.86**	**220**		PKPpre		20 34 31.5		
LSZ				PKPdf	**PKPdf**		**20 34 42.0**	**+0.7**	
IDID	**Didziasalis**	**137.87**	**339**	*e*P	PKPdf		20 34 30.7	-9.3	
ISAL	**Salakas**	**137.88**	**339**	*e*P	PKPpre		20 34 32.8		
IIGN	**Ignalina**	**138.02**	**339**	*e*P	PKPpre		20 34 32.4		
MNK	**Minsk**	**138.10**	**337**	*i* PKP	PKPpre		20 34 32.9		
	comp=E,3.0nm,1.0s								
MNK				*i* PKP	PKPpre		20 34 32.9		
	comp=N,28nm,1.2s								
MNK				*i* PKP	PKPpre		20 34 32.9		
	comp=Z,51nm,0.8s								
MNK				*i* pPKP	pPKPdf		20 36 52.7	+2.1	
MNK				*

TLCR		144.40 326	⇑PKIKP	**PKPab**	20 34 53.1	+0.7
VARL	**Varlezi**	144.43 328	⇓P	**PKiKP**	20 34 54.5	-1.4
BURAR	**Bucovina Array**	144.45 332	⇑P	**PKPab**	20 34 53.4	+0.7
BURAR	**Bucovina Array**	144.45 332	⇑PKIKP	**PKPab**	20 34 53.4	+0.7
BURAR	**Bucovina Array**	144.45 332	PKPdf	**PKPab**	20 34 52.8	+0.1
YLL	**Llanberis**	144.46 6	⇑*e*P	PKPbc	20 34 52.0	+0.2
OJC	**Ojcow**	144.46 340	*e*PKP	**PKPab**	20 34 52.8	+0.3
H07S1	**FLORES T-PHASE**	144.46 46	PKP	**PKPab**	20 34 53.1	+0.1
	SNR=7.9					
H07S1	**FLORES T-PHASE**	144.46 46	*e*PKP	**PKPab**	20 34 53.0	+0.1
GIUM	**Giurgiulesti**	144.52 327	⇓P	**PKPab**	20 34 53.8	+0.9
BIZ	**Bicaz**	144.54 330	⇑P	**PKPab**	20 34 53.7	+0.8
TESR	**Tescani**	144.59 329	⇓P	PKPbc	20 34 52.8	+0.3
BRTR	**Keskin Array B**	144.60 315	PKP	**PKPdf**	20 34 52.0	-0.7
	comp=Z,62nm,0.5s,baz=134,slow=3.6,SNR=164					
BRTR			pPKP	**pPKPdf**	20 37 03.7	+0.7
	comp=Z,3.3nm,0.9s,baz=56,slow=3.6,SNR=3.2					
BRTR	**Keskin Array B**	144.60 315	PKPdf	**PKPdf**	20 34 52.3	-0.4
JURR	**Jurilovca**	144.64 325	⇑P	**PKPab**	20 34 53.6	+0.3
KOLS	**Kolonicke sedl**	144.65 336	*e*PKIKP	**PKPab**	20 34 53.5	+0.2
KOLS	**Kolonicke sedl**	144.65 336	*e*PKP	**PKPab**	20 34 53.5	+0.2
STNC	**Stoke**	144.66 4	⇑*i*P	**PKPab**	20 34 53.3	+0.1
FLTG	**Flechtingen**	144.69 350	*e*PKPbc	PKPbc	20 34 52.8	+0.2
	baz=14,slow=2.9					
SCHL	**Schela**	144.71 327	⇓P	**PKPab**	20 34 54.3	+0.7
NRDL	**Niedersach Rie**	144.71 351	*e*PKPbc	**PKPab**	20 34 53.2	-0.1
	baz=14,slow=2.9					
TUDR		144.73 327	⇑P	**PKiKP**	20 34 55.3	-1.2
CFR	**Carcaliu**	144.76 327	⇓P	**PKPab**	20 34 53.8	0.0
CFR	**Carcaliu**	144.76 327	⇓PKIKP	**PKPab**	20 34 53.8	0.0
TPGR	**Topolog**	144.83 326	⇓P	**PKPab**	20 34 54.7	+0.6
PETR	**Petresti**	144.86 328	⇑P	**PKPab**	20 34 55.0	+0.8
UZH	**Uzhgorod**	144.88 336	*e*PKIKP	**PKPdf**	20 34 52.7	0.0
UZH			*i*		20 37 03.8	
ODBI	**Odobesti**	144.92 328	⇓P	**PKPab**	20 34 55.2	+0.8
KSP	**Ksiaz**	144.97 344	*e*PKP	**PKPab**	20 34 54.8	+0.4
NIE	**Niedzica**	144.97 338	*e*PKP	**PKPab**	20 34 55.1	+0.5
ASSE	**Asse, Remlinge**	144.98 350	*e*PKPdf	PKPbc	20 34 53.2	-0.2
	baz=18,slow=1.6					
ASSE			*e*PKPbc	**PKPab**	20 34 54.2	-0.1
	baz=14,slow=2.9					
CRVS	**Cervenica-Dubn**	144.98 337	*e*PKIKP	**PKPab**	20 34 54.4	-0.2
CRVS	**Cervenica-Dubn**	144.98 337	*e*PKP	**PKPab**	20 34 54.4	-0.2
VRI	**Vrincioaia**	145.01 329	⇑P	**PKPab**	20 34 54.5	-0.3
VRI	**Vrincioaia**	145.01 329	⇑PKIKP	**PKPab**	20 34 54.5	-0.3
PLOR	**Plostina**	145.06 329	⇑P	**PKPbc**	20 34 54.5	+0.5
CWF	**Charnwood Fore**	145.07 3	⇑*i*P	**PKPdf**	20 34 52.9	0.0
TIRR	**Tirgusor**	145.09 325	⇑P	**PKPab**	20 34 55.1	0.0
TIRR	**Tirgusor**	145.09 325	⇑PKIKP	**PKPab**	20 34 55.1	0.0
WACR	**West Acre**	145.14 1	⇑*i*P	**PKPbc**	20 34 54.1	+0.2
BMR	**Baia Mare**	145.15 334	⇑P	**PKPab**	20 34 55.0	-0.3
BMR	**Baia Mare**	145.15 334	⇑PKP2	**PKPab**	20 34 55.0	-0.3
HLM1	**Long Mynd**	145.19 5	⇑*i*P	**PKPbc**	20 34 54.6	+0.4
HARR	**Harsova**	145.20 326	⇑P	**PKPab**	20 34 55.6	+0.1
HARR	**Harsova**	145.20 326	⇑PKP2	**PKPab**	20 34 55.6	+0.1
IBBN	**Ibbenburen**	145.21 353	*e*PKPdf	**PKPbc**	20 34 53.8	-0.4
	baz=18,slow=1.6					
IBBN			*e*PKPbc	**PKPab**	20 34 55.0	-0.3
	baz=14,slow=2.9					
GRER		145.23 328	⇑P	**PKPab**	20 34 56.1	+0.5
ARCR	**ARCALIA**	145.23 332	⇑P	**PKPab**	20 34 55.8	+0.2
TLBR	**Topalu**	145.24 326	⇓P	**PKPab**	20 34 55.8	+0.1
BISRR	**Bisoca**	145.24 328	⇑P	**PKPab**	20 34 55.4	-0.4
OSTC	**Ostas**	145.25 343	*e*PKP	**PKPbc**	20 34 54.3	-0.1
CHVC	**Chvalec**	145.26 344	*e*PKP	**PKPbc**	20 34 54.4	0.0
MFTR	**Murfatlar**	145.27 325	⇑P	**PKPbc**	20 34 54.7	+0.1
CLZ	**Clausthal**	145.30 350	*e*PKPdf	**PKPbc**	20 34 54.1	-0.5
	baz=18,slow=1.6					
CLZ			*e*PKPbc	**PKPab**	20 34 55.4	-0.4
	baz=14,slow=2.9					
OZUR		145.31 330	⇓P	**PKPbc**	20 34 55.2	+0.5
OKC	**Ostrava-Krasne**	145.32 341	*e*PKP2	**PKPbc**	20 34 55.0	+0.4
OKC	**Ostrava-Krasne**	145.32 341	*e*PKP	**PKPbc**	20 34 55.0	+0.4
OKC			*ex*	x	20 34 57.2	
CLL	**Collm**	145.32 347	*e*PKPdf	**PKPbc**	20 34 54.0	-0.6
CLL			⇑*i*PKPbc	**PKPab**	20 34 55.2	-0.6
	comp=Z,310nm,0.7s					
CLL			*e*pPKPdf	**pPKPdf**	20 37 06.0	+2.4
CLL			*e*PKSdf	**PKSdf**	20 38 29.0	+0.4
CLL			*e*PPS	PPS	20 51 18.0	
CLL	**Collm**	145.32 347	⇑*e*PKIKP	**PKPbc**	20 34 54.0	-0.6
CLL			*i*		20 34 55.2	
CLL			pmax	pmax		
	comp=Z,310nm,0.7s					
CLL	**Collm**	145.32 347	PKPdf	**PKPdf**	20 34 53.9	+0.5
CLL	**Collm**	145.32 347	*e*PKPdf	**PKPdf**	20 34 53.8	+0.4
	baz=18,slow=1.6					
CLL			*e*PKPbc	**PKPab**	20 34 55.3	-0.5
	baz=14,slow=2.9					
UPC	**Upice**	145.34 344	*e*PKIKP	**PKPbc**	20 34 54.8	+0.1
UPC			*e*		20 34 57.7	
UPC	**Upice**	145.34 344	*e*PKP	**PKPbc**	20 34 54.8	+0.1
UPC			*ex*	x	20 34 57.7	
CVDA	**Cernavoda**	145.38 326	⇓P	**PKPab**	20 34 56.4	+0.2
DPC	**Dobruska-Polom**	145.40 343	*e*PKIKP	**PKPbc**	20 34 54.4	-0.5
DPC			*e*		20 34 56.1	
DPC	**Dobruska-Polom**	145.40 343	*e*PKP	**PKPbc**	20 34 54.4	-0.5
DPC			*ex*	x	20 34 56.1	
MANR	**Mangalia**	145.42 324	⇑P	**PKPab**	20 34 56.5	+0.1
RCY	**Rachaya**	145.47 304	*e*P	**PKPdf**	20 34 55.0	+0.6
BHL	**Bhannes**	145.48 304	*e*P	**PKPdf**	20 34 54.8	+0.4
LANS	**Liptovska Anna**	145.49 339	*e*PKP2	**PKPab**	20 34 56.9	+0.3
LANS	**Liptovska Anna**	145.49 339	*e*PKP	**PKPab**	20 34 56.9	+0.3
KRLC	**Kraliky**	145.52 342	*e*PKIKP	**PKPdf**	20 34 54.3	+0.5
KRLC			*e*		20 34 56.1	
KRLC	**Kraliky**	145.52 342	*e*PKP	**PKPdf**	20 34 54.3	+0.5
KRLC			*ex*	x	20 34 56.1	
BRG	**Berggiesshubel**	145.53 346	*i* PKP	**PKPdf**	20 34 54.4	+0.6
BRG			*i* x	x	20 34 56.1	
BRG			Amp		20 34 57.8	
	comp=Z,272nm,1.3s					
BRG			*ex*	x	20 37 07.0	
BRG			Amp		20 37 10.1	
	comp=Z,18nm,1.4s					
BRG	**Berggiesshubel**	145.53 346	*e*PKPdf	**PKPdf**	20 34 54.3	+0.6
	baz=18,slow=1.6					
BRG			*e*PKPbc	**PKPab**	20 34 55.9	-0.6
	baz=14,slow=2.9					
NEHR	**Nehoiu**	145.54 328	⇑P	**PKPbc**	20 34 56.1	+0.7
PGOR	**Pogoanele**	145.55 327	⇓P	**PKPab**	20 34 57.0	+0.1
MORC	**Moravsky Berou**	145.56 341	⇑P	**PKPdf**	20 34 54.5	+0.6
MORC	**Moravsky Berou**	145.56 341	*e*PKP	**PKPdf**	20 34 54.3	+0.4
MORC			*e*		20 34 56.3	
MORC			*e*		20 37 05.2	
MORC			*e*PP	**PP**	20 38 17.8	-3.1
MORC	**Moravsky Berou**	145.56 341	⇑PKIKP	**PKPdf**	20 34 54.5	+0.6
AMRR	**Amara**	145.57 327	⇑P	**PKPab**	20 34 56.8	-0.2
AMRR	**Amara**	145.57 327	⇑PKP2	**PKPab**	20 34 56.8	-0.2
CEI	**Carei**	145.58 335	⇑P	**PKPab**	20 34 56.9	0.0
CEI	**Carei**	145.58 335	⇑PKP2	**PKPab**	20 34 56.9	0.0
DOPR	**Dopca**	145.59 330	⇓P	**PKPbc**	20 34 55.2	-0.4
FBE	**Freiberg**	145.61 347	*e*PKPdf	**PKPbc**	20 34 54.8	-0.6
	baz=18,slow=1.6					
FBE			*e*PKPbc	**PKPab**	20 34 56.6	-0.3
	baz=14,slow=2.9					
ISR	**Istrita**	145.63 328	⇑P	**PKPab**	20 34 56.9	-0.4
ISR	**Istrita**	145.63 328	⇑PKP2	**PKPab**	20 34 56.9	-0.4
ICOR	**Ion Corvin**	145.65 325	⇑P	**PKPab**	20 34 56.9	-0.4
GTTG	**Gottingen**	145.66 351	*e*PKPdf	**PKPdf**	20 34 54.6	+0.7
	baz=18,slow=1.6					
GTTG			*e*PKPbc	**PKPab**	20 34 56.5	-0.5
	baz=14,slow=2.9					
MLR	**Muntele Rosu**	145.66 329	PKPbc	**PKPdf**	20 34 54.3	0.0
	comp=Z,118nm,1.0s,baz=345,slow=4.6,SNR=74					
MLR	**Muntele Rosu**	145.66 329	⇑P	**PKPdf**	20 34 54.8	+0.5
NEUB	**Neuenburg**	145.67 348	*e*PKPdf	**PKPdf**	20 34 54.6	+0.6
	baz=18,slow=1.6					
NEUB			*e*PKPbc	**PKPab**	20 34 56.4	-0.7
	baz=14,slow=2.9					
KECS	**Kecovo**	145.69 337	*e*PKP2	**PKPab**	20 34 56.6	-0.7
KECS	**Kecovo**	145.69 337	*e*PKP	**PKPab**	20 34 56.6	-0.7
MCH1	**Michaelchurch**	145.70 5	⇑*i*P	**PKPbc**	20 34 55.8	+0.2
PVCC	**Panska Ves**	145.70 345	*e*PKIKP	**PKPbc**	20 34 54.9	-0.8
PVCC			*e*		20 34 56.8	
PVCC	**Panska Ves**	145.70 345	*e*PKP	**PKPbc**	20 34 54.9	-0.8
PVCC			*ex*	x	20 34 56.8	
MDUB	**Mudurnu**	145.83 318	PKPdf	**PKPdf**	20 34 53.8	-1.0
MDUB			PKPbc	**PKPbc**	20 34 55.8	-0.7
CJR	**Cluj-Napoca**	145.85 332	⇑P	**PKPab**	20 34 57.5	-0.6
CJR	**Cluj-Napoca**	145.85 332	⇑PKP2	**PKPab**	20 34 57.5	-0.6
MBAR	**Mbarara**	145.86 241	PKPbc	**PKPdf**	20 34 56.5	+0.8
	comp=Z,46nm,0.6s,baz=114,slow=4.6,SNR=33					
MBAR			pPKPbc	**pPKPdf**	20 37 05.3	-0.4
	comp=Z,8.3nm,0.8s,baz=57,slow=3.0,SNR=2.9					
MONM	**Monmouth**	145.87 5	*e*P	**PKPbc**	20 34 56.1	0.0
SECR		145.93 328	⇑P	**PKPab**	20 34 57.5	-0.9
LEHL	**Lehliu**	145.93 327	⇓P	**PKPab**	20 34 57.9	-0.5
MDB	**Medias**	145.93 331	⇓P	**PKPab**	20 34 57.9	-0.5
MDB	**Medias**	145.93 331	⇓PKP2	**PKPab**	20 34 57.9	-0.5
MMAI	**Mount Meron Ar**	145.96 303	PKP	**PKPdf**	20 34 55.5	+0.4
	comp=Z,89nm,0.5s,baz=74,slow=6.2,SNR=276					
MMAI			PKPbc	**PKPab**	20 34 58.1	-0.9
	comp=Z,92nm,0.5s,baz=63,slow=5.0,SNR=177					
MMAI			pPKPbc	**pPKPdf**	20 37 05.8	+0.4
	comp=Z,10nm,0.7s,baz=69,slow=4.6,SNR=5.4					
STRD	**Stroud**	145.98 4	⇑*i*P	**PKPbc**	20 34 56.5	+0.2
PLAR	**PLOIESTI**	146.03 328	⇑P	**PKPab**	20 34 58.1	-0.7
LTVH	**Ltavrtes, Hu**	146.04 335	⇑P	**PKPab**	20 34 58.2	-0.5
OLDB	**Oldbury-Upon-S**	146.06 4	*e*P	**PKPbc**	20 34 56.5	-0.1
SULR		146.08 328	⇓P	**PKPbc**	20 34 57.8	+0.9
BUG	**Bochum--Univer**	146.12 353	*e*PKPdf	**PKPdf**	20 34 55.0	+0.3
	baz=18,slow=1.6					
BUG			*e*PKPbc	**PKPbc**	20 34 57.3	+0.5
	baz=14,slow=2.9					
VOIR		146.14 330	⇑P	**PKPbc**	20 34 56.2	-1.0
VOIR		146.14 330	⇑PKIKP	**PKPbc**	20 34 56.2	-1.0
PRA	**Prague**	146.15 345	*e*PKP2	**PKPbc**	20 34 57.8	+0.9
PRA	**Prague**	146.15 345	*e*PKP	**PKPbc**	20 34 57.8	+0.9
PRA			*ex*	x	20 34 59.8	
DRGR		146.18 333	⇓P	**PKPdf**	20 34 55.5	+0.4
DRGR		146.18 333	⇓PKIKP	**PKPdf**	20 34 55.5	+0.4
PRU	**Pruhonice**	146.20 345	*e*PKIKP	**PKPdf**	20 34 55.4	+0.5
PRU			*e*		20 34 59.9	
PRU	**Pruhonice**	146.20 345	*e*PKP	**PKPdf**	20 34 55.4	+0.5
PRU			*ex*	x	20 34 58.0	
PRU			*ex*	x	20 34 59.9	
KASTN	**Kahler Asten**	146.21 352	*e*PKPdf	**PKPdf**	20 34 55.4	+0.5
	baz=18,slow=1.6					
KASTN			*e*PKPbc	**PKPbc**	20 34 57.7	+0.6
	baz=14,slow=2.9					
MOX	**Moxa**	146.23 348	*e*PKPdf	**PKPdf**	20 34 55.4	+0.5
	baz=18,slow=1.6					
MOX			*e*PKPbc	**PKPbc**	20 34 57.9	+0.7
	baz=14,slow=2.9					
MOX			*e*PKP	**PKiKP**	20 34 59.9	+0.4
VRAC	**Vranov**	146.26 342	PKP	**PKPdf**	20 34 55.5	+0.4
	comp=Z,88nm,1.1s,baz=34,slow=1.9,SNR=72					
VRAC			pPKPbc	**PKPbc**	20 34 58.2	+0.9
	comp=Z,69nm,0.8s,baz=46,slow=3.8,SNR=41					
VRAC			PP	**PP**	20 38 23.1	-1.8
	comp=Z,2.8nm,0.8s,baz=22,slow=10,SNR=3.1					
VRAC	**Vranov**	146.26 342	⇓P	**PKPdf**	20 34 55.8	+0.7
VRAC	**Vranov**	146.26 342	*e*PKP	**PKPdf**	20 34 55.7	+0.6
VRAC			*e*		20 34 58.2	
VRAC			*e*		20 37 07.1	
VRAC			*e*PP	**PP**	20 38 23.5	-1.4
SWN1	**Swindon**	146.26 4	⇑*i*P	**PKPbc**	20 34 57.6	+0.4
VYHS	**Vyhne**	146.26 339	*e*PKP2	**PKPbc**	20 34 58.3	+1.0
VYHS	**Vyhne**	146.26 339	*e*PKP	**PKPbc**	20 34 58.3	+1.0
PLN	**Plauen**	146.28 348	*e*PKPdf	**PKPdf**	20 34 55.4	+0.4
	baz=18,slow=1.6					
PLN			*e*PKPbc	**PKPbc**	20 34 58.1	+0.8
	baz=14,slow=2.9					
PLN			*e*PKP	**PKiKP**	20 35 00.3	+0.7
TANN	**Tannenbergstha**	146.28 347	*e*PKPdf	**PKPdf**	20 34 55.7	+0.5
	baz=18,slow=1.6					
TANN			*e*PKPbc	**PKPbc**	20 34 58.2	+0.8
	baz=14,slow=2.9					
TANN			*e*PKP	**PKPab**	20 35 00.5	+0.8
TANN			*e*pPKPbc	**pPKPdf**	20 37 06.6	+1.1
	baz=16,slow=3.3					
WERD	**Werda**	146.28 347	*e*PKPdf	**PKPdf**	20 34 55.4	+0.3
	baz=18,slow=1.6					
WERD			*e*PKPbc	**PKPbc**	20 34 58.3	+0.9
	baz=14,slow=2.9					
WERD			*e*pPKPbc	**pPKPdf**	20 37 06.3	+0.9
	baz=16,slow=3.3					
MTUR	**Matau**	146.29 329	⇓P	**PKPbc**	20 34 57.8	+0.2
MTUR	**Matau**	146.29 329	⇓PKP2	**PKPbc**	20 34 57.8	+0.2
JAVC	**Velka Javorina**	146.33 341	*e*PKP	**PKPbc**	20 34 56.6	-1.0
JAVC			*e*		20 34 59.6	
UBBA	**Unterbreizbach**	146.35 350	*e*PKPdf	**PKPdf**	20 34 55.0	0.0
	baz=18,slow=1.6					
GUNZ	**Gunzen**	146.36 347	*e*PKPdf	**PKPdf**	20 34 55.6	+0.3
	baz=18,slow=1.6					
GUNZ			*e*PKPbc	**PKPbc**	20 34 58.7	+1.1
	baz=14,slow=2.9					
GUNZ			*e*PKP	**PKPab**	20 35 01.0	+1.0
GUNZ			*e*pPKPbc	**pPKPdf**	20 37 06.9	+1.3
	baz=16,slow=3.3					
PSZ	**Piszkesteto**	146.38 337	⇑P	**PKPbc**	20 34 58.8	+1.0
PSZ	**Piszkesteto**	146.38 337	⇑PKP2	**PKPbc**	20 34 58.8	+1.0
ARR	**Arges**	146.39 330	⇓P	**PKPdf**	20 34 56.7	+1.2
WERN	**Wernitzgruen**	146.42 347	*e*PKPdf	**PKPdf**	20 34 56.0	+0.7
	baz=18,slow=1.6					
WERN			*e*PKPbc	**PKPbc**	20 34 58.8	+1.1
	baz=14,slow=2.9					
WERN			*e*pPKPbc	**pPKPdf**	20 37 07.6	+2.0
	baz=16,slow=3.3					
BUC1	**Bucharest**	146.43 327	⇓P	**PKiKP**	20 35 00.1	0.0
BUC1	**Bucharest**	146.43 327	⇓PKP2	**PKiKP**	20 35 00.1	0.0
NKC	**Novy Kostel**	146.46 347	*e*PKIKP	**PKPdf**	20 34 56.4	+1.0
NKC			*e*		20 34 58.7	
NKC	**Novy Kostel**	146.46 347	*e*PKP	**PKPdf**	20 34 56.4	+1.0
NKC			*ex*	x	20 34 58.7	
PCED	**Cedros**	146.53 45	*e*PKP	**PKiKP**	20 34 59.5	-1.0
KRUC	**Moravsky**	146.54 342	*e*PKP	**PKPdf**	20 34 55.6	+0.1
KRUC			*e*		20 34 58.8	
KRUC			*e*		20 37 06.6	
SGRR	**Singureni**	146.54 327	⇑P	**PKPbc**	20 34 58.3	+0.2
HTL	**Hartland**	146.54 7	*e*P	**PKPbc**	20 34 58.1	+0.2
CALA	**Caldeira**	146.56 46	*e*PKP	**PKiKP**	20 34 59.8	-0.9
SMOL	**Smolenice**	146.71 341	*e*PKP2	**PKiKP**	20 34 59.9	-0.7
SMOL	**Smolenice**	146.71 341	*e*PKP	**PKiKP**	20 34 59.9	-0.7
RAZG	**Razgrad**	146.71 326	⇑P	**PKPbc**	20 34 59.3	+0.5
ELSH	**Elham, Standar**	146.73 0	⇑*i*P	**PKPbc**	20 34 59.3	+0.8
LOT	**Lotru**	146.74 331	⇓P	**PKPbc**	20 34 59.0	+0.2
BSZH	**Besenyszg**	146.76 336	⇑P	**PKiKP**	20 35 00.1	-0.5
MANZ	**Manzenberg**	146.76 347	*e*PKPdf	**PKPdf**	20 34 56.3	+0.4
	baz=18,slow=1.6					
MANZ			*e*PKPbc	**PKPbc**	20 34 59.7	+1.0
	baz=14,slow=2.9					
MANZ			*e*pPKPbc	pPKPbc	20 37 08.2	+1.8
	baz=16,slow=3.3					
PCAN	**Candelaria**	146.76 46	*e*PKP	**PKPbc**	20 35 00.0	+1.0
PICO	**Pico**	146.78 46	*e*PKP	**PKiKP**	20 35 00.3	-0.8
ROSA	**Rosais**	146.80 45	*e*PKP	**PKPbc**	20 34 59.9	+0.8
ROSA	**Rosais**	146.80 45		**PKPbc**	20 34 59.5	+0.4
DEV	**Deva**	146.80 332	⇑P	**PKiKP**	20 34 59.8	-1.0
DEV	**Deva**	146.80 332	⇑PKP2	**PKiKP**	20 34 59.8	-1.0
PGRA	**Graciosa**	146.81 44	*e*PKP	**PKPbc**	20 34 58.4	-0.7
HUMR	**Humele**	146.83 329	⇑P	**PKPdf**	20 34 56.7	+0.6
MODS	**Modra-Piesok**	146.88 341	*e*PKIKP	**PKPdf**	20 34 56.9	+0.8
MODS			*e*		20 35 00.4	
MODS	**Modra-Piesok**	146.88 341	*e*PKP	**PKPdf**	20 34 56.9	+0.8
MODS			*e*		20 35 00.4	
BEBN	**Eben Emael**	146.91 355	*d*PKP	**PKPbc**	20 34 59.5	+0.6
BEBN			*d*PKPab	**PKPab**	20 35 02.5	+0.4
PMAN	**Manadas**	146.95 45	*e*PKP	**PKPbc**	20 35 00.3	+0.8
ROTZ	**Rotzenmuhle**	146.95 347	*e*PKPdf	**PKPdf**	20 34 56.6	+0.4
	baz=18,slow=1.6					
ROTZ			*e*PKPbc	**PKiKP**	20 35 00.2	-0.9
	baz=14,slow=2.9					
ROTZ			*e*pPKPbc	pPKPab	20 37 08.8	+1.7
	baz=16,slow=3.3					
COPA	**Copaceanca**	146.99 328	⇑P	**PKPbc**	20 34 60.0	+0.6
UCC	**Uccle**	146.99 357	*d*PKP	**PKPbc**	20 34 59.8	+0.7
UCC			*d*PKPab	**PKPab**	20 35 02.8	+0.4
PID	**Ribeirinha**	147.02 45	*e*PKP	**PKiKP**	20 35 00.7	-0.9
AHRW	**Bad Neuenahr-A**	147.02 353	*e*PKPdf	**PKPdf**	20 34 56.8	+0.5
	baz=18,slow=1.6					
AHRW			*e*PKPbc	**PKPbc**	20 34 59.8	+0.5
	baz=14,slow=2.9					
AHRW			*e*PKP	**PKPab**	20 35 03.1	+0.5
AHRW			*e*pPKPbc	**pPKPbc**	20 37 09.1	+2.0
	baz=16,slow=3.3					
SRO	**Srobarova**	147.03 339	*e*PKP2	**PKPbc**	20 35 00.2	+0.8
SRO	**Srobarova**	147.03 339	*e*PKP	**PKPbc**	20 35 00.2	+0.8
SRO			*e*		20 35 04.1	
SIRR	**Siria**	147.04 334	⇓P	**PKiKP**	20 35 00.8	-0.5
SRO2	**Moca**	147.04 339	*e*PKIKP	**PKPbc**	20 34 59.0	-0.4
SRO2	**Moca**	147.04 339	*e*PKP	**PKPbc**	20 34 59.0	-0.4
MEM	**Membach**	147.06 355	*d*PKPdf	**PKPdf**	20 34 56.9	+0.6
MEM			*d*PKP	**PKPbc**	20 35 00.0	+0.6
MEM			*d*PKPab	**PKPab**	20 35 02.3	-0.4
BTNL	**Ternell**	147.07 354	*d*PKPdf	**PKPdf**	20 34 56.9	+0.5
BTNL			*d*PKP	**PKPbc**	20 35 00.1	+0.7
BTNL			*d*PKPab	**PKPab**	20 35 02.5	-0.3
ZST	**Bratislava**	147.09 341	*e*PKP2	**PKiKP**	20 35 00.9	-0.4
ZST	**Bratislava**	147.09 341	*e*PKP	**PKiKP**	20 35 00.8	-0.5
BSTI	**Sart Tilman**	147.13 355	*d*PKPdf	**PKPdf**	20 34 57.1	+0.6
BSTI			*d*PKP	**PKPbc**	20 35 00.4	+0.8
DYA	**Yadsworthy**	147.16 6	⇑*e*P	**PKPbc**	20 34 59.5	-0.1
TNS	**Taunus Mts**	147.17 352	*e*PKPdf	**PKPdf**	20 34 56.9	+0.3
	baz=18,slow=1.6					
TNS			*e*PKPbc	**PKiKP**	20 35 00.7	-0.9
	baz=14,slow=2.9					
TNS			*e*PKP	**PKPab**	20 35 03.8	+0.5
TNS			*e*pPKPbc	**pPKPbc**	20 37 09.4	+1.7
	baz=16,slow=3.3					
LEF	**Lefka**	147.17 308	⇑P	**PKPbc**	20 35 00.5	+0.4
GRA1	**Grafenberg Arr**	147.22 348		**PKPdf**	20 34 57.3	+0.6
GRF	**Grafenberg Arr**	147.22 348	PKIKP	**PKPdf**	20 34 57.3	+0.6
GRF	**Grafenberg Arr**	147.22 348	*e*PKPdf	**PKPdf**	20 34 57.3	+0.6
	baz=18,slow=1.6					
GRF			*e*PKPbc	**PKiKP**	20 35 01.0	-0.6
	baz=14,slow=2.9					
GRF			*e*PKP	**PKPab**	20 35 04.5	+1.1
GRF			*e*pPKPbc	**pPKPbc**	20 37 10.1	+2.2
	baz=16,slow=3.3					
GRFO	**Grafenberg**	147.22 348	PKP2	**PKPbc**	20 35 00.7	+0.9
GRFO					21 34 57.1	
GRFO	**Grafenberg**	147.22 348	PKPdf	**PKPdf**	20 34 57.1	+0.5
GRFO			PKPbc	**PKPbc**	20 35 00.7	+0.9
GZR	**Gura Zlata**	147.23 332	⇑P	**PKPdf**	20 34 57.3	+0.4
GZR	**Gura Zlata**	147.23 332	⇑PKIKP	**PKPdf**	20 34 57.3	+0.4
KHC	**Kasperske Hory**	147.23 345	*e*PKIKP	**PKPdf**	20 34 57.2	+0.5
KHC			*e*		20 35 05.0	
KHC	**Kasperske Hory**	147.23 345	*e*PKP	**PKPdf**	20 34 57.2

CMLA	**Cha da Macela**	**149.12**	**44**	*e*PKP	**PKPdf**	20 35 02.5	+2.4
KALN	**Kalnik**	**149.12**	**339**	*i* P	**PKPbc**	20 35 05.1	+0.3
KBA	**Koelnbreinsper**	**149.20**	**344**	*i* P	**PKPdf**	20 34 59.6	-0.5
	comp=Z,4.2nm,1.0s,SNR=75						
KBA				*i* P	**PKPbc**	20 35 05.0	-0.1
	comp=Z,80nm,0.4s						
ECH	**Echery**	**149.30**	**352**	PKIKP	**PKPdf**	20 35 00.3	+0.2
ECH	**Echery**	**149.30**	**352**		**PKPdf**	20 35 00.3	+0.2
TEKS	**Tekeris**	**149.31**	**334**	*e*P	**PKiKP**	20 35 05.8	-0.3
BART	**Pico Bartolome**	**149.35**	**44**	*e*PKP	**PKPdf**	20 35 01.6	+1.0
UBR	**Ueberruh**	**149.36**	**348**	*e*PKPdf	**PKPdf**	20 35 00.4	+0.2
	baz=18,slow=1.6						
UBR				*e*PKPbc	**PKiKP**	20 35 06.0	-0.2
	baz=14,slow=2.9						
OBKA	**Obir**	**149.38**	**342**	*i* P	**PKPbc**	20 35 05.3	-0.2
	comp=Z,67nm,1.3s						
WATA	**Walderalm**	**149.38**	**346**	*i* P	**PKPdf**	20 35 00.0	-0.4
	comp=Z,24nm,1.3s,SNR=75						
WATA				*i* P	**PKPbc**	20 35 05.8	+0.3
	comp=Z,81nm,0.5s						
RETA	**Reutte**	**149.42**	**348**	*i* P	**PKPdf**	20 35 00.2	-0.1
	comp=Z,8.7nm,0.9s						
RETA				*i* P	**PKiKP**	20 35 05.9	-0.4
	comp=Z,56nm,0.5s,SNR=22						
WTTA	**Wattenberg**	**149.44**	**346**	*i* P	**PKPdf**	20 35 00.4	-0.1
	comp=Z,28nm,1.2s,SNR=89						
WTTA				*i* P	**PKiKP**	20 35 06.3	-0.2
	comp=Z,166nm,0.5s						
DIVS	**Divibare**	**149.48**	**333**	⇑*i* P	**PKiKP**	20 35 06.3	-0.2
DIVS	**Divibare**	**149.48**	**333**		**PKPdf**	20 35 00.5	-0.1
DIVS				PKPbc	**PKiKP**	20 35 06.3	-0.2
MOTA	**Moosalm**	**149.48**	**347**	*i* P	**PKPdf**	20 35 00.3	-0.3
	comp=Z,28nm,1.1s,SNR=50						
MOTA				*i* P	**PKPbc**	20 35 06.1	+0.3
	comp=Z,175nm,1.0s						
PTJ	**Puntijarka**	**149.48**	**340**	P	**PKPbc**	20 35 06.0	+0.3
MYKA	**Terra Mystica**	**149.53**	**343**	*i* P	**PKPdf**	20 34 59.9	-0.6
	comp=Z,8.7nm,1.2s						
MYKA				*i* P	**PKPbc**	20 35 05.5	-0.2
	comp=Z,109nm,0.5s						
SQTA	**Sankt Quirin**	**149.57**	**347**	*e*P	**PKPdf**	20 35 00.6	0.0
	comp=Z,20nm,0.9s,SNR=93						
SQTA				*i* P	**PKiKP**	20 35 06.4	-0.3
	comp=Z,161nm,0.5s						
ABTA	**Abfaltersbach**	**149.72**	**345**	*i* P	**PKPdf**	20 35 00.3	-0.6
	comp=Z,38nm,1.1s,SNR=80						
ABTA				*i* P	**PKPbc**	20 35 06.1	-0.1
	comp=Z,188nm,0.6s						
CRES	**Cresnjev**	**149.72**	**340**	⇑*i* P	**PKPbc**	20 35 06.5	+0.3
DAVA	**Damuels**	**149.78**	**349**	*i* P	**PKPdf**	20 35 01.2	+0.2
	comp=Z,16nm,0.9s,SNR=47						
DAVA				*i* P	**PKiKP**	20 35 07.0	-0.1
	comp=Z,274nm,1.3s						
LJU	**Ljubljana**	**149.81**	**342**	*i* PKPdf	**PKPdf**	20 35 01.4	+0.5
LJU				*i* PKPbc	**PKiKP**	20 35 06.9	-0.2
LJU				*i* PKPab	**PKPab**	20 35 14.2	0.0
LJU	**Ljubljana**	**149.81**	**342**	⇑*i* P	**PKiKP**	20 35 06.8	-0.2
FETA	**Feichten**	**149.87**	**347**	*i* P	**PKPdf**	20 35 01.4	+0.3
	comp=Z,35nm,0.8s,SNR=43						
FETA				*i* P	**PKiKP**	20 35 07.3	0.0
	comp=Z,179nm,1.1s						
OZLJ	**Ozalj**	**149.90**	**340**	*i* P	**PKiKP**	20 35 07.1	-0.1
BBLS	**Lazići**	**149.92**	**334**	⇑*i* P	**PKiKP**	20 35 07.5	+0.1
HAPS	**Han Pijesak,BI**	**149.93**	**334**	*e*P	**PKPbc**	20 35 06.6	-0.3
MRAK	**Mrakovica**	**149.94**	**338**	*e*P	**PKiKP**	20 35 10.8	+3.4
ASCN	**Ascension**	**150.05**	**147**		**PKPbc**	20 35 07.8	-0.1
BLY	**Banja Luka**	**150.06**	**337**	⇑*i* P	**PKiKP**	20 35 07.6	0.0
BOJS	**Bojanci**	**150.07**	**340**	*i* PKPdf	**PKPdf**	20 35 01.6	+0.3
BOJS				*i* PKPbc	**PKiKP**	20 35 07.8	+0.3
CEY	**Cerknica**	**150.12**	**342**	⇑*i* P	**PKiKP**	20 35 07.5	-0.2
STAL	**STALIGIAL**	**150.12**	**344**		**PKPdf**	20 35 00.9	-0.5
STAL				PKPbc	**PKPbc**	20 35 07.1	0.0
RUDO	**Rudo**	**150.13**	**333**	*e*P	**PKPbc**	20 35 07.1	-0.1
DAVOX	**Davos/Dischmat**	**150.27**	**348**	PKP	**PKPdf**	20 35 02.2	+0.3
	comp=Z,22nm,0.7s,baz=277,slow=1.5,SNR=35						
DAVOX				PKPbc	**PKiKP**	20 35 08.5	+0.3
	comp=Z,254nm,0.6s,baz=248,slow=5.4,SNR=145						
DAVOX				pPKPbc	**pPKPab**	20 37 19.3	-0.7
	baz=37,slow=10						
STIP	**Stip**	**150.29**	**328**	*i* P	**PKPbc**	20 35 07.0	-0.7
PLE	**Pljevlja**	**150.36**	**333**	⇑*i* PKP	**PKPbc**	20 35 08.0	+0.1
MGRS	**Mrkonjic Grad**	**150.38**	**337**	⇑*i* P	**PKiKP**	20 35 08.5	+0.2
SKO	**Skopje**	**150.46**	**329**	*i* P	**PKiKP**	20 35 08.5	0.0
RIY	**Rijeka**	**150.47**	**341**	P	**PKPbc**	20 35 08.0	+0.1
IVA	**Berane**	**150.50**	**332**	⇑*i* PKP	**PKiKP**	20 35 08.5	-0.2
UPM	**Unac-Piva**	**150.67**	**333**	⇑*i* P	**PKiKP**	20 35 08.3	-0.4
UPM	**Unac-Piva**	**150.67**	**333**	⇑*i* PKP	**PKPbc**	20 35 08.4	-0.3
KOME	**Kolasin**	**150.69**	**332**	⇑*i* PKP	**PKiKP**	20 35 09.0	-0.1
PVY	**Plav**	**150.69**	**331**	⇑*i* PKP	**PKPbc**	20 35 08.7	0.0
UDJ	**Udbina**	**150.76**	**339**	*i* P	**PKiKP**	20 35 09.1	0.0
NKY	**Niksic**	**150.94**	**333**	⇑*i* PKP	**PKPbc**	20 35 09.3	+0.1
KIJV	**Kijevo**	**150.99**	**337**	*i* P	**PKiKP**	20 35 09.4	-0.2
NKME	**Niksic**	**151.00**	**333**	⇑*i* PKP	**PKPbc**	20 35 09.3	0.0
NVLJ	**Novalja**	**151.03**	**340**	*i* P	**PKPbc**	20 35 09.2	0.0
BRY	**Bratogost**	**151.07**	**333**	⇑*i* P	**PKPbc**	20 35 09.4	-0.2
BRY	**Bratogost**	**151.07**	**333**	⇑*i* PKP	**PKPbc**	20 35 09.4	-0.2
PDG	**Podgorica**	**151.13**	**332**	⇓⇓P	**PKiKP**	20 35 09.8	-0.1
PDG	**Podgorica**	**151.13**	**332**	⇑*i* P	**PKPbc**	20 35 09.6	0.0
PDG	**Podgorica**	**151.13**	**332**	PKPdf	**PKPdf**	20 35 02.8	-0.2
PDG				PKPbc	**PKPbc**	20 35 09.5	0.0
TTG	**Podgorica**	**151.13**	**332**	⇑*i* PKP	**PKPbc**	20 35 09.5	0.0
RICI	**Ricice**	**151.15**	**336**	P	**PKPbc**	20 35 09.6	+0.1
CEME	**Cevo**	**151.19**	**333**	⇑*i* PKP	**PKPbc**	20 35 09.6	-0.1
TEOL	**Teolo**	**151.22**	**345**		**PKPdf**	20 35 02.6	-0.5
TEOL				PKPbc	**PKiKP**	20 35 10.2	+0.3
TEOL				PKPab	**PKPab**	20 35 20.8	+0.7
TREB	**Trebinje**	**151.30**	**333**	⇑*i* P	**PKPbc**	20 35 09.4	-0.5
MORI	**Morici**	**151.36**	**338**	*i* P	**PKPbc**	20 35 10.0	+0.1
DRME	**Dracevica, Mon**	**151.36**	**332**	⇑*i* P	**PKPbc**	20 35 10.2	+0.1
DRME	**Dracevica, Mon**	**151.36**	**332**	⇑*i* PKP	**PKPbc**	20 35 10.2	+0.1
MAKA	**Makarska**	**151.37**	**336**	*i* P	**PKPbc**	20 35 09.7	-0.3
FNA	**Florina**	**151.38**	**327**	PKIKP	**PKPdf**	20 35 02.7	-0.9
FNA	**Florina**	**151.38**	**327**		**PKPdf**	20 35 02.7	-0.9
FNA				PKPbc	**PKPbc**	20 35 10.1	-0.1
BUM	**Brajici-Budva**	**151.40**	**332**	⇑*i* PKP	**PKPbc**	20 35 10.2	0.0
APE	**Apeiranthos**	**151.40**	**317**	⇑P	**PKPbc**	20 35 09.5	-0.9
APE	**Apeiranthos**	**151.40**	**317**	⇑PKIKP	**PKPbc**	20 35 09.5	-0.9
DBRK	**Dubrovnik**	**151.42**	**334**	*i* P	**PKPbc**	20 35 08.8	-1.4
OHR	**Ohrid**	**151.43**	**328**	*i* P	**PKPbc**	20 35 10.4	+0.1
STON	**Ston**	**151.44**	**334**	*i* P	**PKPbc**	20 35 08.8	-1.4
HCY	**Herceg Novi**	**151.46**	**333**	⇑*i* P	**PKPbc**	20 35 09.9	-0.3
HCY	**Herceg Novi**	**151.46**	**333**	⇑*i* PKP	**PKPbc**	20 35 10.0	-0.3
DUGI	**Dugi Otok**	**151.47**	**339**	*i* P	**PKPbc**	20 35 10.3	+0.1
ULC	**Ulcinj**	**151.51**	**331**	⇑*i* PKP	**PKPbc**	20 35 10.4	0.0
ZIRJ	**Zirje**	**151.57**	**338**	*i* P	**PKPbc**	20 35 10.2	-0.2
HVAR	**Hvar**	**151.68**	**336**	*i* P	**PKPbc**	20 35 10.5	-0.2
SANT	**Santorini**	**151.85**	**316**		**PKPbc**	20 35 10.3	-1.1
SANT				PKPab	**PKPab**	20 35 22.8	-0.4
SSB	**Saint Sauveur**	**152.48**	**355**	PKP2	**PKPab**	20 35 25.4	-0.1
SSB					21 35 05.1		
SSB	**Saint Sauveur**	**152.48**	**355**	PKPdf	**PKPdf**	20 35 05.1	0.0
SSB				PKPbc	**PKiKP**	20 35 13.1	+0.5
SSB				PKPab	**PKPab**	20 35 25.4	-0.1
VLC	**Villacollemand**	**152.66**	**346**		**PKPbc**	20 35 11.2	-1.7
IDI	**Anoyia**	**152.84**	**314**	PKP	**PKPdf**	20 35 07.5	+1.7
	comp=Z,9.0nm,0.7s,baz=90,slow=9.1,SNR=2.1						
IDI				PKPbc	**PKPbc**	20 35 13.5	-0.1
	comp=Z,38nm,0.5s,baz=81,slow=5.3,SNR=37						
IDI	**Anoyia**	**152.84**	**314**	⇓⇓P	**PKiKP**	20 35 13.8	+0.1
OSSC	**Osservatorio P**	**153.05**	**344**		**PKPdf**	20 35 04.6	-1.3
OSSC				PKPab	**PKPab**	20 35 27.4	-0.6
AQU	**L'Aquila**	**153.48**	**340**	*e*P	**PKPbc**	20 35 13.4	-1.4
INTR	**Introdacqua**	**153.62**	**339**	PKPdf	**PKPdf**	20 35 05.9	-0.9
PGAV	**Gavieira, Arco**	**154.52**	**17**	*e*PKPdf	**PKPdf**	20 35 08.7	+0.6
PGAV				*i* LQ	LQ	20 35 17.9	
PGAV	**Gavieira, Arco**	**154.52**	**17**	*e*PKPab	**PKPab**	20 35 35.0	+0.6
PCAB	**Cabril**	**154.82**	**17**	*e*PKPab	**PKPab**	20 35 36.8	+1.2
TIP	**Timpagrande**	**154.87**	**331**	PKPdf	**PKPdf**	20 35 08.6	0.0
PBRG	**Braganca**	**155.07**	**15**	*e*PKPdf	**PKPdf**	20 35 09.6	+0.8
PBRG				*i* LQ	LQ	20 35 18.4	
PBRG	**Braganca**	**155.07**	**15**	*e*PKPab	**PKPab**	20 35 37.4	+0.7
PTO	**Porto**	**155.19**	**18**	*e*PKPab	**PKPab**	20 35 37.8	+0.7
POLO	**Lamas de Olo**	**155.20**	**17**	*e*PKPdf	**PKPdf**	20 35 10.0	+1.0
POLO				*i* LQ	LQ	20 35 19.2	
POLO	**Lamas de Olo**	**155.20**	**17**	*e*PKPab	**PKPab**	20 35 38.2	+0.9
PVRL	**Vila Real**	**155.31**	**17**	*e*PKPdf	**PKPdf**	20 35 10.1	+1.0
PVRL				*i* LQ	LQ	20 35 18.3	
PVRL	**Vila Real**	**155.31**	**17**	*e*PKPab	**PKPab**	20 35 38.8	+1.0
MVO	**Moncorvo**	**155.60**	**16**	*e*PKPdf	**PKPdf**	20 35 10.6	+1.1
MVO				*i* LQ	LQ	20 35 20.0	
MVO	**Moncorvo**	**155.60**	**16**	*e*PKPab	**PKPab**	20 35 39.8	+0.8
PVIS	**Viseu**	**155.78**	**17**	*e*PKPdf	**PKPdf**	20 35 10.6	+0.9
PVIS				*i* LQ	LQ	20 35 21.6	
PVIS	**Viseu**	**155.78**	**17**	*e*PKPab	**PKPab**	20 35 40.5	+0.7
COI	**Coimbra**	**156.10**	**19**	*e*PKPab	**PKPab**	20 35 41.8	+0.7
MTE	**Manteigas**	**156.18**	**17**	*e*PKPdf	**PKPdf**	20 35 11.1	+0.8
MTE				*i* LQ	LQ	20 35 21.0	
MTE	**Manteigas**	**156.18**	**17**		**PKPdf**	20 35 11.0	+0.8
MTE				PKPab	**PKPab**	20 35 42.0	+0.5
PCAS	**Casmilo, Conde**	**156.21**	**19**	*e*PKPdf	**PKPdf**	20 35 11.1	+0.8
PCAS	**Casmilo, Conde**	**156.21**	**19**	*e*PKPab	**PKPab**	20 35 42.2	+0.6
PSBE	**So Bento**	**156.61**	**20**	*i* LQ	LQ	20 35 23.9	
PSBE	**So Bento**	**156.61**	**20**	*e*PKPab	**PKPab**	20 35 44.1	+0.7
PCBR	**Castelo Branco**	**156.72**	**18**	*e*PKPdf	**PKPdf**	20 35 11.8	+0.9
PCBR	**Castelo Branco**	**156.72**	**18**	*e*PKPab	**PKPab**	20 35 44.3	+0.5
PMAFR	**Mafra**	**156.94**	**22**	*e*PKPab	**PKPab**	20 35 45.6	+0.8
PMRV	**Marv??o**	**157.12**	**18**	*e*PKPdf	**PKPdf**	20 35 12.2	+0.8
PMRV	**Marv??o**	**157.12**	**18**	*e*PKPab	**PKPab**	20 35 46.3	+0.7
PMTG	**Montargil**	**157.20**	**20**	*e*PKPdf	**PKPdf**	20 35 12.2	+0.7
PMTG	**Montargil**	**157.20**	**20**	*e*PKPab	**PKPab**	20 35 46.3	+0.4
ESDC	**Sonseca Array**	**157.70**	**11**	PKP	**PKPdf**	20 35 12.6	+0.4
	comp=Z,5.0nm,0.9s,baz=349,slow=3.2,SNR=22						
ESDC				PKPbc	PKPab	20 35 29.7	-18
	comp=Z,1.8nm,0.6s,baz=336,slow=3.5,SNR=10						
ESDC				PKPab	PKPab	20 35 48.4	+0.2
	comp=Z,16nm,0.9s,baz=342,slow=4.5,SNR=23						
ESDC				PP	**PP**	**20 39 28.3**	**-0.6**
	comp=Z,1.8nm,1.0s,baz=4.9,slow=4.9,SNR=4.7						
ESDC	**Sonseca Array**	**157.70**	**11**		**PKPdf**	20 35 12.2	0.0
ESDC					**PKPab**	20 35 47.5	-0.7
EVO	**Evora**	**157.75**	**20**	*e*PKPdf	**PKPdf**	20 35 11.8	-0.4
EVO	**Evora**	**157.75**	**20**	*e*PKPab	**PKPab**	20 35 48.9	+0.6
PAB	**San Pablo**	**157.75**	**12**	PKIKP	**PKPdf**	20 35 12.7	+0.4
PAB	**San Pablo**	**157.75**	**12**	PKPdf	**PKPdf**	20 35 12.7	+0.4
PMAR	**Madeira**	**157.77**	**45**	*e*PKPab	**PKPab**	20 35 51.1	+2.2
PNCL	**Nicolau / Gran**	**157.96**	**21**	*e*PKPdf	**PKPdf**	20 35 13.4	+0.9
PNCL	**Nicolau / Gran**	**157.96**	**21**	*e*PKPab	**PKPab**	20 35 49.9	+0.7
PBEJ	**Beja**	**158.26**	**20**	*e*PKPdf	**PKPdf**	20 35 14.4	+1.6
PBEJ	**Beja**	**158.26**	**20**	*e*PKPab	**PKPab**	20 35 51.1	+0.6
MESJ	**Messejana**	**158.31**	**21**	*e*PKPdf	**PKPdf**	20 35 13.4	+0.5
MESJ	**Messejana**	**158.31**	**21**	*e*PKPdf	**PKPdf**	20 35 14.2	+1.3
MESJ				*i* LQ	LQ	20 35 26.0	
MESJ	**Messejana**	**158.31**	**21**	*e*PKPab	**PKPab**	20 35 51.3	+0.5
PBAR	**Barrancos**	**158.38**	**18**	*e*PKPdf	**PKPdf**	20 35 14.2	+1.2
PBAR	**Barrancos**	**158.38**	**18**	*e*PKPab	**PKPab**	20 35 51.8	+0.7
PTEO	**Sao Teotonio**	**158.40**	**22**	*e*PKPdf	**PKPdf**	20 35 14.5	+1.5
PTEO	**Sao Teotonio**	**158.40**	**22**	*e*PKPab	**PKPab**	20 35 51.5	+0.4
PCVE	**Castro Verde**	**158.56**	**21**	*e*PKPdf	**PKPdf**	20 35 14.6	+1.4
PCVE	**Castro Verde**	**158.56**	**21**	*e*PKPab	**PKPab**	20 35 52.4	+0.5
MORF	**Marmelete**	**158.63**	**23**	*e*PKPdf	**PKPdf**	20 35 13.8	+0.5
MORF	**Marmelete**	**158.63**	**23**	*e*PKPdf	**PKPdf**	20 35 14.6	+1.2
MORF	**Marmelete**	**158.63**	**23**	*e*PKPab	**PKPab**	20 35 51.9	-0.4
PFVI	**Vila Bisbo**	**158.72**	**23**	*e*PKPdf	**PKPdf**	20 35 15.3	+1.9
PFVI	**Vila Bisbo**	**158.72**	**23**	*e*PKPab	**PKPab**	20 35 53.1	+0.5
PVAQ	**Vaqueiros**	**158.87**	**21**	*e*PKPdf	**PKPdf**	20 35 15.1	+1.5
PVAQ	**Vaqueiros**	**158.87**	**21**	*e*PKPab	**PKPab**	20 35 54.1	+0.9
KEST	**Kesra**	**160.81**	**340**	PKP	**PKPdf**	20 35 16.4	+0.6
	comp=Z,5.7nm,0.8s,baz=70,slow=2.6,SNR=5.3						
KEST				PKPab	**PKPab**	20 36 02.5	+0.7
	comp=Z,20nm,0.6s,baz=87,slow=1.4,SNR=17						
MDT	**Midelt**	**164.09**	**19**	PKP	**PKPdf**	20 35 20.5	+1.3
	comp=Z,18nm,0.8s,baz=342,slow=1.6,SNR=5.8						
MDT				PKPab	**PKPab**	20 36 17.7	+1.3
	comp=Z,39nm,0.9s,baz=345,slow=5.0,SNR=21						
MDT				PP	**PP**	20 40 05.2	+2.3
	comp=Z,3.1nm,1.0s,baz=330,slow=4.6,SNR=4.8						
LIC	**Lamto**	**166.88**	**150**	*e*PKIKP	**PKPdf**	20 35 21.3	-0.6
	comp=Z,108nm,1.2s						
LIC	**Lamto**	**166.88**	**150**	*e*P	**PKPab**	20 36 29.3	+0.3
	comp=Z,63nm,1.5s						
KIC	**Kosan Boka**	**167.13**	**151**	*e*PKIKP	**PKPdf**	20 35 21.3	-0.8
	comp=Z,72nm,1.1s						
KIC	**Kosan Boka**	**167.13**	**151**	*e*P	**PKPab**	20 36 31.7	+1.6
	comp=Z,25nm,0.8s						
TIC	**Toumodi**	**167.25**	**150**	*e*PKIKP	**PKPdf**	20 35 21.5	-0.7
TIC	**Toumodi**	**167.25**	**150**	*e*P	**PKPab**	20 36 32.3	+1.7
DBIC	**Dimbokro**	**167.35**	**150**	PKP	**PKPdf**	20 35 21.6	-0.6
	comp=Z,12nm,0.8s,baz=140,slow=1.0,SNR=16						
DBIC				PKPab	**PKPab**	20 36 31.8	+0.8
	comp=Z,3.3nm,0.6s,baz=192,slow=6.5,SNR=3.9						
DBIC				PP	**PP**	20 40 23.6	+4.0
	comp=Z,4.5nm,0.9s,baz=151,slow=5.9,SNR=4.1						
TAM	**Tamanrasset**	**173.73**	**323**	PKIKP	**PKPdf**	20 35 25.8	+0.2
TAM						20 37 00.2	
TAM	**Tamanrasset**	**173.73**	**323**		**PKPdf**	20 35 25.8	+0.2
TAM				PKPab	**PKPab**	20 37 00.2	+0.7
KOWA	**Kowa**	**173.81**	**121**	PKP	**PKPdf**	20 35 24.8	-0.7
	comp=Z,26nm,1.0s,baz=156,slow=1.1,SNR=31						
KOWA				PKPab	**PKPab**	20 37 00.4	+0.4
	comp=Z,8.5nm,0.9s,baz=220,slow=5.9,SNR=7.3						
KOWA	**Kowa**	**173.81**	**121**		**PKPdf**	20 35 24.8	-0.7
KOWA				PKPab	**PKPab**	20 36 58.7	-1.3
TOA0	**Torodi Ar. Sit**	**175.37**	**183**		**PKPdf**	20 35 25.1	-0.9
TOA0				PKPab	**PKPab**	20 37 05.3	-1.2
TORD	**Torodi Ar. Bea**	**175.37**	**183**	PKP	**PKPdf**	20 35 25.3	-0.7
	comp=Z,16nm,1.0s,baz=329,slow=1.5,SNR=51						
TORD				PKPab	**PKPab**	20 37 06.3	-0.2
	comp=Z,6.0nm,0.6s,baz=174,slow=4.0,SNR=13						
TORD				pPKPab	**pPKPab**	20 39 10.0	+1.1
	comp=Z,2.4nm,0.8s,baz=227,slow=6.7,SNR=3.2						
TORD				PP	**PP**	20 40 59.1	+1.1
	comp=Z,2.6nm,0.7s,baz=173,slow=4.3,SNR=6.1						
TORD	**Torodi Ar. Bea**	**175.37**	**183**		**PKPdf**	20 35 24.7	-1.3
TORD					**PKPab**	20 37 05.6	-0.9

WEL ***17*** *20:42:00.43˚14S×172˚08E,h10km,ML4.0,Mw3.8, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; M_{rr}=1.22; $M_{\theta\theta}$=1.79; $M_{\phi\phi}$=0.57; $M_{r\theta}$=2.35; $M_{r\phi}$=-4.24; $M_{\theta\phi}$=1.40; Fault plane solution: M_o5.28000×10^{14} NP1: ϕ_s=168.00000°,δ60.00000°,λ=17.00000°. NP2: ϕ_s=266.00000°,δ76.00000°,λ=149.00000°. Principal axes: T -53.7600, Plg11.0000°, Azm34.0000°; N 51.9300, Plg56.0000°, Azm287.0000°; P 1.8300, Plg32.0000°, Azm131.0000°;*

IDC ***17*** *20:42:58.0±1.4, 43˚59S×172˚62E,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.8/35,mbtmp3.9/4,ML3.3/1 Error ellipse: s-maj=28.9km s-min=21.7km az=5.0*

WEL ***17*** *20:43:01.0,43˚S±2˚×17˚2E±˚,h16km±2km,M4.0/13, ML4.1/13,MLv4.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=122.6*

ISC 17 20:43:00.6±1.4, 43˚15S±0˚02×172˚10E±0˚03, h14km±10km, n80,σ1^{s}94/85, mb3.8/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.18**	**196**	P	**Pb**		**20 43 06.2**	**+0.5**
OXZ				S	**Sb**		**20 43 09.6**	**+0.5**
LTZ	**Lake Taylor**	**0.39**	**18**	P	**Pb**		**20 43 09.0**	**-0.3**
LTZ				S	**Sb**		**20 43 14.4**	**-0.8**
AMCZ	**Amberley**	**0.40**	**94**	P	**Pb**		**20 43 10.7**	**+1.2**
MHCZ	**Mount Hutt**	**0.55**	**226**	P	**Pb**		**20 43 12.7**	**+0.8**
RACZ	**Rakaia**	**0.57**	**177**	P	**Pn**		**20 43 13.8**	**-0.6**
INZ	**Inchbonnie**	**0.65**	**311**	P	**Pb**		**20 43 13.4**	**-0.2**
INZ				S	**Sb**		**20 43 21.6**	**-0.9**
MQZ	**McQueen's Vall**	**0.68**	**144**	P	**Pn**		**20 43 15.4**	**-0.4**
MQZ				S	**Sb**		**20 43 24.8**	**+1.3**
GVZ	**Greta Valley S**	**0.71**	**75**	P	**Pn**		**20 43 16.2**	**+0.1**
WACZ	**Wakanui South**	**0.81**	**194**	P	**Pn**		**20 43 17.5**	**-0.1**
OKCZ	**Okains Bay**	**0.90**	**130**	P	**Pn**		**20 43 19.1**	**+0.3**
AKCZ	**Akaroa Harbour**	**0.93**	**141**	P	**Pn**		**20 43 19.4**	**+0.2**
AKCZ				S	**Sn**		**20 43 32.6**	**+0.3**
RPZ	**Rata Peaks**	**0.95**	**233**	Pg	**Pn**		**20 43 19.5**	**0.0**
	330nm,0.3s,baz=71,slow=2.4,SNR=1021							
RPZ				Lg	Lg		20 43 32.3	
	249nm,0.3s,baz=179,slow=2.9,SNR=6.9							
RPZ	**Rata Peaks**	**0.95**	**233**	P	**Pn**		**20 43 19.5**	**0.0**
RPZ				S	**Sg**		**20 43 32.0**	**+0.6**
WVZ	**Waitaha Valley**	**1.00**	**274**	P	**Pn**		**20 43 20.0**	**-0.2**
WVZ				S	**Sg**		**20 43 32.9**	**-0.2**
ARCZ	**Arundel**	**1.04**	**220**	P	**Pb**		**20 43 20.6**	**+0.2**
KHZ	**Kahutara**	**1.29**	**56**	P	**Pn**		**20 43 24.4**	**+0.3**
KHZ				S	**Sn**		**20 43 41.5**	**+0.4**
GCSZ	**Gaunt Creek Bo**	**1.31**	**262**	P	**Pg**		**20 43 25.5**	**-0.3**
DSZ	**Denniston Nort**	**1.43**	**351**	P	**Pb**		**20 43 26.7**	**-0.2**
TMZ	**Timaru**	**1.47**	**213**	P	**Pn**		**20 43 26.6**	**0.0**
THZ	**Tophouse**	**1.51**	**23**	P	**Pn**		**20 43 27.3**	**+0.1**
FOZ	**Fox Glacier**	**1.71**	**256**	P	**Pb**		**20 43 31.9**	**+0.1**
LBZ	**Lake Benmore**	**1.86**	**228**	P	**Pn**		**20 43 32.4**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.94**	**43**	P	**Pn**		**20 43 33.8**	**+0.7**
CMWZ	**Cape Campbell**	**2.10**	**49**	P	**Pb**		**20 43 38.8**	**+0.4**
NNZ	**Nelson**	**2.15**	**27**	P	**Pn**		**20 43 36.9**	**+0.9**
ODZ	**Otahua Downs**	**2.16**	**209**	P	**Pn**		**20 43 36.1**	**-0.1**
TUWZ	**Tuamarina**	**2.20**	**39**	P	**Pn**		**20 43 37.3**	**+0.7**
QRZ	**Quartz Range**	**2.35**	**8**	P	**Pn**		**20 43 38.9**	**+0.2**
TCW	**Tory Channel**	**2.52**	**40**	P	**Pn**		**20 43 41.0**	**-0.1**
JCZ	**Jackson Bay**	**2.58**	**248**	P	**Pb**		**20 43 45.1**	**-1.6**
BHW	**Baring Head**	**2.69**	**51**	P	**Pb**		**20 43 50.3**	**+1.7**
DUWZ	**D'Urville Isla**	**2.71**	**31**	P	**Pn**		**20 43 45.1**	**+1.4**
WKZ	**Wanaka**	**2.79**	**232**	P	**Pn**		**20 43 44.6**	**-0.1**
PLWZ	**Palliser**	**2.82**	**57**	P	**Pn**		**20 43 44.8**	**-0.5**
EAZ	**Earnscleugh**	**2.89**	**223**	P	**Pn**		**20 43 45.9**

MDD ***17*** *21:14:10.4±0.7,35°.67N×5°.79E,h0km,mb4.6/36,Error ellipse: s-maj=7.9km s-min=4.1km az=168.0,PRXIMO*

NEIC ***17*** *21:14:11.9±1.8,35°.72N±0°.06×5°.65E±0°.04,h10km±1km, mb4.4/50,Error ellipse: s-maj=11.1km s-min=5.0km az=188.0*

MED_RC ***17*** *21:14:12.0±0.9,35°.81N×5°.63E,h10km,MW4.5/23, Moment Tensor Solution.Mantle waves: s23,c31; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr1.33±.46; Mθθ-5.32±.40; Mϕϕ3.99±.44; Mrθ-2.50±1.37; Mθϕ-5.09±.32; Mϕr-0.03±1.18; Best double couple: M07.28000×10¹⁵ NP1:ϕs20.00000°,δ72.00000°, λ-1.00000°. NP2:ϕs111.00000°,δ89.00000°, λ-162.00000°. Principal axes: T 6.4400, Plg12.0000°, Azm244.0000°; N 1.6900, Plg72.0000°, Azm115.0000°; P -8.1300, Plg14.0000°, Azm337.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

LDG ***17*** *21:14:13.9±0.1,35°.69N×5°.70E,h10km,Ml3.6/30 Error ellipse: s-maj=3.2km s-min=2.8km az=161.0*

ISC 17 21:14:12.1±0.4,35°.78N±0°.04×5°.69E±0°.03,h10km,n381, σ2s28/462,mb4.3/48,MS3.7/19,10C-11D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHR	**Kef el Ahmar**	**0.28**	**328**	P	**Pg**	**21 14 15.9**	**-1.9**
CKHR	**Kef el Ahmar**	**0.28**	**328**	P	**Pg**	**21 14 15.9**	**-1.9**
SET	**Setif**	**0.48**	**330**	P	**Pg**	**21 14 21.0**	**-0.6**
SET	**Setif**	**0.48**	**330**	P	**Pg**	**21 14 21.0**	**-0.6**
CTEI	**Djebel Teioual**	**0.64**	**64**	P	**Pg**	**21 14 22.4**	**-2.2**
CTEI	**Djebel Teioual**	**0.64**	**64**	P	**Pg**	**21 14 22.4**	**-2.2**
DFRA	**Djebel Bou Aff**	**0.78**	**11**	P	**Pg**	**21 14 26.7**	**-0.5**
DFRA	**Djebel Bou Aff**	**0.78**	**11**	P	**Pg**	**21 14 26.7**	**-0.5**
CASM	**Ain Smara**	**0.80**	**53**	P	**Pg**	**21 14 24.9**	**-2.7**
CASM	**Ain Smara**	**0.80**	**53**	P	**Pg**	**21 14 24.9**	**-2.7**
CKFL	**Kef-Lekhel**	**1.03**	**53**	P	**Pg**	**21 14 29.8**	**-2.3**
CKFL	**Kef-Lekhel**	**1.03**	**53**	P	**Pg**	**21 14 29.8**	**-2.3**
CAEH	**'Ain El Ouahch**	**1.37**	**43**	P	**Pn**	**21 14 33.6**	**-3.7**
CAEH	**'Ain El Ouahch**	**1.37**	**43**	P	**Pn**	**21 14 33.6**	**-3.7**
ABSA	**Djebel Ababsia**	**1.53**	**71**	P	**Pn**	**21 14 36.3**	**-3.3**
CABS	**Djebel Ababsia**	**1.53**	**71**	P	**Pn**	**21 14 36.3**	**-3.3**
CMAH	**Djebel Manchou**	**1.63**	**58**	P	**Pn**	**21 14 37.7**	**-3.3**
CMAH	**Djebel Manchou**	**1.63**	**58**	P	**Pn**	**21 14 37.7**	**-3.3**
I48TN	**KESRA INFRASON**	**2.95**	**88**	*i*		21 30 00.0	
	baz=272,slow=315,SNR=0.4						
KEST	**Kesra**	**2.97**	**90**	Pn	**Pn**	**21 14 59.5**	**0.0**
	9.9nm,0.3s,baz=227,slow=4.2,SNR=115						
KEST				Sn	**Sn**	**21 15 35.3**	**+0.2**
	22nm,0.3s,baz=228,slow=7.9,SNR=6.5						
EBNR	**Beni Rached**	**3.41**	**280**	P	**Pn**	**21 15 05.0**	**-0.5**
ECHA	**Ech Chlef**	**3.53**	**277**	P	**Pn**	**21 15 07.0**	**0.0**
ECHF	**Ech Chlef**	**3.55**	**277**	P	**Pn**	**21 15 07.0**	**-0.3**
ETRT	**Tiaret**	**3.60**	**265**	P	**Pn**	**21 15 07.0**	**-1.1**
ETRT	**Tiaret**	**3.60**	**265**	P	**Pn**	**21 15 07.0**	**-1.1**
EANR	**'Ain N'Sour**	**3.73**	**274**	P	**Pn**	**21 15 08.0**	**-1.9**
EANR	**'Ain N'Sour**	**3.73**	**274**	P	**Pn**	**21 15 08.0**	**-1.9**
OKGL	**Djebel Kef Gue**	**4.11**	**275**	P	**Pn**	**21 15 15.5**	**+0.5**
	78nm,0.3s,SNR=7.9						
OKGL				S	Sn	21 15 53.1	-10
	128nm,0.3s,SNR=4.0						
OKGL	**Djebel Kef Gue**	**4.11**	**275**		**Pn**	**21 15 15.5**	**+0.5**
MAHO	**Mahon**	**4.26**	**345**	P	**Pn**	**21 15 16.0**	**-1.0**
MAHO				S	**Sn**	**21 16 03.6**	**-3.2**
MAHO	**Mahon**	**4.26**	**345**	*e*P	**Pn**	**21 15 16.0**	**-1.0**
MAHO				*e*S	**Sn**	**21 16 03.6**	**-3.2**
MAHO				*e*Cod		21 18 19.0	
ETOS	**Mallorca**	**4.59**	**331**	P	**Pn**	**21 15 21.5**	**-0.1**
	18nm,0.2s,SNR=38						
ETOS				S	**Sn**	**21 16 12.8**	**-2.1**
	6.9nm,0.3s,SNR=4.9						
ETOS	**Mallorca**	**4.59**	**331**		**Pn**	**21 15 21.5**	**-0.1**
ETOS					**Sn**	**21 16 12.8**	**-2.1**
VSL	**Villasalto**	**4.72**	**37**	Pn	**Pn**	**21 15 23.9**	**+0.5**
EIBI	**Ibiza**	**4.74**	**314**	P	**Pn**	**21 15 23.7**	**+0.1**
	17nm,0.2s,SNR=24						
EIBI				S	**Sn**	**21 16 15.9**	**-2.8**
	17nm,0.4s,SNR=14						
EIBI	**Ibiza**	**4.74**	**314**		**Pn**	**21 15 23.7**	**+0.1**
ODJA	**Bouhanifia**	**4.79**	**266**	P	**Pb**	**21 15 40.0**	**+3.9**
USTO	**Oran**	**5.08**	**271**	P	**Pb**	**21 15 43.0**	**+1.9**
EBEN2	**Beniarda presa**	**5.51**	**303**	P	**Pn**	**21 15 34.2**	**-0.1**
	4.7nm,0.2s,SNR=7.9						
EBEN2				S	**Sn**	**21 16 35.4**	**-2.4**
	30nm,0.5s,SNR=7.9						
EBEN2	**Beniarda presa**	**5.51**	**303**		**Pn**	**21 15 34.2**	**-0.1**
EBEN2					**Sn**	**21 16 35.4**	**-2.4**
CART	**Cartagena**	**5.67**	**290**	P	**Pn**	**21 15 35.6**	**-0.9**
CART				S	**Sn**	**21 15 42.1**	**+0.4**
CART	**Cartagena**	**5.67**	**290**	*e*P	**Pn**	**21 15 35.6**	**-0.9**
CART				*e*S	**Sn**	**21 16 42.1**	**+0.4**
CART	**Cartagena**	**5.67**	**290**	Pn	**Pn**	**21 15 35.2**	**-1.2**
AFON	**Font Roja**	**5.75**	**302**	P	**Pn**	**21 15 39.2**	**+1.6**
	3.3nm,0.2s,SNR=8.9						
AFON				S	**Sn**	**21 16 41.3**	**-2.4**
	4.4nm,0.3s						
AFON	**Font Roja**	**5.75**	**302**		**Pn**	**21 15 39.2**	**+1.6**
AFON					**Sn**	**21 16 41.3**	**-2.4**
EMUR	**La Murta**	**5.93**	**292**	P	**Pn**	**21 15 39.6**	**-0.4**
	8.7nm,0.2s,SNR=32						
EMUR				S	**Sn**	**21 16 46.0**	**-2.1**
	3.9nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**5.93**	**292**		**Pn**	**21 15 39.6**	**-0.4**
EMUR					**Sn**	**21 16 46.0**	**-2.1**
TLOR	**Lorca, Murcia**	**6.22**	**290**	P	**Pn**	**21 15 43.8**	**-0.2**
	66nm,0.2s,SNR=4.0						
TLOR	**Lorca, Murcia**	**6.22**	**290**		**Pn**	**21 15 43.8**	**-0.2**
ETOB	**Tobarra**	**6.45**	**298**	P	**Pn**	**21 15 47.5**	**+0.3**
	3.8nm,0.3s,SNR=48						
ETOB				S	**Sn**	**21 16 56.4**	**-4.5**
	4.1nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**6.45**	**298**		**Pn**	**21 15 47.5**	**+0.3**
ENIJ	**Nijar**	**6.48**	**283**	P	**Pn**	**21 15 46.1**	**-1.6**
	17nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**21 16 59.7**	**-2.0**
	14nm,0.4s,SNR=7.9						
CFON	**Fontmartina**	**6.49**	**338**	P	**Pn**	**21 15 47.3**	**-0.5**
	3.1nm,0.1s,SNR=18						
CFON				S	**Sn**	**21 16 57.4**	**-4.5**
	1.6nm,0.2s,SNR=7.2						
ECHE	**Chera**	**6.51**	**308**	P	**Pn**	**21 15 48.4**	**+0.4**
	2.5nm,0.2s,SNR=7.9						
ECHE				S	**Sn**	**21 17 02.1**	**-0.2**
	3.6nm,0.4s,SNR=4.0						
ERTA	**Horta de San J**	**6.67**	**322**	P	**Pn**	**21 15 50.0**	**-0.1**
	1.8nm,0.3s,SNR=5.9						
ERTA				S	**Sn**	**21 17 01.5**	**-4.7**
	2.6nm,0.3s,SNR=6.8						
EMOS	**Mosqueruela**	**6.68**	**315**	P	**Pn**	**21 15 50.3**	**-0.1**
	3.2nm,0.3s,SNR=19						
EMOS				S	**Sn**	**21 17 03.3**	**-3.4**
	15nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**6.93**	**333**	P	**Pn**	**21 15 54.7**	**+0.9**
	31nm,0.3s,SNR=17						
EMIR				S	**Sn**	**21 17 08.6**	**-4.2**
	3.3nm,0.2s,SNR=4.0						
SESP	**Santiago Espad**	**7.00**	**292**	P	**Pn**	**21 15 55.5**	**+0.7**
	10nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**21 17 14.4**	**-0.2**
	9.7nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**7.01**	**343**	P	**Pn**	**21 15 54.0**	**-0.8**
	4.2nm,0.3s,SNR=7.9						
EJON				S	**Sn**	**21 17 12.7**	**-1.9**
	2.2nm,0.4s,SNR=9.5						
EBER	**Berja**	**7.02**	**282**	P	**Pn**	**21 15 54.4**	**-0.7**
	20nm,0.3s,SNR=31						
EBER				S	**Sn**	**21 17 15.1**	**+0.1**
	5.5nm,0.4s,SNR=11						
SJAF	**Saint Jean de**	**7.04**	**343**	P	**Pn**	**21 15 55.3**	**0.0**
	1.9nm,0.2s,SNR=7.9						
SJAF				S	**Sn**	**21 17 10.4**	**-5.0**
	1.3nm,0.4s,SNR=7.9						
RAFF	**Raffo Rosso**	**7.13**	**76**		**Pn**	**21 15 57.7**	**+1.3**
VAE	**Valguarnera**	**7.21**	**74**	Pn	**Pn**	**21 16 00.0**	**+2.3**
	0.9nm,0.3s,baz=301,slow=5.9,SNR=1.7						
GORA	**Gorafe**	**7.23**	**286**	P	**Pn**	**21 15 59.1**	**+1.2**
	6.3nm,0.2s,SNR=4.0						
GORA				S	**Sn**	**21 17 22.5**	**+2.5**
	17nm,0.4s,SNR=4.0						
PGF	**Pioggiola**	**7.23**	**20**	P	**Pn**	**21 15 58.0**	**+0.1**
PGF				S	**Sn**	**21 17 17.4**	**-2.7**
	10nm,0.5s						
PGF	**Pioggiola**	**7.23**	**20**	*e*Pn	**Pn**	**21 15 58.0**	**+0.1**
PGF				*e*Sn	**Sn**	**21 17 17.4**	**-2.7**
	20nm,0.5s						
CLLI	**Llivia**	**7.29**	**338**	P	**Pn**	**21 15 59.0**	**+0.3**
	5.8nm,0.4s,SNR=16						
CLLI				S	**Sn**	**21 17 18.2**	**-3.4**
	1.7nm,0.4s,SNR=6.5						
EQES	**Quesada**	**7.32**	**289**	P	**Pn**	**21 15 59.9**	**+0.8**
	8.9nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**21 17 23.4**	**+1.1**
	5.2nm,0.3s,SNR=4.7						
CSOR	**Sort**	**7.48**	**333**	P	**Pn**	**21 16 02.0**	**+0.7**
	13nm,0.3s,SNR=34						
CSOR				S	**Sn**	**21 17 22.4**	**-3.9**
	3.5nm,0.3s,SNR=12						
EQUE	**Quentar**	**7.49**	**284**	P	**Pn**	**21 16 01.6**	**0.0**
	17nm,0.4s,SNR=4.0						
EQUE				S	**Sn**	**21 17 25.6**	**-1.1**
	1.5nm,0.2s,SNR=4.0						
LMR	**La Mourre**	**7.57**	**5**	P	**Pn**	**21 16 03.4**	**+0.9**
LMR				S	**Sn**	**21 17 25.0**	**-3.3**
	6.8nm,0.5s						
LMR	**La Mourre**	**7.57**	**5**	*e*Pn	**Pn**	**21 16 03.4**	**+0.9**
LMR				*e*Sn	**Sn**	**21 17 25.0**	**-3.3**
	14nm,0.5s						
ELGU	**Los Guajares,**	**7.60**	**281**	P	**Pn**	**21 16 02.9**	**-0.1**
	14nm,0.3s,SNR=7.9						
ELGU				S	**Sn**	**21 17 25.6**	**-3.6**
	2.5nm,0.2s,SNR=7.9						
FRF	**La Foret Royal**	**7.80**	**5**	P	**Pn**	**21 16 06.4**	**+0.7**
FRF				S	**Sn**	**21 17 30.8**	**-3.3**
	9.1nm,0.7s						
FRF	**La Foret Royal**	**7.80**	**5**	*e*Pn	**Pn**	**21 16 06.4**	**+0.7**
FRF				*e*Sn	**Sn**	**21 17 30.8**	**-3.3**
	18nm,0.7s						
ETOR	**Torete**	**7.90**	**312**	P	**Pn**	**21 16 09.9**	**+2.8**
	5.9nm,0.2s,SNR=11						
ETOR				S	**Sn**	**21 17 35.1**	**-1.5**
	3.3nm,0.7s,SNR=6.5						
EGOR	**Sierra Gorda,**	**8.01**	**282**	P	**Pn**	**21 16 10.8**	**+2.1**
	5.0nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**21 17 42.6**	**+3.2**
	4.8nm,0.4s,SNR=7.9						
MTLF	**Montolieu**	**8.01**	**341**	P	**Pn**	**21 16 08.8**	**+0.2**
MTLF				S	**Sn**	**21 17 36.2**	**-3.0**
	3.1nm,0.4s						
MTLF	**Montolieu**	**8.01**	**341**	*e*Pn	**Pn**	**21 16 08.8**	**+0.2**
MTLF				*e*Sn	**Sn**	**21 17 36.2**	**-3.0**
	6.1nm,0.4s						
ECHI	**Chisagues Biel**	**8.09**	**330**	P	**Pn**	**21 16 11.6**	**+1.9**
	1.2nm,0.2s,SNR=7.9						
ECHI	**Chisagues Biel**	**8.09**	**330**		**Pn**	**21 16 11.6**	**+1.9**
SBF	**Sospel**	**8.18**	**9**	P	**Pn**	**21 16 11.4**	**+0.4**
SBF				S	**Sn**	**21 17 39.5**	**-4.0**
	7.9nm,0.5s						
SBF	**Sospel**	**8.18**	**9**	*e*Pn	**Pn**	**21 16 11.4**	**+0.4**
SBF				*e*Sn	**Sn**	**21 17 39.5**	**-4.0**
	16nm,0.5s						
SMRF	**Simiane la Rot**	**8.19**	**359**	P	**Pn**	**21 16 11.8**	**+0.8**
SMRF				S	**Sn**	**21 17 40.5**	**-3.1**
	3.5nm,0.5s						
SMRF	**Simiane la Rot**	**8.19**	**359**	*e*Pn	**Pn**	**21 16 11.8**	**+0.8**
SMRF	**Simiane la Rot**	**8.19**	**359**	*e*P	Pn	21 16 17.0	+6.0
SMRF				*e*Sn	**Sn**	**21 17 40.5**	**-3.1**
	3.5nm,0.5s						
EPF	**Esparros**	**8.34**	**332**	P	**Pn**	**21 16 14.6**	**+1.5**
EPF				S	**Sn**	**21 17 43.0**	**-4.4**
	7.0nm,0.8s						
EPF	**Esparros**	**8.34**	**332**	*e*Pn	**Pn**	**21 16 14.6**	**+1.5**
EPF				*e*Sn	**Sn**	**21 17 43.0**	**-4.4**
	14nm,0.8s						
LASF	**Ste Croix**	**8.40**	**351**	P	**Pn**	**21 16 14.6**	**+0.6**
LASF				S	**Sn**	**21 17 44.7**	**-4.2**
	5.2nm,0.6s						
LASF	**Ste Croix**	**8.40**	**351**	*e*Pn	**Pn**	**21 16 14.6**	**+0.6**
LASF				*e*Sn	**Sn**	**21 17 44.7**	**-4.2**
	10nm,0.6s						
EADA	**Adamuz**	**8.56**	**289**	P	**Pn**	**21 16 14.7**	**-1.4**
	2.3nm,0.3s,SNR=13						
EADA				S	**Sn**	**21 17 51.2**	**-1.5**
	1.5nm,0.5s,SNR=4.5						
ESBB	**Sonseca Array**	**8.58**	**300**		**Pn**	**21 16 16.9**	**+0.5**
ESDC	**Sonseca Array**	**8.58**	**300**	Pn	**Pn**	**21 16 16.5**	**0.0**
	0.6nm,0.3s,baz=113,slow=13,SNR=19						
ESDC				Sn	**Sn**	**21 17 51.2**	**-2.1**
	0.5nm,0.3s,baz=110,slow=24,SNR=3.1						
ESDC				LR	LR	21 19 27.1	
	comp=Z,631nm,18.7s,baz=125,slow=37						
ESDC	**Sonseca Array**	**8.58**	**300**	P	**Pn**	**21 16 14.8**	**-1.6**
	1.2nm,0.2s,baz=113,slow=14,SNR=15						
ESDC				S	**Sn**	**21 17 46.8**	**-6.5**
	18nm,0.9s,baz=22,slow=17,SNR=4.4						
ESDC	**Sonseca Array**	**8.58**	**300**		**Pn**	**21 16 16.3**	**-0.1**
ETSF	**Etsaut**	**8.60**	**328**	P	**Pn**	**21 16 18.1**	**+1.4**
ETSF				S	**Sn**	**21 17 49.1**	**-4.7**
	3.2nm,0.5s						
ETSF	**Etsaut**	**8.60**	**328**	*e*P	**Pn**	**21 16 18.1**	**+1.4**
ETSF				*e*Sn	**Sn**	**21 17 49.1**	**-4.7**
	6.5nm,0.5s						
PAB	**San Pablo**	**8.80**	**298**	P	**Pn**	**21 16 19.8**	**+0.2**
	0.8nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**8.80**	**298**		**Pn**	**21 16 19.6**	**0.0**
ATE	**Arette**	**8.81**	**328**	P	**Pn**	**21 16 20.5**	**+1.0**
	1.2nm,0.3s,SNR=7.9						
ATE				S	Sn	21 17 48.6	-10
	2.1nm,0.4s,SNR=7.9						
EORO	**Oroz-Betelu**	**8.93**	**325**	P	**Pn**	**21 16 21.3**	**0.0**
	1.5nm,0.2s,SNR=7.9						
MBDF	**Montbardon**	**8.97**	**5**	P	**Pn**	**21 16 23.2**	**+1.3**
MBDF				S	**Sn**	**21 17 59.0**	**-4.1**
	2.2nm,0.4s						
MBDF	**Montbardon**	**8.97**	**5**	*e*Pn	**Pn**	**21 16 23.2**	**+1.3**
MBDF				*e*Sn	**Sn**	**21 17 59.0**	**-4.1**
	4.4nm,0.4s						
MDT	**Midelt**	**9.02**	**254**	Pn	**Pn**	**21 16 21.4**	**-1.1**
	1.0nm,0.3s,baz=292,slow=12,SNR=18						
MDT				Sn	**Sn**	**21 18 03.4**	**-0.8**
	0.4nm,0.3s,baz=216,slow=19,SNR=1.2						
MDT				Lg	Lg	21 18 56.5	
	0.4nm,0.3s,baz=158,slow=22,SNR=2.0						
EJIF	**Jimena Fronter**	**9.06**	**278**	P	**Pn**	**21 16 24.0**	**+1.1**
	11µm,0.5s,SNR=4.0						
EJIF	**Jimena Fronter**	**9.06**	**278**		**Pn**	**21 16 24.0**	**+1.1**
SJPF	**Ste Jean**	**9.07**	**326**	P	**Pn**	**21 16 25.1**	**+2.1**
SJPF				S	**Sn**	**21 17 59.9**	**-5.3**
	6.4nm,0.6s						
SJPF	**Ste Jean**	**9.07**	**326**	*e*P	**Pn**	**21 16 25.1**	**+2.1**
SJPF				*e*Sn	**Sn**	**21 17 59.9**	**-5.3**
	13nm,0.6s						
VIVF	**Saint-Julien-l**	**9.10**	**355**	P	**Pn**	**21 16 24.0**	**+0.5**
VIVF				S	**Sn**	**21 18 01.4**	**-4.6**
	2.3nm,0.3s						
VIVF	**Saint-Julien-l**	**9.10**	**355**	*e*Pn	**Pn**	**21 16 24.0**	**+0.5**
VIVF				*e*Sn	**Sn**	**21 18 01.4**	**-4.6**
	4.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**9.13**	**1**	P	**Pn**	**21 16 25.0**	**+1.0**
ORIF				S	**Sn**	**21 18 02.9**	**-3.9**
	2.7nm,0.6s						
ORIF	**Oris-en-Rattie**	**9.13**	**1**	*e*Pn	**Pn**	**21 16 25.0**	**+1.0**
ORIF				*e*Sn	**Sn**	**21 18 02.9**	**-3.9**
	5.4nm,0.6s						
GUD	**Guadarrama**	**9.14**	**305**	P	**Pn**	**21 16 23.7**	**-0.5**
	0.3nm,0.2s,SNR=4.0						
GUD				S	**Sn**	**21 18 03.8**	**-3.4**
	6.9nm,0.8s,SNR=4.0						
ECAB	**El Cabril**	**9.19**	**288**	P	**Pn**	**21 16 23.6**	**-1.2**
	2.1nm,0.2s,SNR=22						
ECAB				S	**Sn**	**21 18 04.7**	**-3.5**
	18nm,0.6s,SNR=11						
BNI	**Bardonecchia**	**9.29**	**4**	Pn	**Pn**	**21 16 25.8**	**-0.5**
ESPR	**Espera**	**9.38**	**280**	P	**Pn**	**21 16 27.8**	**+0.4**
	0.3nm,0.1s,SNR=4.0						
TIP	**Timpagrande**	**9.43**	**66**	Pn	**Pn**	**21 16 30.5**	**+2.5**
SSB	**Saint Sauveur**	**9.53**	**355**	Pn	**Pn**	**21 16 29.9**	**+0.5**
CAF	**Calviac**	**9.54**	**344**	P	**Pn**	**21 16 30.1**	**+0.5**
CAF				S	**Sn**	**21 18 13.0**	**-3.9**
	2.0nm,0.5s						
CAF	**Calviac**	**9.54**	**344**	*e*Pn	**Pn**	**21 16 30.1**	**+0.5**
CAF				*e*Sn	**Sn**	**21 18 13.0**	**-3.9**
	4.0nm,0.5s						
LPG	**La Plagne**	**9.74**	**4**	P	**Pn**	**21 16 33.3**	**+0.8**
LPG				S	**Sn**	**21 18 17.8**	**-4.3**
	2.1nm,0.5s						
LPG	**La Plagne**	**9.74**	**4**	*e*Pn	**Pn**	**21 16 33.3**	**+0.8**
LPG	**La Plagne**	**9.74**	**4**	*e*P	Pn	21 16 39.0	+6.5
LPG				*e*Sn	**Sn**	**21 18 17.8**	**-4.3**
	4.2nm,0.5s						
LPL	**La Plagne**	**9.76**	**4**	P	**Pn**	**21 16 33.1**	**+0.4**
LPL				S	**Sn**	**21 18 18.0**	**-4.4**
	1.4nm,0.6s						
LPL	**La Plagne**	**9.76**	**4**	*e*Pn	**Pn**	**21 16 33.1**	**+0.4**
LPL	**La Plagne**	**9.76**	**4**	*e*P	Pn	21 16 38.8	+6.1
LPL				*e*Sn	**Sn**	**21 18 18.0**	**-4.4**
	2.9nm,0.6s						
LFF	**La Frestale**	**9.90**	**339**	P	**Pn**	**21 16 34.7**	**+0.3**
LFF				S	**Sn**	**21 18 20.7**	**-4.8**
	1.2nm,0.3s						
LFF	**La Frestale**	**9.90**	**339**	*e*Pn	**Pn**	**21 16 34.7**	**+0.3**
LFF				*e*Sn	**Sn**	**21 18 20.7**	**-4.8**
	2.3nm,0.3s						
RJF	**Les Rejaudoux**	**10.03**	**343**	P	**Pn**	**21 16 36.7**	**+0.5**
RJF				S	**Sn**	**21 18 23.9**	**-4.9**
	1.4nm,0.4s						
RJF	**Les Rejaudoux**	**10.03**	**343**	*e*Pn	**Pn**	**21 16 36.7**	**+0.5**
RJF				*e*Sn	**Sn**	**21 18 23.9**	**-4.9**
	2.8nm,0.4s						
EMIN	**Mina Concepcio**	**10.12**	**285**	P	**Pn**	**21 16 35.9**	**-1.6**
	0.7nm,0.2s,SNR=4.0						
EPLA	**Plasencia**	**10.24**	**298**	P	**Pn**	**21 16 39.1**	**0.0**
	0.6nm,0.3s,SNR=4.0						
ELAN	**Lanestosa**	**10.25**	**319**	P	**Pn**	**21 16 39.6**	**+0.4**
	1.1nm,0.2s,SNR=4.0						
ELAN				S	**Sn**	**21 18 29.6**	**-4.6**
	1.7nm,0.6s,SNR=4.0						
PBAR	**Barrancos**	**10.46**	**287**	P	**Pn**	**21 16 44.3**	**+2.1**
	44nm,1.8s						
PBAR	**Barrancos**	**10.46**	**287**	*e*P	**Pn**	**21 16 44.3**	**+2.1**
	44nm,1.8s						
SENIN	**Lac Senin/Sane**	**10.64**	**6**	Pn	**Pn**	**21 16 45.8**	**+1.0**
EGRO	**El Granado**	**10.73**	**283**	P	**Pn**	**21 16 45.0**	**-0.8**
	1.0nm,0.3s,SNR=8.2						
TCF	**Toulx Ste Croi**	**10.82**	**347**	P	**Pn**	**21 16 47.1**	**0.0**
TCF				S	**Sn**	**21 18 42.9**	**-5.3**
	0.8nm,0.5s						
TCF	**Toulx Ste Croi**	**10.82**	**347**	*e*Pn	**Pn**	**21 16 47.1**	**0.0**
TCF				*e*Sn	**Sn**	**21 18 42.9**	**-5.3**
	1.5nm,0.5s						
PVAQ	**Vaqueiros**	**10.90**	**282**	P	**Pn**	**21 16 49.3**	**+1.1**
	66nm,1.8s						
PVAQ	**Vaqueiros**	**10.90**	**282**	*e*P	**Pn**	**21 16 49.3**	**+1.1**
	66nm,1.8s						
PVAQ	**Vaqueiros**	**10.90**	**282**	Pn	**Pn**	**21 16 47.4**	**-0.8**
SMF	**Signal de Mont**	**10.94**	**353**	S	**Sn**	**21 18 45.4**	**-5.8**
	0.3nm,0.3s						
SMF	**Signal de Mont**	**10.94**	**353**	*e*Sn	**Sn**	**21 18 45.4**	**-5.8**
	0.6nm,0.3s						
BGF	**Bois d'Agland**	**10.98**	**350**	P	**Pn**	**21 16 50.2**	**+1.0**
BGF	**Bois d'Agland**	**10.98**	**350**	*e*Pn	**Pn**	**21 16 50.2**	**+1.0**
PBDV	**Barranco-do-Ve**	**11.06**	**282**	P	**Pn**	**21 16 53.5**	**+3.1**
	71nm,1.9s						
PBDV	**Barranco-do-Ve**	**11.06**	**282**	*e*P	**Pn**	**21 16 53.5**	**+3.1**
	71nm,1.9s						
PBEJ	**Beja**	**11.09**	**286**	P	**Pn**	**21 16 52.8**	**+2.1**
	9.4nm,1.8s						
PBEJ	**Beja**	**11.09**	**286**	*e*P	**Pn**	**21 16 52.8**	**+2.1**
	19nm,1.8s						
AVF	**Avril sur Loir**	**11.14**	**352**	P	**Pn**	**21 16 51.6**	**+0.2**
AVF				S	**Sn**	**21 18 50.8**	**-5.1**
	1.2nm,0.5s						
AVF	**Avril sur Loir**	**11.14**	**352**	*e*Pn	**Pn**	**21 16 51.6**	**+0.2**
AVF				*e*Sn	**Sn**	**21 18 50.8**	**-5.1**
	2.5nm,0.5s						
PCBR	**Castelo Branco**	**11.18**	**295**	P	**Pn**	**21 16 53.8**	**+1.8**
	23nm,1.5s						
PCBR	**Castelo Branco**	**11.18**	**295**	*e*P	**Pn**	**21 16 53.8**	**+1.8**
	47nm,1.5s						
PCVE	**Castro Verde**	**11.18**	**284**	P	**Pn**	**21 16 50.9**	**-1.1**
	52nm,1.8s						
PCVE	**Castro Verde**	**11.18**	**284**	*e*P	**Pn**	**21 16 50.9**	**-1.1**
	52nm,1.8s						
EARI	**Arriondas**	**11.27**	**315**	P	**Pn**	**21 16 54.1**	**+0.8**
	2.9nm,0.6s,SNR=7.9						
EVO	**Evora**	**11.28**	**288**	P	**Pn**	**21 16 55.3**	**+2.0**
	19nm,2.0s						
EVO	**Evora**	**11.28**	**288**	*e*P	**Pn**	**21 16 55.3**	**+2.0**
	19nm,2.0s						
MVO	**

FLN	**La Foliniere**	**13.75**	**343**	P	**Pn**	**21 17 26.0**	**-1.0**
FLN	**La Foliniere**	**13.75**	**343**	*e*Pn	**Pn**	**21 17 26.0**	**-1.0**
QUIF	**Quistinic**	**13.79**	**334**	P	**Pn**	**21 17 27.6**	**0.0**
QUIF				S	**Sn**	**21 19 53.7**	**-7.1**
	0.3nm,0.3s						
QUIF	**Quistinic**	**13.79**	**334**	*e*Pn	**Pn**	**21 17 27.6**	**0.0**
QUIF				*e*Sn	**Sn**	**21 19 53.7**	**-7.1**
	0.7nm,0.3s						
SGMF	**Saint Gilles**	**13.88**	**336**	P	**Pn**	**21 17 28.8**	**0.0**
SGMF				S	**Sn**	**21 19 56.0**	**-6.9**
	0.2nm,0.3s						
SGMF	**Saint Gilles**	**13.88**	**336**	*e*Pn	**Pn**	**21 17 28.8**	**0.0**
SGMF				*e*Sn	**Sn**	**21 19 56.0**	**-6.9**
	0.5nm,0.3s						
LIT	**Litokhoron**	**13.94**	**67**	Pn	**Pn**	**21 17 29.8**	**+0.1**
ROSF	**Rostrenen**	**14.19**	**335**	P	**Pn**	**21 17 33.4**	**+0.3**
ROSF				S	**Sn**	**21 20 03.5**	**-7.0**
	0.4nm,0.4s						
ROSF	**Rostrenen**	**14.19**	**335**	*e*Pn	**Pn**	**21 17 33.4**	**+0.3**
ROSF				*e*Sn	**Sn**	**21 20 03.5**	**-7.0**
	0.9nm,0.4s						
CONA	**Conrad Observa**	**14.29**	**29**	*e*P	**P**	**21 17 42.7**	**+0.9**
	6.6nm,1.3s						
BAIF	**Baives**	**14.31**	**356**	*e*P	**P**	**21 17 39.9**	**-2.0**
GEC2	**GERESS Array S**	**14.32**	**22**		**Pn**	**21 17 36.5**	**+1.5**
GERES	**GERESS Array B**	**14.32**	**22**	Pn	**P**	**21 17 42.1**	**-0.1**
	0.3nm,0.3s,baz=193,slow=11,SNR=22						
GERES				LR	LR	21 23 20.9	
	comp=Z,460nm,18.7s,baz=210,slow=38						
GERES	**GERESS Array B**	**14.32**	**22**	Pn	**Pn**	**21 17 36.7**	**+1.7**
CKRC	**Cesky Krumlov**	**14.49**	**23**	*e*P	**P**	**21 17 43.5**	**-0.5**
BMRD	**Maredsous**	**14.53**	**358**	*d*PnPn	**P**	**21 17 45.7**	**+1.4**
KHC	**Kasperske Hory**	**14.54**	**21**	*e*P	**P**	**21 17 44.5**	**-0.1**
KHC	**Kasperske Hory**	**14.54**	**21**	P	**P**	**21 17 43.0**	**-1.6**
BGES	**Gesves**	**14.60**	**358**	*d*P	**P**	**21 17 44.3**	**-0.9**
BGES				*d*PnPn	**PnPn**	**21 17 46.8**	**+0.2**
PBCC	**Pribram**	**15.16**	**21**	*e*P	**P**	**21 17 50.8**	**-0.6**
VTS	**Vitosha**	**15.20**	**58**		**Pn**	**21 17 48.2**	**+1.2**
MODS	**Modra-Piesok**	**15.22**	**31**	*e*P	**P**	**21 17 55.4**	**+3.4**
NKC	**Novy Kostel**	**15.26**	**17**	*e*P	**P**	**21 17 54.8**	**+2.3**
SMOL	**Smolenice**	**15.39**	**31**	*e*P	**P**	**21 17 58.4**	**+4.5**
KRUC	**Moravsky**	**15.42**	**27**	*e*P	**P**	**21 17 55.6**	**+1.3**
BZS	**Buzias**	**15.54**	**46**	⇓P	**P**	**21 17 53.8**	**-1.9**
PRU	**Pruhonice**	**15.59**	**22**	*e*P	**P**	**21 17 57.4**	**+1.2**
IDI	**Anoyia**	**15.64**	**86**	Pn	**P**	**21 17 55.3**	**-1.6**
	0.2nm,0.3s,baz=282,slow=15,SNR=1.8						
VRAC	**Vranov**	**15.70**	**27**	Pn	**P**	**21 17 57.3**	**-0.1**
	baz=219,slow=13,SNR=8.2						
VRAC	**Vranov**	**15.70**	**27**	*e*P	**P**	**21 17 58.8**	**+1.4**
JAVC	**Velka Javorina**	**15.76**	**30**	*e*P	**P**	**21 18 02.9**	**+4.8**
VYHS	**Vyhne**	**15.98**	**33**	*e*P	**P**	**21 18 04.1**	**+3.6**
PSZ	**Piszkesteto**	**16.06**	**37**	Pn	**P**	**21 17 59.6**	**-1.9**
PVCC	**Panska Ves**	**16.08**	**21**	*e*P	**P**	**21 18 03.9**	**+2.3**
BRG	**Berggiesshubel**	**16.22**	**19**	*e*P	**P**	**21 18 09.4**	**+6.3**
BRG				Amp		21 18 10.7	
	comp=Z,1.3nm,0.6s						
BRG				*ex*	x	21 18 20.3	
BRG				Amp		21 18 20.8	
	comp=Z,5.6nm,1.0s						
CLL	**Collm**	**16.39**	**16**	*e*(P)	**P**	**21 18 07.0**	**+2.1**
CLL				*e*		21 18 11.0	
CLL				*e*PP	**PnPn**	**21 18 13.0**	**+1.9**
	comp=Z,13nm,1.4s						
CLL				*e*		21 19 24.0	
CLL				*e*S	**S**	**21 21 22.0**	**+5.7**
CLL				LmH		21 23 00.0	
	comp=N,200nm,21.5s						
CLL				LmH		21 23 00.0	
	comp=E,300nm,20.4s						
CLL				Lmax		21 27 00.0	
CLL	**Collm**	**16.39**	**16**		**P**	**21 18 04.7**	**-0.2**
KRLC	**Kraliky**	**16.41**	**26**	*e*P	**P**	**21 18 06.7**	**+1.5**
MORC	**Moravsky Berou**	**16.44**	**28**	⇑P	**P**	**21 18 08.2**	**+2.5**
MORC	**Moravsky Berou**	**16.44**	**28**	*e*P	**P**	**21 18 07.6**	**+2.0**
MORC	**Moravsky Berou**	**16.44**	**28**		**P**	**21 18 06.2**	**+0.6**
MORC				IAmb	IAmb	21 18 14.9	
	comp=Z,20nm,1.1s						
DPC	**Dobruska-Polom**	**16.48**	**25**	*e*P	**P**	**21 18 06.5**	**+0.5**
CHVC	**Chvalec**	**16.59**	**24**	*e*P	**P**	**21 18 10.1**	**+2.8**
OSTC	**Ostas**	**16.62**	**24**	*e*P	**P**	**21 18 08.6**	**+1.1**
DRGR		**16.83**	**44**	⇓P	**P**	**21 18 11.8**	**+1.8**
ARR	**Arges**	**17.25**	**51**	⇓P	**P**	**21 18 15.8**	**+1.2**
CRVS	**Cervenica-Dubn**	**17.50**	**37**	*e*P	**P**	**21 18 21.7**	**+4.4**
VOIR		**17.54**	**51**	⇑P	**P**	**21 18 20.6**	**+2.7**
OJC	**Ojcow**	**17.69**	**31**		**P**	**21 18 21.0**	**+1.6**
KOLS	**Kolonicke sedl**	**17.92**	**38**	*e*P	**P**	**21 18 24.7**	**+2.8**
DOPR	**Dopca**	**17.99**	**50**	⇓P	**P**	**21 18 26.4**	**+3.6**
MLR	**Muntele Rosu**	**18.13**	**51**	P	**P**	**21 18 26.4**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=262,slow=7.1,SNR=11						
MLR				LR	LR	21 25 12.4	
	comp=Z,235nm,19.6s,baz=248,slow=36						
MLR	**Muntele Rosu**	**18.13**	**51**	⇑P	**P**	**21 18 26.9**	**+2.4**
MLR	**Muntele Rosu**	**18.13**	**51**	P	**P**	**21 18 25.2**	**+0.8**
OZUR		**18.30**	**50**	⇓P	**P**	**21 18 29.1**	**+3.0**
NEHR	**Nehoiu**	**18.33**	**52**	⇑P	P	21 18 36.2	+10
KWP	**Kalwaria Pacla**	**18.59**	**37**		**Pn**	**21 18 30.0**	**+0.5**
KWP				IAmb	IAmb	21 18 42.9	
	comp=Z,22nm,1.2s						
BURAR	**Bucovina Array**	**18.71**	**45**	⇑P	**Pn**	**21 18 33.5**	**+2.4**
BURAR	**Bucovina Array**	**18.71**	**45**	P	**Pn**	**21 18 32.5**	**+1.4**
BUR08	**Bucovina Ar. S**	**18.72**	**45**	P	**Pn**	**21 18 33.4**	**+0.8**
VRI	**Vrincioaia**	**18.79**	**51**	⇑P	**Pn**	**21 18 35.7**	**+3.7**
ICOR	**Ion Corvin**	**18.84**	**57**	⇓P	**Pn**	**21 18 36.9**	**+4.3**
BIZ	**Bicaz**	**18.89**	**48**	⇑P	**Pn**	**21 18 35.6**	**+2.4**
ODBI	**Odobesti**	**18.95**	**52**	⇑P	**Pn**	**21 18 35.4**	**+1.4**
HARR	**Harsova**	**19.12**	**55**	⇓P	**P**	**21 18 34.5**	**-0.7**
TIRR	**Tirgusor**	**19.37**	**57**	P	**P**	**21 18 38.1**	**+0.2**
CFR	**Carcaliu**	**19.43**	**54**	⇑P	**Pn**	**21 18 39.2**	**-0.4**
ESK	**Eskdalemuir**	**20.48**	**345**	P	Pn	21 18 51.3	-0.7
ESK				IAmb	IAmb	21 18 53.5	
	comp=Z,22nm,1.3s						
EKA	**Eskdalemuir Ar**	**20.48**	**345**	P	**P**	**21 18 50.5**	**+0.6**
	comp=Z,5.4nm,0.9s,baz=148,slow=12,SNR=11						
SORM	**Soroca**	**20.80**	**47**	⇑P	Pn	21 18 56.9	+1.1
KDZE	**Karadeniz Ereo**	**20.85**	**67**	⇓P	**P**	**21 19 48.5**	**-5.5**
BR231	**Keskin MP Arra**	**21.74**	**71**	P	**P**	**21 19 04.5**	**+0.7**
BR231				IAmb	IAmb	21 19 12.0	
	comp=Z,31nm,1.4s						
SUW	**Suwalki**	**21.93**	**28**	P	**P**	**21 19 06.6**	**+1.0**
SUW				IAmb	IAmb	21 19 10.0	
	comp=Z,30nm,1.2s						
BR131	**Keskin Array S**	**22.40**	**71**	P	**P**	**21 19 12.4**	**+1.5**
BR131				IAmb	IAmb	21 19 16.1	
	comp=Z,11nm,0.8s						
BRTR	**Keskin Array B**	**22.40**	**71**	P	**P**	**21 19 13.1**	**+2.2**
	comp=Z,6.9nm,0.8s,baz=264,slow=11,SNR=13						
BRTR				LR	LR	21 28 59.6	
	comp=Z,150nm,18.9s,baz=256,slow=40						
BRTR	**Keskin Array B**	**22.40**	**71**	P	**P**	**21 19 12.3**	**+1.4**
CSS	**Mathiatis**	**22.53**	**84**	P	**P**	**21 19 12.6**	**+0.4**
CSS				IAmb	IAmb	21 19 28.5	
	comp=Z,12nm,1.0s						
AKASG	**Malin Array Be**	**22.58**	**41**	P	**P**	**21 19 12.2**	**-0.4**
	comp=Z,5.0nm,0.5s,baz=237,slow=9.6,SNR=23						
AKASG				LR	LR	21 28 48.5	
	comp=Z,273nm,18.5s,baz=240,slow=39						
AKASG	**Malin Array Be**	**22.58**	**41**	P	**P**	**21 19 11.1**	**-1.5**
AKBB	**Malin Array Si**	**22.58**	**41**	P	**P**	**21 19 11.8**	**-0.7**
AKBB				IAmb	IAmb	21 19 19.6	
	comp=Z,22nm,0.9s						
TOA0	**Torodi Ar. Sit**	**22.82**	**190**	P	**P**	**21 19 13.6**	**-1.7**
TOA0				IAmb	IAmb	21 19 20.7	
	comp=Z,12nm,0.9s						
TORD	**Torodi Ar. Bea**	**22.82**	**190**	P	**P**	**21 19 14.6**	**-0.7**
	comp=Z,4.6nm,0.6s,baz=3.6,slow=11,SNR=24						
TORD				LR	LR	21 28 31.3	
	comp=Z,305nm,19.4s,baz=355,slow=38						
TORD	**Torodi Ar. Bea**	**22.82**	**190**	P	**P**	**21 19 12.9**	**-2.4**
TORD				IAmb	IAmb	21 19 20.7	
	comp=Z,8.1nm,0.9s						
KOWA	**Kowa**	**22.92**	**205**	P	**P**	**21 19 15.2**	**-1.1**
	comp=Z,4.7nm,0.7s,baz=16,slow=12,SNR=9.5						
KOWA				LR	LR	21 27 37.6	
	comp=Z,268nm,18.3s,baz=26,slow=35						
KOWA	**Kowa**	**22.92**	**205**	P	**P**	**21 19 16.1**	**-0.3**
PABE	**Paberze**	**23.37**	**27**	*e*P	**P**	**21 19 22.4**	**+1.8**
NACGM	**Naroch**	**24.03**	**31**	*i* P	**P**	**21 19 26.8**	**-0.2**
NACGM				*i* P	**P**	**21 19 26.8**	**-0.2**
NACGM				*i* P	**P**	**21 19 26.8**	**-0.2**
NACGM				*i* PP	**PnPn**	**21 19 54.4**	**-1.2**
NACGM				*i* PPP	PPP	21 20 04.1	
NACGM				*i* S	**S**	**21 23 42.6**	**-1.3**
NACGM				*i* SS		21 24 15.1	
NACGM				*i* SSS	SSS	21 24 41.1	
NACGM				*i* LQ	LQ	21 26 36.2	
NACGM				*i* LR	LR	21 27 38.2	
IIGN	**Ignalina**	**24.11**	**29**	*e*P	**P**	**21 19 29.1**	**+1.2**
MNK	**Minsk**	**24.22**	**32**	*i* P	**P**	**21 19 28.5**	**-0.4**
	comp=E,1.0nm,0.6s						
MNK				*i* P	**P**	**21 19 28.5**	**-0.4**
	comp=N,16nm,0.8s						
MNK				*i* P	**P**	**21 19 28.5**	**-0.4**
	comp=Z,10.0nm,0.6s						
MNK				*i* PP	**PnPn**	**21 19 59.0**	**+0.7**
MNK				*i* PPP	PPP	21 20 07.0	
MNK				*i* S	**S**	**21 23 47.8**	**+0.8**
MNK				*i* SS	**SnSn**	**21 24 34.7**	**+5.7**
MNK				*i* SSS	SSS	21 24 48.3	
MNK				*i* LQ	LQ	21 26 59.8	
MNK				*i* LR	LR	21 28 43.3	
MNK				*i* LRM	MLR	21 29 46.3	
	comp=N,295nm,18.1s						
MNK				*i* LRM	MLR	21 29 50.6	
	comp=E,11nm,15.9s						
MNK				*i* LRM	MLR	21 30 05.8	
	comp=Z,213nm,19.5s						
ISAL	**Salakas**	**24.23**	**29**	*e*P	**P**	**21 19 29.5**	**+0.5**
IDID	**Didziasalis**	**24.30**	**30**	*e*P	**P**	**21 19 30.7**	**+1.2**
MMAI	**Mount Meron Ar**	**24.63**	**88**	P	**P**	**21 19 35.0**	**+2.1**
	comp=Z,2.1nm,0.6s,baz=284,slow=8.5,SNR=7.0						
HFS	**Hagfors**	**24.91**	**10**	P	**P**	**21 19 35.2**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=171,slow=9.8,SNR=6.5						
HFS				LR	LR	21 29 47.9	
	comp=Z,204nm,18.7s,baz=200,slow=38						
NC602	**NORSAR Array S**	**25.25**	**7**	P	**P**	**21 19 38.5**	**+0.4**
NC602				IAmb	IAmb	21 19 46.6	
	comp=Z,18nm,1.1s						
EIL	**Elat**	**25.30**	**96**	P	**P**	**21 19 41.5**	**+2.6**
	comp=Z,3.8nm,0.7s,baz=356,slow=10,SNR=3.5						
EIL				LR	LR	21 31 10.5	
	comp=Z,133nm,19.7s,baz=291,slow=40						
GAZ	**Gaziantep**	**25.32**	**77**	P	**P**	**21 19 40.5**	**+1.4**
NB2	**NORSAR Subarra**	**25.52**	**6**	P	**P**	**21 19 40.2**	**-0.4**
	comp=Z,8.4nm,1.1s,baz=191,slow=9.3						
NOA	**NORSAR Array B**	**25.52**	**6**	P	**P**	**21 19 39.7**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=192,slow=9.2,SNR=7.1						
NOA				LR	LR	21 29 48.7	
	comp=Z,84nm,19.4s,baz=195,slow=37						
NC303	**NORSAR Array S**	**25.72**	**6**	P	**P**	**21 19 42.5**	**+0.1**
VSU	**Vasula**	**26.61**	**25**	*e*P	**P**	**21 19 52.0**	**+1.6**
KOPT	**Kop Dagi**	**27.68**	**71**	P	**P**	**21 20 00.8**	**+0.2**
FINES	**FINESS Array B**	**28.75**	**20**	P	**P**	**21 20 09.3**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=202,slow=6.9,SNR=8.1						
FINES				PcP	**PcP**	**21 23 20.1**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=194,slow=0.6,SNR=2.2						
FINES				LR	LR	21 32 11.2	
	comp=Z,167nm,18.8s,baz=219,slow=38						
FINES	**FINESS Array B**	**28.75**	**20**	P	**P**	**21 20 08.8**	**-0.7**
KBZ	**Khabaz**	**29.49**	**63**	P	**P**	**21 20 17.1**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=236,slow=13,SNR=4.9						
DBIC	**Dimbokro**	**30.55**	**201**	P	**P**	**21 20 25.8**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=7.1,slow=9.6,SNR=4.1						
DBIC				LR	LR	21 33 46.7	
	comp=Z,310nm,19.4s,baz=0.5,slow=38						
DBIC	**Dimbokro**	**30.55**	**201**	P	**P**	**21 20 25.1**	**-0.8**
DBIC				IAmb	IAmb	21 20 32.6	
	comp=Z,9.8nm,1.4s						
KLMR	**Klimovskoe**	**33.04**	**30**	*e*P	**P**	**21 20 45.8**	**-1.6**
KLMR				AMP		21 20 50.1	
	comp=Z,9.0nm,0.7s						
ARCES	**ARCESS Array B**	**35.52**	**12**	P	**P**	**21 21 08.4**	**-0.4**
	comp=Z,4.5nm,1.0s,baz=311,slow=7.8,SNR=7.3						
ARCES				PcP	**PcP**	**21 23 37.3**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=236,slow=1.3,SNR=5.8						
ARCES				LR	LR	21 35 44.8	
	comp=Z,132nm,18.3s,baz=250,slow=36						
RAYN	**Ar Rayn**	**36.45**	**98**	P	**P**	**21 21 17.2**	**-0.1**
SCO	**Scoresbysund**	**37.78**	**345**	P	**P**	**21 21 27.8**	**-0.2**
ARU	**Arti**	**40.83**	**43**	P	**P**	**21 21 52.9**	**-0.7**
ARU				IAmb	IAmb	21 21 59.8	
	comp=Z,8.2nm,1.0s						
ABKAR	**Akbulak array**	**41.32**	**54**	P	**P**	**21 21 58.1**	**+0.3**
UOSS	**Minazif**	**44.47**	**90**	P	**P**	**21 22 22.6**	**-1.1**
SFJD	**Kangerlussuaq**	**44.56**	**332**	P	**P**	**21 22 23.8**	**0.0**
HRA	**Herat**	**45.74**	**74**	P	**P**	**21 22 34.3**	**+0.4**
HRA				IAmb	IAmb	21 22 36.3	
	comp=Z,10nm,1.4s						
KMBO	**Kilima Mbogo**	**47.05**	**134**	LR	LR	21 42 36.0	
	comp=Z,130nm,18.4s,baz=281,slow=36						
DRLN	**Deer Lake**	**47.16**	**307**	P	**P**	**21 22 43.7**	**-0.9**
BRVK	**Borovoye**	**47.57**	**48**	P	**P**	**21 22 47.6**	**-0.1**
BRVK				IAmb	IAmb	21 22 54.4	
	comp=Z,3.7nm,0.8s						
IUG	**Iuzhnay**	**49.38**	**62**	*e*P	**P**	**21 23 01.7**	**-0.3**
	baz=62						
BRZS	**Berezniki**	**49.47**	**51**	*e*P	**P**	**21 23 02.3**	**-0.1**
	baz=51						
KK31	**Karatay Array**	**49.48**	**61**	P	**P**	**21 23 02.0**	**-0.6**
KK31				IAmb	IAmb	21 23 05.7	
	comp=Z,2.1nm,0.6s						
KKAR	**Karatay Array**	**49.48**	**61**	P	**P**	**21 23 01.5**	**-1.1**
AAK	**Ala-Archa**	**52.42**	**60**	P	**P**	**21 23 24.9**	**0.0**
BATG	**Bathurst New B**	**53.16**	**306**	P	**P**	**21 23 29.9**	**-0.2**
KUU	**Kurty**	**53.34**	**58**	*e*P	**P**	**21 23 30.8**	**-0.8**
	comp=Z,6.9nm,1.2s,baz=58						
AAA	**Alma-Ata**	**53.95**	**59**	*e*P	**P**	**21 23 34.9**	**-1.2**
	baz=59						
TNSS	**Tian-Shan**	**54.02**	**59**	*e*P	**P**	**21 23 35.6**	**-1.4**
	baz=59						
MDOK	**Medeo**	**54.06**	**59**	*e*P	**P**	**21 23 36.0**	**-0.9**
	baz=59						
TDK	**Taldyqorghan**	**54.43**	**56**	*e*P	**P**	**21 23 39.1**	**-0.4**
	comp=Z,5.5nm,1.6s,baz=56						
KSH	**Kashi**	**54.47**	**63**	P	**P**	**21 23 40.3**	**+0.3**
KSH				pP	sP	21 23 46.8	+1.9
KSH				pmax	pmax		
	comp=Z,22nm,1.4s						
KSH				pmax	pmax		
	comp=Z,340nm,4.7s						
NIL	**Nilore**	**54.55**	**71**	P	**P**	**21 23 40.7**	**+0.1**
NIL				IAmb	IAmb	21 23 59.0	
	comp=Z,5.1nm,0.9s						
SATY	**Saty**	**55.03**	**59**	*e*P	**P**	**21 23 44.3**	**+0.3**
	comp=Z,5.2nm,1.4s,baz=59						
KPKS	**Kokpek**	**55.09**	**58**	*e*P	**P**	**21 23 44.2**	**-0.2**
	baz=58						
D62A	**Allapoint, All**	**55.17**	**307**	P	**P**	**21 23 44.6**	**-0.1**
EUNU	**Eureka**	**55.39**	**348**	P	**P**	**21 23 45.7**	**-0.2**
EUNU				IAmb	IAmb	21 23 48.3	
	comp=Z,4.4nm,1.1s						
UZB	**Uzynbulak**	**55.43**	**58**	*e*P	**P**	**21 23 46.5**	**-0.4**
	baz=58						
SHLS	**Shalkode**	**55.73**	**58**	*e*P	**P**	**21 23 51.1**	**+2.0**
	comp=Z,5.3nm,1.0s,baz=58						
ZAA0	**Zalesovo Array**	**55.93**	**44**	P	**P**	**21 23 49.6**	**-0.5**
ZAA0				IAmb	IAmb	21 23 55.2	
	comp=Z,1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**55.93**	**44**	P	**P**	**21 23 49.9**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=284,slow=8.0,SNR=7.4						
ZALV				LR	LR	21 49 21.7	
	comp=Z,55nm,18.5s,baz=302,slow=38						
ZALV	**Zalesovo Beam**	**55.93**	**44**	P	**P**	**21 23 50.1**	**0.0**
MAKZ	**Makanchi**	**56.26**	**53**		**P**	**21 23 52.1**	**-0.5**
MAKZ				IAmb	IAmb	21 23 56.8	
	comp=Z,2.6nm,1.0s						
MK31	**Makanchi Array**	**56.46**	**53**	P	**P**	**21 23 53.1**	**-1.0**
MK31				IAmb	IAmb	21 23 58.6	
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**56.46**	**53**	P	**P**	**21 23 53.1**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=286,slow=5.7,SNR=48						
MKAR				LR	LR	21 48 56.1	
	comp=Z,48nm,18.5s,baz=293,slow=37						
MKAR	**Makanchi Array**	**56.46**	**53**		**P**	**21 23 52.8**	**-1.3**
ZSN	**Zaisan**	**57.91**	**52**	*e*P	**P**	**21 24 05.0**	**+0.6**
	baz=52						
WMQ	**Urumqi**	**61.08**	**55**	*e*P	**P**	**21 24 29.3**	**+3.0**
FCC	**Fort Churchill**	**64.86**	**325**	P	**P**	**21 24 51.3**	**+0.2**
BOSA	**Boshof**	**66.65**	**161**	P	**P**	**21 25 03.6**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=343,slow=6.4,SNR=5.1						
BOSA				LR	LR	21 55 24.9	
	comp=Z,158nm,18.5s,baz=342,slow=37						
BOSA	**Boshof**	**66.65**	**161**	P	**P**	**21 25 02.7**	**-0.4**
SUR	**Sutherland**	**69.27**	**166**	LR	LR	21 57 52.0	
	comp=Z,153nm,18.4s,baz=342,slow=38						
LSA	**Lhasa**	**69.94**	**67**	P	**P**	**21 25 24.9**	**+0.5**
LSA				IAmb	IAmb	21 25 28.6	
	comp=Z,2.1nm,1.0s						
ULM	**Lac du Bonnet**	**70.02**	**318**	P	**P**	**21 25 23.1**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=10,slow=4.7,SNR=4.2						
ULM				LR	LR	21 53 06.9	
	comp=Z,76nm,19.2s,baz=109,slow=33						
ULM	**Lac du Bonnet**	**70.02**	**318**	P	**P**	**21 25 22.8**	**-1.1**
ULM				IAmb	IAmb	21 25 25.0	
	comp=Z,8.7nm,1.4s						
SONM	**Songino Array**	**70.83**	**44**	P	**P**	**21 25 29.8**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=296,slow=4.9,SNR=3.6						
SONM	**Songino Array**	**70.83**	**44**	P	**P**	**21 25 29.5**	**+0.4**
YKA	**Yellowknife Ar**	**71.03**	**335**	P	**P**	**21 25 29.6**	**-0.2**
	comp=Z,3.3nm,1.1s,baz=55,slow=6.7,SNR=22						
YKA				LR	LR	21 56 11.0	
	comp=Z,123nm,18.0s,baz=0.0,slow=36						
GTA	**Gaotai**	**71.17**	**55**	*e*P	**P**	**21 25 33.0**	**+1.7**
GTA				pP	sP	21 25 37.1	+0.8
GTA				sP	pP	21 25 40.8	+5.9
GTA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BDFB	**Brasilia**	**72.08**	**235**	LR	LR	21 57 15.7	
	comp=Z,92nm,18.1s,baz=105,slow=36						
SDV	**Santo Domingo**	**73.78**	**269**	P	**P**	**21 25 46.6**	**-0.7**
IMAR	**Indian Mountai**	**77.32**	**352**	P	**P**	**21 26 07.5**	**+1.0**
ILAR	**Eielson Array**	**77.49**	**348**	P	**P**	**21 26 07.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=5.2,SNR=8.5						
SCRK	**Sand Creek**	**77.71**	**347**	P	**P**	**21 26 09.8**	**+0.8**
SCRK				IAmb	IAmb	21 26 11.2	
	comp=Z,5.2nm,1.4s						
HHC	**Hu-ho-hao-te**	**77.84**	**48**	*e*P	**P**	**21 26 10.0**	**0.0**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,60nm,5.4s						
BCAR	**Beaver Creek A**	**78.11**	**346**	P	**P**	**21 26 11.5**	**+0.4**
XAN	**Xi'an**	**80.22**	**55**	P	**P**	**21 26 25.1**	**+2.0**
XAN				pP	PcP	21 26 36.0	+5.7
XAN				pmax	pmax		
	comp=Z,4.0nm,1.6s						
CMAR	**Chiang Mai Arr**	**81.98**	**73**	P	**P**	**21 26 31.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=305,slow=6.6,SNR=6.1						
PD31	**Pinedale Array**	**82.05**	**318**	P	**P**	**21 26 32.4**	**-0.5**
PD31				IAmb	IAmb	21 26 43.1	
	comp=Z,5.0nm,1.5s						
PDAR	**Pinedale Array**	**82.05**	**318**	P	**P**	**21 26 31.6**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=60,slow=6.4,SNR=6.1						
PDAR	**Pinedale Array**	**82.05**	**318**	P	**P**	**21 26 31.4**	**-1.5**
TXAR	**Lajitas Array**	**87.23**	**304**	P	**P**	**21 26 58.9**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=54,slow=4.6,SNR=2.2						
WRA	**Warramunga Arr**	**132.46**	**85**	PKP	**PKPdf**	**21 33 27.8**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=322,slow=2.1,SNR=1.2						
ASAR	**Alice Springs**	**133.91**	**90**	PKP	**PKPdf**	**21 33 30.5**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=317,slow=2.4,SNR=1.8						

NEIC ***17*** *21:28:53.1±1.3, 18.8S±0.1×177.6W±0.1, h622km±8km, mb4.3/33, Error ellipse: s-maj=21.5km s-min=7.6km az=135.0*

IDC ***17*** *21:28:53.1±1.2, 18.80S×177.63W, h620km±15km, mb3.4/6, mb1 3.6/10, mb1mx3.2/30, mbtmp4.4/10, Error ellipse: s-maj=32.1km s-min=13.6km az=142.0*

ISC 17 21:28:51.9±0.6, 18.9S±0.1×177.65W±0.10, h600km, n49, σ1§03/52, mb4.4/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.23**	**285**	P	**P**	**21 30 22.7**	**+3.5**
	5.8nm,0.3s,baz=125,slow=11,SNR=33						
AFI	**Afiamalu**	**7.48**	**50**	P	**P**	**21 30 48.3**	**+1.7**
	6.2nm,0.3s,baz=37,slow=4.5,SNR=6.9						
AFI	

*KRSC **17** 21:31:56.7±2.1, 53.˙33N×155.˙10E, h505km±23km, ML4.5*
*MOS **17** 21:31:57.7±0.7, 53.˙61N×154.˙25E, h468km, mb4.1/13, Error ellipse: s-maj=9.8km s-min=6.9km az=72.6*
*NEIC **17** 21:31:59.3±1.3, 53.˙7N±0.˙1×154.˙1E±0.˙2, h469km±8km, mb4.1/61, Error ellipse: s-maj=16.9km s-min=12.9km az=137.0*
*IDC **17** 21:31:59.0±0.6, 53.˙63N×154.˙13E, h467km±6km, mb3.3/21, mb1 3.4/27, mb1mx3.4/38, mbtmp4.1/27, Error ellipse: s-maj=10.4km s-min=7.7km az=139.0*

ISC 17 21:31:58.8±0.5, **53.˙58N**±0.˙05×**154.˙39E**±0.˙05, **h472**km±6km, **n208**, σ1§**53**/249, **mb3.9**/58, **1D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APC	**Apacha**	**1.79**	**110**	PN	**P**	**21 33 00.3**	**+0.1**
APC				S	**S**	**21 33 49.6**	**-0.5**
APC	**Apacha**	**1.79**	**110**	*e*P	**P**	**21 33 00.3**	**+0.1**
APC				*e*S	**S**	**21 33 49.6**	**-0.5**
MIPR	**Malaya Ipel'ka**	**1.94**	**131**	PN	**P**	**21 33 00.8**	**-0.2**
MIPR				S	**S**	**21 33 50.6**	**-1.0**
MIPR	**Malaya Ipel'ka**	**1.94**	**131**	*e*P	**P**	**21 33 00.8**	**-0.2**
MIPR				*e*S	**S**	**21 33 50.6**	**-1.0**
PEA0B	**Petropavlovsk-**	**2.04**	**102**	P	**P**	**21 33 01.3**	**-0.2**
PEA0B					**S**	**21 33 55.1**	**+2.6**
PETK	**Petropavlovsk-**	**2.04**	**102**	P	**P**	**21 33 01.4**	**-0.1**
	6.3nm,0.3s,baz=74,slow=4.7,SNR=229						
PETK				S	**S**	**21 33 53.4**	**+0.9**
	0.8nm,0.3s,baz=236,slow=23,SNR=4.2						
PETK	**Petropavlovsk-**	**2.04**	**102**	P	**P**	**21 33 01.3**	**-0.2**
GNL	**Ganaly**	**2.12**	**85**	PN	**P**	**21 33 00.9**	**-1.1**
GNL	**Ganaly**	**2.12**	**85**	*e*P	**P**	**21 33 00.9**	**-1.1**
KRMR	**Karymshinskiy**	**2.37**	**107**	PN	**P**	**21 33 03.9**	**+0.6**
KRMR	**Karymshinskiy**	**2.37**	**107**	*e*P	**P**	**21 33 03.9**	**+0.6**
ASAK	**Asacha**	**2.44**	**118**	PN	**P**	**21 33 03.8**	**-0.1**
ASAK				S	**S**	**21 33 56.8**	**0.0**
ASAK	**Asacha**	**2.44**	**118**	*e*P	**P**	**21 33 03.8**	**-0.1**
ASAK				*e*S	**S**	**21 33 56.8**	**0.0**
GRL	**Gorelyy**	**2.45**	**113**	PN	**P**	**21 33 04.2**	**+0.2**
GRL				S	**S**	**21 33 57.5**	**+0.4**
GRL	**Gorelyy**	**2.45**	**113**	*e*P	**P**	**21 33 04.2**	**+0.2**
GRL				*e*S	**S**	**21 33 57.5**	**+0.4**
MTVR	**Mutnovka**	**2.54**	**114**	PN	**P**	**21 33 04.3**	**-0.3**
MTVR				S	**S**	**21 33 57.8**	**-0.3**
MTVR	**Mutnovka**	**2.54**	**114**	*e*P	**P**	**21 33 04.3**	**-0.3**
MTVR				*e*S	**S**	**21 33 57.8**	**-0.3**
KRX	**Arik**	**2.56**	**93**	PN	**P**	**21 33 04.9**	**+0.2**
KRX	**Arik**	**2.56**	**93**	*e*P	**P**	**21 33 04.9**	**+0.2**
KOK	**Koryaka**	**2.56**	**95**	PN	**P**	**21 33 04.7**	**+0.1**
KOK	**Koryaka**	**2.56**	**95**	*e*P	**P**	**21 33 04.7**	**+0.1**
PAU	**Pauzhetka**	**2.58**	**144**	PN	**P**	**21 33 04.1**	**-0.6**
PAU				S	**S**	**21 33 57.6**	**-0.7**
PAU	**Pauzhetka**	**2.58**	**144**	*e*P	**P**	**21 33 04.1**	**-0.6**
PAU				*e*S	**S**	**21 33 57.6**	**-0.7**
PET	**Petropavlovsk**	**2.62**	**101**	⇓*i*PN	**P**	**21 33 04.5**	**-0.4**
PET				*e*S	**S**	**21 33 56.5**	**-2.2**
PET				pmax	pmax		
	comp=Z,122nm,0.5s						
PET				smax	smax		
	comp=N,108nm,0.8s						
PET				smax	smax		
	comp=E,70nm,0.5s						
PET	**Petropavlovsk**	**2.62**	**101**	*e*P	**P**	**21 33 04.4**	**-0.4**
PET				*e*S	**S**	**21 33 56.2**	**-2.5**
PET	**Petropavlovsk**	**2.62**	**101**		**P**	**21 33 04.5**	**-0.4**
AVH	**Avacha**	**2.62**	**95**	PN	**P**	**21 33 05.2**	**+0.2**
AVH				S	**S**	**21 33 59.0**	**+0.1**
AVH	**Avacha**	**2.62**	**95**	*e*P	**P**	**21 33 05.2**	**+0.2**
AVH				*e*S	**S**	**21 33 59.0**	**+0.1**
KRER	**Koryakskii**	**2.62**	**94**	PN	**P**	**21 33 05.2**	**0.0**
KRER	**Koryakskii**	**2.62**	**94**	*e*P	**P**	**21 33 05.2**	**0.0**
SMAR	**Somma**	**2.66**	**95**	PN	**P**	**21 33 05.3**	**-0.1**
SMAR	**Somma**	**2.66**	**95**	*e*P	**P**	**21 33 05.3**	**-0.1**
DALK	**Dalny**	**2.68**	**100**	PN	**P**	**21 33 04.9**	**-0.3**
DALK				S	**S**	**21 33 56.5**	**-2.8**
DALK	**Dalny**	**2.68**	**100**	*e*P	**P**	**21 33 04.9**	**-0.3**
DALK				*e*S	**S**	**21 33 56.5**	**-2.8**
UGLR	**Uglovaya**	**2.68**	**96**	PN	**P**	**21 33 05.7**	**+0.3**
UGLR				S	**S**	**21 33 59.1**	**-0.6**
UGLR	**Uglovaya**	**2.68**	**96**	*e*P	**P**	**21 33 05.7**	**+0.3**
UGLR				*e*S	**S**	**21 33 59.1**	**-0.6**
SDLR	**Sedlovina**	**2.71**	**95**	PN	**P**	**21 33 05.3**	**-0.3**
SDLR				S	**S**	**21 33 57.8**	**-2.2**
SDLR	**Sedlovina**	**2.71**	**95**	*e*P	**P**	**21 33 05.3**	**-0.3**
SDLR				*e*S	**S**	**21 33 57.8**	**-2.2**
RUS	**Russkaya**	**2.74**	**113**	PN	**P**	**21 33 04.6**	**-1.1**
RUS				S	**S**	**21 33 56.1**	**-4.1**
RUS	**Russkaya**	**2.74**	**113**	*e*P	**P**	**21 33 04.6**	**-1.1**
RUS				*e*S	**S**	**21 33 56.1**	**-4.1**
ALID	**Alaid**	**2.81**	**165**	PN	**P**	**21 33 06.2**	**-0.2**
ALID	**Alaid**	**2.81**	**165**	*e*P	**P**	**21 33 06.2**	**-0.2**
KDTR	**Khodutka, Kamc**	**2.86**	**127**	PN	**P**	**21 33 04.3**	**-2.2**
KDTR				S	**S**	**21 33 56.3**	**-5.3**
KDTR	**Khodutka, Kamc**	**2.86**	**127**	*e*P	**P**	**21 33 04.3**	**-2.2**
KDTR				*e*S	**S**	**21 33 56.3**	**-5.3**
NLC	**Nalytchevo**	**3.00**	**96**	PN	**P**	**21 33 06.4**	**-1.0**
NLC				S	**S**	**21 34 00.1**	**-3.2**
NLC	**Nalytchevo**	**3.00**	**96**	*e*P	**P**	**21 33 06.4**	**-1.0**
NLC				*e*S	**S**	**21 34 00.1**	**-3.2**
KII	**Karymskiy**	**3.04**	**79**	PN	**P**	**21 33 07.9**	**+0.1**
KII	**Karymskiy**	**3.04**	**79**	*e*P	**P**	**21 33 07.9**	**+0.1**
SKR	**Severo-Kuril's**	**3.09**	**159**	*e*PN	**P**	**21 33 06.9**	**-1.2**
SKR				*e*S	**S**	**21 34 03.1**	**-1.5**
SKR				pmax	pmax		
	comp=Z,60nm,0.4s						
SKR				smax	smax		
	comp=N,97nm,0.8s						
SKR				smax	smax		
	comp=E,37nm,0.8s						
SKR	**Severo-Kuril's**	**3.09**	**159**	*e*P	**P**	**21 33 07.0**	**-1.2**
SPN	**Mys Shipunski**	**3.41**	**96**	PN	**P**	**21 33 08.6**	**-1.9**
SPN	**Mys Shipunski**	**3.41**	**96**	*e*P	**P**	**21 33 08.6**	**-1.9**
ESO	**Esso**	**3.43**	**45**	PN	**P**	**21 33 12.2**	**+1.6**
ESO	**Esso**	**3.43**	**45**	*e*P	**P**	**21 33 12.2**	**+1.6**
TUMR	**Tumrok**	**3.77**	**61**	PN	**P**	**21 33 14.1**	**+0.7**
TUMR	**Tumrok**	**3.77**	**61**	*e*P	**P**	**21 33 13.8**	**+0.4**
KZV	**Kizimen**	**3.78**	**64**	PN	**P**	**21 33 13.7**	**+0.1**
KZV	**Kizimen**	**3.78**	**64**	*e*P	**P**	**21 33 13.7**	**+0.1**
TUMD	**Tumrok D**	**3.87**	**63**	*e*P	**P**	**21 33 14.1**	**-0.1**
SRDR	**Sredinnyy**	**4.12**	**46**	PN	**P**	**21 33 16.9**	**+0.7**
SRDR	**Sredinnyy**	**4.12**	**46**	*e*P	**P**	**21 33 16.9**	**+0.7**
MKZ	**Mys Kozlova**	**4.43**	**74**	PN	**P**	**21 33 16.6**	**-2.3**
MKZ	**Mys Kozlova**	**4.43**	**74**	*e*P	**P**	**21 33 16.6**	**-2.3**
MKZ				*e*S	**S**	**21 34 16.9**	**-7.5**
BDR	**Baidarnaya**	**4.93**	**50**	PN	**P**	**21 33 24.1**	**+0.6**
BDR	**Baidarnaya**	**4.93**	**50**	*e*P	**P**	**21 33 24.1**	**+0.6**
SRKR	**Sorokina**	**4.96**	**49**	PN	**P**	**21 33 23.9**	**+0.1**
SRKR	**Sorokina**	**4.96**	**49**	*e*P	**P**	**21 33 23.9**	**+0.1**
SMKR	**Semkarok**	**5.06**	**51**	PN	**P**	**21 33 25.1**	**+0.4**
SMKR				S	**S**	**21 34 32.4**	**-2.6**
SMKR	**Semkarok**	**5.06**	**51**	*e*P	**P**	**21 33 25.1**	**+0.4**
SMKR				*e*S	**S**	**21 34 32.4**	**-2.6**
KBG	**Krutoberegovo**	**5.50**	**57**	PN	**P**	**21 33 27.7**	**-1.1**
KBG				S	**S**	**21 34 38.3**	**-4.1**
KBG	**Krutoberegovo**	**5.50**	**57**	*e*P	**P**	**21 33 27.7**	**-1.1**
KBG				*e*S	**S**	**21 34 38.3**	**-4.1**
KBTR	**Krutoberegovo**	**5.53**	**58**	PN	**P**	**21 33 26.6**	**-2.5**
KBTR	**Krutoberegovo**	**5.53**	**58**	*e*P	**P**	**21 33 26.6**	**-2.5**
KBTR				*e*S	**S**	**21 34 35.1**	**-8.0**
MA2	**Magadan**	**6.33**	**343**	P	**P**	21 33 37.7	+0.7
	comp=E,0.3nm,0.3s,baz=141,slow=14,SNR=2.3						
MA2				S	**S**	**21 34 55.4**	**-2.2**
	comp=E,0.3nm,0.3s,baz=352,slow=21,SNR=2.2						
MA2	**Magadan**	**6.33**	**343**	P	**P**	**21 33 36.1**	**-0.9**
BKI	**Bering**	**6.96**	**72**	PN	**P**	**21 33 43.6**	**+0.2**
BKI				S	**S**	**21 35 05.8**	**-3.5**
BKI	**Bering**	**6.96**	**72**	*e*P	**P**	**21 33 43.6**	**+0.2**
BKI				*e*S	**S**	**21 35 05.8**	**-3.5**
SEY	**Seymchan**	**9.44**	**354**	P	**P**	**21 34 10.8**	**+1.2**
	comp=E,1.2nm,0.3s,baz=173,slow=9.9,SNR=38						
SEY				S	**S**	**21 35 56.8**	**-0.5**
	comp=E,0.2nm,0.3s,baz=7.7,slow=23,SNR=1.6						
JKA	**Kamikawa-asahi**	**12.23**	**224**	P	**P**	**21 34 40.2**	**+0.4**
ASAJ	**Asahikawa**	**12.23**	**224**	P	**P**	**21 34 40.0**	**+0.1**
	comp=E,0.8nm,0.3s,baz=49,slow=6.9,SNR=8.4						
ASAJ	**Asahikawa**	**12.23**	**224**	PN	**P**	**21 34 40.2**	**+0.3**
KLR	**Kul'dur**	**14.76**	**262**	P	**P**	**21 35 06.3**	**-0.4**
	comp=E,0.2nm,0.3s,baz=61,slow=9.1,SNR=8.3						
BILL	**Bilibino**	**15.57**	**17**	P	**P**	**21 35 15.4**	**+0.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BILL	**Bilibino**	**15.57**	**17**	P	**P**	**21 35 15.4**	**+0.3**
BILL				IAmb	IAmb	21 35 16.1	
	comp=Z,4.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**17.40**	**246**	P	**P**	**21 35 33.2**	**-1.3**
	baz=42,slow=10,SNR=4.7						
USRK	**Ussuriysk Ar.**	**17.40**	**246**	P	**P**	**21 35 32.5**	**-2.0**
MDJ	**Mudanjiang**	**18.47**	**251**	P	**P**	**21 35 42.7**	**-2.1**
MDJ				IAmb	IAmb	21 35 44.7	
	comp=Z,8.1nm,0.9s						
JSD	**Sado**	**19.11**	**222**	P	**P**	**21 35 49.9**	**-0.8**
MAJO	**Matsushiro**	**20.43**	**220**	P	**P**	**21 36 03.1**	**+0.3**
MAJO	**Matsushiro**	**20.43**	**220**	P	**P**	**21 36 03.1**	**+0.3**
MAT	**Matsushiro**	**20.43**	**220**	P	**P**	**21 36 02.3**	**-0.5**
MJAR	**Matsushiro Arr**	**20.43**	**220**	P	**P**	**21 36 02.9**	**0.0**
	comp=Z,15nm,0.6s,baz=17,slow=10,SNR=56						
MJAR	**Matsushiro Arr**	**20.43**	**220**	P	**P**	**21 36 03.8**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,11nm,0.7s						
MJAR	**Matsushiro Ar**	**20.43**	**220**	P	**P**	**21 36 03.8**	**+1.0**
TIXI	**Tiksi**	**21.27**	**338**	P	**P**	**21 36 09.7**	**-0.2**
	comp=Z,9.2nm,0.5s,baz=128,slow=9.5,SNR=50						
TIXI	**Tiksi**	**21.27**	**338**	P	**P**	**21 36 09.4**	**-0.6**
JGF	**Kuroka**	**21.59**	**220**	P	**P**	**21 36 12.5**	**-0.8**
JGF				IAmb	IAmb	21 36 14.2	
	comp=Z,6.1nm,0.7s						
HIA	**Hailar**	**21.89**	**273**	P	**P**	**21 36 14.6**	**-1.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**21.89**	**273**	P	**P**	**21 36 14.6**	**-1.3**
ANM	**Nome**	**22.98**	**46**	P	**P**	**21 36 27.0**	**+1.5**
ANM				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ANM	**Nome**	**22.98**	**46**	P	**P**	**21 36 27.0**	**+1.5**
KSRS	**Korea Array**	**24.37**	**239**	P	**P**	**21 36 38.0**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=37,slow=8.7,SNR=9.2						
IMAR	**Indian Mountai**	**27.97**	**43**	P	**P**	**21 37 10.5**	**+0.9**
PPLA	**Purkeypile**	**28.79**	**50**	P	**P**	**21 37 18.6**	**+1.6**
PPLA				IAmb	IAmb	21 37 30.7	
	comp=Z,8.3nm,1.2s						
COLD	**Coldfoot**	**29.40**	**41**	P	**P**	**21 37 23.2**	**+1.2**
COLD				IAmb	IAmb	21 37 25.0	
	comp=Z,5.2nm,0.8s						
TRF	**Thorofare Moun**	**29.59**	**48**	P	**P**	**21 37 25.3**	**+1.4**
TRF				IAmb	IAmb	21 37 38.9	
	comp=Z,8.4nm,1.3s						
TOLK	**Toolik Lake Re**	**29.66**	**38**	P	**P**	**21 37 25.7**	**+1.3**
TOLK				IAmb	IAmb	21 37 26.4	
	comp=Z,4.5nm,0.5s						
SUA	**Susitna One**	**29.66**	**53**	P	**P**	**21 37 25.3**	**+0.8**
SUA				IAmb	IAmb	21 37 38.6	
	comp=Z,15nm,1.4s						
WRH	**Wood River Hil**	**30.43**	**46**	P	**P**	**21 37 32.4**	**+1.3**
WRH				IAmb	IAmb	21 37 33.3	
	comp=Z,5.5nm,0.6s						
SONM	**Songino Array**	**30.45**	**279**	P	**P**	**21 37 31.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=66,slow=7.1,SNR=7.2						
SONM				ScP	**ScP**	**21 43 12.4**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=94,slow=4.8,SNR=2.9						
SONM	**Songino Array**	**30.45**	**279**	P	**P**	**21 37 31.3**	**-0.3**
ILAR	**Eielson Array**	**30.91**	**45**	P	**P**	**21 37 36.4**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=273,slow=8.8,SNR=27						
ILAR				ScP	**ScP**	**21 43 14.0**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=288,slow=3.7,SNR=2.9						
PRP	**Porcupine Dome**	**31.39**	**44**	P	**P**	**21 37 40.9**	**+1.4**
PRP				IAmb	IAmb	21 37 42.0	
	comp=Z,5.9nm,0.9s						
FYU	**Fort Yukon**	**31.39**	**42**	P	**P**	**21 37 41.0**	**+1.7**
FYU				IAmb	IAmb	21 37 41.8	
	comp=Z,12nm,1.3s						
BMAR	**Burnt Mountain**	**31.57**	**40**	P	**P**	**21 37 42.6**	**+1.8**
SCRK	**Sand Creek**	**32.28**	**47**	P	**P**	**21 37 47.3**	**+0.2**
JOW	**Kunigami**	**32.98**	**226**	P	**P**	**21 37 53.2**	**-0.2**
BCAR	**Beaver Creek A**	**33.44**	**48**	P	**P**	**21 37 58.5**	**+1.6**
LOGN	**Logan Glacier**	**34.40**	**52**	P	**P**	**21 38 06.8**	**+1.6**
LOGN				IAmb	IAmb	21 38 07.6	
	comp=Z,6.7nm,0.9s						
INK	**Inuvik**	**35.57**	**37**	P	**P**	**21 38 15.9**	**+1.3**
	comp=Z,7.1nm,0.3s,baz=277,slow=6.4,SNR=58						
INK	**Inuvik**	**35.57**	**37**	P	**P**	**21 38 16.1**	**+1.5**
INK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
INK	**Inuvik**	**35.57**	**37**	P	**P**	**21 38 16.1**	**+1.5**
C36M	**Paulatuk**	**38.59**	**34**	P	**P**	**21 38 40.6**	**+1.2**
C36M				IAmb	IAmb	21 38 41.1	
	comp=Z,5.3nm,0.6s						
ENH	**Enshi**	**39.82**	**252**	P	**P**	**21 38 49.1**	**-1.0**
DLBC	**Dease Lake**	**40.46**	**52**	P	**P**	**21 38 56.9**	**+2.0**
DLBC				IAmb	IAmb	21 39 01.0	
	comp=Z,8.6nm,1.4s						
EUNU	**Eureka**	**42.27**	**13**	P	**P**	**21 39 09.7**	**+0.8**
EUNU				IAmb	IAmb	21 39 10.2	
	comp=Z,6.1nm,1.0s						
RES	**Resolute Bay**	**44.12**	**21**	P	**P**	**21 39 24.3**	**+0.9**
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RES	**Resolute Bay**	**44.12**	**21**	P	**P**	**21 39 24.3**	**+0.9**
MK31	**Makanchi Array**	**44.83**	**292**	P	**P**	**21 39 28.6**	**-0.8**
MK31	**Makanchi Array**	**44.83**	**292**	P	**P**	**21 39 28.6**	**-0.8**
MKAR	**Makanchi Array**	**44.83**	**292**	P	**P**	**21 39 28.6**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=57,slow=7.1,SNR=14						
MAKZ	**Makanchi**	**44.99**	**292**	P	**P**	**21 39 29.5**	**-1.1**
MAKZ	**Makanchi**	**44.99**	**292**	P	**P**	**21 39 29.5**	**-1.1**
YKA	**Yellowknife Ar**	**45.08**	**41**	P	**P**	**21 39 32.1**	**+1.2**
	comp=Z,2.4nm,0.6s,baz=304,slow=6.9,SNR=40						
SPA0	**Spitsbergen Ar**	**46.04**	**349**	P	**P**	**21 39 37.6**	**-0.6**
ARU	**Arti**	**50.66**	**314**	P	**P**	**21 40 12.5**	**-0.5**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ARU	**Arti**	**50.66**	**314**	P	**P**	**21 40 12.5**	**-0.5**
ARU				IAmb	IAmb	21 40 13.1	
	comp=Z,5.2nm,0.4s						
ARCES	**ARCESS Array B**	**51.70**	**340**	P	**P**	**21 40 19.6**	**-0.8**
	comp=Z,4.0nm,0.7s,baz=41,slow=8.0,SNR=11						
AAK	**Ala-Archa**	**51.76**	**292**	P	**P**	**21 40 20.9**	**-0.5**
AAK	**Ala-Archa**	**51.76**	**292**	P	**P**	**21 40 20.9**	**-0.5**
KRMB	**Red Mountain**	**53.50**	**68**	P	**P**	**21 40 36.2**	**+2.3**
KRMB				IAmb	IAmb	21 40 43.5	
	comp=Z,8.1nm,1.2s						
SUMG	**Summit**	**53.82**	**5**	P	**P**	**21 40 36.0**	**0.0**
SUMG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SUMG	**Summit**	**53.82**	**5**	P	**P**	**21 40 36.0**	**0.0**
JTMT	**Jette**	**54.34**	**56**	P	**P**	**21 40 41.7**	**+1.9**
CHTO	**Chiang Mai**	**54.71**	**253**	P	**P**	**21 40 42.5**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	**Chiang Mai**	**54.71**	**253**	P	**P**	**21 40 42.5**	**-0.2**
ABKAR	**Akbulak array**	**54.82**	**307**	P	**P**	**21 40 42.3**	**-0.7**
ABKAR	**Akbulak array**	**54.82**	**307**	P	**P**	**21 40 42.4**	**-0.5**
ABKAR				IAmb	IAmb	21 40 59.9	
	comp=Z,2.4nm,1.2s						
CM31	**Chiang Mai Arr**	**54.99**	**253**	P	**P**	**21 40 44.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**54.99**	**253**	P	**P**	**21 40 45.1**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=26,slow=6.7,SNR=17						
CMAR	**Chiang Mai Arr**	**54.99**	**253**	P	**P**	**21 40 44.8**	**+0.2**
FFC	**Flin Flon**	**55.09**	**43**	P	**P**	**21 40 46.2**	**+1.4**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FFC	**Flin Flon**	**55.09**	**43**	P	**P**	**21 40 46.1**	**+1.4**
FFC				IAmb	IAmb	21 40 46.8	
	comp=Z,4.4nm,0.8s						
FCC	**Fort Churchill**	**55.17**	**36**	P	**P**	**21 40 45.7**	**+0.5**
FCC				pmax	pmax		
	comp=Z,11nm,1.5s						
FCC	**Fort Churchill**	**55.17**	**36**	P	**P**	**21 40 45.7**	**+0.5**
FCC				IAmb	IAmb	21 40 47.2	
	comp=Z,11nm,1.5s						
RAMN	**Ramite**	**55.73**	**270**	*e*P	**P**	**21 40 49.4**	**-0.6**
	comp=Z,11nm,0.4s						
KKN	**Kakani**	**55.90**	**272**	*e*P	**P**	**21 40 51.0**	**-0.1**
	comp=Z,6.1nm,0.4s						
PKI	**Pulchoki**	**55.98**	**271**	*e*P	**P**	**21 40 51.3**	**-0.5**
	comp=Z,2.5nm,0.4s						
PKIN	**Phulchoki**	**55.98**	**271**	*e*P	**P**	**21 40 51.3**	**-0.5**
	comp=Z,3.0nm,0.5s						
GKN	**Gorkha**	**56.12**	**272**	*e*P	**P**	**21 40 52.0**	**-0.6**
	comp=Z,2.9nm,0.3s						
DMN	**Daman**	**56.13**	**272**	*e*P	**P**	**21 40 52.5**	**-0.3**
	comp=Z,5.1nm,0.5s						
HRY	**Holter Researc**	**56.26**	**56**	P	**P**	**21 40 55.0**	**+1.8**
BOZ	**Bozeman (W)**	**57.14**	**56**	P	**P**	**21 41 01.3**	**+1.9**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOZ	**Bozeman (W)**	**57.14**	**56**	P	**P**	**21 41 01.3**	**+1.9**
YHB	**Horse Butte**	**57.96**	**57**	P	**P**	**21 41 07.1**	**+2.0**
YHH	**Holmes Hill**	**58.10**	**57**	P	**P**	**21 41 08.2**	**+2.1**
FINES	**FINESS Array B**	**58.24**	**334**	P	**P**	**21 41 05.5**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=43,slow=8.6,SNR=6.1						
FINES	**FINESS Array B**	**58.24**	**334**	P	**P**	**21 41 05.3**	**-1.0**
RLMT	**Red Lodge**	**58.65**	**55**	P	**P**	**21 41 12.0**	**+2.3**
NIL	**Nilore**	**58.71**	**285**	P	**P**	**21 41 10.2**	**+0.1**
NIL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NIL	**Nilore**	**58.71**	**285**	P	**P**	**21 41 10.2**	**+0.1**
NVAR	**Mina Array Bea**	**58.74**	**67**	P	**P**	**21 41 12.6**	**+2.1**
	comp=Z,0.9nm,0.8s,baz=292,slow=7.4,SNR=6.9						
NVAR	**Mina Array Bea**	**58.74**	**67**	P	**P**	**21 41 12.4**	**+1.9**
PD31	**Pinedale Array**	**60.21**	**58**	P	**P**	**21 41 21.8**	**+1.6**
PDAR	**Pinedale Array**	**60.21**	**58**	P	**P**	**21 41 21.9**	**+1.6**
	comp=Z,2.2nm,0.8s,baz=334,slow=2.4,SNR=13						
ULM	**Lac du Bonnet**	**60.91**	**44**	P	**P**	**21 41 24.9**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=303,slow=7.7,SNR=3.4						
NC405	**NORSAR Array S**	**61.87**	**340**	P	**P**	**21 41 30.0**	**-0.6**
NB2	**NORSAR Subarra**	**62.03**	**341**	P	**P**	**21 41 31.0**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=24,slow=6.5						
NOA	**NORSAR Array B**	**62.03**	**341**	P	**P**	**21 41 31.1**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=26,slow=6.4,SNR=16						
PV22	**Blue Mesa, Par**	**63.74**	**60**	P	**P**	**21 41 45.0**	**+1.7**
PV22				IAmb	IAmb	21 41 45.5	
	comp=Z,2.6nm,0.6s						
ECSD	**EROS Data Cent**	**65.65**	**49**	P	**P**	**21 41 55.7**	**+0.6**
AKASG	**Malin Array Be**	**66.35**	**325**	P	**P**	**21 41 58.3**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=32,slow=6.5,SNR=3.7						
COEN	**Coen**	**67.95**	**192**	P	**P**	**21 42 10.0**	**+0.4**
COEN				IAmb	IAmb	21 42 27.6	
	comp=Z,8.5nm,1.4s						
KWP	**Kalwaria Pacla**	**69.39**	**329**	P	**P**	**21 42 18.1**	**+0.1**
KWP	**Kalwaria Pacla**	**69.39**	**329**	P	**P**	**21 42 18.1**	**+0.1**
VLDQ	**Val d'Or**	**69.58**	**34**	P	**P**	**21 42 18.2**	**-0.9**
ESK	**Eskdalemuir**	**69.91**	**347**	P	**P**	**21 42 20.5**	**-0.4**
ESK	**Eskdalemuir**	**69.91**	**347**	P	**P**	**21 42 20.5**	**-0.4**
BUR08	**Bucovina Ar. S**	**70.33**	**326**	P	**P**	**21 42 23.2**	**-0.6**
BUR08				IAmb	IAmb	21 42 28.0	
	comp=Z,6.7nm,1.5s						
BURAR	**Bucovina Array**	**70.35**	**326**	P	**P**	**21 42 23.1**	**-0.8**
MLR	**Muntele Rosu**	**71.95**	**325**	P	**P**	**21 42 33.3**	**-0.1**
MLR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MLR	**Muntele Rosu**	**71.95**	**325**	P	**P**	**21 42 33.3**	**-0.1**
MLR				IAmb	IAmb	21 42 38.5	
	comp=Z,9.7nm,1.3s						
GERES	**GERESS Array B**	**72.67**	**334**	P	**P**	**21 42 37.0**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=60,slow=7.9,SNR=5.0						
U40A	**Yellville**	**73.29**	**51**	P	**P**	**21 42 41.2**	**+0.1**
TX31	**Lajitas Ar. Si**	**73.53**	**63**	P	**P**	**21 42 44.2**	**+1.5**
TX31				IAmb	IAmb	21 42 45.0	
	comp=Z,4.6nm,0.7s						
TXAR	**Lajitas Array**	**73.53**	**63**	P	**P**	**21 42 44.5**	**+1.7**
	comp=Z,1.0nm,0.4s,baz=299,slow=5.4,SNR=22						
TXAR	**Lajitas Array**	**73.53**	**63**	P	**P**	**21 42 44.6**	**+1.9**
TXAR	**Lajitas Array**	**73.53**	**63**	P	**P**	**21 42 44.6**	**+1.9**
WB0

MOS ***17*** *21:51:38.9±0.9, 44.˙49N×149.˙00E, h78km, mb4.3/1, Error ellipse: s-maj=17.7km s-min=14.3km az=47.2*
SKHL ***17*** *21:51:40.2±0.1, 44.˙40N×149.˙00E, h81km±2km, mb4.5/2, msha5.5/4*
IDC ***17*** *21:51:44.9±15.0, 45.˙09N×148.˙62E, h76km±64km, mb3.4/7, mb1 3.4/8, mb1mx3.1/59, mbtmp3.7/8, ML2.2/1, Error ellipse: s-maj=255.3km s-min=36.3km az=163.0*
ISC 17 21:51:37.3±1.7, 44˚23N±0.08×149˚2E±0.1, h55km±15km, n41, σ2ᵠ14/52, mb3.7/7, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.40**	**316**	*d*	*i*PN	**Pn**	**21 52 00.1**	**-0.3**
KUR					*e*S	**Sn**	**21 52 15.4**	**-2.4**
KUR					pmax	pmax		
	comp=Z,870nm,0.1s							
KUR					pmax	pmax		
	comp=N,123nm,0.2s							
KUR					pmax	pmax		
	comp=E,243nm,0.1s							
KUR					smax	smax		
	comp=N,1μm,0.2s							
KUR					smax	smax		
	comp=E,625nm,0.2s							
KUR	**Kuril'sk**	**1.40**	**316**	*e*	P	**Pn**	**21 52 00.2**	**-0.2**
KUR					AMB	AMB	21 52 00.5	
	comp=E,80nm,0.3s							
KUR					*e*S	**Sn**	**21 52 15.1**	**-2.7**
KUR					A	A	21 52 16.2	
	comp=E,1μm,0.3s							
KUR					A	A	21 52 16.2	
	comp=E,380nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.43**	**267**	*e*	PN	**Pn**	**21 52 16.4**	**+1.9**
YUK					*e*S	**Sn**	**21 52 42.2**	**-0.9**
YUK					pmax	pmax		
	comp=Z,55nm,0.1s							
YUK					smax	smax		
	comp=E,319nm,0.3s							
YUK					smax	smax		
	comp=N,246nm,0.1s							
YUK	**Yuzh-Kuril'sk**	**2.43**	**267**	*e*	P	**Pn**	**21 52 16.3**	**+1.8**
YUK					AMB	AMB	21 52 17.8	
	comp=N,50nm,0.3s							
YUK					*e*S	**Sn**	**21 52 42.6**	**-0.5**
YUK					A	A	21 52 47.3	
	comp=N,260nm,0.4s							
YUK					A	A	21 52 47.3	
	comp=N,320nm,0.4s							
GRPR	**Tuman**	**2.50**	**266**	*e*	PN	**Pn**	**21 52 16.7**	**+1.2**
GRPR					*e*S	**Sn**	**21 52 43.8**	**-1.0**
GRPR					smax	smax		
	comp=E,112nm,0.2s							
GRPR					smax	smax		
	comp=N,264nm,0.3s							
GRPR	**Tuman**	**2.50**	**266**	*e*	P	**Pn**	**21 52 16.7**	**+1.2**
GRPR					*e*S	**Sn**	**21 52 43.8**	**-1.0**
GRPR					A	A	21 52 46.0	
	comp=N,260nm,0.3s							
GRPR					A	A	21 52 46.0	
	comp=N,110nm,0.3s							
NEM2	**Nemuro 2**	**2.67**	**252**	P		**Pn**	**21 52 19.1**	**+1.4**
NEM2					*e*S	**Sn**	**21 52 46.8**	**-2.1**
NMR	**Nemuro--Hokkai**	**2.68**	**252**	*e*PN		**Pn**	**21 52 19.0**	**+1.1**
NMR					*e*S	**Sn**	**21 52 46.8**	**-2.3**
NMR	**Nemuro--Hokkai**	**2.68**	**252**	*e*P		**Pn**	**21 52 19.3**	**+1.4**
NMR					*e*S	**Sn**	**21 52 48.7**	**-0.4**
GLVR	**Golovnino**	**2.72**	**261**	*e*PN		**Pn**	**21 52 20.6**	**+2.1**
GLVR					*e*S	**Sn**	**21 52 50.0**	**-0.2**
GLVR					smax	smax		
	comp=N,109nm,0.2s							
GLVR					smax	smax		
	comp=E,375nm,0.2s							
GLVR	**Golovnino**	**2.72**	**261**	*e*P		**Pn**	**21 52 20.6**	**+2.1**
GLVR					*e*S	**Sn**	**21 52 50.0**	**-0.2**
GLVR					A	A	21 52 53.0	
	comp=E,110nm,0.4s							
GLVR					A	A	21 52 53.0	
	comp=E,380nm,0.4s							
JRA	**Rausu**	**2.97**	**266**	P		**Pn**	**21 52 24.6**	**+2.7**
JRA					*e*S	**Sn**	**21 52 57.5**	**+1.1**
JNK	**Nakash**	**3.32**	**260**	P		**Pn**	**21 52 29.1**	**+2.4**
JNK					*e*S	**Sn**	**21 53 04.1**	**-0.9**
JAK	**Akkeshi**	**3.52**	**251**	P		**Pn**	**21 52 30.8**	**+1.5**
JTKR	**Abashiri--Toko**	**3.84**	**268**	P		**Pn**	**21 52 36.6**	**+2.8**
JAR	**Ashorobuto**	**4.06**	**259**	P		**Pn**	**21 52 39.7**	**+2.8**
JAR					*e*S	**Sn**	**21 53 23.5**	**+0.3**
JOB	**Onbets**	**4.14**	**253**	P		**Pn**	**21 52 40.7**	**+2.8**
JCH	**Churui**	**4.57**	**251**	P		**Pn**	**21 52 46.5**	**+2.7**
JCH					*e*S	**Sn**	**21 53 34.3**	**-1.3**
JNBK	**Urakawa-nobuka**	**5.12**	**250**	P		**Pn**	**21 52 53.0**	**+1.7**
JNB	**Noboribetsu**	**6.23**	**256**	P		**Pn**	**21 53 09.3**	**+2.8**
JNB					*e*S	**Sn**	**21 54 15.8**	**-0.5**
JKB	**Kayabe**	**6.45**	**252**	P		**Pn**	**21 53 11.3**	**+1.8**
JKB					*e*S	**Sn**	**21 54 18.6**	**-3.0**
JANG	**Nango**	**6.90**	**239**	*e*S		**Sn**	**21 54 27.4**	**-5.3**
JTM	**Tenmabayashi**	**6.94**	**243**	*e*S		**Sn**	**21 54 30.0**	**-3.9**
JTH	**Tanohata**	**6.96**	**234**	*e*S		**Sn**	**21 54 28.7**	**-5.5**
JRG	**Rokugo**	**8.03**	**236**	*e*S		**Sn**	**21 54 56.9**	**-3.7**
PETK	**Petropavlovsk-**	**10.49**	**29**	P		**Pn**	**21 54 05.2**	**+0.4**
	comp=E,0.1nm,0.3s,baz=211,slow=10.0,SNR=1.8							
H11N2	**WAKE ISLAND Hy**	**28.54**	**143**	T		T	22 28 23.9	
	baz=334,slow=75,SNR=74							
H11N1	**WAKE ISLAND Hy**	**28.55**	**143**	T		T	22 28 25.5	
	baz=334,slow=75,SNR=36							
H11N3	**WAKE ISLAND Hy**	**28.55**	**143**	T		T	22 28 21.5	
	baz=334,slow=75,SNR=49							
H11S1	**WAKE ISLAND Hy**	**29.54**	**145**	T		T	22 29 49.5	
	baz=334,slow=76,SNR=71							
H11S3	**WAKE ISLAND Hy**	**29.55**	**145**	T		T	22 29 43.8	
	baz=334,slow=76,SNR=40							
H11S2	**WAKE ISLAND Hy**	**29.56**	**145**	T		T	22 29 47.1	
	baz=334,slow=76,SNR=42							
INK	**Inuvik**	**45.23**	**31**	P		**P**	**21 59 50.0**	**+1.6**
	comp=E,0.4nm,0.3s,baz=285,slow=6.9,SNR=1.8							
INK	**Inuvik**	**45.23**	**31**	P		**P**	**21 59 50.0**	**+1.6**
MKAR	**Makanchi Array**	**45.69**	**298**	P		**P**	**21 59 52.1**	**-0.4**
	comp=E,0.5nm,0.7s,baz=77,slow=8.5,SNR=6.5							
RES	**Resolute Bay**	**54.07**	**17**	P		**P**	**22 00 56.0**	**+0.5**
	comp=E,0.6nm,0.4s,baz=293,slow=8.3,SNR=1.9							
FINES	**FINESS Array B**	**65.12**	**334**	P		**P**	**22 02 10.4**	**-1.3**
	comp=E,0.7nm,0.6s,baz=35,slow=7.0,SNR=4.3							
NB2	**NORSAR Subarra**	**69.68**	**340**	P		**P**	**22 02 40.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**69.68**	**340**	P		**P**	**22 02 40.5**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=29,slow=6.4,SNR=6.3							
HFS	**Hagfors**	**69.81**	**338**	P		**P**	**22 02 41.2**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=54,slow=9.7,SNR=5.3							
AKASG	**Malin Array Be**	**72.07**	**325**	P		**P**	**22 02 53.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=33,slow=5.9,SNR=2.3							

NEIC ***17*** *22:11:54.8±1.4, 24.˙05S±0.˙02×67.˙0W±0.˙2, h219km±14km, Error ellipse: s-maj=21.3km s-min=2.8km az=96.0*
IDC ***17*** *22:11:55.9±1.4, 23.˙87S×66.˙89W, h211km±24km, mb3.6/1, mb1 3.5/6, mb1mx3.2/37, mbtmp4.0/6, Error ellipse: s-maj=32.4km s-min=18.8km az=120.0*
GUC ***17*** *22:11:55.8±0.5, 24.˙07S×66.˙93W, h203km±6km, ML3.6*
VAO ***17*** *22:11:56.8±0.5, 23.˙59S×66.˙60W, h189km±12km, mb4.0*
ISC 17 22:11:54.5±0.7, 24˚03S±0.05×66˚90W±0.05, h209km±8km, n65, σ0ᵠ92/75, mb4.1/4, 9C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SLA	**San Lorenzo**	**1.45**	**119**	⇓	*i*P	**Pn**	**22 12 29.0**	**+0.2**
SLA					*e*S	**Sn**	**22 12 54.7**	**-0.8**
SLA					IAML		22 12 55.6	
	comp=N,129nm,0.5s							
LVC	**Limon Verde**	**2.32**	**307**	P		**Pn**	**22 12 38.6**	**+1.2**
	comp=N,38nm,0.3s,baz=129,slow=7.9,SNR=400							
LVC					S	**Sn**	**22 13 11.1**	**+0.2**
	comp=N,15nm,0.3s,baz=261,slow=20,SNR=20							
LVC	**Limon Verde**	**2.32**	**307**	*e*P		**Pn**	**22 12 38.6**	**+1.2**
LVC					*e*S	**Sn**	**22 13 10.6**	**-0.3**
LVC	**Limon Verde**	**2.32**	**307**	Pn		**Pn**	**22 12 38.5**	**+1.0**
LVC	**Limon Verde**	**2.32**	**307**	*e*P		**Pn**	**22 12 38.7**	**+1.2**
LVC					*e*S	**Sn**	**22 13 10.8**	**-0.1**
PB15	**IPOC Station P**	**2.49**	**289**	⇑	*i*P	**Pn**	**22 12 40.4**	**+1.2**
PB15					*e*S	**Sn**	**22 13 13.5**	**-0.4**
PB15	**IPOC Station P**	**2.49**	**289**			**Pn**	**22 12 40.2**	**+1.1**
GO02	**Mina Guanaco**	**2.69**	**245**	⇑	*i*P	**Pn**	**22 12 42.4**	**+0.9**
GO02					*e*S	**Sn**	**22 13 18.0**	**-0.2**
GO02	**Mina Guanaco**	**2.69**	**245**	Pn		**Pn**	**22 12 42.4**	**+0.9**
PB06	**IPOC Station P**	**2.78**	**298**	⇑	*i*P	**Pn**	**22 12 43.4**	**+1.1**
PB06					*e*S	**Sn**	**22 13 18.7**	**-0.9**
PB06					IAML		22 13 19.4	
	comp=N,208nm,0.3s							
PB06	**IPOC Station P**	**2.78**	**298**			**Pn**	**22 12 43.3**	**+0.9**
PB09	**IPOC Station P**	**3.10**	**315**	⇑	*i*P	**Pn**	**22 12 47.3**	**+1.3**
PB09					*e*S	**Sn**	**22 13 25.7**	**-0.5**
PB09					IAML		22 13 29.0	
	comp=E,132nm,0.4s							
PB09	**IPOC Station P**	**3.10**	**315**			**Pn**	**22 12 47.1**	**+1.2**
PB05	**IPOC Station P**	**3.25**	**290**	⇑	*i*P	**Pn**	**22 12 48.5**	**+0.8**
PB14	**IPOC Station P**	**3.25**	**259**	Pn		**Pn**	**22 12 48.1**	**+0.2**
PB03	**IPOC Station P**	**3.28**	**306**	⇑	*i*P	**Pn**	**22 12 48.8**	**+0.7**
PB03					*e*S	**Sn**	**22 13 28.4**	**-1.8**
PB10	**IPOC Station P**	**3.38**	**278**	⇑	*i*P	**Pn**	**22 12 50.1**	**+1.0**
PB10					*e*S	**Sn**	**22 13 30.8**	**-1.2**
PB10	**IPOC Station P**	**3.38**	**278**	Pn		**Pn**	**22 12 50.0**	**+0.8**
PB04	**IPOC Station P**	**3.43**	**299**	*e*P		**Pn**	**22 12 50.8**	**+0.8**
PB04	**IPOC Station P**	**3.43**	**299**			**Pn**	**22 12 50.7**	**+0.8**
AC02	**Maricunga**	**3.44**	**215**	Pn		**Pn**	**22 12 51.0**	**+0.6**
PB07	**IPOC Station P**	**3.58**	**309**	⇑	*i*P	**Pn**	**22 12 52.2**	**+0.5**
PB07	**IPOC Station P**	**3.58**	**309**			**Pn**	**22 12 52.1**	**+0.4**
PB01	**IPOC Station P**	**3.81**	**321**	⇑	*i*P	**Pn**	**22 12 54.8**	**+0.4**
PB01	**IPOC Station P**	**3.81**	**321**			**Pn**	**22 12 54.6**	**+0.2**
AC01	**Pan de Azucar**	**3.96**	**237**	*e*P		**Pn**	**22 12 55.8**	**-0.3**
AC01	**Pan de Azucar**	**3.96**	**237**	Pn		**Pn**	**22 12 55.9**	**-0.3**
PB08	**IPOC Station P**	**4.39**	**331**			**Pn**	**22 13 02.6**	**+0.6**
TA01	**Diego Aracena**	**4.59**	**318**	Pn		**Pn**	**22 13 04.3**	**+0.2**
GO03	**Copiap**	**4.65**	**220**	*e*P		**Pn**	**22 13 04.4**	**-0.4**
GO03	**Copiap**	**4.65**	**220**	Pn		**Pn**	**22 13 04.2**	**-0.5**
PSGCX	**Pisagua**	**5.33**	**325**	Pn		**Pn**	**22 13 11.9**	**-1.6**
MNMC	**Minye Minye**	**5.48**	**332**			**Pn**	**22 13 15.1**	**-0.5**
AC04	**Llanos de Chal**	**5.60**	**221**	Pn		**Pn**	**22 13 16.0**	**-0.8**
AC05	**El Transito**	**5.66**	**212**	Pn		**Pn**	**22 13 17.3**	**-0.4**
LCO	**Las Campanas**	**6.02**	**214**	Pn		**Pn**	**22 13 21.2**	**-1.1**
PB16	**IPOC Station P**	**6.16**	**336**			**Pn**	**22 13 24.2**	**-0.5**
CO01	**Juntas del Tor**	**6.57**	**205**	Pn		**Pn**	**22 13 29.9**	**+0.4**
GO04	**Tololo Observa**	**7.04**	**209**	Pn		**Pn**	**22 13 33.6**	**-1.8**
LPAZ	**La Paz**	**7.79**	**351**	P		**Pn**	**22 13 46.1**	**+0.4**
	comp=E,1.0nm,0.3s,baz=155,slow=9.4,SNR=18							
LPAZ					S	**Sn**	**22 15 12.3**	**-1.8**
	comp=E,0.2nm,0.3s,baz=265,slow=25,SNR=6.2							
LPAZ	**La Paz**	**7.79**	**351**	Pn		**Pn**	**22 13 46.2**	**+0.5**
SIV	**San Ignacio**	**9.69**	**35**	P		**Pn**	**22 14 08.5**	**-1.2**
	comp=E,0.9nm,0.3s,baz=232,slow=14,SNR=15							
PTLB	**Pontes e Lacer**	**11.23**	**42**	*e*P		Pn	22 14 22.4	-7.2
BO02	**Sierra Bellavi**	**11.25**	**197**	Pn		**Pn**	**22 14 29.1**	**-0.5**
BI02	**San Fabin de**	**13.14**	**196**	Pn		**Pn**	**22 14 53.5**	**0.0**
CPSB	**Cacapava Do Su**	**13.55**	**121**	*e*P		**P**	**22 15 01.6**	**+0.8**
ARAG	**Araguaiana, MT**	**16.42**	**63**	*e*P		**Pn**	**22 15 34.9**	**+1.2**
PLCA	**Paso Flores**	**16.94**	**190**	P		**P**	**22 15 41.2**	**+3.1**
	comp=E,0.1nm,0.3s,baz=349,slow=10,SNR=3.3							
PLCA	**Paso Flores**	**16.94**	**190**	P		**P**	**22 15 36.2**	**-2.0**
PLCA					IAmb	IAmb	22 15 47.2	
	comp=Z,5.2nm,1.2s							
VAO	**Valinhos**	**18.32**	**91**	*e*P		**P**	**22 15 53.6**	**+0.3**
IPMB	**Ipameri, GO**	**18.45**	**75**	*e*P		**P**	**22 15 54.6**	**-0.2**
SNDB	**Serra Nova Dou**	**19.06**	**54**	*e*P		**P**	**22 16 01.3**	**0.0**
PARB	**Paraibuna**	**19.50**	**92**	*e*P		**P**	**22 16 06.8**	**+0.7**
BDFB	**Brasilia**	**19.61**	**68**	P		**P**	**22 16 08.0**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=240,slow=10.0,SNR=18							
BDFB	**Brasilia**	**19.61**	**68**	P		**P**	**22 16 07.6**	**+0.1**
PEXB	**Peixe**	**21.26**	**59**	*e*P		**P**	**22 16 24.7**	**-0.1**
JANB	**Januaria**	**23.06**	**71**	*e*P		**P**	**22 16 41.4**	**-0.4**
SDBA	**SAO DESIDERIO**	**23.84**	**65**	*e*P		**P**	**22 16 49.1**	**+0.2**
NAN01	**Guarapari, ES**	**25.73**	**81**	*e*P		**P**	**22 17 05.3**	**-0.7**
GDU01	**Guandu, BA**	**27.77**	**73**	*e*P		**P**	**22 17 23.1**	**-1.1**
DBIC	**Dimbokro**	**67.73**	**71**	P		**P**	**22 22 29.8**	**-0.1**
DBIC					IAmb	IAmb	22 22 37.7	
	comp=Z,7.2nm,1.3s							
KOWA	**Kowa**	**72.37**	**65**	P		**P**	**22 22 58.3**	**+0.2**
KOWA					IAmb	IAmb	22 23 13.6	
	comp=Z,7.3nm,1.4s							
TOA0	**Torodi Ar. Sit**	**76.50**	**69**	P		**P**	**22 23 22.1**	**+0.2**
TOA0					IAmb	IAmb	22 23 26.6	
	comp=Z,3.3nm,1.2s							
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P		**P**	**22 23 22.6**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=255,slow=5.4,SNR=20							
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P		**P**	**22 23 22.1**	**+0.2**

BJI ***17*** *22:12:26.9±0.0, 1.˙51N×126.˙43E, h57km, mB5.9/78, mb5.8/90, Ms6.0/99, Ms7 5.9/95*
MOS ***17*** *22:12:27.4±1.0, 1.˙72N×126.˙41E, h41km, mb6.3/55, MS5.7/91, Error ellipse: s-maj=5.8km s-min=3.5km az=114.8*
IDC ***17*** *22:12:27.4±1.5, 1.˙66N×126.˙41E, h28km±9km, mb5.7/50, mb1 5.7/53, mb1mx5.6/55, mbtmp5.9/53, ML4.9/4, MS5.5/34, Ms1 5.5/34, ms1mx5.2/47, Error ellipse: s-maj=11.1km s-min=7.6km az=74.0*
NEIC ***17*** *22:12:28.9±1.7, 1.˙67N±0.˙06×126.˙52E±0.˙05, h44km±1km, mb6.2/238, Ms_20 5.8/840, Mwb6.2/85, Mwc6.3/85, Mww6.2, Mwc6.3(GCMT), Error ellipse: s-maj=10.2km s-min=8.6km az=218.0*
NEIC ***17*** *22:12:29, 1.˙66N×126.˙48E, h49km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr2.30; Mθθ-0.18; Mϕϕ-2.12; Mrθ-0.70; Mϕϕ-0.53; Mϕr0.19; Fault plane solution: Mo2.39000×10¹⁸ NP1:ϕs358.95000°, δ47.32000°, λ68.19000°. NP2:ϕs209.51000°, δ46.96000°, λ111.94000°. Principal axes: T 2.5102, Plg74.0000°, Azm195.0000°; N -0.2533, Plg16.0000°, Azm14.0000°; P -2.2568, Plg0.0000°, Azm104.0000°;*
DJA ***17*** *22:12:30.2±0.2, 2.˚N±2.˚×12.˚7E±.˚, h64km±2km, M6.1/108, mB6.4/104, mb6.0/108, MLv6.2/17, Mw6.2/58, Mw(mB)6.1/104, MwMwp6.2/91, Mwp6.2/91*
GCMT ***17*** *22:12:31.9±0.1, 1.˙78N×126.˙48E, h42km, MW6.3/176, Moment Tensor Solution. s175,c424; s176,c645; Duration: 3ˢ4 Moment tensor: Scale 10¹⁸Nm; Mrr3.01±.02; Mθθ0.25±.01; Mϕϕ-3.26±.01; Mrθ-0.83±.02; Mθϕ-0.51±.01; Mϕr0.18±.02; Best double couple: Mo3.29500×10¹⁸ NP1:ϕs204.00000°, δ47.00000°, λ112.00000°. NP2:ϕs352.00000°, δ48.00000°, λ68.00000°. Principal axes: T 3.2570, Plg74.0000°, Azm190.0000°; N 0.0730, Plg16.0000°, Azm8.0000°; P -3.3320, Plg1.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***17*** *22:12:33, 1.˙77N×126.˙50E, h42km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr2.89; Mθθ0.39; Mϕϕ-3.28; Mrθ-0.78; Mθϕ-0.47; Mϕr0.24; Fault plane solution: Mo3.24000×10¹⁸ NP1:ϕs203.00000°, δ46.00000°, λ114.00000°. NP2:ϕs351.00000°, δ49.00000°, λ68.00000°. Principal axes: T 3.1353, Plg73.0000°, Azm191.0000°; N 0.2076, Plg17.0000°, Azm6.0000°; P -3.3429, Plg1.0000°, Azm97.0000°;*
KLM ***17*** *22:12:36, 1.˙48N×126.˙30E, h59km, mb6.2*
NEIC ***17*** *22:12:36, 1.˙66N×126.˙52E, h50km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr2.86; Mθθ-0.40; Mϕϕ-2.46; Mrθ-1.18; Mθϕ-0.10; Mϕr-0.11; Fault plane solution: Mo2.94000×10¹⁸ NP1:ϕs346.00000°, δ46.00000°, λ65.00000°. NP2:ϕs200.00000°, δ50.00000°, λ114.00000°. Principal axes: T 3.2470, Plg72.0000°, Azm178.0000°; N -0.7728, Plg18.0000°, Azm5.0000°; P -2.4741, Plg2.0000°, Azm274.0000°;*
NEIC ***17*** *22:12:45.5, 1.˙60N×126.˙49E, h40km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr3.12; Mθθ-0.04; Mϕϕ-3.08; Mrθ-0.01; Mθϕ-0.46; Mϕr-0.44; Fault plane solution: Mo3.16000×10¹⁸ NP1:ϕs187.44000°, δ48.97000°, λ88.71000°. NP2:ϕs9.40000°, δ41.05000°, λ91.48000°. Principal axes: T 3.1504, Plg86.0000°, Azm85.0000°; N 0.0233, Plg1.0000°, Azm188.0000°; P -3.1737, Plg4.0000°, Azm278.0000°;*
ISC 17 22:12:30.3±0.3, 1.˚67N±0.02×126˚43E±0.˚03, h56km±2km, h57km:pP-P, n1923, σ1ᵠ55/1915, mb6.1/315, MS5.8/542, 256C-87D, Fault plane solution: NP1:ϕs11.50190°, δ49.59731°, λ66.91523°. NP2:ϕs224.83051°, δ45.53041°, λ114.73380°. Principal axes: T Plg72.4902°, Azm214.3555°; N Plg17.3724°, Azm26.9452°; P Plg2.1224°, Azm117.6095°; **Fault plane solution: NP1:ϕs350.70349°, δ47.94333°, λ92.04316°. NP2:** ϕs167.65497°, δ42.09703°, λ87.73701°. **Principal axes:** T Plg86.7052°, Azm286.7205°; N Plg1.5169°, Azm169.3345°; P Plg2.9242°, Azm79.2570°; **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.29**	**134**			**Pn**	**22 12 49.3**	**-2.8**
TNTI						**Sn**	**22 13 04.3**	**-4.1**
TNTI	**Ternate**	**1.29**	**134**	P		**Pn**	**22 12 49.3**	**-2.8**
TNTI				S		**Sn**	**22 13 05.2**	**-3.2**
MNI	**Manado**	**1.61**	**262**	P		**Pn**	**22 12 56.8**	**+0.4**
SGSI	**Sangihe**	**2.20**	**336**	P		**Pn**	**22 13 03.7**	**-0.7**
KMSI	**Cibinong**	**2.68**	**246**	P		**Pn**	**22 13 12.8**	**+1.7**
GTOI	**Gorontalo**	**3.57**	**253**	P		**Pn**	**22 13 25.7**	**+2.4**
SANI	**Sanana**	**3.72**	**187**	P		**Pn**	**22 13 24.4**	**-0.9**
DDMP	**Don Marcelino,**	**4.46**	**351**	*e*P		**Pn**	**22 13 35.5**	**+0.1**
LUWI	**Luwuk**	**4.55**	**234**	Pn		**Pn**	**22 13 38.1**	**+1.4**
LUWI	**Luwuk**	**4.55**	**234**	P		**Pn**	**22 13 38.0**	**+1.4**
MRSI	**Marisa**	**4.65**	**255**	P		**Pn**	**22 13 40.4**	**+2.4**
NLAI	**Namlea**	**4.92**	**172**	P		**Pn**	**22 13 41.8**	**0.0**
SKMP	**Bagumbayan, Su**	**5.17**	**339**	*e*P		**Pn**	**22 13 45.4**	**+0.3**
MATI	**Mati**	**5.24**	**358**	*e*P		**Pn**	**22 13 45.1**	**-1.1**
APSI	**Ampana**	**5.43**	**242**	P		**Pn**	**22 13 51.7**	**+3.0**
	36nm166μm95μm10μm,1.1s							
DAV	**Davao City (W)**	**5.43**	**351**	Pn		**Pn**	**22 13 48.6**	**-0.1**
	56nm,0.3s,baz=109,slow=7.8,SNR=6.6							
DAV						**Sn**	**22 14 56.3**	**+6.4**
	baz=90,slow=20,SNR=1.4							
DAV				LR		LR	22 16 10.3	
	comp=Z,79μm,20.1s,baz=138,slow=41							
SWI	**Sorong**	**5.44**	**118**	P		**Pn**	**22 13 47.3**	**-1.6**
	6.7nm410μm39μm2μm,1.1s							
SIJI	**Sorong**	**5.45**	**118**	Pn		**Pn**	**22 13 47.2**	**-1.8**
	27nm,0.3s,baz=312,slow=11,SNR=94							
SIJI						**Sn**	**22 14 49.9**	**-0.6**
	baz=252,slow=20,SNR=0.9							
KCP	**Kidapawan**	**5.47**	**346**	⇑	*e*P	Pn	22 13 54.2	+4.9
TOLI2	**Tolitoli**	**5.68**	**264**	Pn		**Pn**	**22 13 52.3**	**+0.2**
BUKP	**Musuan**	**6.32**	**348**	*e*P		**Pn**	**22 14 01.7**	**+0.8**
PAGZ	**Pagadian**	**6.85**	**334**	*e*P		**Pn**	**22 14 07.2**	**-1.0**
CGP	**Cagayan de Oro**	**6.96**	**346**	⇓	*e*P	**Pn**	**22 14 11.4**	**+1.7**
BNDI	**Bandanaira**	**7.06**	**151**	P		**Pn**	**22 14 12.2**	**+1.1**
	15nm191μm58μm4μm,1.2s							
BUTP	**Butuan**	**7.29**	**354**	*e*P		**Pn**	**22 14 16.0**	**+1.7**
FAKI	**Fak Fak**	**7.39**	**128**	Pn		**Pn**	**22 14 14.2**	**-1.3**
FAKI	**Fak Fak**	**7.39**	**128**	P		**Pn**	**22 14 14.3**	**-1.3**
	7.9nm267μm27μm2μm,1.3s							
GLSP	**General Luna,**	**8.06**	**358**	*e*P		**Pn**	**22 14 26.2**	**+1.3**
TTSI	**Tana Toraja**	**8.10**	**235**	P		**Pn**	**22 14 26.8**	**+1.4**
	189μm20μm2μm,0.9s							
MSLP	**Maasin**	**8.55**	**350**	*e*P		**Pn**	**22 14 32.9**	**+1.3**
MYLDM	**Lahad Datu**	**8.65**	**294**			**Pn**	**22 14 35.0**	**+2.2**
SPSI	**Sidrap Palu**	**8.70**	**230**	P		**Pn**	**22 14 34.9**	**+1.3**
	189μm17μm1μm,0.4s							
BNSI	**Bone**	**8.74**	**226**	P		**Pn**	**22 14 35.1**	**+1.0**
	152μm19μm2μm,0.8s							
LLP	**Lapu-Lapu**	**8.93**	**344**	*e*P		**Pn**	**22 14 37.0**	**+0.3**
LLP					*e*S	Sn	22 16 27.8	+12
CNOP	**Candoni, Negro**	**8.94**	**335**	*e*P		Pn	22 14 41.8	+5.0
KAPI	**Kappang**	**9.42**	**225**	Pn		**Pn**	**22 14 44.2**	**+0.8**
	30nm,0.3s,baz=43,slow=11,SNR=133							
KAPI						**Sn**	**22 16 27.4**	**-0.4**
	2.6nm,0.3s,baz=253,slow=19,SNR=1.0							
KAPI				LR		LR	22 19 04.0	
	comp=Z,37μm,20.9s,baz=68,slow=42							
KAPI	**Kappang**	**9.42**	**225**	P		**Pn**	**22 14 44.9**	**+1.6**
KAPI				P		**Pn**	**22 14 44.9**	**+1.6**
KAPI				S		**Sn**	**22 16 34.0**	**+6.1**
KAPI				S		**Sn**	**22 16 34.0**	**+6.1**
OCLP	**Ormoc**	**9.49**	**349**	*e*P		**Pn**	**22 14 45.2**	**+0.8**
GUIM	**Jordan**	**9.68**	**337**	*e*P		**Pn**	**22 14 48.2**	**+1.3**
BESP	**Borongan**	**9.91**	**354**	*e*P		**Pn**	**22 14 51.7**	**+1.5**
BKB	**Balikpapan**	**9.97**	**253**	Pn		**Pn**	**22 14 51.3**	**+0.4**
BKB

KNRA **Kununurra** 17.39 172 P **Pn** 22 16 29.0 -0.2
baz=17,SNR=19
KNRA **Kununurra** 17.39 172 P **Pn** 22 16 28.0 -1.2
KNRA IAmb IAmb 22 16 34.3
comp=Z,3μm,1.5s
SMRI **Semarang** 18.16 241 P **P** 22 16 38.4 -0.1
SMRI **Semarang** 18.16 241 P **P** 22 16 38.3 -0.1
comp=Z,71μmcomp=Z,20μmcomp=Z,812nm,1.0s
UGM **Wanagama** 18.51 239 P **Pn** 22 16 42.6 -0.3
UGM **Wanagama** 18.51 239 P **P** 22 16 42.0 -0.2
comp=Z,62μmcomp=Z,15μmcomp=Z,771nm,0.9s
BBP **Basco** 19.16 347 *ce*P **P** 22 16 46.8 -2.4
TPI **Tanjungpandan** 19.28 257 P **P** 22 16 50.6 -0.1
comp=Z,62μmcomp=Z,11μmcomp=Z,276nm,0.8s
FITZ **Fitzroy Crossi** 19.66 182 P **P** 22 16 53.0 -1.7
comp=Z,13nm,0.3s,baz=21,slow=8.1,SNR=147
FITZ S **S** 22 20 32.3 -1.4
baz=336,slow=20,SNR=3.7
FITZ LR LR 22 24 24.6
comp=Z,5μm,18.3s,baz=12,slow=36
FITZ **Fitzroy Crossi** 19.66 182 P **P** 22 16 53.6 -1.2
baz=20,SNR=370
FITZ **Fitzroy Crossi** 19.66 182 P **P** 22 16 53.5 -1.2
JCJI **Jatiwangi** 19.86 246 P **P** 22 16 57.0 0.0
comp=Z,52μmcomp=Z,13μmcomp=Z,823nm,1.1s
DLV **T Lat** 20.52 301 P **P** 22 17 05.2 +0.9
LEM **Lembang** 20.59 246 P **P** 22 17 03.9 -1.2
comp=Z,165nm,0.9s,baz=73,slow=9.5,SNR=39
LEM S **S** 22 20 54.4 +1.9
comp=Z,46nm,0.8s,baz=270,slow=20,SNR=1.6
LEM LR LR 22 26 58.5
comp=Z,23μm,19.3s,baz=68,slow=42
PPBI **Pangkal Pinang** 20.65 259 P **P** 22 17 05.2 -0.3
comp=Z,54μmcomp=Z,14μmcomp=Z,528nm,1.3s
CISI **Cisompet, Garu** 20.71 244 P **P** 22 17 03.9 -2.5
CISI **Cisompet, Garu** 20.71 244 P **P** 22 17 03.3 -3.0
comp=Z,52μmcomp=Z,9μmcomp=Z,639nm,0.8s
CBJI **Citeko** 21.14 247 P **P** 22 17 10.2 -0.6
comp=Z,68μmcomp=Z,18μmcomp=Z,525nm,1.2s
MANU **Manus Island** 21.25 100 P **P** 22 17 11.1 -1.0
DBJI **Dramaga** 21.28 247 P **P** 22 17 11.1 -1.3
comp=Z,8μmcomp=Z,305nm,0.8s
TWG **Pinlang** 21.66 346 P **P** 22 17 12.7 -3.6
GUMO **Guam** 21.75 56 P **P** 22 17 15.0 -2.3
GUMO pmax pmax
comp=Z,5μm,2.0s
GUMO MLR MLR
comp=Z,14μm,22.0s
GUMO **Guam** 21.75 56 P **P** 22 17 15.0 -2.3
GUMO **Guam** 21.75 56 P **P** 22 17 17.4 +0.1
PMBI **Palembang** 22.13 258 P **P** 22 17 22.2 +0.7
PMBI IAMs_20 IAMs_20 22 26 28.0
comp=Z,48μm,22.0s
PMBI **Palembang** 22.13 258 P **P** 22 17 21.9 +0.4
comp=Z,58μmcomp=Z,20μmcomp=Z,1μm,1.3s
BLSI **Bandar Lampung** 22.29 252 P **P** 22 17 22.1 -1.1
comp=Z,47μmcomp=Z,626nm,0.6s
MYKOM **Kota Tinggi** 22.57 271 P **P** 22 17 26.3 +0.1
MYKOM **Kota Tinggi** 22.57 271 P **P** 22 17 29.0 +2.8
KLSI 22.59 254 P **P** 22 17 25.0 -1.4
comp=Z,16μmcomp=Z,2μmcomp=Z,153nm,0.9s
WB0 **Warramunga Arr** 22.69 160 P **P** 22 17 25.8 -1.7
COEN **Coen** 22.73 134 P **P** 22 17 25.2 -2.7
I07AU **WARRAMUNGA INT** 22.83 161 P **P** 22 17 27.7 -1.1
baz=330,slow=12,SNR=1.1
WRAB **Tennant Creek** 22.83 160 *ce*P **P** 22 17 27.3 -1.6
WRAB pmax pmax
comp=Z,2μm,1.0s
WRAB **Tennant Creek** 22.83 160 P **P** 22 17 27.3 -1.6
WRA **Warramunga Arr** 22.84 161 P **P** 22 17 27.3 -1.6
comp=Z,1μm,0.8s,baz=339,slow=11,SNR=417
WRA S **S** 22 21 31.7 -2.6
comp=Z,87nm,0.9s,baz=345,slow=20,SNR=7.8
WRA PKiKP **PKiKP** 22 29 03.6 0.0
comp=Z,3.9nm,1.0s,baz=304,slow=1.3,SNR=5.2
WRA P3KPbc 22 50 54.3
comp=Z,1.0nm,1.0s,baz=155,slow=3.4,SNR=3.6
WRA **Warramunga Arr** 22.84 161 P **P** 22 17 26.1 -2.8
WRA pmax pmax
comp=Z,33nm,0.9s
WRA **Warramunga Arr** 22.84 161 P **P** 22 17 26.1 -2.8
WB2 **Warramunga Arr** 22.84 160 P **P** 22 17 27.3 -1.6
YOJ **Yonaguni jima** 22.90 352 P **P** 22 17 28.0 -1.5
YOJ pmax pmax
comp=Z,423nm,1.0s
YOJ **Yonaguni jima** 22.90 352 P **P** 22 17 28.0 -1.5
JMBI **JAMBI** 23.02 262 P **P** 22 17 32.6 +1.7
comp=Z,32μmcomp=Z,2μm,1.3s
KASI **Kota Agung** 23.05 252 P **P** 22 17 28.3 -2.8
comp=Z,42μmcomp=Z,10μmcomp=Z,613nm,0.7s
LWLI **Liwa** 23.32 253 P **P** 22 17 31.8 -2.1
comp=Z,12μmcomp=Z,1μm,0.7s
YHNB **Yeheng** 23.38 348 P **P** 22 17 31.5 -2.8
YHNB IAmb IAmb 22 17 43.4
comp=Z,818nm,1.3s
PMG **Port Moresby** 23.40 118 P **P** 22 17 34.1 -0.4
comp=Z,158nm,0.7s,baz=287,slow=7.7,SNR=32
PMG S **S** 22 21 43.0 -0.6
comp=Z,9.6nm,0.6s,baz=223,slow=18,SNR=1.0
PMG LR LR 22 29 03.4
comp=Z,26μm,19.6s,baz=336,slow=43
PMG **Port Moresby** 23.40 118 *ce*P **P** 22 17 31.8 -2.7
PMG pmax pmax
comp=Z,937nm,2.5s
PMG **Port Moresby** 23.40 118 P **P** 22 17 33.1 -1.3
PMG **Port Moresby** 23.40 118 P **P** 22 17 33.4 -1.1
LHSI **Lahat** 23.54 257 P **P** 22 17 35.2 -0.6
comp=Z,41μmcomp=Z,14μmcomp=Z,479nm,0.8s
MBWA **Marble Bar** 23.62 196 P **P** 22 17 35.8 -0.7
MBWA P **P** 22 17 35.8 -0.7
MBWA S **S** 22 21 43.2 -3.8
MBWA S **S** 22 21 43.2 -3.8
TATO **Taipei** 23.66 349 P **P** 22 17 34.6 -2.2
TATO **Taipei** 23.66 349 P **P** 22 17 37.1 +0.4
TATO P **P** 22 17 37.1 +0.4
TATO S **S** 22 21 44.7 -2.9
TATO S **S** 22 21 44.7 -2.9
QIZ **Qiongzhong** 23.70 318 P **P** 22 17 35.8 -1.5
QIZ pP **pP** 22 17 49.1 -1.2
QIZ S **S** 22 21 51.3 +2.8
QIZ pmax pmax
comp=Z,260nm,1.7s
QIZ pmax pmax
comp=Z,5μm,7.3s
QIZ LR LR
comp=Z,5μm,22.1s
QIZ LR LR
comp=Z,7μm,16.2s
QIZ LR LR
comp=Z,9μm,18.8s
QIZ **Qiongzhong** 23.70 318 P **P** 22 17 36.2 -1.1
QIZ IAmb IAmb 22 17 40.7
comp=Z,654nm,1.2s
QIZ **Qiongzhong** 23.70 318 IAMs_20 IAMs_20 22 25 11.7
comp=Z,31μm,22.0s
HKC **Hong Kong Obse** 23.72 331 ⇑P **P** 22 17 36.0 -1.4
MCO **Taipa Grande** 23.88 329 P **P** 22 17 38.0 -0.8
XMI **Christmas Isla** 23.90 239 P **P** 22 17 37.6 -1.6
comp=Z,872nm,1.0s
ANA2 **Anatahan** 23.94 51 P **P** 22 17 40.2 +0.7
ANA2 **Anatahan** 23.94 51 P **P** 22 17 39.7 +0.2
XMIS **Christmas Isla** 23.95 239 P **P** 22 17 37.1 -2.5
XMIS IAmb IAmb 22 17 41.2
comp=Z,714nm,1.0s
XMIS **Christmas Isla** 23.95 239 P **P** 22 17 39.0 -0.6
KNMB **Chin-men Tao** 23.96 342 P **P** 22 17 37.2 -2.3
PSA00 **Pilbara Seismi** 23.98 195 P **P** 22 17 39.1 -0.7
PSA00 **Pilbara Seismi** 23.98 195 P **P** 22 17 38.9 -0.9
PSA00 IAmb IAmb 22 18 22.0
comp=Z,406nm,1.0s
PSA00 IAMs_20 IAMs_20 22 23 21.0
comp=Z,8μm,21.0s
RGRI **Rengat** 24.18 265 P **P** 22 17 42.8 +1.1
comp=Z,883nmcomp=Z,4μmcomp=Z,314nm,0.9s
SARN **Sarigan** 24.20 51 P **P** 22 17 42.9 +1.0
comp=Z,456nm,1.1s
MNAI **Manna** 24.21 256 P **P** 22 17 40.2 -1.9
MNAI IAMs_20 IAMs_20 22 27 54.7
comp=Z,41μm,22.0s
MNAI **Manna** 24.21 256 P **P** 22 17 40.4 -1.6
comp=Z,47μmcomp=Z,31μmcomp=Z,2μm,1.8s
QZH **Quanzhou** 24.34 343 ⇑P **P** 22 17 41.9 -1.1
QZH S **S** 22 21 58.6 0.0
QZH pmax pmax
comp=Z,230nm,1.4s
QZH pmax pmax
comp=Z,4μm,6.4s
QZH LR LR
comp=Z,12μm,25.6s
QZH LR LR
comp=Z,11μm,22.3s
QZH LR LR
comp=Z,28μm,25.1s
KSI **Kapahiang** 24.41 257 P **P** 22 17 42.6 -1.3
comp=Z,15μmcomp=Z,996nm,0.8s
JMZ **Minamidaito 2** 24.45 10 P **P** 22 17 43.3 -0.7
JMZ IAmb IAmb 22 17 48.3
comp=Z,771nm,0.9s
GZH **Guangzhou** 24.79 330 P **P** 22 17 49.9 +2.8
GZH S **S** 22 22 10.0 +4.1
GZH pmax pmax
comp=Z,4μm,5.5s
GZH LR LR
comp=Z,20μm,23.5s
GZH LR LR
comp=Z,13μm,21.6s
JOW **Kunigami** 25.08 4 P **P** 22 17 50.6 +0.9
comp=Z,2μm,0.8s,baz=191,slow=8.7,SNR=49
JOW S **S** 22 22 14.0 +3.6
comp=Z,30nm,1.0s,baz=248,slow=19,SNR=2.0
JOW **Kunigami** 25.08 4 P **P** 22 17 49.8 +0.1
BKNI **Bangkinang** 25.43 267 P **P** 22 17 52.8 -0.2
BKNI **Bangkinang** 25.43 267 P **P** 22 17 52.8 -0.2
comp=Z,42μmcomp=Z,15μmcomp=Z,1μm,1.5s
IPM **Ipoh** 25.52 277 P **P** 22 17 53.2 -0.7
IPM IAmb IAmb 22 17 58.5
comp=Z,580nm,1.2s
IPM **Ipoh** 25.52 277 P **P** 22 17 54.0 0.0
QIS **Mount Isa** 25.59 150 P **P** 22 17 53.7 -0.7
baz=26,SNR=174
KULM **Kulim** 25.98 279 P **P** 22 17 57.3 -0.8
KULM **Kulim** 25.98 279 P **P** 22 17 58.0 -0.1
AS31 **Alice Springs** 26.21 164 P **P** 22 17 59.1 -1.0
ASAR **Alice Springs** 26.21 164 P **P** 22 17 59.3 -0.8
comp=Z,255nm,0.8s,baz=338,slow=6.8,SNR=236
ASAR PcP **PcP** 22 21 27.3 +1.4
comp=Z,39nm,0.8s,baz=346,slow=2.4,SNR=4.8
ASAR S **S** 22 22 31.5 +2.9
comp=Z,30nm,0.8s,baz=346,slow=18,SNR=4.8
ASAR P3KPbc 22 50 42.0
comp=Z,0.5nm,0.9s,baz=159,slow=4.2,SNR=2.4
ASAR **Alice Springs** 26.21 164 P **P** 22 17 57.9 -2.2
RABL **Rabaul** 26.36 103 P **P** 22 18 00.2 -1.4
RABL IAmb IAmb 22 18 07.0
comp=Z,355nm,0.6s
RABL IAMs_20 IAMs_20 22 26 28.7
comp=Z,37μm,21.0s
RABL **Rabaul** 26.36 103 P **P** 22 18 02.8 +1.2
comp=Z,486nm,0.6s
MTSU **Mount Surprise** 26.41 139 P **P** 22 18 01.8 -0.1
baz=26,SNR=92
WRKA **Warakurna** 26.61 176 P **P** 22 18 03.6 -0.1
baz=27,SNR=1000
MNSI **Mandailing Nat** 26.86 268 P **P** 22 18 04.7 -1.3
comp=Z,31μmcomp=Z,4μmcomp=Z,319nm,1.0s
GIRL **Giralia** 26.94 206 P **P** 22 18 07.3 +0.8
baz=27,SNR=46
GIRL **Giralia** 26.94 206 P **P** 22 18 07.4 +0.8
SRAK **Srakaew** 27.05 298 P **P** 22 18 02.7 -5.0
comp=Z,17μmcomp=Z,2μm,1.1s
KHON **Khomkaen** 27.44 303 P **P** 22 18 11.3 +0.1
comp=Z,4μmcomp=Z,359nm,1.1s
RPSI **Rantau Prapat** 27.51 273 P **P** 22 18 11.1 -0.7
RPSI IAmb IAmb 22 18 13.8
comp=Z,752nm,1.3s
PSI **Prapat** 27.51 273 P **P** 22 18 11.7 -0.3
comp=Z,261nm,1.1s,baz=179,slow=1.2,SNR=160
PSI PcP **PcP** 22 21 31.0 +1.6
comp=Z,20nm,0.8s,baz=3.3,slow=1.5,SNR=2.7
PSI S **S** 22 22 48.3 -1.1
comp=Z,29nm,1.1s,baz=180,slow=22,SNR=7.0
PSI ScP **ScP** 22 25 07.6 +2.2
comp=Z,17nm,1.0s,baz=177,slow=0.1,SNR=4.3
PSI **Prapat** 27.51 273 P **P** 22 18 11.1 -0.9
PSI pmax pmax
comp=Z,752nm,1.3s
PATY **Pattaya** 27.68 295 P **P** 22 18 18.0 +4.7
KRAB **Krabi** 27.89 284 P **P** 22 18 16.0 +0.8
comp=Z,100μmcomp=Z,4μm,0.7s
TSI **Tuntungan** 27.90 274 P **P** 22 18 15.1 -0.2
comp=Z,27μmcomp=Z,9μmcomp=Z,312nm,1.0s
CHAI **Chaiyaphum** 27.94 302 P **P** 22 18 15.7 0.0
comp=Z,3μmcomp=Z,339nm,0.6s
NONG **Nongkai** 28.07 307 P **P** 22 18 16.1 -0.7
comp=Z,413nm,0.8s
PKDT **Phuket** 28.66 283 P **P** 22 18 21.0 -1.1
comp=Z,4μmcomp=Z,428nm,1.5s
PHET **Kaeng Krachan** 28.80 294 P **P** 22 18 24.0 +0.7
comp=Z,1μmcomp=Z,166nm,0.9s
GSI **Gunungsitoli** 28.85 270 P **P** 22 18 21.8 -2.0
GSI IAmb IAmb 22 18 28.0
comp=Z,657nm,1.3s
GSI **Gunungsitoli** 28.85 270 P **P** 22 18 21.9 -2.0
comp=Z,26μmcomp=Z,7μmcomp=Z,470nm,1.0s
CTA **Charters Tower** 29.08 139 P **P** 22 18 25.5 -0.2
comp=Z,125nm,1.0s,baz=322,slow=11,SNR=41
CTA S **S** 22 23 11.9 -1.8
comp=Z,27nm,1.0s,baz=321,slow=19,SNR=2.2
CTA ScP **ScP** 22 25 12.2 +2.2
comp=Z,43nm,1.1s,baz=307,slow=5.1,SNR=4.6
CTA LR LR 22 32 31.4
comp=Z,10μm,18.3s,baz=324,slow=41
CTAO **Charters Tower** 29.08 139 P **P** 22 18 25.7 0.0
CTAO pmax pmax
comp=Z,206nm,0.9s
CTAO MLR MLR
comp=Z,12μm,19.0s
CTAO **Charters Tower** 29.08 139 P **P** 22 18 25.7 0.0
TPTI 29.27 274 P **P** 22 18 25.4 -2.1
comp=Z,11μmcomp=Z,2μmcomp=Z,85nm,1.1s
SLVN **Son La** 29.39 313 P **P** 22 18 28.3 -0.3
JCJ **Chichijima** 29.45 29 P **P** 22 18 28.4 -0.5
comp=Z,677nm,0.7s,baz=253,slow=4.5,SNR=41
JCJ S **S** 22 23 22.0 +2.6
comp=Z,43nm,0.9s,baz=288,slow=19,SNR=1.7
JCJ LR LR 22 29 11.9
comp=Z,10μm,20.5s,baz=220,slow=34
JCJ **Chichijima** 29.45 29 P **P** 22 18 27.6 -1.4
LHMI **Lhok Sumawe** 29.64 278 P **P** 22 18 30.3 -0.4
LHMI **Lhok Sumawe** 29.64 278 P **P** 22 18 30.4 -0.4
comp=Z,29μmcomp=Z,5μmcomp=Z,330nm,0.8s
SSE **Sheshan** 29.68 351 ⇑P **P** 22 18 31.8 +0.9
SSE S **S** 22 23 25.4 +2.5
SSE pmax pmax
comp=Z,40nm,1.3s
SSE pmax pmax
comp=Z,1μm,4.8s
SSE LR LR
comp=Z,5μm,25.6s
SSE **Sheshan** 29.68 351 P **P** 22 18 31.6 +0.7
SSE IAmb IAmb 22 18 34.7
comp=Z,553nm,1.6s
SRDT **SRDT** 29.78 296 P **P** 22 18 31.0 -1.0
comp=Z,2μmcomp=Z,115nm,1.2s
PHIT **Phitsanulok** 29.87 303 P **P** 22 18 33.4 +0.6
comp=Z,6μmcomp=Z,906nm,0.9s
JSU **Suzuyama** 29.92 7 P **P** 22 18 32.5 -0.6
UTHA **Uthaitani** 29.98 299 P **P** 22 18 33.8 0.0
comp=Z,2μmcomp=Z,167nm,0.6s
NANT **Nan** 30.43 306 P **P** 22 18 40.0 +2.3
comp=Z,46μmcomp=Z,3μm,0.8s
SUKH **Sukhothai** 30.67 302 P **P** 22 18 40.2 +0.4
comp=Z,2μmcomp=Z,215nm,0.9s
WHN **Wuhan** 30.92 339 ⇑P **P** 22 18 42.1 +0.3
WHN pP **pP** 22 18 53.6 -1.8
WHN sP **pwP** 22 18 58.8 +1.4
WHN S **S** 22 23 40.1 -2.2
WHN pmax pmax
comp=Z,350nm,1.0s
WHN LR LR
comp=Z,67μm,29.2s
WHN LR LR
comp=Z,42μm,22.7s
WHN LR LR
comp=Z,81μm,28.5s
NJ2 **Nanjing** 31.05 347 ⇑P **P** 22 18 43.3 +0.3
NJ2 pP **pP** 22 18 55.3 -1.2
NJ2 sP **pwP** 22 18 59.9 +1.0
NJ2 S **S** 22 23 41.0 -3.4
NJ2 sS **sS** 22 24 12.9 +5.4
NJ2 SS **SnSn** 22 25 33.6 +3.5
NJ2 pmax pmax
comp=Z,67nm,0.6s
NJ2 pmax pmax
comp=Z,2μm,6.3s
NJ2 LR LR
comp=Z,12μm,21.6s
NJ2 LR LR
comp=Z,8μm,20.4s
NJ2 LR LR
comp=Z,17μm,22.5s
GYA **Guiyang** 31.12 324 ⇑P **P** 22 18 43.8 -0.1
GYA pP pP 22 18 57.3 -0.2
GYA PP **PP** 22 19 52.3 -2.7
GYA PcP **PcP** 22 21 40.0 +1.7
GYA S **S** 22 23 43.3 -2.5
GYA sS sS 22 24 05.8 -3.2
GYA SS ScP 22 25 36.1 +19
GYA pmax pmax
comp=Z,150nm,1.2s
GYA pmax pmax
comp=Z,1μm,4.2s
GYA LR LR
comp=Z,8μm,22.0s
GYA LR LR
comp=Z,6μm,25.8s
GYA LR LR
comp=Z,11μm,24.9s
LAMP **Lampang** 31.16 304 P **P** 22 18 45.0 +0.8
comp=Z,1μmcomp=Z,125nm,0.8s
JNU **Nakatsue** 31.56 7 P **P** 22 18 47.5 -0.1
comp=Z,482nm,0.8s,baz=180,slow=4.7,SNR=46
JNU **Nakatsue** 31.56 7 P **P** 22 18 46.8 -0.8
JNU IAmb IAmb 22 18 52.3
comp=Z,449nm,0.8s
CM36 **Chiang Mai Arr** 31.61 304 P **P** 22 18 48.0 -0.1
CM35 **Chiang Mai Arr** 31.63 304 P **P** 22 18 48.0 -0.4
CM04 **Chiang Mai Arr** 31.65 303 P **P** 22 18 49.0 +0.5
comp=Z,586nmcomp=Z,67nm,0.9s
CM09 **Chiang Mai Arr** 31.66 304 P **P** 22 18 49.0 +0.4
comp=Z,746nmcomp=Z,96nm,0.9s
CM01 **Chiang Mai Arr** 31.67 303 P **P** 22 18 49.2 +0.5
comp=Z,766nmcomp=Z,78nm,1.0s
CM05 **Chiang Mai Arr** 31.68 303 P **P** 22 18 49.1 +0.4
comp=Z,534nmcomp=Z,57nm,1.1s
CM02 **Chiang Mai Arr** 31.69 303 P **P** 22 18 49.0 +0.1
comp=Z,689nmcomp=Z,91nm,1.2s
CM31 **Chiang Mai Arr** 31.70 304 P **P** 22 18 49.0 0.0
comp=Z,21μmcomp=Z,2μm,0.8s
CM31 **Chiang Mai Arr** 31.70 304 P **P** 22 18 48.7 -0.3
CMAR **Chiang Mai Arr** 31.70 304 P **P** 22 18 49.0 +0.1
comp=Z,37nm,0.9s,baz=127,slow=6.7,SNR=76
CMAR PcP **PcP** 22 21 41.7 +1.9
comp=Z,16nm,1.1s,baz=125,slow=3.1,SNR=3.0
CMAR ScP **ScP** 22 25 21.4 +2.8
comp=Z,9.8nm,0.9s,baz=140,slow=2.2,SNR=6.1
CMAR PKiKP **PKiKP** 22 29 09.7 +0.8
comp=Z,1.4nm,0.4s,baz=278,slow=0.8,SNR=4.5
CMAR LR LR 22 30 58.7
comp=Z,8μm,21.4s,baz=168,slow=35
CMAR **Chiang Mai Arr** 31.70 304 *ce*P **P** 22 18 48.7 -0.3
CMAR pmax pmax
comp=Z,37nm,0.9s
CMAR **Chiang Mai Arr** 31.70 304 P **P** 22 18 48.1 -0.9
CM13 **Chiang Mai Arr** 31.72 303 P **P** 22 18 49.5 +0.4
comp=Z,582nmcomp=Z,73nm,0.9s
CM15 **Chiang Mai Arr** 31.72 303 P **P** 22 18 49.6 +0.5
comp=Z,601nmcomp=Z,85nm,0.9s
CM34 **Chiang Mai Arr** 31.72 304 P **P** 22 18 48.0 -1.1
CMMT **Chiang Mai** 31.87 304 P **P** 22 18 49.0 -1.4
comp=Z,1μmcomp=Z,86nm,1.0s
CM33 **Chiang Mai Arr** 31.87 304 P **P** 22 18 49.0 -1.5
CHTO **Chiang Mai** 31.87 304 P **P** 22 18 50.2 -0.3
CHTO pmax pmax
comp=Z,332nm,1.4s
CHTO MLR MLR
comp=Z,21μm,22.0s
CHTO **Chiang Mai** 31.87 304 P **P** 22 18 50.2 -0.3
CHTO IAmb IAmb 22 18 53.7
comp=Z,332nm,1.4s
CHTO **Chiang Mai** 31.87 304 IAMs_20 IAMs_20 22 31 27.3
comp=Z,21μm,22.0s
CHTO **Chiang Mai** 31.87 304 P **P** 22 18 50.0 -0.5
CHTO P **P** 22 18 50.0 -0.5
CHTO S **S** 22 23 56.8 -0.8
CHTO S **S** 22 23 56.8 -0.8
CM32 **Chiang Mai Arr** 31.88 304 P **P** 22 18 50.0 -0.5
MORW **Morawa** 32.15 197 P **P** 22 18 52.7 0.0
baz=32,SNR=73
MORW **Morawa** 32.15 197 P **P** 22 18 52.5 -0.2
MORW IAmb IAmb 22 18 54.4
comp=Z,442nm,1.2s
PATS **Pohnpei** 32.19 80 P **P** 22 18 52.7 -0.6
PATS IAmb IAmb 22 19 59.3
comp=Z,651nm,1.6s
PATS IAMs_20 IAMs_20 22 28 57.1
comp=Z,32μm,22.0s
FORT **Forrest** 32.31 177 P **P** 22 18 53.9 -0.2
baz=32,SNR=255
FORT **Forrest** 32.31 177 P **P** 22 18 53.7 -0.4
MHMT **Maesarieng** 32.42 302 P **P** 22 18 54.4 -0.9
comp=Z,4μmcomp=Z,163nm,0.9s
COCO **West Island** 32.47 244 P **P** 22 18 54.7 -1.0
COCO pmax pmax
comp=Z,218nm,0.9s
COCO MLR MLR
comp=Z,18μm,22.0s
COCO **West Island** 32.47 244 P **P** 22 18 54.7 -1.0
COCO IAmb IAmb 22 19 07.7
comp=Z,218nm,0.8s
JMN **Monobe** 32.64 12 P **P** 22 18 57.9 +0.9
JMN IAmb IAmb 22 19 01.5
comp=Z,448nm,0.9s
KMI **Kunming** 32.65 318 ⇑P **P** 22 18 58.3 +0.8
KMI pP pP 22 19 10.4 -0.7
KMI sP sP 22 19 14.9 -2.6
KMI PP **PP** 22 20 10.3 -1.9
KMI PcP **PcP** 22 21 44.3 +1.7
KMI S **S** 22 24 08.6 -1.4
KMI sS sS 22 24 32.8 -0.4
KMI pmax pmax
comp=Z,260nm,1.4s
KMI pmax pmax
comp=Z,1μm,5.0s
KMI LR LR
comp=Z,9μm,22.0s
KMI LR LR
comp=Z,14μm,26.7s
KMI LR LR
comp=Z,27μm,25.5s
KMI **Kunming** 32.65 318 P **P** 22 18 58.1 +0.6
KMI pmax pmax
comp=Z,659nm,1.5s
KMI MLR MLR
comp=Z,27μm,22.0s
KMI **Kunming** 32.65 318 P **P** 22 18 58.1 +0.6
KMI IAmb IAmb 22 19 00.4
comp=Z,659nm,1.5s
KMI **Kunming** 32.65 318 IAMs_20 IAMs_20 22 30 55.8
comp=Z,27μm,22.0s
ENH **Enshi** 32.68 332 P **P** 22 18 56.7 -0.7
ENH IAmb IAmb 22 19 11.8
comp=Z,291nm,0.9s
JTU **Tsushima** 32.80 5 P **P** 22 18 58.5 +0.1
JTU IAmb IAmb 22 19 10.2
comp=Z,271nm,1.2s
QLP **Quilpie** 32.93 150 P **P** 22 18 59.0 -0.6
baz=33,SNR=17
KMBL **Kambalda** 33.14 187 P **P** 22 19 01.3 -0.1
baz=33,SNR=163
BLDU **Ballidu** 33.42 195 P **P** 22 19 03.7 -0.1
baz=34,SNR=74
JHJ **Hachijo jima 2** 33.70 20 P **P** 22 19 05.7 -0.5
comp=Z,234nm,0.8s,baz=200,slow=18,SNR=11
JHJ2 **Mitsune** 33.70 20 P **P** 22 19 05.0 -1.2
JHJ2 IAmb IAmb 22 19 09.0
comp=Z,288nm,0.8s
JHS **Saijyo** 33.74 10 P **P** 22 19 07.0 +0.5
JHS IAmb IAmb 22 19 10.3
comp=Z,518nm,1.2s
KLBR **Kellerberrin** 34.09 193 P **P** 22 19 09.7 0.0
baz=34,SNR=75
JWT **Wachi** 34.47 13 P **P** 22 19 13.3 +0.5
TJN **Taejon** 34.54 1 *ce*P **P** 22 19 13.5 0.0
JSG **Sagara** 34.62 17 P **P** 22 19 15.2 +1.1
MUN **Mundaring** 34.84 195 P **P** 22 19 16.8 +0.6
baz=35,SNR=26

PBA Port Blair 34.86 288 eP P 22 19 13.2 -3.2
PBA IAmb IAmb 22 19 23.5
comp=Z,65nm,0.8s
PBA *i* x x 22 20 40.6
PBA IAMs_20 IAMs_20 22 33 20.9
comp=Z,30µm,23.3s
PBA Port Blair 34.86 288 P P 22 19 14.2 -2.3
PBA IAmb IAmb 22 19 34.1
comp=Z,266nm,1.3s
PBA Port Blair 34.86 288 P P 22 19 14.1 -2.4
SNR=16
INU Inuyama 34.92 15 P **P** **22 19 16.5 -0.3**
DGPR DIGLIPUR 35.08 291 eP **P** **22 19 14.3 -4.1**
DGPR *i* x x 22 20 44.6
HNR Honiara 35.16 109 P **P** **22 19 16.6 -2.5**
HNR pmax pmax
comp=Z,363nm,0.9s
HNR MLR MLR
comp=Z,8µm,22.0s
HNR Honiara 35.16 109 P **P** **22 19 16.6 -2.5**
HNR IAmb IAmb 22 19 23.4
comp=Z,363nm,0.9s
HNR Honiara 35.16 109 P **P** **22 19 19.3 +0.2**
JGF Kuroka 35.25 16 P **P** **22 19 19.3 -0.4**
JGF IAmb IAmb 22 19 22.5
comp=Z,456nm,1.3s
RMQ Roma 35.33 144 P **P** **22 19 19.8 -0.6**
baz=35,SNR=36
TIA Tai'an 35.43 347 P **P** **22 19 20.6 -0.6**
TIA S **S** **22 24 51.5 -0.8**
TIA pmax pmax
comp=Z,33nm,1.1s
TIA pmax pmax
comp=Z,2µm,5.0s
TIA LR LR
comp=Z,14µm,20.2s
TIA LR LR
comp=Z,8µm,23.7s
TIA LR LR
comp=Z,8µm,20.0s
BBOO Buckleboo 35.48 166 P **P** **22 19 21.0 -0.6**
baz=36,SNR=155
BBOO Buckleboo 35.48 166 P **P** **22 19 20.6 -1.1**
NWAO Narrogin (SRO) 35.49 193 P **P** **22 19 22.1 +0.4**
baz=36,SNR=31
NWAO Narrogin (SRO) 35.49 193 P **P** **22 19 21.7 0.0**
NWAO pmax pmax
comp=Z,428nm,1.2s
NWAO MLR MLR
comp=Z,6µm,21.0s
NWAO Narrogin (SRO) 35.49 193 P **P** **22 19 21.7 0.0**
NWAO IAmb IAmb 22 19 23.6
comp=Z,428nm,1.1s
NWAO Narrogin (SRO) 35.49 193 P **P** **22 19 22.2 +0.4**
NWAO P **P** **22 19 22.2 +0.4**
NWAO S **S** **22 24 51.4 -1.8**
NWAO S **S** **22 24 51.4 -1.8**
KSAR Wonju Array Be 35.62 2 P **P** **22 19 22.9 +0.1**
KSAR Wonju Array Be 35.62 2 P **P** **22 19 22.9 +0.1**
KSRS Korea Array 35.63 2 P **P** **22 19 23.6 +0.8**
comp=Z,117nm,0.8s,baz=178,slow=10.0,SNR=60
KSRS PcP **PcP** **22 21 52.0 +1.5**
comp=Z,25nm,0.8s,baz=185,slow=2.3,SNR=9.7
KSRS ScP **ScP** **22 25 34.1 +2.2**
comp=Z,7.2nm,0.9s,baz=190,slow=4.4,SNR=5.2
KSRS LR LR 22 33 03.4
comp=Z,6µm,21.6s,baz=180,slow=35
INCN Inchon 35.64 0 P **P** **22 19 23.0 +0.1**
INCN pmax pmax
comp=Z,145nm,1.0s
INCN MLR MLR
comp=Z,9µm,22.0s
INCN Inchon 35.64 0 P **P** **22 19 23.0 +0.1**
INCN Inchon 35.64 0 P **P** **22 19 23.9 +1.0**
INCN P **P** **22 19 23.9 +1.0**
INCN S **S** **22 24 56.5 +1.1**
INCN S **S** **22 24 56.5 +1.1**
KS19 Wonju Array Si 35.68 2 P **P** **22 19 23.4 +0.1**
KS19 IAmb IAmb 22 19 33.0
comp=Z,403nm,1.5s
EIDS Eidsvold 35.95 140 P **P** **22 19 24.9 -0.8**
baz=36,SNR=30
EIDS Eidsvold 35.95 140 P **P** **22 19 24.2 -1.6**
EIDS IAmb IAmb 22 19 27.7
comp=Z,309nm,1.0s
EIDS IAMs_20 IAMs_20 22 35 46.4
comp=Z,17µm,20.0s
XAN Xi'an 36.13 335 ⇑P **P** **22 19 25.8 -1.4**
XAN pP pwP 22 19 44.6 +1.6
XAN PcP **PcP** **22 21 52.3 +0.1**
XAN S **S** **22 24 57.1 -5.9**
XAN ScP **ScP** **22 25 34.8 +0.8**
XAN PcS **PcS** **22 25 38.5 -1.3**
XAN ScS **ScS** **22 29 37.8 -2.1**
XAN pmax pmax
comp=Z,320nm,1.4s
XAN pmax pmax
comp=Z,2µm,3.6s
XAN LR LR
comp=Z,15µm,27.1s
XAN LR LR
comp=Z,5µm,22.8s
XAN LR LR
comp=Z,25µm,28.2s
XAN Xi'an 36.13 335 P **P** **22 19 25.8 -1.4**
XAN pmax pmax
comp=Z,457nm,1.3s
XAN MLR MLR
comp=Z,1µm,22.0s
XAN Xi'an 36.13 335 P **P** **22 19 25.8 -1.4**
XAN IAmb IAmb 22 19 29.1
comp=Z,457nm,1.3s
CD2 Chengdu 36.15 326 ⇑*i*P **P** **22 19 26.5 -0.9**
CD2 pP pP 22 19 39.9 -1.2
CD2 sP pwP 22 19 44.1 +0.9
CD2 S **S** **22 25 05.3 +1.9**
CD2 sS sS 22 25 25.8 -1.0
CD2 pmax pmax
comp=Z,710nm,1.3s
CD2 pmax pmax
comp=Z,3µm,5.6s
CD2 LR LR
comp=Z,32µm,25.5s
CD2 LR LR
comp=Z,41µm,22.1s
CD2 LR LR
comp=Z,32µm,23.5s
STKA Stephens Creek 36.33 158 P **P** **22 19 28.0 -1.0**
comp=Z,255nm,0.8s,baz=330,slow=8.7,SNR=134
STKA S **S** **22 25 03.2 -2.9**
comp=Z,10.0nm,1.0s,baz=288,slow=20,SNR=1.0
STKA LR LR 22 36 38.7
comp=Z,9µm,21.8s,baz=330,slow=40
STKA Stephens Creek 36.33 158 P **P** **22 19 28.4 -0.6**
baz=36,SNR=167
STKA Stephens Creek 36.33 158*c* *i*P **P** **22 19 27.9 -1.0**
STKA Stephens Creek 36.33 158 P **P** **22 19 27.9 -1.0**
MAJO Matsushiro 36.37 16*c* *i*P **P** **22 19 27.7 -1.5**
MAJO pmax pmax
comp=Z,938nm,1.8s
MAJO Matsushiro 36.37 16 P **P** **22 19 28.0 -1.2**
MAT Matsushiro 36.37 16 P **P** **22 19 27.9 -1.3**
MAT S **S** **22 25 04.2 -2.4**
MJAR Matsushiro Arr 36.37 16 P **P** **22 19 28.4 -0.8**
comp=Z,230nm,0.9s,baz=194,slow=8.0,SNR=130
MJAR PcP **PcP** **22 21 53.4 +0.6**
comp=Z,28nm,0.9s,baz=179,slow=2.9,SNR=4.1
MJAR S **S** **22 25 06.3 -0.3**
comp=Z,1.0nm,0.7s,baz=250,slow=22,SNR=1.3
MJAR ScP **ScP** **22 25 36.7 +1.9**
comp=Z,17nm,1.1s,baz=204,slow=3.3,SNR=7.3
MJAR LR LR 22 33 27.9
comp=Z,6µm,20.9s,baz=205,slow=35
MJAR P3KPbc 22 50 03.5
comp=Z,1.5nm,0.6s,baz=24,slow=4.4,SNR=6.0
MJAR Matsushiro Arr 36.37 16 P **P** **22 19 27.7 -1.5**
MJAR PcP **PcP** **22 21 54.4 +1.6**
MJAR **ScP** **22 25 35.9 +1.1**
JYT Yasato 36.67 19 P **P** **22 19 29.7 -2.0**
JYT IAmb IAmb 22 19 34.5
comp=Z,323nm,1.1s
HTT Hallett 36.85 162 P **P** **22 19 33.6 +0.2**
baz=37,SNR=82
DL2 Dalian 37.32 354 ⇑*i*P **P** **22 19 38.0 +0.8**
DL2 pP **pP** **22 19 51.3 +0.4**
DL2 PP **PP** **22 21 02.5 -0.7**
DL2 PcP **PcP** **22 21 58.3 +2.8**
DL2 S **S** **22 25 22.8 +1.9**
DL2 SS **SnSn** **22 27 58.6 -3.1**
DL2 pmax pmax
comp=Z,540nm,1.0s
DL2 pmax pmax
comp=Z,3µm,5.7s
DL2 LR LR
comp=Z,9µm,15.4s
DL2 LR LR
comp=Z,5µm,15.7s
DL2 LR LR
comp=Z,15µm,23.7s
CMSA Cobar Meteorol 37.75 153 P **P** **22 19 40.4 -0.6**
baz=38,SNR=104
JSD Sado 37.79 15 P **P** **22 19 40.3 -0.9**
TIY Taiyuan 38.11 342 eP **P** **22 19 44.1 +0.1**
TIY pP **pP** **22 19 57.1 -0.6**
TIY sP **sP** **22 20 03.6 -0.4**
TIY S **S** **22 25 34.8 +1.7**
TIY pmax pmax
comp=Z,42nm,0.8s
TIY pmax pmax
comp=Z,1µm,5.5s
TIY LR LR
comp=Z,10µm,22.2s
TIY LR LR
comp=Z,3µm,12.2s
TIY LR LR
comp=Z,22µm,30.6s
H01W3 Cape Leeuwin H 38.15 196 P **P** **22 19 42.4 -1.6**
baz=41,slow=7.8,SNR=3.5
H01W1 Cape Leeuwin H 38.15 196 P **P** **22 19 42.4 -1.6**
baz=41,slow=7.8,SNR=4.9
H01W2 Cape Leeuwin H 38.16 196 P **P** **22 19 42.5 -1.6**
baz=41,slow=7.8,SNR=6.6
JMM Marumori 38.36 18 P **P** **22 19 46.1 +0.1**
SAIH SAIHA 38.52 305 eP **P** **22 19 44.2 -3.6**
KOHI KOHIMA 39.24 310 eP **P** **22 19 52.5 -1.4**
MOKO MOKOCHONG 39.26 311 ⇑*i*P **P** **22 19 52.3 -1.6**
BJT Baijiatuau 39.29 348 P **P** **22 19 53.3 -0.5**
BJT pmax pmax
comp=Z,654nm,1.5s
BJT Baijiatuau 39.29 348 P **P** **22 19 53.3 -0.5**
BJT IAmb IAmb 22 19 57.4
comp=Z,654nm,1.5s
BJI Beijing 39.31 348 P **P** **22 19 53.8 -0.1**
BJI PcP **PcP** **22 22 03.9 +2.2**
BJI S **S** **22 25 50.3 -0.7**
BJI pmax pmax
comp=Z,230nm,1.1s
BJI pmax pmax
comp=Z,2µm,5.9s
BJI LR LR
comp=Z,4µm,15.2s
BJI LR LR
comp=Z,5µm,21.6s
BJI LR LR
comp=Z,8µm,26.7s
JORH JORHAT 39.69 312 eP **P** **22 19 56.9 -0.4**
JORH IAmb IAmb 22 19 59.5
comp=Z,1µm,1.2s
ARMA Armidale 39.94 145 P **P** **22 19 59.7 +0.2**
baz=40,SNR=122
ARMA Armidale 39.94 145 P **P** **22 19 58.9 -0.6**
ARMA IAmb IAmb 22 20 05.8
comp=Z,278nm,0.9s
SNY Shenyang 40.06 357 ⇑P **P** **22 20 01.3 +1.2**
SNY S **S** **22 26 04.9 +2.8**
SNY SS **SS** **22 29 00.1 -1.3**
SNY pmax pmax
comp=Z,160nm,0.9s
SNY pmax pmax
comp=Z,3µm,6.9s
SNY LR LR
comp=Z,7µm,30.0s
SNY LR LR
comp=Z,5µm,16.9s
SNY LR LR
comp=Z,20µm,27.3s
BELO BELONIA 40.13 305 *i*P **P** **22 19 59.2 -1.7**
LZH Lanzhou 40.13 331 ⇑P **P** **22 20 01.3 +0.2**
LZH pP pP 22 20 14.4 -0.6
LZH sP pwP 22 20 18.6 +1.6
LZH PP **PP** **22 21 33.8 -0.5**
LZH PcP **PcP** **22 22 07.8 +3.1**
LZH S **S** **22 25 57.9 -5.9**
LZH pmax pmax
comp=Z,370nm,1.1s
LZH pmax pmax
comp=Z,2µm,6.1s
LZH LR LR
comp=Z,16µm,15.7s
LZH LR LR
comp=Z,14µm,19.0s
LZH LR LR
comp=Z,16µm,19.5s
ITAN ITANAGAR 40.31 312 ⇑*i*P **P** **22 20 01.9 -0.5**
ITAN IAmb IAmb 22 20 03.9
comp=Z,2µm,1.9s
ZIRO ZIRO 40.42 312 ⇑*i*P **P** **22 20 03.1 -0.5**
AGT Agartala 40.58 306 eP **P** **22 20 05.7 +1.0**
ARPS Mount Arapiles 40.84 161 P **P** **22 20 06.8 +0.2**
baz=41,SNR=125
SHL Shillong 40.88 309 P **P** **22 20 06.5 -1.0**
SHL pmax pmax
comp=Z,326nm,0.7s
SHL Shillong 40.88 309 ⇑*i*P **P** **22 20 06.0 -1.4**
SHL ⇑eP **P** **22 20 06.0 -1.4**
SHL Shillong 40.88 309 P **P** **22 20 06.5 -1.0**
SHL IAmb IAmb 22 20 13.7
comp=Z,326nm,0.7s
SHL Shillong 40.88 309 P **P** **22 20 06.8 -0.6**
SNR=270
MSHR Mys Shultsa 40.95 5*ce*P **P** **22 20 08.1 +0.7**
MSHR pmax pmax
comp=Z,594nm,1.7s
JTM Tenmabayashi 41.13 17 P **P** **22 20 09.5 +0.5**
HHC Hu-ho-hao-te 41.26 343 ⇑*i*P **P** **22 20 10.3 +0.1**
HHC pP pP 22 20 22.6 -1.4
HHC sP pwP 22 20 28.0 +1.5
HHC S **S** **22 26 21.0 +0.7**
HHC sS sS 22 26 40.4 -3.6
HHC ScS **ScS** **22 30 08.3 -1.2**
HHC pmax pmax
comp=Z,62nm,1.3s
HHC pmax pmax
comp=Z,3µm,6.0s
HHC LR LR
comp=Z,10µm,20.8s
HHC LR LR
comp=Z,6µm,20.4s
HHC LR LR
comp=Z,28µm,20.2s
YNG Young 41.30 152 P **P** **22 20 11.1 +0.5**
baz=41,SNR=53
GUWA GUWAHATI 41.35 309 eP **P** **22 20 09.4 -1.6**
GUWA IAmb IAmb 22 20 11.9
comp=Z,192nm,1.2s
BTO Baotou 41.51 341 eP **P** **22 20 12.5 +0.2**
BTO pP **pP** **22 20 25.0 -1.1**
BTO sP **pwP** **22 20 30.3 +1.7**
BTO PP **PnPn** **22 21 53.0 -1.2**
BTO S **S** **22 26 25.3 +1.2**
BTO pmax pmax
comp=Z,120nm,4.5s
BTO LR LR
comp=Z,44µm,27.3s
BTO LR LR
comp=Z,21µm,25.9s
BTO LR LR
comp=Z,76µm,26.1s
MGCD Mangrove Creek 41.78 148 P **P** **22 20 15.7 +1.3**
baz=42,SNR=14
CN2 Changchun 41.96 359 eP **P** **22 20 15.3 -0.4**
CN2 sP sP 22 20 36.3 +0.5
CN2 SS SS 22 29 31.3 -7.7
CN2 pmax pmax
comp=Z,30nm,1.4s
CN2 pmax pmax
comp=Z,2µm,7.1s
CN2 LR LR
comp=Z,7µm,26.0s
CN2 LR LR
comp=Z,8µm,27.0s
RIV Riverview 42.29 149 P **P** **22 20 18.4 -0.1**
baz=42,SNR=4.8
CAN Canberra 42.43 152 P **P** **22 20 19.7 0.0**
CAN pmax pmax
comp=Z,1µm,1.8s
CAN MLR MLR
comp=Z,13µm,22.0s
CAN Canberra 42.43 152 P **P** **22 20 19.7 0.0**
CAN IAmb IAmb 22 20 34.2
comp=Z,1µm,1.8s
CAN IAMs_20 IAMs_20 22 38 20.3
comp=Z,13µm,22.0s
CNB Canberra Magne 42.59 152 P **P** **22 20 21.6 +0.5**
baz=43,SNR=24
USRK Ussuriysk Ar. 42.63 6 P **P** **22 20 21.8 +0.6**
comp=Z,108nm,0.9s,baz=187,slow=7.7,SNR=153
USRK ScP **ScP** **22 26 01.5 +2.7**
comp=Z,6.0nm,1.0s,baz=224,slow=2.4,SNR=3.0
USRK LR LR 22 41 00.2
comp=Z,2µm,18.9s,baz=189,slow=40
USRK PKP2ab 22 53 31.4
comp=Z,3.8nm,1.1s,baz=350,slow=4.4,SNR=8.4
USRK Ussuriysk Ar. 42.63 6 P **P** **22 20 21.2 0.0**
USRK Ussuriysk Ar. 42.63 6 P **P** **22 20 21.1 0.0**
USRK **ScP** **22 26 00.8 +2.0**
USA0B Ussuriysk Arra 42.63 6 P **P** **22 20 21.7 +0.5**
USA0B pmax pmax
comp=Z,286nm,1.2s
USA0B Ussuriysk Arra 42.63 6 P **P** **22 20 21.6 +0.5**
TOO Toolangi 42.85 158 P **P** **22 20 24.7 +1.5**
baz=43,SNR=21
TOO Toolangi 42.85 158 P **P** **22 20 23.5 +0.4**
TOO pmax pmax
comp=Z,115nm,0.9s
TOO Toolangi 42.85 158 P **P** **22 20 23.5 +0.4**
H11S3 WAKE ISLAND Hy 42.85 64 T T 23 06 14.9
baz=251
MDJ Mudanjiang 42.85 3 P **P** **22 20 23.8 +0.8**
MDJ pP pP 22 20 36.1 -0.8
MDJ sP sP 22 20 41.8 -1.3
MDJ PP **PP** **22 22 03.9 +0.5**
MDJ PcS **PcS** **22 26 07.3 +1.9**
MDJ S **S** **22 26 45.8 +2.3**
MDJ sS sS 22 27 06.9 -0.4
MDJ pmax pmax
comp=Z,180nm,1.0s
MDJ pmax pmax
comp=Z,3µm,3.1s
MDJ LR LR
comp=Z,12µm,28.5s
MDJ LR LR
comp=Z,6µm,22.8s
MDJ LR LR
comp=Z,27µm,28.5s
MDJ Mudanjiang 42.85 3 P **P** **22 20 23.8 +0.8**
H11S2 WAKE ISLAND Hy 42.87 64 T T 23 06 19.9
baz=251,slow=74
H11S1 WAKE ISLAND Hy 42.87 64 T T 23 06 19.4
baz=251,slow=74
ERM Erimo 42.89 18*ce*P **P** **22 20 24.4 +1.1**
ERM pmax pmax
comp=Z,343nm,1.3s
ERM Erimo 42.89 18 P **P** **22 20 23.5 +0.3**
WAKE Wake Island 43.07 63 P **P** **22 20 24.5 -0.7**
WAKE IAmb IAmb 22 21 15.7
comp=Z,568nm,1.2s
JEW Eniwo 43.13 16 P **P** **22 20 26.4 +1.1**
KOUNC Koumac, New Ca 43.15 123 P **P** **22 20 26.2 +0.4**
H11N1 WAKE ISLAND Hy 43.43 63 T T 23 06 51.9
baz=250,SNR=1.4
H11N2 WAKE ISLAND Hy 43.44 63 T T 23 06 53.1
baz=250
H11N3 WAKE ISLAND Hy 43.45 63 T T 23 06 56.8
baz=250
LSA Lhasa 43.60 313 P **P** **22 20 29.8 0.0**
LSA LR LR
comp=Z,13µm,24.6s
LSA LR LR
comp=Z,13µm,23.8s
LSA LR LR
comp=Z,18µm,19.2s
LSA Lhasa 43.60 313 P **P** **22 20 30.1 +0.3**
LSA Lhasa 43.60 313 P **P** **22 20 30.1 +0.3**
LSA pmax pmax
comp=Z,914nm,1.7s
LSA Lhasa 43.60 313 P **P** **22 20 30.1 +0.3**
LSA IAmb IAmb 22 20 33.8
comp=Z,914nm,1.7s
LSA Lhasa 43.60 313 P **P** **22 20 30.3 +0.5**
LSA S **S** **22 26 57.0 +1.2**
TEY Ternei 44.11 10 ⇑*i*P **P** **22 20 33.9 +0.9**
TEY *i* S **S** **22 27 03.2 +1.4**
TEY pmax pmax
comp=N,170nm,1.4s
TEY pmax pmax
comp=Z,300nm,1.4s
TEY pmax pmax
comp=Z,3µm,3.4s
TEY smax smax
comp=E,4µm,16.7s
TEY smax smax
comp=N,9µm,24.2s
GTK Tadong 44.30 309 eP **P** **22 20 34.9 -0.3**
ASAJ Asahikawa 44.63 17 P **P** **22 20 38.3 +1.0**
comp=N,380nm,0.8s,baz=231,slow=11,SNR=80
ASAJ S **S** **22 27 09.4 -0.1**
comp=N,20nm,1.2s,baz=315,slow=20,SNR=2.7
ASAJ Asahikawa 44.63 17 P **P** **22 20 38.0 +0.7**
ASAJ pmax pmax
comp=Z,488nm,1.0s
JKA Kamikawa-asahi 44.63 17 P **P** **22 20 38.0 +0.7**
JKA IAmb IAmb 22 20 41.9
comp=Z,488nm,1.0s
GTA Gaotai 44.72 330 ⇑P **P** **22 20 37.8 -0.4**
GTA pP pP 22 20 50.5 -1.8
GTA sP sP 22 20 55.0 -3.6
GTA PcP **PcP** **22 22 21.1 +1.3**
GTA PcS **PcS** **22 26 12.4 -1.1**
GTA S **S** **22 27 08.9 -2.2**
GTA SS **ScS** **22 30 22.8 -8.3**
GTA ScS **SS** **22 30 31.3 -2.2**
GTA pmax pmax
comp=Z,43nm,1.3s
GTA pmax pmax
comp=Z,1µm,8.4s
GTA LR LR
comp=Z,8µm,24.7s
GTA LR LR
comp=Z,9µm,23.9s
GTA LR LR
comp=Z,10µm,24.9s
BOK Bokaro 44.98 303 ⇑*i*P **P** **22 20 40.0 -0.4**
BOK IAmb IAmb 22 20 46.4
comp=Z,335nm,1.8s
BOK IAMs_20 IAMs_20 22 36 41.4
comp=Z,18µm,30.2s
TAPN Taplejung 45.02 308 eP **P** **22 20 39.3 -1.7**
comp=Z,842nm,1.4s
ODAN Odare 45.05 307 eP **P** **22 20 40.6 -0.6**
comp=Z,459nm,0.7s
LHI Lord Howe Isla 45.26 140 P **P** **22 20 42.8 +0.3**
LHI IAmb IAmb 22 22 26.4
comp=Z,556nm,1.9s
LHI Lord Howe Isla 45.26 140 P **P** **22 20 43.3 +0.8**
YUK Yuzh-Kuril'sk 45.58 20 eP **P** **22 20 43.5 -1.2**
YUK *e* 22 22 20.8
YUK *e* 22 22 30.4
YUK *e*PPP PPP 22 23 10.9
YUK *e*S **S** **22 27 22.9 -0.1**
YUK *e* 22 30 35.5
YUK *e*SSS SSS 22 31 39.9
YUK pmax pmax
comp=E,839nm,1.1s
YUK pmax pmax
comp=Z,1µm,1.1s
YUK pmax pmax
comp=N,614nm,0.9s
YUK pmax pmax
comp=Z,1µm,1.4s
YUK MLR MLR
comp=Z,2µm,15.0s
YUK MLR MLR
comp=E,757nm,15.0s

YUK MLR MLR
comp=N,2μm,14.0s
DZM Mont Dzumac 45.62 123 *e*P **P 22 20 46.3 +0.6**
comp=N,422nm,1.6s
DZM Mont Dzumac 45.62 123 P **P 22 20 45.0 -0.7**
DZM IAMs_20 IAMs_20 22 39 02.5
comp=Z,13μm,22.0s
DZM Mont Dzumac 45.62 123 P **P 22 20 46.2 +0.6**
RAMN Ramite 45.72 307 *e*P **P 22 20 46.1 -0.4**
comp=Z,341nm,0.6s
ONTNC Ouen Toro 45.74 124 P **P 22 20 47.1 +0.7**
PALK Pallekele 45.91 278 P **P 22 20 48.0 +0.1**
PALK pmax pmax
comp=Z,264nm,1.3s
PALK MLR MLR
comp=Z,12μm,22.0s
PALK Pallekele 45.91 278 P **P 22 20 48.0 +0.1**
PALK IAmb IAmb 22 20 49.8
comp=Z,264nm,1.3s
PALK Pallekele 45.91 278 IAMs_20 IAMs_20 22 40 32.8
comp=Z,12μm,22.0s
PALK Pallekele 45.91 278 P **P 22 20 46.3 -1.6**
PALK S **S 22 27 24.6 -4.3**
YATNC Mamie plateau, 45.99 123 P **P 22 20 49.1 +0.7**
OUENC Ouen Island, N 46.11 124 P **P 22 20 49.8 +0.5**
MARNC Mare, Loyalty 46.71 122 P **P 22 20 54.9 +0.9**
comp=Z,5.2nm,0.9s
GUN Gumba 46.72 308 *e*P **P 22 20 53.7 -0.8**
comp=Z,614nm,0.7s
PKI Pulchoki 46.94 307 *e*P **P 22 20 55.0 -1.2**
comp=Z,1μm,1.7s
PKIN Phulchoki 46.95 307 *e*P **P 22 20 55.0 -1.2**
comp=Z,167nm,0.7s
MDRS Chennai 47.09 286⇑ *i*P **P 22 20 55.8 -1.3**
MDRS IAmb IAmb 22 20 59.5
comp=Z,227nm,1.0s
KKN Kakani 47.14 307 *e*P **P 22 20 56.8 -0.8**
comp=Z,1μm,1.6s
DMN Daman 47.20 307 *e*P **P 22 20 57.3 -0.8**
comp=Z,349nm,0.9s
YSS Yuzh-Sakhalins 47.29 15 *e*P **P 22 20 58.7 +0.6**
YSS *e* 22 22 50.4
YSS *e*S **S 22 27 47.0 -0.5**
YSS pmax pmax
comp=Z,450nm,1.3s
YSS smax smax
comp=N,2μm,11.2s
YSS MLR MLR
comp=Z,4μm,19.0s
YSS Yuzh-Sakhalins 47.29 15 P **P 22 20 58.3 +0.1**
KUR Kuril'sk 47.31 21*c i*P **P 22 20 58.7 +0.4**
KUR *i* 22 22 51.5
KUR *i* S **S 22 49.2 +1.3**
KUR SSS SSS 22 32 30.2
KUR pmax pmax
comp=Z,782nm,1.3s
KUR pmax pmax
comp=Z,3μm,3.2s
KUR pmax pmax
comp=N,2μm,4.2s
KUR pmax pmax
comp=E,782μm,4.1s
KUR MLR MLR
comp=N,9μm,26.0s
KUR MLR MLR
comp=E,2μm,26.0s
KUR MLR MLR
comp=Z,7μm,26.0s
KLR Kul'dur 47.60 5 P **P 22 21 00.7 +0.1**
comp=Z,64nm,0.8s,baz=195,slow=7.7,SNR=124
KLR S **S 22 27 50.1 -1.8**
comp=Z,5.2nm,1.1s,baz=344,slow=19,SNR=6.1
KLR Kul'dur 47.60 5*ce*P **P 22 21 00.2 -0.3**
KLR pmax pmax
comp=Z,391nm,1.6s
KLR MLR MLR
comp=Z,7μm,23.0s
GKN Gorkha 47.74 307 *e*P **P 22 21 01.2 -1.0**
comp=Z,255nm,0.7s
HIA Hailar 47.76 354 P **P 22 21 02.1 +0.3**
HIA pmax pmax
comp=Z,306nm,1.1s
HIA MLR MLR
comp=Z,9μm,22.0s
HIA Hailar 47.76 354 P **P 22 21 02.1 +0.3**
HIA IAmb IAmb 22 21 13.6
comp=Z,306nm,1.1s
TAU Tasmania Unive 48.20 159 P **P 22 21 05.0 -0.3**
TAU pmax pmax
comp=Z,75nm,1.0s
TAU Tasmania Unive 48.20 159 P **P 22 21 05.0 -0.3**
ULN Ulaanbaatar 48.98 343 P **P 22 21 11.3 -0.1**
ULN pmax pmax
comp=Z,186nm,1.0s
ULN MLR MLR
comp=Z,1μm,22.0s
ULN Ulaanbaatar 48.98 343 P **P 22 21 11.3 -0.1**
ULN IAmb IAmb 22 21 53.0
comp=Z,186nm,0.9s
ULN Ulaanbaatar 48.98 343 P **P 22 21 11.8 +0.4**
ULN P **P 22 21 11.8 +0.4**
ULN S **S 22 28 07.4 -4.4**
ULN S **S 22 28 07.4 -4.4**
UGL Uglegorsk 49.10 14 *e*P **P 22 21 12.3 +0.3**
UGL *e*S **S 22 28 13.4 +0.4**
UGL pmax pmax
comp=Z,900nm,0.9s
UGL smax smax
comp=N,6μm,9.0s
UGL MLR MLR
comp=Z,5μm,17.0s
UGL MLR MLR
comp=N,3μm,18.0s
SONM Songino Array 49.15 342 P **P 22 21 12.7 0.0**
comp=N,37nm,0.6s,baz=163,slow=7.3,SNR=132
SONM S **S 22 28 17.0 +2.9**
comp=N,2.7nm,1.1s,baz=218,slow=6.8,SNR=1.9
SONM LR LR 22 44 23.6
comp=N,9μm,21.6s,baz=156,slow=39
SONM PKPPKP P'P'df 22 51 55.1 -17
comp=N,0.8nm,1.0s,baz=299,slow=3.0,SNR=4.9
SONM PKP2ab 22 53 03.8
comp=N,3.0nm,1.1s,baz=297,slow=3.3,SNR=5.0
SONM Songino Array 49.15 342 P **P 22 21 12.0 -0.6**
SONM pmax pmax
comp=Z,87nm,1.0s
SONM Songino Array 49.15 342 P **P 22 21 12.0 -0.6**
HYB Hyderabad 49.56 291 *i* P **P 22 21 14.0 -2.2**
comp=Z,443nm,1.2s
HYB *e*pP **pP 22 21 29.5 -1.0**
HYB *e* 22 22 32.0
HYB *e*ScP **ScP 22 26 30.0 +1.7**
HYB *e*S **S 22 28 19.0 -1.5**
HYB *e*ScS **ScS 22 31 08.0 +4.4**
HYB Hyderabad 49.56 291 *e*P **P 22 21 14.1 -2.0**
HYB IAmb IAmb 22 21 20.6
comp=Z,179nm,1.1s
HYB IAMs_20 IAMs_20 22 39 12.8
comp=Z,16μm,30.5s
GRNR Gornyy 49.65 8⇑ *i*P **P 22 21 17.3 +1.1**
GRNR *e*S **S 22 28 25.1 +4.4**
GRNR pmax pmax
comp=N,80nm,1.2s
GRNR pmax pmax
comp=Z,160nm,1.1s
GRNR smax smax
comp=N,4.0nm,0.9s
GRNR MLR MLR
comp=E,830nm,17.0s
TRD Trivandrum 49.71 280 *e*P **P 22 21 17.3 0.0**
TRD IAMs_20 IAMs_20 22 41 30.8
comp=Z,47μm,24.6s
TYV Tymovskoe 50.90 13 *e*P **P 22 21 27.0 +1.3**
TYV *e*S **S 22 28 44.2 +6.1**
TYV pmax pmax
comp=Z,2μm,2.2s
TYV pmax pmax
comp=Z,156nm,1.4s
TYV smax smax
comp=E,15nm,1.8s
TYV smax smax
comp=E,1μm,4.7s
CIT Chita 51.32 350 *e*P **P 22 21 30.3 +1.4**
CIT *e* 22 21 37.5
CIT *e* 22 21 48.2
CIT *e*S **S 22 28 43.2 -0.8**
CIT *e* 22 31 18.6
CIT pmax pmax
comp=Z,1μm,1.5s
ZEA Zeya 51.90 1*ce*P **P 22 21 33.7 +0.6**
ZEA *e* 22 21 48.8
ZEA *e* 22 23 39.8
ZEA *e*S **S 22 28 51.8 +0.1**
ZEA pmax pmax
comp=N,60nm,1.1s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,110nm,0.9s
ZEA pmax pmax
comp=E,100nm,3.9s
ZEA pmax pmax
comp=N,300nm,4.8s
ZEA pmax pmax
comp=Z,900nm,9.7s
ZEA pmax pmax
comp=Z,700nm,5.6s
ZEA smax smax
comp=Z,1μm,11.0s
ZEA smax smax
comp=E,700nm,8.4s
ZEA smax smax
comp=N,2μm,11.6s
BHPL Bhopal 52.09 298⇑ *i*P **P 22 21 32.5 -2.6**
ZAK Zakamensk 52.36 341 *e*P **P 22 21 36.5 -0.3**
ZAK pmax pmax
comp=Z,70nm,1.6s
NKL Nikolayevsk 52.65 11 *e*P **P 22 21 39.2 +0.5**
NKL *e*S **S 22 29 06.2 +4.2**
NKL smax smax
comp=E,105nm,1.4s
NKL smax smax
comp=N,12nm,0.7s
TLY Talaya 53.38 343 P **P 22 21 45.2 +1.1**
comp=N,48nm,0.8s,baz=168,slow=6.4,SNR=57
TLY Talaya 53.38 343*c i*P **P 22 21 45.0 +0.8**
TLY *e* 22 22 51.7
TLY *e*S **S 22 29 10.2 -2.0**
TLY *e* 22 31 32.9
TLY pmax pmax
comp=Z,770nm,1.8s
TLY MLR MLR
comp=Z,13μm,20.0s
TLY Talaya 53.38 343 P **P 22 21 44.9 +0.7**
TLY IAmb IAmb 22 21 55.7
comp=Z,135nm,0.9s
TLY Talaya 53.38 343 P **P 22 21 45.2 +1.1**
TLY P **P 22 21 45.2 +1.1**
TLY S **S 22 29 08.9 -3.3**
TLY S **S 22 29 08.9 -3.3**
MNCI Minicoy 53.53 279 P **P 22 21 46.5 +0.6**
FUNA Funafuti 53.56 102 P **P 22 21 45.7 -0.4**
KAD Karad 53.62 290⇓ *i*P **P 22 21 45.6 -0.9**
GOA Goa 53.64 288⇑ *i*P **P 22 21 44.2 -2.4**
GOA IAmb IAmb 22 21 48.2
comp=Z,130nm,1.0s
IRK Irkutsk 53.70 343 *e*P **P 22 21 46.6 +0.2**
IRK *e*S **S 22 29 23.0 +6.6**
IRK pmax pmax
comp=Z,482nm,2.6s
DDI Dehra Dun 53.94 307 *e*P **P 22 21 47.6 -1.1**
NDI New Delhi 54.02 305 *e*P **P 22 21 47.5 -1.7**
NDI *ex* x 22 29 30.0
POO Poona 54.17 292⇑ *i*P **P 22 21 48.0 -2.5**
comp=Z,250nm,1.2s
POO *e*P **P 22 21 48.4 -2.1**
POO *ex* x 22 29 18.0
MOY Mondy 54.21 341 *e*P **P 22 21 51.0 +0.7**
MOY pmax pmax
comp=Z,562nm,3.4s
WMQ Urumqi 54.24 326 P **P 22 21 50.8 +0.1**
WMQ pP pP 22 22 05.5 +0.4
WMQ sP sP 22 22 10.9 -0.4
WMQ ScP **ScP 22 26 49.3 +1.2**
WMQ S **S 22 29 20.4 -3.8**
WMQ ScS **ScS 22 31 34.8 -0.4**
WMQ pmax pmax
comp=Z,220nm,1.1s
WMQ pmax pmax
comp=Z,2μm,5.3s
WMQ LR LR
comp=Z,13μm,25.7s
WMQ LR LR
comp=Z,16μm,22.1s
WMQ LR LR
comp=Z,41μm,25.7s
WMQ Urumqi 54.24 326 P **P 22 21 50.2 -0.5**
WMQ pmax pmax
comp=Z,180nm,1.1s
WMQ MLR MLR
comp=Z,8μm,22.0s
WMQ Urumqi 54.24 326 P **P 22 21 50.2 -0.5**
WMQ IAmb IAmb 22 21 55.5
comp=Z,180nm,1.1s
WMQ Urumqi 54.24 326 IAMs_20 IAMs_20 22 47 28.7
comp=Z,9μm,22.0s
MSVF Nonsavu 54.35 113 P **P 22 21 51.6 -0.3**
MSVF pmax pmax
comp=Z,355nm,1.1s
MSVF MLR MLR
comp=Z,8μm,20.0s
MSVF Nonsavu 54.35 113 P **P 22 21 51.6 -0.3**
MSVF IAmb IAmb 22 21 57.6
comp=Z,355nm,1.1s
MSVF Nonsavu 54.35 113 IAMs_20 IAMs_20 22 46 40.5
comp=Z,8μm,20.0s
MSVF Nonsavu 54.35 113 P **P 22 21 53.4 +1.5**
DGAR Diego Garcia 54.60 260*ce*P **P 22 21 52.4 -1.3**
DGAR pmax pmax
comp=Z,741nm,1.7s
DGAR Diego Garcia 54.60 260 P **P 22 21 52.6 -1.1**
DGAR Diego Garcia 54.60 260 IAMs_20 IAMs_20 22 42 58.2
comp=Z,9μm,22.0s
DGAR Diego Garcia 54.60 260 P **P 22 21 52.4 -1.3**
SKR Severo-Kuril's 54.91 23 *e*P **P 22 21 55.6 +0.3**
SKR *e* 22 23 58.6
SKR *e*S **S 22 29 25.1 -7.6**
SKR *e*SS **SS 22 33 10.4 -6.6**
SKR pmax pmax
comp=Z,1μm,4.1s
SKR pmax pmax
comp=Z,135nm,1.3s
SKR pmax pmax
comp=Z,700nm,9.0s
SKR MLR MLR
comp=Z,2μm,20.0s
SKR MLR MLR
comp=Z,2μm,17.0s
SMLA Simla 54.95 307 *i* P **P 22 21 54.9 -1.1**
AJM Ajmer 55.46 301⇑ *i*P **P 22 21 58.0 -1.7**
AJM *i* x x 22 23 00.0
BHK Bhakra 55.66 307 *e*P **P 22 22 01.0 0.0**
BHK *ex* x 22 22 34.8
BOD Bodaibo 56.85 352⇑ *i*P **P 22 22 09.3 +0.3**
BOD pmax pmax
comp=Z,313nm,1.0s
OUZ Omahuta 57.33 135 IAMs_20 IAMs_20 22 49 42.8
comp=Z,9μm,20.0s
PEA0B Petropavlovsk- 57.44 22 P **P 22 22 13.6 +0.4**
PEA0B pmax pmax
comp=Z,481nm,1.6s
PEA0B MLR MLR
comp=Z,4μm,21.0s
PEA0B Petropavlovsk- 57.44 22 P **P 22 22 13.6 +0.4**
PEA0B IAmb IAmb 22 22 37.6
comp=Z,481nm,1.6s
PETK Petropavlovsk- 57.44 22 P **P 22 22 14.0 +0.7**
comp=Z,73nm,0.5s,baz=184,slow=4.0,SNR=138
PETK LR LR 22 47 00.4
comp=Z,1μm,20.8s,baz=204,slow=36
PETK Petropavlovsk- 57.44 22 P **P 22 22 14.0 +0.7**
PETK Petropavlovsk- 57.44 22 P **P 22 22 13.3 +0.1**
PET Petropavlovsk 57.73 22*j i*P **P 22 22 16.5 +1.2**
PET *e**PP **pP 22 22 28.7 -1.1**
PET *e* 22 23 06.8
PET *e*S **S 22 30 09.5 -0.4**
PET *e**SS **sS 22 30 33.6 -0.6**
PET *e*SS **SS 22 34 04.8 +3.6**
PET *e*SSS SSS 22 36 22.3
PET pmax pmax
comp=Z,3μm,7.6s
PET pmax pmax
comp=Z,304nm,1.4s
PET pmax pmax
comp=Z,2μm,16.4s
PET MLR MLR
comp=Z,7μm,21.0s
PET MLR MLR
comp=Z,5μm,19.0s
PET Petropavlovsk 57.73 22 P **P 22 22 15.5 +0.3**
PET IAmb IAmb 22 22 18.8
comp=Z,434nm,1.4s
ZSN Zaisan 58.07 328⇑ *i*P **P 22 22 17.5 -0.4**
comp=Z,78nm,1.6s,baz=328
ZSN Zaisan 58.07 328*c i*P **P 22 22 17.4 -0.4**
ZSN pmax pmax
comp=Z,78nm,1.6s
DGZ Jazzator, Alta 58.24 331*c i*P **P 22 22 18.9 -0.2**
DGZ pmax pmax
comp=Z,63nm,0.9s
SHLS Shalkode 58.74 321⇑ *i*P **P 22 22 20.9 -1.9**
comp=Z,159nm,1.1s,baz=321
SHLS *e*S **S 22 30 22.8 -1.1**
comp=Z,414nm,5.1s,baz=321
SHLS Shalkode 58.74 321*c i*P **P 22 22 20.9 -1.9**
SHLS *e*S **S 22 30 22.8 -1.1**
SHLS pmax pmax
comp=Z,159nm,1.1s
SHLS smax smax
comp=N,414nm,5.1s
NIL Nilore 58.96 309 P **P 22 22 23.7 -0.6**
NIL pmax pmax
comp=Z,249nm,1.2s
NIL MLR MLR
comp=Z,4μm,22.0s
NIL Nilore 58.96 309 P **P 22 22 23.7 -0.6**
NIL IAmb IAmb 22 22 32.7
comp=Z,249nm,1.1s
NIL Nilore 58.96 309 P **P 22 22 23.8 -0.5**
NIL S **S 22 30 23.2 -3.6**
BHUJ Bhuj 59.00 296 *e*P **P 22 22 24.9 +0.2**
BHUJ IAmb IAmb 22 22 32.0
comp=Z,127nm,1.1s
UZB Uzynbulak 59.01 321⇑ *i*P **P 22 22 24.5 -0.2**
comp=Z,174nm,1.8s,baz=321
UZB *e*S **S 22 30 29.4 +1.9**
comp=Z,222nm,4.9s,baz=321
UZB Uzynbulak 59.01 321*c i*P **P 22 22 24.4 -0.2**
UZB *e*S **S 22 30 29.3 +1.9**
UZB pmax pmax
comp=Z,174nm,1.8s
UZB smax smax
comp=N,222nm,4.9s
MK31 Makanchi Array 59.08 326 P **P 22 22 24.5 -0.4**
MK31 pmax pmax
comp=Z,144nm,1.1s
MK31 Makanchi Array 59.08 326 P **P 22 22 24.4 -0.4**
MK31 IAmb IAmb 22 22 55.6
comp=Z,144nm,1.1s
MKAR Makanchi Array 59.08 326 P **P 22 22 24.9 0.0**
comp=Z,111nm,0.5s,baz=122,slow=8.3,SNR=417
MKAR S **S 22 30 31.1 +3.3**
comp=Z,5.4nm,1.0s,baz=135,slow=12,SNR=4.6
MKAR LR LR 22 50 21.7
comp=Z,5μm,18.4s,baz=123,slow=38
MKAR PKPPKP P'P'df 22 51 46.1 -12
comp=Z,1.2nm,0.8s,baz=289,slow=3.7,SNR=6.8
MKAR P4KPbc 22 59 32.1
comp=Z,1.0nm,0.6s,baz=113,slow=4.5,SNR=13
MKAR Makanchi Array 59.08 326 P **P 22 22 23.9 -1.0**
DCZ Deep Cove 59.16 148 P **P 22 22 25.1 -0.3**
DCZ IAmb IAmb 22 22 45.1
comp=Z,125nm,1.1s
MAKZ Makanchi 59.26 326 P **P 22 22 25.8 -0.3**
MAKZ pmax pmax
comp=Z,140nm,0.6s
MAKZ MLR MLR
comp=Z,10μm,22.0s
MAKZ Makanchi 59.26 326 P **P 22 22 25.8 -0.3**
MAKZ IAmb IAmb 22 22 29.7
comp=Z,140nm,0.6s
MAKZ IAMs_20 IAMs_20 22 48 31.4
comp=Z,10μm,22.0s
KSH Kashi 59.30 316 P **P 22 22 27.3 +0.6**
KSH sP sP 22 22 49.4 +2.0
KSH S **S 22 30 32.1 +0.9**
KSH pmax pmax
comp=Z,420nm,1.4s
KSH pmax pmax
comp=Z,3μm,4.9s
KSH LR LR
comp=Z,16μm,17.8s
KSH LR LR
comp=Z,12μm,16.4s
KSH LR LR
comp=Z,10μm,19.2s
SATY Saty 59.36 321⇑ *i*P **P 22 22 27.1 0.0**
comp=Z,127nm,0.8s,baz=321
SATY Saty 59.36 321*c i*P **P 22 22 27.0 0.0**
SATY pmax pmax
comp=Z,127nm,0.8s
KPKS Kokpek 59.39 321⇑ *i*P **P 22 22 26.9 -0.3**
comp=Z,170nm,1.0s,baz=321
KPKS *e*S **S 22 30 33.9 +1.7**
baz=321
KPKS Kokpek 59.39 321*c i*P **P 22 22 26.9 -0.3**
KPKS *e*S **S 22 30 33.8 +1.7**
KPKS pmax pmax
comp=Z,170nm,1.0s
MLZ Mavora Lakes 59.62 147 P **P 22 22 28.0 -0.7**
MLZ IAmb IAmb 22 23 23.5
comp=Z,213nm,1.7s
MIDW Midway 59.71 58 P **P 22 22 29.4 -0.2**
MIDW IAmb IAmb 22 22 32.5
comp=Z,228nm,0.9s
MIDW IAMs_20 IAMs_20 22 42 36.5
comp=Z,7μm,22.0s
AIS Amsterdam Isla 59.79 224 P **P 22 22 30.7 +0.9**
WHZ Wether Hill Ro 59.87 148 P **P 22 22 29.9 -0.4**
LBZ Lake Benmore 60.16 145 P **P 22 22 32.1 -0.3**
LBZ IAmb IAmb 22 22 37.3
comp=Z,165nm,0.8s
YAK Yakutsk 60.26 2 P **P 22 22 33.2 +0.6**
comp=Z,293nm,0.9s,baz=183,slow=3.8,SNR=86
YAK Yakutsk 60.26 2*c i*P **P 22 22 33.0 +0.4**
YAK *e**PP **sP 22 22 53.3 -0.1**
YAK *e* 22 23 16.6
YAK *e* 22 24 45.3
YAK *e*PPP PPP 22 26 10.2
YAK *e*S **S 22 30 42.2 -0.2**
YAK *e**SS sS 22 31 16.5 +9.5
YAK *e* 22 32 17.6
YAK *e*SS **SS 22 34 41.3 +0.7**
YAK pmax pmax
comp=Z,533nm,1.3s
YAK pmax pmax
comp=N,298nm,1.3s
YAK pmax pmax
comp=E,104nm,1.4s
YAK pmax pmax
comp=Z,227nm,1.8s
YAK pmax pmax
comp=N,203nm,1.9s
YAK pmax pmax
comp=E,135nm,2.0s
YAK smax smax
comp=N,1μm,2.4s
YAK smax smax
comp=E,560nm,2.7s
YAK Yakutsk 60.26 2 P **P 22 22 32.7 +0.1**
YAK IAMs_20 IAMs_20 22 50 17.6
comp=Z,7μm,20.0s
RPZ Rata Peaks 60.27 144 P **P 22 22 32.8 -0.3**
RPZ IAmb IAmb 22 22 55.6
comp=Z,122nm,0.9s
MDOK Medeo 60.27 320 *i* P **P 22 22 33.5 +0.2**
baz=320
MDOK *e*S **S 22 30 45.9 +2.2**
baz=320
MDOK Medeo 60.27 320 *i* P **P 22 22 33.5 +0.2**
MDOK *e*S **S 22 30 45.9 +2.2**
THZ Tophouse 60.28 141 P **P 22 22 32.3 -0.9**
THZ IAmb IAmb 22 22 41.5
comp=Z,97nm,0.7s
TNSS Tian-Shan 60.28 320⇑ *i*P **P 22 22 34.0 +0.3**
baz=320
TNSS Tian-Shan 60.28 320⇑ *i*P **P 22 22 33.9 +0.3**

TDK Taldyqorghan 60.35 323 *i* P **P** **22 22 33.7 0.0**
comp=Z,597nm,1.7s,baz=323
TDK *i* S **S** **22 30 46.5 +2.2**
baz=323
TDK LR LR 22 49 05.8
comp=Z,6µm,20.8s,baz=323
TDK Taldyqorghan 60.35 323 *i* P **P** **22 22 33.7 0.0**
TDK *i* S **S** **22 30 46.5 +2.2**
TDK pmax pmax
comp=Z,597nm,1.7s
TDK MLR MLR
comp=Z,6µm,21.0s
ULHL Ulahol 60.36 319 P **P** **22 22 34.0 0.0**
SNR=48
AAA Alma-Ata 60.38 320⇑ *i* P **P** **22 22 34.0 +0.1**
comp=Z,226nm,1.1s,baz=320
AAA Alma-Ata 60.38 320*c* *i* P **P** **22 22 34.0 +0.1**
AAA pmax pmax
comp=Z,226nm,1.1s
LTZ Lake Taylor 60.46 143 P **P** **22 22 34.6 +0.2**
LTZ IAmb IAmb 22 22 59.6
comp=Z,426nm,1.7s
WATZ Wairara 60.53 137 P **P** **22 22 36.4 +1.4**
OXZ Oxford 60.62 143 P **P** **22 22 35.2 -0.3**
WTVZ West Tongariro 60.64 138 P **P** **22 22 37.9 +2.1**
KRVZ Karewarewa 60.66 137 P **P** **22 22 37.3 +1.3**
NGZ Ngauruhoe 60.67 138 P **P** **22 22 33.0 -3.1**
OTVZ Oturere 60.71 138 P **P** **22 22 37.1 +0.7**
TMVZ Te Maari 60.71 137 P **P** **22 22 37.2 +0.9**
ETVZ East Tongariro 60.73 137 P **P** **22 22 37.4 +0.9**
WNVZ Wahianoa 60.75 138 P **P** **22 22 37.8 +1.2**
TUWZ Tuamarina 60.75 141 P **P** **22 22 35.0 -1.3**
MA2 Magadan 60.76 14 P **P** **22 22 37.2 +1.2**
comp=Z,673nm,1.2s,baz=198,slow=7.0,SNR=90
MA2 Magadan 60.76 14*ce* P **P** **22 22 37.3 +1.2**
MA2 pmax pmax
comp=Z,563nm,1.3s
MA2 Magadan 60.76 14 P **P** **22 22 37.0 +0.9**
MOVZ Moawhango 60.89 138 P **P** **22 22 37.0 -0.5**
KUU Kurty 61.08 321⇑ *i* P **P** **22 22 38.4 -0.2**
comp=Z,692nm,1.4s,baz=321
KUU *e*S **S** **22 30 55.5 +1.9**
baz=321
KUU Kurty 61.08 321*c* *i* P **P** **22 22 38.4 -0.2**
KUU *e*S **S** **22 30 55.5 +1.9**
KUU pmax pmax
comp=Z,693nm,1.4s
TKM2 Tokmak 2 61.09 319 P **P** **22 22 38.8 -0.2**
SNR=94
SNZO South Karori 61.17 140 P **P** **22 22 37.9 -1.3**
SNZO IAmb IAmb 22 23 09.0
comp=Z,329nm,1.2s
MQZ McQueen's Vall 61.21 143 P **P** **22 22 39.3 -0.2**
MQZ IAmb IAmb 22 23 05.9
comp=Z,495nm,1.9s
URZ Urewera 61.26 136 P **P** **22 22 38.7 -1.2**
URZ IAmb IAmb 22 23 03.4
comp=Z,176nm,1.3s
URZ IAMs_20 IAMs_20 22 51 24.8
comp=Z,7µm,20.0s
URZ Urewera 61.26 136 P **P** **22 22 39.5 -0.4**
BKZ Black Stump Fm 61.27 137 P **P** **22 22 39.3 -0.7**
BKZ IAmb IAmb 22 22 44.9
comp=Z,116nm,0.8s
BKZ IAMs_20 IAMs_20 22 52 38.1
comp=Z,6µm,18.0s
RTZ Ruatahuna 61.34 136 P **P** **22 22 40.2 -0.4**
TSZ Takapari Road 61.35 138 P **P** **22 22 40.2 -0.4**
MTHZ Maungataniwha 61.36 137 P **P** **22 22 39.8 -0.8**
KBK Karagaybulak 61.40 319 P **P** **22 22 40.8 -0.3**
SNR=68
UCH Uchtor 61.49 318 P **P** **22 22 42.4 +0.4**
SNR=253
MSWZ Moikau Station 61.58 140 P **P** **22 22 40.9 -1.2**
PLWZ Palliser 61.66 140 P **P** **22 22 41.5 -1.2**
CHMS Chumysh 61.68 319 P **P** **22 22 42.4 -0.4**
SNR=51
AAK Ala-Archa 61.69 319 P **P** **22 22 43.6 +0.6**
baz=117,slow=7.7
AAK Ala-Archa 61.69 319 P **P** **22 22 43.1 +0.2**
SNR=56
AAK Ala-Archa 61.69 319 P **P** **22 22 42.7 -0.2**
AAK Ala-Archa 61.69 319 P **P** **22 22 42.9 0.0**
AAK pmax pmax
comp=Z,133nm,1.0s
AAK MLR MLR
comp=Z,3µm,21.0s
AAK Ala-Archa 61.69 319 P **P** **22 22 42.9 0.0**
AAK IAmb IAmb 22 22 52.0
comp=Z,133nm,1.0s
AAK Ala-Archa 61.69 319 P **P** **22 22 43.4 +0.4**
AAK P **P** **22 22 43.4 +0.4**
AAK S **S** **22 30 57.4 -4.3**
AAK S **S** **22 30 57.4 -4.3**
SGDS Sogindy 61.97 320⇑ *i* P **P** **22 22 44.1 -0.6**
comp=Z,100nm,1.8s,baz=320
SGDS Sogindy 61.97 320*c* *i* P **P** **22 22 44.1 -0.6**
SGDS pmax pmax
comp=Z,100nm,1.8s
USP Ospenovka 61.97 319 P **P** **22 22 44.5 -0.1**
SNR=162
KNTN Kanton 61.99 94 P **P** **22 22 44.8 -0.5**
KNTN IAmb IAmb 22 23 06.9
comp=Z,194nm,1.1s
KNTN Kanton 61.99 94 P **P** **22 22 45.9 +0.6**
AML Almayashu 62.00 318 P **P** **22 22 45.5 +0.2**
SNR=245
MCQ Macquarie Isla 62.09 159 P **P** **22 22 46.7 +1.6**
baz=62,SNR=6.1
MCQ Macquarie Isla 62.09 159 P **P** **22 22 45.6 +0.5**
MCQ pmax pmax
comp=Z,239nm,1.1s
MCQ Macquarie Isla 62.09 159 P **P** **22 22 45.6 +0.5**
MCQ IAmb IAmb 22 22 49.9
comp=Z,239nm,1.1s
MCQ Macquarie Isla 62.09 159 P **P** **22 22 46.1 +1.0**
EKS2 Erkin-Say 62.17 318 P **P** **22 22 46.0 -0.2**
SNR=173
ZAA0 Zalesovo Array 62.28 334 P **P** **22 22 45.7 -0.8**
ZAA0 IAmb IAmb 22 23 13.3
comp=Z,222nm,1.2s
ZALV Zalesovo Beam 62.28 334 P **P** **22 22 46.0 -0.5**
comp=Z,16nm,0.4s,baz=130,slow=6.7,SNR=79
ZALV S **S** **22 31 02.3 -6.1**
comp=Z,2.6nm,0.8s,baz=136,slow=9.2,SNR=2.6
ZALV PKP2bc 22 51 57.7
comp=Z,26nm,1.2s,baz=304,slow=3.4,SNR=12
ZALV LR LR 22 53 20.5
comp=Z,3µm,19.5s,baz=134,slow=39
ZALV Zalesovo Beam 62.28 334 P **P** **22 22 45.2 -1.3**
KBL Kabul 62.55 308 P **P** **22 22 47.5 -1.4**
KBL pmax pmax
comp=Z,156nm,0.7s
KBL Kabul 62.55 308 P **P** **22 22 47.5 -1.4**
KBL IAmb IAmb 22 22 57.3
comp=Z,156nm,0.7s
KBL Kabul 62.55 308 P **P** **22 22 48.2 -0.7**
SNR=120
KBL P **P** **22 22 48.2 -0.7**
SNR=120
KBL S **S** **22 31 08.5 -4.4**
KBL S **S** **22 31 08.5 -4.4**
BTLS Baital 63.07 321 *i* P **P** **22 22 51.2 -0.7**
comp=Z,72nm,1.5s,baz=321
BTLS Baital 63.07 321 *i* P **P** **22 22 51.2 -0.7**
BTLS pmax pmax
comp=Z,72nm,1.5s
AFI Afiamalu 63.13 106 P **P** **22 22 51.1 -1.9**
AFI pmax pmax
comp=Z,175nm,1.3s
AFI MLR MLR
comp=Z,6µm,22.0s
AFI Afiamalu 63.13 106 P **P** **22 22 51.1 -1.9**
AFI IAmb IAmb 22 22 55.7
comp=Z,175nm,1.2s
AFI Afiamalu 63.13 106 IAMs_20 IAMs_20 22 47 26.0
comp=Z,6µm,22.0s
AFI Afiamalu 63.13 106 P **P** **22 22 54.6 +1.6**
DZA Taraz 63.90 318 *e*P **P** **22 22 57.2 -0.4**
comp=Z,167nm,1.7s,baz=318
DZA Taraz 63.90 318 *e*P **P** **22 22 57.1 -0.4**
DZA pmax pmax
comp=Z,167nm,1.7s
SEY Seymchan 64.09 13 P **P** **22 22 60.0 +1.7**
comp=Z,299nm,1.1s,baz=216,slow=5.8,SNR=147
SEY LR LR 22 49 39.7
comp=Z,2µm,21.3s,baz=208,slow=35
SEY PKP2bc 22 51 54.2
comp=Z,8.8nm,1.1s,baz=63,slow=3.7,SNR=5.2
SEY Seymchan 64.09 13*c* *i* P **P** **22 22 59.7 +1.4**
SMY Shemya 64.38 30 P **P** **22 23 00.5 +0.1**
SMY pmax pmax
comp=Z,742nm,1.6s
SMY Shemya 64.38 30 P **P** **22 23 00.5 +0.1**
IUG luzhnay 64.49 317⇑ *i* P **P** **22 23 01.2 -0.3**
comp=Z,108nm,0.8s,baz=317
IUG *e*S **S** **22 31 38.3 +1.6**
baz=317
IUG luzhnay 64.49 317*c* *i* P **P** **22 23 01.2 -0.3**
IUG *e*S **S** **22 31 38.2 +1.6**
IUG pmax pmax
comp=Z,109nm,0.8s
KK31 Karatay Array 64.54 318 P **P** **22 23 00.9 -0.8**
KK31 pmax pmax
comp=Z,245nm,1.3s
KK31 Karatay Array 64.54 318 P **P** **22 23 00.9 -0.8**
KK31 IAmb IAmb 22 23 31.0
comp=Z,245nm,1.3s
KKAR Karatay Array 64.54 318 P **P** **22 23 00.8 -0.9**
KKAR Karatay Array 64.54 318 P **P** **22 23 00.8 -0.9**
JOHN Johnston Islan 64.69 72 P **P** **22 23 02.9 -0.1**
JOHN IAmb IAmb 22 23 07.7
comp=Z,215nm,0.8s
BRLS Boroldav 64.96 317 *e*P **P** **22 23 03.9 -0.5**
comp=Z,64nm,0.7s,baz=317
BRLS Boroldav 64.96 317 *e*P **P** **22 23 03.9 -0.5**
BRLS pmax pmax
comp=Z,64nm,0.7s
NIUE Niue 65.77 112 P **P** **22 23 09.3 -0.7**
baz=66,SNR=4.6
NIUE Niue 65.77 112 P **P** **22 23 09.5 -0.6**
BRZS Berezniki 66.19 325⇑ *i* P **P** **22 23 12.0 -0.3**
comp=Z,148nm,1.3s,baz=325
BRZS *i* S **S** **22 31 59.1 +2.1**
baz=325
BRZS Berezniki 66.19 325*c* *i* P **P** **22 23 11.9 -0.3**
BRZS *i* S **S** **22 31 59.1 +2.1**
BRZS pmax pmax
comp=Z,148nm,1.3s
HRA Herat 67.90 307 P **P** **22 23 22.5 -1.1**
JLN Jalan Bani Buh 68.12 293 P **P** **22 23 23.2 -1.8**
SNR=14
WBK Wadi Bani Khal 68.59 294 P **P** **22 23 26.4 -1.5**
SNR=24
CASY Casey 68.75 187 P **P** **22 23 28.4 +0.4**
CASY IAmb IAmb 22 23 55.2
comp=Z,188nm,1.1s
ADK Adak 68.82 34 P **P** **22 23 29.3 +0.6**
ADK pmax pmax
comp=Z,322nm,1.3s
ADK MLR MLR
comp=Z,6µm,22.0s
ADK Adak 68.82 34 P **P** **22 23 29.3 +0.6**
ADK IAmb IAmb 22 23 31.9
comp=Z,322nm,1.3s
ADK Adak 68.82 34 IAMs_20 IAMs_20 22 49 44.8
comp=Z,6µm,22.0s
BVAR Borovoye Array 68.88 328 P **P** **22 23 28.5 -0.6**
comp=Z,66nm,0.9s,baz=96,slow=14,SNR=166
BRVK Borovoye 68.95 328 P **P** **22 23 29.4 -0.1**
BRVK pmax pmax
comp=Z,618nm,1.3s
BRVK MLR MLR
comp=Z,5µm,22.0s
BRVK Borovoye 68.95 328 P **P** **22 23 29.4 -0.1**
MHTO MHTO 69.32 292 P **P** **22 23 31.2 -1.2**
SNR=36
MHTO P **P** **22 23 31.2 -1.2**
SNR=36
JMDO Jabal Madar 69.35 293 P **P** **22 23 31.5 -1.2**
SNR=28
JMDO P **P** **22 23 31.5 -1.2**
SNR=28
BIDO Bidbid 69.47 294 P **P** **22 23 32.5 -0.9**
SNR=11
SMDO Samad 69.49 294 P **P** **22 23 32.0 -1.6**
SNR=16
SMDO P **P** **22 23 32.0 -1.6**
SNR=16
DQM DQM 69.61 291 P **P** **22 23 33.0 -1.3**
SNR=18
TIXI Tiksi 69.89 1 P **P** **22 23 34.8 -0.1**
comp=Z,94nm,1.0s,baz=148,slow=6.7,SNR=120
TIXI PP **PP** **22 26 09.9 -0.2**
comp=Z,19nm,0.9s,baz=177,slow=8.0,SNR=2.9
TIXI Tiksi 69.89 1*c* *i* P **P** **22 23 35.0 +0.1**
TIXI Tiksi 69.89 1 P **P** **22 23 34.0 -1.0**
TIXI IAmb IAmb 22 23 37.4
comp=Z,484nm,1.5s
TIXI IAMs_20 IAMs_20 22 55 14.2
comp=Z,6µm,22.0s
HOQ Hoqain 70.22 294 P **P** **22 23 36.8 -1.2**
SNR=20
HOQ P **P** **22 23 36.8 -1.2**
SNR=20
BSY Bisya 70.23 293 P **P** **22 23 37.0 -1.0**
SNR=15
BSY P **P** **22 23 37.0 -1.0**
SNR=15
ATKA Atka Island 70.35 34 P **P** **22 23 38.8 +0.6**
ATKA IAmb IAmb 22 23 46.4
comp=Z,283nm,0.8s
ARQ Araqi 70.92 294 P **P** **22 23 41.2 -1.0**
SNR=12
SOHO SOHO 71.00 295 P **P** **22 23 40.8 -1.9**
SOHO SOHO 71.00 295 P **P** **22 23 41.0 -1.3**
SHAO Shalim 71.24 288 P **P** **22 23 43.0 -1.3**
SHAO Shalim 71.24 288 P **P** **22 23 42.8 -1.5**
SNR=5.6
MDH Madha 71.35 296 P **P** **22 23 41.8 -3.0**
MDH Madha 71.35 296 P **P** **22 23 43.2 -1.6**
UOSS Minazif 71.39 296 P **P** **22 23 42.7 -2.4**
UOSS Minazif 71.39 296 P **P** **22 23 44.5 -0.6**
BANOM Banah 71.43 297 P **P** **22 23 43.7 -1.6**
BANOM Banah 71.43 297 P **P** **22 23 44.3 -1.0**
SNR=6.5
HATD Hatta, Dubai 71.44 296 P **P** **22 23 43.2 -2.2**
HATD Hatta, Dubai 71.44 296 P **P** **22 23 44.3 -1.1**
SNR=9.6
MSFE Esma-Masafi 71.48 296 P **P** **22 23 42.9 -2.7**
MASF Masafi 71.48 296 P **P** **22 23 45.0 -0.7**
SNR=12
ASHO Ashiyiah 71.49 295 P **P** **22 23 44.7 -1.0**
SNR=14
SHME Shamm 71.59 297 P **P** **22 23 44.9 -1.3**
SHME Shamm 71.59 297 P **P** **22 23 45.7 -0.5**
SNR=6.3
BILL Bilibino 71.61 15*d* *i* P **P** **22 23 45.3 -0.2**
BILL *e* 22 24 02.5
BILL *e* 22 26 30.6
BILL *i* S **S** **22 32 55.6 -4.7**
BILL *i* SS **SS** **22 37 40.0 +3.4**
BILL pmax pmax
comp=Z,168nm,2.2s
BILL MLR MLR
comp=Z,3µm,21.0s
BILL Bilibino 71.61 15 P **P** **22 23 45.4 -0.1**
ALNE Al Ain 71.70 295 P **P** **22 23 46.2 -0.7**
ALNE Al Ain 71.70 295 P **P** **22 23 46.6 -0.3**
SNR=55
ASHT Ashkhabad 71.75 309 P **P** **22 23 47.6 +0.6**
ASHT pmax pmax
comp=Z,301nm,1.2s
ASHT MLR MLR
comp=Z,4µm,22.0s
ASHT Ashkhabad 71.75 309 P **P** **22 23 47.6 +0.6**
ASHT IAmb IAmb 22 24 32.1
comp=Z,300nm,1.2s
DMTO DMTO 71.86 288 P **P** **22 23 46.8 -1.2**
NAZ Nazwa, Dubai 71.89 296 P **P** **22 23 46.1 -1.9**
NAZ Nazwa, Dubai 71.89 296 P **P** **22 23 47.0 -1.0**
SNR=9.7
FAQ Al Faqa, Dubai 71.92 295 P **P** **22 23 46.5 -1.8**
FAQ Al Faqa, Dubai 71.92 295 P **P** **22 23 47.1 -1.2**
SNR=7.0
ASUD Al Ashush, Dub 72.14 295 P **P** **22 23 48.9 -0.7**
ASUD Al Ashush, Dub 72.14 295 P **P** **22 23 48.7 -0.9**
SNR=12
AJN Ajban 72.45 295 P **P** **22 23 48.7 -2.7**
AJN Ajban 72.45 295 P **P** **22 23 50.6 -0.8**
SNR=14
SOCY Socotra 72.49 282 P **P** **22 23 50.5 -1.4**
SOCY IAmb IAmb 22 23 54.8
comp=Z,229nm,0.7s
SOCY Socotra 72.49 282 P **P** **22 23 50.5 -1.4**
SNR=17
RBK Rabkut 72.56 288 P **P** **22 23 51.0 -1.2**
SNR=14
RER Riviere de l'E 72.65 247 P **P** **22 23 53.0 +0.2**
DOK Doka 72.70 289 P **P** **22 23 51.8 -1.2**
SNR=28
WHFO Wadi Hawf 73.00 288 P **P** **22 23 53.2 -1.6**
SNR=26
ABTO Aybut 73.41 288 P **P** **22 23 56.0 -1.2**
SNR=28
AB31 Akbulak array 73.55 321 *i* P **P** **22 23 56.9 -0.5**
AB31 pmax pmax
comp=Z,29nm,0.5s
ABKAR Akbulak array 73.55 321 P **P** **22 23 57.3 -0.1**
ABKAR IAmb IAmb 22 24 25.1
comp=Z,586nm,1.6s
ABKAR Akbulak array 73.55 321 P **P** **22 23 56.8 -0.6**
NIKH Nikolski High 73.66 35 P **P** **22 23 58.1 +0.1**
NIKH IAMs_20 IAMs_20 22 51 58.0
comp=Z,5µm,20.0s
NIKH Nikolski High 73.66 35 P 22 23 58.1
baz=250
AKTO Aktyubinsk 75.08 322 P **P** **22 24 06.4 +0.1**
comp=Z,345nm,1.2s,baz=105,slow=7.9,SNR=164
RAR Rarotonga 75.53 112 P **P** **22 24 08.9 -0.5**
RAR pmax pmax
comp=Z,126nm,1.3s
RAR Rarotonga 75.53 112 P **P** **22 24 08.9 -0.5**
SVE Sverdlovsk 75.55 329*d* *i* P **P** **22 24 09.2 +0.4**
SVE *e*S **S** **22 33 44.0 -1.3**
SVE *e*SS **SS** **22 38 35.4 -1.7**
SVE pmax pmax
comp=Z,1µm,1.5s
SVE pmax pmax
comp=Z,1µm,8.1s
AKUT Akutan 75.78 34 P **P** **22 24 10.2 0.0**
AKUT IAMs_20 IAMs_20 22 54 44.9
comp=Z,5µm,21.0s
KIP Kipapa 75.94 68 P **P** **22 24 12.2 +0.4**
KIP pmax pmax
comp=Z,169nm,1.2s
KIP MLR MLR
comp=Z,7µm,18.0s
KIP Kipapa 75.94 68 P **P** **22 24 12.2 +0.4**
HON Honolulu 75.95 69 P **P** **22 24 11.9 +0.1**
HON pmax pmax
comp=Z,900nm,1.3s
HON MLR MLR
comp=Z,7µm,19.0s
HON Honolulu 75.95 69 P **P** **22 24 11.9 +0.1**
ARU Arti 76.51 328 P **P** **22 24 14.5 +0.2**
comp=Z,99nm,0.7s,baz=118,slow=2.6,SNR=175
ARU Arti 76.51 328*c* *i* P **P** **22 24 14.0 -0.3**
ARU 22 24 26.3
ARU 22 27 02.9
ARU S **S** **22 33 58.6 +2.8**
ARU 22 34 25.4
ARU SS **SS** **22 38 48.0 -3.6**
ARU pmax pmax
comp=Z,497nm,1.0s
ARU MLR MLR
comp=Z,6µm,27.0s
ARU Arti 76.51 328 P **P** **22 24 13.9 -0.3**
SBV Sambava 77.28 256 P **P** **22 24 20.5 +1.1**
SNR=15
FALS False Pass 77.30 34 P 22 24 19.1
baz=254,SNR=7.6
KHLU Kahalu`u 77.83 70 P **P** **22 24 22.3 -0.3**
KHLU IAmb IAmb 22 24 26.7
comp=Z,351nm,1.2s
HUH Hualalai 77.89 70 P **P** **22 24 22.2 -0.9**
HUH IAmb IAmb 22 24 26.6
comp=Z,289nm,1.4s
MWH Moku'aweowe 78.10 71 P **P** **22 24 23.2 -1.4**
MWH IAmb IAmb 22 24 27.9
comp=Z,387nm,1.4s
POHA Pohakuloa 78.17 70 P **P** **22 24 24.5 -0.2**
POHA IAmb IAmb 22 24 28.2
comp=Z,337nm,1.1s
PUH Pauahi 78.46 71 P **P** **22 24 25.8 -0.2**
PUH IAmb IAmb 22 24 30.1
comp=Z,409nm,1.1s
SDPT Sand Point 79.06 34 P **P** **22 24 28.3 -0.2**
SDPT IAMs_20 IAMs_20 22 51 55.6
comp=Z,7µm,22.0s
SDPT Sand Point 79.06 34 P 22 24 28.8
baz=257,SNR=14
QRN Al-Qurain 79.13 299 *e*P 22 24 27.7
ANM Nome 79.25 24 P **P** **22 24 30.6 +1.2**
ANM pmax pmax
comp=Z,109nm,1.1s
ANM Nome 79.25 24 P **P** **22 24 30.6 +1.2**
ANM Nome 79.25 24 P 22 24 30.8
baz=251
UMR Umm Al-Rimmam 79.36 300 *e*P 22 24 29.4
RDF Al-Radifah 79.46 299 *e*P 22 24 30.3
MIB Mutribah 79.71 300 *e*P 22 24 31.2
ABPO Ambohimpanom 80.34 251 P **P** **22 24 36.9 +0.4**
ABPO pmax pmax
comp=Z,225nm,1.3s
ABPO MLR MLR
comp=Z,6µm,22.0s
ABPO Ambohimpanom 80.34 251 P **P** **22 24 36.9 +0.4**
ABPO IAmb IAmb 22 24 41.5
comp=Z,225nm,1.3s
ABPO Ambohimpanom 80.34 251 IAMs_20 IAMs_20 22 55 43.5
comp=Z,6µm,22.0s
CHGN Chignik 80.40 33 P **P** **22 24 36.4 +0.7**
CHGN IAmb IAmb 22 24 41.2
comp=Z,201nm,1.0s
CHGN Chignik 80.40 33 P 22 24 35.7
baz=258
CRZF Crozet Islands 80.62 223 IAMs_20 IAMs_20 22 55 35.8
comp=Z,5µm,22.0s
MAK Makhachkala 80.76 313 *e*P **P** **22 24 36.2 -1.7**
MAK *e* 22 27 39.2
MAK *e*S **S** **22 34 40.7 -1.0**
MAK *e*SS **SS** **22 39 52.7 -3.3**
MAK pmax pmax
comp=Z,350nm,1.2s
VOI Vohitsoka 81.02 248 P **P** **22 24 40.5 +0.6**
SNR=26
RAYN Ar Rayn 81.02 293 P **P** **22 24 39.1 -0.8**
RAYN Ar Rayn 81.02 293 P **P** **22 24 39.5 -0.3**
RAYN pmax pmax
comp=Z,259nm,1.3s
RAYN MLR MLR
comp=Z,6µm,21.0s
RAYN Ar Rayn 81.02 293 P **P** **22 24 39.5 -0.3**
RAYN IAmb IAmb 22 25 05.6
comp=Z,259nm,1.2s
RAYN IAMs_20 IAMs_20 23 01 59.6
comp=Z,6µm,21.0s
RDOG Red Dog Mine 81.30 21 P **P** **22 24 41.2 +0.9**
RDOG IAmb IAmb 22 24 44.8
comp=Z,280nm,1.0s
VNDA Vanda 81.44 173 P **P** **22 24 41.4 +0.5**
comp=Z,82nm,0.5s,baz=318,slow=7.0,SNR=213
VNDA S **S** **22 34 48.0 +0.4**
comp=Z,0.6nm,0.3s,baz=103,slow=18,SNR=7.1
VNDA PKKPbc **PKKPbc** **22 43 17.4 -1.0**
comp=Z,2.0nm,0.8s,baz=45,slow=1.4,SNR=12
VNDA LR LR 23 00 31.7
comp=Z,3µm,21.5s,baz=340,slow=35
VNDA Vanda 81.44 173 P **P** **22 24 41.0 +0.1**
VNDA pmax pmax
comp=Z,401nm,1.4s
VNDA Vanda 81.44 173 P **P** **22 24 41.0 +0.1**
VNDA IAmb IAmb 22 24 45.3
comp=Z,401nm,1.4s
DDFL Dedoflistskaro 81.63 311 P **P** **22 24 46.3 +3.6**
MAW Mawson 81.73 200 P **P** **22 24 43.5 +0.9**
comp=Z,116nm,1.0s,baz=52,slow=6.0,SNR=21
MAW LR LR 22 57 47.1
comp=Z,1µm,19.6s,baz=56,slow=33
MAW Mawson 81.73 200 P **P** **22 24 44.2 +1.6**
baz=82,SNR=14
MAW Mawson 81.73 200 P **P** **22 24 43.3 +0.7**
MAW pmax pmax
comp=Z,53nm,1.3s
MAW MLR MLR
comp=Z,900nm,21.0s

MAW	Mawson	81.73	200	P		P		22 24 43.3	+0.7		
KIRV	Kirov	81.82	329	P		P		22 24 43.8	+0.6		
	comp=Z,173nm,0.7s,baz=104,slow=3.1,SNR=107										
KIRV	Kirov	81.82	329	*ce*P		P		22 24 43.3	+0.1		
BELG	Belogornoye	81.85	323	P		P		22 24 43.8	+0.3		
	comp=Z,460nm,0.9s,baz=296,slow=2.4,SNR=97										
BELG	Belogornoye	81.85	323	*c i*P		P		22 24 43.4	-0.1		
BELG				pmax	pmax						
	comp=Z,239nm,1.5s										
GROC	Groznyy	82.03	313	*e*P		P		22 24 43.3	-1.4		
GROC				*e*				22 27 51.4			
GROC				*e*S		S		22 34 55.3	+0.4		
GROC				pmax	pmax						
	comp=Z,671nm,1.2s										
SBA	Scott Base	82.35	172	P		P		22 24 46.6	+1.0		
SBA				pmax	pmax						
	comp=Z,241nm,1.2s										
SBA				MLR	MLR						
	comp=Z,3μm,19.0s										
SBA	Scott Base	82.35	172	P		P		22 24 46.6	+1.0		
SBA				IAmb	IAmb			22 24 50.0			
	comp=Z,241nm,1.2s										
GNI	Garni	82.57	310	P		P		22 24 48.8	+1.0		
	comp=Z,382nm,1.4s,baz=141,slow=0.9,SNR=71										
GNI				S		S		22 35 04.4	+3.5		
	comp=Z,1.8nm,0.5s,baz=12,slow=19,SNR=2.0										
GNI	Garni	82.57	310	P		P		22 24 49.0	+1.2		
GNI	Garni	82.57	310	P		P		22 24 48.6	+0.8		
GNI				pmax	pmax						
	comp=Z,687nm,1.6s										
GNI	Garni	82.57	310	P		P		22 24 48.6	+0.8		
GNI	Garni	82.57	310	P		P		22 24 49.0	+1.2		
SEAG	Tbilisi Sea	82.64	312	P		P		22 24 50.4	+2.4		
SVW2	Sparrevohn	82.74	29	P		P		22 24 49.1	+1.1		
SVW2				IAmb	IAmb			22 24 52.6			
	comp=Z,266nm,1.2s										
SII	Sitkinak Islan	82.75	33	P				22 24 49.0			
	baz=262										
SII	Sitkinak Islan	82.76	33	IAMs_20	IAMs_20			22 57 36.5			
	comp=Z,6μm,20.0s										
KZRT	Kazreti	82.92	311	P		P		22 24 50.4	+1.0		
OHAK	Old Harbor	83.33	33	P		P		22 24 52.4	+1.3		
OHAK	Old Harbor	83.33	33	P				22 24 51.6			
	baz=263										
AKH	Akhalkalaki	83.60	311	P		P		22 24 54.3	+1.2		
ONI	Oni	83.70	312	P		P		22 24 54.9	+1.4		
GEVA	Gevas	83.77	308	P		P		22 24 55.1	+1.0		
KDAK	Kodiak Island	83.78	32	LR		LR		22 58 26.4			
	comp=Z,2μm,21.2s,baz=270,slow=33										
KDAK	Kodiak Island	83.78	32	P		P		22 24 53.5	+0.1		
KDAK				pmax	pmax						
	comp=Z,410nm,1.4s										
KDAK				MLR	MLR						
	comp=Z,3μm,21.0s										
KDAK	Kodiak Island	83.78	32	P		P		22 24 53.5	+0.1		
KDAK				IAmb	IAmb			22 24 57.2			
	comp=Z,410nm,1.4s										
KDAK	Kodiak Island	83.78	32	P				22 24 54.0			
	baz=263										
KARS	Kars	83.87	311	P		P		22 24 55.8	+1.3		
RSO	Redoubt South	84.02	29	P		P		22 24 55.3	+0.4		
GOF	Gofitskoye	84.15	315⇑	*i*P		P		22 24 56.1	+0.5		
GOF				*e*S		S		22 35 17.7	+1.4		
GOF				pmax	pmax						
	comp=Z,416nm,1.0s										
GOF				smax	smax						
	comp=N,92nm,1.5s										
GOF				smax	smax						
	comp=E,42nm,1.1s										
PRGR	Permogore	84.16	332	*c i*P		P		22 24 55.1	-0.2		
PRGR				*e*S		S		22 35 15.4	-0.3		
PRGR				pmax	pmax						
	comp=Z,332nm,0.9s										
KBZ	Khabaz	84.17	314	P		P		22 24 56.2	+0.5		
	comp=Z,108nm,1.0s,baz=79,slow=4.5,SNR=89										
KBZ				S		S		22 35 17.8	+1.2		
	comp=Z,2.6nm,1.2s,baz=345,slow=20,SNR=0.8										
KBZ				LR		LR		23 08 44.4			
	comp=Z,1μm,20.9s,baz=68,slow=40										
KBZ	Khabaz	84.17	314	*ce*P		P		22 24 55.9	+0.2		
KBZ				pmax	pmax						
	comp=Z,302nm,1.5s										
A21K	Barrow	84.25	18	P		P		22 24 57.2	+1.6		
A21K	Barrow	84.25	18	P				22 24 57.3			
	baz=258,SNR=123										
NEY	Neytrino	84.27	313⇑	*i*P		P		22 24 57.6	+1.1		
NEY				pmax	pmax						
	comp=Z,110nm,1.1s										
KVAR	Kislovodsk Arr	84.33	314	P		P		22 24 58.5	+1.8		
	comp=Z,29nm,0.7s,baz=90,slow=20,SNR=19										
IMAR	Indian Mountai	84.33	24	P		P		22 24 57.2	+1.1		
KIV	Kislovodsk	84.34	314	P		P		22 24 56.8	0.0		
KIV	Kislovodsk	84.34	314	*e*P		P		22 24 56.4	-0.3		
KIV				*e*				22 28 10.5			
KIV				*e*				22 35 16.1			
KIV				*e*SS		SS		22 40 44.2	-5.1		
KIV				pmax	pmax						
	comp=Z,669nm,1.1s										
KIV				pmax	pmax						
	comp=Z,4μm,4.7s										
KIV				MLR	MLR						
	comp=Z,6μm,20.0s										
KIV	Kislovodsk	84.34	314	P		P		22 24 56.8	0.0		
KIV				IAmb	IAmb			22 25 00.6			
	comp=Z,205nm,1.0s										
KIV	Kislovodsk	84.34	314	P		P		22 24 57.3	+0.6		
SPCR	Spurr Chakacha	84.37	29	P				22 24 56.8			
	baz=263,SNR=59										
HOM	Homer	84.48	30	IAMs_20	IAMs_20			22 55 26.8			
	comp=Z,4μm,22.0s										
HOM	Homer	84.48	30	P				22 24 57.0			
	baz=264,SNR=8.1										
PPLA	Purkeypile	84.58	27	P		P		22 24 57.8	+0.2		
PPLA				IAmb	IAmb			22 25 40.8			
	comp=Z,286nm,1.4s										
PPLA	Purkeypile	84.58	27	P				22 24 58.2			
	baz=263,SNR=23										
CHUM	Lake Minchumin	84.65	26	P				22 24 59.0			
	baz=263,SNR=38										
CNPM	China Poot	84.67	30	P		P		22 24 58.5	+0.6		
PPT	Papeete	84.77	108	P		P		22 24 59.8	+0.5		
	comp=Z,13nm,0.4s,baz=239,slow=12,SNR=1.9										
PPT				LR		LR		23 02 30.2			
	comp=Z,1μm,18.4s,baz=262,slow=35										
PAE	Paea	84.77	108	*e*P		P		22 25 00.9	+1.6		
	comp=Z,14nm,1.0s										
PPT2	Papeete2	84.77	108	*e*P		P		22 25 01.5	+2.1		
	comp=Z,131nm,1.4s										
PPT2	Papeete2	84.77	108	*e*S		S		22 35 22.6	-1.1		
	comp=Z,4μm,25.0s										
PPT2				*e*SS		SS		22 40 54.9	-2.0		
	comp=Z,6μm,33.2s										
PPT2				*e*LQ		LQ		22 48 05.4			
	comp=Z,11μm,36.2s										
PPT2				*e*LR		LR		22 51 38.2			
	comp=Z,15μm,26.8s,baz=281										
SKT	Skwentna	84.78	28	P		P		22 24 58.5	0.0		
SKT				IAmb	IAmb			22 25 01.0			
	comp=Z,202nm,1.1s										
SKT	Skwentna	84.78	28	P				22 24 58.2			
	baz=264,SNR=56										
CAPN	Captain Cook N	84.83	29	P				22 24 59.4			
	baz=264,SNR=6.5										
BRLK	Bradley Lake	84.87	30	P		P		22 24 59.0	+0.1		
BRLK				IAMs_20	IAMs_20			22 59 22.0			
	comp=Z,4μm,22.0s										
BRSE	Bradley Lake S	84.94	30	P				22 24 59.5			
	baz=265,SNR=47										
SUA	Susitna One	85.10	29	P		P		22 25 00.2	0.0		
SUA	Susitna One	85.10	29	P				22 25 00.2			
	baz=264										
TEND	Ethiopian Broa	85.19	282	*e*S		S		22 35 30.6	+2.7		
TEND	Ethiopian Broa	85.19	282	*i*P		P		22 25 03.9	+2.4		
TEND	Ethiopian Broa	85.19	282	*i*P		P		22 25 03.9	+2.4		
TBI	Tubuai	85.24	113	*e*P		P		22 25 03.3	+1.8		
TBI	Tubuai	85.24	113	*e*S		S		22 35 27.5	-0.5		
	comp=Z,3μm,25.5s										
TBI				*e*SS		SS		22 41 03.6	+0.2		
	comp=Z,5μm,35.0s										
TBI				*e*LQ		LQ		22 48 15.8			
	comp=Z,5μm,40.0s										
TBI				*e*LR		LR		22 51 56.6			
	comp=Z,13μm,36.5s										
BPAW	Bear Paw Mtn.	85.25	26	P				22 25 01.1			
	baz=264										
VRH	Novokhopyorsk	85.38	321	*e*P		P		22 25 01.8	+0.2		
VRH				*e*S		S		22 35 20.9	-7.4		
VRH				pmax	pmax						
	comp=Z,660nm,0.9s										
VRH				smax	smax						
	comp=N,2μm,2.0s										
CUT	Chulitna	85.41	28	P		P		22 25 01.4	-0.1		
CUT	Chulitna	85.41	28	P				22 25 01.4			
	baz=265,SNR=8.5										
MLY	Manley	85.46	25	P				22 25 02.3			
	baz=264										
TRF	Thorofare Moun	85.50	27	P		P		22 25 01.9	-0.3		
TRF				IAmb	IAmb			22 25 06.2			
	comp=Z,348nm,2.0s										
TRF	Thorofare Moun	85.50	27	P				22 25 01.8			
	baz=265										
O22K	Cooper Landing	85.51	30	P		P		22 25 02.6	+0.5		
O22K	Cooper Landing	85.51	30	P				22 25 02.0			
	baz=265,SNR=28										
MARD	Mardin	85.53	307	P		P		22 25 03.6	+0.7		
RC01	Rabbit Creek A	85.55	29	P		P		22 25 02.7	+0.4		
RC01	Rabbit Creek A	85.55	29	P				22 25 02.5			
	baz=265,SNR=59										
SEW	Seward	85.62	30	IAMs_20	IAMs_20			22 59 58.1			
	comp=Z,5μm,21.0s										
SEW	Seward	85.62	30	P				22 25 02.8			
	baz=266										
KOPT	Kop Dagi	85.82	310	P		P		22 25 05.5	+1.0		
PMR	Palmer	85.88	29	P		P		22 25 04.4	+0.5		
PMR				pmax	pmax						
	comp=Z,321nm,1.2s										
PMR	Palmer	85.88	29	P		P		22 25 04.4	+0.5		
PMR	Palmer	85.88	29	P				22 25 04.0			
	baz=266,SNR=49										
COLD	Coldfoot	85.89	23	P				22 25 05.2			
	baz=264,SNR=105										
I23K	Minto, Yukon-K	86.05	25	P		P		22 25 05.0	+0.3		
I23K	Minto, Yukon-K	86.05	25	P				22 25 05.5			
	baz=265,SNR=55										
MCK	McKinley	86.13	26	P		P		22 25 04.5	-0.6		
MCK				pmax	pmax						
	comp=Z,99nm,1.2s										
MCK				MLR	MLR						
	comp=Z,2μm,21.0s										
MCK	McKinley	86.13	26	P		P		22 25 04.5	-0.6		
MCK	McKinley	86.13	26	P				22 25 05.0			
	baz=266,SNR=29										
NEA2	Nenana	86.13	25	P				22 25 05.0			
	baz=266,SNR=24										
KNK	Knik Glacier	86.19	29	P		P		22 25 06.4	+0.9		
KNK	Knik Glacier	86.19	29	P				22 25 05.4			
	baz=266										
PWL	Port Wells	86.22	29	IAMs_20	IAMs_20			22 57 44.9			
	comp=Z,4μm,21.0s										
MEH	Mehetia	86.22	108	*e*P		P		22 25 08.1	+1.6		
	comp=Z,44nm,1.3s										
WAT2	Susitna Watana	86.23	27	P				22 25 05.5			
	baz=266,SNR=36										
TOLK	Toolik Lake Re	86.26	21	P				22 25 07.0			
	baz=265,SNR=44										
SML	Sawmill	86.28	28	P		P		22 25 06.6	+0.7		
SML	Sawmill	86.28	28	P				22 25 06.3			
	baz=266,SNR=42										
KTUT	Trabzon	86.39	311	⇓P		P		22 25 07.5	+0.6		
SOC	Sochi	86.47	313	*e*P		P		22 25 04.7	-2.5		
SOC				*e*				22 28 26.2			
SOC				*i* S		S		22 35 27.4	-12		
SOC				*e*SS		SS		22 41 16.7	-3.8		
SOC				pmax	pmax						
	comp=Z,256nm,0.9s										
MDM	Murphy Dome	86.51	25	P		P		22 25 06.6	-0.4		
VAH	Vaihoa	86.52	105	*e*P		P		22 25 08.5	+0.5		
	comp=Z,104nm,1.3s										
DESE	Dese	86.54	281	*e*S		S		22 35 41.9	+0.2		
DESE	Dese	86.54	281	*i*P		P		22 25 10.6	+2.1		
DESE	Dese	86.54	281	*i*P		P		22 25 10.6	+2.1		
TCOL	CIGO, UAF Yank	86.67	25	P		P		22 25 08.6	+1.0		
TCOL	CIGO, UAF Yank	86.67	25	P				22 25 06.9			
	baz=267										
COLA	College	86.67	25	P		P		22 25 08.6	+0.9		
COLA				pmax	pmax						
	comp=Z,78nm,1.5s										
COLA				MLR	MLR						
	comp=Z,2μm,22.0s										
COLA	College	86.67	25	P		P		22 25 08.6	+0.9		
COLA	College	86.67	25	P				22 25 06.8			
	baz=267										
SCM	Sheep Creek Mo	86.75	28	P		P		22 25 09.2	+0.9		
SCM				pmax	pmax						
	comp=Z,291nm,1.2s										
SCM				MLR	MLR						
	comp=Z,2μm,21.0s										
SCM	Sheep Creek Mo	86.75	28	P		P		22 25 09.2	+0.9		
GLI	Glacier Island	86.83	29	IAMs_20	IAMs_20			23 02 10.9			
	comp=Z,4μm,22.0s										
GLI	Glacier Island	86.83	29	P				22 25 08.8			
	baz=266										
POKR	Poker Plat Res	86.86	25	P				22 25 07.9			
	baz=267,SNR=9.0										
VORD	Divnogorie	86.91	321	*e*P		P		22 25 08.7	-0.4		
VORD				*e*S		S		22 35 41.4	-1.8		
VORD				pmax	pmax						
	comp=Z,400nm,1.4s										
VORD				smax	smax						
	comp=N,160nm,3.9s										
VSR	Storozhevoye	86.99	321	*e*P		P		22 25 09.2	-0.4		
VSR				*e*S		S		22 35 38.5	-5.5		
VSR				pmax	pmax						
	comp=Z,380nm,1.1s										
VSR				smax	smax						
	comp=N,3μm,4.1s										
VSR				MLR	MLR						
	comp=Z,2μm,16.0s										
HDA	Harding Lake	87.04	26	P				22 25 08.6			
	baz=268										
HDA				P				22 25 08.6			
	baz=268										
KLMR	Klimovskoe	87.04	331	*c i*P		P		22 25 08.8	-0.8		
KLMR				*e*S		SKSac		22 35 33.1	+1.1		
KLMR				pmax	pmax						
	comp=Z,390nm,1.1s										
KLMR				MLR	MLR						
	comp=Z,5μm,20.0s										
KLMR	Klimovskoe	87.04	331	⇑*i*P		P		22 25 08.9	-0.7		
KLMR				*i* P		P		22 25 08.9	-0.7		
KLMR				⇓*i*P		P		22 25 08.9	-0.7		
KLMR				AMP				22 25 17.8			
	comp=Z,390nm,1.1s										
KLMR				*e*S		SKSac		22 35 33.2	+1.2		
KLMR				*e*S		SKSac		22 35 33.2	+1.2		
KLMR				LQ		LQ		22 57 44.7			
KLMR				LQ		LQ		22 57 44.7			
KLMR				LR		LR		23 01 46.5			
KLMR				AMP				23 05 09.4			
	comp=Z,5μm,20.4s										
IL31		87.08	25	P		P		22 25 08.8	-0.9		
ILAR	Eielson Array	87.08	25	P		P		22 25 09.1	-0.6		
	comp=Z,21nm,1.0s,baz=277,slow=3.6,SNR=56										
ILAR				PP		PP		22 28 29.2	-4.4		
	comp=Z,6.5nm,1.0s,baz=254,slow=5.3,SNR=2.6										
ILAR				PKiKP		PKiKP		22 30 15.5	+0.9		
	comp=Z,0.9nm,0.6s,baz=269,slow=2.8,SNR=4.9										
ILAR				S		SKSac		22 35 36.4	+4.3		
	comp=Z,0.3nm,0.6s,baz=282,slow=4.2,SNR=1.5										
ILAR				PKKPbc		PKKPdf		22 42 58.6	+0.9		
	comp=Z,2.5nm,0.9s,baz=89,slow=1.7,SNR=6.2										
ILAR				PKPPKP		PKPPKPdf		22 50 58.8			
	comp=Z,1.0nm,1.1s,baz=134,slow=2.6,SNR=4.1										
ILAR				LR		LR		23 03 20.7			
	comp=Z,1μm,20.6s,baz=270,slow=35										
ILAR	Eielson Array	87.08	25	P		P		22 25 08.6	-1.1		
HIN	Hinchinbrook I	87.10	30	IAMs_20	IAMs_20			22 59 15.2			
	comp=Z,4μm,22.0s										
FID	Port Fidalgo	87.12	29	IAMs_20	IAMs_20			23 03 44.2			
	comp=Z,4μm,21.0s										
Q23K	Middleton Isla	87.15	31	P				22 25 10.8			
	baz=268										
LPSR	Galich'ya Gora	87.16	322	*e*P		P		22 25 10.4	0.0		
LPSR				*e*S		S		22 35 40.4	-5.2		
LPSR				pmax	pmax						
	comp=Z,320nm,0.9s										
LPSR				smax	smax						
	comp=N,3μm,2.8s										
LPSR				MLR	MLR						
	comp=Z,6μm,25.0s										
M24K	Tolsona, Glenn	87.31	28	P		P		22 25 11.9	+0.9		
M24K				IAmb	IAmb			22 25 14.4			
	comp=Z,200nm,1.1s										
M24K	Tolsona, Glenn	87.31	28	P				22 25 11.2			
	baz=268,SNR=26										
KLU	Klutina	87.41	29	IAMs_20	IAMs_20			23 02 37.5			
	comp=Z,4μm,22.0s										
KLU	Klutina	87.41	29	P				22 25 11.9			
	baz=269										
AAE	Adis Abeba	87.44	279	*e*S		S		22 35 47.6	-2.8		
AAE	Adis Abeba	87.44	279	*i*P		P		22 25 14.6	+1.7		
AAE	Adis Abeba	87.44	279	*i*P		P		22 25 14.6	+1.7		
EYAK	Cordova Ski Ar	87.48	30	P				22 25 12.3			
	baz=269										
FURI	Furi	87.53	279	P		P		22 25 15.5	+2.2		
FURI	Furi	87.53	279	*e*S		S		22 35 52.1	+0.9		
FURI	Furi	87.53	279	*i*P		P		22 25 15.3	+1.9		
FURI	Furi	87.53	279	*i*P		P		22 25 15.3	+1.9		
PAX	Paxson	87.65	27	P				22 25 12.8			
	baz=269,SNR=32										
PRP	Porcupine Dome	87.67	25	P				22 25 12.5			
	baz=269										
MOS	Moscow	87.96	326	*e*P		P		22 25 13.2	-0.9		
MOS				*e*S		SKSac		22 35 35.8	-1.9		
MOS				pmax	pmax						
	comp=Z,527nm,1.4s										
MOS				MLR	MLR						
	comp=Z,5μm,23.0s										
MOS				MLR	MLR						
	comp=E,4μm,24.0s										
RAGM	Ragged Mountai	88.01	30	IAMs_20	IAMs_20			23 07 42.2			
	comp=Z,5μm,22.0s										
N25K	Chitina, Valde	88.05	29	P		P		22 25 15.4	+0.8		
N25K				IAmb	IAmb			22 25 18.0			
	comp=Z,110nm,1.2s										
N25K	Chitina, Valde	88.05	29	P				22 25 15.2			
	baz=270,SNR=24										
BMAR	Burnt Mountain	88.08	23	P		P		22 25 15.4	+0.8		
ANN	Anapa	88.12	315	*i*P		P		22 25 14.5	-0.6		
ANN				*e*S		SKSac		22 35 39.1	-0.1		
ANN				pmax	pmax						
	comp=E,68nm,0.7s										
ANN				pmax	pmax						
	comp=N,186nm,0.8s										
ANN				pmax	pmax						
	comp=Z,823nm,1.2s										
ANN				pmax	pmax						
	comp=N,153nm,0.8s										
ANN				pmax	pmax						
	comp=Z,587nm,1.0s										
ANN				smax	smax						
	comp=N,2μm,2.8s										
ANN				smax	smax						
	comp=E,7μm,9.2s										
ANN				smax	smax						
	comp=Z,1μm,4.6s										
ANN				MLR	MLR						
	comp=E,8μm,26.0s										
ANN				MLR	MLR						
	comp=N,1μm,19.0s										
ANN				MLR	MLR						
	comp=Z,9μm,27.0s										
KAIM	Kayak Island	88.14	30	P				22 25 14.3			
	baz=270										
HMT	Hamilton	88.21	30	IAMs_20	IAMs_20			23 07 35.7			
	comp=Z,4μm,22.0s										
SCRK	Sand Creek	88.33	26	P		P		22 25 16.2	+0.4		
SCRK	Sand Creek	88.33	26	P				22 25 16.1			
	baz=270,SNR=22										
GAZ	Gaziantep	88.38	307	P		P		22 25 17.2	+0.6		
GLB	Gilahina Butte	88.43	29	P		P		22 25 16.9	+0.5		
GLB				IAmb	IAmb			22 25 23.0			
	comp=Z,100nm,1.2s										
KIBK	Kibwezi	88.46	268	P		P		22 25 18.9	+1.4		
	SNR=58										
BERG	Berg Lake	88.49	30	IAMs_20	IAMs_20			22 57 55.0			
	comp=Z,3μm,22.0s										
OBN	Obninsk	88.56	325	P		P		22 25 16.8	-0.1		
	comp=Z,28nm,0.6s,baz=72,slow=5.4,SNR=54										
OBN				LR	LR			23 08 33.0			
	comp=Z,494nm,21.9s,baz=76,slow=38										
OBN	Obninsk	88.56	325	P		P		22 25 16.9	-0.1		
OBN	Obninsk	88.56	325	*c i*P		P		22 25 15.6	-1.4		
OBN				*i* S		S		22 35 54.3	-4.5		
OBN				pmax	pmax						
	comp=Z,703nm,1.7s										
OBN				MLR	MLR						
	comp=Z,9μm,25.0s										
OBN	Obninsk	88.56	325	P		P		22 25 16.5	-0.4		
BGLC	Bering Glacier	88.70	30	P				22 25 18.0			
	baz=271										
CRQM	Cirque	88.76	29	P		P		22 25 18.3	+0.2		
CRQM				IAmb	IAmb			22 25 24.4			
	comp=Z,116nm,1.2s										
MCARA	McCarthy VSAT	88.81	29	P				22 25 18.9			
	baz=271,SNR=19										
TOKA	Tokat	88.90	310	P		P		22 25 18.7	-0.3		
LVZ	Lovozero	89.14	338	*i*P		P		22 25 18.2	-1.3		
LVZ				pmax	pmax						
	comp=Z,67nm,1.1s										
LVZ	Lovozero	89.14	338	P		P		22 25 20.7	+1.2		
LVZ				IAmb	IAmb			22 25 31.6			
	comp=Z,91nm,1.1s										
LVZ				IAMs_20	IAMs_20			23 09 05.0			
	comp=Z,5μm,21.0s										
K27K	Chicken	89.17	26	IAMs_20	IAMs_20			23 03 05.8			
	comp=Z,3μm,21.0s										
KMBO	Kilima Mbogo	89.21	269	P		P		22 25 22.6	+1.3		
	comp=Z,37nm,0.9s,baz=75,slow=5.7,SNR=76										
KMBO				LR	LR			23 03 23.5			
	comp=Z,3μm,20.2s,baz=86,slow=34										
BCAR	Beaver Creek A	89.33	27	P		P		22 25 20.3	-0.2		
YAH	Yahtse	89.46	30	IAMs_20	IAMs_20			22 58 27.6			
	comp

BRTR PKKPbc **PKKPbc** **22 42 54.5 +0.7**
comp=Z,1.5nm,0.8s,baz=199,slow=3.1,SNR=4.0
BRTR LR LR 23 13 29.8
comp=Z,1µm,20.8s,baz=86,slow=40
BRTR Keskin Array B 91.10 310 *i* P **P** **22 25 28.7 -0.6**
BRTR pmax pmax
comp=Z,24nm,1.0s
BRTR Keskin Array B 91.10 310 P **P** **22 25 28.5 -0.9**
EPYK Eagle Plains 91.23 24 P **P** **22 25 29.4 +0.1**
EPYK IAmb IAmb 22 25 32.2
comp=Z,147nm,1.2s
EPYK Eagle Plains 91.23 24 P 22 25 29.2
baz=277
QSPA South Pole Qui 91.59 180 P **P** **22 25 31.3 +0.3**
QSPA South Pole Qui 91.59 180 IAMs_20 IAMs_20 23 08 30.2
comp=Z,5µm,22.0s
CSS Mathiatis 91.60 305 P **P** **22 25 31.8 +0.1**
PUL Pulkovo 91.65 330 *i* P **P** **22 25 30.3 -1.0**
PUL pmax pmax
comp=Z,77nm,1.0s
KEV Kevo 91.71 340 IAMs_20 IAMs_20 23 10 14.9
comp=Z,3µm,20.0s
LEF Lefka 91.95 305 ⇑P **P** **22 25 34.1 +0.9**
INK Inuvik 92.17 21 P **P** **22 25 33.4 -0.1**
comp=Z,71nm,1.1s,baz=274,slow=5.9,SNR=63
INK PKiKP **PKiKP** **22 30 23.4 +0.4**
comp=Z,5.2nm,0.8s,baz=318,slow=4.3,SNR=4.9
INK PKKPbc **PKKPdf** **22 42 50.2 +1.4**
comp=Z,5.4nm,0.6s,baz=75,slow=3.7,SNR=16
INK Inuvik 92.17 21 P **P** **22 25 33.4 -0.1**
INK pmax pmax
comp=Z,138nm,1.2s
INK MLR MLR
comp=Z,3µm,22.0s
INK Inuvik 92.17 21 P **P** **22 25 33.4 -0.1**
INK IAmb IAmb 22 25 36.2
comp=Z,138nm,1.2s
ARCES ARCESS Array B 92.27 340 P **P** **22 25 33.7 -0.3**
comp=Z,42nm,0.9s,baz=77,slow=2.7,SNR=37
ARCES PKiKP **PKiKP** **22 30 23.5 +0.3**
comp=Z,1.7nm,0.5s,baz=80,slow=1.5,SNR=4.3
ARCES PKKPbc **PKKPdf** **22 42 49.9 +1.1**
comp=Z,2.7nm,0.5s,baz=255,slow=3.4,SNR=15
ARCES LR LR 23 10 51.7
comp=Z,4µm,21.9s,baz=90,slow=38
ARCES ARCESS Array B 92.27 340 P **P** **22 25 33.4 -0.6**
ARCES pmax pmax
comp=Z,94nm,1.2s
ARCES ARCESS Array B 92.27 340 P **P** **22 25 33.4 -0.6**
ARCES IAmb IAmb 22 25 34.8
comp=Z,94nm,1.2s
SPA0 Spitsbergen Ar 92.43 349 P **P** **22 25 34.1 -0.5**
SPA0 Spitsbergen Ar 92.43 349 *e*P **P** **22 25 35.8 +1.2**
SPA0 IVmB_BB 22 25 38.4
comp=Z,1µm,3.2s
SPA0 *e*PP **PP** **22 29 16.1 +0.3**
SPA0 *e*SKSac **SKSac** **22 35 58.1 -4.9**
SPA0 *e*SP SPn 22 37 43.6 -1.6
SPITS Spitsbergen Ar 92.43 349 P **P** **22 25 34.5 -0.1**
comp=Z,16nm,0.6s,baz=129,slow=13,SNR=38
SPITS PP **PP** **22 29 14.7 -1.2**
comp=Z,38nm,1.3s,baz=146,slow=10,SNR=5.4
SPITS PKKPbc **PKKPbc** **22 42 50.8 -0.7**
comp=Z,8.4nm,0.9s,baz=166,slow=14,SNR=5.1
HAMF Hammerfest 92.65 341 *e*P **P** **22 25 35.8 +0.1**
HAMF *e*SKSac **SKSac** **22 36 08.0 +3.6**
HAMF *e*SP **SP** **22 37 47.1 +0.5**
SKAG Skagway 92.76 30 P 22 25 37.3
baz=278,SNR=11
WHY Whitehorse 92.82 29 P **P** **22 25 37.1 +0.3**
WHY IAmb IAmb 22 25 40.7
comp=Z,170nm,1.2s
MDUB Mudurnu 92.92 310 P **P** **22 25 35.8 -2.0**
KBS Kingsbay 92.96 350 *c*e**P** **P** **22 25 36.7 -0.3**
KBS pmax pmax
comp=Z,43nm,1.7s
KBS Kingsbay 92.96 350 IAMs_20 IAMs_20 23 11 22.5
comp=Z,5µm,22.0s
KBS Kingsbay 92.96 350 *e*P **P** **22 25 37.5 +0.5**
KBS IVmB_BB 22 25 40.9
comp=Z,682nm,2.1s
KBS *e*PP **PP** **22 29 20.9 +0.9**
KBS *e*SKSac **SKSac** **22 36 07.2 +1.3**
KBS *e*SP **SP** **22 37 52.8 +2.9**
KBS IVMs_BB IVMs_BB 23 09 23.4
comp=Z,3µm,25.5s
KBS Kingsbay 92.96 350 *i* P **P** **22 25 37.5 +0.5**
HSPB Hornsund (broa 93.01 348 *e*P **P** **22 25 36.7 -0.6**
HSPB *e*L L 23 09 23.1
comp=Z,9µm,25.1s
HSPB Hornsund (broa 93.01 348 *e*P **P** **22 25 37.4 +0.2**
HSPB IVmBBB 22 25 41.1
comp=Z,2µm,2.7s
HSPB *e*PP **PP** **22 29 22.1 +1.8**
HSPB *e*SKSac **SKSac** **22 36 05.5 -0.6**
HSPB *e*SP SP 22 37 51.7 +1.4
HSPB IVMs_BB IVMs_BB 23 09 47.8
comp=Z,2µm,31.1s
BJO1 Bjornoya 93.02 345 *e*P **P** **22 25 37.2 -0.1**
BJO1 *e*PP **PP** **22 29 22.0 +1.6**
BJO1 *e*SKSac **SKSac** **22 36 06.5 +0.3**
BJO1 *e*SS **SS** **22 42 48.9 -4.7**
BJO1 IVMs_BB IVMs_BB 23 04 26.7
comp=Z,3µm,3.2s
SIT Sitka 93.10 33 P 22 25 39.2
baz=278,SNR=5.5
BESE Bessie Mountai 93.13 31 IAMs_20 IAMs_20 23 01 21.7
comp=Z,4µm,22.0s
KTK1 Kautokeino 93.16 339 *e*P **P** **22 25 38.4 +0.3**
KTK1 *e*PP **PP** **22 29 22.4 +0.6**
SUF Sumiainen 93.24 333 P **P** **22 25 38.1 -0.5**
SUF pmax pmax
comp=Z,57nm,1.1s
AKASG Malin Array Be 93.29 321 P **P** **22 25 38.4 -0.7**
comp=Z,11nm,0.7s,baz=68,slow=4.3,SNR=64
AKASG PP **PP** **22 29 22.1 -1.2**
comp=Z,4.8nm,0.8s,baz=70,slow=7.8,SNR=4.1
AKASG PKKPbc **PKKPdf** **22 42 46.1 -0.4**
comp=Z,1.2nm,0.4s,baz=275,slow=3.0,SNR=6.0
AKASG LR LR 23 11 33.3
comp=Z,4µm,21.8s,baz=65,slow=38
AKASG Malin Array Be 93.29 321 P **P** **22 25 38.1 -1.0**
AKASG pmax pmax
comp=Z,61nm,1.5s
AKASG Malin Array Be 93.29 321 P **P** **22 25 38.1 -1.0**
AKBB Malin Array Si 93.29 321 P **P** **22 25 38.4 -0.7**
AKBB pmax pmax
comp=Z,101nm,1.4s
AKBB MLR MLR
comp=Z,5µm,21.0s
AKBB Malin Array Si 93.29 321 P **P** **22 25 38.4 -0.7**
AKBB IAmb IAmb 22 25 45.6
comp=Z,101nm,1.4s
AKBB IAMs_20 IAMs_20 23 11 11.2
comp=Z,5µm,21.0s
JIS Juneau Island 93.42 32 IAMs_20 IAMs_20 23 01 49.5
comp=Z,4µm,22.0s
FIA1 FINESS Array S 93.49 332 P **P** **22 25 38.6 -1.2**
FIA1 IAmb IAmb 22 25 50.7
comp=Z,208nm,1.8s
FINES FINESS Array B 93.49 332 P **P** **22 25 39.1 -0.6**
comp=Z,13nm,0.6s,baz=67,slow=4.5,SNR=34
FINES PKiKP **PKiKP** **22 30 26.2 +0.8**
comp=Z,5.8nm,0.6s,baz=54,slow=3.3,SNR=3.9
FINES PKKPbc **PKKPbc** **22 42 47.4 -0.9**
comp=Z,3.2nm,1.0s,baz=329,slow=1.6,SNR=3.8
FINES LR LR 23 11 18.9
comp=Z,4µm,20.1s,baz=76,slow=38
FINES FINESS Array B 93.49 332 P **P** **22 25 38.5 -1.2**
MNK Minsk 93.62 325 ⇓*i*P **P** **22 25 38.0 -2.5**
MNK *e* 22 29 25.0
MNK *e* 22 36 08.0
MNK *e*S **S** **22 36 40.0 -4.9**
MNK *e*SS **SS** **22 43 06.0 +2.8**
MNK pmax pmax
comp=Z,520nm,1.0s
MNK Minsk 93.62 325 *i* P **P** **22 25 40.0 -0.5**
comp=E,9.0nm,0.9s
MNK *i* P **P** **22 25 40.0 -0.5**
comp=N,42nm,1.1s
MNK *i* P **P** **22 25 40.0 -0.5**
comp=Z,132nm,1.0s
MNK *i* PP **PP** **22 29 24.3 -1.4**
MNK *i* PPP PPP 22 31 25.4
MNK *i* SKS **SKSac** **22 36 13.3 +3.0**
MNK *i* S **ScS** **22 36 52.4 +6.0**
MNK *i* PS PS 22 38 02.6 -2.9
MNK *i* SS **SS** **22 43 05.5 +2.3**
MNK *i* SSS SSS 22 46 46.6
MNK *i* LQ LQ 23 00 20.3
MNK *i* LR LR 23 04 11.5
MNK *i* LRM MLR 23 09 23.4
comp=Z,4µm,22.4s
MNK *i* LRM MLR 23 09 30.7
comp=E,479nm,23.1s
MNK *i* LRM MLR 23 09 50.2
comp=N,4µm,23.2s
VSU Vasula 93.66 329 *e*P **P** **22 25 40.5 0.0**
VSU Vasula 93.66 329 *c i*P **P** **22 25 40.4 -0.2**
VSU pmax pmax
comp=Z,133nm,1.0s
KIS Kishinev 93.99 317 *i* P **P** **22 25 43.7 +1.3**
comp=Z,400nm,6.2s
KIS Kishinev 93.99 317 *e*PP **PP** **22 29 32.0 +3.2**
KIS *i* SKS **SKSac** **22 36 11.0 -1.6**
KIS *e*SKKS **SKKSac** **22 36 25.0 -8.3**
KIS *e*S **S** **22 36 45.0 -3.4**
KIS Kishinev 93.99 317 *d i*P **P** **22 25 44.0 +1.6**
KIS *e* 22 26 04.0
KIS *e* 22 29 32.0
KIS *i* 22 36 11.0
KIS *e*S **S** **22 36 45.0 -3.4**
KIS *i* PS PS 22 38 01.0 -8.9
KIS *e*PPS PPS 22 38 41.0
KIS pmax pmax
comp=Z,400nm,6.2s
JETT Jettan, Norway 94.00 340 *e*P **P** **22 25 41.4 -0.6**
JETT *e*SKSac **SKSac** **22 36 16.0 +4.1**
IDID Didziasalis 94.16 326 *e*P **P** **22 25 44.0 +1.1**
SORM Soroca 94.17 318 ⇓P **P** **22 25 42.8 -0.4**
SORM Soroca 94.17 318 ⇓P **P** **22 25 42.8 -0.4**
NACGM Naroch 94.19 325 *i* P **P** **22 25 42.8 -0.3**
NACGM *i* P **P** **22 25 42.8 -0.3**
NACGM *i* P **P** **22 25 42.8 -0.3**
NACGM *i* PP **PP** **22 29 32.7 +2.5**
NACGM *i* PPP PPP 22 31 34.8
NACGM *i* S **SKSac** **22 36 15.8 +2.4**
NACGM *i* PS **PS** **22 38 09.0 -2.8**
NACGM *i* PS **PS** **22 38 09.0 -2.8**
NACGM *i* SS SS 22 42 38.3 -33
NACGM *i* SSS SSS 22 47 03.0
NACGM *i* LQ LQ 23 00 46.8
NACGM *i* LR LR 23 08 17.4
TLCR **94.20 315** ⇑P **P** **22 25 43.7 +0.3**
TLCR **94.20 315** ⇑P **P** **22 25 43.7 +0.3**
JURR Jurilovca 94.20 315 ⇑P **P** **22 25 43.3 -0.1**
IIGN Ignalina 94.44 326 *e*P **P** **22 25 45.2 +1.0**
ISAL Salakas 94.46 326 *e*P **P** **22 25 44.9 +0.6**
TRO Tromso 94.48 340 *e*P **P** **22 25 44.5 +0.4**
TRO IVmB_BB 22 25 57.1
comp=Z,2µm,3.4s
TRO *e*PP **PP** **22 29 32.9 +1.0**
TRO *e*SKSac **SKSac** **22 36 14.8 +0.4**
TRO *e*SP **SP** **22 38 06.4 -0.3**
TRO IVMs_BB IVMs_BB 23 04 35.1
comp=Z,2µm,3.8s
TPGR Topolog 94.52 315 ⇓P **P** **22 25 45.1 +0.2**
CRAG Craig 94.55 34 P 22 25 45.5
baz=280
TIRR Tirgusor 94.57 315 ⇓P **P** **22 25 46.1 +1.0**
TIRR Tirgusor 94.57 315 P **P** **22 25 45.1 0.0**
TIRR pmax pmax
comp=Z,91nm,0.9s
TIRR MLR MLR
comp=Z,7µm,22.0s
TIRR Tirgusor 94.57 315 P **P** **22 25 45.0 0.0**
TIRR IAmb IAmb 22 25 53.4
comp=Z,92nm,0.9s
VASR Vaslui 94.73 317 ⇓P **P** **22 25 46.3 +0.5**
VARL Varlezi 94.79 316 ⇓P **P** **22 25 47.5 +1.4**
IAS Iasi 94.81 317 ⇓P **P** **22 25 46.2 +0.1**
IAS Iasi 94.81 317 ⇓P **P** **22 25 46.2 +0.1**
TLBR Topalu 94.82 315 ⇑P **P** **22 25 46.5 +0.3**
WRAK Wrangell Islan 94.82 33 P 22 25 46.0
baz=280,SNR=15
HARR Harsova 94.88 315 ⇓P **P** **22 25 47.7 +1.2**
HARR Harsova 94.88 315 ⇓P **P** **22 25 47.7 +1.2**
BIR Birlad 94.89 317 ⇑P **P** **22 25 46.7 +0.1**
BIR Birlad 94.89 317 ⇑P **P** **22 25 46.7 +0.1**
TUDR **94.95 316** ⇓P **P** **22 25 47.0 +0.2**
ICOR Ion Corvin 95.05 314 ⇑P **P** **22 25 48.0 +0.7**
NOR Nord 95.10 355 *i* P **P** **22 25 46.4 -0.4**
comp=Z,64nm,1.2s
NOR Nord 95.10 355 *i* P **P** **22 25 46.4 -0.4**
NOR Nord 95.10 355 *i* P **P** **22 25 46.4 -0.4**
NOR IAmb IAmb 22 25 49.1
comp=Z,64nm,1.2s
MTSE Matsula 95.12 329 *e*P **P** **22 25 45.8 -1.4**
MANT Manisa 95.14 309 P **P** **22 25 47.6 -0.6**
C36M Paulatuk 95.24 20 P **P** **22 25 47.4 -0.2**
C36M IAmb IAmb 22 25 50.2
comp=Z,180nm,1.4s
C36M Paulatuk 95.24 20 P 22 25 47.7
baz=289,SNR=54
PETR Petresti 95.24 316 ⇓P **P** **22 25 49.0 +0.9**
AMRR Amara 95.31 315 ⇑P **P** **22 25 49.6 +1.1**
AMRR Amara 95.31 315 ⇑P **P** **22 25 49.6 +1.1**
ODBI Odobesti 95.36 316 ⇑P **P** **22 25 48.8 +0.1**
GRER 95.46 316 ⇓P **P** **22 25 49.4 +0.2**
PGOR Pogoanele 95.52 315 ⇓P **P** **22 25 49.7 +0.3**
TESR Tescani 95.53 317 ⇓P **P** **22 25 49.9 +0.4**
VRI Vrincioaia 95.57 316 ⇓P **P** **22 25 50.3 +0.6**
VRI Vrincioaia 95.57 316 ⇓P **P** **22 25 50.3 +0.6**
PLOR Plostina 95.62 316 ⇑P **P** **22 25 50.4 +0.4**
PLOR Plostina 95.62 316 ⇑P **P** **22 25 50.4 +0.4**
BISRR Bisoca 95.62 316 ⇑P **P** **22 25 51.7 +1.7**
DLBC Dease Lake 95.65 31 PP **PP** **22 29 43.7 +2.2**
comp=Z,11nm,1.1s,baz=280,slow=10,SNR=5.2
DLBC Dease Lake 95.65 31 P **P** **22 25 50.6 +0.8**
DLBC IAmb IAmb 22 25 53.6
comp=Z,69nm,1.3s
DLBC IAMs_20 IAMs_20 23 03 01.2
comp=Z,5µm,22.0s
PABE Paberze 95.68 326 *e*P **P** **22 25 50.6 +0.7**
PRAR RASCA 95.69 318 ⇑P **P** **22 25 50.5 +0.3**
MBAR Mbarara 95.71 270 P **P** **22 25 51.8 +0.6**
MBAR pmax pmax
comp=Z,91nm,1.8s
MBAR MLR MLR
comp=Z,4µm,22.0s
MBAR Mbarara 95.71 270 P **P** **22 25 51.8 +0.6**
MBAR IAmb IAmb 22 25 56.2
comp=Z,91nm,1.8s
MBAR Mbarara 95.71 270 IAMs_20 IAMs_20 23 07 55.3
comp=Z,4µm,22.0s
MBAR Mbarara 95.71 270 *e*P **P** **22 25 53.4 +2.2**
MBAR Mbarara 95.71 270 *e*P **P** **22 25 53.4 +2.2**
ISR Istrita 95.80 315 ⇓P **P** **22 25 51.3 +0.5**
ISR Istrita 95.80 315 ⇓P **P** **22 25 51.3 +0.5**
BIZ Bicaz 95.84 317 ⇓P **P** **22 25 51.3 +0.5**
NEHR Nehoiu 95.93 316 ⇑P **P** **22 25 51.8 +0.5**
RAZG Razgrad 96.05 314 ⇓P **P** **22 25 52.0 +0.1**
SULR 96.07 315 ⇓P **P** **22 25 53.0 +1.0**
SLIT Slitere, Latvi 96.14 328 *e*P **P** **22 25 49.8 -2.1**
SECR 96.15 315 ⇑P **P** **22 25 51.3 -1.0**
MLR Muntele Rosu 96.17 316 P **P** **22 25 52.3 -0.2**
comp=Z,26nm,0.6s,baz=316,slow=3.1,SNR=42
MLR PP **PP** **22 29 46.8 +0.8**
comp=Z,34nm,1.1s,baz=61,slow=5.9,SNR=4.2
MLR PKKPbc **PKKPbc** **22 42 38.8 -2.0**
comp=Z,3.1nm,0.7s,baz=160,slow=9.9,SNR=4.2
MLR LR LR 23 18 08.1
comp=Z,3µm,18.6s,baz=66,slow=41
MLR Muntele Rosu 96.17 316 ⇑P **P** **22 25 52.5 -0.1**
MLR Muntele Rosu 96.17 316 P **P** **22 25 52.1 -0.4**
MLR pmax pmax
comp=Z,73nm,1.0s
MLR MLR MLR
comp=Z,4µm,22.0s
MLR Muntele Rosu 96.17 316 P **P** **22 25 52.1 -0.4**
MLR IAmb IAmb 22 25 59.8
comp=Z,73nm,1.0s
MLR IAMs_20 IAMs_20 23 14 31.7
comp=Z,4µm,22.0s
STEI Steigen 96.30 339 *e*P **P** **22 25 51.9 -0.5**
STEI *e*PP **PP** **22 29 47.0 +1.0**
STEI *e*SS SS 22 43 35.7 -4.7
BURAR Bucovina Array 96.33 318 ⇑P **P** **22 25 53.8 +0.6**
BURAR Bucovina Array 96.33 318 P **P** **22 25 53.0 -0.2**
BURAR IAmb IAmb 22 26 01.6
comp=Z,62nm,0.8s
BUR08 Bucovina Ar. S 96.33 318 P **P** **22 25 53.1 -0.2**
BUR08 IAmb IAmb 22 26 05.9
comp=Z,73nm,0.9s
SUW Suwalki 96.42 325 *e*P **P** **22 25 52.6 -0.8**
SUW *e*S **S** **22 37 08.9 -0.3**
SUW *e*L L 23 10 24.5
comp=Z,5µm,23.1s
SUW Suwalki 96.42 325 *e*P **P** **22 25 52.8 -0.5**
SUW Suwalki 96.42 325 P **P** **22 25 52.5 -0.8**
SUW pmax pmax
comp=Z,458nm,1.5s
SUW MLR MLR
comp=Z,5µm,22.0s
SUW Suwalki 96.42 325 P **P** **22 25 52.5 -0.8**
FAUS Fauske 96.47 339 *e*P **P** **22 25 52.2 -1.1**
FAUS *e*PP **PP** **22 29 49.5 +2.1**
FAUS *e*SKSac **SKSac** **22 36 26.4 +1.4**
FAUS *e*SP **SP** **22 38 29.7 +1.0**
FAUS IVMs_BB IVMs_BB 23 10 08.7
comp=Z,2µm,21.8s
DOPR Dopca 96.48 316 ⇓P **P** **22 25 54.3 +0.4**
KARP Karpathos 96.58 306 P **P** **22 25 54.3 -0.2**
AAL Aland 96.68 331 *e*P **P** **22 25 52.8 -1.5**
PBUR Paburge 96.69 327 *e*P **P** **22 25 55.5 +1.0**
LVV L'vov 96.72 320 *e*P **P** **22 25 54.4 -0.4**
LVV *e**PP **pP** **22 26 05.5 -4.8**
LVV *e* 22 29 55.4
LVV *e*PPP PPP 22 31 53.3
LVV *e* 22 36 25.3
LVV *e*S **S** **22 37 10.5 -1.5**
LVV *e*PS PS 22 38 31.3 -8.4
LVV *e*SSS SSS 22 47 40.3
LVV pmax pmax
comp=Z,720nm,4.1s
EUNU Eureka 96.75 5 P **P** **22 25 54.6 +0.2**
ALN Alexandroupoli 96.76 311 P **P** **22 25 55.0 -0.2**
ALN pmax pmax
comp=Z,114nm,1.6s
ALN MLR MLR
comp=Z,2µm,22.0s
ALN Alexandroupoli 96.76 311 P **P** **22 25 55.0 -0.2**
ALN IAmb IAmb 22 25 57.4
comp=Z,114nm,1.6s
VOIR **96.80 316** ⇓P **P** **22 25 55.6 +0.2**
VOIR **96.80 316** ⇓P **P** **22 25 55.6 +0.2**
MTUR Matau 96.82 316 ⇑P **P** **22 25 54.7 -0.8**
MTUR Matau 96.82 316 ⇑P **P** **22 25 54.7 -0.8**
LOF Lofoten 96.82 340 *e*P **P** **22 25 54.6 -0.2**
LOF *e*pP **pP** **22 26 09.2 -1.1**
LOF *e*SKSac **SKSac** **22 36 25.4 -1.4**
LOF *e*SS **SS** **22 43 52.1 +4.2**
LOF IVMs_BB IVMs_BB 23 10 10.4
comp=Z,2µm,5.8s
COPA Copaceanca 96.89 315 ⇑P **P** **22 25 56.0 +0.4**
HUMR Humele 96.99 315 ⇑P **P** **22 25 56.3 +0.2**
ARCR ARCALIA 97.00 318 ⇓P **P** **22 25 56.7 +0.6**
ARR Arges 97.10 316 ⇓P Pdif 22 25 56.8 0.0
MDB Medias 97.14 317 ⇑P Pdif 22 25 57.6 +0.8
MDB Medias 97.14 317 ⇑P Pdif 22 25 57.6 +0.7
MOR8 Moi Rana 97.22 338 *e*P **P** **22 25 55.8 -0.9**
MOR8 IVmB_BB 22 26 02.3
comp=Z,1µm,4.2s
MOR8 *e*SKSac **SKSac** **22 36 29.5 +0.5**
MOR8 *e*SP SP 22 38 38.2 +1.4
MOR8 IVMs_BB IVMs_BB 23 13 25.8
comp=Z,3µm,22.4s
PLVB Pleven 97.43 314 ⇓P **P** **22 25 57.9 -0.2**
BMR Baia Mare 97.46 318 ⇓P Pdif 22 25 59.0 +0.7
BMR Baia Mare 97.46 318 ⇓P Pdif 22 25 59.0 +0.7
VLAD Vladila 97.49 315 ⇑P Pdif 22 25 59.1 +0.7
CJR Cluj-Napoca 97.57 317 ⇓P Pdif 22 25 59.8 +0.9
CJR Cluj-Napoca 97.57 317 ⇓P Pdif 22 25 59.8 +1.0
KONS Konsvik 97.59 338 *e*P Pdif 22 25 58.4 0.0
KWP Kalwaria Pacla 97.60 320 *e*P **P** **22 25 58.8 0.0**
KWP *e*S **S** **22 37 19.2 -0.4**
KWP *e*L L 23 14 24.9
comp=Z,5µm,24.1s
KWP Kalwaria Pacla 97.60 320 P **P** **22 25 58.3 -0.5**
KWP pmax pmax
comp=Z,265nm,1.8s
KWP MLR MLR
comp=Z,3µm,20.0s
KWP Kalwaria Pacla 97.60 320 P **P** **22 25 58.3 -0.5**
KWP IAMs_20 IAMs_20 23 19 01.1
comp=Z,3µm,20.0s
LOT Lotru 97.68 316 ⇓P Pdif 22 26 00.0 +0.6
APE Apeiranthos 97.69 308 ⇑P **P** **22 25 58.0 -1.5**
APE Apeiranthos 97.69 308 ⇑P **P** **22 25 58.0 -1.5**
STOK Stokkvaagen 97.69 338 *e*P Pdif 22 25 58.9 +0.1
KOLS Kolonicke sedl 98.02 320 *e*P Pdif 22 26 00.8 +0.1
KOLS Kolonicke sedl 98.02 320 *e*PDIFF Pdif 22 26 00.8 +0.1
UZH Uzhgorod 98.07 319 *e*P Pdif 22 26 01.0 +0.1
UZH *e* 22 30 04.7
UZH *e* 22 36 31.1
UZH *e*S **S** **22 37 20.6 -3.0**
CEI Carei 98.15 319 ⇓P Pdif 22 26 03.1 +1.8
CEI Carei 98.15 319 ⇓P Pdif 22 26 03.1 +1.8
DRGR 98.16 318 ⇓P Pdif 22 26 01.9 +0.5
DRGR 98.16 318 ⇓P Pdif 22 26 02.0 +0.5
DEV Deva 98.20 317 ⇓P Pdif 22 26 02.3 +0.7
DEV Deva 98.20 317 ⇓P Pdif 22 26 02.3 +0.7
SRE Strehaia 98.22 315 ⇓P Pdif 22 26 03.0 +1.3
SRE Strehaia 98.22 315 ⇓P Pdif 22 26 03.0 +1.3
BEL Belsk 98.31 323 *e*P Pdif 22 26 02.3 +0.4
BEL *e*L L 23 11 46.5
comp=Z,8µm,25.7s
GZR Gura Zlata 98.38 316 ⇓P Pdif 22 26 02.7 +0.2
GZR Gura Zlata 98.38 316 ⇓P Pdif 22 26 02.7 +0.2
LSZ Lusaka 98.39 255 P **P** **22 26 03.1 -0.1**
LSZ pmax pmax
comp=Z,44nm,0.9s
LSZ MLR MLR
comp=Z,7µm,22.0s
LSZ Lusaka 98.39 255 P **P** **22 26 03.1 -0.1**
LSZ IAmb IAmb 22 26 06.4
comp=Z,44nm,0.9s
IDI Anoyia 98.45 306 P **P** **22 26 03.0 -0.1**
comp=Z,22nm,0.9s,baz=29,slow=12,SNR=11
IDI PKKPbc **PKKPbc** **22 42 34.7 +0.7**
comp=Z,24nm,1.0s,baz=329,slow=12,SNR=2.7
IDI LR LR 23 15 42.8
comp=Z,1µm,21.6s,baz=88,slow=39
IDI Anoyia 98.45 306 ⇓P **P** **22 26 02.9 -0.1**
CRVS Cervenica-Dubn 98.55 320 *e*P Pdif 22 26 03.8 +0.7
CRVS Cervenica-Dubn 98.55 320 *e*PDIFF Pdif 22 26 03.8 +0.7
RKT Rikitea 98.56 113 *e*SKSac **SKSac** **22 36 39.2 +1.7**
comp=Z,2µm,25.0s
RKT Rikitea 98.56 113 *e*PS PS 22 38 59.5 -1.2
comp=Z,5µm,30.5s
RKT Rikitea 98.56 113 *e*LR LR 22 58 03.4
comp=Z,12µm,35.2s
VTS Vitosha 98.56 313 ⇑P **P** **22 26 03.4 -0.1**
VTS Vitosha 98.56 313 P **P** **22 26 03.0 -0.5**
VTS pmax pmax
comp=Z,37nm,0.9s
VTS MLR MLR
comp=Z,2µm,21.0s
VTS Vitosha 98.56 313 P **P** **22 26 03.0 -0.5**
LTVH Ltavrtes, Hu 98.58 318 ⇑P Pdif 22 26 03.4 +0.2
HERR Herculane 98.73 316 ⇑P Pdif 22 26 04.1 +0.2
NSS Namsos 98.79 337 *e*Pdif Pdif 22 26 04.2 +0.5
NSS IVmB_BB 22 26 16.0
comp=Z,1µm,3.5s
NSS *e*SKSac **SKSac** **22 36 40.1 +3.2**
NSS *e*SP **SP** **22 38 53.4 -0.6**
NSS IVMs_BB IVMs_BB 23 18 10.2
comp=Z,3µm,33.4s
SIRR Siria 98.97 317 ⇓P Pdif 22 26 05.6 +0.6
BZS Buzias 99.14 317 ⇓P **Pdif** **22 26 05.4 -0.4**
BZS Buzias 99.14 317 ⇓P **Pdif** **22 26 05.4 -0.4**
NIE Niedzica 99.17 321 *e*P **Pdif** **22 26 06.5 +0.7**
NIE *e*SKSac **SKSac** **22 36 41.9 +2.2**
NIE *e*L L 23 15 42.5
comp=Z,3µm,23.8s
MDVR Moldovita 99.24 316 ⇓P **Pdif** **22 26 06.7 +0.3**
DAG Danmarks Havn 99.24 352 *i* P **Pdif** **22 26 04.9 -0.6**
comp=Z,45nm,2.3s
DAG Danmarks Havn 99.24 352 *i* P **Pdif** **22 26 04.9 -0.6**
DAG Danmarks Havn 99.24 352 *i* P **Pdif** **22 26 05.0 -0.6**

DAG IVmB_BB 22 26 07.5
comp=Z,654nm,2.3s
DAG IAmb IAmb 22 26 29.9
comp=Z,35nm,0.8s
KECS Kecovo 99.27 320 *e*P **Pdif 22 26 06.7 +0.4**
KECS Kecovo 99.27 320 *e*PDIFF **Pdif 22 26 06.7 +0.4**
OJC Ojcow 99.30 321 *e*P **Pdif 22 26 05.5 -0.9**
OJC *e*SKSac **SKSac 22 36 41.7 +1.6**
OJC *e*L L 23 14 30.4
comp=Z,4μm,25.5s
OJC Ojcow 99.30 321 P **Pdif 22 26 05.9 -0.5**
OJC pmax pmax
comp=Z,31nm,1.0s
OJC Ojcow 99.30 321 **Pdif 22 26 05.9 -0.5**
BOVS Bovan 99.47 315 ⇑P **Pdif 22 26 07.4 +0.1**
STIP Stip 99.50 313 *i* P **Pdif 22 26 05.8 -1.7**
NVL N'lazarevskaya 99.51 198 *e*P **Pdif 22 26 05.9 -0.9**
NVL *e* 22 30 09.9
NVL *e*S **SKSac 22 36 41.3 +1.0**
NVL *e*SS **SS 22 44 34.3 +8.7**
NVL *e*SSS SSS 22 48 13.1
NVL pmax pmax
comp=Z,47nm,1.4s
AMBH Ambrzfalva 99.59 317 ⇓P **Pdif 22 26 08.9 +1.2**
HFS Hagfors 99.69 332 P **Pdif 22 26 07.2 -0.6**
comp=Z,9.7nm,0.6s,baz=113,slow=3.4,SNR=26
HFS PKKPbc **PKKPbc 22 42 29.7 -1.7**
comp=Z,1.0nm,0.4s,baz=171,slow=2.9,SNR=7.3
HFS LR LR 23 13 38.6
comp=Z,5μm,21.5s,baz=70,slow=37
LANS Liptovska Anna 99.77 320 *e*P **Pdif 22 26 08.5 -0.1**
PSZ Piszkesteto 99.79 319 ⇑P **Pdif 22 26 08.8 +0.1**
PSZ Piszkesteto 99.79 319 ⇑P **Pdif 22 26 08.8 +0.1**
SKO Skopje 99.99 313 *i* P **Pdif 22 26 10.9 +1.2**
GKP Gorka Klasztor 100.03 325 *e*P **Pdif 22 26 09.6 +0.1**
GKP *e*L L 23 12 40.1
comp=Z,9μm,24.7s
GKP Gorka Klasztor 100.03 325 *e*P **Pdif 22 26 10.9 +1.4**
VYHS Vyhne 100.33 320 *e*P **Pdif 22 26 11.2 +0.2**
VYHS Vyhne 100.33 320 *e*PDIFF **Pdif 22 26 11.2 +0.2**
OKC Ostrava-Krasne 100.43 321 *e*SKS **SKSac 22 36 45.0 -0.7**
OKC AMS AMS 23 15 20.0
comp=Z,2μm,24.6s
NC602 NORSAR Array S 100.46 333 *e*Pdif **Pdif 22 26 10.6 -0.7**
NC602 *e*SKSac **SKSac 22 36 42.4 -3.0**
NC602 *e*SP SP 22 39 14.1 +2.1
NC602 IVMs_BB IVMs_BB 23 10 24.3
comp=Z,4μm,30.6s
FRGS Fruska Gora 100.48 316 ⇓P **Pdif 22 26 12.1 +0.3**
NB2 NORSAR Subarra 100.48 333 P **Pdif 22 26 09.9 -1.6**
comp=Z,50nm,1.2s,baz=67,slow=4.6
NB2 NORSAR Subarra 100.48 333 P **Pdif 22 26 09.9 -1.6**
baz=67,slow=4.6
NOA NORSAR Array B 100.48 333 P **Pdif 22 26 10.4 -1.0**
comp=Z,9.4nm,0.9s,baz=68,slow=4.4,SNR=20
NOA PP **PP 22 30 17.9 -0.4**
comp=Z,2.4nm,0.8s,baz=68,slow=8.2,SNR=3.7
NOA PKKPbc **PKKPbc 22 42 27.9 -1.3**
comp=Z,3.1nm,0.9s,baz=278,slow=3.6,SNR=11
NC204 NORSAR Array S 100.59 334 Pdif **Pdif 22 26 10.5 -1.5**
BOSA Boshof 100.61 241 P **Pdif 22 26 14.1 +1.2**
comp=Z,11nm,1.0s,baz=88,slow=3.9,SNR=12
BOSA PP **PP 22 30 18.0 -2.6**
comp=Z,33nm,1.3s,baz=107,slow=8.9,SNR=4.4
BOSA PKiKP **PKiKP 22 30 40.2 +1.1**
comp=Z,6.2nm,0.9s,baz=124,slow=1.9,SNR=8.4
BOSA PKKPbc **PKKPbc 22 42 28.7 +0.9**
comp=Z,3.3nm,0.7s,baz=271,slow=1.1,SNR=5.5
OHR Ohrid 100.64 312 *i* P **Pdif 22 26 11.8 -0.8**
BSD Bornholm Skovb 100.77 327 *e*P **Pdif 22 26 07.7 -5.1**
MORC Moravsky Berou 100.82 321 ⇑P **Pdif 22 26 13.5 +0.3**
MORC Moravsky Berou 100.82 321 *e*PDIFF **Pdif 22 26 13.3 +0.1**
MORC *e*PP **PP 22 30 24.5 +3.2**
MORC *e* 22 36 49.8
MORC *e*SDIFF **Sdif 22 37 49.7 +2.9**
MORC Moravsky Berou 100.82 321 ⇑P **Pdif 22 26 13.5 +0.3**
JAVC Velka Javorina 100.99 320 *e*PDIFF **Pdif 22 26 15.1 +1.1**
JAVC *e* 22 36 52.6
JAVC *e*SDIFF **Sdif 22 37 53.5 +5.3**
DOMB Dombas 101.01 335 *e*Pdif **Pdif 22 26 13.8 0.0**
DOMB IVmB_BB 22 26 29.9
comp=Z,1μm,6.1s
DOMB *e*PP **PP 22 30 21.7 -0.6**
DOMB *e*SKSac **SKSac 22 36 49.4 +1.2**
DOMB *e*SP **SP 22 39 17.2 -0.7**
DOMB IVMs_BB IVMs_BB 23 15 40.8
comp=Z,3μm,18.2s
MORH Mrgy, Hungar 101.02 318 ⇓P **Pdif 22 26 14.2 +0.1**
OSL Oslo 101.14 332 *e*Pdif **Pdif 22 26 14.3 0.0**
OSL *e*PP **PP 22 30 23.9 +0.7**
OSL *e*SKSac **SKSac 22 36 49.9 +1.2**
OSL *e*SP **SP 22 39 19.3 0.0**
OSL IVMs_BB IVMs_BB 23 10 30.5
comp=Z,4μm,30.7s
KRLC Kraliky 101.21 322 *e*P **Pdif 22 26 14.7 -0.3**
KRLC *e* 22 36 49.6
KRLC MLR MLR
comp=Z,4μm,24.0s
KRLC Kraliky 101.21 322 *e*PDIFF **Pdif 22 26 14.7 -0.3**
KRLC *e*SKS **SKSac 22 36 49.6 0.0**
KRLC AMS AMS 23 13 20.0
comp=Z,4μm,24.0s
KSP Ksiaz 101.29 323 *e*P **Pdif 22 26 15.8 +0.5**
KSP *e*PP **PP 22 30 28.7 +4.0**
KSP *e*SKSac **SKSac 22 36 52.3 +2.4**
KSP *e*L L 23 13 58.4
comp=Z,6μm,23.8s
MODS Modra-Piesok 101.37 320 *e*P **Pdif 22 26 17.0 +1.3**
MODS Modra-Piesok 101.37 320 *e*PDIFF **Pdif 22 26 17.0 +1.3**
MOL Molde 101.42 336 *e*Pdif **Pdif 22 26 15.2 -0.2**
MOL *e*PP **PP 22 30 24.0 -1.2**
MOL *e*SP SP 22 39 19.9 -2.1
MOL IVMs_BB IVMs_BB 23 14 46.6
comp=Z,2μm,17.5s
DPC Dobruska-Polom 101.42 322 *e*P **Pdif 22 26 15.8 -0.1**
DPC *e* 22 36 48.0
DPC MLR MLR
comp=Z,5μm,24.5s
DPC Dobruska-Polom 101.42 322 *e*PDIFF **Pdif 22 26 15.8 -0.1**
DPC *e*SKS **SKSac 22 36 48.0 -2.6**
DPC AMS AMS 23 13 20.0
comp=Z,5μm,24.5s
OSTC Ostas 101.42 322 *e*PDIFF **Pdif 22 26 15.7 -0.1**
OSTC *e*SKS **SKSac 22 36 48.2 -2.4**
OSTC AMS AMS 23 13 30.0
comp=Z,5μm,22.5s
YKA Yellowknife Ar 101.48 24 P **Pdif 22 26 16.6 +0.9**
comp=Z,10nm,0.9s,baz=297,slow=4.2,SNR=70
YKA PP **PP 22 30 26.8 +1.2**
comp=Z,9.7nm,1.1s,baz=301,slow=6.1,SNR=4.3
YKA PKiKP **PKiKP 22 30 40.9 +1.4**
comp=Z,1.8nm,0.6s,baz=312,slow=0.9,SNR=4.1
YKA PKKPbc **PKKPbc 22 42 24.1 -2.2**
comp=Z,3.4nm,0.7s,baz=117,slow=3.9,SNR=7.1
YKA PKPPKP P'P'df 22 50 25.4 -17
comp=Z,0.6nm,1.0s,baz=108,slow=5.9,SNR=3.8
PDG Podgorica 101.48 314 ⇓P **Pdif 22 26 15.8 -0.5**
DBG Daneborg 101.50 351 *i* P **Pdif 22 26 16.0 +0.3**
DBG IAmb IAmb 22 26 45.5
comp=Z,17nm,1.0s
CHVC Chvalec 101.51 322 *e*PDIFF **Pdif 22 26 16.4 +0.1**
CHVC AMS AMS 23 14 00.0
comp=Z,5μm,23.0s
ZST Bratislava 101.53 320 *e*P **Pdif 22 26 17.0 +0.7**
ZST Bratislava 101.53 320 *e*PDIFF **Pdif 22 26 17.0 +0.7**
VRAC Vranov 101.55 321 P **Pdif 22 26 16.9 +0.5**
comp=Z,6.5nm,0.8s,baz=66,slow=6.5,SNR=12
VRAC Vranov 101.55 321 *e*PDIFF **Pdif 22 26 16.8 +0.4**
VRAC *e*PP **PP 22 30 25.1 -1.6**
VRAC *e* 22 36 53.7
VRAC *e*SDIFF **Sdif 22 37 53.9 +1.1**
UPC Upice 101.56 322 *e*P **Pdif 22 26 17.5 +1.1**
UPC *e* 22 36 45.4
UPC MLR MLR
comp=Z,5μm,23.3s
UPC Upice 101.56 322 *e*PDIFF **Pdif 22 26 17.5 +1.1**
UPC *e*SKS **SKSac 22 36 45.4 -5.8**
UPC AMS AMS 23 13 20.0
comp=Z,5μm,23.3s
KRUC Moravsky 101.74 321 *e*PDIFF **Pdif 22 26 17.2 -0.1**
KRUC *e* 22 36 55.3
KRUC *e*SDIFF **Sdif 22 37 56.4 +2.0**
JMIC Jan Mayen 101.77 346 *e*Pdif **Pdif 22 26 17.1 +0.1**
JMIC *e*SKSac **SKSac 22 36 53.3 +2.0**

KONO Kongsberg 101.78 332 IAMs_20 IAMs_20 23 18 22.6
comp=Z,4μm,21.0s
KONO Kongsberg 101.78 332 *e*Pdif **Pdif 22 26 16.1 -1.1**
KONO IVmB_BB 22 26 21.2
comp=Z,632nm,3.3s
KONO *e*SKSac **SKSac 22 36 52.1 +0.3**
KONO *e*SS **SS 22 45 00.0 +2.5**
KONO IVMs_BB IVMs_BB 23 10 49.5
comp=Z,4μm,30.1s
AKN Aaknes 101.82 335 *e*Pdif **Pdif 22 26 17.9 +0.6**
AKN *e*PP **PP 22 30 31.3 +3.0**
AKN *e*SKSac **SKSac 22 36 53.7 +1.7**
AKN *e*SP SP 22 39 25.4 -1.0
AKN IVMs_BB IVMs_BB 23 07 10.4
comp=Z,3μm,5.8s
RGN Rugen 101.83 327 IAMs_20 IAMs_20 23 16 16.5
comp=Z,4μm,19.0s
SKAR Skarslia 101.93 334 *e*Pdif **Pdif 22 26 18.0 +0.1**
SKAR IVmB_BB 22 26 24.9
comp=Z,713nm,4.5s
SKAR *e*PP **PP 22 30 28.6 -0.7**
SKAR *e*SKSac **SKSac 22 36 54.5 +1.9**
SKAR *e*SP SP 22 39 27.6 0.0
SKAR *e*SS **SS 22 44 58.3 -1.3**
SKAR IVMs_BB IVMs_BB 23 10 34.6
comp=Z,3μm,33.3s
NLWA Neilton Lookou 101.98 41 IAMs_20 IAMs_20 23 08 32.3
comp=Z,3μm,21.0s
RUE Ruedersdorf 102.27 325 *e*Pdiff **Pdif 22 26 20.6 +1.1**
CONA Conrad Observa 102.40 320 *e*P **Pdif 22 26 20.6 +0.3**
CONA comp=Z,20nm,1.6s *e*P **PKKPbc 22 42 22.4 -0.8**
comp=Z,6.9nm,1.0s
E03A Lebam 102.42 42 IAMs_20 IAMs_20 23 03 26.8
comp=Z,5μm,22.0s
PVCC Panska Ves 102.43 323 *e*P **Pdif 22 26 21.2 +0.9**
PVCC MLR MLR
comp=Z,6μm,22.2s
PVCC Panska Ves 102.43 323 *e*PDIFF **Pdif 22 26 21.2 +0.9**
PVCC AMS AMS 23 14 20.0
comp=Z,6μm,22.2s
D03D Eldon 102.45 41 P 22 26 21.2
baz=286
KOGS Kog 102.56 318 *e*Pdiff **Pdif 22 26 21.0 0.0**
KOGS *e* 22 45 57.7
PRU Pruhonice 102.62 322 *e*P **Pdif 22 26 22.2 +1.1**
PRU *e* 22 36 51.9
PRU MLR MLR
comp=Z,6μm,24.1s
PRU Pruhonice 102.62 322 *e*PDIFF **Pdif 22 26 22.2 +1.1**
PRU *e*SKS **SKSac 22 36 51.9 -4.3**
PRU AMS AMS 23 14 00.0
comp=Z,6μm,24.1s
HYA Hoyanger 102.64 335 *e*Pdif **Pdif 22 26 20.9 0.0**
PRA Prague 102.66 322 *e*SKS **SKSac 22 36 51.2 -5.2**
PRA AMS AMS 23 14 10.0
comp=Z,3μm,29.8s
A05A Maple Falls 102.67 39 IAMs_20 IAMs_20 23 09 01.2
comp=Z,4μm,21.0s
BRG Berggiesshubel 102.70 323 ⇓*i*Piff **Pdif 22 26 22.0 +0.5**
BRG Amp 22 26 24.9
comp=Z,26nm,1.1s
BRG *e*x x 22 26 29.7
BRG Amp 22 26 30.6
comp=Z,30nm,1.2s
BRG *e*x x 22 29 14.3
BRG Amp 22 29 21.6
comp=Z,7.4nm,1.3s
BRG PP **PKiKP 22 30 39.5 -2.6**
BRG Amp 22 30 41.3
comp=Z,36nm,1.4s
BRG ⇑SKS **SKSac 22 36 58.0 +1.5**
BRG ⇓Siff **Sdif 22 38 09.0 +6.7**
BRG SP **SP 22 39 28.0 -8.3**
BRG SS **SS 22 45 16.0 +5.3**
BRG Berggiesshubel 102.70 323 *e*Pdiff **Pdif 22 26 22.5 +1.0**
ARSA Arzberg 102.82 319 *e*P **Pdif 22 26 21.4 -0.7**
comp=Z,15nm,1.6s
HOMB Homborsund 102.88 331 *e*Pdif **Pdif 22 26 22.1 +0.1**
HOMB *e*PP **PP 22 30 35.0 -1.2**
HOMB *e*SKSac **SKSac 22 36 55.6 -1.3**
HOMB *e*SP SP 22 39 35.5 -2.1
HOMB IVMs_BB IVMs_BB 23 13 18.8
comp=Z,3μm,34.5s
B05A Bryant 102.88 40 P 22 26 23.2
baz=287
FOO Floro 102.91 335 *e*Pdif **Pdif 22 26 23.4 +1.3**
FOO *e*PP **PKiKP 22 30 40.1 -2.0**
FOO *e*SKSac **SKSac 22 36 54.5 -2.5**
G03D McMinnville, O 102.98 43 P 22 26 23.1
baz=286
ODD1 Odda 103.02 333 *e*Pdif **Pdif 22 26 23.1 +0.3**
FBE Freiberg 103.04 323 *e*Pdiff **Pdif 22 26 24.1 +1.1**
PBCC Pribram 103.05 322 *e*PDIFF **Pdif 22 26 23.7 +0.6**
CLL Collm 103.12 324 ⇑*i*Pdif **Pdif 22 26 23.3 0.0**
CLL comp=Z,44nm,1.7s *i* 22 26 28.9
comp=Z,25nm,1.3s
CLL *e* 22 29 13.0
CLL *e* 22 29 42.0
CLL *e*PP **PP 22 30 37.0 -1.3**
comp=Z,24nm,1.3s
CLL *i* PKiKP **PKiKP 22 30 40.8 -2.0**
CLL *es*PP 22 30 54.0
CLL *e*SKSac **SKSac 22 36 59.0 +0.5**
CLL *e*Sdif SKKSac 22 38 08.0 +29
CLL *e*(SP) 22 39 29.0
CLL *e*PPS PPS 22 40 24.0
CLL *es*PKKPdf 22 42 45.0
CLL *e*SS **SS 22 45 12.0 -4.4**
CLL *e*(SSS) 22 49 48.0
CLL *e* 22 53 30.0
CLL LmV 23 18 00.0
comp=Z,5μm,21.9s
CLL Lmax 23 21 00.0
CLL Collm 103.12 324 *i* P **Pdif 22 26 23.3 0.0**
CLL *e* 22 30 37.0
CLL *e* 22 36 59.0
CLL *e*S **Sdif 22 38 08.0 +2.3**
CLL pmax pmax
comp=Z,44nm,1.7s
CLL pmax pmax
comp=Z,24nm,1.3s
CLL MLR MLR
comp=Z,5μm,21.9s
CLL Collm 103.12 324 *e*Pdiff **Pdif 22 26 23.9 +0.6**
CKRC Cesky Krumlov 103.12 321 *e*PDIFF **Pdif 22 26 23.7 +0.2**
CKRC *e*SKS SKSac 22 36 46.8 -12
SNAA Sanae 103.16 195 Pdiff **Pdif 22 26 24.8 +1.6**
SNAA Sanae 103.16 195 Pdiff **Pdif 22 26 23.7 +0.6**
comp=Z,6.6nm,0.9s,baz=183,slow=6.8,SNR=21
SNAA PKKPbc **PKKPbc 22 42 19.7 -2.0**
comp=Z,7.4nm,0.8s,baz=245,slow=5.3,SNR=15
SNAA Sanae 103.16 195 P **Pdif 22 26 23.8 +0.6**
SNAA MLR MLR
comp=Z,3μm,19.0s
SNAA Sanae 103.16 195 Pdif **Pdif 22 26 23.8 +0.6**
SNAA IAMs_20 IAMs_20 23 12 46.4
comp=Z,3μm,19.0s
B06A Marblemount 103.19 39 IAMs_20 IAMs_20 23 09 06.1
comp=Z,4μm,20.0s
SOKA Soboth 103.30 319 *e*P **Pdif 22 26 24.0 -0.4**
comp=Z,6.4nm,1.0s
SOKA *e*P **PKKPbc 22 42 20.5 0.0**
BLS5 Blasjo 103.32 333 *e*Pdif **Pdif 22 26 24.6 +0.6**
BLS5 *e*SKSac **SKSac 22 36 59.0 -0.2**
BLS5 IVMs_BB IVMs_BB 23 12 00.8
comp=Z,3μm,33.6s
I03D Drain, OR 103.33 44 P 22 26 25.1
baz=285
K02D Willamette Mer 103.37 45 P 22 26 25.4
baz=285
BER Bergen 103.37 334 *e*Pdif **Pdif 22 26 24.8 +0.6**
BER *e*PP **PKiKP 22 30 42.7 -0.3**
BER *e*SKSac **SKSac 22 36 59.9 +0.7**
BER *e*SP SP 22 39 42.0 -0.8
BER IVMs_BB IVMs_BB 23 12 17.3
comp=Z,2μm,27.0s
ASK Askoy 103.39 334 *e*Pdif **Pdif 22 26 24.5 +0.2**
MOA Molln 103.45 320 *e*P **Pdif 22 26 25.3 +0.3**
comp=Z,18nm,1.4s
MOA *e*P **PKKPbc 22 42 20.4 +0.4**
comp=Z,12nm,1.1s
KHC Kasperske Hory 103.48 322 *e*P **Pdif 22 26 24.9 -0.2**

KHC *e* 22 36 56.8
KHC MLR MLR
comp=Z,5μm,24.4s
KHC Kasperske Hory 103.48 322 *e*PDIFF **Pdif 22 26 24.9 -0.2**
KHC *ex* x 22 26 42.5
KHC *ex* x 22 29 40.5
KHC *ex* x 22 30 24.0
KHC *e*SKS 22 36 56.8
KHC AMS AMS 23 17 10.0
comp=Z,5μm,24.4s
BOJS Bojanci 103.50 318 *e*Pdiff **Pdif 22 26 25.7 +0.5**
BOJS *e*PP **PP 22 30 42.1 +0.7**
BOJS *i* SKSac **SKSac 22 37 01.9 +1.4**
BOJS *e*Sdiff **Sdif 22 38 09.2 0.0**
GEC2 GERESS Array S 103.50 321 *e*Pdiff **Pdif 22 26 26.0 +0.7**
GERES GERESS Array B 103.50 321 Pdiff **Pdif 22 26 25.9 +0.6**
comp=Z,4.0nm,0.9s,baz=66,slow=3.3,SNR=20
GERES PP **PP 22 30 38.5 -2.9**
comp=Z,3.0nm,0.8s,baz=66,slow=7.9,SNR=3.5
GERES PKKPbc **PKKPbc 22 42 18.3 -1.7**
comp=Z,0.6nm,0.6s,baz=262,slow=34,SNR=4.1
LON Longmire 103.52 41 IAMs_20 IAMs_20 23 09 29.8
comp=Z,3μm,20.0s
L02E Cave Junction 103.56 46 P 22 26 25.5
baz=285
JCC Jacoby Creek, 103.58 47 IAMs_20 IAMs_20 23 14 26.0
comp=Z,3μm,20.0s
OBKA Obir 103.67 319 *e*P **Pdif 22 26 28.6 +2.5**
comp=Z,6.0nm,0.9s
OBKA *e*P **PKKPbc 22 42 18.5 -1.0**
comp=Z,12nm,1.6s
BSEG Bad Segeberg 103.70 327 *e*Pdiff **Pdif 22 26 26.6 +0.8**
TANN Tannenbergstha 103.74 323 *e*Pdiff **Pdif 22 26 27.0 +0.8**
MATE Matera 103.77 312 ⇓P **Pdif 22 26 29.1 +2.7**
FLTG Flechtingen 103.78 325 *e*Pdiff **Pdif 22 26 26.9 +0.7**
KHMM Horse Mountain 103.79 47 IAMs_20 IAMs_20 23 04 39.4
comp=Z,4μm,22.0s
NKC Novy Kostel 103.81 323 *e*P **Pdif 22 26 27.1 +0.6**
NKC *e* 22 36 55.6
NKC MLR MLR
comp=Z,6μm,23.0s
NKC Novy Kostel 103.81 323 *e*PDIFF **Pdif 22 26 27.1 +0.6**
NKC *e*SKS **SKSac 22 36 55.6 -6.2**
NKC AMS AMS 23 17 00.0
comp=Z,6μm,23.0s
WERD Werda 103.82 323 *e*Pdiff **Pdif 22 26 27.3 +0.8**
LJU Ljubljana 103.83 318 *e*Pdiff **Pdif 22 26 25.7 -0.9**
LJU *e*SKSac **SKSac 22 37 03.0 +1.0**
LJU *e*Sdiff **Sdif 22 38 12.6 +0.6**
LJU *e*SP **SP 22 39 45.9 -2.6**
LJU *e* 22 46 08.7
WERN Wernitzgruen 103.84 323 *e*Pdiff **Pdif 22 26 27.6 +1.0**
GUNZ Gunzen 103.84 323 *e*Pdiff **Pdif 22 26 27.6 +0.9**
H04A Detroit Lake 103.86 43 IAMs_20 IAMs_20 23 06 27.2
comp=Z,4μm,22.0s
NEUB Neuenburg 103.88 324 *e*Pdiff **Pdif 22 26 27.5 +0.8**
HUMO Hull Mountain 103.90 45 IAMs_20 IAMs_20 23 12 57.2
comp=Z,3μm,22.0s
PLN Plauen 103.90 323 *e*Pdiff **Pdif 22 26 27.7 +0.8**
WET Wettzell 103.91 322 *e*Pdiff **Pdif 22 26 28.0 +1.0**
I04A Tendick Farm, 103.96 44 P 22 26 27.2
baz=286
KMRM Mail Ridge 103.97 48 IAMs_20 IAMs_20 23 15 29.3
comp=Z,4μm,21.0s
KMY Karmoy 103.97 333 *e*Pdif **Pdif 22 26 27.1 +0.2**
F05D White Salmon 104.01 42 P 22 26 28.3
baz=287
MANZ Manzenberg 104.10 323 *e*Pdiff **Pdif 22 26 29.1 +1.3**
ROTZ Rotzenmuhle 104.12 322 *e*Pdiff **Pdif 22 26 29.3 +1.5**
MOX Moxa 104.17 323 *e*Pdiff **Pdif 22 26 29.0 +1.0**
ASSE Asse, Remlinge 104.18 325 *e*Pdiff **Pdif 22 26 28.9 +1.0**
KCPM Cahto Peak 104.19 48 IAMs_20 IAMs_20 23 14 06.2
comp=Z,4μm,21.0s
MYKA Terra Mystica 104.23 319 *e*P **Pdif 22 26 29.2 +0.7**
comp=Z,4.0nm,1.3s
MYKA *e*P **PKKPbc 22 42 16.3 -1.4**
comp=Z,6.8nm,1.0s
KBA Koelnbreinsper 104.29 320 *e*P **Pdif 22 26 29.5 +0.7**
comp=Z,7.3nm,1.2s
KBA *e*P **PKKPbc 22 42 17.7 -0.1**
comp=Z,3.8nm,0.9s
G05D Wamic, OR 104.29 42 P 22 26 29.9
baz=287
YBH Yreka Blue Hor 104.31 46 Pdiff **Pdif 22 26 30.2 +1.2**
comp=Z,2.2nm,0.7s,baz=234,slow=2.7,SNR=6.0
YBH PKiKP **PKiKP 22 30 46.0 +0.6**
comp=Z,7.0nm,1.1s,baz=294,slow=1.5,SNR=5.3
NRDL Niedersach Rie 104.37 326 *e*Pdiff **Pdif 22 26 30.1 +1.4**
CLZ Clausthal 104.46 325 *e*Pdiff **Pdif 22 26 30.6 +1.3**
L04D Klamath Falls 104.47 46 P 22 26 29.5
baz=286
N02D Trinity Center 104.51 47 P 22 26 29.8
baz=285
I05D Terrebonne, OR 104.55 43 P 22 26 30.3
baz=287
B08A Colville Reser 104.60 39 IAMs_20 IAMs_20 23 07 44.3
comp=Z,3μm,22.0s
GRA1 Grafenberg Arr 104.74 323 IAMs_20 IAMs_20 23 19 51.9
comp=Z,3μm,21.0s
GRFO Grafenberg 104.74 323 IAMs_20 IAMs_20 23 19 52.0
comp=Z,3μm,21.0s
HOPS Hopland Field 104.75 49 IAMs_20 IAMs_20 23 14 17.9
comp=Z,3μm,20.0s
K04D Chiloquin, OR 104.75 45 P 22 26 31.2
baz=286
VNA2 Neumayer--Watz 104.77 194 PKiKP **PKiKP 22 30 47.1 +1.8**
VNA2 Neumayer--Watz 104.77 194 Pdiff **Pdif 22 26 30.3 +0.1**
baz=112,slow=2.5
GTTG Gottingen 104.81 325 *e*Pdiff **Pdif 22 26 32.2 +1.3**
E07A Sunnyside 104.86 41 IAMs_20 IAMs_20 23 10 26.3
comp=Z,3μm,20.0s
J05D Fort Rock, OR 104.92 44 P 22 26 32.0
baz=287
ABTA Abfaltersbach 104.93 319 *e*P **Pdif 22 26 30.6 -1.1**
comp=Z,8.9nm,1.5s
ABTA *i* P **PKKPbc 22 42 16.5 +0.8**
comp=Z,6.3nm,0.9s
PINE Pine Mountain 104.98 44 IAMs_20 IAMs_20 23 03 48.7
comp=Z,4μm,22.0s
GDXM Geysers 105.00 49 IAMs_20 IAMs_20 23 15 52.7
comp=Z,4μm,19.0s
F07A Phinny Hill Vi 105.02 41 IAMs_20 IAMs_20 23 10 23.6
comp=Z,3μm,21.0s
VNA3 Neumayer Olymp 105.09 193 Pdiff **Pdif 22 26 33.0 +1.3**
MCCM Marconi Confer 105.11 50 IAMs_20 IAMs_20 23 12 14.4
comp=Z,2μm,19.0s
HAWA Hanford 105.12 41 IAMs_20 IAMs_20 23 05 05.3
comp=Z,4μm,22.0s
SUMG Summit 105.25 355 *i* P **Pdif 22 26 33.6 +0.7**
SUMG Summit 105.25 355 *e*P **Pdif 22 26 33.6 +0.7**
SUMG Summit 105.25 355 *e*P **Pdif 22 26 33.6 +0.7**
D08A Wollman Farm, 105.30 40 IAMs_20 IAMs_20 23 10 31.9
comp=Z,4μm,21.0s
WTTA Wattenberg 105.33 320 *e*P **Pdif 22 26 34.2 +0.7**
comp=Z,41nm,1.4s
WTTA *e*P **PKKPbc 22 42 14.6 0.0**
comp=Z,4.8nm,0.8s
K05A Summer Lake 105.33 45 IAMs_20 IAMs_20 23 13 56.0
comp=Z,3μm,22.0s
WATA Walderalm 105.34 320 *e*P **Pdif 22 26 34.2 +0.7**
comp=Z,12nm,1.3s
WATA *e*P **PKKPbc 22 42 14.4 -0.1**
comp=Z,6.0nm,0.9s
E08A Dider Farm, El 105.40 41 IAMs_20 IAMs_20 23 10 31.6
comp=Z,4μm,21.0s
C09A Chrisman Ranch 105.46 39 IAMs_20 IAMs_20 23 08 42.0
comp=Z,3μm,21.0s
SQTA Sankt Quirin 105.61 320 *e*P **Pdif 22 26 34.7 0.0**
comp=Z,33nm,1.5s
SQTA *e*P **PKKPbc 22 42 13.6 0.0**
comp=Z,4.9nm,1.2s
MOTA Moosalm 105.64 320 P **Pdif 22 26 35.6 +0.7**
comp=Z,14nm,1.7s
MOTA *e*P **PKKPbc 22 42 14.8 +1.2**
comp=Z,6.3nm,0.8s
IBBN Ibbenburen 105.76 326 *e*Pdiff **Pdif 22 26 36.2 +1.2**
ORV Oroville 105.78 48 P **Pdif 22 26 34.6 -0.8**
ORV MLR MLR
comp=Z,2μm,22.0s
ORV Oroville 105.78 48 Pdif **Pdif 22 26 34.6 -0.8**
RETA Reutte 105.81 321 *e*P **Pdif 22 26 36.5 +1.0**
comp=Z,13nm,1.5s
KASTN Kahler Asten 105.84 325 *e*Pdiff **Pdif 22 26 36.7 +1.2**
G08A Pilot Rock 105.86 42 IAMs_20 IAMs_20 23 07 47.9
comp=Z,3μm,21.0s
I07A Izee 105.88 43 IAMs_20 IAMs_20 23 08 13.5

	comp=Z,3µm,21.0s												
TEOL	**Teolo**	105.94	318		IAMs_20	IAMs_20	23 23 14.0						
	comp=Z,3µm,21.0s												
E09A	**Wood Farm, Sta**	105.98	40		IAMs_20	IAMs_20	23 05 34.1						
	comp=Z,4µm,22.0s												
FETA	**Feichten**	105.99	320	*e*	P	**Pdif**	**22 26 37.4**		**+1.0**				
	comp=Z,7.7nm,1.1s												
FETA					*e*P	**PKKPbc**	**22 42 14.0**		**+1.4**				
NEW	**Newport**	106.01	38		Pdiff	**Pdif**	**22 26 36.9**		**+0.5**				
	baz=293,slow=3.8												
NEW					PP	**PP**	**22 30 59.9**		**-0.1**				
	comp=Z,7.1nm,0.9s,baz=290,slow=7.1,SNR=5.5												
NEW	**Newport**	106.01	38		IAMs_20	IAMs_20	23 10 55.7						
	comp=Z,3µm,21.0s												
TNS	**Taunus Mts**	106.21	324	*e*	Pdiff	**Pdif**	**22 26 38.1**		**+0.9**				
STU	**Stuttgart**	106.32	322		IAMs_20	IAMs_20	23 20 56.6						
	comp=Z,3µm,20.0s												
BUG	**Bochum--Univer**	106.40	325	*e*	Pdiff	**Pdif**	**22 26 39.3**		**+1.4**				
DAVA	**Damuels**	106.44	321	*i*	P	**Pdif**	**22 26 39.9**		**+1.5**				
	comp=Z,9.6nm,1.4s												
BEKR	**Beckworth**	106.54	48		IAMs_20	IAMs_20	23 15 47.2						
	comp=Z,3µm,21.0s												
SAO	**San Andreas Ge**	106.56	51		IAMs_20	IAMs_20	23 14 40.0						
	comp=Z,3µm,20.0s												
DAVOX	**Davos/Dischmat**	106.62	320		Pdiff	**Pdif**	**22 26 40.0**		**+0.7**				
	comp=Z,6.4nm,0.7s,baz=7.0,slow=3.8,SNR=13												
DAVOX					PKiKP	**PKiKP**	**22 30 50.8**		**+1.2**				
	comp=Z,8.6nm,0.9s,baz=90,slow=3.0,SNR=3.7												
ZCCA	**Zocca**	106.74	317		IAMs_20	IAMs_20	23 17 51.4						
	comp=Z,3µm,21.0s												
F10A	**Beach Ranch, E**	106.77	41		IAMs_20	IAMs_20	23 06 29.9						
	comp=Z,3µm,22.0s												
J08A	**Circle Bar Ran**	106.82	44		IAMs_20	IAMs_20	23 06 33.4						
	comp=Z,3µm,22.0s												
RUBR	**Rubicon Trail**	106.92	48		IAMs_20	IAMs_20	23 17 08.4						
	comp=Z,3µm,20.0s												
BFO	**Black Forest**	107.02	322		IAMs_20	IAMs_20	23 20 34.1						
	comp=Z,3µm,22.0s												
CMB	**Columbia Colle**	107.03	49		IAMs_20	IAMs_20	23 14 25.4						
	comp=Z,3µm,22.0s												
PRMA	**PARMA**	107.05	318		IAMs_20	IAMs_20	23 23 50.4						
	comp=Z,3µm,21.0s												
BMO	**Blue Mountains**	107.11	42		IAMs_20	IAMs_20	23 08 14.0						
	comp=Z,3µm,22.0s												
PMPB	**Monarch Peak**	107.20	51		IAMs_20	IAMs_20	23 19 41.1						
	comp=Z,3µm,19.0s												
VLC	**Villacollemand**	107.20	317		IAMs_20	IAMs_20	23 23 09.6						
	comp=Z,3µm,22.0s												
PAHR	**Pah Rah Range**	107.30	47		IAMs_20	IAMs_20	23 16 22.4						
	comp=Z,2µm,21.0s												
WAKR	**Walker**	107.62	49		IAMs_20	IAMs_20	23 14 52.8						
	comp=Z,3µm,20.0s												
WALA	**Waterton Lakes**	107.67	37		IAMs_20	IAMs_20	23 18 10.4						
	comp=Z,2µm,21.0s												
MSSA	**Maissana**	107.74	318		IAMs_20	IAMs_20	23 24 15.7						
	comp=Z,3µm,22.0s												
PAGB	**Antelope Grade**	107.76	52		IAMs_20	IAMs_20	23 10 48.9						
	comp=Z,4µm,21.0s												
WLF	**Walferdange**	107.79	324		IAMs_20	IAMs_20	23 17 57.3						
	comp=Z,2µm,20.0s												
RYN	**Ryan**	108.26	48		IAMs_20	IAMs_20	23 15 15.0						
	comp=Z,3µm,21.0s												
BMRD	**Maredsous**	108.32	325	*d*	Pdif	**Pdif**	**22 26 46.0**		**-0.4**				
UCC	**Uccle**	108.33	325		IAMs_20	IAMs_20	23 20 24.4						
	comp=Z,4µm,21.0s												
PKM	**Mcpherson Peak**	108.33	52		P		22 30 53.4						
	baz=286												
TSUM	**Tsumeb**	108.34	250		PKiKP	**PKiKP**	**22 30 55.1**		**+1.5**				
	comp=Z,2.0nm,0.6s,baz=108,slow=3.0,SNR=3.0												
LHV	**Little Huntoon**	108.39	49		IAMs_20	IAMs_20	23 19 59.3						
	comp=Z,3µm,21.0s												
SENIN	**Lac Senin/Sane**	108.43	320		IAMs_20	IAMs_20	23 18 40.7						
	comp=Z,3µm,19.0s												
NVAR	**Mina Array Bea**	108.49	48		Pdiff	**Pdif**	**22 26 49.2**		**+1.4**				
	comp=Z,3.3nm,0.8s,baz=268,slow=4.5,SNR=13												
NVAR					PKiKP	**PKiKP**	**22 30 54.7**		**+1.2**				
	comp=Z,1.5nm,0.6s,baz=263,slow=3.2,SNR=7.4												
NVAR					PP	**PP**	**22 31 19.4**		**+0.6**				
	comp=Z,9.9nm,1.0s,baz=275,slow=5.8,SNR=8.5												
NVAR					PKKPbc	**PKKPbc**	**22 42 06.1**		**+1.6**				
	comp=Z,2.4nm,0.8s,baz=132,slow=4.2,SNR=8.7												
NVAR	**Mina Array Bea**	108.49	48		Pdif	**Pdif**	**22 26 48.9**		**+1.0**				
MSO	**Missoula**	108.55	39		IAMs_20	IAMs_20	23 12 35.0						
	comp=Z,3µm,21.0s												
NV11	**Mina Array Sit**	108.60	48		IAMs_20	IAMs_20	23 14 11.8						
	comp=Z,3µm,20.0s												
SNCC	**San Nicolas Is**	108.99	54		IAMs_20	IAMs_20	23 15 27.7						
	comp=Z,4µm,20.0s												
OSI	**Osito Audit: C**	109.27	52		IAMs_20	IAMs_20	23 10 29.8						
	comp=Z,4µm,22.0s												
BNI	**Bardonecchia**	109.34	319		IAMs_20	IAMs_20	23 24 33.5						
	comp=Z,3µm,20.0s												
BORG	**Borgarnes**	109.66	346		IAMs_20	IAMs_20	23 22 53.8						
	comp=Z,3µm,21.0s												
PASC	**Pasadena Art C**	109.82	53		IAMs_20	IAMs_20	23 08 43.4						
	comp=Z,4µm,22.0s												
EKA	**Eskdalemuir Ar**	109.89	332		PKKPbc	PKKPbc	22 41 59.0		-1.3				
	comp=Z,3.4nm,0.7s,baz=240,slow=3.4,SNR=16												
MWC	**Mount Wilson**	109.91	53		IAMs_20	IAMs_20	23 12 30.7						
	comp=Z,4µm,21.0s												
ELK	**Elko**	109.97	45		Pdiff	**Pdif**	**22 26 55.6**		**+1.2**				
	comp=Z,2.4nm,1.0s,baz=315,slow=4.7,SNR=5.2												
ELK					PKiKP	**PKiKP**	**22 30 57.8**		**+1.6**				
	comp=Z,3.0nm,0.6s,baz=284,slow=2.1,SNR=11												
ELK					PP	**PP**	**22 31 28.7**		**-0.6**				
	comp=Z,10nm,1.1s,baz=281,slow=5.2,SNR=6.3												
ELK	**Elko**	109.97	45		IAMs_20	IAMs_20	23 12 00.9						
	comp=Z,3µm,20.0s												
TPNV	**Topopah Spring**	110.50	49		IAMs_20	IAMs_20	23 17 32.1						
	comp=Z,2µm,19.0s												
BOZ	**Bozeman (W)**	110.52	40		IAMs_20	IAMs_20	23 11 50.1						
	comp=Z,3µm,21.0s												
BOZ	**Bozeman (W)**	110.53	40		P		22 30 56.9						
	baz=295												
R11A	**Troy Canyon, C**	110.54	48		IAMs_20	IAMs_20	23 16 51.1						
	comp=Z,3µm,21.0s												
R11A	**Troy Canyon, C**	110.54	48		P		22 30 57.7						
	baz=290												
GSC	**Goldstone, Bar**	110.58	51		IAMs_20	IAMs_20	23 16 52.4						
	comp=Z,3µm,20.0s												
GSC	**Goldstone, Bar**	110.58	51		P		22 30 57.0						
	baz=288												
EGMT	**Eagleton**	110.61	37		IAMs_20	IAMs_20	23 09 31.0						
	comp=Z,3µm,22.0s												
EGMT	**Eagleton**	110.61	37		P		22 30 57.5						
	baz=298												
KEST	**Kesra**	110.70	309		PKiKP	**PKiKP**	**22 30 58.6**		**+1.1**				
	comp=Z,2.7nm,0.6s,baz=235,slow=1.8,SNR=7.3												
KEST					PKKPbc	**PKKPbc**	**22 41 57.2**		**0.0**				
	comp=Z,5.9nm,0.8s,baz=233,slow=2.0,SNR=6.4												
KEST	**Kesra**	110.70	309		IAMs_20	IAMs_20	23 24 28.5						
	comp=Z,3µm,22.0s												
MURC	**Murrieta**	110.77	53		P		22 30 57.5						
	baz=287												
109C	**Camp Elliot, M**	111.05	54		IAMs_20	IAMs_20	23 09 05.0						
	comp=Z,4µm,22.0s												
HEC	**Hector,Ludlow**	111.09	52		P		22 30 58.0						
	baz=288												
FFC	**Flin Flon**	111.18	28		IAMs_20	IAMs_20	23 15 34.7						
	comp=Z,2µm,21.0s												
SPR3	**Spring Creek 3**	111.24	47		IAMs_20	IAMs_20	23 09 27.6						
	comp=Z,3µm,20.0s												
PRN	**Pahroc Range**	111.25	49		IAMs_20	IAMs_20	23 18 15.1						
	comp=Z,3µm,20.0s												
PFO	**Pinyon Flats O**	111.35	53		Pdiff	**Pdif**	**22 27 04.4**		**+3.8**				
	comp=Z,1.2nm,0.4s,baz=308,slow=4.6,SNR=4.0												
PFO					PP	**PP**	**22 31 41.7**		**+2.2**				
	comp=Z,5.0nm,0.8s,baz=249,slow=8.4,SNR=7.4												
PFO	**Pinyon Flats O**	111.35	53		IAMs_20	IAMs_20	23 09 04.2						
	comp=Z,4µm,21.0s												
PFO	**Pinyon Flats O**	111.35	53		P		22 30 58.6						
	baz=287												
TPFO	**Pinon Flats**	111.36	53		P		22 30 58.6						
	baz=287												
TKX	**Tecate**	111.54	54		IAMs_20	IAMs_20	23 15 06.1						
	comp=Z,3µm,22.0s												
MONP2	**Monument Peak**	111.59	54		P		22 30 58.6						
	baz=287												
BELC	**Belle Mtn. Jos**	111.60	52		P		22 30 58.6						
	baz=288												
GMRC	**Granite Mounta**	111.63	51		P		22 30 58.8						
	baz=288												
CCX	**Cicese**	111.69	55		IAMs_20	IAMs_20	23 14 19.2						
	comp=Z,2µm,20.0s												
H17A	**Grant Village**	111.71	40		P		22 30 59.1						
	baz=296												
FCC	**Fort Churchill**	111.79	21		IAMs_20	IAMs_20	23 17 54.6						
	comp=Z,3µm,22.0s												
ANGG	**Ammassalik, Gr**	111.88	353		IAMs_20	IAMs_20	23 20 19.0						
	comp=Z,3µm,22.0s												
DUG	**Dugway, Tooele**	111.89	45		IAMs_20	IAMs_20	23 09 32.8						
	comp=Z,2µm,21.0s												
DUG	**Dugway, Tooele**	111.89	45		P		22 30 59.6						
	baz=292												
LOHW	**Long Hollow**	112.03	41		IAMs_20	IAMs_20	23 14 15.1						
	comp=Z,4µm,22.0s												
IRM	**Iron Mountain**	112.23	52		P		22 31 01.0						
	baz=288												
RLMT	**Red Lodge**	112.23	39		IAMs_20	IAMs_20	23 14 50.2						
	comp=Z,3µm,21.0s												
ESJX	**Sierra Juarez**	112.23	54		IAMs_20	IAMs_20	23 09 17.6						
	comp=Z,3µm,22.0s												
NEE2	**Needles Airpor**	112.45	51		P		22 31 00.3						
	baz=289												
UABX	**UABC, Campus M**	112.46	54		IAMs_20	IAMs_20	23 06 40.4						
	comp=Z,2µm,19.0s												
GLA	**Glamis**	112.83	53		IAMs_20	IAMs_20	23 09 18.1						
	comp=Z,3µm,22.0s												
SPX	**San Pedro Mart**	112.91	55		IAMs_20	IAMs_20	23 09 36.4						
	comp=Z,4µm,22.0s												
W13A	**Hualapai Mount**	112.91	51		IAMs_20	IAMs_20	23 19 26.1						
	comp=Z,3µm,20.0s												
MAHO	**Mahon**	113.01	315		PP	**PP**	**22 31 50.7**		**-0.1**				
BW06	**Boulder Array**	113.08	42		IAMs_20	IAMs_20	23 12 11.0						
	comp=Z,3µm,22.0s												
BW06	**Boulder Array**	113.08	42		P		22 31 00.1						
	baz=296												
PDAR	**Pinedale Array**	113.08	42		Pdiff	**Pdif**	**22 27 11.5**		**+3.3**				
	comp=Z,0.2nm,0.5s,baz=269,slow=3.6,SNR=3.0												
PDAR					PKiKP	**PKiKP**	**22 31 02.8**		**+0.7**				
	comp=Z,1.7nm,0.5s,baz=112,slow=1.3,SNR=16												
PDAR					PP	**PP**	**22 31 48.0**		**-3.6**				
	comp=Z,2.3nm,0.8s,baz=290,slow=2.7,SNR=5.1												
PDAR					PKKPbc	**PKKPbc**	**22 41 47.6**		**-2.1**				
	comp=Z,3.8nm,0.6s,baz=120,slow=5.6,SNR=24												
LAO	**LASA Array**	113.35	37		IAMs_20	IAMs_20	23 21 45.7						
	comp=Z,2µm,21.0s												
LAO	**LASA Array**	113.35	37		P		22 31 02.2						
	baz=300												
SFX	**San Felipe**	113.41	55		IAMs_20	IAMs_20	23 13 33.8						
	comp=Z,3µm,22.0s												
DGMT	**Dagmar**	113.60	34		IAMs_20	IAMs_20	23 16 45.1						
	comp=Z,3µm,22.0s												
DGMT	**Dagmar**	113.60	34		P		22 31 02.9						
	baz=302												
U15A	**North Rim**	113.67	49		IAMs_20	IAMs_20	23 12 49.0						
	comp=Z,2µm,22.0s												
WUAZ	**Wupatki**	114.69	49		IAMs_20	IAMs_20	23 18 33.1						
	comp=Z,3µm,21.0s												
WUAZ	**Wupatki**	114.69	49		P		22 31 05.6						
	baz=291												
214A	**Organ Pipe Nat**	114.79	54		IAMs_20	IAMs_20	23 10 56.0						
	comp=Z,3µm,22.0s												
214A	**Organ Pipe Nat**	114.79	54		P		22 31 05.8						
	baz=289												
O20A	**White River Ci**	115.12	44		IAMs_20	IAMs_20	23 15 12.0						
	comp=Z,2µm,21.0s												
O20A	**White River Ci**	115.12	44		P		22 31 06.1						
	baz=296												
RWWY	**Rawlins**	115.13	42		IAMs_20	IAMs_20	23 11 50.1						
	comp=Z,3µm,22.0s												
K22A	**Casper**	115.13	41		P		22 31 05.6						
	baz=298												
PV14	**Lion Creek, Pa**	115.31	46		IAMs_20	IAMs_20	23 22 23.4						
	comp=Z,2µm,21.0s												
PV19	**Morning Glory**	115.37	46		IAMs_20	IAMs_20	23 11 35.8						
	comp=Z,3µm,22.0s												
PV04	**Paradox Valley**	115.39	46			**PKiKP**	**22 31 04.4**		**-2.1**				
PV17	**East Wray Mesa**	115.40	46		IAMs_20	IAMs_20	23 21 58.6						
	comp=Z,3µm,22.0s												
PV16	**Nyswonger Mesa**	115.42	46		IAMs_20	IAMs_20	23 22 25.1						
	comp=Z,2µm,20.0s												
PV18	**Skein Mesa, Pa**	115.45	46		IAMs_20	IAMs_20	23 21 59.9						
	comp=Z,2µm,21.0s												
PV12	**Saucer Basin,**	115.50	46		IAMs_20	IAMs_20	23 12 00.2						
	comp=Z,3µm,20.0s												
PV07	**Paradox Valley**	115.56	46		IAMs_20	IAMs_20	23 16 39.8						
	comp=Z,2µm,20.0s												
PV15	**Paradox Valley**	115.72	46		IAMs_20	IAMs_20	23 12 03.0						
	comp=Z,3µm,20.0s												
RSSD	**Black Hills**	115.98	38		IAMs_20	IAMs_20	23 15 06.5						
	comp=Z,3µm,22.0s												
RSSD	**Black Hills**	115.98	38		P		22 31 07.0						
	baz=301												
W18A	**Petrified Fore**	116.08	49			**PKiKP**	**22 31 08.0**		**0.0**				
W18A	**Petrified Fore**	116.08	49		P		22 31 07.0						
	baz=292,SNR=7.7												
X18A	**Snowflake**	116.14	50			**PKPdf**	**22 31 07.6**		**-0.5**				
MVCO	**Mesa Verde**	116.17	47			**PKPdf**	**22 31 07.6**		**-0.6**				
MVCO					IAMs_20	IAMs_20	23 20 52.1						
	comp=Z,3µm,21.0s												
MVCO	**Mesa Verde**	116.17	47		P		22 31 08.2						
	baz=294,SNR=8.0												
TUC	**Tucson**	116.29	53		PKIKP	**PKiKP**	**22 31 08.7**		**+0.4**				
TUC					MLR	MLR							
	comp=Z,4µm,22.0s												
TUC	**Tucson**	116.29	53		PKPdf	**PKiKP**	**22 31 08.7**		**+0.4**				
TUC	**Tucson**	116.29	53		P		22 31 08.1						
	baz=290												
N23A	**Red Feather La**	116.34	42		P		22 31 08.8						
	baz=298												
SMCO	**Snowmass**	116.42	44		PKPdf	**PKPdf**	**22 31 08.3**		**-0.4**				
SMCO					IAMs_20	IAMs_20	23 16 24.5						
	comp=Z,2µm,20.0s												
MDND	**Maddock**	116.49	33		PKPdf	**PKPdf**	**22 31 07.6**		**-0.5**				
MDND					IAMs_20	IAMs_20	23 18 09.4						
	comp=Z,2µm,22.0s												
MDND	**Maddock**	116.49	33		P		22 31 08.1						
	baz=306												
E28A	**Huff**	116.63	34		IAMs_20	IAMs_20	23 12 45.2						
	comp=Z,3µm,22.0s												
SRIG	**Santa Rosalia**	116.69	58		IAMs_20	IAMs_20	23 22 31.8						
	comp=Z,3µm,20.0s												
ULM	**Lac du Bonnet**	116.89	29		PKP	**PKiKP**	**22 31 09.2**		**+0.3**				
	comp=Z,7.5nm,0.6s,baz=309,slow=1.3,SNR=15												
ULM					PKKPbc	**PKKPbc**	**22 41 35.6**		**-1.0**				
	comp=Z,5.2nm,0.5s,baz=115,slow=2.9,SNR=10												
ULM	**Lac du Bonnet**	116.89	29		PKIKP	**PKPdf**	**22 31 07.9**		**-0.9**				
ULM					MLR	MLR							
	comp=Z,2µm,22.0s												
ULM	**Lac du Bonnet**	116.89	29		PKPdf	**PKPdf**	**22 31 07.9**		**-0.9**				
ULM					IAMs_20	IAMs_20	23 24 32.9						
	comp=Z,2µm,22.0s												
NRS	**Narsarsuaq**	117.03	356		IAMs_20	IAMs_20	23 27 07.9						
	comp=Z,3µm,22.0s												
ISCO	**Idaho Springs**	117.07	43		PKIKP	**PKPdf**	**22 31 09.1**		**-0.8**				
ISCO					MLR	MLR							
	comp=Z,2µm,20.0s												
ISCO	**Idaho Springs**	117.07	43		PKPdf	**PKPdf**	**22 31 09.1**		**-0.8**				
ISCO					IAMs_20	IAMs_20	23 14 10.7						
	comp=Z,2µm,20.0s												
ISCO	**Idaho Springs**	117.07	43		P		22 31 09.6						
	baz=298												
S22A	**4UR Ranch, Cre**	117.15	46		P		22 31 09.3						
	baz=296												
HSIG		117.25	56		IAMs_20	IAMs_20	23 23 39.5						
	comp=Z,3µm,19.0s												
TAM	**Tamanrasset**	117.56	297		PKIKP	**PKiKP**	**22 31 11.8**		**+0.7**				
TAM					MLR	MLR							
	comp=Z,2µm,22.0s												
TAM	**Tamanrasset**	117.56	297		PKPdf	**PKiKP**	**22 31 11.8**		**+0.7**				
CART	**Cartagena**	117.72	315		PS	PS	22 41 57.8		-12				
Q24A	**Divide**	117.78	44		P		22 31 11.2						
	baz=298												
319A	**Douglas**	117.81	53		PKPdf	**PKPdf**	**22 31 11.2**		**-0.1**				
319A					IAMs_20	IAMs_20	23 18 56.2						
	comp=Z,4µm,22.0s												
UCM	**Universidad Co**	117.99	318		PP	PP	22 32 24.2		-1.6				
UCM	**Universidad Co**	117.99	318		PS	PS	22 42 00.2		-12				
AGMN	**Agassiz Nation**	118.17	31		PKPdf	**PKPdf**	**22 31 10.3**		**-1.0**				
AGMN					IAMs_20	IAMs_20	23 17 01.9						
	comp=Z,2µm,22.0s												
AGMN	**Agassiz Nation**	118.17	31		P		22 31 10.8						
	baz=310												
D32A	**Dogwood Acres,**	118.31	32		IAMs_20	IAMs_20	23 27 25.6						
	comp=Z,2µm,22.0s												
121A	**Cookes Peak, D**	118.57	51		P		22 31 14.0						
	baz=293,SNR=8.1												
ANMO	**Albuquerque**	118.61	48		PKP	**PKiKP**	**22 31 13.5**		**+0.6**				
	comp=Z,5.2nm,0.6s,baz=254,slow=2.0,SNR=14												
ANMO					PKKPbc	**PKKPbc**	**22 41 31.3**		**+1.2**				
	comp=Z,7.9nm,1.2s,baz=130,slow=10,SNR=8.4												
ANMO	**Albuquerque**	118.61	48		PKIKP	**PKiKP**	**22 31 13.1**		**+0.2**				
ANMO					MLR	MLR							
	comp=Z,2µm,20.0s												
ANMO	**Albuquerque**	118.61	48		PKPdf	**PKiKP**	**22 31 13.1**		**+0.2**				
ANMO	**Albuquerque**	118.61	48		IAMs_20	IAMs_20	23 21 01.9						
	comp=Z,2µm,20.0s												
ANMO	**Albuquerque**	118.61	48		P		22 31 14.0						
	baz=295												
ES18	**SONSECA Array**	118.76	318		IAMs_20	IAMs_20	23 30 04.4						
	comp=Z,2µm,20.0s												
ES02	**SONSECA Array**	118.77	318		IAMs_20	IAMs_20	23 30 19.5						
	comp=Z,2µm,22.0s												
ES07	**SONSECA Array**	118.77	318		IAMs_20	IAMs_20	23 30 20.7						
	comp=Z,3µm,22.0s												
ES06	**SONSECA Array**	118.78	318		IAMs_20	IAMs_20	23 30 20.9						
	comp=Z,3µm,22.0s												
ES17	**SONSECA Array**	118.78	318		IAMs_20	IAMs_20	23 30 04.9						
	comp=Z,2µm,21.0s												
ESDC	**Sonseca Array**	118.79	318		PKP	**PKiKP**	**22 31 13.7**		**+0.8**				
	comp=Z,1.3nm,0.6s,baz=45,slow=1.7,SNR=11												
ESDC					PP	**PP**	**22 32 33.4**		**+2.1**				
	comp=Z,12nm,1.1s,baz=56,slow=7.2,SNR=7.0												
ESDC					PKKPbc	**PKKPbc**	**22 41 29.9**		**+0.3**				
	comp=Z,2.0nm,0.7s,baz=272,slow=3.4,SNR=8.7												
ESDC	**Sonseca Array**	118.79	318			**PKPdf**	**22 31 12.6**		**-0.3**				
ES05	**SONSECA Array**	118.79	318		IAMs_20	IAMs_20	23 30 21.2						
	comp=Z,3µm,22.0s												
ES12	**SONSECA Array**	118.79	318		IAMs_20	IAMs_20	23 27 39.2						
	comp=Z,2µm,21.0s												
ES14	**SONSECA Array

TXAR	**Lajitas Array**	**123.08**	**53**	PKP	**PKiKP**	**22 31 21.8**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=220,slow=2.8,SNR=38						
TXAR				PKKPbc	**PKKPbc**	**22 41 13.3**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=120,slow=4.9,SNR=16						
TXAR	**Lajitas Array**	**123.08**	**53**	PKiKP	**PKPdf**	**22 31 21.5**	**0.0**
TXAR	**Lajitas Array**	**123.08**	**53**	PKPdf	**PKPdf**	**22 31 21.5**	**0.0**
MORF	**Marmelete**	**123.16**	**318**	*e*PP	PP	22 33 01.0	-0.2
MORF				AMS	AMS	23 31 01.7	
	comp=Z,2μm,28.3s						
MORF	**Marmelete**	**123.16**	**318**	*e*PKPdf	PKiKP	22 31 33.2	+12
TOC2	**Torodi Ar. Sit**	**123.22**	**287**	IAMs_20	IAMs_20	23 27 23.0	
	comp=Z,2μm,22.0s						
TOC3	**Torodi Ar. Sit**	**123.23**	**287**	IAMs_20	IAMs_20	23 27 11.1	
	comp=Z,2μm,21.0s						
TOC1	**Torodi Ar. Sit**	**123.24**	**287**	IAMs_20	IAMs_20	23 27 10.4	
	comp=Z,2μm,21.0s						
TOB3	**Torodi Ar. Sit**	**123.24**	**287**	IAMs_20	IAMs_20	23 27 22.5	
	comp=Z,2μm,21.0s						
TOA2	**Torodi Ar. Sit**	**123.25**	**287**	IAMs_20	IAMs_20	23 27 22.5	
	comp=Z,2μm,21.0s						
TOB1	**Torodi Ar. Sit**	**123.25**	**287**	IAMs_20	IAMs_20	23 27 22.6	
	comp=Z,2μm,22.0s						
TOA0	**Torodi Ar. Sit**	**123.25**	**287**	PKPdf	**PKiKP**	**22 31 22.2**	**0.0**
TOA0				IAMs_20	IAMs_20	23 27 11.7	
	comp=Z,2μm,22.0s						
TORD	**Torodi Ar. Bea**	**123.25**	**287**	PKP	**PKiKP**	**22 31 22.2**	**-0.1**
	comp=Z,19nm,0.6s,baz=39,slow=2.0,SNR=64						
TORD				PP	**PP**	**22 33 03.4**	**+0.5**
	comp=Z,13nm,1.0s,baz=63,slow=5.4,SNR=5.7						
TORD				PKKPbc	**PKKPab**	**22 41 12.5**	**+0.2**
	comp=Z,7.0nm,0.7s,baz=275,slow=3.5,SNR=12						
TORD	**Torodi Ar. Bea**	**123.25**	**287**		**PKPdf**	**22 31 21.9**	**-0.1**
TOC4	**Torodi Ar. Sit**	**123.25**	**287**	IAMs_20	IAMs_20	23 27 11.7	
	comp=Z,2μm,22.0s						
TOA3	**Torodi Ar. Sit**	**123.25**	**287**	IAMs_20	IAMs_20	23 27 22.7	
	comp=Z,2μm,21.0s						
TOB5	**Torodi Ar. Sit**	**123.26**	**287**	IAMs_20	IAMs_20	23 27 12.0	
	comp=Z,2μm,21.0s						
TOC7	**Torodi Ar. Sit**	**123.26**	**287**	IAMs_20	IAMs_20	23 27 12.0	
	comp=Z,2μm,21.0s						
TOC5	**Torodi Ar. Sit**	**123.27**	**287**	IAMs_20	IAMs_20	23 27 11.3	
	comp=Z,2μm,21.0s						
U32A	**Winter Ranch,**	**123.29**	**43**	IAMs_20	IAMs_20	23 20 41.4	
	comp=Z,3μm,20.0s						
PFVI	**Vila Bisbo**	**123.37**	**318**	*e*PKPdf	**PKiKP**	**22 31 23.1**	**+1.2**
PFVI	**Vila Bisbo**	**123.37**	**318**	IAMs_20	IAMs_20	23 30 32.4	
	comp=Z,2μm,21.0s						
KSU1	**Kansas State U**	**123.38**	**39**	PKPdf	**PKPdf**	**22 31 21.7**	**+0.1**
KSU1	**Kansas State U**	**123.38**	**39**	IAMs_20	IAMs_20	23 22 06.4	
	comp=Z,3μm,20.0s						
KSU1	**Kansas State U**	**123.38**	**39**	P		22 31 21.2	
	baz=305,SNR=5.1						
K38A	**Parkersburg**	**123.50**	**34**	IAMs_20	IAMs_20	23 21 52.0	
	comp=Z,3μm,22.0s						
OK032	**Salt Plains WL**	**123.61**	**43**	IAMs_20	IAMs_20	23 26 27.7	
	comp=Z,3μm,21.0s						
SCIA	**State Center**	**123.73**	**35**	PKPdf	**PKPdf**	**22 31 22.2**	**-0.1**
SCIA				IAMs_20	IAMs_20	23 19 57.1	
	comp=Z,2μm,22.0s						
SCIA	**State Center**	**123.73**	**35**	P		22 31 22.0	
	baz=310						
F42A	**Maple Grove Fa**	**123.75**	**29**		**PKPdf**	**22 31 22.1**	**0.0**
F42A				IAMs_20	IAMs_20	23 31 16.2	
	comp=Z,3μm,22.0s						
E43A	**Lone Tree Farm**	**123.83**	**27**	IAMs_20	IAMs_20	23 25 27.2	
	comp=Z,2μm,22.0s						
I40A	**Norwalk**	**123.83**	**32**	IAMs_20	IAMs_20	23 28 30.6	
	comp=Z,2μm,21.0s						
WMOK	**Wichita Mounta**	**124.30**	**45**	PKiKP	**PKPdf**	**22 31 23.0**	**-0.6**
WMOK				MLR	MLR		
	comp=Z,2μm,22.0s						
WMOK	**Wichita Mounta**	**124.30**	**45**	PKPdf	**PKPdf**	**22 31 23.0**	**-0.6**
WMOK	**Wichita Mounta**	**124.30**	**45**	IAMs_20	IAMs_20	23 24 43.1	
	comp=Z,2μm,22.0s						
AVE	**Averroes**	**124.34**	**313**	PP	PP	22 33 09.5	+0.2
AVE	**Averroes**	**124.34**	**313**	PS	PS	22 42 59.3	-10
JFWS	**Jewell Farm**	**124.70**	**32**	PKiKP	**PKPdf**	**22 31 23.4**	**-0.6**
JFWS				MLR	MLR		
	comp=Z,3μm,20.0s						
JFWS	**Jewell Farm**	**124.70**	**32**	PKPdf	**PKPdf**	**22 31 23.4**	**-0.6**
JFWS	**Jewell Farm**	**124.70**	**32**	IAMs_20	IAMs_20	23 24 10.6	
	comp=Z,2μm,20.0s						
JFWS	**Jewell Farm**	**124.70**	**32**	P		22 31 23.6	
	baz=313						
I42A	**Draeger Farm,**	**124.71**	**31**	IAMs_20	IAMs_20	23 31 27.8	
	comp=Z,3μm,22.0s						
ABTX	**Abilene, Hawle**	**124.72**	**48**	PKPdf	**PKiKP**	**22 31 24.7**	**0.0**
ABTX				IAMs_20	IAMs_20	23 35 01.6	
	comp=Z,2μm,21.0s						
ABTX	**Abilene, Hawle**	**124.72**	**48**	P		22 31 24.6	
	baz=299						
MATQ	**Matagami**	**124.74**	**19**	P		22 31 24.3	
	baz=330						
L40A	**Anamosa**	**124.75**	**34**	IAMs_20	IAMs_20	23 22 50.0	
	comp=Z,3μm,22.0s						
H43A	**Windswept, Lux**	**124.87**	**29**	IAMs_20	IAMs_20	23 18 27.8	
	comp=Z,2μm,21.0s						
P38A	**Dawn**	**124.98**	**37**	PKPdf	**PKPdf**	**22 31 24.2**	**-0.4**
P38A				IAMs_20	IAMs_20	23 30 21.5	
	comp=Z,2μm,20.0s						
OK031	**S. Brethren Rd**	**125.00**	**43**		**PKPdf**	**22 31 24.7**	**-0.1**
OK031				IAMs_20	IAMs_20	23 17 33.5	
	comp=Z,3μm,21.0s						
E46A	**Sault Ste Mari**	**125.03**	**26**	PKPdf	**PKiKP**	**22 31 25.0**	**+0.1**
E46A				IAMs_20	IAMs_20	23 22 42.9	
	comp=Z,2μm,20.0s						
OK030	**Cody Creek RV**	**125.05**	**43**		**PKPdf**	**22 31 24.5**	**-0.4**
OK030				IAMs_20	IAMs_20	23 28 02.9	
	comp=Z,3μm,22.0s						
G45A	**Suttons Bay**	**125.45**	**28**	IAMs_20	IAMs_20	23 22 06.1	
	comp=Z,3μm,22.0s						
JCT	**Junction City**	**125.61**	**50**	PKiKP	**PKiKP**	**22 31 27.0**	**+0.4**
JCT				MLR	MLR		
	comp=Z,5μm,22.0s						
JCT	**Junction City**	**125.61**	**50**	PKPdf	**PKiKP**	**22 31 26.9**	**+0.4**
JCT	**Junction City**	**125.61**	**50**	P		22 31 26.6	
	baz=297,SNR=24						
L42A	**Oliver, Polo**	**125.64**	**33**	IAMs_20	IAMs_20	23 34 36.5	
	comp=Z,3μm,22.0s						
TUL1	**Leonard**	**125.73**	**42**	P		22 31 26.1	
	baz=304						
K43A	**Burlington**	**125.85**	**31**		**PKPdf**	**22 31 26.1**	**-0.1**
K43A				IAMs_20	IAMs_20	23 19 40.1	
	comp=Z,3μm,21.0s						
N41A	**Harden Midland**	**125.86**	**35**	IAMs_20	IAMs_20	23 22 50.4	
	comp=Z,3μm,22.0s						
P40A	**Paris**	**125.93**	**36**	IAMs_20	IAMs_20	23 29 44.5	
	comp=Z,2μm,22.0s						
GLMI	**Grayling**	**126.09**	**27**	P		22 31 26.4	
	baz=320						
Z35A	**Perchaven, San**	**126.11**	**46**		**PKiKP**	**22 31 27.3**	**-0.1**
VLDQ	**Val d'Or**	**126.23**	**20**	PKPdf	**PKPdf**	**22 31 26.0**	**-0.7**
S39A	**Bolivar**	**126.30**	**39**		**PKPdf**	**22 31 26.7**	**-0.5**
S39A				IAMs_20	IAMs_20	23 30 43.5	
	comp=Z,2μm,21.0s						
L44A	**Lake County Fo**	**126.45**	**31**	IAMs_20	IAMs_20	23 19 44.8	
	comp=Z,2μm,22.0s						
L44A	**Lake County Fo**	**126.45**	**31**	P		22 31 27.3	
	baz=316						
ZAIG	**Zacatecas**	**126.45**	**60**	PKPdf	**PKiKP**	**22 31 29.1**	**+0.4**
ZAIG				IAMs_20	IAMs_20	23 15 36.5	
	comp=Z,3μm,22.0s						
R40A	**Maddies Statio**	**126.58**	**38**	IAMs_20	IAMs_20	23 30 27.9	
	comp=Z,3μm,22.0s						
WHTX	**Lake Whitney,**	**126.64**	**47**	P		22 31 28.4	
	baz=300,SNR=6.6						
HQIL	**Hanson Quary C**	**126.75**	**32**	IAMs_20	IAMs_20	23 35 33.8	
	comp=Z,2μm,21.0s						
X37A	**Clayton**	**126.75**	**43**	IAMs_20	IAMs_20	23 18 37.0	
	comp=Z,3μm,21.0s						
HDIL	**Hopedale**	**126.83**	**34**		**PKPdf**	**22 31 28.1**	**-0.1**
HDIL				IAMs_20	IAMs_20	23 35 31.3	
	comp=Z,2μm,21.0s						
HDIL	**Hopedale**	**126.83**	**34**	P		22 31 27.8	
	baz=313,SNR=9.7						
833A	**Chaparral WMA,**	**126.90**	**52**	P		22 31 29.2	
	baz=296						
435B	**Jarrell**	**127.15**	**49**	P		22 31 29.2	
	baz=299						
J47A	**Sumner**	**127.21**	**28**		**PKPdf**	**22 31 28.7**	**-0.1**
MGMO	**Mountain Grove**	**127.29**	**39**	PKPdf	**PKPdf**	**22 31 29.1**	**-0.2**
CCM	**Cathedral Cave**	**127.35**	**37**	PKiKP	**PKPdf**	**22 31 29.4**	**+0.1**
CCM				MLR	MLR		
	comp=Z,2μm,22.0s						
CCM	**Cathedral Cave**	**127.35**	**37**	PKPdf	**PKPdf**	**22 31 29.4**	**+0.1**
CCM	**Cathedral Cave**	**127.35**	**37**	IAMs_20	IAMs_20	23 23 28.3	
	comp=Z,2μm,22.0s						
CCM	**Cathedral Cave**	**127.35**	**37**	P		22 31 29.2	
	baz=310						
L46A	**Eue Claire**	**127.40**	**30**	IAMs_20	IAMs_20	23 21 01.9	
	comp=Z,3μm,21.0s						
U40A	**Yellville**	**127.40**	**40**	P		22 31 29.3	
	baz=307,SNR=18						
W39A	**Magazine**	**127.48**	**42**	P		22 31 29.7	
	baz=306,SNR=15						
O44A	**Mansfield**	**127.57**	**34**	IAMs_20	IAMs_20	23 33 54.7	
	comp=Z,3μm,22.0s						
SLM	**Saint Louis**	**127.58**	**36**	IAMs_20	IAMs_20	23 21 20.2	
	comp=Z,3μm,21.0s						
D55A	**Sainte-Anne-du**	**127.84**	**19**	P		22 31 29.7	
	baz=332,SNR=8.5						
237A	**Washetta, Mont**	**127.84**	**46**	IAMs_20	IAMs_20	23 27 23.0	
	comp=Z,2μm,20.0s						
ALGO	**Algonquin Park**	**127.87**	**21**	P		22 31 29.9	
	baz=328,SNR=7.7						
FVM	**French Village**	**127.89**	**37**	IAMs_20	IAMs_20	23 31 14.6	
	comp=Z,3μm,22.0s						
MIAR	**Mount Ida**	**128.00**	**42**	PKiKP	**PKiKP**	**22 31 31.1**	**-0.1**
MIAR				MLR	MLR		
	comp=Z,4μm,22.0s						
MIAR	**Mount Ida**	**128.00**	**42**	PKPdf	**PKiKP**	**22 31 31.1**	**-0.1**
MIAR	**Mount Ida**	**128.00**	**42**	P		22 31 29.8	
	baz=305,SNR=22						
D56A	**ZEC Mazanza, M**	**128.04**	**18**	P		22 31 30.3	
	baz=333,SNR=10						
Q44A	**Meyer Farm, Va**	**128.11**	**35**		**PKPdf**	**22 31 30.6**	**0.0**
Q44A				IAMs_20	IAMs_20	23 24 18.2	
	comp=Z,3μm,22.0s						
E55A	**Montcerf-Lytto**	**128.14**	**20**	P		22 31 30.3	
	baz=331						
SFIN	**Lafayette**	**128.16**	**32**	IAMs_20	IAMs_20	23 25 38.2	
	comp=Z,3μm,22.0s						
SFIN	**Lafayette**	**128.16**	**32**	P		22 31 30.8	
	baz=315,SNR=7.0						
LATQ	**La Tuque**	**128.33**	**17**	PKPdf	**PKPdf**	**22 31 31.1**	**+0.2**
LATQ	**La Tuque**	**128.33**	**17**	P		22 31 30.9	
	baz=335,SNR=12						
G54A	**Lake Saint Pet**	**128.33**	**22**	P		22 31 30.7	
	baz=328,SNR=7.7						
L48A	**N Adams**	**128.37**	**29**	IAMs_20	IAMs_20	23 31 18.7	
	comp=Z,3μm,22.0s						
KOWA	**Kowa**	**128.38**	**290**	PKPdf	**PKiKP**	**22 31 32.2**	**-0.3**
KOWA				IAMs_20	IAMs_20	23 26 36.4	
	comp=Z,3μm,22.0s						
E56A	**St. Veronique**	**128.40**	**19**	P		22 31 30.5	
	baz=332,SNR=7.2						
WHAR	**Wooly Hollow**	**128.41**	**41**	IAMs_20	IAMs_20	23 22 57.6	
	comp=Z,3μm,22.0s						
KVTX	**Kingsville**	**128.43**	**52**	IAMs_20	IAMs_20	23 18 34.3	
	comp=Z,3μm,22.0s						
SADO	**Sadowa**	**128.46**	**23**	PKP	**PKiKP**	**22 31 31.7**	**-0.1**
	comp=Z,21nm,0.9s,baz=338,slow=4.0,SNR=8.5						
SADO	**Sadowa**	**128.46**	**23**	PKPdf	**PKiKP**	**22 31 31.7**	**-0.1**
SADO				IAMs_20	IAMs_20	23 30 07.4	
	comp=Z,3μm,22.0s						
AAM	**Ann Arbor**	**128.48**	**28**	PKiKP	**PKPdf**	**22 31 31.4**	**+0.1**
AAM				MLR	MLR		
	comp=Z,2μm,22.0s						
AAM	**Ann Arbor**	**128.48**	**28**		**PKPdf**	**22 31 31.4**	**+0.1**
AAM				IAMs_20	IAMs_20	23 38 52.3	
	comp=Z,2μm,22.0s						
I51A	**Listowel**	**128.48**	**25**	P		22 31 31.4	
	baz=324,SNR=5.6						
W41B	**Gary Mavity, V**	**128.51**	**41**	P		22 31 30.8	
	baz=307						
X40A	**Basin Creek Fa**	**128.53**	**42**	P		22 31 30.8	
	baz=306,SNR=5.8						
N47A	**Urbana**	**128.53**	**31**	PKPdf	**PKPdf**	**22 31 31.2**	**-0.2**
N47A				IAMs_20	IAMs_20	23 34 47.0	
	comp=Z,2μm,22.0s						
D58A	**Chemin du LacG**	**128.56**	**17**	P		22 31 30.9	
	baz=335,SNR=8.3						
K50A	**Casco**	**128.59**	**27**	IAMs_20	IAMs_20	23 33 07.2	
	comp=Z,2μm,21.0s						
P46A	**Rosedale**	**128.64**	**33**	IAMs_20	IAMs_20	23 32 42.9	
	comp=Z,3μm,20.0s						
PBMO	**Poplar Bluff**	**128.67**	**38**	IAMs_20	IAMs_20	23 31 03.2	
	comp=Z,3μm,20.0s						
S44A	**Carbondale**	**128.78**	**36**	IAMs_20	IAMs_20	23 30 31.1	
	comp=Z,3μm,22.0s						
SIUC	**Southern Illin**	**128.79**	**36**		**PKPdf**	**22 31 32.2**	**+0.2**
SIUC				IAMs_20	IAMs_20	23 30 31.1	
	comp=Z,3μm,22.0s						
NATX	**Nacogdoches**	**128.79**	**46**	P		22 31 32.1	
	baz=303						
TRQ	**Mont Tremblant**	**128.84**	**19**	PKPdf	**PKPdf**	**22 31 32.1**	**+0.1**
H53A	**Bobcaygeon**	**128.84**	**23**	P		22 31 31.9	
	baz=327,SNR=8.0						
HKT	**Hockley**	**128.87**	**49**	PKiKP	**PKiKP**	**22 31 33.4**	**+0.4**
HKT				MLR	MLR		
	comp=Z,4μm,22.0s						
HKT	**Hockley**	**128.87**	**49**	PKPdf	**PKiKP**	**22 31 33.4**	**+0.4**
E58A	**La Victoria**	**129.10**	**18**	P		22 31 32.0	
	baz=334,SNR=5.8						
F57A	**Harrington**	**129.16**	**19**	P		22 31 32.3	
	baz=332						
PARMO	**Parma**	**129.16**	**38**	IAMs_20	IAMs_20	23 31 21.1	
	comp=Z,2μm,21.0s						
E59A	**St. Maurice**	**129.23**	**17**	P		22 31 32.3	
	baz=335						
Z41A	**Richland Creek**	**129.26**	**43**	P		22 31 32.6	
	baz=305						
D60A	**Saint Jean D'O**	**129.27**	**15**	P		22 31 32.1	
	baz=337						
N49A	**Columbus Grove**	**129.27**	**30**	IAMs_20	IAMs_20	23 21 35.4	
	comp=Z,3μm,22.0s						
HENM	**Henderson Moun**	**129.30**	**38**	IAMs_20	IAMs_20	23 31 36.8	
	comp=Z,2μm,21.0s						
BLO	**Bloomington**	**129.33**	**33**	PKiKP	**PKPdf**	**22 31 33.1**	**+0.1**
BLO				MLR	MLR		
	comp=Z,3μm,21.0s						
BLO	**Bloomington**	**129.33**	**33**		**PKPdf**	**22 31 33.1**	**+0.1**
BLO				IAMs_20	IAMs_20	23 33 02.2	
	comp=Z,3μm,21.0s						
PENMO	**Penman**	**129.37**	**38**	IAMs_20	IAMs_20	23 31 25.8	
	comp=Z,2μm,20.0s						
F58A	**St-Lin Laurent**	**129.39**	**18**	P		22 31 32.6	
	baz=333						
GNAR	**Gosnell**	**129.44**	**39**	IAMs_20	IAMs_20	23 25 44.8	
	comp=Z,3μm,22.0s						
PEBM	**Pemiscott Bayo**	**129.44**	**38**	IAMs_20	IAMs_20	23 19 36.8	
	comp=Z,2μm,20.0s						
M50A	**Fremont**	**129.46**	**29**	IAMs_20	IAMs_20	23 25 23.3	
	comp=Z,3μm,22.0s						
LPAR	**Lepanto**	**129.50**	**39**	IAMs_20	IAMs_20	23 25 59.2	
	comp=Z,2μm,21.0s						
HICK	**Hickman**	**129.56**	**38**	IAMs_20	IAMs_20	23 31 52.7	
	comp=Z,2μm,22.0s						
CCAR	**Cane Creek**	**129.57**	**42**	IAMs_20	IAMs_20	23 25 16.5	
	comp=Z,3μm,22.0s						
T45A	**Paducah**	**129.59**	**37**	IAMs_20	IAMs_20	23 31 58.6	
	comp=Z,3μm,21.0s						
E60A	**Ste Agathe de**	**129.63**	**16**	P		22 31 33.2	
	baz=336						
LNXT	**Lenox**	**129.68**	**38**	IAMs_20	IAMs_20	23 27 35.1	
	comp=Z,3μm,22.0s						
G57A	**Newington**	**129.69**	**20**	P		22 31 33.4	
	baz=332,SNR=5.8						
GLAT	**Glass**	**129.70**	**38**	IAMs_20	IAMs_20	23 30 22.5	
	comp=Z,2μm,21.0s						
P48A	**Milroy**	**129.71**	**32**	IAMs_20	IAMs_20	23 34 51.2	
	comp=Z,2μm,20.0s						
X43A	**Marvell**	**129.80**	**41**	P		22 31 34.2	
	baz=308						
E61A	**Lac Etchemin**	**129.83**	**15**	P		22 31 33.8	
	baz=338,SNR=6.1						
D63A	**Stockholm**	**129.84**	**13**	P		22 31 33.6	
	baz=341						
F60A	**Warwick**	**129.85**	**17**	P		22 31 33.4	
	baz=336,SNR=5.8						
HALT	**Halls**	**129.90**	**38**	IAMs_20	IAMs_20	23 29 19.8	
	comp=Z,3μm,21.0s						
M51A	**Elyria**	**129.92**	**28**	P		22 31 34.0	
	baz=321						
G58A	**Ormstown**	**129.95**	**19**	P		22 31 33.9	
	baz=333						
P49A	**Miami Univ, Ec**	**130.03**	**31**	P		22 31 34.2	
	baz=318,SNR=14						
MET	**Memphis--Engin**	**130.03**	**39**	IAMs_20	IAMs_20	23 30 31.4	
	comp=Z,2μm,19.0s						
BATG	**Bathurst New B**	**130.04**	**11**	PKPdf	**PKiKP**	**22 31 34.9**	**0.0**
BATG				IAMs_20	IAMs_20	23 33 30.8	
	comp=Z,3μm,22.0s						
H57A	**Richville**	**130.11**	**20**	P		22 31 34.5	
	baz=331,SNR=5.9						
F61A	**St Evariste**	**130.12**	**16**	P		22 31 34.0	
	baz=337						
WCI	**Wyandotte Cave**	**130.12**	**34**	PKiKP	**PKPdf**	**22 31 34.9**	**+0.4**
WCI				MLR	MLR		
	comp=Z,4μm,21.0s						
WCI	**Wyandotte Cave**	**130.12**	**34**	PKPdf	**PKPdf**	**22 31 34.9**	**+0.4**
WCI	**Wyandotte Cave**	**130.12**	**34**	P		22 31 34.4	
	baz=315						
M52A	**Chesterland**	**130.14**	**27**	PKPdf	**PKPdf**	**22 31 34.8**	**+0.3**
M52A				IAMs_20	IAMs_20	23 24 51.3	
	comp=Z,2μm,20.0s						
N51A	**Ashland**	**130.15**	**29**	IAMs_20	IAMs_20	23 25 45.7	
	comp=Z,2μm,22.0s						
PQI	**Presque Isle**	**130.21**	**13**	IAMs_20	IAMs_20	23 33 17.3	
	comp=Z,3μm,22.0s						
J55A	**Hilton**	**130.24**	**23**	IAMs_20	IAMs_20	23 31 18.5	
	comp=Z,2μm,21.0s						
LONY	**Lake Ozonia**	**130.25**	**20**		**PKiKP**	**22 31 35.1**	**-0.4**
LONY				IAMs_20	IAMs_20	23 31 53.6	
	comp=Z,2μm,21.0s						
LONY	**Lake Ozonia**	**130.25**	**20**	P		22 31 34.6	
	baz=332						
ERPA	**Erie**	**130.29**	**26**	P		22 31 34.4	
	baz=324						
L53A	**Girard**	**130.30**	**26**	P		22 31 34.8	
	baz=324,SNR=7.8						
E63A	**Oxbow**	**130.35**	**13**	IAMs_20	IAMs_20	23 39 49.1	
	comp=Z,2μm,21.0s						
E63A	**Oxbow**	**130.35**	**13**	P		22 31 34.5	
	baz=340,SNR=5.8						
FRNY	**Flat Rock**	**130.38**	**19**	IAMs_20	IAMs_20	23 24 51.1	
	comp=Z,3μm,22.0s						
ACSO	**Alum Creek Sta**	**130.39**	**30**		**PKPdf**	**22 31 34.8**	**-0.1**
ACSO				IAMs_20	IAMs_20	23 22 33.0	
	comp=Z,2μm,22.0s						
ACSO	**Alum Creek Sta**	**130.39**	**30**	P		22 31 35.1	
	baz=320,SNR=12						
I57A	**Carthage**	**130.47**	**21**	P		22 31 35.0	
	baz=330,SNR=6.4						
E64A	**Bridgewater**	**130.49**	**13**	P		22 31 33.7	
	baz=341						
H59A	**Cadyville**	**130.52**	**19**	P		22 31 35.0	
	baz=333						
T47A	**Sharon Grove**	**130.52**	**36**	IAMs_20	IAMs_20	23 26 48.1	
	comp=Z,2μm,21.0s						
M53A	**WI Miller and**	**130.53**	**27**	IAMs_20	IAMs_20	23 25 02.6	
	comp=Z,2μm,21.0s						
G60A	**Masonville**	**130.53**	**17**	P		22 31 35.0	
	baz=335						
M53A	**WI Miller and**	**130.53**	**27**	P		22 31 35.1	
	baz=323,SNR=10						
143A	**Socs Landing,**	**130.54**	**43**	IAMs_20	IAMs_20	23 38 10.3	
	comp=Z,3μm,21.0s						
H58A	**Gabriels**	**130.56**	**19**	P		22 31 35.2	
	baz=332,SNR=8.5						
J56A	**Wolcott**	**130.60**	**22**	IAMs_20	IAMs_20	23 33 41.1	
	comp=Z,3μm,22.0s						
J56A	**Wolcott**	**130.60**	**22**	P		22 31 35.3	
	baz=329						
ALLY	**Alegheny Colle**	**130.60**	**26**	IAMs_20	IAMs_20	23 39 55.4	
	comp=Z,3μm,20.0s						
G61A	**St-Isidore-de-**	**130.60**	**17**	P		22 31 35.4	
	baz=336						
KIC	**Kosan Boka**	**130.61**	**280**	*e*P	PKPpre	22 31 29.4	
	comp=Z,33nm,0.7s						
WVNY	**West Valley, N**	**130.64**	**24**	IAMs_20	IAMs_20	23 34 13.2	
	comp=Z,2μm,22.0s						
MMNY	**Mt. Morris Dam**	**130.65**	**24**		**PKiKP**	**22 31 36.1**	**-0.1**
MMNY				IAMs_20	IAMs_20	23 34 06.5	
	comp=Z,3μm,22.0s						
342A	**Flagon Creek P**	**130.67**	**45**	IAMs_20	IAMs_20	23 22 40.8	
	comp=Z,2μm,22.0s						
WVT	**Waverly**	**130.68**	**37**	P		22 31 35.5	
	baz=312						
DBIC	**Dimbokro**	**130.68**	**280**	PKhKP	PKPpre	22 31 29.4	
	comp=Z,3.6nm,0.6s,baz=3.7,slow=2.5,SNR=7.5						
DBIC				PKP	**PKiKP**	**22 31 37.2**	**+0.1**
	comp=Z,19nm,0.7s,baz=91,slow=3.0,SNR=14						
DBIC				SKPbc	**SKPab**	**22 34 58.6**	**+2.9**
	comp=Z,31nm,1.1s,baz=107,slow=2.7,SNR=13						
J57A	**Williamstown**	**130.81**	**22**	IAMs_20	IAMs_20	23 25 36.5	
	comp=Z,3μm,22.0s						
J57A	**Williamstown**	**130.81**	**22**	P		22 31 35.8	
	baz=330						
TIC	**Toumodi**	**130.85**	**280**	*e*P	PKPpre	22 31 27.1	
F63A	**Nahmakanta, Br**	**130.86**	**14**	IAMs_20	IAMs_20	23 29 27.6	
	comp=Z,2μm,20.0s						
F63A	**Nahmakanta, Br**	**130.86**	**14**	P		22 31 35.9	
	baz=339						
F64A	**Sherman**	**130.89**	**14**	IAMs_20	IAMs_20	23 31 32.5	
	comp=Z,2μm,22.0s						
F64A	**Sherman**	**130.89**	**14**	P		22 31 36.2	

V48A Smith Brothers 131.54 37 IAMs_20 IAMs_20 23 26 50.1
comp=Z,3µm,22.0s
M56A Emporium 131.58 25 PKPdf **PKiKP** **22 31 38.0 -0.2**
M56A IAMs_20 IAMs_20 23 34 51.2
comp=Z,3µm,21.0s
M56A Emporium 131.58 25 P 22 31 37.1
baz=326,SNR=7.7
CLTN Cedars of Leba 131.59 36 **PKPdf** **PKiKP** **22 31 37.8 +0.4**
CLTN IAMs_20 IAMs_20 23 36 43.4
comp=Z,3µm,22.0s
U49A Red Boiling Sp 131.62 35 PKPdf **PKPdf** **22 31 37.7 +0.3**
U49A IAMs_20 IAMs_20 23 21 58.0
comp=Z,3µm,22.0s
ACCN Adirondack Com 131.65 20 IAMs_20 IAMs_20 23 29 05.7
comp=Z,3µm,22.0s
O54A Avella 131.67 28 IAMs_20 IAMs_20 23 34 48.8
comp=Z,2µm,21.0s
L57A Andrews Acres 131.69 23 P 22 31 37.2
baz=328
G65A Princeton 131.70 13 IAMs_20 IAMs_20 23 32 54.8
comp=Z,2µm,21.0s
G65A Princeton 131.70 13 P 22 31 37.3
baz=341
Q52A Bidwell 131.71 30 IAMs_20 IAMs_20 23 27 47.1
comp=Z,2µm,21.0s
P53A Whipple 131.74 29 IAMs_20 IAMs_20 23 22 18.7
comp=Z,2µm,20.0s
K59A Cooperstown 131.77 21 P 22 31 37.5
baz=331
WVL Waterville 131.78 15 IAMs_20 IAMs_20 23 32 27.9
comp=Z,3µm,22.0s
H64A Troy 131.82 15 P 22 31 37.4
baz=339
BINY Binghamton 131.85 22 IAMs_20 IAMs_20 23 30 17.2
comp=Z,2µm,21.0s
BINY Binghamton 131.85 22 P 22 31 37.9
baz=329
J60A Lant Hill Farm 131.85 19 P 22 31 37.8
baz=333
GGN Saint George 131.94 13 IAMs_20 IAMs_20 23 36 48.3
comp=Z,2µm,20.0s
I62A Tamworth 131.94 17 IAMs_20 IAMs_20 23 27 37.4
comp=Z,2µm,21.0s
I63A Otisfield 132.00 16 P 22 31 38.7
baz=337
N56A West Decatur 132.00 25 P 22 31 38.1
baz=326,SNR=6.2
H65A Eastbrook 132.01 14 P 22 31 38.1
baz=340
L58A Harry Jones Me 132.04 22 P 22 31 38.5
baz=329
M57A Sunshine Farm, 132.14 24 IAMs_20 IAMs_20 23 29 28.9
comp=Z,3µm,22.0s
M57A Sunshine Farm, 132.14 24 P 22 31 38.2
baz=327,SNR=6.6
H66A Whiting 132.15 13 P 22 31 38.2
baz=341
Q53A Leroy 132.16 30 P 22 31 38.5
baz=321
EMMW East Machias 132.19 13 IAMs_20 IAMs_20 23 33 54.8
comp=Z,2µm,22.0s
L59A Walton 132.21 22 P 22 31 38.7
baz=330
FFD Franklin Falls 132.21 18 IAMs_20 IAMs_20 23 29 08.6
comp=Z,3µm,22.0s
TRY Troy 132.23 20 IAMs_20 IAMs_20 23 28 20.0
comp=Z,3µm,22.0s
K60A Five Rivers En 132.25 20 P 22 31 38.3
baz=332
X48A Hartselle 132.27 38 IAMs_20 IAMs_20 23 31 46.6
comp=Z,2µm,22.0s
MCWV Mont Chateau 132.34 28 P 22 31 38.7
baz=323
M58A Price's Panora 132.38 23 P 22 31 38.5
baz=328,SNR=6.3
I64A Boothbay 132.38 16 P 22 31 38.6
baz=338
J62A Henniker 132.39 18 P 22 31 39.2
baz=335
Q54A Coxs Mills 132.40 29 IAMs_20 IAMs_20 23 22 39.3
comp=Z,3µm,22.0s
K61A Williamstown 132.42 20 P 22 31 38.6
baz=333
O56A Blue Knob Stat 132.42 26 IAMs_20 IAMs_20 23 26 13.5
comp=Z,3µm,22.0s
O56A Blue Knob Stat 132.42 26 P 22 31 38.4
baz=325,SNR=6.4
SWET Sewanee 132.43 36 **PKPdf** **22 31 39.2 +0.1**
SWET IAMs_20 IAMs_20 23 36 26.6
comp=Z,2µm,21.0s
N57A Milroy 132.45 25 P 22 31 38.3
baz=327,SNR=7.2
KSPA Keystone Colle 132.49 23 IAMs_20 IAMs_20 23 36 14.1
comp=Z,2µm,20.0s
J63A Strafford 132.56 17 P 22 31 39.1
baz=336
GBN Guysborough 132.60 8 PKPdf **PKiKP** **22 31 39.8 -0.3**
GBN IAMs_20 IAMs_20 23 26 51.4
comp=Z,3µm,20.0s
M59A Waymart 132.63 22 P 22 31 39.1
baz=330
346A Big Creek Wild 132.65 43 IAMs_20 IAMs_20 23 34 12.0
comp=Z,2µm,21.0s
L60A Shokan 132.69 21 P 22 31 40.0
baz=331
N58A Sunbury 132.72 24 IAMs_20 IAMs_20 23 34 58.4
comp=Z,3µm,21.0s
N58A Sunbury 132.72 24 P 22 31 39.4
baz=328
L61A Hillsdale 1, H 132.74 20 P 22 31 39.8
baz=332
K62A Royalston 132.76 19 P 22 31 39.6
baz=334
W50A Signal Mountai 132.81 36 IAMs_20 IAMs_20 23 31 40.5
comp=Z,2µm,20.0s
L61B Northampton 132.81 19 P 22 31 39.9
baz=334
O57A Amberson 132.87 25 P 22 31 39.9
baz=326
P56A Dayton Farm, R 132.92 27 P 22 31 39.5
baz=324
R54A Victor 132.95 30 P 22 31 39.7
baz=321
K63A Dunstable 132.96 18 IAMs_20 IAMs_20 23 26 42.4
comp=Z,2µm,21.0s
CMLA Cha da Macela 132.96 329 IAMs_20 IAMs_20 23 31 34.8
comp=Z,2µm,20.0s
HAL Halifax 133.03 10 IAMs_20 IAMs_20 23 40 50.1
comp=Z,2µm,20.0s
N59A State Game Lan 133.03 23 IAMs_20 IAMs_20 23 24 29.6
comp=Z,3µm,22.0s
N59A State Game Lan 133.03 23 P 22 31 39.9
baz=329
Y49A Blount Mountai 133.06 38 IAMs_20 IAMs_20 23 24 57.5
comp=Z,2µm,22.0s
S54A Dingess, Beckl 133.09 30 IAMs_20 IAMs_20 23 38 39.5
comp=Z,2µm,20.0s
S54A Dingess, Beckl 133.09 30 P 22 31 39.9
baz=320
HRV Adam Dziewonsk 133.12 18 IAMs_20 IAMs_20 23 26 45.5
comp=Z,2µm,22.0s
HRV Adam Dziewonsk 133.12 18 P 22 31 40.1
baz=335
M60A Port Jervis 133.12 22 P 22 31 39.9
baz=330
Q56A Snyder Ridge, 133.13 27 IAMs_20 IAMs_20 23 29 21.5
comp=Z,2µm,22.0s
Q56A Snyder Ridge, 133.13 27 P 22 31 40.7
baz=324
L62A Suffield 133.19 20 P 22 31 40.0
baz=333
PAGS Pennsylvania G 133.24 24 IAMs_20 IAMs_20 23 41 20.0
comp=Z,3µm,22.0s
LRAL Lakeview Retre 133.24 39 P 22 31 40.4
baz=311
O58A Lewisberry 133.24 25 P 22 31 40.0
baz=327
R55A Marlinton 133.30 29 IAMs_20 IAMs_20 23 24 03.0
comp=Z,3µm,22.0s
R55A Marlinton 133.30 29 P 22 31 40.6
baz=322
WES Weston 133.30 18 IAMs_20 IAMs_20 23 27 24.4
comp=Z,2µm,22.0s
P57A Homestead Farm 133.30 26 IAMs_20 IAMs_20 23 38 21.9
comp=Z,2µm,21.0s
P57A Homestead Farm 133.31 26 P 22 31 40.3
baz=325
N60A Cedar Hill Far 133.33 23 P 22 31 39.8
baz=330
ODNJ Ogdensburg 133.34 22 IAMs_20 IAMs_20 23 42 21.5
comp=Z,2µm,22.0s
TKL Tuckaleechee C 133.37 34 PKhKP PKPpre 22 31 29.7
comp=Z,3.3nm,0.6s,baz=161,slow=6.5,SNR=7.1
TKL PKP **PKiKP** **22 31 41.8 -0.2**
baz=207,slow=2.3
TKL Tuckaleechee C 133.37 34 PKIKP **PKiKP** **22 31 41.8 -0.2**
TKL MLR MLR
comp=Z,3µm,21.0s
TKL Tuckaleechee C 133.37 34 **PKiKP** **22 31 41.8 -0.2**
TKL IAMs_20 IAMs_20 23 39 00.2
comp=Z,3µm,21.0s
O59A Robesonia 133.38 24 P 22 31 39.9
baz=328
BCX Boston College 133.39 18 IAMs_20 IAMs_20 23 26 53.8
comp=Z,2µm,20.0s
Q57A Strasburg 133.49 27 P 22 31 40.9
baz=325
X51A Calhoun 133.51 36 IAMs_20 IAMs_20 23 33 19.3
comp=Z,3µm,21.0s
R56A Bull Pasture M 133.54 28 P 22 31 41.3
baz=323
M62A Hamden 133.63 20 P 22 31 41.1
baz=333
PAL Palisades 133.66 21 P 22 31 41.3
baz=331
L63A North Scituate 133.68 19 P 22 31 41.4
baz=335
W52A Murphy 133.68 35 IAMs_20 IAMs_20 23 39 28.7
comp=Z,3µm,21.0s
O60A Telford 133.69 23 P 22 31 41.1
baz=329
BRNJ Basking Ridge 133.70 22 IAMs_20 IAMs_20 23 37 10.1
comp=Z,3µm,22.0s
N61A South Mountain 133.74 22 P 22 31 41.3
baz=331
U54A Nelsons Funny 133.80 32 P 22 31 41.5
baz=319
L64A Middleborough 133.86 18 IAMs_20 IAMs_20 23 27 18.8
comp=Z,3µm,22.0s
L64A Middleborough 133.86 18 P 22 31 41.3
baz=336
P59A Jarrettsville 133.88 25 P 22 31 41.4
baz=327
V53A Saluda 133.89 34 IAMs_20 IAMs_20 23 25 34.1
comp=Z,3µm,22.0s
Q58A Fox Den Farm, 133.90 26 P 22 31 41.8
baz=326
M63A Gales Ferry 133.95 19 IAMs_20 IAMs_20 23 29 57.7
comp=Z,3µm,22.0s
M63A Gales Ferry 133.96 19 P 22 31 41.9
baz=334
BLA Blacksburg 133.99 30 IAMs_20 IAMs_20 23 33 51.3
comp=Z,3µm,20.0s
BLA Blacksburg 133.99 30 P 22 31 41.7
baz=321
P60A Greenville 134.03 24 IAMs_20 IAMs_20 23 34 00.0
comp=Z,2µm,20.0s
P60A Greenville 134.03 24 P 22 31 41.2
baz=328
R57A Stanardsville 134.04 28 P 22 31 41.6
baz=324
M64A Tiverton 134.09 18 P 22 31 40.9
baz=335
O61A Allentown 134.22 23 P 22 31 42.2
baz=330
M65A Busby, Falmout 134.26 18 IAMs_20 IAMs_20 23 27 43.7
comp=Z,3µm,22.0s
S57A Dark Hollow, R 134.27 28 IAMs_20 IAMs_20 23 24 01.7
comp=Z,2µm,22.0s
S57A Dark Hollow, R 134.27 28 P 22 31 41.6
baz=323
R58A Rapidan 134.28 27 P 22 31 42.5
baz=325
BG3 Lake Jocassee 134.32 34 IAMs_20 IAMs_20 23 26 38.5
comp=Z,2µm,22.0s
T56A Rocky Mt 134.33 30 P 22 31 41.9
baz=322
BRAL Brewton 134.40 41 P 22 31 43.0
baz=310
Y52A Lilburn 134.48 36 IAMs_20 IAMs_20 23 31 00.8
comp=Z,2µm,21.0s
P61A Hammonton 134.48 23 IAMs_20 IAMs_20 23 29 41.9
comp=Z,2µm,20.0s
R58B Mineral 134.61 27 IAMs_20 IAMs_20 23 42 19.5
comp=Z,3µm,21.0s
R58B Mineral 134.61 27 P 22 31 42.9
baz=325
CBN Corbin Frederi 134.64 27 P 22 31 43.1
baz=325
U56A King 134.68 31 IAMs_20 IAMs_20 23 33 32.6
comp=Z,3µm,22.0s
U56A King 134.68 31 P 22 31 43.5
baz=321
T57A Hurt 134.73 29 P 22 31 43.0
baz=322
S58A Poland Farm, P 134.81 28 IAMs_20 IAMs_20 23 24 08.0
comp=Z,2µm,21.0s
S58A Poland Farm, P 134.81 28 P 22 31 43.4
baz=324
R60A Leonardtown, M 134.94 26 P 22 31 44.0
baz=326
V56A Mocksville 135.03 31 P 22 31 43.8
baz=320
S59A Mechanicsville 135.04 27 P 22 31 43.8
baz=325
PAULI Pauline 135.07 33 IAMs_20 IAMs_20 23 23 23.3
comp=Z,3µm,22.0s
KMSC Kings Mountain 135.09 33 IAMs_20 IAMs_20 23 29 22.8
comp=Z,3µm,20.0s
KMSC Kings Mountain 135.09 33 P 22 31 43.6
baz=319
U57A Blanch 135.14 30 P 22 31 43.6
baz=322
GOGA Godfrey 135.15 36 P 22 31 44.1
baz=315
HODGE Hodges 135.26 34 IAMs_20 IAMs_20 23 28 51.3
comp=Z,2µm,22.0s
V57A Coltrane Farms 135.34 31 P 22 31 44.5
baz=321
S60A Water View 135.37 26 P 22 31 44.4
baz=326
W56A Indian Trail 135.50 32 P 22 31 44.5
baz=320
U58A Oxford 135.56 29 P 22 31 45.1
baz=323
T60A Surry 135.80 27 IAMs_20 IAMs_20 23 30 25.1
comp=Z,2µm,22.0s
T60A Surry 135.80 27 P 22 31 45.5
baz=326
LL01 San Ignacio de 136.09 160 **PKPdf** **22 31 45.5 -0.1**
LL01 IAMs_20 IAMs_20 23 25 49.5
comp=Z,3µm,22.0s
U60A Pendleton 136.16 28 P 22 31 46.2
baz=325
V59A Middlesex 136.21 29 P 22 31 45.9
baz=323
TIGA Tifton 136.44 38 P 22 31 46.6
baz=314
Y57A Sumter 136.45 33 **PKPdf** **22 31 46.7 +0.1**
Y57A IAMs_20 IAMs_20 23 29 01.8
comp=Z,3µm,22.0s
U61A Possum Corner 136.60 27 P 22 31 46.9
baz=326
V60A Jim Taylor Roa 136.68 28 IAMs_20 IAMs_20 23 25 34.5
comp=Z,3µm,22.0s
V60A Jim Taylor Roa 136.68 28 P 22 31 46.6
baz=324
553A Crawfordville 136.75 40 IAMs_20 IAMs_20 23 27 48.5
comp=Z,2µm,21.0s
CNNC Cliffs of the 136.80 30 IAMs_20 IAMs_20 23 36 26.7
comp=Z,2µm,22.0s
CNNC Cliffs of the 136.80 30 P 22 31 45.7
baz=323
NHSC New Hope 137.25 34 P 22 31 48.7
baz=319
X60A Albert Glenn T 137.28 30 P 22 31 48.3
baz=322
V62A Hyde County Ai 137.46 27 P 22 31 48.0
baz=326
456A Hilliard 137.91 38 IAMs_20 IAMs_20 23 35 08.7
comp=Z,3µm,22.0s
PLCA Paso Flores 138.19 161 PKhKP PKPpre 22 31 40.8
comp=Z,7.3nm,0.9s,baz=206,slow=3.0,SNR=19
PLCA PKP **PKiKP** **22 31 51.5 -0.2**
comp=Z,40nm,0.8s,baz=220,slow=3.3,SNR=19
PLCA PP **PP** **22 34 41.4 +3.7**
comp=Z,4.2nm,0.9s,baz=161,slow=5.9,SNR=2.4
PLCA SKPbc **SKiKP** **22 35 22.9 -0.4**
comp=Z,10nm,0.9s,baz=235,slow=4.3,SNR=4.5
PLCA Paso Flores 138.19 161 PKPdf **PKPdf** **22 31 50.0 +0.4**
HUEH Huehuetenango 138.86 64 IAMs_20 IAMs_20 23 35 08.7
comp=Z,2µm,20.0s
RTAL Retalhuleu 138.96 66 **PKPdf** **22 31 50.2 -1.4**
TEIG Tepich 139.61 56 PKPdf **PKPdf** **22 31 52.0 -0.7**
DWPF Disney Wildern 140.09 40 P 22 31 53.7
baz=313
MBO M'Bour 140.38 295 IAMs_20 IAMs_20 23 35 19.0
comp=Z,2µm,22.0s
BI03 Tigo 140.66 155 **PKPdf** **22 31 55.0 +0.9**
BI03 IAMs_20 IAMs_20 23 28 18.7
comp=Z,2µm,21.0s
ESQI Esquipulas 141.08 64 IAMs_20 IAMs_20 23 22 28.6
comp=Z,3µm,22.0s
MTO3 Montecristo 141.12 65 IAMs_20 IAMs_20 23 34 14.6
comp=Z,2µm,20.0s
061Z Ochoppi 141.94 42 IAMs_20 IAMs_20 23 33 47.2
comp=Z,3µm,22.0s
SOR Soroa 142.39 48 PKIKP **PKPdf** **22 31 57.1 -0.6**
SOR Soroa 142.39 48 PKPdf **PKPdf** **22 31 57.1 -0.6**
TGUH Tegucigalpa,Un 143.13 64 PKPdf **PKPdf** **22 31 58.1 -1.2**
TGUH IAMs_20 IAMs_20 23 32 00.8
comp=Z,2µm,20.0s
TGUH Tegucigalpa,Un 143.13 64 *eP* PKPbc 22 31 55.6 -0.7
PAYG Puerto Ayora 143.28 89 *eP* PKPbc 22 31 57.0 +0.4
BO02 Sierra Bellavi 143.35 156 IAMs_20 IAMs_20 23 35 51.1
comp=Z,2µm,22.0s
CRIN San Cristobal 143.83 66 PKPbc 22 31 58.8 +0.6
CRIN IAMs_20 IAMs_20 23 27 18.5
comp=Z,2µm,19.0s
MT02 Curacav 144.51 154 PKPdf **PKPdf** **22 32 01.0 -0.2**
MT02 IAMs_20 IAMs_20 23 37 15.2
comp=Z,2µm,22.0s
BBSR BB Station 144.54 16 **PKPdf** **22 32 01.1 0.0**
BBSR BB Station 144.54 16 IAMs_20 IAMs_20 23 43 41.8
comp=Z,2µm,21.0s
MT05 Renca 144.57 155 **PKPdf** **22 32 01.1 -0.2**
PEL Peldehue 144.81 155 PKIKP **PKPdf** **22 32 01.3 -0.4**
PEL MLR MLR
comp=Z,2µm,19.0s
PEL Peldehue 144.81 155 **PKPdf** **22 32 01.3 -0.4**
PEL IAMs_20 IAMs_20 23 41 37.1
comp=Z,2µm,19.0s
PEL Peldehue 144.81 155 *i* P **PKPdf** **22 32 01.9 +0.1**
ROC1 El Roble 144.81 154 *i* P **PKPdf** **22 32 01.9 -0.1**
BOAB BOACO BROADBAN 146.18 65 **PKPdf** **22 32 03.0 +0.3**
BOAB IAMs_20 IAMs_20 23 29 54.3
comp=Z,2µm,22.0s
VA03 San Esteban 145.19 154 **PKPdf** **22 32 02.8 +0.3**
VA03 IAMs_20 IAMs_20 23 34 35.1
comp=Z,2µm,21.0s
AVIZ Vizcacheras 145.40 158 *i* P **PKPab** **22 32 04.4 +1.5**
WBCY West Bay, Gran 145.58 51 **PKPab** **22 32 04.0 +0.2**
AAGR Agrelo 145.62 157 *i* P **PKPab** **22 32 05.1 +1.3**
ARCO CERRO ARCO 145.79 157 *i* P **PKPab** **22 32 05.2 +0.7**
ACON Acoyapa 145.80 66 **PKPab** **22 32 04.7 -0.1**
SAJU San Juanillo, 145.94 69 *eP* **PKPbc** **22 32 05.0 +0.2**
ASAL Salagasta 146.05 157 *i* P **PKPab** **22 32 05.6 +0.2**
SACV Santiago Islan 146.06 300 **PKPab** **22 32 05.9 +0.1**
SACV Santiago Islan 146.06 300 IAMs_20 IAMs_20 23 37 08.5
comp=Z,2µm,22.0s
GRZA Playa Garza 146.06 70 *eP* **PKPab** **22 32 05.9 +0.1**
ORTG Ortega, Santa 146.08 69 IAMs_20 IAMs_20 23 34 46.6
comp=Z,2µm,20.0s
AUSP Uspallata 146.15 155 *i* P **PKPab** **22 32 06.0 -0.1**
PLVR Palo Verde 146.19 69 *eP* **PKPbc** **22 32 05.6 -0.2**
INDI Punta indio, G 146.20 70 *eP* **PKPbc** **22 32 05.7 +0.1**
CO02 Combarbal 146.31 152 **PKPab** **22 32 06.1 -0.4**
LCCY Blossom Villag 146.43 50 **PKPbc** **22 32 06.4 +0.3**
RTLS Leoncito 146.56 155 *i* P **PKPbc** **22 32 06.4 -0.1**
JTS Las Juntas de 146.58 69 PKP2 **PKPdf** **22 32 05.9 +0.7**
JTS MLR MLR
comp=Z,4µm,22.0s
JTS Las Juntas de 146.58 69 **PKPdf** **22 32 05.9 +0.7**
CBCY The Bluff, Cay 146.63 49 **PKPbc** **22 32 06.7 0.0**
LPA La Plata 146.68 173 SS SS 22 54 15.9 -6.5
LPA La Plata 146.68 173 PKIKP **PKPdf** **22 31 58.8 -6.0**
LPA La Plata 146.68 173 PP PP 22 35 24.9 -3.8
LPA La Plata 146.68 173 pPKS 22 35 58.2
LPA La Plata 146.68 173 PPP PPP 22 38 42.0
LPA La Plata 146.68 173 SKIKS 22 39 08.0
LPA La Plata 146.68 173 PSP PSP 22 48 10.6
ARE1 Arenal 1 146.74 68 *eP* **PKPab** **22 32 08.0 -0.5**
CO03 El Pedregal 146.76 152 **PKPbc** **22 32 06.1 -0.8**
LAFE Finca La Fe, P 146.77 69 *eP* **PKPbc** **22 32 07.6 +0.3**
COVE Coope Vega, Sa 146.94 67 *eP* **PKPbc** **22 32 07.7 -0.1**
COVE Coope Vega, Sa 146.94 67 **PKPbc** **22 32 07.4 -0.3**
COVE IAMs_20 IAMs_20 23 25 04.3
comp=Z,2µm,20.0s
ZON Zonda 147.03 156 PKP2 **PKPbc** **22 32 07.0 -0.6**
ZON MLR MLR
comp=Z,2µm,22.0s
ZON Zonda 147.03 156 **PKPbc** **22 32 07.0 -0.6**
ZON IAMs_20 IAMs_20 23 29 59.7
comp=Z,2µm,22.0s
ZON Zonda 147.03 156 *i* P **PKPbc** **22 32 07.1 -0.6**
JACO JACO, Garabito 147.05 69 *eP* **PKPbc** **22 32 07.8 -0.3**
SRA1 San Ramn 147.08 69 *eP* **PKPbc** **22 32 08.8 +0.5**
GO04 Tololo Observa 147.27 152 **PKPdf** **22 32 07.2 +0.9**
GO04 Tololo Observa 147.27 152 *i* P **PKPbc** **22 32 09.3 +0.7**
RTLL Cerro Villicun 147.31 156 *i* P **PKPab** **22 32 09.3 -0.9**
MRA San Martin 147.34 161 *i* P **PKPdf** **22 32 07.3 +1.2**
MRA *i* P **PKPab** **22 32 09.6 -0.8**
HDC Heredia 147.45 69 *eP* **PKPdf** **22 32 07.3 +0.5**
LCR2 La Lucha 2 147.64 69 *eP* **PKPdf** **22 32 07.6 +0.4**
ACCO Cerro Coronel 147.71 154 *i* P **PKPdf** **22 32 08.1 +1.0**
RIMA Rio Macho 147.76 69 *eP* **PKPdf** **22 32 08.6 +1.2**
CO01 Juntas del Tor 147.77 152 **PKPbc** **22 32 08.9 -1.1**
CVTR Volcan Turrial 147.78 68 *eP* **PKPdf** **22 32 08.7 +1.0**
AROD Rodeo 147.89 153 *i* P **PKPbc** **22 32 09.3 -1.1**
CDM Cerro de Muert 147.92 69 *eP* **PKPdf** **22 32 08.5 +0.5**
ACDV Cuesta del Vie 148.04 154 *i* P **PKiKP** **22 32 12.0 -0.4**
PEZE Perez Zeledon, 148.06 69 *eP* **PKPdf** **22 32 08.1 +0.4**
PEZE Perez Zeledon, 148.06 69 **PKPbc** **22 32 10.3 -0.6**
MRVA Moravia de Chi 148.13 68 *eP* **PKPdf** **22 32 08.1 +0.2**
LCO Las Campanas 148.28 151 PKIKP **PKPdf** **22 32 08.7 +0.7**
LCO MLR MLR
comp=Z,2µm,20.0s
LCO Las Campanas 148.28 151 PKPdf **PKPdf** **22 32 08.7 +0.7**
LCO Las Campanas 148.28 151 IAMs_20 IAMs_20 23 37 17.3
comp=Z,2µm,20.0s
AVFE Valle Fertil 148.31 157 *i* P **PKPdf** **22 32 09.0 +1.2**
RIOS Rincon, Osa 148.42 70 *eP* **PKPdf** **22 32 08.6 +0.4**
RIOS Rincon, Osa 148.42 70 **PKPdf** **22 32 09.0 +0.8**
AC05 El Transito 148.64 151 **PKPbc** **22 32 10.4 -1.7**
AC05 IAMs_20 IAMs_20 23 34 51.6
comp=Z,2µm,20.0s
PRVC Isla de Provid 148.64 61 *eP* **PKPbc** **22 32 10.5 -1.7**
PIRO Carate, Puerto 148.68 71 *eP* **PKPdf** **22 32 09.8 +1.2**
POTG Potrero Grande 148.69 70 *eP* **PKPdf** **22 32 09.8 +1.0**
TCA Tanti 148.71 162 *i* P **PKPdf** **22 32 09.7 +1.3**
AC04 Llanos de Chal 148.76 149 PKPdf **PKPdf** **22 32 08.8 +0.4**
AC04 IAMs_20 IAMs_20 23 39 58.2
comp=Z,2µm,19.0s
AGUA GUANDACOL 148.90 154 *i* P **PKPdf** **22 32 10.4 +1.6**
BRU2 Volcan 149.17 70 *eP* **PKPdf** **22 32 10.4 +0.7**
MTDJ Mount Denham 149.22 49 PKPdf **PKPdf** **22 32 09.7 +0.2**
MTDJ Mount Denham 149.22 49 *eP* **PKPdf** **22 32 11.4 +1.9**
VCA Vinchina 149.68 154 *i* P **PKPdf** **22 32 12.2 +2.1**
GO03 Copiap 149.68 150 **PKPdf** **22 32 10.9 +0.9**
GO03 IAMs_20 IAMs_20 23 39 20.4
comp=Z,2µm,21.0s
GO03 Copiap 149.68 150 *i* P **PKPdf** **22 32 11.8 +1.8**
GTBY Guantanamo Bay 149.88 44 **PKPdf** **22 32 11.0 +0.6**
GTBY IAMs_20 IAMs_20 23 33 03.5
comp=Z,2µm,21.0s
PLTB Pedras Altas 150.07 180 *eP* **PKPdf** **22 32 12.9 +2.5**
AC01 Pan de Azucar 150.66 147 PKPdf **PKPdf** **22 32 12.7 +1.1**
AC02 Maricunga 150.86 151 IAMs_20 IAMs_20 23 31 30.5
comp=Z,2µm,21.0s
CPSB Cacapava Do Su 151.42 180 *eP* **PKPdf** **22 32 14.8 +2.3**
BCIP Isla Barro Col 151.70 67 *eP* **PKPdf** **22 32 12.2 -1.2**
PB14 IPOC Station P 151.97 146 PKPdf **PKPdf** **22 32 15.1 +1.2**
PB14 IPOC Station P 151.97 146 *i* P **PKPdf** **22 32 15.9 +1.9**
GO02 Mina Guanaco 151.99 148 PKPdf **PKPdf** **22 32 14.9 +1.0**
GO02 IAMs_20 IAMs_20 23 43 28.8
comp=Z,2µm,21.0s
ITQB Itaqui 152.00 174 *eP* **PKPdf** **22 32 15.1 +1.7**
UPA Univ. de Panam 152.04 67 *eP* **PKPdf** **22 32 13.2 -0.6**
PB10 IPOC Station P 152.75 144 PKPdf **PKPdf** **22 32 15.9 +1.2**

PB10					IAMs_20	IAMs_20	23 37 16.3			
	comp=Z,2µm,22.0s									
PB10	**IPOC Station P**	**152.75**	**144**	*i* P		**PKPdf**	**22 32 14.5**	**-0.2**		
TER01	**Tubaro-SC**	**152.96**	**189**	*e*P		**PKPdf**	**22 32 16.2**	**+1.3**		
SDDR	**Presa de Saban**	**153.08**	**40**			**PKPdf**	**22 32 16.1**	**+0.7**		
SDDR	**Presa de Saban**	**153.08**	**40**	*e*P		**PKPdf**	**22 32 15.5**	**+0.2**		
PB05	**IPOC Station P**	**153.46**	**144**	*i* P		**PKPdf**	**22 32 17.9**	**+1.9**		
PB15	**IPOC Station P**	**153.61**	**145**			**PKPdf**	**22 32 16.1**	**-0.1**		
PB15	**IPOC Station P**	**153.61**	**145**	*i* P		**PKPdf**	**22 32 17.9**	**+1.7**		
PB04	**IPOC Station P**	**153.89**	**143**	*i* P		**PKPdf**	**22 32 18.6**	**+2.0**		
PB06	**IPOC Station P**	**153.94**	**145**			**PKPdf**	**22 32 16.4**	**-0.2**		
PB06	**IPOC Station P**	**153.94**	**145**	*i* P		**PKPdf**	**22 32 18.5**	**+1.8**		
CAPC	**Capurgana**	**154.17**	**66**	*e*P		**PKPdf**	**22 32 17.5**	**+0.5**		
LVC	**Limon Verde**	**154.40**	**146**	PKP		**PKPdf**	**22 32 18.8**	**+1.3**		
	comp=Z,12nm,0.9s,baz=203,slow=2.2,SNR=10									
LVC				PKPbc		**PKiKP**	**22 32 27.0**	**+1.1**		
	comp=Z,30nm,0.8s,baz=94,slow=0.4,SNR=12									
LVC	**Limon Verde**	**154.40**	**146**	PKIKP		**PKPdf**	**22 32 18.1**	**+0.6**		
LVC				MLR		MLR				
	comp=Z,2µm,22.0s									
LVC	**Limon Verde**	**154.40**	**146**	PKPdf		**PKPdf**	**22 32 18.1**	**+0.6**		
LVC	**Limon Verde**	**154.40**	**146**	*e*P		**PKPdf**	**22 32 19.7**	**+2.2**		
LVC	**Limon Verde**	**154.40**	**146**	*i* P		**PKPdf**	**22 32 20.1**	**+2.5**		
PB07	**IPOC Station P**	**154.51**	**143**			**PKPdf**	**22 32 17.4**	**0.0**		
PB07				PKPbc		**PKiKP**	**22 32 27.5**	**+1.6**		
PB07				IAMs_20		IAMs_20	23 43 34.0			
	comp=Z,2µm,22.0s									
ITAB	**Concordia**	**154.54**	**183**	*e*P		**PKPdf**	**22 32 16.8**	**-0.4**		
TUMC	**Tumaco**	**154.60**	**82**	*e*P		**PKPdf**	**22 32 19.0**	**+1.4**		
ATAH	**Atahualpa**	**154.67**	**103**	PKP		**PKPdf**	**22 32 19.4**	**+1.2**		
	comp=Z,21nm,1.1s,baz=280,slow=2.2,SNR=16									
NNA	**Nana**	**154.75**	**115**	PKP		**PKPdf**	**22 32 17.9**	**+0.1**		
	comp=Z,20nm,0.8s,baz=298,slow=1.7,SNR=9.1									
NNA	**Nana**	**154.75**	**115**	PKIKP		**PKPdf**	**22 32 17.3**	**-0.6**		
NNA							22 32 28.3			
NNA				MLR		MLR				
	comp=Z,3µm,20.0s									
NNA	**Nana**	**154.75**	**115**				**22 32 17.2**	**-0.6**		
NNA				PKPbc		**PKiKP**	**22 32 28.3**	**+1.9**		
PB09	**IPOC Station P**	**154.84**	**144**			**PKPdf**	**22 32 17.6**	**-0.3**		
PB09				IAMs_20		IAMs_20	23 32 32.7			
	comp=Z,2µm,22.0s									
OTAV	**Otavalo**	**155.05**	**86**	PKIKP		**PKPdf**	**22 32 19.4**	**+0.6**		
OTAV				MLR		MLR				
	comp=Z,3µm,22.0s									
OTAV	**Otavalo**	**155.05**	**86**	PKPdf		**PKPdf**	**22 32 19.4**	**+0.6**		
OTAV	**Otavalo**	**155.05**	**86**	*e*P		**PKPdf**	**22 32 19.6**	**+0.7**		
OTAV	**Otavalo**	**155.05**	**86**	*e*P		**PKPdf**	**22 32 20.5**	**+1.6**		
TA01	**Diego Aracena**	**155.18**	**140**	PKPdf		**PKPdf**	**22 32 19.5**	**+1.3**		
CPUP	**Villa Florida**	**155.22**	**172**	PKP		**PKPdf**	**22 32 18.2**	**+0.1**		
	comp=Z,15nm,0.9s,baz=110,slow=0.2,SNR=16									
CPUP				PP		**PP**	**22 36 17.4**	**-0.3**		
	comp=Z,6.9nm,0.9s,baz=192,slow=6.7,SNR=2.4									
CPUP	**Villa Florida**	**155.22**	**172**	*e*P		**PKPdf**	**22 32 20.6**	**+2.5**		
PB01	**IPOC Station P**	**155.26**	**142**			**PKPdf**	**22 32 18.3**	**-0.2**		
PB01				IAMs_20		IAMs_20	23 30 48.1			
	comp=Z,2µm,22.0s									
PIZC	**Pizarro, Choco**	**155.33**	**74**	*e*P		**PKPdf**	**22 32 19.6**	**+1.0**		
SJCC	**San Jacinto, C**	**155.60**	**61**	*e*P		**PKPdf**	**22 32 20.1**	**+1.0**		
MOTC	**Monteria, Cord**	**155.65**	**64**	*e*P		**PKPdf**	**22 32 19.2**	**+0.2**		
DBBC	**Dabeiba**	**155.81**	**66**	*e*P		**PKPdf**	**22 32 19.8**	**+0.5**		
SMRC	**Santa Marta, M**	**155.82**	**58**	*e*P		**PKPdf**	**22 32 19.8**	**+0.5**		
PSGCX	**Pisagua**	**155.92**	**139**	IAMs_20		IAMs_20	23 32 56.9			
	comp=Z,2µm,21.0s									
PSGCX	**Pisagua**	**155.92**	**139**	*i* P		**PKPdf**	**22 32 23.4**	**+4.0**		
BBAC	**Balboa, Cauca**	**156.04**	**81**	*e*P		**PKPdf**	**22 32 19.8**	**-0.1**		
TIJ01	**Guaruva-PR**	**156.08**	**190**	*e*P		**PKPdf**	**22 32 20.9**	**+1.5**		
UREC	**San Jos de Ur**	**156.17**	**67**	*e*P		**PKPdf**	**22 32 19.4**	**-0.3**		
CBOC	**Ciudad Bolivar**	**156.37**	**71**	*e*P		**PKPdf**	**22 32 19.2**	**-1.0**		
PLMC	**San Jos del P**	**156.38**	**74**	*e*P		**PKPdf**	**22 32 19.7**	**-0.4**		
ARGC	**Ariguani, Magd**	**156.44**	**61**	*e*P		**PKPdf**	**22 32 21.6**	**+1.5**		
POPC	**Popayan, Colom**	**156.52**	**80**	*e*P		**PKPdf**	**22 32 20.4**	**-0.1**		
YJA	**Yavi**	**156.54**	**151**	*i* P		**PKPdf**	**22 32 22.9**	**+2.4**		
YOTC	**Yotoco, Valle**	**156.55**	**76**	*e*P		**PKPdf**	**22 32 20.3**	**-0.1**		
CELP	**Cerrillos**	**156.56**	**33**	*e*P		**PKPdf**	**22 32 25.8**	**+5.7**		
CELP	**Cerrillos**	**156.56**	**33**	*e*S		**PKPab**	**22 32 51.0**	**+2.0**		
CELP	**Cerrillos**	**156.56**	**33**				**22 32 51.0**	**+2.0**		
OBIP	**Obispado Ponce**	**156.58**	**33**	PKPdf		**PKPdf**	**22 32 18.4**	**-1.7**		
MNMC	**Minye Minye**	**156.60**	**139**			**PKPdf**	**22 32 20.6**	**+0.1**		
AP01	**Chacalluta**	**156.63**	**136**	IAMs_20		IAMs_20	23 31 31.0			
	comp=Z,2µm,21.0s									
SOTA	**Rioblanco**	**156.65**	**81**	*e*P		**PKPdf**	**22 32 21.6**	**+0.6**		
PET01	**Itanhaem-SP**	**156.71**	**195**	*e*P		**PKPdf**	**22 32 22.4**	**+2.3**		
HELC	**Santa Helena**	**156.72**	**70**	*e*P		**PKPdf**	**22 32 20.8**	**-0.2**		
SJG	**San Juan**	**156.76**	**32**	PKP		**PKPdf**	**22 32 20.7**	**+0.4**		
	comp=Z,6.3nm,0.3s,baz=14,slow=0.9,SNR=2.2									
SJG				PP		**PP**	**22 36 28.1**	**+1.2**		
	comp=Z,3.3nm,0.2s,baz=304,slow=5.3,SNR=4.2									
SJG	**San Juan**	**156.76**	**32**	PKIKP		**PKPdf**	**22 32 20.1**	**-0.3**		
SJG				MLR		MLR				
	comp=Z,2µm,22.0s									
SJG	**San Juan**	**156.76**	**32**			**PKPdf**	**22 32 20.1**	**-0.3**		
SJG	**San Juan**	**156.76**	**32**	IAMs_20		IAMs_20	23 47 27.7			
	comp=Z,2µm,22.0s									
SJG	**San Juan**	**156.76**	**32**	*e*P		**PKPdf**	**22 32 19.6**	**-0.8**		
PCON	**Cinco Dias**	**156.83**	**80**	*e*P		**PKPdf**	**22 32 22.4**	**+1.1**		
MAN01	**Angra dos Reis**	**156.96**	**203**	*e*P		**PKPdf**	**22 32 22.4**	**+1.8**		
DUB01	**Friburgo-RJ**	**156.97**	**207**	*e*P		**PKPdf**	**22 32 22.1**	**+1.5**		
ESAR	**Angra dos Reis**	**157.00**	**202**	*e*P		**PKPdf**	**22 32 22.4**	**+1.9**		
CRJC	**Cerrejon, Guaj**	**157.02**	**56**	*e*P		**PKPdf**	**22 32 21.5**	**+0.6**		
PTGB	**Pitanga**	**157.04**	**184**	*e*P		**PKPdf**	**22 32 22.1**	**+1.4**		
SMLC	**San Martn de**	**157.07**	**63**	*e*P		**PKPdf**	**22 32 20.0**	**0.0**		
GUY2	**Guyana, Caldas**	**157.17**	**72**	*e*P		**PKPdf**	**22 32 21.8**	**+0.2**		
MARP	**Paez Belalcaza**	**157.17**	**79**	*e*P		**PKPdf**	**22 32 22.1**	**+0.7**		
LL3C	**La Loma 3 Cana**	**157.22**	**60**	*e*P		**PKPdf**	**22 32 22.1**	**+1.1**		
PB16	**IPOC Station P**	**157.22**	**138**	PKPdf		**PKPdf**	**22 32 21.3**	**-0.3**		
PB16				IAMs_20		IAMs_20	23 42 58.5			
	comp=Z,2µm,22.0s									
RREF	**El Recreo**	**157.28**	**73**	*e*P		**PKPdf**	**22 32 22.8**	**+0.8**		
ANIL	**Santa Ana**	**157.34**	**74**	*e*P		**PKPdf**	**22 32 21.8**	**+0.2**		
URIC	**Uribia, Colomb**	**157.37**	**54**	*e*P		**PKPdf**	**22 32 21.5**	**+0.3**		
ALF01	**Guarapari-ES**	**157.38**	**213**	*e*P		**PKPdf**	**22 32 23.0**	**+1.9**		
TOLC	**Tolima**	**157.39**	**74**	*e*P		**PKPdf**	**22 32 22.1**	**+0.3**		
SPB	**Sao Paulo**	**157.41**	**195**	IAMs_20		IAMs_20	23 43 47.7			
	comp=Z,2µm,20.0s									
SPB	**Sao Paulo**	**157.41**	**195**	*e*P		**PKPdf**	**22 32 22.9**	**+1.8**		
NORC	**Norcasia**	**157.54**	**71**	*e*P		**PKPdf**	**22 32 21.3**	**-0.3**		
PTBC	**PUERTO BERRIO**	**157.61**	**68**	*e*P		**PKPdf**	**22 32 20.7**	**-0.9**		
ORTC	**Ortega, Tolima**	**157.63**	**76**	*e*P		**PKPdf**	**22 32 21.6**	**-0.1**		
BETC	**Betania**	**157.71**	**79**	*e*P		**PKPdf**	**22 32 22.5**	**+0.7**		
VAO	**Valinhos**	**157.85**	**196**	*e*P		**PKPdf**	**22 32 24.8**	**+3.1**		
PRAC	**Prado**	**158.03**	**76**	*e*P		**PKPdf**	**22 32 22.4**	**+0.3**		
BRRC	**Barranca, Sant**	**158.09**	**66**	*e*P		**PKPdf**	**22 32 22.6**	**+0.4**		
FRTB	**Fartura**	**158.11**	**190**	*e*P		**PKPdf**	**22 32 23.6**	**+1.6**		
RIB01	**Linhares ES**	**158.23**	**215**	*e*P		**PKPdf**	**22 32 24.9**	**+2.8**		
SPBC	**San Pablo de B**	**158.27**	**70**	*e*P		**PKPdf**	**22 32 22.6**	**+0.1**		
ROSC	**El Rosal**	**158.28**	**73**	PKP		**PKPdf**	**22 32 23.4**	**+0.6**		
	comp=Z,25nm,0.5s,baz=354,slow=2.8,SNR=13									
ROSC				PKPab		**PKPab**	**22 32 58.0**	**+0.8**		
	comp=Z,40nm,0.7s,baz=153,slow=2.3,SNR=2.2									
ROSC	**El Rosal**	**158.28**	**73**	PKIKP		**PKPdf**	**22 32 21.6**	**-1.3**		
ROSC				MLR		MLR				
	comp=Z,4µm,22.0s									
ROSC	**El Rosal**	**158.28**	**73**			**PKPdf**	**22 32 21.6**	**-1.3**		
ROSC	**El Rosal**	**158.28**	**73**	*e*P		**PKPdf**	**22 32 23.6**	**+0.7**		
PTLC	**Puerto Leguiza**	**158.69**	**85**	*e*P		**PKPdf**	**22 32 21.5**	**-1.4**		
BARC	**Barichara**	**158.77**	**67**	*e*P		**PKPdf**	**22 32 22.8**	**-0.5**		
BSFB	**Barra de Sao F**	**158.88**	**215**	*e*P		**PKPdf**	**22 32 24.0**	**+1.1**		
PAMC	**Pamplona, Colo**	**158.91**	**65**	*e*P		**PKPdf**	**22 32 23.6**	**-0.2**		
BSCB	**Bom Sucesso**	**158.96**	**203**	*e*P		**PKPdf**	**22 32 25.1**	**+2.0**		
RUSC	**La Rusia**	**159.11**	**69**	*e*P		**PKPdf**	**22 32 23.8**	**-0.2**		
SJMB	**Sao Joao De Ma**	**159.17**	**215**	*e*P		**PKPdf**	**22 32 24.2**	**+0.9**		
NAN01	**Guarapari, ES**	**159.20**	**219**	*e*P		**PKPdf**	**22 32 24.5**	**+1.2**		
MACC	**Macarena, Meta**	**159.37**	**79**	*e*P		**PKPdf**	**22 32 23.6**	**-0.1**		
LPAZ	**La Paz**	**159.59**	**136**	PKP		**PKPdf**	**22 32 25.5**	**+0.9**		
	comp=Z,26nm,1.0s,baz=12,slow=1.0,SNR=36									
LPAZ				PP		**PP**	**22 36 43.8**	**+0.1**		
	comp=Z,6.1nm,1.1s,baz=237,slow=6.8,SNR=2.1									
LPAZ	**La Paz**	**159.59**	**136**	PKIKP		**PKPdf**	**22 32 25.0**	**+0.4**		
LPAZ	**La Paz**	**159.59**	**136**	PKPdf		**PKPdf**	**22 32 25.0**	**+0.4**		
LPAZ	**La Paz**	**159.59**	**136**	*e*P		**PKPdf**	**22 32 25.8**	**+1.2**		
LPAZ	**La Paz**	**159.59**	**136**	*e*P		**PKPdf**	**22 32 24.5**	**-0.1**		
LPAZ	**La Paz**	**159.59**	**136**	*i* P		**PKPdf**	**22 32 26.5**	**+1.9**		
CZSB	**Cruzeiro do Su**	**160.01**	**108**	*e*P		**PKPdf**	**22 32 25.1**	**+0.7**		
SDV	**Santo Domingo**	**160.02**	**58**	PKP		**PKPdf**	**22 32 25.0**	**+0.3**		
	comp=Z,23nm,0.7s,baz=355,slow=1.3,SNR=29									
SDV				PKPab		**PKPab**	**22 33 05.2**	**+0.8**		
	comp=Z,57nm,0.8s,baz=285,slow=3.2,SNR=10.0									
SDV				PP		**PP**	**22 36 46.0**	**-0.1**		
	comp=Z,8.2nm,0.9s,baz=308,slow=5.2,SNR=3.3									
SDV	**Santo Domingo**	**160.02**	**58**	PKPdf		**PKPdf**	**22 32 24.5**	**-0.1**		
SDV	**Santo Domingo**	**160.02**	**58**	*e*P		**PKPdf**	**22 32 24.8**	**+0.1**		
SDV	**Santo Domingo**	**160.02**	**58**	*e*P		**PKPdf**	**22 32 24.5**	**-0.1**		
PCMB	**Pacaembu**	**160.06**	**186**	*e*P		**PKPdf**	**22 32 25.7**	**+1.4**		
TAMC	**Tame, Arauca**	**160.10**	**66**	*e*P		**PKPdf**	**22 32 24.1**	**-0.5**		
BB19B	**Bebedouro**	**160.11**	**194**	*e*P		**PKPdf**	**22 32 26.6**	**+2.2**		
ABD	**La Joyeuse, An**	**160.35**	**23**	*e*P		**PKPdf**	**22 32 24.1**	**-0.6**		
NBRF	**Rio Formoso -**	**160.37**	**249**	*e*P		**PKPdf**	**22 32 25.1**	**+0.3**		
PTGC	**Puerto Gaitan,**	**160.55**	**73**	*e*P		**PKPdf**	**22 32 23.9**	**-1.1**		
CBE	**Ff, Capester**	**160.66**	**24**	*e*P		**PKPdf**	**22 32 23.0**	**-2.1**		
NBIT	**Itapeh - BA**	**160.81**	**226**	*e*P		**PKPdf**	**22 32 26.0**	**+0.8**		
DIAM	**Diamantina, MG**	**160.84**	**210**	*e*P		**PKPdf**	**22 32 26.3**	**+0.9**		
TDBA	**Terre de Bas,**	**160.85**	**24**	*e*P		**PKPdf**	**22 32 23.0**	**-2.3**		
MAGL	**Barre de l'ile**	**160.90**	**23**	*e*P		**PKPdf**	**22 32 20.8**	**-4.5**		
NBAN	**Anadia - AL**	**161.06**	**245**	*e*P		**PKPdf**	**22 32 26.9**	**+1.3**		
NBPV	**Pedro Velho**	**161.18**	**255**	*e*P		**PKPdf**	**22 32 26.7**	**+1.0**		
AODB	**Aquidauana**	**161.19**	**174**	*e*P		**PKPdf**	**22 32 26.3**	**+0.8**		
DSLB	**Salisbury**	**161.31**	**24**	*e*P		**PKPdf**	**22 32 24.1**	**-1.6**		
DLPL	**La Plaine**	**161.47**	**24**	*e*P		**PKPdf**	**22 32 25.3**	**-0.6**		
GDU01	**Guandu, BA**	**161.70**	**228**	*e*P		**PKPdf**	**22 32 27.4**	**+1.2**		
NBLA	**Lagarto - SE**	**161.80**	**239**	*e*P		**PKPdf**	**22 32 27.9**	**+1.6**		
ITRB	**Iturama**	**161.81**	**190**	*e*P		**PKPdf**	**22 32 27.4**	**+1.2**		
RCBR	**Riachuelo**	**161.90**	**256**	PKP		**PKPdf**	**22 32 26.8**	**+0.3**		
	comp=Z,34nm,1.0s,baz=260,slow=2.4,SNR=6.4									
RCBR				PKPab		**PKPab**	**22 33 12.7**	**+0.1**		
	comp=Z,38nm,1.0s,baz=88,slow=6.0,SNR=6.3									
RCBR	**Riachuelo**	**161.90**	**256**	PKIKP		**PKPdf**	**22 32 26.0**	**-0.5**		
RCBR							22 33 12.3			
RCBR	**Riachuelo**	**161.90**	**256**	PKPdf		**PKPdf**	**22 32 26.0**	**-0.5**		
RCBR				PKPab		**PKPab**	**22 33 12.2**	**+0.3**		
RCBR	**Riachuelo**	**161.90**	**256**	*e*P		**PKPdf**	**22 32 28.0**	**+1.5**		
FDF	**Fort de France**	**162.05**	**24**	*e*P		**PKPdf**	**22 32 26.4**	**-0.2**		
FDF	**Fort de France**	**162.05**	**24**	PKIKP		**PKPdf**	**22 32 26.5**	**-0.1**		
FDF	**Fort de France**	**162.05**	**24**	PKPdf		**PKPdf**	**22 32 26.5**	**-0.1**		
ILAM	**Ilet Lapin Mar**	**162.13**	**24**	*e*P		**PKPdf**	**22 32 25.8**	**-0.8**		
BIM	**Bigot**	**162.28**	**25**	*e*P		**PKPdf**	**22 32 24.8**	**-2.0**		
MPOM	**Morne Pois Mar**	**162.43**	**24**	*e*P		**PKPdf**	**22 32 25.7**	**-1.2**		
NBLI	**Livramento-PB**	**162.50**	**251**	*e*P		**PKPdf**	**22 32 28.8**	**+1.6**		
SLBI	**Saint Lucia, B**	**162.76**	**25**	*e*P		**PKPdf**	**22 32 24.4**	**-2.8**		
NBTA	**Tacaratu-PE**	**162.89**	**244**	*e*P		**PKPdf**	**22 32 27.5**	**+0.1**		
IPMB	**Ipameri, GO**	**162.96**	**198**	*e*P		**PKPdf**	**22 32 30.4**	**+2.9**		
MCLT	**Moule a Chique**	**163.06**	**25**	*e*P		**PKPdf**	**22 32 25.0**	**-2.5**		
NBPA	**Parau_RN**	**163.09**	**256**	*e*P		**PKPdf**	**22 32 28.7**	**+1.1**		
SVV	**Soufriere Volc**	**163.29**	**27**	*e*		**PKPab**	**22 33 19.3**	**+1.1**		
SVB	**Belmont**	**163.31**	**27**	*e*P		**PKPdf**	**22 32 27.7**	**-0.1**		
SVB	**Belmont**	**163.31**	**27**	*e*		**PKPab**	**22 33 20.5**	**+2.2**		
JANB	**Januaria**	**163.86**	**214**	*e*P		**PKPdf**	**22 32 28.6**	**+0.2**		
PCRV	**Puerto La Cruz**	**163.88**	**48**	PKP		**PKPdf**	**22 32 28.7**	**+0.3**		
	comp=Z,21nm,0.9s,baz=27,slow=1.1,SNR=1.5									
NBPN	**Ponto Novo - B**	**163.90**	**235**	*e*P		**PKPdf**	**22 32 29.9**	**+1.5**		
GCMP	**Grenada, Carri**	**163.91**	**29**	*e*P		**PKPdf**	**22 32 26.8**	**-1.5**		
SIV	**San Ignacio**	**163.96**	**153**	PKP		**PKPdf**	**22 32 29.2**	**+0.9**		
	comp=Z,19nm,0.8s,baz=229,slow=1.8,SNR=57									
SIV				PKPab		**PKPab**	**22 33 21.6**	**+0.4**		
	comp=Z,59nm,0.8s,baz=211,slow=3.7,SNR=20									
SIV				PP		**PP**	**22 37 06.1**	**+0.5**		
	comp=Z,4.5nm,0.9s,baz=254,slow=7.4,SNR=1.3									
GRGR	**Grenville**	**164.11**	**30**	*e*P		**PKPdf**	**22 32 23.8**	**-4.7**		
PP1B	**Ponte de Pedra**	**164.12**	**175**	*e*P		**PKPdf**	**22 32 30.6**	**+2.2**		
BBGH	**Gun Hill**	**164.12**	**22**	*e*P		**PKPdf**	**22 32 31.1**	**+2.6**		
BBSP	**Saint Philip**	**164.20**	**22**	*e*P		**PKPdf**	**22 32 31.8**	**+3.2**		
NBMA	**Muriti-CE**	**164.20**	**249**	*e*P		**PKPdf**	**22 32 30.1**	**+1.4**		
NBCL	**Cascavel-CE**	**164.54**	**260**	*e*P		**PKPdf**	**22 32 30.2**	**+1.3**		
ETMB	**Extrema**	**165.05**	**123**	*e*P		**PKPdf**	**22 32 30.4**	**+1.0**		
BDFB	**Brasilia**	**165.08**	**201**	PKP		**PKPdf**	**22 32 30.2**	**+0.7**		
	comp=Z,14nm,0.8s,baz=25,slow=2.4,SNR=15									
BDFB				PKPab		**PKPab**	**22 33 26.4**	**+0.2**		
	comp=Z,27nm,0.8s,baz=11,slow=0.8,SNR=9.3									
BDFB				PP		**PP**	**22 37 11.7**	**+0.4**		
	comp=Z,20nm,1.1s,baz=173,slow=3.7,SNR=3.9									
BDFB	**Brasilia**	**165.08**	**201**			**PKPdf**	**22 32 29.8**	**+0.3**		
BDFB				PKPab		**PKPab**	**22 33 26.8**	**+0.6**		
PTLB	**Pontes e Lacer**	**165.25**	**158**	*e*P		**PKPdf**	**22 32 31.2**	**+1.8**		
TRN	**Trinidad (W)**	**165.49**	**32**	*e*P		**PKPdf**	**22 32 26.6**	**-3.2**		
NBPB	**Pedra_Branca-C**	**165.53**	**254**	*e*P		**PKPdf**	**22 32 31.1**	**+1.3**		
ARAG	**Araguaiana, MT**	**165.95**	**187**	*e*P		**PKPdf**	**22 32 32.0**	**+1.9**		
SDBA	**SAO DESIDERIO**	**166.31**	**218**	*e*P		**PKPdf**	**22 32 31.4**	**+0.9**		
NBMO	**Morrinhos-CE**	**166.39**	**263**	*e*P		**PKPdf**	**22 32 30.9**	**+0.4**		
VILB	**Vilhena**	**167.01**	**150**	*e*P		**PKPdf**	**22 32 33.6**	**+2.7**		
NBPS	**Pedro II - PI**	**167.60**	**257**	*e*P		**PKPdf**	**22 32 33.0**	**+1.5**		
SAML	**Samuel**	**168.01**	**127**	PKIKP		**PKPdf**	**22 32 31.3**	**-0.4**		
SAML	**Samuel**	**168.01**	**127**			**PKPdf**	**22 32 31.3**	**-0.4**		
SAML	**Samuel**	**168.01**	**127**	*e*P		**PKPdf**	**22 32 33.3**	**+1.7**		
SNDB	**Serra Nova Dou**	**169.52**	**192**	*e*P		**PKPdf**	**22 32 34.1**	**+1.5**		
ROSB	**Rosrio**	**170.49**	**262**	*e*P		**PKPdf**	**22 32 34.8**	**+1.6**		
CLDB	**Colider**	**170.59**	**166**	*e*P		**PKPdf**	**22 32 35.0**	**+1.7**		
SMTB	**Santa Maria do**	**170.71**	**220**	*e*P		**PKPdf**	**22 32 34.7**	**+1.3**		
BOAV	**Boa Vista**	**171.96**	**60**	*e*P		**PKPdf**	**22 32 34.9**	**+1.0**		
MDP	**Montagnes des**	**173.21**	**352**	PKP		**PKPdf**	**22 32 35.1**	**+0.7**		
	comp=Z,34nm,1.1s,baz=11,slow=2.1,SNR=5.1									
MDP				PKPab		**PKPab**	**22 34 02.4**	**+0.4**		
	comp=Z,42nm,1.1s,baz=348,slow=4.6,SNR=2.3									
PTGA	**Pitinga**	**173.53**	**82**	PKP		**PKPdf**	**22 32 34.8**	**+0.2**		
	comp=Z,5.7nm,0.7s,baz=342,slow=0.7,SNR=9.7									
PTGA				PKPab		**PKPab**	**22 34 04.6**	**+0.6**		
	comp=Z,10nm,0.8s,baz=302,slow=4.7,SNR=6.0									
PTGA				PP		**PP**	**22 37 57.1**	**+0.9**		
	comp=Z,1.7nm,0.3s,baz=324,slow=6.6,SNR=4.2									
PTGA	**Pitinga**	**173.53**	**82**			**PKPdf**	**22 32 33.8**	**-0.9**		
PTGA				PKPab		**PKPab**	**22 34 03.0**	**-1.0**		
PTGA	**Pitinga**	**173.53**	**82**	*e*P		**PKPdf**	**22 32 34.2**	**-0.4**		
PTGA	**Pitinga**	**173.53**	**82**	*e*P		**PKPdf**	**22 32 34.7**	**0.0**		
PRPB	**Parauapebas**	**174.17**	**220**	*e*P		**PKPdf**	**22 32 35.7**	**+0.8**		
NPGB	**Novo Progresso**	**174.37**	**162**	*e*P		**PKPdf**	**22 32 36.3**	**+1.4**		
TMAB	**Tom-Au,PA,Br**	**174.49**	**263**	*e*P		**PKPdf**	**22 32 36.7**	**+1.8**		
ITTB	**Itaituba**	**176.56**	**141**	*e*P		**PKPdf**	**22 32 37.0**	**+1.5**		
MALB	**Monte Alegre**	**179.28**	**104**	*e*P		**PKPdf**	**22 32 37.0**	**+1.2**		

INET ***17*** *22:14:31.3, 13°.13N×89°.74W, h27km, MW3.4*
SNET ***17*** *22:14:32.3±0.9, 13°.23N×89°.67W, h49km±8km, ML4.0*
IDC ***17*** *22:14:33.8±1.9, 13°.33N×89°.43W, h75km±21km, mb3.1/3, mb1 3.6/6, mb1mx3.3/48, mbtmp3.6/6, Error ellipse: s-maj=32.4km s-min=14.1km az=48.0*
NEIC ***17*** *22:14:33.6±1.7, 13°.28N±0°.08×89°.58W±0°.04, h45km±18km, Error ellipse: s-maj=11.8km s-min=6.0km az=191.0*
ISC 17 22:14:32.5±1.2, 13°.22N±0°.07×89°.64W±0°.06, h54km±9km, n50, σ0°93/61, 16C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.41**	**49**	*e*P	**Pn**	**22 14 42.8**	**-0.3**
LALI				*e*S	**Sn**	**22 14 50.8**	**0.0**
JAYA	**Jayaque - finc**	**0.47**	**23**	*e*P	**Pn**	**22 14 43.2**	**-0.8**
JAYA				IAML		22 14 53.4	
	comp=Z,10µm,0.2s						
PMON	**Piamonte**	**0.58**	**32**	*e*P	**Pn**	**22 14 44.7**	**-0.5**
CEVE	**Cerro Verde**	**0.61**	**1**	*e*P	**Pn**	**22 14 45.1**	**-0.5**
CEVE				*e*S	**Sn**	**22 14 55.6**	**+0.5**
SNET	**Serv Nac Est T**	**0.61**	**40**	*e*P	**Pn**	**22 14 45.0**	**-0.5**
SNET				*e*S	**Sn**	**22 14 54.8**	**-0.1**
SNET				IAML		22 15 03.0	
	comp=Z,5µm,0.2s						
SNET	**Serv Nac Est T**	**0.61**	**40**	Pn	**Pn**	**22 14 45.0**	**-0.5**
SBLS	**San Blas**	**0.62**	**1**	*e*P	**Pn**	**22 14 45.1**	**-0.6**
BOQS	**Boqueron**	**0.62**	**34**	*e*P	**Pn**	**22 14 45.4**	**-0.4**
BOQS				*e*S	**Sn**	**22 14 55.8**	**+0.5**
CEDA	**San Andres**	**0.63**	**22**	*e*P	**Pn**	**22 14 45.5**	**-0.2**
CEDA				*e*S	**Sn**	**22 14 55.6**	**+0.5**
UEES	**Universidad Ev**	**0.63**	**38**	*e*P	**Pn**	**22 14 45.3**	**-0.4**
RTR	**El Retiro**	**0.68

BAYB IAML 23 22 08.0
comp=N,2µm,0.5s
KARS Kars 1.12 77 PN **Pg** **23 21 45.4 -0.5**
KARO Karliova-Bingo 1.17 204 PN **Pb** **23 21 45.8 -1.7**
VRTB Varto-Mus 1.23 187 PN **Pn** **23 21 46.9 -1.9**
VRTB Varto-Mus 1.23 187 *i* P **Pn** **23 21 47.4 -1.4**
VRTB IAML 23 22 17.0
comp=Z,3µm,0.8s
VRTB IAML 23 22 19.0
comp=N,3µm,0.9s
VRTB IAML 23 22 26.0
comp=E,2µm,1.0s
YEDI Yedisu-Bingol 1.27 222 PN **Pn** **23 21 47.7 -1.6**
YEDI SN **Sb** **23 22 05.9 -0.1**
AGRB Hanur-Agry 1.31 128 PN **Pn** **23 21 48.6 -1.3**
AGRB SN **Sg** **23 22 07.6 +1.0**
KOTA Agri, Merkez-K 1.33 115 *i* P **Pn** **23 21 49.6 -0.5**
KOTA *i* S **Sn** **23 22 11.3 +2.9**
KOTA IAML 23 22 13.0
comp=N,360nm,0.7s
KOTA IAML 23 22 15.0
comp=E,417nm,0.7s
KOTA IAML 23 22 15.0
comp=Z,360nm,0.5s
EPOS Posof 1.39 36 *i* P **Pn** **23 21 49.0 -1.9**
EPOS *i* S **Sb** **23 22 08.2 -1.2**
EPOS IAML 23 22 14.0
comp=E,616nm,0.6s
EPOS IAML 23 22 16.0
comp=N,1µm,0.7s
EPOS IAML 23 22 16.0
comp=Z,303nm,0.7s
MLAZ Malazgirt-MUS 1.42 151 PN **Pn** **23 21 50.3 -1.1**
SLHN Bingol, Solhan 1.50 199 *i* P **Pn** **23 21 52.5 0.0**
SLHN IAML 23 22 20.0
comp=N,738nm,0.9s
SLHN IAML 23 22 24.0
comp=Z,703nm,0.9s
SLHN IAML 23 22 31.0
comp=E,1µm,1.1s
EAK Akyaka 1.52 78 *i* P **Pn** **23 21 51.6 -1.2**
EAK IAML 23 22 18.0
comp=E,603nm,0.7s
EAK IAML 23 22 34.0
comp=N,1µm,1.4s
EAK IAML 23 22 50.0
comp=Z,857nm,1.0s
KTUT Trabzon 1.56 293 PN **Pn** **23 21 52.7 -0.4**
BNGB Bingl 1.58 209 PN **Pn** **23 21 52.9 -0.6**
ABS Abastumani 1.63 32 P **Pn** **23 21 53.8 -0.5**
ABS S **Sb** **23 22 16.5 +0.2**
EUZM Uzumlu 1.64 246 *i* P **Pn** **23 21 54.2 -0.3**
EUZM IAML 23 22 23.0
comp=Z,180nm,1.4s
EUZM IAML 23 22 24.0
comp=E,235nm,1.0s
EUZM IAML 23 22 25.0
comp=N,185nm,0.9s
ERZN Erzincan 1.68 242 PN **Pn** **23 21 53.9 -1.0**
BGD Bogdanovka 1.72 59 P **Pn** **23 21 56.2 +0.6**
BGD S **Sg** **23 22 20.9 +1.1**
AKH Akhalkalaki 1.73 53 P **Pn** **23 21 56.5 +0.7**
AKH S **Sb** **23 22 19.2 -0.1**
AKH Akhalkalaki 1.73 53 PN **Pn** **23 21 55.5 -0.2**
DYDN Diyadin 1.78 117 *i* P **Pn** **23 21 57.2 +0.9**
DYDN IAML 23 22 28.0
comp=N,296nm,0.7s
DYDN IAML 23 22 31.0
comp=E,557nm,0.8s
DYDN IAML 23 22 31.0
comp=Z,156nm,0.7s
ADCV BITLIS_Adilcev 1.78 152 *i* P **Pn** **23 21 56.6 +0.3**
ADCV IAML 23 22 26.0
comp=E,293nm,0.9s
ADCV IAML 23 22 29.0
comp=N,201nm,0.6s
ADCV IAML 23 22 41.0
comp=Z,179nm,0.8s
KELT Kelkit 1.85 264 *i* P **Pn** **23 21 57.7 +0.4**
KELT IAML 23 22 28.0
comp=Z,424nm,1.7s
KELT IAML 23 22 32.0
comp=N,431nm,1.1s
KELT IAML 23 22 41.0
comp=E,420nm,0.8s
ERCV ERCIS-VAN 1.88 136 PN **Pn** **23 21 57.0 -0.8**
IGDI IGDIR 1.93 105 *i* P **Pn** **23 21 59.6 +1.2**
IGDI IAML 23 22 38.0
comp=N,127nm,1.0s
IGDI IAML 23 22 44.0
comp=E,144nm,0.9s
BKRG Bakuriani 1.97 45 P **Pn** **23 21 59.8 +0.8**
BKRG S **Sg** **23 22 28.1 +0.1**
BLIS Bitlis-Merkez 2.00 169 *i* P **Pn** **23 22 00.1 +0.8**
BLIS IAML 23 22 32.0
comp=N,353nm,0.6s
BLIS IAML 23 22 37.0
comp=E,396nm,0.7s
BLIS IAML 23 22 37.0
comp=Z,232nm,0.7s
TASB TASBURUN-IGDIR 2.02 101 PN **Pn** **23 21 59.3 -0.3**
VMUR Van-Muradiye 2.03 133 *i* P **Pb** **23 22 02.1 -0.1**
VMUR IAML 23 22 34.0
comp=N,484nm,0.8s
VMUR IAML 23 22 35.0
comp=Z,218nm,0.6s
VMUR IAML 23 22 38.0
comp=E,422nm,0.7s
TNCL Tunceli-Merkez 2.06 233 *i* P **Pn** **23 22 00.2 +0.1**
TNCL IAML 23 22 29.0
comp=E,225nm,0.9s
TNCL IAML 23 22 46.0
comp=N,276nm,0.8s
TNCL IAML 23 22 54.0
comp=Z,255nm,0.9s
BRNG Burnasheti 2.06 52 P **Pn** **23 22 01.3 +1.1**
CLDR Caldiran 2.14 125 PN **Pn** **23 22 01.0 -0.4**
CLDR Caldiran 2.14 125 *i* P **Pb** **23 22 04.3 +0.3**
CLDR IAML 23 22 39.0
comp=E,124nm,0.7s
CLDR IAML 23 22 46.0
comp=N,97nm,0.8s
DMNI Dmanisi 2.15 63 P **Pb** **23 22 03.2 -0.9**
DMNI S **Sg** **23 22 33.5 0.0**
TRLG Trialeti 2.19 57 P **Pn** **23 22 02.7 +0.8**
TRLG S **Sb** **23 22 33.1 +0.8**
KOVA Elazig, Kovanc 2.20 221 *i* P **Pn** **23 22 02.1 +0.1**
KOVA IAML 23 22 53.0
comp=Z,152nm,1.6s
ALUC Giresun/Alucra 2.20 270 *i* P **Pn** **23 22 04.2 +2.0**
ALUC IAML 23 22 41.0
comp=Z,820nm,0.8s
TKB Tkibuli 2.21 27 P **Pn** **23 22 03.0 +0.8**
TKB S **Sb** **23 22 33.6 +0.6**
VANB Van 2.23 142 PN **Pn** **23 22 03.2 +0.7**
SVAN Silvan-Diyarba 2.26 189 PN **Pn** **23 22 02.3 -0.5**
SVAN Silvan-Diyarba 2.26 189 *i* P **Pn** **23 22 03.7 +0.9**
SVAN IAML 23 22 52.0
comp=Z,118nm,0.9s
AKDM Akdamar-Van 2.29 153 PN **Pn** **23 22 02.8 -0.6**
CHVG Ch'k'valeri 2.36 8 P **Pn** **23 22 04.8 +0.7**
GNI Garni 2.38 95 Pn **Pb** **23 22 07.9 -0.1**
comp=Z,11nm,0.3s,baz=292,slow=4.9,SNR=51
GNI Garni 2.38 95 PN **Pn** **23 22 04.2 -0.3**
SRTM Siirt_Merkez 2.40 175 *i* P **Pn** **23 22 06.2 +1.5**
SRTM IAML 23 22 53.0
comp=Z,171nm,0.8s
REFA Refahiye_ERZN 2.43 247 *i* P **Pn** **23 22 03.5 -1.7**
REFA IAML 23 22 51.0
comp=Z,93nm,0.9s
PERV Siirt/Pervari- 2.53 164 *i* P **Pn** **23 22 08.6 +2.0**
PERV IAML 23 22 56.0
comp=Z,66nm,1.1s
ILIC ilic-Erzincan 2.55 250 PN **Pn** **23 22 06.4 -0.4**
ONI Oni 2.59 31 P **Pn** **23 22 08.4 +1.0**
ONI S **Sb** **23 22 44.2 +0.4**
BTNK Botanikuri 2.71 60 P **Pn** **23 22 10.2 +1.2**
GUDG Gudauri 2.97 45 P **Pn** **23 22 15.0 +2.2**
PNSH Pansheti 3.17 44 P **Pn** **23 22 16.5 +1.1**
MALT Malatya 3.24 231 PN **Pn** **23 22 16.2 -0.2**
RSDY Resadiye-TOKAT 3.30 272 PN **Pn** **23 22 17.7 +0.6**
KBZ Khabaz 3.47 15 Pn **Pn** **23 22 21.3 +1.9**
comp=Z,1.8nm,0.3s,baz=230,slow=8.9,SNR=19
KBZ Lg Lg 23 23 13.7
comp=Z,1.3nm,0.3s,baz=42,slow=16,SNR=1.6

CUKT Cukurca 3.48 153 PN **Pn** **23 22 20.1 +0.4**
DDFL Dedoflistskaro 3.55 71 P **Pg** **23 22 31.1 -1.4**
SVSK Karacayir 3.60 264 PN **Pn** **23 22 21.6 +0.5**
KIV Kislovodsk 3.65 12 PN **Pn** **23 22 22.4 +0.4**
URFA Urfa 3.67 218 PN **Pn** **23 22 21.6 -0.7**
DARE Darende-Malaty 3.70 242 PN **Pn** **23 22 22.9 +0.3**
TOKT Tokat 3.90 271 PN **Pn** **23 22 26.2 +0.8**
BRTR Keskin Array B 6.18 266 Pn **Pn** **23 22 59.6 +2.8**
baz=76,slow=12,SNR=1.8
MMAI Mount Meron Ar 8.90 216 Pn **Pn** **23 23 36.9 +2.8**
comp=Z,0.3nm,0.3s,baz=32,slow=14,SNR=2.4
MLR Mutele Rosu 12.59 299 Pn **Pn** **23 24 23.6 -1.0**
comp=Z,0.3nm,0.3s,baz=120,slow=9.4,SNR=6.9
MLR Sn **Sn** **23 26 39.4 -5.9**
comp=Z,0.1nm,0.3s,baz=117,slow=18,SNR=2.0
AKASG Malin Array Be 13.48 324 Pn **Pn** **23 24 34.5 -2.1**
comp=Z,4.7nm,0.3s,baz=120,slow=13,SNR=16
AKASG Sn Sn 23 26 57.0 -10
comp=Z,0.5nm,0.3s,baz=132,slow=24,SNR=3.1
AKTO Aktyubinsk 15.23 43 Pn **Pn** **23 24 58.4 -2.0**
comp=Z,0.1nm,0.3s,baz=230,slow=7,SNR=6.4
CONA Conrad Observa 19.92 301 *e*P **Pn** **23 26 02.2 +3.3**
comp=Z,2.3nm,0.8s
DPC Dobruska-Polom 20.30 308 *e*P Pn 23 26 09.1 +5.7
MOA Molln 20.95 300 *e*P Pn 23 26 13.0 +2.0
comp=Z,2.8nm,1.0s
CKRC Cesky Krumlov 21.13 303 *e*P **P** **23 26 13.2 +2.8**
KBA Koelnbreinsper 21.45 298 *e*P **P** **23 26 18.4 +4.4**
comp=Z,6.9nm,1.1s
GERES GERESS Array B 21.52 302 P **P** **23 26 15.4 +0.7**
comp=Z,0.8nm,0.6s,baz=104,slow=11,SNR=8.2
KHC Kasperske Hory 21.67 303 *e*P **P** **23 26 19.6 +3.4**
WTTA Wattenberg 22.63 298 *e*P **P** **23 26 28.6 +1.9**
comp=Z,5.0nm,0.9s
WATA Walderalm 22.68 298 P **P** **23 26 28.6 +1.5**
comp=Z,6.0nm,1.1s
SQTA Sankt Quirin 22.91 297 P **P** **23 26 29.8 +0.3**
comp=Z,3.1nm,0.5s
MOTA Moosalm 23.00 298 P **P** **23 26 30.5 0.0**
comp=Z,2.7nm,0.7s
FINES FINESS Array B 23.14 341 P **P** **23 26 32.2 +0.5**
comp=Z,1.7nm,0.7s,baz=139,slow=13,SNR=6.9
FETA Feichten 23.22 297 *e*P **P** **23 26 34.2 +1.4**
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 23.23 47 P **P** **23 26 33.8 +1.1**
comp=Z,0.5nm,0.8s,baz=232,slow=23,SNR=1.6
DAVOX Davos/Dischmat 23.78 296 P **P** **23 26 38.7 +0.3**
comp=Z,1.4nm,0.6s,baz=84,slow=9.2
AAK Ala-Archa 24.61 74 P **P** **23 26 47.5 +1.4**
comp=Z,0.3nm,0.4s,baz=270,slow=9.1,SNR=1.8
KEST Kesra 25.77 270 P **P** **23 26 57.1 +0.5**
comp=Z,4.3nm,0.8s,baz=339,slow=3.3,SNR=5.9
HFS Hagfors 26.31 328 P **P** **23 27 00.7 -0.4**
comp=Z,1.8nm,0.8s,baz=143,slow=12,SNR=3.2
MKAR Makanchi Array 29.87 64 P **P** **23 27 34.8 +1.7**
comp=Z,0.2nm,0.8s,baz=285,slow=6.4,SNR=2.5
ESDC Sonseca Array 34.64 284 P **P** **23 28 14.4 -0.6**
comp=Z,0.5nm,0.7s,baz=72,slow=9.6,SNR=1.6
YKA Yellowknife Ar 75.70 349 P **P** **23 33 09.3 -1.5**
comp=Z,0.3nm,0.8s,baz=16,slow=5.9,SNR=4.2
PDAR Pinedale Array 93.23 339 P **P** **23 34 40.6 -0.1**
comp=Z,0.2nm,0.3s,baz=77,slow=8.5,SNR=3.8

IDC 17 23:27:00.4±1.8,2°25N×125°49E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.4/48,mbtmp3.7/4,MS4.1/1,Ms1 4.1/1, ms1mx3.2/40,Error ellipse: s-maj=124.4km s-min=22.0km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.22**	**180**	P	Pn	23 31 38.5	-0.5
	0.5nm,0.4s,baz=354,slow=10.0,SNR=7.4						
WRA	**Warramunga Arr**	**23.70**	**159**	P	P	23 32 14.5	+0.3
	2.2nm,0.5s,baz=335,slow=10,SNR=39						
ASAR	**Alice Springs**	**27.03**	**163**	P	P	23 32 43.4	-1.2
	0.4nm,0.4s,baz=345,slow=7.7,SNR=6.6						
DZM	**Mont Dzumac**	**46.73**	**123**	LR	LR	23 54 25.2	
	comp=Z,178nm,18.1s,baz=80,slow=35						
MKAR	**Makanchi Array**	**58.08**	**326**	P	P	23 36 55.5	0.0
	0.4nm,0.3s,baz=122,slow=7.8,SNR=22						

*IDC **17** 23:33:48.4±1.3,36°.02N×21°.82E,h48km±13km,mb3.5/14, mb1 3.6/22,mb1mx3.5/58,mbtmp3.7/22,ML3.2/6,Error ellipse: s-maj=20.5km s-min=9.4km az=18.0*
*ATH **17** 23:33:49.1,36°.23N×21°.92E,h12km±4km,ML3.6/7,Error ellipse: s-maj=5.5km s-min=1.7km az=218.0*
*THE **17** 23:33:50.5,36°.21N×21°.99E,h15km±4km,ML3.6/5,Error ellipse: s-maj=4.5km s-min=1.1km az=253.0*
*HLW **17** 23:33:53.6,35°.80N×22°.70E,h9km±10km,Md4.3,Ml4.5*
*BEO **17** 23:34:06.6±0.9,37°.67N×21°.68E,h0km,ML3.3/5*
ISC 17 23:33:48.3±1.0,36°.20N±0°.05×21°.82E±0°.04,h40km±11km, n117,σ2°33/129,mb3.7/13,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTHR	**Kythira**	**0.96**	**86**	P	**Pn**	**23 34 06.0**	**+0.7**
KTHR				S	**Sn**	**23 34 18.9**	**+1.2**
	6µm,0.3s						
ITM	**Ithomi**	**0.98**	**5**	P	**Pn**	**23 34 07.8**	**+2.2**
ITM				AML	AML	23 34 27.8	
	comp=E,6175µm,0.4s						
ITM				AML	AML	23 34 28.2	
	comp=N,3713µm,0.7s						
ITM	**Ithomi**	**0.98**	**5**	P	**Pn**	**23 34 08.2**	**+2.6**
ITM				S	**Sn**	**23 34 22.9**	**+4.6**
	comp=N,3µm,0.4s						
KTHA	**Kythira Island**	**1.00**	**87**	P	**Pn**	**23 34 06.9**	**+1.0**
KTHA				S	**Sn**	**23 34 19.7**	**+0.8**
KTHA	**Kythira Island**	**1.00**	**87**	P	**Pn**	**23 34 06.9**	**+1.0**
KTHA				S	**Sn**	**23 34 19.7**	**+0.8**
	comp=N,8µm,0.5s						
VLI	**Velíai**	**1.03**	**60**	P	**Pn**	**23 34 07.1**	**+0.7**
VLI	**Velíai**	**1.03**	**60**	P	**Pn**	**23 34 07.3**	**+1.0**
VLI				S	**Sn**	**23 34 20.2**	**+0.6**
	comp=N,3µm,0.8s						
MNVA	**Monemvasia**	**1.09**	**63**	P	**Pn**	**23 34 08.1**	**+1.0**
MNVA				S	**Sn**	**23 34 21.5**	**+0.5**
MNVA				AML	AML	23 34 23.3	
	comp=N,3642µm,0.5s						
MNVA				AML	AML	23 34 24.1	
	comp=E,3874µm,0.6s						
ANKY	**Antikythira Is**	**1.24**	**105**	P	**Pn**	**23 34 10.6**	**+1.4**
ANKY				S	**Sn**	**23 34 26.9**	**+2.2**
ANKY				AML	AML	23 34 32.3	
	comp=N,5510µm,0.6s						
ANKY				AML	AML	23 34 32.4	
	comp=E,7143µm,0.5s						
ANKY	**Antikythira Is**	**1.24**	**105**	P	**Pn**	**23 34 10.6**	**+1.4**
ANKY				S	**Sn**	**23 34 26.1**	**+1.4**
	comp=E,3µm,0.6s						
VLX	**Vlachokerasia**	**1.25**	**21**	P	**Pn**	**23 34 11.9**	**+2.6**
VLX				AML	AML	23 34 35.0	
VLX	comp=E,4092µm,0.7s			AML	AML	23 34 35.8	
	comp=N,5368µm,0.6s						
VLX	**Vlachokerasia**	**1.25**	**21**	P	**Pn**	**23 34 12.2**	**+2.8**
AMT	**Artemida-Makis**	**1.33**	**356**	P	**Pn**	**23 34 13.9**	**+3.4**
AMT				AML	AML	23 34 42.6	
	comp=E,7245µm,0.7s						
AMT				AML	AML	23 34 43.8	
	comp=N,5843µm,0.5s						
AMT	**Artemida-Makis**	**1.33**	**356**	P	**Pn**	**23 34 13.5**	**+3.1**
KRND	**KRANIDI**	**1.59**	**42**	P	**Pn**	**23 34 15.3**	**+1.4**
KRND	**KRANIDI**	**1.59**	**42**	P	**Pn**	**23 34 15.3**	**+1.4**
LTHK	**Lithakia**	**1.70**	**333**	P	**Pn**	**23 34 18.5**	**+3.1**
DRO	**Drossia**	**1.75**	**357**	P	**Pn**	**23 34 19.8**	**+3.7**
DRO				AML	AML	23 35 01.8	
	comp=E,3719µm,0.9s						
DRO				AML	AML	23 35 03.9	
	comp=N,3322µm,0.8s						
DRO	**Drossia**	**1.75**	**357**	P	**Pn**	**23 34 19.7**	**+3.5**
EPID	**Epidavros**	**1.75**	**36**	P	**Pn**	**23 34 18.1**	**+1.9**
RLS	**Riolos of Patr**	**1.87**	**351**	P	**Pn**	**23 34 21.7**	**+3.8**
THAL	**Thalero**	**1.95**	**20**	P	**Pn**	**23 34 24.7**	**+5.8**
LTK	**Loutraki**	**2.03**	**26**	P	**Pn**	**23 34 24.7**	**+4.6**
LAKA	**Lakka**	**2.04**	**3**	P	**Pn**	**23 34 24.6**	**+4.5**
LAKA	**Lakka**	**2.04**	**3**	P	**Pn**	**23 34 24.6**	**+4.5**
TRIZ	**Trizonia**	**2.17**	**5**	P	Pn	23 34 27.3	+5.4
KALE	**Kalithea**	**2.20**	**6**	P	**Pn**	**23 34 26.0**	**+3.6**
KALE	**Kalithea**	**2.20**	**6**	P	**Pn**	**23 34 25.6**	**+3.2**
SERG	**Sergoula**	**2.21**	**5**	P	**Pn**	**23 34 27.4**	**+4.8**
EFP	**Efpalio**	**2.22**	**2**	P	**Pn**	**23 34 27.2**	**+4.6**

EFP Efpalio 2.22 2 P **Pn** **23 34 27.2 +4.6**
ANX Ano Chora 2.39 2 P Pn 23 34 30.0 +5.0
ANX AML AML 23 35 18.1
comp=E,1134µm,0.6s
ANX AML AML 23 35 19.2
comp=N,1351µm,0.9s
IDI Anoyia 2.66 109 P **Pn** **23 34 29.2 +0.5**
comp=N,1.9nm,0.3s,baz=240,slow=11,SNR=21
IDI S **Sn** **23 34 59.0 -0.7**
comp=N,14nm,0.3s,baz=280,slow=22,SNR=7.0
EVR Evrytania 2.71 360 P Pn 23 34 35.5 +6.0
IGT Igoumenitsa 3.53 341 *e*Pn **Pn** **23 34 44.1 +3.5**
IGT *e*Sn Sn 23 35 11.5 -10
FNA Florina 4.59 356 *e*Pn **Pn** **23 34 58.0 +2.8**
FNA *e*Sn Sn 23 35 35.0 -12
SRS Serrai 5.10 15 *e*Pn **Pn** **23 35 03.7 +1.5**
SRS *e*Sn Sn 23 35 49.5 -10
SLUM Salum 5.48 148 P **Pn** **23 35 08.2 +0.8**
baz=153
SLUM S Sn 23 35 59.2 -10
baz=153
SLUM AMP 23 36 00.0
baz=153
STIP Stip 5.49 3 *i* Pn **Pn** **23 35 11.2 +3.6**
VAE Valguarnera 6.08 284 P **Pn** **23 35 17.6 +2.0**
comp=N,0.3nm,0.3s,baz=168,slow=19,SNR=1.8
VAE S **Sn** **23 36 25.5 +1.5**
comp=N,0.5nm,0.3s,baz=96,slow=2.1,SNR=1.3
BOSS Bosilegrad 6.31 4 *e*Pn **Pn** **23 35 20.1 +1.4**
DRME Dracevica, Mon 6.32 342 *e*Pn **Pn** **23 35 20.1 +1.2**
VTS Vitosha 6.50 9 *e*Pn **Pn** **23 35 24.0 +2.5**
PDG Podgorica 6.53 343 *e*Pn **Pn** **23 35 22.5 +0.7**
BARS Barje 6.61 360 *e*Pn **Pn** **23 35 24.9 +2.1**
HCY Herceg Novi 6.75 339 *e*Pn **Pn** **23 35 24.7 -0.1**
TREB Trebinje 7.04 339 *e*Pn **Pn** **23 35 28.3 -0.5**
DBRK Dubrovnik 7.06 337 *e*Pn **Pn** **23 35 30.4 +1.4**
DBRK Sn **Sn** **23 36 44.8 -3.1**
ZAPS Zavoj 7.09 5 *e*Pn **Pn** **23 35 32.1 +2.6**
BRY Bratogost 7.16 340 *e*Pn **Pn** **23 35 33.5 +3.0**
SJES Sjenica 7.19 349 *e*Pn **Pn** **23 35 32.7 +1.7**
UPM Unac-Piva 7.34 343 *e*Pn **Pn** **23 35 35.1 +2.0**
STON Ston 7.38 336 *e*Pn **Pn** **23 35 32.9 -0.6**
STON Sn **Sn** **23 36 50.6 -5.2**
BOVS Bovan 7.42 359 *e*Pn **Pn** **23 35 34.9 +0.8**
IVAS Ivanjica 7.48 351 *e*Pn **Pn** **23 35 35.1 +0.3**
SWA2 7.58 155 P **Pn** **23 35 36.2 -0.1**
baz=159
SWA2 S Sn 23 36 50.9 -10
baz=159
BBLS Lazići 7.88 347 *e*Pn **Pn** **23 35 41.2 +0.9**
BBLS *e*Sn Sn 23 36 52.2 -16
BBLS Lazići 7.88 347 *e*Pn **Pn** **23 35 40.5 +0.2**
MAKA Makarska 7.98 334 *i* Pn **Pn** **23 35 42.7 +1.0**
MAKA Sn **Sn** **23 37 06.5 -4.2**
DIVS Divibare 8.01 350 *e*Pn **Pn** **23 35 42.4 +0.2**
DIVS *e*Sn Sn 23 36 55.4 -16
DIVS Divibare 8.01 350 *e*Pn **Pn** **23 35 42.3 +0.1**
TRUS Trudelj 8.09 353 *e*Pn **Pn** **23 35 43.7 +0.6**
HVAR Hvar 8.10 331 *e*Pn **Pn** **23 35 45.8 +2.4**
RICI Ricice 8.13 335 *i* Pn **Pn** **23 35 44.6 +0.9**
RICI Sn **Sn** **23 37 11.8 -2.4**
HAPS Han Pijesak,Bl 8.18 345 *e*Pn Pn 23 35 51.4 +6.9
ZIRJ Zirje 8.82 329 *e*Pn **Pn** **23 35 54.8 +1.6**
ZIRJ Sn **Sn** **23 37 25.8 -5.5**
KIJV Kijevo 8.83 334 *e*Pn **Pn** **23 35 54.4 +1.1**
MGRS Mrkonjic Grad 8.97 338 *e*Pn **Pn** **23 35 56.5 +1.3**
MORI Morici 8.97 330 *i* Pn **Pn** **23 35 56.9 +1.6**
MORI Sn **Sn** **23 37 30.4 -4.6**
FRGS Fruska Gora 9.07 351 *e*Pn **Pn** **23 35 56.1 -0.6**
FRGS Fruska Gora 9.07 351 *e*Pn **Pn** **23 35 56.3 -0.4**
BLY Banja Luka 9.24 339 *e*Pn **Pn** **23 36 00.7 +1.8**
DUGI Dugi Otok 9.35 328 *i* Pn **Pn** **23 36 02.7 +2.4**
DUGI Sn **Sn** **23 37 39.6 -4.5**
MLR Muntele Rosu 9.79 17 P **Pn** **23 36 10.0 +3.4**
comp=N,0.0nm,0.3s,baz=248,slow=16,SNR=2.2
NVLJ Novalja 9.89 330 *e*Pn **Pn** **23 36 09.0 +1.2**
NVLJ Sn **Sn** **23 37 52.6 -4.8**
BRTR Keskin Array B 9.97 66 P **Pn** **23 36 11.1 +2.0**
baz=259,slow=12,SNR=2.8
KEST Kesra 10.13 271 S **Sn** **23 38 05.0 +1.5**
comp=N,0.0nm,0.3s,baz=191,slow=18,SNR=1.8
MORH Mrgy, Hungar 10.29 348 *e*Pn **Pn** **23 36 11.3 -1.9**
GLL Jalalah 10.61 126 P **Pn** **23 36 16.3 -1.5**
baz=126
KALN Kalnik 10.71 340 *e*Pn **Pn** **23 36 19.4 +0.3**
CRES Cresnjev 10.74 335 *e*Pn **Pn** **23 36 19.8 +0.2**
CEY Cerknica 11.04 332 *e*Pn **Pn** **23 36 25.2 +1.6**
MMAI Mount Meron Ar 11.63 102 P **Pn** **23 36 28.0 -3.8**
comp=N,0.4nm,0.3s,baz=295,slow=14,SNR=3.3
MMAI S Sn 23 38 24.5 -16
comp=N,0.4nm,0.3s,baz=289,slow=14,SNR=1.7
HDK1 Dakhla 12.45 146 P **Pn** **23 36 41.7 -1.4**
baz=148
KOLS Kolonicke sedl 12.73 1 *e*PN **P** **23 36 55.7 -1.3**
KOLS *e*PDIFF 23 58 33.6
EIL Elat 12.80 117 P **Pn** **23 36 43.1 -4.6**
comp=N,0.1nm,0.3s,baz=28,slow=17,SNR=2.1
EIL S Sn 23 38 54.5 -14
comp=N,0.6nm,0.3s,baz=103,slow=21,SNR=4.1
VRAC Vranov 13.64 345 P **Pn** **23 37 01.2 +2.1**
comp=N,0.1nm,0.3s,baz=93,slow=22,SNR=1.5
DAVOX Davos/Dischmat 13.83 323 S **Sn** **23 39 31.1 -3.0**
baz=322,slow=19
GERES GERESS Array B 13.97 337 P **Pn** **23 37 04.7 +1.0**
comp=N,0.1nm,0.3s,baz=174,slow=9.9,SNR=2.3
KHC Kasperske Hory 14.26 338 *e*P P 23 37 24.2 +10
KRLC Kraliky 14.34 347 *e*P **P** **23 37 17.9 +2.9**
DPC Dobruska-Polom 14.69 346 *e*P **P** **23 37 20.9 +2.0**
OSTC Ostas 14.91 346 *e*P **P** **23 37 23.9 +2.7**
AKASG Malin Array Be 15.44 18 P **Pn** **23 37 22.0 -1.1**
comp=N,0.1nm,0.3s,baz=210,slow=9.8,SNR=1.5
KBZ Khabaz 17.79 59 P **P** **23 37 53.5 +0.4**
comp=N,0.2nm,0.3s,baz=243,slow=14,SNR=10.0
GNI Garni 18.43 71 P **P** **23 37 60.0 -0.5**
comp=N,0.2nm,0.3s,baz=218,slow=19,SNR=1.9
PABE Paberze 19.36 4 *e*P **P** **23 38 10.0 -0.3**
IIGN Ignalina 19.39 8 *e*P **P** **23 38 11.2 +0.6**
IIGN IAmb IAmb 23 38 12.5
comp=Z,3.1nm,0.7s
IDID Didziasalis 19.41 8 *e*P **P** **23 38 10.3 -0.5**
ISAL Salakas 19.59 7 *e*P **P** **23 38 12.5 -0.3**
ISAL IAmb IAmb 23 38 15.8
comp=Z,4.4nm,0.8s
ESDC Sonseca Array 20.61 287 P **P** **23 38 24.0 -0.1**
comp=Z,0.5nm,0.8s,baz=95,slow=16,SNR=1.9
VSU Vasula 22.51 7 *e*P **P** **23 38 43.2 -1.0**
AAL Aland 24.02 358 *e*P **P** **23 38 58.8 -0.3**
HFS Hagfors 24.52 350 P **P** **23 39 04.1 +0.4**
comp=Z,1.7nm,0.7s,baz=147,slow=14,SNR=3.0
FINES FINESS Array B 25.41 5 P **P** **23 39 12.3 +0.6**
comp=Z,1.1nm,0.6s,baz=155,slow=10,SNR=5.8
EKA Eskdalemuir Ar 25.64 326 P **P** **23 39 15.7 +1.7**
comp=Z,0.3nm,0.5s,baz=137,slow=8.4,SNR=1.6
NB2 NORSAR Subarra 25.76 348 P **P** **23 39 15.5 +0.5**
comp=Z,0.8nm,0.6s,baz=156,slow=9.3
NOA NORSAR Array B 25.76 348 P **P** **23 39 16.4 +1.4**
comp=Z,0.6nm,0.7s,baz=157,slow=9.1,SNR=6.5
TORD Torodi Ar. Bea 29.23 223 P **P** **23 39 44.7 -1.7**
comp=Z,0.5nm,0.9s,baz=33,slow=8.7,SNR=2.3
ARCES ARCESS Array B 33.45 2 P **P** **23 40 24.0 +1.0**
comp=Z,2.2nm,0.9s,baz=185,slow=9.6,SNR=5.2
SPITS Spitsbergen Ar 42.15 358 P **P** **23 41 38.1 +1.8**
comp=Z,5.4nm,0.8s,baz=208,slow=8.1,SNR=5.3
MKAR Makanchi Array 45.48 57 P **P** **23 42 03.0 -0.5**
comp=Z,1.1nm,0.4s,baz=269,slow=8.0,SNR=35
ZALV Zalesovo Beam 46.26 47 P **P** **23 42 08.7 -0.8**
comp=Z,0.6nm,0.4s,baz=268,slow=8.8,SNR=4.9
SONM Songino Array 60.91 50 P **P** **23 43 57.3 +0.2**
comp=Z,0.2nm,0.5s,baz=288,slow=5.9,SNR=1.9
CMAR Chiang Mai Arr 69.13 82 P **P** **23 44 50.5 -0.2**
comp=Z,0.8nm,0.3s,baz=312,slow=8.6,SNR=4.7
YKA Yellowknife Ar 75.60 341 P **P** **23 45 27.5 -1.0**
comp=Z,0.1nm,0.5s,baz=41,slow=5.8,SNR=2.4
USRK Ussuriysk Ar. 77.99 44 P **P** **23 45 42.9 +0.5**
comp=Z,0.9nm,0.6s,baz=264,slow=5.8,SNR=2.6

NNC 17 23:35:08.2±6.5,36°.91N×70°.72E,h124km±153km,mb3.0, mpv3.6,5C-3D,Error ellipse: s-maj=52.6km s-min=38.8km az=11.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.19**	**359**	||P	Pn	23 36 37.5	+0.4

4.0nm,0.4s,baz=178,slow=13,SNR=62
KK31 ⇑S Sn 23 37 48.7 +2.2
2.3nm,0.5s,baz=183,slow=23,SNR=6.0
AAK Ala-Archa 6.42 26 ⇓P Pn 23 36 39.7 -0.6
1.2nm,0.5s
AAK ⇑S Sn 23 37 52.1 -0.1
6.0nm,0.8s
TKM2 Tokmak 2 7.08 30 ⇓P Pn 23 36 49.7 +0.4
3.1nm,0.6s
TKM2 ⇑S Sn 23 38 07.5 -0.8
4.1nm,0.7s
AB31 Akbulak array 14.61 331 ⇑P Pn 23 38 29.9 +1.2
0.4nm,0.3s,baz=151,slow=13,SNR=23
AB31 ⇑S Sn 23 41 08.5 -1.7
0.3nm,0.4s

*IDC **17** 23:43:47.0±1.0,29.°55S×71.°45W,h0km,mb4.1/6, mb1 4.1/9,mb1mx3.9/45,mbtmp4.0/9,ML3.7/3,Error ellipse: s-maj=33.7km s-min=24.0km az=94.0*
*SJA **17** 23:43:50.2±0.7,29.°52S×71.°64W,h14km±5km,ML4.1, MW4.4*
*NEIC **17** 23:43:52.5±2.3,29.°54S±0.°04×71.°66W±0.°10,h41km±8km, mb4.2/6,ML4.3(GUC),Error ellipse: s-maj=12.6km s-min=5.8km az=101.0*
*GUC **17** 23:43:53.1±0.4,29.°67S×71.°51W,h50km±8km,ML4.3*
*VAO **17** 23:44:22.8±3.1,28.°45S×69.°73W,h181km±14km,mb4.0*
ISC 17 23:43:50.5±2.9,29.°52S±0.°04×71.°89W±0.°05,h32km±23km, n108,σ1§72/111,mb4.2/7,4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**1.15**	**125**	⇓*iP*	**Pn**	**23 44 09.5**	**-1.1**
GO04				*eS*	**Sn**	**23 44 22.6**	**-2.9**
GO04	**Tololo Observa**	**1.15**	**125**		**Pn**	**23 44 09.4**	**-1.1**
GO04				Sn	**Sn**	**23 44 22.5**	**-2.9**
GO04	**Tololo Observa**	**1.15**	**125**	*i* P	**Pn**	**23 44 09.6**	**-1.1**
GO04				*eS*	**Sn**	**23 44 22.8**	**-2.6**
LCO	**Las Campanas**	**1.16**	**64**	Pn	**Pn**	**23 44 09.7**	**-1.0**
LCO				Sn	**Sn**	**23 44 22.8**	**-2.7**
AC04	**Llanos de Chal**	**1.49**	**29**	*eP*	**Pn**	**23 44 15.5**	**+0.4**
AC04				IAML		23 44 40.1	
	comp=E,3μm,0.4s						
AC04	**Llanos de Chal**	**1.49**	**29**	Pn	**Pn**	**23 44 15.3**	**+0.2**
AC05	**El Transito**	**1.57**	**65**	⇓*iP*	**Pn**	**23 44 15.9**	**-0.4**
AC05				*eS*	**Sn**	**23 44 33.6**	**-2.0**
AC05				IAML		23 44 36.4	
	comp=N,6μm,0.3s						
AC05	**El Transito**	**1.57**	**65**	Pn	**Pn**	**23 44 15.9**	**-0.4**
CO01	**Juntas del Tor**	**1.63**	**107**	⇓*iP*	**Pn**	**23 44 16.6**	**-0.6**
CO01				*eS*	**Sn**	**23 44 34.5**	**-2.8**
CO01				IAML		23 44 36.2	
	comp=N,3μm,0.4s						
CO01	**Juntas del Tor**	**1.63**	**107**		**Pn**	**23 44 16.6**	**-0.6**
CO03	**El Pedregal**	**1.68**	**142**	⇓*iP*	**Pn**	**23 44 17.4**	**-0.4**
CO03				*eS*	**Sn**	**23 44 36.2**	**-2.1**
CO03				IAML		23 44 43.3	
	comp=E,4μm,0.3s						
CO03	**El Pedregal**	**1.68**	**142**	Pn	**Pn**	**23 44 17.4**	**-0.4**
CO02	**Combarbal**	**1.85**	**156**	*eP*	**Pn**	**23 44 20.8**	**+0.7**
CO02				IAML		23 44 48.6	
	comp=E,9μm,0.2s						
CO02	**Combarbal**	**1.85**	**156**		**Pn**	**23 44 20.7**	**+0.6**
AROD	**Rodeo**	**2.20**	**108**	*i* P	**Pn**	**23 44 26.3**	**+1.2**
AROD				*i* S	**Sn**	**23 44 52.0**	**+0.7**
GO03	**Copiap**	**2.41**	**38**	*eP*	**Pn**	**23 44 28.0**	**+0.2**
GO03				IAML		23 45 06.8	
	comp=N,2μm,0.7s						
GO03	**Copiap**	**2.41**	**38**	Pn	**Pn**	**23 44 28.0**	**+0.2**
GO03	**Copiap**	**2.41**	**38**	*i* P	**Pn**	**23 44 27.9**	**+0.2**
ACDV	**Cuesta del Vie**	**2.49**	**106**	*i* P	**Pn**	**23 44 29.9**	**+0.9**
ACDV				IAML		23 45 04.3	
	comp=Z,821nm,0.6s						
ACCO	**Cerro Coronel**	**2.67**	**114**	*eP*	**Pn**	**23 44 33.5**	**+1.9**
ACCO				*eS*	**Sn**	**23 45 05.5**	**+2.5**
ACCO				IAML		23 45 15.5	
	comp=Z,712nm,0.6s						
AGUA	**GUANDACOL**	**2.96**	**90**	*i* P	**Pn**	**23 44 38.2**	**+2.8**
AGUA				IAML		23 45 31.0	
	comp=Z,477nm,1.7s						
RTLS	**Leoncito**	**3.19**	**136**	*i* P	**Pn**	**23 44 41.5**	**+2.8**
RTLS				IAML		23 45 34.8	
	comp=Z,249nm,1.0s						
VCA	**Vinchina**	**3.32**	**77**	*i* P	**Pn**	**23 44 43.7**	**+3.3**
VCA				IAML		23 45 36.1	
	comp=Z,880nm,0.9s						
ZON	**Zonda**	**3.43**	**127**	Pn	**Pn**	**23 44 43.4**	**+1.6**
ZON	**Zonda**	**3.43**	**127**	*i* P	**Pn**	**23 44 43.3**	**+1.6**
ZON				IAML		23 45 47.8	
	comp=Z,319nm,1.1s						
VA03	**San Esteban**	**3.43**	**161**	*eP*	**Pn**	**23 44 43.8**	**+1.9**
VA03				IAML		23 45 37.3	
	comp=E,1μm,0.3s						
VA03	**San Esteban**	**3.43**	**161**	Pn	**Pn**	**23 44 43.8**	**+1.9**
AUSP	**Uspallata**	**3.45**	**142**	*i* P	**Pn**	**23 44 45.1**	**+2.8**
RTLL	**Cerro Villicun**	**3.46**	**122**	*i* P	**Pn**	**23 44 44.0**	**+1.8**
RTLL				IAML		23 45 37.9	
	comp=Z,682nm,1.5s						
ROCH	**El Roble**	**3.52**	**168**	*eP*	**Pn**	**23 44 44.2**	**+1.0**
ROCH				IAML		23 45 46.3	
	comp=E,514nm,0.5s						
AC01	**Pan de Azucar**	**3.55**	**19**	*eP*	**Pn**	**23 44 42.8**	**-0.6**
AC01	**Pan de Azucar**	**3.55**	**19**	Pn	**Pn**	**23 44 42.6**	**-0.8**
AC02	**Maricunga**	**3.62**	**43**	*eP*	**Pn**	**23 44 45.5**	**+0.7**
AC02				IAML		23 45 46.0	
	comp=E,1μm,0.5s						
AC02	**Maricunga**	**3.62**	**43**	Pn	**Pn**	**23 44 45.2**	**+0.5**
RTCV	**Cerro Valdivia**	**3.71**	**130**	*i* P	**Pn**	**23 44 47.8**	**+2.1**
RTCV				IAML		23 45 46.2	
	comp=Z,455nm,1.3s						
PEL	**Peldehue**	**3.76**	**164**	*eP*	**Pn**	**23 44 47.8**	**+1.4**
PEL				IAML		23 45 55.9	
	comp=N,346nm,0.4s						
PEL	**Peldehue**	**3.76**	**164**	Pn	**Pn**	**23 44 48.1**	**+1.8**
PEL	**Peldehue**	**3.76**	**164**	*i* P	**Pn**	**23 44 47.5**	**+1.2**
PEL				*eS*	**Sn**	**23 45 28.6**	**-1.0**
MT02	**Curacav**	**3.79**	**170**		**Pn**	**23 44 48.2**	**+1.5**
MT05	**Renca**	**3.99**	**166**	*eP*	**Pn**	**23 44 50.9**	**+1.4**
MT05	**Renca**	**3.99**	**166**	Pn	**Pn**	**23 44 51.3**	**+1.8**
ACLC	**CERRO LA CRUZ**	**4.31**	**90**	*i* P	**Pn**	**23 44 54.5**	**+0.5**
ACLC				IAML		23 46 03.9	
	comp=Z,601nm,1.6s						
MT09	**Talagante**	**4.32**	**170**	*eP*	**Pn**	**23 44 55.3**	**+1.3**
GO02	**Mina Guanaco**	**4.80**	**26**	*eP*	**Pn**	**23 45 00.5**	**-0.3**
GO02	**Mina Guanaco**	**4.80**	**26**		**Pn**	**23 45 00.7**	**-0.2**
PB14	**IPOC Station P**	**5.05**	**16**		**Pn**	**23 45 02.4**	**-1.9**
BO02	**Sierra Bellavi**	**5.34**	**170**	Pn	**Pn**	**23 45 09.1**	**+0.9**
PB15	**IPOC Station P**	**6.65**	**20**		**Pn**	**23 45 25.3**	**-0.9**
BI02	**San Fabin de**	**7.15**	**176**		**Pn**	**23 45 33.1**	**+0.2**
H03N1	**Juan Fernandez**	**7.16**	**235**	Pn	**Pn**	**23 45 34.4**	**+1.7**
H03N1				Sn	**Sn**	**23 46 46.3**	**-6.5**
H03N1				T	T	23 53 15.2	
	baz=64,slow=71,SNR=4057						
H03N2	**Juan Fernandez**	**7.17**	**235**	Pn	**Pn**	**23 45 34.9**	**+2.0**
H03N2				Sn	Sn	23 46 46.3	-6.8
H03N2				T	T	23 53 16.6	
	baz=64,slow=71,SNR=4049						
H03N3	**Juan Fernandez**	**7.17**	**235**	Pn	**Pn**	**23 45 34.7**	**+1.7**
H03N3				Sn	Sn	23 46 46.0	-7.2
H03N3				T	T	23 53 15.2	
	baz=64,slow=71,SNR=3340						
H03S3	**Juan Fernandez**	**7.36**	**233**	Pn	**Pn**	**23 45 35.6**	**+0.1**
H03S3				Sn	Sn	23 46 49.3	-8.5
H03S3				T	T	23 53 29.6	
	baz=60,slow=74						
BI03	**Tigo**	**7.37**	**187**	Pn	**Pn**	**23 45 35.0**	**-0.8**
H03S1	**Juan Fernandez**	**7.37**	**232**	Pn	**Pn**	**23 45 35.4**	**-0.2**
H03S1				Sn	Sn	23 46 49.1	-8.9
H03S1				T	T	23 53 32.3	
	baz=60,slow=74						
H03S2	**Juan Fernandez**	**7.38**	**233**	Pn	**Pn**	**23 45 35.6**	**-0.2**
H03S2				Sn	Sn	23 46 49.3	-9.0
H03S2				T	T	23 53 27.4	
	baz=60,slow=74						
LVC	**Limon Verde**	**7.38**	**22**	Pn	**Pn**	**23 45 34.1**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=166,slow=8.0,SNR=15						
LVC				Sn	**Sn**	**23 46 56.1**	**-3.1**
	comp=Z,3.3nm,0.3s,baz=170,slow=15,SNR=3.6						
LVC	**Limon Verde**	**7.38**	**22**		**Pn**	**23 45 34.9**	**-1.6**
LVC	**Limon Verde**	**7.38**	**22**	*eP*	Pb	23 45 47.6	-10
PB07	**IPOC Station P**	**7.97**	**14**	Pn	**Pn**	**23 45 47.5**	**+3.2**
PLCA	**Paso Flores**	**11.24**	**175**	Pn	**Pn**	**23 46 29.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=332,slow=15,SNR=1.5						
PLCA	**Paso Flores**	**11.24**	**175**	Pn	**Pn**	**23 46 30.9**	**+1.9**
LL01	**San Ignacio de**	**12.84**	**182**	Pn	**Pn**	**23 46 50.2**	**-0.5**
CPUP	**Villa Florida**	**13.26**	**80**	Pn	**Pn**	**23 46 55.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=184,slow=5.1,SNR=1.8						
CPUP	**Villa Florida**	**13.26**	**80**	Pn	**Pn**	**23 46 58.7**	**+2.1**
LPAZ	**La Paz**	**13.61**	**16**	Pn	**Pn**	**23 47 04.9**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=188,slow=7.7,SNR=5.1						
SIV	**San Ignacio**	**16.74**	**39**	Pn	**Pn**	**23 47 40.5**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=232,slow=10,SNR=23						
PTLB	**Pontes e Lacer**	**18.28**	**43**	*eP*	**Pn**	**23 48 01.8**	**+0.1**
PCMB	**Pacaembu**	**20.19**	**72**	*eP*	**P**	**23 48 21.5**	**-1.1**
ETMB	**Extrema**	**20.31**	**16**	*eP*	Pn	23 48 28.4	+2.4
FRTB	**Fartura**	**20.90**	**78**	*eP*	**P**	**23 48 29.2**	**-1.2**
CZSB	**Cruzeiro do Su**	**21.69**	**358**	*eP*	P	23 48 51.1	+12
ITRB	**Iturama**	**21.85**	**68**	*eP*	**P**	**23 48 38.1**	**-2.4**
SAML	**Samuel**	**22.03**	**24**	P	**P**	**23 48 45.3**	**+2.8**
SAML	**Samuel**	**22.03**	**24**	*eP*	**P**	**23 48 44.8**	**+2.4**
SPB	**Sao Paulo**	**22.64**	**81**	*eP*	**P**	**23 48 48.8**	**-0.2**
BB19B	**Bebedouro**	**22.71**	**74**	*eP*	**P**	**23 48 46.8**	**-3.0**
ARAG	**Araguaiana, MT**	**23.02**	**58**	*eP*	**P**	**23 48 50.7**	**-2.3**
VAO	**Valinhos**	**23.25**	**80**	*eP*	**P**	**23 48 54.2**	**-1.2**
IPMB	**Ipameri, GO**	**24.48**	**67**	*eP*	**P**	**23 49 05.9**	**-1.0**
SNDB	**Serra Nova Dou**	**25.92**	**52**	*eP*	**P**	**23 49 19.0**	**-0.9**
BDFB	**Brasilia**	**25.94**	**63**	P	**P**	**23 49 18.8**	**-1.5**
	comp=Z,4.4nm,0.6s,baz=232,slow=8.8,SNR=9.4						
BDFB	**Brasília**	**25.94**	**63**	P	**P**	**23 49 18.9**	**-1.4**
BDFB				IAmb	IAmb	23 49 20.7	
	comp=Z,7.1nm,1.0s						
PEXB	**Peixe**	**27.95**	**57**	*eP*	**P**	**23 49 37.4**	**-0.8**
JANB	**Januaria**	**29.20**	**66**	*eP*	**P**	**23 49 47.6**	**-1.7**
NBPN	**Ponto Novo - B**	**34.89**	**64**	*eP*	**P**	**23 50 37.7**	**-1.6**
SNAA	**Sanae**	**55.70**	**159**	P	**P**	**23 53 23.3**	**-0.1**
SNAA	**Sanae**	**55.70**	**159**	P	**P**	**23 53 23.2**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=286,slow=9.5,SNR=7.0						
SNAA	**Sanae**	**55.70**	**159**	P	**P**	**23 53 23.5**	**+0.1**
DBIC	**Dimbokro**	**73.67**	**72**	P	**P**	**23 55 21.2**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=238,slow=5.9,SNR=6.0						
DBIC	**Dimbokro**	**73.67**	**72**	P	**P**	**23 55 21.4**	**0.0**
DBIC				IAmb	IAmb	23 55 22.0	
	comp=Z,3.3nm,0.7s						
PDAR	**Pinedale Array**	**79.84**	**333**	P	**P**	**23 55 58.5**	**+2.6**
	comp=Z,0.5nm,0.6s,baz=126,slow=4.6,SNR=1.3						
ELK	**Elko**	**80.63**	**328**	P	**P**	**23 56 03.2**	**+3.1**
	comp=Z,1.0nm,0.7s,baz=56,slow=2.9,SNR=2.7						
TOA0	**Torodi Ar. Sit**	**82.58**	**70**	P	**P**	**23 56 10.6**	**-0.2**
TOA0				IAmb	IAmb	23 56 29.2	
	comp=Z,2.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.58**	**70**	P	**P**	**23 56 10.3**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=263,slow=4.1,SNR=10.0						
TORD	**Torodi Ar. Bea**	**82.58**	**70**	P	**P**	**23 56 10.9**	**+0.1**
TORD				IAmb	IAmb	23 56 11.7	
	comp=Z,2.7nm,1.0s						
MODS	**Modra-Piesok**	**110.91**	**46**	*e*PDIFF	**Pdif**	**23 58 19.8**	**-0.9**
VYHS	**Vyhne**	**111.92**	**46**	*e*PDIFF	**Pdif**	**23 58 24.9**	**-0.3**
H11S2	**WAKE ISLAND Hyl**	**25.84**	**272**	T	T	02 21 47.4	
	baz=115,slow=74,SNR=80						
H11S1	**WAKE ISLAND Hyl**	**25.85**	**272**	T	T	02 21 43.2	
	baz=115,slow=74,SNR=73						
H11S3	**WAKE ISLAND Hyl**	**25.86**	**272**	T	T	02 21 48.6	
	baz=115,slow=74,SNR=52						
H11N3	**WAKE ISLAND Hyl**	**26.14**	**274**	T	T	02 22 08.4	
	baz=109,slow=74						
H11N1	**WAKE ISLAND Hyl**	**26.15**	**274**	T	T	02 22 10.1	
	baz=109						
H11N2	**WAKE ISLAND Hyl**	**26.16**	**274**	T	T	02 22 12.2	
	baz=109,slow=74						
ZALV	**Zalesovo Beam**	**150.30**	**28**	PKPbc	**PKiKP**	**00 03 39.5**	**+0.7**
	comp=Z,4.1nm,0.6s,baz=304,slow=3.3,SNR=22						
ZALV	**Zalesovo Beam**	**150.30**	**28**		**PKiKP**	**00 03 39.6**	**+0.8**
MKAR	**Makanchi Array**	**153.54**	**42**	PKPbc	**PKiKP**	**00 03 46.6**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=314,slow=1.8,SNR=5.5						
MKAR	**Makanchi Array**	**153.54**	**42**		**PKiKP**	**00 03 46.7**	**+0.9**

*ANF **17** 23:45:32.3±0.3,36.°59N×97.°62W,h1km±2km,ML5.1/27, Error ellipse: s-maj=1.4km s-min=1.3km az=125.0*
*NEIC **17** 23:45:32.5,36.°60N×97.°62W,h4km,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=1.56; Mθθ1.24; Mφφ0.32; Mrθ0.10; Mrφ-7.53; Mθφ-0.82; Fault plane solution: M₀7.71000×10¹⁴ NP1:φ=358.09000°, δ88.47000°, λ=-6.70000°. NP2:φ=88.27000°, δ83.30000°, λ=-178.46000°. Principal axes: T 8.3687, Plg4.0000°, Azm43.0000°; N -1.5458, Plg83.0000°, Azm165.0000°; P -6.8229, Plg6.0000°, Azm313.0000°;*
*TUL **17** 23:45:32.5±1.6,36.°600N±0.°010×97.°622W±0.°009, h2km±6km,ML3.9,mb3.9/5(NEIC),mb_Lg4.2/149(NEIC), Mwr3.9/17(NEIC) Error ellipse: s-maj=1.7km s-min=0.4km az=146.0*
*NEIC **17** 23:45:32.7±1.5,36.°59N±0.°01×97.°611W±0.°009,h5km±7km, Error ellipse: s-maj=1.8km s-min=0.9km az=160.0*
*IDC **17** 23:45:32.3±0.8,36.°68N×97.°72W,h0km,mb3.7/4, mb1 3.9/12,mb1mx3.6/52,mbtmp3.6/12,ML3.5/8,Error ellipse: s-maj=12.0km s-min=10.0km az=167.0*
ISC 17 23:45:32.3±1.1,36.°61N±0.°02×97.°62W±0.°02,h5km±8km, n225,σ1§01/227,mb3.8/6,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.31**	**251**		**Pg**	**23 45 38.8**	**+0.4**
CROK				Sg	**Sg**	**23 45 43.2**	**+0.7**
GC02	**Grant County #**	**0.31**	**322**	Pg	**Pg**	**23 45 38.9**	**+0.4**
GC02				Sg	**Sg**	**23 45 43.8**	**+1.2**
KAN13	**South Haven SW**	**0.42**	**15**	Pg	**Pg**	**23 45 41.3**	**+0.8**
KAN13				Sg	**Sg**	**23 45 47.4**	**+1.3**
KAN14	**Manchester OK**	**0.45**	**322**	Pg	**Pg**	**23 45 41.4**	**+0.4**
KAN14				Sg	**Sb**	**23 45 48.0**	**-1.8**
OK032	**Salt Plains WL**	**0.52**	**293**		**Pg**	**23 45 42.6**	**+0.3**
KAN05	**Bluff City Nor**	**0.54**	**338**	Pg	**Pg**	**23 45 43.4**	**+0.6**
KAN01	**Argonia South**	**0.56**	**348**	Pg	**Pg**	**23 45 43.8**	**+0.7**
KAN01				Sg	**Sb**	**23 45 51.6**	**-1.3**
KAN10	**Anthony SW Sta**	**0.64**	**324**		**Pg**	**23 45 45.2**	**+0.5**
KAN10				Sg	**Sb**	**23 45 54.1**	**-1.3**
KAN08	**Anthony NE Sta**	**0.68**	**336**	Pg	**Pg**	**23 45 46.0**	**+0.5**
KAN08				Sg	**Sb**	**23 45 55.5**	**-1.0**
KAN12	**Harper NE Stat**	**0.76**	**336**		**Pg**	**23 45 47.2**	**+0.4**
KAN12				Sg	**Sb**	**23 45 57.7**	**-0.9**
OK029	**Liberty Lake**	**0.82**	**171**		**Pg**	**23 45 48.1**	**+0.1**
OK029				Sg	**Sg**	**23 45 59.1**	**+0.5**
QUOK	**Quay**	**0.85**	**120**		**Pb**	**23 45 48.9**	**-0.8**
QUOK					**Sg**	**23 46 00.1**	**+0.4**
OK031	**S. Brethren Rd**	**0.91**	**136**		**Pb**	**23 45 49.8**	**-0.7**
OK031				Sg	**Sb**	**23 46 01.7**	**-1.1**
T35A	**Sooner Cattle**	**0.94**	**70**		**Pb**	**23 45 50.4**	**-0.7**
T35A				Sg	**Sb**	**23 46 03.3**	**-0.6**
T35B	**Sooner Cattle**	**0.94**	**70**	P	**Pb**	**23 45 50.4**	**-0.7**
	baz=251,SNR=541						
T35B				S	**Sb**	**23 46 03.4**	**-0.5**
	baz=251						
T35B	**Sooner Cattle**	**0.94**	**70**	P		23 45 50.4	
	baz=251,SNR=541						
T35B				S		23 46 03.4	
	baz=251						
BCOK	**Bluff Creek, N**	**0.95**	**180**		**Pb**	**23 45 50.3**	**-0.9**
BCOK				Sg	**Sb**	**23 46 03.2**	**-0.9**
OK030	**Cody Creek RV**	**0.95**	**135**		**Pb**	**23 45 50.5**	**-0.9**
OK030				IAmb_Lg		23 46 04.1	
	comp=Z,982nm,0.7s						
OK009	**Oakdale Elemen**	**1.03**	**171**		**Pb**	**23 45 52.2**	**-0.5**
OK025	**Westminster Rd**	**1.05**	**167**		**Pb**	**23 45 52.4**	**-0.6**
U32A	**Winter Ranch,**	**1.14**	**259**		**Pb**	**23 45 53.7**	**-0.8**
U32A	**Winter Ranch,**	**1.14**	**259**	P	**Pb**	**23 45 53.6**	**-0.9**
	baz=78						
U32A				S	**Sb**	**23 46 09.1**	**-0.5**
	baz=78						
U32A	**Winter Ranch,**	**1.14**	**259**	P		23 45 53.6	
	baz=78						
U32A				S		23 46 09.1	
	baz=78						
OKCFA	**Oklahoma City**	**1.20**	**173**		**Pn**	**23 45 54.8**	**-0.9**
OKCFA	**Oklahoma City**	**1.20**	**173**	P	**Pn**	**23 45 54.9**	**-0.8**
	baz=353,SNR=41						
OKCFA				S	**Sb**	**23 46 11.6**	**+0.4**
	baz=353						
OKCFA	**Oklahoma City**	**1.20**	**173**	P		23 45 54.9	
	baz=353,SNR=41						
OKCFA				S		23 46 11.6	
	baz=353						
OKCSW	**OKLAHOMA CITY**	**1.21**	**173**		**Pn**	**23 45 55.1**	**-0.7**
FNO	**Franklin**	**1.36**	**172**		**Pn**	**23 45 58.2**	**+0.3**
TUL1	**Leonard**	**1.63**	**115**	P	**Pn**	**23 46 02.1**	**+0.4**
	baz=296,SNR=304						
TUL1				S	**Sn**	**23 46 24.2**	**+1.2**
	baz=296						
TUL1	**Leonard**	**1.63**	**115**	P		23 46 02.1	
	baz=296,SNR=561						
TUL1				S		23 46 24.0	
	baz=296						
TUL1	**Leonard**	**1.63**	**115**	P		23 46 02.1	
	baz=296,SNR=304						
TUL1				S		23 46 24.2	
	baz=296						
R32A	**Long Quarter,**	**2.01**	**335**		**Pb**	**23 46 08.2**	**-1.2**
R32A				IAmb_Lg		23 46 37.8	
	comp=Z,1μm,0.9s						
R32A	**Long Quarter,**	**2.01**	**335**	P	**Pb**	**23 46 08.0**	**-1.4**
	baz=154,SNR=167						
R32A				S	**Sb**	**23 46 34.6**	**-0.1**
	baz=154						
R32A	**Long Quarter,**	**2.01**	**335**	P		23 46 08.0	
	baz=154,SNR=167						
R32A				S		23 46 34.6	
	baz=154						
WMOK	**Wichita Mounta**	**2.09**	**207**	Pn	**Pn**	**23 46 08.4**	**+0.4**
WMOK	**Wichita Mounta**	**2.09**	**207**	IAmb_Lg		23 46 40.2	
	comp=Z,1μm,0.9s						
WMOK	**Wichita Mounta**	**2.09**	**207**	P	**Pn**	**23 46 08.5**	**+0.5**
	baz=26,SNR=722						
WMOK				S	**Sn**	**23 46 36.1**	**+1.7**
	baz=26						
WMOK	**Wichita Mounta**	**2.09**	**207**	P		23 46 08.6	
	baz=26,SNR=607						
WMOK				S		23 46 35.4	
	baz=26						
WMOK	**Wichita Mounta**	**2.09**	**207**	P		23 46 08.5	
	baz=26,SNR=722						
WMOK				S		23 46 36.1	
	baz=26						
U38A	**Gravette**	**2.61**	**93**		**Pn**	**23 46 16.2**	**+1.1**
U38A				IAmb_Lg		23 46 54.3	
	comp=Z,818nm,0.7s						
U38A	**Gravette**	**2.61**	**93**	P	**Pn**	**23 46 16.2**	**+1.1**
	baz=274,SNR=140						
U38A	**Gravette**	**2.61**	**93**	P		23 46 16.2	
	baz=274,SNR=140						
KSU1	**Kansas State U**	**2.62**	**17**		**Pn**	**23 46 16.4**	**+1.1**
KSU1	**Kansas State U**	**2.62**	**17**	P	**Pn**	**23 46 16.4**	**+1.1**
	baz=198,SNR=91						
KSU1	**Kansas State U**	**2.62**	**17**	P		23 46 16.3	
	baz=198,SNR=271						
KSU1				Sb		23 46 53.6	
	baz=198						
KSU1	**Kansas State U**	**2.62**	**17**	P		23 46 16.4	
	baz=198,SNR=91						
X37A	**Clayton**	**2.72**	**137**	P		23 46 17.5	
	baz=318,SNR=74						
X37A	**Clayton**	**2.72**	**137**		**Pn**	**23 46 17.6**	**+0.9**
X37A				IAmb_Lg		23 47 03.7	
	comp=Z,889nm,0.8s						
X37A	**Clayton**	**2.72**	**137**	P	**Pn**	**23 46 17.5**	**+0.8**
	baz=318,SNR=74						
CBKS	**Cedar Bluff**	**2.77**	**323**	Pn	**Pn**	**23 46 18.5**	**+1.0**
CBKS				IAmb_Lg		23 47 07.7	
	comp=Z,532nm,1.1s						
CBKS	**Cedar Bluff**	**2.77**	**323**	P	**Pn**	**23 46 18.3**	**+0.9**
	baz=142,SNR=22						
CBKS	**Cedar Bluff**	**2.77**	**323**	P		23 46 17.7	
	baz=142,SNR=58						
CBKS				Sb		23 46 58.9	
	baz=142						
CBKS	**Cedar Bluff**	**2.77**	**323**	P		23 46 18.3	
	baz=142,SNR=22						
HHAR	**Hobbs**	**2.98**	**95**		**Pn**	**23 46 21.1**	**+0.8**
HHAR				IAmb_Lg		23 47 10.5	
	comp=Z,503nm,0.8s						
HHAR	**Hobbs**	**2.98**	**95**	P	**Pn**	**23 46 21.5**	**+1.2**
	baz=277,SNR=20						
HHAR	**Hobbs**	**2.98**	**95**	P		23 46 21.5	
	baz=277,SNR=20						
Z35A	**Perchaven, San**	**3.28**	**175**	P		23 46 24.8	
	baz=355						
Z35A				S		23 47 05.3	
	baz=355						
Z35A	**Perchaven, San**	**3.28**	**175**		**Pn**	**23 46 25.3**	**+0.9**
Z35A				IAmb_Lg		23 47 23.5	
	comp=Z,412nm,1.1s						
Z35A	**Perchaven, San**	**3.28**	**175**	P	**Pn**	**23 46 24.8**	**+0.4**
	baz=355						
Z35A				S	**Sn**	**23 47 05.3**	**+1.5**
	baz=355						
W39A	**Magazine**	**3.42**	**113**		**Pn**	**23 46 26.4**	**+0.2**
W39A				IAmb_Lg		23 47 28.8	
	comp=Z,700nm,0.8s						
W39A	**Magazine**	**3.42**	**113**	P	**Pn**	**23 46 26.7**	**+0.5**
	baz=295,SNR=51						
W39A				S	**Sn**	**23 47 08.2**	**+1.1**
	baz=295						
W39A	**Magazine**	**3.42**	**113**	P		23 46 26.3	
	baz=295						
W39A				Sb		23 47 18.0	
	baz=295						
W39A	**Magazine**	**

ABTX Abilene, Hawle 4.31 203 P 23 46 38.5
baz=22
ABTX S 23 47 30.2
baz=22
ABTX Abilene, Hawle 4.31 203 P 23 46 38.6
baz=22
MGMO Mountain Grove 4.32 81 Pn **23 46 39.8 +1.1**
MGMO IAmb_Lg 23 47 56.0
comp=Z,1µm,0.7s
P38A Dawn 4.41 46 Pn **23 46 40.5 +0.6**
P38A IAmb_Lg 23 47 53.9
comp=Z,920nm,0.7s
X40A Basin Creek Fa 4.43 117 Pn **23 46 41.0 +0.8**
X40A IAmb_Lg 23 48 03.3
comp=Z,482nm,0.8s
X40A Basin Creek Fa 4.43 117 P Pn **23 46 40.8 +0.6**
baz=300,SNR=18
X40A Basin Creek Fa 4.43 117 P 23 46 40.5
baz=300
X40A S 23 47 33.1
baz=300
X40A Basin Creek Fa 4.43 117 P 23 46 40.8
baz=300,SNR=18
X40A P 23 46 40.8
baz=300,SNR=18
FCAR Ozark Folk Cen 4.50 98 Pn Pn **23 46 41.9 +0.8**
FCAR IAmb_Lg 23 47 59.7
comp=Z,302nm,0.8s
WHAR Wooly Hollow 4.52 105 Pn Pn **23 46 41.0 -0.3**
WHAR IAmb_Lg 23 47 55.5
comp=Z,714nm,1.1s
N35A Tabor 4.52 19 Pn **23 46 42.3 +0.9**
N35A Tabor 4.52 19 P Pn **23 46 42.2 +0.9**
baz=201,SNR=23
N35A Tabor 4.52 19 P 23 46 42.2
baz=201,SNR=23
R40A Maddies Statio 4.58 67 Pn **23 46 42.9 +0.7**
R40A IAmb_Lg 23 48 01.6
comp=Z,664nm,0.8s
R40A Maddies Statio 4.58 67 P Pn **23 46 42.9 +0.7**
baz=250,SNR=48
R40A Maddies Statio 4.58 67 P 23 46 42.9
baz=250,SNR=48
W41B Gary Mavity, V 4.59 107 P Pn **23 46 42.5 +0.2**
baz=290
W41B Gary Mavity, V 4.59 107 P 23 46 42.5
baz=290
W41B S 23 47 35.2
baz=290
W41B Gary Mavity, V 4.59 107 P 23 46 42.5
baz=290
WHTX Lake Whitney, 4.60 178 P 23 46 42.9
baz=358
WHTX S 23 47 35.6
baz=358
WHTX Lake Whitney, 4.60 178 P 23 46 43.2
baz=358,SNR=20
WHTX Lake Whitney, 4.61 178 Pn **23 46 43.1 +0.6**
WHTX Lake Whitney, 4.61 178 P Pn **23 46 43.2 +0.6**
baz=358,SNR=20
KSCO Kaye Shedlock' 4.64 303 Pn **23 46 44.2 +1.0**
KSCO IAmb_Lg 23 48 12.5
comp=Z,288nm,1.0s
KSCO Kaye Shedlock' 4.64 303 P 23 46 43.5
baz=120
KSCO S 23 47 37.9
baz=120
WLAR White Oak Lake 4.70 127 Pn Pn **23 46 44.5 +0.7**
WLAR IAmb_Lg 23 48 11.9
comp=Z,546nm,1.2s
BGNE Belgrade 4.81 355 Pn Pn **23 46 46.0 +0.5**
BGNE IAmb_Lg 23 48 13.9
comp=Z,866nm,0.8s
BGNE Belgrade 4.81 355 P Pn **23 46 46.1 +0.7**
baz=175,SNR=32
BGNE Belgrade 4.81 355 P 23 46 46.1
baz=175,SNR=20
BGNE S 23 47 41.4
baz=175
BGNE Belgrade 4.81 355 P 23 46 46.1
baz=175,SNR=32
237A Washetta, Mont 4.83 161 Pn Pn **23 46 45.7 0.0**
237A IAmb_Lg 23 48 18.6
comp=Z,471nm,1.1s
237A Washetta, Mont 4.83 161 P Pn **23 46 45.9 +0.3**
baz=342,SNR=9.0
237A Washetta, Mont 4.83 161 P 23 46 45.9
baz=342,SNR=9.0
MSTX Muleshoe 4.97 240 Pn **23 46 48.0 +0.3**
MSTX Muleshoe 4.97 240 P 23 46 47.8
baz=56
MSTX S 23 47 44.9
baz=56
Z41A Richland Creek 5.17 129 P 23 46 50.1
baz=312
Z41A S 23 47 49.0
baz=312
LCAR Lake Charles 5.25 94 Pn **23 46 51.6 +0.3**
LCAR IAmb_Lg 23 48 21.0
comp=Z,567nm,0.8s
T42A Van Buren 5.25 83 Pn **23 46 52.4 +1.0**
T42A IAmb_Lg 23 48 24.1
comp=Z,775nm,1.0s
T42A Van Buren 5.25 83 P Pn **23 46 51.9 +0.5**
baz=267,SNR=34
T42A Van Buren 5.25 83 P 23 46 51.9
baz=267,SNR=34
P40A Paris 5.28 55 Pn **23 46 52.8 +1.0**
P40A Paris 5.28 55 P Pn **23 46 52.7 +0.9**
baz=238,SNR=6.3
P40A Paris 5.28 55 P 23 46 52.7
baz=238,SNR=6.3
CCM Cathedral Cave 5.28 72 Pn **23 46 52.4 +0.6**
CCM Cathedral Cave 5.28 72 P Pn **23 46 52.3 +0.4**
baz=256,SNR=16
CCM Cathedral Cave 5.28 72 P 23 46 52.3
baz=256
CCM Cathedral Cave 5.28 72 P 23 46 52.3
baz=256,SNR=16
N38A Joes South For 5.41 38 Pn **23 46 53.6 0.0**
N38A IAmb_Lg 23 48 38.8
comp=Z,859nm,0.9s
N38A Joes South For 5.41 38 P Pn **23 46 54.7 +1.1**
baz=221,SNR=23
N38A Joes South For 5.41 38 P 23 46 54.7
baz=221,SNR=23
NATX Nacogdoches 5.42 152 IAmb_Lg 23 48 33.4
comp=Z,306nm,0.8s
L34A Svendsen Farm, 5.44 10 Pn Pn **23 46 54.4 +0.4**
T25A Trinidad 5.47 278 Pn **23 46 55.3 +0.6**
T25A IAmb_Lg 23 48 29.8
comp=Z,399nm,1.0s
T25A Trinidad 5.47 278 P 23 46 55.2
baz=94,SNR=25
CCAR Cane Creek 5.48 118 Pn Pn **23 46 55.2 +0.6**
CCAR IAmb_Lg 23 48 35.9
comp=Z,239nm,0.8s
OGNE Ogallala 5.54 323 Pn Pn **23 46 57.3 +1.8**
OGNE IAmb_Lg 23 48 38.7
comp=Z,548nm,0.8s
OGNE Ogallala 5.54 323 P 23 46 56.0
baz=140
PBMO Poplar Bluff 5.78 86 Pn Pn **23 46 59.5 +0.8**
PBMO IAmb_Lg 23 48 44.5
comp=Z,774nm,0.8s
435B Jarrell 5.81 180 P 23 46 58.6
baz=360
435B Jarrell 5.81 180 Pn **23 46 59.0 -0.1**
435B IAmb_Lg 23 48 42.5
comp=Z,342nm,0.9s
FVM French Village 5.90 74 Pn Pn **23 47 00.6 +0.2**
FVM French Village 5.90 74 P Pn **23 47 00.6 +0.2**
baz=259,SNR=12
FVM French Village 5.90 74 P 23 47 00.6
baz=259,SNR=12
K31A O'Neill 6.07 352 Pn Pn **23 47 03.9 +1.1**
K31A O'Neill 6.07 352 P Pn **23 47 03.5 +0.7**
baz=171,SNR=20
K31A O'Neill 6.07 352 P 23 47 03.5
baz=171,SNR=20
SLM Saint Louis 6.20 69 Pn Pn **23 47 05.2 +0.7**
SCIA State Center 6.30 31 Pn **23 47 06.8 +0.9**
SCIA State Center 6.30 31 P Pn **23 47 06.6 +0.7**
baz=214,SNR=13
SCIA State Center 6.30 31 P 23 47 06.9
baz=214
SCIA State Center 6.30 31 P 23 47 06.6
baz=214,SNR=13
JCT Junction City 6.38 197 Pn Pn **23 47 06.7 -0.3**
JCT IAmb_Lg 23 49 00.7
comp=Z,343nm,1.1s
JCT Junction City 6.38 197 P 23 47 06.6
baz=16
MET Memphis--Engin 6.41 101 IAmb_Lg 23 48 55.4
comp=Z,499nm,0.7s
Q24A Divide 6.41 294 P 23 47 07.8
baz=109
143A Socs Landing, 6.43 125 Pn Pn **23 47 08.3 +0.7**
143A IAmb_Lg 23 49 12.8
comp=Z,216nm,0.9s
HICK Hickman 6.75 88 Pn Pn **23 47 13.6 +1.5**
S44A Carbondale 6.77 78 Pn **23 47 13.4 +1.1**
S44A Carbondale 6.77 78 P Pn **23 47 12.7 +0.4**
baz=263,SNR=9.0
S44A Carbondale 6.77 78 P 23 47 12.7
baz=263,SNR=9.0
SIUC Southern Illin 6.80 78 Pn Pn **23 47 13.2 +0.5**
HKT Hockley 6.80 167 Pn Pn **23 47 11.7 -1.0**
W45A Hickory Valley 7.00 99 Pn **23 47 17.1 +1.7**
W45A IAmb_Lg 23 49 22.5
comp=Z,498nm,0.8s
ISCO Idaho Springs 7.06 299 Pn **23 47 17.1 +0.5**
ISCO Idaho Springs 7.06 299 P Pn **23 47 16.9 +0.3**
baz=114,SNR=16
ISCO Idaho Springs 7.06 299 P 23 47 16.7
baz=114,SNR=16
ISCO Idaho Springs 7.06 299 P 23 47 16.9
baz=114,SNR=16
P43A Skaggs, Pawnee 7.06 62 Pn Pn **23 47 17.2 +0.9**
K38A Parkersburg 7.10 30 Pn **23 47 16.8 0.0**
K38A IAmb_Lg 23 49 27.6
comp=Z,437nm,0.9s
Y45A Yeager Farm, C 7.15 110 IAmb_Lg 23 49 29.4
comp=Z,320nm,0.8s
ECSD EROS Data Cent 7.16 6 Pn **23 47 16.6 -1.1**
ECSD IAmb_Lg 23 49 22.9
comp=Z,255nm,1.2s
ECSD EROS Data Cent 7.16 6 P Pn **23 47 17.0 -0.7**
baz=186
ECSD EROS Data Cent 7.16 6 P 23 47 16.9
baz=186,SNR=18
ECSD EROS Data Cent 7.16 6 P 23 47 17.0
baz=186
Q44A Meyer Farm, Va 7.19 69 Pn Pn **23 47 17.8 -0.3**
L40A Anamosa 7.37 40 Pn **23 47 19.6 -0.9**
L40A IAmb_Lg 23 49 44.8
comp=Z,400nm,1.0s
L40A Anamosa 7.37 40 P Pn **23 47 20.7 +0.2**
baz=224
L40A Anamosa 7.37 40 P 23 47 20.7
baz=224
ANMO Albuquerque 7.37 260 Pn Pn **23 47 21.3 +0.5**
comp=Z,0.2nm,0.3s,baz=80,slow=12,SNR=2.6
ANMO Pg Pb 23 47 46.6 +5.7
comp=Z,1.2nm,0.3s,baz=74,slow=13,SNR=13
ANMO Lg Lg 23 49 21.2
comp=Z,6.0nm,0.3s,baz=147,slow=20,SNR=7.7
ANMO Albuquerque 7.37 260 Pn **23 47 20.9 0.0**
S22A 4UR Ranch, Cre 7.44 282 P 23 47 21.5
baz=96
HDIL Hopedale 7.62 56 Pn **23 47 23.7 -0.3**
HDIL Hopedale 7.62 56 P 23 47 24.1
baz=241
PHWY Pilot Hill 7.70 310 Pn Pn **23 47 25.9 +0.5**
PHWY IAmb_Lg 23 49 44.6
comp=Z,147nm,0.8s
735A Kenedy 7.73 181 IAmb_Lg 23 49 52.1
comp=Z,149nm,0.9s
BNM Barren Site 7.76 254 Pn Pn **23 47 26.3 +0.2**
N23A Red Feather La 7.79 306 P 23 47 26.6
baz=121
SMCO Snowmass 7.83 292 Pn **23 47 28.3 +1.0**
SUSD Miller 7.89 353 Pn **23 47 27.8 0.0**
SUSD IAmb_Lg 23 49 57.1
comp=Z,464nm,1.2s
SUSD Miller 7.89 353 P Pn **23 47 28.0 +0.2**
baz=172
SUSD Miller 7.89 353 P 23 47 27.9
baz=172
SUSD Miller 7.89 353 P 23 47 28.0
baz=172
WVT Waverly 7.91 91 Pn Pn **23 47 28.0 0.0**
WVT IAmb_Lg 23 49 50.6
comp=Z,183nm,0.8s
WVT Waverly 7.91 91 P 23 47 28.0
baz=276
PLAL Pickwick Lake 7.92 99 Pn Pn **23 47 28.7 +0.6**
PLAL IAmb_Lg 23 49 49.0
comp=Z,192nm,0.7s
O44A Mansfield 8.01 61 Pn Pn **23 47 31.3 +1.9**
O44A IAmb_Lg 23 50 04.2
comp=Z,402nm,0.8s
Y22D IRIS PASSCAL I 8.01 254 IAmb_Lg 23 49 59.6
comp=Z,421nm,1.1s
I37A Lemond, Waseca 8.07 22 Pn Pn **23 47 29.1 -1.1**
I37A IAmb_Lg 23 49 59.2
comp=Z,228nm,1.0s
MNTX Cornudas Mount 8.08 235 Pn **23 47 30.0 -0.4**
MNTX IAmb_Lg 23 50 04.9
comp=Z,119nm,1.1s
MNTX Cornudas Mount 8.08 235 P Pn **23 47 30.5 +0.1**
baz=50
MNTX Cornudas Mount 8.08 235 P 23 47 30.2
baz=50
MNTX Cornudas Mount 8.08 235 P 23 47 30.5
baz=50
146A Union 8.09 117 IAmb_Lg 23 50 10.5
comp=Z,126nm,0.9s
L42A Oliver, Polo 8.19 46 Pn **23 47 31.5 -0.3**
833A Chaparral WMA, 8.39 191 P Pn **23 47 35.3 +0.6**
baz=9.8
833A Chaparral WMA, 8.39 191 P 23 47 35.9
baz=9.8
833A Chaparral WMA, 8.39 191 P 23 47 35.3
baz=9.8
T47A Sharon Grove 8.44 84 Pn Pn **23 47 36.1 +0.9**
T47A IAmb_Lg 23 50 09.3
comp=Z,380nm,1.1s
JFWS Jewell Farm 8.48 40 Pn **23 47 34.8 -1.0**
JFWS IAmb_Lg 23 50 04.7
comp=Z,245nm,0.7s
JFWS Jewell Farm 8.48 40 P 23 47 35.3
baz=224
Z47A Carrollton 8.55 111 Pn **23 47 37.0 +0.3**
Z47A IAmb_Lg 23 50 14.7
comp=Z,141nm,0.9s
P46A Rosedale 8.74 67 Pn Pn **23 47 40.0 +0.7**
V48A Smith Brothers 8.77 92 IAmb_Lg 23 50 14.6
comp=Z,222nm,0.9s
M44A Midewin, Midew 8.85 54 Pn Pn **23 47 41.0 +0.2**
TX31 Lajitas Ar. Si 8.85 217 Pn **23 47 39.5 -1.5**
TX32 Lajitas Array 8.85 217 Pn **23 47 39.7 -1.3**
TXAR Lajitas Array 8.85 217 Pn Pn **23 47 40.1 -0.9**
comp=Z,0.6nm,0.3s,baz=41,slow=11,SNR=26
TXAR Pg Pg 23 48 12.0 -10
comp=Z,1.1nm,0.3s,baz=44,slow=12,SNR=7.7
TXAR Lg Lg 23 50 09.6
comp=Z,2.4nm,0.3s,baz=41,slow=23,SNR=8.8
TXAR Lajitas Array 8.85 217 Pn Pn **23 47 39.2 -1.8**
X48A Hartselle 8.88 101 IAmb_Lg 23 50 20.3
comp=Z,141nm,0.8s
RSSD Black Hills 8.96 329 Pn **23 47 43.5 +0.9**
RSSD IAmb_Lg 23 50 20.5
comp=Z,189nm,0.9s
RSSD Black Hills 8.96 329 P Pn **23 47 43.9 +1.3**
baz=145,SNR=5.6
RSSD Black Hills 8.96 329 P 23 47 43.3
baz=145
RSSD Black Hills 8.96 329 P 23 47 43.9
baz=145,SNR=5.6
RWWY Rawlins 9.01 307 Pn Pn **23 47 45.6 +2.3**
RWWY IAmb_Lg 23 50 24.2
comp=Z,158nm,1.0s
I40A Norwalk 9.03 34 Pn **23 47 42.4 -0.9**
I40A IAmb_Lg 23 50 19.4
comp=Z,188nm,0.8s
I40A Norwalk 9.03 34 P Pn **23 47 42.8 -0.6**
baz=219,SNR=9.7
I40A Norwalk 9.03 34 P 23 47 42.8
baz=219,SNR=9.7
SFIN Lafayette 9.07 62 Pn Pn **23 47 45.1 +1.3**
SFIN IAmb_Lg 23 50 19.8
comp=Z,450nm,0.7s
SFIN Lafayette 9.07 62 P 23 47 44.3
baz=249
PV11 David Mesa, Pa 9.11 284 IAmb_Lg 23 50 35.1
comp=Z,90nm,1.2s
CLTN Cedars of Leba 9.12 90 IAmb_Lg 23 50 24.0
comp=Z,344nm,1.1s
BLO Bloomington 9.14 70 Pn **23 47 45.2 +0.4**
K22A Casper 9.14 314 Pn **23 47 44.9 -0.2**
K22A IAmb_Lg 23 50 34.9
comp=Z,220nm,0.9s
K22A Casper 9.14 314 P 23 47 45.1
baz=128
PV04 Paradox Valley 9.15 285 IAmb_Lg 23 50 34.6
comp=Z,90nm,1.1s
WCI Wyandotte Cave 9.15 76 Pn Pn **23 47 46.4 +1.4**
WCI IAmb_Lg 23 50 32.2
comp=Z,347nm,0.8s
WCI Wyandotte Cave 9.15 76 P 23 47 45.6
baz=263
HQIL Hanson Quary C 9.18 53 IAmb_Lg 23 50 27.3
comp=Z,255nm,0.8s
F33A 5 Mile Ranch, 9.28 6 Pn **23 47 45.7 -1.0**
F33A IAmb_Lg 23 50 37.1
comp=Z,98nm,0.8s
121A Cookes Peak, D 9.32 247 IAmb_Lg 23 50 34.0
comp=Z,112nm,1.1s
SPMN Marine on St. 9.35 21 Pn **23 47 47.0 -0.6**
SPMN IAmb_Lg 23 50 31.2
comp=Z,86nm,0.7s
SPMN Marine on St. 9.35 21 P 23 47 47.4
baz=204
K43A Burlington 9.40 47 Pn Pn **23 47 48.3 -0.1**
LRAL Lakeview Retre 9.43 109 Pn **23 47 48.4 -0.4**
LRAL Lakeview Retre 9.43 109 P 23 47 48.6
baz=295
U49A Red Boiling Sp 9.53 87 Pn Pn **23 47 51.1 +1.0**
U49A IAmb_Lg 23 50 32.4
comp=Z,276nm,1.1s
Y49A Blount Mountai 9.57 103 Pn Pn **23 47 50.8 +0.1**
Y49A IAmb_Lg 23 50 44.8
comp=Z,165nm,0.9s
SWET Sewanee 9.58 95 Pn Pn **23 47 51.7 +0.8**
SWET IAmb_Lg 23 50 38.6
comp=Z,150nm,0.8s
I42A Draeger Farm, 9.86 40 IAmb_Lg 23 50 54.7
comp=Z,129nm,0.8s
FPAL Fort Paine 9.99 98 IAmb_Lg 23 51 01.1
comp=Z,143nm,0.8s
P49A Miami Univ. Ec 10.58 70 P 23 48 04.1
baz=258
BW06 Boulder Array 11.06 307 Pn Pn **23 48 12.7 +1.3**
PD31 Pinedale Array 11.06 307 Pn Pn **23 48 12.7 +1.3**
PDAR Pinedale Array 11.06 307 Pn Pn **23 48 10.2 -1.2**
comp=Z,0.1nm,0.3s,baz=109,slow=16,SNR=5.7
PDAR Pg 23 48 53.1
comp=Z,0.7nm,0.3s,baz=110,slow=21,SNR=6.6
PDAR Lg Lg 23 51 17.4
comp=Z,1.0nm,0.3s,baz=88,slow=40,SNR=2.8
PDAR Pinedale Array 11.06 307 Pn **23 48 11.0 -0.4**
TKL Tuckaleechee C 11.24 91 Pn Pn **23 48 13.8 +0.2**
comp=Z,0.9nm,0.3s,baz=213,slow=7.6,SNR=10
TKL Lg Lg 23 51 21.5
comp=Z,5.2nm,0.3s,baz=15,slow=18,SNR=7.6
S51A Beattyville 11.25 81 Pn Pn **23 48 13.6 -0.1**
N49A Columbus Grove 11.34 64 Pn Pn **23 48 13.8 -1.1**
V52A Sevierville 11.35 90 Pn Pn **23 48 15.3 +0.2**
COWI Conover 11.42 31 Pn Pn **23 48 15.3 -0.7**
L48A N Adams 11.52 58 Pn Pn **23 48 16.4 -1.0**
Q51A Peebles 11.54 74 Pn Pn **23 48 17.4 -0.4**
AGMN Agassiz Nation 11.76 6 Pn Pn **23 48 18.0 -2.6**
AGMN Agassiz Nation 11.76 6 P 23 48 18.4
baz=187
J47A Sumner 11.84 52 Pn Pn **23 48 20.7 -1.1**
B35A Bob, Littlefor 12.09 12 Pn Pn **23 48 22.4 -2.8**
EYMN Ely 12.20 20 Pn Pn **23 48 24.1 -2.6**
EYMN Ely 12.20 20 P 23 48 23.3
baz=204
RLMT Red Lodge 12.24 318 Pn Pn **23 48 27.2 -0.3**
RLMT Red Lodge 12.24 318 P 23 48 26.3
baz=130
G45A Suttons Bay 12.36 43 Pn Pn **23 48 25.9 -3.0**
Q52A Bidwell 12.37 74 Pn Pn **23 48 28.6 -0.5**
D41A Chassel 12.43 30 Pn Pn **23 48 27.0 -2.7**
R53A Hurricane 12.57 77 Pn Pn **23 48 30.7 -1.1**
E43A Lone Tree Farm 12.59 36 Pn Pn **23 48 29.9 -2.1**
N51A Ashland 12.65 65 Pn Pn **23 48 32.8 -0.1**
DGMT Dagmar 12.80 340 Pn Pn **23 48 34.2 -0.8**
DGMT Dagmar 12.80 340 P 23 48 34.7
baz=156
GLMI Grayling 12.82 46 Pn Pn **23 48 32.7 -2.5**
GLMI Grayling 12.82 46 P 23 48 32.7
baz=235
M51A Elyria 12.90 64 P 23 48 35.3
baz=254
Q53A Leroy 12.94 75 P 23 48 35.8
baz=265
S54A Dingess, Beckl 13.06 80 Pn Pn **23 48 38.1 -0.4**
S54A Dingess, Beckl 13.06 80 P 23 48 38.1
baz=270
V55A Taylorsville 13.27 88 Pn Pn **23 48 39.9 -1.5**
O53A New Philadelph 13.37 69 Pn Pn **23 48 42.2 -0.5**
O53A New Philadelph 13.37 69 P 23 48 42.5
baz=259
M52A Chesterland 13.56 64 Pn Pn **23 48 44.2 -1.0**
ULM Lac du Bonnet 13.70 5 Pn Pn 23 48 41.4 -5.7
comp=Z,0.9nm,0.3s,baz=188,slow=13,SNR=8.4
ULM Sn Sn 23 51 06.7 -13
comp=Z,0.8nm,0.3s,baz=220,slow=11,SNR=3.3
ULM Lg Lg 23 52 35.3
comp=Z,1.7nm,0.3s,baz=258,slow=20,SNR=2.1
ULM Lac du Bonnet 13.70 5 Pn Pn 23 48 42.0 -5.1
V56A Mocksville 13.85 88 P 23 48 49.1
baz=278
U56A King 13.88 86 P 23 48 49.3
baz=276
E46A Sault Ste Mari 13.93 41 Pn Pn **23 48 47.5 -2.9**
R55A Marlinton 14.01 78 Pn Pn **23 48 49.9 -1.5**
R55A Marlinton 14.01 78 P 23 48 50.1
baz=268
M53A WI Miller and 14.02 65 Pn Pn **23 48 49.8 -1.8**
M53A WI Miller and 14.02 65 P 23 48 51.3
baz=255
T56A Rocky Mt 14.10 83 P 23 48 52.7
baz=274
W57A Gilead 14.37 91 P P **23 49 01.9 -1.5**
ELK Elko 14.37 292 Lg Lg 23 53 07.4
comp=Z,0.1nm,0.3s,baz=51,slow=14,SNR=1.7
M54A Oil Creek Stat 14.78 65 Pn Pn **23 48 58.5 -3.4**
PFO Pinyon Flats O 15.71 265 Lg Lg 23 53 46.3
comp=Z,0.2nm,0.3s,baz=308,slow=11,SNR=2.0
SADO Sadowa 16.19 54 Pn Pn **23 49 19.1 -1.3**
comp=Z,0.2nm,0.3s,baz=274,slow=11,SNR=1.2
SADO Sn Sn 23 52 07.7 -13
comp=Z,0.9nm,0.3s,baz=255,slow=7.4,SNR=3.8
SADO Lg Lg 23 53 54.5
comp=Z,0.9nm,0.3s,baz=168,slow=19,SNR=2.6
NVAR Mina Array Bea 16.51 283 Pn Pn **23 49 23.9 -1.0**
comp=Z,0.1nm,0.3s,baz=100,slow=13,SNR=1.6
N58A Sunbury 16.84 69 Pn Pn **23 49 28.0 -0.8**
N58A IAmb IAmb 23 49 44.2
comp=Z,15nm,1.2s
K58A Earlville 17.97 63 Pn **23 49 43.3 +0.5**
L59A Walton 18.30 65 P Pn **23 49 47.1 +0.2**
L59A IAmb IAmb 23 49 52.9
comp=Z,12nm,1.2s
FFC Flin Flon 18.37 352 P P **23 49 48.9 +1.2**
NEW Newport 18.46 315 Lg Lg 23 55 16.4
comp=Z,0.0nm,0.3s,baz=77,slow=21,SNR=1.5
YBH Yreka Blue Hor 20.09 292 P P **23 50 06.3 -0.4**
comp=Z,0.1nm,0.3s,baz=112,slow=11,SNR=2.0
FCC Fort Churchill 22.29 5 P P **23 50 31.2 +1.0**
FCC IAmb IAmb 23 50 34.3
comp=Z,3.6nm,1.1s
YKA Yellowknife Ar 27.98 343 P P **23 51 24.3 +0.8**
comp=Z,0.1nm,0.6s,baz=143,slow=9.1,SNR=2.3
YKA Lg Lg 00 00 13.2
comp=Z,0.6nm,0.9s,baz=136,slow=30,SNR=1.9
ILAR Eielson Array 40.41 330 P P **23 53 12.2 +1.2**
comp=Z,0.7nm,0.7s,baz=112,slow=6.4,SNR=9.3
ILAR Eielson Array 40.41 330 P P **23 53 12.9 +1.9**
ARCES ARCESS Array B 66.35 19 P P **23 56 22.4 +0.9**
comp=Z,3.2nm,1.0s,baz=325,slow=4.5,SNR=1.0
FINES FINESS Array B 72.17 25 P P **23 56 58.6 +0.9**
comp=Z,0.5nm,0.5s,baz=308,slow=5.1,SNR=4.3
HHC Hu-ho-hao-te 98.40 338 eP Pdif 23 59 13.1 +1.5
HHC pmax pmax

comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,53nm,5.3s

IDC ***17*** *23:53:43.7±1.5,37.62S×179.89E,h0km,mb4.1/4, mb1 4.2/5,mb1mx3.9/30,mbtmp4.1/5,ML3.9/1,MS3.9/2, Ms1 3.9/2,ms1mx3.4/23,Error ellipse: s-maj=59.9km s-min=26.5km az=168.0*
NEIC ***17*** *23:53:44.3±2.0,37.95S±0.09×180.0E±0.1,h10km±1km, mb4.4/7,Error ellipse: s-maj=19.7km s-min=14.7km az=75.0*
WEL ***17*** *23:53:46.8±0.8,38.2S±7.1×18.0W±°,h33km,M4.3/31, ML4.5/31,MLv4.3/31,Error ellipse: s-maj=0.0km s-min=0.0km az=153.9*

ISC 17 23:53:45.6±2.0,38.04S±0.05×179.93E±0.07,h17km±10km, n137,σ1§84/142,mb4.2/9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.22**	**280**	P	**Pg**	**23 54 08.4**	**-0.8**
PUZ	**Puketiti**	**1.32**	**268**	P	**Pg**	**23 54 10.4**	**-0.7**
PUZ				S	**Sg**	**23 54 29.9**	**+1.5**
MXZ	**Matakaoa Point**	**1.37**	**290**	P	**Pn**	**23 54 09.6**	**-0.3**
MXZ	**Matakaoa Point**	**1.37**	**290**	P	**Pn**	**23 54 09.6**	**-0.3**
MXZ				S	**Sn**	**23 54 27.8**	**+0.2**
CNGZ	**Carnagh Statio**	**1.43**	**251**	P	**Pg**	**23 54 13.7**	**+0.6**
CNGZ				S	**Sg**	**23 54 36.0**	**+4.3**
PKGZ	**Pakihiroa**	**1.47**	**275**	P	**Pb**	**23 54 11.9**	**-0.6**
PKGZ				S	**Sb**	**23 54 31.2**	**+0.3**
TWGZ	**Tauwhareparae**	**1.54**	**264**	P	**Pg**	**23 54 14.2**	**-1.1**
TWGZ				S	**Sg**	**23 54 35.8**	**+0.4**
TKGZ	**Te Karaka**	**1.69**	**256**	P	**Pb**	**23 54 16.5**	**+0.4**
TKGZ				S	**Sg**	**23 54 39.9**	**-0.1**
HAZ	**Te Kaha**	**1.72**	**279**	P	**Pn**	**23 54 15.3**	**+0.6**
RUGZ	**Raukumara Rang**	**1.78**	**272**	P	**Pn**	**23 54 16.4**	**+0.8**
RIGZ	**Rimuhau**	**1.83**	**248**	P	**Pb**	**23 54 19.0**	**+0.4**
RIGZ				S	**Sg**	**23 54 43.7**	**-0.8**
PRGZ	**Paritu Road**	**1.83**	**241**	P	**Pb**	**23 54 19.2**	**+0.6**
PRGZ				S	**Sg**	**23 54 44.1**	**-0.5**
MWZ	**Matawai**	**1.92**	**261**	P	**Pb**	**23 54 18.9**	**-1.2**
MWZ				S	**Sb**	**23 54 44.6**	**+0.9**
MHGZ	**Mahia Peninsul**	**1.94**	**234**	P	**Pb**	**23 54 20.7**	**+0.3**
MHGZ				S	**Sg**	**23 54 47.6**	**-0.4**
KNZ	**Kokohu**	**2.02**	**240**	P	**Pb**	**23 54 21.4**	**-0.5**
RAGZ	**Rawiri**	**2.03**	**256**	P	**Pb**	**23 54 21.1**	**-1.0**
RAGZ				S	**Sb**	**23 54 47.9**	**+0.9**
SNGZ	**Shannon Statio**	**2.17**	**249**	P	**Pb**	**23 54 23.3**	**-1.0**
SNGZ				S	**Sb**	**23 54 51.8**	**+0.9**
URZ	**Urewera**	**2.23**	**264**	Pn	**Pb**	**23 54 23.9**	**-1.5**
	33nm,0.3s,baz=225,slow=2.7,SNR=118						
URZ				Sn	**Sb**	**23 54 52.5**	**-0.3**
	130nm,0.3s,baz=330,slow=4.7,SNR=6.2						
URZ	**Urewera**	**2.23**	**264**	Pn	**Pn**	**23 54 23.5**	**+1.8**
URZ	**Urewera**	**2.23**	**264**	P	**Pb**	**23 54 23.8**	**-1.7**
WHRZ	**Whale Island**	**2.34**	**274**	P	**Pn**	**23 54 24.9**	**+1.6**
WHHZ	**Waihua**	**2.35**	**243**	P	**Pb**	**23 54 26.5**	**-0.9**
RTZ	**Ruatahuna**	**2.39**	**255**	P	**Pb**	**23 54 26.5**	**-1.7**
RTZ				S	**Sb**	**23 54 57.9**	**+0.5**
RAHZ	**Arahi**	**2.40**	**248**	P	**Pb**	**23 54 27.1**	**-1.1**
EDRZ	**Edgecumbe**	**2.52**	**268**	P	**Pn**	**23 54 27.4**	**+1.6**
MUGZ	**Murupara**	**2.53**	**259**	P	**Pn**	**23 54 27.8**	**+2.0**
MTHZ	**Maungataniwha**	**2.56**	**251**	P	**Pn**	**23 54 28.7**	**+2.4**
ARHZ	**Aropaoanui**	**2.60**	**241**	P	**Pb**	**23 54 30.5**	**-1.2**
NMHZ	**Naumai**	**2.67**	**246**	P	**Pb**	**23 54 30.8**	**-2.1**
TARZ	**Mount Tarawera**	**2.71**	**265**	P	**Pn**	**23 54 30.1**	**+1.7**
RRRZ	**Republican Roa**	**2.71**	**263**	P	**Pn**	**23 54 30.3**	**+2.0**
CKHZ	**Cape Kidnapper**	**2.75**	**233**	P	**Pb**	**23 54 32.4**	**-1.8**
OMRZ	**Omania**	**2.81**	**269**	P	**Pn**	**23 54 31.0**	**+1.3**
PRRZ	**Plateau Road**	**2.82**	**260**	P	**Pn**	**23 54 32.0**	**+2.1**
HLRZ	**Highlands Stat**	**2.83**	**265**	P	**Pn**	**23 54 32.0**	**+2.1**
ALRZ	**Allen Road**	**2.87**	**258**	P	**Pn**	**23 54 32.8**	**+2.3**
MRHZ	**Matea Rd**	**2.87**	**253**	P	**Pn**	**23 54 33.1**	**+2.5**
MCHZ	**McNeill Hill**	**2.89**	**240**	P	**Pn**	**23 54 34.0**	**+3.2**
HRRZ	**Handcock Road**	**2.89**	**262**	P	**Pn**	**23 54 32.7**	**+1.8**
KARZ	**Kaharoa**	**2.91**	**269**	P	**Pn**	**23 54 32.1**	**+1.0**
HSRZ	**Hossack Road**	**2.92**	**264**	P	**Pn**	**23 54 33.5**	**+2.4**
BKZ	**Black Stump Fm**	**2.92**	**246**	Pn	**Pn**	**23 54 33.8**	**+2.6**
BKZ	**Black Stump Fm**	**2.92**	**246**	P	**Pn**	**23 54 33.7**	**+2.5**
KAHZ	**Kahuranaki**	**2.96**	**233**	P	**Pn**	**23 54 34.0**	**+2.3**
MYRZ	**Mayor Island**	**3.03**	**283**	P	**Pn**	**23 54 34.6**	**+2.0**
GRRZ	**Galatos Road**	**3.03**	**263**	P	**Pb**	**23 54 36.4**	**-2.6**
KWHZ	**Kaweka Forest**	**3.07**	**242**	P	**Pn**	**23 54 35.6**	**+2.2**
PXZ	**Pawanui**	**3.11**	**229**	P	**Pn**	**23 54 35.5**	**+1.8**
KRHZ	**Kereru**	**3.21**	**239**	P	**Pn**	**23 54 37.2**	**+2.0**
KUTZ	**Kaahu Road**	**3.26**	**261**	P	**Pn**	**23 54 38.1**	**+2.1**
BHHZ	**Black Hill Sta**	**3.35**	**243**	P	**Pn**	**23 54 39.5**	**+2.3**
WAIZ	**Wairara**	**3.37**	**257**	P	**Pb**	**23 54 42.8**	**-2.0**
WPHZ	**Waipukurau**	**3.39**	**232**	P	**Pn**	**23 54 39.1**	**+1.5**
PRHZ	**Porangahau**	**3.39**	**228**	P	**Pn**	**23 54 39.6**	**+1.9**
PNHZ	**Pukenui**	**3.46**	**236**	P	**Pn**	**23 54 39.3**	**+0.7**
TLZ	**Tolley Road**	**3.47**	**264**	P	**Pn**	**23 54 39.0**	**+0.1**
TMVZ	**Te Maari**	**3.48**	**251**	P	**Pn**	**23 54 41.3**	**+2.3**
ETVZ	**East Tongariro**	**3.48**	**250**	P	**Pn**	**23 54 41.8**	**+2.8**
TOZ	**Tahuroa Road**	**3.52**	**274**	P	**Pn**	**23 54 39.6**	**+0.3**
OTVZ	**Oturere**	**3.52**	**250**	P	**Pn**	**23 54 41.9**	**+2.2**
MOVZ	**Moawhango**	**3.54**	**246**	P	**Pn**	**23 54 42.5**	**+2.7**
TUVZ	**Tukino**	**3.56**	**249**	P	**Pn**	**23 54 43.3**	**+3.1**
WTVZ	**West Tongariro**	**3.57**	**251**	P	**Pb**	**23 54 46.2**	**-2.1**
NGZ	**Ngauruhoe**	**3.58**	**250**	P	**Pn**	**23 54 42.5**	**+2.1**
KUZ	**Kuaotunu**	**3.59**	**290**	P	**Pn**	**23 54 39.6**	**-0.8**
ANWZ	**Angora Road**	**3.61**	**227**	P	**Pn**	**23 54 42.7**	**+2.1**
WHVZ	**Whangaehu Hut**	**3.62**	**249**	P	**Pb**	**23 54 45.9**	**-3.3**
WNVZ	**Wahianoa**	**3.63**	**248**	P	**Pn**	**23 54 44.4**	**+3.4**
FWVZ	**Far West T-bar**	**3.64**	**249**	P	**Pn**	**23 54 45.4**	**+4.2**
TRVZ	**Turoa**	**3.65**	**249**	P	**Pn**	**23 54 45.7**	**+4.2**
TSZ	**Takapari Road**	**3.69**	**236**	P	**Pn**	**23 54 43.0**	**+1.2**
DVHZ	**Dannevirke**	**3.69**	**231**	P	**Pn**	**23 54 43.1**	**+1.3**
MTVZ	**Mangateitei**	**3.74**	**248**	P	**Pn**	**23 54 46.6**	**+4.1**
PKVZ	**Pokaka**	**3.80**	**249**	P	**Pb**	**23 54 48.1**	**-4.1**
BFZ	**Birch Farm**	**3.89**	**226**	Pn	**Pn**	**23 54 44.5**	**0.0**
MKAZ	**Moumakai**	**3.90**	**282**	P	**Pn**	**23 54 44.8**	**+0.1**
PRWZ	**Pori Road**	**3.97**	**230**	P	**Pn**	**23 54 47.2**	**+1.6**
POWZ	**Post Office Ro**	**4.00**	**233**	P	**Pn**	**23 54 48.0**	**+2.0**
GRZ	**Great Barrier**	**4.00**	**295**	P	**Pn**	**23 54 45.0**	**-0.9**
WIAZ	**Waiheke Island**	**4.02**	**287**	P	**Pn**	**23 54 46.4**	**+0.1**
HIZ	**Hauiti**	**4.02**	**262**		**Pn**	**23 54 48.7**	**+2.3**
HIZ	**Hauiti**	**4.02**	**262**	P	**Pn**	**23 54 48.5**	**+2.2**
ETAZ	**East Tamaki Re**	**4.12**	**284**	P	**Pn**	**23 54 48.5**	**+0.8**
TIWZ	**Tintock**	**4.16**	**228**	P	**Pn**	**23 54 49.8**	**+1.6**
MBAZ	**Motutapu North**	**4.21**	**286**	P	**Pn**	**23 54 49.2**	**+0.4**
WAZ	**Wanganui**	**4.22**	**245**	P	**Pn**	**23 54 53.0**	**+3.9**
AWAZ	**Awhitu Peninsu**	**4.32**	**281**	P	**Pn**	**23 54 52.7**	**+2.4**
PREZ	**Palmer Road**	**4.70**	**252**	P	Pn	23 55 00.8	+5.2
NEZ	**North Egmont**	**4.73**	**253**	P	**Pn**	**23 55 00.3**	**+4.2**
KHEZ	**Kahui Hut**	**4.80**	**253**	P	Pn	23 55 02.2	+5.2
KIW	**Kapiti Island**	**4.80**	**233**	P	**Pn**	**23 54 58.5**	**+1.5**
MSWZ	**Moikau Station**	**4.94**	**226**	Pn	**Pn**	**23 54 58.2**	**-0.7**
WCZ	**Waipu Caves**	**4.94**	**293**	P	**Pn**	**23 54 58.9**	**0.0**
PLWZ	**Palliser**	**5.04**	**244**	Pn	**Pn**	**23 55 00.5**	**+0.2**
SNZO	**South Karori**	**5.19**	**229**	Pn	**Pn**	**23 55 03.6**	**+1.3**
DUWZ	**D'Urville Isla**	**5.41**	**237**	P	**Pn**	**23 55 06.4**	**+1.0**
TUWZ	**Tuamarina**	**5.72**	**232**	Pn	**Pn**	**23 55 10.5**	**+0.9**
OUZ	**Omahuta**	**5.82**	**297**	Pn	**Pn**	**23 55 11.1**	**+0.1**
OUZ	**Omahuta**	**5.82**	**297**	P	**Pn**	**23 55 11.2**	**+0.1**
QRZ	**Quartz Range**	**6.37**	**242**	Pn	**Pn**	**23 55 19.0**	**+0.4**
KHZ	**Kahutara**	**6.56**	**226**	Pn	**Pn**	**23 55 20.8**	**-0.4**
LTZ	**Lake Taylor**	**7.52**	**229**	Pn	**Pn**	**23 55 34.4**	**0.0**
MQZ	**McQueen's Vall**	**7.90**	**222**	Pn	**Pn**	**23 55 39.1**	**-0.4**
RPZ	**Rata Peaks**	**8.79**	**227**	Pn	**Pn**	**23 55 50.0**	**-1.8**
	1.3nm,0.3s,baz=88,slow=15,SNR=1.8						
RPZ				Sn	**Sn**	**23 57 24.2**	**-6.2**
	8.0nm,0.3s,baz=344,slow=20,SNR=21						
GCSZ	**Gaunt Creek Bo**	**9.00**	**231**	P	**Pn**	**23 55 56.1**	**+1.5**
LBZ	**Lake Benmore**	**9.70**	**226**	Pn	**Pn**	**23 56 04.9**	**+0.7**
ODZ	**Otahua Downs**	**9.86**	**222**	Pn	**Pn**	**23 56 07.4**	**+0.9**
SYZ	**Scrubby Hill**	**11.65**	**220**	P	**Pn**	**23 56 34.4**	**+3.5**
DZM	**Mont Dzumac**	**19.70**	**320**	LR	LR	00 04 19.2	
	comp=Z,396nm,19.8s,baz=64,slow=33						
STKA	**Stephens Creek**	**31.85**	**269**	P	**P**	**00 00 10.0**	**+0.4**
	0.7nm,0.3s,baz=91,slow=10,SNR=2.1						
HNR	**Honiara**	**33.69**	**323**	LR	LR	00 11 50.1	
	comp=Z,150nm,20.8s,baz=330,slow=33						
CTA	**Charters Tower**	**34.20**	**292**	P	**P**	**00 00 29.6**	**-0.6**
	0.9nm,0.3s,baz=84,slow=9.2,SNR=1.4						
COEN	**Coen**	**40.43**	**296**	P	**P**	**00 01 22.4**	**-0.6**
AS31	**Alice Springs**	**41.62**	**277**	P	**P**	**00 01 33.5**	**+0.6**
AS31				IAmb	IAmb	00 01 42.9	
	comp=Z,2.3nm,0.9s						
ASAR	**Alice Springs**	**41.62**	**277**	P	**P**	**00 01 32.4**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=122,slow=8.1,SNR=18						
ASAR	**Alice Springs**	**41.62**	**277**	P	**P**	**00 01 32.8**	**0.0**
WR0	**Warramunga Arr**	**43.13**	**282**	P	**P**	**00 01 44.2**	**-1.0**
WR0				IAmb	IAmb	00 01 56.4	
	comp=Z,12nm,1.3s						
WB2	**Warramunga Arr**	**43.28**	**281**	P	**P**	**00 01 46.2**	**-0.2**
WB2				IAmb	IAmb	00 01 55.4	
	comp=Z,8.1nm,0.6s						
WRA	**Warramunga Arr**	**43.29**	**281**	P	**P**	**00 01 45.9**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=120,slow=7.8,SNR=45						
WRA	**Warramunga Arr**	**43.29**	**281**	P	**P**	**00 01 46.0**	**-0.6**
WB0	**Warramunga Arr**	**43.35**	**282**	P	**P**	**00 01 46.6**	**-0.4**
WB0				IAmb	IAmb	00 01 55.9	
	comp=Z,6.7nm,0.6s						
SNAA	**Sanae**	**70.57**	**179**	P	**P**	**00 05 01.3**	**+2.1**
SNAA				IAmb	IAmb	00 05 09.5	
	comp=Z,3.2nm,1.2s						
H03S2	**Juan Fernandez**	**77.69**	**123**	T	T	01 31 52.6	
	baz=232						
H03S1	**Juan Fernandez**	**77.70**	**123**	T	T	01 31 51.7	
	baz=232						
H03S3	**Juan Fernandez**	**77.71**	**123**	T	T	01 32 04.9	
	baz=232						
H03N3	**Juan Fernandez**	**77.93**	**123**	T	T	01 32 00.8	
	baz=234,slow=72,SNR=9.0						
H03N2	**Juan Fernandez**	**77.93**	**123**	T	T	01 32 16.4	
	baz=234,slow=72,SNR=4.0						
H03N1	**Juan Fernandez**	**77.94**	**123**	T	T	01 32 09.0	
	baz=234,slow=72,SNR=9.0						
ARCES	**ARCESS Array B**	**145.58**	**344**	PKPbc	**PKPbc**	**00 13 21.6**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=55,slow=4.6,SNR=7.7						
ARCES	**ARCESS Array B**	**145.58**	**344**		**PKPdf**	**00 13 21.2**	**-0.4**
KBZ	**Khabaz**	**147.30**	**294**	PKPbc	**PKPbc**	**00 13 28.4**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=211,slow=5.9,SNR=1.4						
DBIC	**Dimbokro**	**148.47**	**171**	PKPbc	**PKiKP**	**00 13 32.9**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=184,slow=6.0,SNR=3.8						
DBIC	**Dimbokro**	**148.47**	**171**		**PKiKP**	**00 13 32.8**	**-0.5**
FINES	**FINESS Array B**	**151.49**	**334**	PKPbc	**PKPbc**	**00 13 37.1**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=35,slow=4.7,SNR=5.8						
FINES	**FINESS Array B**	**151.49**	**334**		**PKPbc**	**00 13 37.2**	**-0.4**
FINES				PKPab	**PKPab**	**00 13 46.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**155.16**	**184**	PKPbc	PKPbc	00 13 50.7	
	comp=Z,0.5nm,0.6s,baz=179,slow=1.7,SNR=1.7						
TORD	**Torodi Ar. Bea**	**155.16**	**184**	PKPab	**PKPab**	**00 14 05.4**	**+2.7**

IDC ***17*** *23:59:46.1±1.9,9.21S×118.55E,h0km,mb3.5/3, mb1 3.6/6,mb1mx3.4/29,mbtmp3.5/6,ML2.9/2,Error ellipse: s-maj=83.7km s-min=21.4km az=51.0*
DJA ***17*** *23:59:58.9±0.5,9.9S±6.1×111.9E±°,h95km±9km,M3.8/9, mb4.2/1,MLv3.6/9*

ISC 17 23:59:57.9±0.9,9.11S±0.07×119.16E±0.05,h100km,n14, σ1§48/17,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.40**	**281**	P	**Pn**	**00 00 22.9**	**0.0**
PLAI				S	**Sn**	**00 00 41.7**	**-0.2**
BASI	**Baing, Sumba**	**1.78**	**128**	P	**Pn**	**00 00 28.9**	**+1.3**
TWSI	**Taliwang, Sumb**	**2.28**	**279**	P	**Pn**	**00 00 35.0**	**+0.9**
EDFI	**Ende, Flores**	**2.52**	**82**	P	**Pn**	**00 00 38.6**	**+1.2**
BKSI	**Bulukumba**	**3.88**	**14**	P	**Pn**	**00 00 55.8**	**+0.3**
KAPI	**Kappang**	**4.11**	**8**	Sn	**Sn**	**00 01 45.0**	**-0.6**
	5.4nm,0.3s,baz=83,slow=23,SNR=12						
BATI	**Baumata**	**4.57**	**104**	Pn	**Pn**	**00 01 06.0**	**+1.2**
	7.8nm,0.3s,baz=289,slow=18,SNR=2.4						
BATI				Sn	**Sn**	**00 01 54.5**	**-2.4**
	10nm,0.3s,baz=152,slow=1.5,SNR=2.8						
BATI	**Baumata**	**4.57**	**104**	P	**Pn**	**00 01 06.4**	**+1.6**
SOEI	**Soe**	**5.08**	**98**	P	**Pn**	**00 01 14.0**	**+2.2**
FITZ	**Fitzroy Crossi**	**10.93**	**146**	Pn	**Pn**	**00 02 28.4**	**-2.9**
	0.1nm,0.3s,baz=320,slow=12,SNR=1.4						
FITZ				Sn	Sn	00 04 22.0	-10
	0.8nm,0.3s,baz=181,slow=22,SNR=13						
WRA	**Warramunga Arr**	**18.20**	**128**	P	**Pn**	**00 04 03.9**	**-0.3**
	0.0nm,0.3s,baz=302,slow=13,SNR=2.3						
WRA				S	S	00 07 14.6	-12
	0.1nm,0.3s,baz=305,slow=24,SNR=2.2						
ASAR	**Alice Springs**	**20.21**	**138**	P	**P**	**00 04 26.5**	**+1.5**
	0.5nm,0.5s,baz=317,slow=10,SNR=8.7						
ASAR				S	**S**	**00 08 05.2**	**-1.2**
	0.4nm,0.8s,baz=313,slow=23,SNR=3.9						
SONM	**Songino Array**	**57.81**	**350**	P	**P**	**00 09 39.0**	**0.0**
	0.8nm,0.5s,baz=168,slow=8.0,SNR=6.0						
MKAR	**Makanchi Array**	**64.63**	**333**	P	**P**	**00 10 24.6**	**-0.3**
	0.4nm,0.6s,baz=152,slow=6.5,SNR=4.5						

IDC ***18*** *00:00:04.9±1.8,0.62N×92.71E,h0km,mb3.4/5,mb1 3.8/8, mb1mx3.5/36,mbtmp3.6/8,ML4.0/3,Error ellipse: s-maj=47.4km s-min=23.1km az=52.0*

ISC 18 00:00:10.0±1.3,0.8N±0.2×92.86E±0.09,h35km,n10, σ2§02/9,mb3.4/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.39**	**72**	Pn	**Pn**	**00 01 42.0**	**+0.2**
	3.1nm,0.3s,baz=359,slow=2.8,SNR=7.2						
PSI				Sn	**Sn**	**00 02 50.4**	**-3.4**
	baz=180,slow=23,SNR=1.0						
PALK	**Pallekele**	**13.73**	**298**	Pn	**Pn**	**00 03 19.8**	**-2.6**
	0.3nm,0.3s,baz=96,slow=9.2,SNR=1.7						
PALK				Sn	Sn	00 05 38.3	-16
	0.9nm,0.3s,baz=12,slow=4.6,SNR=1.7						
CMAR	**Chiang Mai Arr**	**18.57**	**18**	P	**Pn**	**00 04 26.0**	**+1.5**
	0.3nm,0.3s,baz=221,slow=9.5,SNR=1.2						
H08S2	**Diego Garcia H**	**21.96**	**247**	T	T	00 27 15.3	
	baz=230						
H08S3	**Diego Garcia H**	**21.96**	**247**	T	T	00 27 13.0	
	baz=74						
WRA	**Warramunga Arr**	**45.56**	**119**	P	**P**	**00 08 27.1**	**+0.2**
	0.9nm,0.7s,baz=299,slow=8.2,SNR=5.4						
ASAR	**Alice Springs**	**46.68**	**124**	P	**P**	**00 08 36.2**	**+0.5**
	0.3nm,0.7s,baz=313,slow=8.4,SNR=4.2						
MKAR	**Makanchi Array**	**46.76**	**350**	P	**P**	**00 08 36.9**	**+0.9**
	0.2nm,0.6s,baz=169,slow=8.1,SNR=2.5						
SONM	**Songino Array**	**48.33**	**12**	P	**P**	**00 08 49.6**	**+1.4**
	0.2nm,0.5s,baz=192,slow=9.2,SNR=1.7						
ZALV	**Zalesovo Beam**	**53.42**	**354**	P	**P**	**00 09 27.1**	**+0.9**
	0.2nm,0.3s,baz=166,slow=6.2,SNR=1.4						

IDC 18 00:36:43.2±2.3,1.42N×126.05E,h0km,mb3.1/3, mb1 3.4/3,mb1mx3.2/35,mbtmp3.2/3,Error ellipse: s-maj=193.8km s-min=29.5km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.73**	**159**	P	P	00 41 47.6	+0.6
	0.5nm,0.7s,baz=338,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**26.08**	**163**	P	P	00 42 18.2	-0.6
	0.2nm,0.4s,baz=349,slow=14,SNR=1.7						
MKAR	**Makanchi Array**	**59.08**	**326**	P	P	00 46 45.4	0.0
	0.1nm,0.5s,baz=136,slow=7.6,SNR=2.3						

IDC 18 00:42:05.9±1.8,1.57N×126.14E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.5/38,mbtmp3.7/4,ML3.0/1,Error ellipse: s-maj=125.3km s-min=23.1km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.55**	**181**	P	P	00 46 34.8	-0.4
	0.0nm,0.3s,baz=355,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**22.84**	**160**	P	P	00 47 09.4	-1.5
	2.4nm,0.5s,baz=338,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.19**	**164**	P	P	00 47 43.8	+1.4
	0.8nm,0.8s,baz=348,slow=13,SNR=12						
MKAR	**Makanchi Array**	**59.00**	**326**	P	P	00 52 07.4	-0.1
	0.4nm,0.5s,baz=128,slow=7.8,SNR=8.5						

MOS ***18*** *00:47:05.7±0.8,51.18N×157.15E,h149km,mb3.8/1,Error ellipse: s-maj=19.4km s-min=5.0km az=72.6*
KRSC ***18*** *00:47:05.2±1.8,51.08N×157.54E,h130km±20km,ML4.2*
IDC ***18*** *00:47:08.6±1.2,51.44N×156.87E,h158km±9km,mb3.3/11, mb1 3.4/14,mb1mx3.3/36,mbtmp3.7/14,Error ellipse: s-maj=21.6km s-min=13.1km az=131.0*

ISC 18 00:47:05.6±0.8,51.12N±0.06×157.36E±0.06,h144km±5km, n82,σ1§47/115,mb3.6/11,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.49**	**315**	PN	**Pn**	**00 47 26.6**	**+0.5**
PAU	**Pauzhetka**	**0.49**	**315**	*eP*	**Pn**	**00 47 26.6**	**+0.5**
KDTR	**Khodutka, Kamc**	**0.82**	**33**	PN	**Pn**	**00 47 28.9**	**+0.6**
KDTR				S	**Sn**	**00 47 44.7**	**-0.9**
KDTR	**Khodutka, Kamc**	**0.82**	**33**	*eP*	**Pn**	**00 47 28.9**	**+0.6**
KDTR				*eS*	**Sn**	**00 47 44.7**	**-0.9**
SKR	**Severo-Kuril's**	**0.90**	**241**	*eP*	**Pn**	**00 47 29.5**	**+0.5**
SKR				*eS*	**Sn**	**00 47 46.5**	**-0.1**
SKR				pmax	pmax		
	comp=Z,304nm,0.4s						
SKR				smax	smax		
	comp=E,5μm,0.5s						
SKR				smax	smax		
	comp=N,5μm,0.4s						
SKR	**Severo-Kuril's**	**0.90**	**241**	*eP*	**Pn**	**00 47 29.4**	**+0.5**
SKR				*eS*	**Sn**	**00 47 46.2**	**-0.4**
ALID	**Alaid**	**1.17**	**258**	PN	**Pn**	**00 47 31.6**	**+0.1**
ALID	**Alaid**	**1.17**	**258**	*eP*	**Pn**	**00 47 31.6**	**+0.1**
MIPR	**Malaya Ipel'ka**	**1.21**	**342**	PN	**Pn**	**00 47 31.9**	**+0.2**
MIPR				S	**Sn**	**00 47 49.9**	**-1.9**
MIPR	**Malaya Ipel'ka**	**1.21**	**342**	*eP*	**Pn**	**00 47 31.9**	**+0.2**
MIPR				*eS*	**Sn**	**00 47 49.9**	**-1.9**
ASAK	**Asacha**	**1.31**	**15**	PN	**Pn**	**00 47 33.4**	**+0.7**
ASAK				S	**Sn**	**00 47 54.5**	**+0.9**
ASAK	**Asacha**	**1.31**	**15**	*eP*	**Pn**	**00 47 33.4**	**+0.7**
ASAK				*eS*	**Sn**	**00 47 54.5**	**+0.9**
MTVR	**Mutnovka**	**1.46**	**20**	PN	**Pn**	**00 47 35.2**	**+0.9**
MTVR				S	**Sn**	**00 47 56.5**	**+0.1**
MTVR	**Mutnovka**	**1.46**	**20**	*eP*	**Pn**	**00 47 35.2**	**+0.9**
MTVR				*eS*	**Sn**	**00 47 56.5**	**+0.1**
RUS	**Russkaya**	**1.50**	**28**	PN	**Pn**	**00 47 35.0**	**+0.4**
RUS				S	**Sn**	**00 47 55.9**	**-0.9**
RUS	**Russkaya**	**1.50**	**28**	*eP*	**Pn**	**00 47 35.0**	**+0.4**
RUS				*eS*	**Sn**	**00 47 55.9**	**-0.9**
GRL	**Gorelyy**	**1.50**	**17**	PN	**Pn**	**00 47 35.8**	**+1.0**
GRL				S	**Sn**	**00 47 57.3**	**+0.1**
GRL	**Gorelyy**	**1.50**	**17**	*eP*	**Pn**	**00 47 35.8**	**+1.0**
GRL				*eS*	**Sn**	**00 47 57.3**	**+0.1**
KRMR	**Karymshinskiy**	**1.78**	**15**	PN	**Pn**	**00 47 39.3**	**+1.6**
KRMR				S	**Sn**	**00 48 02.9**	**+0.5**
KRMR	**Karymshinskiy**	**1.78**	**15**	*eP*	**Pn**	**00 47 39.3**	**+1.6**
KRMR				*eS*	**Sn**	**00 48 02.9**	**+0.5**
APC	**Apacha**	**1.81**	**356**	PN	**Pn**	**00 47 38.2**	**+0.1**
APC				S	**Sn**	**00 48 01.9**	**-1.1**
APC	**Apacha**	**1.81**	**356**	*eP*	**Pn**	**00 47 38.2**	**+0.1**
APC				*eS*	**Sn**	**00 48 01.9**	**-1.1**
PETK	**Petropavlovsk-**	**2.00**	**6**	P	**Pn**	**00 47 40.7**	**+0.4**
	comp=N,4.2nm,0.3s,baz=166,slow=12,SNR=167						
PETK				S	**Sn**	**00 48 06.8**	**-0.3**
	comp=N,3.7nm,0.3s,baz=166,slow=21,SNR=8.6						
PET	**Petropavl

Ms1 3.2/4,ms1mx2.9/43,Error ellipse: s-maj=28.7km s-min=19.5km az=1.0
*NEIC **18** 01:09:18.2-2.4, 14.0N-0.1×45.9E±0.1,h10km±2km, mb4.4/20,Error ellipse: s-maj=17.6km s-min=16.4km az=174.0*
ISC 18 01:09:15.4±0.7, **13.7N**±0.1×**45.89E**±0.07, **h10**km, **n47**, σ1§**70**/46, **mb4.4**/19, **MS3.2**/3, **Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**8.03**	**100**	Pn	**Pn**	**01 11 12.8**	**+0.5**
RAYN	**Ar Rayn**	**9.80**	**358**	Pn	**Pn**	**01 11 33.1**	**-3.4**
UOSS	**Minazif**	**14.83**	**39**	Pn	**Pn**	**01 12 42.3**	**-3.0**
WSAR	**Wadi Sarin**	**15.37**	**50**	Pn	**Pn**	**01 12 48.7**	**-3.8**
	0.3nm,0.3s,baz=310,slow=8.8,SNR=2.7						
WSAR				Sn	**Sn**	**01 15 39.0**	**-3.9**
	0.5nm,0.3s,baz=309,slow=12,SNR=2.7						
KMBO	**Kilima Mbogo**	**17.02**	**211**	Pn	**Pn**	**01 13 09.8**	**-4.1**
	0.1nm,0.3s,baz=76,slow=12,SNR=1.6						
EIL	**Elat**	**18.86**	**329**	P	**Pn**	**01 13 37.1**	**+0.8**
	0.1nm,0.3s,baz=100,slow=8.6,SNR=5.4						
EIL				Lg	Lg	01 18 55.6	
	0.4nm,0.3s,baz=341,slow=18,SNR=11						
EIL				LR	LR	01 19 50.7	
	comp=Z,80nm,20.2s,baz=110,slow=34						
MMAI	**Mount Meron Ar**	**21.49**	**335**	P	**P**	**01 14 04.8**	**+0.3**
	6.1nm,0.8s,baz=158,slow=12,SNR=11						
MMAI				Lg	Lg	01 20 27.7	
	4.1nm,0.8s,baz=138,slow=26,SNR=5.9						
MMAI				LR	LR	01 21 44.5	
	comp=Z,83nm,18.1s,baz=145,slow=35						
MARD	**Mardin**	**23.98**	**350**	P	**P**	**01 14 31.6**	**+1.4**
GAZ	**Gaziantep**	**24.65**	**343**	P	**P**	**01 14 39.1**	**+2.8**
GAZ				IAmb	IAmb	01 14 41.8	
	comp=Z,11nm,0.8s						
GEVA	**Gevas**	**24.66**	**355**	P	**P**	**01 14 38.9**	**+2.3**
GEVA				IAmb	IAmb	01 14 42.2	
	comp=Z,9.1nm,1.0s						
HRA	**Herat**	**25.39**	**33**	P	**P**	**01 14 44.1**	**+0.9**
GNI	**Garni**	**26.39**	**358**	P	**P**	**01 14 54.4**	**+2.2**
	comp=Z,4.4nm,0.8s,baz=142,slow=7.1,SNR=5.7						
GNI	**Garni**	**26.39**	**358**	Pn	**P**	**01 14 54.3**	**+2.1**
GNI				IAmb	IAmb	01 14 59.7	
	comp=Z,8.8nm,1.1s						
BRTR	**Keskin Array B**	**28.10**	**340**	P	**P**	**01 15 08.4**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=159,slow=16,SNR=4.0						
IDI	**Anoyia**	**28.66**	**322**	LR	LR	01 25 47.2	
	comp=Z,24nm,20.5s,baz=114,slow=35						
NIL	**Nilore**	**31.82**	**47**	P	**P**	**01 15 43.0**	**+2.5**
KK31	**Karatay Array**	**36.18**	**31**	P	**P**	**01 16 18.8**	**+0.6**
KKAR	**Karatay Array**	**36.18**	**31**	P	**P**	**01 16 19.1**	**+0.9**
ABKAR	**Akbulak array**	**37.31**	**15**	P	**P**	**01 16 27.8**	**+0.1**
DIVS	**Divibare**	**37.54**	**329**	P	**P**	**01 16 29.7**	**-0.1**
DIVS				IAmb	IAmb	01 16 32.4	
	comp=Z,7.9nm,1.3s						
BURAR	**Bucovina Array**	**37.97**	**337**	P	**P**	**01 16 34.5**	**+1.1**
AAK	**Ala-Archa**	**37.97**	**35**	P	**P**	**01 16 35.9**	**+2.2**
AAK				IAmb	IAmb	01 16 43.3	
	comp=Z,8.5nm,1.2s						
TAM	**Tamanrasset**	**39.29**	**289**	P	**P**	**01 16 44.7**	**-0.3**
AKASG	**Malin Array Be**	**39.33**	**343**	P	**P**	**01 16 43.1**	**-1.5**
	comp=Z,0.3nm,0.2s,baz=156,slow=7.7,SNR=7.7						
AKASG	**Malin Array Be**	**39.33**	**343**	P	**P**	**01 16 44.8**	**+0.2**
KEST	**Kesra**	**39.47**	**310**	LR	LR	01 35 39.4	
	comp=Z,46nm,18.1s,baz=187,slow=40						
PSZ	**Piszkesteto**	**40.40**	**333**	P	**P**	**01 16 56.3**	**+2.6**
PSZ				IAmb	IAmb	01 16 56.9	
	comp=Z,9.3nm,1.1s						
TOA0	**Torodi Ar. Sit**	**42.95**	**275**	P	**P**	**01 17 14.9**	**0.0**
TORD	**Torodi Ar. Bea**	**42.95**	**275**	P	**P**	**01 17 14.1**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=91,slow=6.4,SNR=8.3						
TORD	**Torodi Ar. Bea**	**42.95**	**275**	P	**P**	**01 17 14.7**	**-0.2**
GEC2	**GERESS Array S**	**43.96**	**330**	P	**P**	**01 17 22.8**	**0.0**
GEC2				IAmb	IAmb	01 17 25.3	
	comp=Z,5.4nm,1.1s						
GERES	**GERESS Array B**	**43.96**	**330**	P	**P**	**01 17 22.2**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=134,slow=7.6,SNR=9.8						
GERES	**GERESS Array B**	**43.96**	**330**	P	**P**	**01 17 22.7**	**0.0**
MAKZ	**Makanchi**	**44.74**	**35**	P	**P**	**01 17 30.2**	**+1.3**
MK31	**Makanchi Array**	**44.91**	**35**	P	**P**	**01 17 31.1**	**+0.9**
MKAR	**Makanchi Array**	**44.91**	**35**	P	**P**	**01 17 31.0**	**+0.7**
	comp=Z,5.8nm,0.8s,baz=221,slow=7.3,SNR=69						
MKAR	**Makanchi Array**	**44.91**	**35**	P	**P**	**01 17 31.3**	**+1.0**
ZAA0	**Zalesovo Array**	**50.47**	**29**	P	**P**	**01 18 13.5**	**+0.2**
ZALV	**Zalesovo Beam**	**50.47**	**29**	P	**P**	**01 18 13.0**	**-0.3**
	comp=Z,5.4nm,0.7s,baz=236,slow=7.6,SNR=25						
ZALV	**Zalesovo Beam**	**50.47**	**29**	P	**P**	**01 18 13.5**	**+0.1**
ESDC	**Sonseca Array**	**50.72**	**310**	P	**P**	**01 18 15.4**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=108,slow=9.5,SNR=6.8						
CMAR	**Chiang Mai Arr**	**51.06**	**77**	P	**P**	**01 18 19.2**	**+0.9**
	comp=Z,6.2nm,0.4s,baz=278,slow=9.3,SNR=11						
NOA	**NORSAR Array B**	**53.53**	**340**	P	**P**	**01 18 36.4**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=137,slow=7.5,SNR=3.0						
XAN	**Xi'an**	**60.20**	**59**	P	**P**	**01 19 23.9**	**0.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.6s						
SONM	**Songino Array**	**60.26**	**42**	P	**P**	**01 19 25.0**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=247,slow=7.4,SNR=21						
SONM	**Songino Array**	**60.26**	**42**	P	**P**	**01 19 25.4**	**+1.2**
SONM				IAmb	IAmb	01 19 27.9	
	comp=Z,3.3nm,1.0s						
TIXI	**Tiksi**	**74.90**	**19**	P	**P**	**01 20 56.8**	**+0.7**
TIXI				IAmb	IAmb	01 20 58.8	
	comp=Z,3.5nm,0.8s						

*IDC **18** 01:18:58.6±0.8, 19.50N×66.13W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.7/39, mbtmp3.7/9, Error ellipse: s-maj=24.4km s-min=15.4km az=72.0*
*NEIC **18** 01:18:59.3±1.3, 19.53N±0.06×66.10W±0.04, h4km±3km, Error ellipse: s-maj=9.1km s-min=5.7km az=177.0*
*RSPR **18** 01:18:59.1, 19.75N×66.09W, h85km±6km, MD3.7/8*
ISC 18 01:18:59.5±1.8, **19.53N**±0.05×**66.08W**±0.04, **h5**km±11km, **n61**, σ1§**00**/71, **mb3.8**/9, **8C-4D**, **Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**1.13**	**202**	⇑*e*P	**Pn**	**01 19 21.9**	**0.0**
EMPR	**Esperanza - Ma**	**1.13**	**202**	*e*S	**Sn**	**01 19 39.8**	**+2.0**
EMPR	**Esperanza - Ma**	**1.13**	**202**		**Pn**	**01 19 21.8**	**-0.1**
EMPR					**Sn**	**01 19 37.9**	**+0.1**
EMPR				IAML		01 20 05.8	
	comp=N,1μm,0.9s						
GCPR	**Guaynabo City**	**1.21**	**180**	⇑*e*P	**Pn**	**01 19 22.8**	**-0.3**
GCPR	**Guaynabo City**	**1.21**	**180**	*e*S	**Sn**	**01 19 41.8**	**+1.9**
GCPR	**Guaynabo City**	**1.21**	**180**	Pn	**Pb**	**01 19 22.5**	**-0.4**
GCPR				Sn	**Sn**	**01 19 39.3**	**-0.5**
GCPR				IAML		01 19 45.1	
	comp=N,529nm,0.9s						
GCPR				IAML		01 19 50.0	
	comp=E,499nm,1.1s						
CBYP	**Canovanas**	**1.27**	**170**	‖*e*P	**Pn**	**01 19 23.8**	**-0.1**
CBYP	**Canovanas**	**1.27**	**170**	*e*S	**Sn**	**01 19 43.1**	**+1.8**
CBYP	**Canovanas**	**1.27**	**170**		**Pb**	**01 19 23.6**	**-0.2**
CBYP				Sn	**Sn**	**01 19 42.9**	**+1.6**
CBYP				IAML		01 19 44.2	
	comp=N,946nm,0.2s						
CBYP				IAML		01 19 45.6	
	comp=E,1μm,0.2s						
AOPR	**Arecibo Observ**	**1.34**	**209**	⇑*e*P	**Pg**	**01 19 24.5**	**-0.6**
AOPR	**Arecibo Observ**	**1.34**	**209**	*e*S	**Sn**	**01 19 44.7**	**+1.7**
AOPR	**Arecibo Observ**	**1.34**	**209**		**Pn**	**01 19 24.4**	**-0.4**
AOPR				Sn	**Sn**	**01 19 43.4**	**+0.4**
HUMP	**Col San Antoni**	**1.39**	**171**	⇑*e*P	**Pn**	**01 19 25.4**	**-0.2**
HUMP				*e*S	**Sn**	**01 19 46.0**	**+1.6**
HUMP	**Col San Antoni**	**1.39**	**171**	Pn	**Pb**	**01 19 25.6**	**-0.4**
HUMP				Sn	**Sn**	**01 19 45.8**	**+1.4**
HUMP				IAML		01 20 00.2	
	comp=N,374nm,0.5s						
SJG	**San Juan**	**1.41**	**183**	Pn	**Pn**	**01 19 25.6**	**-0.2**
	comp=N,51nm,0.3s,baz=8.0,slow=8.8,SNR=78						
SJG				Sn	**Sn**	**01 19 45.1**	**+0.3**
	comp=N,126nm,0.3s,baz=282,slow=19,SNR=16						
SJG	**San Juan**	**1.41**	**183**		**Pn**	**01 19 25.4**	**-0.3**
SJG				IAML		01 19 46.4	
	comp=N,568nm,0.5s						
SJG				IAML		01 19 51.4	
	comp=N,445nm,0.8s						
SJG	**San Juan**	**1.41**	**183**	‖*i*P	**Pn**	**01 19 25.6**	**-0.2**
CUPR	**Culebra, Puert**	**1.43**	**148**	‖*e*P	**Pn**	**01 19 25.8**	**-0.2**
CUPR	**Culebra, Puert**	**1.43**	**148**	*e*S	**Sg**	**01 19 46.9**	**+1.5**
CUPR	**Culebra, Puert**	**1.43**	**148**		**Pn**	**01 19 25.8**	**-0.2**
CUPR				Sn	**Sg**	**01 19 46.0**	**+0.6**
AGPR	**Aguadilla, PR**	**1.44**	**223**	Pn	**Pn**	**01 19 25.9**	**-0.3**
AGPR				IAML		01 20 12.1	
	comp=N,528nm,1.3s						
AGPR				IAML		01 20 26.7	
	comp=E,496nm,1.5s						
PDPR	**Patillas Dam,**	**1.50**	**178**		**Pn**	**01 19 27.0**	**-0.1**
PDPR				IAML		01 19 57.4	
	comp=E,404nm,0.6s						
MTP	**Monte Pirata**	**1.51**	**161**	⇑*e*P	**Pn**	**01 19 27.1**	**-0.1**
MTP	**Monte Pirata**	**1.51**	**161**	*e*S	**Sg**	**01 19 48.6**	**+0.7**
MTP	**Monte Pirata**	**1.51**	**161**		**Pn**	**01 19 26.9**	**-0.2**
MTP				Sn	**Sn**	**01 19 46.6**	**-0.5**
CELP	**Cerrillos**	**1.52**	**198**	⇑*e*P	**Pb**	**01 19 27.4**	**-0.8**
CELP	**Cerrillos**	**1.52**	**198**	*e*S	**Sg**	**01 19 49.0**	**+0.6**
CELP	**Cerrillos**	**1.52**	**198**		**Pb**	**01 19 27.4**	**-0.8**
CELP					**Sg**	**01 19 49.0**	**+0.6**
IGPR	**InterUniversit**	**1.55**	**181**	⇑*e*P	**Pb**	**01 19 28.1**	**-0.6**
IGPR	**InterUniversit**	**1.55**	**181**	*e*S	**Sg**	**01 19 50.1**	**+0.8**
OBIP	**Obispado Ponce**	**1.56**	**199**	‖*e*P	**Pn**	**01 19 27.2**	**-0.7**
OBIP	**Obispado Ponce**	**1.56**	**199**	*e*S	**Sg**	**01 19 49.5**	**0.0**
OBIP	**Obispado Ponce**	**1.56**	**199**	Pn	**Pn**	**01 19 27.0**	**-0.9**
OBIP				Sn	**Sg**	**01 19 49.2**	**-0.4**
OBIP				IAML		01 20 18.5	
	comp=E,488nm,0.9s						
OBIP				IAML		01 20 30.0	
	comp=N,645nm,0.8s						
MPR	**Mayaguez**	**1.65**	**218**	Pn	**Pn**	**01 19 28.8**	**-0.3**
MPR				IAML		01 20 40.7	
	comp=N,450nm,1.1s						
ICMP	**Isla Caja de M**	**1.69**	**195**	Pn	**Pb**	**01 19 30.2**	**-0.7**
ICMP				IAML		01 20 02.1	
	comp=E,543nm,1.2s						
ICMP				IAML		01 20 25.6	
	comp=N,513nm,1.6s						
MLPR	**Magueyes Islan**	**1.80**	**211**	⇑*e*P	**Pn**	**01 19 30.5**	**-0.6**
MLPR	**Magueyes Islan**	**1.80**	**211**	*e*S	**Sb**	**01 19 55.1**	**-0.6**
MLPR	**Magueyes Islan**	**1.80**	**211**	Pn	**Pn**	**01 19 31.2**	**+0.1**
MLPR				Sn	**Sn**	**01 19 54.1**	**-0.3**
CDVI	**St. Croix**	**2.16**	**145**	Pn	**Pb**	**01 19 37.9**	**-1.2**
SDDR	**Presa de Saban**	**4.95**	**265**		**Pn**	**01 20 16.1**	**+1.4**
SDDR	**Presa de Saban**	**4.95**	**265**	*e*P	**Pn**	**01 20 16.4**	**+1.8**
SDV	**Santo Domingo**	**11.46**	**203**	Pn	Pn	01 21 49.9	+5.8
	comp=N,0.3nm,0.3s,baz=22,slow=11,SNR=4.8						
SDV	**Santo Domingo**	**11.46**	**203**	*e*P	**Pn**	**01 21 48.5**	**+4.4**
ZARC	**Zaragoza, Cauc**	**14.69**	**217**	*e*P	Pn	01 22 20.6	-7.5
RUSC	**La Rusia**	**15.17**	**208**	*e*P	**Pn**	**01 22 34.2**	**-0.8**
PTBC	**PUERTO BERRIO,**	**15.26**	**213**	*e*P	**Pn**	**01 22 36.1**	**+0.3**
NORC	**Norcasia**	**16.31**	**213**	*e*P	**Pn**	**01 22 48.9**	**-0.6**
GUY2C	**Guyana, Caldas**	**16.85**	**214**	*e*P	**P**	**01 22 58.7**	**-0.2**
TOLC	**Tolima**	**17.37**	**212**	*e*P	**P**	**01 23 04.2**	**-0.4**
PLMC	**San Jos del P**	**17.61**	**216**	*e*P	**Pn**	**01 23 05.2**	**-0.6**
SOTA	**Rioblanco**	**20.12**	**212**	*e*P	**P**	**01 23 33.4**	**-1.6**
PTGA	**Pitinga**	**21.00**	**163**	P	**P**	**01 23 43.0**	**-1.0**
	comp=N,2.6nm,0.5s,baz=337,slow=19,SNR=6.3						
TXAR	**Lajitas Array**	**35.46**	**293**	P	**P**	**01 25 57.2**	**+0.1**
	comp=N,1.0nm,0.7s,baz=112,slow=9.9,SNR=15						
PDAR	**Pinedale Array**	**43.22**	**312**	P	**P**	**01 27 01.4**	**-0.5**
	comp=N,0.7nm,1.1s,baz=130,slow=2.8,SNR=3.1						
FRB	**Frobisher Bay**	**44.22**	**358**	P	**P**	**01 27 09.8**	**+0.4**
	comp=N,2.2nm,0.9s,baz=214,slow=15,SNR=3.8						
NVAR	**Mina Array Bea**	**48.74**	**304**	P	**P**	**01 27 45.8**	**+0.2**
	comp=N,0.5nm,0.7s,baz=91,slow=3.3,SNR=4.3						
YKA	**Yellowknife Ar**	**54.25**	**335**	P	**P**	**01 28 25.1**	**-1.0**
	comp=N,0.5nm,0.9s,baz=111,slow=7.8,SNR=5.4						
ESDC	**Sonseca Array**	**56.51**	**55**	P	**P**	**01 28 43.7**	**+0.8**
	comp=N,1.2nm,0.9s,baz=264,slow=7.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**65.00**	**84**	P	**P**	**01 29 41.5**	**+0.4**
	comp=N,1.4nm,1.0s,baz=291,slow=5.0,SNR=4.4						
ILAR	**Eielson Array**	**68.61**	**333**	P	**P**	**01 30 02.5**	**-0.8**
	comp=N,0.3nm,0.5s,baz=101,slow=4.1,SNR=5.3						
MSVF	**Nonsavu**	**119.53**	**260**	PKP	**PKPdf**	**01 37 50.6**	**-0.6**
	comp=N,18nm,0.4s,baz=180,slow=4.2,SNR=35						

*BJI **18** 01:22:14.7±0.0, 1.11S×122.73E, h50km, mB5.0/39, mb4.7/53, Ms4.3/21, Ms7.4/20*
*DJA **18** 01:22:15.5±0.2, 1.3S×122.2E±, h10km, M5.0/24, mB5.4/13, mb5.2/23, MLv5.2/24, Mw(mB)4.9/13*
*IDC **18** 01:22:15.8±3.0, 0.54S×122.38E, h20km±18km, mb4.3/14, mb1 4.4/17, mb1mx4.2/42, mbtmp4.5/17, ML4.5/4, MS3.9/12, Ms1 3.9/12, ms1mx3.6/35, Error ellipse: s-maj=19.5km s-min=11.6km az=71.0*
*NEIC **18** 01:22:18.8±2.4, 0.70S±0.04×122.31E±0.02, h38km±7km, mb4.9/47, Error ellipse: s-maj=6.5km s-min=2.7km az=165.0*
*KLM **18** 01:22:19, 0.88S×122.41E, h50km, mb4.7*
ISC 18 01:22:17.4±1.0, **0.61S**±0.04×**122.30E**±0.03, **h27**km±7km, **n193**, σ1§**80**/192, **mb4.8**/74, **MS3.9**/16, **3C-1D**, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.64**	**132**		**Pb**	**01 22 29.1**	**-0.8**
LUWI				Sn	**Sb**	**01 22 38.0**	**-0.4**
LUWI	**Luwuk**	**0.64**	**132**	P	**Pb**	**01 22 28.8**	**-1.1**
LUWI				S	**Sb**	**01 22 38.1**	**-0.4**
APSI	**Ampana**	**0.72**	**246**	P	**Pb**	**01 22 29.3**	**-2.0**
APSI				S	**Sb**	**01 22 39.0**	**-1.8**
MRSI	**Marisa**	**1.14**	**342**	P	**Pn**	**01 22 35.1**	**-2.5**
MRSI				S	**Sn**	**01 22 50.1**	**-2.2**
GTOI	**Gorontalo**	**1.43**	**30**	P	**Pn**	**01 22 40.0**	**-1.5**
GTOI				S	**Sn**	**01 22 58.3**	**-1.1**
KMSI	**Cibinong**	**2.05**	**55**	P	**Pn**	**01 22 49.1**	**-1.0**
TOLI2	**Tolitoli**	**2.29**	**318**	Pn	**Pn**	**01 22 53.6**	**+0.2**
TTSI	**Tana Toraja**	**3.46**	**226**	P	**Pn**	**01 23 09.8**	**+0.3**
SANI	**Sanana**	**3.95**	**111**	P	**Pn**	**01 23 15.2**	**-1.1**
SPSI	**Sidrap Palu**	**4.18**	**217**	P	**Pn**	**01 23 19.5**	**+0.1**
BNSI	**Bone**	**4.36**	**210**	P	**Pn**	**01 23 21.7**	**-0.1**
SGKI	**Sangatta, Kali**	**4.70**	**271**	P	**Pn**	**01 23 30.3**	**+3.8**
KAPI	**Kappang**	**5.06**	**210**	Pn	**Pn**	**01 23 31.2**	**-0.3**
	79nm,0.3s,baz=26,slow=9.5,SNR=190						
KAPI					**Sn**	**01 24 27.6**	**-1.5**
	baz=253,slow=20,SNR=3.6						
KAPI				LR	LR	01 25 51.5	
	comp=Z,3μm,20.2s,baz=54,slow=42						
KAPI	**Kappang**	**5.06**	**210**	Pn	**Pn**	**01 23 31.4**	**-0.1**
SMKI	**Samarinda**	**5.09**	**272**	P	**Pn**	**01 23 30.1**	**-1.9**
	2.1nm412nm,0.9s						
BKSI	**Bulukumba**	**5.16**	**205**	P	**Pn**	**01 23 32.8**	**-0.1**
	0.8nm2μm245nm,0.7s						
TNTI	**Ternate**	**5.25**	**75**	Pn	**Pn**	**01 23 37.6**	**+3.5**
TNTI	**Ternate**	**5.25**	**75**	P	**Pn**	**01 23 34.3**	**+0.2**
BKB	**Balikpapan**	**5.44**	**263**	Pn	**Pn**	**01 23 37.1**	**+0.4**
BKB	**Balikpapan**	**5.44**	**263**	P	**Pn**	**01 23 35.7**	**-1.1**
	1.4nm4μm355nm,1.1s						
NLAI	**Namlea**	**5.46**	**119**	P	**Pn**	**01 23 38.0**	**+1.0**
	1.6nm7μm352nm,0.7s						
KBKI	**Kotabaru**	**6.69**	**246**	P	**Pn**	**01 23 54.2**	**+0.3**
	0.6nm2μm103nm,0.9s						
MYLDM	**Lahad Datu**	**6.89**	**327**	Pn	Pn	01 24 02.4	+5.7
MTKI	**Muara Teweh, K**	**7.41**	**267**	P	**Pn**	**01 24 03.5**	**-0.4**
	1.6nm72nm,0.8s						
SKMP	**Bagumbayan, Su**	**7.43**	**17**	*e*P	**Pn**	**01 24 01.8**	**-2.3**
SKMP				*e*S	**Sn**	**01 25 21.6**	**-6.0**
DDMP	**Don Marcelino,**	**7.49**	**27**	*e*P	Pn	01 23 55.8	-9.1
MMRI	**Maumere**	**7.97**	**180**	Pn	**Pn**	**01 24 11.2**	**-0.3**
MMRI	**Maumere**	**7.97**	**180**	P	**Pn**	**01 24 12.1**	**+0.6**
	160nm,0.7s						
BBKI	**Banjar Baru**	**7.97**	**249**	P	**Pn**	**01 24 12.0**	**+0.4**
	0.8nm73nm,1.1s						
KCP	**Kidapawan**	**8.07**	**20**	‖*i*P	**Pn**	**01 24 14.2**	**+1.3**
EDFI	**Ende, Flores**	**8.11**	**184**	P	**Pn**	**01 24 13.5**	**0.0**
	558nm64nm,0.7s						
PAGZ	**Pagadian**	**8.47**	**7**	*e*P	**Pn**	**01 24 17.5**	**-0.9**
BUKP	**Musuan**	**8.87**	**18**	*e*P	**Pn**	**01 24 23.8**	**-0.1**
BUKP				*e*S	**Sn**	**01 26 03.0**	**-0.1**
SWI	**Sorong**	**8.96**	**92**	P	**Pn**	**01 24 26.0**	**+0.9**
	194nm,0.8s						
SIJI	**Sorong**	**8.97**	**92**	Pn	**Pn**	**01 24 26.4**	**+1.2**
	3.5nm,0.3s,baz=273,slow=7.0,SNR=18						
SIJI					**Sn**	**01 26 10.1**	**+4.6**
	0.1nm,0.3s,baz=107,slow=19,SNR=2.6						
KKM	**Kota Kinabalu**	**8.98**	**318**	Pn	**Pn**	**01 24 27.7**	**+2.2**
SOEI	**Soe**	**9.29**	**168**	Pn	**Pn**	**01 24 33.0**	**+3.3**
SOEI	**Soe**	**9.29**	**168**	P	**Pn**	**01 24 30.4**	**+0.7**
	119nm,0.9s						
PLAI	**Plampang**	**9.32**	**209**	P	**Pn**	**01 24 30.2**	**+0.1**
	62nm,0.9s						
BATI	**Baumata**	**9.63**	**172**	Pn	**Pn**	**01 24 34.9**	**+0.7**
	3.1nm,0.3s,baz=40,slow=7.8,SNR=7.4						
BATI	**Baumata**	**9.63**	**172**	P	**Pn**	**01 24 37.9**	**+3.6**
BASI	**Baing, Sumba**	**9.70**	**190**	P	Pn	01 24 40.1	+4.9
TWSI	**Taliwang, Sumb**	**9.71**	**214**	P	**Pn**	**01 24 35.0**	**-0.4**
	547nm11nm,1.0s						
FAKI	**Fak Fak**	**10.20**	**103**	Pn	**Pn**	**01 24 40.8**	**-1.4**
FAKI	**Fak Fak**	**10.20**	**103**	P	**Pn**	**01 24 41.3**	**-0.9**
	158nm,1.0s						
SRBI	**Singaraja**	**10.25**	**223**	P	**Pn**	**01 24 43.1**	**+0.4**
	46nm,1.2s						
KMMI	**Kalianget**	**10.49**	**232**	P	**Pn**	**01 24 48.4**	**+2.4**
SBUM	**Sibu**	**10.53**	**287**		**Pn**	**01 24 48.3**	**+1.7**
SBUM	**Sibu**	**10.53**	**287**	Pn	**Pn**	**01 24 50.0**	**+3.4**
JAGI	**Jaig, Banyuwa**	**11.26**	**226**	Pn	**Pn**	**01 24 56.6**	**-0.1**
KSM	**Kuching**	**12.17**	**280**	Pn	**Pn**	**01 25 11.2**	**+2.2**
SMRI	**Semarang**	**13.45**	**241**	P	**P**	**01 25 37.7**	**+2.1**
MTN	**Manton Dam**	**14.98**	**145**	P	**P**	**01 25 51.5**	**-1.1**
LEM	**Lembang**	**15.89**	**247**	Pn	**Pn**	**01 26 01.1**	**+1.5**
	3.5nm,0.3s,baz=84,slow=11,SNR=7.7						
LEM				LR	LR	01 32 44.1	
	comp=Z,612nm,19.6s,baz=52,slow=39						
CISI	**Cisompet, Garu**	**16.00**	**244**	Pn	**Pn**	**01 26 01.9**	**+1.1**
CISI				IAmb	IAmb	01 26 27.1	
	comp=Z,60nm,0.9s						
CISI	**Cisompet, Garu**	**16.00**	**244**	P	**P**	**01 26 04.0**	**-0.1**
PMBI	**Palembang**	**17.67**	**262**	P	**P**	**01 26 26.2**	**+3.7**
FITZ	**Fitzroy Crossi**	**17.68**	**169**	P	**Pn**	**01 26 21.4**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=344,slow=5.2,SNR=7.1						
FITZ	**Fitzroy Crossi**	**17.68**	**169**	P	**Pn**	**01 26 22.7**	**+0.8**
MYKOM	**Kota Tinggi**	**18.60**	**277**	P	**P**	**01 26 33.5**	**+0.7**
PSA00	**Pilbara Seismi**	**20.97**	**186**	P	**P**	**01 26 58.2**	**-0.4**
PSA00				IAmb	IAmb	01 26 59.4	
	comp=Z,61nm,0.9s						
BKNI	**Bangkinang**	**21.28**	**272**	P	**P**	**01 27 03.0**	**+1.0**
BKNI				IAmb	IAmb	01 27 07.6	
	comp=Z,80nm,1.0s						
KULM	**Kulim**	**22.41**	**285**	P	**P**	**01 27 15.0**	**+0.9**
WB0	**Warramunga Arr**	**22.42**	**149**	P	**P**	**01 27 13.8**	**-0.3**
WB0				IAmb	IAmb	01 27 23.0	
	comp=Z,29nm,0.8s						
WRAB	**Tennant Creek**	**22.54**	**149**	P	**P**	**01 27 15.5**	**+0.1**
WRAB				IAmb	IAmb	01 27 24.2	
	comp=Z,38nm,0.9s						
WRA	**Warramunga Arr**	**22.54**	**149**	P	**P**	**01 27 15.7**	**+0.3**
	comp=Z,19nm,1.0s,baz=330,slow=10,SNR=43						
WRA				ScP	**ScP**	**01 34 45.0**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=329,slow=3.3,SNR=6.3						
WRA	**Warramunga Arr**	**22.54**	**149**	P	**P**	**01 27 15.1**	**-0.3**
WB2	**Warramunga Arr**	**22.54**	**149**	P	**P**	**01 27 14.9**	**-0.6**
WB2				IAmb	IAmb	01 27 24.3	
	comp=Z,39nm,0.9s						
WR0	**Warramunga Arr**	**22.66**	**149**	P	**P**	**01 27 16.8**	**+0.1**
WR0				IAmb	IAmb	01 27 25.3	
	comp=Z,41nm,0.9s						
QIZ	**Qiongzhong**	**23.04**	**329**	P	**P**	**01 27 20.9**	**+0.3**
QIZ				S	**S**	**01 31 30.3**	**+0.4**
QIZ				LR	LR		
	comp=Z,290nm,5.9s						
QIZ				LR	LR		
	comp=Z,190nm,16.9s						
QIZ				LR	LR	

comp=Z,6.1nm,0.8s,baz=344,slow=9.2,SNR=4.6
STKA Stephens Creek 36.05 151 P P 01 29 16.8 +0.2
XAN Xi'an 36.69 341 P P 01 29 22.5 +0.3
XAN pP sP 01 29 35.0 +1.9
XAN sP pP 01 29 41.1 +11
XAN PcP **PcP** **01 31 46.1 +1.5**
XAN S **S** **01 35 01.9 -2.2**
XAN PcS **PcS** **01 35 32.1 -0.6**
XAN pmax pmax
comp=Z,18nm,1.3s
XAN LR LR
comp=Z,180nm,15.2s
XAN LR LR
comp=Z,220nm,17.3s
XAN Xi'an 36.69 341 P 01 29 22.2 0.0
XAN IAmb IAmb 01 29 32.4
comp=Z,22nm,1.2s
KSRS Korea Array 38.23 7 LR LR 01 45 58.9
comp=Z,130nm,19.8s,baz=176,slow=37
JGF Kuroka 38.67 20 P P 01 29 38.2 -0.7
SHL Shillong 39.26 314 P P 01 29 44.4 +0.2
SHL IAmb IAmb 01 30 06.0
comp=Z,23nm,1.0s
MAJO Matsushiro 39.81 20 P P 01 29 45.6 -2.8
MAT Matsushiro 39.81 20 P P 01 29 45.9 -2.5
MJAR Matsushiro Arr 39.81 20 P P 01 29 46.0 -2.4
comp=Z,8.6nm,0.8s,baz=192,slow=8.9,SNR=18
MJAR LR LR 01 46 58.8
comp=Z,102nm,19.4s,baz=200,slow=37
MJAR Matsushiro Arr 39.81 20 P P 01 29 45.4 -3.0
LZH Lanzhou 40.35 337 *eP* **P 01 29 54.3 +1.2**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,58nm,4.9s
BJI Beijing 40.84 353 P P 01 29 57.8 +1.0
BJI pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 42.41 348 *eP* **P 01 30 11.3 +1.5**
HHC S **S** **01 36 33.4 +3.6**
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.2s
HHC LR LR
comp=Z,120nm,14.9s
HHC LR LR
comp=Z,160nm,15.2s
HHC LR LR
comp=Z,180nm,14.0s
ODAN Odare 43.30 312 *eP* **P 01 30 18.2 +0.8**
comp=Z,36nm,0.9s
TAPN Taplejung 43.34 313 *eP* **P 01 30 17.3 -0.5**
comp=Z,34nm,0.9s
RAMN Ramite 43.94 311 *eP* **P 01 30 23.6 +1.0**
comp=Z,58nm,0.9s
JTM Tenmabayashi 44.60 20 P P 01 30 26.5 -0.8
JTM IAmb IAmb 01 30 33.9
comp=Z,22nm,0.9s
GTA Gaotai 44.84 335 P P 01 30 30.1 +0.6
GTA pP sP 01 30 42.0 +1.5
GTA sP pP 01 30 47.3 +10
GTA pmax pmax
comp=Z,13nm,1.2s
GTA pmax pmax
comp=Z,94nm,8.4s
GTA LR LR
comp=Z,100nm,17.1s
GTA LR LR
comp=Z,110nm,18.7s
GTA LR LR
comp=Z,140nm,15.1s
GUN Gumba 45.00 312 *eP* **P 01 30 31.7 +0.5**
comp=Z,47nm,0.7s
PKI Pulchoki 45.17 311 *eP* **P 01 30 32.9 +0.4**
comp=Z,12nm,0.6s
PKIN Phulchoki 45.18 311 *eP* **P 01 30 33.2 +0.7**
comp=Z,13nm,0.7s
DMN Daman 45.42 311 *eP* **P 01 30 34.2 -0.2**
comp=Z,60nm,1.1s
USA0B Ussuriysk Arra 45.45 10 P P 01 30 32.2 -1.8
USRK Ussuriysk Ar. 45.45 10 P P 01 30 32.5 -1.5
comp=Z,4.9nm,0.8s,baz=188,slow=7.7,SNR=14
USRK LR LR 01 49 00.9
comp=Z,41nm,21.3s,baz=179,slow=35
USRK Ussuriysk Ar. 45.45 10 P P 01 30 32.4 -1.6
MDJ Mudanjiang 45.50 7 P P 01 30 33.1 -1.3
MDJ pmax pmax
comp=Z,13nm,1.0s
MDJ pmax pmax
comp=Z,34nm,3.6s
GKN Gorkha 45.98 311 *eP* **P 01 30 38.3 -0.4**
comp=Z,58nm,1.0s
HYB Hyderabad 46.65 295 *i* P **P 01 30 44.0 0.0**
HYB *e* 01 30 50.0
JKA Kamikawa-asahi 48.08 20 P P 01 30 53.6 -1.0
ULN Ulaanbaatar 50.08 347 P P 01 31 09.8 -0.2
SONM Songino Array 50.20 346 P P 01 31 11.2 +0.1
comp=Z,3.1nm,0.7s,baz=164,slow=6.8,SNR=21
SONM Songino Array 50.20 346 P P 01 31 11.1 +0.1
SONM IAmb IAmb 01 31 19.1
comp=Z,15nm,1.0s
WMQ Urumqi 53.96 329 *eP* P 01 31 44.6 +5.7
WMQ pP sP 01 31 51.8 +1.7
WMQ PP **PP** **01 33 45.8 +5.3**
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ pmax pmax
comp=Z,250nm,5.5s
WMQ LR LR
comp=Z,470nm,26.9s
ZSN Zaisan 57.92 331 *eP* **P 01 32 06.9 -0.3**
baz=331
SHLS Shalkode 58.04 324 *eP* **P 01 32 06.5 -1.8**
comp=Z,3.9nm,1.3s,baz=324
SHLS *i* S **S** **01 39 59.6 -7.9**
baz=324
KSH Kashi 58.17 319 *eP* **P 01 32 09.3 +0.1**
KSH sP sP 01 32 26.3 +5.9
KSH S **S** **01 40 07.6 -1.8**
KSH pmax pmax
comp=Z,8.0nm,1.1s
KSH pmax pmax
comp=Z,360nm,5.2s
SATY Saty 58.61 323 *eP* **P 01 32 11.9 -0.3**
comp=Z,4.6nm,1.2s,baz=323
KPKS Kokpek 58.68 324 *eP* **P 01 32 12.2 -0.5**
comp=Z,3.5nm,1.0s,baz=324
MK31 Makanchi Array 58.77 329 P P **01 32 12.4 -0.8**
MK31 IAmb IAmb 01 32 33.1
comp=Z,6.8nm,1.1s
MKAR Makanchi Array 58.77 329 P P **01 32 12.9 -0.2**
comp=Z,3.5nm,0.7s,baz=128,slow=8.0,SNR=21
MKAR LR LR 02 00 18.2
comp=Z,80nm,20.6s,baz=118,slow=39
MKAR Makanchi Array 58.77 329 P P **01 32 13.3 +0.1**
MAKZ Makanchi 58.94 329 P P **01 32 14.0 -0.4**
MAKZ IAmb IAmb 01 32 24.0
comp=Z,6.7nm,0.8s
TNSS Tian-Shan 59.47 323 *i* P **P 01 32 15.0 -3.6**
baz=323
MDOK Medeo 59.48 323 *eP* **P 01 32 18.0 -0.3**
baz=323
TDK Taldyqorghan 59.75 325 *eP* **P 01 32 20.1 +0.1**
baz=325
KUU Kurty 60.32 323 *eP* **P 01 32 23.0 -0.9**
comp=Z,4.7nm,0.7s,baz=323
AAK Ala-Archa 60.76 321 P P 01 32 26.8 -0.4
KBL Kabul 60.80 311 P P 01 32 27.3 -0.4
PETK Petropavlovsk- 61.12 24 P P 01 32 28.0 -1.2
comp=Z,6.7nm,1.0s,baz=212,slow=5.1,SNR=3.3
PETK LR LR 01 57 03.7
comp=Z,64nm,21.9s,baz=197,slow=34
PETK Petropavlovsk- 61.12 24 P P 01 32 28.5 -0.7
BTLS Baital 62.32 323 *eP* **P 01 32 36.9 -0.4**
baz=323
BKZ Black Stump Fm 62.52 135 P P 01 32 39.0 +0.1
ZAA0 Zalesovo Array 62.58 336 P P 01 32 37.4 -1.6
ZAA0 IAmb IAmb 01 32 50.8
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 62.58 336 P P 01 32 36.9 -2.0
comp=Z,2.8nm,0.9s,baz=121,slow=5.5,SNR=10
ZALV Zalesovo Beam 62.58 336 P P 01 32 37.5 -1.4
DZA Taraz 62.90 320 *eP* **P 01 32 41.3 0.0**
baz=320
IUG Iuzhnay 63.39 319 *eP* **P 01 32 44.3 -0.4**
baz=319
KKAR Karatay Array 63.53 320 P P 01 32 45.5 0.0
MA2 Magadan 64.01 16 P P 01 32 47.0 -1.3
MA2 IAmb IAmb 01 32 55.1
comp=Z,14nm,0.9s
BRZS Berezniki 65.79 327 *eP* **P 01 33 00.0 -0.1**
baz=327
BRVK Borovoye 68.72 329 P P 01 33 21.9 +3.3
BRVK IAmb IAmb 01 33 26.6
comp=Z,9.2nm,1.1s
TIXI Tiksi 72.27 2 P P 01 33 43.2 +3.4
TIXI IAmb IAmb 01 33 45.4
comp=Z,17nm,1.0s
ABKAR Abkulak array 72.79 323 P P 01 33 45.8 +2.3
VNDA Vanda 79.74 172 P P 01 34 22.4 0.0
comp=Z,0.7nm,0.3s,baz=306,slow=3.0,SNR=7.2
VNDA LR LR 02 11 00.0
comp=Z,89nm,18.4s,baz=333,slow=37
VNDA Vanda 79.74 172 P P 01 34 22.2 -0.2
VNDA IAmb IAmb 01 34 52.5
comp=Z,18nm,2.0s
KMBO Kilima Mbogo 85.04 269 LR LR 02 11 08.4
comp=Z,108nm,18.8s,baz=94,slow=34
SYO Syowa Base 86.81 201 *eP* **P 01 34 58.0 -0.9**
QSPA South Pole Qui 89.32 180 P P 01 35 11.8 +0.6
QSPA IAmb IAmb 01 35 17.8
comp=Z,7.6nm,1.2s
BRTR Keskin Array B 89.36 310 LR LR 02 20 50.8
comp=Z,39nm,20.2s,baz=116,slow=39
ILAR Eielson Array 90.30 25 P P 01 35 18.4 0.0
comp=Z,0.3nm,0.9s,baz=260,slow=5.4,SNR=4.0
BOSA Boshof 95.90 241 LR LR 02 15 44.1
comp=Z,106nm,18.0s,baz=108,slow=33
TORD Torodi Ar. Bea 119.89 285 PKP PKPdf 01 41 04.4 -2.0
comp=Z,0.7nm,0.8s,baz=85,slow=1.2,SNR=4.5
TXAR Lajitas Array 127.74 53 PKP PKPdf 01 41 19.5 -1.8
comp=Z,0.3nm,0.9s,baz=212,slow=3.1,SNR=3.2
CPUP Villa Florida 153.21 181 PKPbc PKPbc 01 42 11.7 -1.9
comp=Z,1.6nm,0.8s,baz=87,slow=4.7,SNR=3.0

IDC 18 01:34:44.6±27.0, 19°.74S×174°.35W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.8/23, mbtmp4.3/4, Error ellipse: s-maj=502.4km s-min=154.5km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.99**	**263**	P	P	01 41 57.8	+1.7
	2.8nm,0.4s,baz=96,slow=12,SNR=5.2						
STKA	**Stephens Creek**	**41.20**	**244**	P	P	01 42 30.1	-1.2
	1.6nm,0.5s,baz=73,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**48.03**	**256**	P	P	01 43 25.4	-0.7
	3.5nm,0.8s,baz=96,slow=7.9,SNR=21						
WRA	**Warramunga Arr**	**48.11**	**261**	P	P	01 43 26.6	-0.1
	1.0nm,0.3s,baz=93,slow=8.0,SNR=51						

NEIC ***18*** *01:45:54.0±0.7, 20°.0N±0°.1×64°.95W±0°.06, h38km±56km, Error ellipse: s-maj=18.0km s-min=8.4km az=177.0*
RSPR ***18*** *01:45:55.4, 19°.97N×64°.97W, h54km±15km, MD3.5/8*
ISC 18 01:45:54.3±3.2, 19°.9N±0°.2×64°.98W±0°.08, h17km, n29, σ0°.35/34, 9C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUPR	**Culebra, Puert**	**1.58**	**190**	⇑*eP*	**Pn**	**01 46 21.0**	**-0.5**
CUPR	**Culebra, Puert**	**1.58**	**190**	*eS*	**Sn**	**01 46 41.7**	**+0.3**
CUPR	**Culebra, Puert**	**1.58**	**190**		**Pn**	**01 46 21.0**	**-0.5**
CUPR					**Sn**	**01 46 41.5**	**0.0**
CUPR				IAML		01 46 42.2	
	comp=E,57nm,0.6s						
CUPR				IAML		01 46 42.9	
	comp=N,74nm,0.4s						
CBYP	**Canovanas**	**1.79**	**208**	⇑*eP*	**Pn**	**01 46 24.1**	**-0.4**
CBYP	**Canovanas**	**1.79**	**208**	*eS*	**Sn**	**01 46 47.2**	**+0.3**
CBYP	**Canovanas**	**1.79**	**208**		**Pn**	**01 46 24.1**	**-0.4**
CBYP					**Sn**	**01 46 46.5**	**-0.3**
MTP	**Monte Pirata**	**1.84**	**197**	⇑*eP*	**Pn**	**01 46 25.0**	**-0.2**
MTP	**Monte Pirata**	**1.84**	**197**	*eS*	**Sn**	**01 46 48.6**	**+0.6**
MTP	**Monte Pirata**	**1.84**	**197**		**Pn**	**01 46 24.9**	**-0.2**
MTP					**Sn**	**01 46 48.4**	**+0.4**
MTP				IAML		01 46 50.2	
	comp=E,114nm,0.2s						
MTP				IAML		01 46 53.8	
	comp=N,116nm,0.1s						
GCPR	**Guaynabo City**	**1.87**	**214**	⇑*eP*	**Pn**	**01 46 25.2**	**-0.2**
GCPR	**Guaynabo City**	**1.87**	**214**	*eS*	**Sn**	**01 46 48.8**	**+0.2**
GCPR	**Guaynabo City**	**1.87**	**214**		**Pn**	**01 46 24.8**	**-0.7**
GCPR					**Sn**	**01 46 48.2**	**-0.4**
GCPR				IAML		01 46 48.7	
	comp=E,46nm,0.6s						
HUMP	**Col San Antoni**	**1.90**	**206**	⇑*eP*	**Pn**	**01 46 25.7**	**-0.3**
HUMP	**Col San Antoni**	**1.90**	**206**	*eS*	**Sn**	**01 46 49.8**	**+0.3**
HUMP	**Col San Antoni**	**1.90**	**206**		**Pn**	**01 46 25.6**	**-0.3**
HUMP					**Sn**	**01 46 49.4**	**-0.1**
HUMP				IAML		01 46 51.8	
	comp=E,95nm,0.2s						
HUMP				IAML		01 46 54.1	
	comp=N,71nm,0.2s						
SJG	**San Juan**	**2.07**	**213**	Pn	**Pn**	**01 46 27.8**	**-0.4**
SJG				IAML		01 46 54.9	
	comp=N,39nm,0.2s						
SJG				IAML		01 47 09.7	
	comp=N,35nm,0.2s						
PDPR	**Patillas Dam,**	**2.08**	**208**	Pn	**Pn**	**01 46 28.1**	**-0.4**
PDPR				IAML		01 46 56.0	
	comp=E,56nm,0.4s						
CDVI	**St. Croix**	**2.11**	**174**	⇑*eP*	**Pn**	**01 46 29.1**	**+0.3**
CDVI	**St. Croix**	**2.11**	**174**		**Pn**	**01 46 29.1**	**+0.3**
IGPR	**InterUniversit**	**2.17**	**210**	⇑*eP*	**Pn**	**01 46 29.8**	**+0.1**
IGPR	**InterUniversit**	**2.17**	**210**	*eS*	**Sn**	**01 46 56.3**	**+0.2**
AOPR	**Arecibo Observ**	**2.26**	**228**	Pn	**Pn**	**01 46 31.0**	**+0.1**
AOPR				IAML		01 47 10.4	
	comp=N,66nm,0.3s						
CELP	**Cerrillos**	**2.34**	**221**	⇑*eP*	**Pn**	**01 46 32.0**	**+0.1**
CELP	**Cerrillos**	**2.34**	**221**		**Pn**	**01 46 32.0**	**+0.1**
OBIP	**Obispado Ponce**	**2.38**	**221**	*eS*	**Sn**	**01 47 00.9**	**-0.4**
OBIP	**Obispado Ponce**	**2.38**	**221**	Pn	**Pn**	**01 46 33.1**	**+0.6**
MLPR	**Magueyes Islan**	**2.71**	**226**	⇑*eP*	**Pn**	**01 46 37.3**	**+0.2**
MLPR	**Magueyes Islan**	**2.71**	**226**		**Pn**	**01 46 37.4**	**+0.3**
SKI	**Saint Kitts**	**3.30**	**139**	Pn	**Pn**	**01 46 45.0**	**-0.2**

IDC 18 02:06:14.1±2.5, 6°.26S×127°.55E, h0km, mb3.2/1, mb1 3.7/3, mb1mx3.4/22, mbtmp3.4/3, ML3.5/2, MS3.7/1, Ms1 3.7/1, ms1mx2.6/15, Error ellipse: s-maj=316.4km s-min=30.0km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.12**	**155**	Pn	Pn	02 09 50.9	+1.7
	0.1nm,0.3s,baz=334,slow=13,SNR=7.9						
ASAR	**Alice Springs**	**18.36**	**161**	P	Pn	02 10 29.3	-1.1
	0.4nm,0.3s,baz=342,slow=11,SNR=17						
CTA	**Charters Tower**	**22.78**	**129**	LR	LR	02 19 44.5	
	comp=Z,219nm,21.9s,baz=84,slow=36						
MKAR	**Makanchi Array**	**66.29**	**328**	P	P	02 17 04.4	0.0
	0.1nm,0.5s,baz=119,slow=8.4,SNR=3.1						

DDA ***18*** *02:11:56.6, 37°.08N×36°.80E, h7km±1km, ML2.5*
ISK ***18*** *02:11:56.3, 37°.09N×36°.81E, h11km, ML2.5/13*
ISC 18 02:11:56.7±1.1, 37°.08N±0°.04×36°.81E±0°.03, h8km±8km, n24, σ0°.34/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAMA	**Osmaniye**	**0.15**	**315**	*i* P	**Pg**	**02 12 00.3**	**+0.2**
KAMA				*i* S	**Sg**	**02 12 02.8**	**+0.4**
KAMA				IAML		02 12 03.0	
	comp=E,921nm,0.1s						
KAMA				IAML		02 12 03.0	
	comp=N,1μm,0.2s						
HCB	**Kahramanmara**	**0.28**	**17**	*i* P	**Pg**	**02 12 02.1**	**-0.2**
HCB				*i* S	**Sg**	**02 12 05.8**	**-0.2**
HCB				IAML		02 12 07.0	
	comp=E,1μm,0.1s						
HCB				IAML		02 12 08.0	
	comp=N,804nm,0.1s						
GAZ	**Gaziantep**	**0.34**	**74**	PG	**Pg**	**02 12 03.3**	**-0.1**
KHMN	**Narli-Kahraman**	**0.42**	**42**	PG	**Pg**	**02 12 05.1**	**+0.1**
KMRS	**Kahramanmaras**	**0.43**	**10**	PG	**Pg**	**02 12 05.3**	**+0.1**
KMRS				SG	**Sg**	**02 12 11.0**	**+0.1**
GZT	**Gaziantep**	**0.67**	**65**	*i* P	**Pg**	**02 12 09.6**	**0.0**
GZT				*i* S	**Sb**	**02 12 20.5**	**+0.4**
GZT				IAML		02 12 22.0	
	comp=N,224nm,0.2s						
GZT				IAML		02 12 23.0	
	comp=E,184nm,0.2s						
CEYT	**Ceyhan**	**0.85**	**266**	PG	**Pb**	**02 12 13.6**	**-0.1**
TAHT	**Tahtakopru-Hat**	**0.86**	**216**	PG	**Pg**	**02 12 13.2**	**-0.1**
TAHT				SG	**Sb**	**02 12 26.0**	**+0.5**
KOZT	**Kozan**	**0.88**	**298**	PG	**Pb**	**02 12 13.9**	**-0.3**
YURE	**YUREGIR**	**0.97**	**255**	PG	**Pb**	**02 12 15.5**	**-0.3**
SAIM	**ADANA**	**1.06**	**328**	*i* P	**Pg**	**02 12 16.6**	**-0.6**
SAIM				IAML		02 12 34.0	
	comp=E,208nm,0.3s						
SAIM				IAML		02 12 34.0	
	comp=N,250nm,0.3s						
ATAB	**Bozova**	**1.25**	**71**	*i* P	**Pn**	**02 12 20.0**	**-0.5**
ATAB				IAML		02 12 38.0	
	comp=E,203nm,0.4s						
ATAB				*i* S	**Sn**	**02 12 38.1**	**+0.5**
ELBS	**KAHRAMANMARAS**	**1.27**	**12**	*i* P	**Pg**	**02 12 21.4**	**+0.2**
ELBS				*i* S	**Sn**	**02 12 38.9**	**+0.7**
ELBS				IAML		02 12 41.0	
	comp=E,162nm,0.3s						
ELBS				IAML		02 12 41.0	
	comp=N,113nm,0.3s						
SARI	**SarD1z-Kayseri**	**1.36**	**347**	PN	**Pn**	**02 12 21.9**	**-0.3**
KARA	**Karaisali**	**1.41**	**278**	PN	**Pn**	**02 12 22.6**	**-0.1**
AKCD	**Akcadag**	**1.50**	**36**	*i* P	**Pb**	**02 12 24.6**	**-0.4**
AKCD				IAML		02 12 47.0	
	comp=E,106nm,0.5s						
AKCD				IAML		02 12 48.0	
	comp=N,117nm,0.5s						
YAHY	**KAYSERI_Yahyal**	**1.53**	**312**	*i* P	**Pb**	**02 12 25.2**	**-0.2**
YAHY				IAML		02 12 49.0	
	comp=N,16nm,0.5s						
YAHY				IAML		02 12 50.0	
	comp=E,15nm,0.5s						
CMRD	**Camardi-Nigde**	**1.56**	**293**	PN	**Pn**	**02 12 24.5**	**-0.3**
DARE	**Darende-Malaty**	**1.58**	**20**	PN	**Pn**	**02 12 24.9**	**-0.3**
DED	**Mersin**	**1.61**	**266**	*i* P	**Pn**	**02 12 25.1**	**-0.3**
URFA	**Urfa**	**1.65**	**77**	PN	**Pn**	**02 12 25.8**	**-0.2**
MALT	**Malatya**	**1.78**	**46**	PN	**Pn**	**02 12 27.8**	**-0.1**
MERS	**Mersin**	**1.84**	**264**	PN	**Pn**	**02 12 28.5**	**-0.2**
BNN	**Bunyan**	**1.93**	**337**	PN	**Pn**	**02 12 29.7**	**-0.2**

MAN 18 02:19:57.5, 13°.76N×120°.61E, h18km, mb4.6, ML3.5, MS3.4, Mindoro

NEIC ***18*** *02:28:55.8±3.0, 35°.98N±0°.05×139°.92E±0°.06, h46km±3km, mb4.2/8, Error ellipse: s-maj=7.8km s-min=6.1km az=149.0*
IDC ***18*** *02:28:56.0±2.5, 35°.95N×139°.81E, h53km±22km, mb3.2/5, mb1 3.6/7, mb1mx3.3/37, mbtmp3.8/7, ML4.2/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/22, Error ellipse: s-maj=38.1km s-min=12.6km az=69.0*
JMA ***18*** *02:28:56.1±0.1, 36°.07N×139°.89E, h46km±1km, M3.6 Broadband fault plane solution: P waves. NP1: ϕs=259.00000°, δ12.00000°, λ139.00000°. NP2: ϕs=30.00000°, δ82.00000°, λ81.00000°. Principal axes: T Plg52.0000°, Azm289.0000°; N Plg9.0000°, Azm31.0000°; P Plg36.0000°, Azm128.0000°;*
JMA Felt II J1.
ISC 18 02:28:55.3±0.8, 35°.99N±0°.04×139°.97E±0°.05, h46km±7km, n47, σ1°.59/48, mb4.0/9, 1C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.30**	**38**	⇑P	**Pn**	**02 29 04.8**	**+0.8**
JYT				S	**Sn**	**02 29 11.0**	**+0.8**
JYT	**Yasato**	**0.30**	**38**		**Pn**	**02 29 04.8**	**+0.8**
JYT				Sn	**Sn**	**02 29 10.8**	**+0.6**
JAG	**Ashikaga**	**0.60**	**316**	⇓P	**Pn**	**02 29 07.2**	**-0.4**
JAG				S	**Sn**	**02 29 15.0**	**-1.4**
JRY	**Ryogami san**	**0.86**	**272**	⇓P	**Pn**	**02 29 10.8**	**-0.3**
JRY				S	**Sn**	**02 29 21.3**	**-1.3**
JKT	**Katashina**	**0.97**	**323**	⇓P	**Pn**	**02 29 11.8**	**-0.8**
JKT				S	**Sn**	**02 29 23.7**	**-1.5**
JOD2	**Odawara 2**	**1.02**	**225**	P	**Pn**	**02 29 14.2**	**+1.0**
JOD2				S	**Sn**	**02 29 27.5**	**+1.1**
MJAR	**Matsushiro Arr**	**1.52**	**292**	P	**Pn**	**02 29 19.7**	**-0.4**
	6.5nm,0.3s,baz=99,slow=8.6,SNR=120						
MJAR	**Matsushiro Arr**	**1.52**	**292**		**Pn**	**02 29 19.2**	**-0.9**
MAJO	**Matsushiro**	**1.53**	**292**		**Pn**	**02 29 20.2**	**+0.2**
MAT	**Matsushiro**	**1.53**	**292**	P	**Pn**	**02 29 20.3**	**+0.2**
MAT				S	**Sn**	**02 29 39.1**	**+0.3**
MJB9	**Matsu-Tunnel**	**1.53**	**292**	Pn	**Pn**	**02 29 20.1**	**+0.1**
JMM	**Marumori**	**1.99**	**19**	Pn	**Pn**	**02 29 23.5**	**+1.1**
JGF	**Kuroka**	**2.16**	**260**		**Pn**	**02 29 30.6**	**+1.8**
JSD	**Sado**	**2.46**	**327**		**Pn**	**02 29 32.2**	**-0.6**
INU	**Inuyama**	**2.49**	**256**	Pn	**Pn**	**02 29 34.6**	**+1.4**
JHJ	**Hachijo jima 2**	**2.87**	**183**	P	**Pn**	**02 29 38.8**	**+0.3**
	55nm,0.3s,baz=246,slow=20,SNR=3.2						
JHJ				S	**Sn**	**02 30 12.1**	**+0.3**
	61nm,0.3s,baz=230,slow=24,SNR=3.0						
JHJ2	**Mitsune**	**2.87**	**183**	Pn	**Pn**	**02 29 36.4**	**-2.1**
JWT	**Wachi**	**3.79**	**261**		**Pn**	**02 29 52.1**	**+1.0**
JHS	**Saijyo**	**5.68**	**262**	Pn	**Pn**	**02 30 19.2**	**+2.2**
JNU	**Nakatsue**	**8.03**	**252**	LR	LR	02 33 19.5	
	comp=Z,95nm,20.3s,baz=33,slow=33						
JCJ	**Chichijima**	**9.07**	**167**	P	**Pn**	**02 31 02.2**	**-1.3**
	4.4nm,0.3s,baz=283,slow=19,SNR=3.9						
JCJ				S	**Sn**	**02 32 38.4**	**-5.9**
	2.6nm,0.3s,baz=278,slow=19,SNR=1.7						
JCJ	**Chichijima**	**9.07**	**167**		**Pn**	**02 31 02.6**	**-0.9**
KSRS	**Korea Array**	**9.78**	**282**	LR	LR	02 34 45.3	
	comp=Z,39nm,21.4s,baz=90,slow=36						
USRK	**Ussuriysk Ar.**	**10.22**	**326**	P	**Pn**	**02 31 23.4**	**+4.2**
	baz=138,slow=14,SNR=5.4						
USRK	**Ussuriysk Ar.**	**10.22**	**326**	Pn	**Pn**	**02 31 22.0**	**+2.8**
H11N2	**WAKE ISLAND Hy**	**28.66**	**117**	T	T	03 04 59.9	
	baz=312,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.67**	**117**	T	T	03 04 59.9	
	baz=312,slow=74,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.68**	**117**	T	T	03 05 04.4	
	baz=312,slow=74,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**29.32**	**119**	T	T	03 05 53.1	
	baz=314,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.32**	**119**	T	T	03 05 53.0	
	baz=314,slow=76,SNR=9.5						
H11S2	**WAKE ISLAND Hy**	**29.34**	**119**	T	T	03 05 51.9	
	baz=314,slow=76,SNR=4.3						
ZALV	**Zalesovo Beam**	**41.77**	**313**	P	**P**	**02 36 38.5**	**-1.3**
	1.6nm,0.5s,baz=89,slow=7.3,SNR=7.1						
ZALV	**Zalesovo Beam**	**41.77**	**313**	P	**P**	**02 36 39.1**	**-0.8**
MK31	**Makanchi Array**	**43.69**	**303**	P	**P**	**02 36 54.8**	**-0.8**
MKAR	**Makanchi Array**	**43.69**	**303**	P	**P**	**02 36 54.0**	**-1.6**
	0.4nm,0.6s,baz=91,slow=10,SNR=6.3						
MKAR	**Makanchi Array**	**43.69**	**303**	P	**P**	**02 36 54.6**	**-1.0**
COEN	**Coen**	**49.77**	**176**	P	**P**	**02 37 43.6**	**+0.3**
ILAR	**Eielson Array**	**51.00**	**32**	P	**P**	**02 37 53.1**	**+1.1**
	0.2nm,0.6s,baz=275,slow=5.8,SNR=2.0						
SCRK	**Sand Creek**	**52.31**	**33**	P	**P**	**02 38 04.1**	**+2.0**
SCRK				IAmb	IAmb	02 38 21.9	
	comp=Z,3.3nm,1.4s						
WB0	**Warramunga Arr**	**55.70**	**186**	P	**P**	**02 38 27.8**	**+0.8**
WB0				IAmb	IAmb	02 38 46.5	
	comp=Z,3.5nm,1.1s						
WB2	**Warramunga Arr**	**55.88**	**186**	P	**P**	**02 38 30.3**	**+1.9**
WB2				IAmb	IAmb	02 38 45.9	
	comp=Z,6.1nm,1.5s						
WR0	**Warramunga Arr**	**55.88**	**186**	P	**P**	**02 38 29.1**	**+0.8**
WRA	**Warramunga Arr**	**55.88**	**186**	P	**P**	**02 38 28.1**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=0.9,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**55.88**	**186**	P	**P**	**02 38 29.2**	**+0.9**
ABKAR	**Akbulak array**	**57.72**	**310**	P	**P**	**02 38 40.3**	**-0.9**
ABKAR				IAmb	IAmb	02 38 47.3	
	comp=Z,2.1nm,1.4s						
ASAR	**Alice Springs**	**59.61**	**186**	P	**P**	**02 38 55.3**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=19,slow=12,SNR=1.8						
BURAR	**Bucovina Array**	**78.40**	**321**	P	**P**	**02 40 50.6**	**-0.5**

KRNET ***18*** *02:31:01.5±0.1, 42°.33N×75°.30E, h35km, mb1.5*
NNC ***18*** *02:31:04.1±0.7, 42°.93N×76°.58E, h0km, mb2.2, mpv2.2, Error ellipse: s-maj=8.4km s-min=1.9km az=158.0*
SOME 18 02:31:04.7, 42°.93N×76°.55E, h5km, 9C-9D, Lake Issyk-Kul region

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

IZV	**Izvestkoviy**	**0.11**	**24**	*e*P		Pg	02 31 07.0	-0.2
	8.1nm,0.1s							
IZV				*e*S		Sg	02 31 08.4	-0.4
	48nm,0.2s							
IZV	**Izvestkoviy**	**0.11**	**24**	P		Pg	02 31 07.0	-0.2
	8.1nm,0.1s							
IZV				S		Sg	02 31 08.4	-0.4
	48nm,0.2s							
MTBS	**Maitube**	**0.22**	**336**	*e*P		Pg	02 31 08.9	-0.1
	4.3nm,0.1s							
MTBS				*e*S		Sg	02 31 11.5	-0.3
	43nm,0.1s							
MTBS	**Maitube**	**0.22**	**336**	P		Pg	02 31 08.9	-0.1
	4.3nm,0.1s							
MTBS				S		Sg	02 31 11.4	-0.5
	58nm,0.2s							
TNSS	**Tian-Shan**	**0.31**	**70**	*e*P		Pg	02 31 10.8	-0.1
	5.2nm,0.2s							
TNSS				*e*S		Sg	02 31 14.7	-0.3
	4.2nm,0.2s							
TNSS	**Tian-Shan**	**0.31**	**70**	P		Pg	02 31 10.8	-0.1
	5.2nm,0.2s							
TNSS				S		Sg	02 31 14.7	-0.3
	4.2nm,0.2s							
KNDC	**Almaty**	**0.42**	**47**	⇑P		Pg	02 31 12.3	-0.5
	12nm,0.3s							
KNDC				⇓S		Sg	02 31 17.9	-0.4
	14nm,0.3s							
MDOK	**Medeo**	**0.43**	**58**	⇓P		Pg	02 31 12.5	-0.6
	0.6nm,0.3s							
MDOK				⇑S		Sg	02 31 17.4	-1.3
	0.9nm,0.3s							
MDOK	**Medeo**	**0.43**	**58**	Pg		Pg	02 31 12.3	-0.7
	1.7nm,0.3s							
MDOK				Lg		Lg	02 31 17.5	
	3.7nm,0.2s							
BOOM	**Boomskoye usch**	**0.63**	**226**	⇓*i*P		Pg	02 31 16.9	+0.1
	baz=70							
BOOM				⇓*i*S		Sb	02 31 28.6	+1.1
	baz=70							
TKM2	**Tokmak 2**	**0.70**	**269**	⇓*i*P		Pg	02 31 18.1	-0.1
	baz=20							
TKM2				⇓*i*S		Sb	02 31 29.7	+0.1
	baz=20							
TKM2	**Tokmak 2**	**0.70**	**269**	⇑P		Pg	02 31 18.2	0.0
	0.8nm,0.8s							
TKM2				⇓S		Sg	02 31 28.1	+0.8
	0.5nm,0.5s							
ULHL	**Ulahol**	**0.72**	**198**	⇓*i*P		Pg	02 31 19.2	+0.6
	baz=96							
ULHL				⇓*i*S		Sb	02 31 31.4	+1.2
	baz=96							
KBK	**Karagaybulak**	**1.21**	**257**	⇑*i*P		Pg	02 31 17.0	-11
	baz=22							
KBK				⇑*i*S		Sg	02 31 27.9	-16
	baz=22							
AAK	**Ala-Archa**	**1.54**	**260**	⇑P		Pb	02 31 33.5	-0.4
	1.6nm,0.8s							
AAK				⇑S		Sg	02 31 55.0	+0.8
	0.9nm,0.7s							
ARLS	**Aral**	**1.97**	**238**	⇑*i*P		Pn	02 31 20.3	-19
	baz=37							
ARLS				⇑*i*S		Sn	02 31 34.1	-30
	baz=37							

IDC 18 02:32:11.6±7.6, 30°37S×178°34W, *h*0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/23, mbtmp3.7/2, Error ellipse: s-maj=318.2km s-min=56.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.82**	**267**	P	P	02 40 11.1	-0.5
	0.7nm,0.6s,baz=101,slow=7.4,SNR=8.0						
WRA	**Warramunga Arr**	**43.81**	**272**	P	P	02 40 19.7	+0.2
	0.5nm,0.3s,baz=111,slow=8.0,SNR=9.9						
FINES	**FINESS Array B**	**145.02**	**340**	PKPbc	PKPbc	02 51 48.7	-0.8
	1.2nm,0.7s,baz=46,slow=8.0,SNR=3.5						

*IDC **18** 02:45:57.3±0.7, 56°.12S×26°.79W, *h*0km, mb4.5/7, mb1 4.5/8, mb1mx4.2/23, mbtmp4.4/8, ML3.9/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/17, Error ellipse: s-maj=31.1km s-min=17.9km az=79.0*

*NEIC **18** 02:46:06.0±1.5, 56°.2S±0°.1×27°.0W±0°.2, *h*58km±7km, mb4.7/24, Error ellipse: s-maj=15.8km s-min=14.4km az=199.0*

ISC 18 02:46:06.1±0.5, 56°.2S±0°.1×27°.0W±0°.1, *h*63km, n55, σ0.993/46, mb4.7/15, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.75**	**285**	Pn	**Pn**	**02 47 28.3**	**-0.4**
VNA1	**Neumayer--Stat**	**16.63**	**158**	P	**P**	**02 49 57.5**	**+1.4**
VNA3	**Neumayer Olymp**	**16.83**	**161**	P	**P**	**02 49 59.4**	**+1.0**
VNA2	**Neumayer--Watz**	**17.03**	**158**	P	**P**	**02 50 02.6**	**+2.0**
	baz=320,slow=13						
SNAA	**Sanae**	**18.57**	**156**	P	**P**	**02 50 17.5**	**-0.1**
SNAA	**Sanae**	**18.57**	**156**	P	**P**	**02 50 15.7**	**-1.9**
	0.4nm,0.3s,baz=313,slow=9.4,SNR=14						
SNAA	**Sanae**	**18.57**	**156**	P	**P**	**02 50 17.0**	**-0.6**
BELA	**Belgrano 2**	**21.95**	**184**	P	**P**	**02 50 52.6**	**-1.3**
GO09	**Cerro Castillo**	**26.87**	**261**	P	**P**	**02 51 41.9**	**+1.3**
SYO	**Syowa Base**	**31.41**	**141**	⇑*e*P	**P**	**02 52 19.1**	**-1.5**
PLCA	**Paso Flores**	**32.12**	**280**	LR	LR	03 05 18.3	
	comp=Z,72nm,18.8s,baz=156,slow=36						
QSPA	**South Pole Qui**	**34.06**	**180**	P	**P**	**02 52 44.1**	**+0.1**
	4.7nm,0.6s,baz=210,slow=1.2,SNR=42						
QSPA	**South Pole Qui**	**34.06**	**180**	P	**P**	**02 52 44.3**	**+0.3**
QSPA				IAmb	IAmb	02 53 01.1	
	comp=Z,18nm,1.4s						
CPUP	**Villa Florida**	**36.98**	**311**	P	**P**	**02 53 08.3**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=148,slow=7.2,SNR=8.5						
CPUP	**Villa Florida**	**36.98**	**311**	P	**P**	**02 53 08.9**	**-0.2**
CPUP				IAmb	IAmb	02 53 10.3	
	comp=Z,7.7nm,1.2s						
MT02	**Curacav**	**37.92**	**288**	P	**P**	**02 53 17.3**	**+0.1**
MT02				IAmb	IAmb	02 53 18.3	
	comp=Z,16nm,1.3s						
VA03	**San Esteban**	**38.00**	**289**	P	**P**	**02 53 18.1**	**+0.2**
VA03				IAmb	IAmb	02 53 18.8	
	comp=Z,19nm,1.4s						
CO02	**Combarbal**	**39.46**	**291**	P	**P**	**02 53 29.8**	**-0.3**
AC05	**El Transito**	**40.97**	**294**	P	**P**	**02 53 43.0**	**+0.4**
AC02	**Maricunga**	**42.03**	**296**	P	**P**	**02 53 53.1**	**+1.3**
AC02				IAmb	IAmb	02 53 54.0	
	comp=Z,20nm,1.5s						
BDFB	**Brasilia**	**43.53**	**330**	LR	LR	03 09 12.2	
	comp=Z,52nm,19.8s,baz=103,slow=32						
GO02	**Mina Guanaco**	**43.64**	**297**	P	**P**	**02 54 05.5**	**+0.8**
PB14	**IPOC Station P**	**44.50**	**297**	P	**P**	**02 54 11.1**	**-0.3**
LVC	**Limon Verde**	**45.46**	**300**	P	**P**	**02 54 19.7**	**+0.6**
LVC				IAmb	IAmb	02 54 22.4	
	comp=Z,7.9nm,1.0s						
PB10	**IPOC Station P**	**45.50**	**298**	P	**P**	**02 54 19.0**	**-0.1**
PB10				IAmb	IAmb	02 54 27.2	
	comp=Z,23nm,1.2s						
BOSA	**Boshof**	**45.91**	**76**	LR	LR	03 10 14.1	
	comp=Z,77nm,18.4s,baz=162,slow=32						
VNDA	**Vanda**	**46.44**	**183**	P	**P**	**02 54 26.2**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=179,slow=5.5,SNR=16						
VNDA	**Vanda**	**46.44**	**183**	P	**P**	**02 54 26.6**	**+0.8**
VNDA				IAmb	IAmb	02 54 29.1	
	comp=Z,3.5nm,0.8s						
PB07	**IPOC Station P**	**46.68**	**300**	P	**P**	**02 54 29.0**	**+0.5**
PB07				IAmb	IAmb	02 54 42.7	
	comp=Z,17nm,1.2s						
CRZF	**Crozet Islands**	**47.67**	**113**	P	**P**	**02 54 38.1**	**+2.4**
PB08	**IPOC Station P**	**47.68**	**301**	P	**P**	**02 54 37.3**	**+0.7**
H10S2	**ASCENSION HYDR**	**48.10**	**17**	T	T	03 46 42.9	
	baz=189,slow=74,SNR=23						
H10S3	**ASCENSION HYDR**	**48.11**	**16**	T	T	03 46 43.1	
	baz=31,slow=74,SNR=53						
MNMC	**Minye Minye**	**48.76**	**302**	P	**P**	**02 54 45.5**	**+0.7**
H10N1	**ASCENSION HYDR**	**49.22**	**16**	T	T	03 48 07.4	
	baz=187,slow=77,SNR=20						
H10N3	**ASCENSION HYDR**	**49.22**	**16**	T	T	03 48 09.1	
	baz=187,slow=77,SNR=31						
H10N2	**ASCENSION HYDR**	**49.24**	**16**	T	T	03 48 08.0	
	baz=187,slow=77,SNR=39						
LPAZ	**La Paz**	**50.54**	**305**	P	**P**	**02 54 59.4**	**+0.7**
	comp=Z,7.8nm,0.5s,baz=99,slow=5.2,SNR=26						
LPAZ	**La Paz**	**50.54**	**305**	P	**P**	**02 54 59.6**	**+0.9**
SAML	**Samuel**	**54.97**	**315**	P	**P**	**02 55 30.7**	**0.0**
SAML				IAmb	IAmb	02 55 31.4	
	comp=Z,8.6nm,1.2s						
DBIC	**Dimbokro**	**65.25**	**24**	P	**P**	**02 56 40.1**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=170,slow=7.7,SNR=4.9						
DBIC				LR	LR	03 17 35.2	
	comp=Z,36nm,21.5s,baz=174,slow=29						
DBIC	**Dimbokro**	**65.25**	**24**	P	**P**	**02 56 40.5**	**-0.4**
DBIC				IAmb	IAmb	02 56 57.6	
	comp=Z,14nm,1.4s						
KOWA	**Kowa**	**73.01**	**23**	P	**P**	**02 57 29.3**	**+0.4**
KOWA				IAmb	IAmb	02 57 43.9	
	comp=Z,9.1nm,1.4s						
TOA0	**Torodi Ar. Sit**	**73.13**	**29**	P	**P**	**02 57 29.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**73.13**	**29**	P	**P**	**02 57 29.4**	**-0.2**
	comp=Z,2.7nm,0.4s,baz=200,slow=6.4,SNR=60						
TORD	**Torodi Ar. Bea**	**73.13**	**29**	P	**P**	**02 57 29.2**	**-0.4**
ASAR	**Alice Springs**	**98.83**	**162**	P	**P**	**02 59 37.5**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=176,slow=3.7,SNR=5.6						
ARCES	**ARCESS Array B**	**131.03**	**22**	PKP	**PKPdf**	**03 05 08.5**	**-0.3**
	comp=Z,5.3nm,1.1s,baz=132,slow=1.8,SNR=6.8						
YKA	**Yellowknife Ar**	**136.34**	**318**	PKhKP	PKPpre	03 05 15.4	
	comp=Z,0.5nm,0.5s,baz=119,slow=3.2,SNR=9.0						
MKAR	**Makanchi Array**	**136.84**	**71**	PKP	**PKPdf**	**03 05 20.9**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=226,slow=4.0,SNR=3.1						
ILAR	**Eielson Array**	**150.28**	**311**	PKPbc	**PKPbc**	**03 05 48.0**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=141,slow=5.2,SNR=59						

*IDC **18** 03:13:41.4±0.9, 43°.79N×86°.40E, *h*0km, mb3.7/5, mb1 3.8/9, mb1mx3.4/67, mbtmp3.7/9, ML3.5/4, Error ellipse: s-maj=55.1km s-min=12.8km az=51.0*

*BJI **18** 03:13:45.9±0.0, 43°.79N×86°.40E, *h*10km, ML3.8/9*

*NNC **18** 03:13:47.4±1.3, 43°.93N×86°.09E, *h*0km, mb4.3, mpv4.0, Error ellipse: s-maj=9.5km s-min=5.3km az=118.0*

*SOME **18** 03:13:49.5, 44°.00N×85°.80E, *h*10km*

ISC 18 03:13:43.6±0.7, 43°.81N±0°.05×86°.20E±0°.03, *h*10km, n58, σ2.549/88, mb3.8/5, 10C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.08**	**89**	Pg	**Pb**	**03 14 03.3**	**-1.2**
WMQ				Sg	**Sb**	**03 14 16.3**	**-2.4**
WMQ				smax	smax		
	comp=N,540nm,0.7s						
WMQ				smax	smax		
	comp=E,650nm,0.7s						
ZSN	**Zaisan**	**3.76**	**346**	*e*P	**Pg**	**03 14 56.2**	**+0.6**
	45nm,0.4s						
ZSN				*e*S	**Sg**	**03 15 44.6**	**+0.2**
	52nm,0.5s						
ZSN	**Zaisan**	**3.76**	**346**	Pg	**Pg**	**03 14 56.2**	**+0.6**
	45nm,0.4s						
ZSN				Lg	Lg	03 15 44.6	
	52nm,0.5s						
MK31	**Makanchi Array**	**4.06**	**319**	Pn	**Pn**	**03 14 48.2**	**+2.4**
	7.7nm,0.4s,baz=131,slow=14,SNR=367						
MK31				Pg	**Pg**	**03 14 58.6**	**-2.8**
	23nm,0.6s,baz=144,slow=16,SNR=18						
MK31				⇓Sn	**Sn**	**03 15 37.2**	**+3.6**
	16nm,0.3s,baz=135,slow=28,SNR=6.5						
MK31				⇑Lg	Lg	03 15 52.1	
	61nm,0.6s,baz=136,slow=29,SNR=7.8						
MKAR	**Makanchi Array**	**4.06**	**319**	Pn	**Pn**	**03 14 48.7**	**+2.8**
	5.6nm,0.3s,baz=133,slow=14,SNR=253						
MKAR				Sn	**Sn**	**03 15 37.4**	**+3.8**
	16nm,0.3s,baz=131,slow=26,SNR=9.7						
MKAR				Lg	Lg	03 15 51.9	
	14nm,0.3s,baz=138,slow=29,SNR=7.6						
MAKZ	**Makanchi**	**4.23**	**317**	⇑Pn	**Pn**	**03 14 50.6**	**+2.5**
	17nm,0.4s						
MAKZ				⇓Pg	**Pg**	**03 15 01.1**	**-3.5**
	18nm,0.6s						
MAKZ				⇓Sn	**Sn**	**03 15 40.5**	**+3.0**
	38nm,0.5s						
MAKZ				⇑Lg	Lg	03 15 59.8	
	59nm,0.6s						
KTMS	**Ketmen**	**4.26**	**267**	*e*P	**Pg**	**03 15 03.4**	**-1.9**
	15nm,0.3s						
KTMS				*e*S	**Sg**	**03 15 56.3**	**-4.1**
	61nm,0.3s						
KTMS	**Ketmen**	**4.26**	**267**	Pg	**Pg**	**03 15 03.3**	**-1.9**
	15nm,0.3s						
KTMS				Lg	Lg	03 15 56.3	
	61nm,0.3s						
DJR	**Jarkent**	**4.65**	**279**	*e*P	**Pg**	**03 15 11.9**	**-0.8**
	10.0nm,0.5s						
DJR				*e*S	**Sg**	**03 16 11.3**	**-1.6**
	60nm,0.4s						
DJR	**Jarkent**	**4.65**	**279**	Pg	**Pg**	**03 15 11.9**	**-0.8**
	10.0nm,0.5s						
DJR				Lg	Lg	03 16 11.3	
	60nm,0.4s						
PDGK	**Podgornoye**	**4.90**	**267**	Pg	**Pg**	**03 15 15.9**	**-1.6**
	5.2nm,0.4s						
PDGK				Lg	Lg	03 16 18.5	
	31nm,0.5s						
PDGK	**Podgornoye**	**4.90**	**267**	⇑Pn	**Pn**	**03 15 00.6**	**+3.1**
	2.8nm,0.3s						
PDGK				⇓Pg	**Pg**	**03 15 15.7**	**-1.8**
	5.8nm,0.5s						
PDGK				⇓Sn	**Sn**	**03 15 58.9**	**+4.7**
	16nm,0.5s						
PDGK				⇓Lg	Lg	03 16 21.3	
	57nm,0.9s						
SHLS	**Shalkode**	**4.95**	**265**	*e*P	**Pb**	**03 15 11.4**	**+1.1**
	39nm,0.4s						
SHLS				*e*S	**Sb**	**03 16 10.9**	**+1.0**
	113nm,0.4s						
SHLS	**Shalkode**	**4.95**	**265**	Pg	**Pb**	**03 15 11.4**	**+1.1**
	39nm,0.4s						
SHLS				Lg	Lg	03 16 10.9	
	113nm,0.4s						
KAPS	**Kapalarasan**	**5.11**	**289**	*e*P	**Pg**	**03 15 19.5**	**-1.9**
	5.4nm,0.3s						
KAPS				*e*S	**Sg**	**03 16 24.7**	**-2.9**
	53nm,0.5s						
KAPS	**Kapalarasan**	**5.11**	**289**	Pg	**Pg**	**03 15 19.5**	**-1.9**
	5.4nm,0.3s						
KAPS				Lg	Lg	03 16 24.7	
	53nm,0.5s						
UZB	**Uzunbulak**	**5.26**	**265**	*e*P	**Pg**	**03 15 23.4**	**-1.0**
	9.4nm,0.4s						
UZB				*e*S	**Sg**	**03 16 30.5**	**-2.1**
	31nm,0.6s						
UZB	**Uzunbulak**	**5.26**	**265**	Pg	**Pg**	**03 15 23.4**	**-1.0**
	9.4nm,0.4s						
UZB				Lg	Lg	03 16 30.5	
	31nm,0.6s						
KPKS	**Kokpek**	**5.46**	**269**	*e*P	**Pg**	**03 15 26.4**	**-1.8**
	15nm,0.3s						
KPKS				*e*S	**Sg**	**03 16 36.2**	**-2.9**
	49nm,0.4s						
MNBS	**Baschi**	**5.64**	**275**	*e*P	**Pg**	**03 15 28.3**	**-3.2**
	11nm,0.5s						
MNBS				*e*S	**Sg**	**03 16 40.3**	**-4.3**
	47nm,0.3s						
MNBS	**Baschi**	**5.64**	**275**	Pg	**Pg**	**03 15 28.3**	**-3.2**
	11nm,0.5s						
MNBS				Lg	Lg	03 16 40.3	
	47nm,0.3s						
TDK	**Taldyqorghan**	**5.71**	**285**	*e*P	**Pg**	**03 15 32.1**	**-0.8**
	49nm,0.3s						
TDK				*e*S	**Sg**	**03 16 45.4**	**-1.5**
	160nm,0.5s						
TDK	**Taldyqorghan**	**5.71**	**285**	Pg	**Pg**	**03 15 32.1**	**-0.8**
	49nm,0.3s						
TDK				Lg	Lg	03 16 45.4	
	160nm,0.5s						
SATY	**Saty**	**5.72**	**265**	*e*P	**Pg**	**03 15 32.3**	**-0.9**
	7.3nm,0.4s						
SATY				*e*S	**Sg**	**03 16 45.8**	**-1.6**
	33nm,0.7s						
SATY	**Saty**	**5.72**	**265**	Pg	**Pg**	**03 15 32.3**	**-0.9**
	7.3nm,0.4s						
SATY				Lg	Lg	03 16 45.8	
	33nm,0.7s						
KURS	**Kuram**	**5.83**	**270**	*e*P	**Pg**	**03 15 35.8**	**+0.5**
	4.4nm,0.8s						
KURS				*e*S	**Sg**	**03 16 52.2**	**+1.4**
	22nm,0.8s						
ARXS	**Arharly**	**6.05**	**277**	*e*P	**Pg**	**03 15 35.2**	**-4.3**
	11nm,0.4s						
ARXS				*e*S	**Sg**	**03 16 51.2**	**-6.7**
	36nm,0.4s						
KOTS	**Kotyrbulak**	**6.63**	**268**	*e*P	**Pg**	**03 15 49.4**	**-1.2**
	13nm,0.6s						
KOTS				*e*S	**Sg**	**03 17 16.1**	**-0.3**
	35nm,0.5s						
KOTS	**Kotyrbulak**	**6.63**	**268**	Pg	**Pg**	**03 15 49.4**	**-1.2**
	13nm,0.6s						
KOTS				Lg	Lg	03 17 17.3	
	35nm,0.5s						
MDOK	**Medeo**	**6.69**	**268**	*e*P	**Pg**	**03 15 50.7**	**-0.9**
	3.6nm,0.6s						
MDOK				*e*S	**Sg**	**03 17 17.5**	**-0.8**
	18nm,0.9s						
MDOK	**Medeo**	**6.69**	**268**	⇑Pn	**Pn**	**03 15 23.5**	**+1.5**
	2.1nm,0.4s						
MDOK				⇑Lg	Lg	03 17 16.6	
	19nm,0.6s						
MDOK	**Medeo**	**6.69**	**268**	Pg	**Pg**	**03 15 50.7**	**-0.9**
	3.6nm,0.6s						
MDOK				Lg	Lg	03 17 17.5	
	18nm,0.9s						
TNSS	**Tian-Shan**	**6.78**	**267**	*e*P	**Pg**	**03 15 53.6**	**+0.1**
	5.3nm,0.4s						
TNSS				*e*S	**Sg**	**03 17 23.0**	**+1.7**
	7.8nm,0.6s						
KTBS	**Karatobe**	**6.89**	**272**	*e*P	**Pg**	**03 15 53.4**	**-2.2**
	2.8nm,0.4s						
KTBS				*e*S	**Sg**	**03 17 22.1**	**-2.6**
	22nm,0.6s						
KTBS	**Karatobe**	**6.89**	**272**	Pg	**Pg**	**03 15 53.4**	**-2.2**
KTBS				Lg	Lg	03 17 22.1	
IZV	**Izvestkoviy**	**7.02**	**267**	*e*P	**Pg**	**03 15 56.9**	**-1.2**
	6.5nm,0.5s						
IZV				*e*S	**Sg**	**03 17 28.3**	**-0.7**
	19nm,0.6s						
IZV	**Izvestkoviy**	**7.02**	**267**	Pg	**Pg**	**03 15 56.9**	**-1.2**
	6.5nm,0.5s						
IZV				Lg	Lg	03 17 28.3	
	19nm,0.6s						
KUU	**Kurty**	**7.13**	**274**	*e*P	**Pg**	**03 15 56.2**	**-3.9**
	2.4nm,0.3s						
KUU				*e*S	**Sg**	**03 17 26.8**	**-5.5**
	11nm,0.4s						
MTBS	**Maitube**	**7.14**	**268**	*e*P	**Pg**	**03 15 59.2**	**-1.1**
	3.4nm,0.4s						
MTBS				*e*S	**Sg**	**03 17 32.1**	**-0.7**
	12nm,0.5s						
MTBS	**Maitube**	**7.14**	**268**	Pg	**Pg**	**03 15 59.2**	**-1.1**
	3.4nm,0.4s						
MTBS				Lg	Lg	03 17 32.1	
	12nm,0.5s						
KST	**Kastek**	**7.49**	**268**	*e*P	**Pg**	**03 16 05.8**	**-1.2**
	6.1nm,0.7s						
KST				*e*S	**Sg**	**03 17 43.5**	**-0.5**
	18nm,0.9s						
KST	**Kastek**	**7.49**	**268**	Pg	**Pg**	**03 16 05.8**	**-1.2**
	6.1nm,0.7s						
KST				Lg	Lg	03 17 43.5	
	18nm,0.9s						
DGS	**Degeres**	**7.60**	**269**	*e*P	**Pg**	**03 16 05.9**	**-3.2**
	3.1nm,0.5s						
DGS				*e*S	**Sg**	**03 17 44.3**	**-3.2**
	19nm,0.6s						
DGS	**Degeres**	**7.60**	**269**	Pg	**Pg**	**03 16 05.9**	**-3.2**
	3.1nm,0.5s						
DGS				Lg	Lg	03 17 44.9	
	19nm,0.6s						
KRBS	**Karabastau**	**7.62**	**273**	*e*P	**Pg**	**03 16 06.0**	**-3.5**
	2.5nm,0.5s						
KRBS				*e*S	**Sg**	**03 17 44.0**	**-4.1**
	5.6nm,0.4s						
KRBS	**Karabastau**	**7.62**	**273**	Pg	**Pg**	**03 16 06.0**	**-3.5**
	2.5nm,0.5s						
KRBS				Lg	Lg	03 17 44.0	
	5.6nm,0.4s						
TKM2	**Tokmak 2**	**7.78**	**267**	⇓Pn	**Pn**	**03 15 40.9**	**+3.9**
	2.2nm,0.5s						
TKM2				⇑Lg	Lg	03 17 52.3	
	16nm,1.1s						
KURBB	**Kurchatov Arra**	**8.58**	**325**	Pn	**Pn**	**03 15 47.9**	**+0.1**
	0.3nm,0.3s,baz=133,slow=13,SNR=21						
KURBB				Lg	Lg	03 18 14.6	
	0.3nm,0.3s,baz=126,slow=31,SNR=4.3						
KURBB	**Kurchatov Arra**	**8.58**	**325**	⇑Pn	**Pn**	**03 15 48.1**	**+0.3**
	5.1nm,0.6s						
KURBB				⇑Lg	Lg	03 18 17.9	
	62nm,0.8s						
AAK	**Ala-Archa**	**8.63**	**266**	⇑Lg	Lg	03 18 18.8	
	11nm,1.1s						
ZALV	**Zalesovo Beam**	**10.19**	**355**	Pn	**Pn**	**03 16 08.4**	**-1.4**
	1.5nm,0.3s,baz=176,slow=14,SNR=31						
ZALV				Sn	**Sn**	**03 17 58.1**	**-5.9**
	1.0nm,0.3s,baz=171,slow=26,SNR=5.2						
BVAR	**Borovoye Array**	**13.95**	**317**	Pn	**Pn**	**03 17 00.8**	**-0.4**
	0.3nm,0.3s,baz=182,slow=17,SNR=4.0						
SONM	**Songino Array**	**14.64**	**67**	Pn	**Pn**	**03 17 15.3**	**+4.5**
	0.2nm,0.3s,baz=265,slow=11,SNR=6.6						
SONM				Lg	Lg	03 21 20.7	
	0.1nm,0.3s,baz=281,slow=31,SNR=2.0						
FINES	**FINESS Array B**	**38.90**	**318**	P	**P**	**03 21 09.2**	**+0.3**
	0.7nm,0.7s,baz=91,slow=13,SNR=3.3						
NOA	**NORSAR Array B**	**46.06**	**319**	P	**P**	**03 22 08.0**	**+0.7**
	0.1nm,0.3s,baz=77,slow=7.8,SNR=2.7						
FITZ	**Fitzroy Crossi**	**71.41**	**140**	P	**P**	**03 25 02.9**	**-1.1**
	3.7nm,1.2s,baz=342,slow=9.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.09**	**276**	P	**P**	**03 25 36.8**	**-0.6**
	1.0nm,1.2s,baz=44,slow=4.3,SNR=3.9						
WRA	**Warramunga Arr**	**77.25**	**134**	P	**P**	**03 25 36.7**	**-1.4**
	0.6nm,0.6s,baz=335,slow=5.3,SNR=6.9						

*NEIC **18** 03:21:45.8±1.6, 13°.21N±0°.05×51°.49E±0°.06, *h*10km±1km, mb4.6/25, Error ellipse: s-maj=11.4km s-min=6.4km az=299.0*

*IDC **18** 03:21:45.4±0.6, 13°.28N×51°.40E, *h*0km, mb4.2/23, mb1 4.3/24, mb1mx4.1/51, mbtmp4.2/24, ML3.6/1, MS3.7/19, Ms1 3.7/19, ms1mx3.5/34, Error ellipse: s-maj=16.5km s-min=13.3km az=118.0*

*BJI **18** 03:21:45.0±0.0, 13°.00N×51°.50E, *h*10km, mB4.9/17, mb4.6/29, Ms4.7/2*

*OMAN **18** 03:21:47.4, 13°.34N×51°.67E, *h*10km, mb5.4/3, ml4.2/4*

ISC 18 03:21:45.7±0.5, 13°.21N±0°.05×51°.55E±0°.06, *h*10km, n87, σ1.979/101, mb4.5/37, MS3.6/20, 1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.58**	**113**	Pn	**Pn**	**03 22 27.1**	**-0.5**
SOCY				Sn	**Sn**	**03 22 54.9**	**-4.3**
SOCY	**Socotra**	**2.58**	**113

10.0nm,1.0s,baz=44,slow=13,SNR=17
KMBO LR LR 03 34 06.2
comp=Z,267nm,19.3s,baz=10,slow=37
EIL Elat 22.47 319 LR LR 03 35 40.8
comp=Z,303nm,19.5s,baz=115,slow=37
HRA Herat 23.21 23 P **P** **03 26 53.3 +0.2**
MMAI Mount Meron Ar 24.62 326 P **P** **03 27 07.2 +0.8**
7.2nm,0.9s,baz=142,slow=8.4,SNR=9.6
MMAI LR LR 03 36 43.4
comp=Z,136nm,19.1s,baz=130,slow=37
MBAR Mbarara 24.78 238 LR LR 03 35 44.0
comp=Z,64nm,19.8s,baz=18,slow=34
MARD Mardin 25.87 340 P **P** **03 27 17.6 -0.1**
MARD IAmb IAmb 03 27 21.3
comp=Z,14nm,0.9s
GEVA Gevas 26.12 345 P **P** **03 27 20.0 -0.1**
GEVA IAmb IAmb 03 27 24.8
comp=Z,22nm,1.0s
KBL Kabul 26.50 34 P **P** **03 27 24.1 +0.5**
KBL IAmb IAmb 03 27 31.7
comp=Z,26nm,1.4s
GAZ Gaziantep 27.09 334 P **P** **03 27 28.4 -0.3**
GNI Garni 27.50 349 P **P** **03 27 34.4 +1.9**
comp=Z,18nm,1.0s,baz=307,slow=1.3,SNR=11
GNI LR LR 03 40 22.9
comp=Z,277nm,21.8s,baz=174,slow=41
GNI Garni 27.50 349 P **P** **03 27 32.4 -0.1**
KOPT Kop Dagi 28.43 342 P **P** **03 27 39.1 -1.7**
BRTR Keskin Array B 30.77 332 P **P** **03 28 02.1 +0.6**
comp=Z,0.7nm,0.6s,baz=150,slow=5.1,SNR=4.3
BRTR LR LR 03 40 02.7
comp=Z,158nm,21.1s,baz=158,slow=36
BRTR Keskin Array B 30.77 332 P **P** **03 28 01.6 +0.1**
KBZ Khabaz 31.31 348 P **P** **03 28 07.3 +1.2**
comp=Z,6.7nm,0.8s,baz=174,slow=7.3,SNR=18
KBZ LR LR 03 42 48.4
comp=Z,505nm,20.2s,baz=152,slow=40
KIV Kislovodsk 31.57 348 P **P** **03 28 08.6 +0.2**
KSH Kashi 33.92 35 P **P** **03 28 26.6 -2.5**
KSH pmax pmax
comp=Z,74nm,1.8s
KSH pmax pmax
comp=Z,130nm,4.5s
KK31 Karatay Array 33.99 25 P **P** **03 28 30.6 +1.1**
KK31 IAmb IAmb 03 28 33.2
comp=Z,4.2nm,0.8s
KKAR Karatay Array 33.99 25 P **P** **03 28 30.6 +1.1**
KKAR Karatay Array 33.99 25 P **P** **03 28 29.3 -0.3**
KKAR IAmb IAmb 03 28 33.2
comp=Z,4.2nm,0.8s
AAK Ala-Archa 35.41 30 P **P** **03 28 42.9 +0.9**
ABKAR Akbulak array 36.60 9 P **P** **03 28 52.9 +0.9**
ABKAR Akbulak array 36.60 9 P **P** **03 28 51.6 -0.4**
ABKAR IAmb IAmb 03 28 54.1
comp=Z,17nm,1.2s
AKTO Aktyubinsk 37.50 7 P **P** **03 29 00.4 +0.9**
comp=Z,7.1nm,0.9s,baz=192,slow=9.2,SNR=17
MATP Matopo 40.39 215 P **P** **03 29 24.9 +0.7**
comp=Z,2.1nm,0.5s,baz=22,slow=11,SNR=9.6
BURAR Bucovina Array 40.74 333 P **P** **03 29 27.0 +0.1**
AKASG Malin Array Be 41.58 339 P **P** **03 29 33.2 -0.3**
comp=Z,5.8nm,0.9s,baz=146,slow=7.1,SNR=11
AKASG LR LR 03 49 45.0
comp=Z,46nm,19.1s,baz=130,slow=40
AKASG Malin Array Be 41.58 339 P **P** **03 29 32.2 -1.3**
MAKZ Makanchi 42.11 31 P **P** **03 29 39.1 +1.1**
MK31 Makanchi Array 42.26 31 P **P** **03 29 40.2 +1.0**
MK31 IAmb IAmb 03 29 42.0
comp=Z,12nm,1.3s
MKAR Makanchi Array 42.26 31 P **P** **03 29 40.8 +1.5**
comp=Z,3.3nm,0.6s,baz=223,slow=7.8,SNR=29
MKAR LR LR 03 49 35.8
comp=Z,46nm,18.3s,baz=224,slow=40
MKAR Makanchi Array 42.26 31 P **P** **03 29 40.1 +0.9**
BRVK Borovoye 42.46 17 P **P** **03 29 41.7 +0.9**
WMQ Urumqi 43.45 38 *eP* **P** **03 29 51.4 +2.4**
WMQ pmax pmax
comp=Z,19nm,1.3s
WMQ pmax pmax
comp=Z,66nm,3.7s
ARU Arti 43.47 6 P **P** **03 29 49.4 +0.5**
comp=Z,1.2nm,0.3s,baz=207,slow=8.0,SNR=5.4
ARU Arti 43.47 6 P **P** **03 29 49.6 +0.8**
ARU IAmb IAmb 03 29 50.6
comp=Z,8.6nm,1.1s
KEST Kesra 44.03 308 LR LR 03 48 28.2
comp=Z,78nm,18.3s,baz=202,slow=36
MNK Minsk 45.20 341 *iP* **P** **03 29 58.3 -4.4**
comp=E,2.0nm,1.0s
MNK *iP* **P** **03 29 58.3 -4.4**
comp=N,10.0nm,1.1s
MNK *iP* **P** **03 29 58.3 -4.4**
comp=Z,10.0nm,1.0s
MNK *i* PP **PcP** **03 31 43.8 +0.9**
MNK *i* PPP PPP 03 32 21.8
MNK *i* S **S** **03 36 38.9 -3.6**
MNK *i* SS **ScS** **03 40 01.6 +1.9**
MNK *i* SSS SSS 03 40 46.2
MNK *i* LQ LQ 03 44 43.4
MNK *i* LR LR 03 48 17.8
MNK *i* LRM MLR 03 50 45.1
comp=E,6.0nm,13.6s
MNK *i* LRM MLR 03 50 45.1
comp=N,70nm,17.0s
MNK *i* LRM MLR 03 50 48.4
comp=Z,15nm,7.4s
CMAR Chiang Mai Arr 45.79 77 P **P** **03 30 10.5 +2.5**
comp=Z,4.9nm,0.7s,baz=275,slow=8.7,SNR=27
CMAR LR LR 03 48 19.1
comp=Z,30nm,19.2s,baz=216,slow=35
CMAR Chiang Mai Arr 45.79 77 P **P** **03 30 08.8 +0.8**
NACGM Naroch 45.89 340 *iP* **P** **03 30 08.2 0.0**
NACGM *iP* **P** **03 30 08.2 0.0**
NACGM *iP* **P** **03 30 08.2 0.0**
NACGM *i* PP **PP** **03 31 58.3 +2.6**
NACGM *i* PPP PPP 03 32 41.0
NACGM *i* S **S** **03 36 51.6 -0.8**
NACGM *i* SS **SS** **03 40 17.4 +0.4**
NACGM *i* SSS SSS 03 41 11.0
NACGM *i* LQ LQ 03 46 54.4
NACGM *i* LR LR 03 48 35.4
ZOU Zoufplan 46.40 324 P **P** **03 30 12.2 -0.4**
GERES GERESS Array B 47.28 327 P **P** **03 30 18.0 -1.3**
comp=Z,0.2nm,0.3s,baz=126,slow=9.8,SNR=3.3
ZAA0 Zalesovo Array 48.36 26 P **P** **03 30 27.8 +0.3**
ZALV Zalesovo Beam 48.36 26 P **P** **03 30 27.1 -0.4**
comp=Z,7.8nm,0.7s,baz=233,slow=8.1,SNR=33
ZALV Zalesovo Beam 48.36 26 P **P** **03 30 27.7 +0.2**
KLMR Klimovskoe 48.38 352 *eP* **P** **03 30 25.5 -2.0**
KLMR AMP 03 30 28.4
comp=Z,18nm,1.0s
TORD Torodi Ar. Bea 48.48 276 P **P** **03 30 29.1 +0.1**
comp=Z,2.3nm,0.9s,baz=92,slow=7.7,SNR=11
TORD PcP **PcP** **03 31 57.3 +2.1**
comp=Z,0.5nm,0.8s,baz=84,slow=3.6,SNR=2.9
TORD Torodi Ar. Bea 48.48 276 P **P** **03 30 28.2 -0.8**
BOSA Boshof 48.74 211 P **P** **03 30 32.0 +1.1**
comp=Z,6.1nm,0.7s,baz=45,slow=7.1,SNR=11
BOSA LR LR 03 50 10.4
comp=Z,59nm,20.9s,baz=83,slow=35
KMI Kunming 49.52 68 ||P P 03 30 44.3 +7.2
KMI pmax pmax
comp=Z,13nm,1.0s
FINES FINESS Array B 51.57 345 P **P** **03 30 51.4 -0.3**
comp=Z,2.9nm,0.8s,baz=131,slow=8.8,SNR=10
FINES LR LR 03 54 07.1
comp=Z,111nm,18.1s,baz=116,slow=38
FINES FINESS Array B 51.57 345 P **P** **03 30 51.8 0.0**
ESDC Sonseca Array 55.26 309 P **P** **03 31 19.1 -0.2**
comp=Z,2.9nm,1.0s,baz=91,slow=6.0,SNR=11
ESDC Sonseca Array 55.26 309 P **P** **03 31 18.3 -1.0**
XAN Xi'an 55.77 58 P **P** **03 31 23.6 +0.5**
XAN pP pwP 03 31 36.3 +7.7
XAN pmax pmax
comp=Z,7.0nm,0.8s
DBIC Dimbokro 55.85 269 LR LR 03 53 32.0
comp=Z,43nm,18.3s,baz=83,slow=34
NB2 NORSAR Subarra 55.97 338 P **P** **03 31 22.5 -1.6**
comp=Z,5.2nm,1.4s,baz=131,slow=7.4
NOA NORSAR Array B 55.97 338 P **P** **03 31 22.8 -1.3**
comp=Z,0.8nm,0.8s,baz=128,slow=7.9,SNR=3.5
NOA LR LR 03 59 11.4
comp=Z,63nm,18.3s,baz=135,slow=40
SONM Songino Array 56.93 41 P **P** **03 31 33.7 +2.4**
comp=Z,4.9nm,0.9s,baz=245,slow=7.2,SNR=27
SONM LR LR 04 00 12.1
comp=Z,42nm,19.2s,baz=26,slow=40
SONM Songino Array 56.93 41 P **P** **03 31 29.7 -1.6**
ARCES ARCESS Array B 58.65 350 LR LR 04 00 05.0
comp=Z,139nm,18.6s,baz=210,slow=39
HHC Hu-ho-hao-te 58.85 50 *eP* **P** **03 31 46.5 +1.6**
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,48nm,5.4s
HHC LR LR
comp=Z,180nm,16.5s
HHC LR LR
comp=Z,130nm,16.6s
NJ2 Nanjing 63.96 61 *eP* **P** **03 32 20.8 +1.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KSRS Korea Array 71.33 55 LR LR 04 05 27.5
comp=Z,18nm,19.4s,baz=225,slow=37
KLR Kul'dur 73.73 42 P **P** **03 33 20.8 +0.8**
comp=Z,1.2nm,0.6s,baz=290,slow=7.1,SNR=5.8
PSA00 Pilbara Seismi 75.39 117 P **P** **03 33 28.0 -2.0**
SUMG Summit 77.50 342 P **P** **03 33 41.8 +0.1**
SUMG IAmb IAmb 03 33 44.1
comp=Z,8.6nm,1.2s
SEY Seymchan 83.21 27 P **P** **03 34 13.5 +1.5**
comp=Z,2.0nm,0.7s,baz=272,slow=5.4,SNR=9.4
WRA Warramunga Arr 87.82 111 P **P** **03 34 37.4 +1.6**
comp=Z,0.5nm,0.8s,baz=298,slow=3.9,SNR=4.0
ASAR Alice Springs 88.38 115 P **P** **03 34 41.5 +3.1**
comp=Z,0.7nm,0.8s,baz=292,slow=4.7,SNR=4.3
ASAR Alice Springs 88.38 115 P **P** **03 34 38.7 +0.2**
NVAR Mina Array Bea 127.76 350 PKP **PKiKP** **03 40 53.2 +0.4**
comp=Z,0.3nm,0.5s,baz=54,slow=4.4,SNR=2.9

*NIED **18** 03:23:18.1, 32.77N×136.90E, h37km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.38; $M_{\theta\theta}$-2.47; $M_{\phi\phi}$0.09; $M_{r\theta}$1.14; $M_{\theta\phi}$-0.57; $M_{r\phi}$-0.67; Fault plane solution: $M_0$2.82000×10^{14} NP1:ϕ_{s}96.00000°, δ58.00000°, λ110.00000°. NP2:ϕ_{s}241.00000°, δ37.00000°, λ60.00000°.*

JMA 18 03:23:18.1±0.2, 32.77N×136.90E, h37km±1km, M3.8, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO1	**TONANKAI O.B.S**	**0.85**	**354**	P	Pn	03 23 34.0	+0.7
TTO1				*eX*		03 23 45.1	
TTO2	**TONANKAI O.B.S**	**0.97**	**6**	P	Pn	03 23 35.7	+0.8
TTO2				*eX*		03 23 47.9	
TK01	**Tokai 1**	**1.15**	**30**	P	Pn	03 23 37.6	+0.3
TK01				S	Sn	03 23 51.3	-0.3
TTO3	**TONANKAI O.B.S**	**1.17**	**21**	P	Pn	03 23 38.5	+0.8
TTO3				*eX*		03 23 52.9	
JWKM	**Wakayamakushim**	**1.17**	**306**	P	Pn	03 23 38.3	+0.3
JWKM				S	Sn	03 23 51.7	-1.0
JMMH	**Miemihama**	**1.28**	**325**	P	Pn	03 23 39.9	+0.5
JMMH				S	Sn	03 23 54.3	-0.9
TTO4	**TONANKAI O.B.S**	**1.34**	**23**	P	Pn	03 23 40.7	+0.6
TTO4				S	Sn	03 23 56.5	-0.1
TK02	**Tokai 2**	**1.38**	**31**	P	Pn	03 23 41.0	+0.5
TK02				S	Sn	03 23 57.4	0.0
JTNC	**Tanabenakahech**	**1.50**	**314**	P	Pn	03 23 43.0	+0.5
JTNC				S	Sn	03 23 59.9	-1.0
JKN2	**Miekihoku**	**1.56**	**341**	P	Pn	03 23 43.7	+0.5
JIE	**Ise**	**1.62**	**354**	P	Pn	03 23 44.8	+0.6
MAT	**Matsushiro**	**3.92**	**16**	P	Pn	03 24 17.7	+2.0
MAT				S	Sn	03 25 00.4	+0.1

*JMA **18** 03:27:02.3±0.3, 40.37N×143.77E, h15km±4km, M3.2*
*IDC **18** 03:27:12.9±6.4, 40.73N×143.67E, h72km±29km, mb3.1/1, mb1 3.2/4, mb1mx2.9/37, mbtmp3.3/4, Error ellipse: s-maj=96.3km s-min=20.3km az=100.0*

ISC 18 03:27:00.9±1.4, 40.27N±0.06×143.96E±0.09, h16km, n19, σ1s56/28, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.64**	**259**	P	**Pn**	**03 27 29.2**	**+0.2**
JTH				*eS*	**Sn**	**03 27 48.6**	**-1.2**
MIYJ	**Miyakonagasawa**	**1.79**	**248**	P	**Pn**	**03 27 32.1**	**+1.1**
JEM	**Erimo**	**1.84**	**341**	*eS*	**Sn**	**03 27 54.5**	**-0.3**
JANG	**Nango**	**1.87**	**274**	P	**Pn**	**03 27 32.3**	**+0.1**
JANG				*eS*	**Sn**	**03 27 54.0**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.20**	**336**	P	**Pn**	**03 27 37.7**	**+1.0**
JNBK				*eS*	**Sn**	**03 28 03.6**	**0.0**
JOM	**Ohasama**	**2.20**	**250**	P	**Pn**	**03 27 38.3**	**+1.5**
JCH	**Churui**	**2.38**	**349**	P	**Pn**	**03 27 40.0**	**+0.8**
JCH				*eS*	**Sn**	**03 28 07.1**	**-1.0**
JOT	**Ohata**	**2.47**	**298**	P	**Pn**	**03 27 41.3**	**+0.9**
JMK	**Ichinoseki**	**2.49**	**239**	P	**Pn**	**03 27 42.3**	**+1.5**
JMK				*eS*	**Sn**	**03 28 10.9**	**+0.1**
JKB	**Kayabe**	**2.74**	**307**	P	**Pn**	**03 27 44.7**	**+0.6**
JAK	**Akkeshi**	**2.77**	**11**	P	**Pn**	**03 27 45.9**	**+1.3**
JAR	**Ashorobuto**	**3.02**	**357**	P	**Pn**	**03 27 48.3**	**+0.2**
JAR				*eS*	**Sn**	**03 28 22.1**	**-1.8**
JYK	**Kaneyama**	**3.09**	**245**	P	**Pn**	**03 27 51.1**	**+2.1**
NEM2	**Nemuro 2**	**3.36**	**23**	P	**Pn**	**03 27 53.6**	**+0.9**
NEM2				*eS*	**Sn**	**03 28 30.6**	**-1.7**
JTKR	**Abashiri--Toko**	**3.69**	**359**	P	**Pn**	**03 27 58.2**	**+1.0**
JTKR				*eS*	**Sn**	**03 28 39.4**	**-1.0**
ASAJ	**Asahikawa**	**3.97**	**346**	P	**Pn**	**03 28 03.5**	**+2.5**
	0.4nm,0.3s,baz=219,slow=14,SNR=2.9						
ASAJ				S	**Sn**	**03 28 45.7**	**-1.6**
	0.5nm,0.3s,baz=114,slow=20,SNR=6.7						
MJAR	**Matsushiro Arr**	**5.85**	**232**	P	**Pb**	**03 28 39.5**	**-3.1**
	0.1nm,0.3s,baz=40,slow=12,SNR=4.6						
USRK	**Ussuriysk Ar.**	**9.70**	**298**	P	**Pn**	**03 29 22.9**	**+3.2**
	baz=95,slow=15,SNR=6.3						
MKAR	**Makanchi Array**	**44.16**	**300**	P	**P**	**03 35 10.9**	**+2.2**
	0.4nm,0.6s,baz=84,slow=7.4,SNR=4.0						

*IDC **18** 03:40:15.1±1.8, 8.36S×117.80E, h0km, mb3.3/2, mb1 3.6/5, mb1mx3.4/32, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=57.5km s-min=22.8km az=59.0*
*DJA **18** 03:40:16.9±0.4, 8°S±3'×11°8E±°, h10km, M3.4/6, MLv3.4/6*

ISC 18 03:40:16.3±0.8, 8.31S±0.05×117.82E±0.06, h10km, n12, σ1s08/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.52**	**184**	P	**Pg**	**03 40 26.8**	**+0.4**
PLAI				S	**Sg**	**03 40 33.7**	**+0.5**
TWSI	**Taliwang, Sumb**	**1.02**	**245**	P	**Pn**	**03 40 36.3**	**-0.3**
SRBI	**Singaraja**	**2.59**	**275**	P	**Pn**	**03 40 59.3**	**+1.1**
BKSI	**Bulukumba**	**3.75**	**38**	P	**Pn**	**03 41 14.7**	**+0.5**
KAPI	**Kappang**	**3.79**	**31**	Pn	**Pn**	**03 41 15.6**	**+0.8**
	4.3nm,0.3s,baz=226,slow=3.8,SNR=13						
KAPI				Sn	**Sn**	**03 41 58.1**	**-1.4**
	4.4nm,0.3s,baz=232,slow=22,SNR=10						
EDFI	**Ende, Flores**	**3.86**	**97**	P	**Pn**	**03 41 16.9**	**+1.1**
LUWI	**Luwuk**	**8.74**	**35**	P	Pn	03 42 37.4	+15
FITZ	**Fitzroy Crossi**	**12.35**	**143**	Pn	**Pn**	**03 43 10.8**	**-1.6**
	0.2nm,0.3s,baz=317,slow=10,SNR=7.9						
FITZ				Sn	Sn	03 45 21.6	-8.6
	0.1nm,0.3s,baz=183,slow=16,SNR=2.6						
PPBI	**Pangkal Pinang**	**13.13**	**297**	P	**Pn**	**03 43 22.8**	**-0.2**
WRA	**Warramunga Arr**	**19.74**	**128**	P	**P**	**03 44 45.3**	**-1.1**
	0.1nm,0.3s,baz=302,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**21.70**	**137**	P	**P**	**03 45 08.9**	**+1.4**
	0.9nm,0.6s,baz=310,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**63.31**	**333**	P	**P**	**03 50 46.1**	**+0.6**
	0.3nm,0.6s,baz=134,slow=8.3,SNR=3.3						

*CNRM **18** 03:45:04.2, 31.23N×7.95W, h0km, ml3.4, Hypocentre not reviewed by the ISC*
*IGIL **18** 03:45:06.5, 31.18N×7.74W, h0km, ML3.1*
*MDD **18** 03:45:06.6±2.4, 31.28N×7.80W, h0km, mb4.5/12, Error ellipse: s-maj=22.5km s-min=21.1km az=54.0, PRXIMO*
*INMG **18** 03:45:07.2±2.2, 31.28N×7.80W, h10km, ML3.0, Error ellipse: s-maj=7.2km s-min=5.2km az=118.0*
*LDG **18** 03:45:09.4±0.3, 31.28N×7.74W, h10km, Ml3.1/4, Error ellipse: s-maj=7.8km s-min=6.3km az=99.0*

ISC 18 03:45:08.8±3.0, 31.5N±0.1×7.60W±0.07, h10km, n58, σ2s15/109, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUK	**Oukaimeden**	**0.34**	**222**	S		03 45 10.0	
OUZM	**OUZ**	**0.91**	**127**	P		03 45 23.0	
OUZM				S		03 45 35.0	
TTIG	**Tnine Tigouga,**	**1.17**	**218**	P		03 45 19.5	
AVE	**Averroes**	**1.83**	**5**	*eP*	**Pb**	**03 45 41.7**	**-0.8**
AVE				*eS*	**Sg**	**03 46 12.2**	**+4.3**
TZRR	**Tazzarine**	**1.87**	**111**	P		03 45 41.0	
ZGR	**Zagora**	**2.17**	**128**	P		03 45 43.0	
MDT	**Midelt**	**2.87**	**61**	P		03 45 56.4	
IFR	**Ifrane**	**2.93**	**45**	*eP*	**Pn**	**03 45 57.1**	**+1.5**
IFR				*eS*	**Sg**	**03 46 44.7**	**+1.9**
AKLM	**AKL**	**4.37**	**45**	P		03 46 17.0	
ESPR	**Espera**	**5.58**	**15**	P	**Pn**	**03 46 31.8**	**-0.1**
	1.5nm,0.3s,SNR=6.9						
ESPR				S	**Sn**	**03 47 36.5**	**+0.4**
	3.9nm,0.4s						
PFVI	**Vila Bisbo**	**5.75**	**350**	P	**Pn**	**03 46 34.2**	**+0.1**
	7.2nm,0.3s,SNR=21						
PFVI				S	**Sn**	**03 47 39.1**	**-1.0**
	15nm,0.7s,SNR=5.5						
PFVI	**Vila Bisbo**	**5.75**	**350**	*eP*	**Pn**	**03 46 34.3**	**+0.1**
PFVI				*eS*	**Sn**	**03 47 39.9**	**-0.2**
PFVI				A	A	03 47 44.1	
	9.9nm,0.5s						
PFVI	**Vila Bisbo**	**5.75**	**350**	P		03 46 34.2	
PBDV	**Barranco-do-Ve**	**5.77**	**357**	*eP*	**Pn**	**03 46 35.3**	**+0.7**
PBDV				*eS*	**Sn**	**03 47 40.8**	**0.0**
PBDV				A	A	03 47 54.8	
	7.2nm,0.7s						
MORF	**Marmelete**	**5.89**	**352**	*eP*	**Pn**	**03 46 36.2**	**-0.1**
MORF				*eS*	**Sn**	**03 47 41.9**	**-1.9**
MORF				AML	AML	03 47 48.3	
	comp=N,32nm,0.3s						
MORF	**Marmelete**	**5.89**	**352**	*eP*	**Pn**	**03 46 36.1**	**-0.1**
MORF				*eS*	**Sn**	**03 47 44.5**	**+0.7**
MORF				A	A	03 47 46.1	
	comp=N,17nm,0.2s						
PVAQ	**Vaqueiros**	**5.93**	**359**	*ePn*	**Pn**	**03 46 36.5**	**-0.1**
PVAQ				*eSn*	**Sn**	**03 47 43.9**	**-0.7**
PVAQ				A	A	03 47 47.6	
	comp=N,11nm,0.3s						
PVAQ	**Vaqueiros**	**5.93**	**359**	P		03 46 36.4	
EGRO	**El Granado**	**6.06**	**1**	P	**Pn**	**03 46 38.7**	**+0.3**
	comp=N,6.6nm,0.3s,SNR=26						
EGRO				S	**Sn**	**03 47 47.2**	**-0.6**
	comp=N,6.4nm,0.5s						
PTEO	**Sao Teotonio**	**6.14**	**352**	*ePn*	**Pn**	**03 46 39.9**	**+0.4**
PTEO				*eSn*	**Sn**	**03 47 50.4**	**+0.6**
PTEO				A	A	03 47 53.5	
	comp=N,13nm,0.3s						
PCVE	**Castro Verde**	**6.16**	**357**	*ePn*	**Pn**	**03 46 40.3**	**+0.4**
PCVE				*eSn*	**Sn**	**03 47 50.0**	**-0.5**
PCVE				A	A	03 47 53.5	
	comp=N,13nm,0.3s						
ELGU	**Los Guajares,**	**6.32**	**30**	P	**Pn**	**03 46 42.1**	**+0.1**
	comp=N,1.3nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**03 47 53.7**	**-0.7**
	comp=N,3.5nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**6.33**	**26**	P	**Pn**	**03 46 44.2**	**+1.8**
	comp=N,0.5nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**03 47 58.0**	**+3.2**
	comp=N,0.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.33**	**7**	P	**Pn**	**03 46 42.3**	**+0.1**
	comp=N,4.3nm,0.3s,SNR=43						
EMIN				S	**Sn**	**03 47 53.1**	**-1.5**
	comp=N,4.4nm,0.5s						
MESJ	**Messejana**	**6.38**	**356**	*eP*	**Pn**	**03 46 43.0**	**+0.1**
MESJ				*eS*	**Sn**	**03 47 53.2**	**-2.6**
MESJ				AML	AML	03 47 57.4	
	comp=N,12nm,0.3s						
MESJ	**Messejana**	**6.38**	**356**	*ePn*	**Pn**	**03 46 43.1**	**+0.2**
MESJ				*eSn*	**Sn**	**03 47 54.7**	**-1.1**
MESJ				A	A	03 47 57.2	
	comp=N,7.0nm,0.2s						
PBEJ	**Beja**	**6.55**	**358**	*ePn*	**Pn**	**03 46 45.9**	**+0.7**
PBEJ				*eSn*	**Sn**	**03 47 59.7**	**-0.3**
PBEJ				A	A	03 48 05.0	
	comp=N,5.6nm,0.2s						
HORN	**Hornachuelos**	**6.65**	**16**	P		03 46 46.9	
PNCL	**Nicolau / Gran**	**6.68**	**354**	*ePn*	**Pn**	**03 46 47.2**	**+0.3**
PNCL				*eSn*	**Sn**	**03 48 01.1**	**-1.9**
PNCL				A	A	03 48 06.1	
	comp=N,6.3nm,0.7s						
PBAR	**Barrancos**	**6.71**	**4**	*ePn*	**Pn**	**03 46 47.9**	**+0.5**
PBAR				*eSn*	**Sn**	**03 48 03.7**	**-0.2**
PBAR				A	A	03 48 08.0	
	comp=N,5.0nm,0.3s						
ECAB	**El Cabril**	**6.83**	**15**	P	**Pn**	**03 46 49.5**	**+0.3**
	comp=N,5.1nm,0.4s,SNR=15						
ECAB				S	**Sn**	**03 48 05.0**	**-2.0**
	comp=N,3.3nm,0.5s						
EVO	**Evora**	**7.06**	**357**	P	**Pn**	**03 46 52.2**	**0.0**
EVO				S	**Sn**	**03 48 10.1**	**-2.4**
EVO	**Evora**	**7.06**	**357**	*eP*	**Pn**	**03 46 52.2**	**0.0**
EVO				*eS*	**Sn**	**03 48 10.1**	**-2.4**
EVO	**Evora**	**7.06**	**357**	*ePn*	**Pn**	**03 46 52.7**	**+0.5**
EVO				*eSn*	**Sn**	**03 48 11.0**	**-1.5**
EVO				A	A	03 48 14.7	
	comp=N,8.6nm,0.4s						
EADA	**Adamuz**	**7.13**	**20**	P	**Pn**	**03 46 54.1**	**+0.8**
	comp=N,3.4nm,0.1s,SNR=50						
EADA				S	**Sn**	**03 48 12.7**	**-1.7**
	comp=N,1.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**7.34**	**29**	P	**Pn**	**03 46 57.9**	**+1.7**
	comp=N,0.7nm,0.1s,SNR=14						
EQES				S	**Sn**	**03 48 19.4**	**-0.3**
	comp=N,0.9nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**7.39**	**0**	*ePn*	**Pn**	**03 46 57.7**	**+1.0**
PESTR				*eSn*	**Sn**	**03 48 20.0**	**-0.6**
PESTR				A	A	03 48 33.5	
	comp=N,3.6nm,0.5s						
PMAFR	**Mafra**	**7.60**	**350**	P	**Pn**	**03 47 01.0**	**+1.4**
	comp=N,7.0nm,0.3s,SNR=9.2						
PMAFR				S	**Sn**	**03 48 24.4**	**-1.4**
	comp=N,235nm,1.6s						
PMAFR	**Mafra**	**7.60**	**350**	*ePn*	**Pn**	**03 47 00.8**	**+1.2**
PMAFR				*eSn*	**Sn**	**03 48 26.7**	**+0.9**
PMAFR				A	A	03 48 27.9	
	comp=N,13nm,0.8s						
PMTG	**Montargil**	**7.61**	**356**	*ePn*	**Pn**	**03 47 00.3**	**+0.6**
PMTG				*eSn*	**Sn**	**03 48 24.9**	**-1.0**
PMTG				A	A	03 48 27.3	
	comp=N,4.1nm,0.2s						
PMRV	**Marv??o**	**7.95**	**1**	*ePn*	**Pn**	**03 47 04.2**	**-0.2**
PMRV				*eSn*	**Sn**	**03 48 32.6**	**-1.8**
PMRV				A	A	03 48 36.9	
	comp=N,3.7nm,1.0s						
PSBE	**So Bento**	**8.09**	**353**	*ePn*	**Pn**	**03 47 07.2**	**+0.8**
PSBE				*eSn*	**Sn**	**03 48 39.8**	**+1.9**
PSBE				A	A	03 49 11.2	
	comp=N,6.3nm,0.6s						
PCBR	**Castelo Branco**	**8.36**	**1**	*ePn*	**Pn**	**03 47 10.3**	**+0.3**
PCBR				*eSn*	**Sn**	**03 48 43.1**	**-1.4**
PCBR				A	A	03 48 48.0	
	comp=N,2.7nm,0.6s						
PAB	**San Pablo**	**8.49**	**17**	P	**Pn**	**03 47 12.3**	**+0.4**
	comp=N,0.4nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**03 48 44.9**	**-2.8**
	comp=N,1.2nm,0.2s,SNR=7.9						
PCAS	**Casmilo, Conde**	**8.60**	**355**	*ePn*	**Pn**	**03 47 14.7**	**+1.3**
PCAS				*eSn*	**Sn**	**03 48 49.2**	**-1.3**
EPLA	**Plasencia**	**8.67**	**8**	P	**Pn**	**03 47 15.5**	**+1.2**
	comp=N,3.5nm,0.2s,SNR=12						
EPLA				S	**Sn**	**03 48 48.3**	**-3.9**
	comp=N,2.4nm,0.4s,SNR=5.9						
ESDC	**Sonseca Array**	**8.71**	**19**	P	**Pn**	**03 47 14.8**	**-0.1**
	comp=N,0.8nm,0.3s,baz=207,slow=13,SNR=16						
ESDC				S	**Sn**	**03 48 49.1**	**-4.1

MVO	**Moncorvo**	**9.69**	**3**	P		**Pn**	**03 47 29.2**	**+0.9**
	comp=N,2.7nm,0.3s,SNR=7.0							
MVO				S		**Sn**	**03 49 14.3**	**-3.0**
	comp=N,1.9nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**9.69**	**3**	*e*Pn		**Pn**	**03 47 29.3**	**+0.9**
MVO				*e*Sn		**Sn**	**03 49 16.3**	**-1.0**
MVO				A		A	03 49 18.3	
	comp=N,3.7nm,0.5s							
POLO	**Lamas de Olo**	**9.89**	**359**	*e*Pn		**Pn**	**03 47 32.5**	**+1.4**
POLO				*e*Sn		**Sn**	**03 49 21.5**	**-0.8**
ETOR	**Torete**	**10.35**	**24**	P		**Pn**	**03 47 37.8**	**+0.4**
	comp=N,5.9nm,0.3s,SNR=20							
ETOR				S		**Sn**	**03 49 28.2**	**-5.4**
	comp=N,1.9nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**10.39**	**358**	P		**Pn**	**03 47 38.5**	**+0.5**
	comp=N,0.5nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**03 49 30.6**	**-3.9**
	comp=N,1.2nm,0.2s,SNR=7.9							
PGAV	**Gavieira, Arco**	**10.49**	**357**	*e*Pn		**Pn**	**03 47 40.4**	**+1.0**
PGAV				*e*Sn		**Sn**	**03 49 38.4**	**+1.3**
SJPF	**Ste Jean**	**12.68**	**22**	*e*Pn		**Pn**	**03 48 10.0**	**+0.8**
SJPF	**Ste Jean**	**12.68**	**22**	*e*P		Pn	03 48 15.6	+6.4
SJPF				*e*Sn		**Sn**	**03 50 25.4**	**-5.1**
	comp=N,0.3nm,0.3s							
ETSF	**Etsaut**	**12.71**	**24**	*e*Pn		**Pn**	**03 48 10.5**	**+0.8**
ETSF	**Etsaut**	**12.71**	**24**	*e*P		Pn	03 48 16.0	+6.3
ETSF				*e*Sn		**Sn**	**03 50 26.4**	**-4.9**
	comp=N,0.3nm,0.3s							
ATE	**Arette**	**12.83**	**23**	P		**Pn**	**03 48 12.6**	**+1.4**
	comp=N,0.2nm,0.1s,SNR=7.9							
EPF	**Esparros**	**13.15**	**26**	*e*Pn		**Pn**	**03 48 16.6**	**+0.9**
EPF				*e*Sn		**Sn**	**03 50 37.0**	**-5.1**
	comp=N,0.5nm,0.3s							
CAF	**Calviac**	**15.42**	**27**	*e*Pn		**Pn**	**03 48 47.4**	**+0.9**
RJF	**Les Rejaudoux**	**15.54**	**25**	*e*Pn		**Pn**	**03 48 48.9**	**+0.9**
RJF				*e*Sn		**Sn**	**03 51 33.4**	**-6.8**
	comp=N,1.1nm,0.6s							
MFF	**Saint Martin d**	**16.18**	**19**	*e*Pn		**Pn**	**03 48 57.6**	**+1.4**

*ATH **18** 04:18:47.9, 35.°63N×26.°65E, h80km±4km, ML2.9/5, Error ellipse: s-maj=5.3km s-min=1.5km az=152.0*
*ISK **18** 04:18:50.8, 35.°66N×26.°59E, h62km, ML2.9/15*
*DDA **18** 04:18:52.1, 35.°73N×26.°90E, h4km±1km, ML2.3*
*THE **18** 04:18:52.9, 35.°64N×26.°58E, h48km±4km, ML2.7/10, Error ellipse: s-maj=4.3km s-min=0.6km az=160.0*
*HLW **18** 04:19:01.7, 34.°43N×26.°88E, h10km±12km, Md3.3*

ISC 18 04:18:51.1±1.2, 35.°59N±0.°04×26.°59E±0.°03, h65km±10km, n72, σ0s87/97, Crete

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KARP	**Karpathos**	**0.47**	**95**	P	**Pn**		**04 19 03.3**	**+0.2**
KARP				S	**Sn**		**04 19 12.1**	**+0.1**
KARP				AML	AML		04 19 13.7	
	comp=E,2122μm,0.3s							
KARP				AML	AML		04 19 14.0	
	comp=N,1706μm,0.2s							
KARP	**Karpathos**	**0.47**	**95**	P	**Pn**		**04 19 03.5**	**+0.3**
KARP				S	**Sn**		**04 19 11.3**	**-0.7**
	comp=N,940nm,0.1s							
KARP	**Karpathos**	**0.47**	**95**	PG	**Pn**		**04 19 03.4**	**+0.2**
KARP				SG	**Sn**		**04 19 12.4**	**+0.4**
STIA	**Sitia Lasithi**	**0.56**	**227**	P	**Pn**		**04 19 03.8**	**-0.3**
STIA				S	**Sn**		**04 19 13.3**	**-0.3**
ZKR	**Zakros**	**0.56**	**213**	P	**Pn**		**04 19 05.2**	**+1.0**
ZKR				S	**Sn**		**04 19 15.6**	**+1.9**
ZKR				AML	AML		04 19 15.9	
	comp=E,2239μm,0.4s							
ZKR				AML	AML		04 19 16.3	
	comp=N,920μm,0.5s							
ZKR	**Zakros**	**0.56**	**213**	P	**Pn**		**04 19 05.1**	**+1.0**
ZKR				S	**Sn**		**04 19 14.8**	**+1.1**
	comp=N,790nm,0.4s							
ZKR	**Zakros**	**0.56**	**213**	PG	**Pn**		**04 19 05.1**	**+1.0**
ZKR				SG	**Sn**		**04 19 15.1**	**+1.4**
NPS	**Neapolis**	**0.86**	**248**	P	**Pn**		**04 19 08.0**	**+0.3**
NPS				S	**Sn**		**04 19 20.1**	**+0.2**
NPS				AML	AML		04 19 20.2	
	comp=N,1219μm,0.3s							
NPS				AML	AML		04 19 20.6	
	comp=E,1954μm,0.5s							
NPS	**Neapolis**	**0.86**	**248**	P	**Pn**		**04 19 08.0**	**+0.3**
NPS				S	**Sn**		**04 19 19.9**	**0.0**
	comp=E,798nm,0.3s							
FRMA	**Ierapetra Chan**	**0.91**	**231**	P	**Pn**		**04 19 08.6**	**+0.5**
FRMA				S	**Sn**		**04 19 20.8**	**+0.1**
	comp=E,230nm,0.3s							
LAST	**Lasithi**	**1.00**	**245**	P	**Pn**		**04 19 10.1**	**+0.6**
LAST				S	**Sn**		**04 19 23.6**	**+0.5**
LAST	**Lasithi**	**1.00**	**245**	P	**Pn**		**04 19 10.1**	**+0.6**
LAST				S	**Sn**		**04 19 23.5**	**+0.4**
	comp=E,162nm,0.6s							
NIS1	**Nisyros Isl.**	**1.12**	**25**	P	**Pn**		**04 19 10.5**	**-0.4**
NIS1	**Nisyros Isl.**	**1.12**	**25**	PG	**Pn**		**04 19 10.3**	**-0.6**
KOSK	**Kos Island**	**1.20**	**15**	P	**Pn**		**04 19 12.6**	**+0.6**
KOSK				S	**Sn**		**04 19 27.9**	**+0.4**
	comp=E,245nm,0.4s							
KOSK	**Kos Island**	**1.20**	**15**	PN	**Pn**		**04 19 11.6**	**-0.4**
SANT	**Santorini**	**1.21**	**311**	P	**Pn**		**04 19 12.4**	**+0.3**
SANT				AML	AML		04 19 28.7	
	comp=N,537μm,0.2s							
SANT				AML	AML		04 19 29.0	
	comp=E,1453μm,0.2s							
SANT	**Santorini**	**1.21**	**311**	PN	**Pn**		**04 19 11.9**	**-0.2**
SANT				SN	**Sn**		**04 19 27.1**	**-0.6**
THR8	**Santorini-Mono**	**1.22**	**312**	P	**Pn**		**04 19 12.5**	**+0.3**
THR8	**Santorini-Mono**	**1.22**	**312**	P	**Pn**		**04 19 12.5**	**+0.3**
THR6	**Thira Island,**	**1.23**	**309**	P	**Pn**		**04 19 13.0**	**+0.6**
THR6	**Thira Island,**	**1.23**	**309**	P	**Pn**		**04 19 12.8**	**+0.4**
HRKL	**Herakleio**	**1.25**	**258**	PN	**Pn**		**04 19 13.1**	**+0.6**
SNT1	**Gialos, Santor**	**1.25**	**312**	P	**Pn**		**04 19 12.9**	**+0.3**
SNT1	**Gialos, Santor**	**1.25**	**312**	P	**Pn**		**04 19 12.9**	**+0.3**
SNT1				S	**Sn**		**04 19 28.3**	**-0.4**
	comp=E,370nm,0.4s							
SFIR	**Foira Santorin**	**1.26**	**312**	P	**Pn**		**04 19 13.2**	**+0.5**
SFIR				S	**Sn**		**04 19 28.4**	**-0.5**
THR7	**Fira-Santorini**	**1.26**	**312**	P	**Pn**		**04 19 13.2**	**+0.5**
THR7	**Fira-Santorini**	**1.26**	**312**	P	**Pn**		**04 19 13.2**	**+0.5**
SNT5	**Nea Kammeni, S**	**1.27**	**310**	P	**Pn**		**04 19 13.1**	**+0.3**
THR3	**Thira Island,**	**1.27**	**311**	P	**Pn**		**04 19 13.2**	**+0.5**
THR3	**Thira Island,**	**1.27**	**311**	P	**Pn**		**04 19 13.3**	**+0.5**
THR2	**Thira island,**	**1.27**	**313**	P	**Pn**		**04 19 13.3**	**+0.5**
THT2	**Imerovigli**	**1.27**	**312**	P	**Pn**		**04 19 13.5**	**+0.6**
THT2	**Imerovigli**	**1.27**	**312**	P	**Pn**		**04 19 13.5**	**+0.6**
THT2				S	**Sn**		**04 19 29.1**	**-0.1**
	comp=E,340nm,0.3s							
THT2	**Imerovigli**	**1.27**	**312**	PN	**Pn**		**04 19 13.1**	**+0.2**
THR5	**Thira Island,**	**1.30**	**310**	P	**Pn**		**04 19 13.6**	**+0.3**
THR5	**Thira Island,**	**1.30**	**310**	P	**Pn**		**04 19 13.7**	**+0.3**
SAP3	**Santorini-Thir**	**1.32**	**310**	P	**Pn**		**04 19 13.9**	**+0.4**
ARG	**Arkhangelos**	**1.39**	**63**	P	**Pn**		**04 19 13.7**	**-0.8**
ARG				AML	AML		04 19 33.7	
	comp=N,250μm,0.4s							
ARG				AML	AML		04 19 35.1	
	comp=E,332μm,0.3s							
ARG	**Arkhangelos**	**1.39**	**63**	P	**Pn**		**04 19 14.8**	**+0.3**
ARG				S	**Sn**		**04 19 32.6**	**+0.5**
	comp=E,148nm,0.3s							
ARG	**Arkhangelos**	**1.39**	**63**	PN	**Pn**		**04 19 14.6**	**+0.1**
ARG				SN	**Sn**		**04 19 31.9**	**-0.2**
IDI	**Anoyia**	**1.42**	**258**	P	**Pn**		**04 19 15.6**	**+0.7**
IDI	**Anoyia**	**1.42**	**258**	P	**Pn**		**04 19 15.4**	**+0.5**
IDI	**Anoyia**	**1.42**	**258**	PN	**Pn**		**04 19 15.6**	**+0.7**
BODT	**Bodrum**	**1.58**	**21**	PN	**Pn**		**04 19 16.6**	**-0.4**
BDRM	**Kayabasi**	**1.63**	**25**	*i* P	**Pn**		**04 19 18.2**	**+0.6**
BDRM				IAML			04 19 38.0	
	comp=N,44nm,0.4s							
BDRM				IAML			04 19 38.0	
	comp=E,35nm,0.5s							
BDRM				*i* S	**Sn**		**04 19 38.4**	**+0.7**
APE	**Apeiranthos**	**1.71**	**330**	P	**Pn**		**04 19 19.2**	**+0.5**
APE	**Apeiranthos**	**1.71**	**330**	P	**Pn**		**04 19 18.5**	**-0.2**
APE				S	**Sn**		**04 19 39.4**	**-0.3**
	comp=E,392nm,0.3s							
APE	**Apeiranthos**	**1.71**	**330**	PN	**Pn**		**04 19 18.6**	**-0.2**
MRSB	**Marmaris-Mugla**	**1.72**	**49**	PN	**Pn**		**04 19 19.1**	**+0.2**
TURN	**Turunc**	**1.79**	**48**	PN	**Pn**		**04 19 20.0**	**+0.3**
TURN	**Turunc**	**1.79**	**48**	*i* P	**Pn**		**04 19 20.7**	**+1.0**
TURN				*i* S	**Sn**		**04 19 41.7**	**+0.2**
TURN				IAML			04 19 45.0	
	comp=N,56nm,0.3s							
TURN				IAML			04 19 49.0	
	comp=E,55nm,0.3s							
VAM	**Vamos**	**1.96**	**265**	P	**Pn**		**04 19 23.8**	**+1.7**
VAM	**Vamos**	**1.96**	**265**	P	**Pn**		**04 19 22.7**	**+0.6**
YER	**Yerkesik**	**2.06**	**41**	P	**Pn**		**04 19 24.8**	**+1.3**
YER				S	**Sn**		**04 19 48.2**	**0.0**
YER	**Yerkesik**	**2.06**	**41**	PN	**Pn**		**04 19 23.5**	**0.0**
DALY	**Dalyan (Mula)**	**2.07**	**53**	PN	**Pn**		**04 19 23.9**	**+0.3**
DALY	**Dalyan (Mula)**	**2.07**	**53**	*i* P	**Pn**		**04 19 25.9**	**+2.4**
DALY				IAML			04 19 55.0	
	comp=N,67nm,0.6s							
SMG	**Samos**	**2.13**	**5**	P	**Pn**		**04 19 24.9**	**+0.5**
IMMV	**Iera Moni Meta**	**2.13**	**267**	P	**Pn**		**04 19 25.7**	**+1.2**
IMMV	**Iera Moni Meta**	**2.13**	**267**	PN	**Pn**		**04 19 25.4**	**+1.0**
GCAM	**G?zelcaml?**	**2.17**	**14**	PN	**Pn**		**04 19 25.2**	**+0.3**
FETY	**Fethiye**	**2.27**	**62**	P	**Pn**		**04 19 26.6**	**+0.2**
FETY				S	**Sn**		**04 19 53.9**	**+0.6**
FETY	**Fethiye**	**2.27**	**62**	PN	**Pn**		**04 19 26.5**	**+0.2**
FETY	**Fethiye**	**2.27**	**62**	*i* P	**Pn**		**04 19 26.4**	**+0.1**
KSL	**Kastellorizon**	**2.49**	**76**	P	**Pn**		**04 19 30.3**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.58**	**24**	PN	**Pn**		**04 19 30.6**	**0.0**
TAVA	**DENIZLI_Tavas**	**2.65**	**44**	*i* P	**Pn**		**04 19 34.1**	**+2.6**
TAVA				*i* S	**Sn**		**04 20 06.2**	**+3.7**
TAVA				IAML			04 20 09.0	
	comp=E,13nm,0.5s							
SLUM	**Salum**	**4.25**	**196**	P	**Pn**		**04 19 53.2**	**-0.1**
	baz=206							
SLUM				S	Sn		04 20 30.5	-11
	baz=206							
SWA2		**6.40**	**189**	P	**Pn**		**04 20 21.4**	**-1.3**
	baz=194							
RYAN	**Fayoum**	**7.20**	**153**	P	**Pn**		**04 20 32.3**	**-1.4**
	baz=150							
HKAT	**Jabal Katrina**	**9.43**	**136**	P	**Pn**		**04 21 01.5**	**-3.0**
	baz=132							

IDC 18 04:36:36.4±2.0, 6.°92N×124.°67E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/33, mbtmpg3.9/4, 1C, Error ellipse: s-maj=138.7km s-min=23.0km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KCP	**Kidapawan**	**0.43**	**77**	*e*P	Pn		04 36 53.5	+3.6
FITZ	**Fitzroy Crossi**	**24.87**	**178**	P	P		04 41 59.5	-1.5
	1.1nm,0.8s,baz=352,slow=7.1,SNR=2.8							
WRA	**Warramunga Arr**	**28.34**	**161**	P	P		04 42 32.9	+0.7
	0.8nm,0.5s,baz=344,slow=9.3,SNR=20							
ASAR	**Alice Springs**	**31.71**	**164**	P	P		04 43 02.5	+0.5
	1.0nm,0.5s,baz=344,slow=7.0,SNR=16							
MKAR	**Makanchi Array**	**53.78**	**325**	P	P		04 46 00.8	-0.1
	0.9nm,0.5s,baz=123,slow=8.0,SNR=12							

IDC 18 04:55:15.5±2.9, 4.°94S×133.°19E, h0km, mb3.3/1, mb1 3.9/4, mb1mx3.5/38, mbtmpg3.6/4, ML3.8/3, Error ellipse: s-maj=125.7km s-min=28.8km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**14.96**	**176**	Pn	Pn		04 58 47.1	-1.3
	0.4nm,0.3s,baz=353,slow=13,SNR=21							
WRA				Sn	Sn		05 01 26.1	-8.8
	0.1nm,0.3s,baz=359,slow=23,SNR=3.1							
FITZ	**Fitzroy Crossi**	**15.02**	**209**	Pn	Pn		04 58 50.5	+1.3
	0.2nm,0.3s,baz=34,slow=13,SNR=12							
FITZ				Sn	Sn		05 01 31.8	-4.7
	0.1nm,0.3s,baz=283,slow=18,SNR=2.1							
ASAR	**Alice Springs**	**18.63**	**178**	P	P		04 59 34.9	-0.1
	0.4nm,0.3s,baz=357,slow=8.4,SNR=16							
MKAR	**Makanchi Array**	**68.31**	**325**	P	P		05 06 18.6	0.0
	0.2nm,0.5s,baz=111,slow=7.9,SNR=2.9							

MAN 18 05:15:56.3, 15.°19N×122.°68E, h8km, mb4.6, ML3.5, MS3.4, Philippine Islands region

*IDC **18** 05:39:14.6±0.5, 18.°32S×71.°09W, h0km, mb4.7/20, mb1 4.8/23, mb1mx4.7/31, mbtmpg4.7/23, ML4.1/3, MS4.2/28, Ms1 4.2/28, ms1mx4.1/38, Error ellipse: s-maj=15.5km s-min=12.5km az=52.0*
*MOS **18** 05:39:14.0±1.4, 18.°47S×71.°50W, h21km, mb5.0/27, Error ellipse: s-maj=11.6km s-min=6.6km az=106.9*
*VAO **18** 05:39:15.4±0.4, 18.°38S×71.°23W, h10km, mb4.9*
*ARE **18** 05:39:16±2.6, 18.°46S±0.°06×71.°27W±0.°07, h25km±2km, Error ellipse: s-maj=9.2km s-min=7.9km az=73.0*
*NEIC **18** 05:39:16.9, 18.°56S×71.°41W, h31km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr 1.62; Mθθ-0.57; Mϕϕ-1.05; Mrθ 0.38; Mθϕ 0.99; Mϕr-0.49; Fault plane solution: M0 1.84000×10^16^ NP1:ϕs141.9°000°, δ54.90000°, λ90.18000°. NP2:ϕs321.60000°, δ35.11000°, λ89.74000°. Principal axes: T 1.7308, Plg80.0000°, Azm53.0000°; N 0.2099, Plg0.0000°, Azm322.0000°; P -1.9407, Plg10.0000°, Azm232.0000°;*
*NEIC **18** 05:39:16.7±2.6, 18.°52S±0.°06×71.°40W±0.°07, h32km±4km Error ellipse: s-maj=9.7km s-min=8.2km az=67.0*
*GUC **18** 05:39:19.6±0.7, 18.°44S×71.°24W, h38km±16km, ML4.8*
*GCMT **18** 05:39:24.0±0.4, 18.°55S±0.°02×71.°47W±0.°03, h34km±1km, MW5.0/68, Moment Tensor Solution. s39,c40; s68,c87; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr 3.12±.21; Mθθ-0.49±.12; Mϕϕ-2.63±. 13; Mrθ 1.44±.12; Mθϕ 1.40±.08; Mϕr-1.50±.15; Best double couple: M0 3.83700×10^16^ NP1:ϕs344.00000°, δ30.00000°, λ107.00000°. NP2: ϕs144.00000°, δ62.00000°, λ80.00000°. Principal axes: T 3.7830, Plg72.0000°, Azm32.0000°; N 0.1090, Plg9.0000°, Azm149.0000°; P -3.8900, Plg16.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 05:39:15.4±1.6, 18.°42S±0.°04×71.°36W±0.°05, h19km±9km, n441, σ1s51/407, mb5.1/117, MS4.2/24, 22C-4D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
AP01	**Chacalluta**	**0.96**	**87**	P	**Pg**		**05 39 34.6**	**+0.4**
AP01				*i* S	**Sb**		**05 39 44.0**	**-2.0**
AP01				IAML			05 39 55.1	
	comp=E,98μm,0.4s							
AP01	**Chacalluta**	**0.96**	**87**		**Pg**		**05 39 34.7**	**+0.4**
PSGC	**Pisagua**	**1.65**	**135**	P	**Pn**		**05 39 44.9**	**+1.3**
PSGC				*i* S	**Sn**		**05 40 04.0**	**-0.4**
PSGCX	**Pisagua**	**1.65**	**135**	Pn	**Pn**		**05 39 44.9**	**+1.3**
MNMC	**Minye Minye**	**1.81**	**113**	P	**Pn**		**05 39 47.3**	**+1.4**
MNMC				*i* S	**Sn**		**05 40 10.4**	**+1.8**
MNMC				IAML			05 40 16.0	
	comp=N,27μm,0.6s							
MNMC	**Minye Minye**	**1.81**	**113**		**Pn**		**05 39 47.4**	**+1.4**
TA02	**Huaiquique**	**2.17**	**148**	*e*P	**Pn**		**05 39 52.5**	**+1.8**
TA02				*i* S	**Sn**		**05 40 17.8**	**+0.8**
TA02				IAML			05 40 27.7	
	comp=E,6μm,0.3s							
TA01	**Diego Aracena**	**2.40**	**153**	*e*P	**Pn**		**05 39 54.9**	**+1.1**
TA01	**Diego Aracena**	**2.40**	**153**	Pn	**Pn**		**05 39 54.9**	**+1.1**
PB08	**IPOC Station P**	**2.69**	**130**	P	**Pn**		**05 40 00.1**	**+2.0**
PB08				*i* S	**Sn**		**05 40 31.2**	**+0.7**
PB08				IAML			05 40 40.0	
	comp=N,3μm,0.4s							
PB08	**IPOC Station P**	**2.69**	**130**		**Pn**		**05 40 00.0**	**+1.8**
PB01	**IPOC Station P**	**3.15**	**146**	*e*P	**Pn**		**05 40 05.3**	**+1.2**
PB01				*i* S	**Sn**		**05 40 39.4**	**-1.9**
PB01	**IPOC Station P**	**3.15**	**146**		**Pn**		**05 40 05.3**	**+1.2**
PB07	**IPOC Station P**	**3.56**	**157**	*i* P	**Pn**		**05 40 10.8**	**+0.7**
PB07				*e*S	**Sn**		**05 40 48.2**	**-3.5**
PB07				IAML			05 41 16.3	
	comp=E,2μm,0.1s							
PB07	**IPOC Station P**	**3.56**	**157**		**Pn**		**05 40 10.7**	**+0.7**
LPAZ	**La Paz**	**3.74**	**56**	Pg	**Pb**		**05 40 18.5**	**-2.9**
	comp=E,28nm,0.3s,baz=242,slow=9.3,SNR=329							
LPAZ				LR	LR		05 41 55.3	
	comp=E,5μm,18.1s,baz=202,slow=46							
LPAZ	**La Paz**	**3.74**	**56**	P	**Pb**		**05 40 18.0**	**-3.3**
LPAZ	**La Paz**	**3.74**	**56**	Pn	**Pb**		**05 40 18.0**	**-3.3**
LPAZ	**La Paz**	**3.74**	**56**	*i* P	**Pb**		**05 40 19.1**	**-2.3**
PB09	**IPOC Station P**	**3.90**	**150**	*i* P	**Pn**		**05 40 16.5**	**+2.0**
PB09				*e*S	**Sn**		**05 41 00.8**	**+0.7**
PB09	**IPOC Station P**	**3.90**	**150**		**Pn**		**05 40 16.6**	**+2.0**
PB03	**IPOC Station P**	**3.91**	**158**	*e*P	**Pn**		**05 40 15.5**	**+0.8**
PB04	**IPOC Station P**	**4.05**	**164**	*e*P	**Pn**		**05 40 16.8**	**+0.1**
PB04	**IPOC Station P**	**4.05**	**164**		**Pn**		**05 40 16.9**	**+0.1**
PB05	**IPOC Station P**	**4.54**	**166**	*i*P	**Pn**		**05 40 23.0**	**-0.4**
PB06	**IPOC Station P**	**4.58**	**159**	*i*P	**Pn**		**05 40 24.1**	**+0.2**
PB06	**IPOC Station P**	**4.58**	**159**		**Pn**		**05 40 24.1**	**+0.2**
LVC	**Limon Verde**	**4.75**	**152**	Pn	**Pn**		**05 40 28.6**	**+2.1**
	comp=E,49nm,0.3s,baz=345,slow=8.6,SNR=337							
LVC				Sn	**Sn**		**05 41 20.5**	**-0.8**
	comp=E,57nm,0.3s,baz=267,slow=22,SNR=7.4							
LVC				LR	LR		05 42 28.4	
	comp=E,4μm,18.5s,baz=344,slow=41							
LVC	**Limon Verde**	**4.75**	**152**	*e*P	**Pn**		**05 40 28.4**	**+1.9**
LVC	**Limon Verde**	**4.75**	**152**	*e*P	**Pn**		**05 40 28.6**	**+2.1**
PB15	**IPOC Station P**	**5.08**	**160**	*i* P	**Pn**		**05 40 30.9**	**+0.1**
PB15	**IPOC Station P**	**5.08**	**160**		**Pn**		**05 40 31.0**	**+0.1**
PB10	**IPOC Station P**	**5.12**	**172**	Pn	**Pn**		**05 40 30.6**	**-0.6**
PB14	**IPOC Station P**	**6.24**	**172**	Pn	**Pn**		**05 40 45.8**	**-1.0**
GO02	**Mina Guanaco**	**6.90**	**167**	Pn	**Pn**		**05 40 56.0**	**0.0**
AC01	**Pan de Azucar**	**7.72**	**175**	Pn	**Pn**		**05 41 05.5**	**-1.4**
NNA	**Nana**	**8.30**	**320**	Pn	**Pn**		**05 41 17.1**	**+2.1**
	comp=E,1.0nm,0.3s,baz=188,slow=5.4,SNR=3.2							
NNA				Sn	**Sn**		**05 42 45.8**	**-2.7**
	comp=E,6.6nm,0.3s,baz=222,slow=12,SNR=1.7							
NNA				LR	LR		05 44 43.2	
	comp=E,757nm,21.2s,baz=168,slow=39							
NNA	**Nana**	**8.30**	**320**	P	**Pn**		**05 41 17.6**	**+2.6**
NNA							05 42 45.8	
NNA	**Nana**	**8.30**	**320**		**Pn**		**05 41 17.6**	**+2.6**
AC02	**Maricunga**	**8.62**	**167**	Pn	**Pn**		**05 41 19.9**	**+0.1**
GO03	**Copiap**	**9.19**	**174**	Pn	**Pn**		**05 41 26.4**	**-0.7**
AC04	**Llanos de Chal**	**9.74**	**179**	Pn	**Pn**		**05 41 31.6**	**-3.0**
SIV	**San Ignacio**	**10.12**	**78**	Pn	**Pn**		**05 41 41.3**	**+1.4**
	comp=E,12nm,0.3s,baz=272,slow=11,SNR=149							
SIV				LR	LR		05 45 57.3	
	comp=E,3μm,18.5s,baz=271,slow=41							
AC05	**El Transito**	**10.41**	**175**		**Pn**		**05 41 42.3**	**-1.7**
LCO	**Las Campanas**	**10.56**	**177**	P	**Pn**		**05 41 45.2**	**-0.9**
LCO	**Las Campanas**	**10.56**	**177**		**Pn**		**05 41 45.2**	**-0.9**
CZSB	**Cruzeiro do Su**	**10.71**	**353**	*e*P	**Pn**		**05 41 49.4**	**+1.4**
CO01	**Juntas del Tor**	**11.56**	**175**	Pn	**Pn**		**05 42 00.3**	**+0.5**
GO04	**Tololo Observa**	**11.71**	**178**	Pn	**Pn**		**05 42 00.8**	**-1.0**
PTLB	**Pontes e Lacer**	**12.06**	**78**	*e*P	**Pn**		**05 42 07.1**	**+0.6**
SAML	**Samuel**	**12.31**	**41**	P	**Pn**		**05 42 12.8**	**+2.9**
SAML	**Samuel**	**12.31**	**41**		**Pn**		**05 42 12.8**	**+2.9**
SAML	**Samuel**	**12.31**	**41**	*e*P	**Pn**		**05 42 08.8**	**-1.2**
CO03	**El Pedregal**	**12.38**	**177**	Pn	**Pn**		**05 42 09.4**	**-1.4**
CO02	**Combarbal**	**12.73**	**179**	Pn	**Pn**		**05 42 12.9**	**-2.8**
ATAH	**Atahualpa**	**13.15**	**328**	Pn	**P**		**05 42 27.5**	**-4.3**
	comp=E,0.2nm,0.3s,baz=333,slow=14,SNR=3.3							
ATAH				LR	LR		05 48 02.7	
	comp=E,1μm,18.8s,baz=154,slow=40							
AQDB	**Aquidauana**	**14.91**	**100**	*e*P	**Pn**		**05 42 45.9**	**+0.5**
CPUP	**Villa Florida**	**15.16**	**124**	Pn	**Pn**		**05 42 46.6**	**-2.2**
	comp=E,0.2nm,0.3s,baz=301,slow=11,SNR=12							
CPUP				LR	LR		05 49 18.6	
	comp=E,605nm,18.6s,baz=303,slow=40							
CPUP	**Villa Florida**	**15.16**	**124**	P	**Pn**		**05 42 48.1**	**-0.7**
CPUP				pmax	pmax			
	comp=Z,12nm,0.9s							
CPUP	**Villa Florida**	**15.16**	**124**		**Pn**		**05 42 48.0**	**-0.7**
CPUP	**Villa Florida**	**15.16**	**124**	*e*P	**Pn**		**05 42 46.7**	**-2.0**
PP1B	**Ponte de Pedra**	**15.70**	**90**	*e*P	**Pn**		**05 42 56.1**	**+0.3**
H03N1	**Juan Fernandez**	**16.42**	**203**	T	T		06 00 03.5	
	baz=32,slow=74,SNR=1001							
H03N2	**Juan Fernandez**	**16.42**	**203**	T	T		06 00 04.6	
	baz=32,slow=74,SNR=1065							
H03N3	**Juan Fernandez**	**16.43**	**203**	T	T		06 00 01.1	
	baz=32,SNR=893							
CLDB	**Colider**	**16.81**	**66**	*e*P	**Pn**		**05 43 11.1**	**+1.0**
ITQB	**Itaqui**	**17.48**	**133**	*e*P	**Pn**		**05 43 19.6**	**+1.2**
MACA	**Manacapuru-AM**	**

PAMC Pamplona, Colo 25.63 357 eP P 05 44 45.0 +0.4
DBBC Dabeiba 25.73 349 eP P 05 44 47.4 +2.4
ZARC Zaragoza, Cauc 25.98 352⇑ iP P 05 44 48.4 +1.1
JANB Januaria 26.10 87 eP P 05 44 48.2 -0.3
MCPB Macapa, AP 26.11 49 eP P 05 44 48.4 0.0
SDBA SAO DESIDERIO 26.18 81 eP P 05 44 48.6 -0.5
UREC San Jos de Ur 26.33 351 eP P 05 44 50.5 0.0
VAS01 Vassouras-RJ 26.43 103 eP P 05 44 51.6 +0.3
OCAC Ocana 26.56 356⇑ eP P 05 44 51.2 -1.5
SDV Santo Domingo 27.14 2 P P 05 44 57.7 -0.2
comp=Z,13nm,0.9s,baz=180,slow=8.0,SNR=15
SDV LR LR 05 56 43.4
comp=Z,381nm,19.9s,baz=195,slow=39
SDV Santo Domingo 27.14 2 P P 05 44 57.9 -0.1
SDV Santo Domingo 27.14 2 eP P 05 44 58.4 +0.4
SDV Santo Domingo 27.14 2 eP P 05 44 58.6 +0.7
SMLC San Martn de 27.18 354⇑ eP P 05 44 57.1 -1.0
MOTC Monteria, Cord 27.36 351⇑ iP P 05 45 01.7 +2.1
TMAB Tom-Au,PA,Br 27.82 58 eP P 05 45 05.0 +1.1
SJCC San Jacinto, C 28.39 352⇑ iP P 05 45 10.1 +1.2
BSFB Barra de Sao F 28.90 96 eP P 05 45 13.3 -0.2
PCRV Puerto La Cruz 29.18 14 P P 05 45 16.4 +0.5
comp=Z,11nm,0.8s,baz=306,slow=3.1,SNR=6.2
RIB01 Linhares ES 29.29 97 eP P 05 45 16.5 -0.5
NAN01 Guarapari, ES 29.67 94 eP P 05 45 20.0 -0.3
MDP Montagnes des 29.78 40 P P 05 45 21.4 +0.1
comp=Z,12nm,0.8s,baz=226,slow=9.6,SNR=7.0
MDP LR LR 05 58 15.0
comp=Z,1µm,18.2s,baz=215,slow=39
NBIT Itapeh - BA 30.75 88 eP P 05 45 28.6 -1.4
GDU01 Guandu, BA 30.87 86 eP P 05 45 30.5 -0.4
JTS Las Juntas de 31.53 334 LR LR 05 58 25.2
comp=Z,396nm,20.7s,baz=178,slow=36
GRGR Grenville 31.84 18 e P 05 45 38.2 -1.2
GCMP Grenada, Carri 32.24 18 e P 05 45 44.0 +1.1
SVB Belmont 33.03 18 e P 05 45 50.1 +0.3
SVB Belmont 33.03 18 P P 05 45 50.3 +0.4
NBLA Lagarto - SE 33.26 82 eP P 05 45 51.1 -0.9
NBPB Pedra_Branca-C 33.54 72 eP P 05 45 54.5 0.0
MCLT Moule a Chique 33.54 19 e P 05 45 53.6 -0.7
NBMA Muriti-CE 33.55 75 eP P 05 45 54.5 -0.1
SLPA Patience 33.68 18 e P 05 45 56.5 +0.9
SLBI Saint Lucia, B 33.83 18 e P 05 45 56.1 -0.6
SLW Petit Monier 33.84 18 e P 05 45 57.7 +0.8
NBMO Morrinhos-CE 34.13 68 eP P 05 45 59.8 +0.2
MPOM Morne Pois Mar 34.26 18 e P 05 45 59.3 -1.2
BIM Bigot 34.27 18 e P 05 45 59.7 -0.9
FDF Fort de France 34.45 18 e P 05 46 00.4 -1.8
NBAN Anadia - AL 35.07 80 eP P 05 46 07.3 -0.4
NBLI Livramento-PB 35.22 76 eP P 05 46 09.2 +0.1
NBCL Cascavel-CE 35.27 70 eP P 05 46 10.3 +0.9
NBPA Parau_RN 35.69 74 eP P 05 46 13.2 +0.2
ICMP Isla Caja de M 36.39 8 P P 05 46 18.9 0.0
MLPR Magueyes Islan 36.41 7 P P 05 46 18.7 -0.3
CDVI St. Croix 36.53 11 P P 05 46 19.3 -0.7
SKI Saint Kitts 36.53 14 P P 05 46 19.9 -0.2
SKI pmax pmax
comp=Z,88nm,0.7s
SKI Saint Kitts 36.53 14 P P 05 46 19.9 -0.2
PDPR Patillas Dam, 36.59 9 P P 05 46 20.3 -0.3
MPR Mayaguez 36.64 7 P P 05 46 21.1 +0.1
MPR IAmb IAmb 05 46 21.5
comp=Z,44nm,0.9s
SJG San Juan 36.67 8 P P 05 46 20.7 -0.5
SJG pmax pmax
comp=Z,44nm,0.9s
SJG San Juan 36.67 8 P P 05 46 20.7 -0.5
SJG San Juan 36.67 8 eP P 05 46 20.8 -0.5
HUMP Col San Antoni 36.74 9 P P 05 46 21.3 -0.5
HUMP IAmb IAmb 05 46 23.0
comp=Z,16nm,0.8s
MTP Monte Pirata 36.74 9 P P 05 46 20.2 -1.5
RCBR Riachuelo 36.77 75 P P 05 46 23.0 +0.7
comp=Z,32nm,0.6s,baz=240,slow=8.3,SNR=31
RCBR LR LR 06 02 16.2
comp=Z,992nm,19.1s,baz=178,slow=38
RCBR Riachuelo 36.77 75 P P 05 46 22.8 +0.5
RCBR pmax pmax
comp=Z,35nm,0.6s
RCBR Riachuelo 36.77 75 P P 05 46 22.8 +0.5
AOPR Arecibo Observ 36.82 7 P P 05 46 22.6 +0.1
CBYP Canovanas 36.86 9 P P 05 46 22.2 -0.8
GCPR Guaynabo City 36.87 8 P P 05 46 22.3 -0.6
MTDJ Mount Denham 36.92 350 P P 05 46 21.7 -1.8
CUPR Culebra, Puert 36.99 10 P P 05 46 22.3 -1.6
NBPV Pedro Velho 37.10 76 eP P 05 46 25.4 +0.3
APG El Apazote 38.18 329 LR LR 06 01 54.6
comp=Z,164nm,18.7s,baz=138,slow=36
TEIG Tepich 41.84 336 P P 05 47 07.1 +2.7
comp=Z,9.8nm,0.7s,baz=342,slow=3.5,SNR=9.0
TEIG Tepich 41.84 336 P P 05 47 02.9 -1.6
CMIG Matias Romero 42.20 325 P P 05 47 10.3 +2.9
comp=Z,3.3nm,0.7s,baz=110,slow=7.0,SNR=6.0
SOR Soroa 42.52 344 P P 05 47 09.9 0.0
SOR pmax pmax
comp=Z,15nm,1.2s
SOR Soroa 42.52 344 P P 05 47 09.8 0.0
PMSA Palmer Station 46.58 176 LR LR 06 03 48.4
comp=Z,130nm,21.7s,baz=342,slow=32
656A Willston 48.72 347 P P 05 47 57.4 -1.6
656A IAmb IAmb 05 48 01.3
comp=Z,23nm,0.8s
456A Hilliard 49.93 348 P P 05 48 06.8 -1.3
TIGA Tifton 50.95 347 P 05 48 17.3
baz=165
352A Blakely 51.30 345 P P 05 48 18.4 0.0
NHSC New Hope 51.93 351 P 05 48 25.3
baz=170,SNR=5.9
NHSC New Hope 51.93 351 P P 05 48 21.1 -2.0
154A Montrose 51.98 347 P P 05 48 22.6 -0.9
GOGA Godfrey 52.82 347 P 05 48 30.4
baz=166
Y57A Sumter 52.85 351 P P 05 48 30.0 +0.1
X60A Albert Glenn T 53.08 353 P 05 48 33.8
baz=172
JSC Jenkinsville 53.25 350 P P 05 48 33.4 +0.5
JSC pmax pmax
comp=Z,10.0nm,1.0s
JSC Jenkinsville 53.25 350 P P 05 48 33.4 +0.5
LRAL Lakeview Retre 53.31 344 P 05 48 34.1
baz=162
342A Flagon Creek P 53.45 338 P P 05 48 34.6 +0.2
BIRD Birdtown, Kers 53.48 351 P P 05 48 31.6 -3.0
BIRD IAmb IAmb 05 48 37.4
comp=Z,32nm,0.9s
HKT Hockley 53.57 333 iP P 05 48 35.8 +0.6
HKT pmax pmax
comp=Z,8.0nm,1.1s
HKT Hockley 53.57 333 P P 05 48 34.8 -0.5
HKT IAmb IAmb 05 48 39.1
comp=Z,14nm,1.2s
VBMS Vicksburg 53.59 340 P 05 48 37.6
baz=157
CNNC Cliffs of the 53.73 353 P 05 48 38.6
baz=172
CNNC Cliffs of the 53.73 353 P P 05 48 36.7 +0.3
CNNC IAmb IAmb 05 48 39.4
comp=Z,33nm,0.9s
833A Chaparral WMA, 53.81 329 P 05 48 38.9
baz=147
W57A Gilead 53.91 351 P P 05 48 36.0 -1.7
W57A IAmb IAmb 05 48 41.0
comp=Z,34nm,1.1s
W56A Indian Trail 53.98 351 P 05 48 39.8
baz=169
KMSC Kings Mountain 54.10 350 P 05 48 40.9
baz=168
V59A Middlesex 54.28 353 P 05 48 42.4
baz=172,SNR=6.8
V57A Coltrane Farms 54.60 352 P 05 48 44.3
baz=170
V56A Mocksville 54.63 351 P 05 48 44.8
baz=170,SNR=8.1
U61A Possum Corner 54.67 355 P 05 48 44.7
baz=174
NATX Nacogdoches 54.67 336 P 05 48 46.1
baz=153
V55A Taylorsville 54.78 350 P P 05 48 42.6 -1.5
V55A IAmb IAmb 05 48 49.2
comp=Z,19nm,0.9s
U60A Pendleton 54.87 354 P 05 48 45.6
baz=173
U58A Oxford 54.94 353 P 05 48 47.4
baz=172
W50A Signal Mountai 54.95 346 P P 05 48 42.8 -2.5
W50A IAmb IAmb 05 48 47.3
comp=Z,9.8nm,0.9s
435B Jarrell 55.04 332 P 05 48 47.6
baz=150
U57A Blanch 55.08 352 P 05 48 47.9
baz=171,SNR=6.6
SWET Sewanee 55.11 345 P P 05 48 46.1 -0.4
U56A King 55.14 351 P 05 48 48.3
baz=170
V52A Sevierville 55.20 348 P P 05 48 47.0 -0.1
V52A IAmb IAmb 05 48 49.2
comp=Z,29nm,1.1s
Z41A Richland Creek 55.32 338 P 05 48 49.6
baz=155
237A Washetta, Mont 55.35 335 P P 05 48 46.6 -1.6
T59A Double "B" Far 55.41 354 P P 05 48 47.1 -1.5
T58A Grand View Acr 55.48 353 P 05 48 51.1
baz=172,SNR=8.8
U54A Nelsons Funny 55.53 350 P P 05 48 50.0 +0.4
U54A IAmb IAmb 05 49 04.4
comp=Z,27nm,1.1s
T57A Hurt 55.62 352 P 05 48 52.0
baz=171,SNR=8.6
T57A Hurt 55.62 352 P P 05 48 49.1 -1.1
T57A IAmb IAmb 05 48 53.2
comp=Z,32nm,0.8s
T56A Rocky Mt 55.76 352 P 05 48 54.2
baz=170
JCT Junction City 55.80 330 P 05 48 53.0
baz=147,SNR=5.8
JCT Junction City 55.80 330 P P 05 48 50.6 -1.0
JCT pmax pmax
comp=Z,13nm,1.2s
JCT Junction City 55.80 330 P P 05 48 50.6 -1.0
JCT IAmb IAmb 05 48 54.6
comp=Z,13nm,1.2s
WLAR White Oak Lake 55.82 338 P P 05 48 51.9 +0.3
V48A Smith Brothers 55.83 345 P P 05 48 50.3 -1.3
V48A IAmb IAmb 05 48 53.5
comp=Z,23nm,1.4s
W45A Hickory Valley 55.91 342 IAmb IAmb 05 48 53.7
comp=Z,37nm,1.1s
WHTX Lake Whitney, 56.02 333 P 05 48 55.2
baz=150,SNR=12
WHTX Lake Whitney, 56.02 333 P P 05 48 52.6 -0.5
WHTX IAmb IAmb 05 48 56.3
comp=Z,28nm,0.8s
HPIG 56.04 323 P P 05 48 52.8 -0.8
S58A Poland Farm, P 56.09 354 P 05 48 55.6
baz=172
Z38A Mt. Pleasant 56.13 336 P P 05 48 54.1 +0.3
Z38A IAmb IAmb 05 48 57.4
comp=Z,25nm,0.8s
U49A Red Boiling Sp 56.31 346 P P 05 48 54.3 -0.7
U49A IAmb IAmb 05 48 56.3
comp=Z,7.1nm,0.7s
S57A Dark Hollow, R 56.34 353 P 05 48 57.0
baz=171,SNR=7.9
S57A Dark Hollow, R 56.34 353 P P 05 48 53.2 -2.0
R58B Mineral 56.42 354 P 05 48 57.3
baz=173
X40A Basin Creek Fa 56.45 339 P 05 48 57.0
baz=156
WVT Waverly 56.45 344 P 05 48 56.4
baz=161
WVT Waverly 56.45 344 P P 05 48 56.0 -0.1
WVT pmax pmax
comp=Z,11nm,0.9s
WVT Waverly 56.45 344 P P 05 48 56.0 -0.1
WVT IAmb IAmb 05 48 57.4
comp=Z,11nm,0.8s
S54A Dingess, Beckl 56.70 351 P 05 48 59.3
baz=169
MIAR Mount Ida 56.76 338 P 05 48 60.0
baz=155,SNR=10
MIAR Mount Ida 56.76 338 P P 05 48 56.5 -1.8
MIAR pmax pmax
comp=Z,48nm,1.5s
MIAR Mount Ida 56.76 338 P P 05 48 56.5 -1.8
MIAR IAmb IAmb 05 49 01.1
comp=Z,48nm,1.4s
R58A Rapidan 56.76 354 P 05 49 00.2
baz=173
TXAR Lajitas Array 56.80 326 P P 05 49 00.8 +1.9
comp=Z,3.1nm,0.8s,baz=150,slow=8.6,SNR=33
TXAR LR LR 06 12 11.3
comp=Z,105nm,18.6s,baz=0.0,slow=35
TXAR Lajitas Array 56.80 326 P P 05 48 59.3 +0.4
TXAR Lajitas Array 56.80 326 P P 05 48 59.3 +0.4
TX31 Lajitas Ar. Si 56.80 326 P P 05 48 59.3 +0.4
TX31 IAmb IAmb 05 49 01.5
comp=Z,9.7nm,0.8s
TX32 Lajitas Array 56.80 326 P P 05 48 58.7 -0.1
R57A Stanardsville 56.82 353 P 05 49 00.7
baz=172,SNR=5.6
W41B Gary Mavity, V 56.87 340 P 05 49 00.6
baz=156
R55A Marlinton 57.00 352 P 05 49 02.3
baz=170
T47A Sharon Grove 57.08 345 P P 05 48 59.7 -0.9
T47A IAmb IAmb 05 49 01.9
comp=Z,16nm,0.9s
Z35A Perchaven, San 57.10 334 P P 05 49 00.0 -0.7
LCAR Lake Charles 57.35 341 P P 05 49 02.4 0.0
LCAR IAmb IAmb 05 49 03.8
comp=Z,11nm,1.0s
Q58A Fox Den Farm, 57.37 354 P 05 49 04.5
baz=173
W39A Magazine 57.42 338 P 05 49 05.1
baz=155,SNR=5.1
X37A Clayton 57.46 337 P P 05 49 03.2 0.0
ABTX Abilene, Hawle 57.52 332 P 05 49 05.9
baz=148,SNR=13
ABTX Abilene, Hawle 57.52 332 P P 05 49 04.2 +0.4
ABTX IAmb IAmb 05 49 06.9
comp=Z,25nm,0.9s
Q57A Strasburg 57.53 353 P 05 49 06.4
baz=172,SNR=7.7
Q56A Snyder Ridge, 57.63 353 P 05 49 06.9
baz=171,SNR=6.8
Q53A Leroy 57.77 351 P 05 49 07.0
baz=169
P59A Jarrettsville 57.92 355 P 05 49 08.7
baz=174
P57A Homestead Farm 57.94 354 P 05 49 08.9
baz=173
P56A Dayton Farm, R 58.05 353 P 05 49 09.5
baz=172,SNR=5.3
P60A Greenville 58.07 356 P 05 49 09.0
baz=175
WCI Wyandotte Cave 58.07 346 P 05 49 08.2
baz=163
WCI Wyandotte Cave 58.07 346 P P 05 49 05.4 -2.1
WCI pmax pmax
comp=Z,29nm,1.3s
WCI Wyandotte Cave 58.07 346 P P 05 49 05.4 -2.1
WCI IAmb IAmb 05 49 09.0
comp=Z,30nm,1.3s
U40A Yellville 58.15 340 P 05 49 09.2
baz=156,SNR=6.5
U40A Yellville 58.15 340 IAmb IAmb 05 49 09.9
comp=Z,9.3nm,0.8s
T42A Van Buren 58.21 341 P P 05 49 08.3 -0.2
T42A IAmb IAmb 05 49 10.3
comp=Z,22nm,1.4s
O61A Allentown 58.29 357 P 05 49 10.7
baz=176
S44A Carbondale 58.30 343 P P 05 49 09.6 +0.5
SIUC Southern Illin 58.31 343 P P 05 49 09.3 +0.1
MCWV Mont Chateau 58.32 352 P 05 49 11.7
baz=171
HHAR Hobbs 58.45 339 P P 05 49 06.8 -3.5
HHAR IAmb IAmb 05 49 12.8
comp=Z,13nm,1.1s
O57A Amberson 58.62 354 P 05 49 13.0
baz=173
P52A Corning 58.62 350 P 05 49 12.1
baz=168
O56A Blue Knob Stat 58.77 354 P 05 49 14.7
baz=172
TUL1 Leonard 58.78 337 P 05 49 14.2
baz=153,SNR=8.7
WMOK Wichita Mounta 58.95 334 P 05 49 15.0
baz=150
P49A Miami Univ. Ec 58.99 348 P 05 49 14.5
baz=165
P48A Milroy 59.06 347 P P 05 49 14.3 -0.1
P48A IAmb IAmb 05 49 15.5
comp=Z,21nm,1.4s
N57A Milroy 59.15 355 P 05 49 17.0
baz=173
N58A Sunbury 59.17 355 P 05 49 16.9
baz=174
PAL Palisades 59.17 358 P 05 49 17.7
baz=177
N59A State Game Lan 59.18 356 P 05 49 17.1
baz=175
CCM Cathedral Cave 59.21 342 P 05 49 16.8
baz=158
CCM Cathedral Cave 59.21 342 P P 05 49 16.7 +1.3
CCM pmax pmax
comp=Z,21nm,1.4s
CCM Cathedral Cave 59.21 342 P P 05 49 16.7 +1.3
CCM IAmb IAmb 05 49 17.4
comp=Z,21nm,1.4s
ACSO Alum Creek Sta 59.35 350 P 05 49 17.8
baz=167
QUOK Quay 59.36 336 P P 05 49 18.1 +1.6
N56A West Decatur 59.38 354 P 05 49 18.8
baz=172
GDL2 Guadalupe Moun 59.44 328 P P 05 49 16.5 -0.9
M61A Granite Spring 59.47 358 P 05 49 20.8
baz=177
M60A Port Jervis 59.52 357 P 05 49 19.4
baz=176
S39A Bolivar 59.52 340 IAmb IAmb 05 49 19.9
comp=Z,26nm,1.4s
M63A Gales Ferry 59.52 359 P 05 49 19.7
baz=179
MNTX Cornudas Mount 59.57 326 P 05 49 19.6
baz=142,SNR=16
MNTX Cornudas Mount 59.57 326 IAmb IAmb 05 49 20.7
comp=Z,17nm,1.3s
M62A Hamden 59.58 359 P 05 49 19.7
baz=178
N54A Moraine State 59.62 352 P 05 49 20.1
baz=171
M58A Price's Panora 59.68 356 P 05 49 19.9
baz=174
M57A Sunshine Farm, 59.69 355 P 05 49 20.3
baz=174
R40A Maddies Statio 59.73 341 P P 05 49 17.4 -1.7
R40A IAmb IAmb 05 49 21.1
comp=Z,22nm,1.4s
M59A Waymart 59.78 356 P 05 49 21.3
baz=176
M56A Emporium 59.94 354 P 05 49 22.1
baz=173
T35A Sooner Cattle 59.94 337 IAmb IAmb 05 49 24.2
comp=Z,26nm,1.1s
L63A North Scituate 59.98 360 P 05 49 22.6
baz=180
MSTX Muleshoe 60.09 330 P 05 49 23.5
baz=145
MSTX Muleshoe 60.09 330 IAmb IAmb 05 49 25.0
comp=Z,25nm,1.0s
M54A Oil Creek Stat 60.12 353 P 05 49 23.4
baz=171
CROK Carrier 60.15 335 P P 05 49 19.9 -2.1
M53A Wi Miller and 60.18 352 IAmb IAmb 05 49 31.8
comp=Z,15nm,0.7s
N49A Columbus Grove 60.23 349 IAmb IAmb 05 49 24.2
comp=Z,22nm,0.9s
L58A Harry Jones Me 60.30 356 P 05 49 24.8
baz=175
L57A Andrews Acres 60.33 355 P 05 49 24.9
baz=174
AMTX Amarillo 60.34 331 P 05 49 25.9
baz=147
AMTX Amarillo 60.34 331 P P 05 49 26.5 +3.1
AMTX IAmb IAmb 05 49 27.8
comp=Z,9.4nm,0.9s
L59A Walton 60.40 357 P 05 49 25.6
baz=176
BINY Binghamton 60.47 356 P 05 49 25.7
baz=175
N47A Urbana 60.48 348 IAmb IAmb 05 49 24.9
comp=Z,24nm,1.1s
OK032 Salt Plains WL 60.50 335 IAmb IAmb 05 49 27.0
comp=Z,30nm,1.0s
L61B Northampton 60.58 359 P 05 49 26.2
baz=179
L53A Girard 60.63 352 P 05 49 26.4
baz=170
ERPA Erie 60.76 353 P 05 49 27.4
baz=171
ERPA Erie 60.76 353 P P 05 49 25.7 -0.3
KAN08 Anthony NE Sta 60.77 336 P P 05 49 22.1 -4.1
WVNY West Valley, N 60.89 354 P P 05 49 25.4 -1.5
K59A Cooperstown 60.98 357 P 05 49 28.9
baz=176
HDIL Hopedale 61.00 344 P 05 49 29.0
baz=161
K58A Earlville 61.01 356 P 05 49 29.2
baz=175
K57A Scipio Center 61.03 356 P 05 49 29.4
baz=174
K56A Middlesex 61.06 355 P 05 49 30.1
baz=174
L48A N Adams 61.27 349 P P 05 49 29.6 +0.1
L48A IAmb IAmb 05 49 30.5
comp=Z,14nm,0.7s
P38A Dawn 61.35 341 P P 05 49 26.3 -3.7
P38A IAmb IAmb 05 49 31.5
comp=Z,6.7nm,0.8s
319A Douglas 61.46 323 IAmb IAmb 05 49 35.1
comp=Z,24nm,0.8s
J61A Chester 61.47 359 P 05 49 32.6
baz=179
121A Cookes Peak, D 61.50 325 P 05 49 32.2
baz=140,SNR=11
121A Cookes Peak, D 61.50 325 IAmb IAmb 05 49 35.1
comp=Z,11nm,0.8s
J59A Piesco 61.65 357 P 05 49 34.1
baz=177
J57A Williamstown 61.67 356 P 05 49 33.7
baz=175
I58A Old Forge 61.89 357 P 05 49 35.5
baz=176
KSU1 Kansas State U 61.91 338 P 05 49 35.4
baz=153
KSU1 Kansas State U 61.91 338 IAmb IAmb 05 49 36.1
comp=Z,14nm,0.9s
I59A Olmsteadville 61.95 358 P 05 49 36.2
baz=177
I60A Shoreham 61.98 358 P 05 49 36.5
baz=178
R32A Long Quarter, 62.10 336 IAmb IAmb 05 49 38.1
comp=Z,26nm,1.1s
BNM Barren Site 62.14 327 P P 05 49 31.5 -4.3
I57A Carthage 62.18 356 P 05 49 37.2
baz=176
LBNH Lisbon 62.36 360 P 05 49 38.6
baz=179
I51A Listowel 62.55 352 P 05 49 39.3
baz=170
H58A Gabriels 62.59 358 P 05 49 40.0
baz=177
H61A Lyndonville 62.65 360 P 05 49 40.8
baz=179
ANMO Albuquerque 62.68 328 P P 05 49 39.2 -0.1
ANMO pmax pmax
comp=Z,10.0nm,1.7s
ANMO Albuquerque 62.68 328 P P 05 49 39.5 +0.1
H57A Richville 62.69 357 P 05 49 40.9
baz=176
H64A Troy 62.79 2 P 05 49 41.9
baz=182
H63A New Sharon 62.79 1 P 05 49 42.0
baz=182
H59A Cadyville 62.80 358 P 05 49 41.7
baz=178
CBKS Cedar Bluff 62.84 335 P 05 49 41.7
baz=150
CBKS Cedar Bluff 62.84 335 IAmb IAmb 05 49 43.1
comp=Z,36nm,1.4s
TUC Tucson 63.01 323 P 05 49 43.7
baz=138
TUC Tucson 63.01 323 P P 05 49 43.8 +2.4
TUC pmax pmax
comp=Z,3.0nm,0.8s

TUC Tucson 63.01 323 P P 05 49 43.8 +2.4
H53A Bobcaygeon 63.03 354 P 05 49 42.7
baz=172
N35A Tabor 63.15 340 P P 05 49 41.8 -0.3
N35A IAmb IAmb 05 49 45.0
comp=Z,20nm,0.9s
G60A Masonville 63.22 359 P 05 49 44.9
baz=179
G57A Newington 63.30 357 P 05 49 44.5
baz=176
G58A Ormstown 63.31 358 P 05 49 45.0
baz=177
G62A West of Eustis 63.34 1 P 05 49 45.8
baz=181
SCIA State Center 63.34 342 P 05 49 44.6
baz=157
G61A St-Isidore-de- 63.40 360 P 05 49 46.3
baz=180
T25A Trinidad 63.45 331 P 05 49 46.3
baz=145,SNR=8.6
T25A Trinidad 63.45 331 P P 05 49 45.5 +1.0
T25A IAmb IAmb 05 49 48.0
comp=Z,11nm,0.8s
JFWS Jewell Farm 63.46 345 P 05 49 45.3
baz=160
JFWS Jewell Farm 63.46 345 IAmb IAmb 05 49 45.6
comp=Z,13nm,0.8s
VNA3 Neumayer Olymp 63.71 161 P P 05 49 47.5 +2.0
G54A Lake Saint Pet 63.81 355 P 05 49 48.6
baz=173
214A Organ Pipe Nat 63.93 321 P 05 49 50.7
baz=136
VNA1 Neumayer--Stat 63.94 161 P P 05 49 49.1 +2.2
F64A Sherman 64.04 2 P 05 49 49.9
baz=183
F60A Warwick 64.09 360 P 05 49 49.7
baz=179
F61A St Evariste 64.09 0 P 05 49 50.5
baz=180
X18A Snowflake 64.19 325 P P 05 49 50.3 +0.9
KSCO Kaye Shedlock' 64.20 333 P 05 49 51.4
baz=147
KSCO Kaye Shedlock' 64.20 333 P P 05 49 49.1 -0.1
KSCO IAmb IAmb 05 49 52.6
comp=Z,34nm,1.0s
VNA2 Neumayer--Watz 64.30 161 P P 05 49 51.2 +1.9
baz=287,slow=8.6
ALGO Algonquin Park 64.36 355 P 05 49 52.4
baz=173
L34A Svendsen Farm, 64.39 340 P P 05 49 50.6 +0.3
TRQ Mont Tremblant 64.40 358 P P 05 49 49.6 -0.7
G45A Suttons Bay 64.49 349 IAmb IAmb 05 50 11.0
comp=Z,13nm,0.6s
BGNE Belgrade 64.50 338 P 05 49 52.7
baz=152,SNR=8.8
E58A La Victoria 64.51 359 P 05 49 52.9
baz=178
W18A Petrified Fore 64.52 326 P 05 49 54.4
baz=140,SNR=6.2
W18A Petrified Fore 64.52 326 P P 05 49 51.5 0.0
W18A IAmb IAmb 05 49 55.1
comp=Z,11nm,0.9s
E61A Lac Etchemin 64.55 1 P 05 49 53.6
baz=181
E56A St. Veronique 64.74 357 P 05 49 54.1
baz=176,SNR=5.3
S22A 4UR Ranch, Cre 65.08 330 P 05 49 57.7
baz=143,SNR=9.8
D63A Stockholm 65.22 2 P 05 49 57.6
baz=183
D58A Chemin du LacG 65.22 359 P 05 49 57.7
baz=178,SNR=8.8
D62A Allapoint, All 65.23 2 P 05 49 57.9
baz=182
D56A ZEC Mazanza, M 65.24 357 P 05 49 57.3
baz=176
D55A Sainte-Anne-du 65.24 357 P 05 49 57.2
baz=176,SNR=5.1
Q24A Divide 65.27 331 P 05 49 58.9
baz=145,SNR=8.0
D61A St Aubert, Com 65.33 1 P 05 49 58.5
baz=181
I37A Lemond, Waseca 65.33 343 P P 05 49 56.1 -0.2
MVCO Mesa Verde 65.48 328 P 05 50 00.3
baz=141,SNR=6.9
MVCO Mesa Verde 65.48 328 P P 05 49 56.4 -1.3
LATQ La Tuque 65.51 359 P 05 49 59.6
baz=179
OGNE Ogallala 65.58 335 P 05 50 00.2
baz=148
WUAZ Wupatki 65.70 325 P 05 50 02.2
baz=138,SNR=8.7
WUAZ Wupatki 65.70 325 P P 05 49 59.1 0.0
WUAZ IAmb IAmb 05 50 03.6
comp=Z,16nm,1.1s
K31A O'Neill 65.78 338 P P 05 50 00.2 +0.9
SNA Sanae 65.92 161 P P 05 50 01.7 +1.7
SNAA Sanae 65.92 161 P P 05 49 59.3 -0.6
SNAA pmax pmax
comp=Z,11nm,1.1s
SNAA Sanae 65.92 161 P P 05 49 59.3 -0.6
ECSD EROS Data Cent 66.05 340 P 05 50 02.5
baz=154,SNR=17
ECSD EROS Data Cent 66.05 340 IAmb IAmb 05 50 03.7
comp=Z,42nm,1.3s
ISCO Idaho Springs 66.16 332 P 05 50 04.6
baz=144,SNR=15
ISCO Idaho Springs 66.16 332 IAmb IAmb 05 50 05.7
comp=Z,10.0nm,0.8s
COWI Conover 66.21 347 P P 05 50 01.9 -0.1
COWI IAmb IAmb 05 50 04.3
comp=Z,28nm,1.4s
PV01 Paradox Valley 66.23 329 P P 05 50 02.2 -0.4
PV01 IAmb IAmb 05 50 06.5
comp=Z,13nm,0.8s
SPMN Marine on St. 66.28 344 P 05 50 03.5
baz=158,SNR=7.8
SMCO Snowmass 66.28 330 P P 05 50 05.0 +1.9
SMCO IAmb IAmb 05 50 07.0
comp=Z,13nm,0.8s
SPMN Marine on St. 66.28 344 IAmb IAmb 05 50 04.6
comp=Z,36nm,1.2s
PV02 Paradox Valley 66.37 329 P P 05 50 04.7 +1.3
PV13 Radium Mtn., P 66.37 328 P P 05 50 02.6 -0.9
PV13 IAmb IAmb 05 50 07.2
comp=Z,12nm,0.7s
IKP In-Ko-Pah, Jac 66.42 320 P 05 50 07.3
baz=133
VLDQ Val d'Or 66.45 356 IAmb IAmb 05 50 06.4
comp=Z,34nm,1.4s
PV03 Paradox Valley 66.46 328 P P 05 50 04.0 -0.1
PV12 Saucer Basin, 66.49 329 P P 05 50 04.7 +0.5
PV11 David Mesa, Pa 66.51 329 P P 05 50 01.9 -2.4
PV17 East Wray Mesa 66.54 328 P P 05 50 02.4 -2.1
PV16 Nyswonger Mesa 66.54 328 P P 05 50 04.7 +0.2
TKX Tecate 66.67 319 P P 05 50 02.7 -2.6
TKX IAmb IAmb 05 50 07.3
comp=Z,16nm,0.7s
BC3 Big Chuckawall 66.71 321 P 05 50 08.8
baz=134
MONP2 Monument Peak 66.77 320 P 05 50 09.3
baz=133
W13A Hualapai Mount 66.81 323 P P 05 50 06.2 -0.1
IRM Iron Mountain 66.87 321 P 05 50 09.9
baz=135,SNR=6.9
NEE2 Needles Airpor 66.99 322 P 05 50 10.5
baz=135
D41A Chassel 67.00 347 P P 05 50 07.3 +0.3
D41A IAmb IAmb 05 50 08.9
comp=Z,16nm,0.7s
F36A Milaca 67.06 343 IAmb IAmb 05 50 09.6
comp=Z,26nm,1.0s
N23A Red Feather La 67.19 332 P 05 50 11.2
baz=144,SNR=7.1
109C Camp Elliot, M 67.19 319 P 05 50 11.3
baz=133
BELC Belle Mtn. Jos 67.27 321 P 05 50 12.7
baz=134
TPFO Pinon Flats 67.28 320 P 05 50 13.1
baz=134
XPFO Pion Flat 67.28 320 P P 05 50 05.6 -3.7
PFO Pinyon Flats O 67.28 320 P 05 50 12.9
baz=134
SUSD Miller 67.45 339 P 05 50 11.3
baz=152
SUSD Miller 67.45 339 P P 05 50 08.9 -1.0
SUSD IAmb IAmb 05 50 12.4
comp=Z,20nm,0.7s
KNB Kanab 67.60 325 P P 05 50 12.0 +0.8
KNB pmax pmax
comp=Z,26nm,1.1s
KNB Kanab 67.60 325 P P 05 50 12.0 +0.8
KNB IAmb IAmb 05 50 16.2
comp=Z,26nm,1.1s
GMRC Granite Mounta 67.61 322 P 05 50 14.8
baz=134,SNR=8.0
O20A White River Ci 67.64 330 P 05 50 14.1
baz=142,SNR=6.7
O20A White River Ci 67.64 330 P P 05 50 12.6 +1.2
O20A IAmb IAmb 05 50 15.2
comp=Z,14nm,1.0s
LCMT Little Creek M 67.82 325 P P 05 50 13.8 +1.2
F33A 5 Mile Ranch, 67.84 341 IAmb IAmb 05 50 14.1
comp=Z,11nm,0.8s
SRU San Rafael Swe 67.96 328 IAmb IAmb 05 50 17.2
comp=Z,11nm,0.8s
HEC Hector,Ludlow 68.05 321 P 05 50 17.5
baz=134
SZCU Shurtz Canyon 68.17 325 P P 05 50 15.2 +0.3
CCUT Cedar City 68.28 325 P P 05 50 16.4 +0.9
CCUT IAmb IAmb 05 50 20.7
comp=Z,16nm,0.9s
P17A Butcher Ranch, 68.34 328 P P 05 50 16.9 +1.1
P17A IAmb IAmb 05 50 19.7
comp=Z,16nm,0.9s
CIS Catalina Islan 68.35 319 P 05 50 19.1
baz=132
BFSC Mount Baldy Ra 68.44 320 P 05 50 19.6
baz=133
EYMN Ely 68.49 346 P 05 50 20.5
baz=160
DRLN Deer Lake 68.49 10 P P 05 50 17.9 +1.5
DRLN IAmb IAmb 05 50 18.0
comp=Z,18nm,0.8s
RDMU Red Mountain 68.61 330 IAmb IAmb 05 50 21.0
comp=Z,9.5nm,0.7s
GSC Goldstone, Bar 68.65 321 P P 05 50 17.9 +0.1
GSC pmax pmax
comp=Z,6.0nm,0.9s
GSC Goldstone, Bar 68.65 321 P P 05 50 17.9 +0.1
GSC Goldstone, Bar 68.65 321 P 05 50 21.1
baz=134
SHOC Shoshone, Teco 68.75 322 P 05 50 22.0
baz=134
K22A Casper 68.87 333 P 05 50 21.5
baz=144,SNR=12
K22A Casper 68.87 333 P P 05 50 18.8 -0.2
K22A IAmb IAmb 05 50 22.5
comp=Z,15nm,0.7s
RSSD Black Hills 69.05 335 P 05 50 22.3
baz=147
RSSD Black Hills 69.05 335 P P 05 50 18.7 -1.5
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD Black Hills 69.05 335 P P 05 50 18.7 -1.5
EDW2 Edwards Air Fo 69.08 320 P 05 50 23.5
baz=133
PSUT Pine Spring 69.26 325 P P 05 50 23.2 +1.6
PSUT IAmb IAmb 05 50 26.2
comp=Z,12nm,0.8s
LRMC Laurel Mtn Rad 69.29 321 P 05 50 25.1
baz=133
TPNV Topopah Spring 69.46 323 P 05 50 26.7
baz=135,SNR=13
FURC Furnace Creek, 69.48 322 P 05 50 26.4
baz=134,SNR=10
ISA Isabella, Lake 69.89 321 P 05 50 29.0
baz=132,SNR=5.2
DUG Dugway, Tooele 69.94 327 P 05 50 29.0
baz=138,SNR=14
AGMN Agassiz Nation 69.94 343 P 05 50 26.6
baz=155,SNR=11
AGMN Agassiz Nation 69.94 343 P P 05 50 24.8 -0.6
AGMN IAmb IAmb 05 50 27.6
comp=Z,13nm,0.8s
R11A Troy Canyon, C 70.07 324 P 05 50 30.3
baz=136,SNR=13
DBIC Dimbokro 70.14 76 P P 05 50 27.3 0.0
comp=Z,26nm,0.7s,baz=233,slow=5.9,SNR=25
DBIC LR LR 06 20 25.8
comp=Z,167nm,19.0s,baz=228,slow=35
DBIC Dimbokro 70.14 76 P P 05 50 27.4 0.0
DBIC pmax pmax
comp=Z,23nm,0.8s
DBIC Dimbokro 70.14 76 P P 05 50 27.4 0.0
DBIC IAmb IAmb 05 50 32.1
comp=Z,23nm,0.8s
GRAC Grapevine Rang 70.14 322 P 05 50 30.4
baz=134
CWC Cottonwood Cre 70.18 321 P 05 50 30.8
baz=133
BW06 Boulder Array 70.31 331 P 05 50 30.0
baz=142,SNR=7.4
PD31 Pinedale Array 70.31 331 P P 05 50 28.4 +0.3
PDAR Pinedale Array 70.31 331 P P 05 50 29.9 +1.9
comp=Z,2.8nm,0.7s,baz=142,slow=6.8,SNR=21
PDAR LR LR 06 23 55.4
comp=Z,112nm,18.3s,baz=137,slow=38
PDAR Pinedale Array 70.31 331 P P 05 50 26.7 -1.4
VES Vestal, Richgr 70.38 320 P 05 50 31.8
baz=132
NVL N'lazarevskaya 70.51 160 eP P 05 50 23.2 -5.4
NVL pmax pmax
comp=Z,4.0nm,0.6s
MDND Maddock 70.66 340 P 05 50 32.0
baz=152,SNR=12
HVU Hansel Valley 71.10 328 P P 05 50 33.4 +0.6
HVU pmax pmax
comp=Z,13nm,1.0s
HVU Hansel Valley 71.10 328 P P 05 50 33.4 +0.6
REDW Red Top Meadow 71.37 331 P P 05 50 34.8 +0.3
MLAC Mammoth, Mammo 71.43 322 P 05 50 37.3
baz=133
NV11 Mina Array Sit 71.58 323 P P 05 50 34.9 -0.9
ELK Elko 71.60 326 P P 05 50 36.4 +0.5
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 71.60 326 P P 05 50 36.4 +0.5
NVAR Mina Array Bea 71.66 323 P P 05 50 39.8 +3.4
comp=Z,2.9nm,0.8s,baz=149,slow=6.6,SNR=23
NVAR Mina Array Bea 71.66 323 P P 05 50 37.5 +1.1
ULM Lac du Bonnet 71.72 344 P P 05 50 37.0 +0.9
comp=Z,8.4nm,0.6s,baz=154,slow=5.6,SNR=25
ULM LR LR 06 24 01.7
comp=Z,113nm,21.4s,baz=156,slow=38
ULM Lac du Bonnet 71.72 344 i P P 05 50 35.8 -0.3
ULM Lac du Bonnet 71.72 344 IAmb IAmb 05 50 37.6
comp=Z,11nm,0.7s
RLMT Red Lodge 72.03 333 P 05 50 41.1
baz=142,SNR=14
LAO LASA Array 72.04 336 P 05 50 40.6
baz=145,SNR=7.5
H17A Grant Village 72.05 332 P 05 50 41.9
baz=141
LKWY Lake 72.10 332 P P 05 50 39.5 +0.6
LKWY pmax pmax
comp=Z,15nm,0.9s
LKWY Lake 72.10 332 P P 05 50 39.5 +0.6
LKWY IAmb IAmb 05 50 43.8
comp=Z,15nm,0.9s
TBI Tubuai 72.32 251 eS SKiKP 06 00 15.2 -0.6
comp=Z,114nm,26.2s
TBI Tubuai 72.32 251 eLR LR 06 12 46.7
comp=Z,283nm,27.0s
TBI Tubuai 72.32 251 eT T 07 08 54.3
comp=Z,10nm,0.4s
DGMT Dagmar 72.76 338 P 05 50 45.3
baz=148
PNTR Pine Nut 72.86 323 P P 05 50 43.9 +0.4
PAHR Pah Rah Range 73.15 323 P P 05 50 45.3 +0.2
PAHR IAmb IAmb 05 50 49.9
comp=Z,28nm,1.5s
BCYI Bear Canyon 73.30 330 P P 05 50 47.9 +2.0
MCMT McKenzie Canyo 73.42 331 P P 05 50 45.1 -1.6
BOZ Bozeman (W) 73.45 332 P 05 50 49.3
baz=140,SNR=13
BOZ Bozeman (W) 73.45 332 P P 05 50 46.7 0.0
BOZ pmax pmax
comp=Z,7.0nm,0.9s
BOZ Bozeman (W) 73.45 332 P P 05 50 46.7 0.0
PPT Papeete 73.79 257 LR LR 06 16 19.2
comp=Z,98nm,20.8s,baz=106,slow=30
KOWA Kowa 73.97 68 LR LR 06 22 09.9
comp=Z,455nm,20.1s,baz=231,slow=35
KOWA Kowa 73.97 68 P P 05 50 48.7 -1.6
KOWA IAmb IAmb 05 50 51.0
comp=Z,13nm,0.7s
EGMT Eagleton 74.53 334 P 05 50 55.2
baz=142,SNR=12
MSO Missoula 75.43 331 P 05 51 01.0
baz=139,SNR=7.2
N02D Trinity Center 75.89 322 P 05 51 02.7
baz=130
M04C Macdoel 75.92 323 P 05 51 04.0
baz=131
M02C Callahan 76.24 323 P 05 51 05.3
baz=130
K04D Chiloquin, OR 76.42 324 P 05 51 06.7
baz=131
L04D Klamath Falls 76.47 324 P 05 51 06.7
baz=131
J05D Fort Rock, OR 76.58 325 P 05 51 07.8
baz=132
J04D Umpqua Nationa 77.03 324 P 05 51 10.3
baz=131
L02E Cave Junction 77.16 323 P 05 51 11.2
baz=130
I05D Terrebonne, OR 77.33 326 P 05 51 12.4
baz=132
K02D Willamette Mer 77.54 323 P 05 51 13.3
baz=130
HAWA Hanford 77.79 328 P P 05 51 09.9 -1.5
G05D Wamic, OR 77.92 326 P 05 51 16.0
baz=132
NEW Newport 77.95 331 P 05 51 15.1
baz=136
C09A Chrisman Ranch 78.16 330 P P 05 51 13.9 +0.5
C09A IAmb IAmb 05 51 18.5
comp=Z,18nm,1.4s
TOA0 Torodi Ar. Sit 78.55 72 P P 05 51 14.8 -1.4
TOA0 IAmb IAmb 05 51 17.1
comp=Z,23nm,0.7s
TORD Torodi Ar. Bea 78.55 72 P P 05 51 16.2 -0.1
comp=Z,20nm,0.6s,baz=251,slow=5.7,SNR=125
TORD LR LR 06 25 07.6
comp=Z,572nm,18.5s,baz=240,slow=35
TORD Torodi Ar. Bea 78.55 72 P P 05 51 15.4 -0.9
TORD IAmb IAmb 05 51 17.1
comp=Z,18nm,0.7s
VNDA Vanda 79.46 190 P P 05 51 23.8 +3.5
comp=Z,1.1nm,0.9s,baz=113,slow=3.4,SNR=6.4
VNDA LR LR 06 19 21.8
comp=Z,113nm,19.9s,baz=355,slow=30
B05A Bryant 80.34 328 P 05 51 28.2
baz=132
MORF Marmelete 80.94 46 eP P 05 51 31.7 +2.8
comp=Z,93nm,1.8s
PNCL Nicolau / Gran 81.44 45 eP P 05 51 34.4 +3.0
comp=Z,51nm,1.7s
EVO Evora 82.00 45 eP P 05 51 36.6 +2.2
comp=Z,58nm,1.8s
MVO Moncorvo 84.00 43 eP P 05 51 46.6 +1.8
comp=Z,32nm,1.6s
PBRG Braganca 84.51 43 eP P 05 51 47.1 -0.2
comp=Z,29nm,1.4s
ESDC Sonseca Array 85.30 46 P P 05 51 53.4 +2.0
comp=Z,6.4nm,1.0s,baz=246,slow=5.9,SNR=16
ESDC LR LR 06 26 05.7
comp=Z,141nm,21.1s,baz=260,slow=33
ESDC Sonseca Array 85.30 46 P P 05 51 47.3 -4.1
TAM Tamanrasset 85.53 64 P P 05 51 49.4 -3.7
TAM pmax pmax
comp=Z,9.0nm,1.2s
TAM Tamanrasset 85.53 64 P P 05 51 49.4 -3.7
BOSA Boshof 86.93 119 P P 05 52 00.9 +1.0
comp=Z,2.5nm,0.9s,baz=231,slow=6.5,SNR=3.7
BOSA LR LR 06 29 30.0
comp=Z,92nm,18.2s,baz=182,slow=35
YKA Yellowknife Ar 87.54 341 P P 05 52 03.5 +1.7
comp=Z,16nm,0.7s,baz=133,slow=5.3,SNR=233
YKA LR LR 06 33 39.2
comp=Z,141nm,21.5s,baz=0.0,slow=37
MAW Mawson 87.91 164 LR LR 06 30 31.0
comp=Z,155nm,19.3s,baz=45,slow=35
KEST Kesra 93.32 54 LR LR 06 36 26.7
comp=Z,76nm,19.0s,baz=216,slow=37
SUMG Summit 93.41 9 P P 05 52 27.3 -2.1
SUMG pmax pmax
comp=Z,7.0nm,0.7s
SUMG Summit 93.41 9 P P 05 52 27.3 -2.1
SUMG IAmb IAmb 05 52 32.8
comp=Z,7.2nm,0.7s
GERES GERESS Array B 100.47 42 P Pdif 05 53 02.5 +0.9
comp=Z,1.4nm,1.0s,baz=224,slow=4.1,SNR=5.2
DZM Mont Dzumac 110.60 237 eLR LR 06 30 33.4
comp=Z,113nm,24.0s
KBZ Khabaz 119.94 50 PKP PKiKP 05 58 06.5 +1.5
comp=Z,1.1nm,0.8s,baz=252,slow=3.2,SNR=4.1
TIXI Tiksi 125.46 352 i PKIKP PKPdf 05 58 14.5 -0.1
SEY Seymchan 126.38 337 i PKIKP PKiKP 05 58 17.4 +0.3
ARU Arti 126.84 32 i PKIKP PKPdf 05 58 17.5 -0.2
ARU 06 00 16.6
ARU 06 05 25.8
ARU SP SP 06 10 11.8 -4.4
ARU SS SS 06 17 20.3 -0.5
PETK Petropavlovsk- 128.73 324 PKP PKiKP 05 58 24.1 +2.0
comp=Z,2.2nm,0.7s,baz=90,slow=8.0,SNR=3.7
ASAR Alice Springs 131.44 211 PKP PKiKP 05 58 29.4 +0.8
comp=Z,1.5nm,0.9s,baz=119,slow=1.9,SNR=8.5
ASAR Alice Springs 131.44 211 PKIKP PKPdf 05 58 26.2 -1.4
ASAR Alice Springs 131.44 211 PKPdf PKPdf 05 58 26.2 -1.4
WRA Warramunga Arr 134.29 215 PKP PKiKP 05 58 34.9 +0.5
comp=Z,2.2nm,0.7s,baz=145,slow=1.7,SNR=9.3
ZALV Zalesovo Beam 140.06 22 PKhKP PKPpre 05 58 36.3
comp=Z,0.9nm,0.6s,baz=327,slow=2.5,SNR=4.9
ZALV PKP PKiKP 05 58 45.0 0.0
comp=Z,4.4nm,0.6s,baz=299,slow=2.2,SNR=17
ZALV Zalesovo Beam 140.06 22 PKIKP PKPdf 05 58 38.9 -3.7
ZALV Zalesovo Beam 140.06 22 PKPdf 05 58 38.9 -3.7
AAK Ala-Archa 142.35 43 i PKIKP PKPdf 05 58 47.8 +0.5
KLR Kul'dur 144.06 334 i PKIKP PKPbc 05 58 48.7 +0.9
MK31 Makanchi Array 144.37 32 i PKIKP PKPab 05 58 49.3 +0.7
MKAR Makanchi Array 144.37 32 PKP PKPdf 05 58 50.4 -0.1
comp=Z,5.9nm,0.7s,baz=326,slow=4.5,SNR=39
MKAR Makanchi Array 144.37 32 PKPdf PKPbc 05 58 50.1 +1.2
DGZ Jazzator, Alta 144.45 24 i PKIKP PKPbc 05 58 49.9 +0.7
KSH Kashi 144.81 46 PKP PKPdf 05 58 52.8 +1.1
KSH AMB AMB
comp=Z,290nm,4.8s
KSH LR LR
comp=Z,340nm,9.1s
KSH LR LR
comp=Z,380nm,5.3s
KSH LR LR
comp=Z,360nm,6.2s
MOY Mondy 146.28 9 ePKP2 PKiKP 05 58 57.8 -0.2
MOY pmax pmax
comp=Z,6.0nm,1.3s
TLY Talaya 146.58 6 ePKP2 PKPab 05 58 58.0 +1.3
TLY pmax pmax
comp=Z,31nm,0.9s
USRK Ussuriysk Ar. 147.69 328 PKPbc PKPab 05 59 01.7 +0.4
comp=Z,13nm,0.7s,baz=34,slow=1.3,SNR=42
USRK Ussuriysk Ar. 147.69 328 PKP2 PKiKP 05 59 01.4 +0.4
USRK Ussuriysk Ar. 147.69 328 PKiKP 05 59 01.4 +0.4
ZAK Zakamensk 147.83 6 ePKP2 PKPbc 05 58 58.9 -0.4
ZAK pmax pmax
comp=Z,9.0nm,1.2s
MJAR Matsushiro Arr 148.35 311 PKPbc PKiKP 05 59 03.5 +0.9
comp=Z,18nm,0.8s,baz=101,slow=1.2,SNR=40
MAT Matsushiro 148.35 311 PKP PKiKP 05 59 03.4 +0.7
WMQ Urumqi 149.15 30 ePKPbc PKPdf 05 58 59.4 +0.7
SONM Songino Array 150.61 3 PKPbc PKiKP 05 59 08.4 +1.3
comp=Z,10nm,0.9s,baz=81,slow=0.2,SNR=37
SIJI Sorong 150.63 232 PKPbc PKiKP 05 59 10.1 +2.0
comp=Z,12nm,0.5s,baz=58,slow=11,SNR=4.3
HYB Hyderabad 151.37 87 i PKP PKiKP 05 59 10.0 +0.6
KSRS Korea Array 154.60 322 PKPbc PKiKP 05 59 18.1 +2.7
comp=Z,2.1nm,0.8s,baz=54,slow=2.2,SNR=5.1
HHC Hu-ho-hao-te 157.51 354 ePKP PKPdf 05 59 06.8 -4.1
NJ2 Nanjing 163.60 328 ePKP PKPdf 05 59 18.3 +0.7
WHN Wuhan 166.87 338 PKP PKPdf 05 59 18.3 -2.1
CMAR Chiang Mai Arr 170.79 88 PKP PKPdf 05 59 24.2 +0.9
comp=Z,0.8nm,0.3s,baz=252,slow=1.8,SNR=4.6
CMAR PKPab PKPab 06 00 42.5 +1.0
comp=Z,1.3nm,0.3s,baz=273,slow=5.4,SNR=12

*NNC **18** 05:54:55.6±7.8, 37°.68N×71°.84E, h0km, mb4.0, mpv3.6,*

Error ellipse: s-maj=59.8km s-min=48.1km az=169.0
ISC 18 05:54:56.0±4.7, 37.4N±0.3×72.0E±0.2, h130km±n8, σ0669/11, 1C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.91**	**15**	P	**Pn**	**05 56 08.8**	**+0.6**
	SNR=41						
UCH	**Uchtor**	**5.20**	**21**	P	**Pn**	**05 56 12.5**	**+0.3**
	SNR=20						
AAK	**Ala-Archa**	**5.58**	**19**	P	**Pn**	**05 56 17.5**	**+0.6**
	SNR=9.4						
AAK	**Ala-Archa**	**5.58**	**19**	⇓Pn	**Pn**	**05 56 17.1**	**+0.2**
	5.2nm,0.7s						
AAK				⇓Sn	**Sn**	**05 57 20.4**	**+0.4**
	4.2nm,0.5s						
KK31	**Karatay Array**	**5.83**	**349**	⇑Pn	**Pn**	**05 56 20.6**	**+0.5**
	0.6nm,0.2s,baz=170,slow=12,SNR=27						
KK31				⇓Sn	**Sn**	**05 57 24.5**	**-1.3**
	26nm,0.8s,baz=176,slow=22,SNR=33						
ULHL	**Ulahol**	**5.84**	**32**	P	**Pn**	**05 56 20.0**	**-0.5**
	SNR=5.6						
TKM2	**Tokmak 2**	**6.17**	**25**	P	**Pn**	**05 56 24.5**	**-0.4**
	SNR=10						
TKM2	**Tokmak 2**	**6.17**	**25**	⇓Pn	**Pn**	**05 56 24.2**	**-0.7**
	7.4nm,0.6s						
TKM2				⇓Sn	**Sn**	**05 57 34.7**	**+0.4**
	2.6nm,0.8s						

*IDC **18** 05:56:09.2±0.9, 18°.33S×71°.22W, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.8/34, mbtmp3.9/9, ML3.8/3, MS3.3/3, Ms1 3.3/3, ms1mx3.0/23, Error ellipse: s-maj=22.6km s-min=21.6km az=25.0*
*NEIC **18** 05:56:14.9±2.7, 18°.59S±0°.07×71°.27W±0°.09, h49km±2km, mb4.1/6, Error ellipse: s-maj=11.8km s-min=9.6km az=83.0*
*GUC **18** 05:56:14.6±0.8, 18°.40S×71°.24W, h39km±16km, ML4.0*
ISC 18 05:56:14.2±1.1, 18°.47S±0°.05×71°.35W±0°.07, h41km±12km, n69, σ1§77/70, mb4.0/5, 2C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.96**	**85**	⇓*i*P	**Pn**	**05 56 29.9**	**-1.3**
AP01				*i* S	**Sn**	**05 56 41.4**	**-2.3**
AP01				IAML		05 56 47.3	
	comp=E,8μm,0.3s						
AP01	**Chacalluta**	**0.96**	**85**		**Pn**	**05 56 30.0**	**-1.2**
PSGC	**Pisagua**	**1.61**	**134**	⇑*i*P	**Pn**	**05 56 40.2**	**-0.1**
PSGC				*i* S	**Sn**	**05 57 00.0**	**0.0**
PSGCX	**Pisagua**	**1.61**	**134**	Pn	**Pn**	**05 56 40.3**	**0.0**
MNMC	**Minye Minye**	**1.79**	**112**	⇓*i*P	**Pn**	**05 56 42.6**	**-0.3**
MNMC				*i* S	**Sn**	**05 57 06.1**	**+1.6**
MNMC				IAML		05 57 14.6	
	comp=E,3μm,0.6s						
MNMC	**Minye Minye**	**1.79**	**112**		**Pn**	**05 56 42.5**	**-0.3**
TA02	**Huaiquique**	**2.13**	**148**	*e*P	**Pn**	**05 56 47.9**	**+0.6**
TA01	**Diego Aracena**	**2.36**	**152**	*e*P	**Pn**	**05 56 50.2**	**-0.3**
TA01				*i* S	**Sn**	**05 57 25.1**	**+6.9**
TA01	**Diego Aracena**	**2.36**	**152**	Pn	**Pn**	**05 56 50.2**	**-0.3**
PB08	**IPOC Station P**	**2.66**	**129**	*e*P	**Pn**	**05 56 55.5**	**+0.6**
PB08				*i* S	**Sn**	**05 57 26.8**	**+0.7**
PB08				IAML		05 57 35.4	
	comp=N,482nm,0.3s						
PB08	**IPOC Station P**	**2.66**	**129**		**Pn**	**05 56 55.6**	**+0.7**
PB01	**IPOC Station P**	**3.10**	**146**	*e*P	**Pn**	**05 57 00.7**	**-0.1**
PB01				*i* S	**Sn**	**05 57 34.8**	**-1.9**
PB01				IAML		05 57 37.3	
	comp=E,619nm,0.2s						
PB01	**IPOC Station P**	**3.10**	**146**		**Pn**	**05 56 59.9**	**-0.9**
PB07	**IPOC Station P**	**3.52**	**157**	*e*P	**Pn**	**05 57 06.1**	**-0.5**
PB07				IAML		05 58 10.9	
	comp=N,254nm,0.6s						
PB07	**IPOC Station P**	**3.52**	**157**		**Pn**	**05 57 06.3**	**-0.3**
LPAZ	**La Paz**	**3.76**	**55**	Pg	Pn	05 57 14.0	+3.7
	comp=N,2.6nm,0.3s,baz=244,slow=10,SNR=42						
LPAZ				LR	LR	05 58 50.8	
	comp=N,384nm,19.2s,baz=262,slow=45						
LPAZ	**La Paz**	**3.76**	**55**	Pn	Pn	05 57 14.2	+4.0
PB09	**IPOC Station P**	**3.86**	**150**	⇑*i*P	**Pn**	**05 57 11.9**	**+0.7**
PB09	**IPOC Station P**	**3.86**	**150**		**Pn**	**05 57 11.9**	**+0.7**
PB03	**IPOC Station P**	**3.87**	**158**	*e*P	**Pn**	**05 57 10.7**	**-0.6**
PB04	**IPOC Station P**	**4.01**	**164**	*e*P	**Pn**	**05 57 12.1**	**-1.2**
PB04	**IPOC Station P**	**4.01**	**164**	Pn	**Pn**	**05 57 12.1**	**-1.2**
PB06	**IPOC Station P**	**4.53**	**159**	*i* P	**Pn**	**05 57 19.4**	**-1.2**
PB06	**IPOC Station P**	**4.53**	**159**		**Pn**	**05 57 19.3**	**-1.2**
LVC	**Limon Verde**	**4.71**	**151**	Pn	**Pn**	**05 57 23.8**	**+0.6**
	comp=N,5.1nm,0.3s,baz=343,slow=8.1,SNR=100						
LVC				Sn	**Sn**	**05 58 16.2**	**-0.5**
	comp=N,11nm,0.3s,baz=280,slow=22,SNR=9.0						
LVC				LR	LR	05 59 15.1	
	comp=N,170nm,21.0s,baz=328,slow=39						
LVC	**Limon Verde**	**4.71**	**151**	*e*P	**Pn**	**05 57 23.8**	**+0.6**
LVC	**Limon Verde**	**4.71**	**151**	Pn	**Pn**	**05 57 23.4**	**+0.2**
PB15	**IPOC Station P**	**5.03**	**160**		**Pn**	**05 57 26.0**	**-1.5**
PB10	**IPOC Station P**	**5.08**	**172**	Pn	**Pn**	**05 57 25.9**	**-1.9**
PB14	**IPOC Station P**	**6.19**	**172**	Pn	**Pn**	**05 57 41.2**	**-2.2**
GO02	**Mina Guanaco**	**6.86**	**167**	Pn	**Pn**	**05 57 50.5**	**-2.1**
AC01	**Pan de Azucar**	**7.68**	**175**	Pn	**Pn**	**05 58 01.0**	**-2.5**
NNA	**Nana**	**8.34**	**320**	Pn	**Pn**	**05 58 16.3**	**+3.6**
	comp=N,1.0nm,0.3s,baz=263,slow=17,SNR=2.3						
NNA				Sn	**Sn**	**05 59 42.3**	**-3.5**
	comp=N,1.6nm,0.3s,baz=267,slow=17,SNR=2.5						
AC02	**Maricunga**	**8.58**	**167**	Pn	**Pn**	**05 58 14.7**	**-1.7**
SIV	**San Ignacio**	**10.12**	**77**	Pn	**Pn**	**05 58 35.6**	**-1.4**
	comp=N,1.1nm,0.3s,baz=277,slow=8.4,SNR=18						
SIV				LR	LR	06 03 01.4	
	comp=N,260nm,18.4s,baz=274,slow=41						
AC05	**El Transito**	**10.37**	**175**	Pn	**Pn**	**05 58 38.4**	**-2.2**
SAML	**Samuel**	**12.34**	**41**		**Pn**	**05 59 08.2**	**+0.8**
CPUP	**Villa Florida**	**15.13**	**124**	Pn	**Pn**	**05 59 44.2**	**-1.0**
	comp=N,0.1nm,0.3s,baz=320,slow=15,SNR=2.8						
H03N1	**Juan Fernandez**	**16.38**	**203**	T	T	06 16 59.5	
	baz=29,slow=73,SNR=44						
H03N2	**Juan Fernandez**	**16.39**	**203**	T	T	06 16 59.5	
	baz=29,slow=73,SNR=68						
H03N3	**Juan Fernandez**	**16.40**	**203**	T	T	06 16 52.7	
	baz=29,slow=73,SNR=50						
OTAV	**Otavalo**	**19.86**	**339**	*e*P	**Pn**	**06 00 46.2**	**+2.0**
PTGA	**Pitinga**	**20.87**	**34**	P	**P**	**06 00 51.0**	**-1.9**
	comp=N,7.3nm,0.5s,baz=209,slow=12,SNR=16						
PTGA	**Pitinga**	**20.87**	**34**	P	**P**	**06 00 51.9**	**-1.0**
PTGA				IAmb	IAmb	06 00 52.9	
	comp=Z,22nm,1.3s						
SOTA	**Rioblanco**	**21.12**	**345**	*e*P	**P**	**06 00 57.6**	**+1.4**
BBAC	**Balboa, Cauca**	**21.17**	**343**	*e*P	**P**	**06 00 58.3**	**+1.9**
PCON	**Cinco Dias**	**21.25**	**346**	*e*P	**P**	**06 01 02.2**	**+4.5**
POPC	**Popayan, Colom**	**21.52**	**345**	*e*P	**P**	**06 01 02.2**	**+2.0**
PLCA	**Paso Flores**	**22.20**	**178**	P	**P**	**06 01 07.8**	**+0.7**
	comp=Z,1.7nm,1.1s,baz=37,slow=12,SNR=3.5						
PLCA	**Paso Flores**	**22.20**	**178**	IAmb	IAmb	06 01 32.9	
	comp=Z,7.6nm,1.2s						
BDFB	**Brasilia**	**22.48**	**86**	P	**P**	**06 01 08.9**	**-1.5**
	comp=Z,3.7nm,0.6s,baz=266,slow=13,SNR=7.9						
BDFB	**Brasilia**	**22.48**	**86**	IAmb	IAmb	06 01 11.3	
	comp=Z,5.2nm,0.8s						
ORTC	**Ortega, Tolima**	**22.56**	**350**	*e*P	**P**	**06 01 11.1**	**-0.1**
YOTC	**Yotoco, Valle**	**22.84**	**347**	*e*P	**P**	**06 01 17.8**	**+3.6**
PLMC	**San Jos del P**	**23.73**	**348**	*e*P	**P**	**06 01 22.4**	**-0.4**
GUY2C	**Guyana, Caldas**	**23.87**	**350**	*e*P	**P**	**06 01 26.7**	**+2.1**
RUSC	**La Rusia**	**24.26**	**356**	*e*P	**P**	**06 01 28.2**	**0.0**
ZARC	**Zaragoza, Cauc**	**26.02**	**352**	*e*P	**P**	**06 01 44.0**	**+0.3**
SMLC	**San Martn de**	**27.23**	**354**	*e*P	**P**	**06 01 52.1**	**-2.4**
CBYP	**Canovanas**	**36.90**	**9**	P	**P**	**06 03 16.9**	**-2.4**
TXAR	**Lajitas Array**	**56.84**	**326**	P	**P**	**06 05 55.4**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=150,slow=7.3,SNR=1.7						
TORD	**Torodi Ar. Bea**	**78.55**	**72**	P	**P**	**06 08 11.7**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=254,slow=5.0,SNR=10						
TORD	**Torodi Ar. Bea**	**78.55**	**72**	P	**P**	**06 08 11.5**	**-0.5**
TORD				IAmb	IAmb	06 08 12.3	
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**87.59**	**341**	P	**P**	**06 08 58.5**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=134,slow=5.4,SNR=17						
WRA	**Warramunga Arr**	**134.26**	**215**	PKP	**PKiKP**	**06 15 31.4**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=146,slow=1.9,SNR=2.2						
MKAR	**Makanchi Array**	**144.40**	**32**	PKP	**PKPdf**	**06 15 46.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=327,slow=4.7,SNR=4.5						
USRK	**Ussuriysk Ar.**	**147.73**	**328**	PKPbc	**PKPbc**	**06 15 55.5**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=311,slow=1.3,SNR=4.6						
MJAR	**Matsushiro Arr**	**148.38**	**311**	PKPbc	**PKPbc**	**06 15 56.4**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=109,slow=1.2,SNR=4.1						
SONM	**Songino Array**	**150.65**	**3**	PKPbc	**PKiKP**	**06 16 03.6**	**+0.9**
	comp=Z,1.2nm,1.1s,baz=354,slow=3.0,SNR=3.7						

*IDC **18** 06:02:38.7±0.9, 27°.54N×141°.41E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/40, mbtmp3.7/6, Error ellipse: s-maj=38.0km s-min=14.1km az=39.0*
ISC 18 06:02:46.2±0.9, 27.4N±0.2×141.6E±0.2, h64km, n10, σ2§53/8, mb3.7/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.64**	**122**	Pn	**Pn**	**06 02 56.9**	**-3.1**
	27nm,0.3s,baz=305,slow=22,SNR=26						
JCJ				Sn	**Sn**	**06 03 10.8**	**+0.7**
	44nm,0.3s,baz=279,slow=23,SNR=18						
H11N2	**WAKE ISLAND Hy**	**24.41**	**103**	T	T	06 32 02.5	
	baz=297,slow=75						
H11N1	**WAKE ISLAND Hy**	**24.41**	**103**	T	T	06 32 08.9	
	baz=297,slow=75						
H11N3	**WAKE ISLAND Hy**	**24.43**	**103**	T	T	06 32 09.9	
	baz=297,slow=75						
SONM	**Songino Array**	**34.09**	**316**	P	**P**	**06 09 24.6**	**0.0**
	0.2nm,0.3s,baz=120,slow=8.5,SNR=3.7						
WRA	**Warramunga Arr**	**47.62**	**189**	P	**P**	**06 11 17.7**	**+1.8**
	0.4nm,0.4s,baz=12,slow=8.4,SNR=14						
ZALV	**Zalesovo Beam**	**48.87**	**319**	P	**P**	**06 11 23.3**	**-2.0**
	0.5nm,0.5s,baz=125,slow=7.2,SNR=4.6						
MKAR	**Makanchi Array**	**49.84**	**309**	P	**P**	**06 11 31.3**	**-1.4**
	0.7nm,0.8s,baz=131,slow=6.6,SNR=3.0						
KBZ	**Khabaz**	**77.38**	**313**	P	**P**	**06 14 33.9**	**-0.3**
	0.6nm,0.7s,baz=80,slow=2.6,SNR=3.7						
PDAR	**Pinedale Array**	**84.35**	**44**	P	**P**	**06 15 15.3**	**+3.5**
	0.2nm,0.6s,baz=303,slow=5.0,SNR=1.8						

IDC 18 06:07:22.9±14.0, 53.85N×160.13E, h0km, Error ellipse: s-maj=107.1km s-min=37.4km az=64.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-**	**1.63**	**244**	*i*		06 15 00.0	
	baz=62,slow=320,SNR=6.1						
PETK	**Petropavlovsk-**	**1.63**	**244**	Pg	Pn	06 07 52.6	-0.3
	0.3nm,0.3s,baz=79,slow=20,SNR=4.3						
I53US	**FAIRBANKS INFR**	**27.85**	**46**	*i*		08 51 15.0	
	baz=278,slow=332,SNR=6.8						

*CRAAG **18** 06:15:18.9, 35°.68N×5°.75E, Ml3.7*
*IDC **18** 06:15:20.9±1.2, 35°.68N×5°.80E, h0km, mb3.4/5, mb1 3.6/9, mb1mx3.4/40, mbtmp3.5/9, ML3.5/4, Error ellipse: s-maj=25.2km s-min=20.4km az=165.0*
*MDD **18** 06:15:23.3±1.0, 35°.72N×5°.78E, h5km±6km, mb4.3/20, Error ellipse: s-maj=10.3km s-min=5.1km az=174.0, PRXIMO*
*LDG **18** 06:15:24.6±0.2, 35°.68N×5°.75E, h10km, Ml3.2/10, Error ellipse: s-maj=5.3km s-min=4.0km az=3.0*
ISC 18 06:15:22.7±0.8, 35.86N±0°.06×5.74E±0°.04, h10km, n79, σ1§80/107, mb3.5/4, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.44**	**322**	P	**Pb**	**06 15 33.0**	**+0.4**
SET	**Setif**	**0.44**	**322**	P	**Pb**	**06 15 33.0**	**+0.4**
CTEI	**Djebel Teioual**	**0.58**	**69**	P	**Pg**	**06 15 34.5**	**+0.5**
CTEI	**Djebel Teioual**	**0.58**	**69**	P	**Pg**	**06 15 34.5**	**+0.5**
DFRA	**Djebel Bou Aff**	**0.70**	**9**	P	**Pn**	**06 15 39.4**	**+0.7**
DFRA	**Djebel Bou Aff**	**0.70**	**9**	P	**Pn**	**06 15 39.4**	**+0.7**
CASM	**Ain Smara**	**0.73**	**56**	P	**Pb**	**06 15 38.1**	**+0.6**
CASM	**Ain Smara**	**0.73**	**56**	P	**Pb**	**06 15 38.1**	**+0.6**
CKFL	**Kef-Lekhel**	**0.96**	**55**	P	**Pn**	**06 15 42.7**	**+0.3**
CKFL	**Kef-Lekhel**	**0.96**	**55**	P	**Pn**	**06 15 42.7**	**+0.3**
CAEH	**'Ain El Ouahch**	**1.29**	**44**	P	**Pn**	**06 15 46.4**	**-0.3**
CAEH	**'Ain El Ouahch**	**1.29**	**44**	P	**Pn**	**06 15 46.4**	**-0.3**
ABSA	**Djebel Ababsia**	**1.47**	**73**	P	**Pn**	**06 15 49.6**	**+0.3**
CABS	**Djebel Ababsia**	**1.47**	**73**	P	**Pn**	**06 15 49.6**	**+0.3**
CMAH	**Djebel Manchou**	**1.56**	**60**	P	**Pn**	**06 15 50.6**	**0.0**
CMAH	**Djebel Manchou**	**1.56**	**60**	P	**Pn**	**06 15 50.6**	**0.0**
KEST	**Kesra**	**2.94**	**91**	Pn	**Pn**	**06 16 09.9**	**+0.5**
	1.9nm,0.3s,baz=166,slow=5.3,SNR=24						
KEST				Sn	**Sn**	**06 16 43.2**	**-1.6**
	2.5nm,0.3s,baz=182,slow=14,SNR=4.0						
EBNR	**Beni Rached**	**3.44**	**278**	P	**Pb**	**06 16 23.8**	**+0.2**
ECHA	**Ech Chlef**	**3.56**	**276**	P	**Pn**	**06 16 21.3**	**+3.4**
ECHF	**Ech Chlef**	**3.58**	**276**	P	**Pn**	**06 16 21.3**	**+3.1**
EANR	**'Ain N'Sour**	**3.77**	**273**	P	**Pn**	**06 16 23.4**	**+2.6**
EANR	**'Ain N'Sour**	**3.77**	**273**	P	**Pn**	**06 16 23.4**	**+2.6**
OKGL	**Djebel Kef Gue**	**4.14**	**274**	P	**Pn**	**06 16 26.5**	**+0.6**
	27nm,0.2s,SNR=7.9						
OKGL				S	**Sn**	**06 17 15.0**	**+0.6**
	75nm,0.4s,SNR=4.0						
MAHO	**Mahon**	**4.20**	**344**	P	**Pn**	**06 16 27.3**	**+0.6**
MAHO				S	**Sn**	**06 17 15.9**	**+0.1**
MAHO	**Mahon**	**4.20**	**344**	*e*P	**Pn**	**06 16 27.3**	**+0.6**
MAHO				*e*S	**Sn**	**06 17 15.9**	**+0.1**
ETOS	**Mallorca**	**4.54**	**330**	P	**Pn**	**06 16 32.8**	**+1.4**
	3.6nm,0.2s,SNR=14						
ETOS				S	**Sn**	**06 17 24.4**	**+0.1**
	2.9nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**4.72**	**313**	P	**Pn**	**06 16 35.3**	**+1.4**
	24nm,0.3s,SNR=13						
EIBI				S	**Sn**	**06 17 24.1**	**-4.5**
	5.3nm,0.3s,SNR=4.0						
EBEN2	**Beniarda presa**	**5.50**	**303**	P	**Pn**	**06 16 47.0**	**+2.3**
	3.7nm,0.2s,SNR=7.9						
CART	**Cartagena**	**5.68**	**290**	P	**Pn**	**06 16 47.0**	**-0.1**
CART				S	**Sn**	**06 17 49.0**	**-3.3**
CART	**Cartagena**	**5.68**	**290**	*e*P	**Pn**	**06 16 47.0**	**-0.1**
CART				*e*S	**Sn**	**06 17 49.0**	**-3.3**
AFON	**Font Roja**	**5.74**	**301**	P	**Pn**	**06 16 51.0**	**+3.0**
	5.8nm,0.2s,SNR=7.9						
AFON				S	**Sn**	**06 17 52.8**	**-1.2**
	8.0nm,0.4s,SNR=4.0						
EMUR	**La Murta**	**5.94**	**292**	P	**Pn**	**06 16 50.6**	**0.0**
	3.9nm,0.3s,SNR=8.9						
EMUR				S	**Sn**	**06 17 58.1**	**-0.7**
	3.3nm,0.5s,SNR=7.9						
CFON	**Fontmartina**	**6.44**	**337**	P	**Pn**	**06 16 58.5**	**+0.9**
	1.5nm,0.2s,SNR=7.9						
CFON				S	**Sn**	**06 18 10.8**	**-0.3**
	2.8nm,0.3s,SNR=4.0						
ETOB	**Tobarra**	**6.44**	**298**	P	**Pn**	**06 16 59.1**	**+1.5**
	6.3nm,0.4s,SNR=6.7						
ETOB				S	**Sn**	**06 18 10.9**	**-0.4**
	4.7nm,0.5s,SNR=7.9						
ECHE	**Chera**	**6.49**	**307**	P	**Pn**	**06 16 59.9**	**+1.6**
	2.3nm,0.3s,SNR=7.9						
ECHE				S	**Sn**	**06 18 10.2**	**-2.1**
	2.2nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**6.50**	**282**	P	**Pn**	**06 16 57.8**	**-0.6**
	9.8nm,0.4s,SNR=4.0						
ENIJ				S	**Sn**	**06 18 09.7**	**-3.0**
	6.5nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**6.65**	**314**	P	**Pn**	**06 17 01.3**	**+0.8**
	2.0nm,0.4s,SNR=6.7						
EMOS				S	**Sn**	**06 18 14.9**	**-1.5**
	2.7nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**6.88**	**333**	P	**Pn**	**06 17 02.8**	**-0.8**
	2.2nm,0.2s,SNR=4.0						
SESP	**Santiago Espad**	**7.00**	**291**	P	**Pn**	**06 17 06.7**	**+1.3**
	2.8nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**06 18 28.5**	**+3.4**
	7.5nm,0.4s,SNR=7.9						
EBER	**Berja**	**7.04**	**281**	P	**Pn**	**06 17 05.4**	**-0.5**
	3.7nm,0.4s,SNR=7.9						
PGF	**Pioggiola**	**7.15**	**20**	P	**Pn**	**06 17 08.4**	**+1.1**
PGF				S	**Sn**	**06 18 27.9**	**-0.7**
	2.1nm,0.6s						
PGF	**Pioggiola**	**7.15**	**20**	*e*Pn	**Pn**	**06 17 08.4**	**+1.1**
PGF				*e*Sn	**Sn**	**06 18 27.9**	**-0.7**
	4.2nm,0.6s						
CLLI	**Llivia**	**7.23**	**337**	P	**Pn**	**06 17 09.8**	**+1.3**
	0.8nm,0.4s,SNR=6.5						
CLLI				S	**Sn**	**06 18 28.2**	**-2.6**
	0.5nm,0.3s,SNR=4.0						
EQES	**Quesada**	**7.33**	**288**	P	**Pn**	**06 17 11.5**	**+1.6**
	3.3nm,0.4s,SNR=4.0						
EQES				S	**Sn**	**06 18 34.1**	**+1.0**
	3.2nm,0.3s,SNR=7.9						
CSOR	**Sort**	**7.43**	**333**	P	**Pn**	**06 17 13.4**	**+2.2**
	2.3nm,0.3s,SNR=4.0						
LMR	**La Mourre**	**7.49**	**4**	S	**Sn**	**06 18 35.9**	**-1.0**
	0.6nm,0.3s						
LMR	**La Mourre**	**7.49**	**4**	*e*Sn	**Sn**	**06 18 35.9**	**-1.0**
	1.1nm,0.3s						
EQUE	**Quentar**	**7.51**	**283**	P	**Pn**	**06 17 13.2**	**+0.9**
	1.3nm,0.2s,SNR=13						
ELGU	**Los Guajares,**	**7.62**	**280**	P	**Pn**	**06 17 14.2**	**+0.4**
	4.1nm,0.4s,SNR=7.9						
ETOR	**Torete**	**7.88**	**311**	P	**Pn**	**06 17 20.8**	**+3.5**
	2.8nm,0.3s,SNR=4.0						
MTLF	**Montolieu**	**7.95**	**341**	P	**Pn**	**06 17 19.6**	**+1.3**
MTLF				S	**Sn**	**06 18 47.7**	**-0.6**
	1.4nm,0.4s						
MTLF	**Montolieu**	**7.95**	**341**	*e*Pn	**Sn**	**06 17 19.6**	**+1.3**
MTLF				*e*Sn	**Sn**	**06 18 47.7**	**-0.6**
	2.8nm,0.4s						
EGOR	**Sierra Gorda,**	**8.03**	**282**	P	**Pn**	**06 17 21.5**	**+2.0**
	1.4nm,0.3s,SNR=7.9						
SBF	**Sospel**	**8.10**	**9**	S	**Sn**	**06 18 50.4**	**-1.7**
	1.9nm,0.3s						
SBF	**Sospel**	**8.10**	**9**	*e*Sn	**Sn**	**06 18 50.4**	**-1.7**
	3.8nm,0.3s						
EPF	**Esparros**	**8.29**	**331**	P	**Pn**	**06 17 26.5**	**+3.5**
EPF				S	**Sn**	**06 18 54.9**	**-1.8**
	1.2nm,0.5s						
EPF	**Esparros**	**8.29**	**331**	*e*Pn	**Pn**	**06 17 26.5**	**+3.5**
EPF				*e*Sn	**Sn**	**06 18 54.9**	**-1.8**
	2.3nm,0.5s						
LASF	**Ste Croix**	**8.34**	**351**	P	**Pn**	**06 17 25.6**	**+2.0**
LASF				S	**Sn**	**06 18 56.3**	**-1.4**
	0.8nm,0.5s						
LASF	**Ste Croix**	**8.34**	**351**	*e*Pn	**Pn**	**06 17 25.6**	**+2.0**
LASF				*e*Sn	**Sn**	**06 18 56.3**	**-1.4**
	1.5nm,0.5s						
ETSF	**Etsaut**	**8.55**	**327**	P	**Pn**	**06 17 30.6**	**+4.0**
ETSF				S	**Sn**	**06 19 00.8**	**-2.4**
	1.5nm,0.6s						
ETSF	**Etsaut**	**8.55**	**327**	*e*Pn	**Pn**	**06 17 30.6**	**+4.0**
ETSF				*e*Sn	**Sn**	**06 19 00.8**	**-2.4**
	3.0nm,0.6s						
EADA	**Adamuz**	**8.57**	**289**	P	**Pn**	**06 17 26.5**	**-0.3**
	0.5nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**8.57**	**299**	Pn	**Pn**	**06 17 27.1**	**+0.2**
	0.2nm,0.3s,baz=114,slow=12,SNR=9.4						
ESDC				Sn	**Sn**	**06 18 59.9**	**-3.8**
	0.1nm,0.3s,baz=108,slow=23,SNR=2.5						
ESDC	**Sonseca Array**	**8.57**	**299**	P	**Pn**	**06 17 27.6**	**+0.7**
	0.2nm,0.2s,baz=109,slow=13,SNR=7.1						
PAB	**San Pablo**	**8.80**	**298**	P	**Pn**	**06 17 30.7**	**+0.8**
	0.3nm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**8.89**	**324**	P	**Pn**	**06 17 33.4**	**+2.2**
	0.8nm,0.3s,SNR=4.0						
SJPF	**Ste Jean**	**9.02**	**326**	P	Pn	06 17 39.4	+6.4
SJPF				S	**Sn**	**06 19 12.1**	**-2.5**
	0.7nm,0.5s						
SJPF	**Ste Jean**	**9.02**	**326**	*e*Pn	Pn	06 17 39.4	+6.4
SJPF				*e*Sn	**Sn**	**06 19 12.1**	**-2.5**
	1.4nm,0.5s						
MDT	**Midelt**	**9.08**	**253**	Pn	**Pn**	**06 17 32.8**	**-1.0**
	0.2nm,0.3s,baz=108,slow=20,SNR=2.2						
ECAB	**El Cabril**	**9.20**	**287**	P	**Pn**	**06 17 35.0**	**-0.5**
	1.3nm,0.4s,SNR=7.1						
EMIN	**Mina Concepcio**	**10.13**	**285**	P	**Pn**	**06 17 48.5**	**+0.3**
	0.6nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**11.25**	**315**	P	**Pn**	**06 18 07.1**	**+3.7**
	0.4nm,0.4s,SNR=4.0						
ECAL	**Calabor**	**11.46**	**306**	P	**Pn**	**06 18 08.3**	**+1.9**
	1.5nm,0.4s,SNR=5.2						
GERES	**GERESS Array B**	**14.24**	**22**	Pn	**Pn**	**06 18 45.0**	**+0.6**
	0.2nm,0.3s,baz=200,slow=11,SNR=1.6						
EKA	**Eskdalemuir Ar**	**20.42**	**345**	P	Pn	06 20 02.4	+0.5
	0.6nm,0.6s,baz=155,slow=12,SNR=2.5						
AKASG	**Malin Array Be**	**22.50**	**41**	P	**P**	**06 20 21.4**	**-0.9**
	0.4nm,0.3s,baz

s-min=25.5km az=35.0

ISC 18 06:44:32.5±1.0, 9°36S±0°1×79°6W±0°2, h25km, n22, σ1946/15, mb3.7/7, MS3.5/5, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**9.87**	**7**	*e*P	**Pn**	**06 46 51.7**	**-1.6**
PTLC	**Puerto Leguiza**	**10.85**	**26**	*e*P	Pn	06 46 58.4	-7.9
SOTA	**Rioblanco**	**12.06**	**14**	*e*P	Pn	06 47 28.9	+5.6
GARC	**Garzon, Huila**	**12.43**	**19**	*e*P	**Pn**	**06 47 26.1**	**-2.1**
LPAZ	**La Paz**	**12.99**	**122**	P	**P**	**06 47 44.4**	**-2.0**
	0.1nm,0.3s,baz=304,slow=11,SNR=1.6						
LPAZ				LR	LR	06 53 22.1	
	comp=Z,236nm,18.2s,baz=306,slow=40						
GUY2C	**Guyana, Caldas**	**15.35**	**16**	*e*P	**P**	**06 48 14.3**	**+1.7**
CBOC	**Ciudad Bolivar**	**15.80**	**13**	*e*P	**P**	**06 48 16.7**	**-0.6**
SDV	**Santo Domingo**	**20.45**	**26**	P	**P**	**06 49 09.6**	**+1.2**
	0.9nm,0.3s,baz=187,slow=18,SNR=2.1						
SDV				LR	LR	06 59 00.8	
	comp=Z,205nm,18.2s,baz=208,slow=42						
JTS	**Las Juntas de**	**20.49**	**345**	LR	LR	06 56 21.5	
	comp=Z,32nm,21.6s,baz=237,slow=35						
PTGA	**Pitinga**	**21.44**	**67**	P	**P**	**06 49 20.7**	**+1.6**
	7.9nm,0.7s,baz=251,slow=13,SNR=17						
PTGA				LR	LR	06 58 35.0	
	comp=Z,385nm,18.5s,baz=253,slow=39						
H03N2	**Juan Fernandez**	**23.71**	**179**	T	T	07 14 19.5	
	baz=358,slow=75,SNR=90						
H03N1	**Juan Fernandez**	**23.71**	**179**	T	T	07 14 24.6	
	baz=358,slow=75,SNR=178						
H03N3	**Juan Fernandez**	**23.72**	**179**	T	T	07 14 25.0	
	baz=358,slow=75,SNR=174						
BDFB	**Brasilia**	**31.37**	**104**	LR	LR	07 03 44.3	
	comp=Z,86nm,21.4s,baz=138,slow=36						
PDAR	**Pinedale Array**	**58.89**	**335**	P	**P**	**06 54 30.0**	**+0.4**
	0.2nm,0.4s,baz=129,slow=5.2,SNR=3.1						
NVAR	**Mina Array Bea**	**59.90**	**325**	P	**P**	**06 54 37.3**	**+0.6**
	0.2nm,0.6s,baz=173,slow=7.9,SNR=3.8						
DBIC	**Dimbokro**	**76.20**	**81**	P	**P**	**06 56 19.2**	**-0.2**
	5.0nm,1.0s,baz=246,slow=6.4,SNR=4.6						
YKA	**Yellowknife Ar**	**76.83**	**344**	P	**P**	**06 56 20.6**	**-1.2**
	0.3nm,0.9s,baz=138,slow=6.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**83.81**	**76**	P	**P**	**06 57 01.9**	**+1.4**
	1.2nm,0.7s,baz=282,slow=6.2,SNR=7.1						
TORD				LR	LR	07 33 40.8	
	comp=Z,48nm,18.9s,baz=260,slow=35						
ESDC	**Sonseca Array**	**85.23**	**49**	P	**P**	**06 57 09.0**	**+1.8**
	0.3nm,0.6s,baz=262,slow=5.9,SNR=1.9						
ASAR	**Alice Springs**	**133.44**	**224**	PKP	**PKiKP**	**07 03 48.3**	**-0.5**
	0.3nm,0.7s,baz=108,slow=2.9,SNR=4.2						
ASAR				pPKP	sPKPdf	07 04 08.8	+10
	0.4nm,0.6s,baz=85,slow=8.1,SNR=7.9						
WRA	**Warramunga Arr**	**135.50**	**229**	PKP	**PKPdf**	**07 03 51.6**	**+0.2**
	0.3nm,0.8s,baz=122,slow=2.1,SNR=5.3						

*STR **18** 07:08:19.4±0.2, 43°N±2°×°±°, h0km, MLv2.9/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/pyrenees_taup-2.11 preliminary*

*INMG **18** 07:08:19.8±1.8, 43.00N×0.34W, h1km±3km, ML2.8, Error ellipse: s-maj=3.3km s-min=2.0km az=10.0*

*SFS **18** 07:08:19.0, 43.00N×0.34W, ML3.0, LORUNS (FRANCIA)*

*LDG **18** 07:08:19.4±0.1, 43.07N×0.28W, h4km, Md3.2/2, Ml3.5/46, Error ellipse: s-maj=1.0km s-min=0.9km az=128.0*

*MDD **18** 07:08:19.3±0.2, 43.08N×0.30W, h4km±2km, mbLg3.1/32, Error ellipse: s-maj=2.4km s-min=1.6km az=172.0, PRXIMO*

ISC 18 07:08:17.4±0.4, 43.15N±0.01×0.30W±0.01, h12km±2km, n200, σ202/334, 3C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYLO	**Lourdes**	**0.19**	**105**	Pg	**Pg**	**07 08 22.7**	**+1.1**
PYLO				Sg	**Sg**	**07 08 25.8**	**+1.4**
ATE	**Arette**	**0.30**	**259**	⇑Pg	**Pg**	**07 08 24.4**	**+0.9**
	387nm,0.1s,SNR=18						
ATE				Lg	Lg	07 08 28.9	
	806nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.30**	**259**	Pg	**Pg**	**07 08 24.5**	**+0.9**
ATE				Sg	**Sg**	**07 08 29.1**	**+1.5**
ETSF	**Etsaut**	**0.31**	**218**	Pg	**Pg**	**07 08 24.0**	**+0.2**
ETSF				Lg	Lg	07 08 27.3	
	1μm,0.3s						
ETSF	**Etsaut**	**0.31**	**218**	*e*Pg	**Pg**	**07 08 24.0**	**+0.2**
ETSF				*e*Sg	**Sg**	**07 08 27.3**	**-0.7**
	2μm,0.3s						
URDF	**Urds**	**0.36**	**324**	Pg	**Pb**	**07 08 27.6**	**+1.9**
URDF				Sg	**Sb**	**07 08 34.9**	**+3.5**
EPF	**Esparros**	**0.48**	**104**	Pg	**Pg**	**07 08 28.0**	**+1.2**
EPF				Lg	Lg	07 08 34.0	
	137nm,0.2s						
EPF	**Esparros**	**0.48**	**104**	*e*Pg	**Pg**	**07 08 28.0**	**+1.2**
EPF	**Esparros**	**0.48**	**104**	*e*P	**Pb**	**07 08 29.4**	**+1.6**
EPF				*e*Sg	**Sg**	**07 08 34.0**	**+0.8**
	274nm,0.2s						
ECHI	**Chisagues Biel**	**0.60**	**143**	⇑Pg	**Pg**	**07 08 29.1**	**0.0**
	71nm,0.1s,SNR=18						
ECHI				Lg	Lg	07 08 35.8	
	697nm,0.1s,SNR=7.9						
ECHI	**Chisagues Biel**	**0.60**	**143**	Pg	**Pg**	**07 08 29.2**	**0.0**
ECHI				Sg	**Sg**	**07 08 36.4**	**-0.7**
SJPF	**Ste Jean**	**0.68**	**268**	Pg	**Pg**	**07 08 31.6**	**+1.0**
SJPF				Lg	Lg	07 08 41.5	
	120nm,0.3s						
SJPF	**Ste Jean**	**0.68**	**268**	*e*Pg	**Pg**	**07 08 31.6**	**+1.0**
SJPF				*e*Sg	**Sb**	**07 08 41.5**	**+1.0**
	241nm,0.3s						
EORO	**Oroz-Betelu**	**0.78**	**252**	⇑Pg	**Pg**	**07 08 32.1**	**-0.5**
	15nm,0.2s,SNR=18						
EORO				Lg	Lg	07 08 42.5	
	293nm,0.2s,SNR=23						
TERF	**Tercis-les-Bai**	**0.80**	**312**	Pg	**Pn**	**07 08 35.9**	**+1.5**
TERF				Sg	**Sn**	**07 08 48.6**	**+2.4**
EARA	**Aranguren**	**1.01**	**249**	Pg	**Pg**	**07 08 38.1**	**+1.2**
	8.8nm,0.3s,SNR=12						
EARA				Lg	Lg	07 08 51.4	
	297nm,0.3s						
EARA	**Aranguren**	**1.01**	**249**	Sg	**Sg**	**07 08 51.2**	**+1.2**
EARA	**Aranguren**	**1.01**	**249**	Pg	**Pg**	**07 08 37.9**	**+1.1**
MLS	**Moulis**	**1.04**	**100**	Pg	**Pb**	**07 08 38.9**	**+1.6**
MLS				Sg	**Sb**	**07 08 53.0**	**+2.2**
CSOR	**Sort**	**1.30**	**126**	Pg	**Pg**	**07 08 42.8**	**+0.4**
	5.2nm,0.2s,SNR=52						
CSOR				Lg	Lg	07 09 00.1	
	318nm,0.2s						
MONQ	**Montcuq**	**1.63**	**41**	Pg	**Pg**	**07 08 50.6**	**+2.0**
FNEB	**Nbias**	**1.78**	**97**	Pn	**Pn**	**07 08 51.0**	**+3.0**
FNEB				Sn	**Sb**	**07 09 15.0**	**+2.8**
CLLI	**Llivia**	**1.80**	**111**	Pg	**Pb**	**07 08 52.6**	**+2.3**
	2.9nm,0.2s,SNR=45						
CLLI				Lg	Lg	07 09 15.8	
	84nm,0.3s						
LRVF	**chteau la Riv**	**1.80**	**360**	Pn	**Pg**	**07 08 53.8**	**+1.8**
LRVF				Sn	**Sg**	**07 09 17.9**	**+2.6**
EMIR	**Miracle**	**1.82**	**132**	Pg	**Pb**	**07 08 52.7**	**+2.0**
	12nm,0.2s,SNR=16						
EMIR				Lg	Lg	07 09 16.0	
	154nm,0.3s,SNR=11						
MTLF	**Montolieu**	**1.85**	**83**	Pn	**Pn**	**07 08 49.7**	**+0.8**
MTLF				Pg	**Pg**	**07 08 53.8**	**+1.0**
MTLF				Lg	Lg	07 09 17.9	
	80nm,0.3s						
MTLF	**Montolieu**	**1.85**	**83**	*e*Pn	**Pn**	**07 08 49.7**	**+0.8**
MTLF	**Montolieu**	**1.85**	**83**	*e*Pg	**Pg**	**07 08 53.8**	**+1.0**
MTLF				*e*Sg	**Sg**	**07 09 17.9**	**+1.1**
	161nm,0.3s						
MTLF	**Montolieu**	**1.85**	**83**	Pn	**Pb**	**07 08 52.6**	**+1.6**
MTLF				Sn	**Sg**	**07 09 17.5**	**+0.7**
MTLF	**Montolieu**	**1.85**	**83**	P	**Pn**	**07 08 49.8**	**+0.8**
MTLF	**Montolieu**	**1.85**	**83**	Pn	**Pb**	**07 08 52.6**	**+1.6**
MTLF				Sn	**Sg**	**07 09 17.5**	**+0.7**
LFF	**La Frestale**	**1.94**	**22**	Pn	**Pn**	**07 08 51.2**	**+1.0**
LFF				Pg	**Pg**	**07 08 56.7**	**+2.1**
LFF				Sn	**Sb**	**07 09 17.0**	**+0.1**
LFF				Lg	Lg	07 09 23.4	
	179nm,0.4s						
LFF	**La Frestale**	**1.94**	**22**	*e*Pn	**Pn**	**07 08 51.2**	**+1.0**
LFF	**La Frestale**	**1.94**	**22**	*e*Pg	**Pg**	**07 08 56.7**	**+2.1**
LFF				*e*Sn	**Sb**	**07 09 17.0**	**+0.1**
LFF				*e*Sg	**Sg**	**07 09 23.4**	**+3.6**
	358nm,0.4s						
EPOB	**Poblet**	**2.06**	**150**	Pg	**Pn**	**07 08 55.7**	**+3.8**
	3.3nm,0.2s,SNR=7.9						
EPOB				Lg	Lg	07 09 21.6	
	44nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.24**	**168**	Pn	**Pn**	**07 08 54.5**	**+0.2**
	0.5nm,0.2s,SNR=22						
ERTA				Pg	**Pb**	**07 08 58.6**	**+0.8**
	6.9nm,0.2s,SNR=7.9						
ERTA				Lg	Lg	07 09 26.3	
	149nm,0.3s,SNR=14						
ELAN	**Lanestosa**	**2.29**	**273**	Pn	**Pn**	**07 08 58.3**	**+3.3**
	0.4nm,0.2s,SNR=4.0						
ELAN				Pg	**Pb**	**07 09 00.6**	**+1.9**
	5.0nm,0.3s,SNR=19						
ELAN				Lg	Lg	07 09 28.7	
	33nm,0.4s,SNR=5.4						
SJAF	**Saint Jean de**	**2.43**	**105**	Pn	**Pn**	**07 09 01.0**	**+4.1**
	0.5nm,0.2s,SNR=7.9						
SJAF				Pg	**Pb**	**07 09 03.3**	**+2.2**
	4.4nm,0.2s,SNR=7.9						
SJAF				Lg	Lg	07 09 33.9	
	48nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**2.43**	**105**	Pn	**Pn**	**07 08 60.0**	**+3.1**
EJON	**La Jonquera**	**2.45**	**105**	Pn	**Pn**	**07 09 01.2**	**+4.1**
	1.7nm,0.2s,SNR=13						
EJON				Pg	**Pb**	**07 09 03.8**	**+2.5**
	10nm,0.2s,SNR=7.9						
EJON				Lg	Lg	07 09 35.8	
	90nm,0.4s,SNR=13						
CFON	**Fontmartina**	**2.45**	**123**	Pn	**Pn**	**07 09 00.1**	**+2.9**
	4.8nm,0.2s,SNR=14						
CFON				Pg	**Pb**	**07 09 03.9**	**+2.6**
	18nm,0.2s,SNR=11						
CFON				Lg	Lg	07 09 34.9	
	239nm,0.2s,SNR=14						
CAF	**Calviac**	**2.46**	**43**	Pn	**Pn**	**07 08 59.2**	**+1.8**
CAF				Pg	**Pg**	**07 09 06.0**	**+1.4**
CAF				Sn	**Sn**	**07 09 28.6**	**+1.2**
CAF				Lg	Lg	07 09 39.1	
	42nm,0.3s						
CAF	**Calviac**	**2.46**	**43**	*e*Pn	**Pn**	**07 08 59.2**	**+1.8**
CAF	**Calviac**	**2.46**	**43**	*e*Pg	**Pg**	**07 09 06.0**	**+1.4**
CAF				*e*Sn	**Sn**	**07 09 28.6**	**+1.2**
CAF				*e*Sg	**Sg**	**07 09 39.1**	**+2.6**
	85nm,0.3s						
RJF	**Les Rejaudoux**	**2.52**	**31**	Pn	**Pn**	**07 08 59.3**	**+1.2**
RJF				Pg	**Pg**	**07 09 07.5**	**+1.8**
RJF				Sn	**Sn**	**07 09 30.7**	**+1.9**
RJF				Lg	Lg	07 09 41.4	
	54nm,0.3s						
RJF	**Les Rejaudoux**	**2.52**	**31**	*e*Pn	**Pn**	**07 08 59.3**	**+1.2**
RJF	**Les Rejaudoux**	**2.52**	**31**	*e*Pg	**Pg**	**07 09 07.5**	**+1.8**
RJF				*e*Sn	**Sn**	**07 09 30.7**	**+1.9**
RJF				*e*Sg	**Sg**	**07 09 41.4**	**+3.0**
	108nm,0.3s						
ETOR	**Torete**	**2.67**	**210**	Pn	**Pn**	**07 09 02.1**	**+1.9**
	53nm,0.1s,SNR=81						
ETOR				Pg	**Pb**	**07 09 07.6**	**+2.5**
	88nm,0.3s,SNR=17						
ETOR				Sn	**Sn**	**07 09 31.4**	**-1.2**
	40nm,0.3s,SNR=7.9						
ETOR				Lg	Lg	07 09 41.0	
	233nm,0.4s						
EMOS	**Mosqueruela**	**2.78**	**183**	Pn	**Pn**	**07 09 04.9**	**+3.0**
	0.7nm,0.1s,SNR=8.3						
EMOS				Pg	**Pb**	**07 09 09.0**	**+1.9**
	19nm,0.4s,SNR=16						
EMOS				Lg	Lg	07 09 42.1	
	50nm,0.3s						
LASF	**Ste Croix**	**3.16**	**71**	Pn	**Pn**	**07 09 08.3**	**+1.4**
LASF				Pg	**Pg**	**07 09 18.1**	**+0.3**
LASF				Lg	Lg	07 09 59.2	
	32nm,0.3s						
LASF	**Ste Croix**	**3.16**	**71**	*e*Pn	**Pn**	**07 09 08.3**	**+1.4**
LASF	**Ste Croix**	**3.16**	**71**	*e*Pg	**Pg**	**07 09 18.1**	**+0.3**
LASF				*e*Sg	**Sg**	**07 09 59.2**	**+0.5**
	65nm,0.3s						
MFF	**Saint Martin d**	**3.46**	**2**	Pn	**Pn**	**07 09 13.0**	**+2.0**
MFF				Pg	**Pg**	**07 09 24.7**	**+1.1**
MFF				Sn	**Sn**	**07 09 52.9**	**+1.0**
MFF				Lg	Lg	07 10 10.7	
	28nm,0.4s						
MFF	**Saint Martin d**	**3.46**	**2**	*e*Pn	**Pn**	**07 09 13.0**	**+2.0**
MFF	**Saint Martin d**	**3.46**	**2**	*e*Pg	**Pg**	**07 09 24.7**	**+1.1**
MFF				*e*Sn	**Sn**	**07 09 52.9**	**+1.0**
MFF				*e*Sg	**Sg**	**07 10 10.7**	**+2.3**
	55nm,0.4s						
ECHE	**Chera**	**3.59**	**188**	Pn	**Pn**	**07 09 13.8**	**+1.0**
	0.1nm,0.1s,SNR=7.9						
ECHE				Pg	**Pb**	**07 09 25.0**	**+4.2**
	2.0nm,0.3s,SNR=7.9						
ECHE				Lg	Lg	07 10 05.2	
	27nm,0.3s,SNR=7.9						
UCM	**Universidad Co**	**3.59**	**219**	Pg	**Pb**	**07 09 21.0**	**+0.2**
UCM				Lg	Lg	07 10 06.6	
UCM	**Universidad Co**	**3.59**	**219**	*e*P	**Pb**	**07 09 21.0**	**+0.2**
UCM				*e*S	**Sb**	**07 10 06.6**	**+2.2**
EARI	**Arriondas**	**3.59**	**274**	Pn	**Pn**	**07 09 15.7**	**+2.8**
	0.4nm,0.1s,SNR=14						
EARI				Sn	**Sn**	**07 09 57.9**	**+2.6**
	3.6nm,0.2s,SNR=5.9						
EARI				Lg	Lg	07 10 14.1	
	1.7nm,0.2s						
TCF	**Toulx Ste Croi**	**3.61**	**29**	Pn	**Pn**	**07 09 15.1**	**+1.9**
TCF				Pg	**Pg**	**07 09 27.8**	**+1.2**
TCF				Sn	**Sn**	**07 09 55.9**	**+0.1**
TCF				Lg	Lg	07 10 15.3	
	29nm,0.4s						
TCF	**Toulx Ste Croi**	**3.61**	**29**	*e*Pn	**Pn**	**07 09 15.1**	**+1.9**
TCF	**Toulx Ste Croi**	**3.61**	**29**	*e*P	**Pb**	**07 09 18.8**	**-2.4**
TCF	**Toulx Ste Croi**	**3.61**	**29**	*e*Pg	**Pg**	**07 09 27.8**	**+1.2**
TCF				*e*Sn	**Sn**	**07 09 55.9**	**+0.1**
TCF				*e*Sg	**Sg**	**07 10 15.3**	**+1.9**
	58nm,0.4s						
GUD	**Guadarrama**	**3.81**	**230**	Pn	**Pn**	**07 09 17.8**	**+1.8**
	0.8nm,0.2s,SNR=6.7						
GUD				Sn	**Sn**	**07 09 59.5**	**-1.4**
	6.3nm,0.2s,SNR=7.7						
GUD				Lg	Lg	07 10 15.8	
	16nm,0.4s						
VIVF	**Saint-Julien-l**	**3.97**	**63**	Pn	**Pn**	**07 09 19.4**	**+1.3**
VIVF				Pg	**Pg**	**07 09 33.4**	**0.0**
VIVF				Sn	**Sn**	**07 10 04.5**	**-0.1**
VIVF				Lg	Lg	07 10 25.3	
	26nm,0.4s						
VIVF	**Saint-Julien-l**	**3.97**	**63**	*e*Pn	**Pn**	**07 09 19.4**	**+1.3**
VIVF	**Saint-Julien-l**	**3.97**	**63**	*e*Pg	**Pg**	**07 09 33.4**	**0.0**
VIVF				*e*Sn	**Sn**	**07 10 04.5**	**-0.1**
VIVF				*e*Sg	**Sg**	**07 10 25.3**	**+0.4**
	53nm,0.4s						
BGF	**Bois d'Agland**	**4.08**	**32**	Pn	**Pn**	**07 09 21.6**	**+2.1**
BGF				Pg	**Pg**	**07 09 36.0**	**+0.5**
BGF				Lg	Lg	07 10 29.0	
	100nm,0.4s						
BGF	**Bois d'Agland**	**4.08**	**32**	*e*Pn	**Pn**	**07 09 21.6**	**+2.1**
BGF	**Bois d'Agland**	**4.08**	**32**	*e*P	Pn	07 09 25.3	+5.8
BGF	**Bois d'Agland**	**4.08**	**32**	*e*Pg	**Pg**	**07 09 36.0**	**+0.5**
BGF				*e*Sg	**Sg**	**07 10 29.0**	**+0.7**
	199nm,0.4s						
ETOS	**Mallorca**	**4.11**	**144**	Pn	**Pn**	**07 09 20.7**	**+0.7**
	0.4nm,0.2s,SNR=7.9						
ETOS				Sn	**Sn**	**07 10 05.6**	**-2.3**
	2.7nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.30**	**163**	Pn	**Pn**	**07 09 22.8**	**+0.3**
	0.9nm,0.1s,SNR=4.0						
EIBI				Sn	Sn	07 10 05.3	-7.3
	1.7nm,0.2s,SNR=4.0						
SMRF	**Simiane la Rot**	**4.35**	**77**	Pn	**Pn**	**07 09 24.8**	**+1.5**
SMRF				Pg	**Pg**	**07 09 40.2**	**-0.4**
SMRF				Lg	Lg	07 10 36.7	
	15nm,0.5s						
SMRF	**Simiane la Rot**	**4.35**	**77**	*e*Pn	**Pn**	**07 09 24.8**	**+1.5**
SMRF	**Simiane la Rot**	**4.35**	**77**	*e*P	Pn	07 09 28.0	+4.7
SMRF	**Simiane la Rot**	**4.35**	**77**	*e*Pg	**Pg**	**07 09 40.2**	**-0.4**
SMRF				*e*Sg	**Sg**	**07 10 36.7**	**-0.2**
	15nm,0.5s						
ESDC	**Sonseca Array**	**4.43**	**220**	Pn	**Pn**	**07 09 25.0**	**+0.6**
	0.8nm,0.1s,baz=40,slow=13,SNR=18						
ESDC				Pg	Pb	07 09 40.1	+5.0
	1.9nm,0.2s,baz=41,slow=13,SNR=7.1						
ESDC				Sn	**Sn**	**07 10 14.0**	**-1.9**
	3.4nm,0.2s,baz=42,slow=25,SNR=9.4						
ESDC				Lg	Lg	07 10 36.4	
	5.8nm,0.3s,baz=34,slow=30,SNR=4.6						
AVF	**Avril sur Loir**	**4.47**	**34**	Pn	**Pn**	**07 09 26.6**	**+1.7**
AVF				Pg	**Pg**	**07 09 43.3**	**+0.3**
AVF				Lg	Lg	07 10 41.7	
	11nm,0.3s						
AVF	**Avril sur Loir**	**4.47**	**34**	*e*Pn	**Pn**	**07 09 26.6**	**+1.7**
AVF	**Avril sur Loir**	**4.47**	**34**	*e*Pg	**Pg**	**07 09 43.3**	**+0.3**
AVF				*e*Sg	**Sg**	**07 10 41.7**	**+0.9**
	23nm,0.3s						
SMF	**Signal de Mont**	**4.57**	**39**	Pn	**Pn**	**07 09 27.9**	**+1.6**
SMF				Pg	**Pg**	**07 09 44.7**	**-0.2**
SMF				Lg	Lg	07 10 45.1	
	12nm,0.4s						
SMF	**Signal de Mont**	**4.57**	**39**	*e*Pn	**Pn**	**07 09 27.9**	**+1.6**
SMF	**Signal de Mont**	**4.57**	**39**	*e*P	Pn	07 09 31.2	+4.9
SMF	**Signal de Mont**	**4.57**	**39**	*e*Pg	**Pg**	**07 09 44.7**	**-0.2**
SMF				*e*Sg	**Sg**	**07 10 45.1**	**+1.1**
	24nm,0.4s						
ETOB	**Tobarra**	**4.59**	**192**	Pn	**Pn**	**07 09 28.0**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
ETOB				Sn	**Sn**	**07 10 16.2**	**-3.8**
	2.0nm,0.4s,SNR=7.9						
ETOB				Lg	Lg	07 10 39.0	
	6.9nm,0.3s,SNR=7.9						
HYF	**Humbligny**	**4.62**	**26**	Pn	**Pn**	**07 09 29.1**	**+2.2**
HYF				Pg	**Pg**	**07 09 46.1**	**+0.4**
HYF				Lg	Lg	07 10 46.8	
HYF	**Humbligny**	**4.62**	**26**	*e*Pn	**Pn**	**07 09 29.1**	**+2.2**
HYF	**Humbligny**	**4.62**	**26**	*e*Pg	**Pg**	**07 09 46.1**	**+0.4**
HYF				*e*Sg	**Sg**	**07 10 46.8**	**+1.3**
PAB	**San Pablo**	**4.71**	**222**	Pn	**Pn**	**07 09 29.4**	**+1.0**
	0.9nm,0.1s,SNR=7.9						
PAB				Sn	**Sn**	**07 10 20.9**	**-2.1**
	3.2nm,0.2s,SNR=7.9						
PAB				Lg	Lg	07 10 44.1	
	8.0nm,0.3s,SNR=7.9						
SSF	**Saint Saulge**	**4.75**	**33**	Pn	**Pn**	**07 09 30.5**	**+1.7**
SSF				Pg	**Pg**	**07 09 48.6**	**+0.3**
SSF				Sn	**Sn**	**07 10 23.5**	**-0.3**
SSF				Lg	Lg	07 10 50.4	
	20nm,0.5s						
SSF	**Saint Saulge**	**4.75**	**33**	*e*Pn	**Pn**	**07 09 30.5**	**+1.7**
SSF	**Saint Saulge**	**4.75**	**33**	*e*Pg	**Pg**	**07 09 48.6**	**+0.3**
SSF				*e*Sn	**Sn**	**07 10 23.5**	**-0.3**
SSF				*e*Sg	**Sg**	**07 10 50.4**	**+0.6**
	40nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.79**	**66**	Pn	**Pn**	**07 09 29.7**	**+0.3**
ORIF				Sn	**Sn**	**07 10 23.8**	**-1.1**
ORIF				Lg	Lg	07 10 50.5	
	8.5nm,0.6s						
ORIF	**Oris-en-Rattie**	**4.79**	**66**	*e*Pn	**Pn**	**07 09 29.7**	**+0.3**
ORIF	**Oris-en-Rattie**	**4.79**	**66**	*e*P	Pn	07 09 34.7	+5.3
ORIF				*e*Sn	**Sn**	**07 10 23.8**	**-1.1**
ORIF				*e*Sg	**Sg**	**07 10 50.5**	**-0.7**
	17nm,0.6s						
ECAL	**Calabor**	**4.91**	**258**	Pn	**Pn**	**07 09 33.2**	**+2.2**
	0.9nm,0.2s,SNR=6.6						
ECAL				Sn	**Sn**	**07 10 25.3**	**-2.5**
	7.7nm,0.2s,SNR=6.0						
ECAL				Lg	Lg	07 10 48.8	
	13nm,0.3s						
PBRG	**Braganca**	**4.95**	**256**	Pn	**Pn**	**07 09 34.1**	**+2.5**
PBRG				Sn	**Sn**	**07 10 28.3**	**-0.5**
	4.8nm,0.3s						
PBRG	**Braganca**	**4.95**	**256**	*e*Pn	**Pn**	**07 09 34.1**	**+2.5**
PBRG				*e*Sn	**Sn**	**07 10 28.3**	**-0.5**
PBRG				A	A	07 10 30.8	
	9.7nm,0.3s						
LMR	**La Mourre**	**4.98**	**86**	Pn	**Pn**	**07 09 36.2**	**+4.3**
LMR				Sn	**Sn**	**07 10 26.7**	**-2.6**
LMR				Lg	Lg	07 10 54.1	
	1.7nm,0.3s						
LMR	**La Mourre**	**4.98**	**86**	*e*P	**Pn**	**07 09 36.2**	**+4.3**
LMR				*e*Sn	**Sn**	**07 10 26.7**	**-2.6**
LMR				*e*Sg	**Sg**	**07 10 54.1**	**-3.0**
	3.4nm,0.3s						
EPON	**Pontenova**	**5.01**	**274**	Pn	**Pn**	**07 09 35.9**	**+3.6**
	0.4nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**07 10 30.9**	**+0.8**
	3.5nm,0.3s,SNR=6.9						
EPON				Lg	Lg	07 10 56.1	
	2.0nm,0.2s						
LOR	**Lormes**	**5.06**	**34**	Pn	**Pn**	**07 09 34.8**	**+1.8**
LOR				Pg	**Pg**	**07 09 54.4**	**+0.2**
LOR				Lg	Lg	07 10 59.8	
	9.7nm,0.3s						
LOR	**Lormes**	**5.06**	**34**	*e*Pn	**Pn**	**07 09 34.8**	**+1.8**
LOR	**Lormes**	**5.06**	**34**	*e*Pg	**Pg**	**07 09 54.4**	**+0.2**
	baz=214						
LOR				*e*Sg	**Sg**	**07 10 59.8**	**0.0**
	19nm,0.3s,baz=215						
FRF	**La Foret Royal**	**5.08**	**83**	Pn	Pn	07 09 38.1	+4.8
FRF				Pg	**Pg**	**07 09 52.9**	**-1.7**
FRF				Lg	Lg	07 10 57.9	
	5.2nm,0.3s						
FRF	**La Foret Royal**	**5.08**	**83**	*e*P	Pn	07 09 38.1	+4.8
FRF	**La Foret Royal**	**5.08**	**83**	*e*Pg	**Pg**	**07 09

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	1.2nm,0.5s						
LPL				Lg	Lg	07 11 14.8	
	4.2nm,0.6s						
LPL	La Plagne	5.57	62	eP	Pn	07 09 45.7	+5.5
LPL	La Plagne	5.57	62	ePg	Pg	07 10 02.1	-1.9
LPL				eSn	Sn	07 10 41.1	-3.2
	2.4nm,0.5s						
LPL				eSg	Sg	07 11 14.8	-1.4
	8.5nm,0.6s						
LPG	La Plagne	5.58	63	Pn	Pn	07 09 46.0	+5.6
LPG				Pg	Pg	07 10 03.3	-0.8
LPG				Lg	Lg	07 11 15.5	
	4.4nm,0.5s						
LPG	La Plagne	5.58	63	eP	Pn	07 09 46.0	+5.6
LPG	La Plagne	5.58	63	ePg	Pg	07 10 03.3	-0.8
LPG				eSg	Sg	07 11 15.5	-0.8
	8.9nm,0.5s						
ROSF	Rostrenen	5.59	339	Pn	Pn	07 09 41.0	+0.7
ROSF				Sn	Sn	07 10 42.7	-1.8
ROSF				Lg	Lg	07 11 17.2	
	6.4nm,0.5s						
ROSF	Rostrenen	5.59	339	ePn	Pn	07 09 41.0	+0.7
ROSF				eSn	Sn	07 10 42.7	-1.8
ROSF				eSg	Sg	07 11 17.2	+0.4
	13nm,0.5s						
FLN	La Foliniere	5.62	359	Pn	Pn	07 09 42.3	+1.6
FLN				Sn	Sn	07 10 43.0	-2.1
FLN				Lg	Lg	07 11 18.2	
	14nm,0.6s						
FLN	La Foliniere	5.62	359	ePn	Pn	07 09 42.3	+1.6
	baz=178						
FLN				eSn	Sn	07 10 43.0	-2.1
FLN				eSg	Sg	07 11 18.2	+0.6
	28nm,0.6s,baz=178						
SBF	Sospel	5.67	80	Pg	Pg	07 10 03.7	-2.2
SBF				Sn	Sn	07 10 43.8	-2.7
	2.2nm,0.3s						
SBF	Sospel	5.67	80	ePg	Pg	07 10 03.7	-2.2
SBF				eSn	Sn	07 10 43.8	-2.7
	4.5nm,0.3s						
CABF	La Chapelle	5.71	50	Pg	Pg	07 10 05.8	-0.8
CABF				Lg	Lg	07 11 20.1	
	5.2nm,0.5s						
CABF	La Chapelle	5.71	50	ePg	Pg	07 10 05.8	-0.8
CABF				eSg	Sg	07 11 20.1	-0.4
	10nm,0.5s						
EAGO	Agolada(Pontev	5.73	269	Pn	Pn	07 09 44.5	+2.3
	0.5nm,0.2s,SNR=7.9						
EAGO				Sn	Sn	07 10 47.3	-0.6
	0.7nm,0.1s,SNR=7.9						
EAGO				Lg	Lg	07 11 20.3	
	0.9nm,0.1s,SNR=7.9						
EQES	Quesada	5.74	203	Lg	Lg	07 11 17.6	
	6.1nm,0.4s,SNR=4.0						
PVRL	Vila Real	5.82	254	Sn	Sn	07 10 48.9	-1.2
	3.6nm,0.6s						
PVRL	Vila Real	5.82	254	eSn	Sn	07 10 48.9	-1.2
PVRL				A	A	07 11 30.1	
	7.2nm,0.6s						
POLO	Lamas de Olo	5.84	255	Pn	Pn	07 09 46.2	+2.4
POLO				Sn	Sn	07 10 50.1	-0.6
	3.8nm,0.6s						
POLO	Lamas de Olo	5.84	255	ePn	Pn	07 09 46.2	+2.4
POLO				eSn	Sn	07 10 50.1	-0.6
POLO				A	A	07 11 33.7	
	3.8nm,0.6s						
ELOB	Lobios	5.88	260	Pn	Pn	07 09 45.8	+1.5
	0.2nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	07 10 49.3	-2.4
	1.6nm,0.3s,SNR=7.9						
ELOB				Lg	Lg	07 11 19.7	
	2.4nm,0.2s,SNR=7.9						
PCAB	Cabril	5.90	259	Sn	Sn	07 10 51.8	-0.3
PCAB	Cabril	5.90	259	eSn	Sn	07 10 51.8	-0.3
EADA	Adamuz	5.94	215	Pn	Pn	07 09 45.7	+0.5
	0.1nm,0.1s,SNR=7.9						
EADA				Sn	Sn	07 10 48.1	-5.1
	1.3nm,0.3s,SNR=7.9						
EADA				Lg	Lg	07 11 23.0	
	2.7nm,0.2s,SNR=7.9						
PGAV	Gavieira, Arco	6.00	261	Pn	Pn	07 09 49.0	+2.9
PGAV				Sn	Sn	07 10 54.3	-0.5
PGAV	Gavieira, Arco	6.00	261	ePn	Pn	07 09 49.0	+2.9
PGAV				eSn	Sn	07 10 54.3	-0.5
MTE	Manteigas	6.07	246	Sn	Sn	07 10 55.4	-1.0
MTE				Lg	Lg	07 11 26.5	
	5.7nm,0.6s						
MTE	Manteigas	6.07	246	eSn	Sn	07 10 55.4	-1.0
MTE				eSg	Sg	07 11 26.5	-5.7
MTE				A	A	07 11 42.8	
	11nm,0.6s						
PVIS	Viseu	6.16	249	Sn	Sn	07 10 56.9	-1.8
PVIS				Lg	Lg	07 11 29.7	
	2.6nm,0.8s						
PVIS	Viseu	6.16	249	eSn	Sn	07 10 56.9	-1.8
PVIS				eSg	Sg	07 11 29.7	-5.5
PVIS				A	A	07 11 40.5	
	5.2nm,0.8s						
SFTF	Sexfontaines	6.29	35	Pg	Pg	07 10 16.9	-0.8
SFTF				Lg	Lg	07 11 38.8	
	18nm,0.5s						
SFTF	Sexfontaines	6.29	35	ePg	Pg	07 10 16.9	-0.8
SFTF				eSg	Sg	07 11 38.8	-0.3
	18nm,0.5s						
PCBR	Castelo Branco	6.32	241	Sn	Sn	07 11 00.3	-2.1
PCBR				Lg	Lg	07 11 35.7	
PCBR	Castelo Branco	6.32	241	eSn	Sn	07 11 00.3	-2.1
PCBR				eSg	Sg	07 11 35.7	-4.5
EMAZ	Mazaricos	6.36	271	Pn	Pn	07 09 53.5	+2.6
	1.7nm,0.2s,SNR=7.9						
EMAZ				Sn	Sn	07 11 00.6	-2.8
	2.1nm,0.2s,SNR=7.9						
ECAB	El Cabril	6.39	219	Pn	Pn	07 09 52.2	+0.9
	0.4nm,0.3s,SNR=6.4						
ECAB				Sn	Sn	07 10 59.7	-4.5
	2.7nm,0.4s,SNR=7.9						
ECAB				Lg	Lg	07 11 36.9	
	3.3nm,0.3s,SNR=7.9						
EQUE	Quentar	6.40	203	Pn	Pn	07 09 55.1	+3.6
	1.2nm,0.2s,SNR=7.9						
EQUE				Sn	Sn	07 11 03.7	-0.9
	0.9nm,0.4s,SNR=7.9						
EQUE				Lg	Lg	07 11 39.5	
	4.4nm,0.5s,SNR=4.1						
PMRV	Marv??o	6.51	238	Pn	Pn	07 09 54.3	+1.4
PMRV				Sn	Sn	07 11 04.9	-2.1
	4.9nm,0.5s						
PMRV	Marv??o	6.51	238	ePn	Pn	07 09 54.3	+1.4
PMRV				eSn	Sn	07 11 04.9	-2.1
PMRV				A	A	07 11 56.2	
	4.9nm,0.5s						
MEZF	Maizieres J'vi	6.53	33	Pn	Pn	07 09 55.2	+2.0
MEZF				Lg	Lg	07 11 47.0	
	54nm,0.8s						
MEZF	Maizieres J'vi	6.53	33	ePn	Pn	07 09 55.2	+2.0
	baz=213						
MEZF				eSg	Sg	07 11 47.0	+0.2
	54nm,0.8s						
SAVF	Savonnieres en	6.65	33	ePn	Pn	07 09 55.5	+0.7
	baz=212						
SAVF	Savonnieres en	6.65	33	ePg	Pg	07 10 23.8	-0.8
EGOR	Sierra Gorda,	6.70	207	Pn	Pn	07 09 59.9	+4.3
	0.6nm,0.2s,SNR=7.9						
HAU	Haudompre	6.73	42	Pn	Pn	07 10 01.4	+5.4
HAU				Lg	Lg	07 11 49.9	
	4.7nm,0.5s						
HAU	Haudompre	6.73	42	eP	Pn	07 10 01.4	+5.4
HAU				eSg	Sg	07 11 49.9	-3.5
	9.4nm,0.5s						
ELGU	Los Guajares,	6.77	203	Pn	Pn	07 09 59.2	+2.6
	0.5nm,0.2s,SNR=4.0						
PAGF	Fort de Pagny	6.85	36	ePn	Pn	07 09 59.3	+1.7
PAGF	Fort de Pagny	6.85	36	ePg	Pg	07 10 27.4	-1.0
PAGF				eSg	Sg	07 11 56.3	-0.8
	7.7nm,0.5s						
HINF	Hinteralfeld	6.86	45	Lg	Lg	07 11 53.8	
	4.8nm,0.6s						
HINF	Hinteralfeld	6.86	45	eSg	Sg	07 11 53.8	-3.6
	9.6nm,0.6s						
PGF	Pioggiola	6.86	92	Pn	Pn	07 09 58.0	+0.2
PGF				Pg	Pg	07 10 25.1	-3.6
PGF				Sn	Sn	07 11 12.5	-3.4
	6.0nm,0.6s						
PGF	Pioggiola	6.86	92	ePn	Pn	07 09 58.0	+0.2
PGF	Pioggiola	6.86	92	eP	Pn	07 10 03.0	+5.2
PESTR	Estremoz	6.98	235	ePn	Pn	07 10 00.5	+1.1
PESTR				eSn	Sn	07 11 16.6	-2.0
PBAR	Barrancos	7.13	228	Pn	Pn	07 10 03.5	+2.0
PBAR				Sn	Sn	07 11 19.4	-3.1
	4.5nm,0.6s						
PBAR	Barrancos	7.13	228	ePn	Pn	07 10 03.5	+2.0
PBAR				eSn	Sn	07 11 19.4	-3.1
PBAR				A	A	07 12 10.7	
	4.5nm,0.6s						
EMIN	Mina Concepcio	7.24	224	Pn	Pn	07 10 03.2	+0.2
	0.2nm,0.2s,SNR=4.0						
EMIN				Sn	Sn	07 11 16.7	-8.5
	0.4nm,0.3s,SNR=7.9						
EMIN				Lg	Lg	07 12 04.6	
	1.8nm,0.4s,SNR=7.9						
PSBE	So Bento	7.35	243	ePn	Pn	07 10 07.5	+3.0
EVO	Evora	7.45	234	Pn	Pn	07 10 07.7	+1.9
EVO				Sn	Sn	07 11 24.6	-5.5
EVO	Evora	7.45	234	eP	Pn	07 10 07.7	+1.9
EVO				eS	Sn	07 11 24.6	-5.5
CDF	Champ du Feu	7.46	43	Pn	Pn	07 10 07.1	+1.0
CDF				Pg	Pg	07 10 37.2	-3.0
CDF				Lg	Lg	07 12 15.2	
	5.4nm,0.7s						
CDF	Champ du Feu	7.46	43	ePn	Pn	07 10 07.1	+1.0
CDF	Champ du Feu	7.46	43	ePg	Pg	07 10 37.2	-3.0
CDF				eSg	Sg	07 12 15.2	-1.6
	11nm,0.7s						
BAIF	Baives	7.58	23	Pn	Pn	07 10 14.5	+7.0
BAIF	Baives	7.58	23	eP	Pn	07 10 14.5	+7.0
GIVF	Givet	7.80	25	Pn	Pn	07 10 12.6	+2.0
GIVF				Sn	Sn	07 11 34.9	-3.8
	1.9nm,0.3s						
GIVF	Givet	7.80	25	ePn	Pn	07 10 12.6	+2.0
GIVF				eSn	Sn	07 11 34.9	-3.8
	3.9nm,0.3s						
PNCL	Nicolau / Gran	8.03	234	Pn	Pn	07 10 15.6	+1.9
PNCL				Sn	Sn	07 11 40.3	-4.1
PNCL	Nicolau / Gran	8.03	234	ePn	Pn	07 10 15.6	+1.9
PNCL				eSn	Sn	07 11 40.3	-4.1
PBDV	Barranco-do-Ve	8.30	227	Sn	Sn	07 11 49.1	-2.0
PBDV	Barranco-do-Ve	8.30	227	eSn	Sn	07 11 49.1	-2.0
MORF	Marmelete	8.65	230	Pn	Pn	07 10 24.6	+2.3
MORF	Marmelete	8.65	230	ePn	Pn	07 10 24.6	+2.3

*IDC **18** 07:08:47.7±1.4, 38.°11N×20.°01E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.3/38, mbtmp3.5/7, ML3.4/1, Error ellipse: s-maj=29.2km s-min=25.8km az=83.0*

*ATH **18** 07:08:49.5, 37.°79N×21.°17E, h8km±2km, ML3.3/27, Error ellipse: s-maj=2.4km s-min=0.8km az=288.0*

*THE **18** 07:08:49.1, 37.°75N×21.°17E, h16km, ML3.4/20, Error ellipse: s-maj=1.0km s-min=0.5km az=204.0*

ISC 18 07:08:49.6±0.8, **37.°80N**±0.°02×**21.°15E**±0.°01, **h19**km±2km, **n104**, σ1.27/150, **mb3.4**/6, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	Vitineika	0.12	12	P	Pg	07 08 53.6	-0.1
VTN				S	Sg	07 08 57.9	+1.4
VTN	Vitineika	0.12	12	P	Pg	07 08 53.6	-0.1
VTN				S	Sg	07 08 57.1	+0.7
ZAK2	Zakynthos	0.20	267	P	Pb	07 08 53.7	-0.4
ZAK2				S	Sg	07 08 58.5	+0.3
	73μm,0.3s						
LTHK	Lithakia	0.27	251	P	Pb	07 08 55.6	-0.1
LTHK				S	Sb	07 08 59.1	-0.6
LTHK				AML	AML	07 09 02.5	
	comp=N,66971μm,0.4s						
LTHK				AML	AML	07 09 06.1	
	comp=E,47668μm,0.3s						
LTHK	Lithakia	0.27	251	P	Pb	07 08 55.6	-0.1
LTHK				S	Sg	07 09 00.2	+0.3
	comp=E,33μm,0.3s						
RLS	Riolos of Patr	0.36	43	P	Pg	07 08 56.5	-0.8
RLS				S	Sg	07 09 00.6	-1.9
RLS				AML	AML	07 09 02.9	
	comp=N,11330μm,0.4s						
RLS				AML	AML	07 09 03.8	
	comp=E,11204μm,0.4s						
RLS	Riolos of Patr	0.36	43	P	Pg	07 08 56.4	-0.8
RLS				S	Sg	07 09 02.4	0.0
	comp=E,6μm,0.4s						
VLMS	Volimes, Zakyn	0.40	282	P	Pg	07 08 57.5	-0.4
VLMS				S	Sg	07 09 03.3	-0.2
VLMS				AML	AML	07 09 06.0	
	comp=N,47007μm,0.2s						
VLMS				AML	AML	07 09 07.1	
	comp=E,46384μm,0.1s						
VLMS	Volimes, Zakyn	0.40	282	P	Pg	07 08 57.6	-0.4
VLMS				S	Sb	07 09 04.7	+0.8
DRO	Drossia	0.47	71	P	Pg	07 08 58.2	-1.0
DRO				S	Sg	07 09 05.6	0.0
DRO				AML	AML	07 09 10.9	
	comp=N,29612μm,0.5s						
DRO				AML	AML	07 09 11.3	
	comp=E,25338μm,0.5s						
DRO	Drossia	0.47	71	P	Pg	07 08 58.0	-1.2
DRO				S	Sg	07 09 06.0	+0.4
	comp=E,14μm,0.5s						
AMT	Artemida-Makis	0.51	121	P	Pg	07 08 58.3	-1.7
AMT				AML	AML	07 09 08.5	
	comp=N,21581μm,0.8s						
AMT				AML	AML	07 09 11.2	
	comp=E,16905μm,0.5s						
AMT	Artemida-Makis	0.51	121	P	Pg	07 08 58.4	-1.7
PSDA	Pessada-Kefalo	0.55	305	P	Pb	07 09 00.1	-0.5
PSDA	Pessada-Kefalo	0.55	305	P	Pb	07 09 00.0	-0.6
PSDA				S	Sg	07 09 09.4	+1.3
	comp=E,728nm,0.2s						
VLS	Valsamata	0.58	311	P	Pb	07 09 00.7	-0.5
VLS				S	Sb	07 09 09.6	+0.5
VLS				AML	AML	07 09 12.4	
	comp=E,6822μm,0.1s						
VLS				AML	AML	07 09 12.8	
	comp=N,4400μm,0.1s						
VLS	Valsamata	0.58	311	P	Pb	07 09 00.7	-0.5
VLS				S	Sg	07 09 10.5	+1.2
	comp=N,3μm,0.1s						
ARG2	Argostoli	0.65	306	P	Pb	07 09 01.5	-0.8
ARG2				S	Sg	07 09 12.7	+1.5
	comp=N,10μm,0.2s						
UPR	University Cam	0.70	46	P	Pb	07 09 03.5	+0.4
UPR				S	Sg	07 09 14.2	+1.5
KEF5	Kardakata, Kep	0.72	312	P	Pb	07 09 03.0	-0.6
KEF5				S	Sb	07 09 13.6	+0.5
KEF5	Kardakata, Kep	0.72	312	P	Pb	07 09 03.1	-0.6
KEF5				S	Sg	07 09 15.0	+1.4
KEF4	Livadi, Kephal	0.74	309	P	Pb	07 09 03.4	-0.4
KEF4				S	Sg	07 09 14.7	+0.7
KEF4	Livadi, Kephal	0.74	309	P	Pb	07 09 03.3	-0.6
KEF4				S	Sn	07 09 15.8	+0.1
	comp=N,29μm,0.2s						
AST1	Astakos	0.74	356	P	Pb	07 09 04.0	0.0
AST1				S	Sn	07 09 16.4	+0.5
	comp=N,3μm,0.1s						
KEF3	Kipouria, Keph	0.76	303	P	Pb	07 09 03.5	-0.6
KEF3	Kipouria, Keph	0.76	303	P	Pb	07 09 03.5	-0.6
KEF3				S	Sg	07 09 15.4	+0.9
	comp=N,6μm,0.2s						
DMLN	Damoulianata-K	0.76	306	P	Pb	07 09 03.8	-0.5
DMLN	Damoulianata-K	0.76	306	P	Pb	07 09 03.7	-0.5
LAKA	Lakka	0.79	56	P	Pb	07 09 03.5	-1.2
LAKA				S	Sb	07 09 15.2	+0.2
LAKA	Lakka	0.79	56	P	Pb	07 09 03.3	-1.4
LAKA				S	Sg	07 09 16.2	+0.6
	comp=N,6μm,0.8s						
PDO	Prodromos	0.80	2	P	Pb	07 09 04.5	-0.5
PDO				S	Sg	07 09 16.8	+0.8
PDO				AML	AML	07 09 23.5	
	comp=E,4581μm,0.2s						
PDO				AML	AML	07 09 26.3	
	comp=N,6220μm,0.5s						
PDO	Prodromos	0.80	2	P	Pb	07 09 04.3	-0.6
PDO				S	Sn	07 09 17.8	+0.5
	comp=N,4μm,0.3s						
FSK	Fiskardo	0.81	325	P	Pb	07 09 04.2	-0.8
FSK				S	Sg	07 09 17.0	+0.8
FSK				AML	AML	07 09 27.7	
	comp=N,2648μm,0.9s						
FSK				AML	AML	07 09 32.6	
	comp=E,2523μm,0.4s						
FSK	Fiskardo	0.81	325	P	Pb	07 09 04.3	-0.8
FSK				S	Sg	07 09 17.2	+0.9
	comp=E,2μm,0.8s						
KLV	Kalavryta, Ach	0.82	72	P	Pb	07 09 03.9	-1.5
KLV				S	Sb	07 09 16.9	+0.7
KLV				AML	AML	07 09 21.5	
	comp=E,2485μm,0.7s						
KLV				AML	AML	07 09 21.8	
	comp=N,3095μm,0.5s						
KLV	Kalavryta, Ach	0.82	72	P	Pb	07 09 03.8	-1.6
KLV				S	Sg	07 09 17.6	+0.8
	comp=N,1μm,0.8s						
EFP	Efpalio	0.86	43	P	Pb	07 09 04.8	-1.2
EFP				S	Sg	07 09 18.4	+0.4
EFP				AML	AML	07 09 20.8	
	comp=E,1887μm,0.3s						
EFP				AML	AML	07 09 23.5	
	comp=N,2092μm,0.5s						
EFP	Efpalio	0.86	43	P	Pb	07 09 04.8	-1.2
EFP				S	Sb	07 09 18.3	+1.1
	comp=N,985nm,0.3s						
PVO	Paravola	0.87	20	P	Pb	07 09 05.7	-0.4
PVO				AML	AML	07 09 21.7	
	comp=E,3708μm,0.3s						
PVO				AML	AML	07 09 27.8	
	comp=N,2530μm,0.3s						
PVO	Paravola	0.87	20	P	Pb	07 09 05.5	-0.6
PVO				S	Sn	07 09 20.1	+1.1
	comp=N,2μm,0.3s						
ITM	Ithomi	0.87	135	P	Pb	07 09 04.7	-1.4
ITM				S	Sg	07 09 18.3	+0.1
ITM				AML	AML	07 09 24.6	
	comp=E,4635μm,0.7s						
ITM				AML	AML	07 09 25.2	
	comp=N,4412μm,0.9s						
ITM	Ithomi	0.87	135	P	Pb	07 09 04.7	-1.4
ALIK	Aliki, Aigiali	0.89	58	P	Pb	07 09 05.5	-0.9
EVGI	Lefkada island	0.91	335	P	Pb	07 09 06.1	-0.7
EVGI	Lefkada island	0.91	335	P	Pb	07 09 06.1	-0.7
EVGI				S	Sn	07 09 20.7	+0.7
	comp=N,630nm,0.2s						
TRIZ	Trizonia	0.92	52	P	Pb	07 09 05.6	-1.3
TRIZ	Trizonia	0.92	52	P	Pb	07 09 05.5	-1.5
SERG	Sergoula	0.94	49	P	Pb	07 09 06.0	-1.4
SERG				S	Sb	07 09 19.8	+0.3
SERG				AML	AML	07 09 25.1	
	comp=E,3282μm,0.4s						
SERG				AML	AML	07 09 25.3	
	comp=N,2442μm,0.4s						
SERG	Sergoula	0.94	49	P	Pb	07 09 05.9	-1.4
SERG				S	Sg	07 09 21.2	+0.8
	comp=N,1μm,0.4s						
KALE	Kalithea	0.98	52	P	Pb	07 09 06.7	-1.4
KALE				AML	AML	07 09 26.4	
	comp=N,3755μm,0.5s						
KALE				AML	AML	07 09 37.1	
	comp=E,2477μm,0.6s						
KALE	Kalithea	0.98	52	P	Pb	07 09 06.6	-1.4
NYDR	Nydri-Lefkada	0.98	339	P	Pb	07 09 07.2	-0.8
NYDR				S	Sb	07 09 21.1	+0.5
NYDR	Nydri-Lefkada	0.98	339	P	Pb	07 09 07.1	-0.9
NYDR				S	Sg	07 09 23.2	+1.5
	comp=E,930nm,0.8s						
ANX	Ano Chora	1.00	37	P	Pb	07 09 07.2	-1.1
ANX				AML	AML	07 09 29.5	
	comp=N,3095μm,0.6s						
ANX				AML	AML	07 09 36.5	
	comp=E,2842μm,0.7s						
ANX	Ano Chora	1.00	37	P	Pb	07 09 07.0	-1.4
PYL	PYLOS	1.01	152	P	Pb	07 09 07.0	-1.6
PYL	PYLOS	1.01	152	P	Pb	07 09 06.8	-1.8
PYL				S	Sb	07 09 21.8	+0.3
VLX	Vlachokerasia	1.06	113	P	Pb	07 09 09.5	0.0
VLX				AML	AML	07 09 31.4	
	comp=N,2930μm,0.8s						
VLX				AML	AML	07 09 33.5	
	comp=E,3576μm,0.9s						
VLX	Vlachokerasia	1.06	113	P	Pb	07 09 09.1	-0.4
LKD2	Lefkada island	1.06	339	P	Pb	07 09 08.8	-0.7
LKD2				S	Sb	07 09 23.6	+0.6
LKD2				AML	AML	07 09 31.0	
	comp=E,6972μm,0.9s						
LKD2				AML	AML	07 09 35.6	
	comp=N,4046μm,0.5s						
LKD2	Lefkada island	1.06	339	P	Pb	07 09 08.8	-0.7
LKD2				S	Sg	07 09 25.4	+1.1
	comp=N,3μm,0.7s						
TSLK	Tsoukalades, L	1.10	339	P	Pn	07 09 09.5	-0.5
TSLK				S	Sn	07 09 25.6	+0.9
TSLK				AML	AML	07 09 32.5	
	comp=N,4555μm,0.8s						
TSLK				AML	AML	07 09 34.4	
	comp=E,3478μm,0.8s						
TSLK	Tsoukalades, L	1.10	339	P	Pn	07 09 09.5	-0.5
THAL	Thalero	1.22	78	P	Pn	07 09 11.7	+0.1
THAL				AML	AML	07 09 35.4	
	comp=N,8378μm,0.9s						
THAL				AML	AML	07 09 39.3	
	comp=E,6515μm,0.9s						
THAL	Thalero	1.22	78	P	Pn	07 09 11.5	-0.1
EVR	Evrytania	1.23	25	P	Pn	07 09 11.2	-0.7
EVR	Evrytania	1.23	25	P	Pn	07 09 10.9	-1.0
DSF	Desfina	1.24	60	P	Pn	07 09 11.4	-0.7
DSF	Desfina	1.24	60	P	Pn	07 09 11.3	-0.7
MAKR	Makrakomi, Fth	1.44	32	P	Pn	07 09 15.5	+0.8
MAKR				AML	AML	07 09 48.0	
	comp=N,2461μm,0.7s						
MAKR				AML	AML	07 09 49.1	
	comp=E,3325μm,0.9s						
MAKR	Makrakomi, Fth	1.44	32	P	Pn	07 09 15.0	+0.3
LTK	Loutraki	1.45	81	P	Pn	07 09 15.5	+0.6
AXAR	Agios Charalam	1.53	50	P	Pn	07 09 16.1	+0.2
AXAR	Agios Charalam	1.53	50	P	Pn	07 09 16.2	+0.2
AGG	Agios Georgios	1.53	37	P	Pn	07 09 16.5	+0.5
AGG	Agios Georgios	1.53	37	P	Pn	07 09 16.4	+0.4
KRND	KRANIDI	1.64	104	P	Pb	07 09 19.1	-0.1
KRND				AML	AML	07 09 55.6	
	comp=N,1194μm,1.0s						
KRND				AML	AML	07 09 55.7	
	comp=E,1694μm,0.7s						
LKR	Lokris	1.68	59	P	Pb	07 09 19.7	-0.3
LKR				AML	AML	07 09 49.4	
	comp=E,674μm,0.5s						
LKR				AML	AML	07 09 54.0	
	comp=N,570μm,0.7s						
ATAL	Atalanti	1.72	58	P	Pb	07 09 20.3	-0.3
ATAL				AML	AML	07 09 51.8	
	comp=E,849μm,1.0s						
ATAL				AML	AML	07 09 53.0	
	comp=N,1203μm,0.9s						
VIL2	Platees	1.72	75	P	Pb	07 09 20.8	+0.1
VIL2				AML	AML	07 09 52.7	
	comp=N,1516μm,1.2s						
VIL2				AML	AML	07 09 53.1	
	comp=E,2316μm,0.9s						
VLI	Veliai	1.78	127	P	Pb	07 09 21.9	+0.2
VLI				AML	AML	07 09 53.1	
	comp=E,938μm,1.1s						
VLI				AML	AML	07 09 57.7	
	comp=N,1385μm,0.7s						
THL	Klokotos Trika	1.89	21	P	Pb	07 09 23.1	-0.4
THL				AML	AML	07 10 05.3	
	comp=N,411μm,1.0s						
THL				AML	AML	07 10 05.8	
	comp=E,380μm,0.7s						
KPRO	Kipourio	2.16	4	P	Pn	07 09 26.6	+1.9
KPRO				AML	AML	07 10 20.8	
	comp=E,646μm,0.9s						
KPRO				AML	AML	07 10 28.3	
	comp=N,648μm,0.9s						
KEK	Kerkira	2.19	331	P	Pn	07 09 26.4	+1.4
DION	Dionisos Attik	2.21	82	P	Pn	07 09 26.6	+1.3
EREA	Eretria	2.28	73	P	Pn	07 09 28.2	+2.0
OHR	Ohrid	3.32	355	iPn	Pg	07 09 52.3	-1.0
IDI	Anoyia	3.91	129	Pn	Pb	07 10 01.6	+3.5
	comp=N,1.7nm,0.3s,baz=303,slow=19,SNR=7.0						
IDI				Sn	Sg	07 10 57.8	+2.4
	comp=N,1.6nm,0.3s,baz=331,slow=20,SNR=1.9						
STIP	Stip	3.97	11	iPn	Pn	07 09 53.1	+3.6
DBRK	Dubrovnik	5.38	336	ePn	Pn	07 10 07.5	-1.4
STON	Ston	5.71	334	ePn	Pn	07 10 11.8	-1.6
STON				Sn	Sn	07 11 12.5	-5.9
MAKA	Makarska	6.32	331	ePn	Pn	07 10 21.6	-0.2
MAKA				Sn	Sn	07 11 31.4	-2.0
RICI	Ricice	6.46	333	iPn	Pn	07 10 23.0	-0.7

RICI				Sn		**Sn**	07 11 34.3	**-2.6**
HVAR	**Hvar**	**6.46**	**328**	*e*Pn		**Pn**	**07 10 23.3**	**-0.3**
HVAR				Sn		**Sn**	**07 11 32.5**	**-4.3**
KIJV	**Kijevo**	**7.17**	**331**	*i* Pn		**Pn**	**07 10 33.6**	**+0.2**
ZIRJ	**Zirje**	**7.19**	**326**	*e*Pn		**Pn**	**07 10 32.8**	**-0.9**
MORI	**Morici**	**7.33**	**327**	*i* Pn		**Pn**	**07 10 35.9**	**+0.2**
DUGI	**Dugi Otok**	**7.72**	**325**	*e*Pn		**Pn**	**07 10 42.6**	**+1.7**
HFS	**Hagfors**	**22.86**	**350**	P		**P**	**07 13 48.7**	**-2.8**
	comp=N,1.3nm,0.7s,baz=185,slow=14,SNR=2.5							
FINES	**FINESS Array B**	**23.87**	**6**	P		**P**	**07 14 01.1**	**-0.5**
	comp=N,0.4nm,0.5s,baz=182,slow=9.2,SNR=3.8							
EKA	**Eskdalemuir Ar**	**24.03**	**325**	P		P	07 13 54.9	-8.2
	comp=N,0.4nm,0.6s,baz=135,slow=8.5,SNR=1.6							
TORD	**Torodi Ar. Bea**	**30.06**	**220**	P		**P**	**07 14 56.3**	**-1.4**
	comp=N,0.2nm,0.4s,baz=29,slow=9.7,SNR=2.2							
MKAR	**Makanchi Array**	**45.08**	**58**	P		P	07 17 09.8	+5.5
	comp=N,0.7nm,0.5s,baz=275,slow=7.1,SNR=9.2							
ZALV	**Zalesovo Beam**	**45.57**	**48**	P		**P**	**07 17 12.2**	**+4.1**
	comp=N,0.7nm,0.5s,baz=264,slow=8.5,SNR=2.2							

IDC ***18*** *07:08:59.4±2.9, 11°.27S×161°.74E, h44km±28km, mb3.5/6, mb1 3.8/9, mb1mx3.6/34, mbtmp3.8/9, ML3.9/3, MS3.6/3, Ms1 3.6/3, ms1mx2.9/19, Error ellipse: s-maj=30.3km s-min=24.7km az=127.0*

NEIC ***18*** *07:09:00.7±2.0, 11°.3S±0°.1×161°.7E±0°.1, h63km±8km, mb4.3/11, Error ellipse: s-maj=21.3km s-min=14.1km az=66.0*

ISC 18 07:08:58.2±0.8, 11°.32S±0°.08×161°.8E±0°.1, h35km, n23, σ1s26/23, mb3.9/9, MS3.3/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.59**	**316**	P		**Pn**	**07 09 38.0**	**+0.3**
	43nm,0.3s,baz=200,slow=17,SNR=4.4							
HNR				S		**Sn**	**07 10 05.2**	**-2.7**
	32nm,0.3s,baz=172,slow=20,SNR=4.4							
HNR	**Honiara**	**2.59**	**316**	Pn		**Pn**	**07 09 38.3**	**+0.6**
DZM	**Mont Dzumac**	**11.59**	**158**	P		**Pn**	**07 11 42.9**	**+1.6**
	0.2nm,0.3s,baz=359,slow=13,SNR=6.6							
DZM				S		**Sn**	**07 13 46.7**	**-2.9**
	0.2nm,0.3s,baz=174,slow=19,SNR=1.7							
RABL	**Rabaul**	**11.85**	**306**	Pn		**Pn**	**07 11 46.0**	**+1.1**
EIDS	**Eidsvold**	**17.24**	**214**			**Pn**	**07 12 56.5**	**+0.1**
EIDS				IAmb		IAmb	07 13 50.3	
	comp=Z,22nm,1.6s							
CTA	**Charters Tower**	**17.27**	**238**	P		**P**	**07 12 59.5**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=48,slow=12,SNR=2.3							
CTAO	**Charters Tower**	**17.27**	**238**			**P**	**07 12 57.7**	**-0.3**
CTAO				IAmb		IAmb	07 13 45.2	
	comp=Z,58nm,2.0s							
COEN	**Coen**	**18.32**	**260**			**Pn**	**07 13 09.3**	**-0.5**
WR0	**Warramunga Arr**	**27.55**	**248**	P		**P**	**07 14 40.8**	**-1.2**
WR0				IAmb		IAmb	07 14 47.6	
	comp=Z,14nm,1.6s							
WB0	**Warramunga Arr**	**27.64**	**249**	P		**P**	**07 14 42.9**	**+0.1**
WB0				IAmb		IAmb	07 14 52.1	
	comp=Z,16nm,1.6s							
WRAB	**Tennant Creek**	**27.71**	**249**	P		**P**	**07 14 42.1**	**-1.4**
WB2	**Warramunga Arr**	**27.72**	**249**	P		**P**	**07 14 42.0**	**-1.5**
WB2				IAmb		IAmb	07 14 56.0	
	comp=Z,22nm,1.6s							
WRA	**Warramunga Arr**	**27.73**	**249**	P		**P**	**07 14 43.8**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=76,slow=9.4,SNR=4.0							
WRA				LR		LR	07 25 04.9	
	comp=Z,78nm,19.4s,baz=245,slow=35							
ASAR	**Alice Springs**	**29.20**	**241**	P		**P**	**07 14 56.6**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=70,slow=9.6,SNR=11							
ASAR				LR		LR	07 26 25.9	
	comp=Z,76nm,19.2s,baz=130,slow=36							
BBOO	**Buckleboo**	**31.85**	**224**	P		**P**	**07 15 21.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**35.53**	**255**	P		**P**	**07 15 51.8**	**-0.4**
FORT	**Forrest**	**36.72**	**233**	P		**P**	**07 16 01.8**	**-0.4**
SONM	**Songino Array**	**76.62**	**325**	P		**P**	**07 20 45.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=121,slow=5.6,SNR=2.3							
SONM	**Songino Array**	**76.62**	**325**	IAmb		IAmb	07 20 46.7	
	comp=Z,0.7nm,0.8s							
QSPA	**South Pole Qui**	**78.68**	**180**	LR		LR	07 50 47.0	
	comp=Z,74nm,21.3s,baz=322,slow=32							
ILAR	**Eielson Array**	**85.05**	**20**	P		**P**	**07 21 28.8**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=240,slow=5.1,SNR=2.0							
NVAR	**Mina Array Bea**	**89.21**	**51**	P		**P**	**07 21 51.5**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=240,slow=7.2,SNR=4.2							
YKA	**Yellowknife Ar**	**97.02**	**28**	P		**P**	**07 22 25.8**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=255,slow=4.6,SNR=3.8							

NNC 18 07:18:29.9±0.4, 50°.01N×78°.74E, h0km, mb3.6, mpv3.4, 19C-6D, Error ellipse: s-maj=8.0km s-min=2.0km az=76.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.59**	**346**	⇑P		Pg	07 18 41.5	+0.2
KUR07				⇓S		Sg	07 18 50.4	+1.5
KUR06	**Kurchatov Arra**	**0.61**	**347**	⇑P		Pg	07 18 41.7	+0.1
KUR06				⇑S		Sg	07 18 50.9	+1.4
KUR14	**Kurchatov Arra**	**0.61**	**351**	⇑P		Pg	07 18 41.8	+0.2
KUR14				⇑S		Sg	07 18 50.7	+1.1
KUR15	**Kurchatov Arra**	**0.62**	**349**	⇑P		Pg	07 18 41.9	+0.1
KUR15				⇑S		Sg	07 18 51.3	+1.5
KURBB	**Kurchatov Arra**	**0.63**	**348**	⇑P		Pg	07 18 42.0	0.0
	32nm,0.3s							
KURBB				⇓S		Sg	07 18 51.0	+0.9
	78nm,0.5s							
KUR16	**Kurchatov Arra**	**0.64**	**346**	⇓P		Pg	07 18 41.9	-0.2
KUR16				⇑S		Sg	07 18 51.3	+1.0
KUR05	**Kurchatov Arra**	**0.65**	**348**	⇓P		Pg	07 18 42.3	0.0
KUR05				⇑S		Sg	07 18 51.4	+0.7
KUR17	**Kurchatov Arra**	**0.65**	**344**	⇑P		Pg	07 18 42.3	0.0
KUR17				⇑S		Sg	07 18 51.9	+1.2
MAKZ	**Makanchi**	**3.86**	**145**	⇓Pn		Pn	07 19 32.7	+2.1
	0.7nm,0.5s							
MAKZ				⇑Pg		Pb	07 19 39.4	+0.5
	3.9nm,1.0s							
MAKZ				⇑Lg		Lg	07 20 33.7	
	4.0nm,0.4s							
BRZS	**Berezniki**	**3.91**	**272**	Pg		Pb	07 19 42.0	+2.2
	9.1nm,0.3s							
BRZS				Lg		Lg	07 20 32.4	
	6.8nm,0.6s							
MK31	**Makanchi Array**	**3.99**	**142**	⇑Pn		Pn	07 19 34.2	+1.9
	0.2nm,0.2s,baz=334,slow=10,SNR=29							
MK31				⇓Pg		Pb	07 19 41.6	+0.4
	0.7nm,0.2s,baz=324,slow=13,SNR=17							
MK31				⇑Lg		Lg	07 20 36.2	
	6.1nm,0.5s,baz=329,slow=27,SNR=12							
KAPS	**Kapalarasan**	**4.75**	**175**	Pg		Pb	07 19 55.5	+1.5
	1.9nm,0.3s							
KAPS				Lg		Lg	07 20 55.3	
	15nm,0.6s							
ARXS	**Arharly**	**5.83**	**186**	Pg		Pb	07 20 16.8	+4.3
	1.8nm,0.1s							
ARXS				Lg		Lg	07 21 31.9	
	14nm,0.6s							
MNBS	**Baschi**	**5.94**	**182**	Pg		Pg	07 20 20.6	-3.1
	3.9nm,0.3s							
MNBS				Lg		Lg	07 21 38.3	
	11nm,0.6s							
BRVK	**Borovoye**	**6.10**	**303**	⇑Pn		Pn	07 20 01.4	+0.2
	1.8nm,0.8s							
BRVK				⇑Sn		Sn	07 21 14.1	+2.5
	1.4nm,0.4s							
BRVK				⇑Lg		Lg	07 21 46.9	
	1.8nm,0.7s							
KRBS	**Karabastau**	**6.66**	**200**	Pg		Pg	07 20 32.9	-4.5
	1.0nm,0.4s							
KRBS				Lg		Lg	07 21 59.6	
	3.6nm,0.4s							
PDGK	**Podgornoye**	**6.70**	**175**	Pg		Pb	07 20 31.4	+4.1
	0.6nm,0.3s							
PDGK				Lg		Lg	07 21 56.8	
	2.0nm,0.9s							
UZB	**Uzynbulak**	**6.87**	**178**	Pg		Pb	07 20 34.5	+4.3
	2.1nm,0.2s							
UZB				Lg		Lg	07 22 01.9	
	2.9nm,0.6s							

NAO ***18*** *07:32:34.7±2.1, 77°.90N×8°.35E, h17km±15km, ML3.8*

IDC ***18*** *07:32:35.0±0.8, 77°.69N×8°.15E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.4/38, mbtmp3.6/9, ML3.1/3, MS2.9/6, Ms1 2.8/6, ms1mx2.6/28, Error ellipse: s-maj=13.4km s-min=12.3km az=10.0*

BER ***18*** *07:32:35.8±5.5, 77°.72N×7°.96E, h19km±24km, ML2.5, ML2.3(DNK), Confirmed Earthquake*

IEPN ***18*** *07:32:37.0, 77°.81N×8°.50E, h10km*

ISC 18 07:32:34.7±2.1, 77°.75N±0°.05×8°.05E±0°.04, h15km±14km, n51, σ3s00/68, mb3.5/6, MS2.9/3, 4C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BRBA	**Barentsburg A**	**1.33**	**74**	Pg		**Pn**	**07 32 58.6**	**-0.2**
BRBA				Lg		Lg	07 33 14.3	
BRBA	**Barentsburg A**	**1.33**	**74**	*e*P		**Pn**	**07 32 58.7**	**0.0**
BRBA				*e*S		**Sb**	**07 33 14.2**	**-2.0**
BRBA				*e*Sg		**Sg**	**07 33 18.2**	**+0.6**
BRBA				IAML			07 33 19.3	
	comp=Z,147nm,0.1s							
KBS	**Kingsbay**	**1.42**	**32**	Pg		**Pn**	**07 32 59.3**	**-0.6**
KBS				Lg		Lg	07 33 15.3	
KBS	**Kingsbay**	**1.42**	**32**	*e*P		**Pn**	**07 32 59.3**	**-0.6**
KBS				*e*S		**Sn**	**07 33 15.3**	**-3.0**
KBS				IAML			07 33 18.2	
	comp=Z,318nm,0.3s							
KBS	**Kingsbay**	**1.42**	**32**	⇑*i*P		**Pn**	**07 32 59.3**	**-0.6**
KBS				*i* S		**Sn**	**07 33 14.7**	**-3.6**
SPA0	**Spitsbergen Ar**	**1.79**	**72**	Pg		**Pb**	**07 33 06.2**	**-1.1**
	baz=224,slow=16							
SPA0				Lg		Lg	07 33 28.1	
	baz=230,slow=28							
SPA0	**Spitsbergen Ar**	**1.79**	**72**	Pg		**Pb**	**07 33 06.2**	**-1.1**
	baz=224,slow=16							
SPA0				Sg		**Sn**	**07 33 28.1**	**+0.5**
	baz=230,slow=28							
SPA0	**Spitsbergen Ar**	**1.79**	**72**	⇑*i*P		**Pb**	**07 33 06.3**	**-1.0**
SPA0				*i* S		**Sn**	**07 33 27.6**	**0.0**
SPITS	**Spitsbergen Ar**	**1.79**	**72**	Pn		**Pb**	**07 33 06.3**	**-1.0**
	baz=217,slow=18,SNR=3448							
SPITS				Sn		**Sn**	**07 33 28.1**	**+0.5**
	baz=235,slow=25,SNR=23							
HSPB	**Hornsund (broa**	**1.81**	**111**	Pn		**Pn**	**07 33 04.8**	**-0.4**
HSPB				Lg		Lg	07 33 25.7	
HSPB	**Hornsund (broa**	**1.81**	**111**	⇑*i*P		**Pn**	**07 33 04.6**	**-0.6**
HSPB				*e*S		**Sn**	**07 33 26.0**	**-1.9**
HSPB				IAML			07 33 26.1	
	comp=Z,92nm,0.3s							
HSPB	**Hornsund (broa**	**1.81**	**111**	⇑*i*P		**Pn**	**07 33 04.6**	**-0.6**
HSPB				*e*S		**Sn**	**07 33 25.1**	**-2.8**
HOPEN	**Hopen**	**3.98**	**100**	Pn		**Pn**	**07 33 35.2**	**+0.2**
HOPEN				Sn		**Sn**	**07 34 18.2**	**-3.3**
HOPEN	**Hopen**	**3.98**	**100**	*e*P		**Pn**	**07 33 35.3**	**+0.2**
HOPEN				*e*S		**Sn**	**07 34 18.5**	**-3.0**
HOPEN				IAML			07 34 36.5	
	comp=Z,49nm,0.3s							
HOPEN	**Hopen**	**3.98**	**100**	*e*P		**Pn**	**07 33 35.3**	**+0.2**
HOPEN				*e*S		**Sn**	**07 34 18.5**	**-3.0**
BJO1	**Bjornoya**	**4.19**	**136**	*e*P		**Pn**	**07 33 38.3**	**+0.4**
BJO1				*e*S		**Sn**	**07 34 22.2**	**-4.3**
BJO1				IAML			07 34 27.2	
	comp=Z,19nm,1.0s							
NOR	**Nord**	**5.82**	**323**	*i* P		**Pn**	**07 33 57.6**	**-2.7**
NOR				*i* S		**Sn**	**07 35 02.1**	**-4.6**
NOR	**Nord**	**5.82**	**323**	Pn		**Pn**	**07 33 58.7**	**-1.6**
NOR				Sn		**Sn**	**07 35 02.3**	**-4.4**
NOR	**Nord**	**5.82**	**323**	*e*P		**Pn**	**07 33 58.7**	**-1.6**
NOR				*e*S		**Sn**	**07 35 01.3**	**-5.4**
NOR				IAML			07 35 03.0	
	comp=Z,4.6nm,0.5s							
NOR	**Nord**	**5.82**	**323**	*i* P		**Pn**	**07 33 57.6**	**-2.7**
NOR				*i* S		**Sn**	**07 35 02.1**	**-4.6**
NOR				IAML			07 35 03.0	
	comp=Z,4.6nm,0.5s							
DAG	**Danmarks Havn**	**5.95**	**274**	*i* P		**Pn**	**07 34 00.4**	**-1.7**
DAG				*i* S		**Sn**	**07 35 01.7**	**-8.2**
DAG	**Danmarks Havn**	**5.95**	**274**	*e*		Pn	07 33 56.6	-5.5
	baz=76,slow=12							
DAG				*e*P		Pb	07 34 00.3	-18
DAG				*e*S		**Sn**	**07 35 01.5**	**-8.4**
DAG				IAML			07 35 05.9	
	comp=Z,8.6nm,1.3s							
DAG	**Danmarks Havn**	**5.95**	**274**	*e*		Pn	07 33 56.6	-5.5
	baz=76,slow=12							
DAG				*i* P		Pb	07 34 00.5	-18
DAG				*i* S		**Sn**	**07 35 01.8**	**-8.2**
DAG				IAML			07 35 05.9	
	comp=Z,8.6nm,1.3s							
DBG	**Daneborg**	**7.59**	**257**	Pn		**Pn**	**07 34 23.4**	**-1.1**
DBG				Sn		Sn	07 35 40.1	-10
DBG	**Daneborg**	**7.59**	**257**	*e*P		**Pn**	**07 34 23.4**	**-1.1**
DBG				*e*S		Sn	07 35 39.3	-11
DBG				IAML			07 35 44.0	
	comp=Z,4.3nm,0.5s							
DBG	**Daneborg**	**7.59**	**257**	*i* P		**Pn**	**07 34 23.8**	**-0.7**
DBG				*i* S		Sn	07 35 38.4	-12
DBG				IAML			07 35 44.0	
	comp=Z,4.3nm,0.5s							
ZFI	**Zemlya Franca-**	**7.83**	**49**	*e*P		**Pn**	**07 34 29.1**	**+1.4**
ZFI				*e*S		**Sn**	**07 35 50.9**	**-5.1**
HAMF	**Hammerfest**	**8.28**	**141**	Pn		**Pn**	**07 34 33.6**	**-0.4**
HAMF	**Hammerfest**	**8.28**	**141**	Pn		**Pn**	**07 34 33.6**	**-0.4**
KIF	**Kilpisjarvi**	**9.48**	**151**	Pn		**Pn**	**07 34 50.3**	**-0.2**
KIF	**Kilpisjarvi**	**9.48**	**151**	Pn		**Pn**	**07 34 50.3**	**-0.2**
ARA0	**ARCESS Array S**	**9.54**	**140**	Pn		**Pn**	**07 34 51.1**	**-0.2**
	baz=333,slow=12							
ARA0	**ARCESS Array S**	**9.54**	**140**	Pn		**Pn**	**07 34 51.1**	**-0.2**
	baz=333,slow=12							
ARCES	**ARCESS Array B**	**9.54**	**140**	Pn		**Pn**	**07 34 50.8**	**-0.6**
	baz=341,slow=11,SNR=23							
ARCES				Sn		**Sn**	**07 36 32.5**	**-5.7**
	baz=343,slow=6.3,SNR=1.7							
ARCES				LR		LR	07 38 19.7	
	comp=Z,45nm,21.7s,baz=350,slow=36							
APA0	**Apatity Array**	**12.43**	**131**	Pn		**Pn**	**07 35 30.3**	**-0.5**
APA0	**Apatity Array**	**12.43**	**131**	Pn		**Pn**	**07 35 30.3**	**-0.5**
AMDE	**Amderma**	**16.27**	**90**	P		**Pn**	**07 36 15.4**	**-6.9**
	comp=Z,4.9nm,1.2s							
AMDE				S		Sn	07 39 06.6	-16
FIA0	**FINESS Array S**	**17.39**	**150**	P		**Pn**	**07 36 36.2**	**-0.1**
	baz=6.9,slow=16							
FIA0	**FINESS Array S**	**17.39**	**150**	P		**Pn**	**07 36 36.2**	**-0.1**
	baz=6.9,slow=16							
FINES	**FINESS Array B**	**17.39**	**150**	P		**Pn**	**07 36 36.0**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=353,slow=20,SNR=6.8							
FINES				LR		LR	07 43 13.0	
	comp=Z,26nm,20.5s,baz=76,slow=37							
HFS	**Hagfors**	**17.80**	**171**	P		**P**	**07 36 43.9**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=354,slow=9.0,SNR=1.7							
SFJD	**Kangerlussuaq**	**19.62**	**269**	LR		LR	07 43 55.0	
	comp=Z,40nm,21.6s,baz=50,slow=35							
PRGR	**Permogore**	**20.09**	**122**	*e*P		Pn	07 37 08.7	-0.4
	comp=Z,1.1nm,0.6s							
RES	**Resolute Bay**	**21.70**	**316**	P		**P**	**07 37 27.8**	**+3.3**
	comp=Z,1.1nm,1.0s,baz=38,slow=14,SNR=2.4							
RES				LR		LR	07 46 29.3	
	comp=Z,23nm,18.6s,baz=81,slow=38							
AKASG	**Malin Array Be**	**28.29**	**151**	LR		LR	07 50 23.3	
	comp=Z,28nm,19.7s,baz=270,slow=38							
ILAR	**Eielson Array**	**36.89**	**342**	P		**P**	**07 39 45.8**	**+3.8**
	comp=Z,0.4nm,0.9s,baz=2.9,slow=7.2,SNR=4.5							
ESDC	**Sonseca Array**	**38.52**	**195**	P		**P**	**07 39 59.3**	**+3.2**
	comp=Z,0.7nm,0.8s,baz=33,slow=9.3,SNR=1.7							
MKAR	**Makanchi Array**	**41.44**	**92**	P		**P**	**07 40 22.4**	**+2.2**
	comp=Z,0.9nm,0.9s,baz=355,slow=5.5,SNR=7.5							
MKAR				LR		LR	08 02 31.2	
	comp=Z,20nm,18.9s,baz=279,slow=43							
TORD	**Torodi Ar. Bea**	**64.69**	**187**	P		**P**	**07 43 14.0**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=5.8,slow=4.8,SNR=3.0							
TXAR	**Lajitas Array**	**65.97**	**297**	P		**P**	**07 43 22.1**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=32,slow=5.3,SNR=6.6							
ASAR	**Alice Springs**	**120.30**	**59**	PKP		**PKiKP**	**07 51 25.2**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=357,slow=1.9,SNR=2.0							

RSNC ***18*** *07:40:19.7±1.8, 6°.84N×73°.16W, h142km±7km, ML3.2, Fault plane solution: NP1:φs2.00000°, δ43.00000°, λ138.00000°.*

IDC ***18*** *07:40:21.8±3.8, 6°.77N×75°.30W, h145km±52km, mb2.9/1, mb1 3.2/2, mb1mx2.8/27, mbtmp3.4/2, Error ellipse: s-maj=112.5km s-min=44.7km az=86.0*

ISC 18 07:40:19.0±1.4, 6°.88N±0°.04×73°.3W±0°.2, h156km±8km, n28, σ0s88/20, 9C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.32**	**153**	⇑*i*P		Pn	07 40 39.2	-1.4
BARC				*e*S		Sn	07 40 53.7	-3.4
BARC				*i*			07 40 55.5	
	comp=Z,448nm,0.3s							
BRRC	**Barranca, Sant**	**0.44**	**301**	⇑*i*P		**Pn**	**07 40 41.0**	**+0.3**
BRRC				*e*S		**Sn**	**07 40 57.7**	**+0.4**
BRRC				*i*			07 41 01.9	
	comp=Z,169nm,0.1s							
PAMC	**Pamplona, Colo**	**0.77**	**54**	⇓*i*P		Pn	07 40 42.0	-1.2
PAMC				*i*			07 40 42.2	
	comp=Z,321nm,0.2s							
PAMC				*e*S		Sn	07 40 58.7	-2.9
RUSC	**La Rusia**	**1.01**	**166**	⇑*i*P		Pn	07 40 43.1	-1.9
RUSC				*i*			07 40 44.2	
	comp=Z,116nm,0.1s							
RUSC				*e*S		Sn	07 41 01.2	-3.6
PTBC	**PUERTO BERRIO,**	**1.17**	**253**	⇓*e*P		Pn	07 40 45.8	0.0
PTBC				*e*S		Sn	07 41 06.4	+0.1
PTBC				*i*			07 41 14.3	
	comp=Z,155nm,0.3s							
OCAC	**Ocana**	**1.35**	**0**	⇓*e*P		**Pn**	**07 40 47.3**	**-0.4**
OCAC				*e*S		**Sn**	**07 41 08.7**	**-1.0**
OCAC				*i*			07 41 13.3	
	comp=Z,338nm,0.2s							
SPBC	**San Pablo de B**	**1.43**	**211**	⇑*i*P		**Pn**	**07 40 48.1**	**-0.3**
SPBC				*e*S		**Sn**	**07 41 10.5**	**-0.4**
SPBC				*i*			07 41 13.5	
	comp=Z,158nm,0.5s							
TAMC	**Tame, Arauca**	**1.59**	**106**	⇑*i*P		Pn	07 40 47.5	-2.4
TAMC				*e*S		Sn	07 41 08.1	-5.6
TAMC				*i*			07 41 09.6	
	comp=Z,68nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.63**	**292**	*e*P		Pn	07 40 51.7	+1.3
ZARC				*e*S		Sn	07 41 17.0	+2.4
ZARC				*i*			07 41 22.8	
	comp=Z,188nm,0.5s							
NORC	**Norcasia**	**2.02**	**230**	*e*P		Pn	07 40 55.4	+0.7
NORC				*e*S		Sn	07 41 22.7	+0.5
NORC				*i*			07 41 28.5	
	comp=Z,128nm,0.2s							
SMLC	**San Martn de**	**2.04**	**339**	*e*P		**Pn**	**07 40 55.2**	**+0.3**
SMLC				*e*S		**Sn**	**07 41 22.6**	**-0.1**
SMLC				*i*			07 41 27.5	
	comp=Z,220nm,0.1s							
ROSC	**El Rosal**	**2.25**	**206**	P		**Pn**	**07 40 59.3**	**+1.4**
	comp=Z,15nm,0.3s,baz=336,slow=0.6,SNR=88							
ROSC				S		**Sn**	**07 41 27.5**	**-0.3**
	comp=Z,31nm,0.3s,baz=341,slow=18,SNR=11							
ROSC	**El Rosal**	**2.25**	**206**	⇑*e*P		**Pn**	**07 40 58.7**	**+0.8**
ROSC				*e*S		**Sn**	**07 41 28.2**	**+0.4**
ROSC				*i*			07 41 35.1	
	comp=Z,98nm,0.5s							
HELC	**Santa Helena**	**2.29**	**253**	*e*P		Pn	07 40 59.9	+1.7
HELC				*e*S		Sn	07 41 31.6	+3.1
HELC				*i*			07 41 38.1	
	comp=Z,72nm,0.4s							
UREC	**San Jos de Ur**	**2.35**	**292**	*e*P		Pn	07 40 59.2	+0.6
UREC				*e*S		Sn	07 41 29.4	+0.2
UREC				*i*			07 41 35.7	
	comp=Z,81nm,0.1s							
GUY2C	**Guyana, Caldas**	**2.61**	**231**	⇑*e*P		Pn	07 41 03.4	+1.2
GUY2C				*e*S		Sn	07 41 37.8	+2.3
GUY2C				*i*			07 41 45.7	
	comp=Z,81nm,0.4s							
CBOC	**Ciudad Bolivar**	**2.85**	**249**	⇓*e*P		Pn	07 41 07.0	+2.1
CBOC				*i*			07 41 08.2	
	comp=Z,31nm,0.2s							
CBOC				*e*S		Sn	07 41 41.7	+1.3
DBBC	**Dabeiba**	**2.86**	**273**	*e*P		Pn	07 41 06.9	+1.9
DBBC				*i*			07 41 51.6	
	comp=Z,116nm,0.3s							
PTGC	**Puerto Gaitan,**	**2.92**	**156**	⇑*e*P		Pn	07 41 02.3	-3.3
PTGC				*i*			07 41 02.7	
	comp=Z,99nm,0.2s							
PTGC				*e*S		Sn	07 41 35.0	-6.7
MOTC	**Monteria, Cord**	**2.98**	**309**	*e*P		Pn	07 41 06.2	-0.1
MOTC				*e*S		Sn	07 41 42.7	-0.4
MOTC				*i*			07 41 47.2	
	comp=Z,29nm,0.3s							
ARGC	**Ariguani, Magd**	**3.09**	**343**	*e*P		**Pn**	**07 41 09.4**	**+1.7**
ARGC				*e*S		**Sn**	**07 41 46.7**	**+1.0**
ARGC				*i*			07 41 54.8	
	comp=Z,25nm,0.5s							
SDV	**Santo Domingo**	**3.33**	**53**	⇓*i*P		Pn	07 41 08.8	-2.2
SDV				*i*			07 41 09.5	
	comp=Z,51nm,0.2s							
SDV				*e*S		Sn	07 41 44.8	-6.5
PRAC	**Prado**	**3.51**	**206**	*e*P		**

YNGY				P	Sn	08 23 14.0	-1.1		
TRKS	**Terek-Say**	**0.96**	**62**	⇓*i*P	Pn	08 23 07.3	-0.1		
	baz=68								
TRKS				⇓*i*S	Sn	08 23 22.8	+1.6		
	baz=68								
IUG	**Iuzhnay**	**1.06**	**1**	*e*P	Pn	08 23 10.7	+2.0		
	38nm,0.2s								
IUG				*e*S	Sn	08 23 24.9	+1.4		
	56nm,0.6s								
BTK	**Batken**	**1.20**	**149**	⇑*i*P	Pb	08 23 10.0	-0.6		
	baz=42								
BTK				⇑*i*S	Sn	08 23 27.8	+0.9		
	baz=42								
BTK	**Batken**	**1.20**	**149**	*e*P	Pg	08 23 11.0	+0.1		
BTK				*e*S	Sn	08 23 31.0	+4.1		
BRLS	**Boroldaу**	**1.95**	**356**	*e*P	Pn	08 23 20.1	-0.7		
	14nm,0.2s								
BRLS				*e*S	Sn	08 23 41.4	-3.8		
	66nm,0.5s								
KK31	**Karatay Array**	**2.05**	**10**	Pn	Pg	08 23 26.3	-0.8		
	2.0nm,0.3s,baz=198,slow=18,SNR=51								
KK31				⇑Sn	Sg	08 23 55.7	+2.0		
	13nm,0.5s,baz=189,slow=17,SNR=21								
DZA	**Taraz**	**2.06**	**28**	*e*P	Pg	08 23 28.2	+0.9		
	48nm,0.1s								
DZA				*e*S	Sg	08 23 55.5	+1.5		
	91nm,0.2s								
DRK	**Karamyk**	**2.11**	**139**	⇑*i*P	Pb	08 23 26.1	-0.2		
	baz=35								
DRK				⇑*i*S	Sg	08 23 55.2	-0.6		
	baz=35								
OHH	**Osh**	**2.19**	**104**	⇑*i*P	Pb	08 23 27.5	+0.1		
	baz=2.0								
OHH				⇑*i*S	Sg	08 23 57.8	-0.3		
	baz=2.0								
ARSB	**Arslanbob**	**2.26**	**83**	⇑*e*P	Pb	08 23 29.0	+0.3		
	baz=82								
ARSB				⇑*i*S	Sg	08 24 00.3	-0.2		
	baz=82								
MNAS	**Manas**	**2.34**	**52**	⇑*i*P	Pb	08 23 29.9	-0.1		
	baz=54								
MNAS				⇑*i*S	Sg	08 24 01.7	-1.2		
	baz=54								
SFK	**Sufi-Kurgan**	**2.88**	**111**	⇑*i*P	Pb	08 23 37.5	-1.7		
	baz=9.0								
SFK				⇑*i*S	Sb	08 24 14.4	-0.1		
	baz=9.0								
AML	**Almayashu**	**2.96**	**68**	⇑*i*P	Pb	08 23 39.1	-1.7		
	baz=68								
AML				⇑*i*S	Sb	08 24 17.2	+0.1		
	baz=68								
ARLS	**Aral**	**3.34**	**75**	⇑*i*P	Pb	08 23 44.1	-3.0		
	baz=75								
ARLS				⇑*i*S	Sb	08 24 26.3	-1.4		
	baz=75								
UCH	**Uchtor**	**3.57**	**70**	⇑*i*P	Pb	08 23 47.5	-3.7		
	baz=70								
UCH				⇑*i*S	Sb	08 24 31.8	-2.8		
	baz=70								
AAK	**Ala-Archa**	**3.70**	**64**	⇓Pg	Pg	08 23 57.9	-0.7		
	2.4nm,0.9s								
AAK				⇑Lg	Lg	08 24 52.1			
	3.9nm,0.7s								
SGDS	**Sogindy**	**4.17**	**54**	Pg	Pg	08 24 06.6	-1.1		
	1.8nm,0.5s								
SGDS				Lg	Lg	08 25 01.4			
	3.1nm,0.6s								
TKM2	**Tokmak 2**	**4.55**	**64**	⇑Pg	Pg	08 24 12.1	-2.9		
	2.6nm,0.8s								
TKM2				⇑Lg	Lg	08 25 17.7			
	2.6nm,0.6s								
DGS	**Degeres**	**4.80**	**61**	*e*P	Pg	08 24 20.2	+0.5		
	1.6nm,0.4s								
DGS				*e*S	Sg	08 25 25.7	+3.8		
	3.8nm,0.5s								
DGS	**Degeres**	**4.80**	**61**	Pg	Pg	08 24 20.2	+0.5		
	1.6nm,0.4s								
DGS				Lg	Lg	08 25 25.7			
	3.8nm,0.5s								
KST	**Kastek**	**4.85**	**64**	*e*P	Pg	08 24 21.0	+0.4		
	2.6nm,0.7s								
KST				*e*S	Sg	08 25 26.7	+3.2		
	3.9nm,0.6s								
KST	**Kastek**	**4.85**	**64**	Pg	Pg	08 24 21.0	+0.4		
	2.6nm,0.7s								
KST				Lg	Lg	08 25 26.7			
	3.9nm,0.6s								
BTLS	**Baital**	**4.94**	**36**	*e*P	Pg	08 24 21.4	-1.0		
	1.2nm,0.5s								
BTLS				*e*S	Sg	08 25 27.7	+1.3		
	3.9nm,0.5s								
BTLS	**Baital**	**4.94**	**36**	Pg	Pg	08 24 21.4	-1.0		
	1.2nm,0.5s								
BTLS				Lg	Lg	08 25 27.7			
	3.9nm,0.5s								
KRBS	**Karabastau**	**4.95**	**56**	*e*P	Pg	08 24 22.7	+0.2		
	1.7nm,0.7s								
KRBS				*e*S	Sg	08 25 28.8	+2.3		
	3.3nm,0.5s								
KRBS	**Karabastau**	**4.95**	**56**	Pg	Pg	08 24 22.7	+0.2		
	1.7nm,0.7s								
KRBS				Lg	Lg	08 25 28.8			
	3.3nm,0.5s								
IZV	**Izvestkoviy**	**5.29**	**66**	*e*P	Pg	08 24 28.3	-0.9		
	2.5nm,0.6s								
IZV				*e*S	Sg	08 25 38.3	+0.6		
	3.7nm,0.5s								
IZV	**Izvestkoviy**	**5.29**	**66**	Pg	Pg	08 24 28.3	-0.9		
	2.5nm,0.6s								
IZV				Lg	Lg	08 25 38.3			
	3.7nm,0.5s								
KUU	**Kurty**	**5.46**	**57**	*e*P	Pg	08 24 32.6	+0.3		
	1.4nm,0.1s								
KUU				*e*S	Sg	08 25 45.8	+2.7		
	2.7nm,0.7s								
KUU	**Kurty**	**5.46**	**57**	Pg	Pg	08 24 32.6	+0.3		
	1.4nm,0.1s								
KUU				Lg	Lg	08 25 45.8			
	2.7nm,0.7s								
KTBS	**Karatobe**	**5.60**	**60**	*e*P	Pg	08 24 35.1	+0.1		
	1.1nm,0.5s								
KTBS				*e*S	Sg	08 25 51.0	+3.5		
	3.1nm,0.8s								
KTBS	**Karatobe**	**5.60**	**60**	Pg	Pg	08 24 35.1	+0.1		
	1.1nm,0.5s								
KTBS				Lg	Lg	08 25 51.0			
	3.1nm,0.8s								
MDOK	**Medeo**	**5.64**	**66**	*e*P	Pg	08 24 34.6	-1.1		
	1.4nm,0.4s								
MDOK				*e*S	Sg	08 25 49.3	+0.6		
	2.7nm,0.2s								
MDOK	**Medeo**	**5.64**	**66**	Pg	Pg	08 24 34.6	-1.1		
	1.4nm,0.4s								
MDOK				Lg	Lg	08 25 49.3			
	2.7nm,0.2s								

IDC 18 08:26:31.3±3.3, 55°39N×86°34E, h0km, mb1 2.8/2, mb1mx2.8/48, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=26.1km s-min=24.5km az=22.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**212**	*i*		08 36 50.0	
	baz=29,slow=344,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.69**	**212**	Pg	Pn	08 27 01.1	-1.0
	4.8nm,0.3s,baz=34,slow=15,SNR=42						
ZALV				Lg	Lg	08 27 25.2	
	3.7nm,0.3s,baz=30,slow=27,SNR=13						
KURBB	**Kurchatov Arra**	**6.71**	**228**	Pn	Pn	08 28 11.4	+0.5
	0.1nm,0.3s,baz=44,slow=14,SNR=4.8						
KURBB				Lg	Lg	08 30 04.8	
	0.0nm,0.3s,baz=42,slow=31,SNR=3.7						
MKAR	**Makanchi Array**	**8.97**	**198**	Pn	Pn	08 28 42.1	0.0
	0.1nm,0.3s,baz=18,slow=9.5,SNR=6.5						
MKAR				Lg	Lg	08 31 16.7	
	0.1nm,0.3s,baz=11,slow=26,SNR=2.7						

*TEH **18** 08:35:18.2, 26°.90N×57°.46E, h17km, ML3.3*
*THR **18** 08:35:19.3±0.3, 26°.99N×57°.45E, h18km±5km, ML3.2*
*OMAN **18** 08:35:23.1, 26°.55N×57°.37E, h10km, ml2.4/5, Mwp4.6/3*
ISC 18 08:35:19.0±1.5, 26°.87N±0°.03×57°.45E±0°.06, h19km±4km, n24, σ1°.22/36, Southern Iran

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

KHNJ	**Kahnooj**	**1.10**	**12**	*e*Pg	Pb	08 35 38.1	-1.4		
BNDS	**Bandar-Abbas**	**1.26**	**295**	*e*Pg	Pb	08 35 41.9	-0.4		
BNDS				*e*Sg	Sg	08 35 58.4	-1.5		
BNDS				IAML		08 35 59.9			
	comp=N,544nm,0.2s								
BNDS	**Bandar-Abbas**	**1.26**	**295**	*e*Pg	Pb	08 35 41.9	-0.4		
GENO	**Geno**	**1.26**	**295**	*e*Pg	Pb	08 35 41.9	-0.3		
GENO				*e*		08 36 02.9			
	comp=Z,99nm,0.3s								
BANOM	**Banah**	**1.40**	**228**	*e*Pn	Pb	08 35 44.8	+0.3		
BANOM	**Banah**	**1.40**	**228**	P	Pg	08 35 45.0	-1.0		
	SNR=54								
BANOM				P	Pg	08 35 45.0	-1.0		
	SNR=54								
BANOM				S	Sg	08 36 05.8	+1.6		
BANOM				S	Sg	08 36 05.8	+1.6		
SHME	**Shamm**	**1.43**	**236**	*e*Pn	Pg	08 35 45.7	-0.9		
SHME	**Shamm**	**1.43**	**236**	P	Pg	08 35 45.7	-0.9		
	SNR=16								
SHME				P	Pg	08 35 45.7	-0.9		
	SNR=16								
SHME				S	Sg	08 36 07.3	+2.0		
SHME				S	Sg	08 36 07.3	+2.0		
MDH	**Madha**	**1.88**	**214**	*e*Pn	Pn	08 35 50.7	+0.6		
MDH	**Madha**	**1.88**	**214**	P	Pn	08 35 51.0	+0.9		
	SNR=9.7								
MDH				S	Sn	08 36 12.3	-0.9		
MASF	**Masafi**	**1.89**	**218**	P	Pb	08 35 51.8	-1.1		
MSFE	**Esma-Masafi**	**1.90**	**218**	*e*Pn	Pb	08 35 52.8	-0.3		
UOSS	**Minazif**	**2.22**	**211**	*e*Pn	Pn	08 35 55.5	+0.7		
HATD	**Hatta, Dubai**	**2.35**	**211**	*e*Pn	Pb	08 35 59.1	-1.8		
KBAM	**BAM**	**2.43**	**21**	*e*Pn	Pn	08 35 58.7	+0.9		
KBAM				*e*		08 36 34.0			
	comp=Z,99nm,0.4s								
NGRK	**Negar Kerman**	**2.84**	**347**	*e*Pn	Pn	08 36 04.1	+0.4		
SOHO	**SOHO**	**2.84**	**197**	*e*Pn	Pn	08 36 04.2	+0.8		
SOHO	**SOHO**	**2.84**	**197**	P	Pn	08 36 04.4	+1.0		
SOHO				P	Pn	08 36 04.4	+1.0		
SOHO				S	Sn	08 36 35.9	-1.2		
SOHO				S	Sn	08 36 35.9	-1.2		
KRBR	**Kerman**	**3.16**	**349**	*e*Pn	Pn	08 36 08.9	+0.8		
KRBR				*e*Sg	Sb	08 36 54.6	+1.5		
KRBR				IAML		08 36 59.9			
	comp=N,50nm,0.6s								
KRBR	**Kerman**	**3.16**	**349**	*e*Pn	Pn	08 36 08.9	+0.8		
TVBK	**TV Kerman**	**3.17**	**349**	*e*Pn	Pn	08 36 09.8	+1.6		
TVBK				*e*		08 37 00.7			
	comp=Z,99nm,0.3s								
KHGB	**Koh Gabri**	**3.60**	**346**	*e*Pn	Pn	08 36 14.6	+0.6		
KHGB				*e*		08 37 24.6			
	comp=Z,99nm,0.6s								
ZHSF	**Zahedan**	**4.01**	**46**	*e*Pn	Pn	08 36 21.1	+1.5		
ZHSF	**Zahedan**	**4.01**	**46**	*e*Pn	Pn	08 36 21.1	+1.5		

IDC 18 09:00:16.4±3.4, 52°.17N×35°.82E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.1/41, mbtmp3.5/3, ML2.8/3, Error ellipse: s-maj=49.0km s-min=16.8km az=133.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.98**	**8**	Lg	Lg	09 01 44.5	
	1.4nm,0.3s,baz=231,slow=2.5,SNR=1.7						
AKASG	**Malin Array Be**	**4.38**	**253**	Pn	Pn	09 01 23.4	-0.7
	0.3nm,0.3s,baz=55,slow=11,SNR=1.4						
AKASG				Sn	Sn	09 02 13.3	-2.5
	2.2nm,0.3s,baz=48,slow=25,SNR=5.1						
I43RU	**DUBNA INFRASON**	**4.63**	**10**	*i*		09 27 50.0	
	baz=192,slow=332,SNR=2.1						
FINES	**FINESS Array B**	**10.71**	**334**	Pn	Pn	09 02 46.4	-4.5
	0.1nm,0.3s,baz=146,slow=15,SNR=6.8						
FINES				Lg	Lg	09 05 48.8	
	0.2nm,0.3s,baz=144,slow=27,SNR=2.1						
I31KZ	**AKTYUBINSK INF**	**14.00**	**88**	*i*		10 25 25.0	
	baz=286,slow=316,SNR=11						
ARCES	**ARCESS Array B**	**18.08**	**348**	P	Pn	09 04 27.3	-1.4
	baz=164,slow=9.8,SNR=7.4						
YKA	**Yellowknife Ar**	**63.32**	**345**	P	P	09 10 46.3	-0.2
	0.2nm,0.6s,baz=22,slow=6.7,SNR=4.0						

IDC 18 09:06:35.8±4.2, 5°.62S×131°.10E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/34, mbtmp3.3/3, ML3.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/16, Error ellipse: s-maj=298.7km s-min=33.3km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.58**	**168**	Pn	Pn	09 10 02.8	-0.8
	0.1nm,0.3s,baz=345,slow=15,SNR=5.4						
WRA				Sn	Sn	09 12 33.4	-13
	0.2nm,0.3s,baz=352,slow=25,SNR=6.9						
ASAR	**Alice Springs**	**18.14**	**172**	P	P	09 10 49.9	0.0
	0.1nm,0.3s,baz=356,slow=12,SNR=7.0						
URZ	**Urewera**	**52.83**	**135**	LR	LR	09 39 14.2	
	comp=Z,50nm,18.3s,baz=30,slow=37						
MKAR	**Makanchi Array**	**67.69**	**326**	P	P	09 17 35.0	0.0
	0.1nm,0.4s,baz=115,slow=6.5,SNR=2.2						

*ATH **18** 09:40:06.4, 38°.10N×20°.47E, h12km±1km, ML2.4/10, Error ellipse: s-maj=1.8km s-min=0.8km az=236.0*
*THE **18** 09:40:06.5, 38°.11N×20°.48E, h13km, ML3.1/9, Error ellipse: s-maj=0.9km s-min=0.4km az=245.0*
ISC 18 09:40:06.2±1.0, 38°.11N±0°.03×20°.48E±0°.04, h16km±5km, n52, σ0°.50/70, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG2	**Argostoli**	**0.07**	**7**	P	Pg	09 40 09.1	-0.3
ARG2				S	Sg	09 40 11.3	-0.2
	36μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.09**	**86**	P	Pg	09 40 09.3	-0.2
PSDA				S	Sg	09 40 11.4	-0.3
PSDA	**Pessada-Kefalo**	**0.09**	**86**	P	Pg	09 40 09.3	-0.2
PSDA				S	Sg	09 40 11.5	-0.2
	2μm,0.1s						
VLS	**Valsamata**	**0.11**	**52**	P	Pg	09 40 09.6	-0.3
VLS				S	Sg	09 40 12.3	0.0
VLS				AML	AML	09 40 12.4	
	comp=N,27498μm,0.1s						
VLS				AML	AML	09 40 12.5	
	comp=E,72759μm,0.1s						
VLS	**Valsamata**	**0.11**	**52**	P	Pg	09 40 09.6	-0.3
VLS				S	Sg	09 40 12.2	0.0
	comp=E,27μm,0.0s						
KEF3	**Kipouria, Keph**	**0.14**	**313**	P	Pg	09 40 09.9	-0.2
KEF3				S	Sg	09 40 12.6	-0.1
KEF3	**Kipouria, Keph**	**0.14**	**313**	P	Pg	09 40 09.8	-0.3
KEF3				S	Sg	09 40 12.7	-0.1
	comp=E,18μm,0.2s						
DMLN	**Damoulianata-K**	**0.15**	**328**	P	Pg	09 40 10.2	-0.2
DMLN				S	Sg	09 40 13.3	+0.2
DMLN	**Damoulianata-K**	**0.15**	**328**	P	Pg	09 40 10.1	-0.2
DMLN				S	Sg	09 40 13.2	+0.1
	comp=E,10μm,0.2s						
KEF4	**Livadi, Kephal**	**0.16**	**345**	P	Pg	09 40 10.2	-0.2
KEF4				S	Sg	09 40 13.0	-0.1
KEF4	**Livadi, Kephal**	**0.16**	**345**	P	Pg	09 40 10.2	-0.2
KEF4				S	Sg	09 40 13.3	+0.2
	comp=E,31μm,0.1s						
KEF5	**Kardakata, Kep**	**0.17**	**358**	P	Pg	09 40 10.4	-0.2
KEF5				S	Sg	09 40 13.4	-0.1
KEF5	**Kardakata, Kep**	**0.17**	**358**	P	Pg	09 40 10.4	-0.2
KEF5				S	Sg	09 40 13.7	+0.2
	comp=E,18μm,0.2s						
VLMS	**Volimes, Zakyn**	**0.27**	**147**	P	Pg	09 40 11.9	-0.3
VLMS				S	Sg	09 40 15.5	-0.8

VLMS				AML	AML	09 40 17.0			
	comp=N,4988μm,0.2s								
VLMS				AML	AML	09 40 17.0			
	comp=E,5373μm,0.1s								
VLMS	**Volimes, Zakyn**	**0.27**	**147**	P	Pg	09 40 11.9	-0.3		
VLMS				S	Sg	09 40 16.5	+0.2		
VSK1	**VASILIKIADES**	**0.31**	**13**	P	Pg	09 40 12.8	0.0		
VSK1				S	Sg	09 40 18.0	+0.7		
	comp=E,2μm,0.1s								
FSK	**Fiskardo**	**0.36**	**11**	P	Pg	09 40 13.3	-0.4		
FSK				S	Sg	09 40 18.7	0.0		
	comp=E,850nm,0.2s								
LTHK	**Lithakia**	**0.49**	**144**	P	Pg	09 40 14.9	-1.1		
LTHK				AML	AML	09 40 28.1			
	comp=E,1165μm,0.4s								
LTHK				AML	AML	09 40 31.0			
	comp=N,1003μm,0.3s								
EVGI	**Lefkada island**	**0.53**	**15**	P	Pg	09 40 16.2	-0.6		
EVGI	**Lefkada island**	**0.53**	**15**	P	Pg	09 40 16.4	-0.4		
EVGI				S	Sb	09 40 25.1	+0.5		
VTN	**Vitineika**	**0.59**	**109**	P	Pg	09 40 17.7	-0.2		
NYDR	**Nydri-Lefkada**	**0.63**	**16**	P	Pg	09 40 17.9	-0.7		
NYDR	**Nydri-Lefkada**	**0.63**	**16**	P	Pg	09 40 17.9	-0.7		
LKD2	**Lefkada island**	**0.69**	**12**	P	Pg	09 40 18.7	-1.2		
LKD2				AML	AML	09 40 36.2			
	comp=E,881μm,0.2s								
LKD2				AML	AML	09 40 36.2			
	comp=N,634μm,0.2s								
LKD2	**Lefkada island**	**0.69**	**12**	P	Pg	09 40 19.0	-0.9		
TSLK	**Tsoukalades, L**	**0.73**	**11**	P	Pg	09 40 19.4	-1.2		
TSLK				AML	AML	09 40 38.3			
	comp=E,691μm,0.3s								
TSLK				AML	AML	09 40 39.8			
	comp=N,567μm,0.3s								
PDO	**Prodromos**	**0.74**	**48**	P	Pg	09 40 20.3	-0.5		
PDO				AML	AML	09 40 39.0			
	comp=E,772μm,0.2s								
PDO				AML	AML	09 40 40.0			
	comp=N,846μm,0.3s								
PDO	**Prodromos**	**0.74**	**48**	P	Pg	09 40 20.2	-0.5		
RLS	**Riolos of Patr**	**0.78**	**93**	P	Pg	09 40 21.5	0.0		
RLS				AML	AML	09 40 40.5			
	comp=E,288μm,0.5s								
RLS				AML	AML	09 40 43.1			
	comp=N,213μm,0.4s								
PVO	**Paravola**	**0.97**	**58**	P	Pb	09 40 24.8	+0.2		
PVO	**Paravola**	**0.97**	**58**	P	Pb	09 40 24.8	+0.2		
DRO	**Drossia**	**0.99**	**99**	P	Pb	09 40 24.7	-0.2		
DRO				AML	AML	09 40 45.7			
	comp=E,445μm,0.5s								
DRO				AML	AML	09 40 51.2			
	comp=N,456μm,0.3s								
DRO	**Drossia**	**0.99**	**99**	P	Pb	09 40 24.6	-0.3		
AMT	**Artemida-Makis**	**1.13**	**120**	P	Pg	09 40 28.3	+0.2		
EFP	**Efpalio**	**1.17**	**74**	P	Pn	09 40 27.7	-0.2		
EFP	**Efpalio**	**1.17**	**74**	P	Pn	09 40 27.7	-0.2		
LAKA	**Lakka**	**1.19**	**83**	P	Pn	09 40 28.0	-0.3		
LAKA	**Lakka**	**1.19**	**83**	P	Pn	09 40 28.2	0.0		
ANX	**Ano Chora**	**1.23**	**66**	P	Pn	09 40 29.3	+0.4		
ANX				AML	AML	09 40 53.0			
	comp=N,492μm,0.5s								
ANX				AML	AML	09 40 53.3			
	comp=E,306μm,0.6s								
SERG	**Sergoula**	**1.28**	**76**	P	Pn	09 40 29.1	-0.3		
SERG	**Sergoula**	**1.28**	**76**	P	Pn	09 40 29.5	0.0		
TRIZ	**Trizonia**	**1.28**	**78**	P	Pn	09 40 29.0	-0.4		
KLV	**Kalavryta, Ach**	**1.32**	**92**	P	Pn	09 40 30.6	+0.5		
KLV	**Kalavryta, Ach**	**1.32**	**92**	P	Pn	09 40 30.7	+0.6		
KALE	**Kalithea**	**1.34**	**77**	P	Pn	09 40 30.5	-0.8		
KALE	**Kalithea**	**1.34**	**77**	P	Pn	09 40 30.4	+0.1		
IGT	**Igoumenitsa**	**1.43**	**356**	P	Pn	09 40 30.9	-0.5		
IGT				AML	AML	09 40 58.2			
	comp=N,126μm,0.3s								
IGT				AML	AML	09 41 01.8			
	comp=E,157μm,0.6s								
ITM	**Ithomi**	**1.48**	**128**	P	Pn	09 40 33.2	+1.0		
MAKR	**Makrakomi, Fth**	**1.58**	**55**	P	Pn	09 40 34.8	+1.1		
KEK	**Kerkira**	**1.69**	**342**	P	Pn	09 40 35.5	+0.4		
KEK	**Kerkira**	**1.69**	**342**	P	Pn	09 40 35.7	+0.7		
AGG	**Agios Georgios**	**1.72**	**57**	P	Pn	09 40 36.5	+1.1		

*IDC **18** 09:47:21.4±0.6, 45°.17N×37°.42E, h0km, mb3.6/7, mb1 3.8/14, mb1mx3.6/53, mbtmp3.6/14, ML3.6/7, MS2.7/5, Ms1 2.7/5, ms1mx2.3/51, Error ellipse: s-maj=9.3km s-min=6.7km az=19.0*
*CFUSG **18** 09:47:25.1, 45°.34N×37°.63E, h35km, MD3.4/2, Sea of Azov district 5 Magtype MSH 3.0 from 4 stations*
*MOS **18** 09:47:25.9±0.0, 45°.14N×37°.53E, h54km±3km, ML3.6/11, MPVA4.1*
ISC 18 09:47:25.3±0.8, 45°.22N±0°.04×37°.55E±0°.03, h40km±10km, n114, σ1°.83/185, mb3.6/8, 29C-10D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.43**	**192**	⇑*i*Pg	Pn	09 47 36.1	+1.0
ANN				Pgm		09 47 36.2	
	comp=Z,843nm,0.3s						
ANN				*i* Sg	Sn	09 47 43.6	+1.7
ANN				Sgm		09 47 44.0	
	comp=N,4μm,0.5s						
ANN				Sgm		09 47 44.2	
	comp=E,4μm,0.3s						
ANN	**Anapa**	**0.43**	**192**	⇑*i*P	Pn	09 47 36.0	+1.0
ANN				*e*		09 47 44.6	
ANN				pmax	pmax		
	comp=Z,843nm,0.3s						
ANN				smax	smax		
	comp=E,4μm,0.5s						
ANN	**Anapa**	**0.43**	**192**	*i* Pg	Pn	09 47 35.8	+0.8
	comp=E,1μm,0.3s						
ANN				*e*Sg	Sn	09 47 43.6	+1.7
	comp=E,4μm,0.4s						
ANN				*i* AML	AML	09 47 44.6	
	comp=E,4μm,0.4s						
GL1R	**Gelendzhik**	**0.76**	**151**	⇓*e*Pg	Pn	09 47 39.6	+0.1
GL1R				*i* x	x	09 47 41.8	
GL1R				*e*Sg	Sn	09 47 50.4	+0.5
GL1R	**Gelendzhik**	**0.76**	**151**	*i* P	Pn	09 47 39.8	+0.3
GL1R				*i* S	Sn	09 47 50.4	+0.5
GL1R	**Gelendzhik**	**0.76**	**151**	*e*Pg	Pn	09 47 39.6	+0.1
GL1R				*e*Sg	Sn	09 47 50.4	+0.5
KGUR	**Krasnodar**	**1.06**	**100**	⇓*e*P	Pn	09 47 46.7	+3.0
KGUR				*e*S	Sn	09 48 02.4	+5.2
KGUR	**Krasnodar**	**1.06**	**100**	⇓*e*P	Pn	09 47 46.7	+3.0
KGUR				*e*		09 48 02.4	
KGUR	**Krasnodar**	**1.06**	**100**	*e*Pg	Pn	09 47 46.5	+2.8
KGUR				*e*Sg	Sn	09 47 59.3	+2.0
FEO	**Feodosiya**	**1.54**	**263**	*ex*	Pn	09 47 52.8	+2.6
FEO				*e*S	Sn	09 48 12.1	+3.1
FEO				S		09 48 13.0	
	comp=E,76nm,0.3s						
FEO				S		09 48 16.4	
	comp=N,149nm,

SUDU				*e*S	**Sn**	**09 48 18.6**	**+2.2**
SUDU				Sm		09 48 19.3	
	comp=N,77nm,0.5s						
SUDU				Sm		09 48 20.6	
	comp=E,105nm,0.4s						
SUDU	**Sudak**	**1.84**	**261**	*i* P	**Pn**	**09 47 55.9**	**+1.6**
SUDU				*e*S	**Sn**	**09 48 18.6**	**+2.2**
SUDU				pmax	pmax		
	comp=Z,12nm,0.2s						
SUDU				smax	smax		
	comp=N,77nm,0.5s						
SUDU				smax	smax		
	comp=E,105nm,0.4s						
SUDU	**Sudak**	**1.84**	**261**	*i* Pg	**Pn**	**09 47 55.9**	**+1.6**
SUDU				*e*Sg	**Sn**	**09 48 18.5**	**+2.2**
ERBR	**Yeremizino-Bor**	**2.12**	**75**	*e*P	**Pn**	**09 47 58.9**	**+0.7**
ERBR				*e*S	Sn	09 48 33.0	+10
ERBR	**Yeremizino-Bor**	**2.12**	**75**	*e*Pg	**Pn**	**09 47 59.0**	**+0.7**
ERBR				*e*Sg	**Sn**	**09 48 25.1**	**+1.8**
GUZR	**Guzeripl'**	**2.20**	**123**	*i* P	**Pn**	**09 48 00.5**	**+1.1**
GUZR				*e*S	**Sn**	**09 48 26.4**	**+1.0**
GUZR	**Guzeripl'**	**2.20**	**123**	*i* Pg	**Pn**	**09 48 00.4**	**+1.0**
	comp=E,19nm,0.3s						
GUZR				*e*Sg	**Sn**	**09 48 26.4**	**+1.0**
	comp=E,199nm,0.2s						
GUZR				*i* AML	AML	09 48 27.4	
	comp=E,184nm,0.3s						
SOC	**Sochi**	**2.25**	**136**	*e*P	**Pn**	**09 48 01.2**	**+1.2**
SOC	**Sochi**	**2.25**	**136**	*e*P	**Pn**	**09 48 01.6**	**+1.6**
SOC				*e*S	**Sn**	**09 48 26.8**	**+0.3**
SOC	**Sochi**	**2.25**	**136**	*e*Pg	**Pn**	**09 48 02.2**	**+2.2**
	comp=E,18nm,0.6s						
SOC				*e*Sg	**Sn**	**09 48 26.9**	**+0.3**
	comp=E,278nm,0.2s						
SOC				*i* AML	AML	09 48 30.1	
	comp=E,262nm,0.2s						
ALU	**Alushta**	**2.30**	**258**	*ex*	**Sn**	**09 48 20.6**	**-7.1**
ALU				Sm		09 48 23.2	
	comp=E,76nm,0.5s						
ALU				Sm		09 48 27.0	
	comp=N,102nm,0.4s						
LABN	**Labinsk**	**2.33**	**103**	*i* P	**Pn**	**09 48 05.6**	**+4.6**
LABN				*e*S	**Sn**	**09 48 33.0**	**+4.7**
LABN	**Labinsk**	**2.33**	**103**	*e*Pn	**Pn**	**09 48 03.5**	**+2.5**
LABN				*e*Sn	**Sn**	**09 48 28.9**	**+0.5**
LABN				*i* AML	AML	09 48 38.9	
	comp=N,401nm,0.3s						
SIM	**Simferopol'**	**2.45**	**265**	*ex*	**Pn**	**09 48 05.7**	**+3.0**
SIM				*e*S	**Sn**	**09 48 32.8**	**+1.4**
SIM				Sm		09 48 34.0	
	comp=N,70nm,0.7s						
SIM				Sm		09 48 34.1	
	comp=E,164nm,0.9s						
SIM	**Simferopol'**	**2.45**	**265**	*e*P	**Pn**	**09 48 05.7**	**+3.0**
SIM				*e*S	**Sn**	**09 48 32.8**	**+1.4**
SIM				smax	smax		
	comp=N,70nm,0.7s						
SIM				smax	smax		
	comp=E,164nm,1.0s						
RPOR	**Krasnaya Polya**	**2.47**	**127**	*i* P	**Pn**	**09 48 04.5**	**+1.5**
RPOR				*e*S	**Sn**	**09 48 31.6**	**-0.3**
RPOR	**Krasnaya Polya**	**2.47**	**127**	*e*Pn	**Pn**	**09 48 04.3**	**+1.3**
	comp=E,11nm,0.3s						
RPOR				*e*Sn	**Sn**	**09 48 33.1**	**+1.2**
RPOR				*i* AML	AML	09 48 34.6	
	comp=E,184nm,0.3s						
VSLR	**Vesyoloye**	**2.50**	**134**	*i* P	**Pn**	**09 48 04.6**	**+1.2**
VSLR				*i* S	**Sn**	**09 48 32.6**	**-0.1**
VSLR	**Vesyoloye**	**2.50**	**134**	*i* Pn	**Pn**	**09 48 04.6**	**+1.2**
VSLR				*e*Sn	**Sn**	**09 48 33.2**	**+0.5**
YAL	**Yalta**	**2.52**	**254**⇑	*e*P	**Pn**	**09 48 04.4**	**+0.7**
YAL				*i* S	**Sn**	**09 48 33.7**	**+0.5**
YAL	**Yalta**	**2.52**	**254**⇑	*e*P	**Pn**	**09 48 04.4**	**+0.7**
YAL				*i* S	**Sn**	**09 48 33.7**	**+0.5**
YAL	**Yalta**	**2.52**	**254**	*e*Pn	**Pn**	**09 48 04.4**	**+0.7**
YAL				*e*Sn	**Sn**	**09 48 33.6**	**+0.4**
AHMR	**Akhmetovskaya**	**2.71**	**112**	*e*Pn	**Pn**	**09 48 08.4**	**+2.2**
AHMR				*e*Sn	**Sn**	**09 48 39.0**	**+1.2**
SEV	**Sevastopol'**	**2.84**	**258**⇑	*e*P	**Pn**	**09 48 08.6**	**+0.5**
SEV				Pm		09 48 10.3	
	comp=Z,8.0nm,0.2s						
SEV				*ex*	x	09 48 41.2	
SEV				*e*S	**Sn**	**09 48 42.1**	**+1.1**
SEV				Sm		09 48 42.9	
	comp=E,40nm,0.3s						
SEV				Sm		09 48 43.1	
	comp=N,55nm,0.4s						
SEV	**Sevastopol'**	**2.84**	**258**⇑	*e*P	**Pn**	**09 48 09.0**	**+0.9**
SEV				*e*S	**Sn**	**09 48 41.2**	**+0.2**
SEV				*e*S		09 48 42.1	
SEV				pmax	pmax		
	comp=Z,8.0nm,0.3s						
SEV				smax	smax		
	comp=E,4.0nm,0.3s						
SEV				smax	smax		
	comp=N,55nm,0.4s						
SEV	**Sevastopol'**	**2.84**	**258**	*e*Pn	**Pn**	**09 48 08.6**	**+0.5**
SEV				*e*Sn	**Sn**	**09 48 41.8**	**+0.8**
ARXR	**Arkhyz**	**3.14**	**121**	*e*P	**Pn**	**09 48 13.9**	**+1.6**
ARXR				*e*S	**Sn**	**09 48 49.5**	**+0.8**
ARXR	**Arkhyz**	**3.14**	**121**	*e*Pn	**Pn**	**09 48 14.1**	**+1.8**
ARXR				*e*Sn	**Sn**	**09 48 49.7**	**+1.0**
ARXR				*i* AML	AML	09 48 51.2	
	comp=N,214nm,0.3s						
NVNR	**Nevinnomyssk**	**3.19**	**99**	*e*P	**Pn**	**09 48 14.0**	**+1.1**
NVNR				*e*S	**Sn**	**09 48 50.1**	**+0.4**
NVNR	**Nevinnomyssk**	**3.19**	**99**	*e*Pn	**Pn**	**09 48 14.7**	**+1.8**
NVNR				*e*Sn	**Sn**	**09 48 49.4**	**-0.3**
KIV	**Kislovodsk**	**3.88**	**107**	*e*P	**Pn**	**09 48 22.4**	**0.0**
KIV				*e*S	**Sn**	**09 49 07.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,21nm,0.9s						
KIV	**Kislovodsk**	**3.88**	**107**	*e*Pn	**Pn**	**09 48 24.6**	**+2.1**
KIV				*e*Sn	**Sn**	**09 49 07.0**	**+0.2**
KVAR	**Kislovodsk Arr**	**3.88**	**107**	Pn	**Pn**	**09 48 24.0**	**+1.5**
	baz=58,slow=14,SNR=2.1						
KVAR				Pg		09 48 33.8	
	baz=273,slow=21,SNR=2.9						
KVAR				Sn	**Sn**	**09 49 07.2**	**+0.3**
	baz=257,slow=22,SNR=4.1						
KVAR				Lg	Lg	09 49 22.8	
	baz=71,slow=8.4,SNR=5.1						
GOF	**Gofitskoye**	**3.89**	**90**	*e*P	**Pn**	**09 48 23.3**	**+0.8**
GOF				*e*S	**Sn**	**09 49 07.4**	**+0.5**
GOF	**Gofitskoye**	**3.89**	**90**	*e*Pn	**Pn**	**09 48 23.2**	**+0.8**
GOF				*e*Sn	**Sn**	**09 49 07.3**	**+0.5**
DIKM	**Dikmen**	**3.94**	**206**	⇑P	**Pn**	**09 48 25.0**	**+1.8**
DIKM				⇑S	**Sn**	**09 49 07.4**	**-0.7**
SHA1	**Shidzhatmaz**	**3.94**	**110**	*i* P	**Pn**	**09 48 24.7**	**+1.3**
SHA1				*e*S	**Sn**	**09 49 09.8**	**+1.3**
SHA1	**Shidzhatmaz**	**3.94**	**110**	*i* Pn	**Pn**	**09 48 24.7**	**+1.3**
SHA1				*e*Sn	**Sn**	**09 49 08.7**	**+0.1**
SHA1				*i* AML	AML	09 49 22.0	
	comp=E,97nm,0.4s						
BEYR	**Belyy Ugol+**	**3.95**	**106**	*e*P	**Pn**	**09 48 24.6**	**+1.2**
BEYR				*e*S	**Sn**	**09 49 08.7**	**+0.3**
BEYR	**Belyy Ugol+**	**3.95**	**106**	*e*Pn	**Pn**	**09 48 24.6**	**+1.2**
BEYR				*e*Sn	**Sn**	**09 49 08.7**	**+0.3**
KBZ	**Khabaz**	**4.11**	**109**	Pn	**Pn**	**09 48 27.3**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=284,slow=9.9,SNR=24						
KBZ				Pg		09 48 36.4	
	comp=Z,1.7nm,0.3s,baz=359,slow=9.1,SNR=16						
KBZ				Lg	Lg	09 49 26.9	
	comp=Z,5.3nm,0.3s,baz=130,slow=9.0,SNR=4.9						
KBZ	**Khabaz**	**4.11**	**109**	*e*P	**Pn**	**09 48 27.8**	**+2.4**
KBZ				*e*S	**Sn**	**09 49 13.6**	**+1.4**
KBZ	**Khabaz**	**4.11**	**109**	*e*Pn	**Pn**	**09 48 27.1**	**+1.6**
KBZ				*e*Sn	**Sn**	**09 49 12.7**	**+0.6**
BZK	**Bozkurt**	**4.15**	**220**	⇑S	**Sn**	**09 49 13.3**	**0.0**
NEY	**Neytrino**	**4.20**	**116**	*e*P	**Pn**	**09 48 29.9**	**+2.9**
NEY				*e*S	**Sn**	**09 49 15.1**	**+0.2**
NEY	**Neytrino**	**4.20**	**116**	*e*Pn	**Pn**	**09 48 28.9**	**+1.9**
NEY				*e*Sn	**Sn**	**09 49 15.0**	**+0.1**
NEY				*i* AML	AML	09 49 24.1	
	comp=E,26nm,0.5s						
KBTC	**Kuba-Taba**	**4.42**	**106**	*e*P	**Pn**	**09 48 30.6**	**+0.8**
KBTC				*e*S	**Sn**	**09 49 21.3**	**+1.3**
KBTC	**Kuba-Taba**	**4.42**	**106**	*e*Pn	**Pn**	**09 48 30.6**	**+0.8**
KBTC				*e*Sn	**Sn**	**09 49 21.3**	**+1.3**
DIGR	**Digorskoe uzhe**	**4.92**	**116**	*e*P	**Pn**	**09 48 38.8**	**+1.9**
DIGR				*e*S	**Sn**	**09 49 31.7**	**-1.0**
DIGR	**Digorskoe uzhe**	**4.92**	**116**	*e*Pn	**Pn**	**09 48 38.8**	**+1.9**
DIGR				*e*Sn	**Sn**	**09 49 31.7**	**-1.0**
ONI	**Oni**	**5.01**	**120**	*e*P	**Pn**	**09 48 40.1**	**+2.2**
ONI				*e*S	**Sn**	**09 49 32.5**	**-2.0**
ONI	**Oni**	**5.01**	**120**	*e*Pn	**Pn**	**09 48 39.9**	**+2.0**
ONI				*e*Sn	**Sn**	**09 49 34.0**	**-0.6**
LACR	**Lac**	**5.42**	**114**	*e*Pn	**Pn**	**09 48 45.0**	**+1.4**
LACR				*e*Sn	**Sn**	**09 49 45.3**	**+0.6**
TLCR		**6.17**	**273**	⇑P	**Pn**	**09 48 54.8**	**+1.0**
TLCR				⇑S	**Sn**	**09 50 03.3**	**+0.2**
BRTR	**Keskin Array B**	**6.20**	**209**	Pn	**Pn**	**09 48 55.0**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=26,slow=11,SNR=20						
BRTR				Pg		09 49 05.0	
	comp=Z,0.6nm,0.3s,baz=25,slow=14,SNR=9.5						
BRTR				Sn	**Sn**	**09 50 04.4**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=9.9,slow=18,SNR=5.6						
TPGR	**Topolog**	**6.48**	**270**	⇑P	**Pn**	**09 48 58.4**	**+0.3**
TPGR				⇓S	**Sn**	**09 50 10.6**	**-0.1**
TIRR	**Tirgusor**	**6.54**	**267**	⇑P	**Pn**	**09 48 59.9**	**+1.0**
TLBR	**Topalu**	**6.79**	**268**	⇑S	**Sn**	**09 50 20.0**	**+1.8**
KALB	**Balgarevo**	**6.80**	**258**	⇑S	**Sn**	**09 50 18.5**	**0.0**
GNI	**Garni**	**7.33**	**131**	LR	LR	09 52 38.0	
	comp=Z,39nm,19.6s,baz=338,slow=43						
MAK	**Makhachkala**	**7.51**	**104**	*e*P	**Pn**	**09 49 10.6**	**-1.6**
VRI	**Vrincioaia**	**7.63**	**279**	⇑P	**Pn**	**09 49 15.0**	**+1.2**
TESR	**Tescani**	**7.72**	**284**	⇑P	**Pn**	**09 49 16.0**	**+0.9**
TESR				⇓S	**Sn**	**09 50 41.3**	**+0.1**
AKASG	**Malin Array Be**	**7.83**	**317**	Pn	**Pn**	**09 49 16.6**	**+0.1**
	comp=Z,6.1nm,0.3s,baz=165,slow=18,SNR=11						
AKASG				Sn	**Sn**	**09 50 39.7**	**-4.0**
	comp=Z,3.2nm,0.3s,baz=129,slow=24,SNR=5.2						
AKASG				Lg	Lg	09 51 28.4	
	comp=Z,2.4nm,0.3s,baz=131,slow=29,SNR=5.2						
MLR	**Muntele Rosu**	**8.18**	**276**	Pn	**Pn**	**09 49 21.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=120,slow=16,SNR=1.8						
MLR				Sn	**Sn**	**09 50 51.3**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=194,slow=20,SNR=8.1						
MLR	**Muntele Rosu**	**8.18**	**276**	⇑S	**Sn**	**09 50 52.7**	**0.0**
DOPR	**Dopca**	**8.56**	**279**	⇑P	**Pn**	**09 49 27.3**	**+0.6**
VOIR		**8.81**	**276**	⇑P	**Pn**	**09 49 31.5**	**+1.4**
VOIR				⇑S	**Sn**	**09 51 08.3**	**+0.1**
BURAR	**Bucovina Array**	**8.85**	**290**	⇓P	**Pn**	**09 49 31.2**	**+0.5**
BELG	**Belogornoye**	**9.78**	**39**	Pn	**Pn**	**09 49 40.6**	**-2.6**
	comp=Z,1.6nm,0.3s,baz=256,slow=3.6,SNR=2.2						
BELG				Sn	**Sn**	**09 51 24.1**	**-7.4**
	comp=Z,0.7nm,0.3s,baz=282,slow=18,SNR=3.7						
BELG	**Belogornoye**	**9.78**	**39**⇑	*e*P	**Pn**	**09 49 41.8**	**-1.3**
OBN	**Obninsk**	**9.93**	**357**⇑	*e*P	**Pn**	**09 49 45.1**	**-0.1**
OBN				*e*S	**Sn**	**09 51 35.2**	**0.0**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MNK	**Minsk**	**11.18**	**330**	*i* P	**Pn**	**09 50 02.4**	**+0.1**
	comp=E,2.0nm,1.0s						
MNK				*i* P	**Pn**	**09 50 02.4**	**+0.1**
	comp=N,19nm,1.0s						
MNK				*i* P	**Pn**	**09 50 02.4**	**+0.1**
	comp=E,6.0nm,1.0s						
MNK				*i* S	**Sn**	**09 52 08.9**	**+3.0**
NACGM	**Naroch**	**11.90**	**328**	*i* P	Pn	09 50 20.0	+7.9
NACGM				*i* P	Pn	09 50 20.0	+7.9
NACGM				*i* P	Pn	09 50 20.0	+7.9
NACGM				*i* S	Sn	09 52 39.8	+16
NACGM				*i* LQ	LQ	09 53 50.6	
NACGM				*i* LR	LR	09 54 17.1	
AKTO	**Aktyubinsk**	**14.69**	**62**	Pn	**Pn**	**09 50 47.4**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=250,slow=15,SNR=2.0						
KIRV	**Kirov**	**15.22**	**24**⇓	*e*P	**Pn**	**09 50 55.7**	**-1.4**
KLMR	**Klimovskoe**	**15.71**	**4**	*e*P	**Pn**	**09 50 58.6**	**-4.8**
KLMR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KLMR	**Klimovskoe**	**15.71**	**4**	*e*Pn	**Pn**	**09 50 58.7**	**-4.7**
KLMR				AMP		09 51 07.5	
	comp=Z,6.0nm,0.6s						
KHC	**Kasperske Hory**	**16.74**	**292**⇑	*e*P	**P**	**09 51 18.6**	**+0.1**
KHC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARU	**Arti**	**17.30**	**42***c*	*i* P	**Pn**	**09 51 22.4**	**-1.1**
ARU				S	**Sn**	**09 54 34.8**	**+0.1**
ARU				pmax	pmax		
	comp=Z,12nm,2.6s						
FINES	**FINESS Array B**	**17.59**	**342**	P	**Pn**	**09 51 23.1**	**-4.0**
	comp=Z,0.4nm,0.3s,baz=149,slow=12,SNR=10.0						
FINES				LR	LR	09 58 55.9	
	comp=Z,33nm,20.7s,baz=43,slow=39						
FINES	**FINESS Array B**	**17.59**	**342**	*i* P	**Pn**	**09 51 23.1**	**-4.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DAVOX	**Davos/Dischmat**	**19.25**	**285**	P	**Pn**	**09 51 47.4**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=116,slow=7.5,SNR=6.1						
DAVOX				LR	LR	10 00 24.9	
	comp=Z,17nm,18.1s,baz=81,slow=41						
HFS	**Hagfors**	**20.62**	**325**	P	**P**	**09 52 01.0**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=121,slow=11,SNR=13						
HFS	**Hagfors**	**20.62**	**325**	P	**P**	**09 52 01.0**	**+0.2**
NB2	**NORSAR Subarra**	**22.14**	**325**	P	**P**	**09 52 16.3**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=123,slow=11						
NOA	**NORSAR Array B**	**22.14**	**325**	P	**P**	**09 52 17.6**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=122,slow=10,SNR=12						
NOA				LR	LR	10 01 05.5	
	comp=Z,11nm,21.3s,baz=25,slow=37						
BRVK	**Borovoye**	**22.65**	**58**⇓	*e*P	**P**	**09 52 22.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**22.70**	**58**	P	**P**	**09 52 25.1**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=150,slow=29,SNR=5.7						
ARCES	**ARCESS Array B**	**25.13**	**350**	P	**P**	**09 52 47.0**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=166,slow=9.6,SNR=11						
AAK	**Ala-Archa**	**26.58**	**82**⇑	*e*P	**P**	**09 53 00.9**	**+1.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**30.80**	**71**⇑	*e*P	**P**	**09 53 37.3**	**+0.3**
MKAR	**Makanchi Array**	**30.80**	**71**	P	**P**	**09 53 38.4**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=269,slow=8.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**44.12**	**235**	P	**P**	**09 55 30.9**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=39,slow=9.1,SNR=2.3						
KMBO	**Kilima Mbogo**	**46.15**	**180**	*i* P	**P**	**09 55 43.7**	**-2.3**
YKA	**Yellowknife Ar**	**70.34**	**347**	P	**P**	**09 58 36.1**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=22,slow=6.2,SNR=8.1						
TKL	**Tuckaleechee C**	**83.61**	**316**	LR	LR	10 37 26.0	
	comp=Z,15nm,20.5s,baz=181,slow=36						

KRSC 18 09:53:40.0±1.5, 50.15N×159.05E, h63km±35km, ML3.8,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.77**	**340**	*e*P		Pn		09 54 10.8	+2.5
KDTR				*e*S		Sn		09 54 32.2	+2.4
PAU	**Pauzhetka**	**1.94**	**314**	*e*P		Pn		09 54 13.4	+2.8
PAU				*e*S		Sn		09 54 36.8	+3.0
SKR	**Severo-Kuril's**	**1.95**	**287**	*e*P		Pn		09 54 12.5	+1.8
SKR				*e*S		Sn		09 54 35.1	+0.9
RUS	**Russkaya**	**2.31**	**352**	*e*P		Pn		09 54 18.1	+2.5
RUS				*e*S		Sn		09 54 44.8	+1.9
ALID	**Alaid**	**2.35**	**289**	*e*P		Pn		09 54 18.7	+2.4
ASAK	**Asacha**	**2.35**	**343**	*e*P		Pn		09 54 19.1	+2.9
ASAK				*e*S		Sn		09 54 46.7	+2.7
MTVR	**Mutnovka**	**2.40**	**347**	*e*P		Pn		09 54 19.7	+2.7
MTVR				*e*S		Sn		09 54 48.1	+2.9
GRL	**Gorelyy**	**2.48**	**346**	*e*P		Pn		09 54 21.4	+3.3
GRL				*e*S		Sn		09 54 50.6	+3.4
KRMR	**Karymshinskiy**	**2.74**	**348**	*e*P		Pn		09 54 25.6	+4.1
KRMR				*e*S		Sn		09 54 58.0	+4.6
PET	**Petropavlovsk**	**2.88**	**355**	*e*P		Pn		09 54 26.6	+3.1
PET				*e*S		Sn		09 54 59.9	+3.0
DALK	**Dalny**	**2.89**	**356**	*e*P		Pn		09 54 26.1	+2.6
DALK				*e*S		Sn		09 54 58.6	+1.6
SPN	**Mys Shipunski**	**3.01**	**11**	*e*P		Pn		09 54 27.7	+2.5
SPN				*e*S		Sn		09 55 02.0	+2.0
NLC	**Nalytchevo**	**3.03**	**3**	*e*P		Pn		09 54 27.2	+1.8
UGLR	**Uglovaya**	**3.06**	**357**	*e*P		Pn		09 54 28.9	+2.9
SMAR	**Somma**	**3.12**	**357**	*e*P		Pn		09 54 29.7	+2.8
AVH	**Avacha**	**3.12**	**357**	*e*P		Pn		09 54 29.9	+3.1
SDLR	**Sedlovina**	**3.13**	**358**	*e*P		Pn		09 54 29.2	+2.2
KOK	**Koryaka**	**3.15**	**355**	*e*P		Pn		09 54 30.4	+3.2
KRER	**Koryakskii**	**3.16**	**357**	*e*P		Pn		09 54 30.4	+3.0
KRX	**Arik**	**3.22**	**356**	*e*P		Pn		09 54 31.0	+2.8
GNL	**Ganaly**	**3.61**	**349**	*e*P		Pn		09 54 37.2	+3.7
KII	**Karymskiy**	**3.90**	**3**	*e*P		Pn		09 54 40.8	+3.4
MKZ	**Mys Kozlova**	**4.71**	**19**	*e*P		Pn		09 54 50.2	+1.9
KZV	**Kizimen**	**5.03**	**8**	*e*P		Pn		09 54 56.0	+3.1
TUMD	**Tumrok D**	**5.12**	**9**	*e*P		Pn		09 54 57.6	+3.5
TUMR	**Tumrok**	**5.18**	**7**	*e*P		Pn		09 54 59.2	+4.2

MAN 18 10:00:25.6, 8.30N×125.93E, h8km, mb4.9, ML3.8, MS3.8,
Mindanao

*IDC **18** 10:02:22.1±1.1, 7.57S×121.10E, h563km±15km, mb2.7/3, mb1 2.9/7, mb1mx2.6/34, mbtmp3.7/7, Error ellipse: s-maj=114.3km s-min=16.7km az=53.0*

ISC 18 10:02:21.5±1.1, 7.38S±0.4×120.38E±0.6, h550km, n7,
σ1§23/8, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.94**	**340**	P		**P**	**P**	**10 03 37.6**	**+1.3**
	1.8nm,0.3s,baz=140,slow=7.9,SNR=6.5								
BATI	**Baumata**	**3.74**	**130**	P		**P**	**P**	**10 03 42.3**	**+0.7**
	14nm,0.3s,baz=312,slow=3.0,SNR=5.5								
FITZ	**Fitzroy Crossi**	**11.29**	**156**	P		**P**	**P**	**10 04 54.0**	**+1.2**
	0.1nm,0.3s,baz=347,slow=9.0,SNR=6.7								
WRA	**Warramunga Arr**	**17.86**	**134**	P		**P**	**P**	**10 05 57.0**	**-1.3**
	0.1nm,0.3s,baz=314,slow=10,SNR=10								
ASAR	**Alice Springs**	**20.20**	**143**	P		**P**	**P**	**10 06 19.2**	**-0.3**
	0.3nm,0.4s,baz=318,slow=8.2,SNR=16								
ASAR				PcP		**PcP**	**PcP**	**10 10 07.1**	**-1.5**
	0.2nm,0.3s,baz=335,slow=1.2,SNR=7.2								
STKA	**Stephens Creek**	**30.83**	**144**	P		**P**	**P**	**10 07 53.0**	**-0.1**
	1.1nm,0.4s,baz=312,slow=8.8,SNR=7.4								
CMAR	**Chiang Mai Arr**	**33.82**	**321**	P		**P**	**P**	**10 08 18.7**	**0.0**
	0.7nm,0.5s,baz=152,slow=6.8,SNR=1.5								

*NNC **18** 10:06:19.2±1.9, 41.88N×83.78E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=15.3km s-min=9.6km az=158.0*
*SOME **18** 10:06:20.7, 42.08N×83.72E, h10km*

ISC 18 10:06:20.3±2.1, 41.70N±0.09×83.55E±0.07, h10km, n36,
σ2§57/58, 8C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.93**	**307**	*e*P		**Pg**		**10 07 13.8**	**-2.7**
	17nm,0.4s								
KTMS				*e*S		**Sg**		**10 07 51.9**	**-2.6**
	44nm,0.3s								
KTMS	**Ketmen**	**2.93**	**307**	Pg		**Pb**		**10 07 13.2**	**+0.5**
	17nm,0.4s								
KTMS				Lg		Lg		10 07 51.9	
	44nm,0.3s								
SHLS	**Shalkode**	**3.36**	**297**	*e*P		**Pb**		**10 07 18.2**	**-1.8**
	34nm,0.6s								
SHLS				*e*S		**Sb**		**10 07 59.4**	**-1.4**
	90nm,0.7s								
SHLS	**Shalkode**	**3.36**	**297**	Pg		**Pb**		**10 07 18.2**	**-1.8**
	34nm,0.6s								
SHLS				Lg		Lg		10 07 59.4	
	90nm,0.7s								
PDGK	**Podgornoye**	**3.41**	**300**	⇓Pn		**Pn**		**10 07 13.3**	**-0.3**
	2.1nm,0.7s								
PDGK				⇓Pg		**Pg**		**10 07 23.3**	**-2.3**
	5.7nm,0.5s								
PDGK				⇑Lg		Lg		10 08 07.7	
	57nm,0.9s								
UZB	**Uzynbulak**	**3.65**	**295**	*e*P		**Pg**		**10 07 27.7**	**-2.4**
	10nm,0.5s								
UZB				*e*S		**Sg**		**10 08 15.9**	**-1.5**
	30nm,0.5s								
UZB	**Uzynbulak**	**3.65**	**295**	Pg		**Pg**		**10 07 27.7**	**-2.4**
	10nm,0.5s								
UZB				Lg		Lg		10 08 15.9	
	30nm,0.5s								
DJR	**Jarkent**	**3.81**	**315**	*e*P		**Pg**		**10 07 30.8**	**-2.4**
	5.3nm,0.4s								
DJR				*e*S		**Sg**		**10 08 21.1**	**-1.4**
	17nm,0.5s								
DJR	**Jarkent**	**3.81**	**315**	Pg		**Pg**		**10 07 32.4**	**-0.8**
	9.5nm,0.5s								
DJR				Lg		Lg		10 08 24.5	
	17nm,0.5s								
KPKS	**Kokpek**	**4.00**	**298**	*e*P		**Pg**		**10 07 33.3**	**-3.6**
	12nm,0.2s						

	7.7nm,0.4s								
ZSN					Lg	Lg	10 09 15.3		
	16nm,0.7s								
DGS	**Degeres**	**5.95**	**288**	*e*P	**Pg**		**10 08 12.2**	**-2.0**	
	2.1nm,0.3s								
DGS				*e*S	**Sg**		**10 09 32.1**	**+0.7**	
	5.7nm,0.5s								
TKM2	**Tokmak 2**	**6.02**	**284**	⇑Pn	**Pn**		**10 07 49.9**	**+0.3**	
	2.7nm,0.4s								
TKM2				⇑Sn	**Sn**		**10 09 04.3**	**+5.7**	
	3.1nm,0.6s								
TKM2				⇓Lg	Lg		10 09 35.5		
	7.3nm,1.0s								
AAK	**Ala-Archa**	**6.79**	**281**	⇑Pn	**Pn**		**10 08 02.7**	**+2.5**	
	3.0nm,1.1s								
AAK				⇓Lg	Lg		10 09 57.9		
	5.1nm,0.8s								
KURBB	**Kurchatov Arra**	**9.57**	**340**	⇑Lg	Lg		10 11 19.9		
	8.7nm,0.7s								

*IDC **18** 10:20:01.7±3.3,6.°09S×103.°71E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.5/54,mbtmp3.7/6,Error ellipse: s-maj=115.4km s-min=29.8km az=52.0*

*DJA **18** 10:20:06.4±0.7,6.°5S×10.°4E±.°,h10km,M3.5/5,MLv3.5/5*

ISC 18 10:20:07.0±1.2,6.°2S±0.°1×103.°73E±0.°09,h38km,n12, σ1§13/14,mb3.7/6,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.01**	**49**	P	**Pn**	**10 20 24.9**	**+0.3**
KASI				S	**Sn**	**10 20 35.8**	**-1.8**
LWLI	**Liwa**	**1.21**	**16**	P	**Pn**	**10 20 28.5**	**+1.0**
LWLI				S	**Sn**	**10 20 44.0**	**+1.3**
KLSI		**1.79**	**34**	P	**Pn**	**10 20 37.0**	**+1.6**
MNAI	**Manna**	**1.97**	**337**	P	**Pn**	**10 20 39.0**	**+1.1**
TNG	**Tangerang**	**2.90**	**90**	P	**Pn**	**10 20 52.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**24.94**	**349**	P	**P**	**10 25 26.2**	**-0.7**
	1.1nm,0.5s,baz=177,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**32.72**	**118**	P	**P**	**10 26 36.5**	**+0.2**
	0.4nm,0.7s,baz=304,slow=9.0,SNR=2.0						
SONM	**Songino Array**	**53.84**	**2**	P	**P**	**10 29 25.7**	**-0.5**
	0.7nm,0.8s,baz=170,slow=8.8,SNR=4.4						
MKAR	**Makanchi Array**	**56.08**	**342**	P	**P**	**10 29 41.6**	**-0.7**
	0.4nm,0.5s,baz=148,slow=8.3,SNR=5.9						
USRK	**Ussuriysk Ar.**	**56.25**	**24**	P	**P**	**10 29 43.2**	**-0.3**
	0.7nm,0.5s,baz=206,slow=5.4,SNR=2.5						
ZALV	**Zalesovo Beam**	**61.99**	**347**	P	**P**	**10 30 22.6**	**-0.6**
	0.8nm,0.4s,baz=160,slow=4.9,SNR=4.0						
TXAR	**Lajitas Array**	**145.38**	**45**	PKPbc	**PKPab**	**10 39 42.4**	**+0.5**
	0.2nm,0.8s,baz=9.7,slow=2.3,SNR=4.6						

*IDC **18** 10:22:57.6±2.6,17.°29N×83.°61W,h0km,mb3.5/5, mb1 3.9/7,mb1mx3.7/38,mbtmp3.7/7,ML4.0/2,MS2.7/1, Ms1 2.7/1,ms1mx2.1/31,Error ellipse: s-maj=50.3km s-min=42.7km az=173.0*

ISC 18 10:23:02.1±1.6,17.°6N±0.°2×83.°9W±0.°1,h10km,n9, σ1§07/10,mb3.5/5,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**4.93**	**303**	Pn	**Pn**	**10 24 17.1**	**+0.9**
	12nm,0.3s,baz=130,slow=9.0,SNR=146						
TEIG				Sn	**Sn**	**10 25 11.8**	**-1.5**
	22nm,0.3s,baz=38,slow=19,SNR=14						
TEIG				LR	LR	10 26 13.7	
	comp=Z,69nm,18.4s,baz=68,slow=37						
CMIG	**Matias Romero**	**10.53**	**269**	Pn	**Pn**	**10 25 33.6**	**+0.4**
	0.4nm,0.3s,baz=72,slow=8.4,SNR=7.8						
CMIG				Sn	Sn	10 27 24.7	-6.6
	0.2nm,0.3s,baz=72,slow=20,SNR=2.1						
TXAR	**Lajitas Array**	**21.56**	**306**	P	**P**	**10 27 52.9**	**+0.9**
	0.5nm,0.7s,baz=115,slow=10.0,SNR=6.6						
PDAR	**Pinedale Array**	**33.26**	**324**	P	**P**	**10 29 41.3**	**+1.3**
	0.7nm,1.0s,baz=116,slow=8.3,SNR=2.8						
ULM	**Lac du Bonnet**	**33.98**	**346**	P	**P**	**10 29 45.0**	**-0.8**
	1.8nm,0.7s,baz=150,slow=6.7,SNR=3.8						
YKA	**Yellowknife Ar**	**49.71**	**342**	P	**P**	**10 31 53.8**	**-0.4**
	0.2nm,0.4s,baz=135,slow=8.7,SNR=7.7						
ILAR	**Eielson Array**	**62.82**	**335**	P	**P**	**10 33 27.9**	**+0.1**
	1.3nm,0.7s,baz=110,slow=5.0,SNR=20						
WRA	**Warramunga Arr**	**143.79**	**260**	PKP	**PKPab**	**10 42 34.7**	**-0.7**
	0.6nm,0.9s,baz=89,slow=3.4,SNR=9.3						
ASAR	**Alice Springs**	**144.20**	**254**	PKP	**PKPab**	**10 42 36.0**	**-1.0**
	0.9nm,0.6s,baz=107,slow=3.2,SNR=16						

*IDC **18** 10:24:39.7±2.5,42.°83N×18.°36E,h0km,mb3.4/1, mb1 3.5/5,mb1mx3.3/49,mbtmp3.5/5,ML3.1/4,MS2.9/1, Ms1 2.9/1,ms1mx2.0/33,Error ellipse: s-maj=57.3km s-min=23.6km az=92.0*

*PDG **18** 10:24:41.6±0.2,42.°91N×18.°21E,h7km,MD3.3/8, ML3.3/13,Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*

*RHSSO **18** 10:24:42.3±0.3,42.°91N×18.°22E,h5km,2km,ML3.3/12*

*PRU **18** 10:24:42.6±0.0,42.°90N×18.°37E,h1km*

*BEO **18** 10:24:42.0±0.3,42.°94N×18.°23E,h2km,1km,ML3.2/14*

ISC 18 10:24:41.7±0.9,42.°92N±0.°02×18.°20E±0.°01,h10km±6km, n105,σ1§12/171,30C-10D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TREB	**Trebinje**	**0.23**	**151**	*e*Pg	**Pg**	**10 24 46.2**	**-0.1**
TREB				*e*Sg	**Sg**	**10 24 49.7**	**+0.1**
TREB	**Trebinje**	**0.23**	**151**	⇑*i*Pg	**Pg**	**10 24 46.3**	**-0.1**
TREB				*e*Sg	**Sg**	**10 24 50.1**	**+0.5**
BRY	**Bratogost**	**0.25**	**94**	*e*Pg	**Pg**	**10 24 46.7**	**-0.1**
BRY				*e*Sg	**Sg**	**10 24 50.5**	**+0.2**
BRY	**Bratogost**	**0.25**	**94**	⇑*i*Pg	**Pg**	**10 24 46.4**	**-0.4**
BRY				*i* Sg	**Sg**	**10 24 50.3**	**0.0**
DBRK	**Dubrovnik**	**0.25**	**189**	*i* Pg	**Pg**	**10 24 45.8**	**-1.0**
DBRK				Sg	**Sg**	**10 24 50.4**	**+0.2**
STON	**Ston**	**0.37**	**263**	*i* Pg	**Pg**	**10 24 47.8**	**-1.2**
STON				Sg	**Sg**	**10 24 53.7**	**-0.2**
HCY	**Herceg Novi**	**0.52**	**155**	⇑*i*Pg	**Pg**	**10 24 51.2**	**-0.5**
HCY				*e*Sg	**Sb**	**10 24 59.8**	**-0.6**
HCY	**Herceg Novi**	**0.52**	**155**	⇑*i*Pg	**Pg**	**10 24 51.2**	**-0.5**
HCY				*i* Sg	**Sg**	**10 24 59.3**	**+0.7**
NKME	**Niksic**	**0.57**	**105**	⇑*i*Pg	**Pg**	**10 24 51.9**	**-0.9**
NKME				*e*Sg	**Sg**	**10 25 01.0**	**+0.6**
UPM	**Unac-Piva**	**0.59**	**61**	⇓*i*Pg	**Pg**	**10 24 52.3**	**-0.9**
UPM				*e*Sg	**Sg**	**10 25 01.7**	**+0.7**
UPM	**Unac-Piva**	**0.59**	**61**	⇓*i*Pg	**Pg**	**10 24 52.3**	**-0.9**
UPM				*i* Sg	**Sg**	**10 25 01.7**	**+0.7**
NKY	**Niksic**	**0.59**	**100**	⇑*i*Pg	**Pg**	**10 24 52.5**	**-0.7**
NKY				*i* Sg	**Sb**	**10 25 02.2**	**-0.5**
CEME	**Cevo**	**0.65**	**125**	⇑*i*Pg	**Pg**	**10 24 53.0**	**-1.2**
CEME				*e*Sg	**Sg**	**10 25 03.3**	**+0.7**
BUM	**Brajici-Budva**	**0.80**	**140**	⇑*i*Pg	**Pg**	**10 24 56.2**	**-0.9**
BUM				*i* Sg	**Sb**	**10 25 08.6**	**0.0**
PDG	**Podgorica**	**0.92**	**122**	*e*Pg	**Pg**	**10 24 58.2**	**-1.1**
PDG				*e*Sg	**Sg**	**10 25 10.8**	**-0.5**
PDG	**Podgorica**	**0.92**	**122**	⇓P	**Pb**	**10 25 00.0**	**+0.4**
PDG				⇑S	**Sn**	**10 25 13.4**	**-0.5**
PDG	**Podgorica**	**0.92**	**122**	*e*Pg	**Pg**	**10 24 58.4**	**-0.9**
PDG				*e*Sg	**Sb**	**10 25 12.0**	**+0.1**
TTG	**Podgorica**	**0.92**	**122**	⇑*i*Pg	**Pg**	**10 24 58.4**	**-0.9**
TTG				*i* Sg	**Sb**	**10 25 12.7**	**+0.8**
MAKA	**Makarska**	**0.94**	**294**	*i* Pg	**Pg**	**10 24 58.8**	**-1.0**
MAKA				Sg	**Sb**	**10 25 13.7**	**+1.1**
PLE	**Pljevlja**	**0.96**	**64**	⇑*i*Pg	**Pg**	**10 24 59.4**	**-0.8**
PLE				*i* Sg	**Sn**	**10 25 14.7**	**-0.5**
KOME	**Kolasin**	**0.97**	**94**	⇑*i*Pg	**Pg**	**10 24 59.4**	**-0.9**
KOME				*e*Sg	**Sn**	**10 25 14.6**	**-0.7**
RICI	**Ricice**	**0.97**	**307**	*i* Pg	**Pg**	**10 24 59.4**	**-1.0**
RICI				Sg	**Sb**	**10 25 14.4**	**+0.9**
DRME	**Dracevica, Mon**	**1.03**	**135**	*e*Pg	**Pg**	**10 25 00.5**	**-1.0**
DRME				*e*Sg	**Sg**	**10 25 14.9**	**0.0**
DRME	**Dracevica, Mon**	**1.03**	**135**	*e*Pg	**Pg**	**10 25 00.4**	**-1.0**
DRME				*e*Sg	**Sn**	**10 25 16.3**	**-0.4**
RUDO	**Rudo**	**1.10**	**50**	⇑*i*Pg	**Pg**	**10 25 01.6**	**-1.3**
RUDO				*e*Sg	**Sb**	**10 25 17.5**	**+0.2**
ULC	**Ulcinj**	**1.23**	**141**	⇑*i*Pg	**Pn**	**10 25 03.7**	**-1.2**
ULC				*i* Sg	**Sn**	**10 25 23.4**	**+1.8**
IVA	**Berane**	**1.24**	**92**	⇓*i*Pg	**Pn**	**10 25 04.8**	**-0.4**
IVA				*i* Sg	**Sn**	**10 25 23.8**	**+1.7**
HAPS	**Han Pijesak,Bl**	**1.29**	**25**	*e*Pg	**Pn**	**10 25 05.0**	**-0.9**
HAPS				*e*Sg	**Sn**	**10 25 23.4**	**+0.2**
HAPS	**Han Pijesak,Bl**	**1.29**	**25**	*e*Pg	**Pn**	**10 25 04.9**	**-0.9**
HAPS				*e*Sg	**Sn**	**10 25 23.3**	**+0.1**
BBLS	**Lazići**	**1.29**	**42**	*e*Pg	**Pn**	**10 25 05.3**	**-0.6**
BBLS				*e*Sg	**Sb**	**10 25 22.5**	**-0.3**
BBLS	**Lazići**	**1.29**	**42**	⇑*i*Pg	**Pn**	**10 25 05.4**	**-0.5**
BBLS				*e*Sg	**Sn**	**10 25 23.8**	**+0.6**
HVAR	**Hvar**	**1.31**	**282**	*e*Pn	**Pn**	**10 25 05.4**	**-0.6**
HVAR				Sn	**Sg**	**10 25 24.5**	**+0.6**
PVY	**Plav**	**1.33**	**103**	⇑*i*Pg	**Pn**	**10 25 06.2**	**-0.3**
PVY				*i* Sg	**Sg**	**10 25 27.1**	**+2.5**
SJES	**Sjenica**	**1.34**	**75**	*e*Pg	**Pn**	**10 25 06.7**	**+0.1**
SJES				*e*Sg	**Sb**	**10 25 23.1**	**-1.2**
IVAS	**Ivanjica**	**1.57**	**65**	*e*Pg	**Pn**	**10 25 10.2**	**+0.5**
IVAS				*e*Sg	**Sb**	**10 25 31.4**	**+0.6**
KIJV	**Kijevo**	**1.70**	**310**	*e*Pn	**Pn**	**10 25 12.1**	**+0.7**
MGRS	**Mrkonjic Grad**	**1.70**	**332**	*e*Pn	**Pb**	**10 25 13.3**	**+0.2**
MGRS				*e*Sn	**Sb**	**10 25 35.1**	**+0.5**
DIVS	**Divibare**	**1.76**	**47**	*e*Pg	**Pn**	**10 25 12.4**	**+0.1**
DIVS				*e*Sg	**Sb**	**10 25 36.4**	**+0.2**
DIVS	**Divibare**	**1.76**	**47**	⇑*i*Pn	**Pn**	**10 25 12.4**	**+0.1**
DIVS				*e*Sn	**Sb**	**10 25 36.4**	**+0.2**
TEKS	**Tekeris**	**1.89**	**30**	*e*Pn	**Pn**	**10 25 14.3**	**+0.2**
TEKS				*e*Sg	**Sb**	**10 25 40.4**	**+0.3**
TEKS	**Tekeris**	**1.89**	**30**	*e*Pn	**Pn**	**10 25 14.3**	**+0.2**
TEKS				*e*Sn	**Sb**	**10 25 39.4**	**-0.7**
BLY	**Banja Luka**	**1.97**	**338**	*e*Pg	**Pb**	**10 25 16.9**	**-0.8**
BLY				*e*Sg	**Sg**	**10 25 45.8**	**+0.7**
BLY	**Banja Luka**	**1.97**	**338**	*e*Pn	**Pb**	**10 25 16.6**	**-1.1**
BLY				*e*Sn	**Sb**	**10 25 42.0**	**-0.3**
ZIRJ	**Zirje**	**2.01**	**292**	*e*Pn	**Pn**	**10 25 16.3**	**+0.7**
ZIRJ				Sn	**Sb**	**10 25 42.5**	**-0.7**
MORI	**Morici**	**2.05**	**298**	*i* Pn	**Pb**	**10 25 18.2**	**-0.8**
TRUS	**Trudelj**	**2.07**	**50**	*e*Pn	**Pn**	**10 25 16.6**	**+0.1**
GRUS	**Gruza**	**2.07**	**61**	*e*Pn	**Pn**	**10 25 17.3**	**+0.8**
GRUS				*e*Sn	**Sn**	**10 25 43.9**	**+1.5**
MRAK	**Mrakovica**	**2.30**	**336**	*e*Pn	**Pn**	**10 25 20.4**	**+0.7**
UDBI	**Udbina**	**2.39**	**313**	*e*Pn	**Pn**	**10 25 21.7**	**+0.8**
UDBI				Sn	**Sb**	**10 25 53.3**	**-1.1**
FRGS	**Fruska Gora**	**2.52**	**27**	*e*Pn	**Pn**	**10 25 22.3**	**-0.4**
FRGS	**Fruska Gora**	**2.52**	**27**	⇑P	**Pn**	**10 25 22.7**	**0.0**
FRGS				⇑S	**Sn**	**10 25 51.5**	**-2.0**
FRGS	**Fruska Gora**	**2.52**	**27**	*e*Pn	**Pn**	**10 25 23.4**	**+0.7**
FRGS				*e*Sn	**Sn**	**10 25 55.0**	**+1.5**
DUGI	**Dugi Otok**	**2.53**	**296**	*e*Pn	**Pn**	**10 25 23.9**	**+1.1**
DUGI				Sn	**Sb**	**10 25 56.2**	**-2.1**
MATE	**Matera**	**2.53**	**207**	⇑P	**Pb**	**10 25 27.1**	**0.0**
MATE				⇑S	**Sg**	**10 26 01.7**	**-1.1**
OHR	**Ohrid**	**2.65**	**132**	*i* Pn	**Pb**	**10 25 30.2**	**+1.0**
BOVS	**Bovan**	**2.66**	**73**	*e*Pn	**Pn**	**10 25 24.9**	**+0.3**
BOVS				*e*Sn	**Sn**	**10 25 57.5**	**+0.7**
BOVS	**Bovan**	**2.66**	**73**	⇓P	**Pn**	**10 25 24.4**	**-0.1**
BOVS				⇑S	**Sn**	**10 25 55.6**	**-1.3**
BARS	**Barje**	**2.66**	**91**	*e*Pn	**Pn**	**10 25 25.9**	**+1.3**
BARS	**Barje**	**2.66**	**91**	*e*Pn	**Pb**	**10 25 28.9**	**-0.5**
BARS				*e*Sn	**Sn**	**10 25 58.4**	**+1.5**
BARS				*e*Sn	**Sg**	**10 26 06.1**	**-1.0**
PRVS	**Prvonek**	**2.88**	**97**	*e*Pn	**Pn**	**10 25 29.1**	**+1.4**
PRVS				*e*Sn	**Sn**	**10 26 03.8**	**+1.3**
NVLJ	**Novalja**	**2.92**	**305**	*e*Pn	**Pn**	**10 25 29.0**	**+0.8**
ZAGS	**Zajecar**	**3.07**	**72**	*e*Pn	**Pn**	**10 25 32.3**	**+2.0**
ZAGS				*e*Sn	**Sn**	**10 26 07.3**	**+0.2**
MDVR	**Moldovita**	**3.15**	**53**	*e*Pn	**Pn**	**10 25 31.6**	**+0.2**
MDVR	**Moldovita**	**3.15**	**53**	⇓P	**Pn**	**10 25 31.5**	**+0.1**
MDVR				⇑S	**Sn**	**10 26 07.8**	**-1.2**
BOSS	**Bosilegrad**	**3.18**	**96**	*e*Pn	**Pn**	**10 25 32.9**	**+1.1**
ZAPS	**Zavoj**	**3.27**	**82**	*e*Pn	**Pn**	**10 25 34.7**	**+1.7**
ZAPS				*e*Sn	**Sn**	**10 26 12.8**	**+0.9**
MORH	**Mrgy, Hungar**	**3.31**	**5**	⇑P	**Pn**	**10 25 34.0**	**+0.4**
MORH	**Mrgy, Hungar**	**3.31**	**5**	*e*Pn	**Pn**	**10 25 33.9**	**+0.4**
BLKB	**Belogradchik**	**3.34**	**76**	⇓S	**Sn**	**10 26 11.1**	**-0.7**
BOJS	**Bojanci**	**3.34**	**322**	*e*Pn	**Pn**	**10 25 35.8**	**+1.8**
PTJ	**Puntijarka**	**3.39**	**333**	*i* Pn	**Pn**	**10 25 36.0**	**+1.2**
KALN	**Kalnik**	**3.45**	**339**	*e*Pn	**Pn**	**10 25 35.9**	**+0.4**
CRES	**Cresnjev**	**3.51**	**327**	*e*Pn	**Pn**	**10 25 37.8**	**+1.5**
CRES				*e*Sn	**Sn**	**10 26 18.5**	**+0.6**
HERR	**Herculane**	**3.62**	**56**	⇑P	**Pn**	**10 25 38.3**	**+0.4**
HERR				⇑S	**Sn**	**10 26 19.3**	**-1.4**
BZS	**Buzias**	**3.65**	**41**	⇓P	**Pn**	**10 25 38.2**	**+0.1**
BZS				⇑S	**Sn**	**10 26 19.3**	**-1.9**
BEHE	**Becsehely**	**3.69**	**345**	*e*Pn	**Pn**	**10 25 40.5**	**+1.7**
VTS	**Vitosha**	**3.72**	**93**	⇓P	**Pn**	**10 25 40.4**	**+1.1**
CEY	**Cerknica**	**3.91**	**317**	*e*Pn	**Pn**	**10 25 43.5**	**+1.6**
CEY	**Cerknica**	**3.91**	**317**	*e*Pn	**Pn**	**10 25 43.4**	**+1.6**
CEY				*e*Sn	**Sn**	**10 26 29.1**	**+1.3**
LJU	**Ljubljana**	**4.08**	**321**	*e*Pn	**Pn**	**10 25 45.7**	**+1.5**
GZR	**Gura Zlata**	**4.12**	**52**	⇑P	**Pn**	**10 25 44.6**	**-0.1**
SOKA	**Soboth**	**4.38**	**330**	*e*Pn	**Pn**	**10 25 49.8**	**+1.5**
	11nm,0.3s,SNR=18						
OBKA	**Obir**	**4.43**	**325**	*e*Pn	**Pn**	**10 25 51.3**	**+2.3**
	1.7nm,0.2s						
ARSA	**Arzberg**	**4.73**	**337**	*e*Pn	**Pn**	**10 25 54.2**	**+1.1**
	12nm,0.3s,SNR=10						
DRGR		**5.03**	**38**	⇑P	**Pn**	**10 25 57.3**	**+0.1**
PSZ	**Piszkesteto**	**5.14**	**13**	⇑P	**Pn**	**10 25 58.1**	**-0.7**
CONA	**Conrad Observa**	**5.27**	**343**	*e*Pn	**Pn**	**10 26 01.3**	**+0.7**
	0.8nm,0.2s						
ZST	**Bratislava**	**5.33**	**352**	*e*PN	**Pn**	**10 26 04.1**	**+2.8**
KBA	**Koelnbreinsper**	**5.40**	**322**	*e*Pn	**Pn**	**10 26 03.5**	**+1.1**
	2.4nm,0.4s,SNR=5.9						
MODS	**Modra-Piesok**	**5.49**	**354**	*e*PN	**Pn**	**10 26 05.0**	**+1.4**
MODS				*e*SN	**Sn**	**10 27 06.5**	**-0.3**
VOIR		**5.53**	**61**	⇓P	**Pn**	**10 26 04.2**	**+0.1**
ABTA	**Abfaltersbach**	**5.57**	**315**	*e*Pn	**Pn**	**10 26 04.6**	**-0.1**
	2.6nm,0.5s						
VYHS	**Vyhne**	**5.59**	**4**	*e*PN	**Pn**	**10 26 06.5**	**+1.6**
VYHS				*e*SN	**Sn**	**10 27 10.7**	**+1.5**
VYHS				*e*		10 59 01.5	
MOA	**Molln**	**5.66**	**332**	*e*Pn	**Pn**	**10 26 08.0**	**+2.2**
	4.8nm,0.3s,SNR=7.9						
WTTA	**Wattenberg**	**6.36**	**315**	*e*Pn	**Pn**	**10 26 18.7**	**+3.1**
	1.3nm,0.2s						
WATA	**Walderalm**	**6.44**	**316**	*e*Pn	**Pn**	**10 26 19.2**	**+2.5**
	3.1nm,0.2s						
MOTA	**Moosalm**	**6.69**	**314**	*e*Pn	**Pn**	**10 26 22.1**	**+2.0**
	1.2nm,0.2s						
FETA	**Feichten**	**6.70**	**310**	*e*Pn	**Pn**	**10 26 23.3**	**+3.0**
	0.6nm,0.3s						
GERES	**GERESS Array B**	**6.71**	**334**	Pn	**Pn**	**10 26 22.0**	**+1.7**
	0.5nm,0.3s,baz=153,slow=15,SNR=12						
GERES				Sn	**Sn**	**10 27 36.7**	**-0.1**
	1.0nm,0.3s,baz=146,slow=24,SNR=5.1						
KHC	**Kasperske Hory**	**7.00**	**334**	*e*PN	**Pn**	**10 26 27.0**	**+2.8**
KHC				*e*SN	**Sn**	**10 27 43.9**	**+0.1**
DAVOX	**Davos/Dischmat**	**7.06**	**306**	Pn	**Pn**	**10 26 29.3**	**+4.0**
	0.9nm,0.3s,baz=118,slow=15,SNR=7.0						
DAVOX				Sn	**Sn**	**10 27 46.7**	**+1.1**
	0.8nm,0.3s,baz=158,slow=22,SNR=2.3						
HFS	**Hagfors**	**17.46**	**352**	Pn	**Pn**	**10 28 45.7**	**+0.6**
	0.1nm,0.3s,baz=162,slow=14,SNR=2.2						
NOA	**NORSAR Array B**	**18.63**	**349**	P	**P**	**10 28 58.6**	**-0.6**
	0.0nm,0.3s,baz=165,slow=12,SNR=2.7						
FINES	**FINESS Array B**	**19.15**	**12**	P	**P**	**10 29 05.0**	**+0.2**
	0.3nm,0.3s,baz=183,slow=12,SNR=8.8						
FINES				LR	LR	10 37 53.0	
	comp=Z,31nm,18.1s,baz=343,slow=41						
TORD	**Torodi Ar. Bea**	**32.92**	**211**	P	**P**	**10 31 15.6**	**-0.7**
	0.3nm,0.5s,baz=18,slow=9.4,SNR=2.1						

IDC 18 11:04:26.1±6.3,26.°54S×70.°80E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.5/48,mbtmp3.5/4,Error ellipse: s-maj=174.1km s-min=42.2km az=55.0,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**18.86**	**5**	T	T	11 27 33.9	
	baz=183						
H08S2	**Diego Garcia H**	**18.86**	**5**	T	T	11 27 41.3	
	baz=183,slow=74						
H08S3	**Diego Garcia H**	**18.88**	**5**	T	T	11 27 38.2	
	baz=183,slow=74						
H01W2	**Cape Leeuwin H**	**37.94**	**113**	T	T	11 51 57.8	
	baz=271,slow=75,SNR=8.2						
H01W3	**Cape Leeuwin H**	**37.94**	**113**	T	T	11 51 43.1	
	baz=271,slow=75,SNR=7.2						
H01W1	**Cape Leeuwin H**	**37.96**	**113**	T	T	11 51 44.2	
	baz=271,slow=75,SNR=7.5						
CMAR	**Chiang Mai Arr**	**52.42**	**34**	P	P	11 13 40.5	0.0
	0.6nm,0.3s,baz=214,slow=6.4,SNR=1.2						
ASAR	**Alice Springs**	**56.71**	**102**	P	P	11 14 12.0	+0.1
	0.3nm,0.9s,baz=254,slow=6.8,SNR=5.0						
WRA	**Warramunga Arr**	**58.26**	**98**	P	P	11 14 22.6	-0.2
	0.4nm,0.8s,baz=243,slow=8.6,SNR=2.1						
MKAR	**Makanchi Array**	**73.72**	**8**	P	P	11 16 01.7	0.0
	0.4nm,0.8s,baz=202,slow=6.1,SNR=3.7						

IDC 18 11:10:17.5±6.7,4.°48S×154.°18E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/39,mbtmp3.4/3,Error ellipse: s-maj=201.6km s-min=41.8km az=105.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.70**	**230**	P	P	11 15 41.3	+0.7
	0.5nm,0.5s,baz=56,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**27.32**	**224**	P	P	11 16 03.8	-0.6
	0.2nm,0.3s,baz=55,slow=9.2,SNR=16						
MKAR	**Makanchi Array**	**81.00**	**319**	P	P	11 22 34.2	-0.1
	0.2nm,0.6s,baz=102,slow=6.5,SNR=2.7						

IDC 18 11:11:18.3±573.0,56.°45N×2.°51E,h0km,Error ellipse: s-maj=183.3km s-min=72.1km az=24.0,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**10.20**	**134**	*i*		12 20 20.0	
	baz=318,slow=330,SNR=1.4						
I37NO	**I37NO**	**14.57**	**23**	*i*		12 44 40.0	
	baz=218,slow=325,SNR=1.6						
I43RU	**DUBNA INFRASON**	**19.00**	**75**	*i*		13 07 10.0	
	baz=284,slow=321,SNR=0.4						

*NEIC **18** 11:23:16.0±1.7,21.°8S±0.°1×179.°0W±0.°1,h537km±9km, mb4.1/17,Error ellipse: s-maj=22.1km s-min=17.7km az=136.0*

*IDC **18** 11:23:17.0±2.1,21.°77S×178.°94W,h537km±22km,mb3.0/9, mb1 3.3/11,mb1mx3.1/34,mbtmp3.9/11,Error ellipse: s-maj=29.7km s-min=16.7km az=145.0*

ISC 18 11:23:17.1±0.5,21.°84S±0.°09×178.°91W±0.°09,h550km, n67,σ1§68/66,mb3.8/16,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.99**	**324**	P	**P**	**11 24 45.7**	**-1.3**
	1.6nm,0.3s,baz=118,slow=15,SNR=8.6						
MSVF	**Nonsavu**	**4.99**	**324**	P	**P**	**11 24 43.8**	**-3.3**
RAO	**Raoul Island**	**7.43**	**173**	P	**P**	**11 25 08.7**	**-0.5**
NIUE	**Niue**	**8.86**	**74**	P	**P**	**11 25 23.4**	**-0.1**
AFI	**Afiamalu**	**10.40**	**42**	P	P	11 25 34.3	-5.1
	3.9nm,0.3s,baz=238,slow=16,SNR=8.8						
DZM	**Mont Dzumac**	**13.59**	**266**	P	**P**	**11 26 15.0**	**+2.7**
	0.3nm,0.3s,baz=76,slow=18,SNR=3.2						
KUZ	**Kuaotunu**	**15.57**	**196**	P	**P**	**11 26 34.6**	**+2.4**
MXZ	**Matakaoa Point**	**15.85**	**188**	P	**P**	**11 26 41.8**	**+6.8**
MKAZ	**Moumakai**	**16.06**	**197**	P	**P**	**11 26 39.8**	**+2.7**
HAZ	**Te Kaha**	**16.12**	**189**	P	**P**	**11 26 39.6**	**+2.0**
TWGZ	**Tauwhareparae**	**16.50**	**189**	P	**P**	**11 26 43.7**	**+2.5**
URZ	**Urewera**	**16.72**	**191**	P	**P**	**11 26 42.9**	**-0.2**
	1.7nm,0.3s,baz=21,slow=14,SNR=13						
URZ				S	**S**

0.4nm,0.3s,baz=78,slow=17,SNR=6.7
URZ Urewera 20.59 199 P **P** **11 29 41.4 -1.9**
6.8nm,0.3s,baz=247,slow=3.3,SNR=12
URZ S S 11 33 13.1 -15
33nm,1.3s,baz=342,slow=17,SNR=1.9
RPZ Rata Peaks 27.51 203 P **P** **11 30 51.4 +2.0**
5.6nm,0.4s,baz=122,slow=9.6,SNR=1.6
CTA Charters Tower 36.76 261 P **P** **11 32 10.2 -0.2**
3.8nm,0.4s,baz=88,slow=12,SNR=12
CTAO Charters Tower 36.76 261 P **P** **11 32 07.9 -2.5**
COEN Coen 40.61 270 P **P** **11 32 42.0 -0.7**
COEN IAmb IAmb 11 32 47.9
comp=Z,5.2nm,1.1s
WB0 Warramunga Arr 47.88 260 P **P** **11 33 39.2 -1.4**
WB2 Warramunga Arr 47.89 260 P **P** **11 33 39.2 -1.6**
WRAB Tennant Creek 47.90 260 P **P** **11 33 39.2 -1.5**
WRAB IAmb IAmb 11 33 40.9
comp=Z,6.3nm,1.2s
WRA Warramunga Arr 47.91 260 P **P** **11 33 39.2 -1.6**
comp=Z,3.1nm,0.4s,baz=97,slow=7.8,SNR=145
WRA PcP **PcP** **11 35 07.5 -0.4**
comp=Z,0.2nm,0.4s,baz=92,slow=3.5,SNR=2.0
WRA Warramunga Arr 47.91 260 P **P** **11 33 39.0 -1.9**
AS31 Alice Springs 47.91 255 P **P** **11 33 39.9 -1.0**
ASAR Alice Springs 47.91 255 P **P** **11 33 39.6 -1.3**
comp=Z,1.3nm,0.4s,baz=88,slow=8.9,SNR=53
ASAR PcP **PcP** **11 35 08.2 +0.3**
comp=Z,0.4nm,0.4s,baz=108,slow=3.9,SNR=6.9
ASAR Alice Springs 47.91 255 P **P** **11 33 39.3 -1.5**
MTN Manton Dam 52.27 268 P **P** **11 34 13.1 -0.7**
FITZ Fitzroy Crossi 56.32 260 P **P** **11 34 42.0 -1.2**
FITZ IAmb IAmb 11 35 10.3
comp=Z,8.9nm,1.4s
PSA00 Pilbara Seismi 61.05 255 P **P** **11 35 14.2 -1.8**
QSPA South Pole Qui 71.20 180 P **P** **11 36 20.6 +0.4**
QSPA IAmb IAmb 11 36 37.4
comp=Z,4.2nm,1.3s
NVAR Mina Array Bea 77.74 42 P **P** **11 37 02.7 +4.1**
comp=Z,0.2nm,0.7s,baz=229,slow=8.2,SNR=1.7
ILAR Eielson Array 86.07 12 P **P** **11 37 42.6 +1.2**
comp=Z,0.5nm,1.0s,baz=209,slow=5.8,SNR=2.7
ARCES ARCESS Array B 127.83 351 PKP **PKiKP** **11 44 06.8 +0.6**
comp=Z,3.9nm,1.0s,baz=4.3,slow=3.6,SNR=4.0
GERES GERESS Array B 149.33 349 PKPbc **PKiKP** **11 44 51.0 +0.3**
comp=Z,0.4nm,0.5s,baz=4.1,slow=1.4,SNR=2.3

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*IDC **18** 11:49:30.6±2.1, 19.8°S×178.4°W, h545km±23km, mb2.8/4, mb1 3.1/6, mb1mx2.9/36, mbtmp3.8/6, Error ellipse: s-maj=40.4km s-min=22.4km az=150.0*
ISC 18 11:49:30.9±1.1, 19.8°S±0.2×178.4°W±0.2, h550km, n7, σ0≥50/7, mb3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.00**	**301**	P		**P**		**11 50 52.6**	**-0.4**
	6.0nm,0.3s,baz=103,slow=21,SNR=34								
AFI	**Afiamalu**	**8.62**	**48**	S		S		11 53 02.1	-15
	0.6nm,0.3s,baz=334,slow=22,SNR=1.0								
URZ	**Urewera**	**18.77**	**191**	P		**P**		**11 53 15.5**	**-0.1**
	0.5nm,0.3s,baz=50,slow=16,SNR=1.0								
ASAR	**Alice Springs**	**44.35**	**256**			**P**		**11 56 53.2**	**+0.3**
	1.2nm,0.8s,baz=92,slow=8.1,SNR=28								
ASAR				PcP		**PcP**		**11 58 24.8**	**-0.2**
	0.6nm,1.1s,baz=103,slow=4.2,SNR=2.3								
WRA	**Warramunga Arr**	**44.37**	**261**	P		**P**		**11 56 53.4**	**+0.3**
	0.5nm,0.3s,baz=97,slow=7.6,SNR=27								
YBH	**Yreka Blue Hor**	**79.98**	**39**	P		**P**		**12 00 44.0**	**+0.7**
	0.6nm,0.5s,baz=256,slow=4.2,SNR=2.2								
TXAR	**Lajitas Array**	**86.98**	**57**	P		**P**		**12 01 17.9**	**-0.5**
	0.2nm,0.6s,baz=208,slow=5.1,SNR=2.1								

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*KRNET **18** 11:55:49.0±0.1, 41.°40N×72.°03E, h17km, mb3.3*
*ISU **18** 11:55:49, 41.°45N×72.°11E, h15km*
*SOME **18** 11:55:49.0, 41.°45N×72.°08E, h5km*
*NNC **18** 11:55:50.7±1.1, 41.°50N×72.°09E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=12.1km s-min=3.2km az=2.0*
ISC 18 11:55:48.3±1.1, 41.°46N±0.°02×72.°09E±0.°02, h3km±10km, n60, σ1≥56/100, 23C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NAM	**Namangan**	**0.57**	**215**	P			**Pn**	**11 56 02.0**	**-1.4**
NAM				S			**Sg**	**11 56 07.0**	**+0.5**
ARSB	**Arslanbob**	**0.69**	**101**	⇑*eP*			**Pg**	**11 56 02.6**	**+1.1**
	baz=96								
ARSB				⇑*iS*			**Sb**	**11 56 12.9**	**-0.1**
	baz=96								
TRKS	**Terek-Say**	**0.72**	**276**	⇑iP			**Pg**	**11 56 01.4**	**-0.7**
	baz=75								
TRKS				⇑*iS*			**Sg**	**11 56 10.3**	**-1.1**
	baz=75								
ANR	**Andizhan**	**0.73**	**164**	P			**Pg**	**11 56 03.0**	**+0.7**
ANR				S			**Sb**	**11 56 14.0**	**-0.1**
FRG	**Fergana**	**0.76**	**198**	P			**Pn**	**11 56 09.0**	**+3.0**
FRG				S			**Sn**	**11 56 24.0**	**+6.0**
OHH	**Osh**	**1.07**	**150**	⇑*iP*			**Pg**	**11 56 08.6**	**-0.2**
	baz=47								
OHH				⇑*iS*			**Sg**	**11 56 23.4**	**+0.7**
	baz=47								
OHH	**Osh**	**1.07**	**150**	P			**Pg**	**11 56 08.0**	**-0.8**
OHH				S			**Sg**	**11 56 23.0**	**+0.3**
MNAS	**Manas**	**1.07**	**17**	⇓*iP*			**Pn**	**11 56 10.5**	**0.0**
	baz=18								
MNAS				⇓*iS*			**Sn**	**11 56 26.0**	**-0.1**
	baz=18								
AML	**Almayashu**	**1.38**	**60**	⇑*iP*			**Pg**	**11 56 16.0**	**+1.3**
	baz=59								
AML				⇑*iS*			**Sg**	**11 56 35.8**	**+3.2**
	baz=59								
AML	**Almayashu**	**1.38**	**60**	P			**Pg**	**11 56 16.6**	**+1.9**
	SNR=148								
SHAK	**Shakhimardan**	**1.52**	**190**	P			**Pb**	**11 56 17.0**	**-0.4**
SHAK				S			**Sn**	**11 56 36.0**	**-1.1**
DZA	**Taraz**	**1.54**	**339**	*eP*			**Pg**	**11 56 18.3**	**+0.4**
	295nm,0.1s								
DZA				*eS*			**Sg**	**11 56 39.9**	**+2.1**
	392nm,0.2s								
DZA	**Taraz**	**1.54**	**339**	P			**Pg**	**11 56 19.1**	**+1.3**
	295nm,0.1s								
DZA				S			**Sg**	**11 56 40.4**	**+2.5**
	392nm,0.2s								
CHMG	**Chimgan**	**1.56**	**274**	P			**Pb**	**11 56 18.0**	**0.0**
CHMG				S			**Sn**	**11 56 37.0**	**-1.1**
CHRV	**Charvak**	**1.61**	**277**	P			**Pn**	**11 56 18.0**	**+0.2**
CHRV				S			**Sb**	**11 56 39.0**	**-0.7**
IUG	**Iuzhnay**	**1.69**	**295**	*eP*			**Pb**	**11 56 20.1**	**0.0**
	96nm,0.2s								
IUG				*eS*			**Sb**	**11 56 42.3**	**+0.5**
	352nm,0.4s								
IUG	**Iuzhnay**	**1.69**	**295**	P			**Pb**	**11 56 20.1**	**0.0**
	96nm,0.2s								
IUG				S			**Sb**	**11 56 42.3**	**+0.5**
	352nm,0.4s								
BTK	**Batken**	**1.70**	**215**	⇑*iP*			**Pn**	**11 56 19.1**	**+0.1**
	baz=15								
BTK				⇑*iS*			**Sn**	**11 56 40.8**	**-0.5**
	baz=15								
ARLS	**Aral**	**1.72**	**76**	⇓*iP*			**Pg**	**11 56 22.0**	**+0.7**
	baz=75								
ARLS				⇓*iS*			**Sg**	**11 56 45.6**	**+1.9**
	baz=75								
EKS2	**Erkin-Say**	**1.74**	**46**	⇑*iP*			**Pg**	**11 56 22.2**	**+0.5**
	baz=46								
EKS2				⇑*iS*			**Sg**	**11 56 46.7**	**+2.4**
	baz=46								
EKS2	**Erkin-Say**	**1.74**	**46**	P			**Pg**	**11 56 23.0**	**+1.3**
	SNR=32								
UCH	**Uchtor**	**1.97**	**66**	⇑*iP*			**Pb**	**11 56 25.7**	**+0.6**
	baz=65								
UCH				⇑*iS*			**Sg**	**11 56 52.9**	**+1.3**
	baz=65								
UCH	**Uchtor**	**1.97**	**66**	P			**Pb**	**11 56 25.8**	**+0.6**
	SNR=20								
DRK	**Karamyk**	**1.99**	**186**	⇑*iP*			**Pb**	**11 56 24.4**	**-0.9**
	baz=85								
DRK				⇑*iS*			**Sb**	**11 56 50.0**	**-0.6**
	baz=85								
KK31	**Karatay Array**	**2.02**	**325**	⇑Pn			**Pb**	**11 56 25.1**	**-0.6**
	15nm,0.3s,baz=134,slow=12,SNR=172								
KK31				⇓Lg			Lg	11 56 53.1	
	28nm,0.4s,baz=136,slow=26,SNR=9.7								
AAK	**Ala-Archa**	**2.15**	**56**	⇓*iP*			**Pb**	**11 56 28.2**	**+0.2**
	baz=55								
AAK				⇓*iS*			**Sg**	**11 56 57.0**	**-0.3**
	baz=55								
AAK	**Ala-Archa**	**2.15**	**56**	P			**Pb**	**11 56 28.8**	**+0.8**
	SNR=22								
AAK	**Ala-Archa**	**2.15**	**56**	⇓Pn			**Pb**	**11 56 28.7**	**+0.7**
	7.2nm,0.3s								
AAK				⇑Lg			Lg	11 56 59.2	
	52nm,0.6s								
BRLS	**Borolday**	**2.30**	**314**	*eP*			**Pb**	**11 56 29.8**	**-0.6**
	29nm,0.2s								
BRLS				*eS*			**Sb**	**11 56 59.0**	**-0.2**
	104nm,0.3s								
BRLS	**Borolday**	**2.30**	**314**	Pg			**Pb**	**11 56 29.8**	**-0.6**
	29nm,0.2s								
BRLS				Lg			Lg	11 56 59.0	
	104nm,0.3s								
FRU1	**Bishkek**	**2.32**	**54**	⇑*iP*			**Pb**	**11 56 30.6**	**-0.3**
	baz=53								
FRU1				⇑*iS*			**Sb**	**11 57 01.2**	**+1.1**
	baz=53								
KBK	**Karagaybulak**	**2.44**	**60**	⇓*iP*			**Pb**	**11 56 32.5**	**-0.5**
	baz=59								
KBK				⇓*iS*			**Sb**	**11 57 04.0**	**+0.4**
	baz=59								
KBK	**Karagaybulak**	**2.44**	**60**	P			**Pb**	**11 56 33.4**	**+0.4**
	SNR=10								
CHMS	**Chumysh**	**2.51**	**51**	⇑*iP*			**Pb**	**11 56 33.3**	**-0.7**
	baz=51								
CHMS				⇑*iS*			**Sb**	**11 57 05.2**	**-0.1**
	baz=51								
USP	**Ospenovka**	**2.54**	**44**	⇓*iP*			**Pb**	**11 56 33.8**	**-0.9**
	baz=44								
USP				⇓*iS*			**Sb**	**11 57 06.3**	**-0.1**
	baz=44								
USP	**Ospenovka**	**2.54**	**44**	P			**Pg**	**11 56 41.3**	**+4.2**
	SNR=6.3								
SGDS	**Sogindy**	**2.74**	**42**	Pg			**Pg**	**11 56 40.0**	**-0.8**
	5.0nm,0.3s								
SGDS				Lg			Lg	11 57 16.3	
	19nm,0.4s								
TKM2	**Tokmak 2**	**2.99**	**60**	⇓*iP*			**Pb**	**11 56 40.1**	**-2.3**
	baz=59								
TKM2				⇓*iS*			**Sb**	**11 57 17.0**	**-2.4**
	baz=59								
TKM2	**Tokmak 2**	**2.99**	**60**	⇓Pn			**Pb**	**11 56 39.8**	**-2.6**
	3.2nm,0.6s								
TKM2				⇑Lg			Lg	11 57 24.0	
	12nm,0.5s								
DGS	**Degeres**	**3.26**	**56**	*eP*			**Pg**	**11 56 50.0**	**-0.9**
	4.2nm,0.5s								
DGS				*eS*			**Sg**	**11 57 33.4**	**+0.3**
	13nm,0.3s								
DGS	**Degeres**	**3.26**	**56**	Pg			**Pg**	**11 56 50.0**	**-0.9**
	4.2nm,0.5s								
DGS				Lg			Lg	11 57 33.4	
	13nm,0.3s								
KST	**Kastek**	**3.28**	**60**	*eP*			**Pg**	**11 56 50.4**	**-0.8**
	1.9nm,0.1s								
KST				*eS*			**Sg**	**11 57 34.1**	**+0.2**
	8.4nm,0.4s								
KST	**Kastek**	**3.28**	**60**	Pg			**Pg**	**11 56 50.4**	**-0.8**
	1.9nm,0.1s								
KST				Lg			Lg	11 57 34.1	
	8.4nm,0.4s								
KRBS	**Karabastau**	**3.47**	**49**	*eP*			**Pg**	**11 56 53.5**	**-1.3**
	4.0nm,0.4s								
KRBS				*eS*			**Sg**	**11 57 39.5**	**-0.2**
	14nm,0.6s								
KRBS	**Karabastau**	**3.47**	**49**	Pg			**Pg**	**11 56 53.5**	**-1.3**
	4.0nm,0.4s								
KRBS				Lg			Lg	11 57 39.5	
	14nm,0.6s								
MTBS	**Maitube**	**3.63**	**61**	*eP*			**Pg**	**11 56 56.3**	**-1.5**
	0.8nm,0.1s								
MTBS				*eS*			**Sg**	**11 57 44.4**	**-0.5**
	22nm,0.7s								
MTBS	**Maitube**	**3.63**	**61**	Pg			**Pg**	**11 56 56.3**	**-1.5**
	0.8nm,0.1s								
MTBS				Lg			Lg	11 57 44.4	
	22nm,0.7s								
IZV	**Izvestkoviy**	**3.71**	**63**	*eP*			**Pb**	**11 56 57.4**	**+2.7**
	2.6nm,0.4s								
IZV				*eS*			**Sg**	**11 57 46.0**	**-1.5**
	8.8nm,0.5s								
IZV	**Izvestkoviy**	**3.71**	**63**	Pg			**Pb**	**11 56 57.4**	**+2.7**
	2.6nm,0.4s								
IZV				Lg			Lg	11 57 46.0	
	8.8nm,0.5s								
TNSS	**Tian-Shan**	**3.94**	**65**	*eP*			**Pg**	**11 57 02.6**	**-1.2**
	1.6nm,0.4s								
TNSS				*eS*			**Sg**	**11 57 54.6**	**-0.2**
	4.6nm,1.0s								
TNSS	**Tian-Shan**	**3.94**	**65**	Pg			**Pg**	**11 57 02.6**	**-1.2**
	1.6nm,0.4s								
TNSS				Lg			Lg	11 57 54.6	
	4.6nm,1.0s								
KUU	**Kurty**	**3.97**	**51**	*eP*			**Pg**	**11 57 02.6**	**-1.8**
	0.8nm,0.1s								
KUU				*eS*			**Sg**	**11 57 55.0**	**-0.8**
	19nm,0.5s								
KUU	**Kurty**	**3.97**	**51**	Pg			**Pg**	**11 57 02.6**	**-1.8**
	0.8nm,0.1s								
KUU				Lg			Lg	11 57 55.0	
	19nm,0.5s								
MDOK	**Medeo**	**4.05**	**63**	*eP*			**Pg**	**11 57 04.1**	**-1.9**
	2.6nm,0.5s								
MDOK				*eS*			**Sg**	**11 57 57.8**	**-0.7**
	6.9nm,0.5s								
MDOK	**Medeo**	**4.05**	**63**	Pg			**Pg**	**11 57 04.1**	**-1.9**
	2.6nm,0.5s								
MDOK				Lg			Lg	11 57 57.8	
	6.9nm,0.5s								
KTBS	**Karatobe**	**4.07**	**55**	*eP*			**Pg**	**11 57 04.4**	**-1.9**
	3.2nm,0.6s								
KTBS				*eS*			**Sg**	**11 57 58.0**	**-1.1**
	17nm,0.5s								
KTBS	**Karatobe**	**4.07**	**55**	Pg			**Pg**	**11 57 04.4**	**-1.9**
	3.2nm,0.6s								
KTBS				Lg			Lg	11 57 58.0	
	17nm,0.5s								
KOTS	**Kotyrbulak**	**4.12**	**63**	*eP*			**Pg**	**11 57 05.9**	**-1.5**
	6.8nm,0.3s								
KOTS				*eS*			**Sg**	**11 58 00.5**	**-0.3**
	8.7nm,0.6s								
ARXS	**Arharly**	**5.04**	**55**	*eP*			**Pg**	**11 57 21.6**	**-3.3**
	3.6nm,0.4s								
ARXS				*eS*			**Sg**	**11 58 27.1**	**-3.0**
	7.5nm,0.6s								
KPKS	**Kokpek**	**5.28**	**65**	*eP*			**Pg**	**11 57 26.1**	**-3.3**
	4.0nm,0.1s								
KPKS				*eS*			**Sg**	**11 58 35.4**	**-2.4**
	8.8nm,0.4s								

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*MOS **18** 11:59:03.9±1.0, 62.°72N×138.°35E, h15km, mb4.9/65, MS4.1/13, Error ellipse: s-maj=8.9km s-min=4.4km az=88.8*
*IDC **18** 11:59:03.4±0.4, 62.°70N×138.°26E, h0km, mb4.4/33, mb1 4.6/40, mb1mx4.6/47, mbtmp4.5/40, ML4.5/6, MS3.8/33, Ms1 3.8/33, ms1mx3.7/52, Error ellipse: s-maj=9.9km s-min=6.8km az=174.0*
*BJI **18** 11:59:03.1±0.0, 62.°62N×138.°42E, h9km, mB4.9/42, mb4.7/54, Ms5.0/54, Ms7 4.6/50*
*YARS **18** 11:59:03.9±0.0, 62.°80N×138.°35E, h7km*
*NERS **18** 11:59:03.0±0.0, 62.°67N×138.°40E, h8km*
*NEIC **18** 11:59:05.0±1.5, 62.°72N±0.°05×138.°36E±0.°08, h10km±1km, mb4.9/194, Error ellipse: s-maj=10.6km s-min=2.9km az=37.0*
ISC 18 11:59:04.8±0.2, 62.°74N±0.°02×138.°42E±0.°02, h10km, n506, σ2≥96/609, mb4.8/190, MS4.0/42, 18C-17D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UNR	**Ust'-Nera**	**2.82**	**47**	*i* Pn			**Pn**	**11 59 50.0**	**0.0**
	71nm,0.7s								
UNR				*ePg*			**Pb**	**11 59 54.8**	**-0.5**
	679nm,0.9s								
UNR				*i* Sn			**Sn**	**12 00 24.2**	**+0.2**
	515nm,0.7s								
UNR				*eSg*			**Sb**	**12 00 31.1**	**+1.2**
	2μm,0.6s								
UNR				*eSg*			**Sb**	**12 00 31.1**	**+1.2**
	2μm,0.8s								
UNR	**Ust'-Nera**	**2.82**	**47**	*i* Pn			**Pn**	**11 59 50.0**	**0.0**
UNR				*i* Pn			**Pn**	**11 59 50.0**	**0.0**
UNR				*i* Pn			**Pn**	**11 59 50.0**	**0.0**
UNR				*i* Pg			**Pb**	**11 59 54.5**	**-0.8**
	3μm,0.8s								
UNR				*eSg*			**Sb**	**12 00 30.9**	**+1.0**
	12μm,0.6s								
ATKR	**Artyk**	**3.34**	**61**	*i* Pn			**Pn**	**11 59 57.5**	**+0.4**
	53nm,0.3s								
ATKR				*ePg*			**Pb**	**12 00 04.6**	**+0.4**
	204nm,0.3s								
ATKR				*eSg*			**Sg**	**12 00 48.9**	**-3.2**
	8μm,0.9s								
ATKR	**Artyk**	**3.34**	**61**	*ePn*			**Pn**	**11 59 57.5**	**+0.4**
ATKR				*ePn*			**Pn**	**11 59 57.5**	**+0.4**
ATKR				*ePn*			**Pn**	**11 59 57.5**	**+0.4**
ATKR				*ePg*			**Pb**	**12 00 04.2**	**0.0**
	636nm,0.7s								
ATKR				*eSg*			**Sb**	**12 00 47.8**	**+3.0**
	8μm,1.0s								
OKHR	**Okhotsk**	**4.12**	**143**	Pmax				11 59 46.1	
	200nm,0.4s								
OKHR				*eS*			**Sn**	**12 00 51.2**	**-4.7**
OKHR				Sgmax				12 00 57.4	
	3μm,0.6s								
YAK	**Yakutsk**	**4.13**	**264**	Pn			**Pn**	**12 00 07.6**	**-0.3**
	4.1nm,0.3s,baz=74,slow=7.3,SNR=92								
YAK				Sn			**Sn**	**12 00 55.0**	**-1.1**
	23nm,0.3s,baz=81,slow=19,SNR=14								
YAK				Lg			Lg	12 01 09.8	
	15nm,0.3s,baz=131,slow=19,SNR=12								
YAK	**Yakutsk**	**4.13**	**264**	*i* Pn			**Pn**	**12 00 07.5**	**-0.3**
	185nm,0.3s								
YAK				*i* Pn			Pb	12 00 07.9	-10
YAK				*i* Pn			Pb	12 00 07.9	-10
YAK				*ePg*			Pg	12 00 17.3	-6.5
	3μm,0.8s								
YAK				*eSn*			**Sn**	**12 00 54.7**	**-1.4**
	3μm,0.7s								
YAK				*eSn*			**Sn**	**12 00 54.7**	**-1.4**
	2μm,0.5s								
YAK				*eSg*			**Sb**	**12 01 11.5**	**+4.2**
	6μm,0.7s								
YAK				*eSg*			**Sb**	**12 01 11.5**	**+4.2**
	8μm,0.7s								
YAK	**Yakutsk**	**4.13**	**264**	*i* Pn			**Pn**	**12 00 07.6**	**-0.3**
YAK				*ePn*			**Pn**	**12 00 07.6**	**-0.3**
YAK				*ePn*			**Pn**	**12 00 07.6**	**-0.3**
YAK				*ePg*			**Pb**	**12 00 18.1**	**+0.7**
	645nm,0.3s								
YAK				*eSn*			**Sn**	**12 00 55.5**	**-0.7**
YAK				*eSn*			**Sn**	**12 00 55.5**	**-0.7**
YAK				*eSg*			**Sg**	**12 01 13.1**	**-4.2**
	5μm,0.7s								
YAK	**Yakutsk**	**4.13**	**264**	*eP*			**Pn**	**12 00 07.9**	**+0.1**
YAK				*e*				12 00 54.7	
YAK				pmax			pmax		
	comp=Z,217nm,0.3s								
YAK				smax			smax		
	comp=E,1μm,0.5s								
YAK				smax			smax		
	comp=N,1μm,0.5s								
YAK	**Yakutsk**	**4.13**	**264**	Pn			**Pn**	**12 00 08.0**	**+0.2**
YAK				Sn			**Sn**	**12 00 55.8**	**-0.4**
TBGR	**Tabaga**	**4.21**	**261**	*i* Pn			**Pn**	**12 00 08.7**	**-0.1**
	comp=N,2μm,0.5s								
TBGR				*i* Pg			**Pb**	**12 00 18.8**	**0.0**
	comp=N,8μm,0.8s								
TBGR				*i* Sn			**Sn**	**12 00 57.6**	**-0.3**
	comp=N,9μm,0.8s								
TBGR				*i* Sn			**Sn**	**12 00 57.6**	**-0.3**
	comp=N,5μm,0.4s								
TBGR				*i* Sg			**Sb**	**12 01 13.9**	**+4.4**
	comp=N,12μm,0.5s								
TBGR				*i* Sg			**Sb**	**12 01 13.9**	**+4.4**
	comp=N,32μm,1.2s								
TBGR	**Tabaga**	**4.21**	**261**	*ePn*			**Pn**	**12 00 08.8**	**-0.1**
TBGR				*ePn*			**Pn**	**12 00 08.8**	**-0.1**
TBGR				*ePn*			**Pn**	**12 00 08.8**	**-0.1**
TBGR				*ePg*			**Pb**	**12 00 19.5**	**+0.7**
	comp=N,463nm,0.2s								
TBGR				*eSn*			**Sn**	**12 00 57.9**	**-0.1**
TBGR				*eSn*			**Sn**	**12 00 57.9**	**-0.1**
TBGR				*eSg*			**Sg**	**12 01 14.8**	**-4.9**
	comp=N,5μm,0.2s								
MOMR	**Moma**	**4.27**	**27**	*ePn*			**Pn**	**12 00 10.3**	**+0.5**
	comp=N,154nm,0.3s								
MOMR				*i* Pg			**Pb**	**12 00 20.8**	**+0.8**
	comp=N,1μm,0.6s								
MOMR				*i* Sn			**Sn**	**12 00 59.7**	**+0.1**
	comp=N,727nm,0.4s								
MOMR				*i* Sn			**Sn**	**12 00 59.7**	**+0.1**
	comp=N,813nm,0.5s								
MOMR				*i* Sg			**Sg**	**12 01 17.2**	**-4.6**
	comp=N,9μm,0.8s								
MOMR				*i* Sg			**Sg**	**12 01 17.2**	**-4.6**
	comp=N,8μm,0.7s								
MOMR	**Moma**	**4.27**	**27**	*i* Pn			**Pn**	**12 00 10.4**	**+0.5**
MOMR				*ePn*			**Pn**	**12 00 10.4**	**+0.5**
MOMR				*ePn*			**Pn**	**12 00 10.4**	**+0.5**
MOMR				*ePg*			**Pb**	**12 00 21.1**	**+1.1**
	comp=N,756nm,0.5s								
MOMR				*eSg*			**Sb**	**12 01 16.1**	**+4.6**
	comp=N,9μm,0.8s								
MOMR				*eSg*			**Sb**	**12 01 16.1**	**+4.6**
	comp=N,8μm,1.0s								
SUUS	**Susuman**	**4.48**	**85**	*eP*			**Pn**	**12 00 13.8**	**+1.1**
SUUS				Pmax				12 00 14.2	
	comp=N,300nm,0.3s								
SUUS				*ePg*			**Pg**	**12 00 27.9**	**-2.7**
SUUS				Pgmax				12 00 29.8	
	comp=N,700nm,0.5s								
SUUS				*eSg*			**Sg**	**12 01 25.2**	**-3.3**
SUUS				Sgmax				12 01 31.4	
	comp=N,2μm,0.4s								
SUUS				Sgmax				12 01 31.4	
	comp=N,2μm,0.4s								
SUUS	**Susuman**	**4.48**	**85**	*i* Pn			**Pn**	**12 00 13.8**	**+1.1**
	comp=N,300nm,0.3s								
SUUS				*ePg*			**Pb**	**12 00 19.9**	**-3.7**
	comp=N,700nm,0.5s								
SUUS				*i* Sg			**Sg**	**12 01 25.3**	**-3.3**
	comp=N,2μm,0.4s								
OCHR	**Omchak**	**4.55**	**99**	*eP*			**Pn**	**12 00 15.3**	**+1.6**
OCHR				Pmax				12 00 15.6	
	comp=N,300nm,0.3s								
OCHR				*ePg*			**Pb**	**12 00 27.2**	**+2.5**
OCHR				Pgmax				12 00 29.8	
	comp=N,400nm,0.3s								
OCHR				*eSg*			**Sg**	**12 01 25.5**	**-5.3**
OCHR				Sgmax				12 01 37.4	
	comp=N,2μm,0.6s								
OCHR	**Omchak**	**4.55**	**99**

comp=N,202nm,0.3s,baz=283,slow=15,SNR=3381
SEY Sn **Sn 12 01 52.6 +0.7**
baz=75,slow=20,SNR=1.0
SEY Lg Lg 12 02 28.1
comp=N,94nm,0.3s,baz=297,slow=18,SNR=4.9
SEY Seymchan 6.40 82 *e*P **Pn 12 00 38.3 -0.7**
SEY Pmax 12 00 41.0
comp=N,700nm,0.4s
SEY *e*Sg **Sg 12 02 21.8 -8.1**
SEY Sgmax 12 02 39.4
comp=N,1μm,0.5s
SEY Seymchan 6.40 82 *e*Pn **Pn 12 00 38.3 -0.7**
comp=N,700nm,0.4s
SEY *e*Sg **Sg 12 02 21.8 -8.1**
comp=N,1μm,0.5s
SEY Seymchan 6.40 82*ce*P **Pn 12 00 40.1 +1.1**
MGD Magadan 1 6.50 109 *e*P **Pn 12 00 40.4 +0.1**
MGD Pmax 12 00 42.3
comp=N,30nm,0.5s
MGD *e*Sg **Sg 12 02 27.3 -5.8**
MGD Sgmax 12 02 33.0
comp=N,800nm,0.4s
MGD Magadan 1 6.50 109 *e*Pn **Pn 12 00 40.4 +0.1**
comp=N,30nm,0.5s
MGD *e*Sg **Sg 12 02 27.4 -5.8**
comp=N,800nm,0.4s
DEPR Deputatskiy 6.71 4 *i* Pn **Pn 12 00 43.0 -0.2**
comp=N,128nm,0.7s
DEPR *i* Sn **Sn 12 01 57.1 -2.5**
comp=N,715nm,0.7s
DEPR *i* Sg **Sg 12 02 32.7 -7.2**
comp=N,3μm,1.2s
DEPR Deputatskiy 6.71 4 *e*Pn **Pn 12 00 42.8 -0.4**
DEPR *i* Pn **Pn 12 00 42.8 -0.4**
DEPR *e*Pn **Pn 12 00 42.8 -0.4**
DEPR *e*Pg **Pb 12 01 03.8 +2.4**
comp=N,42nm,0.5s
DEPR *e*Sn **Sn 12 01 57.3 -2.3**
DEPR *e*Sn **Sn 12 01 57.3 -2.3**
DEPR *e*Sg **Sg 12 02 31.8 -8.1**
DEPR *e*Sg Sb 12 02 31.9 +10
comp=N,3μm,1.2s
MA2 Magadan 6.76 112 Pn **Pn 12 00 44.1 +0.1**
comp=N,2.6nm,0.3s,baz=309,slow=13,SNR=12
MA2 Lg Lg 12 02 33.7
comp=N,37nm,0.3s,baz=12,slow=20,SNR=16
MA2 LR LR 12 03 49.9
comp=N,179nm,19.9s,baz=303,slow=42
MA2 Magadan 6.76 112 *e*P **Pn 12 00 44.0 +0.1**
MA2 Pmax 12 00 45.2
comp=N,10.0nm,0.3s
MA2 *e* 12 00 59.8
MA2 *e*Sg **Sg 12 02 33.9 -7.7**
MA2 Sgmax 12 02 43.6
MA2 Magadan 6.76 112 *e*Pn **Pn 12 00 44.1 +0.1**
comp=N,10.0nm,0.3s
MA2 *e*Sg **Sg 12 02 33.9 -7.7**
comp=N,800nm,0.7s
MA2 Magadan 6.76 112*d i*P **Pn 12 00 43.9 -0.1**
MA2 pmax pmax
comp=Z,8.0nm,0.6s
MA2 Magadan 6.76 112 Pn **Pn 12 00 43.7 -0.3**
TLAR Talaya 6.79 98 *e*P **Pn 12 00 45.3 +0.9**
TLAR *e*Pg **Pb 12 01 07.0 +4.2**
TLAR Pgmax 12 01 09.9
comp=Z,40nm,0.4s
TLAR *e*Sg **Sg 12 02 35.9 -6.6**
TLAR Sgmax 12 02 46.3
comp=Z,3μm,0.4s
TLAR Talaya 6.79 98 *i* Pn **Pn 12 00 45.1 +0.7**
TLAR *i* Pg **Pb 12 01 06.6 +3.7**
comp=Z,40nm,0.4s
TLAR *e*Sg **Sg 12 02 35.9 -6.6**
comp=Z,3μm,0.4s
OKH Okha 9.52 163*de*P **Pn 12 01 23.1 +1.4**
OKH *e*S **Sn 12 03 03.0 -5.6**
OKH MLR MLR
comp=Z,800nm,10.0s
OKH MLR MLR
comp=N,1μm,12.0s
TIXI Tiksi 9.67 342 Pn **Pn 12 01 22.1 -1.6**
comp=N,20nm,0.3s,baz=134,slow=15,SNR=303
TIXI Sn **Sn 12 03 07.1 -5.1**
comp=N,22nm,0.3s,baz=186,slow=17,SNR=6.1
TIXI Lg Lg 12 04 06.1
comp=N,2.0nm,0.3s,baz=229,slow=20,SNR=3.2
TIXI Tiksi 9.67 342*d i*P **Pn 12 01 22.0 -1.7**
TIXI pmax pmax
comp=Z,314nm,0.7s
TIXI Tiksi 9.67 342 Pn **Pn 12 01 22.5 -1.2**
TIXI Sn **Sn 12 03 08.0 -4.2**
ZEA Zeya 10.76 218*de*P **Pn 12 01 39.4 +0.7**
ZEA *e*S **Sn 12 03 35.6 -3.4**
ZEA pmax pmax
comp=E,100nm,0.7s
ZEA pmax pmax
comp=N,200nm,0.8s
ZEA pmax pmax
comp=Z,200nm,0.9s
ZEA pmax pmax
comp=N,150nm,0.7s
ZEA pmax pmax
comp=E,60nm,0.7s
ZEA pmax pmax
comp=Z,160nm,0.7s
ZEA smax smax
comp=N,100nm,1.4s
ZEA MLR MLR
comp=E,900nm,3.0s
ZEA MLR MLR
comp=N,1μm,4.0s
ZEA MLR MLR
comp=Z,1μm,4.0s
GRNR Gornyy 12.05 186⇑ *i*P **Pn 12 01 57.5 +1.1**
GRNR *e*S **Sn 12 04 15.4 +4.7**
GRNR pmax pmax
comp=Z,2.0nm,0.6s
GRNR smax smax
comp=N,8.0nm,0.5s
GRNR MLR MLR
comp=E,290nm,11.0s
GRNR MLR MLR
comp=Z,1μm,17.0s
TYV Tymovskoe 12.13 167 *e*P **Pn 12 01 59.4 +2.0**
TYV *e*S **Sn 12 04 18.6 +6.0**
TYV pmax pmax
comp=Z,26nm,1.2s
TYV pmax pmax
comp=Z,100nm,2.7s
TYV smax smax
comp=E,15nm,0.9s
TYV MLR MLR
comp=Z,1μm,17.0s
BILL Bilibino 12.68 53⇓ *e*P **Pn 12 02 06.6 +1.7**
BILL *e*S **Sn 12 04 29.5 +3.7**
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,1μm,12.0s
BILL Bilibino 12.68 53 Pn **Pn 12 02 05.1 +0.3**
BOD Bodaibo 13.03 259 *e*P **Pn 12 02 05.2 -4.5**
BOD pmax pmax
comp=Z,89nm,0.8s
UGL Uglegorsk 13.84 170 *e*P Pn 12 02 12.8 -8.0
UGL pmax pmax
comp=Z,60nm,1.3s
UGL MLR MLR
comp=E,1μm,9.0s
UGL MLR MLR
comp=N,2μm,13.0s
UGL MLR MLR
comp=Z,1μm,13.0s
PEA0B Petropavlovsk- 14.01 125 P **Pn 12 02 24.7 +1.6**
PEA0B Petropavlovsk- 14.01 125 Pn **Pn 12 02 24.7 +1.6**
PETK Petropavlovsk- 14.01 125 Pn **Pn 12 02 24.5 +1.4**
comp=Z,1.2nm,0.3s,baz=342,slow=6.0,SNR=32
PETK LR LR 12 07 40.3
comp=Z,62nm,18.1s,baz=321,slow=37
PETK Petropavlovsk- 14.01 125 P **Pn 12 02 25.2 +2.1**
PETK Petropavlovsk- 14.01 125 Pn **Pn 12 02 25.2 +2.1**
KLR Kul'dur 14.03 198 Pn **Pn 12 02 24.4 +0.9**
comp=Z,0.5nm,0.3s,baz=14,slow=16,SNR=42
KLR Lg Lg 12 06 13.1
comp=Z,0.6nm,0.3s,baz=308,slow=19,SNR=2.4
KLR LR LR 12 07 45.5
comp=Z,634nm,18.0s,baz=12,slow=37
KLR Kul'dur 14.03 198*d i*P **Pn 12 02 25.0 +1.5**
KLR MLR MLR
comp=Z,707nm,9.0s
YSS Yuzh-Sakhalins 16.01 169 *e*P **Pn 12 02 50.7 +0.9**
YSS *e*S **Sn 12 05 46.7 -0.4**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=N,4μm,14.0s
YSS MLR MLR
comp=Z,800nm,14.0s
YSS Yuzh-Sakhalins 16.01 169 Pn **Pn 12 02 49.5 -0.3**
HIA Hailar 16.97 226 P **Pn 12 03 01.0 -1.1**
HIA pmax pmax
comp=Z,35nm,0.8s
HIA Hailar 16.97 226 **Pn 12 03 01.0 -1.1**
TEY Ternei 17.77 184⇑ *e*P **P 12 03 12.4 -0.4**
TEY pmax pmax
comp=N,20nm,0.8s
ASAJ Asahikawa 18.82 171 P **P 12 03 24.0 -0.3**
comp=N,2.1nm,0.3s,baz=342,slow=2.9,SNR=41
ASAJ LR LR 12 11 10.0
comp=N,273nm,20.2s,baz=23,slow=39
ASAJ Asahikawa 18.82 171 P **Pn 12 03 24.9 +0.1**
ASAJ pmax pmax
comp=Z,29nm,0.9s
JKA Kamikawa-asahi 18.82 171 P **Pn 12 03 24.9 +0.1**
MDJ Mudanjiang 18.86 200 P **Pn 12 03 25.8 +0.5**
MDJ pmax pmax
comp=Z,20nm,0.6s
MDJ LR LR
comp=Z,1μm,10.2s
MDJ LR LR
comp=Z,3μm,12.9s
MDJ LR LR
comp=Z,2μm,10.2s
MDJ Mudanjiang 18.86 200 P **Pn 12 03 25.5 +0.2**
MDJ IAmb IAmb 12 03 28.6
comp=Z,48nm,0.7s
USA0B Ussuriysk Arra 18.95 194 P **Pn 12 03 26.5 +0.1**
USA0B pmax pmax
comp=Z,28nm,0.6s
USA0B Ussuriysk Arra 18.95 194 P **Pn 12 03 26.5 +0.1**
USRK Ussuriysk Ar. 18.95 194 P **Pn 12 03 26.7 +0.4**
baz=9.8,slow=11,SNR=134
USRK Lg Lg 12 08 50.7
baz=343,slow=24,SNR=2.8
USRK LR LR 12 11 00.4
comp=Z,515nm,18.8s,baz=6.9,slow=38
YUK Yuzh-Kuril'sk 19.23 164 *e*P **P 12 03 26.8 -2.0**
YUK *i* S **Sn 12 07 05.4 +0.3**
YUK pmax pmax
comp=N,108nm,1.3s
YUK pmax pmax
comp=Z,138nm,1.3s
JEW Eniwo 20.01 173 P Pn 12 03 39.1 0.0
JEW IAmb IAmb 12 03 52.5
comp=Z,98nm,1.0s
MSHR Mys Shultsa 20.64 195*ce*P **P 12 03 44.3 +0.1**
MSHR pmax pmax
comp=Z,31nm,0.8s
IRK Irkutsk 20.88 256 *e*P **P 12 03 47.4 +0.7**
IRK *e* 12 07 29.7
IRK pmax pmax
comp=Z,136nm,1.8s
ERM Erimo 20.95 170 P **P 12 03 45.9 -1.6**
ERM pmax pmax
comp=Z,37nm,0.7s
ERM Erimo 20.95 170 P **P 12 03 45.9 -1.6**
ERM IAmb IAmb 12 03 51.0
comp=Z,37nm,0.7s
TLY Talaya 21.55 255 P **P 12 03 54.5 +0.6**
comp=Z,2.2nm,0.3s,baz=15,slow=9.3,SNR=3.9
TLY S **S 12 07 46.6 -5.9**
comp=Z,3.0nm,0.4s,baz=12,slow=14,SNR=1.7
TLY Lg Lg 12 10 10.3
comp=Z,7.6nm,0.7s,baz=61,slow=19,SNR=1.4
TLY Talaya 21.55 255 *e*P **P 12 04 01.1 +7.2**
TLY *e*S Sn 12 08 02.5 +1.7
TLY pmax pmax
comp=Z,40nm,0.7s
TLY MLR MLR
comp=Z,472nm,8.0s
JTM Tenmabayashi 22.04 175 P **P 12 03 58.2 -1.1**
JTM IAmb IAmb 12 04 00.7
comp=Z,33nm,1.0s
ZAK Zakamensk 22.63 253 *e*P **P 12 04 07.4 +1.7**
ZAK pmax pmax
comp=Z,27nm,1.4s
MOY Mondy 22.74 258 *e*P **P 12 04 08.3 +1.4**
MOY pmax pmax
comp=Z,55nm,1.5s
ULN Ulaanbaatar 22.92 244 P **P 12 04 09.2 +0.4**
ULN pmax pmax
comp=Z,42nm,1.3s
ULN Ulaanbaatar 22.92 244 P **P 12 04 09.2 +0.4**
ULN IAmb IAmb 12 04 15.3
comp=Z,42nm,1.2s
SONM Songino Array 23.22 245 P **P 12 04 12.4 +0.5**
comp=Z,12nm,0.7s,baz=40,slow=9.1,SNR=63
SONM Lg Lg 12 11 06.6
comp=Z,20nm,0.9s,baz=41,slow=30,SNR=6.0
SONM LR LR 12 13 31.9
comp=Z,516nm,19.0s,baz=37,slow=38
SONM Songino Array 23.22 245 P **P 12 04 12.2 +0.3**
SONM pmax pmax
comp=Z,16nm,1.0s
SONM Songino Array 23.22 245 P **P 12 04 12.2 +0.3**
RDOG Red Dog Mine 24.14 52 P **P 12 04 20.8 +0.4**
RDOG Red Dog Mine 24.14 52 P 12 04 20.3
baz=286
ANM Nome 24.32 61 P **P 12 04 21.1 -1.1**
ANM pmax pmax
comp=Z,27nm,0.8s
ANM Nome 24.32 61 P **P 12 04 21.1 -1.1**
ANM IAmb IAmb 12 04 30.5
comp=Z,26nm,0.8s
ANM Nome 24.32 61 P 12 04 23.4
baz=292
AMKA Amchitka 24.51 99 P **P 12 04 23.6 -0.3**
JSD Sado 24.73 180 P **P 12 04 25.4 -0.7**
JSD IAmb IAmb 12 04 26.3
comp=Z,53nm,1.2s
JMM Marumori 24.95 176 P **P 12 04 27.3 -0.6**
JMM IAmb IAmb 12 04 50.4
comp=Z,22nm,0.7s
A21K Barrow 25.43 43 P **P 12 04 31.1 -1.0**
A21K IAmb IAmb 12 04 38.8
comp=Z,59nm,1.2s
A21K Barrow 25.43 43 P 12 04 33.1
baz=284,SNR=16
DL2 Dalian 25.95 211 P **P 12 04 40.9 +3.9**
DL2 pmax pmax
comp=Z,26nm,0.9s
DL2 LR LR
comp=Z,890nm,15.1s
DL2 LR LR
comp=Z,2μm,15.5s
DL2 LR LR
comp=Z,840nm,13.6s
ADK Adak 26.00 94 P **P 12 04 38.2 +0.8**
ADK pmax pmax
comp=Z,149nm,1.4s
ADK Adak 26.00 94 P **P 12 04 38.2 +0.8**
KS19 Wonju Array Si 26.09 199 P **P 12 04 39.2 +0.8**
KS19 IAmb IAmb 12 05 01.5
comp=Z,42nm,1.4s
KSRS Korea Array 26.12 199 P **P 12 04 37.5 -1.1**
comp=Z,3.9nm,0.6s,baz=9.7,slow=9.1,SNR=17
KSRS LR LR 12 15 22.5
comp=Z,384nm,18.4s,baz=18,slow=38
KSAR Wonju Array Be 26.14 199 P **P 12 04 37.0 -1.8**
KSAR Wonju Array Be 26.14 199 P **P 12 04 37.0 -1.8**
MAJO Matsushiro 26.22 180*d i*P **P 12 04 39.7 +0.1**
MAJO pmax pmax
comp=Z,16nm,0.7s
MAJO Matsushiro 26.22 180 P **P 12 04 38.8 -0.8**
MAJO IAmb IAmb 12 04 41.2
comp=Z,17nm,0.8s
MAT Matsushiro 26.22 180 P **P 12 04 38.3 -1.3**
MAT S **S 12 09 20.2 +8.6**
MJAR Matsushiro Arr 26.23 180 P **P 12 04 38.5 -1.1**
comp=Z,22nm,0.8s,baz=358,slow=10.0,SNR=41
MJAR LR LR 12 15 13.9
comp=Z,156nm,18.4s,baz=20,slow=37
MJAR Matsushiro Arr 26.23 180 P **P 12 04 40.0 +0.4**
MJAR pmax pmax
comp=Z,13nm,0.9s
MJAR Matsushiro Arr 26.23 180 P **P 12 04 40.0 +0.4**
BJI Beijing 26.36 221 P **P 12 04 41.3 +0.5**
BJI S **S 12 09 16.3 +2.7**
BJI pmax pmax
comp=Z,51nm,0.8s
BJI LR LR
comp=Z,790nm,5.9s
BJI LR LR
comp=Z,1μm,7.1s
BJT Baijiatuao 26.38 221 P **P 12 04 41.2 +0.2**
BJT pmax pmax
comp=Z,37nm,0.7s
BJT Baijiatuao 26.38 221 P **P 12 04 41.1 +0.2**
JYT Yasato 26.56 177 P **P 12 04 41.1 -1.5**
JYT IAmb IAmb 12 05 07.1
comp=Z,25nm,1.0s
HHC Hu-ho-hao-te 27.12 229 *e*P **P 12 04 49.0 +1.2**
HHC S **S 12 09 25.6 -0.3**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,94nm,4.9s
HHC LR LR
comp=Z,1μm,11.5s
HHC LR LR
comp=Z,2μm,10.6s
HHC LR LR
comp=Z,560nm,11.3s
JGF Kuroka 27.17 182 P **P 12 04 48.3 +0.1**
JGF IAmb IAmb 12 04 50.3
comp=Z,27nm,0.8s
TJN Taejon 27.26 200*ce*P **P 12 04 48.3 -0.6**
INU Inuyama 27.43 182 P **P 12 04 50.2 -0.3**
INU IAmb IAmb 12 04 53.9
comp=Z,21nm,1.1s
JWT Wachi 27.55 185 P **P 12 04 51.3 -0.2**
JWT IAmb IAmb 12 04 53.2
comp=Z,13nm,0.7s
JHS Saijyo 27.96 189 P **P 12 04 55.2 -0.1**
IMAR Indian Mountai 28.23 53 P **P 12 04 58.1 +0.7**
TOLK Toolik Lake Re 28.59 47 P **P 12 05 00.7 +0.1**
TOLK Toolik Lake Re 28.59 47 P 12 05 00.9
baz=294
ZAA0 Zalesovo Array 28.66 277 P **P 12 05 00.4 -0.8**
ZALV Zalesovo Beam 28.66 277 P **P 12 05 00.7 -0.5**
comp=Z,1.5nm,0.4s,baz=45,slow=9.4,SNR=4.8
ZALV LR LR 12 17 34.7
comp=Z,173nm,18.2s,baz=13,slow=39
ZALV Zalesovo Beam 28.66 277 P **P 12 05 01.4 +0.2**
ZALV Zalesovo Beam 28.66 277 P **P 12 05 01.4 +0.2**
COLD Coldfoot 28.97 50 P **P 12 05 02.3 -1.6**
COLD Coldfoot 28.97 50 P 12 05 04.6
baz=296,SNR=10
JMN Monobe 29.17 188 P **P 12 05 06.0 -0.1**
JMN IAmb IAmb 12 05 16.4
comp=Z,25nm,0.9s
JHJ Hachijo jima 2 29.65 178 P **P 12 05 10.0 -0.2**
comp=Z,76nm,0.8s,baz=270,slow=20,SNR=3.0
CHUM Lake Minchumin 29.76 57 P 12 05 11.5
baz=300,SNR=7.6
MLY Manley 29.79 54 P **P 12 05 12.6 +1.4**
MLY IAmb IAmb 12 05 17.6
comp=Z,23nm,1.3s
MLY Manley 29.79 54 P 12 05 11.9
baz=299
SVW2 Sparrevohn 29.90 63 P **P 12 05 13.7 +1.5**
JNU Nakatsue 30.02 193 P **P 12 05 13.7 +0.1**
comp=Z,7.3nm,0.8s,baz=268,slow=7.3,SNR=5.0
JNU Nakatsue 30.02 193 P **P 12 05 13.9 +0.3**
BPAW Bear Paw Mtn. 30.15 56 P **P 12 05 15.3 +0.8**
BPAW IAmb IAmb 12 05 21.4
comp=Z,19nm,1.0s
BPAW Bear Paw Mtn. 30.16 56 P 12 05 14.9
baz=300
I23K Minto, Yukon-K 30.24 53 P **P 12 05 16.5 +1.3**
I23K IAmb IAmb 12 05 21.8
comp=Z,37nm,1.3s
I23K Minto, Yukon-K 30.24 53 P 12 05 15.9
baz=300
PPLA Purkeypile 30.31 58 P 12 05 16.2
baz=301
DGZ Jazzator, Alta 30.31 269⇑ *e*P **P 12 05 16.5 +0.4**
DGZ pmax pmax
comp=Z,7.0nm,1.1s
KTH Kantishna Hill 30.46 56 P **P 12 05 18.0 +0.8**
KTH IAmb IAmb 12 05 24.2
comp=Z,23nm,1.0s
NEA2 Nenana 30.63 54 P 12 05 19.1
baz=300
MDM Murphy Dome 30.75 53 P **P 12 05 20.3 +0.6**
MDM IAmb IAmb 12 05 26.0
comp=Z,18nm,1.1s
TRF Thorofare Moun 30.75 56 P **P 12 05 20.1 +0.1**
TRF Thorofare Moun 30.75 56 P 12 05 20.1
baz=302
BMAR Burnt Mountain 30.81 47 P **P 12 05 21.2 +1.0**
TCOL CIGO, UAF Yank 30.93 53 P **P 12 05 23.1 +1.9**
TCOL IAmb IAmb 12 05 26.7
comp=Z,16nm,0.9s
TCOL CIGO, UAF Yank 30.93 53 P 12 05 22.0
baz=301
COLA College 30.93 53⇑ *e*P **P 12 05 22.0 +0.8**
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 30.93 53 P **P 12 05 21.9 +0.6**
COLA IAmb IAmb 12 05 26.7
comp=Z,14nm,0.9s
COLA College 30.93 53 P 12 05 22.0
baz=301
POKR Poker Plat Res 30.96 52 P **P 12 05 22.3 +0.7**
POKR IAmb IAmb 12 05 27.3
comp=Z,12nm,1.0s
POKR Poker Plat Res 30.96 52 P 12 05 22.1
baz=301
FYU Fort Yukon 31.01 49 P **P 12 05 22.8 +0.9**
FYU IAmb IAmb 12 05 28.5
comp=Z,28nm,1.1s
WRH Wood River Hil 31.05 54 P **P 12 05 23.5 +1.2**
WRH IAmb IAmb 12 05 27.7
comp=Z,12nm,0.9s
SKT Skwentna 31.06 59 P **P 12 05 23.6 +1.1**
CCB Clear Creek Bu 31.07 53 P **P 12 05 23.5 +1.1**
MCK McKinley 31.12 55 P **P 12 05 23.8 +0.8**
MCK pmax pmax
comp=Z,23nm,0.9s
MCK McKinley 31.12 55 P **P 12 05 23.8 +0.8**
MCK IAmb IAmb 12 05 31.0
comp=Z,23nm,0.9s
MCK McKinley 31.12 55 P 12 05 23.9
baz=302,SNR=14
SPCR Spurr Chakacha 31.22 61 P 12 05 24.7
baz=304
CUT Chulitna 31.32 58 P **P 12 05 25.5 +0.8**
CUT Chulitna 31.32 58 P 12 05 25.2
baz=303
RND Reindeer 31.33 56 P **P 12 05 24.6 -0.3**
RND pmax pmax
comp=Z,12nm,1.0s
RND Reindeer 31.33 56 P **P 12 05 24.6 -0.3**
RND IAmb IAmb 12 05 35.6
comp=Z,12nm,1.0s
IL31 31.34 53 P **P 12 05 25.4 +0.5**
IL31 IAmb IAmb 12 05 30.2
comp=Z,19nm,0.9s
ILAR Eielson Array 31.34 53 P **P 12 05 25.1 +0.3**
comp=Z,12nm,0.9s,baz=300,slow=7.9,SNR=29
ILAR LR LR 12 18 05.1
comp=Z,215nm,18.3s,baz=303,slow=36
PRP Porcupine Dome 31.44 51 P **P 12 05 25.9 -0.1**
PRP Porcupine Dome 31.44 51 P 12 05 26.4
baz=301
HDA Harding Lake 31.51 53 P 12 05 27.1
baz=302
HDA P 12 05 27.1
baz=302
SUA Susitna One 31.66 60 P **P 12 05 28.6 +0.7**
SUA IAmb IAmb 12 05 35.6
comp=Z,27nm,1.1s
SUA Susitna One 31.66 60 P 12 05 28.1
baz=304
WAT2 Susitna Watana 31.67 56 P 12 05 28.1
baz=303
GHO Glory Hole Cre 32.20 58 P **P 12 05 33.0 +0.4**
WAT6 Susitna Watana 32.20 57 P 12 05 32.8

baz=304
PMR Palmer 32.22 59 P P 12 05 33.0 +0.4
PMR pmax pmax
comp=Z,13nm,0.9s
PMR Palmer 32.22 59 P P 12 05 33.0 +0.4
PMR lAmb lAmb 12 05 37.2
comp=Z,13nm,0.9s
PMR Palmer 32.22 59 P 12 05 33.1
baz=305
SML Sawmill 32.41 58 P P 12 05 34.5 +0.1
SML Sawmill 32.41 58 P 12 05 35.1
baz=305,SNR=10.0
KNK Knik Glacier 32.59 59 P P 12 05 36.0 0.0
KNK Knik Glacier 32.59 59 P 12 05 36.4
baz=305
O22K Cooper Landing 32.63 61 P 12 05 37.0
baz=306
SCM Sheep Creek Mo 32.79 57 P P 12 05 38.3 +0.6
SCM pmax pmax
comp=Z,30nm,0.9s
SCM Sheep Creek Mo 32.79 57 P P 12 05 38.2 +0.6
SCRK Sand Creek 32.83 53 P 12 05 38.9
baz=304
PAX Paxson 32.85 55 P P 12 05 38.2 0.0
PAX pmax pmax
comp=Z,7.0nm,0.8s
PAX Paxson 32.85 55 P P 12 05 38.2 0.0
PAX Paxson 32.85 55 P 12 05 38.7
baz=304
GTA Gaotai 32.85 243 *eP* **P 12 05 39.3 +0.8**
GTA pP sP 12 05 43.5 +0.2
GTA sP pP 12 05 47.0 +5.0
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,66nm,7.2s
GTA LR LR
comp=Z,740nm,11.2s
GTA LR LR
comp=Z,460nm,9.6s
GTA LR LR
comp=Z,760nm,10.8s
PWL Port Wells 32.96 59 P P 12 05 39.8 +0.6
PWL lAmb lAmb 12 05 54.9
comp=Z,15nm,0.8s
SEW Seward 32.96 61 P P 12 05 38.9 -0.2
SEW lAmb lAmb 12 05 43.8
comp=Z,25nm,1.0s
DOT Dot Lake 32.99 53 P P 12 05 38.9 -0.5
DOT lAmb lAmb 12 05 44.5
comp=Z,14nm,0.8s
KDAK Kodiak Island 33.07 66 P P 12 05 40.7 +0.6
comp=Z,15nm,1.0s,baz=315,slow=5.7,SNR=1.8
M24K Tolsona, Glenn 33.08 57 P P 12 05 40.9 +0.7
M24K Tolsona, Glenn 33.08 57 P 12 05 41.1
baz=305
ZSN Zaisan 33.11 268 *eP* **P 12 05 40.6 0.0**
comp=Z,3.7nm,0.9s,baz=268
ZSN Zaisan 33.11 268 *eP* **P 12 05 40.6 0.0**
ZSN pmax pmax
comp=Z,4.0nm,0.9s
NJ2 Nanjing 33.15 211 *eP* **P 12 05 42.4 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
EGAK Eagle 33.40 50 P P 12 05 43.8 +1.0
EGAK Eagle 33.40 50 P 12 05 43.1
baz=304
K27K Chicken 33.49 52 P P 12 05 43.7 0.0
K27K lAmb lAmb 12 05 48.8
comp=Z,13nm,1.2s
K27K Chicken 33.50 52 P 12 05 44.2
baz=305
MENT Mentasta 33.52 54 P P 12 05 44.7 +0.6
MENT lAmb lAmb 12 05 57.4
comp=Z,14nm,0.8s
KLU Klutina 33.53 57 P P 12 05 44.2 0.0
KLU lAmb lAmb 12 05 50.9
comp=Z,22nm,1.1s
KLU Klutina 33.53 57 P 12 05 44.6
baz=306
KURK Kurchatov 33.65 277 P P 12 05 45.2 0.0
KURBB Kurchatov Arra 33.75 277 P P 12 05 45.2 -0.9
comp=Z,22nm,0.8s,baz=49,slow=9.0,SNR=98
KURBB PP **PnPn 12 06 51.9 -6.1**
comp=Z,5.9nm,0.7s,baz=46,slow=12,SNR=1.3
N25K Chitina, Valde 33.98 56 P P 12 05 48.9 +0.8
N25K Chitina, Valde 33.98 56 P 12 05 49.2
baz=307,SNR=7.2
EPYK Eagle Plains 34.01 46 P 12 05 48.6
baz=305
BCAR Beaver Creek A 34.16 53 P P 12 05 50.1 +0.5
EYAK Cordova Ski Ar 34.17 59 P P 12 05 50.3 +0.7
XAN Xi'an 34.17 227 P P 12 05 49.5 -0.4
XAN pP sP 12 05 57.9 +3.1
XAN PcP **PcP 12 08 26.8 +0.1**
XAN pmax pmax
comp=Z,7.0nm,0.7s
EYAK Cordova Ski Ar 34.17 59 P 12 05 50.4
baz=307
BMRM Bremner River 34.36 57 P P 12 05 52.3 +1.0
BMRM Bremner River 34.36 57 P 12 05 52.3
baz=307
GLB Gilahina Butte 34.38 56 P P 12 05 52.9 +1.3
GLB lAmb lAmb 12 05 57.2
comp=Z,27nm,0.9s
DAWY Dawson 34.44 50 P P 12 05 51.5 -0.5
WMQ Urumqi 34.56 261 *eP* **P 12 05 58.0 +4.7**
WMQ sP sP 12 06 02.8 +4.7
WMQ pmax pmax
comp=Z,93nm,3.8s
WMQ LR LR
comp=Z,310nm,18.9s
VRDI Verde Repeater 34.64 56 P P 12 05 54.4 +0.4
MCARA McCarthy VSAT 34.71 56 P P 12 05 56.1 +1.7
MCARA lAmb lAmb 12 06 08.1
comp=Z,25nm,0.9s
MCARA McCarthy VSAT 34.71 56 P 12 05 55.5
baz=308
MK31 Makanchi Array 34.78 269 P P 12 05 55.1 0.0
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 34.78 269 P P 12 05 55.1 0.0
MKAR Makanchi Array 34.78 269 P P 12 05 54.7 -0.5
comp=Z,1.9nm,0.5s,baz=56,slow=7.5,SNR=33
MKAR PP **PnPn 12 07 03.5 -7.6**
comp=Z,3.6nm,0.5s,baz=50,slow=10,SNR=3.6
MKAR LR LR 12 19 54.7
comp=Z,96nm,20.9s,baz=38,slow=36
MKAR Makanchi Array 34.78 269 P P 12 05 54.8 -0.3
MAKZ Makanchi 34.92 270 P P 12 05 55.9 -0.4
MAKZ pmax pmax
comp=Z,9.0nm,0.6s
MAKZ Makanchi 34.92 270 P P 12 05 55.9 -0.4
MAKZ lAmb lAmb 12 06 04.5
comp=Z,8.7nm,0.6s
CRQM Cirque 35.05 57 P P 12 05 58.4 +0.9
SPA0 Spitsbergen Ar 35.09 342 *eP* **P 12 05 59.0 +1.5**
TGL Tana Glacier 35.17 57 P P 12 05 59.4 +0.9
EUNU Eureka 35.18 12 P P 12 05 58.2 0.0
EUNU lAmb lAmb 12 06 04.5
comp=Z,11nm,0.8s
BARN Barnard Glacie 35.43 56 P P 12 06 01.6 +0.8
BARN lAmb lAmb 12 06 07.2
comp=Z,15nm,1.0s
CTGM Chitina Glacie 35.62 56 P P 12 06 03.2 +0.9
CTGM lAmb lAmb 12 06 16.9
comp=Z,44nm,1.4s
BVAR Borovoye Array 35.76 287 P P 12 06 02.6 -0.8
comp=Z,2.0nm,0.4s,baz=81,slow=9.3,SNR=17
BVAR PP **PnPn 12 07 18.8 -4.2**
comp=Z,6.2nm,0.7s,baz=58,slow=14,SNR=5.1
BRVK Borovoye 35.78 287 P P 12 06 03.5 -0.1
BRVK pmax pmax
comp=Z,7.0nm,0.5s
BRVK Borovoye 35.78 287 P P 12 06 03.5 -0.1
BRVK lAmb lAmb 12 06 10.9
comp=Z,6.8nm,0.5s
LOGN Logan Glacier 35.83 56 P P 12 06 04.1 -0.1
LOGN lAmb lAmb 12 06 16.6
comp=Z,17nm,1.0s
YAH Yahtse 35.84 57 P P 12 06 05.4 +1.1
YAH lAmb lAmb 12 06 12.8
comp=Z,26nm,0.8s
SVE Sverdlovsk 37.34 298 *eP* **P 12 06 17.8 +1.0**
TDK Taldyqorghan 37.92 271 *eP* **P 12 06 21.9 0.0**
baz=271
TDK Taldyqorghan 37.92 271 *eP* **P 12 06 21.9 0.0**
ARU Arti 38.45 298 P **P 12 06 25.5 -0.8**
comp=Z,3.2nm,0.4s,baz=3.3,slow=4.1,SNR=9.0
ARU Arti 38.45 298 *c i* P **P 12 06 25.7 -0.5**
ARU PPP PPP 12 08 13.5
ARU S **S 12 12 23.9 +2.9**
ARU pmax pmax
comp=Z,21nm,1.6s
ARU MLR MLR
comp=Z,169nm,17.0s
ARU Arti 38.45 298 P **P 12 06 25.8 -0.5**
ARU lAmb lAmb 12 06 33.5
comp=Z,29nm,0.8s
RES Resolute Bay 38.50 20 P P 12 06 24.4 -1.9
comp=Z,0.7nm,0.3s,baz=291,slow=15,SNR=9.1
RES Resolute Bay 38.50 20 P **P 12 06 25.7 -0.7**
RES pmax pmax
comp=Z,7.0nm,0.9s
RES Resolute Bay 38.50 20 P **P 12 06 25.7 -0.7**
RES Resolute Bay 38.50 20 Pn **P 12 06 24.1 -2.3**
CD2 Chengdu 38.81 231 *eP* **P 12 06 28.8 -0.7**
CD2 LR LR
comp=Z,890nm,14.9s
CD2 LR LR
comp=Z,2µm,14.7s
CD2 LR LR
comp=Z,550nm,8.5s
SHLS Shalkode 38.85 268 *eP* **P 12 06 28.5 -1.5**
baz=268
SHLS Shalkode 38.85 268 *eP* **P 12 06 28.4 -1.5**
KPKS Kokpek 38.97 269 *eP* **P 12 06 31.2 +0.3**
baz=269
KPKS Kokpek 38.97 269 *eP* **P 12 06 31.2 +0.3**
APA Apatity 39.29 324 ⇓ *iP* P 12 06 44.4 +11
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,500nm,11.0s
HAMF Hammerfest 39.41 332 *eP* **P 12 06 34.7 +0.6**
SATY Saty 39.41 269 *eP* **P 12 06 34.7 +0.1**
baz=269
SATY Saty 39.41 269 *eP* **P 12 06 34.7 +0.1**
PRGR Permogore 39.72 312 *eP* **P 12 06 36.3 -0.4**
PRGR pmax pmax
comp=Z,17nm,0.6s
ARA0 ARCESS Array S 39.83 330 *eP* **P 12 06 39.2 +1.6**
ARCES ARCESS Array B 39.83 330 P **P 12 06 37.2 -0.5**
comp=Z,5.5nm,0.7s,baz=37,slow=8.7,SNR=13
ARCES PcP **PcP 12 08 43.4 +0.2**
comp=Z,1.0nm,0.4s,baz=28,slow=4.4,SNR=3.6
ARCES LR LR 12 26 11.4
comp=Z,92nm,18.0s,baz=25,slow=41
ARCES ARCESS Array B 39.83 330 P **P 12 06 38.1 +0.4**
ARCES pmax pmax
comp=Z,16nm,1.3s
ARCES ARCESS Array B 39.83 330 P **P 12 06 38.1 +0.4**
MDOK Medeo 39.96 270 *eP* **P 12 06 39.0 -0.3**
baz=270
MDOK Medeo 39.96 270 *eP* **P 12 06 38.9 -0.3**
DAG Danmarks Havn 39.99 352 *i P* **P 12 06 39.2 +0.4**
comp=Z,16nm,1.1s
DAG Danmarks Havn 39.99 352 *i P* **P 12 06 39.2 +0.4**
DAG Danmarks Havn 39.99 352 *i P* **P 12 06 39.3 +0.4**
DAG lAmb lAmb 12 06 42.4
comp=Z,16nm,1.1s
KIRV Kirov 40.50 306 *i* P **P 12 06 46.5 +3.2**
KTK1 Kautokeino 40.76 330 *eP* **P 12 06 47.1 +1.8**
JETT Jettan, Norway 40.97 332 *eP* **P 12 06 46.0 -1.1**
TRO Tromso 41.22 332 *eP* **P 12 06 48.6 -0.5**
AAK Ala-Archa 41.55 272 P **P 12 06 52.4 +0.1**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 41.55 272 P **P 12 06 52.4 +0.1**
DLBC Dease Lake 41.55 52 P **P 12 06 53.4 +1.4**
comp=Z,15nm,0.9s,baz=304,slow=9.3,SNR=14
DLBC LR LR 12 25 11.2
comp=Z,138nm,20.3s,baz=280,slow=38
DLBC Dease Lake 41.55 52 P **P 12 06 54.4 +2.3**
DLBC lAmb lAmb 12 06 59.1
comp=Z,26nm,1.1s
GYA Guiyang 41.90 225 *eP* **P 12 06 56.1 +0.9**
GYA S **S 12 13 08.6 -4.6**
GYA SS **SS 12 16 12.3 -7.1**
GYA LR LR
comp=Z,500nm,11.4s
GYA LR LR
comp=Z,410nm,11.1s
GYA LR LR
comp=Z,570nm,11.7s
KLMR Klimovskoe 42.34 314 *eP* **P 12 06 55.7 -2.6**
KLMR pmax pmax
comp=Z,12nm,0.9s
KLMR Klimovskoe 42.34 314 *eP* **P 12 06 55.7 -2.6**
KLMR AMP 12 07 02.8
comp=Z,12nm,0.9s
DBG Daneborg 42.49 352 *i P* **P 12 06 59.0 -0.4**
DBG lAmb lAmb 12 07 03.4
comp=Z,519nm,3.9s
KK31 Karatay Array 43.01 276 P **P 12 07 03.8 -0.2**
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KK31 Karatay Array 43.01 276 P **P 12 07 03.8 -0.2**
KKAR Karatay Array 43.01 276 P **P 12 07 03.4 -0.6**
KKAR pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 43.01 276 P **P 12 07 03.9 -0.2**
KKAR Karatay Array 43.01 276 P **P 12 07 03.4 -0.6**
AB31 Akbulak array 43.04 290 *eP* **P 12 07 03.3 -0.9**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 43.04 290 P **P 12 07 03.3 -0.8**
ABKAR Akbulak array 43.04 290 P **P 12 07 03.4 -0.7**
ABKAR lAmb lAmb 12 07 10.6
comp=Z,8.6nm,0.6s
N2IH Innhavet 43.22 332 *eP* **P 12 07 05.4 0.0**
KSH Kashi 43.34 268 *eP* P 12 07 15.9 +9.1
KSH sP sP 12 07 22.4 +11
KSH pmax pmax
comp=Z,82nm,2.2s
KSH pmax pmax
comp=Z,130nm,4.7s
KSH LR LR
comp=Z,610nm,10.9s
KSH LR LR
comp=Z,680nm,8.0s
JOF Joensuu 43.34 320 P **P 12 07 07.8 +1.4**
JOF pmax pmax
comp=Z,13nm,0.7s
STEI Steigen 43.40 333 *eP* **P 12 07 07.1 +0.4**
LOF Lofoten 43.58 334 *eP* **P 12 07 10.4 +2.1**
YKA Yellowknife Ar 43.63 40 P **P 12 07 09.3 +0.5**
comp=Z,10nm,0.9s,baz=319,slow=8.0,SNR=42
YKA LR LR 12 26 42.4
comp=Z,101nm,21.4s,baz=0.0,slow=38
YKA Yellowknife Ar 43.63 40 *i* P **P 12 07 12.1 +3.3**
YKA pmax pmax
comp=Z,11nm,0.9s
FAUS Fauske 43.84 332 *eP* **P 12 07 10.9 +0.5**
N2SV S rvYgen 43.89 334 *eP* **P 12 07 11.3 +0.5**
NBB08 Skaug oppvekst 43.98 332 *eP* **P 12 07 12.2 +0.8**
IUG luzhnay 43.98 275 *eP* **P 12 07 12.1 +0.1**
baz=275
IUG luzhnay 43.98 275 *eP* **P 12 07 12.0 +0.1**
NBB28 Valnes 44.18 332 *eP* **P 12 07 14.9 +1.8**
N2RO R st 44.39 334 *eP* **P 12 07 15.9 +1.1**
NBB05 Inndyr 44.40 332 *eP* **P 12 07 16.2 +1.4**
KMI Kunming 44.45 229 ⇑ P **P 12 07 14.8 -1.2**
KMI pP pP 12 07 18.4 -1.2
KMI pmax pmax
comp=Z,10.0nm,1.0s
KMI pmax pmax
comp=Z,87nm,3.5s
KMI LR LR
comp=Z,620nm,14.6s
KMI LR LR
comp=Z,760nm,14.1s
KMI LR LR
comp=Z,230nm,13.6s
NBB30 Finnes 44.52 333 *eP* **P 12 07 18.1 +2.3**
NBB17 Glomfjord BYr 44.60 332 *eP* **P 12 07 19.0 +2.5**
SUMG Summit 44.94 359 *i* P **P 12 07 22.0 +2.4**
SUMG Summit 44.94 359 P **P 12 07 20.6 +1.0**
SUMG pmax pmax
comp=Z,36nm,0.9s
SUMG Summit 44.94 359 P **P 12 07 20.6 +1.0**
SUMG Summit 44.94 359 *i* P **P 12 07 22.0 +2.4**
SUF Sumiainen 44.98 323 P **P 12 07 23.6 +4.1**
SUF pmax pmax
comp=Z,15nm,0.7s
MOR8 Moi Rana 45.04 332 *eP* **P 12 07 20.9 +0.8**
NBB40 Tonnes 45.06 333 *eP* **P 12 07 20.1 -0.1**
BELG Belogornoye 45.77 301 *c eP* **P 12 07 25.5 -0.4**
BELG pmax pmax
comp=Z,2.0nm,0.9s
FIA1 FINESS Array S 46.02 322 P **P 12 07 29.0 +1.2**
FIA1 lAmb lAmb 12 07 36.5
comp=Z,12nm,0.8s
FINES FINESS Array B 46.02 322 P **P 12 07 27.1 -0.7**
comp=Z,3.4nm,0.4s,baz=31,slow=8.3,SNR=18
FINES LR LR 12 28 40.3
comp=Z,130nm,19.0s,baz=28,slow=39
FINES FINESS Array B 46.02 322 *i* P **P 12 07 27.6 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 46.02 322 P **P 12 07 27.5 -0.2**
SCO Scoresbysund 46.35 351 *i* P **P 12 07 32.2 +2.0**
comp=Z,13nm,1.2s
SCO Scoresbysund 46.35 351 *i* P **P 12 07 32.2 +2.0**
SCO Scoresbysund 46.35 351 *i* P **P 12 07 32.2 +2.0**
SCO lAmb lAmb 12 07 34.2
comp=Z,13nm,1.2s
SLVN Son La 47.56 226 P **P 12 07 39.8 -0.6**
SLVN lAmb lAmb 12 07 48.1
comp=Z,6.9nm,0.8s
OBN Obninsk 47.76 311 ⇑ *eP* **P 12 07 42.0 +0.6**
OBN *e* 12 09 33.4
OBN *eS* **S 12 14 44.0 +6.6**
OBN pmax pmax
comp=Z,10.0nm,1.4s
OBN MLR MLR
comp=Z,75nm,15.0s
QIZ Qiongzhong 47.91 218 P **P 12 07 42.9 -0.1**
QIZ S **S 12 14 40.8 +0.5**
QIZ LR LR
comp=Z,250nm,13.8s
QIZ LR LR
comp=Z,580nm,16.6s
QIZ LR LR
comp=Z,270nm,19.4s
ILULI Ilulissat 48.16 5 P **P 12 07 42.6 -1.8**
ILULI pmax pmax
comp=Z,40nm,0.5s
ILULI Ilulissat 48.16 5 P **P 12 07 42.6 -1.8**
VSU Vasula 48.26 319 *eP* **P 12 07 45.6 +0.3**
VSU Vasula 48.26 319 ⇑ *eP* **P 12 07 44.2 -1.1**
VSU pmax pmax
comp=Z,8.0nm,0.9s
TAPN Taplejung 48.32 247 *eP* **P 12 07 46.2 -0.3**
comp=Z,6.8nm,0.4s
GUN Gumba 48.61 249 *eP* **P 12 07 48.6 -0.2**
comp=Z,13nm,0.4s
ODAN Odare 48.88 247 *eP* **P 12 07 51.3 +0.6**
comp=Z,10nm,0.4s
LPSR Galich'ya Gora 48.92 307 *eP* **P 12 07 51.5 +1.1**
LPSR pmax pmax
comp=Z,30nm,0.8s
KKN Kakani 48.97 250 *eP* **P 12 07 52.1 +0.7**
comp=Z,26nm,0.6s
VRH Novokhopyorsk 48.99 304 *eP* **P 12 07 51.1 +0.1**
VRH pmax pmax
comp=Z,30nm,0.7s
GKN Gorkha 49.07 251 *eP* **P 12 07 52.7 +0.6**
comp=Z,31nm,0.5s
PKI Pulchoki 49.11 250 *eP* **P 12 07 52.8 +0.2**
comp=Z,9.3nm,0.6s
PKIN Phulchoki 49.11 250 *eP* **P 12 07 52.9 +0.4**
comp=Z,10nm,0.4s
RAMN Ramite 49.14 248 *eP* **P 12 07 52.7 0.0**
DMN Daman 49.21 250 *eP* **P 12 07 53.7 +0.4**
comp=Z,9.3nm,0.5s
DOMB Dombas 49.81 332 *eP* **P 12 07 57.3 +0.1**
VSR Storozhevoye 49.94 306 *eP* **P 12 07 57.4 -0.9**
VSR pmax pmax
comp=Z,20nm,0.8s
NC303 NORSAR Array S 50.01 330 P **P 12 07 58.2 -0.5**
NC303 lAmb lAmb 12 08 02.3
comp=Z,18nm,1.0s
NC405 NORSAR Array S 50.03 329 P **P 12 07 58.9 0.0**
VORD Divnogorie 50.10 306 *eP* **P 12 07 57.8 -1.6**
VORD pmax pmax
comp=Z,5.0nm,0.9s
NC204 NORSAR Array S 50.11 330 P **P 12 07 59.5 0.0**
NC204 lAmb lAmb 12 08 03.1
comp=Z,26nm,1.1s
NB201 NORSAR Array S 50.19 330 P **P 12 07 59.6 -0.4**
NB2 NORSAR Subarra 50.21 330 P **P 12 07 59.7 -0.6**
comp=Z,7.0nm,0.6s,baz=28,slow=7.9
NOA NORSAR Array B 50.21 330 P **P 12 07 59.6 -0.6**
comp=Z,7.5nm,0.8s,baz=29,slow=7.5,SNR=23
NOA LR LR 12 31 04.4
comp=Z,122nm,21.6s,baz=15,slow=38
NBO00 NORSAR Array S 50.32 330 P **P 12 08 00.9 -0.1**
SFJD Kangerlussuaq 50.39 5 P **P 12 08 00.7 -0.7**
SFJD pmax pmax
comp=Z,11nm,1.0s
SFJD Kangerlussuaq 50.39 5 P **P 12 08 00.7 -0.7**
SFJD lAmb lAmb 12 08 19.5
comp=Z,11nm,1.0s
NC602 NORSAR Array S 50.41 329 P **P 12 08 01.7 0.0**
NC602 lAmb lAmb 12 08 09.4
comp=Z,25nm,1.1s
NC602 NORSAR Array S 50.41 329 *eP* **P 12 08 03.4 +1.7**
NAO01 NORSAR Array S 50.46 330 P **P 12 08 02.5 +0.4**
ISAL Salakas 50.85 317 *eP* **P 12 08 05.5 +0.4**
IDID Didziasalis 50.87 317 *eP* **P 12 08 05.6 +0.4**
IIGN Ignalina 51.00 317 *eP* **P 12 08 06.5 +0.3**
MNK Minsk 51.18 315 *i* P **P 12 08 04.2 -3.4**
comp=E,2.0nm,0.9s
MNK *i* P **P 12 08 04.2 -3.4**
comp=N,12nm,0.9s
MNK *i* P **P 12 08 04.2 -3.4**
comp=Z,9.0nm,0.9s
MNK *i* PcP PcP 12 08 55.9 -27
MNK *i* PP **PP 12 10 04.9 +1.0**
MNK *i* PPP PPP 12 11 11.3
MNK *i* ScP **ScP 12 13 15.9 -2.9**
MNK *i* PcS **PcS 12 13 23.5 +3.4**
MNK *i* S **S 12 15 21.7 -3.7**
MNK *i* ScS ScS 12 17 23.0 -35
MNK *i* SS **SS 12 18 59.8 -0.1**
MNK *i* SSS SSS 12 21 07.8
MNK *i* LQ LQ 12 27 12.2
MNK *i* LR LR 12 29 24.2
MNK *i* LRM MLR 12 31 46.7
comp=Z,78nm,17.6s
MNK *i* LRM MLR 12 32 28.9
comp=E,29nm,17.9s
MNK *i* LRM MLR 12 32 33.0
comp=N,367nm,17.9s
SKAR Skarslia 51.19 331 *eP* **P 12 08 08.1 +0.4**
NACGM Naroch 51.20 316 *i* P **P 12 08 08.1 +0.4**
NACGM *i* P **P 12 08 08.1 +0.4**
NACGM *i* P **P 12 08 08.1 +0.4**
NACGM *i* PP **PcP 12 09 24.6 +1.8**
NACGM *i* PPP PPP 12 11 21.4
NACGM *i* S **S 12 15 21.0 -4.5**
NACGM *i* SS **SKiKP 12 19 45.4 +8.3**
NACGM *i* SSS SSS 12 20 32.1
NACGM *i* LQ LQ 12 25 04.4
NACGM *i* LR LR 12 29 56.4
PANO Nakornpanom 51.25 223 P **P 12 08 07.5 -1.0**
comp=N,26µmcomp=N,951nm,0.5s
PABE Paberze 51.57 319 *eP* **P 12 08 11.2 +0.8**
CM09 Chiang Mai Arr 51.92 230 P P 12 08 26.8 +13
CM31 Chiang Mai Arr 51.92 230 P P 12 08 24.1 +11
CMAR Chiang Mai Arr 51.92 230 P **P 12 08 12.4 -1.1**
comp=N,1.5nm,0.6s,baz=8.5,slow=7.7,SNR=11
CMAR LR LR 12 32 10.3
comp=N,203nm,18.8s,baz=69,slow=38
CMAR Chiang Mai Arr 51.92 230 *i* P **P 12 08 12.8 -0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CM02 Chiang Mai Arr 51.94 230 P P 12 08 20.4 +6.8
comp=Z,6.1nm,0.7s
CM04 Chiang Mai Arr 51.96 230 P P 12 08 22.8 +8.9
comp=Z,59nmcomp=Z,4.7nm,0.5s
CM13 Chiang Mai Arr 51.97 230 P P 12 08 21.0 +7.1
comp=Z,43nmcomp=Z,4.2nm,0.8s
CM05 Chiang Mai Arr 51.97 230 P **P 12 08 18.0 +4.1**
comp=Z,3.6nm,0.8s

FCC	**Fort Churchill**	**52.30**	**32**	P		**P**		**12 08 17.0**	**+1.2**
FCC				pmax		pmax			
	comp=Z,12nm,1.3s								
FCC	**Fort Churchill**	**52.30**	**32**	P		**P**		**12 08 17.0**	**+1.2**
GEYT	**Alibeck**	**52.79**	**282**	P		**P**		**12 08 21.3**	**+1.4**
	comp=Z,4.1nm,0.6s,baz=324,slow=3.8,SNR=4.7								
GEYT				LR		LR		12 32 53.0	
	comp=Z,136nm,19.5s,baz=25,slow=38								
SUW	**Suwalki**	**53.08**	**318**	*eP*		**P**		**12 08 19.9**	**-1.8**
LTY	**Liberty**	**53.80**	**56**	P		**P**		**12 08 27.1**	**-0.2**
AKASG	**Malin Array Be**	**53.93**	**312**	P		**P**		**12 08 27.0**	**-0.9**
	comp=Z,6.3nm,0.5s,baz=34,slow=8.1,SNR=18								
AKASG	**Malin Array Be**	**53.93**	**312**	*i* P		**P**		**12 08 30.0**	**+2.0**
AKASG				pmax		pmax			
	comp=Z,8.0nm,0.5s								
AKASG	**Malin Array Be**	**53.93**	**312**	P		**P**		**12 08 28.5**	**+0.6**
AKBB	**Malin Array Si**	**53.93**	**312**	P		**P**		**12 08 27.3**	**-0.7**
AKBB				pmax		pmax			
	comp=Z,9.0nm,0.8s								
AKBB	**Malin Array Si**	**53.93**	**312**	P		**P**		**12 08 27.3**	**-0.7**
AKBB				IAmb		IAmb		12 08 32.6	
	comp=Z,8.6nm,0.8s								
C09A	**Chrisman Ranch**	**54.26**	**54**	P		**P**		**12 08 30.6**	**+0.2**
NEW	**Newport**	**54.30**	**53**	P		**P**		**12 08 31.8**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=318,slow=15,SNR=4.7								
NEW	**Newport**	**54.30**	**53**	P		**P**		**12 08 31.2**	**+0.4**
UTHA	**Uthaitani**	**54.43**	**228**	P		P		12 08 42.4	+10
	comp=Z,312nmcomp=Z,19nm,0.7s								
AKT	**Akhty**	**54.44**	**293**	*eP*		**P**		**12 08 32.5**	**+0.5**
AKT				*e*				12 09 35.5	
AKT				*e*				12 10 35.9	
AKT				pmax		pmax			
	comp=Z,16nm,0.6s								
KIV	**Kislovodsk**	**54.50**	**298**	*eP*		**P**		**12 08 32.8**	**+0.5**
KIV				pmax		pmax			
	comp=Z,34nm,1.0s								
KIV				MLR		MLR			
	comp=Z,264nm,17.0s								
KIV	**Kislovodsk**	**54.50**	**298**	P		**P**		**12 08 33.0**	**+0.7**
KIV				IAmb		IAmb		12 08 44.5	
	comp=Z,12nm,0.9s								
KBZ	**Khabaz**	**54.60**	**298**	P		**P**		**12 08 32.1**	**-0.8**
	comp=Z,3.5nm,0.5s,baz=44,slow=4.8,SNR=11								
KBZ				LR		LR		12 35 23.0	
	comp=Z,126nm,18.2s,baz=62,slow=40								
KBZ	**Khabaz**	**54.60**	**298**	⇓ *eP*		**P**		**12 08 32.9**	**0.0**
KBZ				pmax		pmax			
	comp=Z,5.0nm,0.8s								
D08A	**Wollman Farm,**	**54.63**	**55**	P		**P**		**12 08 34.2**	**+1.0**
WALA	**Waterton Lakes**	**54.78**	**50**	P		**P**		**12 08 35.0**	**+0.6**
HAWA	**Hanford**	**54.96**	**56**	P		**P**		**12 08 36.8**	**+1.3**
ZEI	**Tsey**	**54.96**	**296**	*eP*		**P**		**12 08 38.3**	**+2.4**
ZEI				pmax		pmax			
	comp=Z,3.0nm,0.7s								
NEY	**Neytrino**	**55.07**	**298**	⇓ *eP*		**P**		**12 08 35.8**	**-0.8**
NEY				pmax		pmax			
	comp=Z,2.0nm,1.6s								
G05D	**Wamic, OR**	**55.23**	**58**	P				12 08 37.8	
	baz=327								
H04D	**Lebanon**	**55.27**	**59**	P				12 08 38.7	
	baz=326								
ONI	**Oni**	**55.31**	**297**	P		**P**		**12 08 42.6**	**+4.4**
GKP	**Gorka Klasztor**	**55.49**	**321**	*eP*		**P**		**12 08 39.7**	**+0.4**
SRDT	**SRDT**	**55.67**	**228**	P		P		12 08 50.1	+9.2
I04A	**Tendick Farm,**	**56.01**	**60**	P				12 08 44.4	
	baz=327								
PINE	**Pine Mountain**	**56.59**	**58**	P		**P**		**12 08 48.0**	**+0.4**
J04D	**Umpqua Nationa**	**56.59**	**60**	P				12 08 48.5	
	baz=327								
MSO	**Missoula**	**56.66**	**52**	P		**P**		**12 08 49.4**	**+1.5**
MSO	**Missoula**	**56.66**	**52**	P				12 08 48.8	
	baz=328								
J05D	**Fort Rock, OR**	**56.90**	**59**	P				12 08 50.3	
	baz=327,SNR=7.0								
I07A	**Izee**	**56.91**	**57**	P		**P**		**12 08 50.5**	**+0.8**
KWP	**Kalwaria Pacla**	**57.01**	**316**	*eP*		**P**		**12 08 50.0**	**-0.2**
KWP	**Kalwaria Pacla**	**57.01**	**316**	P		**P**		**12 08 50.2**	**0.0**
KWP				pmax		pmax			
	comp=Z,36nm,1.3s								
KWP	**Kalwaria Pacla**	**57.01**	**316**	P		**P**		**12 08 50.2**	**0.0**
EGMT	**Eagleton**	**57.11**	**48**	P				12 08 52.8	
	baz=330								
L04D	**Klamath Falls**	**57.38**	**61**	P				12 08 55.8	
	baz=327								
OJC	**Ojcow**	**57.41**	**318**	*eP*		**P**		**12 08 52.4**	**-0.6**
OJC	**Ojcow**	**57.41**	**318**	P		**P**		**12 08 52.9**	**-0.1**
OJC				pmax		pmax			
	comp=Z,7.0nm,0.6s								
OJC	**Ojcow**	**57.41**	**318**	P		**P**		**12 08 52.9**	**-0.1**
OJC				IAmb		IAmb		12 09 01.8	
	comp=Z,7.3nm,0.6s								
YBH	**Yreka Blue Hor**	**57.62**	**61**	P		**P**		**12 08 56.5**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=10,slow=11,SNR=2.9								
KOLS	**Kolonicke sedl**	**57.76**	**316**	*eP*		**P**		**12 08 57.9**	**+2.4**
KOLS	**Kolonicke sedl**	**57.76**	**316**	*eP*		**P**		**12 08 57.9**	**+2.4**
KSP	**Ksiaz**	**57.91**	**321**	*eP*		**P**		**12 08 57.0**	**+0.4**
BUR08	**Bucovina Ar. S**	**57.91**	**313**	P		**P**		**12 08 57.1**	**+0.4**
M04C	**Macdoel**	**57.93**	**60**	P				12 08 58.4	
	baz=328								
BURAR	**Bucovina Array**	**57.93**	**313**	⇑P		**P**		**12 08 59.6**	**+2.8**
BURAR	**Bucovina Array**	**57.93**	**313**	P		**P**		**12 08 56.7**	**-0.1**
NIE	**Niedzica**	**57.96**	**317**	*eP*		**P**		**12 08 57.9**	**+1.0**
BIZ	**Bicaz**	**58.22**	**312**	⇓P		**P**		**12 09 01.3**	**+2.6**
CLL	**Collm**	**58.43**	**323**	*eP*		**P**		**12 09 00.0**	**-0.1**
	comp=Z,11nm,0.5s								
CLL				*ep*	P		**pP**	**12 09 04.0**	**+0.3**
CLL				LmH				12 32 00.0	
	comp=N,100nm,18.2s								
CLL				LmH				12 32 00.0	
	comp=E,300nm,20.3s								
CLL	**Collm**	**58.43**	**323**	*eP*		**P**		**12 09 00.0**	**-0.1**
CLL				*e*				12 09 04.0	
CLL				pmax		pmax			
	comp=Z,11nm,0.5s								
CLL	**Collm**	**58.43**	**323**	P		**P**		**12 09 00.5**	**+0.4**
LANS	**Liptovska Anna**	**58.45**	**318**	*eP*		**P**		**12 09 03.9**	**+3.5**
LANS	**Liptovska Anna**	**58.45**	**318**	*eP*		**P**		**12 09 03.9**	**+3.5**
MORC	**Moravsky Berou**	**58.49**	**319**	⇓P		**P**		**12 09 01.6**	**+0.9**
MORC	**Moravsky Berou**	**58.49**	**319**	*eP*		**P**		**12 09 01.5**	**+0.9**
MORC	**Moravsky Berou**	**58.49**	**319**	P		**P**		**12 09 01.1**	**+0.5**
MORC				pmax		pmax			
	comp=Z,4.0nm,0.8s								
MORC	**Moravsky Berou**	**58.49**	**319**	P		**P**		**12 09 01.1**	**+0.5**
BOZ	**Bozeman (W)**	**58.55**	**51**	P				12 09 03.7	
	baz=330								
DGMT	**Dagmar**	**58.56**	**44**	IAmb		IAmb		12 09 06.5	
	comp=Z,13nm,0.9s								
DGMT	**Dagmar**	**58.56**	**44**	P				12 09 00.7	
	baz=331								
WVOR	**Wild Horse Val**	**58.64**	**58**	P		**P**		**12 09 03.2**	**+1.3**
WVOR				pmax		pmax			
	comp=Z,10.0nm,1.5s								
WVOR	**Wild Horse Val**	**58.64**	**58**	P		**P**		**12 09 03.2**	**+1.3**
MCMT	**McKenzie Canyo**	**58.77**	**52**	P		**P**		**12 09 04.1**	**+1.2**
KKM	**Kota Kinabalu**	**58.88**	**206**	P		**P**		**12 09 03.9**	**+0.2**
KKM				IAmb		IAmb		12 09 04.9	
	comp=Z,18nm,1.0s								
VRI	**Vrincioaia**	**58.93**	**311**	⇑P		**P**		**12 09 07.0**	**+3.3**
PLOR	**Plostina**	**58.97**	**311**	⇓P		**P**		**12 09 06.2**	**+2.2**
O03E	**Paynes Creek**	**59.20**	**61**	P				12 09 08.4	
	baz=328								
MYLDM	**Lahad Datu**	**59.28**	**203**	P		**P**		**12 09 06.3**	**-0.1**
MYLDM				IAmb		IAmb		12 09 09.0	
	comp=Z,15nm,0.9s								
DOPR	**Dopca**	**59.30**	**312**	⇑P		**P**		**12 09 10.9**	**+4.6**
ULM	**Lac du Bonnet**	**59.47**	**37**	P		**P**		**12 09 07.3**	**0.0**
	comp=Z,2.4nm,0.9s,baz=6.6,slow=5.1,SNR=4.3								
ULM				LR		LR		12 39 11.2	
	comp=Z,91nm,18.1s,baz=344,slow=40								
ULM	**Lac du Bonnet**	**59.47**	**37**	P		**P**		**12 09 08.1**	**+0.8**
ULM				pmax		pmax			
	comp=Z,14nm,1.5s								
ULM	**Lac du Bonnet**	**59.47**	**37**	P		**P**		**12 09 08.1**	**+0.8**
ULM				IAmb		IAmb		12 09 11.5	
	comp=Z,14nm,1.4s								
KRUC	**Moravsky**	**59.47**	**320**	*eP*		**P**		**12 09 09.9**	**+2.5**
DRGR		**59.49**	**314**	⇑P		**P**		**12 09 09.1**	**+1.5**
YHH	**Holmes Hill**	**59.52**	**51**	P		**P**		**12 09 09.1**	**+0.9**
YHH				IAmb		IAmb		12 09 19.8	
	comp=Z,8.6nm,0.8s								
MLR	**Muntele Rosu**	**59.53**	**311**	⇓P		**P**		**12 09 11.9**	**+3.9**
RLMT	**Red Lodge**	**59.79**	**49**	P				12 09 12.5	
	baz=331,SNR=9.6								
H17A	**Grant Village**	**59.96**	**51**	P				12 09 14.5	
	baz=330,SNR=5.6								

KHC	**Kasperske Hory**	**60.23**	**322**	⇓ *eP*		**P**		**12 09 13.5**	**+0.9**
KHC				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KHC	**Kasperske Hory**	**60.23**	**322**	P		**P**		**12 09 12.1**	**-0.6**
GERES	**GERESS Array B**	**60.45**	**321**	P		**P**		**12 09 13.7**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=21,slow=8.4,SNR=2.6								
GERES				LR		LR		12 36 10.1	
	comp=Z,83nm,18.8s,baz=47,slow=37								
GERES	**GERESS Array B**	**60.45**	**321**	P		**P**		**12 09 13.3**	**-0.9**
MDND	**Maddock**	**60.54**	**41**	P		**P**		**12 09 15.3**	**+0.6**
MDND	**Maddock**	**60.54**	**41**	P				12 09 17.4	
	baz=333								
GZR	**Gura Zlata**	**60.69**	**313**	⇓P		**P**		**12 09 17.5**	**+1.6**
REDW	**Red Top Meadow**	**60.76**	**51**	IAmb		IAmb		12 09 29.8	
	comp=Z,11nm,0.9s								
AGMN	**Agassiz Nation**	**61.23**	**38**	P		**P**		**12 09 21.5**	**+2.1**
AGMN				IAmb		IAmb		12 09 24.4	
	comp=Z,11nm,1.2s								
AGMN	**Agassiz Nation**	**61.23**	**38**	P				12 09 21.2	
	baz=335								
YERR	**Yerington**	**61.35**	**60**	P		**P**		**12 09 23.4**	**+2.8**
YERR				IAmb		IAmb		12 09 28.6	
	comp=Z,10.0nm,1.0s								
ELK	**Elko**	**61.40**	**56**	P		**P**		**12 09 23.3**	**+2.3**
	comp=Z,4.4nm,0.8s,baz=348,slow=6.5,SNR=9.6								
ELK	**Elko**	**61.40**	**56**	P		**P**		**12 09 23.7**	**+2.7**
ELK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ELK	**Elko**	**61.40**	**56**	P		**P**		**12 09 23.7**	**+2.7**
MDVR	**Moldovita**	**61.59**	**314**	⇓P		**P**		**12 09 22.6**	**+0.7**
BR131	**Keskin Array S**	**61.67**	**302**	P		**P**		**12 09 20.9**	**-1.8**
BR131				pmax		pmax			
	comp=Z,5.0nm,0.8s								
BR131	**Keskin Array S**	**61.67**	**302**	P		**P**		**12 09 20.9**	**-1.8**
BR131				IAmb		IAmb		12 09 29.8	
	comp=Z,5.3nm,0.8s								
BRTR	**Keskin Array B**	**61.68**	**302**	P		**P**		**12 09 23.1**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=52,slow=5.6,SNR=6.8								
BRTR				LR		LR		12 37 37.2	
	comp=Z,70nm,21.0s,baz=23,slow=38								
BRTR	**Keskin Array B**	**61.68**	**302**	P		**P**		**12 09 21.7**	**-1.0**
PDAR	**Pinedale Array**	**61.74**	**51**	P		**P**		**12 09 24.7**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=8.1,slow=3.1,SNR=8.9								
PDAR				LR		LR		12 37 14.1	
	comp=Z,93nm,20.3s,baz=338,slow=37								
PDAR	**Pinedale Array**	**61.74**	**51**	P		**P**		**12 09 23.5**	**+0.3**
BW06	**Boulder Array**	**61.74**	**51**	P				12 09 24.5	
	baz=331								
B35A	**Bob, Littlefor**	**61.77**	**37**	P		**P**		**12 09 23.3**	**+0.2**
B35A				IAmb		IAmb		12 09 27.5	
	comp=Z,7.4nm,0.9s								
D32A	**Dogwood Acres,**	**61.95**	**40**	P		**P**		**12 09 24.5**	**+0.2**
HWUT	**Hardware Ranch**	**62.03**	**53**	P		**P**		**12 09 25.6**	**+0.4**
KBA	**Koelnbreinsper**	**62.15**	**321**	*eP*		**P**		**12 09 27.4**	**+1.5**
	comp=Z,7.2nm,0.6s								
NVAR	**Mina Array Bea**	**62.20**	**60**	P		**P**		**12 09 28.8**	**+2.5**
	comp=Z,2.1nm,0.8s,baz=310,slow=4.6,SNR=11								
NVAR				LR		LR		12 38 12.9	
	comp=Z,89nm,18.8s,baz=315,slow=38								
OBKA	**Obir**	**62.31**	**320**	*eP*		**P**		**12 09 27.9**	**+1.0**
	comp=Z,11nm,0.7s								
EYMN	**Ely**	**62.76**	**35**	P				12 09 31.6	
	baz=337								
DUG	**Dugway, Tooele**	**62.80**	**55**	P				12 09 32.2	
	baz=331								
TOLI2	**Tolitoli**	**62.88**	**200**	P		**P**		**12 09 30.6**	**-0.2**
K22A	**Casper**	**62.91**	**49**	P				12 09 32.1	
	baz=332								
FETA	**Feichten**	**62.95**	**323**	*eP*		**P**		**12 09 34.2**	**+3.1**
	comp=Z,3.2nm,0.8s								
VTS	**Vitosha**	**62.98**	**311**	⇑P		**P**		**12 09 31.2**	**-0.2**
VTS	**Vitosha**	**62.98**	**311**	IAmb		IAmb		12 09 47.0	
	comp=Z,5.4nm,0.7s								
SBUM	**Sibu**	**63.23**	**210**	P		**P**		**12 09 33.3**	**+0.2**
SBUM				IAmb		IAmb		12 09 34.6	
	comp=Z,9.8nm,0.9s								
F33A	**5 Mile Ranch,**	**63.34**	**40**	P		**P**		**12 09 33.3**	**-0.2**
F33A				IAmb		IAmb		12 09 38.5	
	comp=Z,13nm,1.1s								
R11A	**Troy Canyon, C**	**63.34**	**58**	P				12 09 35.8	
	baz=330								
MPU	**Maple Canyon**	**63.39**	**54**	P		**P**		**12 09 35.1**	**+0.8**
MPU				IAmb		IAmb		12 09 42.0	
	comp=Z,10nm,1.5s								
SUSD	**Miller**	**63.80**	**42**	P		**P**		**12 09 37.3**	**+0.7**
TUE	**Stuetta**	**63.84**	**323**	IAmb		IAmb		12 09 50.8	
	comp=Z,17nm,1.4s								
CWC	**Cottonwood Cre**	**64.01**	**61**	P				12 09 40.2	
	baz=330								
F36A	**Milaca**	**64.11**	**38**	P		**P**		**12 09 40.4**	**+1.7**
F36A				IAmb		IAmb		12 09 43.0	
	comp=Z,5.6nm,0.9s								
MSU	**Marysvale**	**64.50**	**55**	P		**P**		**12 09 42.9**	**+1.3**
MSU	**Marysvale**	**64.50**	**55**	P		**P**		**12 09 42.9**	**+1.3**
O20A	**White River Ci**	**64.53**	**51**	P				12 09 43.2	
	baz=332								
SRU	**San Rafael Swe**	**64.60**	**53**	P		**P**		**12 09 44.2**	**+2.0**
SRU				pmax		pmax			
	comp=Z,9.0nm,0.7s								
SRU	**San Rafael Swe**	**64.60**	**53**	P		**P**		**12 09 44.2**	**+2.0**
SRU				IAmb		IAmb		12 10 03.2	
	comp=Z,8.7nm,0.7s								
KSM	**Kuching**	**64.61**	**211**	P		**P**		**12 09 42.6**	**+0.3**
SHPR	**Sheep Range**	**65.11**	**58**	P		**P**		**12 09 46.7**	**+1.2**
ECSD	**EROS Data Cent**	**65.15**	**41**	P		**P**		**12 09 45.5**	**0.0**
ECSD				IAmb		IAmb		12 09 49.9	
	comp=Z,18nm,1.2s								
ECSD	**EROS Data Cent**	**65.15**	**41**	P				12 09 45.7	
	baz=336,SNR=10.0								
KNB	**Kanab**	**65.57**	**56**	P		**P**		**12 09 50.9**	**+2.4**
KNB				pmax		pmax			
	comp=Z,11nm,1.4s								
KNB	**Kanab**	**65.57**	**56**	P		**P**		**12 09 50.9**	**+2.4**
KNB				IAmb		IAmb		12 10 03.3	
	comp=Z,11nm,1.4s								
FAKI	**Fak Fak**	**65.65**	**187**	P		**P**		**12 09 47.1**	**-1.8**
PV22	**Blue Mesa, Par**	**65.74**	**52**	P		**P**		**12 09 51.7**	**+2.1**
PV22				IAmb		IAmb		12 10 07.0	
	comp=Z,9.8nm,0.9s								
PV14	**Lion Creek, Pa**	**65.80**	**53**	P		**P**		**12 09 52.1**	**+2.1**
PV14				IAmb		IAmb		12 10 01.3	
	comp=Z,11nm,0.8s								
SMCO	**Snowmass**	**65.83**	**51**	P		**P**		**12 09 52.9**	**+2.5**
SMCO				IAmb		IAmb		12 09 57.3	
	comp=Z,10nm,1.1s								
PV01	**Paradox Valley**	**66.18**	**53**	IAmb		IAmb		12 10 01.1	
	comp=Z,8.6nm,1.1s								
CIS	**Catalina Islan**	**66.51**	**63**	P				12 09 55.1	
	baz=331								
PSI	**Prapat**	**66.55**	**224**	P		**P**		**12 09 53.8**	**-1.1**
PSI				pmax		pmax			
	comp=Z,18nm,0.8s								
RPSI	**Rantau Prapat**	**66.65**	**224**	P		**P**		**12 09 53.8**	**-1.6**
MVCO	**Mesa Verde**	**67.02**	**53**	P				12 09 58.8	
	baz=333								
K38A	**Parkersburg**	**67.28**	**39**	P		**P**		**12 09 60.0**	**+0.8**
D55A	**Sainte-Anne-du**	**67.31**	**24**	P				12 09 59.9	
	baz=344								
D56A	**ZEC Mazanza, M**	**67.41**	**24**	P				12 10 00.5	
	baz=344								
PDMCI	**Parker Dam,Lak**	**67.44**	**59**	P				12 10 01.2	
	baz=332								
BC3	**Big Chuckawall**	**67.48**	**60**	P				12 10 00.9	
	baz=332								
N35A	**Tabor**	**68.07**	**41**	P		**P**		**12 10 06.2**	**+2.0**
BKNI	**Bangkinang**	**68.23**	**221**	P		**P**		**12 10 04.3**	**-1.1**
L40A	**Anamosa**	**68.26**	**38**	P		**P**		**12 10 05.6**	**+0.3**
E58A	**La Victoria**	**68.33**	**23**	P				12 10 06.4	
	baz=345								
GSI	**Gunungsitoli**	**68.39**	**225**	P		**P**		**12 10 05.0**	**-1.4**
KAPI	**Kappang**	**69.05**	**200**	P		**P**		**12 10 10.5**	**0.0**
KAPI				pmax		pmax			
	comp=Z,23nm,0.7s								
KAPI	**Kappang**	**69.05**	**200**	P		**P**		**12 10 10.5**	**0.0**
P40A	**Paris**	**70.36**	**39**	P		**P**		**12 10 17.5**	**-0.9**
P40A				IAmb		IAmb		12 10 23.6	
	comp=Z,21nm,1.1s								
AMTX	**Amarillo**	**71.54**	**49**	P				12 10 26.5	
	baz=335								
S39A	**Bolivar**	**71.68**	**41**	P		**P**		**12 10 25.9**	**-0.5**
S39A				IAmb		IAmb		12 10 34.4	
	comp=Z,11nm,1.3s								
CCM	**Cathedral Cave**	**71.96**	**39**	P		**P**		**12 10 28.9**	**+0.8**
CCM				pmax		pmax			
	comp=Z,9.0nm,0.6s								
CCM	**Cathedral Cave**	**71.96**	**39**	P		**P**		**12 10 28.9**	**+0.8**
CCM				IAmb		IAmb		12 10 36.9	
	comp=Z,9.3nm,0.6s								
CCM	**Cathedral Cave**	**71.97**	**39**	P				12 10 29.1	
	baz=338								
MSTX	**Muleshoe**	**71.98**	**50**	P		**P**		**12 10 30.9**	**+2.5**
MSTX				IAmb		IAmb		12 10 35.6	
	comp=Z,15nm,1.2s								
MSTX	**Muleshoe**	**71.98**	**50**	P				12 10 28.1	
	baz=335								
N54A	**Moraine State**	**72.16**	**30**	P		**P**		**12 10 30.4**	**+1.2**
MMRI	**Maumere**	**72.25**	**197**	P		**P**		**12 10 29.1**	**-0.9**
FVM	**French Village**	**72.27**	**39**	P		**P**		**12 10 32.4**	**+2.5**
FVM				pmax		pmax			
	comp=Z,23nm,1.4s								
FVM	**French Village**	**72.27**	**39**	P		**P**		**12 10 32.4**	**+2.5**
FVM				IAmb		IAmb		12 10 34.5	
	comp=Z,23nm,1.4s								
WMOK	**Wichita Mounta**	**72.66**	**46**	P		**P**		**12 10 32.7**	**+0.4**
WMOK				pmax		pmax			
	comp=Z,4.0nm,0.7s								
WMOK	**Wichita Mounta**	**72.66**	**46**	P		**P**		**12 10 32.7**	**+0.4**
U40A	**Yellville**	**73.06**	**41**	IAmb		IAmb		12 10 44.9	
	comp=Z,6.5nm,0.7s								
U40A	**Yellville**	**73.06**	**41**	P				12 10 34.3	
	baz=338								
ESDC	**Sonseca Array**	**73.56**	**331**	P		**P**		**12 10 37.2**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=9.9,slow=5.9,SNR=15								
ESDC				LR		LR		12 46 25.8	
	comp=Z,68nm,18.7s,baz=65,slow=39								
ESDC	**Sonseca Array**	**73.56**	**331**	P		**P**		**12 10 38.1**	**+0.4**
ESDC				IAmb		IAmb		12 10 48.3	
	comp=Z,9.6nm,1.0s								
LCAR	**Lake Charles**	**73.83**	**40**	P		**P**		**12 10 41.9**	**+2.7**
LCAR				IAmb		IAmb		12 10 48.8	
	comp=Z,6.3nm,0.7s								
WHAR	**Wooly Hollow**	**74.22**	**41**	IAmb		IAmb		12 10 51.0	
	comp=Z,8.0nm,0.7s								
ABTX	**Abilene, Hawle**	**74.29**	**48**	IAmb		IAmb		12 10 47.9	
	comp=Z,8.6nm,0.8s								
W41B	**Gary Mavity, V**	**74.34**	**41**	P				12 10 42.1	
	baz=338								
Q58A	**Fox Den Farm,**	**74.60**	**28**	P				12 10 43.8	
	baz=344								
WVT	**Waverly**	**74.73**	**37**	P		**P**		**12 10 44.0**	**-0.5**
WVT				pmax		pmax			
	comp=Z,7.0nm,0.6s								
WVT	**Waverly**	**74.73**	**37**	P		**P**		**12 10 44.0**	**-0.5**
WVT				IAmb		IAmb		12 10 54.1	
	comp=Z,7.4nm,0.6s								
TXAR	**Lajitas Array**	**75.85**	**53**	P		**P**		**12 10 51.6**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=19,slow=5.7,SNR=2.9								
TXAR				LR		LR		12 47 08.9	
	comp=Z,85nm,20.8s,baz=0.0,slow=38								
SWET	**Sewanee**	**76.11**	**36**	P		**P**		**12 10 54.9**	**+2.5**
SWET				IAmb		IAmb		12 11 01.2	
	comp=Z,8.2nm,0.6s								
JCT	**Junction City**	**76.19**	**49**	P				12 10 53.7	
	baz=336,SNR=7.1								
COEN	**Coen**	**76.54**	**175**	P		**P**		**12 10 54.7**	**-0.2**
COEN				IAmb		IAmb		12 11 03.5	
	comp=Z,8.6nm,1.0s								
HKT	**Hockley**	**78.03**	**46**	⇑ *eP*		**P**		**12 11 05.4**	**+2.3**
HKT				pmax		pmax			
	comp=Z,3.0nm,1.1s								
FITZ	**Fitzroy Crossi**	**81.20**	**192**	P		**P**		**12 11 20.1**	**-0.2**
FITZ				IAmb		IAmb		12 11 25.1	
	comp=Z,8.9nm,0.7s								
WB0	**Warramunga Arr**	**82.29**	**184**	P		**P**		**12 11 25.6**	**-0.6**
WRAB	**Tennant Creek**	**82.46**	**184**	P		**P**		**12 11 26.2**	**-0.8**
WRAB				pmax		pmax			
	comp=Z,5.0nm,0.8s								
WRAB	**Tennant Creek**	**82.46**	**184**	P		**P**		**12 11 26.2**	**-0.8**
WRAB				IAmb		IAmb		12 11 32.4	
	comp=Z,5.1nm,0.8s								
WB2	**Warramunga Arr**	**82.47**	**184**	P		**P**		**12 11 26.4**	**-0.7**
WB2				IAmb		IAmb		12 11 32.5	
	comp=Z,6.6nm,0.8s								
WRA

comp=E,0.4nm,0.6s,baz=37,slow=5.9,SNR=2.5
WRA Warramunga Arr 79.57 123 P **P 12 41 29.1 -0.8**
comp=E,0.7nm,1.1s,baz=326,slow=4.9,SNR=5.5
ASAR Alice Springs 81.80 126 P **P 12 41 40.5 -1.3**
comp=E,0.1nm,0.2s,baz=318,slow=4.8,SNR=1.8
YKA Yellowknife Ar 83.09 4 LR LR 13 22 32.5
comp=E,21nm,18.7s,baz=0.0,slow=38

MAN 18 12:47:08.3, 8.42N×126.25E, h116km, mb4.7, ML3.6, MS3.5, Mindanao

*RSPR **18** 12:47:45.5, 18.92N×67.34W, h10km±1km, MD3.7/12*
*NEIC **18** 12:47:46.4±1.1, 18.83N±0.05×67.23W±0.04, h30km±3km, Error ellipse: s-maj=7.2km s-min=4.5km az=201.0*
*IDC **18** 12:47:48.6±3.1, 18.90N×67.16W, h42km±36km, mb3.2/5, mb1 3.7/7, mb1mx3.4/30, mbtmp3.6/7, ML3.3/2, MS2.4/1, Ms1 2.4/1, ms1mx2.2/19, Error ellipse: s-maj=37.0km s-min=18.7km az=18.0*
ISC 18 12:47:46.8±0.6, 18.84N±0.04×67.22W±0.04, h29km, n61, σ1s50/71, mb3.6/5, 10C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.39**	**164**	↑*iP*		**Pb**		**12 47 55.0**	**-0.4**
AGPR	**Aguadilla, PR**	**0.39**	**164**	*eS*		**Sb**		**12 48 02.2**	**+0.9**
AGPR	**Aguadilla, PR**	**0.39**	**164**			**Pb**		**12 47 55.1**	**-0.4**
AGPR						**Sb**		**12 48 00.8**	**-0.5**
AGPR				IAML				12 48 01.9	
	comp=E,12μm,0.4s								
MPR	**Mayaguez**	**0.63**	**173**	↑*eP*		**Pb**		**12 47 59.3**	**-0.1**
MPR	**Mayaguez**	**0.63**	**173**			**Pb**		**12 47 58.7**	**-0.7**
MPR				IAML				12 48 08.1	
	comp=N,4μm,0.3s								
AOPR	**Arecibo Observ**	**0.66**	**138**	↑*iP*		**Pb**		**12 47 59.2**	**-0.7**
AOPR	**Arecibo Observ**	**0.66**	**138**			**Pb**		**12 47 59.2**	**-0.7**
AOPR				IAML				12 48 17.6	
	comp=N,6μm,0.3s								
LSP	**Las Mesas**	**0.67**	**169**	↓*iP*		**Pb**		**12 47 59.5**	**-0.6**
LSP	**Las Mesas**	**0.67**	**169**	*eS*		**Sb**		**12 48 09.2**	**+0.1**
LSP	**Las Mesas**	**0.67**	**169**			**Pb**		**12 47 59.5**	**-0.6**
LSP						**Sb**		**12 48 09.2**	**+0.1**
EMPR	**Esperanza - Ma**	**0.75**	**119**	*eP*		**Pn**		**12 48 00.8**	**-0.7**
EMPR	**Esperanza - Ma**	**0.75**	**119**	*eS*		**Sn**		**12 48 13.2**	**+1.3**
EMPR	**Esperanza - Ma**	**0.75**	**119**			**Pn**		**12 48 00.8**	**-0.7**
EMPR						**Sn**		**12 48 12.6**	**+0.7**
EMPR				IAML				12 48 17.5	
	comp=E,4μm,0.3s								
EMPR				IAML				12 48 21.9	
	comp=N,5μm,0.6s								
MLPR	**Magueyes Islan**	**0.88**	**169**	↑*iP*		**Pn**		**12 48 02.4**	**-0.9**
MLPR	**Magueyes Islan**	**0.88**	**169**	*eS*		**Sn**		**12 48 14.4**	**-0.8**
MLPR	**Magueyes Islan**	**0.88**	**169**			**Pn**		**12 48 02.6**	**-0.7**
MLPR				IAML				12 48 15.0	
	comp=E,2μm,0.4s								
GBPR	**Guanica, Bosqu**	**0.92**	**159**	↓*eP*		**Pn**		**12 48 03.3**	**-0.5**
GBPR	**Guanica, Bosqu**	**0.92**	**159**	*eS*		**Sn**		**12 48 16.7**	**+0.6**
GBPR	**Guanica, Bosqu**	**0.92**	**159**			**Pn**		**12 48 03.3**	**-0.5**
GBPR						**Sn**		**12 48 16.7**	**+0.6**
CELP	**Cerrillos**	**0.98**	**141**	↑*iP*		**Pn**		**12 48 03.9**	**-0.7**
CELP	**Cerrillos**	**0.98**	**141**	*eS*		**Sb**		**12 48 18.7**	**+1.0**
CELP	**Cerrillos**	**0.98**	**141**			**Pn**		**12 48 03.9**	**-0.7**
CELP						**Sb**		**12 48 18.7**	**+1.0**
OBIP	**Obispado Ponce**	**0.99**	**143**	↑*iP*		**Pn**		**12 48 03.1**	**-1.6**
OBIP	**Obispado Ponce**	**0.99**	**143**	*eS*		**Sn**		**12 48 18.4**	**+0.7**
OBIP	**Obispado Ponce**	**0.99**	**143**			**Pn**		**12 48 03.2**	**-1.5**
ICMP	**Isla Caja de M**	**1.16**	**145**	↑*eP*		**Pn**		**12 48 07.1**	**0.0**
ICMP	**Isla Caja de M**	**1.16**	**145**			**Pn**		**12 48 07.2**	**+0.1**
ICMP				IAML				12 48 33.1	
	comp=E,1μm,0.5s								
ICMP				IAML				12 48 34.8	
	comp=N,1μm,0.7s								
GCPR	**Guaynabo City**	**1.20**	**116**	↑*eP*		**Pn**		**12 48 06.8**	**-0.9**
GCPR	**Guaynabo City**	**1.20**	**116**	*eS*		**Sb**		**12 48 24.2**	**0.0**
GCPR	**Guaynabo City**	**1.20**	**116**			**Pn**		**12 48 06.9**	**-0.9**
SJG	**San Juan**	**1.25**	**125**	P		**Pn**		**12 48 07.9**	**-0.5**
	comp=N,100nm,0.3s,baz=301,slow=10,SNR=132								
SJG				S		**Sn**		**12 48 25.2**	**+1.0**
	comp=N,312nm,0.3s,baz=18,slow=7.2,SNR=12								
SJG				LR		LR		12 48 43.1	
	comp=N,189nm,18.1s,baz=80,slow=44								
SJG	**San Juan**	**1.25**	**125**			**Pn**		**12 48 07.9**	**-0.5**
SJG				IAML				12 48 33.7	
	comp=N,2μm,0.4s								
SJG				IAML				12 48 34.7	
	comp=N,2μm,0.4s								
IGPR	**InterUniversit**	**1.37**	**129**	↑*eP*		**Pn**		**12 48 09.6**	**-0.4**
IGPR	**InterUniversit**	**1.37**	**129**	*eS*		**Sn**		**12 48 28.2**	**+0.9**
PDPR	**Patillas Dam,**	**1.40**	**125**	↑*eP*		**Pn**		**12 48 10.3**	**-0.2**
PDPR	**Patillas Dam,**	**1.40**	**125**			**Pn**		**12 48 10.0**	**-0.5**
PDPR				IAML				12 48 33.6	
	comp=E,913nm,0.2s								
CBYP	**Canovanas**	**1.42**	**113**	↑*eP*		**Pn**		**12 48 09.8**	**-0.9**
CBYP	**Canovanas**	**1.42**	**113**			**Pn**		**12 48 10.1**	**-0.6**
HUMP	**Col San Antoni**	**1.48**	**118**	↑*eP*		**Pn**		**12 48 11.6**	**+0.1**
HUMP	**Col San Antoni**	**1.48**	**118**			**Pn**		**12 48 10.9**	**-0.6**
HUMP				IAML				12 48 38.5	
	comp=E,1μm,0.2s								
HUMP				IAML				12 48 41.5	
	comp=N,1μm,0.3s								
MTP	**Monte Pirata**	**1.75**	**115**	↑*eP*		**Pn**		**12 48 14.7**	**-0.5**
MTP	**Monte Pirata**	**1.75**	**115**	*eS*		**Sn**		**12 48 37.4**	**+0.8**
MTP	**Monte Pirata**	**1.75**	**115**			**Pn**		**12 48 14.8**	**-0.5**
MTP				IAML				12 48 45.9	
	comp=E,694nm,0.3s								
CUPR	**Culebra, Puert**	**1.92**	**106**	↑*eP*		**Pn**		**12 48 16.4**	**-1.1**
CUPR	**Culebra, Puert**	**1.92**	**106**	*eS*		**Sn**		**12 48 42.2**	**+1.5**
CUPR	**Culebra, Puert**	**1.92**	**106**			**Pn**		**12 48 16.7**	**-0.8**
CDVI	**St. Croix**	**2.57**	**114**	Pn		**Pn**		**12 48 27.4**	**+0.9**
BANI	**BANI**	**3.00**	**262**			**Pn**		**12 48 32.0**	**-0.7**
SDDR	**Presa de Saban**	**3.85**	**273**			**Pn**		**12 48 46.4**	**+2.2**
GRTK	**Grand Turk**	**4.53**	**307**	Pn		**Pn**		**12 48 50.5**	**-3.0**
GRTK				IAML				12 49 42.0	
	comp=E,136nm,0.3s								
GRTK				IAML				12 50 38.9	
	comp=E,180nm,0.1s								
PCRV	**Puerto La Cruz**	**8.97**	**163**	P		**Pn**		**12 49 57.5**	**+2.9**
	comp=E,1.1nm,0.3s,baz=20,slow=5.2,SNR=7.2								
PCRV				S		**Sn**		**12 51 29.0**	**-5.7**
	comp=E,0.9nm,0.3s,baz=357,slow=18,SNR=1.8								
PLCV	**Puerto La Cruz**	**8.99**	**163**			**Pn**		**12 49 57.5**	**+2.6**
PLCV						**Sn**		**12 51 29.0**	**-6.2**
SDV	**Santo Domingo**	**10.43**	**199**	P		**Pn**		**12 50 18.7**	**+3.9**
	comp=E,0.8nm,0.3s,baz=343,slow=14,SNR=2.0								
SDV				S		**Sn**		**12 52 10.3**	**-0.5**
	comp=E,0.2nm,0.3s,baz=341,slow=21,SNR=1.7								
SDV				LR		LR		12 55 35.0	
	comp=E,19nm,18.6s,baz=344,slow=44								
TXAR	**Lajitas Array**	**34.74**	**294**	P		**P**		**12 54 35.1**	**+0.3**
	comp=E,0.2nm,0.7s,baz=99,slow=10,SNR=4.5								
TXAR				pP		**pwP**		**12 54 47.1**	**-1.0**
	comp=E,0.5nm,0.7s,baz=118,slow=8.9,SNR=5.7								
PDAR	**Pinedale Array**	**42.88**	**313**	PcP		**PcP**		**12 57 33.6**	**0.0**
	comp=E,0.2nm,0.6s,baz=96,slow=5.7,SNR=2.4								
NVAR	**Mina Array Bea**	**48.24**	**305**	P		**P**		**12 56 26.4**	**+0.9**
	comp=E,0.4nm,0.6s,baz=96,slow=7.3,SNR=4.3								
YKA	**Yellowknife Ar**	**54.41**	**335**	P		**P**		**12 57 10.7**	**-0.3**
	comp=E,0.5nm,0.8s,baz=111,slow=7.6,SNR=6.5								
TORD	**Torodi Ar. Bea**	**66.15**	**84**	P		**P**		**12 58 32.6**	**+0.5**
	comp=E,0.4nm,0.6s,baz=286,slow=6.6,SNR=2.2								
ILAR	**Eielson Array**	**68.72**	**333**	P		**P**		**12 58 47.5**	**-0.2**
	comp=E,0.2nm,0.4s,baz=93,slow=4.6,SNR=6.2								
WRA	**Warramunga Arr**	**159.63**	**263**	PKPab		**PKPab**		**13 08 20.9**	**-1.3**
	comp=E,0.3nm,0.9s,baz=89,slow=4.4,SNR=1.4								
ASAR	**Alice Springs**	**159.74**	**253**	PKPab		**PKPab**		**13 08 21.4**	**-1.2**
	comp=E,0.2nm,0.5s,baz=105,slow=4.3,SNR=2.0								

IDC 18 12:47:54.7±2.6, 6.85S×129.23E, h185km±37km, mb2.9/1, mb1 3.1/5, mb1mx2.9/27, mbtmp3.6/5, Error ellipse: s-maj=63.4km s-min=19.4km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.28**	**19**	P		Pn		12 49 25.7	+0.2
	1.2nm,0.3s,baz=180,slow=20,SNR=34								
SIJI				S		Sn		12 50 32.2	-5.1
	1.9nm,0.3s,baz=215,slow=23,SNR=11								
FITZ	**Fitzroy Crossi**	**11.71**	**197**	P		Pn		12 50 36.5	+0.1
	0.5nm,0.3s,baz=25,slow=13,SNR=34								
FITZ				S		Sn		12 52 43.6	-3.1
	0.2nm,0.3s,baz=11,slow=21,SNR=2.0								
WRA	**Warramunga Arr**	**13.93**	**160**	P		Pn		12 51 02.6	-1.8
	0.1nm,0.3s,baz=342,slow=13,SNR=1.9								
WRA				S		Sn		12 53 37.2	-2.6
	0.1nm,0.3s,baz=339,slow=22,SNR=5.4								
ASAR	**Alice Springs**	**17.31**	**165**	P		Pn		12 51 45.4	-0.2
	0.3nm,0.3s,baz=343,slow=11,SNR=22								
ASAR				S		S		12 54 51.7	-3.2
	0.0nm,0.3s,baz=353,slow=22,SNR=3.0								
MKAR	**Makanchi Array**	**67.69**	**327**	P		P		12 58 31.9	-0.1
	0.2nm,0.4s,baz=115,slow=7.6,SNR=4.9								

*DJA **18** 12:50:37.4±0.4, 3.7S±4.4×12.9E±°, h52km±14km, M3.9/7, MLv3.9/7*
*IDC **18** 12:50:38.1±3.4, 3.42S×129.34E, h94km±39km, mb3.7/5, mb1 3.9/8, mb1mx3.6/28, mbtmp4.1/8, Error ellipse: s-maj=47.0km s-min=16.4km az=80.0*
ISC 18 12:50:37.2±0.7, 3.41S±0.05×129.19E±0.04, h100km, n17, σ2s64/23, mb3.9/4, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.31**	**147**	P		**Pn**		**12 51 00.7**	**-0.5**
BNDI				S		**Sn**		**12 51 18.9**	**-0.5**
NLAI	**Namlea**	**2.10**	**275**	P		**Pn**		**12 51 10.0**	**-1.0**
NLAI				S		**Sn**		**12 51 36.5**	**-0.4**
FAKI	**Fak Fak**	**3.09**	**81**	P		**Pn**		**12 51 23.9**	**-0.3**
SIJI	**Sorong**	**3.27**	**39**	P		**Pn**		**12 51 25.9**	**-0.7**
	27nm,0.3s,baz=230,slow=20,SNR=47								
SIJI				S		**Sn**		**12 52 00.8**	**-3.8**
	33nm,0.3s,baz=217,slow=23,SNR=24								
SWI	**Sorong**	**3.27**	**39**	P		**Pn**		**12 51 25.8**	**-0.7**
SWI				S		**Sn**		**12 52 01.6**	**-3.0**
SANI	**Sanana**	**3.48**	**293**	P		**Pn**		**12 51 26.9**	**-2.4**
SANI				S		**Sn**		**12 52 03.0**	**-6.7**
KMSI	**Cibinong**	**6.54**	**307**	P		**Sn**		**12 53 26.9**	**+2.8**
SGSI	**Sangihe**	**7.94**	**333**	P		Sn		12 53 34.1	-24
MRSI	**Marisa**	**8.21**	**298**	P		**Sn**		**12 54 03.8**	**-1.0**
SRBI	**Singaraja**	**14.66**	**251**	P		Pn		12 53 48.2	-12
FITZ	**Fitzroy Crossi**	**15.01**	**193**	P		**P**		**12 54 07.3**	**+0.2**
	0.3nm,0.3s,baz=14,slow=15,SNR=3.1								
FITZ				S		**Sn**		**12 56 50.6**	**+0.8**
	0.1nm,0.3s,baz=108,slow=20,SNR=1.3								
WRA	**Warramunga Arr**	**17.18**	**163**	P		**Pn**		**12 54 30.5**	**-0.6**
	1.4nm,0.3s,baz=342,slow=12,SNR=30								
WRA				S		Sn		12 57 26.9	-15
	0.1nm,0.3s,baz=346,slow=24,SNR=2.1								
ASAR	**Alice Springs**	**20.65**	**168**	P		**P**		**12 55 09.8**	**+0.8**
	9.2nm,0.6s,baz=349,slow=11,SNR=146								
ASAR				S		**S**		**12 58 49.0**	**-5.3**
	0.3nm,0.9s,baz=348,slow=21,SNR=2.2								
STKA	**Stephens Creek**	**30.63**	**159**	P		**P**		**12 56 43.3**	**+1.3**
	0.9nm,0.7s,baz=346,slow=12,SNR=3.0								
STKA				pP		**pwP**		**12 57 06.1**	**-2.7**
	1.4nm,0.7s,baz=352,slow=6.0,SNR=2.4								
CMAR	**Chiang Mai Arr**	**36.88**	**307**	P		**P**		**12 57 39.0**	**+2.7**
	0.6nm,0.4s,baz=141,slow=8.1,SNR=7.0								
KSRS	**Korea Array**	**40.67**	**358**	P		**P**		**12 58 10.1**	**+2.4**
	1.4nm,0.7s,baz=175,slow=9.0,SNR=4.5								
MKAR	**Makanchi Array**	**64.81**	**326**	P		**P**		**13 01 07.0**	**+1.6**
	1.0nm,0.5s,baz=120,slow=8.2,SNR=20								

*SFS **18** 12:51:03.0, 36.20N×3.38W, ML2.1, ALBORAN N.*
*MDD **18** 12:51:05.1±1.1, 36.28N×3.38W, h3km±6km, mb3.1/1, mbLg2.2/9, Error ellipse: s-maj=8.7km s-min=4.7km az=166.0, PRXIMO*
MDD EMS: I-II INTENSIDAD MAXIMA.
*INMG **18** 12:51:05.7±1.5, 36.18N×3.41W, h10km, ML2.0, Error ellipse: s-maj=5.1km s-min=3.6km az=111.0*
ISC 18 12:51:02.3±1.9, 36.20N±0.08×3.29W±0.04, h14km±12km, n37, σ1s83/54, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELGU	**Los Guajares,**	**0.72**	**338**	Pg		**Pg**		**12 51 16.0**	**-0.3**
	9.8nm,0.1s,SNR=7.9								
ELGU				Lg		Lg		12 51 25.7	
	154nm,0.1s,SNR=7.9								
EBER	**Berja**	**0.76**	**25**	Pg		**Pn**		**12 51 18.8**	**-0.2**
	2.8nm,0.1s,SNR=27								
EBER				Lg		Lg		12 51 28.9	
	113nm,0.3s,SNR=17								
EQUE	**Quentar**	**1.01**	**353**	Pg		**Pn**		**12 51 22.2**	**0.0**
	3.3nm,0.1s,SNR=12								
EQUE				Lg		Lg		12 51 34.7	
	11nm,0.1s,SNR=7.9								
EMAL	**Malaga-Limoner**	**1.08**	**301**	Pg		**Pb**		**12 51 22.6**	**-0.2**
EMAL				Lg		Lg		12 51 35.4	
EMAL	**Malaga-Limoner**	**1.08**	**301**	*eP*		**Pb**		**12 51 22.6**	**-0.2**
EMAL				*eS*		**Sb**		**12 51 35.4**	**-1.3**
EGOR	**Sierra Gorda,**	**1.12**	**324**	Pg		**Pb**		**12 51 23.0**	**-0.7**
	0.4nm,0.1s,SNR=7.9								
EGOR				Lg		Lg		12 51 39.0	
	8.9nm,0.3s,SNR=7.9								
ENIJ	**Nijar**	**1.16**	**48**	Pg		**Pb**		**12 51 24.1**	**-0.1**
	4.1nm,0.2s,SNR=7.9								
ENIJ				Lg		Lg		12 51 38.8	
	33nm,0.3s,SNR=7.9								
EQES	**Quesada**	**1.61**	**6**	Pg		**Pg**		**12 51 33.6**	**+0.4**
	11nm,0.1s,SNR=9.9								
EQES				Lg		Lg		12 51 54.5	
	8.0nm,0.1s,SNR=4.6								
ECEU	**Ceuta**	**1.72**	**260**	Pn		**Pb**		**12 51 34.5**	**+0.7**
	0.9nm,0.1s,SNR=4.0								
ECEU				Sn		**Sn**		**12 51 50.0**	**-3.7**
	2.4nm,0.1s,SNR=7.9								
SESP	**Santiago Espad**	**2.00**	**17**	Pg		**Pb**		**12 51 39.4**	**+0.8**
	2.2nm,0.2s,SNR=7.9								
SESP				Lg		Lg		12 52 04.0	
	11nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**2.21**	**333**	Pn		**Pn**		**12 51 39.7**	**+1.0**
	0.2nm,0.1s,SNR=7.9								
EADA				Pg		**Pg**		**12 51 43.9**	**-0.9**
	1.0nm,0.2s,SNR=7.9								
EADA				Sn		**Sn**		**12 52 06.0**	**0.0**
	1.1nm,0.2s,SNR=4.9								
EADA				Lg		Lg		12 52 11.1	
	4.7nm,0.2s,SNR=7.9								
EMUR	**La Murta**	**2.31**	**44**	Pn		**Pb**		**12 51 42.2**	**-1.7**
	0.5nm,0.2s,SNR=4.0								
EMUR				Sn		**Sn**		**12 52 09.1**	**+0.7**
	3.4nm,0.3s,SNR=7.9								
ECAB	**El Cabril**	**2.53**	**318**	Pg		**Pb**		**12 51 47.9**	**+0.3**
	0.1nm,0.1s,SNR=4.0								
ECAB				Lg		Lg		12 52 19.4	
	4.0nm,0.4s,SNR=7.9								
ETOB	**Tobarra**	**2.80**	**29**	Pn		**Pb**		**12 51 50.0**	**-2.3**
	2.0nm,0.2s,SNR=14								
ETOB				Sn		**Sn**		**12 52 22.6**	**+2.0**
	0.9nm,0.2s								
EMIN	**Mina Concepcio**	**3.13**	**301**	Pn		**Pn**		**12 51 51.4**	**+0.1**
	0.3nm,0.1s,SNR=7.9								
EMIN				Sn		**Sn**		**12 52 25.7**	**-2.8**
	0.4nm,0.1s,SNR=7.9								
PAB	**San Pablo**	**3.44**	**346**	Pn		**Pn**		**12 51 57.5**	**+1.8**
	0.3nm,0.2s,SNR=7.9								
PAB				Lg		Lg		12 52 49.5	
	0.6nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**3.51**	**351**	Lg		Lg		12 52 51.3	
	3.2nm,0.6s,baz=161,slow=28,SNR=4.0								
EGRO	**El Granado**	**3.62**	**293**	Pn		**Pn**		**12 51 59.2**	**+1.3**
	0.4nm,0.2s,SNR=7.9								
EGRO				Sn		**Sn**		**12 52 37.9**	**-2.6**
	1.2nm,0.2s,SNR=7.9								
PVAQ	**Vaqueiros**	**3.75**	**290**	Pn		**Pn**		**12 52 00.7**	**+0.8**
PVAQ				Sn		**Sn**		**12 52 42.9**	**-1.0**
	2.2nm,0.3s								
PVAQ	**Vaqueiros**	**3.75**	**290**	*ePn*		**Pn**		**12 52 00.7**	**+0.8**
PVAQ				*eSn*		**Sn**		**12 52 42.9**	**-1.0**
PVAQ				A		A		12 52 46.5	
	2.2nm,0.3s								
PBDV	**Barranco-do-Ve**	**3.87**	**287**	Pn		**Pn**		**12 52 03.7**	**+2.2**
PBDV				Sn		**Sn**		**12 52 45.0**	**-1.9**
PBDV	**Barranco-do-Ve**	**3.87**	**287**	*ePn*		**Pn**		**12 52 03.7**	**+2.2**
PBDV				*eSn*		**Sn**		**12 52 45.0**	**-1.9**
PCVE	**Castro Verde**	**4.07**	**292**	Pn		**Pn**		**12 52 06.0**	**+1.8**
PCVE				Sn		**Sn**		**12 52 51.7**	**+0.1**
PCVE	**Castro Verde**	**4.07**	**292**	*ePn*		**Pn**		**12 52 06.0**	**+1.8**
PCVE				*eSn*		**Sn**		**12 52 51.7**	**+0.1**
MESJ	**Messejana**	**4.27**	**294**	Pn		**Pn**		**12 52 08.7**	**+1.7**
MESJ				Sn		**Sn**		**12 52 56.2**	**-0.5**
MESJ	**Messejana**	**4.27**	**294**	*ePn*		**Pn**		**12 52 08.7**	**+1.7**
MESJ				*eSn*		**Sn**		**12 52 56.2**	**-0.5**
PESTR	**Estremoz**	**4.33**	**309**	*ePn*		**Pn**		**12 52 09.5**	**+1.7**
MORF	**Marmelete**	**4.45**	**286**	Pn		**Pn**		**12 52 12.1**	**+2.7**
MORF	**Marmelete**	**4.45**	**286**	*ePn*		**Pn**		**12 52 12.1**	**+2.7**
PFVI	**Vila Bisbo**	**4.55**	**283**	*ePn*		**Pn**		**12 52 12.4**	**+1.6**
PFVI				*eSn*		**Sn**		**12 53 03.2**	**-0.3**
PTEO	**Sao Teotonio**	**4.56**	**289**	Pn		**Pn**		**12 52 14.2**	**+3.2**
PTEO	**Sao Teotonio**	**4.56**	**289**	*ePn*		**Pn**		**12 52 14.2**	**+3.2**
PMRV	**Marv??o**	**4.58**	**316**	Pn		**Pn**		**12 52 15.4**	**+4.2**
PMRV	**Marv??o**	**4.58**	**316**	*ePn*		**Pn**		**12 52 15.4**	**+4.2**
PNCL	**Nicolau / Gran**	**4.60**	**296**	Pn		**Pn**		**12 52 13.3**	**+1.8**
PNCL				Sn		**Sn**		**12 53 04.3**	**-0.5**
PNCL	**Nicolau / Gran**	**4.60**	**296**	*ePn*		**Pn**		**12 52 13.3**	**+1.8**
PNCL				*eSn*		**Sn**		**12 53 04.3**	**-0.5**
ETOR	**Torete**	**4.71**	**11**	Lg		Lg		12 53 28.8	
	4.3nm,0.3s,SNR=7.9								

*NEIC **18** 13:02:56.8±1.0, 19.66N±0.10×66.02W±0.07, h40km±57km, Error ellipse: s-maj=14.8km s-min=9.4km az=195.0*
*RSPR **18** 13:02:57.5, 19.61N×66.02W, h72km±9km, MD3.2/7*
ISC 18 13:02:56.8±2.3, 19.5N±0.1×66.00W±0.07, h14km, n38, σ0s76/38, 6C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.14**	**206**	Pn		**Pg**		**13 03 19.8**	**+0.9**
EMPR				IAML				13 03 34.7	
	comp=E,132nm,0.4s								
EMPR				IAML				13 03 37.5	
	comp=N,110nm,0.7s								
GCPR	**Guaynabo City**	**1.19**	**184**	Pn		**Pn**		**13 03 18.4**	**-0.7**
CBYP	**Canovanas**	**1.23**	**174**	↑*eP*		**Pb**		**13 03 19.4**	**-0.6**
CBYP	**Canovanas**	**1.23**	**174**	*eS*		**Sn**		**13 03 36.9**	**+0.7**
CBYP	**Canovanas**	**1.23**	**174**			**Pb**		**13 03 19.4**	**-0.6**
CBYP						**Sn**		**13 03 36.9**	**+0.7**
CBYP	**Canovanas**	**1.23**	**174**	IAML				13 03 38.3	
	comp=E,120nm,0.2s								
CBYP				IAML				13 03 44.5	
	comp=N,126nm,0.2s								
AOPR	**Arecibo Observ**	**1.36**	**212**	↓*eP*		**Pb**		**13 03 21.1**	**-0.9**
AOPR	**Arecibo Observ**	**1.36**	**212**	*eS*		**Sn**		**13 03 39.4**	**+0.2**
AOPR	**Arecibo Observ**	**1.36**	**212**			**Sn**		**13 03 39.4**	**+0.2**
AOPR	**Arecibo Observ**	**1.36**	**212**			**Pn**		**13 03 20.1**	**-1.3**
AOPR	**Arecibo Observ**	**1.36**	**212**	IAML				13 03 41.5	
	comp=N,221nm,0.4s								
AOPR				IAML				13 03 43.1	
	comp=E,230nm,0.3s								
HUMP	**Col San Antoni**	**1.36**	**174**	↑*eP*		**Pb**		**13 03 21.5**	**-0.6**
HUMP	**Col San Antoni**	**1.36**	**174**	*eS*		**Sb**		**13 03 40.1**	**+0.6**
HUMP	**Col San Antoni**	**1.36**	**174**			**Pb**		**13 03 21.5**	**-0.6**
HUMP						**Sb**		**13 03 40.1**	**+0.6**
HUMP	**Col San Antoni**	**1.36**	**174**	IAML				13 03 44.5	
	comp=E,30nm,0.4s								
CUPR	**Culebra, Puert**	**1.37**	**150**	↑*eP*		**Pb**		**13 03 21.7**	**-0.6**
CUPR	**Culebra, Puert**	**1.37**	**150**	*eS*		**Sb**		**13 03 40.4**	**+0.7**
CUPR	**Culebra, Puert**	**1.37**	**150**			**Pb**		**13 03 21.7**	**-0.6**
CUPR						**Sb**		**13 03 40.4**	**+0.7**
SJG	**San Juan**	**1.39**	**186**	Pn		**Pb**		**13 03 22.5**	**-0.2**
SJG				IAML				13 03 42.5	
	comp=E,50nm,0.5s								
SJG				IAML				13 03 42.9	
	comp=E,34nm,0.4s								
MTP	**Monte Pirata**	**1.46**	**163**	↑*eP*		**Pb**		**13 03 22.9**	**-1.0**
MTP	**Monte Pirata**	**1.46**	**163**	*eS*		**Sb**	

JEW					*e*S		**Sn**	**13 24 02.4**	**+0.3**
JHR	**Hokuryu**	**1.78**	**302**		P		**Pn**	**13 23 40.8**	**+0.9**
JHR					*e*S		**Sn**	**13 24 04.6**	**+1.4**
GRPR	**Tuman**	**1.86**	**50**	*c i*	PN		**Pn**	**13 23 41.5**	**+0.7**
GRPR					*i* S		**Sn**	**13 24 04.9**	**+0.1**
GRPR					pmax	pmax			
	comp=E,27nm,0.2s								
GRPR					pmax	pmax			
	comp=Z,63nm,0.2s								
GRPR					pmax	pmax			
	comp=N,29nm,0.1s								
GRPR					smax	smax			
	comp=N,290nm,0.2s								
GRPR					smax	smax			
	comp=E,534nm,0.4s								
GRPR	**Tuman**	**1.86**	**50**	*i*	P		**Pn**	**13 23 41.5**	**+0.7**
GRPR					AMB	AMB		13 23 42.0	
	comp=E,60nm,0.2s								
GRPR				*i*	S		**Sn**	**13 24 04.0**	**-0.8**
GRPR					A	A		13 24 05.0	
	comp=E,290nm,0.4s								
GRPR					A	A		13 24 05.0	
	comp=E,530nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.93**	**50**	*d i*	PN		**Pn**	**13 23 42.6**	**+0.8**
YUK				*i*	S		**Sn**	**13 24 06.7**	**+0.2**
YUK					pmax	pmax			
	comp=Z,117nm,0.3s								
YUK					pmax	pmax			
	comp=E,13nm,0.1s								
YUK					smax	smax			
	comp=E,411nm,0.3s								
YUK					smax	smax			
	comp=N,608nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**1.93**	**50**	*i*	P		**Pn**	**13 23 42.7**	**+0.9**
YUK					AMB	AMB		13 23 43.0	
	comp=N,120nm,0.3s								
YUK				*i*	S		**Sn**	**13 24 06.7**	**+0.2**
YUK					A	A		13 24 08.5	
	comp=N,760nm,0.4s								
YUK					A	A		13 24 08.5	
	comp=N,400nm,0.4s								
KUR	**Kuril'sk**	**3.80**	**49**		PN		Pn	13 24 11.7	+5.6
KUR				*i*	S		**Sn**	**13 24 52.4**	**+2.3**
KUR					smax	smax			
	comp=E,26nm,0.5s								
KUR					smax	smax			
	comp=N,12nm,0.3s								
KUR	**Kuril'sk**	**3.80**	**49**	*e*	P		**Pn**	**13 24 08.4**	**+2.3**
KUR					AMB	AMB		13 24 09.1	
	comp=N,10.0nm,0.2s								
KUR				*i*	S		**Sn**	**13 24 52.1**	**+2.0**
KUR					A	A		13 24 56.1	
	comp=N,30nm,0.2s								
KUR					A	A		13 24 56.1	
	comp=N,20nm,0.2s								
SEY	**Seymchan**	**20.77**	**11**		P		**P**	**13 27 38.2**	**-2.7**
	comp=N,1.6nm,0.8s,baz=194,slow=7.4,SNR=9.1								
SONM	**Songino Array**	**26.60**	**294**		P		**P**	**13 28 38.1**	**+1.1**
	comp=N,0.5nm,0.3s,baz=84,slow=8.7,SNR=4.5								
H11N2	**WAKE ISLAND Hy**	**30.13**	**133**		T		T	14 00 38.6	
	baz=327,slow=75,SNR=13								
H11N1	**WAKE ISLAND Hy**	**30.14**	**133**		T		T	14 00 42.8	
	baz=327,slow=75,SNR=11								
H11N3	**WAKE ISLAND Hy**	**30.15**	**133**		T		T	14 00 43.4	
	baz=327,slow=75,SNR=9.3								
H11S1	**WAKE ISLAND Hy**	**31.03**	**134**		T		T	14 01 50.7	
	baz=328,slow=76,SNR=14								
H11S3	**WAKE ISLAND Hy**	**31.03**	**134**		T		T	14 01 46.9	
	baz=328,slow=76,SNR=15								
H11S2	**WAKE ISLAND Hy**	**31.04**	**134**		T		T	14 01 46.3	
	baz=328,slow=76,SNR=12								
MKAR	**Makanchi Array**	**42.85**	**297**		P		**P**	**13 30 57.1**	**+1.0**
	comp=N,0.2nm,0.5s,baz=81,slow=8.9,SNR=1.8								
ILAR	**Eielson Array**	**43.68**	**35**		P		**P**	**13 31 02.5**	**0.0**
	comp=N,0.3nm,0.8s,baz=260,slow=5.6,SNR=7.0								
INK	**Inuvik**	**48.43**	**30**		P		**P**	**13 31 38.4**	**-1.1**
	comp=N,0.4nm,0.4s,baz=299,slow=8.8,SNR=7.2								
WRA	**Warramunga Arr**	**63.05**	**190**		P		**P**	**13 33 24.5**	**+0.1**
	comp=N,0.4nm,1.0s,baz=7.5,slow=5.9,SNR=1.4								
FINES	**FINESS Array B**	**64.58**	**332**		P		**P**	**13 33 33.0**	**-0.9**
	comp=N,1.2nm,0.6s,baz=63,slow=8.8,SNR=6.4								
NOA	**NORSAR Array B**	**69.57**	**338**		P		**P**	**13 34 04.8**	**-0.8**
	comp=N,0.1nm,0.4s,baz=36,slow=6.1,SNR=1.8								

DJA ***18*** *13:43:28.0±0.3,1°S±2°×12°3E±°, h10km, M4.2/5, mb4.6/1, MLv4.0/5*

IDC ***18*** *13:43:30.1±1.6, 1°.01S×122°.68E, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.5/35, mbtmp3.6/5, ML4.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/21, Error ellipse: s-maj=37.5km s-min=27.6km az=59.0*

NEIC ***18*** *13:43:32.8±2.2, 0°.98S±0°.08×122°.76E±0°.07, h23km±8km, mb4.0/8, Error ellipse: s-maj=11.6km s-min=10.2km az=202.0*

ISC 18 13:43:32.8±0.7, 0°.89S±0°.04×122°.63E±0°.05, h26km, n30, σ2°25/32, mb3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.20**	**137**		**Pb**	**13 43 37.0**	**-1.6**
LUWI	**Luwuk**	**0.20**	**137**	P	**Pb**	**13 43 37.0**	**-1.6**
LUWI				S	**Sb**	**13 43 42.8**	**+0.2**
APSI	**Ampana**	**0.98**	**269**	P	**Pn**	**13 43 46.3**	**-4.7**
APSI				S	**Sb**	**13 44 00.9**	**-2.9**
MRSI	**Marisa**	**1.53**	**333**	P	Pn	13 43 50.7	-7.7
MRSI				S	Sn	13 44 06.2	-11
GTOI	**Gorontalo**	**1.56**	**14**	P	Pn	13 43 52.8	-6.1
GTOI				S	**Sn**	**13 44 12.2**	**-6.2**
KMSI	**Cibinong**	**1.98**	**43**	P	**Pb**	**13 44 09.4**	**+1.1**
TOLI2	**Tolitoli**	**2.72**	**317**	Pn	**Pn**	**13 44 15.9**	**+1.0**
TTSI	**Tana Toraja**	**3.53**	**233**	P	**Pn**	**13 44 25.4**	**-0.7**
SANI	**Sanana**	**3.54**	**109**	P	**Pn**	**13 44 24.7**	**-1.5**
SPSI	**Sidrap Palu**	**4.18**	**223**	P	**Pn**	**13 44 34.1**	**-0.9**
SPSI				S	**Sn**	**13 45 26.5**	**+3.4**
BNSI	**Bone**	**4.30**	**216**	P	**Pn**	**13 44 37.1**	**+0.5**
KAPI	**Kappang**	**5.00**	**215**	Pn	**Pn**	**13 44 45.5**	**-0.8**
	4.1nm,0.3s,baz=45,slow=7.3,SNR=4.2						
KAPI				Sn	**Sn**	**13 45 41.5**	**-1.8**
	5.8nm,0.3s,baz=162,slow=17,SNR=2.3						
KAPI				LR	LR	13 47 00.3	
	comp=Z,63nm,20.3s,baz=46,slow=42						
KAPI	**Kappang**	**5.00**	**215**	Pn	**Pn**	**13 44 46.4**	**+0.1**
NLAI	**Namlea**	**5.04**	**118**	P	**Pn**	**13 44 46.1**	**-0.6**
BSSI	**Bau Bau, Buton**	**5.64**	**202**	P	**Pn**	**13 44 59.5**	**+4.5**
MYLDM	**Lahad Datu**	**7.31**	**326**		**Pn**	**13 45 19.3**	**+1.3**
EDFI	**Ende, Flores**	**7.86**	**187**	P	Pn	13 45 31.9	+6.2
SIJI	**Sorong**	**8.63**	**90**	Pn	**Pn**	**13 45 36.4**	**+0.3**
	2.2nm,0.3s,baz=229,slow=12,SNR=8.9						
FAKI	**Fak Fak**	**9.82**	**102**	Pn	**Pn**	**13 45 49.5**	**-2.9**
MTN	**Manton Dam**	**14.56**	**145**	P	**P**	**13 47 03.2**	**-0.4**
DLV	**T Lat**	**18.98**	**313**	P	Pn	**13 47 55.9**	**+2.5**
DLV				IAmb	IAmb	13 48 22.6	
	comp=Z,12nm,1.3s						
WB0	**Warramunga Arr**	**22.01**	**149**	P	**P**	**13 48 25.8**	**+0.4**
WB0				IAmb	IAmb	13 48 38.0	
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**22.13**	**150**	P	**P**	**13 48 25.4**	**-1.2**
WRA	**Warramunga Arr**	**22.13**	**150**	P	**P**	**13 48 26.3**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=329,slow=11,SNR=9.2						
WB2	**Warramunga Arr**	**22.14**	**150**	P	**P**	**13 48 25.3**	**-1.4**
WB2				IAmb	IAmb	13 48 45.0	
	comp=Z,8.3nm,1.4s						
WR0	**Warramunga Arr**	**22.25**	**149**	P	**P**	**13 48 26.6**	**-1.3**
WR0				IAmb	IAmb	13 48 44.2	
	comp=Z,6.8nm,1.4s						
ASAR	**Alice Springs**	**25.14**	**155**	P	**P**	**13 48 55.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=337,slow=9.7,SNR=26						
JNU	**Nakatsue**	**34.71**	**12**	P	**P**	**13 50 22.4**	**+1.6**
JTU	**Tsushima**	**35.80**	**10**	P	**P**	**13 50 31.5**	**+1.5**
MKAR	**Makanchi Array**	**59.18**	**329**	P	**P**	**13 53 33.7**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=136,slow=7.5,SNR=2.5						

NEIC ***18*** *13:53:50.0±1.2, 0°.11N±0°.08×97°.0E±0°.1, h27km±4km, mb4.2/15, Error ellipse: s-maj=16.6km s-min=10.7km az=66.0*

IDC ***18*** *13:53:51.7±1.3, 0°.13N×97°.05E, h33km±6km, mb3.8/8, mb1 3.8/10, mb1mx3.6/41, mbtmp3.9/10, ML3.8/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/37, Error ellipse: s-maj=43.1km s-min=14.8km az=62.0*

ISC 18 13:53:49.6±0.9, 0°.12N±0°.09×97°.1E±0°.1, h22km, n45, σ0°69/39, mb4.2/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.29**	**24**	Pn	**Pn**	**13 54 11.3**	**-1.0**
RPSI	**Rantau Prapat**	**3.17**	**36**		**Pn**	**13 54 38.9**	**+0.7**
RPSI	**Rantau Prapat**	**3.17**	**36**	Pn	**Pn**	**13 54 38.4**	**+0.2**
PSI	**Prapat**	**3.25**	**35**	Pn	**Pn**	**13 54 38.9**	**-0.6**
	1.5nm,0.3s,baz=359,slow=1.5,SNR=11						
PSI				LR	LR	13 56 16.7	
	comp=Z,154nm,19.5s,baz=188,slow=46						
IPM	**Ipoh**	**5.87**	**42**		**Pn**	**13 55 15.7**	**+0.3**
KULM	**Kulim**	**6.27**	**35**	Pn	**Pn**	**13 55 19.6**	**-1.1**
MYKOM	**Kota Tinggi**	**7.00**	**76**	Pn	**Pn**	**13 55 29.9**	**-0.9**
MNAI	**Manna**	**7.39**	**127**	Pn	**Pn**	**13 55 35.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**18.32**	**6**	P	**Pn**	**13 58 03.2**	**+0.8**
	0.4nm,0.3s,baz=202,slow=11,SNR=8.8						
CMAR				pP	**pwP**	**13 58 13.0**	**-0.9**
	0.2nm,0.3s,baz=196,slow=11,SNR=3.3						
CMAR	**Chiang Mai Arr**	**18.32**	**6**		**P**	**13 58 02.7**	**+0.3**
CHTO	**Chiang Mai**	**18.67**	**6**		**P**	**13 58 06.2**	**0.0**
KKM	**Kota Kinabalu**	**20.01**	**73**	P	**P**	**13 58 21.8**	**+0.6**
KKM				IAmb	IAmb	13 58 48.8	
	comp=Z,16nm,1.1s						
H08S2	**Diego Garcia H**	**25.67**	**252**	T	T	14 26 27.2	
	baz=74,slow=74,SNR=12						
H08S3	**Diego Garcia H**	**25.68**	**252**	T	T	14 26 27.2	
	baz=74,slow=74,SNR=25						
H08S1	**Diego Carcia H**	**25.69**	**252**	T	T	14 26 26.0	
	baz=74						
YULB	**Yu-li**	**33.01**	**44**	P	**P**	**14 00 23.9**	**+0.5**
H01W3	**Cape Leeuwin H**	**38.31**	**157**	T	T	14 41 48.4	
	baz=337,slow=74,SNR=4.7						
H01W2	**Cape Leeuwin H**	**38.33**	**157**	T	T	14 41 50.1	
	baz=337						
H01W1	**Cape Leeuwin H**	**38.33**	**157**	T	T	14 41 48.3	
	baz=337,slow=74,SNR=3.8						
WB0	**Warramunga Arr**	**41.58**	**121**	P	**P**	**14 01 36.2**	**+0.1**
WB0				IAmb	IAmb	14 01 43.2	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**41.61**	**121**	P	**P**	**14 01 36.8**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=302,slow=9.0,SNR=24						
WRA				pP	**pwP**	**14 01 46.7**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=304,slow=8.6,SNR=2.9						
WRA	**Warramunga Arr**	**41.61**	**121**	P	**P**	**14 01 36.4**	**0.0**
WRAB	**Tennant Creek**	**41.61**	**121**	P	**P**	**14 01 36.4**	**0.0**
WRAB				IAmb	IAmb	14 01 56.5	
	comp=Z,8.4nm,1.4s						
WB2	**Warramunga Arr**	**41.62**	**121**	P	**P**	**14 01 36.2**	**-0.2**
WB2				IAmb	IAmb	14 02 05.4	
	comp=Z,7.5nm,1.4s						
WR0	**Warramunga Arr**	**41.79**	**121**	P	**P**	**14 01 38.1**	**+0.3**
WR0				IAmb	IAmb	14 01 50.6	
	comp=Z,8.7nm,1.5s						
ASAR	**Alice Springs**	**42.88**	**126**	P	**P**	**14 01 47.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=304,slow=7.7,SNR=5.1						
ASAR				pP	**pwP**	**14 01 57.4**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=299,slow=8.3,SNR=2.9						
KSAR	**Wonju Array Be**	**46.79**	**34**	P	**P**	**14 02 17.2**	**-0.3**
KSRS	**Korea Array**	**46.82**	**34**	LR	LR	14 23 27.3	
	comp=Z,14nm,18.6s,baz=205,slow=38						
SONM	**Songino Array**	**48.21**	**8**	P	**P**	**14 02 29.2**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=193,slow=11,SNR=6.0						
SONM	**Songino Array**	**48.21**	**8**	P	**P**	**14 02 28.8**	**+0.2**
SONM				IAmb	IAmb	14 02 30.2	
	comp=Z,0.8nm,0.9s						
MK31	**Makanchi Array**	**48.24**	**346**	P	**P**	**14 02 29.2**	**+0.4**
MK31				IAmb	IAmb	14 02 30.1	
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**48.24**	**346**	P	**P**	**14 02 29.5**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=164,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**48.24**	**346**	P	**P**	**14 02 28.2**	**-0.6**
MAKZ	**Makanchi**	**48.33**	**346**	P	**P**	**14 02 28.8**	**-0.6**
MAKZ				IAmb	IAmb	14 02 41.0	
	comp=Z,2.6nm,1.1s						
STKA	**Stephens Creek**	**52.76**	**131**	P	**P**	**14 03 04.3**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=315,slow=6.7,SNR=3.1						
STKA	**Stephens Creek**	**52.76**	**131**	IAmb	IAmb	14 03 10.1	
	comp=Z,1.1nm,1.1s						
USRK	**Ussuriysk Ar.**	**53.77**	**31**	P	**P**	**14 03 10.2**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=232,slow=5.2,SNR=4.2						
ZAA0	**Zalesovo Array**	**54.59**	**351**	P	**P**	**14 03 16.5**	**+0.4**
ZALV	**Zalesovo Beam**	**54.59**	**351**	P	**P**	**14 03 16.6**	**+0.4**
	comp=Z,2.2nm,0.3s,baz=175,slow=5.0,SNR=9.1						
ZALV				pP	**pwP**	**14 03 26.9**	**-1.4**
	comp=Z,2.0nm,0.5s,baz=171,slow=7.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**54.59**	**351**	P	**P**	**14 03 16.2**	**0.0**
AKASG	**Malin Array Be**	**76.02**	**323**	P	**P**	**14 05 34.0**	**-1.1**
AKASG				IAmb	IAmb	14 05 57.4	
	comp=Z,2.9nm,1.1s						
AKBB	**Malin Array Si**	**76.02**	**323**	P	**P**	**14 05 35.7**	**+0.6**
ARCES	**ARCESS Array B**	**83.49**	**340**	P	**P**	**14 06 15.7**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=95,slow=4.3,SNR=8.4						
TXAR	**Lajitas Array**	**144.66**	**32**	PKP	PKPbc	14 13 25.1	+0.9
	comp=Z,0.5nm,0.6s,baz=202,slow=0.6,SNR=10						
TXAR				pPKP	sPKPdf	14 13 34.9	+1.8
	comp=Z,0.2nm,0.5s,baz=82,slow=0.6,SNR=3.0						
TXAR	**Lajitas Array**	**144.66**	**32**		PKPbc	14 13 24.7	+0.5

IDC 18 14:22:36.4±5.0, 29°.34S×177°.33W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/24, mbtmp3.5/3, Error ellipse: s-maj=200.9km s-min=76.6km az=159.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.30**	**255**	P	P	14 29 33.5	+0.3
	2.2nm,1.1s,baz=98,slow=15,SNR=2.2						
ASAR	**Alice Springs**	**43.76**	**266**	P	P	14 30 43.4	-0.5
	0.2nm,0.7s,baz=104,slow=7.2,SNR=5.2						
WRA	**Warramunga Arr**	**44.66**	**271**	P	P	14 30 51.0	-0.1
	0.2nm,0.2s,baz=110,slow=8.1,SNR=20						
FINES	**FINESS Array B**	**144.34**	**341**	PKP	PKPdf	14 42 13.2	-0.5
	1.0nm,0.7s,baz=15,slow=5.8,SNR=3.4						

IDC ***18*** *14:23:41.2±2.5, 28°.85N×139°.58E, h385km±45km, mb3.2/4, mb1 3.3/6, mb1mx2.8/36, mbtmp4.0/6, Error ellipse: s-maj=119.5km s-min=16.4km az=82.0*

JMA ***18*** *14:23:42.5±0.1, 29°.02N×140°.23E, h410km, M3.2*

ISC 18 14:23:42.2±0.9, 29°.0N±0°.1×140°.2E±0°.2, h400km, n10, σ1°60/13, mb3.4/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.58**	**138**	P	**Pn**	**14 24 43.4**	**+1.2**
CBIJ				*e*S	**S**	**14 25 31.8**	**+1.2**
JCJ	**Chichijima**	**2.58**	**138**	P	**Pn**	**14 24 43.6**	**+1.4**
	10nm,0.3s,baz=357,slow=16,SNR=47						
JCJ				S	**S**	**14 25 31.8**	**+1.2**
	42nm,0.3s,baz=124,slow=23,SNR=15						
JIE	**Ise**	**6.14**	**332**	P	**Pn**	**14 25 18.4**	**+2.1**
JRY	**Ryogami san**	**7.07**	**351**	P	**P**	**14 25 27.9**	**+0.7**
JAG	**Ashikaga**	**7.42**	**355**	P	**Pn**	**14 25 30.7**	**+0.2**
JAG				*e*S	**S**	**14 26 56.4**	**-2.6**
USRK	**Ussuriysk Ar.**	**16.52**	**339**	P	**P**	**14 27 11.8**	**+1.0**
	baz=144,slow=9.2,SNR=13						
WRA	**Warramunga Arr**	**49.01**	**187**	P	**P**	**14 31 49.1**	**-1.4**
	0.4nm,0.3s,baz=1.1,slow=7.8,SNR=22						
ASAR	**Alice Springs**	**52.73**	**187**	P	**P**	**14 32 16.4**	**-1.5**
	0.2nm,0.3s,baz=3.6,slow=6.4,SNR=14						
ARCES	**ARCESS Array B**	**71.16**	**340**	P	**P**	**14 34 18.9**	**+0.5**
	5.8nm,1.1s,baz=70,slow=8.8,SNR=4.0						
FINES	**FINESS Array B**	**75.46**	**333**	P	**P**	**14 34 41.8**	**-1.5**
	0.5nm,0.4s,baz=53,slow=7.4,SNR=4.3						

IDC ***18*** *14:35:43.4±0.9, 2°.72S×139°.39E, h0km, mb3.8/6, mb1 4.1/10, mb1mx3.8/35, mbtmp4.0/10, ML4.2/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/27, Error ellipse: s-maj=20.6km s-min=16.8km az=163.0*

DJA ***18*** *14:35:48.1±0.3, 3°S±5°×13°9E±°, h10km, M4.3/8, mB6.7/1, mb4.6/8, MLv4.1/3, Mw(mB)6.6/1*

NEIC ***18*** *14:35:48.4±1.6, 2°.74S±0°.06×139°.44E±0°.07, h42km±9km, mb4.2/17, Error ellipse: s-maj=12.2km s-min=4.2km az=129.0*

ISC 18 14:35:48.5±0.5, 2°.79S±0°.06×139°.40E±0°.05, h35km, n48, σ2°13/48, mb4.0/10, MS3.5/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.79**	**76**	P	**Pn**	**14 36 03.3**	**+0.1**
GENI				S	**Sn**	**14 36 14.4**	**+0.6**
JAY	**Jayapura**	**1.33**	**78**	Pn	**Pn**	**14 36 09.9**	**-0.8**
	45nm,0.3s,baz=233,slow=11,SNR=135						
JAY				Sn	**Sn**	**14 36 28.4**	**+1.2**
	43nm,0.3s,baz=88,slow=18,SNR=6.0						
JAY				LR	LR	14 36 56.1	
	comp=Z,471nm,18.3s,baz=55,slow=55						
JAY	**Jayapura**	**1.33**	**78**	P	**Pn**	**14 36 10.0**	**-0.6**
SRPI	**Serui, Papua**	**3.29**	**286**	P	**Pn**	**14 36 41.0**	**+3.5**
FAKI	**Fak Fak**	**7.14**	**269**	Pn	**Pn**	**14 37 30.4**	**-0.1**
SIJI	**Sorong**	**8.35**	**283**	Pn	**Pn**	**14 37 47.8**	**+0.6**
	2.7nm,0.3s,baz=266,slow=23,SNR=17						
SIJI				Sn	**Sn**	**14 39 15.2**	**-5.1**
	baz=54,slow=22,SNR=0.8						
SIJI				LR	LR	14 41 45.5	
	comp=Z,180nm,21.0s,baz=118,slow=44						
PMG	**Port Moresby**	**10.13**	**131**	Pn	**Pn**	**14 38 11.5**	**-0.1**
	0.5nm,0.3s,baz=256,slow=16,SNR=2.0						
COEN	**Coen**	**11.71**	**162**	Pn	**Pn**	**14 38 35.6**	**+2.4**
MTN	**Manton Dam**	**12.91**	**219**	Pn	**Pn**	**14 38 48.5**	**-1.1**
SANI	**Sanana**	**13.42**	**273**	P	**Pn**	**14 38 56.4**	**-0.2**
	18nm,0.7s						
SOEI	**Soe**	**16.55**	**245**	Pn	**Pn**	**14 39 39.0**	**+0.9**
SOEI				IAmb	IAmb	14 39 53.3	
	comp=Z,51nm,0.9s						
SOEI	**Soe**	**16.55**	**245**	P	**P**	**14 39 41.4**	**+1.0**
	comp=Z,68nm,1.1s						
BATI	**Baumata**	**17.27**	**244**	P	**P**	**14 39 48.5**	**+0.1**
	comp=Z,3.2nm,0.3s,baz=149,slow=6.6,SNR=4.7						
BATI	**Baumata**	**17.27**	**244**	P	**P**	**14 39 50.2**	**+1.9**
	comp=Z,19nm,0.8s						
WB0	**Warramunga Arr**	**17.57**	**196**	Pn	**Pn**	**14 39 48.5**	**-2.2**
WR0	**Warramunga Arr**	**17.71**	**195**	P	**Pn**	**14 39 50.5**	**-2.0**
WR0				IAmb	IAmb	14 40 11.5	
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**17.74**	**196**	Pn	**Pn**	**14 39 50.9**	**-1.9**
WRAB				IAmb	IAmb	14 40 07.6	
	comp=Z,17nm,1.1s						
WB2	**Warramunga Arr**	**17.75**	**196**	Pn	**Pn**	**14 39 50.9**	**-2.1**
WB2				IAmb	IAmb	14 40 07.8	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**17.75**	**196**	P	**Pn**	**14 39 51.8**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=16,slow=13,SNR=35						
WRA				S	**Sn**	**14 43 03.5**	**-6.3**
	comp=Z,0.2nm,0.3s,baz=11,slow=22,SNR=5.7						
WRA				LR	LR	14 47 18.9	
	comp=Z,415nm,18.0s,baz=15,slow=39						
WRA	**Warramunga Arr**	**17.75**	**196**	Pn	**Pn**	**14 39 50.7**	**-2.3**
TOLI2	**Tolitoli**	**19.01**	**282**	P	**P**	**14 40 07.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.33**	**221**	P	**P**	**14 40 21.1**	**-0.7**
	comp=Z,3.9nm,0.8s,baz=75,slow=5.2,SNR=12						
FITZ				S		14 43 57.8	-10
	comp=Z,11nm,0.9s,baz=227,slow=17,SNR=5.9						
FITZ	**Fitzroy Crossi**	**20.33**	**221**	P	**P**	**14 40 21.1**	**-0.7**
FITZ				IAmb	IAmb	14 40 38.2	
	comp=Z,10nm,0.9s						
AS31	**Alice Springs**	**21.42**	**194**	P	**P**	**14 40 33.5**	**-0.1**
ASAR	**Alice Springs**	**21.42**	**194**	P	**P**	**14 40 33.8**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=22,slow=11,SNR=80						
ASAR				S	**S**	**14 44 31.0**	**+1.4**
	comp=Z,1.9nm,1.0s,baz=16,slow=28,SNR=4.6						
ASAR				LR	LR	14 49 42.3	
	comp=Z,207nm,18.1s,baz=9.5,slow=39						
ASAR	**Alice Springs**	**21.42**	**194**	P	**P**	**14 40 33.5**	**-0.1**
BBKI	**Banjar Baru**	**24.53**	**268**	P	**P**	**14 41 09.1**	**+4.0**
	comp=Z,10nm,0.9s						
MTKI	**Muara Teweh, K**	**24.56**	**274**	P	P	14 40 52.6	-13
EIDS	**Eidsvold**	**25.11**	**154**	P	**P**	**14 41 10.1**	**0.0**
EIDS				IAmb	IAmb	14 41 22.1	
	comp=Z,21nm,1.4s						
KMMI	**Kalianget**	**25.68**	**260**	P	**P**	**14 41 21.0**	**+5.5**
	comp=Z,24nm,1.1s						
JAGI	**Jajag, Banyuwa**	**25.74**	**256**	P	**P**	**14 41 16.9**	**+0.9**
JAGI	**Jajag, Banyuwa**	**25.74**	**256**	P	**P**	**14 41 20.1**	**+4.1**
PSA00	**Pilbara Seismi**	**26.65**	**224**	P	**P**	**14 41 24.5**	**+0.3**
PSA00				IAmb	IAmb	14 41 25.8	
	comp=Z,6.3nm,0.8s						
PSA00	**Pilbara Seismi**	**26.65**	**224**	P	**P**	**14 41 25.4**	**+1.2**
PSA00				IAmb	IAmb	14 41 52.3	
	comp=Z,8.7nm,1.1s						
STKA	**Stephens Creek**	**29.00**	**176**	LR	LR	14 54 28.5	
	comp=Z,169nm,18.6s,baz=15,slow=39						
SMRI	**Semarang**	**29.15**	**261**	P	**P**	**14 41 44.6**	**-2.1**
JCJ	**Chichijima**	**29.83**	**5**	LR	LR	14 52 25.8	
	comp=Z,65nm,21.1s,baz=106,slow=34						
YULB	**Yu-li**	**31.44**	**327**	P	**P**	**14 42 05.9**	**-0.9**
JMN	**Monobe**	**36.70**	**352**	P	**P**	**14 42 49.3**	**-2.9**
**K

	1.0nm201nm,1.0s						
NLAI	Namlea	7.62	254	P	Pn	15 09 57.0	+1.4
	0.5nm2µm124nm,0.5s						
SANI	Sanana	8.49	264	P	Pn	15 10 05.8	-1.7
	893nm65nm,0.9s						
KMSI	Cibinong	10.59	279	P	Pn	15 10 38.3	+2.1
	2µm193nm,1.2s						
LUWI	Luwuk	11.66	270	Pn	Pn	15 10 51.9	+0.9
LUWI	Luwuk	11.66	270	P	Pn	15 10 50.8	-0.1
	1µm110nm,1.3s						
MRSI	Marisa	12.59	277	P	Pn	15 11 05.1	+1.4
	477nm37nm,1.6s						
APSI	Ampana	12.78	271	P	Pn	15 11 08.0	+1.7
	1µm122nm,1.1s						
SOEI	Soe	13.26	229	Pn	Pn	15 11 14.1	+1.1
SOEI	Soe	13.26	229	P	Pn	15 11 15.1	+2.1
	80nm,1.0s						
TOLI2	Tolitoli	13.83	279	Pn	Pn	15 11 19.8	-0.8
BATI	Baumata	14.01	229	Pn	Pn	15 11 22.7	-0.4
	19nm,0.3s,baz=160,slow=2.2,SNR=19						
BATI				Sn	Sn	15 13 55.4	-2.4
	1.7nm,0.3s,baz=91,slow=22,SNR=4.5						
BATI				LR	LR	15 17 49.6	
	comp=Z,557nm,20.9s,baz=66,slow=42						
BATI	Baumata	14.01	229	P	Pn	15 11 22.7	-0.4
	47nm,0.5s						
MMRI	Maumere	14.26	238	Pn	Pn	15 11 27.1	+0.6
MMRI	Maumere	14.26	238	P	Pn	15 11 27.3	+0.8
	1µm81nm,1.4s						
BNSI	Bone	14.68	257	P	Pn	15 11 33.7	+1.5
	925nm115nm,1.0s						
TTSI	Tana Toraja	14.73	262	P	Pn	15 11 33.3	+0.4
	1µm67nm,1.1s						
BSSI	Bau Bau, Buton	14.78	250	P	Pn	15 11 35.2	+1.6
	454nm33nm,1.0s						
EDFI	Ende, Flores	14.78	239	P	Pn	15 11 34.8	+1.1
	743nm36nm,1.4s						
BKSI	Bulukumba	14.88	253	P	Pn	15 11 35.7	+0.7
	630nm56nm,1.0s						
SPSI	Sidrap Palu	14.92	259	P	Pn	15 11 37.7	+2.2
	972nm50nm,1.4s						
PMG	Port Moresby	15.11	123	Pn	P	15 11 41.9	-1.0
	0.8nm,0.3s,baz=302,slow=6.4,SNR=12						
PMG				LR	LR	15 18 53.1	
	comp=Z,654nm,18.9s,baz=274,slow=43						
PMG	Port Moresby	15.11	123		P	15 11 42.5	-0.5
PMG				IAmb	IAmb	15 12 00.2	
	comp=Z,70nm,1.3s						
KAPI	Kappang	15.16	255	Pn	Pn	15 11 39.0	+0.4
	comp=Z,1.1nm,0.3s,baz=88,slow=11,SNR=10						
KAPI				LR	LR	15 17 59.2	
	comp=Z,309nm,21.0s,baz=75,slow=39						
KAPI	Kappang	15.16	255	Pn	Pn	15 11 38.6	-0.1
KAPI				IAmb	IAmb	15 12 02.6	
	comp=Z,83nm,1.2s						
COEN	Coen	15.41	146	Pn	Pn	15 11 41.5	-0.5
KNRA	Kununurra	15.51	201		Pn	15 11 42.7	-0.6
KNRA				IAmb	IAmb	15 11 58.6	
	comp=Z,82nm,1.0s						
MYLDM	Lahad Datu	17.10	292	P	Pn	15 12 04.5	+1.1
MYLDM				IAmb	IAmb	15 12 20.4	
	comp=Z,101nm,1.4s						
BKB	Balikpapan	17.53	269		P	15 12 11.9	+2.0
BKB				IAmb	IAmb	15 12 27.8	
	comp=Z,106nm,1.3s						
RABL	Rabaul	17.97	100	Pn	Pn	15 12 13.8	-0.6
RABL				IAmb	IAmb	15 12 23.1	
	comp=Z,78nm,0.6s						
RABL	Rabaul	17.97	100	P	P	15 12 20.5	+5.8
PLAI	Plampang	18.27	245	P	P	15 12 18.4	+0.5
	comp=Z,744nmcomp=Z,96nm,0.9s						
KBKI	Kotabaru	18.38	263	P	Pn	15 12 20.9	+1.6
	comp=Z,2µmcomp=Z,18nm,0.8s						
WB0	Warramunga Arr	18.54	180		P	15 12 21.2	+0.3
WB0				IAmb	IAmb	15 12 32.6	
	comp=Z,58nm,1.0s						
WRAB	Tennant Creek	18.70	180	P	P	15 12 22.8	+0.1
WRAB				IAmb	IAmb	15 12 34.6	
	comp=Z,46nm,0.8s						
WRA	Warramunga Arr	18.71	180	P	P	15 12 23.4	+0.6
	comp=Z,7.1nm,0.3s,baz=0.0,slow=12,SNR=164						
WRA				S	Sn	15 15 45.1	-6.9
	comp=Z,0.7nm,0.3s,baz=356,slow=23,SNR=6.0						
WRA				LR	LR	15 20 24.3	
	comp=Z,868nm,19.0s,baz=0.0,slow=39						
WRA	Warramunga Arr	18.71	180	P	P	15 12 22.5	-0.3
WB2	Warramunga Arr	18.71	180		P	15 12 22.7	-0.2
WB2				IAmb	IAmb	15 12 33.4	
	comp=Z,39nm,0.6s						
WR0	Warramunga Arr	18.73	180		P	15 12 23.1	+0.1
FITZ	Fitzroy Crossi	18.96	207	P	P	15 12 25.3	-0.2
	comp=Z,6.7nm,0.3s,baz=36,slow=13,SNR=96						
FITZ				S	Sn	15 15 45.0	-13
	comp=Z,2.4nm,0.3s,baz=228,slow=16,SNR=6.6						
FITZ				LR	LR	15 21 23.7	
	comp=Z,311nm,19.0s,baz=29,slow=42						
FITZ	Fitzroy Crossi	18.96	207	P	P	15 12 24.9	-0.6
TWSI	Taliwang, Sumb	19.04	246	P	P	15 12 27.2	+0.7
	comp=Z,316nmcomp=Z,21nm,0.8s						
MTKI	Muara Teweh, K	19.53	270	P	Pn	15 12 34.1	+0.8
	comp=Z,2µmcomp=Z,50nm,1.5s						
BBKI	Banjar Baru	19.71	263	P	P	15 12 35.9	+2.1
	comp=Z,49nm,1.4s						
SRBI	Singaraja	20.36	250	P	P	15 12 42.9	+2.0
	comp=Z,809nmcomp=Z,53nm,1.2s						
DNP	Denpasar	20.56	248	P	Pn	15 13 00.3	+15
ABJI	Asem Bagus	21.19	251	P	P	15 12 52.2	+2.3
	comp=Z,46nm,1.5s						
KMMI	Kalianget	21.24	253	P	P	15 12 52.4	+2.0
	comp=Z,74nm,1.1s						
JAGI	Jajag, Banyuwa	21.48	249	P	P	15 12 54.0	+1.1
	comp=Z,27nm,0.9s						
CTA	Charters Tower	22.12	149	P	P	15 13 02.8	+3.0
	comp=Z,35nm,0.7s,baz=328,slow=11,SNR=45						
CTAO	Charters Tower	22.12	149	P	P	15 13 03.2	+3.4
CTAO				IAmb	IAmb	15 13 05.3	
	comp=Z,44nm,0.7s						
AS31	Alice Springs	22.42	181	P	P	15 13 03.3	+0.2
ASAR	Alice Springs	22.42	181	P	P	15 13 04.1	+1.0
	comp=Z,23nm,0.6s,baz=9.0,slow=10,SNR=78						
ASAR				S	S	15 17 05.2	-2.8
	comp=Z,9.1nm,1.0s,baz=0.0,slow=24,SNR=7.9						
ASAR				LR	LR	15 22 40.5	
	comp=Z,1µm,19.7s,baz=356,slow=39						
ASAR	Alice Springs	22.42	181	P	P	15 13 03.0	-0.1
SBUM	Sibu	22.49	279	P	P	15 13 04.9	+1.1
PBKI	Pangkalan Bun	22.80	266	P	P	15 13 07.4	+0.2
	comp=Z,6µmcomp=Z,150nm,1.0s						
SMRI	Semarang	24.64	256	P	P	15 13 25.3	+0.5
SMRI	Semarang	24.64	256	P	P	15 13 26.8	+2.0
	comp=Z,132nm,1.2s						
UGM	Wanagama	24.76	253	P	P	15 13 26.6	+0.6
UGM				IAmb	IAmb	15 13 30.5	
	comp=Z,50nm,1.0s						
PSA00	Pilbara Seismi	24.81	214	P	P	15 13 26.4	+0.1
PSA00				IAmb	IAmb	15 13 38.5	
	comp=Z,66nm,1.1s						
HNR	Honiara	26.70	109	LR	LR	15 25 38.3	
	comp=Z,91nm,18.4s,baz=244,slow=39						
CISI	Cisompet, Garu	27.29	256	P	P	15 13 47.2	-1.7
CISI				IAmb	IAmb	15 13 52.7	
	comp=Z,28nm,0.7s						
LEM	Lembang	27.33	257	LR	LR	15 27 04.8	
	comp=Z,333nm,18.7s,baz=32,slow=42						
TPUB	Ta-pu	27.74	332	P	P	15 13 53.0	+0.3
TPUB				IAmb	IAmb	15 13 57.0	
	comp=Z,36nm,1.3s						
EIDS	Eidsvold	28.98	148	P	P	15 14 04.0	+0.3
EIDS				IAmb	IAmb	15 14 16.9	
	comp=Z,20nm,1.1s						
FORT	Forrest	30.12	191	P	P	15 14 15.1	+1.3
FORT				IAmb	IAmb	15 14 27.6	
	comp=Z,54nm,1.4s						
STKA	Stephens Creek	31.34	168	P	P	15 14 25.0	+0.5
	comp=Z,3.6nm,0.5s,baz=344,slow=7.8,SNR=14						
STKA	Stephens Creek	31.34	168	P	P	15 14 24.9	+0.4
QIZ	Qiongzhong	31.37	311	P	P	15 14 23.3	-1.7
QIZ				S	S	15 19 28.8	-2.1
QIZ				LR	LR		
	comp=Z,270nm,14.2s						
QIZ				LR	LR		
	comp=Z,190nm,16.1s						
BBOO	Buckleboo	31.57	177	P	P	15 14 28.0	+1.5
BBOO				IAmb	IAmb	15 14 37.3	
	comp=Z,36nm,1.4s						
UBPT	Khong Chiam	32.95	301	P	P	15 14 39.4	+0.5
UBPT				IAmb	IAmb	15 14 54.6	
	comp=Z,13nm,1.1s						
NJ2	Nanjing	36.14	337	eP	P	15 15 07.3	+1.1
NJ2				pmax	pmax		
	comp=Z,18nm,0.6s						
JWT	Wachi	36.22	1	P	P	15 15 05.7	-1.2
JWT				IAmb	IAmb	15 15 07.4	
	comp=Z,15nm,1.0s						
WHN	Wuhan	36.84	330	⇓P	P	15 15 13.1	+0.9
MJAR	Matsushiro Arr	37.63	5	P	P	15 15 16.6	-2.3
	comp=Z,1.4nm,0.6s,baz=194,slow=8.9,SNR=2.7						
MJAR				LR	LR	15 28 03.0	
	comp=Z,360nm,19.6s,baz=185,slow=32						
KSRS	Korea Array	38.85	352	P	P	15 15 27.3	-1.8
	comp=Z,1.0nm,0.8s,baz=173,slow=10,SNR=2.8						
KSRS				LR	LR	15 31 45.2	
	comp=Z,88nm,18.9s,baz=178,slow=37						
CMAR	Chiang Mai Arr	39.95	301	P	P	15 15 38.5	-0.1
	comp=Z,3.2nm,0.9s,baz=120,slow=6.8,SNR=24						
CHTO	Chiang Mai	40.10	301	P	P	15 15 39.6	-0.3
KMI	Kunming	40.27	313	⇑P	P	15 15 42.8	+1.3
KMI				pP	sP	15 15 56.0	+3.7
KMI				S	S	15 21 51.5	+3.9
KMI				pmax	pmax		
	comp=Z,16nm,1.1s						
KMI				pmax	pmax		
	comp=Z,100nm,7.1s						
KMI				LR	LR		
	comp=Z,120nm,3.9s						
KMI				LR	LR		
	comp=Z,140nm,4.9s						
KMI				LR	LR		
	comp=Z,130nm,14.6s						
XAN	Xi'an	42.39	328	P	P	15 15 57.8	-0.8
XAN				pP	sP	15 16 10.1	+0.7
XAN				pmax	pmax		
	comp=Z,23nm,1.5s						
XAN				LR	LR		
	comp=Z,200nm,18.4s						
XAN				LR	LR		
	comp=Z,340nm,19.5s						
XAN	Xi'an	42.39	328	P	P	15 15 58.6	0.0
XAN				IAmb	IAmb	15 15 59.2	
	comp=Z,17nm,1.0s						
CD2	Chengdu	43.18	320	P	P	15 16 05.8	+0.8
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2				LR	LR		
	comp=Z,320nm,10.3s						
CD2				LR	LR		
	comp=Z,300nm,12.2s						
CD2				LR	LR		
	comp=Z,290nm,17.8s						
JEW	Eniwo	44.21	7	P	P	15 16 13.2	+0.2
BJT	Baijiatuau	44.21	340	P	P	15 16 13.1	0.0
BJT				IAmb	IAmb	15 16 13.9	
	comp=Z,35nm,1.4s						
BJI	Beijing	44.23	340	P	P	15 16 13.4	+0.2
BJI				S	S	15 22 48.8	+3.7
BJI				pmax	pmax		
	comp=Z,16nm,0.6s						
BJI				LR	LR		
	comp=Z,180nm,4.6s						
BJI				LR	LR		
	comp=Z,120nm,6.3s						
USA0B	Ussuriysk Arra	45.17	358	P	P	15 16 19.2	-1.4
USRK	Ussuriysk Ar.	45.17	358	P	P	15 16 19.6	-1.0
	comp=Z,2.8nm,0.7s,baz=180,slow=7.2,SNR=9.7						
USRK				LR	LR	15 32 19.9	
	comp=Z,111nm,19.3s,baz=155,slow=32						
USRK	Ussuriysk Ar.	45.17	358	P	P	15 16 20.5	-0.1
JKA	Kamikawa-asahi	45.62	8	P	P	15 16 23.2	-1.0
JKA				IAmb	IAmb	15 16 25.3	
	comp=Z,12nm,0.9s						
MDJ	Mudanjiang	45.73	355	P	P	15 16 24.1	-1.1
MDJ				IAmb	IAmb	15 16 25.9	
	comp=Z,12nm,1.0s						
HHC	Hu-ho-hao-te	46.67	336	eP	P	15 16 32.3	-0.4
HHC				sP	sP	15 16 44.9	+1.4
HHC				S	S	15 23 24.8	+4.2
HHC				sS	sS	15 23 36.0	+2.5
HHC				ScS	ScS	15 26 22.0	-4.0
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,80nm,5.0s						
HHC				LR	LR		
	comp=Z,190nm,14.8s						
HHC				LR	LR		
	comp=Z,160nm,14.9s						
HHC				LR	LR		
	comp=Z,190nm,16.0s						
LZH	Lanzhou	46.70	326	eP	P	15 16 33.9	+0.8
LZH				pP	pP	15 16 43.0	+2.1
LZH				sP	sP	15 16 46.9	+2.9
LZH				pmax	pmax		
	comp=Z,40nm,1.1s						
LZH				pmax	pmax		
	comp=Z,78nm,4.9s						
LZH				LR	LR		
	comp=Z,180nm,15.7s						
LZH				LR	LR		
	comp=Z,240nm,14.6s						
LZH				LR	LR		
	comp=Z,340nm,15.7s						
YSS	Yuzh-Sakhalins	48.42	8	P	P	15 16 44.6	-1.4
SHL	Shillong	48.93	306	P	P	15 16 49.3	-1.2
SHL				IAmb	IAmb	15 17 05.7	
	comp=Z,16nm,1.0s						
GTA	Gaotai	51.30	326	eP	P	15 17 08.8	+0.5
GTA				pmax	pmax		
	comp=Z,17nm,1.5s						
LSA	Lhasa	51.41	310	P	P	15 17 10.0	+0.3
TAPN	Taplejung	53.07	306	eP	P	15 17 21.3	-0.6
	comp=Z,7.4nm,0.5s						
ODAN	Odare	53.13	305	eP	P	15 17 21.4	-0.8
	comp=Z,15nm,0.5s						
RPZ	Rata Peaks	53.48	147	P	P	15 17 25.3	+1.1
	comp=Z,29nm,1.0s,baz=89,slow=7.8,SNR=3.9						
RPZ	Rata Peaks	53.48	147	P	P	15 17 26.2	+2.0
TUWZ	Tuamarina	53.65	144	P	P	15 17 27.2	+1.8
RAMN	Ramite	53.81	305	eP	P	15 17 26.1	-1.2
	comp=Z,24nm,0.7s						
ULN	Ulaanbaatar	54.30	338	P	P	15 17 30.8	+0.4
ULN				IAmb	IAmb	15 17 32.1	
	comp=Z,22nm,1.5s						
SONM	Songino Array	54.53	337	P	P	15 17 32.3	+0.3
	comp=Z,1.4nm,0.5s,baz=149,slow=7.5,SNR=12						
SONM				PcP	PcP	15 18 35.2	+0.1
	comp=Z,2.7nm,0.8s,baz=151,slow=4.4,SNR=7.3						
SONM				LR	LR	15 40 22.1	
	comp=Z,108nm,19.4s,baz=150,slow=36						
SONM	Songino Array	54.53	337	P	P	15 17 31.6	-0.3
GUN	Gumba	54.78	306	eP	P	15 17 33.1	-1.3
	comp=Z,18nm,0.6s						
PKI	Pulchoki	55.03	305	eP	P	15 17 34.8	-1.4
PKIN	Phulchoki	55.05	305	eP	P	15 17 34.5	-1.7
	comp=Z,9.3nm,0.8s						
DMN	Daman	55.30	305	eP	P	15 17 37.1	-0.9
	comp=Z,8.0nm,0.5s						
GKN	Gorkha	55.83	305	eP	P	15 17 40.9	-0.9
	comp=Z,18nm,0.8s						
PETK	Petropavlovsk-	57.43	16	P	P	15 17 52.4	0.0
	comp=Z,11nm,1.0s,baz=204,slow=3.3,SNR=5.8						
PETK				LR	LR	15 37 54.2	
	comp=Z,104nm,21.7s,baz=193,slow=31						
PETK	Petropavlovsk-	57.43	16	P	P	15 17 52.7	+0.2
WMQ	Urumqi	61.14	323	eP	P	15 18 19.3	+0.9
WMQ				pP	sP	15 18 31.8	+2.3
WMQ				pmax	pmax		
	comp=Z,34nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,150nm,3.7s						
WMQ	Urumqi	61.14	323	P	P	15 18 19.0	+0.6
MA2	Magadan	61.86	9	P	P	15 18 22.8	0.0
MA2				IAmb	IAmb	15 18 24.1	
	comp=Z,14nm,0.9s						
YAK	Yakutsk	63.08	357	P	P	15 18 30.0	-0.9
ZSN	Zaisan	64.79	325	eP	P	15 18 41.5	-1.0
	comp=Z,5.2nm,1.2s,baz=325						
MK31	Makanchi Array	65.95	324	P	P	15 18 49.8	-0.2
MK31				IAmb	IAmb	15 18 51.6	
	comp=Z,12nm,0.8s						
MKAR	Makanchi Array	65.95	324	P	P	15 18 50.5	+0.4
	comp=Z,16nm,0.6s,baz=113,slow=7.9,SNR=201						
MKAR	Makanchi Array	65.95	324	P	P	15 18 49.5	-0.6
SHLS	Shalkode	66.00	319	eP	P	15 18 47.8	-2.8
	comp=Z,4.5nm,0.7s,baz=319						
MAKZ	Makanchi	66.14	323	P	P	15 18 51.1	-0.2
KPKS	Kokpek	66.64	319	eP	P	15 18 53.7	-1.0
	comp=Z,4.1nm,0.5s,baz=319						
SATY	Saty	66.65	319	eP	P	15 18 53.6	-1.1
	comp=Z,17nm,1.7s,baz=319						
KSH	Kashi	66.90	314	P	P	15 18 58.0	+1.6
KSH				pP	sP	15 19 10.8	+3.2
KSH				pmax	pmax		
	comp=Z,46nm,1.6s						
KSH				pmax	pmax		
	comp=Z,130nm,4.1s						
KSH				LR	LR		
	comp=Z,330nm,5.6s						
KSH				LR	LR		
	comp=Z,330nm,6.4s						
KSH				LR	LR		
	comp=Z,200nm,5.6s						
TDK	Taldyqorghan	67.50	320	eP	P	15 18 59.4	-0.6
	baz=320						
MDOK	Medeo	67.59	318	eP	P	15 18 59.7	-1.2
	baz=318						
TNSS	Tian-Shan	67.61	318	eP	P	15 18 59.5	-1.7
	baz=318						
AAA	Alma-Ata	67.70	318	eP	P	15 19 00.3	-1.1
	baz=318						
KUU	Kurty	68.36	319	eP	P	15 19 04.0	-1.4
	comp=Z,7.1nm,0.6s,baz=319						
ZAA0	Zalesovo Array	68.45	331	P	P	15 19 04.5	-1.2
ZAA0				IAmb	IAmb	15 19 06.0	
	comp=Z,14nm,1.2s						
ZALV	Zalesovo Beam	68.45	331	P	P	15 19 04.8	-0.9
	comp=Z,2.9nm,0.4s,baz=120,slow=6.0,SNR=16						
ZALV				LR	LR	15 48 23.4	
	comp=Z,32nm,21.4s,baz=99,slow=35						
ZALV	Zalesovo Beam	68.45	331	P	P	15 19 03.9	-1.8
AAK	Ala-Archa	69.11	317	P	P	15 19 09.6	-0.7
BTLS	Baital	70.33	319	eP	P	15 19 16.5	-1.0
	comp=Z,3.0nm,0.6s,baz=319						
DZA	Taraz	71.38	316	eP	P	15 19 23.0	-1.0
	baz=316						
KK31	Karatay Array	72.02	316	P	P	15 19 27.2	-0.6
KK31				IAmb	IAmb	15 19 29.0	
	comp=Z,14nm,1.2s						
KKAR	Karatay Array	72.02	316	P	P	15 19 27.2	-0.7
KKAR				IAmb	IAmb	15 19 29.0	
	comp=Z,14nm,1.2s						
KKAR	Karatay Array	72.02	316	P	P	15 19 27.0	-0.9
IUG	Iuzhnay	72.04	315	eP	P	15 19 27.1	-1.0
	baz=315						
TIXI	Tiksi	72.73	358	P	P	15 19 30.0	-1.5
BRZS	Berezniki	73.10	324	eP	P	15 19 33.2	-1.0
	comp=Z,3.5nm,0.7s,baz=324						
BRVK	Borovoye	75.66	326	P	P	15 19 48.3	-0.7
BRVK				IAmb	IAmb	15 19 50.0	
	comp=Z,14nm,1.0s						
HRA	Herat	75.99	306	P	P	15 19 51.1	-0.4
VNDA	Vanda	77.77	174	P	P	15 20 01.2	+0.8
	comp=Z,1.8nm,0.8s,baz=321,slow=6.0,SNR=7.3						
VNDA				LR	LR	15 52 56.3	
	comp=Z,202nm,21.4s,baz=332,slow=35						
VNDA	Vanda	77.77	174	P	P	15 20 01.1	+0.7
GEYT	Alibeck	79.91	309	P	P	15 20 13.3	+0.3
	comp=Z,3.0nm,0.6s,baz=160,slow=4.7,SNR=5.8						
GEYT				LR	LR	15 57 16.3	
	comp=Z,65nm,21.7s,baz=65,slow=37						
GEYT	Alibeck	79.91	309	P	P	15 20 13.2	+0.2
ABKAR	Akbulak array	80.76	320	P	P	15 20 16.1	-1.2
ABKAR	Akbulak array	80.76	320	P	P	15 20 16.4	-0.8
ABKAR				IAmb	IAmb	15 20 32.0	
	comp=Z,11nm,1.3s						
ARU	Arti	83.14	327	P	P	15 20 28.6	-1.0
ARU				IAmb	IAmb	15 20 30.2	
	comp=Z,8.5nm,0.8s						
RC01	Rabbit Creek A	84.14	28	P	P	15 20 33.8	-0.9
KTH	Kantishna Hill	84.19	26	P	P	15 20 35.0	+0.1
KTH				IAmb	IAmb	15 20 36.1	
	comp=Z,13nm,1.1s						
MLY	Manley	84.63	24	P	P	15 20 38.2	+1.1
MLY				IAmb	IAmb	15 20 39.0	
	comp=Z,12nm,1.2s						
RND	Reindeer	85.06	26	P	P	15 20 39.3	-0.1
MCK	McKinley	85.09	26	P	P	15 20 38.9	-0.6
I23K	Minto, Yukon-K	85.23	24	P	P	15 20 40.8	+0.8
WRH	Wood River Hil	85.61	25	P	P	15 20 41.9	-0.1
CCB	Clear Creek Bu	85.77	25	P	P	15 20 42.5	-0.2
IL31		86.18	25	P	P	15 20 44.2	-0.6
IL31				IAmb	IAmb	15 20 44.9	
	comp=Z,12nm,1.1s						
ILAR	Eielson Array	86.18	25	P	P	15 20 44.0	-0.9
	comp=Z,6.2nm,1.0s,baz=252,slow=5.3,SNR=25						
PAX	Paxson	86.48	27	P	P	15 20 46.6	+0.2
PAX				IAmb	IAmb	15 20 48.2	
	comp=Z,19nm,1.2s						
BMRM	Bremner River	86.58	29	P	P	15 20 47.1	+0.2
GLB	Gilahina Butte	87.02	28	P	P	15 20 50.2	+1.1
DOT	Dot Lake	87.21	26	P	P	15 20 50.7	+0.8
CTGM	Chitina Glacie	88.16	29	P	P	15 20 55.7	+1.0
DAWY	Dawson	89.31	26	P	P	15 21 01.0	+1.1
DAWY				IAmb	IAmb	15 21 01.6	
	comp=Z,7.3nm,1.1s						
INK	Inuvik	91.79	22	P	P	15 21 09.7	-1.5
	comp=Z,1.9nm,0.9s,baz=263,slow=4.6,SNR=4.2						
INK	Inuvik	91.79	22	P	P	15 21 10.7	-0.6
INK				IAmb	IAmb	15 21 11.6	
	comp=Z,5.4nm,1.2s						
KLMR	Klimovskoe	93.37	331	eP	P	15 21 15.4	-3.3
KLMR				AMP		15 21 18.7	
	comp=Z,26nm,1.5s						
ARCES	ARCESS Array B	97.59	340	P	P	15 21 36.7	-1.2
	comp=Z,8.1nm,0.9s,baz=54,slow=6.2,SNR=10						
BRTR	Keskin Array B	99.02	310	LR	LR	16 11 43.5	
	comp=Z,25nm,20.7s,baz=11,slow=39						
FINES	FINESS Array B	99.69	332	P	Pdif	15 21 45.1	-2.2
	comp=Z,0.8nm,0.8s,baz=49,slow=4.2,SNR=1.7						
YKA	Yellowknife Ar	100.56	26	P	Pdif	15 21 51.0	-0.1
	comp=Z,0.7nm,1.0s,baz=293,slow=4.1,SNR=5.8						
CLL	Collm	110.02	325	ePKiKP	PKiKP	15 26 37.0	+1.7
CLL				ePP	PP	15 27 05.0	-3.2
CLL				eSSS	SSS	15 46 36.0	
CLL				LmV		16 15 00.0	
	comp=Z,100nm,19.4s						
TORD	Torodi Ar. Bea	131.71	287	PKP	PKPdf	15 27 17.5	-0.3
	comp=Z,1.0nm,0.7s,baz=42,slow=2.5,SNR=5.4						
TORD	Torodi Ar. Bea	131.71	287		PKPdf	15 27 18.4	+0.6
AC02	Maricunga	144.12	142	PKPdf	PKPbc	15 27 40.1	+1.2
SOTA	Rioblanco	148.96	88	eP	PKPbc	15 27 53.2	-0.3
PCON	Cinco Dias	149.16	87	eP	PKiKP	15 27 55.6	+0.3
GUY2C	Guyana, Caldas	149.98	82	eP	PKPbc	15 27 56.6	+0.7
ANIL	Santa Ana	150.02	83	eP	PKPdf	15 27 50.7	-0.2
TOLC	Tolima	150.09	83	eP	PKiKP	15 27 57.6	+0.6
BETC	Betania	150.10	87	eP	PKPdf	15 27 51.0	+0.3
CPUP	Villa Florida	150.45	158	PKPbc	PKPbc	15 27 57.5	+1.3
	comp=Z,10.0nm,0.9s,baz=229,slow=2.8,SNR=18						
CPUP	Villa Florida	150.45	158	PKPbc	PKPbc	15 27 56.9	+0.8
ROSC	El Rosal	151.06	82	PKPbc	PKiKP	15 27 59.6	+0.6
	comp=Z,17nm,0.7s,baz=168,slow=18,SNR=4.7						
LPAZ	La Paz	151.80	129	PKP	PKPdf	15 27 56.0	+2.0
	comp=Z,10nm,1.0s,baz=88,slow=2.9,SNR=3.6						
LPAZ				PKPbc	PKiKP	15 28 02.4	+1.7
	comp=Z,10nm,1.0s,baz=281,slow=1.2,SNR=16						
LPAZ	La Paz	151.80	129		PKiKP	15 28 02.6	+1.9
PAMC	Pamplona, Colo	152.26	76	eP	PKPbc	15 28 01.4	+0.1

MEX **18** *15:14:04.7±0.8, 15°.89N×98°.44W, h10km±11km, MD3.9*
IDC **18** *15:14:04.7±0.7, 16°.25N×98°.15W, h0km, mb4.3/20, mb1 4.4/25, mb1mx4.3/45, mbtmp4.3/25, ML3.9/5, MS3.7/18, Ms1 3.7/18, ms1mx3.5/32, Error ellipse: s-maj=16.6km s-min=11.5km az=40.0*
NEIC **18** *15:14:10.7±2.0, 16°.30N±0°.09×98°.23W±0°.08, h38km±7km, mb4.6/212, Md4.6/26(MEX), Error ellipse: s-maj=14.7km s-min=8.5km az=215.0*
ISC 18 15:14:08.1±1.1, **16°.18N**±0°.05×**98°.27W**±0°.04, **h26**km±6km, **n249,** σ**1°.44**/209, **mb4.6**/101, **MS3.7**/15, **2C, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.26	33	eP	Pb	15 14 13.1	-1.5
PNIG				eS	Sb	15 14 20.5	+1.5
PNIG	Pinotepa	0.26	33		Pb	15 14 13.1	-1.5
PNIG					Sb	15 14 20.5	+1.5

YOIG Yosondua 0.97 46 *eP* **Pn 15 14 25.5 -0.8**
YOIG *i S* **Sn 15 14 41.2 +1.8**
CRIG Cruz Grande 0.99 304 eP Pn 15 14 21.2 -5.2
CRIG *eS* **Sn 15 14 35.4 -4.2**
PEIG Puerto Escondi 1.10 99 *eP* **Pn 15 14 24.7 -3.0**
PEIG *i S* **Sn 15 14 40.1 -2.0**
TXIG Tlaxiaco 1.18 24 *eP* **Pn 15 14 27.7 -1.4**
TXIG *i S* **Sb 15 14 47.4 +2.5**
TLIG Tlapa 1.41 348 Pn 15 14 29.9 -2.3
HMTT Tlapaneco 1.64 350 *eP* **Pn 15 14 34.7 -0.6**
HMTT *i S* **Sb 15 14 57.2 -0.8**
HMTT Tlapaneco 1.64 350 Pn 15 14 35.3 0.0
VHO Vista Hermosa 1.72 59 *eP* **Pn 15 14 35.3 -1.3**
VHO *i S* **Sb 15 15 00.4 -0.2**
CAIG El Cayaco 2.10 295 *i P* Pn 15 14 37.0 -4.6
CAIG *i S* **Sn 15 15 02.3 -4.6**
CAIG El Cayaco 2.10 295 Sn 15 15 02.3 -4.6
TOIG Toxpalan 2.23 31 *i P* **Pn 15 14 43.6 +0.2**
TOIG *i S* **Sb 15 15 14.1 -1.0**
PLIG Platanillo 2.50 332 *eP* **Pn 15 14 45.8 -1.4**
PLIG *i S* **Sn 15 15 16.8 0.0**
PLIG Platanillo 2.50 332 Pn 15 14 45.8 -1.4
PLIG **Sn 15 15 16.8 0.0**
UNM Universidad Na 3.25 345 *i P* **Pn 15 14 56.9 -0.8**
UNM *i S* **Sn 15 15 37.1 +1.4**
UNM Universidad Na 3.25 345 Pb 15 15 03.2 -2.1
CMIG Matias Romero 3.37 74 Pn **Pn 15 14 57.5 -1.6**
13nm,0.3s,baz=258,slow=11,SNR=115
CMIG Sn **Sn 15 15 37.3 -1.1**
41nm,0.3s,baz=253,slow=20,SNR=6.8
CMIG Lg Lg 15 15 48.7
71nm,0.3s,baz=298,slow=14,SNR=4.8
MOIG Morelia 4.45 322 Pn 15 15 17.7 +3.5
CCIG Comitan 5.89 88 Pn Pn 15 15 37.9 +3.9
APG El Apazote 7.61 98 Pn **Pn 15 15 56.8 -0.8**
2.3nm,0.3s,baz=303,slow=11,SNR=5.4
APG Sn **Sn 15 17 18.5 -4.7**
1.4nm,0.3s,baz=171,slow=22,SNR=1.8
APG Lg Lg 15 18 09.8
3.4nm,0.3s,baz=115,slow=23,SNR=2.4
ZAIG Zacatecas 7.71 329 Pn **Pn 15 16 00.7 +1.7**
MTO3 Montecristo 8.78 100 Pn 15 16 15.2 +1.6
TEIG Tepich 10.32 66 Pn **Pn 15 16 31.0 -3.4**
3.9nm,0.3s,baz=251,slow=3.3,SNR=16
TEIG Sn **Sn 15 18 22.8 -6.5**
3.5nm,0.3s,baz=20,slow=22,SNR=1.3
TEIG LR LR 15 20 53.0
comp=Z,434nm,19.4s,baz=262,slow=40
TEIG Tepich 10.32 66 Pn 15 16 33.2 -1.3
H06E1 SOCORRO T-PHAS 12.35 284 T T 15 29 11.7
SNR=54
SLBS Sierra La Lagu 13.27 306 Pn **Pn 15 17 17.3 +2.3**
LPIG La Paz 13.77 307 LR LR 15 21 43.8
comp=Z,375nm,18.8s,baz=86,slow=33
TX32 Lajitas Array 14.01 340 Pn 15 17 26.0 +1.0
TXAR Lajitas Array 14.01 340 Pn **Pn 15 17 26.1 +1.1**
0.1nm,0.3s,baz=158,slow=13,SNR=12
TXAR Lg Lg 15 21 32.3
0.0nm,0.3s,baz=163,slow=26,SNR=5.7
TXAR LR LR 15 23 30.1
comp=Z,440nm,20.8s,baz=0.0,slow=40
TXAR Lajitas Array 14.01 340 Pn **Pn 15 17 25.9 +1.0**
TX31 Lajitas Ar. Si 14.01 340 Pn 15 17 26.0 +1.0
JTS Las Juntas de 14.22 113 Pn **Pn 15 17 28.0 +0.1**
0.8nm,0.3s,baz=28,slow=20,SNR=2.3
JTS Las Juntas de 14.22 113 Pn 15 17 29.3 +1.3
JCT Junction City 14.31 355 P **Pn 15 17 32.2 +3.2**
435B Jarrell 14.55 2 Pn 15 17 32.2 -0.1
WHTX Lake Whitney, 15.76 3 P **P 15 17 52.7 +0.6**
WHTX IAmb IAmb 15 17 57.5
comp=Z,32nm,0.8s
SOR Soroa 15.82 63 P **P 15 17 53.3 +0.5**
ABTX Abilene, Hawle 16.42 356 P **P 15 18 00.5 +1.1**
ABTX IAmb IAmb 15 18 01.5
comp=Z,66nm,0.9s
MNTX Cornudas Mount 16.75 339 P **Pn 15 18 01.5 +0.5**
Z38A Mt. Pleasant 17.27 9 P **P 15 18 09.1 +0.4**
Z38A IAmb IAmb 15 18 14.0
comp=Z,45nm,0.8s
HSIG 17.31 320 P **Pn 15 18 09.7 +1.6**
VBMS Vicksburg 17.46 22 P **P 15 18 11.0 +0.2**
VBMS IAmb IAmb 15 18 12.7
comp=Z,40nm,0.9s
319A Douglas 18.16 328 P **Pn 15 18 19.7 +1.2**
MSTX Muleshoe 18.18 348 P **Pn 15 18 17.4 -1.4**
121A Cookes Peak, D 18.43 334 P **P 15 18 23.0 +1.2**
WMOK Wichita Mounta 18.49 359 P **P 15 18 20.8 -1.4**
X37A Clayton 18.52 8 P **Pn 15 18 22.9 +0.1**
MIAR Mount Ida 18.77 12 P **Pn 15 18 25.5 -0.4**
AMTX Amarillo 18.88 351 P **P 15 18 26.3 -0.3**
OKCFA Oklahoma City 19.17 2 P **P 15 18 29.8 0.0**
OK025 Westminster Rd 19.34 2 P **P 15 18 30.5 -1.1**
OK025 IAmb IAmb 15 18 39.6
comp=Z,28nm,0.8s
W39A Magazine 19.36 11 P **P 15 18 32.1 +0.3**
W39A IAmb IAmb 15 18 40.0
comp=Z,22nm,0.9s
BCOK Bluff Creek, N 19.41 2 P **P 15 18 31.9 -0.4**
BNM Barren Site 19.41 339 P **Pn 15 18 34.4 +0.5**
LRAL Lakeview Retre 19.64 29 P **P 15 18 34.7 -0.1**
TUC Tucson 19.67 327 P **P 15 18 36.4 +1.1**
OK030 Cody Creek RV 19.72 4 P **P 15 18 35.1 -0.6**
OK030 IAmb IAmb 15 18 41.2
comp=Z,36nm,0.8s
OK031 S. Brethren Rd 19.74 3 P **P 15 18 34.9 -1.0**
OK031 IAmb IAmb 15 18 41.9
comp=Z,29nm,0.7s
QUOK Quay 19.96 4 P **P 15 18 39.2 +0.8**
QUOK IAmb IAmb 15 18 49.4
comp=Z,25nm,0.9s
ANMO Albuquerque 20.08 340 P **P 15 18 40.1 +0.3**
comp=Z,13nm,0.7s,baz=147,slow=12,SNR=27
ANMO Lg Lg 15 24 47.7
comp=Z,0.4nm,0.3s,baz=215,slow=13,SNR=3.8
ANMO LR LR 15 27 06.4
comp=Z,871nm,18.6s,baz=156,slow=39
ANMO Albuquerque 20.08 340 P 15 18 40.6 +0.8
U32A Winter Ranch, 20.13 358 P **P 15 18 40.0 -0.2**
U32A IAmb IAmb 15 18 47.7
comp=Z,23nm,0.8s
CROK Carrier 20.25 1 P **P 15 18 40.3 -1.2**
FCAR Ozark Folk Cen 20.39 14 P **P 15 18 42.2 -0.7**
HHAR Hobbs 20.39 10 P **P 15 18 42.1 -0.9**
HHAR IAmb IAmb 15 18 48.3
comp=Z,18nm,0.9s
U38A Gravette 20.48 9 P **P 15 18 44.5 +0.6**
U38A IAmb IAmb 15 18 48.9
comp=Z,21nm,0.8s
152A Waverly Hall 20.50 34 P **P 15 18 43.0 -1.3**
214A Organ Pipe Nat 20.53 323 P **P 15 18 45.1 +0.5**
OK032 Salt Plains WL 20.55 0 P **P 15 18 43.1 -1.6**
OK032 IAmb IAmb 15 18 53.9
comp=Z,23nm,0.8s
Y49A Blount Mountai 20.60 29 P 15 18 45.6 +0.4
Y49A IAmb IAmb 15 18 50.2
comp=Z,17nm,0.7s
U40A Yellville 20.67 12 P 15 18 45.6 -0.4
KAN14 Manchester OK 20.70 1 P **P 15 18 45.4 -0.9**
KAN14 IAmb IAmb 15 18 48.8
comp=Z,41nm,1.3s
T35A Sooner Cattle 20.72 4 P **P 15 18 45.1 -1.4**
KAN13 South Haven SW 20.77 2 P **P 15 18 46.0 -1.1**
KAN13 IAmb IAmb 15 18 53.3
comp=Z,29nm,0.8s
LCAR Lake Charles 20.80 16 P Pn 15 18 48.4 -1.5
LCAR IAmb IAmb 15 18 51.7
comp=Z,15nm,0.8s
X48A Hartselle 20.81 27 P **P 15 18 46.7 -0.8**
X48A IAmb IAmb 15 18 51.6
comp=Z,18nm,0.8s
PLAL Pickwick Lake 20.84 24 P **P 15 18 46.3 -1.5**
PLAL IAmb IAmb 15 18 52.9
comp=Z,24nm,0.8s
KAN01 Argonia South 20.90 1 P **P 15 18 47.9 -0.7**
KAN01 IAmb IAmb 15 18 53.7
comp=Z,28nm,0.9s
KAN12 Harper NE Stat 21.04 1 P **P 15 18 49.0 -1.1**
KAN12 IAmb IAmb 15 18 56.7
comp=Z,20nm,0.6s
X18A Snowflake 21.07 332 P **P 15 18 52.0 +1.4**
X18A IAmb IAmb 15 18 54.3
comp=Z,17nm,0.9s
W18A Petrified Fore 21.48 334 P **P 15 18 56.7 +1.7**
W18A IAmb IAmb 15 19 13.9
comp=Z,13nm,0.8s
MGMO Mountain Grove 21.56 13 P **P 15 18 58.0 +2.3**
SPX San Pedro Mart 21.57 316 P **P 15 18 57.1 +1.0**
T25A Trinidad 21.58 347 P 15 18 57.2 +1.2
T25A IAmb IAmb 15 19 05.5
comp=Z,27nm,0.8s
PBMO Poplar Bluff 21.67 17 P **P 15 18 58.8 +2.1**
T42A Van Buren 21.73 16 P **P 15 18 58.0 +0.7**
T42A IAmb IAmb 15 19 01.2
comp=Z,20nm,0.8s
GOGA Godfrey 21.75 35 P **P 15 18 57.2 -0.4**
GOGA IAmb IAmb 15 19 04.3
comp=Z,16nm,0.8s
Y52A Lilburn 21.77 33 P **P 15 18 56.9 -1.0**
Y52A IAmb IAmb 15 19 02.8
comp=Z,21nm,0.8s
S39A Bolivar 21.87 11 P 15 18 59.5 +0.6
S39A IAmb IAmb 15 19 01.8
comp=Z,29nm,0.9s
WVT Waverly 21.94 23 P **P 15 18 59.0 -0.7**
V48A Smith Brothers 22.00 26 P **P 15 18 59.1 -1.3**
V48A IAmb IAmb 15 19 09.0
comp=Z,43nm,1.4s
R32A Long Quarter, 22.16 359 P **P 15 19 03.4 +1.3**
R32A IAmb IAmb 15 19 06.4
comp=Z,26nm,0.9s
W50A Signal Mountai 22.21 29 P **P 15 19 01.8 -0.9**
W50A IAmb IAmb 15 19 10.5
comp=Z,29nm,0.8s
GTBY Guantanamo Bay 22.33 77 P **P 15 19 06.2 +2.2**
T45A Paducah 22.45 21 P **P 15 19 06.1 +1.0**
CLTN Cedars of Leba 22.51 26 P **P 15 19 05.4 -0.3**
CLTN IAmb IAmb 15 19 16.0
comp=Z,24nm,1.1s
WUAZ Wupatki 22.54 331 P **P 15 19 07.8 +1.5**
WUAZ IAmb IAmb 15 19 10.5
comp=Z,20nm,0.8s
CCM Cathedral Cave 22.66 15 P **P 15 19 07.7 +0.4**
CCM IAmb IAmb 15 19 12.8
comp=Z,22nm,1.0s
CPCT Cooper Cave 22.79 30 P **P 15 19 09.5 +0.7**
CPCT IAmb IAmb 15 19 14.2
comp=Z,15nm,0.8s
FVM French Village 22.80 16 P **P 15 19 08.5 -0.4**
FVM IAmb IAmb 15 19 10.1
comp=Z,16nm,0.8s
W52A Murphy 22.80 32 P **P 15 19 08.9 0.0**
MVCO Mesa Verde 22.82 339 P **P 15 19 09.8 +0.4**
MVCO IAmb IAmb 15 19 12.0
comp=Z,23nm,0.9s
S44A Carbondale 22.87 19 P **P 15 19 09.8 +0.2**
S44A IAmb IAmb 15 19 11.1
comp=Z,29nm,0.9s
SIUC Southern Illin 22.90 19 P **P 15 19 09.5 -0.3**
SIUC IAmb IAmb 15 19 11.3
comp=Z,34nm,1.0s
T47A Sharon Grove 22.97 23 P **P 15 19 10.5 -0.2**
T47A IAmb IAmb 15 19 12.0
comp=Z,28nm,0.9s
HODGE Hodges 23.03 36 P **P 15 19 09.5 -1.8**
HODGE IAmb IAmb 15 19 11.4
comp=Z,21nm,0.8s
KSCO Kaye Shedlock' 23.07 351 P **P 15 19 12.1 +0.3**
U49A Red Boiling Sp 23.10 26 P **P 15 19 11.3 -0.7**
U49A IAmb IAmb 15 19 17.6
comp=Z,20nm,0.9s
BG3 Lake Jocassee 23.24 33 P **P 15 19 13.1 -0.3**
TKL Tuckaleechee C 23.32 31 P **P 15 19 14.4 +0.1**
comp=Z,9.1nm,0.8s,baz=185,slow=6.1,SNR=3.0
PV01 Paradox Valley 23.68 339 P **P 15 19 18.9 +1.0**
U15A North Rim 23.71 331 IAmb IAmb 15 19 21.4
comp=Z,13nm,0.8s
PAULI Pauline 23.71 35 IAmb IAmb 15 19 18.4
comp=Z,28nm,1.0s
P38A Dawn 23.73 9 IAmb IAmb 15 19 18.6
comp=Z,20nm,0.8s
PV13 Radium Mtn., P 23.79 339 IAmb IAmb 15 19 21.5
comp=Z,22nm,1.2s
PV02 Paradox Valley 23.80 339 IAmb IAmb 15 19 22.5
comp=Z,20nm,1.2s
PV15 Paradox Valley 23.84 340 IAmb IAmb 15 19 27.4
comp=Z,21nm,0.9s
PFO Pinyon Flats O 23.88 320 P **P 15 19 24.2 +4.4**
comp=Z,3.7nm,0.9s,baz=145,slow=7.5,SNR=3.6
PFO LR LR 15 29 03.8
comp=Z,219nm,19.1s,baz=132,slow=38
PFO Pinyon Flats O 23.88 320 P 15 19 21.3 +1.5
PV03 Paradox Valley 23.88 339 IAmb IAmb 15 19 21.5
comp=Z,10nm,0.8s
P40A Paris 23.89 12 IAmb IAmb 15 19 20.2
comp=Z,23nm,0.8s
PV18 Skein Mesa, Pa 23.90 339 P **P 15 19 20.5 +0.5**
PV18 IAmb IAmb 15 19 21.6
comp=Z,13nm,0.9s
PV12 Saucer Basin, 23.92 339 IAmb IAmb 15 19 22.2
comp=Z,18nm,0.8s
PV11 David Mesa, Pa 23.93 339 IAmb IAmb 15 19 28.4
comp=Z,16nm,0.9s
T50A Nancy 23.93 27 IAmb IAmb 15 19 20.7
comp=Z,15nm,0.9s
PV17 East Wray Mesa 23.94 339 IAmb IAmb 15 19 23.5
comp=Z,12nm,0.9s
PV19 Morning Glory 23.98 339 IAmb IAmb 15 19 28.0
comp=Z,12nm,0.9s
PV07 Paradox Valley 23.98 340 P **P 15 19 21.6 +0.8**
PV07 IAmb IAmb 15 19 23.0
comp=Z,16nm,1.1s
PV04 Paradox Valley 24.03 339 IAmb IAmb 15 19 28.7
comp=Z,12nm,0.7s
PV10 Paradox Valley 24.06 339 IAmb IAmb 15 19 22.4
comp=Z,12nm,0.9s
SMCO Snowmass 24.15 343 IAmb IAmb 15 19 29.9
comp=Z,16nm,1.0s
OLIL Olney 24.18 20 P **P 15 19 21.5 -0.8**
KMSC Kings Mountain 24.22 36 IAmb IAmb 15 19 23.5
comp=Z,16nm,0.9s
BIRD Birdtown, Kers 24.36 38 IAmb IAmb 15 19 25.5
comp=Z,24nm,0.9s
WCI Wyandotte Cave 24.37 23 P **P 15 19 23.2 -0.8**
ISCO Idaho Springs 24.39 346 IAmb IAmb 15 19 26.9
comp=Z,21nm,0.8s
KNB Kanab 24.44 331 P **P 15 19 26.2 +1.2**
KNB IAmb IAmb 15 19 39.0
comp=Z,15nm,1.1s
V55A Taylorsville 24.80 35 P **P 15 19 28.6 +0.5**
R49A Shelbyville 24.86 25 IAmb IAmb 15 19 34.8
comp=Z,14nm,0.8s
OGNE Ogallala 24.89 353 P **P 15 19 30.1 +1.2**
N38A Joes South For 24.91 9 P **P 15 19 28.5 -0.5**
MTPU Mount Pierson 24.99 333 P **P 15 19 30.9 +0.7**
MTPU IAmb IAmb 15 19 34.6
comp=Z,16nm,0.7s
SHPR Sheep Range 25.20 327 P **P 15 19 34.3 +2.4**
SRU San Rafael Swe 25.24 337 P **P 15 19 32.9 +0.6**
N41A Harden Midland 25.28 13 P **P 15 19 31.5 -0.8**
N41A IAmb IAmb 15 19 32.8
comp=Z,23nm,0.9s
Q16A Castle Valley 25.32 336 IAmb IAmb 15 19 36.9
comp=Z,14nm,0.7s
O44A Mansfield 25.37 18 IAmb IAmb 15 19 33.8
comp=Z,22nm,0.8s
MSU Marysvale 25.39 334 P **P 15 19 34.5 +1.0**
O20A White River Ci 25.40 342 IAmb IAmb 15 19 38.0
comp=Z,17nm,0.9s
P17A Butcher Ranch, 25.64 337 P **P 15 19 36.9 +1.1**
TMUT Trail Mountain 25.66 336 IAmb IAmb 15 19 44.4
comp=Z,9.1nm,0.7s
L34A Svendsen Farm, 25.75 3 P **P 15 19 37.3 +0.7**
PHWY Pilot Hill 25.80 347 IAmb IAmb 15 19 40.5
comp=Z,18nm,1.1s
SDDR Presa de Saban 25.87 80 P **P 15 19 41.2 +3.3**
SDDR IAmb IAmb 15 19 46.8
comp=Z,13nm,0.9s
SFIN Lafayette 26.00 20 IAmb IAmb 15 19 39.5
comp=Z,12nm,0.7s
RDMU Red Mountain 26.21 340 IAmb IAmb 15 19 48.7
comp=Z,11nm,0.9s
Q51A Peebles 26.25 27 P **P 15 19 40.5 -0.7**
R53A Hurricane 26.33 30 P **P 15 19 42.2 +0.3**
MPU Maple Canyon 26.45 337 P **P 15 19 43.8 +0.6**
L40A Anamosa 26.50 12 IAmb IAmb 15 19 49.5
comp=Z,20nm,0.9s
RWWY Rawlins 26.57 345 P **P 15 19 47.0 +2.8**
RWWY IAmb IAmb 15 20 01.2
comp=Z,11nm,0.9s
P51A Williamsport 26.75 27 IAmb IAmb 15 19 50.5
comp=Z,15nm,0.7s
K38A Parkersburg 26.80 9 P **P 15 19 46.4 +0.4**
K38A IAmb IAmb 15 19 52.0
comp=Z,18nm,1.1s
R11A Troy Canyon, C 26.83 329 P **P 15 19 47.9 +1.3**
TCUT Toone Canyon 27.33 338 P **P 15 19 52.9 +1.8**
TCUT IAmb IAmb 15 19 53.5
comp=Z,9.5nm,0.9s
JFWS Jewell Farm 27.52 13 P **P 15 19 52.0 -0.5**
JFWS IAmb IAmb 15 19 53.1
comp=Z,13nm,0.8s
HWUT Hardware Ranch 27.82 338 P **P 15 19 56.1 +0.7**
SDV Santo Domingo 27.91 102 P **P 15 19 56.5 -0.1**
comp=Z,6.3nm,0.7s,baz=282,slow=1.8,SNR=8.7
SDV LR LR 15 32 39.8
comp=Z,112nm,18.9s,baz=326,slow=40
SDV Santo Domingo 27.91 102 P **P 15 19 57.0 +0.5**
SDV IAmb IAmb 15 20 07.2
comp=Z,7.9nm,0.8s
PD31 Pinedale Array 28.21 342 P **P 15 19 58.3 -0.7**
PDAR Pinedale Array 28.21 342 P **P 15 19 59.6 +0.6**
comp=Z,2.5nm,0.8s,baz=134,slow=8.4,SNR=10
PDAR LR LR 15 30 54.1
comp=Z,198nm,19.4s,baz=168,slow=36
PDAR Pinedale Array 28.21 342 P **P 15 19 58.4 -0.6**
L48A N Adams 28.31 22 P **P 15 19 58.1 -1.5**
NVAR Mina Array Bea 28.31 325 P **P 15 20 01.6 +1.8**
comp=Z,2.9nm,0.8s,baz=157,slow=9.6,SNR=17
NVAR LR LR 15 32 09.3
comp=Z,217nm,19.3s,baz=144,slow=38
NVAR Mina Array Bea 28.31 325 P 15 20 00.4 +0.5
HVU Hansel Valley 28.41 337 P **P 15 20 01.2 +0.5**
ELK Elko 28.56 332 P **P 15 20 03.2 +1.1**
comp=Z,0.4nm,0.3s,baz=166,slow=6.7,SNR=3.0
ELK LR LR 15 31 34.5
comp=Z,143nm,19.4s,baz=161,slow=37
REDW Red Top Meadow 29.14 341 P **P 15 20 08.5 +1.3**
LOHW Long Hollow 29.29 342 P **P 15 20 09.0 +0.4**
SPMN Marine on St. 29.32 8 IAmb IAmb 15 20 13.7
comp=Z,16nm,1.3s
G40A Rib Lake 29.79 12 P **P 15 20 11.9 -0.7**
G40A IAmb IAmb 15 20 17.2
comp=Z,11nm,1.1s
F36A Milaca 29.86 7 P **P 15 20 12.4 -0.9**
F36A IAmb IAmb 15 20 20.5
comp=Z,6.7nm,0.8s
E28A Huff 30.38 357 P **P 15 20 18.3 +0.4**
BCYI Bear Canyon 30.83 339 P **P 15 20 23.0 +0.8**
MCMT McKenzie Canyo 31.10 340 P **P 15 20 25.0 +0.5**
WVOR Wild Horse Val 31.46 330 IAmb IAmb 15 20 37.2
comp=Z,10nm,1.3s
DLMT Dillon 31.49 340 IAmb IAmb 15 20 35.0
comp=Z,18nm,1.4s
LRM Limekiln Ridge 31.85 341 P **P 15 20 32.8 +1.6**
J08A Circle Bar Ran 32.10 332 IAmb IAmb 15 20 35.4
comp=Z,12nm,1.0s
B35A Bob, Littlefor 32.31 6 IAmb IAmb 15 20 40.0
comp=Z,6.1nm,0.8s
HRY Holter Researc 32.47 343 P **P 15 20 37.6 +1.1**
SADO Sadowa 32.76 26 P **P 15 20 36.9 -1.9**
comp=Z,5.5nm,0.8s,baz=286,slow=3.6,SNR=4.1
BMO Blue Mountains 32.78 335 P **P 15 20 39.1 -0.1**
I07A Izee 33.13 331 IAmb IAmb 15 20 49.3
comp=Z,7.7nm,1.3s
G08A Pilot Rock 33.83 333 IAmb IAmb 15 20 49.7
comp=Z,5.2nm,0.9s
ULM Lac du Bonnet 34.04 3 P **P 15 20 49.1 -0.9**
comp=Z,1.9nm,0.5s,baz=179,slow=8.1,SNR=5.9
ULM LR LR 15 36 13.4
comp=Z,85nm,19.3s,baz=34,slow=39
ULM Lac du Bonnet 34.04 3 IAmb IAmb 15 20 54.9
comp=Z,4.8nm,0.9s
H04A Detroit Lake 34.85 330 IAmb IAmb 15 21 05.5
comp=Z,5.7nm,1.0s
C09A Chrisman Ranch 35.59 337 P **P 15 21 04.3 +0.9**
C09A IAmb IAmb 15 21 05.2
comp=Z,6.0nm,0.9s
LTY Liberty 36.11 334 IAmb IAmb 15 21 16.2
comp=Z,4.8nm,0.8s
FFC Flin Flon 38.58 357 P **P 15 21 28.3 -0.4**
FFC IAmb IAmb 15 21 29.5
comp=Z,8.5nm,0.8s
PTGA Pitinga 41.37 110 P **P 15 21 51.0 -1.4**
comp=Z,1.8nm,0.3s,baz=161,slow=5.7,SNR=5.8
FCC Fort Churchill 42.63 3 P **P 15 22 02.1 +0.1**
FCC IAmb IAmb 15 22 07.4
comp=Z,8.2nm,1.1s
LPAZ La Paz 43.87 136 LR LR 15 38 17.1
comp=Z,94nm,18.4s,baz=293,slow=33
RPN Rapa Nui 44.36 194 P **P 15 22 18.6 +2.2**
comp=Z,136nm,0.9s,baz=106,slow=1.1,SNR=4.0
MDP Montagnes des 46.07 99 LR LR 15 41 56.1
comp=Z,32nm,19.0s,baz=266,slow=36
YKA Yellowknife Ar 47.67 350 P **P 15 22 41.5 -0.6**
comp=Z,2.9nm,0.8s,baz=154,slow=7.7,SNR=27
YKA LR LR 15 44 45.2
comp=Z,146nm,20.4s,baz=0.0,slow=39
LVC Limon Verde 48.09 142 LR LR 15 39 15.3
comp=Z,56nm,20.2s,baz=348,slow=31
DLBC Dease Lake 48.30 338 P **P 15 22 48.8 +1.8**
comp=Z,3.1nm,0.9s,baz=139,slow=4.7,SNR=5.4
SIV San Ignacio 48.67 129 P **P 15 22 49.6 -0.8**
comp=Z,0.5nm,0.3s,baz=287,slow=5.2,SNR=4.0
SIV LR LR 15 40 34.3
comp=Z,74nm,19.7s,baz=280,slow=33
H03N2 Juan Fernandez 52.68 160 T T 16 20 05.8
baz=338,slow=77,SNR=2669
H03N1 Juan Fernandez 52.69 160 T T 16 20 02.4
baz=338,slow=77,SNR=3604
H03N3 Juan Fernandez 52.70 160 T T 16 20 03.9
baz=338,slow=77,SNR=3625
DAWY Dawson 55.46 339 P **P 15 23 40.5 +0.2**
DAWY IAmb IAmb 15 23 51.7
comp=Z,7.1nm,1.4s
K27K Chicken 56.36 339 P **P 15 23 48.0 +1.3**
EGAK Eagle 56.51 340 IAmb IAmb 15 23 55.4
comp=Z,6.6nm,0.9s
INK Inuvik 56.72 345 P **P 15 23 48.6 -0.6**
comp=Z,6.4nm,0.7s,baz=123,slow=7.8,SNR=25
INK Inuvik 56.72 345 P **P 15 23 49.1 0.0**
INK IAmb IAmb 15 23 50.2
comp=Z,8.0nm,0.8s
SCRK Sand Creek 57.01 338 IAmb IAmb 15 24 00.2
comp=Z,7.6nm,1.0s
SUA Susitna One 58.40 333 P **P 15 24 02.0 +0.7**
PRP Porcupine Dome 58.43 339 IAmb IAmb 15 24 03.0
comp=Z,7.3nm,1.0s
ILAR Eielson Array 58.51 338 P **P 15 24 01.9 0.0**
comp=Z,2.6nm,0.8s,baz=135,slow=5.4,SNR=26
ILAR Eielson Array 58.51 338 P **P 15 24 03.5 +1.7**
RND Reindeer 58.54 336 P **P 15 24 02.8 +0.6**
BDFB Brasilia 58.82 120 P **P 15 24 04.6 -0.3**
comp=Z,1.9nm,0.4s,baz=275,slow=5.3,SNR=4.4
BDFB Brasilia 58.82 120 P **P 15 24 05.0 +0.1**
BDFB IAmb IAmb 15 24 05.8
comp=Z,4.3nm,0.8s
COLA College 58.91 338 P **P 15 24 05.0 +0.4**
TRF Thorofare Moun 59.13 336 P **P 15 24 05.6 -0.8**
PLCA Paso Flores 62.20 156 P **P 15 24 30.2 +2.7**
comp=Z,1.3nm,0.9s,baz=350,slow=11,SNR=3.1
PLCA LR LR 15 46 18.4
comp=Z,66nm,19.0s,baz=323,slow=31
SUMG Summit 65.82 17 P **P 15 24 50.5 -0.7**
DBG Daneborg 71.30 16 *eP* **P 15 25 23.6 -1.3**
DAG Danmarks Havn 71.98 14⇑ *iP* **P 15 25 28.2 -0.8**
DAG *i* 15 25 32.8
DAG Danmarks Havn 71.98 14⇑ *iP* **P 15 25 28.3 -0.8**
DAG *i* 15 25 32.9
BILL Bilibino 77.16 337 P **P 15 25 58.8 -0.4**
BILL IAmb IAmb 15 26 06.5
comp=Z,6.3nm,1.2s
ESDC Sonseca Array 83.09 51 P **P 15 26 31.7 -0.1**
comp=Z,1.1nm,0.7s,baz=292,slow=5.6,SNR=5.6
ESDC Sonseca Array 83.09 51 P **P 15 26 32.0 +0.2**
ESDC IAmb IAmb 15 26 32.6
comp=Z,4.4nm,1.1s
NB2 NORSAR Subarra 85.08 27 P **P 15 26 41.7 +0.3**
comp=Z,0.6nm,0.7s,baz=300,slow=5.1
NOA NORSAR Array B 85.08 27 P **P 15 26 41.8 +0.3**
comp=Z,0.5nm,0.6s,baz=299,slow=4.9,SNR=5.0
PETK Petropavlovsk- 85.39 324 P **P 15 26 42.7 -0.5**
comp=Z,2.6nm,0.8s,baz=77,slow=7.6,SNR=2.7
PETK Petropavlovsk- 85.39 324 P **P 15 26 43.0 -0.1**
ARCES ARCESS Array B 85.91 17 P **P 15 26 46.8 +1.3**
comp=Z,4.4nm,0.9s,baz=349,slow=3.7,SNR=5.5
KEST Kesra 94.34 51 LR LR 16 08 46.7

comp=Z,24nm,21.2s,baz=256,slow=35
AKASG **Malin Array Be 99.11 31** LR LR 16 15 12.2
comp=Z,36nm,18.4s,baz=35,slow=37
WRA **Warramunga Arr 130.00 257** PKP **PKPdf** **15 33 15.9 -0.5**
comp=Z,1.6nm,0.9s,baz=87,slow=2.2,SNR=5.5
WRA **Warramunga Arr 130.00 257** **PKPdf** **15 33 16.0 -0.4**
ASAR **Alice Springs 130.60 253** PKP **PKPdf** **15 33 16.9 -0.6**
comp=Z,0.8nm,0.9s,baz=104,slow=1.3,SNR=4.0
ASAR **Alice Springs 130.60 253** **PKPdf** **15 33 17.9 +0.4**
CMAR **Chiang Mai Arr 141.64 333** PKP **PKPdf** **15 33 38.1 +0.1**
comp=Z,0.3nm,0.4s,baz=336,slow=2.0,SNR=1.7

DJA 18 15:35:15.2±0.8, 2°N±6°×12°7E±°, h104km±9km, M3.3/6, MLv3.3/6, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.12**	**135**	P	Pn	15 35 39.1	+1.9
TNTI				S	Sn	15 35 53.9	+0.1
KMSI	**Cibinong**	**2.78**	**249**	P	Pn	15 35 57.5	-0.6
SANI	**Sanana**	**3.64**	**189**	P	Pn	15 36 11.4	+1.7
LUWI	**Luwuk**	**4.61**	**236**	P	Pn	15 36 22.7	0.0

*NEIC **18** 15:35:20.9±2.0, 21°.44S±0°.07×66°.63W±0°.10, h218km±6km, mb4.3/27, Error ellipse: s-maj=12.8km s-min=10.2km az=89.0*
*SJA **18** 15:35:21.1±0.5, 21°.52S×66°.66W, h272km±24km, ML4.1, MW3.7*
*VAO **18** 15:35:21.9±0.4, 21°.37S×66°.83W, h246km±5km, mb3.9*
*IDC **18** 15:35:21.5±1.1, 21°.35S×66°.50W, h220km±8km, mb3.7/8, mb1 3.8/14, mb1mx3.7/29, mbtmp4.2/14, Error ellipse: s-maj=14.1km s-min=12.0km az=96.0*
*SCB **18** 15:35:24.9±1.4, 21°.43S×66°.75W, h206km±9km, ML3.8/3, Error ellipse: s-maj=5.6km s-min=4.3km az=0.0*

ISC 18 15:35:21.3±0.5, 21°.45S±0°.04×66°.70W±0°.04, h225km±5km, n196, σ1§42/228, mb4.3/19, 10C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.01**	**79**	P	**Pn**	**15 35 55.5**	**+1.2**
MOCB				S	**S**	**15 36 18.1**	**-1.8**
MOCB				IAML		15 36 20.7	
	1µm,0.5s						
YJA	**Yavi**	**1.32**	**123**	P	**Pn**	**15 35 57.7**	**+1.3**
LVC	**Limon Verde**	**2.35**	**240**	P	**Pn**	**15 36 06.9**	**+1.3**
	6.9nm,0.3s,baz=55,slow=8.1,SNR=73						
LVC				S	**S**	**15 36 40.2**	**0.0**
	20nm,0.3s,baz=233,slow=20,SNR=33						
LVC	**Limon Verde**	**2.35**	**240**	*eP*	**Pn**	**15 36 06.7**	**+1.0**
LVC				*i* S	**S**	**15 36 40.5**	**+0.3**
LVC	**Limon Verde**	**2.35**	**240**		**Pn**	**15 36 06.7**	**+1.0**
LVC				S	**S**	**15 36 40.4**	**+0.3**
LVC	**Limon Verde**	**2.35**	**240**	*eP*	**Pn**	**15 36 06.8**	**+1.2**
PB09	**IPOC Station P**	**2.39**	**261**	⇓*iP*	**Pn**	**15 36 07.0**	**+1.3**
PB09				*i* S	**S**	**15 36 42.2**	**+1.7**
PB09	**IPOC Station P**	**2.39**	**261**		**Pn**	**15 36 07.1**	**+1.3**
PB09				S	**S**	**15 36 42.8**	**+2.3**
PB09	**IPOC Station P**	**2.39**	**261**	P	**Pn**	**15 36 07.1**	**+1.3**
PB09				S	**S**	**15 36 39.1**	**-1.4**
PB09				IAML		15 36 43.7	
	43nm,0.5s						
PB01	**IPOC Station P**	**2.63**	**278**	⇑*iP*	**Pn**	**15 36 08.8**	**+0.5**
PB01				IAML		15 36 45.8	
	comp=N,544nm,0.3s						
PB01	**IPOC Station P**	**2.63**	**278**	Pn	**Pn**	**15 36 09.1**	**+0.8**
PB01				S	**S**	**15 36 43.9**	**-1.0**
PB01	**IPOC Station P**	**2.63**	**278**	P	**Pn**	**15 36 09.4**	**+1.1**
PB08	**IPOC Station P**	**2.64**	**299**	⇑*iP*	**Pn**	**15 36 10.1**	**+1.4**
PB08				*i* S	**S**	**15 36 46.1**	**+0.5**
PB08				IAML		15 36 50.9	
	comp=N,318nm,0.3s						
PB08	**IPOC Station P**	**2.64**	**299**		**Pn**	**15 36 10.1**	**+1.4**
PB08				S	**S**	**15 36 46.2**	**+0.6**
PB08	**IPOC Station P**	**2.64**	**299**	P	**Pn**	**15 36 09.9**	**+1.2**
PB03	**IPOC Station P**	**2.90**	**258**	*eP*	**Pn**	**15 36 11.6**	**+0.3**
PB03				*eS*	**S**	**15 36 49.1**	**-1.3**
PB03				IAML		15 36 50.4	
	comp=E,298nm,0.1s						
PB06	**IPOC Station P**	**2.94**	**244**	IAML		15 36 53.0	
	comp=E,244nm,0.1s						
PB06	**IPOC Station P**	**2.94**	**244**	Pn	**Pn**	**15 36 13.2**	**+1.5**
PB07	**IPOC Station P**	**2.98**	**264**	*eP*	**Pn**	**15 36 12.6**	**+0.4**
PB07				*i* S	**S**	**15 36 50.6**	**-1.4**
PB07				IAML		15 36 51.3	
	comp=N,701nm,0.5s						
PB07	**IPOC Station P**	**2.98**	**264**		**Pn**	**15 36 12.9**	**+0.7**
PB15	**IPOC Station P**	**3.10**	**235**	*eP*	**Pn**	**15 36 14.5**	**+0.8**
PB15	**IPOC Station P**	**3.10**	**235**	Pn	**Pn**	**15 36 14.5**	**+0.8**
PB04	**IPOC Station P**	**3.32**	**254**	⇑*iP*	**Pn**	**15 36 16.7**	**+0.6**
PB04				*i* S	**S**	**15 36 57.2**	**-1.8**
PB04	**IPOC Station P**	**3.32**	**254**	Pn	**Pn**	**15 36 16.7**	**+0.6**
PB04	**IPOC Station P**	**3.32**	**254**	P	**Pn**	**15 36 17.0**	**+0.9**
TA01	**Diego Aracena**	**3.37**	**284**	⇑*iP*	**Pn**	**15 36 16.3**	**-0.2**
TA01				*i* S	**S**	**15 36 57.1**	**-2.6**
TA01	**Diego Aracena**	**3.37**	**284**	Pn	**Pn**	**15 36 16.5**	**0.0**
TA02	**Huaiquique**	**3.41**	**289**	*eP*	**Pn**	**15 36 16.8**	**-0.2**
TA02				*i* S	**S**	**15 36 58.2**	**-2.5**
SLA	**San Lorenzo**	**3.44**	**162**	⇑*iP*	**Pn**	**15 36 19.2**	**+1.7**
SLA				*i* S	**S**	**15 37 02.1**	**+0.5**
SLA	**San Lorenzo**	**3.44**	**162**	P	**Pn**	**15 36 19.2**	**+1.7**
SLA	**San Lorenzo**	**3.44**	**162**	*i* P	**Pn**	**15 36 19.3**	**+1.7**
SLA				*eS*	**S**	**15 37 02.7**	**+1.1**
SLA				IAML		15 37 13.0	
	comp=Z,116nm,1.0s						
PB05	**IPOC Station P**	**3.53**	**246**	⇑*iP*	**Pn**	**15 36 19.3**	**+0.7**
MNMC	**Minye Minye**	**3.56**	**310**	⇑*iP*	**Pn**	**15 36 20.0**	**+0.9**
MNMC				*i* S	**S**	**15 37 03.7**	**-0.7**
MNMC	**Minye Minye**	**3.56**	**310**		**Pn**	**15 36 20.0**	**+0.9**
MNMC	**Minye Minye**	**3.56**	**310**	P	**Pn**	**15 36 20.2**	**+1.1**
MNMC				S	**S**	**15 37 01.8**	**-2.6**
MNMC				IAML		15 37 06.3	
	comp=Z,788nm,0.4s						
PSGC	**Pisagua**	**3.70**	**299**	⇑*iP*	**Pn**	**15 36 19.9**	**-0.7**
PSGC				*eS*	**S**	**15 37 03.9**	**-3.1**
PSGC	**Pisagua**	**3.70**	**299**	P	**Pn**	**15 36 20.9**	**+0.4**
PSGCX	**Pisagua**	**3.70**	**299**	Pn	**Pn**	**15 36 20.1**	**-0.4**
PB16	**IPOC Station P**	**4.07**	**319**	⇑*iP*	**Pn**	**15 36 27.0**	**+1.5**
PB16				*i* S	**S**	**15 37 16.5**	**+0.6**
PB16	**IPOC Station P**	**4.07**	**319**	Pn	**Pn**	**15 36 26.9**	**+1.5**
PB10	**IPOC Station P**	**4.11**	**239**	⇑*iP*	**Pn**	**15 36 25.4**	**0.0**
PB10				*i* S	**S**	**15 37 12.5**	**-3.4**
PB10	**IPOC Station P**	**4.11**	**239**	Pn	**Pn**	**15 36 25.4**	**0.0**
PB10	**IPOC Station P**	**4.11**	**239**	P	**Pn**	**15 36 26.1**	**+0.7**
GO02	**Mina Guanaco**	**4.55**	**215**	Pn	**Pn**	**15 36 31.6**	**+0.6**
AP01	**Chacalluta**	**4.59**	**311**	Pn	**Pn**	**15 36 30.6**	**-0.7**
PB14	**IPOC Station P**	**4.65**	**226**	Pn	**Pn**	**15 36 32.3**	**0.0**
FSA	**Cafayete**	**4.69**	**172**	*i* P	**Pn**	**15 36 34.6**	**+2.0**
FSA				*i* S	S	15 37 42.5	+13
FSA	**Cafayete**	**4.69**	**172**	*i* P	**Pn**	**15 36 34.4**	**+1.8**
BBOE	**La Paz, Chanca**	**4.77**	**345**	P	**Pn**	**15 36 36.2**	**+2.1**
BBOD	**La Paz, Gloria**	**5.11**	**339**	P	**Pn**	**15 36 40.3**	**+2.0**
LPAZ	**La Paz**	**5.31**	**345**	P	**Pn**	**15 36 42.1**	**+1.3**
	comp=Z,17nm,0.3s,baz=154,slow=7.0,SNR=220						
LPAZ				S	**S**	**15 37 42.9**	**-0.9**
	baz=246,slow=13,SNR=1.0						
LPAZ	**La Paz**	**5.31**	**345**	P	**Pn**	**15 36 42.2**	**+1.3**
LPAZ	**La Paz**	**5.31**	**345**	*eP*	**Pn**	**15 36 42.0**	**+1.3**
BBOB	**La Paz, Bander**	**5.45**	**345**	P	**Pn**	**15 36 43.7**	**+1.2**
AHML	**Horco Molle**	**5.46**	**167**	P	**Pn**	**15 36 44.0**	**+1.9**
AHML	**Horco Molle**	**5.46**	**167**	*i* P	**Pn**	**15 36 43.0**	**+0.9**
AHML				IAML		15 38 39.1	
	comp=Z,8.8nm,0.9s						
AC02	**Maricunga**	**5.80**	**202**	Pn	**Pn**	**15 36 46.9**	**0.0**
AC01	**Pan de Azucar**	**5.88**	**217**	Pn	**Pn**	**15 36 46.4**	**-1.0**
GO03	**Copiap**	**6.91**	**207**	Pn	**Pn**	**15 36 58.9**	**-1.7**
GO03	**Copiap**	**6.91**	**207**	*i* P	**Pn**	**15 36 59.0**	**-1.6**
GO03	**Copiap**	**6.91**	**207**	*i* P	**Pn**	**15 36 59.0**	**-1.6**
GO03				*eS*	**S**	**15 38 14.9**	**-5.0**
VCA	**Vinchina**	**7.38**	**190**	*i* P	**Pn**	**15 37 07.5**	**+0.8**
VCA				IAML		15 38 57.6	
	comp=Z,11nm,1.9s						
VCA	**Vinchina**	**7.38**	**190**	*i* P	**Pn**	**15 37 07.5**	**+0.8**
VCA				IAML		15 38 39.1	
	comp=Z,12nm,1.3s						
SIV	**San Ignacio**	**7.61**	**45**	P	**Pn**	**15 37 08.6**	**-1.0**
	comp=Z,6.6nm,0.3s,baz=250,slow=12,SNR=128						
SIV				S	**S**	**15 38 30.0**	**-6.3**
	comp=Z,2.3nm,0.3s,baz=303,slow=20,SNR=3.4						
AC04	**Llanos de Chal**	**7.81**	**210**	Pn	**Pn**	**15 37 08.8**	**-3.3**
ACLC	**CERRO LA CRUZ**	**7.95**	**182**	*i* P	**Pn**	**15 37 13.3**	**-0.7**
ACLC				IAML		15 38 56.3	
	comp=Z,5.0nm,0.5s						
ACLC	**CERRO LA CRUZ**	**7.95**	**182**	*i* P	**Pn**	**15 37 13.2**	**-0.7**
ACLC				IAML		15 38 56.7	
	comp=Z,6.3nm,2.1s						
AC05	**El Transito**	**8.04**	**203**	Pn	**Pn**	**15 37 13.9**	**-1.2**
AGUA	**GUANDACOL**	**8.17**	**191**	*i* P	**Pn**	**15 37 16.6**	**-0.1**
AGUA				IAML		15 39 43.9	
	comp=Z,4.0nm,1.2s						
AGUA	**GUANDACOL**	**8.17**	**191**	*i* P	**Pn**	**15 37 16.8**	**0.0**
AGUA				IAML		15 39 43.9	
	comp=Z,4.0nm,1.2s						
LCO	**Las Campanas**	**8.35**	**205**	Pn	**Pn**	**15 37 17.0**	**-2.3**
APLL	**PUNTA DE LOS L**	**8.91**	**179**	*i* P	**Pn**	**15 37 24.2**	**-2.1**
APLL	**PUNTA DE LOS L**	**8.91**	**179**	*i* P	**Pn**	**15 37 24.1**	**-2.1**
ACDV	**Cuesta del Vie**	**8.96**	**194**	*i* P	**Pn**	**15 37 26.8**	**-0.1**
ACDV				IAML		15 39 31.6	
	comp=Z,13nm,0.3s						
ACDV	**Cuesta del Vie**	**8.96**	**194**	*i* P	**Pn**	**15 37 26.7**	**-0.1**
ACDV				IAML		15 39 31.6	
	comp=Z,13nm,0.3s						
CO01	**Juntas del Tor**	**9.03**	**199**		**Pn**	**15 37 27.1**	**-0.8**
AROD	**Rodeo**	**9.03**	**195**	*i* P	**Pn**	**15 37 27.6**	**-0.5**
AROD	**Rodeo**	**9.03**	**195**	*i* P	**Pn**	**15 37 27.7**	**-0.5**
AVFE	**Valle Fertil**	**9.20**	**184**	*i* P	**Pn**	**15 37 27.7**	**-2.3**
AVFE				IAML		15 39 21.7	
	comp=Z,3.8nm,0.4s						
AVFE	**Valle Fertil**	**9.20**	**184**	*i* P	**Pn**	**15 37 27.8**	**-2.1**
AVFE				IAML		15 39 19.3	
	comp=Z,5.6nm,2.5s						
PTLB	**Pontes e Lacer**	**9.33**	**52**	*eP*	**Pn**	**15 37 30.6**	**-1.1**
ACCO	**Cerro Coronel**	**9.35**	**193**	*i* P	**Pn**	**15 37 31.6**	**-0.4**
ACCO				IAML		15 40 01.2	
	comp=Z,12nm,2.9s						
ACCO	**Cerro Coronel**	**9.35**	**193**	*i* P	**Pn**	**15 37 31.7**	**-0.4**
ACCO				*i* Sg	**S**	**15 39 14.6**	**-2.8**
ACCO				IAML		15 39 18.6	
	comp=Z,18nm,0.8s						
GO04	**Tololo Observa**	**9.44**	**202**	Pn	**Pn**	**15 37 31.0**	**-2.2**
GO04	**Tololo Observa**	**9.44**	**202**	*i* P	**Pn**	**15 37 31.2**	**-2.0**
ACHE	**Chepes**	**9.67**	**180**	*i* P	**Pn**	**15 37 33.9**	**-2.2**
CPUP	**Villa Florida**	**9.86**	**121**	P	**Pn**	**15 37 36.9**	**-1.4**
	baz=305,slow=11,SNR=3.4						
CPUP	**Villa Florida**	**9.86**	**121**		**Pn**	**15 37 37.1**	**-1.3**
CPUP	**Villa Florida**	**9.86**	**121**	*eP*	**Pn**	**15 37 41.3**	**+3.0**
RTLL	**Cerro Villicun**	**9.97**	**189**	*i* P	**Pn**	**15 37 38.3**	**-1.4**
RTLL				IAML		15 39 44.5	
	comp=Z,12nm,1.5s						
RTLL	**Cerro Villicun**	**9.97**	**189**	*i* P	**Pn**	**15 37 38.3**	**-1.4**
RTLL				*i* Sg	**S**	**15 39 25.7**	**-6.0**
CO03	**El Pedregal**	**10.01**	**200**	Pn	**Pn**	**15 37 38.3**	**-2.0**
TCA	**Tanti**	**10.03**	**170**	*i* P	**Pn**	**15 37 39.7**	**-0.9**
TCA				IAML		15 40 02.9	
	comp=Z,4.5nm,2.6s						
ZON	**Zonda**	**10.21**	**190**	Pn	**Pn**	**15 37 42.1**	**-0.7**
ZON	**Zonda**	**10.21**	**190**	*i* P	**Pn**	**15 37 43.6**	**+0.7**
ZON				IAML		15 40 33.9	
	comp=Z,7.2nm,0.4s						
ZON	**Zonda**	**10.21**	**190**	*i* P	**Pn**	**15 37 43.5**	**+0.7**
ZON				IAML		15 40 31.9	
	comp=Z,9.7nm,0.4s						
AQDB	**Aquidauana**	**10.33**	**87**	*eP*	**Pn**	**15 37 46.4**	**+2.0**
CO02	**Combarbal**	**10.45**	**201**	Pn	**Pn**	**15 37 44.6**	**-1.4**
VILB	**Vilhena**	**10.48**	**37**	*eP*	**Pn**	**15 37 46.6**	**+0.1**
RTCV	**Cerro Valdivia**	**10.50**	**189**	*i* P	**Pn**	**15 37 45.0**	**-1.5**
RTCV	**Cerro Valdivia**	**10.50**	**189**	*i* P	**Pn**	**15 37 45.4**	**-1.1**
RTLS	**Leoncito**	**10.57**	**192**	*i* P	**Pn**	**15 37 47.3**	**-0.3**
RTLS	**Leoncito**	**10.57**	**192**	*i* P	**Pn**	**15 37 47.2**	**-0.3**
RTLS				IAML		15 39 48.0	
	comp=Z,2.4nm,1.8s						
MRA	**San Martin**	**10.96**	**176**	*i* P	**Pn**	**15 37 50.3**	**-2.2**
MRA	**San Martin**	**10.96**	**176**	*i* P	**Pn**	**15 37 50.3**	**-2.2**
MRA				IAML		15 40 02.9	
	comp=Z,1.4nm,0.6s						
AUSP	**Uspallata**	**11.00**	**192**	*i* P	**Pn**	**15 37 52.9**	**-0.2**
AUSP	**Uspallata**	**11.00**	**192**	*i* P	**Pn**	**15 37 52.9**	**-0.2**
ASAL	**Salagasta**	**11.26**	**189**	*i* P	**Pn**	**15 37 55.1**	**-1.1**
ASAL	**Salagasta**	**11.26**	**189**	*i* P	**Pn**	**15 37 55.2**	**-1.0**
ASAL				IAML		15 40 02.1	
	comp=Z,4.5nm,1.9s						
ARCO	**CERRO ARCO**	**11.52**	**189**	*i* P	**Pn**	**15 37 59.7**	**+0.2**
ARCO	**CERRO ARCO**	**11.52**	**189**	*i* P	**Pn**	**15 37 58.6**	**-0.9**
ARCO				IAML		15 41 17.4	
	comp=Z,7.0nm,0.6s						
ETMB	**Extrema**	**11.57**	**2**	*eP*	**Pn**	**15 37 59.1**	**-1.2**
AAGR	**Agrelo**	**11.74**	**189**	*i* P	**Pn**	**15 38 00.7**	**-1.6**
AAGR	**Agrelo**	**11.74**	**189**	*i* P	**Pn**	**15 38 01.7**	**-0.7**
VA03	**San Esteban**	**11.78**	**196**	P	**Pn**	**15 38 03.6**	**+0.9**
ROC1	**El Roble**	**12.11**	**198**	*i* P	**Pn**	**15 38 07.6**	**+0.6**
ITQB	**Itaqui**	**12.23**	**134**	*eP*	**Pn**	**15 38 09.0**	**+0.6**
MT02	**Curacav**	**12.40**	**198**	P	**Pn**	**15 38 09.6**	**-0.9**
SAML	**Samuel**	**12.88**	**16**	P	**Pn**	**15 38 15.7**	**-0.9**
SAML	**Samuel**	**12.88**	**16**	*eP*	**Pn**	**15 38 15.1**	**-1.5**
BO02	**Sierra Bellavi**	**13.77**	**194**		**Pn**	**15 38 27.7**	**+0.3**
PTGB	**Pitanga**	**13.86**	**106**	*eP*	**Pn**	**15 38 28.6**	**-0.1**
PCMB	**Pacaembu**	**14.37**	**93**	*eP*	**P**	**15 38 38.1**	**+2.3**
ITAB	**Concordia**	**14.47**	**116**	*eP*	**P**	**15 38 37.5**	**+0.8**
CLDB	**Colider**	**14.83**	**47**	*eP*	**P**	**15 38 42.0**	**+1.1**
CPSB	**Cacapava Do Su**	**14.89**	**130**	*eP*	**P**	**15 38 41.2**	**-0.1**
ARAG	**Araguaiana, MT**	**15.22**	**70**	*eP*	**Pn**	**15 38 45.6**	**+0.3**
PLTB	**Pedras Altas**	**15.57**	**134**	*eP*	**Pn**	**15 38 49.6**	**+0.3**
BI02	**San Fabin de**	**15.68**	**194**	P	**Pn**	**15 38 50.8**	**+0.2**
FRTB	**Fartura**	**15.96**	**100**	*eP*	**Pn**	**15 38 55.3**	**+1.2**
TUJ01	**Guaruva-PR**	**16.70**	**107**	*eP*	**Pn**	**15 39 03.5**	**+0.6**
BB19B	**Bebedouro**	**16.95**	**92**	*eP*	**Pn**	**15 39 05.4**	**-0.5**
TER01	**Tubaro-SC**	**17.41**	**117**	*eP*	**P**	**15 39 09.7**	**+0.6**
SNDB	**Serra Nova Dou**	**17.50**	**60**	*eP*	**P**	**15 39 10.4**	**+0.3**
IPMB	**Ipameri, GO**	**17.75**	**82**	*eP*	**P**	**15 39 13.4**	**+0.5**
NPGB	**Novo Progresso**	**18.04**	**39**	*eP*	**P**	**15 39 15.1**	**-0.9**
PET01	**Itanhaem-SP**	**18.12**	**103**	*eP*	**P**	**15 39 17.6**	**+0.7**
VAO	**Valinhos**	**18.34**	**99**	*eP*	**P**	**15 39 19.7**	**+0.3**
BDFB	**Brasilia**	**18.63**	**75**	P	**P**	**15 39 22.6**	**0.0**
	comp=Z,0.6nm,0.3s,baz=221,slow=7.5,SNR=3.1						
MACA	**Manacapuru-AM**	**19.10**	**19**	*eP*	**P**	**15 39 26.3**	**-1.1**
PLCA	**Paso Flores**	**19.50**	**189**	P	**P**	**15 39 32.6**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=355,slow=12,SNR=4.9						
PLCA	**Paso Flores**	**19.50**	**189**	P	**P**	**15 39 32.4**	**+0.8**
PLCA				IAmb	IAmb	15 39 33.3	
	comp=Z,10.0nm,1.4s						
PLCA	**Paso Flores**	**19.50**	**189**	*eP*	**P**	**15 39 31.5**	**-0.1**
PEXB	**Peixe**	**19.90**	**65**	*eP*	**P**	**15 39 36.0**	**-0.1**
ITTB	**Itaituba**	**20.04**	**34**	*eP*	**P**	**15 39 36.3**	**-1.3**
PTGA	**Pitinga**	**21.61**	**19**	P	**P**	**15 39 51.3**	**-2.5**
	comp=Z,3.3nm,0.2s,baz=190,slow=23,SNR=12						
PTGA	**Pitinga**	**21.61**	**19**	P	**P**	**15 39 51.4**	**-2.5**
PTGA				IAmb	IAmb	15 39 58.5	
	comp=Z,12nm,1.4s						
PTGA	**Pitinga**	**21.61**	**19**	*eP*	**P**	**15 39 51.4**	**-2.5**
DIAM	**Diamantina, MG**	**21.88**	**86**	*eP*	**P**	**15 39 56.2**	**-0.4**
JANB	**Januaria**	**22.18**	**77**	*eP*	**P**	**15 39 58.2**	**-1.1**
SDBA	**SAO DESIDERIO**	**22.69**	**70**	*eP*	**P**	**15 40 04.3**	**+0.4**
MALB	**Monte Alegre**	**22.94**	**34**	*eP*	**P**	**15 40 05.5**	**-0.6**
PDPR	**Patillas Dam,**	**39.23**	**1**	P	**P**	**15 42 27.5**	**-0.5**
PDPR				IAmb	IAmb	15 42 35.8	
	comp=Z,7.5nm,0.8s						
PDPR				PcP	**PcP**	**15 44 32.6**	**+0.2**
WVT	**Waverly**	**60.65**	**340**	P	**P**	**15 45 08.4**	**-0.3**
TXAR	**Lajitas Array**	**61.79**	**323**	P	**P**	**15 45 17.1**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=146,slow=8.2,SNR=9.8						
TX31	**Lajitas Ar. Si**	**61.79**	**323**	P	**P**	**15 45 17.3**	**+0.8**
TX31				IAmb	IAmb	15 45 18.8	
	comp=Z,6.4nm,1.3s						
TX32	**Lajitas Array**	**61.79**	**323**	P	**P**	**15 45 17.3**	**+0.8**
FCAR	**Ozark Folk Cen**	**61.90**	**337**	P	**P**	**15 45 16.5**	**-0.4**
FCAR				IAmb	IAmb	15 45 23.7	
	comp=Z,5.6nm,1.4s						
CCM	**Cathedral Cave**	**63.52**	**339**	P	**P**	**15 45 27.7**	**+0.1**
CCM				IAmb	IAmb	15 45 28.2	
	comp=Z,5.5nm,0.7s						
S39A	**Bolivar**	**63.94**	**337**	P	**P**	**15 45 30.6**	**+0.3**
R40A	**Maddies Statio**	**64.09**	**338**	P	**P**	**15 45 31.4**	**+0.1**
R40A				IAmb	IAmb	15 45 31.9	
	comp=Z,4.3nm,0.7s						
MSTX	**Muleshoe**	**64.94**	**327**	P	**P**	**15 45 36.8**	**-0.2**
319A	**Douglas**	**66.52**	**321**	P	**P**	**15 45 49.0**	**+1.8**
319A				IAmb	IAmb	15 45 50.0	
	comp=Z,5.1nm,0.8s						
F64A	**Sherman**	**67.00**	**359**	P	**P**	**15 45 50.3**	**+0.6**
F64A				IAmb	IAmb	15 46 06.0	
	comp=Z,18nm,1.4s						
D62A	**Allapoint, All**	**68.24**	**358**	P	**P**	**15 45 58.0**	**+0.6**
BATG	**Bathurst New B**	**68.41**	**0**	P	**P**	**15 45 58.7**	**+0.2**
DRLN	**Deer Lake**	**70.86**	**6**	P	**P**	**15 46 13.5**	**+0.1**
PV22	**Blue Mesa, Par**	**71.54**	**326**	P	**P**	**15 46 19.9**	**+1.8**
EYMN	**Ely**	**72.57**	**343**	P	**P**	**15 46 23.6**	**-0.1**
EYMN				IAmb	IAmb	15 46 37.1	
	comp=Z,9.9nm,1.2s						
MTPU	**Mount Pierson**	**72.98**	**324**	P	**P**	**15 46 28.8**	**+2.0**
PDAR	**Pinedale Array**	**75.11**	**329**	P	**P**	**15 46 40.1**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=120,slow=8.1,SNR=7.4						
PDAR	**Pinedale Array**	**75.11**	**329**	P	**P**	**15 46 40.4**	**+1.6**
TOA0	**Torodi Ar. Sit**	**75.41**	**69**	P	**P**	**15 46 40.4**	**-0.4**
TOA0				IAmb	IAmb	15 46 41.0	
	comp=Z,5.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.41**	**69**	P	**P**	**15 46 40.3**	**-0.5**
	comp=Z,4.3nm,0.5s,baz=258,slow=5.5,SNR=30						
TORD				pP	**pP**	**15 47 36.1**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=254,slow=5.9,SNR=12						
TORD	**Torodi Ar. Bea**	**75.41**	**69**	P	**P**	**15 46 40.4**	**-0.5**
TORD				IAmb	IAmb	15 46 41.0	
	comp=Z,3.3nm,0.7s						
ULM	**Lac du Bonnet**	**75.91**	**341**	P	**P**	**15 46 42.9**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=171,slow=5.4,SNR=10						
ULM	**Lac du Bonnet**	**75.91**	**341**	P	**P**	**15 46 43.0**	**+0.2**
ULM				IAmb	IAmb	15 46 43.2	
	comp=Z,4.0nm,0.6s						
NVAR	**Mina Array Bea**	**76.74**	**321**	P	**P**	**15 46 49.9**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=167,slow=7.2,SNR=7.0						
RLMT	**Red Lodge**	**76.76**	**331**	P	**P**	**15 46 49.7**	**+1.7**
KVN	**Kaiserville**	**77.03**	**321**	P	**P**	**15 46 51.1**	**+1.5**
HLID	**Hailey**	**78.11**	**327**	P	**P**	**15 46 58.4**	**+2.9**
HLID				IAmb	IAmb	15 46 58.8	
	comp=Z,2.7nm,0.7s						
JTMT	**Jette**	**81.03**	**330**	P	**P**	**15 47 12.6**	**+1.5**
FCC	**Fort Churchill**	**83.06**	**346**	P	**P**	**15 47 21.7**	**+0.6**
FCC				IAmb	IAmb	15 47 22.6	
	comp=Z,4.3nm,0.9s						
ESDC	**Sonseca Array**	**84.37**	**44**	P	**P**	**15 47 26.5**	**-1.8**
	comp=Z,0.9nm,0.9s,baz=239,slow=2.2,SNR=2.8						
YKA	**Yellowknife Ar**	**91.83**	**340**	P	**P**	**15 48 04.0**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=125,slow=5.0,SNR=31						
ASAR	**Alice Springs**	**130.87**	**205**	PKP	**PKiKP**	**15 54 07.2**	**-0.3**
ASAR				SKPbc	**SKPbc**	**15 57 09.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=146,slow=3.5,SNR=12						
ASAR	**Alice Springs**	**130.87**	**205**		**PKPdf**	**15 54 06.7**	**+0.1**
WRA	**Warramunga Arr**	**134.00**	**208**	PKP	**PKPdf**	**15 54 12.8**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=153,slow=2.0,SNR=21						
WRA				SKPbc	**SKPbc**	**15 57 21.0**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=146,slow=3.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**141.01**	**27**	PKP	**PKPdf**	**15 54 24.8**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=336,slow=3.3,SNR=5

*VAO **18** 16:34:40.1±0.7, 17°.39S×69°.78W, h166km±5km, mb4.3*
*NEIC **18** 16:34:40.5±2.0, 17°.51S±0°.06×69°.80W×0°.08, h158km±5km, mb4.4/27, Error ellipse: s-maj=11.9km s-min=6.6km az=124.0*
*GUC **18** 16:34:42.2±0.4, 17°.60S×69°.83W, h159km±7km, ML4.2*
*IDC **18** 16:34:42.6±0.9, 17°.38S×69°.42W, h168km±6km, mb4.0/11, mb1 4.1/13, mb1mx3.9/29, mbtmp4.4/13, Error ellipse: s-maj=16.2km s-min=13.5km az=1.0*

ISC 18 16:34:40.3±0.5, 17°.50S±0°.04×69°.65W±0°.05, h157km±4km, n125, σ1s61/140, mb4.4/23, 2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.84**	**171**	Pn	**Pn**	**16 35 06.0**	**+0.8**
PB16				Sn	**Sn**	**16 35 25.3**	**+1.1**
AP01	**Chacalluta**	**1.09**	**217**		**Pn**	**16 35 06.2**	**-0.3**
AP01				Sn	**Sn**	**16 35 25.6**	**-0.9**
MNMC	**Minye Minye**	**1.62**	**178**	*eP*	**Pn**	**16 35 12.6**	**+0.6**
MNMC				*eS*	**Sn**	**16 35 36.1**	**-0.2**
MNMC				IAML		16 35 39.1	
	comp=N,4μm,0.2s						
MNMC	**Minye Minye**	**1.62**	**178**		**Pn**	**16 35 12.5**	**+0.6**
MNMC				Sn	**Sn**	**16 35 36.8**	**+0.5**
LPAZ	**La Paz**	**1.89**	**51**	P	**Pn**	**16 35 16.3**	**+1.1**
	comp=N,207nm,0.3s,baz=248,slow=7.0,SNR=3602						
LPAZ				S	**Sn**	**16 35 41.0**	**-1.0**
	comp=N,2.3nm,0.3s,baz=18,slow=20,SNR=1.2						
LPAZ	**La Paz**	**1.89**	**51**	*eP*	**Pn**	**16 35 16.4**	**+1.1**
PSGC	**Pisagua**	**2.13**	**192**	*eP*	**Pn**	**16 35 17.0**	**-0.4**
PSGC				*eS*	**Sn**	**16 35 43.5**	**-2.7**
PSGC				IAML		16 35 53.1	
	comp=E,732nm,0.5s						
PSGCX	**Pisagua**	**2.13**	**192**	Pn	**Pn**	**16 35 17.0**	**-0.5**
PB08	**IPOC Station P**	**2.67**	**170**	*iP*	**Pn**	**16 35 25.1**	**+1.0**
PB08				*eS*	**Sn**	**16 35 58.0**	**-0.2**
PB08				IAML		16 36 00.7	
	comp=E,776nm,0.2s						
PB08	**IPOC Station P**	**2.67**	**170**		**Pn**	**16 35 25.1**	**+1.0**
TA01	**Diego Aracena**	**3.09**	**189**	Pn	**Pn**	**16 35 28.1**	**-0.9**
PB01	**IPOC Station P**	**3.53**	**178**	*iP*	**Pn**	**16 35 34.5**	**-0.3**
PB01				*eS*	**Sn**	**16 36 10.7**	**-6.3**
PB01	**IPOC Station P**	**3.53**	**178**	Pn	**Pn**	**16 35 34.4**	**-0.3**
PB07	**IPOC Station P**	**4.21**	**183**	*eP*	**Pn**	**16 35 43.5**	**-0.1**
PB07	**IPOC Station P**	**4.21**	**183**		**Pn**	**16 35 43.3**	**-0.3**
PB09	**IPOC Station P**	**4.29**	**175**	*eP*	**Pn**	**16 35 45.2**	**+0.5**
PB09	**IPOC Station P**	**4.29**	**175**		**Pn**	**16 35 45.0**	**+0.4**
PB03	**IPOC Station P**	**4.53**	**181**	*eP*	**Pn**	**16 35 47.3**	**-0.4**
PB04	**IPOC Station P**	**4.83**	**186**	*eP*	**Pn**	**16 35 50.9**	**-0.9**
PB04	**IPOC Station P**	**4.83**	**186**		**Pn**	**16 35 50.7**	**-1.1**
LVC	**Limon Verde**	**5.13**	**172**	P	**Pn**	**16 35 56.5**	**+0.6**
	comp=E,30nm,0.3s,baz=6.4,slow=7.0,SNR=78						
LVC				S	**Sn**	**16 36 52.0**	**-2.9**
	comp=E,26nm,0.3s,baz=233,slow=3.4,SNR=22						
LVC	**Limon Verde**	**5.13**	**172**	*eP*	**Pn**	**16 35 56.2**	**+0.4**
LVC	**Limon Verde**	**5.13**	**172**	Pn	**Pn**	**16 35 56.0**	**+0.1**
LVC	**Limon Verde**	**5.13**	**172**	*eP*	**Pn**	**16 35 56.0**	**+0.1**
PB06	**IPOC Station P**	**5.18**	**179**	*eP*	**Pn**	**16 35 55.5**	**-0.8**
PB06				*eS*	**Sn**	**16 36 50.1**	**-5.7**
PB06	**IPOC Station P**	**5.18**	**179**		**Pn**	**16 35 55.3**	**-1.0**
PB05	**IPOC Station P**	**5.35**	**185**	*eP*	**Pn**	**16 35 57.1**	**-1.4**
PB15	**IPOC Station P**	**5.68**	**178**	*iP*	**Pn**	**16 36 02.3**	**-0.7**
PB15	**IPOC Station P**	**5.68**	**178**		**Pn**	**16 36 02.1**	**-0.9**
PB10	**IPOC Station P**	**6.04**	**188**	Pn	**Pn**	**16 36 05.6**	**-2.0**
PB14	**IPOC Station P**	**7.12**	**186**	Pn	**Pn**	**16 36 19.9**	**-2.3**
GO02	**Mina Guanaco**	**7.62**	**180**	Pn	**Pn**	**16 36 27.3**	**-1.6**
ETMB	**Extrema**	**8.34**	**24**	*eP*	**Pn**	**16 36 36.6**	**-1.6**
SIV	**San Ignacio**	**8.35**	**81**	P	**Pn**	**16 36 36.3**	**-2.1**
	comp=E,2.8nm,0.3s,baz=277,slow=9.7,SNR=30						
SIV				S	**Sn**	**16 38 04.7**	**-6.8**
	comp=E,0.9nm,0.3s,baz=353,slow=23,SNR=7.6						
AC01	**Pan de Azucar**	**8.65**	**186**		**Pn**	**16 36 39.3**	**-3.0**
NNA	**Nana**	**8.86**	**307**	P	**Pn**	**16 36 44.3**	**-0.9**
	comp=E,2.4nm,0.3s,baz=135,slow=13,SNR=2.4						
NNA				S	**Sn**	**16 38 18.0**	**-5.7**
	comp=E,3.7nm,0.3s,baz=265,slow=20,SNR=3.9						
NNA	**Nana**	**8.86**	**307**		**Pn**	**16 36 44.1**	**-1.0**
VILB	**Vilhena**	**10.18**	**65**	*eP*	**Pn**	**16 37 03.2**	**+0.6**
PTLB	**Pontes e Lacer**	**10.29**	**80**	*eP*	**Pn**	**16 37 06.4**	**+2.3**
SAML	**Samuel**	**10.57**	**37**	Pn	**Pn**	**16 37 06.1**	**-1.7**
SAML	**Samuel**	**10.57**	**37**	*eP*	**Pn**	**16 37 05.5**	**-2.4**
CO01	**Juntas del Tor**	**12.43**	**182**	Pn	**Pn**	**16 37 31.4**	**-0.7**
GO04	**Tololo Observa**	**12.66**	**185**	Pn	**Pn**	**16 37 32.2**	**-2.8**
CO03	**El Pedregal**	**13.31**	**184**		**Pn**	**16 37 44.4**	**+1.2**
CO02	**Combarbal**	**13.70**	**185**	Pn	**Pn**	**16 37 48.5**	**+0.3**
PP1B	**Ponte de Pedra**	**14.09**	**93**	*eP*	**P**	**16 37 56.5**	**0.0**
CLDB	**Colider**	**14.96**	**66**	*eP*	**P**	**16 38 04.1**	**-1.5**
MT02	**Curacav**	**15.75**	**185**	P	**Pn**	**16 38 14.0**	**+0.4**
ARAG	**Araguaiana, MT**	**17.19**	**87**	*eP*	**Pn**	**16 38 32.0**	**+0.8**
BO02	**Sierra Bellavi**	**17.25**	**183**	P	**P**	**16 38 32.2**	**+1.3**
BO02				IAmb	IAmb	16 38 36.5	
	comp=Z,14nm,0.9s						
BO02				PcP	**PcP**	**16 43 04.9**	**-0.7**
NPGB	**Novo Progresso**	**17.39**	**55**	*eP*	**P**	**16 38 31.8**	**-0.8**
PTGB	**Pitanga**	**17.90**	**117**	*eP*	**Pn**	**16 38 39.4**	**-0.2**
ITRB	**Iturama**	**18.42**	**100**	*eP*	**Pn**	**16 38 43.8**	**-1.9**
SNDB	**Serra Nova Dou**	**18.58**	**75**	*eP*	**Pn**	**16 38 45.6**	**-2.0**
ITTB	**Itaituba**	**18.87**	**48**	*eP*	**P**	**16 38 48.0**	**-0.7**
PTGA	**Pitinga**	**19.20**	**31**	P	**P**	**16 38 51.3**	**-0.8**
	comp=Z,2.2nm,0.3s,baz=216,slow=18,SNR=17						
PTGA	**Pitinga**	**19.20**	**31**	P	**P**	**16 38 51.3**	**-0.8**
PTGA				IAmb	IAmb	16 38 56.1	
	comp=Z,8.9nm,0.7s						
PTGA	**Pitinga**	**19.20**	**31**	*eP*	**P**	**16 38 51.3**	**-0.8**
CPSB	**Cacapava Do Su**	**19.58**	**134**	*eP*	**P**	**16 38 56.4**	**+0.2**
FRTB	**Fartura**	**19.69**	**110**	*eP*	**P**	**16 38 57.4**	**-0.1**
IPMB	**Ipameri, GO**	**20.43**	**95**	*eP*	**P**	**16 39 04.5**	**-0.9**
BDFB	**Brasilia**	**20.82**	**88**	P	**P**	**16 39 08.4**	**-1.3**
	comp=Z,4.4nm,0.4s,baz=253,slow=11,SNR=7.9						
BDFB	**Brasilia**	**20.82**	**88**	P	Pn	16 39 12.1	-2.2
PEXB	**Peixe**	**21.32**	**78**	*eP*	**P**	**16 39 14.1**	**-0.9**
BOAV	**Boa Vista**	**21.72**	**25**	*eP*	**P**	**16 39 18.6**	**-0.6**
SMTB	**Santa Maria do**	**23.11**	**71**	*eP*	**P**	**16 39 31.9**	**-0.7**
PLCA	**Paso Flores**	**23.16**	**182**	P	**P**	**16 39 35.0**	**+2.0**
	comp=Z,6.5nm,0.8s,baz=357,slow=10,SNR=17						
PLCA	**Paso Flores**	**23.16**	**182**	P	**P**	**16 39 34.9**	**+2.0**
PLCA	**Paso Flores**	**23.16**	**182**	*eP*	**P**	**16 39 34.7**	**+1.8**
MCPB	**Macapa, AP**	**24.29**	**47**	*eP*	**P**	**16 39 42.4**	**-0.8**
SDBA	**SAO DESIDERIO**	**24.43**	**81**	*eP*	**P**	**16 39 44.5**	**-0.2**
JANB	**Januaria**	**24.44**	**88**	*eP*	**P**	**16 39 44.8**	**+0.1**
DIAM	**Diamantina, MG**	**24.73**	**96**	*eP*	**P**	**16 39 47.8**	**+0.3**
MDP	**Montagnes des**	**28.04**	**38**	P	**P**	**16 40 16.6**	**-0.4**
	comp=Z,18nm,1.0s,baz=181,slow=3.8,SNR=4.2						
NBPN	**Ponto Novo - B**	**29.28**	**81**	*eP*	**P**	**16 40 28.4**	**+0.3**
TEIG	**Tepich**	**41.71**	**333**	P	**P**	**16 42 15.0**	**+1.2**
	comp=Z,2.9nm,0.5s,baz=124,slow=3.6,SNR=2.3						
TEIG	**Tepich**	**41.71**	**333**	P	**P**	**16 42 14.9**	**+1.1**
TEIG				IAmb	IAmb	16 42 15.6	
	comp=Z,13nm,1.1s						
X48A	**Hartselle**	**54.25**	**342**	P	**P**	**16 43 48.9**	**-1.1**
X48A				IAmb	IAmb	16 43 54.9	
	comp=Z,6.7nm,1.2s						
WVT	**Waverly**	**56.05**	**342**	P	**P**	**16 44 01.8**	**-1.0**
MIAR	**Mount Ida**	**56.54**	**336**	P	**P**	**16 44 06.7**	**+0.4**
MIAR				IAmb	IAmb	16 44 07.2	
	comp=Z,3.2nm,0.6s						
TXAR	**Lajitas Array**	**56.98**	**324**	P	**P**	**16 44 10.4**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=148,slow=11,SNR=3.0						
TX31	**Lajitas Ar. Si**	**56.98**	**324**	P	**P**	**16 44 09.4**	**-0.3**
TX32	**Lajitas Array**	**56.98**	**324**	P	**P**	**16 44 09.2**	**-0.4**
FCAR	**Ozark Folk Cen**	**57.21**	**338**	P	**P**	**16 44 11.1**	**+0.1**
PBMO	**Poplar Bluff**	**57.44**	**340**	P	**P**	**16 44 11.8**	**-0.8**
U40A	**Yellville**	**57.89**	**338**	P	**P**	**16 44 15.8**	**0.0**
U40A				IAmb	IAmb	16 44 16.6	
	comp=Z,5.0nm,0.7s						
T42A	**Van Buren**	**57.89**	**340**	P	**P**	**16 44 15.2**	**-0.5**
T42A				IAmb	IAmb	16 44 15.6	
	comp=Z,4.5nm,0.6s						
MGMO	**Mountain Grove**	**58.40**	**339**	P	**P**	**16 44 19.4**	**+0.1**
MGMO				IAmb	IAmb	16 44 19.4	
	comp=Z,5.6nm,0.7s						
FVM	**French Village**	**58.54**	**341**	P	**P**	**16 44 20.6**	**+0.3**
WMOK	**Wichita Mounta**	**58.87**	**332**	P	**P**	**16 44 20.6**	**-2.1**
S39A	**Bolivar**	**59.25**	**338**	P	**P**	**16 44 25.2**	**+0.1**
R40A	**Maddies Statio**	**59.42**	**339**	P	**P**	**16 44 25.8**	**-0.5**
F36A	**Milaca**	**66.67**	**342**	P	**P**	**16 45 14.2**	**+0.2**
LIC	**Lamto**	**68.01**	**76**	*eP*	**P**	**16 45 23.4**	**+0.3**
	comp=Z,40nm,1.1s						
EYMN	**Ely**	**68.02**	**344**	P	**P**	**16 45 22.3**	**-0.1**
EYMN				IAmb	IAmb	16 45 22.6	
	comp=Z,6.0nm,0.9s						
TIC	**Toumodi**	**68.17**	**75**	*eP*	**P**	**16 45 24.3**	**+0.2**
KIC	**Kosan Boka**	**68.33**	**76**	*eP*	**P**	**16 45 24.8**	**-0.3**
	comp=Z,27nm,0.7s						
DBIC	**Dimbokro**	**68.33**	**75**	P	**P**	**16 45 24.9**	**-0.2**
	comp=Z,11nm,0.6s,baz=229,slow=6.1,SNR=18						
B35A	**Bob, Littlefor**	**69.00**	**343**	P	**P**	**16 45 28.9**	**+0.4**
B35A				IAmb	IAmb	16 45 29.1	
	comp=Z,5.1nm,0.7s						
PDAR	**Pinedale Array**	**70.32**	**330**	P	**P**	**16 45 38.4**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=70,slow=30,SNR=4.2						
PDAR				pP	**pP**	**16 46 17.6**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=104,slow=7.5,SNR=2.1						
PDAR	**Pinedale Array**	**70.32**	**330**	P	**P**	**16 45 38.0**	**+1.0**
ULM	**Lac du Bonnet**	**71.31**	**343**	P	**P**	**16 45 42.6**	**+0.1**
	comp=Z,3.6nm,0.4s,baz=146,slow=7.1,SNR=14						
ULM	**Lac du Bonnet**	**71.31**	**343**	P	**P**	**16 45 42.4**	**-0.2**
ULM				IAmb	IAmb	16 45 43.0	
	comp=Z,11nm,1.2s						
NVAR	**Mina Array Bea**	**71.93**	**322**	P	**P**	**16 45 48.2**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=130,slow=8.4,SNR=2.5						
KOWA	**Kowa**	**72.12**	**68**	P	**P**	**16 45 47.9**	**-0.2**
KOWA				IAmb	IAmb	16 45 48.7	
	comp=Z,6.3nm,0.9s						
TOA0	**Torodi Ar. Sit**	**76.71**	**71**	P	**P**	**16 46 14.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**76.71**	**71**	P	**P**	**16 46 14.3**	**-0.4**
	comp=Z,12nm,0.7s,baz=257,slow=5.5,SNR=59						
TORD				pP	**pP**	**16 46 56.9**	**+2.4**
	comp=Z,1.6nm,0.7s,baz=262,slow=5.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.71**	**71**	P	**P**	**16 46 14.3**	**-0.4**
TORD				IAmb	IAmb	16 46 15.0	
	comp=Z,8.8nm,0.7s						
FCC	**Fort Churchill**	**78.60**	**347**	P	**P**	**16 46 24.5**	**+0.4**
FCC				IAmb	IAmb	16 46 24.7	
	comp=Z,7.9nm,1.4s						
PAB	**San Pablo**	**83.18**	**45**	P	**P**	**16 46 49.9**	**+0.9**
PAB				IAmb	IAmb	16 46 51.4	
	comp=Z,13nm,1.5s						
ESDC	**Sonseca Array**	**83.50**	**45**	P	**P**	**16 46 50.5**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=247,slow=6.6,SNR=5.5						
YKA	**Yellowknife Ar**	**87.20**	**341**	P	**P**	**16 47 09.3**	**+1.0**
	comp=Z,3.1nm,0.6s,baz=130,slow=5.4,SNR=58						
YKA				pP	**pP**	**16 47 50.7**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=131,slow=4.8,SNR=2.9						
ASAR	**Alice Springs**	**133.06**	**210**	PKP	**PKPdf**	**16 53 38.6**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=125,slow=2.0,SNR=6.0						
ASAR	**Alice Springs**	**133.06**	**210**		**PKPdf**	**16 53 38.8**	**+0.8**
WRA	**Warramunga Arr**	**135.96**	**213**	PKP	**PKPdf**	**16 53 44.5**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=149,slow=1.9,SNR=7.9						
WRA				pPKP	**pPKPdf**	**16 54 30.1**	**+3.5**
	comp=Z,0.4nm,1.0s,baz=136,slow=1.5,SNR=1.4						
WRA	**Warramunga Arr**	**135.96**	**213**	PKPdf	**PKPdf**	**16 53 44.8**	**+1.3**
ZALV	**Zalesovo Beam**	**138.60**	**23**	PKP	**PKPdf**	**16 53 47.6**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=284,slow=5.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**138.60**	**23**	PKPdf	**PKPdf**	**16 53 48.2**	**+1.1**
MKAR	**Makanchi Array**	**142.73**	**32**	PKhKP	PKPpre	16 53 51.1	
	comp=Z,0.1nm,0.4s,baz=331,slow=2.9,SNR=4.8						
MKAR	**Makanchi Array**	**142.73**	**32**	PKPdf	**PKPdf**	**16 53 51.5**	**-3.4**
USRK	**Ussuriysk Ar.**	**147.74**	**330**	PKPbc	**PKPbc**	**16 54 08.1**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=347,slow=5.9,SNR=5.2						
MJAR	**Matsushiro Arr**	**148.94**	**313**	PKPbc	**PKiKP**	**16 54 12.0**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=180,slow=1.2,SNR=2.9						
MJAR	**Matsushiro Arr**	**148.94**	**313**		**PKPbc**	**16 54 11.7**	**+1.8**
SONM	**Songino Array**	**149.57**	**5**	PKPbc	**PKPbc**	**16 54 12.5**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=333,slow=4.6,SNR=7.9						
CMAR	**Chiang Mai Arr**	**169.10**	**83**	PKPab	**PKPab**	**16 55 45.8**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=248,slow=4.8,SNR=1.8						

WEL 18 16:47:35.6±1.3, 35°.S±17°×17°.8E±1°.6, h170km±32km, M3.5/10, MLv3.5/10, Error ellipse: s-maj=0.0km s-min=0.0km az=23.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.13**	**181**	P	Pn	16 48 13.5	+0.2
MXZ				S	Sn	16 48 43.1	+0.3
HAZ	**Te Kaha**	**2.37**	**191**	P	Pn	16 48 16.2	+0.1
HAZ				S	Sn	16 48 48.3	+0.6
WMGZ	**Waiomatatini S**	**2.39**	**179**	P	Pn	16 48 16.9	+0.5
PKGZ	**Pakihiroa**	**2.47**	**185**	P	Pn	16 48 17.4	0.0
KUZ	**Kuaotunu**	**2.52**	**238**	P	Pn	16 48 17.6	-0.2
RUGZ	**Raukumara Rang**	**2.60**	**192**	P	Pn	16 48 18.5	-0.4
PUZ	**Puketiti**	**2.64**	**182**	P	Pn	16 48 19.4	0.0
PUZ				S	Sn	16 48 52.9	-0.7
TWGZ	**Tauwhareparae**	**2.76**	**186**	P	Pn	16 48 21.1	+0.2
TWGZ				S	Sn	16 48 57.5	+1.3
MWZ	**Matawai**	**2.98**	**193**	P	Pn	16 48 23.4	-0.1
MWZ				S	Sn	16 49 00.4	-0.5
URZ	**Urewera**	**3.00**	**199**	P	Pn	16 48 23.6	-0.2
URZ				S	Sn	16 49 02.2	+1.0
TKGZ	**Te Karaka**	**3.04**	**188**	P	Pn	16 48 23.7	-0.5
TKGZ				S	Sn	16 49 02.0	0.0
TARZ	**Mount Tarawera**	**3.18**	**207**	P	Pn	16 48 22.9	-3.1
MUGZ	**Murupara**	**3.30**	**202**	P	Pn	16 48 27.9	+0.4
RTZ	**Ruatahuna**	**3.37**	**199**	P	Pn	16 48 27.5	-0.9
MTHZ	**Maungataniwha**	**3.63**	**199**	P	Pn	16 48 31.1	-0.5
RAHZ	**Arahi**	**3.63**	**196**	P	Pn	16 48 30.8	-0.8
NMHZ	**Naumai**	**3.87**	**198**	P	Pn	16 48 34.1	-0.6
BKZ	**Black Stump Fm**	**4.02**	**201**	P	Pn	16 48 35.8	-0.9
HIZ	**Hauiti**	**4.17**	**221**	P	Pn	16 48 41.3	+2.8
TMVZ	**Te Maari**	**4.25**	**209**	P	Pn	16 48 39.6	-0.1
KWHZ	**Kaweka Forest**	**4.28**	**201**	P	Pn	16 48 38.4	-1.6
OTVZ	**Oturere**	**4.31**	**209**	P	Pn	16 48 39.9	-0.5
BHHZ	**Black Hill Sta**	**4.45**	**204**	P	Pn	16 48 40.5	-1.7
KRHZ	**Kereru**	**4.50**	**200**	P	Pn	16 48 40.6	-2.2
PNHZ	**Pukenui**	**4.80**	**200**	P	Pn	16 48 44.2	-2.5
TSZ	**Takapari Road**	**5.00**	**202**	P	Pn	16 48 46.9	-2.5
BFZ	**Birch Farm**	**5.51**	**197**	P	Pn	16 48 52.5	-3.4

MAN 18 17:11:59.5, 10°.89N×121°.68E, h24km, mb4.2, ML3.0, MS2.7, Panay

MAN 18 17:29:04.6, 7°.33N×124°.69E, h1km, mb4.4, ML3.3, MS3.0, Mindanao

*ISK **18** 17:47:53.8, 37°.05N×28°.65E, h8km, ML2.7/10*
*DDA **18** 17:47:54.2, 37°.03N×28°.61E, h7km±2km, mb4.2, ML2.3*

ISC 18 17:47:54.5±1.0, 37°.04N±0°.03×28°.62E±0°.03, h12km±8km, n18, σ0s54/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**0.22**	**173**	PG	**Pg**	**17 47 59.1**	**-0.1**
DALY				SG	**Sg**	**17 48 02.6**	**+0.2**
DALY	**Dalyan (Mula)**	**0.22**	**173**	*iP*	**Pg**	**17 47 59.4**	**+0.2**
DALY				IAML		17 48 06.0	
	comp=N,486nm,0.3s						
YER	**Yerkesik**	**0.29**	**290**	PG	**Pg**	**17 48 00.3**	**-0.2**
YER				SG	**Sb**	**17 48 05.3**	**-1.1**
MULA	**Mugla, Merkez-**	**0.33**	**313**	*iP*	**Pg**	**17 48 00.9**	**-0.3**
MULA				*iS*	**Sg**	**17 48 05.8**	**+0.2**
MULA				IAML		17 48 08.0	
	comp=N,377nm,0.2s						
TURN	**Turunc**	**0.40**	**229**	PG	**Pg**	**17 48 01.9**	**-0.5**
TURN				SG	**Sb**	**17 48 08.9**	**-0.5**
TURN	**Turunc**	**0.40**	**229**	*iP*	**Pg**	**17 48 02.0**	**-0.4**
TURN				*iS*	**Sb**	**17 48 08.6**	**-0.8**
TURN				IAML		17 48 09.0	
	comp=E,218nm,0.2s						
TURN				IAML		17 48 11.0	
	comp=N,238nm,0.2s						
MRSB	**Marmaris-Mugla**	**0.47**	**227**	PG	**Pb**	**17 48 03.9**	**-0.7**
MRSB				SG	**Sb**	**17 48 11.1**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.49**	**29**	*iP*	**Pg**	**17 48 04.1**	**-0.1**
TAVA				IAML		17 48 14.0	
	comp=N,102nm,0.1s						
TAVA				IAML		17 48 15.0	
	comp=E,212nm,0.4s						
FETY	**Fethiye**	**0.55**	**137**	PG	**Pg**	**17 48 04.7**	**-0.5**
FETY				SG	**Sg**	**17 48 12.7**	**+0.3**
ARG	**Arkhangelos**	**0.91**	**206**	PG	**Pb**	**17 48 11.9**	**-0.3**
BDRM	**Kayabasi**	**0.94**	**272**	*iP*	**Pb**	**17 48 13.2**	**+0.5**
BDRM				*iS*	**Sn**	**17 48 26.8**	**-0.1**
BDRM				IAML		17 48 29.0	
	comp=N,149nm,0.4s						
BDRM				IAML		17 48 30.0	
	comp=E,93nm,0.3s						
BODT	**Bodrum**	**1.05**	**272**	PG	**Pb**	**17 48 14.5**	**-0.1**
BODT				SG	**Sn**	**17 48 30.1**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**328**	PN	**Pb**	**17 48 15.0**	**-0.2**
AKAS	**Kas**	**1.13**	**135**	PN	**Pb**	**17 48 16.0**	**0.0**
GCAM	**G?zelcaml?**	**1.29**	**301**	PN	**Pg**	**17 48 18.8**	**-0.5**
GCAM	**G?zelcaml?**	**1.29**	**301**	*i* P	**Pg**	**17 48 19.1**	**-0.1**
GCAM				*i* S	**Sn**	**17 48 36.6**	**+1.2**
GCAM				IAML		17 48 39.0	
	comp=N,58nm,0.3s						
GCAM				IAML		17 48 41.0	
	comp=E,47nm,0.2s						
BASM	**Basmaki-Afyon**	**1.44**	**52**	PN	**Pn**	**17 48 20.3**	**-0.2**
KARP	**Karpathos**	**1.90**	**219**	PN	**Pn**	**17 48 27.7**	**+1.0**

*IDC **18** 17:49:20.9±0.8, 13°.24N×145°.64E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/39, mbtmp3.9/12, MS3.1/3, Ms1 3.2/3, ms1mx2.8/30, Error ellipse: s-maj=32.6km s-min=16.3km az=97.0*
*NEIC **18** 17:49:25.9±1.9, 13°.2N±0°.1×145°.52E±0°.09, h33km±1km, mb4.3/20, Error ellipse: s-maj=15.8km s-min=11.2km az=157.0*

ISC 18 17:49:27.0±0.7, 13°.2N±0°.1×145°.5E±0°.1, h43km, n52, σ0s94/47, mb4.1/23, MS3.1/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.73**	**303**		**Pn**	**17 49 40.5**	**-0.4**
PATS	**Pohnpei**	**14.11**	**115**	Pn	Pn	17 52 38.2	-6.2
H11N1	**WAKE ISLAND Hy**	**21.51**	**70**	T	T	18 17 18.7	
	baz=257,slow=74,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**21.52**	**70**	T	T	18 17 19.8	
	baz=257,slow=74,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**21.53**	**70**	T	T	18 17 21.1	
	baz=257,slow=74,SNR=9.3						
JGF	**Kuroka**	**23.49**	**343**	P	**P**	**17 54 32.5**	**-0.6**
JGF				IAmb	IAmb	17 54 35.1	
	comp=Z,17nm,1.0s						
MJAR	**Matsushiro Arr**	**24.16**	**346**	P	**P**	**17 54 37.0**	**-2.2**
	comp=Z,3.2nm,1.1s,baz=181,slow=12,SNR=3.2						
MJAR				LR	LR	18 02 45.8	
	comp=Z,70nm,20.4s,baz=165,slow=33						
MJAR	**Matsushiro Art**	**24.16**	**346**	P	**P**	**17 54 37.9**	**-1.3**
HNR	**Honiara**	**26.66**	**147**	LR	LR	18 04 40.9	
	comp=Z,54nm,20.8s,baz=296,slow=34						
USRK	**Ussuriysk Ar.**	**33.00**	**342**	P	**P**	**17 55 58.1**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=182,slow=8.7,SNR=3.3						
WB0	**Warramunga Arr**	**34.52**	**199**	P	**P**	**17 56 10.7**	**-0.7**
WB0				IAmb	IAmb	17 56 30.1	
	comp=Z,3.1nm,1.0s						
WR0	**Warramunga Arr**	**34.66**	**198**	P	**P**	**17 56 11.1**	**-1.5**
WR0				IAmb	IAmb	17 56 33.4	
	comp=Z,3.7nm,1.2s						
WB2	**Warramunga Arr**	**34.70**	**199**	P	**P**	**17 56 13.2**	**+0.3**
WB2				IAmb	IAmb	17 56 24.0	
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**34.70**	**199**	P	**P**	**17 56 13.8**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=22,slow=9.6,SNR=12						
WRA	**Warramunga Arr**	**34.70**	**199**	P	**P**	**17 56 13.6**	**+0.6**
AS31	**Alice Springs**

ASAR	**Alice Springs**	**41.91**	**261**	P		**P**	**18 03 41.8**	**-0.7**
	0.5nm,0.7s,baz=95,slow=6.7,SNR=9.6							
ASAR				ScP		**ScP**	**18 08 27.8**	**+0.6**
	0.4nm,0.9s,baz=108,slow=4.7,SNR=4.2							
WB2	**Warramunga Arr**	**42.31**	**267**	P		**P**	**18 03 44.6**	**-1.1**
WB2				IAmb		IAmb	18 03 53.8	
	comp=Z,7.0nm,1.4s							
WB0	**Warramunga Arr**	**42.32**	**267**	P		**P**	**18 03 44.5**	**-1.3**
WB0				IAmb		IAmb	18 04 07.7	
	comp=Z,6.2nm,1.2s							
WRA	**Warramunga Arr**	**42.33**	**267**	P		**P**	**18 03 44.4**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=103,slow=8.2,SNR=31							
WRA	**Warramunga Arr**	**42.33**	**267**	P		**P**	**18 03 44.2**	**-1.5**
MTN	**Manton Dam**	**47.44**	**275**	P		**P**	**18 04 23.8**	**-1.4**
MTN				IAmb		IAmb	18 04 39.3	
	comp=Z,22nm,1.4s							
GIRL	**Giralia**	**59.76**	**257**	P		**P**	**18 05 52.7**	**+0.2**
QSPA	**South Pole Qui**	**65.72**	**180**	P		**P**	**18 06 31.6**	**+1.3**
QSPA				IAmb		IAmb	18 06 32.6	
	comp=Z,6.0nm,0.8s							
PEA0B	**Petropavlovsk-**	**79.54**	**347**	P		**P**	**18 07 49.5**	**-0.4**
PETK	**Petropavlovsk-**	**79.54**	**347**	P		**P**	**18 07 49.5**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=132,slow=6.8,SNR=4.9							
PETK	**Petropavlovsk-**	**79.54**	**347**	P		**P**	**18 07 49.8**	**-0.1**
USRK	**Ussuriysk Ar.**	**81.13**	**327**	P		**P**	**18 07 58.6**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=143,slow=3.9,SNR=4.3							
ILAR	**Eielson Array**	**92.50**	**14**	P		**P**	**18 08 52.3**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=198,slow=5.7,SNR=1.8							
SONM	**Songino Array**	**97.42**	**319**	P		**P**	**18 09 16.5**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=107,slow=3.5,SNR=1.6							
AKASG	**Malin Array Be**	**145.33**	**327**	PKPbc		**PKPdf**	**18 15 15.2**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=48,slow=4.4,SNR=3.0							
BRTR	**Keskin Array B**	**147.81**	**307**	PKPbc		**PKPbc**	**18 15 23.3**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=148,slow=2.2,SNR=3.1							
CLL	**Collm**	**151.28**	**343**	*e*PKPbc		**PKPbc**	**18 15 32.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**168.72**	**189**	PKPab		**PKPab**	**18 16 59.8**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=171,slow=3.1,SNR=2.9							

*ANF **18** 18:13:34.2±0.2, 36.76N×98.01W, h0km, ML3.5/13, Error ellipse: s-maj=2.1km s-min=2.1km az=38.0*
*TUL **18** 18:13:34.5±1.0, 36.78N±0.02×98.03W±0.06, h6km±7km, ML3.0, mb_Lg2.9/47(NEIC), Error ellipse: s-maj=6.7km s-min=2.5km az=86.0*
*NEIC **18** 18:13:34.7±1.1, 36.78N±0.04×98.02W±0.04, h12km±7km, Error ellipse: s-maj=5.9km s-min=4.8km az=149.0*
ISC 18 18:13:34.4±1.2, 36.77N±0.02×98.02W±0.02, h3km±10km, n73, σ0963/71, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.15**	**285**	Pg	**Pg**	**18 13 37.9**	**+0.5**
GC02	**Grant County #**	**0.16**	**57**	Pg	**Pg**	**18 13 38.0**	**+0.5**
KAN14	**Manchester OK**	**0.20**	**14**	Pg	**Pg**	**18 13 38.5**	**+0.3**
CROK	**Carrier**	**0.26**	**173**		**Pg**	**18 13 40.0**	**+0.5**
KAN10	**Anthony SW Sta**	**0.36**	**351**	Pg	**Pg**	**18 13 41.6**	**+0.3**
KAN05	**Bluff City Nor**	**0.36**	**19**		**Pg**	**18 13 41.7**	**+0.3**
KAN01	**Argonia South**	**0.44**	**29**	Pg	**Pg**	**18 13 43.1**	**+0.3**
KAN08	**Anthony NE Sta**	**0.46**	**5**	Pg	**Pg**	**18 13 43.6**	**+0.3**
KAN09	**Caldwell North**	**0.49**	**41**	Pg	**Pg**	**18 13 44.1**	**+0.2**
KAN13	**South Haven SW**	**0.50**	**60**	Pg	**Pg**	**18 13 44.3**	**+0.3**
KAN12	**Harper NE Stat**	**0.53**	**2**	Pg	**Pg**	**18 13 44.8**	**+0.2**
U32A	**Winter Ranch,**	**0.88**	**244**		**Pg**	**18 13 50.9**	**-0.2**
U32A	**Winter Ranch,**	**0.88**	**244**	P	**Pg**	**18 13 51.1**	**-0.1**
	baz=64						
U32A				S	**Sg**	**18 14 03.0**	**+0.5**
	baz=64						
U32A	**Winter Ranch,**	**0.88**	**244**	P		18 13 51.1	
	baz=64						
U32A				S		18 14 03.0	
	baz=64						
OK029	**Liberty Lake**	**1.07**	**154**		**Pg**	**18 13 54.7**	**-0.2**
BCOK	**Bluff Creek, N**	**1.16**	**163**		**Pg**	**18 13 55.9**	**-0.7**
QUOK	**Quay**	**1.22**	**119**		**Pg**	**18 13 57.2**	**-0.4**
T35A	**Sooner Cattle**	**1.22**	**82**		**Pg**	**18 13 57.4**	**-0.5**
T35B	**Sooner Cattle**	**1.22**	**82**	P	**Pg**	**18 13 57.3**	**-0.5**
	baz=263,SNR=53						
T35B				S	**Sg**	**18 14 13.4**	**-0.3**
	baz=263						
T35B	**Sooner Cattle**	**1.22**	**82**	P		18 13 57.3	
	baz=263,SNR=53						
T35B				S		18 14 13.4	
	baz=263						
OK031	**S. Brethren Rd**	**1.25**	**130**		**Pn**	**18 13 57.9**	**-0.9**
OK030	**Cody Creek RV**	**1.30**	**129**		**Pn**	**18 13 58.6**	**-0.9**
OK025	**Westminster Rd**	**1.30**	**155**		**Pn**	**18 13 58.8**	**-0.7**
OKCFA	**Oklahoma City**	**1.42**	**161**	Pn	**Pn**	**18 14 00.8**	**-0.4**
OKCFA	**Oklahoma City**	**1.42**	**161**	P	**Pn**	**18 14 00.9**	**-0.3**
	baz=342						
OKCFA				S	**Sg**	**18 14 20.5**	**+0.4**
	baz=342						
OKCFA	**Oklahoma City**	**1.42**	**161**	P		18 14 00.9	
	baz=342						
OKCFA				S		18 14 20.5	
	baz=342						
OKCSW	**OKLAHOMA CITY**	**1.44**	**161**	Pn	**Pn**	**18 14 00.9**	**-0.4**
FNO	**Franklin**	**1.59**	**161**		**Pn**	**18 14 03.1**	**-0.3**
R32A	**Long Quarter,**	**1.74**	**342**		**Pb**	**18 14 05.9**	**-1.1**
R32A	**Long Quarter,**	**1.74**	**342**	P	**Pb**	**18 14 06.1**	**-1.0**
	baz=161,SNR=36						
R32A				S	**Sb**	**18 14 29.3**	**-0.1**
	baz=161						
R32A	**Long Quarter,**	**1.74**	**342**	P		18 14 06.1	
	baz=161,SNR=36						
R32A				S		18 14 29.3	
	baz=161						
TUL1	**Leonard**	**1.99**	**115**	P	**Pn**	**18 14 09.9**	**+0.9**
	baz=296,SNR=8.4						
TUL1				S	**Sb**	**18 14 36.7**	**+0.2**
	baz=296						
TUL1	**Leonard**	**1.99**	**115**	P		18 14 09.9	
	baz=296,SNR=8.4						
TUL1				S		18 14 36.7	
	baz=296						
WMOK	**Wichita Mounta**	**2.11**	**197**		**Pn**	**18 14 10.5**	**-0.2**
WMOK				IAmb_Lg		18 14 45.0	
	comp=Z,57nm,0.8s						
WMOK	**Wichita Mounta**	**2.11**	**197**	P	**Pn**	**18 14 11.1**	**+0.4**
	baz=17						
WMOK				S	**Sb**	**18 14 39.2**	**-0.9**
	baz=17						
WMOK	**Wichita Mounta**	**2.11**	**197**	P		18 14 11.1	
	baz=17						
WMOK				S		18 14 39.2	
	baz=17						
CBKS	**Cedar Bluff**	**2.46**	**327**		**Pn**	**18 14 14.2**	**-1.2**
CBKS	**Cedar Bluff**	**2.46**	**327**	P	**Pn**	**18 14 16.8**	**+1.5**
	baz=146,SNR=9.8						
CBKS				S	**Sn**	**18 14 47.1**	**+1.2**
	baz=146						
CBKS	**Cedar Bluff**	**2.46**	**327**	P		18 14 16.8	
	baz=146,SNR=9.8						
CBKS				S		18 14 47.1	
	baz=146						
KSU1	**Kansas State U**	**2.59**	**25**		**Pn**	**18 14 16.7**	**-0.4**
KSU1				IAmb_Lg		18 14 57.6	
	comp=Z,44nm,0.8s						
KSU1	**Kansas State U**	**2.59**	**25**	S	**Sn**	**18 14 49.7**	**+0.6**
	baz=206						
KSU1	**Kansas State U**	**2.59**	**25**	S		18 14 49.7	
	baz=206						
U38A	**Gravette**	**2.95**	**95**		**Pn**	**18 14 22.1**	**-0.1**
U38A	**Gravette**	**2.95**	**95**	P	**Pn**	**18 14 22.9**	**+0.8**
	baz=277						
U38A	**Gravette**	**2.95**	**95**	P		18 14 22.9	
	baz=277						
X37A	**Clayton**	**3.06**	**134**		**Pn**	**18 14 23.8**	**+0.1**
X37A	**Clayton**	**3.06**	**134**	P	**Pn**	**18 14 24.2**	**+0.5**
	baz=316						
X37A				S	**Sn**	**18 15 01.9**	**+1.1**
	baz=316						
X37A	**Clayton**	**3.06**	**134**	P		18 14 24.2	
	baz=316						
X37A				S		18 15 01.9	
	baz=316						
HHAR	**Hobbs**	**3.33**	**97**		**Pn**	**18 14 27.5**	**+0.2**
HHAR				IAmb_Lg		18 15 25.0	
	comp=Z,24nm,0.8s						
Z35A	**Perchaven, San**	**3.48**	**169**	Pn	**Pn**	**18 14 29.0**	**-0.5**
Z35A	**Perchaven, San**	**3.48**	**169**	P	**Pn**	**18 14 30.0**	**+0.5**
	baz=350						
Z35A				S	**Sn**	**18 15 12.2**	**+0.9**
	baz=350						
Z35A	**Perchaven, San**	**3.48**	**169**	P		18 14 30.0	
	baz=350						
Z35A				S		18 15 12.2	
	baz=350						
AMTX	**Amarillo**	**3.51**	**239**		**Pn**	**18 14 30.1**	**+0.1**
AMTX				IAmb_Lg		18 15 35.9	
	comp=Z,25nm,0.7s						
W39A	**Magazine**	**3.78**	**113**		**Pn**	**18 14 34.8**	**+1.3**
W39A	**Magazine**	**3.78**	**113**	Pb	**Pb**	**18 14 42.3**	**+0.5**
	baz=296						
W39A	**Magazine**	**3.78**	**113**	Pb		18 14 42.3	
	baz=296						
S39A	**Bolivar**	**3.86**	**75**	Pn	**Pn**	**18 14 34.5**	**-0.2**
S39A				IAmb_Lg		18 15 41.9	
	comp=Z,21nm,0.8s						
S39A	**Bolivar**	**3.86**	**75**	P	**Pn**	**18 14 34.9**	**+0.1**
	baz=258,SNR=5.7						
S39A	**Bolivar**	**3.86**	**75**	P		18 14 34.9	
	baz=258,SNR=5.7						
N33A	**J Bar K, Exete**	**3.99**	**6**	IAmb_Lg		18 15 44.2	
	comp=Z,22nm,0.7s						
U40A	**Yellville**	**4.18**	**94**	Pn	**Pn**	**18 14 38.9**	**-0.2**
U40A				IAmb_Lg		18 15 48.5	
	comp=Z,32nm,0.8s						
U40A	**Yellville**	**4.18**	**94**	P	**Pn**	**18 14 38.9**	**-0.2**
	baz=277						
U40A	**Yellville**	**4.18**	**94**	P		18 14 38.9	
	baz=277						
U40A				P		18 14 38.9	
	baz=277						
MIAR	**Mount Ida**	**4.25**	**120**		**Pn**	**18 14 40.2**	**+0.2**
KSCO	**Kaye Shedlock'**	**4.28**	**303**		**Pn**	**18 14 40.3**	**-0.2**
ABTX	**Abilene, Hawle**	**4.34**	**198**		**Pn**	**18 14 41.2**	**-0.1**
ABTX				IAmb_Lg		18 15 54.7	
	comp=Z,18nm,0.9s						
P38A	**Dawn**	**4.55**	**50**		**Pn**	**18 14 42.9**	**-1.2**
P38A				IAmb_Lg		18 16 09.4	
	comp=Z,26nm,0.8s						
MGMO	**Mountain Grove**	**4.63**	**83**		**Pn**	**18 14 45.5**	**+0.3**
MGMO				IAmb_Lg		18 16 03.6	
	comp=Z,17nm,0.8s						
MSTX	**Muleshoe**	**4.78**	**236**		**Pn**	**18 14 46.8**	**-0.6**
WHTX	**Lake Witney,**	**4.79**	**174**	Pn	**Pn**	**18 14 47.3**	**-0.1**
X40A	**Basin Creek Fa**	**4.80**	**117**	Pn	**Pn**	**18 14 46.8**	**-0.7**
X40A				IAmb_Lg		18 16 09.6	
	comp=Z,29nm,0.8s						
R40A	**Maddies Statio**	**4.82**	**70**		**Pn**	**18 14 47.2**	**-0.6**
WHAR	**Wooly Hollow**	**4.88**	**106**		**Pn**	**18 14 48.8**	**+0.1**
WHAR				IAmb_Lg		18 16 10.4	
	comp=Z,20nm,0.9s						
T25A	**Trinidad**	**5.13**	**276**	IAmb_Lg		18 16 19.7	
	comp=Z,20nm,0.8s						
OGNE	**Ogallala**	**5.22**	**324**	Pn	**Pn**	**18 14 52.8**	**-0.5**
OGNE				IAmb_Lg		18 16 30.1	
	comp=Z,36nm,0.7s						
L34A	**Svendsen Farm,**	**5.35**	**13**	IAmb_Lg		18 16 33.4	
	comp=Z,32nm,0.7s						
P40A	**Paris**	**5.46**	**58**	Pn	**Pn**	**18 14 56.1**	**-0.5**
P40A				IAmb_Lg		18 16 31.6	
	comp=Z,30nm,0.8s						
N38A	**Joes South For**	**5.49**	**41**	Pn	**Pn**	**18 14 56.6**	**-0.5**
N38A				IAmb_Lg		18 16 29.0	
	comp=Z,24nm,0.8s						
CCM	**Cathedral Cave**	**5.55**	**75**	IAmb_Lg		18 16 42.3	
	comp=Z,21nm,1.0s						
435B	**Jarrell**	**5.98**	**176**	IAmb_Lg		18 16 59.5	
	comp=Z,16nm,0.8s						
FVM	**French Village**	**6.17**	**76**	IAmb_Lg		18 16 52.4	
	comp=Z,20nm,1.0s						
JCT	**Junction City**	**6.44**	**194**	IAmb_Lg		18 17 02.0	
	comp=Z,18nm,1.1s						
ISCO	**Idaho Springs**	**6.69**	**299**	Pn	**Pn**	**18 15 12.6**	**-1.3**
S44A	**Carbondale**	**7.06**	**80**	IAmb_Lg		18 17 25.9	
	comp=Z,17nm,0.8s						
SIUC	**Southern Illin**	**7.09**	**80**	IAmb_Lg		18 17 18.9	
	comp=Z,16nm,0.8s						
RSSD	**Black Hills**	**8.66**	**330**	IAmb_Lg		18 18 30.7	
	comp=Z,7.3nm,0.9s						
K22A	**Casper**	**8.80**	**315**	IAmb_Lg		18 18 20.7	
	comp=Z,12nm,0.7s						

*IDC **18** 18:24:42.7±0.6, 19.54N×66.08W, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.0/39, mbtmp4.0/14, Error ellipse: s-maj=18.5km s-min=15.7km az=71.0*
*NEIC **18** 18:24:46.3±1.6, 19.53N±0.04×66.06W±0.05, h33km±3km, Error ellipse: s-maj=6.5km s-min=4.9km az=106.0*
*RSPR **18** 18:24:47.1, 19.55N×66.05W, h45km±13km, MD4.2/15*
ISC 18 18:24:44.3±0.4, 19.54N±0.03×66.06W±0.04, h14km, n128, σ1904/142, mb4.4/33, 11C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.15**	**203**	↑*e*P	**Pb**	**18 25 06.0**	**+0.1**
EMPR	**Esperanza - Ma**	**1.15**	**203**		**Pb**	**18 25 06.0**	**+0.1**
GCPR	**Guaynabo City**	**1.22**	**181**	↑*e*P	**Pn**	**18 25 07.0**	**0.0**
GCPR	**Guaynabo City**	**1.22**	**181**	*e*S	**Sb**	**18 25 22.4**	**-0.4**
GCPR	**Guaynabo City**	**1.22**	**181**		**Pn**	**18 25 07.0**	**0.0**
GCPR					**Sb**	**18 25 22.4**	**-0.4**
CBYP	**Canovanas**	**1.27**	**171**	↑*e*P	**Pn**	**18 25 07.7**	**0.0**
CBYP	**Canovanas**	**1.27**	**171**	*e*S	**Sb**	**18 25 23.6**	**-0.8**
CBYP	**Canovanas**	**1.27**	**171**		**Pn**	**18 25 07.7**	**0.0**
CBYP					**Sb**	**18 25 23.6**	**-0.8**
AOPR	**Arecibo Observ**	**1.35**	**209**	↓*e*P	**Pn**	**18 25 08.9**	**+0.1**
AOPR	**Arecibo Observ**	**1.35**	**209**	*e*S	**Sn**	**18 25 25.8**	**-0.8**
AOPR	**Arecibo Observ**	**1.35**	**209**		**Pn**	**18 25 08.9**	**+0.1**
AOPR					**Sn**	**18 25 25.8**	**-0.8**
HUMP	**Col San Antoni**	**1.40**	**172**	↑*e*P	**Pn**	**18 25 09.4**	**-0.1**
HUMP	**Col San Antoni**	**1.40**	**172**	*e*S	**Sn**	**18 25 26.9**	**-0.8**
HUMP	**Col San Antoni**	**1.40**	**172**		**Pn**	**18 25 09.4**	**-0.1**
HUMP					**Sn**	**18 25 26.9**	**-0.8**
SJG	**San Juan**	**1.42**	**184**	Pn	**Pn**	**18 25 10.2**	**+0.5**
	54nm,0.3s,baz=15,slow=8.1,SNR=45						
SJG				Sn	**Sn**	**18 25 27.4**	**-0.8**
	134nm,0.3s,baz=104,slow=20,SNR=21						
SJG				LR	LR	18 26 25.0	
	comp=Z,544nm,19.5s,baz=60,slow=72						
SJG	**San Juan**	**1.42**	**184**		**Pn**	**18 25 09.2**	**-0.5**
CUPR	**Culebra, Puert**	**1.43**	**149**	↓*e*P	**Pn**	**18 25 10.1**	**+0.3**
CUPR	**Culebra, Puert**	**1.43**	**149**		**Pn**	**18 25 10.1**	**+0.3**
AGPR	**Aguadilla, PR**	**1.46**	**223**	↑*e*P	**Pn**	**18 25 10.2**	**-0.1**
AGPR	**Aguadilla, PR**	**1.46**	**223**		**Pn**	**18 25 10.2**	**-0.1**
MTP	**Monte Pirata**	**1.51**	**161**	↑*e*P	**Pn**	**18 25 11.0**	**0.0**
MTP	**Monte Pirata**	**1.51**	**161**	*e*S	**Sn**	**18 25 29.7**	**-0.7**
MTP	**Monte Pirata**	**1.51**	**161**		**Pn**	**18 25 11.0**	**0.0**
MTP					**Sn**	**18 25 29.7**	**-0.7**
PDPR	**Patillas Dam,**	**1.51**	**179**	↑*e*P	**Pn**	**18 25 11.2**	**+0.2**
PDPR	**Patillas Dam,**	**1.51**	**179**	*e*S	**Sn**	**18 25 29.2**	**-1.2**
PDPR	**Patillas Dam,**	**1.51**	**179**		**Pn**	**18 25 11.2**	**+0.2**
PDPR					**Sn**	**18 25 29.2**	**-1.2**
CELP	**Cerrillos**	**1.54**	**199**	↓*e*P	**Pn**	**18 25 11.2**	**-0.1**
CELP				*e*S	**Sn**	**18 25 30.2**	**-0.9**
CELP	**Cerrillos**	**1.54**	**199**		**Pn**	**18 25 11.2**	**-0.1**
CELP					**Sn**	**18 25 30.2**	**-0.9**
IGPR	**InterUniversit**	**1.56**	**182**	↓*e*P	**Pn**	**18 25 11.7**	**0.0**
OBIP	**Obispado Ponce**	**1.57**	**199**	↓*e*P	**Pn**	**18 25 10.9**	**-0.9**
OBIP	**Obispado Ponce**	**1.57**	**199**	*e*S	**Sn**	**18 25 30.9**	**-1.1**
OBIP	**Obispado Ponce**	**1.57**	**199**		**Pn**	**18 25 10.9**	**-0.9**
OBIP					**Sn**	**18 25 30.9**	**-1.1**
LSP	**Las Mesas**	**1.67**	**216**	↑*e*P	**Pn**	**18 25 12.9**	**-0.2**
LSP	**Las Mesas**	**1.67**	**216**	*e*S	**Sn**	**18 25 34.0**	**-0.3**
LSP	**Las Mesas**	**1.67**	**216**		**Pn**	**18 25 12.9**	**-0.2**
LSP					**Sn**	**18 25 34.0**	**-0.3**
ICMP	**Isla Caja de M**	**1.70**	**195**	↓*e*P	**Pn**	**18 25 14.0**	**+0.5**
ICMP	**Isla Caja de M**	**1.70**	**195**	*e*S	**Sg**	**18 25 40.3**	**+1.2**
ICMP	**Isla Caja de M**	**1.70**	**195**		**Pn**	**18 25 14.0**	**+0.5**
ICMP					**Sg**	**18 25 40.3**	**+1.2**
GBPR	**Guanica, Bosqu**	**1.74**	**207**	↑*e*P	**Pn**	**18 25 14.4**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.74**	**207**	*e*S	**Sn**	**18 25 35.2**	**-0.8**
GBPR	**Guanica, Bosqu**	**1.74**	**207**		**Pn**	**18 25 14.4**	**+0.4**
GBPR					**Sn**	**18 25 35.2**	**-0.8**
MLPR	**Magueyes Islan**	**1.82**	**211**	↑*e*P	**Pn**	**18 25 15.5**	**+0.3**
MLPR	**Magueyes Islan**	**1.82**	**211**	*e*S	**Sn**	**18 25 37.5**	**-0.5**
MLPR	**Magueyes Islan**	**1.82**	**211**		**Pn**	**18 25 15.5**	**+0.3**
MLPR					**Sn**	**18 25 37.5**	**-0.5**
CDVI	**St. Croix**	**2.16**	**145**	↑*e*P	**Pb**	**18 25 22.4**	**-0.7**
CDVI	**St. Croix**	**2.16**	**145**		**Pb**	**18 25 22.4**	**-0.7**
SDDR	**Presa de Saban**	**4.97**	**264**		**Pn**	**18 25 59.4**	**+0.7**
SDV	**Santo Domingo**	**11.48**	**203**	Pn	**Pn**	**18 27 32.0**	**+3.9**
	0.5nm,0.3s,baz=4.4,slow=8.3,SNR=5.7						
PAMC	**Pamplona, Colo**	**13.73**	**209**	*e*P	**Pn**	**18 27 58.8**	**-0.3**
ZARC	**Zaragoza, Cauc**	**14.71**	**217**	*e*P	**Pn**	**18 28 11.8**	**-0.3**
RUSC	**La Rusia**	**15.19**	**208**	*e*P	**P**	**18 28 22.5**	**-1.5**
PTBC	**PUERTO BERRIO,**	**15.28**	**213**	*e*P	**Pn**	**18 28 20.9**	**+1.1**
NORC	**Norcasia**	**16.33**	**213**	*e*P	**Pn**	**18 28 34.2**	**+0.9**

ROSC	**El Rosal**	**16.68**	**210**	Pn		**P**	**18 28 42.4**	**+1.8**
	3.9nm,0.3s,baz=47,slow=19,SNR=2.7							
ROSC	**El Rosal**	**16.68**	**210**			**Pn**	**18 28 36.2**	**-1.9**
CBOC	**Ciudad Bolivar**	**16.69**	**217**	*e*P		**Pn**	**18 28 38.2**	**+0.2**
GUY2C	**Guyana, Caldas**	**16.87**	**214**	*e*P		**Pn**	**18 28 41.6**	**+1.0**
RREF	**El Recreo**	**17.14**	**213**	*e*P		**Pn**	**18 28 42.0**	**-2.1**
TOLC	**Tolima**	**17.39**	**212**	*e*P		**P**	**18 28 48.0**	**-0.3**
PLMC	**San Jos del P**	**17.63**	**216**	*e*P		**P**	**18 28 51.5**	**+0.8**
656A	**Willston**	**17.89**	**306**	P		**Pn**	**18 28 52.1**	**-0.8**
656A				IAmb		IAmb	18 29 07.6	
	comp=Z,36nm,0.7s							
456A	**Hilliard**	**18.23**	**311**	P		**Pn**	**18 28 55.4**	**-1.5**
YOTC	**Yotoco, Valle**	**18.43**	**214**	*e*P		**P**	**18 28 59.4**	**-0.2**
PCON	**Cinco Dias**	**19.87**	**212**	*e*P		**Pn**	**18 29 18.3**	**+0.9**
BBAC	**Balboa, Cauca**	**20.56**	**214**	*e*P		Pn	18 29 24.5	-0.8
TEIG	**Tepich**	**20.91**	**276**	P		Pn	18 29 28.1	-0.9
	comp=Z,6.5nm,0.8s,baz=74,slow=7.4,SNR=3.0							
PTGA	**Pitinga**	**21.01**	**163**	P		**P**	**18 29 26.3**	**-1.3**
	comp=Z,4.4nm,0.7s,baz=340,slow=16,SNR=7.0							
PTGA	**Pitinga**	**21.01**	**163**	P		**P**	**18 29 25.7**	**-1.9**
R58B	**Mineral**	**21.05**	**333**	P		**P**	**18 29 26.9**	**-0.9**
R58B				IAmb		IAmb	18 29 30.1	
	comp=Z,24nm,1.1s							
BLA	**Blacksburg**	**21.63**	**327**	P		**P**	**18 29 32.7**	**-1.5**
V53A	**Saluda**	**21.83**	**321**	P		**P**	**18 29 36.1**	**-0.2**
V53A				IAmb		IAmb	18 30 11.0	
	comp=Z,17nm,0.9s							
APG	**El Apazote**	**23.73**	**263**	P		**P**	**18 29 59.5**	**+3.1**
	comp=Z,2.7nm,0.6s,baz=84,slow=12,SNR=4.4							
N53A	**Lisbon**	**24.68**	**332**	P		**P**	**18 30 05.7**	**+0.9**
N53A				IAmb		IAmb	18 30 35.6	
	comp=Z,13nm,0.9s							
CCM	**Cathedral Cave**	**28.62**	**315**	P		**P**	**18 30 39.1**	**-1.2**
ECSD	**EROS Data Cent**	**35.14**	**320**	P		**P**	**18 31 36.4**	**-1.1**
TXAR	**Lajitas Array**	**35.47**	**293**	P		**P**	**18 31 41.4**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=117,slow=9.4,SNR=16							
TXAR	**Lajitas Array**	**35.47**	**293**	P		**P**	**18 31 40.7**	**0.0**
TX31	**Lajitas Ar. Si**	**35.47**	**293**	P		**P**	**18 31 39.5**	**-1.2**
TX32	**Lajitas Array**	**35.47**	**293**	P		**P**	**18 31 40.1**	**-0.6**
TX32				IAmb		IAmb	18 31 58.5	
	comp=Z,9.0nm,1.4s							
SIV	**San Ignacio**	**35.65**	**172**	P		**P**	**18 31 42.8**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=36,slow=11,SNR=3.8							
ULM	**Lac du Bonnet**	**38.72**	**329**	P		**P**	**18 32 10.9**	**+3.0**
	comp=Z,1.1nm,0.6s,baz=107,slow=7.9,SNR=3.3							
ULM	**Lac du Bonnet**	**38.72**	**329**	P		**P**	**18 32 08.1**	**+0.2**
ULM				IAmb		IAmb	18 32 51.5	
	comp=Z,20nm,1.9s							
ISCO	**Idaho Springs**	**39.45**	**309**	P		**P**	**18 32 15.4**	**+0.9**
PV01	**Paradox Valley**	**41.18**	**306**	P		**P**	**18 32 27.9**	**-0.8**
PV13	**Radium Mtn., P**	**41.38**	**306**	P		**P**	**18 32 28.9**	**-1.5**
PV03	**Paradox Valley**	**41.42**	**306**	P		**P**	**18 32 28.8**	**-1.9**
PV18	**Skein Mesa, Pa**	**41.47**	**306**	P		**P**	**18 32 28.8**	**-2.3**
PV18				IAmb		IAmb	18 32 35.0	
	comp=Z,7.7nm,1.1s							
PV16	**Nyswonger Mesa**	**41.49**	**306**	P		**P**	**18 32 31.4**	**+0.1**
PV16				IAmb		IAmb	18 32 35.2	
	comp=Z,7.5nm,1.1s							
PV17	**East Wray Mesa**	**41.51**	**306**	P		**P**	**18 32 28.5**	**-3.0**
PV14	**Lion Creek, Pa**	**41.59**	**306**	P		**P**	**18 32 30.9**	**-1.3**
PD31	**Pinedale Array**	**43.22**	**312**	P		**P**	**18 32 45.5**	**+0.2**
PDAR	**Pinedale Array**	**43.22**	**312**	P		**P**	**18 32 46.5**	**+1.1**
	comp=Z,1.5nm,1.0s,baz=106,slow=9.4,SNR=5.8							
PDAR	**Pinedale Array**	**43.22**	**312**	P		**P**	**18 32 46.2**	**+0.8**
FCC	**Fort Churchill**	**44.15**	**339**	P		**P**	**18 32 51.5**	**-0.7

mb5.7/484,Ms_20 6.0/439,Mwb6.2/48,Mww6.2, Mwc6.1(GCMT),Mwr6.2(GUC),Error ellipse: s-maj=12.5km s-min=7.3km az=251.0

VAO ***18*** *18:27:31.1±0.3,36°.00S×73°.29W,h10km, mb5.7*

GCMT ***18*** *18:27:34.5±0.1,36°.16S×73°.90W,h12km,MW6.1/168, Moment Tensor Solution. s158,c335; s168,c573; Duration: 2s8 Moment tensor: Scale 10^{18}Nm; M_{rr}1.02±.01; $M_{\theta\theta}$0.06±.01; $M_{\phi\phi}$-1.08±.01; $M_{r\theta}$-0.34±.02; $M_{\theta\phi}$-0.23±.01; $M_{\phi r}$-1.57±.02; Best double couple: M_o1.93200×10^{18} NP1:ϕ_s9.00000°,δ17.00000°, λ87.00000°. NP2:ϕ_s192.00000°,δ73.00000°,λ91.00000°. Principal axes: T 1.8800, Plg62.0000°, Azm103.0000°; N 0.1050, Plg1.0000°, Azm12.0000°; P -1.9830, Plg28.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***18*** *18:27:35,36°.20S×73°.93W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.02; $M_{\theta\theta}$0.05; $M_{\phi\phi}$-1.07; $M_{r\theta}$-0.23; $M_{\theta\phi}$-0.23; $M_{\phi r}$-1.71; Fault plane solution: M_o2.03000×10^{18} NP1:ϕ_s15.00000°, δ16.00000°,λ96.00000°. NP2:ϕ_s188.00000°,δ74.00000°, λ88.00000°. Principal axes: T 1.9826, Plg61.0000°, Azm96.0000°; N 0.0938, Plg2.0000°, Azm189.0000°; P -2.0764, Plg29.0000°, Azm280.0000°;*

NEIC ***18*** *18:27:38,36°.10S×73°.87W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.27; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-1.35; $M_{r\theta}$-0.39; $M_{\theta\phi}$-0.38; $M_{\phi r}$-2.48; Fault plane solution: M_o2.85000×10^{18} NP1:ϕ_s19.00000°, δ14.00000°,λ100.00000°. NP2:ϕ_s189.00000°,δ76.00000°, λ87.00000°. Principal axes: T 2.7633, Plg59.0000°, Azm96.0000°; N 0.1706, Plg2.0000°, Azm190.0000°; P -2.9339, Plg31.0000°, Azm281.0000°;*

ISC 18 18:27:28.7±0.4,36°.11S±0°.02×73°.69W±0°.03,h10km±2km, h9km:pP-P,n1553,σ2s07/1504,mb5.7/311,MS6.0/296, 71C-37D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.91**	**144**	⇑*eP*	**Pg**	**18 27 44.2**	**-2.0**
BI03				*eS*	**Sg**	**18 27 58.0**	**+0.1**
BI03	**Tigo**	**0.91**	**144**		**Pg**	**18 27 45.5**	**-0.6**
LAJA	**Laja**	**1.41**	**146**	*eP*	**Pn**	**18 27 51.4**	**-2.9**
LAJA				*eS*	**Sn**	**18 28 11.3**	**-1.7**
BI02	**San Fabin de**	**2.03**	**106**		**Pn**	**18 28 01.3**	**-1.7**
BO03	**Pichilemu**	**2.14**	**42**⇑	*eP*	**Pn**	**18 28 02.5**	**-2.0**
BO03				*eS*	**Sn**	**18 28 30.9**	**-0.3**
BO02	**Sierra Bellavi**	**2.71**	**62**⇑	*eP*	**Pn**	**18 28 11.6**	**-0.9**
BO02				*eS*	**Sn**	**18 28 48.0**	**+2.6**
BO02				IAML		18 29 02.9	
	comp=N,99µm,0.7s						
BO02	**Sierra Bellavi**	**2.71**	**62**	Pn	**Pn**	**18 28 11.4**	**-1.1**
CANA	**Caviahue**	**2.75**	**131**	*iP*	**Pn**	**18 28 13.9**	**+0.9**
CANA				*eS*	**Sg**	**18 29 00.1**	**+3.0**
CANA				IAML		18 29 03.1	
	comp=Z,30µm,1.1s						
VA05	**Santo Domingo**	**2.98**	**35**⇑	*eP*	**Pn**	**18 28 13.7**	**-2.4**
VA05				*eS*	**Sn**	**18 28 49.9**	**-2.0**
VA05				IAML		18 29 19.8	
	comp=E,44µm,0.8s						
MT09	**Talagante**	**3.22**	**44**	*eP*	**Pn**	**18 28 17.2**	**-2.2**
MT09				*eS*	**Sn**	**18 28 57.8**	**-0.1**
MT09				IAML		18 29 25.8	
	comp=N,56µm,0.6s						
COIS	**El Sosneado**	**3.48**	**74**	*iP*	**Pn**	**18 28 24.3**	**+1.3**
COIS				*eS*	**Sg**	**18 29 24.0**	**+3.4**
EDS3	**Malargue**	**3.50**	**86**	*iP*	**Pn**	**18 28 26.5**	**+3.2**
EDS3				*eS*	**Sg**	**18 29 21.1**	**0.0**
MT02	**Curacav**	**3.54**	**37**⇑	*eP*	**Pn**	**18 28 21.3**	**-2.4**
MT02				IAML		18 29 36.9	
	comp=E,18µm,0.5s						
MT02	**Curacav**	**3.54**	**37**		**Pn**	**18 28 21.5**	**-2.2**
MT05	**Renca**	**3.64**	**43**	*eP*	**Pn**	**18 28 21.9**	**-3.3**
MT05	**Renca**	**3.64**	**43**	Pn	**Pn**	**18 28 23.4**	**-1.8**
LMEL	**Las Melosas**	**3.65**	**53**	*eP*	**Pn**	**18 28 23.6**	**-1.7**
MT03	**Universidad Ad**	**3.70**	**46**	*eP*	**Pn**	**18 28 24.7**	**-1.3**
MT03				IAML		18 29 38.1	
	comp=N,18µm,0.8s						
ROC1	**El Roble**	**3.83**	**36**	*iP*	**Pn**	**18 28 26.6**	**-1.3**
ROC1				*eS*	**Sg**	**18 29 30.0**	**-1.6**
ROC1	**El Roble**	**3.83**	**36**	*iP*	**Pn**	**18 28 26.7**	**-1.2**
ROC1				*iS*	**Sb**	**18 29 20.4**	**-2.6**
ROCH	**El Roble**	**3.83**	**36**	*eP*	**Pn**	**18 28 25.9**	**-2.0**
PEL	**Peldehue**	**3.86**	**41**⇑	*eP*	**Pn**	**18 28 26.8**	**-1.4**
PEL				*eS*	**Sn**	**18 29 13.0**	**-0.6**
PEL	**Peldehue**	**3.86**	**41**	P	**Pn**	**18 28 26.8**	**-1.4**
PEL	**Peldehue**	**3.86**	**41**		**Pn**	**18 28 26.8**	**-1.4**
PEL	**Peldehue**	**3.86**	**41**	⇑*iP*	**Pn**	**18 28 27.1**	**-1.1**
PEL	**Peldehue**	**3.86**	**41**	*iP*	**Pn**	**18 28 27.3**	**-0.9**
PEL				*eS*	**Sg**	**18 29 34.3**	**+1.7**
PEL	**Peldehue**	**3.86**	**41**	*iP*	**Pn**	**18 28 27.7**	**-0.5**
VA03	**San Esteban**	**4.23**	**39**⇑	*eP*	**Pn**	**18 28 31.8**	**-1.5**
VA03				*eS*	**Sn**	**18 29 22.6**	**-0.2**
VA03	**San Esteban**	**4.23**	**39**		**Pn**	**18 28 31.7**	**-1.6**
RFA	**San Rafael**	**4.47**	**74**	*iP*	**Pn**	**18 28 38.1**	**+1.6**
RFA				*eS*	**Sg**	**18 29 47.8**	**-4.4**
RFA				IAML		18 29 58.5	
	comp=Z,12µm,2.6s						
RFA	**San Rafael**	**4.47**	**74**	*iP*	**Pn**	**18 28 38.2**	**+1.7**
RFA				*iS*	**Sb**	**18 29 35.2**	**-6.0**
RFA				IAML		18 29 58.5	
	comp=Z,12µm,2.6s						
H03S1	**Juan Fernandez**	**4.84**	**296**	Pn	**Pn**	**18 28 38.5**	**-2.9**
	baz=80,slow=13,SNR=617						
H03S1				Sn	**Sn**	**18 29 30.7**	**-6.7**
H03S1				T	T	18 33 46.8	
	baz=117,slow=74,SNR=780						
H03S3	**Juan Fernandez**	**4.86**	**296**	T	T	18 33 43.9	
	baz=117,slow=74,SNR=500						
H03S2	**Juan Fernandez**	**4.86**	**296**	T	T	18 33 42.2	
	baz=117,slow=74,SNR=525						
VA04	**Juan Fernndez**	**4.89**	**299**	*eP*	Pn	18 28 34.3	-8.0
VA04				*eS*	Sn	18 29 27.9	-11
VA04	**Juan Fernndez**	**4.89**	**299**	Pn	**Pn**	**18 28 39.6**	**-2.6**
AVIZ	**Vizcacheras**	**5.00**	**60**	*iP*	**Pn**	**18 28 47.2**	**+3.3**
AAGR	**Agrelo**	**5.02**	**54**	*iP*	**Pn**	**18 28 45.5**	**+1.3**
AAGR	**Agrelo**	**5.02**	**54**	*iP*	**Pn**	**18 28 45.4**	**+1.3**
H03N1	**Juan Fernandez**	**5.06**	**300**	Pn	**Pn**	**18 28 41.3**	**-3.0**
	baz=140,slow=25,SNR=6714						
H03N1				Sn	**Sn**	**18 29 35.8**	**-6.9**
H03N1				T	T	18 33 57.7	
	baz=110,slow=76						
H03N3	**Juan Fernandez**	**5.06**	**300**	T	T	18 34 03.5	
	baz=110,slow=76						
H03N2	**Juan Fernandez**	**5.07**	**300**	T	T	18 34 05.1	
	baz=110,slow=76						
ARCO	**CERRO ARCO**	**5.11**	**52**	*iP*	**Pn**	**18 28 46.9**	**+1.5**
ARCO	**CERRO ARCO**	**5.11**	**52**	*eP*	**Pn**	**18 28 46.7**	**+1.3**
ARCO				IAML		18 30 38.2	
	comp=Z,4µm,1.1s						
PLCA	**Paso Flores**	**5.23**	**153**	Pn	**Pn**	**18 28 47.0**	**0.0**
	comp=Z,8.4nm,0.3s,baz=326,slow=14,SNR=90						
PLCA				Lg	Lg	18 30 08.8	
	comp=Z,41nm,0.3s,baz=260,slow=18,SNR=2.2						
PLCA	**Paso Flores**	**5.23**	**153**⇑	*eP*	**Pn**	**18 28 45.6**	**-1.4**
PLCA	**Paso Flores**	**5.23**	**153**	Pn	**Pn**	**18 28 46.5**	**-0.6**
PLCA	**Paso Flores**	**5.23**	**153**	⇑P	**Pn**	**18 28 46.8**	**-0.3**
PLCA	**Paso Flores**	**5.23**	**153**	*eP*	**Pn**	**18 28 47.4**	**+0.3**
AUSP	**Uspallata**	**5.27**	**44**	*iP*	**Pn**	**18 28 48.5**	**+0.7**
AUSP	**Uspallata**	**5.27**	**44**	*iP*	**Pn**	**18 28 48.5**	**+0.7**
ASAL	**Salagasta**	**5.33**	**50**	*iP*	**Pn**	**18 28 49.8**	**+1.4**
ASAL				*eS*	**Sg**	**18 30 20.4**	**+0.4**
ASAL				IAML		18 30 32.9	
	comp=Z,2µm,1.0s						
ASAL	**Salagasta**	**5.33**	**50**	*iP*	**Pn**	**18 28 49.7**	**+1.2**
ASAL				IAML		18 30 32.9	
	comp=Z,2µm,1.0s						
CO02	**Combarbal**	**5.38**	**25**		**Pn**	**18 28 46.6**	**-2.6**
RTLS	**Leoncito**	**5.64**	**42**	*iP*	**Pn**	**18 28 53.5**	**+0.6**
RTLS	**Leoncito**	**5.64**	**42**	*iP*	**Pn**	**18 28 53.5**	**+0.6**
RTLS				IAML		18 30 45.5	
	comp=Z,2µm,1.3s						
CO03	**El Pedregal**	**5.83**	**26**		**Pn**	**18 28 52.3**	**-2.9**
RTCV	**Cerro Valdivia**	**6.02**	**47**	*iP*	**Pn**	**18 28 57.8**	**-0.1**
RTCV				IAML		18 30 57.9	
	comp=Z,3µm,3.0s						
ZON	**Zonda**	**6.17**	**44**	P	**Pn**	**18 28 59.1**	**-0.9**
ZON	**Zonda**	**6.17**	**44**		**Pn**	**18 28 59.1**	**-0.9**
ZON	**Zonda**	**6.17**	**44**	*iP*	**Pn**	**18 29 00.3**	**+0.3**
ZON				*iS*	**Sb**	**18 30 31.6**	**+1.3**
ZON				IAML		18 31 05.0	
	comp=Z,2µm,2.2s						
LL01	**San Ignacio de**	**6.34**	**171**	Pn	**Pn**	**18 28 57.6**	**-4.6**
GO04	**Tololo Observa**	**6.40**	**23**	Pn	**Pn**	**18 29 00.2**	**-3.1**
GO04	**Tololo Observa**	**6.40**	**23**	*iP*	**Pn**	**18 29 01.2**	**-2.0**
GO04				*iS*	**Sn**	**18 30 14.5**	**-2.0**
RTLL	**Cerro Villicun**	**6.45**	**44**⇑	*eP*	**Pn**	**18 29 03.1**	**-0.7**
RTLL	**Cerro Villicun**	**6.45**	**44**	*iP*	**Pn**	**18 29 03.1**	**-0.7**
RTLL				*eS*	**Sn**	**18 30 19.9**	**+2.4**
RTLL				*eS*	**Sg**	**18 30 59.8**	**+4.1**
RTLL	**Cerro Villicun**	**6.45**	**44**	*iP*	**Pn**	**18 29 03.3**	**-0.5**
RTLL				IAML		18 31 09.2	
	comp=Z,2µm,1.8s						
ACCO	**Cerro Coronel**	**6.73**	**36**	*iP*	**Pn**	**18 29 07.2**	**-0.7**
ACCO				IAML		18 31 21.2	
	comp=Z,2µm,3.6s						
CO01	**Juntas del Tor**	**6.82**	**27**		**Pn**	**18 29 07.1**	**-1.9**
AROD	**Rodeo**	**6.90**	**32**	*eP*	**Pn**	**18 29 10.9**	**+0.7**
AROD				*iS*	**Sg**	**18 31 07.3**	**-3.0**
AROD				IAML		18 31 25.2	
	comp=Z,677nm,1.1s						
GO07	**Milladeo Hill,**	**6.99**	**180**		**Pn**	**18 29 07.3**	**-3.9**
ACDV	**Cuesta del Vie**	**7.05**	**34**	*iP*	**Pn**	**18 29 13.0**	**+0.8**
ACDV				IAML		18 31 39.5	
	comp=Z,2µm,1.3s						
LCO	**Las Campanas**	**7.51**	**20**	P	**Pn**	**18 29 16.3**	**-2.3**
LCO	**Las Campanas**	**7.51**	**20**	Pn	**Pn**	**18 29 16.3**	**-2.3**
LCO	**Las Campanas**	**7.51**	**20**	⇑P	**Pn**	**18 29 16.4**	**-2.2**
AVFE	**Valle Fertil**	**7.53**	**46**	*iP*	**Pn**	**18 29 17.0**	**-1.6**
AVFE				IAML		18 31 38.5	
	comp=Z,1µm,1.2s						
MRA	**San Martin**	**7.56**	**63**	*iP*	**Pn**	**18 29 18.8**	**-0.2**
MRA				*iP*	**Pn**	**18 29 19.1**	**+0.1**
MRA				*iP*	**Pn**	**18 29 20.1**	**+1.1**
MRA				IAML		18 31 41.0	
	comp=Z,614nm,2.1s						
ACHE	**Chepes**	**7.66**	**52**	*iP*	**Pn**	**18 29 19.2**	**-1.3**
AC05	**El Transito**	**7.81**	**23**	Pn	**Pn**	**18 29 20.2**	**-2.2**
AGUA	**GUANDACOL**	**7.92**	**35**	*iP*	**Pn**	**18 29 23.4**	**-0.7**
AGUA				IAML		18 32 19.1	
	comp=Z,1µm,2.3s						
AC04	**Llanos de Chal**	**8.19**	**16**	Pn	**Pn**	**18 29 24.8**	**-2.8**
VCA	**Vinchina**	**8.69**	**34**	*iP*	**Pn**	**18 29 33.6**	**-1.0**
VCA				IAML		18 32 30.9	
	comp=Z,2µm,1.1s						
ACLC	**CERRO LA CRUZ**	**8.75**	**42**	*iP*	**Pn**	**18 29 32.2**	**-3.3**
TCA	**Tanti**	**8.94**	**60**	*iP*	**Pn**	**18 29 36.3**	**-1.8**
GO03	**Copiap**	**8.98**	**20**		**Pn**	**18 29 35.3**	**-3.3**
GO03	**Copiap**	**8.98**	**20**	⇑P	**Pn**	**18 29 36.6**	**-2.0**
AC02	**Maricunga**	**10.03**	**24**		**Pn**	**18 29 50.7**	**-2.6**
AC01	**Pan de Azucar**	**10.28**	**16**		**Pn**	**18 29 52.2**	**-4.0**
GO02	**Mina Guanaco**	**11.47**	**19**	Pn	**Pn**	**18 30 10.4**	**-2.4**
AHML	**Horco Molle**	**11.71**	**40**	*iP*	**Pn**	**18 30 11.5**	**-4.4**
PB14	**IPOC Station P**	**11.79**	**15**		**Pn**	**18 30 14.2**	**-3.1**
FSA	**Cafayete**	**11.95**	**36**	*iP*	**Pn**	**18 30 16.4**	**-2.9**
PB10	**IPOC Station P**	**12.85**	**13**		**Pn**	**18 30 27.7**	**-3.7**
LPA	**La Plata**	**12.90**	**89**	*iP*	Pn	18 30 24.1	-7.9
LPA				PP	**PbPb**	**18 31 06.6**	**-7.4**
LPA				S	**Sn**	**18 32 53.9**	**-1.7**
LPA				SSS	SSS	18 33 28.1	
LPA				SCS	**ScS**	**18 43 14.2**	**-2.0**
LPA				PKIKP	**PKiKP**	**18 44 03.0**	**-0.7**
LPA				SKIKS		18 51 05.6	
PB15	**IPOC Station P**	**13.37**	**17**		**Pn**	**18 30 35.6**	**-3.1**
PB06	**IPOC Station P**	**13.83**	**16**		**Pn**	**18 30 44.3**	**-0.6**
PB04	**IPOC Station P**	**14.07**	**14**		**Pn**	**18 30 48.1**	**-0.2**
LVC	**Limon Verde**	**14.08**	**18**	Pn	**Pn**	**18 30 50.3**	**+1.7**
	comp=Z,1.9nm,0.3s,baz=198,slow=13,SNR=9.7						
LVC				Lg	Lg	18 34 52.2	
	comp=Z,4.0nm,0.3s,baz=344,slow=22,SNR=6.5						
LVC				LR	LR	18 36 54.8	
	comp=Z,76µm,18.9s,baz=206,slow=40						
LVC	**Limon Verde**	**14.08**	**18**		**Pn**	**18 30 44.3**	**-4.3**
LVC	**Limon Verde**	**14.08**	**18**	⇑P	**Pn**	**18 30 49.1**	**+0.5**
LVC	**Limon Verde**	**14.08**	**18**	*eP*	**Pn**	**18 30 48.0**	**-0.6**
PB07	**IPOC Station P**	**14.71**	**14**		**Pn**	**18 30 55.5**	**-1.5**
PB09	**IPOC Station P**	**14.78**	**16**		**Pn**	**18 30 56.7**	**-1.3**
GO09	**Cerro Castillo**	**15.19**	**177**	Pn	**Pn**	**18 31 01.6**	**-1.5**
GO09				IAmb	IAmb	18 31 18.3	
	comp=Z,841nm,1.4s						
PB01	**IPOC Station P**	**15.46**	**15**	P	**Pn**	**18 31 04.6**	**-2.3**
PB01				IAmb	IAmb	18 31 25.3	
	comp=Z,970nm,1.5s						
ITQB	**Itaqui**	**15.70**	**71**	*eP*	**Pn**	**18 31 08.2**	**-1.8**
TA01	**Diego Aracena**	**15.79**	**12**	P	**Pn**	**18 31 08.1**	**-3.1**
PB08	**IPOC Station P**	**16.40**	**15**	P	**Pn**	**18 31 17.2**	**-2.2**
PSGCX	**Pisagua**	**16.75**	**12**		**Pn**	**18 31 22.7**	**-0.9**
CPUP	**Villa Florida**	**17.03**	**60**	Pn	**Pn**	**18 31 21.4**	**-5.6**
	comp=Z,0.5nm,0.3s,baz=240,slow=11,SNR=10.0						
CPUP				Lg	Lg	18 36 12.5	
	comp=Z,0.6nm,0.3s,baz=336,slow=15,SNR=2.5						
CPUP				LR	LR	18 38 38.7	
	comp=Z,67µm,19.2s,baz=238,slow=40						
CPUP	**Villa Florida**	**17.03**	**60**	P	**Pn**	**18 31 21.6**	**-5.4**
CPUP				pmax	pmax		
	comp=Z,164nm,1.2s						
CPUP	**Villa Florida**	**17.03**	**60**	P	**Pn**	**18 31 21.6**	**-5.4**
CPUP	**Villa Florida**	**17.03**	**60**	⇑P	**Pn**	**18 31 21.1**	**-5.9**
CPUP	**Villa Florida**	**17.03**	**60**	*eP*	**Pn**	**18 31 23.6**	**-3.4**
GO10	**Punta Arenas**	**17.14**	**175**	Pn	**Pn**	**18 31 25.1**	**-3.1**
GO10				IAmb	IAmb	18 31 44.2	
	comp=Z,685nm,1.2s						
GO10	**Punta Arenas**	**17.14**	**175**	⇓P	P	18 31 38.0	+8.1
PLTB	**Pedras Altas**	**17.22**	**81**	*eP*	**Pn**	**18 31 26.8**	**-2.5**
MNMC	**Minye Minye**	**17.30**	**13**	P	**Pn**	**18 31 29.4**	**-1.2**
MNMC	**Minye Minye**	**17.30**	**13**	⇑P	**Pn**	**18 31 30.3**	**-0.3**
CPSB	**Cacapava Do Su**	**17.86**	**77**	*eP*	**Pn**	**18 31 35.2**	**-2.1**
AP01	**Chacalluta**	**17.92**	**10**	Pn	**Pn**	**18 31 34.4**	**-3.6**
AP01				IAmb	IAmb	18 32 01.8	
	comp=Z,888nm,1.4s						
PB16	**IPOC Station P**	**18.09**	**13**	P	**P**	**18 31 41.3**	**+0.2**
EFI	**East Falkland**	**19.14**	**149**⇑	*eP*	**P**	**18 31 51.1**	**-0.8**
EFI				pmax	pmax		
	comp=Z,355nm,1.4s						
EFI	**East Falkland**	**19.14**	**149**	P	**P**	**18 31 51.5**	**-0.4**
EFI	**East Falkland**	**19.14**	**149**	⇑P	**P**	**18 31 51.2**	**-0.6**
ITAB	**Concordia**	**20.34**	**70**	*eP*	**P**	**18 32 04.7**	**-0.4**
LPAZ	**La Paz**	**20.36**	**16**	P	Pn	18 32 08.1	+0.1
	comp=Z,116nm,1.0s,baz=181,slow=9.0,SNR=62						
LPAZ	**La Paz**	**20.36**	**16**	P	**P**	**18 32 03.3**	**-2.7**
LPAZ				pmax	pmax		
	comp=Z,238nm,1.0s						
LPAZ	**La Paz**	**20.36**	**16**	P	**P**	**18 32 03.3**	**-2.7**
LPAZ	**La Paz**	**20.36**	**16**	⇑P	Pn	18 32 07.2	-0.9
LPAZ	**La Paz**	**20.36**	**16**	*eP*	**P**	**18 32 06.1**	**+0.1**
PTGB	**Pitanga**	**21.78**	**65**	*eP*	**P**	**18 32 19.3**	**-1.6**
TER01	**Tubaro-SC**	**22.05**	**77**	*eP*	**P**	**18 32 22.6**	**-1.1**
AQDB	**Aquidauana**	**22.16**	**50**	*eP*	**P**	**18 32 24.1**	**-0.7**
SIV	**San Ignacio**	**22.98**	**33**	P	**P**	**18 32 32.5**	**-1.0**
	comp=Z,413nm,1.2s,baz=226,slow=10,SNR=90						
SIV				S	**S**	**18 36 44.0**	**0.0**
	comp=Z,10nm,1.1s,baz=224,slow=4.4,SNR=1.3						
SIV				LR	LR	18 43 21.1	
	comp=Z,104µm,19.8s,baz=222,slow=42						
NNA	**Nana**	**24.19**	**352**	P	**P**	**18 32 46.5**	**+1.1**
	comp=Z,47nm,0.8s,baz=196,slow=11,SNR=23						
NNA				LR	LR	18 40 43.9	
	comp=Z,17µm,18.3s,baz=176,slow=33						
NNA	**Nana**	**24.19**	**352**	⇓*iP*	**P**	**18 32 46.6**	**+1.1**
NNA				pmax	pmax		
	comp=Z,382nm,1.4s						
NNA	**Nana**	**24.19**	**352**	P	**P**	**18 32 45.6**	**+0.1**
NNA				IAmb	IAmb	18 32 55.7	
	comp=Z,216nm,1.2s						
NNA	**Nana**	**24.19**	**352**	⇓P	**P**	**18 32 46.5**	**+1.1**
PCMB	**Pacaembu**	**24.31**	**60**	*eP*	**P**	**18 32 45.0**	**-1.5**
PTLB	**Pontes e Lacer**	**24.34**	**36**	*eP*	**P**	**18 32 46.4**	**-0.3**
FRTB	**Fartura**	**24.43**	**65**	*eP*	**P**	**18 32 46.5**	**-1.1**
PP1B	**Ponte de Pedra**	**24.85**	**47**	*eP*	**P**	**18 32 50.5**	**-0.9**
PET01	**Itanhaem-SP**	**25.61**	**70**	*eP*	**P**	**18 32 56.9**	**-1.4**
SPB	**Sao Paulo**	**25.88**	**68**	P	**P**	**18 33 00.2**	**-0.5**
SPB				IAMs_20	IAMs_20	18 43 28.0	
	comp=Z,53µm,18.0s						
SPB	**Sao Paulo**	**25.88**	**68**	⇑P	**P**	**18 33 00.2**	**-0.5**
SPB	**Sao Paulo**	**25.88**	**68**	*eP*	**P**	**18 33 00.6**	**-0.1**
VILB	**Vilhena**	**26.06**	**31**	*eP*	**P**	**18 33 02.1**	**-0.4**
ITRB	**Iturama**	**26.21**	**58**	*eP*	**P**	**18 33 03.5**	**-0.2**
VAO	**Valinhos**	**26.57**	**68**	*eP*	**P**	**18 33 06.7**	**-0.4**
BB19B	**Bebedouro**	**26.59**	**63**	*eP*	**P**	**18 33 05.4**	**-1.8**
ETMB	**Extrema**	**27.04**	**16**	*eP*	**P**	**18 33 11.2**	**0.0**
PARB	**Paraibuna**	**27.39**	**70**	*eP*	**P**	**18 33 14.3**	**-0.2**
ARAG	**Araguaiana, MT**	**28.16**	**49**	*eP*	**P**	**18 33 21.4**	**+0.1**
CZSB	**Cruzeiro do Su**	**28.26**	**2**	*eP*	**P**	**18 33 23.8**	**+1.6**
ESAR	**Angra dos Reis**	**28.47**	**71**	*eP*	**P**	**18 33 23.3**	**-0.7**
SAML	**Samuel**	**28.68**	**22**	P	**P**	**18 33 25.3**	**-0.6**
SAML				pmax	pmax		
	comp=Z,39nm,1.1s						
SAML				MLR	MLR		
	comp=Z,43µm,20.0s						
SAML	**Samuel**	**28.68**	**22**	P	**P**	**18 33 25.3**	**-0.6**
SAML	**Samuel**	**28.68**	**22**	IAMs_20	IAMs_20	18 46 21.5	
	comp=Z,43µm,20.0s						
SAML	**Samuel**	**28.68**	**22**	⇑P	**P**	**18 33 25.7**	**-0.2**
SAML	**Samuel**	**28.68**	**22**	*eP*	**P**	**18 33 25.4**	**-0.6**
IPMB	**Ipameri, GO**	**28.86**	**58**	*eP*	**P**	**18 33 27.2**	**-0.4**
MAN01	**Angra dos Reis**	**28.92**	**71**	*eP*	**P**	**18 33 27.2**	**-0.9**
ATAH	**Atahualpa**	**29.16**	**350**	P	**P**	**18 33 34.2**	**+3.5**
	comp=Z,16nm,1.1s,baz=180,slow=7.2,SNR=17						
ATAH				LR	LR	18 43 08.0	
	comp=Z,17µm,19.6s,baz=181,slow=32						
PMSA	**Palmer Station**	**29.28**	**172**	P	**P**	**18 33 30.5**	**-0.2**
	comp=Z,65nm,1.1s,baz=289,slow=3.9,SNR=2.9						
PMSA				LR	LR	18 45 13.8	
	comp=Z,20µm,18.2s,baz=342,slow=36						
PMSA	**Palmer Station**	**29.28**	**172**	P	**P**	**18 33 29.8**	**-0.9**
PMSA				IAmb	IAmb	18 33 42.5	
	comp=Z,159nm,1.1s						
PMSA	**Palmer Station**	**29.28**	**172**	IAMs_20	IAMs_20	18 46 10.7	
	comp=Z,52µm,19.0s						
PMSA	**Palmer Station**	**29.28**	**172**	*eP*	**P**	**18 33 32.3**	**+1.5**
BSCB	**Bom Sucesso**	**29.39**	**67**	*eP*	**P**	**18 33 31.7**	**-0.6**
VAS01	**Vassouras-RJ**	**29.64**	**71**	*eP*	**P**	**18 33 35.0**	**+0.4**
CLDB	**Colider**	**29.90**	**37**	*eP*	**P**	**18 33 36.3**	**-0.5**
DUB01	**Friburgo-RJ**	**30.57**	**71**	*eP*	**P**	**18 33 43.2**	**+0.4**
BDFB	**Brasilia**	**30.65**	**55**	P	**P**	**18 33 43.1**	**-0.4**
	comp=Z,58nm,0.9s,baz=226,slow=6.9,SNR=39						
BDFB				LR	LR	18 46 34.2	
	comp=Z,11µm,20.3s,baz=227,slow=38						
BDFB	**Brasilia**	**30.65**	**55**	P	**P**	**18 33 41.0**	**-2.5**
BDFB				pmax	pmax		
	comp=Z,184nm,1.2s						
BDFB				MLR	MLR		
	comp=Z,42µm,18.0s						
BDFB	**Brasilia**	**30.65**	**55**	P	**P**	**18 33 41.0**	**-2.5**
BDFB				IAmb	IAmb	18 33 50.6	
	comp=Z,184nm,1.2s						
BDFB				IAMs_20	IAMs_20	18 45 16.5	
	comp=Z,42µm,18.0s						
CAM01	**Campos-RJ**	**31.27**	**72**	*eP*	**P**	**18 33 48.5**	**-0.2**
SNDB	**Serra Nova Dou**	**31.40**	**46**	*eP*	**P**	**18 33 48.3**	**-1.7**
HOPE	**Hope Point**	**31.41**	**137**	P	**P**	**18 33 47.4**	**-2.3**
HOPE				pmax	pmax		
	comp=Z,269nm,1.2s						
HOPE				MLR	MLR		
	comp=Z,19µm,20.0s						
HOPE	**Hope Point**	**31.41**	**137**	P	**P**	**18 33 47.4**	**-2.3**
HOPE	**Hope Point**	**31.41**	**137**	⇑P	**P**	**18 33 51.4**	**+1.7**
RPN	**Rapa Nui**	**31.50**	**276**	LR	LR	18 42 58.1	
	comp=Z,41µm,22.0s,baz=104,slow=29						
RPN	**Rapa Nui**	**31.50**	**276**	IAMs_20	IAMs_20	18 42 44.9	
	comp=Z,36µm,21.0s						
DIAM	**Diamantina, MG**	**31.87**	**64**	*eP*	**P**	**18 33 53.6**	**-0.7**

NBCL Cascavel-CE 45.47 54 *eP* P 18 35 49.1 +0.9
MDP Montagnes des 45.50 30 P P 18 35 47.5 -0.9
comp=Z,83nm,0.9s,baz=208,slow=7.3,SNR=12
RIOS Rincon, Osa 45.52 346 P P 18 35 48.5 0.0
RIOS IAmb IAmb 18 36 15.5
comp=Z,193nm,1.5s
ARGC Ariguani, Magd 45.72 359 *eP* P 18 35 48.9 -1.3
SJCC San Jacinto, C 45.78 358 *eP* P 18 35 49.8 -0.9
RCBR Riachuelo 45.90 58 P P 18 35 53.4 +1.7
comp=Z,90nm,1.3s,baz=200,slow=8.8,SNR=11
RCBR LR LR 18 53 53.9
comp=Z,24µm,21.3s,baz=202,slow=35
RCBR Riachuelo 45.90 58 P P 18 35 51.1 -0.6
RCBR pmax pmax
comp=Z,95nm,1.2s
RCBR MLR MLR
comp=Z,48µm,20.0s
RCBR Riachuelo 45.90 58 P P 18 35 51.1 -0.6
RCBR IAmb IAmb 18 36 01.4
comp=Z,95nm,1.1s
RCBR Riachuelo 45.90 58 ⇑P P 18 35 52.4 +0.7
RCBR Riachuelo 45.90 58 *eP* P 18 35 51.5 -0.2
NBPV Pedro Velho 45.91 59 *eP* P 18 35 51.1 -0.5
PLCV Puerto La Cruz 46.82 12 P P 18 36 00.2 +1.5
PCRV Puerto La Cruz 46.82 12 P P 18 36 00.2 +1.4
comp=Z,64nm,1.1s,baz=239,slow=2.5,SNR=8.4
SMRC Santa Marta, M 47.02 359 *eP* P 18 36 00.9 +0.6
JTS Las Juntas de 47.36 345 P P 18 36 04.6 +1.6
comp=Z,11nm,0.9s,baz=215,slow=6.6,SNR=8.8
JTS LR LR 18 52 49.2
comp=Z,7µm,19.7s,baz=226,slow=32
JTS Las Juntas de 47.36 345 *c iP* P 18 36 04.7 +1.7
JTS pmax pmax
comp=Z,95nm,1.9s
JTS MLR MLR
comp=Z,10µm,18.0s
JTS Las Juntas de 47.36 345 P P 18 36 04.0 +1.0
JTS Las Juntas de 47.36 345 ⇓P P 18 36 05.6 +2.6
ORTG Ortega, Santa 47.54 344 P P 18 36 03.8 -0.7
ORTG IAmb IAmb 18 36 30.7
comp=Z,87nm,1.3s
COVE Coope Vega, Sa 47.66 346 P P 18 36 05.0 -0.3
COVE IAmb IAmb 18 36 19.6
comp=Z,152nm,1.3s
TRN Trinidad (W) 47.93 16 *eP* P 18 36 00.8 -6.5
VNA3 Neumayer Olymp 47.94 157 P P 18 36 07.6 +0.7
VNA3 Neumayer Olymp 47.94 157 PcP PcP 18 37 35.1 +0.1
VNA3 S S 18 43 03.4 -0.7
VNA3 Neumayer Olymp 47.94 157 sP sP 18 36 11.1 +0.7
VNA1 Neumayer--Stat 48.28 156 P P 18 36 10.9 +1.4
VNA1 Neumayer--Stat 48.28 156 PcP PcP 18 37 34.6 -1.7
VNA1 S S 18 43 07.7 -1.2
H09W1 TRISTAN DA CUN 48.49 110 P P 18 36 14.8 +3.2
H09N1 TRISTAN DA CUN 48.51 110 P P 18 36 11.2 -0.5
VNA2 Neumayer--Watz 48.61 156 P P 18 36 13.0 +0.9
baz=281,slow=9.0
VNA2 Neumayer--Watz 48.61 156 PcP PcP 18 37 36.2 -1.3
VNA2 S S 18 43 12.5 -1.1
VNA2 Neumayer--Watz 48.61 156 sP sP 18 36 14.9 -0.7
ACON Acoyapa 49.03 345 P P 18 36 16.8 +0.9
ESPN Las Esperanzas 49.08 346 P P 18 36 16.2 0.0
GRGR Grenville 49.31 16 *eP* P 18 36 15.6 -2.4
GRGR Grenville 49.31 16 P P 18 36 18.6 +0.6
GRGR IAMs_20 IAMs_20 19 00 36.1
comp=Z,19µm,18.0s
GRGR Grenville 49.31 16 ⇑P P 18 36 18.1 +0.1
BOAB BOACO BROADBAN 49.60 345 P P 18 36 20.2 0.0
BOAB IAmb IAmb 18 36 35.7
comp=Z,173nm,1.3s
GCMP Grenada, Carri 49.70 16 *eP* P 18 36 19.5 -1.5
SNAA Sanae 50.16 157 P P 18 36 24.9 +0.9
SNAA Sanae 50.16 157 PcP PcP 18 37 43.1 0.0
SNAA S S 18 43 32.4 -3.0
SNAA Sanae 50.16 157 P P 18 36 24.1 +0.1
comp=Z,117nm,1.0s,baz=280,slow=6.6,SNR=48
SNAA LR LR 18 57 20.1
comp=Z,23µm,18.5s,baz=284,slow=36
SNAA Sanae 50.16 157 *c iP* P 18 36 23.8 -0.2
SNAA pmax pmax
comp=Z,335nm,1.1s
SNAA MLR MLR
comp=Z,22µm,18.0s
SNAA Sanae 50.16 157 P P 18 36 22.2 -1.8
SNAA IAMs_20 IAMs_20 18 56 59.6
comp=Z,24µm,19.0s
SNAA Sanae 50.16 157 ⇑P P 18 36 23.7 -0.2
SVB Belmont 50.50 16 *eP* P 18 36 26.7 -0.3
BBGH Gun Hill 50.77 18 *eP* P 18 36 34.0 +4.9
MCLT Moule a Chique 50.99 16 *eP* P 18 36 32.1 +1.3
SLB Belfond 51.09 16 *eP* P 18 36 32.0 +0.4
SLBI Saint Lucia, B 51.29 16 *eP* P 18 36 33.1 +0.2
TGUH Tegucigalpa,Un 51.52 343 P P 18 36 35.1 +0.3
TGUH IAmb IAmb 18 36 47.8
comp=Z,98nm,1.2s
H05S1 Guadeloupe/Mar 51.71 16 P P 18 36 35.8 -0.3
MPOM Morne Pois Mar 51.72 16 *eP* P 18 36 29.7 -6.5
BIM Bigot 51.75 16 *eP* P 18 36 34.5 -1.9
FDF Fort de France 51.94 15 *eP* P 18 36 35.7 -2.2
FDF Fort de France 51.94 15 P P 18 36 37.5 -0.4
FDF pmax pmax
comp=Z,401nm,1.1s
FDF MLR MLR
comp=Z,22µm,20.0s
FDF Fort de France 51.94 15 P P 18 36 37.5 -0.4
FDF IAMs_20 IAMs_20 18 59 16.6
comp=Z,21µm,20.0s
FDF Fort de France 51.94 15 ⇑P P 18 36 36.9 -1.0
ILAM Ilet Lapin Mar 52.04 16 *eP* P 18 36 41.3 +2.7
MTO3 Montecristo 52.38 341 P P 18 36 41.0 -0.4
DLPL La Plaine 52.50 15 *eP* P 18 36 46.0 +4.0
DSLB Salisbury 52.57 15 *eP* P 18 36 46.9 +4.4
TDBA Terre de Bas, 52.92 15 *eP* P 18 36 48.9 +3.8
MAGL Barre de l'ile 53.09 15 *eP* P 18 36 50.3 +3.9
CBE Ff, Capester 53.14 15 *eP* P 18 36 46.9 +0.1
APG El Apazote 53.26 340 P P 18 36 49.8 +1.9
comp=Z,18nm,0.9s,baz=178,slow=8.5,SNR=20
APG LR LR 18 54 39.4
comp=Z,13µm,21.4s,baz=173,slow=31
H05N1 Guadeloupe/Mar 53.49 15 P P 18 36 45.6 -3.7
ABD La Joyeuse, An 53.56 15 *eP* P 18 36 45.1 -4.7
MLYT Lee's Yard 53.66 14 *eP* P 18 36 51.9 +1.3
RKT Rikitea 54.04 266 *eS* S 18 44 29.4 -0.3
comp=Z,7µm,27.0s
RKT *eLQ* LQ 18 50 20.0
comp=Z,3µm,37.0s
RKT *eLR* LR 18 52 38.7
comp=Z,19µm,28.5s
BPA Boggy Peak 54.04 14 *eP* P 18 36 51.9 -1.5
ANBD Bethesda, Anti 54.06 14 *eP* P 18 36 48.4 -5.1
QSPA South Pole Qui 54.13 180 P P 18 36 53.4 -0.3
QSPA IAmb IAmb 18 37 07.4
comp=Z,119nm,1.0s
MLPR Magueyes Islan 54.15 8 P P 18 36 53.8 -0.3
SKI Saint Kitts 54.15 13 *eP* P 18 36 49.5 -4.7
SKI Saint Kitts 54.15 13 P P 18 36 53.8 -0.4
SKI Saint Kitts 54.15 13 P P 18 36 53.8 -0.4
CDVI St. Croix 54.23 10 *eP* P 18 36 51.5 -3.2
SEUS St. Eustatius 54.27 13 *eP* P 18 36 48.8 -6.1
PDPR Patillas Dam, 54.32 9 P P 18 36 54.2 -1.1
MPR Mayaguez 54.38 8 P P 18 36 55.6 -0.1
SJG San Juan 54.40 9 P P 18 36 53.7 -2.2
SJG pmax pmax
comp=Z,122nm,1.3s
SJG MLR MLR
comp=Z,15µm,19.0s
SJG San Juan 54.40 9 P P 18 36 53.7 -2.2
SJG IAmb IAmb 18 37 08.3
comp=Z,122nm,1.2s
SJG San Juan 54.40 9 IAMs_20 IAMs_20 19 04 36.4
comp=Z,15µm,19.0s
SJG San Juan 54.40 9 ⇓P P 18 36 55.5 -0.4
MTP Monte Pirata 54.46 10 P P 18 36 55.5 -0.8
HUMP Col San Antoni 54.47 9 P P 18 36 53.9 -2.5
AOPR Arecibo Observ 54.56 8 P P 18 36 56.4 -0.7
CBYP Canovanas 54.59 9 P P 18 36 56.6 -0.8
ANWB Willy Bob 54.66 14 *eP* P 18 36 44.9 -13
ANWB Willy Bob 54.66 14 P P 18 36 57.0 -0.9
ANWB IAMs_20 IAMs_20 19 04 50.9
comp=Z,14µm,18.0s
CUPR Culebra, Puert 54.70 10 P P 18 36 56.9 -1.2
SDDR Presa de Saban 54.84 3 P P 18 36 56.4 -2.8
SDDR IAMs_20 IAMs_20 19 03 42.8
comp=Z,19µm,18.0s

NVL N'lazarevskaya 54.93 156 *eP* P 18 36 59.7 +0.5
NVL *ePPP* PPP 18 40 20.8
NVL *eSS* SKiKP 18 48 22.6 +17
NVL pmax pmax
comp=Z,208nm,1.4s
NVL MLR MLR
comp=Z,13µm,17.0s
CCIG Comitan 54.95 338 P P 18 36 59.8 -0.4
FSCY Frank Sound, G 55.58 351 P P 18 37 04.1 -0.3
GTBY Guantanamo Bay 55.75 358 P P 18 37 05.9 +0.2
GTBY IAmb IAmb 18 37 19.5
comp=Z,165nm,1.4s
GRTK Grand Turk 57.36 3 IAMs_20 IAMs_20 19 04 28.6
comp=Z,12µm,20.0s
TEIG Tepich 57.71 344 P P 18 37 20.8 +1.2
comp=Z,62nm,0.9s,baz=173,slow=9.0,SNR=31
TEIG Tepich 57.71 344 ⇑P P 18 37 20.4 +0.9
TLIG Tlapa 58.34 332 P P 18 37 24.4 +0.2
SOR Soroa 59.24 350 P P 18 37 30.7 +0.5
SOR pmax pmax
comp=Z,183nm,1.3s
SOR Soroa 59.24 350 P P 18 37 30.7 +0.5
UNM Universidad Na 60.19 332 IAMs_20 IAMs_20 18 57 48.9
comp=Z,14µm,20.0s
SBA Scott Base 60.73 192 P P 18 37 41.7 +1.8
SBA pmax pmax
comp=Z,53nm,1.2s
SBA MLR MLR
comp=Z,10µm,18.0s
SBA Scott Base 60.73 192 P P 18 37 41.7 +1.8
SBA Scott Base 60.73 192 IAMs_20 IAMs_20 19 03 50.5
comp=Z,10µm,18.0s
VNDA Vanda 61.77 192 P P 18 37 47.4 +0.5
comp=Z,9.9nm,1.1s,baz=121,slow=6.2,SNR=13
VNDA PKP2bc 19 07 10.7
comp=Z,1.4nm,1.0s,baz=221,slow=5.9,SNR=3.0
VNDA Vanda 61.77 192 P P 18 37 47.4 +0.5
VNDA pmax pmax
comp=Z,60nm,1.3s
VNDA Vanda 61.77 192 P P 18 37 47.4 +0.5
VNDA IAmb IAmb 18 38 07.7
comp=Z,60nm,1.3s
061Z Ochoppi 62.02 353 P P 18 37 49.8 +0.7
SHEL Horse Pasture 63.07 91 P P 18 37 56.7 +0.1
SHEL pmax pmax
comp=Z,239nm,1.0s
SHEL MLR MLR
comp=Z,7µm,18.0s
SHEL Horse Pasture 63.07 91 P P 18 37 56.7 +0.1
SHEL Horse Pasture 63.07 91 ⇓P P 18 37 59.6 +3.0
DWPF Disney Wildern 64.29 352 P 18 38 06.2
baz=173
DWPF Disney Wildern 64.29 352 P P 18 38 04.6 +0.4
DWPF IAmb IAmb 18 38 17.7
comp=Z,110nm,1.2s
DWPF Disney Wildern 64.29 352 IAMs_20 IAMs_20 19 08 43.3
comp=Z,8µm,20.0s
SYO Syowa Base 64.40 158 ⇑ *eP* P 18 38 02.6 -1.9
SYO Syowa Base 64.40 158 ⇓ *epP* P 18 38 05.2 +0.7
SYO Syowa Base 64.40 158 ⇓ *esP* sP 18 38 08.4 +0.3
SYO Syowa Base 64.40 158 ⇓ *ePcP* PcP 18 38 35.6 -3.2
ZAIG Zacatecas 64.62 330 P P 18 38 08.8 +2.0
H06S1 SOCORRO T 64.95 321 P P 18 38 10.6 +2.0
H06N1 SOCORRO T-PHAS 65.07 321 P P 18 38 12.6 +3.1
TBI Tubuai 65.53 258 *eP* P 18 38 12.8 +0.2
comp=Z,168nm,1.0s
TBI *eS* S 18 46 57.0 -0.9
comp=Z,22µm,28.0s
TBI *eLQ* LQ 18 55 11.9
comp=Z,5µm,29.5s
TBI *eLR* LR 18 58 03.8
comp=Z,24µm,28.2s,baz=124
553A Crawfordville 66.72 350 P P 18 38 20.4 +0.6
MEH Mehetia 67.25 264 *eT* T 19 51 27.9
comp=Z,73nm,0.2s
KVTX Kingsville 67.30 337 IAMs_20 IAMs_20 19 00 55.3
comp=Z,7µm,18.0s
TIGA Tifton 67.83 351 P 18 38 26.9
baz=171
352A Blakely 68.06 350 P P 18 38 28.2 -0.1
BRAL Brewton 68.09 348 P 18 38 29.1
baz=168
BRAL Brewton 68.09 348 P P 18 38 30.5 +2.0
735A Kenedy 68.50 337 P P 18 38 33.2 +2.2
833A Chaparral WMA, 68.51 336 P 18 38 33.0
baz=158,SNR=7.6
PAE Paea 68.58 263 *eP* P 18 38 35.3 +3.3
comp=Z,23nm,1.2s
PPTF Pamatai, Papee 68.61 263 P P 18 38 33.1 +0.8
PPTF IAMs_20 IAMs_20 19 00 26.5
comp=Z,16µm,21.0s
PPT2 Papeete2 68.62 263 *eP* P 18 38 35.8 +3.4
comp=Z,135nm,1.3s
PPT2 *eS* S 18 47 34.4 -1.0
comp=Z,9µm,23.2s
PPT2 Papeete2 68.62 263 *eLR* LR 18 59 24.3
comp=Z,32µm,25.5s,baz=121
PPT Papeete 68.63 263 P P 18 38 34.1 +1.7
comp=Z,63nm,1.0s,baz=85,slow=12,SNR=4.4
PPT LR LR 19 00 58.6
comp=Z,11µm,18.7s,baz=98,slow=29
SLBS Sierra La Lagu 68.64 324 P P 18 38 33.9 +1.7
SLBS Sierra La Lagu 68.64 324 ⇓P P 18 38 35.0 +2.7
250A Grady 68.75 349 P P 18 38 33.1 +0.5
250A IAmb IAmb 18 38 41.1
comp=Z,78nm,1.4s
346A Big Creek Wild 68.76 346 P P 18 38 34.1 +1.5
HKT Hockley 68.93 339 *c iP* P 18 38 35.1 +1.4
HKT pmax pmax
comp=Z,72nm,2.0s
HKT MLR MLR
comp=Z,4µm,16.0s
HKT Hockley 68.93 339 P P 18 38 34.8 +1.1
HKT IAmb IAmb 18 38 56.4
comp=Z,61nm,1.4s
HKT Hockley 68.93 339 ⇓P P 18 38 35.7 +2.0
154A Montrose 68.93 351 P P 18 38 33.8 +0.1
CSU Charleston Sou 69.00 354 P P 18 38 34.5 +0.4
344A Westbrook Farm 69.09 344 P P 18 38 32.8 -1.9
344A IAmb IAmb 18 38 48.1
comp=Z,133nm,1.5s
NHSC New Hope 69.12 354 P 18 38 35.7
baz=174
NHSC New Hope 69.13 354 P P 18 38 34.0 -0.9
LPIG La Paz 69.17 324 LR LR 19 00 37.0
comp=Z,1µm,21.0s,baz=138,slow=29
152A Waverly Hall 69.20 350 P P 18 38 35.7 +0.3
152A IAmb IAmb 18 38 48.5
comp=Z,52nm,1.1s
342A Flagon Creek P 69.37 343 P P 18 38 35.4 -1.1
SACV Santiago Islan 69.42 52 IAMs_20 IAMs_20 19 08 17.5
comp=Z,13µm,19.0s
HPIG 69.58 330 P P 18 38 39.0 +0.8
HPIG IAmb IAmb 18 38 49.4
comp=Z,81nm,1.2s
GOGA Godfrey 69.76 351 P 18 38 39.5
baz=172,SNR=9.5
GOGA Godfrey 69.77 351 P P 18 38 38.8 -0.1
GOGA pmax pmax
comp=Z,63nm,1.1s
GOGA MLR MLR
comp=Z,5µm,22.0s
GOGA Godfrey 69.77 351 P P 18 38 38.8 -0.1
GOGA IAmb IAmb 18 38 52.1
comp=Z,63nm,1.1s
VBMS Vicksburg 69.78 345 P 18 38 40.6
baz=166
VBMS Vicksburg 69.78 345 P P 18 38 40.3 +1.4
146A Union 69.89 346 P P 18 38 41.3 +1.6
Z51A Franklin 69.90 350 P P 18 38 40.4 +0.6
Z51A IAmb IAmb 18 38 53.9
comp=Z,77nm,1.4s
LRAL Lakeview Retre 69.90 348 P 18 38 40.7
baz=169,SNR=15
LRAL Lakeview Retre 69.91 348 P P 18 38 40.1 +0.4
LRAL IAmb IAmb 18 38 54.3
comp=Z,134nm,1.4s
435B Jarrell 70.22 338 P 18 38 43.1
baz=160
435B Jarrell 70.22 338 P P 18 38 42.0 +0.2
435B IAmb IAmb 18 39 02.5
comp=Z,96nm,1.2s
Z47A Carrollton 70.25 347 P P 18 38 42.3 +0.4
Y52A Lilburn 70.29 351 P P 18 38 42.2 +0.1
NATX Nacogdoches 70.32 341 P 18 38 44.4
baz=162,SNR=8.1
NATX Nacogdoches 70.32 341 P P 18 38 43.0 +0.7
JSC Jenkinsville 70.39 353 P P 18 38 43.1 +0.4
JSC pmax pmax
comp=Z,54nm,1.4s
JSC Jenkinsville 70.39 353 P P 18 38 43.0 +0.4
HODGE Hodges 70.44 352 P P 18 38 43.2 +0.2
HODGE IAmb IAmb 18 38 57.1
comp=Z,111nm,1.4s
143A Socs Landing, 70.44 344 P P 18 38 42.7 -0.3
X60A Albert Glenn T 70.44 356 P 18 38 44.5
baz=176
Y49A Blount Mountai 70.62 349 P P 18 38 44.5 +0.4
Y49A IAmb IAmb 18 38 58.5
comp=Z,68nm,1.4s
JCT Junction City 70.64 336 P 18 38 45.8
baz=158,SNR=13
JCT Junction City 70.64 336 P P 18 38 45.9 +1.5
JCT pmax pmax
comp=Z,174nm,1.5s
JCT MLR MLR
comp=Z,3µm,18.0s
JCT Junction City 70.64 336 P P 18 38 45.9 +1.5
JCT Junction City 70.64 336 ⇑P P 18 38 45.7 +1.3
BIRD Birdtown, Kers 70.68 354 P P 18 38 43.4 -1.0
237A Washetta, Mont 70.86 340 P P 18 38 47.2 +1.6
TX32 Lajitas Array 70.94 333 P P 18 38 46.3 0.0
TX32 IAmb IAmb 18 38 57.5
comp=Z,45nm,0.9s
TXAR Lajitas Array 70.94 333 P P 18 38 47.6 +1.2
comp=Z,31nm,1.1s,baz=152,slow=6.6,SNR=121
TXAR LR LR 19 05 18.7
comp=Z,10µm,18.8s,baz=0.0,slow=32
TXAR Lajitas Array 70.94 333 P P 18 38 46.4 +0.1
TX31 Lajitas Ar. Si 70.95 333 P P 18 38 46.8 +0.5
TX31 Lajitas Ar. Si 70.95 333 ⇑P P 18 38 47.2 +0.9
PAULI Pauline 70.97 353 P P 18 38 46.9 +0.7
X51A Calhoun 71.08 350 P P 18 38 47.9 +0.9
W57A Gilead 71.14 355 P P 18 38 47.2 0.0
W57A IAmb IAmb 18 39 01.1
comp=Z,98nm,1.3s
FPAL Fort Paine 71.16 350 P P 18 38 47.8 +0.3
FPAL IAmb IAmb 18 39 01.7
comp=Z,146nm,1.4s
W56A Indian Trail 71.17 354 P 18 38 47.9
baz=174
Y45A Yeager Farm, C 71.17 346 P P 18 38 47.1 -0.4
KMSC Kings Mountain 71.25 353 P 18 38 48.4
baz=173,SNR=9.4
KMSC Kings Mountain 71.25 353 P P 18 38 48.4 +0.5
KMSC IAmb IAmb 18 39 01.9
comp=Z,150nm,1.4s
BG3 Lake Jocassee 71.26 352 P P 18 38 48.5 +0.5
BG3 IAmb IAmb 18 39 02.4
comp=Z,143nm,1.5s
Z41A Richland Creek 71.29 343 P 18 38 48.3
baz=164
X48A Hartselle 71.30 348 P P 18 38 49.3 +1.1
WHTX Lake Whitney, 71.31 339 P 18 38 49.8
baz=160,SNR=17
WHTX Lake Whitney, 71.32 339 P P 18 38 48.6 +0.3
WHTX IAmb IAmb 18 39 09.3
comp=Z,121nm,1.1s
V62A Hyde County Ai 71.34 358 P 18 38 49.3
baz=178
V62A Hyde County Ai 71.34 358 IAMs_20 IAMs_20 19 15 11.6
comp=Z,6µm,19.0s
W52A Murphy 71.48 351 P P 18 38 49.6 +0.2
W52A IAmb IAmb 18 39 03.0
comp=Z,79nm,1.1s
MAW Mawson 71.54 164 P P 18 38 49.1 -0.2
comp=Z,30nm,1.0s,baz=194,slow=5.8,SNR=7.1
MAW LR LR 19 10 35.9
comp=Z,23µm,18.9s,baz=230,slow=36
V60A Jim Taylor Roa 71.59 357 P 18 38 50.9
baz=177
V60A Jim Taylor Roa 71.59 357 P P 18 38 50.6 +0.7
V60A IAMs_20 IAMs_20 19 14 15.3
comp=Z,10µm,19.0s
V59A Middlesex 71.64 356 P 18 38 51.1
baz=176,SNR=10
CCAR Cane Creek 71.69 344 P P 18 38 52.2 +1.7
V58A Windy Hill, Pi 71.72 355 P P 18 38 50.8 +0.1
W50A Signal Mountai 71.77 350 P P 18 38 51.7 +0.6
WLAR White Oak Lake 71.77 343 P P 18 38 52.1 +1.0
Z38A Mt. Pleasant 71.83 341 P P 18 38 52.8 +1.4
V56A Mocksville 71.83 354 P 18 38 52.3
baz=174,SNR=13
V57A Coltrane Farms 71.86 355 P 18 38 51.7
baz=175
SWET Sewanee 71.88 349 P P 18 38 52.2 +0.5
CPCT Cooper Cave 71.91 351 P P 18 38 52.4 +0.5
CPCT IAmb IAmb 18 39 10.4
comp=Z,143nm,1.4s
V53A Saluda 71.92 352 P P 18 38 52.2 +0.2
V53A IAmb IAmb 18 39 00.3
comp=Z,157nm,1.5s
V55A Taylorsville 71.94 354 P P 18 38 52.5 +0.4
PLAL Pickwick Lake 71.99 348 P P 18 38 52.2 -0.1
PLAL IAmb IAmb 18 39 06.5
comp=Z,98nm,1.4s
TKL Tuckaleechee C 72.02 351 P P 18 38 52.4 -0.2
TKL pmax pmax
comp=Z,91nm,1.3s
TKL Tuckaleechee C 72.02 351 P P 18 38 52.4 -0.2
TKL IAmb IAmb 18 38 55.6
comp=Z,91nm,1.2s
X43A Marvell 72.07 345 P 18 38 53.1
baz=165
U61A Possum Corner 72.12 358 P 18 38 54.6
baz=178
U61A Possum Corner 72.12 358 P P 18 38 54.5 +1.4
V52A Sevierville 72.18 352 P P 18 38 53.8 +0.3
V52A IAmb IAmb 18 39 07.3
comp=Z,148nm,1.4s
U59A Littleton 72.20 357 P P 18 38 54.5 +1.0
U59A IAmb IAmb 18 39 08.2
comp=Z,146nm,1.3s
V51A Loudon 72.23 351 P P 18 38 53.8 0.0
V51A IAmb IAmb 18 39 07.8
comp=Z,83nm,1.1s
U58A Oxford 72.28 356 P 18 38 54.3
baz=176
U60A Pendleton 72.29 357 P 18 38 54.8
baz=177
U56A King 72.36 354 P 18 38 55.5
baz=174,SNR=6.4
U56A King 72.36 354 P P 18 38 55.0 +0.4
U56A IAmb IAmb 18 39 08.9
comp=Z,104nm,1.2s
W45A Hickory Valley 72.36 347 P P 18 38 55.3 +0.7
U57A Blanch 72.36 355 P 18 38 55.1
baz=175,SNR=5.9
X40A Basin Creek Fa 72.47 343 P 18 38 55.9
baz=164,SNR=5.3
X40A Basin Creek Fa 72.47 343 P P 18 38 55.3 0.0
Z35A Perchaven, San 72.51 339 P P 18 38 55.6 0.0
V48A Smith Brothers 72.52 349 P P 18 38 55.8 +0.3
ABTX Abilene, Hawle 72.57 337 P 18 38 57.1
baz=158,SNR=15
ABTX Abilene, Hawle 72.57 337 P P 18 38 57.0 +1.1
ABTX IAmb IAmb 18 39 17.0
comp=Z,114nm,1.1s
U54A Nelsons Funny 72.66 353 P 18 38 56.6
baz=173
U54A Nelsons Funny 72.66 353 IAMs_20 IAMs_20 19 11 13.8
comp=Z,8µm,22.0s
MIAR Mount Ida 72.70 343 P 18 38 57.6
baz=163,SNR=11
MIAR Mount Ida 72.70 343 P P 18 38 56.8 +0.2
MIAR pmax pmax
comp=Z,37nm,1.1s
MIAR Mount Ida 72.70 343 P P 18 38 56.8 +0.2
MIAR Mount Ida 72.70 343 ⇓P P 18 38 58.0 +1.3
CLTN Cedars of Leba 72.79 349 P P 18 38 57.7 +0.6
T59A Double "B" Far 72.80 357 P P 18 38 58.0 +0.8
SRIG Santa Rosalia 72.81 325 P P 18 38 59.1 +1.6
T58A Grand View Acr 72.83 356 P 18 38 58.2
baz=176,SNR=12
T60A Surry 72.94 357 P 18 38 59.3
baz=177
T60A Surry 72.94 357 P P 18 38 58.0 0.0
W41B Gary Mavity, V 73.00 344 P 18 38 59.4
baz=164,SNR=21
T56A Rocky Mt 73.01 355 P 18 38 59.5

baz=175,SNR=12
WVT Waverly 73.07 348 P 18 38 59.4
baz=168
WVT Waverly 73.07 348 P **P** **18 38 58.7 -0.1**
WVT pmax pmax
comp=Z,224nm,1.3s
WVT Waverly 73.07 348 P **P** **18 38 58.7 -0.1**
WVT Waverly 73.07 348 ⇑P **P** **18 38 59.2 +0.4**
HALT Halls 73.12 347 P **P** **18 38 58.9 -0.2**
WHAR Wooly Hollow 73.12 344 P **P** **18 39 00.1 +1.0**
U49A Red Boiling Sp 73.13 350 P **P** **18 38 58.6 -0.6**
U49A IAmb IAmb 18 39 13.4
comp=Z,140nm,1.4s
X37A Clayton 73.19 341 P **P** **18 39 01.2 +1.7**
X37A IAmb IAmb 18 39 16.6
comp=Z,80nm,1.2s
BLA Blacksburg 73.22 354 P 18 39 00.3
baz=174
BLA Blacksburg 73.22 354 P **P** **18 39 00.9 +1.2**
BLA pmax pmax
comp=Z,58nm,1.2s
BLA MLR MLR
comp=Z,6μm,21.0s
BLA Blacksburg 73.22 354 P **P** **18 39 00.9 +1.2**
GNAR Gosnell 73.30 346 P **P** **18 39 01.4 +1.3**
LNXT Lenox 73.33 347 P **P** **18 39 01.1 +0.7**
W39A Magazine 73.37 343 P 18 39 02.2
baz=163,SNR=35
W39A Magazine 73.37 343 P **P** **18 39 01.2 +0.6**
W39A IAmb IAmb 18 39 03.8
comp=Z,127nm,1.1s
MBO M'Bour 73.41 58 P **P** **18 39 03.8 +2.6**
PEBM Pemiscott Bayo 73.42 346 P **P** **18 39 02.1 +1.3**
GLAT Glass 73.46 347 P **P** **18 39 01.1 0.0**
S58A Poland Farm, P 73.47 356 P 18 39 02.2
baz=176,SNR=5.5
S58A Poland Farm, P 73.47 356 P **P** **18 39 01.2 +0.2**
S58A IAmb IAmb 18 39 04.9
comp=Z,77nm,1.2s
S58A IAMs_20 IAMs_20 19 15 03.1
comp=Z,7μm,19.0s
T50A Nancy 73.50 351 P **P** **18 39 01.2 -0.1**
T50A IAmb IAmb 18 39 15.2
comp=Z,99nm,1.4s
S60A Water View 73.50 358 P 18 39 02.2
baz=177
JSRW J. Sargeant Re 73.54 357 P **P** **18 39 01.9 +0.5**
S59A Mechanicsville 73.58 357 P 18 39 02.3
baz=177,SNR=5.9
S56A Natural Bridge 73.62 355 P 18 39 02.4
baz=175,SNR=9.1
LCAR Lake Charles 73.63 345 P **P** **18 39 01.9 -0.2**
LCAR IAmb IAmb 18 39 11.4
comp=Z,49nm,0.7s
FCAR Ozark Folk Cen 73.66 344 P **P** **18 39 02.0 -0.2**
S57A Dark Hollow, R 73.66 356 P 18 39 03.0
baz=176,SNR=11
HSIG 73.66 326 P **P** **18 39 04.7 +2.2**
S57A Dark Hollow, R 73.66 356 P **P** **18 39 01.9 -0.4**
S57A IAmb IAmb 18 39 16.6
comp=Z,163nm,1.4s
S57A IAMs_20 IAMs_20 19 15 08.3
comp=Z,7μm,19.0s
PENMO Penman 73.70 347 P **P** **18 39 03.5 +1.0**
MNTX Cornudas Mount 73.71 332 P 18 39 03.2
baz=154,SNR=31
MNTX Cornudas Mount 73.71 332 P **P** **18 39 02.4 -0.3**
MNTX IAMs_20 IAMs_20 19 07 07.2
comp=Z,9μm,19.0s
HICK Hickman 73.71 347 P **P** **18 39 02.5 -0.1**
GDL2 Guadalupe Moun 73.78 333 P **P** **18 39 04.8 +1.5**
T47A Sharon Grove 73.79 349 P **P** **18 39 03.7 +0.7**
T47A IAmb IAmb 18 39 06.1
comp=Z,121nm,1.3s
R58B Mineral 73.81 357 P 18 39 04.3
baz=176,SNR=12
R58B Mineral 73.81 357 P **P** **18 39 04.5 +1.4**
S54A Dingess, Beckl 73.88 354 P 18 39 04.0
baz=174
HENM Henderson Moun 73.93 347 P **P** **18 39 04.8 +1.0**
PARMO Parma 73.93 347 P **P** **18 39 04.6 +0.8**
S51A Beattyville 73.95 352 P **P** **18 39 04.3 +0.3**
S51A IAmb IAmb 18 39 17.4
comp=Z,62nm,0.8s
R59A King George, V 74.01 357 P 18 39 05.3
baz=177
CBN Corbin Frederi 74.02 357 P 18 39 06.3
baz=177
CBN Corbin Frederi 74.02 357 P **P** **18 39 04.2 -0.1**
CBN IAmb IAmb 18 39 08.1
comp=Z,85nm,1.1s
CBN IAMs_20 IAMs_20 19 15 35.0
comp=Z,7μm,20.0s
R60A Leonardtown, M 74.06 358 P 18 39 05.8
baz=178
T45A Paducah 74.08 348 P **P** **18 39 04.7 0.0**
T45A IAmb IAmb 18 39 19.4
comp=Z,104nm,0.9s
R58A Rapidan 74.15 356 P 18 39 06.3
baz=176,SNR=11
PBMO Poplar Bluff 74.17 346 P **P** **18 39 05.8 +0.6**
PBMO IAmb IAmb 18 39 07.6
comp=Z,82nm,1.2s
R57A Stanardsville 74.17 356 P 18 39 06.5
baz=176,SNR=12
EPT El Paso 74.21 331 IAMs_20 IAMs_20 19 06 24.3
comp=Z,8μm,21.0s
R54A Victor 74.23 354 P 18 39 05.8
baz=174
R55A Marlinton 74.26 355 P 18 39 07.0
baz=175,SNR=10
R55A Marlinton 74.26 355 P **P** **18 39 07.0 +1.2**
R55A IAmb IAmb 18 39 20.4
comp=Z,143nm,1.2s
U40A Yellville 74.27 344 P 18 39 06.7
baz=164,SNR=34
U40A Yellville 74.27 344 P **P** **18 39 05.8 -0.1**
U40A IAmb IAmb 18 39 08.3
comp=Z,75nm,1.1s
WMOK Wichita Mounta 74.27 339 P 18 39 06.5
baz=159,SNR=18
WMOK Wichita Mounta 74.27 339 P **P** **18 39 06.5 +0.6**
WMOK pmax pmax
comp=Z,63nm,1.2s
WMOK Wichita Mounta 74.27 339 P **P** **18 39 06.5 +0.6**
WMOK Wichita Mounta 74.27 339 ⇓P **P** **18 39 07.0 +1.0**
R56A Bull Pasture M 74.33 355 P 18 39 07.5
baz=175,SNR=13
CPRX Cap Rock 74.35 334 P **P** **18 39 08.3 +1.8**
FNO Franklin 74.36 340 P **P** **18 39 07.4 +1.0**
FNO IAmb IAmb 18 39 23.9
comp=Z,122nm,1.2s
HHAR Hobbs 74.45 343 P **P** **18 39 07.1 +0.2**
R53A Hurricane 74.47 353 P **P** **18 39 07.5 +0.6**
R53A IAmb IAmb 18 39 21.0
comp=Z,183nm,1.5s
OKCFA Oklahoma City 74.53 340 P **P** **18 39 07.1 -0.2**
T42A Van Buren 74.55 346 P **P** **18 39 07.8 +0.3**
T42A IAmb IAmb 18 39 09.6
comp=Z,114nm,1.5s
TUL1 Leonard 74.55 342 P 18 39 08.1
baz=162,SNR=15
OK025 Westminster Rd 74.65 340 P **P** **18 39 08.7 +0.6**
OK025 IAmb IAmb 18 39 17.1
comp=Z,92nm,0.8s
R50A Paris 74.67 351 P **P** **18 39 08.5 +0.3**
R50A IAmb IAmb 18 39 21.3
comp=Z,85nm,1.2s
U38A Gravette 74.70 343 P **P** **18 39 08.1 -0.2**
Q58A Fox Den Farm, 74.77 357 P 18 39 09.8
baz=177
RAR Rarotonga 74.77 255 IAMs_20 IAMs_20 19 06 05.1
comp=Z,7μm,18.0s
R49A Shelbyville 74.79 351 P **P** **18 39 08.6 -0.2**
R49A IAmb IAmb 18 39 11.8
comp=Z,161nm,1.4s
BCOK Bluff Creek, N 74.80 340 P **P** **18 39 09.7 +0.7**
MSTX Muleshoe 74.82 335 P 18 39 10.4
baz=156,SNR=24
MSTX Muleshoe 74.83 335 P **P** **18 39 09.6 +0.3**
MSTX IAmb IAmb 18 39 24.4
comp=Z,72nm,1.1s
OK030 Cody Creek RV 74.83 341 P **P** **18 39 09.8 +0.7**
USIN University of 74.83 349 P **P** **18 39 09.3 +0.2**
S44A Carbondale 74.84 347 P **P** **18 39 09.4 +0.4**

SIUC Southern Illin 74.85 347 P **P** **18 39 09.5 +0.3**
SIUC IAmb IAmb 18 39 23.1
comp=Z,146nm,1.5s
OK031 S. Brethren Rd 74.86 341 P **P** **18 39 09.5 +0.2**
WCI Wyandotte Cave 74.88 350 P 18 39 09.3
baz=169
OK029 Liberty Lake 74.88 340 P **P** **18 39 09.6 +0.2**
WCI Wyandotte Cave 74.88 350 P **P** **18 39 08.6 -0.8**
WCI pmax pmax
comp=Z,28nm,1.1s
WCI MLR MLR
comp=Z,7μm,21.0s
WCI Wyandotte Cave 74.88 350 P **P** **18 39 08.6 -0.8**
WCI IAMs_20 IAMs_20 19 15 32.9
comp=Z,7μm,21.0s
Q57A Strasburg 74.90 356 P 18 39 10.7
baz=176,SNR=10
MGMO Mountain Grove 74.91 345 P **P** **18 39 10.1 +0.6**
MGMO IAmb IAmb 18 39 12.1
comp=Z,96nm,1.3s
Q53A Leroy 74.95 354 P 18 39 10.3
baz=173
Q56A Snyder Ridge, 74.95 356 P 18 39 10.7
baz=175,SNR=6.5
Q56A Snyder Ridge, 74.95 356 P **P** **18 39 11.3 +1.5**
Q56A IAmb IAmb 18 39 13.8
comp=Z,94nm,1.3s
Q56A IAMs_20 IAMs_20 19 15 55.5
comp=Z,6μm,19.0s
SUR Sutherland 74.99 119 P **P** **18 39 12.3 +1.6**
SUR IAmb IAmb 18 39 25.2
comp=Z,112nm,0.9s
SUR Sutherland 74.99 119 ⇓P **P** **18 39 12.6 +1.9**
Q54A Coxs Mills 75.02 354 P **P** **18 39 10.1 0.0**
QUOK Quay 75.03 341 P **P** **18 39 10.9 +0.6**
Q52A Bidwell 75.12 353 P **P** **18 39 11.2 +0.5**
SDMD Soldier's Deli 75.21 357 P **P** **18 39 11.8 +0.6**
Q51A Peebles 75.30 352 P **P** **18 39 11.5 -0.2**
Q51A IAmb IAmb 18 39 25.0
comp=Z,52nm,0.8s
AMTX Amarillo 75.30 336 P 18 39 13.1
baz=157
AMTX Amarillo 75.30 336 P **P** **18 39 12.2 +0.2**
AMTX IAmb IAmb 18 39 33.1
comp=Z,160nm,1.2s
P57A Homestead Farm 75.33 357 P 18 39 12.9
baz=176,SNR=12
P57A Homestead Farm 75.33 357 P **P** **18 39 12.6 +0.7**
P57A IAmb IAmb 18 39 31.1
comp=Z,89nm,1.1s
FVM French Village 75.34 346 P **P** **18 39 11.8 -0.2**
FVM pmax pmax
comp=Z,211nm,1.5s
FVM French Village 75.34 346 P **P** **18 39 11.8 -0.2**
121A Cookes Peak, D 75.38 331 P 18 39 14.5
baz=152,SNR=21
121A Cookes Peak, D 75.38 331 P **P** **18 39 14.1 +1.4**
121A IAmb IAmb 18 39 24.4
comp=Z,63nm,1.0s
P59A Jarrettsville 75.39 358 P 18 39 12.5
baz=178,SNR=9.7
P56A Dayton Farm, R 75.39 356 P 18 39 13.6
baz=176,SNR=7.1
P53A Whipple 75.56 354 P **P** **18 39 13.7 +0.5**
P53A IAmb IAmb 18 39 16.6
comp=Z,96nm,1.2s
CCM Cathedral Cave 75.56 346 P 18 39 14.1
baz=165
CCM Cathedral Cave 75.57 346 P **P** **18 39 13.3 0.0**
CCM pmax pmax
comp=Z,180nm,1.2s
CCM Cathedral Cave 75.57 346 P **P** **18 39 13.3 0.0**
CCM Cathedral Cave 75.57 346 ⇑P **P** **18 39 13.7 +0.4**
P60A Greenville 75.57 358 P 18 39 14.7
baz=178,SNR=7.7
P60A Greenville 75.57 358 P **P** **18 39 14.6 +1.3**
P60A IAMs_20 IAMs_20 19 14 54.1
comp=Z,6μm,20.0s
MCWV Mont Chateau 75.61 355 P 18 39 14.4
baz=175,SNR=6.5
MCWV Mont Chateau 75.61 355 P **P** **18 39 13.6 +0.1**
S39A Bolivar 75.65 344 P **P** **18 39 14.2 +0.3**
S39A IAmb IAmb 18 39 25.8
comp=Z,78nm,1.3s
T35A Sooner Cattle 75.69 341 P **P** **18 39 14.4 +0.3**
T35A IAmb IAmb 18 39 17.0
comp=Z,131nm,1.1s
WUPA West Chester U 75.69 358 P **P** **18 39 15.0 +1.0**
WUPA IAmb IAmb 18 39 28.8
comp=Z,92nm,1.2s
CROK Carrier 75.69 340 P **P** **18 39 15.1 +1.0**
P51A Williamsport 75.72 353 P **P** **18 39 14.1 -0.1**
P52A Corning 75.77 353 P 18 39 14.8
baz=173,SNR=17
P52A Corning 75.77 353 P **P** **18 39 14.4 -0.1**
MVL Millersville 75.78 358 P **P** **18 39 15.0 +1.6**
MVL IAmb IAmb 18 39 29.3
comp=Z,77nm,1.2s
O61A Allentown 75.83 359 P 18 39 15.1
baz=179
BLO Bloomington 75.84 350 P **P** **18 39 14.7 -0.2**
BLO pmax pmax
comp=Z,133nm,1.4s
BLO Bloomington 75.84 350 P **P** **18 39 14.7 -0.2**
BLO IAmb IAmb 18 39 27.6
comp=Z,133nm,1.4s
U32A Winter Ranch, 75.86 339 P **P** **18 39 16.2 +1.1**
U32A IAmb IAmb 18 39 29.3
comp=Z,81nm,0.8s
O58A Lewisberry 75.92 357 P 18 39 16.4
baz=177,SNR=6.4
SLM Saint Louis 75.93 347 P **P** **18 39 15.9 +0.5**
SLM pmax pmax
comp=Z,293nm,1.5s
SLM Saint Louis 75.93 347 P **P** **18 39 15.9 +0.5**
P49A Miami Univ. Ec 75.96 351 P 18 39 15.5
baz=171,SNR=9.4
P49A Miami Univ. Ec 75.96 351 P **P** **18 39 15.6 +0.1**
P48A Milroy 75.97 351 P **P** **18 39 15.1 -0.5**
Q44A Meyer Farm, Va 75.97 348 P **P** **18 39 15.2 -0.4**
Q44A IAmb IAmb 18 39 18.3
comp=Z,78nm,1.2s
GC02 Grant County # 75.98 340 P **P** **18 39 15.8 +0.1**
R40A Maddies Statio 76.00 345 P **P** **18 39 16.1 +0.4**
R40A IAmb IAmb 18 39 18.2
comp=Z,112nm,1.2s
PAGS Pennsylvania G 76.02 358 P **P** **18 39 16.7 +0.9**
PAGS IAmb IAmb 18 39 30.3
comp=Z,109nm,1.4s
KAN13 South Haven SW 76.03 341 P **P** **18 39 17.2 +1.2**
KAN13 IAmb IAmb 18 39 31.7
comp=Z,140nm,1.2s
O57A Amberson 76.03 357 P 18 39 16.9
baz=177,SNR=9.8
OK032 Salt Plains WL 76.04 340 P **P** **18 39 16.9 +0.9**
OK032 IAmb IAmb 18 39 25.6
comp=Z,67nm,0.8s
O60A Telford 76.07 359 P 18 39 17.6
baz=178,SNR=7.1
O59A Robesonia 76.08 358 P 18 39 17.6
baz=178,SNR=8.8
KAN14 Manchester OK 76.11 340 P **P** **18 39 17.8 +1.3**
KAN14 IAmb IAmb 18 39 19.4
comp=Z,149nm,1.4s
O56A Blue Knob Stat 76.14 356 P 18 39 17.6
baz=176
O56A Blue Knob Stat 76.14 356 P **P** **18 39 17.8 +1.2**
O56A IAmb IAmb 18 39 35.5
comp=Z,174nm,1.5s
O56A IAMs_20 IAMs_20 19 16 52.7
comp=Z,6μm,21.0s
KAN09 Caldwell North 76.19 341 P **P** **18 39 17.6 +0.7**
O52A Adamsville 76.22 354 P **P** **18 39 16.0 -1.0**
KAN05 Bluff City Nor 76.23 340 P **P** **18 39 18.8 +1.7**
KAN01 Argonia South 76.24 340 P **P** **18 39 17.7 +0.5**
O53A New Philadelph 76.30 354 P 18 39 17.9
baz=174,SNR=8.9
O53A New Philadelph 76.30 354 P **P** **18 39 17.5 +0.1**
KAN10 Anthony SW Sta 76.31 340 P **P** **18 39 17.1 -0.5**
KAN10 IAmb IAmb 18 39 20.7
comp=Z,152nm,1.3s
LUPA Lehigh Univers 76.35 359 P **P** **18 39 18.5 +0.7**
BNM Barren Site 76.37 332 P **P** **18 39 20.5 +2.2**
KAN08 Anthony NE Sta 76.37 340 P **P** **18 39 19.3 +1.4**
P46A Rosedale 76.38 349 P **P** **18 39 18.3 +0.4**

P46A IAmb IAmb 18 39 31.2
comp=Z,108nm,1.1s
TUC Tucson 76.42 328 P 18 39 19.9
baz=150
TUC Tucson 76.42 328 P **P** **18 39 18.9 +0.5**
TUC pmax pmax
comp=Z,49nm,1.2s
TUC MLR MLR
comp=Z,5μm,18.0s
TUC Tucson 76.42 328 P **P** **18 39 18.9 +0.5**
TUC Tucson 76.42 328 ⇑P **P** **18 39 21.0 +2.6**
KAN12 Harper NE Stat 76.44 340 P **P** **18 39 19.9 +1.6**
ACSO Alum Creek Sta 76.45 353 P 18 39 18.7
baz=172,SNR=16
ACSO Alum Creek Sta 76.45 353 P **P** **18 39 18.6 +0.4**
N61A South Mountain 76.49 360 P 18 39 18.6
baz=179
LENM Lemitar 76.51 332 P **P** **18 39 20.2 +1.2**
O49A Covington 76.56 352 P **P** **18 39 18.8 0.0**
N57A Milroy 76.57 357 P 18 39 20.0
baz=177,SNR=7.7
N60A Cedar Hill Far 76.62 359 P 18 39 20.2
baz=179,SNR=8.1
N58A Sunbury 76.63 358 P 18 39 20.3
baz=177
N58A Sunbury 76.63 358 P **P** **18 39 20.4 +1.2**
N58A IAmb IAmb 18 39 33.9
comp=Z,70nm,1.1s
N58A IAMs_20 IAMs_20 19 15 30.7
comp=Z,7μm,20.0s
N59A State Game Lan 76.68 358 P 18 39 21.1
baz=178,SNR=8.0
N59A State Game Lan 76.68 358 P **P** **18 39 19.9 +0.3**
N59A IAmb IAmb 18 39 34.6
comp=Z,119nm,1.4s
N59A IAMs_20 IAMs_20 19 17 57.2
comp=Z,8μm,20.0s
LIC Lamto 76.72 72 *eP* **P** **18 39 20.5 0.0**
comp=Z,384nm,1.1s
N56A West Decatur 76.77 356 P 18 39 21.1
baz=176
P43A Skaggs, Pawnee 76.78 348 P **P** **18 39 19.7 -0.4**
ODNJ Ogdensburg 76.83 359 P **P** **18 39 21.3 +0.9**
ODNJ IAmb IAmb 18 39 24.4
comp=Z,77nm,1.3s
N53A Lisbon 76.83 354 P **P** **18 39 20.6 +0.2**
N53A IAmb IAmb 18 39 34.6
comp=Z,127nm,1.3s
TRNY Table Rock, Ra 76.88 360 P **P** **18 39 21.9 +1.2**
TRNY IAmb IAmb 18 39 39.9
comp=Z,88nm,1.3s
WSPT Westport, CT 76.91 0 P **P** **18 39 21.1 +0.2**
WSPT IAmb IAmb 18 39 35.7
comp=Z,104nm,1.3s
WSPT IAMs_20 IAMs_20 19 19 45.5
comp=Z,6μm,20.0s
N54A Moraine State 76.92 355 P 18 39 21.6
baz=175,SNR=7.2
N54A Moraine State 76.92 355 P **P** **18 39 22.1 +1.2**
N54A IAmb IAmb 18 39 24.4
comp=Z,68nm,1.1s
N54A IAMs_20 IAMs_20 19 17 28.5
comp=Z,6μm,20.0s
PIX Pinacate 76.96 326 P **P** **18 39 23.7 +2.4**
TIC Toumodi 76.99 72 *eP* **P** **18 39 22.1 +0.1**
214A Organ Pipe Nat 77.00 327 P 18 39 24.1
baz=148,SNR=11
214A Organ Pipe Nat 77.00 327 P **P** **18 39 23.4 +1.8**
ANMO Albuquerque 77.01 333 P 18 39 23.8
baz=153
ANMO Albuquerque 77.01 333 *c iP* **P** **18 39 23.7 +1.9**
ANMO pmax pmax
comp=Z,81nm,1.4s
ANMO MLR MLR
comp=Z,5μm,15.0s
ANMO Albuquerque 77.01 333 P **P** **18 39 22.3 +0.5**
ANMO IAmb IAmb 18 39 44.5
comp=Z,120nm,1.3s
ANMO Albuquerque 77.01 333 IAMs_20 IAMs_20 19 08 44.5
comp=Z,7μm,20.0s
ANMO Albuquerque 77.01 333 ⇓P **P** **18 39 23.9 +2.0**
KIC Kosan Boka 77.02 72 *eP* **P** **18 39 22.2 0.0**
comp=Z,197nm,0.9s
M61A Granite Spring 77.05 360 P 18 39 23.9
baz=180
M60A Port Jervis 77.07 359 P 18 39 23.1
baz=179,SNR=6.0
N51A Ashland 77.07 353 P **P** **18 39 21.6 -0.2**
O44A Mansfield 77.10 348 P **P** **18 39 22.3 +0.4**
O44A IAmb IAmb 18 39 35.5
comp=Z,179nm,1.4s
SFIN Lafayette 77.11 350 P 18 39 22.9
baz=169
SFIN Lafayette 77.11 350 P **P** **18 39 21.1 -0.9**
SFIN IAmb IAmb 18 39 24.4
comp=Z,84nm,1.5s
DBIC Dimbokro 77.13 72 P **P** **18 39 22.9 +0.1**
comp=Z,66nm,1.1s,baz=205,slow=6.5,SNR=34
DBIC LR LR 19 09 13.1
comp=Z,8μm,20.2s,baz=219,slow=33
DBIC Dimbokro 77.13 72 P **P** **18 39 21.8 -0.9**
DBIC pmax pmax
comp=Z,112nm,1.0s
DBIC Dimbokro 77.13 72 P **P** **18 39 21.8 -0.9**
DBIC IAmb IAmb 18 39 36.7
comp=Z,112nm,1.0s
DBIC Dimbokro 77.13 72 ⇑P **P** **18 39 22.8 +0.1**
M57A Sunshine Farm, 77.14 357 P 18 39 23.4
baz=177
M57A Sunshine Farm, 77.14 357 P **P** **18 39 22.8 +0.6**
M57A IAmb IAmb 18 39 36.8
comp=Z,81nm,1.1s
M57A IAMs_20 IAMs_20 19 16 00.2
comp=Z,7μm,20.0s
M58A Price's Panora 77.15 358 P 18 39 23.3
baz=178
P40A Paris 77.15 346 P **P** **18 39 22.6 +0.4**
M63A Gales Ferry 77.15 1 P 18 39 23.1
baz=181
M63A Gales Ferry 77.16 1 IAMs_20 IAMs_20 19 16 15.6
comp=Z,7μm,20.0s
SFX San Felipe 77.16 325 P **P** **18 39 21.9 -0.6**
M62A Hamden 77.18 1 P 18 39 22.7
baz=181
N49A Columbus Grove 77.26 352 P **P** **18 39 22.6 -0.3**
M59A Waymart 77.29 359 P 18 39 24.0
baz=178
M64A Tiverton 77.32 2 P 18 39 24.6
baz=182
M56A Emporium 77.33 357 P 18 39 23.8
baz=176,SNR=9.3
M56A Emporium 77.33 357 P **P** **18 39 23.3 +0.1**
M56A IAmb IAmb 18 39 37.5
comp=Z,136nm,1.2s
N47A Urbana 77.41 351 P **P** **18 39 22.8 -0.8**
M54A Oil Creek Stat 77.44 355 P 18 39 24.3
baz=175
M54A Oil Creek Stat 77.44 355 P **P** **18 39 24.1 +0.2**
M54A IAMs_20 IAMs_20 19 17 49.3
comp=Z,7μm,20.0s
M53A WI Miller and 77.44 355 P 18 39 24.3
baz=174,SNR=11
M53A WI Miller and 77.44 355 P **P** **18 39 23.7 -0.2**
M53A IAmb IAmb 18 39 37.8
comp=Z,147nm,1.2s
M53A IAMs_20 IAMs_20 19 17 37.3
comp=Z,8μm,20.0s
SPX San Pedro Mart 77.45 324 P **P** **18 39 26.5 +2.0**
M51A Elyria 77.46 353 P 18 39 24.3
baz=173,SNR=6.7
P38A Dawn 77.55 344 P **P** **18 39 25.3 +0.8**
P38A IAmb IAmb 18 39 26.7
comp=Z,78nm,1.0s
M52A Chesterland 77.60 354 P **P** **18 39 24.9 +0.2**
ALLY Alegheny Colle 77.61 355 P **P** **18 39 24.9 +0.1**
ALLY IAmb IAmb 18 39 38.8
comp=Z,130nm,1.2s
M50A Fremont 77.62 353 P **P** **18 39 24.6 -0.1**
L63A North Scituate 77.62 2 P 18 39 25.5
baz=182
L63A North Scituate 77.62 2 P **P** **18 39 26.8 +2.0**
L63A IAmb IAmb 18 39 40.0
comp=Z,119nm,1.1s
HDIL Hopedale 77.63 348 P 18 39 25.5
baz=167,SNR=8.9
HDIL Hopedale 77.63 348 P **P** **18 39 24.8 -0.1**

R32A Long Quarter, 77.69 340 P **P** **18 39 26.8 +1.4**
L64A Middleborough 77.72 2 P 18 39 26.1
baz=182
L60A Shokan 77.73 360 P 18 39 26.3
baz=180
KSU1 Kansas State U 77.77 342 P 18 39 26.3
baz=161
KSU1 Kansas State U 77.78 342 P **P** **18 39 26.3 +0.5**
KSU1 IAmb IAmb 18 39 35.8
comp=Z,97nm,1.4s
L62A Suffield 77.78 1 IAMs_20 IAMs_20 19 16 38.0
comp=Z,6µm,20.0s
L57A Andrews Acres 77.79 358 P 18 39 26.7
baz=177,SNR=5.1
L58A Harry Jones Me 77.81 358 P 18 39 27.0
baz=178
CASY Casey 77.88 182 P **P** **18 39 27.1 +0.9**
CASY IAmb IAmb 18 39 28.6
comp=Z,165nm,1.5s
L53A Girard 77.92 355 P 18 39 26.9
baz=174,SNR=7.5
L61A Hillsdale 1, H 77.93 0 P 18 39 28.7
baz=180
L59A Walton 77.94 359 P 18 39 27.8
baz=179
L59A Walton 77.94 359 P **P** **18 39 27.9 +1.3**
L59A IAmb IAmb 18 39 41.3
comp=Z,70nm,1.1s
L59A IAMs_20 IAMs_20 19 19 02.4
comp=Z,8µm,18.0s
L56A Greenwood 77.95 357 P 18 39 27.6
baz=177,SNR=8.1
L56A Greenwood 77.95 357 P **P** **18 39 27.5 +0.7**
L56A IAMs_20 IAMs_20 19 16 37.8
comp=Z,7µm,19.0s
BINY Binghamton 77.96 358 P 18 39 27.7
baz=178
BINY Binghamton 77.96 358 P **P** **18 39 27.1 +0.3**
BINY IAMs_20 IAMs_20 19 18 54.5
comp=Z,10µm,19.0s
X18A Snowflake 78.00 330 P **P** **18 39 28.6 +1.2**
N41A Harden Midland 78.06 347 P **P** **18 39 28.0 +0.7**
ERPA Erie 78.07 355 P 18 39 27.8
baz=175
ERPA Erie 78.07 355 P **P** **18 39 27.4 +0.1**
ERPA IAmb IAmb 18 39 41.3
comp=Z,154nm,1.4s
ERPA IAMs_20 IAMs_20 19 18 10.1
comp=Z,6µm,20.0s
WES Weston 78.15 2 P **P** **18 39 30.1 +2.3**
WES pmax pmax
comp=Z,116nm,1.4s
WES MLR MLR
comp=Z,5µm,21.0s
WES Weston 78.15 2 P **P** **18 39 30.1 +2.3**
WES IAmb IAmb 18 39 32.1
comp=Z,116nm,1.4s
L61B Northampton 78.19 1 P 18 39 29.1
baz=181
M44A Midewin, Midew 78.24 349 P **P** **18 39 28.1 -0.1**
T25A Trinidad 78.25 335 P 18 39 30.7
baz=155,SNR=42
T25A Trinidad 78.26 335 P **P** **18 39 29.8 +1.0**
HRV Adam Dziewonsk 78.27 2 P 18 39 28.9
baz=182
WVNY West Valley, N 78.27 356 P **P** **18 39 29.2 +0.8**
WVNY IAmb IAmb 18 39 43.0
comp=Z,134nm,1.2s
L48A N Adams 78.30 352 P **P** **18 39 28.7 +0.1**
L48A IAmb IAmb 18 39 31.3
comp=Z,101nm,1.2s
CBKS Cedar Bluff 78.34 339 P 18 39 30.4
baz=159,SNR=9.6
CBKS Cedar Bluff 78.34 339 P **P** **18 39 30.3 +1.3**
CBKS pmax pmax
comp=Z,110nm,1.1s
CBKS Cedar Bluff 78.34 339 P **P** **18 39 30.3 +1.3**
CBKS IAmb IAmb 18 39 39.9
comp=Z,110nm,1.1s
CBKS Cedar Bluff 78.34 339 ⇓P **P** **18 39 31.1 +2.1**
K60A Five Rivers En 78.35 360 P 18 39 29.8
baz=180
K62A Royalston 78.41 1 P 18 39 31.8
baz=181
W18A Petrified Fore 78.42 330 P 18 39 31.9
baz=151,SNR=18
W18A Petrified Fore 78.42 331 P **P** **18 39 31.5 +1.8**
W18A IAmb IAmb 18 39 51.9
comp=Z,124nm,1.4s
K63A Dunstable 78.45 2 P 18 39 31.2
baz=182
TRY Troy 78.47 0 P **P** **18 39 30.9 +1.4**
TRY IAmb IAmb 18 39 44.6
comp=Z,111nm,1.1s
TRY IAMs_20 IAMs_20 19 20 22.7
comp=Z,6µm,19.0s
ESJX Sierra Juarez 78.48 324 P **P** **18 39 32.4 +2.3**
K56A Middlesex 78.50 357 P 18 39 30.7
baz=177
K57A Scipio Center 78.51 358 P 18 39 31.4
baz=178
K59A Cooperstown 78.52 359 P 18 39 30.8
baz=179
K58A Earlville 78.52 359 P 18 39 30.8
baz=178,SNR=5.6
K58A Earlville 78.52 359 P **P** **18 39 30.5 +0.6**
K58A IAmb IAmb 18 39 44.1
comp=Z,70nm,1.1s
K58A IAMs_20 IAMs_20 19 19 26.9
comp=Z,8µm,19.0s
CPBX Cerro Prieto 78.53 325 P **P** **18 39 31.8 +1.7**
CPBX IAmb IAmb 18 39 57.9
comp=Z,96nm,1.3s
MMNY Mt. Morris Dam 78.56 357 P **P** **18 39 31.0 +0.9**
MMNY IAmb IAmb 18 39 44.3
comp=Z,167nm,1.4s
AAM Ann Arbor 78.57 352 P 18 39 30.9
baz=172
AAM Ann Arbor 78.57 352 P **P** **18 39 30.1 0.0**
AAM pmax pmax
comp=Z,106nm,1.2s
AAM MLR MLR
comp=Z,6µm,21.0s
AAM Ann Arbor 78.57 352 P **P** **18 39 30.1 0.0**
AAM IAmb IAmb 18 39 43.7
comp=Z,106nm,1.1s
L46A Eue Claire 78.60 350 P **P** **18 39 30.7 +0.4**
L46A IAmb IAmb 18 39 43.6
comp=Z,152nm,1.3s
N38A Joes South For 78.61 345 P **P** **18 39 31.0 +0.7**
HQIL Hanson Quary C 78.61 349 P **P** **18 39 30.9 +0.6**
HQIL IAMs_20 IAMs_20 19 17 26.7
comp=Z,9µm,20.0s
GLA Glamis 78.83 326 P 18 39 34.4
baz=147,SNR=9.3
GLA Glamis 78.83 326 P **P** **18 39 34.2 +2.3**
GLA pmax pmax
comp=Z,90nm,1.4s
GLA Glamis 78.83 326 P **P** **18 39 34.2 +2.3**
GLA IAmb IAmb 18 39 37.1
comp=Z,90nm,1.4s
K50A Casco 78.93 353 P **P** **18 39 31.7 -0.4**
J60A Lant Hill Farm 78.98 0 P 18 39 34.7
baz=180
J62A Henniker 78.98 1 P 18 39 33.9
baz=182
L44A Lake County Fo 78.99 349 P 18 39 32.8
baz=168
L44A Lake County Fo 78.99 349 P **P** **18 39 32.4 0.0**
L44A IAMs_20 IAMs_20 19 17 57.7
comp=Z,7µm,20.0s
J63A Strafford 79.05 2 P 18 39 34.7
baz=182
J56A Wolcott 79.06 358 P 18 39 34.1
baz=177
J56A Wolcott 79.06 358 P **P** **18 39 31.4 -1.4**
J56A IAmb IAmb 18 39 46.8
comp=Z,75nm,1.1s
J56A IAMs_20 IAMs_20 19 19 51.2
comp=Z,7µm,18.0s
J61A Chester 79.09 1 P 18 39 35.3
baz=181
IKP In-Ko-Pah, Jac 79.09 325 P 18 39 35.9
baz=146,SNR=6.5
J55A Hilton 79.09 357 P **P** **18 39 32.8 -0.1**
J55A IAmb IAmb 18 39 36.3
comp=Z,64nm,1.1s
L42A Oliver, Polo 79.11 348 P **P** **18 39 32.9 -0.1**
L42A IAmb IAmb 18 39 46.9
comp=Z,182nm,1.4s
ACCN Adirondack Com 79.12 0 P **P** **18 39 31.7 -1.4**
ACCN IAmb IAmb 18 39 47.9
comp=Z,205nm,1.5s
J57A Williamstown 79.17 358 P 18 39 33.9
baz=178
J57A Williamstown 79.17 358 P **P** **18 39 34.2 +0.8**
J57A IAmb IAmb 18 39 47.7
comp=Z,85nm,1.2s
J57A IAMs_20 IAMs_20 19 20 32.0
comp=Z,7µm,18.0s
J59A Piesco 79.20 359 P 18 39 35.0
baz=179
J59A Piesco 79.20 359 P **P** **18 39 34.8 +1.2**
J59A IAmb IAmb 18 39 48.0
comp=Z,97nm,1.2s
J59A IAMs_20 IAMs_20 19 17 02.9
comp=Z,6µm,20.0s
N35A Tabor 79.21 343 P **P** **18 39 33.9 +0.3**
N35A IAmb IAmb 18 39 35.9
comp=Z,98nm,1.0s
TKX Tecate 79.26 324 P **P** **18 39 34.0 -0.1**
BAR Barrett 79.38 324 P **P** **18 39 34.3 -0.5**
KSCO Kaye Shedlock' 79.38 337 P 18 39 36.7
baz=156,SNR=12
KSCO Kaye Shedlock' 79.38 337 P **P** **18 39 37.0 +2.1**
KSCO IAmb IAmb 18 39 51.4
comp=Z,148nm,1.2s
WUAZ Wupatki 79.43 330 P 18 39 37.4
baz=150,SNR=21
WUAZ Wupatki 79.43 330 P **P** **18 39 37.3 +2.1**
WUAZ IAmb IAmb 18 39 45.6
comp=Z,85nm,1.4s
WUAZ Wupatki 79.43 330 ⇓P **P** **18 39 38.1 +2.9**
I58A Old Forge 79.43 359 P 18 39 36.8
baz=179
L40A Anamosa 79.44 347 P **P** **18 39 34.9 0.0**
L40A IAmb IAmb 18 39 47.9
comp=Z,93nm,1.1s
MONP2 Monument Peak 79.44 324 P 18 39 38.0
baz=146,SNR=6.6
HNH Hanover 79.45 1 P **P** **18 39 34.2 -0.7**
I59A Olmsteadville 79.53 360 P 18 39 37.2
baz=180
N33A J Bar K, Exete 79.53 342 P **P** **18 39 36.5 +1.1**
N33A IAmb IAmb 18 39 38.3
comp=Z,154nm,1.3s
K43A Burlington 79.57 349 P **P** **18 39 35.5 -0.1**
PDMCI Parker Dam,Lak 79.58 327 P 18 39 38.1
baz=148,SNR=6.5
I60A Shoreham 79.58 0 P 18 39 37.0
baz=180,SNR=7.2
BC3 Big Chuckawall 79.62 326 P 18 39 38.6
baz=147,SNR=25
J47A Sunmer 79.62 352 P **P** **18 39 36.0 +0.2**
J47A IAmb IAmb 18 39 38.5
comp=Z,83nm,1.1s
I62A Tamworth 79.64 2 P 18 39 38.3
baz=182
I62A Tamworth 79.64 2 IAMs_20 IAMs_20 19 17 11.3
comp=Z,6µm,20.0s
S22A 4UR Ranch, Cre 79.64 334 P 18 39 38.5
baz=153,SNR=41
SCIA State Center 79.67 345 P 18 39 37.1
baz=164,SNR=7.7
SCIA State Center 79.67 345 P **P** **18 39 36.2 0.0**
SCIA IAmb IAmb 18 39 49.8
comp=Z,104nm,1.1s
I57A Carthage 79.69 359 P 18 39 37.2
baz=178
NCB Newcomb 79.71 360 P **P** **18 39 34.6 -1.7**
PECO Prince Edward 79.73 358 P **P** **18 39 36.7 +0.3**
PECO IAmb IAmb 18 39 50.7
comp=Z,143nm,1.4s
MVCO Mesa Verde 79.78 332 P 18 39 39.1
baz=152,SNR=24
MVCO Mesa Verde 79.78 332 P **P** **18 39 38.2 +1.0**
MVCO IAmb IAmb 18 39 59.8
comp=Z,79nm,1.2s
MVCO IAMs_20 IAMs_20 19 10 53.8
comp=Z,10µm,18.0s
I51A Listowel 79.82 355 P 18 39 37.2
baz=174,SNR=14
I63A Otisfield 79.83 2 P 18 39 38.9
baz=182
I63A Otisfield 79.84 2 P **P** **18 39 38.0 +1.1**
I63A IAmb IAmb 18 39 42.6
comp=Z,156nm,1.4s
I63A IAMs_20 IAMs_20 19 17 09.5
comp=Z,6µm,20.0s
IRM Iron Mountain 79.90 326 P 18 39 40.2
baz=147,SNR=18
TSUM Tsumeb 79.93 106 P **P** **18 39 38.6 +0.2**
TSUM IAmb IAmb 18 39 55.6
comp=Z,81nm,1.2s
TSUM Tsumeb 79.93 106 IAMs_20 IAMs_20 19 18 42.7
comp=Z,9µm,18.0s
TSUM Tsumeb 79.93 106 ⇓P **P** **18 39 39.2 +0.7**
LBNH Lisbon 79.99 1 P 18 39 39.9
baz=181
LBNH Lisbon 79.99 1 P **P** **18 39 40.0 +2.2**
LBNH pmax pmax
comp=Z,70nm,1.0s
LBNH MLR MLR
comp=Z,5µm,20.0s
LBNH Lisbon 79.99 1 P **P** **18 39 40.0 +2.2**
LBNH IAmb IAmb 18 39 52.9
comp=Z,70nm,1.0s
KGNO Kingston 80.00 358 ⇓P **P** **18 39 39.5 +1.7**
TPFO Pinon Flats 80.04 325 P 18 39 41.2
baz=146,SNR=10
XPFO Pion Flat 80.05 325 P **P** **18 39 40.0 +1.4**
XPFO Pion Flat 80.05 325 ⇑P **P** **18 39 41.4 +2.9**
XPFO ⇓P **P** **18 39 41.7 +3.2**
PFO Pinyon Flats O 80.05 325 P 18 39 41.4
baz=146,SNR=14
PFO Pinyon Flats O 80.05 325 P **P** **18 39 41.4 +2.8**
baz=137,slow=5.4
PFO Pinyon Flats O 80.05 325 *ce*P **P** **18 39 41.2 +2.6**
PFO pmax pmax
comp=Z,92nm,1.2s
PFO Pinyon Flats O 80.05 325 P **P** **18 39 40.4 +1.8**
JFWS Jewell Farm 80.09 348 P 18 39 38.9
baz=166,SNR=14
JFWS Jewell Farm 80.09 348 P **P** **18 39 38.5 +0.1**
JFWS pmax pmax
comp=Z,102nm,1.2s
JFWS MLR MLR
comp=Z,7µm,20.0s
JFWS Jewell Farm 80.09 348 P **P** **18 39 38.5 +0.1**
JFWS IAmb IAmb 18 39 53.4
comp=Z,102nm,1.1s
JFWS Jewell Farm 80.09 348 IAMs_20 IAMs_20 19 21 13.8
comp=Z,7µm,20.0s
W13A Hualapai Mount 80.14 328 P **P** **18 39 41.0 +1.9**
Q24A Divide 80.15 336 P 18 39 41.2
baz=155,SNR=8.7
H58A Gabriels 80.15 360 P 18 39 39.7
baz=180,SNR=5.3
BELC Belle Mtn. Jos 80.16 325 P 18 39 41.5
baz=146,SNR=7.2
H57A Richville 80.21 359 P 18 39 40.1
baz=179
BFZ Birch Farm 80.23 226 IAMs_20 IAMs_20 19 06 35.9
comp=Z,6µm,21.0s
BOSA Boshof 80.28 118 P **P** **18 39 40.3 +0.1**
comp=Z,153nm,1.2s,baz=227,slow=5.8,SNR=31
BOSA LR LR 19 12 49.4
comp=Z,6µm,18.4s,baz=232,slow=34
BOSA Boshof 80.28 118 P **P** **18 39 39.6 -0.6**
BOSA pmax pmax
comp=Z,122nm,0.9s
BOSA Boshof 80.28 118 P **P** **18 39 39.6 -0.6**
BOSA IAmb IAmb 18 39 53.8
comp=Z,122nm,0.9s
BOSA Boshof 80.28 118 ⇓P **P** **18 39 40.2 +0.1**
BOSA ⇑P **P** **18 39 40.8 +0.6**
H61A Lyndonville 80.28 1 P 18 39 41.0
baz=181,SNR=7.4
K38A Parkersburg 80.30 346 P **P** **18 39 39.1 -0.4**
K38A IAmb IAmb 18 39 50.5
comp=Z,94nm,1.4s
H60A Morristown 80.30 1 P 18 39 40.9
baz=181
BGNE Belgrade 80.34 342 P 18 39 40.9
baz=160
BGNE Belgrade 80.34 342 P **P** **18 39 40.5 +0.7**
BGNE IAmb IAmb 18 39 53.9
comp=Z,127nm,1.1s
H62A Milan 80.34 2 IAMs_20 IAMs_20 19 17 59.9
comp=Z,6µm,19.0s
LONY Lake Ozonia 80.36 359 P 18 39 40.7
baz=179,SNR=6.9
LONY Lake Ozonia 80.36 359 P **P** **18 39 40.4 +0.5**
LONY IAmb IAmb 18 39 54.4
comp=Z,127nm,1.3s
LONY IAMs_20 IAMs_20 19 18 07.8
comp=Z,6µm,20.0s
H59A Cadyville 80.38 360 P 18 39 40.9
baz=180
MURC Murrieta 80.39 324 P 18 39 42.7
baz=146,SNR=7.4
H53A Bobcaygeon 80.43 356 P 18 39 40.8
baz=176,SNR=9.1
H63A New Sharon 80.46 3 P 18 39 41.3
baz=183
H64A Troy 80.48 3 P 18 39 41.2
baz=184
ODZ Otahua Downs 80.49 220 IAMs_20 IAMs_20 19 07 23.1
comp=Z,12µm,20.0s
SCI2 San Clemente I 80.53 323 P 18 39 41.7
baz=145
FRNY Flat Rock 80.57 0 P **P** **18 39 41.5 +0.6**
FRNY IAmb IAmb 18 39 55.5
comp=Z,95nm,1.2s
H65A Eastbrook 80.58 4 P 18 39 42.4
baz=184
U15A North Rim 80.59 329 P **P** **18 39 43.3 +1.7**
PV01 Paradox Valley 80.62 333 P **P** **18 39 43.7 +2.0**
EMMW East Machias 80.64 4 IAMs_20 IAMs_20 19 19 28.2
comp=Z,6µm,19.0s
SADO Sadowa 80.66 356 P **P** **18 39 41.8 +0.5**
SADO IAmb IAmb 18 39 55.4
comp=Z,136nm,1.4s
SADO Sadowa 80.66 356 ⇓P **P** **18 39 42.5 +1.1**
GMRC Granite Mounta 80.66 326 P 18 39 44.4
baz=147,SNR=25
SNZO South Karori 80.72 225 IAMs_20 IAMs_20 19 07 08.8
comp=Z,7µm,20.0s
H66A Whiting 80.73 5 P 18 39 43.7
baz=185
PV13 Radium Mtn., P 80.73 333 P **P** **18 39 44.3 +2.0**
PV13 IAmb IAmb 18 39 53.6
comp=Z,69nm,1.1s
PV02 Paradox Valley 80.75 333 P **P** **18 39 43.7 +1.3**
PV05 Paradox Valley 80.77 332 P **P** **18 39 43.8 +1.4**
PV15 Paradox Valley 80.77 333 P **P** **18 39 44.5 +2.0**
CIS Catalina Islan 80.81 323 P 18 39 44.0
baz=145
I42A Draeger Farm, 80.82 349 P **P** **18 39 42.6 +0.3**
I42A IAmb IAmb 18 39 56.2
comp=Z,121nm,1.4s
PV03 Paradox Valley 80.83 333 P **P** **18 39 44.5 +1.8**
PLVO Plevna 80.83 358 P **P** **18 39 42.9 +0.6**
PLVO IAmb IAmb 18 39 56.8
comp=Z,135nm,1.3s
G60A Masonville 80.84 1 P 18 39 44.1
baz=181
PV18 Skein Mesa, Pa 80.84 333 P **P** **18 39 44.2 +1.4**
G57A Newington 80.85 359 P 18 39 43.4
baz=179,SNR=10
PV12 Saucer Basin, 80.87 333 P **P** **18 39 44.5 +1.5**
PV12 IAmb IAmb 18 40 02.7
comp=Z,71nm,1.2s
PV11 David Mesa, Pa 80.88 333 P **P** **18 39 44.1 +1.1**
PV11 IAmb IAmb 18 39 46.8
comp=Z,96nm,1.5s
G58A Ormstown 80.88 360 P 18 39 43.8
baz=180
PV17 East Wray Mesa 80.89 333 P **P** **18 39 44.5 +1.4**
OXZ Oxford 80.89 222 IAMs_20 IAMs_20 19 07 18.0
comp=Z,9µm,20.0s
PV16 Nyswonger Mesa 80.90 333 P **P** **18 39 44.5 +1.4**
PV07 Paradox Valley 80.92 333 P **P** **18 39 44.5 +1.2**
PV19 Morning Glory 80.93 333 P **P** **18 39 45.0 +1.8**
G63A Kingsbury 80.93 3 P 18 39 44.0
baz=183
MXZ Matakaoa Point 80.95 230 IAMs_20 IAMs_20 19 08 24.3
comp=Z,7µm,20.0s
PV20 West Nyswonger 80.95 333 P **P** **18 39 44.6 +1.2**
SMCO Snowmass 80.97 334 P **P** **18 39 45.3 +1.5**
SMCO IAmb IAmb 18 40 03.8
comp=Z,112nm,1.2s
SMCO IAMs_20 IAMs_20 19 12 38.3
comp=Z,8µm,18.0s
SMCO Snowmass 80.97 334 ⇑P **P** **18 39 46.1 +2.3**
PV04 Paradox Valley 80.97 333 P **P** **18 39 45.0 +1.5**
PV04 IAmb IAmb 18 39 48.1
comp=Z,87nm,1.4s
OGNE Ogallala 80.98 339 P 18 39 45.2
baz=157
OGNE Ogallala 80.98 339 P **P** **18 39 45.0 +1.7**
OGNE IAmb IAmb 18 39 58.9
comp=Z,95nm,1.2s
PV14 Lion Creek, Pa 81.00 333 P **P** **18 39 44.7 +1.0**
PV14 IAmb IAmb 18 40 01.9
comp=Z,73nm,1.2s
HEC Hector,Ludlow 81.00 326 P 18 39 46.2
baz=146,SNR=16
G62A West of Eustis 81.00 2 P 18 39 45.1
baz=182
G62A West of Eustis 81.00 2 P **P** **18 39 44.0 +0.7**
G62A IAmb IAmb 18 39 47.6
comp=Z,131nm,1.4s
G62A IAMs_20 IAMs_20 19 20 48.8
comp=Z,6µm,20.0s
PV10 Paradox Valley 81.01 333 P **P** **18 39 45.1 +1.3**
G61A St-Isidore-de- 81.04 2 P 18 39 44.9
baz=182
BKZ Black Stump Fm 81.05 228 IAMs_20 IAMs_20 19 07 49.6
comp=Z,7µm,20.0s
PV22 Blue Mesa, Par 81.05 333 P **P** **18 39 45.3 +1.4**
MOQ Mont Orford 81.06 1 P **P** **18 39 44.5 +0.9**
ISCO Idaho Springs 81.06 336 P 18 39 46.0
baz=154,SNR=23
ISCO Idaho Springs 81.06 336 P **P** **18 39 45.2 +1.1**
ISCO pmax pmax
comp=Z,73nm,1.5s
ISCO MLR MLR
comp=Z,4µm,18.0s
ISCO Idaho Springs 81.06 336 P **P** **18 39 45.2 +1.1**
PKME Peaks-Kenny Pk 81.10 3 P 18 39 45.9
baz=184
PKME Peaks-Kenny Pk 81.10 3 IAMs_20 IAMs_20 19 16 06.3
comp=Z,6µm,21.0s
I40A Norwalk 81.10 348 P **P** **18 39 44.1 +0.3**
I40A IAmb IAmb 18 39 57.0
comp=Z,72nm,1.2s
G64A Maxfield 81.11 4 P 18 39 46.2
baz=184
G65A Princeton 81.13 4 IAMs_20 IAMs_20 19 17 50.0
comp=Z,7µm,20.0s
LTZ Lake Taylor 81.13 223 IAMs_20 IAMs_20 19 07 17.2
comp=Z,7µm,21.0s
BFSC Mount Baldy Ra 81.13 324 P 18 39 46.7
baz=145,SNR=7.1
GLMI Grayling 81.17 352 IAMs_20 IAMs_20 19 22 01.3
comp=Z,8µm,19.0s
RPZ Rata Peaks 81.17 222 P **P** **18 39 46.0 +1.4**
comp=Z,26nm,0.9s,baz=212,slow=5.9,SNR=4.2
RPZ Rata Peaks 81.17 222 P **P** **18 39 45.1 +0.6**
RPZ IAmb IAmb 18 39 55.8
comp=Z,62nm,1.0s
H43A Windswept, Lux 81.22 350 P **P** **18 39 44.9 +0.5**
H43A IAmb IAmb 18 40 02.9
comp=Z,136nm,1.4s
G54A Lake Saint Pet 81.23 357 P 18 39 45.1
baz=176,SNR=8.4
URZ Urewera 81.25 229 P **P** **18 39 47.1 +2.1**
comp=Z,21nm,1.0s,baz=22,slow=12,SNR=3.6
URZ Urewera 81.25 229 P **P** **18 39 46.5 +1.5**
URZ IAmb IAmb 18 40 03.9
comp=Z,121nm,1.5s
URZ IAMs_20 IAMs_20 19 07 28.1
comp=Z,9µm,19.0s
WHZ Wether Hill Ro 81.30 218 P **P** **18 39 45.5 +0.3**
WHZ IAmb IAmb 18 40 04.8
comp=Z,77nm,1.3s
MWC Mount Wilson 81.31 324 P **P** **18 39 46.4 +1.0**

MWC pmax pmax
comp=Z,60nm,1.4s
MWC Mount Wilson 81.31 324 P P 18 39 46.4 +1.0
KNB Kanab 81.32 329 P P 18 39 46.6 +1.3
KNB pmax pmax
comp=Z,171nm,1.4s
KNB Kanab 81.32 329 P P 18 39 46.6 +1.3
KNB IAmb IAmb 18 40 08.6
comp=Z,171nm,1.4s
PASC Pasadena Art C 81.33 324 P P 18 39 46.2 +1.0
GAC Glen Almond 81.45 359 ⇓P P 18 39 47.0 +1.4
PKCU Pink Cliffs 81.47 330 P P 18 39 48.9 +2.6
LCMT Little Creek M 81.49 329 P P 18 39 47.2 +1.0
G45A Suttons Bay 81.50 351 P P 18 39 45.8 -0.1
G45A IAmb IAmb 18 39 59.7
comp=Z,187nm,1.4s
F63A Nahmakanta, Br 81.54 3 P 18 39 48.1
baz=184
F63A Nahmakanta, Br 81.54 3 P P 18 39 48.4 +2.3
F63A IAmb IAmb 18 39 49.0
comp=Z,114nm,1.4s
F63A IAMs_20 IAMs_20 19 18 03.4
comp=Z,6µm,20.0s
F57A Harrington 81.55 359 P 18 39 47.9
baz=179
F59A Saint Guilaume 81.59 1 P 18 39 48.2
baz=181
GSC Goldstone, Bar 81.61 326 P 18 39 49.3
baz=146,SNR=11
GSC Goldstone, Bar 81.61 326 P P 18 39 48.6 +1.8
GSC pmax pmax
comp=Z,36nm,1.2s
GSC Goldstone, Bar 81.61 326 P P 18 39 48.6 +1.8
K31A O'Neill 81.64 342 P P 18 39 48.6 +1.9
F60A Warwick 81.72 1 P 18 39 48.0
baz=181
I37A Lemond, Waseca 81.74 346 P P 18 39 47.5 +0.3
F64A Sherman 81.74 4 P 18 39 48.7
baz=184
F64A Sherman 81.74 4 P P 18 39 48.6 +1.6
F61A St Evariste 81.75 2 P 18 39 49.5
baz=182
ALGO Algonquin Park 81.78 357 P 18 39 48.0
baz=176,SNR=12
EDW2 Edwards Air Fo 81.81 325 P 18 39 49.8
baz=145,SNR=6.6
SCZ2 Santa Cruz Isl 81.88 323 P 18 39 49.3
baz=144
GBN Guysborough 81.89 9 IAMs_20 IAMs_20 19 19 19.1
comp=Z,8µm,20.0s
SZCU Shurtz Canyon 81.92 329 P P 18 39 50.5 +1.9
MTPU Mount Pierson 81.93 330 P P 18 39 50.0 +1.2
OSI Osito Audit: C 81.94 324 P 18 39 50.0
baz=145
TRQ Mont Tremblant 81.96 359 P P 18 39 49.3 +0.9
LMN Caledonia Moun 81.98 6 IAMs_20 IAMs_20 19 19 57.6
comp=Z,7µm,20.0s
CCUT Cedar City 82.00 329 P P 18 39 51.1 +2.1
CCUT IAmb IAmb 18 40 01.4
comp=Z,65nm,1.2s
E58A La Victoria 82.11 0 P 18 39 49.8
baz=180,SNR=7.7
E60A Ste Agathe de 82.13 2 P 18 39 50.2
baz=182,SNR=6.5
N23A Red Feather La 82.16 336 P 18 39 51.6
baz=154,SNR=21
ECSD EROS Data Cent 82.16 343 P 18 39 50.3
baz=161,SNR=56
LRMC Laurel Mtn Rad 82.16 325 P 18 39 52.1
baz=146,SNR=14
ECSD EROS Data Cent 82.16 343 P P 18 39 49.3 -0.1
ECSD IAmb IAmb 18 40 03.2
comp=Z,86nm,0.9s
SRU San Rafael Swe 82.21 332 P P 18 39 51.0 +1.0
SRU pmax pmax
comp=Z,39nm,1.0s
SRU San Rafael Swe 82.21 332 P P 18 39 51.0 +1.0
E55A Montcerf-Lytto 82.22 358 P 18 39 50.6
baz=178
O20A White River Ci 82.27 334 P 18 39 52.1
baz=152,SNR=14
O20A White River Ci 82.27 334 P P 18 39 52.1 +1.8
E56A St. Veronique 82.29 359 P 18 39 50.6
baz=179,SNR=9.3
Q16A Castle Valley 82.29 331 P P 18 39 52.6 +2.2
Q16A IAmb IAmb 18 40 12.5
comp=Z,76nm,1.2s
E63A Oxbow 82.29 4 P 18 39 51.4
baz=184
E63A Oxbow 82.30 4 P P 18 39 50.0 0.0
E63A IAMs_20 IAMs_20 19 18 31.0
comp=Z,6µm,21.0s
E64A Bridgewater 82.32 4 P 18 39 51.7
baz=185
MSU Marysvale 82.34 330 P P 18 39 52.8 +2.1
MSU Marysvale 82.34 330 P P 18 39 52.8 +2.1
PHWY Pilot Hill 82.36 336 P P 18 39 51.6 +0.7
PHWY IAmb IAmb 18 39 54.3
comp=Z,67nm,1.4s
G40A Rib Lake 82.37 348 P P 18 39 51.0 +0.6
TCRU Three Creeks R 82.53 330 P P 18 39 53.1 +1.3
F42A Maple Grove Fa 82.53 350 P P 18 39 51.9 +0.7
F42A IAmb IAmb 18 40 05.7
comp=Z,108nm,1.4s
PRN Pahroc Range 82.59 328 ⇑P P 18 39 54.3 +2.4
PRN ⇓P P 18 39 55.3 +3.3
FURC Furnace Creek, 82.60 326 P 18 39 54.4
baz=146,SNR=7.7
P17A Butcher Ranch, 82.61 332 P P 18 39 53.0 +0.9
P17A IAmb IAmb 18 40 14.4
comp=Z,89nm,1.3s
TMUT Trail Mountain 82.63 332 P P 18 39 53.6 +1.2
TMUT IAmb IAmb 18 40 03.8
comp=Z,47nm,1.0s
LBTB Lobatse 82.63 115 P P 18 39 51.0 -1.7
LBTB pmax pmax
comp=Z,229nm,1.3s
LBTB Lobatse 82.63 115 P P 18 39 51.0 -1.7
LBTB Lobatse 82.63 115 ⇓P P 18 39 52.6 0.0
LBTB ⇓P P 18 39 52.7 0.0
E46A Sault Ste Mari 82.66 353 P P 18 39 51.8 -0.1
ISA Isabella, Lake 82.68 325 P 18 39 55.0
baz=145,SNR=18
ISA Isabella, Lake 82.68 325 P P 18 39 54.4 +2.0
ISA pmax pmax
comp=Z,50nm,1.3s
ISA Isabella, Lake 82.68 325 P P 18 39 54.4 +2.0
D60A Saint Jean D'O 82.69 2 P 18 39 53.3
baz=182
PKM Mcpherson Peak 82.69 323 P 18 39 55.1
baz=144,SNR=9.4
TPNV Topopah Spring 82.72 327 P 18 39 55.3
baz=147,SNR=23
TPNV Topopah Spring 82.73 327 P P 18 39 55.2 +2.5
TPNV pmax pmax
comp=Z,44nm,1.2s
TPNV MLR MLR
comp=Z,5µm,22.0s
TPNV Topopah Spring 82.73 327 P P 18 39 55.2 +2.5
TPNV Topopah Spring 82.73 327 ⇑P P 18 39 55.5 +2.7
KOWA Kowa 82.73 66 P P 18 39 51.7 -1.3
KOWA IAmb IAmb 18 40 05.3
comp=Z,114nm,1.1s
D55A Sainte-Anne-du 82.77 359 P 18 39 53.2
baz=178,SNR=9.5
SPMN Marine on St. 82.78 347 P 18 39 52.8
baz=164,SNR=9.3
SPMN Marine on St. 82.79 347 P P 18 39 52.8 +0.2
D56A ZEC Mazanza, M 82.79 359 P 18 39 53.6
baz=179,SNR=6.9
D58A Chemin du LacG 82.83 1 P 18 39 53.9
baz=181,SNR=12
D63A Stockholm 82.92 4 P 18 39 55.1
baz=184
E43A Lone Tree Farm 82.98 351 P P 18 39 54.5 +0.9
COWI Conover 83.01 349 P P 18 39 54.4 +0.6
COWI IAMs_20 IAMs_20 19 17 51.4
comp=Z,6µm,22.0s
PSUT Pine Spring 83.03 329 P P 18 39 55.0 +0.6
VES Vestal, Richgr 83.11 324 P 18 39 57.0
baz=145,SNR=13
SMMC Simmler 83.12 323 P 18 39 55.9
baz=144
LATQ La Tuque 83.12 1 P 18 39 55.8
baz=181
LATQ La Tuque 83.12 1 P P 18 39 54.5 +0.2

RDMU Red Mountain 83.13 333 P P 18 39 55.4 +0.6
RDMU IAmb IAmb 18 40 17.0
comp=Z,140nm,1.5s
CWC Cottonwood Cre 83.13 325 P 18 39 56.4
baz=145
GRAC Grapevine Rang 83.26 326 P 18 39 58.0
baz=146,SNR=16
RWWY Rawlins 83.29 335 P P 18 39 56.7 +1.0
RWWY IAmb IAmb 18 40 14.3
comp=Z,109nm,1.2s
BATG Bathurst New B 83.30 5 P P 18 39 56.7 +1.5
BATG IAmb IAmb 18 40 10.1
comp=Z,126nm,1.4s
BATG IAMs_20 IAMs_20 19 21 06.4
comp=Z,8µm,19.0s
SUSD Miller 83.39 342 P 18 39 56.6
baz=160
SUSD Miller 83.39 342 P P 18 39 56.8 +1.0
SUSD IAmb IAmb 18 40 11.6
comp=Z,68nm,0.9s
MPU Maple Canyon 83.42 332 P P 18 39 57.4 +1.1
MPU IAmb IAmb 18 40 07.8
comp=Z,76nm,1.1s
F36A Milaca 83.54 346 P P 18 39 56.9 +0.4
F36A IAmb IAmb 18 40 09.6
comp=Z,51nm,1.0s
NLU North Lily Min 83.54 331 P P 18 39 58.6 +1.7
NLU IAmb IAmb 18 40 19.7
comp=Z,116nm,1.5s
PAGB Antelope Grade 83.58 324 P P 18 39 59.2 +2.2
PAGB IAmb IAmb 18 40 09.3
comp=Z,55nm,1.1s
R11A Troy Canyon, C 83.61 328 P 18 39 59.8
baz=147,SNR=33
SPR3 Spring Creek 3 83.63 329 P P 18 39 58.8 +1.2
SPR3 IAmb IAmb 18 40 01.3
comp=Z,110nm,1.4s
JLU Jordanelle 83.86 332 P P 18 40 00.1 +1.5
JLU IAmb IAmb 18 40 09.8
comp=Z,46nm,1.1s
D41A Chassel 83.87 350 P P 18 39 59.2 +1.0
E38A The Farm, Brul 83.89 348 P P 18 39 58.7 +0.4
E38A IAmb IAmb 18 40 11.5
comp=Z,43nm,0.9s
VLDQ Val d'Or 83.92 357 P P 18 39 59.2 +0.9
VLDQ IAmb IAmb 18 40 12.8
comp=Z,102nm,1.2s
K22A Casper 83.92 336 P 18 40 00.4
baz=154,SNR=21
K22A Casper 83.92 336 P P 18 39 59.8 +1.0
DUG Dugway, Tooele 84.03 331 P 18 40 01.5
baz=149,SNR=38
DUG Dugway, Tooele 84.03 331 P P 18 40 00.5 +1.1
DUG pmax pmax
comp=Z,76nm,1.1s
DUG MLR MLR
comp=Z,7µm,18.0s
DUG Dugway, Tooele 84.03 331 P P 18 40 00.5 +1.1
DUG IAmb IAmb 18 40 14.4
comp=Z,76nm,1.1s
DUG IAMs_20 IAMs_20 19 14 11.5
comp=Z,7µm,18.0s
CTU Camp Tracy 84.05 332 P P 18 39 60.0 +0.5
F33A 5 Mile Ranch, 84.09 344 P P 18 39 59.9 +0.6
TPH Tonopah 84.09 327 P P 18 40 01.3 +1.5
TPH pmax pmax
comp=Z,344nm,1.1s
TPH Tonopah 84.09 327 P P 18 40 01.3 +1.5
TCUT Toone Canyon 84.29 332 P P 18 40 01.4 +0.6
CRZF Crozet Islands 84.37 146 IAMs_20 IAMs_20 19 15 10.1
comp=Z,5µm,19.0s
MLAC Mammoth, Mammo 84.45 326 P 18 40 03.9
baz=145,SNR=7.4
RSSD Black Hills 84.48 339 P 18 40 02.8
baz=156
RSSD Black Hills 84.48 339 P P 18 40 01.1 -0.5
RSSD pmax pmax
comp=Z,44nm,1.2s
RSSD MLR MLR
comp=Z,3µm,20.0s
RSSD Black Hills 84.48 339 P P 18 40 01.1 -0.5
RSSD IAmb IAmb 18 40 04.5
comp=Z,44nm,1.1s
H07S1 FLORES T-PHASE 84.72 32 eP P 18 40 06.6 +3.9
BGU Big Grassy Mou 84.74 331 P P 18 40 03.7 +0.7
BGU IAmb IAmb 18 40 17.6
comp=Z,64nm,1.3s
HWUT Hardware Ranch 84.77 332 P P 18 40 03.6 +0.5
HWUT IAMs_20 IAMs_20 19 13 48.9
comp=Z,6µm,21.0s
NV11 Mina Array Sit 84.80 326 P P 18 40 03.6 +0.3
NV11 IAmb IAmb 18 40 15.1
comp=Z,50nm,1.2s
LHV Little Huntoon 84.81 326 P P 18 40 05.1 +2.0
LHV IAmb IAmb 18 40 21.0
comp=Z,68nm,1.1s
SPUT South Promonto 84.85 332 P P 18 40 04.7 +1.2
SPUT IAmb IAmb 18 40 14.7
comp=Z,99nm,1.2s
NVAR Mina Array Bea 84.86 326 P P 18 40 05.7 +2.0
comp=Z,111nm,0.9s,baz=154,slow=6.0,SNR=49
NVAR PKKPbc **PKKPbc 18 58 14.9 +1.8**
comp=Z,0.4nm,0.7s,baz=316,slow=2.5,SNR=2.1
NVAR LR LR 19 10 17.9
comp=Z,3µm,21.7s,baz=136,slow=30
NVAR Mina Array Bea 84.86 326 P P 18 40 04.3 +0.6
BW06 Boulder Array 85.05 334 P 18 40 05.4
baz=152,SNR=24
BW06 Boulder Array 85.05 334 P P 18 40 05.2 +0.6
BW06 IAmb IAmb 18 40 07.6
comp=Z,66nm,1.4s
BW06 IAMs_20 IAMs_20 19 13 47.4
comp=Z,8µm,19.0s
PD31 Pinedale Array 85.05 334 P P 18 40 04.9 +0.3
PD31 IAmb IAmb 18 40 07.6
comp=Z,60nm,1.4s
PDAR Pinedale Array 85.05 334 P P 18 40 05.8 +1.3
comp=Z,17nm,1.1s,baz=143,slow=5.2,SNR=54
PDAR LR LR 19 14 07.5
comp=Z,8µm,19.1s,baz=154,slow=33
PDAR Pinedale Array 85.05 334 P P 18 40 04.2 -0.4
RYN Ryan 85.12 326 P P 18 40 06.1 +1.2
RYN IAmb IAmb 18 40 16.8
comp=Z,51nm,1.2s
EYMN Ely 85.18 348 P 18 40 05.1
baz=166,SNR=15
EYMN Ely 85.18 348 P P 18 40 05.1 +0.3
EYMN IAmb IAmb 18 40 19.6
comp=Z,54nm,1.1s
EYMN Ely 85.18 348 IAMs_20 IAMs_20 19 21 50.9
comp=Z,5µm,19.0s
PICO Pico 85.22 34 eP P 18 40 13.0 +7.7
comp=Z,300nm,1.8s
KVN Kaiserville 85.28 327 P P 18 40 07.3 +1.5
KVN pmax pmax
comp=Z,49nm,1.1s
KVN Kaiserville 85.28 327 P P 18 40 07.2 +1.5
KVN IAmb IAmb 18 40 17.3
comp=Z,49nm,1.1s
OUZ Omahuta 85.36 229 P P 18 40 06.5 +0.2
OUZ IAmb IAmb 18 40 08.8
comp=Z,85nm,1.4s
OUZ IAMs_20 IAMs_20 19 09 57.1
comp=Z,7µm,20.0s
HVU Hansel Valley 85.38 332 P P 18 40 07.0 +0.9
HVU pmax pmax
comp=Z,53nm,1.1s
HVU Hansel Valley 85.38 332 P P 18 40 07.0 +0.9
HVU IAmb IAmb 18 40 16.9
comp=Z,53nm,1.1s
WAKR Walker 85.44 326 P P 18 40 08.4 +1.9
WAKR IAmb IAmb 18 40 29.4
comp=Z,46nm,1.2s
ICQ Pointe Anglais 85.45 4 ⇑P P 18 40 07.1 +1.1
ELK Elko 85.47 330 P P 18 40 07.6 +0.9
ELK pmax pmax
comp=Z,39nm,1.2s
ELK MLR MLR
comp=Z,4µm,18.0s
ELK Elko 85.47 330 P P 18 40 07.6 +0.9
D32A Dogwood Acres, 85.47 344 P P 18 40 06.8 +0.6
D32A IAmb IAmb 18 40 20.0
comp=Z,68nm,0.8s
CMB Columbia Colle 85.50 325 P P 18 40 07.4 +0.7
CMB pmax pmax
comp=Z,25nm,1.1s

CMB MLR MLR
comp=Z,2µm,20.0s
CMB Columbia Colle 85.50 325 P P 18 40 07.4 +0.7
KAPO Kapuskasing 85.55 354 ⇓P P 18 40 07.2 +0.6
MATQ Matagami 85.57 357 P 18 40 07.2
baz=177,SNR=6.6
PSMN Pico do Norte, 85.59 37 eP P 18 40 07.6 +0.5
comp=Z,230nm,1.5s
AHID Auburn Hatcher 85.60 333 P P 18 40 08.0 +0.8
AHID IAmb IAmb 18 40 11.3
comp=Z,103nm,1.5s
AHID IAMs_20 IAMs_20 19 13 57.0
comp=Z,7µm,20.0s
YERR Yerington 85.74 326 P P 18 40 09.7 +1.6
E28A Huff 85.82 342 P P 18 40 08.6 +0.5
PGRA Graciosa 85.85 34 eP P 18 40 13.0 +4.7
comp=Z,74nm,0.3s
PSET Sete Cidades 85.93 36 eP P 18 40 13.0 +4.2
comp=Z,87nm,0.3s
ECR Eagle Creek 85.95 333 P P 18 40 09.8 +0.8
CMLA Cha da Macela 85.97 36 eP P 18 40 12.5 +3.5
CMLA Cha da Macela 85.97 36 IAMs_20 IAMs_20 19 18 10.3
comp=Z,9µm,19.0s
B35A Bob, Littlefor 85.98 347 P P 18 40 09.1 +0.4
B35A IAmb IAmb 18 40 22.9
comp=Z,52nm,1.0s
PNTR Pine Nut 85.99 326 P P 18 40 10.8 +1.5
PNTR IAmb IAmb 18 40 24.8
comp=Z,55nm,1.1s
PAGU Agualva, Azore 86.00 35 eP P 18 40 12.5 +3.4
comp=Z,58nm,0.8s
REDW Red Top Meadow 86.03 334 P P 18 40 09.9 +0.5
REDW IAmb IAmb 18 40 27.4
comp=Z,69nm,1.1s
REDW IAMs_20 IAMs_20 19 14 51.3
comp=Z,6µm,20.0s
SNOW Snow King Moun 86.08 334 P P 18 40 09.7 0.0
SNOW IAmb IAmb 18 40 20.6
comp=Z,78nm,1.4s
SNOW IAMs_20 IAMs_20 19 14 07.7
comp=Z,7µm,20.0s
XMAS Kiritimati 86.15 275 IAMs_20 IAMs_20 19 14 14.8
comp=Z,9µm,18.0s
BART Pico Bartolome 86.16 37 eP P 18 40 12.5 +2.5
comp=Z,203nm,1.1s
LOHW Long Hollow 86.16 334 P P 18 40 09.9 -0.1
LOHW IAmb IAmb 18 40 24.3
comp=Z,52nm,1.2s
LOHW IAMs_20 IAMs_20 19 14 10.8
comp=Z,9µm,21.0s
TOA0 Torodi Ar. Sit 86.19 71 P P 18 40 09.7 -0.9
TOA0 IAmb IAmb 18 40 25.0
comp=Z,70nm,1.1s
TORD Torodi Ar. Bea 86.19 71 P P 18 40 10.3 -0.3
comp=Z,13nm,0.8s,baz=233,slow=3.4,SNR=25
TORD LR LR 19 16 31.8
comp=Z,9µm,20.7s,baz=230,slow=34
TORD Torodi Ar. Bea 86.19 71 P P 18 40 09.6 -1.0
TORD IAmb IAmb 18 40 25.0
comp=Z,51nm,1.0s
DRLN Deer Lake 86.20 11 P P 18 40 10.3 +0.5
DRLN IAmb IAmb 18 40 30.6
comp=Z,94nm,1.1s
DRLN Deer Lake 86.20 11 ⇑P P 18 40 11.4 +1.6
AGMN Agassiz Nation 86.33 345 P 18 40 11.4
baz=162,SNR=28
AGMN Agassiz Nation 86.33 345 P P 18 40 10.4 0.0
AGMN IAmb IAmb 18 40 14.0
comp=Z,62nm,1.1s
AGMN IAMs_20 IAMs_20 19 23 02.5
comp=Z,9µm,18.0s
PAHR Pah Rah Range 86.39 326 P P 18 40 12.2 +1.0
AFDM Forest Hills D 86.50 325 P P 18 40 11.9 +0.3
PMOZ Porto Moniz, M 86.57 45 eP P 18 40 18.9 +6.7
comp=Z,218nm,2.0s
PMOZ Porto Moniz, M 86.57 45 eSKS S 18 50 56.9 +7.9
PMOZ Porto Moniz, M 86.57 45 eLQ LQ 19 07 49.4
PMOZ eLR LR 19 14 24.2
comp=Z,9µm,18.0s
FLWY Flagg Ranch 86.61 334 P P 18 40 13.1 +0.9
FLWY IAMs_20 IAMs_20 19 14 35.5
comp=Z,8µm,20.0s
MDND Maddock 86.74 343 P 18 40 13.5
baz=159,SNR=15
MDND Maddock 86.74 343 P P 18 40 13.6 +1.0
YPP Pitchstone Pla 86.81 334 P P 18 40 14.1 +0.8
H17A Grant Village 86.83 334 P 18 40 15.4
baz=151,SNR=11
H17A Grant Village 86.84 334 P P 18 40 15.8 +2.4
LKWY Lake 86.92 335 P P 18 40 15.7 +1.9
LKWY pmax pmax
comp=Z,28nm,1.1s
LKWY MLR MLR
comp=Z,9µm,20.0s
LKWY Lake 86.92 335 P P 18 40 15.7 +1.9
LKWY IAMs_20 IAMs_20 19 15 09.9
comp=Z,9µm,20.0s
BEKR Beckworth 86.96 326 P P 18 40 16.2 +2.2
BEKR IAmb IAmb 18 40 36.1
comp=Z,54nm,1.4s
RLMT Red Lodge 87.03 336 P 18 40 15.4
baz=152,SNR=20
RLMT Red Lodge 87.03 336 P P 18 40 14.5 +0.3
RLMT IAmb IAmb 18 40 28.4
comp=Z,57nm,1.2s
YNR Norris Junctio 87.15 335 P P 18 40 15.6 +0.7
YNE Yellowstone No 87.18 335 P P 18 40 15.4 +0.4
YMR Madison River 87.21 334 P P 18 40 16.3 +1.1
YMR IAmb IAmb 18 40 32.0
comp=Z,89nm,1.1s
ORV Oroville 87.23 325 P P 18 40 16.7 +1.6
ORV pmax pmax
comp=Z,93nm,1.5s
ORV MLR MLR
comp=Z,4µm,19.0s
ORV Oroville 87.23 325 P P 18 40 16.7 +1.6
ORV IAmb IAmb 18 40 38.3
comp=Z,93nm,1.4s
PMPST Porto Santo, M 87.25 45 eP P 18 40 18.3 +2.9
comp=Z,297nm,2.0s
YHH Holmes Hill 87.28 334 P P 18 40 16.1 +0.5
YHH IAmb IAmb 18 40 19.2
comp=Z,61nm,1.2s
YHB Horse Butte 87.36 334 P P 18 40 16.2 +0.3
YHB IAmb IAmb 18 40 30.8
comp=Z,55nm,1.3s
YHL Hebgen Lake 87.45 334 P P 18 40 17.0 +0.6
YHL IAmb IAmb 18 40 31.4
comp=Z,78nm,1.5s
LAO LASA Array 87.46 338 P 18 40 16.9
baz=154,SNR=8.0
LAO LASA Array 87.46 338 P P 18 40 16.8 +0.7
LAO IAmb IAmb 18 40 29.8
comp=Z,37nm,1.1s
QLMT Earthquake Lak 87.52 334 P P 18 40 18.7 +2.1
HLID Hailey 87.53 332 P P 18 40 18.5 +1.9
HLID IAmb IAmb 18 40 28.4
comp=Z,83nm,1.4s
HLID IAMs_20 IAMs_20 19 16 15.9
comp=Z,6µm,18.0s
BCYI Bear Canyon 87.78 333 P P 18 40 19.6 +1.7
MFID Camas Ranch 87.95 331 P P 18 40 19.1 +0.5
MFID IAmb IAmb 18 40 33.4
comp=Z,72nm,1.4s
MFID IAMs_20 IAMs_20 19 16 08.4
comp=Z,4µm,18.0s
O03E Paynes Creek 87.96 325 P 18 40 19.9
baz=143,SNR=12
MCMT McKenzie Canyo 88.02 333 P P 18 40 20.6 +1.5
ULM Lac du Bonnet 88.20 346 P P 18 40 19.6 +0.1
comp=Z,30nm,0.9s,baz=170,slow=4.0,SNR=43
ULM Lac du Bonnet 88.20 346 P P 18 40 19.3 -0.1
ULM pmax pmax
comp=Z,141nm,1.4s
ULM Lac du Bonnet 88.20 346 P P 18 40 19.3 -0.1
ULM Lac du Bonnet 88.20 346 ⇑P P 18 40 19.5 +0.1
ULM ⇓P PcP 18 40 20.3 -0.9
BOZ Bozeman (W) 88.25 334 P 18 40 21.2
baz=150,SNR=12
BOZ Bozeman (W) 88.25 334 P P 18 40 20.5 +0.4
BOZ pmax pmax
comp=Z,21nm,1.3s
BOZ MLR MLR
comp=Z,7µm,20.0s
BOZ Bozeman (W) 88.25 334 P P 18 40 20.4 +0.4
BOZ IAMs_20 IAMs_20 19 15 41.0

comp=Z,7µm,20.0s
WVOR Wild Horse Val 88.29 328 P **P** 18 40 20.5 +0.2
WVOR pmax pmax
comp=Z,75nm,1.3s
WVOR MLR MLR
comp=Z,6µm,18.0s
WVOR Wild Horse Val 88.29 328 P **P** 18 40 20.4 +0.2
WVOR IAmb IAmb 18 40 37.2
comp=Z,75nm,1.3s
WVOR IAMs_20 IAMs_20 19 16 23.3
comp=Z,6µm,18.0s
WVOR Wild Horse Val 88.29 328 ⇑P **P** 18 40 22.3 +2.0
AFI Afiamalu 88.31 254 IAMs_20 IAMs_20 19 09 14.8
comp=Z,7µm,22.0s
DLMT Dillon 88.39 334 P **P** 18 40 21.8 +1.1
DLMT IAmb IAmb 18 40 25.3
comp=Z,68nm,1.4s
DLMT IAMs_20 IAMs_20 19 16 28.7
comp=Z,5µm,19.0s
ITZ Itezhi-Tezhi 88.46 108 *i* P **P** 18 40 17.7 -4.1
ITZ *i* S S 18 50 55.6 -12
DGMT Dagmar 88.49 340 P 18 40 22.2
baz=156,SNR=22
DGMT Dagmar 88.49 340 P **P** 18 40 21.6 +0.7
WDC Whiskeytown Da 88.53 325 P **P** 18 40 22.2 +0.9
WDC pmax pmax
comp=Z,49nm,1.5s
WDC MLR MLR
comp=Z,4µm,22.0s
WDC Whiskeytown Da 88.53 325 P **P** 18 40 22.1 +0.9
WDC IAmb IAmb 18 40 42.3
comp=Z,49nm,1.5s
MOD Modoc Plateau 88.58 327 P **P** 18 40 23.5 +1.8
MOD IAmb IAmb 18 40 33.3
comp=Z,59nm,1.1s
LRM Limekiln Ridge 88.73 334 P **P** 18 40 24.1 +1.6
N02D Trinity Center 88.92 325 P 18 40 24.2
baz=142
J08A Circle Bar Ran 88.98 329 P **P** 18 40 25.5 +2.1
M04C Macdoel 89.17 326 P 18 40 26.3
baz=143,SNR=9.1
M02C Callahan 89.32 325 P 18 40 26.8
baz=142,SNR=7.1
K05A Summer Lake 89.50 327 P **P** 18 40 28.3 +2.2
YBH Yreka Blue Hor 89.52 326 P **P** 18 40 27.9 +1.8
comp=Z,3.9nm,1.0s,baz=148,slow=6.9,SNR=1.6
YBH Yreka Blue Hor 89.52 326 P **P** 18 40 27.0 +1.0
YBH pmax pmax
comp=Z,17nm,1.2s
YBH MLR MLR
comp=Z,3µm,18.0s
YBH Yreka Blue Hor 89.52 326 P **P** 18 40 27.0 +1.0
L04D Klamath Falls 89.72 326 P 18 40 28.2
baz=143,SNR=6.8
BMO Blue Mountains 89.74 331 P **P** 18 40 27.6 +0.6
BMO pmax pmax
comp=Z,51nm,1.5s
BMO MLR MLR
comp=Z,4µm,19.0s
BMO Blue Mountains 89.74 331 P **P** 18 40 27.6 +0.6
EGMT Eagleton 89.74 337 P 18 40 28.0
baz=152
EGMT Eagleton 89.74 337 P **P** 18 40 27.1 +0.2
EGMT IAMs_20 IAMs_20 19 27 08.3
comp=Z,4µm,18.0s
I07A Izee 90.00 329 P **P** 18 40 29.8 +1.5
J05D Fort Rock, OR 90.10 327 P 18 40 30.1
baz=143,SNR=19
MSO Missoula 90.13 334 P 18 40 30.5
baz=148,SNR=8.6
MSO Missoula 90.13 334 P **P** 18 40 29.8 +1.0
PINE Pine Mountain 90.38 328 P **P** 18 40 32.1 +2.0
PINE IAmb IAmb 18 40 45.5
comp=Z,47nm,1.1s
J04D Umpqua Nationa 90.45 327 P 18 40 31.8
baz=143
F10A Beach Ranch, E 90.64 331 P **P** 18 40 32.0 +0.8
K02D Willamette Mer 90.72 326 P 18 40 33.4
baz=142
G08A Pilot Rock 90.77 330 P **P** 18 40 33.4 +1.6
JTMT Jette 91.03 334 P **P** 18 40 34.3 +1.3
H04A Detroit Lake 91.63 328 P **P** 18 40 36.5 +0.8
F07A Phinny Hill Vi 91.65 330 P **P** 18 40 38.3 +2.6
F07A IAmb IAmb 18 40 50.9
comp=Z,30nm,1.1s
H04D Lebanon 91.74 327 P 18 40 37.2
baz=142
E08A Dider Farm, El 91.79 331 P **P** 18 40 37.9 +1.6
E08A IAmb IAmb 18 40 50.7
comp=Z,27nm,1.0s
HAWA Hanford 91.90 330 P **P** 18 40 38.5 +1.7
HAWA IAmb IAmb 18 40 52.5
comp=Z,58nm,1.4s
WALA Waterton Lakes 92.02 335 P **P** 18 40 38.6 +1.1
WALA IAmb IAmb 18 40 52.4
comp=Z,60nm,1.4s
COR Corvallis 92.04 327 IAMs_20 IAMs_20 19 19 21.6
comp=Z,4µm,19.0s
E07A Sunnyside 92.16 330 P **P** 18 40 39.2 +1.1
D08A Wollman Farm, 92.19 331 P **P** 18 40 38.5 +0.3
NEW Newport 92.50 333 P 18 40 39.9
baz=146,SNR=8.2
NEW Newport 92.50 333 P **P** 18 40 40.3 +0.6
NEW pmax pmax
comp=Z,23nm,1.3s
NEW MLR MLR
comp=Z,4µm,19.0s
NEW Newport 92.50 333 P **P** 18 40 40.3 +0.6
NEW Newport 92.50 333 IAMs_20 IAMs_20 19 19 15.6
comp=Z,5µm,19.0s
C09A Chrisman Ranch 92.55 332 P **P** 18 40 41.1 +1.2
C09A IAmb IAmb 18 40 54.2
comp=Z,30nm,1.1s
AVE Averroes 92.74 50 *eP* **P** 18 40 37.6 -3.5
AVE *eS* **SKSac** 18 51 13.6 -1.3
LTY Liberty 93.06 330 P **P** 18 40 43.0 +0.7
LON Longmire 93.11 329 P **P** 18 40 43.5 +1.0
LON pmax pmax
comp=Z,22nm,1.1s
LON Longmire 93.11 329 P **P** 18 40 43.5 +1.0
E04D Cinebar 93.28 329 P 18 40 45.0
baz=142
B08A Colville Reser 93.42 331 P **P** 18 40 44.7 +0.8
D05A Enumclaw 93.54 329 P **P** 18 40 44.9 +0.5
D05A IAmb IAmb 18 40 59.4
comp=Z,35nm,1.0s
MSVF Nonsavu 93.68 245 P **P** 18 40 47.7 +1.7
comp=Z,5.1nm,0.8s,baz=180,slow=10,SNR=2.6
MSVF Nonsavu 93.68 245‖ *eP* **P** 18 40 46.7 +0.7
MSVF MLR MLR
comp=Z,3µm,16.0s
FFC Flin Flon 93.69 344 P **P** 18 40 44.9 0.0
FFC pmax pmax
comp=Z,16nm,1.3s
FFC MLR MLR
comp=Z,7µm,20.0s
FFC Flin Flon 93.69 344 P **P** 18 40 44.9 0.0
FFC Flin Flon 93.69 344 IAMs_20 IAMs_20 19 29 21.8
comp=Z,7µm,20.0s
D03D Eldon 94.27 329 P 18 40 50.2
baz=142
IFR Ifrane 94.31 51 *eP* **P** 18 40 44.5 -4.1
IFR *eS* **SKSac** 18 51 31.2 +7.3
PFVI Vila Bisbo 94.46 47 *eP* P 18 40 54.9 +6.0
NLWA Neilton Lookou 94.49 328 IAMs_20 IAMs_20 19 23 39.2
comp=Z,5µm,18.0s
MORF Marmelete 94.68 46 *eP* **P** 18 40 49.5 -0.6
MORF *ePP* **PP** 18 44 37.3 -1.5
MORF *eSKSac* **SKSac** 18 51 24.6 -0.8
MORF AMS AMS 19 21 39.6
comp=Z,8µm,19.2s
MORF Marmelete 94.68 46 *eP* **P** 18 40 49.4 -0.6
MORF *e* 18 44 37.2
MORF *e* 18 51 24.5
MORF Marmelete 94.68 46 *eP* **P** 18 40 53.4 +3.4
comp=Z,144nm,1.9s
KNTN Kanton 94.86 263 IAMs_20 IAMs_20 19 13 53.2
comp=Z,7µm,18.0s
TAM Tamanrasset 94.94 65 P **P** 18 40 51.4 -0.3
TAM pmax pmax
comp=Z,35nm,1.4s
TAM MLR MLR
comp=Z,11µm,18.0s
TAM Tamanrasset 94.94 65 P **P** 18 40 51.4 -0.3
TAM IAmb IAmb 18 41 00.5
comp=Z,35nm,1.4s
A05A Maple Falls 95.02 330 P **P** 18 40 51.5 +0.4
A05A IAmb IAmb 18 41 05.1
comp=Z,49nm,1.5s
PBDV Barranco-do-Ve 95.06 47 *eP* P 18 40 59.1 +7.4
comp=Z,126nm,1.8s
POHA Pohakuloa 95.10 291 IAMs_20 IAMs_20 19 16 27.3
comp=Z,4µm,18.0s
PCVE Castro Verde 95.26 47 *eP* P 18 41 00.0 +7.4
comp=Z,56nm,2.0s
MESJ Messejana 95.30 46 *eP* **P** 18 40 52.2 -0.6
MESJ *ePP* **PP** 18 44 42.1 -1.4
MESJ *eSKSac* **SKSac** 18 51 27.6 -0.9
MESJ AMS AMS 19 22 07.4
comp=Z,8µm,19.0s
MESJ Messejana 95.30 46 *eP* **P** 18 40 52.1 -0.6
MESJ *e* 18 44 42.0
MESJ *e* 18 51 27.6
MESJ Messejana 95.30 46 *eP* P 18 40 59.7 +7.0
comp=Z,72nm,2.0s
PNCL Nicolau / Gran 95.30 46 *eP* P 18 40 59.7 +7.0
comp=Z,48nm,1.7s
PVAQ Vaqueiros 95.30 47 *eP* P 18 40 58.6 +5.9
comp=Z,99nm,1.9s
PVAQ Vaqueiros 95.30 47 *ePP* **PP** 18 44 45.1 +1.6
PVAQ *eSKS* **SKSac** 18 51 31.1 +2.5
PVAQ *eSS* **SS** 18 58 40.9 +4.7
PVAQ Vaqueiros 95.30 47 *eLQ* LQ 19 12 03.3
PVAQ *eLR* LR 19 19 23.4
comp=Z,9µm,18.0s
LIS Lisbon 95.35 45 *eP* **P** 18 40 52.3 -0.6
LIS *ePP* **PP** 18 44 42.4 -1.4
LIS *eSKSac* **SKSac** 18 51 28.0 -0.7
LIS AMS AMS 19 24 34.9
comp=Z,9µm,18.1s
LIS Lisbon 95.35 45 *eP* **P** 18 40 52.3 -0.6
LIS *e* 18 44 42.4
LIS *e* 18 51 27.9
LIS Lisbon 95.35 45 *eP* P 18 40 58.9 +6.0
comp=Z,127nm,1.5s
PMAFR Mafra 95.43 45 *eP* **P** 18 40 56.3 +3.0
comp=Z,182nm,1.6s
SFS San Fernando 95.58 48 *eP* **P** 18 40 54.4 +0.3
SFS *eS* **SKSac** 18 51 39.9 +10
CEU Ceuta 95.72 49 *eP* **P** 18 40 56.5 +1.9
CEU *eS* **SKSac** 18 51 31.0 +0.2
EVO Evora 95.88 46 *eP* **P** 18 40 56.4 +1.0
EVO *eS* **SKSac** 18 51 30.4 -1.2
EVO Evora 95.88 46 *eP* **P** 18 40 58.9 +3.5
comp=Z,31nm,2.7s
PVLZ Peæn de 95.91 50 *eP* **P** 18 40 52.8 -2.8
FCC Fort Churchill 96.04 349 P **P** 18 40 56.3 +0.8
FCC pmax pmax
comp=Z,31nm,1.3s
FCC Fort Churchill 96.04 349 P **P** 18 40 56.3 +0.8
FCC IAmb IAmb 18 41 09.6
comp=Z,31nm,1.2s
PSBE So Bento 96.09 45 *eP* P 18 41 02.5 +6.2
comp=Z,71nm,2.2s
PMTG Montargil 96.12 45 *eP* P 18 41 04.3 +7.9
comp=Z,47nm,1.5s
PBAR Barrancos 96.21 47 *eP* **P** 18 41 00.3 +3.4
comp=Z,46nm,1.8s
PESTR Estremoz 96.35 46 IAMs_20 IAMs_20 19 24 07.0
comp=Z,4µm,18.0s
PCAS Casmilo, Conde 96.62 45 *eP* P 18 41 04.6 +5.9
comp=Z,46nm,1.8s
PMRV Marv??o 96.84 46 *eP* **P** 18 41 03.7 +4.0
comp=Z,39nm,1.9s
PMRV Marv??o 96.84 46 *ePP* **PP** 18 44 56.9 +1.5
PMRV *eSKS* **SKSac** 18 51 40.2 +3.6
PMRV *eSS* **SS** 18 59 03.5 +5.4
PMRV Marv??o 96.84 46 *eLQ* LQ 19 12 20.1
PMRV *eLR* LR 19 19 43.4
comp=Z,9µm,20.0s
MTE Manteigas 97.39 45 *eP* **P** 18 41 02.3 0.0
comp=Z,33nm,1.4s
MTE Manteigas 97.39 45 *ePP* **PP** 18 45 00.8 +1.1
MTE *eSKS* **SKSac** 18 51 43.0 +3.4
MTE *eSS* **SS** 18 59 15.7 +10
MTE Manteigas 97.39 45 *eLQ* LQ 19 12 15.5
MTE *eLR* LR 19 14 50.3
comp=Z,11µm,18.0s
POLO Lamas de Olo 97.90 44 *eP* Pdif 18 41 11.2 +6.6
comp=Z,25nm,2.0s
PGAV Gavieira, Arco 98.03 43 *eP* Pdif 18 41 08.0 +2.8
PGAV Gavieira, Arco 98.03 43 *ePP* **PP** 18 45 05.0 +0.4
PGAV *eSKS* **SKSac** 18 51 45.6 +2.8
PGAV *eSS* **SS** 18 59 21.2 +6.3
PGAV Gavieira, Arco 98.03 43 *eLQ* LQ 19 12 41.7
PGAV *eLR* LR 19 19 25.2
comp=Z,12µm,20.0s
MVO Moncorvo 98.19 44 *eP* Pdif 18 41 12.6 +6.7
comp=Z,33nm,1.5s
MVO Moncorvo 98.19 44 *ePP* **PP** 18 45 06.3 +0.4
MVO *eSKS* **SKSac** 18 51 51.3 +7.7
MVO *eSS* **SS** 18 59 24.7 +7.5
MVO Moncorvo 98.19 44 *eLQ* LQ 19 12 50.2
MVO *eLR* LR 19 20 02.3
comp=Z,16µm,18.0s
CAN Canberra 98.57 214 IAMs_20 IAMs_20 19 17 48.9
comp=Z,6µm,20.0s
PBRG Bragança 98.78 44 *eP* Pdif 18 41 12.6 +4.1
comp=Z,25nm,1.7s
DZM Mont Dzumac 98.91 235 *ePP* **PP** 18 45 13.7 +2.9
comp=Z,336nm,24.1s
DZM *eSKSac* **SKSac** 18 51 47.0 -1.5
comp=Z,3µm,26.9s
DZM *eSP* **SP** 18 54 03.6 -1.7
comp=Z,2µm,23.2s
DZM *eSS* **SS** 18 59 30.2 +3.9
comp=Z,6µm,26.1s
DZM *eLQ* LQ 19 09 14.3
comp=Z,7µm,30.0s
DZM *eLR* LR 19 13 25.5
comp=Z,7µm,24.6s
ESDC Sonseca Array 99.01 47 P **Pdif** 18 41 09.9 +0.3
comp=Z,3.5nm,1.1s,baz=244,slow=4.0,SNR=8.9
ESDC LR LR 19 24 38.7
comp=Z,10µm,19.8s,baz=250,slow=35
ESDC Sonseca Array 99.01 47 P **Pdif** 18 41 08.6 -0.9
CART Cartagena 99.50 50 *eP* **Pdif** 18 41 11.2 -0.5
CART *eS* **SKSac** 18 51 53.6 +3.6
UCM Universidad Co 99.84 47 *eP* **Pdif** 18 41 13.7 +0.5
UCM *eS* **SKSac** 18 51 54.5 +2.7
MBAR Mbarara 101.28 99 IAMs_20 IAMs_20 19 33 21.9
comp=Z,7µm,18.0s
ABPO Ambohimpanom 101.75 124 IAMs_20 IAMs_20 19 30 39.8
comp=Z,4µm,19.0s
YKA Yellowknife Ar 103.63 342 Pdiff **Pdif** 18 41 30.1 +0.7
comp=Z,0.8nm,0.8s,baz=139,slow=4.6,SNR=9.7
YKA PP **PP** 18 45 43.4 -3.0
comp=Z,1.4nm,1.0s,baz=137,slow=8.6,SNR=4.8
YKA PKKP **PKKPdf** 18 57 32.7 +0.1
comp=Z,0.3nm,0.7s,baz=346,slow=2.5,SNR=3.5
MAHO Mahon 104.17 51 *eP* **Pdif** 18 41 34.5 +2.1
MAHO *eS* **SKSac** 18 52 14.4 +2.1
WRAK Wrangell Islan 104.70 331 IAMs_20 IAMs_20 19 37 21.4
comp=Z,5µm,18.0s
CCA1 Carnmenellis 104.97 38 *eP* **Pdif** 18 41 29.1 -6.6
RER Riviere de l'E 105.64 132 IAMs_20 IAMs_20 19 24 01.8
comp=Z,5µm,21.0s
DYA Yadsworthy 105.78 39 *eP* **Pdif** 18 41 35.6 -3.7
HTL Hartland 105.85 38 *eP* **Pdif** 18 41 32.6 -6.9
JSA Saint Aubin 105.93 40 *eP* **Pdif** 18 41 33.7 -6.2
RSBS Rosebush, Pemb 106.31 37 *eP* **Pdif** 18 41 36.5 -5.1
JIS Juneau Island 106.78 331 IAMs_20 IAMs_20 19 31 54.3
comp=Z,3µm,18.0s
MONM Monmouth 107.20 38 *eP* **Pdif** 18 41 39.7 -5.8
WLF1 Llynfaes 107.30 36 *eP* **Pdif** 18 41 40.7 -5.2
WPS Cemaes, Angles 107.32 36 *eP* **Pdif** 18 41 40.2 -5.9
STRD Stroud 107.48 38 *eP* **Pdif** 18 41 42.2 -4.6
SWN1 Swindon 107.50 39 *eP* **Pdif** 18 41 41.2 -5.7
CLGH Cloghs, Cushen 107.61 34 *eP* **Pdif** 18 41 42.0 -5.3
SBD1 Bryn Du 107.61 37 *eP* **Pdif** 18 41 33.3 -14
FOEL Foel Wylfa 107.63 37 *eP* **Pdif** 18 41 40.0 -7.4
WOL Wolverton 107.68 39 *eP* **Pdif** 18 41 39.6 -8.1
IOMK Kirk Michael 107.81 35 *eP* **Pdif** 18 41 43.5 -4.7
GAL1 Galloway 108.11 35 *eP* **Pdif** 18 41 43.8 -5.8
HMNX Herstmonceux 108.22 40 *eP* **Pdif** 18 41 45.4 -4.7
STNC Stoke 108.24 37 *eP* **Pdif** 18 41 43.2 -7.0
CWF Charnwood Fore 108.47 38 *eP* **Pdif** 18 41 45.5 -5.7
NEWG New Galloway 108.48 35 *eP* **Pdif** 18 41 45.1 -6.1
LAWE Loch Awe, Argy 108.65 33 *eP* **Pdif** 18 41 48.0 -3.9
LBWR Ladybower, Pea 108.65 37 *eP* **Pdif** 18 41 47.3 -4.7
KESW Keswick, Cumbr 108.69 35 *eP* **Pdif** 18 41 49.4 -2.7
ELSH Elham, Standar 108.80 40 *eP* **Pdif** 18 41 46.7 -6.0
LEWI Lewis, Hebride 109.17 31 *eP* **Pdif** 18 41 48.1 -6.1
KPL Plockton 109.20 32 *eP* **Pdif** 18 41 49.3 -4.9
INVG Invergeldie, C 109.35 34 *eP* **Pdif** 18 41 48.7 -6.3
LMK Market Rasen 109.37 37 *eP* **Pdif** 18 41 49.3 -5.9
EDMD Edmundbyers 109.37 36 *eP* **Pdif** 18 41 50.3 -4.8
WACR West Acre 109.43 38 *eP* **Pdif** 18 41 50.2 -5.2
EDI Edinburgh 109.44 34 *eP* **Pdif** 18 41 50.3 -5.1
CASP Castiglione de 109.91 51 IAMs_20 IAMs_20 19 33 42.1
comp=Z,5µm,20.0s
BCPM Bancas Point 109.94 331 IAMs_20 IAMs_20 19 38 27.8
comp=Z,5µm,18.0s
VLC Villacollemand 110.32 50 IAMs_20 IAMs_20 19 35 24.8
comp=Z,4µm,18.0s
LATE Laterza 110.42 52 IAMs_20 IAMs_20 19 35 13.1
comp=Z,3µm,19.0s
ECH Echery 110.49 45 IAMs_20 IAMs_20 19 34 57.3
comp=Z,5µm,18.0s
OSSC Osservatorio P 110.53 51 IAMs_20 IAMs_20 19 33 03.4
comp=Z,6µm,20.0s
NWAO Narrogin (SRO) 110.56 190 IAMs_20 IAMs_20 19 34 47.2
comp=Z,5µm,18.0s
TABL Table Mountain 110.83 331 IAMs_20 IAMs_20 19 40 37.4
comp=Z,4µm,20.0s
YAH Yahtse 111.03 330 IAMs_20 IAMs_20 19 40 47.5
comp=Z,5µm,21.0s
SUMG Summit 111.11 11 IAMs_20 IAMs_20 19 35 19.8
comp=Z,6µm,19.0s
BFO Black Forest 111.22 45 IAMs_20 IAMs_20 19 34 17.6
comp=Z,5µm,19.0s
CTGM Chitina Glacie 111.22 331 IAMs_20 IAMs_20 19 39 57.7
comp=Z,3µm,18.0s
GRNC Granite Creek 111.25 331 IAMs_20 IAMs_20 19 42 42.5
comp=Z,3µm,18.0s
NRCA Norcia 111.36 52 IAMs_20 IAMs_20 19 39 57.5
comp=Z,3µm,19.0s
BARN Barnard Glacie 111.41 331 IAMs_20 IAMs_20 19 38 12.7
comp=Z,3µm,18.0s
C36M Paulatuk 111.43 343 IAMs_20 IAMs_20 19 42 30.5
comp=Z,6µm,20.0s
SUCK Suckling Hills 111.68 330 IAMs_20 IAMs_20 19 43 54.9
comp=Z,5µm,19.0s
TGL Tana Glacier 111.69 330 IAMs_20 IAMs_20 19 41 15.0
comp=Z,4µm,20.0s
CRQM Cirque 111.81 330 IAMs_20 IAMs_20 19 39 37.8
comp=Z,4µm,20.0s
BERG Berg Lake 111.83 330 IAMs_20 IAMs_20 19 41 40.0
comp=Z,5µm,20.0s
FETA Feichten 111.97 47 *eP* **PKiKP** 18 46 06.5 +2.6
comp=Z,8.2nm,1.7s
HMT Hamilton 112.03 330 IAMs_20 IAMs_20 19 40 55.1
comp=Z,4µm,20.0s
CTI Castel Tesino 112.04 48 IAMs_20 IAMs_20 19 37 34.3
comp=Z,6µm,18.0s
VRDI Verde Repeater 112.21 331 IAMs_20 IAMs_20 19 36 33.9
comp=Z,4µm,21.0s
RETA Reutte 112.22 47 *eP* **PKiKP** 18 46 05.7 +1.5
comp=Z,5.8nm,1.3s
TULEG Thule 112.42 1 IAMs_20 IAMs_20 19 42 24.4
comp=Z,4µm,18.0s
GLB Gilahina Butte 112.47 331 IAMs_20 IAMs_20 19 36 39.8
comp=Z,4µm,19.0s
BMRM Bremner River 112.53 330 IAMs_20 IAMs_20 19 40 20.3
comp=Z,3µm,20.0s
CTAO Charters Tower 112.53 221 IAMs_20 IAMs_20 19 26 10.5
comp=Z,3µm,19.0s
SCO Scoresbysund 112.59 17 IAMs_20 IAMs_20 19 31 25.9
comp=Z,5µm,21.0s
WATA Walderalm 112.62 47 *eP* **PKiKP** 18 46 07.9 +2.8
comp=Z,12nm,1.9s
WTTA Wattenberg 112.62 47 *eP* **PKiKP** 18 46 07.7 +2.5
comp=Z,14nm,1.3s
EPYK Eagle Plains 112.89 337 IAMs_20 IAMs_20 19 43 21.4
comp=Z,4µm,18.0s
ABTA Abfaltersbach 112.90 48 *eP* **PKiKP** 18 46 08.3 +2.7
comp=Z,6.9nm,1.1s
HIN Hinchinbrook I 112.99 329 IAMs_20 IAMs_20 19 41 40.5
comp=Z,5µm,19.0s
ZOU Zoufplan 113.09 48 IAMs_20 IAMs_20 19 33 15.1
comp=Z,6µm,20.0s
INK Inuvik 113.17 340 PKKPbc PKKPbc 18 56 51.3 -1.4
comp=Z,1.5nm,0.9s,baz=276,slow=5.9,SNR=3.2
FID Port Fidalgo 113.17 329 IAMs_20 IAMs_20 19 42 36.3
comp=Z,5µm,20.0s
K27K Chicken 113.30 334 IAMs_20 IAMs_20 19 42 28.4
comp=Z,5µm,19.0s
KLU Klutina 113.35 330 IAMs_20 IAMs_20 19 42 05.9
comp=Z,3µm,20.0s
EGAK Eagle 113.41 334 IAMs_20 IAMs_20 19 42 19.1
comp=Z,5µm,19.0s
GLI Glacier Island 113.50 329 IAMs_20 IAMs_20 19 42 03.9
comp=Z,4µm,19.0s
MYKA Terra Mystica 113.53 49 *eP* **PKiKP** 18 46 09.4 +2.6
comp=Z,8.1nm,1.3s
GRFO Grafenberg 113.55 45 IAMs_20 IAMs_20 19 34 15.1
comp=Z,7µm,20.0s
KBA Koelnbreinsper 113.56 48 *eP* **PKiKP** 18 46 09.6 +2.7
comp=Z,7.0nm,1.5s
GBAS Gorenja Brezov 113.69 50 *ePP* **PP** 18 46 58.8 -1.3
GBAS *e* 18 56 40.6
LJU Ljubljana 113.80 50 *ePP* **PP** 18 46 59.7 -1.2
SCRK Sand Creek 113.96 333 IAMs_20 IAMs_20 19 43 02.1
comp=Z,5µm,21.0s
PWL Port Wells 114.00 329 IAMs_20 IAMs_20 19 42 21.2
comp=Z,3µm,20.0s
SCM Sheep Creek Mo 114.10 330 IAMs_20 IAMs_20 19 42 25.7
comp=Z,3µm,20.0s
KDAK Kodiak Island 114.33 325 IAMs_20 IAMs_20 19 28 10.2
comp=Z,5µm,18.0s
KNK Knik Glacier 114.34 329 IAMs_20 IAMs_20 19 45 09.2
comp=Z,3µm,20.0s
O22K Cooper Landing 114.39 328 IAMs_20 IAMs_20 19 41 53.7
comp=Z,4µm,18.0s
SOKA Soboth 114.40 49 *eP* **PKiKP** 18 46 10.9 +2.4
comp=Z,6.5nm,1.5s
MOA Molln 114.47 48 *eP* **PKiKP** 18 46 10.5 +2.0
comp=Z,7.8nm,1.3s
NKC Novy Kostel 114.50 45 *eP* **Pdif** 18 42 21.5 +3.4
NKC *e* 18 47 01.7
NKC MLR MLR
comp=Z,7µm,20.9s
NKC Novy Kostel 114.50 45 *ePDIFF* **Pdif** 18 42 21.5 +3.4
NKC *ePP* **PP** 18 47 01.7 -4.1
NKC *eSDIF* **Sdif** 18 54 46.3 -2.7
NKC AMS AMS 19 32 20.0
comp=Z,7µm,20.9s
BRLK Bradley Lake 114.54 327 IAMs_20 IAMs_20 19 42 35.8
comp=Z,4µm,20.0s
CNPM China Poot 114.57 327 IAMs_20 IAMs_20 19 42 51.5
comp=Z,5µm,18.0s
GERES GERESS Array B 114.59 47 PKP **PKiKP** 18 46 09.4 +0.7
comp=Z,2.0nm,1.0s,baz=281,slow=0.7,SNR=8.8
GERES PKKPbc **PKKPab** 18 56 51.4 +0.3
comp=Z,0.2nm,0.2s,baz=46,slow=2.8,SNR=2.1
KHC Kasperske Hory 114.65 46 *eP* **Pdif** 18 42 20.5 +1.6
KHC MLR MLR
comp=Z,6µm,19.0s
KHC Kasperske Hory 114.65 46 *ePDIFF* **Pdif** 18 42 20.5 +1.6
KHC *ePP* **PP** 18 47 00.3 -6.6
KHC *eSDIF* **Sdif** 18 54 58.1 +7.8
KHC AMS AMS 19 36 00.0
comp=Z,6µm,19.0s
KHC Kasperske Hory 114.65 46 IAMs_20 IAMs_20 19 36 14.9
comp=Z,6µm,20.0s
RC01 Rabbit Creek A 114.71 329 IAMs_20 IAMs_20 19 43 27.0
comp=Z,4µm,20.0s
GHO Glory Hole Cre 114.71 330 IAMs_20 IAMs_20 19 44 59.1
comp=Z,5µm,20.0s
CKRC Cesky Krumlov 114.94 47 *ePDIFF* **Pdif** 18 42 19.5 -0.6
CKRC *ePP* PP 18 46 55.6 -13
CKRC *eSDIF* **Sdif** 18 54 56.5 +3.8
ARSA Arzberg 114.96 49 *eP* **PKiKP** 18 46 10.5 +1.0
comp=Z,6.6nm,1.2s
ASAR Alice Springs 115.07 208 PKP **PKiKP** 18 46 10.6 0.0
comp=Z,0.9nm,0.7s,baz=133,slow=2.0,SNR=5.0
ASAR PKKPbc **PKKPbc** 18 56 45.4 0.0
comp=Z,2.1nm,0.9s,baz=339,slow=3.0,SNR=14
ASAR Alice Springs 115.07 208 *i* PKiKP **PKiKP** 18 46 10.3 -0.3
ASAR Alice Springs 115.07 208 PKiKP **PKiKP** 18 46 10.3 -0.3
HDA Harding Lake 115.29 333 IAMs_20 IAMs_20 19 44 01.2
comp=Z,4µm,19.0s
CLL Collm 115.31 44 *ePdif* **Pdif** 18 42 23.0 +1.4
CLL *i* PKiKP **PKiKP** 18 46 11.4 +1.5
comp=Z,15nm,1.5s
CLL *ePP* **PP** 18 47 09.0 -2.4

CLL e 18 49 18.0
CLL eSKSac SKSac 18 53 00.0 +1.6
CLL eSKKSac SKKSac 18 54 12.0 0.0
CLL eSdif Sdif 18 54 58.0 +2.4
CLL ePKKPab PKKPab 18 56 50.0 +2.4
CLL ePS PS 18 56 54.0 +3.1
CLL ePPS PPS 18 58 07.0
CLL eSS SS 19 03 00.0 -9.3
CLL e 19 07 00.0
CLL eSSS SSS 19 07 30.0
CLL eSSSS 19 10 48.0
CLL Lm MLR 19 34 00.0
comp=N,4µm,19.3s
CLL Lm MLR 19 34 00.0
comp=E,7µm,20.0s
CLL Lm MLR 19 34 00.0
comp=Z,9µm,19.4s
CLL LmV 20 40 00.0
comp=Z,700nm,19.3s
CLL Collm 115.31 44 eP Pdif 18 42 23.0 +1.4
CLL i 18 46 11.4
CLL e 18 47 09.0
CLL e 18 56 50.0
CLL pmax pmax
comp=Z,15nm,1.5s
CLL MLR MLR
comp=Z,9µm,19.4s
SUA Susitna One 115.32 329 IAMs_20 IAMs_20 19 45 27.1
comp=Z,5µm,21.0s
PRP Porcupine Dome 115.35 334 IAMs_20 IAMs_20 19 45 41.7
comp=Z,4µm,19.0s
ILAR Eielson Array 115.46 333 PKP PKiKP 18 46 10.3 +0.5
comp=Z,1.2nm,0.9s,baz=176,slow=2.9,SNR=7.1
ILAR PKKPbc PKKPbc 18 56 44.0 -0.9
comp=Z,0.7nm,1.0s,baz=267,slow=4.1,SNR=4.5
ILAR Eielson Array 115.46 333 PKiKP 18 46 09.9 +0.1
CONA Conrad Observa 115.47 48 eP PKiKP 18 46 12.9 +2.4
comp=Z,8.3nm,1.6s
RND Reindeer 115.51 331 IAMs_20 IAMs_20 19 29 01.1
comp=Z,3µm,20.0s
PRA Prague 115.57 46 eP Pdif 18 42 19.5 -3.3
PRA MLR MLR
comp=Z,6µm,21.2s
PRA Prague 115.57 46 ePDIFF Pdif 18 42 19.5 -3.3
PRA ePP PP 18 47 00.7 -13
PRA eSDIF Sdif 18 55 07.6 +10
PRA AMS AMS 19 34 10.0
comp=Z,6µm,21.2s
CUT Chulitna 115.58 330 IAMs_20 IAMs_20 19 46 41.5
comp=Z,3µm,20.0s
PRU Pruhonice 115.60 46 eP Pdif 18 42 23.5 +0.5
PRU MLR MLR
comp=Z,7µm,20.0s
PRU Pruhonice 115.60 46 ePDIFF Pdif 18 42 23.5 +0.5
PRU ePP PP 18 47 02.7 -11
PRU eSDIF Sdif 18 55 02.2 +4.1
PRU AMS AMS 19 34 10.0
comp=Z,7µm,20.0s
BRG Berggiesshubel 115.64 45 ⇓Piff 18 42 28.0
BRG ex x 18 46 13.6
BRG Amp 18 46 19.7
comp=Z,20nm,1.8s
BRG PP PP 18 47 13.0 -0.8
BRG ⇑SKKSa SKKSac 18 54 17.0 +2.7
BRG ⇓Siff 18 55 13.0
BRG SP SP 18 56 58.0 +5.6
BRG ex x 18 58 18.0
BRG SS SS 19 03 14.0 +0.2
BRG ex x 19 07 07.0
BRG ex x 19 27 38.7
BRG Amp 19 27 41.2
comp=Z,4.7nm,1.2s
BRG Amp 19 35 47.0
comp=Z,8.7nm,18.9s
BRG Amp 19 35 50.0
comp=N,5.2nm,17.7s
BRG Amp 19 35 51.0
comp=E,5.3nm,19.4s
MCK McKinley 115.70 331 IAMs_20 IAMs_20 19 42 12.1
comp=Z,4µm,19.0s
GOPC GO Pecny, Ondr 115.71 46 eP Pdif 18 42 27.6 +4.1
GOPC e 18 47 09.9
GOPC MLR MLR
comp=Z,6µm,19.8s
GOPC GO Pecny, Ondr 115.71 46 ePDIFF Pdif 18 42 27.6 +4.1
GOPC ePP PP 18 47 09.9 -4.4
GOPC eSDIF Sdif 18 55 05.5 +6.4
GOPC AMS AMS 19 34 20.0
comp=Z,6µm,19.8s
CCB Clear Creek Bu 115.73 333 IAMs_20 IAMs_20 19 45 01.8
comp=Z,4µm,19.0s
WRH Wood River Hil 115.75 332 IAMs_20 IAMs_20 19 44 55.3
comp=Z,4µm,19.0s
FYU Fort Yukon 115.80 335 IAMs_20 IAMs_20 19 46 43.1
comp=Z,3µm,18.0s
POKR Poker Plat Res 115.83 333 IAMs_20 IAMs_20 19 43 23.4
comp=Z,4µm,20.0s
PVCC Panska Ves 115.85 45 eP Pdif 18 42 28.6 +4.5
PVCC MLR MLR
comp=Z,6µm,19.3s
PVCC Panska Ves 115.85 45 ePDIFF Pdif 18 42 28.6 +4.5
PVCC ePP PP 18 47 09.9 -5.3
PVCC eSDIF Sdif 18 55 09.0 +8.8
PVCC AMS AMS 19 33 40.0
comp=Z,6µm,19.3s
COLA College 115.86 333 IAMs_20 IAMs_20 19 43 27.4
comp=Z,3µm,20.0s
IDI Anoyia 115.87 64 IAMs_20 IAMs_20 19 36 33.5
comp=Z,5µm,20.0s
TCOL CIGO, UAF Yank 115.87 333 IAMs_20 IAMs_20 19 43 27.4
comp=Z,4µm,20.0s
SKT Skwentna 115.89 329 IAMs_20 IAMs_20 19 45 30.3
comp=Z,3µm,18.0s
MDM Murphy Dome 116.05 333 IAMs_20 IAMs_20 19 43 23.1
comp=Z,4µm,18.0s
TRF Thorofare Moun 116.09 331 IAMs_20 IAMs_20 19 42 45.5
comp=Z,4µm,18.0s
NEA2 Nenana 116.18 332 IAMs_20 IAMs_20 19 44 05.6
comp=Z,4µm,19.0s
KRUC Moravsky 116.28 47 ePKP PKiKP 18 46 12.6 +0.7
DIVS Divbare 116.38 53 IAMs_20 IAMs_20 19 36 01.4
comp=Z,6µm,20.0s
KTH Kantishna Hill 116.39 331 IAMs_20 IAMs_20 19 45 40.4
comp=Z,4µm,20.0s
VRAC Vranov 116.50 47 ePKP PKiKP 18 46 13.1 +0.8
I23K Minto, Yukon-K 116.56 333 IAMs_20 IAMs_20 19 43 55.6
comp=Z,4µm,19.0s
UPC Upice 116.67 46 eP Pdif 18 42 31.7 +3.9
UPC MLR MLR
comp=Z,5µm,19.7s
UPC Upice 116.67 46 ePDIFF Pdif 18 42 31.7 +3.9
UPC ePP PP 18 47 10.9 -10
UPC eSDIF Sdif 18 55 17.3 +10
UPC AMS AMS 19 34 50.0
comp=Z,5µm,19.7s
BPAW Bear Paw Mtn. 116.68 331 IAMs_20 IAMs_20 19 34 26.0
comp=Z,3µm,19.0s
CHVC Chvalec 116.73 46 ePP PP 18 47 17.0 -4.5
CHVC eSDIF Sdif 18 55 15.3 +7.7
CHVC AMS AMS 19 37 30.0
comp=Z,5µm,18.6s
SANT Santorini 116.77 63 IAMs_20 IAMs_20 19 36 31.3
comp=Z,6µm,21.0s
DPC Dobruska-Polom 116.78 46 eP Pdif 18 42 23.5 -4.8
DPC e 18 47 18.0
DPC MLR MLR
comp=Z,5µm,19.1s
DPC Dobruska-Polom 116.78 46 ePDIFF Pdif 18 42 23.5 -4.8
DPC ePP PP 18 47 18.0 -3.9
DPC eSDIF Sdif 18 55 11.9 +3.8
DPC AMS AMS 19 34 50.0
comp=Z,5µm,19.1s
OSTC Ostas 116.81 46 ePDIFF Pdif 18 42 26.6 -1.8
OSTC ePP PP 18 47 13.0 -9.0
OSTC eSDIF Sdif 18 55 10.4 +2.2
OSTC AMS AMS 19 37 40.0
comp=Z,5µm,18.5s
KRLC Kraliky 116.94 46 eP Pdif 18 42 29.7 +0.7
KRLC MLR MLR
comp=Z,5µm,18.7s
KRLC Kraliky 116.94 46 ePDIFF Pdif 18 42 29.7 +0.7
KRLC ePP PP 18 47 11.9 -11
KRLC eSDIF Sdif 18 55 05.7 -3.7
KRLC AMS AMS 19 37 10.0
comp=Z,5µm,18.7s

JAVC Velka Javorina 116.95 48 ePKP PKiKP 18 46 15.3 +2.0
KSP Ksiaz 116.97 45 ePKPdf PKiKP 18 46 14.5 +1.3
MLY Manley 117.02 332 IAMs_20 IAMs_20 19 35 14.8
comp=Z,3µm,18.0s
VYHS Vyhne 117.51 49 ePKIKP PKiKP 18 46 15.3 +1.0
VYHS Vyhne 117.51 49 ePKP PKiKP 18 46 15.3 +1.0
KARP Karpathos 117.64 65 IAMs_20 IAMs_20 19 38 37.4
comp=Z,4µm,19.0s
OKC Ostrava-Krasne 117.64 47 eSDIF Sdif 18 55 19.3 +4.2
OKC AMS AMS 19 39 20.0
comp=Z,5µm,17.7s
VTS Vitosha 117.90 56 ⇑P PKiKP 18 46 18.2 +2.7
VTS Vitosha 117.90 56 ⇑PKIKP PKiKP 18 46 18.2 +2.7
PSZ Piszkesteto 117.92 49 IAMs_20 IAMs_20 19 34 17.9
comp=Z,6µm,21.0s
BZS Buzias 118.07 52 ⇑P PKiKP 18 46 16.2 +0.7
BZS Buzias 118.07 52 ⇑PKIKP PKiKP 18 46 16.2 +0.7
WRA Warramunga Arr 118.26 210 PKP PKPdf 18 46 15.7 -1.1
comp=Z,2.6nm,0.9s,baz=160,slow=1.6,SNR=12
WRA PKKPbc PKKPbc 18 56 34.1 0.0
comp=Z,1.3nm,0.8s,baz=344,slow=3.9,SNR=6.8
KWAJ Kwajalein Atol 118.26 260 IAMs_20 IAMs_20 19 28 08.1
comp=Z,4µm,18.0s
WRAB Tennant Creek 118.27 210 ⇓PKIKP PKPdf 18 46 16.6 -0.1
WRAB pmax pmax
comp=Z,2.0nm,1.0s
TOLK Toolik Lake Re 118.27 336 PKPdf PKiKP 18 46 15.8 +0.6
TOLK IAMs_20 IAMs_20 19 39 51.6
comp=Z,4µm,18.0s
HERR Herculane 118.29 53 ⇑P PKPdf 18 45 59.5 -16
NB2 NORSAR Subarra 118.53 33 PKPdf PKPdf 18 46 15.4 -0.5
comp=Z,23nm,1.7s,baz=247,slow=1.9
NB2 NORSAR Subarra 118.53 33 PKPdf PKPdf 18 46 15.4 -0.5
baz=247,slow=1.9
NOA NORSAR Array B 118.53 33 PKP PKPdf 18 46 15.3 -0.6
comp=Z,1.3nm,0.9s,baz=248,slow=2.1,SNR=5.5
NOA PKKPbc PKKPbc 18 56 34.5 +0.7
comp=Z,1.0nm,0.9s,baz=68,slow=4.5,SNR=4.3
IMAR Indian Mountai 118.57 333 PKiKP 18 46 16.0 +0.2
CRVS Cervenica-Dubn 119.27 49 ePKIKP PKiKP 18 46 18.6 +0.9
CRVS Cervenica-Dubn 119.27 49 ePKP PKiKP 18 46 18.6 +0.9
UZH Uzhgorod 119.67 49 ePKIKP PKiKP 18 46 19.4 +0.9
UZH e 18 46 26.2
UZH e 18 47 43.0
UZH e 18 53 15.2
UZH i SS SS 19 04 21.0 +15
KOLS Kolonicke sedl 119.77 49 ePKIKP PKiKP 18 46 21.5 +2.8
KOLS Kolonicke sedl 119.77 49 ePKP PKiKP 18 46 21.5 +2.8
KWP Kalwaria Pacla 120.30 48 ePKPdf PKiKP 18 46 20.6 +1.0
KWP Kalwaria Pacla 120.30 48 PKIKP PKiKP 18 46 20.7 +1.0
KWP MLR MLR
comp=Z,6µm,18.0s
KWP Kalwaria Pacla 120.30 48 PKiKP 18 46 20.7 +1.0
PMG Port Moresby 120.61 229 IAMs_20 IAMs_20 19 28 01.6
comp=Z,4µm,21.0s
MLR Muntele Rosu 120.82 54 ⇑P PKPdf 18 46 06.9 -14
MLR Muntele Rosu 120.82 54 PKIKP PKiKP 18 46 21.4 +0.4
MLR MLR
comp=Z,10µm,20.0s
MLR Muntele Rosu 120.82 54 PKPdf PKiKP 18 46 21.4 +0.4
ISP Isparta 121.05 64 IAMs_20 IAMs_20 19 45 32.6
comp=Z,4µm,19.0s
UPP Uppsala 121.06 36 eP PKPdf 18 46 20.4 -0.3
BUR08 Bucovina Ar. S 121.12 51 PKPdf PKiKP 18 46 21.6 +0.1
BURAR Bucovina Array 121.12 51 PKPdf PKiKP 18 46 21.5 0.0
PSA00 Pilbara Seismi 121.22 195 PKPdf PKiKP 18 46 21.9 -0.5
A21K Barrow 121.56 338 IAMs_20 IAMs_20 19 42 09.4
comp=Z,5µm,18.0s
TESR Tescani 121.65 53 ⇑P PKPdf 18 46 14.0 -8.3
CSS Mathiatis 121.96 68 PKPdf PKPdf 18 46 23.2 -0.1
CSS IAMs_20 IAMs_20 19 39 11.9
comp=Z,3µm,20.0s
SUW Suwalki 122.06 44 ePKPdf PKiKP 18 46 23.2 +0.3
SUW Suwalki 122.06 44 eP PKPdf 18 46 22.8 -0.1
SUW Suwalki 122.06 44 PKIKP PKiKP 18 46 22.9 -0.1
SUW MLR MLR
comp=Z,9µm,20.0s
SUW Suwalki 122.06 44 PKPdf PKiKP 18 46 22.9 -0.1
CFR Carcaliu 122.15 55 ⇓P PKiKP 18 46 23.8 +0.4
CFR Carcaliu 122.15 55 ⇓PKIKP PKiKP 18 46 23.8 +0.4
RDOG Red Dog Mine 122.66 333 PKiKP 18 46 24.8 +1.0
RDOG IAMs_20 IAMs_20 19 50 35.7
comp=Z,4µm,19.0s
SLIT Slitere, Latvi 122.68 39 eP PKPdf 18 46 19.7 -4.2
PABE Paberze 122.95 42 eP PKPdf 18 46 23.9 -0.5
FITZ Fitzroy Crossi 123.07 202 PKP PKPdf 18 46 25.4 -0.6
comp=Z,4.3nm,0.8s,baz=210,slow=4.7,SNR=7.6
FITZ Fitzroy Crossi 123.07 202 PKPdf PKPdf 18 46 25.9 -0.1
KIS Kishinev 123.22 53 ePKP PKiKP 18 46 32.0 +6.5
KIS Kishinev 123.22 53 ePP PP 18 48 04.0 -2.1
comp=Z,340nm,12.0s
KIS Kishinev 123.22 53 ePS PS 18 58 06.0 +3.7
KIS eLR LR 19 33 04.0
comp=Z,2µm,20.0s
KIS Kishinev 123.22 53 ePKIKP PKiKP 18 46 32.0 +6.5
KIS e 18 48 04.0
KIS ePPP PPP 18 50 44.0
KIS e 18 53 26.0
KIS ePS PS 18 58 06.0 +3.7
KIS pmax pmax
comp=Z,340nm,12.0s
MTSE Matsula 123.76 38 eP PKPdf 18 46 25.8 -0.1
BRTR Keskin Array B 124.02 63 PKP PKiKP 18 46 27.9 +0.3
comp=Z,3.0nm,0.8s,baz=188,slow=2.5,SNR=12
BRTR PP PP 18 48 11.5 -0.4
comp=Z,2.6nm,1.0s,baz=235,slow=5.1,SNR=2.2
BRTR Keskin Array B 124.02 63 PKPdf PKPdf 18 46 27.2 -0.1
BR131 Keskin Array S 124.02 63 *c* PKIKP PKPdf 18 46 27.3 0.0
BR131 Keskin Array S 124.02 63 PKPdf PKiKP 18 46 27.4 -0.1
IIGN Ignalina 124.14 43 eP PKiKP 18 46 28.0 +0.9
ISAL Salakas 124.15 43 eP PKiKP 18 46 29.9 +2.8
KBS Kingsbay 124.32 13 IAMs_20 IAMs_20 19 42 26.6
comp=Z,3µm,20.0s
NACGM Naroch 124.33 43 *i* PKP PKPdf 18 46 27.0 -0.1
NACGM *i* PKP PKPdf 18 46 27.0 -0.1
NACGM *i* PKP PKPdf 18 46 27.0 -0.1
NACGM *i* PP PP 18 48 09.9 -3.4
NACGM *i* PPP PPP 18 49 43.4
NACGM *i* SKS SKSdf 18 53 29.2 -10
NACGM *i* SKKS SKKSac 18 55 12.2 +1.0
NACGM *i* PS PKKPdf 18 57 29.4 +37
NACGM *i* SS SKKSdf 19 04 27.2 +22
NACGM *i* SSS SSS 19 09 11.5
NACGM *i* LQ LQ 19 27 10.3
NACGM *i* LR LR 19 33 41.1
AKASG Malin Array Be 124.61 49 PKP PKPdf 18 46 27.7 -0.1
comp=Z,1.9nm,0.7s,baz=275,slow=2.4,SNR=15
AKASG PP PP 18 48 13.2 -2.0
comp=Z,0.4nm,0.3s,baz=250,slow=7.6,SNR=5.8
AKASG SKKPbc SKKPbc 19 00 04.7 +2.1
comp=Z,0.1nm,0.3s,baz=55,slow=5.0,SNR=4.5
AKBB Malin Array Si 124.61 49 ⇓PKIKP PKPdf 18 46 26.1 -1.7
H11N3 WAKE ISLAND Hyl 124.84 270 T T 21 03 54.9
baz=116,slow=78,SNR=8.6
MNK Minsk 124.85 44 ePKIKP PKPdf 18 46 28.0 -0.1
MNK eSS SS 19 05 04.0 -7.8
MNK MLR MLR
comp=Z,7µm,18.0s
MNK Minsk 124.85 44 *i* PKP PKPdf 18 46 27.5 -0.7
comp=E,1.0nm,0.9s
MNK *i* PKP PKPdf 18 46 27.5 -0.7
comp=N,3.0nm,0.9s
MNK *i* PKP PKPdf 18 46 27.5 -0.7
comp=Z,16nm,0.9s
MNK *i* PP PP 18 48 13.0 -3.8
MNK *i* SKP 18 49 31.5
MNK *i* PKS PKSdf 18 49 43.1 -21
MNK *i* PPP PPP 18 50 51.1
MNK *i* SKS SKSdf 18 53 23.5 -16
MNK *i* PS PS 18 58 11.1 -5.3
MNK *i* SKKS SKKSdf 19 03 39.0 -25
MNK *i* SS SS 19 04 52.5 -19
MNK *i* SSS SSS 19 09 18.0
MNK *i* LQ LQ 19 28 58.8
MNK *i* LR LR 19 33 18.9
MNK *i* LRM MLR 19 40 52.1
comp=Z,5µm,20.0s
MNK *i* LRM MLR 19 41 16.0
comp=E,541nm,20.6s
MNK *i* LRM MLR 19 42 59.8
comp=N,3µm,20.0s
H11N1 WAKE ISLAND Hyl 124.85 270 T T 21 03 51.4
baz=116,slow=78,SNR=14
H11N2 WAKE ISLAND Hyl 124.86 270 T T 21 04 01.1
baz=116,slow=78,SNR=17
VSU Vasula 125.18 39 eP PKiKP 18 46 28.9 -0.1
VSU Vasula 125.18 39 ⇑PKIKP PKPdf 18 46 28.3 -0.3
VSU MLR MLR
comp=Z,19µm,19.0s
FINES FINESS Array B 125.49 36 PKP PKPdf 18 46 28.5 -0.6
comp=Z,4.0nm,0.9s,baz=35,slow=4.7,SNR=8.8
FINES FINESS Array B 125.49 36 PKIKP PKiKP 18 46 29.7 +0.1
FINES FINESS Array B 125.49 36 PKPdf PKiKP 18 46 29.6 +0.1
MTN Manton Dam 125.96 210 PKPdf 18 46 30.9 -0.7
DGAR Diego Garcia 126.28 137 IAMs_20 IAMs_20 19 42 28.9
comp=Z,4µm,20.0s
ARCES ARCESS Array B 126.50 26 PKP PKPdf 18 46 30.2 -0.7
comp=Z,2.6nm,0.7s,baz=343,slow=2.5,SNR=5.6
RAYN Ar Rayn 126.54 86 PKIKP PKPdf 18 46 32.6 +0.2
RAYN MLR MLR
comp=Z,6µm,18.0s
RAYN Ar Rayn 126.54 86 PKPdf PKPdf 18 46 32.6 +0.2
KEV Kevo 127.04 25 IAMs_20 IAMs_20 19 37 17.0
comp=Z,4µm,21.0s
VALR Valaam 127.76 36 ePKIKP PKiKP 18 46 34.6 +0.6
ANN Anapa 128.30 58 *i* PKIKP PKiKP 18 46 35.9 +0.2
ANN e 18 46 39.4
ANN e 18 48 36.4
ANN pmax pmax
comp=Z,66nm,1.2s
SOC Sochi 129.56 60 ePKIKP PKPdf 18 46 35.6 -1.9
SOC i 18 46 38.9
SOC e 18 53 44.7
SOC eSS SS 19 06 11.9 +0.8
VSLR Vesyoloye 129.75 60 ePKIKP PKiKP 18 46 38.6 -0.1
OBN Obninsk 129.89 45 *c* PKIKP PKiKP 18 46 38.5 0.0
OBN i 18 48 49.1
OBN e 18 53 51.2
OBN ePS PS 18 59 00.9 +0.4
OBN *i* SS SS 19 06 05.3 -9.2
OBN pmax pmax
comp=Z,78nm,1.7s
OBN MLR MLR
comp=Z,8µm,19.0s
OBN Obninsk 129.89 45 PKPdf PKiKP 18 46 38.8 +0.3
GENI Genyem 130.20 227 PKP PKiKP 18 46 43.5 +3.0
GENI PKP sPKPdf 18 46 48.5 +5.0
BATM Batumi 130.43 63 ⇑P PKPdf 18 46 39.1 -0.1
BATM Batumi 130.43 63 ⇑PKIKP PKPdf 18 46 39.1 -0.1
MOS Moscow 130.57 44 *i* PKIKP PKPdf 18 46 39.1 +0.1
MOS e 18 48 52.5
MOS ePPP PPP 18 51 40.5
MOS pmax pmax
comp=Z,71nm,1.8s
MOS pmax pmax
comp=Z,400nm,2.8s
MOS MLR MLR
comp=N,3µm,21.0s
MOS MLR MLR
comp=E,4µm,21.0s
MOS MLR MLR
comp=Z,6µm,21.0s
VSR Storozhevoye 130.84 50 ePKIKP PKPdf 18 46 40.1 +0.4
VSR pmax pmax
comp=Z,40nm,1.6s
VSR MLR MLR
comp=Z,4µm,19.0s
VORD Divnogorie 130.88 50 ePKIKP PKiKP 18 46 40.8 +0.1
VORD pmax pmax
comp=Z,10.0nm,1.1s
LPSR Galich'ya Gora 130.91 48 ePKIKP PKiKP 18 46 40.7 0.0
LPSR pmax pmax
comp=Z,40nm,1.5s
LPSR MLR MLR
comp=Z,4µm,21.0s
BATI Baumata 131.11 203 PKP PKiKP 18 46 42.6 +0.2
BATI PKP sPKPdf 18 47 16.8 +32
SOEI Soe 131.34 204 PKPdf 18 46 41.4 -0.6
SOEI Soe 131.34 204 PKP PKiKP 18 46 44.3 +1.3
SOEI PKP pPKPdf 18 46 44.8 0.0
KIV Kislovodsk 131.73 60 *i* P Pdif 18 43 35.4 +0.4
KIV i 18 46 43.1
KIV e 18 49 00.9
KIV ePS PS 18 59 17.3 +0.2
KIV eSS SS 19 06 37.3 -0.7
KIV eSSS SSS 19 11 26.4
KIV pmax pmax
comp=Z,55nm,1.1s
KIV MLR MLR
comp=Z,6µm,23.0s
KIV Kislovodsk 131.73 60 PKPdf PKPdf 18 46 41.9 +0.1
KIV Kislovodsk 131.73 60 P PKiKP 18 46 43.1 +0.3
KBZ Khabaz 131.83 60 PKP PKiKP 18 46 43.5 +0.7
comp=Z,4.2nm,1.0s,baz=239,slow=2.0,SNR=12
GOF Gofitskoye 132.23 59 ⇑ePKIKP PKiKP 18 46 44.2 +0.6
GOF pmax pmax
comp=Z,65nm,1.3s
GNI Garni 132.25 66 *c* PKIKP PKiKP 18 46 45.1 +1.1
GNI pmax pmax
comp=Z,41nm,1.7s
GNI Garni 132.25 66 IAMs_20 IAMs_20 19 49 08.4
comp=Z,4µm,20.0s
GNI Garni 132.25 66 P PKiKP 18 46 44.3 +0.2
ZEI Tsey 132.32 62 *i* PKIKP PKPdf 18 46 42.5 -0.6
ZEI pmax pmax
comp=Z,15nm,1.3s
VRH Novokhopyorsk 132.43 50 ePKIKP PKPdf 18 46 42.4 -0.3
VRH e 18 49 02.3
VRH pmax pmax
comp=Z,30nm,1.4s
VRH MLR MLR
comp=Z,5µm,22.0s
MMRI Maumere 133.03 202 IAMs_20 IAMs_20 19 39 06.8
comp=Z,3µm,20.0s
EDFI Ende, Flores 133.09 201 PKP PKPdf 18 46 40.2 -5.1
EDFI PKP PKiKP 18 46 46.3 -0.2
XMIS Christmas Isla 133.66 179 IAMs_20 IAMs_20 19 40 24.7
comp=Z,3µm,20.0s
GROC Groznyy 133.76 62 ePKIKP PKiKP 18 46 47.1 +0.3
GROC e 18 49 15.3
GROC ePS PS 18 59 28.2 -6.2
GROC pmax pmax
comp=Z,51nm,1.4s
PLAI Plampang 134.02 196 PKP PKPdf 18 46 42.6 -4.3
PLAI PKP sPKPdf 18 46 50.7 0.0
BILL Bilibino 134.12 333 *c* PKIKP PKiKP 18 46 47.2 +0.5
BILL *i* 18 53 59.2
BILL ePS PS 18 59 43.1 +6.5
BILL *i* SS SS 19 07 08.8 +3.5
BILL pmax pmax
comp=Z,28nm,1.6s
BILL MLR MLR
comp=Z,2µm,16.0s
BILL Bilibino 134.12 333 PKPdf PKPdf 18 46 46.0 +0.6
BILL IAMs_20 IAMs_20 19 50 54.8
comp=Z,3µm,20.0s
TWSI Taliwang, Sumb 134.29 195 PKP PKPdf 18 46 46.7 -0.7
TWSI PKP PKiKP 18 46 48.1 -0.7
AKT Akhty 134.78 65 ePKIKP PKPdf 18 46 46.8 -0.8
AKT e 18 49 23.9
AKT pmax pmax
comp=Z,20nm,1.0s
PRGR Permogore 134.82 36 ePKIKP PKPdf 18 46 46.7 -0.1
PRGR e 18 49 20.5
PRGR pmax pmax
comp=Z,22nm,0.9s
MAK Makhachkala 134.94 63 eP Pdif 18 43 46.6 -2.5
MAK i 18 46 45.8
MAK eSS SS 19 07 15.4 -1.2
MAK eSSS SSS 19 12 14.1
MAK pmax pmax
comp=Z,121nm,1.0s
JAGI Jajag, Banyuwa 135.05 191 PKPdf PKPdf 18 46 48.2 -0.7
JAGI IAMs_20 IAMs_20 19 47 31.0
comp=Z,4µm,19.0s
BSSI Bau Bau, Buton 135.91 200 PKP PKPdf 18 46 49.9 -0.6
BSSI PKP PKiKP 18 46 52.8 +0.7
BELG Belogornoye 136.19 49 *i* PKIKP PKiKP 18 46 52.4 +1.1
CISI Cisompet, Garu 136.54 182 PKPdf PKPdf 18 46 50.4 -1.3
CISI IAMs_20 IAMs_20 19 48 22.3
comp=Z,4µm,19.0s
CISI Cisompet, Garu 136.54 182 PKP PKiKP 18 46 53.1 -0.3
CISI PKP sPKPdf 18 47 00.3 +4.8
KAPI Kappang 137.19 200 IAMs_20 IAMs_20 19 48 39.9
comp=Z,3µm,19.0s
SPSI Sidrap Palu 138.19 200 PKP PKPdf 18 46 55.5 +0.8
SPSI PKP PKiKP 18 46 57.0 +0.3
KASI Kota Agung 138.55 177 PKP PKPdf 18 46 55.5 +0.2

KASI PKP **sPKPdf 18 46 59.9 +0.8**
LWLI Liwa 139.03 177 PKP **PKPdf 18 46 56.3 -0.1**
LWLI PKP sPKPdf 18 47 15.4 +15
TTSI Tana Toraja 139.05 201 PKP **PKiKP 18 46 57.9 -0.6**
TTSI PKP sPKPdf 18 47 13.0 +13
KLSI 139.39 178 PKP **PKPdf 18 46 57.1 +0.2**
KLSI PKP **sPKPdf 18 47 00.9 +0.3**
MNAI Manna 139.62 175 IAMs_20 IAMs_20 19 51 55.7
comp=Z,4μm,18.0s
BBKI Banjar Baru 139.83 193 PKP **PKPdf 18 46 57.1 -0.6**
BBKI PKP **sPKPdf 18 47 02.4 +0.9**
PET Petropavlovsk 140.04 312 *e*PKIKP **PKPdf 18 46 52.6 -4.1**
PET *e* 18 49 58.3
PET *e*SS SS 19 08 17.0 +0.5
PET MLR MLR
comp=Z,4μm,21.0s
KSI Kapahiang 140.29 174 PKP **PKPdf 18 46 57.9 -0.7**
KSI PKP **sPKPdf 18 47 07.6 +5.2**
PETK Petropavlovsk- 140.60 312 PKhKP PKPpre 18 46 52.3
comp=Z,2.1nm,0.8s,baz=48,slow=6.8,SNR=2.1
PETK PKP **PKPdf 18 46 58.0 +0.2**
comp=Z,7.2nm,0.8s,baz=104,slow=6.3,SNR=6.6
PETK Petropavlovsk- 140.60 312 PKIKP **PKPdf 18 46 58.1 +0.3**
PETK Petropavlovsk- 140.60 312 PKPdf 18 46 58.1 +0.3
KMSI Cibinong 141.02 209 PKP **PKiKP 18 47 01.2 -1.3**
KMSI PKP **sPKPdf 18 47 06.1 +2.5**
SEY Seymchan 141.15 328 *e*PKIKP **PKiKP 18 47 00.1 -1.1**
SKR Severo-Kuril's 141.74 308 *e*PKHKP PKPpre 18 46 36.2
SKR *e* 18 50 03.6
SKR *e*SS SS 19 08 37.5 +1.0
SKR pmax pmax
comp=Z,700nm,16.4s
SKR MLR MLR
comp=Z,2μm,19.0s
GEYT Alibeck 141.81 72 PKhKP PKPpre 18 46 55.4
comp=Z,3.3nm,0.8s,baz=230,slow=12,SNR=5.6
GEYT Alibeck 141.81 72 PKPpre 18 46 53.0
ARU Arti 142.22 42 *i* PKIKP **PKPdf 18 46 56.4 -4.2**
ARU 18 53 59.9
ARU MLR MLR
comp=Z,5μm,19.0s
ARU Arti 142.22 42 PKPpre 18 46 55.3
TIXI Tiksi 142.51 348 *e*PKIKP **PKPdf 18 47 01.0 +0.3**
TIXI Tiksi 142.51 348 PKPpre 18 46 55.7
TIXI IAMs_20 IAMs_20 19 56 25.5
comp=Z,3μm,20.0s
TOLI2 Tolitoli 142.68 204 PKPpre 18 46 57.1
MA2 Magadan 143.06 324 *e*PKIKP **PKPdf 18 47 01.3 -0.7**
MA2 pmax pmax
comp=Z,32nm,2.5s
MA2 MLR MLR
comp=Z,2μm,21.0s
MA2 Magadan 143.06 324 PKPpre 18 46 58.1
MA2 IAMs_20 IAMs_20 20 01 53.9
comp=Z,4μm,20.0s
SVE Sverdlovsk 143.25 41 *i* PKIKP **PKPdf 18 47 01.4 -1.0**
SVE pmax pmax
comp=Z,58nm,1.8s
SVE MLR MLR
comp=N,2μm,20.0s
SVE MLR MLR
comp=E,5μm,19.0s
SVE MLR MLR
comp=Z,6μm,20.0s
ABKAR Akbulak array 144.03 54 PKPpre 18 47 00.1
BKNI Bangkinang 144.06 171 IAMs_20 IAMs_20 19 46 31.4
comp=Z,4μm,20.0s
BKNI Bangkinang 144.06 171 PKP PKPbc 18 47 04.1 +1.0
HRA Herat 144.20 80 PKPdf **PKPab 18 47 02.7 -0.2**
MNSI Mandailing Nat 144.31 168 PKP PKPbc 18 47 03.9 0.0
MNSI PKP **PKPab 18 47 04.4 +0.9**
GSI Gunungsitoli 144.43 165 PKPdf PKPbc 18 47 04.3 0.0
GSI Gunungsitoli 144.43 165 PKP **PKPdf 18 47 05.4 -0.5**
GSI PKP **pPKPdf 18 47 06.8 -1.9**
GOA Goa 144.52 117 *eP* **PKPab 18 47 03.9 -0.4**
SBSI Sibolga 144.93 167 PKP PKPbc 18 47 06.0 +0.1
SBSI PKP PKPbc 18 47 06.0 +0.1
KSM Kuching 145.34 187 PKPbc 18 47 06.3 -0.8
KSM IAMs_20 IAMs_20 19 49 14.2
comp=Z,4μm,20.0s
MYKOM Kota Tinggi 145.77 176 PKPdf **PKPdf 18 47 07.7 -0.5**
BHUJ Bhuj 145.87 102 *ex* **PKPdf 18 47 04.9 -3.1**
BHUJ *eP* **PKPdf 18 47 04.9 -3.1**
BHUJ IAmb IAmb 18 47 11.4
comp=Z,147nm,0.4s
RPSI Rantau Prapat 146.05 167 PKPdf 18 47 07.8 -0.8
SBUM Sibu 146.06 191 PKPdf **PKPdf 18 47 08.0 -0.6**
PSI Prapat 146.16 167 PKIKP **PKPdf 18 47 07.8 -1.2**
PSI MLR MLR
comp=Z,9μm,20.0s
TPTI 146.24 163 PKP **PKPbc 18 47 10.2 +0.2**
TPTI PKP **pPKPdf 18 47 11.6 -0.2**
POO Poona 146.47 113 *eP* **PKPdf 18 47 07.8 -1.4**
TSI Tuntungan 146.77 166 PKP **PKPbc 18 47 10.8 -0.7**
TSI PKP **sPKPdf 18 47 14.0 +0.4**
MDRS Chennai 147.21 128 *eP* **PKPdf 18 47 06.8 -3.6**
MDRS IAmb IAmb 18 47 16.7
comp=Z,302nm,2.0s
MYLDM Lahad Datu 147.24 203 PKPab 18 47 14.6 +0.1
KUR Kuril'sk 147.50 299 *e*PKHKP PKPpre 18 47 08.4
KUR *e*SS SS 19 09 50.0 +7.1
KUR pmax pmax
comp=Z,302nm,1.3s
LHMI Lhok Sumawe 148.08 162 IAMs_20 IAMs_20 19 50 27.9
comp=Z,4μm,20.0s
IPM Ipoh 148.15 170 PKPdf **PKPdf 18 47 11.5 -0.7**
KKM Kota Kinabalu 148.72 199 PKPdf **PKPdf 18 47 12.4 -0.8**
KKM IAMs_20 IAMs_20 19 55 47.7
comp=Z,3μm,20.0s
KULM Kulim 148.89 169 PKPdf **PKPdf 18 47 12.0 -1.3**
YUK Yuzh-Kuril'sk 148.96 297 *i* PKIKP **PKPbc 18 47 15.8 -0.7**
YUK *e* 18 50 53.1
YUK *e*SS SS 19 10 03.0 +3.6
HYB Hyderabad 149.17 120 *i* PKP **PKPdf 18 47 14.0 +0.3**
HYB Hyderabad 149.17 120 *eP* **PKPdf 18 47 12.5 -1.2**
HYB IAmb IAmb 18 47 24.9
comp=Z,57nm,0.7s
BRVK Borovoye 149.67 45 *ce*PKHKP PKPpre 18 47 14.9
BRVK MLR MLR
comp=Z,7μm,19.0s
BRVK Borovoye 149.67 45 PKPdf **PKPdf 18 47 14.2 +0.8**
BRVK Borovoye 149.67 45 P **PKPbc 18 47 15.8 -2.2**
KBL Kabul 149.67 82 PKIKP **PKPdf 18 47 13.4 -0.9**
KBL Kabul 149.67 82 PKPdf **PKPdf 18 47 13.4 -0.9**
KBL Kabul 149.67 82 P **PKPbc 18 47 16.6 -2.3**
SNR=24
YAK Yakutsk 150.22 338 *e*PKIKP **PKPdf 18 47 14.1 +0.2**
YAK *e* 18 50 54.7
YAK pmax pmax
comp=Z,71nm,1.1s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=Z,80nm,1.9s
YAK pmax pmax
comp=N,70nm,2.0s
YAK pmax pmax
comp=E,48nm,2.2s
YAK Yakutsk 150.22 338 PKPdf **PKPdf 18 47 14.0 +0.1**
YAK IAMs_20 20 04 09.8
comp=Z,3μm,21.0s
YSS Yuzh-Sakhalins 150.89 303 *i* PKIKP **PKPdf 18 47 16.6 +1.2**
YSS *e* 18 47 21.1
YSS *e* 18 47 28.1
YSS *e*SS SS 19 10 14.3 -6.4
YSS *e*SSS SSS 19 16 10.8
YSS MLR MLR
comp=Z,3μm,19.0s
YSS Yuzh-Sakhalins 150.89 303 PKPdf **PKPdf 18 47 15.8 +0.3**
JEM Erimo 150.95 293 PKiKP 18 47 22.4 +0.4
ERM Erimo 150.95 293 PKIKP **PKPbc 18 47 21.2 -0.2**
ERM MLR MLR
comp=Z,4μm,20.0s
ERM Erimo 150.95 293 PKPbc 18 47 21.2 -0.2
ERM Erimo 150.95 293 IAMs_20 IAMs_20 19 42 57.8
comp=Z,4μm,20.0s
UGL Uglegorsk 150.95 308 *e*PKIKP **PKPbc 18 47 20.0 -1.2**
UGL pmax pmax
comp=Z,80nm,1.1s
UGL pmax pmax
comp=Z,1μm,6.0s

BRLS Borolday 151.21 65 *e*PKP **PKPdf 18 47 16.1 -0.1**
baz=66
BRLS Borolday 151.21 65 *e*PKIKP **PKPdf 18 47 16.1 -0.1**
JKA Kamikawa-asahi 151.30 297 PKiKP 18 47 22.9 +0.2
ASAJ Asahikawa 151.30 297 PKIKP **PKiKP 18 47 22.9 +0.2**
IUG luzhnay 151.37 67 *e*PKP **PKPdf 18 47 16.8 +0.2**
baz=67
IUG luzhnay 151.37 67 *e*PKIKP **PKPdf 18 47 16.7 +0.2**
KK31 Karatay Array 151.71 65 PKIKP **PKPdf 18 47 17.1 +0.2**
KK31 Karatay Array 151.71 65 PKPdf **PKPdf 18 47 17.1 +0.2**
KKAR Karatay Array 151.71 65 PKIKP **PKPdf 18 47 17.0 +0.1**
KKAR Karatay Array 151.71 65 PKPdf 18 47 17.0 +0.1
KKAR Karatay Array 151.71 65 PKPdf PKPdf 18 47 16.5 -0.4
BHPL Bhopal 151.93 109 *eP* **PKPdf 18 47 17.8 -0.1**
BHPL IAmb IAmb 18 47 27.4
comp=Z,16nm,0.9s
BHPL *ex* x 18 51 04.7
BRZS Berezniki 152.05 50 *e*PKP **PKPdf 18 47 17.5 +0.3**
baz=50
BRZS Berezniki 152.05 50 *e*PKIKP **PKPdf 18 47 17.5 +0.3**
JEW Eniwo 152.20 295 PKiKP 18 47 24.8 +0.2
DZA Taraz 152.32 65 *e*PKP **PKPdf 18 47 18.3 +0.4**
baz=65
DZA Taraz 152.32 65 *e*PKIKP **PKPdf 18 47 18.2 +0.4**
PBA Port Blair 152.74 150 *eP* PKPdf 18 47 18.1 -1.1
PBA Port Blair 152.74 150 PKPdf 18 47 18.6 -0.6
PBA Port Blair 152.74 150 P PKPdf 18 47 19.5 +0.3
SNR=20
NIL Nilore 152.84 85 PKIKP **PKPdf 18 47 19.5 +0.6**
NIL MLR MLR
comp=Z,4μm,20.0s
NIL Nilore 152.84 85 PKPdf **PKPdf 18 47 19.5 +0.6**
NIL Nilore 152.84 85 IAMs_20 IAMs_20 20 09 56.7
comp=Z,4μm,20.0s
NIL Nilore 152.84 85 P **PKPdf 18 47 18.4 -0.5**
GRNR Gornyy 153.91 314 *e*PKIKP **PKPdf 18 47 16.4 -3.4**
BTLS Baital 154.06 60 *e*PKP **PKPdf 18 47 20.9 +0.7**
baz=60
BTLS Baital 154.06 60 *e*PKIKP **PKPdf 18 47 20.9 +0.7**
AML Almayashu 154.09 67 P **PKPdf 18 47 22.4 +1.5**
SNR=8.6
EKS2 Erkin-Say 154.13 65 P **PKPdf 18 47 21.4 +0.8**
SNR=12
DGPR DIGLIPUR 154.19 149 *eP* **PKPdf 18 47 19.4 -1.9**
MJAR Matsushiro Arr 154.35 280 PKP **PKPdf 18 47 20.4 -0.5**
comp=Z,0.9nm,0.5s,baz=268,slow=1.4,SNR=5.4
MJAR PKPab **PKPab 18 47 44.0 +0.5**
comp=Z,12nm,1.1s,baz=172,slow=1.9,SNR=5.0
MJAR Matsushiro Arr 154.35 280 PKPdf 18 47 20.1 -0.9
MAJO Matsushiro 154.36 280 PKIKP **PKPdf 18 47 21.3 +0.3**
MAJO MLR MLR
comp=Z,3μm,22.0s
MAJO Matsushiro 154.36 280 PKPdf 18 47 21.3 +0.3
MAJO Matsushiro 154.36 280 IAMs_20 IAMs_20 19 42 58.8
comp=Z,3μm,22.0s
MAT Matsushiro 154.36 280 PKP **PKPdf 18 47 19.6 -1.4**
USP Ospenovka 154.61 64 P **PKPdf 18 47 22.5 +1.4**
SNR=8.5
AAK Ala-Archa 154.66 65 P **PKPdf 18 47 22.6 +1.2**
SNR=6.1
AAK Ala-Archa 154.66 65 PKIKP **PKPdf 18 47 21.2 -0.2**
AAK MLR MLR
comp=Z,5μm,19.0s
AAK Ala-Archa 154.66 65 PKPdf **PKPdf 18 47 21.2 -0.2**
AAK Ala-Archa 154.66 65 P **PKPdf 18 47 20.8 -0.6**
SGDS Sogindy 154.68 63 *e*PKP **PKPdf 18 47 21.5 +0.2**
baz=64
SGDS Sogindy 154.68 63 *e*PKIKP **PKPdf 18 47 21.4 +0.2**
UCH Uchtor 154.70 66 P **PKPdf 18 47 23.6 +1.8**
SNR=16
SMLA Simla 155.28 93 *eP* **PKPdf 18 47 21.5 -0.8**
TEY Ternei 155.44 301 *e*PKIKP PKPdf 18 47 06.5 -16
TKM2 Tokmak 2 155.44 65 P **PKPdf 18 47 25.8 +3.3**
SNR=7.9
DDI Dehra Dun 155.71 96 *eP* **PKPdf 18 47 22.1 -1.0**
DDI IAmb IAmb 18 47 36.2
comp=Z,206nm,1.9s
KSH Kashi 155.85 73 PKP **PKPdf 18 47 23.5 +0.5**
KSH PP **PP 18 51 24.5 -3.1**
KSH SS SS 19 11 03.5 -12
KSH AMB AMB
comp=Z,3μm,7.9s
KSH LR LR
comp=Z,2μm,15.6s
KSH LR LR
comp=Z,4μm,17.0s
KSH LR LR
comp=Z,6μm,20.4s
DLV T Lat 155.86 185 IAMs_20 IAMs_20 19 59 37.3
comp=Z,4μm,20.0s
AAA Alma-Ata 156.37 64 *e*PKP **PKPdf 18 47 23.5 0.0**
baz=64
AAA Alma-Ata 156.37 64 *e*PKIKP **PKPdf 18 47 23.5 0.0**
TNSS Tian-Shan 156.41 64 *e*PKP **PKPdf 18 47 24.4 +0.4**
baz=64
TNSS Tian-Shan 156.41 64 *e*PKIKP **PKPdf 18 47 24.4 +0.4**
MDOK Medeo 156.47 64 *e*PKP **PKPdf 18 47 23.0 -0.8**
baz=64
MDOK Medeo 156.47 64 *e*PKIKP **PKPdf 18 47 22.9 -0.8**
ZALV Zalesovo Array 156.73 33 PKPdf **PKPdf 18 47 23.2 -0.4**
ZALV Zalesovo Beam 156.73 33 PKP **PKPdf 18 47 23.3 -0.2**
comp=Z,14nm,0.9s,baz=286,slow=2.8,SNR=41
ZALV PKPab **pPKPab 18 47 54.8 -0.9**
comp=Z,24nm,0.8s,baz=300,slow=4.6,SNR=8.5
ZALV Zalesovo Beam 156.73 33 PKPdf **PKPdf 18 47 23.1 -0.4**
TDK Taldyqorghan 157.10 59 *e*PKP **PKPdf 18 47 24.3 -0.1**
baz=59
TDK Taldyqorghan 157.10 59 *e*PKIKP **PKPdf 18 47 24.2 -0.1**
ZEA Zeya 157.12 327 *i* PKIKP **PKPdf 18 47 24.6 +0.6**
ZEA *e* 18 51 40.6
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA pmax pmax
comp=E,100nm,5.5s
ZEA pmax pmax
comp=N,100nm,6.8s
ZEA pmax pmax
comp=Z,400nm,8.6s
ZEA pmax pmax
comp=N,300nm,11.8s
ZEA pmax pmax
comp=E,200nm,16.3s
ZEA pmax pmax
comp=Z,600nm,16.3s
SATY Saty 157.47 64 *e*PKP **PKPdf 18 47 25.0 -0.1**
baz=64
SATY Saty 157.47 64 *e*PKIKP **PKPdf 18 47 24.9 -0.1**
KPKS Kokpek 157.60 62 *e*PKP **PKPdf 18 47 25.1 0.0**
baz=63
KPKS Kokpek 157.60 62 *e*PKIKP **PKPdf 18 47 25.1 0.0**
BOD Bodaibo 157.69 349 *e*PKIKP **PKPdf 18 47 23.4 -1.2**
BOD pmax pmax
comp=Z,86nm,1.3s
SHLS Shalkode 158.22 63 *e*PKP **PKPdf 18 47 26.9 +0.9**
baz=63
SHLS Shalkode 158.22 63 *e*PKIKP **PKPdf 18 47 26.8 +0.9**
BOK Bokaro 158.51 119 *eP* **PKPdf 18 47 24.9 -1.9**
UTHA Uthaitani 158.63 162 P **PKPab 18 48 03.3 +1.3**
USA0B Ussuriysk Arra 158.84 300 PKIKP **PKPdf 18 47 25.3 -1.2**
USA0B Ussuriysk Arra 158.84 300 PKPdf **PKPdf 18 47 25.3 -1.2**
USRK Ussuriysk Ar. 158.84 300 PKP **PKPdf 18 47 25.9 -0.5**
comp=Z,0.5nm,0.6s,baz=282,slow=3.7,SNR=4.3
USRK PKPab **PKPab 18 48 03.0 +0.5**
comp=Z,3.7nm,0.9s,baz=93,slow=3.8,SNR=8.0
USRK Ussuriysk Ar. 158.84 300 PKPdf 18 47 26.1 -0.4
MAKZ Makanchi 158.94 52 PKIKP **PKPdf 18 47 26.5 -0.1**
MAKZ MLR MLR
comp=Z,6μm,20.0s
MAKZ Makanchi 158.94 52 PKPdf **PKPdf 18 47 26.5 -0.1**
MK31 Makanchi Array 159.15 52 PKIKP **PKPdf 18 47 25.7 -1.1**
MK31 Makanchi Array 159.15 52 PKPdf 18 47 25.6 -1.1
MKAR Makanchi Array 159.15 52 PKP **PKPdf 18 47 26.4 -0.4**
comp=Z,5.3nm,0.8s,baz=270,slow=0.6,SNR=52
MKAR PKPab **PKPab 18 48 03.7 -0.1**
comp=Z,8.4nm,0.8s,baz=277,slow=2.0,SNR=6.7
MKAR PP **PP 18 51 43.5 -1.6**
comp=Z,2.8nm,1.0s,baz=282,slow=7.2,SNR=2.8
MKAR Makanchi Array 159.15 52 PKPdf **PKPdf 18 47 25.6 -1.2**
UBPT Khong Chiam 159.24 178 P **PKPab 18 48 09.4 +4.7**
UBPT Khong Chiam 159.24 178 PKPdf 18 47 27.5 -0.2
CHAI Chaiyaphum 159.51 168 P **PKPab 18 48 07.3 +1.4**
GKN Gorkha 159.96 108 *eP* **PKPdf 18 47 28.6 +0.1**
comp=Z,145nm,1.8s
DMN Daman 160.12 109 *eP* **PKPdf 18 47 29.1 +0.3**
PKIN Phulchoki 160.33 110 *eP* **PKPdf 18 47 28.8 -0.3**
comp=Z,148nm,1.9s
PKI Pulchoki 160.33 110 *eP* **PKPdf 18 47 29.1 -0.1**
comp=Z,83nm,1.8s
KKN Kakani 160.35 109 *eP* **PKPdf 18 47 28.6 -0.4**
MDJ Mudanjiang 160.38 303 PKPdf 18 47 27.2 -1.0
ZSN Zaisan 160.47 48 *e*PKP **PKPdf 18 47 28.5 +0.2**
baz=48
ZSN Zaisan 160.47 48 *e*PKIKP **PKPdf 18 47 28.5 +0.2**
MHMT Maesarieng 160.66 155 P **PKPdf 18 47 32.4 +3.0**
comp=Z,1μmcomp=Z,30nm,1.8s
GUN Gumba 160.87 110 *eP* **PKPdf 18 47 29.9 +0.1**
comp=Z,305nm,2.1s
RAMN Ramite 160.90 113 *eP* **PKPdf 18 47 30.2 +0.5**
comp=Z,202nm,2.0s
CM05 Chiang Mai Arr 161.20 158 P **PKPdf 18 47 31.1 +1.2**
comp=Z,92nmcomp=Z,9.3nm,1.3s
CM13 Chiang Mai Arr 161.20 158 P **PKPdf 18 47 35.0 +5.0**
comp=Z,96nmcomp=Z,7.0nm,1.3s
CM04 Chiang Mai Arr 161.20 158 P **PKPdf 18 47 31.0 +1.1**
comp=Z,90nmcomp=Z,7.3nm,1.8s
CM01 Chiang Mai Arr 161.22 158 P **PKPdf 18 47 34.0 +4.1**
comp=Z,116nmcomp=Z,6.4nm,1.4s
CM02 Chiang Mai Arr 161.23 158 P **PKPdf 18 47 32.1 +2.2**
comp=Z,99nmcomp=Z,6.6nm,1.3s
CM15 Chiang Mai Arr 161.24 158 P **PKPdf 18 47 33.2 +3.3**
comp=Z,86nmcomp=Z,4.6nm,1.1s
CM31 Chiang Mai Arr 161.25 158 P **PKPdf 18 47 34.2 +4.3**
comp=Z,3μmcomp=Z,140nm,1.5s
CM31 Chiang Mai Arr 161.25 158 PKPdf 18 47 28.0 -1.9
CMAR Chiang Mai Arr 161.25 158 PKP **PKPdf 18 47 30.6 +0.7**
comp=Z,2.9nm,1.0s,baz=241,slow=2.6,SNR=18
CMAR PKPab **PKPab 18 48 11.9 -1.5**
comp=Z,5.2nm,1.1s,baz=230,slow=4.4,SNR=5.8
CMAR Chiang Mai Arr 161.25 158 PKPdf **PKPdf 18 47 29.0 -1.0**
CM09 Chiang Mai Arr 161.25 158 P **PKPdf 18 47 33.0 +3.0**
comp=Z,98nmcomp=Z,7.4nm,1.1s
ODAN Odare 161.44 114 *eP* **PKPdf 18 47 30.6 +0.4**
comp=Z,279nm,2.3s
CHTO Chiang Mai 161.58 157 PKIKP **PKPdf 18 47 29.2 -1.1**
CHTO Chiang Mai 161.58 157 PKPdf **PKPdf 18 47 29.2 -1.1**
CHTO Chiang Mai 161.58 157 P **PKPdf 18 47 29.9 -0.4**
CMMT Chiang Mai 161.58 157 P **PKPdf 18 47 30.0 -0.3**
comp=Z,442nmcomp=Z,5.3nm,1.7s
CM33 Chiang Mai Arr 161.59 157 P **PKPdf 18 47 30.0 -0.3**
BELO BELONIA 161.83 131 *eP* **PKPdf 18 47 29.7 -0.7**
BELO *ex* x 18 51 53.8
TAPN Taplejung 161.95 114 *eP* **PKPdf 18 47 30.7 -0.1**
comp=Z,221nm,2.4s
SAIH SAIHA 162.16 136 *eP* **PKPdf 18 47 29.5 -1.5**
SAIH *i* x x 18 48 20.0
SAIH *ex* x 18 51 57.2
AGT Agartala 162.18 129 *eP* **PKPdf 18 47 28.4 -2.3**
AGT *ex* x 18 56 00.4
KSRS Korea Array 162.63 281 PKP **PKPdf 18 47 30.8 0.0**
comp=Z,3.0nm,1.0s,baz=195,slow=0.5,SNR=8.1
KSRS PKPab **pPKPab 18 48 21.8 -0.3**
comp=Z,3.8nm,1.0s,baz=92,slow=4.0,SNR=4.4
KSAR Wonju Array Be 162.67 281 PKIKP **PKPdf 18 47 30.6 -0.2**
KSAR 18 48 21.4
KSAR Wonju Array Be 162.67 281 PKPdf 18 47 30.6 -0.2
KSAR **pPKPab 18 48 21.4 -0.8**
QIZ Qiongzhong 162.70 191 PKP **PKPdf 18 47 29.0 -2.4**
QIZ PP **PP 18 52 03.6 +0.5**
QIZ SS SS 19 12 27.5 +2.1
QIZ AMB AMB
comp=Z,360nm,11.9s
QIZ LR LR
comp=Z,3μm,21.4s
QIZ LR LR
comp=Z,750nm,45.5s
QIZ LR LR
comp=Z,2μm,18.3s
CIT Chita 163.28 344 *e*PKIKP **PKPdf 18 47 31.0 0.0**
CIT *e* 18 48 22.8
CIT *e* 18 52 08.4
CIT pmax pmax
comp=Z,71nm,2.4s
HIA Hailar 163.59 327 PKIKP **PKPdf 18 47 31.0 -0.4**
HIA Hailar 163.59 327 PKPdf **PKPdf 18 47 31.0 -0.4**
SHL Shillong 163.77 126 *eP* **PKPdf 18 47 31.3 -1.2**
SHL *i* x x 18 48 25.4
SHL *ex* x 18 52 04.7
SILR SILCHAR 163.80 130 *ex* x 18 52 13.3
WMQ Urumqi 163.80 56 PKP **PKPdf 18 47 31.0 -0.8**
WMQ pPKP sPKPdf 18 47 38.5 +2.9
WMQ PKPab **PKPab 18 48 24.4 +0.1**
WMQ PP **PP 18 52 10.3 +0.1**
WMQ SKKS 18 58 58.6
WMQ SS **SS 19 12 34.3 -4.8**
WMQ AMB AMB
comp=Z,2μm,10.9s
WMQ LR LR
comp=Z,5μm,23.1s
WMQ LR LR
comp=Z,4μm,25.7s
WMQ LR LR
comp=Z,8μm,17.9s
WMQ Urumqi 163.80 56 PKP2 **PKPab 18 48 25.2 +0.9**
WMQ Urumqi 163.80 56 PKPab 18 48 25.2 +0.9
IRK Irkutsk 163.81 5 *e*PKIKP **PKPdf 18 47 31.9 +0.4**
IRK *e* 18 48 24.4
IRK *e* 18 52 11.0
IRK pmax pmax
comp=Z,86nm,3.1s
MOY Mondy 163.99 12 *e*PKIKP **PKPdf 18 47 33.1 +1.3**
MOY pmax pmax
comp=Z,100nm,2.9s
GUWA GUWAHATI 164.07 124 *ex* **PKPdf 18 47 28.5 -4.0**
GUWA *i* x x 18 48 28.0
GUWA *ex* x 18 52 03.1
TLY Talaya 164.32 6 *e*PKIKP **PKPdf 18 47 33.1 +1.1**
TLY *e* 18 52 15.2
TLY *e*SS SS 19 12 38.1 -4.0
TLY pmax pmax
comp=Z,71nm,2.6s
TLY Talaya 164.32 6 P **PKPdf 18 47 30.2 -1.8**
QZH Quanzhou 164.66 227 PKP **PKPdf 18 47 31.9 -1.2**
QZH PP **PP 18 52 16.8 +2.5**
QZH AMB AMB
comp=Z,1μm,11.4s
QZH LR LR
comp=Z,3μm,18.5s
QZH LR LR
comp=Z,2μm,18.5s
QZH LR LR
comp=Z,3μm,18.5s
SLVN Son La 165.13 171 PKPdf 18 47 34.4 +0.8
KOHI KOHIMA 165.28 131 *eP* **PKPdf 18 47 32.8 -1.0**
KOHI IAmb IAmb 18 47 43.2
comp=Z,85nm,1.6s
KOHI *ex* x 18 52 20.0
ZAK Zakamensk 165.57 8 *e*PKIKP **PKPdf 18 47 32.4 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,2.4s
GZH Guangzhou 165.66 207 PKP **PKPdf 18 47 33.3 -0.7**
GZH SS SS 19 13 02.6 +6.3
GZH LR LR
comp=Z,3μm,17.3s
GZH LR LR
comp=Z,2μm,18.7s
LSA Lhasa 165.76 112 PKP **PKPdf 18 47 34.8 +0.3**
LSA LR LR
comp=Z,8μm,19.2s
LSA LR LR
comp=Z,15μm,18.2s
LSA LR LR
comp=Z,7μm,21.0s
LSA Lhasa 165.76 112 PKIKP **PKPdf 18 47 34.2 -0.3**
LSA Lhasa 165.76 112 PKPdf 18 47 34.2 -0.3
MOKO MOKOCHONG 165.97 131 *eP* **PKPdf 18 47 34.6 +0.3**
JORH JORHAT 166.11 129 *eP* **PKPdf 18 47 35.1 +0.9**
ZIRO ZIRO 166.39 125 *eP* **PKPdf 18 47 32.2 -2.5**
ZIRO *i* x x 18 48 37.2
ZIRO *ex* x 18 52 23.2
DL2 Dalian 167.52 287 PKP **PKPdf 18 47 35.8 +0.9**
DL2 PKPab **PKPab 18 48 39.6 -1.2**
DL2 PP **PP 18 52 32.3 +2.6**
DL2 AMB AMB
comp=Z,1μm,8.6s
DL2 LR LR
comp=Z,2μm,20.5s
DL2 LR LR
comp=Z,3μm,19.3s
DL2 LR LR

	comp=Z,5μm,18.5s							
ULN	**Ulaanbaatar**	**168.24**	**358**	PKIKP	**PKPdf**	**18 47 35.1**	**-0.3**	
ULN	**Ulaanbaatar**	**168.24**	**358**		**PKPdf**	**18 47 35.1**	**-0.3**	
SONM	**Songino Array**	**168.28**	**360**	PKP	**PKPdf**	**18 47 35.3**	**-0.1**	
	comp=Z,7.1nm,1.2s,baz=266,slow=0.4,SNR=18							
SONM				PKPab	**PKPab**	**18 48 43.2**	**-0.6**	
	comp=Z,5.0nm,1.0s,baz=334,slow=3.1,SNR=5.8							
SONM				PP	**PP**	**18 52 33.5**	**+1.3**	
	comp=Z,5.3nm,1.2s,baz=8.5,slow=2.9,SNR=3.1							
SONM	**Songino Array**	**168.28**	**360**		**PKPdf**	**18 47 34.7**	**-0.6**	
KMI	**Kunming**	**168.63**	**163**	⇑PKP	**PKPdf**	**18 47 36.1**	**-0.3**	
KMI				pPKP	pPKPdf	18 47 39.5	+0.3	
NJ2	**Nanjing**	**168.84**	**252**	*e*PKP	**PKPdf**	**18 47 34.0**	**-2.0**	
NJ2				pPKP	**pPKPdf**	**18 47 37.8**	**-1.0**	
NJ2				PP	**PP**	**18 52 40.4**	**+3.9**	
NJ2				SKKS		18 59 26.4		
NJ2				AMB	AMB			
	comp=Z,1μm,7.6s							
NJ2				LR	LR			
	comp=Z,2μm,21.4s							
NJ2				LR	LR			
	comp=Z,3μm,18.2s							
NJ2				LR	LR			
	comp=Z,5μm,19.8s							
GYA	**Guiyang**	**170.37**	**182**	⇑PKP	**PKPdf**	**18 47 36.3**	**-1.0**	
GYA				pPKP	pPKPdf	18 47 39.4	-0.7	
GYA				PKPab	**PKPab**	**18 48 55.0**	**+1.4**	
GYA				PP	**PP**	**18 52 43.6**	**+0.8**	
GYA				SS	SS	19 13 42.6	-0.7	
GYA				AMB	AMB			
	comp=Z,890nm,11.0s							
GYA				LR	LR			
	comp=Z,2μm,18.4s							
GYA				LR	LR			
	comp=Z,1μm,17.9s							
GYA				LR	LR			
	comp=Z,2μm,18.5s							
TIA	**Tai'an**	**171.25**	**274**	PKP	**PKPdf**	**18 47 39.8**	**+2.5**	
TIA				LR	LR			
	comp=Z,1μm,23.0s							
TIA				LR	LR			
	comp=Z,2μm,23.0s							
TIA				LR	LR			
	comp=Z,3μm,20.5s							
WHN	**Wuhan**	**171.28**	**233**	⇑PKP	**PKPdf**	**18 47 38.9**	**+1.4**	
WHN				SKKS		18 59 37.8		
WHN				LR	LR			
	comp=Z,7μm,18.4s							
WHN				LR	LR			
	comp=Z,3μm,18.4s							
WHN				LR	LR			
	comp=Z,9μm,20.7s							
BJI	**Beijing**	**171.29**	**300**	PKP	**PKPdf**	**18 47 38.0**	**+0.8**	
BJI				PP	**PP**	**18 52 50.8**	**+2.3**	
BJI				LR	LR			
	comp=Z,2μm,15.7s							
BJI				LR	LR			
	comp=Z,1μm,17.5s							
ENH	**Enshi**	**173.60**	**205**		**PKPdf**	**18 47 37.9**	**-0.6**	
HHC	**Hu-ho-hao-te**	**173.73**	**321**	*e*PKP	PKPdf	18 47 30.3	-8.1	
HHC				PKS	PKSdf	18 51 00.0	-11	
HHC				PP	**PP**	**18 52 54.0**	**-6.1**	
GTA	**Gaotai**	**173.89**	**55**	PKP	**PKPdf**	**18 47 38.6**	**+0.1**	
GTA				PP	**PP**	**18 53 00.8**	**-0.6**	
GTA				SKKS		18 59 47.1		
GTA				SS	**SS**	**19 14 20.1**	**+0.2**	
GTA				AMB	AMB			
	comp=Z,2μm,11.6s							
GTA				LR	LR			
	comp=Z,1μm,24.7s							
GTA				LR	LR			
	comp=Z,2μm,24.9s							
GTA				LR	LR			
	comp=Z,1μm,24.1s							
CD2	**Chengdu**	**174.39**	**157**	⇓*i*PKP	**PKPdf**	**18 47 39.9**	**+1.1**	
CD2				PP	**PP**	**18 53 03.3**	**+0.5**	
CD2				SKS	**SKSdf**	**18 54 38.8**	**-3.3**	
CD2				SS	**SS**	**19 14 22.3**	**-0.6**	
CD2				AMB	AMB			
	comp=Z,2μm,10.8s							
CD2				LR	LR			
	comp=Z,5μm,14.9s							
CD2				LR	LR			
	comp=Z,4μm,20.6s							
BTO	**Baotou**	**174.65**	**328**	*e*PKP	**PKPdf**	**18 47 34.6**	**-4.1**	
TIY	**Taiyuan**	**174.84**	**290**	*e*PKP	**PKPdf**	**18 47 41.3**	**+2.5**	
TIY				PP	**PP**	**18 53 07.5**	**+1.2**	
TIY				SS	SS	19 14 26.6	-3.0	
TIY				AMB	AMB			
	comp=Z,770nm,10.6s							
TIY				LR	LR			
	comp=Z,3μm,17.5s							
TIY				LR	LR			
	comp=Z,1μm,15.8s							
TIY				LR	LR			
	comp=Z,3μm,17.9s							
XAN	**Xi'an**	**177.02**	**227**	PKP	**PKPdf**	**18 47 38.3**	**-1.1**	
XAN				pPKP	sPKPdf	18 47 46.8	+3.6	
XAN				PP	**PP**	**18 53 17.6**	**+1.6**	
XAN				SKKS		18 59 58.1		
XAN				SS	**SS**	**19 14 49.3**	**+0.1**	
XAN				AMB	AMB			
	comp=Z,3μm,11.2s							
XAN				LR	LR			
	comp=Z,4μm,21.1s							
XAN				LR	LR			
	comp=Z,950nm,19.5s							
XAN				LR	LR			
	comp=Z,6μm,21.1s							
XAN	**Xi'an**	**177.02**	**227**	PKIKP	**PKPdf**	**18 47 39.2**	**-0.2**	
XAN	**Xi'an**	**177.02**	**227**		**PKPdf**	**18 47 39.2**	**-0.2**	
LZH	**Lanzhou**	**178.00**	**90**	*e*PKP	**PKPdf**	**18 47 41.0**	**+1.4**	
LZH				PP	**PP**	**18 53 21.1**	**-0.5**	
LZH				SKKS		19 00 03.8		
LZH				AMB	AMB			
	comp=Z,4μm,9.5s							
LZH				LR	LR			
	comp=Z,960nm,17.4s							
LZH				LR	LR			
	comp=Z,3μm,18.4s							
LZH				LR	LR			
	comp=Z,3μm,18.4s							

*NEIC **18** 18:40:04.5±1.7, 36.05S±0.05×73.4W±0.1, h14km±5km, mb4.5/7, Error ellipse: s-maj=15.6km s-min=6.8km az=75.0*
*IDC **18** 18:40:05.2±1.4, 35.66S×73.36W, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/38, mbtmp4.0/7, ML4.3/1, Error ellipse: s-maj=41.0km s-min=32.3km az=72.0*
ISC 18 18:40:03.7±0.7, **36.11S**±0.05×**73.18W**±0.1**, h10**km**, n31,** σ1§**84/29, mb4.3/8, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.74**	**170**		**Pn**	**18 40 20.9**	**+0.8**
BI02	**San Fabin de**	**1.63**	**110**	Pn	**Pg**	**18 40 35.4**	**+0.4**
BO02	**Sierra Bellavi**	**2.36**	**57**	Pn	**Pn**	**18 40 44.5**	**+1.9**
MT02	**Curacav**	**3.31**	**31**	Pn	**Pn**	**18 40 56.4**	**+0.9**
MT05	**Renca**	**3.38**	**37**	Pn	**Pn**	**18 40 58.0**	**+1.4**
PEL	**Peldehue**	**3.61**	**35**	Pn	**Pn**	**18 41 00.1**	**+0.4**
VA03	**San Esteban**	**3.99**	**34**	Pn	**Pn**	**18 41 05.2**	**+0.3**
PLCA	**Paso Flores**	**5.05**	**157**	Pn	**Pb**	**18 41 30.8**	**-1.5**
	2.1nm,0.3s,baz=49,slow=16,SNR=3.8						
PLCA				Sn	**Sb**	**18 42 30.6**	**-2.5**
	4.4nm,0.3s,baz=292,slow=15,SNR=3.4						
PLCA	**Paso Flores**	**5.05**	**157**		**Pn**	**18 41 19.2**	**-0.4**
CO02	**Combarbal**	**5.22**	**21**	Pn	**Pn**	**18 41 20.4**	**-1.6**
CO03	**El Pedregal**	**5.66**	**22**	Pn	**Pn**	**18 41 25.7**	**-2.2**
ZON	**Zonda**	**5.90**	**41**	Pn	**Pn**	**18 41 29.1**	**-2.0**
GO04	**Tololo Observa**	**6.25**	**19**	Pn	**Pn**	**18 41 33.0**	**-3.2**
LL01	**San Ignacio de**	**6.28**	**175**	Pn	**Pn**	**18 41 37.8**	**+1.4**
PB10	**IPOC Station P**	**12.76**	**11**	Pn	**Pn**	**18 43 01.2**	**-4.0**
PB01	**IPOC Station P**	**15.36**	**13**	Pn	**Pn**	**18 43 36.7**	**-3.9**
PB01				IAmb	IAmb	18 43 49.6	
	comp=Z,14nm,0.9s						
MNMC	**Minye Minye**	**17.21**	**12**	Pn	**Pn**	**18 44 03.4**	**-1.2**
MNMC				IAmb	IAmb	18 44 11.8	
	comp=Z,21nm,0.9s						
LPAZ	**La Paz**	**20.25**	**14**	Pn	Pn	18 44 46.1	+4.3
	comp=Z,0.8nm,0.3s,baz=172,slow=9.7,SNR=7.7						
SIV	**San Ignacio**	**22.76**	**31**	P	**P**	**18 45 07.3**	**+1.0**
	comp=Z,15nm,1.0s,baz=235,slow=12,SNR=6.6						
PMSA	**Palmer Station**	**29.21**	**172**	P	**P**	**18 46 05.6**	**+0.5**
PMSA				IAmb	IAmb	18 46 17.3	
	comp=Z,104nm,1.2s						
PTGA	**Pitinga**	**37.28**	**22**	P	**P**	**18 47 16.0**	**+0.1**
	comp=Z,5.5nm,1.0s,baz=215,slow=6.4,SNR=4.7						
PTGA	**Pitinga**	**37.28**	**22**	IAmb	IAmb	18 47 18.7	
	comp=Z,9.1nm,1.1s						
QSPA	**South Pole Qui**	**54.13**	**180**	P	**P**	**18 49 30.5**	**+1.8**
QSPA				IAmb	IAmb	18 49 39.2	
	comp=Z,8.6nm,1.1s						
TXAR	**Lajitas Array**	**71.14**	**332**	P	**P**	**18 51 22.4**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=154,slow=9.0,SNR=6.4						
TXAR	**Lajitas Array**	**71.14**	**332**	P	**P**	**18 51 20.9**	**-1.5**
TX31	**Lajitas Ar. Si**	**71.14**	**332**	P	**P**	**18 51 21.6**	**-0.8**
TX31				IAmb	IAmb	18 51 46.9	
	comp=Z,8.3nm,0.8s						
NVAR	**Mina Array Bea**	**85.10**	**326**	P	**P**	**18 52 41.6**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=159,slow=3.9,SNR=1.8						
PDAR	**Pinedale Array**	**85.23**	**334**	P	**P**	**18 52 41.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=144,slow=3.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.80**	**71**	P	**P**	**18 52 44.9**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=249,slow=4.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**85.80**	**71**	IAmb	IAmb	18 52 45.9	
	comp=Z,1.7nm,1.0s						
ZALV	**Zalesovo Beam**	**156.50**	**34**	PKPab	**PKPab**	**19 00 28.4**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=320,slow=3.9,SNR=4.3						

*IDC **18** 18:40:29.9±1.4, 35.62S×73.70W, h0km, mb4.0/5, mb1 4.4/6, mb1mx4.1/38, mbtmp4.1/6, ML4.5/1, Error ellipse: s-maj=45.3km s-min=32.6km az=56.0*
ISC 18 18:40:31.1±1.1**, 35.8S**±0.1×**73.7W**±0.3**, h10**km**, n8,** σ1§**71/9, mb4.0/5, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.51**	**155**	Pn	**Pn**	**18 41 55.3**	**+2.1**
	3.6nm,0.3s,baz=296,slow=15,SNR=3.9						
PLCA				Sn	**Sb**	**18 43 11.3**	**-2.2**
	3.2nm,0.3s,baz=80,slow=23,SNR=3.1						
LPAZ	**La Paz**	**20.04**	**16**	P	**Pn**	**18 45 07.8**	**+1.1**
	0.9nm,0.3s,baz=189,slow=12,SNR=1.9						
SIV	**San Ignacio**	**22.69**	**33**	P	**P**	**18 45 32.0**	**-1.0**
	18nm,1.0s,baz=227,slow=11,SNR=5.7						
TXAR	**Lajitas Array**	**70.67**	**332**	P	**P**	**18 51 46.5**	**-0.5**
	1.2nm,0.5s,baz=154,slow=8.7,SNR=12						
NVAR	**Mina Array Bea**	**84.61**	**326**	P	**P**	**18 53 05.5**	**+0.7**
	0.7nm,0.8s,baz=154,slow=7.2,SNR=4.7						
PDAR	**Pinedale Array**	**84.77**	**334**	P	**P**	**18 53 04.2**	**-1.4**
	0.6nm,0.9s,baz=170,slow=5.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**86.06**	**71**	P	**P**	**18 53 13.4**	**+1.1**
	0.8nm,0.8s,baz=222,slow=4.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**156.45**	**33**	PKPab	**PKPab**	**19 00 52.7**	**-1.5**
	0.7nm,0.4s,baz=304,slow=3.3,SNR=2.6						

PRU 18 18:45:47.9±0.0**, 50.22N**×**18.98E, h0**km**, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.53**	**90**	*e*Pg	Pg	18 45 58.1	+0.1
OJC				*e*Sg	Sg	18 46 05.2	+0.4
MORC	**Moravsky Berou**	**1.03**	**245**	*e*PG	Pg	18 46 07.5	-0.1
MORC				*e*SG	Sg	18 46 21.0	+0.1
LANS	**Liptovska Anna**	**1.12**	**163**	*e*PKIKP	Pg	18 46 09.3	0.0
LANS	**Liptovska Anna**	**1.12**	**163**	*e*PG	Pg	18 46 09.3	0.0
LANS				*e*SG	Sg	18 46 23.6	-0.1
LANS				*e*LG	Lg	18 46 27.5	
KRLC	**Kraliky**	**1.42**	**265**	*e*PG	Pn	18 46 13.6	-1.4
KRLC				*e*SG	Sg	18 46 33.1	-0.4
DPC	**Dobruska-Polom**	**1.71**	**275**	*e*PG	Pn	18 46 19.0	0.0
DPC				*e*SG	Sb	18 46 42.5	+0.2
	comp=Z,1.6nm,0.7s						

IDC 18 18:46:46.5±2.6**, 36.30S**×**73.47W, h0**km**, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.9**/26**, mbtmp4.1**/3**, MS5.5**/1**, Ms1 5.5**/1**, ms1mx4.2**/36**, Error ellipse: s-maj=71.1km s-min=50.3km az=18.0, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**20.49**	**15**	P	Pn	18 51 30.9	+2.1
	4.1nm,0.8s,baz=184,slow=7.6,SNR=5.4						
SIV	**San Ignacio**	**23.04**	**32**	P	P	18 51 53.5	+0.1
	5.8nm,0.9s,baz=222,slow=12,SNR=5.1						
RCBR	**Riachuelo**	**45.85**	**58**	LR	LR	19 13 29.7	
	comp=Z,6μm,20.4s,baz=272,slow=35						
TXAR	**Lajitas Array**	**71.19**	**332**	P	P	18 58 07.3	0.0
	0.5nm,0.6s,baz=153,slow=8.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**86.08**	**71**	P	P	18 59 29.4	-0.1
	4.2nm,0.6s,baz=250,slow=3.7,SNR=15						
MKAR	**Makanchi Array**	**159.12**	**52**	PKPab	PKPab	19 07 23.1	-0.1
	0.1nm,0.4s,baz=278,slow=6.2,SNR=3.1						

*IDC **18** 18:48:55.6±1.6, 18.21N×94.41W, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.7/40, mbtmp3.8/4, ML3.2/2, Error ellipse: s-maj=35.4km s-min=12.9km az=99.0*
*NEIC **18** 18:48:59.3±1.9, 18.27N±0.08×94.52W±0.06, h35km±10km, mb4.1/46, Md4.4/51(MEX), Error ellipse: s-maj=12.0km s-min=8.5km az=192.0*
*MEX **18** 18:49:00.7±0.8, 18.24N×94.59W, h35km±5km, MD4.1*
ISC 18 18:48:59.1±0.7**, 18.24N**±0.05×**94.56W**±0.03**, h35**km**, n86,** σ1§**20/103, mb4.2/13, Bay of Campeche**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUIG	**Tuzandepetl**	**0.24**	**148**	*i* P	**Pn**	**18 49 06.5**	**+0.2**
TUIG				*i* S	**Sn**	**18 49 12.1**	**+0.8**
TUIG	**Tuzandepetl**	**0.24**	**148**		**Pn**	**18 49 06.5**	**+0.2**
TUIG					**Sn**	**18 49 12.1**	**+0.8**
CMIG	**Matias Romero**	**1.18**	**195**	Pg	**Pn**	**18 49 19.6**	**+0.4**
	104nm,0.3s,baz=13,slow=6.9,SNR=1631						
CMIG				Lg	Lg	18 49 33.5	
	baz=274,slow=19						
CMIG	**Matias Romero**	**1.18**	**195**	*e*P	**Pn**	**18 49 19.5**	**+0.4**
CMIG				*i* S	**Sn**	**18 49 33.4**	**-0.7**
TGIG		**2.00**	**137**	*e*P	**Pn**	**18 49 30.6**	**+0.2**
TGIG				*i* S	**Sn**	**18 49 54.4**	**+0.2**
TGIG		**2.00**	**137**		**Pn**	**18 49 30.6**	**+0.2**
TGBT	**Tuxtla Gutierr**	**2.02**	**136**	*e*P	**Pn**	**18 49 31.8**	**+1.1**
TGBT				*e*S	**Sn**	**18 49 54.8**	**+0.1**
TGBT	**Tuxtla Gutierr**	**2.02**	**136**		**Pn**	**18 49 31.8**	**+1.1**
OXBJ	**Oaxaca**	**2.37**	**241**		**Pn**	**18 49 37.2**	**+1.4**
VHO	**Vista Hermosa**	**2.38**	**241**	*e*P	**Pn**	**18 49 37.3**	**+1.5**
VHO				*e*S	**Sn**	**18 50 04.5**	**+0.6**
TOIG	**Toxpalan**	**2.39**	**267**	*e*P	**Pn**	**18 49 36.4**	**+0.5**
TOIG				*e*S	**Sn**	**18 50 02.7**	**-1.4**
TPIG	**Tehuac#an**	**2.67**	**274**	*e*S	**Sn**	**18 50 09.9**	**-1.2**
TPIG	**Tehuac#an**	**2.67**	**274**		**Pn**	**18 49 40.9**	**+1.1**
PCIG		**2.83**	**153**	*e*P	**Pn**	**18 49 41.5**	**-0.3**
PCIG				*e*S	**Sn**	**18 50 14.1**	**-0.6**
PCIG		**2.83**	**153**		**Pn**	**18 49 41.4**	**-0.4**
CCIG	**Comitan**	**3.02**	**130**	*i* P	**Pn**	**18 49 45.1**	**+0.4**
CCIG				*e*S	**Sn**	**18 50 20.0**	**+0.3**
CCIG	**Comitan**	**3.02**	**130**	Pn	**Pn**	**18 49 45.0**	**+0.4**
HLIG	**Huajuapan de L**	**3.12**	**263**	*e*P	**Pn**	**18 49 46.8**	**+0.8**
HLIG				*e*S	**Sn**	**18 50 21.1**	**-1.0**
TXIG	**Tlaxiaco**	**3.21**	**253**	*e*P	**Pn**	**18 49 47.5**	**+0.1**
TXIG				*e*S	**Sn**	**18 50 23.2**	**-1.4**
SCIG	**Sabancuy**	**3.28**	**77**	*i* P	**Pn**	**18 49 48.5**	**+0.5**
SCIG				*i* S	**Sn**	**18 50 26.0**	**+0.2**
SCIG	**Sabancuy**	**3.28**	**77**		**Pn**	**18 49 48.7**	**+0.7**
PEIG	**Puerto Escondi**	**3.33**	**228**	*e*P	**Pn**	**18 49 48.5**	**-0.3**
PEIG				*i* S	**Sn**	**18 50 26.2**	**-1.0**
FTIG	**Fresnillo de T**	**3.42**	**265**	*e*P	**Pn**	**18 49 50.7**	**+0.7**
FTIG				*e*S	**Sn**	**18 50 29.2**	**-0.3**
PNIG	**Pinotepa**	**3.87**	**242**	*e*P	**Pn**	**18 49 55.6**	**-0.7**
PNIG				*e*S	**Sn**	**18 50 40.4**	**-0.2**
PNIG	**Pinotepa**	**3.87**	**242**		**Pn**	**18 49 55.5**	**-0.7**
TLIG	**Tlapa**	**3.88**	**261**	*e*P	**Pn**	**18 49 57.4**	**+1.0**
TLIG				*i* S	**Sn**	**18 50 39.9**	**-0.9**
TLIG	**Tlapa**	**3.88**	**261**		**Pn**	**18 49 57.3**	**+1.0**
PPM	**Popocatepetl**	**3.95**	**283**	*i* P	**Pn**	**18 49 57.5**	**-0.2**
PPM				*e*S	**Sn**	**18 50 42.3**	**-0.7**
PBVM	**Pinon**	**4.45**	**286**		**Pn**	**18 50 01.6**	**-2.5**
APG	**El Apazote**	**5.07**	**129**	Pn	**Pn**	**18 50 12.3**	**-0.6**
	0.4nm,0.3s,baz=316,slow=15,SNR=19						
APG				Sn	**Sn**	**18 51 06.8**	**-3.6**
	13nm,0.3s,baz=43,slow=20,SNR=14						
TEIG	**Tepich**	**6.25**	**71**	Pn	**Pn**	**18 50 27.6**	**-1.3**
SOR	**Soroa**	**11.73**	**65**	Pn	**Pn**	**18 51 43.4**	**-0.7**
JCT	**Junction City**	**13.09**	**340**	Pn	**Pn**	**18 52 03.2**	**+0.6**
237A	**Washetta, Mont**	**13.75**	**356**	Pn	**Pn**	**18 52 11.4**	**-0.2**
TXAR	**Lajitas Array**	**13.83**	**325**	Pn	**P**	**18 52 17.1**	**-3.6**
	0.1nm,0.3s,baz=148,slow=12,SNR=3.8						
WHTX	**Lake Whitney,**	**13.94**	**350**	Pn	**Pn**	**18 52 14.1**	**-0.2**
Z38A	**Mt. Pleasant**	**14.96**	**359**	Pn	**Pn**	**18 52 27.6**	**-0.5**
Z35A	**Perchaven, San**	**15.22**	**351**	Pn	**Pn**	**18 52 31.4**	**-0.1**
X40A	**Basin Creek Fa**	**16.26**	**5**	Pn	**Pn**	**18 52 44.2**	**-0.6**
MIAR	**Mount Ida**	**16.26**	**3**	Pn	**Pn**	**18 52 43.1**	**-1.8**
X37A	**Clayton**	**16.30**	**358**		**Pn**	**18 52 46.4**	**+1.0**
MNTX	**Cornudas Mount**	**16.59**	**326**	Pn	**Pn**	**18 52 48.1**	**-1.0**
WMOK	**Wichita Mounta**	**16.86**	**348**	Pn	**Pn**	**18 52 52.3**	**-0.1**
WMOK				IAmb	IAmb	18 53 13.4	
	comp=Z,9.4nm,0.6s						
W39A	**Magazine**	**16.90**	**2**	P	**P**	**18 52 54.2**	**-0.5**
W39A				IAmb	IAmb	18 52 56.7	
	comp=Z,18nm,0.5s						
WHAR	**Wooly Hollow**	**17.10**	**6**		**P**	**18 52 56.4**	**-0.5**
WHAR				IAmb	IAmb	18 53 00.9	
	comp=Z,10nm,1.2s						
OK030	**Cody Creek RV**	**17.73**	**354**	P	**Pn**	**18 53 01.6**	**-1.7**
OK030				IAmb	IAmb	18 53 20.2	
	comp=Z,12nm,0.6s						
QUOK	**Quay**	**17.96**	**354**		**Pn**	**18 53 04.8**	**-1.3**
QUOK				IAmb	IAmb	18 53 18.2	
	comp=Z,12nm,0.8s						
HHAR	**Hobbs**	**17.98**	**2**		**Pn**	**18 53 06.0**	**-0.4**
LCAR	**Lake Charles**	**18.02**	**9**	P	**Pn**	**18 53 06.5**	**-0.2**
U40A	**Yellville**	**18.11**	**4**		**Pn**	**18 53 07.8**	**-0.2**
U38A	**Gravette**	**18.13**	**0**		**Pn**	**18 53 07.6**	**-0.6**
U38A				IAmb	IAmb	18 53 23.3	
	comp=Z,10.0nm,1.1s						
T35A	**Sooner Cattle**	**18.69**	**355**	P	**P**	**18 53 13.8**	**-0.5**
OK032	**Salt Plains WL**	**18.77**	**351**	P	**Pn**	**18 53 16.4**	**+0.4**
WVT	**Waverly**	**18.79**	**17**	P	**P**	**18 53 13.0**	**-2.5**
WVT				IAmb	IAmb	18 53 33.8	
	comp=Z,12nm,1.4s						
KAN13	**South Haven SW**	**18.88**	**353**	P	**P**	**18 53 14.0**	**-2.5**
KAN14	**Manchester OK**	**18.89**	**352**	P	**P**	**18 53 15.3**	**-1.3**
MGMO	**Mountain Grove**	**18.95**	**6**		**Pn**	**18 53 19.6**	**+1.4**
T42A	**Van Buren**	**18.97**	**9**	P	**Pn**	**18 53 19.1**	**+0.8**
T42A				IAmb	IAmb	18 53 26.6	
	comp=Z,4.3nm,0.6s						
KAN09	**Caldwell North**	**19.02**	**352**		**Pn**	**18 53 19.6**	**+0.7**
KAN09				IAmb	IAmb	18 53 24.0	
	comp=Z,12nm,0.8s						
KAN05	**Bluff City Nor**	**19.02**	**352**	P	**Pn**	**18 53 19.7**	**+0.7**
KAN01	**Argonia South**	**19.05**	**352**	P	**Pn**	**18 53 19.1**	**-0.3**
KAN01				IAmb	IAmb	18 53 24.3	
	comp=Z,19nm,0.6s						
BNM	**Barren Site**	**19.17**	**328**	P	**Pn**	**18 53 21.1**	**+0.1**
S39A	**Bolivar**	**19.41**	**3**	P	**P**	**18 53 22.7**	**+0.4**
S39A				IAmb	IAmb	18 53 29.8	
	comp=Z,4.5nm,0.7s						
ANMO	**Albuquerque**	**19.72**	**330**		**Pn**	**18 53 28.9**	**+1.4**
ANMO				IAmb	IAmb	18 53 30.0	
	comp=Z,3.7nm,0.7s						
CCM	**Cathedral Cave**	**19.95**	**8**	P	**Pn**	**18 53 29.7**	**-0.3**
CCM				IAmb	IAmb	18 53 30.9	
	comp=Z,6.8nm,0.8s						
TUC	**Tucson**	**20.25**	**317**		Pn	18 53 34.6	+0.9
P40A	**Paris**	**21.33**	**5**	P	**P**	**18 53 42.6**	**-0.4**
P40A				IAmb	IAmb	18 53 47.3	
	comp=Z,5.8nm,0.6s						
N38A	**Joes South For**	**22.51**	**3**	P	**P**	**18 53 55.5**	**-0.2**
WUAZ	**Wupatki**	**22.77**	**322**	P	**P**	**18 53 59.0**	**+0.3**
WUAZ				IAmb	IAmb	18 54 03.7	
	comp=Z,7.7nm,0.9s						
PV13	**Radium Mtn., P**	**23.44**	**331**	P	**P**	**18 54 08.2**	**+2.6**
PV13				IAmb	IAmb	18 54 10.3	
	comp=Z,8.2nm,1.0s						
SMCO	**Snowmass**	**23.49**	**335**	P	**P**	**18 54 07.7**	**+1.5**
PV05	**Paradox Valley**	**23.50**	**330**	P	**P**	**18 54 05.4**	**-0.8**
PV05				IAmb	IAmb	18 54 10.1	
	comp=Z,8.5nm,1.0s						
PV03	**Paradox Valley**	**23.53**	**331**	P	**P**	**18 54 10.2**	**+3.8**
PV03				IAmb	IAmb	18 54 10.6	
	comp=Z,10.0nm,1.2s						
PV18	**Skein Mesa, Pa**	**23.55**	**331**	P	**P**	**18 54 05.9**	**-0.7**
PV18				IAmb	IAmb	18 54 11.3	
	comp=Z,14nm,1.2s						
PV12	**Saucer Basin,**	**23.56**	**331**	P	**P**	**18 54 06.5**	**-0.2**
PV12				IAmb	IAmb	18 54 11.8	
	comp=Z,12nm,1.0s						
PV17	**East Wray Mesa**	**23.60**	**331**	P	**P**	**18 54 07.2**	**+0.2**
PV17				IAmb	IAmb	18 54 11.7	
	comp=Z,12nm,1.1s						
PV04	**Paradox Valley**	**23.66**	**331**	P	**P**	**18 54 06.4**	**-1.3**
PV04				IAmb	IAmb	18 54 12.5	
	comp=Z,13nm,1.1s						
PV22	**Blue Mesa, Par**	**23.73**	**331**	P	**P**	**18 54 08.1**	**-0.2**
L40A	**Anamosa**	**23.92**	**6**	P	**P**	**18 54 10.6**	**+0.9**
K38A	**Parkersburg**	**24.38**	**3**	P	**P**	**18

s-maj=33.0km s-min=11.4km az=74.0
*NEIC **18** 19:01:43.5±1.0, 35°.55N±0°.06×140°.59E±0°.10, h86km±8km, mb4.0/5, Error ellipse: s-maj=11.7km s-min=8.4km az=98.0.*
*JMA **18** 19:01:43.5±0.2, 35°.57N×140°.47E, h93km±2km, M3.7 Broadband fault plane solution: P waves. NP1: φs=335.00000°, δ60.00000°, λ-178.00000°. NP2: φs=244.00000°, δ88.00000°, λ-30.00000°. Principal axes: T Plg19.0000°, Azm293.0000°; N Plg60.0000°, Azm60.0000°; P Plg22.0000°, Azm195.0000°;*
ISC 18 19:01:44.1±0.7, 35°.59N±0°.04×140°.51E±0°.05, h90km±6km, n71, σ1s39/82, mb4.1/17, 5C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.07**	**318**	⇓P	**Pn**	**19 01 57.2**	**+0.5**
JSMT				S	**Sn**	**19 02 07.9**	**+1.8**
JCN	**Nagara**	**0.30**	**236**	⇑P	**Pn**	**19 01 58.0**	**+0.5**
JCN				*eS*	**Sn**	**19 02 07.9**	**+0.5**
CHOJ	**Chosi**	**0.31**	**68**	P	**Pn**	**19 01 57.7**	**+0.2**
CHOJ				S	**Sn**	**19 02 07.9**	**+0.4**
JIHU	**Itakohorinouch**	**0.38**	**2**	⇓P	**Pn**	**19 01 58.3**	**+0.4**
JIHU				*eS*	**Sn**	**19 02 09.3**	**+1.1**
JYT	**Yasato**	**0.69**	**338**		**Pn**	**19 02 00.5**	**0.0**
BSO3	**Boso 3**	**0.79**	**180**	P	**Pn**	**19 02 01.2**	**+0.1**
BSO3				*eX*		19 02 15.3	
BSO1	**Boso 1**	**1.01**	**157**	⇑P	**Pn**	**19 02 03.2**	**-0.1**
BSO1				S	**Sn**	**19 02 18.2**	**+0.4**
JAG	**Ashikaga**	**1.19**	**315**	⇓P	**Pn**	**19 02 05.9**	**-0.1**
JAG				S	**Sn**	**19 02 21.7**	**-0.9**
JOD2	**Odawara 2**	**1.20**	**255**	⇑P	**Pn**	**19 02 05.3**	**-0.9**
JOD2				S	**Sn**	**19 02 20.8**	**-2.0**
JIM2	**Oshima 3**	**1.24**	**226**	P	**Pn**	**19 02 05.4**	**-1.2**
JIM2				S	**Sn**	**19 02 21.7**	**-1.8**
JRY	**Ryogami san**	**1.37**	**289**	⇑P	**Pn**	**19 02 08.4**	**+0.2**
JRY				S	**Sn**	**19 02 27.2**	**+0.7**
JFNN	**Fujinakano**	**1.54**	**256**	P	**Pn**	**19 02 09.8**	**-0.5**
JFNN				S	**Sn**	**19 02 29.2**	**-1.0**
JKT	**Katashina**	**1.55**	**319**	P	**Pn**	**19 02 10.5**	**-0.1**
JKT				S	**Sn**	**19 02 30.5**	**-0.2**
JIZS	**Izushimoda**	**1.59**	**237**	P	**Pn**	**19 02 10.3**	**-0.7**
JIZS				S	**Sn**	**19 02 30.0**	**-1.4**
JYN	**Shimob**	**1.60**	**267**	⇑P	**Pn**	**19 02 10.7**	**-0.5**
JYN				S	**Sn**	**19 02 30.6**	**-1.1**
MJAR	**Matsushiro Arr**	**2.09**	**298**	P	**Pn**	**19 02 17.5**	**+0.1**
	8.8nm,0.3s,baz=101,slow=15,SNR=279						
MJAR				S	**Sn**	**19 02 41.9**	**-1.1**
	4.1nm,0.3s,baz=2.4,slow=18,SNR=2.8						
MJAR	**Matsushiro Arr**	**2.09**	**298**		**Pn**	**19 02 16.9**	**-0.6**
MAJO	**Matsushiro**	**2.09**	**298**		**Pn**	**19 02 18.1**	**+0.6**
MAT	**Matsushiro**	**2.09**	**298**	P	**Pn**	**19 02 18.0**	**+0.5**
MAT				S	**Sn**	**19 02 44.1**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.10**	**298**	Pn	**Pn**	**19 02 17.3**	**-0.2**
JSG	**Sagara**	**2.11**	**245**	Pn	**Pn**	**19 02 17.9**	**+0.2**
JMM	**Marumori**	**2.28**	**6**		**Pn**	**19 02 20.2**	**+0.2**
JHJ	**Hachijo jima 2**	**2.54**	**194**	P	**Pn**	**19 02 22.2**	**-1.2**
	229nm,0.3s,baz=358,slow=2.5,SNR=67						
JHJ				S	**Sn**	**19 02 50.9**	**-2.7**
	236nm,0.3s,baz=49,slow=23,SNR=19						
JHJ2	**Mitsune**	**2.54**	**193**		**Pn**	**19 02 22.2**	**-1.2**
JGF	**Kuroka**	**2.57**	**271**		**Pn**	**19 02 24.9**	**+1.1**
INU	**Inuyama**	**2.86**	**266**		**Pn**	**19 02 27.9**	**+0.2**
JSD	**Sado**	**3.04**	**324**		**Pn**	**19 02 30.4**	**+0.4**
JWT	**Wachi**	**4.18**	**267**		**Pn**	**19 02 46.1**	**+0.6**
JTM	**Tenmabayashi**	**5.21**	**5**		**Pn**	**19 02 59.4**	**0.0**
JMN	**Monobe**	**5.77**	**255**	Pn	**Pn**	**19 03 08.6**	**+1.4**
JHS	**Saijyo**	**6.07**	**267**	Pn	**Pn**	**19 03 12.4**	**+1.1**
ERM	**Erimo**	**6.74**	**17**	Pn	**Pn**	**19 03 18.3**	**-2.0**
JEW	**Eniwo**	**7.28**	**5**	Pn	**Pn**	**19 03 26.1**	**-1.6**
JCJ	**Chichijima**	**8.59**	**170**	P	**Pn**	**19 03 41.6**	**-4.0**
	22nm,0.3s,baz=301,slow=21,SNR=16						
JCJ				S	Sn	19 05 10.4	-10
	9.6nm,0.3s,baz=275,slow=21,SNR=1.9						
JCJ	**Chichijima**	**8.59**	**170**		**Pn**	**19 03 41.8**	**-3.8**
ASAJ	**Asahikawa**	**8.67**	**10**	P	**Pn**	**19 03 42.7**	**-3.9**
	4.3nm,0.3s,baz=227,slow=7.3,SNR=18						
ASAJ				S	**Sn**	**19 05 17.3**	**-5.2**
	0.6nm,0.3s,baz=166,slow=28,SNR=5.6						
JKA	**Kamikawa-asahi**	**8.67**	**10**		**Pn**	**19 03 45.4**	**-1.2**
KSRS	**Korea Array**	**10.30**	**284**	P	**Pn**	**19 04 12.7**	**+3.8**
	0.4nm,0.3s,baz=95,slow=14,SNR=15						
USA0B	**Ussuriysk Arra**	**10.80**	**325**	Pn	**Pn**	**19 04 16.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.80**	**325**	P	**Pn**	**19 04 15.0**	**-0.6**
	baz=116,slow=11,SNR=5.7						
SONM	**Songino Array**	**28.02**	**306**	P	**P**	**19 07 27.0**	**+0.3**
	0.6nm,0.4s,baz=116,slow=9.4,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**28.09**	**117**	T	T	19 36 56.7	
	baz=308,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**28.10**	**117**	T	T	19 36 56.7	
	baz=308,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**28.11**	**117**	T	T	19 36 56.7	
	baz=308,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.74**	**119**	T	T	19 37 35.9	
	baz=311,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.74**	**119**	T	T	19 37 41.9	
	baz=311,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**28.76**	**119**	T	T	19 37 37.8	
	baz=311,slow=75,SNR=11						
ZALV	**Zalesovo Beam**	**42.36**	**314**	P	**P**	**19 09 29.5**	**+0.4**
	1.7nm,0.5s,baz=77,slow=5.4,SNR=6.7						
ZALV	**Zalesovo Beam**	**42.36**	**314**		**P**	**19 09 29.8**	**+0.7**
MK31	**Makanchi Array**	**44.28**	**303**	P	**P**	**19 09 45.0**	**+0.3**
MK31				IAmb	IAmb	19 09 48.6	
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**44.28**	**303**	P	**P**	**19 09 45.3**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=85,slow=9.3,SNR=24						
MKAR	**Makanchi Array**	**44.28**	**303**	P	**P**	**19 09 45.0**	**+0.3**
KURK	**Kurchatov**	**46.26**	**309**	P	**P**	**19 10 01.4**	**+1.2**
KURBB	**Kurchatov Arra**	**46.33**	**309**	P	**P**	**19 10 01.4**	**+0.7**
	comp=Z,8.3nm,0.4s,baz=80,slow=7.5,SNR=32						
BATI	**Baumata**	**48.25**	**202**	P	**P**	**19 10 16.2**	**+0.2**
	comp=Z,5.9nm,0.4s,baz=79,slow=1.9,SNR=5.3						
MTN	**Manton Dam**	**48.98**	**192**	P	**P**	**19 10 20.6**	**-1.0**
COEN	**Coen**	**49.34**	**177**	P	**P**	**19 10 24.7**	**+0.4**
COEN				IAmb	IAmb	19 10 50.0	
	comp=Z,2.4nm,0.9s						
AAK	**Ala-Archa**	**50.54**	**299**	P	**P**	**19 10 35.0**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=112,slow=5.0,SNR=9.6						
AAK	**Ala-Archa**	**50.54**	**299**		**P**	**19 10 33.7**	**+0.2**
AAK				IAmb	IAmb	19 10 38.1	
	comp=Z,2.0nm,1.1s						
BVAR	**Borovoye Array**	**51.01**	**313**	P	**P**	**19 10 37.9**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=39,slow=52,SNR=7.9						
FITZ	**Fitzroy Crossi**	**55.22**	**197**	P	**P**	**19 11 07.7**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=90,slow=21,SNR=2.0						
WRA	**Warramunga Arr**	**55.54**	**187**	P	**P**	**19 11 09.3**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=1.0,slow=7.5,SNR=31						
WRA	**Warramunga Arr**	**55.54**	**187**	P	**P**	**19 11 08.7**	**-1.4**
ARU	**Arti**	**56.96**	**319**	P	**P**	**19 11 20.0**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=63,slow=0.3,SNR=6.8						
ASAR	**Alice Springs**	**59.26**	**187**	P	**P**	**19 11 36.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=18,slow=11,SNR=14						
FINES	**FINESS Array B**	**69.75**	**332**	P	**P**	**19 12 42.8**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=70,slow=6.3,SNR=6.2						
FINES	**FINESS Array B**	**69.75**	**332**	P	**P**	**19 12 44.5**	**+0.4**
KBZ	**Khabaz**	**71.28**	**311**	P	**P**	**19 12 54.9**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=83,slow=3.2,SNR=5.7						
AKASG	**Malin Array Be**	**74.99**	**322**	P	**P**	**19 13 15.2**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=50,slow=6.1,SNR=4.9						
NB2	**NORSAR Subarra**	**75.23**	**337**	P	**P**	**19 13 17.4**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.23**	**337**	P	**P**	**19 13 16.8**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=40,slow=5.8,SNR=4.4						

*MOS **18** 19:06:51.2±1.1, 36°.31N×137°.28E, h254km, mb4.4/14, Error ellipse: s-maj=5.9km s-min=4.2km az=94.1*
*IDC **18** 19:06:52.4±0.3, 36°.20N×137°.24E, h255km±2km, mb3.8/40, mb1 4.0/44, mb1mx3.9/58, mbtmp4.5/44, Error ellipse: s-maj=7.1km s-min=6.1km az=87.0*
*JMA **18** 19:06:53.0±0.1, 36°.26N×137°.36E, h255km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φs=221.00000°, δ62.00000°, λ-164.00000°. NP2: φs=123.00000°, δ76.00000°, λ-29.00000°. Principal axes: T Plg9.0000°, Azm174.0000°; N Plg58.0000°, Azm279.0000°; P Plg30.0000°, Azm79.0000°;*
*NEIC **18** 19:06:53.2±2.0, 36°.25N±0°.06×137°.31E±0°.06, h258km±5km, mb4.5/176 Error ellipse: s-maj=9.4km s-min=6.8km az=150.0*
ISC 18 19:06:52.1±0.4, 36°.27N±0°.03×137°.30E±0°.04, h254km±3km, n423, σ1s34/460, mb4.4/155, 26C-13D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.05**	**169**	⇓P	**Pn**	**19 07 25.8**	**+1.0**
JGN				S	**S**	**19 07 50.9**	**+0.4**
JGF	**Kuroka**	**0.67**	**176**		**Pn**	**19 07 26.7**	**+0.6**
MJB9	**Matsu-Tunnel**	**0.78**	**69**	Pn	**Pn**	**19 07 27.5**	**+1.1**
MAJO	**Matsushiro**	**0.78**	**69**	P	**Pn**	**19 07 27.6**	**+1.2**
MAJO	**Matsushiro**	**0.78**	**69**		**Pn**	**19 07 27.6**	**+1.2**
MAT	**Matsushiro**	**0.78**	**69**	P	**Pn**	**19 07 27.6**	**+1.2**
MAT				S	**S**	**19 07 54.7**	**+1.3**
MAT	**Matsushiro**	**0.78**	**69**	P	**Pn**	**19 07 27.5**	**+1.2**
MAT				*eS*	**S**	**19 07 54.7**	**+1.3**
MJAR	**Matsushiro Arr**	**0.78**	**69**	P	**Pn**	**19 07 27.3**	**+0.9**
	10nm,0.3s,baz=250,slow=4.9,SNR=332						
MJAR				S	**S**	**19 07 55.2**	**+1.8**
	3.7nm,0.3s,baz=256,slow=9.9,SNR=16						
JKG	**Kaga**	**0.79**	**271**	⇓P	**Pn**	**19 07 27.9**	**+1.5**
JKG				*eS*	**S**	**19 07 54.9**	**+1.6**
JYTA	**Yamagatataniai**	**0.82**	**215**	⇓P	**Pn**	**19 07 27.5**	**+0.9**
JYTA				*eS*	**S**	**19 07 53.8**	**+0.1**
INU	**Inuyama**	**0.95**	**194**		**Pn**	**19 07 27.7**	**+0.4**
JSZ	**Suzu**	**1.18**	**2**	⇑P	**Pn**	**19 07 29.6**	**+1.2**
JSZ				*eS*	**S**	**19 07 57.6**	**+0.4**
JYN	**Shimob**	**1.27**	**127**	P	**Pn**	**19 07 30.0**	**+0.8**
JRY	**Ryogami san**	**1.32**	**101**	P	**Pn**	**19 07 30.7**	**+1.2**
JRY				*eS*	**S**	**19 07 59.4**	**+0.5**
JFNN	**Fujinakano**	**1.55**	**133**	P	**Pn**	**19 07 32.3**	**+1.1**
JHG	**Hegura jima**	**1.61**	**349**	⇑P	**Pn**	**19 07 32.8**	**+1.4**
JHG				S	**S**	**19 08 04.0**	**+1.4**
JAG	**Ashikaga**	**1.74**	**84**	P	**Pn**	**19 07 33.0**	**+0.4**
JAG				*eS*	**S**	**19 08 03.8**	**-0.8**
JSG	**Sagara**	**1.75**	**155**		**Pn**	**19 07 34.0**	**+1.3**
JOD2	**Odawara 2**	**1.76**	**124**	⇑P	**Pn**	**19 07 33.9**	**+1.0**
JOD2				*eS*	**S**	**19 08 06.2**	**+1.2**
JWT	**Wachi**	**1.83**	**238**	⇓P	**Pn**	**19 07 34.4**	**+1.0**
JWT	**Wachi**	**1.83**	**238**		**Pn**	**19 07 34.4**	**+1.0**
JSD	**Sado**	**1.92**	**23**	⇑P	**Pn**	**19 07 35.2**	**+1.1**
JSD				*eS*	**S**	**19 08 07.2**	**-0.1**
JSD	**Sado**	**1.92**	**23**		**Pn**	**19 07 35.2**	**+1.1**
JIE	**Ise**	**1.94**	**195**	⇓P	**Pn**	**19 07 35.8**	**+1.5**
JIE				*eS*	**S**	**19 08 08.2**	**+0.6**
JNS	**Sasagawa**	**2.23**	**46**	⇑P	**Pn**	**19 07 37.9**	**+1.0**
JNS				S	**S**	**19 08 11.8**	**-0.6**
JYT	**Yasato**	**2.34**	**90**	Pn	**Pn**	**19 07 37.6**	**-0.3**
TK02	**Tokai 2**	**2.35**	**171**	⇑P	**Pn**	**19 07 39.4**	**+1.5**
JWY	**Kouya**	**2.48**	**215**	⇓P	**Pn**	**19 07 40.9**	**+1.4**
JWY				*eS*	**S**	**19 08 16.9**	**-0.1**
TTO1	**TONANKAI O.B.S**	**2.67**	**189**	⇑P	**Pn**	**19 07 43.1**	**+2.0**
JAW	**Awa shima**	**2.68**	**35**	⇑P	**Pn**	**19 07 42.3**	**+1.0**
JTNC	**Tanabenakahech**	**2.81**	**210**	⇓P	**Pn**	**19 07 43.9**	**+1.1**
JTNC				*eS*	**S**	**19 08 22.5**	**-0.5**
JMM	**Marumori**	**3.21**	**59**		**Pn**	**19 07 47.2**	**+0.1**
JHS	**Saijyo**	**3.64**	**251**	Pn	**Pn**	**19 07 52.6**	**+0.7**
JHJ	**Hachijo jima 2**	**3.75**	**146**	P	**Pn**	**19 07 53.8**	**+0.6**
	100nm,0.3s,baz=54,slow=5.3,SNR=26						
JHJ				S	**S**	**19 08 41.2**	**-0.4**
	72nm,0.3s,baz=69,slow=23,SNR=2.3						
JHJ2	**Mitsune**	**3.77**	**146**	Pn	**Pn**	**19 07 53.6**	**+0.2**
JMN	**Monobe**	**3.79**	**229**	Pn	**Pn**	**19 07 54.5**	**+0.9**
JTM	**Tenmabayashi**	**5.39**	**32**	Pn	**Pn**	**19 08 12.5**	**-0.2**
JNU	**Nakatsue**	**6.15**	**241**	P	**Pn**	**19 08 23.0**	**+0.7**
	10nm,0.3s,baz=53,slow=2.2,SNR=77						
JNU	**Nakatsue**	**6.15**	**241**	Pn	**Pn**	**19 08 23.3**	**+1.0**
JTU	**Tsushima**	**6.69**	**257**	Pn	**Pn**	**19 08 29.3**	**+0.5**
JEW	**Eniwo**	**7.30**	**25**	Pn	**Pn**	**19 08 35.7**	**-0.8**
ERM	**Erimo**	**7.32**	**37**	*d* iP	**Pn**	**19 08 34.9**	**-1.8**
ERM					pmax	pmax	
	comp=Z,115nm,0.8s						
ERM	**Erimo**	**7.32**	**37**	Pn	**Pn**	**19 08 34.9**	**-1.8**
JSU	**Suzuyama**	**7.41**	**232**	Pn	**Pn**	**19 08 39.5**	**+1.4**
KSRS	**Korea Array**	**7.61**	**282**	P	**Pn**	**19 08 42.1**	**+1.7**
	comp=Z,1.9nm,0.3s,baz=101,slow=13,SNR=105						
KSAR	**Wonju Array Be**	**7.64**	**282**	P	**Pn**	**19 08 41.3**	**+0.5**
KSAR	**Wonju Array Be**	**7.64**	**282**		**Pn**	**19 08 41.3**	**+0.5**
KS19	**Wonju Array Si**	**7.66**	**282**	Pn	**Pn**	**19 08 42.5**	**+1.5**
MSHR	**Mys Shultsa**	**7.89**	**325**	*c* iP	**Pn**	**19 08 44.9**	**+1.0**
TJN	**Taejon**	**8.03**	**274**	*d* iP	**Pn**	**19 08 47.0**	**+1.4**
INCN	**Inchon**	**8.64**	**281**	P	**Pn**	**19 08 55.4**	**+2.0**
INCN	**Inchon**	**8.64**	**281**	Pn	**Pn**	**19 08 55.4**	**+2.0**
TEY	**Ternei**	**8.78**	**357**	⇑*i* P	**Pn**	**19 08 54.9**	**-0.1**
TEY					pmax	pmax	
	comp=E,30nm,0.5s						
TEY					pmax	pmax	
	comp=N,100nm,0.6s						
TEY					pmax	pmax	
	comp=Z,120nm,0.6s						
ASAJ	**Asahikawa**	**8.82**	**26**	P	**Pn**	**19 08 53.5**	**-2.1**
	comp=Z,74nm,0.3s,baz=227,slow=13,SNR=230						
ASAJ				S	S	19 10 26.6	-8.8
	comp=Z,26nm,0.3s,baz=37,slow=29,SNR=11						
JKA	**Kamikawa-asahi**	**8.82**	**26**	Pn	**Pn**	**19 08 53.5**	**-2.1**
USA0B	**Ussuriysk Arra**	**8.90**	**334**	P	**Pn**	**19 08 58.0**	**+1.4**
USA0B	**Ussuriysk Arra**	**8.90**	**334**	Pn	**Pn**	**19 08 58.0**	**+1.4**
USRK	**Ussuriysk Ar.**	**8.90**	**334**	P	**Pn**	**19 08 57.8**	**+1.2**
	baz=146,slow=12,SNR=344						
NMR	**Nemuro--Hokkai**	**9.60**	**40**	*c* iP	**Pn**	**19 09 02.4**	**-3.0**
GLVR	**Golovnino**	**9.76**	**38**	*e*P	**Pn**	**19 09 05.1**	**-2.3**
GLVR				*e*S	S	19 10 46.5	-11
GLVR					pmax	pmax	
	comp=N,119nm,0.3s						
GLVR					pmax	pmax	
	comp=E,32nm,0.3s						
GLVR					pmax	pmax	
	comp=Z,184nm,0.3s						
JCJ	**Chichijima**	**10.04**	**154**	P	Pn	19 09 05.0	-6.2
	comp=Z,50nm,0.3s,baz=260,slow=22,SNR=33						
JCJ				S	S	19 10 51.1	-13
	comp=Z,78nm,0.3s,baz=310,slow=22,SNR=7.3						
JCJ	**Chichijima**	**10.04**	**154**	Pn	Pn	19 09 05.6	-5.6
GRPR	**Tuman**	**10.07**	**37**	*e*P	**Pn**	**19 09 08.9**	**-2.5**
GRPR				*e*S	S	19 10 52.2	-12
GRPR					pmax	pmax	
	comp=Z,412nm,0.3s						
GRPR					pmax	pmax	
	comp=E,62nm,0.1s						
GRPR					pmax	pmax	
	comp=N,180nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**10.15**	**38**	⇓*i* P	**Pn**	**19 09 09.7**	**-2.6**
YUK				*i* S	S	19 10 54.6	-12
YUK					pmax	pmax	
	comp=Z,364nm,0.2s						
YUK					pmax	pmax	
	comp=N,71nm,0.3s						
YUK					pmax	pmax	
	comp=E,28nm,0.1s						
YUK					pmax	pmax	
	comp=Z,254nm,1.6s						
MDJ	**Mudanjiang**	**10.20**	**327**	P	**Pn**	**19 09 14.5**	**+1.6**
MDJ					pmax	pmax	
	comp=Z,230nm,0.7s						
MDJ					pmax	pmax	
	comp=Z,220nm,0.8s						
MDJ	**Mudanjiang**	**10.20**	**327**	Pn	**Pn**	**19 09 14.1**	**+1.1**
YSS	**Yuzh-Sakhalins**	**11.43**	**19**	*ce*P	**Pn**	**19 09 26.3**	**-1.9**
YSS				*e*S	S	19 11 26.3	-9.5
YSS					pmax	pmax	
	comp=Z,770nm,0.4s						
YSS					smax	smax	
	comp=N,150nm,0.8s						
YSS	**Yuzh-Sakhalins**	**11.43**	**19**	Pn	**Pn**	**19 09 25.5**	**-2.7**
KUR	**Kuril'sk**	**12.00**	**39**	*e*P	**Pn**	**19 09 35.9**	**+0.5**
KUR				*e*S	**S**	**19 11 42.9**	**-6.3**
KUR					pmax	pmax	
	comp=N,24nm,0.5s						
KUR					pmax	pmax	
	comp=Z,57nm,0.5s						
KUR					pmax	pmax	
	comp=E,17nm,0.2s						
KUR					smax	smax	
	comp=N,131nm,0.5s						
KUR					smax	smax	
	comp=E,112nm,0.5s						
KUR					MLR	MLR	
	comp=Z,675nm,13.0s						
KUR					MLR	MLR	
	comp=E,632nm,16.0s						
KUR					MLR	MLR	
	comp=N,569nm,14.0s						
JOW	**Kunigami**	**12.15**	**222**	P	**Pn**	**19 09 34.1**	**-3.4**
	comp=N,1.7nm,0.3s,baz=72,slow=6.4,SNR=3.5						
DL2	**Dalian**	**12.71**	**287**	P	**P**	**19 09 46.6**	**+0.3**
DL2					pmax	pmax	
	comp=Z,110nm,0.6s						
UGL	**Uglegorsk**	**13.27**	**14**	*e*P	**Pn**	**19 09 49.9**	**-1.1**
UGL				*e*S	**S**	**19 12 14.5**	**-3.5**
UGL				pmax	pmax		
	comp=N,140nm,0.7s						
UGL				pmax	pmax		
	comp=Z,220nm,0.8s						
UGL				smax	smax		
	comp=N,540nm,4.0s						
KLR	**Kul'dur**	**13.58**	**344**	P	**Pn**	**19 09 53.6**	**-1.1**
	comp=N,33nm,0.3s,baz=154,slow=11,SNR=435						
KLR				S	**S**	**19 12 19.9**	**-5.2**
	baz=308,slow=24,SNR=8.9						
KLR	**Kul'dur**	**13.58**	**344**	*c* iP	**Pn**	**19 09 53.3**	**-1.4**
GRNR	**Gornyy**	**14.51**	**358**	⇑*i* P	**P**	**19 10 04.1**	**-2.0**
GRNR				*e*S	S	19 12 37.0	-9.3
GRNR				pmax	pmax		
	comp=N,10.0nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.7s						
GRNR				smax	smax		
	comp=N,2.0nm,0.6s						
GRNR				MLR	MLR		
	comp=N,330nm,16.0s						
GRNR				MLR	MLR		
	comp=E,660nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,610nm,16.0s						
TYV	**Tymovskoe**	**15.09**	**13**	*e*P	**P**	**19 10 12.8**	**+0.4**
TYV				*e*S	**S**	**19 12 52.5**	**-6.4**
TYV				pmax	pmax		
	comp=Z,14nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,3.1s						
TYV				smax	smax		
	comp=E,7.0nm,1.1s						
NJ2	**Nanjing**	**15.84**	**260**	*e*P	**P**	**19 10 20.8**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJI	**Beijing**	**17.04**	**289**	P	**P**	**19 10 32.5**	**-1.4**
BJI				S	**S**	**19 13 39.8**	**+1.6**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJT	**Baijiatuau**	**17.04**	**289**	P	**P**	**19 10 32.5**	**-1.4**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**17.04**	**289**	P	**P**	**19 10 32.5**	**-1.4**
BJT				IAmb	IAmb	19 10 53.0	
	comp=Z,9.6nm,0.6s						
HIA	**Hailar**	**18.25**	**321**	P	**P**	**19 10 45.6**	**-1.4**
HIA				pmax	pmax		
	comp=Z,34nm,0.6s						
HIA	**Hailar**	**18.25**	**321**	P	**P**	**19 10 45.5**	**-1.4**
SSLB	**Suanglung**	**18.81**	**233**	P	**P**	**19 10 50.1**	**-3.2**
SSLB				IAmb	IAmb	19 11 08.8	
	comp=Z,13nm,1.0s						
ZEA	**Zeya**	**18.83**	**341**	*e*P	**P**	**19 10 51.3**	**-1.8**
ZEA				pmax	pmax		
	comp=N,40nm,0.7s						
ZEA				pmax	pmax		
	comp=E,20nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,80nm,0.7s						
YULB	**Yu-li**	**18.87**	**232**	P	**P**	**19 10 50.2**	**-3.7**
YULB				IAmb	IAmb	19 11 01.2	
	comp=Z,13nm,1.0s						
TPUB	**Ta-pu**	**19.36**	**233**	P	**P**	**19 10 56.2**	**-3.0**
TPUB				IAmb	IAmb	19 11 10.4	
	comp=Z,36nm,1.4s						
TWG	**Pinlang**	**19.43**	**231**	P	**P**	**19 10 58.2**	**-1.6**
HHC	**Hu-ho-hao-te**	**20.61**	**291**	*e*P	**P**	**19 11 12.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,340nm,4.2s						
PETK	**Petropavlovsk-**	**22.09**	**34**	P	**P**	**19 11 27.2**	**+0.9**
	comp=Z,7.6nm,0.8s,baz=231,slow=8.0,SNR=19						
PETK	**Petropavlovsk-**	**22.09**	**34**	P	**P**	**19 11 27.1**	**+0.8**
XAN	**Xi'an**	**23.28**	**273**	P	**P**	**19 11 36.8**	**-0.7**
XAN				pP	pP	19 12 28.3	+6.4
XAN				sP	sP	19 12 55.8	+1.8
XAN				pmax	pmax		
	comp=Z,27nm,0.6s						
XAN	**Xi'an**	**23.28**	**273**	P	**P**	**19 11 36.4**	**-1.1**
XAN				pmax	pmax		
	comp=Z,19nm,0.5s						
XAN	**Xi'an**	**23.28**	**273**	P	**P**	**19 11 36.4**	**-1.1**
GUMO	**Guam**	**23.58**	**161**	P	**P**	**19 11 42.1**	**+1.8**
GUMO	**Guam**	**23.58**	**161**	P	**P**	**19 11 42.1**	**+1.8**
GUMO	**

CHTO pmax pmax
comp=Z,2.0nm,0.8s
CHTO Chiang Mai 37.90 253 P **P** **19 13 45.0 -0.3**
CM31 Chiang Mai Arr 38.11 253 P **P** **19 13 47.0 -0.1**
CMAR Chiang Mai Arr 38.11 253 P **P** **19 13 45.6 -1.4**
comp=Z,0.6nm,0.5s,baz=51,slow=7.4,SNR=9.3
CMAR ScP **ScP** **19 19 19.1 -0.4**
comp=Z,0.5nm,0.4s,baz=24,slow=2.6,SNR=5.6
CMAR Chiang Mai Arr 38.11 253 P **P** **19 13 47.0 0.0**
CMAR 19 19 19.2
CMAR Chiang Mai Arr 38.11 253 P **P** **19 13 47.0 0.0**
DGZ Jazzator, Alta 38.18 307*c iP* **P** **19 13 48.7 +1.3**
DGZ pmax pmax
comp=Z,10.0nm,0.9s
TOLI2 Tolitoli 38.19 207 P **P** **19 13 46.5 -1.1**
TOLI2 IAmb IAmb 19 13 49.9
comp=Z,16nm,0.8s
WMQ Urumqi 38.24 297 *eP* **P** **19 13 49.0 +1.1**
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ pmax pmax
comp=Z,2µm,11.8s
WMQ LR LR
comp=N,2µm,28.7s
WMQ LR LR
comp=E,5µm,24.3s
WMQ LR LR
comp=Z,2µm,22.1s
LSA Lhasa 38.98 274 P **P** **19 13 54.1 -0.5**
LSA pmax pmax
comp=Z,3.0nm,0.7s
LSA Lhasa 38.98 274 P **P** **19 13 54.1 -0.5**
MANU Manus Island 39.25 164 P **P** **19 13 56.0 -0.5**
MANU IAmb IAmb 19 13 57.8
comp=Z,15nm,0.8s
FAKI Fak Fak 39.27 188 P **P** **19 13 56.1 -0.5**
LUWI Luwuk 39.51 203 P **P** **19 13 56.9 -1.7**
ZSN Zaisan 39.92 303 *eP* **P** **19 14 02.4 +0.7**
baz=303
ZSN Zaisan 39.92 303 *eP* **P** **19 14 02.4 +0.7**
ZAA0 Zalesovo Array 40.01 313 P **P** **19 14 02.5 +0.3**
ZALV Zalesovo Beam 40.01 313 P **P** **19 14 02.7 +0.5**
comp=Z,6.5nm,0.4s,baz=109,slow=8.5,SNR=20
ZALV ScP **ScP** **19 19 25.8 -0.5**
comp=Z,1.1nm,0.5s,baz=102,slow=4.9,SNR=4.3
ZALV Zalesovo Beam 40.01 313 P **P** **19 14 02.4 +0.2**
SHL Shillong 40.08 268 P **P** **19 14 02.3 -1.2**
SHL pmax pmax
comp=Z,7.0nm,0.5s
SHL Shillong 40.08 268 P **P** **19 14 02.3 -1.2**
SHL IAmb IAmb 19 14 03.2
comp=Z,7.4nm,0.5s
SBUM Sibu 40.86 220 P **P** **19 14 08.9 -0.7**
MK31 Makanchi Array 41.73 302 P **P** **19 14 16.3 -0.1**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 41.73 302 P **P** **19 14 16.3 -0.1**
MKAR Makanchi Array 41.73 302 P **P** **19 14 17.2 +0.8**
comp=Z,1.5nm,0.5s,baz=83,slow=10,SNR=31
MKAR ScP **ScP** **19 19 32.1 -1.2**
comp=Z,0.4nm,0.6s,baz=76,slow=4.7,SNR=3.7
MKAR Makanchi Array 41.73 302 P **P** **19 14 16.6 +0.2**
MAKZ Makanchi 41.94 302 P **P** **19 14 18.4 +0.3**
MAKZ pmax pmax
comp=Z,4.0nm,1.2s
MAKZ Makanchi 41.94 302 P **P** **19 14 18.4 +0.3**
TAPN Taplejung 42.69 273 *eP* **P** **19 14 25.6 +0.9**
comp=Z,14nm,0.4s
ODAN Odare 43.15 272 *eP* **P** **19 14 28.2 -0.1**
comp=Z,7.2nm,0.5s
RAMN Ramite 43.75 273 *eP* **P** **19 14 33.2 +0.1**
comp=Z,8.0nm,0.5s
KURK Kurchatov 43.81 308 P **P** **19 14 33.7 +0.8**
KURBB Kurchatov Arra 43.87 308 P **P** **19 14 33.7 +0.3**
comp=Z,15nm,0.8s,baz=86,slow=8.2,SNR=103
GUN Gumba 43.93 274 *eP* **P** **19 14 34.9 +0.3**
comp=Z,12nm,0.4s
ANM Nome 43.97 32 P **P** **19 14 36.2 +2.2**
ANM pmax pmax
comp=Z,7.0nm,0.8s
ANM Nome 43.97 32 P **P** **19 14 36.2 +2.2**
ANM Nome 43.97 32 P 19 14 36.3
baz=258
KAPI Kappang 44.24 206 P **P** **19 14 36.1 -0.6**
KAPI pmax pmax
comp=Z,28nm,0.6s
KAPI Kappang 44.24 206 P **P** **19 14 36.1 -0.6**
PKI Pulchoki 44.45 274 *eP* **P** **19 14 38.7 0.0**
comp=Z,12nm,1.0s
PKIN Phulchoki 44.46 274 *eP* **P** **19 14 38.6 -0.1**
comp=Z,8.2nm,0.7s
KKN Kakani 44.46 274 *eP* **P** **19 14 39.0 +0.3**
comp=Z,4.1nm,0.3s
UZB Uzynbulak 44.58 297 *eP* **P** **19 14 39.8 +0.4**
baz=298
UZB Uzynbulak 44.58 297 *eP* **P** **19 14 39.7 +0.4**
KPKS Kokpek 44.76 298 *eP* **P** **19 14 41.1 +0.5**
baz=298
KPKS Kokpek 44.76 298 *eP* **P** **19 14 41.1 +0.5**
GKN Gorkha 44.89 275 *eP* **P** **19 14 42.3 +0.3**
comp=Z,35nm,0.8s
SATY Saty 45.04 298 *eP* **P** **19 14 43.5 +0.6**
baz=298
SATY Saty 45.04 298 *eP* **P** **19 14 43.5 +0.6**
RDOG Red Dog Mine 45.68 27 P **P** **19 14 48.8 +1.4**
SDPT Sand Point 45.69 45 P 19 14 47.5
baz=272
MDOK Medeo 45.99 298 *eP* **P** **19 14 50.9 +0.6**
baz=298
MDOK Medeo 45.99 298 *eP* **P** **19 14 50.9 +0.6**
AAA Alma-Ata 46.07 298 *eP* **P** **19 14 51.5 +0.5**
comp=Z,6.1nm,0.3s,baz=298
AAA Alma-Ata 46.07 298 *eP* **P** **19 14 51.4 +0.5**
AAA pmax pmax
comp=Z,6.0nm,0.3s
TNSS Tian-Shan 46.09 298 *eP* **P** **19 14 51.5 +0.1**
baz=298
TNSS Tian-Shan 46.09 298 *eP* **P** **19 14 51.5 +0.1**
KUU Kurty 46.33 299 *eP* **P** **19 14 53.2 +0.4**
baz=299
KUU Kurty 46.33 299 *eP* **P** **19 14 53.2 +0.4**
PMG Port Moresby 46.37 167 P **P** **19 14 53.3 0.0**
PMG pmax pmax
comp=Z,11nm,0.9s
PMG Port Moresby 46.37 167 P **P** **19 14 53.3 0.0**
CHGN Chignik 46.81 44 P 19 14 57.2
baz=273
MMRI Maumere 46.86 201 P **P** **19 14 56.3 -0.8**
SOEI Soe 47.40 198 P **P** **19 15 00.1 -1.2**
SGDS Sogindy 47.64 299 *eP* **P** **19 15 03.3 +0.3**
baz=299
SGDS Sogindy 47.64 299 *eP* **P** **19 15 03.3 +0.3**
BRZS Berezniki 47.67 308 *eP* **P** **19 15 03.5 +0.5**
baz=308
BRZS Berezniki 47.67 308 *eP* **P** **19 15 03.5 +0.5**
BTLS Baital 47.69 301 *eP* **P** **19 15 03.4 +0.2**
baz=301
BTLS Baital 47.69 301 *eP* **P** **19 15 03.4 +0.2**
KSH Kashi 47.69 293 *eP* **P** **19 15 08.1 +4.6**
KSH sP sP 19 16 26.4 +1.3
KSH pmax pmax
comp=Z,12nm,1.1s
KSH pmax pmax
comp=Z,600nm,7.6s
AAK Ala-Archa 47.93 298 P **P** **19 15 05.7 +0.4**
comp=Z,1.1nm,0.4s,baz=137,slow=4.6,SNR=20
AAK Ala-Archa 47.93 298*c iP* **P** **19 15 06.7 +1.3**
AAK *i* *PP **pwP** **19 16 01.7 +0.8**
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK Ala-Archa 47.93 298 P **P** **19 15 05.8 +0.4**
A21K Barrow 48.46 23 P **P** **19 15 08.5 -0.2**
A21K IAmb IAmb 19 15 11.1
comp=Z,11nm,0.8s
PSI Prapat 48.60 236 P **P** **19 15 10.3 -0.3**
comp=Z,3.7nm,0.6s,baz=358,slow=4.2,SNR=4.1
BVAR Borovoye Array 48.64 312 P **P** **19 15 10.2 -0.2**
comp=Z,1.6nm,0.5s,baz=136,slow=32,SNR=25
BVAR S **S** **19 21 50.7 -1.7**
comp=Z,0.5nm,0.7s,baz=115,slow=21,SNR=2.4
BRVK Borovoye 48.70 312*ceP* **P** **19 15 11.9 +1.1**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 48.70 312 P **P** **19 15 10.9 +0.1**
IMAR Indian Mountai 48.99 30 P **P** **19 15 14.2 +1.4**

SII Sitkinak Islan 49.13 43 P 19 15 15.0
baz=276
MTN Manton Dam 49.19 188 P **P** **19 15 14.5 -0.4**
OHAK Old Harbor 49.55 42 P 19 15 18.8
baz=276
CHUM Lake Minchumin 49.59 33 P 19 15 19.1
baz=271
PPLA Purkeypile 49.68 34 P 19 15 19.9
baz=272
SPCR Spurr Chakacha 49.76 37 P 19 15 21.1
baz=274
KDAK Kodiak Island 49.86 41 P **P** **19 15 20.3 +0.9**
comp=Z,24nm,0.7s,baz=279,slow=5.8,SNR=18
KDAK Kodiak Island 49.86 41 P 19 15 20.5
baz=276
HOM Homer 50.16 39 P 19 15 23.0
baz=276
BPAW Bear Paw Mtn. 50.17 33 P 19 15 23.8
baz=272
KTH Kantishna Hill 50.22 34 P **P** **19 15 24.6 +2.4**
KTH IAmb IAmb 19 15 25.4
comp=Z,20nm,1.0s
MLY Manley 50.24 32 P **P** **19 15 24.1 +1.8**
MLY IAmb IAmb 19 15 25.5
comp=Z,16nm,1.4s
MLY Manley 50.24 32 P 19 15 23.8
baz=272
COEN Coen 50.26 173 P **P** **19 15 23.5 +0.6**
COLD Coldfoot 50.42 29 P 19 15 26.1
baz=270
SUA Susitna One 50.44 36 P 19 15 25.8
baz=275
TRF Thorofare Moun 50.51 34 P 19 15 26.0
baz=274
GSI Gunungsitoli 50.60 236 P **P** **19 15 25.8 +0.2**
GSI IAmb IAmb 19 15 26.5
comp=Z,19nm,0.9s
BRSE Bradley Lake S 50.61 39 P 19 15 26.6
baz=276
KK31 Karatay Array 50.63 299 P **P** **19 15 26.5 +0.9**
KK31 pmax pmax
comp=Z,4.0nm,1.1s
KK31 Karatay Array 50.63 299 P **P** **19 15 26.5 +0.9**
KKAR Karatay Array 50.63 299 P **P** **19 15 26.0 +0.4**
KKAR pmax pmax
comp=Z,4.0nm,1.1s
KKAR Karatay Array 50.63 299 P **P** **19 15 26.0 +0.4**
KKAR Karatay Array 50.63 299 P **P** **19 15 26.6 +1.1**
KKAR IAmb IAmb 19 15 28.3
comp=Z,3.9nm,1.1s
I23K Minto, Yukon-K 50.82 31 P 19 15 28.6
baz=273
NEA2 Nenana 50.98 32 P **P** **19 15 29.8 +2.0**
NEA2 IAmb IAmb 19 15 30.9
comp=Z,15nm,1.0s
NEA2 Nenana 50.98 32 P 19 15 29.4
baz=274
MCK McKinley 51.10 33 P **P** **19 15 30.2 +1.6**
MCK pmax pmax
comp=Z,14nm,1.2s
MCK McKinley 51.10 33 P **P** **19 15 30.2 +1.6**
MCK IAmb IAmb 19 15 32.6
comp=Z,14nm,1.2s
MCK McKinley 51.10 33 P 19 15 29.9
baz=274
LEM Lembang 51.13 219 P **P** **19 15 29.1 -0.5**
comp=Z,9.1nm,0.3s,baz=152,slow=19,SNR=4.4
RND Reindeer 51.16 34 P **P** **19 15 30.7 +1.5**
RND pmax pmax
comp=Z,15nm,0.8s
RND Reindeer 51.16 34 P **P** **19 15 30.7 +1.5**
RND IAmb IAmb 19 15 31.4
comp=Z,16nm,0.8s
PMR Palmer 51.20 36 P 19 15 30.2
baz=276
SEW Seward 51.21 38 P **P** **19 15 29.2 -0.3**
IUG Iuzhnay 51.25 298 *eP* **P** **19 15 30.7 +0.4**
baz=298
IUG Iuzhnay 51.25 298 *eP* **P** **19 15 30.6 +0.4**
GHO Glory Hole Cre 51.28 36 P **P** **19 15 29.7 -0.3**
GHO IAmb IAmb 19 15 32.7
comp=Z,25nm,1.0s
MDM Murphy Dome 51.31 32 P **P** **19 15 32.1 +1.9**
MDM IAmb IAmb 19 15 33.4
comp=Z,20nm,1.0s
WAT2 Susitna Watana 51.32 34 P 19 15 31.3
baz=275
WRH Wood River Hil 51.41 32 P **P** **19 15 32.0 +1.1**
TCOL CIGO, UAF Yank 51.47 32 P **P** **19 15 31.9 +0.6**
TCOL IAmb IAmb 19 15 34.7
comp=Z,11nm,0.9s
COLA College 51.48 32*eP* **P** **19 15 32.7 +1.3**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 51.48 32 P **P** **19 15 31.8 +0.4**
COLA IAmb IAmb 19 15 34.7
comp=Z,11nm,0.9s
CCB Clear Creek Bu 51.52 32 P **P** **19 15 33.1 +1.4**
KNK Knik Glacier 51.54 36 P 19 15 33.4
baz=277
SML Sawmill 51.55 36 P 19 15 33.4
baz=276
POKR Poker Plat Res 51.64 31 P **P** **19 15 33.1 +0.5**
POKR IAmb IAmb 19 15 35.9
comp=Z,30nm,1.1s
POKR Poker Plat Res 51.64 31 P 19 15 34.5
baz=275,SNR=6.0
NIL Nilore 51.70 287 P **P** **19 15 33.0 -0.6**
NIL pmax pmax
comp=Z,4.0nm,1.0s
NIL Nilore 51.70 287 P **P** **19 15 33.0 -0.6**
WAT6 Susitna Watana 51.74 35 P 19 15 35.1
baz=276
IL31 51.90 32 P **P** **19 15 35.6 +1.2**
ILAR Eielson Array 51.90 32 P **P** **19 15 35.4 +0.9**
comp=Z,3.5nm,0.8s,baz=283,slow=6.6,SNR=38
ILAR PcP **PcP** **19 16 43.0 -0.3**
comp=Z,1.2nm,0.7s,baz=276,slow=3.8,SNR=4.3
ILAR Eielson Array 51.90 32 P **P** **19 15 35.0 +0.5**
HDA Harding Lake 51.91 32 P 19 15 35.4
baz=276
HDA P 19 15 35.4
baz=276
PRP Porcupine Dome 52.40 31 P **P** **19 15 39.5 +1.2**
PRP Porcupine Dome 52.40 31 P 19 15 40.1
baz=276,SNR=6.1
M24K Tolsona, Glenn 52.53 35 P 19 15 41.2
baz=278
BMAR Burnt Mountain 52.59 28 P **P** **19 15 41.7 +2.2**
KLU Klutina 52.74 36 P 19 15 42.0
baz=279
EYAK Cordova Ski Ar 52.97 37 P 19 15 44.2
baz=280
SCRK Sand Creek 53.25 33 P **P** **19 15 45.4 +0.9**
SCRK IAmb IAmb 19 15 46.7
comp=Z,13nm,0.9s
SCRK Sand Creek 53.25 33 P 19 15 45.7
baz=278
N25K Chitina, Valde 53.34 36 P 19 15 46.5
baz=280
BMRM Bremner River 53.45 36 P **P** **19 15 48.0 +2.1**
BMRM IAmb IAmb 19 15 49.3
comp=Z,21nm,1.0s
BMRM Bremner River 53.45 36 P 19 15 47.5
baz=280
RAGM Ragged Mountai 53.52 37 P **P** **19 15 47.6 +1.1**
MENT Mentasta 53.53 34 P **P** **19 15 48.4 +2.0**
K27K Chicken 54.07 32 P **P** **19 15 51.9 +1.6**
K27K IAmb IAmb 19 15 53.3
comp=Z,8.7nm,0.8s
MCARA McCarthy VSAT 54.13 36 P 19 15 52.3
baz=281
EGAK Eagle 54.33 31 P **P** **19 15 53.2 +1.1**
EGAK Eagle 54.33 31 P 19 15 53.8
baz=280
BCAR Beaver Creek A 54.37 34 P **P** **19 15 54.5 +1.9**
ARU Arti 54.73 318 P **P** **19 15 55.5 +0.3**
comp=Z,1.2nm,0.3s,baz=73,slow=4.6,SNR=12
ARU Arti 54.73 318*c iP* **P** **19 15 55.4 +0.3**
ARU 19 17 57.3
ARU S **S** **19 23 18.8 +3.6**
ARU SS **SS** **19 27 05.9 +4.3**
ARU pmax pmax
comp=Z,10.0nm,1.2s
ARU Arti 54.73 318 P **P** **19 15 55.3 +0.1**
CTG Chitna Glacier 55.01 36 P 19 15 58.6
baz=283
CTGM Chitina Glacie 55.02 36 P **P** **19 15 59.5 +2.2**
CTGM IAmb IAmb 19 16 00.1
comp=Z,8.2nm,0.7s
FITZ Fitzroy Crossi 55.19 194 P **P** **19 15 59.0 +0.2**
FITZ IAmb IAmb 19 16 00.2
comp=Z,22nm,1.1s
WB0 Warramunga Arr 55.80 183 P **P** **19 16 02.8 -0.3**
EPYK Eagle Plains 55.81 29 P **P** **19 16 04.4 +1.6**
EPYK Eagle Plains 55.82 29 P 19 16 04.4
baz=283
ABKAR Akbulak array 55.89 309 P **P** **19 16 03.7 +0.2**
ABKAR Akbulak array 55.89 309 P **P** **19 16 03.5 0.0**
WRAB Tennant Creek 55.97 183*c iP* **P** **19 16 04.4 +0.1**
WRAB pmax pmax
comp=Z,52nm,1.3s
WRAB Tennant Creek 55.97 183 P **P** **19 16 03.9 -0.5**
WB2 Warramunga Arr 55.97 183 P **P** **19 16 04.0 -0.3**
WRA Warramunga Arr 55.98 183 P **P** **19 16 04.5 +0.1**
comp=Z,46nm,0.4s,baz=359,slow=7.6,SNR=1006
WRA S **S** **19 23 28.4 -4.0**
comp=Z,1.6nm,0.7s,baz=360,slow=12,SNR=9.2
WRA Warramunga Arr 55.98 183 P **P** **19 16 03.2 -1.2**
WR0 Warramunga Arr 55.98 183 P **P** **19 16 04.1 -0.3**
INK Inuvik 56.56 26 P **P** **19 16 08.8 +0.9**
INK pmax pmax
comp=Z,6.0nm,0.5s
INK Inuvik 56.56 26 P **P** **19 16 08.8 +0.9**
INK IAmb IAmb 19 16 09.6
comp=Z,5.7nm,0.5s
CTA Charters Tower 56.69 170 P **P** **19 16 09.8 +0.5**
comp=Z,4.9nm,0.8s,baz=351,slow=9.3,SNR=2.2
AKTO Aktyubinsk 56.71 311 P **P** **19 16 09.5 +0.2**
comp=Z,2.1nm,0.7s,baz=80,slow=14,SNR=8.1
WHY Whitehorse 58.15 35 P **P** **19 16 21.2 +2.0**
WHY IAmb IAmb 19 16 22.1
comp=Z,8.2nm,0.7s
KIRV Kirov 58.85 322*eP* **P** **19 16 24.4 +0.5**
C36M Paulatuk 59.49 24 P **P** **19 16 28.5 +0.4**
C36M Paulatuk 59.49 24 P 19 16 29.4
baz=292
PRGR Permogore 59.59 326 *eP* **P** **19 16 27.5 -1.4**
PRGR pmax pmax
comp=Z,8.0nm,0.9s
AS31 Alice Springs 59.70 184 P **P** **19 16 30.2 +0.1**
AS31 IAmb IAmb 19 16 38.1
comp=Z,7.1nm,0.5s
ASAR Alice Springs 59.70 184 P **P** **19 16 30.5 +0.3**
comp=Z,7.7nm,0.3s,baz=359,slow=5.9,SNR=446
ASAR S **S** **19 24 19.2 -1.3**
comp=Z,1.6nm,1.0s,baz=16,slow=15,SNR=8.5
ASAR Alice Springs 59.70 184 P **P** **19 16 30.4 +0.2**
DLBC Lease Lake 61.24 37 P **P** **19 16 41.8 +1.5**
comp=Z,3.2nm,0.8s,baz=278,slow=9.4,SNR=5.3
EUNU Eureka 61.41 8 P **P** **19 16 41.7 +0.6**
ARCES ARCESS Array B 63.52 339 P **P** **19 16 55.6 +0.6**
comp=Z,3.9nm,0.9s,baz=56,slow=7.5,SNR=19
ARCES ARCESS Array B 63.52 339 P **P** **19 16 55.4 +0.3**
ARCES pmax pmax
comp=Z,14nm,1.3s
ARCES ARCESS Array B 63.52 339 P **P** **19 16 55.4 +0.3**
ARCES IAmb IAmb 19 17 00.6
comp=Z,14nm,1.2s
RES Resolute Bay 64.14 13 P **P** **19 16 59.5 +0.5**
RES pmax pmax
comp=Z,9.0nm,1.1s
RES Resolute Bay 64.14 13 P **P** **19 16 59.5 +0.5**
RES IAmb IAmb 19 17 00.3
comp=Z,9.0nm,1.1s
BBB Bella Bella 64.89 43 P **P** **19 17 05.4 +1.3**
comp=Z,23nm,1.0s,baz=177,slow=11,SNR=2.2
YKA Yellowknife Ar 66.10 29 P **P** **19 17 12.4 +0.7**
comp=Z,0.7nm,0.4s,baz=307,slow=6.2,SNR=23
YKA Yellowknife Ar 66.10 29*ceP* **P** **19 17 12.3 +0.6**
YKA pmax pmax
comp=Z,1.0nm,0.7s
AKT Akhty 66.85 305 *eP* **P** **19 17 17.5 +0.5**
AKT *e* 19 17 45.8
AKT *e**PP **pP** **19 18 12.9 -1.7**
AKT *e**SP **sP** **19 18 42.1 +0.2**
AKT *e* 19 19 49.3
AKT pmax pmax
comp=Z,15nm,1.3s
FORT Forrest 67.26 189 P **P** **19 17 19.7 +0.4**
STKA Stephens Creek 67.91 176 P **P** **19 17 23.3 0.0**
comp=Z,1.5nm,0.5s,baz=353,slow=9.1,SNR=4.8
STKA Stephens Creek 67.91 176 P **P** **19 17 22.9 -0.5**
FIA1 FINESS Array S 67.92 331 P **P** **19 17 23.4 +0.3**
FIA1 IAmb IAmb 19 17 32.4
comp=Z,5.4nm,0.9s
FINES FINESS Array B 67.92 331 P **P** **19 17 23.6 +0.4**
comp=Z,2.4nm,0.5s,baz=55,slow=6.6,SNR=28
FINES FINESS Array B 67.92 331 P **P** **19 17 23.0 -0.1**
MORW Morawa 68.00 200 P **P** **19 17 23.9 -0.1**
BBOO Buckleboo 68.73 181 P **P** **19 17 28.8 +0.3**
KBZ Khabaz 68.86 309 P **P** **19 17 30.4 +1.2**
comp=Z,1.1nm,0.8s,baz=34,slow=3.9,SNR=4.4
KIV Kislovodsk 68.88 309 *eP* **P** **19 17 28.6 -0.9**
KIV pmax pmax
comp=Z,13nm,1.1s
NLWA Neilton Lookou 69.64 46 P **P** **19 17 35.5 +1.4**
D03D Eldon 70.02 45 P 19 17 38.7
baz=302
B05A Bryant 70.19 44 P 19 17 38.8
baz=302
E03A Lebam 70.27 46 P **P** **19 17 39.2 +1.5**
D04E Lakebay 70.39 46 P 19 17 40.8
baz=302
B06A Marblemount 70.40 44 P **P** **19 17 40.3 +1.8**
E04D Cinebar 70.84 46 P 19 17 43.7
baz=303
G03D McMinnville, O 71.16 47 P 19 17 45.2
baz=303
LON Longmire 71.17 46 P **P** **19 17 44.6 +1.2**
LON pmax pmax
comp=Z,13nm,1.5s
LON Longmire 71.17 46 P **P** **19 17 44.6 +1.2**
LON IAmb IAmb 19 17 45.9
comp=Z,13nm,1.4s
NWAO Narrogin (SRO) 71.35 198 P **P** **19 17 44.1 -0.2**
NWAO pmax pmax
comp=Z,72nm,1.5s
NWAO Narrogin (SRO) 71.35 198 P **P** **19 17 44.0 -0.2**
NWAO Narrogin (SRO) 71.35 198 P **P** **19 17 43.6 -0.7**
NWAO IAmb IAmb 19 18 07.9
comp=Z,42nm,1.4s
SUMG Summit 71.41 359 P **P** **19 17 46.2 +1.5**
SUMG pmax pmax
comp=Z,6.0nm,0.7s
SUMG Summit 71.41 359 P **P** **19 17 46.2 +1.5**
SUMG IAmb IAmb 19 17 48.7
comp=Z,6.4nm,0.7s
LTY Liberty 71.55 45 P **P** **19 17 46.8 +1.2**
LTY IAmb IAmb 19 17 47.4
comp=Z,5.7nm,0.8s
B08A Colville Reser 71.68 43 P **P** **19 17 47.3 +1.0**
B08A IAmb IAmb 19 17 48.8
comp=Z,8.0nm,1.0s
KEBM Edson Butte 71.77 50 P **P** **19 17 49.2 +2.2**
H04D Lebanon 71.84 48 P 19 17 49.7
baz=303
J01E Myrtle Point 71.86 50 P 19 17 49.6
baz=303
I03D Drain, OR 71.93 49 P 19 17 49.9
baz=303,SNR=7.0
H04A Detroit Lake 72.08 47 P **P** **19 17 50.5 +1.8**
KBO Bosley Butte 72.19 51 P **P** **19 17 51.2 +1.6**
K02D Willamette Mer 72.28 50 P 19 17 51.7
baz=303
G05D Wamic, OR 72.29 47 P 19 17 51.8
baz=304
E07A Sunnyside 72.40 45 P **P** **19 17 51.6 +1.0**
E07A IAmb IAmb 19 17 53.4
comp=Z,6.6nm,0.7s
I04A Tendick Farm, 72.44 48 P 19 17 52.8
baz=304
C09A Chrisman Ranch 72.58 43 P **P** **19 17 53.2 +1.6**
C09A IAmb IAmb 19 17 54.1
comp=Z,11nm,0.8s
L02E Cave Junction 72.61 50 P 19 17 53.8
baz=303
D08A Wollman Farm, 72.65 44 P **P** **19 17 53.4 +1.4**
D08A IAmb IAmb 19 17 54.4
comp=Z,10nm,1.0s
HAWA Hanford 72.68 45 P **P** **19 17 53.2 +1.0**

HAWA IAmb IAmb 19 17 54.8
comp=Z,7.0nm,0.6s
F07A Phinny Hill Vi 72.73 46 P P 19 17 53.7 +1.2
F07A IAmb IAmb 19 17 55.3
comp=Z,11nm,0.8s
HUMO Hull Mountain 72.76 50 P P 19 17 53.6 +0.8
AKASG Malin Array Be 72.84 321 P P 19 17 53.2 +0.2
comp=Z,0.8nm,0.4s,baz=51,slow=6.3,SNR=6.2
AKBB Malin Array Si 72.84 321 eP P 19 17 51.4 -1.6
E08A Dider Farm, El 72.89 45 P P 19 17 54.5 +1.0
J04D Umpqua Nationa 72.93 49 P 19 17 55.8
baz=304,SNR=6.7
NEW Newport 72.95 42 P P 19 17 54.9 +1.1
comp=Z,3.1nm,0.6s,baz=299,slow=5.2,SNR=5.9
NEW Newport 72.95 42 P P 19 17 54.6 +0.8
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 72.95 42 P P 19 17 54.6 +0.8
NEW Newport 72.95 42 P 19 17 55.5
baz=306
PINE Pine Mountain 73.33 48 P P 19 17 58.2 +1.9
L04D Klamath Falls 73.38 50 P 19 17 58.3
baz=304,SNR=7.5
E09A Wood Farm, Sta 73.40 44 P P 19 17 56.8 +0.5
E09A IAmb IAmb 19 17 59.0
comp=Z,8.6nm,0.8s
YBH Yreka Blue Hor 73.40 50 P P 19 17 57.6 +0.9
comp=Z,8.4nm,0.8s,baz=351,slow=4.7,SNR=23
YBH Yreka Blue Hor 73.40 50 P P 19 17 58.2 +1.6
YBH pmax pmax
comp=Z,10.0nm,0.9s
YBH Yreka Blue Hor 73.40 50 P P 19 17 58.2 +1.6
YBH IAmb IAmb 19 17 59.7
comp=Z,9.7nm,0.8s
J05D Fort Rock, OR 73.44 48 P 19 17 58.9
baz=304
K04D Chiloquin, OR 73.49 49 P 19 17 58.9
baz=304
M02C Callahan 73.50 51 P 19 17 59.2
baz=304,SNR=6.8
NB2 NORSAR Subarra 73.57 336 P P 19 17 57.8 +0.6
comp=Z,2.0nm,0.7s,baz=42,slow=5.9
NOA NORSAR Array B 73.57 336 P P 19 17 57.8 +0.6
comp=Z,0.3nm,0.6s,baz=54,slow=6.8,SNR=3.4
G08A Pilot Rock 73.64 46 P P 19 17 59.5 +1.5
N02D Trinity Center 73.83 51 P 19 18 01.1
baz=304,SNR=6.1
M04C Macdoel 73.91 50 P 19 18 01.6
baz=304,SNR=13
K05A Summer Lake 73.96 49 P P 19 18 01.7 +1.8
I07A Izee 74.01 47 P P 19 18 01.1 +0.9
WDC Whiskeytown Da 74.15 51 P P 19 18 02.6 +1.7
WDC pmax pmax
comp=Z,7.0nm,0.9s
WDC Whiskeytown Da 74.15 51 P P 19 18 02.6 +1.7
WDC IAmb IAmb 19 18 03.6
comp=Z,7.2nm,0.9s
WALA Waterton Lakes 74.19 40 P P 19 18 02.3 +1.2
WALA IAmb IAmb 19 18 03.5
comp=Z,10nm,0.7s
O02D Mt. Diablo Mer 74.22 52 P 19 18 03.8
baz=304
O03E Paynes Creek 74.78 51 P 19 18 05.8
baz=305
MOD Modoc Plateau 74.79 49 P P 19 18 06.0 +1.3
MOD IAmb IAmb 19 18 07.2
comp=Z,8.3nm,0.6s
JTMT Jette 74.79 42 P P 19 18 06.1 +1.5
BMO Blue Mountains 74.84 45 P P 19 18 05.9 +1.0
BMO pmax pmax
comp=Z,7.0nm,0.9s
BMO Blue Mountains 74.84 45 P P 19 18 05.9 +1.0
BMO IAmb IAmb 19 18 07.4
comp=Z,6.7nm,0.8s
J08A Circle Bar Ran 75.04 47 P P 19 18 06.7 +0.7
ORV Oroville 75.39 52 P P 19 18 08.1 +0.2
ORV pmax pmax
comp=Z,11nm,1.2s
ORV Oroville 75.39 52 P P 19 18 08.1 +0.2
ORV IAmb IAmb 19 18 09.9
comp=Z,11nm,1.1s
WVOR Wild Horse Val 75.49 48 P P 19 18 09.9 +1.3
WVOR pmax pmax
comp=Z,8.0nm,0.6s
WVOR Wild Horse Val 75.49 48 P P 19 18 09.9 +1.3
WVOR IAmb IAmb 19 18 10.8
comp=Z,7.7nm,0.6s
MSO Missoula 75.53 42 P P 19 18 10.1 +1.3
MSO Missoula 75.54 42 P 19 18 10.0
baz=308
BEKR Beckworth 75.93 51 P 19 18 12.0 +0.8
AFDM Forest Hills D 76.07 52 P P 19 18 12.4 +0.6
FFC Flin Flon 76.10 31 P P 19 18 12.0 +0.3
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC Flin Flon 76.10 31 P P 19 18 12.0 +0.3
FFC IAmb IAmb 19 18 13.2
comp=Z,6.4nm,0.8s
FCC Fort Churchill 76.12 25 P P 19 18 12.5 +0.9
FCC pmax pmax
comp=Z,4.0nm,0.7s
FCC Fort Churchill 76.12 25 P P 19 18 12.5 +0.9
FCC IAmb IAmb 19 18 13.0
comp=Z,4.4nm,0.7s
MFID Camas Ranch 76.56 46 P P 19 18 16.2 +1.6
MFID IAmb IAmb 19 18 16.8
comp=Z,5.9nm,0.7s
PAHR Pah Rah Range 76.63 50 P P 19 18 16.3 +1.2
PAHR IAmb IAmb 19 18 17.6
comp=Z,11nm,0.9s
HRY Holter Researc 76.74 41 P P 19 18 17.0 +1.4
BRTR Keskin Array B 76.84 310 P P 19 18 16.4 +0.1
comp=Z,0.5nm,0.6s,baz=306,slow=38,SNR=2.1
PNTR Pine Nut 76.86 51 P P 19 18 18.3 +1.8
PNTR IAmb IAmb 19 18 19.3
comp=Z,12nm,0.9s
LRM Limekiln Ridge 76.97 42 P P 19 18 18.2 +1.2
CMB Columbia Colle 76.98 52 P P 19 18 18.3 +1.3
CMB pmax pmax
comp=Z,9.0nm,0.7s
CMB Columbia Colle 76.98 52 P P 19 18 18.3 +1.3
CMB IAmb IAmb 19 18 19.3
comp=Z,8.7nm,0.7s
EGMT Eagleton 76.99 39 P P 19 18 18.0 +1.0
EGMT Eagleton 76.99 39 P 19 18 17.9
baz=310,SNR=8.1
YERR Yerington 77.14 51 P P 19 18 19.6 +1.6
DLMT Dillon 77.18 43 P P 19 18 18.9 +0.8
HLID Hailey 77.28 45 P P 19 18 19.7 +1.0
HLID Hailey 77.28 45 P 19 18 20.3
baz=308
WAKR Walker 77.31 52 P P 19 18 20.8 +1.8
WAKR IAmb IAmb 19 18 21.8
comp=Z,11nm,0.9s
BOZ Bozeman (W) 77.56 42 P P 19 18 21.5 +1.3
BOZ pmax pmax
comp=Z,11nm,1.0s
BOZ Bozeman (W) 77.56 42 P P 19 18 21.5 +1.3
BOZ IAmb IAmb 19 18 22.7
comp=Z,11nm,0.9s
BOZ Bozeman (W) 77.56 42 P 19 18 21.6
baz=310,SNR=9.9
RYN Ryan 77.81 51 P P 19 18 21.9 +0.2
RYN IAmb IAmb 19 18 23.9
comp=Z,5.7nm,0.6s
KVN Kaiserville 77.82 50 P P 19 18 23.4 +1.6
KVN pmax pmax
comp=Z,19nm,0.6s
KVN Kaiserville 77.82 50 P P 19 18 23.4 +1.6
LHV Little Huntoon 78.05 51 P P 19 18 24.6 +1.8
LHV IAmb IAmb 19 18 26.1
comp=Z,12nm,0.9s
NVAR Mina Array Bea 78.06 51 P P 19 18 24.5 +1.3
comp=Z,6.5nm,0.6s,baz=298,slow=5.3,SNR=42
QLMT Earthquake Lak 78.16 43 P P 19 18 23.6 0.0
NV11 Mina Array Sit 78.16 51 P P 19 18 24.8 +1.2
NV11 IAmb IAmb 19 18 25.8
comp=Z,4.1nm,0.6s
YHL Hebgen Lake 78.28 43 P P 19 18 26.0 +1.7
YHL IAmb IAmb 19 18 27.2
comp=Z,9.6nm,0.9s
YHB Horse Butte 78.33 43 P P 19 18 25.8 +1.2
YHB IAmb IAmb 19 18 27.4
comp=Z,11nm,0.9s
YHH Holmes Hill 78.50 42 P P 19 18 27.5 +1.9

YMR Madison River 78.51 43 P P 19 18 26.5 +0.9
YMR IAmb IAmb 19 18 28.5
comp=Z,14nm,1.2s
ELK Elko 78.54 48 P P 19 18 27.4 +1.7
comp=Z,2.2nm,0.5s,baz=313,slow=6.2,SNR=16
ELK Elko 78.54 48 P P 19 18 27.4 +1.7
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK Elko 78.54 48 P P 19 18 27.4 +1.7
YNE Yellowstone No 78.81 42 P P 19 18 28.8 +1.6
YNE IAmb IAmb 19 18 29.7
comp=Z,5.0nm,0.8s
YPP Pitchstone Pla 78.86 43 P P 19 18 29.4 +1.9
YPP IAmb IAmb 19 18 30.9
comp=Z,4.3nm,0.8s
LKWY Lake 78.89 42 P P 19 18 30.6 +3.0
LKWY pmax pmax
comp=Z,22nm,1.2s
LKWY Lake 78.89 42 P P 19 18 30.6 +3.0
H17A Grant Village 78.90 43 P P 19 18 30.6 +2.9
H17A Grant Village 78.90 43 P 19 18 31.2
baz=310,SNR=15
YMP Mirror Lake Pl 78.91 42 P 19 18 28.3 +0.6
YMP IAmb IAmb 19 18 33.6
comp=Z,5.3nm,0.8s
TPH Tonopah 78.96 51 P P 19 18 29.6 +1.6
TPH pmax pmax
comp=Z,42nm,0.8s
TPH Tonopah 78.96 51 P P 19 18 29.6 +1.6
FLWY Flagg Ranch 79.04 43 P P 19 18 30.8 +2.4
FLWY IAmb IAmb 19 18 32.2
comp=Z,11nm,1.1s
VES Vestal, Richgr 79.12 54 P 19 18 29.8
baz=307
RLMT Red Lodge 79.14 41 P P 19 18 30.5 +1.6
RLMT IAmb IAmb 19 18 32.3
comp=Z,7.3nm,0.8s
RLMT Red Lodge 79.14 41 P 19 18 30.5
baz=311,SNR=11
PKM Mcpherson Peak 79.21 55 P 19 18 30.8
baz=307
HVU Hansel Valley 79.34 46 P P 19 18 31.6 +1.6
HVU pmax pmax
comp=Z,5.0nm,0.7s
HVU Hansel Valley 79.34 46 P P 19 18 31.6 +1.6
HVU IAmb IAmb 19 18 32.7
comp=Z,5.2nm,0.7s
LOHW Long Hollow 79.39 43 P P 19 18 31.2 +0.9
CWC Cottonwood Cre 79.41 53 P 19 18 31.9
baz=307
SNOW Snow King Moun 79.41 43 P P 19 18 31.4 +1.0
SNOW IAmb IAmb 19 18 34.7
comp=Z,17nm,1.4s
DGMT Dagmar 79.46 37 P P 19 18 31.4 +1.1
DGMT IAmb IAmb 19 18 32.4
comp=Z,13nm,1.0s
DGMT Dagmar 79.46 37 P 19 18 31.7
baz=314
ISA Isabella, Lake 79.62 53 P P 19 18 32.0 +0.5
ISA pmax pmax
comp=Z,5.0nm,0.8s
ISA Isabella, Lake 79.62 53 P P 19 18 32.0 +0.5
ISA IAmb IAmb 19 18 32.8
comp=Z,4.5nm,0.8s
ISA Isabella, Lake 79.62 53 P 19 18 32.3
baz=307
LAO LASA Array 79.68 39 P P 19 18 31.6 +0.1
LAO IAmb IAmb 19 18 34.1
comp=Z,10nm,0.9s
LAO LASA Array 79.68 39 P 19 18 33.3
baz=313
BGU Big Grassy Mou 79.73 46 P P 19 18 33.6 +1.5
R11A Troy Canyon, C 79.81 50 P P 19 18 33.4 +0.9
R11A IAmb IAmb 19 18 36.1
comp=Z,7.7nm,1.4s
R11A Troy Canyon, C 79.81 50 P 19 18 33.6
baz=308,SNR=5.8
HWUT Hardware Ranch 80.15 45 P P 19 18 35.8 +1.5
HWUT IAmb IAmb 19 18 37.3
comp=Z,8.9nm,1.1s
FURC Furnace Creek, 80.17 52 P 19 18 36.1
baz=308
LRMC Laurel Mtn Rad 80.24 53 P 19 18 36.2
baz=308
TPNV Topopah Spring 80.26 51 P P 19 18 35.9 +0.9
TPNV pmax pmax
comp=Z,12nm,1.0s
TPNV Topopah Spring 80.26 51 P P 19 18 35.9 +0.9
TPNV IAmb IAmb 19 18 37.4
comp=Z,12nm,0.9s
TPNV Topopah Spring 80.26 51 P 19 18 36.1
baz=308,SNR=11
DUG Dugway, Tooele 80.32 47 P P 19 18 36.5 +1.2
DUG pmax pmax
comp=Z,6.0nm,0.8s
DUG Dugway, Tooele 80.32 47 P P 19 18 36.5 +1.2
DUG IAmb IAmb 19 18 37.6
comp=Z,6.3nm,0.8s
DUG Dugway, Tooele 80.32 47 P 19 18 37.0
baz=310,SNR=5.9
EDW2 Edwards Air Fo 80.41 54 P 19 18 36.9
baz=308,SNR=7.8
BW06 Boulder Array 80.52 43 P P 19 18 37.3 +0.9
BW06 IAmb IAmb 19 18 38.4
comp=Z,6.5nm,0.8s
PD31 Pinedale Array 80.52 43 P P 19 18 37.5 +1.1
PD31 IAmb IAmb 19 18 38.3
comp=Z,5.7nm,0.8s
PDAR Pinedale Array 80.52 43 P P 19 18 37.4 +1.0
comp=Z,5.4nm,0.7s,baz=291,slow=1.5,SNR=50
PDAR Pinedale Array 80.52 43 P P 19 18 36.9 +0.5
BW06 Boulder Array 80.53 43 P 19 18 37.6
baz=311,SNR=6.8
SHOC Shoshone, Teco 80.89 52 P 19 18 39.2
baz=308
NLU North Lily Min 80.91 47 P P 19 18 39.6 +1.1
NLU IAmb IAmb 19 18 41.1
comp=Z,5.9nm,0.8s
GSC Goldstone, Bar 80.92 53 P P 19 18 39.3 +0.9
GSC pmax pmax
comp=Z,9.0nm,1.0s
GSC Goldstone, Bar 80.92 53 P P 19 18 39.3 +0.9
GSC IAmb IAmb 19 18 40.6
comp=Z,8.9nm,1.0s
GSC Goldstone, Bar 80.92 53 P 19 18 39.2
baz=308,SNR=5.1
BFSC Mount Baldy Ra 81.02 54 P 19 18 39.8
baz=308
SCI2 San Clemente I 81.20 56 P 19 18 41.0
baz=308
HEC Hector,Ludlow 81.51 53 P 19 18 42.6
baz=308,SNR=5.6
GERES GERESS Array B 81.56 326 P P 19 18 42.0 +0.5
comp=Z,0.3nm,0.5s,baz=38,slow=6.8,SNR=3.5
MSU Marysvale 81.78 48 P P 19 18 42.7 -0.3
MSU Marysvale 81.78 48 P P 19 18 42.7 -0.3
ULM Lac du Bonnet 81.91 31 P P 19 18 43.1 -0.1
comp=Z,3.1nm,0.5s,baz=309,slow=3.7,SNR=9.3
ULM Lac du Bonnet 81.91 31 P P 19 18 43.6 +0.4
ULM pmax pmax
comp=Z,7.0nm,1.1s
ULM Lac du Bonnet 81.91 31 P P 19 18 43.6 +0.4
ULM IAmb IAmb 19 18 44.4
comp=Z,6.5nm,1.1s
GMRC Granite Mounta 81.98 53 P 19 18 45.2
baz=309,SNR=6.2
MDND Maddock 82.06 35 P 19 18 45.3
baz=317
MTPU Mount Pierson 82.08 48 P P 19 18 46.9 +2.1
MTPU IAmb IAmb 19 18 47.6
comp=Z,5.5nm,0.8s
PFO Pinyon Flats O 82.19 54 P P 19 18 44.9 -0.2
comp=Z,3.9nm,0.6s,baz=293,slow=6.6,SNR=3.8
PFO Pinyon Flats O 82.19 54 eP P 19 18 44.6 -0.5
PFO pmax pmax
comp=Z,5.0nm,0.5s
PFO Pinyon Flats O 82.19 54 P 19 18 46.1
baz=309
BELC Belle Mtn. Jos 82.25 53 P 19 18 46.5
baz=309
KNB Kanab 82.35 49 P P 19 18 47.9 +1.9
KNB pmax pmax
comp=Z,10.0nm,1.0s
KNB Kanab 82.35 49 P P 19 18 47.9 +1.9
KNB IAmb IAmb 19 18 49.9
comp=Z,9.7nm,1.0s

RSSD Black Hills 82.56 40 P 19 18 48.0
baz=314
MONP2 Monument Peak 82.66 55 P 19 18 48.8
baz=309
IRM Iron Mountain 82.70 53 P 19 18 48.7
baz=309
O20A White River Ci 83.01 45 P 19 18 50.8
baz=312
IKP In-Ko-Pah, Jac 83.02 55 P 19 18 50.6
baz=309
PDMCI Parker Dam,Lak 83.25 52 P 19 18 50.6
baz=310
AGMN Agassiz Nation 83.40 33 P 19 18 51.1
baz=320
N23A Red Feather La 83.78 43 P 19 18 54.4
baz=314
ISCO Idaho Springs 84.72 44 P 19 18 59.0
baz=314
MVCO Mesa Verde 84.83 47 P 19 18 58.5
baz=312
S22A 4UR Ranch, Cre 85.44 46 P 19 19 03.3
baz=313
EYMN Ely 85.52 30 P 19 19 02.0
baz=322
ECSD EROS Data Cent 86.52 36 P 19 19 06.8
baz=319
T25A Trinidad 87.25 45 P 19 19 11.4
baz=315
ANMO Albuquerque 87.57 48 P P 19 19 11.1 -0.8
comp=Z,1.0nm,0.3s,baz=333,slow=9.0,SNR=3.2
D58A Chemin du LacG 92.71 20 P 19 19 35.7
baz=336
TXAR Lajitas Array 93.17 50 P P 19 19 39.0 +1.1
comp=Z,8.2nm,0.6s,baz=291,slow=2.7,SNR=14
TXAR Lajitas Array 93.17 50 P P 19 19 39.0 +1.1
LPAZ La Paz 149.89 55 PKPbc PKPbc 19 26 12.8 -0.7
comp=Z,3.2nm,0.7s,baz=347,slow=8.7,SNR=6.6
SIV San Ignacio 154.01 44 PKP PKPdf 19 26 14.7 +0.9
comp=Z,0.6nm,0.4s,baz=1.0,slow=16,SNR=2.0
SIV PKPbc **PKPbc 19 26 22.3 +0.3**
comp=Z,1.7nm,0.5s,baz=268,slow=3.1,SNR=5.6
SIV PKPab **PKPab 19 26 36.3 -0.2**
comp=Z,4.9nm,0.6s,baz=329,slow=2.3,SNR=13

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*SJA **18** 19:07:44.6±0.4,36.01S×74.06W,h10km,ML5.0,MW4.8*
*IDC **18** 19:07:47.7±0.4,36.12S×73.37W,h0km,mb4.7/25, mb1 4.7/29,mb1mx4.7/44,mbtmp4.6/29,ML4.1/3,MS5.1/10, Ms1 5.1/10,ms1mx4.8/25,Error ellipse: s-maj=18.0km s-min=11.0km az=75.0*
*MOS **18** 19:07:48.61.1,36.00S×73.44W,h13km,mb5.3/10,Error ellipse: s-maj=13.7km s-min=6.8km az=88.7*
*NEIC **18** 19:07:49.1±1.7,36.05S±0.02×73.64W±0.07,h10km±1km, mb5.2/127,Mww5.4,ML5.1(GUC),Error ellipse: s-maj=9.4km s-min=3.3km az=276.0*
*BJI **18** 19:07:49.00.0,36.10S×73.50W,h10km,mB5.8/12, Ms5.6/9,Ms7 5.6/10*
*GUC **18** 19:07:49.1±0.7,36.01S×73.73W,h18km±4km,ML5.0*
*VAO **18** 19:07:53.0±0.4,35.97S×73.09W,h10km,mb5.2*
*GCMT **18** 19:07:54.1±0.2,36.09S±0.01×74.06W±0.01,h15km, MW5.4/117,Moment Tensor Solution. s59,c77; s117,c176; Duration: 1s2 Moment tensor: Scale 1017 Nm; Mrr1.07±.05; Mθθ0.05±.02; Mϕϕ-1.12±.03; Mrθ-0.23±.05; Mrϕ-0.13±.02; Mθr-1.12±.09; Best double couple: M0 1.58900×1017 NP1:ϕs2.00000°, δ22.00000°, λ82.00000°. NP2:ϕs190.00000°,δ68.00000°,λ93.00000°. Principal axes: T 1.5590, Plg67.0000°, Azm106.0000°; N 0.0610, Plg3.0000°, Azm9.0000°; P -1.6180, Plg23.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **18** 19:07:55,36.16S×73.98W,h18km,Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr1.17; Mθθ-0.03; Mϕϕ-1.14; Mrθ-0.02; Mϕθ-0.13; Mϕr-1.47; Fault plane solution: M0 1.88000×1017 NP1:ϕs11.00000°, δ19.00000°,λ99.00000°. NP2:ϕs182.00000°,δ71.00000°, λ87.00000°. Principal axes: T 1.8892, Plg64.0000°, Azm87.0000°; N -0.0242, Plg3.0000°, Azm183.0000°; P -1.8650, Plg26.0000°, Azm274.0000°;*
ISC 18 19:07:48.6±0.2,36.07S±0.03×73.72W±0.04,h10km,n515, σ1s62/503,mb5.2/90,MS5.1/11,8C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.95**	**144**	*iP*	**Pg**	**19 08 06.7**	**-0.3**
BI03				*eS*	**Sb**	**19 08 19.3**	**-0.6**
BI03				IAML		19 08 27.6	
	comp=E,150μm,0.4s						
BI03	**Tigo**	**0.95**	**144**		**Pg**	**19 08 06.3**	**-0.7**
LAJA	**Laja**	**1.46**	**146**	*eP*	**Pn**	**19 08 14.0**	**-0.9**
LAJA				*eS*	**Sn**	**19 08 31.2**	**-2.9**
BI02	**San Fabin de**	**2.06**	**107**	*eP*	**Pn**	**19 08 23.9**	**+0.5**
BI02				*i S*	**Sb**	**19 08 49.7**	**-2.2**
BI02	**San Fabin de**	**2.06**	**107**		**Pn**	**19 08 22.7**	**-0.8**
BO03	**Pichilemu**	**2.13**	**43**	*eP*	**Pn**	**19 08 23.5**	**-0.8**
BI04	**Isla Mocha**	**2.34**	**183**	*eS*	**Sn**	**19 08 57.4**	**+1.4**
BO02	**Sierra Bellavi**	**2.72**	**63**	*eP*	**Pn**	**19 08 32.6**	**+0.1**
BO02				*eS*	**Sn**	**19 09 05.0**	**-0.3**
BO02				IAML		19 09 26.9	
	comp=E,5μm,0.7s						
BO02	**Sierra Bellavi**	**2.72**	**63**	Pn	**Pn**	**19 08 31.0**	**-1.4**
CANA	**Caviahue**	**2.80**	**131**	*eP*	**Pn**	**19 08 35.7**	**+2.1**
CANA				IAML		19 09 43.7	
	comp=Z,3μm,1.0s						
VA05	**Santo Domingo**	**2.96**	**36**	*eP*	**Pn**	**19 08 35.4**	**-0.4**
MT09	**Talagante**	**3.20**	**45**	*eP*	**Pn**	**19 08 39.6**	**+0.4**
MT09				IAML		19 09 56.6	
	comp=E,2μm,0.7s						
COIS	**El Sosneado**	**3.50**	**75**	*eP*	**Pn**	**19 08 44.4**	**+1.3**
EDS3	**Malargue**	**3.52**	**86**	*eP*	**Pb**	**19 08 47.8**	**-3.3**
MT02	**Curacav**	**3.52**	**38**	*eP*	**Pn**	**19 08 40.6**	**-0.8**
MT02	**Curacav**	**3.52**	**38**		**Pn**	**19 08 40.4**	**-3.1**
MT05	**Renca**	**3.63**	**43**	*eP*	**Pn**	**19 08 44.8**	**-0.1**
MT05	**Renca**	**3.63**	**43**	Pn	**Pn**	**19 08 44.6**	**-0.4**
LMEL	**Las Melosas**	**3.64**	**53**	*eP*	**Pn**	**19 08 46.0**	**+0.7**
LMEL				*eS*	**Sn**	**19 09 28.6**	**+0.3**
LMEL				IAML		19 09 59.5	
	comp=N,2μm,0.6s						
MT03	**Universidad Ad**	**3.69**	**47**	*eP*	**Pn**	**19 08 45.4**	**-0.4**
MT03				*eS*	**Sn**	**19 09 29.4**	**+0.1**
ROC1	**El Roble**	**3.81**	**37**	*eP*	**Pn**	**19 08 48.3**	**+0.7**
ROCH	**El Roble**	**3.81**	**37**	*eP*	**Pn**	**19 08 48.2**	**+0.6**
PEL	**Peldehue**	**3.84**	**41**	*eP*	**Pn**	**19 08 47.8**	**-0.1**
PEL	**Peldehue**	**3.84**	**41**	P	**Pn**	**19 08 48.1**	**+0.2**
PEL	**Peldehue**	**3.84**	**41**		**Pn**	**19 08 48.1**	**+0.2**
LAMA	**Las Malvinas**	**3.85**	**74**	*eP*	**Pn**	**19 08 50.5**	**+2.6**
VA03	**San Esteban**	**4.21**	**39**	*eP*	**Pn**	**19 08 52.8**	**-0.2**
VA03	**San Esteban**	**4.21**	**39**	Pn	**Pn**	**19 08 50.0**	**-3.0**
H03S1	**Juan Fernandez**	**4.80**	**296**	Pn	**Pn**	**19 08 59.1**	**-1.7**
H03S1				T	T	19 13 51.9	
	baz=117,slow=74,SNR=335						
H03S3	**Juan Fernandez**	**4.81**	**296**	Pn	**Pn**	**19 08 59.7**	**-1.3**
H03S3				T	T	19 13 59.6	
	baz=117,slow=74,SNR=259						
H03S2	**Juan Fernandez**	**4.82**	**296**	Pn	**Pn**	**19 08 59.1**	**-1.9**
H03S2				T	T	19 14 00.9	
	baz=117,slow=74,SNR=458						
VA04	**Juan Fernndez**	**4.85**	**298**	*eP*	**Pn**	**19 09 01.0**	**-0.7**
VA04	**Juan Fernndez**	**4.85**	**298**	Pn	**Pn**	**19 09 01.5**	**-0.2**
LL04	**Puerto Octay**	**4.94**	**168**	*eP*	**Pn**	**19 09 02.5**	**-0.4**
H03N1	**Juan Fernandez**	**5.01**	**300**	Pn	**Pn**	**19 09 02.7**	**-1.0**
H03N1				Sn	**Sn**	**19 09 54.9**	**-6.7**
H03N1				T	T	19 14 15.8	
	baz=116,slow=73,SNR=11						
H03N3	**Juan Fernandez**	**5.02**	**300**	Pn	**Pn**	**19 09 02.7**	**-1.0**
H03N3				Sn	Sn	19 09 54.9	-6.8
H03N3				T	T	19 14 20.2	
	baz=116,slow=73,SNR=15						
H03N2	**Juan Fernandez**	**5.03**	**300**	Pn	**Pn**	**19 09 02.9**	**-1.0**
H03N2				Sn	Sn	19 09 55.0	-6.9
H03N2				T	T	19 14 16.1	
	baz=116,slow=73,SNR=11						
ARCO	**CERRO ARCO**	**5.10**	**52**	*eP*	**Pn**	**19 09 08.0**	**+2.7**
ARCO				IAML		19 10 45.0	
	comp=Z,584nm,1.2s						
PLCA	**Paso Flores**	**5.28**	**153**	Pn	**Pn**	**19 09 07.4**	**-0.2**
	comp=Z,3.7nm,0.3s,baz=323,slow=11,SNR=10						
PLCA				Lg	Lg	19 10 30.6	
	comp=Z,3.9nm,0.3s,baz=249,slow=23,SNR=0.9						

PLCA Paso Flores 5.28 153 ⇑eP Pn 19 09 07.7 +0.1
PLCA Paso Flores 5.28 153 P Pn 19 09 07.2 -0.4
PLCA Paso Flores 5.28 153 Pn Pn 19 09 07.2 -0.4
PLCA Paso Flores 5.28 153 eP Pn 19 09 08.9 +1.2
CO02 Combarbal 5.36 26 Pn Pn 19 09 05.4 -3.4
RTLS Leoncito 5.63 42 eP Pn 19 09 13.5 +0.9
RTLS IAML 19 10 58.6
comp=Z,747nm,1.4s
CO03 El Pedregal 5.80 27 Pn Pn 19 09 13.5 -1.3
RTCV Cerro Valdivia 6.01 47 eP Pn 19 09 19.0 +1.3
RTCV IAML 19 11 39.7
comp=Z,534nm,2.2s
ZON Zonda 6.16 44 P Pn 19 09 16.0 -3.7
ZON Zonda 6.16 44 Pn 19 09 16.0 -3.7
ZON Zonda 6.16 44 eP Pn 19 09 21.8 +2.0
ZON IAML 19 11 26.8
comp=Z,534nm,1.9s
GO04 Tololo Observa 6.37 23 Pn Pn 19 09 21.0 -1.8
LL01 San Ignacio de 6.38 171 Pn 19 09 21.4 -1.3
RTLL Cerro Villicun 6.44 44⇑eP Pn 19 09 23.8 +0.2
CO01 Juntas del Tor 6.79 28 Pn Pn 19 09 26.0 -2.7
AROD Rodeo 6.88 32 eP Pn 19 09 32.2 +2.3
GO07 Milladeo Hill, 7.04 180 Pn Pn 19 09 29.5 -2.2
LCO Las Campanas 7.49 21 P Pn 19 09 35.9 -2.2
LCO Las Campanas 7.49 21 Pn 19 09 35.9 -2.2
MRA San Martin 7.56 64 eP Pn 19 09 41.0 +2.0
MRA IAML 19 12 08.0
comp=Z,158nm,1.4s
AC05 El Transito 7.78 23 Pn 19 09 37.8 -4.2
AC04 Llanos de Chal 8.16 17 Pn Pn 19 09 42.6 -4.5
VCA Vinchina 8.67 34 eP Pn 19 09 55.8 +1.5
GO03 Copiap 8.95 20 Pn Pn 19 10 01.2 +3.1
AC02 Maricunga 10.00 24 Pn 19 10 13.0 +0.1
AC01 Pan de Azucar 10.24 16 Pn Pn 19 10 14.7 -1.1
GO02 Mina Guanaco 11.44 19 Pn Pn 19 10 30.0 -2.3
PB14 IPOC Station P 11.76 15 Pn 19 10 23.2 -14
PB10 IPOC Station P 12.81 13 Pn Pn 19 10 47.4 -3.4
PB15 IPOC Station P 13.34 17 Pn 19 10 53.9 -4.4
PB06 IPOC Station P 13.80 16 Pn Pn 19 10 59.2 -5.3
PB04 IPOC Station P 14.04 14 Pn 19 11 01.6 -6.2
LVC Limon Verde 14.05 19 Pn Pn 19 11 07.6 -0.5
comp=Z,0.2nm,0.3s,baz=221,slow=11,SNR=4.7
LVC LR LR 19 17 13.9
comp=Z,7µm,18.3s,baz=197,slow=40
LVC Limon Verde 14.05 19 P Pn 19 11 09.1 +1.0
LVC Limon Verde 14.05 19 Pn Pn 19 11 01.5 -6.6
LVC Limon Verde 14.05 19 eP Pn 19 11 07.9 -0.2
PB07 IPOC Station P 14.68 14 Pn 19 11 09.6 -7.0
PB09 IPOC Station P 14.75 17 Pn 19 11 10.0 -7.5
GO09 Cerro Castillo 15.23 177 P Pn 19 11 19.6 -4.1
GO09 IAmb IAmb 19 11 31.4
comp=Z,114nm,1.3s
PB01 IPOC Station P 15.42 15 Pn 19 11 24.8 -1.6
PB01 IAmb IAmb 19 11 54.1
comp=Z,109nm,1.1s
ITQB Itaqui 15.71 71 eP Pn 19 11 26.4 -3.6
TA01 Diego Aracena 15.76 12 P Pn 19 11 26.2 -4.5
PB08 IPOC Station P 16.37 15 P Pn 19 11 31.6 -7.3
PSGCX Pisagua 16.71 12 Pn 19 11 39.3 -3.7
CPUP Villa Florida 17.03 60 Pn Pn 19 11 44.0 -3.0
comp=Z,0.2nm,0.3s,baz=232,slow=12,SNR=6.8
CPUP LR LR 19 18 47.7
comp=Z,4µm,21.1s,baz=242,slow=39
CPUP Villa Florida 17.03 60 P Pn 19 11 47.5 +0.5
CPUP Villa Florida 17.03 60 Pn Pn 19 11 35.8 -11
PLTB Pedras Altas 17.23 81 eP Pn 19 11 46.0 -3.5
MNMC Minye Minye 17.26 13 Pn 19 11 39.6 -11
CPSB Cacapava Do Su 17.87 77 eP Pn 19 11 54.8 -2.5
PB16 IPOC Station P 18.05 13 Pn 19 11 57.8 -2.5
USHA Ushuaia 19.11 171 P P 19 12 11.6 +0.1
baz=344,slow=8.0,SNR=3.6
EFI East Falkland 19.19 149⇑eP Pn 19 12 13.1 -0.1
EFI pmax pmax
comp=Z,43nm,1.0s
EFI East Falkland 19.19 149 P P 19 12 12.5 +0.2
LPAZ La Paz 20.32 16 P P 19 12 26.6 +1.1
comp=Z,4.6nm,0.7s,baz=209,slow=9.1,SNR=9.8
LPAZ La Paz 20.32 16 P P 19 12 24.5 -1.1
LPAZ pmax pmax
comp=Z,67nm,1.2s
LPAZ La Paz 20.32 16 P P 19 12 24.5 -1.1
LPAZ La Paz 20.32 16 eP Pn 19 12 28.1 +0.5
ITAB Concordia 20.35 70 eP P 19 12 25.5 +0.4
PTGB Pitanga 21.79 65 eP P 19 12 40.7 -0.1
TER01 Tubaro-SC 22.07 77 eP P 19 12 43.7 0.0
AQDB Aquidauana 22.15 50 eP P 19 12 44.9 +0.3
SIV San Ignacio 22.96 33 P P 19 12 52.9 -0.3
comp=Z,70nm,1.0s,baz=226,slow=11,SNR=86
SIV LR LR 19 23 06.4
comp=Z,7µm,18.0s,baz=228,slow=40
NNA Nana 24.14 353 P P 19 13 06.6 +1.6
comp=Z,6.0nm,0.5s,baz=212,slow=5.4,SNR=1.9
NNA LR LR 19 20 30.9
comp=Z,4µm,20.4s,baz=34,slow=32
NNA Nana 24.14 353‖eP P 19 13 05.8 +0.8
NNA pmax pmax
comp=Z,24nm,1.1s
NNA Nana 24.14 353 P P 19 13 04.9 -0.1
PCMB Pacaembu 24.31 60 eP P 19 13 06.0 -0.4
PTLB Pontes e Lacer 24.32 36 eP P 19 13 07.0 +0.5
FRTB Fartura 24.44 65 eP P 19 13 08.1 +0.4
PPTB Ponte de Pedra 24.84 47 eP P 19 13 11.0 +0.3
PET01 Itanhaem-SP 25.61 70 eP P 19 13 19.0 +0.8
SPB Sao Paulo 25.88 69 P P 19 13 20.6 -0.1
SPB Sao Paulo 25.88 69 eP P 19 13 21.3 +0.6
VILB Vilhena 26.04 31 eP P 19 13 22.8 +0.6
ITRB Iturama 26.21 58 eP P 19 13 23.9 +0.2
VAO Valinhos 26.57 68 eP P 19 13 27.7 +0.6
BB19B Bebedouro 26.60 63 eP P 19 13 25.6 -1.6
ETMB Extrema 27.01 16 eP P 19 13 32.4 +1.5
PARB Paraibuna 27.40 70 eP P 19 13 34.2 -0.3
ARAG Araguaiana, MT 28.16 50 eP P 19 13 41.3 +0.1
CZSB Cruzeiro do Su 28.22 2 eP P 19 13 46.7 +4.9
ESAR Angra dos Reis 28.48 71 eP P 19 13 44.4 +0.4
SAML Samuel 28.65 22 P P 19 13 45.3 -0.3
SAML pmax pmax
comp=Z,31nm,1.4s
SAML Samuel 28.65 22 P P 19 13 45.3 -0.3
IPMB Ipameri, GO 28.86 58 eP P 19 13 46.6 -0.9
MAN01 Angra dos Reis 28.93 71 eP P 19 13 48.4 +0.3
ATAH Atahualpa 29.12 350 P P 19 13 52.7 +2.5
comp=Z,2.0nm,0.5s,baz=132,slow=15,SNR=1.5
ATAH LR LR 19 23 44.2
comp=Z,5µm,19.4s,baz=41,slow=33
PMSA Palmer Station 29.32 172 LR LR 19 24 02.4
comp=Z,1µm,20.0s,baz=336,slow=33
BSCB Bom Sucesso 29.39 67 eP P 19 13 52.2 -0.1
VAS01 Vassouras-RJ 29.65 71 eP P 19 13 55.0 +0.5
CLDB Colider 29.88 37 eP P 19 13 56.5 0.0
DUB01 Friburgo-RJ 30.54 71 eP P 19 13 03.6 +0.8
BDFB Brasilia 30.64 55 P P 19 14 01.9 -1.5
comp=Z,18nm,0.9s,baz=223,slow=7.0,SNR=18
BDFB Brasilia 30.64 55 P P 19 14 01.4 -2.0
BDFB pmax pmax
comp=Z,42nm,1.0s
BDFB Brasilia 30.64 55 P P 19 14 01.4 -2.0
BDFB IAmb IAmb 19 14 10.9
comp=Z,42nm,1.0s
CAM01 Campos-RJ 31.28 72 eP P 19 14 09.2 +0.4
SNDB Serra Nova Dou 31.39 46 eP P 19 14 09.5 -0.4
DIAM Diamantina, MG 31.88 64 eP P 19 14 14.7 +0.4
ALF01 Guarapari-ES 32.68 71 eP P 19 14 21.5 +0.4
PEXB Peixe 33.09 50 eP P 19 14 25.1 +0.3
NPGB Novo Progresso 33.42 35 eP P 19 14 27.2 -0.5
SJMB Sao Joao De Ma 33.46 68 eP P 19 14 28.0 0.0
JANB Januaria 33.57 59 eP P 19 14 29.2 +0.1
BSFB Barra de Sao F 33.64 68 eP P 19 14 29.5 -0.1
RIB01 Linhares ES 33.69 69 eP P 19 14 30.1 +0.1
MACA Manacapuru-AM 34.89 23 eP P 19 14 41.4 +1.0
SDBA SAO DESIDERIO 35.05 55 eP P 19 14 41.5 -0.4
ITTB Itaituba 35.64 32 eP P 19 14 46.6 -0.3
SMTB Santa Maria do 36.05 48 eP P 19 14 50.3 -0.1
OTAV Otavalo 36.39 352 P P 19 14 48.5 -5.3
OTAV pmax pmax
comp=Z,27nm,1.2s
OTAV Otavalo 36.39 352 P P 19 14 48.5 -5.3
OTAV Otavalo 36.39 352 eP P 19 14 58.3 +4.5
PRPB Parauapebas 36.96 42 eP P 19 14 58.3 +0.1
NBIT Itapeh - BA 37.14 64 eP P 19 14 59.6 0.0
PTGA Pitinga 37.41 23 P P 19 15 02.2 +0.3
comp=Z,19nm,0.9s,baz=198,slow=8.3,SNR=21
PTGA Pitinga 37.41 23 P P 19 15 00.6 -1.4
PTGA IAmb IAmb 19 15 10.8
comp=Z,68nm,1.2s
PTGA Pitinga 37.41 23 eP P 19 15 02.8 +0.9
GDU01 Guandu, BA 37.83 63 eP P 19 15 05.4 -0.2
SOTA Rioblanco 38.10 355 eP P 19 15 11.8 +3.4
PCON Cinco Dias 38.28 356 eP P 19 15 14.8 +4.9
MALB Monte Alegre 38.52 32 eP P 19 15 11.7 +0.3
NBPN Ponto Novo - B 39.37 59 eP P 19 15 18.6 +0.1
PRAC Prado 39.59 358 eP P 19 15 24.2 +3.9
ORTC Ortega, Tolima 39.80 358 eP P 19 15 25.5 +3.5
YOTC Yotoco, Valle 39.92 356 eP P 19 15 25.0 +1.8
TOLC Tolima 40.47 358 eP P 19 15 32.2 +4.2
RREF El Recreo 40.78 358 eP P 19 15 37.5 +6.7
MCPB Macapa, AP 40.83 34 eP P 19 15 30.9 +0.3
NBLA Lagarto - SE 40.96 62 eP P 19 15 30.8 -0.9
TMAB Tom-Au,PA,Br 41.06 41 eP P 19 15 33.0 +0.5
GUY2C Guyana, Caldas 41.10 358 eP P 19 15 35.9 +2.6
NORC Norcasia 41.43 358 eP P 19 15 39.0 +3.5
RUSC La Rusia 41.74 1 eP P 19 15 40.1 +1.5
CBOC Ciudad Bolivar 41.77 357 eP P 19 15 41.4 +3.0
NBTA Tacaratu-PE 42.06 59 eP P 19 15 40.6 -0.2
PTBC PUERTO BERRIO, 42.39 359 eP P 19 15 45.1 +1.8
NBMA Muriti-CE 42.84 57 eP P 19 15 47.3 +0.2
DBBC Dabeiba 42.92 356 eP P 19 15 50.8 +3.0
NBAN Anadia - AL 42.94 62 eP P 19 15 47.7 -0.2
NBPS Pedro II - PI 43.31 51 eP P 19 15 51.3 +0.3
ZARC Zaragoza, Cauc 43.34 358 eP P 19 15 52.3 +1.2
NBPB Pedra_Branca-C 43.63 54 eP P 19 15 54.9 +1.4
NBLI Livramento-PB 44.08 59 eP P 19 15 57.6 +0.5
NBRF Rio Formoso - 44.44 62 eP P 19 16 00.3 +0.4
SDV Santo Domingo 44.81 4 eP P 19 16 04.4 +1.4
comp=Z,11nm,0.9s,baz=119,slow=5.9,SNR=6.0
SDV Santo Domingo 44.81 4 P P 19 16 03.2 +0.2
SDV Santo Domingo 44.81 4 eP P 19 16 03.7 +0.6
SDV Santo Domingo 44.81 4 eP P 19 16 06.4 +3.3
BELA Belgrano 2 45.10 169 P P 19 16 04.2 -0.3
BELA IAmb IAmb 19 16 15.6
comp=Z,45nm,1.3s
NBPA Parau_RN 45.13 57 eP P 19 16 05.9 +0.5
NBCL Cascavel-CE 45.47 54 eP P 19 16 09.3 +1.2
NBPV Pedro Velho 45.91 59 eP P 19 16 11.3 -0.3
JTS Las Juntas de 47.31 345‖eP P 19 16 23.1 +0.5
JTS pmax pmax
comp=Z,20nm,1.6s
VNA3 Neumayer Olymp 47.98 157 P P 19 16 28.2 +1.0
VNA3 Neumayer Olymp 47.98 157 PP PP 19 18 21.6 +2.7
VNA3 Neumayer Olymp 47.98 157 PcP PcP 19 17 56.7 +1.6
VNA3 S S 19 23 24.8 +0.1
VNA3 Neumayer Olymp 47.98 157 pP P 19 16 31.1 +3.9
VNA1 Neumayer--Stat 48.33 156 P P 19 16 30.7 +0.8
VNA1 Neumayer--Stat 48.33 156 PP PP 19 18 24.9 +2.9
VNA1 Neumayer--Stat 48.33 156 PcP PcP 19 17 57.5 +1.2
VNA1 S S 19 23 29.5 -0.1
VNA1 Neumayer--Stat 48.33 156 ScP ScP 19 21 50.8 -0.2
VNA1 Neumayer--Stat 48.33 156 pP P 19 16 34.0 +4.2
VNA2 Neumayer--Watz 48.66 156 P P 19 16 32.4 0.0
baz=289,slow=8.0
VNA2 Neumayer--Watz 48.66 156 PP PP 19 18 27.1 +2.0
VNA2 Neumayer--Watz 48.66 156 PcP PcP 19 17 59.2 +1.6
VNA2 S S 19 23 34.7 +0.5
VNA2 Neumayer--Watz 48.66 156 ScP ScP 19 21 53.7 +1.2
VNA2 Neumayer--Watz 48.66 156 pP P 19 16 36.3 +3.9
VNA2 Neumayer--Watz 48.66 156 sP P 19 16 38.1 +5.7
SNAA Sanae 50.21 157 P P 19 16 45.0 +0.8
SNAA Sanae 50.21 157 PcP PcP 19 18 04.0 +0.7
SNAA S S 19 23 56.0 0.0
SNAA Sanae 50.21 157 pP P 19 16 47.6 +3.3
SNAA Sanae 50.21 157 P P 19 16 44.6 +0.3
comp=Z,38nm,1.0s,baz=282,slow=6.3,SNR=25
SNAA Sanae 50.21 157 *c* iP P 19 16 44.8 +0.5
SNAA pmax pmax
comp=Z,59nm,1.1s
SNAA Sanae 50.21 157 P P 19 16 44.7 +0.5
SVB Belmont 50.47 16 P P 19 16 45.3 -1.5
APG El Apazote 53.21 340 P P 19 17 09.9 +2.5
comp=Z,2.4nm,0.3s,baz=169,slow=9.8,SNR=5.0
RKT Rikitea 54.02 266 eLR LR 19 32 41.3
comp=Z,1µm,29.5s
QSPA South Pole Qui 54.17 180 P P 19 17 14.7 +0.7
NVL N'lazarevskaya 54.98 156 eP P 19 17 19.2 -0.3
NVL pmax pmax
comp=Z,45nm,1.0s
CMIG Matias Romero 56.54 336 P P 19 17 33.1 +1.8
comp=Z,0.9nm,0.3s,baz=142,slow=0.9,SNR=2.2
TEIG Tepich 57.66 344 P P 19 17 40.5 +1.3
comp=Z,8.8nm,0.7s,baz=193,slow=1.2,SNR=7.2
SOR Soroa 59.20 350 P P 19 17 51.0 +1.1
SOR pmax pmax
comp=Z,30nm,1.0s
SOR Soroa 59.20 350 P P 19 17 51.0 +1.1
SOR IAmb IAmb 19 17 58.8
comp=Z,30nm,1.0s
VNDA Vanda 61.80 192 P P 19 18 08.3 +1.2
comp=Z,2.0nm,0.9s,baz=145,slow=5.4,SNR=4.3
VNDA Vanda 61.80 192 P P 19 18 09.1 +2.0
VNDA pmax pmax
comp=Z,15nm,1.2s
VNDA Vanda 61.80 192 P P 19 18 09.1 +2.0
TBI Tubuai 65.52 258 eLR LR 19 37 59.8
comp=Z,2µm,28.0s
833A Chaparral WMA, 68.46 336 P 19 18 53.6
baz=158
PPT2 Papeete2 68.60 263 eLR LR 19 39 25.5
comp=Z,3µm,26.0s
PPT Papeete 68.61 263 LR LR 19 41 03.4
comp=Z,1µm,18.6s,baz=136,slow=29
HKT Hockley 68.88 339‖eP P 19 18 55.3 +2.0
Z47A Carrollton 70.21 347 P P 19 19 01.5 0.0
NATX Nacogdoches 70.27 341 P 19 19 05.3
baz=162
NATX Nacogdoches 70.28 341 P P 19 19 02.8 +0.8
237A Washetta, Mont 70.81 340 P P 19 19 07.6 +2.3
TXAR Lajitas Array 70.90 333 P P 19 19 08.3 +2.4
comp=Z,7.2nm,0.9s,baz=152,slow=8.1,SNR=9.4
TXAR PKPPKP P'P'df 19 47 08.2 +11
comp=Z,0.2nm,0.6s,baz=132,slow=1.9,SNR=3.8
TXAR Lajitas Array 70.90 333 P P 19 19 06.2 +0.2
TXAR Lajitas Array 70.90 333 P P 19 19 06.2 +0.2
PAULI Pauline 70.93 353 P P 19 19 06.0 +0.1
PAULI IAmb IAmb 19 19 17.1
comp=Z,30nm,1.2s
X51A Calhoun 71.04 350 P P 19 19 08.8 +2.2
X51A IAmb IAmb 19 19 15.4
comp=Z,33nm,1.0s
BG3 Lake Jocassee 71.22 352 P P 19 19 07.7 0.0
BG3 IAmb IAmb 19 19 19.1
comp=Z,29nm,1.3s
X48A Hartselle 71.25 348 P P 19 19 09.8 +1.9
WHTX Lake Whitney, 71.27 339 P 19 19 10.7
baz=160
WHTX Lake Whitney, 71.27 339 P P 19 19 09.7 +1.7
MAW Mawson 71.58 164 LR LR 19 51 14.0
comp=Z,3µm,18.1s,baz=232,slow=36
W50A Signal Mountai 71.72 350 P P 19 19 11.9 +1.2
W50A IAmb IAmb 19 19 21.6
comp=Z,31nm,0.9s
Z38A Mt. Pleasant 71.78 341 P P 19 19 12.5 +1.4
SWET Sewanee 71.83 349 P P 19 19 12.9 +1.5
CPCT Cooper Cave 71.86 351 P P 19 19 12.0 +0.4
CPCT IAmb IAmb 19 19 20.1
comp=Z,24nm,1.0s
TKL Tuckaleechee C 71.97 351 P P 19 19 13.4 +1.1
comp=Z,7.6nm,0.8s,baz=144,slow=5.0,SNR=5.0
TKL Tuckaleechee C 71.97 351 P P 19 19 12.9 +0.7
TKL pmax pmax
comp=Z,16nm,1.0s
TKL Tuckaleechee C 71.97 351 P P 19 19 12.9 +0.7
TKL IAmb IAmb 19 19 20.4
comp=Z,16nm,0.9s
X40A Basin Creek Fa 72.43 344 P 19 19 17.5
baz=164
Z35A Perchaven, San 72.47 339 P P 19 19 15.2 0.0
V48A Smith Brothers 72.48 349 P P 19 19 17.2 +1.9
ABTX Abilene, Hawle 72.52 337 P P 19 19 16.5 +0.9
ABTX IAmb IAmb 19 19 26.3
comp=Z,26nm,0.9s
CLTN Cedars of Leba 72.75 349 P P 19 19 18.5 +1.7
T58A Grand View Acr 72.78 356 P 19 19 20.0
baz=176
W41B Gary Mavity, V 72.95 344 P 19 19 19.7
baz=164
WVT Waverly 73.02 348 P 19 19 20.1
baz=168
WVT Waverly 73.02 348 P P 19 19 19.0 +0.6
WVT pmax pmax
comp=Z,47nm,1.2s
WVT Waverly 73.02 348 P P 19 19 19.0 +0.6
WHAR Wooly Hollow 73.07 344 P P 19 19 19.5 +0.7
WHAR IAmb IAmb 19 19 30.1
comp=Z,30nm,0.9s
W39A Magazine 73.33 343 P 19 19 22.4
baz=163
W39A Magazine 73.33 343 P P 19 19 21.8 +1.6
LCAR Lake Charles 73.58 345 P P 19 19 22.8 +1.1
LCAR IAmb IAmb 19 19 31.7
comp=Z,25nm,0.7s
FCAR Ozark Folk Cen 73.61 344 P P 19 19 23.2 +1.3
FCAR IAmb IAmb 19 19 32.2
comp=Z,18nm,0.8s
T47A Sharon Grove 73.75 349 P P 19 19 22.6 -0.1
T47A IAmb IAmb 19 19 30.9
comp=Z,38nm,1.2s
PBMO Poplar Bluff 74.12 346 P P 19 19 25.9 +1.0
PBMO IAmb IAmb 19 19 35.8
comp=Z,28nm,1.1s
U40A Yellville 74.22 344 P 19 19 27.0
baz=164
WMOK Wichita Mounta 74.22 339 P 19 19 28.0
baz=159
U40A Yellville 74.22 344 P P 19 19 26.2 +0.7
U40A IAmb IAmb 19 19 34.5
comp=Z,26nm,1.0s
HHAR Hobbs 74.40 343 P P 19 19 26.9 +0.3
TUL1 Leonard 74.50 342 P 19 19 29.1
baz=162
MGMO Mountain Grove 74.86 345 P P 19 19 29.4 +0.2
MGMO IAmb IAmb 19 19 40.4
comp=Z,34nm,1.4s
AMTX Amarillo 75.25 337 P 19 19 33.6
baz=157
CCM Cathedral Cave 75.52 346 P 19 19 34.7
baz=165
CCM Cathedral Cave 75.52 346 P P 19 19 33.5 +0.5
CCM pmax pmax
comp=Z,40nm,1.0s
CCM Cathedral Cave 75.52 346 P P 19 19 33.5 +0.5
S39A Bolivar 75.61 344 P P 19 19 34.1 +0.6
S39A IAmb IAmb 19 19 44.0
comp=Z,16nm,0.9s
P48A Milroy 75.93 351 P P 19 19 35.5 +0.2
P48A IAmb IAmb 19 19 43.0
comp=Z,42nm,1.1s
R40A Maddies Statio 75.96 345 P P 19 19 37.1 +1.6
R40A IAmb IAmb 19 19 46.4
comp=Z,32nm,1.2s
O49A Covington 76.51 352 P P 19 19 39.6 +1.1
O49A IAmb IAmb 19 19 46.6
comp=Z,26nm,1.0s
LIC Lamto 76.73 72 eP P 19 19 41.0 +0.5
comp=Z,73nm,1.1s
P43A Skaggs, Pawnee 76.73 348 P P 19 19 40.2 +0.4
ANMO Albuquerque 76.96 333 P P 19 19 44.0 +2.5
comp=Z,7.1nm,1.0s,baz=68,slow=6.5,SNR=3.6
ANMO Albuquerque 76.96 333‖eP P 19 19 43.3 +1.8
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO Albuquerque 76.96 333 P P 19 19 41.7 +0.2
ANMO IAmb IAmb 19 19 51.5
comp=Z,20nm,1.1s
TIC Toumodi 77.00 72 eP P 19 19 42.4 +0.4
KIC Kosan Boka 77.03 72 eP P 19 19 42.8 +0.6
comp=Z,47nm,0.9s
P40A Paris 77.10 346 P P 19 19 43.0 +1.1
DBIC Dimbokro 77.14 72 P P 19 19 42.8 0.0
comp=Z,16nm,0.8s,baz=202,slow=5.9,SNR=17
DBIC LR LR 19 49 24.6
comp=Z,906nm,20.9s,baz=254,slow=32
DBIC Dimbokro 77.14 72 P P 19 19 43.3 +0.5
DBIC pmax pmax
comp=Z,30nm,1.0s
DBIC Dimbokro 77.14 72 P P 19 19 43.2 +0.5
DBIC IAmb IAmb 19 19 44.7
comp=Z,30nm,1.0s
HDIL Hopedale 77.58 348 P 19 19 46.5
baz=167
M44A Midewin, Midew 78.20 349 P P 19 19 48.9 +1.0
M44A IAmb IAmb 19 19 56.1
comp=Z,32nm,0.9s
T25A Trinidad 78.21 335 P 19 19 51.4
baz=155
T25A Trinidad 78.21 335 P P 19 19 50.1 +1.6
T25A IAmb IAmb 19 19 58.6
comp=Z,42nm,1.1s
CBKS Cedar Bluff 78.29 340 P 19 19 51.4
baz=159
CBKS Cedar Bluff 78.30 340 P P 19 19 49.6 +0.9
CBKS pmax pmax
comp=Z,25nm,0.7s
CBKS Cedar Bluff 78.30 340 P P 19 19 49.5 +0.9
CBKS IAmb IAmb 19 19 58.9
comp=Z,25nm,0.7s
N38A Joes South For 78.56 345 P P 19 19 50.6 +0.6
BC3 Big Chuckawall 79.58 326 P 19 19 58.3
baz=147
MVCO Mesa Verde 79.73 332 P 19 20 00.4
baz=152
TSUM Tsumeb 79.97 106 P P 19 19 59.0 +0.5
PFO Pinyon Flats O 80.00 325 P 19 20 02.2
baz=146
PFO Pinyon Flats O 80.00 325 P P 19 20 00.3 +2.1
comp=Z,5.7nm,0.9s,baz=289,slow=1.3,SNR=3.0
PFO Pinyon Flats O 80.00 325⇑eP P 19 20 00.6 +2.3
PFO pmax pmax
comp=Z,15nm,1.1s
JFWS Jewell Farm 80.04 348 P 19 20 00.9
baz=166
JFWS Jewell Farm 80.04 348 P P 19 19 58.4 +0.3
JFWS pmax pmax
comp=Z,35nm,1.1s
JFWS Jewell Farm 80.04 348 P P 19 19 58.4 +0.3
JFWS IAmb IAmb 19 20 06.5
comp=Z,35nm,1.1s
Q24A Divide 80.11 336 P 19 20 02.1
baz=154
BOSA Boshof 80.32 118 P P 19 19 59.6 -0.7
comp=Z,22nm,0.9s,baz=226,slow=4.6,SNR=17
BOSA Boshof 80.32 118 P P 19 20 00.1 -0.2
BOSA pmax pmax
comp=Z,58nm,1.2s
BOSA Boshof 80.32 118 P P 19 20 00.1 -0.2
SADO Sadowa 80.61 356 P P 19 20 02.0 +1.0
comp=Z,7.4nm,1.1s,baz=207,slow=11,SNR=2.5
PV13 Radium Mtn., P 80.69 333 P P 19 20 02.9 +0.9
PV13 IAmb IAmb 19 20 14.3
comp=Z,26nm,1.2s
PV02 Paradox Valley 80.70 333 P P 19 20 03.5 +1.5
PV02 IAmb IAmb 19 20 13.9
comp=Z,21nm,1.1s
PV05 Paradox Valley 80.72 332 P P 19 20 02.7 +0.6
PV03 Paradox Valley 80.78 333 P P 19 20 04.2 +1.8
PV18 Skein Mesa, Pa 80.80 333 P P 19 20 03.1 +0.5
PV16 Nyswonger Mesa 80.86 333 P P 19 20 02.5 -0.3
SMCO Snowmass 80.92 334 P P 19 20 04.5 +1.1
SMCO IAmb IAmb 19 20 16.9
comp=Z,52nm,1.4s
PV04 Paradox Valley 80.92 333 P P 19 20 03.5 +0.3
ISCO Idaho Springs 81.01 336 P 19 20 06.3
baz=154
ISCO Idaho Springs 81.01 336 P P 19 20 04.9 +1.1
ISCO pmax pmax
comp=Z,15nm,1.3s
ISCO Idaho Springs 81.01 336 P P 19 20 04.9 +1.1
KNB Kanab 81.27 329 P P 19 20 06.1 +1.1
KNB pmax pmax
comp=Z,24nm,1.0s
KNB Kanab 81.27 329 P P 19 20 06.1 +1.1
KNB IAmb IAmb 19 20 15.6
comp=Z,24nm,1.0s
I37A Lemond, Waseca 81.69 346 P P 19 20 08.2 +1.3
I37A IAmb IAmb 19 20 15.4
comp=Z,42nm,1.1s
SHPR Sheep Range 81.83 327 P P 19 20 07.9 -0.1
SHPR IAmb IAmb 19 20 17.9
comp=Z,27nm,1.4s
MTPU Mount Pierson 81.89 330 P P 19 20 09.5 +1.0
N23A Red Feather La 82.11 336 P 19 20 12.4
baz=154
LRMC Laurel Mtn Rad 82.11 325 P 19 20 12.9
baz=145

ECSD	**EROS Data Cent**	**82.11**	**343**	P			19 20 11.2	
	baz=161							
ECSD	**EROS Data Cent**	**82.11**	**343**	P		**P**	**19 20 10.7**	**+1.6**
ECSD				IAmb		IAmb	19 20 18.5	
	comp=Z,32nm,0.9s							
SRU	**San Rafael Swe**	**82.16**	**332**	P		**P**	**19 20 11.0**	**+1.3**
SRU				pmax		pmax		
	comp=Z,18nm,1.0s							
SRU	**San Rafael Swe**	**82.16**	**332**	P		**P**	**19 20 11.0**	**+1.3**
SRU				IAmb		IAmb	19 20 21.2	
	comp=Z,18nm,1.0s							
O20A	**White River Ci**	**82.22**	**334**	P		**P**	**19 20 10.4**	**+0.5**
Q16A	**Castle Valley**	**82.24**	**331**	P		**P**	**19 20 11.8**	**+1.7**
Q16A				IAmb		IAmb	19 20 18.7	
	comp=Z,41nm,1.5s							
MSU	**Marysvale**	**82.29**	**331**	P		**P**	**19 20 10.6**	**+0.2**
MSU	**Marysvale**	**82.29**	**331**	P		**P**	**19 20 10.6**	**+0.2**
PHWY	**Pilot Hill**	**82.32**	**336**	P		**P**	**19 20 09.6**	**-1.0**
PRN	**Pahroc Range**	**82.54**	**328**	P		**P**	**19 20 11.5**	**-0.2**
PRN				IAmb		IAmb	19 20 22.3	
	comp=Z,36nm,1.2s							
P17A	**Butcher Ranch,**	**82.56**	**332**	P		**P**	**19 20 12.8**	**+1.0**
P17A				IAmb		IAmb	19 20 23.5	
	comp=Z,16nm,0.9s							
TMUT	**Trail Mountain**	**82.58**	**332**	P		**P**	**19 20 13.3**	**+1.3**
TMUT				IAmb		IAmb	19 20 24.0	
	comp=Z,20nm,1.0s							
E46A	**Sault Ste Mari**	**82.61**	**353**	P		**P**	**19 20 10.5**	**-1.1**
ISA	**Isabella, Lake**	**82.63**	**325**	P			19 20 15.1	
	baz=145							
LBTB	**Lobatse**	**82.67**	**115**	P		**P**	**19 20 13.0**	**+0.2**
LBTB				pmax		pmax		
	comp=Z,50nm,1.2s							
LBTB	**Lobatse**	**82.67**	**115**	P		**P**	**19 20 13.0**	**+0.2**
D55A	**Sainte-Anne-du**	**82.73**	**359**	P			19 20 13.5	
	baz=178							
KOWA	**Kowa**	**82.74**	**66**	P		**P**	**19 20 13.3**	**+0.3**
E43A	**Lone Tree Farm**	**82.94**	**351**	P		**P**	**19 20 14.8**	**+1.5**
E43A				IAmb		IAmb	19 20 22.6	
	comp=Z,26nm,1.2s							
PSUT	**Pine Spring**	**82.99**	**329**	P		**P**	**19 20 15.4**	**+1.4**
PSUT				IAmb		IAmb	19 20 26.9	
	comp=Z,17nm,1.1s							
VES	**Vestal, Richgr**	**83.06**	**324**	P			19 20 18.4	
	baz=144							
RDMU	**Red Mountain**	**83.08**	**333**	P		**P**	**19 20 15.1**	**+0.6**
RDMU				IAmb		IAmb	19 20 24.0	
	comp=Z,24nm,1.1s							
MPU	**Maple Canyon**	**83.37**	**332**	P		**P**	**19 20 16.2**	**+0.2**
NLU	**North Lily Min**	**83.49**	**331**	P		**P**	**19 20 16.4**	**-0.2**
NLU				IAmb		IAmb	19 20 26.8	
	comp=Z,18nm,1.1s							
F36A	**Milaca**	**83.49**	**346**	P		**P**	**19 20 17.5**	**+1.4**
F36A				IAmb		IAmb	19 20 23.8	
	comp=Z,30nm,1.4s							
R11A	**Troy Canyon, C**	**83.56**	**328**	P			19 20 20.0	
	baz=147							
JLU	**Jordanelle**	**83.81**	**332**	P		**P**	**19 20 18.0**	**-0.3**
JLU				IAmb		IAmb	19 20 29.8	
	comp=Z,14nm,1.0s							
DUG	**Dugway, Tooele**	**83.98**	**331**	P			19 20 22.4	
	baz=149							
DUG	**Dugway, Tooele**	**83.98**	**331**	P		**P**	**19 20 19.5**	**+0.4**
DUG				pmax		pmax		
	comp=Z,35nm,1.2s							
DUG	**Dugway, Tooele**	**83.98**	**331**	P		**P**	**19 20 19.4**	**+0.4**
TPH	**Tonopah**	**84.04**	**327**	P		**P**	**19 20 19.6**	**+0.1**
TPH				pmax		pmax		
	comp=Z,113nm,1.2s							
TPH	**Tonopah**	**84.04**	**327**	P		**P**	**19 20 19.6**	**+0.1**
MLAC	**Mammoth, Mammo**	**84.40**	**326**	P			19 20 24.9	
	baz=145							
HWUT	**Hardware Ranch**	**84.72**	**332**	P		**P**	**19 20 24.1**	**+1.3**
LHV	**Little Huntoon**	**84.76**	**326**	P		**P**	**19 20 23.3**	**+0.5**
LHV				IAmb		IAmb	19 20 44.6	
	comp=Z,15nm,1.0s							
NVAR	**Mina Array Bea**	**84.82**	**326**	P		**P**	**19 20 25.2**	**+1.8**
	comp=Z,3.7nm,0.9s,baz=144,slow=5.5,SNR=10							
NVAR	**Mina Array Bea**	**84.82**	**326**	P		**P**	**19 20 24.0**	**+0.5**
PD31	**Pinedale Array**	**85.01**	**334**	P		**P**	**19 20 24.7**	**+0.5**
PD31				IAmb		IAmb	19 20 32.7	
	comp=Z,22nm,1.4s							
PDAR	**Pinedale Array**	**85.01**	**334**	P		**P**	**19 20 25.8**	**+1.5**
	comp=Z,3.1nm,1.1s,baz=66,slow=41,SNR=5.6							
PDAR	**Pinedale Array**	**85.01**	**334**	P		**P**	**19 20 25.1**	**+0.9**
EYMN	**Ely**	**85.14**	**348**	P			19 20 25.9	
	baz=166							
EYMN	**Ely**	**85.14**	**348**	P		**P**	**19 20 24.9**	**+0.4**
KVN	**Kaiserville**	**85.24**	**327**	P		**P**	**19 20 26.2**	**+0.7**
KVN				pmax		pmax		
	comp=Z,12nm,1.2s							
KVN	**Kaiserville**	**85.24**	**327**	P		**P**	**19 20 26.2**	**+0.7**
HVU	**Hansel Valley**	**85.33**	**332**	P		**P**	**19 20 26.8**	**+1.0**
HVU				pmax		pmax		
	comp=Z,17nm,1.0s							
HVU	**Hansel Valley**	**85.33**	**332**	P		**P**	**19 20 26.8**	**+1.0**
HVU				IAmb		IAmb	19 20 34.5	
	comp=Z,17nm,1.0s							
ELK	**Elko**	**85.42**	**330**	P		**P**	**19 20 27.4**	**+1.0**
ELK				pmax		pmax		
	comp=Z,8.0nm,1.1s							
ELK	**Elko**	**85.42**	**330**	P		**P**	**19 20 27.4**	**+1.0**
B35A	**Bob, Littlefor**	**85.93**	**347**	P		**P**	**19 20 28.7**	**+0.3**
B35A				IAmb		IAmb	19 20 36.2	
	comp=Z,20nm,1.2s							
LOHW	**Long Hollow**	**86.11**	**334**	P		**P**	**19 20 30.7**	**+0.9**
TOA0	**Torodi Ar. Sit**	**86.20**	**71**	P		**P**	**19 20 30.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**86.20**	**71**	P		**P**	**19 20 30.4**	**-0.2**
	comp=Z,9.0nm,1.0s,baz=247,slow=4.5,SNR=20							
TORD				LR		LR	19 57 12.3	
	comp=Z,2µm,20.6s,baz=275,slow=34							
TORD	**Torodi Ar. Bea**	**86.20**	**71**	P		**P**	**19 20 29.9**	**-0.7**
TORD				IAmb		IAmb	19 20 39.5	
	comp=Z,26nm,1.3s							
AGMN	**Agassiz Nation**	**86.29**	**345**	P		**P**	**19 20 31.1**	**+0.9**
AGMN				IAmb		IAmb	19 20 38.3	
	comp=Z,17nm,1.1s							
FLWY	**Flagg Ranch**	**86.56**	**334**	P		**P**	**19 20 32.3**	**+0.4**
FLWY				IAmb		IAmb	19 20 46.2	
	comp=Z,27nm,1.1s							
MDND	**Maddock**	**86.69**	**343**	P			19 20 35.8	
	baz=159							
YMR	**Madison River**	**87.16**	**334**	P		**P**	**19 20 35.4**	**+0.5**
YMR				IAmb		IAmb	19 20 44.9	
	comp=Z,27nm,1.1s							
YHH	**Holmes Hill**	**87.23**	**335**	P		**P**	**19 20 37.9**	**+2.6**
YHH				IAmb		IAmb	19 20 45.6	
	comp=Z,19nm,1.1s							
HLID	**Hailey**	**87.48**	**332**	P			19 20 39.1	
	baz=148							
HLID	**Hailey**	**87.48**	**332**	P		**P**	**19 20 36.9**	**+0.6**
HLID				IAmb		IAmb	19 20 45.9	
	comp=Z,18nm,1.2s							
MCMT	**McKenzie Canyo**	**87.97**	**333**	P		**P**	**19 20 42.0**	**+3.2**
ULM	**Lac du Bonnet**	**88.15**	**346**	P		**P**	**19 20 39.9**	**+0.8**
	comp=Z,9.2nm,0.9s,baz=192,slow=2.6,SNR=11							
ULM	**Lac du Bonnet**	**88.15**	**346**	P		**P**	**19 20 39.8**	**+0.6**
ULM				pmax		pmax		
	comp=Z,19nm,1.0s							
ULM	**Lac du Bonnet**	**88.15**	**346**	P		**P**	**19 20 39.8**	**+0.6**
ULM				IAmb		IAmb	19 20 47.5	
	comp=Z,19nm,0.9s							
BOZ	**Bozeman (W)**	**88.20**	**334**	P			19 20 42.9	
	baz=150							
WVOR	**Wild Horse Val**	**88.24**	**328**	P		**P**	**19 20 42.1**	**+2.1**
WVOR				pmax		pmax		
	comp=Z,14nm,1.3s							
WVOR	**Wild Horse Val**	**88.24**	**328**	P		**P**	**19 20 42.1**	**+2.1**
WVOR				IAmb		IAmb	19 20 50.0	
	comp=Z,14nm,1.2s							
DGMT	**Dagmar**	**88.44**	**340**	P			19 20 42.8	
	baz=156							
DGMT	**Dagmar**	**88.44**	**340**	P		**P**	**19 20 42.4**	**+1.8**
MOD	**Modoc Plateau**	**88.53**	**327**	P		**P**	**19 20 42.9**	**+1.5**
MOD				IAmb		IAmb	19 20 54.0	
	comp=Z,21nm,1.2s							
J08A	**Circle Bar Ran**	**88.93**	**329**	P		**P**	**19 20 44.2**	**+1.1**
YBH	**Yreka Blue Hor**	**89.47**	**326**	P		**P**	**19 20 47.3**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=151,slow=13,SNR=2.6							
YBH	**Yreka Blue Hor**	**89.47**	**326**	P		**P**	**19 20 46.4**	**+0.7**
YBH				pmax		pmax		
	comp=Z,9.0nm,1.3s							
YBH	**Yreka Blue Hor**	**89.47**	**326**	P		**P**	**19 20 46.4**	**+0.7**
BMO	**Blue Mountains**	**89.69**	**331**	P		**P**	**19 20 46.8**	**+0.1**
BMO				pmax		pmax		
	comp=Z,15nm,1.5s							
BMO	**Blue Mountains**	**89.69**	**331**	P		**P**	**19 20 46.8**	**+0.1**
I07A	**Izee**	**89.96**	**329**	P		**P**	**19 20 49.7**	**+1.8**
I07A				IAmb		IAmb	19 20 57.5	
	comp=Z,14nm,1.1s							
J05D	**Fort Rock, OR**	**90.05**	**327**	P			19 20 52.2	
	baz=143							
WALA	**Waterton Lakes**	**91.97**	**335**	P		**P**	**19 20 58.1**	**+0.9**
WALA				IAmb		IAmb	19 21 09.0	
	comp=Z,11nm,1.1s							
ESDC	**Sonseca Array**	**99.00**	**47**	P		P	19 21 29.3	-0.1
	comp=Z,1.2nm,1.0s,baz=258,slow=3.8,SNR=2.9							
ESDC	**Sonseca Array**	**99.00**	**47**	P		P	19 21 29.3	-0.1
YKA	**Yellowknife Ar**	**103.58**	**342**	Pdiff		**Pdif**	**19 21 52.8**	**+3.6**
	comp=Z,0.6nm,0.8s,baz=137,slow=5.2,SNR=5.9							
YKA				PKKPbc		**PKKPbc**	**19 37 48.4**	**+5.1**
	comp=Z,0.1nm,0.4s,baz=325,slow=3.6,SNR=3.6							
ASAR	**Alice Springs**	**115.10**	**208**	PKP		**PKiKP**	**19 26 29.9**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=94,slow=1.2,SNR=2.0							
ASAR				PKKPbc		**PKKPab**	**19 37 10.2**	**-4.1**
	comp=Z,1.2nm,0.9s,baz=340,slow=3.6,SNR=5.2							
ILAR	**Eielson Array**	**115.41**	**333**	PKKPbc		PKKPbc	19 37 09.2	+4.3
	comp=Z,0.2nm,0.6s,baz=85,slow=11,SNR=2.4							
WRA	**Warramunga Arr**	**118.28**	**210**	PKP		**PKPdf**	**19 26 37.2**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=164,slow=1.8,SNR=2.1							
BURAR	**Bucovina Array**	**121.12**	**51**	PKPdf		**PKPdf**	**19 26 41.6**	**+0.3**
BRTR	**Keskin Array B**	**124.03**	**63**	PKP		**PKPdf**	**19 26 46.0**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=168,slow=2.3,SNR=5.0							
BRTR	**Keskin Array B**	**124.03**	**63**	PKIKP		**PKPdf**	**19 26 45.5**	**-1.7**
BRTR	**Keskin Array B**	**124.03**	**63**			**PKPdf**	**19 26 45.5**	**-1.7**
AKASG	**Malin Array Be**	**124.60**	**49**	PKP		**PKPdf**	**19 26 46.3**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=245,slow=3.7,SNR=1.5							
FINES	**FINESS Array B**	**125.47**	**36**	PKP		**PKPdf**	**19 26 47.3**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=139,slow=41,SNR=2.3							
RAYN	**Ar Rayn**	**126.56**	**86**	PKIKP		**PKPdf**	**19 26 52.8**	**+0.4**
RAYN	**Ar Rayn**	**126.56**	**86**	PKPdf		**PKPdf**	**19 26 52.8**	**+0.4**
OBN	**Obninsk**	**129.88**	**45**	*i* PKIKP		**PKiKP**	**19 26 59.1**	**+0.7**
OBN				*i*			19 29 10.3	
OBN				*e*			19 34 09.3	
OBN				*e*PS		**PS**	**19 39 14.9**	**-5.4**
OBN				pmax		pmax		
	comp=Z,11nm,1.2s							
KIV	**Kislovodsk**	**131.73**	**60**	*e*PKIKP		**PKPdf**	**19 27 02.4**	**+0.7**
KIV				pmax		pmax		
	comp=Z,26nm,1.1s							
KBZ	**Khabaz**	**131.83**	**60**	*i* PKIKP		**PKPdf**	**19 27 02.6**	**+0.9**
BILL	**Bilibino**	**134.07**	**333**	*i* PKIKP		**PKiKP**	**19 27 06.7**	**+0.1**
BILL				pmax		pmax		
	comp=Z,6.0nm,1.2s							
PRGR	**Permogore**	**134.80**	**36**	*e*PKIKP		**PKPdf**	**19 27 05.3**	**-1.4**
PRGR				pmax		pmax		
	comp=Z,14nm,0.9s							
MAK	**Makhachkala**	**134.94**	**62**	*e*P		**Pdif**	**19 24 05.5**	**-3.6**
MAK				*i*			19 27 06.0	
MAK				*e*			19 29 38.4	
MAK				*e*			19 34 15.3	
MAK				*e*SS		SS	19 47 34.2	-2.4
SEY	**Seymchan**	**141.10**	**328**	*e*PKIKP		**PKPdf**	**19 27 18.9**	**+0.6**
GEYT	**Alibeck**	**141.83**	**72**	PKhKP		PKPpre	19 27 15.5	
	comp=Z,0.6nm,0.4s,baz=306,slow=50,SNR=2.1							
ARU	**Arti**	**142.21**	**42**	PKhKP		PKPpre	19 27 14.5	
	comp=Z,1.5nm,0.8s,baz=32,slow=1.9,SNR=7.9							
ARU	**Arti**	**142.21**	**42**	*i* PKHKP		PKPpre	19 27 15.6	
ARU	**Arti**	**142.21**	**42**			PKPpre	19 27 15.4	
TIXI	**Tiksi**	**142.46**	**348**	PKhKP		PKPpre	19 27 16.2	
	comp=Z,1.3nm,0.3s,baz=35,slow=1.0,SNR=8.5							
TIXI	**Tiksi**	**142.46**	**348**	*e*PKIKP		**PKPdf**	**19 27 21.2**	**+0.7**
TIXI	**Tiksi**	**142.46**	**348**			PKPpre	19 27 16.6	
AKTO	**Aktyubinsk**	**142.71**	**52**	PKhKP		PKPpre	19 27 17.1	
	comp=Z,0.6nm,0.4s,baz=334,slow=4.5,SNR=2.0							
MA2	**Magadan**	**143.01**	**324**	PKhKP		PKPpre	19 27 17.5	
MA2	**Magadan**	**143.01**	**324**	PKIKP		PKPab	19 27 18.3	+1.2
MA2	**Magadan**	**143.01**	**324**			PKPpre	19 27 18.2	
ABKAR	**Akbulak array**	**144.03**	**54**			PKPpre	19 27 21.0	
ABKAR	**Akbulak array**	**144.03**	**54**			PKPpre	19 27 21.9	
HRA	**Herat**	**144.22**	**79**			**PKPab**	**19 27 23.2**	**+0.3**
GSI	**Gununguitoli**	**144.48**	**165**	PKPdf		**PKPab**	**19 27 24.7**	**+0.6**
KSM	**Kuching**	**145.37**	**187**			**PKPbc**	**19 27 26.9**	**-0.3**
MYKOM	**Kota Tinggi**	**145.82**	**176**	PKPdf		**PKPdf**	**19 27 26.1**	**-2.1**
RPSI	**Rantau Prapat**	**146.10**	**167**			**PKPdf**	**19 27 27.8**	**-0.9**
RPSI	**Rantau Prapat**	**146.10**	**167**			**PKPdf**	**19 27 28.9**	**+0.3**
PSI	**Prapat**	**146.20**	**167**	PKPbc		**PKPdf**	**19 27 28.9**	**-0.1**
	comp=Z,14nm,0.9s,baz=180,slow=4.4,SNR=11							
PSI	**Prapat**	**146.20**	**167**	PKIKP		**PKPdf**	**19 27 27.8**	**-1.2**
PSI							19 27 28.9	
POO	**Poona**	**146.51**	**113**	*e*P		**PKPdf**	**19 27 23.0**	**-6.2**
IPM	**Ipoh**	**148.19**	**170**	PKPdf		**PKPdf**	**19 27 31.4**	**-0.8**
KULM	**Kulim**	**148.93**	**169**			**PKPdf**	**19 27 33.3**	**0.0**
HYB	**Hyderabad**	**149.21**	**120**	*i* PKP		**PKPbc**	**19 27 37.0**	**-0.9**
BRVK	**Borovoye**	**149.65**	**45**	PKHKP		PKPpre	19 27 33.6	
BRVK	**Borovoye**	**149.65**	**45**	PKPdf		**PKPdf**	**19 27 33.6**	**+0.3**
KBL	**Kabul**	**149.69**	**82**	PKIKP		**PKPdf**	**19 27 32.1**	**-2.1**
KBL	**Kabul**	**149.69**	**82**			**PKPdf**	**19 27 32.1**	**-2.1**
BVAR	**Borovoye Array**	**149.72**	**45**	PKP		**PKPdf**	**19 27 32.9**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=181,slow=7.4,SNR=19							
BVAR				PKPbc		**PKPbc**	**19 27 38.3**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=198,slow=9.3,SNR=19							
YAK	**Yakutsk**	**150.17**	**338**	PKPbc		**PKPbc**	**19 27 38.8**	**0.0**
	comp=Z,17nm,0.8s,baz=250,slow=0.3,SNR=8.7							
YAK	**Yakutsk**	**150.17**	**338**	*e*PKIKP		**PKPbc**	**19 27 39.1**	**+0.3**
YAK				*e*			19 31 19.9	
YAK				*e*			19 34 44.4	
YAK				pmax		pmax		
	comp=Z,51nm,1.0s							
YAK				pmax		pmax		
	comp=E,5.0nm,1.3s							
YAK				pmax		pmax		
	comp=N,5.0nm,1.1s							
YAK				pmax		pmax		
	comp=Z,55nm,2.5s							
YAK				pmax		pmax		
	comp=N,37nm,2.3s							
YAK				pmax		pmax		
	comp=E,24nm,2.8s							
YAK	**Yakutsk**	**150.17**	**338**	PKPdf		**PKPdf**	**19 27 33.1**	**-0.6**
YSS	**Yuzh-Sakhalins**	**150.85**	**303**	*e*PKIKP		**PKiKP**	**19 27 42.3**	**+0.7**
YSS				pmax		pmax		
	comp=Z,10.0nm,1.0s							
JKA	**Kamikawa-asahi**	**151.26**	**297**			**PKPdf**	**19 27 35.2**	**-0.9**
ASAJ	**Asahikawa**	**151.26**	**297**	PKPbc		**PKPbc**	**19 27 43.0**	**+0.9**
	comp=Z,8.4nm,0.9s,baz=246,slow=12,SNR=4.8							
ASAJ	**Asahikawa**	**151.26**	**297**	PKIKP		**PKPdf**	**19 27 35.2**	**-0.9**
IUG	**Iuzhnay**	**151.38**	**67**	*e*PKP		**PKPdf**	**19 27 35.2**	**-1.3**
	baz=67							
IUG				*e*PKPbc		**sPKPdf**	**19 27 41.6**	**+1.2**
	baz=67							
IUG				*e*PKPab		**PKPab**	**19 27 49.3**	**-1.5**
	baz=67							
IUG	**Iuzhnay**	**151.38**	**67**	*e*PKIKP		**PKPdf**	**19 27 35.1**	**-1.3**
KK31	**Karatay Array**	**151.71**	**65**	PKIKP		**PKPbc**	**19 27 42.9**	**-0.2**
KK31	**Karatay Array**	**151.71**	**65**			**PKPbc**	**19 27 42.9**	**-0.2**
KKAR	**Karatay Array**	**151.71**	**65**	PKIKP		**PKPbc**	**19 27 42.8**	**-0.4**
KKAR							19 27 42.8	
KKAR	**Karatay Array**	**151.71**	**65**			**PKPbc**	**19 27 42.8**	**-0.4**
BRZS	**Berezniki**	**152.04**	**50**	*e*PKPbc		**PKPbc**	**19 27 43.5**	**-0.2**
	baz=50							
BRZS				*e*PKPab		**PKPab**	**19 27 52.0**	**-1.2**
	baz=50							
BRZS	**Berezniki**	**152.04**	**50**	*e*PKIKP		**PKPbc**	**19 27 43.4**	**-0.2**
DZA	**Taraz**	**152.32**	**65**	*e*PKP		**PKPdf**	**19 27 37.3**	**-0.5**
	baz=65							
DZA				*e*PKPbc		**PKPbc**	**19 27 44.8**	**+0.2**
	baz=65							
DZA	**Taraz**	**152.32**	**65**	*e*PKIKP		**PKPdf**	**19 27 37.3**	**-0.5**
NIL	**Nilore**	**152.86**	**85**	PKIKP		**PKPbc**	**19 27 46.0**	**0.0**
NIL	**Nilore**	**152.86**	**85**			**PKPbc**	**19 27 46.0**	**0.0**
BTLS	**Baital**	**154.06**	**60**	*i* PKPab		**PKPab**	**19 28 01.5**	**-0.4**
	baz=60							
BTLS	**Baital**	**154.06**	**60**	*i* PKP2		**PKPab**	**19 28 01.5**	**-0.4**
MJAR	**Matsushiro Arr**	**154.32**	**281**	PKPab		**PKPab**	**19 28 01.4**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=116,slow=4.0,SNR=2.0							
AAK	**Ala-Archa**	**154.66**	**65**	PKP		**PKPdf**	**19 27 41.1**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=61,slow=1.0,SNR=5.9							
AAK				PKPbc		**PKPbc**	**19 27 49.6**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=221,slow=3.5,SNR=17							
AAK	**Ala-Archa**	**154.66**	**65**	PKIKP		**PKPdf**	**19 27 42.0**	**+0.7**
AAK	**Ala-Archa**	**154.66**	**65**			**PKPdf**	**19 27 42.0**	**+0.7**
KURBB	**Kurchatov Arra**	**155.31**	**45**	PKP		**PKPdf**	**19 27 40.8**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=296,slow=2.1,SNR=7.1							
KURBB				PKPbc		**sPKPdf**	**19 27 49.3**	**+3.7**
	comp=Z,2.3nm,0.8s,baz=292,slow=2.4,SNR=11							
KSH	**Kashi**	**155.86**	**73**	PKP		**PKPdf**	**19 27 42.9**	**-0.1**
KSH				PP		**PP**	**19 31 45.0**	**-2.6**
KSH				SKKS			19 38 39.6	
KSH				AMB		AMB		
	comp=Z,1µm,7.8s							
MDOK	**Medeo**	**156.47**	**64**	*e*PKP		**PKPdf**	**19 27 42.7**	**-1.0**
	baz=64							
MDOK	**Medeo**	**156.47**	**64**	*e*PKIKP		**PKPdf**	**19 27 42.7**	**-1.0**
ZAA0	**Zalesovo Array**	**156.71**	**33**	PKPdf		**PKPdf**	**19 27 42.9**	**-0.6**
ZALV	**Zalesovo Beam**	**156.71**	**33**	PKP		**PKPdf**	**19 27 43.2**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=298,slow=3.2,SNR=14							
ZALV				PKPab		**PKPab**	**19 28 13.3**	**+0.5**
	comp=Z,6.2nm,0.8s,baz=292,slow=4.7,SNR=5.7							
ZALV	**Zalesovo Beam**	**156.71**	**33**	PKIKP		**PKPdf**	**19 27 42.4**	**-1.0**
ZALV	**Zalesovo Beam**	**156.71**	**33**	PKPdf		**PKPdf**	**19 27 42.4**	**-1.0**
ZEA	**Zeya**	**157.07**	**327**	*e*PKP2		**PKPab**	**19 28 21.4**	**+7.0**
ZEA				pmax		pmax		
	comp=Z,10.0nm,1.1s							
KLR	**Kul'dur**	**157.24**	**313**	PKP		**PKPdf**	**19 27 45.2**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=146,slow=15,SNR=2.2							
KPKS	**Kokpek**	**157.61**	**62**	*e*PKP		**PKPdf**	**19 27 44.2**	**-0.9**
	baz=62							
KPKS	**Kokpek**	**157.61**	**62**	*e*PKIKP		**PKPdf**	**19 27 44.1**	**-0.9**
BOD	**Bodaibo**	**157.64**	**349**	*e*PKP2		**PKPab**	**19 28 16.7**	**0.0**
BOD				pmax		pmax		
	comp=Z,18nm,1.3s							
UZB	**Uzynbulak**	**157.90**	**63**	*e*PKP		**PKPdf**	**19 27 45.0**	**-0.5**
	baz=63							
UZB	**Uzynbulak**	**157.90**	**63**	*e*PKIKP		**PKPdf**	**19 27 45.0**	**-0.5**
SHLS	**Shalkode**	**158.22**	**63**	*e*PKP		**PKPdf**	**19 27 44.6**	**-1.3**
	baz=63							
SHLS	**Shalkode**	**158.22**	**63**	*e*PKIKP		**PKPdf**	**19 27 44.6**	**-1.3**
USRK	**Ussuriysk Ar.**	**158.80**	**300**	PKPab		**PKPab**	**19 28 24.8**	**+2.6**
	comp=Z,0.6nm,0.5s,baz=173,slow=28,SNR=3.0							
MAKZ	**Makanchi**	**158.94**	**52**	PKIKP		**PKPdf**	**19 27 45.9**	**-0.6**
MAKZ	**Makanchi**	**158.94**	**52**	PKPdf		**PKPdf**	**19 27 45.9**	**-0.6**
MK31	**Makanchi Array**	**159.14**	**52**	PKIKP		**PKPdf**	**19 27 46.5**	**-0.2**
MK31	**Makanchi Array**	**159.14**	**52**			**PKPdf**	**19 27 46.5**	**-0.2**
MKAR	**Makanchi Array**	**159.14**	**52**	PKP		**PKPdf**	**19 27 46.7**	**0.0**
	comp=Z,1.8nm,0.8s,baz=277,slow=1.0,SNR=20							
MKAR				PKPab		**PKPab**	**19 28 23.2**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=289,slow=3.7,SNR=7.7							
MKAR				PP		**PP**	**19 32 05.2**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=295,slow=6.6,SNR=3.5							
MKAR	**Makanchi Array**	**159.14**	**52**	PKIKP		**PKPdf**	**19 27 48.0**	**+1.3**
MKAR	**Makanchi Array**	**159.14**	**52**			**PKPdf**	**19 27 48.0**	**+1.3**
GKN	**Gorkha**	**159.99**	**108**	*e*P		**PKPab**	**19 28 27.6**	**-0.5**
	comp=Z,156nm,1.2s							
GKN	**Gorkha**	**159.99**	**108**	*e*P		**PKPab**	**19 28 27.7**	**-0.4**
	comp=Z,156nm,1.2s							
DMN	**Daman**	**160.16**	**109**	*e*P		**PKPab**	**19 28 28.9**	**-0.1**
	comp=Z,115nm,1.1s							
DMN	**Daman**	**160.16**	**109**	*e*P		**PKPab**	**19 28 29.1**	**+0.1**
	comp=Z,115nm,1.1s							
PKIN	**Phulchoki**	**160.37**	**110**	*e*P		**PKPab**	**19 28 28.9**	**-1.0**
	comp=Z,120nm,1.5s			

H03S3	**Juan Fernandez**	**4.91**	**296**	T	T	19 17 47.6	
	baz=117,slow=74,SNR=196						
H03S2	**Juan Fernandez**	**4.92**	**296**	T	T	19 17 45.6	
	baz=117,slow=74,SNR=345						
PLCA	**Paso Flores**	**5.19**	**153**	Pn	**Pn**	**19 12 52.9**	**+0.5**
	1.6nm,0.3s,baz=13,slow=18,SNR=1.2						
PLCA				Lg	Lg	19 14 11.4	
	6.0nm,0.3s,baz=283,slow=10,SNR=3.1						
CO02	**Combarbal**	**5.37**	**25**	Pn	**Pn**	**19 12 54.0**	**-0.9**
CO03	**El Pedregal**	**5.81**	**26**	Pn	**Pn**	**19 13 00.1**	**-0.8**
AC02	**Maricunga**	**10.02**	**24**	Pn	**Pn**	**19 13 58.1**	**-0.9**
LPAZ	**La Paz**	**20.36**	**15**	P	**P**	**19 16 13.2**	**+1.4**
	4.4nm,0.7s,baz=180,slow=8.6,SNR=4.6						
LPAZ	**La Paz**	**20.36**	**15**	IAmb	IAmb	19 16 26.6	
	comp=Z,11nm,0.8s						
SIV	**San Ignacio**	**22.96**	**32**	P	**P**	**19 16 40.0**	**+0.7**
	comp=Z,8.1nm,0.9s,baz=236,slow=12,SNR=4.9						
PTGA	**Pitinga**	**37.43**	**23**	P	**P**	**19 18 48.6**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=180,slow=7.1,SNR=1.8						
SDV	**Santo Domingo**	**44.86**	**4**	LR	LR	19 37 25.6	
	comp=Z,3µm,18.4s,baz=178,slow=35						
SNAA	**Sanae**	**50.12**	**157**	P	**P**	**19 20 29.6**	**+0.1**
	comp=Z,6.7nm,1.0s,baz=223,slow=6.2,SNR=4.4						
QSPA	**South Pole Qui**	**54.11**	**180**	P	**P**	**19 20 58.4**	**-1.0**
QSPA				IAmb	IAmb	19 21 08.3	
	comp=Z,12nm,1.1s						
TEIG	**Tepich**	**57.74**	**344**	P	**P**	**19 21 25.2**	**-0.5**
	comp=Z,5.6nm,0.6s,baz=240,slow=13,SNR=4.5						
TX32	**Lajitas Array**	**70.98**	**332**	P	**P**	**19 22 53.4**	**+1.0**
TX32				IAmb	IAmb	19 23 08.6	
	comp=Z,4.1nm,1.1s						
TXAR	**Lajitas Array**	**70.98**	**332**	P	**P**	**19 22 53.3**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=152,slow=8.2,SNR=5.7						
TXAR	**Lajitas Array**	**70.98**	**332**	P	**P**	**19 22 53.5**	**+1.0**
TX31	**Lajitas Ar. Si**	**70.99**	**332**	P	**P**	**19 22 53.6**	**+1.1**
BOSA	**Boshof**	**80.22**	**118**	P	**P**	**19 23 44.5**	**-1.2**
	comp=Z,4.9nm,1.0s,baz=90,slow=14,SNR=2.7						
NVAR	**Mina Array Bea**	**84.91**	**326**	P	**P**	**19 24 10.8**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=154,slow=5.8,SNR=3.8						
PDAR	**Pinedale Array**	**85.09**	**334**	P	**P**	**19 24 12.0**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=116,slow=3.4,SNR=2.2						
ULM	**Lac du Bonnet**	**88.23**	**346**	P	**P**	**19 24 24.5**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=163,slow=5.6,SNR=3.9						
BVAR	**Borovoye Array**	**149.71**	**45**	PKPbc	**PKiKP**	**19 31 25.2**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=241,slow=27,SNR=1.9						
YAK	**Yakutsk**	**150.25**	**338**	PKPbc	**PKPbc**	**19 31 25.0**	**0.0**
	comp=Z,3.6nm,0.4s,baz=172,slow=1.0,SNR=5.7						
ASAJ	**Asahikawa**	**151.36**	**297**	PKPbc	**PKPbc**	**19 31 28.1**	**0.0**
	comp=Z,2.4nm,0.9s,baz=285,slow=22,SNR=2.2						
KKAR	**Karatay Array**	**151.66**	**65**	PKPdf	**PKPdf**	**19 31 23.0**	**+0.3**
KURBB	**Kurchatov Arra**	**155.29**	**45**	PKPab	**PKPab**	**19 31 51.8**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=277,slow=5.6,SNR=4.1						
KURK	**Kurchatov**	**155.31**	**45**		**PKPab**	**19 31 51.8**	**-1.1**
ZALV	**Zalesovo Beam**	**156.71**	**33**	PKPab	**PKPab**	**19 31 56.6**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=127,slow=39,SNR=2.7						

*ECX **18** 19:14:46.1±0.9,27.96N×111.98W,h10km±26km,MD3.3*
*MEX **18** 19:14:47.6±0.4,27.89N×111.89W,h10km±7km, MD4.0*
ISC 18 19:14:45.9±1.8**,27.86N**±0.06×**111.84W**±0.09**,h21**km±6km**,**
n8,σ0°**88**/14**,1C,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.65**	**213**	*i* P	**Pb**	**19 14 58.5**	**-0.2**
SRIG				*i* S	**Sb**	**19 15 07.6**	**+0.3**
SRIG	**Santa Rosalia**	**0.65**	**213**	*e*P	**Pb**	19 14 58.2	-0.5
SRIG				*i* S	**Sb**	**19 15 07.6**	**+0.3**
GUYB	**Guaymas**	**0.86**	**88**	*e*P	**Pn**	**19 15 02.6**	**-0.1**
GUYB				*i* S	**Sn**	**19 15 13.6**	**-1.0**
GUYB	**Guaymas**	**0.86**	**88**	*e*P	**Sn**	**19 15 02.6**	**-0.1**
GUYB				*e*S	**Sn**	**19 15 16.2**	**+1.6**
HSIG		**1.39**	**34**	*e*P	**Sn**	**19 15 10.3**	**+0.1**
HSIG				*i* S	**Sn**	**19 15 26.7**	**-1.2**
HSIG		**1.39**	**34**	*e*P	**Pb**	**19 15 10.7**	**-0.5**
HSIG				*e*S	**Sb**	**19 15 29.2**	**+0.6**
BAHB	**Baha de los**	**2.56**	**324**	*e*P	Pn	19 15 14.8	-11
BAHB				*e*S	Sn	19 15 37.0	-20
NZIG	**Nacozari, Sono**	**3.20**	**38**	*i* P	**Pn**	**19 15 36.4**	**+1.2**
NZIG				*i* S	**Sn**	**19 16 12.5**	**-0.3**

*STR **18** 19:21:14.3±1.0,40°N±6°×±°,h2km,mb3.4/3,MLv3.8/9, smi:scs/0.6/LOCSAT earthModelID*
smi:scs/0.6/pyrenees_taup-2.11 preliminary
*MDD **18** 19:21:15.3±0.3,40.44N×1.17W,h5km±2km,mb2.7/2, mbLg2.7/39,Error ellipse: s-maj=2.3km s-min=1.7km az=124.0,PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA.
*INMG **18** 19:21:15.7±1.6,40.45N×1.17W,h11km±2km,ML2.5, Error ellipse: s-maj=1.9km s-min=1.2km az=119.0*
*SFS **18** 19:21:15.0,40.42N×1.15W,h6km,ML2.6,CELADAS (TERUEL)*
*LDG **18** 19:21:15.6±0.1,40.43N×1.14W,h6km,Ml2.9/24, Error ellipse: s-maj=2.7km s-min=1.7km az=136.0*
ISC 18 19:21:12.9±1.0**,40.44N**±0.02×**1.16W**±0.02**,h10**km±9km**,**
n141,σ1°**54**/278**,4C-4D,Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMOS	**Mosqueruela**	**0.53**	**97**	⇑Pg	**Pb**	**19 21 25.4**	**+0.9**
	28nm,0.1s,SNR=18						
EMOS				Lg	Lg	19 21 32.4	
	70nm,0.1s,SNR=14						
ETOR	**Torete**	**0.78**	**300**	⇑Pg	**Pb**	**19 21 29.4**	**+0.8**
	272nm,0.2s,SNR=18						
ETOR				Lg	Lg	19 21 38.4	
	356nm,0.2s,SNR=14						
ECHE	**Chera**	**0.86**	**170**	Pg	**Pn**	**19 21 31.1**	**+0.1**
	8.5nm,0.1s,SNR=7.9						
ECHE				Lg	Lg	19 21 42.7	
	54nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.25**	**65**	⇓Pg	**Pg**	**19 21 38.5**	**+1.5**
	94nm,0.1s,SNR=18						
ERTA				Lg	Lg	19 21 54.4	
	103nm,0.2s,SNR=8.4						
UCM	**Universidad Co**	**1.59**	**266**	Pg	**Pg**	**19 21 44.8**	**+1.3**
UCM				Sn	**Sg**	**19 22 05.2**	**+1.1**
UCM	**Universidad Co**	**1.59**	**266**	⇓*i*P	**Pg**	**19 21 44.8**	**+1.3**
UCM				*e*S	**Sg**	**19 22 05.2**	**+1.1**
ETOB	**Tobarra**	**1.81**	**190**	Pn	**Pb**	**19 21 46.1**	**-0.1**
	9.3nm,0.7s,SNR=12						
ETOB				Pg	**Pg**	**19 21 48.9**	**+1.2**
	7.8nm,0.3s,SNR=13						
ETOB				Sn	**Sb**	**19 22 08.8**	**-0.2**
	12nm,0.3s,SNR=9.3						
ETOB				Lg	Lg	19 22 12.3	
	19nm,0.2s,SNR=5.0						
AFON	**Font Roja**	**1.83**	**165**	Pn	**Pb**	**19 21 46.4**	**-0.1**
	1.7nm,0.3s,SNR=7.9						
AFON				Pg	**Pg**	**19 21 49.5**	**+1.5**
	7.1nm,0.3s,SNR=7.0						
AFON				Sn	**Sn**	**19 22 08.9**	**+1.1**
	20nm,0.4s,SNR=7.9						
AFON				Lg	Lg	19 22 13.2	
	24nm,0.3s,SNR=7.9						
EBEN2	**Beniarda presa**	**1.91**	**157**	Pn	**Pb**	**19 21 47.1**	**-0.7**
	1.4nm,0.2s,SNR=7.9						
EBEN2				Pg	**Pg**	**19 21 50.8**	**+1.3**
	12nm,0.1s,SNR=7.9						
EBEN2				Lg	Lg	19 22 15.7	
	3.3nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.28**	**251**	⇑Pn	**Pn**	**19 21 52.1**	**+1.4**
	3.0nm,0.1s,baz=70,slow=14,SNR=18						
ESDC				Pg	**Pg**	**19 21 56.7**	**+0.2**
	3.2nm,0.4s,baz=70,slow=16,SNR=4.4						
ESDC				Sn	**Sn**	**19 22 19.9**	**+1.1**
	4.4nm,0.3s,baz=71,slow=25,SNR=9.1						
ESDC				Lg	Lg	19 22 25.8	
	20nm,0.5s,baz=74,slow=29,SNR=10						
GUD	**Guadarrama**	**2.29**	**276**	Pn	**Pn**	**19 21 52.3**	**+1.5**
	7.3nm,0.3s,SNR=33						
GUD				Pg	**Pg**	**19 21 56.8**	**0.0**
	7.4nm,0.3s,SNR=10						
GUD				Sn	**Sn**	**19 22 19.4**	**+0.3**
	11nm,0.3s,SNR=5.6						
GUD				Lg	Lg	19 22 26.4	
	32nm,0.3s,SNR=16						
EARA	**Aranguren**	**2.36**	**353**	Pg	**Pg**	**19 21 58.1**	**0.0**
	5.4nm,0.3s,SNR=7.9						
EARA				Sn	**Sn**	**19 22 21.2**	**+0.6**
	3.9nm,0.2s,SNR=7.9						
EARA				Lg	Lg	19 22 29.4	
	16nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.39**	**125**	Pn	**Pn**	**19 21 53.6**	**+1.5**
	72nm,1.3s,SNR=9.1						
EIBI				Sn	**Sn**	**19 22 21.2**	**-0.2**
	174nm,1.4s,SNR=5.0						
ETRV	**Los Montesinos**	**2.43**	**173**	Pn	**Pn**	**19 21 53.7**	**+1.1**
	14nm,0.2s,SNR=7.9						
ETRV				Pg	**Pg**	**19 21 59.2**	**-0.3**
	16nm,0.1s,SNR=7.9						
ECHI	**Chisagues Biel**	**2.45**	**24**	Pn	**Pn**	**19 21 54.5**	**+1.5**
	0.3nm,0.2s,SNR=7.9						
ECHI				Pg	**Pg**	**19 21 59.6**	**-0.2**
	2.4nm,0.1s,SNR=7.9						
ECHI				Sn	**Sn**	**19 22 24.6**	**+1.5**
	4.6nm,0.2s,SNR=7.9						
ECHI				Lg	Lg	19 22 33.8	
	9.7nm,0.2s,SNR=7.9						
ECHI	**Chisagues Biel**	**2.45**	**24**	P	**Pn**	**19 21 54.7**	**+1.7**
EORO	**Oroz-Betelu**	**2.46**	**357**	Pn	**Pn**	**19 21 55.4**	**+2.3**
	1.5nm,0.3s,SNR=7.9						
EORO				Pg	**Pg**	**19 21 59.4**	**-0.6**
	12nm,0.3s,SNR=36						
EORO				Sn	**Sn**	**19 22 24.2**	**+1.0**
	23nm,0.4s,SNR=5.5						
EORO				Lg	Lg	19 22 33.2	
	40nm,0.3s,SNR=6.9						
ETSF	**Etsaut**	**2.50**	**10**	Pn	**Pn**	**19 21 55.6**	**+1.9**
ETSF				Sn	**Sn**	**19 22 25.1**	**+0.8**
ETSF				Lg	Lg	19 22 34.3	
	6.3nm,0.3s						
ETSF	**Etsaut**	**2.50**	**10**	*e*Pn	**Pn**	**19 21 55.6**	**+1.9**
ETSF	**Etsaut**	**2.50**	**10**	*e*P	**Pb**	**19 21 58.2**	**+0.2**
ETSF				*e*Sn	**Sn**	**19 22 25.1**	**+0.8**
ETSF				*e*Sg	**Sg**	**19 22 34.3**	**+1.0**
	13nm,0.3s						
EMIR	**Miracle**	**2.51**	**53**	Pn	**Pn**	**19 21 55.8**	**+2.0**
	24nm,0.4s,SNR=8.7						
EMIR				Pg	**Pg**	**19 22 00.3**	**-0.7**
	20nm,0.3s,SNR=6.8						
EMIR				Sn	**Sn**	**19 22 26.0**	**+1.5**
	15nm,0.3s,SNR=7.9						
EMIR				Lg	Lg	19 22 36.2	
	63nm,0.3s,SNR=5.0						
SESP	**Santiago Espad**	**2.55**	**205**	Pn	**Pb**	**19 21 56.8**	**-2.0**
	6.5nm,0.5s,SNR=7.9						
SESP				Pg	**Pg**	**19 22 02.8**	**+1.0**
	14nm,0.4s,SNR=7.9						
SESP				Sn	**Sn**	**19 22 26.3**	**+0.8**
	7.7nm,0.2s,SNR=7.9						
SESP				Lg	Lg	19 22 35.9	
	31nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.59**	**181**	Pg	**Pg**	**19 22 03.3**	**+0.7**
	5.0nm,0.3s,SNR=10						
EMUR				Sn	**Sn**	**19 22 28.0**	**+1.5**
	1.5nm,0.3s,SNR=7.9						
EMUR				Lg	Lg	19 22 37.2	
	6.4nm,0.3s,SNR=5.0						
CSOR	**Sort**	**2.60**	**41**	Pn	**Pn**	**19 21 57.0**	**+2.0**
	3.2nm,0.3s,SNR=22						
CSOR				Pg	**Pg**	**19 22 01.9**	**-0.8**
	10nm,0.4s,SNR=16						
CSOR				Sn	**Sn**	**19 22 28.2**	**+1.5**
	7.5nm,0.4s,SNR=7.4						
CSOR				Lg	Lg	19 22 37.7	
	32nm,0.3s,SNR=5.7						
PAB	**San Pablo**	**2.60**	**251**	⇑Pn	**Pn**	**19 21 56.7**	**+1.6**
	6.8nm,0.1s,SNR=18						
PAB				Pg	**Pg**	**19 22 03.1**	**+0.3**
	23nm,0.8s,SNR=7.9						
PAB				Sn	**Sn**	**19 22 27.2**	**+0.4**
	13nm,0.1s,SNR=7.9						
PAB				Lg	Lg	19 22 36.5	
	9.5nm,0.2s,SNR=7.9						
ATE	**Arette**	**2.67**	**7**	Pn	**Pn**	**19 21 57.3**	**+1.3**
	0.1nm,0.6s,SNR=7.9						
ATE				Pg	**Pg**	**19 22 03.8**	**-0.3**
	2.5nm,0.5s,SNR=7.9						
ATE				Sn	**Sn**	**19 22 29.4**	**+1.0**
	6.9nm,0.1s,SNR=7.9						
ATE				Lg	Lg	19 22 39.4	
	12nm,0.2s,SNR=7.9						
ATE	**Arette**	**2.67**	**7**	Pn	**Pn**	**19 21 57.8**	**+1.8**
ATE				P	**Pb**	**19 21 58.2**	**-2.6**
ATE				S	**Sn**	**19 22 29.8**	**+1.4**
SJPF	**Ste Jean**	**2.68**	**359**	Pn	**Pn**	**19 21 58.3**	**+2.2**
SJPF				Pg	**Pg**	**19 22 05.0**	**+0.8**
SJPF				Sn	**Sn**	**19 22 28.7**	**+0.2**
SJPF				Lg	Lg	19 22 41.1	
	8.4nm,0.3s						
SJPF	**Ste Jean**	**2.68**	**359**	*e*Pn	**Pn**	**19 21 58.3**	**+2.2**
SJPF	**Ste Jean**	**2.68**	**359**	*e*P	**Pb**	**19 22 00.6**	**-0.3**
SJPF	**Ste Jean**	**2.68**	**359**	*e*Pg	**Pg**	**19 22 05.0**	**+0.8**
SJPF				*e*Sn	**Sn**	**19 22 28.7**	**+0.2**
SJPF				*e*Sg	**Sg**	**19 22 41.1**	**+2.2**
	17nm,0.3s						
EPF	**Esparros**	**2.83**	**23**	Pn	**Pn**	**19 22 00.4**	**+2.2**
EPF				Pg	**Pg**	**19 22 08.1**	**+1.0**
EPF				Sn	**Sn**	**19 22 33.0**	**+0.7**
	17nm,0.4s						
EPF	**Esparros**	**2.83**	**23**	*e*Pn	**Pn**	**19 22 00.4**	**+2.2**
EQES	**Quesada**	**3.02**	**210**	Pn	**Pn**	**19 22 02.7**	**+1.9**
	0.3nm,0.2s						
EQES				Pg	**Pg**	**19 22 11.4**	**+0.7**
	4.1nm,0.5s,SNR=32						
EQES				Sn	**Sn**	**19 22 37.8**	**+0.6**
	14nm,0.3s,SNR=4.6						
EQES				Lg	Lg	19 22 51.1	
	17nm,0.3s,SNR=5.0						
CFON	**Fontmartina**	**3.02**	**63**	Pn	**Pn**	**19 22 02.4**	**+1.5**
	3.9nm,0.4s,SNR=8.0						
CFON				Pg	**Pg**	**19 22 09.9**	**-1.0**
	10.0nm,0.4s,SNR=10						
CFON				Sn	**Sn**	**19 22 37.9**	**+0.6**
	10.0nm,0.4s,SNR=12						
CFON				Lg	Lg	19 22 51.6	
	34nm,0.2s,SNR=5.0						
MLS	**Moulis**	**3.04**	**33**	P	**Pn**	**19 22 02.5**	**+1.6**
CLLI	**Llivia**	**3.12**	**48**	⇓Pn	**Pn**	**19 22 04.5**	**+2.3**
	5.1nm,0.2s,SNR=18						
CLLI				Pg	**Pb**	**19 22 08.9**	**+0.4**
	16nm,0.6s,SNR=14						
CLLI				Sn	**Sn**	**19 22 40.3**	**+0.7**
	11nm,0.3s,SNR=25						
CLLI				Lg	Lg	19 22 54.6	
	5.2nm,0.3s,SNR=5.0						
ETOS	**Mallorca**	**3.12**	**101**	Pn	**Pn**	**19 22 03.6**	**+1.4**
	33nm,1.1s,SNR=6.4						
ETOS				Sn	**Sn**	**19 22 39.2**	**-0.4**
	4.6nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**3.27**	**329**	Pn	**Pn**	**19 22 06.5**	**+2.3**
	0.7nm,0.7s,SNR=7.5						
ELAN				Pg	**Pg**	**19 22 15.6**	**+0.1**
	1.1nm,0.2s,SNR=63						
ELAN				Sn	**Sn**	**19 22 43.8**	**+0.6**
	2.8nm,0.3s,SNR=5.3						
ELAN				Lg	Lg	19 22 58.8	
	6.5nm,0.2s,SNR=5.0						
GORA	**Gorafe**	**3.29**	**207**	Pn	**Pn**	**19 22 06.8**	**+2.1**
	1.6nm,0.2s,SNR=7.9						
GORA				Pg	**Pg**	**19 22 16.5**	**+0.4**
	8.4nm,0.6s,SNR=7.9						
GORA				Sn	**Sn**	**19 22 44.6**	**+0.7**
	13nm,0.1s,SNR=7.9						
GORA				Lg	Lg	19 23 00.8	
	47nm,0.3s,SNR=7.9						
FNEB	**Nbias**	**3.48**	**44**	P	**Pn**	**19 22 09.7**	**+2.6**
FNEB				S	**Sn**	**19 22 51.2**	**+2.9**
EADA	**Adamuz**	**3.48**	**231**	⇓Pn	**Pn**	**19 22 08.7**	**+1.5**
	1.7nm,0.3s,SNR=18						
EADA				Pg	**Pg**	**19 22 18.9**	**-0.8**
	5.5nm,0.5s,SNR=5.6						
EADA				Sn	**Sn**	**19 22 47.0**	**-1.5**
	6.1nm,0.2s,SNR=4.8						
EADA				Lg	Lg	19 23 02.9	
	12nm,0.3s,SNR=5.0						
ENIJ	**Nijar**	**3.55**	**194**	Pg	**Pg**	**19 22 20.8**	**-0.1**
	0.6nm,0.2s,SNR=7.9						
ENIJ				Sn	**Sn**	**19 22 50.5**	**+0.3**
	2.9nm,0.3s,SNR=7.9						
ENIJ				Lg	Lg	19 23 07.3	
	7.8nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**3.65**	**55**	Pn	**Pn**	**19 22 11.0**	**+1.6**
	1.5nm,0.4s,SNR=7.9						
EJON				Pg	**Pg**	**19 22 21.0**	**-1.8**
	1.5nm,0.8s,SNR=7.9						
EJON				Sn	**Sn**	**19 22 52.7**	**+0.2**
	4.7nm,0.4s,SNR=7.9						
EJON				Lg	Lg	19 23 07.0	
	5.7nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**3.67**	**55**	Pn	**Pn**	**19 22 10.9**	**+1.3**
	2.2nm,0.8s,SNR=7.9						
SJAF				Pg	**Pg**	**19 22 22.7**	**-0.4**
	5.3nm,0.7s,SNR=7.9						
SJAF				Sn	**Sn**	**19 22 53.5**	**+0.6**
	1.9nm,0.3s,SNR=7.9						
SJAF				Lg	Lg	19 23 08.2	
	5.3nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.68**	**210**	Pn	**Pn**	**19 22 12.0**	**+2.0**
	1.8nm,0.7s,SNR=4.7						
EQUE				Pg	**Pg**	**19 22 23.2**	**-0.2**
	0.6nm,0.2s,SNR=7.9						
EQUE				Sn	**Sn**	**19 22 54.2**	**+0.7**
	2.0nm,0.4s,SNR=5.0						
EQUE				Lg	Lg	19 23 11.8	
	28nm,0.6s,SNR=7.0						
EBER	**Berja**	**3.78**	**201**	Pn	**Pn**	**19 22 15.3**	**+3.9**
	0.5nm,0.9s,SNR=7.9						
EBER				Pg	**Pg**	**19 22 26.4**	**+1.0**
	3.6nm,0.4s,SNR=4.7						
EBER				Sn	**Sn**	**19 22 56.1**	**+0.1**
	3.1nm,0.3s,SNR=7.9						
EBER				Lg	Lg	19 23 16.4	
	11nm,0.4s,SNR=4.6						
EPLA	**Plasencia**	**3.78**	**266**	Pn	**Pn**	**19 22 12.9**	**+1.6**
	2.1nm,0.3s,SNR=10						
EPLA				Pg	**Pg**	**19 22 24.3**	**-1.0**
	6.3nm,0.6s,SNR=6.2						
EPLA				Sn	**Sn**	**19 22 56.0**	**+0.2**
	4.1nm,0.3s,SNR=6.4						
EPLA				Lg	Lg	19 23 12.9	
	13nm,0.3s,SNR=6.6						
MTLF	**Montolieu**	**3.85**	**40**	Pn	**Pn**	**19 22 14.0**	**+1.9**
MTLF				Pg	**Pg**	**19 22 27.2**	**+0.6**
MTLF				Sn	**Sn**	**19 22 57.4**	**0.0**
	4.8nm,0.4s						
MTLF				Lg	Lg	19 23 16.7	
	5.2nm,0.4s						
MTLF	**Montolieu**	**3.85**	**40**	*e*Pn	**Pn**	**19 22 14.0**	**+1.9**
MTLF	**Montolieu**	**3.85**	**40**	*e*Pg	**Pg**	**19 22 27.2**	**+0.6**
MTLF				*e*Sn	**Sn**	**19 22 57.4**	**0.0**
	9.7nm,0.4s						
MTLF				*e*Sg	**Sg**	**19 23 16.7**	**+0.3**
	10nm,0.4s						
MTLF	**Montolieu**	**3.85**	**40**	P	**Pn**	**19 22 13.7**	**+1.6**
EGOR	**Sierra Gorda,**	**4.04**	**216**	Pn	**Pn**	**19 22 16.8**	**+1.9**
	0.1nm,0.1s,SNR=7.9						
EGOR				Pg	**Pg**	**19 22 29.5**	**-0.8**
	5.6nm,0.7s,SNR=7.9						
EGOR				Sn	**Sn**	**19 23 02.4**	**+0.1**
	2.0nm,0.6s,SNR=7.9						
EGOR				Lg	Lg	19 23 23.8	
	5.9nm,0.4s,SNR=7.9						
ELGU	**Los Guajares,**	**4.05**	**209**	Pn	**Pn**	**19 22 16.5**	**+1.5**
	3.3nm,0.7s,SNR=7.9						
ELGU				Pg	**Pg**	**19 22 29.6**	**-0.9**
	11nm,0.9s,SNR=7.9						
ELGU				Sn	**Sn**	**19 23 02.8**	**+0.3**
	1.9nm,0.5s,SNR=7.9						
ELGU				Lg	Lg	19 23 24.6	
	10nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**4.06**	**236**	Pn	**Pn**	**19 22 16.7**	**+1.7**
	1.7nm,0.3s,SNR=23						
ECAB				Pg	**Pg**	**19 22 29.8**	**-0.8**
	4.1nm,0.5s,SNR=6.9						
ECAB				Sn	**Sn**	**19 23 01.6**	**-1.1**
	2.2nm,0.4s,SNR=7.1						
ECAB				Lg	Lg	19 23 21.0	
	2.4nm,0.2s,SNR=5.0						
EARI	**Arriondas**	**4.16**	**315**	Pn	**Pn**	**19 22 18.8**	**+2.3**
	0.5nm,0.2s,SNR=7.9						
EARI				Sn	**Sn**	**19 23 05.2**	**0.0**
	9.8nm,0.6s,SNR=7.9						
EARI				Lg	Lg	19 23 28.1	
	2.5nm,0.3s,SNR=7.9						
MONQ	**Montcuq**	**4.30**	**23**	P	**Pn**	**19 22 19.8**	**+1.4**
MONQ				S	**Sn**	**19 23 08.5**	**0.0**
PBRG	**Braganca**	**4.43**	**290**	Pn	**Pn**	**19 22 21.6**	**+1.4**
PBRG				Sn	**Sn**	**19 23 13.5**	**+1.7**
PBRG				Lg	Lg	19 23 34.1	
	2.3nm,0.5s						
PBRG	**Braganca**	**4.43**	**290**	*e*Pn	**Pn**	**19 22 21.6**	**+1.4**
PBRG				*e*Sn	**Sn**	**19 23 13.5**	**+1.7**
PBRG				*e*Sg	**Sg**	**19 23 34.1**	**-1.0**
PBRG				A	A	19 23 34.3	
	4.6nm,0.5s						
ECAL	**Calabor**	**4.47**	**291**	Pn	**Pn**	**19 22 22.4**	**+1.7**
	4.6nm,0.3s,SNR=8.8						
ECAL				Sn	**Sn**	**19 23 12.3**	**-0.5**
	10nm,0.5s,SNR=7.9						
ECAL				Lg	Lg	19 23 35.5	
	8.6nm,0.3s,SNR=5.0						
MVO	**Moncorvo**	**4.51**	**281**	Pn	**Pn**	**19 22 22.9**	**+1.6**
	5.7nm,0.6s,SNR=7.9						
MVO				Sn	**Sn**	**19 23 13.5**	**-0.4**
	3.3nm,0.4s,SNR=7.9						
MVO				Lg	Lg	19 23 36.1	
	6.5nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**4.51**	**281**	*e*Pn	**Pn**	**19 22 22.9**	**+1.6**
MVO				*e*Sn	**Sn**	**19 23 14.3**	**+0.4**
MVO				*e*Sg	**Sg**	**19 23 37.5**	**-0.2**
MVO				A	A	19 23 41.5	

ESPR					Sn		**Sn**	**19 23 29.3 +0.7**
	0.7nm,0.2s,SNR=7.9							
PVIS	**Viseu**		**5.13**	**275**	Pn		**Pn**	**19 22 31.3 +1.4**
PVIS					Sn		**Sn**	**19 23 26.0 -3.2**
	2.6nm,0.3s							
PVIS	**Viseu**		**5.13**	**275**	*e*Pn		**Pn**	19 22 31.3 +1.4
PVIS					*e*Sn		**Sn**	**19 23 26.0 -3.2**
PVIS					A		A	19 24 09.8
	5.2nm,0.3s							
PESTR	**Estremoz**		**5.20**	**255**	*e*Pn		**Pn**	**19 22 31.9 +1.1**
LASF	**Ste Croix**		**5.21**	**44**	Pn		**Pn**	**19 22 32.1 +1.3**
LASF					Pg		**Pg**	**19 22 51.6 -1.0**
LASF					Sn		**Sn**	**19 23 30.1 -0.8**
	5.3nm,0.6s							
LASF					Lg		Lg	19 23 58.4
	1.6nm,0.3s							
LASF	**Ste Croix**		**5.21**	**44**	*e*Pn		**Pn**	**19 22 32.1 +1.3**
LASF	**Ste Croix**		**5.21**	**44**	*e*Pg		**Pg**	**19 22 51.6 -1.0**
LASF					*e*Sn		**Sn**	**19 23 30.1 -0.8**
	11nm,0.6s							
LASF					*e*Sg		**Sg**	**19 23 58.4 -1.6**
	3.2nm,0.3s							
RJF	**Les Rejaudoux**		**5.25**	**21**	Pn		**Pn**	**19 22 32.7 +1.3**
RJF					Sn		**Sn**	**19 23 30.4 -1.6**
	1.7nm,0.3s							
RJF	**Les Rejaudoux**		**5.25**	**21**	*e*Pn		**Pn**	**19 22 32.7 +1.3**
RJF					*e*Sn		**Sn**	**19 23 30.4 -1.6**
	3.4nm,0.3s							
EPON	**Pontenova**		**5.32**	**305**	Pn		**Pn**	**19 22 35.8 +3.4**
	0.4nm,0.9s,SNR=7.9							
EPON					Lg		Lg	19 24 02.7
	0.9nm,0.2s,SNR=7.9							
ELOB	**Lobios**		**5.40**	**288**	Pn		**Pn**	**19 22 34.6 +1.0**
	11nm,0.8s,SNR=8.7							
ELOB					Sn		**Sn**	**19 23 34.3 -1.5**
	2.7nm,0.3s,SNR=7.9							
ELOB					Lg		Lg	19 24 03.1
	4.5nm,0.4s,SNR=5.0							
PGAV	**Gavieira, Arco**		**5.57**	**288**	Pn		**Pn**	**19 22 37.5 +1.5**
PGAV					Sn		**Sn**	**19 23 40.4 +0.3**
PGAV	**Gavieira, Arco**		**5.57**	**288**	*e*Pn		**Pn**	**19 22 37.5 +1.5**
PGAV					*e*Sn		**Sn**	**19 23 40.4 +0.3**
PMTG	**Montargil**		**5.61**	**258**	Pn		**Pn**	**19 22 37.1 +0.7**
PMTG					Sn		**Sn**	**19 23 40.0 -0.9**
	4.5nm,0.6s							
PMTG	**Montargil**		**5.61**	**258**	*e*Pn		**Pn**	**19 22 37.1 +0.7**
PMTG					*e*Sn		**Sn**	**19 23 40.0 -0.9**
PMTG					A		A	19 24 18.1
	4.5nm,0.6s							
PCAS	**Casmilo, Conde**		**5.63**	**268**	Pn		**Pn**	**19 22 37.7 +1.1**
PCAS					Sn		**Sn**	**19 23 40.6 -0.7**
PCAS					Lg		Lg	19 24 13.8
	7.7nm,0.6s							
PCAS	**Casmilo, Conde**		**5.63**	**268**	*e*Pn		**Pn**	**19 22 37.7 +1.1**
PCAS					*e*Sn		**Sn**	**19 23 40.6 -0.7**
PCAS					*e*Sg		**Sg**	**19 24 13.8 +0.3**
PCAS					A		A	19 24 19.4
	7.7nm,0.6s							
EVO	**Evora**		**5.63**	**252**	Pn		**Pn**	**19 22 37.1 +0.5**
EVO					Sn		**Sn**	**19 23 38.1 -3.2**
EVO	**Evora**		**5.63**	**252**	*e*Pn		**Pn**	**19 22 37.1 +0.5**
EVO					*e*Sn		**Sn**	**19 23 38.1 -3.2**
EAGO	**Agolada(Pontev**		**5.70**	**297**	Pn		**Pn**	**19 22 39.0 +1.4**
	1.6nm,0.5s,SNR=7.9							
EAGO					Lg		Lg	19 24 13.1
	0.6nm,0.3s,SNR=7.9							
EGRO	**El Granado**		**5.71**	**242**	Pn		**Pn**	**19 22 39.0 +1.2**
	0.2nm,0.2s,SNR=7.9							
EGRO					Lg		Lg	19 24 17.7
	0.3nm,0.2s,SNR=7.9							
LBL	**Lubilhac**		**5.79**	**33**	P		**Pn**	**19 22 40.1 +1.2**
PSBE	**So Bento**		**5.94**	**264**	*e*Pn		**Pn**	**19 22 42.2 +1.4**
PSBE					*e*Sn		**Sn**	**19 23 47.9 -1.0**
PVAQ	**Vaqueiros**		**5.94**	**241**	Pn		**Pn**	**19 22 42.7 +1.8**
PVAQ					Sn		**Sn**	**19 23 48.8 -0.2**
PVAQ	**Vaqueiros**		**5.94**	**241**	*e*Pn		**Pn**	**19 22 42.7 +1.8**
PVAQ					*e*Sn		**Sn**	**19 23 48.8 -0.2**
PYM	**Petit Puy Mans**		**6.13**	**28**	P		**Pn**	**19 22 44.6 +1.1**
SMRF	**Simiane la Rot**		**6.13**	**53**	Pn		**Pn**	**19 22 45.6 +2.1**
SMRF					Sn		**Sn**	**19 23 51.7 -1.9**
	0.8nm,0.3s							
SMRF	**Simiane la Rot**		**6.13**	**53**	*e*Pn		**Pn**	**19 22 45.6 +2.1**
SMRF	**Simiane la Rot**		**6.13**	**53**	*e*P		Pn	19 22 49.5 +6.0
SMRF					*e*Sn		**Sn**	**19 23 51.7 -1.9**
	0.8nm,0.3s							
VIVF	**Saint-Julien-l**		**6.17**	**42**	Pn		**Pn**	**19 22 45.5 +1.5**
VIVF					Pg		**Pg**	**19 23 09.2 -1.7**
VIVF					Lg		Lg	19 24 28.7
	1.4nm,0.5s							
VIVF	**Saint-Julien-l**		**6.17**	**42**	*e*Pn		**Pn**	**19 22 45.5 +1.5**
VIVF	**Saint-Julien-l**		**6.17**	**42**	*e*Pg		**Pg**	**19 23 09.2 -1.7**
VIVF					*e*Sg		**Sg**	**19 24 28.7 -2.1**
	2.8nm,0.5s							
PNCL	**Nicolau / Gran**		**6.17**	**250**	Pn		**Pn**	**19 22 45.4 +1.4**
PNCL					Sn		**Sn**	**19 23 53.9 -0.7**
PNCL	**Nicolau / Gran**		**6.17**	**250**	*e*Pn		**Pn**	**19 22 45.4 +1.4**
PNCL					*e*Sn		**Sn**	**19 23 53.9 -0.7**
MFF	**Saint Martin d**		**6.21**	**6**	Pn		**Pn**	**19 22 47.3 +2.7**
MFF					Sn		**Sn**	**19 23 54.0 -1.6**
	0.7nm,0.4s							
MFF	**Saint Martin d**		**6.21**	**6**	*e*Pn		**Pn**	**19 22 47.3 +2.7**
MFF					*e*Sn		**Sn**	**19 23 54.0 -1.6**
	1.4nm,0.4s							
TCF	**Toulx Ste Croi**		**6.34**	**22**	Pn		**Pn**	**19 22 48.4 +1.9**
TCF	**Toulx Ste Croi**		**6.34**	**22**	*e*Pn		**Pn**	**19 22 48.4 +1.9**
BLAF	**les Blancs**		**6.40**	**54**	P		**Pn**	**19 22 49.9 +2.6**
LMR	**La Mourre**		**6.42**	**61**	Pn		**Pn**	**19 22 47.3 -0.1**
LMR					Sn		**Sn**	**19 23 57.3 -3.4**
	0.4nm,0.3s							
LMR					Lg		Lg	19 24 37.0
	0.8nm,0.4s							
LMR	**La Mourre**		**6.42**	**61**	*e*Pn		**Pn**	**19 22 47.3 -0.1**
LMR					*e*Sn		**Sn**	**19 23 57.3 -3.4**
	0.8nm,0.3s							
LMR					*e*Sg		**Sg**	**19 24 37.0 -1.8**
	1.6nm,0.4s							
FRF	**La Foret Royal**		**6.60**	**59**	Pn		**Pn**	**19 22 51.4 +1.4**
FRF					Sn		**Sn**	**19 24 02.9 -2.4**
	0.6nm,0.4s							
FRF	**La Foret Royal**		**6.60**	**59**	*e*Pn		**Pn**	**19 22 51.4 +1.4**
FRF	**La Foret Royal**		**6.60**	**59**	*e*P		Pn	19 22 55.7 +5.7
FRF					*e*Sn		**Sn**	**19 24 02.9 -2.4**
	1.2nm,0.4s							
BGF	**Bois d'Agland**		**6.78**	**24**	Pn		**Pn**	**19 22 54.3 +1.9**
BGF					Sn		**Sn**	**19 24 08.7 -0.9**
	3.2nm,0.5s							
BGF	**Bois d'Agland**		**6.78**	**24**	*e*Pn		**Pn**	**19 22 54.3 +1.9**
BGF					*e*Sn		**Sn**	**19 24 08.7 -0.9**
	6.5nm,0.5s							
PFVI	**Vila Bisbo**		**6.83**	**244**	*e*Pn		**Pn**	**19 22 54.5 +1.3**
ORIF	**Oris-en-Rattie**		**6.86**	**47**	*e*P		Pn	19 22 59.7 +6.2
ORIF					*e*Sn		**Sn**	**19 24 10.1 -1.5**
	0.6nm,0.3s							
CALF	**Calern**		**6.87**	**58**	P		**Pn**	**19 22 55.9 +2.2**
AVF	**Avril sur Loir**		**7.15**	**26**	Pn		**Pn**	**19 22 59.0 +1.6**
AVF	**Avril sur Loir**		**7.15**	**26**	*e*Pn		**Pn**	**19 22 59.0 +1.6**
SMF	**Signal de Mont**		**7.19**	**29**	Pn		**Pn**	**19 22 58.7 +0.6**
SMF	**Signal de Mont**		**7.19**	**29**	*e*Pn		**Pn**	**19 22 58.7 +0.6**
MBDF	**Montbardon**		**7.26**	**51**	*e*P		Pn	19 23 05.0 +5.9
SSF	**Saint Saulge**		**7.43**	**25**	Pn		**Pn**	**19 23 03.1 +1.7**
SSF					Sn		**Sn**	**19 24 24.2 -1.5**
	0.4nm,0.3s							
SSF	**Saint Saulge**		**7.43**	**25**	*e*Pn		**Pn**	**19 23 03.1 +1.7**
SSF					*e*Sn		**Sn**	**19 24 24.2 -1.5**
	0.8nm,0.3s							
QUIF	**Quistinic**		**7.62**	**350**	Pn		**Pn**	**19 23 06.2 +2.4**
QUIF	**Quistinic**		**7.62**	**350**	*e*Pn		**Pn**	**19 23 06.2 +2.4**
LPG	**La Plagne**		**7.70**	**46**	*e*P		Pn	19 23 11.4 +6.1
LPL	**La Plagne**		**7.70**	**46**	*e*P		Pn	19 23 12.1 +6.9
PGF	**Pioggiola**		**7.92**	**71**	Pn		**Pn**	**19 23 10.1 +2.0**
PGF					Sn		**Sn**	**19 24 33.4 -4.3**
	0.3nm,0.3s							
PGF	**Pioggiola**		**7.92**	**71**	*e*Pn		**Pn**	**19 23 10.1 +2.0**
PGF					*e*Sn		**Sn**	**19 24 33.4 -4.3**
	0.7nm,0.3s							

*RSPR **18** 19:28:45.6, 19°.10N×66°.31W, h119km±5km, MD3.6/3*
*NEIC **18** 19:28:46.3±1.8, 19°.1N±0°.2×66°.21W±0°.07, h114km±3km,*
Error ellipse: s-maj=17.3km s-min=9.6km az=186.0
ISC 18 19:28:47.5±2.0**, 19°.1N**±0°.2×**66°.26W**±0°.07**, h100km, n24,**
σ1§**34**/25**, 4C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**0.77**	**167**			**Pn**	**19 29 04.1**	**-1.4**
GCPR					IAML		19 29 31.4	
	comp=E,54nm,0.8s							
AOPR	**Arecibo Observ**	**0.85**	**213**			**Pn**	**19 29 06.5**	**+0.2**
CBYP	**Canovanas**	**0.88**	**154**	*i*P		**Pn**	**19 29 06.2**	**-0.5**
CBYP	**Canovanas**	**0.88**	**154**	*e*S		**Sn**	**19 29 22.8**	**+1.7**
CBYP	**Canovanas**	**0.88**	**154**			**Pn**	**19 29 06.2**	**-0.5**
CBYP						**Sn**	**19 29 22.8**	**+1.7**
CBYP	**Canovanas**	**0.88**	**154**		IAML		19 29 28.7	
	comp=N,128nm,0.2s							
SJG	**San Juan**	**0.95**	**174**			**Pn**	**19 29 06.9**	**-0.5**
SJG					IAML		19 29 31.0	
	comp=N,71nm,0.7s							
SJG					IAML		19 29 41.2	
	comp=N,71nm,0.6s							
HUMP	**Col San Antoni**	**0.99**	**157**	*i*P		**Pn**	**19 29 07.9**	**0.0**
HUMP	**Col San Antoni**	**0.99**	**157**	*e*S		**Sn**	**19 29 24.9**	**+1.7**
HUMP	**Col San Antoni**	**0.99**	**157**			**Pn**	**19 29 07.4**	**-0.5**
HUMP					IAML		19 29 42.5	
	comp=E,44nm,0.6s							
HUMP	**Col San Antoni**	**0.99**	**157**			**Sn**	**19 29 24.9**	**+1.7**
PDPR	**Patillas Dam,**	**1.06**	**168**			**Pn**	**19 29 08.6**	**0.0**
PDPR					IAML		19 29 41.9	
	comp=E,56nm,0.8s							
OBIP	**Obispado Ponce**	**1.06**	**198**	Pn		**Pn**	**19 29 06.2**	**-2.5**
OBIP					IAML		19 29 42.0	
	comp=E,44nm,0.9s							
OBIP					IAML		19 30 02.9	
	comp=N,48nm,1.9s							
MTP	**Monte Pirata**	**1.17**	**145**	*i*P		**Pn**	**19 29 09.1**	**-0.8**
MTP	**Monte Pirata**	**1.17**	**145**	*e*S		**Sn**	**19 29 28.1**	**+1.4**
MTP	**Monte Pirata**	**1.17**	**145**			**Pn**	**19 29 09.1**	**-0.8**
MTP						**Sn**	**19 29 28.1**	**+1.4**
MTP	**Monte Pirata**	**1.17**	**145**		IAML		19 29 38.8	
	comp=E,43nm,0.4s							
CUPR	**Culebra, Puert**	**1.19**	**129**	*i*P		**Pn**	**19 29 10.0**	**-0.1**
CUPR	**Culebra, Puert**	**1.19**	**129**	*e*S		**Sn**	**19 29 28.7**	**+1.6**
CUPR	**Culebra, Puert**	**1.19**	**129**			**Pn**	**19 29 10.0**	**-0.1**
CUPR						**Sn**	**19 29 28.7**	**+1.6**
ICMP	**Isla Caja de M**	**1.20**	**192**	Pn		**Pn**	**19 29 09.2**	**-0.9**
ICMP					IAML		19 29 44.5	
	comp=E,63nm,0.8s							
ICMP					IAML		19 30 07.4	
	comp=N,51nm,1.9s							
MLPR	**Magueyes Islan**	**1.32**	**214**	Pn		**Pn**	**19 29 13.8**	**+2.3**
MLPR					IAML		19 29 43.8	
	comp=N,28nm,1.4s							
SDDR	**Presa de Saban**	**4.75**	**270**	Pn		**Pn**	**19 29 56.9**	**-0.1**
SDV	**Santo Domingo**	**10.97**	**203**	Pn		**Pn**	**19 31 19.9**	**-1.6**

*SJA **18** 19:29:10.6±0.5, 36°.03S×74°.00W, h10km, ML4.4, MW4.1*
*IDC **18** 19:29:13.6±1.0, 36°.12S×73°.58W, h0km, mb4.2/8,*
mb1 4.3/10, mb1mx4.1/26, mbtmp4.1/10, ML4.1/2, Error
ellipse: s-maj=29.5km s-min=18.2km az=70.0
*NEIC **18** 19:29:15.7±1.7, 36°.11S±0°.06×73°.63W±0°.04, h14km±5km,*
Error ellipse: s-maj=9.5km s-min=3.2km az=197.0
*GUC **18** 19:29:17.7±0.7, 36°.23S×73°.75W, h15km±9km, ML4.8*
*VAO **18** 19:29:18.0±0.8, 36°.06S×73°.32W, h10km, mb4.5*
ISC 18 19:29:15.1±0.6**, 36°.09S**±0°.04×**73°.69W**±0°.06**, h10**km**, n102,**
σ1§**16**/101**, mb4.5**/10**, 4C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.92**	**145**	*i*P		**Pg**	**19 29 32.8**	**0.0**
BI03				*e*S		**Sg**	**19 29 43.4**	**-1.5**
BI03					IAML		19 29 50.5	
	comp=N,72µm,0.5s							
BI03	**Tigo**	**0.92**	**145**			**Pg**	**19 29 32.9**	**0.0**
LAJA	**Laja**	**1.42**	**147**	*i*P		**Pn**	**19 29 39.8**	**-1.2**
LAJA				*i* S		**Sn**	**19 29 57.1**	**-2.8**
BI02	**San Fabin de**	**2.03**	**107**			**Pn**	**19 29 49.5**	**0.0**
BO03	**Pichilemu**	**2.13**	**42**	*i*P		**Pn**	**19 29 49.5**	**-1.3**
BO03				*i* S		**Sg**	**19 30 22.8**	**-0.8**
BO02	**Sierra Bellavi**	**2.71**	**62**	*e*P		**Pn**	**19 29 58.8**	**0.0**
BO02				*i* S		**Sb**	**19 30 37.0**	**0.0**
BO02					IAML		19 30 48.7	
	comp=E,4µm,0.3s							
BO02	**Sierra Bellavi**	**2.71**	**62**			**Pn**	**19 29 58.4**	**-0.4**
CANA	**Caviahue**	**2.76**	**131**	*e*P		**Pn**	**19 30 01.1**	**+1.4**
CANA					IAML		19 31 01.6	
	comp=Z,1µm,1.0s							
VA05	**Santo Domingo**	**2.97**	**36**	*e*P		**Pn**	**19 30 00.8**	**-1.4**
MT09	**Talagante**	**3.20**	**45**	*e*P		**Pn**	**19 30 05.2**	**-0.5**
MT09					IAML		19 31 08.4	
	comp=N,2µm,0.6s							
COIS	**El Sosneado**	**3.48**	**75**	*e*P		**Pn**	**19 30 10.6**	**+1.2**
EDS3	**Malargue**	**3.50**	**86**	*e*P		**Pn**	**19 30 12.5**	**+2.8**
MT02	**Curacav**	**3.52**	**37**	*e*P		**Pn**	**19 30 08.4**	**-1.5**
MT02	**Curacav**	**3.52**	**37**			**Pn**	**19 30 08.2**	**-1.7**
MT05	**Renca**	**3.63**	**43**	*e*P		**Pn**	**19 30 10.6**	**-0.8**
MT05	**Renca**	**3.63**	**43**	Pn		**Pn**	**19 30 10.8**	**-0.6**
LMEL	**Las Melosas**	**3.63**	**53**	*e*P		**Pn**	**19 30 12.4**	**+0.8**
LMEL				*i* S		**Sn**	**19 30 51.5**	**-3.1**
MT03	**Universidad Ad**	**3.68**	**46**	*e*P		**Pn**	**19 30 12.1**	**-0.2**
ROCH	**El Roble**	**3.82**	**36**	*e*P		**Pn**	**19 30 13.5**	**-0.7**
PEL	**Peldehue**	**3.84**	**41**	*e*P		**Pn**	**19 30 14.2**	**-0.2**
PEL	**Peldehue**	**3.84**	**41**			**Pn**	**19 30 14.0**	**-0.4**
PEL	**Peldehue**	**3.84**	**41**	*e*P		**Pn**	**19 30 14.9**	**+0.5**
VA03	**San Esteban**	**4.21**	**39**	Pn		**Pn**	**19 30 18.9**	**-0.6**
RFA	**San Rafael**	**4.46**	**74**	*e*P		**Pn**	**19 30 24.8**	**+1.9**
RFA					IAML		19 31 50.1	
	comp=Z,436nm,1.1s							
H03S1	**Juan Fernandez**	**4.83**	**296**	T	T		19 35 26.6	
	baz=116,slow=74,SNR=1235							
H03S3	**Juan Fernandez**	**4.85**	**296**	T	T		19 35 29.4	
	baz=116,slow=74,SNR=972							
H03S2	**Juan Fernandez**	**4.85**	**296**	T	T		19 35 26.9	
	baz=116,slow=74,SNR=1494							
VA04	**Juan Fernndez**	**4.88**	**299**	Pn		**Pn**	**19 30 29.0**	**+0.4**
AAGR	**Agrelo**	**5.01**	**55**	*e*P		**Pn**	**19 30 32.4**	**+1.9**
AAGR					IAML		19 32 19.1	
	comp=Z,244nm,1.8s							
H03N1	**Juan Fernandez**	**5.05**	**300**	T	T		19 35 45.7	
	baz=110,slow=75,SNR=30							
H03N3	**Juan Fernandez**	**5.05**	**300**	T	T		19 35 50.4	
	baz=110,slow=75,SNR=32							
H03N2	**Juan Fernandez**	**5.06**	**300**	T	T		19 35 51.4	
	baz=110,slow=75,SNR=27							
ARCO	**CERRO ARCO**	**5.09**	**52**	*e*P		**Pn**	**19 30 34.2**	**+2.5**
ARCO					IAML		19 32 10.0	
	comp=Z,198nm,1.1s							
PLCA	**Paso Flores**	**5.25**	**153**	Pn		**Pn**	**19 30 34.4**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=333,slow=12,SNR=29							
PLCA					Lg	Lg	19 31 57.5	
	baz=207,slow=19,SNR=1.9							
PLCA	**Paso Flores**	**5.25**	**153**	*e*P		**Pn**	**19 30 35.0**	**+1.3**
CO02	**Combarbal**	**5.37**	**25**			**Pn**	**19 30 34.1**	**-1.3**
RTLS	**Leoncito**	**5.63**	**42**	*e*P		**Pn**	**19 30 40.2**	**+1.1**
RTLS					IAML		19 32 26.1	
	comp=Z,106nm,1.0s							
CO03	**El Pedregal**	**5.81**	**26**			**Pn**	**19 30 40.6**	**-0.8**
RTCV	**Cerro Valdivia**	**6.01**	**47**	*e*P		**Pn**	**19 30 44.9**	**+0.8**
RTCV					IAML		19 32 52.7	
	comp=Z,134nm,1.7s							
ZON	**Zonda**	**6.16**	**44**			**Pn**	**19 30 46.3**	**+0.1**
ZON	**Zonda**	**6.16**	**44**	*e*P		**Pn**	**19 30 46.8**	**+0.6**
ZON				*e*S		**Sn**	**19 31 58.5**	**+1.7**
ZON					IAML		19 32 42.3	
	comp=Z,74nm,1.8s							
LL01	**San Ignacio de**	**6.36**	**171**	Pn		Pn	19 30 44.0	-4.8
GO04	**Tololo Observa**	**6.38**	**23**			**Pn**	**19 30 47.7**	**-1.8**
RTLL	**Cerro Villicun**	**6.44**	**44**	*e*P		**Pn**	**19 30 50.7**	**+0.7**
RTLL				*e*S		**Sn**	**19 32 03.4**	**-0.2**
RTLL					IAML		19 32 31.9	
	comp=Z,106nm,0.6s							
CO01	**Juntas del Tor**	**6.80**	**27**			**Pn**	**19 30 54.6**	**-0.7**
LCO	**Las Campanas**	**7.50**	**20**	Pn		**Pn**	**19 31 03.2**	**-1.6**
AC05	**El Transito**	**7.79**	**23**	Pn		**Pn**	**19 31 07.8**	**-0.9**
AC04	**Llanos de Chal**	**8.17**	**16**	Pn		**Pn**	**19 31 12.5**	**-1.3**
GO03	**Copiap**	**8.97**	**20**	Pn		**Pn**	**19 31 23.3**	**-1.5**
AC02	**Maricunga**	**10.01**	**24**	Pn		**Pn**	**19 31 39.2**	**-0.4**
AC01	**Pan de Azucar**	**10.26**	**16**	Pn		**Pn**	**19 31 42.9**	**+0.4**
GO02	**Mina Guanaco**	**11.45**	**19**	Pn		**Pn**	**19 31 59.5**	**+0.5**
PB01	**IPOC Station P**	**15.44**	**15**	P		**P**	**19 32 59.2**	**+1.5**
PB01					IAmb	IAmb	19 33 24.7	
	comp=Z,12nn,0.8s							
ITQB	**Itaqui**	**15.69**	**71**	*e*P		**Pn**	**19 32 55.0**	**-1.3**
CPUP	**Villa Florida**	**17.02**	**60**	Pn		**Pn**	**19 33 14.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=3.1							
CPUP	**Villa Florida**	**17.02**	**60**			**P**	**19 33 14.8**	**-0.4**
CPUP	**Villa Florida**	**17.02**	**60**	*e*P		**Pn**	**19 33 13.4**	**0.0**
PLTB	**Pedras Altas**	**17.21**	**81**	*e*P		**Pn**	**19 33 13.4**	**-2.4**
MNMC	**Minye Minye**	**17.28**	**13**	P		**P**	**19 33 19.4**	**+1.1**
PB16	**IPOC Station P**	**18.07**	**13**	Pn		**P**	**19 33 27.9**	**+0.5**
PB16					IAmb	IAmb	19 33 57.2	
	comp=Z,30nm,1.6s							
ITAB	**Concordia**	**20.33**	**70**	*e*P		**P**	**19 33 51.6**	**+0.1**
LPAZ	**La Paz**	**20.34**	**16**	P		Pn	19 33 53.7	-0.5
	comp=Z,3.0nm,0.8s,baz=193,slow=11,SNR=7.4							
LPAZ	**La Paz**	**20.34**	**16**	P		Pn	19 33 53.9	-0.3
LPAZ	**La Paz**	**20.34**	**16**	*e*P		**P**	**19 33 53.2**	**+0.9**
PTGB	**Pitanga**	**21.78**	**65**	*e*P		**P**	**19 34 07.3**	**+0.1**
AQDB	**Aquidauana**	**22.15**	**50**	*e*P		**P**	**19 34 10.7**	**-0.5**
SIV	**San Ignacio**	**22.96**	**33**	P		**P**	**19 34 20.0**	**+0.1**
	comp=Z,4.0nm,0.5s,baz=237,slow=11,SNR=18							
PCMB	**Pacaembu**	**24.30**	**60**	*e*P		**P**	**19 34 32.4**	**-0.4**
PTLB	**Pontes e Lacer**	**24.32**	**36**	*e*P		**P**	**19 34 33.4**	**+0.3**
FRTB	**Fartura**	**24.43**	**65**	*e*P		**P**	**19 34 35.0**	**+0.9**
PP1B	**Ponte de Pedra**	**24.84**	**47**	*e*P		**P**	**19 34 38.4**	**+0.6**
VILB	**Vilhena**	**26.05**	**31**	*e*P		**P**	**19 34 50.9**	**+2.1**
ITRB	**Iturama**	**26.20**	**58**	*e*P		**P**	**19 34 49.8**	**-0.3**
VAO	**Valinhos**	**26.56**	**68**	*e*P		**P**	**19 34 54.9**	**+1.5**
BB19B	**Bebedouro**	**26.59**	**63**	*e*P		**P**	**19 34 55.2**	**+1.6**
ETMB	**Extrema**	**27.02**	**16**	*e*P		**P**	**19 34 58.6**	**+1.1**
ARAG	**Araguaiana, MT**	**28.15**	**50**	*e*P		**P**	**19 35 08.6**	**+0.9**
BDFB	**Brasilia**	**30.64**	**55**	P		**P**	**19 35 28.2**	**-1.6**
	comp=Z,2.5nm,0.8s,baz=206,slow=12,SNR=1.8							
BDFB	**Brasilia**	**30.64**	**55**	P		**P**	**19 35 27.8**	**-2.0**
BDFB					IAmb	IAmb	19 35 31.2	
	comp=Z,32nm,2.0s							
JANB	**Januaria**	**33.56**	**59**	*e*P		**P**	**19 35 54.8**	**-0.6**
BSFB	**Barra de Sao F**	**33.62**	**68**	*e*P		**P**	**19 35 57.2**	**+1.3**
NAN01	**Guarapari, ES**	**34.77**	**67**	*e*P		**P**	**19 36 06.8**	**+0.9**
NBLA	**Lagarto - SE**	**40.95**	**61**	*e*P		**P**	**19 36 57.4**	**-0.6**
NBTA	**Tacaratu-PE**	**42.05**	**59**	*e*P		**P**	**19 37 07.5**	**+0.3**
SDV	**Santo Domingo**	**44.83**	**4**	P		**P**	**19 37 28.6**	**-1.1**
	comp=Z,1.7nm,0.4s,baz=333,slow=23,SNR=1.8							
237A	**Washetta, Mont**	**70.84**	**340**	P		**P**	**19 40 31.4**	**-0.5**
TXAR	**Lajitas Array**	**70.93**	**333**	P		**P**	**19 40 33.5**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=155,slow=8.7,SNR=14							
TXAR	**Lajitas Array**	**70.93**	**333**	P		**P**	**19 40 33.3**	**+0.7**
TX31	**Lajitas Ar. Si**	**70.93**	**333**	P		**P**	**19 40 32.5**	**-0.2**
TX32	**Lajitas Array**	**70.93**	**333**	P		**P**	**19 40 33.2**	**+0.5**
TX32					IAmb	IAmb	19 42 41.9	
	comp=Z,10.0nm,1.9s							
FPAL	**Fort Paine**	**71.14**	**350**	P		**P**	**19 40 34.8**	**+1.0**
CCM	**Cathedral Cave**	**75.55**	**346**	P		**P**	**19 41 00.4**	**+0.8**
CCM					IAmb	IAmb	19 41 10.2	
	comp=Z,15nm,1.5s							
DBIC	**Dimbokro**	**77.12**	**72**	P		**P**	**19 41 08.4**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=220,slow=7.4,SNR=1.3							
BOSA	**Boshof**	**80.29**	**118**	P		**P**	**19 41 26.4**	**-0.3**
	comp=Z,7.0nm,1.1s,baz=71,slow=2.6,SNR=4.0							
BOSA	**Boshof**

H03N3	Juan Fernandez	17.51	197	T	T	20 18 13.0		
	baz=20,slow=73,SNR=941							
CLDB	Colider	17.58	73	eP	P	20 00 14.8	+0.2	
OTAV	Otavalo	17.75	341	P	P	20 00 17.9	+1.0	
MACA	Manacapuru-AM	18.05	43	eP	P	20 00 18.3	-1.5	
SOTA	Rioblanco	19.12	349	eP	Pn	20 00 34.4	+1.1	
BBAC	Balboa, Cauca	19.14	347	eP	Pn	20 00 32.8	-0.6	
PCON	Cinco Dias	19.27	349	eP	Pn	20 00 39.5	+4.3	
BETC	Betania	19.47	352	eP	Pn	20 00 38.9	+1.8	
POPC	Popayan, Colom	19.53	349	eP	Pn	20 00 40.6	+2.6	
NPGB	Novo Progresso	19.65	63	eP	P	20 00 36.3	-1.1	
ITQB	Itaqui	19.68	134	eP	P	20 00 39.2	+1.6	
ARAG	Araguaiana, MT	20.25	90	eP	Pn	20 00 47.0	+0.7	
PTGA	Pitinga	20.37	40	P	P	20 00 42.0	-3.2	
	comp=N,8.2nm,0.3s,baz=220,slow=14,SNR=21							
PTGA	Pitinga	20.37	40	P	P	20 00 42.7	-2.5	
PTGA	Pitinga	20.37	40	eP	P	20 00 42.4	-2.8	
PTGA	Pitinga	20.37	40	eP	Pn	20 00 45.9	-1.8	
PRAC	Prado	20.43	354	eP	Pn	20 00 46.9	-1.4	
ORTC	Ortega, Tolima	20.66	353	eP	Pn	20 00 48.8	-2.3	
YOTC	Yotoco, Valle	20.88	350	eP	P	20 00 49.6	-1.2	
PCMB	Pacaembu	20.98	107	eP	P	20 00 54.3	+2.6	
PTGB	Pitanga	21.00	116	eP	P	20 00 55.2	+3.1	
ANIL	Santa Ana	21.25	353	eP	P	20 00 56.2	+1.3	
TOLC	Tolima	21.33	353	eP	P	20 00 56.3	+0.5	
SNDB	Serra Nova Dou	21.43	80	eP	P	20 00 58.4	+1.8	
ROSC	El Rosal	21.50	356	P	P	20 00 56.5	-1.2	
ROSC				IAmb	IAmb	20 01 15.4		
	comp=Z,33nm,1.0s							
ROSC	El Rosal	21.50	356	eP	P	20 01 00.8	+3.1	
ITRB	Iturama	21.59	101	eP	P	20 01 00.2	+1.9	
RREF	El Recreo	21.65	353	eP	P	20 01 03.0	+3.5	
PLMC	San Jos del P	21.77	351	eP	P	20 01 00.8	+0.5	
ITAB	Concordia	21.86	122	eP	P	20 01 03.2	+2.2	
GUY2C	Guyana, Caldas	21.97	353	eP	P	20 01 03.8	+1.0	
NORC	Norcasia	22.25	355	eP	P	20 01 04.6	-0.8	
CPSB	Cacapava Do Su	22.36	131	eP	P	20 01 08.7	+2.2	
RUSC	La Rusia	22.49	359	eP	P	20 01 05.8	-2.7	
BOAV	Boa Vista	22.60	34	eP	P	20 01 10.1	+1.0	
CBOC	Ciudad Bolivar	22.68	352	eP	P	20 01 11.9	+1.8	
FRTB	Fartura	22.85	110	eP	P	20 01 12.7	+1.0	
PTBC	PUERTO BERRIO,	23.19	356	eP	P	20 01 13.6	-1.5	
BARC	Barichara	23.19	359	eP	P	20 01 12.7	-2.7	
BB19B	Bebedouro	23.43	104	eP	P	20 01 34.3	+2.8	
DBBC	Dabeiba	23.84	352	eP	P	20 01 22.7	+1.4	
BDFB	Brasilia	23.90	91	P	P	20 01 20.1	-1.8	
	comp=Z,2.6nm,0.4s,baz=264,slow=11,SNR=6.9							
BDFB	Brasilia	23.90	91	P	P	20 01 21.0	-0.9	
PAMC	Pamplona, Colo	23.93	0	eP	P	20 01 21.9	-0.6	
PLCA	Paso Flores	23.99	176	P	P	20 01 23.4	+0.9	
	comp=Z,8.0nm,0.7s,baz=344,slow=11,SNR=6.0							
PLCA	Paso Flores	23.99	176	P	P	20 01 22.9	+0.5	
PLCA				IAmb	IAmb	20 01 40.9		
	comp=Z,18nm,0.9s							
ZARC	Zaragoza, Cauc	24.16	355	eP	P	20 01 21.1	-3.0	
PEXB	Peixe	24.24	82	eP	P	20 01 26.6	+1.8	
UREC	San Jos de Ur	24.48	354	eP	P	20 01 26.6	-0.4	
PRPB	Parauapebas	24.89	68	eP	P	20 01 31.3	+0.4	
SMLC	San Martn de	25.41	357	eP	P	20 01 33.5	-1.9	
SDV	Santo Domingo	25.56	5	P	P	20 01 35.2	-1.9	
	comp=Z,2.6nm,0.4s,baz=226,slow=8.6,SNR=9.4							
SDV	Santo Domingo	25.56	5	P	P	20 01 36.4	-0.6	
SDV				IAmb	IAmb	20 01 59.8		
	comp=Z,17nm,1.1s							
SDV	Santo Domingo	25.56	5	eP	P	20 01 39.5	+2.4	
SDV	Santo Domingo	25.56	5	eP	P	20 01 37.7	+0.6	
SMTB	Santa Maria do	25.85	75	eP	P	20 01 42.0	+2.4	
MCPB	Macapa, AP	26.19	54	eP	P	20 01 44.3	+1.7	
SJCC	San Jacinto, C	26.57	355	eP	P	20 01 48.8	+2.8	
JANB	Januaria	27.52	91	eP	P	20 01 50.9	+1.4	
DIAM	Diamantina, MG	27.88	98	eP	P	20 02 00.5	+2.6	
NBIT	Itapeh - BA	32.20	92	eP	P	20 02 36.4	+0.4	
NBPN	Ponto Novo - B	32.24	84	eP	P	20 02 37.0	+0.6	
GDU01	Guandu, BA	32.25	89	eP	P	20 02 37.9	+1.4	
NBAN	Anadia - AL	36.28	84	eP	P	20 03 11.5	+0.2	
TXAR	Lajitas Array	54.61	327	P	P	20 05 35.6	-0.5	
	comp=Z,0.8nm,0.5s,baz=148,slow=8.5,SNR=12							
TXAR	Lajitas Array	54.61	327	P	P	20 05 35.4	-0.7	
TX31	Lajitas Ar. Si	54.61	327	P	P	20 05 35.2	-0.9	
TX31				IAmb	IAmb	20 06 00.0		
	comp=Z,5.2nm,1.0s							
S44A	Carbondale	56.30	344	P	P	20 05 44.8	-3.1	
SIUC	Southern Illin	56.31	344	P	P	20 05 45.4	-2.6	
MNTX	Cornudas Mount	57.38	327		P	20 05 54.2	-1.6	
121A	Cookes Peak, D	59.30	326		P	20 06 09.1	-0.3	
121A				IAmb	IAmb	20 06 35.9		
	comp=Z,3.5nm,0.8s							
LENM	Lemitar	60.15	328	P	P	20 06 13.5	-1.7	
WUAZ	Wupatki	63.51	325	P	P	20 06 37.8	+0.1	
WUAZ				IAmb	IAmb	20 06 54.2		
	comp=Z,5.7nm,0.8s							
ECSD	EROS Data Cent	63.99	341	P	P	20 06 40.7	+0.2	
ECSD				IAmb	IAmb	20 06 56.0		
	comp=Z,5.3nm,0.9s							
SMCO	Snowmass	64.12	331	P	P	20 06 42.1	+0.2	
PV15	Paradox Valley	64.17	329	P	P	20 06 43.3	+1.2	
PV15				IAmb	IAmb	20 06 58.3		
	comp=Z,8.7nm,0.9s							
PV02	Paradox Valley	64.19	329	P	P	20 06 41.5	-0.7	
PV13	Radium Mtn., P	64.19	329	P	P	20 06 42.2	-0.1	
F36A	Milaca	65.06	344	P	P	20 06 46.5	-0.9	
KNB	Kanab	65.40	326	P	P	20 06 50.7	+0.7	
KNB				IAmb	IAmb	20 07 06.4		
	comp=Z,6.6nm,0.8s							
O20A	White River Ci	65.47	331	P	P	20 06 51.0	+0.6	
O20A				IAmb	IAmb	20 07 07.0		
	comp=Z,5.6nm,1.0s							
LCMT	Little Creek M	65.62	325	P	P	20 06 53.0	+1.5	
VNA3	Neumayer Olymp	65.75	162	P	P	20 06 52.4	+0.7	
SRU	San Rafael Swe	65.78	329	P	P	20 06 51.8	-0.7	
SRU				IAmb	IAmb	20 07 07.8		
	comp=Z,4.7nm,0.8s							
F33A	5 Mile Ranch,	65.80	342	P	P	20 06 51.7	-0.5	
MTPU	Mount Pierson	65.82	327		P	20 06 52.9	-0.1	
MTPU				IAmb	IAmb	20 07 08.5		
	comp=Z,3.2nm,0.7s							
Q16A	Castle Valley	65.95	328	P	P	20 06 54.1	+0.6	
Q16A				IAmb	IAmb	20 07 18.9		
	comp=Z,6.8nm,1.1s							
SZCU	Shurtz Canyon	65.97	326	P	P	20 06 53.7	-0.1	
SZCU				IAmb	IAmb	20 07 09.8		
	comp=Z,5.5nm,1.2s							
VNA1	Neumayer--Stat	65.99	161	P	P	20 06 54.8	+1.7	
CCUT	Cedar City	66.08	326	P	P	20 06 54.8	+0.3	
CCUT				IAmb	IAmb	20 07 11.6		
	comp=Z,6.7nm,1.1s							
P17A	Butcher Ranch,	66.16	329	P	P	20 06 53.8	-1.0	
P17A				IAmb	IAmb	20 07 10.4		
	comp=Z,6.1nm,0.7s							
MSU	Marysvale	66.17	327	P	P	20 06 54.7	-0.3	
TMUT	Trail Mountain	66.26	328	P	P	20 06 54.7	-0.9	
TMUT				IAmb	IAmb	20 07 11.5		
	comp=Z,4.1nm,0.8s							
SHPR	Sheep Range	66.33	324	P	P	20 06 53.6	-2.4	
VNA2	Neumayer--Watz	66.35	161	P	P	20 06 56.8	+1.3	
	baz=280,slow=7.7							
RDMU	Red Mountain	66.44	330	P	P	20 06 56.0	-0.7	
RDMU				IAmb	IAmb	20 07 10.9		
	comp=Z,7.9nm,1.1s							
PSUT	Pine Spring	67.07	326	P	P	20 07 01.8	+1.1	
PSUT				IAmb	IAmb	20 07 17.4		
	comp=Z,7.6nm,1.0s							
TPNV	Topopah Spring	67.26	323	P	P	20 07 00.9	-1.0	
TPNV				IAmb	IAmb	20 07 18.3		
	comp=Z,7.4nm,1.0s							
JLU	Jordanelle	67.37	329	P	P	20 07 01.0	-1.7	
JLU				IAmb	IAmb	20 07 18.0		
	comp=Z,5.9nm,1.0s							
B35A	Bob, Littlefor	67.43	345	P	P	20 07 01.9	-0.6	
DUG	Dugway, Tooele	67.75	328		P	20 07 05.6	+0.6	
DUG				IAmb	IAmb	20 07 20.6		
	comp=Z,5.8nm,0.8s							
R11A	Troy Canyon, C	67.87	325	P	P	20 07 04.3	-1.5	
AGMN	Agassiz Nation	67.92	344	P	P	20 07 05.2	-0.5	
SNAA	Sanae	67.97	161	P	P	20 07 07.2	+1.4	
SNAA	Sanae	67.97	161	P	P	20 07 06.6	+0.8	
PDAR	Pinedale Array	68.15	332	P	P	20 07 07.4	-0.1	
	comp=Z,0.2nm,0.3s,baz=142,slow=4.6,SNR=2.2							
HWUT	Hardware Ranch	68.20	330	P	P	20 07 07.5	-0.2	
HWUT				IAmb	IAmb	20 07 34.6		
	comp=Z,4.4nm,0.8s							
MDND	Maddock	68.61	341	P	P	20 07 09.4	-0.5	
HVU	Hansel Valley	68.92	329		P	20 07 12.1	-0.2	
HVU				IAmb	IAmb	20 07 27.0		
	comp=Z,5.4nm,0.8s							
ELK	Elko	69.41	327	P	P	20 07 16.3	+0.9	
NVAR	Mina Array Bea	69.46	323	P	P	20 07 16.6	+0.9	
	comp=Z,2.5nm,0.8s,baz=148,slow=6.7,SNR=10							
ULM	Lac du Bonnet	69.72	344	P	P	20 07 17.0	+0.3	
	comp=Z,1.8nm,0.5s,baz=164,slow=7.3,SNR=4.2							
ULM	Lac du Bonnet	69.72	344		P	20 07 16.3	-0.4	
ULM				IAmb	IAmb	20 07 30.7		
	comp=Z,7.4nm,0.7s							
KVN	Kaiserville	69.77	324	P	P	20 07 17.7	+0.1	
WAKR	Walker	70.16	323	P	P	20 07 21.1	+1.1	
YERR	Yerington	70.37	323	P	P	20 07 20.4	-0.8	
YERR				IAmb	IAmb	20 07 25.5		
	comp=Z,15nm,1.4s							
PNTR	Pine Nut	70.65	323	P	P	20 07 23.0	0.0	
PNTR				IAmb	IAmb	20 07 40.0		
	comp=Z,10nm,0.8s							
LIC	Lamto	70.83	77	eP	P	20 07 23.3	-1.1	
	comp=Z,29nm,0.9s							
PAHR	Pah Rah Range	70.94	324	P	P	20 07 23.4	-1.3	
TIC	Toumodi	70.99	77	eP	P	20 07 27.4	+2.1	
HLID	Hailey	71.05	329	P	P	20 07 24.5	-0.8	
DBIC	Dimbokro	71.15	77	P	P	20 07 25.1	-1.2	
	comp=Z,5.6nm,0.7s,baz=205,slow=6.0,SNR=8.8							
DBIC	Dimbokro	71.15	77	P	P	20 07 24.1	-2.1	
KIC	Kosan Boka	71.15	77	eP	P	20 07 25.4	-0.9	
	comp=Z,34nm,0.6s							
MCMT	McKenzie Canyo	71.26	331	P	P	20 07 26.1	-0.5	
MFID	Camas Ranch	71.64	328	P	P	20 07 29.4	+0.6	
MFID				IAmb	IAmb	20 07 45.0		
	comp=Z,11nm,0.9s							
ORV	Oroville	72.06	322	P	P	20 07 32.3	+1.1	
EGMT	Eagleton	72.41	335	P	P	20 07 32.7	-0.5	
EGMT				IAmb	IAmb	20 07 47.2		
	comp=Z,11nm,1.2s							
QSPA	South Pole Qui	73.42	180	P	P	20 07 40.8	+1.7	
K05A	Summer Lake	73.82	325	P	P	20 07 43.5	+1.7	
K05A				IAmb	IAmb	20 07 59.0		
	comp=Z,8.4nm,0.9s							
I07A	Izee	74.00	327	P	P	20 07 44.2	+1.4	
F10A	Beach Ranch, E	74.18	330	P	P	20 07 43.3	-0.4	
F10A				IAmb	IAmb	20 08 03.2		
	comp=Z,5.8nm,0.8s							
G08A	Pilot Rock	74.56	328	P	P	20 07 45.2	-0.7	
PINE	Pine Mountain	74.56	326	P	P	20 07 47.9	+1.7	
KOWA	Kowa	74.73	69	P	P	20 07 46.6	-0.9	
KOWA				IAmb	IAmb	20 08 01.0		
	comp=Z,5.7nm,0.9s							
HAWA	Hanford	75.61	329	P	P	20 07 52.0	+0.2	
HAWA				IAmb	IAmb	20 08 08.3		
	comp=Z,10.0nm,0.8s							
H04A	Detroit Lake	75.82	326		P	20 07 53.6	+0.5	
H04A				IAmb	IAmb	20 08 08.8		
	comp=Z,6.9nm,0.7s							
D05A	Enumclaw	77.39	328	P	P	20 08 01.6	-0.2	
TOA0	Torodi Ar. Sit	79.42	73	P	P	20 08 12.6	-1.2	
TORD	Torodi Ar. Bea	79.42	73	P	P	20 08 13.4	-0.4	
	comp=Z,12nm,0.7s,baz=260,slow=5.2,SNR=12							
TORD	Torodi Ar. Bea	79.42	73	P	P	20 08 13.0	-0.8	
SBA	Scott Base	79.79	191	P	P	20 08 16.8	+2.1	
SBA				IAmb	IAmb	20 08 18.1		
	comp=Z,7.8nm,0.9s							
VNDA	Vanda	80.84	190	P	P	20 08 23.2	+2.8	
	comp=Z,5.1nm,0.9s,baz=119,slow=4.4,SNR=17							
VNDA	Vanda	80.84	190	P	P	20 08 22.4	+2.1	
VNDA				IAmb	IAmb	20 08 24.2		
	comp=Z,7.6nm,1.0s							
ESDC	Sonseca Array	85.19	46	P	P	20 08 43.6	+0.2	
	comp=Z,1.6nm,0.8s,baz=260,slow=5.3,SNR=6.1							
ESDC	Sonseca Array	85.19	46	P	P	20 08 45.3	+1.9	
ESDC				IAmb	IAmb	20 08 58.7		
	comp=Z,3.8nm,1.1s							
YKA	Yellowknife Ar	85.50	342	P	P	20 08 44.6	+0.2	
	comp=Z,2.2nm,0.6s,baz=134,slow=5.5,SNR=38							
TAM	Tamanrasset	86.13	65		P	20 08 47.6	-1.1	
BOSA	Boshof	89.01	119	P	P	20 09 02.6	+0.2	
	comp=Z,2.7nm,0.9s,baz=81,slow=17,SNR=2.2							
MAW	Mawson	89.91	164	P	P	20 09 06.8	+1.1	
	comp=Z,8.8nm,0.8s,baz=293,slow=4.2,SNR=4.4							
MAW	Mawson	89.91	164	P	P	20 09 07.7	+2.0	
KEST	Kesra	93.50	54	P	P	20 09 21.9	-1.0	
	comp=Z,1.0nm,0.5s,baz=94,slow=6.2,SNR=1.0							
ILAR	Eielson Array	98.37	335	P	Pdif	20 09 44.2	-0.1	
	comp=Z,0.4nm,0.8s,baz=148,slow=3.4,SNR=4.7							
KBZ	Khabaz	119.95	49	PKP	PKPdf	20 14 57.2	0.0	
	comp=Z,1.6nm,0.8s,baz=271,slow=5.3,SNR=5.6							
STKA	Stephens Creek	121.43	214	PKP	PKiKP	20 15 01.1	+0.3	
	comp=Z,0.9nm,0.5s,baz=171,slow=2.4,SNR=5.4							
H11N3	WAKE ISLAND Hyl	123.38	283	T	T	22 30 27.2		
	baz=98,slow=75,SNR=121							
H11N2	WAKE ISLAND Hyl	123.40	283	T	T	22 30 33.0		
	baz=98,slow=75,SNR=145							
H11N1	WAKE ISLAND Hyl	123.40	283	T	T	22 30 35.6		
	baz=98,slow=75,SNR=104							
H11S2	WAKE ISLAND Hyl	123.41	281	T	T	22 30 36.3		
	baz=98,slow=75,SNR=176							
H11S1	WAKE ISLAND Hyl	123.42	281	T	T	22 30 32.8		
	baz=98,slow=75,SNR=127							
H11S3	WAKE ISLAND Hyl	123.43	281	T	T	22 30 37.6		
	baz=98,slow=75,SNR=220							
PETK	Petropavlovsk-	126.53	325	PKP	PKiKP	20 15 10.8	+0.7	
	comp=Z,3.1nm,0.9s,baz=343,slow=1.5,SNR=1.5							
CTA	Charters Tower	126.92	228	PKP	PKiKP	20 15 12.2	+0.3	
ASAR	Alice Springs	132.06	214	PKP	PKPdf	20 15 21.2	0.0	
	comp=Z,1.5nm,0.5s,baz=127,slow=1.9,SNR=30							
ASAR	Alice Springs	132.06	214	PKPdf	PKPdf	20 15 20.9	-0.2	
WRA	Warramunga Arr	134.79	217	PKP	PKPdf	20 15 26.9	+0.6	
	comp=Z,3.0nm,0.5s,baz=141,slow=1.7,SNR=35							
WRA	Warramunga Arr	134.79	217		PKPdf	20 15 26.3	0.0	
ZALV	Zalesovo Beam	139.02	20	PKP	PKPdf	20 15 33.3	+0.3	
	comp=Z,4.9nm,0.6s,baz=299,slow=2.4,SNR=23							
ZALV	Zalesovo Beam	139.02	20	PKPdf	PKPdf	20 15 32.7	-0.3	
MKAR	Makanchi Array	143.66	29	PKP	PKPbc	20 15 39.3	+0.1	
	comp=Z,0.8nm,0.4s,baz=337,slow=2.6,SNR=20							
MKAR	Makanchi Array	143.66	29		PKPpre	20 15 38.3		
USRK	Ussuriysk Ar.	145.51	328	PKPbc	PKPab	20 15 45.6	+0.3	
	comp=Z,8.0nm,0.6s,baz=28,slow=2.7,SNR=22							
USRK	Ussuriysk Ar.	145.51	328	PKPdf	PKPab	20 15 45.3	0.0	
MJAR	Matsushiro Arr	146.16	312	PKPbc	PKPbc	20 15 47.4	0.0	
	comp=Z,6.3nm,0.5s,baz=89,slow=1.4,SNR=20							
SONM	Songino Array	148.99	1	PKP	PKPdf	20 15 51.2	+0.3	
	comp=Z,4.2nm,0.7s,baz=1.4,slow=1.4,SNR=5.7							
SONM				PKPbc	PKiKP	20 15 55.7	-0.5	
	comp=Z,6.4nm,0.7s,baz=338,slow=1.7,SNR=52							
KSRS	Korea Array	152.40	322	PKPbc	PKiKP	20 16 04.0	+0.7	
	comp=Z,4.2nm,0.7s,baz=357,slow=1.5,SNR=14							
XAN	Xi'an	162.70	355	PKP	PKPdf	20 15 57.5	-12	
XAN				pPKP	pPKPdf	20 16 10.5	-16	
XAN				LR	LR			
	comp=N,240nm,17.3s							
XAN				LR	LR			
	comp=Z,210nm,17.3s							
CMAR	Chiang Mai Arr	172.02	76	PKP	PKPdf	20 16 16.9	+0.6	
	comp=Z,0.4nm,0.6s,baz=225,slow=2.0,SNR=4.6							
CMAR				PKPab	PKPab	20 17 39.7	+0.1	
	comp=Z,0.3nm,0.4s,baz=277,slow=5.7,SNR=2.5							
CMAR	Chiang Mai Arr	172.02	76		PKPdf	20 16 15.9	-0.4	

*IDC **18** 19:59:13.7±6.8, 12°.08S×166°.60E, h227km±70km, mb3.3/6, mb1 3.5/7, mb1mx3.3/33, mbtmp4.0/7, Error ellipse: s-maj=53.2km s-min=27.3km az=166.0*

ISC 18 19:59:11.0±1.1, **11°.95S**±0°.10×**166°.6E**±0°.2, **h200km, n9, σ1§09/10, mb3.6/6, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.06	181	P	Pn	20 01 32.9	+1.7
	4.2nm,0.3s,baz=300,slow=22,SNR=48						
DZM				S	Sn	20 03 22.0	-1.8
	0.2nm,0.3s,baz=101,slow=21,SNR=1.2						
CTA	Charters Tower	21.15	245	P	P	20 03 41.4	+0.6
	9.5nm,1.2s,baz=288,slow=15,SNR=2.2						
WRA	Warramunga Arr	31.98	251	P	P	20 05 18.1	-0.5
	0.3nm,0.7s,baz=83,slow=9.0,SNR=2.0						
ASAR	Alice Springs	33.15	245	P	P	20 05 28.1	-0.7
	0.5nm,0.6s,baz=72,slow=9.4,SNR=7.0						
SONM	Songino Array	79.89	324	P	P	20 10 58.4	+0.7
	0.3nm,0.3s,baz=140,slow=5.6,SNR=6.3						
ILAR	Eielson Array	84.10	18	P	P	20 11 18.4	-0.7
	0.9nm,0.6s,baz=238,slow=5.3,SNR=12						
MKAR	Makanchi Array	94.75	317	P	P	20 12 09.4	-0.4
	1.1nm,0.7s,baz=91,slow=6.6,SNR=14						
ARCES	ARCESS Array B	117.42	346	PKP	PKiKP	20 17 32.3	0.0
	3.9nm,1.0s,baz=57,slow=2.5,SNR=9.9						
FINES	FINESS Array B	122.92	339	PKP	PKiKP	20 17 43.1	-0.1
	1.1nm,0.9s,baz=90,slow=1.9,SNR=4.2						

*NEIC **18** 20:09:06.1±2.6, 36°.05S±0°.06×73°.9W±0°.1, h7km±4km, Error ellipse: s-maj=14.8km s-min=8.0km az=76.0*
*IDC **18** 20:09:07.8±0.8, 36°.16S×73°.34W, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.3/34, mbtmp4.3/16, ML4.0/3, Error ellipse: s-maj=26.4km s-min=14.6km az=77.0*
*SJA **18** 20:09:09.1±0.5, 35°.81S×73°.70W, h10km, ML4.5, MW4.1*
*GUC **18** 20:09:09.5±0.8, 36°.04S×73°.76W, h28km±58km, ML4.5*
*VAO **18** 20:09:10.3±0.6, 36°.03S×73°.56W, h10km, mb4.8*

ISC 18 20:09:07.2±0.5, **36°.06S**±0°.04×**73°.96W**±0°.06, **h10km, n180, σ1§56/185, mb4.8/36, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI03	Tigo	1.09	137	⇑P	Pb	20 09 27.0	-1.1
BI03				eS	Sg	20 09 39.2	-3.0
BI03				IAML		20 09 45.9	
	comp=N,53µm,0.5s						
BI03	Tigo	1.09	137		Pb	20 09 26.9	-1.1
LAJA	Laja	1.58	141	eP	Pn	20 09 34.2	-1.0
BI02	San Fabin de	2.25	106		Pn	20 09 43.7	-0.8
BO03	Pichilemu	2.26	47	eP	Pn	20 09 43.6	-1.0
BO03				IAML		20 10 27.0	
	comp=N,2µm,0.7s						
BI04	Isla Mocha	2.35	179	IAML		20 11 05.5	
	comp=N,2µm,1.1s						
BO02	Sierra Bellavi	2.88	65	eP	Pn	20 09 53.3	0.0
BO02	Sierra Bellavi	2.88	65		Pn	20 09 52.3	-1.0
CANA	Caviahue	2.95	129	eP	Pn	20 09 56.1	+1.8
CANA				eS	Sb	20 10 36.1	-0.1
VA05	Santo Domingo	3.07	39	eP	Pn	20 09 55.3	-0.5
VA05				IAML		20 11 01.1	
	comp=E,1µm,0.4s						
MT09	Talagante	3.34	48	eP	Pn	20 09 59.2	-0.4
MT09				IAML		20 11 05.2	
	comp=N,2µm,0.7s						
MT02	Curacav	3.63	41	eP	Pn	20 10 02.3	-1.3
MT02				IAML		20 11 16.1	
	comp=N,438nm,0.7s						
MT02	Curacav	3.63	41		Pn	20 10 02.1	-1.4
COIS	El Sosneado	3.68	76	eP	Pn	20 10 05.3	+1.1
MT05	Renca	3.75	46	eP	Pn	20 10 05.5	+0.3
MT05	Renca	3.75	46	Pn	Pn	20 10 04.3	-1.0
MT03	Universidad Ad	3.82	49	eP	Pn	20 10 06.1	-0.1
ROC1	El Roble	3.92	39	eP	Pn	20 10 08.5	+0.8
ROCH	El Roble	3.92	39	eP	Pn	20 10 07.3	-0.4
PEL	Peldehue	3.97	44	eP	Pn	20 10 08.6	+0.5
PEL	Peldehue	3.97	44		Pn	20 10 07.7	-0.4
PEL	Peldehue	3.97	44	eP	Pn	20 10 08.7	+0.5
PEL				eS	Sn	20 10 55.4	+0.6
VA03	San Esteban	4.33	42	eP	Pn	20 10 13.0	-0.2
VA03	San Esteban	4.33	42		Pn	20 10 12.7	-0.5
H03S1	Juan Fernandez	4.62	297	T	T	20 15 16.6	
	baz=116,slow=74,SNR=482						
H03S3	Juan Fernandez	4.64	297	T	T	20 15 22.9	
	baz=116,slow=74,SNR=433						
H03S2	Juan Fernandez	4.64	297	T	T	20 15 20.9	
	baz=116,slow=74,SNR=694						
RFA	San Rafael	4.67	76	eP	Pn	20 10 19.1	+1.3
RFA				eS	Sb	20 11 30.4	+5.0
RFA				IAML		20 11 47.7	
	comp=Z,554nm,1.0s						
AAGR	Agrelo	5.17	56	eP	Pn	20 10 26.1	+1.4
AAGR				IAML		20 12 01.3	
	comp=Z,244nm,1.3s						
ARCO	CERRO ARCO	5.25	54	eP	Pn	20 10 27.8	+1.9
AR

SMTB	**Santa Maria do**	**36.18**	**48**	*e*P	**P**	**20 16 11.0**	**+0.9**
PRPB	**Parauapebas**	**37.08**	**42**	*e*P	**P**	**20 16 18.7**	**+1.0**
NBIT	**Itapeh - BA**	**37.31**	**65**	*e*P	**P**	**20 16 20.5**	**+0.8**
PTGA	**Pitinga**	**37.48**	**23**	P	**P**	**20 16 22.5**	**+1.4**
	comp=Z,8.5nm,1.0s,baz=198,slow=8.0,SNR=9.8						
PTGA	**Pitinga**	**37.48**	**23**	P	**P**	**20 16 22.3**	**+1.2**
PTGA				IAmb	IAmb	20 16 30.6	
	comp=Z,13nm,1.0s						
PTGA	**Pitinga**	**37.48**	**23**	*e*P	**P**	**20 16 22.9**	**+1.9**
GDU01	**Guandu, BA**	**38.00**	**63**	*e*P	**P**	**20 16 25.6**	**+0.1**
NBPN	**Ponto Novo - B**	**39.52**	**59**	*e*P	**P**	**20 16 39.2**	**+0.8**
BOAV	**Boa Vista**	**40.26**	**21**	*e*P	**P**	**20 16 46.0**	**+1.6**
NBLA	**Lagarto - SE**	**41.12**	**62**	*e*P	**P**	**20 16 52.0**	**+0.4**
NBTA	**Tacaratu-PE**	**42.22**	**59**	*e*P	**P**	**20 17 01.2**	**+0.5**
NBMA	**Muriti-CE**	**42.99**	**57**	*e*P	**P**	**20 17 08.5**	**+1.5**
NBAN	**Anadia - AL**	**43.11**	**62**	*e*P	**P**	**20 17 08.5**	**+0.7**
SDV	**Santo Domingo**	**44.81**	**5**	P	**P**	**20 17 24.8**	**+3.2**
	comp=Z,1.5nm,0.4s,baz=176,slow=15,SNR=1.5						
SDV	**Santo Domingo**	**44.81**	**5**	P	**P**	**20 17 18.9**	**-2.7**
BELA	**Belgrano 2**	**45.15**	**169**	P	**P**	**20 17 22.5**	**-1.0**
BELA				IAmb	IAmb	20 17 25.1	
	comp=Z,8.3nm,0.7s						
VNA3	**Neumayer Olymp**	**48.07**	**157**	P	**P**	**20 17 48.5**	**+2.1**
VNA1	**Neumayer--Stat**	**48.42**	**156**	P	**P**	**20 17 52.2**	**+3.1**
VNA2	**Neumayer--Watz**	**48.75**	**156**	P	**P**	**20 17 54.1**	**+2.4**
	baz=293,slow=7.8						
SNAA	**Sanae**	**50.29**	**157**	P	**P**	**20 18 05.5**	**+2.0**
SNAA	**Sanae**	**50.29**	**157**	P	**P**	**20 18 03.6**	**+0.1**
	comp=Z,13nm,1.0s,baz=256,slow=7.2,SNR=9.6						
SNAA	**Sanae**	**50.29**	**157**	P	**P**	**20 18 04.9**	**+1.4**
QSPA	**South Pole Qui**	**54.18**	**180**	P	**P**	**20 18 31.9**	**-0.7**
QSPA				IAmb	IAmb	20 18 37.2	
	comp=Z,10nm,1.0s						
TX31	**Lajitas Ar. Si**	**70.80**	**333**	P	**P**	**20 20 22.8**	**-1.1**
TX32	**Lajitas Array**	**70.80**	**333**	P	**P**	**20 20 22.5**	**-1.4**
TXAR	**Lajitas Array**	**70.80**	**333**	P	**P**	**20 20 28.2**	**+4.2**
	comp=Z,0.3nm,0.5s,baz=157,slow=8.2,SNR=7.6						
TXAR	**Lajitas Array**	**70.80**	**333**	P	**P**	**20 20 25.1**	**+1.2**
SWET	**Sewanee**	**71.78**	**350**	P	**P**	**20 20 30.4**	**+0.7**
V48A	**Smith Brothers**	**72.43**	**349**	P	**P**	**20 20 32.8**	**-0.7**
ABTX	**Abilene, Hawle**	**72.44**	**337**	P	**P**	**20 20 32.6**	**-1.1**
WVT	**Waverly**	**72.97**	**348**	P	**P**	**20 20 34.0**	**-2.7**
MNTX	**Cornudas Mount**	**73.56**	**332**	P	**P**	**20 20 38.5**	**-1.8**
T47A	**Sharon Grove**	**73.70**	**349**	P	**P**	**20 20 40.0**	**-1.0**
S54A	**Dingess, Beckl**	**73.80**	**354**	P	**P**	**20 20 41.2**	**-0.4**
S54A				IAmb	IAmb	20 20 41.8	
	comp=Z,8.4nm,0.8s						
WMOK	**Wichita Mounta**	**74.14**	**339**	P	**P**	**20 20 42.3**	**-1.4**
WMOK				IAmb	IAmb	20 20 54.9	
	comp=Z,13nm,1.4s						
U40A	**Yellville**	**74.16**	**344**	P	**P**	**20 20 44.5**	**+0.8**
HHAR	**Hobbs**	**74.33**	**343**	P	**P**	**20 20 43.9**	**-0.8**
HHAR				IAmb	IAmb	20 21 10.9	
	comp=Z,8.9nm,1.4s						
U38A	**Gravette**	**74.59**	**343**	P	**P**	**20 20 46.1**	**-0.1**
OK030	**Cody Creek RV**	**74.70**	**341**	P	**P**	**20 20 45.6**	**-1.3**
OK030				IAmb	IAmb	20 20 58.3	
	comp=Z,10nm,0.8s						
OK031	**S. Brethren Rd**	**74.74**	**341**	P	**P**	**20 20 45.9**	**-1.2**
OK031				IAmb	IAmb	20 20 58.5	
	comp=Z,10nm,0.9s						
CCM	**Cathedral Cave**	**75.46**	**346**	P	**P**	**20 20 52.4**	**+1.2**
CCM				IAmb	IAmb	20 21 03.1	
	comp=Z,14nm,1.1s						
S39A	**Bolivar**	**75.54**	**344**	P	**P**	**20 20 53.5**	**+1.8**
S39A				IAmb	IAmb	20 20 57.1	
	comp=Z,12nm,1.4s						
R40A	**Maddies Statio**	**75.89**	**345**	P	**P**	**20 20 53.2**	**-0.5**
R40A				IAmb	IAmb	20 21 04.9	
	comp=Z,15nm,1.4s						
KAN09	**Caldwell North**	**76.06**	**341**	P	**P**	**20 20 56.1**	**+1.4**
KAN05	**Bluff City Nor**	**76.11**	**340**	P	**P**	**20 20 53.5**	**-1.4**
LIC	**Lamto**	**76.91**	**72**	*e*P	**P**	**20 21 01.1**	**+1.1**
	comp=Z,76nm,1.6s						
P40A	**Paris**	**77.04**	**346**	P	**P**	**20 21 00.5**	**+0.3**
TIC	**Toumodi**	**77.18**	**72**	*e*P	**P**	**20 21 02.7**	**+1.1**
KIC	**Kosan Boka**	**77.22**	**72**	*e*P	**P**	**20 21 02.5**	**+0.7**
	comp=Z,24nm,1.0s						
DBIC	**Dimbokro**	**77.32**	**72**	P	**P**	**20 21 01.4**	**-0.9**
	comp=Z,4.8nm,0.8s,baz=215,slow=6.8,SNR=6.9						
T25A	**Trinidad**	**78.12**	**336**	P	**P**	**20 21 06.9**	**+0.4**
W18A	**Petrified Fore**	**78.27**	**331**	P	**P**	**20 21 05.6**	**-1.7**
W18A				IAmb	IAmb	20 21 21.2	
	comp=Z,8.4nm,1.1s						
BOSA	**Boshof**	**80.50**	**118**	P	**P**	**20 21 18.3**	**-1.5**
	comp=Z,8.0nm,0.9s,baz=211,slow=7.1,SNR=7.1						
BOSA	**Boshof**	**80.50**	**118**	P	**P**	**20 21 15.3**	**-4.5**
BOSA				IAmb	IAmb	20 21 22.2	
	comp=Z,11nm,1.0s						
SMCO	**Snowmass**	**80.83**	**335**	P	**P**	**20 21 21.3**	**-0.2**
KNB	**Kanab**	**81.16**	**329**	P	**P**	**20 21 21.0**	**-2.0**
KNB				IAmb	IAmb	20 21 36.6	
	comp=Z,10nm,1.1s						
CCUT	**Cedar City**	**81.84**	**329**	P	**P**	**20 21 29.0**	**+2.3**
ECSD	**EROS Data Cent**	**82.05**	**344**	P	**P**	**20 21 29.4**	**+2.1**
ECSD				IAmb	IAmb	20 21 39.4	
	comp=Z,8.1nm,1.0s						
PRN	**Pahroc Range**	**82.43**	**328**	P	**P**	**20 21 30.6**	**+1.0**
PRN				IAmb	IAmb	20 21 44.0	
	comp=Z,10nm,1.1s						
KOWA	**Kowa**	**82.91**	**66**	P	**P**	**20 21 32.2**	**-0.3**
KOWA				IAmb	IAmb	20 21 42.2	
	comp=Z,11nm,1.0s						
COWI	**Conover**	**82.92**	**349**	P	**P**	**20 21 33.0**	**+1.2**
COWI				IAmb	IAmb	20 21 35.1	
	comp=Z,5.6nm,0.9s						
R11A	**Troy Canyon, C**	**83.45**	**328**	P	**P**	**20 21 33.8**	**-1.1**
R11A				IAmb	IAmb	20 21 48.4	
	comp=Z,6.1nm,1.2s						
DUG	**Dugway, Tooele**	**83.88**	**331**	P	**P**	**20 21 35.5**	**-1.6**
DUG				IAmb	IAmb	20 21 50.7	
	comp=Z,7.7nm,1.0s						
HWUT	**Hardware Ranch**	**84.62**	**333**		**P**	**20 21 40.0**	**-0.8**
NVAR	**Mina Array Bea**	**84.70**	**327**	P	**P**	**20 21 46.0**	**+4.7**
	comp=Z,0.4nm,0.7s,baz=98,slow=6.1,SNR=3.7						
NVAR	**Mina Array Bea**	**84.70**	**327**	P	**P**	**20 21 40.8**	**-0.6**
PDAR	**Pinedale Array**	**84.91**	**335**	P	**P**	**20 21 46.4**	**+4.0**
	comp=Z,0.3nm,0.5s,baz=186,slow=1.5,SNR=4.1						
HVU	**Hansel Valley**	**85.23**	**332**	P	**P**	**20 21 47.2**	**+3.3**
HVU				IAmb	IAmb	20 21 56.0	
	comp=Z,5.4nm,1.0s						
ELK	**Elko**	**85.32**	**330**	P	**P**	**20 21 44.8**	**+0.3**
ECR	**Eagle Creek**	**85.81**	**333**	P	**P**	**20 21 43.9**	**-2.9**
TOA0	**Torodi Ar. Sit**	**86.38**	**71**	P	**P**	**20 21 49.2**	**-0.8**
TOA0				IAmb	IAmb	20 21 59.2	
	comp=Z,9.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**86.38**	**71**	P	**P**	**20 21 49.2**	**-0.8**
	comp=Z,8.4nm,0.9s,baz=224,slow=3.9,SNR=4.5						
YHH	**Holmes Hill**	**87.13**	**335**	P	**P**	**20 21 53.4**	**0.0**
YHH				IAmb	IAmb	20 22 06.6	
	comp=Z,7.2nm,1.2s						
ULM	**Lac du Bonnet**	**88.09**	**346**	P	**P**	**20 21 58.9**	**+1.4**
	comp=Z,1.9nm,0.7s,baz=167,slow=3.5,SNR=4.3						
ULM	**Lac du Bonnet**	**88.09**	**346**	P	**P**	**20 21 58.9**	**+1.4**
ULM				IAmb	IAmb	20 22 24.8	
	comp=Z,7.9nm,1.3s						
HYB	**Hyderabad**	**149.38**	**120**	*i* PKP	**PKiKP**	**20 28 58.0**	**-0.1**
ZALV	**Zalesovo Beam**	**156.80**	**33**	PKP	**PKPdf**	**20 29 04.0**	**+1.9**
	comp=Z,0.5nm,0.4s,baz=316,slow=6.2,SNR=5.0						
ZALV				PKPab	**PKPab**	**20 29 32.6**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=305,slow=5.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**156.80**	**33**	PKPdf	**PKPdf**	**20 29 01.3**	**-0.8**
MKAR	**Makanchi Array**	**159.29**	**51**	PKP	**PKPdf**	**20 29 06.5**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=288,slow=0.4,SNR=8.9						
MKAR				PKPab	**PKPab**	**20 29 41.9**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=288,slow=5.0,SNR=6.4						
MKAR	**Makanchi Array**	**159.29**	**51**	PKPdf	**PKPdf**	**20 29 04.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**161.38**	**158**	PKP	**PKPdf**	**20 29 11.0**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=247,slow=37,SNR=3.2						
CMAR				PKPab	**pPKPab**	**20 29 54.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=309,slow=39,SNR=2.1						
CMAR	**Chiang Mai Arr**	**161.38**	**158**		**PKPdf**	**20 29 08.2**	**-0.4**
SONM	**Songino Array**	**168.23**	**359**	PKP	**PKPdf**	**20 29 14.9**	**+1.1**
	comp=Z,0.7nm,1.1s,baz=150,slow=3.3,SNR=3.9						
SONM				PKPab	**sPKPab**	**20 30 24.9**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=333,slow=1.7,SNR=3.8						

*SOME **18** 20:27:48.4, 39.°75N×74.°10E, h10km*
*KRNET **18** 20:27:50.0±0.1, 39.°74N×74.°08E, h14km, mb3.3*
*NNC **18** 20:27:55.3±2.4, 39.°93N×74.°15E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=19.1km s-min=11.2km az=170.0*
ISC 18 20:27:47.5±1.5,**39.72N**±0.06×**74.09E**±0.03,**h15**km±11km,
n46,σ1=**71**/74,**36C-12D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.54**	**303**	⇑*i*P	**Pn**	**20 28 00.3**	**-0.6**
	baz=2.0						
SFK				⇑*i*S	**Sb**	**20 28 08.0**	**+1.5**
	baz=2.0						
OHH	**Osh**	**1.28**	**309**	⇓*i*P	**Pg**	**20 28 13.9**	**+1.6**
	baz=9.0						
OHH				⇓*i*S	**Sn**	**20 28 31.5**	**+3.5**
	baz=9.0						
DRK	**Karamyk**	**1.79**	**263**	⇑*i*P	**Pg**	**20 28 23.1**	**+1.2**
	baz=62						
DRK				⇑*i*S	**Sg**	**20 28 47.3**	**+2.1**
	baz=62						
ARSB	**Arslanbob**	**1.81**	**332**	⇑*i*P	**Pg**	**20 28 23.7**	**+1.4**
	baz=33						
ARSB				⇑*i*S	**Sg**	**20 28 47.9**	**+2.1**
	baz=33						
ARLS	**Aral**	**2.14**	**5**	⇑*i*P	**Pg**	**20 28 28.8**	**+0.1**
	baz=5.0						
ARLS				⇑*i*S	**Sg**	**20 28 57.1**	**+0.6**
	baz=5.0						
AML	**Almayashu**	**2.42**	**353**	⇑*i*P	**Pg**	**20 28 32.9**	**-1.2**
	baz=53						
AML				⇑*i*S	**Sb**	**20 29 03.7**	**+2.8**
	baz=53						
AML	**Almayashu**	**2.42**	**353**	P	**Pg**	**20 28 34.1**	**+0.1**
	SNR=22						
UCH	**Uchtor**	**2.52**	**7**	⇓*i*P	**Pg**	**20 28 34.3**	**-1.6**
	baz=7.0						
UCH				⇓*i*S	**Sb**	**20 29 06.2**	**+2.4**
	baz=7.0						
UCH	**Uchtor**	**2.52**	**7**	P	**Pg**	**20 28 35.6**	**-0.4**
	SNR=13						
BTK	**Batken**	**2.54**	**279**	⇑*i*P	**Pg**	**20 28 34.3**	**-2.0**
	baz=78						
BTK				⇑*i*S	**Sg**	**20 29 07.0**	**-2.3**
	baz=78						
TRKS	**Terek-Say**	**2.88**	**310**	⇑*i*P	**Pb**	**20 28 38.0**	**-0.8**
	baz=9.0						
TRKS				⇑*i*S	**Sb**	**20 29 13.8**	**-0.1**
	baz=9.0						
AAK	**Ala-Archa**	**2.93**	**6**	⇑*i*P	**Pb**	**20 28 39.9**	**+0.4**
	baz=6.0						
AAK				⇑*i*S	**Sb**	**20 29 15.8**	**+0.6**
	baz=6.0						
AAK	**Ala-Archa**	**2.93**	**6**	P	**Pg**	**20 28 41.7**	**-1.9**
	SNR=6.9						
AAK	**Ala-Archa**	**2.93**	**6**	⇑Pn	**Pg**	**20 28 41.8**	**-1.9**
	7.5nm,0.5s						
AAK				⇑Lg	Lg	20 29 23.0	
	14nm,0.6s						
EKS2	**Erkin-Say**	**2.95**	**355**	⇑*i*P	**Pb**	**20 28 40.0**	**+0.2**
	baz=56						
EKS2				⇑*i*S	**Sb**	**20 29 16.0**	**+0.3**
	baz=56						
EKS2	**Erkin-Say**	**2.95**	**355**	P	**Pg**	**20 28 42.2**	**-1.8**
	SNR=11						
ULHL	**Ulahol**	**3.00**	**32**	⇑*i*P	**Pb**	**20 28 40.9**	**+0.1**
	baz=32						
ULHL				⇑*i*S	**Sb**	**20 29 18.2**	**+0.9**
	baz=32						
KBK	**Karagaybulak**	**3.00**	**12**	⇑*i*P	**Pb**	**20 28 40.8**	**0.0**
	baz=12						
KBK				⇑*i*S	**Sb**	**20 29 17.8**	**+0.5**
	baz=12						
KBK	**Karagaybulak**	**3.00**	**12**	P	**Pg**	**20 28 42.9**	**-2.1**
	SNR=8.1						
MNAS	**Manas**	**3.01**	**337**	⇑*i*P	**Pb**	**20 28 40.9**	**0.0**
	baz=37						
MNAS				⇑*i*S	**Sb**	**20 29 18.9**	**+1.3**
	baz=37						
BOOM	**Boomskoye usch**	**3.10**	**26**	⇑*i*P	**Pb**	**20 28 42.3**	**-0.1**
	baz=27						
BOOM				⇑*i*S	**Sb**	**20 29 20.4**	**+0.4**
	baz=27						
FRU1	**Bishkek**	**3.11**	**7**	⇓*e*P	**Pb**	**20 28 42.4**	**-0.2**
	baz=7.0						
FRU1				⇓*i*S	**Sb**	**20 29 21.0**	**+0.6**
	baz=7.0						
KDJ	**Kajisay**	**3.35**	**43**	⇑*e*P	**Pb**	**20 28 46.2**	**-0.6**
	baz=44						
KDJ				⇑*i*S	**Sb**	**20 29 26.7**	**-0.8**
	baz=44						
TKM2	**Tokmak 2**	**3.39**	**19**	⇓*i*P	**Pb**	**20 28 46.4**	**-1.0**
	baz=19						
TKM2				⇓*i*S	**Sb**	**20 29 27.1**	**-1.4**
	baz=19						
TKM2	**Tokmak 2**	**3.39**	**19**	⇑Pn	**Pg**	**20 28 49.5**	**-3.0**
	2.7nm,0.6s						
TKM2				⇓Lg	Lg	20 29 36.6	
	6.6nm,0.5s						
USP	**Ospenovka**	**3.55**	**5**	⇑*e*P	**Pb**	**20 28 48.5**	**-1.6**
	baz=5.0						
USP				⇑*i*S	**Sb**	**20 29 30.3**	**-2.8**
	baz=5.0						
KST	**Kastek**	**3.60**	**22**	*e*P	**Pg**	**20 28 53.9**	**-2.7**
	3.4nm,0.3s						
KST				*e*S	**Sg**	**20 29 41.8**	**-1.4**
	11nm,0.5s						
KST	**Kastek**	**3.60**	**22**	Pg	**Pg**	**20 28 54.1**	**-2.4**
	3.4nm,0.3s						
KST				Lg	Lg	20 29 42.1	
	11nm,0.5s						
DGS	**Degeres**	**3.73**	**19**	*e*P	**Pg**	**20 28 57.7**	**-1.4**
	5.3nm,0.4s						
DGS				*e*S	**Sg**	**20 29 48.2**	**+0.7**
	13nm,0.8s						
DGS	**Degeres**	**3.73**	**19**	Pg	**Pg**	**20 28 57.7**	**-1.4**
	5.3nm,0.4s						
DGS				Lg	Lg	20 29 48.2	
	13nm,0.8s						
SGDS	**Sogindy**	**3.75**	**6**	Pg	**Pg**	**20 28 56.7**	**-2.6**
	8.1nm,0.5s						
SGDS				Lg	Lg	20 29 46.3	
	3.6nm,0.4s						
MTBS	**Maitube**	**3.83**	**27**	*e*P	**Pg**	**20 29 00.1**	**-0.8**
	1.9nm,0.1s						
MTBS				*e*S	**Sg**	**20 29 52.3**	**+1.8**
	7.7nm,0.3s						
MTBS	**Maitube**	**3.83**	**27**	Pg	**Pg**	**20 29 00.1**	**-0.8**
	1.9nm,0.1s						
MTBS				Lg	Lg	20 29 52.3	
	7.7nm,0.3s						
IUG	**luzhnay**	**3.92**	**310**	*e*P	**Pg**	**20 29 02.3**	**-0.2**
	8.3nm,0.3s						
IUG				*e*S	**Sg**	**20 29 55.7**	**+2.4**
	24nm,0.5s						
IUG	**luzhnay**	**3.92**	**310**	Pg	**Pb**	**20 28 53.5**	**-2.8**
	13nm,0.2s						
IUG				Lg	Lg	20 29 41.0	
	62nm,0.5s						
TNSS	**Tian-Shan**	**3.95**	**32**	*e*P	**Pg**	**20 29 03.0**	**-0.1**
	3.3nm,0.5s						
TNSS				*e*S	**Sg**	**20 29 57.1**	**+2.9**
	5.6nm,0.5s						
TNSS	**Tian-Shan**	**3.95**	**32**	Pg	**Pg**	**20 29 03.0**	**-0.1**
	3.3nm,0.5s						
TNSS				Lg	Lg	20 29 57.1	
	5.6nm,0.5s						
MDOK	**Medeo**	**4.09**	**32**	*e*P	**Pg**	**20 29 05.7**	**-0.2**
	5.1nm,0.5s						
MDOK				*e*S	**Sg**	**20 30 01.6**	**+2.7**
	9.5nm,0.7s						
MDOK	**Medeo**	**4.09**	**32**	Pg	**Pg**	**20 29 07.0**	**+1.1**
	4.0nm,0.5s						
MDOK				⇓Lg	Lg	20 30 01.8	
	7.9nm,0.6s						
MDOK	**Medeo**	**4.09**	**32**	Pg	**Pg**	**20 29 05.7**	**-0.2**
	5.1nm,0.5s						
MDOK				Lg	Lg	20 30 01.6	
	9.5nm,0.7s						
KK31	**Karatay Array**	**4.32**	**323**	⇑Pn	**Pb**	**20 28 58.9**	**-4.3**
	1.1nm,0.3s,baz=130,slow=13,SNR=22						
KK31				⇑Sn	**Sb**	**20 29 51.8**	**-3.3**
	2.9nm,0.4s,baz=144,slow=25,SNR=6.0						
KK31				⇓Lg	Lg	20 30 07.6	
	3.0nm,0.4s,baz=136,slow=29,SNR=3.9						
KUU	**Kurty**	**4.49**	**21**	*e*P	**Pg**	**20 29 11.4**	**-2.1**
	0.9nm,0.1s						
KUU				*e*S	**Sg**	**20 30 11.7**	**-0.1**
	9.9nm,0.7s						
KUU	**Kurty**	**4.49**	**21**	Pg	**Pg**	**20 29 11.4**	**-2.1**
	0.9nm,0.1s						
KUU				Lg	Lg	20 30 11.7	
	9.9nm,0.7s						
SATY	**Saty**	**4.65**	**43**	*e*P	**Pg**	**20 29 15.4**	**-1.2**
	1.0nm,0.3s						
SATY				*e*S	**Sg**	**20 30 18.5**	**+1.7**
	5.8nm,0.6s						
SATY	**Saty**	**4.65**	**43**	Pg	**Pg**	**20 29 15.4**	**-1.2**
	1.0nm,0.3s						
SATY				Lg	Lg	20 30 18.5	
	5.8nm,0.6s						
PDGK	**Podgornoye**	**5.42**	**47**	⇓Pg	**Pg**	**20 29 31.1**	**-0.2**
	4.4nm,1.1s						
PDGK				⇑Lg	Lg	20 30 41.7	
	4.4nm,0.8s						

DJA 18 20:37:29.1±1.2,**0.°N**±4.°×**12.°2E**±.°,**h125**km±10km,**M2.4**/5,
MLv2.4/5,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.61**	**297**	P	Pn	20 37 49.2	+0.9
MRSI				S	Sn	20 38 03.0	+0.2
GTOI	**Gorontalo**	**0.68**	**50**	P	Pn	20 37 49.9	+1.1
GTOI				S	Sn	20 38 05.9	+2.3
LUWI	**Luwuk**	**1.27**	**167**	P	Pn	20 37 54.4	+0.1
LUWI				S	Sn	20 38 14.2	+0.8
APSI	**Ampana**	**1.39**	**217**	P	Pn	20 37 55.8	+0.2
APSI				S	Sn	20 38 16.5	+0.8

IDC 18 20:37:57.5±2.8,**2.°28N**×**128.°40E**,**h250**km±32km,**mb3.3**/6,
mb1 3.4/7,**mb1mx3.1**/40,**mbtmp3.9**/7,**Error ellipse:**
s-maj=61.0km s-min=13.7km az=73.0,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.24**	**138**	P	Pn	20 39 04.2	0.0
	1.3nm,0.3s,baz=320,slow=14,SNR=4.9						
FITZ	**Fitzroy Crossi**	**20.43**	**188**	P	P	20 42 16.4	+0.1
	2.3nm,0.9s,baz=2.7,slow=8.9,SNR=2.0						
WRA	**Warramunga Arr**	**22.84**	**165**	P	P	20 42 39.1	-0.2
	1.4nm,0.4s,baz=345,slow=10.0,SNR=28						
ASAR	**Alice Springs**	**26.34**	**169**	P	P	20 43 11.1	+0.2
	1.4nm,0.4s,baz=354,slow=8.0,SNR=37						
STKA	**Stephens Creek**	**36.21**	**161**	P	P	20 44 36.8	0.0
	1.7nm,0.3s,baz=347,slow=6.7,SNR=14						
SONM	**Songino Array**	**49.20**	**341**	P	P	20 46 20.6	-0.2
	0.4nm,0.6s,baz=158,slow=8.4,SNR=4.3						
MKAR	**Makanchi Array**	**59.69**	**325**	P	P	20 47 35.9	0.0
	1.1nm,0.4s,baz=114,slow=8.1,SNR=42						

*ISK **18** 20:50:00.6, 39.°65N×27.°86E, h3km, ML3.7/41*
*DDA **18** 20:50:01.4, 39.°67N×27.°81E, h12km, 1km, MW3.7*
*THE **18** 20:50:01.2, 39.°60N×27.°94E, h0km, 3km, ML3.5/4, Error ellipse: s-maj=6.0km s-min=1.9km az=87.0*
*ATH **18** 20:50:02.6, 39.°65N×27.°88E, h10km, 31km, ML3.7/3, Error ellipse: s-maj=31.6km s-min=2.2km az=0.0*
*SOF **18** 20:50:03.9, 39.°89N×27.°59E, h2km, MD3.6*
ISC 18 20:50:01.7±1.0,**39.°65N**±0.°02×**27.°86E**±0.°02,**h6**km±9km,
n102,σ0=**79**/138,**13C-6D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALY	**Balya**	**0.21**	**296**	*i* P	**Pg**	**20 50 05.1**	**-0.7**
BALY				*i* S	**Sg**	**20 50 08.4**	**-0.1**
BALY				IAML		20 50 09.0	
	comp=N,13μm,0.6s						
BALY				IAML		20 50 10.0	
	comp=E,9μm,0.5s						
STEP	**BALIKESIR_Sava**	**0.29**	**202**	*i* P	**Pg**	**20 50 07.8**	**+0.4**
STEP				*i* S	**Sg**	**20 50 12.9**	**+1.6**
STEP				IAML		20 50 13.0	
	comp=N,6μm,0.8s						
STEP				IAML		20 50 13.0	
	comp=E,8μm,0.5s						
DST	**Dursunbey**	**0.59**	**94**	PG	**Pg**	**20 50 13.0**	**0.0**
DST				SG	**Sg**	**20 50 21.3**	**+0.6**
BUHA	**Balikesir, Bur**	**0.62**	**256**	*i* P	**Pg**	**20 50 13.6**	**0.0**
BUHA				*i* S	**Sg**	**20 50 22.3**	**+0.5**
BUHA				IAML		20 50 23.0	
	comp=E,3μm,0.4s						
BUHA				IAML		20 50 27.0	
	comp=N,3μm,0.7s						
EDC	**Edincik**	**0.70**	**0**	PG	**Pg**	**20 50 15.1**	**0.0**
EDC				SG	**Sg**	**20 50 24.7**	**+0.6**
KCTX	**Karacabey (Bur**	**0.72**	**32**	PG	**Pg**	**20 50 15.4**	**-0.2**
KCTX				SG	**Sg**	**20 50 25.8**	**+0.8**
KRBG	**Karabiga-Canak**	**0.86**	**330**	PG	**Pg**	**20 50 17.6**	**-0.6**
KRBG				SG	**Sb**	**20 50 30.2**	**-0.6**
ORLT	**Orhaneli**	**0.89**	**63**	PG	**Pg**	**20 50 18.9**	**+0.1**
ORLT				SG	**Sb**	**20 50 31.5**	**-0.2**
ZEDA	**zmir-Bergama**	**0.91**	**222**	*i* P	**Pg**	**20 50 19.1**	**-0.1**
ZEDA				*i* S	**Sb**	**20 50 32.0**	**-0.3**
ZEDA				IAML		20 50 34.0	
	comp=E,2μm,0.5s						
ZEDA				IAML		20 50 35.0	
	comp=N,4μm,0.5s						
DKL	**Dikili**	**0.94**	**232**	PG	**Pg**	**20 50 19.3**	**-0.4**
DKL				SG	**Sb**	**20 50 32.7**	**-0.3**

BOZC	**Bozcaada**	**1.41**	**278**	PN	**Pn**	**20 50 27.1**	**-0.7**
BLCB	**Balcova**	**1.42**	**207**	PN	**Pn**	**20 50 27.5**	**-0.4**
BLCB				SN	**Sg**	**20 50 47.6**	**+0.5**
ERIK	**Erikli-Kesan**	**1.45**	**315**	PN	**Pn**	**20 50 27.7**	**-0.7**
ERIK				SN	**Sg**	**20 50 48.7**	**+0.4**
YLV	**Yalova**	**1.48**	**51**	PN	**Pn**	**20 50 28.1**	**-0.8**
YLV				SN	**Sg**	**20 50 49.5**	**+0.3**
AVCI	**Avcilar-stanb**	**1.50**	**26**	PN	**Pn**	**20 50 29.1**	**0.0**
CFTB	**Yalova**	**1.50**	**47**	PN	**Pn**	**20 50 29.1**	**0.0**
CFTB				SN	**Sg**	**20 50 49.8**	**0.0**
SLVT	**Silivri**	**1.60**	**10**	PN	**Pn**	**20 50 30.4**	**-0.1**
GADA	**Gvkgeada**	**1.60**	**290**	PN	**Pn**	**20 50 30.6**	**+0.1**
GADA				SN	**Sb**	**20 50 52.6**	**+0.5**
SIGR	**SIGRI**	**1.61**	**255**	P	**Pb**	**20 50 31.9**	**+0.1**
SIGR				S	**Sg**	**20 50 53.1**	**-0.4**
SIGR				AML	AML	20 50 55.4	
	comp=E,4227µm,0.6s						
SIGR				AML	AML	20 51 00.3	
	comp=N,2866µm,0.7s						
SIGR	**SIGRI**	**1.61**	**255**	P	**Pn**	**20 50 30.3**	**-0.4**
SIGR				S	**Sb**	**20 50 52.3**	**-0.1**
	comp=N,2µm,0.7s						
SIGR	**SIGRI**	**1.61**	**255**	PN	**Pn**	**20 50 30.6**	**-0.1**
CAVI	**Cavuskoy**	**1.62**	**69**	PN	**Pn**	**20 50 31.0**	**+0.2**
URLA	**Izmir**	**1.62**	**218**	PN	**Pn**	**20 50 30.6**	**-0.2**
ADVT	**Abdulvahap**	**1.64**	**61**	PN	**Pn**	**20 50 31.3**	**+0.2**
CTKS	**Kestanelik-??a**	**1.66**	**17**	PN	**Pn**	**20 50 31.0**	**-0.3**
BGKT	**Bogazkoy**	**1.68**	**24**	PN	**Pn**	**20 50 31.7**	**+0.1**
KAVV	**Kandilli-Istan**	**1.68**	**33**	PN	**Pn**	**20 50 31.5**	**-0.2**
ISK	**Istanbul-Kandi**	**1.69**	**33**	PN	**Pn**	**20 50 31.3**	**-0.4**
AUBOZ	**BOZOYUK**	**1.69**	**80**	PN	**Pn**	**20 50 31.9**	**0.0**
AUBOZ				SN	**Sb**	**20 50 54.9**	**0.0**
ENEZ	**Enez**	**1.70**	**310**	PN	**Pn**	**20 50 31.1**	**-0.8**
ENEZ				SN	**Sb**	**20 50 54.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.70**	**179**	PN	**Pn**	**20 50 31.9**	**-0.1**
GMLD	**Gumuldur**	**1.73**	**205**	PN	**Pn**	**20 50 32.4**	**+0.1**
ALN	**Alexandroupoli**	**1.86**	**312**	P	**Pb**	**20 50 36.1**	**0.0**
ALN				S	**Sb**	**20 51 00.7**	**+1.0**
ALN				AML	AML	20 51 00.9	
	comp=E,1523µm,0.4s						
ALN				AML	AML	20 51 02.0	
	comp=N,1596µm,0.5s						
ALN	**Alexandroupoli**	**1.86**	**312**	P	**Pn**	**20 50 33.8**	**-0.3**
ALN				S	**Sg**	**20 51 00.9**	**-0.7**
	comp=N,762nm,0.5s						
CHOS	**Chios island**	**1.89**	**229**	P	**Pb**	**20 50 36.9**	**+0.3**
CHOS	**Chios island**	**1.89**	**229**	P	**Pn**	**20 50 34.0**	**-0.5**
SMTH	**Samothraki Isl**	**1.97**	**295**	P	**Pb**	**20 50 38.2**	**+0.4**
SMTH	**Samothraki Isl**	**1.97**	**295**	P	**Pn**	**20 50 35.9**	**+0.3**
SMTH				S	**Sg**	**20 51 04.3**	**-0.6**
	comp=N,2µm,0.5s						
RDO	**Rodhopi**	**2.32**	**311**	P	**Pn**	**20 50 40.6**	**+0.2**
EDRB	**Edirne**	**2.35**	**339**	P	**Pn**	**20 50 40.6**	**-0.3**
YER	**Yerkesik**	**2.53**	**172**	P	**Pn**	**20 50 42.8**	**-0.6**
THAS	**Thassos island**	**2.59**	**293**	P	**Pn**	**20 50 44.0**	**-0.1**
KAVA	**Kavala**	**2.89**	**299**	P	**Pn**	**20 50 48.2**	**0.0**
JMB	**Yambol**	**2.98**	**341**	P	**Pn**	**20 50 50.7**	**+1.3**
DIM	**Dimitrovgrad**	**2.98**	**324**	P	**Pn**	**20 50 50.3**	**+0.9**
RZN	**Rozhen**	**3.14**	**311**	P	**Pn**	**20 50 52.0**	**+0.1**
PLD	**Plovdiv**	**3.43**	**317**	P	**Pn**	**20 50 52.4**	**-3.2**
NVR	**Nevrokopi**	**3.49**	**300**	P	**Pn**	**20 50 56.7**	**+0.2**
SRS	**Serrai**	**3.57**	**296**	P	**Pn**	**20 50 58.0**	**+0.3**
MMB	**Musomiste**	**3.69**	**303**	P	**Pn**	**20 50 59.5**	**+0.2**
SZH	**Strazhica**	**3.89**	**339**	P	**Pn**	**20 51 02.2**	**+0.2**
KKB	**Krupnik**	**4.25**	**303**	P	**Pn**	**20 51 04.8**	**-2.2**
PLVB	**Pleven**	**4.46**	**328**	⇑P	**Pn**	**20 51 10.8**	**+1.0**
VTS	**Vitosha**	**4.58**	**312**	⇓P	**Pn**	**20 51 14.6**	**+2.9**
VTS	**Vitosha**	**4.58**	**312**	P	**Pn**	**20 51 12.5**	**+0.9**
STIP	**Stip**	**4.77**	**297**	*i* Pn	**Pn**	**20 51 12.7**	**-1.5**
TIRR	**Tirgusor**	**4.82**	**5**	⇓P	**Pn**	**20 51 15.8**	**+1.0**
MPEP	**Malo Peshtene**	**4.82**	**321**	P	**Pn**	**20 51 15.6**	**+0.8**
VLAD	**Vladila**	**5.05**	**330**	⇑P	**Pn**	**20 51 19.0**	**+1.1**
CFR	**Carcaliu**	**5.53**	**2**	⇑P	**Pn**	**20 51 25.7**	**+1.3**
TLCR		**5.58**	**7**	⇑P	**Pn**	**20 51 27.0**	**+1.9**
DIKM	**Dikmen**	**5.97**	**68**	⇑P	**Pg**	**20 51 51.8**	**-4.2**
VOIR		**6.14**	**341**	⇓P	**Pn**	**20 51 33.1**	**+0.1**
ARR	**Arges**	**6.19**	**338**	⇑P	**Pn**	**20 51 34.1**	**+0.4**
PLOR	**Plostina**	**6.26**	**352**	⇑P	**Pn**	**20 51 35.6**	**+1.0**
VRI	**Vrincioaia**	**6.27**	**353**	⇑P	**Pn**	**20 51 34.4**	**-0.3**
LOT	**Lotru**	**6.53**	**334**	⇓P	**Pn**	**20 51 39.2**	**+0.8**
DOPR	**Dopca**	**6.57**	**345**	⇑P	**Pn**	**20 51 38.6**	**-0.2**
HERR	**Herculane**	**6.60**	**324**	⇑P	**Pn**	**20 51 39.2**	**-0.1**
GZR	**Gura Zlata**	**6.86**	**328**	⇑P	**Pn**	**20 51 42.9**	**+0.1**
MDVR	**Moldovita**	**6.86**	**320**	⇓P	**Pn**	**20 51 43.4**	**+0.6**
TESR	**Tescani**	**6.92**	**353**	⇓P	**Pn**	**20 51 42.9**	**-0.7**
BZS	**Buzias**	**7.53**	**324**	⇑P	**Pn**	**20 51 52.9**	**+0.9**
BURAR	**Bucovina Array**	**8.19**	**347**	⇑P	**Pn**	**20 52 02.1**	**+1.0**

*IDC **18** 21:08:42.9±0.7, 39°.79N×143°.70E, h0km, mb3.9/27, mb1 4.0/32, mb1mx3.9/52, mbtmp3.9/32, ML3.4/5, Error ellipse: s-maj=17.3km s-min=14.5km az=115.0*
*MOS **18** 21:08:43.2±0.9, 39°.85N×143°.74E, h16km, mb4.4/13, Error ellipse: s-maj=8.8km s-min=5.5km az=97.3*
*NEIC **18** 21:08:43.4±1.4, 39°.78N±0°.03×143°.9E±0°.1, h10km±1km, mb4.4/26, Error ellipse: s-maj=15.9km s-min=4.0km az=76.0*
*JMA **18** 21:08:47.4±0.2, 39°.94N×143°.50E, h32km, M3.9*
*NIED **18** 21:08:47.4, 39°.94N×143°.50E, h32km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.01; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-0.95; $M_{r\theta}$-0.15; $M_{\theta\phi}$-0.32; $M_{\phi r}$0.55; Fault plane solution: $M_0$1.18000×10^{15} NP1:ϕ_s3.00000°, δ59.00000°, λ74.00000°. NP2:ϕ_s213.00000°, δ34.00000°, λ115.00000°.*

ISC 18 21:08:43.7±0.5, 39°.81N±0°.05×143°.84E±0°.06, h10km, n131, σ1s.55/140, mb4.1/46, 3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h	m	s	Res ISC
				Op						
JTH	**Tanohata**	**1.52**	**275**	P		**Pn**	**21 09 09.3**			**-1.7**
JTH				*e*S		**Sn**	**21 09 25.2**			**-5.7**
MIYJ	**Miyakonagasawa**	**1.57**	**262**	P		**Pn**	**21 09 10.8**			**-0.9**
JKEN	**Kujiedanarisaw**	**1.68**	**284**	P		**Pn**	**21 09 11.4**			**-1.8**
JANG	**Nango**	**1.87**	**288**	P		**Pn**	**21 09 14.1**			**-1.7**
JOM	**Ohasama**	**1.99**	**261**	P		**Pn**	**21 09 17.3**			**-0.2**
JMK	**Ichinoseki**	**2.20**	**248**	P		**Pn**	**21 09 19.9**			**-0.4**
ERM	**Erimo**	**2.26**	**347**	P		**Pn**	**21 09 20.4**			**-0.7**
ERM	**Erimo**	**2.26**	**347**			**Pn**	**21 09 20.4**			**-0.7**
JTM	**Tenmabayashi**	**2.33**	**296**	P		**Pn**	**21 09 21.3**			**-0.8**
JNBK	**Urakawa-nobuka**	**2.60**	**342**	P		**Pn**	**21 09 25.6**			**-0.2**
JOT	**Ohata**	**2.64**	**307**	P		**Pn**	**21 09 25.7**			**-0.7**
JCH	**Churui**	**2.82**	**353**	P		**Pn**	**21 09 28.3**			**-0.6**
JCH				*e*S		**Sn**	**21 10 00.1**			**-2.9**
JYK	**Kaneyama**	**2.84**	**253**	P		**Pn**	**21 09 29.2**			**+0.1**
JKB	**Kayabe**	**2.97**	**315**	P		**Pn**	**21 09 31.1**			**+0.2**
JKB				*e*S		**Sn**	**21 10 03.4**			**-3.2**
JMM	**Marumori**	**3.07**	**232**			**Pn**	**21 09 31.2**			**-1.0**
JAK	**Akkeshi**	**3.25**	**11**	P		**Pn**	**21 09 34.4**			**-0.3**
JAK				*e*S		**Sn**	**21 10 11.4**			**-2.0**
JEW	**Eniwo**	**3.52**	**330**	Pn		**Pn**	**21 09 39.1**			**+0.6**
NMR	**Nemuro--Hokkai**	**3.83**	**21**	⇓*i*P		**Pn**	**21 09 42.0**			**-0.7**
NMR				*i* S		**Sn**	**21 10 23.2**			**-4.5**
GLVR	**Golovnino**	**4.12**	**17**	*e*P		**Pn**	**21 09 46.5**			**-0.2**
GLVR				*e*S		**Sn**	**21 10 31.0**			**-3.9**
GLVR				pmax	pmax					
	comp=Z,159nm,0.5s									
GLVR				smax	smax					
	comp=E,160nm,0.2s									
GLVR				smax	smax					
	comp=N,776nm,0.3s									
JKA	**Kamikawa-asahi**	**4.40**	**348**	Pn		**Pn**	**21 09 50.4**			**-0.2**
ASAJ	**Asahikawa**	**4.40**	**348**	Pn		**Pn**	**21 09 51.1**			**+0.5**
	comp=N,2.9nm,0.3s,baz=182,slow=13,SNR=24									
ASAJ				Sn		**Sn**	**21 10 40.4**			**-1.4**
	comp=N,2.7nm,0.3s,baz=281,slow=31,SNR=6.9									
RUSJ	**Misakicho**	**4.42**	**13**	*e*P		**Pn**	**21 09 50.9**			**+0.1**
RUSJ				*e*S		**Sn**	**21 10 40.0**			**-2.2**
GRPR	**Tuman**	**4.42**	**18**	*e*P		**Pn**	**21 09 50.3**			**-0.5**
GRPR				*e*S		**Sn**	**21 10 37.0**			**-5.3**
GRPR				pmax	pmax					
	comp=Z,61nm,0.2s									
GRPR				smax	smax					
	comp=N,362nm,0.3s									
GRPR				smax	smax					
	comp=E,776nm,0.3s									
YUK	**Yuzh-Kuril'sk**	**4.48**	**19**	*d i*P		**Pn**	**21 09 51.0**			**-0.7**
YUK				*i* S		**Sn**	**21 10 39.6**			**-4.2**
YUK				pmax	pmax					
	comp=Z,138nm,0.3s									
YUK				pmax	pmax					
	comp=N,18nm,0.2s									
YUK				pmax	pmax					
	comp=E,36nm,0.1s									
YUK				smax	smax					
	comp=E,517nm,0.4s									
YUK				smax	smax					
	comp=N,211nm,0.3s									
JYT	**Yasato**	**4.59**	**220**	Pn		**Pn**	**21 09 52.6**			**-0.5**
JSD	**Sado**	**4.70**	**250**	Pn		**Pn**	**21 09 54.5**			**-0.1**
MAJO	**Matsushiro**	**5.50**	**235**	P		**Pn**	**21 10 06.7**			**+0.9**
MAJO	**Matsushiro**	**5.50**	**235**	Pn		**Pn**	**21 10 06.7**			**+0.9**
MAT	**Matsushiro**	**5.50**	**235**	P		**Pn**	**21 10 06.8**			**+1.0**
MAT				*e*S		**Sn**	**21 11 13.2**			**+4.0**
MJAR	**Matsushiro Arr**	**5.50**	**235**	Pn		**Pn**	**21 10 06.5**			**+0.7**
	comp=N,0.6nm,0.3s,baz=43,slow=12,SNR=33									
KUR	**Kuril'sk**	**6.18**	**27**	*e*P		**Pn**	**21 10 17.3**			**+2.3**
KUR				*e*S		**Sn**	**21 11 20.8**			**-4.9**
KUR				pmax	pmax					
	comp=Z,35nm,0.4s									
KUR				smax	smax					
	comp=N,71nm,0.3s									
KUR				smax	smax					
	comp=E,117nm,0.4s									
JGF	**Kuroka**	**6.64**	**233**	Pn		**Pn**	**21 10 22.5**			**+1.2**
INU	**Inuyama**	**7.01**	**233**	Pn		**Pn**	**21 10 25.1**			**-1.3**
JHJ	**Hachijo jima 2**	**7.43**	**207**	Pn		**Pn**	**21 10 32.1**			**-0.1**
	comp=E,5.8nm,0.3s,baz=66,slow=16,SNR=2.0									
JHJ				Sn		**Sn**	**21 11 49.4**			**-7.2**
	comp=E,12nm,0.3s,baz=244,slow=23,SNR=1.8									
JWT	**Wachi**	**8.08**	**239**	Pn		**Pn**	**21 10 42.8**			**+1.7**
USA0B	**Ussuriysk Arra**	**9.85**	**300**	P		**Pn**	**21 11 06.4**			**+1.1**
USA0B	**Ussuriysk Arra**	**9.85**	**300**	Pn		**Pn**	**21 11 06.4**			**+1.1**
USRK	**Ussuriysk Ar.**	**9.85**	**300**	Pn		**Pn**	**21 11 06.3**			**+1.0**
	baz=102,slow=14,SNR=20									
USRK	**Ussuriysk Ar.**	**9.85**	**300**	P		**Pn**	**21 11 06.7**			**+1.4**
USRK	**Ussuriysk Ar.**	**9.85**	**300**	Pn		**Pn**	**21 11 06.7**			**+1.4**
MDJ	**Mudanjiang**	**11.60**	**299**	Pn		**Pn**	**21 11 30.2**			**+0.9**
KSRS	**Korea Array**	**12.67**	**264**	Pn		**Pn**	**21 11 44.5**			**+0.6**
	comp=E,0.2nm,0.3s,baz=79,slow=19,SNR=2.8									
ZEA	**Zeya**	**17.91**	**327**	*e*P		**Pn**	**21 12 50.0**			**-2.7**
ZEA				pmax	pmax					
	comp=Z,10.0nm,0.8s									
MA2	**Magadan**	**20.27**	**10**	P		Pn	21 13 20.7			-0.4
	comp=Z,3.7nm,0.6s,baz=184,slow=6.8,SNR=6.7									
MA2	**Magadan**	**20.27**	**10**	P		**P**	**21 13 20.0**			**+0.9**
NJ2	**Nanjing**	**21.61**	**257**	*e*P		**P**	**21 13 34.5**			**+0.6**
NJ2				pmax	pmax					
	comp=Z,5.0nm,0.5s									
SEY	**Seymchan**	**23.72**	**10**	P		**P**	**21 13 56.5**			**+0.9**
	comp=Z,2.8nm,0.6s,baz=190,slow=6.4,SNR=16									
YAK	**Yakutsk**	**23.86**	**343**	P		**P**	**21 13 56.8**			**-0.1**
	comp=Z,6.5nm,0.5s,baz=185,slow=1.4,SNR=7.4									
YAK	**Yakutsk**	**23.86**	**343**	*e*P		**P**	**21 13 54.9**			**-2.0**
YAK				pmax	pmax					
	comp=Z,17nm,1.0s									
YAK				pmax	pmax					
	comp=N,2.0nm,1.1s									
YAK				pmax	pmax					
	comp=E,2.0nm,1.0s									
YAK	**Yakutsk**	**23.86**	**343**	P		**P**	**21 13 56.2**			**-0.7**
SSLB	**Suanglung**	**25.06**	**237**	P		**P**	**21 14 07.6**			**-0.7**
SSLB				IAmb	IAmb		21 14 09.5			
	comp=Z,10.0nm,1.0s									
YULB	**Yu-li**	**25.12**	**236**	P		**P**	**21 14 07.8**			**-1.0**
YULB				IAmb	IAmb		21 14 24.9			
	comp=Z,16nm,1.1s									
WHN	**Wuhan**	**25.72**	**258**	⇓P		**P**	**21 14 14.5**			**+0.3**
BOD	**Bodaibo**	**26.32**	**323**	*e*P		**P**	**21 14 19.3**			**-0.1**
BOD				pmax	pmax					
	comp=Z,8.0nm,1.8s									
ULN	**Ulaanbaatar**	**27.52**	**299**	P		**P**	**21 14 30.6**			**+0.1**
ULN				pmax	pmax					
	comp=Z,4.0nm,1.0s									
ULN	**Ulaanbaatar**	**27.52**	**299**	P		**P**	**21 14 30.6**			**+0.1**
ULN				IAmb	IAmb		21 14 40.1			
	comp=Z,3.5nm,1.0s									
SONM	**Songino Array**	**27.96**	**299**	P		**P**	**21 14 34.8**			**+0.4**
	comp=Z,1.3nm,0.6s,baz=86,slow=8.7,SNR=16									
SONM	**Songino Array**	**27.96**	**299**	P		**P**	**21 14 34.8**			**+0.4**
SONM				pmax	pmax					
	comp=Z,2.0nm,0.8s									
SONM	**Songino Array**	**27.96**	**299**	P		**P**	**21 14 34.8**			**+0.4**
H11N2	**WAKE ISLAND Hy**	**28.16**	**129**	T		T	21 44 43.7			
	baz=318,slow=75,SNR=26									
H11N1	**WAKE ISLAND Hy**	**28.17**	**129**	T		T	21 44 43.7			
	baz=318,slow=75,SNR=25									
H11N3	**WAKE ISLAND Hy**	**28.18**	**129**	T		T	21 44 43.7			
	baz=318,slow=75,SNR=24									
XAN	**Xi'an**	**28.38**	**269**	P		**P**	**21 14 38.5**			**+0.3**
XAN				sP	pwP		21 14 50.1			+5.3
XAN				pmax	pmax					
	comp=Z,5.0nm,1.6s									
XAN	**Xi'an**	**28.38**	**269**	P		**P**	**21 14 38.3**			**+0.1**
XAN				pmax	pmax					
	comp=Z,7.0nm,1.2s									
XAN	**Xi'an**	**28.38**	**269**	P		**P**	**21 14 38.3**			**+0.1**
XAN				IAmb	IAmb		21 14 39.0			
	comp=Z,7.1nm,1.2s									
ENH	**Enshi**	**29.54**	**262**	P		**P**	**21 14 47.9**			**-0.6**
TLY	**Talaya**	**30.07**	**307**	P		**P**	**21 14 53.2**			**+0.2**
	comp=Z,0.6nm,0.5s,baz=294,slow=11,SNR=3.1									
TIXI	**Tiksi**	**32.80**	**351**	P		**P**	**21 15 17.5**			**+0.8**
	comp=Z,1.2nm,0.3s,baz=122,slow=9.6,SNR=5.5									
GTA	**Gaotai**	**33.66**	**284**	*e*P		**P**	**21 15 24.4**			**-0.4**
GTA				pP	sP		21 15 29.1			+1.5
GTA				sP	pwP		21 15 31.9			+0.5
GTA				pmax	pmax					
	comp=Z,1.0nm,1.0s									
WMQ	**Urumqi**	**41.35**	**295**	*e*P		**P**	**21 16 31.1**			**+1.3**
WMQ				pmax	pmax					
	comp=Z,10.0nm,0.9s									
WMQ				pmax	pmax					
	comp=Z,170nm,4.3s									
WMQ				LR	LR					
	comp=N,18nm,7.5s									
WMQ				LR	LR					
	comp=E,630nm,18.1s									
WMQ				LR	LR					
	comp=Z,200nm,13.5s									
WMQ	**Urumqi**	**41.35**	**295**	P		**P**	**21 16 28.2**			**-1.6**
WMQ				pmax	pmax					
	comp=Z,4.0nm,0.9s									
WMQ	**Urumqi**	**41.35**	**295**	P		**P**	**21 16 28.2**			**-1.6**
WMQ				IAmb	IAmb		21 16 46.7			
	comp=Z,4.3nm,0.9s									
MYLDM	**Lahad Datu**	**41.36**	**220**	P		**P**	**21 16 29.3**			**-0.7**
MYLDM				IAmb	IAmb		21 16 34.3			
	comp=Z,16nm,1.2s									
ZAA0	**Zalesovo Array**	**41.52**	**310**	P		**P**	**21 16 30.8**			**-0.1**
ZAA0				IAmb	IAmb		21 16 40.2			
	comp=Z,2.7nm,0.6s									
ZALV	**Zalesovo Beam**	**41.52**	**310**	P		**P**	**21 16 30.7**			**-0.2**
	comp=Z,0.9nm,0.4s,baz=87,slow=6.1,SNR=4.5									
ZALV	**Zalesovo Beam**	**41.52**	**310**	P		**P**	**21 16 31.0**			**+0.1**
ZALV	**Zalesovo Beam**	**41.52**	**310**	P		**P**	**21 16 31.0**			**+0.1**
MK31	**Makanchi Array**	**44.31**	**300**	P		**P**	**21 16 53.4**			**-0.3**
MK31				pmax	pmax					
	comp=Z,1.0nm,0.7s									
MK31	**Makanchi Array**	**44.31**	**300**	P		**P**	**21 16 53.4**			**-0.3**
MKAR	**Makanchi Array**	**44.31**	**300**	P		**P**	**21 16 53.7**			**-0.1**
	comp=Z,1.2nm,0.8s,baz=81,slow=9.2,SNR=9.5									
MKAR	**Makanchi Array**	**44.31**	**300**	P		**P**	**21 16 53.2**			**-0.6**
MAKZ	**Makanchi**	**44.52**	**300**	P		**P**	**21 16 55.5**			**+0.1**
MAKZ				pmax	pmax					
	comp=Z,3.0nm,1.1s									
MAKZ	**Makanchi**	**44.52**	**300**	P		**P**	**21 16 55.5**			**+0.1**
MAKZ				IAmb	IAmb		21 17 04.2			
	comp=Z,2.9nm,1.1s									
KURK	**Kurchatov**	**45.77**	**306**	P		**P**	**21 17 05.8**			**+0.6**
KURK	**Kurchatov**	**45.77**	**306**	P		**P**	**21 17 05.8**			**+0.6**
KURBB	**Kurchatov Arra**	**45.85**	**306**	P		**P**	**21 17 05.8**			**0.0**
	comp=Z,2.3nm,0.6s,baz=80,slow=8.5,SNR=16									
ILAR	**Eielson Array**	**46.13**	**34**	P		**P**	**21 17 09.4**			**+1.6**
	comp=Z,0.1nm,0.6s,baz=262,slow=32,SNR=2.6									
BVAR	**Borovoye Array**	**50.15**	**311**	P		**P**	**21 17 38.8**			**-0.3**
	comp=Z,0.5nm,0.4s,baz=136,slow=17,SNR=6.8									
AAK	**Ala-Archa**	**50.88**	**297**	P		**P**	**21 17 44.2**			**-0.8**
	comp=Z,0.6nm,0.5s,baz=96,slow=4.3,SNR=2.3									
AAK	**Ala-Archa**	**50.88**	**297**	P		**P**	**21 17 44.6**			**-0.4**
AAK				pmax	pmax					
	comp=Z,3.0nm,1.3s									
AAK	**Ala-Archa**	**50.88**	**297**	P		**P**	**21 17 44.6**			**-0.4**
AAK				IAmb	IAmb		21 17 52.1			
	comp=Z,3.0nm,1.3s									
INK	**Inuvik**	**51.05**	**28**	P		**P**	**21 17 46.7**			**+1.1**
	comp=N,0.4nm,0.4s,baz=286,slow=11,SNR=2.1									
KK31	**Karatay Array**	**53.41**	**299**	P		**P**	**21 18 03.3**			**-0.3**
KK31				pmax	pmax					
	comp=Z,2.0nm,1.2s									
KK31	**Karatay Array**	**53.41**	**299**	P		**P**	**21 18 03.3**			**-0.3**
KKAR	**Karatay Array**	**53.41**	**299**	P		**P**	**21 18 03.5**			**-0.1**
KKAR				pmax	pmax					
	comp=Z,2.0nm,1.2s									
KKAR	**Karatay Array**	**53.41**	**299**	P		**P**	**21 18 03.5**			**-0.1**
ARU	**Arti**	**55.56**	**318**	P		**P**	**21 18 19.2**			**+0.2**
	comp=Z,0.7nm,0.5s,baz=16,slow=6.1,SNR=3.9									
ARU	**Arti**	**55.56**	**318**	P		**P**	**21 18 19.0**			**0.0**
ARU				IAmb	IAmb		21 18 33.1			
	comp=Z,2.9nm,0.6s									
NIL	**Nilore**	**55.58**	**287**	P		**P**	**21 18 19.3**			**-0.2**
NIL				pmax	pmax					
	comp=Z,7.0nm,1.0s									
NIL	**Nilore**	**55.58**	**287**	P		**P**	**21 18 19.3**			**-0.2**
ABKAR	**Akbulak array**	**57.62**	**310**	P		**P**	**21 18 33.8**			**0.0**
ABKAR				IAmb	IAmb		21 18 43.3			
	comp=Z,2.4nm,0.6s									
ABKAR	**Akbulak array**	**57.62**	**310**	P		**P**	**21 18 33.8**			**0.0**
KBL	**Kabul**	**58.22**	**290**	P		**P**	**21 18 38.2**			**-0.2**
KBL				pmax	pmax					
	comp=Z,4.0nm,0.5s									
KBL	**Kabul**	**58.22**	**290**	P		**P**	**21 18 38.2**			**-0.2**
AKTO	**Aktyubinsk**	**58.25**	**311**	P		**P**	**21 18 38.2**			**0.0**
	comp=Z,0.6nm,0.7s,baz=81,slow=13,SNR=5.7									
WB0	**Warramunga Arr**	**59.92**	**190**	P		**P**	**21 18 49.7**			**-0.3**
WB0				IAmb	IAmb		21 18 58.5			
	comp=Z,7.9nm,1.5s									
WB2	**Warramunga Arr**	**60.10**	**190**	P		**P**	**21 18 50.7**			**-0.5**
WB2				IAmb	IAmb		21 18 53.4			
	comp=Z,7.3nm,1.4s									
WRA	**Warramunga Arr**	**60.10**	**190**	P		**P**	**21 18 51.0**			**-0.1**
	comp=Z,0.8nm,0.5s,baz=8.1,slow=6.9,SNR=16									
WRA	**Warramunga Arr**	**60.10**	**190**	P		**P**	**21 18 50.9**			**-0.3**
YKA	**Yellowknife Ar**	**60.45**	**32**	P		**P**	**21 18 54.4**			**+1.3**
	comp=Z,0.1nm,0.5s,baz=305,slow=6.5,SNR=1.8									
ARCES	**ARCESS Array B**	**62.07**	**339**	P		**P**	**21 19 05.9**			**+1.8**
	comp=Z,1.8nm,0.8s,baz=61,slow=9.4,SNR=1.0									
BELG	**Belogorsnoye**	**63.07**	**317**	P		**P**	**21 19 11.4**			**+0.5**
	comp=Z,5.7nm,0.8s,baz=6.7,slow=2.9,SNR=3.1									
ASAR	**Alice Springs**	**63.83**	**190**	P		**P**	**21 19 16.8**			**+0.6**
	comp=Z,1.0nm,1.1s,baz=355,slow=4.8,SNR=2.7									
FIA1	**FINESS Array S**	**67.24**	**333**	P		**P**	**21 19 38.3**			**+0.4**
FINES	**FINESS Array B**	**67.24**	**333**	P		**P**	**21 19 38.4**			**+0.5**
	comp

1.7nm,0.4s
ELGU Los Guajares, 7.58 280 P **Pn** **21 55 15.3 +0.3**
0.2nm,0.1s,SNR=7.9
FRF La Foret Royal 7.70 5 P **Pn** **21 55 19.4 +2.7**
FRF S **Sn** **21 56 43.8 -0.1**
0.5nm,0.4s
FRF La Foret Royal 7.70 5 *e*Pn **Pn** **21 55 19.4 +2.7**
FRF *e*Sn **Sn** **21 56 43.8 -0.1**
1.0nm,0.4s
ETOR Torete 7.83 311 P **Pn** **21 55 22.4 +3.9**
0.5nm,0.1s,SNR=7.9
MTLF Montolieu 7.91 341 P **Pn** **21 55 18.3 -1.3**
MTLF S **Sn** **21 56 48.6 -0.5**
0.0nm,0.4s
MTLF Montolieu 7.91 341 *e*Pn **Pn** **21 55 18.3 -1.3**
MTLF *e*Sn **Sn** **21 56 48.6 -0.5**
1.0nm,0.4s
EGOR Sierra Gorda, 7.99 282 P **Pn** **21 55 21.5 +0.8**
0.1nm,0.0s,SNR=7.9
SBF Sospel 8.08 9 P **Pn** **21 55 24.7 +2.8**
SBF S **Sn** **21 56 52.7 -0.6**
3.2nm,0.8s
SBF Sospel 8.08 9 *e*Pn **Pn** **21 55 24.7 +2.8**
SBF *e*Sn **Sn** **21 56 52.7 -0.6**
6.5nm,0.8s
EPF Esparros 8.25 332 P **Pn** **21 55 26.8 +2.6**
EPF Esparros 8.25 332 *e*Pn **Pn** **21 55 26.8 +2.6**
LASF Ste Croix 8.30 351 P Pn 21 55 33.5 +8.6
LASF S **Sn** **21 56 58.0 -0.7**
0.7nm,0.5s
LASF Ste Croix 8.30 351 *e*P Pn 21 55 33.5 +8.6
LASF *e*Sn **Sn** **21 56 58.0 -0.7**
1.4nm,0.5s
ETSF Etsaut 8.51 327 P Pn 21 55 36.2 +8.4
ETSF S **Sn** **21 57 03.0 -0.9**
0.3nm,0.3s
ETSF Etsaut 8.51 327 *e*P Pn 21 55 36.2 +8.4
ETSF *e*Sn **Sn** **21 57 03.0 -0.9**
0.7nm,0.3s
EADA Adamuz 8.52 289 P **Pn** **21 55 28.6 +0.6**
0.1nm,0.1s,SNR=7.9
EADA S **Sn** **21 57 11.0 +6.9**
0.1nm,0.0s,SNR=7.9
ESDC Sonseca Array 8.53 299 Pn **Pn** **21 55 27.7 -0.3**
0.1nm,0.3s,baz=120,slow=15,SNR=7.1
ESDC Sn **Sn** **21 57 02.7 -1.6**
0.1nm,0.3s,baz=105,slow=24,SNR=1.3
PAB San Pablo 8.75 298 P **Pn** **21 55 32.3 +1.1**
0.0nm,0.1s,SNR=7.9
PAB S **Sn** **21 57 01.7 -8.2**
SNR=7.9
SJPF Ste Jean 8.98 326 P **Pn** **21 55 36.9 +2.7**
SJPF S **Sn** **21 57 13.9 -1.4**
0.6nm,0.3s
SJPF Ste Jean 8.98 326 *e*Pn **Pn** **21 55 36.9 +2.7**
SJPF *e*Sn **Sn** **21 57 13.9 -1.4**
1.2nm,0.3s
MDT Midelt 9.05 253 Pn **Pn** **21 55 33.0 -2.3**
0.2nm,0.3s,baz=80,slow=12,SNR=2.0
ECAB El Cabril 9.15 287 P **Pn** **21 55 35.0 -1.6**
0.1nm,0.1s,SNR=7.9
LFF La Frestale 9.80 339 P **Pn** **21 55 47.7 +2.3**
LFF La Frestale 9.80 339 *e*Pn **Pn** **21 55 47.7 +2.3**
LFF La Frestale 9.80 339 *e*P Pn 21 55 53.8 +8.4
GRR Gorron 13.40 341 P **Pn** **21 56 37.2 +2.6**
GRR Gorron 13.40 341 *e*Pn **Pn** **21 56 37.2 +2.6**
GRR Gorron 13.40 341 *e*P **P** **21 56 42.3 -1.8**
GERES GERESS Array B 14.23 22 Pn **Pn** **21 56 47.4 +1.4**
0.1nm,0.3s,baz=209,slow=10.0,SNR=1.8
EKA Eskdalemuir Ar 20.38 345 P Pn 21 58 03.0 -0.2
0.5nm,0.7s,baz=148,slow=11,SNR=1.9
BRTR Keskin Array B 22.38 72 P **P** **21 58 22.1 -0.9**
1.4nm,0.9s,baz=263,slow=8.6,SNR=2.9
AKASG Malin Array Be 22.51 42 P **P** **21 58 24.1 0.0**
1.0nm,0.6s,baz=237,slow=8.7,SNR=4.2
TORD Torodi Ar. Bea 22.92 190 P **P** **21 58 27.2 -1.6**
1.8nm,0.8s,baz=0.0,slow=12,SNR=4.3
KOWA Kowa 23.01 205 P **P** **21 58 28.8 -0.8**
0.4nm,0.4s,baz=23,slow=7.7,SNR=1.5
KURBB Kurchatov Arra 52.95 50 P **P** **22 02 39.5 -1.4**
0.5nm,0.3s,baz=276,slow=8.2,SNR=1.2
MKAR Makanchi Array 56.41 53 P **P** **22 03 04.9 -1.2**
0.6nm,0.7s,baz=293,slow=6.4,SNR=7.7
YKA Yellowknife Ar 70.93 335 P **P** **22 04 42.1 +0.5**
1.4nm,1.2s,baz=61,slow=6.1,SNR=6.5
PDAR Pinedale Array 81.97 318 P **P** **22 05 44.3 -0.5**
0.2nm,0.3s,baz=46,slow=7.7,SNR=2.3

GUC ***18*** *21:56:37.8±0.6,36°04'S×73°92'W,h21km±12km,ML4.6*
IDC ***18*** *21:56:38.5±1.1,36°21'S×73°65'W,h0km,mb4.1/8, mb1 4.2/10,mb1mx4.0/24,mbtmp4.0/10,ML3.9/2, Error ellipse: s-maj=33.9km s-min=18.1km az=70.0*
NEIC ***18*** *21:56:39.8±1.4,36°05S±0°05×73°63W±0°07,h6km±5km, mb4.2/8,ML4.5(GUC), Error ellipse: s-maj=10.0km s-min=4.9km az=49.0*
SJA ***18*** *21:56:39.2±0.7,35°85S×73°84W,h18km±10km,ML4.1, MW4.5*
VAO ***18*** *21:56:42.3±1.0,36°12S×73°36W,h10km,mb4.4*
ISC 18 21:56:38.8±1.9**,36°08S**±0°04×**73°70W**±0°05**,h3km**±12km**,**
n76,σ1s24/87,mb4.2/8,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.93**	**144**	*e*P	**Pg**	**21 56 56.5**	**-0.3**
BI03				*i* S	**Sb**	**21 57 09.7**	**-0.8**
BI03				IAML		21 57 15.3	
	comp=N,47μm,0.4s						
BI03	**Tigo**	**0.93**	**144**		**Pb**	**21 56 57.2**	**-0.4**
BI03					**Sb**	**21 57 09.3**	**-1.1**
LAJA	**Laja**	**1.44**	**147**	*e*P	**Pn**	**21 57 04.3**	**-1.4**
LAJA				*i* S	**Sb**	**21 57 21.9**	**-2.9**
BI02	**San Fabin de**	**2.04**	**107**	Pn	**Pn**	**21 57 14.2**	**0.0**
BI02				Sn	**Sb**	**21 57 39.5**	**-3.0**
BO03	**Pichilemu**	**2.13**	**42**↑	*e*P	**Pn**	**21 57 13.8**	**-1.5**
BO03				*i* S	**Sn**	**21 57 39.7**	**-2.5**
BO03				IAML		21 57 57.3	
	comp=N,2μm,0.5s						
BO02	**Sierra Bellavi**	**2.71**	**62**↑	*e*P	**Pn**	**21 57 23.2**	**-0.1**
BO02				*i* S	**Sn**	**21 57 57.2**	**+0.5**
BO02				IAML		21 58 14.6	
	comp=N,3μm,0.6s						
BO02	**Sierra Bellavi**	**2.71**	**62**	Pn	**Pn**	**21 57 23.6**	**+0.3**
MT09	**Talagante**	**3.21**	**45**	*e*P	**Pn**	**21 57 30.3**	**+0.1**
MT09				*e*S	**Sn**	**21 58 06.6**	**-2.3**
COIS	**El Sosneado**	**3.49**	**75**	*i* P	**Pn**	**21 57 36.1**	**+2.1**
COIS				*i* Sg	**Sg**	**21 58 32.0**	**+1.2**
MT02	**Curacav**	**3.52**	**38**↑	*e*P	**Pn**	**21 57 32.6**	**-1.9**
MT02				*i* S	**Sn**	**21 58 14.7**	**-1.9**
MT02	**Curacav**	**3.52**	**38**		**Pn**	**21 57 33.2**	**-1.2**
MT05	**Renca**	**3.63**	**43**	*e*P	**Pn**	**21 57 34.7**	**-1.2**
MT05	**Renca**	**3.63**	**43**	Pn	**Pn**	**21 57 35.9**	**-0.1**
LMEL	**Las Melosas**	**3.64**	**53**	*e*P	**Pn**	**21 57 35.6**	**-0.6**
LMEL				*i* S	**Sn**	**21 58 19.6**	**-0.1**
MT03	**Universidad Ad**	**3.69**	**46**	*e*P	**Pn**	**21 57 36.6**	**-0.1**
MT03				*e*S	**Sn**	**21 58 19.6**	**-1.1**
ROC1	**El Roble**	**3.81**	**36**	*i* P	**Pn**	**21 57 38.3**	**-0.3**
ROC1				*e*S	**Sn**	**21 58 22.9**	**-1.2**
ROCH	**El Roble**	**3.82**	**36**	*e*P	**Pn**	**21 57 38.2**	**-0.5**
PEL	**Peldehue**	**3.85**	**41**	*e*P	**Pn**	**21 57 39.1**	**+0.2**
PEL				*e*S	**Sn**	**21 58 22.5**	**-2.2**
PEL	**Peldehue**	**3.85**	**41**		**Pn**	**21 57 39.6**	**+0.7**
PEL	**Peldehue**	**3.85**	**41**	*i* P	**Pn**	**21 57 39.8**	**+0.8**
PEL				*e*S	**Sn**	**21 58 22.5**	**-2.2**
VA03	**San Esteban**	**4.21**	**39**		**Pn**	**21 57 44.2**	**+0.2**
RFA	**San Rafael**	**4.47**	**74**	*i* P	**Pn**	**21 57 50.3**	**+2.7**
RFA				IAML		21 59 16.6	
	comp=Z,225nm,0.9s						
H03S1	**Juan Fernandez**	**4.82**	**296**	Pn	**Pn**	**21 57 51.4**	**-0.6**
H03S1				T	T	22 02 52.5	
	baz=116,slow=74,SNR=641						
H03S3	**Juan Fernandez**	**4.83**	**296**	Pn	**Pn**	**21 57 51.6**	**-0.6**
H03S3				T	T	22 02 50.8	
	baz=116,slow=74,SNR=36						
H03S2	**Juan Fernandez**	**4.84**	**296**	Pn	**Pn**	**21 57 51.4**	**-0.9**
H03S2				T	T	22 02 50.8	
	baz=116,slow=74,SNR=636						
VA04	**Juan Fernndez**	**4.87**	**299**	Pn	**Pn**	**21 57 53.6**	**+0.7**
AAGR	**Agrelo**	**5.01**	**55**	*i* P	**Pn**	**21 57 57.4**	**+2.4**
AAGR				IAML		21 59 41.5	
	comp=Z,144nm,1.0s						
H03N1	**Juan Fernandez**	**5.03**	**300**	Pn	**Pn**	**21 57 55.0**	**+0.1**
H03N1				Sn	Sn	21 58 46.7	-6.8
	baz=80,slow=76,SNR=3.7						
H03N1				T	T	22 03 09.8	
	baz=110,slow=76,SNR=46						
H03N3	**Juan Fernandez**	**5.03**	**300**	Pn	**Pn**	**21 57 55.0**	**+0.1**
H03N3				Sn	Sn	21 58 46.7	-6.8
	baz=80,slow=76,SNR=14						
H03N3				T	T	22 03 10.4	
	baz=110,slow=76,SNR=34						
H03N2	**Juan Fernandez**	**5.05**	**300**	Pn	**Pn**	**21 57 55.2**	**+0.1**
H03N2				Sn	Sn	21 58 46.9	-6.9
	baz=80,slow=76,SNR=12						
H03N2				T	T	22 03 12.6	
	baz=110,slow=76,SNR=32						
ARCO	**CERRO ARCO**	**5.10**	**52**	*i* P	**Pn**	**21 57 58.5**	**+2.2**
ARCO				IAML		21 59 35.7	
	comp=Z,117nm,0.9s						
AUSP	**Uspallata**	**5.26**	**44**	*i* P	**Pn**	**21 58 00.3**	**+1.8**
PLCA	**Paso Flores**	**5.26**	**153**	Pn	**Pn**	**21 57 58.6**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=332,slow=11,SNR=12						
PLCA				Lg	Lg	21 59 19.0	
	comp=Z,1.2nm,0.3s,baz=30,slow=20,SNR=1.8						
PLCA	**Paso Flores**	**5.26**	**153**	Pn	**Pn**	**21 57 59.3**	**+0.9**
PLCA	**Paso Flores**	**5.26**	**153**	*e*P	**Pn**	**21 57 59.0**	**+0.6**
CO02	**Combarbal**	**5.36**	**26**		**Pn**	**21 57 58.8**	**-1.0**
RTLS	**Leoncito**	**5.63**	**42**	*i* P	**Pn**	**21 58 05.2**	**+1.6**
RTLS				IAML		21 59 46.7	
	comp=Z,47nm,1.5s						
CO03	**El Pedregal**	**5.81**	**27**		**Pn**	**21 58 05.5**	**-0.4**
RTCV	**Cerro Valdivia**	**6.01**	**47**	*i* P	**Pn**	**21 58 09.7**	**+1.0**
RTCV				IAML		22 00 01.0	
	comp=Z,55nm,1.4s						
ZON	**Zonda**	**6.16**	**44**		**Pn**	**21 58 11.2**	**+0.4**
GO04	**Tololo Observa**	**6.38**	**23**	Pn	**Pn**	**21 58 12.6**	**-1.3**
RTLL	**Cerro Villicun**	**6.44**	**44**	*i* P	**Pn**	**21 58 15.3**	**+0.7**
RTLL				IAML		22 00 04.3	
	comp=Z,54nm,1.0s						
ACCO	**Cerro Coronel**	**6.71**	**37**	*i* P	**Pn**	**21 58 19.1**	**+0.5**
CO01	**Juntas del Tor**	**6.80**	**27**		**Pn**	**21 58 20.0**	**+0.3**
LCO	**Las Campanas**	**7.49**	**21**		**Pn**	**21 58 27.3**	**-1.9**
AC05	**El Transito**	**7.79**	**23**	Pn	**Pn**	**21 58 32.2**	**-0.9**
CPUP	**Villa Florida**	**17.03**	**60**	P	**P**	**22 00 40.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=251,slow=18,SNR=3.1						
MNMC	**Minye Minye**	**17.27**	**13**	P	**P**	**22 00 43.5**	**+0.6**
MNMC				IAmb	IAmb	22 00 47.0	
	comp=Z,12nm,0.8s						
PB16	**IPOC Station P**	**18.07**	**13**	P	**Pn**	**22 00 51.1**	**-0.3**
LPAZ	**La Paz**	**20.33**	**16**	P	Pn	22 01 18.7	-0.1
	comp=Z,5.7nm,0.9s,baz=194,slow=9.0,SNR=8.9						
LPAZ	**La Paz**	**20.33**	**16**		**P**	**22 01 14.9**	**-1.9**
LPAZ	**La Paz**	**20.33**	**16**	*e*P	Pn	22 01 19.3	+0.5
ITAB	**Concordia**	**20.34**	**70**	*e*P	**P**	**22 01 15.8**	**-0.4**
PTGB	**Pitanga**	**21.78**	**65**	*e*P	**P**	**22 01 33.0**	**+1.0**
AQDB	**Aquidauana**	**22.15**	**50**	*e*P	**P**	**22 01 36.0**	**+0.2**
TIJ01	**Guaruva-PR**	**23.73**	**70**	*e*P	**P**	**22 01 50.5**	**-1.7**
PCMB	**Pacaembu**	**24.30**	**60**	*e*P	**P**	**22 01 57.4**	**-0.3**
PTLB	**Pontes e Lacer**	**24.32**	**36**	*e*P	**P**	**22 01 58.4**	**+0.7**
FRTB	**Fartura**	**24.43**	**65**	*e*P	**P**	**22 02 00.0**	**+1.2**
ITRB	**Iturama**	**26.20**	**58**	*e*P	**P**	**22 02 16.6**	**+1.8**
BB19B	**Bebedouro**	**26.59**	**63**	*e*P	**P**	**22 02 19.3**	**+0.9**
ETMB	**Extrema**	**27.02**	**16**	*e*P	**P**	**22 02 23.3**	**+1.1**
BDFB	**Brasilia**	**30.64**	**55**	P	**P**	**22 02 54.9**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=192,slow=3.7,SNR=4.1						
BDFB	**Brasilia**	**30.64**	**55**	P	**P**	**22 02 54.6**	**0.0**
BDFB				IAmb	IAmb	22 02 56.1	
	comp=Z,3.9nm,0.9s						
JANB	**Januaria**	**33.57**	**59**	*e*P	**P**	**22 03 19.8**	**-0.4**
PTGA	**Pitinga**	**37.42**	**23**	P	**P**	**22 03 53.4**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=315,slow=22,SNR=2.1						
PTGA	**Pitinga**	**37.42**	**23**	IAmb	IAmb	22 04 04.5	
	comp=Z,8.0nm,1.2s						
NBPN	**Ponto Novo - B**	**39.36**	**59**	*e*P	**P**	**22 04 09.9**	**+0.2**
SNAA	**Sanae**	**50.19**	**157**	P	**P**	**22 05 34.5**	**-0.8**
	comp=Z,3.7nm,1.0s,baz=290,slow=12,SNR=2.3						
SNAA	**Sanae**	**50.19**	**157**	P	**P**	**22 05 36.4**	**+1.0**
TX32	**Lajitas Array**	**70.92**	**333**	P	**P**	**22 07 58.3**	**+0.9**
TX32				IAmb	IAmb	22 07 59.1	
	comp=Z,1.7nm,0.8s						
TXAR	**Lajitas Array**	**70.92**	**333**	P	**P**	**22 07 58.5**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=159,slow=8.4,SNR=13						
TX31	**Lajitas Ar. Si**	**70.92**	**333**	P	**P**	**22 07 57.9**	**+0.5**
NVAR	**Mina Array Bea**	**84.84**	**326**	P	**P**	**22 09 16.6**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=150,slow=7.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**86.19**	**71**	P	**P**	**22 09 22.0**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=242,slow=3.1,SNR=1.4						
ULM	**Lac du Bonnet**	**88.17**	**346**	P	**P**	**22 09 30.2**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=228,slow=0.3,SNR=4.1						

IDC ***18*** *22:01:55.8±0.7,36°07S×73°53W,h0km,mb4.3/12, mb1 4.4/14,mb1mx4.3/26,mbtmp4.3/14,ML4.2/2, Error ellipse: s-maj=24.4km s-min=15.9km az=67.0*
NEIC ***18*** *22:01:56.7±1.6,36°08S±0°05×73°7W±0°1,h18km±4km, mb4.7/33,ML4.7(GUC), Error ellipse: s-maj=12.9km s-min=6.9km az=79.0*
BJI ***18*** *22:01:56.0±0.0,36°00S×73°70W,h10km,mB5.1/2*
GUC ***18*** *22:01:57.3±0.5,36°10S×73°87W,h30km±25km,ML4.7*
VAO ***18*** *22:02:01.1±0.7,36°00S×73°13W,h10km,mb4.5*
ISC 18 22:01:56.2±0.5**,36°05S**±0°04×**73°75W**±0°08**,h10km,n124,**
σ1s19/117,mb4.6/22,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.99**	**144**	*e*P	**Pg**	**22 02 14.9**	**-0.3**
BI03				*e*S	**Sg**	**22 02 27.7**	**-0.3**
BI03				IAML		22 02 32.0	
	comp=N,101μm,0.5s						
BI03	**Tigo**	**0.99**	**144**		**Pg**	**22 02 14.9**	**-0.3**
BI03				Sn	**Sg**	**22 02 26.9**	**-1.1**
LAJA	**Laja**	**1.49**	**146**	*e*P	**Pn**	**22 02 22.3**	**-0.7**
BI02	**San Fabin de**	**2.09**	**108**	Pn	**Pn**	**22 02 30.8**	**-0.6**
BO03	**Pichilemu**	**2.13**	**44**↑	*i* P	**Pn**	**22 02 31.1**	**-0.7**
BO03				IAML		22 03 18.5	
	comp=N,1μm,0.4s						
BI04	**Isla Mocha**	**2.36**	**183**	IAML		22 03 45.8	
	comp=N,3μm,0.7s						
BO02	**Sierra Bellavi**	**2.73**	**64**	*e*P	**Pn**	**22 02 41.5**	**+1.3**
BO02				IAML		22 03 27.7	
	comp=E,3μm,0.6s						
BO02	**Sierra Bellavi**	**2.73**	**64**		**Pn**	**22 02 40.2**	**0.0**
MT09	**Talagante**	**3.21**	**46**	*e*P	**Pn**	**22 02 47.0**	**+0.2**
MT09				IAML		22 03 47.5	
	comp=N,2μm,0.6s						
MT02	**Curacav**	**3.52**	**38**	*e*P	**Pn**	**22 02 49.7**	**-1.3**
MT02	**Curacav**	**3.52**	**38**		**Pn**	**22 02 49.9**	**-1.1**
MT05	**Renca**	**3.63**	**44**	*e*P	**Pn**	**22 02 53.4**	**+0.9**
MT05	**Renca**	**3.63**	**44**	Pn	**Pn**	**22 02 51.6**	**-1.0**
LMEL	**Las Melosas**	**3.65**	**54**	*e*P	**Pn**	**22 02 53.4**	**+0.5**
MT03	**Universidad Ad**	**3.69**	**47**	*e*P	**Pn**	**22 02 53.7**	**+0.3**
ROCH	**El Roble**	**3.81**	**37**	*e*P	**Pn**	**22 02 54.9**	**-0.4**
PEL	**Peldehue**	**3.84**	**42**		**Pn**	**22 02 56.1**	**+0.6**
VA03	**San Esteban**	**4.21**	**40**		**Pn**	**22 03 00.3**	**-0.2**
H03S1	**Juan Fernandez**	**4.77**	**296**	T	T	22 08 09.2	
	baz=117,slow=74,SNR=1628						
H03S3	**Juan Fernandez**	**4.78**	**296**	T	T	22 08 08.5	
	baz=117,slow=74,SNR=1613						
H03S2	**Juan Fernandez**	**4.79**	**296**	T	T	22 08 09.3	
	baz=117,slow=74,SNR=2823						
H03N1	**Juan Fernandez**	**4.98**	**300**	T	T	22 08 27.4	
	baz=110,slow=76,SNR=43						
H03N3	**Juan Fernandez**	**4.98**	**300**	T	T	22 08 28.4	
	baz=110,slow=76,SNR=43						
H03N2	**Juan Fernandez**	**5.00**	**300**	T	T	22 08 38.3	
	baz=110,slow=76,SNR=38						
PLCA	**Paso Flores**	**5.31**	**153**	Pn	**Pn**	**22 03 16.4**	**+0.7**
	comp=N,1.3nm,0.3s,baz=334,slow=14,SNR=10						
PLCA				Lg	Lg	22 04 40.6	
	comp=N,6.7nm,0.3s,baz=238,slow=24,SNR=2.0						
PLCA	**Paso Flores**	**5.31**	**153**		**Pn**	**22 03 15.6**	**-0.1**
PLCA	**Paso Flores**	**5.31**	**153**	*e*P	**Pn**	**22 03 18.0**	**+2.4**
CO02	**Combarbal**	**5.35**	**26**		**Pn**	**22 03 15.5**	**-0.7**
CO03	**El Pedregal**	**5.79**	**27**		**Pn**	**22 03 22.2**	**-0.1**
ZON	**Zonda**	**6.16**	**45**		**Pn**	**22 03 27.7**	**+0.3**
GO04	**Tololo Observa**	**6.36**	**24**	Pn	**Pn**	**22 03 29.2**	**-1.1**
LL01	**San Ignacio de**	**6.41**	**171**	Pn	**Pn**	**22 03 29.9**	**-0.7**
CO01	**Juntas del Tor**	**6.79**	**28**		**Pn**	**22 03 36.5**	**+0.4**
LCO	**Las Campanas**	**7.47**	**21**	Pn	**Pn**	**22 03 44.3**	**-1.3**
AC05	**El Transito**	**7.77**	**23**	Pn	**Pn**	**22 03 48.8**	**-0.6**
PB14	**IPOC Station P**	**11.74**	**15**	Pn	**Pn**	**22 04 44.3**	**+0.2**
PB01	**IPOC Station P**	**15.41**	**15**	P	**P**	**22 05 37.2**	**-1.3**
PB01				IAmb	IAmb	22 05 42.0	
	comp=Z,17nm,0.9s						
ITQB	**Itaqui**	**15.72**	**71**	*e*P	**Pn**	**22 05 35.3**	**-2.5**
PB08	**IPOC Station P**	**16.35**	**16**		**Pn**	**22 05 44.6**	**-1.8**
PSGCX	**Pisagua**	**16.70**	**12**	Pn	**Pn**	**22 05 50.2**	**-0.2**
CPUP	**Villa Florida**	**17.04**	**60**	Pn	**Pn**	**22 05 55.0**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=218,slow=12,SNR=2.5						
CPUP				Lg	Lg	22 10 55.0	
	comp=Z,0.2nm,0.3s,baz=5.0,slow=15,SNR=1.1						
CPUP	**Villa Florida**	**17.04**	**60**	Pn	**Pn**	**22 05 54.3**	**-0.4**
MNMC	**Minye Minye**	**17.25**	**13**	P	**Pn**	**22 05 58.0**	**+0.5**
MNMC				IAmb	IAmb	22 06 03.8	
	comp=Z,22nm,0.8s						
PB16	**IPOC Station P**	**18.04**	**13**	P	**Pn**	**22 06 06.5**	**-1.2**
LPAZ	**La Paz**	**20.31**	**16**	P	Pn	22 06 35.1	+0.1
	comp=Z,3.7nm,0.6s,baz=196,slow=9.7,SNR=11						
LPAZ	**La Paz**	**20.31**	**16**	P	**P**	**22 06 32.5**	**-0.6**
LPAZ	**La Paz**	**20.31**	**16**	*e*P	Pn	22 06 36.0	+1.0
ITAB	**Concordia**	**20.36**	**71**	*e*P	**P**	**22 06 34.1**	**+1.2**
PTGB	**Pitanga**	**21.80**	**65**	*e*P	**P**	**22 06 49.5**	**+0.9**
AQDB	**Aquidauana**	**22.16**	**50**	*e*P	**P**	**22 06 53.1**	**+0.8**
PTLB	**Pontes e Lacer**	**24.31**	**36**	*e*P	**P**	**22 07 15.0**	**+0.9**
PCMB	**Pacaembu**	**24.32**	**60**	*e*P	**P**	**22 07 14.1**	**-0.1**
ITRB	**Iturama**	**26.21**	**58**	*e*P	**P**	**22 07 32.0**	**+0.7**
BB19B	**Bebedouro**	**26.61**	**63**	*e*P	**P**	**22 07 36.4**	**+1.5**
ETMB	**Extrema**	**27.00**	**17**	*e*P	**P**	**22 07 40.4**	**+2.0**
SAML	**Samuel**	**28.64**	**22**	P	**P**	**22 07 52.8**	**-0.3**
BDFB	**Brasilia**	**30.65**	**55**	P	**P**	**22 08 10.2**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=202,slow=8.1,SNR=3.5						
BDFB	**Brasilia**	**30.65**	**55**	P	**P**	**22 08 10.2**	**-0.9**
BDFB				IAmb	IAmb	22 08 17.5	
	comp=Z,10nm,1.2s						
JANB	**Januaria**	**33.58**	**59**	*e*P	**P**	**22 08 37.3**	**+0.6**
OTAV	**Otavalo**	**36.37**	**352**	P	**P**	**22 08 59.8**	**-1.3**
OTAV				IAmb	IAmb	22 09 12.6	
	comp=Z,11nm,1.4s						
OTAV	**Otavalo**	**36.37**	**352**	*e*P	P	22 09 06.4	+5.3
PTGA	**Pitinga**	**37.40**	**23**	P	**P**	**22 09 09.5**	**0.0**
	comp=Z,4.8nm,0.8s,baz=190,slow=7.9,SNR=6.4						
NBPN	**Ponto Novo - B**	**39.38**	**59**	*e*P	**P**	**22 09 26.6**	**+0.4**
VNA3	**Neumayer Olymp**	**48.01**	**157**	P	**P**	**22 10 36.2**	**+1.2**
VNA3	**Neumayer Olymp**	**48.01**	**157**	PKiKP	**PKiKP**	**22 18 56.4**	**+2.9**
VNA3				S	**S**	**22 17 32.8**	**0.0**
VNA3	**Neumayer Olymp**	**48.01**	**157**	pP	pP	22 10 40.7	+2.9
VNA3	**Neumayer Olymp**	**48.01**	**157**	sP	sP	22 10 42.8	+4.1
VNA1	**Neumayer--Stat**	**48.36**	**156**	PKiKP	**PKiKP**	**22 18 53.8**	**-0.1**
VNA2	**Neumayer--Watz**	**48.69**	**156**	P	**P**	**22 10 39.5**	**-0.8**
VNA2	**Neumayer--Watz**	**48.69**	**156**	PKiKP	**PKiKP**	**22 18 54.9**	**+0.7**
VNA2	**Neumayer--Watz**	**48.69**	**156**	PP	PP	22 12 32.7	-0.3
VNA2	**Neumayer--Watz**	**48.69**	**156**	PcP	**PcP**	**22 12 06.5**	**+1.2**
VNA2				S	**S**	**22 17 40.0**	**-2.3**
VNA2	**Neumayer--Watz**	**48.69**	**156**	pP	**P**	**22 10 44.6**	**+4.4**
VNA2	**Neumayer--Watz**	**48.69**	**156**	sP	sP	22 10 46.1	+2.1
SNAA	**Sanae**	**50.24**	**157**	P	**P**	**22 10 53.8**	**+1.7**
SNAA	**Sanae**	**50.24**	**157**	pP	**P**	**22 10 56.4**	**+4.3**
SNAA	**Sanae**	**50.24**	**157**	sP	sP	22 10 59.2	+3.3
SNAA	**Sanae**	**50.24**	**157**	P	**P**	**22 10 53.0**	**+0.9**
	comp=Z,5.9nm,0.9s,baz=251,slow=9.1,SNR=6.6						
SNAA	**Sanae**	**50.24**	**157**	P	**P**	**22 10 51.7**	**-0.4**
SNAA				IAmb	IAmb	22 10 54.6	
	comp=Z,8.7nm,1.0s						
QSPA	**South Pole Qui**	**54.19**	**180**	P	**P**	**22 11 21.6**	**-0.1**
QSPA				IAmb	IAmb	22 11 24.7	
	comp=Z,9.6nm,0.9s						
HPIG		**69.50**	**330**	P	**P**	**22 13 04.0**	**-1.2**
HPIG				IAmb	IAmb	22 13 08.8	
	comp=Z,5.6nm,0.6s						
NATX	**Nacogdoches**	**70.25**	**341**	P	**P**	**22 13 07.8**	**-1.6**
JCT	**Junction City**	**70.56**	**336**	P	**P**	**22 13 11.3**	**-0.1**
JCT				IAmb	IAmb	22 13 14.5	
	comp=Z,6.3nm,0.8s						
TXAR	**Lajitas Array**	**70.86**	**333**	P	**P**	**22 13 15.7**	**+2.4**
	comp=Z,1.6nm,0.6s,baz=153,slow=8.7,SNR=21						
WLAR	**White Oak Lake**	**71.70**	**343**	P	**P**	**22 13 17.6**	**-0.6**
SWET	**Sewanee**	**71.80**	**350**	P	**P**	**22 13 17.7**	**-1.2**
V48A	**Smith Brothers**	**72.45**	**349**	P	**P**	**22 13 22.6**	**-0.1**
ABTX	**Abilene, Hawle**	**72.49**	**337**	P	**P**	**22 13 22.8**	**-0.2**
WVT	**Waverly**	**73.00**	**348**	P	**P**	**22 13 25.7**	**-0.2**
W39A	**Magazine**	**73.30**	**343**	P	**P**	**22 13 27.9**	**+0.3**
W39A				I

baz=4.8,slow=334,SNR=2.3

IDC ***18*** *22:17:44.5±1.1,2.°15N×96.°71W, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.9/29, mbtmp3.8/8, MS3.6/9, Ms1 3.6/9, ms1mx3.3/34, Error ellipse: s-maj=59.5km s-min=19.9km az=56.0*

NEIC ***18*** *22:17:46.0±0.9, 1.°8N±0.°1×97.°0W±0.°2, h10km±1km, mb4.4/16, Error ellipse: s-maj=27.8km s-min=20.5km az=58.0*

ISC 18 22:17:45.7±0.8, 1.°8N±0.°2×97.°0W±0.°2, h10km, n55, σ0.°86/40, mb4.3/16, MS3.5/6, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**14.60**	**26**	LR	LR	22 25 28.0	
	comp=Z,289nm,19.4s,baz=228,slow=33						
JTS	**Las Juntas de**	**14.64**	**54**	LR	LR	22 25 01.4	
	comp=Z,158nm,19.6s,baz=223,slow=31						
CMIG	**Matias Romero**	**15.31**	**8**	LR	LR	22 25 56.1	
	comp=Z,200nm,18.2s,baz=190,slow=33						
OTAV	**Otavalo**	**18.63**	**95**	P	**Pn**	**22 22 05.2**	**+0.8**
TEIG	**Tepich**	**20.18**	**24**	LR	LR	22 29 06.2	
	comp=Z,171nm,19.5s,baz=136,slow=34						
ZAIG	**Zacatecas**	**21.50**	**346**	P	**P**	**22 22 36.6**	**+1.4**
ZAIG				IAmb	IAmb	22 22 40.2	
	comp=Z,23nm,1.5s						
H06E1	**SOCORRO T-PHAS**	**21.67**	**322**	T	T	22 44 39.6	
	SNR=1386						
NNA	**Nana**	**24.30**	**125**	LR	LR	22 30 47.7	
	comp=Z,78nm,18.2s,baz=300,slow=32						
LPIG	**La Paz**	**25.61**	**331**	LR	LR	22 30 54.0	
	comp=Z,194nm,20.1s,baz=124,slow=31						
TXAR	**Lajitas Array**	**28.08**	**348**	P	**P**	**22 23 35.0**	**-2.7**
	comp=Z,1.0nm,0.9s,baz=158,slow=10,SNR=10						
TXAR				PcP	**PcP**	**22 26 51.8**	**-0.5**
	comp=Z,0.3nm,0.9s,baz=182,slow=5.4,SNR=2.7						
TXAR				LR	LR	22 33 50.1	
	comp=Z,179nm,18.3s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**28.08**	**348**	P	**P**	**22 23 38.2**	**+0.6**
TX32	**Lajitas Array**	**28.08**	**348**	P	**P**	**22 23 38.4**	**+0.8**
JCT	**Junction City**	**28.62**	**355**	P	**P**	**22 23 42.1**	**-0.3**
JCT				IAmb	IAmb	22 23 43.9	
	comp=Z,5.3nm,0.9s						
MSTX	**Muleshoe**	**32.42**	**351**	P	**P**	**22 24 16.5**	**+0.4**
MSTX				IAmb	IAmb	22 24 18.1	
	comp=Z,7.0nm,0.9s						
AMTX	**Amarillo**	**33.17**	**353**	P	**P**	**22 24 23.0**	**+0.4**
BNM	**Barren Site**	**33.39**	**345**	P	**P**	**22 24 25.0**	**+0.3**
LPAZ	**La Paz**	**33.74**	**123**	P	**P**	**22 24 28.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=291,slow=8.6,SNR=1.9						
X18A	**Snowflake**	**34.70**	**341**	P	**P**	**22 24 37.4**	**+1.3**
N38A	**Joes South For**	**38.94**	**5**	P	**P**	**22 25 12.3**	**+0.5**
H03N2	**Juan Fernandez**	**39.01**	**156**	T	T	23 06 54.9	
	baz=334,slow=77,SNR=33						
H03N1	**Juan Fernandez**	**39.02**	**156**	T	T	23 06 54.7	
	baz=334,slow=77,SNR=44						
H03N3	**Juan Fernandez**	**39.02**	**156**	T	T	23 06 53.5	
	baz=334,slow=77,SNR=42						
SIV	**San Ignacio**	**39.69**	**118**	P	**P**	**22 25 17.3**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=303,slow=9.2,SNR=5.1						
NVAR	**Mina Array Bea**	**41.32**	**334**	P	**P**	**22 25 30.8**	**-1.1**
	comp=Z,1.2nm,1.0s,baz=154,slow=8.8,SNR=4.0						
NVAR	**Mina Array Bea**	**41.32**	**334**	P	**P**	**22 25 31.9**	**0.0**
HWUT	**Hardware Ranch**	**41.71**	**344**	P	**P**	**22 25 36.0**	**+0.9**
HWUT				IAmb	IAmb	22 25 49.5	
	comp=Z,5.3nm,1.1s						
ECSD	**EROS Data Cent**	**41.73**	**0**	P	**P**	**22 25 34.4**	**-0.5**
ECSD				IAmb	IAmb	22 25 36.0	
	comp=Z,7.7nm,1.1s						
HVU	**Hansel Valley**	**42.23**	**342**	P	**P**	**22 25 39.7**	**+0.5**
PD31	**Pinedale Array**	**42.28**	**346**	P	**P**	**22 25 39.9**	**+0.2**
PD31				IAmb	IAmb	22 25 42.8	
	comp=Z,5.4nm,1.5s						
PDAR	**Pinedale Array**	**42.28**	**346**	P	**P**	**22 25 38.1**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=154,slow=6.9,SNR=6.8						
PDAR				LR	LR	22 42 41.7	
	comp=Z,109nm,18.2s,baz=167,slow=36						
PDAR	**Pinedale Array**	**42.28**	**346**	P	**P**	**22 25 39.6**	**-0.1**
AGMN	**Agassiz Nation**	**46.30**	**1**	P	**P**	**22 26 11.3**	**-0.3**
CPUP	**Villa Florida**	**47.45**	**129**	P	**P**	**22 26 21.0**	**+0.1**
CPUP				IAmb	IAmb	22 26 26.0	
	comp=Z,7.1nm,1.4s						
ULM	**Lac du Bonnet**	**48.25**	**1**	P	**P**	**22 26 25.0**	**-1.7**
	comp=Z,2.4nm,0.8s,baz=177,slow=8.2,SNR=4.4						
ULM				LR	LR	22 44 37.3	
	comp=Z,51nm,21.2s,baz=156,slow=34						
YKA	**Yellowknife Ar**	**61.94**	**351**	P	**P**	**22 28 04.3**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=152,slow=7.2,SNR=10						
BCAR	**Beaver Creek A**	**69.43**	**340**	P	**P**	**22 28 54.3**	**+0.4**
INK	**Inuvik**	**70.85**	**346**	P	**P**	**22 29 02.9**	**+0.6**
INK				IAmb	IAmb	22 29 12.1	
	comp=Z,5.8nm,1.1s						
IL31		**72.26**	**340**	P	**P**	**22 29 10.6**	**-0.3**
IL31				IAmb	IAmb	22 29 11.8	
	comp=Z,6.3nm,1.1s						
ILAR	**Eielson Array**	**72.26**	**340**	P	**P**	**22 29 10.4**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=143,slow=4.7,SNR=22						
ILAR	**Eielson Array**	**72.26**	**340**	P	**P**	**22 29 10.6**	**-0.3**
BMAR	**Burnt Mountain**	**73.17**	**343**	P	**P**	**22 29 16.7**	**+0.3**
H11N3	**WAKE ISLAND Hy**	**95.10**	**290**	T	T	00 16 35.2	
	baz=86,slow=75,SNR=9.2						
H11N2	**WAKE ISLAND Hy**	**95.11**	**290**	T	T	00 16 32.2	
	baz=86,slow=75,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**95.12**	**290**	T	T	00 16 33.9	
	baz=86,slow=75,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**95.38**	**289**	T	T	00 16 52.7	
	baz=86,slow=74,SNR=55						
H11S1	**WAKE ISLAND Hy**	**95.38**	**289**	T	T	00 16 52.9	
	baz=86,slow=74,SNR=37						
H11S3	**WAKE ISLAND Hy**	**95.39**	**289**	T	T	00 16 53.9	
	baz=86,slow=74,SNR=32						
ASAR	**Alice Springs**	**126.18**	**242**	PKP	**PKiKP**	**22 36 50.8**	**+0.9**
	comp=Z,1.0nm,1.1s,baz=106,slow=3.0,SNR=4.8						
SONM	**Songino Array**	**126.48**	**341**	PKP	**PKPdf**	**22 36 49.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=66,slow=1.7,SNR=3.6						
WRA	**Warramunga Arr**	**126.72**	**246**	PKPdf	**PKPdf**	**22 36 50.7**	**+0.2**
MKAR	**Makanchi Array**	**131.58**	**1**	PKP	**PKPdf**	**22 36 59.0**	**-0.1**
	comp=Z,0.9nm,1.1s,baz=338,slow=1.6,SNR=4.6						
LSA	**Lhasa**	**147.69**	**347**		**PKPbc**	**22 37 32.5**	**+0.6**
SOCY	**Socotra**	**148.01**	**63**	PKPbc	**PKPbc**	**22 37 32.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**154.44**	**323**	PKPbc	**PKPbc**	**22 37 47.4**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=357,slow=0.9,SNR=5.7						
CMAR	**Chiang Mai Arr**	**154.44**	**323**		**PKiKP**	**22 37 48.2**	**+0.6**

IDC ***18*** *22:33:12.7±1.9, 8.°22S×119.°89E, h44km±17km, mb4.1/11, mb1 4.2/14, mb1mx4.0/32, mbtmp4.3/14, ML4.3/3, MS3.3/6, Ms1 3.3/6, ms1mx2.9/34, Error ellipse: s-maj=24.9km s-min=9.3km az=66.0*

DJA ***18*** *22:33:13.2±1.4, 8.°3S×12.°0E±.°, h30km±15km, M4.5/16, mb4.8/3, mB4.9/3, MLv4.4/16, Mw(mB)4.2/3, MwMwp4.5/1, Mwp4.9/1*

NEIC ***18*** *22:33:13.8±2.1, 8.°31S±0.°07×119.°79E±0.°07, h51km±7km, mb4.3/22, Error ellipse: s-maj=11.0km s-min=9.1km az=221.0*

ISC 18 22:33:13.9±0.9, 8.°24S±0.°04×119.°84E±0.°04, h54km±8km, n75, σ1.°95/85, mb4.3/18, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.49**	**162**	P	**Pn**	**22 33 37.7**	**-0.6**
EDFI	**Ende, Flores**	**1.90**	**106**	P	**Pn**	**22 33 44.8**	**+0.8**
EDFI				S	**Sn**	**22 34 10.5**	**+3.6**
BASI	**Baing, Sumba**	**2.10**	**160**	P	**Pn**	**22 33 45.9**	**-0.7**
BASI				S	**Sn**	**22 34 13.0**	**+1.4**
PLAI	**Plampang**	**2.12**	**254**	P	**Pn**	**22 33 45.4**	**-1.5**
PLAI				S	**Sn**	**22 34 15.5**	**+3.4**
BSSI	**Bau Bau, Buton**	**2.18**	**17**	P	**Pn**	**22 33 45.9**	**-1.8**
MMRI	**Maumere**	**2.41**	**100**	Pn	**Pn**	**22 33 51.3**	**+0.5**
MMRI	**Maumere**	**2.41**	**100**	P	**Pn**	**22 33 51.3**	**+0.5**
MMRI				S	**Sn**	**22 34 19.9**	**+0.8**
TWSI	**Taliwang, Sumb**	**2.97**	**260**	P	**Pn**	**22 33 56.5**	**-2.0**
TWSI				S	**Sn**	**22 34 38.2**	**+5.3**
KAPI	**Kappang**	**3.20**	**358**	P	**Pn**	**22 34 00.8**	**-1.0**
	32nm,0.3s,baz=164,slow=5.7,SNR=58						
KAPI				S	**Sn**	**22 34 37.2**	**-1.5**
	40nm,0.3s,baz=274,slow=21,SNR=7.6						
KAPI				LR	LR	22 35 25.6	
	comp=Z,295nm,19.2s,baz=258,slow=42						
KAPI	**Kappang**	**3.20**	**358**	Pn	**Pn**	**22 34 00.9**	**-0.8**
BNSI	**Bone**	**3.82**	**4**	P	**Pn**	**22 34 10.1**	**-0.1**
SPSI	**Sidrap Palu**	**4.25**	**359**	P	**Pn**	**22 34 15.5**	**-0.6**
BATI	**Baumata**	**4.25**	**118**	P	**Pn**	**22 34 18.9**	**+2.7**
	18nm,0.3s,baz=296,slow=6.8,SNR=11						
BATI				S	**Sn**	**22 35 11.8**	**+7.2**
	7.9nm,0.3s,baz=227,slow=20,SNR=4.1						
BATI				LR	LR	22 36 18.8	
	comp=Z,455nm,19.9s,baz=24,slow=44						
BATI	**Baumata**	**4.25**	**118**	P	**Pn**	**22 34 18.9**	**+2.7**
SRBI	**Singaraja**	**4.58**	**272**	P	Pn	22 34 25.7	+5.1
DNP	**Denpasar**	**4.60**	**264**	P	Pn	22 34 33.5	+13
SOEI	**Soe**	**4.63**	**109**	Pn	**Pn**	**22 34 23.6**	**+2.2**
SOEI	**Soe**	**4.63**	**109**	P	**Pn**	**22 34 24.9**	**+3.5**
TTSI	**Tana Toraja**	**5.16**	**360**	P	**Pn**	**22 34 29.3**	**+0.7**
	0.4nm2μm1μm107nm,0.6s						
JAGI	**Jajag, Banyuwa**	**5.63**	**267**		**Pn**	**22 34 33.8**	**-1.3**
JAGI	**Jajag, Banyuwa**	**5.63**	**267**	P	**Pn**	**22 34 34.1**	**-1.0**
	0.4nm1μm73nm,0.6s						
KBKI	**Kotabaru**	**6.12**	**323**	P	**Pn**	**22 34 40.3**	**-1.4**
BBKI	**Banjar Baru**	**6.87**	**313**	P	**Pn**	**22 34 53.4**	**+1.3**
LUWI	**Luwuk**	**7.72**	**22**	Pn	**Pn**	**22 35 06.3**	**+2.5**
UGM	**Wanagama**	**9.23**	**271**	Pn	**Pn**	**22 35 24.1**	**-0.3**
TOLI2	**Tolitoli**	**9.34**	**6**		**Pn**	**22 35 28.1**	**+2.3**
FITZ	**Fitzroy Crossi**	**11.31**	**151**	P	**Pn**	**22 35 50.4**	**-2.5**
	0.7nm,0.3s,baz=337,slow=10,SNR=15						
FITZ				S	Sn	22 37 46.2	-12
	0.5nm,0.3s,baz=310,slow=22,SNR=2.8						
FITZ				LR	LR	22 41 06.8	
	comp=Z,156nm,18.6s,baz=310,slow=42						
FITZ	**Fitzroy Crossi**	**11.31**	**151**	Pn	**Pn**	**22 35 50.6**	**-2.2**
KNRA	**Kununurra**	**11.44**	**131**	Pn	**Pn**	**22 35 54.0**	**-0.6**
MTN	**Manton Dam**	**12.01**	**113**		**Pn**	**22 36 00.7**	**-1.7**
LEM	**Lembang**	**12.20**	**276**	LR	LR	22 41 16.9	
	comp=Z,185nm,19.7s,baz=14,slow=40						
PSA00	**Pilbara Seismi**	**13.26**	**180**	Pn	**Pn**	**22 36 17.2**	**-2.2**
MYLDM	**Laland Datu**	**13.40**	**354**	Pn	**Pn**	**22 36 22.5**	**+1.1**
GIRL	**Giralia**	**15.30**	**200**	Pn	**Pn**	**22 36 45.8**	**-0.8**
WB0	**Warramunga Arr**	**18.17**	**131**		**P**	**22 37 20.6**	**-1.6**
WRA	**Warramunga Arr**	**18.23**	**131**	P	**P**	**22 37 22.3**	**-0.6**
	2.0nm,0.3s,baz=306,slow=14,SNR=79						
WRA				S	**Sn**	**22 40 36.8**	**-9.4**
	0.2nm,0.3s,baz=306,slow=23,SNR=5.9						
WRA				LR	LR	22 45 46.4	
	comp=Z,65nm,20.4s,baz=280,slow=41						
WB2	**Warramunga Arr**	**18.24**	**131**	P	**P**	**22 37 21.4**	**-1.6**
WB2				IAmb	IAmb	22 37 25.0	
	comp=Z,8.9nm,0.6s						
AS31	**Alice Springs**	**20.42**	**140**		**P**	**22 37 46.9**	**+0.1**
AS31				IAmb	IAmb	22 37 57.5	
	comp=Z,8.5nm,0.6s						
ASAR	**Alice Springs**	**20.42**	**140**	P	**P**	**22 37 46.5**	**-0.3**
	comp=Z,14nm,0.5s,baz=310,slow=9.3,SNR=96						
ASAR				S	**S**	**22 41 32.6**	**-0.1**
	comp=Z,3.4nm,1.0s,baz=318,slow=22,SNR=7.9						
ASAR				PcP	**PcP**	**22 41 57.6**	**0.0**
	comp=Z,1.1nm,0.5s,baz=324,slow=1.2,SNR=7.1						
ASAR				ScP	**ScP**	**22 45 28.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=331,slow=1.6,SNR=2.5						
ASAR				LR	LR	22 46 47.9	
	comp=Z,90nm,21.1s,baz=271,slow=40						
ASAR	**Alice Springs**	**20.42**	**140**	P	**P**	**22 37 47.1**	**+0.3**
MORW	**Morawa**	**21.03**	**189**	P	**P**	**22 37 53.6**	**+0.4**
MORW				IAmb	IAmb	22 37 56.0	
	comp=Z,23nm,1.2s						
COEN	**Coen**	**23.59**	**106**	P	**P**	**22 38 19.6**	**-0.5**
FORT	**Forrest**	**23.71**	**162**	P	**P**	**22 38 21.9**	**+0.9**
NWAO	**Narrogin (SRO)**	**24.69**	**185**	P	**P**	**22 38 29.4**	**-0.5**
	comp=Z,9.0nm,1.0s,baz=8.6,slow=9.7,SNR=1.4						
NWAO	**Narrogin (SRO)**	**24.69**	**185**	P	**P**	**22 38 31.0**	**+1.1**
NWAO				IAmb	IAmb	22 38 43.9	
	comp=Z,23nm,1.1s						
BBOO	**Buckleboo**	**28.70**	**151**	P	**P**	**22 39 05.6**	**-0.5**
BBOO				IAmb	IAmb	22 39 18.4	
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**31.03**	**142**	P	**P**	**22 39 26.6**	**0.0**
	comp=Z,2.0nm,0.4s,baz=322,slow=8.9,SNR=6.8						
STKA				PcP	**PcP**	**22 42 20.9**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=324,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**31.03**	**142**	P	**P**	**22 39 27.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**33.60**	**322**	P	**P**	**22 39 49.3**	**0.0**
	comp=Z,2.9nm,0.3s,baz=147,slow=7.4,SNR=5.0						
CHTO	**Chiang Mai**	**33.87**	**323**	P	**P**	**22 39 52.0**	**+0.4**
CHTO				IAmb	IAmb	22 40 09.7	
	comp=Z,2.5nm,0.8s						
ARMA	**Armidale**	**37.02**	**131**	P	**P**	**22 40 19.8**	**+1.1**
MJAR	**Matsushiro Arr**	**47.77**	**20**	P	**P**	**22 41 45.3**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=198,slow=9.1,SNR=2.2						
USA0B	**Ussuriysk Arra**	**53.34**	**11**	P	**P**	**22 42 28.6**	**+1.0**
USA0B				IAmb	IAmb	22 42 29.2	
	comp=Z,2.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**53.34**	**11**	P	**P**	**22 42 27.4**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=194,slow=7.2,SNR=10						
USRK	**Ussuriysk Ar.**	**53.34**	**11**	P	**P**	**22 42 28.2**	**+0.5**
RPZ	**Rata Peaks**	**56.80**	**138**	P	**P**	**22 42 53.5**	**+0.7**
SONM	**Songino Array**	**57.08**	**349**	P	**P**	**22 42 54.9**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=162,slow=8.8,SNR=17						
SONM	**Songino Array**	**57.08**	**349**	P	**P**	**22 42 56.1**	**+1.4**
SONM				IAmb	IAmb	22 42 57.1	
	comp=Z,1.6nm,0.8s						
BKZ	**Black Stump Fm**	**59.17**	**131**	P	**P**	**22 43 09.7**	**+0.2**
MK31	**Makanchi Array**	**64.17**	**332**	P	**P**	**22 43 43.1**	**+0.3**
MK31				IAmb	IAmb	22 43 44.3	
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**64.17**	**332**	P	**P**	**22 43 43.1**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=143,slow=7.4,SNR=28						
MKAR	**Makanchi Array**	**64.17**	**332**	P	**P**	**22 43 43.3**	**+0.4**
MAKZ	**Makanchi**	**64.32**	**332**	P	**P**	**22 43 44.1**	**+0.2**
AAK	**Ala-Archa**	**65.34**	**325**	P	**P**	**22 43 51.0**	**+0.3**
ZAA0	**Zalesovo Array**	**68.63**	**339**	P	**P**	**22 44 10.7**	**-0.5**
ZAA0				IAmb	IAmb	22 44 11.6	
	comp=Z,3.4nm,0.7s						
ZALV	**Zalesovo Beam**	**68.63**	**339**	P	**P**	**22 44 10.5**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=145,slow=4.9,SNR=13						
ZALV	**Zalesovo Beam**	**68.63**	**339**	P	**P**	**22 44 10.7**	**-0.5**
VNDA	**Vanda**	**72.61**	**171**	P	**P**	**22 44 36.4**	**+1.2**
VNDA				IAmb	IAmb	22 44 37.9	
	comp=Z,3.8nm,1.3s						
ABKAR	**Akbulak array**	**77.42**	**324**	P	**P**	**22 45 02.6**	**-0.7**
QSPA	**South Pole Qui**	**81.75**	**180**	P	**P**	**22 45 27.2**	**+0.4**
QSPA				IAmb	IAmb	22 45 43.2	
	comp=Z,6.4nm,1.4s						
KMBO	**Kilima Mbogo**	**82.50**	**270**	P	**P**	**22 45 31.9**	**0.0**
	comp=Z,0.7nm,0.6s,baz=50,slow=7.9,SNR=4.3						
BOSA	**Boshof**	**90.10**	**241**	P	**P**	**22 46 08.4**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=149,slow=5.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**119.14**	**280**	PKP	**PKPdf**	**22 51 56.8**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=65,slow=1.5,SNR=3.2						
CPUP	**Villa Florida**	**145.53**	**184**	PKPbc	**PKPdf**	**22 52 46.5**	**-0.4**
	comp=Z,6.9nm,0.9s,baz=178,slow=3.6,SNR=14						
LPAZ	**La Paz**	**154.39**	**162**	PKPbc	**PKiKP**	**22 53 11.7**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=207,slow=6.8,SNR=2.3						
LPAZ				PKPab	**PKPab**	**22 53 25.2**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=165,slow=3.0,SNR=7.3						

JMA ***18*** *22:43:34.4±0.1, 23.°97N×122.°30E, h26km±3km, M2.9*
TAP ***18*** *22:43:34.7, 24.°10N×122.°28E, h21km, ML3.5, D*

ISC 18 22:43:34.4±0.9, 24.°03N±0.°02×122.°28E±0.°02, h22km±8km, n115, σ0.°82/196, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.62**	**312**	P	**Pb**	**22 43 46.1**	**-0.4**
	baz=317						
EWUT				S	**Sb**	**22 43 54.8**	**-0.1**
	baz=317						
TWD	**Chiawan**	**0.63**	**275**	*e*P	**Pb**	**22 43 46.6**	**-0.1**
	baz=253						
TWD				*e*S	**Sb**	**22 43 55.7**	**+0.5**
	baz=253						
ENA	**Nanau**	**0.63**	**309**	*i* P	**Pb**	**22 43 46.2**	**-0.6**
	baz=314						
ENA				S	**Sb**	**22 43 54.9**	**-0.4**
	baz=314						
NACB	**Ninganchiao**	**0.65**	**283**	*i* P	**Pb**	**22 43 47.3**	**+0.3**
	baz=261						
NACB				S	**Sb**	**22 43 56.5**	**+0.9**
	baz=261						
TWC	**Suao**	**0.70**	**326**	*i* P	**Pb**	**22 43 47.0**	**-1.0**
	baz=322						
TWC				S	**Sb**	**22 43 55.1**	**-2.0**
	baz=322						
JYNG	**Yonagunijimaku**	**0.73**	**55**	P	**Pb**	**22 43 48.5**	**0.0**
JYNG				S	**Sb**	**22 43 58.3**	**+0.2**
ETLH	**Xiulin Townshi**	**0.75**	**284**	P	**Pb**	**22 43 49.1**	**+0.3**
	baz=265						
ETLH				*e*S	**Sn**	**22 44 00.1**	**-0.4**
	baz=265						
YOJ	**Yonaguni jima**	**0.79**	**57**	*i* P	**Pb**	**22 43 49.5**	**0.0**
	baz=60						
YOJ				*e*S	**Sb**	**22 43 59.7**	**0.0**
	baz=60						
YOJ	**Yonaguni jima**	**0.79**	**57**	P	**Pb**	**22 43 49.5**	**0.0**
YOJ				S	**Sn**	**22 44 00.8**	**-0.5**
NDS	**Dongshan**	**0.79**	**319**	P	**Pb**	**22 43 49.0**	**-0.5**
	baz=322						
NDS				*e*S	**Sb**	**22 43 59.5**	**-0.3**
	baz=322						
ESL	**Shilin**	**0.81**	**255**	P	**Pb**	**22 43 49.3**	**-0.5**
	baz=240						
ESL				*e*S	**Sb**	**22 44 01.1**	**+0.9**
	baz=240						
EGFH	**Guangfu**	**0.86**	**245**	*e*P	**Pb**	**22 43 49.5**	**-1.2**
	baz=231						
ILA	**Ilan**	**0.88**	**326**	*e*P	**Pb**	**22 43 50.2**	**-0.7**
	baz=323						
ILA				*e*S	**Sb**	**22 44 02.8**	**+0.6**
	baz=323						
TWE	**Neicheng**	**0.89**	**321**	P	**Pb**	**22 43 50.5**	**-0.6**
	baz=322						
TWE				*e*S	**Sn**	**22 44 03.5**	**-0.2**
	baz=322						
ENTT	**Nioudou**	**0.89**	**313**	P	**Pb**	**22 43 51.1**	**0.0**
	baz=317						
ENTT				S	**Sb**	**22 44 02.8**	**+0.1**
	baz=317						
NDT	**Datong Townshi**	**0.90**	**309**	P	**Pn**	**22 43 51.9**	**+0.1**
	baz=315						
NDT				*e*S	**Sb**	**22 44 02.6**	**-0.4**
	baz=315						
NNSB	**Datong**	**0.91**	**296**	P	**Pb**	**22 43 51.7**	**+0.1**
	baz=292						
NNSB				*e*S	**Sb**	**22 44 04.0**	**+0.6**
	baz=292						
NNSH	**Datong**	**0.91**	**296**	*e*P	**Pb**	**22 43 51.5**	**-0.1**
	baz=292						
NNSH				*e*S	**Sb**	**22 44 04.0**	**+0.6**
	baz=292						
NTC	**Toucheng**	**0.92**	**333**	*e*P	**Pb**	**22 43 51.2**	**-0.4**
	baz=330						
NTC				*e*S	**Sb**	**22 44 02.7**	**-0.7**
	baz=330						
NNS	**Nan Shan**	**0.93**	**296**	P	**Pn**	**22 43 52.2**	**0.0**
	baz=292						
NNS				S	**Sn**	**22 44 04.6**	**-0.3**
	baz=292						
WHF	**Hehuan Shan**	**0.94**	**277**	P	**Pb**	**22 43 52.0**	**-0.2**
	baz=260						
WHF				S	**Sb**	**22 44 04.9**	**+0.5**
	baz=260						
HGSD	**Ruisui**	**0.95**	**236**	P	**Pb**	**22 43 51.3**	**-0.9**
	baz=234						
HGSD				*e*S	**Sb**	**22 44 04.7**	**+0.3**
	baz=234						
FUSS	**Fushou**	**0.97**	**283**	P	**Pb**	**22 43 52.8**	**+0.1**
	baz=279						
FUSS				*e*S	**Sn**	**22 44 06.0**	**-0.2**
	baz=279						
TWB1	**Santiao Chiao**	**1.01**	**345**	P	**Pn**	**22 43 52.1**	**-1.1**
	baz=329						
TWB1				*e*S	**Sb**	**22 44 04.3**	**-1.7**
	baz=329						
EHY	**Hungye**	**1.02**	**239**	P	**Pn**	**22 43 52.3**	**-1.1**
	baz=228						
EHY				*e*S	**Sb**	**22 44 05.6**	**-0.8**
	baz=228						
TIPB	**Shuangxi**	**1.02**	**336**	P	**Pn**	**22 43 53.2**	**-0.3**
	baz=333						
TIPB				*e*S	**Sb**	**22 44 04.9**	**-1.6**
	baz=333						
NWLT	**Wulai**	**1.03**	**316**	P	**Pn**	**22 43 53.6**	**+0.1**
	baz=322						
NWLT				*e*S	**Sb**	**22 44 06.5**	**-0.1**
	baz=322						
TWT	**Tachien**	**1.04**	**283**	P	**Pb**	**22 43 54.3**	**+0.6**
	baz=267						
TWT				*e*S	**Sn**	**22 44 08.1**	**+0.4**
	baz=267						
TDCB	**Techi**	**1.05**	**282**	P	**Pb**	**22 43 54.2**	**+0.2**
	baz=267						
TDCB				*e*S	**Sb**	**22 44 07.5**	**+0.1**
	baz=267						
NSK	**Sanguang**	**1.06**	**307**	P	**Pn**	**22 43 53.8**	**-0.2**
	baz=304						
NSK				*e*S	**Sb**	**22 44 07.2**	**-0.4**
	baz=304						
VWDT	**VWDT**	**1.08**	**255**	P	**Pn**	**22 43 53.9**	**-0.3**
	baz=240			

NSTT	**Nanjuang** baz=294	**1.31 297**	*eP*	**Pb**	**22 43 58.7**	**+0.3**
NSTT			*eS*	**Sb**	**22 44 15.0**	**+0.2**
TWS1	**Kuangyinshan** baz=333	**1.32 324**	*eP*	**Pb**	**22 43 58.5**	**-0.1**
TWS1			*eS*	**Sn**	**22 44 14.5**	**-0.1**
YM03	**YM03** baz=342	**1.33 330**	*eP*	**Pn**	**22 43 58.0**	**+0.3**
YM03			*eS*	**Sb**	**22 44 15.4**	**+0.1**
YUS	**Yu-Shan** baz=245	**1.33 246** P		**Pn**	**22 43 58.2**	**+0.1**
YUS			*eS*	**Sn**	**22 44 15.8**	**+0.3**
IRIF	**Iriomote-Funau**	**1.35 77** P		**Pn**	**22 43 58.3**	**+0.3**
EDH	**Donghe** baz=210	**1.39 221**	*eP*	**Pn**	**22 43 57.3**	**-1.1**
EDH			*eS*	**Sn**	**22 44 14.8**	**-1.2**
TWY	**Chenhua** baz=330	**1.39 333**	*eP*	**Pb**	**22 43 59.7**	**+0.1**
TWY			*eS*	**Sn**	**22 44 15.9**	**-0.1**
HATJ	**Hateruma jima**	**1.39 89**	*eS*	**Sb**	**22 44 18.1**	**+1.1**
TWQ1	**Liyutan** baz=281	**1.42 283**	*eP*	**Pb**	**22 44 00.4**	**+0.3**
TWQ1			*eS*	**Sb**	**22 44 19.2**	**+1.5**
ELDTW	**Lidau** baz=221	**1.43 234**	*eP*	**Pn**	**22 43 58.7**	**-0.4**
ELDTW			*eS*	**Sn**	**22 44 15.6**	**-1.8**
WJS	**Zhushan** baz=260	**1.44 262**	*eP*	**Pb**	**22 44 00.6**	**+0.1**
NSY	**Sanyi** baz=283	**1.44 286**	*eP*	**Pb**	**22 44 00.8**	**+0.2**
NSY			*eS*	**Sb**	**22 44 20.1**	**+1.6**
WWF	**Wufeng** baz=268	**1.45 271**	*eP*	**Pb**	**22 44 01.1**	**+0.4**
ALS	**Alishan** baz=248	**1.45 249** P		**Pb**	**22 44 00.5**	**-0.4**
ALS			*eS*	**Sn**	**22 44 18.4**	**+0.3**
WNT	**Mingjian** baz=263	**1.47 264**	*eP*	**Pb**	**22 44 01.8**	**+0.7**
WNT			*eS*	**Sb**	**22 44 20.5**	**+1.2**
TCU	**Taichung** baz=273	**1.47 275**	*eS*	**Sb**	**22 44 21.3**	**+1.9**
CHN5	**Tsauling** baz=242	**1.53 254**	*eP*	**Pb**	**22 44 01.9**	**-0.2**
CHN5			*eS*	**Sn**	**22 44 20.6**	**+0.8**
LONT	**Longtian** baz=224	**1.54 224** P		**Pn**	**22 44 00.4**	**-0.1**
LONT			*eS*	**Sn**	**22 44 19.4**	**-0.5**
LDUT	**Ludao** baz=210	**1.54 209**	*eP*	**Pn**	**22 43 59.7**	**-0.8**
LDUT			*eS*	**Sn**	**22 44 17.4**	**-2.5**
WCHH	**Zhanghua** baz=270	**1.58 272**	*eP*	**Pb**	**22 44 02.5**	**-0.3**
WCHH			*eS*	**Sb**	**22 44 23.5**	**+1.1**
JKRS	**Kuro-shima**	**1.59 82** P		**Pb**	**22 44 02.6**	**-0.5**
JKRS			*eS*	**Sb**	**22 44 23.5**	**+0.8**
STYH	**Taoyuan** baz=227	**1.63 239** P		**Pn**	**22 44 02.6**	**+0.9**
STYH			*eS*	**Sn**	**22 44 22.8**	**+0.8**
WDLH	**Douliu** baz=256	**1.63 258**	*eP*	**Pb**	**22 44 03.3**	**-0.5**
TWGBT	**Beinan** baz=222	**1.64 223**	*eP*	**Pn**	**22 44 01.4**	**-0.5**
TWG	**Pinlang** baz=235	**1.64 223**	*eP*	**Pn**	**22 44 01.2**	**-0.7**
TWG			*eS*	**Sn**	**22 44 21.1**	**-1.2**
TPUB	**Ta-pu** baz=244	**1.68 245** P		**Pn**	**22 44 03.5**	**+1.0**
TPUB			*eS*	**Sb**	**22 44 27.0**	**+1.6**
CHN4	**Tsaushan** baz=236	**1.69 247**	*eP*	**Pb**	**22 44 04.9**	**+0.1**
CHN4			*eS*	**Sb**	**22 44 27.6**	**+1.9**
WTP	**Ta-pu** baz=243	**1.72 243**	*eP*	**Pb**	**22 44 04.6**	**-0.7**
WTP			*eS*	**Sb**	**22 44 26.3**	**-0.2**
CHN2	**Minshiung** baz=253	**1.73 254**	*eP*	**Pb**	**22 44 05.6**	**+0.2**
CHN2			*eS*	**Sb**	**22 44 28.5**	**+1.7**
JIJ	**Ishigaki jima**	**1.73 79** P		**Pn**	**22 44 04.0**	**+0.9**
JIJ			*eS*	**Sb**	**22 44 26.0**	**-0.8**
WTK	**Tuku** baz=246	**1.77 259**	*eP*	**Pb**	**22 44 06.1**	**0.0**
WTK			*eS*	**Sb**	**22 44 29.8**	**+2.0**
CHY	**Chiayi** baz=252	**1.78 253**	*eP*	**Pb**	**22 44 05.8**	**-0.6**
CHY			*eS*	**Sb**	**22 44 29.1**	**+0.8**
TWK	**Hsinying** baz=245	**1.81 246**	*eP*	**Pb**	**22 44 06.4**	**-0.5**
TWK			*eS*	**Sb**	**22 44 29.5**	**+0.3**
CHN1	**Nanshi** baz=242	**1.82 243**	*eP*	**Pb**	**22 44 06.5**	**-0.5**
CHN1			*eS*	**Sb**	**22 44 29.8**	**+0.5**
SLGT	**Liugui** baz=226	**1.82 236**	*eP*	**Pb**	**22 44 06.0**	**-1.0**
SLGT			*eS*	**Sb**	**22 44 30.5**	**+1.0**
SGST	**Jiashian** baz=239	**1.82 239**	*eS*	**Sb**	**22 44 31.2**	**+1.7**
SNST	**Tainan City** baz=244	**1.83 244**	*eP*	**Pb**	**22 44 07.1**	**0.0**
SNST			*eS*	**Sn**	**22 44 28.2**	**+1.3**
ECL	**Taimali** baz=231	**1.88 221**	*eP*	**Pn**	**22 44 03.5**	**-1.7**
WSF	**Szhu** baz=258	**1.93 259**	*eS*	**Sb**	**22 44 33.0**	**+0.5**
JISG	**Ishigakijimahi**	**1.93 73** P		**Pn**	**22 44 06.5**	**+0.6**
JISG			*eS*	**Sn**	**22 44 30.0**	**+0.5**
ICHU	**Yijhu** baz=249	**1.95 250**	*eP*	**Pb**	**22 44 08.2**	**-1.1**
SSD	**Sandimen** baz=223	**1.98 230**	*eP*	**Pb**	**22 44 07.8**	**+1.2**
SSD			*eS*	**Sb**	**22 44 34.0**	**-0.1**
SCST	**Cishan** baz=223	**2.00 236**	*eP*	**Pb**	**22 44 09.8**	**-0.3**
SCST			*eS*	**Sb**	**22 44 36.4**	**+1.8**
TSMG	**Majia** baz=220	**2.00 229** P		**Pn**	**22 44 08.3**	**+1.4**
MASBT	**Mashibuluo** baz=220	**2.07 227**	*eP*	**Pn**	**22 44 09.2**	**+1.3**
MASBT			*eS*	**Sn**	**22 44 33.9**	**+0.8**
EAST	**Anshuo** baz=219	**2.11 219**	*eP*	**Pn**	**22 44 08.1**	**-0.2**
SSPT	**Xinbi** baz=219	**2.21 226**	*eP*	**Pb**	**22 44 12.6**	**-0.9**
SCZT	**Fangliau** baz=216	**2.25 223**	*eP*	**Pn**	**22 44 11.8**	**+1.5**
SLIU	**Shizi** baz=218	**2.27 217**	*eP*	**Pn**	**22 44 10.4**	**-0.1**
JTJ	**Tarama**	**2.29 74** P		**Pn**	**22 44 12.4**	**+1.6**
JTJ			*eS*	**Sn**	**22 44 40.4**	**+2.1**
WLCH	**Liuqiu** baz=227	**2.42 227**	*eP*	**Pb**	**22 44 16.0**	**-1.3**
HEN	**Hengchun** baz=216	**2.47 216**	*eP*	**Pb**	**22 44 15.9**	**-2.2**
TWK1	**Hengchun** baz=214	**2.48 214**	*eP*	**Pn**	**22 44 13.7**	**+0.1**
WDGT	**Dungji** baz=241	**2.52 253**	*eP*	**Pn**	**22 44 15.2**	**+1.1**
WDGT			*eS*	**Sn**	**22 44 44.6**	**+0.5**
PHUB	**P'eng-hu** baz=258	**2.54 259**	*eP*	**Pn**	**22 44 14.5**	**+0.3**
PHUB			*eS*	**Sn**	**22 44 44.9**	**+0.4**
VCHM	**Qimei** baz=252	**2.74 253**	*eP*	**Pn**	**22 44 17.4**	**+0.3**
VWUC	**VWUC** baz=289	**2.75 291**	*eP*	**Pn**	**22 44 16.6**	**-0.6**
MATB	**Ma-tsu** baz=312	**2.99 315**	*eP*	**Pn**	**22 44 20.1**	**-0.4**
PTMZ	**Houxiangcun** baz=288	**3.05 290**	*eP*	**Pn**	**22 44 20.8**	**-0.5**
KNMB	**Chin-men Tao** baz=276	**3.58 278**	*eP*	**Pn**	**22 44 28.3**	**-0.3**
ZPLA	**Ao Xicun** baz=268	**4.15 270**	*eP*	**Pn**	**22 44 36.0**	**-0.4**

SOF ***18*** *22:53:55.7, 41˚.21N×22˚.72E, h5km, MD2.7*
SKO ***18*** *22:53:55.9, 41˚.24N×22˚.73E, h15km*
ATH ***18*** *22:53:56.6, 41˚.25N×22˚.72E, h7km±3km, ML1.8/6, Error ellipse: s-maj=3.3km s-min=0.9km az=162.0*
BEO ***18*** *22:53:58.1±0.3, 41˚.29N×22˚.73E, h0km, ML1.7/7*
ISC 18 22:53:56.7±0.9, **41˚.25N**±0˚.02×**22˚.71E**±0˚.02, **h8**km±7km, **n36**, σ**0**s**57**/57, **4C-1D**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.13**	**304**	*e*Pg		**Pg**		**22 53 59.5**	**+0.1**
VAY				*e*Sg		**Sg**		**22 54 01.4**	**0.0**
VAY	**Valandovo**	**0.13**	**304**	↑ *i* Pg		**Pg**		**22 53 59.6**	**+0.1**
VAY				*i* Sg		**Sg**		**22 54 01.9**	**+0.5**
VAY				*e*Lg		Lg		22 54 02.1	
	comp=N,208nm,0.4s								
VAY				*e*Lg		Lg		22 54 02.1	
	comp=E,329nm,0.5s								
KNT	**Kendrikon**	**0.17**	**122**	P		**Pg**		**22 53 59.9**	**-0.1**
KNT				S		**Sg**		**22 54 02.2**	**-0.2**
KNT				AML		AML		22 54 02.5	
	comp=E,1176μm,0.1s								
KNT				AML		AML		22 54 02.6	
	comp=N,2160μm,0.4s								
KNT	**Kendrikon**	**0.17**	**122**	↑ *i* Pg		**Pg**		**22 54 00.0**	**-0.1**
KNT				*i* Sg		**Sg**		**22 54 02.5**	**+0.1**
GRG	**Griva**	**0.38**	**219**	P		**Pg**		**22 54 03.9**	**-0.1**
GRG				S		**Sg**		**22 54 08.9**	**-0.1**
GRG				AML		AML		22 54 10.0	
	comp=N,1030μm,0.2s								
GRG				AML		AML		22 54 10.9	
	comp=E,441μm,0.2s								
GRG	**Griva**	**0.38**	**219**	↑ *i* Pg		**Pg**		**22 54 03.9**	**-0.1**
GRG				*i* Sg		**Sg**		**22 54 09.3**	**+0.4**
STIP	**Stip**	**0.59**	**318**	↓ *i* Pg		**Pg**		**22 54 07.1**	**-1.1**
STIP				*i* Sg		**Sg**		**22 54 14.9**	**-1.1**
SOH	**Sokhos**	**0.65**	**131**	P		**Pg**		**22 54 08.6**	**-0.5**
SOH				S		**Sg**		**22 54 17.5**	**-0.1**
SOH				AML		AML		22 54 21.3	
	comp=E,327μm,0.2s								
SOH				AML		AML		22 54 21.6	
	comp=N,396μm,0.5s								
SOH	**Sokhos**	**0.65**	**131**	↑ *i* Pg		**Pg**		**22 54 08.6**	**-0.5**
THE	**Thessaloniki**	**0.65**	**163**	P		**Pg**		**22 54 08.7**	**-0.4**
THE				S		**Sg**		**22 54 17.1**	**-0.4**
THE				AML		AML		22 54 19.0	
	comp=E,198μm,0.2s								
THE				AML		AML		22 54 21.6	
	comp=N,144μm,0.3s								
THE	**Thessaloniki**	**0.65**	**163**	*i* Pg		**Pg**		**22 54 08.7**	**-0.4**
KKB	**Krupnik**	**0.68**	**24**	*i* Pg		**Pg**		**22 54 09.9**	**+0.2**
SRS	**Serrai**	**0.68**	**101**	P		**Pg**		**22 54 09.4**	**-0.3**
SRS				S		**Sg**		**22 54 18.2**	**-0.3**
SRS				AML		AML		22 54 19.5	
	comp=N,100μm,0.1s								
SRS				AML		AML		22 54 23.9	
	comp=E,87μm,0.3s								
SRS	**Serrai**	**0.68**	**101**	*e*Pg		**Pg**		**22 54 09.8**	**+0.1**
SRS				*e*Sg		**Sg**		**22 54 18.4**	**-0.1**
SRS	**Serrai**	**0.68**	**101**	*i* Pg		**Pg**		**22 54 09.3**	**-0.3**
SRS				*i* Sg		**Sg**		**22 54 18.6**	**+0.1**
HORT	**Hortiatis**	**0.71**	**156**	P		**Pg**		**22 54 10.0**	**-0.4**
HORT				S		**Sg**		**22 54 20.2**	**+0.5**
HORT				AML		AML		22 54 22.4	
	comp=N,91μm,0.3s								
HORT				AML		AML		22 54 24.8	
	comp=E,76μm,0.3s								
MMB	**Musomiste**	**0.83**	**66**	Pg		**Pg**		**22 54 12.3**	**-0.4**
NVR	**Nevrokopi**	**0.87**	**83**	P		**Pg**		**22 54 13.0**	**-0.4**
NVR				S		**Sg**		**22 54 24.5**	**-0.2**
PLG	**Polygyros**	**1.04**	**147**	P		**Pg**		**22 54 15.8**	**-0.8**
FNA	**Florina**	**1.11**	**246**	P		**Pg**		**22 54 17.5**	**-0.6**
FNA	**Florina**	**1.11**	**246**	*e*Pg		**Pg**		**22 54 17.7**	**-0.3**
FNA				*e*Sg		**Sn**		**22 54 35.2**	**+0.9**
FNA	**Florina**	**1.11**	**246**	*i* Pg		**Pg**		**22 54 17.8**	**-0.3**
BOSS	**Bosilegrad**	**1.26**	**352**	*e*Pg		**Pn**		**22 54 20.6**	**0.0**
BOSS				*e*Sg		**Sg**		**22 54 36.2**	**-0.9**
OUR	**Ouranopolis**	**1.33**	**133**	P		**Pn**		**22 54 21.2**	**-0.3**
PRVS	**Prvonek**	**1.34**	**339**	*e*Pg		**Pn**		**22 54 22.0**	**+0.2**
PRVS				*e*Sg		**Sb**		**22 54 39.6**	**0.0**
KAVA	**Kavala**	**1.38**	**100**	P		**Pb**		**22 54 22.7**	**-0.1**
VTS	**Vitosha**	**1.42**	**16**	*e*Pg		**Pn**		**22 54 23.3**	**+0.3**
VTS				*e*Sg		**Sb**		**22 54 40.5**	**-1.4**
VTS	**Vitosha**	**1.42**	**16**	P		**Pb**		**22 54 23.5**	**-0.1**
VTS	**Vitosha**	**1.42**	**16**	*i* Pn		**Pn**		**22 54 23.4**	**+0.3**
PAIG	**Paliouri**	**1.51**	**151**	P		**Pn**		**22 54 23.8**	**-0.2**
RZN	**Rozhen**	**1.57**	**73**	P		**Pg**		**22 54 26.9**	**+0.2**
THAS	**Thassos island**	**1.65**	**112**	P		**Pn**		**22 54 26.3**	**+0.3**
BARS	**Barje**	**1.70**	**337**	*e*Pg		**Pb**		**22 54 28.2**	**-0.1**
BARS				*e*Sg		**Sb**		**22 54 50.1**	**+0.2**
ZAPS	**Zavoj**	**2.02**	**358**	*e*Pg		**Pg**		**22 54 35.0**	**-0.5**
ZAPS				*e*Sg		**Sg**		**22 55 01.0**	**-0.7**
MPEP	**Malo Peshtene**	**2.24**	**20**	P		**Pn**		**22 54 35.5**	**+1.4**
BOVS	**Bovan**	**2.50**	**343**	*e*Pn		**Pb**		**22 54 41.1**	**-0.7**
BOVS				*e*Sn		**Sn**		**22 55 10.3**	**+2.0**

CRAAG ***18*** *23:31:00.9, 35˚.77N×5˚.68E, Ml4.2*
IDC ***18*** *23:31:00.2±0.7, 35˚.83N×5˚.71E, h0km, mb3.8/23, mb1 3.9/27, mb1mx3.8/55, mbtmp3.8/27, ML3.5/4, MS3.5/24, Ms1 3.5/24, ms1mx3.4/43, Error ellipse: s-maj=15.7km s-min=13.3km az=169.0*
NEIC ***18*** *23:31:03.2±1.9, 35˚.60N±0˚.06×5˚.69E±0˚.07, h10km±1km, mb4.2/39, Error ellipse: s-maj=10.0km s-min=9.4km az=157.0*
MDD ***18*** *23:31:04.0±0.7, 35˚.76N×5˚.72E, h0km, mb4.7/35, Error ellipse: s-maj=8.3km s-min=4.1km az=174.0, PRXIMO*
LDG ***18*** *23:31:06.8±0.2, 35˚.76N×5˚.83E, h10km, Ml3.5/19, Error ellipse: s-maj=4.8km s-min=3.2km az=36.0*
ISC 18 23:31:03.2±0.4, **35˚.72N**±0˚.04×**5˚.64E**±0˚.03, **h14**km, **n284**, σ**2**s**47**/331, **mb4.1**/37, **MS3.5**/18, **13C-1D**, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CKHR	**Kef el Ahmar**	**0.32**	**341**	P		**Pg**		**23 31 07.6**	**-2.2**
CKHR	**Kef el Ahmar**	**0.32**	**341**	P		**Pg**		**23 31 07.6**	**-2.2**
SET	**Setif**	**0.52**	**338**	P		**Pg**		**23 31 12.0**	**-1.5**
SET	**Setif**	**0.52**	**338**	P		**Pg**		**23 31 12.0**	**-1.5**
CTEI	**Djebel Teioual**	**0.71**	**61**	P		**Pg**		**23 31 15.3**	**-1.8**
CTEI	**Djebel Teioual**	**0.71**	**61**	P		**Pg**		**23 31 15.3**	**-1.8**
DFRA	**Djebel Bou Aff**	**0.85**	**13**	P		**Pn**		**23 31 20.4**	**-0.5**
DFRA	**Djebel Bou Aff**	**0.85**	**13**	P		**Pn**		**23 31 20.4**	**-0.5**
CASM	**Ain Smara**	**0.88**	**52**	P		**Pg**		**23 31 18.2**	**-2.0**
CASM	**Ain Smara**	**0.88**	**52**	P		**Pg**		**23 31 18.2**	**-2.0**
CKFL	**Kef-Lekhel**	**1.11**	**52**	P		**Pb**		**23 31 23.7**	**-0.6**
CKFL	**Kef-Lekhel**	**1.11**	**52**	P		**Pb**		**23 31 23.7**	**-0.6**
CAEH	**'Ain El Ouahch**	**1.45**	**42**	P		**Pn**		**23 31 28.5**	**-0.4**
CAEH	**'Ain El Ouahch**	**1.45**	**42**	P		**Pn**		**23 31 28.5**	**-0.4**
ABSA	**Djebel Ababsia**	**1.59**	**69**	P		**Pn**		**23 31 30.5**	**-0.5**
CABS	**Djebel Ababsia**	**1.59**	**69**	P		**Pn**		**23 31 30.5**	**-0.5**
CMAH	**Djebel Manchou**	**1.70**	**57**	P		**Pn**		**23 31 31.3**	**-1.2**
CMAH	**Djebel Manchou**	**1.70**	**57**	P		**Pn**		**23 31 31.3**	**-1.2**
I48TN	**KESRA INFRASON** baz=270,slow=305,SNR=0.8	**3.00**	**87**	*i*				23 50 00.0	
KEST	**Kesra**	**3.02**	**89**	Pn		**Pn**		**23 31 50.0**	**-0.6**
	12nm,0.3s,baz=151,slow=3.9,SNR=128								
KEST				Sn		**Sn**		**23 32 26.2**	**-0.4**
	13nm,0.3s,baz=327,slow=23,SNR=1.9								
KEST				LR		LR		23 32 32.7	
	comp=Z,287nm,18.6s,baz=300,slow=31								
KEST	**Kesra**	**3.02**	**89**	Pn		**Pn**		**23 31 51.0**	**+0.4**
EBNR	**Beni Rached**	**3.38**	**281**	P		**Pn**		**23 31 58.2**	**+2.6**
ECHA	**Ech Chlef**	**3.49**	**278**	P		**Pn**		**23 31 59.5**	**+2.5**
ECHF	**Ech Chlef**	**3.52**	**278**	P		**Pn**		**23 31 59.5**	**+2.1**
ETRT	**Tiaret**	**3.55**	**266**	P		**Pb**		**23 32 02.9**	**-2.9**
ETRT	**Tiaret**	**3.55**	**266**	P		**Pb**		**23 32 02.9**	**-2.9**
EANR	**'Ain N'Sour**	**3.69**	**275**	P		**Pn**		**23 32 03.4**	**+3.5**
EANR	**'Ain N'Sour**	**3.69**	**275**	P		**Pn**		**23 32 03.4**	**+3.5**
OKGL	**Djebel Kef Gue** 104nm,0.3s,SNR=7.9	**4.07**	**276**	P		**Pn**		**23 32 06.6**	**+1.6**
OKGL				S		**Sn**		**23 32 56.9**	**+4.5**
	5μm,2.4s,SNR=7.9								
OKGL	**Djebel Kef Gue**	**4.07**	**276**						
MAHO	**Mahon**	**4.31**	**346**	P		**Pn**		**23 32 07.8**	**-0.6**
MAHO				S		**Sn**		**23 32 57.1**	**-1.2**
MAHO	**Mahon**	**4.31**	**346**	*e*P		**Pn**		**23 32 07.8**	**-0.6**
MAHO				*e*S		**Sn**		**23 32 57.1**	**-1.2**
ETOS	**Mallorca** 66nm,0.5s,SNR=25	**4.62**	**332**	P		**Pn**		**23 32 13.7**	**+1.1**
ETOS				S		**Sn**		**23 33 04.9**	**-1.3**
	71nm,0.7s,SNR=7.9								
ETOS	**Mallorca**	**4.62**	**332**			**Pn**		**23 32 14.1**	**+1.4**
EIBI	**Ibiza** 68nm,0.3s,SNR=17	**4.76**	**315**	P		**Pn**		**23 32 16.3**	**+1.9**
EIBI				S		**Sn**		**23 33 09.2**	**-0.2**
	264nm,1.2s								
EIBI	**Ibiza**	**4.76**	**315**			**Pn**		**23 32 16.6**	**+2.2**
EIBI						**Sn**		**23 33 11.2**	**+1.8**
VSL	**Villasalto**	**4.80**	**37**			**Pn**		**23 32 15.8**	**+0.7**
EBEN2	**Beniarda presa** 42nm,0.4s,SNR=7.9	**5.51**	**304**	P		**Pn**		**23 32 27.8**	**+3.0**
EBEN2				S		**Sn**		**23 33 28.2**	**+0.2**
	134nm,1.1s,SNR=7.9								
CART	**Cartagena**	**5.66**	**291**	P		**Pn**		**23 32 27.7**	**+0.9**
CART				S		**Sn**		**23 33 27.1**	**-4.4**
CART	**Cartagena**	**5.66**	**291**	*e*P		**Pn**		**23 32 27.7**	**+0.9**
CART				*e*S		**Sn**		**23 33 27.1**	**-4.4**
CART	**Cartagena**	**5.66**	**291**	Pn		**Pn**		**23 32 27.5**	**+0.7**
AFON	**Font Roja** 9.7nm,0.3s,SNR=8.2	**5.74**	**303**	P		**Pn**		**23 32 31.1**	**+3.0**
AFON	**Font Roja**	**5.74**	**303**			**Pn**		**23 32 31.4**	**+3.3**
EMUR	**La Murta** 18nm,0.4s,SNR=23	**5.92**	**293**	P		**Pn**		**23 32 31.5**	**+1.2**
EMUR				S		**Sn**		**23 33 41.8**	**+3.8**
	74nm,1.0s,SNR=7.9								
EMUR	**La Murta**	**5.92**	**293**			**Pn**		**23 32 31.7**	**+1.3**
TLOR	**Lorca, Murcia** 24nm,0.2s,SNR=7.9	**6.20**	**290**	P		**Pn**		**23 32 36.0**	**+1.7**
ETOB	**Tobarra** 4.7nm,0.3s,SNR=16	**6.44**	**299**	P		**Pn**		**23 32 40.0**	**+2.3**
ETOB				S		**Sn**		**23 33 53.1**	**+2.2**
	8.1nm,0.9s,SNR=7.9								
ETOB	**Tobarra**	**6.44**	**299**			**Pn**		**23 32 40.9**	**+3.3**
ETOB						**Sn**		**23 33 53.1**	**+2.2**
ENIJ	**Nijar** 27nm,0.6s,SNR=7.9	**6.46**	**284**	P		**Pn**		**23 32 38.4**	**+0.6**
ENIJ				S		**Sn**		**23 33 53.0**	**+1.8**
	50nm,0.9s,SNR=7.9								
ENIJ	**Nijar**	**6.46**	**284**			**Pn**		**23 32 39.2**	**+1.4**
ENIJ						**Sn**		**23 33 53.0**	**+1.8**
ECHE	**Chera** 5.6nm,0.2s,SNR=7.9	**6.51**	**308**	P		**Pn**		**23 32 40.8**	**+2.2**
CFON	**Fontmartina** 4.2nm,0.2s,SNR=10	**6.54**	**338**	P		**Pn**		**23 32 39.7**	**+0.8**
CFON				S		**Sn**		**23 33 53.3**	**0.0**
	13nm,0.8s,SNR=7.9								
CFON	**Fontmartina**	**6.54**	**338**			**Pn**		**23 32 40.3**	**+1.4**
EPOB	**Poblet** 8.6nm,0.3s,SNR=7.9	**6.67**	**329**	P		**Pn**		**23 32 42.8**	**+2.0**
ERTA	**Horta de San J** 1.4nm,0.3s,SNR=7.9	**6.69**	**323**	P		**Pn**		**23 32 42.5**	**+1.5**
EMOS	**Mosqueruela** 5.7nm,0.4s,SNR=9.3	**6.69**	**316**	P		**Pn**		**23 32 42.9**	**+1.7**
EMOS				S		**Sn**		**23 33 55.3**	**-2.0**
	68nm,0.9s,SNR=7.9								
EMOS	**Mosqueruela**	**6.69**	**316**			**Pn**		**23 32 44.2**	**+3.0**
EMIR	**Miracle** 11nm,0.3s,SNR=6.1	**6.97**	**334**	P		**Pn**		**23 32 46.4**	**+1.5**
EMIR				S		**Sn**		**23 34 03.4**	**-0.6**
	68nm,0.8s,SNR=7.9								
SESP	**Santiago Espad** 72nm,0.5s,SNR=7.9	**6.98**	**293**	P		**Pn**		**23 32 47.6**	**+2.5**
SESP				S		**Sn**		**23 34 07.3**	**+2.9**
	93nm,0.8s,SNR=7.9								
EBER	**Berja** 13nm,0.3s,SNR=19	**6.99**	**282**	P		**Pn**		**23 32 46.9**	**+1.7**
EBER				S		**Sn**		**23 34 05.2**	**+0.7**
	70nm,1.2s,SNR=7.9								
MELI	**Melilla** 299nm,0.3s,SNR=4.0	**7.00**	**269**	P		**Pn**		**23 32 46.9**	**+1.6**
EJON	**La Jonquera** 4.2nm,0.3s,SNR=11	**7.06**	**343**	P		**Pn**		**23 32 45.8**	**-0.2**
EJON				S		**Sn**		**23 34 04.0**	**-2.0**
	83nm,1.8s,SNR=7.9								
SJAF	**Saint Jean de** 2.0nm,0.4s,SNR=7.9	**7.09**	**343**	P		**Pn**		**23 32 47.0**	**+0.5**
SJAF				S		**Sn**		**23 34 04.4**	**-2.5**
	27nm,1.6s,SNR=7.9								
RAFF	**Raffo Rosso**	**7.19**	**75**			**Pn**		**23 32 49.3**	**+1.4**
VAE	**Valguarnera** 0.5nm,0.3s,baz=236,slow=20,SNR=3.8	**7.27**	**73**	Pn		**Pn**		**23 32 47.8**	**-1.3**
EQES	**Quesada** 15nm,0.4s,SNR=37	**7.29**	**289**	P		**Pn**		**23 32 52.2**	**+2.8**
EQES				S		**Sn**		**23 34 14.7**	**+2.7**
	143nm,1.4s,SNR=11								
PGF	**Pioggiola**	**7.31**	**20**	P		**Pn**		**23 32 49.5**	**0.0**
PGF				S		**Sn**		**23 34 07.7**	**-4.6**
	6.2nm,0.5s								
PGF	**Pioggiola**	**7.31**	**20**	*e*Pn		**Pn**		**23 32 49.5**	**0.0**
PGF	**Pioggiola**	**7.31**	**20**	*e*P		Pn		23 32 55.6	+6.1
PGF				*e*Sn		**Sn**		**23 34 07.7**	**-4.6**
	12nm,0.5s								
CLLI	**Llivia** 7.2nm,0.4s,SNR=15	**7.33**	**338**	P		**Pn**		**23 32 51.7**	**+1.8**
CLLI				S		**Sn**		**23 34 13.2**	**+0.2**
	2.4nm,0.5s,SNR=7.9								
CLLI	**Llivia**	**7.33**	**338**			**Pn**		**23 32 51.4**	**+1.5**
EQUE	**Quentar** 18nm,0.5s,SNR=22	**7.46**	**284**	P		**Pn**		**23 32 54.5**	**+2.8**
CSOR	**Sort** 6.4nm,0.3s,SNR=19	**7.52**	**334**	P		**Pn**		**23 32 54.7**	**+2.3**
CSOR				S		**Sn**		**23 34 18.8**	**+1.3**
	15nm,0.5s,SNR=13								
ELGU	**Los Guajares,** 12nm,0.4s,SNR=7.9	**7.57**	**281**	P		**Pn**		**23 32 54.4**	**+1.2**
ELGU				S		**Sn**		**23 34 21.9**	**+3.2**
	15nm,0.5s,SNR=7.9								
LMR	**La Mourre**	**7.64**	**5**	P		**Pn**		**23 32 54.5**	**+0.5**
LMR				S		**Sn**		**23 34 16.1**	**-4.2**
	2.5nm,0.4s								
LMR	**La Mourre**	**7.64**	**5**	*e*Pn		**Pn**		**23 32 54.5**	**+0.5**
LMR				*e*Sn		**Sn**		**23 34 16.1**	**-4.2**

UCM	**Universidad Co**	**8.38**	**306**	P		**Pn**	**23 33 08.6**	**+4.4**
UCM				S		**Sn**	**23 34 41.4**	**+2.9**
UCM	**Universidad Co**	**8.38**	**306**	*e*P		**Pn**	**23 33 08.6**	**+4.4**
UCM				*e*S		**Sn**	**23 34 41.4**	**+2.9**
EPF	**Esparros**	**8.38**	**332**	P		**Pn**	**23 33 07.0**	**+2.8**
EPF				S		**Sn**	**23 34 36.2**	**-2.4**
2.8nm,0.5s								
EPF	**Esparros**	**8.38**	**332**	*e*Pn		**Pn**	**23 33 07.0**	**+2.8**
EPF				*e*Sn		**Sn**	**23 34 36.2**	**-2.4**
5.7nm,0.5s								
LASF	**Ste Croix**	**8.46**	**351**	P		**Pn**	**23 33 06.3**	**+1.0**
LASF				S		**Sn**	**23 34 37.0**	**-3.6**
3.9nm,0.6s								
LASF	**Ste Croix**	**8.46**	**351**	*e*Pn		**Pn**	**23 33 06.3**	**+1.0**
LASF				*e*Sn		**Sn**	**23 34 37.0**	**-3.6**
7.8nm,0.6s								
EADA	**Adamuz**	**8.54**	**290**	P		**Pn**	**23 33 08.2**	**+1.9**
2.0nm,0.3s,SNR=11								
EADA				S		**Sn**	**23 34 44.7**	**+2.2**
31nm,0.9s,SNR=7.9								
ESBB	**Sonseca Array**	**8.57**	**300**	Pn		**Pn**	**23 33 09.3**	**+2.4**
ESDC	**Sonseca Array**	**8.57**	**300**	Pn		**Pn**	**23 33 07.4**	**+0.5**
0.5nm,0.3s,baz=118,slow=13,SNR=20								
ESDC				Sn		**Sn**	**23 34 44.0**	**+0.6**
0.2nm,0.3s,baz=112,slow=24,SNR=1.8								
ESDC				LR		LR	23 36 18.2	
comp=Z,317nm,18.3s,baz=135,slow=37								
ESDC	**Sonseca Array**	**8.57**	**300**	P		**Pn**	**23 33 08.7**	**+1.8**
7.5nm,0.5s,baz=111,slow=14,SNR=21								
ESDC				S		**Sn**	**23 34 41.9**	**-1.5**
10nm,0.8s,baz=109,slow=25,SNR=3.9								
ESDC	**Sonseca Array**	**8.57**	**300**			**Pn**	**23 33 08.6**	**+1.7**
ETSF	**Etsaut**	**8.63**	**328**	P		**Pn**	**23 33 10.4**	**+2.7**
ETSF				S		**Sn**	**23 34 42.2**	**-2.6**
3.4nm,0.6s								
ETSF	**Etsaut**	**8.63**	**328**	*e*Pn		**Pn**	**23 33 10.4**	**+2.7**
ETSF				*e*Sn		**Sn**	**23 34 42.2**	**-2.6**
6.8nm,0.6s								
PAB	**San Pablo**	**8.80**	**299**	P		**Pn**	**23 33 12.0**	**+2.0**
1.4nm,0.4s,SNR=7.9								
PAB	**San Pablo**	**8.80**	**299**	Pn		**Pn**	**23 33 11.8**	**+1.9**
ATE	**Arette**	**8.84**	**328**	P		**Pn**	**23 33 13.6**	**+3.0**
12nm,0.5s,SNR=7.9								
ATE				S		**Sn**	**23 34 45.6**	**-4.4**
21nm,0.9s,SNR=7.9								
MDT	**Midelt**	**8.96**	**254**	Pn		**Pn**	**23 33 12.7**	**+0.5**
0.2nm,0.3s,baz=102,slow=2.8,SNR=3.1								
MDT				Sn		**Sn**	**23 34 55.3**	**+2.3**
baz=100,slow=15,SNR=2.0								
EORO	**Oroz-Betelu**	**8.96**	**325**	P		**Pn**	**23 33 13.7**	**+1.5**
2.6nm,0.3s,SNR=6.5								
EORO				S		**Sn**	**23 34 54.2**	**+1.2**
12nm,1.0s,SNR=7.9								
EARA	**Aranguren**	**9.00**	**324**	S		**Sn**	**23 34 56.6**	**+2.9**
SNR=7.9								
EJIF	**Jimena Fronter**	**9.02**	**278**	P		Pn	23 33 18.3	+5.3
33µm,0.5s,SNR=7.9								
MBDF	**Montbardon**	**9.04**	**5**	P		**Pn**	**23 33 14.2**	**+0.8**
MBDF				S		**Sn**	**23 34 50.5**	**-4.6**
3.7nm,0.7s								
MBDF	**Montbardon**	**9.04**	**5**	*e*Pn		**Pn**	**23 33 14.2**	**+0.8**
MBDF				*e*Sn		**Sn**	**23 34 50.5**	**-4.6**
7.4nm,0.7s								
SJPF	**Ste Jean**	**9.10**	**326**	P		**Pn**	**23 33 16.2**	**+2.2**
SJPF				S		**Sn**	**23 34 53.6**	**-2.6**
6.4nm,0.9s								
SJPF	**Ste Jean**	**9.10**	**326**	*e*Pn		**Pn**	**23 33 16.2**	**+2.2**
SJPF				*e*Sn		**Sn**	**23 34 53.6**	**-2.6**
13nm,0.9s								
IFR	**Ifrane**	**9.14**	**259**	*e*P		Pn	23 33 23.6	+8.8
IFR				*e*S		Sn	23 35 28.5	+31
GUD	**Guadarrama**	**9.14**	**305**	P		**Pn**	**23 33 18.1**	**+3.3**
0.3nm,0.2s,SNR=7.9								
VIVF	**Saint-Julien-l**	**9.16**	**356**	P		**Pn**	**23 33 15.4**	**+0.5**
VIVF				S		**Sn**	**23 34 53.2**	**-4.6**
6.8nm,0.9s								
VIVF	**Saint-Julien-l**	**9.16**	**356**	*e*Pn		**Pn**	**23 33 15.4**	**+0.5**
VIVF				*e*Sn		**Sn**	**23 34 53.2**	**-4.6**
14nm,0.9s								
ECAB	**El Cabril**	**9.16**	**288**	P		**Pn**	**23 33 16.1**	**+1.1**
14nm,0.7s,SNR=17								
ECAB				S		**Sn**	**23 34 57.9**	**0.0**
8.7nm,0.9s,SNR=7.9								
NRCA	**Norcia**	**9.17**	**37**	Pn		**Pn**	**23 33 18.1**	**+3.1**
ORIF	**Oris-en-Rattie**	**9.20**	**1**	P		Pn	23 33 21.9	+6.5
ORIF				S		**Sn**	**23 34 52.5**	**-6.2**
1.1nm,0.6s								
ORIF	**Oris-en-Rattie**	**9.20**	**1**	*e*P		Pn	23 33 21.9	+6.5
ORIF				*e*Sn		**Sn**	**23 34 52.5**	**-6.2**
2.1nm,0.6s								
BNI	**Bardonecchia**	**9.36**	**5**	Pn		**Pn**	**23 33 20.7**	**+3.0**
TIP	**Timpagrande**	**9.49**	**65**	Pn		**Pn**	**23 33 20.2**	**+0.7**
CAF	**Calviac**	**9.60**	**345**	P		**Pn**	**23 33 21.7**	**+0.8**
CAF				S		**Sn**	**23 35 05.2**	**-3.3**
1.4nm,0.7s								
CAF	**Calviac**	**9.60**	**345**	*e*Pn		**Pn**	**23 33 21.7**	**+0.8**
CAF				*e*Sn		**Sn**	**23 35 05.2**	**-3.3**
2.8nm,0.7s								
LPG	**La Plagne**	**9.81**	**5**	P		Pn	23 33 29.9	+5.9
LPG				S		**Sn**	**23 35 08.6**	**-5.5**
1.4nm,0.5s								
LPG	**La Plagne**	**9.81**	**5**	*e*P		Pn	23 33 29.9	+5.9
LPG				*e*Sn		**Sn**	**23 35 08.6**	**-5.5**
2.7nm,0.5s								
LPL	**La Plagne**	**9.83**	**5**	P		Pn	23 33 30.6	+6.4
LPL				S		**Sn**	**23 35 09.3**	**-5.1**
3.2nm,0.7s								
LPL	**La Plagne**	**9.83**	**5**	*e*P		Pn	23 33 30.6	+6.4
LPL				*e*Sn		**Sn**	**23 35 09.3**	**-5.1**
6.3nm,0.7s								
LFF	**La Frestale**	**9.94**	**339**	P		**Pn**	**23 33 27.3**	**+1.8**
LFF	**La Frestale**	**9.94**	**339**	*e*Pn		**Pn**	**23 33 27.3**	**+1.8**
LFF	**La Frestale**	**9.94**	**339**	*e*P		Pn	23 33 32.7	+7.2
RJF	**Les Rejaudoux**	**10.08**	**343**	P		Pn	23 33 34.5	+7.1
RJF	**Les Rejaudoux**	**10.08**	**343**	*e*P		Pn	23 33 34.5	+7.1
EMIN	**Mina Concepcio**	**10.09**	**285**	P		**Pn**	**23 33 29.5**	**+1.9**
2.5nm,0.4s,SNR=6.5								
EMIN				S		**Sn**	**23 35 17.9**	**-2.7**
SNR=7.9								
ELAN	**Lanestosa**	**10.27**	**320**	P		**Pn**	**23 33 33.5**	**+3.5**
0.2nm,0.2s,SNR=6.6								
ELAN	**Lanestosa**	**10.27**	**320**			**Pn**	**23 33 34.1**	**+4.1**
EGRO	**El Granado**	**10.70**	**284**	P		**Pn**	**23 33 37.4**	**+1.4**
2.4nm,0.3s,SNR=4.6								
SENIN	**Lac Senin/Sane**	**10.71**	**6**	Pn		**Pn**	**23 33 39.3**	**+3.0**
PVAQ	**Vaqueiros**	**10.88**	**283**	Pn		**Pn**	**23 33 39.5**	**+1.1**
CABF	**La Chapelle**	**10.89**	**2**	P		Pn	23 33 44.8	+6.2
CABF	**La Chapelle**	**10.89**	**2**	*e*P		Pn	23 33 44.8	+6.2
EARI	**Arriondas**	**11.29**	**315**	P		**Pn**	**23 33 48.7**	**+4.7**
0.5nm,0.3s,SNR=6.9								
MTE	**Manteigas**	**11.39**	**298**	Pn		**Pn**	**23 33 47.5**	**+2.0**
ECAL	**Calabor**	**11.47**	**307**	P		**Pn**	**23 33 49.6**	**+2.9**
4.4nm,0.3s,SNR=4.6								
DAVOX	**Davos/Dischmat**	**11.51**	**15**	LR		LR	23 38 23.7	
comp=Z,237nm,18.4s,baz=246,slow=39								
MFF	**Saint Martin d**	**11.71**	**340**	P		**Pn**	**23 33 51.2**	**+1.4**
MFF	**Saint Martin d**	**11.71**	**340**	*e*Pn		**Pn**	**23 33 51.2**	**+1.4**
PFVI	**Vila Bisbo**	**11.74**	**281**	Pn		**Pn**	**23 33 51.9**	**+1.7**
DAVA	**Damuels**	**11.99**	**14**	*e*P		Pn	23 34 08.8	+15
6.0nm,0.8s								
MOTA	**Moosalm**	**12.32**	**18**	*e*P		**P**	**23 34 09.8**	**-0.6**
2.9nm,0.7s								
ELOB	**Lobios**	**12.32**	**304**	P		**Pn**	**23 34 00.6**	**+2.4**
0.3nm,0.1s,SNR=7.9								
RETA	**Reutte**	**12.37**	**16**	*e*P		**P**	**23 34 14.0**	**+3.1**
1.2nm,0.4s								
EPON	**Pontenova**	**12.45**	**311**	P		**Pn**	**23 34 02.8**	**+2.8**
0.1nm,0.2s,SNR=7.9								
KBA	**Koelnbreinsper**	**12.73**	**25**	*e*P		**P**	**23 34 18.1**	**+3.0**
1.6nm,0.5s								
TAM	**Tamanrasset**	**12.88**	**180**	Pn		**Pn**	**23 34 05.1**	**-0.8**
GRR	**Gorron**	**13.54**	**341**	P		**P**	**23 34 21.4**	**-2.5**
GRR	**Gorron**	**13.54**	**341**	*e*P		**P**	**23 34 21.4**	**-2.5**
LDF	**La Druitiere**	**13.55**	**343**	*e*P		**P**	**23 34 21.0**	**-3.0**
AGG	**Agios Georgios**	**13.68**	**71**			**Pn**	**23 34 19.7**	**+2.9**
MOA	**Molln**	**13.71**	**25**	*e*P		**P**	**23 34 27.7**	**+1.9**
8.0nm,0.9s								
QUIF	**Quistinic**	**13.83**	**334**	P		**Pn**	**23 34 20.9**	**+2.2**
QUIF	**Quistinic**	**13.83**	**334**	*e*Pn		**Pn**	**23 34 20.9**	**+2.2**
SGMF	**Saint Gilles**	**13.92**	**337**	P		**P**	**23 34 26.6**	**-1.5**
SGMF	**Saint Gilles**	**13.92**	**337**	*e*P		**P**	**23 34 26.6**	**-1.5**
ROSF	**Rostrenen**	**14.23**	**335**	P		**Pn**	**23 34 26.4**	**+2.2**
ROSF	**Rostrenen**	**14.23**	**335**	*e*Pn		**Pn**	**23 34 26.4**	**+2.2**
GEC2	**GERESS Array S**	**14.40**	**22**			**P**	**23 34 31.1**	**-2.4**
GERES	**GERESS Array B**	**14.40**	**22**	Pn		**P**	**23 34 30.2**	**-3.3**
0.1nm,0.3s,baz=196,slow=9.8,SNR=1.8								
GERES				LR		LR	23 40 12.5	
comp=Z,249nm,18.5s,baz=192,slow=39								
GERES	**GERESS Array B**	**14.40**	**22**	Pn		**Pn**	**23 34 29.0**	**+2.4**
CKRC	**Cesky Krumlov**	**14.57**	**23**	*e*P		**P**	**23 34 36.8**	**+1.5**
KHC	**Kasperske Hory**	**14.62**	**21**	*e*P		**P**	**23 34 36.6**	**+0.7**
KHC				AMS		AMS	23 41 10.0	
comp=Z,300nm,15.0s								
KHC	**Kasperske Hory**	**14.62**	**21**			**P**	**23 34 32.7**	**-3.2**
ZST	**Bratislava**	**15.09**	**31**	*e*P		**P**	**23 34 46.4**	**+5.4**
VTS	**Vitosha**	**15.28**	**58**	⇑P		**Pn**	**23 34 38.1**	**-0.4**
VTS	**Vitosha**	**15.28**	**58**	Pn		**Pn**	**23 34 39.5**	**+1.0**
VTS				IAmb		IAmb	23 34 43.7	
comp=Z,20nm,1.5s								
MODS	**Modra-Piesok**	**15.30**	**31**	*e*P		**P**	**23 34 48.4**	**+5.0**
NKC	**Novy Kostel**	**15.33**	**17**	*e*P		**P**	**23 34 47.2**	**+3.4**
KRUC	**Moravsky**	**15.50**	**27**	*e*P		**P**	**23 34 47.6**	**+2.0**
PRU	**Pruhonice**	**15.67**	**22**	*e*P		**P**	**23 34 48.6**	**+1.1**
PRU				AMS		AMS	23 41 50.0	
comp=Z,300nm,17.9s								
GOPC	**GO Pecny, Ondr**	**15.68**	**22**	AMS		AMS	23 40 40.0	
comp=Z,200nm,18.3s								
IDI	**Anoyia**	**15.69**	**86**	Pn		**P**	**23 34 46.5**	**-1.4**
comp=Z,0.4nm,0.3s,baz=331,slow=19,SNR=1.9								
IDI	**Anoyia**	**15.69**	**86**	P		**P**	**23 34 48.3**	**+0.4**
PRA	**Prague**	**15.71**	**21**	AMS		AMS	23 41 40.0	
comp=Z,300nm,9.5s								
VRAC	**Vranov**	**15.78**	**27**	LR		LR	23 40 57.2	
comp=Z,69nm,19.0s,baz=208,slow=38								
VRAC	**Vranov**	**15.78**	**27**	⇑P		**P**	**23 34 51.2**	**+2.5**
GZR	**Gura Zlata**	**16.19**	**48**	⇑P		**P**	**23 34 52.2**	**-1.2**
CLL	**Collm**	**16.46**	**16**	*e*(P)		**P**	**23 34 59.0**	**+2.8**
CLL				*e*			23 35 10.0	
CLL				*e*			23 35 52.0	
CLL				*e*S		**S**	**23 38 11.0**	**+3.0**
CLL	**Collm**	**16.46**	**16**	Pn		**P**	**23 34 55.4**	**-0.9**
KRLC	**Kraliky**	**16.48**	**26**	*e*P		**P**	**23 34 59.7**	**+3.1**
KRLC				AMS		AMS	23 41 40.0	
comp=Z,300nm,18.2s								
MORC	**Moravsky Berou**	**16.52**	**28**	*e*P		**P**	**23 34 59.0**	**+2.0**
MORC	**Moravsky Berou**	**16.52**	**28**			**P**	**23 34 56.5**	**-0.4**
DPC	**Dobruska-Polom**	**16.55**	**25**	*e*P		**P**	**23 34 59.8**	**+2.4**
DPC				AMS		AMS	23 41 40.0	
comp=Z,300nm,15.1s								
UPC	**Upice**	**16.59**	**24**	AMS		AMS	23 41 50.0	
comp=Z,300nm,12.8s								
CHVC	**Chvalec**	**16.67**	**24**	*e*P		**P**	**23 35 02.9**	**+4.3**
CHVC				AMS		AMS	23 41 50.0	
comp=Z,300nm,14.5s								
OSTC	**Ostas**	**16.70**	**24**	*e*P		**P**	**23 35 01.1**	**+2.2**
OSTC				AMS		AMS	23 41 50.0	
comp=Z,300nm,9.9s								
DRGR		**16.91**	**44**	⇓P		**P**	**23 35 02.5**	**+1.2**
ARR	**Arges**	**17.32**	**50**	⇑P		**P**	**23 35 05.1**	**-0.8**
CRVS	**Cervenica-Dubn**	**17.58**	**37**	*e*P		**P**	**23 35 12.3**	**+3.7**
VOIR		**17.62**	**51**	⇑P		**P**	**23 35 09.1**	**-0.1**
OJC	**Ojcow**	**17.77**	**31**			**P**	**23 35 12.2**	**+1.4**
KOLS	**Kolonicke sedl**	**18.00**	**38**	*e*P		**P**	**23 35 16.9**	**+3.6**
MLR	**Muntele Rosu**	**18.21**	**51**	P		**P**	**23 35 16.5**	**+0.7**
comp=Z,0.1nm,0.3s,baz=147,slow=13,SNR=9.6								
MLR				LR		LR	23 43 12.4	
comp=Z,134nm,19.0s,baz=252,slow=40								
MLR	**Muntele Rosu**	**18.21**	**51**	⇑P		**P**	**23 35 15.8**	**+0.1**
MLR	**Muntele Rosu**	**18.21**	**51**	P		**P**	**23 35 16.7**	**+0.9**
MLR				IAmb		IAmb	23 35 19.8	
comp=Z,14nm,1.2s								
OZUR		**18.38**	**49**	⇑P		**P**	**23 35 18.1**	**+0.6**
KWP	**Kalwaria Pacla**	**18.67**	**37**	P		**Pn**	**23 35 21.8**	**+0.8**
KWP				IAmb		IAmb	23 35 27.6	
comp=Z,23nm,1.4s								
BURAR	**Bucovina Array**	**18.79**	**45**	⇑P		**Pn**	**23 35 24.5**	**+2.0**
BURAR	**Bucovina Array**	**18.79**	**45**	P		**Pn**	**23 35 23.9**	**+1.3**
BUR08	**Bucovina Ar. S**	**18.80**	**45**			**Pn**	**23 35 23.9**	**+1.3**
PLOR	**Plostina**	**18.81**	**51**	⇑P		**Pn**	**23 35 23.4**	**+0.7**
VRI	**Vrincioaia**	**18.86**	**51**	⇑P		**Pn**	**23 35 24.1**	**+0.7**
AKAS	**Kas**	**19.40**	**81**	P		**P**	**23 35 29.1**	**+0.1**
AKAS				IAmb		IAmb	23 35 32.8	
comp=Z,18nm,1.1s								
CFR	**Carcaliu**	**19.50**	**54**	⇑P		**Pn**	**23 35 30.7**	**-0.4**
TLCR		**19.96**	**55**	⇑P		**P**	**23 35 35.1**	**+0.3**
EKA	**Eskdalemuir Ar**	**20.53**	**346**	P		**P**	**23 35 39.7**	**-1.2**
comp=Z,0.7nm,0.7s,baz=118,slow=12,SNR=2.5								
MDUB	**Mudurnu**	**20.64**	**69**			**P**	**23 35 42.9**	**+0.5**
SORM	**Sormano**	**20.88**	**47**	⇑P		Pn	23 35 46.6	-0.6
BR231	**Keskin MP Arra**	**21.81**	**71**	P		**P**	**23 35 55.5**	**+0.6**
BR231				IAmb		IAmb	23 36 10.9	
comp=Z,8.2nm,0.9s								
BR131	**Keskin Array S**	**22.47**	**71**	P		**P**	**23 36 04.1**	**+2.0**
BR131				IAmb		IAmb	23 36 06.3	
comp=Z,7.9nm,0.9s								
BRTR	**Keskin Array B**	**22.47**	**71**	P		**P**	**23 35 59.7**	**-2.4**
comp=Z,1.2nm,0.9s,baz=269,slow=11,SNR=2.0								
BRTR				LR		LR	23 45 31.0	
comp=Z,60nm,20.4s,baz=262,slow=39								
BRTR	**Keskin Array B**	**22.47**	**71**	P		**P**	**23 36 04.1**	**+2.0**
ILGA	**Ilgaz**	**22.60**	**68**	P		**P**	**23 36 04.5**	**+1.0**
ILGA				IAmb		IAmb	23 36 08.8	
comp=Z,12nm,1.1s								
AKASG	**Malin Array Be**	**22.66**	**41**	P		**P**	**23 36 00.8**	**-3.0**
comp=Z,5.7nm,0.7s,baz=238,slow=9.2,SNR=20								
AKASG	**Malin Array Be**	**22.66**	**41**	P		**P**	**23 36 03.5**	**-0.3**
AKBB	**Malin Array Si**	**22.66**	**41**	P		**P**	**23 36 03.6**	**-0.3**
AKBB				IAmb		IAmb	23 36 05.7	
comp=Z,8.7nm,0.8s								
TOA0	**Torodi Ar. Sit**	**22.75**	**190**	P		**P**	**23 36 04.7**	**-0.3**
TOA0				IAmb		IAmb	23 36 14.1	
comp=Z,11nm,1.1s								
TORD	**Torodi Ar. Bea**	**22.75**	**190**	P		**P**	**23 36 04.3**	**-0.7**
comp=Z,1.9nm,0.5s,baz=1.5,slow=10,SNR=14								
TORD				S		**S**	**23 40 09.1**	**-4.3**
comp=Z,0.7nm,0.9s,baz=337,slow=3.4,SNR=1.8								
TORD				LR		LR	23 45 23.0	
comp=Z,210nm,19.1s,baz=320,slow=38								
TORD	**Torodi Ar. Bea**	**22.75**	**190**	P		**P**	**23 36 05.2**	**+0.1**
KOWA	**Kowa**	**22.84**	**205**	P		**P**	**23 36 06.5**	**+0.5**
comp=Z,1.8nm,0.6s,baz=23,slow=6.3,SNR=4.5								
KOWA				LR		LR	23 47 00.8	
comp=Z,64nm,20.3s,baz=24,slow=42								
KOWA	**Kowa**	**22.84**	**205**	P		**P**	**23 36 04.6**	**-1.3**
KOWA				IAmb		IAmb	23 36 13.0	
comp=Z,3.7nm,0.8s								
NACGM	**Naroch**	**24.11**	**31**	*i* P		**P**	**23 36 20.6**	**+2.4**
NACGM				*i* P		**P**	**23 36 20.6**	**+2.4**
NACGM				*i* P		**P**	**23 36 20.6**	**+2.4**
NACGM				*i* PP		**PnPn**	**23 36 51.2**	**+3.9**
NACGM				*i* PPP		PPP	23 36 59.6	
NACGM				*i* S		**S**	**23 40 38.1**	**+2.9**
NACGM				*i* SS		**SnSn**	**23 41 27.6**	**+11**
NACGM				*i* SSS		SSS	23 41 51.8	
NACGM				*i* LQ		LQ	23 43 53.5	
NACGM				*i* LR		LR	23 45 42.0	
TOKA	**Tokat**	**24.66**	**70**	P		**P**	**23 36 25.2**	**+1.7**
MMAI	**Mount Meron Ar**	**24.68**	**88**	P		**P**	**23 36 23.4**	**-0.3**
comp=Z,0.9nm,0.5s,baz=287,slow=10,SNR=3.2								
HFS	**Hagfors**	**24.99**	**10**	P		**P**	**23 36 24.7**	**-1.4**
comp=Z,1.3nm,0.7s,baz=201,slow=11,SNR=2.0								
HFS				LR		LR	23 46 49.4	
comp=Z,119nm,18.4s,baz=208,slow=38								
NC602	**NORSAR Array S**	**25.32**	**7**	P		**P**	**23 36 29.9**	**+0.7**
EIL	**Elat**	**25.34**	**95**	LR		LR	23 48 02.2	
comp=Z,82nm,19.3s,baz=290,slow=40								
GAZ	**Gaziantep**	**25.38**	**77**	P		**P**	**23 36 31.4**	**+1.3**
NB2	**NORSAR Subarra**	**25.59**	**6**	P		**P**	**23 36 31.6**	**-0.1**
comp=Z,10.0nm,1.7s,baz=191,slow=9.3								
NOA	**NORSAR Array B**	**25.59**	**6**	P		**P**	**23 36 29.8**	**-1.9**
comp=Z,1.5nm,0.9s,baz=188,slow=12,SNR=5.9								
NOA				LR		LR	23 46 29.2	
comp=Z,55nm,19.9s,baz=195,slow=36								
FINES	**FINESS Array B**	**28.83**	**20**	P		**P**	**23 36 58.5**	**-2.2**
comp=Z,0.9nm,0.3s,baz=236,slow=12,SNR=2.4								
FINES	**FINESS Array B**	**28.83**	**20**	P		**P**	**23 37 01.1**	**+0.4**
KBZ	**Khabaz**	**29.56**	**63**	P		**P**	**23 37 05.1**	**-2.2**
comp=Z,0.8nm,0.8s,baz=230,slow=16,SNR=2.2								
DBIC	**Dimbokro**	**30.47**	**201**	LR		LR	23 50 37.7	
comp=Z,211nm,18.3s,baz=2.0,slow=38								
ARCES	**ARCESS Array B**	**35.59**	**12**	P		**P**	**23 37 57.9**	**-1.9**
comp=Z,5.7nm,1.1s,baz=215,slow=7.6,SNR=3.8								
ARCES				LR		LR	23 52 46.9	
comp=Z,47nm,18.1s,baz=295,slow=37								
AKTO	**Aktyubinsk**	**40.14**	**52**	P		**P**	**23 38 36.2**	**-2.3**
comp=Z,1.1nm,0.7s,baz=268,slow=8.1,SNR=3.6								
ARU	**Arti**	**40.91**	**43**	P		**P**	**23 38 44.7**	**0.0**
ARU				IAmb		IAmb	23 38 51.6	
comp=Z,6.6nm,1.0s								
ABKAR	**Akbulak array**	**41.40**	**54**	P		**P**	**23 38 49.1**	**+0.2**
ABKAR	**Akbulak array**	**41.40**	**54**	P		**P**	**23 38 49.3**	**+0.5**
GEYT	**Alibeck**	**41.61**	**71**	LR		LR	23 59 26.0	
comp=Z,19nm,18.1s,baz=60,slow=41								
GEYT	**Alibeck**	**41.61**	**71**	P		**P**	**23 38 50.6**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**41.61**	**71**	P		**P**	**23 38 51.1**	**+0.3**
GYA0B				IAmb		IAmb	23 39 02.0	
comp=Z,6.9nm,1.2s								
UOSS	**Minazif**	**44.52**	**89**	P		**P**	**23 39 14.2**	**-0.3**
HRA	**Herat**	**45.80**	**74**	P		**P**	**23 39 24.5**	**-0.3**
HRA				IAmb		IAmb	23 39 26.8	
comp=Z,2.7nm,1.0s								
KMBO	**Kilima Mbogo**	**47.04**	**134**	P		**P**	**23 39 34.4**	**-0.3**
comp=Z,0.8nm,0.7s,baz=9.9,slow=13,SNR=3.6								
KMBO				LR		LR	23 59 27.4	
comp=Z,68nm,18.1s,baz=88,slow=36								
BRVK	**Borovoye**	**47.65**	**48**	P		**P**	**23 39 38.8**	**+0.1**
BVAR	**Borovoye Array**	**47.71**	**48**	P		**P**	**23 39 38.1**	**-1.2**
comp=Z,0.3nm,0.7s,baz=299,slow=6.5,SNR=1.7								
KK31	**Karatay Array**	**49.55**	**61**			**P**	**23 39 53.8**	**+0.2**
KK31				IAmb		IAmb	23 39 57.4	
comp=Z,1.4nm,0.7s								
KKAR	**Karatay Array**	**49.55**	**61**			**P**	**23 39 53.8**	**+0.3**
KKAR	**Karatay Array**	**49.55**	**61**	P		**P**	**23 39 54.3**	**+0.7**
KKAR				IAmb		IAmb	23 39 57.4	
comp=Z,1.4nm,0.7s								
KBL	**Kabul**	**51.04**	**72**	P		**P**	**23 40 06.1**	**+0.9**
KBL				IAmb		IAmb	23 40 23.7	
comp=Z,3.4nm,1.1s								
AAK	**Ala-Archa**	**52.49**	**60**	P		**P**	**23 40 16.3**	**+0.4**
AAK				IAmb		IAmb	23 40 31.5	
comp=Z,4.0nm,1.5s								
KURBB	**Kurchatov Arra**	**53.09**	**50**	P		**P**	**23 40 17.8**	**-2.2**
comp=Z,2.6nm,0.8s,baz=288,slow=8.1,SNR=17								
KURK	**Kurchatov**	**53.13**	**49**	P		**P**	**23 40 17.8**	**-2.4**
KSH	**Kashi**	**54.54**	**63**	*e*P		**P**	**23 40 32.0**	**+1.1**
KSH				pP		sP	23 40 54.3	+17
KSH				pmax		pmax		
comp=Z,9.0nm,1.0s								
KSH				pmax		pmax		
comp=Z,140nm,3.9s								
EUNU	**Eureka**	**55.44**	**348**	P		**P**	**23 40 38.1**	**+1.4**
ZAA0	**Zalesovo Array**	**56.01**	**44**	P		**P**	**23 40 41.6**	**+0.5**
ZAA0				IAmb		IAmb	23 40 42.8	
comp=Z,3.2nm,1.1s								
ZALV	**Zalesovo Beam**	**56.01**	**44**	P		**P**	**23 40 39.3**	**-1.8**
comp=Z,0.5nm,0.3s,baz=270,slow=5.9,SNR=4.5								
ZALV				LR		LR	00 06 13.3	
comp=Z,38nm,19.5s,baz=62,slow=38								
**ZALV

ASAR	**Alice Springs**	**41.28**	**271**	P	**P**	**23**	**43**	**42.9** **+1.2**
	8.1nm,1.0s,baz=112,slow=8.0,SNR=32							
ASAR				LR	LR	00	01	01.8
	comp=Z,106nm,19.1s,baz=122,slow=36							
ASAR	**Alice Springs**	**41.28**	**271**	P	**P**	**23**	**43**	**41.0** **-0.7**
WR0	**Warramunga Arr**	**42.31**	**276**	P	**P**	**23**	**43**	**49.0** **-1.1**
WR0				IAmb	IAmb	23	43	53.1
	comp=Z,21nm,1.2s							
WB2	**Warramunga Arr**	**42.48**	**276**	P	**P**	**23**	**43**	**50.9** **-0.6**
WB2				IAmb	IAmb	23	44	02.3
	comp=Z,14nm,0.9s							
WRA	**Warramunga Arr**	**42.49**	**276**	P	**P**	**23**	**43**	**51.5** **0.0**
	comp=Z,7.8nm,0.9s,baz=115,slow=7.6,SNR=41							
WRA				LR	LR	00	00	30.4
	comp=Z,140nm,18.3s,baz=130,slow=34							
WRA	**Warramunga Arr**	**42.49**	**276**	P	**P**	**23**	**43**	**50.2** **-1.3**
WB0	**Warramunga Arr**	**42.52**	**276**	P	**P**	**23**	**43**	**51.7** **-0.2**
WB0				IAmb	IAmb	23	43	55.4
	comp=Z,16nm,1.0s							
FORT	**Forrest**	**43.76**	**258**	P	**P**	**23**	**44**	**01.0** **-0.7**
FORT				IAmb	IAmb	23	44	06.1
	comp=Z,21nm,0.8s							
SBA	**Scott Base**	**45.50**	**184**	P	**P**	**23**	**44**	**15.7** **+0.8**
VNDA	**Vanda**	**45.52**	**185**	LR	LR	00	00	59.8
	comp=Z,110nm,19.1s,baz=9.0,slow=33							
JAY	**Jayapura**	**47.52**	**301**	LR	LR	00	02	50.2
	comp=Z,140nm,21.6s,baz=343,slow=34							
FITZ	**Fitzroy Crossi**	**50.64**	**273**	P	**P**	**23**	**44**	**55.1** **-0.3**
FITZ				IAmb	IAmb	23	45	07.0
	comp=Z,9.6nm,1.2s							
SAUI	**Saumlaki**	**51.26**	**288**	P	**P**	**23**	**45**	**00.1** **0.0**
MORW	**Morawa**	**54.17**	**256**	P	**P**	**23**	**45**	**20.7** **-0.9**
MORW				IAmb	IAmb	23	45	23.6
	comp=Z,28nm,1.4s							
SOEI	**Soe**	**56.00**	**281**	P	**P**	**23**	**45**	**34.6** **-0.4**
BATI	**Baumata**	**56.26**	**280**	LR	LR	00	09	30.9
	comp=Z,196nm,20.4s,baz=134,slow=36							
QSPA	**South Pole Qui**	**57.30**	**180**	P	**P**	**23**	**45**	**43.2** **-0.3**
QSPA				IAmb	IAmb	23	45	45.4
	comp=Z,24nm,1.2s							
MMRI	**Maumere**	**58.29**	**281**	P	**P**	**23**	**45**	**49.5** **-1.6**
KAPI	**Kappang**	**62.34**	**283**	P	**P**	**23**	**46**	**18.1** **-0.7**
TOLI2	**Tolitoli**	**65.07**	**289**	P	**P**	**23**	**46**	**35.6** **-1.2**
TOLI2				IAmb	IAmb	23	46	38.8
	comp=Z,8.1nm,1.1s							
BELA	**Belgrano 2**	**67.63**	**173**	P	**P**	**23**	**46**	**52.0** **-0.2**
BELA				IAmb	IAmb	23	47	02.9
	comp=Z,17nm,1.5s							
MAW	**Mawson**	**69.42**	**201**	LR	LR	00	15	13.6
	comp=Z,98nm,19.6s,baz=84,slow=34							
SYO	**Syowa Base**	**74.36**	**194**	*eX*	**P**	**23**	**47**	**29.0** **-4.0**
SYO	**Syowa Base**	**74.36**	**194**	*eX*	**P**	**23**	**47**	**37.0** **+4.0**
SNAA	**Sanae**	**75.78**	**179**	P	**P**	**23**	**47**	**41.1** **-0.2**
SNAA				IAmb	IAmb	23	47	41.7
	comp=Z,18nm,1.3s							
MJAR	**Matsushiro Arr**	**79.25**	**327**	LR	LR	00	19	55.6
	comp=Z,16nm,20.5s,baz=185,slow=33							
H03S2	**Juan Fernandez**	**80.60**	**124**	T	T	01	16	44.0
	baz=235,slow=74,SNR=19							
H03S1	**Juan Fernandez**	**80.61**	**124**	T	T	01	16	45.2
	baz=235,slow=74,SNR=16							
H03S3	**Juan Fernandez**	**80.62**	**124**	T	T	01	16	44.3
	baz=235,slow=74,SNR=20							
H03N3	**Juan Fernandez**	**80.81**	**124**	T	T	01	17	08.9
	baz=240,slow=72,SNR=48							
H03N2	**Juan Fernandez**	**80.81**	**124**	T	T	01	17	07.6
	baz=240,slow=72,SNR=130							
H03N1	**Juan Fernandez**	**80.83**	**124**	T	T	01	17	01.0
	baz=240,slow=72,SNR=144							
KSAR	**Wonju Array Be**	**85.08**	**321**	P	**P**	**23**	**48**	**31.8** **+0.3**
PETK	**Petropavlovsk-**	**87.73**	**347**	LR	LR	00	21	27.0
	comp=Z,49nm,21.9s,baz=128,slow=31							
GLA	**Glamis**	**89.82**	**50**	P	**P**	**23**	**48**	**54.9** **+0.3**
GLA				IAmb	IAmb	23	48	56.8
	comp=Z,10nm,0.8s							
NVAR	**Mina Array Bea**	**91.22**	**44**	P	**P**	**23**	**49**	**00.9** **-0.3**
	comp=Z,2.2nm,0.9s,baz=225,slow=7.5,SNR=11							
NVAR				LR	LR	00	22	33.7
	comp=Z,37nm,18.9s,baz=2.0,slow=30							
TPH	**Tonopah**	**91.61**	**45**	P	**P**	**23**	**49**	**02.7** **-0.2**
KVN	**Kaiserville**	**91.75**	**43**	P	**P**	**23**	**49**	**03.3** **-0.3**
KVN				IAmb	IAmb	23	49	04.3
	comp=Z,5.2nm,1.2s							
TUC	**Tucson**	**92.00**	**52**	P	**P**	**23**	**49**	**04.4** **-0.4**
TUC				IAmb	IAmb	23	49	07.0
	comp=Z,4.6nm,1.1s							
CMAR	**Chiang Mai Arr**	**92.54**	**290**	LR	LR	00	32	08.6
	comp=Z,17nm,20.8s,baz=115,slow=36							
TXAR	**Lajitas Array**	**95.18**	**58**	P	**P**	**23**	**49**	**19.6** **+0.1**
	comp=Z,0.8nm,0.9s,baz=216,slow=6.2,SNR=7.2							
TXAR	**Lajitas Array**	**95.18**	**58**	P	**P**	**23**	**49**	**19.1** **-0.4**
MCMT	**McKenzie Canyo**	**98.46**	**42**	P	**P**	**23**	**49**	**34.0** **-0.1**
LPAZ	**La Paz**	**98.74**	**116**	LR	LR	00	25	52.0
	comp=Z,26nm,21.7s,baz=137,slow=30							
CPUP	**Villa Florida**	**99.84**	**130**	LR	LR	00	26	35.6
	comp=Z,71nm,22.0s,baz=220,slow=30							
FINES	**FINESS Array B**	**146.74**	**337**	PKPbc	**PKPdf**	**23**	**55**	**34.0** **-1.1**
	comp=Z,1.8nm,0.6s,baz=45,slow=5.7,SNR=9.1							
FINES	**FINESS Array B**	**146.74**	**337**		**PKPdf**	**23**	**55**	**34.6** **-0.6**
NB2	**NORSAR Subarra**	**150.82**	**349**	PKP	**PKPbc**	**23**	**55**	**45.4** **-2.1**
	comp=Z,3.1nm,1.1s,baz=17,slow=4.3							

*NOU **18** 23:44:05.7, 38.06S×176.28E, h282km, MLv3.7, North Island, New Zealand*
WEL 18 23:44:28.3, 39.3S±0.8×175.4E±0.9, h15km, M2.8/33, ML3.1/33, MLv2.8/33, Error ellipse: s-maj=0.0km s-min=0.0km az=63.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.07**	**258**	P	Pg	23 44 31.2	-0.3
TRVZ	**Turoa**	**0.09**	**107**	P	Pg	23 44 31.8	+0.1
FWVZ	**Far West T-bar**	**0.09**	**78**	P	Pg	23 44 32.1	+0.3
DRZ	**Dome Shelter**	**0.10**	**91**	P	Pg	23 44 32.1	+0.2
MTVZ	**Mangateitei**	**0.11**	**168**	P	Pg	23 44 31.2	-0.7
WHVZ	**Whangaehu Hut**	**0.12**	**94**	P	Pg	23 44 32.1	+0.1
WNVZ	**Wahianoa**	**0.13**	**114**	P	Pg	23 44 32.2	-0.1
NGZ	**Nguaruhoe**	**0.16**	**52**	P	Pb	23 44 33.1	0.0
TUVZ	**Tukino**	**0.17**	**88**	P	Pb	23 44 33.1	-0.1
WTVZ	**West Tongariro**	**0.20**	**36**	P	Pb	23 44 33.7	0.0
TWVZ	**Taurewa**	**0.20**	**359**	P	Pb	23 44 33.5	-0.3
OTVZ	**Oturere**	**0.21**	**58**	P	Pb	23 44 33.9	0.0
KRVZ	**Karewarewa**	**0.24**	**41**	P	Pb	23 44 34.2	-0.2
ETVZ	**East Tongariro**	**0.25**	**57**	P	Pb	23 44 34.6	-0.1
TMVZ	**Te Maari**	**0.26**	**52**	P	Pb	23 44 34.7	-0.1
MOVZ	**Moawhango**	**0.28**	**119**	P	Pg	23 44 33.9	-0.4
KATZ	**Kakaramea**	**0.36**	**34**	P	Pb	23 44 36.3	-0.2
RITZ	**Rihia Road**	**0.44**	**48**	P	Pb	23 44 37.9	+0.2
RATZ	**Rangitukua**	**0.48**	**32**	P	Pb	23 44 38.5	0.0
BHHZ	**Black Hill Sta**	**0.53**	**114**	P	Pg	23 44 38.3	-0.5
VRZ	**Vera Road**	**0.55**	**286**	P	Pg	23 44 38.6	-0.6
WAZ	**Wanganui**	**0.60**	**216**	P	Pg	23 44 38.5	-1.6
WATZ	**Wairara**	**0.61**	**22**	P	Pb	23 44 40.6	-0.1
HATZ	**Hinemaiaia**	**0.64**	**53**	P	Pg	23 44 40.9	+0.1
WHTZ	**Whakaora**	**0.73**	**34**	P	Pn	23 44 44.3	+0.2
KWHZ	**Kaweka Forest**	**0.78**	**101**	P	Pb	23 44 43.6	+0.1
KRHZ	**Kereru**	**0.81**	**117**	P	Pg	23 44 43.6	-0.4
BKZ	**Black Stump Fm**	**0.82**	**83**	P	Pb	23 44 44.4	+0.1
KUTZ	**Kaahu Road**	**0.84**	**21**	P	Pg	23 44 44.6	0.0
PNHZ	**Pukenui**	**0.87**	**138**	P	Pb	23 44 44.3	-0.8
MRHZ	**Matea Rd**	**0.88**	**60**	P	Pg	23 44 45.4	0.0
TSZ	**Takapari Road**	**0.88**	**153**	P	Pb	23 44 44.2	-1.1
HIZ	**Hauiti**	**0.89**	**329**	P	Pb	23 44 45.1	-0.3
MHEZ	**Mangahewa**	**0.89**	**282**	P	Pb	23 44 45.4	0.0
OHWZ	**Ohakea**	**0.94**	**186**	P	Pb	23 44 44.6	-1.7
TLZ	**Tolley Road**	**0.95**	**5**	P	Pb	23 44 45.6	-0.8
MCHZ	**McNeill Hill**	**0.99**	**100**	P	Pn	23 44 48.5	+0.8
PREZ	**Palmer Road**	**1.00**	**266**	P	Pb	23 44 47.1	-0.2
NEZ	**North Egmont**	**1.04**	**270**	P	Pb	23 44 47.6	-0.5
GRRZ	**Galatos Road**	**1.06**	**30**	P	Pg	23 44 48.8	0.0
WPHZ	**Waipukurau**	**1.10**	**136**	P	Pg	23 44 49.5	-0.1
KHEZ	**Kahui Hut**	**1.11**	**268**	P	Pb	23 44 49.1	-0.1
POWZ	**Post Office Ro**	**1.15**	**167**	P	Pn	23 44 48.8	-1.0
DVHZ	**Dannevirke**	**1.17**	**152**	P	Pn	23 44 49.6	-0.5
MTHZ	**Maungataniwha**	**1.17**	**69**	P	Pb	23 44 50.3	+0.1
NBEZ	**Newall Road No**	**1.22**	**270**	P	Pn	23 44 50.8	-0.1
KAHZ	**Kahuranaki**	**1.23**	**116**	P	Pg	23 44 52.7	+0.7
RAHZ	**Arahi**	**1.33**	**75**	P	Pg	23 44 57.3	+3.4
PRWZ	**Pori Road**	**1.34**	**162**	P	Pb	23 44 52.9	-0.3
RTZ	**Ruatahuna**	**1.37**	**62**	P	Pg	23 44 54.8	+0.1
MRZ	**Mangatainoka R**	**1.39**	**176**	P	Pn	23 44 52.8	-0.3
BFZ	**Birch Farm**	**1.54**	**157**	P	Pb	23 44 55.9	-0.6
TIWZ	**Tintock**	**1.54**	**167**	P	Pn	23 44 55.8	+0.6
TOZ	**Tahuroa Road**	**1.54**	**2**	P	Pb	23 44 55.9	-0.6
OGWZ	**Otaki Gorge**	**1.56**	**188**	P	Pn	23 44 54.9	-0.5
HOWZ	**Holdsworth Sta**	**1.62**	**178**	P	Pn	23 44 56.8	+0.4
KIW	**Kapiti Island**	**1.64**	**194**	P	Pn	23 44 55.8	-0.8
TGRZ	**Tauranga**	**1.67**	**23**	P	Pg	23 45 00.5	0.0
CAW	**Cannon Point**	**1.85**	**189**	P	Pn	23 44 59.8	+0.2
TMWZ	**Te Maipa**	**1.86**	**169**	P	Pb	23 45 01.9	-0.2
MTW	**Mount Morrison**	**1.88**	**179**	P	Pn	23 45 01.1	+1.2
DUWZ	**D'Urville Isla**	**1.92**	**217**	P	Pn	23 44 59.8	-0.7
WEL	**Wellington**	**2.07**	**194**	P	Pn	23 45 03.7	+1.2
PAWZ	**Paruwai Farm**	**2.10**	**180**	P	Pb	23 45 05.6	-0.7
TCW	**Tory Channel**	**2.13**	**204**	P	Pn	23 45 04.1	+0.7
TRWZ	**Traveller**	**2.13**	**175**	P	Pb	23 45 07.2	+0.5
MSWZ	**Moikau Station**	**2.15**	**184**	P	Pb	23 45 05.6	-1.2
MKAZ	**Moumakai**	**2.18**	**354**	P	Pn	23 45 04.5	+0.6
AWAZ	**Awhitu Peninsu**	**2.29**	**344**	P	Pb	23 45 09.2	-0.2
PLWZ	**Palliser**	**2.30**	**183**	P	Pb	23 45 08.5	-1.0
TUWZ	**Tuamarina**	**2.44**	**208**	P	Pn	23 45 08.0	+0.4
WIAZ	**Waiheke Island**	**2.49**	**354**	P	Pn	23 45 07.6	-0.7
NNZ	**Nelson**	**2.50**	**218**	P	Pn	23 45 10.6	+2.1
KUZ	**Kuaotunu**	**2.53**	**5**	P	Pb	23 45 14.0	+0.6
BSWZ	**Blackbirch Sta**	**2.71**	**206**	P	Pb	23 45 14.6	-2.0
QRZ	**Quartz Range**	**2.72**	**234**	P	Pn	23 45 11.6	+0.2
THZ	**Tophouse**	**3.15**	**217**	P	Pn	23 45 19.1	+1.7

ROM 18 23:45:38.7±0.1, 43.250N±0.005×12.665E±0.006, h13km, ML0.8/1, Error ellipse: s-maj=0.5km s-min=0.5km az=162.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATCC	**AVT- Casa Cast**	**0.07**	**196**	P	Pg	23 45 41.7	+0.4
ATCC				S	Sg	23 45 43.6	+0.4
ATCC				AML	AML		
	comp=E,66μm,0.6s						
ATCC				AML	AML		
	comp=N,82μm,0.2s						
FOSV	**Fossato di Vic**	**0.08**	**57**	P	Pg	23 45 41.8	+0.3
FOSV				S	Sg	23 45 43.8	+0.3
ATFO	**Monte Foce - G**	**0.14**	**330**	P	Pg	23 45 42.5	+0.2
ATFO				S	Sb	23 45 45.5	-0.7
ATVO	**AVT- Monte Val**	**0.23**	**305**	P	Pg	23 45 43.9	+0.3
ATVO				S	Sg	23 45 47.9	+0.8
FRON	**Frontone**	**0.27**	**9**	P	Pg	23 45 44.9	+0.5
FRON				S	Sb	23 45 49.2	-0.9

*IPEC **18** 23:46:41.8±0.2, 49.97N×18.62E, h2km±2km, ML1.5/3, Error ellipse: s-maj=2.0km s-min=1.1km az=165.0*
PRU 18 23:46:42.9±0.0, 49.97N×18.54E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.29**	**243**	*e*PG	Pg	23 46 48.8	+0.4
OKC				*e*SG	Sg	23 46 52.4	+0.3
	comp=Z,25nm,0.3s						
MORC	**Moravsky Berou**	**0.67**	**254**	*e*PG	Pg	23 46 55.6	-0.2
MORC				*e*SG	Sg	23 47 04.4	-0.1
MORC	**Moravsky Berou**	**0.67**	**254**	*e*Pg	Pg	23 46 55.5	-0.3
	baz=74						
MORC				*e*Sg	Sg	23 47 04.3	-0.2
	10nm,0.2s,baz=74						
OJC	**Ojcow**	**0.85**	**72**	*e*Pg	Pg	23 46 57.1	-2.0
OJC				*e*Sg	Sg	23 47 09.1	-1.0
LANS	**Liptovska Anna**	**1.02**	**143**	*e*PG	Pg	23 47 01.6	-0.8
LANS				*e*SG	Sg	23 47 15.7	+0.1
LANS				*e*LG	Lg	23 47 19.8	
KRLC	**Kraliky**	**1.14**	**276**	*e*PG	Pg	23 47 03.9	-0.8
KRLC				*e*SG	Sg	23 47 19.8	+0.3
	comp=Z,19nm,1.0s						
JAVC	**Velka Javorina**	**1.25**	**207**	*e*PG	Pg	23 47 06.3	-0.5
JAVC	**Velka Javorina**	**1.25**	**207**	*e*Pg	Pg	23 47 06.3	-0.5
	baz=29						
NIE	**Niedzica**	**1.27**	**115**	*e*Pg	Pg	23 47 06.0	-1.2
NIE				*e*Sg	Sb	23 47 24.6	0.0
VRAC	**Vranov**	**1.43**	**243**	*e*PG	Pn	23 47 08.8	-1.3
VRAC				*e*SG	Sg	23 47 27.9	-0.8
VRAC	**Vranov**	**1.43**	**243**	*e*Pg	Pn	23 47 08.7	-1.4
	baz=62						
VRAC				*e*Sg	Sg	23 47 27.8	-0.9
	6.5nm,0.2s,baz=62						
DPC	**Dobruska-Polom**	**1.48**	**286**	*e*PG	Pn	23 47 10.4	-0.4
DPC				*e*SG	Sg	23 47 30.1	-0.2
	comp=Z,5.7nm,0.5s						
VYHS	**Vyhne**	**1.49**	**172**	*e*PG	Pn	23 47 09.4	-1.5
VYHS				*e*SG	Sg	23 47 29.9	-0.8
OSTC	**Ostas**	**1.60**	**292**	*e*PG	Pn	23 47 12.4	-0.1
OSTC				*e*SG	Sn	23 47 33.8	-0.1
	comp=Z,6.9nm,0.8s						
SMOL	**Smolenice**	**1.63**	**207**	*e*PN	Pn	23 47 12.1	-0.7
SMOL				*e*SN	Sg	23 47 35.4	+0.2
SMOL				*e*LG	Lg	23 47 36.1	
KRUC	**Moravsky**	**1.67**	**238**	*e*PN	Pn	23 47 12.6	-0.8
KRUC				*e*SG	Sn	23 47 35.2	-0.2
KRUC	**Moravsky**	**1.67**	**238**	*e*Pn	Pn	23 47 12.5	-0.9
	baz=57						
KRUC				*e*Sg	Sn	23 47 35.2	-0.2
	3.6nm,0.2s,baz=57						
CHVC	**Chvalec**	**1.71**	**292**	*e*PG	Pn	23 47 13.9	-0.1
CHVC				*e*SG	Sn	23 47 36.9	+0.3
UPC	**Upice**	**1.71**	**289**	*e*SG	Sg	23 47 37.8	0.0
	comp=Z,4.5nm,0.4s						
MODS	**Modra-Piesok**	**1.80**	**208**	*e*PN	Pn	23 47 14.9	-0.3
MODS				*e*SN	Sb	23 47 39.9	+0.1
MODS				*e*LG	Lg	23 47 42.0	
GOPC	**GO Pecny, Ondr**	**2.42**	**270**	*e*SG	Sg	23 47 59.3	-1.5
	comp=Z,4.1nm,0.6s						
PRU	**Pruhonice**	**2.58**	**272**	*e*SG	Sb	23 48 04.0	+1.7
	comp=Z,2.2nm,0.5s						
PVCC	**Panska Ves**	**2.61**	**284**	*e*SG	Sg	23 48 06.4	-0.3
	comp=Z,4.1nm,0.2s						
KOLS	**Kolonicke sedl**	**2.65**	**112**	*e*PG	Pg	23 47 33.0	-0.6
CKRC	**Cesky Krumlov**	**2.99**	**249**	*e*SG	Sg	23 48 17.9	-1.1
BRG	**Berggiesshubel**	**3.08**	**289**	Sg	Sg	23 48 20.1	-1.6
BRG				Amp		23 48 30.0	
	comp=Z,2.5nm,0.6s						
KHC	**Kasperske Hory**	**3.34**	**257**	*e*PG	Pb	23 47 43.5	+0.5
KHC				*e*SG	Sg	23 48 28.3	-1.8
	comp=Z,2.0nm,0.3s						

*JMA **19** 00:29:59.8±0.2, 23.95N×122.53E, h21km±3km, M2.6*
*TAP **19** 00:29:59.9, 24.03N×122.61E, h56km, ML3.4, D*
ISC 19 00:30:00.1±1.0, 23.99N±0.02×122.54E±0.02, h20km±8km, n98, σ1913/183, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.59**	**39**	P	**Pg**	**00 30 11.8**	**-0.1**
JYNG				S	**Sg**	**00 30 20.5**	**+0.6**
YOJ	**Yonaguni jima**	**0.64**	**42**	*i* P	**Pg**	**00 30 12.5**	**-0.3**
	baz=45						
YOJ				*i* S	**Sg**	**00 30 21.9**	**+0.5**
	baz=45						
YOJ	**Yonaguni jima**	**0.64**	**42**	P	**Pg**	**00 30 12.7**	**-0.1**
YOJ				S	**Sg**	**00 30 21.9**	**+0.5**
EWUT	**Wuta**	**0.83**	**303**	*e*P	**Pg**	**00 30 16.3**	**-0.1**
	baz=299						
EWUT				*e*S	**Sg**	**00 30 26.5**	**-0.9**
	baz=299						
ENA	**Nanau**	**0.85**	**301**	*e*P	**Pb**	**00 30 16.3**	**+0.1**
	baz=297						
ENA				*e*S	**Sg**	**00 30 27.2**	**-0.9**
	baz=297						
TWD	**Chiawan**	**0.87**	**276**	*e*P	**Pb**	**00 30 17.0**	**+0.5**
	baz=273						
TWD				*e*S	**Sb**	**00 30 28.4**	**+0.7**
	baz=273						
TWC	**Suao**	**0.88**	**315**	P	**Pb**	**00 30 16.5**	**-0.2**
	baz=310						
TWC				S	**Sb**	**00 30 27.8**	**-0.3**
	baz=310						
NACB	**Ninganchiao**	**0.88**	**282**	P	**Pb**	**00 30 16.3**	**-0.4**
	baz=271						
NACB				S	**Sb**	**00 30 28.8**	**+0.7**
	baz=271						
NDS	**Dongshan**	**0.99**	**311**	*e*P	**Pb**	**00 30 18.8**	**+0.2**
	baz=300						
NDS				S	**Sb**	**00 30 31.6**	**+0.5**
	baz=300						
ETLH	**Xiulin Townshi**	**0.99**	**283**	*e*P	**Pb**	**00 30 18.2**	**-0.5**
	baz=280						
ETLH				*e*S	**Sb**	**00 30 31.1**	**-0.2**
	baz=280						
ESL	**Shilin**	**1.03**	**260**	*e*P	**Pb**	**00 30 18.0**	**-1.2**
	baz=259						
ESL				*e*S	**Sb**	**00 30 31.9**	**-0.4**
	baz=259						
ILA	**Ilan**	**1.06**	**317**	*e*S	**Sb**	**00 30 34.9**	**+1.8**
	baz=314						
EGFH	**Guangfu**	**1.07**	**253**	*e*P	**Pb**	**00 30 19.4**	**-0.5**
	baz=244						
EGFH				*e*S	**Sb**	**00 30 33.5**	**0.0**
	baz=244						
NTC	**Toucheng**	**1.08**	**323**	*e*P	**Pb**	**00 30 20.4**	**+0.3**
	baz=320						
NTC				*e*S	**Sb**	**00 30 33.8**	**+0.1**
	baz=320						
TWE	**Neicheng**	**1.08**	**313**	*e*P	**Pb**	**00 30 20.2**	**+0.1**
	baz=303						
TWE				*e*S	**Sb**	**00 30 34.3**	**+0.6**
	baz=303						
ENTT	**Nioudou**	**1.10**	**306**	*e*P	**Pb**	**00 30 20.8**	**+0.3**
	baz=303						
ENTT				*e*S	**Sb**	**00 30 34.5**	**+0.2**
	baz=303						
NDT	**Datong Townshi**	**1.12**	**303**	*e*P	**Pb**	**00 30 21.1**	**+0.4**
	baz=292						
NDT				*e*S	**Sb**	**00 30 35.3**	**+0.4**
	baz=292						
TWB1	**Santiao Chiao**	**1.13**	**334**	*e*P	**Pb**	**00 30 20.2**	**-0.8**
	baz=340						
TWB1				*e*S	**Sb**	**00 30 34.4**	**-0.9**
	baz=340						
HGSD	**Ruisui**	**1.14**	**244**	*e*P	**Pb**	**00 30 20.2**	**-0.9**
	baz=244						
HGSD				S	**Sb**	**00 30 34.9**	**-0.5**
	baz=244						
IRIF	**Iriomote-Funau**	**1.14**	**72**	P	**Pn**	**00 30 21.3**	**+0.4**
IRIF				*e*S	**Sb**	**00 30 36.9**	**+1.4**
NNSB	**Datong**	**1.14**	**293**	*e*P	**Pb**	**00 30 20.7**	**-0.6**
	baz=290						
NNSB				*e*S	**Sb**	**00 30 35.4**	**-0.3**
	baz=290						
NNSH	**Datong**	**1.14**	**293**	*e*P	**Pb**	**00 30 21.4**	**+0.2**
	baz=290						
NNSH				*e*S	**Sb**	**00 30 35.7**	**0.0**
	baz=290						
NNS	**Nan Shan**	**1.16**	**293**	*e*P	**Pb**	**00 30 22.0**	**+0.5**
	baz=290						
NNS				*e*S	**Sb**	**00 30 35.6**	**-0.5**
	baz=290						
HATJ	**Hateruma jima**	**1.16**	**86**	P	**Pn**	**00 30 21.1**	**-0.1**
HATJ				*e*S	**Sb**	**00 30 36.5**	**+0.4**
TIPB	**Shuangxi**	**1.17**	**327**	*e*P	**Pn**	**00 30 20.8**	**-0.6**
	baz=323						
TIPB				*e*S	**Sb**	**00 30 36.2**	**-0.4**
	baz=323						
WHF	**Hehuan Shan**	**1.18**	**278**	P	**Pb**	**00 30 21.0**	**-1.0**
	baz=276						
WHF				S	**Sb**	**00 30 36.1**	**-0.8**
	baz=276						
FUSS	**Fushou**	**1.21**	**282**	*e*P	**Pn**	**00 30 21.7**	**-0.4**
	baz=280						
FUSS				*e*S	**Sb**	**00 30 36.8**	**-1.0**
	baz=280						
EHY	**Hungye**	**1.22**	**247**	*e*P	**Pn**	**00 30 21.4**	**-0.5**
	baz=258						
EHY				*e*S	**Sb**	**00 30 37.0**	**-0.7**
	baz=258						
NWLT	**Wulai**	**1.23**	**310**	*e*P	**Pn**	**00 30 23.2**	**+1.0**
	baz=298						
NWLT				*e*S	**Sb**	**00 30 38.5**	**+0.4**
	baz=298						
YHNB	**Yeheng**	**1.26**	**303**	*e*P	**Pn**	**00 30 22.5**	**-0.2**
	baz=300						
YHNB				*e*S	**Sb**	**00 30 38.0**	**-1.0**
	baz=300						
NSK	**Sanguang**	**1.28**	**303**	*e*P	**Pn**	**00 30 23.7**	**+0.8**
	baz=300						
NSK				*e*S	**Sb**	**00 30 39.8**	**+0.2**
	baz=300						
NWF	**Wu-fen Shan**	**1.28**	**327**	*e*P	**Pn**	**00 30 22.5**	**-0.4**
	baz=324						
NWF				*e*S	**Sb**	**00 30 39.4**	**-0.2**
	baz=324						
WFSB	**Wu-fen Shan**	**1.28**	**327**	*e*P	**Pn**	**00 30 22.1**	**-0.8**
	baz=324						
WFSB				*e*S	**Sb**	**00 30 38.9**	**-0.7**
	baz=324						
YULB	**Yu-li**	**1.28**	**243**	*e*P	**Pn**	**00 30 22.6**	**-0.3**
	baz=235	

JIJ				eS	Sn	00 30 44.7	-0.5
EDH	**Donghe**	**1.52**	**228**	eP	Pn	00 30 25.4	-0.8
	baz=222						
EDH				eS	Sn	00 30 43.5	-1.9
	baz=222						
LIOB	**Emei**	**1.54**	**295**	eP	Pn	00 30 28.0	+1.6
	baz=293						
LIOB				eS	Sn	00 30 46.6	+0.8
	baz=293						
YUS	**Yu-Shan**	**1.54**	**251**	eP	Pn	00 30 27.0	+0.1
	baz=251						
YUS				eS	Sn	00 30 45.6	-0.9
	baz=251						
TYC	**Yuchr**	**1.54**	**267**	eP	Pn	00 30 26.7	+0.2
	baz=266						
TYC				eS	Sn	00 30 46.5	+0.6
	baz=266						
ELDTW	**Lidau**	**1.61**	**241**	eP	Pn	00 30 27.1	-0.5
	baz=240						
ELDTW				eS	Sn	00 30 45.4	-2.4
	baz=240						
LDUT	**Ludao**	**1.64**	**217**	eP	Pn	00 30 26.8	-1.0
	baz=217						
LDUT				eS	Sn	00 30 47.0	-1.3
	baz=217						
TWQ1	**Liyutan**	**1.65**	**283**	eS	Sn	00 30 50.2	+1.5
	baz=281						
ALS	**Alishan**	**1.66**	**254**	eP	Pn	00 30 29.1	+0.7
	baz=253						
ALS				eS	Sn	00 30 49.4	+0.2
	baz=253						
WJS	**Zhushan**	**1.67**	**265**	eS	Sn	00 30 52.1	+3.0
	baz=269						
NSY	**Sanyi**	**1.68**	**285**	eS	Sn	00 30 50.3	+1.0
	baz=284						
LONT	**Longtian**	**1.69**	**230**	eP	Pn	00 30 28.4	-0.1
	baz=226						
LONT				eS	Sn	00 30 48.8	-0.7
	baz=226						
WNT	**Mingjian**	**1.70**	**267**	eP	Pn	00 30 29.9	+1.2
	baz=266						
WNT				eS	Sn	00 30 52.0	+2.2
	baz=266						
TCU	**Taichung**	**1.71**	**276**	eS	Sn	00 30 51.9	+1.8
	baz=274						
CHN5	**Tsauling**	**1.75**	**257**	eP	Pn	00 30 31.0	+1.6
	baz=251						
CHN5				eS	Sn	00 30 52.4	+1.2
	baz=251						
TWGBT	**Beinan**	**1.78**	**229**	eS	Sn	00 30 51.3	-0.5
	baz=241						
STYH	**Taoyuan**	**1.81**	**244**	eP	Pn	00 30 30.7	+0.5
	baz=238						
STYH				eS	Sn	00 30 52.9	+0.3
	baz=238						
STYT	**Tauyuan**	**1.83**	**244**	eP	Pn	00 30 30.5	0.0
	baz=238						
STYT				eS	Sn	00 30 53.9	+0.7
	baz=238						
WDLH	**Douliu**	**1.86**	**261**	eP	Pn	00 30 32.6	+1.8
	baz=261						
WDLH				eS	Sn	00 30 56.4	+2.7
	baz=261						
TPUB	**Ta-pu**	**1.88**	**249**	eP	Pn	00 30 32.4	+1.2
	baz=255						
TPUB				eS	Sn	00 30 56.7	+2.3
	baz=255						
CHN4	**Tsaushan**	**1.90**	**251**	eP	Pn	00 30 33.5	+2.2
	baz=251						
CHN4				eS	Sn	00 30 57.3	+2.7
	baz=251						
WRL	**Guolierlin Hig**	**1.98**	**268**	eS	Sn	00 30 59.1	+2.3
	baz=278						
WTK	**Tuku**	**1.99**	**262**	eP	Pn	00 30 34.3	+1.6
	baz=261						
WTK				eS	Sn	00 30 59.6	+2.6
	baz=261						
SLGT	**Liugui**	**2.00**	**241**	eP	Pn	00 30 34.6	+1.7
	baz=235						
SLGT				eS	Sn	00 30 59.2	+1.9
	baz=235						
SGST	**Jiashian**	**2.01**	**244**	eP	Pn	00 30 34.3	+1.4
	baz=236						
SGST				eS	Sn	00 30 59.2	+1.6
	baz=236						
CHN1	**Nanshi**	**2.01**	**247**	eP	Pn	00 30 35.3	+2.4
	baz=247						
CHN1				eS	Sn	00 30 60.0	+2.4
	baz=247						
ECL	**Taimali**	**2.01**	**227**	eP	Pn	00 30 32.9	0.0
	baz=235						
ECL				eS	Sn	00 30 56.1	-1.5
	baz=235						
TWK	**Hsinying**	**2.02**	**249**	eP	Pn	00 30 34.9	+1.9
	baz=249						
TWK				eS	Sn	00 31 00.0	+2.3
	baz=249						
LAY	**Lan-yu**	**2.15**	**205**	eS	Sn	00 30 59.2	-1.6
	baz=204						
TSMG	**Majia**	**2.16**	**234**	eP	Pn	00 30 36.2	+1.2
	baz=232						
TSMG				eS	Sn	00 31 02.0	+0.8
	baz=232						
ICHU	**Yijhu**	**2.17**	**254**	eP	Pn	00 30 35.8	+0.7
	baz=254						
ICHU				eS	Sn	00 31 03.2	+1.9
	baz=254						
MASBT	**Mashibuluo**	**2.23**	**232**	eP	Pn	00 30 37.4	+1.5
	baz=231						
MASBT				eS	Sn	00 31 04.6	+1.8
	baz=231						
EAST	**Anshuo**	**2.23**	**225**	eP	Pn	00 30 36.9	+0.8
	baz=231						
EAST				eS	Sn	00 31 01.9	-1.2
	baz=231						
SSPT	**Xinbi**	**2.35**	**231**	eP	Pn	00 30 39.2	+1.6
	baz=228						
SSPT				eS	Sn	00 31 07.9	+1.9
	baz=228						
SLIU	**Shizi**	**2.38**	**223**	eP	Pn	00 30 39.7	+1.6
	baz=214						
SLIU				eS	Sn	00 31 07.5	+0.7
	baz=214						
SCZT	**Fangliau**	**2.39**	**228**	eP	Pn	00 30 40.0	+1.8
	baz=224						
SCZT				eS	Sn	00 31 07.7	+0.8
	baz=224						
WDGT	**Dungji**	**2.74**	**255**	eP	Pn	00 30 43.9	+0.9
	baz=255						
WDGT				eS	Sn	00 31 15.7	+0.2
	baz=255						
PHUB	**P'eng-hu**	**2.76**	**261**	eS	Sn	00 31 15.9	-0.1
	baz=273						
VWUC	**VWUC**	**2.99**	**290**	eP	Pn	00 30 46.8	+0.5
	baz=289						
VWUC				eS	Sn	00 31 19.1	-2.4
	baz=289						
MATB	**Ma-tsu**	**3.19**	**313**	eP	Pn	00 30 51.1	+1.9
	baz=311						
MATB				eS	Sn	00 31 24.4	-2.2
	baz=311						
PTMZ	**Houxiangcun**	**3.29**	**289**	eS	Sn	00 31 25.8	-3.2
	baz=289						
XPSS	**Dashiqiu**	**3.62**	**325**	eP	Pn	00 30 54.9	-0.1
	baz=322						
XPSS				eS	Sn	00 31 36.2	-1.0
	baz=322						
KNMB	**Chin-men Tao**	**3.82**	**278**	eS	Sn	00 31 39.9	-2.3
	baz=278						
AXDP	**Jialang**	**4.26**	**283**	eP	Pn	00 31 05.2	+1.3
	baz=275						
AXDP				eS	Sn	00 31 51.9	-1.1
	baz=275						

IDC ***19*** *00:33:14.4±1.7,36°.36S×73°.95W,h0km,mb3.4/3, mb1 3.8/4,mb1mx3.7/16,mbtmp3.4/4,ML3.7/1,Error ellipse: s-maj=75.9km s-min=21.5km az=65.0*

ISC 19 00:33:19.2±1.2,36°.45S±0°.06×73.7W±0°.1,h35km,n9, σ3s04/12,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.67**	**126**	⇑iP	**Pn**	**00 33 30.6**	**-1.6**
BI03				eS	**Sn**	**00 33 41.4**	**0.0**
BI03				IAML		00 33 46.7	
	comp=N,42μm,0.4s						
LAJA	**Laja**	**1.14**	**137**	eP	**Pn**	**00 33 37.6**	**-1.1**
LAJA				*i* S	**Sn**	**00 33 53.6**	**+0.4**
LAJA				IAML		00 34 02.3	
	comp=N,1μm,0.5s						
BO03	**Pichilemu**	**2.41**	**36**	eP	Pn	00 33 49.6	-6.5
BO03				eS	**Sn**	**00 34 24.4**	**-0.1**
BO03				IAML		00 34 37.4	
	comp=E,696nm,0.6s						
BO02	**Sierra Bellavi**	**2.89**	**56**	eP	**Pn**	**00 33 59.5**	**-3.4**
BO02				eS	**Sn**	**00 34 38.8**	**+2.3**
BO02				IAML		00 34 47.2	
	comp=N,1μm,0.5s						
MT09	**Talagante**	**3.47**	**41**	eP	Pn	00 34 05.6	-5.3
MT09				eS	**Sn**	**00 34 58.0**	**+7.2**
MT09				IAML		00 35 07.2	
	comp=N,530nm,0.5s						
PLCA	**Paso Flores**	**4.93**	**151**	Pn	**Pn**	**00 34 32.7**	**+1.8**
	comp=N,0.7nm,0.3s,baz=323,slow=14,SNR=9.1						
PLCA				Lg	Lg	00 35 56.3	
	comp=N,0.9nm,0.3s,baz=30,slow=16,SNR=5.2						
LPAZ	**La Paz**	**20.68**	**15**	P	**P**	**00 37 56.0**	**-0.9**
	comp=N,1.0nm,0.6s,baz=186,slow=10,SNR=2.3						
TXAR	**Lajitas Array**	**71.24**	**333**	P	**P**	**00 44 32.9**	**-1.9**
	comp=N,0.0nm,0.4s,baz=164,slow=7.3,SNR=1.5						
PDAR	**Pinedale Array**	**85.36**	**334**	P	**P**	**00 45 54.5**	**+1.7**
	comp=N,0.5nm,0.9s,baz=134,slow=6.4,SNR=2.1						

IDC ***19*** *01:14:22.2±7.5,35°.21S×176°.06E,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.6/20,mbtmp3.5/2,Error ellipse: s-maj=349.3km s-min=66.7km az=168.0*

NOU ***19*** *01:14:28.0,38°.48S×176°.07E,h167km,MLv4.0,North Island, New Zealand*

WEL ***19*** *01:14:33.4,39°.S±1°.×17°.6E±°,h119km±2km,M3.3/60, MLv3.3/60,Error ellipse: s-maj=0.0km s-min=0.0km az=81.0*

ISC 19 01:14:31.5±1.0,38°.60S±0°.04×175°.99E±0°.05,h134km±6km, n138,σ0s96/141,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WHTZ	**Whakaora**	**0.07**	**201**	P	**Pn**	**01 14 50.2**	**+0.5**
WPRZ	**Whakapapatarin**	**0.16**	**59**	P	**Pn**	**01 14 50.0**	**+0.2**
KUTZ	**Kaahu Road**	**0.17**	**310**	P	**Pn**	**01 14 50.1**	**+0.3**
WATZ	**Wairara**	**0.23**	**242**	P	**Pn**	**01 14 50.3**	**+0.4**
GRRZ	**Galatos Road**	**0.27**	**21**	P	**Pn**	**01 14 50.3**	**+0.2**
ALRZ	**Allen Road**	**0.28**	**82**	P	**Pn**	**01 14 50.0**	**0.0**
HATZ	**Hinemaiaia**	**0.30**	**165**	P	**Pn**	**01 14 50.4**	**+0.3**
HATZ				S	**Sn**	**01 15 02.9**	**-1.5**
HRRZ	**Handcock Road**	**0.31**	**48**	P	**Pn**	**01 14 50.4**	**+0.1**
RATZ	**Rangitukua**	**0.32**	**213**	P	**Pn**	**01 14 50.7**	**+0.4**
PRRZ	**Plateau Road**	**0.33**	**72**	P	**Pn**	**01 14 50.1**	**-0.2**
HSRZ	**Hossack Road**	**0.35**	**35**	P	**Pn**	**01 14 50.5**	**+0.2**
RITZ	**Rihia Road**	**0.39**	**195**	P	**Pn**	**01 14 51.4**	**+0.9**
MRHZ	**Matea Rd**	**0.41**	**125**	P	**Pn**	**01 14 50.8**	**+0.2**
MRHZ				S	**Sn**	**01 15 03.7**	**-1.5**
KATZ	**Kakaramea**	**0.44**	**212**	P	**Pn**	**01 14 51.5**	**+0.6**
TLZ	**Tolley Road**	**0.45**	**307**	P	**Pn**	**01 14 51.2**	**+0.4**
TLZ				S	**Sn**	**01 15 04.4**	**-1.1**
HLRZ	**Highlands Stat**	**0.45**	**39**	P	**Pn**	**01 14 51.4**	**+0.6**
UTU	**Utuhina**	**0.45**	**21**	P	**Pn**	**01 14 51.1**	**+0.3**
RRRZ	**Republican Roa**	**0.49**	**58**	P	**Pn**	**01 14 51.0**	**0.0**
NGRZ	**Ngongotaha**	**0.52**	**17**	P	**Pn**	**01 14 51.4**	**+0.2**
TARZ	**Mount Tarawera**	**0.55**	**48**	P	**Pn**	**01 14 51.5**	**+0.1**
TMVZ	**Te Maari**	**0.56**	**203**	P	**Pn**	**01 14 52.3**	**+0.8**
KRVZ	**Karewarewa**	**0.56**	**209**	P	**Pn**	**01 14 52.2**	**+0.7**
ETVZ	**East Tongariro**	**0.58**	**202**	P	**Pn**	**01 14 52.6**	**+1.0**
OMRZ	**Omania**	**0.58**	**31**	P	**Pn**	**01 14 51.6**	**0.0**
MKRZ	**Makatiti**	**0.59**	**39**	P	**Pn**	**01 14 52.3**	**+0.6**
WTVZ	**West Tongariro**	**0.60**	**211**	P	**Pn**	**01 14 52.5**	**+0.7**
KARZ	**Kaharoa**	**0.61**	**19**	P	**Pn**	**01 14 51.8**	**+0.1**
OTVZ	**Oturere**	**0.62**	**204**	P	**Pn**	**01 14 53.0**	**+1.1**
MUGZ	**Murupara**	**0.62**	**79**	P	**Pn**	**01 14 51.6**	**-0.2**
TWVZ	**Taurewa**	**0.64**	**222**	P	**Pn**	**01 14 52.8**	**+0.8**
NGZZ	**Ngauruhoe**	**0.65**	**208**	P	**Pn**	**01 14 53.0**	**+0.9**
LIRZ	**Lichensteins R**	**0.67**	**28**	P	**Pn**	**01 14 52.3**	**+0.2**
BKZ	**Black Stump Fm**	**0.69**	**145**	P	**Pn**	**01 14 52.9**	**+0.7**
MTHZ	**Maungataniwha**	**0.71**	**111**	P	**Pn**	**01 14 53.0**	**+0.6**
TUVZ	**Tukino**	**0.72**	**201**	P	**Pn**	**01 14 53.7**	**+1.1**
FWVZ	**Far West T-bar**	**0.74**	**207**	P	**Pn**	**01 14 53.6**	**+0.8**
WHVZ	**Whangaehu Hut**	**0.75**	**205**	P	**Pn**	**01 14 54.0**	**+1.1**
KMRZ	**Kaimai**	**0.76**	**357**	P	**Pn**	**01 14 52.9**	**+0.2**
EDRZ	**Edgecumbe**	**0.77**	**50**	P	**Pn**	**01 14 52.9**	**0.0**
RTZ	**Ruatahuna**	**0.78**	**91**	P	**Pn**	**01 14 53.2**	**+0.3**
TRVZ	**Turoa**	**0.78**	**206**	P	**Pn**	**01 14 54.4**	**+1.2**
WNVZ	**Wahianoa**	**0.79**	**203**	P	**Pn**	**01 14 54.2**	**+1.1**
NMHZ	**Naumai**	**0.81**	**128**	P	**Pn**	**01 14 54.7**	**+1.5**
MARZ	**Manawahe**	**0.82**	**41**	P	**Pn**	**01 14 53.3**	**0.0**
MOVZ	**Moawhango**	**0.83**	**193**	P	**Pn**	**01 14 54.2**	**+0.8**
PKVZ	**Pokaka**	**0.85**	**216**	P	**Pn**	**01 14 54.7**	**+1.1**
OPRZ	**Ohinepanea**	**0.88**	**31**	P	**Pn**	**01 14 53.7**	**0.0**
MTVZ	**Mangateitei**	**0.88**	**207**	P	**Pn**	**01 14 55.1**	**+1.3**
BHHZ	**Black Hill Sta**	**0.89**	**176**	P	**Pn**	**01 14 54.7**	**+0.9**
KWHZ	**Kaweka Forest**	**0.89**	**158**	P	**Pn**	**01 14 54.9**	**+1.1**
HIZ	**Hauiti**	**0.89**	**275**	P	**Pn**	**01 14 54.6**	**+0.8**
TGRZ	**Tauranga**	**0.90**	**14**	P	**Pn**	**01 14 54.0**	**+0.2**
RAHZ	**Arahi**	**0.91**	**111**	P	**Pn**	**01 14 55.1**	**+1.1**
URZ	**Urewera**	**0.94**	**69**	P	**Pn**	**01 14 54.1**	**-0.2**
TOZ	**Tahuroa Road**	**0.95**	**336**	P	**Pn**	**01 14 54.8**	**+0.5**
MCHZ	**McNeill Hill**	**1.01**	**147**	P	**Pn**	**01 14 56.7**	**+1.9**
ARHZ	**Aropaoanui**	**1.03**	**130**	P	**Pn**	**01 14 56.5**	**+1.6**
SNGZ	**Shannon Statio**	**1.07**	**100**	P	**Pn**	**01 14 56.4**	**+1.0**
WHRZ	**Whale Island**	**1.07**	**47**	P	**Pn**	**01 14 55.7**	**+0.2**
WHHZ	**Waihua**	**1.08**	**116**	P	**Pn**	**01 14 56.8**	**+1.3**
KRHZ	**Kereru**	**1.08**	**164**	P	**Pn**	**01 14 56.9**	**+1.3**
VRZ	**Vera Road**	**1.09**	**241**	P	**Pn**	**01 14 57.2**	**+1.6**
RAGZ	**Rawiri**	**1.12**	**85**	P	**Pn**	**01 14 56.4**	**+0.4**
MWZ	**Matawai**	**1.24**	**78**	P	**Pn**	**01 14 57.2**	**+0.1**
PNHZ	**Pukenui**	**1.32**	**173**	P	**Pn**	**01 14 58.9**	**+1.0**
MYRZ	**Mayor Island**	**1.33**	**9**	P	**Pn**	**01 14 58.5**	**+0.5**
CKNZ	**Cape Kidnapper**	**1.35**	**142**	P	**Pn**	**01 14 59.9**	**+1.4**
KAHZ	**Kahuranaki**	**1.38**	**150**	P	**Pn**	**01 15 00.1**	**+1.6**
KNZ	**Kokohu**	**1.38**	**108**	P	**Pn**	**01 14 59.7**	**+1.2**
RIGZ	**Rimuhau**	**1.39**	**95**	P	**Pn**	**01 14 59.8**	**+1.1**
WAZ	**Wanganui**	**1.39**	**214**	P	**Pn**	**01 15 00.3**	**+1.7**
TSZ	**Takapari Road**	**1.46**	**181**	P	**Pn**	**01 15 00.4**	**+1.0**
TKGZ	**Te Karaka**	**1.47**	**84**	P	**Pn**	**01 15 00.7**	**+1.2**
RUGZ	**Raukumara Rang**	**1.47**	**65**	P	**Pn**	**01 14 59.0**	**-0.7**
WPHZ	**Waipukurau**	**1.50**	**167**	P	**Pn**	**01 15 01.1**	**+1.2**
LREZ	**Lake Rotokare**	**1.50**	**235**	P	**Pn**	**01 15 01.8**	**+1.9**
PRGZ	**Paritu Road**	**1.52**	**103**	P	**Pn**	**01 15 01.1**	**+1.0**
PXZ	**Pawanui**	**1.58**	**155**	P	**Pn**	**01 15 01.9**	**+1.2**
MHGZ	**Mahia Peninsul**	**1.59**	**111**	P	**Pn**	**01 15 02.3**	**+1.4**
PREZ	**Palmer Road**	**1.61**	**242**	P	**Pn**	**01 15 03.6**	**+2.6**
NEZ	**North Egmont**	**1.62**	**245**	P	**Pn**	**01 15 03.3**	**+2.0**
TWGZ	**Tauwhareparae**	**1.62**	**75**	P	**Pn**	**01 15 02.1**	**+0.9**
MKAZ	**Moumakai**	**1.63**	**336**	P	**Pn**	**01 15 01.9**	**+0.6**
HAZ	**Te Kaha**	**1.65**	**71**	P	**Pn**	**01 15 01.0**	**-0.3**
PKE	**Pukeiti**	**1.67**	**249**	P	**Pn**	**01 15 03.8**	**+2.0**
OHWZ	**Ohakea**	**1.69**	**198**	P	**Pn**	**01 15 03.5**	**+1.6**
KHEZ	**Kahui Hut**	**1.69**	**245**	P	**Pn**	**01 15 04.0**	**+2.0**
DVHZ	**Dannevirke**	**1.70**	**175**	P	**Pn**	**01 15 02.9**	**+0.7**
PRHZ	**Porangahau**	**1.74**	**163**	P	**Pn**	**01 15 03.7**	**+1.2**
CNGZ	**Carnagh Statio**	**1.74**	**87**	P	**Pn**	**01 15 03.7**	**+1.1**
NBEZ	**Newall Road No**	**1.78**	**247**	P	**Pn**	**01 15 04.7**	**+1.7**
PKGZ	**Pakihiroa**	**1.79**	**67**	P	**Pn**	**01 15 03.6**	**+0.4**
POWZ	**Post Office Ro**	**1.80**	**185**	P	**Pn**	**01 15 03.9**	**+0.6**
ETAZ	**East Tamaki Re**	**1.85**	**333**	P	**Pn**	**01 15 04.5**	**+0.7**
PUZ	**Puketiti**	**1.86**	**74**	P	**Pn**	**01 15 04.4**	**+0.4**
KUZ	**Kuaotunu**	**1.86**	**353**	P	**Pn**	**01 15 04.5**	**+0.4**
AWAZ	**Awhitu Peninsu**	**1.87**	**325**	P	**Pn**	**01 15 04.8**	**+0.7**
ANWZ	**Angora Road**	**1.90**	**169**	P	**Pn**	**01 15 05.5**	**+1.1**
WIAZ	**Waiheke Island**	**1.93**	**339**	P	**Pn**	**01 15 05.4**	**+0.6**
PRWZ	**Pori Road**	**1.95**	**180**	P	**Pn**	**01 15 06.0**	**+0.9**
WTAZ	**Waiatarua**	**2.01**	**326**	P	**Pn**	**01 15 06.7**	**+1.0**
MBAZ	**Motutapu North**	**2.02**	**334**	P	**Pn**	**01 15 06.5**	**+0.6**
WMGZ	**Waiomatatini S**	**2.06**	**69**	P	**Pn**	**01 15 06.7**	**+0.3**
MRZ	**Mangatainoka R**	**2.08**	**189**	P	**Pn**	**01 15 07.0**	**+0.4**
BFZ	**Birch Farm**	**2.09**	**175**	P	**Pn**	**01 15 07.2**	**+0.5**
MXZ	**Matakaoa Point**	**2.10**	**61**	P	**Pn**	**01 15 07.5**	**+0.6**
TIWZ	**Tintock**	**2.17**	**182**	P	**Pn**	**01 15 08.2**	**+0.5**
ABAZ	**Army Bay**	**2.20**	**335**	P	**Pn**	**01 15 08.8**	**+0.7**
OGWZ	**Otaki Gorge**	**2.30**	**196**	P	**Pn**	**01 15 09.7**	**+0.4**
CPWZ	**Castlepoint**	**2.31**	**176**	P	**Pn**	**01 15 10.5**	**+1.1**
HOWZ	**Holdsworth Sta**	**2.32**	**189**	P	**Pn**	**01 15 09.6**	**0.0**
GRZ	**Great Barrier**	**2.38**	**350**	P	**Pn**	**01 15 11.0**	**+0.6**
KIW	**Kapiti Island**	**2.41**	**200**	P	**Pn**	**01 15 10.6**	**-0.1**
TMWZ	**Te Maipa**	**2.50**	**182**	P	**Pn**	**01 15 11.9**	**0.0**
MTW	**Mount Morrison**	**2.58**	**188**	P	**Pn**	**01 15 12.5**	**-0.4**
CAW	**Cannon Point**	**2.60**	**196**	P	**Pn**	**01 15 12.9**	**-0.2**
DUWZ	**D'Urville Isla**	**2.72**	**215**	P	**Pn**	**01 15 14.2**	**-0.3**
TRWZ	**Traveller**	**2.80**	**185**	P	**Pn**	**01 15 15.5**	**-0.2**
PAWZ	**Paruwai Farm**	**2.81**	**189**	P	**Pn**	**01 15 15.2**	**-0.6**
WEL	**Wellington**	**2.84**	**199**	P	**Pn**	**01 15 15.6**	**-0.5**
MSWZ	**Moikau Station**	**2.87**	**191**	P	**Pn**	**01 15 15.8**	**-0.7**
TCW	**Tory Channel**	**2.92**	**206**	P	**Pn**	**01 15 16.6**	**-0.6**
PLWZ	**Palliser**	**3.02**	**191**	P	**Pn**	**01 15 17.5**	**-1.0**
TUWZ	**Tuamarina**	**3.23**	**208**	P	**Pn**	**01 15 20.4**	**-0.8**
NNZ	**Nelson**	**3.29**	**217**	P	**Pn**	**01 15 21.2**	**-0.8**
QRZ	**Quartz Range**	**3.47**	**229**	P	**Pn**	**01 15 23.8**	**-0.5**
BSWZ	**Blackbirch Sta**	**3.51**	**207**	P	**Pn**	**01 15 23.8**	**-1.0**
OUZ	**Omahuta**	**3.88**	**330**	P	**Pn**	**01 15 30.8**	**+1.1**
THZ	**Tophouse**	**3.94**	**216**	P	**Pn**	**01 15 29.6**	**-1.0**
KHZ	**Kahutara**	**4.24**	**205**	P	**Pn**	**01 15 33.2**	**-1.2**
GVZ	**Greta Valley S**	**4.91**	**206**	P	**Pn**	**01 15 41.3**	**-2.0**
INZ	**Inchbonnie**	**5.38**	**219**	P	**Pn**	**01 15 47.6**	**-1.9**
CTZ	**Chatham Island**	**7.58**	**135**	P	**Pn**	**01 16 20.0**	**+0.9**
MLZ	**Mavora Lakes**	**8.94**	**218**	P	**Pn**	**01 16 36.3**	**-1.2**
PYZ	**Puysegur Point**	**10.22**	**219**	P	**Pn**	**01 16 53.8**	**-0.7**
ASAR	**Alice Springs**	**38.63**	**280**	P	**P**	**01 21 43.0**	**+1.2**
	0.8nm,0.6s,baz=116,slow=8.4,SNR=9.4						
WRA	**Warramunga Arr**	**40.41**	**285**	P	**P**	**01 21 57.3**	**+0.8**
	0.4nm,0.8s,baz=122,slow=7.9,SNR=2.0						
FINES	**FINESS Array B**	**150.54**	**331**	PKPbc	**PKiKP**	**01 34 06.8**	**-0.2**
	0.8nm,0.8s,baz=42,slow=4.3,SNR=1.6						

IDC ***19*** *01:17:43.5±1.4,24°.99N×104°.64E,h0km,mb3.3/4, mb1 3.5/5,mb1mx3.3/33,mbtmp3.3/5,MS4.0/1,Ms1 4.0/1, ms1mx2.6/28,Error ellipse: s-maj=35.4km s-min=21.9km az=90.0*

BJI ***19*** *01:17:46.2±0.0,24°.83N×104°.68E,h5km,mb3.7/5,ML3.7/7*

ISC 19 01:17:50.2±1.0,25°.17N±0°.07×104°.59E±0°.05,h10km,n11, σ2s29/15,mb3.2/4,1C,Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.67**	**269**	⇑Pn	**Pn**	**01 18 20.9**	**+1.1**
KMI				Sn	**Sg**	**01 18 44.8**	**+0.7**
KMI				smax	smax		
	comp=N,240nm,0.8s						
GYA	**Guiyang**	**2.27**	**55**	Pn	**Pn**	**01 18 29.0**	**+1.1**
GYA				Pg	**Pg**	**01 18 33.3**	**-0.5**
GYA				Sn	**Sb**	**01 19 00.5**	**+0.9**
GYA				Sg	**Sg**	**01 19 04.3**	**+1.1**
GYA				smax	smax		
	comp=N,620nm,0.6s						
GYA				smax	smax		
	comp=E,530nm,0.6s						
CD2	**Chengdu**	**5.77**	**353**	Pn	**Pn**	**01 19 17.8**	**+1.9**
CD2				Sn	**Sn**	**01 20 23.3**	**+1.1**
CD2				Sg	**Sg**	**01 20 57.3**	**+1.9**
CD2				smax	smax		
	comp=N,30nm,0.8s						
CD2				smax	smax		
	comp=E,50nm,1.0s						
CMAR	**Chiang Mai Arr**	**8.49**	**219**	Pn	Pn	01 19 48.1	-5.3
	baz=48,slow=11,SNR=1.0						
CMAR				Pg	**Pb**	**01 20 19.5**	**+2.2**
	0.7nm,0.3s,baz=40,slow=17,SNR=6.9						
CMAR				Lg	Lg	01 22 08.7	
	0.3nm,0.3s,baz=38,slow=28,SNR=1.8						
XAN	**Xi'an**	**9.61**	**22**	P	**Pn**	**01 20 08.8**	**+0.1**
SONM	**Songino Array**	**22.67**	**3**	P	**P**	**01 22 49.5**	**-2.3**
	0.1nm,0.3s,baz=176,slow=8.7,SNR=1.6						
WMQ	**Urumqi**	**23.16**	**328**	eP	**P**	**01 22 56.8**	**0.0**
MKAR	**Makanchi Array**	**27.95**	**326**	P	**P**	**01 23 35.4**	**-5.4**
	0.1nm,0.4s,baz=128,slow=9.3,SNR=3.1						
ZALV	**Zalesovo Beam**	**32.30**	**338**	P	**P**	**01 24 16.0**	**-3.2**
	0.5nm,0.3s,baz=148,slow=8.5,SNR=2.2						
ASAJ	**Asahikawa**	**36.13**	**49**	LR	LR	01 39 52.1	
	comp=Z,199nm,18.3s,baz=208,slow=37						
WRA	**Warramunga Arr**	**53.37**	**144**	P	P	01 27 03.6	-6.5
	0.4nm,0.7s,baz=332,slow=8.6,SNR=6.9						

KRSC ***19*** *01:24:25.9±0.7,55°.72N×162°.46E,h52km±17km,ML4.0*

IDC ***19*** *01:24:33.7±2.8,55°.36N×161°.92E,h134km±27km,mb3.2/5, mb1 3.5/6,mb1mx3.0/34,mbtmp3.5/6,MS3.3/3,Ms1 3.3/3, ms1mx2.9/16,Error ellipse: s-maj=40.0km s-min=21.8km az=135.0*

ISC 19 01:24:27.8±1.0,55°.77N±0°.03×162°.45E±0°.03,h43km±11km, n42,σ1s45/58,mb3.6/5,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.49**	**25**	eP	**Pn**	**

not reviewed by the ISC
*MDD **19** 01:29:03.4±0.8,36°.64N×11°.32W,h39km±33km, mbLg3.5/34, Error ellipse: s-maj=9.5km s-min=7.1km az=45.0, PRXIMO*
*INMG **19** 01:29:04.6±2.0,36°.63N×11°.29W,h31km±9km, ML3.1, Error ellipse: s-maj=4.0km s-min=3.8km az=74.0*
*IGIL **19** 01:29:04.8,36°.71N×11°.15W,h16km, ML3.2*
*LDG **19** 01:29:04.5±1.0,36°.94N×11°.21W,h10km, Ml3.5/8, Error ellipse: s-maj=20.1km s-min=13.3km az=53.0*

ISC 19 01:29:01.3±1.2, 36°.67N±0°.04×11°.30W±0°.06, h35km, n123, σ2s15/220, 13C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.04**	**76**	⇑P		**Pn**		**01 29 34.9**	**+1.8**
	170nm,0.3s,SNR=18								
PFVI				S		**Sn**		**01 29 56.0**	**-1.3**
	296nm,0.3s,SNR=10								
PFVI	**Vila Bisbo**	**2.04**	**76**	⇑*i*Pn		**Pn**		**01 29 34.9**	**+1.8**
PFVI				*e*Sn		**Sn**		**01 29 56.5**	**-0.8**
PFVI				A		A		01 29 58.3	
	164nm,0.5s								
PFVI	**Vila Bisbo**	**2.04**	**76**	P				01 29 34.9	
MORF	**Marmelete**	**2.21**	**72**	*e*P		**Pn**		**01 29 37.4**	**+1.8**
MORF				*e*S		**Sn**		**01 30 01.2**	**-0.6**
MORF				AML		AML		01 30 03.3	
	comp=N,194nm,0.3s								
MORF	**Marmelete**	**2.21**	**72**	P		**Pn**		**01 29 37.4**	**+1.8**
MORF				S		**Sn**		**01 30 01.2**	**-0.6**
	comp=N,194nm,0.3s								
MORF	**Marmelete**	**2.21**	**72**	*e*Pn		**Pn**		**01 29 37.4**	**+1.8**
MORF				*e*Sn		**Sn**		**01 30 01.2**	**-0.6**
MORF				A		A		01 30 08.4	
	comp=N,72nm,0.1s								
PTEO	**Sao Teotonio**	**2.24**	**66**	P		**Pn**		**01 29 37.8**	**+1.9**
PTEO				S		**Sn**		**01 30 01.9**	**-0.4**
	comp=N,38nm,0.5s								
PTEO	**Sao Teotonio**	**2.24**	**66**	⇑*e*Pn		**Pn**		**01 29 37.8**	**+1.9**
PTEO				*e*Sn		**Sn**		**01 30 01.9**	**-0.4**
PTEO				A		A		01 30 06.5	
	comp=N,76nm,0.5s								
PNCL	**Nicolau / Gran**	**2.64**	**56**	P		**Pn**		**01 29 43.4**	**+2.0**
PNCL				S		**Sn**		**01 30 12.7**	**+0.6**
	comp=N,54nm,0.1s								
PNCL	**Nicolau / Gran**	**2.64**	**56**	⇑*e*Pn		**Pn**		**01 29 43.4**	**+2.0**
PNCL				*e*Sn		**Sn**		**01 30 12.7**	**+0.6**
PNCL				A		A		01 30 14.4	
	comp=N,54nm,0.1s								
LIS	**Lisbon**	**2.67**	**39**	*e*P		**Pn**		**01 29 43.9**	**+2.2**
LIS				*e*S		**Sn**		**01 30 12.9**	**+0.1**
LIS				AML		AML		01 30 17.8	
	comp=N,285nm,0.2s								
LIS	**Lisbon**	**2.67**	**39**	P		**Pn**		**01 29 43.9**	**+2.2**
LIS				S		**Sn**		**01 30 12.9**	**+0.1**
	comp=N,285nm,0.2s								
LIS	**Lisbon**	**2.67**	**39**	*e*Sn		**Sn**		**01 30 13.0**	**+0.2**
LIS				A		A		01 30 19.0	
	comp=N,103nm,0.3s								
MESJ	**Messejana**	**2.72**	**64**	*e*P		**Pn**		**01 29 44.4**	**+1.9**
MESJ				*e*S		**Sn**		**01 30 13.5**	**-0.7**
MESJ				AML		AML		01 30 16.8	
	comp=N,34nm,0.2s								
MESJ	**Messejana**	**2.72**	**64**	P		**Pn**		**01 29 44.4**	**+1.9**
MESJ				S		**Sn**		**01 30 13.5**	**-0.7**
	comp=N,34nm,0.2s								
MESJ	**Messejana**	**2.72**	**64**	*e*Pn		**Pn**		**01 29 44.5**	**+1.9**
MESJ				*e*Sn		**Sn**		**01 30 14.0**	**-0.2**
MESJ				A		A		01 30 27.7	
	comp=N,39nm,0.6s								
PBDV	**Barranco-do-Ve**	**2.76**	**77**	P		**Pn**		**01 29 45.1**	**+2.0**
PBDV				S		**Sn**		**01 30 15.7**	**+0.5**
	comp=N,33nm,0.6s								
PBDV	**Barranco-do-Ve**	**2.76**	**77**	⇑*e*Pn		**Pn**		**01 29 45.1**	**+2.0**
PBDV				*e*Sn		**Sn**		**01 30 15.7**	**+0.5**
PBDV				A		A		01 30 25.5	
	comp=N,33nm,0.6s								
PCVE	**Castro Verde**	**2.78**	**69**	P		**Pn**		**01 29 45.3**	**+2.0**
PCVE				S		**Sn**		**01 30 14.9**	**-0.7**
	comp=N,32nm,0.1s								
PCVE	**Castro Verde**	**2.78**	**69**	⇑*i*Pn		**Pn**		**01 29 45.3**	**+2.0**
PCVE				*e*Sn		**Sn**		**01 30 14.9**	**-0.7**
PCVE				A		A		01 30 16.1	
	comp=N,32nm,0.1s								
PMAFR	**Mafra**	**2.79**	**34**	⇑P		**Pn**		**01 29 45.5**	**+2.0**
	comp=N,17nm,0.3s,SNR=18								
PMAFR				S		**Sn**		**01 30 15.9**	**0.0**
	comp=N,524nm,0.4s,SNR=24								
PMAFR	**Mafra**	**2.79**	**34**	⇑*e*Pn		**Pn**		**01 29 45.5**	**+2.0**
PMAFR				*e*Sn		**Sn**		**01 30 16.1**	**+0.2**
PMAFR				A		A		01 30 18.9	
	comp=N,160nm,0.4s								
PVAQ	**Vaqueiros**	**2.96**	**75**	P		**Pn**		**01 29 47.9**	**+2.1**
PVAQ				S		**Sn**		**01 30 18.9**	**-1.2**
	comp=N,41nm,0.4s								
PVAQ	**Vaqueiros**	**2.96**	**75**	⇑*e*Pn		**Pn**		**01 29 47.9**	**+2.1**
PVAQ				*e*Sn		**Sn**		**01 30 18.9**	**-1.2**
PVAQ				A		A		01 30 26.9	
	comp=N,41nm,0.4s								
PVAQ	**Vaqueiros**	**2.96**	**75**	P				01 29 47.5	
PBEJ	**Beja**	**3.05**	**63**	P		**Pn**		**01 29 48.8**	**+1.7**
PBEJ				S		**Sn**		**01 30 22.1**	**-0.3**
	comp=N,11nm,0.4s								
PBEJ	**Beja**	**3.05**	**63**	*e*Pn		**Pn**		**01 29 48.8**	**+1.7**
PBEJ				*e*Sn		**Sn**		**01 30 22.1**	**-0.3**
PBEJ				A		A		01 30 26.5	
	comp=N,22nm,0.4s								
EGRO	**El Granado**	**3.17**	**73**	P		**Pn**		**01 29 50.7**	**+2.0**
	comp=N,7.1nm,0.3s,SNR=48								
EGRO				S		**Sn**		**01 30 24.3**	**-1.0**
	comp=N,63nm,0.4s								
EVO	**Evora**	**3.21**	**53**	P		**Pn**		**01 29 50.9**	**+1.7**
EVO				S		**Sn**		**01 30 25.6**	**-0.6**
EVO	**Evora**	**3.21**	**53**	*e*P		**Pn**		**01 29 50.9**	**+1.7**
EVO				*e*S		**Sn**		**01 30 25.6**	**-0.6**
EVO	**Evora**	**3.21**	**53**	*e*Pn		**Pn**		**01 29 51.1**	**+1.9**
EVO				*e*Sn		**Sn**		**01 30 25.8**	**-0.4**
EVO				A		A		01 30 28.5	
	comp=N,47nm,0.2s								
PMTG	**Montargil**	**3.42**	**44**	P		**Pn**		**01 29 53.7**	**+1.6**
PMTG				S		**Sn**		**01 30 31.1**	**-0.3**
	comp=N,22nm,0.7s								
PMTG	**Montargil**	**3.42**	**44**	⇑*e*Pn		**Pn**		**01 29 53.7**	**+1.6**
PMTG				*e*Sn		**Sn**		**01 30 31.1**	**-0.3**
PMTG				A		A		01 30 47.7	
	comp=N,22nm,0.7s								
PSBE	**So Bento**	**3.46**	**34**	*e*Pn		**Pn**		**01 29 55.0**	**+2.2**
PSBE				*e*Sn		**Sn**		**01 30 32.4**	**-0.2**
PSBE				A		A		01 30 35.4	
	comp=N,39nm,0.3s								
PESTR	**Estremoz**	**3.67**	**52**	*e*Pn		**Pn**		**01 29 57.9**	**+2.3**
PESTR				*e*Sn		**Sn**		**01 30 37.2**	**-0.4**
PESTR				A		A		01 30 39.1	
	comp=N,12nm,0.3s								
PESTR	**Estremoz**	**3.67**	**52**	P				01 29 58.8	
PBAR	**Barrancos**	**3.71**	**65**	P		**Pn**		**01 29 57.9**	**+1.8**
PBAR				S		**Sn**		**01 30 38.0**	**-0.6**
	comp=N,21nm,0.3s								
PBAR	**Barrancos**	**3.71**	**65**	*e*Pn		**Pn**		**01 29 57.9**	**+1.8**
PBAR				*e*Sn		**Sn**		**01 30 38.0**	**-0.6**
PBAR				A		A		01 30 42.1	
	comp=N,21nm,0.3s								
EMIN	**Mina Concepcio**	**3.85**	**72**	P		**Pn**		**01 29 59.6**	**+1.5**
	comp=N,6.5nm,0.3s,SNR=72								
EMIN				S		**Sn**		**01 30 40.4**	**-1.7**
	comp=N,15nm,0.3s								
PCAS	**Casmilo, Conde**	**4.04**	**32**	P		**Pn**		**01 30 02.9**	**+2.3**
PCAS				S		**Sn**		**01 30 46.6**	**0.0**
	comp=N,16nm,0.3s								
PCAS	**Casmilo, Conde**	**4.04**	**32**	*e*Pn		**Pn**		**01 30 02.9**	**+2.3**
PCAS				*e*Sn		**Sn**		**01 30 46.6**	**0.0**
PCAS				A		A		01 30 50.6	
	comp=N,16nm,0.3s								
PMRV	**Marv??o**	**4.14**	**47**	P		**Pn**		**01 30 03.5**	**+1.5**
PMRV				S		**Sn**		**01 30 48.6**	**-0.6**
	comp=N,22nm,0.3s								
PMRV	**Marv??o**	**4.14**	**47**	⇑*e*Pn		**Pn**		**01 30 03.5**	**+1.5**
PMRV				*e*Sn		**Sn**		**01 30 48.6**	**-0.6**
PMRV				A		A		01 30 51.6	
	comp=N,22nm,0.3s								
COI	**Coimbra**	**4.20**	**32**	P		**Pn**		**01 30 05.4**	**+2.5**
COI				S		**Sn**		**01 30 50.4**	**-0.3**
	comp=N,23nm,0.3s								
COI	**Coimbra**	**4.20**	**32**	*e*Pn		**Pn**		**01 30 05.4**	**+2.5**
COI				*e*Sn		**Sn**		**01 30 50.4**	**-0.3**
COI				A		A		01 30 53.9	
	comp=N,46nm,0.3s								
PCBR	**Castelo Branco**	**4.37**	**42**	P		**Pn**		**01 30 07.0**	**+1.8**
PCBR				S		**Sn**		**01 30 54.1**	**-0.8**
	comp=N,11nm,0.3s								
PCBR	**Castelo Branco**	**4.37**	**42**	*e*Pn		**Pn**		**01 30 07.0**	**+1.8**
PCBR				*e*Sn		**Sn**		**01 30 54.1**	**-0.8**
PCBR				A		A		01 30 56.0	
	comp=N,22nm,0.3s								
ESPR	**Espera**	**4.37**	**86**	⇑P		**Pn**		**01 30 07.2**	**+1.9**
	comp=N,33nm,0.3s,SNR=18								
ESPR				S		**Sn**		**01 30 53.4**	**-1.6**
	comp=N,145nm,0.3s								
AVE	**Averroes**	**4.63**	**135**	*e*P		**Pn**		**01 30 10.7**	**+1.9**
AVE				*e*S		**Sn**		**01 30 58.6**	**-2.8**
EJIF	**Jimena Fronter**	**4.70**	**91**	P		**Pn**		**01 30 12.2**	**+2.5**
	comp=N,10μm,0.2s,SNR=7.9								
MTE	**Manteigas**	**4.75**	**37**	P		**Pn**		**01 30 12.4**	**+1.9**
MTE				S		**Sn**		**01 31 02.9**	**-1.5**
	comp=N,8.6nm,0.5s								
MTE	**Manteigas**	**4.75**	**37**	*e*Pn		**Pn**		**01 30 12.4**	**+1.9**
MTE				*e*Sn		**Sn**		**01 31 02.9**	**-1.5**
MTE				A		A		01 31 11.9	
	comp=N,17nm,0.5s								
PVIS	**Viseu**	**4.84**	**32**	P		**Pn**		**01 30 13.9**	**+2.2**
PVIS				S		**Sn**		**01 31 05.7**	**-0.9**
	comp=N,8.8nm,0.2s								
PVIS	**Viseu**	**4.84**	**32**	*e*Pn		**Pn**		**01 30 13.9**	**+2.2**
PVIS				*e*Sn		**Sn**		**01 31 05.7**	**-0.9**
PVIS				A		A		01 31 08.7	
	comp=N,18nm,0.2s								
ECAB	**El Cabril**	**4.89**	**72**	⇑P		**Pn**		**01 30 14.0**	**+1.6**
	comp=N,20nm,0.3s,SNR=18								
ECAB				S		**Sn**		**01 31 04.9**	**-2.9**
	comp=N,14nm,0.2s,SNR=6.7								
PTO	**Porto**	**4.94**	**24**	P		**Pn**		**01 30 15.2**	**+2.2**
PTO				S		**Sn**		**01 31 05.9**	**-2.9**
PTO	**Porto**	**4.94**	**24**	*e*Pn		**Pn**		**01 30 15.2**	**+2.2**
PTO				*e*Sn		**Sn**		**01 31 05.9**	**-2.9**
HORN	**Hornachuelos**	**4.96**	**74**	P				01 30 14.9	
ZHG	**ZHG**	**4.99**	**129**	P				01 30 14.4	
EAH	**EAH**	**5.20**	**164**	P				01 30 18.3	
EPLA	**Plasencia**	**5.32**	**49**	P		**Pn**		**01 30 19.8**	**+1.5**
	comp=N,8.0nm,0.4s,SNR=29								
EPLA				S		**Sn**		**01 31 17.4**	**-1.1**
	comp=N,8.7nm,0.1s								
PVRL	**Vila Real**	**5.38**	**30**	P		**Pn**		**01 30 20.7**	**+1.5**
PVRL				S		**Sn**		**01 31 18.2**	**-1.7**
	comp=N,10nm,0.2s								
PVRL	**Vila Real**	**5.38**	**30**	*e*Pn		**Pn**		**01 30 20.7**	**+1.5**
PVRL				*e*Sn		**Sn**		**01 31 18.2**	**-1.7**
PVRL				A		A		01 31 21.1	
	comp=N,20nm,0.2s								
POLO	**Lamas de Olo**	**5.44**	**29**	P		**Pn**		**01 30 22.1**	**+2.2**
POLO				S		**Sn**		**01 31 18.9**	**-2.4**
	comp=N,8.7nm,0.4s								
POLO	**Lamas de Olo**	**5.44**	**29**	*e*Pn		**Pn**		**01 30 22.1**	**+2.2**
POLO				*e*Sn		**Sn**		**01 31 18.9**	**-2.4**
POLO				A		A		01 31 21.8	
	comp=N,8.7nm,0.4s								
PMPST	**Porto Santo, M**	**5.47**	**231**	*e*Pn		**Pn**		**01 30 21.3**	**+1.0**
PMPS	**Porto Santo**	**5.49**	**230**	Pn		**Pn**		**01 30 21.3**	**+0.8**
PMPS	**Porto Santo**	**5.49**	**230**	*e*Pn		**Pn**		**01 30 21.6**	**+1.1**
EMAL	**Malaga-Limoner**	**5.52**	**87**	P		**Pn**		**01 30 23.1**	**+2.2**
EMAL				S		**Sn**		**01 31 21.5**	**-1.7**
EMAL	**Malaga-Limoner**	**5.52**	**87**	*e*P		**Pn**		**01 30 23.1**	**+2.2**
EMAL				*e*S		**Sn**		**01 31 21.5**	**-1.7**
EADA	**Adamuz**	**5.56**	**72**	P		**Pn**		**01 30 22.8**	**+1.3**
	comp=N,13nm,0.6s,SNR=61								
EADA				S		**Sn**		**01 31 22.0**	**-2.2**
	comp=N,30nm,0.3s,SNR=4.6								
MVO	**Moncorvo**	**5.59**	**35**	P		**Pn**		**01 30 23.9**	**+1.8**
	comp=N,5.7nm,0.3s,SNR=6.4								
MVO				S		**Sn**		**01 31 22.6**	**-2.5**
	comp=N,19nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**5.59**	**35**	*e*Pn		**Pn**		**01 30 23.8**	**+1.8**
MVO				*e*Sn		**Sn**		**01 31 23.2**	**-1.9**
MVO				A		A		01 31 26.6	
	comp=N,29nm,0.7s								
PCAB	**Cabril**	**5.64**	**26**	P		**Pn**		**01 30 25.0**	**+2.3**
PCAB				S		**Sn**		**01 31 24.6**	**-1.7**
	comp=N,7.9nm,0.7s								
PCAB	**Cabril**	**5.64**	**26**	*e*Pn		**Pn**		**01 30 25.0**	**+2.3**
PCAB				*e*Sn		**Sn**		**01 31 24.6**	**-1.7**
PCAB				A		A		01 31 44.7	
	comp=N,16nm,0.7s								
ELOB	**Lobios**	**5.77**	**25**	P		**Pn**		**01 30 26.4**	**+1.9**
	comp=N,8.8nm,0.3s,SNR=24								
ELOB				S		**Sn**		**01 31 26.0**	**-3.5**
	comp=N,22nm,0.2s,SNR=9.3								
EGOR	**Sierra Gorda,**	**5.78**	**83**	P		**Pn**		**01 30 27.0**	**+2.3**
	comp=N,0.4nm,0.2s,SNR=7.9								
EGOR				S		**Sn**		**01 31 28.9**	**-0.9**
	comp=N,12nm,0.3s,SNR=7.9								
PGAV	**Gavieira, Arco**	**5.79**	**23**	P		**Pn**		**01 30 26.8**	**+2.0**
PGAV				S		**Sn**		**01 31 29.0**	**-1.0**
	comp=N,16nm,0.4s								
PGAV	**Gavieira, Arco**	**5.79**	**23**	*e*Pn		**Pn**		**01 30 26.8**	**+2.0**
PGAV				*e*Sn		**Sn**		**01 31 29.0**	**-1.0**
PGAV				A		A		01 31 42.8	
	comp=N,16nm,0.4s								
EZAM	**Zamans**	**5.83**	**19**	P		**Pn**		**01 30 27.0**	**+1.7**
	comp=N,1.7nm,0.5s,SNR=7.9								
EZAM				S		**Sn**		**01 31 27.5**	**-3.5**
	comp=N,54nm,0.4s,SNR=7.9								
IFR	**Ifrane**	**5.95**	**120**	*e*P		**Pn**		**01 30 27.5**	**+0.3**
IFR				*e*S		**Sn**		**01 31 28.1**	**-6.2**
FUL	**Funchal**	**6.11**	**231**	P		**Pn**		**01 30 29.8**	**+0.7**
FUL				S		**Sn**		**01 31 31.1**	**-6.6**
FUL	**Funchal**	**6.11**	**231**	*e*Pn		**Pn**		**01 30 29.8**	**+0.7**
FUL				*e*Sn		**Sn**		**01 31 31.1**	**-6.6**
OUK	**Oukaimeden**	**6.15**	**151**	P				01 30 31.1	
ELGU	**Los Guajares,**	**6.16**	**86**	P		**Pn**		**01 30 32.4**	**+2.5**
	comp=N,0.8nm,0.3s,SNR=7.9								
ELGU				S		**Sn**		**01 31 37.5**	**-1.7**
	comp=N,10nm,0.3s,SNR=7.9								
PAB	**San Pablo**	**6.19**	**60**	P		**Pn**		**01 30 31.6**	**+1.4**
	comp=N,0.0nm,0.5s,SNR=7.9								
PAB				S		**Sn**		**01 30 36.8**	**-3.0**
	comp=N,4.6nm,0.2s,SNR=7.9								
PAB	**San Pablo**	**6.19**	**60**	P				01 30 32.4	
PBRG	**Braganca**	**6.23**	**33**	P		**Pn**		**01 30 32.6**	**+1.8**
PBRG				S		**Sn**		**01 31 38.3**	**-2.5**
	comp=N,4.2nm,0.2s								
PBRG	**Braganca**	**6.23**	**33**	*e*Pn		**Pn**		**01 30 32.6**	**+1.8**
PBRG				*e*Sn		**Sn**		**01 31 38.3**	**-2.5**
PBRG				A		A		01 31 43.0	
	comp=N,8.4nm,0.2s								
EQUE	**Quentar**	**6.32**	**83**	P		**Pn**		**01 30 35.1**	**+3.1**
	comp=N,0.9nm,0.3s,SNR=9.0								
EQUE				S		**Sn**		**01 31 42.8**	**-0.2**
	comp=N,3.6nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**6.34**	**32**	P		**Pn**		**01 30 34.0**	**+1.6**
	comp=N,2.5nm,0.2s,SNR=6.4								
ECAL				S		**Sn**		**01 31 41.7**	**-1.9**
	comp=N,36nm,0.3s,SNR=7.9								
ESDC	**Sonseca Array**	**6.51**	**60**	P		**Pn**		**01 30 36.2**	**+1.5**
	comp=N,7.2nm,0.1s,baz=245,slow=13,SNR=98								
ESDC				S		**Sn**		**01 31 45.1**	**-2.6**
	comp=N,7.3nm,0.3s,baz=245,slow=23,SNR=5.0								
EMAZ	**Mazaricos**	**6.53**	**15**	P		**Pn**		**01 30 36.7**	**+1.9**
	comp=N,2.9nm,0.2s,SNR=7.9								
EMAZ				S		**Sn**		**01 31 42.2**	**-5.7**
	comp=N,14nm,0.2s,SNR=7.9								
EAGO	**Agolada(Pontev**	**6.61**	**21**	P		**Pn**		**01 30 37.8**	**+1.8**
	comp=N,0.1nm,0.2s,SNR=7.9								
EAGO				S		**Sn**		**01 31 45.4**	**-4.7**
	comp=N,9.2nm,0.2s,SNR=7.9								
GORA	**Gorafe**	**6.65**	**81**	P		**Pn**		**01 30 39.0**	**+2.4**
	comp=N,3.4nm,0.2s,SNR=7.9								
GORA				S		**Sn**		**01 31 50.0**	**-1.3**
	comp=N,17nm,0.3s,SNR=7.9								
EQES	**Quesada**	**6.66**	**78**	P		**Pn**		**01 30 37.6**	**+0.8**
	comp=N,1.1nm,0.2s,SNR=22								
EQES				S		**Sn**		**01 31 48.7**	**-2.8**
	comp=N,6.8nm,0.2s,SNR=7.9								
MDT	**Midelt**	**6.71**	**123**	P				01 30 38.0	
EBER	**Berja**	**6.75**	**86**	P		**Pn**		**01 30 40.2**	**+2.1**
	comp=N,9.0nm,0.5s,SNR=7.9								
EBER				S		**Sn**		**01 31 53.2**	**-0.7**
	comp=N,10.0nm,0.4s,SNR=7.9								
GUD	**Guadarrama**	**6.86**	**52**	P		**Pn**		**01 30 41.0**	**+1.5**
	comp=N,3.7nm,0.5s,SNR=15								
GUD				S		**Sn**		**01 31 53.5**	**-2.9**
	comp=N,7.4nm,0.3s,SNR=5.5								
OUZM	**OUZ**	**6.87**	**145**	P				01 30 41.0	
SESP	**Santiago Espad**	**7.12**	**76**	S		**Sn**		**01 31 59.1**	**-3.8**
	comp=N,14nm,0.4s,SNR=7.9								
UCM	**Universidad Co**	**7.29**	**58**	P		**Pn**		**01 30 47.2**	**+1.8**
UCM	**Universidad Co**	**7.29**	**58**	*e*P		**Pn**		**01 30 47.2**	**+1.8**
ENIJ	**Nijar**	**7.30**	**85**	P		**Pn**		**01 30 46.9**	**+1.5**
	comp=N,0.9nm,0.2s,SNR=7.9								
ENIJ				S		**Sn**		**01 32 05.1**	**-2.0**
	comp=N,8.7nm,0.4s,SNR=7.9								
EPON	**Pontenova**	**7.38**	**24**	P		**Pn**		**01 30 48.0**	**+1.5**
	comp=N,9.0nm,0.3s,SNR=7.9								
EPON				S		**Sn**		**01 32 04.8**	**-4.1**
	comp=N,6.1nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**7.98**	**73**	P		**Pn**		**01 30 55.4**	**+0.5**
	comp=N,4.7nm,0.4s,SNR=7.9								
ETOB				S		**Sn**		**01 32 21.5**	**-2.5**
	comp=N,3.3nm,0.3s,SNR=7.9								
EMUR	**La Murta**	**8.11**	**79**	P		**Pn**		**01 30 57.8**	**+1.3**
	comp=N,0.5nm,0.7s,SNR=7.9								
EMUR				S		**Sn**		**01 32 23.0**	**-3.9**
	comp=N,3.6nm,0.3s,SNR=7.9								
EARI	**Arriondas**	**8.11**	**33**	P		**Pn**		**01 30 59.0**	**+2.4**
	comp=N,0.9nm,0.3s,SNR=7.9								
EARI				S		**Sn**		**01 32 23.5**	**-3.4**
	comp=N,3.9nm,0.3s,SNR=7.9								
ETOR	**Torete**	**8.33**	**57**	P		**Pn**		**01 31 00.6**	**+1.0**
	comp=N,6.9nm,0.4s,SNR=24								
ETOR				S		**Sn**		**01 32 27.6**	**-4.8**
	comp=N,16nm,0.3s,SNR=7.9								
ELAN	**Lanestosa**	**8.91**	**40**	P		**Pn**		**01 31 09.8**	**+2.2**
	comp=N,0.6nm,0.3s,SNR=7.9								
ELAN				S		**Sn**		**01 32 43.5**	**-3.2**
	comp=N,0.7nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**9.25**	**63**	P		**Pn**		**01 31 15.3**	**+2.9**
	comp=N,2.4nm,0.4s,SNR=7.9								
EMOS				S		**Sn**		**01 32 49.8**	**-5.5**
	comp=N,5.8nm,0.4s,SNR=7.9								
ERTA	**Horta de San J**	**10.04**	**61**	P		**Pn**		**01 31 25.6**	**+2.6**
	comp=N,0.2nm,0.1s,SNR=7.9								
ERTA				S		**Sn**		**01 33 11.5**	**-2.8**
	comp=N,3.1nm,0.3s,SNR=7.9								
SJPF	**Ste Jean**	**10.06**	**47**	P		**Pn**		**01 31 25.1**	**+1.8**
SJPF				S		Sn		01 32 59.3	-16
	comp=N,0.6nm,0.3s								
SJPF	**Ste Jean**	**10.06**	**47**	*e*P		**Pn**		**01 31 25.1**	**+1.8**
SJPF				*e*Sn		Sn		01 32 59.3	-16
	comp=N,1.2nm,0.3s								
ETSF	**Etsaut**	**10.34**	**50**	P		**Pn**		**01 31 29.2**	**+2.0**
ETSF				S		Sn		01 33 06.6	-15
	comp=N,0.6nm,0.3s								
ETSF	**Etsaut**	**10.34**	**50**	*e*P		**Pn**		**01 31 29.2**	**+2.0**
ETSF				*e*Sn		Sn		01 33 06.6	-15
	comp=N,1.2nm,0.3s								
ATE	**Arette**	**10.36**	**49**	P		**Pn**		**01 31 30.1**	**+2.7**
	comp=N,1.2nm,0.5s,SNR=7.9								
ATE				S		**Sn**		**01 33 19.2**	**-3.0**
	comp=N,1.6nm,0.2s,SNR=7.9								
ECHI	**Chisagues Biel**	**10.69**	**52**	P		**Pn**		**01 31 34.0**	**+1.9**
	comp=N,0.6nm,0.3s,SNR=7.9								
ECHI				S		**Sn**		**01 33 26.2**	**-4.3**
	comp=N,2.9nm,0.3s,SNR=7.9								
EPF	**Esparros**	**10.97**	**51**	P		**Pn**		**01 31 38.2**	**+2.4**
EPF				S		Sn		01 33 21.8	-15
	comp=N,0.4nm,0.3s								
EPF	**Esparros**	**10.97**	**51**	*e*P		**Pn**		**01 31 38.2**	**+2.4**
EPF				*e*Sn		Sn		01 33 21.8	-15
	comp=N,0.9nm,0.3s								
CSOR	**Sort**	**11.16**	**55**	P		**Pn**		**01 31 39.6**	**+1.1**
	comp=N,0.2nm,0.2s,SNR=7.9								
CSOR				S		**Sn**		**01 33 36.8**	**-5.2**
	comp=N,1.9nm,0.3s,SNR=7.9								
LFF	**La Frestale**	**12.30**	**44**	P		**Pn**		**01 31 56.5**	**+2.6**

SNAA	**Sanae**	**50.12**	**157**	P	**P**	**01 41 20.7**	**-0.7**
SNAA				IAmb	IAmb	01 41 30.1	
	comp=Z,4.6nm,1.0s						
SVB	**Belmont**	**50.40**	**15**	P	**P**	**01 41 24.1**	**+0.2**
ANWB	**Willy Bob**	**54.56**	**14**	P	**P**	**01 41 54.3**	**-0.4**
SOR	**Soroa**	**59.23**	**350**	P	**P**	**01 42 26.0**	**-1.8**
SOR				IAmb	IAmb	01 42 32.8	
	comp=Z,7.4nm,1.1s						
344A	**Westbrook Farm**	**69.10**	**344**	P	**P**	**01 43 32.7**	**+0.3**
TXAR	**Lajitas Array**	**71.00**	**332**	P	**P**	**01 43 44.8**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=154,slow=9.0,SNR=16						
TXAR	**Lajitas Array**	**71.00**	**332**	P	**P**	**01 43 44.4**	**0.0**
TX31	**Lajitas Ar. Si**	**71.00**	**332**	P	**P**	**01 43 44.5**	**+0.2**
TX31				IAmb	IAmb	01 43 52.3	
	comp=Z,3.6nm,0.9s						
TX32	**Lajitas Array**	**71.00**	**332**	P	**P**	**01 43 44.5**	**+0.2**
WMOK	**Wichita Mounta**	**74.30**	**339**	P	**P**	**01 44 03.8**	**+0.1**
WMOK				IAmb	IAmb	01 44 11.2	
	comp=Z,5.1nm,0.4s						
DBIC	**Dimbokro**	**76.91**	**72**	P	**P**	**01 44 20.0**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=191,slow=7.6,SNR=4.4						
BOSA	**Boshof**	**80.11**	**118**	P	**P**	**01 44 37.8**	**+0.8**
	comp=Z,3.8nm,1.0s,baz=180,slow=5.1,SNR=3.1						
NVAR	**Mina Array Bea**	**84.94**	**326**	P	**P**	**01 45 02.9**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=160,slow=6.2,SNR=2.5						
PDAR	**Pinedale Array**	**85.10**	**334**	P	**P**	**01 45 03.6**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=119,slow=7.3,SNR=2.4						
TORD	**Torodi Ar. Bea**	**85.97**	**71**	P	**P**	**01 45 07.3**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=221,slow=5.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.97**	**71**	P	**P**	**01 45 06.2**	**-1.0**
TORD				IAmb	IAmb	01 45 08.0	
	comp=Z,1.5nm,1.1s						
BEKR	**Beckworth**	**87.04**	**326**	P	**P**	**01 45 12.3**	**+0.2**
BEKR				IAmb	IAmb	01 45 13.7	
	comp=Z,5.6nm,0.9s						
YMR	**Madison River**	**87.26**	**334**	P	**P**	**01 45 13.0**	**0.0**
MFID	**Camas Ranch**	**88.02**	**331**	P	**P**	**01 45 16.7**	**+0.1**
MFID				IAmb	IAmb	01 45 17.4	
	comp=Z,3.9nm,0.9s						
ULM	**Lac du Bonnet**	**88.20**	**346**	P	**P**	**01 45 16.6**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=172,slow=8.0,SNR=4.3						
ULM	**Lac du Bonnet**	**88.20**	**346**	P	**P**	**01 45 17.2**	**+0.1**
ULM				IAmb	IAmb	01 45 17.6	
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**118.41**	**210**	PKP	**PKiKP**	**01 51 16.6**	**+1.9**
	comp=Z,0.9nm,1.1s,baz=174,slow=1.8,SNR=3.0						
WRA	**Warramunga Arr**	**118.41**	**210**		**PKPdf**	**01 51 13.4**	**-1.3**
KURBB	**Kurchatov Arra**	**155.14**	**45**	PKP	**PKPdf**	**01 52 19.3**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=347,slow=2.9,SNR=2.9						
KURK	**Kurchatov**	**155.15**	**45**		**PKPdf**	**01 52 19.3**	**+0.1**
MKAR	**Makanchi Array**	**158.95**	**52**	PKP	**PKPdf**	**01 52 24.5**	**+0.3**
	comp=Z,0.6nm,1.0s,baz=267,slow=2.9,SNR=2.6						
SONM	**Songino Array**	**168.24**	**1**	PKPab	**PKPab**	**01 53 42.2**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=328,slow=5.1,SNR=2.1						

*NEIC **19** 01:33:05.4±1.0,36.09S±0.03×73.57W±0.07,h4km±1km, mb4.9/116,Mwr5.0/39,Mww5.0,ML5.0(GUC),Error ellipse: s-maj=10.2km s-min=5.4km az=78.0*

*IDC **19** 01:33:05.2±0.6,36.13S×73.50W,h0km,mb4.6/14, mb1 4.6/17,mb1mx4.5/34,mbtmp4.5/17,ML4.4/3,MS4.2/2, Ms1 4.2/2,ms1mx3.6/13,Error ellipse: s-maj=22.8km s-min=14.9km az=78.0*

*VAO **19** 01:33:07.7±0.3,36.11S×73.40W,h10km,mb4.8*

*GUC **19** 01:33:07.8±0.5,36.05S×73.49W,h20km±5km,ML5.0*

*NEIC **19** 01:33:09.2,36.11S×73.49W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.36; $M_{\theta\theta}$-0.40; $M_{\phi\phi}$0.04; $M_{r\theta}$-0.35; $M_{\theta\phi}$-0.15; $M_{\phi r}$-4.57; Fault plane solution: M_o4.60000×10^{16} NP1:ϕ_s184.66000°, δ88.91000°,λ87.70000°. NP2:ϕ_s69.21000°,δ2.54000°, λ154.52000°. Principal axes: T 4.7733, Plg46.0000°, Azm92.0000°; N -0.3689, Plg2.0000°, Azm185.0000°; P -4.4045, Plg44.0000°, Azm277.0000°;*

*BJI **19** 01:33:09.0±0.0,36.10S×73.40W,h10km,mB5.1/2, Ms5.0/1,Ms7 4.7/2*

*NEIC **19** 01:33:19,36.11S×73.33W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.92; $M_{\theta\theta}$0.28; $M_{\phi\phi}$-1.20; $M_{r\theta}$-0.97; $M_{\theta\phi}$-0.29; $M_{\phi r}$-3.88; Fault plane solution: M_o4.15000×10^{16} NP1:ϕ_s5.00000°, δ8.00000°,λ1.00000°. NP2:ϕ_s194.00000°,δ82.00000°, λ91.00000°. Principal axes: T 3.9752, Plg53.0000°, Azm105.0000°; N 0.3340, Plg1.0000°, Azm14.0000°; P -4.3093, Plg37.0000°, Azm283.0000°;*

ISC 19 01:33:07.8±1.0,36.09S±0.03×73.61W±0.05,h18km±4km, n251,σ1$37/224,mb4.8/66,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.89**	**148**	*eP*		**Pb**	**01 33 23.3**	**-1.3**
BI03				*eS*		**Sb**	**01 33 34.7**	**-1.4**
BI03				IAML			01 33 41.2	
	comp=N,258μm,0.4s							
BI03	**Tigo**	**0.89**	**148**	Pg		**Pb**	**01 33 23.6**	**-1.1**
BI03						**Sg**	**01 33 36.4**	**-0.4**
LAJA	**Laja**	**1.39**	**149**	*eP*		**Pn**	**01 33 30.7**	**-1.5**
LAJA				*eS*		**Sn**	**01 33 48.2**	**-1.9**
BO03	**Pichilemu**	**2.08**	**41**	*eP*		**Pn**	**01 33 40.4**	**-1.4**
BI04	**Isla Mocha**	**2.33**	**185**	*eP*		**Pn**	**01 33 46.2**	**+1.0**
BI04				IAML			01 34 56.0	
	comp=N,5μm,0.5s							
BO02	**Sierra Bellavi**	**2.65**	**62**	*eP*		**Pn**	**01 33 48.6**	**-1.0**
BO02				*eS*		**Sn**	**01 34 20.6**	**-0.7**
BO02				IAML			01 34 36.8	
	comp=N,10μm,0.6s							
BO02	**Sierra Bellavi**	**2.65**	**62**	Pn		**Pn**	**01 33 49.1**	**-0.5**
BO02				Sn		**Sn**	**01 34 20.5**	**-0.7**
MT09	**Talagante**	**3.16**	**44**	*eP*		**Pn**	**01 33 54.0**	**-2.7**
MT09				*eS*		**Sn**	**01 34 32.2**	**-1.7**
MT09				IAML			01 34 54.0	
	comp=N,3μm,0.4s							
MT02	**Curacav**	**3.48**	**36**	*eP*		**Pn**	**01 33 58.3**	**-2.7**
MT02				*eS*		**Sn**	**01 34 39.0**	**-2.7**
MT02	**Curacav**	**3.48**	**36**	Pn		**Pn**	**01 33 59.5**	**-1.5**
MT02				Sn		**Sn**	**01 34 38.9**	**-2.9**
LMEL	**Las Melosas**	**3.58**	**52**	*eP*		**Pn**	**01 34 03.3**	**+0.8**
LMEL				*eS*		**Sn**	**01 34 43.1**	**-1.3**
LMEL				IAML			01 35 13.4	
	comp=N,2μm,0.6s							
MT05	**Renca**	**3.58**	**42**	*eP*		**Pn**	**01 34 01.8**	**-0.7**
MT05				IAML			01 35 17.8	
	comp=E,4μm,0.5s							
MT05	**Renca**	**3.58**	**42**	Pn		**Pn**	**01 34 02.2**	**-0.3**
MT05				Sn		**Sn**	**01 34 42.1**	**-2.2**
MT03	**Universidad Ad**	**3.63**	**45**	*eP*		**Pn**	**01 34 03.1**	**-0.2**
MT03				IAML			01 35 07.8	
	comp=E,2μm,0.5s							
ROCH	**El Roble**	**3.78**	**35**	*eP*		**Pn**	**01 34 05.6**	**+0.3**
PEL	**Peldehue**	**3.80**	**40**	*eP*		**Pn**	**01 34 05.3**	**-0.1**
PEL	**Peldehue**	**3.80**	**40**	Pn		**Pn**	**01 34 05.7**	**+0.2**
VA03	**San Esteban**	**4.17**	**38**	*eP*		**Pn**	**01 34 10.2**	**-0.4**
VA03	**San Esteban**	**4.17**	**38**	Pn		**Pn**	**01 34 10.3**	**-0.3**
H03S1	**Juan Fernandez** baz=116,slow=74	**4.89**	**296**	T		T	01 39 17.7	
H03S3	**Juan Fernandez** baz=116,slow=74	**4.91**	**296**	T		T	01 39 19.7	
H03S2	**Juan Fernandez** baz=116,slow=74	**4.91**	**296**	T		T	01 39 18.1	
VA04	**Juan Fernndez**	**4.94**	**298**	Pn		**Pn**	**01 34 20.8**	**-0.2**
H03N1	**Juan Fernandez** baz=110,slow=76	**5.10**	**300**	T		T	01 39 38.3	
H03N3	**Juan Fernandez** baz=110,slow=76	**5.10**	**299**	T		T	01 39 42.2	
H03N2	**Juan Fernandez** baz=110,slow=76	**5.12**	**300**	T		T	01 39 39.7	
PLCA	**Paso Flores**	**5.22**	**154**	Pn		**Pn**	**01 34 25.1**	**+0.2**
	comp=E,3.9nm,0.3s,baz=338,slow=12,SNR=11							
PLCA				Pg		**Pb**	**01 34 38.4**	**-0.1**
	comp=E,6.8nm,0.3s,baz=329,slow=14,SNR=6.7							
PLCA				Lg		Lg	01 35 46.0	
	comp=E,3.5nm,0.3s,baz=279,slow=10,SNR=3.0							
PLCA	**Paso Flores**	**5.22**	**154**	*eP*		**Pn**	**01 34 25.4**	**+0.4**
PLCA	**Paso Flores**	**5.22**	**154**	Pn		**Pn**	**01 34 24.3**	**-0.7**
CO02	**Combarbal**	**5.34**	**25**	*eP*		**Pn**	**01 34 25.3**	**-1.4**
CO02	**Combarbal**	**5.34**	**25**	Pn		**Pn**	**01 34 25.8**	**-0.9**
CO03	**El Pedregal**	**5.78**	**26**	Pn		**Pn**	**01 34 32.6**	**0.0**
RTLL	**Cerro Villicun**	**6.39**	**43**	*eP*		**Pn**	**01 34 40.9**	**-0.2**
GO07	**Milladeo Hill,**	**7.01**	**180**			**Pn**	**01 34 49.6**	**+0.1**
AC04	**Llanos de Chal**	**8.15**	**16**	Pn		**Pn**	**01 35 05.8**	**+0.6**
GO03	**Copiap**	**8.94**	**20**			**Pn**	**01 35 15.6**	**-0.5**
GO02	**Mina Guanaco**	**11.43**	**19**			**Pn**	**01 35 50.1**	**-0.3**
PB14	**IPOC Station P**	**11.76**	**14**			**Pn**	**01 35 55.0**	**+0.2**
LPA	**La Plata**	**12.83**	**89**	*eP*		**Pn**	**01 36 12.2**	**+3.0**
LPA				PPP		PPP	01 36 27.7	
LPA				PP			01 37 07.6	
LPA				S		**Sn**	**01 38 34.0**	**+2.5**
LPA				SS		**SbSb**	**01 39 36.7**	**+12**
LPA				SSS		SSS	01 40 14.4	
LPA				PKIKP		**PKiKP**	**01 49 40.1**	**-1.2**
LPA				SKIKP			01 53 12.8	
LPA				SKIKS			01 56 39.7	
PB15	**IPOC Station P**	**13.33**	**17**			**Pn**	**01 36 16.3**	**0.0**
LVC	**Limon Verde**	**14.04**	**18**	Pn		**Pn**	**01 36 25.7**	**-0.4**
	comp=E,0.4nm,0.3s,baz=236,slow=15,SNR=1.8							
LVC				LR		LR	01 42 28.5	
	comp=E,1μm,18.2s,baz=206,slow=40							
LVC	**Limon Verde**	**14.04**	**18**	Pn		**Pn**	**01 36 25.8**	**-0.3**
PB09	**IPOC Station P**	**14.74**	**16**	Pn		**Pn**	**01 36 35.3**	**-0.3**
PB01	**IPOC Station P**	**15.42**	**15**	Pn		**Pn**	**01 36 44.4**	**-0.1**
PB01				IAmb		IAmb	01 37 00.3	
	comp=Z,36nm,0.9s							
ITQB	**Itaqui**	**15.63**	**71**	*eP*		**Pn**	**01 36 44.6**	**-2.5**
PB08	**IPOC Station P**	**16.36**	**15**	Pn		**Pn**	**01 36 56.7**	**-0.3**
PSGCX	**Pisagua**	**16.71**	**11**	Pn		**Pn**	**01 37 01.1**	**0.0**
CPUP	**Villa Florida**	**16.97**	**60**	Pn		**Pn**	**01 37 04.4**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=239,slow=7.0,SNR=5.4							
CPUP	**Villa Florida**	**16.97**	**60**	Pn		**Pn**	**01 37 02.6**	**-1.6**
PLTB	**Pedras Altas**	**17.15**	**81**	*eP*		**Pn**	**01 37 04.2**	**-2.3**
MNMC	**Minye Minye**	**17.26**	**13**	P		**Pn**	**01 37 08.0**	**-0.2**
MNMC				IAmb		IAmb	01 37 13.6	
	comp=Z,40nm,0.7s							
CPSB	**Cacapava Do Su**	**17.79**	**77**	*eP*		**Pn**	**01 37 13.1**	**-1.3**
PB16	**IPOC Station P**	**18.05**	**13**			**Pn**	**01 37 17.8**	**-0.5**
EFI	**East Falkland**	**19.12**	**149**			**Pn**	**01 37 28.4**	**-1.2**
EFI				IAmb		IAmb	01 37 46.1	
	comp=Z,76nm,1.1s							
ITAB	**Concordia**	**20.27**	**70**	*eP*		**P**	**01 37 41.8**	**-0.5**
LPAZ	**La Paz**	**20.32**	**15**	P		Pn	01 37 45.5	0.0
	comp=Z,9.9nm,0.6s,baz=198,slow=8.8,SNR=14							
LPAZ	**La Paz**	**20.32**	**15**	P		**P**	**01 37 42.8**	**-0.7**
LPAZ	**La Paz**	**20.32**	**15**	*eP*		**P**	**01 37 44.2**	**+0.7**
PTGB	**Pitanga**	**21.72**	**64**	*eP*		**P**	**01 37 58.8**	**+0.8**
TER01	**Tubaro-SC**	**21.98**	**77**	*eP*		**P**	**01 37 59.6**	**-1.1**
AQDB	**Aquidauana**	**22.09**	**50**	*eP*		**P**	**01 38 01.3**	**-0.7**
SIV	**San Ignacio**	**22.93**	**32**	P		**P**	**01 38 10.0**	**-0.9**
	comp=Z,11nm,0.5s,baz=225,slow=7.0,SNR=4.1							
NNA	**Nana**	**24.18**	**352**	P		**P**	**01 38 23.7**	**+0.6**
	comp=Z,9.1nm,0.8s,baz=197,slow=12,SNR=4.7							
NNA	**Nana**	**24.18**	**352**	P		**P**	**01 38 23.3**	**+0.2**
PCMB	**Pacaembu**	**24.24**	**60**	*eP*		**P**	**01 38 22.6**	**-1.1**
PTLB	**Pantes e Lacer**	**24.25**	**36**	*eP*		**P**	**01 38 24.3**	**+0.2**
FRTB	**Fartura**	**24.37**	**65**	*eP*		**P**	**01 38 25.7**	**+0.8**
PP1B	**Ponte de Pedra**	**24.79**	**47**	*eP*		**P**	**01 38 28.7**	**0.0**
SPB	**Sao Paulo**	**25.81**	**68**	P		**P**	**01 38 36.5**	**-1.3**
SPB				IAmb		IAmb	01 38 52.0	
	comp=Z,33nm,1.0s							
SPB	**Sao Paulo**	**25.81**	**68**	*eP*		**P**	**01 38 38.4**	**+0.5**
VILB	**Vilhena**	**26.01**	**31**	*eP*		**P**	**01 38 39.8**	**0.0**
ITRB	**Iturama**	**26.14**	**58**	*eP*		**P**	**01 38 40.5**	**-0.5**
VAO	**Valinhos**	**26.50**	**68**	*eP*		**P**	**01 38 45.8**	**+1.6**
BB19B	**Bebedouro**	**26.53**	**62**	*eP*		**P**	**01 38 43.7**	**-0.7**
ETMB	**Extrema**	**27.00**	**16**	*eP*		**P**	**01 38 49.1**	**+0.4**
PARB	**Paraibuna**	**27.32**	**70**	*eP*		**P**	**01 38 52.3**	**+0.7**
ARAG	**Araguaiana, MT**	**28.10**	**49**	*eP*		**P**	**01 38 60.0**	**+1.4**
CZSB	**Cruzeiro do Su**	**28.24**	**2**	*eP*		**P**	**01 39 01.1**	**+1.3**
ESAR	**Angra dos Reis**	**28.40**	**71**	*eP*		**P**	**01 39 03.3**	**+2.1**
SAML	**Santa Maria**	**28.64**	**22**	*eP*		**P**	**01 39 03.5**	**+0.2**
IPMB	**Ipameri, GO**	**28.79**	**58**	*eP*		**P**	**01 39 05.0**	**+0.1**
PMSA	**Palmer Station**	**29.29**	**172**	LR		LR	01 50 36.1	
	comp=Z,370nm,18.0s,baz=344,slow=36							
BSCB	**Bom Sucesso**	**29.32**	**67**	*eP*		**P**	**01 39 09.5**	**+0.1**
BDFB	**Brasilia**	**30.58**	**55**	P		**P**	**01 39 19.6**	**-1.1**
	comp=Z,7.2nm,0.9s,baz=240,slow=11,SNR=8.7							
BDFB	**Brasilia**	**30.58**	**55**	P		**P**	**01 39 19.5**	**-1.2**
BDFB				IAmb		IAmb	01 39 29.7	
	comp=Z,11nm,0.9s							
SNDB	**Serra Nova Dou**	**31.34**	**46**	*eP*		**P**	**01 39 26.2**	**-1.1**
DIAM	**Diamantina, MG**	**31.80**	**64**	*eP*		**P**	**01 39 31.6**	**+0.1**
PEXB	**Peixe**	**33.03**	**50**	*eP*		**P**	**01 39 41.7**	**-0.4**
SJMB	**Sao Joao De Ma**	**33.39**	**67**	*eP*		**P**	**01 39 45.0**	**-0.2**
NPGB	**Novo Progresso**	**33.39**	**34**	*eP*		**P**	**01 39 44.1**	**-1.2**
JANB	**Januaria**	**33.51**	**59**	*eP*		**P**	**01 39 45.8**	**-0.6**
BSFB	**Barra de Sao F**	**33.56**	**68**	*eP*		**P**	**01 39 46.1**	**-0.7**
RIB01	**Linhares ES**	**33.61**	**69**	*eP*		**P**	**01 39 48.6**	**+1.4**
NAN01	**Guarapari, ES**	**34.71**	**67**	*eP*		**P**	**01 39 55.3**	**-1.4**
MACA	**Manacapuru-AM**	**34.88**	**23**	*eP*		**P**	**01 39 58.2**	**+0.1**
SDBA	**SAO DESIDERIO**	**34.99**	**55**	*eP*		**P**	**01 39 59.0**	**-0.2**
ITTB	**Itaituba**	**35.61**	**32**	*eP*		**P**	**01 40 04.1**	**-0.4**
SMTB	**Santa Maria do**	**36.00**	**48**	*eP*		**P**	**01 40 07.8**	**0.0**
OTAV	**Otavalo**	**36.42**	**352**	*eP*		**P**	**01 40 14.9**	**+2.9**
PRPB	**Parauapebas**	**36.91**	**42**	*eP*		**P**	**01 40 15.7**	**0.0**
NBIT	**Itapeh - BA**	**37.07**	**64**	*eP*		**P**	**01 40 16.5**	**-0.4**
PTGA	**Pitinga**	**37.39**	**23**	P		**P**	**01 40 19.3**	**-0.4**
	comp=Z,4.4nm,0.5s,baz=202,slow=9.8,SNR=8.6							
PTGA	**Pitinga**	**37.39**	**23**	P		**P**	**01 40 19.2**	**-0.4**
PTGA	**Pitinga**	**37.39**	**23**	*eP*		**P**	**01 40 20.7**	**+1.0**
GDU01	**Guandu, BA**	**37.76**	**63**	*eP*		**P**	**01 40 21.5**	**-1.4**
BBAC	**Balboa, Cauca**	**38.07**	**354**	*eP*		**P**	**01 40 26.8**	**+1.2**
SOTA	**Rioblanco**	**38.13**	**355**	*eP*		**P**	**01 40 29.1**	**+2.7**
PCON	**Cinco Dias**	**38.31**	**356**	*eP*		**P**	**01 40 29.5**	**+1.5**
NBPN	**Ponto Novo - B**	**39.30**	**59**	*eP*		**P**	**01 40 35.2**	**-0.6**
PRAC	**Prado**	**39.62**	**358**	*eP*		**P**	**01 40 40.6**	**+2.3**
ORTC	**Ortega, Tolima**	**39.82**	**357**	*eP*		**P**	**01 40 42.0**	**+1.9**
YOTC	**Yotoco, Valle**	**39.95**	**356**	*eP*		**P**	**01 40 41.5**	**+0.3**
BOAV	**Boa Vista**	**40.19**	**21**	*eP*		**P**	**01 40 43.1**	**0.0**
TOLC	**Tolima**	**40.49**	**357**	*eP*		**P**	**01 40 47.8**	**+1.8**
RREF	**El Recreo**	**40.81**	**357**	*eP*		**P**	**01 40 52.8**	**+3.8**
NBLA	**Lagarto - SE**	**40.89**	**61**	*eP*		**P**	**01 40 48.1**	**-0.8**
GUY2C	**Guyana, Caldas**	**41.13**	**357**	*eP*		**P**	**01 40 52.4**	**+1.0**
RUSC	**La Rusia**	**41.76**	**1**	*eP*		**P**	**01 40 57.0**	**+0.4**
NBTA	**Tacaratu-PE**	**42.00**	**59**	*eP*		**P**	**01 40 57.7**	**-0.4**
PTBC	**PUERTO BERRIO,**	**42.41**	**359**	*eP*		**P**	**01 41 00.3**	**-1.0**
NBMA	**Muriti-CE**	**42.77**	**57**	*eP*		**P**	**01 41 04.3**	**-0.1**
NBAN	**Anadia - AL**	**42.87**	**62**	*eP*		**P**	**01 41 05.2**	**0.0**
NBPS	**Pedro II - PI**	**43.26**	**51**	*eP*		**P**	**01 41 08.8**	**+0.5**
ZARC	**Zaragoza, Cauc**	**43.37**	**358**	*eP*		**P**	**01 41 08.3**	**-0.8**
NBPB	**Pedra_Branca-C**	**43.58**	**54**	*eP*		**P**	**01 41 11.5**	**+0.7**
NBLI	**Livramento-PB**	**44.02**	**58**	*eP*		**P**	**01 41 14.6**	**+0.2**
NBRF	**Rio Formoso -**	**44.37**	**62**	*eP*		**P**	**01 41 17.3**	**+0.1**
SDV	**Santo Domingo**	**44.82**	**4**	P		**P**	**01 41 21.0**	**0.0**
	comp=Z,4.4nm,0.7s,baz=241,slow=3.5,SNR=4.7							
SDV	**Santo Domingo**	**44.82**	**4**	*eP*		**P**	**01 41 21.9**	**+0.9**
BELA	**Belgrano 2**	**45.06**	**169**	P		**P**	**01 41 22.1**	**+0.1**
NBPA	**Parau_RN**	**45.07**	**57**	*eP*		**P**	**01 41 23.4**	**+0.6**
NBCL	**Cascavel-CE**	**45.41**	**54**	*eP*		**P**	**01 41 26.2**	**+0.7**
RCBR	**Riachuelo**	**45.84**	**58**	P		**P**	**01 41 28.8**	**-0.1**
	comp=Z,25nm,1.3s,baz=236,slow=19,SNR=2.3							
RCBR	**Riachuelo**	**45.84**	**58**	*eP*		**P**	**01 41 29.2**	**+0.2**
NBPV	**Pedro Velho**	**45.84**	**59**	*eP*		**P**	**01 41 29.1**	**+0.2**
JTS	**Las Juntas de**	**47.36**	**345**	P		**P**	**01 41 42.9**	**+2.1**
	comp=Z,3.2nm,0.7s,baz=73,slow=20,SNR=2.3							
VNA3	**Neumayer Olymp**	**47.93**	**157**	P		**P**	**01 41 44.9**	**+0.3**
VNA1	**Neumayer--Stat**	**48.27**	**156**	P		**P**	**01 41 47.6**	**+0.4**
VNA2	**Neumayer--Watz** baz=297,slow=7.2	**48.60**	**156**	P		**P**	**01 41 49.2**	**-0.6**
SNAA	**Sanae**	**50.15**	**157**	P		**P**	**01 42 01.9**	**+0.2**
SNAA	**Sanae**	**50.15**	**157**	P		**P**	**01 42 02.4**	**+0.7**
	comp=Z,21nm,1.2s,baz=261,slow=7.1,SNR=7.0							
SNAA	**Sanae**	**50.15**	**157**	P		**P**	**01 42 01.3**	**-0.3**
SVB	**Belmont**	**50.47**	**16**	P		**P**	**01 42 04.4**	**-0.1**
RKT	**Rikitea**	**54.10**	**266**	*eLR*		LR	01 58 19.3	
	comp=Z,314nm,29.0s							
QSPA	**South Pole Qui**	**54.15**	**180**	P		**P**	**01 42 31.6**	**0.0**
QSPA				IAmb		IAmb	01 42 33.1	
	comp=Z,10nm,0.8s							
TBI	**Tubuai**	**65.60**	**258**	*eLR*		LR	02 03 31.4	
	comp=Z,260nm,26.5s,baz=123							
PPT2	**Papeete2**	**68.69**	**263**	*eS*		**S**	**01 53 10.9**	**-2.1**
	comp=Z,123nm,23.5s							
PPT2	**Papeete2**	**68.69**	**263**	*eLR*		LR	02 05 03.8	
	comp=Z,385nm,24.5s							
Z47A	**Carrollton**	**70.25**	**347**	P		**P**	**01 44 19.6**	**+0.1**
143A	**Socs Landing,**	**70.44**	**344**	P		**P**	**01 44 20.8**	**+0.1**
JCT	**Junction City**	**70.64**	**336**	P		**P**	**01 44 22.0**	**-0.1**
JCT				IAmb		IAmb	01 44 30.7	
	comp=Z,14nm,1.1s							
237A	**Washetta, Mont**	**70.86**	**340**	P		**P**	**01 44 23.4**	**+0.1**
TX32	**Lajitas Array**	**70.96**	**332**	P		**P**	**01 44 23.9**	**-0.2**
TXAR	**Lajitas Array**	**70.96**	**332**	P		**P**	**01 44 25.3**	**+1.2**
	comp=Z,3.0nm,0.7s,baz=152,slow=8.7,SNR=28							
TXAR	**Lajitas Array**	**70.96**	**332**	P		**P**	**01 44 24.0**	**-0.1**
TX31	**Lajitas Ar. Si**	**70.96**	**332**	P		**P**	**01 44 24.0**	**-0.1**
TX31				IAmb		IAmb	01 44 26.4	
	comp=Z,10nm,0.7s							
WHTX	**Lake Whitney,**	**71.32**	**339**	P		**P**	**01 44 26.3**	**+0.1**
SWET	**Sewanee**	**71.87**	**349**	P		**P**	**01 44 29.2**	**-0.2**
SWET				IAmb		IAmb	01 44 37.6	
	comp=Z,16nm,1.0s							
V48A	**Smith Brothers**	**72.52**	**349**	P		**P**	**01 44 33.1**	**-0.1**
Z35A	**Perchaven, San**	**72.52**	**339**	P		**P**	**01 44 33.4**	**+0.1**
ABTX	**Abilene, Hawle**	**72.58**	**337**	P		**P**	**01 44 33.6**	**-0.1**
ABTX				IAmb		IAmb	01 44 35.5	
	comp=Z,9.0nm,0.8s							
WVT	**Waverly**	**73.06**	**348**	P		**P**	**01 44 36.5**	**+0.1**
WVT				IAmb		IAmb	01 44 37.9	
	comp=Z,14nm,1.1s							
WHAR	**Wooly Hollow**	**73.12**	**344**	P		**P**	**01 44 36.7**	**-0.1**
WHAR				IAmb		IAmb	01 44 38.5	
	comp=Z,18nm,1.1s							
W39A	**Magazine**	**73.37**	**343**	P		**P**	**01 44 38.4**	**+0.1**
W39A				IAmb		IAmb	01 44 40.5	
	comp=Z,16nm,1.0s							
LCAR	**Lake Charles**	**73.63**	**345**	P		**P**	**01 44 39.7**	**-0.1**
LCAR				IAmb		IAmb	01 44 41.5	
	comp=Z,9.7nm,0.7s							
FCAR	**Ozark Folk Cen**	**73.66**	**344**	P		**P**	**01 44 39.9**	**-0.1**
FCAR				IAmb		IAmb	01 44 41.6	
	comp=Z,6.8nm,0.8s							
MNTX	**Cornudas Mount**	**73.72**	**332**	P		**P**	**01 44 40.4**	**-0.1**
PBMO	**Poplar Bluff**	**74.17**	**346**	P		**P**	**01 44 42.7**	**-0.2**
PBMO				IAmb		IAmb	01 44 44.7	
	comp=Z,7.1nm,0.8s							
U40A	**Yellville**	**74.27**	**344**	P		**P**	**01 44 43.2**	**-0.4**
U40A				IAmb		IAmb	01 44 45.5	
	comp=Z,9.3nm,0.9s							
WMOK	**Wichita Mounta**	**74.28**	**339**	P		**P**	**01 44 43.2**	**-0.4**
OK030	**Cody Creek RV**	**74.83**	**341**	P		**P**	**01 44 46.7**	**-0.1**
OK030				IAmb		IAmb	01 44 54.7	
	comp=Z,12nm,0.8s							
MSTX	**Muleshoe**	**74.83**	**335

comp=Z,4.1nm,0.7s,baz=342,slow=6.4,SNR=4.8
AAK Ala-Archa 154.59 65 PKPbc **PKiKP 01 53 07.5 +0.1**
AAK PKPab **PKPab 01 53 22.3 +0.2**
comp=Z,1.4nm,0.8s,baz=279,slow=5.3,SNR=3.9
comp=Z,2.3nm,0.5s,baz=223,slow=5.5,SNR=9.2
AAK Ala-Archa 154.59 65 PKPbc **PKPbc 01 53 06.5 -0.9**
KURBB Kurchatov Arra 155.26 45 PKP **PKPdf 01 52 59.5 +0.2**
comp=Z,0.3nm,0.5s,baz=308,slow=2.0,SNR=4.9
KURBB PKPbc **sPKPdf 01 53 08.2 +0.7**
comp=Z,0.5nm,0.6s,baz=300,slow=2.7,SNR=7.5
KURBB PKPab **PKPab 01 53 24.8 +0.3**
comp=Z,0.6nm,0.5s,baz=298,slow=5.1,SNR=6.4
KURK Kurchatov 155.27 45 PKPdf 01 52 59.5 +0.2
KSH Kashi 155.78 73 PKP **PKPdf 01 53 02.8 +2.2**
ZALV Zalesovo Beam 156.68 33 PKP **PKPdf 01 53 00.9 -0.2**
comp=Z,1.6nm,0.8s,baz=282,slow=2.9,SNR=6.0
ZALV PKPab **PKPab 01 53 31.4 +1.0**
comp=Z,3.2nm,0.6s,baz=306,slow=4.2,SNR=9.0
ZALV Zalesovo Beam 156.68 33 PKPdf **PKPdf 01 53 01.1 0.0**
MKAR Makanchi Array 159.09 52 PKP **PKPdf 01 53 04.3 0.0**
comp=Z,1.0nm,0.8s,baz=262,slow=2.9,SNR=7.8
MKAR PKPab **PKPab 01 53 41.0 -0.2**
comp=Z,0.8nm,0.6s,baz=305,slow=4.7,SNR=5.5
MKAR Makanchi Array 159.09 52 PKPdf 01 53 04.2 -0.2
WMQ Urumqi 163.74 56 *e*PKP **PKPdf 01 53 09.4 0.0**
SONM Songino Array 168.26 360 PKPab **PKPab 01 54 22.5 +1.1**
comp=Z,0.7nm,0.8s,baz=353,slow=3.4,SNR=4.3
NJ2 Nanjing 168.91 252 *e*PKP **PKPdf 01 53 13.9 +0.2**
HHC Hu-ho-hao-te 173.75 321 *e*PKP **PKPdf 01 53 15.6 -0.4**
HHC PP **PP 01 58 38.6 +0.7**
HHC SS SS 02 20 00.3 +5.9
HHC AMB AMB
comp=Z,93nm,9.2s
HHC LR LR
comp=Z,160nm,22.3s
HHC LR LR
comp=Z,150nm,23.0s
HHC LR LR
comp=Z,130nm,22.3s
XAN Xi'an 177.09 226 P **PKPdf 01 53 23.9 +6.9**
XAN pP sPKPdf 01 53 32.8 +7.6
XAN pmax pmax
comp=Z,5.0nm,1.7s

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*BGR **19** 01:33:52.6±0.0,38˚.85N×142˚.60E,h33km,mb5.1,Ms4.2*
*MOS **19** 01:33:52.3±0.8,38˚.55N×141˚.80E,h47km,mb5.2/77,Error ellipse: s-maj=5.8km s-min=3.7km az=106.4*
*BJI **19** 01:33:52.6±0.0,38˚.49N×141˚.88E,h64km,mB4.9/46, mb5.2/70,Ms4.2/45,Ms7 4.0/44*
*JMA **19** 01:33:54.7±0.1,38˚.53N×141˚.82E,h50km±1km,M4.8*
JMA Felt III J1.
*NEIC **19** 01:33:54.5±0.8,38˚.50N±0˚.06×141˚.82E±0˚.09,h55km±4km, mb4.9/184,Mwr4.6/20,Error ellipse: s-maj=11.0km s-min=7.2km az=118.0*
*NEIC **19** 01:33:54.3,38˚.51N×141˚.87E,h49km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.81; Mθθ0.01; Mϕϕ-0.82; Mrθ0.25; Mϕθ-0.18; Mϕr0.67; Fault plane solution: M₀1.10000×10¹⁶ NP1:ϕs185.95000°, δ25.04000°,λ79.31000°. NP2:ϕs17.72000°,δ65.42000°, λ94.95000°. Principal axes: T 1.0815, Plg69.0000°, Azm298.0000°; N 0.0364, Plg5.0000°, Azm196.0000°; P -1.1179, Plg20.0000°, Azm104.0000°;*
*NIED **19** 01:33:54.8,38˚.53N×141˚.82E,h50km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.66; Mθθ-0.03; Mϕϕ-0.63; Mrθ0.44; Mϕθ-0.25; Mϕr0.98; Fault plane solution: M₀1.28000×10¹⁶ NP1:ϕs24.00000°, δ74.00000°,λ92.00000°. NP2:ϕs196.00000°,δ16.00000°, λ82.00000°.*
*IDC **19** 01:33:54.9±1.4,38˚.55N×141˚.75E,h53km±12km,mb4.5/34, mb1 4.6/39,mb1mx4.6/47,mbtmp4.8/39,MS3.8/22, Ms1 3.8/22,ms1mx3.6/43 Error ellipse: s-maj=12.0km s-min=9.0km az=119.0*
*GCMT **19** 01:33:55.5±0.4,38˚.58N±0˚.02×141˚.92E±0˚.04,h49km±1km, MW4.9/79,Moment Tensor Solution. s28,c30; s79,c99; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.26±.17; Mθθ0.01±.13; Mϕϕ-2.27±.13; Mrθ0.67±.07; Mϕθ-0.36±.10; Mϕr1.04±.07; Best double couple: M₀2.60600×10¹⁶ NP1:ϕs178.00000°,δ33.00000°,λ71.00000°. NP2: ϕs20.00000°,δ59.00000°,λ102.00000°. Principal axes: T 2.6180, Plg73.0000°, Azm320.0000°; N -0.0220, Plg10.0000°, Azm194.0000°; P -2.5950, Plg13.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 01:33:54.2±0.4,38˚.49N±0˚.03×141˚.95E±0˚.03,h56km±2km, h56km:pP-P,n700,σ1$30/718,mb5.0/269,MS4.0/34, 44C-51D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakibobu**	**0.42**	**245**	P	**Pn**	**01 34 04.3**	**-0.7**
JIKH				S	**Sn**	**01 34 10.8**	**-2.1**
JIO	**Ouri**	**0.48**	**266**	P	**Pn**	**01 34 04.6**	**-1.0**
JIO				*i* S	**Sn**	**01 34 11.3**	**-2.5**
JKMT	**Kesennumamotoy**	**0.49**	**311**	P	**Pn**	**01 34 04.8**	**-1.0**
JKMT				S	**Sn**	**01 34 11.7**	**-2.5**
OFUJ	**Ofunato**	**0.63**	**339**	P	**Pn**	**01 34 06.7**	**-0.7**
OFUJ				*i* S	**Sn**	**01 34 15.1**	**-1.9**
JMK	**Ichinoseki**	**0.74**	**309**	P	**Pn**	**01 34 07.8**	**-0.9**
JMK				S	**Sn**	**01 34 16.9**	**-2.4**
JOU	**Okura**	**1.02**	**263**	P	**Pn**	**01 34 11.3**	**-1.1**
JOU				*e*S	**Sn**	**01 34 23.6**	**-2.2**
JMM	**Marumori**	**1.11**	**236**	P	**Pn**	**01 34 12.5**	**-1.0**
JMM				*e*S	**Sn**	**01 34 25.6**	**-2.2**
JMM	**Marumori**	**1.11**	**236**		**Pn**	**01 34 12.5**	**-1.0**
JMM				Sn	**Sn**	**01 34 25.9**	**-1.9**
JOM	**Ohasama**	**1.11**	**333**	P	**Pn**	**01 34 13.0**	**-0.6**
JOM				*e*S	**Sn**	**01 34 26.4**	**-1.5**
JYK	**Kaneyama**	**1.32**	**289**	P	**Pn**	**01 34 15.4**	**-1.0**
JRG	**Rokugo**	**1.37**	**312**	P	**Pn**	**01 34 16.2**	**-0.9**
JFK	**Kawauchi**	**1.41**	**218**	P	**Pn**	**01 34 17.2**	**-0.4**
JFK				*e*S	**Sn**	**01 34 33.7**	**-1.4**
JYS	**Shirataka**	**1.51**	**260**	P	**Pn**	**01 34 18.2**	**-0.7**
JTM	**Tenmabayashi**	**2.40**	**344**		**Pn**	**01 34 31.1**	**+0.2**
JYT	**Yasato**	**2.66**	**212**	Pn	**Pn**	**01 34 34.9**	**+0.4**
JSD	**Sado**	**2.94**	**262**		**Pn**	**01 34 37.5**	**-1.0**
MJAR	**Matsushiro Arr**	**3.56**	**238**	P	**Pn**	**01 34 47.6**	**+0.7**
	6.5nm,0.3s,baz=40,slow=11,SNR=172						
MJAR				LR	LR	01 36 21.9	
	comp=Z,1μm,20.8s,baz=45,slow=43						
MJAR	**Matsushiro Arr**	**3.56**	**238**	P	**Pn**	**01 34 46.3**	**-0.6**
MJAR	**Matsushiro Arr**	**3.56**	**238**		**Pn**	**01 34 46.3**	**-0.6**
MAJO	**Matsushiro**	**3.56**	**238**	P	**Pn**	**01 34 47.7**	**+0.8**
MAJO	**Matsushiro**	**3.56**	**238**		**Pn**	**01 34 47.7**	**+0.8**
MAT	**Matsushiro**	**3.56**	**238**	P	**Pn**	**01 34 48.1**	**+1.2**
MAT				*e*S	**Sn**	**01 35 28.0**	**+0.3**
MJB9	**Matsu-Tunnel**	**3.56**	**238**		**Pn**	**01 34 48.0**	**+1.1**
ERM	**Erimo**	**3.64**	**14**	P	**Pn**	**01 34 48.0**	**0.0**
ERM	**Erimo**	**3.64**	**14**	Pn	**Pn**	**01 34 48.0**	**0.0**
JEW	**Eniwo**	**4.36**	**355**		**Pn**	**01 34 58.0**	**0.0**
JGF	**Kuroka**	**4.67**	**233**		**Pn**	**01 35 02.0**	**-0.2**
INU	**Inuyama**	**5.05**	**233**		**Pn**	**01 35 06.6**	**-0.7**
JHJ	**Hachijo jima 2**	**5.64**	**199**	P	**Pn**	**01 35 15.8**	**+0.3**
	38nm,0.3s,baz=92,slow=21,SNR=6.0						
JHJ				S	**Sn**	**01 36 16.3**	**-2.6**
	32nm,0.3s,baz=97,slow=23,SNR=1.3						
JKA	**Kamikawa-asahi**	**5.64**	**5**	Pn	**Pn**	**01 35 15.2**	**-0.2**
ASAJ	**Asahikawa**	**5.64**	**5**	P	**Pn**	**01 35 15.6**	**+0.2**
	17nm,0.3s,baz=221,slow=9.5,SNR=58						
ASAJ				S	**Sn**	**01 36 19.1**	**+0.2**
	16nm,0.3s,baz=214,slow=14,SNR=4.4						
NMR	**Nemuro--Hokkai**	**5.65**	**29**	*d* *i* P	**Pn**	**01 35 14.1**	**-1.4**
NMR				*i* S	**Sn**	**01 36 13.6**	**-5.5**
GLVR	**Golovnino**	**5.89**	**26**	*e*P	**Pn**	**01 35 17.7**	**-1.2**
GLVR				*e*S	**Sn**	**01 36 20.7**	**-4.3**
GLVR				pmax	pmax		
	comp=Z,284nm,0.3s						
GLVR				smax	smax		
	comp=E,3μm,0.3s						
GLVR				smax	smax		
	comp=N,851nm,0.2s						
RUSJ	**Misakicho**	**6.13**	**23**	⇓*i* P	**Pn**	**01 35 22.2**	**0.0**
RUSJ				*i* S	**Sn**	**01 36 28.8**	**-2.1**
GRPR	**Tuman**	**6.21**	**26**	⇑*i* P	**Pn**	**01 35 22.3**	**-0.8**
GRPR				*i* S	**Sn**	**01 36 27.4**	**-5.3**
GRPR				pmax	pmax		
	comp=N,123nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,397nm,0.3s						
GRPR				smax	smax		
	comp=E,1μm,0.3s						
GRPR				smax	smax		
	comp=N,2μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.27**	**27**	⇓*i* P	**Pn**	**01 35 23.6**	**-0.5**
YUK				*i* S	**Sn**	**01 36 29.7**	**-4.6**
YUK				pmax	pmax		
	comp=Z,340nm,0.2s						
YUK				pmax	pmax		
	comp=N,65nm,0.1s						
YUK				pmax	pmax		
	comp=E,94nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
YUK				MLR	MLR		
	comp=Z,394nm,19.0s						
YUK				MLR	MLR		
	comp=N,363nm,14.0s						
YUK				MLR	MLR		
	comp=E,346nm,12.0s						
TEY	**Ternei**	**7.67**	**330**	⇑*e*P	**Pn**	**01 35 44.6**	**+1.5**
TEY				pmax	pmax		
	comp=N,20nm,1.0s						
TEY				pmax	pmax		
	comp=E,10.0nm,1.0s						
TEY				pmax	pmax		
	comp=Z,20nm,0.9s						
JHS	**Saijyo**	**7.90**	**247**	Pn	**Pn**	**01 35 46.0**	**-0.4**
KUR	**Kuril'sk**	**8.05**	**31**	*e*P	**Pn**	**01 35 48.7**	**+0.3**
KUR				*e*S	**Sn**	**01 37 13.9**	**-4.1**
KUR				pmax	pmax		
	comp=Z,119nm,0.6s						
KUR				pmax	pmax		
	comp=N,34nm,0.3s						
KUR				pmax	pmax		
	comp=E,44nm,0.3s						
KUR				smax	smax		
	comp=E,388nm,0.5s						
KUR				smax	smax		
	comp=N,92nm,0.2s						
JMN	**Monobe**	**8.08**	**236**	Pn	**Pn**	**01 35 48.2**	**-0.7**
YSS	**Yuzh-Sakhalins**	**8.48**	**4**	⇑*e*P	**Pn**	**01 35 53.9**	**-0.4**
YSS				*e*S	**Sn**	**01 37 25.4**	**-3.1**
YSS				pmax	pmax		
	comp=Z,60nm,0.7s						
YSS				pmax	pmax		
	comp=Z,200nm,3.7s						
YSS				MLR	MLR		
	comp=Z,200nm,13.0s						
YSS				MLR	MLR		
	comp=N,300nm,14.0s						
YSS				MLR	MLR		
	comp=E,200nm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.48**	**4**	Pn	**Pn**	**01 35 54.0**	**-0.2**
USA0B	**Ussuriysk Arra**	**9.41**	**310**	P	**Pn**	**01 36 06.5**	**-0.6**
USA0B	**Ussuriysk Arra**	**9.41**	**310**		**Pn**	**01 36 06.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**9.41**	**310**	P	**Pn**	**01 36 06.7**	**-0.3**
	baz=132,slow=17,SNR=106						
USRK				LR	LR	01 39 42.5	
	comp=E,584nm,18.2s,baz=117,slow=38						
USRK	**Ussuriysk Ar.**	**9.41**	**310**		**Pn**	**01 36 06.2**	**-0.8**
JNU	**Nakatsue**	**10.46**	**243**	P	**Pn**	**01 36 22.4**	**+0.9**
	comp=E,2.6nm,0.3s,baz=81,slow=5.4,SNR=12						
JNU				LR	LR	01 40 42.9	
	comp=E,793nm,21.0s,baz=50,slow=39						
JNU	**Nakatsue**	**10.46**	**243**	Pn	**Pn**	**01 36 21.0**	**-0.5**
MDJ	**Mudanjiang**	**11.10**	**307**	P	**Pn**	**01 36 32.1**	**+2.0**
MDJ				sP		01 36 46.6	
MDJ				S	**Sn**	**01 38 30.0**	**-2.5**
MDJ				SS	**SnSn**	**01 38 42.1**	**-2.7**
MDJ				pmax	pmax		
	comp=E,20nm,1.2s						
MDJ				pmax	pmax		
	comp=E,91nm,3.6s						
MDJ				LR	LR		
	comp=E,340nm,13.8s						
MDJ				LR	LR		
	comp=E,510nm,15.4s						
MDJ				LR	LR		
	comp=E,810nm,20.8s						
MDJ	**Mudanjiang**	**11.10**	**307**	Pn	**Pn**	**01 36 29.3**	**-0.8**
KSRS	**Korea Array**	**11.13**	**269**	P	**Pn**	**01 36 32.8**	**+2.3**
	comp=E,1.8nm,0.3s,baz=81,slow=14,SNR=34						
KSRS				LR	LR	01 40 25.8	
	comp=E,542nm,20.9s,baz=78,slow=36						
KS19	**Wonju Array Si**	**11.16**	**269**	Pn	**Pn**	**01 36 30.1**	**-0.9**
JCJ	**Chichijima**	**11.36**	**179**	S	Sn	01 38 27.4	-12
	comp=E,11nm,0.3s,baz=244,slow=22,SNR=2.4						
JCJ	**Chichijima**	**11.36**	**179**	Pn	**Pn**	**01 36 33.9**	**+0.1**
TYV	**Tymovskoe**	**12.38**	**2**	*e*P	**Pn**	**01 36 46.9**	**-0.6**
TYV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GRNR	**Gornyy**	**12.89**	**344**	⇓*i* P	**Pn**	**01 36 55.2**	**+0.7**
GRNR				*e*S	**Sn**	**01 39 18.8**	**+2.6**
GRNR				pmax	pmax		
	comp=E,2.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GRNR				pmax	pmax		
	comp=N,3.0nm,0.7s						
GRNR				smax	smax		
	comp=N,1.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,110nm,14.0s						
GRNR				MLR	MLR		
	comp=N,160nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,270nm,14.0s						
CN2	**Changchun**	**13.52**	**298**	*e*P	**Pn**	**01 37 06.1**	**+3.0**
CN2				PP	**PnPn**	**01 37 18.3**	**+7.2**
CN2				S	**Sn**	**01 39 34.3**	**+2.7**
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
CN2				LR	LR		
	comp=Z,210nm,10.0s						
CN2				LR	LR		
	comp=Z,340nm,10.0s						
CN2				LR	LR		
	comp=Z,400nm,10.0s						
DL2	**Dalian**	**15.88**	**278**	P	**Pn**	**01 37 34.9**	**+0.9**
DL2				sP	**pP**	**01 37 48.1**	**-0.9**
DL2				S	**Sn**	**01 40 28.4**	**-0.5**
DL2				SS	**SnSn**	**01 40 45.1**	**+2.9**
DL2				pmax	pmax		
	comp=Z,120nm,0.9s						
DL2				pmax	pmax		
	comp=Z,170nm,3.8s						
DL2				LR	LR		
	comp=Z,170nm,9.5s						
DL2				LR	LR		
	comp=Z,240nm,10.9s						
DL2				LR	LR		
	comp=Z,410nm,19.6s						
PETK	**Petropavlovsk-**	**18.22**	**32**	P	**P**	**01 38 01.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=209,slow=11,SNR=1.3						
PETK				LR	LR	01 46 03.0	
	comp=Z,116nm,18.5s,baz=218,slow=40						
PETK	**Petropavlovsk-**	**18.22**	**32**	P	**Pn**	**01 38 02.8**	**-0.1**
PETK	**Petropavlovsk-**	**18.22**	**32**	P	**Pn**	**01 38 02.8**	**-0.1**
ZEA	**Zeya**	**18.29**	**331**	*e*P	**P**	**01 38 02.9**	**-0.3**
ZEA				pmax	pmax		
	comp=N,60nm,0.8s						
ZEA				pmax	pmax		
	comp=E,30nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,100nm,0.7s						
ZEA				MLR	MLR		
	comp=E,100nm,18.0s						
ZEA				MLR	MLR		
	comp=N,200nm,10.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,17.0s						
HIA	**Hailar**	**19.23**	**311**	P	**P**	**01 38 13.5**	**-0.1**
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
HIA	**Hailar**	**19.23**	**311**		**P**	**01 38 13.5**	**-0.1**
TIA	**Tai'an**	**19.86**	**271**	P	**P**	**01 38 18.9**	**-1.7**
TIA				pmax	pmax		
	comp=Z,43nm,1.2s						
TIA				LR	LR		
	comp=Z,290nm,10.2s						
TIA				LR	LR		
	comp=Z,280nm,15.7s						
TIA				LR	LR		
	comp=Z,370nm,20.4s						
NJ2	**Nanjing**	**19.90**	**258**	*e*P	**Pn**	**01 38 22.3**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,43nm,0.9s						
BJI	**Beijing**	**20.00**	**283**	P	**P**	**01 38 20.8**	**-1.3**
BJI				sP	**sP**	**01 38 38.0**	**-3.6**
BJI				S	**S**	**01 42 03.8**	**0.0**
BJI				pmax	pmax		
	comp=Z,13nm,0.8s						
BJI				LR	LR		
	comp=Z,130nm,17.6s						
BJI				LR	LR		
	comp=Z,180nm,12.6s						
BJT	**Baijiatuau**	**20.01**	**282**	P	**P**	**01 38 21.0**	**-1.2**
BJT				pmax	pmax		
	comp=Z,23nm,0.6s						
BJT	**Baijiatuau**	**20.01**	**282**	P	**P**	**01 38 21.0**	**-1.2**
BJT				IAmb	IAmb	01 38 22.9	
	comp=Z,23nm,0.6s						
MA2	**Magadan**	**21.84**	**12**	P	**P**	**01 38 41.5**	**-0.2**
	comp=Z,35nm,0.6s,baz=202,slow=9.9,SNR=21						
MA2				LR	LR	01 47 51.1	
	comp=Z,92nm,20.0s,baz=190,slow=38						
MA2	**Magadan**	**21.84**	**12**	*i* P	**P**	**01 38 42.2**	**+0.5**
MA2				pmax	pmax		
	comp=Z,42nm,0.8s						
MA2	**Magadan**	**21.84**	**12**	P	**P**	**01 38 42.4**	**+0.7**
MA2				IAmb	IAmb	01 39 01.1	
	comp=Z,62nm,0.7s						
SSLB	**Suanglung**	**23.11**	**237**	P	**P**	**01 38 53.5**	**-1.9**
SSLB				IAmb	IAmb	01 39 12.9	
	comp=Z,37nm,0.9s						
YULB	**Yu-li**	**23.17**	**235**	P	**P**	**01 38 56.4**	**+0.5**
TIY	**Taiyuan**	**23.20**	**277**	*e*P	**P**	**01 38 56.8**	**+0.5**
TIY				pmax	pmax		
	comp=Z,45nm,0.8s						
HHC	**Hu-ho-hao-te**	**23.46**	**285**	*e*P	**P**	**01 38 56.8**	**-1.9**
HHC				pP	pP	01 39 09.4	-2.5
HHC				PP	**PnPn**	**01 39 25.8**	**-1.5**
HHC				S	**S**	**01 43 01.9**	**-6.1**
HHC				SS	**SnSn**	**01 43 54.0**	**+5.8**
HHC				pmax	pmax		
	comp=Z,32nm,0.9s						
HHC				pmax	pmax		
	comp=Z,94nm,4.2s						
HHC				LR	LR		
	comp=Z,140nm,12.2s						
HHC				LR	LR		
	comp=Z,430nm,12.8s						
HHC				LR	LR		
	comp=Z,510nm,13.2s						
TPUB	**Ta-pu**	**23.67**	**236**	P	**P**	**01 39 00.6**	**-0.1**
TPUB				IAmb	IAmb	01 39 02.9	
	comp=Z,55nm,0.7s						
WHN	**Wuhan**	**24.02**	**259**	⇓P	**P**	**01 39 03.3**	**-0.5**
WHN				sP	**pP**	**01 39 20.4**	**+2.7**
WHN				pmax	pmax		
	comp=Z,78nm,0.8s						
WHN				LR	LR		
	comp=Z,860nm,10.7s						
BTO	**Baotou**	**24.65**	**285**	*e*P	**P**	**01 39 11.4**	**+1.8**
BTO				S	**S**	**01 43 28.0**	**+0.9**
BTO				LR	LR		
	comp=Z,700nm,24.9s						
BTO				LR	LR		
	comp=Z,1μm,23.0s						
BTO				LR	LR		
	comp=Z,2μm,24.1s						
YAK	**Yakutsk**	**24.75**	**346**	P	**P**	**01 39 09.5**	**-0.6**
	comp=Z,14nm,0.3s,baz=271,slow=0.6,SNR=1.8						
YAK				LR	LR	01 49 11.8	
	comp=Z,189nm,19.9s,baz=164,slow=37						
YAK	**Yakutsk**	**24.75**	**346**	*e*P	**P**	**01 39 08.6**	**-1.6**
YAK				*e**PP	**pP**	**01 39 22.1**	**-2.0**
YAK				*e*		01 42 43.3	
YAK				*e*S	**S**	**01 43 26.9**	**-1.3**
YAK				*e*SS	**SnSn**	**01 44 27.2**	**+7.8**
YAK				*e*		01 50 02.8	
YAK				pmax	pmax		
	comp=Z,85nm,0.9s						
YAK				pmax	pmax		
	comp=N,35nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				smax	smax		
	comp=N,334nm,4.8s						
YAK				smax	smax		
	comp=E,108nm,2.5s						
YAK	**Yakutsk**	**24.75**	**346**	P	**P**	**01 39 09.4**	**-0.8**
SEY	**Seymchan**	**25.28**	**11**	P	**P**	**01 39 16.4**	**+1.4**
	comp=E,50nm,1.0s,baz=202,slow=6.4,SNR=110						
BOD	**Bodaibo**	**26.55**	**326**	*e*P	**P**		
BOD				pmax	pmax		
	comp=Z,53nm,0.8s						
XAN	**Xi'an**	**26.92**	**271**	P	**P**	**01 39 29.3**	**-0.8**
XAN				pP	sP	01 39 49.3	-1.4
XAN				pmax	pmax		
	comp=Z,32nm,0.7s						
XAN				LR	LR		
	comp=Z,330nm,17.3s						
XAN				LR	LR		
	comp=Z,240nm,21.7s						
XAN	**Xi'an**	**26.92**	**271**	P	**P**	**01 39 28.4**	**-1.7**
XAN				pmax	pmax		
	comp=Z,19nm,0.6s						
XAN	**Xi'an**	**26.92**	**271**	P	**P**	**01 39 28.4**	**-1.7**
XAN				IAmb	IAmb	01 39 30.4	
	comp=Z,19nm,0.6s						
ULN	**Ulaanbaatar**	**26.92**	**302**	P	**P**	**01 39 29.6**	**-0.6**
ULN				pmax	pmax		
	comp=Z,12nm,0.9s						
ULN	**Ulaanbaatar**	**26.92**	**302**	P	**P**	**01 39 29.6**	**-0.6**
SONM	**Songino Array**	**27.36**	**302**	P	**P**	**01 39 32.8**	**-1.2**
	comp=Z,5.8nm,0.7s,baz=103,slow=8.8,SNR=26						
SONM				PcP	**PcP**	**01 42 53.0**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=124,slow=2.8,SNR=6.6						
SONM				ScP	**ScP**	**01 46 28.8**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=48,slow=2.2,SNR=4.5						
SONM				LR	LR	01 50 50.2	
	comp=Z,141nm,18.9s,baz=113,slow=37						
SONM	**Songino Array**	**27.36**	**302**	P	**P**	**01 39 33.5**	**-0.5**
SONM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**27.36**	**302**	P	**P**	**01 39 33.5**	**-0.5**
ENH	**Enshi**	**27.91**	**263**	P	**P**	**01 39 38.4**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**28.56**	**124**	T	T	02 10 11.5	
	baz=316,slow=75,SNR=3455						
H11N1	**WAKE ISLAND Hy**	**28.57**	**124**	T	T	02 10 06.1	
	baz=316,slow=75,SNR=5267						
H11N3	**WAKE ISLAND Hy**	**28.58**	**124**	T	T	02 10 14.8	
	baz=316,slow=75,SNR=3656						
H11S1	**WAKE ISLAND Hy**	**29.33**	**126**	T	T	02 11 08.5	
	baz=318,slow=76,SNR=873						
H11S3	**WAKE ISLAND Hy**	**29.33**	**126**	T	T	02 10 60.0	
	baz=318,slow=76,SNR=1092						
H11S2	**WAKE ISLAND Hy**	**29.34**	**126**	T	T	02 11 01.1	
	baz=318,slow=76,SNR=1086						
TLY	**Talaya**	**29.73**	**309**	P	**P**	**01 39 54.2**	**-0.7**
	comp=Z,5.9nm,0.6s,baz=98,slow=5.9,SNR=6.7						
TLY				PcP	**PcP**	**01 42 58.8**	**+1.3**
	comp=Z,2.2nm,0.7s,baz=118,slow=2.8,SNR=3.2						
TLY				LR	LR	01 52 18.5	
	comp=Z,243nm,19.9s,baz=114,slow=37						
TLY	**Talaya**	**29.73**	**309**	*e*P	**P**	**01 39 55.4**	**+0.5**
TLY				*e*S	**S**	**01 44 53.7**	**+6.8**
TLY				pmax	pmax		
	comp=Z,17nm,0.6s						
TLY				MLR	MLR		
	comp=Z,500nm,15.0s						
TLY	**Talaya**	**29.73**	**309**	P	**P**	**01 39 55.0**	**+0.1**
ZAK	**Zakamensk**	**29.73**	**306**	*e*P	**P**	**01 39 53.4**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,13nm,1.2s						
LZH	**Lanzhou**	**30.27**	**277**	*e*P	**P**	**01 40 00.3**	**+0.2**
LZH				pP	pP	01 40 15.9	+1.7
LZH				pmax	pmax		
	comp=Z,41nm,1.0s						
LZH				pmax	pmax		
	comp=Z,96nm,5.4s						
LZH				LR	LR		
	comp=Z,290nm,13.6s						
LZH				LR	LR		
	comp=Z,370nm,11.9s						
LZH				LR	LR		

comp=Z,400nm,13.5s
MOY Mondy 31.35 308 *e*P **P 01 40 09.0 -0.4**
GYA Guiyang 31.91 258 ⇓P **P 01 40 14.0 -0.5**
GYA S S 01 45 08.0 -14
GYA pmax pmax
comp=Z,43nm,1.1s
GYA pmax pmax
comp=Z,130nm,6.8s
GYA LR LR
comp=Z,140nm,7.9s
GYA LR LR
comp=Z,160nm,5.4s
GYA LR LR
comp=Z,100nm,6.3s
CD2 Chengdu 32.12 268 ⇓*i*P **P 01 40 15.3 -1.0**
CD2 PP **PP 01 41 26.8 -2.8**
CD2 S **S 01 45 23.4 -1.5**
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 pmax pmax
comp=Z,140nm,9.6s
CD2 LR LR
comp=Z,340nm,6.3s
CD2 LR LR
comp=Z,310nm,9.4s
CD2 LR LR
comp=Z,400nm,11.0s
BILL Bilibino 32.51 17 *i*P **P 01 40 19.3 +0.1**
BILL *i* 01 40 37.1
BILL *i* 01 41 25.9
BILL pmax pmax
comp=Z,13nm,1.1s
BILL Bilibino 32.51 17 P **P 01 40 20.0 +0.8**
BILL IAmb IAmb 01 40 21.6
comp=Z,12nm,1.0s
GTA Gaotai 32.57 285 P **P 01 40 19.8 -0.4**
GTA pP pP 01 40 31.4 -3.0
GTA PcP **PcP 01 43 06.9 +1.4**
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,85nm,7.2s
GTA LR LR
comp=Z,180nm,21.5s
GTA LR LR
comp=Z,300nm,19.1s
GTA LR LR
comp=Z,360nm,21.9s
TIXI Tiksi 33.90 353 P **P 01 40 29.9 -1.3**
comp=Z,9.5nm,0.7s,baz=140,slow=6.5,SNR=27
TIXI PcP **PcP 01 43 09.6 +1.2**
comp=Z,1.2nm,0.3s,baz=63,slow=2.3,SNR=2.5
TIXI Tiksi 33.90 353 *i*P **P 01 40 30.8 -0.4**
TIXI pmax pmax
comp=Z,41nm,0.7s
TIXI Tiksi 33.90 353 P **P 01 40 30.9 -0.3**
TIXI IAmb IAmb 01 40 31.8
comp=Z,11nm,0.8s
TIXI **PcP 01 43 09.4 +1.0**
KMI Kunming 35.62 260 ⇓P **P 01 40 46.8 -0.1**
KMI pP pP 01 40 59.8 -1.4
KMI sP sP 01 41 04.1 -3.6
KMI pmax pmax
comp=Z,19nm,0.9s
KMI LR LR
comp=Z,260nm,13.4s
KMI LR LR
comp=Z,180nm,16.6s
KMI LR LR
comp=Z,250nm,16.4s
SLVN Son La 36.84 253 P **P 01 40 56.6 -0.5**
NONG Nongkai 39.40 250 P **P 01 41 20.0 +1.4**
UBPT Khong Chiam 39.53 244 P **P 01 41 18.3 -1.4**
DLV T Lat 39.82 237 P **P 01 41 21.9 -0.4**
DLV IAmb IAmb 01 41 24.2
comp=Z,20nm,1.0s
DLV PcP **PcP 01 43 25.9 -1.6**
ANM Nome 40.14 32 P **P 01 41 24.9 +0.7**
ANM pmax pmax
comp=Z,12nm,1.2s
ANM Nome 40.14 32 P **P 01 41 24.9 +0.7**
ANM IAmb IAmb 01 41 43.6
comp=Z,12nm,1.2s
WMQ Urumqi 40.58 295 P **P 01 41 29.3 +1.0**
WMQ pP pP 01 41 40.8 -1.9
WMQ sP sP 01 41 47.4 -1.8
WMQ pmax pmax
comp=Z,300nm,3.7s
WMQ LR LR
comp=Z,340nm,23.1s
WMQ LR LR
comp=Z,300nm,25.9s
WMQ Urumqi 40.58 295 P **P 01 41 27.9 -0.4**
WMQ pmax pmax
comp=Z,73nm,0.8s
WMQ Urumqi 40.58 295 P **P 01 41 27.9 -0.4**
ZAA0 Zalesovo Array 41.27 311 P **P 01 41 33.3 -0.3**
ZAA0 IAmb IAmb 01 41 34.5
comp=Z,27nm,0.8s
ZAA0 PcP **PcP 01 43 31.1 -0.3**
ZALV Zalesovo Beam 41.27 311 P **P 01 41 33.8 +0.2**
comp=Z,20nm,0.5s,baz=88,slow=7.3,SNR=88
ZALV PcP **PcP 01 43 31.8 +0.5**
comp=Z,12nm,0.7s,baz=93,slow=3.3,SNR=8.4
ZALV ScP **ScP 01 47 17.2 +0.7**
comp=Z,0.3nm,0.4s,baz=131,slow=4.4,SNR=1.5
ZALV LR LR 01 59 23.5
comp=Z,172nm,19.1s,baz=92,slow=37
ZALV Zalesovo Beam 41.27 311 P **P 01 41 33.8 +0.2**
ZALV PcP **PcP 01 43 31.8 +0.5**
ZALV **ScP 01 47 17.7 +1.3**
GTOI Gorontalo 41.49 209 P **P 01 41 35.1 -0.8**
comp=Z,312nmcomp=Z,18nm,0.9s
UTTA Uttaradit 41.52 252 P **P 01 41 37.4 +1.4**
comp=Z,20nm,0.8s
CHAI Chaiyaphum 41.63 249 P **P 01 41 37.9 +0.8**
comp=Z,416nmcomp=Z,27nm,0.8s
ZSN Zaisan 41.88 301 *e*P **P 01 41 38.6 -0.2**
comp=Z,45nm,0.8s,baz=301
ZSN Zaisan 41.88 301 *e*P **P 01 41 38.6 -0.2**
ZSN pmax pmax
comp=Z,45nm,0.8s
TOLI2 Tolitoli 41.96 213 P **P 01 41 39.9 +0.1**
CM35 Chiang Mai Arr 42.00 254 P **P 01 41 40.0 -0.1**
MRSI Marisa 42.06 211 P **P 01 41 41.6 +1.1**
comp=Z,42nm,1.2s
CM33 Chiang Mai Arr 42.07 255 P **P 01 41 41.0 +0.3**
CMMT Chiang Mai 42.07 255 P **P 01 41 40.0 -0.7**
comp=Z,13nm,0.7s
CHTO Chiang Mai 42.08 255 P **P 01 41 40.2 -0.5**
CHTO pmax pmax
comp=Z,19nm,0.7s
CHTO Chiang Mai 42.08 255 P **P 01 41 40.2 -0.5**
CHTO IAmb IAmb 01 41 50.9
comp=Z,19nm,0.7s
CM36 Chiang Mai Arr 42.14 254 P P 01 41 47.0 +5.8
CM32 Chiang Mai Arr 42.25 255 P P 01 41 52.0 +10
CM09 Chiang Mai Arr 42.26 254 P P 01 41 52.0 +10
CM31 Chiang Mai Arr 42.29 254 P P 01 41 52.9 +10
CMAR Chiang Mai Arr 42.29 254 P **P 01 41 42.4 -0.1**
comp=Z,1.9nm,0.6s,baz=44,slow=7.3,SNR=10
CMAR PcP **PcP 01 43 36.9 +1.5**
comp=Z,1.9nm,0.3s,baz=14,slow=2.3,SNR=7.1
CMAR Chiang Mai Arr 42.29 254 P **P 01 41 42.1 -0.4**
CMAR **PcP 01 43 35.5 +0.2**
CM04 Chiang Mai Arr 42.30 254 P **P 01 41 44.8 +2.3**
comp=Z,105nmcomp=Z,14nm,0.7s
CM01 Chiang Mai Arr 42.30 254 P P 01 41 52.3 +10
CM02 Chiang Mai Arr 42.30 254 P **P 01 41 44.0 +1.5**
comp=Z,100nmcomp=Z,12nm,0.8s
CM15 Chiang Mai Arr 42.31 254 P P 01 41 52.6 +10
CM05 Chiang Mai Arr 42.32 254 P **P 01 41 44.6 +1.9**
comp=Z,88nmcomp=Z,10nm,0.7s
CM13 Chiang Mai Arr 42.34 254 P **P 01 41 46.6 +3.8**
comp=Z,124nmcomp=Z,11nm,0.8s
SUKH Sukhothai 42.37 252 P **P 01 41 44.1 +1.1**
comp=Z,21nm,0.9s
LSA Lhasa 42.52 274 P **P 01 41 45.4 +0.6**
LSA pmax pmax
comp=Z,50nm,0.8s
LSA Lhasa 42.52 274 P **P 01 41 44.2 -0.6**
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 42.52 274 P **P 01 41 44.2 -0.6**
LSA IAmb IAmb 01 41 47.9
comp=Z,13nm,0.6s
SRAK Srakaew 42.83 246 P **P 01 41 44.1 -2.7**
comp=Z,146nm,0.8s
SANI Sanana 42.95 204 P **P 01 41 47.9 +0.2**
comp=Z,24nm,0.7s
UTHA Uthaitani 43.72 250 P **P 01 41 54.0 +0.1**
comp=Z,19nm,0.8s
MK31 Makanchi Array 43.72 301 P **P 01 41 53.9 +0.2**
MK31 pmax pmax
comp=Z,28nm,0.9s
MK31 Makanchi Array 43.72 301 P **P 01 41 53.9 +0.2**
MK31 IAmb IAmb 01 41 54.8
comp=Z,28nm,0.9s
MKAR Makanchi Array 43.72 301 P **P 01 41 53.7 0.0**
comp=Z,28nm,0.8s,baz=83,slow=9.9,SNR=171
MKAR PcP **PcP 01 43 39.9 +0.1**
comp=Z,3.1nm,0.8s,baz=86,slow=4.5,SNR=2.2
MKAR ScP **ScP 01 47 26.1 -0.4**
comp=Z,0.6nm,1.0s,baz=56,slow=3.6,SNR=1.7
MKAR LR LR 02 00 38.8
comp=Z,82nm,21.5s,baz=62,slow=37
MKAR Makanchi Array 43.72 301 P **P 01 41 53.9 +0.1**
MKAR **ScP 01 47 26.4 -0.1**
UMPA Umpang Tak 43.74 252 P **P 01 41 56.0 +1.8**
comp=Z,4µmcomp=Z,37nm,0.9s
SHL Shillong 43.87 268 P **P 01 41 55.0 -0.3**
SHL pmax pmax
comp=Z,31nm,1.0s
SHL Shillong 43.87 268 P **P 01 41 55.0 -0.3**
SHL IAmb IAmb 01 41 59.9
comp=Z,31nm,1.0s
MAKZ Makanchi 43.93 301 P **P 01 41 55.4 0.0**
MAKZ pmax pmax
comp=Z,27nm,0.9s
MAKZ Makanchi 43.93 301 P **P 01 41 55.4 0.0**
MAKZ IAmb IAmb 01 41 56.6
comp=Z,27nm,0.8s
SVW2 Sparrevohn 44.11 38 P **P 01 41 57.1 +0.5**
A21K Barrow 44.95 24 P **P 01 42 04.1 +0.9**
A21K IAmb IAmb 01 42 18.6
comp=Z,23nm,1.1s
SBUM Sibu 45.00 224 P **P 01 42 05.0 +0.8**
IMAR Indian Mountai 45.19 31 P **P 01 42 06.3 +1.2**
PHET Kaeng Krachan 45.30 247 P **P 01 42 07.8 +1.2**
comp=Z,499nmcomp=Z,56nm,0.8s
KURK Kurchatov 45.38 307 P **P 01 42 07.4 +0.5**
KURK 01 43 45.7
KURBB Kurchatov Arra 45.46 307 P **P 01 42 07.4 -0.1**
comp=Z,88nm,0.7s,baz=82,slow=8.0,SNR=478
KURBB PcP **PcP 01 43 45.7 +0.1**
comp=Z,2.2nm,0.7s,baz=82,slow=4.8,SNR=4.4
TAPN Taplejung 46.28 273 *e*P **P 01 42 14.9 +0.3**
comp=Z,30nm,0.6s
MTKI Muara Teweh, K 46.48 219 P P 01 42 23.9 +8.1
PDGK Podgornoye 46.49 297 *i*P **P 01 42 14.9 -0.9**
PDGK pmax pmax
comp=Z,17nm,0.8s
SHLS Shalkode 46.55 297 ⇓*i*P **P 01 42 13.4 -3.0**
comp=Z,7.9nm,0.5s,baz=296
SHLS Shalkode 46.55 297 ⇓*i*P **P 01 42 13.4 -3.0**
SHLS pmax pmax
comp=Z,8.0nm,0.5s
COLD Coldfoot 46.68 30 P **P 01 42 17.7 +0.9**
ODAN Odare 46.76 272 *e*P **P 01 42 18.9 +0.6**
comp=Z,94nm,1.0s
TDK Taldyqorghan 46.78 299 *e*P **P 01 42 17.8 -0.2**
baz=299
TDK Taldyqorghan 46.78 299 *e*P **P 01 42 17.8 -0.2**
UZB Uzynbulak 46.87 297 ⇓*i*P **P 01 42 18.2 -0.7**
comp=Z,12nm,1.1s,baz=297
UZB Uzynbulak 46.87 297 ⇓*i*P **P 01 42 18.1 -0.7**
UZB pmax pmax
comp=Z,12nm,1.1s
KSM Kuching 46.87 226 P **P 01 42 21.0 +2.1**
SPSI Sidrap Palu 46.97 211 P **P 01 42 19.2 -0.4**
comp=Z,13nm,0.8s
TOLK Toolik Lake Re 46.98 28 P **P 01 42 20.2 +0.9**
KPKS Kokpek 47.01 297 ⇓*i*P **P 01 42 19.4 -0.5**
comp=Z,9.0nm,0.8s,baz=297
KPKS Kokpek 47.01 297 ⇓*i*P **P 01 42 19.3 -0.5**
KPKS pmax pmax
comp=Z,9.0nm,0.8s
PMR Palmer 47.21 37 P **P 01 42 21.8 +0.8**
PMR pmax pmax
comp=Z,8.0nm,0.9s
PMR Palmer 47.21 37 P **P 01 42 21.8 +0.8**
PMR IAmb IAmb 01 42 24.2
comp=Z,8.3nm,0.9s
BNSI Bone 47.23 210 P **P 01 42 22.9 +1.2**
comp=Z,16nm,0.7s
RND Reindeer 47.24 35 P **P 01 42 22.2 +0.9**
RND pmax pmax
comp=Z,9.0nm,1.0s
RND Reindeer 47.24 35 P **P 01 42 22.2 +0.9**
RND IAmb IAmb 01 42 24.3
comp=Z,9.5nm,1.0s
SATY Saty 47.32 297 ⇓*i*P **P 01 42 22.0 -0.3**
comp=Z,4.7nm,0.7s,baz=297
SATY Saty 47.32 297 ⇓*i*P **P 01 42 22.0 -0.3**
SATY pmax pmax
comp=Z,5.0nm,0.7s
RAMN Ramite 47.34 273 *e*P **P 01 42 23.0 +0.2**
comp=Z,189nm,0.8s
ARXS Arharly 47.39 298 *e*P **P 01 42 22.7 -0.1**
GUN Gumba 47.45 275 *e*P **P 01 42 24.0 +0.2**
comp=Z,156nm,0.8s
MDM Murphy Dome 47.46 33 P **P 01 42 24.2 +1.2**
WRH Wood River Hil 47.53 33 P **P 01 42 25.2 +1.6**
WRH **PcP 01 43 53.8 +1.1**
CCB Clear Creek Bu 47.65 33 P **P 01 42 24.9 +0.5**
POKR Poker Plat Res 47.79 33 P **P 01 42 26.4 +0.9**
POKR IAmb IAmb 01 42 29.1
comp=Z,16nm,1.1s
KAPI Kappang 47.93 210 P **P 01 42 27.2 +0.1**
KAPI pmax pmax
comp=Z,17nm,0.9s
KAPI Kappang 47.93 210 P **P 01 42 27.2 +0.1**
KAPI IAmb IAmb 01 42 34.4
comp=Z,17nm,0.8s
KKN Kakani 47.98 275 *e*P **P 01 42 27.9 +0.2**
comp=Z,126nm,0.8s
PKI Pulchoki 47.98 274 *e*P **P 01 42 27.7 -0.2**
comp=Z,60nm,0.8s
PKIN Phulchoki 47.98 274 *e*P **P 01 42 27.5 -0.3**
comp=Z,42nm,0.6s
IL31 48.04 33 P **P 01 42 28.5 +1.1**
IL31 IAmb IAmb 01 42 47.0
comp=Z,6.5nm,0.8s
ILAR Eielson Array 48.04 33 P **P 01 42 28.7 +1.3**
comp=Z,4.8nm,0.7s,baz=265,slow=6.1,SNR=54
ILAR PcP **PcP 01 43 54.7 +0.2**
comp=Z,1.9nm,0.8s,baz=271,slow=4.0,SNR=1.1
ILAR Eielson Array 48.04 33 P **P 01 42 28.4 +0.9**
BKSI Bulukumba 48.07 210 P **P 01 42 29.4 +1.3**
comp=Z,16nm,0.8s
DMN Daman 48.20 275 *e*P **P 01 42 28.8 -0.7**
MDOK Medeo 48.24 297 *e*P **P 01 42 29.1 -0.4**
baz=297
MDOK Medeo 48.24 297 *e*P **P 01 42 29.1 -0.4**
AAA Alma-Ata 48.32 297 *e*P **P 01 42 30.2 +0.1**
baz=297
AAA Alma-Ata 48.32 297 *e*P **P 01 42 30.1 +0.1**
TNSS Tian-Shan 48.35 297 *e*P **P 01 42 30.4 -0.2**
baz=297
TNSS Tian-Shan 48.35 297 *e*P **P 01 42 30.4 -0.2**
GKN Gorkha 48.38 275 *e*P **P 01 42 30.5 -0.3**
comp=Z,165nm,1.0s
KUU Kurty 48.51 298 *e*P **P 01 42 30.4 -1.0**
comp=Z,13nm,0.6s,baz=298
KUU Kurty 48.51 298 *e*P **P 01 42 30.4 -1.0**
KUU pmax pmax
comp=Z,13nm,0.6s
PRP Porcupine Dome 48.58 32 P **P 01 42 32.5 +0.8**
PRP IAmb IAmb 01 42 49.2
comp=Z,5.4nm,0.7s
BBKI Banjar Baru 48.69 217 P **P 01 42 34.0 +1.0**
KRAB Krabi 48.82 243 P **P 01 42 35.5 +1.5**
comp=Z,17µmcomp=Z,720nm,0.7s
BMAR Burnt Mountain 48.85 29 P **P 01 42 34.6 +0.9**
ULHL Ulahol 49.09 296 P **P 01 42 33.2 -2.9**
SNR=6.3
BRZS Berezniki 49.26 307 ⇓*i*P **P 01 42 36.3 -0.7**
comp=Z,12nm,0.6s,baz=307
BRZS Berezniki 49.26 307 ⇓*i*P **P 01 42 36.3 -0.7**
BRZS pmax pmax
comp=Z,12nm,0.6s
TKM2 Tokmak 2 49.33 297 P **P 01 42 38.6 +0.7**
SNR=38
TKM2 Tokmak 2 49.33 297 *i*P **P 01 42 37.2 -0.7**
TKM2 pmax pmax
comp=Z,30nm,0.8s
SCRK Sand Creek 49.36 34 P **P 01 42 38.7 +0.9**
SCRK IAmb IAmb 01 42 54.0
comp=Z,8.6nm,1.0s
PKDT Phuket 49.66 244 P **P 01 42 40.9 +0.5**
BTLS Baital 49.73 301 *e*P **P 01 42 39.6 -1.1**
comp=Z,8.8nm,1.2s,baz=300
BTLS Baital 49.73 301 *e*P **P 01 42 39.6 -1.1**
BTLS pmax pmax
comp=Z,9.0nm,1.2s
JRMM Jerantut 49.75 236 P **P 01 42 42.0 +0.9**
SGDS Sogindy 49.83 298 ⇓*i*P **P 01 42 41.0 -0.5**
baz=298
SGDS Sogindy 49.83 298 ⇓*i*P **P 01 42 41.0 -0.5**
KBK Karagaybulak 49.87 297 P **P 01 42 42.4 +0.5**
SNR=41
CHMS Chumysh 49.89 298 P **P 01 42 42.0 +0.1**
SNR=5.0
BVAR Borovoye Array 49.92 312 P **P 01 42 41.2 -0.8**
comp=Z,8.5nm,0.7s,baz=65,slow=8.5,SNR=78
BVAR PcP **PcP 01 44 01.8 +0.3**
comp=Z,8.1nm,0.7s,baz=122,slow=5.4,SNR=8.0
KULM Kulim 49.92 239 P **P 01 42 42.2 -0.3**
BRVK Borovoye 49.98 312 P **P 01 42 42.8 +0.4**
BRVK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 49.98 312 P **P 01 42 42.8 +0.4**
BRVK IAmb IAmb 01 42 43.5
comp=Z,21nm,1.0s
USP Ospenovka 49.98 298 P **P 01 42 42.8 +0.1**
SNR=12
AAK Ala-Archa 50.19 297 P **P 01 42 43.9 -0.5**
comp=Z,4.9nm,0.5s,baz=117,slow=4.1,SNR=23
AAK Ala-Archa 50.19 297 P **P 01 42 44.4 0.0**
SNR=11
AAK Ala-Archa 50.19 297 P **P 01 42 44.1 -0.3**
AAK pmax pmax
comp=Z,10.0nm,1.1s
AAK Ala-Archa 50.19 297 P **P 01 42 44.1 -0.3**
AAK IAmb IAmb 01 42 45.4
comp=Z,9.9nm,1.1s
K27K Chicken 50.19 34 P **P 01 42 44.4 +0.5**
KSH Kashi 50.22 293 P **P 01 42 48.9 +4.3**
KSH pmax pmax
comp=Z,27nm,0.8s
KSH pmax pmax
comp=Z,210nm,4.1s
IPM Ipoh 50.27 238 P **P 01 42 44.4 -0.7**
IPM Ipoh 50.27 238 P **P 01 42 46.0 +0.9**
UCH Uchtor 50.31 297 P **P 01 42 46.5 +0.8**
SNR=8.3
BCAR Beaver Creek A 50.46 35 P **P 01 42 47.0 +1.0**
HNR Honiara 50.54 157 LR LR 02 02 46.1
comp=Z,112nm,20.5s,baz=319,slow=34
EKS2 Erkin-Say 50.68 298 P **P 01 42 48.2 +0.1**
SNR=16
AML Almayashu 50.92 297 P **P 01 42 50.6 +0.5**
SNR=35
TPI Tanjungpandan 51.83 226 P **P 01 42 57.7 +0.9**
comp=Z,733nmcomp=Z,20nm,0.9s
EPYK Eagle Plains 52.05 30 P **P 01 42 58.4 +0.6**
DZA Taraz 52.29 299 *e*P **P 01 42 59.8 -0.2**
comp=Z,13nm,0.7s,baz=299
DZA Taraz 52.29 299 *e*P **P 01 42 59.7 -0.2**
DZA pmax pmax
comp=Z,13nm,0.7s
TWSI Taliwang, Sumb 52.47 212 P **P 01 43 01.0 -0.5**
comp=Z,14nm,0.9s
KK31 Karatay Array 52.78 299 P **P 01 43 02.8 -0.7**
KK31 pmax pmax
comp=Z,21nm,0.9s
KK31 Karatay Array 52.78 299 P **P 01 43 02.8 -0.7**
KKAR Karatay Array 52.78 299 P **P 01 43 03.0 -0.5**
KKAR pmax pmax
comp=Z,21nm,0.9s
KKAR Karatay Array 52.78 299 P **P 01 43 03.3 -0.3**
KKAR Karatay Array 52.78 299 P **P 01 43 03.0 -0.5**
KKAR IAmb IAmb 01 43 04.4
comp=Z,21nm,0.8s
INK Inuvik 52.90 28 P **P 01 43 05.8 +1.9**
comp=Z,5.8nm,0.5s,baz=296,slow=3.6
INK Inuvik 52.90 28 P **P 01 43 05.0 +1.0**
INK pmax pmax
comp=Z,7.0nm,0.6s
INK Inuvik 52.90 28 P **P 01 43 05.0 +1.0**
INK IAmb IAmb 01 43 22.3
comp=Z,7.2nm,0.6s
PSI Prapat 52.91 239 P **P 01 43 05.5 +0.6**
comp=Z,17nm,0.7s,baz=0.0,slow=7.5,SNR=16
PSI Prapat 52.91 239 P **P 01 43 04.4 -0.5**
PSI pmax pmax
comp=Z,20nm,0.7s
RPSI Rantau Prapat 52.99 239 P **P 01 43 04.4 -0.9**
IUG Iuzhnay 53.45 298 *e*P **P 01 43 08.0 -0.6**
comp=Z,8.8nm,1.0s,baz=298
IUG Iuzhnay 53.45 298 *e*P **P 01 43 08.0 -0.6**
IUG pmax pmax
comp=Z,9.0nm,1.0s
SVE Sverdlovsk 54.35 318 *de*P **P 01 43 15.4 +0.6**
SVE pmax pmax
comp=Z,59nm,0.9s
NIL Nilore 54.58 288 P **P 01 43 16.3 -0.5**
NIL pmax pmax
comp=Z,47nm,0.7s
NIL Nilore 54.58 288 P **P 01 43 16.3 -0.5**
UGM Wanagama 54.65 219 P **P 01 43 16.6 -0.8**
GSI Gunungsitoli 54.92 239 P **P 01 43 18.5 -0.9**
GSI Gunungsitoli 54.92 239 P **P 01 43 20.3 +0.9**
comp=Z,82nm,1.1s
KLSI 55.08 227 P **P 01 43 20.7 +0.2**
ARU Arti 55.56 318 *c*P **P 01 43 23.6 0.0**
ARU *PP **pP 01 43 38.3 -0.3**
ARU 01 44 23.1
ARU 01 45 25.2
ARU S **S 01 51 04.3 -0.4**
ARU SS **SS 01 54 42.1 -7.6**
ARU pmax pmax
comp=Z,60nm,1.1s
ARU MLR MLR
comp=Z,216nm,18.0s
ARU Arti 55.56 318 P **P 01 43 23.6 0.0**
C36M Paulatuk 55.93 25 P **P 01 43 26.8 +0.8**
C36M IAmb IAmb 01 43 28.2
comp=Z,8.1nm,0.6s
KBL Kabul 57.30 290 P **P 01 43 35.8 -0.8**
KBL pmax pmax
comp=Z,26nm,1.1s
KBL Kabul 57.30 290 P **P 01 43 35.8 -0.8**
AB31 Akbulak array 57.34 310 *e*P **P 01 43 36.1 -0.2**
AB31 pmax pmax
comp=Z,20nm,0.7s
ABKAR Akbulak array 57.34 310 P **P 01 43 36.0 -0.3**
ABKAR Akbulak array 57.34 310 P **P 01 43 36.2 -0.1**
FUNA Funafuti 58.22 135 P **P 01 43 44.3 +1.5**
FITZ Fitzroy Crossi 58.33 198 P **P 01 43 44.0 +0.5**
WB0 Warramunga Arr 58.38 188 P **P 01 43 43.8 0.0**
WR0 Warramunga Arr 58.55 188 P **P 01 43 45.3 +0.3**
WR0 IAmb IAmb 01 43 46.3
comp=Z,12nm,0.8s
WB2 Warramunga Arr 58.56 188 P **P 01 43 45.1 +0.1**
WB2 IAmb IAmb 01 43 46.4
comp=Z,13nm,0.8s
WRA Warramunga Arr 58.56 188 P **P 01 43 45.4 +0.3**
comp=Z,15nm,0.8s,baz=6.4,slow=7.1,SNR=133
WRA LR LR 02 06 08.3
comp=Z,33nm,21.9s,baz=10.0,slow=33
WRA Warramunga Arr 58.56 188 P **P 01 43 45.3 +0.3**
HYB Hyderabad 58.68 268 *i*P **P 01 43 46.0 -0.1**
HYB *e*PcP **PcP 01 44 35.0 -0.6**
EUNU Eureka 58.69 9 P **P 01 43 46.2 +0.9**
KIRV Kirov 59.35 323 *i*P **P 01 43 50.3 +0.2**
PRGR Permogore 59.78 327 *e*P **P 01 43 50.8 -2.3**
PRGR *e* 01 46 03.3
PRGR pmax pmax
comp=Z,22nm,1.0s
LVZ Lovozero 60.96 336 *e*P **P 01 44 00.9 -0.2**
LVZ pmax pmax
comp=Z,20nm,1.0s
RES Resolute Bay 61.09 15 P **P 01 44 02.7 +0.9**
RES pmax pmax
comp=Z,11nm,0.9s

RES Resolute Bay 61.09 15 P **P** **01 44 02.7 +0.9**
RES IAmb IAmb 01 44 03.5
comp=Z,11nm,0.9s
AS31 Alice Springs 62.28 188 P **P** **01 44 10.8 +0.4**
ASAR Alice Springs 62.29 188 P **P** **01 44 11.2 +0.7**
comp=Z,5.7nm,0.7s,baz=11,slow=6.1,SNR=50
ASAR LR LR 02 10 35.0
comp=Z,41nm,21.3s,baz=15,slow=35
ASAR Alice Springs 62.29 188 P **P** **01 44 10.7 +0.3**
HRA Herat 62.33 293 P **P** **01 44 10.7 -0.4**
HRA IAmb IAmb 01 44 12.6
comp=Z,14nm,0.8s
YKA Yellowknife Ar 62.34 31 P **P** **01 44 11.6 +1.2**
comp=Z,4.4nm,0.7s,baz=303,slow=5.6,SNR=9.8
KLMR Klimovskoe 62.76 327 *eP* **P** **01 44 11.4 -1.8**
KLMR *e* 01 46 28.9
KLMR pmax pmax
comp=Z,16nm,0.9s
KLMR Klimovskoe 62.76 327 *eP* **P** **01 44 11.4 -1.8**
KLMR AMP 01 44 13.8
comp=Z,16nm,0.9s
KLMR *e*PP **PP** **01 46 29.0 -2.3**
ARCES ARCESS Array B 62.79 339 P **P** **01 44 13.9 +0.6**
comp=Z,3.3nm,0.6s,baz=46,slow=6.9,SNR=12
ARCES LR LR 02 16 36.6
comp=Z,57nm,18.9s,baz=35,slow=41
BELG Belogornoye 63.03 317 *i* P **P** **01 44 14.9 -0.2**
BELG pmax pmax
comp=Z,7.0nm,0.9s
PALK Pallekele 63.10 257 P **P** **01 44 16.4 +0.2**
comp=Z,7.5nm,0.7s,baz=146,slow=6.0,SNR=8.6
PALK Pallekele 63.10 257 P **P**
PALK pmax pmax **01 44 15.8 -0.4**
comp=Z,8.0nm,0.8s
PALK Pallekele 63.10 257 P **P** **01 44 15.8 -0.4**
PALK IAmb IAmb 01 44 17.5
comp=Z,8.0nm,0.8s
GEYT Alibeck 63.51 299 P **P** **01 44 18.6 0.0**
comp=Z,7.2nm,0.7s,baz=37,slow=3.7,SNR=13
GEYT LR LR 02 13 57.0
comp=Z,83nm,18.9s,baz=5.0,slow=38
GEYT Alibeck 63.51 299 P **P** **01 44 18.3 -0.3**
GEYT IAmb IAmb 01 44 19.7
comp=Z,6.9nm,0.8s
GYA0B ALIBECK ARRAY 63.51 299 P **P** **01 44 18.3 -0.3**
GYA0B IAmb IAmb 01 44 24.8
comp=Z,8.4nm,0.8s
TULEG Thule 63.60 8 P **P** **01 44 19.2 +0.6**
DAG Danmarks Havn 64.36 355 *i* P **P** **01 44 23.8 +0.3**
comp=Z,11nm,0.7s
DAG Danmarks Havn 64.36 355 *i* P **P** **01 44 23.8 +0.3**
DAG Danmarks Havn 64.36 355 *i* P **P** **01 44 23.8 +0.3**
DAG IAmb IAmb 01 44 24.2
comp=Z,11nm,0.7s
DZM Mont Dzumac 64.48 155 *eP* P 01 44 35.3 +10
comp=Z,59nm,1.3s
DZM Mont Dzumac 64.48 155 *e*LR LR 02 03 48.2
comp=Z,214nm,25.2s
MSVF Nonsavu 65.37 142 P **P** **01 44 29.6 -1.3**
MSVF Nonsavu 65.37 142 P **P** **01 44 29.6 -1.3**
MSVF Nonsavu 65.37 142 P **P** **01 44 29.9 -1.0**
NLWA Neilton Lookou 65.42 48 P **P** **01 44 31.3 +0.4**
NLWA IAmb IAmb 01 44 35.6
comp=Z,15nm,0.9s
MOS Moscow 66.34 323 *eP* **P** **01 44 35.7 -0.9**
MOS *e* 01 44 49.7
MOS pmax pmax
comp=Z,25nm,1.0s
KULLO Kullorsuaq 66.49 5 *i* P **P** **01 44 37.6 +0.3**
comp=Z,35nm,1.2s
KULLO Kullorsuaq 66.49 5 *i* P **P** **01 44 37.6 +0.3**
KULLO Kullorsuaq 66.49 5 *i* P **P** **01 44 37.6 +0.3**
KULLO IAmb IAmb 01 44 38.9
comp=Z,35nm,1.2s
VRH Novokhopyorsk 66.79 318 *eP* **P** **01 44 38.7 -0.9**
VRH pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 67.19 323⇑ *i*P **P** **01 44 41.3 -0.7**
OBN *i* 01 45 00.1
OBN *i* 01 45 07.6
OBN *i* 01 47 08.3
OBN pmax pmax
comp=Z,19nm,1.0s
OBN MLR MLR
comp=Z,94nm,19.0s
LPSR Galich'ya Gora 67.46 320 *eP* **P** **01 44 43.3 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
FIA1 FINESS Array S 67.73 332 P **P** **01 44 45.3 -0.1**
FINES FINESS Array B 67.73 332 P **P** **01 44 45.2 -0.1**
comp=Z,12nm,0.7s,baz=47,slow=8.4,SNR=39
FINES PP **PP** **01 47 12.3 -2.4**
comp=Z,4.5nm,0.8s,baz=46,slow=11,SNR=4.0
FINES LR LR 02 16 09.7
comp=Z,77nm,20.9s,baz=50,slow=38
FINES FINESS Array B 67.73 332 P **P** **01 44 45.3 0.0**
H04A Detroit Lake 67.84 50 P **P** **01 44 47.2 +0.8**
H04A IAmb IAmb 01 44 51.2
comp=Z,6.1nm,0.9s
VSR Storozhevoye 68.12 319 *eP* **P** **01 44 47.4 -0.6**
VSR pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 68.20 318 *eP* **P** **01 44 47.7 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.7s
C09A Chrisman Ranch 68.41 46 P **P** **01 44 50.7 +0.8**
C09A IAmb IAmb 01 44 53.0
comp=Z,8.9nm,0.8s
AKT Akhty 68.56 306 *eP* **P** **01 44 50.7 -0.4**
AKT *e* 01 45 15.3
AKT pmax pmax
comp=Z,22nm,0.6s
NEW Newport 68.79 45 P **P** **01 44 53.1 +0.8**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 68.79 45 P **P** **01 44 53.1 +0.8**
NEW IAmb IAmb 01 44 55.4
comp=Z,8.8nm,1.0s
SEKA Sheki 69.04 306 P **P** **01 44 53.8 -0.2**
PINE Pine Mountain 69.08 50 P **P** **01 44 54.8 +0.4**
PINE IAmb IAmb 01 44 58.5
comp=Z,11nm,0.9s
E09A Wood Farm, Sta 69.20 47 P **P** **01 44 55.6 +0.8**
SUMG Summit 69.23 0 *i* P **P** **01 44 56.5 +1.4**
comp=Z,74nm,0.9s
SUMG Summit 69.23 0 P **P** **01 44 55.3 +0.2**
SUMG pmax pmax
comp=Z,28nm,0.9s
SUMG Summit 69.23 0 P **P** **01 44 55.2 +0.2**
SUMG Summit 69.23 0 *i* P **P** **01 44 56.5 +1.4**
SUMG IAmb IAmb 01 44 57.3
comp=Z,74nm,0.9s
LGD Lagodekhi 69.30 307 P **P** **01 44 55.4 -0.1**
MNGR Mingechevir, A 69.35 306 P **P** **01 44 55.9 +0.1**
LKRN Lenkeran, Azer 69.39 303 P **P** **01 44 55.8 -0.3**
VSU Vasula 69.42 329 *eP* **P** **01 44 56.5 +0.6**
GOF Gofitskoye 69.45 312⇑ *i*P **P** **01 44 56.8 +0.4**
GOF pmax pmax
comp=Z,55nm,0.7s
DDFL Dedoflistskaro 69.59 307 P **P** **01 45 00.7 +3.3**
K05A Summer Lake 69.70 51 IAmb IAmb 01 45 18.0
comp=Z,19nm,1.1s
GANJ Ganja 69.91 306 P **P** **01 44 59.2 -0.1**
STKA Stephens Creek 70.01 180 P **P** **01 45 00.3 +0.6**
comp=Z,2.1nm,0.7s,baz=8.6,slow=7.5,SNR=2.9
STKA Stephens Creek 70.01 180 P **P** **01 45 00.5 +0.8**
STKA Stephens Creek 70.01 180 P **P** **01 45 00.5 +0.8**
WALA Waterton Lakes 70.08 43 IAmb IAmb 01 45 03.4
comp=Z,9.4nm,1.0s
ZEI Tsey 70.21 309 *eP* **P** **01 45 00.2 -1.2**
ZEI pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 70.28 311⇓P **P** **01 45 02.6 +1.0**
KIV Kislovodsk 70.28 311 *eP* **P** **01 45 01.9 +0.3**
KIV pmax pmax
comp=Z,185nm,1.1s
KIV MLR MLR
comp=Z,103nm,17.0s
KIV Kislovodsk 70.28 311 P **P** **01 45 01.9 +0.3**
KBZ Khabaz 70.28 310 P **P** **01 45 02.0 +0.5**
comp=Z,21nm,0.9s,baz=62,slow=5.5,SNR=68
KBZ LR LR 02 20 54.3
comp=Z,56nm,19.1s,baz=47,slow=40
KBZ Khabaz 70.28 310 P **P** **01 45 02.0 +0.5**
MTSE Matsula 70.39 331 *eP* **P** **01 45 02.6 +0.8**

JTMT Jette 70.65 44 IAmb IAmb 01 45 07.2
comp=Z,8.8nm,0.8s
SCO Scoresbysund 70.71 354 *i* P **P** **01 45 04.5 +0.9**
comp=Z,11nm,0.9s
SCO Scoresbysund 70.71 354 *i* P **P** **01 45 04.5 +0.9**
SCO Scoresbysund 70.71 354 *i* P **P** **01 45 04.5 +0.9**
SCO IAmb IAmb 01 45 05.6
comp=Z,11nm,0.9s
AAL Aland 70.78 333 *eP* **P** **01 45 04.5 +0.3**
GNI Garni 71.18 307 LR LR 02 19 34.3
comp=Z,73nm,20.5s,baz=76,slow=39
GNI Garni 71.18 307 P **P** **01 45 06.9 -0.4**
GNI pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 71.18 307 P **P** **01 45 06.9 -0.4**
GNI IAmb IAmb 01 45 13.6
comp=Z,10nm,0.9s
AKH Akhalkalaki 71.24 308⇑P **P** **01 45 08.7 +1.1**
AKH Akhalkalaki 71.24 308 P **P** **01 45 08.7 +1.1**
NAX Nakhchivan 71.26 305 P **P** **01 45 07.8 +0.2**
CHVG Ch'k'valeri 71.35 316⇓P **P** **01 45 08.9 +0.9**
IDID Didzisalis 71.49 327 *eP* **P** **01 45 09.4 +0.8**
MNK Minsk 71.53 326 *i* P **P** **01 45 09.2 +0.4**
comp=E,1.0nm,0.9s
MNK *i* P **P** **01 45 09.2 +0.4**
comp=N,8.0nm,0.9s
MNK *i* P **P** **01 45 09.2 +0.4**
comp=Z,28nm,0.9s
MNK *i* pP **pP** **01 45 25.7 +1.3**
MNK *i* PcP **PcP** **01 45 27.8 -0.2**
MNK *i* sP **sP** **01 45 35.6 +4.9**
MNK *i* PP **PP** **01 47 48.8 +1.2**
MNK *i* PPP PPP 01 49 32.6
MNK *i* S **S** **01 54 23.6 +0.3**
MNK *i* sS **sS** **01 54 53.4 +3.7**
MNK *i* ScS **ScS** **01 55 09.1 +0.2**
MNK *i* SS SS 01 58 29.1 -29
MNK *i* SSS SSS 02 01 50.4
MNK *i* LQ LQ 02 11 51.6
MNK *i* LR LR 02 14 15.4
MNK *i* LRM MLR 02 18 42.0
comp=N,109nm,19.0s
MNK *i* LRM MLR 02 18 48.0
comp=E,8.0nm,19.0s
MNK *i* LRM MLR 02 18 51.2
comp=Z,67nm,19.0s
ISAL Salakas 71.58 327 *eP* **P** **01 45 10.0 +0.8**
IIGN Ignalina 71.69 327 *eP* **P** **01 45 10.8 +1.0**
SLIT Slitere, Latvi 71.73 331 *eP* **P** **01 45 10.0 0.0**
NACGM Naroch 71.75 327 *i* P **P** **01 45 10.2 +0.1**
NACGM *i* P **P** **01 45 10.2 +0.1**
NACGM *i* P **P** **01 45 10.2 +0.1**
NACGM *i* PcP **sP** **01 45 31.1 -0.8**
NACGM *i* PP **PP** **01 47 48.3 -1.1**
NACGM *i* PPP PPP 01 49 34.6
NACGM *i* S **S** **01 54 30.6 +4.9**
NACGM *i* PS PnS 01 55 35.3 +34
NACGM *i* SS SS 01 58 30.5 -31
NACGM *i* SSS SSS 02 02 19.0
NACGM *i* LR LR 02 15 08.0
KARS Kars 71.95 308 P **P** **01 45 13.1 +1.3**
SOC Sochi 72.25 312 *eP* **P** **01 45 12.4 -1.0**
SOC *e* 01 47 52.1
SOC *e*PPP PPP 01 49 35.4
SOC *e*S **S** **01 54 30.6 -1.3**
SOC *e*SSS SSS 02 02 24.2
SOC pmax pmax
comp=Z,18nm,0.7s
SOC MLR MLR
comp=Z,84nm,20.0s
FFC Flin Flon 72.25 33 P **P** **01 45 14.5 +1.3**
FFC pmax pmax
comp=Z,11nm,1.0s
FFC Flin Flon 72.25 33 P **P** **01 45 14.5 +1.3**
FFC IAmb IAmb 01 45 15.5
comp=Z,11nm,0.9s
FCC Fort Churchill 72.51 27 IAmb IAmb 01 45 17.2
comp=Z,9.0nm,0.8s
PABE Paberze 72.53 328 *eP* **P** **01 45 15.7 +0.9**
EGMT Eagleton 72.90 42 IAmb IAmb 01 45 20.2
comp=Z,17nm,0.9s
PBUR Paburge 73.00 329 *eP* **P** **01 45 16.5 -1.0**
NOA NORSAR Array B 73.01 337 P **P** **01 45 17.7 +0.1**
comp=Z,15nm,0.7s,baz=39,slow=6.0,SNR=73
NOA PP **PP** **01 47 59.7 -0.4**
comp=Z,1.2nm,0.8s,baz=57,slow=6.4,SNR=4.0
NOA LR LR 02 19 57.5
comp=Z,123nm,21.5s,baz=40,slow=38
DLMT Dillon 73.01 45 IAmb IAmb 01 45 21.9
comp=Z,9.9nm,1.1s
NB2 NORSAR Subarra 73.01 337 P P 01 45 17.8 -6.3
comp=Z,21nm,0.8s,baz=38,slow=6.2
NC602 NORSAR Array S 73.15 337 IAmb IAmb 01 45 20.2
comp=Z,25nm,1.1s
AKASG Malin Array Be 73.41 322 P **P** **01 45 19.9 -0.2**
comp=Z,18nm,0.7s,baz=47,slow=6.0,SNR=67
AKASG LR LR 02 20 28.9
comp=Z,125nm,18.1s,baz=70,slow=38
AKASG Malin Array Be 73.41 322 P **P** **01 45 20.1 0.0**
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKASG Malin Array Be 73.41 322 P **P** **01 45 20.1 0.0**
AKBB Malin Array Si 73.41 322 IAmb IAmb 01 45 21.0
comp=Z,23nm,0.8s
LHV Little Huntoon 73.76 54 IAmb IAmb 01 45 40.9
comp=Z,8.6nm,1.1s
NVAR Mina Array Bea 73.78 54 P **P** **01 45 25.2 +2.4**
comp=Z,2.9nm,0.8s,baz=283,slow=6.1,SNR=16
NVAR Mina Array Bea 73.78 54 P **P** **01 45 23.0 +0.2**
SUW Suwalki 73.89 327 *eP* **P** **01 45 23.3 +0.4**
SUW Suwalki 73.89 327 P **P** **01 45 22.8 -0.1**
SUW pmax pmax
comp=Z,27nm,1.1s
SUW Suwalki 73.89 327 P **P** **01 45 22.8 -0.1**
SUW IAmb IAmb 01 45 24.0
comp=Z,27nm,1.1s
YHL Hebgen Lake 74.11 45 P **P** **01 45 24.6 -0.2**
YHL PcP 01 45 27.6 -12
ELK Elko 74.29 50 P **P** **01 45 26.3 +0.5**
ELK 01 45 39.0
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 74.29 50 P **P** **01 45 26.3 +0.5**
ELK **PcP** **01 45 39.0 -1.4**
SFJD Kangerlussuaq 74.40 5 P **P** **01 45 26.4 +0.8**
SFJD pmax pmax
comp=Z,16nm,0.9s
SFJD Kangerlussuaq 74.40 5 P **P** **01 45 26.4 +0.8**
SFJD IAmb IAmb 01 45 27.4
comp=Z,16nm,0.9s
LKWY Lake 74.73 45 IAmb IAmb 01 45 33.3
comp=Z,11nm,1.1s
H17A Grant Village 74.74 45 IAmb IAmb 01 45 33.9
comp=Z,12nm,1.0s
HVU Hansel Valley 75.12 48 P **P** **01 45 32.0 +1.5**
HVU pmax pmax
comp=Z,5.0nm,0.8s
HVU Hansel Valley 75.12 48 P **P** **01 45 31.9 +1.5**
LOHW Long Hollow 75.22 46 IAmb IAmb 01 45 49.9
comp=Z,3.3nm,0.8s
MARD Mardin 75.35 306 IAmb IAmb 01 45 33.5
comp=Z,16nm,0.7s
DGMT Dagmar 75.44 39 IAmb IAmb 01 45 34.6
comp=Z,12nm,0.9s
SORM Soroca 75.54 321⇓P **P** **01 45 32.7 +0.2**
LAO LASA Array 75.60 41 IAmb IAmb 01 45 36.8
comp=Z,17nm,0.9s
SPUT South Promonto 75.60 49 IAmb IAmb 01 45 43.7
comp=Z,8.3nm,1.0s
HWUT Hardware Ranch 75.93 48 IAmb IAmb 01 45 43.1
comp=Z,13nm,1.1s
TPNV Topopah Spring 75.97 54 P **P** **01 45 36.2 +0.8**
TPNV pmax pmax
comp=Z,9.0nm,1.1s
TPNV Topopah Spring 75.97 54 P **P** **01 45 36.2 +0.8**
MALT Malatya 76.22 308 P **P** **01 45 38.2 +1.5**
PDAR Pinedale Array 76.34 46 P **P** **01 45 39.1 +1.6**
comp=Z,3.8nm,0.6s,baz=280,slow=1.3,SNR=38
PDAR Pinedale Array 76.34 46 P **P** **01 45 38.1 +0.6**
LVV L'vov 76.46 324 *eP* **P** **01 45 38.1 +0.4**
COP Copenhagen 76.82 333 *i* P **P** **01 45 40.5 +0.9**
comp=Z,34nm,0.7s
COP Copenhagen 76.82 333 *i* P **P** **01 45 40.5 +0.9**
COP Copenhagen 76.82 333 *i* P **P** **01 45 40.6 +0.9**

COP IAmb IAmb 01 45 41.0
comp=Z,34nm,0.7s
GOET G??ttrup 76.83 336 *i* P **P** **01 45 40.6 +1.0**
comp=Z,48nm,0.8s
GOET G??ttrup 76.83 336 *i* P **P** **01 45 40.7 +1.0**
GOET IAmb IAmb 01 45 41.6
comp=Z,48nm,0.8s
GKP Gorka Klasztor 76.87 330 *eP* **P** **01 45 40.8 +0.9**
KWP Kalwaria Pacla 77.20 324 *eP* **P** **01 45 43.0 +1.0**
MUD Monsted U'grnd 77.31 335 *i* P **P** **01 45 43.3 +0.9**
comp=Z,14nm,0.9s
MUD Monsted U'grnd 77.31 335 *i* P **P** **01 45 43.3 +0.9**
MUD Monsted U'grnd 77.31 335 *i* P **P** **01 45 43.3 +0.9**
MUD IAmb IAmb 01 45 44.0
comp=Z,14nm,0.9s
BUR08 Bucovina Ar. S 77.42 322 IAmb IAmb 01 45 45.0
comp=Z,10nm,0.9s
BURAR Bucovina Array 77.44 322⇑P **P** **01 45 44.1 +0.6**
BURAR Bucovina Array 77.44 322 P **P** **01 45 43.3 -0.1**
BIZ Bicaz 77.47 321⇑P **P** **01 45 44.5 +1.0**
TESR Tescani 77.49 320⇓P **P** **01 45 44.3 +0.7**
JURR Jurilovca 77.53 318⇑P **P** **01 45 44.7 +0.8**
CFR Carcaliu 77.64 319⇑P **P** **01 45 44.8 +0.4**
GAZ Gaziantep 77.68 308 IAmb IAmb 01 45 47.1
comp=Z,19nm,0.9s
TPGR Topolog 77.71 318⇑P **P** **01 45 45.5 +0.6**
ODBI Odobesti 77.80 319⇑P **P** **01 45 46.5 +1.2**
KOLS Kolonicke sedl 77.90 324 *eP* **P** **01 45 46.2 +0.4**
KOLS pmax pmax
comp=Z,8.0nm,1.1s
KOLS Kolonicke sedl 77.90 324 *eP* **P** **01 45 46.2 +0.4**
VRI Vrincioaia 77.90 320⇓P **P** **01 45 47.1 +1.1**
VRI Vrincioaia 77.90 320 P **P** **01 45 47.0 +1.1**
PLOR Plostina 77.95 320⇑P **P** **01 45 46.9 +0.7**
ULM Lac du Bonnet 78.06 34 P **P** **01 45 47.3 +0.7**
comp=Z,5.4nm,0.9s,baz=315,slow=5.7,SNR=8.8
OJC Ojcow 78.07 326 *eP* **P** **01 45 47.6 +0.9**
HARR Harsova 78.08 318⇓P **P** **01 45 48.3 +1.4**
UZH Uzhgorod 78.10 324 *eP* **P** **01 45 48.6 +1.7**
UZH *e* 01 45 52.3
UZH *e* 01 46 02.7
SRU San Rafael Swe 78.14 49 IAmb IAmb 01 45 50.7
comp=Z,8.5nm,0.7s
BRTR Keskin Array B 78.21 312 P **P** **01 45 47.9 0.0**
comp=Z,2.8nm,0.6s,baz=62,slow=5.7,SNR=15
BRTR PP **PP** **01 48 43.4 -1.2**
comp=Z,1.2nm,0.7s,baz=64,slow=6.6,SNR=4.1
BRTR Keskin Array B 78.21 312 P **P** **01 45 47.5 -0.4**
BRTR **PP** **01 48 42.7 -2.0**
OZUR 78.21 320⇑P **P** **01 45 49.2 +1.5**
BMR Baia Mare 78.22 323⇓P **P** **01 45 49.0 +1.4**
ARCR ARCALIA 78.23 322⇑P **P** **01 45 49.1 +1.5**
CRVS Cervenica-Dubn 78.29 325 *eP* **P** **01 45 48.9 +0.9**
CRVS pmax pmax
comp=Z,13nm,1.0s
CRVS Cervenica-Dubn 78.29 325 *eP* **P** **01 45 48.9 +0.9**
NIE Niedzica 78.44 325 *eP* **P** **01 45 50.2 +1.4**
DOPR Dopca 78.50 320⇓P **P** **01 45 50.5 +1.2**
ICOR Ion Corvin 78.54 318⇓P **P** **01 45 50.3 +0.9**
MLR Muntele Rosu 78.55 320⇑P **P** **01 45 50.3 +0.6**
MLR Muntele Rosu 78.55 320 P **P** **01 45 50.1 +0.4**
MLR pmax pmax
comp=Z,5.0nm,0.9s
MLR Muntele Rosu 78.55 320 P **P** **01 45 50.1 +0.4**
BR231 Keskin MP Arra 78.64 312 IAmb IAmb 01 45 51.9
comp=Z,15nm,0.8s
RUE Ruedersdorf 78.83 331 *eP* **P** **01 45 52.1 +1.2**
comp=Z,35nm,1.2s,baz=36,slow=5.3
CJR Cluj-Napoca 78.86 322⇑P **P** **01 45 52.3 +1.1**
BSEG Bad Segeberg 78.96 333 *eP* **P** **01 45 52.8 +1.3**
comp=Z,29nm,1.0s,baz=36,slow=5.3
SULR 78.96 319⇓P **P** **01 45 52.8 +1.1**
LANS Liptovska Anna 79.00 326 *eP* **P** **01 45 53.5 +1.5**
LANS pmax pmax
comp=Z,8.0nm,1.2s
LANS Liptovska Anna 79.00 326 *eP* **P** **01 45 53.5 +1.5**
KECS Kecovo 79.04 325 *eP* **P** **01 45 53.2 +1.1**
KECS pmax pmax
comp=Z,5.0nm,1.2s
KECS Kecovo 79.04 325 *eP* **P** **01 45 53.2 +1.1**
VOIR 79.04 320⇓P **P** **01 45 53.4 +1.1**
VOIR 79.04 320 P **P** **01 45 53.3 +1.1**
KSP Ksiaz 79.09 328 *eP* **P** **01 45 53.2 +0.9**
DRGR 79.23 322⇑P **P** **01 45 54.2 +0.9**
DRGR 79.23 322 P **P** **01 45 54.2 +0.9**
DRGR pmax pmax
comp=Z,6.0nm,1.8s
ARR Arges 79.30 320⇑P **P** **01 45 55.3 +1.6**
OSTC Ostas 79.34 328 *eP* **P** **01 45 54.7 +0.9**
MORC Moravsky Berou 79.37 327⇑P **P** **01 45 55.0 +1.0**
MORC Moravsky Berou 79.37 327 *eP* **P** **01 45 54.9 +0.9**
MORC Moravsky Berou 79.37 327 IAmb IAmb 01 45 55.9
comp=Z,15nm,0.9s
CHVC Chvalec 79.38 328 *eP* **P** **01 45 54.9 +0.9**
DPC Dobruska-Polom 79.45 328 *eP* **P** **01 45 55.6 +1.2**
DPC Dobruska-Polom 79.45 328 *eP* **P** **01 45 55.6 +1.2**
KRLC Kraliky 79.47 328 *eP* **P** **01 45 55.3 +0.8**
KRLC Kraliky 79.47 328 *eP* **P** **01 45 55.3 +0.8**
PV14 Lion Creek, Pa 79.51 49 IAmb IAmb 01 45 58.5
comp=Z,10nm,0.9s
HUMR Humele 79.71 320⇑P **P** **01 45 56.6 +0.7**
PSZ Piszkesteto 79.72 325⇑P **P** **01 45 56.8 +0.8**
PSZ Piszkesteto 79.72 325 IAmb IAmb 01 45 57.6
comp=Z,9.5nm,0.9s
VYHS Vyhne 79.77 326 *eP* **P** **01 45 57.3 +1.1**
VYHS pmax pmax
comp=Z,12nm,1.1s
VYHS Vyhne 79.77 326 *eP* **P** **01 45 57.2 +1.1**
DEV Deva 79.78 322⇓P **P** **01 45 57.7 +1.5**
FLTG Flechtingen 79.91 332 *eP* **P** **01 45 57.4 +0.6**
comp=Z,25nm,0.9s,baz=36,slow=5.3
JAVC Velka Javorina 80.01 326 *eP* **P** **01 45 59.4 +1.9**
BRG Berggiesshubel 80.02 330 *i* P **P** **01 45 58.0 +0.6**
BRG Amp 01 45 59.8
comp=Z,16nm,1.2s
BRG *ex* x 01 46 07.2
BRG Amp 01 46 10.0
comp=Z,3.8nm,1.0s
BRG Berggiesshubel 80.02 330 *eP* **P** **01 45 58.4 +1.0**
comp=Z,16nm,1.2s,baz=36,slow=5.3
CLL Collm 80.05 330⇑ *i*P **P** **01 45 57.9 +0.4**
comp=Z,23nm,0.9s
CLL LmV 02 24 00.0
comp=Z,100nm,19.0s
CLL Collm 80.05 330⇑ *i*P **P** **01 45 57.9 +0.4**
CLL pmax pmax
comp=Z,23nm,0.9s
CLL Collm 80.05 330 IAmb IAmb 01 45 58.9
comp=Z,19nm,0.8s
CLL Collm 80.05 330 *eP* **P** **01 45 58.2 +0.7**
comp=Z,23nm,0.9s,baz=36,slow=5.3
VRAC Vranov 80.13 327⇓P **P** **01 45 59.5 +1.4**
VRAC Vranov 80.13 327 *eP* **P** **01 45 59.0 +0.9**
NRDL Niedersach Rie 80.19 332 *eP* **P** **01 45 59.3 +1.1**
comp=Z,11nm,0.8s,baz=36,slow=5.3
GZR Gura Zlata 80.20 321⇑P **P** **01 45 59.3 +0.7**
FBE Freiberg 80.21 330 *eP* **P** **01 45 59.7 +1.3**
comp=Z,38nm,1.4s,baz=36,slow=5.3
ASSE Asse, Remlinge 80.28 332 *eP* **P** **01 45 59.7 +1.0**
comp=Z,8.5nm,1.0s,baz=36,slow=5.3
DRUM Mains of Drumt 80.32 341 *eP* **P** **01 45 59.6 +0.7**
DRUM IAmb IAmb 01 46 00.5
comp=Z,14nm,0.8s
SMOL Smolenice 80.38 326 *eP* **P** **01 46 00.8 +1.4**
SMOL pmax pmax
comp=Z,8.0nm,0.9s
SMOL Smolenice 80.38 326 *eP* **P** **01 46 00.8 +1.4**
VLAD Vladila 80.38 320⇑P **P** **01 45 59.9 +0.4**
KRUC Moravsky 80.41 327 *eP* **P** **01 46 00.4 +0.9**
GOPC GO Pecny, Ondr 80.42 329 *eP* **P** **01 46 00.6 +1.0**
GOPC GO Pecny, Ondr 80.42 329 *eP* **P** **01 46 00.6 +1.0**
PRU Pruhonice 80.47 329 *eP* **P** **01 46 00.9 +1.1**
PRU Pruhonice 80.47 329 *eP* **P** **01 46 00.9 +1.1**
KAC Achnashellach 80.48 343 *eP* **P** **01 46 00.8 +1.1**
RAYN Ar Rayn 80.50 292 P **P** **01 46 00.1 -0.5**
RAYN pmax pmax
comp=Z,15nm,1.1s
RAYN Ar Rayn 80.50 292 P **P** **01 46 00.1 -0.5**
RAYN IAmb IAmb 01 46 01.7
comp=Z,16nm,1.1s
MODS Modra-Piesok 80.55 326 *eP* **P** **01 46 01.8 +1.5**
MODS pmax pmax
comp=Z,20nm,1.3s
MODS Modra-Piesok 80.55 326 *eP* **P** **01 46 01.8 +1.5**

NEUB	Neuenburg	80.60	331	*e*P	P	01 46 01.4	+0.9
	comp=Z,26nm,1.0s,baz=36,slow=5.3						
BZS	Buzias	80.60	322	⇑P	P	01 46 01.0	+0.4
CLZ	Clausthal	80.62	332	*e*P	P	01 46 01.9	+1.3
	comp=Z,28nm,1.1s,baz=36,slow=5.3						
PLVB	Pleven	80.70	319	⇑P	P	01 46 02.0	+0.8
KPL	Plockton	80.71	343	*e*P	P	01 46 02.1	+1.1
KPL				IAmb	IAmb	01 46 03.0	
	comp=Z,46nm,0.8s						
HERR	Herculane	80.75	321	⇓P	P	01 46 01.9	+0.5
ZST	Bratislava	80.76	326	*e*P	P	01 46 03.0	+1.6
ZST				pmax	pmax		
	comp=Z,13nm,0.7s						
ZST	Bratislava	80.76	326	*e*P	P	01 46 03.0	+1.6
BAIL	Bailesti	80.90	320	⇑P	P	01 46 03.5	+1.3
PBCC	Pribram	80.92	329	*e*P	P	01 46 03.2	+0.9
SOCY	Socotra	80.95	278	P	P	01 46 01.3	-1.8
SOCY				IAmb	IAmb	01 46 02.3	
	comp=Z,27nm,1.0s						
TANN	Tannenbergstha	80.96	330	*e*P	P	01 46 03.5	+1.0
	comp=Z,14nm,1.5s,baz=36,slow=5.3						
WERD	Werda	81.00	330	*e*P	P	01 46 03.6	+0.9
	comp=Z,6.8nm,1.3s,baz=36,slow=5.3						
BANR	Banloc	81.00	322	⇓P	P	01 46 04.0	+1.3
GTTG	Gottingen	81.01	332	*e*P	P	01 46 03.9	+1.2
	comp=Z,29nm,1.1s,baz=36,slow=5.3						
PLN	Plauen	81.03	330	*e*P	P	01 46 03.8	+1.0
	comp=Z,6.8nm,1.1s,baz=36,slow=5.3						
GUNZ	Gunzen	81.06	330	*e*P	P	01 46 04.1	+1.1
	comp=Z,9.0nm,0.9s,baz=36,slow=5.3						
WERN	Wernitzgruen	81.10	330	*e*P	P	01 46 04.4	+1.2
	comp=Z,14nm,1.1s,baz=36,slow=5.3						
MOX	Moxa	81.11	331	*e*P	P	01 46 04.2	+0.9
	comp=Z,21nm,1.4s,baz=36,slow=5.3						
MOX				*e*L	L	02 38 10.8	
	comp=Z,117nm,21.0s						
F33A	5 Mile Ranch,	81.11	37	IAmb	IAmb	01 46 05.5	
	comp=Z,14nm,1.1s						
INVG	Invergeldie, C	81.15	342	*e*P	P	01 46 03.9	+0.6
MDVR	Moldovita	81.16	321	⇓P	P	01 46 03.9	+0.2
IBBN	Ibbenburen	81.18	334	*e*P	P	01 46 04.5	+0.9
	comp=Z,28nm,0.7s,baz=36,slow=5.3						
ESY	Stoneypath	81.24	341	*e*P	P	01 46 04.5	+0.7
EAB	Aberfoyle	81.44	342	*e*P	P	01 46 05.8	+1.0
MANZ	Manzenberg	81.44	330	*e*P	P	01 46 06.1	+1.0
	comp=Z,9.2nm,0.8s,baz=36,slow=5.3						
CKRC	Cesky Krumlov	81.47	328	*e*P	P	01 46 05.7	+0.5
CKRC				*e*P	P	01 46 05.7	+0.5
CONA	Conrad Observa	81.50	327	*i* P	P	01 46 06.8	+1.3
	comp=Z,12nm,0.9s,SNR=9.7						
KHC	Kasperske Hory	81.53	329	*e*P	P	01 46 06.2	+0.7
KHC	Kasperske Hory	81.53	329	*e*P	P	01 46 06.2	+0.7
KHC	Kasperske Hory	81.53	329	IAmb	IAmb	01 46 07.5	
	comp=Z,12nm,0.8s						
MORH	Mrgy, Hungar	81.56	324	⇑P	P	01 46 06.0	+0.3
MORH	Mrgy, Hungar	81.56	324	*e*P	P	01 46 05.5	-0.2
ROTZ	Rotzenmuhle	81.58	330	*e*P	P	01 46 07.0	+1.3
	comp=Z,22nm,1.6s,baz=36,slow=5.3						
UBBA	Unterbreizbach	81.58	332	*e*P	P	01 46 06.5	+0.9
	comp=Z,19nm,1.8s,baz=36,slow=5.3						
GEC2	GERESS Array S	81.70	328	IAmb	IAmb	01 46 07.9	
	comp=Z,12nm,1.1s						
GEC2	GERESS Array S	81.70	328	*e*P	P	01 46 07.3	+0.8
	comp=Z,13nm,1.2s,baz=36,slow=5.3						
GERES	GERESS Array B	81.70	328	P	P	01 46 06.7	+0.2
	comp=Z,6.5nm,0.8s,baz=41,slow=5.8,SNR=42						
GERES				PP	PP	01 49 09.7	-3.5
	comp=Z,1.3nm,1.0s,baz=50,slow=9.1,SNR=3.3						
GERES	GERESS Array B	81.70	328	P	P	01 46 06.5	0.0
WET	Wettzell	81.80	329	*e*P	P	01 46 08.2	+1.2
	comp=Z,17nm,1.2s,baz=36,slow=5.3						
FRGS	Fruska Gora	81.80	323	⇓P	P	01 46 08.0	+0.9
FRGS	Fruska Gora	81.80	323	⇑*i*P	P	01 46 07.4	+0.4
KASTN	Kahler Asten	81.85	333	*e*P	P	01 46 08.1	+0.9
	comp=Z,15nm,1.2s,baz=36,slow=5.3						
ESK	Eskdalemuir	81.93	341	*e*P	P	01 46 08.3	+0.9
VTS	Vitosha	81.96	319	⇑P	P	01 46 09.4	+1.3
VTS	Vitosha	81.96	319	IAmb	IAmb	01 46 10.1	
	comp=Z,16nm,0.8s						
BOVS	Bovan	82.00	321	⇓P	P	01 46 08.0	0.0
GRF	Grafenberg Arr	82.02	330	*e*P	P	01 46 09.6	+1.5
	comp=Z,23nm,0.8s,baz=36,slow=5.3						
GRF				*e*L	L	02 39 40.5	
	comp=Z,98nm,19.3s						
GRFO	Grafenberg	82.03	330	P	P	01 46 08.2	+0.1
GRFO				pmax	pmax		
	comp=Z,22nm,0.9s						
GRFO	Grafenberg	82.03	330	P	P	01 46 08.2	+0.1
BUG	Bochum--Univer	82.07	333	*e*P	P	01 46 09.0	+0.8
	comp=Z,11nm,0.9s,baz=36,slow=5.3						
ARSA	Arzberg	82.17	326	*e*P	P	01 46 09.8	+0.9
	comp=Z,9.3nm,1.0s						
MOA	Molln	82.24	327	*i* P	P	01 46 10.1	+0.8
	comp=Z,10nm,1.1s,SNR=5.5						
NEWG	New Galloway	82.37	341	*e*P	P	01 46 11.2	+1.5
DIVS	Divibare	82.50	322	⇑*i*P	P	01 46 11.0	+0.2
DIVS	Divibare	82.50	322	IAmb	IAmb	01 46 12.2	
	comp=Z,6.9nm,0.9s						
KALN	Kalnik	82.62	325	*i* P	P	01 46 11.3	0.0
TNS	Taunus Mts	82.65	332	*e*P	P	01 46 12.3	+0.9
	comp=Z,9.0nm,0.9s,baz=36,slow=5.3						
MILB	Miltenberg	82.65	331	*e*P	P	01 46 12.2	+0.9
	comp=Z,13nm,1.0s,baz=36,slow=5.3						
E38A	The Farm, Brul	82.69	34	IAmb	IAmb	01 46 13.3	
	comp=Z,12nm,0.9s						
HPK	Haverah Park	82.71	339	*e*P	P	01 46 12.7	+1.1
GAL1	Galloway	82.72	341	*e*P	P	01 46 12.2	+0.6
GAL1				IAmb	IAmb	01 46 13.7	
	comp=Z,21nm,0.8s						
GROS	Grobnik	82.79	326	*i* P	P	01 46 12.4	+0.2
PERS	Pernice	82.82	326	*i* P	P	01 46 12.9	+0.5
SOKA	Soboth	82.83	326	*i* P	P	01 46 13.1	+0.7
	comp=Z,32nm,1.2s,SNR=23						
CLGH	Cloghs, Cushen	82.87	342	*e*P	P	01 46 13.4	+1.1
CLGH				IAmb	IAmb	01 46 14.6	
	comp=Z,13nm,0.8s						
AHRW	Bad Neuenahr-A	82.88	333	*e*P	P	01 46 13.5	+1.0
	comp=Z,18nm,0.9s,baz=36,slow=5.3						
RJOB	Jochberg	82.95	328	*e*P	P	01 46 14.3	+1.3
	comp=Z,114nm,1.0s,baz=36,slow=5.3						
BBLS	Lazići	82.96	322	⇑*i*P	P	01 46 13.7	+0.6
HAPS	Han Pijesak,BI	83.01	322	⇑*i*P	P	01 46 13.4	-0.1
BEBN	Eben Emael	83.16	334	*d*P	P	01 46 14.3	+0.3
OBKA	Obir	83.17	326	*e*P	P	01 46 14.5	+0.3
	comp=Z,5.8nm,0.8s						
BTNL	Ternell	83.18	333	*d*P	P	01 46 14.0	-0.1
MEM	Membach	83.20	334	*d*P	P	01 46 14.9	+0.7
	comp=Z,13nm,1.0s						
FUR	Furstenfeldbru	83.22	329	*e*P	P	01 46 15.8	+1.4
	comp=Z,48nm,1.0s,baz=36,slow=5.3						
LBWR	Ladybower, Pea	83.23	339	*e*P	P	01 46 15.5	+1.2
KBA	Koelnbreinsper	83.24	327	*i* P	P	01 46 15.2	+0.5
	comp=Z,15nm,0.9s,SNR=9.5						
CRES	Cresnjev	83.30	326	⇑*i*P	P	01 46 14.8	0.0
BLY	Banja Luka	83.34	324	*e*P	P	01 46 07.1	-7.9
BSTI	Sart Tilman	83.38	334	*d*P	P	01 46 15.4	+0.4
BHOU	Houvegnez	83.42	333	*d*P	P	01 46 15.9	+0.6
MYKA	Terra Mystica	83.46	327	*i* P	P	01 46 15.7	0.0
	comp=Z,6.5nm,0.6s,SNR=6.5						
LJU	Ljubljana	83.54	326	⇑*i*P	P	01 46 15.9	-0.1
STU	Stuttgart	83.55	331	*e*P	P	01 46 17.0	+1.0
	comp=Z,22nm,0.9s,baz=36,slow=5.3						
BCLA	Clavier	83.61	334	*d*P	P	01 46 16.6	+0.3
MGRS	Mrkonjic Grad	83.64	324	⇑*i*P	P	01 46 17.4	+0.8
UPM	Unac-Piva	83.69	322	⇑*i*P	P	01 46 16.9	-0.2
CWF	Charnwood Fore	83.70	339	*e*P	P	01 46 16.3	-0.3
BGES	Gesves	83.71	334	*d*P	P	01 46 17.3	+0.5
WATA	Walderalm	83.77	329	*i* P	P	01 46 17.8	+0.5
	comp=Z,7.3nm,0.8s,SNR=5.3						
WTTA	Wattenberg	83.80	329	*e*P	P	01 46 18.1	+0.6
	comp=Z,9.9nm,0.9s						
ZOU	Zoufplan	83.81	327	IAmb	IAmb	01 46 17.4	
	comp=Z,7.6nm,0.9s						
CEY	Cerknica	83.82	326	⇑*i*P	P	01 46 16.7	-0.8
ABTA	Abfaltersbach	83.85	328	*i* P	P	01 46 17.7	0.0
	comp=Z,13nm,1.2s,SNR=5.8						
RCHB	Rochefort	83.86	334	*d*PcP	PcP	01 46 19.9	-1.6
JAVS	Javornik	83.86	326	*i* P	P	01 46 17.2	-0.6
SNF	Seneffe	83.88	334	*d*P	P	01 46 17.1	-0.5
BMRD	Maredsous	83.89	334	*d*P	P	01 46 18.0	+0.3
	comp=Z,14nm,1.1s						
BMRD				*d*sP	sP	01 46 37.4	-2.4
WLF	Walferdange	83.94	333	*e*P	P	01 46 19.0	+1.0
	comp=Z,78nm,2.5s,baz=36,slow=5.3						
MOTA	Moosalm	83.95	329	*i* P	P	01 46 18.8	+0.5
	comp=Z,24nm,1.2s,SNR=8.8						
319A	Douglas	83.96	55	IAmb	IAmb	01 46 22.3	
	comp=Z,6.8nm,0.8s						
RETA	Reutte	83.98	329	*i* P	P	01 46 19.0	+0.7
	comp=Z,24nm,1.0s,SNR=13						
SQTA	Sankt Quirin	84.01	329	*i* P	P	01 46 19.1	+0.6
	comp=Z,8.1nm,0.7s,SNR=6.1						
WLF1	Llynfaes	84.06	340	*e*P	P	01 46 19.2	+0.8
UBR	Ueberruh	84.08	330	*e*P	P	01 46 19.5	+0.7
	comp=Z,40nm,2.1s,baz=36,slow=5.3						
FOEL	Foel Wylfa	84.10	340	*e*P	P	01 46 18.9	+0.2
FOEL				IAmb	IAmb	01 46 19.6	
	comp=Z,31nm,0.7s						
DOU	Dourbes	84.12	334	*d*P	P	01 46 19.4	+0.5
UDBI	Udbina	84.16	325	*i* P	P	01 46 18.8	-0.5
BFO	Black Forest	84.24	331	P	P	01 46 19.6	0.0
BFO				pmax	pmax		
	comp=Z,22nm,0.9s						
BFO	Black Forest	84.24	331	P	P	01 46 19.6	0.0
BFO	Black Forest	84.24	331	*e*P	P	01 46 20.5	+0.9
	comp=Z,27nm,0.9s,baz=36,slow=5.3						
FNA	Florina	84.25	319	IAmb	IAmb	01 46 20.8	
	comp=Z,10nm,1.0s						
KIJV	Kijevo	84.27	324	*i* P	P	01 46 19.2	-0.6
DRME	Dracevica, Mon	84.32	321	⇑*i*P	P	01 46 20.5	+0.4
RICI	Ricice	84.32	323	P	P	01 46 19.4	-0.7
G40A	Rib Lake	84.33	34	IAmb	IAmb	01 46 22.0	
	comp=Z,7.5nm,0.9s						
FETA	Feichten	84.36	329	*i* P	P	01 46 20.9	+0.5
	comp=Z,15nm,1.0s,SNR=9.4						
HCY	Herceg Novi	84.46	322	⇑*i*P	P	01 46 20.3	-0.5
DAVA	Damuels	84.49	329	*i* P	P	01 46 21.5	+0.5
	comp=Z,32nm,0.9s,SNR=14						
MAKA	Makarska	84.53	323	*i* P	P	01 46 20.6	-0.5
MORI	Morici	84.70	324	*i* P	P	01 46 21.2	-0.7
DUGI	Dugi Otok	84.90	325	*i* P	P	01 46 22.5	-0.4
PPT2	Papeete2	84.92	117	*e*LR	LR	02 13 14.0	
	comp=Z,185nm,24.5s						
PPT2	Papeete2	84.92	117	*e*T	T	03 20 21.0	
	comp=Z,11nm,0.3s						
PAE	Paea	84.97	117	*e*T	T	03 20 23.6	
	comp=Z,2.3nm,0.2s						
TAOE	Nuku Hiva Isla	86.11	104	*e*T	T	03 21 48.0	
	comp=Z,25nm,0.2s						
MEH	Mehetia	86.17	116	*e*T	T	03 21 54.0	
	comp=Z,114nm,0.2s						
SENIN	Lac Senin/Sane	86.26	330	IAmb	IAmb	01 46 31.1	
	comp=Z,9.2nm,0.8s						
MURB	Monte Urbino	86.61	326	IAmb	IAmb	01 46 33.7	
	comp=Z,12nm,0.9s						
NRCA	Norcia	86.69	325	IAmb	IAmb	01 46 34.1	
	comp=Z,8.6nm,0.9s						
AQU	L'Aquila	86.93	325	⇑*i*P	P	01 46 33.3	+0.2
AQU	L'Aquila	86.93	325	IAmb	IAmb	01 46 40.6	
	comp=Z,11nm,1.0s						
OSSC	Osservatorio P	86.96	326	IAmb	IAmb	01 46 34.3	
	comp=Z,4.2nm,0.7s						
INTR	Introdacqua	86.97	324	IAmb	IAmb	01 46 34.7	
	comp=Z,8.8nm,0.7s						
SSF	Saint Saulge	87.09	333	*e*P	P	01 46 34.6	+0.9
SSF				pmax	pmax		
	comp=Z,15nm,0.9s						
P38A	Dawn	87.12	40	IAmb	IAmb	01 46 36.3	
	comp=Z,7.8nm,0.7s						
MFF	Saint Martin d	88.74	335	*e*P	P	01 46 42.0	+0.4
MFF				pmax	pmax		
	comp=Z,20nm,1.0s						
TX31	Lajitas Ar. Si	88.90	53	IAmb	IAmb	01 46 45.5	
	comp=Z,7.7nm,0.8s						
TX32	Lajitas Array	88.90	53	IAmb	IAmb	01 46 45.5	
	comp=Z,2.6nm,0.8s						
TXAR	Lajitas Array	88.90	53	P	P	01 46 44.3	+1.5
	comp=Z,2.6nm,0.7s,baz=293,slow=3.3,SNR=19						
TXAR	Lajitas Array	88.90	53	P	P	01 46 43.3	+0.5
TBI	Tubuai	88.91	121	*e*T	T	03 25 20.3	
	comp=Z,89nm,0.3s						
CAF	Calviac	89.44	333	*e*P	P	01 46 45.5	+0.6
CAF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CCM	Cathedral Cave	89.46	39	P	P	01 46 45.7	+0.6
CCM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CCM	Cathedral Cave	89.46	39	P	P	01 46 45.7	+0.6
CCM				IAmb	IAmb	01 46 47.4	
	comp=Z,6.3nm,0.8s						
KEST	Kesra	94.12	323	P	P	01 47 06.9	0.0
	comp=Z,2.5nm,0.8s,baz=303,slow=4.8,SNR=4.3						
KEST				LR	LR	02 34 45.4	
	comp=Z,370nm,20.0s,baz=199,slow=39						
KEST	Kesra	94.12	323	IAmb	IAmb	01 47 15.8	
	comp=Z,7.6nm,1.1s						
ESDC	Sonseca Array	96.17	334	P	P	01 47 15.6	-0.5
	comp=Z,1.2nm,0.8s,baz=3.2,slow=4.2,SNR=7.9						
KMBO	Kilima Mbogo	102.19	278	P	Pdif	01 47 42.8	-0.9
	comp=Z,0.3nm,0.3s,baz=34,slow=7.9,SNR=3.5						
TORD	Torodi Ar. Bea	116.60	316	PKP	PKPdf	01 52 32.4	0.0
	comp=Z,0.8nm,0.9s,baz=20,slow=2.5,SNR=4.5						
TORD	Torodi Ar. Bea	116.60	316		PKPdf	01 52 31.3	-1.1
DBIC	Dimbokro	125.51	318	PKP	PKPdf	01 52 49.5	-0.1
	comp=Z,4.1nm,1.0s,baz=95,slow=3.5,SNR=4.2						
BOSA	Boshof	127.25	261	PKP	PKPdf	01 52 52.4	-0.2
	comp=Z,6.6nm,1.3s,baz=244,slow=3.3,SNR=4.2						
BOSA	Boshof	127.25	261		PKPdf	01 52 52.2	-0.4
NNA	Nana	136.58	63	PKP	PKiKP	01 53 12.4	+0.1
	comp=Z,4.9nm,0.5s,baz=295,slow=9.4,SNR=2.0						
NNA	Nana	136.58	63		PKPdf	01 53 10.8	+0.3
SNAA	Sanae	142.26	197	PKPdf	PKPdf	01 53 14.7	-4.5
VNA2	Neumayer--Watz	143.83	197	PKPdf	PKPdf	01 53 20.9	-0.9
	baz=137,slow=2.6						
VNA3	Neumayer Olymp	144.08	195	PKPdf	PKPbc	01 53 20.8	+0.3
VNA1	Neumayer--Stat	144.23	196	PKPdf	PKPbc	01 53 21.6	+0.7
LPAZ	La Paz	145.58	58	PKPbc	PKPab	01 53 28.6	+0.7
	comp=Z,11nm,0.8s,baz=345,slow=4.6,SNR=35						
LVC	Limon Verde	149.25	68	PKPbc	PKiKP	01 53 38.6	+0.2
	comp=Z,4.0nm,0.7s,baz=340,slow=1.6,SNR=2.8						
SIV	San Ignacio	149.81	48	PKP	PKPdf	01 53 33.9	+0.4
	comp=Z,1.3nm,0.8s,baz=297,slow=6.8						
SIV				PKPbc	PKiKP	01 53 39.9	+0.6
	baz=332,slow=2.6						

JMA 19 01:34:05.2, 40.03N×140.54E, h8km±2km, M0.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKZ	Kuzumaki	0.61	94	P	Pg	01 34 17.1	+0.1

JMA 19 01:43:06.2±0.2, 24.82N×122.38E, h0km
TAP 19 01:43:07.1, 24.85N×122.34E, h20km, ML2.5, D
ISC 19 01:43:06.6±1.1, 24.84N±0.03×122.37E±0.03, h12km±9km, n30, σ0.39/58, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	Santiao Chiao	0.39	296	*e*P	Pg	01 43 14.7	+0.4
	baz=297						
TWB1				*e*S	Sg	01 43 20.0	+0.5
	baz=297						
TIPB	Shuangxi	0.51	285	P	Pb	01 43 17.3	-0.2
	baz=285						
TIPB				S	Sb	01 43 24.9	0.0
	baz=285						
TWC	Suao	0.53	244	*e*P	Pb	01 43 17.2	-0.6
	baz=241						
TWC				*e*S	Sb	01 43 25.5	+0.2
	baz=241						
NWF	Wu-fen Shan	0.58	293	*e*P	Pb	01 43 18.5	-0.3
	baz=294						
NWF				*e*S	Sb	01 43 26.9	-0.1
	baz=294						
WFSB	Wu-fen Shan	0.58	293	*e*P	Pb	01 43 18.5	-0.2
	baz=293						
WFSB				*e*S	Sb	01 43 27.0	+0.1
	baz=293						
TNOU	National Taiwa	0.62	300	*e*P	Pg	01 43 18.7	0.0
	baz=300						
TNOU				*e*S	Sb	01 43 27.5	-0.6
	baz=300						
NDS	Dongshan	0.63	251	*e*P	Pb	01 43 19.2	-0.3
	baz=249						
NDS				*e*S	Sb	01 43 27.9	-0.4
	baz=249						
TWE	Neicheng	0.65	260	*e*P	Pb	01 43 19.6	-0.3
	baz=257						
TWE				*e*S	Sb	01 43 28.8	-0.1
	baz=257						
EWUT	Wuta	0.67	234	*e*P	Pb	01 43 20.8	+0.7
	baz=231						
EWUT				*e*S	Sb	01 43 29.9	+0.5
	baz=231						
YOJ	Yonaguni jima	0.69	123	P	Pg	01 43 19.4	-0.7
YOJ				S	Sg	01 43 29.3	+0.1
ENA	Nanau	0.70	235	*e*P	Pb	01 43 20.5	-0.3
	baz=231						
ENA				*e*S	Sb	01 43 30.9	+0.5
	baz=231						
ENTT	Nioudou	0.76	255	*e*P	Pb	01 43 21.5	-0.2
	baz=253						
ENTT				*e*S	Sb	01 43 32.6	+0.6
	baz=253						
NWLT	Wulai	0.79	266	*e*P	Pb	01 43 22.2	-0.1
	baz=264						
NWLT				*e*S	Sb	01 43 33.3	+0.3
	baz=264						
YM05	YM05	0.80	294	*e*P	Pb	01 43 22.3	-0.1
	baz=294						
NDT	Datong Townshi	0.81	253	*e*P	Pb	01 43 23.1	+0.4
	baz=252						
NDT				*e*S	Sb	01 43 33.8	+0.2
	baz=252						
TWY	Chenhua	0.82	302	*e*P	Pb	01 43 23.2	+0.3
	baz=302						
TWY				*e*S	Sb	01 43 33.6	-0.2
	baz=302						
PCYT	Pengchaiyu	0.83	341	*e*P	Pb	01 43 23.0	0.0
	baz=343						
PCYT				*e*S	Sn	01 43 35.7	-0.6
	baz=343						
YHNB	Yeheng	0.92	260	*e*P	Pb	01 43 24.6	+0.1
	baz=258						
YHNB				*e*S	Sb	01 43 37.5	+0.7
	baz=258						
NSK	Sanguang	0.94	260	*e*P	Pb	01 43 24.6	-0.2
	baz=258						
NSK				*e*S	Sg	01 43 36.8	-0.1
	baz=258						
NACB	Ninganchiao	0.97	227	*e*P	Pb	01 43 25.5	+0.2
	baz=225						
NACB				*e*S	Sb	01 43 37.8	-0.3
	baz=225						
NNSB	Datong	0.99	246	*e*P	Pb	01 43 25.9	+0.1
	baz=244						
NNSB				S	Sb	01 43 38.6	-0.1
	baz=244						
NNSH	Datong	0.99	246	*e*P	Pn	01 43 26.2	-0.2
	baz=244						
NNSH				*e*S	Sb	01 43 39.3	+0.6
	baz=244						
ETLH	Xiulin Townshi	1.03	232	*e*P	Pg	01 43 25.9	-0.5
	baz=230						
ETLH				*e*S	Sb	01 43 40.3	+0.5
	baz=230						
FUSS	Fushou	1.18	240	*e*P	Pb	01 43 29.1	0.0
	baz=239						
FUSS				*e*S	Sb	01 43 44.7	+0.2
	baz=239						
WHF	Hehuan Shan	1.22	236	*e*P	Pb	01 43 29.6	-0.3
	baz=234						
WHF				*e*S	Sg	01 43 45.5	-0.7
	baz=234						
TDCB	Techi	1.25	242	*e*P	Pn	01 43 29.8	-0.2
	baz=241						
TDCB				*e*S	Sb	01 43 46.3	0.0
	baz=241						
IRIF	Iriomote-Funau	1.34	112	P	Pg	01 43 32.2	-0.1
IRIF				*e*S	Sn	01 43 49.4	+0.7
VWDT	VWDT	1.56	226	*e*P	Pn	01 43 34.5	+0.4
	baz=225						
VWDT				*e*S	Sn	01 43 54.2	0.0
	baz=225						
HGSD	Ruisui	1.60	213	*e*P	Pn	01 43 35.0	+0.4
	baz=211						
SSLB	Suanglung	1.66	231	*e*P	Pn	01 43 36.3	+0.7
	baz=230						
SSLB				*e*S	Sn	01 43 56.5	-0.4
	baz=230						

DDA 19 01:43:06.2, 37.15N×28.73E, h7km±2km, ML1.1
ISK 19 01:43:06.5, 37.12N×28.74E, h6km, ML1.8/10, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DALY	Dalyan (Mula)	0.31	193	PG	Pg	01 43 13.2	+0.6
DALY	Dalyan (Mula)	0.31	193	*i* P	Pb	01 43 13.8	-0.6
YER	Yerkesik	0.36	272	PG	Pg	01 43 14.5	+0.9
YER				SG	Sg	01 43 19.6	+1.2
TAVA	DENIZLI_Tavas	0.37	22	*i* P	Pg	01 43 12.9	-0.8
TAVA				*i* S	Sg	01 43 18.1	-0.5
TAVA				IAML		01 43 20.0	
	comp=N,45nm,0.6s						
TAVA				IAML		01 43 20.0	
	comp=E,45nm,0.1s						
CAEL	Denizli, Camel	0.46	90	*i* P	Pb	01 43 17.4	+0.2
TURN	Turunc	0.53	229	PG	Pg	01 43 16.9	+0.2
TURN	Turunc	0.53	229	*i* P	Pg	01 43 17.0	+0.4
TURN				IAML		01 43 27.0	
	comp=E,17nm,0.8s						
TURN				IAML	S	01 43 27.0	+3.5
	comp=N,14nm,0.8s						
TURN				*i* S	S	01 43 27.0	+3.5
FETY	Fethiye	0.56	150	PG	Pg	01 43 17.3	0.0
FETY				SG	Sb	01 43 26.0	-1.0
FETY	Fethiye	0.56	150	*i* P	Pg	01 43 16.9	-0.4
FETY				*i* S	Sb	01 43 26.0	-1.0
FETY				IAML		01 43

T42A	**Van Buren**	**36.22**	**14**	P	**P**	**01 58 12.0**	**-0.7**
T42A				IAmb	IAmb	01 58 20.9		
	comp=Z,7.2nm,0.8s							
PV03	**Paradox Valley**	**36.68**	**351**	P	**P**	**01 58 17.2**	**+0.3**
R40A	**Maddies Statio**	**37.15**	**12**	P	**P**	**01 58 21.0**	**+0.3**
R40A				IAmb	IAmb	01 58 29.1		
	comp=Z,9.3nm,0.8s							
MTPU	**Mount Pierson**	**37.15**	**346**	P	**P**	**01 58 20.9**	**-0.2**
LPAZ	**La Paz**	**37.80**	**120**	P	**P**	**01 58 29.2**	**+2.0**
	comp=Z,1.3nm,0.7s,baz=314,slow=8.7,SNR=4.3							
LPAZ	**La Paz**	**37.80**	**120**	P	**P**	**01 58 27.3**	**+0.1**
P40A	**Paris**	**38.39**	**12**	P	**P**	**01 58 31.4**	**+0.3**
P40A				IAmb	IAmb	01 58 39.5		
	comp=Z,9.1nm,0.8s							
NVAR	**Mina Array Bea**	**39.33**	**339**	P	**P**	**01 58 41.1**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=157,slow=8.0,SNR=3.8							
SAML	**Samuel**	**39.89**	**106**	P	**P**	**01 58 44.0**	**-0.1**
SAML				IAmb	IAmb	01 58 45.1		
	comp=Z,7.8nm,1.1s							
LVC	**Limon Verde**	**40.25**	**129**	LR	LR	02 11 43.5		
	comp=Z,71nm,18.6s,baz=202,slow=31							
BW06	**Boulder Array**	**41.20**	**351**	P	**P**	**01 58 54.5**	**-0.3**
PD31	**Pinedale Array**	**41.20**	**351**	P	**P**	**01 58 55.5**	**+0.6**
PDAR	**Pinedale Array**	**41.20**	**351**	P	**P**	**01 58 55.8**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=155,slow=7.8,SNR=26							
PDAR				PcP	**PcP**	**02 00 53.8**	**-0.2**	
	comp=Z,0.1nm,0.3s,baz=156,slow=3.1,SNR=2.5							
PDAR	**Pinedale Array**	**41.20**	**351**	P	**P**	**01 58 55.0**	**+0.2**
H03N2	**Juan Fernandez**	**41.27**	**151**	T	T	02 43 17.6		
	baz=326,slow=78,SNR=12							
H03N1	**Juan Fernandez**	**41.28**	**151**	T	T	02 43 09.0		
	baz=326,slow=78,SNR=17							
H03N3	**Juan Fernandez**	**41.28**	**151**	T	T	02 43 11.4		
	baz=326,slow=78,SNR=14							
PTGA	**Pitinga**	**41.81**	**93**	P	**P**	**01 58 59.8**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=280,slow=9.3,SNR=9.3							
PTGA	**Pitinga**	**41.81**	**93**	P	**P**	**01 58 60.0**	**0.0**
PTGA				IAmb	IAmb	01 59 00.9		
	comp=Z,9.6nm,0.9s							
LOHW	**Long Hollow**	**42.20**	**350**	P	**P**	**01 59 02.5**	**-0.4**
FLWY	**Flagg Ranch**	**42.67**	**350**	P	**P**	**01 59 07.5**	**+0.7**
FLWY				IAmb	IAmb	01 59 09.2		
	comp=Z,4.8nm,0.9s							
AC05	**El Transito**	**42.97**	**138**	P	**P**	**01 59 08.9**	**-0.4**
AC05				IAmb	IAmb	01 59 13.0		
	comp=Z,7.7nm,1.1s							
PINE	**Pine Mountain**	**45.00**	**340**	P	**P**	**01 59 25.8**	**+0.2**
PINE				IAmb	IAmb	01 59 40.1		
	comp=Z,4.6nm,1.1s							
ULM	**Lac du Bonnet**	**48.34**	**5**	P	**P**	**01 59 50.8**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=174,slow=10,SNR=5.0							
PLCA	**Paso Flores**	**51.13**	**150**	LR	LR	02 16 38.5		
	comp=Z,95nm,18.3s,baz=16,slow=30							
CPUP	**Villa Florida**	**51.25**	**126**	P	**P**	**02 00 15.0**	**+1.1**
	comp=Z,3.2nm,0.8s,baz=294,slow=9.7,SNR=8.1							
CPUP	**Villa Florida**	**51.25**	**126**	P	**P**	**02 00 13.5**	**-0.3**
CPUP				IAmb	IAmb	02 00 16.3		
	comp=Z,4.3nm,0.9s							
BDFB	**Brasilia**	**55.87**	**110**	P	**P**	**02 00 48.7**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=275,slow=11,SNR=4.7							
BDFB	**Brasilia**	**55.87**	**110**	P	**P**	**02 00 47.5**	**-0.6**
BDFB				IAmb	IAmb	02 00 49.2		
	comp=Z,5.2nm,0.9s							
YKA	**Yellowknife Ar**	**61.13**	**353**	P	**P**	**02 01 24.0**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=158,slow=7.1,SNR=10							
INK	**Inuvik**	**69.65**	**348**	P	**P**	**02 02 19.6**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=133,slow=6.0,SNR=5.2							
INK	**Inuvik**	**69.65**	**348**	P	**P**	**02 02 20.0**	**+1.0**
ILAR	**Eielson Array**	**70.55**	**341**	P	**P**	**02 02 24.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=152,slow=5.1,SNR=10							
ILAR	**Eielson Array**	**70.55**	**341**	P	**P**	**02 02 24.7**	**+0.1**
RES	**Resolute Bay**	**72.73**	**2**	P	**P**	**02 02 37.0**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**90.89**	**288**	T	T	03 45 04.8		
	baz=85,slow=74,SNR=6.1							
H11S1	**WAKE ISLAND Hy**	**90.90**	**288**	T	T	03 45 05.7		
	baz=85,slow=74,SNR=5.1							
H11S3	**WAKE ISLAND Hy**	**90.91**	**288**	T	T	03 45 01.0		
	baz=85,slow=74,SNR=4.0							
ASAR	**Alice Springs**	**122.10**	**243**	PKP	**PKPdf**	**02 10 04.3**	**-1.3**	
	comp=Z,1.4nm,1.1s,baz=102,slow=1.3,SNR=4.4							
WRA	**Warramunga Arr**	**122.48**	**248**	PKP	**PKiKP**	**02 10 06.3**	**-0.2**	
	comp=Z,0.3nm,0.8s,baz=98,slow=1.5,SNR=6.4							
WRA	**Warramunga Arr**	**122.48**	**248**	PKP	**PKPdf**	**02 10 05.2**	**-1.2**	
CMAR	**Chiang Mai Arr**	**151.27**	**316**	PKPbc	**PKPbc**	**02 11 04.3**	**-0.2**	
	comp=Z,1.1nm,0.3s,baz=350,slow=1.6,SNR=6.9							

IDC ***19*** *02:02:30.0±2.2,36°.39S×74°.06W,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.6/20,mbtmp3.5/4,ML3.7/1,MS2.9/1, Ms1 2.9/1,ms1mx2.7/11,Error ellipse: s-maj=57.3km s-min=26.5km az=74.0*

GUC ***19*** *02:02:30.5±0.6,36°.23S×73°.82W,h43km±3km,ML4.2*

ISC 19 02:02:34.9±1.5,36°21S±0°.05×73°.5W±0°.2,h35km,n20, σ1s95/16,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.75**	**147**	*eP*	**Pn**	**02 02 46.8**	**-2.3**
BI03				*i* S	**Sn**	**02 02 58.3**	**-0.9**
BI03				IAML		02 03 04.6	
	comp=N,24μm,0.4s						
LAJA	**Laja**	**1.25**	**149**	*eP*	**Pn**	**02 02 53.6**	**-2.3**
LAJA				*i* S	**Sn**	**02 03 10.8**	**-0.8**
BO03	**Pichilemu**	**2.14**	**37**	*eP*	**Pn**	**02 03 06.0**	**-2.1**
BO03				IAML		02 03 49.0	
	comp=N,566nm,0.5s						
BO02	**Sierra Bellavi**	**2.65**	**59**	*eP*	**Pn**	**02 03 14.6**	**-0.7**
BO02				IAML		02 04 03.3	
	comp=E,972nm,0.5s						
VA05	**Santo Domingo**	**3.00**	**32**	*eP*	**Pn**	**02 03 17.9**	**-2.0**
VA05				IAML		02 04 23.3	
	comp=E,480nm,0.7s						
MT09	**Talagante**	**3.20**	**41**	*eP*	**Pn**	**02 03 21.9**	**-1.0**
MT09				IAML		02 04 21.9	
	comp=N,501nm,0.7s						
MT02	**Curacav**	**3.54**	**35**	*eP*	**Pn**	**02 03 25.1**	**-2.3**
MT05	**Renca**	**3.63**	**40**	*eP*	**Pn**	**02 03 27.3**	**-1.4**
MT03	**Universidad Ad**	**3.68**	**43**	*eP*	**Pn**	**02 03 28.6**	**-0.8**
PEL	**Peldehue**	**3.86**	**38**	*eP*	**Pn**	**02 03 30.2**	**-1.6**
H03S1	**Juan Fernandez**	**5.00**	**297**	T	T	02 08 41.5	
	baz=117,slow=74,SNR=633						
H03S3	**Juan Fernandez**	**5.01**	**297**	T	T	02 08 41.9	
	baz=117,slow=74,SNR=347						
H03S2	**Juan Fernandez**	**5.02**	**297**	T	T	02 08 41.4	
	baz=117,slow=74,SNR=647						
PLCA	**Paso Flores**	**5.08**	**154**	Pn	**Pn**	**02 03 48.7**	**0.0**
	comp=N,0.7nm,0.3s,baz=333,slow=13,SNR=13						
PLCA				Sn	**Sn**	**02 04 48.7**	**+2.5**	
	comp=N,1.1nm,0.3s,baz=355,slow=7.1,SNR=5.2						
PLCA				LR	LR	02 05 45.7		
	comp=N,122nm,19.8s,baz=220,slow=38						
H03N1	**Juan Fernandez**	**5.22**	**300**	T	T	02 09 06.1		
	baz=110,slow=75,SNR=10							
H03N3	**Juan Fernandez**	**5.22**	**300**	T	T	02 09 05.3		
	baz=110,slow=75,SNR=15							
H03N2	**Juan Fernandez**	**5.23**	**300**	T	T	02 09 06.3		
	baz=110,slow=75,SNR=12							
LPAZ	**La Paz**	**20.42**	**15**	P	Pn	02 07 13.2	+1.3	
	comp=N,1.2nm,0.7s,baz=176,slow=6.7,SNR=3.7							
SIV	**San Ignacio**	**22.99**	**32**	P	**P**	**02 07 40.0**	**+3.3**	
	comp=N,2.2nm,1.0s,baz=224,slow=12,SNR=6.3							
TXAR	**Lajitas Array**	**71.09**	**332**	P	**P**	**02 13 49.6**	**0.0**	
	comp=N,0.2nm,0.6s,baz=145,slow=7.3,SNR=2.5							

IDC ***19*** *02:14:56.5±0.9,36°.92N×73°.14E,h0km,mb3.7/12, mb1 3.9/18,mb1mx3.7/51,mbtmp3.8/18,ML3.4/6,MS3.0/7, Ms1 3.0/7,ms1mx2.7/38,Error ellipse: s-maj=18.1km s-min=17.2km az=159.0*

ISC 19 02:14:55.3±0.5,36°50N±0°.04×73°30E±0°.06,h10km,n47, σ2s04/47,mb3.8/14,MS3.0/3,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.91**	**203**	P	**Pg**	**02 15 49.1**	**-1.8**
CEP				S	**Sg**	**02 16 31.0**	**+2.4**
THW	**Thamme Wali**	**3.92**	**200**	P	**Pb**	**02 16 02.9**	**-1.5**
THN	**Thein Dam**	**4.53**	**153**	*ex*	**Pn**	**02 16 02.0**	**-1.8**
THN				*eS*	**Sb**	**02 17 06.5**	**-2.9**
AML	**Almayashu**	**5.63**	**3**	P	**Pn**	**02 16 19.9**	**+0.6**
	SNR=20						
BHK	**Bhakra**	**5.70**	**152**	*eP*	Pb	02 16 27.0	-7.8
BHK				*ex*	x	02 17 38.2	
UCH	**Uchtor**	**5.79**	**9**	P	**Pn**	**02 16 22.8**	**+1.1**
	SNR=108						
EKS2	**Erkin-Say**	**6.16**	**3**	P	**Pn**	**02 16 28.5**	**+2.1**
	SNR=16						
ULHL	**Ulahol**	**6.17**	**21**	P	**Pn**	**02 16 28.2**	**+1.5**
	SNR=15						
AAK	**Ala-Archa**	**6.20**	**8**	Pn	**Pn**	**02 16 28.4**	**+1.4**
	1.7nm,0.3s,baz=186,slow=9.9,SNR=24						
AAK				LR	LR	02 18 50.0	
	comp=Z,54nm,19.7s,baz=186,slow=40						
AAK	**Ala-Archa**	**6.20**	**8**	P	**Pn**	**02 16 28.1**	**+1.2**
	SNR=19						
SMLA	**Simla**	**6.25**	**148**	*eP*	**Pn**	**02 16 31.5**	**+3.9**
SMLA				*eS*	**Sn**	**02 17 39.1**	**0.0**
SMLA				IAML		02 17 50.8	
	comp=E,323nm,0.3s						
SMLA				IAML		02 17 51.1	
	comp=N,244nm,0.5s						
KBK	**Karagaybulak**	**6.28**	**11**	P	**Pn**	**02 16 30.4**	**+2.4**
	SNR=15						
TKM2	**Tokmak 2**	**6.65**	**15**	P	**Pn**	**02 16 34.4**	**+1.2**
	SNR=10.0						
NDI	**New Delhi**	**8.47**	**156**	*eP*	Pn	02 17 03.8	+5.8
NDI				*eS*	**Sn**	**02 18 33.5**	**-0.1**
KUDL	**Kundal**	**8.76**	**161**	*eP*	Pn	02 17 09.0	+7.0
KUDL				*ex*	x	02 18 41.2	
SONA	**Sohna**	**8.83**	**158**	*eS*	**Sn**	**02 18 45.1**	**+2.7**
SONA				IAML		02 18 51.9	
	comp=E,51nm,0.3s						
SONA				IAML		02 18 54.0	
	comp=N,31nm,0.5s						
GEYT	**Alibeck**	**12.19**	**281**	Pn	**Pn**	**02 17 47.5**	**-1.4**
	comp=N,0.7nm,0.3s,baz=106,slow=11,SNR=4.8						
GEYT				Sn	**Sn**	**02 20 02.2**	**-2.7**	
	comp=N,0.4nm,0.3s,baz=21,slow=8.5,SNR=3.3						
GEYT				LR	LR	02 24 15.8		
	comp=N,97nm,18.5s,baz=50,slow=47						
MKAR	**Makanchi Array**	**12.28**	**30**	Pn	**Pn**	**02 17 50.9**	**+0.8**
	comp=N,0.1nm,0.3s,baz=212,slow=13,SNR=14						
MKAR				LR	LR	02 23 09.9		
	comp=N,42nm,18.4s,baz=210,slow=41						
GKN	**Gorkha**	**12.79**	**128**	*eP*	**Pn**	**02 17 57.7**	**+0.3**
	comp=N,9.5nm,0.4s						
KKN	**Kakani**	**13.35**	**127**	*eP*	**Pn**	**02 18 04.3**	**-0.8**
	comp=N,8.6nm,0.4s						
DMN	**Daman**	**13.37**	**128**	*eP*	**Pn**	**02 18 05.2**	**-0.1**
	comp=N,11nm,0.4s						
PKIN	**Phulchoki**	**13.57**	**128**	*eP*	**Pn**	**02 18 07.3**	**-0.8**
	comp=N,13nm,0.6s						
PKI	**Pulchoki**	**13.59**	**128**	*eP*	**Pn**	**02 18 07.5**	**-0.9**
	comp=N,14nm,0.6s						
GUN	**Gumba**	**13.66**	**125**	*eP*	**Pn**	**02 18 08.7**	**-0.7**
	comp=N,11nm,0.5s						
KURBB	**Kurchatov Arra**	**14.61**	**13**	Pn	**Pn**	**02 18 18.8**	**-3.1**
	comp=N,0.0nm,0.3s,baz=203,slow=12,SNR=9.8						
KURBB				Lg	Lg	02 22 29.5		
	comp=N,0.0nm,0.3s,baz=202,slow=34,SNR=3.6						
RAMN	**Ramite**	**14.78**	**126**	*eP*	**Pn**	**02 18 22.3**	**-2.3**
	comp=N,9.5nm,0.6s						
TAPN	**Taplejung**	**15.25**	**123**	*eP*	**Pn**	**02 18 28.6**	**-2.4**
	comp=N,7.0nm,0.6s						
ODAN	**Odare**	**15.36**	**125**	*eP*	**Pn**	**02 18 29.4**	**-2.9**
	comp=N,5.9nm,0.5s						
BVAR	**Borovoye Array**	**16.65**	**354**	Pn	**Pn**	**02 18 45.4**	**-3.1**
	comp=N,0.2nm,0.3s,baz=128,slow=6.6,SNR=5.6						
AKTO	**Aktyubinsk**	**17.75**	**326**	P	**Pn**	**02 19 00.4**	**-1.9**
	comp=N,0.3nm,0.3s,baz=118,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**19.20**	**21**	P	**P**	**02 19 17.1**	**-1.9**
	comp=N,0.7nm,0.3s,baz=210,slow=11,SNR=26						
ZALV				LR	LR	02 27 24.0		
	comp=N,32nm,19.6s,baz=22,slow=40						
ARU	**Arti**	**22.27**	**338**	P	**P**	**02 19 50.7**	**-1.6**
	comp=N,0.6nm,0.4s,baz=126,slow=19,SNR=3.2						
ARU				LR	LR	02 28 53.5		
	comp=N,41nm,20.3s,baz=90,slow=38						
GNI	**Garni**	**22.65**	**288**	P	**P**	**02 20 00.3**	**+3.6**
	comp=N,5.3nm,0.9s,baz=139,slow=3.4,SNR=3.3						
KBZ	**Khabaz**	**24.25**	**297**	P	**P**	**02 20 16.3**	**+4.0**
	comp=N,0.6nm,0.7s,baz=67,slow=13,SNR=2.9						
TLY	**Talaya**	**26.31**	**45**	LR	LR	02 31 40.2		
	comp=N,45nm,20.2s,baz=260,slow=38						
SONM	**Songino Array**	**26.82**	**55**	P	**P**	**02 20 36.4**	**+0.6**
	comp=N,0.6nm,0.8s,baz=267,slow=13,SNR=3.0						
SONM				LR	LR	02 31 25.9		
	comp=N,45nm,18.8s,baz=4.0,slow=37						
FINES	**FINESS Array B**	**38.52**	**326**	P	**P**	**02 22 16.4**	**-1.1**
	comp=N,0.5nm,0.6s,baz=113,slow=11,SNR=4.0						
ARCES	**ARCESS Array B**	**41.86**	**337**	P	**P**	**02 22 44.0**	**-1.0**
	comp=N,1.2nm,0.6s,baz=142,slow=4.6,SNR=5.4						
NB2	**NORSAR Subarra**	**45.49**	**323**	P	**P**	**02 23 13.8**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**45.49**	**323**	P	**P**	**02 23 14.1**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=94,slow=7.6,SNR=7.1						
ESDC	**Sonseca Array**	**59.09**	**299**	P	**P**	**02 24 57.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=60,slow=7.3,SNR=6.1						
TORD	**Torodi Ar. Bea**	**67.57**	**270**	P	**P**	**02 25 54.5**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=51,slow=6.0,SNR=4.0						
INK	**Inuvik**	**73.59**	**10**	P	**P**	**02 26 28.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=72,slow=6.4,SNR=3.6						
ILAR	**Eielson Array**	**74.26**	**17**	P	**P**	**02 26 32.7**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=270,slow=5.4,SNR=4.7						
WRA	**Warramunga Arr**	**80.44**	**123**	P	P	02 27 13.3	+5.9
	comp=Z,0.9nm,0.8s,baz=320,slow=5.3,SNR=5.2						
YKA	**Yellowknife Ar**	**81.14**	**4**	P	**P**	**02 27 10.8**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=359,slow=5.4,SNR=7.0						
ASAR	**Alice Springs**	**82.75**	**126**	P	**P**	**02 27 23.7**	**+4.2**
	comp=Z,0.3nm,0.4s,baz=312,slow=5.7,SNR=3.9						

DJA ***19*** *02:18:10.8±4.7,1°.1N±12°×9°.2E±3°.8,h53km±111km,M4.8/7, mb4.9/7,mB5.3/6,MLv4.8/7,Mw(mB)4.8/6*

IDC ***19*** *02:18:10.5±1.2,1°.26N×91°.88E,h0km,mb3.8/7, mb1 4.0/10,mb1mx3.7/54,mbtmp3.9/10,ML4.2/3,MS3.0/3, Ms1 3.0/3,ms1mx2.7/33,Error ellipse: s-maj=37.8km s-min=18.8km az=44.0*

NEIC ***19*** *02:18:11.5±1.6,1°.19N±0°.05×91°.88E±0°.10,h13km±5km, mb4.5/6,Error ellipse: s-maj=14.9km s-min=5.7km az=71.0*

ISC 19 02:18:11.2±0.8,1°.2N±0°.1×91°.89E±0°.10,h10km,n43, σ0s82/35,mb3.9/9,1D,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**4.59**	**75**	P	**Pn**	**02 19 21.1**	**+0.3**
MLSI	**Meulaboh, Aceh**	**5.43**	**56**	P	**Pn**	**02 19 32.6**	**+0.2**
	0.8nm4μm137nm,0.6s						
TPTI		**5.66**	**69**	P	**Pn**	**02 19 35.8**	**+0.3**
	0.5nm2μm82nm,0.6s						
GSI	**Gunungsitoli**	**5.69**	**89**		**Pn**	**02 19 36.6**	**+0.7**
GSI	**Gunungsitoli**	**5.69**	**89**	P	**Pn**	**02 19 36.6**	**+0.7**
	0.5nm2μm94nm,0.6s						
LHMI	**Lhok Sumawe**	**6.43**	**52**	P	**Pn**	**02 19 45.8**	**-0.3**
	0.5nm3μm102nm,0.7s						
RPSI	**Rantau Prapat**	**7.18**	**78**		**Pn**	**02 19 57.0**	**+0.5**
RPSI	**Rantau Prapat**	**7.18**	**78**		**Pn**	**02 19 57.3**	**+0.9**
PSI	**Prapat**	**7.21**	**77**	Pn	**Pn**	**02 19 57.3**	**+0.5**
	3.7nm,0.3s,baz=360,slow=8.8,SNR=6.0						
PSI				LR	LR	02 23 14.4		
	comp=Z,110nm,18.9s,baz=260,slow=42						
SISI	**Saibi**	**7.63**	**109**	P	**Pn**	**02 20 02.9**	**+0.3**
	0.1nm16nm,0.5s						
MNSI	**Mandailing Nat**	**7.70**	**93**	P	**Pn**	**02 20 04.1**	**+0.6**
	0.8nm4μm126nm,0.4s						
BKNI	**Bangkinang**	**9.19**	**95**	Pn	**Pn**	**02 20 23.1**	**-1.0**
KULM	**Kulim**	**9.64**	**65**		**Pn**	**02 20 30.3**	**+0.2**
PALK	**Pallekele**	**12.67**	**299**	Pn	**Pn**	**02 21 10.7**	**-1.0**
	0.7nm,0.3s,baz=240,slow=14,SNR=3.4						
PALK				Sn	Sn	02 23 18.7	-14	
	1.6nm,0.3s,baz=328,slow=0.1,SNR=5.8						
PALK				LR	LR	02 25 04.0		
	comp=Z,41nm,19.3s,baz=208,slow=33						
PALK	**Pallekele**	**12.67**	**299**		**Pn**	**02 21 10.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**18.48**	**22**	P	**P**	**02 22 25.9**	**-1.6**
	0.6nm,0.3s,baz=207,slow=11,SNR=4.6						
CMAR	**Chiang Mai Arr**	**18.48**	**22**	P	**P**	**02 22 27.1**	**-0.4**
HYB	**Hyderabad**	**20.76**	**322**	*i* P	**P**	**02 22 54.0**	**+1.4**
H08S2	**Diego Garcia H**	**21.25**	**245**	T	T	02 44 46.6	
	baz=66,slow=74,SNR=8.8						
H08S3	**Diego Garcia H**	**21.26**	**245**	T	T	02 44 46.3	
	baz=66,slow=74,SNR=35						
H08S1	**Diego Garcia H**	**21.27**	**245**	T	T	02 44 47.9	
	baz=66						
H01W3	**Cape Leeuwin H**	**41.52**	**152**	T	T	03 10 19.9	
	baz=328,slow=74,SNR=5.1						
H01W2	**Cape Leeuwin H**	**41.53**	**152**	T	T	03 10 22.9	
	baz=328,slow=74,SNR=4.2						
H01W1	**Cape Leeuwin H**	**41.53**	**152**	T	T	03 10 21.0	
	baz=328,slow=74,SNR=5.3						
MKAR	**Makanchi Array**	**46.16**	**351**	P	**P**	**02 26 36.2**	**+0.2**
	0.7nm,0.7s,baz=177,slow=8.1,SNR=7.0						
MKAR	**Makanchi Array**	**46.16**	**351**	P	**P**	**02 26 35.2**	**-0.9**
WB0	**Warramunga Arr**	**46.60**	**119**	P	**P**	**02 26 38.7**	**-1.2**
WRA	**Warramunga Arr**	**46.62**	**119**	P	**P**	**02 26 40.9**	**+0.8**
	1.4nm,0.6s,baz=297,slow=8.5,SNR=22						
WRA	**Warramunga Arr**	**46.62**	**119**	P	**P**	**02 26 40.3**	**+0.2**
WB2	**Warramunga Arr**	**46.63**	**119**	P	**P**	**02 26 39.9**	**-0.3**
WR0	**Warramunga Arr**	**46.80**	**119**	P	**P**	**02 26 41.0**	**-0.5**
WR0				IAmb	IAmb	02 26 59.9	
	comp=Z,4.9nm,1.3s						
ASAR	**Alice Springs**	**47.73**	**124**	P	**P**	**02 26 49.4**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=305,slow=7.6,SNR=3.8						
ASAR	**Alice Springs**	**47.73**	**124**	P	**P**	**02 26 48.9**	**+0.1**
SONM	**Songino Array**	**48.11**	**13**	P	**P**	**02 26 53.0**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=192,slow=10,SNR=4.7						
SONM	**Songino Array**	**48.11**	**13**	P	**P**	**02 26 51.1**	**-0.3**
KURBB	**Kurchatov Arra**	**50.52**	**349**	||Lg	Lg	02 27 17.9	
	comp=Z,5.0nm,0.6s						
ZALV	**Zalesovo Beam**	**52.88**	**355**	P	**P**	**02 27 27.2**	**0.0**
	comp=Z,0.6nm,0.3s,baz=180,slow=5.2,SNR=3.1						
COEN	**Coen**	**52.99**	**108**	P	**P**	**02 27 27.5**	**-1.2**
COEN				IAmb	IAmb	02 27 27.5	
	comp=Z,16nm,1.6s						
MJAR	**Matsushiro Art**	**55.35**	**45**	LR	LR	02 52 38.4	
	comp=Z,28nm,18.9s,baz=110,slow=37						
KBZ	**Khabaz**	**60.65**	**321**	P	**P**	**02 28 23.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=111,slow=7.3,SNR=4.2						
GERES	**GERESS Array B**	**81.31**	**319**	P	**P**	**02 30 29.6**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=97,slow=5.5,SNR=7.5						
GERES	**GERESS Array B**	**81.31**	**319**	P	**P**	**02 30 27.9**	**-0.2**
TXAR	**Lajitas Array**	**146.17**	**25**	PKPbc	**PKPbc**	**02 37 53.1**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=358,slow=3.8,SNR=3.8						

INET 19 02:36:57.5,12°.06N×87°.76W,h15km,MW3.5,Near coast of Nicaragua

IDC ***19*** *03:15:21.6±0.4,53°.78N×161°.60E,h0km,mb4.8/32, mb1 5.0/34,mb1mx4.9/42,mbtmp4.8/34,ML5.1/2,MS4.7/30, Ms1 4.7/30,ms1mx4.6/40,Error ellipse: s-maj=13.5km s-min=9.2km az=152.0*

KRSC ***19*** *03:15:22.1±1.4,53°.51N×162°.08E,h46km±24km,ML5.4*

NEIC ***19*** *03:15:22.9±0.6,53°.52N±0°.08×161°.82E±0°.09,h14km±3km, mb5.2/310,Error ellipse: s-maj=12.0km s-min=7.8km az=165.0*

BJI ***19*** *03:15:24.4±0.0,54°.03N×161°.29E,h25km,mB5.0/44, mb4.9/68,Ms5.2/67,Ms7 5.1/65*

MOS ***19*** *03:15:25.6±1.0,53°.60N×161°.83E,h45km,mb5.2/67, MS4.8/23,Error ellipse: s-maj=5.0km s-min=3.2km az=85.5*

GCMT ***19*** *03:15:27.0±0.2,53°.62N±0°.02×162°.22E±0°.03,h28km, MW5.0/105,Moment Tensor Solution. s67,c97; s105,c156; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.99±.13; Mθθ-0.11±.09; Mφφ-2.88±.09; Mrθ0.95±.15; Mθφ-0.38±.06; Mφr3.30±.15; Best double couple: Ms4.53300×10^16 NP1:φs182.00000°,δ21.00000°, λ79.00000°. NP2:φs14.00000°,δ70.00000°,λ94.00000°. Principal axes: T 4.5800, Plg65.0000°, Azm291.0000°; N -0.0900, Plg4.0000°, Azm192.0000°; P -4.4870, Plg25.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***19*** *03:15:32.3±0.0,54°.25N×160°.00E,h29km,mb5.1,Ms4.7*

ISC 19 03:15:25.1±0.4,53°.55N±0°.03×161°.90E±0°.03,h29km±2km, h29km:pP-P,n777,σ1s53/771,mb5.1/310,MS5.0/72, 27C-32D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.01**	**354**	PN	**Pn**	**03 15 40.8**	**-2.5**
MKZ	**Mys Kozlova**	**1.01**

KBTR Krutoberegovo 2.71 11 PN Pn 03 16 05.9 -0.8
KBTR Krutoberegovo 2.71 11 eP Pn 03 16 05.9 -0.8
KBG Krutoberegovo 2.75 9 PN Pn 03 16 06.3 -0.8
KBG Krutoberegovo 2.75 9 eP Pn 03 16 06.3 -0.8
KOZ Kozyrevsk 2.77 336 PN Pn 03 16 08.4 +0.9
KOZ Kozyrevsk 2.77 336 eP Pn 03 16 08.4 +0.9
KRSR Krestovskiy 2.78 344 PN Pn 03 16 08.2 +0.5
KRSR Krestovskiy 2.78 344 eP Pn 03 16 08.2 +0.5
KLY Klyuchi 2.86 346 PN Pn 03 16 08.6 0.0
KLY S Sn 03 16 43.2 +1.1
KLY Klyuchi 2.86 346 eP Pn 03 16 08.6 0.0
KLY eS Sn 03 16 43.2 +1.1
BKI Bering 2.90 54 PN Pn 03 16 08.0 -1.2
BKI S Sn 03 16 40.4 -2.7
BKI Bering 2.90 54 eP Pn 03 16 08.0 -1.2
BKI eS Sn 03 16 40.4 -2.7
KDTR Khodutka, Kamc 2.91 235 PN Pn 03 16 10.0 +0.7
KDTR Khodutka, Kamc 2.91 235 eP Pn 03 16 10.0 +0.7
APC Apacha 2.92 259 PN Pn 03 16 11.3 +1.8
APC Apacha 2.92 259 eP Pn 03 16 11.3 +1.8
ESO Esso 3.02 323 PN Pn 03 16 11.7 +0.9
ESO S Sn 03 16 48.3 +2.3
ESO Esso 3.02 323 eP Pn 03 16 11.7 +0.9
ESO eS Sn 03 16 48.3 +2.3
SRDR Sredinnyy 3.04 336 PN Pn 03 16 11.5 +0.2
SRDR S Sb 03 16 52.0 -3.2
SRDR Sredinnyy 3.04 336 eP Pn 03 16 11.5 +0.2
SRDR eS Sb 03 16 52.0 -3.2
SMKR Semkarok 3.05 356 PN Pn 03 16 11.5 +0.2
SMKR Semkarok 3.05 356 eP Pn 03 16 11.5 +0.2
BDR Baidarnaya 3.05 353 PN Pn 03 16 12.2 +0.8
BDR Baidarnaya 3.05 353 eP Pn 03 16 12.2 +0.8
SRKR Sorokina 3.14 353 PN Pn 03 16 12.8 +0.2
SRKR Sorokina 3.14 353 eP Pn 03 16 12.8 +0.2
MIPR Malaya Ipel'ka 3.36 250 PN Pn 03 16 18.0 +2.4
MIPR Malaya Ipel'ka 3.36 250 eP Pn 03 16 18.0 +2.4
PAU Pauzhetka 3.75 238 PN Pn 03 16 21.9 +1.1
PAU Pauzhetka 3.75 238 eP Pn 03 16 21.9 +1.1
SKR Severo-Kuril's 4.58 233 i PN Pn 03 16 34.4 +2.2
SKR eS Sn 03 17 25.7 +1.3
SKR pmax pmax
comp=Z,133nm,0.5s
SKR smax smax
comp=E,293nm,0.6s
SKR smax smax
comp=N,453nm,0.6s
SKR Severo-Kuril's 4.58 233 eP Pn 03 16 33.1 +0.9
ALID Alaid 4.74 238 PN Pn 03 16 35.9 +1.3
ALID Alaid 4.74 238 eP Pn 03 16 35.9 +1.3
PALN Palana 5.65 350 PN Pn 03 16 52.6 +5.6
PALN Palana 5.65 350 eP Pn 03 16 52.6 +5.6
OSSR Ossora 5.75 6 PN Pn 03 16 47.6 -0.7
OSSR Ossora 5.75 6 eP Pn 03 16 47.6 -0.7
TILK Tilichiki 7.29 17 PN Pn 03 17 11.2 +1.8
TILK Tilichiki 7.29 17 eP Pn 03 17 11.2 +1.8
SMY Shemya 7.39 91 PN Pn 03 17 11.3 +0.5
SMY Shemya 7.39 91 Pn 03 17 11.3 +0.5
MA2 Magadan 8.61 319 Pn Pn 03 17 29.5 +2.0
comp=N,4.7nm,0.3s,baz=124,slow=11,SNR=35
MA2 Magadan 8.61 319 PN Pn 03 17 29.0 +1.5
MA2 Magadan 8.61 319 Pn Pn 03 17 28.6 +1.0
KMSK Kamenskaya 9.22 13 PN Pn 03 17 39.0 +3.1
KMSK Kamenskaya 9.22 13 eP Pn 03 17 39.0 +3.1
SEY Seymchan 10.64 336 Pn Pn 03 17 56.2 +0.8
comp=N,0.2nm,0.3s,baz=144,slow=11,SNR=11
OKH Okha 11.28 278 de PN Pn 03 18 06.3 +2.2
OKH pmax pmax
comp=Z,300nm,11.1s
OKH MLR MLR
comp=Z,6μm,14.0s
OKH MLR MLR
comp=N,6μm,15.0s
OKH MLR MLR
comp=E,7μm,13.0s
TYV Tymovskoe 12.10 265 ePN Pn 03 18 20.1 +4.7
TYV eS Sn 03 20 39.8 +11
TYV pmax pmax
comp=Z,800nm,4.2s
TYV pmax pmax
comp=Z,38nm,0.9s
TYV smax smax
comp=N,6.0nm,0.9s
TYV smax smax
comp=E,500nm,5.6s
TYV MLR MLR
comp=E,5μm,16.0s
TYV MLR MLR
comp=Z,5μm,16.0s
KUR Kuril'sk 12.35 233 ePN Pn 03 18 20.0 +1.3
KUR pmax pmax
comp=Z,57nm,0.6s
KUR pmax pmax
comp=N,18nm,0.3s
KUR pmax pmax
comp=E,11nm,0.3s
KUR MLR MLR
comp=Z,4μm,17.0s
KUR MLR MLR
comp=N,6μm,16.0s
KUR MLR MLR
comp=E,5μm,18.0s
UGL Uglegorsk 13.18 258 ePN P 03 18 34.1 -5.6
UGL pmax pmax
comp=Z,120nm,0.9s
UGL pmax pmax
comp=Z,900nm,6.0s
UGL MLR MLR
comp=E,4μm,15.0s
UGL MLR MLR
comp=Z,3μm,13.0s
YSS Yuzh-Sakhalins 13.89 249 ⇓ eP Pn 03 18 41.2 +1.4
YSS eS Sn 03 21 14.9 +2.0
YSS pmax pmax
comp=Z,30nm,0.8s
YSS pmax pmax
comp=Z,300nm,9.2s
YSS MLR MLR
comp=Z,8μm,15.0s
YSS Yuzh-Sakhalins 13.89 249 Pn 03 18 41.5 +1.7
YUK Yuzh-Kuril'sk 14.20 234 c iP Pn 03 18 41.0 -3.0
YUK eS Sn 03 21 16.8 -3.5
YUK pmax pmax
comp=Z,403nm,0.3s
YUK pmax pmax
comp=N,21nm,0.4s
YUK pmax pmax
comp=E,117nm,0.4s
YUK pmax pmax
comp=Z,313nm,1.1s
GRPR Tuman 14.27 234 eP Pn 03 18 43.1 -1.9
GRPR S Sn 03 21 20.4 -1.7
GRPR pmax pmax
comp=Z,228nm,0.4s
GRPR pmax pmax
comp=E,107nm,0.3s
GRPR pmax pmax
comp=N,85nm,0.1s
RUSJ Misakicho 14.45 236 eP Pn 03 18 45.4 -2.0
RUSJ S Sn 03 21 29.8 +3.4
ATKA Atka Island 14.48 86 Pn Pn 03 18 48.5 +0.7
BILL Bilibino 14.69 6 d iP Pn 03 18 51.9 +1.4
BILL i SS Sn 03 21 39.1 +7.1
BILL pmax pmax
comp=Z,24nm,1.0s
BILL MLR MLR
comp=Z,2μm,12.0s
BILL Bilibino 14.69 6 Pn Pn 03 18 51.3 +0.8
NMR Nemuro--Hokkai 14.76 233 eP Pn 03 18 46.2 -5.4
NMR S Sn 03 21 28.6 -5.4
JKA Kamikawa-asahi 15.78 241 Pn Pn 03 19 04.6 -0.4
ASAJ Asahikawa 15.79 241 Pn Pn 03 19 05.0 -0.1
comp=Z,8.0nm,0.3s,baz=76,slow=12,SNR=137
ASAJ LR LR 03 25 07.4
comp=Z,4μm,20.4s,baz=29,slow=37
ASAJ Asahikawa 15.79 241 P Pn 03 19 05.0 -0.1
GRNR Gornyy 15.85 270 ⇑ iP P 03 19 08.0 -1.4
GRNR eS Sn 03 22 06.4 +5.8
GRNR pmax pmax
comp=E,10.0nm,0.5s
GRNR pmax pmax
comp=Z,10.0nm,0.6s
GRNR smax smax
comp=N,9.0nm,0.8s
GRNR MLR MLR
comp=E,2μm,15.0s
GRNR MLR MLR
comp=Z,2μm,15.0s
GRNR MLR MLR
comp=N,1μm,17.0s
ERM Erimo 17.02 235 P Pn 03 19 18.1 -2.7
ERM pmax pmax
comp=Z,91nm,0.4s
ERM Erimo 17.02 235 Pn 03 19 18.1 -2.7
ERM lAmb lAmb 03 19 25.9
comp=Z,90nm,0.4s
NIKH Nikolski High 17.46 80 P 03 19 25.9
baz=284
TEY Ternei 18.49 253 ⇑ iP Pn 03 19 38.6 -0.2
TEY pmax pmax
comp=E,20nm,0.6s
TEY pmax pmax
comp=N,10.0nm,0.7s
TEY pmax pmax
comp=Z,20nm,0.7s
YAK Yakutsk 18.97 309 P P 03 19 41.1 -2.6
comp=Z,0.3nm,0.3s,baz=253,slow=1.3,SNR=5.5
YAK LR LR 03 28 01.2
comp=Z,4μm,18.1s,baz=111,slow=41
YAK Yakutsk 18.97 309 eP P 03 19 41.2 -2.5
YAK eS Sn 03 23 12.0 -3.8
YAK pmax pmax
comp=Z,158nm,1.0s
YAK pmax pmax
comp=E,55nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK smax smax
comp=E,119nm,1.5s
YAK smax smax
comp=N,48nm,1.2s
YAK MLR MLR
comp=Z,5μm,14.0s
YAK MLR MLR
comp=N,1μm,14.0s
YAK MLR MLR
comp=E,3μm,15.0s
YAK Yakutsk 18.97 309 Pn 03 19 43.7 -0.8
AKUT Akutan 19.00 75 Pn 03 19 45.0 +0.1
ANM Nome 19.85 43 P Pn 03 19 53.9 -1.2
ANM pmax pmax
comp=Z,47nm,1.0s
ANM Nome 19.85 43 P Pn 03 19 53.9 -1.2
ANM Nome 19.85 43 P 03 19 54.6
baz=252
FALS False Pass 20.21 72 Pn 03 19 57.3 -2.0
FALS False Pass 20.21 72 P 03 19 57.7
baz=281
ZEA Zeya 20.42 285 eP P 03 19 58.0 -1.6
ZEA eS S 03 23 31.8 -15
ZEA e 03 24 06.8
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA smax smax
comp=E,300nm,14.5s
ZEA MLR MLR
comp=E,1μm,13.0s
ZEA MLR MLR
comp=N,500nm,11.0s
ZEA MLR MLR
comp=Z,2μm,15.0s
JMM Marumori 21.40 231 P P 03 20 08.5 -1.8
JMM lAmb lAmb 03 20 21.9
comp=Z,89nm,0.8s
USA0B Ussuriysk Arra 21.64 257 P P 03 20 11.8 -1.0
USA0B pmax pmax
comp=Z,30nm,0.8s
USA0B Ussuriysk Arra 21.64 257 P P 03 20 11.8 -1.0
USRK Ussuriysk Ar. 21.64 257 P P 03 20 11.9 -0.8
comp=Z,12nm,0.7s,baz=67,slow=8.4,SNR=38
USRK LR LR 03 29 23.2
comp=Z,3μm,18.0s,baz=56,slow=39
USRK Ussuriysk Ar. 21.64 257 P P 03 20 12.0 -0.8
USRK Ussuriysk Ar. 21.64 257 P P 03 20 10.3 -2.5
SDPT Sand Point 21.78 70 P 03 20 13.4
baz=281
RDOG Red Dog Mine 22.04 35 P P 03 20 17.4 +0.5
RDOG Red Dog Mine 22.04 35 P 03 20 16.7
baz=246
JSD Sado 22.48 236 P P 03 20 21.8 0.0
CHGN Chignik 22.75 67 P P 03 20 25.0 +0.4
CHGN lAmb lAmb 03 20 34.3
comp=Z,72nm,0.9s
MDJ Mudanjiang 22.80 260 P P 03 20 22.5 -2.7
MDJ pP pP 03 20 32.8 +0.8
MDJ sP pwP 03 20 38.5 +1.8
MDJ PcP PcP 03 24 15.3 -0.4
MDJ S S 03 24 27.1 -5.2
MDJ ScP ScP 03 27 49.3 -1.8
MDJ pmax pmax
comp=Z,9.0nm,0.6s
MDJ pmax pmax
comp=Z,190nm,3.6s
MDJ LR LR
comp=Z,3μm,16.3s
MDJ LR LR
comp=Z,2μm,17.3s
MDJ LR LR
comp=Z,3μm,14.3s
JYT Yasato 23.01 230 P P 03 20 26.4 -1.0
TIXI Tiksi 23.13 334 P P 03 20 26.3 -2.0
comp=Z,11nm,0.5s,baz=116,slow=11,SNR=27
TIXI LR LR 03 30 55.5
comp=Z,3μm,18.5s,baz=114,slow=41
TIXI Tiksi 23.13 334 P P 03 20 27.8 -0.5
MAJO Matsushiro 23.69 234 P P 03 20 34.1 0.0
MAJO pmax pmax
comp=Z,165nm,0.8s
MAJO Matsushiro 23.69 234 P P 03 20 34.1 0.0
MAT Matsushiro 23.69 234 P P 03 20 34.8 +0.7
MAT S S 03 24 46.2 -0.9
MJAR Matsushiro Arr 23.69 234 P P 03 20 35.1 +1.0
comp=Z,36nm,0.7s,baz=21,slow=10,SNR=77
MJAR LR LR 03 31 49.4
comp=Z,1μm,19.0s,baz=65,slow=42
MJAR Matsushiro Arr 23.69 234 P P 03 20 34.1 0.0
MJAR pmax pmax
comp=Z,71nm,0.9s
MJAR Matsushiro Arr 23.69 234 P P 03 20 34.1 0.0
SVW2 Sparrevohn 23.79 55 P P 03 20 35.4 +0.6
JGF Kuroka 24.85 234 P P 03 20 44.4 -0.5
JGF lAmb lAmb 03 20 56.5
comp=Z,62nm,0.8s
SII Sitkinak Islan 25.01 65 P P 03 20 46.3 +0.2
SII Sitkinak Islan 25.01 65 P 03 20 46.6
baz=282,SNR=17
RSO Redoubt South 25.20 56 P P 03 20 48.6 +0.6
INU Inuyama 25.22 234 P P 03 20 48.3 +0.1
CHUM Lake Minchumin 25.34 48 P 03 20 50.1
baz=268,SNR=61
A21K Barrow 25.35 30 P P 03 20 48.6 -0.4
A21K lAmb lAmb 03 21 02.7
comp=Z,58nm,1.1s
A21K Barrow 25.35 30 P 03 20 48.2
baz=247,SNR=7.0
OHAK Old Harbor 25.36 64 P P 03 20 49.6 +0.3
OHAK Old Harbor 25.36 64 P 03 20 49.1
baz=281,SNR=11
PPLA Purkeypile 25.38 50 P P 03 20 50.3 +0.8
PPLA Purkeypile 25.38 50 P 03 20 50.0
baz=270,SNR=19
SPCR Spurr Chakacha 25.42 54 P 03 20 49.7
baz=273,SNR=12
KDAK Kodiak Island 25.63 62 P P 03 20 51.9 +0.2
comp=Z,30nm,0.6s,baz=311,slow=5.3,SNR=21
KDAK Kodiak Island 25.63 62 P P 03 20 51.9 +0.2
KDAK pmax pmax
comp=Z,36nm,0.9s
KDAK Kodiak Island 25.63 62 P P 03 20 51.9 +0.2
KDAK lAmb lAmb 03 21 10.9
comp=Z,36nm,0.9s
KDAK Kodiak Island 25.63 62 P 03 20 51.0
baz=280
SKT Skwentna 25.70 52 P P 03 20 52.5 +0.1
SKT Skwentna 25.70 52 P 03 20 53.0
baz=272,SNR=10
CN2 Changchun 25.71 263 eP P 03 20 49.8 -2.7
CN2 sP pwP 03 21 06.9 +2.3
CN2 PP PnPn 03 21 29.8 +0.4
CN2 S S 03 25 10.9 -8.4
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,4μm,15.0s
CN2 LR LR
comp=Z,5μm,16.0s
HOM Homer 25.84 58 P 03 20 53.7
baz=277
BPAW Bear Paw Mtn. 25.94 47 P P 03 20 55.0 +0.5
BPAW lAmb lAmb 03 20 56.9
comp=Z,44nm,1.0s
BPAW Bear Paw Mtn. 25.94 47 P 03 20 54.5
baz=268,SNR=30
KTH Kantishna Hill 25.95 49 P P 03 20 55.2 +0.5
KTH lAmb lAmb 03 20 57.5
comp=Z,58nm,1.0s
CAPN Captain Cook N 25.96 55 P 03 20 54.5
baz=275
CNPM China Poot 26.06 58 P P 03 20 56.2 +0.6
JWT Wachi 26.06 236 P P 03 20 55.7 0.0
JWT lAmb lAmb 03 21 12.4
comp=Z,33nm,0.8s
MLY Manley 26.08 45 P 03 20 56.3
baz=267,SNR=21
SUA Susitna One 26.10 53 P P 03 20 56.5 +0.4
SUA lAmb lAmb 03 20 58.1
comp=Z,44nm,0.9s
SUA Susitna One 26.10 53 P 03 20 55.5
baz=274,SNR=15
BRLK Bradley Lake 26.20 57 P P 03 20 57.4 +0.5
BRLK lAmb lAmb 03 20 59.0
comp=Z,45nm,1.0s
TRF Thorofare Moun 26.24 49 P P 03 20 57.7 +0.3
TRF Thorofare Moun 26.24 49 P 03 20 58.0
baz=270,SNR=38
CUT Chulitna 26.27 51 P P 03 20 58.1 +0.6
CUT Chulitna 26.27 51 P 03 20 57.2
baz=272,SNR=15
BRSE Bradley Lake S 26.28 57 P 03 20 58.2
baz=278,SNR=6.7
COLD Coldfoot 26.50 40 P P 03 20 60.0 +0.4
COLD Coldfoot 26.50 40 P 03 20 59.2
baz=263,SNR=32
RC01 Rabbit Creek A 26.62 54 P 03 20 59.5
baz=276
I23K Minto, Yukon-K 26.67 45 P P 03 21 01.8 +0.7
I23K Minto, Yukon-K 26.67 45 P 03 21 01.4
baz=268,SNR=23
O22K Cooper Landing 26.69 56 P 03 21 00.5
baz=277
NEA2 Nenana 26.78 46 P P 03 21 02.7 +0.6
NEA2 lAmb lAmb 03 21 05.2
comp=Z,38nm,0.8s
NEA2 Nenana 26.78 46 P 03 21 02.1
baz=269,SNR=36
MCK McKinley 26.84 48 P P 03 21 03.2 +0.6
MCK pmax pmax
comp=Z,74nm,1.0s
MCK McKinley 26.84 48 P P 03 21 03.2 +0.6
MCK lAmb lAmb 03 21 04.8
comp=Z,74nm,1.0s
MCK McKinley 26.84 48 P 03 21 02.8
baz=271,SNR=27
PMR Palmer 26.86 53 P 03 21 02.3
baz=275,SNR=5.2
SEW Seward 26.87 56 P P 03 21 03.0 +0.1
BOD Bodaibo 26.87 299 eP P 03 21 00.9 -2.0
BOD pmax pmax
comp=Z,30nm,1.1s
SEW Seward 26.87 56 P 03 21 03.0
baz=278,SNR=11
RND Reindeer 26.89 49 P P 03 21 03.2 +0.1
RND pmax pmax
comp=Z,86nm,1.0s
RND Reindeer 26.89 49 P P 03 21 03.2 +0.1
TOLK Toolik Lake Re 26.94 37 P P 03 21 03.6 +0.1
TOLK Toolik Lake Re 26.94 37 P 03 21 02.8
baz=261,SNR=21
GHO Glory Hole Cre 26.95 53 P P 03 21 04.1 +0.5
GHO lAmb lAmb 03 21 13.8
comp=Z,38nm,1.0s
WAT2 Susitna Watana 27.02 50 P 03 21 03.8
baz=273,SNR=38
MDM Murphy Dome 27.15 45 P P 03 21 05.8 +0.4
KNK Knik Glacier 27.20 53 P P 03 21 06.4 +0.5
KNK Knik Glacier 27.20 53 P 03 21 05.5
baz=276,SNR=31
WRH Wood River Hil 27.20 47 P P 03 21 06.5 +0.6
SML Sawmill 27.22 52 P P 03 21 06.6 +0.5
SML Sawmill 27.22 52 P 03 21 06.5
baz=275,SNR=36
TCOL CIGO, UAF Yank 27.30 46 P P 03 21 07.4 +0.7
TCOL lAmb lAmb 03 21 09.1
comp=Z,52nm,1.1s
TCOL CIGO, UAF Yank 27.30 46 P 03 21 06.7
baz=270,SNR=8.2
COLA College 27.31 46 P P 03 21 07.3 +0.6
COLA pmax pmax
comp=Z,56nm,1.1s
COLA College 27.31 46 P P 03 21 07.3 +0.6
COLA lAmb lAmb 03 21 09.1
comp=Z,56nm,1.1s
COLA College 27.31 46 P 03 21 06.8
baz=270
CCB Clear Creek Bu 27.33 46 P P 03 21 07.5 +0.5
CCB lAmb lAmb 03 21 09.8
comp=Z,41nm,1.1s
JHS Saijyo 27.44 239 P P 03 21 08.2 0.0
JHS lAmb lAmb 03 21 19.0
comp=Z,58nm,0.9s
WAT6 Susitna Watana 27.44 51 P 03 21 07.7
baz=274,SNR=7.5
POKR Poker Plat Res 27.49 45 P P 03 21 08.9 +0.5
POKR Poker Plat Res 27.49 45 P 03 21 08.2
baz=270,SNR=14
SCM Sheep Creek Mo 27.70 52 P P 03 21 10.8 +0.4
SCM pmax pmax
comp=Z,137nm,0.9s
SCM Sheep Creek Mo 27.70 52 P P 03 21 10.8 +0.4
HDA Harding Lake 27.70 47 P 03 21 09.6
baz=271,SNR=13
HDA P 03 21 09.6
baz=271,SNR=13
IL31 27.72 46 P P 03 21 10.8 +0.4
IL31 lAmb lAmb 03 21 12.2
comp=Z,39nm,0.8s
ILAR Eielson Array 27.72 46 P P 03 21 10.4 0.0
comp=Z,28nm,0.8s,baz=261,slow=7.8,SNR=122
ILAR Eielson Array 27.72 46 P P 03 21 10.0 -0.4
GLI Glacier Island 27.92 54 P P 03 21 12.9 +0.6
GLI lAmb lAmb 03 21 14.1
comp=Z,39nm,1.0s
GLI Glacier Island 27.92 54 P 03 21 11.8
baz=278
SNY Shenyang 27.99 261 ⇓ P P 03 21 13.1 +0.1
SNY S S 03 25 50.3 -4.9
SNY pmax pmax
comp=Z,12nm,0.8s
SNY pmax pmax
comp=Z,190nm,6.3s
SNY LR LR
comp=Z,3μm,16.2s
SNY LR LR
comp=Z,2μm,19.6s
SNY LR LR
comp=Z,3μm,21.6s
M24K Tolsona, Glenn 28.21 52 P P 03 21 15.5 +0.6
M24K lAmb lAmb 03 21 17.3
comp=Z,44nm,0.7s
M24K Tolsona, Glenn 28.21 52 P 03 21 14.5
baz=276,SNR=7.1
FID Port Fidalgo 28.24 54 P P 03 21 15.4 +0.3
FID lAmb lAmb 03 21 24.7
comp=Z,35nm,1.0s
PRP Porcupine Dome 28.29 44 P P 03 21 16.3 +0.6
PRP lAmb lAmb 03 21 17.9
comp=Z,52nm,0.9s
PRP Porcupine Dome 28.29 44 P 03 21 15.1
baz=271,SNR=52
KS19 Wonju Array Si 28.39 249 P P 03 21 16.5 -0.2
KS19 lAmb lAmb 03 21 30.8

comp=Z,38nm,0.8s
KSRS Korea Array 28.39 249 P P 03 21 16.9 +0.2
comp=Z,13nm,0.8s,baz=42,slow=9.3,SNR=34
KSRS LR LR 03 33 55.5
comp=Z,2µm,18.4s,baz=62,slow=39
KLU Klutina 28.40 53 P P 03 21 17.5 +0.8
KLU IAmb IAmb 03 21 19.1
comp=Z,63nm,1.1s
KLU Klutina 28.40 53 P 03 21 17.1
baz=278,SNR=14
FYU Fort Yukon 28.41 42 P P 03 21 17.2 +0.6
FYU IAmb IAmb 03 21 19.2
comp=Z,44nm,1.1s
KSAR Wonju Array Be 28.42 249 P P 03 21 17.0 0.0
KSAR Wonju Array Be 28.42 249 P P 03 21 16.9 0.0
PAX Paxson 28.44 50 P P 03 21 17.6 +0.6
PAX pmax pmax
comp=Z,15nm,0.8s
PAX Paxson 28.44 50 P P 03 21 17.6 +0.6
PAX Paxson 28.44 50 P 03 21 17.4
baz=275
Q23K Middleton Isla 28.53 57 P 03 21 17.0
baz=281
EYAK Cordova Ski Ar 28.63 55 P P 03 21 18.8 +0.3
EYAK IAmb IAmb 03 21 22.6
comp=Z,29nm,1.0s
EYAK Cordova Ski Ar 28.63 55 P 03 21 17.9
baz=280
DOT Dot Lake 29.01 48 P P 03 21 21.8 -0.2
N25K Chitina, Valde 29.01 52 P P 03 21 22.2 +0.1
N25K IAmb IAmb 03 21 24.7
comp=Z,34nm,1.0s
N25K Chitina, Valde 29.01 52 P 03 21 22.8
baz=278,SNR=14
SCRK Sand Creek 29.02 47 P P 03 21 22.0 -0.2
SCRK IAmb IAmb 03 21 23.5
comp=Z,35nm,0.9s
SCRK Sand Creek 29.02 47 P 03 21 21.6
baz=275,SNR=22
BMRM Bremner River 29.11 54 P P 03 21 23.6 +0.7
BMRM Bremner River 29.11 54 P 03 21 23.5
baz=280,SNR=21
RAGM Ragged Mountai 29.18 55 P P 03 21 24.1 +0.6
MENT Mentasta 29.24 50 P P 03 21 24.6 +0.5
HMT Hamilton 29.39 55 P P 03 21 26.0 +0.6
KAIM Kayak Island 29.39 56 P 03 21 24.9
baz=282
GLB Gilahina Butte 29.41 53 P P 03 21 26.1 +0.5
TJN Taejon 29.48 248 *eP* P 03 21 27.8 +1.5
MCARA McCarthy VSAT 29.80 53 P P 03 21 29.6 +0.6
MCARA McCarthy VSAT 29.80 53 P 03 21 28.5
baz=280
TGL Tana Glacier 30.00 54 P P 03 21 31.5 +0.6
TGL IAmb IAmb 03 21 33.7
comp=Z,35nm,0.8s
JNU Nakatsue 30.06 240 P P 03 21 31.6 0.0
comp=Z,4.3nm,0.5s,baz=221,slow=20,SNR=2.2
JNU LR LR 03 35 30.9
comp=Z,800nm,18.3s,baz=42,slow=40
JNU Nakatsue 30.06 240 P P 03 21 31.2 -0.4
JNU IAmb IAmb 03 21 42.3
comp=Z,49nm,1.1s
EGAK Eagle 30.17 46 P P 03 21 31.8 -0.4
EGAK Eagle 30.17 46 P 03 21 31.6
baz=276,SNR=37
BARN Barnard Glacie 30.50 53 P P 03 21 35.9 +0.4
YAH Yahtse 30.61 54 P P 03 21 36.8 +0.4
CTG Chitna Glacier 30.68 53 P 03 21 37.8
baz=282,SNR=19
CTGM Chitina Glacie 30.68 53 P P 03 21 37.3 +0.3
LOGN Logan Glacier 30.87 53 P P 03 21 39.0 +0.4
TABL Table Mountain 30.89 54 P P 03 21 39.3 +0.5
DL2 Dalian 31.00 258 P P 03 21 37.5 -2.3
DL2 S S **03 26 37.3 -5.3**
DL2 pmax pmax
comp=Z,46nm,0.8s
DL2 pmax pmax
comp=Z,190nm,3.7s
DL2 LR LR
comp=Z,1µm,13.7s
DL2 LR LR
comp=Z,3µm,15.2s
DL2 LR LR
comp=Z,3µm,19.6s
DAWY Dawson 31.02 47 P P 03 21 40.3 +0.6
PCA Pinnacle 31.39 55 P P 03 21 43.6 +0.5
PINM Pinnacle 31.40 55 P 03 21 44.1
baz=284,SNR=14
BCPM Bancas Point 31.73 55 P P 03 21 46.8 +0.7
EPYK Eagle Plains 31.83 42 P P 03 21 47.6 +0.7
EPYK Eagle Plains 31.83 42 P 03 21 47.6
baz=277,SNR=9.7
INK Inuvik 32.84 38 P P 03 21 56.1 +0.5
comp=Z,9.2nm,0.6s,baz=279,slow=7.1,SNR=36
INK Inuvik 32.84 38 P P 03 21 56.3 +0.7
INK pmax pmax
comp=Z,13nm,0.7s
INK Inuvik 32.84 38 P P 03 21 56.2 +0.7
INK IAmb IAmb 03 21 57.4
comp=Z,13nm,0.7s
BJI Beijing 33.49 265 P P 03 22 01.9 +0.4
BJI PP **PP 03 23 16.0 -1.4**
BJI S S **03 27 18.0 -3.3**
BJI pmax pmax
comp=Z,5.0nm,0.8s
BJI LR LR
comp=Z,2µm,15.3s
BJI LR LR
comp=Z,2µm,16.5s
WHY Whitehorse 33.82 52 P P 03 22 05.0 +0.6
SKAG Skagway 33.97 54 P P 03 22 06.4 +0.9
SKAG Skagway 33.97 54 P 03 22 05.4
baz=288,SNR=12
H11N2 WAKE ISLAND Hy 33.98 172 T T 03 59 39.1
baz=355,slow=76,SNR=90
H11N3 WAKE ISLAND Hy 33.99 172 T T 03 59 40.0
baz=355,slow=76,SNR=138
H11N1 WAKE ISLAND Hy 34.00 172 T T 03 59 40.2
baz=355,slow=76,SNR=198
BESE Bessie Mountai 34.49 56 P P 03 22 10.8 +0.7
TLY Talaya 34.57 291 P P 03 22 10.5 -0.4
comp=Z,2.2nm,0.6s,baz=63,slow=14,SNR=3.3
TLY Talaya 34.57 291 *eP* P 03 22 15.1 +4.2
TLY *e* 03 23 45.0
TLY pmax pmax
comp=Z,29nm,1.3s
TLY MLR MLR
comp=Z,6µm,14.0s
TLY Talaya 34.57 291 P P 03 22 10.6 -0.3
SIT Sitka 34.79 58 P P 03 22 13.4 +0.8
SIT pmax pmax
comp=Z,87nm,1.0s
SIT Sitka 34.79 58 P P 03 22 13.4 +0.8
JIS Juneau Island 34.82 56 P P 03 22 13.5 +0.6
SONM Songino Array 34.85 284 P P 03 22 11.9 -1.5
comp=Z,3.6nm,0.8s,baz=64,slow=7.9,SNR=22
SONM PcP **PcP 03 24 47.1 +1.2**
comp=Z,3.0nm,0.7s,baz=68,slow=2.0,SNR=4.1
SONM LR LR 03 37 54.0
comp=Z,3µm,18.1s,baz=48,slow=39
SONM Songino Array 34.85 284 P P 03 22 12.6 -0.9
SONM **PcP 03 24 46.3 +0.4**
ZAK Zakamensk 35.37 289 *eP* P **03 22 15.6 -2.3**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
TIA Tai'an 35.46 259 P P 03 22 17.1 -1.5
TIA pmax pmax
comp=Z,16nm,0.9s
TIA LR LR
comp=Z,1µm,18.1s
TIA LR LR
comp=Z,2µm,18.6s
TIA LR LR
comp=Z,2µm,21.1s
HHC Hu-ho-hao-te 35.73 270 *eP* P 03 22 25.8 +4.7
HHC PP **PP 03 23 50.6 +8.3**
HHC S S **03 28 02.8 +6.7**
HHC PcS **PcS 03 28 40.5 +4.6**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,170nm,5.3s
HHC LR LR
comp=N,1µm,13.2s
HHC LR LR
comp=E,2µm,12.7s
HHC LR LR
comp=Z,3µm,14.2s
MOY Mondy 36.05 292 *eP* P 03 22 28.4 +4.7
C36M Paulatuk 36.05 35 P P 03 22 23.5 +0.2
C36M IAmb IAmb 03 22 25.1
comp=Z,22nm,0.8s
C36M Paulatuk 36.05 35 P 03 22 23.2
baz=283,SNR=19
JOW Kunigami 36.46 236 P P 03 22 29.8 +2.4
comp=Z,58nm,0.3s,baz=16,slow=7.9,SNR=14
JOW Kunigami 36.46 236 P P 03 22 26.8 -0.5
WRAK Wrangell Islan 36.55 58 P P 03 22 28.5 +0.8
WRAK IAmb IAmb 03 22 32.3
comp=Z,40nm,0.9s
WRAK Wrangell Islan 36.55 58 P 03 22 28.0
baz=294
BTO Baotou 36.80 271 *eP* P **03 22 31.4 +1.2**
BTO LR LR
comp=Z,7µm,16.8s
BTO LR LR
comp=Z,8µm,17.3s
BTO LR LR
comp=Z,12µm,15.3s
SSE Sheshan 36.83 249 P P 03 22 32.6 +2.2
SSE S S **03 28 17.0 +4.2**
SSE pmax pmax
comp=Z,31nm,0.7s
SSE LR LR
comp=Z,290nm,26.9s
SSE LR LR
comp=Z,650nm,17.9s
DLBC Dease Lake 36.90 54 P P 03 22 33.5 +2.6
comp=Z,26nm,0.9s,baz=283,slow=9.2,SNR=12
DLBC Dease Lake 36.90 54 P P 03 22 31.4 +0.5
DLBC IAmb IAmb 03 22 35.4
comp=Z,28nm,0.9s
NJ2 Nanjing 37.43 252 *eP* P **03 22 34.3 -1.2**
NJ2 pP **sP 03 22 47.0 +1.0**
NJ2 pmax pmax
comp=Z,14nm,0.6s
NJ2 LR LR
comp=Z,2µm,18.2s
NJ2 LR LR
comp=Z,2µm,17.7s
NJ2 LR LR
comp=Z,2µm,17.9s
WHN Wuhan 41.13 255 ⇓*P* P **03 23 04.9 -1.5**
WHN LR LR
comp=Z,3µm,15.4s
EUNU Eureka 41.24 14 P P 03 23 07.3 +0.4
EUNU IAmb IAmb 03 23 08.8
comp=Z,40nm,0.8s
XAN Xi'an 41.80 264 P P 03 23 10.6 -1.3
XAN pP pwP 03 23 23.6 -0.6
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN pmax pmax
comp=Z,240nm,8.8s
XAN LR LR
comp=Z,2µm,17.7s
XAN LR LR
comp=Z,4µm,16.2s
XAN LR LR
comp=Z,5µm,17.6s
YKA Yellowknife Ar 42.09 43 P P 03 23 14.4 +0.6
comp=Z,7.4nm,0.9s,baz=300,slow=7.7,SNR=59
YKA PcP **PcP 03 25 09.1 +1.1**
comp=Z,1.9nm,0.8s,baz=305,slow=2.9,SNR=4.8
YKA LR LR 03 41 49.8
comp=Z,407nm,20.7s,baz=0.0,slow=38
RES Resolute Bay 42.49 23 P P 03 23 17.5 +0.5
RES pmax pmax
comp=Z,8.0nm,0.8s
RES Resolute Bay 42.49 23 P P 03 23 17.5 +0.5
YULB Yu-li 42.86 242 P P 03 23 20.5 -0.1
YULB IAmb IAmb 03 23 29.9
comp=Z,19nm,0.6s
LZH Lanzhou 43.42 270 *eP* P **03 23 26.8 +1.6**
LZH pmax pmax
comp=Z,32nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.9s
LZH LR LR
comp=Z,2µm,14.1s
LZH LR LR
comp=Z,2µm,15.2s
LZH LR LR
comp=Z,2µm,15.2s
ZALV Zalesovo Beam 43.44 303 P P 03 23 21.4 -3.5
comp=Z,0.7nm,0.4s,baz=64,slow=9.9,SNR=3.9
ZALV PcP **PcP 03 25 12.6 -0.1**
comp=Z,1.9nm,0.6s,baz=46,slow=6.2,SNR=2.4
ZALV LR LR 03 43 01.1
comp=Z,3µm,18.3s,baz=74,slow=38
ZALV Zalesovo Beam 43.44 303 P P 03 23 24.9 0.0
GTA Gaotai 43.63 277 *eP* P **03 23 25.8 -1.0**
GTA pP pP 03 23 30.1 -4.2
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,65nm,6.4s
GTA LR LR
comp=Z,1µm,18.3s
GTA LR LR
comp=Z,2µm,13.5s
GTA LR LR
comp=Z,2µm,12.7s
PGC Sidney 45.14 64 P P 03 23 39.1 +0.6
PGC IAmb IAmb 03 23 41.3
comp=Z,20nm,0.8s
A04D Lummi Island 45.50 64 P 03 23 42.0
baz=306,SNR=9.7
NLWA Neilton Lookou 45.66 66 P P 03 23 43.2 +0.5
A05A Maple Falls 45.67 63 P P 03 23 43.4 +0.6
A05A IAmb IAmb 03 24 00.0
comp=Z,15nm,0.8s
D03D Eldon 45.99 66 P 03 23 46.2
baz=307,SNR=10
B05A Bryant 46.10 64 P 03 23 46.9
baz=307,SNR=14
B06A Marblemount 46.27 64 P P 03 23 48.0 +0.5
E03A Lebam 46.33 67 P P 03 23 48.4 +0.3
D04E Lakebay 46.38 66 P 03 23 47.3
baz=307
D05A Enumclaw 46.80 65 P P 03 23 52.2 +0.5
SPA0 Spitsbergen Ar 46.86 351 P P 03 23 51.4 -0.4
E04D Cinebar 46.87 66 P 03 23 54.0
baz=308,SNR=7.7
F04D Rainier, OR 46.92 67 P 03 23 53.4
baz=308
C06D Leavenworth 46.95 64 P 03 23 53.2
baz=307
CD2 Chengdu 47.09 265 ⇓*iP* P **03 23 54.6 +0.4**
CD2 pP sP 03 24 05.5 +0.7
CD2 sP pwP 03 24 10.1 +3.6
CD2 PP **PP 03 25 45.3 +0.3**
CD2 S S **03 30 43.6 -0.8**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,170nm,11.6s
CD2 LR LR
comp=Z,2µm,15.5s
CD2 LR LR
comp=Z,3µm,15.7s
CD2 LR LR
comp=Z,3µm,15.3s
LON Longmire 47.16 66 P P 03 23 55.2 +0.5
LON pmax pmax
comp=Z,12nm,1.0s
LON Longmire 47.16 66 P P 03 23 55.2 +0.5
G03D McMinnville, O 47.32 68 P 03 23 54.8
baz=308
LTY Liberty 47.47 64 P P 03 23 57.3 +0.3
LTY IAmb IAmb 03 23 59.3
comp=Z,11nm,0.8s
B08A Colville Reser 47.51 63 P P 03 23 57.7 +0.4
I02D Swisshome 47.68 70 P 03 23 59.1
baz=309
COR Corvallis 47.69 69 P P 03 23 59.8 +1.2
COR pmax pmax
comp=Z,45nm,1.0s
COR Corvallis 47.69 69 P P 03 23 59.8 +1.2
WMQ Urumqi 47.84 290 P P 03 23 58.3 -1.6
WMQ pP sP 03 24 09.8 -0.8
WMQ pmax pmax
comp=Z,37nm,0.9s
WMQ pmax pmax
comp=Z,240nm,3.9s
WMQ LR LR
comp=Z,3µm,17.1s
WMQ LR LR
comp=Z,3µm,15.5s
WMQ LR LR
comp=Z,6µm,17.9s
F05D White Salmon 47.89 66 P 03 24 00.7
baz=309
H04D Lebanon 48.04 69 P 03 24 02.2
baz=309
SZP Santa 48.15 238 P P 03 24 02.7 +0.3
I03D Drain, OR 48.22 70 P 03 24 04.0
baz=310
J01E Myrtle Point 48.24 71 P 03 24 04.7
baz=310
H04A Detroit Lake 48.24 68 P P 03 24 04.1 +1.1
H04A IAmb IAmb 03 24 06.2
comp=Z,25nm,1.0s
E07A Sunnyside 48.34 65 P P 03 24 04.0 +0.3
E07A IAmb IAmb 03 24 06.8
comp=Z,24nm,0.9s
G05D Wamic, OR 48.37 67 P 03 24 05.6
baz=309,SNR=20
C09A Chrisman Ranch 48.41 63 P P 03 24 04.8 +0.5
C09A IAmb IAmb 03 24 06.9
comp=Z,34nm,1.1s
D08A Wollman Farm, 48.53 64 P P 03 24 05.6 +0.4
HAWA Hanford 48.62 65 P P 03 24 06.3 +0.5
HAWA IAmb IAmb 03 24 08.8
comp=Z,26nm,1.0s
GYA Guiyang 48.65 259 *eP* P **03 24 07.3 +0.8**
GYA pP sP 03 24 17.8 +0.7
GYA PP **PP 03 26 01.9 +2.5**
GYA S S **03 31 04.8 -2.0**
GYA pmax pmax
comp=Z,13nm,0.8s
GYA LR LR
comp=Z,790nm,19.6s
GYA LR LR
comp=Z,700nm,20.8s
GYA LR LR
comp=Z,670nm,22.7s
I04A Tendick Farm, 48.68 69 P 03 24 07.7
baz=310,SNR=12
K02D Willamette Mer 48.68 71 P 03 24 07.1
baz=310
F07A Phinny Hill Vi 48.72 65 P P 03 24 07.2 +0.6
NEW Newport 48.73 61 P P 03 24 07.3 +0.6
NEW pmax pmax
comp=Z,26nm,0.9s
NEW Newport 48.73 61 P P 03 24 07.3 +0.6
NEW IAmb IAmb 03 24 09.4
comp=Z,26nm,0.9s
NEW Newport 48.73 61 P 03 24 07.8
baz=308,SNR=22
E08A Dider Farm, El 48.81 64 P P 03 24 08.2 +0.9
E08A IAmb IAmb 03 24 10.0
comp=Z,22nm,1.0s
MK31 Makanchi Array 48.93 296 P P 03 24 05.1 -3.1
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 48.93 296 P P 03 24 05.1 -3.1
MKAR Makanchi Array 48.93 296 P P 03 24 05.2 -3.1
comp=Z,4.2nm,0.5s,baz=53,slow=6.0,SNR=37
MKAR LR LR 03 45 53.1
comp=Z,437nm,18.5s,baz=48,slow=38
MKAR Makanchi Array 48.93 296 P P 03 24 04.9 -3.3
I05D Terrebonne, OR 48.93 68 P 03 24 09.8
baz=310,SNR=8.9
L02E Cave Junction 49.07 72 P 03 24 11.6
baz=310,SNR=5.8
MAKZ Makanchi 49.09 296 P P 03 24 06.1 -3.3
MAKZ pmax pmax
comp=Z,6.0nm,0.6s
MAKZ Makanchi 49.09 296 P P 03 24 06.1 -3.3
HUMO Hull Mountain 49.14 71 P P 03 24 10.4 +0.5
HUMO IAmb IAmb 03 24 13.9
comp=Z,17nm,0.9s
J04D Umpqua Nationa 49.21 69 P 03 24 12.0
baz=310
E09A Wood Farm, Sta 49.29 64 P P 03 24 11.5 +0.5
PINE Pine Mountain 49.50 68 P P 03 24 13.1 +0.2
PINE IAmb IAmb 03 24 16.6
comp=Z,27nm,0.9s
KULLO Kullorsuaq 49.51 13 *i* P P **03 24 12.3 +0.1**
comp=Z,51nm,0.9s
KULLO Kullorsuaq 49.51 13 *i* P P **03 24 12.3 +0.1**
KULLO Kullorsuaq 49.51 13 *i* P P **03 24 12.3 +0.1**
KULLO IAmb IAmb 03 24 13.3
comp=Z,51nm,0.9s
G08A Pilot Rock 49.63 66 P P 03 24 14.2 +0.4
J05D Fort Rock, OR 49.67 69 P 03 24 15.8
baz=310
L04D Klamath Falls 49.76 71 P 03 24 16.6
baz=311,SNR=21
K04D Chiloquin, OR 49.80 70 P 03 24 16.9
baz=311,SNR=5.8
KHMM Horse Mountain 49.83 73 P P 03 24 15.6 +0.2
KHMM IAmb IAmb 03 24 18.9
comp=Z,22nm,0.9s
YBH Yreka Blue Hor 49.85 71 P P 03 24 16.5 +1.1
YBH pmax pmax
comp=Z,29nm,1.1s
YBH Yreka Blue Hor 49.85 71 P P 03 24 16.5 +1.1
YBH IAmb IAmb 03 24 19.6
comp=Z,30nm,1.1s
WALA Waterton Lakes 49.90 59 P P 03 24 16.2 +0.5
DAG Danmarks Havn 49.95 0 *i* P P **03 24 15.1 -0.4**
DAG Danmarks Havn 49.95 0 *i* P P **03 24 15.1 -0.4**
DAG Danmarks Havn 49.95 0 *i* P P **03 24 15.2 -0.4**
DAG IAmb IAmb 03 24 17.5
comp=Z,2µm,5.8s
M02C Callahan 49.99 72 P 03 24 18.6
baz=311,SNR=8.4
I07A Izee 50.11 67 P P 03 24 17.7 +0.3
F10A Beach Ranch, E 50.12 64 P P 03 24 17.8 +0.4
F10A IAmb IAmb 03 24 20.3
comp=Z,21nm,1.0s
K05A Summer Lake 50.22 69 P P 03 24 18.5 +0.2
K05A IAmb IAmb 03 24 21.8
comp=Z,19nm,0.7s
KMRM Mail Ridge 50.28 73 P P 03 24 19.2 +0.5
M04C Macdoel 50.31 71 P 03 24 21.1
baz=311,SNR=13
N02D Trinity Center 50.35 72 P 03 24 21.3
baz=312,SNR=8.9
JTMT Jette 50.54 60 P P 03 24 20.9 +0.3
WDC Whiskeytown Da 50.70 72 P P 03 24 22.3 +0.5
WDC pmax pmax
comp=Z,23nm,0.9s
WDC Whiskeytown Da 50.70 72 P P 03 24 22.2 +0.5
WDC IAmb IAmb 03 24 25.6
comp=Z,22nm,0.9s
BMO Blue Mountains 50.81 65 P P 03 24 22.8 +0.2
BMO pmax pmax
comp=Z,22nm,1.1s
BMO Blue Mountains 50.81 65 P P 03 24 22.8 +0.2
BMO IAmb IAmb 03 24 25.7
comp=Z,22nm,1.1s
O02D Mt. Diablo Mer 50.83 73 P 03 24 23.7
baz=312
BRVK Borovoye 50.97 309 P P 03 24 21.2 -2.4
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 50.97 309 P P 03 24 21.2 -2.4
MOD Modoc Plateau 51.09 70 P P 03 24 25.1 +0.2
MOD IAmb IAmb 03 24 28.1
comp=Z,32nm,0.8s
J08A Circle Bar Ran 51.15 67 P P 03 24 25.4 +0.2
MSO Missoula 51.31 61 P P 03 24 26.9 +0.5
MSO Missoula 51.31 61 P 03 24 27.0
baz=311
O03E Paynes Creek 51.31 72 P 03 24 27.8
baz=312,SNR=21
WVOR Wild Horse Val 51.66 68 IAmb IAmb 03 24 32.6
comp=Z,25nm,1.0s
FFC Flin Flon 51.92 47 P P 03 24 31.6 +0.9
FFC pmax pmax
comp=Z,5.0nm,0.9s
FFC Flin Flon 51.92 47 P P 03 24 31.6 +0.9
KMI Kunming 51.97 261 ⇓*P* P **03 24 32.6 +0.9**
KMI pP pwP 03 24 45.4 +1.4

KMI pmax pmax
comp=Z,14nm,0.8s
KMI LR LR
comp=Z,2µm,18.8s
KMI LR LR
comp=Z,900nm,17.6s
KMI LR LR
comp=Z,1µm,21.5s
ORV Oroville 51.98 73 IAmb IAmb 03 24 34.3
comp=Z,23nm,1.1s
BEKR Beckworth 52.42 72 IAmb IAmb 03 24 38.4
comp=Z,28nm,1.1s
QIZ Qiongzhong 52.62 250 P P 03 24 50.3 +14
QIZ S **S** **03 31 59.8 -1.8**
QIZ pmax pmax
comp=Z,50nm,0.9s
QIZ LR LR
comp=N,630nm,16.1s
QIZ LR LR
comp=E,810nm,14.6s
QIZ LR LR
comp=Z,770nm,12.8s
EGMT Eagleton 52.67 58 P 03 24 37.2
baz=312
PDGK Podgornoye 52.68 295 *i* P **P** **03 24 34.2 -2.5**
PDGK pmax pmax
comp=Z,11nm,1.0s
PAHR Pah Rah Range 53.08 71 IAmb IAmb 03 24 42.8
comp=Z,19nm,0.8s
ARCES ARCESS Array B 53.18 342 P **P** **03 24 38.4 -1.4**
comp=Z,8.2nm,0.8s,baz=33,slow=9.2,SNR=10.0
ARCES LR LR 03 51 13.7
comp=Z,614nm,19.2s,baz=20,slow=41
ARCES ARCESS Array B 53.18 342 P **P** **03 24 39.9 +0.1**
ARCES pmax pmax
comp=Z,15nm,1.1s
ARCES ARCESS Array B 53.18 342 P **P** **03 24 39.9 +0.1**
VCNR Virginia City 53.21 72 IAmb IAmb 03 24 44.6
comp=Z,33nm,0.9s
HLID Hailey 53.22 64 P 03 24 42.0
baz=312,SNR=20
APA Apatity 53.24 338⇑ *i* P P 03 24 45.7 +5.5
APA pmax pmax
comp=Z,9.0nm,0.6s
BOZ Bozeman (W) 53.33 61 P 03 24 42.5
baz=312,SNR=23
SUMG Summit 53.37 8 *i* P **P** **03 24 41.6 0.0**
comp=Z,191nm,1.1s
SUMG Summit 53.37 8 P **P** **03 24 41.9 +0.3**
SUMG pmax pmax
comp=Z,64nm,1.0s
SUMG Summit 53.37 8 P **P** **03 24 41.9 +0.3**
SUMG Summit 53.37 8 *i* P **P** **03 24 41.7 0.0**
SUMG IAmb IAmb 03 24 43.7
comp=Z,192nm,1.1s
YERR Yerington 53.66 72 IAmb IAmb 03 24 47.9
comp=Z,32nm,1.0s
CMB Columbia Colle 53.66 73 IAmb IAmb 03 24 47.8
comp=Z,19nm,1.1s
ARU Arti 53.79 318 *d* P **P** **03 24 42.9 -1.5**
ARU *PP **pP** **03 24 52.9 +0.7**
ARU *SP **pwP** **03 24 59.3 +2.8**
ARU 03 25 47.1
ARU 03 26 42.4
ARU S **S** **03 32 15.7 -1.0**
ARU SS **SS** **03 35 57.8 +0.8**
ARU pmax pmax
comp=Z,10.0nm,0.6s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 53.79 318 P **P** **03 24 42.9 -1.5**
ARU IAmb IAmb 03 24 54.0
comp=Z,15nm,0.6s
WAKR Walker 53.87 72 IAmb IAmb 03 24 49.2
comp=Z,25nm,0.8s
SLVN Son La 54.19 257 IAmb IAmb 03 25 01.6
comp=Z,20nm,0.9s
KVN Kaiserville 54.25 71 IAmb IAmb 03 24 51.8
comp=Z,27nm,0.8s
RYN Ryan 54.31 72 IAmb IAmb 03 24 52.1
comp=Z,20nm,0.8s
NVAR Mina Array Bea 54.57 72 P **P** **03 24 53.0 +2.4**
comp=Z,17nm,0.7s,baz=296,slow=7.3,SNR=96
NVAR LR LR 03 45 08.9
comp=Z,410nm,21.3s,baz=273,slow=33
NVAR Mina Array Bea 54.57 72 P **P** **03 24 51.3 +0.6**
LHV Little Huntoon 54.58 72 IAmb IAmb 03 25 06.3
comp=Z,29nm,1.0s
PRGR Permogore 54.62 328 *eP* **P** **03 24 48.8 -1.6**
PRGR pmax pmax
comp=Z,24nm,0.8s
NV11 Mina Array Sit 54.65 71 IAmb IAmb 03 24 54.8
comp=Z,16nm,0.8s
ELK Elko 54.68 68 IAmb IAmb 03 24 55.4
comp=Z,28nm,1.0s
H17A Grant Village 54.69 61 P 03 24 54.1
baz=313,SNR=28
MLAC Mammoth, Mammo 54.82 73 P 03 24 52.5
baz=314
FLWY Flagg Ranch 54.84 62 IAmb IAmb 03 24 56.6
comp=Z,18nm,0.8s
RLMT Red Lodge 54.88 60 P 03 24 54.5
baz=313,SNR=38
TKM2 Tokmak 2 55.06 297 *i* P **P** **03 24 54.2 +0.1**
TKM2 pmax pmax
comp=Z,7.0nm,0.5s
DGMT Dagmar 55.12 54 IAmb IAmb 03 24 57.5
comp=Z,24nm,1.1s
DGMT Dagmar 55.12 54 P 03 24 56.0
baz=314
LOHW Long Hollow 55.21 62 IAmb IAmb 03 24 59.1
comp=Z,20nm,1.1s
SNOW Snow King Moun 55.24 62 IAmb IAmb 03 24 59.6
comp=Z,17nm,1.1s
PAGB Antelope Grade 55.34 75 IAmb IAmb 03 24 59.5
comp=Z,22nm,0.9s
LAO LASA Array 55.35 57 P 03 24 58.5
baz=314,SNR=6.8
VOG Valley Oaks Go 55.42 74 P 03 24 58.5
baz=315
AHID Auburn Hatcher 55.53 63 IAmb IAmb 03 25 01.1
comp=Z,19nm,0.9s
TIN Tinemaha, Big 55.57 73 P 03 24 58.9
baz=315
KIRV Kirov 55.66 324 *eP* **P** **03 24 56.7 -1.2**
SMMC Simmler 55.78 75 P 03 25 00.5
baz=315
AAK Ala-Archa 55.84 297 P P 03 24 54.7 -5.0
AAK pmax pmax
comp=Z,10.0nm,0.5s
AAK Ala-Archa 55.84 297 P P 03 24 54.7 -5.0
AAK IAmb IAmb 03 24 55.2
comp=Z,9.5nm,0.5s
AAK Ala-Archa 55.84 297⇓ P P 03 24 54.3 -5.3
comp=Z,5.7nm,0.5s
VES Vestal, Richgr 55.93 74 P 03 25 01.4
baz=315,SNR=8.6
CWC Cottonwood Cre 56.09 73 P 03 25 03.2
baz=315
GRAC Grapevine Rang 56.10 72 P 03 25 03.6
baz=315,SNR=8.0
R11A Troy Canyon, C 56.16 70 P 03 25 03.7
baz=315,SNR=15
PKM Mcpherson Peak 56.19 76 P 03 25 03.7
baz=315
SCO Scoresbysund 56.24 2 *i* P **P** **03 25 03.1 +1.2**
SCO Scoresbysund 56.24 2 *i* P **P** **03 25 03.1 +1.2**
SCO Scoresbysund 56.24 2 *i* P **P** **03 25 03.1 +1.2**
BW06 Boulder Array 56.35 62 IAmb IAmb 03 25 06.8
comp=Z,26nm,0.9s
PDAR Pinedale Array 56.35 62 P **P** **03 25 05.2 +1.8**
comp=Z,16nm,0.8s,baz=321,slow=2.4,SNR=95
PDAR Pinedale Array 56.35 62 P **P** **03 25 04.0 +0.5**
BW06 Boulder Array 56.35 62 P 03 25 05.0
baz=314,SNR=29
DUG Dugway, Tooele 56.40 66 P 03 25 05.8
baz=314,SNR=58
ISA Isabella, Lake 56.41 74 P 03 25 05.4
baz=315
ARVC Arvin 56.59 75 P 03 25 05.0
baz=316
MPMC Manual Prospec 56.69 73 P 03 25 07.7
baz=315,SNR=16
FURC Furnace Creek, 56.76 72 P 03 25 08.1
baz=315,SNR=28
TPNV Topopah Spring 56.77 71 IAmb IAmb 03 25 10.2
comp=Z,26nm,0.9s
TPNV Topopah Spring 56.77 71 P 03 25 07.6
baz=315,SNR=23
LRMC Laurel Mtn Rad 56.99 74 P 03 25 09.7
baz=316,SNR=7.5
KLMR Klimovskoe 57.09 330 *eP* **P** **03 25 06.4 -1.7**
KLMR pmax pmax
comp=Z,19nm,0.7s
KLMR MLR MLR
comp=Z,908nm,15.0s
KLMR Klimovskoe 57.09 330 *eP* **P** **03 25 06.4 -1.7**
KLMR AMP 03 25 09.6
comp=Z,19nm,0.7s
KLMR LQ LQ 03 45 56.8
KLMR LQ LQ 03 45 56.8
KLMR LR LR 03 49 35.5
KLMR AMP 03 55 05.0
comp=Z,908nm,15.4s
PRN Pahroc Range 57.12 70 IAmb IAmb 03 25 12.8
comp=Z,27nm,1.0s
NONG Nongkai 57.20 255 P **P** **03 25 10.8 +1.4**
EDW2 Edwards Air Fo 57.24 74 P 03 25 11.3
baz=316,SNR=11
DECC Green Verdugo 57.49 75 P 03 25 12.9
baz=316
SHOC Shoshone, Teco 57.50 72 P 03 25 13.1
baz=316
GSC Goldstone, Bar 57.62 73 IAmb IAmb 03 25 16.0
comp=Z,23nm,1.0s
GSC Goldstone, Bar 57.62 73 P 03 25 14.0
baz=316,SNR=15
MWC Mount Wilson 57.67 75 IAmb IAmb 03 25 15.8
comp=Z,16nm,0.9s
ULM Lac du Bonnet 57.71 48 P **P** **03 25 13.2 +0.6**
comp=Z,5.8nm,0.9s,baz=313,slow=7.2,SNR=12
ULM LR LR 03 51 06.4
comp=Z,897nm,20.1s,baz=324,slow=37
BFSC Mount Baldy Ra 57.89 75 P 03 25 15.4
baz=316
K22A Casper 58.02 60 P **P** **03 25 16.0 +0.8**
K22A IAmb IAmb 03 25 18.3
comp=Z,21nm,1.1s
K22A Casper 58.02 60 P 03 25 16.7
baz=315,SNR=10
SHL Shillong 58.09 271 IAmb IAmb 03 25 28.0
comp=Z,24nm,1.1s
UBPT Khong Chiam 58.09 251 P **P** **03 25 18.1 +2.4**
comp=Z,28nm,0.9s
HEC Hector, Ludlow 58.23 73 P 03 25 18.1
baz=316,SNR=12
RSSD Black Hills 58.25 58 P **P** **03 25 17.3 +0.5**
RSSD pmax pmax
comp=Z,31nm,1.0s
RSSD Black Hills 58.25 58 P **P** **03 25 17.3 +0.5**
RSSD IAmb IAmb 03 25 19.7
comp=Z,31nm,0.9s
RSSD Black Hills 58.25 58 P 03 25 17.4
baz=316
AKTO Aktyubinsk 58.30 313 *i* P **P** **03 25 14.1 -2.7**
AKTO pmax pmax
comp=Z,4.0nm,0.5s
AB31 Akbulak array 58.31 311 *i* P **P** **03 25 14.5 -2.4**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 58.31 311 P **P** **03 25 14.6 -2.3**
RWWY Rawlins 58.35 62 IAmb IAmb 03 25 20.6
comp=Z,28nm,1.0s
MURC Murrieta 58.62 75 P 03 25 21.0
baz=316,SNR=5.9
GMRC Granite Mounta 58.65 73 P 03 25 21.1
baz=316,SNR=17
LAMP Lampang 58.88 259 P **P** **03 25 22.7 +1.5**
comp=Z,2µmcomp=Z,106nm,1.0s
CM34 Chiang Mai Arr 58.90 259 P **P** **03 25 22.0 +0.6**
O20A White River Ci 58.91 64 IAmb IAmb 03 25 24.8
comp=Z,27nm,1.1s
O20A White River Ci 58.91 64 P 03 25 22.9
baz=316,SNR=18
BELC Belle Mtn. Jos 59.02 74 P 03 25 23.3
baz=316,SNR=6.8
PFO Pinyon Flats O 59.03 74 *eP* **P** **03 25 22.5 +0.2**
PFO pmax pmax
comp=Z,10.0nm,0.9s
PFO Pinyon Flats O 59.03 74 P 03 25 22.8
baz=317
CM35 Chiang Mai Arr 59.04 259 P **P** **03 25 23.0 +0.7**
TPFO Pinon Flats 59.04 74 P 03 25 22.9
baz=317
CM33 Chiang Mai Arr 59.05 260 P **P** **03 25 23.0 +0.6**
CMMT Chiang Mai 59.05 260 P **P** **03 25 22.2 -0.2**
comp=Z,371nmcomp=Z,33nm,1.2s
CHTO Chiang Mai 59.05 260 P **P** **03 25 22.3 -0.1**
CHTO pmax pmax
comp=Z,47nm,0.8s
CHTO Chiang Mai 59.05 260 P **P** **03 25 22.3 -0.1**
DLV T Lat 59.13 246 P **P** **03 25 22.8 -0.3**
DLV IAmb IAmb 03 25 42.0
comp=Z,15nm,0.9s
AGMN Agassiz Nation 59.14 49 P 03 25 23.2
baz=317
CM36 Chiang Mai Arr 59.20 259 P **P** **03 25 24.0 +0.6**
CM32 Chiang Mai Arr 59.24 260 P **P** **03 25 26.0 +2.3**
TAPN Taplejung 59.25 275 *eP* **P** **03 25 23.7 -0.3**
comp=Z,71nm,0.6s
CM09 Chiang Mai Arr 59.32 259 P **P** **03 25 25.7 +1.5**
comp=Z,376nmcomp=Z,57nm,0.8s
CM31 Chiang Mai Arr 59.33 259 P **P** **03 25 25.8 +1.4**
comp=Z,1µm,0.7s
CMAR Chiang Mai Arr 59.33 259 P **P** **03 25 25.1 +0.8**
comp=Z,26nm,0.7s,baz=25,slow=6.9,SNR=83
CMAR LR LR 03 54 33.8
comp=Z,903nm,18.2s,baz=89,slow=40
CMAR Chiang Mai Arr 59.33 259 P **P** **03 25 24.2 -0.2**
CM15 Chiang Mai Arr 59.35 259 P **P** **03 25 26.3 +1.8**
comp=Z,48nm,0.9s
CM02 Chiang Mai Arr 59.35 259 P **P** **03 25 25.0 +0.5**
comp=Z,383nmcomp=Z,49nm,0.8s
CM01 Chiang Mai Arr 59.35 259 P **P** **03 25 26.0 +1.5**
comp=Z,372nmcomp=Z,58nm,0.8s
CM04 Chiang Mai Arr 59.36 259 P **P** **03 25 25.8 +1.3**
comp=Z,376nmcomp=Z,55nm,0.8s
CM05 Chiang Mai Arr 59.38 259 P **P** **03 25 25.9 +1.2**
comp=Z,270nmcomp=Z,38nm,0.7s
CM13 Chiang Mai Arr 59.38 259 P **P** **03 25 25.0 +0.3**
comp=Z,295nmcomp=Z,40nm,0.8s
IRM Iron Mountain 59.39 73 P 03 25 25.9
baz=317,SNR=10
PHIT Phitsanulok 59.47 257 P **P** **03 25 27.2 +1.9**
comp=Z,197nm,1.0s
MONP2 Monument Peak 59.58 75 P 03 25 27.4
baz=317
BC3 Big Chuckawall 59.58 74 P 03 25 26.7
baz=317
CHAI Chaiyaphum 59.58 255 P **P** **03 25 27.8 +1.8**
comp=Z,645nmcomp=Z,87nm,0.9s
N23A Red Feather La 59.58 61 P 03 25 27.4
baz=316,SNR=15
SUKH Sukhothai 59.70 258 P **P** **03 25 28.0 +1.2**
comp=Z,38nm,0.8s
ODAN Odar 59.80 275 *eP* **P** **03 25 27.5 -0.3**
comp=Z,23nm,0.5s
PDMCI Parker Dam,Lak 59.86 72 P 03 25 29.4
baz=317,SNR=9.0
GUN Gumba 59.92 277 *eP* **P** **03 25 28.1 -0.6**
comp=Z,19nm,0.4s
IKP In-Ko-Pah, Jac 59.93 75 P 03 25 29.8
baz=317
FINES FINESS Array B 60.12 337 P **P** **03 25 28.5 -0.7**
comp=Z,23nm,0.7s,baz=32,slow=6.2,SNR=76
FINES LR LR 03 56 55.5
comp=Z,692nm,18.3s,baz=30,slow=42
MHMT Maesarieng 60.15 260 P **P** **03 25 30.3 +0.4**
comp=Z,2µmcomp=Z,126nm,1.1s
ISOG Isortoq, Green 60.16 10 *i* P **P** **03 25 28.6 -0.8**
ISOG IAmb IAmb 03 25 29.2
comp=Z,88nm,1.3s
RAMN Ramite 60.20 276 *eP* **P** **03 25 29.7 -0.9**
comp=Z,73nm,0.6s
SMCO Snowmass 60.28 63 IAmb IAmb 03 25 34.5
comp=Z,17nm,1.0s
KKN Kakani 60.36 277 *eP* **P** **03 25 31.4 -0.2**
comp=Z,31nm,0.6s
GLA Glamis 60.38 74 P 03 25 33.2
baz=317
PKI Pulchoki 60.45 277 *eP* **P** **03 25 31.7 -0.6**
comp=Z,52nm,0.8s
PKIN Phulchoki 60.45 277 *eP* **P** **03 25 31.6 -0.7**
comp=Z,47nm,0.7s
WUAZ Wupatki 60.53 69 IAmb IAmb 03 25 37.2
comp=Z,24nm,1.1s
WUAZ Wupatki 60.53 69 P 03 25 33.9
baz=317,SNR=6.1
ISCO Idaho Springs 60.55 62 IAmb IAmb 03 25 36.8
comp=Z,21nm,1.1s
ISCO Idaho Springs 60.55 62 P 03 25 34.7
baz=317,SNR=23
GKN Gorkha 60.58 278 *eP* **P** **03 25 32.7 -0.3**
comp=Z,44nm,0.7s
DMN Daman 60.60 277 *eP* **P** **03 25 33.1 -0.2**
comp=Z,58nm,0.7s
MVCO Mesa Verde 60.89 66 IAmb IAmb 03 25 38.5
comp=Z,15nm,0.9s
MVCO Mesa Verde 60.89 66 P 03 25 36.5
baz=317,SNR=11
SRAK Srakaew 61.06 254 P **P** **03 25 36.2 0.0**
comp=Z,5µmcomp=Z,649nm,1.0s
BELG Belogornoye 61.06 320 *eP* **P** **03 25 34.5 -1.2**
BELG pmax pmax
comp=Z,3.0nm,0.8s
SPMM Sapulut 61.13 234 P **P** **03 25 36.0 -0.7**
UMPA Umpang Tak 61.15 258 P **P** **03 25 39.8 +3.0**
comp=Z,4µmcomp=Z,130nm,0.9s
UTHA Uthaitani 61.32 257 P **P** **03 25 39.9 +2.0**
comp=Z,624nmcomp=Z,85nm,0.9s
EYMN Ely 61.35 47 P **P** **03 25 38.2 +0.4**
EYMN Ely 61.35 47 P 03 25 38.4
baz=319
S22A 4UR Ranch, Cre 61.40 65 P 03 25 39.7
baz=317,SNR=19
Q24A Divide 61.41 62 P 03 25 39.0
baz=317
W18A Petrified Fore 61.74 68 P 03 25 42.3
baz=318,SNR=9.0
GTOI Gorontalo 61.75 225 P P 03 25 50.7 +10
comp=Z,10nm,1.2s
X18A Snowflake 62.05 69 IAmb IAmb 03 25 46.9
comp=Z,20nm,0.9s
ECSD EROS Data Cent 62.18 53 P 03 25 44.4
baz=319,SNR=5.3
TOLI2 Tolitoli 62.30 228 IAmb IAmb 03 25 58.5
comp=Z,12nm,1.0s
214A Organ Pipe Nat 62.33 73 P 03 25 46.2
baz=318,SNR=7.6
MRSI Marisa 62.36 226 P P 03 25 56.0 +11
comp=Z,28nm,1.4s
AAL Aland 62.59 340 *eP* **P** **03 25 45.2 -0.6**
VSU Vasula 62.59 335 *eP* **P** **03 25 45.6 -0.3**
VSU Vasula 62.59 335 *eP* **P** **03 25 45.4 -0.5**
VSU pmax pmax
comp=Z,33nm,0.7s
OBN Obninsk 62.70 328 *i* P **P** **03 25 47.0 +0.3**
OBN *i* 03 25 57.0
OBN *i* 03 26 23.7
OBN *i* 03 28 05.6
OBN *i* S **S** **03 34 05.8 -7.1**
OBN pmax pmax
comp=Z,9.0nm,0.9s
OBN MLR MLR
comp=Z,1µm,18.0s
SPMN Marine on St. 62.84 50 P 03 25 48.5
baz=320
SANI Sanana 62.97 221 P P 03 26 02.3 +13
comp=Z,15nm,1.0s
MTSE Matsula 63.07 337 *eP* **P** **03 25 45.7 -3.4**
T25A Trinidad 63.15 63 IAmb IAmb 03 26 04.6
comp=Z,13nm,0.9s
T25A Trinidad 63.15 63 P 03 25 50.8
baz=318
BGNE Belgrade 63.18 56 P 03 25 51.0
baz=319
TUC Tucson 63.22 71 P **P** **03 25 51.5 +0.9**
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC Tucson 63.22 71 P **P** **03 25 51.5 +0.9**
TUC Tucson 63.22 71 P 03 25 51.9
baz=318
PHET Kaeng Krachan 63.33 255 P **P** **03 25 54.2 +2.8**
comp=Z,728nmcomp=Z,74nm,0.9s
UPP Uppsala 63.36 341 *eP* **P** **03 25 51.1 +0.1**
NB2 NORSAR Subarra 63.40 345 P **P** **03 25 50.3 -1.0**
comp=Z,12nm,0.6s,baz=20,slow=6.9
NOA NORSAR Array B 63.40 345 P **P** **03 25 50.4 -0.9**
comp=Z,6.1nm,0.5s,baz=20,slow=6.7,SNR=65
NOA LR LR 03 57 34.0
comp=Z,164nm,18.8s,baz=20,slow=40
ANMO Albuquerque 63.67 66 P **P** **03 25 54.4 +0.7**
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 63.67 66 P **P** **03 25 54.4 +0.7**
ANMO Albuquerque 63.67 66 P 03 25 54.8
baz=318
LPSR Galich'ya Gora 64.03 325 *eP* **P** **03 25 54.2 -1.3**
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR MLR MLR
comp=Z,960nm,17.0s
VRH Novokhopyorsk 64.21 323 *eP* **P** **03 25 54.7 -2.0**
VRH pmax pmax
comp=Z,20nm,0.6s
VRH MLR MLR
comp=Z,1µm,15.0s
CBKS Cedar Bluff 64.33 59 P 03 25 58.7
baz=319
SLIT Slitere, Latvi 64.41 337 *eP* **P** **03 25 58.1 +0.2**
121A Cookes Peak, D 64.74 69 IAmb IAmb 03 26 04.7
comp=Z,17nm,1.1s
121A Cookes Peak, D 64.74 69 P 03 26 01.8
baz=319,SNR=7.4
KONO Kongsberg 64.97 345 P **P** **03 26 01.3 -0.3**
KONO pmax pmax
comp=Z,15nm,1.0s
KONO Kongsberg 64.97 345 P **P** **03 26 01.3 -0.3**
KONO IAmb IAmb 03 26 16.9
comp=Z,15nm,1.0s
VSR Storozhevoye 65.10 324 *eP* **P** **03 26 01.0 -1.5**
VSR pmax pmax
comp=Z,20nm,1.6s
VSR MLR MLR
comp=Z,760nm,14.0s
SCIA State Center 65.19 53 P 03 26 03.7
baz=321
ISAL Salakas 65.31 334 *eP* **P** **03 26 04.1 +0.3**
IDID Didziasalis 65.38 334 *eP* **P** **03 26 04.6 +0.3**
IIGN Ignalina 65.48 334 *eP* **P** **03 26 05.0 0.0**
NACGM Naroch 65.73 333 *i* P **P** **03 26 06.0 -0.5**
NACGM *i* P **P** **03 26 06.0 -0.5**
NACGM *i* P **P** **03 26 06.0 -0.5**
NACGM *i* PcP **PcP** **03 26 35.5 -2.1**
NACGM *i* PP **PP** **03 28 35.4 +4.7**
NACGM *i* PPP PPP 03 30 07.3
NACGM *i* S **S** **03 34 54.0 +3.6**
NACGM *i* PS PnS 03 35 59.8 +48
NACGM *i* SS **SS** **03 39 10.6 +6.7**
NACGM *i* SSS SSS 03 42 32.1
NACGM *i* LQ LQ 03 50 36.6
NACGM *i* LR LR 03 55 33.5
MNK Minsk 65.79 333 *eP* P 03 26 16.0 +9.0
MNK Minsk 65.79 333 *i* P **P** **03 26 06.0 -1.0**
comp=E,4.0nm,1.0s
MNK *i* P **P** **03 26 06.0 -1.0**
comp=N,7.0nm,1.0s
MNK *i* P **P** **03 26 06.0 -1.0**
comp=Z,18nm,1.0s
MNK *i* PcP PcP 03 27 05.1 +27
MNK *i* PP PP 03 28 22.4 -8.8
MNK *i* PPP PPP 03 30 36.5
MNK *i* S **S** **03 34 50.6 -0.6**
MNK *i* ScS **ScS** **03 36 01.6 +1.3**
MNK *i* SS SS 03 38 46.3 -19
MNK *i* SSS SSS 03 43 01.2
MNK *i* LQ LQ 03 49 54.7
MNK *i* LR LR 03 53 33.8
MNK *i* LRM MLR 03 58 05.5
comp=E,25nm,18.1s
MNK *i* LRM MLR 03 58 07.8
comp=Z,478nm,18.1s
MNK *i* LRM MLR 03 58 15.2
comp=N,745nm,18.1s
PABE Paberze 65.92 335 *eP* **P** **03 26 07.2 -0.6**
MSTX Muleshoe 66.41 65 IAmb IAmb 03 26 14.7
comp=Z,14nm,0.8s
MSTX Muleshoe 66.41 65 P 03 26 12.2
baz=320
MNTX Cornudas Mount 66.70 68 IAmb IAmb 03 26 16.7

comp=Z,17nm,1.1s
MNTX Cornudas Mount **66.70 68** P 03 26 14.4
baz=320
L42A Oliver, Polo **66.77 50** IAmb IAmb 03 26 14.1
comp=Z,14nm,0.8s
MTKI Muara Teweh, K **66.81 233** P P 03 26 17.5 +3.5
VLDQ Val d'Or **66.93 39** P **P** **03 26 12.3 -2.0**
VLDQ IAmb IAmb 03 26 13.5
comp=Z,13nm,0.9s
SPSI Sidrap Palu **67.27 227** P P 03 26 31.4 +15
KRAB Krabi **67.36 252** P P 03 26 26.1 +8.6
L44A Lake County Fo **67.43 49** P 03 26 17.1
baz=323
SUW Suwalki **67.47 335** *e*P **P** **03 26 18.6 +0.9**
SUW Suwalki **67.47 335** *e*P **P** **03 26 16.9 -0.7**
BNSI Bone **67.52 226** P P 03 26 28.0 +10
comp=Z,12nm,0.4s
GEYT Alibeck **67.74 304** P **P** **03 26 19.4 -0.4**
comp=Z,10nm,0.7s,baz=72,slow=5.6,SNR=11
GEYT LR LR 03 58 22.9
comp=Z,2µm,18.6s,baz=30,slow=38
GEYT Alibeck **67.74 304** P **P** **03 26 19.3 -0.4**
GYA0B ALIBECK ARRAY **67.74 304** IAmb IAmb 03 26 35.4
comp=Z,20nm,1.0s
WMOK Wichita Mounta **67.94 61** P 03 26 21.6
baz=321,SNR=27
HDIL Hopedale **68.09 51** P 03 26 21.3
baz=323
KBKI Kotabaru **68.29 230** P **P** **03 26 25.6 +2.3**
HRA Herat **68.38 299** P **P** **03 26 24.0 0.0**
HRA IAmb IAmb 03 26 36.4
comp=Z,10nm,0.9s
R40A Maddies Statio **68.46 54** IAmb IAmb 03 26 25.0
comp=Z,12nm,0.8s
TUL1 Leonard **68.57 58** P 03 26 25.1
baz=321
P43A Skaggs, Pawnee **68.71 52** IAmb IAmb 03 26 27.0
comp=Z,17nm,0.8s
AKASG Malin Array Be **68.77 330** P **P** **03 26 24.6 -1.3**
comp=Z,9.0nm,0.6s,baz=30,slow=6.4,SNR=21
AKASG LR LR 04 00 52.9
comp=Z,691nm,18.1s,baz=20,slow=40
AKBB Malin Array Si **68.77 330** IAmb IAmb 03 26 39.6
comp=Z,17nm,1.1s
GOF Gofitskoye **68.78 318**⇑ *e*P **P** **03 26 25.8 -0.2**
GOF pmax pmax
comp=Z,26nm,0.6s
D56A ZEC Mazanza, M **68.82 38** P 03 26 25.4
baz=328
BBKI Banjar Baru **69.05 231** P **P** **03 26 29.6 +1.6**
JRMM Jerantut **69.09 247** P **P** **03 26 29.0 +0.7**
I51A Listowel **69.09 44** P 03 26 27.8
baz=325
ABTX Abilene, Hawle **69.11 63** IAmb IAmb 03 26 30.7
comp=Z,16nm,0.8s
ABTX Abilene, Hawle **69.11 63** P 03 26 29.0
baz=321,SNR=6.7
CCM Cathedral Cave **69.14 54** P **P** **03 26 28.9 +0.5**
CCM pmax pmax
comp=Z,11nm,1.1s
CCM Cathedral Cave **69.14 54** P **P** **03 26 28.9 +0.5**
CCM Cathedral Cave **69.14 54** P 03 26 28.2
baz=322
E56A St. Veronique **69.15 38** P 03 26 27.5
baz=328
DRUM Mains of Drumt **69.16 351** *e*P **P** **03 26 28.8 +0.7**
L48A N Adams **69.16 47** IAmb IAmb 03 26 29.8
comp=Z,16nm,0.9s
GROC Groznyy **69.18 315** *e*P **P** **03 26 29.6 +1.1**
GROC *e* 03 26 53.6
GROC *e* 03 29 06.7
GROC *e*S **S** **03 35 35.4 +3.2**
GROC pmax pmax
comp=Z,8.0nm,0.6s
AAM Ann Arbor **69.21 46** IAmb IAmb 03 26 30.7
comp=Z,21nm,0.9s
AAM Ann Arbor **69.21 46** P 03 26 28.4
baz=325
SFIN Lafayette **69.24 50** P 03 26 28.7
baz=324
TXAR Lajitas Array **69.46 68** P **P** **03 26 31.8 +1.2**
comp=Z,11nm,0.7s,baz=298,slow=4.2,SNR=137
TXAR PcP **PcP** **03 26 52.4 -1.4**
comp=Z,3.3nm,0.6s,baz=306,slow=4.5,SNR=5.4
TXAR Lajitas Array **69.46 68** P **P** **03 26 31.3 +0.6**
GKP Gorka Klasztor **69.56 338** *e*P **P** **03 26 31.5 +0.8**
GKP Gorka Klasztor **69.56 338** *e*P **P** **03 26 29.9 -0.8**
U40A Yellville **69.70 56** IAmb IAmb 03 26 33.1
comp=Z,19nm,1.0s
U40A Yellville **69.70 56** P 03 26 31.6
baz=322,SNR=12
AKT Akhty **69.76 313** *e*P **P** **03 26 31.1 -1.2**
AKT *e* 03 26 53.1
AKT *e* 03 29 05.0
AKT pmax pmax
comp=Z,13nm,0.6s
KIV Kislovodsk **69.83 318** *e*P **P** **03 26 33.2 +0.5**
KIV *e*S **S** **03 35 40.4 +0.3**
KIV pmax pmax
comp=Z,27nm,0.9s
KIV MLR MLR
comp=Z,3µm,17.0s
KIV Kislovodsk **69.83 318** P **P** **03 26 32.8 +0.1**
KIV IAmb IAmb 03 26 48.0
comp=Z,9.3nm,0.7s
KBZ Khabaz **69.94 318** P **P** **03 26 32.5 -0.7**
comp=Z,4.8nm,0.6s,baz=65,slow=3.7,SNR=16
KBZ LR LR 04 01 13.5
comp=Z,1µm,19.8s,baz=24,slow=40
EAB Aberfoyle **70.04 352** *e*P **P** **03 26 34.2 +0.5**
ZKTA Zakatala **70.11 314** P **P** **03 26 33.3 -1.1**
LGD Lagodekhi **70.11 314** P **P** **03 26 33.2 -1.1**
W39A Magazine **70.15 58** P 03 26 34.6
baz=322
ESY Stoneypath **70.15 351** *e*P **P** **03 26 34.6 +0.3**
SEKA Sheki **70.21 313** P **P** **03 26 34.4 -0.6**
ZEI Tsey **70.31 316** *e*P **P** **03 26 34.5 -1.3**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
MMRI Maumere **70.46 222** P P 03 26 49.4 +13
comp=Z,39nm,0.7s
DDFL Dedoflistskaro **70.48 314** P **P** **03 26 37.2 +0.5**
MNGR Mingechevir, A **70.62 313** P P 03 26 42.1 +4.7
M51A Elyria **70.64 46** P 03 26 36.9
baz=325
ONI Oni **70.66 317** P **P** **03 26 38.8 +1.1**
SOEI Soe **70.69 220** P P 03 26 52.1 +14
JCT Junction City **70.69 65** IAmb IAmb 03 26 40.4
comp=Z,16nm,0.9s
JCT Junction City **70.69 65** P 03 26 38.3
baz=321
P48A Milroy **70.74 49** IAmb IAmb 03 26 38.9
comp=Z,19nm,1.1s
MIAR Mount Ida **70.76 58** IAmb IAmb 03 26 40.3
comp=Z,15nm,1.1s
MIAR Mount Ida **70.77 58** P 03 26 38.9
baz=322,SNR=6.1
WHTX Lake Whitney, **70.77 62** P 03 26 38.7
baz=322
D62A Allapoint, All **70.80 34** P 03 26 38.1
baz=331
ESK Eskdalemuir **70.80 351** *e*P **P** **03 26 38.2 -0.1**
ESK IAmb IAmb 03 26 40.1
comp=Z,14nm,1.0s
BTNK Botanikuri **70.85 315** P **P** **03 26 39.8 +0.9**
ERPA Erie **70.91 44** P 03 26 38.8
baz=326
W41B Gary Mavity, V **70.93 56** P 03 26 39.6
baz=323,SNR=8.7
L53A Girard **70.94 44** P 03 26 39.0
baz=326
LVV L'vov **71.05 333** *e*P **P** **03 26 40.5 +0.6**
GANJ Ganja **71.05 313** P **P** **03 26 40.0 -0.1**
X40A Basin Creek Fa **71.19 57** P 03 26 41.2
baz=323
M53A Wt Miller and **71.19 45** P 03 26 40.0
baz=326
ACSO Alum Creek Sta **71.19 47** P 03 26 40.7
baz=325
H59A Cadyville **71.26 38** P 03 26 40.8
baz=329
H58A Gabriels **71.27 39** P 03 26 40.3
baz=329
SOC Sochi **71.32 320** *e*P **P** **03 26 39.7 -1.9**
SOC *e* 03 29 26.9
SOC *e*S **S** **03 35 55.6 -1.5**
SOC *e* 03 36 40.8
SOC *e*SS **SS** **03 40 31.4 +0.9**
SOC *e*SSS SSS 03 43 41.4
SOC pmax pmax
comp=Z,12nm,0.8s
SOC MLR MLR
comp=Z,1µm,15.0s
WCI Wyandotte Cave **71.34 51** P **P** **03 26 42.6 +0.8**
WCI pmax pmax
comp=Z,14nm,0.8s
WCI Wyandotte Cave **71.34 51** P **P** **03 26 42.6 +0.8**
WCI IAmb IAmb 03 26 43.3
comp=Z,14nm,0.8s
WCI Wyandotte Cave **71.34 51** P 03 26 41.5
baz=324
GAL1 Galloway **71.38 352** *e*P **P** **03 26 42.1 +0.3**
K56A Middlesex **71.51 42** P 03 26 41.0
baz=327
KESW Keswick, Cumbr **71.51 351** *e*P **P** **03 26 43.2 +0.6**
KESW IAmb IAmb 03 26 44.6
comp=Z,45nm,1.0s
M54A Oil Creek Stat **71.56 44** P 03 26 42.5
baz=326
KWP Kalwaria Pacla **71.58 333** *e*P **P** **03 26 44.1 +1.0**
E63A Oxbow **71.58 34** P 03 26 42.6
baz=331
I58A Old Forge **71.59 40** P 03 26 42.6
baz=328
AKH Akhalkalaki **71.62 316** ⇓P **P** **03 26 43.6 -0.1**
AKH Akhalkalaki **71.62 316** P **P** **03 26 43.6 -0.1**
435B Jarrell **71.64 63** IAmb IAmb 03 26 50.1
comp=Z,14nm,0.9s
FLTG Flechtingen **71.67 342** *e*P **P** **03 26 46.0 +2.4**
comp=Z,44nm,2.2s,baz=19,slow=5.9
FLTG *e*pP **sP** **03 26 54.1 -0.6**
baz=19,slow=5.9
H60A Morristown **71.70 38** P 03 26 42.8
baz=329
OJC Ojcow **71.79 335** *e*P **P** **03 26 45.3 +1.0**
OJC Ojcow **71.79 335** IAmb IAmb 03 27 01.5
comp=Z,12nm,0.9s
N54A Moraine State **71.87 45** P 03 26 44.0
baz=326
L56A Greenwood **71.89 42** P 03 26 44.4
baz=327
G62A West of Eustis **71.91 36** P 03 26 44.9
baz=330
O53A New Philadelph **71.95 46** P 03 26 44.8
baz=326
J59A Piesco **71.96 40** P 03 26 45.1
baz=329
T47A Sharon Grove **71.97 52** IAmb IAmb 03 26 47.1
comp=Z,19nm,0.8s
IOMK Kirk Michael **71.97 352** *e*P **P** **03 26 44.3 -1.0**
ASSE Asse, Remlinge **71.97 342** *e*P **P** **03 26 48.3 +2.9**
comp=Z,36nm,1.9s,baz=19,slow=5.9
HPK Haverah Park **71.99 350** *e*P **P** **03 26 45.9 +0.4**
H61A Lyndonville **72.00 37** P 03 26 45.6
baz=330
KSP Ksiaz **72.03 338** *e*P **P** **03 26 46.9 +1.1**
P52A Corning **72.06 47** P 03 26 46.1
baz=326
WIM Isle of Man **72.09 352** *e*P **P** **03 26 46.4 +0.2**
K58A Earlville **72.12 41** P 03 26 46.0
baz=328
X43A Marvell **72.13 56** P 03 26 47.0
baz=323
GNI Garni **72.14 314** P **P** **03 26 46.8 -0.1**
GNI pmax pmax
comp=Z,35nm,1.1s
GNI Garni **72.14 314** P **P** **03 26 46.8 -0.1**
H62A Milan **72.25 37** P 03 26 46.9
baz=330
HYB Hyderabad **72.26 275** *i* P **P** **03 26 47.0 -0.7**
HYB *e* 03 26 58.5
CLL Collm **72.30 340** *i* P **P** **03 26 47.6 +0.2**
comp=Z,44nm,1.7s
CLL *i* (sP) **pP** **03 26 56.6 +1.1**
CLL *i* 03 27 01.1
comp=Z,30nm,1.1s
CLL *e*S **S** **03 36 05.0 -3.2**
CLL *e*SKSac **ScS** **03 36 55.0 +3.5**
CLL *e*SS **SS** **03 40 48.0 +2.9**
CLL *e* 03 41 36.0
CLL *e*SSS SSS 03 43 54.0
CLL *e*SSSS 03 45 36.0
CLL LmH 04 03 00.0
comp=N,600nm,18.3s
CLL LmH 04 03 00.0
comp=E,400nm,18.0s
CLL LmV 04 04 00.0
comp=Z,500nm,18.3s
CLL Collm **72.30 340** *i* P **P** **03 26 47.6 +0.2**
CLL *i* *PP **pP** **03 26 56.6 +1.1**
CLL *i* *SP **pwP** **03 27 01.1 +1.6**
CLL *e*S **S** **03 36 05.0 -3.2**
CLL pmax pmax
comp=Z,44nm,1.7s
CLL MLR MLR
comp=Z,500nm,18.3s
CLL Collm **72.30 340** IAmb IAmb 03 27 04.1
comp=Z,28nm,1.1s
CLL Collm **72.30 340** *e*P **P** **03 26 49.6 +2.2**
comp=Z,44nm,1.7s,baz=19,slow=5.9
WVT Waverly **72.32 53** P **P** **03 26 48.5 +0.7**
WVT pmax pmax
comp=Z,12nm,0.8s
WVT Waverly **72.32 53** P **P** **03 26 48.5 +0.7**
WVT IAmb IAmb 03 27 01.0
comp=Z,12nm,0.8s
OSTC Ostas **72.32 338** *e*P **P** **03 26 47.1 -0.5**
OSTC AMS AMS 04 03 40.0
comp=Z,700nm,18.7s
WVT Waverly **72.32 53** P 03 26 47.8
baz=324
CHVC Chvalec **72.33 338** *e*P **P** **03 26 47.0 -0.6**
CHVC AMS AMS 04 03 50.0
comp=Z,700nm,15.5s
KOLS Kolonicke sedl **72.33 333** *e*P **P** **03 26 47.9 +0.2**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl **72.33 333** *e*P **P** **03 26 47.9 +0.2**
NIE Niedzica **72.40 335** *e*P **P** **03 26 49.5 +1.5**
NATX Nacogdoches **72.41 60** IAmb IAmb 03 26 50.3
comp=Z,19nm,0.8s
NATX Nacogdoches **72.41 60** P 03 26 48.1
baz=323
UPC Upice **72.41 338** AMS AMS 04 03 50.0
comp=Z,800nm,19.2s
DPC Dobruska-Polom **72.49 338** *e*P **P** **03 26 49.4 +0.8**
DPC MLR MLR
comp=Z,700nm,16.7s
DPC Dobruska-Polom **72.49 338** *e*P **P** **03 26 49.4 +0.8**
DPC AMS AMS 04 04 20.0
comp=Z,700nm,16.7s
G64A Maxfield **72.49 35** P 03 26 47.1
baz=331
BRG Berggiesshubel **72.52 339** *e*P **P** **03 26 48.7 0.0**
BRG Amp 03 26 51.4
comp=Z,10nm,1.3s
BRG *ex* x 03 27 01.6
BRG Amp 03 27 05.1
comp=Z,15nm,1.2s
BRG S **S** **03 36 13.0 +2.3**
BRG Amp 04 05 46.0
comp=N,0.5nm,11.2s
BRG Amp 04 05 50.0
comp=Z,0.9nm,16.2s
BRG Amp 04 05 54.0
comp=E,0.4nm,14.3s
BRG Berggiesshubel **72.52 339** *e*P **P** **03 26 51.1 +2.4**
comp=E,10nm,1.3s,baz=19,slow=5.9
BRG *e*pP **sP** **03 26 59.2 -0.6**
baz=19,slow=5.9
OKC Ostrava-Krasne **72.54 336** AMS AMS 04 03 00.0
comp=E,700nm,18.4s
H63A New Sharon **72.57 36** P 03 26 48.7
baz=331
CRVS Cervenica-Dubn **72.58 334** *e*P **P** **03 26 49.8 +0.7**
CRVS pmax pmax
comp=Z,10.0nm,0.8s
CRVS Cervenica-Dubn **72.58 334** *e*P **P** **03 26 49.8 +0.7**
833A Chaparral WMA, **72.60 66** P 03 26 49.1
baz=322
UZH Uzhgorod **72.60 333** *e*P **P** **03 26 50.5 +1.3**
KMMI Kalianget **72.61 231** P P 03 26 57.2 +7.6
N56A West Decatur **72.61 44** P 03 26 48.8
baz=327
NEUB Neuenburg **72.64 341** *e*P **P** **03 26 51.9 +2.5**
comp=Z,61nm,1.9s,baz=19,slow=5.9
KRLC Kraliky **72.64 337** *e*P **P** **03 26 49.3 -0.2**
KRLC MLR MLR
comp=Z,500nm,14.9s
KRLC Kraliky **72.64 337** *e*P **P** **03 26 49.3 -0.2**
KRLC AMS AMS 04 05 30.0
comp=Z,500nm,14.9s
L58A Harry Jones Me **72.65 41** P 03 26 49.1
baz=328
BUR08 Bucovina Ar. S **72.69 331** IAmb IAmb 03 27 08.8
comp=Z,12nm,0.8s
BURAR Bucovina Array **72.71 331** ⇑P **P** **03 26 50.4 +0.3**
BURAR Bucovina Array **72.71 331** P **P** **03 26 50.3 +0.3**
BURAR Bucovina Array **72.71 331** P **P** **03 26 48.8 -1.3**
PVCC Panska Ves **72.71 339** *e*P **P** **03 26 50.7 +0.8**
PVCC MLR MLR
comp=Z,500nm,18.5s
PVCC Panska Ves **72.71 339** *e*P **P** **03 26 50.7 +0.8**
PVCC AMS AMS 04 04 40.0
comp=Z,500nm,18.5s
M57A Sunshine Farm, **72.74 43** P 03 26 49.5
baz=328
MORC Moravsky Berou **72.74 337** ⇑P **P** **03 26 51.2 +1.0**
MORC Moravsky Berou **72.74 337** *e*P **P** **03 26 50.7 +0.6**
MORC Moravsky Berou **72.74 337** IAmb IAmb 03 27 04.9
comp=Z,14nm,1.0s
LANS Liptovska Anna **72.86 335** *e*P **P** **03 26 52.5 +1.7**
LANS pmax pmax
comp=Z,9.0nm,0.8s
LANS Liptovska Anna **72.86 335** *e*P **P** **03 26 52.5 +1.7**
Q53A Leroy **72.96 47** P 03 26 51.3
baz=326,SNR=6.3
M58A Price's Panora **72.97 42** P 03 26 50.8
baz=328
O56A Blue Knob Stat **73.05 44** P 03 26 52.0
baz=327
N57A Milroy **73.06 43** P 03 26 51.4
baz=328
BIZ Bicaz **73.06 330** ⇑P **P** **03 26 52.3 +0.3**
PRA Prague **73.17 339** AMS AMS 04 04 40.0
comp=Z,600nm,18.0s
MOX Moxa **73.21 341** *e*P **P** **03 26 55.6 +2.8**
comp=Z,7.8nm,1.0s,baz=19,slow=5.9
MOX *e*L L 04 01 55.8
comp=Z,404nm,21.4s
PRU Pruhonice **73.22 339** *e*P **P** **03 26 52.7 -0.2**
PRU *e*S **SKiKP** **03 36 20.0 -1.9**
PRU MLR MLR
comp=Z,600nm,14.6s
PRU Pruhonice **73.22 339** *e*P **P** **03 26 52.7 -0.2**
PRU *e*S **SKiKP** **03 36 20.0 -1.9**
PRU AMS AMS 04 04 40.0
comp=Z,600nm,14.6s
HKT Hockley **73.23 62** *e*P **P** **03 26 51.9 -1.2**
GOPC GO Pecny, Ondr **73.24 338** *e*P **P** **03 26 53.2 +0.2**
GOPC MLR MLR
comp=Z,500nm,14.7s
GOPC GO Pecny, Ondr **73.24 338** *e*P **P** **03 26 53.2 +0.2**
GOPC AMS AMS 04 06 40.0
comp=Z,500nm,14.7s
PLN Plauen **73.25 340** *e*P **P** **03 26 55.9 +2.8**
comp=Z,16nm,1.5s,baz=19,slow=5.9
PLN *e*pP **sP** **03 27 04.2 0.0**
baz=19,slow=5.9
TANN Tannenbergstha **73.26 340** *e*P **P** **03 26 56.0 +2.8**
comp=Z,16nm,1.4s,baz=19,slow=5.9
TANN *e*pP **sP** **03 27 04.3 +0.1**
baz=19,slow=5.9
KASTN Kahler Asten **73.27 343** *e*P **P** **03 26 56.1 +2.9**
baz=19,slow=5.9
TESR Tescani **73.28 329** ⇑P **P** **03 26 53.2 -0.1**
GUNZ Gunzen **73.33 340** *e*P **P** **03 26 56.5 +2.9**
comp=Z,61nm,2.4s,baz=19,slow=5.9
GUNZ *e*pP **sP** **03 27 04.8 +0.1**
baz=19,slow=5.9
UBBA Unterbreizbach **73.35 342** *e*P **P** **03 26 56.2 +2.7**
comp=Z,34nm,2.1s,baz=19,slow=5.9
UBBA *e*pP **sP** **03 27 04.7 +0.1**
baz=19,slow=5.9
I64A Boothbay **73.35 36** P 03 26 53.1
baz=331
WERN Wernitzgruen **73.40 340** *e*P **P** **03 26 56.9 +3.0**
comp=Z,69nm,2.0s,baz=19,slow=5.9
VRAC Vranov **73.40 337** ⇓P **P** **03 26 55.3 +1.3**
VRAC Vranov **73.40 337** *e*P **P** **03 26 54.8 +0.8**
NKC Novy Kostel **73.43 340** AMS AMS 04 05 50.0
comp=Z,700nm,15.9s
O57A Amberson **73.48 44** P 03 26 54.1
baz=328
JAVC Velka Javorina **73.57 336** *e*P **P** **03 26 56.0 +1.0**
P56A Dayton Farm, R **73.57 45** P 03 26 55.1
baz=327
VYHS Vyhne **73.62 335** *e*P **P** **03 26 56.5 +1.2**
VYHS pmax pmax
comp=Z,7.0nm,0.8s
VYHS Vyhne **73.62 335** *e*P **P** **03 26 56.5 +1.2**
N59A State Game Lan **73.64 42** P 03 26 54.8
baz=328
TREC Trest **73.67 338** AMS AMS 04 04 30.0
comp=Z,900nm,19.6s
KRUC Moravsky **73.68 337** *e*P **P** **03 26 56.3 +0.7**
MANZ Manzenberg **73.74 340** *e*P **P** **03 26 58.8 +2.9**
comp=Z,24nm,2.2s,baz=19,slow=5.9
R54A Victor **73.76 47** P 03 26 56.3
baz=326
VRI Vrincioaia **73.83 329** ⇓P **P** **03 26 56.7 +0.1**
PLOR Plostina **73.87 329** ⇑P **P** **03 26 56.9 0.0**
PSZ Piszkesteto **73.89 334** ⇓P **P** **03 26 57.9 +0.9**
PSZ Piszkesteto **73.89 334** P **P** **03 26 57.1 +0.1**
PSZ pmax pmax
comp=Z,9.0nm,0.8s
PSZ Piszkesteto **73.89 334** P **P** **03 26 57.1 +0.1**
OZUR **73.91 330** ⇓P **P** **03 26 57.8 +0.7**
ROTZ Rotzenmuhle **73.92 340** *e*P **P** **03 27 00.1 +3.0**
comp=Z,21nm,1.8s,baz=19,slow=5.9
SMOL Smolenice **73.95 336** *e*P **P** **03 26 58.8 +1.6**
SMOL pmax pmax
comp=Z,5.0nm,0.9s
SMOL Smolenice **73.95 336** *e*P **P** **03 26 58.8 +1.6**
SWET Sewanee **73.96 52** IAmb IAmb 03 26 58.3
comp=Z,23nm,0.8s
CJR Cluj-Napoca **73.99 332** ⇑P **P** **03 26 58.3 +0.8**
CFR Carcaliu **74.01 328** ⇓P **P** **03 26 58.0 +0.4**
R55A Marlinton **74.05 46** P 03 26 57.6
baz=327
MODS Modra-Piesok **74.12 336** *e*P **P** **03 26 59.8 +1.6**
MODS Modra-Piesok **74.12 336** *e*P **P** **03 26 59.8 +1.6**
DOPR Dopca **74.15 330** ⇑P **P** **03 26 59.0 +0.5**
DRGR **74.17 332** ⇓P **P** **03 26 58.5 -0.1**
DRGR **74.17 332** P **P** **03 26 59.0 +0.4**
DRGR pmax pmax
comp=Z,6.0nm,1.2s
POO Poona **74.17 280** *e*P P 03 26 53.0 -6.0
GRF Grafenberg Arr **74.19 341** *e*P **P** **03 27 01.8 +3.2**
comp=Z,94nm,2.0s,baz=19,slow=5.9
GRF *e*L L 04 02 35.7
comp=Z,512nm,20.9s
GRFO Grafenberg **74.19 341** P **P** **03 26 59.1 +0.5**
GRFO pmax pmax
comp=Z,17nm,0.8s
GRFO Grafenberg **74.19 341** P **P** **03 26 59.1 +0.5**
GRFO IAmb IAmb 03 27 02.1
comp=Z,17nm,0.8s
TPGR Topolog **74.21 328** ⇓P **P** **03 26 58.9 +0.1**
KHC Kasperske Hory **74.24 339** *e*P **P** **03 26 59.0 0.0**
KHC *e* 03 27 10.5
KHC MLR MLR
comp=Z,500nm,17.6s
KHC Kasperske Hory **74.24 339** *e*P **P** **03 26 59.0 0.0**
KHC *ex* x 03 27 10.5
KHC AMS AMS 04 02 40.0
comp=Z,500nm,17.6s
MEM Membach **74.25 344** *d*P **P** **03 26 59.5 +0.6**
MEM *d*pP **pP** **03 27 04.8 -2.2**
BTNL Ternell **74.25 344** *d*P **P** **03 27 00.0 +1.1**
BTNL *d*pP **pP** **03 27 05.1 -1.9**
R56A Bull Pasture M **74.25 46** P 03 26 58.1
baz=327
ZST Bratislava **74.32 336** *e*P **P** **03 27 00.9 +1.5**
ZST pmax pmax
comp=Z,96nm,1.8s
ZST Bratislava **74.32 336** *e*P **P** **03 27 00.8 +1.4**

CKRC	**Cesky Krumlov**	**74.38**	**338**	*e*P		**P**	**03 27 00.5**	**+0.8**
CKRC				*e*S		**S**	**03 36 31.3**	**-0.6**
CKRC				AMS		AMS	04 06 20.0	
	comp=Z,700nm,15.1s							
WET	**Wettzell**	**74.38**	**339**	*e*P		**P**	**03 27 02.0**	**+2.3**
	comp=Z,27nm,1.8s,baz=19,slow=5.9							
MLR	**Muntele Rosu**	**74.41**	**329**	⇑P		**P**	**03 27 00.9**	**+0.8**
MLR	**Muntele Rosu**	**74.41**	**329**	P		**P**	**03 27 01.5**	**+1.4**
MLR				pmax		pmax		
	comp=Z,23nm,0.7s							
MLR	**Muntele Rosu**	**74.41**	**329**	IAmb		IAmb	03 27 17.9	
	comp=Z,15nm,0.6s							
P59A	**Jarrettsville**	**74.48**	**43**	P			03 26 59.8	
	baz=328							
GEC2	**GERESS Array S**	**74.49**	**339**	*e*P		**P**	**03 27 02.2**	**+1.8**
	comp=Z,21nm,1.8s,baz=19,slow=5.9							
GERES	**GERESS Array B**	**74.49**	**339**	P		**P**	**03 27 00.1**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=38,slow=5.3,SNR=25							
GERES				LR		LR	04 04 55.4	
	comp=Z,444nm,18.2s,baz=26,slow=40							
GERES	**GERESS Array B**	**74.49**	**339**	P		**P**	**03 27 00.2**	**-0.2**
GERES	**GERESS Array B**	**74.49**	**339**	P		**P**	**03 27 00.2**	**-0.2**
HARR	**Harsova**	**74.52**	**328**	⇓P		**P**	**03 27 00.4**	**-0.1**
Q58A	**Fox Den Farm,**	**74.53**	**44**	P			03 27 00.7	
	baz=328							
ISR	**Istrita**	**74.56**	**329**	⇑P		**P**	**03 27 01.5**	**+0.6**
TIRR	**Tirgusor**	**74.57**	**327**	⇑P		**P**	**03 27 01.2**	**+0.3**
Z47A	**Carrollton**	**74.58**	**55**	P		**P**	**03 27 01.6**	**+0.5**
Z47A				IAmb		IAmb	03 27 02.2	
	comp=Z,20nm,0.8s							
P60A	**Greenville**	**74.63**	**42**	P			03 27 00.6	
	baz=329							
R57A	**Stanardsville**	**74.72**	**45**	P			03 27 01.6	
	baz=328							
VOIR		**74.73**	**330**	⇑P		**P**	**03 27 02.6**	**+0.7**
VOIR		**74.73**	**330**	P		**P**	**03 27 02.6**	**+0.7**
BMRD	**Maredsous**	**74.74**	**345**	*d*P		**P**	**03 27 03.7**	**+2.0**
BMRD				*d*pP		**pP**	**03 27 07.8**	**-2.0**
BMRD				*d*PcP		**PcP**	**03 27 17.2**	**+1.4**
S56A	**Natural Bridge**	**74.80**	**46**	P			03 27 02.0	
	baz=327							
BLA	**Blacksburg**	**74.81**	**47**	IAmb		IAmb	03 27 05.6	
	comp=Z,20nm,0.9s							
BLA	**Blacksburg**	**74.81**	**47**	P			03 27 02.1	
	baz=327							
CONA	**Conrad Observa**	**74.87**	**337**	*e*P		**P**	**03 27 03.8**	**+1.2**
	comp=Z,14nm,1.8s							
ARR	**Arges**	**74.92**	**330**	⇑P		**P**	**03 27 03.2**	**+0.2**
R58A	**Rapidan**	**74.94**	**45**	P			03 27 02.8	
	baz=328							
DOU	**Dourbes**	**74.97**	**345**	*d*x		x	03 27 08.9	
S57A	**Dark Hollow, R**	**74.99**	**46**	P			03 27 03.0	
	baz=328							
Q59A	**Harwood**	**75.02**	**44**	P			03 27 03.9	
	baz=328							
ICOR	**Ion Corvin**	**75.07**	**328**	⇓P		**P**	**03 27 04.1**	**+0.4**
KLSI		**75.09**	**240**	P		P	03 27 16.4	+12
T56A	**Rocky Mt**	**75.14**	**47**	P			03 27 03.6	
	baz=327							
WLF	**Walferdange**	**75.14**	**344**	*e*P		**P**	**03 27 06.9**	**+2.8**
	comp=Z,24nm,1.6s,baz=19,slow=5.9							
LRAL	**Lakeview Retre**	**75.23**	**54**	P			03 27 03.8	
	baz=325							
R58B	**Mineral**	**75.28**	**45**	P			03 27 04.0	
	baz=328							
CBN	**Corbin Frederi**	**75.28**	**44**	P			03 27 04.3	
	baz=328							
MOA	**Molln**	**75.30**	**338**	*i* P		**P**	**03 27 06.4**	**+1.3**
	comp=Z,11nm,1.3s							
DZM	**Mont Dzumac**	**75.41**	**176**	P		**P**	**03 27 07.9**	**+2.0**
	comp=Z,10nm,1.0s,baz=314,slow=5.2,SNR=4.3							
DZM	**Mont Dzumac**	**75.41**	**176**	P		**P**	**03 27 06.7**	**+0.8**
DZM				IAmb		IAmb	03 27 10.5	
	comp=Z,17nm,1.1s							
GZR	**Gura Zlata**	**75.43**	**332**	⇑P		**P**	**03 27 05.9**	**0.0**
S58A	**Poland Farm, P**	**75.50**	**45**	P			03 27 06.1	
	baz=328							
BZS	**Buzias**	**75.55**	**332**	⇓P		**P**	**03 27 06.9**	**+0.4**
ARSA	**Arzberg**	**75.58**	**337**	*e*P		**P**	**03 27 09.3**	**+2.6**
	comp=Z,4.7nm,0.7s							
MORH	**Mrgy, Hungar**	**75.79**	**335**	⇓P		**P**	**03 27 07.9**	**+0.1**
COPA	**Copaceanca**	**75.86**	**329**	⇓P		**P**	**03 27 08.1**	**-0.2**
U57A	**Blanch**	**75.94**	**47**	P			03 27 08.3	
	baz=328							
V56A	**Mocksville**	**75.95**	**48**	P			03 27 09.0	
	baz=327							
HERR	**Herculane**	**76.00**	**332**	⇑P		**P**	**03 27 09.4**	**+0.3**
S60A	**Water View**	**76.01**	**44**	P			03 27 09.4	
	baz=328							
BFO	**Black Forest**	**76.05**	**342**	*e*P		**P**	**03 27 12.0**	**+2.7**
	comp=Z,46nm,2.2s,baz=19,slow=5.9							
SOKA	**Soboth**	**76.23**	**337**	*i* P		**P**	**03 27 10.9**	**+0.4**
	comp=Z,4.0nm,0.6s,SNR=8.1							
KBA	**Koelnbreinsper**	**76.24**	**338**	*i* P		**P**	**03 27 12.2**	**+1.6**
	comp=Z,29nm,0.9s,SNR=14							
PERS	**Pernice**	**76.25**	**337**	*i* P		**P**	**03 27 11.5**	**+0.9**
MDVR	**Moldovita**	**76.29**	**332**	⇓P		**P**	**03 27 10.7**	**-0.1**
U58A	**Oxford**	**76.31**	**46**	P			03 27 10.9	
	baz=328							
MALT	**Malatya**	**76.31**	**318**	P		**P**	**03 27 12.7**	**+1.6**
UBR	**Ueberruh**	**76.33**	**341**	*e*P		**P**	**03 27 13.9**	**+2.9**
	comp=Z,14nm,1.2s,baz=19,slow=5.9							
WATA	**Walderalm**	**76.37**	**340**	*e*P		**P**	**03 27 14.1**	**+2.8**
	comp=Z,8.2nm,1.0s							
RETA	**Reute**	**76.39**	**340**	*e*P		**P**	**03 27 14.1**	**+2.7**
	comp=Z,5.8nm,0.9s							
KALN	**Kalnik**	**76.41**	**336**	*i* P		**P**	**03 27 11.2**	**-0.2**
WTTA	**Wattenberg**	**76.42**	**340**	*e*P		**P**	**03 27 13.2**	**+1.5**
	comp=Z,7.3nm,0.8s							
T60A	**Surry**	**76.45**	**45**	P			03 27 11.2	
	baz=328							
MOTA	**Moosalm**	**76.46**	**340**	*e*P		**P**	**03 27 12.7**	**+0.9**
	comp=Z,11nm,0.9s							
FRGS	**Fruska Gora**	**76.47**	**333**	⇑P		**P**	**03 27 11.9**	**+0.2**
W56A	**Indian Trail**	**76.48**	**48**	P			03 27 11.6	
	baz=327							
OBKA	**Obir**	**76.50**	**337**	*i* P		**P**	**03 27 12.9**	**+0.9**
	comp=Z,22nm,1.1s							
SQTA	**Sankt Quirin**	**76.55**	**340**	*i* P		**P**	**03 27 13.5**	**+1.1**
	comp=Z,14nm,1.0s,SNR=8.7							
MYKA	**Terra Mystica**	**76.60**	**338**	*e*P		**P**	**03 27 14.3**	**+1.8**
	comp=Z,2.8nm,0.6s							
GOGA	**Godfrey**	**76.60**	**51**	P			03 27 12.0	
	baz=326							
PLVB	**Pleven**	**76.72**	**329**	⇑P		**P**	**03 27 13.5**	**+0.4**
ABTA	**Abfaltersbach**	**76.73**	**339**	*e*P		**P**	**03 27 14.0**	**+0.7**
	comp=Z,12nm,0.9s,SNR=6.2							
DAVA	**Damuels**	**76.76**	**341**	*e*P		**P**	**03 27 16.2**	**+2.7**
	comp=Z,3.6nm,0.8s							
WB0	**Warramunga Arr**	**76.78**	**207**	P		**P**	**03 27 14.4**	**+0.7**
WB0				IAmb		IAmb	03 27 16.2	
	comp=Z,15nm,0.9s							
FETA	**Feichten**	**76.84**	**340**	*i* P		**P**	**03 27 15.7**	**+1.7**
	comp=Z,9.1nm,1.0s							
U60A	**Pendleton**	**76.84**	**45**	P			03 27 13.9	
	baz=328							
BRTR	**Keskin Array B**	**76.94**	**322**	P		**P**	**03 27 14.2**	**-0.6**
	comp=Z,5.0nm,0.9s,baz=59,slow=2.8,SNR=18							
BRTR				LR		LR	04 07 02.4	
	comp=Z,598nm,18.3s,baz=30,slow=40							
BRTR	**Keskin Array B**	**76.94**	**322**	P		**P**	**03 27 14.5**	**-0.2**
BRTR	**Keskin Array B**	**76.94**	**322**	P		**P**	**03 27 14.5**	**-0.2**
WB2	**Warramunga Arr**	**76.96**	**207**	IAmb		IAmb	03 27 17.2	
	comp=Z,13nm,0.8s							
WRA	**Warramunga Arr**	**76.97**	**207**	P		**P**	**03 27 15.7**	**+1.0**
	comp=Z,9.2nm,0.8s,baz=21,slow=6.3,SNR=54							
WRA				LR		LR	03 59 22.3	
	comp=Z,161nm,21.7s,baz=5.0,slow=34							
WRA	**Warramunga Arr**	**76.97**	**207**	P		**P**	**03 27 15.4**	**+0.7**
V59A	**Middlesex**	**76.98**	**46**	P			03 27 14.7	
	baz=328							
U61A	**Possum Corner**	**77.26**	**45**	P			03 27 16.4	
	baz=329							
BOJS	**Bojanci**	**77.29**	**337**	*i* P		**P**	**03 27 16.4**	**+0.1**
BOVS	**Bovan**	**77.35**	**332**	⇑P		**P**	**03 27 16.3**	**-0.4**
CTI	**Castel Tesino**	**77.58**	**339**	IAmb		IAmb	03 27 35.9	
	comp=Z,12nm,0.8s							
TUE	**Stuetta**	**77.64**	**341**	IAmb		IAmb	03 27 37.4	
	comp=Z,27nm,1.0s							
VTS	**Vitosha**	**77.84**	**330**	⇑P		**P**	**03 27 19.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**77.89**	**215**	P		**P**	**03 27 20.4**	**+0.5**
UDBI	**Udbina**	**78.08**	**336**	*i* P		**P**	**03 27 20.9**	**0.0**
SSF	**Saint Saulge**	**78.09**	**345**	*e*P		**P**	**03 27 21.9**	**+1.1**
SSF				pmax		pmax		
	comp=Z,7.0nm,0.9s							
X60A	**Albert Glenn T**	**78.10**	**47**	P			03 27 21.1	
	baz=328							
TIGA	**Tifton**	**78.18**	**53**	P			03 27 21.7	
	baz=326							
NVLJ	**Novalja**	**78.27**	**337**	*i* P		**P**	**03 27 21.4**	**-0.4**
NHSC	**New Hope**	**78.36**	**49**	P			03 27 22.3	
	baz=328							
KIJV	**Kijevo**	**78.42**	**335**	*i* P		**P**	**03 27 23.2**	**+0.5**
ALN	**Alexandroupoli**	**78.53**	**327**	IAmb		IAmb	03 27 36.6	
	comp=Z,22nm,0.9s							
RICI	**Ricice**	**78.71**	**335**	P		**P**	**03 27 23.8**	**-0.5**
DUGI	**Dugi Otok**	**78.76**	**336**	*i* P		**P**	**03 27 24.6**	**0.0**
MAKA	**Makarska**	**78.94**	**335**	*i* P		**P**	**03 27 23.9**	**-1.6**
ZIRJ	**Zirje**	**78.94**	**336**	*i* P		**P**	**03 27 24.6**	**-0.9**
SKO	**Skopje**	**78.96**	**331**	*i* P		**P**	**03 27 26.8**	**+1.1**
PALK	**Pallekele**	**78.96**	**267**	P		**P**	**03 27 25.8**	**-0.3**
PALK				pmax		pmax		
	comp=Z,22nm,0.8s							
PALK	**Pallekele**	**78.96**	**267**	P		**P**	**03 27 25.8**	**-0.3**
PALK				IAmb		IAmb	03 27 39.7	
	comp=Z,22nm,0.8s							
LPL	**La Plagne**	**79.05**	**342**	*e*P		**P**	**03 27 27.7**	**+1.3**
LPL				pmax		pmax		
	comp=Z,11nm,0.8s							
PDG	**Podgorica**	**79.15**	**333**	⇓P		**P**	**03 27 26.1**	**-0.6**
PDG	**Podgorica**	**79.15**	**333**	IAmb		IAmb	03 27 40.6	
	comp=Z,24nm,0.8s							
VAY	**Valandovo**	**79.22**	**330**	*i* P		**P**	**03 27 27.2**	**+0.1**
MIB	**Mutribah**	**79.56**	**306**	*e*P			03 27 27.8	
RST	**Umm Al-Ruwaisa**	**79.97**	**307**	*e*P			03 27 29.5	
TIR	**Tirane**	**79.98**	**332**	P		**P**	**03 27 31.5**	**+0.2**
TIR				pmax		pmax		
	comp=Z,24nm,0.7s							
TIR	**Tirane**	**79.98**	**332**	P		**P**	**03 27 31.5**	**+0.2**
TIR				IAmb		IAmb	03 27 44.1	
	comp=Z,24nm,0.7s							
RDF	**Al-Radifah**	**80.18**	**306**	*e*P			03 27 30.4	
CAF	**Calviac**	**80.39**	**346**	*e*P		**P**	**03 27 34.6**	**+1.1**
CAF				pmax		pmax		
	comp=Z,8.0nm,1.0s							
ASAR	**Alice Springs**	**80.63**	**206**	P		**P**	**03 27 36.5**	**+1.7**
	comp=Z,8.1nm,0.8s,baz=15,slow=5.3,SNR=68							
ASAR				LR		LR	04 01 26.4	
	comp=Z,194nm,21.9s,baz=21,slow=34							
ASAR	**Alice Springs**	**80.63**	**206**	P		**P**	**03 27 35.5**	**+0.7**
AQU	**L'Aquila**	**80.70**	**337**	P		**P**	**03 27 35.4**	**+0.2**
AQU				pmax		pmax		
	comp=Z,34nm,1.1s							
AQU	**L'Aquila**	**80.70**	**337**	P		**P**	**03 27 35.4**	**+0.2**
AQU				IAmb		IAmb	03 27 53.5	
	comp=Z,34nm,1.1s							
CSS	**Mathiatis**	**81.24**	**319**	IAmb		IAmb	03 27 39.5	
	comp=Z,25nm,1.1s							
PPT	**Papeete**	**82.17**	**134**	LR		LR	03 59 24.6	
	comp=Z,305nm,18.8s,baz=316,slow=32							
TIP	**Timpagrande**	**82.86**	**333**	⇑P		**P**	**03 27 46.8**	**+0.2**
TIP	**Timpagrande**	**82.86**	**333**	IAmb		IAmb	03 28 05.2	
	comp=Z,29nm,1.1s							
ITM	**Ithomi**	**83.22**	**329**	P		**P**	**03 27 48.6**	**+0.1**
ITM				IAmb		IAmb	03 28 04.1	
	comp=Z,17nm,0.8s							
PBRG	**Braganca**	**84.52**	**351**	*e*P		**P**	**03 27 57.5**	**+2.5**
	comp=Z,25nm,1.4s							
POLO	**Lamas de Olo**	**85.03**	**352**	*e*P		**P**	**03 27 58.9**	**+1.2**
	comp=Z,22nm,1.7s							
PVRL	**Vila Real**	**85.12**	**352**	*e*P		**P**	**03 28 00.0**	**+1.9**
	comp=Z,46nm,1.2s							
PVIS	**Viseu**	**85.69**	**352**	*e*P		**P**	**03 28 01.8**	**+0.8**
	comp=Z,43nm,1.6s							
RAYN	**Ar Rayn**	**85.70**	**304**	P		**P**	**03 28 00.9**	**-0.4**
RAYN				pmax		pmax		
	comp=Z,23nm,0.8s							
RAYN	**Ar Rayn**	**85.70**	**304**	P		**P**	**03 28 00.9**	**-0.4**
MTE	**Manteigas**	**85.98**	**352**	*e*P		**P**	**03 28 00.2**	**-2.2**
	comp=Z,45nm,2.3s							
ESDC	**Sonseca Array**	**86.35**	**349**	P		**P**	**03 28 05.0**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=357,slow=4.9,SNR=21							
ESDC	**Sonseca Array**	**86.35**	**349**	P		**P**	**03 28 04.4**	**+0.2**
PCAS	**Casmilo, Conde**	**86.40**	**353**	*e*P		**P**	**03 28 06.2**	**+1.8**
	comp=Z,47nm,2.1s							
PCBR	**Castelo Branco**	**86.53**	**352**	*e*P		**P**	**03 28 06.0**	**+1.0**
	comp=Z,25nm,1.4s							
STKA	**Stephens Creek**	**86.88**	**197**	P		**P**	**03 28 08.2**	**+1.6**
	comp=Z,7.6nm,0.8s,baz=348,slow=5.7,SNR=12							
STKA				LR		LR	04 04 19.4	
	comp=Z,128nm,20.5s,baz=19,slow=34							
STKA	**Stephens Creek**	**86.88**	**197**	P		**P**	**03 28 07.5**	**+1.0**
STKA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
STKA	**Stephens Creek**	**86.88**	**197**	P		**P**	**03 28 07.5**	**+1.0**
KEST	**Kesra**	**87.95**	**338**	P		**P**	**03 28 11.9**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=356,slow=4.9,SNR=4.4							
KEST				LR		LR	04 14 21.9	
	comp=Z,617nm,18.2s,baz=342,slow=40							
MDT	**Midelt**	**99.20**	**349**	LR		LR	04 16 04.1	
	comp=Z,81nm,18.7s,baz=31,slow=39							
ATD	**Arta Tunnel**	**97.16**	**300**	LR		LR	04 17 58.0	
	comp=Z,673nm,19.9s,baz=35,slow=39							
TORD	**Torodi Ar. Bea**	**111.44**	**339**	PP		**PP**	**03 34 33.9**	**-2.4**
	comp=Z,1.5nm,0.8s,baz=14,slow=8.1,SNR=3.7							
DBIC	**Dimbokro**	**118.97**	**345**	PKP		**PKiKP**	**03 34 11.8**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=25,slow=3.2,SNR=5.4							
DBIC	**Dimbokro**	**118.97**	**345**			**PKiKP**	**03 34 11.2**	**+0.3**
LPAZ	**La Paz**	**126.28**	**66**	PKP		**PKiKP**	**03 34 26.6**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=21,slow=8.6,SNR=7.0							
LPAZ	**La Paz**	**126.28**	**66**	PKIKP		**PKiKP**	**03 34 25.0**	**-1.0**
LPAZ	**La Paz**	**126.28**	**66**			**PKiKP**	**03 34 25.0**	**-1.0**
BOSA	**Boshof**	**139.80**	**291**	PKP		**PKiKP**	**03 34 50.5**	**-1.9**
	comp=Z,5.4nm,1.1s,baz=112,slow=5.4,SNR=2.8							
CPUP	**Villa Florida**	**140.25**	**63**	PKP		**PKiKP**	**03 34 51.8**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=34,slow=3.6,SNR=3.1							
PLCA	**Paso Flores**	**142.94**	**92**	PKhKP		PKPpre	03 34 50.0	
	comp=Z,1.2nm,0.7s,baz=293,slow=3.8,SNR=5.2							
PLCA				PKP		**PKiKP**	**03 34 56.8**	**-1.6**
	comp=Z,4.5nm,1.0s,baz=296,slow=4.2,SNR=7.4							
SYO	**Syowa Base**	**149.71**	**217**	⇑*e*pPKPdf		**PKiKP**	**03 35 11.0**	**-0.3**
SYO	**Syowa Base**	**149.71**	**217**	⇑*e*PKPab		**PKPab**	**03 35 19.0**	**+3.2**

IDC ***19*** *03:49:19.3±0.4,55.35S×28.29W,h0km,mb4.9/16, mb1 4.9/17,mb1mx4.7/27,mbtmp4.9/17,ML4.4/1,MS4.4/15, Ms1 4.4/15,ms1mx4.3/18,Error ellipse: s-maj=18.1km s-min=13.4km az=25.0*

MOS ***19*** *03:49:23.6±1.0,55.27S×28.50W,h33km,mb5.2/20,Error ellipse: s-maj=19.9km s-min=12.8km az=123.1*

NEIC ***19*** *03:49:23.6±0.9,55.39S±0.09×28.35W±0.10,h29km±3km, mb5.0/59,Error ellipse: s-maj=14.4km s-min=5.6km az=154.0*

GCMT ***19*** *03:49:25.6±0.2,55.32S±0.02×28.07W±0.02,h18km±1km, MW5.1/103,Moment Tension Solution. s55,c63; s103,c143; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.83±.17; Mθθ-1.37±.12; Mφφ-1.46±.11; Mrθ-0.83±.24; Mθφ2.44±.08; Mφr5.01±.45; Best double couple: M₀6.14400×10¹⁶ NP1:φs108.00000°,δ25.00000°, λ37.00000°. NP2:φs344.00000°,δ75.00000°,λ110.00000°. Principal axes: T 6.1950, Plg55.0000°, Azm279.0000°; N -0.1030, Plg20.0000°, Azm159.0000°; P -6.0920, Plg28.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 03:49:24.9±1.4,55.39S±0.07×28.45W±0.07,h40km±12km, n317,σ1s01/312,mb5.0/46,MS4.5/23,2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.78**	**280**	P	**Pn**	**03 50 34.3**	**0.0**
HOPE						03 51 24.6	
HOPE	**Hope Point**	**4.78**	**280**		**Pn**	**03 50 34.2**	**0.0**
HOPE				Sn	**Sn**	**03 51 24.6**	**-3.7**
VNA1	**Neumayer--Stat**	**17.68**	**158**	P	**Pn**	**03 53 27.9**	**+0.3**
VNA3	**Neumayer Olymp**	**17.86**	**160**	P	**Pn**	**03 53 29.4**	**-0.4**
EFI	**East Falkland**	**17.92**	**270**	P	**P**	**03 53 31.8**	**+0.8**
EFI				pmax	pmax		
	comp=Z,103nm,1.1s						
EFI	**East Falkland**	**17.92**	**270**		**P**	**03 53 31.8**	**+0.8**
EFI				IAmb	IAmb	03 53 33.1	
	comp=Z,103nm,1.1s						
VNA2	**Neumayer--Watz**	**18.07**	**158**	P	**P**	**03 53 31.7**	**-0.9**
	baz=310,slow=13						
VNA2				S	**Sn**	**03 56 53.3**	**+0.4**
SNAA	**Sanae**	**19.64**	**156**	P	**P**	**03 53 49.0**	**-0.8**
SNAA	**Sanae**	**19.64**	**156**	P	**P**	**03 53 48.9**	**-0.8**
SNAA				pmax	pmax		
	comp=Z,45nm,0.7s						
SNAA	**Sanae**	**19.64**	**156**	P	**P**	**03 53 48.9**	**-0.8**
PMSA	**Palmer Station**	**19.81**	**227**	P	**Pn**	**03 53 53.4**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=87,slow=15,SNR=2.8						
PMSA				LR	LR	04 00 20.2	
	comp=Z,1μm,20.1s,baz=68,slow=33						
PMSA	**Palmer Station**	**19.81**	**227**	P	**P**	**03 53 50.8**	**-0.8**
PMSA				IAmb	IAmb	03 54 04.5	
	comp=Z,81nm,0.9s						
BELA	**Belgrano 2**	**22.69**	**183**	P	**P**	**03 54 21.9**	**-0.6**
NVL	**N'lazarevskaya**	**23.21**	**147**	*e*P	P	03 54 19.9	-7.9
NVL				*e*S	**S**	**03 58 33.8**	**-2.6**
NVL				*e*SS	**SnSn**	**03 59 21.9**	**+10**
NVL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GO10	**Punta Arenas**	**24.69**	**257**	P	**P**	**03 54 41.7**	**-0.2**
PLTB	**Pedras Altas**	**29.52**	**313**	*e*P	**P**	**03 55 26.3**	**+0.9**
CPSB	**Cacapava Do Su**	**30.64**	**314**	*e*P	**P**	**03 55 37.0**	**+1.8**
PLCA	**Paso Flores**	**31.18**	**280**	P	**P**	**03 55 39.5**	**-0.5**
	comp=Z,9.4nm,1.3s,baz=117,slow=6.7,SNR=5.8						
PLCA				PcP	**PcP**	**03 58 34.8**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=108,slow=4.0,SNR=3.1						
PLCA				LR	LR	04 09 30.6	
	comp=Z,488nm,18.7s,baz=126,slow=39						
PLCA	**Paso Flores**	**31.18**	**280**	P	**P**	**03 55 40.1**	**+0.1**
PLCA				PcP	**PcP**	**03 58 33.7**	**-0.3**
PLCA	**Paso Flores**	**31.18**	**280**	*e*P	**P**	**03 55 40.6**	**+0.6**
SYO	**Syowa Base**	**32.55**	**142**	⇓*e*P	**P**	**03 55 50.4**	**-1.2**
SYO	**Syowa Base**	**32.55**	**142**	⇓*e*pP	pP	03 55 59.0	-2.7
ITQB	**Itaqui**	**32.62**	**310**	*e*P	**P**	**03 55 53.5**	**+0.8**
ITAB	**Concordia**	**32.95**	**319**	*e*P	**P**	**03 55 57.4**	**+1.9**
SPB	**Sao Paulo**	**34.73**	**328**	P	**P**	**03 56 11.9**	**+0.9**
SPB				IAmb	IAmb	03 56 13.0	
	comp=Z,25nm,1.1s						
QSPA	**South Pole Qui**	**34.86**	**180**	P	**P**	**03 56 11.6**	**-0.3**
VAO	**Valinhos**	**35.15**	**329**	*e*P	**P**	**03 56 16.8**	**+2.1**
PTGB	**Pitanga**	**35.22**	**321**	*e*P	**P**	**03 56 15.6**	**+0.2**
CPUP	**Villa Florida**	**35.84**	**312**	P	**P**	**03 56 20.5**	**+0.1**
	comp=Z,25nm,1.0s,baz=150,slow=7.6,SNR=35						
CPUP				PcP	**PcP**	**03 58 48.1**	**+0.9**
	comp=Z,4.9nm,0.8s,baz=191,slow=4.5,SNR=3.7						
CPUP				LR	LR	04 09 53.4	
	comp=Z,471nm,19.9s,baz=156,slow=34						
CPUP	**Villa Florida**	**35.84**	**312**	P	**P**	**03 56 20.6**	**+0.1**
CPUP						03 58 47.2	
CPUP				pmax	pmax		
	comp=Z,37nm,1.2s						
CPUP	**Villa Florida**	**35.84**	**312**	P	**P**	**03 56 20.6**	**+0.1**
CPUP				IAmb	IAmb	03 56 23.1	
	comp=Z,37nm,1.1s						
CPUP				PcP	**PcP**	**03 58 47.2**	**0.0**
BSCB	**Bom Sucesso**	**36.47**	**334**	*e*P	**P**	**03 56 25.4**	**-0.6**
MT05	**Renca**	**36.58**	**289**	P	**P**	**03 56 27.2**	**+0.3**
MT05				IAmb	IAmb	03 56 46.1	
	comp=Z,36nm,1.1s						
PEL	**Peldehue**	**36.74**	**289**	P	**P**	**03 56 28.7**	**+0.4**
PEL				pmax	pmax		
	comp=Z,38nm,0.8s						
PEL	**Peldehue**	**36.74**	**289**	P	**P**	**03 56 28.6**	**+0.4**
MT02	**Curacav**	**36.90**	**289**	P	**P**	**03 56 30.1**	**+0.6**
MT02				IAmb	IAmb	03 56 32.6	
	comp=Z,26nm,1.1s						
ZON	**Zonda**	**36.92**	**293**	P	**P**	**03 56 30.2**	**+0.4**
ZON				pmax	pmax		
	comp=Z,24nm,0.9s						
ZON	**Zonda**	**36.92**	**293**	P	**P**	**03 56 30.2**	**+0.4**
ZON				IAmb	IAmb	03 56 42.9	
	comp=Z,24nm,0.9s						
VA03	**San Esteban**	**36.96**	**290**	P	**P**	**03 56 30.3**	**+0.1**
VA03				IAmb	IAmb	03 56 41.4	
	comp=Z,30nm,0.8s						
BB19B	**Bebedouro**	**37.44**	**328**	*e*P	**P**	**03 56 33.7**	**-0.5**
BSFB	**Barra de Sao F**	**37.69**	**341**	*e*P	**P**	**03 56 37.5**	**+1.1**
PCMB	**Pacaembu**	**37.80**	**324**	*e*P	**P**	**03 56 38.1**	**+0.8**
SJMB	**Sao Joao De Ma**	**37.88**	**340**	*e*P	**P**	**03 56 38.1**	**+0.1**
CO02	**Combarbal**	**38.41**	**291**

SBA Scott Base 46.69 184 P P 03 57 49.7 +0.8
SBA IAmb IAmb 03 57 54.4
comp=Z,20nm,1.1s
NBTA Tacaratu-PE 46.77 347 eP P 03 57 49.8 -0.5
SNDB Serra Nova Dou 46.86 329 eP P 03 57 52.1 +1.2
VNDA Vanda 47.20 183 P P 03 57 53.5 +0.6
comp=Z,25nm,0.9s,baz=187,slow=6.4,SNR=61
VNDA Vanda 47.20 183 P P 03 57 53.5 +0.6
VNDA pmax pmax
comp=Z,33nm,1.1s
VNDA Vanda 47.20 183 P P 03 57 53.5 +0.6
PSGCX Pisagua 47.50 302 P P 03 57 56.6 +0.6
PSGCX IAmb IAmb 03 57 59.9
comp=Z,16nm,0.9s
MNMC Minye Minye 47.64 303 P P 03 57 57.5 +0.2
PB16 IPOC Station P 48.28 303 P P 03 58 02.8 +0.1
NBLI Livramento-PB 48.37 349 eP P 03 58 02.7 0.0
NBMA Muriti-CE 48.59 346 eP P 03 58 05.4 +1.0
SMTB Santa Maria do 48.82 335 eP P 03 58 07.3 +1.1
VILB Vilhena 49.01 317 eP P 03 58 07.9 +0.3
CLDB Colider 49.33 323 eP P 03 58 10.0 0.0
LPAZ La Paz 49.41 306 P P 03 58 12.6 +1.3
comp=Z,19nm,0.8s,baz=145,slow=6.1,SNR=67
LPAZ LR LR 04 19 25.2
comp=Z,215nm,21.2s,baz=180,slow=36
LPAZ La Paz 49.41 306 P P 03 58 10.6 -0.7
LPAZ pmax pmax
comp=Z,33nm,1.0s
LPAZ La Paz 49.41 306 P P 03 58 10.6 -0.7
LPAZ La Paz 49.41 306 eP P 03 58 12.7 +1.3
LBTB Lobatse 49.51 75 P P 03 58 10.7 -0.8
LBTB pmax pmax
comp=Z,38nm,1.1s
LBTB Lobatse 49.51 75 P P 03 58 10.7 -0.8
TSUM Tsumeb 50.00 63 P P 03 58 14.7 +0.5
NBPB Pedra_Branca-C 50.50 346 eP P 03 58 19.8 +0.9
NBPS Pedro II - PI 51.91 343 eP P 03 58 29.6 0.0
PRPB Parauapebas 51.97 333 eP P 03 58 30.9 +0.9
NPGB Novo Progresso 52.77 326 eP P 03 58 36.3 +0.4
SAML Samuel 53.83 316 P P 03 58 43.8 +0.2
SAML pmax pmax
comp=Z,23nm,1.1s
SAML Samuel 53.83 316 P P 03 58 43.8 +0.2
SAML IAmb IAmb 03 58 44.8
comp=Z,23nm,1.1s
ETMB Extrema 54.29 312 eP P 03 58 47.3 +0.3
TMAB Tom-Au,PA,Br 55.20 336 eP P 03 58 54.6 +1.0
ITTB Itaituba 55.41 326 eP P 03 58 55.2 +0.2
NNA Nana 57.30 300 P P 03 59 09.5 +0.8
comp=Z,17nm,1.1s,baz=120,slow=4.4,SNR=4.9
NNA Nana 57.30 300 P P 03 59 08.8 +0.1
NNA pmax pmax
comp=Z,17nm,1.1s
NNA Nana 57.30 300 P P 03 59 08.8 +0.1
NNA IAmb IAmb 03 59 10.2
comp=Z,17nm,1.1s
MCPB Macapa, AP 58.13 332 eP P 03 59 15.7 +1.3
MACA Manacapuru-AM 58.20 321 eP P 03 59 14.4 -0.5
LSZ Lusaka 58.81 70 LR LR 04 21 47.4
comp=Z,369nm,21.0s,baz=198,slow=33
CZSB Cruzeiro do Su 59.02 306 eP P 03 59 21.1 +0.5
PTGA Pitinga 60.21 323 P P 03 59 28.3 -0.5
comp=Z,4.5nm,0.8s,baz=140,slow=9.8,SNR=6.1
PTGA Pitinga 60.21 323 P P 03 59 28.7 -0.1
PTGA Pitinga 60.21 323 eP P 03 59 28.6 -0.2
ATAH Atahualpa 62.24 301 P P 03 59 44.2 +1.2
comp=Z,10nm,1.0s,baz=190,slow=3.9,SNR=13
BOAV Boa Vista 63.32 324 eP P 03 59 49.6 0.0
LIC Lamto 64.40 26 eP P 03 59 56.3 -0.5
comp=Z,102nm,0.7s
KIC Kosan Boka 64.61 26 eP P 03 59 57.5 -0.6
comp=Z,42nm,0.7s
TIC Toumodi 64.81 26 eP P 03 59 58.7 -0.7
DBIC Dimbokro 64.87 26 P P 03 59 59.5 -0.4
comp=Z,18nm,0.7s,baz=165,slow=7.6,SNR=39
DBIC Dimbokro 64.87 26 P P 03 59 59.4 -0.4
DBIC pmax pmax
comp=Z,20nm,0.8s
DBIC Dimbokro 64.87 26 P P 03 59 59.4 -0.4
ABPO Ambohimpanom 66.45 90 P P 04 00 09.5 -0.8
ABPO pmax pmax
comp=Z,8.0nm,0.8s
ABPO Ambohimpanom 66.45 90 P P 04 00 09.5 -0.8
ABPO IAmb IAmb 04 00 12.9
comp=Z,7.8nm,0.8s
OTAV Otavalo 68.69 305 P P 04 00 24.0 -0.8
OTAV pmax pmax
comp=Z,9.0nm,1.1s
OTAV Otavalo 68.69 305 P P 04 00 24.0 -0.8
OTAV Otavalo 68.69 305 eP P 04 00 25.6 +0.8
OTAV Otavalo 68.69 305 eP P 04 00 26.5 +1.8
GARC Garzon, Huila 69.06 308 eP P 04 00 27.0 +0.2
PTGC Puerto Gaitan, 69.40 313 eP P 04 00 26.6 -1.9
BETC Betania 69.47 309 eP P 04 00 29.7 +0.5
SOTA Rioblanco 69.51 307 eP P 04 00 30.9 +1.0
PCON Cinco Dias 69.59 308 eP P 04 00 33.1 +2.6
BBAC Balboa, Cauca 69.70 307 eP P 04 00 31.2 +0.4
POPC Popayan, Colom 69.90 308 eP P 04 00 33.1 +1.1
VILC Villavicencio, 69.99 311 eP P 04 00 29.9 -2.5
PRAC Prado 70.15 310 eP P 04 00 32.5 -0.7
ORTC Ortega, Tolima 70.48 310 eP P 04 00 33.6 -1.7
ROSC El Rosal 70.91 311 P P 04 00 38.9 +0.6
comp=Z,5.5nm,0.6s,baz=136,slow=4.8,SNR=6.3
ROSC LR LR 04 31 57.1
comp=Z,178nm,21.8s,baz=96,slow=36
ROSC El Rosal 70.91 311 P P 04 00 37.7 -0.6
ROSC pmax pmax
comp=Z,8.0nm,0.8s
ROSC El Rosal 70.91 311 P P 04 00 37.7 -0.6
ROSC IAmb IAmb 04 00 42.2
comp=Z,8.2nm,0.8s
YOTC Yotoco, Valle 71.03 309 eP P 04 00 36.5 -2.2
TAMC Tame, Arauca 71.28 314 eP P 04 00 40.6 +0.5
RUSC La Rusia 71.33 312 eP P 04 00 39.5 -1.4
GUY2C Guyana, Caldas 71.71 310 eP P 04 00 42.2 -1.0
PLMC San Jos del P 71.83 309 eP P 04 00 41.6 -1.8
PTBC PUERTO BERRIO, 72.49 311 eP P 04 00 44.9 -2.5
KOWA Kowa 72.61 25 P P 04 00 48.3 +0.4
comp=Z,8.5nm,0.7s,baz=205,slow=5.9,SNR=29
KOWA Kowa 72.61 25 P P 04 00 47.6 -0.3
TOA0 Torodi Ar. Sit 72.84 31 P P 04 00 49.2 -0.1
TORD Torodi Ar. Bea 72.84 31 P P 04 00 49.4 +0.1
comp=Z,43nm,0.7s,baz=177,slow=8.8,SNR=3.7
TORD LR LR 04 25 58.2
comp=Z,512nm,21.8s,baz=165,slow=30
TORD Torodi Ar. Bea 72.84 31 P P 04 00 49.2 -0.2
SDV Santo Domingo 73.04 316 P P 04 00 50.9 +0.1
SDV Santo Domingo 73.04 316 eP P 04 00 49.1 -1.6
SDV Santo Domingo 73.04 316 eP P 04 00 51.5 +0.8
ZARC Zaragoza, Cauc 73.52 312 eP P 04 00 52.6 -0.8
DBBC Dabeiba 73.68 310 eP P 04 00 53.0 -1.5
SMLC San Martn de 74.36 313 eP P 04 00 56.1 -2.2
KMBO Kilima Mbogo 75.48 70 LR LR 04 33 21.8
comp=Z,608nm,18.5s,baz=271,slow=35
RKT Rikitea 80.14 244 eLR LR 04 26 32.7
comp=Z,298nm,27.2s
JTS Las Juntas de 80.55 304 P P 04 01 33.3 +0.4
JTS pmax pmax
comp=Z,19nm,1.2s
JTS Las Juntas de 80.55 304 P P 04 01 33.3 +0.4
JTS IAmb IAmb 04 01 38.3
comp=Z,19nm,1.1s
ESPN Las Esperanzas 81.91 305 P P 04 01 40.4 +0.3
ESPN IAmb IAmb 04 01 43.3
comp=Z,18nm,1.1s
TAM Tamanrasset 83.09 31 P P 04 01 46.5 +0.3
TAM pmax pmax
comp=Z,7.0nm,1.1s
TAM Tamanrasset 83.09 31 P P 04 01 46.5 +0.3
MTO3 Montecristo 86.22 302 P P 04 02 02.4 +0.1
MTO3 IAmb IAmb 04 02 06.1
comp=Z,14nm,1.0s
TBI Tubuai 86.93 232 eLR LR 04 29 33.5
comp=Z,296nm,30.2s
TEIG Tepich 90.74 306 P P 04 02 23.9 +0.6
TEIG Tepich 90.74 306 eP P 04 02 22.9 -0.5
PPT2 Papeete2 91.98 235 eLR LR 04 32 04.4
comp=Z,250nm,23.0s
PPT Papeete 92.00 235 LR LR 04 34 20.0
comp=Z,138nm,20.8s,baz=153,slow=29
TAOE Nuku Hiva Isla 94.75 247 eLR LR 04 33 05.9
comp=Z,217nm,22.8s
KEST Kesra 96.35 30 LR LR 04 40 34.2
comp=Z,348nm,21.8s,baz=235,slow=32

ESDC Sonseca Array 96.98 19 LR LR 04 42 05.2
comp=Z,74nm,20.6s,baz=105,slow=33
ASAR Alice Springs 99.83 164 P Pdif 04 03 03.5 -1.5
comp=Z,1.7nm,0.7s,baz=194,slow=4.1,SNR=15
ASAR PKKP **PKKPdf 04 19 24.1 -1.2**
comp=Z,1.0nm,0.8s,baz=12,slow=2.7,SNR=8.4
ASAR LR LR 04 44 43.2
comp=Z,154nm,21.6s,baz=194,slow=33
DZM Mont Dzumac 101.81 194 *e*LR LR 04 36 34.8
comp=Z,273nm,23.1s
WRA Warramunga Arr 103.55 163 Pdiff **Pdif 04 03 20.2 -1.4**
comp=Z,0.5nm,0.8s,baz=195,slow=4.4,SNR=2.6
WRA PKKPbc **PKKPbc 04 19 13.5 +1.9**
comp=Z,0.8nm,0.8s,baz=353,slow=3.0,SNR=6.3
PDMCI Parker Dam,Lak 115.16 294 P 04 08 02.1
baz=141
ISCO Idaho Springs 115.21 304 P 04 08 02.6
baz=142
KIV Kislovodsk 115.78 49 *i* PKIKP **PKiKP 04 08 04.6 +2.5**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,327nm,22.0s
BELC Belle Mtn. Jos 115.90 293 P 04 08 03.6
baz=141
AKT Akhty 116.07 54 *e*PKIKP **PKiKP 04 08 03.5 +0.7**
AKT *e* 04 09 07.9
AKT pmax pmax
comp=Z,16nm,1.8s
AKASG Malin Array Be 116.09 37 PKP PKPdf 04 08 01.9 -0.4
comp=Z,0.2nm,0.3s,baz=248,slow=1.9,SNR=4.1
AKASG Malin Array Be 116.09 37 PKIKP **PKiKP 04 08 02.5 +0.1**
AKASG Malin Array Be 116.09 37 PKiKP 04 08 02.5 +0.1
N23A Red Feather La 116.22 304 P 04 08 03.9
baz=142
GMRC Granite Mounta 116.33 293 P 04 08 05.0
baz=141
GSC Goldstone, Bar 117.33 293 P 04 08 06.7
baz=140
MSU Marysvale 117.41 299 PKIKP **PKiKP 04 08 06.2 +0.5**
MSU Marysvale 117.41 299 PKPdf **PKiKP 04 08 06.2 +0.5**
SHOC Shoshone, Teco 117.50 294 P 04 08 06.9
baz=140
TCRU Three Creeks R 117.62 298 PKiKP 04 08 06.8 +0.7
EDW2 Edwards Air Fo 117.63 292 P 04 08 07.0
baz=140
AGMN Agassiz Nation 117.71 316 P 04 08 07.4
baz=144
K22A Casper 117.86 305 P 04 08 07.4
baz=141
RSSD Black Hills 117.87 308 P 04 08 07.6
baz=141
MPMC Manual Prospec 118.26 293 P 04 08 08.1
baz=140
PSUT Pine Spring 118.27 297 PKiKP 04 08 07.9 +0.5
CWC Cottonwood Cre 118.86 293 P 04 08 09.5
baz=139
DUG Dugway, Tooele 119.01 299 P 04 08 09.5
baz=140
DUG Dugway, Tooele 119.01 299 PKIKP **PKiKP 04 08 09.3 +0.6**
DUG Dugway, Tooele 119.01 299 PKPdf **PKiKP 04 08 09.2 +0.6**
TCUT Toone Canyon 119.02 301 PKiKP 04 08 09.4 +0.7
ULM Lac du Bonnet 119.28 317 PKP **PKPdf 04 08 08.2 -0.3**
comp=Z,1.6nm,0.7s,baz=175,slow=6.5,SNR=4.1
ULM Lac du Bonnet 119.28 317 PKIKP **PKiKP 04 08 09.4 +0.8**
ULM Lac du Bonnet 119.28 317 PKiKP 04 08 09.4 +0.8
PDAR Pinedale Array 119.38 303 PKP **PKPdf 04 08 09.0 -0.3**
comp=Z,0.5nm,0.6s,baz=114,slow=3.7,SNR=4.2
HWUT Hardware Ranch 119.47 301 PKPdf **PKiKP 04 08 09.8 +0.2**
NOA NORSAR Array B 120.24 21 PKP **PKPdf 04 08 09.8 -0.3**
comp=Z,1.0nm,0.8s,baz=195,slow=1.6,SNR=3.9
NVAR Mina Array Bea 120.48 294 PKP **PKiKP 04 08 12.8 +1.2**
comp=Z,0.9nm,0.8s,baz=157,slow=3.3,SNR=7.5
LOHW Long Hollow 120.52 303 PKiKP 04 08 11.9 +0.4
YHH Holmes Hill 121.52 304 PKiKP 04 08 14.4 +0.8
BEKR Beckworth 122.61 294 PKPdf **PKiKP 04 08 16.1 +0.4**
NIL Nilore 123.33 78 PKIKP **PKiKP 04 08 17.4 +0.2**
NIL Nilore 123.33 78 PKPdf **PKiKP 04 08 17.4 +0.2**
WVOR Wild Horse Val 123.60 297 PKIKP **PKiKP 04 08 18.3 +0.8**
WVOR Wild Horse Val 123.60 297 PKPdf **PKiKP 04 08 18.3 +0.8**
O03E Paynes Creek 123.68 293 P 04 08 18.1
baz=137
FINES FINESS Array B 124.14 28 PKP **PKPdf 04 08 17.0 -0.5**
comp=Z,4.1nm,0.7s,baz=172,slow=2.5,SNR=28
J08A Circle Bar Ran 124.19 298 PKiKP 04 08 19.5 +0.8
MSO Missoula 124.49 304 P 04 08 19.6
baz=136
MSO Missoula 124.49 304 PKPdf **PKiKP 04 08 19.5 +0.4**
N02D Trinity Center 124.64 293 P 04 08 20.3
baz=136
BMO Blue Mountains 124.69 300 PKIKP **PKiKP 04 08 19.9 +0.3**
BMO Blue Mountains 124.69 300 PKPdf **PKiKP 04 08 19.9 +0.3**
M04C Macdoel 124.78 295 P 04 08 20.6
baz=136
K05A Summer Lake 124.97 296 PKPdf **PKiKP 04 08 21.0 +0.7**
M02C Callahan 125.02 294 P 04 08 20.8
baz=136
L04D Klamath Falls 125.33 295 P 04 08 21.8
baz=136
J05D Fort Rock, OR 125.54 296 P 04 08 22.0
baz=136
J04D Umpqua Nationa 125.96 296 P 04 08 22.7
baz=135
CMAR Chiang Mai Arr 125.97 111 PKP **PKPdf 04 08 22.4 0.0**
comp=Z,1.8nm,0.5s,baz=237,slow=3.9,SNR=9.8
I05D Terrebonne, OR 126.34 297 P 04 08 23.5
baz=135
I04A Tendick Farm, 126.50 296 P 04 08 23.4
baz=135
H04D Lebanon 127.18 296 P 04 08 25.5
baz=134
ABKAR Akbulak array 127.59 56 PKPdf **PKPdf 04 08 23.8 -0.7**
KLMR Klimovskoe 127.69 35 *e*PKPdf 04 08 21.6
KLMR Klimovskoe 127.69 35 AMP 04 08 28.7
comp=Z,14nm,1.4s
KLMR Klimovskoe 127.69 35 *e*PKIKP **PKPdf 04 08 21.5 -2.8**
KLMR pmax pmax
comp=Z,14nm,1.4s
SUMG Summit 127.87 356 *i* P **PKiKP 04 08 26.7 +1.3**
comp=Z,18nm,0.9s
SUMG Summit 127.87 356 *i* PKIKP **PKiKP 04 08 26.7 +1.3**
SUMG Summit 127.87 356 PKPdf **PKiKP 04 08 26.2 +0.7**
SUMG Summit 127.87 356 *i* P **PKiKP 04 08 26.8 +1.3**
SUMG IAmb IAmb 04 08 27.9
comp=Z,18nm,0.9s
B08A Colville Reser 128.15 302 PKiKP 04 08 26.1 -0.2
KK31 Karatay Array 128.63 68 PKIKP **PKPdf 04 08 26.6 -0.1**
KK31 Karatay Array 128.63 68 PKPdf **PKPdf 04 08 26.6 -0.1**
KKAR Karatay Array 128.63 68 PKIKP **PKPdf 04 08 26.5 -0.2**
KKAR Karatay Array 128.63 68 PKPdf **PKPdf 04 08 26.5 -0.2**
D05A Enumclaw 128.65 299 PKiKP 04 08 27.5 +0.2
KSH Kashi 129.08 75 PKP **PKPdf 04 08 28.1 +0.2**
D03D Eldon 129.44 299 P 04 08 28.8
baz=133
B05A Bryant 129.44 300 P 04 08 28.7
baz=133
A04D Lummi Island 130.04 300 P 04 08 30.1
baz=132
PRGR Permogore 130.30 37 *e*PKIKP **PKPdf 04 08 28.6 -0.6**
PRGR pmax pmax
comp=Z,12nm,0.6s
AAK Ala-Archa 130.44 71 PKP **PKiKP 04 08 31.0 -0.3**
comp=Z,2.9nm,0.8s,baz=180,slow=8.1,SNR=7.0
AAK Ala-Archa 130.44 71 PKIKP **PKiKP 04 08 30.8 -0.4**
AAK Ala-Archa 130.44 71 PKPdf **PKiKP 04 08 30.8 -0.4**
ARCES ARCESS Array B 130.60 22 PKP **PKPdf 04 08 29.9 +0.2**
comp=Z,7.7nm,0.8s,baz=180,slow=1.2,SNR=11
ARCES ARCESS Array B 130.60 22 PKIKP **PKiKP 04 08 30.2 -0.3**
ARCES ARCESS Array B 130.60 22 PKiKP 04 08 30.2 -0.3
KULLO Kullorsuaq 131.11 350 *i* PKHKP PKPpre 04 08 13.9
ARU Arti 131.79 48 *i* PKIKP **PKiKP 04 08 33.8 +0.5**
ARU 04 10 53.4
ARU PPP PPP 04 13 44.2
ARU SS SS 04 28 30.0 +3.7
BTLS Baital 131.81 68 *e*PKP **PKiKP 04 08 33.3 -0.4**
baz=68
BTLS Baital 131.81 68 *e*PKIKP **PKiKP 04 08 33.3 -0.4**
DAG Danmarks Havn 132.04 3 *i* P **PKPdf 04 08 32.5 +0.3**
DAG Danmarks Havn 132.04 3 *i* PKIKP **PKPdf 04 08 32.5 +0.3**
DAG Danmarks Havn 132.04 3 *i* P **PKPdf 04 08 32.5 +0.3**
MDOK Medeo 132.17 72 *e*PKP **PKPdf 04 08 33.6 -0.1**
baz=72
MDOK Medeo 132.17 72 *e*PKIKP **PKPdf 04 08 33.5 -0.1**
KUU Kurty 132.28 71 *e*PKP **PKPdf 04 08 33.9 +0.3**
baz=71

KUU Kurty 132.28 71 *e*PKIKP **PKPdf 04 08 33.9 +0.3**
SATY Saty 132.84 73 *e*PKP **PKPdf 04 08 35.3 +0.4**
baz=73
SATY Saty 132.84 73 *e*PKIKP **PKPdf 04 08 35.2 +0.4**
KPKS Kokpek 133.26 73 *e*PKP **PKPdf 04 08 35.9 +0.3**
baz=73
KPKS Kokpek 133.26 73 *e*PKIKP **PKPdf 04 08 35.9 +0.3**
SHLS Shalkode 133.49 74 *e*PKP **PKPdf 04 08 36.7 +0.6**
baz=74
SHLS Shalkode 133.49 74 *e*PKIKP **PKPdf 04 08 36.6 +0.6**
BRVK Borovoye 135.00 58 PKIKP **PKiKP 04 08 39.4 -0.5**
BRVK Borovoye 135.00 58 PKPdf **PKiKP 04 08 39.4 -0.5**
BVAR Borovoye Array 135.03 58 PKP **PKiKP 04 08 40.1 +0.2**
comp=Z,4.1nm,0.8s,baz=144,slow=2.8,SNR=17
YKA Yellowknife Ar 135.20 319 PKhKP PKPpre 04 08 29.8
comp=Z,0.3nm,0.8s,baz=119,slow=4.1,SNR=5.2
YKA PKP **PKiKP 04 08 39.2 -0.7**
comp=Z,5.7nm,0.8s,baz=124,slow=2.7,SNR=38
RES Resolute Bay 136.98 339 PKIKP **PKiKP 04 08 40.8 -0.7**
RES Resolute Bay 136.98 339 PKPdf **PKPdf 04 08 40.8 -0.7**
MAKZ Makanchi 137.19 71 PKIKP **PKiKP 04 08 41.9 -0.9**
MAKZ Makanchi 137.19 71 PKPdf **PKPdf 04 08 41.9 -0.9**
MKAR Makanchi Array 137.35 72 PKhKP PKPpre 04 08 37.9
comp=Z,1.4nm,0.8s,baz=222,slow=3.3,SNR=5.4
MKAR PKP **PKPdf 04 08 43.3 +0.2**
comp=Z,1.4nm,0.8s,baz=190,slow=1.7,SNR=8.0
MKAR Makanchi Array 137.35 72 PKIKP **PKiKP 04 08 43.5 +0.4**
MKAR Makanchi Array 137.35 72 PKPdf **PKPdf 04 08 43.5 +0.4**
KURBB Kurchatov Arra 137.67 65 PKhKP PKPpre 04 08 36.4
comp=Z,0.5nm,0.7s,baz=224,slow=2.3,SNR=4.3
KURBB PKP **PKiKP 04 08 45.4 0.0**
comp=Z,2.0nm,0.8s,baz=234,slow=2.7,SNR=12
KURK Kurchatov 137.77 65 PKHKP PKPpre 04 08 36.4
KURK Kurchatov 137.77 65 PKPpre 04 08 36.4
WMQ Urumqi 138.47 79 *e*PKP **PKiKP 04 08 46.8 -0.6**
EUNU Eureka 139.12 347 PKiKP 04 08 47.1 -0.5
ZSN Zaisan 139.15 72 *e*PKP **PKPdf 04 08 46.6 +0.2**
baz=72
ZSN Zaisan 139.15 72 *e*PKIKP **PKPdf 04 08 46.5 +0.2**
LZH Lanzhou 142.43 101 *e*PKP **PKPdf 04 08 49.9 -2.9**
LZH pPKP PKiKP 04 08 57.4 +1.5
GTA Gaotai 142.47 93 *e*PKP **PKPdf 04 08 52.0 -0.7**
GTA pPKP PKiKP 04 08 56.4 +0.6
GTA sPKP 04 08 59.6
ZALV Zalesovo Beam 142.72 64 PKhKP PKPpre 04 08 49.0
comp=Z,2.9nm,0.6s,baz=249,slow=3.5,SNR=12
ZALV Zalesovo Beam 142.72 64 PKHKP PKPpre 04 08 48.3
ZALV Zalesovo Beam 142.72 64 PKPpre 04 08 48.3
XAN Xi'an 143.73 108 PKP **PKiKP 04 08 59.0 +0.6**
XAN LR LR
comp=Z,220nm,15.2s
PINM Pinnacle 144.77 306 P 04 08 56.2
baz=113
INK Inuvik 144.84 321 PKP **PKPdf 04 08 55.5 -0.3**
comp=Z,58nm,0.9s,baz=103,slow=5.1,SNR=7.1
INK Inuvik 144.84 321 PKIKP **PKPdf 04 08 55.7 0.0**
INK Inuvik 144.84 321 PKPdf 04 08 55.7 0.0
EPYK Eagle Plains 145.45 318 P 04 08 58.1
baz=107
CTG Chitna Glacier 145.60 307 P 04 08 58.8
baz=112
BCAR Beaver Creek A 146.52 311 PKPbc 04 09 00.2 -0.2
KAIM Kayak Island 146.65 305 P 04 09 00.8
baz=111
EGAK Eagle 146.76 314 P 04 09 00.9
baz=106
BMRM Bremner River 147.10 306 P 04 09 02.2
baz=109
NJ2 Nanjing 147.30 122 *e*PKPbc **PKPdf 04 09 01.9 +0.8**
Q23K Middleton Isla 147.38 303 P 04 09 02.4
baz=111
EYAK Cordova Ski Ar 147.49 305 P 04 09 02.7
baz=109
SCRK Sand Creek 147.73 312 P 04 09 04.5
baz=105,SNR=23
KLU Klutina 147.87 307 P 04 09 04.9
baz=108
PAX Paxson 148.10 310 P 04 09 05.3
baz=106,SNR=22
M24K Tolsona, Glenn 148.17 308 P 04 09 06.5
baz=107,SNR=9.5
GLI Glacier Island 148.22 305 P 04 09 05.6
baz=108
PRP Porcupine Dome 148.73 314 P 04 09 07.0
baz=102,SNR=27
WAT6 Susitna Watana 149.00 308 P 04 09 07.9
baz=105,SNR=11
BTO Baotou 149.06 101 *e*PKPbc **PKPbc 04 09 08.1 +0.1**
BTO SKS **SKSdf 04 16 10.5 +1.9**
BTO LR LR
comp=Z,400nm,30.4s
SML Sawmill 149.06 307 P 04 09 07.5
baz=106
HDA Harding Lake 149.09 312 P 04 09 07.5
baz=102,SNR=12
HDA P 04 09 07.5
baz=102,SNR=12
ILAR Eielson Array 149.14 313 PKP **PKPdf 04 09 01.6 -1.5**
comp=Z,0.8nm,0.8s,baz=218,slow=0.7,SNR=8.1
ILAR PKPbc **PKiKP 04 09 08.2 -0.4**
comp=Z,45nm,0.8s,baz=129,slow=2.1,SNR=151
ILAR Eielson Array 149.14 313 PKP2 **PKiKP 04 09 07.9 -0.7**
ILAR Eielson Array 149.14 313 PKPbc **PKiKP 04 09 07.8 -0.7**
PMR Palmer 149.37 306 P 04 09 08.3
baz=106
POKR Poker Flat Res 149.44 313 P 04 09 08.1
baz=101,SNR=8.9
WAT2 Susitna Watana 149.47 309 P 04 09 08.7
baz=104,SNR=15
RC01 Rabbit Creek A 149.51 305 P 04 09 08.7
baz=106
COLA College 149.56 313 P 04 09 08.6
baz=101
COLA College 149.57 313 PKP2 **PKPbc 04 09 08.7 +0.4**
COLA College 149.57 313 PKPbc 04 09 08.7 +0.4
TCOL CIGO, UAF Yank 149.57 313 P 04 09 08.3
baz=101,SNR=9.6
BRSE Bradley Lake S 149.60 302 P 04 09 08.7
baz=108
RND Reindeer 149.69 310 PKP2 **PKiKP 04 09 10.1 +0.3**
RND Reindeer 149.69 310 PKiKP 04 09 10.1 +0.3
MCK McKinley 149.80 310 P 04 09 09.3
baz=102,SNR=30
MCK McKinley 149.80 310 PKP2 **PKiKP 04 09 09.7 -0.2**
MCK McKinley 149.80 310 PKiKP 04 09 09.7 -0.2
KDAK Kodiak Island 149.88 298 P 04 09 09.4
baz=110
KDAK Kodiak Island 149.88 298 PKPbc **PKiKP 04 09 09.7 -0.5**
comp=Z,15nm,0.5s,baz=186,slow=1.9,SNR=22
KDAK Kodiak Island 149.88 298 PKP2 **PKiKP 04 09 10.0 -0.2**
KDAK Kodiak Island 149.88 298 PKiKP 04 09 10.0 -0.2
NEA2 Nenana 150.03 312 P 04 09 09.6
baz=101,SNR=21
OHAK Old Harbor 150.04 297 P 04 09 09.8
baz=110
SUA Susitna One 150.08 306 P 04 09 10.3
baz=105
HHC Hu-ho-hao-te 150.08 102 *e*PKPbc **PKiKP 04 09 11.6 +0.2**
HHC SS SS 04 32 02.9 +2.7
HHC AMB AMB
comp=Z,150nm,8.2s
HHC LR LR
comp=Z,240nm,22.2s
HHC LR LR
comp=Z,150nm,20.9s
HHC LR LR
comp=Z,170nm,21.2s
I23K Minto, Yukon-K 150.25 313 P 04 09 09.9
baz=99,SNR=8.7
MOY Mondy 150.26 76 *e*PKIKP **PKPbc 04 09 10.4 -0.2**
MOY pmax pmax
comp=Z,62nm,2.1s
SII Sitkinak Islan 150.27 295 P 04 09 10.8
baz=111
TRF Thorofare Moun 150.33 310 P 04 09 10.7
baz=102,SNR=9.4
SKT Skwentna 150.57 306 P 04 09 11.3
baz=103
SPCR Spurr Chakacha 150.70 305 P 04 09 11.5
baz=104
TOLK Toolik Lake Re 150.71 320 P 04 09 11.4
baz=93
BPAW Bear Paw Mtn. 150.76 311 P 04 09 11.5
baz=100,SNR=48
MLY Manley 150.80 313 P 04 09 11.2
baz=98,SNR=14

COLD	**Coldfoot**	**150.85**	**317**	P			04 09 11.7	
	baz=95							
ZAK	**Zakamensk**	**150.93**	**80**	*e*PKIKP	**PKPbc**	**04 09 11.8**	**-0.4**	
ZAK				pmax	pmax			
	comp=Z,17nm,1.5s							
PPLA	**Purkeypile**	**151.06**	**308**	P			04 09 12.5	
	baz=101							
CHUM	**Lake Minchumin**	**151.30**	**310**	P			04 09 12.7	
	baz=99,SNR=19							
SONM	**Songino Array**	**151.40**	**86**	PKP	**PKPdf**	**04 09 06.8**	**-0.5**	
	comp=Z,1.2nm,0.9s,baz=230,slow=2.9,SNR=6.7							
SONM				PKPbc	**PKiKP**	**04 09 13.6**	**-0.3**	
	comp=Z,14nm,0.8s,baz=222,slow=2.8,SNR=61							
SONM	**Songino Array**	**151.40**	**86**	PKIKP	**PKPbc**	**04 09 12.9**	**-0.5**	
SONM	**Songino Array**	**151.40**	**86**	PKPbc	**PKPbc**	**04 09 12.9**	**-0.5**	
TLY	**Talaya**	**151.74**	**77**	PKPbc	**PKiKP**	**04 09 14.5**	**+0.2**	
	comp=Z,3.8nm,0.5s,baz=221,slow=6.8,SNR=6.2							
TLY	**Talaya**	**151.74**	**77**	*e*PKIKP	**PKiKP**	**04 09 14.7**	**+0.4**	
TLY				pmax	pmax			
	comp=Z,18nm,0.6s							
ULN	**Ulaanbaatar**	**151.79**	**87**	PKIKP	**PKPbc**	**04 09 14.0**	**-0.4**	
ULN	**Ulaanbaatar**	**151.79**	**87**		**PKPbc**	**04 09 14.0**	**-0.4**	
BJT	**Baijiatuao**	**152.04**	**109**	PKIKP	**PKPbc**	**04 09 14.9**	**-0.1**	
BJT	**Baijiatuao**	**152.04**	**109**		**PKPbc**	**04 09 14.9**	**-0.1**	
A21K	**Barrow**	**153.00**	**326**		**PKiKP**	**04 09 17.2**	**+1.0**	
A21K	**Barrow**	**153.00**	**326**	P			04 09 16.2	
	baz=81							
KSRS	**Korea Array**	**155.97**	**128**	PKPab	**PKPab**	**04 09 41.5**	**+0.1**	
	comp=Z,1.8nm,0.8s,baz=243,slow=5.3,SNR=5.1							

INET ***19*** *04:05:58.9, 10.°12N×84.°11W, h5km, MW2.5*
UCR 19 04:05:57.6±1.7, 10.°17N×84.°11W, h3km**±2**km**, MW3.7, 4C-1D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPO	**Crater poas**	**0.12**	**280**	*e*P	Pg	04 06 00.6	+0.5
CRPO				*e*S	Sg	04 06 02.9	+1.2
HDC3	**Heredia 3**	**0.17**	**181**	*e*P	Pg	04 06 02.5	+1.5
RIFO	**Rio Frio, Sara**	**0.23**	**52**↑	*e*P	Pg	04 06 03.2	+1.1
RIFO				*e*S	Sg	04 06 07.5	+2.3
SJS	**Escuela Geolog**	**0.24**	**167**	*e*P	Pg	04 06 04.1	+1.9
SJS				*e*S	Sg	04 06 08.4	+3.0
VTRE	**Volcan Turrial**	**0.35**	**119**	*e*P	Pb	04 06 06.0	-0.8
VTUC	**Crater, Volcan**	**0.37**	**114**	*e*P	Pb	04 06 06.4	-0.7
SRA1	**San Ramn**	**0.38**	**256**	*e*P	Pg	04 06 05.7	+0.9
SRA1				*e*S	Sb	04 06 11.6	-1.7
CVTR	**Volcan Turrial**	**0.38**	**114**↑	*i*P	Pb	04 06 06.4	-0.8
CVTR				*e*S	Sb	04 06 13.6	0.0
VTCV	**VTCV, Calle Va**	**0.42**	**117**	*e*P	Pb	04 06 07.1	-0.7
LCR2	**La Lucha 2**	**0.44**	**166**	*e*P	Pb	04 06 07.2	-1.0
LCR2				*e*S	Sb	04 06 15.0	-0.2
RIMA	**Rio Macho**	**0.47**	**149**	*e*P	Pb	04 06 08.0	-0.7
COVE	**Coope Vega, Sa**	**0.61**	**332**↓	*i*P	Pg	04 06 09.2	-0.2
CEDE	**Laguna Cedeo**	**0.66**	**298**	*e*P	Pg	04 06 10.9	+0.6
ARE1	**Arenal 1**	**0.66**	**295**	*i*P	Pg	04 06 10.9	+0.5
JACO	**JACO, Garabito**	**0.74**	**227**↑	*i*P	Pg	04 06 12.1	+0.3
JACO				*e*S	Sb	04 06 23.1	-0.6
LAFE	**Finca La Fe, P**	**0.87**	**245**	*e*P	Pb	04 06 15.1	-0.3
LAFE				*e*S	Sb	04 06 28.3	+0.9
PLVR	**Palo Verde**	**1.23**	**278**↑	*e*P	Pg	04 06 20.3	-1.0
DRK0	**Durika**	**1.24**	**137**	*e*P	Pg	04 06 21.1	-0.4
GPS2	**Hotel Rincn d**	**1.35**	**295**	*e*P	Pn	04 06 22.7	-0.7
VRLE	**La Escondida,**	**1.38**	**296**	*e*P	Pn	04 06 22.6	-1.2
INDI	**Punta indio, G**	**1.41**	**258**	*e*P	Pn	04 06 23.3	-0.8
INDI				*e*S	Sn	04 06 43.5	+0.3
LPLA	**Las Palmas La**	**1.57**	**136**	*e*P	Pn	04 06 26.9	+0.4
SAJU	**San Juanillo,**	**1.58**	**266**	*e*P	Pn	04 06 26.7	+0.2
ACON	**Acoyapa**	**2.07**	**330**	*e*P	Pn	04 06 33.5	+0.3

IDC ***19*** *04:06:42.8±0.4, 24.°06N×123.°10E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.4/66, mbtmp3.6/6, ML3.2/1, MS3.7/4, Ms1 3.7/4, ms1mx3.1/31, Error ellipse: s-maj=9.6km s-min=9.2km az=15.0*
JMA ***19*** *04:06:46.1±0.2, 24.°00N×123.°25E, h29km±3km, M3.6*
NIED ***19*** *04:06:46.2, 24.°00N×123.°25E, h28km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr=5.35; Mθθ-0.49; Mφφ5.84; Mrθ 0.27; Mrφ-0.30; Mθφ-1.47; Fault plane solution: M₀5.80000×10¹⁴ NP1: φs355.00000°, δ52.00000°, λ-93.00000°. NP2: φs180.00000°, δ38.00000°, λ-86.00000°.*
ISC 19 04:06:46.2±1.7, 24.°04N±0.°10×123.°22E±0.°05, h23km**±12**km**, n18, σ0§67/22, mb3.7/5, MS3.9/3, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.46**	**335**	P	Pn	**04 06 56.4**	**-1.0**
YOJ				S	Sb	**04 07 03.1**	**+0.9**
JYNG	**Yonagunijimaku**	**0.48**	**328**	P	Pn	**04 06 56.7**	**-0.9**
JYNG				S	Sb	**04 07 03.7**	**+1.0**
HATJ	**Hateruma jima**	**0.53**	**88**	P	Pb	**04 06 56.3**	**-0.5**
HATJ				S	Sb	**04 07 04.0**	**-0.1**
IRIF	**Iriomote-Funau**	**0.55**	**57**	P	Pb	**04 06 57.3**	**+0.2**
IRIF				S	Sb	**04 07 04.8**	**+0.2**
JKRS	**Kuro-shima**	**0.74**	**75**	P	Pb	**04 07 00.2**	**-0.2**
JKRS				S	Sb	**04 07 10.5**	**+0.3**
JIJ	**Ishigaki jima**	**0.90**	**69**	P	Pb	**04 07 02.3**	**-0.8**
JIJ				S	Sb	**04 07 14.1**	**-0.5**
JISG	**Ishigakijimahi**	**1.13**	**61**	P	Pn	**04 07 06.0**	**-0.5**
JISG				S	Sb	**04 07 20.9**	**-0.4**
JTJ	**Tarama**	**1.48**	**66**	P	Pn	**04 07 11.4**	**+0.1**
JTJ				*e*S	Sn	**04 07 30.1**	**+0.3**
JOW	**Kunigami**	**5.34**	**58**	Pn	Pn	**04 08 05.4**	**+0.9**
	1.9nm,0.3s,baz=87,slow=18,SNR=4.0						
JNU	**Nakatsue**	**11.27**	**35**	LR	LR	04 14 26.1	
	comp=Z,134nm,21.8s,baz=23,slow=41						
MKAR	**Makanchi Array**	**39.74**	**315**	P	**P**	**04 14 16.9**	**-0.1**
	0.2nm,0.5s,baz=104,slow=10,SNR=2.7						
KURBB	**Kurchatov Arra**	**43.42**	**319**	P	**P**	**04 14 46.2**	**-0.8**
	0.3nm,0.4s,baz=114,slow=9.0,SNR=3.4						
WRA	**Warramunga Arr**	**45.04**	**165**	P	**P**	**04 15 00.7**	**+0.4**
	1.2nm,0.8s,baz=346,slow=8.8,SNR=6.7						
ASAR	**Alice Springs**	**48.54**	**167**	P	**P**	**04 15 28.5**	**+0.9**
	0.6nm,0.8s,baz=359,slow=5.9,SNR=5.7						
STKA	**Stephens Creek**	**58.31**	**162**	LR	LR	04 43 47.8	
	comp=Z,166nm,18.7s,baz=195,slow=38						
AKASG	**Malin Array Be**	**74.21**	**319**	LR	LR	04 54 18.4	
	comp=Z,66nm,19.4s,baz=30,slow=38						
NOA	**NORSAR Array B**	**79.22**	**333**	LR	LR	04 55 10.7	
	comp=Z,31nm,18.7s,baz=205,slow=37						
YKA	**Yellowknife Ar**	**82.37**	**23**	P	**P**	**04 19 06.0**	**+0.1**
	0.5nm,0.7s,baz=305,slow=4.9,SNR=9.3						

NOU ***19*** *04:17:04.7, 26.°49S×176.°06W, h220km, mb4.4, South of Fiji Islands*
IDC ***19*** *04:17:12.0±0.6, 26.°47S×177.°82W, h186km±5km, mb3.9/15, mb1 4.1/17, mb1mx4.1/32, mbtmp4.5/17, MS3.9/2, Ms1 3.9/2, ms1mx3.1/39, Error ellipse: s-maj=13.8km s-min=12.5km az=9.0*
NEIC ***19*** *04:17:12.9±1.4, 26.°52S±0.°08×177.°77W±0.°07, h203km±6km, mb4.5/19, Error ellipse: s-maj=13.1km s-min=5.8km az=142.0*
ISC 19 04:17:10.4±0.4, 26.°50S±0.°06×177.°82W±0.°09, h174km**, n106, σ1§93/109, mb4.3/18, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**2.74**	**182**	P	**Pn**	**04 17 56.3**	**+0.7**
RIZ				S	**Sn**	**04 18 33.8**	**+2.9**
RAO	**Raoul Island**	**2.75**	**182**	Pn	**Pn**	**04 17 57.0**	**+1.3**
RAO					**Sn**	**04 18 35.5**	**+4.5**
RAO	**Raoul Island**	**2.75**	**182**	P	**Pn**	**04 17 56.7**	**+1.0**
GLKZ	**Green Lake**	**2.76**	**182**	P	**Pn**	**04 17 57.2**	**+1.4**
GLKZ				S	**Sn**	**04 18 35.1**	**+3.9**
MSVF	**Nonsavu**	**9.52**	**335**	P	**Pn**	**04 19 26.8**	**+2.8**
	2.4nm,0.3s,baz=138,slow=13,SNR=36						
MSVF				LR	LR	04 22 01.5	
	comp=Z,228nm,20.0s,baz=84,slow=30						
MSVF	**Nonsavu**	**9.52**	**335**		**Pn**	**04 19 27.2**	**+3.3**
MSVF	**Nonsavu**	**9.52**	**335**	P	**Pn**	**04 19 27.6**	**+3.7**
WMGZ	**Waiomatatini S**	**11.73**	**195**	P	Pn	04 19 46.1	-6.3
WMGZ				S	Sn	04 21 45.6	-17
HAZ	**Te Kaha**	**11.83**	**197**	P	Pn	04 19 46.8	-6.9
HAZ				S	Sn	04 21 53.4	-12
URZ	**Urewera**	**12.49**	**199**	P	Pn	04 19 54.5	-7.6
	0.3nm,0.3s,baz=269,slow=4.1,SNR=20						
URZ				S	Sn	04 22 08.1	-13
	36nm,0.3s,baz=118,slow=22,SNR=22						
URZ	**Urewera**	**12.49**	**199**	Pn	**Pn**	**04 20 04.1**	**+2.0**
TARZ	**Mount Tarawera**	**12.65**	**201**	P	**P**	**04 20 11.1**	**+2.2**
TLZ	**Tolley Road**	**13.06**	**204**	P	**P**	**04 20 14.6**	**+1.2**
RAHZ	**Arahi**	**13.11**	**198**	P	**P**	**04 20 14.4**	**+0.5**
RAHZ				S	Sn	04 22 23.2	-12
RATZ	**Rangitukua**	**13.46**	**202**	P	**P**	**04 20 17.7**	**-0.1**
HIZ	**Hauiti**	**13.48**	**205**	P	**P**	**04 20 20.3**	**+2.3**
BKZ	**Black Stump Fm**	**13.51**	**199**	P	**Pn**	**04 20 14.2**	**-0.9**
BKZ				S	Sn	04 22 33.6	-12
KATZ	**Kakaramea**	**13.58**	**202**	P	**P**	**04 20 19.8**	**+0.5**
AFI	**Afiamalu**	**13.74**	**25**	P	Pn	04 20 12.2	-6.1
	12nm,0.3s,baz=120,slow=5.2,SNR=10						
AFI				S	Sn	04 22 30.9	-20
	29nm,0.3s,baz=44,slow=18,SNR=12						
TWVZ	**Taurewa**	**13.76**	**203**	P	**Pn**	**04 20 19.2**	**+0.9**
OTVZ	**Oturere**	**13.76**	**202**	P	**P**	**04 20 21.0**	**-0.3**
OTVZ				S	Sn	04 22 40.8	-11
KWHZ	**Kaweka Forest**	**13.77**	**199**	P	**Pn**	**04 20 18.8**	**+0.5**
KWHZ				S	Sn	04 22 36.9	-15
TUVZ	**Tukino**	**13.86**	**202**	P	**P**	**04 20 22.0**	**-0.4**
TUVZ				S	Sn	04 22 43.6	-10
BHHZ	**Black Hill Sta**	**13.93**	**200**	P	**Pn**	**04 20 18.3**	**-2.2**
BHHZ				S	Sn	04 22 43.0	-12
MOVZ	**Moawhango**	**13.96**	**201**	P	**Pn**	**04 20 19.0**	**-1.7**
MOVZ				S	Sn	04 22 41.5	-14
KRHZ	**Kereru**	**13.98**	**199**	P	**Pn**	**04 20 22.6**	**-1.0**
KRHZ				S	Sn	04 22 42.0	-15
PKVZ	**Pokaka**	**13.98**	**202**	P	**Pn**	**04 20 20.2**	**-0.9**
VRZ	**Vera Road**	**14.05**	**204**	P	**P**	**04 20 24.9**	**+0.5**
PXZ	**Pawanui**	**14.21**	**197**	P	**P**	**04 20 25.1**	**-0.9**
PXZ				S	Sn	04 22 44.1	-18
PNHZ	**Pukenui**	**14.28**	**199**	P	**Pn**	**04 20 20.1**	**-4.7**
PNHZ				S	Sn	04 22 46.5	-17
TSZ	**Takapari Road**	**14.49**	**199**	P	**Pn**	**04 20 26.6**	**-0.7**
TSZ				S	Sn	04 22 50.9	-18
OUENC	**Ouen Island, N**	**14.55**	**283**	P	P	04 20 38.8	+8.8
BFZ	**Birch Farm**	**14.98**	**198**	P	**Pn**	**04 20 30.4**	**-3.1**
BFZ				S	Sn	04 23 01.2	-19
DZM	**Mont Dzumac**	**15.01**	**284**	P	**P**	**04 20 34.9**	**-0.4**
	0.2nm,0.3s,baz=161,slow=18,SNR=2.0						
DZM	**Mont Dzumac**	**15.01**	**284**	P	**P**	**04 20 36.3**	**+1.0**
DZM				IAmb	IAmb	04 20 46.0	
	comp=Z,18nm,0.9s						
DZM	**Mont Dzumac**	**15.01**	**284**	P	P	04 20 42.9	+7.6
MRZ	**Mangatainoka R**	**15.15**	**200**	P	**Pn**	**04 20 29.7**	**-5.8**
MRZ				S	Sn	04 23 06.3	-18
HOWZ	**Holdsworth Sta**	**15.39**	**199**	P	**Pn**	**04 20 36.2**	**-2.3**
HOWZ				S	Sn	04 23 10.6	-20
KIW	**Kapiti Island**	**15.54**	**201**	P	**Pn**	**04 20 34.3**	**-6.0**
KIW				S	Sn	04 23 14.8	-19
DUWZ	**D'Urville Isla**	**15.83**	**204**	P	**Pn**	**04 20 41.0**	**-2.8**
DUWZ				S	S	04 23 24.2	-16
SNZO	**South Karori**	**16.02**	**201**	P	**Pn**	**04 20 45.6**	**-0.5**
PLWZ	**Palliser**	**16.09**	**199**	P	**P**	**04 20 45.2**	**-1.7**
PLWZ				S	S	04 23 24.0	-21
TUWZ	**Tuamarina**	**16.38**	**202**	P	**P**	**04 20 45.3**	**-4.8**
TUWZ				S	S	04 23 33.8	-18
QRZ	**Quartz Range**	**16.38**	**207**	P	**P**	**04 20 47.2**	**-3.0**
NNZ	**Nelson**	**16.39**	**204**	P	**P**	**04 20 46.5**	**-3.7**
BSWZ	**Blackbirch Sta**	**16.65**	**202**	P	**P**	**04 20 51.5**	**-1.7**
BSWZ	**Blackbirch Sta**	**16.65**	**202**	P	**P**	**04 20 51.6**	**-1.5**
THZ	**Tophouse**	**17.04**	**204**	P	**P**	**04 20 54.8**	**-2.6**
RPZ	**Rata Peaks**	**19.41**	**205**	P	**P**	**04 21 19.5**	**-3.7**
	comp=Z,0.8nm,0.3s,baz=16,slow=1.7,SNR=5.4						
RPZ				S	S	04 24 40.9	-12
	comp=Z,3.7nm,0.3s,baz=26,slow=18,SNR=13						
LBZ	**Lake Benmore**	**20.31**	**205**	P	**P**	**04 21 34.5**	**+1.6**
LBZ				IAmb	IAmb	04 21 39.9	
	comp=Z,22nm,1.2s						
WHZ	**Wether Hill Ro**	**22.45**	**207**	P	**P**	**04 21 54.8**	**0.0**
WHZ				IAmb	IAmb	04 21 59.7	
	comp=Z,15nm,0.5s						
CTA	**Charters Tower**	**33.53**	**273**	P	**P**	**04 23 34.6**	**+0.8**
	baz=92,slow=12						
STKA	**Stephens Creek**	**35.69**	**252**	P	**P**	**04 23 52.0**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=84,slow=10,SNR=2.1						
AS31	**Alice Springs**	**43.62**	**263**	P	**P**	**04 24 57.9**	**+0.1**
ASAR	**Alice Springs**	**43.62**	**263**	P	**P**	**04 24 58.4**	**+0.6**
	comp=Z,4.2nm,0.6s,baz=96,slow=7.2,SNR=63						
ASAR				pP	pP	04 25 43.9	+8.4
	comp=Z,3.6nm,1.0s,baz=105,slow=8.4,SNR=2.7						
ASAR				S	**S**	**04 31 11.2**	**-3.1**
	comp=Z,1.4nm,1.0s,baz=104,slow=15,SNR=2.9						
ASAR	**Alice Springs**	**43.62**	**263**	P	**P**	**04 24 58.1**	**+0.3**
WR0	**Warramunga Arr**	**44.07**	**268**	P	**P**	**04 25 01.9**	**+0.5**
WB2	**Warramunga Arr**	**44.24**	**268**	P	**P**	**04 25 01.7**	**-1.0**
WRA	**Warramunga Arr**	**44.25**	**268**	P	**P**	**04 25 03.2**	**+0.4**
	comp=Z,3.6nm,0.5s,baz=105,slow=7.7,SNR=11						
WRA				pP	pP	04 25 48.6	+8.0
	comp=Z,3.6nm,0.9s,baz=105,slow=8.0,SNR=3.4						
WRA				PcP	**PcP**	**04 26 43.9**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=113,slow=7.6,SNR=4.9						
WRA	**Warramunga Arr**	**44.25**	**268**	P	**P**	**04 25 03.1**	**+0.2**
WRA					**PcP**	**04 26 43.3**	**-1.0**
WB0	**Warramunga Arr**	**44.26**	**268**	P	**P**	**04 25 02.4**	**-0.5**
SBA	**Scott Base**	**51.93**	**184**	P	**P**	**04 26 01.0**	**+0.2**
VNDA	**Vanda**	**51.98**	**186**	P	**P**	**04 26 02.8**	**+1.6**
	comp=Z,7.0nm,1.0s,baz=9.2,slow=8.6,SNR=17						
VNDA	**Vanda**	**51.98**	**186**	P	**P**	**04 26 01.9**	**+0.6**
VNDA				IAmb	IAmb	04 26 07.5	
	comp=Z,6.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.63**	**267**	P	**P**	**04 26 07.5**	**+0.7**
	comp=Z,3.9nm,0.5s,baz=97,slow=4.9,SNR=24						
FITZ	**Fitzroy Crossi**	**52.63**	**267**	P	**P**	**04 26 06.0**	**-0.9**
QSPA	**South Pole Qui**	**63.60**	**180**	P	**P**	**04 27 23.2**	**+0.7**
DAV	**Davao City (W)**	**64.19**	**293**	LR	LR	04 54 17.9	
	comp=Z,239nm,19.0s,baz=136,slow=35						
BELA	**Belgrano 2**	**73.62**	**172**	P	**P**	**04 28 23.6**	**-0.5**
MJAR	**Matsushiro Arr**	**75.15**	**325**	P	**P**	**04 28 32.4**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=167,slow=6.3,SNR=6.1						
MJAR	**Matsushiro Arr**	**75.15**	**325**	P	**P**	**04 28 32.8**	**-0.7**
MAW	**Mawson**	**76.01**	**200**	P	**P**	**04 28 38.5**	**+0.6**
	comp=Z,17nm,0.8s,baz=142,slow=2.6,SNR=12						
MAW	**Mawson**	**76.01**	**200**	P	**P**	**04 28 37.3**	**-0.7**
MAW				IAmb	IAmb	04 28 39.9	
	comp=Z,4.5nm,0.8s						
JKA	**Kamikawa-asahi**	**79.07**	**332**	P	**P**	**04 28 54.9**	**-0.2**
JKA				IAmb	IAmb	04 29 04.1	
	comp=Z,6.3nm,0.8s						
ASAJ	**Asahikawa**	**79.07**	**332**	P	**P**	**04 28 56.3**	**+1.2**
	comp=Z,5.3nm,0.6s,baz=229,slow=18,SNR=5.8						
KSRS	**Korea Array**	**81.50**	**319**	P	**P**	**04 29 09.7**	**+1.4**
	comp=Z,1.0nm,0.4s,baz=141,slow=3.8,SNR=5.5						
SNAA	**Sanae**	**82.04**	**178**	P	**P**	**04 29 10.0**	**-0.8**
SNAA	**Sanae**	**82.04**	**178**	P	**P**	**04 29 10.0**	**-0.8**
PETK	**Petropavlovsk-**	**82.09**	**345**	P	**P**	**04 29 09.9**	**-1.0**
	comp=Z,6.6nm,0.9s,baz=140,slow=7.2,SNR=4.3						
PETK	**Petropavlovsk-**	**82.09**	**345**	P	**P**	**04 29 10.3**	**-0.6**
VNA3	**Neumayer Olymp**	**82.18**	**176**	P	**P**	**04 29 10.5**	**-0.9**
VNA2	**Neumayer--Watz**	**82.61**	**177**	P	**P**	**04 29 13.0**	**-0.7**
	baz=167,slow=4.2						
VNA1	**Neumayer--Stat**	**82.84**	**177**	P	**P**	**04 29 14.0**	**-0.9**
USRK	**Ussuriysk Ar.**	**84.01**	**326**	P	**P**	**04 29 21.8**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=130,slow=4.8,SNR=8.3						
USRK	**Ussuriysk Ar.**	**84.01**	**326**	P	**P**	**04 29 20.8**	**-0.3**
PLCA	**Paso Flores**	**85.05**	**133**	P	**P**	**04 29 27.1**	**+0.4**
	comp=Z,7.9nm,0.9s,baz=223,slow=5.9,SNR=13						
PLCA	**Paso Flores**	**85.05**	**133**	P	**P**	**04 29 25.5**	**-1.2**
PLCA				IAmb	IAmb	04 29 27.9	
	comp=Z,14nm,1.1s						
NVAR	**Mina Array Bea**	**85.27**	**43**	P	**P**	**04 29 27.7**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=224,slow=6.3,SNR=4.0						
NVAR				pP	**pwP**	**04 30 13.1**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=230,slow=8.1,SNR=1.9						
BI02	**San Fabin de**	**86.64**	**129**	P	**P**	**04 29 34.2**	**-0.4**
BI02				IAmb	IAmb	04 29 35.1	
	comp=Z,12nm,0.9s						
TXAR	**Lajitas Array**	**90.14**	**57**	P	**P**	**04 29 51.5**	**+0.4**
	comp=Z,0.5nm,1.0s,baz=206,slow=11,SNR=4.0						
TXAR				pP	**pwP**	**04 30 36.5**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=190,slow=6.4,SNR=4.3						
PDAR	**Pinedale Array**	**93.20**	**43**	P	**P**	**04 30 05.2**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=195,slow=4.0,SNR=4.1						
PDAR	**Pinedale Array**	**93.20**	**43**	P	**P**	**04 30 03.3**	**-1.8**
MKAR	**Makanchi Array**	**115.35**	**311**	PKP	**PKPdf**	**04 35 30.1**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=62,slow=2.9,SNR=4.4						
BOSA	**Boshof**	**120.90**	**204**	PKP	**PKPdf**	**04 35 41.8**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=63,slow=1.6,SNR=4.3						
BOSA	**Boshof**	**120.90**	**204**		**PKPdf**	**04 35 40.4**	**-2.3**
ARCES	**ARCESS Array B**	**134.81**	**349**	PKP	**PKPdf**	**04 36 06.1**	**-1.5**
	comp=Z,7.9nm,1.1s,baz=15,slow=2.2,SNR=6.4						
NB2	**NORSAR Subarra**	**144.92**	**352**	PKP	PKPbc	04 36 25.1	-0.7
	comp=Z,8.1nm,1.2s,baz=14,slow=2.6						
NOA	**NORSAR Array B**	**144.92**	**352**	PKP	**PKPab**	**04 36 25.6**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=18,slow=2.8,SNR=9.1						
NOA				pPKP	**pPKPdf**	**04 37 14.1**	**+2.9**
	comp=Z,4.6nm,0.8s,baz=12,slow=2.3,SNR=7.0						
AKASG	**Malin Array Be**	**148.22**	**327**	PKPbc	**PKPbc**	**04 36 35.2**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=45,slow=3.8,SNR=5.5						
AKASG				pPKPbc	**pPKPab**	**04 37 21.8**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=41,slow=3.7,SNR=2.3						
BRTR	**Keskin Array B**	**150.70**	**305**	PKPbc	**PKPbc**	**04 36 40.6**	**-1.6**
	comp=Z,1.4nm,0.9s,baz=129,slow=2.1,SNR=2.7						
BRTR				pPKPbc	**pPKPab**	**04 37 30.8**	**-2.2**
	comp=Z,2.6nm,1.0s,baz=131,slow=3.4,SNR=4.6						
BRTR	**Keskin Array B**	**150.70**	**305**		**PKPbc**	**04 36 40.9**	**-1.3**
DPC	**Dobruska-Polom**	**153.82**	**339**	*e*PKPAB	**PKPab**	**04 37 04.4**	**+2.0**
DPC				*ex*	x	04 37 08.3	
KRLC	**Kraliky**	**153.91**	**338**	*e*PKPAB	**PKPab**	**04 37 07.4**	**+4.6**
KHC	**Kasperske Hory**	**155.73**	**342**	*e*PKPAB	**PKPab**	**04 37 10.3**	**-0.2**
KHC				*ex*	x	04 37 16.1	
DBIC	**Dimbokro**	**159.18**	**160**	PKPab	**PKPab**	**04 37 25.5**	**-0.7**
	comp=Z,4.6nm,0.9s,baz=172,slow=6.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**166.71**	**178**	PKPab	**PKPab**	**04 37 58.2**	**-0.9**
	comp=Z,7.0nm,0.8s,baz=186,slow=2.8,SNR=17						

DJA ***19*** *04:18:07.0±0.6, 5.°S±3.°×10.°2E±.°, h11km±5km, M3.8/7, MLv3.8/7*
IDC ***19*** *04:18:20.3±1.5, 2.°49S×101.°44E, h0km, mb3.4/2, mb1 3.4/2, mb1mx3.3/34, mbtmp3.4/2, MS2.8/1, Ms1 3.0/1, ms1mx2.6/31, Error ellipse: s-maj=119.5km s-min=31.0km az=74.0*
ISC 19 04:18:04.5±1.8, 4.°9S±0.°1×101.°9E±0.°1, h10km**, n10, σ0§83/9, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.13**	**64**	P	**Pn**	**04 18 26.8**	**+0.4**
MNAI				S	**Sn**	**04 18 41.1**	**-0.9**
KSI	**Kapahiang**	**1.37**	**28**	P	**Pg**	**04 18 31.8**	**+1.0**
LHSI	**Lahat**	**1.89**	**57**	P	**Pb**	**04 18 38.2**	**-0.8**
MDSI	**Maura Dua**	**2.26**	**81**	P	**Pn**	**04 18 42.6**	**+0.6**
KASI	**Kota Agung**	**2.63**	**105**	P	**Pn**	**04 18 47.5**	**+0.5**
KLSI		**2.78**	**87**	P	**Pn**	**04 18 50.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**23.36**	**353**	LR	LR	04 31 46.5	
	comp=Z,27nm,18.8s,baz=25,slow=38						
SONM	**Songino Array**	**52.62**	**4**	P	**P**	**04 27 18.7**	**-0.1**
	0.4nm,0.7s,baz=177,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**54.30**	**343**	P	**P**	**04 27 30.6**	**-0.5**
	0.2nm,0.5s,baz=168,slow=7.4,SNR=3.3						
TXAR	**Lajitas Array**	**145.66**	**42**	PKP	PKiKP	04 37 58.5	+10
	0.5nm,0.7s,baz=280,slow=1.4,SNR=9.4						

JMA ***19*** *04:29:25.0±0.1, 32.°08N×132.°07E, h25km±2

JTJ	**Tarama**	**1.09**	**105**	P	**Pb**	04 56 08.6	-0.7
JTJ				*e*S	**Sb**	04 56 23.6	+0.1
JIRB	**Irabujima**	**1.48**	**93**	P	**Pn**	04 56 14.4	-0.6
JIKM	**Ikemajima**	**1.54**	**90**	P	**Pn**	04 56 15.6	-0.3
JIKM				*e*S	**Sn**	04 56 34.9	-1.0
KSRS	**Korea Array**	**13.04**	**16**	P	**P**	04 59 06.5	+2.5
	0.3nm,0.3s,baz=196,slow=13,SNR=9.2						
CMAR	**Chiang Mai Arr**	**23.73**	**259**	P	**P**	05 01 01.4	+0.6
	0.5nm,0.3s,baz=56,slow=7.7,SNR=5.0						
SONM	**Songino Array**	**26.59**	**334**	P	**P**	05 01 26.8	0.0
	1.2nm,0.8s,baz=153,slow=10,SNR=8.4						
MKAR	**Makanchi Array**	**39.33**	**314**	P	**P**	05 03 17.4	-0.3
	0.8nm,0.7s,baz=100,slow=11,SNR=9.4						
ZALV	**Zalesovo Beam**	**40.82**	**326**	P	**P**	05 03 29.2	-0.7
	0.6nm,0.3s,baz=110,slow=6.8,SNR=4.7						
KURBB	**Kurchatov Arra**	**42.95**	**319**	P	**P**	05 03 46.0	-1.3
	0.7nm,0.6s,baz=110,slow=7.5,SNR=6.4						
WRA	**Warramunga Arr**	**45.82**	**166**	P	**P**	05 04 10.8	+0.2
	0.7nm,0.6s,baz=348,slow=8.7,SNR=8.8						
TIXI	**Tiksi**	**46.85**	**2**	P	**P**	05 04 17.6	-0.5
	1.3nm,0.5s,baz=208,slow=0.8,SNR=3.6						
ASAR	**Alice Springs**	**49.34**	**167**	P	**P**	05 04 38.5	+0.6
	0.3nm,0.5s,baz=351,slow=13,SNR=4.3						
YKA	**Yellowknife Ar**	**81.45**	**24**	P	**P**	05 08 05.2	-0.1
	0.5nm,0.8s,baz=312,slow=4.5,SNR=8.3						

*KRSC **19** 04:57:03.4±1.2,53°.55N×162°.02E, h39km±19km, ML4.4*
*IDC **19** 04:57:03.7±1.1,54°.00N×161°.48E, h0km, mb3.8/8, mb1 4.1/10, mb1mx3.6/61, mbtmp3.9/10, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/49, Error ellipse: s-maj=42.1km s-min=15.7km az=152.0*
*MOS **19** 04:57:05.7±0.9, 53°.56N×161°.93E, h60km, mb4.3/3, Error ellipse: s-maj=7.3km s-min=5.3km az=78.2*

ISC 19 04:57:02.0±1.7, 53°.56N±0°.03×161°.92E±0°.04, h2km±11km, n92, σ1§59/135, mb4.0/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.01**	**354**	PN	**Pb**	**04 57 22.0**	**-0.2**
MKZ				S	**Sb**	**04 57 35.9**	**+0.1**
MKZ	**Mys Kozlova**	**1.01**	**354**	*e*P	**Pb**	**04 57 22.0**	**-0.2**
MKZ				*e*S	**Sb**	**04 57 35.9**	**+0.1**
SPN	**Mys Shipunski**	**1.23**	**249**	PN	**Pg**	**04 57 25.8**	**+0.3**
SPN				S	**Sb**	**04 57 42.1**	**0.0**
SPN	**Mys Shipunski**	**1.23**	**249**	*e*P	**Pg**	**04 57 25.8**	**+0.3**
SPN				*e*S	**Sb**	**04 57 42.1**	**0.0**
KII	**Karymskiy**	**1.54**	**289**	PN	**Pb**	**04 57 31.1**	**-0.2**
KII	**Karymskiy**	**1.54**	**289**	*e*P	**Pb**	**04 57 31.1**	**-0.2**
NLC	**Nalytchevo**	**1.59**	**257**	PN	**Pb**	**04 57 32.2**	**+0.1**
NLC				S	**Sn**	**04 57 50.6**	**-1.6**
NLC	**Nalytchevo**	**1.59**	**257**	*e*P	**Pb**	**04 57 32.2**	**+0.1**
NLC				*e*S	**Sn**	**04 57 50.6**	**-1.6**
KZV	**Kizimen**	**1.83**	**329**	PN	**Pn**	**04 57 35.0**	**+0.4**
KZV				S	**Sn**	**04 57 57.3**	**-1.0**
KZV	**Kizimen**	**1.83**	**329**	*e*P	**Pn**	**04 57 35.0**	**+0.4**
KZV				*e*S	**Sn**	**04 57 57.3**	**-1.0**
SDLR	**Sedlovina**	**1.84**	**263**	PN	**Pn**	**04 57 34.8**	**+0.1**
SDLR				S	**Sn**	**04 57 56.9**	**-1.6**
SDLR	**Sedlovina**	**1.84**	**263**	*e*P	**Pn**	**04 57 34.8**	**+0.1**
SDLR				*e*S	**Sn**	**04 57 56.9**	**-1.6**
TUMD	**Tumrok D**	**1.88**	**332**	*e*P	**Pn**	**04 57 34.7**	**-0.4**
TUMD				*e*S	**Sn**	**04 57 57.1**	**-2.2**
UGLR	**Uglovaya**	**1.89**	**261**	PN	**Pn**	**04 57 35.7**	**+0.4**
UGLR				S	**Sn**	**04 57 58.6**	**-1.1**
UGLR	**Uglovaya**	**1.89**	**261**	*e*P	**Pn**	**04 57 35.7**	**+0.4**
UGLR				*e*S	**Sn**	**04 57 58.6**	**-1.1**
SMAR	**Somma**	**1.89**	**262**	PN	**Pn**	**04 57 36.0**	**+0.5**
SMAR				S	**Sn**	**04 57 58.7**	**-1.2**
SMAR	**Somma**	**1.89**	**262**	*e*P	**Pn**	**04 57 36.0**	**+0.5**
SMAR				*e*S	**Sn**	**04 57 58.7**	**-1.2**
KRER	**Koryakskii**	**1.92**	**264**	PN	**Pn**	**04 57 36.3**	**+0.5**
KRER	**Koryakskii**	**1.92**	**264**	*e*P	**Pn**	**04 57 36.3**	**+0.5**
AVH	**Avacha**	**1.93**	**263**	PN	**Pn**	**04 57 36.4**	**+0.6**
AVH				S	**Sn**	**04 57 59.6**	**-1.1**
AVH	**Avacha**	**1.93**	**263**	*e*P	**Pn**	**04 57 36.4**	**+0.6**
AVH				*e*S	**Sn**	**04 57 59.6**	**-1.1**
KRX	**Arik**	**1.97**	**266**	PN	**Pb**	**04 57 37.8**	**-0.8**
KRX				S	**Sn**	**04 58 00.2**	**-1.5**
KRX	**Arik**	**1.97**	**266**	*e*P	**Pb**	**04 57 37.8**	**-0.8**
KRX				*e*S	**Sn**	**04 58 00.2**	**-1.5**
DALK	**Dalny**	**1.97**	**256**	PN	**Pn**	**04 57 37.3**	**+0.9**
DALK				S	**Sn**	**04 58 01.2**	**-0.4**
DALK	**Dalny**	**1.97**	**256**	*e*P	**Pn**	**04 57 37.3**	**+0.9**
DALK				*e*S	**Sn**	**04 58 01.2**	**-0.4**
KOK	**Koryaka**	**1.98**	**264**	PN	**Pn**	**04 57 37.0**	**+0.4**
KOK	**Koryaka**	**1.98**	**264**	*e*P	**Pn**	**04 57 37.0**	**+0.4**
TUMR	**Tumrok**	**2.02**	**330**	PN	**Pn**	**04 57 37.6**	**+0.5**
TUMR				S	**Sn**	**04 58 01.9**	**-1.1**
TUMR	**Tumrok**	**2.02**	**330**	*e*P	**Pn**	**04 57 37.6**	**+0.5**
TUMR				*e*S	**Sn**	**04 58 01.9**	**-1.1**
PET	**Petropavlovsk**	**2.03**	**256**	PN	**Pn**	**04 57 38.7**	**+1.5**
PET				S	**Sn**	**04 58 03.8**	**+0.7**
PET	**Petropavlovsk**	**2.03**	**256**	*e*P	**Pn**	**04 57 38.7**	**+1.5**
PET				*e*S	**Sn**	**04 58 03.8**	**+0.7**
RUS	**Russkaya**	**2.35**	**243**	PN	**Pn**	**04 57 43.0**	**+1.5**
RUS				S	**Sn**	**04 58 11.0**	**+0.2**
RUS	**Russkaya**	**2.35**	**243**	*e*P	**Pn**	**04 57 43.0**	**+1.5**
RUS				*e*S	**Sn**	**04 58 11.0**	**+0.2**
GNL	**Ganaly**	**2.38**	**275**	PN	**Pn**	**04 57 43.6**	**+1.6**
GNL	**Ganaly**	**2.38**	**275**	*e*P	**Pn**	**04 57 43.6**	**+1.6**
KRMR	**Karymshinskiy**	**2.40**	**254**	PN	**Pb**	**04 57 44.8**	**-1.0**
KRMR	**Karymshinskiy**	**2.40**	**254**	*e*P	**Pb**	**04 57 44.8**	**-1.0**
KMNR	**Kamenistaya**	**2.41**	**337**	PN	**Pn**	**04 57 44.2**	**+1.7**
KMNR				S	**Sn**	**04 58 13.1**	**+0.5**
KMNR	**Kamenistaya**	**2.41**	**337**	*e*P	**Pn**	**04 57 44.2**	**+1.7**
KMNR				*e*S	**Sn**	**04 58 13.1**	**+0.5**
MTVR	**Mutnovka**	**2.50**	**246**	PN	**Pn**	**04 57 45.5**	**+1.7**
MTVR				S	**Sn**	**04 58 15.9**	**+1.0**
MTVR	**Mutnovka**	**2.50**	**246**	*e*P	**Pn**	**04 57 45.5**	**+1.7**
MTVR				*e*S	**Sn**	**04 58 15.9**	**+1.0**
GRL	**Gorelyy**	**2.53**	**248**	PN	**Pb**	**04 57 46.7**	**-1.5**
GRL	**Gorelyy**	**2.53**	**248**	*e*P	**Pb**	**04 57 46.7**	**-1.5**
KIRR	**Kirishev**	**2.57**	**340**	PN	**Pb**	**04 57 47.7**	**-1.2**
KIRR				S	**Sb**	**04 58 18.8**	**-2.2**
KIRR	**Kirishev**	**2.57**	**340**	*e*P	**Pb**	**04 57 47.7**	**-1.2**
KIRR				*e*S	**Sb**	**04 58 18.8**	**-2.2**
PETK	**Petropavlovsk-**	**2.57**	**262**	Pn	**Pn**	**04 57 46.6**	**+2.0**
	9.5nm,0.3s,baz=76,slow=18,SNR=92						
PETK				Sn	**Sn**	**04 58 17.7**	**+1.3**
	15nm,0.3s,baz=90,slow=24,SNR=8.1						
PETK				LR	LR	04 58 55.1	
	comp=Z,263nm,18.0s,baz=38,slow=46						
ASAK	**Asacha**	**2.70**	**246**	PN	**Pb**	**04 57 49.3**	**-1.7**
ASAK				S	**Sn**	**04 58 21.9**	**+2.2**
ASAK	**Asacha**	**2.70**	**246**	*e*P	**Pb**	**04 57 49.3**	**-1.7**
ASAK				*e*S	**Sn**	**04 58 21.9**	**+2.2**
KBTR	**Krutoberegovo**	**2.71**	**11**	PN	**Pn**	**04 57 47.5**	**+1.0**
KBTR	**Krutoberegovo**	**2.71**	**11**	*e*P	**Pn**	**04 57 47.5**	**+1.0**
KBG	**Krutoberegovo**	**2.74**	**9**	PN	**Pn**	**04 57 47.3**	**+0.4**
KBG	**Krutoberegovo**	**2.74**	**9**	*e*P	**Pn**	**04 57 47.3**	**+0.4**
KRSR	**Krestovskiy**	**2.78**	**344**	PN	**Pn**	**04 57 49.8**	**+2.2**
KRSR	**Krestovskiy**	**2.78**	**344**	*e*P	**Pn**	**04 57 49.8**	**+2.2**
KLY	**Klyuchi**	**2.86**	**346**	PN	**Pn**	**04 57 50.8**	**+2.3**
KLY				S	**Sn**	**04 58 24.0**	**+0.5**
KLY	**Klyuchi**	**2.86**	**346**	*e*P	**Pn**	**04 57 50.8**	**+2.3**
KLY				*e*S	**Sn**	**04 58 24.0**	**+0.5**
BKI	**Bering**	**2.89**	**53**	PN	**Pn**	**04 57 49.3**	**+0.4**
BKI				S	**Sn**	**04 58 20.7**	**-3.4**
BKI	**Bering**	**2.89**	**53**	*e*P	**Pn**	**04 57 49.3**	**+0.4**
BKI				*e*S	**Sn**	**04 58 20.7**	**-3.4**
KDTR	**Khodutka, Kamc**	**2.92**	**235**	PN	**Pn**	**04 57 50.8**	**+1.4**
KDTR				S	**Sn**	**04 58 24.9**	**-0.1**
KDTR	**Khodutka, Kamc**	**2.92**	**235**	*e*P	**Pn**	**04 57 50.8**	**+1.4**
KDTR				*e*S	**Sn**	**04 58 24.9**	**-0.1**
APC	**Apacha**	**2.93**	**259**	PN	**Pn**	**04 57 52.5**	**+3.0**
APC	**Apacha**	**2.93**	**259**	*e*P	**Pn**	**04 57 52.5**	**+3.0**
ESO	**Esso**	**3.02**	**323**	PN	**Pn**	**04 57 52.8**	**+2.0**
ESO	**Esso**	**3.02**	**323**	*e*P	**Pn**	**04 57 52.8**	**+2.0**
SMKR	**Semkarok**	**3.04**	**355**	PN	**Pn**	**04 57 53.2**	**+2.0**
SMKR				S	**Sn**	**04 58 29.1**	**+0.9**
SMKR	**Semkarok**	**3.04**	**355**	*e*P	**Pn**	**04 57 53.2**	**+2.0**
SMKR				*e*S	**Sn**	**04 58 29.1**	**+0.9**
SRDR	**Sredinnyy**	**3.05**	**336**	PN	**Pn**	**04 57 52.9**	**+1.7**
SRDR	**Sredinnyy**	**3.05**	**336**	*e*P	**Pn**	**04 57 52.9**	**+1.7**
BDR	**Baidarnaya**	**3.05**	**353**	PN	**Pn**	**04 57 53.4**	**+2.2**
BDR				S	**Sn**	**04 58 29.6**	**+1.4**
BDR	**Baidarnaya**	**3.05**	**353**	*e*P	**Pn**	**04 57 53.4**	**+2.2**
BDR				*e*S	**Sn**	**04 58 29.6**	**+1.4**

SRKR	**Sorokina**	**3.14**	**352**	PN	**Pn**	**04 57 54.9**	**+2.5**
SRKR	**Sorokina**	**3.14**	**352**	*e*P	**Pn**	**04 57 54.9**	**+2.5**
PAU	**Pauzhetka**	**3.76**	**238**	PN	**Pb**	**04 58 05.5**	**-3.5**
PAU	**Pauzhetka**	**3.76**	**238**	*e*P	**Pb**	**04 58 05.5**	**-3.5**
MA2	**Magadan**	**8.61**	**319**	*e*PN	**Pn**	**04 59 04.4**	**-3.1**
YSS	**Yuzh-Sakhalins**	**13.91**	**249**	*e*P	**Pn**	**05 00 21.1**	**+1.2**
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
ASAJ	**Asahikawa**	**15.80**	**241**	Pn	**Pn**	**05 00 46.5**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=89,slow=14,SNR=9.6						
TIXI	**Tiksi**	**23.13**	**334**	*e*P	**P**	**05 02 08.1**	**-0.9**
MAJO	**Matsushiro**	**23.70**	**234**	*e*P	**P**	**05 02 11.0**	**-4.0**
MAJO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MJAR	**Matsushiro Arr**	**23.70**	**234**	P	**P**	**05 02 17.1**	**+2.2**
	comp=Z,1.9nm,0.4s,baz=23,slow=12,SNR=7.4						
ILAR	**Eielson Array**	**27.71**	**46**	P	**P**	**05 02 51.7**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=261,slow=7.8,SNR=7.4						
KSRS	**Korea Array**	**28.41**	**249**	P	**P**	**05 02 57.8**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=53,slow=9.4,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**33.98**	**172**	T	T	05 41 17.3	
	baz=355,slow=76,SNR=39						
H11N3	**WAKE ISLAND Hy**	**33.99**	**172**	T	T	05 41 23.2	
	baz=355,slow=76,SNR=40						
H11N1	**WAKE ISLAND Hy**	**34.00**	**172**	T	T	05 41 16.6	
	baz=355,slow=76,SNR=45						
MK31	**Makanchi Array**	**48.94**	**296**	*e*P	**P**	**05 05 46.4**	**-2.9**
MKAR	**Makanchi Array**	**48.94**	**296**	P	**P**	**05 05 46.2**	**-3.0**
	comp=Z,0.4nm,0.5s,baz=53,slow=6.3,SNR=6.7						
NVAR	**Mina Array Bea**	**54.55**	**72**	P	**P**	**05 06 34.4**	**+2.9**
	comp=Z,0.4nm,0.6s,baz=296,slow=8.5,SNR=2.9						
AAK	**Ala-Archa**	**55.85**	**297**	*e*P	**P**	**05 06 37.5**	**-3.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**56.34**	**62**	P	**P**	**05 06 46.9**	**+2.6**
	comp=Z,0.2nm,0.7s,baz=255,slow=3.5,SNR=1.6						
CMAR	**Chiang Mai Arr**	**59.35**	**259**	P	**P**	**05 07 06.8**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=20,slow=6.9,SNR=10						
FINES	**FINESS Array B**	**60.12**	**337**	P	**P**	**05 07 09.7**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=24,slow=10,SNR=5.4						

*NNC **19** 04:57:45.8±0.9, 43°.00N×74°.89E, h0km, mb3.4, mpv2.8, Error ellipse: s-maj=6.7km s-min=2.9km az=33.0, Suspected Mining explosion.*
*KNET **19** 04:57:45.5±0.2, 43°.05N×74°.91E, h11km±3km, ml1.2, Error ellipse: s-maj=2.7km s-min=1.1km az=60.0*
*SOME **19** 04:57:45.2, 43°.02N×74°.88E*

ISC 19 04:57:45.9±0.8, 43°.00N±0°.03×74°.91E±0°.02, h0km, n19, σ0§60/32, 9C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**0.12**	**269**	⇑P	**Pg**	**04 57 48.4**	**+0.3**
	7.7nm,0.1s,SNR=38						
CHMS				⇑S	**Sg**	**04 57 50.8**	**+1.2**
	22nm,0.1s						
KBK	**Karagaybulak**	**0.35**	**175**	⇑P	**Pb**	**04 57 53.9**	**-1.2**
	8.1nm,0.1s,SNR=5.8						
KBK				⇓S	**Sb**	**04 58 00.0**	**-1.1**
	17nm,0.2s						
USP	**Ospenovka**	**0.40**	**312**	⇑P	**Pg**	**04 57 53.2**	**-0.4**
	3.3nm,0.1s,SNR=6.4						
USP				⇑S	**Sg**	**04 57 58.8**	**0.0**
	7.2nm,0.1s						
AAK	**Ala-Archa**	**0.47**	**220**	⇑P	**Pg**	**04 57 55.8**	**+0.8**
	0.7nm,0.1s						
SGDS	**Sogindy**	**0.49**	**336**	P	**Pg**	**04 57 54.8**	**-0.6**
	0.7nm,0.1s						
SGDS				S	**Sg**	**04 58 01.8**	**0.0**
	3.0nm,0.1s						
TKM2	**Tokmak 2**	**0.51**	**99**	⇑P	**Pg**	**04 57 55.9**	**+0.2**
	2.5nm,0.1s,SNR=26						
TKM2	**Tokmak 2**	**0.51**	**99**	⇑P	**Pg**	**04 57 55.5**	**-0.2**
	0.3nm,0.2s						
TKM2				⇑S	**Sg**	**04 58 03.1**	**+0.8**
	0.6nm,0.2s						
DGS	**Degeres**	**0.68**	**69**	P	**Pg**	**04 57 58.6**	**-0.2**
	2.7nm,0.3s						
DGS				S	**Sg**	**04 58 08.4**	**+0.8**
	4.5nm,0.3s						
KST	**Kastek**	**0.77**	**87**	P	**Pg**	**04 58 00.8**	**0.0**
	2.0nm,0.1s						
KST				S	**Sg**	**04 58 11.9**	**+1.1**
	4.8nm,0.3s						
KRBS	**Karabastau**	**0.89**	**39**	P	**Pg**	**04 58 02.5**	**-0.5**
	0.7nm,0.1s						
KRBS				S	**Sg**	**04 58 14.9**	**+0.3**
	2.3nm,0.2s						
MTBS	**Maitube**	**1.12**	**83**	P	**Pg**	**04 58 07.2**	**-0.2**
	9.4nm,0.1s						
MTBS				S	**Sb**	**04 58 23.0**	**-0.4**
	3.3nm,0.1s						
ULHL	**Ulahol**	**1.24**	**127**	⇓P	**Pg**	**04 58 09.5**	**-0.1**
	0.5nm,0.1s,SNR=8.3						
IZV	**Izvestkoviy**	**1.25**	**88**	P	**Pg**	**04 58 09.7**	**-0.2**
	3.0nm,0.1s						
IZV				S	**Sb**	**04 58 27.3**	**+0.1**
	2.0nm,0.1s						
KUU	**Kurty**	**1.37**	**49**	P	**Pg**	**04 58 12.0**	**-0.1**
	0.9nm,0.1s						
KUU				S	**Sn**	**04 58 31.6**	**+0.4**
	4.4nm,0.5s						
KTBS	**Karatobe**	**1.48**	**61**	P	**Pn**	**04 58 13.7**	**-0.1**
	1.6nm,0.1s						
KTBS				S	**Sn**	**04 58 34.2**	**+0.3**
	8.0nm,0.5s						
TNSS	**Tian-Shan**	**1.49**	**88**	P	**Pn**	**04 58 14.2**	**-0.2**
	2.7nm,0.2s						
TNSS				S	**Sn**	**04 58 34.9**	**+0.1**
	2.3nm,0.3s						
BTLS	**Baital**	**2.13**	**343**	Pg	**Pb**	**04 58 25.6**	**+0.2**
	1.3nm,0.2s						
BTLS				Lg	Lg	04 58 54.7	
	2.1nm,0.3s						
ARXS	**Arharly**	**2.44**	**59**	Pg	**Pb**	**04 58 31.6**	**+0.8**
	3.2nm,0.2s						
SATY	**Saty**	**2.56**	**88**	Pg	**Pg**	**04 58 34.1**	**-0.9**
	1.6nm,0.1s						

*IDC **19** 05:17:00.1±1.7, 52°.64N×170°.07W, h0km, mb3.3/5, mb1 3.8/7, mb1mx3.5/49, mbtmp3.6/7, ML3.3/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/28, Error ellipse: s-maj=51.5km s-min=20.5km az=178.0*
*AEIC **19** 05:17:04±1.4, 52°.16N±0°.05×169°.92W±0°.04, h18km±4km, ML3.0, Error ellipse: s-maj=7.3km s-min=1.1km az=154.0*
*NEIC **19** 05:17:05.9±1.6, 52°.4N±0°.1×170°.05W±0°.10, h54km±9km, Error ellipse: s-maj=18.1km s-min=7.0km az=163.0*

ISC 19 05:17:05.6±1.1, 52°.4N±0°.2×170°.08W±0°.09, h44km, n30, σ1§13/29, mb3.4/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.94**	**53**		**Pn**	**05 17 21.6**	**-0.7**
NIKH	**Nikolski High**	**0.94**	**53**		**Sn**	**05 17 34.9**	**+0.4**
OKSP	**Okmok Steeple**	**1.38**	**51**		**Pn**	**05 17 28.1**	**-0.3**
OKSP					**Sn**	**05 17 46.9**	**+1.4**
OKWR	**Okmok West Rim**	**1.53**	**47**		**Pn**	**05 17 31.8**	**+1.3**
OKER	**Okmok East Rim**	**1.61**	**49**		**Pn**	**05 17 32.8**	**+1.1**
MAPS	**Pakushin South**	**2.36**	**52**		**Pn**	**05 17 42.2**	**+0.4**
MAPS					**Sn**	**05 18 11.6**	**+2.1**
MGOD	**Makushin Gods**	**2.38**	**53**		**Pn**	**05 17 42.5**	**+0.3**
MREP	**Makushin Rep't**	**2.45**	**54**		**Pn**	**05 17 43.6**	**+0.4**
KOFP	**Korovin Flat P**	**2.46**	**268**		**Pn**	**05 17 44.0**	**+0.7**
MSW	**Makushin Switc**	**2.50**	**52**		**Pn**	**05 17 44.5**	**+0.8**
MNAT	**Makushin Natee**	**2.52**	**53**		**Pn**	**05 17 44.6**	**+0.6**
MNAT					**Sn**	**05 18 15.6**	**+2.0**
ATKA	**Atka Island**	**2.53**	**267**		**Pn**	**05 17 44.8**	**+0.6**
AKRB	**Akutan Reef Bi**	**2.96**	**53**		**Pn**	**05 17 51.2**	**+1.1**
AKGG	**Akutan Green G**	**3.04**	**52**		**Pn**	**05 17 51.5**	**+0.3**
AKUT	**Akutan**	**3.11**	**55**	Pn	**Pn**	**05 17 53.1**	**+1.0**
GSTD	**Great Sitkin T**	**3.74**	**267**		**Pn**	**05 18 02.5**	**+1.6**
ADK	**Adak**	**4.10**	**265**		**Pn**	**05 18 06.6**	**+1.0**
ADK	**Adak**	**4.10**	**265**	Pn	**Pn**	**05 18 05.8**	**+0.1**
KDAK	**Kodiak Island**	**11.36**	**55**	Pn	**Pn**	**05 19 42.6**	**-2.5**
	0.3nm,0.3s,baz=114,slow=20,SNR=3.9						
ILAR	**Eielson Array**	**17.17**	**35**	Pn	**Pn**	**05 21 00.6**	**-1.4**
	0.0nm,0.3s,baz=197,slow=11,SNR=3.0						
PETK	**Petropavlovsk-**	**19.43**	**285**	P	**P**	**05 21 27.3**	**-0.7**
	0.4nm,0.3s,baz=86,slow=13,SNR=10.0						
INK	**Inuvik**	**23.55**	**34**	P	**P**	**05 22 10.3**	**-1.3**
	0.6nm,0.6s,baz=223,slow=7.9,SNR=6.7						
YKA	**Yellowknife Ar**	**30.55**	**49**	P	**P**	**05 23 14.7**	**+0.3**
	0.1nm,0.3s,baz=273,slow=10,SNR=4.6						

H11S1	**WAKE ISLAND Hy**	**38.41**	**217**	T	T	06 05 13.9	
	baz=23,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy**	**38.42**	**217**	T	T	06 05 17.5	
	baz=23,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**38.42**	**217**	T	T	06 05 12.8	
	baz=23,slow=76,SNR=23						
PDAR	**Pinedale Array**	**40.83**	**79**	P	**P**	**05 24 43.5**	**+0.6**
	0.4nm,0.5s,baz=316,slow=2.5,SNR=3.5						
FRB	**Frobisher Bay**	**49.20**	**35**	LR	LR	05 46 45.1	
	comp=Z,66nm,18.5s,baz=110,slow=36						
SONM	**Songino Array**	**50.90**	**300**	P	**P**	**05 26 01.4**	**-0.8**
	0.3nm,0.6s,baz=65,slow=6.8,SNR=2.4						
TXAR	**Lajitas Array**	**53.19**	**88**	P	**P**	**05 26 19.2**	**0.0**
	0.2nm,0.5s,baz=299,slow=6.0,SNR=5.7						

*DDA **19** 05:21:45.0, 42°.42N×40°.84E, h20km±15km, ML2.2*
*TIF **19** 05:21:46.8, 42°.41N×41°.04E, h24km±2km*
*MOS **19** 05:21:46.8±0.0, 42°.51N×41°.03E, h5km, ML2.5/9, MPVA3.3*
*NORS **19** 05:21:47.6±0.0, 42°.50N×41°.30E, h6km, MPVA2.9*

ISC 19 05:21:46.4±1.6, 42°.42N±0°.03×41°.06E±0°.04, h8km±12km, n28, σ0§79/54, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVG	**Ch'k'valeri**	**0.81**	**68**	P	**Pb**	**05 22 03.2**	**+0.4**
CHVG				S	**Sn**	**05 22 15.4**	**-1.2**
BATM	**Batumi**	**0.94**	**150**	P	**Pb**	**05 22 04.6**	**-0.4**
BATM				S	**Sb**	**05 22 18.7**	**+1.1**
BATM	**Batumi**	**0.94**	**150**	*i* P	**Pb**	**05 22 04.6**	**-0.4**
BATM				*i* S	**Sb**	**05 22 18.8**	**+1.2**
DOMR	**Dombai**	**0.97**	**25**	*i* Pg	**Pb**	**05 22 04.7**	**-0.9**
DOMR				*i* Sg	**Sb**	**05 22 17.0**	**-1.6**
DOMR				*i* AML	AML	05 22 20.8	
	128nm,0.2s						
ARXR	**Arkhyz**	**1.16**	**8**	*i* Pg	**Pb**	**05 22 08.2**	**-0.6**
ARXR				*e*Sg	**Sb**	**05 22 23.3**	**-0.7**
ARXR				*i* AML	AML	05 22 29.6	
	105nm,0.6s						
DBOC	**Borcka**	**1.16**	**157**	*i* P	**Pn**	**05 22 07.5**	**-1.5**
DBOC				*i* S	**Sb**	**05 22 23.1**	**-0.9**
DBOC				IAML		05 22 24.0	
	comp=E,79nm,0.5s						
VSLR	**Vesyoloye**	**1.29**	**324**	*i* Pg	**Pn**	**05 22 10.1**	**-0.6**
VSLR				*e*Sg	**Sb**	**05 22 27.7**	**0.0**
RPOR	**Krasnaya Polya**	**1.41**	**336**	*e*Pg	**Pn**	**05 22 11.3**	**-1.2**
RPOR				*e*Sg	**Sn**	**05 22 31.3**	**0.0**
RPOR				*i* AML	AML	05 22 32.9	
	comp=E,70nm,0.3s						
TKB	**Tkibuli**	**1.43**	**92**	P	**Pn**	**05 22 13.1**	**+0.3**
TKB				S	**Sg**	**05 22 32.6**	**+0.1**
ABS	**Abastumani**	**1.46**	**116**	P	**Pn**	**05 22 13.1**	**-0.2**
ABS				S	**Sg**	**05 22 34.1**	**+0.7**
DBAD	**Bademkaya**	**1.48**	**161**	*i* P	**Pn**	**05 22 12.1**	**-1.3**
DBAD				IAML		05 22 33.0	
	comp=N,42nm,0.6s						
DBAD				IAML		05 22 34.0	
	comp=E,36nm,0.2s						
NEY	**Neytrino**	**1.48**	**55**	*e*Pg	**Pb**	**05 22 14.2**	**-0.1**
NEY				*e*Sg	**Sg**	**05 22 33.7**	**-0.2**
NEY				*i* AML	AML	05 22 33.7	
	comp=E,30nm,0.4s						
SOC	**Sochi**	**1.53**

NBEZ	**Newall Road No**	**4.32**	**28**	P	Pn	05 24 26.4	+1.9
KHEZ	**Kahui Hut**	**4.35**	**30**	P	Pn	05 24 26.8	+1.8
NEZ	**North Egmont**	**4.40**	**30**	P	Pn	05 24 28.1	+2.4
PKE	**Pukeiti**	**4.43**	**29**	P	Pn	05 24 27.8	+1.7
VRZ	**Vera Road**	**4.79**	**35**	P	Pn	05 24 33.0	+2.0
OTVZ	**Oturere**	**5.17**	**42**	P	Pn	05 24 40.5	+4.1
WTVZ	**West Tongariro**	**5.17**	**41**	P	Pn	05 24 39.4	+3.0
HIZ	**Hauiti**	**5.35**	**32**	P	Pn	05 24 39.4	+0.7
URZ	**Urewera**	**6.59**	**45**	P	Pn	05 24 55.0	-0.7

IDC 19 05:28:46.5±2.6, 6°66S×155°29E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/34, mbtmp3.3/4, Error ellipse: s-maj=119.9km s-min=30.6km az=126.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.25**	**235**	P	P	05 34 04.6	-0.9
	0.4nm,0.5s,baz=59,slow=9.4,SNR=3.3						
ASAR	**Alice Springs**	**26.61**	**228**	P	P	05 34 27.4	+0.6
	0.2nm,0.6s,baz=68,slow=8.1,SNR=3.1						
ILAR	**Eielson Array**	**82.96**	**21**	P	P	05 41 13.1	0.0
	0.4nm,0.9s,baz=235,slow=7.6,SNR=4.2						
MKAR	**Makanchi Array**	**83.35**	**319**	P	P	05 41 15.7	+0.1
	0.3nm,0.7s,baz=108,slow=4.7,SNR=2.5						

*NEIC **19** 06:23:44.5±1.3, 3°.28N±0°.08×122°.31E±0°.10, h590km±9km, mb4.5/50, Error ellipse: s-maj=17.5km s-min=5.5km az=49.0*

*IDC **19** 06:23:44.7±0.8, 3°.32N×122°.43E, h590km±10km, mb3.6/23, mb1 3.7/28, mb1mx3.5/51, mbtmp4.6/28, Error ellipse: s-maj=13.0km s-min=6.4km az=67.0*

*KLM **19** 06:23:45, 3°.31N×122°.33E, h580km, mb5.0*

*MAN **19** 06:24:13.1, 5°.20N×123°.68E, h377km, mb4.2, ML3.0, MS2.7*

ISC 19 06:23:45.3±0.3, 3°29N±0°.05×122°41E±0°.07, h602km, n127, σ1$31/142, mb4.3/53, 2D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**3.85**	**34**	*eP*	**P**	**06 25 05.5**	**-4.4**
DDMP	**Don Marcelino,**	**4.32**	**50**	*eP*	**P**	**06 25 08.6**	**-4.5**
MYLDM	**Lahad Datu**	**4.62**	**296**	P	**P**	**06 25 11.5**	**-1.7**
KCP	**Kidapawan**	**4.56**	**36**	*eP*	**P**	**06 25 12.9**	**-2.1**
PAGZ	**Pagadian**	**4.63**	**12**	*eP*	**P**	**06 25 12.1**	**-3.3**
DAV	**Davao City (W)**	**4.91**	**40**	P	**P**	**06 25 17.1**	**-0.5**
	104nm,0.3s,baz=80,slow=0.9,SNR=16						
BUKP	**Musuan**	**5.27**	**30**	*eP*	**P**	**06 25 17.6**	**-2.9**
TNTI	**Ternate**	**5.55**	**117**	P	**P**	**06 25 21.2**	**-1.7**
SPMM	**Sapulut**	**6.09**	**284**	P	**P**	**06 25 26.0**	**-1.4**
KKM	**Kota Kinabalu**	**6.75**	**294**	P	**P**	**06 25 30.6**	**-2.6**
BKB	**Balikpapan**	**7.13**	**231**	P	**P**	**06 25 36.2**	**-0.4**
MSLP	**Maasin**	**7.22**	**20**	*eP*	**P**	**06 25 34.7**	**-2.7**
KAPI	**Kappang**	**8.67**	**198**	P	**P**	**06 25 49.4**	**-1.7**
	1.9nm,0.3s,baz=8.3,slow=6.3,SNR=8.6						
KAPI	**Kappang**	**8.67**	**198**	P	**P**	**06 25 49.6**	**-1.6**
SIJI	**Sorong**	**9.77**	**115**	P	**P**	**06 26 01.4**	**-0.6**
	11nm,0.3s,baz=222,slow=23,SNR=20						
SBUM	**Sibu**	**10.21**	**266**	P	**P**	**06 26 05.5**	**-0.7**
FAKI	**Fak Fak**	**11.61**	**122**	P	**P**	**06 26 19.9**	**-0.4**
KSM	**Kuching**	**12.22**	**262**	P	**P**	**06 26 25.3**	**-1.0**
KSM	**Kuching**	**12.22**	**262**	P	**P**	**06 26 27.0**	**+0.7**
SOEI	**Soe**	**13.10**	**172**	P	**P**	**06 26 34.6**	**-0.6**
BATI	**Baumata**	**13.47**	**175**	P	**P**	**06 26 38.5**	**-0.5**
	29nm,0.3s,baz=207,slow=0.6,SNR=49						
BATI				S	**S**	**06 29 01.4**	**0.0**
	6.6nm,0.3s,baz=97,slow=23,SNR=32						
SAUI	**Saumlaki**	**14.29**	**142**	P	**P**	**06 26 45.6**	**-1.4**
JAGI	**Jajag, Banyuwa**	**14.29**	**215**	P	**P**	**06 26 45.2**	**-1.8**
SMRI	**Semarang**	**15.75**	**229**	P	**P**	**06 26 59.8**	**-0.6**
DLV	**T Lat**	**16.24**	**303**	P	**P**	**06 27 02.9**	**-2.2**
DLV				IAmb	IAmb	06 27 05.8	
	comp=Z,24nm,0.6s						
UGM	**Wanagama**	**16.26**	**227**	P	**P**	**06 27 04.3**	**-0.7**
LEM	**Lembang**	**17.86**	**236**	P	**P**	**06 27 20.8**	**+0.9**
	comp=Z,6.9nm,0.3s,baz=62,slow=7.4,SNR=29						
CISI	**Cisompet, Garu**	**18.11**	**233**	P	**P**	**06 27 20.4**	**-1.6**
MTN	**Manton Dam**	**18.23**	**152**	P	**P**	**06 27 23.4**	**+0.5**
MYKOM	**Kota Tinggi**	**18.60**	**266**	P	**P**	**06 27 27.0**	**+0.6**
MYKOM	**Kota Tinggi**	**18.60**	**266**	P	**P**	**06 27 27.0**	**+0.6**
JAY	**Jayapura**	**19.18**	**107**	P	**P**	**06 27 30.9**	**-0.8**
	comp=Z,2.0nm,0.3s,baz=37,slow=20,SNR=4.6						
IPM	**Ipoh**	**21.36**	**274**	P	**P**	**06 27 51.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.50**	**172**	P	**P**	**06 27 52.7**	**+0.3**
	comp=Z,12nm,0.8s,baz=7.5,slow=6.3,SNR=24						
FITZ				S	**S**	**06 31 10.4**	**-1.0**
	comp=Z,3.6nm,0.8s,baz=116,slow=21,SNR=6.3						
FITZ	**Fitzroy Crossi**	**21.50**	**172**	P	**P**	**06 27 52.1**	**-0.3**
FITZ				IAmb	IAmb	06 27 53.7	
	comp=Z,12nm,0.8s						
BKNI	**Bangkinang**	**21.56**	**263**	P	**P**	**06 27 52.9**	**-0.1**
XMIS	**Christmas Isla**	**21.57**	**230**	P	**P**	**06 27 51.8**	**-1.4**
XMIS				IAmb	IAmb	06 27 58.4	
	comp=Z,26nm,0.8s						
KULM	**Kulim**	**21.78**	**276**	P	**P**	**06 27 54.9**	**-0.2**
KULM				IAmb	IAmb	06 27 55.7	
	comp=Z,11nm,0.9s						
KULM	**Kulim**	**21.78**	**276**	P	**P**	**06 27 55.0**	**-0.2**
PSI	**Prapat**	**23.45**	**269**	P	**P**	**06 28 09.9**	**-0.2**
	comp=Z,21nm,0.9s,baz=135,slow=0.0,SNR=11						
RPSI	**Rantau Prapat**	**23.46**	**269**	P	**P**	**06 28 08.2**	**-1.8**
RPSI				IAmb	IAmb	06 28 10.8	
	comp=Z,28nm,1.0s						
GSI	**Gunungsitoli**	**24.89**	**266**	P	**P**	**06 28 21.2**	**-1.4**
WB0	**Warramunga Arr**	**25.77**	**153**	P	**P**	**06 28 30.2**	**-0.1**
WRAB	**Tennant Creek**	**25.89**	**154**	P	**P**	**06 28 31.3**	**-0.1**
WRA	**Warramunga Arr**	**25.90**	**154**	P	**P**	**06 28 31.2**	**-0.2**
	comp=Z,21nm,0.6s,baz=332,slow=9.9,SNR=765						
WRA				S	**S**	**06 32 17.1**	**-3.6**
	comp=Z,1.6nm,0.7s,baz=341,slow=14,SNR=4.1						
WRA				ScP	**ScP**	**06 34 24.8**	**+1.9**
	comp=Z,3.5nm,0.7s,baz=345,slow=3.2,SNR=12						
WRA	**Warramunga Arr**	**25.90**	**154**	P	**P**	**06 28 30.3**	**-1.2**
WB2	**Warramunga Arr**	**25.90**	**154**	P	**P**	**06 28 31.2**	**-0.2**
WR0	**Warramunga Arr**	**26.00**	**153**	P	**P**	**06 28 31.9**	**-0.4**
WR0				IAmb	IAmb	06 28 33.1	
	comp=Z,23nm,0.9s						
COEN	**Coen**	**26.80**	**130**	P	**P**	**06 28 39.1**	**-0.2**
COEN				IAmb	IAmb	06 28 39.8	
	comp=Z,10nm,1.2s						
GIRL	**Giralia**	**26.99**	**197**	P	**P**	**06 28 40.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**27.47**	**305**	P	**P**	**06 28 44.6**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=143,slow=9.1,SNR=5.9						
CMAR				PcP	**PcP**	**06 31 44.9**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=194,slow=1.5,SNR=6.5						
CMAR				ScP	**ScP**	**06 34 30.1**	**+2.4**
	comp=Z,1.0nm,0.3s,baz=168,slow=2.5,SNR=4.7						
GYA	**Guiyang**	**27.54**	**328**	‖P	**P**	**06 28 46.9**	**+1.1**
GYA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**27.65**	**306**	P	**P**	**06 28 45.0**	**-1.7**
CHTO				IAmb	IAmb	06 28 50.2	
	comp=Z,8.4nm,1.4s						
PMG	**Port Moresby**	**27.71**	**117**	P	**P**	**06 28 47.1**	**-0.1**
	comp=Z,17nm,0.6s,baz=294,slow=7.1,SNR=5.3						
PMG	**Port Moresby**	**27.71**	**117**	P	**P**	**06 28 47.2**	**-0.1**
PMG				IAmb	IAmb	06 28 48.6	
	comp=Z,48nm,1.1s						
NJ2	**Nanjing**	**28.80**	**354**	*eP*	**P**	**06 28 56.5**	**0.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
AS31	**Alice Springs**	**29.05**	**158**	P	**P**	**06 28 59.0**	**+0.1**
AS31				IAmb	IAmb	06 29 00.8	
	comp=Z,6.5nm,1.0s						
ASAR	**Alice Springs**	**29.05**	**158**	P	**P**	**06 28 59.6**	**+0.8**
	comp=Z,10.0nm,0.6s,baz=335,slow=6.7,SNR=126						
ASAR				S	**S**	**06 33 09.6**	**+0.1**
	comp=Z,12nm,0.9s,baz=336,slow=14,SNR=30						
ASAR				ScP	**ScP**	**06 34 34.9**	**+2.3**
	comp=Z,5.1nm,0.8s,baz=342,slow=2.9,SNR=17						
ASAR	**Alice Springs**	**29.05**	**158**	P	**P**	**06 28 59.3**	**+0.5**
FORT	**Forrest**	**34.31**	**171**	P	**P**	**06 29 43.9**	**+0.6**
MJAR	**Matsushiro Arr**	**36.15**	**22**	P	**P**	**06 29 57.4**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=182,slow=9.4,SNR=2.9						
SHL	**Shillong**	**36.75**	**310**	P	**P**	**06 30 03.1**	**-0.6**
SHL				IAmb	IAmb	06 30 04.4	
	comp=Z,10nm,0.8s						
BBOO	**Buckleboo**	**38.17**	**161**	P	**P**	**06 30 14.7**	**-0.2**
BBOO				IAmb	IAmb	06 30 17.1	
	comp=Z,23nm,0.8s						
HHC	**Hu-ho-hao-te**	**38.65**	**347**	*eP*	**P**	**06 30 18.8**	**0.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,81nm,5.1s						
STKA	**Stephens Creek**	**39.45**	**154**	P	**P**	**06 30 26.8**	**+1.6**
	comp=Z,9.0nm,0.4s,baz=326,slow=10.0,SNR=62						
STKA	**Stephens Creek**	**39.45**	**154**	P	**P**	**06 30 26.9**	**+1.6**
EIDS	**Eidsvold**	**39.82**	**137**	P	**P**	**06 30 29.4**	**+1.1**
EIDS				IAmb	IAmb	06 30 30.2	
	comp=Z,22nm,1.1s						
TAPN	**Taplejung**	**40.87**	**309**	*eP*	**P**	**06 30 37.0**	**0.0**
	comp=Z,13nm,0.7s						
ODAN	**Odare**	**40.88**	**308**	*eP*	**P**	**06 30 37.3**	**+0.3**
	comp=Z,26nm,0.8s						
GTA	**Gaotai**	**41.39**	**333**	*eP*	**P**	**06 30 42.1**	**+1.4**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
RAMN	**Ramite**	**41.54**	**308**	*eP*	**P**	**06 30 42.8**	**+0.6**
	comp=Z,33nm,0.8s						
USRK	**Ussuriysk Ar.**	**41.61**	**10**	P	**P**	**06 30 42.5**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=196,slow=7.9,SNR=6.0						
PALK	**Pallekele**	**41.70**	**277**	P	**P**	**06 30 43.5**	**+0.1**
PALK				IAmb	IAmb	06 30 45.1	
	comp=Z,8.1nm,0.9s						
GUN	**Gumba**	**42.56**	**309**	*eP*	**P**	**06 30 50.6**	**+0.3**
	comp=Z,50nm,0.7s						
PKI	**Pulchoki**	**42.77**	**308**	*eP*	**P**	**06 30 51.7**	**-0.2**
	comp=Z,5.0nm,0.2s						
KKN	**Kakani**	**42.97**	**308**	*eP*	**P**	**06 30 53.5**	**+0.2**
DMN	**Daman**	**43.02**	**308**	*eP*	**P**	**06 30 54.0**	**+0.2**
	comp=Z,33nm,0.9s						
ARMA	**Armidale**	**43.62**	**142**	P	**P**	**06 31 01.5**	**+3.3**
ARMA				IAmb	IAmb	06 31 02.4	
	comp=Z,36nm,0.9s						
CAN	**Canberra**	**45.80**	**149**	P	**P**	**06 31 17.1**	**+2.4**
CAN				IAmb	IAmb	06 31 18.1	
	comp=Z,30nm,0.7s						
SONM	**Songino Array**	**46.47**	**345**	P	**P**	**06 31 20.4**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=167,slow=7.9,SNR=9.8						
SONM				PcP	**PcP**	**06 32 42.0**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=194,slow=5.0,SNR=2.9						
SONM				pP	**pP**	**06 33 08.0**	**+2.3**
	comp=Z,0.8nm,0.8s,baz=156,slow=7.6,SNR=4.2						
SONM	**Songino Array**	**46.47**	**345**	P	**P**	**06 31 20.2**	**+0.6**
WMQ	**Urumqi**	**50.70**	**328**	*eP*	**P**	**06 31 52.4**	**+1.6**
MK31	**Makanchi Array**	**55.52**	**328**	P	**P**	**06 32 25.6**	**+0.8**
MKAR	**Makanchi Array**	**55.52**	**328**	P	**P**	**06 32 25.5**	**+0.6**
	comp=Z,2.6nm,0.4s,baz=128,slow=7.8,SNR=75						
MKAR				PcP	**PcP**	**06 33 15.8**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=122,slow=4.6,SNR=15						
MKAR				ScP	**ScP**	**06 36 18.3**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=130,slow=4.9,SNR=5.4						
MAKZ	**Makanchi**	**55.70**	**327**	P	**P**	**06 32 26.7**	**+0.6**
AAK	**Ala-Archa**	**57.84**	**320**	P	**P**	**06 32 42.3**	**+1.4**
KBL	**Kabul**	**58.40**	**309**	P	**P**	**06 32 44.9**	**0.0**
KBL				IAmb	IAmb	06 32 46.0	
	comp=Z,13nm,0.8s						
ZAA0	**Zalesovo Array**	**59.09**	**335**	P	**P**	**06 32 48.5**	**-0.3**
ZALV	**Zalesovo Beam**	**59.09**	**335**	P	**P**	**06 32 48.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=125,slow=7.3,SNR=7.2						
ZALV				PcP	**PcP**	**06 33 29.1**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=145,slow=5.3,SNR=1.6						
KURBB	**Kurchatov Arra**	**59.84**	**329**	P	**P**	**06 32 54.0**	**+0.1**
	comp=Z,6.3nm,1.0s,baz=128,slow=6.0,SNR=56						
KURBB				PcP	**PcP**	**06 33 32.7**	**0.0**
	comp=Z,0.8nm,0.7s,baz=128,slow=5.0,SNR=2.1						
KURBB				pP	**pP**	**06 34 47.8**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=135,slow=5.6,SNR=3.4						
KURK	**Kurchatov**	**59.85**	**329**	P	**P**	**06 32 54.0**	**0.0**
KK31	**Karatay Array**	**60.65**	**319**	P	**P**	**06 32 59.8**	**+0.4**
KKAR	**Karatay Array**	**60.65**	**319**	P	**P**	**06 32 59.8**	**+0.4**
KKAR	**Karatay Array**	**60.65**	**319**	P	**P**	**06 32 59.7**	**+0.2**
BRVK	**Borovoye**	**65.45**	**328**	P	**P**	**06 33 29.9**	**0.0**
BRVK				IAmb	IAmb	06 33 31.0	
	comp=Z,6.8nm,1.1s						
GEYT	**Alibeck**	**67.83**	**310**	P	**P**	**06 33 45.8**	**+0.9**
	comp=Z,6.4nm,0.8s,baz=164,slow=6.0,SNR=8.3						
GEYT	**Alibeck**	**67.83**	**310**	P	**P**	**06 33 45.3**	**+0.4**
GEYT				IAmb	IAmb	06 33 46.5	
	comp=Z,6.2nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**67.83**	**310**	P	**P**	**06 33 44.9**	**0.0**
GYA0B				IAmb	IAmb	06 33 46.5	
	comp=Z,8.7nm,0.9s						
SOCY	**Socotra**	**68.22**	**282**	P	**P**	**06 33 46.1**	**-1.6**
SOCY				IAmb	IAmb	06 33 47.2	
	comp=Z,24nm,0.7s						
TIXI	**Tiksi**	**68.39**	**2**	P	**P**	**06 33 47.2**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=156,slow=4.3,SNR=6.7						
TIXI	**Tiksi**	**68.39**	**2**	P	**P**	**06 33 47.6**	**+0.1**
ABKAR	**Akbulak array**	**69.78**	**322**	P	**P**	**06 33 56.2**	**-0.1**
ABKAR	**Akbulak array**	**69.78**	**322**	P	**P**	**06 33 55.7**	**-0.6**
ABKAR				IAmb	IAmb	06 33 57.2	
	comp=Z,5.5nm,0.8s						
AKTO	**Aktyubinsk**	**71.35**	**323**	P	**P**	**06 34 05.8**	**+0.4**
	comp=Z,7.1nm,0.7s,baz=114,slow=7.0,SNR=24						
ARU	**Arti**	**73.03**	**329**	P	**P**	**06 34 14.3**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=172,slow=1.0,SNR=6.4						
ARU	**Arti**	**73.03**	**329**	P	**P**	**06 34 14.6**	**-0.4**
ARU				IAmb	IAmb	06 34 15.4	
	comp=Z,8.2nm,0.9s						
RAYN	**Ar Rayn**	**76.69**	**293**	P	**P**	**06 34 35.7**	**-0.5**
RAYN				IAmb	IAmb	06 34 36.9	
	comp=Z,9.1nm,0.9s						
ABPO	**Ambohimpanom**	**77.11**	**250**	P	**P**	**06 34 38.0**	**-0.7**
ABPO				IAmb	IAmb	06 34 40.3	
	comp=Z,7.7nm,0.7s						
GEVA	**Gevas**	**79.61**	**308**	P	**P**	**06 34 52.4**	**+0.7**
KBZ	**Khabaz**	**80.15**	**314**	P	**P**	**06 34 54.7**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=179,slow=9.3,SNR=6.0						
MARD	**Mardin**	**81.35**	**307**	P	**P**	**06 35 00.4**	**-0.2**
KLMR	**Klimovskoe**	**83.67**	**331**	*eP*	**P**	**06 35 10.6**	**-0.9**
KLMR				AMP		06 35 12.2	
	comp=Z,11nm,0.9s						
KMBO	**Kilima Mbogo**	**85.23**	**269**	P	**P**	**06 35 21.9**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=52,slow=7.1,SNR=16						
BRTR	**Keskin Array B**	**86.97**	**309**	P	**P**	**06 35 27.2**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=163,slow=6.0,SNR=3.8						
ANTO	**Ankara**	**87.61**	**310**	P	**P**	**06 35 29.4**	**-1.6**
ARCES	**ARCESS Array B**	**89.36**	**340**	P	**P**	**06 35 37.7**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=46,slow=3.5,SNR=4.2						
AKASG	**Malin Array Be**	**89.50**	**321**	P	**P**	**06 35 39.9**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=68,slow=4.8,SNR=6.5						
AKASG	**Malin Array Be**	**89.50**	**321**	P	**P**	**06 35 39.0**	**-0.4**
FINES	**FINESS Array B**	**90.16**	**331**	P	**P**	**06 35 41.8**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=123,slow=7.0,SNR=4.8						
KOLS	**Kolonicke sedl**	**94.18**	**319**	*eP*	**P**	**06 36 04.9**	**+3.9**
CRVS	**Cervenica-Dubn**	**94.71**	**319**	*eP*	**P**	**06 36 04.8**	**+1.4**
TORD	**Torodi Ar. Bea**	**118.93**	**287**	PKP	**PKiKP**	**06 41 27.8**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=45,slow=2.0,SNR=6.1						
TORD	**Torodi Ar. Bea**	**118.93**	**287**		**PKiKP**	**06 41 27.6**	**0.0**
TXAR	**Lajitas Array**	**125.24**	**50**	SKP	**SKPdf**	**06 44 20.5**	**+2.0**
	comp=Z,0.3nm,0.8s,baz=266,slow=3.5,SNR=3.9						
CMIG	**Matias Romero**	**137.99**	**60**	SKP	**SKPdf**	**06 44 41.8**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=63,slow=2.3,SNR=4.0						
PLCA	**Paso Flores**	**140.94**	**164**	SKPbc	**SKPbc**	**06 44 49.9**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=301,slow=4.8,SNR=4.7						
BDFB	**Brasilia**	**164.52**	**217**	PKPab	**PKPab**	**06 43 43.3**	**+2.1**
	comp=Z,1.2nm,0.5s,baz=158,slow=5.4,SNR=3.7						

DJA 19 06:24:08.9±0.3, 1°S±3°, 122°2E±°, h10km, M4.0/9, mb4.1/1, MLv4.0/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.61**	**130**	P	Pb	06 24 21.7	0.0
LUWI				S	Sb	06 24 29.8	-0.6
APSI	**Ampana**	**0.70**	**248**	P	Pg	06 24 22.6	+0.1
APSI				S	Sb	06 24 32.6	-0.3
MRSI	**Marisa**	**1.18**	**342**	P	Sb	06 24 48.2	+1.6
GTOI	**Gorontalo**	**1.46**	**29**	P	Pn	06 24 33.9	-1.5
TTSI	**Tana Toraja**	**3.44**	**226**	P	Pn	06 25 03.1	+0.6
SANI	**Sanana**	**3.94**	**111**	P	Pn	06 25 08.8	-0.7
SPSI	**Sidrap Palu**	**4.15**	**217**	P	Pn	06 25 13.0	+0.6
BNSI	**Bone**	**4.32**	**210**	P	Pn	06 25 14.6	-0.1
SGKI	**Sangatta, Kali**	**4.70**	**271**	P	Pn	06 25 21.4	+1.5

*ISK **19** 06:29:50.9, 38°.24N×44°.53E, h5km, ML3.0/10*

*DDA **19** 06:29:51.7, 38°.24N×44°.62E, h7km±2km, ML2.9*

*NSSP **19** 06:29:51.7, 38°.27N×44°.57E, h10km, Ms3.1*

*AZER **19** 06:29:54.8±0.2, 38°.39N×44°.85E, h4km±1km, ml3.1/20, Error ellipse: s-maj=3.7km s-min=1.7km az=271.0*

ISC 19 06:29:52.0±1.2, 38°22N±0°.03×44°63E±0°.02, h10km±10km, n44, σ1$40/69, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASK	**Baskale_VAN**	**0.52**	**251**	*i* P	**Pg**	**06 30 02.1**	**0.0**
BASK				*i* S	**Sb**	**06 30 09.9**	**-1.1**
BASK				IAML		06 30 11.0	
	comp=N,1μm,0.2s						
BASK				IAML		06 30 11.0	
	comp=E,2μm,0.1s						
OZAP	**Van, Ozalp-Mer**	**0.66**	**312**	*i* P	**Pg**	**06 30 04.8**	**-0.1**
OZAP				IAML		06 30 18.0	
	comp=E,582nm,0.5s						
OZAP				IAML		06 30 23.0	
	comp=N,1μm,0.8s						
YOVA	**Hakkari_Yksek**	**0.69**	**203**	*i* P	**Pb**	**06 30 05.7**	**-0.5**
YOVA				IAML		06 30 19.0	
	comp=E,557nm,0.5s						
YOVA				IAML		06 30 22.0	
	comp=N,635nm,0.8s						
VANB	**Van**	**1.04**	**291**	PG	**Pg**	**06 30 10.2**	**-1.8**
CLDR	**Caldiran**	**1.07**	**329**	PG	**Pg**	**06 30 11.2**	**-1.4**
CLDR				SG	**Sg**	**06 30 26.5**	**-0.1**
CLDR	**Caldiran**	**1.07**	**329**	*i* P	**Pg**	**06 30 11.2**	**-1.4**
CLDR				*i* S	**Sg**	**06 30 26.6**	**-0.1**
CLDR				IAML		06 30 28.0	
	comp=E,584nm,0.4s						
CLDR				IAML		06 30 28.0	
	comp=N,321nm,0.3s						
VMUR	**Van-Muradiye**	**1.13**	**313**	*i* P	**Pn**	**06 30 13.9**	**-0.1**
VMUR				*i* S	**Sn**	**06 30 31.7**	**+2.0**
VMUR				IAML		06 30 34.0	
	comp=N,314nm,0.4s						
VMUR				IAML		06 30 34.0	
	comp=E,252nm,0.3s						
NAX	**Nakhchivan**	**1.17**	**35**	P	**Pn**	**06 30 14.5**	**0.0**
	SNR=17						
NAX				S	**Sn**	**06 30 30.5**	**-0.1**
GEVA	**Gevas**	**1.24**	**275**	*i* P	**Pn**	**06 30 14.4**	**-1.1**
GEVA				*i* S	**Sn**	**06 30 33.3**	**+0.9**
GEVA				IAML		06 30 40.0	
	comp=E,180nm,0.4s						
GEVA				IAML		06 30 40.0	
	comp=N,221nm,0.5s						
CUKT	**Cukurca**	**1.26**	**220**	PN	**Pn**	**06 30 15.4**	**-0.5**
CUKT				SN	**Sn**	**06 30 33.7**	**+0.7**
CUKT	**Cukurca**	**1.26**	**220**	*i* P	**Pb**	**06 30 15.9**	**-0.1**
CUKT				*i* S	**Sn**	**06 30 34.7**	**+1.7**
CUKT				IAML		06 30 37.0	
	comp=N,767nm,0.8s						
CUKT				IAML		06 30 38.0	
	comp=E,554nm,0.4s						
ORD	**Ordubad**	**1.28**	**56**	P	**Pg**	**06 30 17.0**	**+0.3**
	SNR=31						
ORD				S	**Sb**	**06 30 32.8**	**-0.1**
AKDM	**Akdamar-Van**	**1.30**	**275**	PN	**Pn**	**06 30 15.3**	**-1.1**
AKDM				SN	**Sb**	**06 30 33.2**	**-0.3**
SBZ	**Shahbuz**	**1.38**	**31**	P	**Pg**	**06 30 18.3**	**-0.1**
	SNR=20						
SBZ				S	**Sg**	**06 30 36.2**	**-0.1**
HYR	**Heyderabad**	**1.50**	**7**	P	**Pg**	**06 30 22.2**	**+1.3**
	SNR=13						
HYR				S	**Sg**	**06 30 43.2**	**+2.8**
ADCV	**BITLIS_Adilcev**	**1.60**	**292**	*i* P	**Pg**	**06 30 22.6**	**0.0**
ADCV				IAML		06 30 51.0	
	comp=N,107nm,0.7s						
ADCV				IAML		06 30 51.0	
	comp=E,76nm,1.0s						
NRKZ	**NAREK**	**1.77**	**1**	*i* P	**Pg**	**06 30 25.9**	**-0.1**
NRKZ				*i* S	**Sg**	**06 30 49.5**	**+0.5**
AGRB	**Hanur-Agry**	**1.86**	**317**	PN	**Pn**	**06 30 24.3**	**+0.2**
GNI	**Garni**	**1.93**	**3**	*i* P	**Pg**	**06 30 29.4**	**+0.5**
GNI				*i* S	**Sg**	**06

ORLT				SG	Sb	06 49 27.7	+0.3	
ZEDA	**zmir-Bergama**	**0.91**	**220**	*i* P	Pb	06 49 15.5	+0.1	
ZEDA				IAML		06 49 30.0		
	comp=N,2µm,0.6s							
ZEDA				IAML		06 49 31.0		
	comp=E,2µm,0.4s							
DKL	**Dikili**	**0.93**	**231**	PG	Pb	06 49 16.1	+0.3	
DKL				SG	Sn	06 49 29.8	-0.1	
AYVA	**Ayvalik**	**0.95**	**249**	*i* P	Pn	06 49 16.5	-0.4	
AYVA				IAML		06 49 32.0		
	comp=E,3µm,0.9s							
AYVA				IAML		06 49 34.0		
	comp=N,4µm,0.4s							
GOMA	**Golmarmara-Man**	**0.96**	**176**	PG	Pb	06 49 16.4	+0.2	
GOMA				SG	Sn	06 49 30.1	-0.4	
MRMT	**Marmara Adasi**	**0.96**	**349**	PG	Pn	06 49 16.8	-0.3	
BAYC	**CANAKKALE_Bayr**	**1.00**	**275**	*i* P	Pb	06 49 17.0	+0.1	
BAYC				IAML		06 49 33.0		
	comp=E,3µm,0.4s							
BAYC				IAML		06 49 34.0		
	comp=N,2µm,0.5s							
SMAA	**Simav-Kutahya**	**1.05**	**122**	PG	Pb	06 49 17.9	0.0	
SIMA	**Simav-Kutahya**	**1.06**	**123**	PG	Pg	06 49 17.7	-0.4	
MDNY	**Mudanya-Bursa**	**1.07**	**48**	PG	Pb	06 49 18.2	0.0	
LPK	**Lapseki**	**1.09**	**311**	PN	Pg	06 49 18.1	-0.5	
LPK				SN	Sn	06 49 34.5	+0.7	
ULDT	**Uludag**	**1.11**	**64**	*i* P	Pb	06 49 19.1	+0.1	
ULDT				*i* S	Sb	06 49 34.2	+0.7	
ULDT				IAML		06 49 36.0		
	comp=N,2µm,0.7s							
ULDT				IAML		06 49 36.0		
	comp=E,1µm,0.2s							
MAR2	**Marsite Statio**	**1.13**	**339**	PN	Pn	06 49 20.1	+0.8	
MAR6	**Marsite Statio**	**1.13**	**337**	PN	Pn	06 49 19.9	+0.5	
RKY	**Sarkoy-Tekirda**	**1.14**	**334**	PN	Pn	06 49 19.9	+0.3	
SART	**Tekirdag**	**1.14**	**334**	*i* P	Pg	06 49 18.4	-1.2	
SART				IAML		06 49 35.0		
	comp=N,317nm,0.2s							
SART				IAML		06 49 35.0		
	comp=E,449nm,0.7s							
GZKV	**Gazikoy-Tekird**	**1.15**	**340**	PN	Pn	06 49 20.1	+0.4	
MAR3	**Marsite Statio**	**1.16**	**339**	PN	Pn	06 49 20.4	+0.7	
EZN	**Ezine**	**1.18**	**278**	PN	Pn	06 49 20.6	+0.6	
MAR4	**Marsite Statio**	**1.20**	**340**	PN	Pn	06 49 20.9	+0.5	
IGD	**Bursa**	**1.21**	**60**	*i* P	Pg	06 49 20.7	-0.3	
IGD				*i* S	Sn	06 49 37.9	+1.0	
IGD				IAML		06 49 39.0		
	comp=N,532nm,0.4s							
IGD				IAML		06 49 39.0		
	comp=E,779nm,0.3s							
TVSB	**Tavsanli**	**1.28**	**99**	PN	Pn	06 49 21.1	-0.4	
GELI	**Tayfur-Gelibol**	**1.28**	**306**	PN	Pg	06 49 22.3	+0.1	
PRK	**Paraskevi**	**1.28**	**252**	P	Pg	06 49 23.0	+0.7	
PRK				S	Sn	06 49 40.1	+1.6	
	comp=E,4µm,0.5s							
GEMT	**Gemlik**	**1.29**	**53**	PN	Pb	06 49 22.1	+0.1	
KULA	**Kula-Manisa**	**1.31**	**150**	P	Pb	06 49 22.4	0.0	
KULA				S	Sb	06 49 39.0	-0.3	
KULA	**Kula-Manisa**	**1.31**	**150**	PN	Pb	06 49 22.4	0.0	
TKR	**Tekirdag**	**1.34**	**350**	PN	Pg	06 49 23.1	-0.4	
GEDZ	**Gediz**	**1.37**	**116**	PN	Pb	06 49 23.3	0.0	
BOZC	**Bozcaada**	**1.39**	**278**	PN	Pg	06 49 23.8	-0.5	
TRML	**Termal-Yalova**	**1.40**	**47**	PN	Pn	06 49 22.7	-0.3	
BLCB	**Balcova**	**1.42**	**206**	P	Pn	06 49 23.4	+0.1	
BLCB				S	Sb	06 49 42.0	-0.1	
BLCB	**Balcova**	**1.42**	**206**	PN	Pn	06 49 23.7	+0.4	
ERIK	**Erikli-Kesan**	**1.43**	**315**	PN	Pb	06 49 24.3	0.0	
YLV	**Yalova**	**1.49**	**52**	PN	Pn	06 49 24.3	0.0	
AVCI	**Avcilar-stanb**	**1.50**	**27**	PN	Pn	06 49 24.9	+0.5	
CFTB	**Yalova**	**1.50**	**48**	PN	Pn	06 49 25.0	+0.5	
GADA	**Gvkgeada**	**1.58**	**290**	P	Pb	06 49 26.6	-0.3	
GADA				S	Sg	06 49 47.8	-0.7	
	comp=E,940nm,0.9s							
GADA	**Gvkgeada**	**1.58**	**290**	PN	Pb	06 49 26.5	-0.3	
SLVT	**Silivri**	**1.59**	**10**	PN	Pn	06 49 26.4	+0.7	
SIGR	**SIGRI**	**1.60**	**254**	P	Pn	06 49 26.3	+0.5	
SIGR				S	Sb	06 49 47.5	+0.2	
	comp=E,2µm,0.6s							
SIGR	**SIGRI**	**1.60**	**254**	PN	Pb	06 49 26.9	-0.2	
URLA	**Izmir**	**1.62**	**217**	PN	Pn	06 49 25.5	-0.6	
CTKS	**Kestanelik-??a**	**1.65**	**18**	PN	Pn	06 49 26.8	+0.2	
ENEZ	**Enez**	**1.68**	**310**	P	Pb	06 49 28.1	-0.4	
ENEZ				S	Sb	06 49 49.6	0.0	
	comp=E,1µm,0.4s							
ENEZ	**Enez**	**1.68**	**310**	PN	Pb	06 49 27.9	-0.6	
BGKT	**Bogazkoy**	**1.68**	**25**	PN	Pn	06 49 27.6	+0.7	
KAVV	**Kandilli-Istan**	**1.68**	**33**	PN	Pn	06 49 26.9	-0.1	
ISK	**Istanbul-Kandi**	**1.69**	**33**	P	Pn	06 49 26.7	-0.3	
ISK	**Istanbul-Kandi**	**1.69**	**33**	PN	Pn	06 49 26.8	-0.3	
AUBOZ	**BOZOYUK**	**1.71**	**81**	PN	Pn	06 49 27.1	-0.3	
HRT	**Hereke**	**1.82**	**50**	PN	Pb	06 49 28.3	+0.4	
KLYT	**Kilyos**	**1.84**	**30**	PN	Pn	06 49 29.3	+0.2	
ALN	**Alexandroupoli**	**1.84**	**313**	P	Pb	06 49 30.2	-1.1	
ALN				S	Sb	06 49 54.4	+0.1	
	comp=E,620nm,0.5s							
ALN	**Alexandroupoli**	**1.84**	**313**	PN	Pn	06 49 30.1	+0.9	
CTYL	**Yalikoy Yolu**	**1.84**	**11**	PN	Pn	06 49 29.5	+0.3	
CHOS	**Chios island**	**1.88**	**228**	P	Pn	06 49 30.4	+0.6	
SMTH	**Samothraki Isl**	**1.94**	**295**	P	Pn	06 49 31.5	+0.9	
PHSR	**Pinarhisar**	**1.98**	**353**	PN	Pn	06 49 32.0	+0.9	
BORA	**Eskisehir**	**2.03**	**83**	PN	Pn	06 49 32.7	+0.9	
SILT	**Sile**	**2.03**	**42**	PN	Pn	06 49 31.9	+0.2	
SPNC	**Sapanca-Adapaz**	**2.15**	**61**	PN	Pn	06 49 34.5	+1.1	
SRCK	**Saricakaya, Es**	**2.18**	**79**	PN	Pn	06 49 35.0	+1.1	
RDO	**Rodhopi**	**2.30**	**311**	P	Pn	06 49 36.7	+1.3	
RDO	**Rodhopi**	**2.30**	**311**	PN	Pn	06 49 36.7	+1.3	
EDRB	**Edirne**	**2.33**	**340**	PN	Pn	06 49 37.2	+1.3	
KAVA	**Kavala**	**2.87**	**299**	P	Pn	06 49 44.3	+1.1	
DIM	**Dimitrovgrad**	**2.96**	**325**	P	Pn	06 49 46.2	+1.7	
RZN	**Rozhen**	**3.12**	**311**	P	Pn	06 49 48.0	+1.1	
APE	**Apeiranthos**	**3.16**	**216**	⇑P	Pg	06 49 57.3	-1.0	
KDZE	**Karadeniz Ereo**	**3.21**	**58**	⇑P	Pb	06 49 52.9	-1.7	
PLD	**Plovdiv**	**3.40**	**317**	*e*Pn	Pn	06 49 52.4	+1.8	
PLD				*e*Sn	Sn	06 50 30.3	-0.6	
SRS	**Serrai**	**3.55**	**296**	*e*Pn	Pn	06 49 53.3	+0.6	
MMB	**Musomiste**	**3.67**	**303**	P	Pn	06 49 55.7	+1.4	
SZH	**Strazhica**	**3.87**	**339**	P	Pn	06 49 59.3	+2.2	
PLVB	**Pleven**	**4.43**	**328**	⇑P	Pn	06 50 06.4	+1.6	
VTS	**Vitosha**	**4.56**	**312**	*e*Pn	Pn	06 50 08.8	+2.2	
VTS	**Vitosha**	**4.56**	**312**	⇑P	Pn	06 50 08.1	+1.5	
VTS	**Vitosha**	**4.56**	**312**	P	Pn	06 50 08.4	+1.8	
STIP	**Stip**	**4.75**	**297**	*i* Pn	Pn	06 50 08.8	-0.4	
TIRR	**Tirgusor**	**4.81**	**5**	⇓P	Pn	06 50 10.9	+1.0	
BOSS	**Bosilegrad**	**4.94**	**307**	*e*Pn	Pn	06 50 14.1	+2.4	
PRVS	**Prvonek**	**5.20**	**305**	*e*Pn	Pn	06 50 17.4	+2.1	
PRVS				*e*Sn	Sn	06 51 14.0	-1.2	
TPGR	**Topolog**	**5.21**	**5**	⇑P	Pn	06 50 15.6	+0.1	
ZAPS	**Zavoj**	**5.32**	**314**	*e*Pn	Pn	06 50 18.9	+1.9	
ZAPS				*e*Sn	Sn	06 51 15.8	-2.4	
CFR	**Carcaliu**	**5.52**	**2**	⇑P	Pn	06 50 20.8	+1.1	
BARS	**Barje**	**5.52**	**307**	*e*Pn	Pn	06 50 20.8	+1.0	
BARS				*e*Sn	Sn	06 51 21.5	-1.7	
ISR	**Istrita**	**5.54**	**350**	⇑P	Pn	06 50 20.3	+0.3	
ZAGS	**Zajecar**	**5.89**	**317**	*e*Pn	Pn	06 50 25.3	+0.5	
BISRR	**Bisoca**	**5.94**	**352**	⇑P	Pn	06 50 26.3	+0.7	
MLR	**Muntele Rosu**	**5.99**	**347**	*e*Pn	Pn	06 50 29.8	+3.5	
MLR	**Muntele Rosu**	**5.99**	**347**	⇑P	Pn	06 50 27.7	+1.4	
BOVS	**Bovan**	**6.07**	**313**	*e*Pn	Pn	06 50 28.6	+1.4	
BOVS	**Bovan**	**6.07**	**313**	⇓P	Pn	06 50 29.0	+1.8	
VOIR		**6.13**	**341**	⇑P	Pn	06 50 29.0	+0.9	
PLOR	**Plostina**	**6.25**	**352**	⇑P	Pn	06 50 30.7	+1.0	
VRI	**Vrincioaia**	**6.25**	**353**	⇓P	Pn	06 50 31.5	+1.7	
DOPR	**Dopca**	**6.55**	**345**	⇑P	Pn	06 50 34.4	+0.5	
GRUS	**Gruza**	**6.79**	**311**	*e*Pn	Pn	06 50 37.0	-0.2	
GZR	**Gura Zlata**	**6.84**	**329**	⇑P	Pn	06 50 38.7	+0.8	
MDVR	**Moldovita**	**6.84**	**320**	⇑P	Pn	06 50 39.0	+1.1	
TESR	**Tescani**	**6.90**	**353**	⇑P	Pn	06 50 39.2	+0.5	
IVAS	**Ivanjica**	**6.96**	**307**	*e*Pn	Pn	06 50 40.7	+1.2	
DIVS	**Divibare**	**7.34**	**310**	*e*Pn	Pn	06 50 45.3	+0.5	
BZS	**Buzias**	**7.51**	**324**	⇑P	Pn	06 50 47.6	+0.6	
BURAR	**Bucovina Array**	**8.17**	**347**	⇓P	Pn	06 50 57.4	+1.2	

*JMA **19** 06:53:45.8±0.2, 39°.67N×143°.55E, h32km, M3.9*
*NIED **19** 06:53:45.9, 39°.67N×143°.55E, h32km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr5.96; Mθθ-1.10; Mφφ-4.86; Mrθ2.22; Mθφ-2.80; Mφr3.66; Fault plane solution: M₀7.50000×10¹⁴ NP1:φs30.00000°, δ62.00000°, λ92.00000°. NP2:φs206.00000°, δ28.00000°, λ86.00000°.*

*IDC **19** 06:53:49.2±3.0, 39°.53N×143°.54E, h41km±26km, mb3.6/12, mb1 3.8/15, mb1mx3.6/47, mbtmp3.9/15, ML3.1/3, MS3.2/3, Ms1 3.2/3, ms1mx2.6/50 Error ellipse: s-maj=26.8km s-min=18.0km az=108.0*

ISC 19 06:53:46.2±0.9, 39°.69N±0°.05×143°.40E±0°.06, h11km, n33, σ1s27°/36, mb4.0/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.21**	**282**	P		Pb		06 54 08.5	-0.6
MIYJ	**Miyakonagasawa**	**1.23**	**265**	P		Pb		06 54 09.0	-0.4
JKEN	**Kujiedanarisaw**	**1.40**	**292**	P		Pn		06 54 11.2	-0.4
JKEN				S		Sn		06 54 29.5	-0.6
JANG	**Nango**	**1.60**	**296**	P		Pn		06 54 14.0	-0.4
JOM	**Ohasama**	**1.64**	**263**	P		Pn		06 54 15.5	+0.5
JOM				*e*S		Sb		06 54 36.8	-0.4
JMK	**Ichinoseki**	**1.84**	**247**	P		Pn		06 54 17.8	+0.1
JMK				*e*S		Sn		06 54 41.1	0.0
JIO	**Ouri**	**2.02**	**233**	P		Pn		06 54 19.4	-0.7
JTM	**Tenmabayashi**	**2.10**	**302**	P		Pn		06 54 21.9	+0.7
JTM				*e*S		Sb		06 54 48.9	-1.3
JYK	**Kaneyama**	**2.48**	**253**	P		Pn		06 54 27.2	+0.7
JNBK	**Urakawa-nobuka**	**2.63**	**349**	P		Pn		06 54 29.3	+0.7
JNBK				*e*S		Sn		06 55 01.6	+1.0
JKB	**Kayabe**	**2.84**	**321**	*e*S		Sn		06 55 06.0	+0.4
JCH	**Churui**	**2.92**	**359**	P		Pn		06 54 32.3	-0.3
JCH				*e*S		Sn		06 55 05.2	-2.5
ASAJ	**Asahikawa**	**4.46**	**353**	P		Pn		06 54 55.0	+1.2
	2.1nm,0.3s,baz=214,slow=18,SNR=8.5								
ASAJ				S		Sn		06 55 42.2	-3.5
	1.2nm,0.3s,baz=312,slow=31,SNR=4.1								
MJAR	**Matsushiro Arr**	**5.16**	**234**	P		Pn		06 55 04.9	+1.6
	0.4nm,0.3s,baz=35,slow=12,SNR=19								
MJAR				LR		LR		06 57 17.1	
	comp=Z,115nm,18.8s,baz=30,slow=40								
MAT	**Matsushiro**	**5.16**	**234**	P		Pn		06 55 04.7	+1.3
MAT				*e*S		Sn		06 56 00.9	-2.0
USRK	**Ussuriysk Ar.**	**9.62**	**302**	P		Pn		06 56 08.2	+3.7
	baz=105,slow=13,SNR=12								
KSRS	**Korea Array**	**12.32**	**264**	LR		LR		07 01 09.5	
	comp=Z,80nm,18.4s,baz=60,slow=35								
MA2	**Magadan**	**20.45**	**11**	P		**P**		**06 58 24.2**	**+0.9**
	6.7nm,0.7s,baz=214,slow=7.0,SNR=6.1								
SEY	**Seymchan**	**23.90**	**10**	P		**P**		**06 58 59.7**	**+0.1**
	2.2nm,0.5s,baz=180,slow=7.9,SNR=10								
SONM	**Songino Array**	**27.73**	**299**	P		**P**		**06 59 34.8**	**+0.2**
	1.6nm,0.8s,baz=98,slow=8.6,SNR=7.6								
SONM				LR		LR		07 11 23.5	
	comp=Z,84nm,19.0s,baz=38,slow=38								
H11S1	**WAKE ISLAND Hy**	**29.17**	**130**	T		T		07 30 19.3	
	baz=321,slow=76,SNR=6.8								
H11S3	**WAKE ISLAND Hy**	**29.17**	**130**	T		T		07 30 16.6	
	baz=321,slow=76,SNR=4.4								
H11S2	**WAKE ISLAND Hy**	**29.18**	**130**	T		T		07 30 14.0	
	baz=321,slow=76,SNR=5.0								
ZALV	**Zalesovo Beam**	**41.34**	**310**	P		**P**		**07 01 32.3**	**+0.6**
	1.2nm,0.4s,baz=98,slow=8.0,SNR=5.0								
MKAR	**Makanchi Array**	**44.09**	**300**	P		**P**		**07 01 54.1**	**-0.1**
	1.3nm,0.7s,baz=84,slow=8.8,SNR=17								
ILAR	**Eielson Array**	**46.42**	**34**	P		**P**		**07 02 12.8**	**+0.4**
	0.4nm,0.7s,baz=268,slow=6.9,SNR=5.5								
WRA	**Warramunga Arr**	**59.92**	**190**	P		**P**		**07 03 51.1**	**-1.1**
	0.3nm,0.6s,baz=8.0,slow=6.6,SNR=2.4								
ASAR	**Alice Springs**	**63.65**	**190**	P		P		07 04 13.4	-3.9
	0.2nm,0.7s,baz=19,slow=8.9,SNR=2.1								
FINES	**FINESS Array B**	**67.19**	**332**	P		**P**		**07 04 40.1**	**+0.2**
	1.8nm,0.7s,baz=38,slow=5.3,SNR=4.7								
KBZ	**Khabaz**	**70.36**	**311**	P		**P**		**07 05 01.1**	**+1.3**
	1.8nm,0.8s,baz=67,slow=4.1,SNR=4.7								
NB2	**NORSAR Subarra**	**72.33**	**338**	P		**P**		**07 05 11.4**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=38,slow=6.2								
NOA	**NORSAR Array B**	**72.33**	**338**	P		**P**		**07 05 11.2**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=28,slow=8.6,SNR=4.3								
AKASG	**Malin Array Be**	**73.15**	**323**	P		**P**		**07 05 16.1**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=46,slow=5.9,SNR=5.7								

*ATH **19** 07:06:27.9, 38°.33N×20°.50E, h15km±1km, ML3.4/14, Error ellipse: s-maj=1.8km s-min=0.6km az=270.0*
*THE **19** 07:06:27.8, 38°.33N×20°.49E, h15km, ML3.4/4, Error ellipse: s-maj=0.7km s-min=0.2km az=276.0*
*BEO **19** 07:06:28.9±0.9, 38°.37N×20°.88E, h16km±8km, ML3.1/3*

ISC 19 07:06:27.2±0.8, 38°.33N±0°.02×20°.48E±0°.03, h18km±3km, n77, σ1s00°/112, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KEF5	**Kardakata, Kep**	**0.05**	**188**	P		**Pg**		**07 06 30.4**	**-0.1**
KEF5				S		**Sg**		**07 06 32.3**	**-0.5**
KEF5	**Kardakata, Kep**	**0.05**	**188**	P		**Pg**		**07 06 30.3**	**-0.2**
KEF4	**Livadi, Kephal**	**0.08**	**211**	P		**Pg**		**07 06 30.9**	**+0.1**
KEF4				S		**Sg**		**07 06 33.3**	**+0.2**
KEF4	**Livadi, Kephal**	**0.08**	**211**	P		**Pg**		**07 06 30.8**	**+0.1**
KEF4				S		**Sg**		**07 06 33.4**	**+0.3**
VSK1	**VASILIKIADES**	**0.11**	**40**	P		**Pg**		**07 06 31.1**	**+0.1**
VSK1				S		**Sg**		**07 06 33.2**	**-0.4**
DMLN	**Damoulianata-K**	**0.12**	**223**	P		**Pg**		**07 06 31.4**	**+0.3**
DMLN				S		**Sg**		**07 06 34.2**	**+0.5**
DMLN	**Damoulianata-K**	**0.12**	**223**	P		**Pg**		**07 06 31.4**	**+0.3**
DMLN				S		**Sg**		**07 06 34.3**	**+0.5**
LXRA	**Lixouri, Kepha**	**0.13**	**194**	P		**Pg**		**07 06 31.4**	**+0.2**
LXRA				S		**Sb**		**07 06 34.6**	**+3.5**
FSK	**Fiskardo**	**0.15**	**27**	P		**Pg**		**07 06 31.5**	**0.0**
FSK				S		**Sg**		**07 06 34.2**	**-0.1**
FSK				AML		AML		07 06 34.4	
	comp=N,27591µm,0.2s								
FSK				AML		AML		07 06 34.8	
	comp=E,56742µm,0.1s								
FSK	**Fiskardo**	**0.15**	**27**	P		**Pg**		**07 06 31.5**	**0.0**
FSK				S		**Sg**		**07 06 34.0**	**-0.3**
	comp=E,21µm,0.1s								
ARG2	**Argostoli**	**0.15**	**177**	P		**Pg**		**07 06 31.6**	**+0.2**
ARG2				S		**Sg**		**07 06 34.2**	**-0.1**
ARGA	**Argostoli. Kep**	**0.15**	**179**	P		**Pg**		**07 06 31.5**	**+0.1**
ARGA				S		**Sg**		**07 06 34.5**	**+0.2**
KEF3	**Kipouria, Keph**	**0.16**	**219**	P		**Pg**		**07 06 31.5**	**-0.1**
KEF3				S		**Sg**		**07 06 34.4**	**-0.2**
KEF3	**Kipouria, Keph**	**0.16**	**219**	P		**Pg**		**07 06 31.5**	**-0.1**
KEF3				S		**Sg**		**07 06 34.5**	**-0.1**
VLS	**Valsamata**	**0.17**	**149**	P		**Pg**		**07 06 31.8**	**0.0**
VLS				S		**Sg**		**07 06 34.7**	**-0.2**
VLS				AML		AML		07 06 34.9	
VLS				AML		AML		07 06 35.2	
VLS	**Valsamata**	**0.17**	**149**	P		**Pg**		**07 06 31.8**	**0.0**
VLS				S		**Sg**		**07 06 34.8**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.23**	**158**	P		**Pg**		**07 06 32.7**	**+0.1**
PSDA				S		**Sg**		**07 06 36.4**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.23**	**158**	P		**Pg**		**07 06 32.7**	**+0.1**
PSDA				S		**Sg**		**07 06 36.6**	**+0.3**
EVGI	**Lefkada island**	**0.33**	**26**	P		**Pg**		**07 06 34.4**	**+0.2**
EVGI				S		**Sg**		**07 06 39.3**	**+0.4**
EVGI	**Lefkada island**	**0.33**	**26**	P		**Pg**		**07 06 34.4**	**+0.2**
EVGI				S		**Sg**		**07 06 39.2**	**+0.2**
	comp=E,5µm,0.1s								
NYDR	**Nydri-Lefkada**	**0.42**	**24**	P		**Pg**		**07 06 35.9**	**0.0**
NYDR				S		**Sg**		**07 06 42.4**	**+0.6**
NYDR	**Nydri-Lefkada**	**0.42**	**24**	P		**Pg**		**07 06 35.9**	**0.0**
NYDR				S		**Sb**		**07 06 42.5**	**+0.3**
VLMS	**Volimes, Zakyn**	**0.47**	**162**	P		**Pb**		**07 06 37.9**	**+0.9**
VLMS				S		**Sg**		**07 06 43.8**	**+0.5**
VLMS				AML		AML		07 06 47.4	
	comp=N,22786µm,0.3s								
VLMS				AML		AML		07 06 52.8	
	comp=E,16531µm,0.4s								
VLMS	**Volimes, Zakyn**	**0.47**	**162**	P		**Pg**		**07 06 36.9**	**+0.1**
VLMS				S		**Sb**		**07 06 44.4**	**+0.8**
LKD2	**Lefkada island**	**0.48**	**17**	P		**Pg**		**07 06 36.8**	**-0.2**
LKD2	**Lefkada island**	**0.48**	**17**	P		**Pg**		**07 06 37.1**	**+0.1**
TSLK	**Tsoukalades, L**	**0.52**	**16**	P		**Pg**		**07 06 37.7**	**+0.1**
TSLK	**Tsoukalades, L**	**0.52**	**16**	P		**Pg**		**07 06 38.0**	**+0.4**
PDO	**Prodromos**	**0.62**	**64**	P		**Pg**		**07 06 39.2**	**-0.2**
PDO				AML		AML		07 06 55.4	
	comp=E,6048µm,0.3s								
PDO				AML		AML		07 06 59.0	
	comp=N,7316µm,0.5s								
PDO	**Prodromos**	**0.62**	**64**	P		**Pg**		**07 06 39.3**	**-0.2**
PDO				S		**Sb**		**07 06 48.9**	**+1.3**
	comp=N,4µm,0.3s								
LTHK	**Lithakia**	**0.68**	**155**	P		**Pg**		**07 06 40.3**	**-0.2**
LTHK				S		**Sb**		**07 06 50.4**	**+0.9**
LTHK				AML		AML		07 06 51.9	
	comp=N,8005µm,0.2s								
LTHK				AML		AML		07 06 52.9	
	comp=E,9418µm,0.3s								
LTHK	**Lithakia**	**0.68**	**155**	P		**Pg**		**07 06 40.2**	**-0.4**
LTHK				S		**Sb**		**07 06 51.1**	**+1.7**
	comp=E,4µm,0.2s								
RLS	**Riolos of Patr**	**0.82**	**109**	P		**Pg**		**07 06 42.9**	**-0.4**
RLS				AML		AML		07 07 03.9	
	comp=E,2223µm,0.5s								
RLS				AML		AML		07 07 04.5	
	comp=N,2380µm,0.5s								
RLS	**Riolos of Patr**	**0.82**	**109**	P		**Pg**		**07 06 42.9**	**-0.4**
DSL	**Palaion Diasel**	**0.94**	**31**	P		**Pb**		**07 06 45.4**	**+0.4**
DRO	**Drossia**	**1.04**	**111**	P		**Pb**		**07 06 46.9**	**+0.2**
DRO				AML		AML		07 07 10.0	
	comp=N,9543µm,0.4s								
DRO				AML		AML		07 07 10.1	
	comp=E,4590µm,0.3s								
DRO	**Drossia**	**1.04**	**111**	P		**Pg**		**07 06 47.1**	**+0.4**
ANX	**Ano Chora**	**1.16**	**76**	P		**Pb**		**07 06 49.0**	**+0.2**
ANX				AML		AML		07 07 12.6	
	comp=E,4468µm,0.8s								
ANX				AML		AML		07 07 14.8	
	comp=N,3919µm,0.5s								
ANX	**Ano Chora**	**1.16**	**76**	P		**Pb**		**07 06 48.8**	**0.0**
LAKA	**Lakka**	**1.19**	**94**	P		**Pn**		**07 06 49.0**	**+0.1**
LAKA				AML		AML		07 07 17.6	
	comp=E,7189µm,0.9s								
LAKA				AML		AML		07 07 29.0	
	comp=N,4432µm,0.6s								
LAKA	**Lakka**	**1.19**	**94**	P		**Pn**		**07 06 48.9**	**+0.1**
IGT	**Igoumenitsa**	**1.21**	**355**	*e*Pg		**Pg**		**07 06 51.0**	**+0.4**
IGT				*e*Sg		**Sg**		**07 07 08.3**	**+1.9**
SERG	**Sergoula**	**1.25**	**86**	P		P		**07 06 49.9**	**+0.2**
SERG	**Sergoula**	**1.25**	**86**	P		Pn		**07 06 49.8**	**+0.1**
TRIZ	**Trizonia**	**1.25**	**88**	P		Pn		**07 06 50.0**	**+0.3**
TRIZ	**Trizonia**	**1.25**	**88**	P		Pn		**07 06 49.9**	**+0.1**
ALIK	**Aliki, Aigiali**	**1.29**	**92**	P		Pn		**07 06 50.7**	**+0.5**
KALE	**Kalithea**	**1.31**	**87**	P		Pn		**07 06 50.8**	**+0.3**
KALE				AML		AML		07 07 15.5	
	comp=N,1775µm,0.6s								
KALE				AML		AML		07 07 22.3	
	comp=E,1136µm,1.0s								
KALE	**Kalithea**	**1.31**	**87**	P		**Pn**		**07 06 50.7**	**+0.1**
KLV	**Kalavryta, Ach**	**1.35**	**102**	P		Pn		**07 06 51.8**	**+0.7**
KLV				AML		AML		07 07 14.2	
	comp=N,841µm,0.4s								
KLV				AML		AML		07 07 17.5	
	comp=E,984µm,0.9s								
KLV	**Kalavryta, Ach**	**1.35**	**102**	P		**Pn**		**07 06 51.5**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.47**	**62**	P		**Pb**		**07 06 55.0**	**+1.1**
MAKR				AML		AML		07 07 19.6	
	comp=N,1384µm,1.0s								

IPIR	**Pirpir**	**2.63**	**89**	*e*Pn	**Pn**	**07 34 51.0**	**+1.7**
IPIR				*e*		07 35 36.4	
	comp=Z,99nm,0.4s						
ASAO	**Ashtian**	**2.64**	**45**	*e*Pn	**Pn**	**07 34 49.5**	**+0.2**
ASAO				*e*Sg	**Sb**	**07 35 27.2**	**+0.6**
ASAO	**Ashtian**	**2.64**	**45**	*e*Pn	**Pn**	**07 34 49.5**	**+0.2**
SHK1	**Shahrekord**	**2.66**	**97**	*e*Pn	**Pn**	**07 34 50.1**	**+0.6**
SHK1				*e*		07 35 38.5	
	comp=Z,99nm,0.5s						
BHD	**Baghdad**	**2.91**	**282**	*e*Pn	**Pn**	**07 34 54.0**	**+1.2**
BHD				*e*Sn	**Sn**	**07 35 29.0**	**+0.9**
BHD				AML	AML	07 35 32.0	
	comp=E,270nm,0.4s						
IRAZ	**Razeghan**	**3.25**	**33**	*e*Pn	**Pn**	**07 35 00.2**	**+2.6**
QAM	**Ghamsar**	**3.25**	**70**	*e*Pn	**Pn**	**07 35 00.1**	**+2.4**
IKLH	**Kolahrood**	**3.26**	**78**	*e*Pn	**Pn**	**07 34 59.0**	**+1.1**
QABG	**Abgarm-Qazvin**	**3.36**	**26**	*e*Pn	**Pn**	**07 34 59.4**	**+0.1**
GHVR	**GHOM**	**3.44**	**58**	*e*Pn	**Pn**	**07 34 59.3**	**-0.9**
GHVR	**GHOM**	**3.44**	**58**	*e*Pn	**Pn**	**07 34 59.3**	**-0.9**
IQOM	**Qom**	**3.49**	**51**	*e*Pn	**Pn**	**07 35 02.3**	**+1.3**
IGAR	**Gharneh**	**3.62**	**93**	*e*Pn	**Pn**	**07 35 03.2**	**+0.4**
KLNJ	**Kolanjah**	**3.66**	**116**	*e*Pn	**Pn**	**07 35 03.1**	**-0.3**
KLNJ				*e*		07 36 12.1	
	comp=Z,99nm,0.5s						
IMHD	**Mahdasht**	**3.83**	**38**	*e*Pn	**Pn**	**07 35 07.7**	**+2.1**
IZEF	**Zefreh**	**3.84**	**86**	*e*Pn	**Pn**	**07 35 07.2**	**+1.3**
KRSH	**Karshahi**	**3.87**	**70**	*e*Pn	**Pn**	**07 35 07.1**	**+0.9**
IRAM	**Ramesheh**	**4.00**	**101**	*e*Pn	**Pn**	**07 35 07.6**	**-0.5**
IVRN	**Varamin**	**4.01**	**54**	*e*Pn	**Pn**	**07 35 09.3**	**+1.2**
ISFB	**Sefidab**	**4.08**	**65**	*e*Pn	**Pn**	**07 35 09.9**	**+0.9**
IGZV	**Ghazvin**	**4.20**	**28**	*e*Pn	**Pn**	**07 35 11.9**	**+1.1**
CHTH	**Charan**	**4.24**	**40**	*e*Pn	**Pn**	**07 35 11.2**	**-0.2**
CHTH	**Charan**	**4.24**	**40**	*e*Pn	**Pn**	**07 35 11.2**	**-0.2**
QALM	**Alamut, Qazvin**	**4.42**	**32**	*e*Pn	**Pn**	**07 35 14.5**	**+0.7**
ISAD	**Sadrabad**	**5.07**	**97**	*e*Pn	**Pn**	**07 35 22.9**	**+0.2**
ILAS	**Lasjerd**	**5.07**	**57**	*e*Pn	**Pn**	**07 35 24.3**	**+1.5**
IPRN	**Peran**	**5.17**	**46**	*e*Pn	**Pn**	**07 35 26.3**	**+2.2**
IANJ	**Anjilo**	**5.80**	**60**	*e*Pn	**Pn**	**07 35 34.0**	**+1.2**
IGLO	**Ghaloghah**	**6.28**	**51**	*e*Pn	**Pn**	**07 35 40.2**	**+0.9**

IDC ***19*** *07:34:37.5±5.9,2°.54N×95°.79E, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.6/59, mbtmp3.8/7, ML3.9/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/42, Error ellipse: s-maj=121.9km s-min=37.1km az=23.0*

DJA ***19*** *07:34:39.4±0.9,3°.N±5°×9°.6E±°, h10km, M3.9/6, mb4.4/1, MLv3.7/6*

NEIC ***19*** *07:34:41.3±0.7,2°.51N±0°.08×95°.84E±0°.08, h25km±8km, mb4.2/5, Error ellipse: s-maj=13.0km s-min=9.4km az=46.0*

ISC 19 07:34:42.7±1.5,2°.58N±0°.05×95°.95E±0°.08, h31km±10km, n48, σ0°92/41, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.41**	**114**	P		**Pb**	**07 34 51.4**	**-0.4**
SNSI				S		**Sb**	**07 34 58.3**	**+0.3**
TPTI		**1.40**	**61**	P		**Pn**	**07 35 05.4**	**-0.6**
TPTI		**1.40**	**61**	P		**Pn**	**07 35 05.5**	**-0.6**
TPTI				S		**Sb**	**07 35 25.8**	**+0.1**
MLSI	**Meulaboh, Aceh**	**1.73**	**15**	P		**Pn**	**07 35 09.6**	**-1.1**
MLSI				S		**Sb**	**07 35 37.2**	**+1.8**
MLSI	**Meulaboh, Aceh**	**1.73**	**15**	P		**Pn**	**07 35 09.6**	**-1.1**
GSI	**Gunungsitoli**	**2.06**	**128**			**Pn**	**07 35 15.1**	**-0.1**
GSI	**Gunungsitoli**	**2.06**	**128**	P		**Pn**	**07 35 14.7**	**-0.5**
GSI	**Gunungsitoli**	**2.06**	**128**	P		**Pn**	**07 35 15.0**	**-0.1**
GSI				S		**Sn**	**07 35 41.3**	**+1.5**
TSI	**Tuntungan**	**2.76**	**71**	P		**Pb**	**07 35 30.0**	**-1.4**
TSI	**Tuntungan**	**2.76**	**71**	P		Pb	07 35 42.8	+11
LHMI	**Lhok Sumawe**	**2.81**	**21**	Pn		**Pn**	**07 35 26.8**	**+1.3**
RPSI	**Rantau Prapat**	**2.97**	**88**			**Pn**	**07 35 28.8**	**+1.0**
RPSI	**Rantau Prapat**	**2.97**	**88**			**Pn**	**07 35 28.7**	**+1.0**
PSI	**Prapat**	**2.98**	**86**	Pn		**Pn**	**07 35 28.7**	**+0.8**
	2.6nm,0.3s,baz=360,slow=3.0,SNR=7.6							
PSI				Sn		**Sn**	**07 36 00.5**	**-2.2**
	2.8nm,0.3s,baz=360,slow=5.4,SNR=5.6							
PBSI	**Pulau Batu**	**3.50**	**138**	P		**Pn**	**07 35 34.9**	**-0.1**
PBSI	**Pulau Batu**	**3.50**	**138**	P		**Pn**	**07 35 35.3**	**+0.3**
MNSI	**Mandailing Nat**	**4.04**	**116**	P		**Pn**	**07 35 43.6**	**+1.2**
IPM	**Ipoh**	**5.40**	**69**	Pn		**Pn**	**07 36 01.5**	**+0.3**
KULM	**Kulim**	**5.40**	**60**			**Pn**	**07 36 02.0**	**+0.8**
MNAI	**Manna**	**9.82**	**135**	Pn		**Pn**	**07 37 01.8**	**-0.1**
PPBI	**Pangkal Pinang**	**11.22**	**115**	P		Pn	07 37 29.2	+8.2
LEM	**Lembang**	**14.93**	**129**	LR		LR	07 45 21.9	
	comp=Z,72nm,18.3s,baz=192,slow=43							
PALK	**Pallekele**	**15.89**	**288**	LR		LR	07 43 44.5	
	comp=Z,41nm,19.5s,baz=250,slow=35							
CMAR	**Chiang Mai Arr**	**16.05**	**10**	Pn		**Pn**	**07 38 26.9**	**+0.6**
	0.5nm,0.3s,baz=202,slow=12,SNR=1.0							
CMAR	**Chiang Mai Arr**	**16.05**	**10**			**Pn**	**07 38 26.9**	**+0.6**
H08S2	**Diego Garcia H**	**25.51**	**246**	T		T	08 06 28.0	
	baz=69,slow=74,SNR=6.3							
H08S3	**Diego Carcia H**	**25.52**	**246**	T		T	08 06 22.6	
	baz=69,slow=74,SNR=40							
H08S1	**Diego Carcia H**	**25.53**	**246**	T		T	08 06 27.9	
	baz=69							
H01W3	**Cape Leeuwin H**	**40.99**	**157**	T		T	08 25 44.3	
	baz=332,slow=76,SNR=29							
H01W2	**Cape Leeuwin H**	**41.00**	**157**	T		T	08 25 45.3	
	baz=332,slow=76,SNR=28							
H01W1	**Cape Leeuwin H**	**41.01**	**157**	T		T	08 25 48.0	
	baz=332,slow=76,SNR=28							
MK31	**Makanchi Array**	**45.62**	**347**	P		**P**	**07 42 59.6**	**-0.5**
MK31				IAmb		IAmb	07 43 00.3	
	comp=Z,1.9nm,0.9s							
MKAR	**Makanchi Array**	**45.62**	**347**	P		**P**	**07 42 59.4**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=157,slow=8.5,SNR=8.6							
MKAR	**Makanchi Array**	**45.62**	**347**	P		**P**	**07 42 59.8**	**-0.3**
MAKZ	**Makanchi**	**45.70**	**347**	P		**P**	**07 43 00.0**	**-0.8**
MAKZ				IAmb		IAmb	07 43 27.4	
	comp=Z,3.5nm,1.4s							
SONM	**Songino Array**	**45.98**	**10**	P		**P**	**07 43 02.1**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=186,slow=8.6,SNR=5.9							
SONM	**Songino Array**	**45.98**	**10**	P		**P**	**07 43 02.1**	**-1.0**
SONM	**Songino Array**	**45.98**	**10**	IAmb		IAmb	07 43 09.9	
	comp=Z,0.9nm,0.9s							
KKAR	**Karatay Array**	**46.28**	**334**	P		**P**	**07 43 05.6**	**+0.2**
JMN	**Monobe**	**47.04**	**44**	P		**P**	**07 43 13.3**	**+1.7**
TLY	**Talaya**	**49.35**	**6**	P		**P**	**07 43 29.1**	**0.0**
	comp=Z,1.9nm,0.6s,baz=235,slow=16,SNR=5.1							
TLY	**Talaya**	**49.35**	**6**	P		**P**	**07 43 29.1**	**0.0**
TLY	**Talaya**	**49.35**	**6**	IAmb		IAmb	07 43 54.7	
	comp=Z,3.6nm,0.5s							
KURBB	**Kurchatov Arra**	**50.09**	**346**	P		**P**	**07 43 35.0**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=170,slow=6.7,SNR=5.9							
KURK	**Kurchatov**	**50.15**	**346**	P		**P**	**07 43 35.0**	**-0.1**
ZALV	**Zalesovo Beam**	**52.02**	**352**	P		**P**	**07 43 48.4**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=182,slow=7.0,SNR=5.8							
ZALV	**Zalesovo Beam**	**52.02**	**352**	P		**P**	**07 43 48.9**	**-0.2**
ABKAR	**Akbulak array**	**55.72**	**332**	P		**P**	**07 44 15.6**	**-0.6**

NEIC ***19*** *07:36:59.6±2.5,3°.30S±0°.09×135°.84E±0°.06, h45km±7km, mb4.1/9, Error ellipse: s-maj=14.3km s-min=6.3km az=204.0*

IDC ***19*** *07:37:00.6±2.0,3°.16S×135°.92E, h49km±21km, mb3.6/5, mb1 3.9/9, mb1mx3.6/47, mbtmp4.0/9, ML4.0/4, MS3.4/7, Ms1 3.4/7, ms1mx3.0/28, Error ellipse: s-maj=20.6km s-min=17.1km az=14.0*

ISC 19 07:36:58.7±0.6,3°.44S±0°.07×135°.81E±0°.06, h37km, n31, σ2°40/31, mb3.9/6, MS3.4/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.60**	**278**	Pn		**Pn**	**07 37 53.1**	**+1.2**
FAKI				Sn		**Sn**	**07 38 33.8**	**+0.6**
JAY	**Jayapura**	**4.97**	**79**	P		**Pn**	**07 38 11.4**	**+0.5**
	1.2nm,0.3s,baz=100,slow=23,SNR=1.2							
JAY				S		**Sn**	**07 39 06.1**	**-1.1**
	1.6nm,0.3s,baz=17,slow=8.4,SNR=1.6							
SIJI	**Sorong**	**5.21**	**299**	P		**Pn**	**07 38 13.7**	**-0.5**
	13nm,0.3s,baz=186,slow=22,SNR=22							
SIJI				S		**Sn**	**07 39 09.8**	**-3.4**
	9.8nm,0.3s,baz=291,slow=23,SNR=10							
MTN	**Manton Dam**	**10.42**	**206**			**Pn**	**07 39 29.3**	**+3.6**
COEN	**Coen**	**12.72**	**146**	Pn		**Pn**	**07 39 58.0**	**+0.8**
SOEI	**Soe**	**13.07**	**241**	Pn		**Pn**	**07 40 04.1**	**+2.1**
BATI	**Baumata**	**13.80**	**240**	LR		LR	07 46 36.3	
	comp=Z,81nm,20.8s,baz=163,slow=41							
KNRA	**Kununurra**	**14.00**	**209**	Pn		**Pn**	**07 40 15.7**	**+1.2**
KAPI	**Kappang**	**16.09**	**264**	P		**P**	**07 40 47.1**	**+1.8**
	1.3nm,0.3s,baz=123,slow=22,SNR=2.2							
WB0	**Warramunga Arr**	**16.28**	**185**			**Pn**	**07 40 43.9**	**-0.8**
WB0				IAmb		IAmb	07 40 53.1	
	comp=Z,9.5nm,0.7s							
WRA	**Warramunga Arr**	**16.46**	**185**	P		**Pn**	**07 40 45.1**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=5.0,slow=13,SNR=28							
WRA				S		**Sn**	**07 43 43.0**	**-5.7**
	comp=Z,0.4nm,0.3s,baz=4.6,slow=23,SNR=3.3							
WRA				LR		LR	07 47 45.0	
	comp=Z,180nm,19.4s,baz=5.0,slow=38							
WRA	**Warramunga Arr**	**16.46**	**185**			**Pn**	**07 40 45.0**	**-2.0**
FITZ	**Fitzroy Crossi**	**17.65**	**214**	P		**P**	**07 41 03.0**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=35,slow=10,SNR=22							
FITZ				S		**Sn**	**07 44 10.1**	**-7.4**
	comp=Z,0.6nm,0.3s,baz=198,slow=9.6,SNR=5.9							
FITZ				LR		LR	07 48 38.6	
	comp=Z,93nm,21.2s,baz=79,slow=39							
FITZ	**Fitzroy Crossi**	**17.65**	**214**	P		**P**	**07 41 04.0**	**+1.5**
CTA	**Charters Tower**	**19.43**	**149**	P		**Pn**	**07 41 24.9**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=325,slow=10,SNR=2.6							
CTAO	**Charters Tower**	**19.43**	**149**	P		**Pn**	**07 41 25.0**	**+1.6**
CTAO				IAmb		IAmb	07 41 42.2	
	comp=Z,23nm,1.4s							
AS31	**Alice Springs**	**20.19**	**185**			Pn	07 41 34.7	+2.3
AS31				IAmb		IAmb	07 41 36.3	
	comp=Z,7.5nm,1.1s							
ASAR	**Alice Springs**	**20.19**	**185**	P		Pn	07 41 34.7	+2.3
	comp=Z,17nm,0.8s,baz=8.2,slow=11,SNR=83							
ASAR				LR		LR	07 50 01.0	
	comp=Z,202nm,18.7s,baz=16,slow=38							
HNR	**Honiara**	**24.70**	**105**	LR		LR	07 51 17.0	
	comp=Z,40nm,19.3s,baz=37,slow=35							
STKA	**Stephens Creek**	**28.80**	**170**	P		**P**	**07 42 56.5**	**+3.2**
	comp=Z,0.5nm,0.5s,baz=99,slow=23,SNR=0.9							
STKA				LR		LR	07 56 35.0	
	comp=Z,59nm,18.6s,baz=5.7,slow=40							
BBOO	**Buckleboo**	**29.21**	**180**	P		**P**	**07 42 59.3**	**+2.3**
ARMA	**Armidale**	**30.72**	**153**	P		**P**	**07 43 10.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**34.10**	**209**	LR		LR	07 58 06.5	
	comp=Z,153nm,19.0s,baz=281,slow=37							
MK31	**Makanchi Array**	**68.63**	**324**	P		**P**	**07 47 58.0**	**-0.2**
MK31				IAmb		IAmb	07 48 00.4	
	comp=Z,2.7nm,1.5s							
MKAR	**Makanchi Array**	**68.63**	**324**	P		**P**	**07 47 58.6**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=122,slow=8.1,SNR=10							
MKAR	**Makanchi Array**	**68.63**	**324**	P		**P**	**07 47 57.9**	**-0.3**
MAKZ	**Makanchi**	**68.82**	**324**	P		**P**	**07 47 58.8**	**-0.6**
MAKZ				IAmb		IAmb	07 48 11.2	
	comp=Z,1.3nm,0.8s							
KKAR	**Karatay Array**	**74.64**	**316**	P		**P**	**07 48 33.9**	**-0.6**
BVAR	**Borovoye Array**	**78.28**	**326**	P		**P**	**07 48 54.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=160,slow=8.9,SNR=2.9							
ILAR	**Eielson Array**	**87.70**	**25**	P		**P**	**07 49 41.4**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=250,slow=4.3,SNR=11							
CPUP	**Villa Florida**	**147.78**	**157**	PKPbc		**PKPbc**	**07 56 39.9**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=153,slow=4.5,SNR=2.9							

NEIC ***19*** *07:38:08.7±1.9,28°.83S±0°.09×179°.0W±0°.1, h331km±3km, mb4.1/17, Error ellipse: s-maj=19.4km s-min=12.3km az=106.0*

NOU ***19*** *07:38:08.2,28°.99S×178°.49W, h355km, mb4.3, Kermadec Islands Region*

IDC ***19*** *07:38:11.4±3.0,28°.76S×179°.00W, h355km±27km, mb3.7/12, mb1 3.8/15, mb1mx3.7/35, mbtmp4.5/15, Error ellipse: s-maj=19.0km s-min=13.9km az=90.0*

ISC 19 07:38:08.3±0.5,29°.09S±0°.05×178°.58W±0°.10, h350km, n131, σ2°42/142, mb4.0/16, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.59**	**105**	P		**Pn**	**07 38 53.5**	**+0.8**
RIZ				S		**S**	**07 39 23.9**	**-4.5**
RAO	**Raoul Island**	**0.60**	**106**			**Pn**	**07 38 52.9**	**+0.2**
RAO				S		**S**	**07 39 24.6**	**-3.7**
RAO	**Raoul Island**	**0.60**	**106**	P		**Pn**	**07 38 53.0**	**+0.2**
GLKZ	**Green Lake**	**0.60**	**107**	P		**Pn**	**07 38 52.6**	**-0.1**
GLKZ				S		**S**	**07 39 25.6**	**-2.8**
MXZ	**Matakaoa Point**	**8.84**	**196**	Pn		**P**	**07 40 15.2**	**+0.5**
MXZ	**Matakaoa Point**	**8.84**	**196**	P		**P**	**07 40 13.7**	**-1.0**
MXZ				S		**S**	**07 41 47.0**	**-6.7**
OUZ	**Omahuta**	**9.01**	**225**	Pn		**P**	**07 40 17.0**	**+0.4**
WMGZ	**Waiomatatini S**	**9.06**	**195**	P		**Pn**	**07 40 15.0**	**+0.2**
WMGZ				S		**S**	**07 41 54.4**	**-4.0**
HAZ	**Te Kaha**	**9.16**	**198**	P		**Pn**	**07 40 13.8**	**-2.3**
HAZ				S		**S**	**07 41 55.3**	**-5.3**
PKGZ	**Pakihiroa**	**9.21**	**197**	P		**Pn**	**07 40 13.6**	**-3.1**
PKGZ				S		**S**	**07 41 54.7**	**-7.1**
PUZ	**Puketiti**	**9.34**	**196**	P		**Pn**	**07 40 16.4**	**-1.8**
PUZ				S		**S**	**07 41 59.2**	**-5.3**
RUGZ	**Raukumara Rang**	**9.38**	**198**	P		**Pn**	**07 40 16.7**	**-2.2**
RUGZ				S		**S**	**07 41 58.7**	**-7.1**
TWGZ	**Tauwhareparae**	**9.50**	**197**	P		**P**	**07 40 22.5**	**+0.4**
TWGZ				S		**S**	**07 42 04.0**	**-4.3**
OPRZ	**Ohinepanea**	**9.63**	**204**	P		**P**	**07 40 24.8**	**+1.4**
TGRZ	**Tauranga**	**9.63**	**205**	P		**P**	**07 40 25.3**	**+1.8**
CNGZ	**Carnagh Statio**	**9.74**	**195**	P		**P**	**07 40 24.6**	**-0.1**
MWZ	**Matawai**	**9.77**	**198**	P		**Pn**	**07 40 20.5**	**-2.9**
MWZ				S		**S**	**07 42 08.1**	**-6.0**
TKGZ	**Te Karaka**	**9.78**	**197**	P		**Pn**	**07 40 19.8**	**-3.7**
TKGZ				S		**S**	**07 42 10.5**	**-3.9**
URZ	**Urewera**	**9.82**	**200**	P		**Pn**	**07 40 22.6**	**-1.3**
	7.1nm,0.3s,baz=272,slow=4.2,SNR=50							
URZ				S		**S**	**07 42 09.8**	**-5.4**
	9.2nm,0.3s,baz=223,slow=15,SNR=9.8							
URZ	**Urewera**	**9.82**	**200**			**P**	**07 40 25.3**	**-0.3**
URZ	**Urewera**	**9.82**	**200**	P		**Pn**	**07 40 22.7**	**-1.3**
URZ				S		**S**	**07 42 09.8**	**-5.4**
KMRZ	**Kaimai**	**9.85**	**206**	P		**Pn**	**07 40 24.9**	**+0.5**
TOZ	**Tahuroa Road**	**9.93**	**208**	P		**P**	**07 40 29.9**	**+3.1**
RAGZ	**Rawiri**	**9.95**	**198**	P		**P**	**07 40 27.0**	**-0.2**
RAGZ				S		**S**	**07 42 12.4**	**-5.8**
TARZ	**Mount Tarawera**	**9.99**	**203**	P		**P**	**07 40 29.8**	**+2.2**
RIGZ	**Rimuhau**	**10.06**	**197**	P		**Pn**	**07 40 26.8**	**0.0**
MUGZ	**Murupara**	**10.13**	**201**	P		**Pn**	**07 40 26.4**	**-1.2**
RTZ	**Ruatahuna**	**10.19**	**200**	P		**Pn**	**07 40 28.1**	**-0.4**
PRGZ	**Paritu Road**	**10.23**	**196**	P		**P**	**07 40 30.4**	**+0.2**
SNGZ	**Shannon Statio**	**10.24**	**198**	P		**Pn**	**07 40 28.2**	**-0.8**
ALRZ	**Allen Road**	**10.34**	**203**	P		**P**	**07 40 31.4**	**-0.1**
TLZ	**Tolley Road**	**10.43**	**206**	P		**P**	**07 40 34.9**	**+2.4**
RAHZ	**Arahi**	**10.44**	**199**	P		**Pn**	**07 40 29.9**	**-1.4**
MHGZ	**Mahia Peninsul**	**10.45**	**195**	P		**Pn**	**07 40 31.2**	**-0.2**
MTHZ	**Maungataniwha**	**10.45**	**200**	P		**Pn**	**07 40 31.6**	**+0.1**
MRHZ	**Matea Rd**	**10.56**	**202**	P		**Pn**	**07 40 33.2**	**+0.3**
NMHZ	**Naumai**	**10.69**	**200**	P		**Pn**	**07 40 33.6**	**-0.8**
BKZ	**Black Stump Fm**	**10.84**	**201**	Pn		**P**	**07 40 36.7**	**-0.3**
BKZ	**Black Stump Fm**	**10.84**	**201**	P		**Pn**	**07 40 35.0**	**-1.2**
HIZ	**Hauiti**	**10.86**	**208**	P		**P**	**07 40 39.6**	**+2.4**
HIZ	**Hauiti**	**10.86**	**208**	P		**P**	**07 40 39.8**	**+2.6**
KATZ	**Kakaramea**	**10.94**	**204**	P		**P**	**07 40 39.1**	**+0.9**
MCHZ	**McNeill Hill**	**11.04**	**199**	P		**Pn**	**07 40 38.6**	**+0.1**
TMVZ	**Te Maari**	**11.06**	**204**	P		**P**	**07 40 39.9**	**+0.4**
KRVZ	**Karewarewa**	**11.06**	**204**	P		**P**	**07 40 39.7**	**+0.1**
ETVZ	**East Tongariro**	**11.07**	**204**	P		**P**	**07 40 39.4**	**-0.3**
WTVZ	**West Tongariro**	**11.10**	**204**	P		**P**	**07 40 40.2**	**+0.3**
KWHZ	**Kaweka Forest**	**11.10**	**200**	P		**Pn**	**07 40 37.1**	**-2.2**
OTVZ	**Oturere**	**11.12**	**204**	P		**Pn**	**07 40 38.0**	**-1.6**
TWVZ	**Taurewa**	**11.12**	**205**	P		**P**	**07 40 40.9**	**+0.7**
NGZ	**Ngauruhoe**	**11.15**	**204**	P		**P**	**07 40 41.5**	**+0.9**
TUVZ	**Tukino**	**11.21**	**204**	P		**Pn**	**07 40 40.4**	**-0.3**
FWVZ	**Far West T-bar**	**11.24**	**204**	P		**P**	**07 40 41.6**	**+0.1**
BHHZ	**Black Hill Sta**	**11.27**	**202**	P		**Pn**	**07 40 39.9**	**-1.5**
WNVZ	**Wahianoa**	**11.29**	**204**	P		**Pn**	**07 40 41.0**	**-0.6**
MOVZ	**Moawhango**	**11.30**	**203**	P		**Pn**	**07 40 40.7**	**-1.0**
KAHZ	**Kahuranaki**	**11.31**	**198**	P		**Pn**	**07 40 40.7**	**-1.1**
KRHZ	**Kereru**	**11.32**	**200**	P		**Pn**	**07 40 39.1**	**-2.8**
PKVZ	**Pokaka**	**11.34**	**205**	P		**P**	**07 40 43.0**	**+0.4**
MTVZ	**Mangateitei**	**11.38**	**204**	P		**P**	**07 40 43.1**	**+0.1**
VRZ	**Vera Road**	**11.42**	**207**	P		**P**	**07 40 45.0**	**+1.6**
PXZ	**Pawanui**	**11.54**	**198**	P		**Pn**	**07 40 43.5**	**-0.9**
PNHZ	**Pukenui**	**11.62**	**200**	P		**Pn**	**07 40 43.5**	**-1.9**
WPHZ	**Waipukurau**	**11.69**	**199**	P		**Pn**	**07 40 45.8**	**-0.4**
MSVF	**Nonsavu**	**11.72**	**344**	P		**Pn**	**07 40 44.4**	**-2.5**
	3.8nm,0.3s,baz=244,slow=22,SNR=16							
MSVF	**Nonsavu**	**11.72**	**344**	P		**Pn**	**07 40 45.6**	**-1.3**
PRHZ	**Porangahau**	**11.82**	**198**	P		**Pn**	**07 40 47.6**	**-0.2**
TSZ	**Takapari Road**	**11.82**	**201**	P		**Pn**	**07 40 45.3**	**-2.6**
DVHZ	**Dannevirke**	**11.98**	**200**	P		**P**	**07 40 47.8**	**-1.8**
ANWZ	**Angora Road**	**12.04**	**198**	P		**Pn**	**07 40 50.3**	**-0.1**
POWZ	**Post Office Ro**	**12.19**	**201**	P		**P**	**07 40 51.6**	**-0.2**
PRWZ	**Pori Road**	**12.28**	**200**	P		**P**	**07 40 52.5**	**-0.3**
BFZ	**Birch Farm**	**12.31**	**199**	Pn		**P**	**07 40 53.3**	**0.0**
BFZ	**Birch Farm**	**12.31**	**199**	P		**P**	**07 40 51.7**	**-1.6**
TMWZ	**Te Maipa**	**12.81**	**199**	P		**P**	**07 40 58.2**	**-0.5**
TUWZ	**Tuamarina**	**13.73**	**204**	P		**P**	**07 41 07.8**	**-1.1**
NNZ	**Nelson**	**13.76**	**206**			**P**	**07 41 08.8**	**-0.3**
THZ	**Tophouse**	**14.41**	**206**			**P**	**07 41 15.8**	**-0.6**
DZM	**Mont Dzumac**	**15.20**	**294**	P		**P**	**07 41 23.7**	**-1.6**
	0.8nm,0.3s,baz=81,slow=13,SNR=7.8							
DZM	**Mont Dzumac**	**15.20**	**294**	P		**P**	**07 41 24.5**	**-0.8**
AFI	**Afiamalu**	**16.37**	**24**	P		**P**	**07 41 37.7**	**-0.4**
	4.5nm,0.3s,baz=26,slow=6.7,SNR=6.8							
AFI				S		**S**	**07 44 23.5**	**-8.4**
	0.9nm,0.3s,baz=290,slow=20,SNR=1.1							
AFI	**Afiamalu**	**16.37**	**24**	P		**P**	**07 41 37.7**	**-0.4**
AFI	**Afiamalu**	**16.37**	**24**	P		**P**	**07 41 36.6**	**-1.4**
RPZ	**Rata Peaks**	**16.79**	**207**	S		**S**	**07 44 35.1**	**-4.4**
	0.6nm,0.3s,baz=232,slow=21,SNR=1.2							
EIDS	**Eidsvold**	**27.19**	**271**	P		**P**	**07 43 21.9**	**+0.7**
EIDS				IAmb		IAmb	07 43 42.0	
	comp=Z,9.2nm,1.2s							
CAN	**Canberra**	**28.04**	**249**	P		**P**	**07 43 30.9**	**+2.2**
CAN				IAmb		IAmb	07 43 39.4	
	comp=Z,11nm,1.1s							
CTA	**Charters Tower**	**33.10**	**278**	P		**P**	**07 44 12.9**	**0.0**
	comp=Z,9.6nm,0.5s,baz=97,slow=10.0,SNR=16							
CTAO	**Charters Tower**	**33.10**	**278**	P		**P**	**07 44 13.3**	**+0.4**
CTAO				IAmb		IAmb	07 44 14.0	
	comp=Z,10nm,0.7s							
STKA	**Stephens Creek**	**34.30**	**255**	P		**P**	**07 44 23.9**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=103,slow=7.9,SNR=8.6							
BBOO	**Buckleboo**	**38.85**	**253**	P		**P**	**07 44 59.7**	**-1.3**
BBOO				IAmb		IAmb	07 45 02.5	
	comp=Z,9.1nm,0.9s							
AS31	**Alice Springs**	**42.68**	**266**	P		**P**	**07 45 31.6**	**-0.6**
AS31				IAmb		IAmb	07 45 32.7	
	comp=Z,5.2nm,1.2s							
ASAR	**Alice Springs**	**42.69**	**266**	P		**P**	**07 45 31.4**	**-0.7**
	comp=Z,5.5nm,0.5s

comp=Z,418nm,18.5s,baz=112,slow=32
TRTT Trang 43.96 38 P **P 07 55 29.0 +1.4**
comp=Z,18nm,1.2s
PBA Port Blair 44.04 27 P P 07 55 27.2 -1.0
KMBO Kilima Mbogo 44.71 301 P **P 07 55 36.1 +2.1**
comp=Z,1.7nm,0.3s,baz=138,slow=12,SNR=5.0
KMBO LR LR 08 11 28.7
comp=Z,63nm,19.8s,baz=88,slow=32
HYB Hyderabad 46.15 6 *i* P **P 07 55 46.0 +1.0**
SBUM Sibu 47.91 56 P **P 07 55 59.9 +1.0**
SBUM IAmb IAmb 07 56 06.9
comp=Z,16nm,1.3s
FITZ Fitzroy Crossi 48.07 89 LR LR 08 14 38.8
comp=Z,229nm,18.6s,baz=272,slow=34
PHET Kaeng Krachan 48.22 34 P P 07 56 09.0 +7.9
comp=Z,24nm,1.0s
KAPI Kappang 49.17 70 LR LR 08 13 07.7
comp=Z,139nm,21.4s,baz=196,slow=32
KAPI Kappang 49.17 70 P **P 07 56 07.6 -1.0**
KAPI IAmb IAmb 07 56 14.7
comp=Z,14nm,1.3s
BATI Baumata 49.78 79 LR LR 08 15 42.3
comp=Z,154nm,20.1s,baz=224,slow=34
SRAK Srakaew 50.37 36 P P 07 56 27.3 +10
comp=Z,126nm,1.1s
UTHA Uthaitani 50.42 32 P P 07 56 25.4 +7.5
comp=Z,12nm,1.1s
SOEI Soe 50.52 78 P **P 07 56 20.7 +1.7**
CHAI Chaiyaphum 51.94 35 P P 07 56 37.3 +8.0
comp=Z,24nm,1.0s
MHMT Maesarieng 52.04 29 P P 07 56 37.0 +6.9
comp=Z,1μmcomp=Z,20nm,1.0s
SUKH Sukhothai 52.18 31 P P 07 56 38.0 +6.9
comp=Z,13nm,0.9s
PHIT Phitsanulok 52.29 32 P P 07 56 40.0 +8.1
comp=Z,71nm,1.0s
CM05 Chiang Mai Arr 52.68 30 P **P 07 56 37.0 +2.2**
comp=Z,80nmcomp=Z,9.2nm,1.1s
CM13 Chiang Mai Arr 52.68 30 P **P 07 56 37.0 +2.2**
comp=Z,86nmcomp=Z,9.4nm,1.1s
CM04 Chiang Mai Arr 52.69 30 P **P 07 56 37.6 +2.7**
comp=Z,11nm,1.1s
CM01 Chiang Mai Arr 52.70 30 P P 07 56 42.0 +7.0
comp=Z,12nm,1.2s
CM02 Chiang Mai Arr 52.71 30 P **P 07 56 38.6 +3.5**
comp=Z,11nm,1.1s
CM15 Chiang Mai Arr 52.72 30 P P 07 56 43.1 +8.0
comp=Z,6.4nm,0.4s
CM31 Chiang Mai Arr 52.73 30 P **P 07 56 34.5 -0.7**
CM31 IAmb IAmb 07 56 42.6
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr 52.73 30 P **P 07 56 35.5 +0.3**
comp=Z,1.6nm,0.3s,baz=220,slow=6.9,SNR=15
CMAR LR LR 08 16 06.2
comp=Z,197nm,19.5s,baz=234,slow=33
CMAR Chiang Mai Arr 52.73 30 P **P 07 56 35.2 0.0**
CM09 Chiang Mai Arr 52.74 30 P P 07 56 42.8 +7.5
comp=Z,5.2nm,0.8s
UTTA Uttaradit 52.83 32 P P 07 56 43.1 +7.1
CM36 Chiang Mai Arr 52.85 30 P P 07 56 42.0 +5.9
CM32 Chiang Mai Arr 52.86 30 P **P 07 56 38.0 +1.8**
CM35 Chiang Mai Arr 53.02 30 P P 07 56 44.0 +6.7
CHTO Chiang Mai 53.04 30 P **P 07 56 37.1 -0.4**
CHTO IAmb IAmb 07 56 44.7
comp=Z,23nm,1.2s
CM34 Chiang Mai Arr 53.17 30 P P 07 56 45.0 +6.6
ASAR Alice Springs 53.33 99 P **P 07 56 40.5 +0.6**
comp=Z,4.0nm,0.8s,baz=252,slow=6.5,SNR=31
ASAR PcP **PcP 07 57 47.8 +0.4**
comp=Z,1.4nm,0.9s,baz=234,slow=3.0,SNR=4.5
ASAR LR LR 08 16 18.2
comp=Z,198nm,21.5s,baz=272,slow=33
ASAR Alice Springs 53.33 99 P **P 07 56 38.5 -1.4**
AS31 Alice Springs 53.33 99 P **P 07 56 38.7 -1.2**
NONG Nongkai 54.35 35 P P 07 56 53.0 +5.9
WRA Warramunga Arr 55.01 95 P **P 07 56 52.6 +0.5**
comp=Z,9.6nm,0.9s,baz=252,slow=7.5,SNR=38
WRA PcP **PcP 07 57 54.0 +0.2**
comp=Z,1.0nm,0.9s,baz=249,slow=2.5,SNR=1.8
WRA LR LR 08 18 41.2
comp=Z,340nm,18.7s,baz=245,slow=34
WRA Warramunga Arr 55.01 95 P **P 07 56 52.0 0.0**
WB2 Warramunga Arr 55.02 95 P **P 07 56 52.7 +0.6**
WB0 Warramunga Arr 55.12 95 P **P 07 56 52.7 -0.2**
SHL Shillong 56.67 19 P **P 07 57 03.5 -0.5**
STKA Stephens Creek 57.40 111 LR LR 08 19 18.0
comp=Z,167nm,19.0s,baz=212,slow=33
RAYN Ar Rayn 58.91 329 P **P 07 57 19.6 0.0**
SIJI Sorong 61.04 74 LR LR 08 24 29.7
comp=Z,70nm,18.0s,baz=199,slow=37
QSPA South Pole Qui 61.33 180 P **P 07 57 38.7 +2.9**
comp=Z,1.8nm,0.8s,baz=312,slow=0.4,SNR=6.1
QSPA South Pole Qui 61.33 180 P **P 07 57 35.9 +0.1**
VNDA Vanda 61.59 166 P **P 07 57 39.7 +2.5**
comp=Z,2.4nm,0.8s,baz=274,slow=6.8,SNR=11
VNDA LR LR 08 21 52.5
comp=Z,80nm,18.6s,baz=290,slow=34
VNDA Vanda 61.59 166 P **P 07 57 36.1 -1.1**
VNDA IAmb IAmb 07 57 47.4
comp=Z,7.1nm,1.1s
NIL Nilore 62.13 359 P **P 07 57 39.2 -2.1**
NIL IAmb IAmb 07 57 47.7
comp=Z,16nm,1.4s
GYA Guiyang 63.18 33 *e*P **P 07 57 50.5 +1.9**
GYA pmax pmax
comp=Z,12nm,0.9s
GYA LR LR
comp=Z,260nm,21.8s
KBL Kabul 63.20 355 P **P 07 57 46.7 -2.0**
KBL IAmb IAmb 07 57 56.7
comp=Z,7.1nm,1.0s
CTA Charters Tower 65.31 100 LR LR 08 24 11.6
comp=Z,367nm,20.2s,baz=240,slow=34
CD2 Chengdu 65.73 28 P **P 07 58 04.6 -0.5**
CD2 pmax pmax
comp=Z,20nm,0.6s
KSH Kashi 68.00 1 P **P 07 58 16.3 -3.2**
KSH pP pP 07 58 20.6 -1.2
KSH pmax pmax
comp=Z,21nm,1.1s
KSH pmax pmax
comp=Z,160nm,4.2s
KSH LR LR
comp=Z,400nm,9.5s
KSH LR LR
comp=Z,560nm,6.5s
KSH LR LR
comp=Z,730nm,5.6s
GEYT Alibeck 68.08 346 LR LR 08 23 35.7
comp=Z,108nm,21.6s,baz=225,slow=32
JAY Jayapura 68.27 81 LR LR 08 25 03.7
comp=Z,109nm,21.0s,baz=222,slow=33
LZH Lanzhou 70.33 25 *e*P **P 07 58 35.8 +1.7**
LZH pP pwP 07 58 41.4 +1.4
LZH sP sP 07 58 45.0 +7.7
LZH pmax pmax
comp=Z,17nm,1.1s
AML Almayashu 70.59 360 P **P 07 58 36.0 +0.2**
SNR=10
XAN Xi'an 70.62 30 P **P 07 58 34.9 -0.9**
XAN pP pwP 07 58 41.8 +0.1
XAN pmax pmax
comp=Z,10.0nm,1.7s
XAN LR LR
comp=Z,270nm,18.4s
XAN LR LR
comp=Z,290nm,20.6s
XAN Xi'an 70.62 30 P **P 07 58 34.9 -0.9**
PMG Port Moresby 70.64 90 LR LR 08 26 51.8
comp=Z,123nm,20.2s,baz=281,slow=34
UCH Uchtor 70.68 0 P **P 07 58 37.2 +0.8**
SNR=5.4
AAK Ala-Archa 71.09 0 P **P 07 58 37.6 -1.0**
comp=Z,0.8nm,0.3s,baz=187,slow=6.7,SNR=20
AAK Ala-Archa 71.09 0 P **P 07 58 39.1 +0.6**
SNR=5.4
AAK Ala-Archa 71.09 0 P **P 07 58 38.5 -0.1**
AAK IAmb IAmb 07 58 47.2
comp=Z,16nm,1.2s
EKS2 Erkin-Say 71.12 360 P **P 07 58 39.4 +0.7**
SNR=5.8
TKM2 Tokmak 2 71.39 1 P **P 07 58 39.6 -0.8**
SNR=8.9
KK31 Karatay Array 71.64 357 P **P 07 58 42.0 +0.3**
KK31 IAmb IAmb 07 58 43.0
comp=Z,15nm,1.1s
KKAR Karatay Array 71.64 357 P **P 07 58 42.1 +0.4**
USP Ospenovka 71.72 0 P **P 07 58 42.3 +0.1**
SNR=7.7
MARD Mardin 72.86 333 P **P 07 58 49.9 +0.6**
WMQ Urumqi 73.33 10 P **P 07 58 51.8 0.0**
WMQ sP pwP 07 59 01.8 +4.0
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,150nm,4.1s
WMQ Urumqi 73.33 10 P **P 07 58 50.8 -1.0**
WMQ IAmb IAmb 07 58 57.0
comp=Z,18nm,1.3s
GNI Garni 73.87 337 P **P 07 58 55.9 +0.7**
GNI IAmb IAmb 07 58 58.9
comp=Z,11nm,0.8s
NJ2 Nanjing 73.93 38 *e*P **P 07 58 56.4 +0.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MAKZ Makanchi 75.59 6 P **P 07 59 03.4 -1.5**
MAKZ IAmb IAmb 07 59 04.8
comp=Z,10nm,1.4s
MK31 Makanchi Array 75.61 6 P **P 07 59 03.4 -1.5**
MK31 IAmb IAmb 07 59 04.6
comp=Z,9.8nm,1.4s
MKAR Makanchi Array 75.61 6 P **P 07 59 03.5 -1.4**
comp=Z,1.8nm,0.9s,baz=190,slow=6.2,SNR=18
MKAR LR LR 08 30 26.8
comp=Z,104nm,20.3s,baz=188,slow=34
MKAR Makanchi Array 75.61 6 P **P 07 59 03.2 -1.7**
BTO Baotou 76.65 27 *e*P **P 07 59 12.8 +1.7**
BTO S **S 08 08 58.8 +1.1**
BTO LR LR
comp=Z,490nm,39.3s
BTO LR LR
comp=Z,480nm,21.4s
HHC Hu-ho-hao-te 77.48 28 *e*P **P 07 59 15.0 -0.8**
HHC pmax pmax
comp=Z,12nm,1.2s
HHC pmax pmax
comp=Z,80nm,6.2s
HHC LR LR
comp=Z,150nm,17.9s
HHC LR LR
comp=Z,200nm,20.8s
HHC LR LR
comp=Z,170nm,16.9s
KBZ Khabaz 77.68 337 LR LR 08 31 02.1
comp=Z,42nm,21.4s,baz=164,slow=34
BRTR Keskin Array B 77.93 329 P **P 07 59 18.4 +0.1**
comp=Z,1.3nm,1.0s,baz=170,slow=8.8,SNR=2.0
BRTR LR LR 08 30 16.1
comp=Z,66nm,21.9s,baz=162,slow=33
BRTR Keskin Array B 77.93 329 P **P 07 59 18.0 -0.4**
ABKAR Akbulak array 78.75 351 P **P 07 59 21.5 -1.0**
ABKAR Akbulak array 78.75 351 P **P 07 59 22.1 -0.3**
ABKAR IAmb IAmb 07 59 22.4
comp=Z,4.4nm,1.2s
BJI Beijing 78.84 32 P **P 07 59 23.3 +0.1**
BJI S **S 08 09 23.4 +2.3**
BJI pmax pmax
comp=Z,6.0nm,0.6s
BJI LR LR
comp=Z,370nm,60.6s
KURBB Kurchatov Arra 79.17 3 P **P 07 59 23.9 -0.9**
comp=Z,1.9nm,0.9s,baz=190,slow=5.7,SNR=18
AKTO Aktyubinsk 80.19 350 P **P 07 59 29.8 -0.5**
comp=Z,0.9nm,0.7s,baz=122,slow=4.1,SNR=3.7
TORD Torodi Ar. Bea 81.44 290 P **P 07 59 38.1 +0.2**
comp=Z,1.1nm,0.8s,baz=122,slow=5.7,SNR=5.0
TORD LR LR 08 34 00.4
comp=Z,91nm,19.9s,baz=310,slow=34
TORD Torodi Ar. Bea 81.44 290 P **P 07 59 37.2 -0.6**
BVAR Borovoye Array 81.56 358 P **P 07 59 36.9 -0.6**
comp=Z,4.3nm,0.8s,baz=156,slow=11,SNR=24
BRVK Borovoye 81.59 358 P **P 07 59 37.1 -0.6**
BRVK IAmb IAmb 07 59 38.6
comp=Z,11nm,1.0s
SONM Songino Array 81.60 21 P **P 07 59 37.9 -0.2**
comp=Z,2.1nm,0.8s,baz=196,slow=5.0,SNR=10
SONM Songino Array 81.60 21 P **P 07 59 37.2 -0.9**
SONM IAmb IAmb 08 00 04.1
comp=Z,4.3nm,0.5s
HNR Honiara 81.83 96 LR LR 08 31 33.2
comp=Z,56nm,20.9s,baz=239,slow=32
ULN Ulaanbaatar 81.84 22 P **P 07 59 39.2 -0.1**
KSAR Wonju Array Be 82.91 40 P **P 07 59 44.6 -0.5**
ZAA0 Zalesovo Array 82.93 6 P **P 07 59 43.1 -1.5**
ZAA0 IAmb IAmb 07 59 44.6
comp=Z,10nm,1.4s
ZALV Zalesovo Beam 82.93 6 P **P 07 59 43.7 -1.0**
comp=Z,1.8nm,0.6s,baz=192,slow=4.2,SNR=9.6
ZALV LR LR 08 35 38.5
comp=Z,68nm,18.4s,baz=114,slow=35
ZALV Zalesovo Beam 82.93 6 P **P 07 59 43.5 -1.2**
KSRS Korea Array 82.94 40 P **P 07 59 44.3 -0.9**
comp=Z,0.9nm,0.4s,baz=224,slow=6.0,SNR=6.4
DBIC Dimbokro 83.67 281 LR LR 08 35 41.1
comp=Z,72nm,18.6s,baz=128,slow=35
TLY Talaya 84.23 18 P **P 07 59 50.1 -1.4**
ARU Arti 85.94 351 P **P 07 59 58.9 -1.0**
comp=Z,0.7nm,0.3s,baz=158,slow=3.7,SNR=5.6
ARU Arti 85.94 351 P **P 07 59 58.3 -1.5**
ARU IAmb IAmb 08 00 04.0
comp=Z,5.6nm,0.9s
MLR Muntele Rosu 85.97 328 P **P 08 00 01.3 +0.8**
comp=Z,2.3nm,0.8s,baz=106,slow=1.3,SNR=6.9
MLR Muntele Rosu 85.97 328 P **P 07 59 59.5 -1.0**
MLR IAmb IAmb 08 00 08.8
comp=Z,7.8nm,1.1s
MAT Matsushiro 88.54 46 P **P 08 00 12.4 -0.6**
MJAR Matsushiro Arr 88.54 46 LR LR 08 40 34.4
comp=Z,43nm,18.1s,baz=250,slow=36
AKASG Malin Array Be 88.58 333 P **P 08 00 12.1 -0.7**
comp=Z,0.1nm,0.3s,baz=139,slow=4.0,SNR=4.6
AKASG Malin Array Be 88.58 333 IAmb IAmb 08 00 20.5
comp=Z,1.4nm,1.1s
KEST Kesra 88.58 313 LR LR 08 39 17.2
comp=Z,41nm,19.0s,baz=266,slow=35
MDJ Mudanjiang 88.84 36 P **P 08 00 12.5 -1.7**
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,110nm,3.7s
USRK Ussuriysk Ar. 89.81 37 P **P 08 00 17.3 -1.5**
comp=Z,0.7nm,0.6s,baz=208,slow=3.7,SNR=4.4
USRK LR LR 08 40 24.6
comp=Z,160nm,19.0s,baz=212,slow=36
CLL Collm 96.19 326 *e*P **P 08 00 49.0 +1.0**
CLL Lm MLR 09 41 00.0
comp=N,100nm,18.4s
CLL Lm MLR 09 41 00.0
comp=E,200nm,19.6s
CLL Lm MLR 09 41 00.0
comp=Z,200nm,18.5s
FINES FINESS Array B 97.98 339 LR LR 08 43 37.6
comp=Z,31nm,18.1s,baz=98,slow=35
ESDC Sonseca Array 99.55 310 LR LR 08 45 45.6
comp=Z,34nm,18.1s,baz=285,slow=35
RES Resolute Bay 133.72 356 PKP **PKiKP 08 06 37.5 +0.1**
comp=Z,0.9nm,0.8s,baz=332,slow=6.1,SNR=3.9
YKA Yellowknife Ar 145.82 7 PKPbc **PKPbc 08 06 58.3 -0.5**
comp=Z,3.0nm,0.9s,baz=343,slow=3.5,SNR=39
DLBC Dease Lake 145.97 23 PKPdf **PKPab 08 07 00.0 0.0**
LONY Lake Ozonia 150.64 311 PKPbc **PKiKP 08 07 12.3 -0.6**
PLVO Plevna 152.09 313 PKPbc **PKiKP 08 07 15.9 -0.1**
PDAR Pinedale Array 165.75 11 PKP **PKPdf 08 07 24.2 -1.2**
comp=Z,0.5nm,0.9s,baz=29,slow=2.1,SNR=3.1

*NAO **19** 07:51:20.0, 71.91N×0.06E, h22km, ML3.3*
*IDC **19** 07:51:21.3±0.7, 72.05N× 1.06E, h0km, mb3.7/9, mb1 3.9/15, mb1mx3.7/59, mbtmp3.7/15, ML3.0/5, MS3.5/25, Ms1 3.5/25, ms1mx3.3/47, Error ellipse: s-maj=23.0km s-min=12.7km az=49.0*
*BER **19** 07:51:22.6±4.4, 72.15N×0.62E, h10km, ML2.5, ML2.2(DNK), Confirmed Earthquake*
ISC 19 07:51:22.8±0.6, 72.15N±0.06×1.61E±0.07, h10km, n68, σ2s01/60, mb3.7/9, MS3.4/20, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOF	**Lofoten**	**5.72**	**129**	*eP*	**Pn**	**07 52 48.6**	**+1.1**
LOF				*eS*	**Sn**	**07 53 55.1**	**+1.9**
LOF				IAML		07 54 07.1	

comp=Z,7.8nm,1.1s
N2DI Digermulen 5.94 124 *e*P **Pn 07 52 52.4 +1.8**
N2DI IAML 07 52 54.5
comp=Z,29nm,0.6s
N2DI *e*S **Sn 07 53 56.0 -2.6**
HSPB Hornsund (broa 6.11 31 Pn **Pn 07 52 53.4 +0.6**
HSPB Hornsund (broa 6.11 31 *e*P **Pn 07 52 53.0 +0.2**
N2LO L_dingen 6.13 121 *e*P **Pn 07 52 55.4 +2.2**
N2LO IAML 07 52 57.1
comp=Z,14nm,0.4s
N2LO *e*S **Sn 07 53 57.6 -5.7**
TRO Tromso 6.21 106 *e*P **Pn 07 52 56.3 +2.0**
TRO *e*S **Sn 07 54 03.3 -1.9**
TRO IAML 07 54 07.4
comp=Z,5.8nm,0.3s
STEI Steigen 6.29 126 *e*P **Pn 07 52 57.0 +1.6**
STEI *e*S **Sn 07 54 04.9 -2.3**
STEI IAML 07 54 13.9
comp=Z,4.4nm,0.6s
N2IH Innhavet 6.44 124 *e*P **Pn 07 52 57.7 +0.3**
DBG Daneborg 6.66 299 Pn Pn 07 52 52.1 -8.3
DBG Sn Sn 07 53 57.1 -19
DBG Daneborg 6.66 299 *e*P Pn 07 52 52.3 -8.1
DBG *e*S Sn 07 53 59.1 -17
JETT Jettan, Norway 6.69 104 *e*P **Pn 07 53 02.4 +1.4**
JETT *e*S **Sn 07 54 14.8 -2.4**
NBB30 Finnes 6.70 135 *e*P **Pn 07 52 59.5 -1.4**
FAUS Fauske 6.72 129 *e*P **Pn 07 53 02.3 +0.9**
FAUS *e*S **Sn 07 54 13.8 -4.0**
FAUS IAML 07 54 19.0
comp=Z,4.4nm,0.8s
BRBA Barentsburg A 6.75 23 Pn **Pn 07 53 03.5 +1.9**
BRBA Barentsburg A 6.75 23 Pn **Pn 07 53 03.5 +1.9**
KONS Konsvik 6.97 139 *e*P **Pn 07 53 04.9 +0.2**
KONS IAML 07 54 17.2
comp=Z,5.3nm,1.1s
STOK Stokkvaagen 7.09 140 *e*P **Pn 07 53 08.7 +2.3**
DAG Danmarks Havn 7.11 320 *i* P Pn 07 52 59.1 -7.5
DAG *e*S Sn 07 54 02.4 -25
DAG Danmarks Havn 7.11 320 *e* Pn 07 52 49.8 -17
baz=134,slow=16
DAG *e*P Pn 07 52 59.1 -7.5
DAG *e*S Sn 07 54 10.7 -17
DAG IAML 07 54 11.1
comp=Z,5.3nm,0.4s
SPA0 Spitsbergen Ar 7.11 25 Pn **Pn 07 53 07.9 +1.2**
baz=195,slow=22
SPA0 Spitsbergen Ar 7.11 25 Pn **Pn 07 53 07.9 +1.2**
baz=195,slow=22
SPITS Spitsbergen Ar 7.11 25 Pn **Pn 07 53 08.6 +1.9**
baz=196,slow=21,SNR=68
SPITS LR LR 07 55 07.0
comp=Z,101nm,19.4s,baz=230,slow=31
KIF Kilpisjarvi 7.11 107 Pn **Pn 07 53 07.9 +1.2**
KIF Sn **Sn 07 54 25.2 -2.1**
KIF Kilpisjarvi 7.11 107 *e*P **Pn 07 53 07.5 +0.8**
HAMF Hammerfest 7.20 91 *e*P **Pn 07 53 07.9 +0.1**
KBS Kingsbay 7.27 16 Pn **Pn 07 53 09.0 +0.2**
KBS Kingsbay 7.27 16 *e*P **Pn 07 53 08.8 0.0**
MOR8 Moi Rana 7.53 136 *e*P **Pn 07 53 14.7 +2.3**
MOR8 IAML 07 54 41.7
comp=Z,4.5nm,0.7s
HOPEN Hopen 7.64 45 *e*P **Pn 07 53 11.4 -2.5**
HOPEN IAML 07 54 47.1
comp=Z,5.6nm,0.8s
SCO Scoresbysund 7.72 269 *i* P Pn 07 53 08.0 -7.0
SCO Scoresbysund 7.72 269 *i* P Pn 07 53 08.1 -7.0
SCO Scoresbysund 7.72 269 *i* P Pn 07 53 08.1 -7.0
KTK1 Kautokeino 7.83 103 *e*P **Pn 07 53 18.8 +2.2**
KTK1 IAML 07 54 40.4
comp=Z,1.8nm,0.6s
KTK1 *e*S **Sn 07 54 44.8 -0.4**
ARA0 ARCESS Array S 8.25 97 Pn **Pn 07 53 23.3 +1.0**
baz=294,slow=12
ARA0 Sn **Sn 07 54 53.7 -1.7**
baz=289,slow=22
ARA0 ARCESS Array S 8.25 97 Pn **Pn 07 53 23.3 +1.0**
baz=294,slow=12
ARA0 Sn **Sn 07 54 53.7 -1.7**
baz=289,slow=22
ARCES ARCESS Array B 8.25 97 Pn **Pn 07 53 22.7 +0.4**
baz=303,slow=12,SNR=24
ARCES LR LR 07 56 28.5
comp=Z,143nm,20.9s,baz=280,slow=36
HEF Hetta 8.31 106 *e*P **Pn 07 53 25.5 +2.4**
NSS Namsos 8.54 148 *e*P **Pn 07 53 27.0 +0.8**
NSS IAML 07 55 09.1
comp=Z,3.4nm,1.1s
KEV Kevo 8.60 94 *e*P **Pn 07 53 26.8 -0.3**
NOA NORSAR Array B 11.77 157 Pn **Pn 07 54 11.3 +0.8**
comp=Z,0.0nm,0.3s,baz=346,slow=13,SNR=4.8
NOA LR LR 07 58 32.4
comp=Z,190nm,20.5s,baz=340,slow=37
HFS Hagfors 12.97 152 Pn **Pn 07 54 25.9 -1.0**
comp=Z,0.2nm,0.3s,baz=348,slow=14,SNR=7.3
HFS LR LR 07 59 20.1
comp=Z,151nm,20.1s,baz=350,slow=37
FINES FINESS Array B 14.27 126 Pn **Pn 07 54 44.4 -0.1**
comp=Z,0.2nm,0.3s,baz=333,slow=15,SNR=6.7
FINES LR LR 07 59 52.0
comp=Z,315nm,18.6s,baz=342,slow=36
EKA Eskdalemuir Ar 17.00 189 Pn **Pn 07 55 18.0 -2.3**
baz=4.2,slow=11,SNR=2.4
SFJD Kangerlussuaq 18.39 280 LR LR 08 01 44.7
comp=Z,139nm,19.1s,baz=50,slow=34
KLMR Klimovskoe 18.45 108 *e*P **P 07 55 34.2 -3.8**
comp=Z,15nm,1.4s
AMDE Amderma 19.03 68 P **Pn 07 55 49.3 +4.2**
comp=Z,1.7nm,0.6s
CLL Collm 21.52 160 *e*P **P 07 56 15.0 +3.5**
CLL *e*S **S 08 00 13.0 +3.3**
CLL Lm MLR 08 04 00.0
comp=Z,100nm,19.2s
OBN Obninsk 22.51 121 LR LR 08 04 49.9
comp=Z,71nm,19.0s,baz=1.0,slow=36
KIRV Kirov 23.24 101 LR LR 08 05 19.9
comp=Z,74nm,19.5s,baz=329,slow=36
VRAC Vranov 23.91 155 LR LR 08 06 27.4
comp=Z,98nm,18.9s,baz=354,slow=38
GERES GERESS Array B 24.03 160 P **P 07 56 38.8 +1.2**
comp=Z,1.5nm,0.6s,baz=354,slow=8.5,SNR=9.5
GERES LR LR 08 05 25.1
comp=Z,108nm,21.5s,baz=311,slow=35
AKASG Malin Array Be 24.78 135 P **P 07 56 43.9 -0.4**
comp=Z,2.3nm,0.7s,baz=343,slow=9.7,SNR=6.6
AKASG LR LR 08 06 10.3
comp=Z,198nm,19.2s,baz=315,slow=36
RES Resolute Bay 24.80 321 LR LR 08 06 14.4
comp=Z,222nm,18.0s,baz=124,slow=36
DAVOX Davos/Dischmat 25.74 167 LR LR 08 08 14.9
comp=Z,107nm,18.1s,baz=38,slow=40
ARU Arti 27.82 94 LR LR 08 08 26.3
comp=Z,64nm,18.6s,baz=309,slow=37
BELG Belogornoye 28.00 110 P **P 07 57 16.1 +2.9**
comp=Z,8.9nm,0.9s,baz=319,slow=19,SNR=3.7
BELG LR LR 08 08 07.0
comp=Z,138nm,18.7s,baz=226,slow=36
MLR Muntele Rosu 29.10 143 LR LR 08 09 25.2
comp=Z,192nm,18.7s,baz=326,slow=37
AKTO Aktyubinsk 32.81 101 LR LR 08 11 13.3
comp=Z,61nm,21.0s,baz=341,slow=36
KBZ Khabaz 34.59 123 LR LR 08 12 12.1
comp=Z,77nm,18.9s,baz=324,slow=36
BRTR Keskin Array B 36.18 136 LR LR 08 13 00.5
comp=Z,47nm,19.1s,baz=1.0,slow=36
KEST Kesra 36.71 169 LR LR 08 14 56.0
comp=Z,66nm,18.3s,baz=181,slow=39
YKA Yellowknife Ar 38.81 318 P **P 07 58 44.9 -2.1**
comp=Z,1.0nm,0.9s,baz=26,slow=8.7,SNR=9.8
YKA LR LR 08 14 04.9
comp=Z,93nm,18.6s,baz=0.0,slow=35
ILAR Eielson Array 41.69 340 P **P 07 59 10.1 -0.8**
comp=Z,1.2nm,0.8s,baz=8.2,slow=5.9,SNR=14
ULM Lac du Bonnet 45.29 296 LR LR 08 17 54.6
comp=Z,65nm,22.0s,baz=0.5,slow=35
PDAR Pinedale Array 55.84 304 P **P 08 00 59.4 -0.6**
comp=Z,0.2nm,0.6s,baz=52,slow=5.8,SNR=2.3
PDAR LR LR 08 22 44.2
comp=Z,27nm,20.1s,baz=106,slow=34
TORD Torodi Ar. Bea 58.97 180 P **P 08 01 21.5 -0.7**
comp=Z,1.1nm,1.0s,baz=350,slow=8.3,SNR=3.5
NVAR Mina Array Bea 62.09 310 P **P 08 01 44.8 +1.3**
comp=Z,0.6nm,0.8s,baz=18,slow=9.0,SNR=3.8
NVAR LR LR 08 27 56.1
comp=Z,65nm,18.5s,baz=282,slow=35
TXAR Lajitas Array 66.88 294 P **P 08 02 15.1 +0.4**

comp=Z,0.3nm,0.8s,baz=28,slow=4.1,SNR=2.8
TXAR LR LR 08 30 54.7
comp=Z,25nm,18.3s,baz=0.0,slow=36

SNET 19 08:02:38.6±0.8, 13°.14N×89°.58W, h42km±10km, ML2.6, 2C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
LALI	**Alcalda de L**	**0.43**	**37**	↑*eP*		Pn	08 02 48.6	+0.1
LALI				*eS*		Sn	08 02 55.6	+0.2
JAYA	**Jayaque - finc**	**0.52**	**14**	*eP*		Pn	08 02 49.8	-0.1
JAYA				*eS*		Sn	08 02 58.6	+0.7
JAYA				IAML			08 02 59.7	
	comp=Z,350nm,0.2s							
UEES	**Universidad Ev**	**0.66**	**30**	↓*eP*		Pn	08 02 51.6	0.0
UEES				*eS*		Sn	08 03 02.2	+1.2
UEES				IAML			08 03 07.0	
	comp=Z,278nm,0.1s							
CEVE	**Cerro Verde**	**0.68**	**357**	↑*eP*		Pn	08 02 52.2	+0.1
CEVE				*eS*		Sn	08 03 03.3	+1.6
COEG	**Centro de Oper**	**0.83**	**55**	↓*iP*		Pn	08 02 53.9	0.0
COEG				*eS*		Sn	08 03 06.0	+0.9
COEG				IAML			08 03 09.7	
	comp=Z,147nm,0.4s							
TACO	**Tacachico**	**0.85**	**15**	*eP*		Pn	08 02 54.4	+0.2
PQSS	**Presa 15 de Se**	**1.10**	**64**	*eP*		Pn	08 02 57.7	+0.1

GCG 19 08:03:19.1±0.7, 12°.25N×91°.17W, h51km±899km, MD3.9
IDC 19 08:03:19.1±5.4, 12°.45N×90°.44W, h0km, mb3.5/5, mb1 3.8/8, mb1mx3.6/35, mbtmp3.6/8, ML3.1/3, MS2.2/1, Ms1 2.2/1, ms1mx2.0/28, Error ellipse: s-maj=83.5km s-min=44.2km az=159.0
ISC 19 08:03:25.3±1.7, 12°.6N±0°.1×90°.7W±0°.1, h30km, n12, σ1ᵍ33/16, mb3.7/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PCG	**Pacaya**	**1.75**	**4**	*eP*		**Pn**	**08 03 54.0**	**+0.2**
PCG				*eS*		**Sb**	**08 04 19.1**	**+0.6**
FUG	**Fuego 3**	**1.80**	**357**	*eP*		**Pn**	**08 03 53.9**	**-0.5**
FUG				*eS*		**Sb**	**08 04 21.4**	**+1.4**
NBG	**Las Nubes**	**1.97**	**11**	*eP*		**Pn**	**08 03 58.3**	**+1.4**
APG	**El Apazote**	**2.36**	**6**	Pn		**Pn**	**08 04 02.7**	**+0.4**
	15nm,0.3s,baz=141,slow=7.1,SNR=45							
APG				Lg		Lg	08 04 29.7	
	11nm,0.3s,baz=94,slow=18,SNR=5.4							
APG				LR		LR	08 04 32.5	
	comp=Z,50nm,21.9s,baz=248,slow=29							
MRL	**Marmol**	**2.63**	**23**	*eP*		**Pb**	**08 04 10.0**	**-1.9**
MRL				*eS*		**Sb**	**08 04 45.2**	**+1.3**
CMIG	**Matias Romero**	**5.97**	**318**	Pn		**Pn**	**08 04 51.7**	**0.0**
	0.1nm,0.3s,baz=42,slow=16,SNR=1.0							
CMIG				Sn		**Sn**	**08 05 57.9**	**-1.2**
	0.3nm,0.3s,baz=98,slow=18,SNR=2.0							
TEIG	**Tepich**	**7.90**	**17**	Pn		**Pn**	**08 05 18.7**	**+0.5**
	0.6nm,0.3s,baz=201,slow=19,SNR=2.4							
TXAR	**Lajitas Array**	**20.51**	**326**	P		**P**	**08 08 02.0**	**+0.9**
	0.8nm,0.7s,baz=141,slow=11,SNR=9.9							
TKL	**Tuckaleechee C**	**23.76**	**14**	P		**P**	**08 08 33.8**	**-1.4**
	1.9nm,0.8s,baz=327,slow=2.3,SNR=1.7							
NVAR	**Mina Array Bea**	**35.50**	**321**	P		**P**	**08 10 22.1**	**+2.4**
	0.6nm,0.7s,baz=142,slow=7.8,SNR=6.7							
ULM	**Lac du Bonnet**	**37.74**	**355**	P		**P**	**08 10 36.7**	**-1.6**
	0.8nm,0.4s,baz=160,slow=14,SNR=3.4							
YKA	**Yellowknife Ar**	**52.63**	**346**	P		**P**	**08 12 36.6**	**+0.4**
	0.2nm,0.6s,baz=140,slow=8.1,SNR=3.9							

IDC 19 08:12:44.2±1.9, 0°.30N×97°.58E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/38, mbtmp3.4/6, ML4.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.4/23, Error ellipse: s-maj=49.0km s-min=22.5km az=70.0
ISC 19 08:12:48.3±1.6, 0°.4N±0°.1×97°.6E±0°.2, h29km, n9, σ1ᵍ61/7, mb3.2/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PSI	**Prapat**	**2.75**	**28**	Pn		**Pn**	**08 13 29.8**	**-0.9**
	1.1nm,0.3s,baz=180,slow=9.0,SNR=2.0							
PSI				Sn		**Sn**	**08 14 03.8**	**+0.7**
	0.8nm,0.3s,baz=180,slow=17,SNR=3.7							
PSI				LR		LR	08 14 54.5	
	comp=Z,93nm,18.1s,baz=94,slow=48							
CMAR	**Chiang Mai Arr**	**18.04**	**4**	P		**Pn**	**08 16 56.4**	**-0.6**
	0.5nm,0.3s,baz=202,slow=12,SNR=5.5							
H08S2	**Diego Garcia H**	**26.30**	**252**	T		T	08 45 25.3	
	baz=73							
H08S3	**Diego Garcia H**	**26.30**	**252**	T		T	08 45 25.8	
	baz=73							
H08S1	**Diego Carcia H**	**26.32**	**252**	T		T	08 45 24.7	
	baz=73							
WRA	**Warramunga Arr**	**41.22**	**121**	P		**P**	**08 20 32.2**	**+1.2**
	0.6nm,0.7s,baz=300,slow=9.0,SNR=7.6							
ASAR	**Alice Springs**	**42.54**	**127**	P		**P**	**08 20 40.5**	**-1.3**
	0.2nm,0.7s,baz=302,slow=7.6,SNR=2.5							
MKAR	**Makanchi Array**	**48.16**	**346**	P		**P**	**08 21 25.1**	**-0.8**
	0.1nm,0.6s,baz=152,slow=9.2,SNR=2.1							
ZALV	**Zalesovo Beam**	**54.46**	**351**	P		**P**	**08 22 15.2**	**+2.2**
	0.3nm,0.3s,baz=175,slow=7.3,SNR=1.6							

IDC 19 08:20:37.8±1.6, 36°.04S×73°.67W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.7/20, mbtmp3.6/5, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/21, Error ellipse: s-maj=33.4km s-min=28.7km az=31.0
GUC 19 08:20:40.5±0.7, 36°.00S×73°.44W, h18km±7km, ML3.9
ISC 19 08:20:38.8±1.4, 36°.01S±0°.04×73°.64W±0°.04, h16km±10km, n23, σ2ᵍ05/30, mb3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
BI03	**Tigo**	**0.97**	**149**	*eP*		**Pg**	**08 20 56.2**	**-1.4**
BI03				*i* S		**Sg**	**08 21 08.2**	**-2.1**
LAJA	**Laja**	**1.47**	**150**	*eP*		**Pn**	**08 21 03.5**	**-1.2**
LAJA				*i* S		**Sn**	**08 21 20.9**	**-2.7**
BI02	**San Fabin de**	**2.02**	**110**	*eP*		**Pn**	**08 21 12.2**	**-0.1**
BI02				*i* S		**Sn**	**08 21 35.0**	**-2.2**
BI02				IAML			08 21 47.2	
	comp=N,1μm,0.5s							
BO03	**Pichilemu**	**2.04**	**43**	*eP*		**Pn**	**08 21 12.3**	**-0.2**
BO03				*i* S		**Sg**	**08 21 44.3**	**-0.2**
BI04	**Isla Mocha**	**2.41**	**185**	*i* S		**Sg**	**08 22 02.0**	**+5.9**
BI04				IAML			08 22 31.5	
	comp=N,1μm,0.7s							
BO02	**Sierra Bellavi**	**2.63**	**63**	*eP*		**Pn**	**08 21 21.0**	**+0.3**
BO02				*i* S		**Sn**	**08 21 51.3**	**-1.1**
BO02				IAML			08 22 10.0	
	comp=N,647nm,0.4s							
MT09	**Talagante**	**3.12**	**45**	*eP*		**Pn**	**08 21 27.9**	**+0.4**
MT09				*eS*		**Sn**	**08 22 03.9**	**-0.5**
MT02	**Curacav**	**3.43**	**38**	*eP*		**Pn**	**08 21 30.9**	**-0.8**
MT05	**Renca**	**3.54**	**43**	*eP*		**Pn**	**08 21 33.7**	**+0.5**
MT05				IAML			08 22 44.7	
	comp=E,222nm,0.4s							
MT03	**Universidad Ad**	**3.60**	**47**	*eP*		**Pn**	**08 21 34.6**	**+0.5**
VA03	**San Esteban**	**4.12**	**39**	*eP*		**Pn**	**08 21 42.0**	**+0.7**
H03S1	**Juan Fernandez**	**4.84**	**295**	Pn		**Pn**	**08 21 52.0**	**+1.3**
	baz=43,slow=74,SNR=5.5							
H03S1				T		T	08 26 47.6	
	baz=116,slow=74,SNR=658							
H03S3	**Juan Fernandez**	**4.85**	**295**	Pn		**Pn**	**08 21 52.0**	**+1.2**
H03S3				T		T	08 26 51.9	
	baz=116,slow=74,SNR=468							
H03S2	**Juan Fernandez**	**4.85**	**295**	Pn		**Pn**	**08 21 52.4**	**+1.5**
	baz=17,slow=74,SNR=9.0							
H03S2				T		T	08 26 47.6	
	baz=116,slow=74,SNR=640							
H03N1	**Juan Fernandez**	**5.04**	**299**	Pn		**Pn**	**08 21 54.1**	**+0.6**
H03N1				Sn		**Sn**	**08 22 47.8**	**-3.5**
	baz=92,slow=74,SNR=14							
H03N1				T		T	08 27 06.4	
	baz=110,slow=75,SNR=30							
H03N3	**Juan Fernandez**	**5.04**	**299**	Pn		**Pn**	**08 21 54.1**	**+0.6**
H03N3				Sn		**Sn**	**08 22 47.8**	**-3.6**
	baz=297,slow=74,SNR=11							
H03N3				T		T	08 27 10.8	
	baz=110,slow=75,SNR=44							
H03N2	**Juan Fernandez**	**5.06**	**299**	Pn		**Pn**	**08 21 54.7**	**+0.9**
	SNR=7.8							
H03N2				Sn		**Sn**	**08 22 48.1**	**-3.6**
H03N2				T		T	08 27 10.2	
	baz=110,slow=75,SNR=30							
PLCA	**Paso Flores**	**5.30**	**154**	Pn		**Pn**	**08 21 58.6**	**+1.2**
	comp=E,0.8nm,0.3s,baz=331,slow=14,SNR=46							
PLCA				Lg		Lg	08 23 13.9	
	comp=E,1.5nm,0.3s,baz=304,slow=12,SNR=3.5							
PLCA				LR		LR	08 23 56.0	
	comp=E,254nm,19.1s,baz=330,slow=38							
LVC	**Limon Verde**	**13.97**	**18**	LR		LR	08 29 49.9	
	comp=E,136nm,19.0s,baz=202,slow=39							
LPAZ	**La Paz**	**20.25**	**15**	P		Pn	08 25 17.6	+1.5
	comp=E,1.3nm,0.6s,baz=176,slow=12,SNR=4.0							
SIV	**San Ignacio**	**22.87**	**33**	P		**P**	**08 25 42.6**	**+0.9**
	comp=E,4.2nm,0.9s,baz=231,slow=11,SNR=12							
TXAR	**Lajitas Array**	**70.87**	**332**	P		**P**	**08 31 57.0**	**+1.9**
	comp=E,0.3nm,0.5s,baz=157,slow=8.7,SNR=7.3							
NVAR	**Mina Array Bea**	**84.80**	**326**	P		**P**	**08 33 13.0**	**+0.4**
	comp=E,0.3nm,0.8s,baz=170,slow=5.5,SNR=1.8							

IDC 19 08:22:09.6±1.2, 5°.50S×133°.75E, h0km, mb4.0/2, mb1 4.2/6, mb1mx3.9/23, mbtmp4.2/6, ML3.9/4, Error ellipse: s-maj=52.5km s-min=22.0km az=71.0
ISC 19 08:22:12.6±1.0, 5°.55S±0°.07×133°.7E±0°.1, h35km, n8, σ3ᵍ83/12, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
SIJI	**Sorong**	**5.26**	**332**	Pn		**Pn**	**08 23 28.4**	**-0.3**
	7.5nm,0.3s,baz=260,slow=22,SNR=13							
SIJI				Sn		**Sn**	**08 24 21.7**	**-6.4**
	7.0nm,0.3s,baz=242,slow=21,SNR=10							
BATI	**Baumata**	**10.97**	**244**	Pn		**Pn**	**08 24 49.6**	**+2.4**
	9.0nm,0.3s,baz=123,slow=4.2,SNR=2.3							
BATI				Sn		**Sn**	**08 26 49.4**	**+0.5**
	4.7nm,0.3s,baz=113,slow=19,SNR=1.6							
WRA	**Warramunga Arr**	**14.31**	**178**	Pn		**Pn**	**08 25 32.7**	**-0.1**
	0.2nm,0.3s,baz=359,slow=13,SNR=19							
WRA				Sn		**Sn**	**08 28 04.7**	**-5.8**
	0.4nm,0.3s,baz=5.4,slow=23,SNR=2.7							
ASAR	**Alice Springs**	**18.01**	**179**	P		**P**	**08 26 21.8**	**+1.3**
	0.2nm,0.3s,baz=6.6,slow=12,SNR=24							
ASAR				S		**Sn**	**08 29 34.4**	**-5.8**
	0.1nm,0.3s,baz=4.4,slow=25,SNR=3.3							
STKA	**Stephens Creek**	**27.21**	**165**	P		**P**	**08 27 56.1**	**+2.9**
	1.5nm,0.7s,baz=330,slow=16,SNR=1.8							
MKAR	**Makanchi Array**	**69.11**	**325**	P		**P**	**08 33 17.6**	**+2.3**
	0.9nm,0.6s,baz=121,slow=8.0,SNR=12							
CPUP	**Villa Florida**	**146.54**	**162**	PKPbc		**PKiKP**	**08 41 53.4**	**-0.6**
	2.5nm,0.6s,baz=204,slow=0.6,SNR=3.4							
LPAZ	**La Paz**	**149.37**	**135**	PKPbc		**PKiKP**	**08 42 02.1**	**+1.3**
	0.8nm,0.4s,baz=283,slow=17,SNR=1.1							

NEIC 19 08:29:43.1±1.6, 19°.41N±0°.03×66°.05W±0°.05, h22km±12km, Error ellipse: s-maj=7.1km s-min=2.6km az=121.0
RSPR 19 08:29:43.7, 19°.51N×66°.00W, h45km±19km, MD3.4/13
ISC 19 08:29:41.8±2.0, 19°.43N±0°.09×66°.02W±0°.06, h14km, n45, σ0ᵍ44/46, 10C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
EMPR	**Esperanza - Ma**	**1.06**	**207**	↑*eP*		**Pg**	**08 30 02.5**	**+0.2**
EMPR	**Esperanza - Ma**	**1.06**	**207**	*eS*		**Sn**	**08 30 17.1**	**+0.3**
EMPR	**Esperanza - Ma**	**1.06**	**207**			**Pn**	**08 30 02.3**	**0.0**
EMPR				IAML			08 30 18.6	
	comp=N,184nm,0.9s							
EMPR				IAML			08 30 24.6	
	comp=E,284nm,1.0s							
EMPR	**Esperanza - Ma**	**1.06**	**207**			**Sn**	**08 30 17.1**	**+0.3**
GCPR	**Guaynabo City**	**1.12**	**183**	↓*eP*		**Pb**	**08 30 02.6**	**-0.3**
GCPR	**Guaynabo City**	**1.12**	**183**	*eS*		**Sb**	**08 30 17.6**	**+0.3**
GCPR	**Guaynabo City**	**1.12**	**183**			**Pb**	**08 30 02.6**	**-0.3**
GCPR						**Sb**	**08 30 17.6**	**+0.3**
GCPR	**Guaynabo City**	**1.12**	**183**	IAML			08 30 19.7	
	comp=E,97nm,0.3s							
CBYP	**Canovanas**	**1.16**	**172**	↑*eP*		**Pn**	**08 30 03.6**	**-0.1**
CBYP	**Canovanas**	**1.16**	**172**			**Pn**	**08 30 03.6**	**-0.1**
CBYP	**Canovanas**	**1.16**	**172**	IAML			08 30 27.4	
	comp=E,249nm,0.2s							
AOPR	**Arecibo Observ**	**1.28**	**213**	↑*eP*		**Pn**	**08 30 04.7**	**-0.6**
AOPR	**Arecibo Observ**	**1.28**	**213**	*eS*		**Sb**	**08 30 22.0**	**-0.1**
AOPR	**Arecibo Observ**	**1.28**	**213**			**Pn**	**08 30 04.7**	**-0.6**
AOPR						**Sb**	**08 30 22.0**	**-0.1**
HUMP	**Col San Antoni**	**1.29**	**173**	↑*eP*		**Pn**	**08 30 05.6**	**+0.2**
HUMP	**Col San Antoni**	**1.29**	**173**			**Pn**	**08 30 05.6**	**+0.2**
HUMP	**Col San Antoni**	**1.29**	**173**	IAML			08 30 30.2	
	comp=E,95nm,0.2s							
CUPR	**Culebra, Puert**	**1.32**	**148**	↑*eP*		**Pn**	**08 30 06.0**	**+0.3**
CUPR	**Culebra, Puert**	**1.32**	**148**			**Pn**	**08 30 06.0**	**+0.3**
SJG	**San Juan**	**1.32**	**185**			**Pg**	**08 30 07.1**	**-0.1**
SJG				IAML			08 30 26.5	
	comp=E,100nm,0.6s							
SJG				IAML			08 30 31.5	
	comp=E,112nm,0.7s							
MTP	**Monte Pirata**	**1.40**	**161**	↓*eP*		**Pn**	**08 30 07.0**	**+0.2**
MTP	**Monte Pirata**	**1.40**	**161**			**Pn**	**08 30 07.0**	**+0.2**
PDPR	**Patillas Dam,**	**1.40**	**180**			**Pb**	**08 30 07.7**	**-0.1**
PDPR				IAML			08 30 28.0	
	comp=E,69nm,1.0s							
AGPR	**Aguadilla, PR**	**1.41**	**227**	Pn		**Pb**	**08 30 07.9**	**+0.1**
AGPR				IAML			08 30 41.2	
	comp=N,103nm,0.8s							
AGPR				IAML			08 31 06.8	
	comp=E,82nm,1.1s							
CELP	**Cerrillos**	**1.45**	**202**	↑*eP*		**Pn**	**08 30 07.6**	**0.0**
CELP	**Cerrillos**	**1.45**	**202**	*eS*		**Sn**	**08 30 25.5**	**-0.9**
CELP	**Cerrillos**	**1.45**	**202**			**Pn**	**08 30 07.6**	**0.0**
CELP						**Sn**	**08 30 25.5**	**-0.9**
IGPR	**InterUniversit**	**1.46**	**183**	↑*eP*		**Pn**	**08 30 08.2**	**+0.5**
OBIP	**Obispado Ponce**	**1.49**	**202**	↑*eP*		**Pn**	**08 30 07.2**	**-0.9**
OBIP	**Obispado Ponce**	**1.49**	**202**	*eS*		**Sn**	**08 30 27.2**	**-0.1**
OBIP	**Obispado Ponce**	**1.49**	**202**			**Pn**	**08 30 07.2**	**-0.9**
OBIP				IAML			08 30 43.3	
	comp=N,74nm,0.8s							
OBIP				IAML			08 30 48.7	
	comp=E,72nm,0.8s							
OBIP	**Obispado Ponce**	**1.49**	**202**			**Sn**	**08 30 27.2**	**-0.1**
LSP	**Las Mesas**	**1.60**	**219**	↑*eP*		**Pn**	**08 30 09.5**	**-0.2**
LSP	**Las Mesas**	**1.60**	**219**	*eS*		**Sn**	**08 30 30.8**	**+0.5**
LSP	**Las Mesas**	**1.60**	**219**			**Pn**	**08 30 09.5**	**-0.2**
LSP						**Sn**	**08 30 30.8**	**+0.5**
ICMP	**Isla Caja de M**	**1.61**	**197**	Pn		**Pn**	**08 30 10.1**	**+0.3**
ICMP				IAML			08 30 43.1	
	comp=E,79nm,0.8s							
ICMP				IAML			08 31 05.5	
	comp=N,64nm,1.1s							
GBPR	**Guanica, Bosqu**	**1.66**	**210**	↑*eP*		**Pn**	**08 30 11.0**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.66**	**210**			**Pn**	**08 30 11.0**	**+0.5**
MLPR	**Magueyes Islan**	**1.75**	**214**	↓*eP*		**Pn**	**08 30 11.5**	**-0.2**
MLPR	**Magueyes Islan**	**1.75**	**214**	*eS*		**Sn**	**08 30 34.3**	**+0.6**
MLPR	**Magueyes Islan**	**1.75**	**214**			**Pn**	**08 30 11.5**	**-0.2**
MLPR						**Sn**	**08 30 34.3**	**+0.6**
MLPR	**Magueyes Islan**	**1.75**	**214**	IAML			08 30 45.5	
	comp=E,44nm,0.6s							
CDVI	**St. Croix**	**2.05**	**144**	Pn		**Pb**	**08 30 18.1**	**-0.6**
DR12	**Loma Pena Alta**	**3.24**	**259**	Pn		**Pn**	**08 30 31.6**	**-0.7**
SDDR	**Presa de Saban**	**5.00**	**266**			**Pn**	**08 30 57.1**	**+0.6**

DDA 19 08:30:37.5, 34°.97N×27°.51E, h7km±5km, ML3.2
NIC 19 08:30:43.7±0.0, 35°.31N×27°.80E, h13km±3km, Ml3.4/4
ATH 19 08:30:44.5, 35°.38N×27°.71E, h33km±5km, ML3.4/5, Error ellipse: s-maj=5.5km s-min=1.0km az=328.0
THE 19 08:30:44.3, 35°.40N×27°.72E, h0km, ML3.3/3, Error ellipse: s-maj=1.9km s-min=0.6km az=143.0
ISK 19 08:30:45.9, 35°.54N×27°.63E, h22km, ML3.3/16
IDC 19 08:30:58.8±3.7, 35°.56N×27°.54E, h171km±37km, mb3.1/5, mb1 3.2/6, mb1mx3.0/29, mbtmp3.5/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/15, Error ellipse: s-maj=46.3km s-min=19.1km az=156.0
ISC 19 08:30:44.7±1.1, 35°.35N±0°.03×27°.74E±0°.02, h24km±10km, n73, σ1ᵍ31/102, mb3.6/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
KARP	**Karpathos**	**0.51**	**293**	P		**Pb**	**08 30 54.5**	**-0.6**
KARP				S		**Sb**	**08 31 02.0**	**-0.3**
KARP				AML	AML		08 31 03.1	
	comp=N,11772μm,0.6s							
KARP				AML	AML		08 31 03.4	
	comp=E,9838μm,0.6s							
KARP	**Karpathos**	**0.51**	**293**	P		**Pb**	**08 30 54.5**	**-0.6**
KARP				S		**Sb**	**08 31 02.1**	**-0.1**
	comp=E,5μm,0.5s							
KARP	**Karpathos**	**0.51**	**293**	PG		**Pb**	**08 30 54.1**	**-1.0**
KARP				SG		**Sb**	**08 31 00.9**	**-1.3**
KARP	**Karpathos**	**0.51**	**293**	P		**Pb**	**08 30 54.5**	**-0.6**
KARP				AML	AML		08 31 02.4	
	comp=E,12nm,0.6s							
KARP				AML	AML		08 31 02.4	
	comp=E,12nm,0.6s							
KARP				S		**Sb**	**08 31 02.7**	**+0.5**
KARP				AML	AML		08 31 03.0	
	comp=E,9.7nm,0.6s							
KARP				AML	AML		08 31 03.0	
	comp=E,9.7nm,0.6s							
ARG	**Arkhangelos**	**0.92**	**20**	P		**Pb**	**08 31 01.6**	**-0.5**
ARG				S		**Sb**	**08 31 13.6**	**-0.3**
ARG				AML	AML		08 31 18.4	
	comp=N,3568μm,0.8s							
ARG				AML	AML		08 31 20.1	
	comp=E,4449μm,0.5s							
ARG	**Arkhangelos**	**0.92**	**20**	P		**Pb**	**08 31 01.8**	**-0.2**
ARG				S		**Sn**	**08 31 15.6**	**+1.0**
	comp=E,2μm,0.6s							
ARG	**Arkhangelos**	**0.92**	**20**	PG		**Pb**	**08 31 01.9**	**-0.1**
ARG				SG		**Sb**	**08 31 13.6**	**-0.3**
ARG	**Arkhangelos**	**0.92**	**20**	P		**Pb**	**08 31 01.7**	**-0.3**
ARG				S		**Sn**	**08 31 15.4**	**+0.8**
ZKR	**Zakros**	**1.27**	**260**	P		**Pn**	**08 31 07.7**	**+0.8**
ZKR				S		**Sb**	**08 31 25.6**	**+1.8**
	comp=E,1μm,0.6s							
ZKR	**Zakros**	**1.27**	**260**	PN		**Pb**	**08 31 08.0**	**+0.1**
ZKR				SN		**Sb**	**08 31 25.2**	**+1.4**
ZKR	**Zakros**	**1.27**	**260**	P		**Pn**	**08 31 07.8**	**+0.8**
ZKR				AML	AML		08 31 32.1	
	comp=E,2.5nm,0.7s							
NIS1	**Nisyros Isl.**	**1.33**	**340**	P		**Pn**	**08 31 07.9**	**+0.1**
NIS1				S		**Sn**	**08 31 24.5**	**-0.3**
NIS1				AML	AML		08 31 33.6	
	comp=N,3350μm,0.6s							
NIS1				AML	AML		08 31 35.1	
	comp=E,4062μm,0.5s							
NIS1	**Nisyros Isl.**	**1.33**	**340**	P		**Pn**	**08 31 07.8**	**0.0**
NIS1	**Nisyros Isl.**	**1.33**	**340**	PN		**Pn**	**08 31 07.2**	**-0.6**
STIA	**Sitia Lasithi**	**1.36**	**264**	P		**Pn**	**08 31 08.7**	**+0.6**
STIA				S		**Sb**	**08 31 28.7**	**+2.4**
TURN	**Turunc**	**1.48**	**16**	*iP*		**Pn**	**08 31 10.9**	**+1.0**
TURN				*i* S		**Sb**	**08 31 31.7**	**+1.8**
TURN				IAML			08 31 37.0	
	comp=N,459nm,0.4s							
TURN				IAML			08 31 37.0	
	comp=E,397nm,0.6s							
DALY	**Dalyan (Mula)**	**1.64**	**26**	PN		**Pn**	**08 31 12.8**	**+0.8**
DALY	**Dalyan (Mula)**	**1.64**	**26**	*i* P		**Pn**	**08 31 11.7**	**-0.3**
DALY				*i* S		**Sb**	**08 31 37.9**	**+3.3**
DALY				IAML			08 31 47.0	
	comp=N,298nm,1.2s							
DALY				IAML			08 31 51.0	
	comp=E,176nm,0.5s							
FRMA	**Ierapetra Chan**	**1.68**	**259**	P		**Pn**	**08 31 12.7**	**+0.2**
FETY	**Fethiye**	**1.69**	**40**	P		**Pn**	**08 31 12.7**	**0.0**
FETY	**Fethiye**	**1.69**	**40**	PN		**Pn**	**08 31 13.7**	**+1.0**
FETY	**Fethiye**	**1.69**	**40**	*i* P		**Pn**	**08 31 12.6**	**0.0**
FETY				*i* S		**Sb**	**08 31 40.7**	**+4.9**
FETY				IAML			08 31 48.0	
	comp=E,110nm,0.6s							
FETY				IAML			08 31 55.0	
	comp=N,86nm,0.7s							
KSL	**Kastellorizon**	**1.70**	**61**	P		**Pb**	**08 31 14.4**	**-0.8**
KSL				S		**Sb**	**08 31 36.3**	**+0.1**
KSL				AML	AML		08 31 38.8	
	comp=N,683μm,0.8s							
KSL				AML	AML		08 31 39.5	
	comp=E,972μm,0.9s							
KSL	**Kastellorizon**	**1.70**	**61**	P		**Pn**	**08 31 13.4**	**+0.6**
KSL	**Kastellorizon**	**1.70**	**61**	P		**Pn**	**08 31 13.1**	**+0.2**
BDRM	**Kayabasi**	**1.73**	**352**	*i* P		**Pn**	**08 31 12.7**	**-0.6**
BDRM				*i* S		**Sn**	**08 31 36.0**	**+1.4**
BDRM				IAML			08 31 45.0	
	comp=N,191nm,0.4s							
BDRM				IAML			08 31 45.0	
	comp=E,243nm,0.5s							
NPS	**Neapolis**	**1.74**	**268**	P		**Pb**	**08 31 15.6**	**-0.4**
NPS				S		**Sb**	**08 31 37.3**	**-0.1**
NPS				AML	AML		08 31 46.7	
	comp=N,1773μm,0.5s							
NPS				AML	AML		08 31 50.4	
	comp=E,1476μm,0.6s							
BODT	**Bodrum**	**1.75**	**349**	PN		**Pn**	**08 31 12.2**	**-1.3**
AKAS	**Kas**	**1.75**	**59**	*i* P		**Pn**	**08 31 13.3**	**-0.4**
AKAS				*i* S		**Sn**	**08 31 34.1**	**-1.2**
AKAS				IAML			08 31 40.0	
	comp=E,227nm,0.5s							
AKAS				IAML			08 31 44.0	
	comp=N,249nm,0.6s							
YER	**Yerkesik**	**1.84**	**14**	P		**Pn**	**08 31 15.1**	**+0.3**
YER

USAK					IAML		08 33 51.0		
	comp=E,57nm,4.4s								
AKMS	**Akamas**	**3.78**	**94**		P	**Pn**	**08 31 41.2**	**-0.2**	
AKMS					AML	AML	08 32 26.0		
	comp=E,1.2nm,0.4s								
AKMS					AML	AML	08 32 26.0		
	comp=E,1.2nm,0.4s								
AKMS					S	**Sn**	**08 32 26.3**	**+1.2**	
AKMS					AML	AML	08 32 27.4		
	comp=E,0.7nm,0.3s								
AKMS					AML	AML	08 32 27.4		
	comp=E,0.7nm,0.3s								
GAZI	**Gazipasa**	**3.82**	**75**	*i*	P	**Pn**	**08 31 41.7**	**-0.4**	
GAZI				*i*	S	**Sn**	**08 32 22.9**	**-3.3**	
GAZI					IAML		08 32 31.0		
	comp=E,68nm,0.3s								
GAZI					IAML		08 32 32.0		
	comp=N,59nm,0.5s								
SEDI	**Konya, Seydise**	**3.86**	**56**	*i*	P	**Pn**	**08 31 44.9**	**+2.2**	
SEDI				*i*	S	**Sn**	**08 32 30.1**	**+2.8**	
SEDI					IAML		08 32 36.0		
	comp=N,78nm,0.7s								
SEDI					IAML		08 32 37.0		
	comp=E,75nm,0.5s								
ALFC	**Alefka**	**3.98**	**91**		P	**Pn**	**08 31 43.8**	**-0.4**	
ALFC					AML	AML	08 32 30.8		
	comp=E,0.9nm,0.4s								
ALFC					AML	AML	08 32 30.8		
	comp=E,0.9nm,0.4s								
ALFC					S	**Sn**	**08 32 30.9**	**+0.7**	
ALFC					AML	AML	08 32 31.1		
	comp=E,1.2nm,0.5s								
ALFC					AML	AML	08 32 31.1		
	comp=E,1.2nm,0.5s								
NATA	**Nata**	**4.00**	**97**		P	**Pn**	**08 31 44.4**	**-0.1**	
NATA					S	**Sn**	**08 32 31.7**	**+1.1**	
OSC2	**CSNet OBS 4**	**4.38**	**120**		P	**Pn**	**08 31 50.0**	**+0.3**	
CSS	**Mathiatis**	**4.60**	**93**		P	**Pn**	**08 31 52.8**	**+0.1**	
BRTR	**Keskin Array B**	**6.41**	**45**		P	Pb	08 32 30.5	-5.1	
	comp=E,0.2nm,0.3s,baz=248,slow=16,SNR=1.6								
BRTR					S	**Sn**	**08 33 31.4**	**+1.3**	
	comp=E,0.4nm,0.3s,baz=206,slow=27,SNR=3.7								
GERES	**GERESS Array B**	**17.00**	**327**		LR	LR	08 41 18.6		
	comp=E,70nm,18.1s,baz=50,slow=37								
ESDC	**Sonseca Array**	**25.44**	**289**		P	**P**	**08 36 09.2**	**-1.4**	
	comp=E,1.4nm,0.7s,baz=81,slow=9.7,SNR=9.0								
TORD	**Torodi Ar. Bea**	**32.26**	**233**		P	**P**	**08 37 11.0**	**-0.5**	
	comp=E,2.8nm,1.0s,baz=34,slow=9.0,SNR=3.8								
MKAR	**Makanchi Array**	**41.91**	**57**		P	**P**	**08 38 32.5**	**-0.6**	
	comp=E,0.1nm,0.4s,baz=268,slow=9.1,SNR=4.2								
ZALV	**Zalesovo Beam**	**43.35**	**46**		P	**P**	**08 38 43.9**	**-0.8**	
	comp=E,0.6nm,0.5s,baz=286,slow=5.8,SNR=2.1								
YKA	**Yellowknife Ar**	**77.90**	**343**		P	P	08 42 35.0	-5.0	
	comp=E,0.1nm,0.3s,baz=41,slow=5.3,SNR=2.6								

SJA ***19*** *08:33:53.3±0.6,36.95S×75.99W,h40km,ML4.9,MW5.0*

NEIC ***19*** *08:34:17.0±2.3,36.02S±0.05×73.82W±0.04,h4km±3km, mb5.0/64,Ms_20 4.9/25,Mwr4.9/30,Mww5.2,ML4.6(GUC), Error ellipse: s-maj=7.6km s-min=3.2km az=205.0*

NEIC ***19*** *08:34:16.6,36.02S×73.82W,h11km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.22; Mθθ-0.01; Mϕϕ-2.21; Mrθ-0.68; Mrϕ-1.27; Mθr-1.66; Fault plane solution: M₀3.13000×10¹⁶ NP1:ϕ₀26.7300°, δ27.21000°,λ93.36000°. NP2:ϕ₀202.96000°,δ62.84000°, λ88.28000°. Principal axes: T 2.8004, Plg72.0000°, Azm109.0000°; N 0.5726, Plg2.0000°, Azm204.0000°; P -3.3731, Plg18.0000°, Azm294.0000°;*

IDC ***19*** *08:34:18.1±0.5,36.05S×73.61W,h0km,mb4.6/15, mb1 4.7/18,mb1mx4.6/28,mbtmp4.6/18,ML4.3/3,MS4.3/15, Ms1 4.3/15,ms1mx4.1/27 Error ellipse: s-maj=19.5km s-min=12.1km az=82.0*

VAO ***19*** *08:34:20.6±0.5,36.07S×73.53W,h10km,mb4.8*

BJI ***19*** *08:34:20.0±0.0,36.12S×73.80W,h25km,mB5.1/5, Ms5.2/3,Ms7 4.8/3*

GUC ***19*** *08:34:21.1±0.6,36.12S×73.67W,h20km,ML4.6,MW4.8*

GCMT ***19*** *08:34:22.0±0.2,36.17S±0.02×74.01W±0.01,h14km, MW5.0/94,Moment Tensor Solution. s42,c49; s94,c129; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.18±.15; Mθθ0.16±.08; Mϕϕ-3.35±.11; Mrθ-0.41±.19; Mϕθ-0.21±.05; Mϕr-2.65±.25; Best double couple: M₀4.23000×10¹⁶ NP1:ϕ₀359.00000°,δ25.00000°,λ83.00000°. NP2: ϕ₀187.00000°,δ65.00000°,λ93.00000°. Principal axes: T 4.1460, Plg70.0000°, Azm104.0000°; N 0.1620, Plg3.0000°, Azm6.0000°; P -4.3150, Plg20.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***19*** *08:34:25,36.05S×73.91W,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.92; Mθθ0.51; Mϕϕ-3.43; Mrθ-1.63; Mϕθ-0.19; Mϕr-6.56; Fault plane solution: M₀7.48000×10¹⁶ NP1:ϕ₀349.00000°, δ13.00000°,λ67.00000°. NP2:ϕ₀193.00000°,δ78.00000°, λ95.00000°. Principal axes: T 7.2807, Plg57.0000°, Azm110.0000°; N 0.3892, Plg5.0000°, Azm12.0000°; P -7.6699, Plg32.0000°, Azm279.0000°;*

ISC 19 08:34:17.5±0.5,36.10S±0.03×73.88W±0.03,h7km±3km, n268,σ1s76/274,mb5.0/41,MS4.5/31,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**1.01**	**137**	↑ *i*	P	**Pg**	**08 34 37.0**	**0.0**
BI03				*i*	S	**Sg**	**08 34 48.3**	**-1.8**
BI03					IAML		08 34 54.3	
	comp=N,75μm,0.4s							
BI03	**Tigo**	**1.01**	**137**			**Pg**	**08 34 36.8**	**-0.2**
BI03						**Sg**	**08 34 49.9**	**-0.2**
LAJA	**Laja**	**1.51**	**142**	↑ *i*	P	**Pn**	**08 34 44.1**	**-0.8**
LAJA				*i*	S	**Sn**	**08 35 01.7**	**-3.2**
BI02	**San Fabin de**	**2.18**	**106**	↑ *i*	P	**Pn**	**08 34 19.1**	**-0.2**
BI02				*i*	S	**Sn**	**08 35 19.6**	**-2.0**
BI02	**San Fabin de**	**2.18**	**106**		Pn	**Pn**	**08 34 53.9**	**-0.4**
BO03	**Pichilemu**	**2.25**	**45**	↑ *i*	P	**Pn**	**08 34 53.6**	**-1.5**
BO03				*i*	S	**Sg**	**08 35 33.7**	**+4.1**
BO03					IAML		08 35 40.7	
	comp=N,3μm,0.9s							
BO02	**Sierra Bellavi**	**2.85**	**64**	*e*	P	**Pn**	**08 35 03.2**	**-0.4**
BO02				*i*	S	**Sg**	**08 35 48.5**	**-0.6**
BO02					IAML		08 36 02.7	
	comp=E,3μm,0.7s							
BO02	**Sierra Bellavi**	**2.85**	**64**		Pn	**Pn**	**08 35 03.0**	**-0.5**
VA05	**Santo Domingo**	**3.07**	**38**	*e*	P	**Pn**	**08 35 05.0**	**-1.5**
MT09	**Talagante**	**3.32**	**47**	*e*	P	**Pg**	**08 35 20.9**	**-0.3**
MT09					S	**Sg**	**08 36 08.3**	**+4.1**
MT02	**Curacav**	**3.63**	**39**	*e*	P	**Pn**	**08 35 12.6**	**-1.6**
MT02	**Curacav**	**3.63**	**39**			**Pn**	**08 35 12.1**	**-2.1**
COIS	**El Sosneado**	**3.63**	**75**	*e*	P	**Pn**	**08 35 15.0**	**+0.7**
COIS				*i*	S	**Sg**	**08 36 16.7**	**+2.4**
MT05	**Renca**	**3.74**	**45**	*e*	P	**Pn**	**08 35 14.9**	**-0.9**
MT05	**Renca**	**3.74**	**45**		Pn	**Pn**	**08 35 13.3**	**-2.5**
LMEL	**Las Melosas**	**3.77**	**54**	*e*	P	**Pn**	**08 35 16.9**	**+0.7**
LMEL				*i*	S	**Sn**	**08 35 59.4**	**-1.6**
MT03	**Universidad Ad**	**3.81**	**48**	*e*	P	**Pn**	**08 35 15.5**	**-1.2**
ROC1	**El Roble**	**3.92**	**38**	*i*	P	**Pn**	**08 35 18.4**	**0.0**
ROC1				*e*	S	**Sg**	**08 36 28.7**	**+5.4**
ROCH	**El Roble**	**3.92**	**38**	*e*	P	**Pn**	**08 35 18.1**	**-0.3**
PEL	**Peldehue**	**3.96**	**43**			**Pn**	**08 35 18.7**	**-0.1**
PEL	**Peldehue**	**3.96**	**43**	*i*	P	**Pn**	**08 35 18.9**	**+0.1**
PEL				*i*	S	**Sg**	**08 36 23.2**	**-1.4**
LAMA	**Las Malvinas**	**3.98**	**74**	*i*	P	**Pn**	**08 35 21.6**	**+2.5**
VA03	**San Esteban**	**4.32**	**41**			**Pn**	**08 35 23.9**	**+0.1**
RFA	**San Rafael**	**4.62**	**75**	*i*	P	**Pn**	**08 35 29.3**	**+1.5**
RFA				*e*	S	**Sb**	**08 36 33.6**	**-1.2**
H03S1	**Juan Fernandez**	**4.70**	**297**		Pn	**Pn**	**08 35 30.7**	**+2.1**
H03S1					T	T	08 40 20.6	
	baz=118,slow=74,SNR=752							
H03S3	**Juan Fernandez**	**4.71**	**297**		Pn	**Pn**	**08 35 30.9**	**+2.1**
H03S3					T	T	08 40 21.2	
	baz=118,slow=74,SNR=650							
H03S2	**Juan Fernandez**	**4.72**	**297**		Pn	**Pn**	**08 35 29.9**	**+1.1**
H03S2					T	T	08 40 20.5	
	baz=118,slow=74,SNR=1012							
VA04	**Juan Fernndez**	**4.75**	**300**		Pn	**Pn**	**08 35 28.9**	**-0.6**
H03N1	**Juan Fernandez**	**4.92**	**301**		Pn	**Pn**	**08 35 32.8**	**+1.2**
	baz=145,slow=24,SNR=49							
H03N1					Sn	**Sn**	**08 36 25.0**	**-3.6**
H03N1					T	T	08 40 36.8	
	baz=110,slow=76,SNR=22							
H03N3	**Juan Fernandez**	**4.92**	**301**		Pn	**Pn**	**08 35 33.0**	**+1.4**
	baz=145,slow=24,SNR=30							
H03N3					Sn	**Sn**	**08 36 25.1**	**-3.7**
H03N3					T	T	08 40 37.0	
	baz=110,slow=76,SNR=24							
H03N2	**Juan Fernandez**	**4.93**	**301**		Pn	**Pn**	**08 35 33.2**	**+1.4**
	baz=145,slow=24,SNR=29							
H03N2					Sn	**Sn**	**08 36 24.9**	**-4.0**
H03N2					T	T	08 40 37.4	
	baz=110,slow=76,SNR=20							
ARCO	**CERRO ARCO**	**5.22**	**53**	*i*	P	**Pn**	**08 35 38.1**	**+1.8**
ARCO					IAML		08 37 51.9	
	comp=Z,209nm,1.4s							
PLCA	**Paso Flores**	**5.31**	**151**		Pn	**Pn**	**08 35 38.6**	**+1.3**
	comp=Z,3.6nm,0.3s,baz=329,slow=8.9,SNR=17							
PLCA					Lg	Lg	08 37 04.5	
	comp=Z,5.9nm,0.3s,baz=59,slow=15,SNR=3.5							
PLCA	**Paso Flores**	**5.31**	**151**			**Pn**	**08 35 38.0**	**+0.6**
PLCA	**Paso Flores**	**5.31**	**151**	*e*		**Pn**	**08 35 38.4**	**+1.1**
AUSP	**Uspallata**	**5.37**	**45**	*i*	P	**Pn**	**08 35 39.8**	**+1.3**
CO02	**Combarbal**	**5.45**	**27**			**Pn**	**08 35 37.8**	**-1.5**
RTLS	**Leoncito**	**5.74**	**43**	*i*	P	**Pn**	**08 35 44.6**	**+1.1**
CO03	**El Pedregal**	**5.89**	**28**			**Pn**	**08 35 44.4**	**-0.9**
RTCV	**Cerro Valdivia**	**6.13**	**48**	*i*	P	**Pn**	**08 35 49.1**	**+0.5**
ZON	**Zonda**	**6.28**	**45**			**Pn**	**08 35 50.4**	**-0.3**
ZON	**Zonda**	**6.28**	**45**	*i*	P	**Pn**	**08 35 51.3**	**+0.7**
LL01	**San Ignacio de**	**6.37**	**170**			**Pn**	**08 35 51.1**	**-0.7**
GO04	**Tololo Observa**	**6.45**	**24**		Pn	**Pn**	**08 35 50.9**	**-2.3**
RTLL	**Cerro Villicun**	**6.55**	**45**	*i*	P	**Pn**	**08 35 54.5**	**+0.1**
CO01	**Juntas del Tor**	**6.89**	**29**			**Pn**	**08 35 57.5**	**-1.7**
GO07	**Milladeo Hill,**	**7.00**	**179**			**Pn**	**08 36 00.2**	**-0.3**
LCO	**Las Campanas**	**7.56**	**22**		Pn	**Pn**	**08 36 07.0**	**-1.5**
AC05	**El Transito**	**7.86**	**24**		Pn	**Pn**	**08 36 11.4**	**-1.1**
AC04	**Llanos de Chal**	**8.23**	**18**		Pn	**Pn**	**08 36 14.9**	**-2.5**
GO03	**Copiap**	**9.03**	**21**		Pn	**Pn**	**08 36 26.6**	**-1.9**
AC02	**Maricunga**	**10.09**	**25**		Pn	**Pn**	**08 36 40.5**	**-2.8**
GO02	**Mina Guanaco**	**11.51**	**20**		Pn	**Pn**	**08 36 59.2**	**-3.4**
PB14	**IPOC Station P**	**11.82**	**16**			**Pn**	**08 37 04.0**	**-2.9**
LPA	**La Plata**	**13.05**	**89**	*e*	P	**Pn**	**08 37 25.6**	**+2.2**
LPA					PPP	PPP	08 37 39.1	
LPA					pPP		08 38 26.8	
LPA					S	**Sn**	**08 39 40.9**	**-8.0**
LPA					SS	**SnSn**	**08 39 57.3**	**-3.6**
LPA					SSS	SSS	08 41 30.8	
LPA					SCS	**ScS**	**08 50 03.1**	**-3.2**
LPA					SKIKS		08 58 00.3	
PB15	**IPOC Station P**	**13.41**	**18**			**Pn**	**08 37 25.9**	**-2.6**
PB06	**IPOC Station P**	**13.87**	**17**		Pn	**Pn**	**08 37 33.1**	**-1.6**
PB04	**IPOC Station P**	**14.10**	**14**		Pn	**Pn**	**08 37 37.6**	**-0.3**
LVC	**Limon Verde**	**14.12**	**19**		Pn	**Pn**	**08 37 39.8**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=200,slow=4.6,SNR=3.7							
LVC					Lg	Lg	08 41 36.2	
	comp=Z,0.1nm,0.3s,baz=267,slow=3.2,SNR=6.6							
LVC					LR	LR	08 43 22.6	
	comp=Z,1μm,21.5s,baz=206,slow=39							
LVC	**Limon Verde**	**14.12**	**19**	*e*	P	**Pn**	**08 37 39.7**	**+1.3**
PB07	**IPOC Station P**	**14.74**	**15**			**Pn**	**08 37 45.5**	**-1.2**
PB09	**IPOC Station P**	**14.82**	**17**			**Pn**	**08 37 46.2**	**-1.5**
GO09	**Cerro Castillo**	**15.20**	**176**			**Pn**	**08 37 53.2**	**+0.6**
GO09					IAmb	IAmb	08 38 09.2	
	comp=Z,75nm,1.1s							
PB01	**IPOC Station P**	**15.49**	**16**			**Pn**	**08 37 55.9**	**-0.7**
PB01					IAmb	IAmb	08 38 05.0	
	comp=Z,81nm,1.3s							
PB08	**IPOC Station P**	**16.44**	**16**			**Pn**	**08 38 07.1**	**-2.0**
PSGCX	**Pisagua**	**16.77**	**12**			**Pn**	**08 38 10.8**	**-2.3**
CPUP	**Villa Florida**	**17.17**	**60**		Pn	**Pn**	**08 38 15.6**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=216,slow=9.7,SNR=7.8							
CPUP					Lg	Lg	08 43 24.0	
	comp=Z,0.1nm,0.3s,baz=246,slow=12,SNR=2.3							
CPUP					LR	LR	08 45 13.8	
	comp=Z,804nm,18.7s,baz=238,slow=39							
CPUP	**Villa Florida**	**17.17**	**60**			**Pn**	**08 38 15.4**	**-2.6**
MNMC	**Minye Minye**	**17.32**	**14**		P	**P**	**08 38 20.2**	**-1.5**
CPSB	**Cacapava Do Su**	**18.01**	**77**	*e*	P	**P**	**08 38 28.0**	**-0.9**
USHA	**Ushuaia**	**19.11**	**170**		ScP	**ScP**	**08 46 45.1**	**+4.1**
	comp=Z,0.5nm,0.3s,baz=168,slow=0.9,SNR=4.0							
LPAZ	**La Paz**	**20.39**	**16**		P	Pn	08 38 57.8	+0.1
	comp=Z,9.5nm,0.6s,baz=188,slow=16,SNR=10							
LPAZ	**La Paz**	**20.39**	**16**		P	**P**	**08 38 52.9**	**-2.8**
LPAZ	**La Paz**	**20.39**	**16**	*e*	P	Pn	08 38 56.9	-0.8
ITAB	**Concordia**	**20.48**	**71**	*e*	P	Pn	08 38 56.3	-1.9
PTGB	**Pitanga**	**21.92**	**65**	*e*	P	**P**	**08 39 12.6**	**+0.9**
TER01	**Tubaro-SC**	**22.20**	**77**	*e*	P	**P**	**08 39 14.3**	**-0.2**
AQDB	**Aquidauana**	**22.27**	**51**	*e*	P	**P**	**08 39 15.5**	**+0.1**
SIV	**San Ignacio**	**23.06**	**33**		P	**P**	**08 39 23.8**	**+0.1**
	comp=Z,46nm,1.1s,baz=235,slow=12,SNR=60							
SIV					LR	LR	08 49 25.4	
	comp=Z,1μm,20.4s,baz=221,slow=40							
NNA	**Nana**	**24.16**	**353**		P	**P**	**08 39 34.3**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=153,slow=2.3,SNR=2.4							
NNA					LR	LR	08 47 13.4	
	comp=Z,272nm,18.4s,baz=180,slow=32							
NNA	**Nana**	**24.16**	**353**		P	**P**	**08 39 31.4**	**-3.0**
PTLB	**Pontes e Lacer**	**24.42**	**36**	*e*	P	**P**	**08 39 37.7**	**+0.9**
PCMB	**Pacaembu**	**24.44**	**60**	*e*	P	**P**	**08 39 38.5**	**-0.5**
FRTB	**Fartura**	**24.57**	**66**	*e*	P	**P**	**08 39 38.1**	**-0.2**
PP1B	**Ponte de Pedra**	**24.96**	**47**	*e*	P	**P**	**08 39 42.1**	**+0.4**
PET01	**Itanhaem-SP**	**25.75**	**70**	*e*	P	**P**	**08 39 49.9**	**+1.1**
SPB	**Sao Paulo**	**26.02**	**69**		P	**P**	**08 39 48.9**	**-2.4**
SPB					IAMs_20	IAMs_20	08 50 16.2	
	comp=Z,1μm,18.0s							
SPB	**Sao Paulo**	**26.02**	**69**	*e*	P	**P**	**08 39 49.7**	**-1.6**
VILB	**Vilhena**	**26.14**	**32**	*e*	P	**P**	**08 39 52.9**	**+0.5**
ITRB	**Iturama**	**26.34**	**58**	*e*	P	**P**	**08 39 54.1**	**-0.1**
VAO	**Valinhos**	**26.71**	**68**	*e*	P	**P**	**08 39 57.6**	**-0.1**
BB19B	**Bebedouro**	**26.73**	**63**	*e*	P	**P**	**08 39 58.0**	**+0.2**
ETMB	**Extrema**	**27.08**	**17**	*e*	P	**P**	**08 40 02.3**	**+1.4**
CZSB	**Cruzeiro do Su**	**28.26**	**2**	*e*	P	**P**	**08 40 13.4**	**+1.9**
ARAG	**Araguaiana, MT**	**28.28**	**50**	*e*	P	**P**	**08 40 12.4**	**+0.7**
SAML	**Samuel**	**28.73**	**22**		P	**P**	**08 40 16.0**	**+0.3**
SAML	**Samuel**	**28.73**	**22**	*e*	P	**P**	**08 40 17.0**	**+1.3**
IPMB	**Ipameri, GO**	**28.99**	**58**	*e*	P	**P**	**08 40 18.0**	**-0.1**
ATAH	**Atahualpa**	**29.13**	**351**		LR	LR	08 49 55.6	
	comp=Z,318nm,18.3s,baz=191,slow=32							
PMSA	**Palmer Station**	**29.31**	**171**		LR	LR	08 51 28.6	
	comp=Z,404nm,18.4s,baz=322,slow=35							
BSCB	**Bom Sucesso**	**29.53**	**67**	*e*	P	**P**	**08 40 23.0**	**+0.2**
VAS01	**Vassouras-RJ**	**29.79**	**71**	*e*	P	**P**	**08 40 25.6**	**+0.5**
CLDB	**Colider**	**29.99**	**38**	*e*	P	**P**	**08 40 27.3**	**+0.5**
DUB01	**Friburgo-RJ**	**30.72**	**72**	*e*	P	**P**	**08 40 33.7**	**+0.3**
BDFB	**Brasilia**	**30.77**	**55**		P	**P**	**08 40 33.3**	**-0.6**
	comp=Z,14nm,1.1s,baz=237,slow=7.5,SNR=11							
BDFB					LR	LR	08 53 30.0	
	comp=Z,736nm,18.0s,baz=223,slow=38							
BDFB	**Brasilia**	**30.77**	**55**		P	**P**	**08 40 32.2**	**-1.7**
BDFB					IAmb	IAmb	08 40 41.3	
	comp=Z,25nm,1.1s							
SNDB	**Serra Nova Dou**	**31.51**	**46**	*e*	P	**P**	**08 40 39.9**	**-0.4**
NPGB	**Novo Progresso**	**33.53**	**35**	*e*	P	**P**	**08 40 57.9**	**-0.1**
SJMB	**Sao Joao De Ma**	**33.60**	**68**	*e*	P	**P**	**08 40 58.7**	**+0.1**
JANB	**Januaria**	**33.70**	**59**	*e*	P	**P**	**08 40 59.6**	**+0.1**
BSFB	**Barra de Sao F**	**33.77**	**68**	*e*	P	**P**	**08 41 00.1**	**-0.1**
NAN01	**Guarapari, ES**	**34.92**	**68**	*e*	P	**P**	**08 41 09.5**	**-0.5**
SDBA	**SAO DESIDERIO**	**35.18**	**55**	*e*	P	**P**	**08 41 12.6**	**+0.2**
ITTB	**Itaituba**	**35.74**	**32**	*e*	P	**P**	**08 41 17.0**	**-0.1**
SMTB	**Santa Maria do**	**36.17**	**48**	*e*	P	**P**	**08 41 21.0**	**+0.2**
OTAV	**Otavalo**	**36.40**	**352**		P	**P**	**08 41 20.9**	**-2.4**
OTAV	**Otavalo**	**36.40**	**352**	*e*	P	**P**	**08 41 26.5**	**+3.2**
OTAV	**Otavalo**	**36.40**	**352**	*e*	P	**P**	**08 41 27.0**	**+3.7**
NBIT	**Itapeh - BA**	**37.27**	**65**	*e*	P	**P**	**08 41 30.8**	**+0.5**
PTGA	**Pitinga**	**37.49**	**23**	P		P	**08 41 32.7**	**+0.7**
	comp=Z,12nm,0.8s,baz=186,slow=7.6,SNR=12							
PTGA	**Pitinga**	**37.49**	**23**		P	**P**	**08 41 31.0**	**-1.0**
PTGA					IAmb	IAmb	08 41 34.0	
	comp=Z,30nm,1.1s							
PTGA	**Pitinga**	**37.49**	**23**	*e*	P	**P**	**08 41 32.8**	**+0.7**
GDU01	**Guandu, BA**	**37.97**	**63**	*e*	P	**P**	**08 41 35.9**	**-0.2**
SOTA	**Rioblanco**	**38.12**	**356**	*e*	P	P	08 41 42.8	+4.9
GUVC	**San Jose del G**	**38.47**	**2**	*e*	P	**P**	**08 41 40.8**	**+0.6**
BETC	**Betania**	**38.61**	**358**	*e*	P	**P**	**08 41 42.6**	**+1.1**
PRAC	**Prado**	**39.62**	**359**	*e*	P	**P**	**08 41 52.3**	**+2.4**
ORTC	**Ortega, Tolima**	**39.82**	**358**	*e*	P	**P**	**08 41 54.4**	**+2.8**
YOTC	**Yotoco, Valle**	**39.94**	**356**	*e*	P	**P**	**08 41 49.6**	**-3.1**
PTGC	**Puerto Gaitan,**	**40.12**	**3**	*e*	P	**P**	**08 41 54.4**	**+0.3**
TOLC	**Tolima**	**40.50**	**358**	*e*	P	**P**	**08 41 58.3**	**+0.7**
ROSC	**El Rosal**	**40.73**	**359**		P	**P**	**08 41 57.7**	**-1.9**
RREF	**El Recreo**	**40.81**	**358**	*e*	P	**P**	**08 42 04.1**	**+3.6**
PLMC	**San Jos del P**	**40.85**	**356**	*e*	P	**P**	**08 42 01.1**	**+0.9**
NBLA	**Lagarto - SE**	**41.09**	**62**	*e*	P	**P**	**08 42 01.8**	**-0.4**
GUY2C	**Guyana, Caldas**	**41.13**	**358**	*e*	P	**P**	**08 42 05.3**	**+2.3**
RUSC	**La Rusia**	**41.78**	**1**	*e*	P	**P**	**08 42 09.9**	**+1.6**
CBOC	**Ciudad Bolivar**	**41.79**	**357**	‖ *e*	P	**P**	**08 42 10.0**	**+2.0**
NBTA	**Tacaratu-PE**	**42.20**	**59**	*e*	P	**P**	**08 42 11.1**	**-0.2**
PTBC	**PUERTO BERRIO,**	**42.42**	**359**	*e*	P	**P**	**08 42 12.3**	**-0.6**
DBBC	**Dabeiba**	**42.95**	**357**	*e*	P	**P**	**08 42 21.3**	**+4.0**
NBMA	**Muriti-CE**	**42.97**	**57**	*e*	P	**P**	**08 42 18.2**	**+0.7**
NBAN	**Anadia - AL**	**43.08**	**62**	*e*	P	**P**	**08 42 18.5**	**+0.1**
ZARC	**Zaragoza, Cauc**	**43.37**	**359**	*e*	P	**P**	**08 42 18.6**	**-2.1**
NBPB	**Pedra_Branca-C**	**43.76**	**54**	*e*	P	**P**	**08 42 24.7**	**+0.7**
NBLI	**Livramento-PB**	**44.21**	**59**	*e*	P	**P**	**08 42 28.2**	**+0.6**
SMLC	**San Martn de**	**44.66**	**360**	*e*	P	**P**	**08 42 28.2**	**-2.8**
SDV	**Santo Domingo**	**44.85**	**5**	P		**P**	**08 42 31.9**	**-0.8**
SDV	**Santo Domingo**	**44.85**	**5**	*e*	P	**P**	**08 42 34.6**	**+1.8**
BELA	**Belgrano 2**	**45.09**	**169**		P	**P**	**08 42 33.0**	**-0.9**
BELA					IAmb	IAmb	08 42 37.3	
	comp=Z,36nm,1.4s							
NBPA	**Parau_RN**	**45.26**	**57**	*e*	P	**P**	**08 42 37.3**	**+1.4**
RCBR	**Riachuelo**	**46.03**	**58**		IAMs_20	IAMs_20	09 00 31.3	
	comp=Z,869nm,20.0s							
VNA3	**Neumayer Olymp**	**48.01**	**157**		P	**P**	**08 42 58.3**	**+1.6**
VNA3	**Neumayer Olymp**	**48.01**	**157**		PP	PP	08 44 50.2	+1.7
VNA1	**Neumayer--Stat**	**48.35**	**156**		P	**P**	**08 43 00.5**	**+1.1**
VNA2	**Neumayer--Watz**	**48.68**	**156**		P	**P**	**08 43 03.9**	**+1.9**
	baz=274,slow=6.5							
VNA2	**Neumayer--Watz**	**48.68**	**156**		PP	PP	08 44 54.7	+0.1
VNA2					S	**S**	**08 50 04.5**	**+0.2**
SNAA	**Sanae**	**50.23**	**157**		P	**S**	**08 43 15.3**	**+1.5**
SNAA	**Sanae**	**50.23**	**157**		P	**P**	**08 43 15.1**	**+1.3**
	comp=Z,29nm,1.0s,baz=284,slow=5.8,SNR=15							
SNAA	**Sanae**	**50.23**	**157**		P	**P**	**08 43 14.5**	**+0.7**
SVB	**Belmont**	**50.54**	**16**		P	**P**	**08 43 15.1**	**-1.6**
SNET	**Serv Nac Est T**	**51.60**	**341**		P	**P**	**08 43 23.8**	**-0.9**
RKT	**Rikitea**	**53.88**	**266**	*e*	LR	LR	08 59 04.6	
	comp=Z,414nm,28.8s							
QSPA	**South Pole Qui**	**54.14**	**180**		P	**P**	**08 43 45.7**	**+2.6**
	comp=Z,26nm,1.0s,baz=134,slow=3.1,SNR=41							
QSPA	**South Pole Qui**	**54.14**	**180**		P	**P**	**08 43 43.9**	**+0.8**
SOR	**Soroa**	**59.21**	**350**		P	**P**	**08 44 19.1**	**-0.3**
VNDA	**Vanda**	**61.74**	**192**		P	**P**	**08 44 39.4**	**+3.3**
	comp=Z,3.3nm,1.1s,baz=157,slow=5.2,SNR=5.9							
VNDA	**Vanda**	**61.74**	**192**		P	**P**	**08 44 36.2**	**+0.1**
VNDA					IAmb	IAmb	08 44 48.1	

ACSO	**Alum Creek Sta**	**76.42**	**353**	P				08 46 09.3		
	baz=172									
LIC	**Lamto**	**76.87**	**72**	*e*P		**P**		**08 46 11.2**	**+0.6**	
	comp=Z,60nm,1.3s									
ANMO	**Albuquerque**	**76.93**	**333**	P				08 46 13.7		
	baz=153									
TIC	**Toumodi**	**77.14**	**72**	*e*P		**P**		**08 46 12.8**	**+0.6**	
KIC	**Kosan Boka**	**77.17**	**72**	*e*P		**P**		**08 46 13.1**	**+0.7**	
	comp=Z,50nm,1.2s									
N49A	**Columbus Grove**	**77.23**	**352**	P		**P**		**08 46 10.8**	**-1.3**	
N49A				IAmb		IAmb		08 46 14.2		
	comp=Z,24nm,1.2s									
DBIC	**Dimbokro**	**77.28**	**72**	P		**P**		**08 46 13.9**	**+0.9**	
	comp=Z,9.5nm,0.9s,baz=201,slow=4.5,SNR=9.7									
DBIC				LR		LR		09 17 38.0		
	comp=Z,161nm,19.7s,baz=201,slow=34									
DBIC	**Dimbokro**	**77.28**	**72**	P		**P**		**08 46 11.3**	**-1.6**	
DBIC				IAmb		IAmb		08 46 15.1		
	comp=Z,22nm,1.1s									
N47A	**Urbana**	**77.37**	**351**	P		**P**		**08 46 11.3**	**-1.6**	
HDIL	**Hopedale**	**77.59**	**348**	P				08 46 15.9		
	baz=167									
R32A	**Long Quarter,**	**77.63**	**340**	P		**P**		**08 46 13.7**	**-0.7**	
R32A				IAmb		IAmb		08 46 17.7		
	comp=Z,16nm,0.9s									
T25A	**Trinidad**	**78.18**	**335**	P				08 46 20.9		
	baz=155									
T25A	**Trinidad**	**78.18**	**336**	P		**P**		**08 46 18.6**	**+0.8**	
T25A				IAmb		IAmb		08 46 46.3		
	comp=Z,28nm,1.3s									
CBKS	**Cedar Bluff**	**78.28**	**340**	P				08 46 20.6		
	baz=159									
L44A	**Lake County Fo**	**78.95**	**349**	P				08 46 23.7		
	baz=168									
BC3	**Big Chuckawall**	**79.53**	**326**	P				08 46 29.0		
	baz=147									
S22A	**4UR Ranch, Cre**	**79.56**	**334**	P				08 46 28.6		
	baz=153									
I60A	**Shoreham**	**79.57**	**0**	P				08 46 27.7		
	baz=180									
MVCO	**Mesa Verde**	**79.70**	**333**	P				08 46 28.6		
	baz=152									
MVCO	**Mesa Verde**	**79.70**	**333**	IAMs_20		IAMs_20		09 17 52.2		
	comp=Z,324nm,19.0s									
I51A	**Listowel**	**79.79**	**355**	P				08 46 27.0		
	baz=174									
PFO	**Pinyon Flats O**	**79.95**	**325**	P				08 46 31.0		
	baz=146									
JFWS	**Jewell Farm**	**80.05**	**348**	P				08 46 28.8		
	baz=167									
Q24A	**Divide**	**80.08**	**336**	P				08 46 31.0		
	baz=155									
BOSA	**Boshof**	**80.42**	**118**	P		**P**		**08 46 31.1**	**+0.8**	
	comp=Z,16nm,1.0s,baz=229,slow=5.1,SNR=11									
BOSA				LR		LR		09 16 27.8		
	comp=Z,200nm,21.9s,baz=194,slow=32									
BOSA	**Boshof**	**80.42**	**118**	P		**P**		**08 46 26.9**	**-3.4**	
GMRC	**Granite Mounta**	**80.56**	**326**	P				08 46 34.1		
	baz=147									
ISCO	**Idaho Springs**	**80.99**	**336**	P				08 46 35.6		
	baz=154									
BFSC	**Mount Baldy Ra**	**81.03**	**325**	P				08 46 35.8		
	baz=146									
K31A	**O'Neill**	**81.58**	**342**	P		**P**		**08 46 36.1**	**+0.3**	
ALGO	**Algonquin Park**	**81.77**	**357**	P				08 46 38.1		
	baz=177									
N23A	**Red Feather La**	**82.08**	**336**	P				08 46 41.6		
	baz=154									
ECSD	**EROS Data Cent**	**82.11**	**344**	P				08 46 40.8		
	baz=162									
E60A	**Ste Agathe de**	**82.12**	**2**	P				08 46 40.9		
	baz=182									
O20A	**White River Ci**	**82.19**	**334**	P				08 46 41.9		
	baz=153									
E56A	**St. Veronique**	**82.28**	**359**	P				08 46 41.1		
	baz=179									
ISA	**Isabella, Lake**	**82.58**	**325**	P				08 46 45.0		
	baz=145									
TPNV	**Topopah Spring**	**82.63**	**327**	P				08 46 45.4		
	baz=147									
TPNV	**Topopah Spring**	**82.63**	**327**	IAMs_20		IAMs_20		09 14 07.1		
	comp=Z,377nm,19.0s									
KOWA	**Kowa**	**82.87**	**66**	P		**P**		**08 46 41.0**	**-2.2**	
GRAC	**Grapevine Rang**	**83.17**	**326**	P				08 46 48.4		
	baz=146									
NLU	**North Lily Min**	**83.45**	**331**	P		**P**		**08 46 46.8**	**+0.9**	
NLU				IAmb		IAmb		08 46 49.4		
	comp=Z,11nm,1.3s									
R11A	**Troy Canyon, C**	**83.51**	**328**	P				08 46 49.5		
	baz=147									
K22A	**Casper**	**83.85**	**336**	P				08 46 50.4		
	baz=154									
DUG	**Dugway, Tooele**	**83.95**	**331**	P				08 46 51.1		
	baz=149									
RSSD	**Black Hills**	**84.41**	**339**	P				08 46 52.9		
	baz=156									
RSSD	**Black Hills**	**84.41**	**339**	P		**P**		**08 46 49.4**	**-1.2**	
NVAR	**Mina Array Bea**	**84.77**	**326**	P		**P**		**08 46 55.8**	**+3.2**	
	comp=Z,1.2nm,0.7s,baz=148,slow=5.6,SNR=10									
BW06	**Boulder Array**	**84.98**	**334**	P				08 46 55.7		
	baz=152									
PDAR	**Pinedale Array**	**84.98**	**334**	P		**P**		**08 46 55.8**	**+2.2**	
	comp=Z,1.8nm,1.0s,baz=158,slow=4.7,SNR=13									
PDAR				LR		LR		09 20 45.8		
	comp=Z,150nm,18.7s,baz=132,slow=33									
PDAR	**Pinedale Array**	**84.98**	**334**	P		**P**		**08 46 54.8**	**+1.3**	
EYMN	**Ely**	**85.14**	**348**	P				08 46 55.7		
	baz=166									
KVN	**Kaiserville**	**85.19**	**327**	P		**P**		**08 46 53.0**	**-1.6**	
KVN				IAmb		IAmb		08 47 06.7		
	comp=Z,7.1nm,1.1s									
HVU	**Hansel Valley**	**85.29**	**332**	P		**P**		**08 46 53.8**	**-1.3**	
HVU				IAmb		IAmb		08 46 57.7		
	comp=Z,12nm,1.4s									
AGMN	**Agassiz Nation**	**86.28**	**345**	P				08 47 01.3		
	baz=162									
TOA0	**Torodi Ar. Sit**	**86.34**	**71**	P		**P**		**08 47 00.2**	**-0.5**	
TORD	**Torodi Ar. Bea**	**86.34**	**71**	P		**P**		**08 47 01.2**	**+0.6**	
	comp=Z,13nm,1.1s,baz=224,slow=4.1,SNR=16									
TORD				LR		LR		09 25 01.5		
	comp=Z,155nm,18.1s,baz=230,slow=35									
TORD	**Torodi Ar. Bea**	**86.34**	**71**	P		**P**		**08 47 00.3**	**-0.4**	
TORD				IAmb		IAmb		08 47 02.5		
	comp=Z,12nm,1.0s									
MDND	**Maddock**	**86.68**	**343**	P				08 47 04.1		
	baz=159									
RLMT	**Red Lodge**	**86.95**	**336**	P				08 47 05.9		
	baz=152									
YHH	**Holmes Hill**	**87.20**	**335**	P		**P**		**08 47 03.5**	**-1.1**	
YHH				IAmb		IAmb		08 47 09.0		
	comp=Z,10nm,1.1s									
HLID	**Hailey**	**87.44**	**332**	P				08 47 08.8		
	baz=148									
HLID	**Hailey**	**87.44**	**332**	P		**P**		**08 47 04.6**	**-1.0**	
HLID				IAmb		IAmb		08 47 09.9		
	comp=Z,12nm,1.4s									
ULM	**Lac du Bonnet**	**88.15**	**346**	P		**P**		**08 47 09.7**	**+1.1**	
	comp=Z,5.9nm,1.0s,baz=169,slow=3.0,SNR=9.0									
BOZ	**Bozeman (W)**	**88.17**	**335**	P				08 47 11.5		
	baz=150									
DGMT	**Dagmar**	**88.43**	**340**	P				08 47 12.2		
	baz=156									
MOD	**Modoc Plateau**	**88.49**	**327**	P		**P**		**08 47 11.2**	**+0.6**	
MOD				IAmb		IAmb		08 47 14.8		
	comp=Z,8.4nm,1.2s									
M04C	**Macdoel**	**89.07**	**326**	P				08 47 17.1		
	baz=143									
K05A	**Summer Lake**	**89.41**	**327**	P		**P**		**08 47 12.1**	**-2.8**	
K05A				IAmb		IAmb		08 47 19.7		
	comp=Z,18nm,1.4s									
BMO	**Blue Mountains**	**89.66**	**331**	P		**P**		**08 47 14.2**	**-1.7**	
BMO				IAMs_20		IAMs_20		09 20 45.8		
	comp=Z,214nm,19.0s									
I07A	**Izee**	**89.91**	**329**	P		**P**		**08 47 17.2**	**0.0**	
DZM	**Mont Dzumac**	**98.78**	**235**	*e*LR		LR		09 20 09.6		
	comp=Z,223nm,27.6s									
ESDC	**Sonseca Array**	**99.12**	**47**	LR		LR		09 31 06.5		
	comp=Z,145nm,19.9s,baz=225,slow=34									
MBAR	**Mbarara**	**101.44**	**99**	IAMs_20		IAMs_20		09 33 24.4		
	comp=Z,257nm,19.0s									
YKA	**Yellowknife Ar**	**103.57**	**342**	Pdiff		**Pdif**		**08 48 20.4**	**+1.9**	
	comp=Z,0.1nm,0.5s,baz=126,slow=4.8,SNR=5.0									
JIS	**Juneau Island**	**106.70**	**331**	IAMs_20		IAMs_20		09 34 42.6		
	comp=Z,518nm,22.0s									
ASAR	**Alice Springs**	**115.01**	**208**	PKP		**PKPdf**		**08 53 01.1**	**+1.2**	
	comp=Z,0.4nm,0.9s,baz=169,slow=1.4,SNR=2.8									
ASAR				PKKPbc		**PKKPbc**		**09 03 35.9**	**+0.9**	
	comp=Z,0.3nm,0.7s,baz=333,slow=2.8,SNR=4.5									
PRP	**Porcupine Dome**	**115.28**	**334**	IAMs_20		IAMs_20		09 39 26.1		
	comp=Z,267nm,21.0s									
NEA2	**Nenana**	**116.10**	**332**	IAMs_20		IAMs_20		09 28 54.9		
	comp=Z,307nm,21.0s									
WRA	**Warramunga Arr**	**118.19**	**210**	PKP		**PKPdf**		**08 53 05.8**	**-0.2**	
	comp=Z,0.5nm,0.9s,baz=179,slow=1.5,SNR=2.4									
BRTR	**Keskin Array B**	**124.16**	**63**	PKP		**PKiKP**		**08 53 17.4**	**+0.2**	
	comp=Z,0.9nm,0.7s,baz=242,slow=3.1,SNR=4.2									
AKASG	**Malin Array Be**	**124.72**	**49**	PKP		**PKPdf**		**08 53 16.6**	**-0.8**	
	comp=Z,0.2nm,0.3s,baz=266,slow=3.7,SNR=5.9									
TIXI	**Tiksi**	**142.47**	**348**			**PKPdf**		**08 53 50.4**	**+0.4**	
PALK	**Pallekele**	**143.08**	**135**	IAMs_20		IAMs_20		09 53 41.8		
	comp=Z,220nm,18.0s									
ABKAR	**Akbulak array**	**144.16**	**54**			**PKPdf**		**08 53 53.1**	**-0.5**	
KSM	**Kuching**	**145.32**	**187**			**PKPdf**		**08 53 57.8**	**+0.9**	
MYKOM	**Kota Tinggi**	**145.79**	**176**	IAMs_20		IAMs_20		10 11 17.7		
	comp=Z,468nm,22.0s									
SBUM	**Sibu**	**146.04**	**191**	IAMs_20		IAMs_20		10 12 57.4		
	comp=Z,699nm,22.0s									
RPSI	**Rantau Prapat**	**146.10**	**167**			**PKPdf**		**08 53 58.5**	**+0.4**	
IPM	**Ipoh**	**148.18**	**170**	IAMs_20		IAMs_20		10 11 28.9		
	comp=Z,220nm,22.0s									
HYB	**Hyderabad**	**149.31**	**120**	*i* PKP		**PKPbc**		**08 54 08.0**	**+0.4**	
AAK	**Ala-Archa**	**154.79**	**65**	PKP		**PKPdf**		**08 54 12.2**	**+1.2**	
	comp=Z,0.5nm,0.4s,baz=264,slow=19,SNR=3.8									
AAK				PKPbc		**sPKPbc**		**08 54 20.5**	**-1.0**	
	comp=Z,2.7nm,0.9s,baz=100,slow=20,SNR=5.4									
AAK				PKPab		**sPKPab**		**08 54 35.6**	**-1.0**	
	comp=Z,5.8nm,1.0s,baz=223,slow=4.7,SNR=8.5									
AAK				PP		**PP**		**08 58 15.5**	**+4.5**	
	comp=Z,0.5nm,0.3s,baz=277,slow=3.1,SNR=5.1									
KURBB	**Kurchatov Arra**	**155.43**	**45**	PKP		**PKPdf**		**08 54 12.5**	**+1.2**	
	comp=Z,1.4nm,1.0s,baz=316,slow=2.0,SNR=3.3									
KURBB				PKPbc		sPKPbc		08 54 22.4	0.0	
	comp=Z,1.1nm,1.0s,baz=302,slow=3.3,SNR=3.4									
KURBB				PP		**PP**		**08 58 17.9**	**+4.2**	
	comp=Z,0.8nm,1.0s,baz=290,slow=5.3,SNR=4.9									
KURK	**Kurchatov**	**155.44**	**45**			**PKPdf**		**08 54 12.5**	**+1.2**	
KURK						sPKPbc		08 54 22.4	0.0	
KURK						**PP**		**08 58 17.9**	**+4.2**	
ZAA0	**Zalesovo Array**	**156.81**	**33**			**PKPdf**		**08 54 13.5**	**+0.5**	
ZALV	**Zalesovo Beam**	**156.81**	**33**	PKP		**PKPdf**		**08 54 13.8**	**+0.8**	
	comp=Z,5.2nm,1.0s,baz=264,slow=2.7,SNR=15									
ZALV				PKPab		**sPKPab**		**08 54 44.4**	**-0.2**	
	comp=Z,3.2nm,0.7s,baz=298,slow=6.4,SNR=6.3									
MAKZ	**Makanchi**	**159.06**	**52**			**PKPdf**		**08 54 16.2**	**+0.1**	
MK31	**Makanchi Array**	**159.27**	**52**			**PKPdf**		**08 54 17.1**	**+0.8**	
MKAR	**Makanchi Array**	**159.27**	**52**	PKP		**PKPdf**		**08 54 17.4**	**+1.1**	
	comp=Z,1.9nm,0.9s,baz=300,slow=2.4,SNR=16									
MKAR				PKPab		**pPKPab**		**08 54 53.8**	**-1.3**	
	comp=Z,2.7nm,1.0s,baz=289,slow=3.7,SNR=7.4									
MKAR				PP		**PP**		**08 58 35.7**	**+0.6**	
	comp=Z,0.6nm,1.0s,baz=50,slow=1.9,SNR=4.1									
MKAR	**Makanchi Array**	**159.27**	**52**			**PKPdf**		**08 54 14.7**	**-1.7**	
CMAR	**Chiang Mai Arr**	**161.31**	**158**	PKP		**PKPdf**		**08 54 21.1**	**+1.6**	
	comp=Z,0.9nm,0.3s,baz=226,slow=3.7,SNR=4.1									
CMAR				PKPab		**sPKPab**		**08 55 04.2**	**-0.7**	
	comp=Z,1.0nm,0.3s,baz=218,slow=2.7,SNR=5.6									
WMQ	**Urumqi**	**163.93**	**56**	*e*PKP		**PKPdf**		**08 54 20.5**	**-0.8**	
TLY	**Talaya**	**164.33**	**6**	PKPab		**PKPab**		**08 55 16.9**	**+1.4**	
	comp=Z,0.8nm,0.3s,baz=313,slow=1.6,SNR=4.7									
SONM	**Songino Array**	**168.27**	**359**	PKP		**PKPdf**		**08 54 25.0**	**+0.3**	
	comp=Z,1.9nm,1.2s,baz=153,slow=1.7,SNR=5.5									
SONM				PKPab		**sPKPab**		**08 55 34.7**	**-0.3**	
	comp=Z,0.6nm,0.8s,baz=331,slow=1.9,SNR=5.1									
SONM				PP		**PP**		**08 59 26.7**	**+5.1**	
	comp=Z,1.0nm,1.1s,baz=198,slow=0.5,SNR=4.0									
NJ2	**Nanjing**	**168.69**	**253**	*e*PKP		**PKPdf**		**08 54 25.8**	**+0.5**	
GYA	**Guiyang**	**170.38**	**183**	*e*PKP		**PKPdf**		**08 54 25.9**	**-0.8**	
GYA				PP		**PP**		**08 59 34.8**	**+2.7**	
GYA				AMB		AMB				
	comp=Z,84nm,10.2s									
HHC	**Hu-ho-hao-te**	**173.62**	**320**	*e*PKP		**PKPdf**		**08 54 28.6**	**+0.9**	
HHC				PP		**PP**		**08 59 50.4**	**+1.5**	
HHC				AMB		AMB				
	comp=Z,110nm,8.2s									
HHC				LR		LR				
	comp=Z,280nm,22.8s									
HHC				LR		LR				
	comp=Z,180nm,20.3s									
HHC				LR		LR				
	comp=Z,190nm,21.3s									
XAN	**Xi'an**	**176.91**	**229**	PKP		**PKPdf**		**08 54 29.9**	**+1.2**	
XAN				pPKP		sPKPdf		08 54 39.9	+9.2	

*SOME **19** 09:34:21.7, 42.°95N × 78.°43E, h20km*
*NNC **19** 09:34:21.5±1.1, 42.°93N × 78.°47E, h0km, mb2.5, mpv2.6, Error ellipse: s-maj=7.4km s-min=3.2km az=25.0*
*KRNET **19** 09:34:22.1±0.1, 42.°74N × 78.°44E, h15km, mb1.9*

ISC 19 09:34:19.7±1.1, 42.°87N±0.°03 × 78.°50E±0.°03, h6km±11km, n15, σ1°91°01/28, 8C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SATY	**Saty**	**0.20**	**341**	*e*P	**Pg**	**09 34 24.3**		**+0.5**
	15nm,0.1s							
SATY				*e*S	**Sg**	**09 34 26.0**		**-0.7**
	331nm,0.1s							
SATY	**Saty**	**0.20**	**341**	P	**Pg**	**09 34 24.3**		**+0.5**
	15nm,0.1s							
SATY				S	**Sg**	**09 34 26.0**		**-0.7**
	331nm,0.1s							
PRZ	**Przheval'sk**	**0.39**	**191**	⇑*i*P	**Pg**	**09 34 27.0**		**-0.3**
	baz=86							
PRZ				⇑*i*S	**Sg**	**09 34 30.4**		**-2.0**
	baz=86							
UZB	**Uzynbulak**	**0.48**	**54**	*e*P	**Pb**	**09 34 31.1**		**+0.4**
	3.2nm,0.1s							
UZB				*e*S	**Sb**	**09 34 37.7**		**-0.3**
	8.4nm,0.2s							
UZB	**Uzynbulak**	**0.48**	**54**	P	**Pb**	**09 34 31.0**		**+0.4**
	3.2nm,0.1s							
UZB				S	**Sb**	**09 34 37.7**		**-0.3**
	8.4nm,0.2s							
ANVS	**Anan'yevo**	**0.61**	**263**	⇓*i*P	**Pb**	**09 34 33.6**		**+0.6**
	baz=75							
ANVS				⇓*i*S	**Sg**	**09 34 40.9**		**+1.3**
	baz=75							
KPKS	**Kokpek**	**0.62**	**13**	*e*P	**Pb**	**09 34 32.1**		**-0.8**
	3.6nm,0.1s							
KPKS				*e*S	**Sb**	**09 34 39.7**		**-2.2**
	16nm,0.3s							
PDGK	**Podgornoye**	**0.86**	**57**	P	**Pn**	**09 34 37.7**		**-0.9**
	0.4nm,0.2s							
PDGK				S	**Sb**	**09 34 49.1**		**0.0**
	0.7nm,0.3s							
KDJ	**Kajisay**	**1.22**	**233**	⇓*i*P	**Pn**	**09 34 43.6**		**+0.2**
	baz=37							
KDJ				⇓*i*S	**Sb**	**09 34 57.9**		**-1.4**
	baz=37							
KTMS	**Ketmen**	**1.48**	**66**	*e*P	**Pg**	**09 34 48.8**		**+0.7**
	1.3nm,0.2s							
KTMS				*e*S	**Sg**	**09 35 08.5**		**+1.2**
	2.0nm,0.2s							
KTMS	**Ketmen**	**1.48**	**66**	P	**Pg**	**09 34 48.8**		**+0.7**
	1.3nm,0.2s							
KTMS				S	**Sg**	**09 35 08.5**		**+1.2**
	2.0nm,0.2s							
ULHL	**Ulahol**	**1.78**	**250**	⇑*i*P	**Pb**	**09 34 53.2**		**+0.4**
	baz=54							
ULHL				⇑*i*S	**Sb**	**09 35 16.4**		**+1.0**
	baz=54							
BOOM	**Boomskoye usch**	**1.92**	**260**	⇑*i*P	**Pb**	**09 34 55.6**		**+0.4**
	baz=63							
BOOM				⇑*i*S	**Sb**	**09 35 20.6**		**+1.1**
	baz=63							
TKM2	**Tokmak 2**	**2.13**	**272**	⇑*i*P	**Pb**	**09 34 59.3**		**+0.5**
	baz=76							
TKM2				⇑*i*S	**Sg**	**09 35 27.0**		**-1.2**
	baz=76							
MK31	**Makanchi Array**	**4.77**	**33**	Lg	Lg	09 36 48.4		
	1.6nm,0.6s,baz=322,slow=26,SNR=6.4							

*IDC **19** 09:41:50.1±6.8, 23.°87N × 72.°12E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/56, mbtmp3.4/4, Error ellipse: s-maj=208.0km s-min=33.6km az=84.0*
*NDI **19** 09:41:57.3±3.0, 24.°02N × 72.°72E, h10km, ML3.6*

ISC 19 09:41:54.1±0.7, 24.°04N±0.°05 × 72.°66E±0.°05, h10km, n15, σ2°62/24, mb3.4/4, Northern India

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BHUJ	**Bhuj**	**2.87**	**255**	*e*P	**Pn**	**09 42 42.4**		**+2.6**
BHUJ				*e*S	**Sb**	**09 43 17.4**		**-3.1**
BHUJ				*e*S	**Sn**	**09 43 18.1**		**+3.7**
BHUJ				IAML		09 43 29.0		
	comp=E,214nm,0.5s							
BHUJ				IAML		09 43 30.7		
	comp=E,212nm,0.5s							
BHUJ				IAML		09 43 32.6		
	comp=N,230nm,0.6s							
AJM	**Ajmer**	**3.02**	**36**	*e*P	**Pn**	**09 42 44.0**		**+2.0**
AJM				*i* S	**Sn**	**09 43 21.0**		**+2.7**
JASL	**Jaisalmer**	**3.28**	**331**	*e*P	**Pb**	**09 42 50.5**		**-1.9**
BHPL	**Bhopal**	**4.44**	**99**	*e*P	**Pn**	**09 43 03.3**		**+1.7**
BHPL				*e*P	Pb	09 43 03.5		-8.8
BHPL				*e*S	**Sn**	**09 43 50.1**		**-3.3**
BHPL				*e*S	Sb	09 43 52.0		-14
BHPL				IAML		09 44 10.1		
	comp=E,129nm,0.2s							
BHPL				IAML		09 44 10.1		
	comp=N,134nm,0.1s							
BHPL				IAML		09 44 12.9		
	comp=N,297nm,0.5s							
BHPL				IAML		09 44 13.3		
	comp=N,257nm,0.5s							
BHPL				IAML		09 44 17.6		
	comp=E,201nm,0.0s							
BHPL				IAML		09 44 18.3		
	comp=N,216nm,0.3s							
POO	**Poona**	**5.59**	**168**	*e*P	**Pn**	**09 43 21.0**		**+3.5**
POO				*i* S	**Sn**	**09 44 21.0**		**-0.9**
POO				*e*S	**Sn**	**09 44 22.7**		**+0.9**
POO				IAML		09 44 51.3		
	comp=E,116nm,0.9s							
POO				IAML		09 44 59.2		
	comp=N,60nm,1.1s							
SONA	**Sohna**	**5.78**	**43**	*e*S	**Sn**	**09 44 26.0**		**-0.2**
NDI	**New Delhi**	**6.17**	**41**	*e*P	**Pn**	**09 43 26.5**		**+1.2**
NDI				*e*P	**Pn**	**09 43 28.0**		**+2.7**
NDI				*e*S	**Sn**	**09 44 33.3**		**-2.7**
NDI				*e*S	**Sn**	**09 44 34.0**		**-2.0**
SMLA	**Simla**	**8.11**	**29**	*e*P	**Pn**	**09 43 56.7**		**+4.7**
SMLA				*e*S	**Sn**	**09 45 20.6**		**-3.2**
SMLA				IAML		09 45 29.0		
	comp=E,59nm,0.5s							
SMLA				IAML		09 45 29.1		
	comp=N,41nm,0.2s							
HYB	**Hyderabad**	**8.59**	**139**	*e*S	**Sn**	**09 45 31.7**		**-4.0**
THW	**Thamme Wali**	**8.76**	**355**	P	**Pn**	**09 44 01.3**		**+0.4**
THN	**Thein Dam**	**8.79**	**17**	*e*P	Pn	09 44 17.5		+16
THN				*e*S	Sn	09 45 31.0		-9.3
MKAR	**Makanchi Array**	**23.98**	**16**	P	**P**	**09 47 08.9**		**+0.1**
	comp=N,0.7nm,0.6s,baz=207,slow=10,SNR=7.5							
SONM	**Songino Array**	**35.75**	**40**	P	**P**	**09 48 54.9**		**+1.7**
	comp=N,0.5nm,0.8s,baz=230,slow=8.9,SNR=2.7							
WRA	**Warramunga Arr**	**74.30**	**121**	P	**P**	**09 53 31.2**		**-0.8**
	comp=N,0.3nm,0.7s,baz=316,slow=5.7,SNR=1.5							
ASAR	**Alice Springs**	**76.02**	**124**	P	**P**	**09 53 41.7**		**-0.3**
	comp=N,0.5nm,0.9s,baz=312,slow=5.6,SNR=5.0							

IDC 19 09:42:47.5±2.6, 53.°80N × 87.°07E, h0km, mb1 3.1/2, mb1mx2.9/53, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=24.9km s-min=13.7km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**278**	*i*		**09 52 50.0**		
	baz=96,slow=336,SNR=1.5							
ZALV	**Zalesovo Beam**	**1.34**	**277**	Pg	Pg	09 43 11.9		-1.2
	2.8nm,0.3s,baz=99,slow=15,SNR=26							
ZALV				Lg	Lg	09 43 30.0		
	1.9nm,0.3s,baz=99,slow=27,SNR=13							
KURBB	**Kurchatov Arra**	**6.13**	**242**	Pn	Pn	09 44 20.2		+1.0
	0.2nm,0.3s,baz=58,slow=14,SNR=3.3							
MKAR	**Makanchi Array**	**7.64**	**205**	Pn	Pn	09 44 41.2		+1.2
	0.3nm,0.3s,baz=26,slow=13,SNR=17							
MKAR				Sn	Sn	09 46 08.0		+0.7
	0.1nm,0.3s,baz=22,slow=24,SNR=3.5							
MKAR				Lg	Lg	09 46 50.6		
	0.0nm,0.3s,baz=26,slow=30,SNR=6.8							

NNC 19 09:54:10.7±2.9, 53.°64N × 88.°05E, h0km, mb3.5, mpv3.1, 4C-3D, Error ellipse: s-maj=24.3km s-min=14.2km az=51.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ZAA0	**Zalesovo Array**	**1.94**	**281**	⇓P	Pn	09 54 44.0		-0.9
	2.5nm,0.5s							
ZAA0				⇑S	Sb	09 55 11.5		-0.2
	11nm,0.5s							
KURBB	**Kurchatov Arra**	**6.59**	**247**	⇑Pn	Pn	09 55 49.2		+0.5
	2.3nm,0.4s							
KURBB				⇑Sn	Sn	09 57 04.2		-0.4

SAMH	Samovar Hills	9.32 354	Pn	Pn	09 59 34.0	+0.4
TABL	Table Mountain	9.66 353	Pn	Pn	09 59 38.2	0.0
LOGN	Logan Glacier	10.03 354	Pn	Pn	09 59 43.2	-0.1
WHY	Whitehorse	10.03 11	Pn	Pn	09 59 45.9	+2.6
WHY			Sn	Sn	10 01 33.9	-2.0
CRQE	Cirque	10.17 348	P		09 59 43.8	
	baz=165					
CTGM	Chitina Glacie	10.19 353	Pn	Pn	09 59 45.4	0.0
CTGM			Sn	Sn	10 01 37.0	-2.8
CTG	Chitna Glacier	10.19 353	P		09 59 45.3	
	baz=171					
PTPK	Patty Peak	10.52 350	Pn	Pn	09 59 50.0	0.0
KDAK	Kodiak Island	10.58 316	Pn	Pn	09 59 42.7	-7.8
	1.6nm,0.3s,baz=119,slow=5.5,SNR=24					
KDAK	Kodiak Island	10.58 316	P		09 59 42.8	
	baz=125					
OHAK	Old Harbor	10.60 312	P		09 59 41.7	
	baz=121					
BMRM	Bremner River	10.60 344	P		09 59 48.9	
	baz=160					
MCARA	McCarthy VSAT	10.77 349	P		09 59 52.7	
	baz=166					
YUK3	Moose Creek	10.95 356	Pn	Pn	09 59 57.9	+2.1
YUK2	White River	10.98 355	Pn	Pn	09 59 58.1	+2.0
SEW	Seward	11.01 331	P		09 59 51.1	
	baz=143					
KLU	Klutina	11.33 342	P		09 59 58.9	
	baz=157					
BVCY	Beaver Creek	11.60 355	Pn	Pn	10 00 06.6	+2.0
KNK	Knik Glacier	11.82 337	P		10 00 05.8	
	baz=149					
RC01	Rabbit Creek A	11.89 333	P		10 00 04.7	
	baz=145					
M24K	Tolsona, Glenn	11.94 343	P		10 00 09.2	
	baz=157					
SML	Sawmill	12.13 338	P		10 00 10.1	
	baz=150					
PMR	Palmer	12.14 336	P		10 00 09.2	
	baz=148					
SUA	Susitna One	12.48 333	P		10 00 13.1	
	baz=143					
PAX	Paxson	12.63 346	P		10 00 18.3	
	baz=161					
WAT6	Susitna Watana	12.68 341	P		10 00 17.6	
	baz=154					
I03D	Drain, OR	12.71 119	P		10 00 20.4	
	baz=310					
CUT	Chulitna	13.12 336	P		10 00 22.7	
	baz=147					
SKT	Skwentna	13.12 333	P		10 00 22.0	
	baz=142					
WAT2	Susitna Watana	13.20 340	P		10 00 25.0	
	baz=152					
DAWY	Dawson	13.21 359	Pn	Pn	10 00 29.1	+2.5
MCK	McKinley	13.96 341	P		10 00 35.5	
	baz=153					
EGAK	Eagle	13.98 356	P		10 00 38.9	
	baz=174					
TRF	Thorofare Moun	14.01 338	P		10 00 35.8	
	baz=149					
PPLA	Purkeypile	14.03 334	P		10 00 34.5	
	baz=143					
NEW	Newport	14.31 92	Pn	Pn	10 00 44.7	+3.0
	0.1nm,0.3s,baz=290,slow=17,SNR=3.2					
NEW			LR	LR	10 05 46.5	
	comp=Z,33nm,19.2s,baz=297,slow=34					
ILAR	Eielson Array	14.54 346	Pn	Pn	10 00 42.8	-2.0
	0.2nm,0.3s,baz=174,slow=14,SNR=18					
BPAW	Bear Paw Mtn.	14.72 339	P		10 00 44.8	
	baz=149					
CHUM	Lake Minchumin	14.87 336	P		10 00 46.7	
	baz=145					
PRP	Porcupine Dome	15.07 349	P		10 00 52.6	
	baz=164					
YKA	Yellowknife Ar	17.52 39	P	P	10 01 24.7	+0.4
	0.1nm,0.3s,baz=234,slow=11,SNR=38					
NVAR	Mina Array Bea	19.11 123	P	P	10 01 41.4	-0.8
	0.1nm,0.3s,baz=304,slow=10,SNR=10					
ELK	Elko	19.23 113	P	Pn	10 01 45.0	+0.5
	0.1nm,0.3s,baz=305,slow=10,SNR=2.0					
ELK			LR	LR	10 07 42.1	
	comp=Z,24nm,20.6s,baz=294,slow=32					
ANM	Nome	19.50 325	P		10 01 43.0	
	baz=122					
PDAR	Pinedale Array	21.49 101	P	P	10 02 08.5	+0.4
	1.3nm,0.8s,baz=316,slow=7.6,SNR=7.2					
ANMO	Albuquerque	28.27 112	LR	LR	10 13 15.5	
	comp=Z,21nm,18.3s,baz=253,slow=34					
TXAR	Lajitas Array	33.97 116	P	P	10 04 03.3	+0.5
	0.2nm,0.6s,baz=290,slow=7.9,SNR=4.9					
H11N2	WAKE ISLAND Hy	52.56 254	T	T	11 02 42.8	
	baz=40,slow=75,SNR=10					
H11N3	WAKE ISLAND Hy	52.56 254	T	T	11 02 41.3	
	baz=40,slow=75,SNR=13					
H11N1	WAKE ISLAND Hy	52.58 254	T	T	11 02 17.4	
	baz=40,slow=75,SNR=3.4					
KLR	Kul'dur	53.95 306	LR	LR	10 28 18.1	
	comp=Z,92nm,20.7s,baz=21,slow=35					

*HEL **19** 10:00:07.3±0.2,64.67N×30.55E,h0km,ML2.0,Explosion*
*IDC **19** 10:00:08.5±2.7,64.59N×30.82E,h0km,mb1 2.8/2,*
mb1mx2.6/48,mbtmp2.7/2,ML1.8/2,Error ellipse:
s-maj=42.9km s-min=9.0km az=103.0
*KOLA **19** 10:00:10.1,64.86N×30.19E,h0km,ML2.3,*
Karelia,Finland, Oulu area
ISC 19 10:00:07.2±1.0,64.71N±0.03×30.90E±0.05,h0km,n24,
σ1$72/37,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KU6	Riekki	1.39	343	PG		Pg	10 00 32.8	-1.0
KU6				MSG			10 00 49.0	
	comp=Z,10nm,0.2s							
KU6				SG		Sg	10 00 49.9	-1.9
MSF	Maaselka	1.44	328	PN		Pn	10 00 33.2	-1.3
MSF				SN		Sg	10 00 52.0	-1.3
OLKF	Oulanka, Finla	1.73	340	PN		Pn	10 00 38.8	+0.2
OLKF				SN		Sn	10 01 01.8	+0.4
JOF	Joensuu	1.81	174	PG		Pn	10 00 39.5	0.0
JOF				SG		Sn	10 01 03.5	+0.4
OUL	Oulu	2.17	282	PG		Pn	10 00 44.6	+0.1
	baz=95							
OUL				SG		Sn	10 01 11.0	-1.0
OUF	Merijarvi	2.69	265	PG		Pn	10 00 51.8	+0.2
	baz=84							
OUF				MSG			10 01 22.2	
	comp=Z,12nm,0.2s							
OUF				SG		Sn	10 01 25.8	+1.0
RNF	Rovaniemi	2.78	316	PG		Pn	10 00 54.7	+1.8
OBF0	Syolatti, Pyha	2.88	269	PG		Pn	10 00 55.3	+1.1
SUF	Sumiainen	2.91	229	PG		Pn	10 00 56.6	+2.0
SUF				MSG			10 01 28.9	
	comp=Z,6.1nm,0.2s							
SUF				SG		Sn	10 01 31.4	+1.2
APA0	Apatity Array	3.03	15	P		Pn	10 00 57.9	+1.5
APA0				S		Sn	10 01 33.8	+0.5
APA	Apatity	3.05	18	P		Pn	10 00 58.5	+1.9
APA				S		Sn	10 01 34.5	+0.8
TOF	Tornio	3.08	300	PG		Pb	10 01 01.1	-1.6
	baz=111							
TOF				MSG			10 01 34.4	
	comp=Z,5.1nm,0.2s							
TOF				SG		Sn	10 01 36.8	+2.4
VRF	Varrio	3.10	351	PB		Pn	10 00 58.7	+1.4
VRF				MSG			10 01 38.8	
	comp=Z,3.4nm,0.2s							
KALU	Kalix	3.37	293	PG		Pn	10 01 04.4	+3.4
KEF	Keuruu	3.72	229	PB		Pn	10 01 07.6	+1.8
KEF				SG		Sb	10 01 59.9	+0.6
FIA0	FINESS Array S	3.94	216	PB		Pn	10 01 09.2	+0.3
FINES	FINESS Array B	3.94	216	Pn		Pn	10 01 08.7	-0.2
	comp=Z,0.1nm,0.3s,baz=32,slow=14,SNR=1.7							
FINES				Pg		Pb	10 01 15.6	-1.9
	comp=Z,0.2nm,0.3s,baz=34,slow=14,SNR=5.9							
FINES				Lg		Lg	10 02 07.6	
	comp=Z,1.0nm,0.3s,baz=35,slow=28,SNR=10.0							
PAJU	Pajala	3.95	310	PB		Pn	10 01 11.6	+2.6
BURU	Burvik	4.10	273	PB		Pn	10 01 12.1	+1.1
VJF	Virojoki	4.46	202	SG		Sb	10 02 23.4	+2.8
UMAU	Umeaa	4.53	264	PN		Pn	10 01 15.3	-1.5
	baz=73							
HEF	Hetta	4.71	325	PB		Pn	10 01 23.8	+4.5
	baz=143							
HEF				SG		Sb	10 02 29.5	+1.9

ARCES	ARCESS Array B	5.28	339	Pn	Pn	10 01 27.7	+0.4
	baz=150,slow=12,SNR=19						
ARCES				Sn	Sn	10 02 27.1	-1.6
	baz=153,slow=22,SNR=1.8						
ARCES				Lg	Lg	10 02 48.0	
	baz=159,slow=25,SNR=2.4						
I43RU	DUBNA INFRASON	8.59	156	*i*		10 52 00.0	
	baz=346,slow=329,SNR=1.5						

*IDC **19** 10:00:23.0±0.8,8.37N×126.12E,h0km,mb3.8/9,*
mb1 3.9/9,mb1mx3.7/39,mbtmp3.8/9,Error ellipse:
s-maj=53.3km s-min=17.0km az=83.0
*MAN **19** 10:00:25.6,8.30N×125.93E,h8km,mb4.5,ML3.5,MS3.5*
MAN INTENSITY II - ROSARIO.
ISC 19 10:00:25.0±1.5,8.33N±0.03×125.98E±0.06,h13km±9km,
n27,σ1$70/32,mb3.7/9,3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUTP	Butuan	0.73	331	*e*P		Pb	10 00 40.0	+0.3
BUTP				*e*S		Sn	10 00 52.1	0.0
BUKP	Musuan	1.01	244	*e*P		Pg	10 00 43.0	-1.6
BUKP				*e*S		Sn	10 01 00.3	+1.1
CGP	Cagayan de Oro	1.28	276	*e*P		Pn	10 00 48.1	-0.6
CGP				*i* S		Sg	10 01 05.5	-0.8
MATI	Mati	1.40	169	*e*P		Pn	10 00 50.0	-0.3
MATI				*e*S		Sn	10 01 10.1	+1.4
GLSP	General Luna,	1.45	6	*e*P		Pb	10 00 51.7	-0.3
GLSP				*e*S		Sg	10 01 12.2	+0.2
KCP	Kidapawan	1.58	214	*i*P		Pn	10 00 53.9	+1.0
KCP				*i* S		Sg	10 01 21.7	+5.8
MSLP	Maasin	2.11	328	*e*P		Pn	10 00 59.6	-0.5
MSLP				*e*S		Sn	10 01 27.5	+1.3
DDMP	Don Marcelino,	2.23	187	*e*P		Pn	10 01 01.3	-0.4
SKMP	Bagumbayan, Su	2.29	219	*e*P		Pn	10 00 59.8	-2.8
PAGZ	Pagadian	2.62	260	*e*P		Pn	10 01 07.6	+0.5
LLP	Lapu-Lapu	2.80	315	*e*P		Pn	10 01 11.2	+1.5
LLP				*i* S		Sn	10 01 46.2	+2.8
BESP	Borongan	3.30	351	*e*P		Pn	10 01 19.9	+3.5
BESP				*e*S		Sb	10 02 01.9	-1.6
FITZ	Fitzroy Crossi	26.26	181	P		P	10 06 00.4	+0.2
	2.1nm,0.8s,baz=178,slow=1.9,SNR=4.0							
WRA	Warramunga Arr	29.27	164	P		P	10 06 27.3	+0.1
	0.4nm,0.6s,baz=342,slow=9.3,SNR=6.1							
WRA				PcP		PcP	10 09 34.3	+0.1
	0.3nm,0.7s,baz=339,slow=2.6,SNR=1.5							
ASAR	Alice Springs	32.73	166	P		P	10 06 57.8	+0.1
	0.5nm,0.6s,baz=343,slow=7.0,SNR=10							
USRK	Ussuriysk Ar.	36.12	7	P		P	10 07 27.2	+0.4
	1.1nm,0.6s,baz=203,slow=7.5,SNR=4.8							
H11S3	WAKE ISLAND Hy	40.78	71	T		T	10 51 20.6	
	baz=268							
H11S1	WAKE ISLAND Hy	40.79	71	T		T	10 51 19.9	
	baz=268							
H11S2	WAKE ISLAND Hy	40.79	71	T		T	10 51 21.1	
	baz=268							
KLR	Kul'dur	41.05	6	P		P	10 08 07.8	-0.4
	0.7nm,0.5s,baz=152,slow=7.3,SNR=4.2							
H11N1	WAKE ISLAND Hy	41.16	70	T		T	10 51 53.9	
	baz=265,slow=74,SNR=9.4							
H11N2	WAKE ISLAND Hy	41.17	70	T		T	10 51 53.7	
	baz=265,slow=74,SNR=7.3							
H11N3	WAKE ISLAND Hy	41.18	70	T		T	10 51 54.5	
	baz=265,slow=74,SNR=13							
MKAR	Makanchi Array	53.40	324	P		P	10 09 45.3	+0.7
	0.3nm,0.4s,baz=124,slow=8.0,SNR=5.7							
MKAR				PcP		PcP	10 10 51.4	-0.4
	0.6nm,0.7s,baz=111,slow=3.8,SNR=3.9							
ILAR	Eielson Array	81.30	26	P		P	10 12 39.7	-1.2
	0.3nm,0.5s,baz=249,slow=4.9,SNR=8.0							
FINES	FINESS Array B	87.45	332	P		P	10 13 11.4	-0.8
	1.1nm,0.8s,baz=41,slow=6.1,SNR=3.5							
YKA	Yellowknife Ar	95.64	24	P		P	10 13 49.7	-0.5
	0.2nm,0.6s,baz=304,slow=3.8,SNR=5.1							

*BJI **19** 10:05:58.0±0.0,2.00N×126.50E,h35km,mB5.2/55,*
mb5.2/74,Ms4.7/64,Ms7 4.5/64
*NEIC **19** 10:05:59.2±2.1,1.94N±0.07×126.46E±0.06,h32km±3km,*
mb5.4/145,Error ellipse: s-maj=10.8km s-min=7.9km
az=216.0
*MOS **19** 10:06:00.2±1.2,1.97N×126.34E,h53km,mb5.6/47,Error*
ellipse: s-maj=7.3km s-min=4.2km az=119.0
*IDC **19** 10:06:01.0±1.2,1.84N×126.35E,h48km±11km,mb5.0/51,*
mb1 5.0/54,mb1mx4.9/58,mbtmp5.3/54,ML4.5/3,MS4.0/23,
Ms1 4.0/23,ms1mx3.9/33,Error ellipse: s-maj=10.9km
s-min=5.7km az=71.0
*DJA **19** 10:06:02.5±0.2,2.1N±2.1×12.6E±.1,h64km±2km,M5.1/88,*
mB5.6/67,mb5.4/88,MLv5.4/18,Mw(mB)5.1/67,
MwMwp4.9/12,Mwp5.2/12
*GCMT **19** 10:06:03.2±0.1,2.00N±0.01×126.50E±0.01,h45km,*
MW5.2/117,Moment Tensor Solution. s117,c180;
s115,c190; Duration: 1$0 Moment tensor: Scale 10^17
Nm; Mrr0.78±.02; Mθθ-0.25±.01; Mφφ-0.53±.02;
Mrθ0.23±.01; Mθφ-0.50±.01; Mφr0.25±.01; Best double
couple: M0.0.91400×10^17 NP1:φ214.00000°,δ34.00000°,
λ85.00000°. NP2:φ40.00000°,δ56.00000°,λ93.00000°.
Principal axes: T 0.8510, Plg79.0000°, Azm322.0000°; N
0.1260, Plg3.0000°, Azm218.0000°; P -0.9770,
Plg11.0000°, Azm128.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
*KLM **19** 10:06:06.2,2.08N×126.31E,h84km,mb5.4*
ISC 19 10:06:01.5±0.5,1.93N±0.03×126.42E±0.04,h54km±4km,
n694,σ1$42/720,mb5.3/229,MS4.3/49,43C-16D,Northern
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	Ternate	1.49	140	Pn		Pn	10 06 24.9	-1.0
TNTI	Ternate	1.49	140	P		Pn	10 06 24.8	-1.2
MNI	Manado	1.65	253	P		Pn	10 06 29.3	+1.2
SGSI	Sangihe	1.96	333	P		Pn	10 06 32.4	0.0
KMSI	Cibinong	2.78	241	P		Pn	10 06 46.3	+2.7
KMSI				S		Sn	10 07 20.3	+4.3
GTOI	Gorontalo	3.64	249	P		Pn	10 06 57.6	+2.2
SANI	Sanana	3.97	186	P		Pn	10 06 59.4	-0.6
DDMP	Don Marcelino,	4.21	350	*e*P		Pn	10 07 01.6	-1.6
DDMP				*e*S		Sn	10 07 51.6	+0.5
LUWI	Luwuk	4.69	231	Pn		Pn	10 07 11.5	+1.7
LUWI	Luwuk	4.69	231	P		Pn	10 07 12.1	+2.3
MRSI	Marisa	4.70	252	P		Pn	10 07 12.8	+2.8
SKMP	Bagumbayan, Su	4.93	338	*e*P		Pn	10 07 12.6	-0.5
SKMP				*e*S		Sn	10 08 08.5	-0.4
MATI	Mati	4.99	358	*e*P		Pn	10 07 13.2	-0.7
NLAI	Namlea	5.18	172	P		Pn	10 07 16.2	-0.3
	1.5nm5µm318nm,1.0s							
KCP	Kidapawan	5.22	345	*e*P		Pn	10 07 19.1	+1.9
KCP				*i* S		Sn	10 08 28.4	+12
APSI	Ampana	5.54	239	P		Pn	10 07 24.9	+3.4
	11nm3µm19µm2µm,1.0s							
SWI	Sorong	5.58	120	P		Pn	10 07 23.4	+1.4
	0.9nm11µm3µm304nm,1.0s							
SIJI	Sorong	5.59	120	P		Pn	10 07 23.1	+0.9
	4.1nm,0.3s,baz=313,slow=10.0,SNR=31							
SIJI				S		Sn	10 08 25.5	+0.4
	0.3nm,0.3s,baz=284,slow=19,SNR=1.1							
TOLI2	Tolitoli	5.69	262			Pn	10 07 23.6	+0.1
BUKP	Musuan	6.06	347	*e*P		Pn	10 07 30.1	+1.4
BUKP				*e*S		Sn	10 08 53.0	+16
ZCP	Zamboanga City	6.59	319	*i*P		Pn	10 07 36.6	+0.7
PAGZ	Pagadian	6.61	333	*e*P		Pn	10 07 35.5	-0.7
CGP	Cagayan de Oro	6.71	345	*e*P		Pn	10 07 43.5	+6.0
BUTP	Butuan	7.04	354	*e*P		Pn	10 07 43.2	+1.1
PCI	Palu	7.16	247	P		Pn	10 07 44.6	+0.9
BNDI	Bandanaira	7.29	151	P		Pn	10 07 44.8	-0.7
	1.8nm8µm15µm304nm,1.0s							
FAKI	Fak Fak	7.56	130	Pn		Pn	10 07 50.1	+0.9
FAKI	Fak Fak	7.56	130	P		Pn	10 07 50.6	+1.4
	0.8nm7µm4µm212nm,1.1s							
GLSP	General Luna,	7.81	358	*e*P		Pn	10 07 53.1	+0.5
GLSP				*e*S		Sn	10 09 15.2	-4.5
TTSI	Tana Toraja	8.24	233	P		Pn	10 07 59.6	+1.1
	5µm550nm,1.0s							
MSLP	Maasin	8.30	349	*e*P		Pn	10 08 00.5	+1.2
LLP	Lapu-Lapu	8.68	344	*e*P		Pn	10 08 04.2	-0.4
LLP				*e*S		Sn	10 09 55.4	+14
SPSI	Sidrap Palu	8.85	229	P		Pn	10 08 07.7	+0.8
	3µm274nm,0.8s							

BNSI	Bone	8.90	225	P	Pn	10 08 08.4	+0.8
	2µm254nm,0.8s						
BKSI	Bulukumba	9.56	221	P	Pn	10 08 16.7	+0.1
	2µm2µm172nm,0.7s						
KAPI	Kappang	9.59	224	P	Pn	10 08 19.0	+2.1
	12nm,0.3s,baz=7.6,slow=9.8,SNR=12						
KAPI				S	Sn	10 10 00.8	-2.5
	baz=66,slow=20,SNR=1.5						
KAPI	Kappang	9.59	224	P	Pn	10 08 19.0	+2.1
KAPI	Kappang	9.59	224	Pn	Pn	10 08 19.0	+2.1
KAPI	Kappang	9.59	224	P	Pn	10 08 18.3	+1.3
I39PW	PALAU INFRASON	9.83	55	*i*		11 19 10.0	
	baz=239,slow=312,SNR=0.7						
BSSI	Bau Bau, Buton	9.96	216	P	Pn	10 08 23.7	+1.6
	2µm131nm,0.8s						
BKB	Balikpapan	10.03	252	Pn	Pn	10 08 23.7	+0.7
BKB	Balikpapan	10.03	252	P	Pn	10 08 24.3	+1.2
	4µm3µm320nm,0.8s						
BAKI	Biak	10.17	108	P	Pn	10 08 25.9	+0.9
SPMM	Sapulut	10.31	286	P	Pn	10 08 30.0	+3.1
SRPI	Serui, Papua	10.52	111	P	Pn	10 08 29.3	-0.5
	7µm220nm,1.0s						
KKM	Kota Kinabalu	10.97	292	Pn	Pn	10 08 39.2	+3.3
SAUI	Saumlaki	10.98	154	Pn	Pn	10 08 36.9	+0.8
SAUI	Saumlaki	10.98	154	P	Pn	10 08 36.0	-0.1
	7µm148nm,0.9s						
MMRI	Maumere	11.29	202	Pn	Pn	10 08 42.2	+2.0
MMRI	Maumere	11.29	202	P	Pn	10 08 41.3	+1.0
	2µm86nm,0.7s						
KBKI	Kotabaru	11.49	243	P	Pn	10 08 46.2	+3.3
	1µm113nm,1.2s						
EDFI	Ende, Flores	11.61	204	P	Pn	10 08 46.1	+1.4
	558nm50nm,1.1s						
SOEI	Soe	11.80	190	Pn	Pn	10 08 50.8	+3.5
SOEI	Soe	11.80	190	P	Pn	10 08 49.6	+2.2
	3µm3µm416nm,0.9s						
MTKI	Muara Teweh, K	11.87	256	P	Pn	10 08 50.0	+1.8
BATI	Baumata	12.36	193	P	Pn	10 08 59.9	+5.0
	3.1nm,0.3s,baz=148,slow=10,SNR=3.8						
BATI				LR	LR	10 14 22.2	
	comp=Z,690nm,18.3s,baz=358,slow=41						
BATI	Baumata	12.36	193	P	Pn	10 08 58.6	+3.7
	1µm101nm,0.9s						
BBKI	Banjar Baru	12.75	245	P	Pn	10 09 02.3	+2.1
	3µm123nm,1.2s						
SMPI	Sarmi	12.89	108	P	Pn	10 09 01.7	-0.4
	2µm3µm139nm,1.4s						
LQP	Lukban	13.03	339	*e*P	Pn	10 09 05.5	+1.3
LUBP	Lubang	13.22	333	*e*P	Pn	10 09 08.7	+2.0
TGY	Tagaytay City	13.25	336	P	P	10 09 17.6	+2.2
	40nm,0.3s,baz=158,slow=16,SNR=1.5						
BASI	Baing, Sumba	13.39	206	P	P	10 09 24.2	+7.3
PLAI	Plampang	13.72	219	P	Pn	10 09 16.4	+2.9
	2µm267nm,0.9s						
SBUM	Sibu	14.20	272		P	10 09 23.4	-2.4
SBUM	Sibu	14.20	272	P	P	10 09 24.0	-1.8
TWSI	Taliwang, Sumb	14.23	222	P	Pn	10 09 22.6	+2.3
	2µm222nm,1.0s						
GENI	Genyem	14.46	108	P	Pn	10 09 25.7	+2.3
	3µm6µm498nm,1.3s						
JAY	Jayapura	14.95	107	P	Pn	10 09 30.2	+0.4
	0.5nm,0.3s,baz=236,slow=8.9,SNR=4.6						
JAY				LR	LR	10 14 34.9	
	comp=Z,434nm,19.1s,baz=304,slow=34						
JAY	Jayapura	14.95	107	P	Pn	10 09 29.5	-0.3
	780nm87nm,0.8s						
SRBI	Singaraja	14.96	228	P	Pn	10 09 30.6	+0.8
	2µm188nm,1.0s						
STKI	Sintang	15.05	263	P	P	10 09 33.5	-1.8
KMMI	Kalianget	15.29	234	P	P	10 09 36.8	-1.2
	4µm273nm,0.8s						
DNP	Denpasar	15.36	227	P	P	10 09 37.8	-0.9
	654nm,0.9s						
PBKI	Pangkalan Bun	15.44	253	P	Pn	10 09 37.2	+1.1
	10µm180nm,1.3s						
ABJI	Asem Bagus	15.52	231	P	P	10 09 39.1	-1.5
	2µm154nm,1.3s						
JAGI	Jajag, Banyuwa	16.01	230	P	P	10 09 45.4	-0.5
JAGI				IAmb	IAmb	10 09 50.0	
	comp=Z,182nm,0.9s						
JAGI	Jajag, Banyuwa	16.01	230	P	P	10 09 45.9	-0.1
	comp=Z,2µmcomp=Z,179nm,1.2s						
KSM	Kuching	16.11	269	P	P	10 09 47.3	+0.2
KSM	Kuching	16.11	269	P	P	10 09 49.0	+1.9
MMPI	Merauke	17.34	127	P	P	10 10 00.8	+0.1
	comp=Z,451nm,0.9s						
KNRA	Kununurra	17.64	173	P	Pn	10 10 03.6	-0.1
	baz=18,SNR=6.3						
KNRA	Kununurra	17.64	173	P	Pn	10 10 03.0	-0.7
KNRA				IAmb	IAmb	10 10 07.2	
	comp=Z,246nm,0.9s						
SMRI	Semarang	18.27	241	P	Pn	10 10 11.8	+0.4
SMRI	Semarang	18.27	241	P	Pn	10 10 12.3	+0.9
	comp=Z,164nm,1.0s						
UGM	Wanagama	18.62	238	P	P	10 10 14.6	-0.4
UGM	Wanagama	18.62	238	P	Pn	10 10 17.5	+1.8
	comp=Z,108nm,1.0s						
TPI	Tanjungpandan	19.33	256	P	P	10 10 23.0	+0.4
	comp=Z,1µmcomp=Z,50nm,1.4s						
FITZ	Fitzroy Crossi	19.91	182	P	P	10 10 27.8	-1.1
	comp=Z,5.5nm,0.3s,baz=12,slow=7.1,SNR=100						
FITZ				S	S	10 14 07.7	-2.5
	baz=209,slow=20,SNR=3.9						
FITZ				LR	LR	10 18 36.7	
	comp=Z,174nm,21.9s,baz=13,slow=38						
FITZ	Fitzroy Crossi	19.91	182	P	P	10 10 27.8	-1.1
	baz=20,SNR=90						
FITZ	Fitzroy Crossi	19.91	182	P	P	10 10 27.9	-1.0
DLV	T Lat	20.37	300	P	P	10 10 34.3	+0.1
PPBI	Pangkal Pinang	20.68	259	P	P	10 10 37.8	+0.5
	comp=Z,16µmcomp=Z,60nm,0.8s						
LEM	Lembang	20.68	245	P	P	10 10 37.0	-0.4
	comp=Z,45nm,0.8s,baz=53,slow=12,SNR=10						
LEM				LR	LR	10 18 50.5	
	comp=Z,526nm,21.1s,baz=54,slow=37						
LEM	Lembang	20.68	245	P	P	10 10 37.1	-0.4
	comp=Z,902nmcomp=Z,54nm,0.9s						
CISI	Cisompet, Garu	20.81	243	P	P	10 10 36.6	-2.2

comp=Z,986nmcomp=Z,64nm,1.0s
YHNB Yeheng 23.13 348 P P 10 11 01.1 -2.2
YHNB IAmb IAmb 10 11 10.1
comp=Z,77nm,0.9s
WR0 Warramunga Arr 23.17 160 IAmb IAmb 10 11 09.2
comp=Z,173nm,0.9s
LWLI Liwa 23.38 253 P P 10 11 04.7 -1.2
comp=Z,11μmcomp=Z,140nm,0.7s
QIZ Qiongzhong 23.50 317 P P 10 11 06.5 -0.4
QIZ S S 10 15 19.8 +2.9
QIZ pmax pmax
comp=Z,31nm,0.9s
QIZ pmax pmax
comp=Z,360nm,4.3s
QIZ LR LR
comp=Z,890nm,20.2s
QIZ LR LR
comp=Z,1μm,25.7s
QIZ LR LR
comp=Z,2μm,25.5s
PMG Port Moresby 23.53 119 P P 10 11 06.7 -0.5
comp=Z,37nm,0.9s,baz=305,slow=8.5,SNR=11
PMG LR LR 10 21 14.9
comp=Z,606nm,19.7s,baz=310,slow=39
PMG Port Moresby 23.53 119 P P 10 11 07.0 -0.2
PMG pmax pmax
comp=Z,64nm,1.2s
PMG Port Moresby 23.53 119 P P 10 11 07.0 -0.2
PMG Port Moresby 23.53 119 P P 10 11 07.4 +0.2
LHSI Lahat 23.58 256 P P 10 11 07.4 -0.3
comp=Z,6μmcomp=Z,104nm,1.0s
MBWA Marble Bar 23.86 196 P P 10 11 09.4 -0.7
JRMM Jerantut 23.99 275 P P 10 11 12.0 +0.6
XMI Christmas Isla 24.02 239 P P 10 11 11.4 -0.3
XMIS Christmas Isla 24.06 239 P P 10 11 08.8 -3.3
XMIS IAmb IAmb 10 11 12.1
comp=Z,117nm,0.9s
XMIS Christmas Isla 24.06 239 P P 10 11 11.3 -0.8
KSI Kapahiang 24.45 257 P P 10 11 16.5 +0.8
comp=Z,21μmcomp=Z,137nm,0.8s
JOW Kunigami 24.83 4 P P 10 11 20.3 +1.4
comp=Z,145nm,0.9s,baz=187,slow=9.7,SNR=13
JOW Kunigami 24.83 4 P P 10 11 19.1 +0.2
JOW IAmb IAmb 10 11 22.4
comp=Z,144nm,1.0s
BKNI Bangkinang 25.42 267 P P 10 11 25.4 +0.9
comp=Z,109nm,0.9s
IPM Ipoh 25.48 276 P P 10 11 23.4 -1.6
IPM IAmb IAmb 10 11 51.0
comp=Z,72nm,1.0s
IPM Ipoh 25.48 276 P P 10 11 25.0 0.0
QIS Mount Isa 25.82 151 P P 10 11 27.5 -0.4
baz=26,SNR=36
KULM Kulim 25.93 278 P P 10 11 28.0 -1.1
KULM Kulim 25.93 278 P P 10 11 29.0 -0.1
ASAR Alice Springs 26.46 164 P P 10 11 32.9 -0.9
comp=Z,28nm,0.5s,baz=344,slow=8.0,SNR=257
ASAR PcP PcP 10 14 58.5 +0.5
comp=Z,10nm,0.7s,baz=354,slow=2.7,SNR=6.1
ASAR S S 10 16 03.4 -0.7
comp=Z,19nm,1.0s,baz=346,slow=19,SNR=11
ASAR P3KPbc 10 44 08.9
comp=Z,0.6nm,1.0s,baz=146,slow=5.1,SNR=2.1
ASAR Alice Springs 26.46 164 P P 10 11 32.7 -1.1
ASAR PcP PcP 10 14 58.3 +0.3
MTSU Mount Surprise 26.61 139 P P 10 11 34.8 -0.3
baz=27,SNR=24
MNSI Mandailing Nat 26.85 268 P P 10 11 38.2 +0.8
comp=Z,73nm,0.9s
WRKA Warakurna 26.87 176 P P 10 11 37.0 -0.5
baz=27,SNR=282
SRAK Srakaew 26.92 298 P P 10 11 34.5 -3.5
comp=Z,5μmcomp=Z,435nm,0.9s
GIRL Giralia 27.16 205 P P 10 11 41.3 +1.3
baz=27,SNR=7.5
GIRL Giralia 27.16 205 P P 10 11 41.7 +1.7
TRTT Trang 27.26 283 P P 10 11 39.0 -2.0
comp=Z,32nm,1.8s
KHON Khomkaen 27.29 303 P P 10 11 43.2 +1.9
comp=Z,60nm,0.9s
RPSI Rantau Prapat 27.48 272 IAmb IAmb 10 11 48.4
comp=Z,68nm,1.1s
PSI Prapat 27.48 272 P P 10 11 42.2 -1.0
comp=Z,36nm,1.0s,baz=176,slow=0.4,SNR=21
CHAI Chaiyaphum 27.79 301 P P 10 11 45.9 +0.1
comp=Z,686nmcomp=Z,90nm,0.8s
NONG Nongkai 27.90 307 P P 10 11 46.4 -0.4
comp=Z,84nm,0.8s
PHET Kaeng Krachan 28.68 294 P P 10 11 55.0 +1.3
comp=Z,55nm,1.0s
GSI Gunungsitoli 28.84 269 IAmb IAmb 10 11 55.7
comp=Z,96nm,0.9s
GSI Gunungsitoli 28.84 269 P P 10 11 55.5 +0.3
comp=Z,118nm,0.9s
SLVN Son La 29.21 313 P P 10 11 58.8 +0.4
JCJ Chichijima 29.24 30 P P 10 11 58.1 -0.4
comp=Z,115nm,0.7s,baz=261,slow=3.7,SNR=12
JCJ LR LR 10 22 21.5
comp=Z,147nm,21.0s,baz=240,slow=33
CTA Charters Tower 29.28 139 P P 10 11 59.2 +0.2
comp=Z,34nm,0.9s,baz=318,slow=12,SNR=14
CTA LR LR 10 25 38.9
comp=Z,1μm,20.1s,baz=316,slow=40
CTAO Charters Tower 29.28 139 P P 10 11 59.4 +0.4
CTAO pmax pmax
comp=Z,55nm,1.0s
CTAO Charters Tower 29.28 139 P P 10 11 59.4 +0.4
CTAO IAmb IAmb 10 12 07.3
comp=Z,55nm,1.0s
SSE Sheshan 29.43 351 P P 10 12 01.8 +1.7
SSE S S 10 16 49.4 -1.1
SSE pmax pmax
comp=Z,24nm,0.7s
SSE pmax pmax
comp=Z,97nm,4.6s
SSE LR LR
comp=Z,330nm,25.9s
SSE LR LR
comp=Z,170nm,21.8s
PHIT Phitsanulok 29.72 302 P P 10 12 04.0 +1.1
comp=Z,155nm,0.8s
UTHA Uthaitani 29.84 299 P P 10 12 03.7 -0.3
comp=Z,437nmcomp=Z,51nm,0.8s
UTTA Uttaradit 29.86 303 P P 10 12 04.6 +0.4
comp=Z,270nmcomp=Z,26nm,0.8s
NANT Nan 30.27 305 P P 10 12 08.0 +0.3
comp=Z,51μmcomp=Z,676nm,0.7s
SUKH Sukhothai 30.52 302 P P 10 12 10.3 +0.3
comp=Z,45nm,0.7s
UMPA Umpang Tak 30.62 299 P P 10 12 12.0 +1.1
comp=Z,31nm,0.9s
WHN Wuhan 30.67 339 ⇓P **P 10 12 11.8 +0.7**
WHN S S 10 17 08.1 -2.0
WHN LR LR
comp=Z,2μm,27.9s
NJ2 Nanjing 30.80 347 *e*P **P 10 12 14.8 +2.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,660nm,20.2s
NJ2 LR LR
comp=Z,410nm,19.8s
NJ2 LR LR
comp=Z,650nm,18.9s
GYA Guiyang 30.90 324 ⇓P **P 10 12 13.6 +0.2**
GYA sP pP 10 12 26.8 +0.2
GYA S S 10 17 13.3 -0.8
GYA sS sS 10 17 28.1 -8.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,180nm,6.2s
GYA LR LR
comp=Z,230nm,13.9s
LAMP Lampang 31.01 304 P P 10 12 15.8 +1.5
comp=Z,374nmcomp=Z,26nm,1.1s
JNU Nakatsue 31.31 7 P P 10 12 17.3 +0.5
comp=Z,62nm,0.9s,baz=189,slow=3.4,SNR=16
JNU LR LR 10 26 54.9
comp=Z,124nm,20.0s,baz=183,slow=40
JNU Nakatsue 31.31 7 IAmb IAmb 10 12 18.7
comp=Z,87nm,1.0s
CM36 Chiang Mai Arr 31.45 303 P P 10 12 19.0 +0.8
CM35 Chiang Mai Arr 31.48 304 P P 10 12 19.0 +0.6
CM04 Chiang Mai Arr 31.49 303 P P 10 12 20.0 +1.4
comp=Z,146nmcomp=Z,15nm,1.1s
CM09 Chiang Mai Arr 31.50 303 P P 10 12 20.0 +1.3
comp=Z,11nm,0.9s
CM01 Chiang Mai Arr 31.52 303 P P 10 12 20.0 +1.2
comp=Z,161nmcomp=Z,14nm,1.2s
CM05 Chiang Mai Arr 31.52 303 P P 10 12 20.4 +1.6
comp=Z,96nmcomp=Z,8.5nm,1.1s
CM02 Chiang Mai Arr 31.54 303 P P 10 12 20.0 +1.0
comp=Z,113nmcomp=Z,14nm,1.1s
CM31 Chiang Mai Arr 31.55 303 P P 10 12 21.1 +2.0
comp=Z,473nm,0.4s
CMAR Chiang Mai Arr 31.55 303 P P 10 12 19.3 +0.2
comp=Z,6.8nm,0.7s,baz=124,slow=7.9,SNR=46
CMAR PcP PcP 10 15 12.4 +1.5
comp=Z,10nm,0.9s,baz=159,slow=1.5,SNR=11
CMAR LR LR 10 26 12.5
comp=Z,322nm,21.3s,baz=169,slow=38
CM13 Chiang Mai Arr 31.56 303 P P 10 12 20.0 +0.8
comp=Z,96nmcomp=Z,15nm,1.0s
CM15 Chiang Mai Arr 31.56 303 P P 10 12 20.0 +0.8
CM34 Chiang Mai Arr 31.57 304 P P 10 12 19.0 -0.2
CMMT Chiang Mai 31.71 304 P P 10 12 19.8 -0.7
comp=Z,281nmcomp=Z,18nm,1.4s
CM33 Chiang Mai Arr 31.72 304 P P 10 12 20.0 -0.6
CHTO Chiang Mai 31.72 304 P P 10 12 19.9 -0.7
CHTO IAmb IAmb 10 12 21.8
comp=Z,71nm,1.6s
CHTO PcP PcP 10 15 12.8 +1.4
CM32 Chiang Mai Arr 31.72 303 P P 10 12 21.0 +0.4
PATS Pohnpei 32.16 80 P P 10 12 23.7 -0.9
baz=32,SNR=3.7
MHMT Maesarieng 32.27 302 P P 10 12 25.1 -0.3
MORW Morawa 32.38 197 P P 10 12 26.3 +0.1
baz=32,SNR=6.6
MORW Morawa 32.38 197 IAmb IAmb 10 12 45.7
comp=Z,46nm,1.1s
KMI Kunming 32.45 317 ⇓P **P 10 12 28.8 +1.6**
KMI pP pP 10 12 41.1 +0.7
KMI PcP PcP 10 15 13.8 +0.3
KMI S S 10 17 42.3 +3.8
KMI pmax pmax
comp=Z,30nm,1.3s
KMI pmax pmax
comp=Z,170nm,6.4s
KMI LR LR
comp=Z,440nm,16.6s
KMI LR LR
comp=Z,570nm,22.3s
KMI LR LR
comp=Z,1μm,26.6s
FORT Forrest 32.56 177 P P 10 12 27.7 -0.1
baz=33,SNR=31
FORT Forrest 32.56 177 P P 10 12 27.8 +0.1
QLP Quilpie 33.16 150 P P 10 12 32.2 -0.8
baz=33,SNR=15
KMBL Kambalda 33.39 187 P P 10 12 34.9 -0.1
baz=34,SNR=33
JHS Saijyo 33.49 10 IAmb IAmb 10 12 38.8
comp=Z,57nm,0.9s
BLDU Ballidu 33.66 195 P P 10 12 37.1 -0.3
baz=34,SNR=15
JWT Wachi 34.22 13 P P 10 12 42.9 +0.7
KLBR Kellerberrin 34.34 193 P P 10 12 43.2 -0.1
baz=34,SNR=25
INU Inuyama 34.68 15 P P 10 12 46.2 0.0
JGF Kuroka 35.01 16 IAmb IAmb 10 12 50.4
comp=Z,26nm,0.7s
MUN Mundaring 35.08 195 P P 10 12 49.7 +0.1
baz=35,SNR=5.8
TIA Tai'an 35.18 347 P P 10 12 49.9 -0.6
TIA S S 10 18 13.9 -6.1
TIA pmax pmax
comp=Z,15nm,1.0s
TIA LR LR
comp=Z,440nm,20.5s
TIA LR LR
comp=Z,240nm,22.2s
TIA LR LR
comp=Z,710nm,24.3s
KSRS Korea Array 35.38 2 P P 10 12 53.1 +1.0
comp=Z,9.8nm,0.6s,baz=182,slow=9.9,SNR=36
KS19 Wonju Array Si 35.43 2 IAmb IAmb 10 13 28.0
comp=Z,30nm,0.9s
RMQ Roma 35.54 144 P P 10 12 53.2 -0.6
baz=36,SNR=9.4
BBOO Buckleboo 35.73 166 P P 10 12 54.7 -0.5
baz=36,SNR=87
NWAO Narrogin (SRO) 35.74 193 P P 10 12 55.6 +0.4
baz=36,SNR=11
NWAO Narrogin (SRO) 35.74 193 P P 10 12 55.6 +0.4
XAN Xi'an 35.89 335 P P 10 12 55.3 -1.3
XAN pP pP 10 13 05.1 -4.9
XAN sP sP 10 13 10.5 -5.6
XAN PcP PcP 10 15 23.3 +0.3
XAN S S 10 18 34.5 +3.5
XAN PcS PcS 10 19 09.0 -1.5
XAN pmax pmax
comp=Z,41nm,1.5s
XAN pmax pmax
comp=Z,180nm,3.9s
XAN LR LR
comp=Z,620nm,18.4s
XAN LR LR
comp=Z,720nm,27.1s
CD2 Chengdu 35.92 326 ⇓*i*P **P 10 12 56.4 -0.6**
CD2 pP pP 10 13 06.8 -3.5
CD2 S S 10 18 34.6 +2.9
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,250nm,5.7s
CD2 LR LR
comp=Z,720nm,24.9s
CD2 LR LR
comp=Z,930nm,26.9s
CD2 LR LR
comp=Z,990nm,30.0s
MAJO Matsushiro 36.13 16 P P 10 12 58.2 -0.4
MAJO pmax pmax
comp=Z,44nm,0.9s
MAJO Matsushiro 36.13 16 P P 10 12 58.2 -0.4
MAJO IAmb IAmb 10 13 02.9
comp=Z,44nm,0.9s
MAT Matsushiro 36.13 16 P P 10 12 57.9 -0.7
MAT *e*S S 10 18 33.4 -1.1
MJAR Matsushiro Arr 36.13 16 P P 10 12 58.2 -0.4
comp=Z,28nm,0.8s,baz=184,slow=9.5,SNR=49
MJAR Matsushiro Arr 36.13 16 P P 10 12 58.2 -0.4
MJAR pmax pmax
comp=Z,18nm,1.1s
MJAR Matsushiro Arr 36.13 16 IAmb IAmb 10 12 58.8
comp=Z,18nm,1.1s
EIDS Eidsvold 36.15 140 P P 10 12 58.0 -0.9
baz=36,SNR=9.4
EIDS Eidsvold 36.15 140 IAmb IAmb 10 13 01.0
comp=Z,76nm,1.1s
STKA Stephens Creek 36.58 158 P P 10 13 02.2 -0.3
comp=Z,62nm,0.8s,baz=332,slow=8.4,SNR=53
STKA PcP PcP 10 15 25.7 +0.7
comp=Z,11nm,0.7s,baz=346,slow=3.8,SNR=2.0
STKA S S 10 18 41.1 -0.3
comp=Z,4.3nm,0.9s,baz=144,slow=19,SNR=1.8
STKA LR LR 10 31 09.1
comp=Z,258nm,18.7s,baz=341,slow=41
STKA Stephens Creek 36.58 158 P P 10 13 01.9 -0.5
baz=37,SNR=52
STKA Stephens Creek 36.58 158 P P 10 13 01.2 -1.2
DL2 Dalian 37.06 354 P P 10 13 07.3 +0.8
DL2 S S 10 18 52.3 +3.7
DL2 pmax pmax
comp=Z,150nm,0.8s
DL2 pmax pmax
comp=Z,230nm,4.4s
DL2 LR LR
comp=Z,380nm,13.7s
DL2 LR LR
comp=Z,300nm,18.0s
DL2 LR LR
comp=Z,680nm,15.1s
HTT Hallett 37.09 163 P P 10 13 06.8 -0.1
baz=37,SNR=43
JSD Sado 37.55 15 P P 10 13 09.8 -0.8
JSD IAmb IAmb 10 13 11.4
comp=Z,83nm,1.0s
TIY Taiyuan 37.86 342 *e*P **P 10 13 13.4 0.0**
TIY pmax pmax
comp=Z,27nm,0.8s
CMSA Cobar Meteorol 37.99 153 P P 10 13 14.1 -0.3
baz=38,SNR=42
SAIH SAIHA 38.36 305 *e*P **P 10 13 16.8 -1.1**
SAIH IAmb IAmb 10 13 18.9
comp=Z,68nm,0.5s
IMP Imphal 38.73 309 *e*P **P 10 13 19.6 -1.3**
KOHI KOHIMA 39.07 310 *e*P **P 10 13 21.9 -1.9**
KOHI IAmb IAmb 10 13 27.8
comp=Z,52nm,0.6s
MOKO MOKOCHONG 39.08 311 *e*P **P 10 13 22.6 -1.3**
MOKO IAmb IAmb 10 13 27.3
comp=Z,119nm,0.2s
LZH Lanzhou 39.90 331 *e*P **P 10 13 30.6 0.0**
LZH pP pP 10 13 43.3 -0.8
LZH PcP **PcP 10 15 37.1 +1.6**
LZH S S 10 19 38.8 +6.8
LZH sS sS 10 19 53.1 -1.4
LZH pmax pmax
comp=Z,73nm,1.1s
LZH pmax pmax
comp=Z,120nm,4.4s
LZH LR LR
comp=Z,510nm,17.9s
LZH LR LR
comp=Z,480nm,15.2s
LZH LR LR
comp=Z,600nm,17.3s
ARMA Armidale 40.16 145 P P 10 13 33.2 +0.5
baz=40,SNR=32
ARMA Armidale 40.16 145 P P 10 13 33.2 +0.5
ARMA IAmb IAmb 10 13 35.5
comp=Z,101nm,0.9s
SHL Shillong 40.71 308 *e*P **P 10 13 35.3 -2.2**
SHL IAmb IAmb 10 13 43.5
comp=Z,72nm,0.3s
SHL *i* x x 10 15 39.3
SHL Shillong 40.71 308 P P 10 13 37.0 -0.5
JTM Tenmabayashi 40.89 17 IAmb IAmb 10 13 40.7
comp=Z,93nm,0.8s
HHC Hu-ho-hao-te 41.01 343 *e*P **P 10 13 38.3 -1.3**
HHC sP pP 10 13 50.9 -2.2
HHC S S 10 19 44.4 -3.8
HHC pmax pmax
comp=Z,27nm,1.1s
HHC pmax pmax
comp=Z,170nm,4.0s
HHC LR LR
comp=Z,570nm,17.9s
HHC LR LR
comp=Z,450nm,12.7s
HHC LR LR
comp=Z,1μm,13.8s
ARPS Mount Arapiles 41.09 161 P P 10 13 40.5 +0.4
baz=41,SNR=45
GUWA GUWAHATI 41.17 309 *e*P **P 10 13 39.6 -1.4**
GUWA IAmb IAmb 10 13 48.6
BTO Baotou 41.27 341 *e*P **P 10 13 45.4 +3.7**
BTO S S 10 19 57.5 +5.5
BTO LR LR
comp=Z,2μm,28.3s
BTO LR LR
comp=Z,1μm,28.3s
BTO LR LR
comp=Z,3μm,35.5s
YNG Young 41.54 152 P P 10 13 44.4 +0.5
baz=42,SNR=13
CN2 Changchun 41.70 359 *e*P **P 10 13 44.4 -0.7**
CN2 PP **PnPn 10 15 26.0 -1.6**
CN2 S S 10 19 57.3 -0.9
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,360nm,16.0s
CN2 LR LR
comp=Z,310nm,16.0s
CN2 LR LR
comp=Z,420nm,18.0s
MGCD Mangrove Creek 42.01 148 P P 10 13 48.6 +0.9
baz=42,SNR=4.0
USA0B Ussuriysk Arra 42.38 6 IAmb IAmb 10 13 52.8
comp=Z,68nm,1.1s
USRK Ussuriysk Ar. 42.38 6 P P 10 13 51.5 +0.9
comp=Z,44nm,0.9s,baz=191,slow=7.8,SNR=108
USRK Ussuriysk Ar. 42.38 6 P P 10 13 50.8 +0.2
MDJ Mudanjiang 42.60 3 P P 10 13 53.4 +1.0
MDJ pP pP 10 14 05.5 -0.4
MDJ sP sP 10 14 10.6 -1.3
MDJ PP **PP 10 15 34.0 +1.9**
MDJ S S 10 20 17.8 +6.4
MDJ pmax pmax
comp=Z,36nm,0.9s
MDJ pmax pmax
comp=Z,420nm,4.4s
MDJ LR LR
comp=Z,540nm,25.3s
MDJ LR LR
comp=Z,330nm,16.9s
MDJ LR LR
comp=Z,850nm,25.3s
ERM Erimo 42.65 18 P P 10 13 55.0 +2.2
ERM pmax pmax
comp=Z,51nm,1.0s
ERM Erimo 42.65 18 P P 10 13 55.0 +2.2
ERM IAmb IAmb 10 13 59.6
comp=Z,51nm,1.0s
CAN Canberra 42.66 152 P P 10 13 53.5 +0.4
CAN pmax pmax
comp=Z,122nm,1.1s
CAN Canberra 42.66 152 P P 10 13 53.5 +0.4
CAN IAmb IAmb 10 13 56.3
comp=Z,122nm,1.1s
CNB Canberra Magne 42.82 152 P P 10 13 55.0 +0.6
baz=43,SNR=14
TOO Toolangi 43.09 158 P P 10 13 55.9 -0.6
baz=43,SNR=13
TOO Toolangi 43.09 158 P P 10 13 56.6 0.0
TOO pmax pmax
comp=Z,25nm,0.9s
TOO Toolangi 43.09 158 P P 10 13 56.5 0.0
LSA Lhasa 43.41 313 P P 10 13 59.3 -0.5
LSA pmax pmax
comp=Z,170nm,1.0s
TEY Ternei 43.86 10 ⇑*i*P **P 10 14 03.6 +1.1**
TEY pmax pmax
comp=N,70nm,0.8s
TEY pmax pmax
comp=Z,110nm,0.8s
GTK Tadong 44.13 308 *e*P **P 10 14 04.8 -0.4**
GTK IAmb IAmb 10 14 13.1
comp=Z,23nm,1.0s
ASAJ Asahikawa 44.40 17 P P 10 14 08.1 +1.2
comp=Z,34nm,0.7s,baz=234,slow=12,SNR=38
JKA Kamikawa-asahi 44.40 17 IAmb IAmb 10 14 09.3
comp=Z,53nm,0.9s
GTA Gaotai 44.48 330 P P 10 14 07.5 -0.3
GTA pP pP 10 14 16.0 -5.5
GTA sP sP 10 14 20.4 -7.1
GTA PcP **PP 10 15 51.8 -0.7**
GTA pmax pmax
comp=Z,15nm,1.1s
GTA pmax pmax
comp=Z,120nm,5.6s
GTA LR LR
comp=Z,360nm,22.3s
GTA LR LR
comp=Z,540nm,20.7s
GTA LR LR
comp=Z,660nm,24.5s
TAPN Taplejung 44.85 308 *e*P **P 10 14 10.0 -1.1**
comp=Z,120nm,1.0s
ODAN Odare 44.88 307 *e*P **P 10 14 10.2 -1.1**
comp=Z,146nm,1.0s
RAMN Ramite 45.55 307 *e*P **P 10 14 15.9 -0.7**
comp=Z,213nm,1.1s
DZM Mont Dzumac 45.78 124 *e*P **P 10 14 18.2 -0.1**
comp=Z,87nm,1.1s
DZM Mont Dzumac 45.78 124 IAmb IAmb 10 14 20.0
comp=Z,66nm,1.3s
DZM Mont Dzumac 45.78 124 P P 10 14 18.4 +0.1
PALK Pallekele 45.85 278 P P 10 14 18.2 -0.8
baz=198,slow=9.7
PALK Pallekele 45.85 278 P P 10 14 17.8 -1.2
PALK pmax pmax
comp=Z,28nm,1.0s
PALK Pallekele 45.85 278 P P 10 14 17.8 -1.2
PALK Pallekele 45.85 278 P P 10 14 18.0 -0.9
PALK P P 10 14 18.0 -0.9

YATNC **Mamie plateau,** 46.15 123 P **P** 10 14 22.3 +1.2
comp=Z,68nm,1.1s
GUN **Gumba** 46.55 308 *e*P **P** 10 14 23.6 -1.0
comp=Z,202nm,1.0s
PKI **Pulchoki** 46.77 307 *e*P **P** 10 14 25.0 -1.3
comp=Z,116nm,1.2s
PKIN **Phulchoki** 46.79 307 *e*P **P** 10 14 24.7 -1.7
KKN **Kakani** 46.97 307 *e*P **P** 10 14 26.9 -0.9
DMN **Daman** 47.03 307 *e*P **P** 10 14 27.1 -1.2
comp=Z,136nm,1.0s
YSS **Yuzh-Sakhalins** 47.05 15‖ *e*P **P** 10 14 27.6 -0.1
YSS *e* 10 14 38.9
YSS *e* 10 15 53.7
YSS *e*S **S** **10 21 16.9 +1.1**
YSS *e*SS **SS** **10 24 39.0 -4.4**
YSS pmax pmax
comp=Z,50nm,1.4s
YSS pmax pmax
comp=Z,200nm,5.4s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS **Yuzh-Sakhalins** 47.05 15 P **P** **10 14 28.2 +0.5**
KLR **Kul'dur** 47.35 5 P **P** **10 14 30.5 +0.5**
comp=Z,33nm,1.1s,baz=202,slow=4.6,SNR=67
GKN **Gorkha** 47.58 307 *e*P **P** 10 14 31.2 -1.2
comp=Z,149nm,1.1s
ULN **Ulaanbaatar** 48.73 343 P **P** **10 14 41.2 +0.2**
ULN pmax pmax
comp=Z,19nm,0.8s
ULN **Ulaanbaatar** 48.73 343 P **P** **10 14 41.2 +0.2**
ULN IAmb IAmb 10 14 44.8
comp=Z,19nm,0.8s
ULN **Ulaanbaatar** 48.73 343 P **P** **10 14 41.0 +0.1**
UGL **Uglegorsk** 48.85 14 *e*P **P** **10 14 42.7 +1.1**
UGL pmax pmax
comp=Z,110nm,1.2s
SONM **Songino Array** 48.90 342 P **P** **10 14 42.5 +0.3**
comp=Z,15nm,0.9s,baz=154,slow=9.5,SNR=77
SONM PcP **PcP** **10 16 06.5 +0.6**
comp=Z,14nm,0.8s,baz=168,slow=4.3,SNR=9.1
SONM LR LR 10 38 34.2
comp=Z,265nm,20.6s,baz=161,slow=40
SONM **Songino Array** 48.90 342 P **P** **10 14 41.6 -0.6**
SONM pmax pmax
comp=Z,15nm,0.8s
SONM **Songino Array** 48.90 342 P **P** **10 14 41.6 -0.6**
GRNR **Gornyy** 49.40 8‖ *i*P **P** **10 14 47.4 +1.6**
GRNR pmax pmax
comp=Z,3.0nm,1.1s
GRNR MLR MLR
comp=N,110nm,14.0s
GRNR MLR MLR
comp=Z,180nm,17.0s
HYB **Hyderabad** 49.45 291 *i*P **P** **10 14 45.0 -1.8**
HYB **Hyderabad** 49.45 291 *e*P **P** **10 14 43.9 -2.9**
HYB IAmb IAmb 10 14 52.9
comp=Z,92nm,1.4s
TRD **Trivandrum** 49.65 279 *e*P **P** **10 14 47.6 -0.8**
TRD IAmb IAmb 10 14 51.5
comp=Z,819nm,1.8s
TYV **Tymovskoe** 50.66 13 *e*P **P** **10 14 55.9 +0.6**
TYV pmax pmax
comp=Z,19nm,1.0s
TYV pmax pmax
comp=Z,400nm,6.0s
CIT **Chita** 51.07 350 *e*P **P** **10 14 59.9 +1.4**
CIT *e* 10 15 14.1
CIT *e* 10 15 22.4
CIT *e* 10 16 15.0
CIT pmax pmax
comp=Z,195nm,1.4s
ZEA **Zeya** 51.64 1 *e*P **P** **10 15 02.6 -0.1**
ZEA *e* 10 15 24.3
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=Z,200nm,17.0s
BHPL **Bhopal** 51.95 298 *e*P **P** **10 15 02.7 -2.9**
BHPL IAmb IAmb 10 15 05.8
comp=Z,32nm,0.7s
ZAK **Zakamensk** 52.12 341 *e*P **P** **10 15 05.5 -0.9**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
TLY **Talaya** 53.14 342 P **P** **10 15 14.7 +0.9**
comp=Z,111nm,0.7s,baz=189,slow=4.6,SNR=10
TLY PcP **PcP** **10 16 22.8 +1.3**
comp=Z,6.3nm,0.7s,baz=238,slow=4.8,SNR=4.6
TLY **Talaya** 53.14 342 *e*P **P** **10 15 14.6 +0.8**
TLY *e*S **S** **10 22 38.5 -2.0**
TLY pmax pmax
comp=Z,48nm,1.1s
TLY MLR MLR
comp=Z,536nm,19.0s
TLY **Talaya** 53.14 342 P **P** **10 15 14.4 +0.5**
IRK **Irkutsk** 53.45 343 *e*P **P** **10 15 15.2 -0.9**
IRK pmax pmax
comp=Z,51nm,2.2s
GOA **Goa** 53.54 288 *e*P **P** **10 15 15.9 -1.4**
GOA IAmb IAmb 10 15 25.4
comp=Z,26nm,1.0s
DDI **Dehra Dun** 53.77 307 *e*P **P** **10 15 18.1 -0.8**
MOY **Mondy** 53.96 341 *e*P **P** **10 15 20.8 +0.8**
MOY pmax pmax
comp=Z,45nm,2.1s
WMQ **Urumqi** 54.02 326 P **P** **10 15 20.9 +0.4**
WMQ pP pP 10 15 33.3 -1.2
WMQ PcP **PcP** **10 16 25.8 +0.7**
WMQ pmax pmax
comp=Z,36nm,0.9s
WMQ pmax pmax
comp=Z,380nm,5.1s
WMQ LR LR
comp=Z,650nm,24.5s
WMQ LR LR
comp=Z,670nm,20.3s
WMQ LR LR
comp=Z,2µm,25.9s
POO **Poona** 54.06 291 *e*P **P** **10 15 20.1 -1.1**
POO IAmb IAmb 10 15 22.1
comp=Z,57nm,1.5s
DGAR **Diego Garcia** 54.63 260 P **P** **10 15 26.1 +0.7**
DGAR pmax pmax
comp=Z,43nm,0.7s
DGAR **Diego Garcia** 54.63 260 P **P** **10 15 26.1 +0.7**
DGAR IAmb IAmb 10 15 29.1
comp=Z,43nm,0.7s
DGAR **Diego Garcia** 54.63 260 P **P** **10 15 23.1 -2.3**
SMLA **Simla** 54.78 307 *e*P **P** **10 15 24.5 -1.7**
SMLA IAmb IAmb 10 15 31.2
comp=Z,51nm,1.0s
BOD **Bodaibo** 56.59 352 *e*P **P** **10 15 39.0 +0.4**
BOD pmax pmax
comp=Z,59nm,1.4s
PETK **Petropavlovsk-** 57.21 22 P **P** **10 15 44.1 +1.0**
comp=Z,15nm,0.6s,baz=181,slow=4.0,SNR=39
PETK LR LR 10 40 15.7
comp=Z,76nm,20.0s,baz=212,slow=36
PETK **Petropavlovsk-** 57.21 22 P **P** **10 15 44.3 +1.2**
PETK **Petropavlovsk-** 57.21 22 P **P** **10 15 44.2 +1.2**
OUZ **Omahuta** 57.52 135 IAmb IAmb 10 15 48.9
comp=Z,44nm,1.4s
DGZ **Jazzator, Alta** 58.01 331 *i*P **P** **10 15 48.8 -0.2**
DGZ pmax pmax
comp=Z,27nm,1.2s
SHLS **Shalkode** 58.53 321 *i*P **P** **10 15 49.6 -3.2**
comp=Z,36nm,1.0s,baz=322
SHLS *e*S **S** **10 23 49.8 -3.1**
baz=322
SHLS **Shalkode** 58.53 321 *i*P **P** **10 15 49.6 -3.2**
SHLS *e*S **S** **10 23 49.7 -3.1**
SHLS pmax pmax
comp=Z,36nm,1.0s
PDGK **Podgornoye** 58.61 321 *i*P **P** **10 15 51.8 -1.5**
PDGK pmax pmax
comp=Z,43nm,0.8s
NIL **Nilore** 58.79 309 P **P** **10 15 54.4 -0.2**
NIL pmax pmax
comp=Z,36nm,1.0s
NIL **Nilore** 58.79 309 P **P** **10 15 54.4 -0.2**
NIL IAmb IAmb 10 16 02.2
comp=Z,36nm,0.9s
NIL **Nilore** 58.79 309 P **P** **10 15 54.2 -0.4**
UZB **Uzynbulak** 58.81 321 *i*P **P** **10 15 53.2 -1.6**
comp=Z,20nm,1.0s,baz=321
UZB *e*S **S** **10 23 56.4 0.0**
baz=321
UZB **Uzynbulak** 58.81 321 *i*P **P** **10 15 53.1 -1.6**
UZB *e*S **S** **10 23 56.4 0.0**
UZB pmax pmax
comp=Z,20nm,1.0s
MK31 **Makanchi Array** 58.86 326 *i*P **P** **10 15 54.1 -0.7**
MK31 pmax pmax
comp=Z,33nm,0.7s
MK31 **Makanchi Array** 58.86 326 IAmb IAmb 10 15 56.4
comp=Z,24nm,0.8s
MKAR **Makanchi Array** 58.86 326 P **P** **10 15 54.7 -0.1**
comp=Z,19nm,0.5s,baz=121,slow=8.2,SNR=241
MKAR PcP **PcP** **10 16 43.8 0.0**
comp=Z,19nm,0.9s,baz=104,slow=5.1,SNR=5.0
MKAR ScP **ScP** **10 20 41.1 +1.0**
comp=Z,3.3nm,1.1s,baz=131,slow=5.5,SNR=4.2
MKAR S **S** **10 23 56.8 +0.2**
comp=Z,0.7nm,0.8s,baz=138,slow=12,SNR=3.6
MKAR LR LR 10 43 24.4
comp=Z,238nm,19.0s,baz=111,slow=38
MKAR **Makanchi Array** 58.86 326 P **P** **10 15 53.3 -1.6**
MAKZ **Makanchi** 59.04 326 P **P** **10 15 55.5 -0.6**
MAKZ pmax pmax
comp=Z,80nm,1.3s
MAKZ **Makanchi** 59.04 326 P **P** **10 15 55.5 -0.6**
KSH **Kashi** 59.10 316 P **P** **10 15 56.4 -0.4**
KSH pP pP 10 16 05.8 -5.1
KSH PcP **PcP** **10 16 47.3 +2.2**
KSH pmax pmax
comp=Z,72nm,1.1s
KSH pmax pmax
comp=Z,440nm,6.9s
KSH LR LR
comp=Z,760nm,7.5s
KSH LR LR
comp=Z,750nm,12.3s
KSH LR LR
comp=Z,550nm,18.9s
SATY **Saty** 59.15 321 *i*P **P** **10 15 55.7 -1.4**
comp=Z,42nm,0.8s,baz=321
SATY *e*S **S** **10 24 01.0 +0.2**
baz=321
SATY **Saty** 59.15 321 *i*P **P** **10 15 55.6 -1.4**
SATY *e*S **S** **10 24 01.0 +0.2**
SATY pmax pmax
comp=Z,42nm,0.8s
KPKS **Kokpek** 59.18 321 *i*P **P** **10 15 55.4 -1.9**
comp=Z,35nm,0.8s,baz=321
KPKS **Kokpek** 59.18 321 *i*P **P** **10 15 55.3 -1.9**
KPKS pmax pmax
comp=Z,35nm,0.8s
DCZ **Deep Cove** 59.39 148 IAmb IAmb 10 16 28.0
comp=Z,51nm,1.3s
YAK **Yakutsk** 60.01 2 P **P** **10 16 02.8 +0.4**
comp=Z,54nm,0.7s,baz=177,slow=1.3,SNR=17
YAK **Yakutsk** 60.01 2 *c*/P **P** **10 16 02.8 +0.4**
YAK *e**PP **sP** **10 16 20.9 -1.4**
YAK *e* 10 16 44.0
YAK *e* 10 18 16.6
YAK *e*S **S** **10 24 12.4 +1.6**
YAK *e* 10 25 47.3
YAK *e*SS **SS** **10 28 09.6 +1.3**
YAK pmax pmax
comp=Z,164nm,1.0s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,55nm,1.1s
YAK pmax pmax
comp=Z,23nm,0.8s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax smax
comp=E,138nm,2.3s
YAK smax smax
comp=N,135nm,2.3s
YAK **Yakutsk** 60.01 2 P **P** **10 16 03.0 +0.6**
TNSS **Tian-Shan** 60.07 320 *e*P **P** **10 16 02.2 -1.6**
baz=320
TNSS **Tian-Shan** 60.07 320 *e*P **P** **10 16 02.1 -1.6**
ARXS **Arharly** 60.09 322‖ *i*P **P** **10 16 02.3 -1.2**
TDK **Taldyqorghan** 60.14 323 *e*S **S** **10 24 14.1 +0.8**
baz=323
ULHL **Ulahol** 60.16 319 P **P** **10 16 03.2 -0.9**
SNR=8.9
AAA **Alma-Ata** 60.17 320 *e*P **P** **10 16 04.0 0.0**
CHKK **Chushkaly** 60.44 321 *e*P **P** **10 16 04.7 -1.1**
baz=321
CHKK **Chushkaly** 60.44 321 *e*P **P** **10 16 04.7 -1.1**
RPZ **Rata Peaks** 60.48 144 P **P** **10 16 07.2 +1.2**
RPZ IAmb IAmb 10 16 08.6
comp=Z,42nm,1.0s
THZ **Tophouse** 60.49 141 P **P** **10 16 06.1 0.0**
MA2 **Magadan** 60.52 14 P **P** **10 16 07.4 +1.5**
comp=Z,70nm,0.8s,baz=199,slow=6.4,SNR=87
MA2 **Magadan** 60.52 14 P **P** **10 16 07.4 +1.5**
MA2 pmax pmax
comp=Z,83nm,0.8s
MA2 **Magadan** 60.52 14 P **P** **10 16 07.4 +1.5**
TKM2 **Tokmak 2** 60.89 319 P **P** **10 16 08.8 -0.3**
SNR=28
TKM2 **Tokmak 2** 60.89 319 *i*P **P** **10 16 08.4 -0.7**
TKM2 pmax pmax
comp=Z,37nm,0.9s
KBK **Karagaybulak** 61.20 319 P **P** **10 16 11.2 0.0**
SNR=36
UCH **Uchtor** 61.29 318 P **P** **10 16 12.2 +0.1**
SNR=78
URZ **Urewera** 61.46 136 LR LR 10 45 23.7
comp=Z,194nm,18.1s,baz=211,slow=38
CHMS **Chumysh** 61.48 319 P **P** **10 16 12.7 -0.2**
SNR=6.6
AAK **Ala-Archa** 61.48 319 P **P** **10 16 12.8 -0.2**
SNR=22
AAK **Ala-Archa** 61.48 319 P **P** **10 16 13.3 +0.2**
AAK pmax pmax
comp=Z,27nm,1.0s
AAK **Ala-Archa** 61.48 319 P **P** **10 16 13.3 +0.2**
AAK IAmb IAmb 10 16 15.6
comp=Z,27nm,1.0s
RAO **Raoul Island** 61.55 125 P **P** **10 16 12.6 -0.9**
RAO **Raoul Island** 61.55 125 P **P** **10 16 12.6 -0.9**
SGDS **Sogindy** 61.76 319 *e*P **P** **10 16 13.4 -1.4**
comp=Z,14nm,1.2s,baz=320
SGDS **Sogindy** 61.76 319 *e*P **P** **10 16 13.4 -1.4**
SGDS pmax pmax
comp=Z,14nm,1.2s
USP **Ospenovka** 61.76 319 P **P** **10 16 14.4 -0.4**
SNR=58
AML **Almayashu** 61.80 318 P **P** **10 16 15.4 -0.1**
SNR=102
EKS2 **Erkin-Say** 61.97 318 P **P** **10 16 16.3 0.0**
SNR=51
ZAA0 **Zalesovo Array** 62.05 334 P **P** **10 16 15.7 -0.7**
ZALV **Zalesovo Beam** 62.05 334 P **P** **10 16 15.5 -0.8**
comp=Z,11nm,0.8s,baz=114,slow=5.9,SNR=25
ZALV PKP2bc 10 45 28.3
comp=Z,1.1nm,0.7s,baz=305,slow=5.2,SNR=4.9
ZALV LR LR 10 46 12.7
comp=Z,60nm,18.0s,baz=118,slow=39
ZALV **Zalesovo Beam** 62.05 334 P **P** **10 16 14.7 -1.7**
KBL **Kabul** 62.38 308 P **P** **10 16 18.1 -1.1**
KBL pmax pmax
comp=Z,41nm,0.8s
KBL **Kabul** 62.38 308 P **P** **10 16 18.1 -1.1**
KBL **Kabul** 62.38 308 P **P** **10 16 18.3 -1.0**
SNR=21
BTLS **Baital** 62.86 321 *e*P **P** **10 16 20.7 -1.3**
comp=Z,13nm,1.1s,baz=321
BTLS **Baital** 62.86 321 *e*P **P** **10 16 20.7 -1.3**
BTLS pmax pmax
comp=Z,13nm,1.1s
DZA **Taraz** 63.70 318 *e*P **P** **10 16 26.4 -1.3**
comp=Z,16nm,0.9s,baz=318
DZA **Taraz** 63.70 318 *e*P **P** **10 16 26.3 -1.4**
DZA pmax pmax
comp=Z,16nm,0.9s
SEY **Seymchan** 63.85 13 P **P** **10 16 30.0 +1.8**
comp=Z,35nm,0.9s,baz=216,slow=5.4,SNR=103
SEY **Seymchan** 63.85 13 P **P** **10 16 30.0 +1.8**
IUG **Iuzhnay** 64.29 317 *e*P **P** **10 16 30.1 -1.6**
comp=Z,30nm,0.8s,baz=317
IUG **Iuzhnay** 64.29 317 *e*P **P** **10 16 30.0 -1.6**
IUG pmax pmax
comp=Z,30nm,0.8s
KK31 **Karatay Array** 64.34 318 P **P** **10 16 31.3 -0.5**
KK31 pmax pmax
comp=Z,34nm,1.0s
KK31 **Karatay Array** 64.34 318 P **P** **10 16 31.3 -0.5**
KK31 IAmb IAmb 10 16 33.6
comp=Z,34nm,1.0s
KKAR **Karatay Array** 64.34 318 P **P** **10 16 29.9 -1.9**
KKAR **Karatay Array** 64.34 318 P **P** **10 16 29.9 -1.9**
KKAR **Karatay Array** 64.34 318 IAmb IAmb 10 16 33.6
comp=Z,34nm,1.0s
BRZS **Berezniki** 65.97 325 *e*P **P** **10 16 40.6 -1.7**
comp=Z,15nm,0.9s,baz=325
BRZS **Berezniki** 65.97 325 *e*P **P** **10 16 40.6 -1.7**
BRZS pmax pmax
comp=Z,15nm,0.9s
JLN **Jalan Bani Buh** 68.01 293 P **P** **10 16 54.8 -0.9**
WBK **Wadi Bani Khal** 68.47 293 P **P** **10 16 55.0 -3.6**
BVAR **Borovoye Array** 68.66 327 P **P** **10 16 58.4 -0.8**
comp=Z,5.9nm,0.5s,baz=115,slow=10.0,SNR=55
BRVK **Borovoye** 68.73 327 P **P** **10 16 59.4 -0.2**
BRVK pmax pmax
comp=Z,40nm,1.1s
BRVK **Borovoye** 68.73 327 P **P** **10 16 59.4 -0.2**
BRVK IAmb IAmb 10 17 01.1
comp=Z,40nm,1.1s
BRVK **Borovoye** 68.73 327 P **P** **10 16 59.3 -0.2**
CASY **Casey** 69.00 187 P **P** **10 17 01.8 +0.8**
CASY IAmb IAmb 10 17 34.7
comp=Z,52nm,1.2s
MHTO **MHTO** 69.21 292 P **P** **10 17 01.0 -2.3**
JMDO **Jabal Madar** 69.24 293 P **P** **10 17 02.1 -1.3**
BIDO **Bidbid** 69.35 294 P **P** **10 17 04.0 -0.1**
SMDO **Samad** 69.37 294 P **P** **10 17 03.5 -0.8**
DQM **DQM** 69.50 290 P **P** **10 17 03.6 -1.4**
TIXI **Tiksi** 69.64 1 P **P** **10 17 04.8 0.0**
comp=Z,41nm,1.0s,baz=174,slow=3.8,SNR=78
TIXI **Tiksi** 69.64 1 P **P** **10 17 04.2 -0.7**
TIXI IAmb IAmb 10 17 05.8
comp=Z,37nm,0.8s
HOQ **Hoqain** 70.10 294 P **P** **10 17 08.7 0.0**
ARQ **Araqi** 70.80 294 P **P** **10 17 12.5 -0.5**
SOHO **SOHO** 70.88 295 P **P** **10 17 12.9 -0.5**
SHAO **Shalim** 71.15 288 P **P** **10 17 15.1 -0.1**
UOSS **Minazif** 71.27 296 P **P** **10 17 14.2 -1.6**
UOSS **Minazif** 71.27 296 P **P** **10 17 14.4 -1.4**
BANOM **Banah** 71.30 297 P **P** **10 17 15.9 -0.1**
HATD **Hatta, Dubai** 71.32 295 P **P** **10 17 16.0 -0.1**
MASF **Masafi** 71.36 296 P **P** **10 17 17.7 +1.4**
BILL **Bilibino** 71.36 15*d* *i*P **P** **10 17 14.6 -0.9**
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL **Bilibino** 71.36 15 P **P** **10 17 15.7 +0.2**
ASHO **Ashiyiah** 71.37 295 P **P** **10 17 16.1 -0.3**
SHME **Shamm** 71.46 297 P **P** **10 17 16.2 -0.7**
DMTO **DMTO** 71.77 288 P **P** **10 17 16.8 -2.1**
GEYT **Alibeck** 71.78 309 P **P** **10 17 18.8 +0.1**
comp=Z,18nm,0.8s,baz=160,slow=4.7,SNR=20
GEYT **Alibeck** 71.78 309 P **P** **10 17 18.8 +0.1**
GYA0B **ALIBECK ARRAY** 71.78 309 IAmb IAmb 10 17 19.9
comp=Z,28nm,1.1s
UMZA **Um Al Zommool** 71.98 293 P **P** **10 17 18.9 -1.2**
SOCY **Socotra** 72.42 282 P **P** **10 17 22.4 -0.6**
SNR=5.5
DOK **Doka** 72.61 289 P **P** **10 17 21.9 -2.0**
DOK P **P** **10 17 24.0 +0.1**
SNR=9.1
RER **Riviere de l'E** 72.73 247 P **P** **10 17 28.2 +3.5**
WHFO **Wadi Hawf** 72.90 288 P **P** **10 17 25.1 -0.6**
WHFO P **P** **10 17 26.0 +0.2**
SNR=6.6
ABTO **Aybut** 73.32 287 P **P** **10 17 28.1 -0.1**
AB31 **Akbulak array** 73.34 321 *i*P **P** **10 17 26.5 -1.2**
AB31 pmax pmax
comp=Z,20nm,0.8s
ABKAR **Akbulak array** 73.34 321 P **P** **10 17 27.0 -0.6**
ABKAR **Akbulak array** 73.34 321 IAmb IAmb 10 17 28.9
comp=Z,21nm,0.8s
NIKH **Nikolski High** 73.46 35 P 10 17 28.8
baz=250
AKTO **Aktyubinsk** 74.87 322 P **P** **10 17 36.7 +0.1**
comp=Z,23nm,0.8s,baz=102,slow=6.9,SNR=26
SVE **Sverdlovsk** 75.33 329*d* *i*P **P** **10 17 39.0 0.0**
SVE pmax pmax
comp=Z,158nm,1.1s
RAR **Rarotonga** 75.64 112 LR LR 10 47 45.3
comp=Z,35nm,20.3s,baz=278,slow=33
ARU **Arti** 76.29 328 P **P** **10 17 44.3 -0.2**
comp=Z,25nm,0.8s,baz=111,slow=2.1,SNR=69
ARU **Arti** 76.29 328*c* *i*P **P** **10 17 44.0 -0.5**
ARU S **S** **10 27 28.9 +3.9**
ARU SS **SS** **10 32 17.5 -2.3**
ARU pmax pmax
comp=Z,94nm,0.9s
ARU **Arti** 76.29 328 P **P** **10 17 43.8 -0.8**
FALS **False Pass** 77.09 34 P 10 17 49.5
baz=255
SDPT **Sand Point** 78.85 34 P 10 17 59.4
baz=257
ANM **Nome** 79.03 24 P 10 18 00.9
baz=251
CHGN **Chignik** 80.19 33 P 10 18 06.7
baz=259
AKT **Akhty** 80.25 312 *e*P **P** **10 18 06.9 0.0**
AKT pmax pmax
comp=Z,42nm,1.2s
ABPO **Ambohimpanom** 80.41 250 P **P** **10 18 08.8 +0.5**
ABPO pmax pmax
comp=Z,23nm,1.0s
ABPO **Ambohimpanom** 80.41 250 P **P** **10 18 08.8 +0.5**
MAK **Makhachkala** 80.57 313 *e*P **P** **10 18 05.2 -3.2**
MAK *e* 10 21 08.4
MAK *e*PPP PPP 10 22 58.4
MAK *e*S **S** **10 28 08.6 -2.9**
MAK *e*SS **SS** **10 33 20.7 -4.2**
MAK pmax pmax
comp=Z,230nm,1.2s
MAK MLR MLR
comp=Z,165nm,18.0s
SEKA **Sheki** 80.62 311 P **P** **10 18 09.1 +0.2**
RAYN **Ar Rayn** 80.90 293 P **P** **10 18 09.6 -1.1**
RAYN pmax pmax
comp=Z,18nm,0.9s
RAYN **Ar Rayn** 80.90 293 P **P** **10 18 09.6 -1.1**
RDOG **Red Dog Mine** 81.07 21 IAmb IAmb 10 18 14.1
comp=Z,32nm,0.9s
RDOG **Red Dog Mine** 81.07 21 P 10 18 12.2
baz=253
ZKTA **Zakatala** 81.09 312 P **P** **10 18 11.5 +0.2**
VOI **Vohitsoka** 81.10 248 P **P** **10 18 12.1 +0.2**
GANJ **Ganja** 81.23 311 P **P** **10 18 12.7 +0.6**
LGD **Lagodekhi** 81.39 312 P **P** **10 18 13.4 +0.5**
DDFL **Dedoflistskaro** 81.45 311 P **P** **10 18 13.6 +0.3**
KIRV **Kirov** 81.59 329 P **P** **10 18 13.9 +0.4**
comp=Z,52nm,0.8s,baz=113,slow=2.7,SNR=27
BELG **Belogornoye** 81.64 323 P **P** **10 18 13.9 +0.1**
comp=Z,151nm,0.9s,baz=139,slow=1.0,SNR=23
BELG **Belogornoye** 81.64 323 P **P** **10 18 14.0 +0.1**
VNDA **Vanda** 81.69 173 P **P** **10 18 14.2 +0.4**
comp=Z,11nm,0.6s,baz=317,slow=6.6,SNR=59
VNDA **Vanda** 81.69 173 P **P** **10 18 14.1 +0.4**
VNDA pmax pmax
comp=Z,13nm,0.7s
VNDA **Vanda** 81.69 173 P **P** **10 18 14.1 +0.4**
GROC **Groznyy** 81.84 313 *e*P **P** **10 18 14.9 -0.3**
GROC *e* 10 21 21.8
GROC pmax pmax
comp=Z,85nm,1.0s
MAW **Mawson** 81.97 200 P **P** **10 18 15.8 +0.5**
comp=Z,15nm,0.7s,baz=73,slow=5.7,SNR=9.7
GNI **Garni** 82.39 310 P **P** **10 18 19.3 +0.9**
comp=Z,14nm,0.8s,baz=9.4,slow=1.3,SNR=9.3
GNI **Garni** 82.39 310 P **P** **10 18 18.6 +0.2**
GNI **Garni** 82.39 310 P **P** **10 18 19.6 +1.2**
GNI pmax pmax
comp=Z,55nm,1.2s
GNI **Garni** 82.39 310 P **P** **10 18 19.6 +1.2**
GNI IAmb IAmb 10 18 50.1
comp=Z,55nm,1.2s
BTNK **Botanikuri** 82.46 312 P **P** **10 18 18.7 +0.2**
SVW2 **Sparrevohn** 82.52 29 IAmb IAmb 10 18 21.6
comp=Z,62nm,1.3s

SII	**Sitkinak Islan**	**82.55**	**33**	P			10 18 19.7			
	baz=262									
SBA	**Scott Base**	**82.61**	**172**			**PcP**	**10 18 25.9**	**+2.6**		
KZRT	**Kazreti**	**82.74**	**311**	P		**P**	**10 18 20.4**	**+0.4**		
CLDR	**Caldiran**	**82.97**	**309**	P		**P**	**10 18 21.1**	**-0.4**		
OHAK	**Old Harbor**	**83.13**	**33**	P			10 18 22.5			
	baz=263,SNR=5.8									
OHAK	**Old Harbor**	**83.13**	**33**	IAmb		IAmb	10 18 24.0			
	comp=Z,35nm,0.8s									
ZEI	**Tsey**	**83.20**	**313**	*e*P		**P**	**10 18 19.0**	**-3.6**		
ZEI				pmax		pmax				
	comp=Z,71nm,1.0s									
AKH	**Akhalkalaki**	**83.42**	**311**	⇑P		**P**	**10 18 24.8**	**+1.1**		
AKH	**Akhalkalaki**	**83.42**	**311**	P		**P**	**10 18 24.8**	**+1.1**		
AKH	**Akhalkalaki**	**83.42**	**311**	P		**P**	**10 18 24.7**	**+1.1**		
ONI	**Oni**	**83.52**	**312**	P		**P**	**10 18 24.8**	**+0.8**		
KDAK	**Kodiak Island**	**83.57**	**32**	P		**P**	**10 18 24.8**	**+1.0**		
	comp=Z,40nm,1.0s,baz=280,slow=5.4,SNR=11									
AKDM	**Akdamar-Van**	**83.66**	**308**	P		**P**	**10 18 25.8**	**+0.8**		
KARS	**Kars**	**83.69**	**310**	P		**P**	**10 18 26.1**	**+1.0**		
AGRB	**Hanur-Agry**	**83.70**	**309**	P		**P**	**10 18 26.2**	**+1.0**		
PRGR	**Permogore**	**83.93**	**332**	*e*P		**P**	**10 18 24.3**	**-1.3**		
PRGR				pmax		pmax				
	comp=Z,90nm,0.9s									
KBZ	**Khabaz**	**83.98**	**314**	P		**P**	**10 18 26.6**	**+0.3**		
	comp=Z,25nm,0.9s,baz=117,slow=3.6,SNR=40									
KBZ				LR		LR	11 00 36.7			
	comp=Z,76nm,21.4s,baz=71,slow=39									
A21K	**Barrow**	**84.02**	**18**	P			10 18 27.7			
	baz=258,SNR=29									
KVAR	**Kislovodsk Arr**	**84.14**	**314**	P		**P**	**10 18 28.1**	**+0.9**		
	comp=Z,6.9nm,0.5s,baz=51,slow=14,SNR=2.6									
KIV	**Kislovodsk**	**84.15**	**314**	⇑P		**P**	**10 18 27.7**	**+0.5**		
KIV	**Kislovodsk**	**84.15**	**314**	P		**P**	**10 18 27.4**	**+0.1**		
KIV	**Kislovodsk**	**84.15**	**314**	*e*P		**P**	**10 18 27.4**	**+0.1**		
KIV				pmax		pmax				
	comp=Z,107nm,1.0s									
KIV				MLR		MLR				
	comp=Z,261nm,20.0s									
KIV	**Kislovodsk**	**84.15**	**314**	P		**P**	**10 18 27.8**	**+0.6**		
KIV				IAmb		IAmb	10 18 32.0			
	comp=Z,28nm,0.8s									
SPCR	**Spurr Chakacha**	**84.16**	**29**	P			10 18 27.3			
	baz=263,SNR=11									
SENK	**Senkaya-Erzuru**	**84.24**	**310**	P		**P**	**10 18 28.8**	**+0.9**		
HOM	**Homer**	**84.27**	**30**	P			10 18 27.8			
	baz=264									
PPLA	**Purkeypile**	**84.36**	**27**	IAmb		IAmb	10 18 44.7			
	comp=Z,64nm,1.6s									
PPLA	**Purkeypile**	**84.36**	**27**	P			10 18 29.1			
	baz=263									
GURO	**Guroymak-BITLI**	**84.41**	**308**	P		**P**	**10 18 29.8**	**+1.0**		
CHUM	**Lake Minchumin**	**84.43**	**26**	P			10 18 28.4			
	baz=263,SNR=11									
CHVG	**Ch'k'valeri**	**84.53**	**313**	⇑P		**P**	**10 18 29.6**	**+0.5**		
CHVG	**Ch'k'valeri**	**84.53**	**313**	⇑P		**P**	**10 18 29.6**	**+0.5**		
SKT	**Skwentna**	**84.56**	**28**	P			10 18 28.7			
	baz=264,SNR=12									
KOPR	**Koprukoy-ERZUR**	**84.60**	**310**	P		**P**	**10 18 30.3**	**+0.6**		
CAPN	**Captain Cook N**	**84.62**	**29**	P			10 18 29.1			
	baz=264									
BRSE	**Bradley Lake S**	**84.73**	**30**	P			10 18 30.1			
	baz=265,SNR=7.3									
BATM	**Batumi**	**84.78**	**311**	⇑P		**P**	**10 18 30.9**	**+0.5**		
BATM	**Batumi**	**84.78**	**311**	⇑P		**P**	**10 18 30.9**	**+0.5**		
PPT	**Papeete**	**84.86**	**108**	LR		LR	10 53 03.7			
	comp=Z,34nm,21.8s,baz=242,slow=33									
PPT2	**Papeete2**	**84.86**	**108**	*e*S		**S**	**10 28 52.2**	**-4.1**		
	comp=Z,103nm,24.2s									
PPT2	**Papeete2**	**84.86**	**108**	*e*LR		LR	10 45 19.9			
	comp=Z,408nm,30.0s									
VRTB	**Varto-Mus**	**84.88**	**309**	P		**P**	**10 18 32.7**	**+1.6**		
SUA	**Susitna One**	**84.89**	**29**	P			10 18 30.9			
	baz=265,SNR=22									
KTH	**Kantishna Hill**	**85.01**	**26**	IAmb		IAmb	10 19 03.1			
	comp=Z,54nm,1.7s									
BPAW	**Bear Paw Mtn.**	**85.03**	**26**	IAmb		IAmb	10 18 57.5			
	comp=Z,24nm,1.4s									
BPAW	**Bear Paw Mtn.**	**85.03**	**26**	P			10 18 32.1			
	baz=264									
SVAN	**Silvan-Diyarba**	**85.05**	**308**	P		**P**	**10 18 32.4**	**+0.5**		
VRH	**Novokhopyorsk**	**85.18**	**321**	*e*P		**P**	**10 18 31.7**	**-0.4**		
VRH				pmax		pmax				
	comp=Z,200nm,0.9s									
CUT	**Chulitna**	**85.20**	**28**	P			10 18 31.9			
	baz=265									
MLY	**Manley**	**85.23**	**25**	P			10 18 32.6			
	baz=264,SNR=9.4									
TRF	**Thorofare Moun**	**85.28**	**27**	P			10 18 33.0			
	baz=265									
O22K	**Cooper Landing**	**85.30**	**30**	P			10 18 33.1			
	baz=266,SNR=5.8									
RC01	**Rabbit Creek A**	**85.34**	**29**	P			10 18 33.1			
	baz=266,SNR=14									
TBI	**Tubuai**	**85.36**	**113**	*e*LR		LR	10 45 34.4			
	comp=Z,436nm,36.8s									
CHOM	**Cayeli-Rize**	**85.46**	**311**	P		**P**	**10 18 34.3**	**+0.5**		
BNGB	**Bingl**	**85.48**	**309**	P		**P**	**10 18 34.9**	**+0.8**		
YEDI	**Yedisu-Bingol**	**85.59**	**309**	P		**P**	**10 18 35.7**	**+1.0**		
COLD	**Coldfoot**	**85.66**	**23**	IAmb		IAmb	10 18 37.5			
	comp=Z,21nm,0.8s									
COLD	**Coldfoot**	**85.66**	**23**	P			10 18 35.1			
	baz=265,SNR=35									
PMR	**Palmer**	**85.67**	**29**	IAmb		IAmb	10 18 35.9			
	comp=Z,39nm,1.0s									
PMR	**Palmer**	**85.67**	**29**	P			10 18 34.9			
	baz=266,SNR=19									
I23K	**Minto, Yukon-K**	**85.83**	**25**	P			10 18 35.9			
	baz=266,SNR=15									
DYBB	**Diyarbakir**	**85.89**	**308**	P		**P**	**10 18 36.7**	**+0.6**		
MCK	**McKinley**	**85.91**	**26**	P			10 18 35.8			
	baz=266,SNR=5.8									
NEA2	**Nenana**	**85.91**	**26**	P			10 18 35.8			
	baz=266									
RND	**Reindeer**	**85.92**	**27**	IAmb		IAmb	10 18 37.4			
	comp=Z,13nm,0.8s									
KNK	**Knik Glacier**	**85.98**	**29**	P			10 18 36.5			
	baz=267,SNR=12									
WAT2	**Susitna Watana**	**86.01**	**27**	P			10 18 36.0			
	baz=266,SNR=6.8									
TOLK	**Toolik Lake Re**	**86.03**	**21**	IAmb		IAmb	10 18 39.2			
	comp=Z,19nm,0.8s									
TOLK	**Toolik Lake Re**	**86.03**	**21**	P			10 18 36.9			
	baz=265,SNR=23									
SML	**Sawmill**	**86.06**	**28**	P			10 18 36.8			
	baz=267,SNR=10									
KTUT	**Trabzon**	**86.21**	**311**	⇑P		**P**	**10 18 37.8**	**+0.4**		
KTUT	**Trabzon**	**86.21**	**311**	P		**P**	**10 18 37.9**	**+0.4**		
SOC	**Sochi**	**86.29**	**313**	*e*P		**P**	**10 18 35.6**	**-2.2**		
SOC				*e*			10 21 55.4			
SOC				*e*S		S	10 28 58.2	-11		
SOC				*e*SS		**SS**	**10 34 46.3**	**-3.1**		
SOC				pmax		pmax				
	comp=Z,83nm,0.7s									
WAT6	**Susitna Watana**	**86.38**	**28**	P			10 18 38.2			
	baz=267,SNR=8.5									
TCOL	**CIGO, UAF Yank**	**86.44**	**25**	P			10 18 38.2			
	baz=267									
COLA	**College**	**86.45**	**25**	P			10 18 38.6			
	baz=267									
GLI	**Glacier Island**	**86.61**	**29**	IAmb		IAmb	10 18 41.1			
	comp=Z,23nm,0.7s									
GLI	**Glacier Island**	**86.61**	**29**	P			10 18 39.6			
	baz=268									
POKR	**Poker Plat Res**	**86.64**	**25**	P			10 18 39.6			
	baz=267									
VORD	**Divnogorie**	**86.70**	**321**	*e*P		**P**	**10 18 39.2**	**-0.4**		
VORD				pmax		pmax				
	comp=Z,120nm,0.9s									
VSR	**Storozhevoye**	**86.78**	**321**	*e*P		**P**	**10 18 39.5**	**-0.6**		
VSR				pmax		pmax				
	comp=Z,150nm,1.1s									
HDA	**Harding Lake**	**86.81**	**26**	P			10 18 39.6			
	baz=268,SNR=9.2									
HDA				P			10 18 39.6			
	baz=268,SNR=9.2									
ILAR	**Eielson Array**	**86.86**	**25**	P		**P**	**10 18 39.4**	**-0.7**		
	comp=Z,4.4nm,0.8s,baz=236,slow=5.3,SNR=38									
ILAR				PKKPbc		**PKKPbc**	**10 36 35.2**	**-1.3**		
	comp=Z,0.5nm,0.9s,baz=78,slow=1.4,SNR=4.8									
ILAR	**Eielson Array**	**86.86**	**25**	P		**P**	**10 18 38.6**	**-1.5**		
URFA	**Urfa**	**86.93**	**307**	P		**P**	**10 18 40.9**	**-0.3**		
LPSR	**Galich'ya Gora**	**86.95**	**322**	*e*P		**P**	**10 18 40.7**	**-0.1**		
LPSR				pmax		pmax				
	comp=Z,210nm,1.1s									
M24K	**Tolsona, Glenn**	**87.09**	**28**	P			10 18 42.3			
	baz=269									
ILIC	**ilic-Erzincan**	**87.12**	**309**	P		**P**	**10 18 43.0**	**+0.8**		
KLU	**Klutina**	**87.20**	**29**	P			10 18 42.7			
	baz=269									
MALT	**Malatya**	**87.24**	**308**	P		**P**	**10 18 43.6**	**+0.9**		
MALT	**Malatya**	**87.24**	**308**	P		**P**	**10 18 43.6**	**+0.9**		
EYAK	**Cordova Ski Ar**	**87.27**	**30**	P			10 18 42.8			
	baz=269									
PAX	**Paxson**	**87.44**	**27**	P			10 18 43.5			
	baz=269,SNR=6.8									
PRP	**Porcupine Dome**	**87.45**	**25**	P			10 18 42.3			
	baz=269									
MOS	**Moscow**	**87.74**	**326**	*e*P		**P**	**10 18 43.0**	**-1.5**		
MOS				*e*			10 19 01.8			
MOS				*e*			10 29 18.9			
MOS				pmax		pmax				
	comp=Z,120nm,1.0s									
BMRM	**Bremner River**	**87.83**	**29**	P			10 18 45.1			
	baz=270									
N25K	**Chitina, Valde**	**87.83**	**29**	IAmb		IAmb	10 18 48.1			
	comp=Z,14nm,0.9s									
N25K	**Chitina, Valde**	**87.83**	**29**	P			10 18 45.5			
	baz=270									
ANN	**Anapa**	**87.93**	**315**	*e*P		**P**	**10 18 44.6**	**-1.1**		
ANN				*e*			10 29 10.4			
ANN				*e*			10 29 17.0			
ANN				pmax		pmax				
	comp=Z,151nm,1.0s									
DARE	**Darende-Malaty**	**87.98**	**308**	P		**P**	**10 18 46.9**	**+0.7**		
RSDY	**Resadiye-TOKAT**	**88.07**	**310**	P		**P**	**10 18 46.9**	**+0.3**		
DOT	**Dot Lake**	**88.07**	**27**	IAmb		IAmb	10 18 47.2			
	comp=Z,11nm,0.8s									
SCRK	**Sand Creek**	**88.10**	**26**	P			10 18 46.3			
	baz=270,SNR=5.4									
GLB	**Gilahina Butte**	**88.21**	**29**	IAmb		IAmb	10 19 35.5			
	comp=Z,18nm,1.2s									
GAZ	**Gaziantep**	**88.21**	**307**	P		**P**	**10 18 47.9**	**+0.5**		
MENT	**Mentasta**	**88.23**	**27**	IAmb		IAmb	10 18 48.5			
	comp=Z,13nm,0.8s									
SVSK	**Karacayir**	**88.33**	**310**	P		**P**	**10 18 48.6**	**+0.9**		
OBN	**Obninsk**	**88.35**	**325**	P		**P**	**10 18 47.2**	**-0.2**		
	comp=Z,16nm,0.8s,baz=144,slow=2.1,SNR=14									
OBN	**Obninsk**	**88.35**	**325**	⇑P		**P**	**10 18 46.7**	**-0.8**		
OBN	**Obninsk**	**88.35**	**325***c*	*i*P		**P**	**10 18 46.8**	**-0.6**		
OBN				*i*	S	**SKSac**	**10 29 08.8**	**-3.0**		
OBN				pmax		pmax				
	comp=Z,92nm,1.0s									
OBN				MLR		MLR				
	comp=Z,275nm,23.0s									
OBN	**Obninsk**	**88.35**	**325**	P		**P**	**10 18 47.2**	**-0.2**		
KIBK	**Kibwezi**	**88.45**	**268**	P		**P**	**10 18 50.0**	**+1.0**		
KMRS	**Kahramanmaras**	**88.45**	**307**	P		**P**	**10 18 48.8**	**+0.3**		
BGLC	**Bering Glacier**	**88.49**	**30**	P			10 18 48.4			
	baz=271									
TOKT	**Tokat**	**88.67**	**310**	P		**P**	**10 18 49.7**	**+0.3**		
SARI	**SarD1z-Kayseri**	**88.81**	**308**	P		**P**	**10 18 49.6**	**-0.7**		
KVT	**Kavak**	**89.03**	**311**	P		**P**	**10 18 51.5**	**+0.4**		
KMBO	**Kilima Mbogo**	**89.20**	**269**	P		**P**	**10 18 53.7**	**+1.0**		
	comp=Z,11nm,0.9s,baz=64,slow=5.8,SNR=33									
KMBO				LR		LR	10 57 09.4			
	comp=Z,52nm,19.3s,baz=90,slow=34									
BNN	**Bunyan**	**89.25**	**309**	P		**P**	**10 18 51.1**	**-1.2**		
EGAK	**Eagle**	**89.31**	**25**	P			10 18 52.2			
	baz=273									
KOZT	**Kozan**	**89.31**	**307**	P		**P**	**10 18 52.3**	**-0.1**		
APA	**Apatity**	**89.39**	**337**	⇓*i*P		P	10 18 44.4	-7.7		
APA				pmax		pmax				
	comp=Z,11nm,1.1s									
CTG	**Chitna Glacier**	**89.42**	**29**	P			10 18 53.1			
	baz=273									
CTGM	**Chitina Glacie**	**89.43**	**29**	IAmb		IAmb	10 18 55.0			
	comp=Z,26nm,1.0s									
DIKM	**Dikmen**	**89.60**	**311**	⇑P		**P**	**10 18 55.6**	**+1.9**		
MMAI	**Mount Meron Ar**	**89.81**	**303**	P		**P**	**10 18 55.5**	**+0.5**		
	comp=Z,36nm,0.9s,baz=86,slow=6.5,SNR=6.5									
MMLI	**Mount Malkishu**	**89.82**	**302**	P		**P**	**10 18 55.8**	**+0.8**		
CMRD	**Camardi-Nigde**	**89.97**	**307**	P		**P**	**10 18 55.6**	**-0.1**		
DAWY	**Dawson**	**90.12**	**26**	IAmb		IAmb	10 18 57.5			
	comp=Z,13nm,0.9s									
HRFI	**Mount Harif**	**90.24**	**300**	P		**P**	**10 18 57.4**	**+0.4**		
EIL	**Elat**	**90.33**	**300**	P		**P**	**10 18 57.8**	**+0.4**		
	comp=Z,18nm,1.0s,baz=90,slow=7.1,SNR=3.6									
BZK	**Bozkurt**	**90.52**	**312**	⇑P		**P**	**10 18 58.1**	**+0.1**		
SYO	**Syowa Base**	**90.64**	**201**	⇓*e*P		**P**	**10 18 59.4**	**+1.5**		
SYO	**Syowa Base**	**90.64**	**201**	⇑*e*pP		pP	10 19 09.0	-3.9		
BR131	**Keskin Array S**	**90.92**	**310**	IAmb		IAmb	10 19 01.8			
	comp=Z,11nm,0.9s									
BRTR	**Keskin Array B**	**90.92**	**310**	P		**P**	**10 18 59.4**	**-0.7**		
	comp=Z,15nm,1.0s,baz=119,slow=4.4,SNR=30									
BRTR				LR		LR	11 05 40.0			
	comp=Z,103nm,21.9s,baz=79,slow=39									
BRTR	**Keskin Array B**	**90.92**	**310**	P		**P**	**10 18 58.9**	**-1.2**		
EPYK	**Eagle Plains**	**91.01**	**24**	IAmb		IAmb	10 19 01.8			
	comp=Z,17nm,0.9s									
EPYK	**Eagle Plains**	**91.01**	**24**	P			10 19 00.5			
	baz=277									
QSPA	**South Pole Qui**	**91.85**	**180**	P		**P**	**10 19 04.6**	**+0.9**		
QSPA				IAmb		IAmb	10 19 06.6			
	comp=Z,12nm,0.9s									
INK	**Inuvik**	**91.94**	**21**	P		**P**	**10 19 04.0**	**0.0**		
	comp=Z,14nm,1.1s,baz=281,slow=5.1,SNR=29									
INK	**Inuvik**	**91.94**	**21**	P		**P**	**10 19 04.0**	**0.0**		
INK	**Inuvik**	**91.94**	**21**	IAmb		IAmb	10 19 05.8			
	comp=Z,25nm,1.2s									
ARA0	**ARCESS Array S**	**92.02**	**340**	*e*P		**P**	**10 19 03.2**	**-1.1**		
ARCES	**ARCESS Array B**	**92.02**	**340**	P		**P**	**10 19 03.7**	**-0.6**		
	comp=Z,26nm,0.8s,baz=65,slow=5.8,SNR=19									
ARCES				LR		LR	11 05 20.3			
	comp=Z,101nm,19.7s,baz=65,slow=39									
ARCES	**ARCESS Array B**	**92.02**	**340**	P		**P**	**10 19 03.9**	**-0.4**		
ARCES				pmax		pmax				
	comp=Z,33nm,1.0s									
ARCES	**ARCESS Array B**	**92.02**	**340**	P		**P**	**10 19 03.9**	**-0.4**		
SPA0	**Spitsbergen Ar**	**92.17**	**349**	*e*P		**P**	**10 19 04.7**	**-0.2**		
SPITS	**Spitsbergen Ar**	**92.17**	**349**	P		**P**	**10 19 04.6**	**-0.3**		
	comp=Z,13nm,0.8s,baz=143,slow=13,SNR=8.3									
HAMF	**Hammerfest**	**92.40**	**341**	*e*P		**P**	**10 19 05.1**	**-1.0**		
SKAG	**Skagway**	**92.55**	**30**	P			10 19 07.7			
	baz=278									
WHY	**Whitehorse**	**92.60**	**29**	IAmb		IAmb	10 19 09.7			
	comp=Z,18nm,0.9s									
KTK1	**Kautokeino**	**92.92**	**339**	*e*Pdif		**P**	**10 19 07.7**	**-0.8**		
AKASG	**Malin Array Be**	**93.08**	**321**	P		**P**	**10 19 08.7**	**-0.9**		
	comp=Z,3.7nm,0.8s,baz=72,slow=4.4,SNR=16									
AKASG				LR		LR	11 06 31.3			
	comp=Z,63nm,20.1s,baz=65,slow=39									
FINES	**FINESS Array B**	**93.26**	**332**	P		**P**	**10 19 09.2**	**-1.0**		
	comp=Z,5.4nm,0.8s,baz=95,slow=4.0,SNR=12									
FINES				LR		LR	11 04 36.0			
	comp=Z,133nm,20.5s,baz=60,slow=38									
MNK	**Minsk**	**93.40**	**325**	*i* P		**P**	**10 19 10.9**	**-0.1**		
MNK	comp=E,4.0nm,1.1s									
				i P		**P**	**10 19 10.9**	**-0.1**		
MNK	comp=N,15nm,0.8s									
				i P		**P**	**10 19 10.9**	**-0.1**		
MNK	comp=Z,36nm,1.1s									
				i PP		**PP**	**10 22 56.8**	**+1.3**		
MNK				*i* PPP		PPP	10 24 58.4			
MNK				*i* SS		SS	10 36 47.7	+16		
MNK				*i* SSS		SSS	10 40 00.5			
MNK				*i* LQ		LQ	10 55 45.5			
MNK				*i* LR		LR	10 58 47.9			
MNK				*i* LRM		MLR	11 01 47.6			
	comp=E,23nm,26.7s									
MNK				*i* LRM		MLR	11 01 50.2			
	comp=N,277nm,22.3s									
MNK				*i* LRM		MLR	11 02 06.0			
	comp=Z,152nm,23.2s									
VSU	**Vasula**	**93.44**	**329**	*e*P		**P**	**10 19 10.7**	**-0.4**		
SORM	**Soroca**	**93.96**	**318**	⇑P		**P**	**10 19 12.5**	**-1.2**		
SORM	**Soroca**	**93.96**	**318**	⇑P		**P**	**10 19 12.5**	**-1.2**		
NACGM	**Naroch**	**93.97**	**325**	*i* P		**P**	**10 19 12.2**	**-1.5**		
NACGM				*i* P		**PcP**	**10 19 12.9**	**-1.2**		
NACGM				*i* P		**PcP**	**10 19 12.9**	**-1.2**		
NACGM				*i* pP		**pP**	**10 19 29.0**	**+0.5**		
NACGM				*i* sP		sP	10 19 59.6	+25		
NACGM				*i* PP		PP	10 22 36.8	-23		
NACGM				*i* PPP		PPP	10 24 48.3			
NACGM				*i* SKS		SKiKP	10 28 27.5	+59		
NACGM				*i* S		SKSac	10 29 31.8	-12		
NACGM				*i* sS		**SKKSac**	**10 29 58.5**	**-6.0**		
NACGM				*i* PS		PS	10 31 12.0	-29		
NACGM				*i* SS		SS	10 36 00.7	-39		
NACGM				*i* SSS		SSS	10 39 16.6			
TRO	**Tromso**	**94.23**	**340**	*e*Pdif		**P**	**10 19 12.5**	**-2.0**		
TPGR	**Topolog**	**94.33**	**315**	⇑P		**P**	**10 19 15.5**	**0.0**		
TIRR	**Tirgusor**	**94.38**	**315**	⇓P		**P**	**10 19 15.5**	**-0.2**		
TIRR	**Tirgusor**	**94.38**	**315**	⇓P		**P**	**10 19 15.5**	**-0.2**		
CFR	**Carcaliu**	**94.48**	**315**	⇑P		**P**	**10 19 14.7**	**-1.4**		
CFR	**Carcaliu**	**94.48**	**315**	⇑P		**P**	**10 19 14.7**	**-1.4**		
WRAK	**Wrangell Islan**	**94.61**	**33**	P			10 19 17.6			
	baz=280									
MTSE	**Matsula**	**94.89**	**329**	*e*P		**P**	**10 19 16.1**	**-1.6**		
C36M	**Paulatuk**	**95.00**	**20**	P			10 19 18.3			
	baz=289									
TESR	**Tescani**	**95.33**	**317**	⇑P		**P**	**10 19 19.3**	**-0.8**		
VRI	**Vrincioaia**	**95.37**	**316**	⇑P		**P**	**10 19 18.9**	**-1.4**		
VRI	**Vrincioaia**	**95.37**	**316**	⇑P		**P**	**10 19 18.9**	**-1.4**		
PLOR	**Plostina**	**95.43**	**316**	⇑P		**P**	**10 19 21.2**	**+0.6**		
PLOR	**Plostina**	**95.43**	**316**	⇑P		**P**	**10 19 21.2**	**+0.6**		
PABE	**Paberze**	**95.46**	**326**	*e*P		**P**	**10 19 19.7**	**-0.6**		
BIZ	**Bicaz**	**95.64**	**317**	⇑P		**P**	**10 19 21.3**	**-0.2**		
NEHR	**Nehoiu**	**95.74**	**316**	⇑P		**P**	**10 19 22.2**	**+0.3**		
MLR	**Muntele Rosu**	**95.97**	**316**	P		**P**	**10 19 22.7**	**-0.5**		
	comp=Z,4.4nm,0.6s,baz=93,slow=1.1,SNR=7.7									
MLR	**Muntele Rosu**	**95.97**	**316**	⇑P		**P**	**10 19 22.6**	**-0.6**		
MLR	**Muntele Rosu**	**95.97**	**316**	⇑P		**P**	**10 19 22.6**	**-0.6**		
MLR	**Muntele Rosu**	**95.97**	**316**	IAmb		IAmb	10 19 30.5			
	comp=Z,24nm,1.1s									
STEI	**Steigen**	**96.06**	**339**	*e*Pdif		**P**	**10 19 21.6**	**-1.2**		
BURAR	**Bucovina Array**	**96.13**	**318**	⇑P		**P**	**10 19 23.9**	**+0.1**		
BURAR	**Bucovina Array**	**96.13**	**318**	⇑P		**P**	**10 19 23.9**	**+0.1**		
BURAR	**Bucovina Array**	**96.13**	**318**	P		**P**	**10 19 23.5**	**-0.3**		
BUR08	**Bucovina Ar. S**	**96.13**	**318**	IAmb		IAmb	10 19 51.1			
	comp=Z,19nm,1.1s									
SUW	**Suwalki**	**96.20**	**325**	*e*P		**P**	**10 19 22.6**	**-1.2**		
FAUS	**Fauske**	**96.23**	**339**	*e*P		**P**	**10 19 21.9**	**-1.8**		
LVV	**L'vov**	**96.51**	**320**	*e*P		**P**	**10 19 26.3**	**+1.0**		
LOF	**Lofoten**	**96.58**	**340**	*e*Pdif		**P**	**10 19 23.1**	**-2.1**		
ALN	**Alexandroupoli**	**96.58**	**311**	IAmb		IAmb	10 19 25.8			
	comp=Z,17nm,1.2s									
VOIR		**96.60**	**316**	⇑P		**P**	**10 19 26.1**	**+0.1**		
VOIR		**96.60**	**316**	⇑P		**P**	**10 19 26.1**	**+0.1**		
ARR	**Arges**	**96.90**	**316**	⇑P		**P**	**10 19 27.0**	**-0.3**		
KOLS	**Kolonicke sedl**	**97.81**	**320**	*e*P		Pdif	10 19 31.8	+0.5		
KOLS	**Kolonicke sedl**	**97.81**	**320**	*e*PDIFF		Pdif	10 19 31.8	+0.5		
UZH	**Uzhgorod**	**97.86**	**320**	*i*P		Pdif	10 19 31.8	+0.3		
UZH				*i*			10 19 44.9			
GZR	**Gura Zlata**	**98.19**	**316**	⇑P		**P**	**10 19 32.6**	**-0.5**		
GZR	**Gura Zlata**	**98.19**	**316**	⇑P		**P**	**10 19 32.6**	**-0.5**		
IDI	**Anoyia**	**98.29**	**306**	P		Pdif	10 19 34.0	+0.1		
	comp=Z,11nm,0.9s,baz=146,slow=3.6,SNR=1.9									
CRVS	**Cervenica-Dubn**	**98.34**	**320**	*e*P		Pdif	10 19 34.5	+0.8		
CRVS	**Cervenica-Dubn**	**98.34**	**320**	*e*PDIFF		Pdif	10 19 34.5	+0.8		
VTS	**Vitosha**	**98.38**	**313**	⇑P		Pdif	10 19

AGMN	Agassiz Nation baz=310	117.96	31	P			10 24 41.6	
121A	Cookes Peak, D baz=293	118.42	51	P			10 24 45.4	
ANMO	Albuquerque	118.46	48	PKIKP	PKiKP		10 24 45.5	+1.4
ANMO	Albuquerque	118.46	48	PKPdf	PKiKP		10 24 45.5	+1.4
ANMO	Albuquerque baz=295	118.46	48	P			10 24 44.9	
T25A	Trinidad baz=298	118.97	45	P			10 24 46.0	
KSCO	Kaye Shedlock' baz=300	119.30	42	P			10 24 46.2	
EYMN	Ely baz=315	120.36	29	P			10 24 47.3	
ECSD	EROS Data Cent baz=308	120.44	35	P			10 24 47.5	
MNTX	Cornudas Mount baz=294	120.62	51	P			10 24 48.9	
BGNE	Belgrade baz=305	120.90	38	P			10 24 48.6	
SPMN	Marine on St. baz=312	121.57	32	P			10 24 49.9	
MSTX	Muleshoe baz=297	121.62	48	P			10 24 50.1	
AMTX	Amarillo baz=299	121.99	46	P			10 24 51.0	
TXAR	Lajitas Array comp=Z,2.5nm,0.7s,baz=223,slow=1.2,SNR=37	122.94	53	PKP	PKiKP		10 24 53.3	+0.4
TXAR	comp=Z,1.4nm,0.9s,baz=132,slow=6.5,SNR=13			PKKPbc	PKKPbc		10 34 45.7	+0.5
TXAR	Lajitas Array	122.94	53	PKPdf	PKiKP		10 24 53.1	+0.2
TOA0	Torodi Ar. Sit	123.16	287	PKPdf	PKiKP		10 24 53.6	+0.1
TORD	Torodi Ar. Bea comp=Z,10nm,0.9s,baz=53,slow=2.0,SNR=38	123.16	287	PKP	PKPdf		10 24 53.4	0.0
TORD	comp=Z,1.8nm,0.8s,baz=280,slow=3.9,SNR=7.2			PKKPbc	PKKPab		10 34 44.6	+0.4
KSU1	Kansas State U baz=306	123.20	39	P			10 24 53.2	
SCIA	State Center baz=310	123.53	35	P			10 24 53.5	
WMOK	Wichita Mounta baz=301	124.13	45	P			10 24 55.0	
JFWS	Jewell Farm baz=314	124.49	32	P			10 24 55.1	
MATQ	Matagami baz=330	124.50	19	P			10 24 55.1	
ABTX	Abilene, Hawle baz=299	124.56	48	P			10 24 56.0	
JCT	Junction City baz=298	125.46	50	P			10 24 58.2	
TUL1	Leonard baz=304	125.55	42	P			10 24 58.1	
L44A	Lake County Fo baz=316	126.24	31	P			10 24 58.6	
WHTX	Lake Whitney, baz=301	126.48	47	P			10 25 00.3	
HDIL	Hopedale baz=313	126.63	34	P			10 24 59.5	
833A	Chaparral WMA, baz=297	126.75	52	P			10 25 01.2	
CCM	Cathedral Cave	127.16	37	PKIKP	PKiKP		10 25 00.7	-0.2
CCM	Cathedral Cave	127.16	37	PKPdf	PKiKP		10 25 00.7	-0.2
CCM	Cathedral Cave baz=310	127.16	37	P			10 25 00.7	
U40A	Yellville baz=308	127.22	40	P			10 25 00.9	
W39A	Magazine baz=306	127.30	42	P			10 25 01.0	
D55A	Sainte-Anne-du baz=332	127.60	19	P			10 25 01.4	
ALGO	Algonquin Park baz=328	127.64	21	P			10 25 01.1	
D56A	ZEC Mazanza, M baz=333	127.80	18	P			10 25 01.3	
MIAR	Mount Ida baz=306	127.82	42	P			10 25 02.8	
SFIN	Lafayette baz=316	127.95	32	P			10 25 02.0	
LATQ	La Tuque baz=335	128.09	16	P			10 25 02.2	
G54A	Lake Saint Pet baz=328	128.10	22	P			10 25 02.1	
E56A	St. Veronique baz=332	128.16	19	P			10 25 02.4	
I51A	Listowel baz=324	128.26	25	P			10 25 02.6	
KOWA	Kowa	128.28	290	PKPdf	PKiKP		10 25 04.0	+0.3
D58A	Chemin du LacG baz=335	128.32	17	P			10 25 03.0	
W41B	Gary Mavity, V baz=307	128.33	41	P			10 25 02.5	
H53A	Bobcaygeon baz=327	128.61	23	P			10 25 03.6	
HKT	Hockley	128.72	48	PKIKP	PKiKP		10 25 05.9	+1.7
HKT	Hockley	128.72	48	PKPdf	PKiKP		10 25 05.9	+1.7
E58A	La Victoria baz=334	128.86	17	P			10 25 03.5	
F59A	Saint Guilaume baz=335	129.48	17	P			10 25 05.7	
E61A	Lac Etchemin baz=338	129.59	15	P			10 25 05.8	
P49A	Miami Univ. Ec baz=318	129.82	31	P			10 25 06.0	
WCI	Wyandotte Cave baz=315	129.92	34	P			10 25 06.7	
LONY	Lake Ozonia baz=332	130.01	20	P			10 25 07.0	
ACSO	Alum Creek Sta baz=320	130.18	29	P			10 25 06.5	
M53A	WI Miller and baz=323	130.31	27	P			10 25 06.5	
WVT	Waverly	130.48	37	PKIKP	PKiKP		10 25 07.4	-0.3
WVT	Waverly	130.48	37	PKPdf	PKiKP		10 25 07.4	-0.3
WVT	Waverly baz=312	130.48	37	P			10 25 07.5	
KIC	Kosan Boka comp=Z,34nm,1.0s	130.55	280	*e*PKP1	PKiKP		10 25 08.8	+0.4
DBIC	Dimbokro comp=Z,10nm,0.9s,baz=131,slow=1.0,SNR=13	130.62	280	PKP	PKPdf		10 25 07.8	+0.2
DBIC	comp=Z,8.9nm,0.9s,baz=66,slow=6.6,SNR=8.1			SKPbc	SKPab		10 28 28.4	+1.3
DBIC	Dimbokro	130.62	280	PKPdf	PKiKP		10 25 09.2	+0.7
M54A	Oil Creek Sta baz=325	130.71	26	P			10 25 07.3	
TIC	Toumodi	130.78	280	*e*PKP1	PKiKP		10 25 09.4	+0.5
LIC	Lamto comp=Z,60nm,1.3s	130.85	280	*e*PKP1	PKiKP		10 25 09.5	+0.5
K57A	Scipio Center baz=329	130.97	22	P			10 25 08.1	
N54A	Moraine State baz=324	131.00	27	P			10 25 08.4	
P52A	Corning baz=321	131.05	29	P			10 25 08.7	
J59A	Pieso baz=332	131.06	20	P			10 25 08.8	
G64A	Maxfield baz=340	131.13	14	P			10 25 08.4	
M56A	Emporium baz=326	131.36	25	P			10 25 09.1	
L57A	Andrews Acres baz=328	131.46	23	P			10 25 09.5	
Q53A	Leroy baz=321	131.95	29	P			10 25 09.4	
K61A	Williamstown baz=333	132.18	20	P			10 25 09.9	
O56A	Blue Knob Stat baz=325	132.20	26	P			10 25 09.7	
N57A	Milroy baz=327	132.23	25	P			10 25 09.7	
P56A	Dayton Farm, R baz=325	132.70	27	P			10 25 11.8	
R54A	Victor baz=321	132.74	30	P			10 25 11.2	
N59A	State Game Lan baz=329	132.81	23	P			10 25 11.3	
S54A	Dingess, Beckl baz=321	132.88	30	P			10 25 12.0	
O58A	Lewisberry baz=327	133.02	25	P			10 25 12.2	
LRAL	Lakeview Retre baz=311	133.05	39	P			10 25 12.1	
O59A	Robesonia baz=328	133.16	24	P			10 25 12.3	
R56A	Bull Pasture M baz=323	133.33	28	P			10 25 12.5	
Q58A	Fox Den Farm, baz=326	133.68	26	P			10 25 13.3	
BLA	Blacksburg baz=321	133.78	30	P			10 25 13.8	
R57A	Stanardsville baz=324	133.82	27	P			10 25 13.9	
S57A	Dark Hollow, R baz=324	134.06	28	P			10 25 14.2	
T56A	Rocky Mt baz=322	134.11	30	P			10 25 14.1	
R58B	Mineral baz=325	134.39	27	P			10 25 15.5	
S58A	Poland Farm, P baz=324	134.60	28	P			10 25 15.7	
V56A	Mocksville baz=320	134.82	31	P			10 25 15.8	
KMSC	Kings Mountain baz=319	134.89	33	P			10 25 16.3	
T58A	Grand View Acr baz=324	134.91	29	P			10 25 16.2	
U57A	Blanch baz=322	134.93	30	P			10 25 16.2	
GOGA	Godfrey baz=315	134.95	36	P			10 25 16.7	
V57A	Coltrane Farms baz=321	135.13	31	P			10 25 16.7	
S60A	Water View baz=326	135.15	26	P			10 25 16.8	
W56A	Indian Trail baz=320	135.29	32	P			10 25 17.1	
U58A	Oxford baz=323	135.34	29	P			10 25 17.3	
T60A	Surry baz=326	135.58	27	P			10 25 18.0	
V59A	Middlesex baz=323	136.00	29	P			10 25 18.3	
PLCA	Paso Flores comp=Z,7.7nm,0.8s,baz=223,slow=3.6,SNR=11	138.43	160	PKP	PKPdf		10 25 21.2	-0.4
PLCA	Paso Flores	138.43	160	PKIKP	PKiKP		10 25 23.3	-0.4
PLCA	Paso Flores	138.43	160	PKPdf	PKiKP		10 25 23.3	-0.4
LCCY	Blossom Villag	146.28	49		PKPab		10 25 38.3	+0.4
CBCY	The Bluff, Cay	146.48	49		PKPbc		10 25 38.0	+0.3
LCO	Las Campanas	148.51	150	PKP2	PKPbc		10 25 43.2	-0.3
LCO	Las Campanas	148.51	150		PKPbc		10 25 43.2	-0.3
LVC	Limon Verde comp=Z,4.9nm,0.8s,baz=296,slow=5.1,SNR=4.0	154.62	145	PKP	PKPdf		10 25 48.9	-0.4
LVC	Limon Verde	154.62	145	PKPab	PKPab		10 26 12.5	0.0
ATAH	Atahualpa comp=Z,3.6nm,0.7s,baz=239,slow=5.9,SNR=2.4	154.74	103	PKP	PKPdf		10 25 51.8	+1.9
NNA	Nana comp=Z,4.2nm,0.4s,baz=313,slow=2.6,SNR=4.2	154.87	115	PKP	PKPdf		10 25 49.9	+0.4
CPUP	Villa Florida comp=Z,6.0nm,1.2s,baz=242,slow=2.3,SNR=4.7	155.47	172	PKP	PKPdf		10 25 49.8	-0.2
CPUP	comp=Z,9.5nm,0.9s,baz=122,slow=1.3,SNR=3.4			PKPbc	pPKPdf		10 25 59.6	-5.9
CPUP	comp=Z,10nm,0.9s,baz=174,slow=3.2,SNR=8.4			PKPab	PKPab		10 26 15.7	+0.2
CPUP	Villa Florida	155.47	172	PKPdf	PKPdf		10 25 50.3	+0.4
LPAZ	La Paz comp=Z,5.7nm,0.8s,baz=72,slow=0.7,SNR=19	159.78	136	PKP	PKPdf		10 25 57.1	+0.7
LPAZ	comp=Z,5.0nm,1.0s,baz=126,slow=0.6,SNR=2.6			PKPab	PKPab		10 26 36.2	+1.0
LPAZ	La Paz	159.78	136	PKPdf	PKPdf		10 25 58.0	+1.6
SDV	Santo Domingo comp=Z,11nm,0.8s,baz=158,slow=0.7,SNR=12	159.90	57	PKP	PKPdf		10 25 56.3	+0.3
SDV	comp=Z,5.3nm,0.5s,baz=298,slow=6.6,SNR=2.3			PKPab	PKPab		10 26 36.9	+1.5
SIV	San Ignacio comp=Z,4.9nm,0.8s,baz=156,slow=0.9,SNR=22	164.20	153	PKP	PKPdf		10 26 01.1	+1.0
SIV	comp=Z,5.9nm,0.8s,baz=212,slow=3.2,SNR=10.0			PKPab	PKPab		10 26 54.4	+0.6
BDFB	Brasilia comp=Z,5.1nm,1.0s,baz=194,slow=3.3,SNR=4.6	165.31	202	PKP	PKPdf		10 26 01.5	+0.3
BDFB	comp=Z,2.9nm,0.7s,baz=325,slow=1.5,SNR=3.8			PKPab	PKPab		10 26 59.3	+0.6

IDC 19 10:27:47.6±3.0, 62.70S×153.58E, h0km, mb3.9/2, mb1 4.3/3, mb1mx4.0/19, mbtmp4.0/3, ML4.0/1, MS3.8/7, Ms1 3.8/7, ms1mx3.6/20, Error ellipse: s-maj=215.9km s-min=33.1km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**15.12**	**173**	Pn	Pn	10 31 23.4	+1.3
	0.6nm,0.3s,baz=342,slow=12,SNR=21						
VNDA				Sn	Sn	10 34 08.8	-1.3
	0.1nm,0.3s,baz=225,slow=11,SNR=1.3						
VNDA				LR	LR	10 36 37.4	
	comp=Z,688nm,19.4s,baz=356,slow=35						
QSPA	**South Pole Qui**	**27.39**	**180**	LR	LR	10 43 40.0	
	comp=Z,275nm,21.9s,baz=18,slow=35						
H01W1	**Cape Leeuwin H**	**37.05**	**300**	T	T	11 15 01.4	
	baz=150,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**37.06**	**300**	T	T	11 15 01.8	
	baz=150,slow=76,SNR=13						
H01W3	**Cape Leeuwin H**	**37.07**	**300**	T	T	11 15 04.8	
	baz=150,slow=76,SNR=18						
ASAR	**Alice Springs**	**41.21**	**332**	P	P	10 35 34.0	0.0
	2.0nm,0.9s,baz=162,slow=8.1,SNR=9.6						
DZM	**Mont Dzumac**	**41.54**	**18**	LR	LR	10 49 17.5	
	comp=Z,141nm,18.1s,baz=214,slow=31						
WRA	**Warramunga Arr**	**44.73**	**334**	P	P	10 36 02.2	-0.3
	1.6nm,0.9s,baz=167,slow=6.8,SNR=7.2						
WRA				LR	LR	10 51 40.5	
	comp=Z,120nm,20.9s,baz=220,slow=32						
KAPI	**Kappang**	**62.70**	**321**	LR	LR	11 04 32.5	
	comp=Z,57nm,18.2s,baz=170,slow=35						
LEM	**Lebang**	**64.97**	**308**	LR	LR	11 02 39.8	
	comp=Z,57nm,18.5s,baz=221,slow=32						
CMAR	**Chiang Mai Arr**	**91.49**	**309**	LR	LR	11 16 54.3	
	comp=Z,12nm,21.0s,baz=355,slow=32						
YKA	**Yellowknife Ar**	**142.44**	**50**	PKP	PKPdf	10 47 19.6	-1.0
	0.1nm,0.7s,baz=209,slow=1.9,SNR=2.6						

IDC 19 10:48:27.0±2.1, 4.20N×95.23E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.6/43, mbtmp3.7/7, ML4.2/2, MS2.8/2, Ms1 2.9/2, ms1mx2.6/40, Error ellipse: s-maj=68.1km s-min=19.2km az=57.0

DJA 19 10:48:33.7±1.6, 5.1N±10.9×9.6E±1.0, h59km±17km, M4.2/8, MLv4.2/8

ISC 19 10:48:33.9±1.1, 4.91N±0.06×95.93E±0.09, h35km, n21, σ1.9 66/21, mb3.9/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.06**	**73**	P	**Pn**	**10 48 50.7**	**-1.6**
LHMI				S	**Sn**	**10 49 04.3**	**-1.6**
LHMI	**Lhok Sumawe**	**1.06**	**73**	P	**Pn**	**10 48 50.7**	**-1.6**
TPTI		**2.06**	**143**	P	**Pn**	**10 49 04.8**	**-1.3**
TPTI				S	**Sn**	**10 49 31.6**	**+1.0**
TPTI		**2.06**	**143**	P	**Pn**	**10 49 04.7**	**-1.3**
TPTI				S	**Sn**	**10 49 31.5**	**+1.0**
SNSI	**Sinabang, Aceh**	**2.52**	**171**	P	**Pn**	**10 49 12.2**	**-0.2**
SNSI	**Sinabang, Aceh**	**2.52**	**171**	P	**Pn**	**10 49 09.2**	**-3.2**
TSI	**Tuntungan**	**2.98**	**118**	P	**Pn**	**10 49 19.9**	**+1.2**
TSI				S	**Sn**	**10 49 54.6**	**+1.3**
TSI	**Tuntungan**	**2.98**	**118**	P	**Pn**	**10 49 17.2**	**-1.5**
TSI				S	Sn	10 50 02.6	+9.3
PSI	**Prapat**	**3.65**	**125**	Pn	**Pn**	**10 49 29.4**	**+1.4**
	11nm,0.3s,baz=360,slow=12,SNR=17						
PSI				Sn	Sn	10 50 17.4	+7.4
	12nm,0.3s,baz=180,slow=6.5,SNR=3.7						
PSI				LR	LR	10 51 05.3	
	comp=Z,261nm,20.2s,baz=269,slow=40						
GSI	**Gunungsitoli**	**3.94**	**155**	P	**Pn**	**10 49 30.8**	**-1.2**
GSI	**Gunungsitoli**	**3.94**	**155**	P	**Pn**	**10 49 30.3**	**-1.7**
MNSI	**Mandailing Nat**	**5.48**	**138**	P	**Pn**	**10 49 51.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**13.78**	**12**	Pn	**P**	**10 51 54.4**	**-0.5**
	0.5nm,0.3s,baz=205,slow=14,SNR=4.6						
CMAR				LR	LR	10 57 23.0	
	comp=Z,20nm,18.2s,baz=210,slow=37						
H08S2	**Diego Garcia H**	**26.50**	**242**	T	T	11 21 12.0	
	baz=65,slow=74						
H08S3	**Diego Garcia H**	**26.50**	**242**	T	T	11 21 18.1	
	baz=65,slow=74						
H08S1	**Diego Carcia H**	**26.52**	**242**	T	T	11 21 19.2	
	baz=65						
MKAR	**Makanchi Array**	**43.36**	**346**	P	**P**	**10 56 34.0**	**+1.2**
	0.1nm,0.4s,baz=156,slow=7.4,SNR=2.3						
SONM	**Songino Array**	**43.70**	**10**	P	P	10 56 41.1	+5.4
	0.8nm,0.7s,baz=186,slow=8.0,SNR=6.9						
WRA	**Warramunga Arr**	**45.12**	**124**	P	**P**	**10 56 46.4**	**-0.9**
	0.8nm,0.5s,baz=302,slow=9.2,SNR=25						
ASAR	**Alice Springs**	**46.67**	**129**	P	**P**	**10 56 59.0**	**-0.5**
	2.0nm,0.5s,baz=301,slow=7.5,SNR=54						
ZALV	**Zalesovo Beam**	**49.72**	**351**	P	**P**	**10 57 25.6**	**+3.1**
	0.4nm,0.3s,baz=165,slow=12,SNR=2.3						

MOS 19 10:58:14.7±1.2, 56.10N×113.78E, h7km, mb4.3/6, Error ellipse: s-maj=8.3km s-min=5.5km az=69.3

MOS Felt (III-IV) at Severomuysk.

BYKL 19 10:58:15.8±0.1, 56.12N×113.74E, h7km±2km, Mw4.5/8(IEC), #STATIONS MA2 PET MAJO TATO ENH WMQ AAK KEV FELT I=IV MSK at Severomuisk

IDC 19 10:58:16.4±0.6, 56.26N×113.75E, h0km, mb3.8/17, mb1 4.0/24, mb1mx3.9/46, mbtmp3.9/24, ML3.1/5, MS3.7/18, Ms1 3.7/18, ms1mx3.4/49, Error ellipse: s-maj=14.6km s-min=8.9km az=151.0

NEIC 19 10:58:17.8±2.6, 56.11N±0.09×113.9E±0.2, h16km±4km, mb4.2/11, Error ellipse: s-maj=12.8km s-min=12.4km az=112.0

ISC 19 10:58:16.9±0.4, 56.21N±0.03×113.78E±0.02, h10km, n128, σ2.9 74/183, mb4.0/25, MS3.7/13, 6C-6D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVKR	**Severomuysk**	**0.16**	**233**	*e*Pg	**Pg**	**10 58 17.7**	**-2.7**
SVKR				Pmax		10 58 18.3	
	21μm,0.1s						
SVKR				*e*Sg	**Sg**	**10 58 19.8**	**-3.0**
SVKR				Smax		10 58 20.2	
	471μm,0.6s						
SVKR	**Severomuysk**	**0.16**	**233**	*e*PG	**Pg**	**10 58 17.9**	**-2.5**
SVKR				*e*S	**Sg**	**10 58 19.3**	**-3.5**
UKT	**Uakit**	**0.73**	**187**	⇑*i*Pg	**Pg**	**10 58 26.9**	**-4.1**
UKT				Pmax		10 58 30.1	
	2μm,0.3s						
UKT				*e*Sg	**Sg**	**10 58 36.0**	**-4.5**
UKT				Smax		10 58 37.8	
	8μm,0.6s						
UKT	**Uakit**	**0.73**	**187**	*e*PG	**Pg**	**10 58 27.3**	**-3.7**
UKT				*e*		10 58 35.9	
UKT				pmax	pmax		
	comp=Z,2μm,0.4s						
UKT				smax	smax		
	comp=E,8μm,0.5s						
NLYR	**Nelyaty**	**1.10**	**74**	⇑*i*Pg	**Pb**	**10 58 36.5**	**-1.6**
NLYR				*e*Pb	**Pn**	**10 58 38.9**	**+0.5**
NLYR				max		10 58 39.2	
	comp=E,3μm,0.3s						
NLYR				*e*		10 58 42.0	
NLYR				*e*Sg	**Sg**	**10 58 52.1**	**-0.3**
NLYR				*e*Sb	**Sn**	**10 58 56.2**	**+2.5**
NLYR				max		10 58 58.5	
	comp=E,10μm,0.9s						
NLYR	**Nelyaty**	**1.10**	**74**	⇑*i*PG	**Pb**	**10 58 36.5**	**-1.6**
NLYR				*e*		10 58 50.9	
NLYR				pmax	pmax		
	comp=Z,3μm,0.3s						
NLYR				smax	smax		
	comp=N,10μm,0.8s						
YOA	**Uoyan**	**1.16**	**267**	⇓*i*Pg	**Pb**	**10 58 36.3**	**-2.6**
YOA				Pmax		10 58 36.8	
	comp=N,4μm,0.3s						
YOA				*e*Sg	**Sb**	**10 58 51.7**	**-2.2**
YOA				Smax		10 59 00.0	
	comp=N,32μm,0.6s						
YOA	**Uoyan**	**1.16**	**267**	⇓*i*PG	**Pb**	**10 58 36.3**	**-2.6**
YOA				*e*		10 58 52.4	
YOA				pmax	pmax		
	comp=Z,5μm,0.3s						
YOA				smax	smax		
	comp=N,32μm,0.6s						
KMO	**Kumora**	**1.48**	**258**	⇓*i*Pg	**Pn**	**10 58 41.6**	**-2.0**
KMO				*e*Pb	**Pb**	**10 58 42.9**	**-1.6**
KMO				max		10 58 44.3	
	comp=N,3μm,0.4s						
KMO				*e*Sg	**Sn**	**10 59 01.6**	**-1.5**
KMO				*e*		10 59 04.7	
KMO				max		10 59 05.2	
	comp=N,22μm,0.8s						
KMO	**Kumora**	**1.48**	**258**	⇓*i*PG	**Pn**	**10 58 41.7**	**-1.9**
KMO				*e*		10 59 00.7	
KMO				pmax	pmax		
	comp=Z,1μm,0.3s						
KMO				smax	smax		
	comp=N,22μm,0.9s						
BOD	**Bodaibo**	**1.62**	**4**	⇑*i*Pg	**Pn**	**10 58 46.2**	**+0.8**
BOD				Pmax		10 58 46.7	
	comp=N,2μm,0.2s						
BOD				*e*		10 58 47.6	
BOD				*e*Sg	**Sb**	**10 59 08.4**	**+1.2**
BOD				Smax		10 59 11.3	
	comp=N,13μm,1.0s						
BOD	**Bodaibo**	**1.62**	**4**	*e*PN	**Pn**	**10 58 45.7**	**+0.3**
BOD				*i*		10 58 46.7	
BOD				*e*		10 59 08.6	
BOD				*i*		10 59 11.3	
YLYR	**Ulyunkhan**	**2.00**	**229**	*e*	Pn	10 58 42.9	-7.9
YLYR				⇓*i*Pn	**Pb**	**10 58 50.0**	**-3.4**
YLYR				*e*Pg	**Pg**	**10 58 50.6**	**-4.6**
YLYR				max		10 58 54.5	
	comp=N,2μm,0.4s						
YLYR				*e*Sg	**Sb**	**10 59 16.5**	**-1.8**
YLYR				Smax		10 59 18.6	
	comp=N,12μm,0.5s						
YLYR	**Ulyunkhan**	**2.00**	**229**	*e*PN	**Pn**	**10 58 50.3**	**-0.5**
YLYR				*e*		10 59 15.1	
YLYR				pmax	pmax		
	comp=Z,2μm,0.4s						
YLYR				smax	smax		
	comp=N,12μm,0.5s						
NIZ	**Nizh Angarsk**	**2.42**	**261**	⇑*i*Pn	**Pn**	**10 58 56.4**	**-0.1**
NIZ				*e*Pg	**Pb**	**10 58 59.1**	**-1.4**
NIZ				*e*		10 59 01.1	
NIZ				max		10 59 01.4	
	comp=N,1μm,0.4s						
NIZ				*e*Sn	**Sn**	**10 59 25.0**	**-1.2**
NIZ				*e*Sg	**Sb**	**10 59 30.0**	**-0.4**
NIZ				Smax		10 59 32.8	
	comp=N,5μm,0.7s						
NIZ				*e*SgSg	**SnSn**	**10 59 36.8**	**0.0**
NIZ	**Nizh Angarsk**	**2.42**	**261**	*e*PN	**Pn**	**10 58 56.4**	**-0.1**
NIZ				*e*		10 58 59.1	
NIZ				*e*		10 59 31.0	
NIZ				pmax	pmax		
	comp=Z,1μm,2.2s						
NIZ				smax	smax		
	comp=N,5μm,0.8s						
CRS	**Chara**	**2.58**	**73**	*e*Pn	**Pn**	**10 58 59.1**	**+0.4**
CRS				*e*Pg	**Pb**	**10 59 03.5**	**+0.3**
CRS				Pmax		10 59 05.2	
	comp=N,5μm,1.0s						
CRS				*e*		10 59 16.6	
CRS				*e*Sg	**Sb**	**10 59 37.9**	**+3.0**
CRS				Smax		10 59 42.7	
	comp=N,3μm,1.1s						
CRS	**Chara**	**2.58**	**73**	*e*PN	**Pn**	**10 58 58.8**	**+0.1**
CRS				*e*		10 59 02.9	
CRS				*e*		10 59 36.7	
CRS				pmax	pmax		
	comp=Z,2μm,1.0s						
CRS				smax	smax		
	comp=E,2μm,1.3s						
VTMR	**Vitim**	**3.31**	**349**	*e*Pn	**Pn**	**10 59 08.9**	**+0.3**
VTMR				*e*		10 59 18.0	
VTMR				*e*Sn	**Sn**	**10 59 47.6**	**-0.3**
VTMR				*e*Sg	**Sb**	**10 59 59.7**	**+4.0**
SYVR	**Suvo**	**3.36**	**222**	⇓*i*Pn	**Pn**	**10 59 07.9**	**-1.5**
SYVR				*e*		10 59 12.0	
SYVR				*e*Pg	**Pb**	**10 59 15.0**	**-1.5**
SYVR				*e*		10 59 16.2	
SYVR				*e*		10 59 18.8	
SYVR				max		10 59 19.7	
	comp=E,578nm,0.8s						
SYVR				*e*Sg	**Sb**	**10 59 57.7**	**+0.2**
SYVR				Smax		11 00 10.3	
	comp=E,4μm,1.4s						
SYVR	**Suvo**	**3.36**	**222**	*e*PN	**Pn**	**10 59 07.8**	**-1.6**
SYVR				*e*		10 59 15.0	
SYVR				*e*		10 59 57.2	
SYVR				pmax	pmax		
	comp=Z,589nm,0.8s						
SYVR				smax	smax		
	comp=N,4μm,1.4s						
KHNR	**Khani**	**3.50**	**76**	*e*Pn	**Pn**	**10 59 11.1**	**-0.3**
KHNR				*e*Pg	**Pb**	**10 59 18.6**	**-0.3**
KHNR				*e*Sg	**Sb**	**11 00 05.5**	**+4.0**

TUP Tupik 3.95 114 *e*Pn **Pn** **10 59 16.6 -1.0**
TUP *e* 10 59 19.9
TUP *e*Pg **Pb** **10 59 27.2 +0.6**
TUP *e*PgPg **Pg** **10 59 29.4 -3.1**
TUP max 10 59 29.7
comp=N,249nm,0.5s
TUP *e* 10 59 31.5
TUP *e*Sn **Sn** **11 00 01.8 -2.2**
TUP *e*Sg **Sb** **11 00 18.0 +3.5**
TUP *e*SgSg **Sg** **11 00 22.7 -1.0**
TUP max 11 00 23.7
comp=N,4µm,0.9s
TUP Tupik 3.95 114 *e*PN **Pn** **10 59 16.7 -0.9**
TUP *e* 10 59 27.0
TUP *e*S **Sn** **11 00 03.1 -0.9**
TUP *e* 11 00 18.0
TUP pmax pmax
comp=Z,249nm,0.6s
TUP smax smax
comp=E,4µm,0.9s
MXMB Maximikha 4.15 227 *e*Pn **Pn** **10 59 20.0 -0.3**
MXMB *e*Pg **Pb** **10 59 28.5 -1.5**
MXMB *e*Sg **Sb** **11 00 22.0 +1.8**
CIT Chita 4.20 182 Pmax 10 59 28.7
comp=E,292nm,0.3s
CIT *e*Pg **Pb** **10 59 29.4 -1.4**
CIT *e*Sg **Sb** **11 00 22.7 +1.1**
CIT Smax 11 00 28.3
comp=E,2µm,0.3s
CIT Chita 4.20 182 *e*PN **Pn** **10 59 18.4 -2.6**
CIT *e* 10 59 28.4
CIT *e* 11 00 22.9
CIT pmax pmax
comp=Z,319nm,1.6s
CIT smax smax
comp=E,3µm,1.9s
YKLR Yuktali 4.39 82 *e*Pn **Pn** **10 59 23.9 +0.4**
YKLR *e*Pg **Pb** **10 59 34.2 +0.2**
YKLR *e*Sg **Sg** **11 00 33.1 -4.6**
OGRR Ongureny 4.40 237 *e*Pn **Pn** **10 59 23.7 +0.1**
OGRR *e*Pg **Pb** **10 59 34.2 0.0**
OGRR Pmax 10 59 38.3
comp=E,389nm,0.7s
OGRR *e*Sg **Sb** **11 00 29.8 +2.5**
OGRR Smax 11 00 37.1
comp=E,2µm,1.9s
OGRR Ongureny 4.40 237⇑ *i*PN **Pn** **10 59 23.8 +0.1**
OGRR *e* 10 59 34.9
OGRR *e* 11 00 29.9
OGRR pmax pmax
comp=Z,428nm,2.0s
OGRR smax smax
comp=E,2µm,2.4s
ZRHB Zarechye 5.33 229 *e* **Pn** **10 59 38.5 +2.0**
ZRHB *e*Pg **Pb** **10 59 50.5 +0.4**
ZRHB *e* 10 59 55.3
ZRHB *e* 11 00 04.7
ZRHB Pmax 11 00 05.9
comp=E,464nm,0.8s
ZRHB *e*Sg **Sb** **11 00 59.6 +5.5**
ZRHB *e* 11 01 15.4
ZRHB max 11 01 20.6
comp=E,4µm,1.8s
TRG Tyrgan 5.54 235 *e*Pn **Pn** **10 59 38.7 -0.7**
TRG *e* 10 59 43.5
TRG *e*Pg **Pb** **10 59 53.6 -0.1**
TRG Pmax 11 00 07.0
comp=E,89nm,0.8s
TRG *e*Sn **Sn** **11 00 38.5 -4.7**
TRG *e*Sg **Sb** **11 01 04.3 +4.1**
TRG Smax 11 01 17.0
comp=E,714nm,1.7s
TRG Tyrgan 5.54 235 *e*PN **Pn** **10 59 36.0 -3.4**
TRG *e* 10 59 52.2
TRG *e*S **Sn** **11 00 38.1 -5.1**
TRG *e* 11 01 02.6
TRG pmax pmax
comp=Z,88nm,1.0s
TRG smax smax
comp=N,716nm,1.0s
FFNB Fofonovo 5.87 228 *e* Pb 10 59 54.0 -5.2
FFNB *e*Pg Pg 11 00 00.3 -8.8
FFNB *e*Sg **Sb** **11 01 15.5 +6.0**
KAB Kabansk 5.91 228 *e*Pg **Pb** **10 59 59.7 -0.2**
KAB *e* 11 00 04.1
KAB max 11 00 14.3
comp=N,349nm,0.6s
KAB *e*Sg **Sb** **11 01 15.7 +5.0**
KAB Smax 11 02 01.6
comp=N,4µm,1.6s
HRMR Khuramsha 6.11 224 *e*Pn **Pn** **10 59 45.8 -1.4**
HRMR *e*Pg **Pb** **11 00 04.6 +1.3**
HRMR Pmax 11 00 09.2
comp=N,350nm,0.7s
HRMR *e*Sg **Sb** **11 01 22.8 +6.3**
HRMR Smax 11 01 46.6
comp=N,3µm,1.5s
IENR Ienga 6.18 85 *e*Pg **Pb** **11 00 07.9 +3.4**
IENR *e*Sg **Sg** **11 01 28.3 -6.8**
CLNS Chul'man 6.18 80 *e*Pn **Pn** **10 59 47.6 -0.6**
CLNS *e*Pg **Pb** **11 00 07.5 +3.0**
CLNS *e*Sg **Sg** **11 01 28.4 -6.7**
BGT Bolshoye Golou 6.45 233 *e* **Pn** **10 59 54.4 +2.5**
BGT *e* 11 00 10.9
BGT *e*Sg **Sb** **11 01 33.1 +6.8**
BGT Smax 11 01 45.7
comp=N,500nm,0.8s
KPC Khapcheranga 6.57 188 *e* **Pn** **10 59 50.6 -3.0**
KPC *e*Pg **Pb** **11 00 13.4 +2.1**
KPC Pmax 11 00 23.7
comp=N,36nm,0.6s
KPC *e*Sg **Sb** **11 01 37.1 +7.3**
KPC Smax 11 01 46.7
comp=N,2µm,1.6s
KPC Khapcheranga 6.57 188 *e*PN **Pn** **10 59 50.8 -2.8**
KPC *e*PG **Pb** **11 00 11.7 +0.4**
KPC *e*SG **Sb** **11 01 36.5 +6.7**
LSTR Listvyanka 6.83 234 *e*Pn **Pn** **10 59 55.8 -1.3**
LSTR *e*Pg **Pb** **11 00 17.0 +1.4**
LSTR Pmax 11 00 19.8
comp=N,49nm,0.6s
LSTR *e*Sg **Sb** **11 01 44.3 +7.1**
LSTR Smax 11 01 52.1
comp=N,1µm,1.7s
IRK Irkutsk 6.85 238 *e*Sg **Sb** **11 01 45.3 +7.6**
IRK Smax 11 02 03.8
comp=N,748nm,0.6s
IRK Irkutsk 6.85 238 *e*PN **Pn** **10 59 58.7 +1.4**
IRK *e*PG **Pb** **11 00 18.5 +2.6**
IRK *e*SG **Sb** **11 01 45.2 +7.6**
IVK Ivanovka 7.07 235 *e* **Pn** **11 00 01.9 +1.6**
IVK *e*Pg **Pb** **11 00 21.2 +1.6**
IVK Pmax 11 00 27.9
comp=N,31nm,0.8s
IVK *e*Sg Sb 11 01 52.5 +8.5
IVK Smax 11 01 59.7
comp=N,878nm,1.9s
TLY Talaya 7.51 237 Pn **Pn** **11 00 08.0 +1.6**
comp=N,0.0nm,0.3s,baz=37,slow=5.6,SNR=7.4
TLY Pg **Pb** **11 00 23.3 -3.8**
comp=N,0.0nm,0.3s,baz=44,slow=5.7,SNR=6.3
TLY Lg Lg 11 02 05.7
comp=N,0.2nm,0.3s,baz=280,slow=19,SNR=8.6
TLY LR LR 11 02 53.5
comp=N,779nm,21.7s,baz=38,slow=37
TLY Talaya 7.51 237 *e* **Pn** **11 00 08.2 +1.9**
TLY *e*Pg **Pb** **11 00 29.9 +2.8**
TLY Pmax 11 00 36.4
comp=N,35nm,0.7s
TLY *e* 11 02 03.1
TLY *e*Sg Sb 11 02 05.0 +8.4
TLY Smax 11 02 13.9
comp=N,478nm,1.8s
TLY Talaya 7.51 237 *e*PN **Pn** **11 00 08.2 +1.9**
TLY *e* 11 00 30.0
TLY *e* 11 02 05.4
TLY pmax pmax
comp=Z,58nm,0.6s
TLY Talaya 7.51 237 Pn **Pn** **11 00 07.5 +1.1**
HIA Hailar 7.84 150 PN **Pn** **11 00 07.3 -3.6**
HIA Hailar 7.84 150 **Pn** **11 00 07.3 -3.6**
ARS Arshan 7.94 242 *e*Pn **Pn** **11 00 11.6 -0.8**
ARS *e* 11 00 27.1
ARS *e*Pg **Pb** **11 00 37.5 +3.0**
ARS Pmax 11 00 42.4
comp=Z,84nm,0.8s
ARS *e*Sg Sg 11 02 19.9 -12
ARS Smax 11 02 26.4
comp=Z,1µm,0.7s
ZEA Zeya 8.13 102 *e*PN **Pn** **11 00 15.5 +0.6**
ZEA *e* 11 00 44.5
ZEA *e*S **Sn** **11 01 43.0 -3.8**
ZEA pmax pmax
comp=Z,20nm,0.6s
ZEA smax smax
comp=N,600nm,1.1s
ZEA smax smax
comp=N,570nm,1.1s
ZEA MLR MLR
comp=N,100nm,3.0s
ZEA MLR MLR
comp=Z,200nm,6.0s
ZAK Zakamensk 8.58 231 *e*Pg Pg 11 00 49.4 -12
ZAK Pmax 11 00 56.8
comp=Z,24nm,0.8s
ZAK *e*Sg Sg 11 02 40.5 -11
ZAK Smax 11 03 16.4
comp=Z,497nm,1.8s
ZAK Zakamensk 8.58 231 *e*PN **Pn** **11 00 24.5 +3.4**
ZAK *e* 11 00 51.5
ZAK *e* 11 02 42.4
ZAK pmax pmax
comp=Z,25nm,1.0s
ZAK smax smax
comp=N,498nm,1.9s
MOY Mondy 8.81 244 *e*Pn **Pn** **11 00 23.2 -1.0**
MOY *e*Pg Pg 11 00 53.8 -12
MOY Pmax 11 01 11.5
comp=N,54nm,1.0s
MOY *e*Sn **Sn** **11 01 57.3 -6.2**
MOY *e*Sg Sg 11 02 47.2 -12
MOY Smax 11 02 55.1
comp=N,531nm,1.8s
MOY Mondy 8.81 244 *e*PN **Pn** **11 00 22.8 -1.4**
MOY *e* 11 00 52.4
MOY *e* 11 02 47.0
MOY pmax pmax
comp=Z,54nm,1.2s
MOY smax smax
comp=N,526nm,1.5s
ORL Orlik 8.95 252 *e*Pn **Pn** **11 00 24.7 -1.4**
ORL *e* 11 00 59.7
ORL max 11 01 10.9
comp=N,49nm,1.3s
ORL *e*Sn **Sn** **11 02 01.9 -5.0**
ORL *e*Sg Sg 11 02 50.7 -13
ORL Smax 11 03 02.4
comp=N,344nm,1.8s
ORL Orlik 8.95 252 *e*PN **Pn** **11 00 24.1 -2.0**
ORL *e* 11 00 54.4
ORL *e*S **Sn** **11 02 03.2 -3.7**
ORL *e* 11 02 49.1
ORL pmax pmax
comp=Z,50nm,1.1s
ORL smax smax
comp=N,342nm,1.4s
ULN Ulaanbaatar 9.33 209 P **Pn** **11 00 32.4 +1.0**
ULN Ulaanbaatar 9.33 209 Pn **Pn** **11 00 32.4 +1.0**
SONM Songino Array 9.54 212 Pn **Pn** **11 00 33.8 -0.5**
comp=N,0.5nm,0.3s,baz=24,slow=12,SNR=16
SONM Pg 11 01 10.7
comp=N,1.8nm,0.3s,baz=7.5,slow=16,SNR=9.3
SONM Lg Lg 11 03 12.8
comp=N,11nm,0.3s,baz=22,slow=31,SNR=7.4
SONM LR LR 11 04 20.2
comp=N,283nm,20.4s,baz=30,slow=38
SONM Songino Array 9.54 212 Pn **Pn** **11 00 33.4 -0.9**
YAK Yakutsk 10.02 48 Pn **Pn** **11 00 37.9 -2.8**
comp=N,0.2nm,0.3s,baz=170,slow=1.5,SNR=1.4
YAK Sn **Sn** **11 02 25.8 -7.2**
comp=N,0.2nm,0.3s,baz=60,slow=16,SNR=1.9
YAK Lg Lg 11 03 23.5
comp=N,0.6nm,0.3s,baz=344,slow=24,SNR=12
YAK LR LR 11 04 34.7
comp=N,336nm,18.4s,baz=262,slow=38
YAK Yakutsk 10.02 48 *e*P Pn 11 00 47.5 +6.8
YAK *e*S Sn 11 02 46.3 +13
YAK MLR MLR
comp=Z,131nm,8.0s
KLR Kul'dur 12.92 115 Pn **Pn** **11 01 20.4 0.0**
comp=Z,0.8nm,0.3s,baz=301,slow=12,SNR=18
KLR Lg Lg 11 04 59.5
comp=Z,0.8nm,0.3s,baz=322,slow=6.9,SNR=9.0
KLR LR LR 11 05 52.7
comp=Z,181nm,18.2s,baz=336,slow=35
USRK Ussuriysk Ar. 16.68 128 Pn **P** **11 02 13.3 +0.5**
baz=291,slow=11,SNR=5.0
USRK Lg Lg 11 06 59.0
baz=326,slow=28,SNR=7.2
ZAA0 Zalesovo Array 16.68 274 Pn **Pn** **11 02 11.2 +0.7**
ZALV Zalesovo Beam 16.68 274 Pn **Pn** **11 02 10.5 0.0**
comp=Z,0.2nm,0.3s,baz=66,slow=11,SNR=6.1
ZALV Lg Lg 11 07 03.0
comp=Z,0.1nm,0.3s,baz=84,slow=28,SNR=3.7
ZALV LR LR 11 08 59.2
comp=Z,152nm,20.6s,baz=3.0,slow=39
ZALV Zalesovo Beam 16.68 274 Pn **Pn** **11 02 10.0 -0.5**
TIXI Tiksi 16.76 17 Pn **Pn** **11 02 06.1 -5.2**
comp=Z,1.5nm,0.3s,baz=215,slow=7.6,SNR=17
TIXI Sn Sn 11 05 02.9 -14
comp=Z,1.0nm,0.3s,baz=326,slow=19,SNR=6.5
TIXI Lg Lg 11 07 08.5
comp=Z,0.2nm,0.3s,baz=161,slow=5.8,SNR=5.0
TIXI LR LR 11 08 34.8
comp=Z,232nm,21.1s,baz=214,slow=37
TIXI Tiksi 16.76 17 P **Pn** **11 02 08.4 -2.9**
TIXI pmax pmax
comp=Z,18nm,0.7s
TIXI Tiksi 16.76 17 **Pn** **11 02 08.4 -2.9**
TIXI IAmb IAmb 11 02 14.8
comp=Z,18nm,0.7s
DGZ Jazzator, Alta 17.09 259 *i* P **P** **11 02 17.1 -0.5**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
GTA Gaotai 19.18 215 *e*P **Pn** **11 02 43.8 +2.2**
GTA pP sP 11 02 47.9 +2.5
GTA sP pP 11 02 51.3 +7.4
GTA pmax pmax
comp=Z,2.0nm,0.8s
MA2 Magadan 19.77 65 P **Pn** **11 02 48.6 +0.4**
comp=Z,0.4nm,0.3s,baz=270,slow=12,SNR=6.0
MA2 Lg Lg 11 08 35.9
comp=Z,0.1nm,0.3s,baz=60,slow=12,SNR=4.0
MA2 LR LR 11 10 40.6
comp=Z,160nm,18.2s,baz=274,slow=38
SEY Seymchan 20.41 55 P **P** **11 02 54.6 +1.0**
comp=Z,2.1nm,0.5s,baz=285,slow=11,SNR=15
SEY Lg Lg 11 08 58.5
comp=Z,14nm,1.1s,baz=351,slow=12,SNR=6.5
KSAR Wonju Array Be 21.03 147 P **P** **11 02 59.4 -1.2**
KSAR Wonju Array Be 21.03 147 P **P** **11 02 59.4 -1.2**
KSRS Korea Array 21.03 147 P **P** **11 03 01.0 +0.4**
comp=Z,1.7nm,1.0s,baz=340,slow=9.4,SNR=3.6
KSRS Lg Lg 11 09 24.1
comp=Z,1.5nm,0.8s,baz=335,slow=28,SNR=3.4
KSRS LR LR 11 10 49.5
comp=Z,177nm,18.8s,baz=340,slow=36
KURK Kurchatov 21.48 270 P **P** **11 03 06.4 +1.1**
KURK Kurchatov 21.48 270 P **P** **11 03 06.4 +1.1**
KURBB Kurchatov Arra 21.57 270 P **P** **11 03 06.4 +0.1**
comp=Z,4.8nm,0.7s,baz=61,slow=12,SNR=17
KURBB Lg Lg 11 09 43.0
comp=Z,1.7nm,0.9s,baz=75,slow=24,SNR=4.5
MK31 Makanchi Array 21.57 257 P **P** **11 03 05.6 -0.8**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 21.57 257 P **P** **11 03 05.6 -0.8**
MK31 IAmb IAmb 11 03 09.8
comp=Z,5.1nm,0.8s
MKAR Makanchi Array 21.57 257 P **P** **11 03 06.1 -0.3**
comp=Z,7.2nm,0.9s,baz=57,slow=9.0,SNR=35
MKAR Lg Lg 11 09 41.8
comp=Z,3.1nm,1.3s,baz=56,slow=26,SNR=2.0
MKAR LR LR 11 11 35.0
comp=Z,352nm,20.0s,baz=34,slow=37
MKAR Makanchi Array 21.57 257 P **P** **11 03 05.4 -1.0**
MAKZ Makanchi 21.74 258 P **P** **11 03 07.0 -1.1**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 21.74 258 P **P** **11 03 07.0 -1.1**
MAKZ IAmb IAmb 11 03 10.9
comp=Z,5.7nm,0.9s
ASAJ Asahikawa 21.89 111 P **P** **11 03 10.9 +1.2**
comp=Z,1.1nm,0.2s,baz=338,slow=19,SNR=1.4
XAN Xi'an 22.42 191 P **P** **11 03 18.0 +2.4**
XAN pP sP 11 03 28.3 +7.9
XAN pmax pmax
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 25.02 281 P **P** **11 03 41.2 +0.5**
comp=Z,2.2nm,0.8s,baz=98,slow=9.1,SNR=13
BRVK Borovoye 25.06 281 P **P** **11 03 41.1 0.0**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 25.06 281 P **P** **11 03 41.0 0.0**
PETK Petropavlovsk- 25.27 78 LR LR 11 14 06.4
comp=Z,116nm,18.8s,baz=289,slow=38
BILL Bilibino 26.31 42 *i* P **P** **11 03 55.1 +2.9**
BILL *i* 11 04 33.9
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL MLR MLR
comp=Z,102nm,15.0s
AAK Ala-Archa 28.50 258 *e*P **P** **11 04 15.7 +3.4**
AAK pmax pmax
comp=Z,7.0nm,1.0s
JHJ Hachijo jima 2 29.26 131 LR LR 11 15 29.3
comp=Z,470nm,19.1s,baz=56,slow=35
JOW Kunigami 31.16 154 LR LR 11 17 33.4
comp=Z,120nm,19.4s,baz=256,slow=37
ARCES ARCESS Array B 38.53 326 LR LR 11 24 44.5
comp=Z,63nm,18.3s,baz=75,slow=41
CMAR Chiang Mai Arr 39.32 203 P **P** **11 05 47.9 +1.9**
comp=Z,0.5nm,0.3s,baz=7.6,slow=7.5,SNR=4.2
IMAR Indian Mountai 41.68 38 P **P** **11 06 06.0 +1.0**
FINES FINESS Array B 42.43 315 P **P** **11 06 10.9 -0.3**
comp=Z,2.4nm,0.8s,baz=46,slow=11,SNR=4.4
FINES FINESS Array B 42.43 315 P **P** **11 06 09.7 -1.5**
BMAR Burnt Mountain 43.82 33 P **P** **11 06 22.9 +0.5**
ILAR Eielson Array 44.72 37 P **P** **11 06 30.8 +1.2**
comp=Z,1.7nm,1.0s,baz=286,slow=7.5,SNR=9.8
KIV Kislovodsk 45.22 286 *e*P **P** **11 06 34.2 +0.2**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,303nm,16.0s
NACGM Naroch 46.06 307 *i* P P 11 06 45.5 +5.2
NACGM *i* P P 11 06 45.5 +5.2
NACGM *i* P P 11 06 45.5 +5.2
NACGM *i* PcP PcP 11 08 03.2 -13
NACGM *i* PP PP 11 08 46.0 +18
NACGM *i* PPP PPP 11 09 29.6
NACGM *i* S S 11 13 34.8 +9.5
NACGM *i* PS 11 14 00.0
NACGM *i* SS **SS** **11 16 52.9 +3.2**
NACGM *i* SSS SSS 11 18 13.2
NACGM *i* LQ LQ 11 21 09.9
NACGM *i* LR LR 11 23 19.9
INK Inuvik 46.39 28 P **P** **11 06 44.1 +1.4**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 46.39 28 P **P** **11 06 44.1 +1.4**
INK IAmb IAmb 11 07 07.6
comp=Z,3.5nm,1.1s
M24K Tolsona, Glenn 46.68 40 P **P** **11 06 46.7 +1.5**
BCAR Beaver Creek A 47.55 37 P **P** **11 06 52.8 +0.8**
AKASG Malin Array Be 47.64 301 P **P** **11 06 53.5 +0.8**
comp=Z,0.3nm,0.4s,baz=44,slow=9.0,SNR=2.0
NOA NORSAR Array B 48.29 320 P **P** **11 06 59.0 +1.3**
comp=Z,0.7nm,0.8s,baz=44,slow=7.2,SNR=2.7
NOA LR LR 11 28 45.4
comp=Z,89nm,20.3s,baz=40,slow=38
BRTR Keskin Array B 53.01 288 LR LR 11 33 24.8
comp=Z,74nm,18.4s,baz=47,slow=40
YKA Yellowknife Ar 55.79 25 P **P** **11 07 53.2 -0.2**
comp=Z,0.7nm,0.7s,baz=333,slow=6.7,SNR=12
GERES GERESS Array B 56.08 308 P **P** **11 07 56.8 +1.0**
comp=Z,0.1nm,0.3s,baz=27,slow=6.6,SNR=2.2
GERES LR LR 11 33 29.3
comp=Z,75nm,20.1s,baz=39,slow=38
COCO West Island 69.60 198 *e*P **P** **11 09 27.7 +1.7**
ESDC Sonseca Array 70.94 314 P **P** **11 09 35.7 +1.5**
comp=Z,1.1nm,0.8s,baz=33,slow=7.9,SNR=5.5
ESDC Sonseca Array 70.94 314 IAmb IAmb 11 09 37.9
comp=Z,2.0nm,1.1s
ULM Lac du Bonnet 71.08 20 LR LR 11 43 32.1
comp=Z,28nm,18.0s,baz=9.0,slow=38
PDAR Pinedale Array 74.82 32 P **P** **11 09 59.0 +1.6**
comp=Z,1.5nm,1.2s,baz=343,slow=2.8,SNR=4.3
WRA Warramunga Arr 77.82 160 P **P** **11 10 12.9 -1.3**
comp=Z,1.6nm,0.9s,baz=351,slow=6.6,SNR=4.8
WRA Warramunga Arr 77.82 160 IAmb IAmb 11 10 18.7
comp=Z,0.1nm,0.8s
ASAR Alice Springs 81.38 161 P **P** **11 10 34.9 +1.4**
comp=Z,0.7nm,0.9s,baz=0.2,slow=5.7,SNR=5.3
TORD Torodi Ar. Bea 90.99 295 P **P** **11 11 22.5 +1.2**
comp=Z,1.0nm,1.0s,baz=24,slow=5.0,SNR=3.0
TORD Torodi Ar. Bea 90.99 295 IAmb IAmb 11 11 47.0
comp=Z,2.0nm,1.3s
OPO Ambohidratompo 92.98 241 LR LR 11 51 42.4
comp=Z,45nm,18.8s,baz=176,slow=34

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*GUC **19** 11:04:05.8±0.7,20°.77S×69°.13W,h109km±3km, ML3.4*
*IDC **19** 11:04:18.4±8.0,19°.83S×68°.44W,h193km±70km,mb3.0/1,*
mb1 3.0/2,mb1mx2.8/21,mbtmp3.4/2, Error ellipse:
s-maj=133.0km s-min=88.5km az=110.0

ISC 19 11:04:04.0±1.0, 20°.75S±0°.03×69°.18W±0°.09, h123km±8km, n17,σ1°.43/31, 5C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PB01	**IPOC Station P**	**0.41**	**225**	⇓*i*P	**Pn**	**11 04 21.7**	**-0.2**
PB01				*i* S	**Sn**	**11 04 34.2**	**-1.3**
PB01				IAML		11 04 34.7	
	comp=E,3µm,0.2s						
PB08	**IPOC Station P**	**0.61**	**2**	⇑*i*P	**Pn**	**11 04 23.6**	**+0.2**
PB08				*i* S	**Sn**	**11 04 37.4**	**-0.7**
PB08				IAML		11 04 39.1	
	comp=E,2µm,0.1s						
TA01	**Diego Aracena**	**0.96**	**281**	⇓*i*P	**Pn**	**11 04 26.3**	**+0.4**
TA01				*i* S	**Sn**	**11 04 42.0**	**-0.4**
TA01				IAML		11 04 42.9	
	comp=E,708nm,0.2s						
TA02	**Huaiquique**	**1.02**	**298**	*e*P	**Pn**	**11 04 27.0**	**+0.6**
TA02				*i* S	**Sn**	**11 04 43.0**	**-0.4**
TA02				IAML		11 04 44.2	
	comp=N,2µm,0.1s						
PB09	**IPOC Station P**	**1.04**	**183**	⇓*i*P	**Pn**	**11 04 27.4**	**+0.5**
PB09				*i* S	**Sn**	**11 04 44.2**	**0.0**
PB07	**IPOC Station P**	**1.18**	**214**	⇓*i*P	**Pn**	**11 04 28.8**	**+0.5**
PB07				*i* S	**Sn**	**11 04 46.1**	**-0.6**
PB07				IAML		11 04 47.7	
	comp=N,883nm,0.2s						
PB03	**IPOC Station P**	**1.40**	**203**	*i* P	**Pn**	**11 04 31.3**	**+0.7**
PB03				*i* S	**Sn**	**11 04 50.2**	**-0.7**
PB03				IAML		11 04 51.2	
	comp=E,652nm,0.4s						
PSGC	**Pisagua**	**1.45**	**322**	⇑*i*P	**Pn**	**11 04 31.7**	**+0.5**
PSGC				*i* S	**Sn**	**11 04 51.3**	**-0.6**
PSGC				IAML		11 04 53.4	
	comp=E,473nm,0.3s						
MNMC	**Minye Minye**	**1.66**	**346**	⇑*i*P	**Pn**	**11 04 34.8**	**+1.1**
MNMC				*i* S	**Sn**	**11 04 57.5**	**+1.0**
PB04	**IPOC Station P**	**1.82**	**210**	*e*P	**Pn**	**11 04 36.2**	**+0.7**
PB04				*i* S	**Sn**	**11 04 58.7**	**-0.9**
PB04				IAML		11 05 04.0	
	comp=N,386nm,0.2s						
PB06	**IPOC Station P**	**1.98**	**191**	*e*P	**Pn**	**11 04 38.4**	**+0.8**
PB06				*i* S	**Sn**	**11 05 02.6**	**-0.5**
PB06				IAML		11 05 04.8	
	comp=E,303nm,0.5s						
PB05	**IPOC Station P**	**2.30**	**204**	⇑*i*P	**Pn**	**11 04 42.1**	**+0.6**
PB05				*i* S	**Sn**	**11 05 08.4**	**-1.8**
PB05				IAML		11 05 11.0	
	comp=E,176nm,0.3s						
PB15	**IPOC Station P**	**2.46**	**186**	⇑*i*P	**Pn**	**11 04 44.5**	**+0.9**
PB15				*i* S	**Sn**	**11 05 14.5**	**+0.5**
PB10	**IPOC Station P**	**3.03**	**205**	*e*P	**Pn**	**11 04 50.7**	**-0.1**
PB10				*i* S	**Sn**	**11 05 22.8**	**-4.2**
LPAZ	**La Paz**	**4.55**	**13**	P	**Pn**	11 05 14.8	+3.3
	comp=E,1.6nm,0.3s,baz=194,slow=8.0,SNR=25						
LPAZ				S	**Sn**	**11 05 59.4**	**-4.5**
	comp=E,0.4nm,0.3s,baz=174,slow=8.1,SNR=5.7						
TORD	**Torodi Ar. Bea**	**77.34**	**71**	P	**P**	**11 15 47.1**	**+1.5**

comp=E,0.2nm,0.4s,baz=245,slow=5.7,SNR=2.1
MKAR Makanchi Array 145.17 35 PKP **PKiKP 11 23 30.0 -0.9**
comp=E,0.3nm,0.8s,baz=309,slow=3.7,SNR=2.9

*IDC **19** 11:12:34.6±2.6, 5.52S×153.82E, h33km±19km, mb4.2/15, mb1 4.4/19, mb1mx4.2/30, mbtmp4.4/19, ML3.5/3, MS3.7/19, Ms1 3.7/19, ms1mx3.5/42, Error ellipse: s-maj=17.5km s-min=13.0km az=80.0*
*DJA **19** 11:12:36.9±0.7, 6.3S×153.4E±°, h44km±6km, M5.2/14, mB5.0/2, mb4.9/14, MLv5.3/2, Mw(mB)4.3/2*
*NEIC **19** 11:12:37.3±1.6, 5.53S±0.07°×153.78E±0.06, h63km±6km, mb4.7/33, Error ellipse: s-maj=13.1km s-min=3.3km az=222.0*
ISC 19 11:12:38.6±0.4, **5.56S**±0.06°×**153.77E**±0.06, **h74**km, **n143, σ1s48**/136, **mb4.6**/35, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.10**	**310**				**Pn**	**11 13 11.3**	**-0.4**
RABL	**Rabaul**	**2.10**	**310**	P			**Pn**	**11 13 10.8**	**-0.9**
HNR	**Honiara**	**7.23**	**123**	Pn			**Pn**	**11 14 18.8**	**-2.8**
	baz=186,slow=10,SNR=1.7								
HNR				Sn			**Sn**	**11 15 41.0**	**-1.4**
	8.1nm,0.3s,baz=163,slow=12,SNR=2.4								
HNR				LR		LR	LR	11 17 18.8	
	comp=Z,1μm,18.4s,baz=274,slow=39								
HNR	**Honiara**	**7.23**	**123**	Pn			**Pn**	**11 14 21.0**	**-0.6**
MANU	**Manus Island**	**7.28**	**298**	Pn			**Pn**	**11 14 24.3**	**+2.0**
PMG	**Port Moresby**	**7.59**	**239**	Pn			**Pn**	**11 14 24.2**	**-2.3**
	11nm,0.3s,baz=57,slow=7.6,SNR=28								
PMG				Sn			**Sn**	**11 15 47.5**	**-3.6**
	10nm,0.3s,baz=319,slow=20,SNR=2.1								
PMG				LR		LR	LR	11 17 24.8	
	comp=Z,677nm,20.9s,baz=102,slow=38								
PMG	**Port Moresby**	**7.59**	**239**	P			**Pn**	**11 14 24.5**	**-2.0**
PATS	**Pohnpei**	**13.12**	**20**	Pn			**Pn**	**11 15 40.6**	**-1.3**
COEN	**Coen**	**13.36**	**231**	Pn			**Pn**	**11 15 45.8**	**+0.6**
JAY	**Jayapura**	**13.38**	**283**	Pn			**Pn**	**11 15 43.1**	**-2.3**
	0.3nm,0.3s,baz=131,slow=11,SNR=1.5								
JAY				LR		LR	LR	11 20 22.8	
	comp=Z,199nm,19.1s,baz=33,slow=35								
CTA	**Charters Tower**	**16.19**	**206**	Pn			**Pn**	**11 16 19.9**	**-1.7**
	0.4nm,0.3s,baz=24,slow=15,SNR=10								
CTAO	**Charters Tower**	**16.19**	**206**	Pn			**Pn**	**11 16 21.6**	**0.0**
EIDS	**Eidsvold**	**19.87**	**187**				**P**	**11 17 03.8**	**-0.1**
DZM	**Mont Dzumac**	**20.49**	**144**	*e*P			**P**	**11 17 10.3**	**-0.4**
	89nm,0.9s								
DZM				*e*LR			LR	11 22 23.4	
	comp=Z,429nm,22.8s								
DZM	**Mont Dzumac**	**20.49**	**144**	P			**P**	**11 17 10.7**	**0.0**
	21nm,0.7s,baz=283,slow=6.3,SNR=17								
DZM	**Mont Dzumac**	**20.49**	**144**				**P**	**11 17 10.3**	**-0.4**
DZM				IAmb		IAmb	IAmb	11 17 16.8	
	comp=Z,43nm,0.9s								
DZM	**Mont Dzumac**	**20.49**	**144**	P			**P**	**11 17 10.9**	**+0.2**
SAUI	**Saumlaki**	**22.44**	**263**	P			**P**	**11 17 30.5**	**-1.2**
	comp=Z,150nm,0.9s								
MTN	**Manton Dam**	**23.48**	**250**	P			**P**	**11 17 41.1**	**-0.9**
MTN				IAmb		IAmb	IAmb	11 17 56.1	
	comp=Z,19nm,0.9s								
WR0	**Warramunga Arr**	**23.55**	**231**	P			**P**	**11 17 41.8**	**-0.8**
WR0				IAmb		IAmb	IAmb	11 18 09.9	
	comp=Z,15nm,1.0s								
WB0	**Warramunga Arr**	**23.56**	**231**				**P**	**11 17 41.6**	**-1.0**
WB0							**P**	**11 17 42.2**	**-0.5**
WRAB	**Tennant Creek**	**23.69**	**231**	P			**P**	**11 17 43.5**	**-0.3**
WRAB				IAmb		IAmb	IAmb	11 17 58.0	
	comp=Z,16nm,0.9s								
WB2	**Warramunga Arr**	**23.69**	**231**	P			**P**	**11 17 43.0**	**-0.9**
WB2				IAmb		IAmb	IAmb	11 18 04.6	
	comp=Z,12nm,0.8s								
WRA	**Warramunga Arr**	**23.70**	**231**	P			**P**	**11 17 42.9**	**-1.0**
	comp=Z,4.9nm,0.8s,baz=55,slow=9.6,SNR=24								
WRA				PcP			**PcP**	**11 21 27.9**	**+1.4**
	comp=Z,6.9nm,0.8s,baz=58,slow=2.4,SNR=13								
WRA				ScP			**ScP**	**11 25 02.5**	**+4.1**
	comp=Z,0.5nm,0.8s,baz=59,slow=3.2,SNR=2.3								
WRA				LR		LR	LR	11 27 06.9	
	comp=Z,255nm,18.9s,baz=45,slow=37								
WRA	**Warramunga Arr**	**23.70**	**231**	P			**P**	**11 17 43.4**	**-0.5**
AS31	**Alice Springs**	**26.27**	**225**	P			**P**	**11 18 07.4**	**+0.2**
ASAR	**Alice Springs**	**26.27**	**225**	P			**P**	**11 18 06.8**	**-0.5**
	comp=Z,7.7nm,0.9s,baz=57,slow=9.4,SNR=52								
ASAR				PcP			**PcP**	**11 21 33.9**	**+1.7**
	comp=Z,6.7nm,0.7s,baz=64,slow=2.7,SNR=21								
ASAR				ScP			**ScP**	**11 25 11.2**	**+5.6**
	comp=Z,0.8nm,0.9s,baz=52,slow=3.5,SNR=3.8								
ASAR				LR		LR	LR	11 28 35.3	
	comp=Z,254nm,19.2s,baz=117,slow=36								
MSVF	**Nonsavu**	**26.64**	**119**	LR		LR	LR	11 27 40.4	
	comp=Z,249nm,21.8s,baz=167,slow=34								
H11S3	**WAKE ISLAND Hy**	**27.08**	**28**	T		T	T	11 46 32.9	
	baz=206,slow=73								
H11S2	**WAKE ISLAND Hy**	**27.08**	**28**	T		T	T	11 46 35.8	
	baz=206,slow=73								
H11S1	**WAKE ISLAND Hy**	**27.10**	**28**	T		T	T	11 46 37.3	
	baz=206,slow=73								
STKA	**Stephens Creek**	**28.56**	**202**	P			**P**	**11 18 28.6**	**+1.0**
	comp=Z,3.7nm,0.9s,baz=84,slow=18,SNR=4.0								
STKA				PcP			**PcP**	**11 21 37.9**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=51,slow=8.4,SNR=4.8								
STKA				LR		LR	LR	11 30 25.6	
	comp=Z,130nm,19.1s,baz=15,slow=37								
FITZ	**Fitzroy Crossi**	**30.16**	**243**	P			**P**	**11 18 41.7**	**-0.2**
OUZ	**Omahuta**	**34.73**	**151**	P			**P**	**11 19 21.2**	**-0.4**
OUZ				IAmb		IAmb	IAmb	11 19 43.4	
	comp=Z,12nm,1.2s								
OUZ	**Omahuta**	**34.73**	**151**	P			**P**	**11 19 22.2**	**+0.6**
FORT	**Forrest**	**34.84**	**221**	P			**P**	**11 19 22.6**	**0.0**
HAZ	**Te Kaha**	**38.80**	**149**	P			**P**	**11 19 57.2**	**+1.0**
URZ	**Urewera**	**38.85**	**150**	P			**P**	**11 19 57.1**	**+0.5**
	comp=Z,3.4nm,0.4s,baz=82,slow=1.4,SNR=6.4								
URZ	**Urewera**	**38.85**	**150**	IAmb		IAmb	IAmb	11 20 05.2	
	comp=Z,16nm,0.9s								
URZ	**Urewera**	**38.85**	**150**	P			**P**	**11 19 57.3**	**+0.8**
RUGZ	**Raukumara Rang**	**38.91**	**149**	P			**P**	**11 19 58.1**	**+0.9**
PKGZ	**Pakihiroa**	**39.05**	**149**	P			**P**	**11 19 59.6**	**+1.2**
MWZ	**Matawai**	**39.12**	**150**	P			**P**	**11 19 58.7**	**-0.2**
MTHZ	**Maungataniwha**	**39.18**	**151**	P			**P**	**11 20 00.2**	**+0.7**
TWGZ	**Tauwhareparae**	**39.23**	**149**	P			**P**	**11 20 01.1**	**+1.3**
BKZ	**Black Stump Fm**	**39.27**	**152**	P			**P**	**11 20 00.5**	**+0.4**
PUZ	**Puketiti**	**39.29**	**149**	P			**P**	**11 19 59.5**	**-0.8**
RAHZ	**Arahi**	**39.35**	**151**	P			**P**	**11 20 02.5**	**+1.6**
NMHZ	**Naumai**	**39.36**	**151**	P			**P**	**11 20 02.7**	**+1.8**
TKGZ	**Te Karaka**	**39.36**	**150**	P			**P**	**11 20 01.5**	**+0.7**
SNGZ	**Shannon Statio**	**39.37**	**150**	P			**P**	**11 20 01.7**	**+0.7**
KRHZ	**Kereru**	**39.59**	**152**	P			**P**	**11 20 03.1**	**+0.3**
NNZ	**Nelson**	**39.60**	**133**	P			**P**	**11 20 05.0**	**+2.2**
THZ	**Tophouse**	**39.88**	**158**	P			**P**	**11 20 08.0**	**+2.7**
HOWZ	**Holdsworth Sta**	**40.22**	**154**	P			**P**	**11 20 07.6**	**-0.4**
BFZ	**Birch Farm**	**40.37**	**153**	P			**P**	**11 20 08.4**	**-0.8**
LTZ	**Lake Taylor**	**40.53**	**159**	P			**P**	**11 20 11.4**	**+0.8**
MJAR	**Matsushiro Arr**	**44.34**	**342**	LR		LR	LR	11 37 10.6	
	comp=Z,47nm,20.5s,baz=220,slow=33								
CISI	**Cisompet, Garu**	**45.68**	**265**	P			**P**	**11 20 51.5**	**-1.1**
DLV	**T Lat**	**48.27**	**291**	P			**P**	**11 21 12.6**	**-0.3**
DLV				IAmb		IAmb	IAmb	11 21 15.9	
	comp=Z,10.0nm,0.9s								
KSRS	**Korea Array**	**49.11**	**333**	P			**P**	**11 21 18.7**	**0.0**
	comp=Z,5.1nm,1.0s,baz=150,slow=9.6,SNR=16								
KSAR	**Wonju Array Be**	**49.12**	**333**	P			**P**	**11 21 17.1**	**-1.6**
USRK	**Ussuriysk Ar.**	**53.27**	**341**	P			**P**	**11 21 49.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=183,slow=9.8,SNR=4.2								
USRK				LR		LR	LR	11 40 44.8	
	comp=Z,34nm,21.4s,baz=137,slow=32								
USRK	**Ussuriysk Ar.**	**53.27**	**341**				pP	11 22 03.5	-3.9
ENH	**Enshi**	**55.38**	**313**	P			**P**	**11 22 05.2**	**-0.1**
PPT	**Papeete**	**56.58**	**107**	LR		LR	LR	11 40 33.1	
	comp=Z,20nm,21.4s,baz=322,slow=30								
PPT2	**Papeete2**	**56.58**	**107**	*e*LR			LR	11 39 23.8	
	comp=Z,70nm,25.2s								
PHIT	**Phitsanulok**	**57.34**	**294**	P			**P**	**11 22 23.2**	**+3.7**
TBI	**Tubuai**	**57.37**	**114**	*e*LR			LR	11 39 43.9	
	comp=Z,183nm,30.2s								
UTTA	**Uttaradit**	**57.39**	**295**	P			**P**	**11 22 22.5**	**+2.7**
XAN	**Xi'an**	**57.83**	**316**	P			**P**	**11 22 22.6**	**-0.1**
SUKH	**Sukhothai**	**58.15**	**294**	P			**P**	**11 22 28.1**	**+2.9**
LAMP	**Lampang**	**58.47**	**296**	P			**P**	**11 22 30.0**	**+2.6**
PETK	**Petropavlovsk-**	**58.54**	**3**	P			**P**	**11 22 27.8**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=145,slow=8.0,SNR=7.7								
PETK				LR			LR	11 43 46.3	
	comp=Z,28nm,21.1s,baz=152,slow=32								
CM09	**Chiang Mai Arr**	**59.02**	**295**	P			**P**	**11 22 34.3**	**+3.0**
CM01	**Chiang Mai Arr**	**59.05**	**295**	P			**P**	**11 22 34.0**	**+2.6**
CM31	**Chiang Mai Arr**	**59.07**	**295**	P			**P**	**11 22 34.6**	**+3.0**
CM31	**Chiang Mai Arr**	**59.07**	**295**	P			**P**	**11 22 31.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**59.07**	**295**	P			**P**	**11 22 34.0**	**+2.4**
	comp=Z,10nm,0.9s,baz=110,slow=5.1,SNR=59								
CMAR				LR			LR	11 49 55.9	
	comp=Z,18nm,18.2s,baz=146,slow=38								
CMAR	**Chiang Mai Arr**	**59.07**	**295**	P			**P**	**11 22 33.0**	**+1.4**
CM15	**Chiang Mai Arr**	**59.09**	**295**	P			**P**	**11 22 34.0**	**+2.3**
CM13	**Chiang Mai Arr**	**59.09**	**295**	P			**P**	**11 22 34.3**	**+2.6**
CMMT	**Chiang Mai**	**59.18**	**296**	P			**P**	**11 22 33.7**	**+1.3**
CM33	**Chiang Mai Arr**	**59.18**	**296**	P			**P**	**11 22 34.0**	**+1.6**
CHTO	**Chiang Mai**	**59.18**	**296**	P			**P**	**11 22 33.3**	**+0.9**
CHTO				IAmb			IAmb	11 22 35.3	
	comp=Z,12nm,1.1s								
TAOE	**Nuku Hiva Isla**	**65.57**	**97**	*e*LR			LR	11 43 31.0	
	comp=Z,260nm,33.8s								
SONM	**Songino Array**	**67.48**	**328**	P			**P**	**11 23 28.2**	**+1.4**
	comp=Z,1.3nm,0.4s,baz=136,slow=5.8,SNR=12								
SONM				LR			LR	11 54 10.0	
	comp=Z,33nm,18.0s,baz=57,slow=37								
SONM	**Songino Array**	**67.48**	**328**	P			**P**	**11 23 25.8**	**-1.0**
SHL	**Shillong**	**67.52**	**300**	P			**P**	**11 23 27.1**	**-0.5**
TAPN	**Taplejung**	**71.62**	**301**	*e*P			**P**	**11 23 54.6**	**+1.6**
	comp=Z,30nm,0.9s								
ODAN	**Odare**	**71.76**	**300**	*e*P			**P**	**11 23 55.2**	**+1.5**
	comp=Z,36nm,0.7s								
VNDA	**Vanda**	**72.05**	**178**	P			**P**	**11 23 55.1**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=334,slow=5.6,SNR=3.8								
GUN	**Gumba**	**73.34**	**301**	*e*P			**P**	**11 24 04.8**	**+1.6**
	comp=Z,30nm,0.7s								
PKI	**Pulchoki**	**73.65**	**301**	*e*P			**P**	**11 24 06.1**	**+1.1**
	comp=Z,15nm,0.8s								
PKIN	**Phulchoki**	**73.66**	**301**	*e*P			**P**	**11 24 05.8**	**+0.8**
	comp=Z,4.9nm,0.3s								
DMN	**Daman**	**73.92**	**301**	*e*P			**P**	**11 24 08.2**	**+1.7**
BILL	**Bilibino**	**73.95**	**5**	P			**P**	**11 24 05.2**	**-0.3**
BILL				IAmb			IAmb	11 24 06.7	
	comp=Z,4.0nm,0.7s								
ZSN	**Zaisan**	**80.07**	**320**	*e*P			**P**	**11 24 41.3**	**+0.9**
	baz=320								
IMAR	**Indian Mountai**	**80.77**	**19**	P			**P**	**11 24 43.2**	**-0.4**
MCK	**McKinley**	**81.19**	**22**	P			**P**	**11 24 44.9**	**-1.0**
MCK				IAmb			IAmb	11 25 07.1	
	comp=Z,8.2nm,0.9s								
MK31	**Makanchi Array**	**81.53**	**319**	P			**P**	**11 24 48.1**	**0.0**
MK31				IAmb			IAmb	11 24 50.6	
	comp=Z,6.3nm,0.8s								
MKAR	**Makanchi Array**	**81.53**	**319**	P			**P**	**11 24 49.5**	**+1.4**
	comp=Z,6.7nm,0.6s,baz=102,slow=5.9,SNR=72								
MKAR				LR			LR	12 02 15.6	
	comp=Z,34nm,19.2s,baz=56,slow=37								
MKAR	**Makanchi Array**	**81.53**	**319**	P			**P**	**11 24 48.6**	**+0.5**
MAKZ	**Makanchi**	**81.74**	**319**	P			**P**	**11 24 49.8**	**+0.5**
MAKZ				IAmb			IAmb	11 24 51.6	
	comp=Z,11nm,0.8s								
ZAA0	**Zalesovo Array**	**82.31**	**326**	P			**P**	**11 24 52.4**	**+0.4**
ZAA0				IAmb			IAmb	11 24 53.3	
	comp=Z,4.3nm,0.7s								
ZALV	**Zalesovo Beam**	**82.31**	**326**	P			**P**	**11 24 52.1**	**+0.1**
	comp=Z,3.9nm,0.5s,baz=112,slow=5.8,SNR=16								
ZALV				LR			LR	12 01 59.0	
	comp=Z,25nm,19.9s,baz=70,slow=36								
ZALV	**Zalesovo Beam**	**82.31**	**326**	P			**P**	**11 24 51.1**	**-0.9**
SHLS	**Shalkode**	**82.45**	**315**	*e*P			**P**	**11 24 52.4**	**-0.8**
	baz=315								
ILAR	**Eielson Array**	**82.49**	**22**	P			**P**	**11 24 51.4**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=243,slow=5.5,SNR=23								
UZB	**Uzynbulak**	**82.76**	**315**	*e*P			**P**	**11 24 55.1**	**+0.3**
	baz=314								
KPKS	**Kokpek**	**83.08**	**315**	*e*P			**P**	**11 24 56.8**	**+0.4**
	baz=315								
SATY	**Saty**	**83.17**	**314**	*e*P			**P**	**11 24 58.0**	**+1.1**
	baz=314								
TOLK	**Toolik Lake Re**	**83.63**	**18**	P			**P**	**11 24 58.4**	**-0.2**
TDK	**Taldyqorghan**	**83.65**	**316**	*e*P			**P**	**11 24 59.6**	**+0.4**
	baz=316								
BCAR	**Beaver Creek A**	**83.69**	**24**	P			**P**	**11 24 56.7**	**-2.3**
MDOK	**Medeo**	**84.16**	**314**	*e*P			**P**	**11 25 02.5**	**+0.5**
	baz=314								
TNSS	**Tian-Shan**	**84.21**	**314**	*e*P			**P**	**11 25 02.9**	**+0.3**
	baz=314								
AAA	**Alma-Ata**	**84.27**	**314**	*e*P			**P**	**11 25 03.2**	**+0.7**
	baz=314								
CHKK	**Chushkaly**	**84.36**	**315**	*e*P			**P**	**11 25 03.8**	**+0.9**
	baz=315								
QSPA	**South Pole Qui**	**84.41**	**180**	P			**P**	**11 25 03.2**	**+0.4**
QSPA				IAmb			IAmb	11 25 05.1	
	comp=Z,11nm,0.8s								
ULHL	**Ulahol**	**84.54**	**313**	P			**P**	**11 25 06.5**	**+2.5**
	SNR=7.0								
KUU	**Kurtv**	**84.83**	**315**	*e*P			**P**	**11 25 05.6**	**+0.4**
	baz=315								
TKM2	**Tokmak 2**	**85.15**	**314**	P			**P**	**11 25 08.9**	**+1.8**
	SNR=12								
NIL	**Nilore**	**85.20**	**304**	P			**P**	**11 25 07.9**	**+0.6**
UCH	**Uchtor**	**85.79**	**313**	P			**P**	**11 25 12.8**	**+2.2**
	SNR=12								
AAK	**Ala-Archa**	**85.89**	**313**	P			**P**	**11 25 12.3**	**+1.6**
	SNR=7.2								
AAK	**Ala-Archa**	**85.89**	**313**	P			**P**	**11 25 11.5**	**+0.8**
AAK				IAmb			IAmb	11 25 13.6	
	comp=Z,6.4nm,0.8s								
SGDS	**Sogindy**	**85.95**	**314**	*e*P			**P**	**11 25 11.5**	**+0.6**
	baz=314								
USP	**Ospenovka**	**86.00**	**314**	P			**P**	**11 25 12.8**	**+1.6**
	SNR=7.0								
AML	**Almayashu**	**86.37**	**313**	P			**P**	**11 25 15.5**	**+2.1**
	SNR=7.2								
DLBC	**Dease Lake**	**87.53**	**31**	LR			LR	11 58 21.1	
	comp=Z,42nm,20.3s,baz=275,slow=31								
INK	**Inuvik**	**88.81**	**21**	LR			LR	12 01 01.1	
	comp=Z,68nm,19.7s,baz=130,slow=33								
YBH	**Yreka Blue Hor**	**88.83**	**48**	LR			LR	11 58 14.3	
	comp=Z,160nm,20.4s,baz=290,slow=31								
KKAR	**Karatay Array**	**88.85**	**313**	P			**P**	**11 25 24.9**	**+0.2**
IUG	**Iuzhnay**	**89.06**	**312**	*e*P			**P**	**11 25 26.6**	**+0.7**
	baz=312								
BRVK	**Borovoye**	**90.49**	**323**	P			**P**	**11 25 31.5**	**-0.7**
BRVK				IAmb			IAmb	11 25 51.0	
	comp=Z,4.7nm,0.9s								
R11A	**Troy Canyon, C**	**93.91**	**52**				pP	11 26 06.2	-2.4
CCUT	**Cedar City**	**95.62**	**53**	P			**P**	**11 25 54.4**	**-2.1**
YKA	**Yellowknife Ar**	**95.64**	**28**	P			**P**	**11 25 55.8**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=270,slow=3.3,SNR=4.4								
ARU	**Arti**	**97.48**	**326**	LR			LR	12 11 48.9	
	comp=Z,32nm,18.4s,baz=115,slow=36								
BOSA	**Boshof**	**119.94**	**233**	PKP			**PKiKP**	**11 31 22.4**	**+0.8**
	comp=Z,2.9nm,0.7s,baz=84,slow=4.0,SNR=5.9								
TORD	**Torodi Ar. Bea**	**151.46**	**287**	PKPbc			**PKiKP**	**11 32 25.8**	**+0.2**
	comp=Z,7.4nm,0.9s,baz=70,slow=2.2,SNR=26								
TORD				PKPab			**PKPab**	**11 32 33.7**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=43,slow=3.8,SNR=14								
DBIC	**Dimbokro**	**158.72**	**274**	PKPab			**PKPab**	**11 33 05.4**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=101,slow=6.7,SNR=3.8								

*TAP **19** 11:18:09.9, 23.49N×121.60E, h41km, ML3.0, C*
*JMA **19** 11:18:09.4, 23.50N×121.62E, h36km±2km, M2.5*
ISC 19 11:18:10.2±0.9, **23.48N**±0.02°×**121.65E**±0.02, **h31**km±8km, **n105, σ1s01**/197, **3D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.21**	**275**	P			**Pn**	**11 18 17.3**	**0.0**
	baz=270								
EGFH	**Guangfu**	**0.28**	**313**	*i* P			**Pn**	**11 18 18.0**	**-0.2**
	baz=306								
EGFH				*e*S			**Sn**	**11 18 23.3**	**-0.1**
	baz=306								
EHY	**Hungye**	**0.31**	**276**	*i* P			**Pb**	**11 18 17.6**	**-0.3**
	baz=273								
EHY				*i* S			**Sn**	**11 18 23.1**	**-1.0**
	baz=273								
EYUL	**Yuli**	**0.33**	**248**	*i* P			**Pb**	**11 18 18.3**	**+0.1**
	baz=253								
EYUL				S			**Sn**	**11 18 24.7**	**+0.1**
	baz=253								
YULB	**Yu-li**	**0.34**	**256**	*i* P			**Pb**	**11 18 18.1**	**-0.2**
	baz=261								
YULB				*i* S			**Sn**	**11 18 23.8**	**-1.0**
	baz=261								
TWF1	**Yuli**	**0.35**	**250**	*i* P			**Pb**	**11 18 18.3**	**-0.2**
	baz=255								
TWF1				*i* S			**Sn**	**11 18 24.2**	**-0.9**
	baz=255								
ESL	**Shilin**	**0.39**	**329**	*i* P			**Pb**	**11 18 18.4**	**-0.7**
	baz=329								
ESL				*i* S			**Sb**	**11 18 24.9**	**-0.3**
	baz=329								
FULB	**Fuli**	**0.43**	**230**	*i* P			**Pb**	**11 18 19.9**	**+0.3**
	baz=236								
FULB				S			**Sn**	**11 18 28.2**	**+1.1**
	baz=236								
CHKT	**Chengkung**	**0.46**	**215**	*i* P			**Pb**	**11 18 20.6**	**+0.5**
	baz=201								
CHKT				S			**Sb**	**11 18 28.2**	**+1.4**
	baz=201								
HWA	**Hwalien**	**0.50**	**355**	*e*S			**Sn**	**11 18 30.1**	**+1.3**
	baz=7.0								
VWDT	**VWDT**	**0.55**	**301**	P			**Pn**	**11 18 20.9**	**-0.9**
	baz=299								
VWDT				S			**Sb**	**11 18 28.8**	**-0.3**
	baz=299								
EDH	**Donghe**	**0.59**	**213**	P			**Pn**	**11 18 21.8**	**-0.7**
	baz=219								
EDH				S			**Sn**	**11 18 30.7**	**-0.4**
	baz=219								
TWD	**Chiawan**	**0.60**	**355**	*i* P			**Pn**	**11 18 21.6**	**-1.1**
	baz=350								
TWD				*i* S			**Sn**	**11 18 31.0**	**-0.4**
	baz=350								
YUS	**Yu-Shan**	**0.64**	**271**	*i* P			**Pn**	**11 18 22.7**	**-1.0**
	baz=277								
YUS				*i* S			**Sb**	**11 18 31.3**	**-1.1**
	baz=277								
ELDTW	**Lidau**	**0.65**	**244**	*i* P			**Pn**	**11 18 21.7**	**-1.7**
	baz=235								
ELDTW				S			**Sn**	**11 18 30.4**	**-2.2**
	baz=235								
NACB	**Ninganchiao**	**0.70**	**356**	P			**Pn**	**11 18 22.4**	**-1.6**
	baz=350								
NACB				S			**Sn**	**11 18 32.1**	**-1.6**
	baz=350								
SSLB	**Suanglung**	**0.71**	**296**	*i* P			**Pn**	**11 18 23.0**	**-1.2**
	baz=292								
SSLB				S			**Sn**	**11 18 32.6**	**-1.6**
	baz=292								
LONT	**Longtian**	**0.74**	**220**	*i* P			**Pn**	**11 18 23.0**	**-1.6**
	baz=216								
LONT				S			**Sn**	**11 18 32.9**	**-1.9**
	baz=216								
ETLH	**Xiulin Townshi**	**0.74**	**348**	P			**Pn**	**11 18 23.1**	**-1.6**
	baz=344								
ETLH				S			**Sn**	**11 18 32.9**	**-2.1**
	baz=344								
WHYT	**Xinyi Township**	**0.77**	**287**	*e*P			**Pn**	**11 18 24.4**	**-0.5**
	baz=287								
WHYT				S			**Sn**	**11 18 34.6**	**-0.9**
	baz=287								
ALS	**Alishan**	**0.78**	**273**	*i* P			**Pn**	**11 18 24.8**	**-0.6**
	baz=279								
ALS				S			**Sn**	**11 18 35.2**	**-0.9**
	baz=279								
SMLT	**Sun Moon Lake**	**0.80**	**301**	*i* P			**Pn**	**11 18 24.8**	**-0.7**
	baz=302								
SMLT				*i* S			**Sn**	**11 18 35.5**	**-0.9**
	baz=302								
LDUT	**Ludao**	**0.82**	**192**	*i* P			**Pn**	**11 18 24.1**	**-1.5**
	baz=181								
LDUT				*i* S			**Sn**	**11 18 35.0**	**-1.6**
	baz=181								
WPL	**Puli Township**	**0.83**	**310**	P			**Pn**	**11 18 24.7**	**-1.1**
	baz=317								
WPL				*e*S			**Sn**	**11 18 36.6**	**-0.5**
	baz=317								
TWGBT	**Beinan**	**0.84**	**219**	P			**Pn**	**11 18 24.5**	**-1

SLGT	**Liugui**	**1.04**	**243**	*i* P		**Pn**	**11 18 28.4**	**-0.3**
	baz=236								
SLGT				S		**Sn**	**11 18 42.9**	**+0.7**
	baz=236								
WDLH	**Douliu**	**1.04**	**282**	*i* P		**Pn**	**11 18 28.9**	**+0.1**
	baz=281								
WDLH				S		**Sn**	**11 18 42.9**	**+0.6**
	baz=281								
SGST	**Jiashian**	**1.06**	**249**	*i* P		**Pn**	**11 18 28.6**	**-0.3**
	baz=239								
SGST				S		**Sn**	**11 18 42.9**	**+0.2**
	baz=239								
CHN1	**Nanshi**	**1.07**	**255**	*i* P		**Pn**	**11 18 29.6**	**+0.4**
	baz=253								
CHN1				*i* S		**Sn**	**11 18 43.9**	**+0.8**
	baz=253								
ECL	**Taimali**	**1.09**	**217**	*e*P		**Pn**	**11 18 27.5**	**-1.8**
	baz=212								
ECL				*e*S		**Sn**	**11 18 40.9**	**-2.4**
	baz=212								
TWK	**Hsinying**	**1.09**	**259**	*i* P		**Pn**	**11 18 29.6**	**+0.1**
	baz=258								
TWK				*i* S		**Sn**	**11 18 43.7**	**+0.2**
	baz=258								
SNST	**Tainan City**	**1.09**	**257**	*i* P		**Pn**	**11 18 29.7**	**+0.3**
	baz=256								
SNST				*i* S		**Sn**	**11 18 44.5**	**+1.0**
	baz=256								
TCU	**Taichung**	**1.12**	**307**	P		**Pn**	**11 18 30.0**	**+0.2**
	baz=308								
TCU				S		**Sn**	**11 18 44.8**	**+0.8**
	baz=308								
CHY	**Chiayi**	**1.13**	**271**	*e*P		**Pn**	**11 18 28.7**	**-1.1**
	baz=271								
CHY				*e*S		**Sn**	**11 18 44.3**	**-0.1**
	baz=271								
NDT	**Datong Townshi**	**1.13**	**353**	*i* P		**Pn**	**11 18 29.1**	**-0.8**
	baz=356								
NDT				S		**Sn**	**11 18 43.3**	**-1.1**
	baz=356								
TWC	**Suao**	**1.14**	**9**	P		**Pn**	**11 18 30.1**	**0.0**
	baz=22								
TWC				S		**Sn**	**11 18 46.0**	**+1.3**
	baz=22								
NDS	**Dongshan**	**1.15**	**3**	*i* P		**Pn**	**11 18 29.6**	**-0.7**
	baz=355								
NDS				*e*S		**Sn**	**11 18 44.6**	**-0.4**
	baz=355								
ENTT	**Nioudou**	**1.16**	**356**	*i* P		**Pn**	**11 18 29.8**	**-0.6**
	baz=359								
ENTT				*e*S		**Sn**	**11 18 44.3**	**-0.9**
	baz=359								
WCHH	**Zhanghua**	**1.17**	**301**	P		**Pn**	**11 18 30.9**	**+0.4**
	baz=301								
WCHH				S		**Sb**	**11 18 47.3**	**+0.6**
	baz=301								
WTK	**Tuku**	**1.18**	**281**	P		**Pn**	**11 18 30.4**	**-0.1**
	baz=280								
WTK				S		**Sn**	**11 18 45.5**	**-0.1**
	baz=280								
TWQ1	**Liyutan**	**1.19**	**317**	*i* P		**Pn**	**11 18 30.9**	**+0.2**
	baz=318								
TWQ1				*i* S		**Sn**	**11 18 46.7**	**+0.9**
	baz=318								
SSD	**Sandimen**	**1.19**	**233**	*i* P		**Pn**	**11 18 30.9**	**+0.2**
	baz=228								
SSD				*i* S		**Sn**	**11 18 47.1**	**+1.3**
	baz=228								
TSMG	**Majia**	**1.20**	**231**	*i* P		**Pn**	**11 18 31.0**	**+0.1**
	baz=228								
TSMG				S		**Sn**	**11 18 47.0**	**+0.8**
	baz=228								
YHNB	**Yeheng**	**1.22**	**348**	P		**Pn**	**11 18 30.6**	**-0.5**
YHNB				S		**Sn**	**11 18 45.7**	**-1.0**
SCST	**Cishan**	**1.22**	**241**	*e*P		**Pn**	**11 18 32.0**	**+0.9**
	baz=240								
SCST				*e*S		**Sb**	**11 18 49.0**	**+0.9**
	baz=240								
NSK	**Sanguang**	**1.23**	**347**	*i* P		**Pn**	**11 18 30.7**	**-0.6**
	baz=360								
NSK				*i* S		**Sn**	**11 18 45.5**	**-1.4**
	baz=360								
TWE	**Neicheng**	**1.24**	**1**	*i* P		**Pn**	**11 18 31.0**	**-0.4**
	baz=356								
TWE				*e*S		**Sn**	**11 18 47.8**	**+0.7**
	baz=356								
NSY	**Sanyi**	**1.24**	**319**	*i* P		**Pn**	**11 18 32.0**	**+0.5**
	baz=332								
NSY				*i* S		**Sn**	**11 18 48.3**	**+1.1**
	baz=332								
WRL	**Guolierlin Hig**	**1.24**	**290**	*e*S		**Sn**	**11 18 47.6**	**+0.4**
	baz=282								
ICHU	**Yijhu**	**1.27**	**265**	*e*P		**Pn**	**11 18 31.3**	**-0.5**
	baz=264								
ICHU				S		**Sn**	**11 18 47.4**	**-0.4**
	baz=264								
WDJ	**Dajia District**	**1.27**	**313**	P		**Pn**	**11 18 32.2**	**+0.3**
	baz=314								
WDJ				S		**Sn**	**11 18 49.0**	**+1.2**
	baz=314								
MASBT	**Mashibuluo**	**1.27**	**228**	P		**Pn**	**11 18 31.9**	**0.0**
	baz=225								
MASBT				S		**Sb**	**11 18 50.2**	**+0.6**
	baz=225								
NSTT	**Nanjuang**	**1.30**	**333**	*i* P		**Pn**	**11 18 32.8**	**+0.6**
	baz=334								
NSTT				*i* S		**Sn**	**11 18 48.6**	**+0.1**
	baz=334								
LIOB	**Emei**	**1.30**	**334**	*i* P		**Pn**	**11 18 32.5**	**+0.2**
	baz=322								
LIOB				S		**Sn**	**11 18 49.2**	**+0.5**
	baz=322								
NWLT	**Wulai**	**1.30**	**354**	*i* P		**Pn**	**11 18 32.7**	**+0.4**
	baz=357								
NWLT				*i* S		**Sn**	**11 18 48.4**	**-0.3**
	baz=357								
TWM1	**Shoushan**	**1.31**	**240**	*e*S		**Sb**	**11 18 51.8**	**+1.2**
	baz=239								
EAST	**Anshuo**	**1.32**	**214**	P		**Pn**	**11 18 32.8**	**+0.3**
	baz=211								
EAST				*e*S		**Sn**	**11 18 47.5**	**-1.6**
	baz=211								
NMLH	**Miaoli**	**1.32**	**323**	*e*P		**Pn**	**11 18 32.8**	**+0.3**
	baz=324								
NMLH				S		**Sn**	**11 18 50.0**	**+0.9**
	baz=324								
CHN8	**Yiju**	**1.33**	**265**	*e*P		**Pn**	**11 18 32.8**	**+0.1**
	baz=264								
CHN8				S		**Sn**	**11 18 49.7**	**+0.4**
	baz=264								
SSPT	**Xinbi**	**1.41**	**226**	P		**Pn**	**11 18 34.9**	**+1.2**
	baz=219								
SSPT				*e*S		**Sn**	**11 18 52.7**	**+1.6**
	baz=219								
LAY	**Lan-yu**	**1.43**	**184**	P		**Pn**	**11 18 33.3**	**-0.8**
	baz=175								
LAY				*e*S		**Sn**	**11 18 50.2**	**-1.7**
	baz=175								
SCZT	**Fangliau**	**1.45**	**221**	P		**Pn**	**11 18 36.0**	**+1.6**
	baz=216								
SCZT				S		**Sn**	**11 18 54.5**	**+2.2**
	baz=216								
SLIU	**Shizi**	**1.48**	**212**	P		**Pn**	**11 18 34.2**	**-0.6**
	baz=203								
NHDH	**Xindian Distri**	**1.49**	**356**	*e*S		**Sn**	**11 18 53.5**	**+0.4**
	baz=358								
TIPB	**Shuangxi**	**1.50**	**6**	P		**Pn**	**11 18 35.7**	**+0.7**
	baz=359								
TIPB				*e*S		**Sn**	**11 18 53.0**	**-0.5**
	baz=359								
JYNG	**Yonagunijimaku**	**1.53**	**50**	P		**Pn**	**11 18 34.6**	**-0.8**
JYNG				*e*S		**Sn**	**11 18 53.7**	**-0.5**
NWF	**Wu-fen Shan**	**1.59**	**4**	*e*S		**Sn**	**11 18 57.9**	**+1.9**
	baz=354								
WFSB	**Wu-fen Shan**	**1.59**	**4**	*e*S		**Sn**	**11 18 58.0**	**+2.2**
	baz=354								
WLCH	**Liuqiu**	**1.62**	**227**	*e*P		**Pn**	**11 18 38.9**	**+2.2**
	baz=225								
TWS1	**Kuangyinshan**	**1.63**	**352**	*e*S		**Sn**	**11 18 58.3**	**+1.5**
	baz=7.0								
YM01	**YM01**	**1.67**	**357**	*e*S		**Sn**	**11 18 56.9**	**-0.8**
	baz=359								
YM04	**YM04**	**1.67**	**356**	*e*P		**Pn**	**11 18 38.6**	**+1.1**
	baz=358								
YM10	**YM10**	**1.68**	**357**	*e*P		**Pn**	**11 18 37.9**	**+0.5**
	baz=358								
YM10				*e*S		**Sn**	**11 18 56.4**	**-1.5**
	baz=358								
YM05	**YM05**	**1.68**	**357**	*e*P		**Pn**	**11 18 38.2**	**+0.6**
	baz=359								
YM05				*e*S		**Sn**	**11 18 59.1**	**+0.9**
	baz=359								
WDGT	**Dungji**	**1.84**	**264**	P		**Pn**	**11 18 38.9**	**-0.8**
	baz=263								
WDGT				S		**Sn**	**11 19 00.2**	**-1.8**
	baz=263								
PHUB	**P'eng-hu**	**1.91**	**272**	P		**Pn**	**11 18 39.7**	**-0.9**
	baz=259								
PHUB				S		**Sn**	**11 19 00.9**	**-2.7**
	baz=259								
IRIF	**Iriomote-Funau**	**2.08**	**65**	P		**Pn**	**11 18 43.7**	**+0.7**
IRIF				*e*S		**Sn**	**11 19 08.5**	**+0.6**
JKRS	**Kuro-shima**	**2.29**	**70**	*e*S		**Sn**	**11 19 13.3**	**+0.4**
JIJ	**Ishigaki jima**	**2.44**	**68**	P		**Pn**	**11 18 48.0**	**0.0**
JIJ				*e*S		**Sn**	**11 19 16.7**	**-0.1**
JISG	**Ishigakijimahi**	**2.67**	**65**	P		**Pn**	**11 18 51.0**	**-0.1**
JISG				*e*S		**Sn**	**11 19 21.4**	**-1.0**
JTJ	**Tarama**	**3.02**	**67**	P		**Pn**	**11 18 56.3**	**+0.4**
JTJ				*e*S		**Sn**	**11 19 31.2**	**+0.2**

MEX ***19*** *11:30:14.5±0.9, 14.°62N×92.°63W, h62km±12km, MD4.3*
IDC ***19*** *11:30:16.9±2.2, 14.°95N×92.°51W, h72km±24km, mb3.0/3, mb1 3.5/6, mb1mx3.2/40, mbtmp3.4/6, MS2.3/1, Ms1 2.3/1, ms1mx2.2/18, Error ellipse: s-maj=26.6km s-min=18.7km az=39.0*
GCG ***19*** *11:30:17.2±0.5, 14.°68N×92.°47W, h31km±999km, MD4.2*
SNET ***19*** *11:30:17.1±1.0, 14.°73N×92.°46W, h35km±999km, ML4.2*

ISC 19 11:30:14.9±1.1, 14°75N±0°07×92°68W±0°05, h57km±10km, n30, σ1°30/43, mb3.5/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**0.43**	**69**	*e*P		**Pn**	**11 30 24.6**	**-1.2**
THIG				*e*S		**Sn**	**11 30 32.8**	**-0.9**
PCIG		**1.08**	**331**	*i* P		**Pn**	**11 30 34.2**	**+0.3**
PCIG				*e*S		**Sn**	**11 30 48.5**	**+0.6**
CCIG	**Comitan**	**1.61**	**19**	*e*P		**Pn**	**11 30 43.0**	**+1.9**
CCIG				*e*S		**Sn**	**11 31 01.9**	**+1.0**
FUG	**Fuego 3**	**1.80**	**99**	*e*P		**Pn**	**11 30 43.7**	**-0.1**
PCG	**Pacaya**	**2.04**	**100**	*e*P		**Pn**	**11 30 47.5**	**+0.5**
PCG				*e*S		**Sn**	**11 31 10.9**	**-0.6**
TGIG		**2.06**	**348**	*e*P		**Pn**	**11 30 47.5**	**+0.3**
TGIG				*e*S		**Sn**	**11 31 12.5**	**+0.7**
APG	**El Apazote**	**2.15**	**83**	P		**Pn**	**11 30 48.0**	**-0.6**
	17nm,0.3s,baz=268,slow=7.0,SNR=167							
APG				S		**Sn**	**11 31 16.5**	**+2.2**
	34nm,0.3s,baz=341,slow=12,SNR=18							
NBG	**Las Nubes**	**2.26**	**94**	*e*P		**Pn**	**11 30 51.7**	**+1.6**
MRL	**Marmol**	**2.91**	**83**	*e*P		**Pn**	**11 30 58.7**	**-0.3**
MRL	**Marmol**	**2.91**	**83**	*e*P		**Pn**	**11 30 59.7**	**+0.8**
SBLS	**San Blas**	**3.10**	**107**	*e*P		**Pn**	**11 31 01.7**	**+0.1**
CEVE	**Cerro Verde**	**3.10**	**107**	*e*P		**Pn**	**11 31 01.4**	**-0.2**
CEVE				IAML			11 31 50.0	
	comp=Z,1μm,0.3s							
SNJE	**San Jose**	**3.10**	**106**	*e*P		**Pn**	**11 31 00.6**	**-1.0**
CMIG	**Matias Romero**	**3.15**	**318**	P		**Pn**	**11 31 02.5**	**+0.5**
	comp=Z,5.3nm,0.3s,baz=152,slow=14,SNR=77							
CMIG				S		**Sn**	**11 31 38.1**	**-0.3**
	comp=Z,22nm,0.3s,baz=110,slow=14,SNR=7.3							
CMIG				LR		LR	11 32 11.1	
	comp=Z,52nm,21.5s,baz=24,slow=37							
CMIG	**Matias Romero**	**3.15**	**318**	*e*P		**Pn**	**11 31 02.4**	**+0.3**
CMIG				*i* S		**Sn**	**11 31 39.8**	**+1.4**
TACO	**Tacachico**	**3.31**	**103**	*e*P		**Pn**	**11 31 03.9**	**-0.4**
JAYA	**Jayaque - finc**	**3.31**	**109**	*e*P		**Pn**	**11 31 04.0**	**-0.4**
JAYA				*e*S		**Sn**	**11 31 39.8**	**-2.9**
JAYA				IAML			11 31 47.1	
	comp=Z,666nm,0.2s							
PMON	**Piamonte**	**3.42**	**107**	*e*P		**Pn**	**11 31 06.0**	**+0.2**
LFRS	**El Faro**	**3.68**	**107**	*e*P		**Pn**	**11 31 09.4**	**0.0**
COEG	**Centro de Oper**	**3.85**	**107**	*e*P		**Pn**	**11 31 12.0**	**+0.3**
COEG				IAML			11 32 10.1	
	comp=Z,246nm,0.5s							
COEB	**Comit de Eme**	**4.21**	**107**	*e*P		**Pn**	**11 31 16.5**	**-0.2**
COEB				*e*S		**Sn**	**11 32 03.7**	**-1.0**
TECA	**Tecapa**	**4.24**	**107**	*e*P		**Pn**	**11 31 17.9**	**+0.8**
CNCH	**Conchagua**	**4.92**	**107**	*e*P		**Pn**	**11 31 26.7**	**+0.3**
TEIG	**Tepich**	**6.87**	**37**	P		**Pn**	**11 31 52.3**	**-0.8**
	comp=Z,24nm,0.3s,baz=342,slow=0.6,SNR=89							
TEIG				S		**Sn**	**11 33 06.4**	**-3.5**
	comp=Z,6.8nm,0.3s,baz=28,slow=22,SNR=21							
TEIG	**Tepich**	**6.87**	**37**	*i* P		**Pn**	**11 31 55.0**	**+1.9**
TEIG				*i* S		**Sn**	**11 33 10.4**	**+0.5**
JTS	**Las Juntas de**	**8.75**	**120**	P		**Pn**	**11 32 21.3**	**+2.5**
	comp=Z,1.3nm,0.3s,baz=22,slow=17,SNR=5.0							
JTS				S		**Sn**	**11 33 57.6**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=311,slow=11,SNR=2.3							
TXAR	**Lajitas Array**	**17.71**	**327**	P		**P**	**11 34 19.7**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=7.9							
NVAR	**Mina Array Bea**	**32.68**	**321**	P		**P**	**11 36 43.7**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=143,slow=9.1,SNR=2.3							
YKA	**Yellowknife Ar**	**50.15**	**347**	P		**P**	**11 39 02.7**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=152,slow=7.8,SNR=4.9							
ILAR	**Eielson Array**	**61.89**	**337**	P		**P**	**11 40 27.0**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=142,slow=4.6,SNR=4.8							

IDC ***19*** *11:39:27.1±1.5, 36.°02S×73.°49W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/33, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=50.3km s-min=17.5km az=76.0*
NEIC ***19*** *11:39:28.9±2.1, 36.°08S±0.°06×73.°7W±0.°1, h28km±8km, Error ellipse: s-maj=16.1km s-min=8.0km az=95.0*
GUC ***19*** *11:39:31.2±0.6, 36.°19S×73.°62W, h20km, ML4.0*

ISC 19 11:39:30.4±1.1, 36°12S±0°05×73°8W±0°1, h35km, n43, σ2°32/41, mb4.1/3, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.94**	**141**	*e*P		**Pn**	**11 39 45.6**	**-1.6**
BI03				*i* S		**Sn**	**11 39 57.9**	**-1.6**
BI03				IAML			11 40 03.4	
	comp=E,30μm,0.4s							
BI03	**Tigo**	**0.94**	**141**			**Pn**	**11 39 45.5**	**-1.7**
LAJA	**Laja**	**1.44**	**144**	*e*P		**Pn**	**11 39 52.8**	**-1.2**
LAJA				*i* S		**Sn**	**11 40 10.2**	**-1.5**
BI02	**San Fabin de**	**2.09**	**106**	*e*P		**Pn**	**11 40 01.7**	**-1.3**
BI02				*i* S		**Sn**	**11 40 27.8**	**0.0**
BI02				IAML			11 40 34.7	
	comp=E,788nm,0.2s							
BI02	**San Fabin de**	**2.09**	**106**			**Pn**	**11 40 01.6**	**-1.3**
BO03	**Pichilemu**	**2.19**	**43**	*i* P		**Pn**	**11 40 01.2**	**-3.1**
BO03				*e*S		**Sn**	**11 40 35.0**	**+4.8**
BO03				IAML			11 40 46.0	
	comp=E,692nm,0.8s							
BO02	**Sierra Bellavi**	**2.77**	**62**	*e*P		**Pn**	**11 40 10.4**	**-2.0**
BO02				IAML			11 40 57.3	
	comp=N,984nm,0.4s							
BO02	**Sierra Bellavi**	**2.77**	**62**			**Pn**	**11 40 10.5**	**-2.0**
MT09	**Talagante**	**3.27**	**45**	*e*P		**Pn**	**11 40 17.3**	**-2.0**
MT09				IAML			11 41 18.3	
	comp=N,446nm,0.6s							
MT02	**Curacav**	**3.58**	**38**	*e*P		**Pn**	**11 40 20.1**	**-3.4**
MT02	**Curacav**	**3.58**	**38**			**Pn**	**11 40 20.5**	**-2.9**
MT05	**Renca**	**3.69**	**43**	*e*P		**Pn**	**11 40 22.6**	**-2.4**
MT05	**Renca**	**3.69**	**43**			**Pn**	**11 40 22.7**	**-2.3**
LMEL	**Las Melosas**	**3.70**	**53**	*e*P		**Pn**	**11 40 24.4**	**-0.9**
MT03	**Universidad Ad**	**3.75**	**47**	*e*P		**Pn**	**11 40 22.7**	**-3.1**
PEL	**Peldehue**	**3.91**	**42**	*e*P		**Pn**	**11 40 26.4**	**-1.5**
PEL	**Peldehue**	**3.91**	**42**			**Pn**	**11 40 26.6**	**-1.5**
VA03	**San Esteban**	**4.27**	**39**			**Pn**	**11 40 31.0**	**-2.1**
H03S1	**Juan Fernandez**	**4.79**	**297**	T		T	11 45 36.6	
	baz=116,slow=74							
H03S3	**Juan Fernandez**	**4.80**	**297**	T		T	11 45 32.2	
	baz=116,slow=74							
H03S2	**Juan Fernandez**	**4.80**	**297**	T		T	11 45 36.7	
	baz=116,slow=74							
H03N1	**Juan Fernandez**	**5.00**	**301**	T		T	11 45 51.1	
	baz=110,slow=76							
H03N3	**Juan Fernandez**	**5.00**	**301**	T		T	11 45 59.4	
	baz=110,slow=76							
H03N2	**Juan Fernandez**	**5.02**	**301**	T		T	11 45 56.5	
	baz=110,slow=76							
PLCA	**Paso Flores**	**5.26**	**152**	Pn		**Pn**	**11 40 47.6**	**+1.1**
	comp=N,0.3nm,0.3s,baz=335,slow=12,SNR=18							
PLCA				Sn		**Sn**	**11 41 50.6**	**+4.7**
	comp=N,0.9nm,0.3s,baz=212,slow=1.7,SNR=3.8							
PLCA				Lg		Lg	11 42 14.6	
	comp=N,1.2nm,0.3s,baz=261,slow=19,SNR=4.4							
PLCA	**Paso Flores**	**5.26**	**152**			**Pn**	**11 40 47.5**	**+0.9**
CO02	**Combarbal**	**5.42**	**26**			**Pn**	**11 40 46.0**	**-2.8**
CO03	**El Pedregal**	**5.86**	**27**			**Pn**	**11 40 52.6**	**-2.2**
ZON	**Zonda**	**6.22**	**44**			**Pn**	**11 40 58.6**	**-1.2**
LL01	**San Ignacio de**	**6.34**	**171**			**Pn**	**11 40 58.9**	**-2.4**
GO04	**Tololo Observa**	**6.43**	**24**			**Pn**	**11 40 59.5**	**-3.3**
CO01	**Juntas del Tor**	**6.85**	**28**			**Pn**	**11 41 07.4**	**-1.3**
LCO	**Las Campanas**	**7.54**	**21**	Pn		**Pn**	**11 41 14.8**	**-3.4**
AC05	**El Transito**	**7.83**	**23**			**Pn**	**11 41 19.6**	**-2.4**
AC04	**Llanos de Chal**	**8.21**	**17**	Pn		**Pn**	**11 41 26.4**	**-0.7**
GO03	**Copiap**	**9.01**	**20**	Pn		**Pn**	**11 41 36.9**	**-1.2**
AC01	**Pan de Azucar**	**10.30**	**16**	Pn		**Pn**	**11 41 53.2**	**-2.5**
PB01	**IPOC Station P**	**15.48**	**15**	P		**Pn**	**11 43 05.3**	**-0.9**
PB01				IAmb		IAmb	11 43 20.7	
	comp=Z,12nm,1.1s							
LPAZ	**La Paz**	**20.38**	**16**	P		Pn	11 44 05.3	-1.7
	comp=Z,1.2nm,0.7s,baz=202,slow=19,SNR=4.4							
LPAZ	**La Paz**	**20.38**	**16**	P		**P**	**11 44 03.4**	**-1.4**
LPAZ				IAmb		IAmb	11 44 41.8	
	comp=Z,11nm,1.4s							
SIV	**San Ignacio**	**23.02**	**33**	P		**P**	**11 44 31.2**	**-1.2**
	comp=Z,6.6nm,1.0s,baz=227,slow=12,SNR=14							
SNAA	**Sanae**	**50.18**	**157**	P		**P**	**11 48 23.1**	**+0.9**
	comp=Z,4.5nm,0.9s,baz=221,slow=9.3,SNR=3.8							
TXAR	**Lajitas Array**	**70.92**	**333**	P		**P**	**11 50 46.6**	**+2.5**
	comp=Z,0.2nm,0.5s,baz=156,slow=8.9,SNR=6.0							

VAO ***19*** *11:51:54.8±0.5, 3.°38S×80.°59W, h10km, mb5.2*
IGQ ***19*** *11:51:55±0.6, 3.°3S×3.°8°1W±°, h9km*
ARE ***19*** *11:51:59±2.5, 3.°47S±0.°06×80.°86W±0.°08, h36km±4km, Error ellipse: s-maj=11.2km s-min=8.0km az=74.0*
IDC ***19*** *11:52:00.7±1.6, 3.°30S×80.°51W, h60km±15km, mb4.4/31, mb1 4.6/37, mb1mx4.4/54, mbtmp4.7/37, MS4.2/11, Ms1 4.2/11, ms1mx3.9/30, Error ellipse: s-maj=16.1km s-min=7.5km az=61.0*
NEIC ***19*** *11:52:00.7±1.8, 3.°30S±0.°06×80.°57W±0.°09, h61km±5km, mb5.0/334, ML5.0(ARE), Error ellipse: s-maj=12.9km s-min=8.5km az=73.0*
BJI ***19*** *11:52:00.0±0.0, 3.°30S×80.°50W, h45km, mB5.4/2, Ms5.0/2, Ms7 4.7/3*
GCMT ***19*** *11:52:01.7±0.3, 3.°31S±0.°02×80.°76W±0.°02, h41km±1km, MW4.9/73, Moment Tensor Solution. s25,c32; s73,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.70±.22; $M_{\theta\theta}$3.07±.12; $M_{\phi\phi}$-1.37±.15; $M_{r\theta}$1.45±.10; $M_{\theta\phi}$-0.27±.13; $M_{r\phi}$0.98±.14; Best double couple: M_o3.14900×10^{16} NP1:ϕ_s128.00000°, δ42.00000°, λ-34.00000°. NP2: ϕ_s244.00000°, δ68.00000°, λ-126.00000°. Principal axes: T 3.4760, Plg16.0000°, Azm360.0000°; N -0.6550, Plg34.0000°, Azm259.0000°; P -2.8210, Plg52.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
UPA ***19*** *11:52:43.3±1.9, 0.°05N×80.°69W, h2km±124km, MW5.2*

ISC 19 11:51:59.6±0.5, 3.°34S±0.°04×80.°64W±0.°05, h54km±4km, n532, σ1°31/451, mb5.0/179, 1C-1D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ISPG	**Isla Puna-Puer**	**0.59**	**52**	P		**Pn**	**11 52 11.0**	**-1.3**
ISPG				S		**Sn**	**11 52 23.0**	**+1.6**
ARNL	**Arenillas**	**0.61**	**110**	P		**Pn**	**11 52 10.2**	**-2.4**
ARNL				S		**Sn**	**11 52 19.0**	**-2.6**
MORR	**Playas El Morr**	**0.75**	**24**	P		**Pn**	**11 52 11.0**	**-3.2**
MORR				S		**Sn**	**11 52 22.0**	**-2.8**
ACH2	**Ecuador-Machal**	**0.83**	**85**	P		**Pn**	**11 52 12.0**	**-3.2**
ACH2				S		**Sn**	**11 52 24.0**	**-2.6**
ALIBE	**La Libertad**	**1.11**	**349**	P		**Pn**	**11 52 16.0**	**-2.8**
ALIBE				S		**Sn**	**11 52 29.0**	**-4.1**
SALI	**Salinas**	**1.20**	**343**	P		**Pn**	**11 52 16.0**	**-4.1**
SALI				S		**Sn**	**11 52 30.0**	**-5.3**
MCRA	**Macar, Loja**	**1.23**	**146**	P		**Pn**	**11 52 18.0**	**-2.6**
MCRA				S		**Sn**	**11 52 33.0**	**-3.3**
AGUAY	**Guayaquil**	**1.45**	**28**	P		**Pn**	**11 52 20.0**	**-3.4**
MILO	**Milagro-Astudi**	**1.51**	**46**	P		**Pn**	**11 52 23.0**	**-1.3**
MILO				S		**Sn**	**11 52 44.0**	**+1.2**
GONZ	**Gonzanam**	**1.53**	**126**	P		**Pn**	**11 52 24.0**	**-0.9**
GONZ				S		**Sn**	**11 52 43.0**	**-1.0**
AMIL	**Milagro (Trans**	**1.58**	**41**	P		**Pn**	**11 52 23.0**	**-2.3**
ACUE	**Ecuador-Cuenca**	**1.73**	**76**	P		**Pn**	**11 52 27.0**	**-0.6**
PPLP	**Puerto Lpez**	**1.79**	**356**	P		**Pn**	**11 52 25.0**	**-3.1**
PPLP				S		**Sn**	**11 52 44.0**	**-5.7**
BOSC	**San Juan Bosco**	**2.15**	**85**	P		**Pn**	**11 52 33.0**	**-0.2**
LOJ1	**Universidad t**	**2.37**	**106**	P		Pn	11 52 28.0	-8.1
CHSH	**Refugio Sur-Vo**	**2.54**	**44**	P		**Pn**	**11 52 37.0**	**-2.0**
TAMH	**Tambohuasha Ch**	**2.57**	**46**	P		**Pn**	**11 52 37.0**	**-2.3**
IGUA	**Igualata**	**2.71**	**48**	P		**Pn**	**11 52 39.0**	**-2.3**
BMAS	**Trigal station**	**2.82**	**50**	P		**Pn**	**11 52 42.0**	**-0.6**
ARRY	**Arrayan**	**2.84**	**50**	P		**Pn**	**11 52 41.0**	**-1.8**
BBIL	**Ulba Tungurahu**	**2.85**	**49**	P		**Pn**	**11 52 42.0**	**-1.0**
PAT1	**Patacocha**	**2.85**	**50**	P		**

MACC Macarena, Meta 8.70 51 *e*P **Pn** **11 54 02.2 -0.8**
ORTC Ortega, Tolima 8.99 37 *e*P **Pn** **11 54 03.4 -3.5**
CZSB Cruzeiro do Su 9.02 119 *e*P **Pn** **11 54 05.5 -1.8**
PRAC Prado 9.06 39 *e*P **Pn** **11 54 04.0 -3.8**
PLMC San Jos del P 9.27 28 *e*P **Pn** **11 54 06.0 -4.8**
NNA Nana 9.38 157 P **Pn** **11 54 11.9 -0.4**
comp=Z,8.1nm,0.3s,baz=317,slow=9.8,SNR=9.1
NNA S **Sn** **11 55 50.1 -6.2**
comp=Z,7.3nm,0.3s,baz=339,slow=14,SNR=2.2
NNA LR LR 11 57 30.7
comp=Z,633nm,20.5s,baz=324,slow=35
NNA Nana 9.38 157 Pn **Pn** **11 54 11.2 -1.1**
TOLC Tolima 9.49 34 *e*P Pn 11 54 08.8 -5.2
RREF El Recreo 9.74 33 *e*P **Pn** **11 54 15.4 -2.3**
PAYG Puerto Ayora 10.00 285 Pn **Pn** **11 54 19.3 -1.3**
GUY2C Guyana, Caldas 10.00 32 *e*P Pn 11 54 16.0 -5.1
CBOC Ciudad Bolivar 10.24 27 *e*P **Pn** **11 54 20.6 -3.5**
ROSC El Rosal 10.29 38 P **Pn** **11 54 24.9 -0.1**
comp=Z,1.7nm,0.3s,baz=162,slow=20,SNR=1.6
ROSC LR LR 11 59 12.9
comp=Z,2µm,19.1s,baz=222,slow=42
ROSC El Rosal 10.29 38 Pn **Pn** **11 54 26.5 +1.5**
NORC Norcasia 10.55 33 *e*P **Pn** **11 54 28.1 -0.2**
CACAO El Cacao, Vera 10.61 359 *e*P **Pn** **11 54 28.7 -0.3**
MARI3 Mariato, Verag 10.92 358 *e*P **Pn** **11 54 33.1 -0.1**
GMAL Guarumal, Vera 11.04 357 *e*P **Pn** **11 54 36.7 +1.8**
AZU Azuero 11.06 2 *i* P **Pn** **11 54 35.1 0.0**
AZU *e*S Sn 11 56 01.4 -36
PESE3 Pese, Herrera 11.17 0 *e*P **Pn** **11 54 35.9 -0.7**
DBBC Dabeiba 11.20 23 *e*P **Pn** **11 54 38.5 +1.4**
CHIT3 Chitre 11.22 1 *e*P **Pn** **11 54 38.0 +0.7**
RSUS3 Rio de Jesus, 11.26 357 *e*P **Pn** **11 54 38.1 +0.3**
STIA3 Santiago, Vera 11.36 358 *e*P **Pn** **11 54 39.6 +0.3**
MESA3 La Mesa, Verag 11.42 357 *i* P **Pn** **11 54 41.4 +1.3**
SFRA3 San Francisco, 11.51 358 *e*P **Pn** **11 54 40.6 -0.7**
PTBC PUERTO BERRIO, 11.59 32 *e*P **Pn** **11 54 42.7 +0.2**
PNME Penonome 11.75 2 *e*P **Pn** **11 54 46.2 +1.6**
PNME *e*S Sn 11 56 17.6 -37
CHIR3 Chiriqui UPA, 11.78 352 *e*P **Pn** **11 54 47.1 +2.2**
PEDE3 Pedregal, Chir 11.78 351 *e*P **Pn** **11 54 47.0 +2.0**
LOCO3 Loma Colorada, 11.80 351 *e*P **Pn** **11 54 46.0 +0.7**
DVD David 11.83 351 *i* P **Pn** **11 54 47.4 +1.7**
RUSC La Rusia 11.87 39 *e*P **Pn** **11 54 47.7 +1.0**
VTON El Valle, Cocl 11.88 3 *e*P **Pn** **11 54 47.3 +0.8**
CDITO Canoas 12.04 349 *e*P **Pn** **11 54 50.0 +1.4**
UPD2 Meteti 12.09 12 *i* P **Pn** **11 54 51.9 +2.6**
TABO3 Taboga, Panama 12.10 5 *e*P **Pn** **11 54 49.0 -0.4**
BCO2 Palmira 12.12 351 *i* P **Pn** **11 54 51.6 +1.8**
UREC San Jos de Ur 12.14 25 *e*P **Pn** **11 54 50.7 +0.8**
ZARC Zaragoza, Cauc 12.21 28 *e*P **Pn** **11 54 50.8 0.0**
BRU2 Volcan 12.22 350 *i* P **Pn** **11 54 53.0 +1.8**
BC3P Paso Ancho 12.23 351 *e*P **Pn** **11 54 53.0 +1.6**
ARRA3 Arraijan, Pana 12.26 5 *e*P **Pn** **11 54 53.2 +1.7**
UPA Univ. de Panam 12.29 5 *e*P **Pn** **11 54 52.0 +0.1**
BCIP Isla Barro Col 12.45 4 *i* P **Pn** **11 54 54.6 +0.5**
BCIP Isla Barro Col 12.45 4 Pn **Pn** **11 54 54.5 +0.5**
BCIP Isla Barro Col 12.45 4 *e*P **Pn** **11 54 54.6 +0.5**
CNTA3 Canitas, Panam 12.60 8 *e*P **Pn** **11 54 57.7 +1.6**
DRK0 Durika 12.78 348 *i* P **Pn** **11 54 59.9 +1.1**
CNI2 El Empalme, Bo 12.81 352 *e*P **Pn** **11 55 00.4 +1.4**
PEZE Perez Zeledon, 12.99 347 Pn **Pn** **11 55 03.0 +1.4**
PAMC Pamplona, Colo 13.24 37 *e*P **Pn** **11 55 06.1 +0.8**
HDC Heredia 13.69 345 *e*P **Pn** **11 55 13.2 +1.9**
HDC Heredia 13.69 345 Pn **Pn** **11 55 11.8 +0.5**
SMLC San Martn de 13.72 28 *e*P **Pn** **11 55 10.2 -1.3**
JTS Las Juntas de 14.20 342 P **Pn** **11 55 19.5 +1.5**
comp=Z,0.8nm,0.3s,baz=196,slow=5.9,SNR=31
JTS LR LR 12 00 00.6
comp=Z,728nm,21.2s,baz=224,slow=34
JTS Las Juntas de 14.20 342 *i* P **Pn** **11 55 19.5 +1.5**
SJCC San Jacinto, C 14.23 22 *e*P **Pn** **11 55 17.9 -0.4**
ORTG Ortega, Santa 14.43 341 **Pn** **11 55 21.0 0.0**
COVE Coope Vega, Sa 14.46 345 Pn **Pn** **11 55 23.3 +2.0**
SDV Santo Domingo 15.71 39 P **Pn** **11 55 36.4 -1.4**
comp=Z,5.6nm,0.3s,baz=202,slow=9.8,SNR=5.4
SDV S **S** **11 58 40.0 -3.6**
comp=Z,0.4nm,0.3s,baz=319,slow=23,SNR=9.4
SDV Santo Domingo 15.71 39 Pn **Pn** **11 55 37.1 -0.7**
SDV Santo Domingo 15.71 39 *e*P **Pn** **11 55 37.2 -0.6**
ESPN Las Esperanzas 15.85 347 Pn **Pn** **11 55 40.4 +1.1**
ESPN IAmb IAmb 11 55 42.1
comp=Z,171nm,1.3s
ACON Acoyapa 15.86 344 **Pn** **11 55 40.7 +1.3**
ACON IAmb IAmb 11 55 42.7
comp=Z,184nm,1.2s
BOAB BOACO BROADBAN 16.46 342 P **P** **11 55 48.2 -0.7**
MATN Matagalpa 16.99 342 P **P** **11 55 55.3 +0.3**
MATN IAmb IAmb 11 56 00.5
comp=Z,88nm,1.0s
CRIN San Cristobal 17.16 338 P **Pn** **11 55 56.2 +0.4**
LPAZ La Paz 17.80 137 P **Pn** **11 56 03.7 -0.6**
comp=Z,2.1nm,0.3s,baz=329,slow=12,SNR=39
LPAZ LR LR 12 04 16.9
comp=Z,2µm,20.9s,baz=312,slow=42
LPAZ La Paz 17.80 137 P **Pn** **11 56 03.6 -0.7**
LPAZ La Paz 17.80 137 *e*P **Pn** **11 56 03.6 -0.7**
SAML Samuel 18.22 109 P **P** **11 56 07.4 -1.1**
SAML Samuel 18.22 109 *e*P **P** **11 56 07.5 -0.9**
TGUH Tegucigalpa,Un 18.49 339 **Pn** **11 56 12.4 +0.2**
MNMC Minye Minye 19.05 146 P **P** **11 56 18.4 +0.5**
PSGCX Pisagua 19.15 148 P **P** **11 56 18.8 +0.1**
MACA Manacapuru-AM 19.92 90 *e*P **P** **11 56 26.3 -0.9**
TA01 Diego Aracena 19.93 150 P **P** **11 56 27.1 0.0**
PB08 IPOC Station P 20.11 147 P **P** **11 56 29.5 0.0**
APG El Apazote 20.66 332 P Pn 11 56 36.9 -1.2
comp=Z,33nm,0.8s,baz=158,slow=7.0,SNR=52
PB01 IPOC Station P 20.68 149 P **P** **11 56 36.1 +0.8**
PTGA Pitinga 20.82 83 P **P** **11 56 35.7 -1.2**
comp=Z,13nm,0.3s,baz=315,slow=20,SNR=11
PTGA Pitinga 20.82 83 *e*P **P** **11 56 35.9 -0.9**
PTGA Pitinga 20.82 83 *e*P **P** **11 56 36.6 -0.2**
BOAV Boa Vista 20.90 74 *e*P **P** **11 56 36.9 -0.8**
PB07 IPOC Station P 21.05 151 P **P** **11 56 40.3 +0.9**
PB07 IAmb IAmb 11 56 44.6
comp=Z,67nm,0.8s
PB09 IPOC Station P 21.43 150 IAmb IAmb 11 56 46.4
comp=Z,103nm,1.4s
PB04 IPOC Station P 21.45 153 P **P** **11 56 43.2 -0.5**
PB04 IAmb IAmb 11 56 48.8
comp=Z,123nm,1.4s
MTDJ Mount Denham 21.64 8 P **P** **11 56 46.8 +1.2**
PB06 IPOC Station P 22.04 152 P **P** **11 56 50.3 +0.3**
LVC Limon Verde 22.28 150 P **P** **11 56 53.4 +0.6**
comp=Z,54nm,1.0s,baz=316,slow=7.8,SNR=26
LVC LR LR 12 06 29.3
comp=Z,272nm,18.7s,baz=335,slow=39
LVC Limon Verde 22.28 150 P **P** **11 56 54.2 +1.4**
LVC IAmb IAmb 11 56 55.8
comp=Z,42nm,0.8s
PB10 IPOC Station P 22.30 155 P **P** **11 56 53.3 +0.6**
PB10 IAmb IAmb 11 56 56.1
comp=Z,54nm,1.0s
VILB Vilhena 22.35 116 *e*P **P** **11 56 52.9 -0.4**
FSCY Frank Sound, G 22.51 359 P **P** **11 56 55.8 +0.8**
PB15 IPOC Station P 22.52 152 P **P** **11 56 55.5 +0.3**
CCIG Comitan 22.57 330 P **P** **11 56 55.8 +0.1**
CBCY The Bluff, Cay 22.95 2 P **P** **11 56 59.6 +0.2**
SIV San Ignacio 22.99 124 P **P** **11 56 59.5 -0.6**
comp=Z,16nm,0.5s,baz=304,slow=9.3,SNR=51
LGNH Logne 23.11 20 P **P** **11 57 01.9 +0.9**
PB14 IPOC Station P 23.35 156 P **P** **11 57 02.9 -0.8**
PB14 IAmb IAmb 11 57 07.0
comp=Z,109nm,1.8s
GTBY Guantanamo Bay 23.75 13 P **P** **11 57 06.8 -0.3**
GTBY IAmb IAmb 11 57 09.7
comp=Z,65nm,0.9s
SDDR Presa de Saban 24.01 22 P **P** **11 57 08.6 -1.1**
GO02 Mina Guanaco 24.17 155 P **P** **11 57 12.1 +0.8**
PTLB Pontes e Lacer 24.35 121 *e*P **P** **11 57 12.5 -0.2**
TEIG Tepich 24.59 343 P **P** **11 57 15.3 +0.5**
comp=Z,24nm,0.8s,baz=155,slow=7.9,SNR=15
TEIG Tepich 24.59 343 P **P** **11 57 15.0 +0.3**
TEIG IAmb IAmb 11 57 17.7
comp=Z,59nm,1.2s
SC01 Santiago de Io 24.63 23 P **P** **11 57 15.6 +0.4**
AC01 Pan de Azucar 24.64 158 P **P** **11 57 14.4 -0.8**
CMIG Matias Romero 24.70 326 P **P** **11 57 16.6 +0.8**
comp=Z,8.5nm,0.8s,baz=129,slow=5.8,SNR=16
ITTB Itaituba 24.87 93 *e*P **P** **11 57 17.3 -0.2**
NPGB Novo Progresso 25.44 99 *e*P **P** **11 57 21.9 -0.8**
SJG San Juan 25.66 33 P **P** **11 57 24.9 +0.5**
comp=Z,38nm,0.7s,baz=200,slow=4.2,SNR=12
SJG San Juan 25.66 33 P **P** **11 57 22.6 -1.9**
SJG IAmb IAmb 11 57 27.3
comp=Z,49nm,0.8s
CLDB Colider 25.75 108 *e*P **P** **11 57 25.4 0.0**
AC02 Maricunga 25.84 156 P **P** **11 57 25.1 -1.6**
SOR Soroa 26.07 355 P **P** **11 57 28.4 +0.1**
MALB Monte Alegre 26.39 87 *e*P **P** **11 57 31.2 0.0**
ANWB Willy Bob 27.95 41 P **P** **11 57 45.4 +0.2**
MCPB Macapa, AP 28.72 85 *e*P **P** **11 57 52.1 0.0**
CO03 El Pedregal 28.93 162 P **P** **11 57 55.1 +1.2**
PP1B Ponte de Pedra 28.96 121 *e*P **P** **11 57 54.8 +0.6**
MDP Montagnes des 29.20 73 P **P** **11 57 55.1 -1.3**
comp=Z,36nm,1.1s,baz=242,slow=8.2,SNR=5.1
AQDB Aquidauana 29.68 127 *e*P **P** **11 58 00.6 +0.1**
SNDB Serra Nova Dou 30.29 108 *e*P **P** **11 58 06.0 -0.1**
VA03 San Esteban 30.76 163 P **P** **11 58 10.4 +0.3**
PRPB Parauapebas 30.84 96 *e*P **P** **11 58 10.2 -0.7**
ARAG Araguaiana, MT 30.92 115 *e*P **P** **11 58 11.4 -0.1**
CPUP Villa Florida 31.97 138 P **P** **11 58 20.4 -0.3**
comp=Z,8.2nm,0.7s,baz=319,slow=9.9,SNR=23
CPUP PcP **PcP** **12 01 09.4 -0.5**
comp=Z,1.8nm,0.7s,baz=199,slow=19,SNR=3.1
CPUP LR LR 12 13 42.0
comp=Z,236nm,19.9s,baz=292,slow=41
CPUP Villa Florida 31.97 138 P **P** **11 58 19.1 -1.6**
CPUP Villa Florida 31.97 138 *e*P **P** **11 58 20.7 0.0**
BO02 Sierra Bellavi 32.61 165 P **P** **11 58 25.9 -0.4**
BO02 IAmb IAmb 11 58 29.5
comp=Z,23nm,0.7s
PEXB Peixe 33.17 107 *e*P **P** **11 58 31.1 -0.3**
SMTB Santa Maria do 33.30 101 *e*P **P** **11 58 32.5 0.0**
ITRB Iturama 33.73 121 *e*P **P** **11 58 35.7 -0.5**
PCMB Pacaembu 33.83 125 *e*P **P** **11 58 36.7 -0.3**
BI02 San Fabin de 34.27 167 P **P** **11 58 40.8 +0.1**
BDFB Brasilia 34.35 113 P **P** **11 58 41.4 -0.4**
comp=Z,11nm,0.7s,baz=274,slow=9.4,SNR=13
BDFB LR LR 12 14 34.2
comp=Z,731nm,19.6s,baz=296,slow=40
BDFB Brasilia 34.35 113 P **P** **11 58 42.0 +0.3**
BDFB IAmb IAmb 11 58 42.7
comp=Z,14nm,0.9s
ITQB Itaqui 34.70 142 *e*P **P** **11 58 45.6 +1.1**
PTGB Pitanga 34.78 130 *e*P **P** **11 58 44.9 -0.4**
IPMB Ipameri, GO 34.94 117 *e*P **P** **11 58 46.1 -0.6**
250A Grady 35.52 352 P **P** **11 58 51.4 0.0**
BB19B Bebedouro 35.86 122 *e*P **P** **11 58 53.9 -0.7**
152A Waverly Hall 36.02 354 IAmb IAmb 11 58 56.2
comp=Z,31nm,1.1s
FRTB Fartura 36.03 126 *e*P **P** **11 58 56.2 +0.2**
HKT Hockley 36.15 337 P **P** **11 58 57.2 +0.4**
HKT IAmb IAmb 11 59 00.2
comp=Z,42nm,1.8s
HKT pP **pP** **11 59 11.9 +1.4**
ITAB Concordia 36.15 134 *e*P **P** **11 58 57.0 0.0**
NHSC New Hope 36.25 1 P 11 58 58.1
baz=181
833A Chaparral WMA, 36.28 331 P 11 58 58.0
baz=147
ROSB Rosrio 36.46 90 *e*P **P** **11 58 59.3 -0.4**
SDBA SAO DESIDERIO 36.48 106 *e*P **P** **11 58 59.4 -0.6**
GOGA Godfrey 36.65 356 P 11 59 00.6
baz=9
LRAL Lakeview Retre 36.67 351 P 11 59 00.9
baz=169,SNR=14
LRAL Lakeview Retre 36.67 351 IAmb IAmb 11 59 01.9
comp=Z,32nm,1.0s
Z51A Franklin 36.71 354 IAmb IAmb 11 59 01.8
comp=Z,24nm,1.1s
Z47A Carrollton 37.01 350 P **P** **11 59 03.7 -0.4**
CPSB Cacapava Do Su 37.23 139 *e*P **P** **11 59 06.3 +0.2**
NATX Nacogdoches 37.36 340 P 11 59 07.3
baz=156
Y49A Blount Mountai 37.39 352 P **P** **11 59 06.4 -1.0**
Y49A IAmb IAmb 11 59 07.6
comp=Z,13nm,0.8s
HODGE Hodges 37.40 358 IAmb IAmb 11 59 07.9
comp=Z,17nm,0.9s
TIJ01 Guaruva-PR 37.45 129 *e*P **P** **11 59 08.1 0.0**
JANB Januaria 37.63 110 *e*P **P** **11 59 09.8 +0.1**
SPB Sao Paulo 37.88 125 *e*P **P** **11 59 11.3 -0.4**
Y45A Yeager Farm, C 37.95 348 P **P** **11 59 12.4 +0.4**
FPAL Fort Paine 37.97 353 IAmb IAmb 11 59 12.4
comp=Z,22nm,0.9s
PAULI Pauline 37.97 358 IAmb IAmb 11 59 12.9
comp=Z,19nm,0.9s
VAO Valinhos 38.00 124 *e*P **P** **11 59 12.3 -0.5**
PLTB Pedras Altas 38.02 141 *e*P **P** **11 59 13.3 +0.5**
X48A Hartselle 38.07 351 IAmb IAmb 11 59 13.2
comp=Z,14nm,0.8s
BG3 Lake Jocassee 38.19 357 P **P** **11 59 13.8 -0.3**
BG3 IAmb IAmb 11 59 14.9
comp=Z,16nm,1.0s
W56A Indian Trail 38.27 0 P 11 59 14.3
baz=180
KMSC Kings Mountain 38.28 359 P 11 59 14.5
baz=179,SNR=7.7
KMSC Kings Mountain 38.28 359 IAmb IAmb 11 59 15.4
comp=Z,31nm,0.9s
JCT Junction City 38.29 333 P 11 59 15.9
baz=148
JCT Junction City 38.29 333 P **P** **11 59 16.1 +1.1**
PET01 Itanhaem-SP 38.33 126 *e*P **P** **11 59 14.6 -0.8**
PLCA Paso Flores 38.33 168 P **P** **11 59 15.9 +0.6**
comp=Z,9.0nm,0.7s,baz=343,slow=9.6,SNR=17
PLCA PcP **PcP** **12 01 28.7 +0.4**
comp=Z,5.4nm,0.7s,baz=359,slow=3.8,SNR=7.2
PLCA LR LR 12 12 14.3
comp=Z,548nm,19.7s,baz=258,slow=32
PLCA Paso Flores 38.33 168 P **P** **11 59 14.6 -0.7**
PLCA IAmb IAmb 11 59 29.3
comp=Z,29nm,1.2s
PLCA Paso Flores 38.33 168 *e*P **P** **11 59 16.1 +0.8**
W52A Murphy 38.35 356 IAmb IAmb 11 59 16.1
comp=Z,48nm,1.6s
WHTX Lake Whitney, 38.60 337 P 11 59 18.3
baz=152,SNR=5.1
WHTX Lake Whitney, 38.60 337 P **P** **11 59 18.3 +0.7**
WHTX **pP** **11 59 31.9 +0.5**
WHTX IAmb IAmb 11 59 34.0
comp=Z,46nm,1.4s
HPIG 38.60 323 pP 11 59 33.2 +1.4
SWET Sewanee 38.67 353 IAmb IAmb 11 59 18.2
comp=Z,14nm,0.8s
CPCT Cooper Cave 38.75 355 IAmb IAmb 11 59 19.4
comp=Z,18nm,0.8s
Z38A Mt. Pleasant 38.85 341 P **P** **11 59 20.5 +0.9**
Z38A IAmb IAmb 11 59 21.8
comp=Z,33nm,1.1s
TKL Tuckaleechee C 38.90 356 P **P** **11 59 19.7 -0.4**
comp=Z,8.3nm,0.7s,baz=159,slow=11,SNR=7.6
TKL Tuckaleechee C 38.90 356 IAmb IAmb 11 59 21.0
comp=Z,21nm,1.1s
V56A Mocksville 38.94 0 P 11 59 20.2
baz=180
V59A Middlesex 38.96 3 P 11 59 20.4
baz=184
V57A Coltrane Farms 39.03 1 P 11 59 21.2
baz=181
BSCB Bom Sucesso 39.05 120 *e*P **P** **11 59 21.1 -0.5**
V52A Sevierville 39.07 356 P **P** **11 59 20.4 -1.1**
V52A IAmb IAmb 11 59 21.9
comp=Z,32nm,1.0s
V51A Loudon 39.09 355 IAmb IAmb 11 59 22.1
comp=Z,20nm,1.1s
DIAM Diamantina, MG 39.12 115 *e*P **P** **11 59 22.4 +0.1**
SLBS Sierra La Lagu 39.20 315 P **P** **11 59 23.5 +0.7**
SLBS IAmb IAmb 11 59 25.8
comp=Z,22nm,0.8s
SLBS pP **pP** **11 59 39.2 +2.5**
PARB Paraibuna 39.26 124 *e*P **P** **11 59 22.5 -0.8**
TXAR Lajitas Array 39.28 327 P **P** **11 59 24.6 +1.2**
comp=Z,2.4nm,0.8s,baz=146,slow=10,SNR=39
TXAR PcP **PcP** **12 01 32.0 +0.5**
comp=Z,1.2nm,0.8s,baz=155,slow=6.6,SNR=4.6
TXAR Lajitas Array 39.28 327 P **P** **11 59 24.1 +0.6**
TX31 Lajitas Ar. Si 39.28 327 P **P** **11 59 23.9 +0.5**
TX31 IAmb IAmb 11 59 40.0
comp=Z,43nm,1.5s
V48A Smith Brothers 39.30 352 P **P** **11 59 21.5 -1.9**
V48A IAmb IAmb 11 59 23.7
comp=Z,23nm,0.9s
X40A Basin Creek Fa 39.34 344 P 11 59 24.1
baz=160
U56A King 39.48 0 P **P** **11 59 24.7 -0.2**
U56A IAmb IAmb 11 59 25.7
comp=Z,25nm,1.1s
U56A King 39.48 0 P 11 59 25.2
baz=180
LL01 San Ignacio de 39.56 170 P **P** **11 59 25.9 +0.5**
LL01 IAmb IAmb 11 59 26.5
comp=Z,20nm,0.8s
U58A Oxford 39.57 3 P 11 59 25.2
baz=183
U57A Blanch 39.58 2 P 11 59 25.1
baz=182
MIAR Mount Ida 39.60 343 P 11 59 26.2
baz=159,SNR=6.3
U54A Nelsons Funny 39.67 359 IAmb IAmb 11 59 26.9
comp=Z,36nm,1.2s
U54A Nelsons Funny 39.67 359 P 11 59 26.3
baz=178
Z35A Perchaven, San 39.71 338 P **P** **11 59 27.9 +1.1**
Z35A IAmb IAmb 11 59 29.2
comp=Z,26nm,0.9s
W41B Gary Mavity, V 39.83 345 P 11 59 27.9
baz=162,SNR=12
WVT Waverly 39.83 351 P 11 59 26.6
baz=169
WVT Waverly 39.83 351 P **P** **11 59 25.0 -2.8**
WVT IAmb IAmb 11 59 27.2
comp=Z,12nm,0.7s
WHAR Wooly Hollow 39.95 345 P **P** **11 59 28.5 -0.3**
WHAR IAmb IAmb 11 59 29.9
comp=Z,27nm,0.9s
ABTX Abilene, Hawle 40.05 335 P 11 59 30.6
baz=150,SNR=6.0
ABTX Abilene, Hawle 40.05 335 IAmb IAmb 11 59 31.9
comp=Z,22nm,1.1s
ABTX pP pP 11 59 45.1 +1.5
ESAR Angra dos Reis 40.12 122 *e*P **P** **11 59 30.3 -0.1**
T58A Grand View Acr 40.12 3 P 11 59 30.1
baz=183
T56A Rocky Mt 40.16 1 P 11 59 30.5
baz=181
X37A Clayton 40.19 341 P **P** **11 59 31.2 +0.4**
X37A IAmb IAmb 11 59 33.3
comp=Z,25nm,1.1s
W39A Magazine 40.27 343 P 11 59 31.6
baz=159,SNR=19
W39A Magazine 40.27 343 P **P** **11 59 31.6 +0.2**
BLA Blacksburg 40.34 0 P 11 59 31.8
baz=180
MAN01 Angra dos Reis 40.46 122 *e*P **P** **11 59 33.4 +0.1**
FCAR Ozark Folk Cen 40.48 346 P **P** **11 59 32.5 -0.6**
FCAR IAmb IAmb 11 59 34.0
comp=Z,25nm,0.9s
NBMO Morrinhos-CE 40.53 91 *e*P **P** **11 59 33.5 -0.4**
VAS01 Vassouras-RJ 40.68 121 *e*P **P** **11 59 35.0 -0.1**
NBPN Ponto Novo - B 40.78 103 *e*P **P** **11 59 35.6 -0.4**
S56A Natural Bridge 40.82 1 P 11 59 35.7
baz=182
S51A Beattyville 40.86 356 P **P** **11 59 34.6 -1.6**
S51A IAmb IAmb 11 59 36.4
comp=Z,27nm,0.8s
S54A Dingess, Beckl 40.93 359 P 11 59 36.6
baz=179
S54A Dingess, Beckl 40.93 359 IAmb IAmb 11 59 37.3
comp=Z,31nm,1.1s
NBPB Pedra_Branca-C 40.98 95 *e*P **P** **11 59 37.3 -0.4**
U40A Yellville 41.10 345 P 11 59 38.9
baz=161,SNR=48
R58B Mineral 41.17 3 P 11 59 38.9
baz=184
R54A Victor 41.31 360 P 11 59 39.7
baz=179
T42A Van Buren 41.32 347 IAmb IAmb 11 59 40.4
comp=Z,35nm,1.1s
HHAR Hobbs 41.33 344 P **P** **11 59 40.1 -0.1**
HHAR IAmb IAmb 11 59 41.7
comp=Z,53nm,1.2s
R55A Marlinton 41.41 1 P 11 59 40.8
baz=181
R55A Marlinton 41.41 1 P **P** **11 59 41.0 +0.1**
R55A IAmb IAmb 11 59 42.4
comp=Z,30nm,1.3s
R57A Stanardsville 41.47 3 P 11 59 41.2
baz=183
R53A Hurricane 41.48 358 P **P** **11 59 40.0 -1.3**
R53A IAmb IAmb 11 59 41.4
comp=Z,26nm,1.1s
SJMB Sao Joao De Ma 41.49 115 *e*P **P** **11 59 41.3 -0.5**
DUB01 Friburgo-RJ 41.53 120 *e*P **P** **11 59 42.1 0.0**
TUL1 Leonard 41.54 341 P 11 59 42.5
baz=157,SNR=18
WMOK Wichita Mounta 41.54 337 P 11 59 42.3
baz=152,SNR=9.2
R50A Paris 41.55 356 IAmb IAmb 11 59 41.9
comp=Z,24nm,1.1s
R56A Bull Pasture M 41.55 1 P 11 59 42.0
baz=182
S44A Carbondale 41.60 350 IAmb IAmb 11 59 42.5
comp=Z,22nm,0.8s
SIUC Southern Illin 41.61 350 IAmb IAmb 11 59 42.6
comp=Z,27nm,0.8s
R49A Shelbyville 41.63 355 P **P** **11 59 41.3 -1.3**
R49A IAmb IAmb 11 59 42.4
comp=Z,22nm,0.9s
WCI Wyandotte Cave 41.69 353 P 11 59 42.3
baz=171
WCI Wyandotte Cave 41.69 353 P **P** **11 59 42.0 -1.0**
WCI IAmb IAmb 11 59 42.7
comp=Z,25nm,1.0s
MGMO Mountain Grove 41.71 346 IAmb IAmb 11 59 44.5
comp=Z,43nm,1.1s
OK025 Westminster Rd 41.76 339 P **P** **11 59 44.0 +0.3**
OK025 IAmb IAmb 11 59 44.9
comp=Z,30nm,0.7s
GDU01 Guandu, BA 41.83 107 *e*P **P** **11 59 44.0 -0.5**
BSFB Barra de Sao F 41.83 115 *e*P **P** **11 59 44.1 -0.4**
NBMA Muriti-CE 41.87 97 *e*P **P** **11 59 45.2 +0.2**
OK030 Cody Creek RV 41.88 340 IAmb IAmb 11 59 46.0
comp=Z,33nm,0.9s
OK031 S. Brethren Rd 41.92 340 IAmb IAmb 11 59 46.4
comp=Z,32nm,1.0s
Q53A Leroy 41.99 359 P 11 59 44.8
baz=178,SNR=7.2
OK029 Liberty Lake 41.99 339 P **P** **11 59 45.9 +0.3**
MNTX Cornudas Mount 42.05 328 P 11 59 47.2
baz=141
CAM01 Campos-RJ 42.06 119 *e*P **P** **11 59 46.1 -0.2**
Q54A Coxs Mills 42.11 360 IAmb IAmb 11 59 46.6
comp=Z,32nm,1.4s
Q58A Fox Den Farm, 42.16 3 P 11 59 46.8
baz=184
NBIT Itapeh - BA 42.19 109 *e*P **P** **11 59 47.8 +0.3**
Q57A Strasburg 42.21 3 P 11 59 47.2
baz=183
NAN01 Guarapari, ES 42.22 113 *e*P **P** **11 59 47.4 -0.4**
Q51A Peebles 42.23 357 P **P** **11 59 46.3 -1.2**
Q51A IAmb IAmb 11 59 48.0
comp=Z,26nm,0.8s
NBCL Cascavel-CE 42.26 93 *e*P **P** **11 59 48.1 0.0**
CCM Cathedral Cave 42.34 348 P 11 59 47.7
baz=164
CCM Cathedral Cave 42.34 348 P **P** **11 59 46.6 -1.8**
CCM IAmb IAmb 11 59 49.6
comp=Z,30nm,1.2s
RIB01 Linhares ES 42.38 115 *e*P **P** **11 59 48.9 -0.2**
OLIL Olney 42.42 351 IAmb IAmb 11 59 48.8
comp=Z,34nm,1.0s
ALF01 Guarapari-ES 42.48 117 *e*P **P** **11 59 49.6 -0.2**
S39A Bolivar 42.48 345 IAmb IAmb 11 59 50.7
comp=Z,26nm,0.8s
MSTX Muleshoe 42.58 332 P 11 59 51.1
baz=146,SNR=20
P53A Whipple 42.62 359 IAmb IAmb 11 59 50.8
comp=Z,43nm,1.4s
P56A Dayton Farm, R 42.66 2 P 11 59 51.0
baz=182
P51A Williamsport 42.66 357 P **P** **11 59 49.4 -1.6**
P57A Homestead Farm 42.68 3 P 11 59 51.2
baz=184
NBTA Tacaratu-PE 42.69 100 *e*P **P** **11 59 51.8 +0.1**
Q44A Meyer Farm, Va 42.74 350 IAmb IAmb 11 59 51.4
comp=Z,33nm,0.9s
P52A Corning 42.78 358 P 11 59 51.0
baz=178
P48A Milroy 42.81 355 P **P** **11 59 50.3 -1.9**
P48A IAmb IAmb 11 59 51.3
comp=Z,28nm,1.1s
P49A Miami Univ. Ec 42.82 355 IAmb IAmb 11 59 51.4

comp=Z,34nm,1.2s
P49A **Miami Univ. Ec** 42.82 355 P 11 59 50.7
baz=174
AMTX **Amarillo** 42.85 334 P 11 59 53.6
baz=148
AMTX **Amarillo** 42.85 334 pP 12 00 08.2 +1.4
P59A **Jarrettsville** 42.91 5 P 11 59 52.5
baz=186
KAN13 **South Haven SW** 43.10 340 IAmb IAmb 11 59 56.2
comp=Z,22nm,0.7s
NBLA **Lagarto - SE** 43.15 102 eP P 11 59 54.6 -0.7
OK032 **Salt Plains WL** 43.16 339 IAmb IAmb 11 59 56.6
comp=Z,40nm,1.4s
KAN14 **Manchester OK** 43.21 340 P P 11 59 55.9 +0.4
KAN09 **Caldwell North** 43.26 340 IAmb IAmb 11 59 57.4
comp=Z,23nm,0.7s
KAN01 **Argonia South** 43.32 340 IAmb IAmb 11 59 59.0
comp=Z,15nm,0.7s
O53A **New Philadelph** 43.38 359 P 11 59 57.0
baz=179
O58A **Lewisberry** 43.38 4 P 11 59 57.0
baz=185
ACSO **Alum Creek Sta** 43.41 357 P 11 59 56.0
baz=176
ACSO **Alum Creek Sta** 43.41 357 IAmb IAmb 11 59 57.4
comp=Z,39nm,1.1s
O57A **Amberson** 43.42 3 P 11 59 57.1
baz=184
P43A **Skaggs, Pawnee** 43.54 350 P P 11 59 57.1 -1.0
P43A IAmb IAmb 11 59 58.1
comp=Z,32nm,1.1s
O59A **Robesonia** 43.63 5 P 11 59 59.0
baz=186
NBLI **Livramento-PB** 43.67 97 eP P 11 59 59.7 +0.1
O60A **Telford** 43.71 6 P 11 59 59.3
baz=187
SFIN **Lafayette** 43.90 353 P 11 59 59.5
baz=171
N57A **Milroy** 43.97 3 P 12 00 01.1
baz=184
121A **Cookes Peak, D** 43.99 326 P 12 00 03.9
baz=139,SNR=7.4
121A **Cookes Peak, D** 43.99 326 IAmb IAmb 12 00 19.0
comp=Z,25nm,1.1s
319A **Douglas** 43.99 324 IAmb IAmb 12 00 18.7
comp=Z,35nm,1.1s
N54A **Moraine State** 44.09 1 P 12 00 01.5
baz=181
N54A **Moraine State** 44.09 1 P P 12 00 01.3 -1.2
N58A **Sunbury** 44.11 4 P 12 00 02.4
baz=186
N49A **Columbus Grove** 44.16 356 IAmb IAmb 12 00 02.6
comp=Z,51nm,1.6s
N47A **Urbana** 44.25 355 IAmb IAmb 12 00 02.7
comp=Z,38nm,1.3s
N61A **South Mountain** 44.26 7 P 12 00 03.7
baz=189
N59A **State Game Lan** 44.26 5 P 12 00 03.8
baz=187
N60A **Cedar Hill Far** 44.28 6 P 12 00 03.9
baz=188
HDIL **Hopedale** 44.39 351 IAmb IAmb 12 00 04.4
comp=Z,24nm,0.8s
NBAN **Anadia - AL** 44.49 100 eP P 12 00 06.1 0.0
PAL **Palisades** 44.55 7 P 12 00 06.2
baz=189
M57A **Sunshine Farm,** 44.58 4 P 12 00 06.3
baz=185
M50A **Fremont** 44.58 357 IAmb IAmb 12 00 06.1
comp=Z,30nm,0.7s
BNM **Barren Site** 44.61 329 P P 12 00 08.3 +1.3
BNM pP 12 00 22.5 +1.3
M54A **Oil Creek Stat** 44.64 1 P 12 00 06.4
baz=181
KSU1 **Kansas State U** 44.72 342 P 12 00 08.2
baz=157,SNR=14
KSU1 **Kansas State U** 44.72 342 P P 12 00 08.1 +0.5
R32A **Long Quarter,** 44.79 340 IAmb IAmb 12 00 10.3
comp=Z,37nm,0.9s
N41A **Harden Midland** 44.82 349 P P 12 00 07.3 -1.0
N41A IAmb IAmb 12 00 08.2
comp=Z,30nm,1.0s
M59A **Waymart** 44.91 6 P 12 00 08.8
baz=187
L53A **Girard** 45.08 0 P 12 00 09.7
baz=180
ANMO **Albuquerque** 45.15 330 P 12 00 12.8
baz=142
ANMO **Albuquerque** 45.15 330 P P 12 00 12.3 +1.1
comp=Z,14nm,0.5s,baz=146,slow=9.9,SNR=52
ANMO **Albuquerque** 45.15 330 P P 12 00 12.6 +1.3
ANMO IAmb IAmb 12 00 28.2
comp=Z,25nm,1.0s
M63A **Gales Ferry** 45.21 9 P 12 00 11.8
baz=192
M63A **Gales Ferry** 45.21 9 P P 12 00 11.0 -0.3
ERPA **Erie** 45.24 1 P 12 00 10.9
baz=181
L57A **Andrews Acres** 45.25 4 P 12 00 11.4
baz=185
L56A **Greenwood** 45.34 3 P 12 00 11.8
baz=184
L58A **Harry Jones Me** 45.38 5 P 12 00 12.6
baz=187
CBKS **Cedar Bluff** 45.50 339 P 12 00 14.8
baz=153,SNR=7.2
CBKS **Cedar Bluff** 45.50 339 IAmb IAmb 12 00 15.9
comp=Z,25nm,0.8s
AAM **Ann Arbor** 45.51 357 P 12 00 14.1
baz=176
BINY **Binghamton** 45.52 5 P 12 00 13.9
baz=186
NBRF **Rio Formoso -** 45.55 99 eP P 12 00 14.2 -0.3
TUC **Tucson** 45.55 323 P P 12 00 16.1 +1.8
TUC **Tucson** 45.55 323 P 12 00 15.4
baz=135
L63A **North Scituate** 45.73 9 P 12 00 15.4
baz=192
L61A **Hillsdale 1, H** 45.77 7 P 12 00 16.1
baz=190
L42A **Oliver, Polo** 45.87 351 IAmb IAmb 12 00 16.8
comp=Z,33nm,1.1s
T25A **Trinidad** 45.95 333 P P 12 00 18.4 +0.8
T25A **Trinidad** 45.95 333 P 12 00 18.8
baz=146,SNR=13
K57A **Scipio Center** 46.00 4 P 12 00 17.6
baz=186
L61B **Northampton** 46.14 8 P 12 00 18.3
baz=191
K61A **Williamstown** 46.27 8 P 12 00 20.0
baz=190
K43A **Burlington** 46.35 352 P P 12 00 18.7 -1.7
K43A pP 12 00 34.6 +0.1
SCIA **State Center** 46.46 347 P 12 00 20.7
baz=162
K63A **Dunstable** 46.55 9 P 12 00 22.2
baz=192
X18A **Snowflake** 46.68 326 P P 12 00 25.0 +1.7
X18A IAmb IAmb 12 00 40.4
comp=Z,16nm,0.9s
J57A **Williamstown** 46.72 5 P 12 00 22.1
baz=186
KSCO **Kaye Shedlock'** 46.77 336 P 12 00 24.3
baz=149,SNR=8.8
J60A **Lant Hill Farm** 46.82 7 P 12 00 24.1
baz=190
JFWS **Jewell Farm** 46.85 350 P 12 00 23.0
baz=167,SNR=6.8
J59A **Piesco** 46.91 6 P 12 00 23.8
baz=188
I51A **Listowel** 46.93 360 P 12 00 23.5
baz=179
W18A **Petrified Fore** 47.00 327 P P 12 00 27.2 +1.4
W18A **Petrified Fore** 47.00 327 P 12 00 27.1
baz=138
J61A **Chester** 47.04 8 P 12 00 25.3
baz=191
K38A **Parkersburg** 47.07 348 IAmb IAmb 12 00 26.2
comp=Z,21nm,0.9s
I58A **Old Forge** 47.09 6 P 12 00 25.6
baz=188
I57A **Carthage** 47.27 5 P 12 00 27.3
baz=187
BGNE **Belgrade** 47.31 342 P 12 00 28.2
baz=156
I60A **Shoreham** 47.43 7 P 12 00 29.1
baz=190

S22A **4UR Ranch, Cre** 47.55 332 P 12 00 30.7
baz=143,SNR=9.8
H53A **Bobcaygeon** 47.73 2 P 12 00 30.2
baz=183
Q24A **Divide** 47.78 334 P 12 00 32.5
baz=146
I40A **Norwalk** 47.86 350 P P 12 00 30.8 -1.4
I40A IAmb IAmb 12 00 32.0
comp=Z,15nm,1.1s
SADO **Sadowa** 47.91 1 P P 12 00 30.9 -1.6
comp=Z,4.2nm,0.8s,baz=166,slow=21,SNR=3.8
MVCO **Mesa Verde** 47.94 330 P 12 00 34.1
baz=141,SNR=6.7
MVCO **Mesa Verde** 47.95 330 IAmb IAmb 12 00 49.4
comp=Z,17nm,1.2s
I63A **Otisfield** 48.03 10 P 12 00 34.2
baz=193
WUAZ **Wupatki** 48.20 326 P 12 00 36.4
baz=137,SNR=12
OGNE **Ogallala** 48.21 338 P 12 00 35.7
baz=151
OGNE **Ogallala** 48.21 338 P P 12 00 34.3 -0.7
G57A **Newington** 48.49 5 P 12 00 36.9
baz=187
K31A **O'Neill** 48.60 342 P P 12 00 38.1 +0.2
ISCO **Idaho Springs** 48.67 334 P 12 00 39.9
baz=146,SNR=14
SMCO **Snowmass** 48.77 333 IAmb IAmb 12 01 02.5
comp=Z,26nm,1.5s
PV15 **Paradox Valley** 48.82 331 pP 12 00 53.8 -0.4
PV02 **Paradox Valley** 48.84 330 P P 12 00 41.3 +1.3
PV05 **Paradox Valley** 48.92 330 IAmb IAmb 12 00 42.7
comp=Z,16nm,1.0s
PV03 **Paradox Valley** 48.93 330 IAmb IAmb 12 00 42.9
comp=Z,16nm,0.9s
PV18 **Skein Mesa, Pa** 48.95 330 IAmb IAmb 12 00 43.1
comp=Z,17nm,0.9s
PV07 **Paradox Valley** 48.98 331 P P 12 00 41.7 +0.6
PV16 **Nyswonger Mesa** 49.01 330 IAmb IAmb 12 00 58.1
comp=Z,28nm,1.2s
ECSD **EROS Data Cent** 49.01 345 P 12 00 40.7
baz=159,SNR=13
ECSD **EROS Data Cent** 49.01 345 IAmb IAmb 12 00 41.7
comp=Z,19nm,1.1s
PV20 **West Nyswonger** 49.06 330 IAmb IAmb 12 00 58.3
comp=Z,13nm,1.0s
PV04 **Paradox Valley** 49.07 330 IAmb IAmb 12 00 58.7
comp=Z,24nm,1.1s
G61A **St-Isidore-de-** 49.08 9 P 12 00 42.1
baz=192
PV14 **Lion Creek, Pa** 49.11 330 P P 12 00 43.0 +0.8
PV22 **Blue Mesa, Par** 49.12 331 P P 12 00 42.9 +0.8
G62A **West of Eustis** 49.17 9 P 12 00 43.3
baz=193
G63A **Kingsbury** 49.23 10 P 12 00 42.8
baz=194
BC3 **Big Chuckawall** 49.33 321 P 12 00 44.8
baz=131
U15A **North Rim** 49.37 326 P P 12 00 44.7 +0.5
U15A IAmb IAmb 12 01 01.1
comp=Z,19nm,1.2s
PKME **Peaks-Kenny Pk** 49.43 11 P 12 00 45.1
baz=195
MONP2 **Monument Peak** 49.45 320 P 12 00 46.1
baz=130
IRM **Iron Mountain** 49.47 322 P 12 00 45.9
baz=132,SNR=7.1
SPMN **Marmon St.** 49.55 349 P 12 00 44.4
baz=164
F60A **Warwick** 49.69 8 P 12 00 45.7
baz=191
G65A **Princeton** 49.71 12 P 12 00 47.6
baz=197
N23A **Red Feather La** 49.72 335 P 12 00 47.0
baz=146,SNR=7.0
E43A **Lone Tree Farm** 49.82 354 P P 12 00 45.8 -1.3
E43A IAmb IAmb 12 00 46.8
comp=Z,11nm,0.7s
PHWY **Pilot Hill** 49.86 336 IAmb IAmb 12 00 49.8
comp=Z,14nm,1.1s
E56A **St. Veronique** 49.91 5 P 12 00 47.0
baz=187
E58A **La Victoria** 49.92 7 P 12 00 46.8
baz=190
TPFO **Pinon Flats** 49.92 320 P 12 00 49.5
baz=136
PFO **Pinon Flats O** 49.93 320 P 12 00 49.8
baz=130
PFO **Pinyon Flats O** 49.93 320 P P 12 00 49.3 +1.0
comp=Z,2.3nm,0.9s,baz=158,slow=5.6,SNR=4.9
PFO **Pinyon Flats O** 49.93 320 P P 12 00 48.8 +0.4
KNB **Kanab** 50.09 326 IAmb IAmb 12 01 06.3
comp=Z,15nm,1.1s
PKCU **Pink Cliffs** 50.12 327 IAmb IAmb 12 01 06.9
comp=Z,26nm,1.1s
O20A **White River Ci** 50.12 332 P 12 00 50.4
baz=143,SNR=9.3
O20A **White River Ci** 50.12 332 P P 12 00 49.7 -0.1
O20A IAmb IAmb 12 01 11.1
comp=Z,24nm,1.2s
E60A **Ste Agathe de** 50.16 8 P 12 00 49.7
baz=192
F64A **Sherman** 50.19 11 P 12 00 49.9
baz=196
GMRC **Granite Mounta** 50.20 322 P 12 00 51.3
baz=132
SUSD **Miller** 50.32 343 P 12 00 50.7
baz=156
SRU **San Rafael Swe** 50.42 330 IAmb IAmb 12 01 08.8
comp=Z,20nm,1.3s
D56A **ZEC Mazanza, M** 50.44 5 P 12 00 50.8
baz=188
Q16A **Castle Valley** 50.61 329 P P 12 00 53.8 +0.3
BBRC **Big Bear Solar** 50.64 321 P 12 00 55.5
baz=130
HEC **Hector,Ludlow** 50.65 322 P 12 00 55.0
baz=131,SNR=6.8
SZCU **Shurtz Canyon** 50.65 327 P P 12 00 55.4 +1.6
SZCU IAmb IAmb 12 01 11.1
comp=Z,14nm,1.0s
D58A **Chemin du LacG** 50.68 7 P 12 00 52.9
baz=190
E63A **Oxbow** 50.71 11 P 12 00 54.7
baz=196
D60A **Saint Jean D'O** 50.77 9 P 12 00 54.4
baz=192
CCUT **Cedar City** 50.77 326 IAmb IAmb 12 01 12.4
comp=Z,18nm,1.0s
P17A **Butcher Ranch,** 50.81 330 IAmb IAmb 12 00 57.0
comp=Z,12nm,0.8s
MSU **Marysvale** 50.83 328 P P 12 00 56.5 +1.3
RWWY **Rawlins** 50.92 334 P P 12 00 57.1 +1.3
LATQ **La Tuque** 50.98 7 P 12 00 55.4
baz=190
SHPR **Sheep Range** 51.06 324 P P 12 00 57.7 +0.8
SHPR IAmb IAmb 12 01 13.6
comp=Z,17nm,1.2s
BFSC **Mount Baldy Ra** 51.10 320 P 12 00 58.6
baz=129
D61A **St Aubert, Com** 51.16 9 P 12 00 58.0
baz=193
GSC **Goldstone, Bar** 51.25 322 P 12 00 59.8
baz=131,SNR=5.8
GSC **Goldstone, Bar** 51.25 322 P P 12 00 59.0 +0.8
GSC IAmb IAmb 12 01 15.5
comp=Z,22nm,1.1s
D63A **Stockholm** 51.36 11 P 12 00 59.3
baz=196
K22A **Casper** 51.42 336 P 12 00 59.8
baz=146,SNR=6.4
K22A **Casper** 51.42 336 P P 12 00 59.5 +0.1
PRN **Pahroc Range** 51.62 325 P P 12 01 00.3 -0.7
MPU **Maple Canyon** 51.67 330 pP 12 01 16.8 +1.0
RSSD **Black Hills** 51.70 339 P 12 01 02.6
baz=150
RSSD **Black Hills** 51.70 339 P P 12 01 03.1 +1.5
RSSD IAmb IAmb 12 01 03.6
comp=Z,15nm,0.7s
RSSD pP pP 12 01 18.2 +2.3
EDW2 **Edwards Air Fo** 51.72 321 P 12 01 03.2
baz=130
EYMN **Ely** 51.95 351 P 12 01 02.1
baz=166,SNR=8.7
TPNV **Topopah Spring** 52.00 324 P P 12 01 05.0 +1.1
TPNV IAmb IAmb 12 01 20.9
comp=Z,17nm,1.2s
TPNV **Topopah Spring** 52.00 324 P 12 01 05.7
baz=132,SNR=6.0
JLU **Jordanelle** 52.02 330 IAmb IAmb 12 01 20.4
comp=Z,28nm,1.4s
FURC **Furnace Creek,** 52.05 323 P 12 01 05.3
baz=132,SNR=6.1
MPMC **Manual Prospec** 52.16 322 P 12 01 06.3
baz=131
CTU **Camp Tracy** 52.24 330 pP 12 01 21.8 +1.8
CTU IAmb IAmb 12 01 22.6
comp=Z,30nm,1.5s
TCUT **Toone Canyon** 52.39 331 P P 12 01 07.5 +0.6
DUG **Dugway, Tooele** 52.40 329 P 12 01 08.3
baz=138
DUG **Dugway, Tooele** 52.40 329 P P 12 01 07.5 +0.7
DUG IAmb IAmb 12 01 24.4
comp=Z,47nm,1.9s
ISA **Isabella, Lake** 52.52 321 pP pP 12 01 24.1 +2.0
ISA **Isabella, Lake** 52.52 321 P 12 01 09.0
baz=130
R11A **Troy Canyon, C** 52.58 325 P 12 01 09.3
baz=134,SNR=12
B35A **Bob, Littlefor** 52.74 349 IAmb IAmb 12 01 09.3
comp=Z,14nm,0.8s
CWC **Cottonwood Cre** 52.77 322 P 12 01 11.0
baz=130
BW06 **Boulder Array** 52.81 333 P 12 01 10.2
baz=143,SNR=16
BW06 **Boulder Array** 52.82 333 IAmb IAmb 12 01 11.3
comp=Z,12nm,0.8s
PD31 **Pinedale Array** 52.82 333 P P 12 01 09.8 0.0
PD31 IAmb IAmb 12 01 11.3
comp=Z,10nm,0.8s
PDAR **Pinedale Array** 52.82 333 P P 12 01 10.2 +0.3
comp=Z,8.7nm,0.7s,baz=128,slow=8.4,SNR=88
PDAR LR LR 12 24 58.9
comp=Z,189nm,19.3s,baz=148,slow=37
PDAR **Pinedale Array** 52.82 333 P P 12 01 09.9 0.0
MATQ **Matagami** 52.95 2 P 12 01 08.6
baz=184
VES **Vestal, Richgr** 53.02 321 P 12 01 12.5
baz=129
BGU **Big Grassy Mou** 53.05 329 P P 12 01 11.7 +0.1
BGU IAmb IAmb 12 01 27.8
comp=Z,19nm,1.2s
AGMN **Agassiz Nation** 53.11 347 P 12 01 11.9
baz=161,SNR=30
HVU **Hansel Valley** 53.56 330 IAmb IAmb 12 01 31.1
comp=Z,27nm,1.5s
MDND **Maddock** 53.61 344 P 12 01 15.9
baz=156
MDND **Maddock** 53.61 344 P P 12 01 15.8 +0.4
REDW **Red Top Meadow** 53.87 333 IAmb IAmb 12 01 34.2
comp=Z,28nm,1.3s
SNOW **Snow King Moun** 53.90 333 IAmb IAmb 12 01 34.8
comp=Z,11nm,0.9s
ELK **Elko** 54.07 328 P P 12 01 20.6 +1.4
comp=Z,6.0nm,1.0s,baz=124,slow=4.7,SNR=20
ELK **Elko** 54.07 328 IAmb IAmb 12 01 35.6
comp=Z,23nm,1.3s
NV11 **Mina Array Sit** 54.12 324 IAmb IAmb 12 01 36.2
comp=Z,23nm,1.1s
NVAR **Mina Array Bea** 54.20 324 P P 12 01 21.8 +1.7
comp=Z,5.2nm,0.7s,baz=136,slow=7.0,SNR=39
NVAR **Mina Array Bea** 54.20 324 P P 12 01 20.8 +0.7
LHV **Little Huntoon** 54.21 323 IAmb IAmb 12 01 37.0
comp=Z,26nm,1.1s
FLWY **Flagg Ranch** 54.37 334 IAmb IAmb 12 01 23.9
comp=Z,12nm,1.0s
RYN **Ryan** 54.46 324 pP 12 01 38.2 +1.8
H17A **Grant Village** 54.56 334 P 12 01 24.3
baz=142
H17A **Grant Village** 54.56 334 P P 12 01 24.2 +1.6
H17A IAmb IAmb 12 01 41.9
comp=Z,17nm,1.3s
YPP **Pitchstone Pla** 54.56 334 P P 12 01 23.2 +0.5
RLMT **Red Lodge** 54.58 335 P 12 01 23.3
baz=144,SNR=13
RLMT **Red Lodge** 54.58 335 IAmb IAmb 12 01 24.1
comp=Z,21nm,1.3s
LAO **LASA Array** 54.69 339 P 12 01 23.9
baz=148
LAO **LASA Array** 54.70 339 IAmb IAmb 12 01 24.7
comp=Z,20nm,1.2s
YNE **Yellowstone No** 54.80 335 IAmb IAmb 12 01 26.4
comp=Z,12nm,0.8s
YNR **Norris Junctio** 54.86 334 IAmb IAmb 12 01 45.2
comp=Z,30nm,1.9s
WAKR **Walker** 54.93 323 P P 12 01 23.7 -1.6
WAKR IAmb IAmb 12 01 42.3
comp=Z,21nm,1.1s
YMR **Madison River** 54.94 334 P P 12 01 26.2 +0.8
YMR IAmb IAmb 12 01 43.0
comp=Z,41nm,1.6s
ULM **Lac du Bonnet** 54.97 348 P P 12 01 24.9 -0.2
comp=Z,34nm,0.6s,baz=161,slow=7.6,SNR=81
YERR **Yerington** 55.12 324 IAmb IAmb 12 01 43.4
comp=Z,13nm,1.0s
YHL **Hebgen Lake** 55.18 334 IAmb IAmb 12 01 30.1
comp=Z,18nm,0.7s
CMB **Columbia Colle** 55.20 322 pP 12 01 43.0 +1.3
QLMT **Earthquake Lak** 55.28 334 pP 12 01 44.0 +1.7
GCMT **Greycliff** 55.29 336 P P 12 01 28.5 +0.7
PNTR **Pine Nut** 55.40 324 IAmb IAmb 12 01 45.6
comp=Z,15nm,1.1s
VCNR **Virginia City** 55.56 324 IAmb IAmb 12 01 47.2
comp=Z,13nm,1.0s
HLID **Hailey** 55.70 331 P P 12 01 31.7 +0.9
HLID IAmb IAmb 12 01 33.6
comp=Z,9.8nm,0.8s
HLID **Hailey** 55.70 331 P 12 01 32.0
baz=138,SNR=23
BCYI **Bear Canyon** 55.78 332 P P 12 01 32.6 +1.2
BOZ **Bozeman (W)** 55.96 334 P 12 01 33.4
baz=142,SNR=17
BOZ **Bozeman (W)** 55.97 334 IAmb IAmb 12 01 34.6
comp=Z,10nm,0.8s
AFDM **Forest Hills D** 56.13 323 pP 12 01 49.7 +1.3
MFID **Camas Ranch** 56.29 330 P P 12 01 36.2 +1.2
BEKR **Beckworth** 56.35 324 P P 12 01 36.4 +0.9
BEKR IAmb IAmb 12 01 52.1
comp=Z,21nm,1.1s
EGMT **Eagleton** 57.13 337 P 12 01 41.1
baz=145,SNR=6.0
EGMT **Eagleton** 57.14 337 IAmb IAmb 12 01 43.0
comp=Z,12nm,1.1s
O03E **Paynes Creek** 57.48 323 P 12 01 44.1
baz=129
J08A **Circle Bar Ran** 57.62 328 IAmb IAmb 12 02 00.2
comp=Z,18nm,1.3s
MOD **Modoc Plateau** 57.64 326 P P 12 01 45.7 +1.2
MOD IAmb IAmb 12 02 00.7
comp=Z,26nm,1.3s
MSO **Missoula** 57.93 334 P 12 01 47.2
baz=140
MSO **Missoula** 57.94 334 IAmb IAmb 12 01 48.5
comp=Z,11nm,0.8s
BMO **Blue Mountains** 58.06 330 IAmb IAmb 12 02 02.8
comp=Z,17nm,1.4s
M04C **Macdoel** 58.44 325 P 12 01 50.8
baz=129,SNR=6.8
N02D **Trinity Center** 58.44 323 P 12 01 50.1
baz=128
K05A **Summer Lake** 58.51 326 P P 12 01 52.5 +1.8
I07A **Izee** 58.66 328 P P 12 01 52.8 +1.2
M02C **Callahan** 58.78 324 P 12 01 52.8
baz=128
YBH **Yreka Blue Hor** 58.91 324 P P 12 01 53.2 -0.2
comp=Z,3nm,0.9s,baz=120,slow=4.3,SNR=12
YBH **Yreka Blue Hor** 58.91 324 pP pP 12 02 08.3 +0.2
YBH IAmb IAmb 12 02 08.8
comp=Z,11nm,0.8s
L04D **Klamath Falls** 58.98 325 P 12 01 55.1
baz=129
J05D **Fort Rock, OR** 59.06 326 P 12 01 55.9
baz=131
PINE **Pine Mountain** 59.24 327 P P 12 01 57.3 +1.6
KRMB **Red Mountain** 59.49 323 P P 12 01 59.0 +1.5
J04D **Umpqua Nationa** 59.52 326 P 12 01 59.1
baz=130
HUMO **Hull Mountain** 59.60 325 P P 12 01 57.6 -0.5
WALA **Waterton Lakes** 59.64 335 IAmb IAmb 12 02 00.0
comp=Z,9.1nm,0.8s
I05D **Terrebonne, OR** 59.81 327 P 12 02 00.4
baz=131,SNR=5.5
I04A **Tendick Farm,** 60.05 326 P 12 02 01.5
baz=130
K02D **Willamette Mer** 60.07 325 P 12 02 02.5

baz=128
KBO Bosley Butte 60.10 324 P P 12 02 02.9 +1.3
F07A Phinny Hill Vi 60.12 329 P P 12 02 03.4 +2.0
F07A IAmb IAmb 12 02 54.6
comp=Z,18nm,1.4s
G05D Wamic, OR 60.40 328 P 12 02 05.1
baz=132
D08A Wollman Farm, 60.42 331 IAmb IAmb 12 02 19.6
comp=Z,25nm,1.7s
NEW Newport 60.44 333 P P 12 02 04.5 +0.8
NEW Newport 60.44 333 P 12 02 04.6
baz=137,SNR=6.5
H04A Detroit Lake 60.50 327 P P 12 02 05.0 +0.9
H04A IAmb IAmb 12 02 23.0
comp=Z,19nm,1.2s
FFC Flin Flon 60.51 346 P P 12 02 04.3 +0.3
FFC IAmb IAmb 12 02 20.0
comp=Z,27nm,1.9s
I03D Drain, OR 60.51 326 P 12 02 04.2
baz=129
E07A Sunnyside 60.53 330 P P 12 02 05.4 +1.0
F05D White Salmon 60.90 328 P 12 02 08.0
baz=132
I02D Swisshome 61.05 326 P 12 02 09.9
baz=129
LTY Liberty 61.42 330 P P 12 02 11.4 +0.9
D05A Enumclaw 62.04 329 P P 12 02 15.2 +0.7
D05A IAmb IAmb 12 02 17.5
comp=Z,19nm,1.1s
FCC Fort Churchill 62.83 352 IAmb IAmb 12 02 20.6
comp=Z,17nm,1.3s
D03D Eldon 62.83 329 P 12 02 20.4
baz=131
NLWA Neilton Lookou 63.14 329 P P 12 02 23.9 +2.1
NLWA IAmb IAmb 12 03 16.6
comp=Z,33nm,1.4s
A04D Lummi Island 63.42 330 P 12 02 25.6
baz=132
YKA Yellowknife Ar 70.53 344 P P 12 03 08.5 0.0
comp=Z,1.3nm,0.6s,baz=137,slow=6.2,SNR=29
DLBC Dease Lake 72.98 335 P P 12 03 24.3 +0.8
comp=Z,3.1nm,0.8s,baz=120,slow=3.6,SNR=11
DLBC Dease Lake 72.98 335 P P 12 03 24.9 +1.5
DLBC IAmb IAmb 12 05 21.4
comp=Z,48nm,1.9s
LIC Lamto 76.09 83 *e*P **P 12 03 42.4 +0.1**
comp=Z,17nm,0.4s
TIC Toumodi 76.13 82 *e*P **P 12 03 42.7 +0.1**
DBIC Dimbokro 76.30 82 P P 12 03 43.9 +0.5
comp=Z,16nm,0.7s,baz=254,slow=5.1,SNR=28
DBIC Dimbokro 76.30 82 P P 12 03 44.0 +0.6
DBIC IAmb IAmb 12 03 44.8
comp=Z,19nm,0.8s
KIC Kosan Boka 76.38 83 *e*P **P 12 03 44.2 +0.2**
comp=Z,68nm,0.9s
KOWA Kowa 77.92 75 P P 12 03 53.1 +0.6
BELA Belgrano 2 78.28 171 P P 12 03 54.0 +0.6
BELA IAmb IAmb 12 03 55.0
comp=Z,23nm,1.2s
RES Resolute Bay 78.38 356 P P 12 03 53.8 -0.1
comp=Z,0.9nm,0.7s,baz=204,slow=9.2,SNR=4.6
CTGM Chitina Glacie 79.17 334 P P 12 04 00.2 +1.6
CTGM IAmb IAmb 12 04 20.8
comp=Z,62nm,1.9s
BARN Barnard Glacie 79.35 334 P P 12 04 00.7 +1.0
BARN IAmb IAmb 12 06 41.7
comp=Z,41nm,1.6s
EPYK Eagle Plains 80.11 340 P 12 04 04.5
baz=123
INK Inuvik 80.19 342 P P 12 04 04.1 +0.2
comp=Z,3.2nm,0.6s,baz=100,slow=3.4,SNR=14
INK Inuvik 80.19 342 P P 12 04 04.1 +0.2
SUMG Summit 80.34 12 *i*P **P 12 04 05.7 +0.6**
SUMG Summit 80.34 12 *i*P **P 12 04 05.8 +0.6**
VNA3 Neumayer Olymp 80.79 162 P P 12 04 07.9 +0.7
EGAK Eagle 80.89 338 P 12 04 08.7
baz=118
EGAK Eagle 80.89 338 IAmb IAmb 12 04 24.5
comp=Z,19nm,1.2s
K27K Chicken 80.89 337 IAmb IAmb 12 04 25.4
comp=Z,19nm,1.3s
VNA1 Neumayer--Stat 81.07 161 P P 12 04 09.5 +1.0
VNA2 Neumayer--Watz 81.42 161 P P 12 04 11.6 +1.1
baz=295,slow=6.4
SCRK Sand Creek 81.62 337 P 12 04 12.1
baz=116
PAX Paxson 81.80 335 P 12 04 12.9
baz=114
ESDC Sonseca Array 81.91 49 P P 12 04 14.8 +1.1
comp=Z,3.0nm,0.8s,baz=269,slow=5.5,SNR=13
ESDC Sonseca Array 81.91 49 P P 12 04 14.7 +1.1
SML Sawmill 82.58 334 P 12 04 17.2
baz=111
SNAA Sanae 83.02 162 P P 12 04 19.3 +0.4
SNAA Sanae 83.02 162 P P 12 04 19.2 +0.4
comp=Z,5.6nm,0.5s,baz=263,slow=6.4,SNR=21
SNAA Sanae 83.02 162 P P 12 04 18.6 -0.2
SNAA IAmb IAmb 12 04 20.1
comp=Z,17nm,1.1s
ILAR Eielson Array 83.10 337 P P 12 04 19.1 -0.1
comp=Z,1.2nm,0.8s,baz=139,slow=3.6,SNR=4.9
TOA0 Torodi Ar. Sit 83.30 76 P P 12 04 21.0 -0.4
TOA0 IAmb IAmb 12 04 22.3
comp=Z,35nm,1.8s
TORD Torodi Ar. Bea 83.30 76 P P 12 04 20.9 -0.4
comp=Z,3.3nm,0.5s,baz=276,slow=6.4,SNR=41
TORD Torodi Ar. Bea 83.30 76 P P 12 04 20.6 -0.8
BMAR Burnt Mountain 83.34 340 P P 12 04 21.5 +1.0
EUNU Eureka 83.35 359 P P 12 04 19.0 -1.4
SKT Skwentna 84.07 333 P 12 04 24.8
baz=108
COLD Coldfoot 85.27 339 P 12 04 30.8
baz=110
TOLK Toolik Lake Re 85.55 340 P 12 04 32.8
baz=111
QSPA South Pole Qui 86.74 180 P P 12 04 38.1 +0.4
comp=Z,12nm,0.8s,baz=146,slow=4.3,SNR=21
QSPA LR LR 12 37 16.9
comp=Z,169nm,18.0s,baz=248,slow=31
QSPA South Pole Qui 86.74 180 P P 12 04 38.8 +1.0
BVAR Borovoye Array 125.00 21 PKP PKPdf 12 10 53.7 -0.1
comp=Z,0.4nm,0.6s,baz=179,slow=1.6,SNR=3.7
KLR Kul'dur 126.60 334 PKP PKPdf 12 10 56.6 -0.4
comp=Z,0.5nm,0.6s,baz=355,slow=5.8,SNR=2.1
STKA Stephens Creek 126.76 226 PKP PKPdf 12 10 57.6 -0.2
comp=Z,3.3nm,0.7s,baz=103,slow=3.0,SNR=4.4
ZAA0 Zalesovo Array 128.16 11 PKPdf PKPdf 12 10 59.9 +0.1
ZALV Zalesovo Beam 128.16 11 PKP PKPdf 12 10 59.2 -0.6
comp=Z,1.9nm,0.6s,baz=318,slow=2.0,SNR=13
ZALV Zalesovo Beam 128.16 11 PKPdf PKPdf 12 10 58.5 -1.2
KURK Kurchatov 129.65 17 PKPdf PKPdf 12 11 02.5 -0.2
KURBB Kurchatov Arra 129.71 17 PKP PKPdf 12 11 02.5 -0.3
comp=Z,2.5nm,0.2s,baz=327,slow=2.5,SNR=11
MJB9 Matsu-Tunnel 131.33 318 PKPpre 12 10 56.1
MKAR Makanchi Array 134.24 16 PKP PKPdf 12 11 11.2 -0.4
comp=Z,0.7nm,0.7s,baz=351,slow=1.6,SNR=4.8
SONM Songino Array 135.26 353 PKP PKPdf 12 11 13.6 0.0
comp=Z,1.2nm,0.7s,baz=338,slow=1.5,SNR=9.5
SONM Songino Array 135.26 353 PKPdf PKPdf 12 11 13.4 -0.2
ASAR Alice Springs 136.96 230 PKhKP PKPpre 12 11 11.2
comp=Z,1.4nm,0.6s,baz=120,slow=3.0,SNR=18
ASAR PKP **PKPdf 12 11 17.3 -0.1**
comp=Z,4.3nm,0.9s,baz=130,slow=1.9,SNR=14
KSRS Korea Array 137.12 326 PKP PKPdf 12 11 17.0 -0.2
comp=Z,1.2nm,0.6s,baz=238,slow=1.2,SNR=6.8
KSAR Wonju Array Be 137.15 326 PKPdf 12 11 17.4 +0.2
WMQ Urumqi 138.38 13 *e*PKP **PKPdf 12 11 19.9 +0.5**
WB2 Warramunga Arr 138.58 235 PKPpre 12 11 10.8
WRA Warramunga Arr 138.59 235 PKhKP PKPpre 12 11 11.1
comp=Z,0.8nm,0.6s,baz=124,slow=2.3,SNR=7.2
WRA PKP **PKPdf 12 11 19.5 -0.9**
comp=Z,2.8nm,0.6s,baz=110,slow=1.9,SNR=24
HHC Hu-ho-hao-te 141.07 345 *e*PKP **PKPdf 12 11 24.3 -0.2**
HHC LR LR
comp=Z,160nm,21.2s
HHC LR LR
comp=Z,110nm,20.7s
GTA Gaotai 144.09 359 *e*PKP **PKPab 12 11 26.4 -1.0**
NJ2 Nanjing 146.07 329 *e*PKPbc **PKPdf 12 11 32.8 -0.5**
FITZ Fitzroy Crossi 146.47 230 PKPdf PKPdf 12 11 34.9 +0.5
LZH Lanzhou 147.15 353 *e*PKPbc **PKPbc 12 11 38.0 +0.5**
LZH pPKP pPKPbc 12 11 52.4 -1.0
XAN Xi'an 148.18 345 PKPbc PKPdf 12 11 36.9 0.0
XAN pPKP PKPab 12 11 47.8 +4.7
WHN Wuhan 149.45 334 ⇓P PKPab 12 11 59.0 +11
CD2 Chengdu 152.26 352 PKPbc PKPdf 12 11 41.3 -2.1
CD2 sPKP 12 12 06.3
HYB Hyderabad 155.25 54 *i* PKP **PKPdf 12 11 48.0 +0.1**
HYB *e* 12 12 02.5
CMAR Chiang Mai Arr 164.97 2 PKP PKPdf 12 11 59.0 +0.3
comp=Z,1.5nm,0.6s,baz=298,slow=2.3,SNR=12
CMAR PKPab **PKPab 12 12 54.5 -0.5**
comp=Z,0.6nm,0.3s,baz=339,slow=4.0,SNR=4.2

IDC ***19*** *11:57:49.7±1.1,56.00S×124.39W,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.9/38,mbtmp3.9/4,MS4.3/20, Ms1 4.3/20,ms1mx4.1/33,Error ellipse: s-maj=96.5km s-min=29.0km az=155.0*
GCMT ***19*** *11:57:57.0±0.1,55.72S±0.01×124.18W±0.01,h22km, MW5.2/126,Moment Tension Solution. s91,c148; s126,c218; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.11±.02; Mθθ0.55±.02; Mϕϕ-0.44±.01; Mrθ-0.14±.03; Mrϕ0.74±.01; Mθϕ-0.10±.02; Best double couple: M0:0.90200×10¹⁷ NP1:ϕ₁287.00000°,δ82.00000°, λ5.00000°. NP2:ϕ₂197.00000°,δ85.00000°,λ172.00000°. Principal axes: T 0.9700, Plg9.0000°, Azm152.0000°; N -0.1340, Plg81.0000°, Azm342.0000°; P -0.8350, Plg2.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 19 11:57:51.5±0.9,55.5S±0.2×124.6W±0.2,h10km,n47, σ1ᵗ30/13,mb3.9/4,MS4.4/25,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**30.31**	**132**	LR	LR	LR	12 12 33.6	
	comp=Z,782nm,20.3s,baz=278,slow=30							
VNDA	**Vanda**	**33.07**	**202**	LR	LR	LR	12 13 39.5	
	comp=Z,454nm,19.7s,baz=86,slow=29							
RKT	**Rikitea**	**33.29**	**342**	*e*LR	LR	LR	12 13 14.3	
	comp=Z,449nm,26.0s							
QSPA	**South Pole Qui**	**34.64**	**180**	LR	LR	LR	12 16 27.7	
	comp=Z,473nm,20.6s,baz=78,slow=33							
TBI	**Tubuai**	**37.05**	**320**	*e*S	**S**		**12 10 47.7**	**+0.5**
	236nm,28.2s							
TBI				*e*LQ	LQ	LQ	12 13 28.9	
	572nm,23.5s							
TBI				*e*LR	LR	LR	12 14 56.5	
	comp=Z,1μm,29.8s,baz=161							
TBI	**Tubuai**	**37.05**	**320**	*e*T	T	T	12 44 20.9	
	66nm,0.3s							
H03S2	**Juan Fernandez**	**38.11**	**75**	T	T	T	12 45 46.1	
	baz=219,slow=74,SNR=40							
H03S1	**Juan Fernandez**	**38.12**	**75**	T	T	T	12 45 47.4	
	baz=219,slow=74,SNR=47							
H03S3	**Juan Fernandez**	**38.13**	**75**	T	T	T	12 45 59.1	
	baz=219,slow=74,SNR=53							
H03N3	**Juan Fernandez**	**38.40**	**74**	T	T	T	12 46 05.0	
	baz=222,slow=72,SNR=499							
H03N2	**Juan Fernandez**	**38.41**	**74**	T	T	T	12 46 03.9	
	baz=222,slow=72,SNR=480							
H03N1	**Juan Fernandez**	**38.42**	**74**	T	T	T	12 46 03.9	
	baz=222,slow=72,SNR=352							
PPT2	**Papeete2**	**42.40**	**323**	*e*S	**S**		**12 12 07.8**	**+0.2**
	320nm,25.0s							
PPT2				*e*LQ	LQ	LQ	12 15 42.7	
	2μm,27.0s							
PPT2				*e*LR	LR	LR	12 17 39.8	
	comp=Z,2μm,26.0s,baz=161							
PPT	**Papeete**	**42.42**	**323**	LR	LR	LR	12 19 24.5	
	comp=Z,443nm,19.4s,baz=151,slow=30							
VAH	**Vaihoa**	**43.97**	**327**	*e*T	T	T	12 52 50.7	
	107nm,0.3s							
TAOE	**Nuku Hiva Isla**	**48.17**	**339**	*e*S	**S**		**12 13 28.9**	**-2.1**
	316nm,26.0s							
TAOE				*e*LR	LR	LR	12 20 14.2	
	comp=Z,1μm,25.4s							
CPUP	**Villa Florida**	**55.92**	**88**	LR	LR	LR	12 27 30.3	
	comp=Z,231nm,20.4s,baz=227,slow=32							
MAW	**Mawson**	**57.05**	**183**	LR	LR	LR	12 29 54.0	
	comp=Z,481nm,21.7s,baz=181,slow=34							
LPAZ	**La Paz**	**57.92**	**71**	P	**P**		**12 07 45.2**	**+0.7**
	2.7nm,0.9s,baz=144,slow=5.0,SNR=3.2							
LPAZ				LR	LR	LR	12 27 40.2	
	comp=Z,84nm,21.7s,baz=193,slow=31							
DZM	**Mont Dzumac**	**60.24**	**274**	*e*S	**S**		**12 16 16.0**	**+2.1**
	138nm,23.5s							
DZM				*e*LR	LR	LR	12 25 49.8	
	comp=Z,432nm,26.8s							
STKA	**Stephens Creek**	**66.42**	**248**	LR	LR	LR	12 33 21.6	
	comp=Z,209nm,18.6s,baz=155,slow=32							
BDFB	**Brasilia**	**69.64**	**88**	LR	LR	LR	12 36 37.1	
	comp=Z,268nm,20.5s,baz=220,slow=34							
PTGA	**Pitinga**	**75.27**	**69**	LR	LR	LR	12 37 20.3	
	comp=Z,142nm,20.3s,baz=160,slow=32							
H01W1	**Cape Leeuwin H**	**76.94**	**226**	T	T	T	13 35 10.0	
	baz=150,slow=76,SNR=60							
H01W2	**Cape Leeuwin H**	**76.95**	**226**	T	T	T	13 35 10.4	
	baz=150,slow=76,SNR=67							
H01W3	**Cape Leeuwin H**	**76.96**	**226**	T	T	T	13 35 11.4	
	baz=150,slow=76,SNR=72							
ASAR	**Alice Springs**	**77.05**	**247**	P	**P**		**12 09 43.5**	**-1.3**
	0.9nm,0.9s,baz=110,slow=5.0,SNR=5.1							
ASAR				LR	LR	LR	12 37 54.2	
	comp=Z,288nm,21.7s,baz=145,slow=31							
WRA	**Warramunga Arr**	**79.86**	**250**	P	**P**		**12 09 59.6**	**-0.7**
	1.7nm,0.9s,baz=145,slow=5.0,SNR=8.7							
WRA				LR	LR	LR	12 40 59.7	
	comp=Z,276nm,20.2s,baz=140,slow=32							
PMG	**Port Moresby**	**81.35**	**266**	LR	LR	LR	12 41 49.5	
	comp=Z,170nm,19.2s,baz=106,slow=32							
FITZ	**Fitzroy Crossi**	**85.93**	**244**	LR	LR	LR	12 43 10.8	
	comp=Z,182nm,21.6s,baz=158,slow=32							
TXAR	**Lajitas Array**	**86.41**	**18**	P	**P**		**12 10 35.0**	**+1.2**
	0.3nm,0.9s,baz=198,slow=5.4,SNR=2.3							
TXAR				LR	LR	LR	12 41 05.3	
	comp=Z,93nm,20.6s,baz=0.0,slow=30							
JAY	**Jayapura**	**90.63**	**265**	LR	LR	LR	12 49 09.3	
	comp=Z,36nm,19.8s,baz=114,slow=34							
BOSA	**Boshof**	**92.29**	**154**	LR	LR	LR	12 50 04.2	
	comp=Z,247nm,18.0s,baz=222,slow=34							
BATI	**Baumata**	**93.60**	**246**	LR	LR	LR	12 48 27.4	
	comp=Z,342nm,20.8s,baz=160,slow=32							
H11S2	**WAKE ISLAND Hy**	**93.65**	**298**	T	T	T	13 55 24.5	
	baz=148,slow=76,SNR=15							
H11S3	**WAKE ISLAND Hy**	**93.67**	**298**	T	T	T	13 55 25.6	
	baz=148,slow=76,SNR=35							
H11S1	**WAKE ISLAND Hy**	**93.67**	**298**	T	T	T	13 55 18.7	
	baz=148,slow=76,SNR=14							
NVAR	**Mina Array Bea**	**93.76**	**5**	LR	LR	LR	12 44 35.2	
	comp=Z,168nm,18.6s,baz=193,slow=30							
H11N3	**WAKE ISLAND Hy**	**94.58**	**298**	T	T	T	13 56 34.7	
	baz=148,slow=76,SNR=6.8							
H11N1	**WAKE ISLAND Hy**	**94.59**	**298**	T	T	T	13 56 32.3	
	baz=148,slow=76,SNR=7.5							
H11N2	**WAKE ISLAND Hy**	**94.60**	**298**	T	T	T	13 56 29.9	
	baz=148,slow=76,SNR=6.5							
PDAR	**Pinedale Array**	**98.76**	**11**	LR	LR	LR	12 48 24.1	
	comp=Z,160nm,18.6s,baz=202,slow=31							
ILAR	**Eielson Array**	**121.20**	**349**	PKP	**PKPdf**		**12 16 42.1**	**-0.9**
	0.3nm,0.8s,baz=189,slow=5.3,SNR=2.2							
SONM	**Songino Array**	**148.13**	**278**	PKPbc	**PKiKP**		**12 17 38.5**	**+0.1**
	0.3nm,0.7s,baz=90,slow=0.7,SNR=3.0							
GERES	**GERESS Array B**	**153.88**	**87**	PKPbc	**PKPbc**		**12 17 49.3**	**-0.8**
	0.3nm,0.6s,baz=292,slow=5.2,SNR=1.6							
MKAR	**Makanchi Array**	**161.12**	**254**	PKPab	**PKPab**		**12 18 33.9**	**-0.8**
	0.5nm,0.8s,baz=117,slow=5.4,SNR=3.2							
ZALV	**Zalesovo Beam**	**163.02**	**277**	PKPab	**PKPab**		**12 18 43.9**	**+1.2**
	0.8nm,0.8s,baz=63,slow=6.6,SNR=2.0							

SOME ***19*** *12:03:58.3,43.72N×69.67E*
NNC ***19*** *12:03:59.5±2.6,43.74N×69.79E,h0km,mb3.8,mpv3.1, Error ellipse: s-maj=18.0km s-min=10.8km az=132.0, Suspected Mining explosion.*
KRNET ***19*** *12:03:59.5±0.1,43.69N×69.54E,mb3.2*
ISC 19 12:04:02.0±2.6,43.60N±0.09×69.7E±0.1,h0km,n16, σ1ᵗ69/30,18C-14D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.79**	**129**	⇑P	**Pg**		**12 04 15.2**	**-1.9**
	2.8nm,0.3s,baz=326,slow=17,SNR=143							
KK31				⇑S	**Sg**		**12 04 26.8**	**-0.6**
	15nm,0.3s,baz=323,slow=34,SNR=12							
TRKS	**Terek-Say**	**2.34**	**152**	⇑*i*P	**Pb**		**12 04 43.8**	**-1.3**
	baz=51							
TRKS				⇑*i*S	**Sg**		**12 05 15.9**	**-1.2**
	baz=51							
MNAS	**Manas**	**2.35**	**117**	⇓*i*P	**Pn**		**12 04 42.9**	**+0.8**
	baz=18							
MNAS				⇓*i*S	**Sb**		**12 05 14.8**	**-0.3**
	baz=18							
EKS2	**Erkin-Say**	**3.15**	**106**	⇑*i*P	**Pn**		**12 04 53.9**	**+0.9**
	baz=7.0							
EKS2				⇑*i*S	**Sn**		**12 05 33.6**	**+2.3**
	baz=7.0							
AML	**Almayashu**	**3.30**	**115**	⇑*i*P	**Pn**		**12 04 56.5**	**+1.2**
	baz=16							
AML				⇑*i*S	**Sn**		**12 05 38.0**	**+2.5**
	baz=16							
ARSB	**Arslanbob**	**3.34**	**132**	⇓*i*P	**Pn**		**12 04 56.9**	**+1.2**
	baz=32							
ARSB				⇓*i*S	**Sn**		**12 05 39.0**	**+2.8**
	baz=32							
USP	**Ospenovka**	**3.53**	**94**	⇑*i*P	**Pn**		**12 04 59.2**	**+1.0**
	baz=95							
USP				⇑*i*S	**Sn**		**12 05 42.6**	**+2.0**
	baz=95							
BTK	**Batken**	**3.65**	**166**	⇓*i*P	**Pn**		**12 05 01.0**	**+1.2**
	baz=65							
BTK				⇓*i*S	**Sn**		**12 05 45.8**	**+2.3**
	baz=65							
AAK	**Ala-Archa**	**3.66**	**104**	⇑*i*P	**Pn**		**12 05 01.1**	**+1.1**
	baz=4.0							
AAK				⇑*i*S	**Sn**		**12 05 45.9**	**+2.0**
	baz=4.0							
AAK	**Ala-Archa**	**3.66**	**104**	⇑Pg	**Pb**		**12 05 06.0**	**-1.6**
	5.4nm,0.4s							
AAK				⇓Lg	Lg	Lg	12 05 56.0	
	5.4nm,0.4s							
CHMS	**Chumysh**	**3.75**	**98**	⇑*e*P	**Pn**		**12 05 02.1**	**+0.9**
	baz=98							
CHMS				⇑*i*S	**Sn**		**12 05 48.2**	**+2.1**
	baz=98							
UCH	**Uchtor**	**3.81**	**110**	⇓*i*P	**Pn**		**12 05 03.4**	**+1.0**
	baz=10.0							
UCH				⇓*i*S	**Sn**		**12 05 50.1**	**+2.0**
	baz=10.0							
ARLS	**Aral**	**3.84**	**115**	⇑*i*P	**Pn**		**12 05 03.9**	**+1.3**
	baz=16							
ARLS				⇑*i*S	**Sn**		**12 05 51.1**	**+2.6**
	baz=16							
TKM2	**Tokmak 2**	**4.38**	**97**	⇓*e*P	**Pn**		**12 05 11.0**	**+1.0**
	baz=98							
TKM2				⇓*i*S	**Sn**		**12 06 03.1**	**+1.3**
	baz=98							
TKM2	**Tokmak 2**	**4.38**	**97**	⇓Pg	**Pb**		**12 05 18.4**	**-1.6**
	4.5nm,0.8s							
TKM2				⇑Lg	Lg	Lg	12 06 17.5	
	4.4nm,0.4s							
ULHL	**Ulahol**	**5.01**	**103**	⇓*e*P	**Pn**		**12 05 19.6**	**+1.0**
	baz=4.0							
ULHL				⇓*e*S	**Sn**		**12 06 18.6**	**+1.3**
	baz=4.0							

TAP ***19*** *12:22:13.5,24.28N×122.94E,h40km,ML2.6,D*
JMA ***19*** *12:22:13.7±0.1,24.32N×122.98E,h46km±3km,M1.9*
ISC 19 12:22:13.8±1.4,24.21N±0.04×122.99E±0.03,h33km±3km, n53,σ1ᵗ21/94,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.24**	**351**	P	P	**Pn**	**12 22 21.1**	**+0.2**
JYNG				S	S	**Sb**	**12 22 26.5**	**+0.7**
YOJ	**Yonaguni jima**	**0.25**	**5**	*e*P	**Pn**		**12 22 21.2**	**+0.2**
	baz=17							
YOJ				*e*S	**Sb**		**12 22 26.5**	**+0.6**
	baz=17							
YOJ	**Yonaguni jima**	**0.25**	**5**	P	**Pn**		**12 22 21.3**	**+0.2**
YOJ				S	**Sb**		**12 22 26.3**	**+0.4**
IRIF	**Iriomote-Funau**	**0.69**	**79**	P	**Pn**		**12 22 26.9**	**-0.3**
IRIF				S	**Sn**		**12 22 36.7**	**-0.1**
JKRS	**Kuro-shima**	**0.93**	**88**	P	**Pn**		**12 22 31.2**	**+0.6**
JKRS				S	**Sn**		**12 22 43.6**	**+0.8**
JIJ	**Ishigaki jima**	**1.07**	**81**	P	**Pn**		**12 22 32.2**	**-0.3**
JIJ				S	**Sn**		**12 22 45.4**	**-0.7**
ENA	**Nanau**	**1.16**	**281**	*e*P	**Pn**		**12 22 33.1**	**-0.6**
	baz=287							
ENA				*e*S	**Sn**		**12 22 48.1**	**-0.3**
	baz=287							
NDS	**Dongshan**	**1.23**	**290**	*e*P	**Pn**		**12 22 33.4**	**-1.4**
	baz=296							
NDS				*e*S	**Sn**		**12 22 48.5**	**-1.8**
	baz=296							
JISG	**Ishigakijimahi**	**1.27**	**72**	P	**Pn**		**12 22 34.8**	**-0.4**
JISG				S	**Sn**		**12 22 49.9**	**-1.1**
NACB	**Ninganchiao**	**1.27**	**269**	*e*P	**Pn**		**12 22 34.1**	**-1.2**
	baz=250							
NACB				*e*S	**Sn**		**12 22 50.6**	**-0.6**
	baz=250							
TWD	**Chiawan**	**1.28**	**265**	*e*P	**Pn**		**12 22 35.1**	**-0.2**
	baz=246							
TWD				*e*S	**Sn**		**12 22 51.5**	**+0.2**
	baz=246							
TIPB	**Shuangxi**	**1.30**	**306**	*i* P	**Pn**		**12 22 34.5**	**-1.3**
	baz=314							
TIPB				*e*S	**Sn**		**12 22 49.1**	**-2.9**
	baz=314							
TWE	**Neicheng**	**1.31**	**293**	*e*P	**Pn**		**12 22 34.7**	**-1.1**
	baz=300							
ENTT	**Nioudou**	**1.36**	**289**	P	**Pn**		**12 22 36.2**	**-0.4**
	baz=294							
ETLH	**Xiulin Townshi**	**1.37**	**270**	P	**Pn**		**12 22 36.7**	**-0.1**
	baz=266							
ETLH				*e*S	**Sn**		**12 22 53.5**	**-0.4**
	baz=266							
NDT	**Datong Townshi**	**1.40**	**287**	P	**Pn**		**12 22 37.4**	**+0.4**
	baz=291							
NDT				*e*S	**Sn**		**12 22 54.6**	**+0.2**
	baz=291							
NWLT	**Wulai**	**1.47**	**293**	P	**Pn**		**12 22 37.1**	**-0.9**
	baz=301							
NWLT				S	**Sn**		**12 22 53.7**	**-2.4**
	baz=301							
ESL	**Shilin**	**1.47**	**255**	*e*P	**Pn**		**12 22 37.8**	**-0.3**
	baz=250							
ESL				*e*S	**Sn**		**12 22 55.2**	**-1.0**
	baz=250							
NNSB	**Datong**	**1.48**	**279**	P	**Pn**		**12 22 37.1**	**-1.2**
	baz=263							
NNSB				*e*S	**Sn**		**12 22 56.8**	**+0.2**
	baz=263							
YHNB	**Yeheng**	**1.54**	**288**	P	**Pn**		**12 22 39.2**	**+0.1**
	baz=294							
YHNB				*e*S	**Sn**		**12 22 57.2**	**-0.7**
	baz=294							
NSK	**Sanguang**	**1.56**	**288**	*e*S	**Sn**		**12 22 57.7**	**-0.6**
	baz=294							
WHF	**Hehuan Shan**	**1.57**	**268**	P	**Pn**		**12 22 39.4**	**-0.5**
	baz=251							
WHF				S	**Sn**		**12 22 59.6**	**+0.3**
	baz=251							
FUSS	**Fushou**	**1.59**	**272**	*e*P	**Pn**		**12 22 39.0**	**-0.9**
	baz=268							
FUSS				*e*S	**Sn**		**12 22 58.9**	**-0.6**
	baz=268							
HGSD	**Ruisui**	**1.60**	**244**	P	**Pn**		**12 22 38.7**	**-1.1**
	baz=239							
HGSD				S	**Sn**		**12 22 57.8**	**-1.5**
	baz=239							
JTJ	**Tarama**	**1.62**	**74**	*e*S	**Sn**		**12 22 59.5**	**-0.3**
EHY	**Hungye**	**1.68**	**246**	*i* P	**Pn**		**12 22 40.3**	**-0.6**
	baz=254							
EHY				S	**Sn**		**12 23 00.7**	**-0.6**
	baz=254							
VWDT	**VWDT**	**1.75**	**255**	P	**Pn**		**12 22 42.0**	**+0.1**
	baz=251							
VWDT				*e*S	**Sn**		**12 23 02.8**	**-0.2**
	baz=251							
YULB	**Yu-li**	**1.75**	**243**	P	**Pn**		**12 22 41.3**	**-0.5**
	baz=228							
YULB				S	**Sn**		**12 23 01.9**	**-1.2**
	baz=228							
**EYUL

	baz=258							
WCS	**Beigang Elemen**	**1.90**	**266**	P		**Pn**	**12 22 44.4**	**+0.5**
	baz=253							
WCS				*e*S		**Sn**	**12 23 07.7**	**+0.9**
	baz=253							
SSLB	**Suanglung**	**1.91**	**258**	P		**Pn**	**12 22 44.9**	**+0.8**
	baz=254							
SSLB				*e*S		**Sn**	**12 23 05.9**	**-1.1**
	baz=254							
TYC	**Yuchr**	**1.97**	**262**	*e*P		**Pn**	**12 22 46.0**	**+1.1**
	baz=258							
TYC				S		**Sn**	**12 23 09.1**	**+0.6**
	baz=258							
EDH	**Donghe**	**1.97**	**232**	S		**Sn**	**12 23 05.8**	**-2.8**
	baz=220							
YUS	**Yu-Shan**	**2.00**	**249**	*i* P		**Pn**	**12 22 46.0**	**+0.3**
	baz=245							
YUS				*i* S		**Sn**	**12 23 07.9**	**-1.9**
	baz=245							
LDUT	**Ludao**	**2.07**	**223**	*e*P		**Pn**	**12 22 44.9**	**-1.4**
	baz=219							
LDUT				*e*S		**Sn**	**12 23 08.8**	**-2.1**
	baz=219							
ELDTW	**Lidau**	**2.07**	**241**	*i* P		**Pn**	**12 22 45.6**	**-0.8**
	baz=237							
ELDTW				S		**Sn**	**12 23 09.2**	**-1.9**
	baz=237							
ALS	**Alishan**	**2.12**	**251**	*i* P		**Pn**	**12 22 47.6**	**+0.4**
	baz=247							
ALS				S		**Sn**	**12 23 12.1**	**-0.4**
	baz=247							
LONT	**Longtian**	**2.14**	**233**	*e*S		**Sn**	**12 23 11.8**	**-0.9**
	baz=222							
CHN5	**Tsauling**	**2.20**	**254**	*e*P		**Pn**	**12 22 50.5**	**+2.3**
	baz=242							
CHN5				S		**Sn**	**12 23 16.2**	**+1.9**
	baz=242							
STYH	**Taoyuan**	**2.27**	**243**	*e*P		**Pn**	**12 22 49.2**	**+0.1**
	baz=232							
STYH				*e*S		**Sn**	**12 23 16.1**	**+0.1**
	baz=232							
STYT	**Tauyuan**	**2.29**	**243**	*e*P		**Pn**	**12 22 50.6**	**+1.2**
	baz=231							
STYT				S		**Sn**	**12 23 16.7**	**+0.1**
	baz=231							
WDLH	**Douliu**	**2.30**	**258**	*e*S		**Sn**	**12 23 19.8**	**+3.2**
	baz=254							
TPUB	**Ta-pu**	**2.34**	**248**	*e*P		**Pn**	**12 22 49.2**	**-0.8**
	baz=244							
TPUB				*e*S		**Sn**	**12 23 19.5**	**+1.8**
	baz=244							
CHN4	**Tsaushan**	**2.35**	**249**	P		**Pn**	**12 22 52.2**	**+2.0**
	baz=245							
CHN4				*i* S		**Sn**	**12 23 20.3**	**+2.4**
	baz=245							
WTP	**Ta-pu**	**2.38**	**247**	P		**Pn**	**12 22 52.2**	**+1.7**
	baz=243							
WTP				*i* S		**Sn**	**12 23 20.5**	**+1.9**
	baz=243							
SLGT	**Liugui**	**2.46**	**241**	S		**Sn**	**12 23 22.1**	**+1.4**
	baz=230							
CHN1	**Nanshi**	**2.47**	**246**	S		**Sn**	**12 23 23.2**	**+2.3**
	baz=242							
TWK	**Hsinying**	**2.47**	**248**	S		**Sn**	**12 23 23.4**	**+2.4**
	baz=244							
TSMG	**Majia**	**2.62**	**236**	*e*S		**Sn**	**12 23 24.5**	**0.0**
	baz=228							
MASBT	**Mashibuluo**	**2.68**	**234**	*e*P		**Pn**	**12 22 55.1**	**+0.4**
	baz=226							
MASBT				*e*S		**Sn**	**12 23 26.9**	**+0.8**
	baz=226							

UPP 19 12:25:51.3±0.1, **59°14N**×**17°93E, h0**km, **ML1.6, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.14**	**163**	P	Pg	12 25 54.2	+0.3
NYNU				S	Sg	12 25 56.2	+0.5
NRTU	**Norrtaelje**	**0.65**	**33**	P	Pg	12 26 03.6	-0.1
ESKU	**Eskilstuna**	**0.79**	**277**	P	Pg	12 26 06.1	-0.4
FIBU	**Brunna**	**0.82**	**339**	P	Pg	12 26 06.8	-0.2
BACU	**Backbrunna**	**0.83**	**330**	P	Pg	12 26 06.9	-0.3
VIKU	**Vikbolandet**	**0.90**	**226**	P	Pg	12 26 08.5	0.0
FLYU	**Flymyra**	**0.99**	**359**	P	Pg	12 26 09.8	-0.5
OSTU	**Oestervaala**	**1.17**	**340**	P	Pg	12 26 13.0	-0.6
GRAU	**Graesoe**	**1.24**	**14**	P	Pg	12 26 14.3	-0.7
AAL	**Aland**	**1.48**	**44**	P	Pn	12 26 18.4	-0.7
GOTU	**Gotland**	**1.50**	**167**	P	Pn	12 26 18.6	-0.7
NRAU	**Nora**	**1.54**	**288**	P	Pn	12 26 19.8	-0.2
LNKU	**Linkoeping**	**1.56**	**235**	P	Pn	12 26 20.0	-0.3
ASKU	**Askersund**	**1.62**	**263**	P	Pn	12 26 21.1	+0.1

BER 19 12:26:39.8±1.4, **64°36N**×**13°45E, h0**km, **ML1.6, Suspected explosion, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NSS	**Namsos**	**0.67**	**285**	*e*P	Pg	12 26 51.5	-1.0
NSS				*e*S	Sg	12 27 01.0	-0.1
NSS				IAML		12 27 02.9	
	comp=Z,11nm,0.3s						
NOD	**Norderasen**	**1.11**	**145**	*e*P	Pg	12 26 59.4	-1.7
NOD				*e*S	Sg	12 27 15.3	-0.3
MOR8	**Moi Rana**	**1.86**	**12**	*e*P	Pn	12 27 11.8	-1.1
MOR8				*e*S	Sn	12 27 37.5	+0.4
MOR8				IAML		12 27 39.9	
	comp=Z,12nm,0.5s						
NBB14	**Nordeng Farm**	**1.95**	**359**	*e*P	Pn	12 27 10.9	-3.1
NBB14				*e*S	Sn	12 27 36.5	-2.7
NBB14				IAML		12 27 38.0	
	comp=Z,14nm,0.3s						
STOK	**Stokkvaagen**	**1.99**	**355**	*e*P	Pn	12 27 12.1	-2.5
STOK				*e*S	Sn	12 27 37.5	-2.6
KONS	**Konsvik**	**2.15**	**356**	*e*P	Pn	12 27 14.8	-2.0
KONS				*e*S	Sn	12 27 43.0	-1.1
KONS				IAML		12 27 47.8	
	comp=Z,8.9nm,0.7s						
NBB40	**Tonnes**	**2.17**	**355**	*e*P	Pn	12 27 15.1	-2.0
NBB40				*e*S	Sn	12 27 43.5	-1.1
NBB40				IAML		12 27 49.5	
	comp=Z,6.6nm,0.9s						
FAUS	**Fauske**	**3.12**	**13**	*e*S	Sn	12 28 05.1	-3.0
FAUS				IAML		12 28 09.8	
	comp=Z,3.8nm,0.8s						

*DNK **19** 12:27:22.5±3.2, 58°07N×13°55E, h0km, ML1.9(UPP), Explosion*

UPP 19 12:27:19.9±0.1, **58°39N**×**13°78E, h0**km, **ML1.9, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FKPU	**Falk**	**0.23**	**188**	P	Pg	12 27 24.4	+0.2
FKPU				S	Sg	12 27 27.5	+0.3
FKPU	**Falk**	**0.23**	**188**	P	Pg	12 27 24.4	+0.2
FKPU				S	Sg	12 27 27.5	+0.3
NASU	**Vaermlandsnaes**	**0.63**	**331**	P	Pg	12 27 31.6	-0.3
NASU	**Vaermlandsnaes**	**0.63**	**331**	P	Pg	12 27 31.6	-0.3
ASKU	**Askersund**	**0.75**	**47**	P	Pg	12 27 34.0	-0.2
ASKU	**Askersund**	**0.75**	**47**	P	Pg	12 27 34.0	-0.2
VANU	**Vaenersborg**	**0.91**	**278**	P	Pg	12 27 37.0	-0.2
VANU	**Vaenersborg**	**0.91**	**278**	P	Pg	12 27 37.0	-0.2
BORU	**Boraas**	**0.93**	**216**	P	Pg	12 27 37.4	-0.2
GNOU	**Gnosjoe**	**1.10**	**181**	P	Pn	12 27 51.3	+8.8
TJOU	**Tjoern**	**1.20**	**254**	P	Pg	12 27 42.2	-0.6
VXJU	**Vaexsjoe**	**1.59**	**157**	P	Pn	12 27 44.5	-4.8
MODS	**Modra-Piesok**	**10.24**	**167**	*e*SG	Sn	12 31 42.7	-0.8

*IDC **19** 12:41:29.9±1.5, 10°41S×116°60E, h0km, mb3.9/6, mb1 3.9/9, mb1mx3.6/63, mbtmp3.8/9, ML3.5/3, Error ellipse: s-maj=63.2km s-min=19.1km az=45.0*

*DJA **19** 12:41:30.5±0.8, 11°S×11°E, h10km, M4.2/10, mb4.2/4, mB4.5/1, MLv4.2/10, Mw(mB)3.7/1*

ISC 19 12:41:33.4±0.8, **10°75S**±0.08×**116°76E**±0.06, **h35**km, **n22, σ2°88**/25, **mb4.0**/5, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**2.00**	**4**	P	**Pn**	**12 42 03.7**	**-1.1**
PLAI	**Plampang**	**2.16**	**28**	P	**Pn**	**12 42 07.2**	**+0.2**
DNP	**Denpasar**	**2.56**	**323**	P	**Pn**	**12 42 10.7**	**-1.8**
SRBI	**Singaraja**	**3.06**	**330**	P	**Pn**	**12 42 19.5**	**+0.2**
JAGI	**Jajag, Banyuwa**	**3.43**	**311**	P	**Pn**	**12 42 22.8**	**-1.6**
BASI	**Baing, Sumba**	**3.79**	**82**	P	**Pn**	**12 42 29.7**	**+0.2**
ABJI	**Asem Bagus**	**3.85**	**319**	P	**Pn**	**12 42 28.7**	**-1.5**
EDFI	**Ende, Flores**	**5.25**	**68**	P	**Pn**	**12 42 49.7**	**+0.1**
	0.1nm466nm6.6nm,0.5s						
BSSI	**Bau Bau, Buton**	**5.88**	**39**	P	**Pn**	**12 43 00.1**	**+1.9**
	0.2nm15nm,0.5s						
KAPI	**Kappang**	**6.42**	**28**	Sn	**Sn**	**12 44 13.9**	**-3.9**
	4.1nm,0.3s,baz=92,slow=23,SNR=4.4						
UGM	**Wanagama**	**6.77**	**294**	P	**Pn**	**12 43 10.6**	**+0.2**
	0.3nm55nm,1.4s						
BATI	**Baumata**	**6.81**	**86**	Pn	**Pn**	**12 43 13.7**	**+2.7**
	3.6nm,0.3s,baz=142,slow=3.8,SNR=2.7						
BATI				Sn	**Sn**	**12 44 27.4**	**-0.1**
	9.9nm,0.3s,baz=278,slow=22,SNR=7.7						
BATI	**Baumata**	**6.81**	**86**	P	**Pn**	**12 43 11.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**11.28**	**131**	Pn	**Pn**	**12 44 16.3**	**+4.0**
	0.2nm,0.3s,baz=328,slow=13,SNR=2.3						
FITZ				Sn	**Sn**	**12 46 11.7**	**-5.5**
	0.4nm,0.3s,baz=191,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**19.24**	**120**	P	**Pn**	**12 45 59.0**	**+2.9**
	0.1nm,0.3s,baz=293,slow=13,SNR=4.6						
WRA				S	**Sn**	**12 49 23.2**	**-7.9**
	0.1nm,0.3s,baz=281,slow=24,SNR=2.2						
ASAR	**Alice Springs**	**20.78**	**130**	P	Pn	12 46 17.1	+2.8
	0.9nm,0.7s,baz=300,slow=10,SNR=19						
ASAR				S	**S**	**12 49 59.5**	**-2.4**
	0.4nm,0.8s,baz=303,slow=23,SNR=4.4						
HNR	**Honiara**	**42.52**	**92**	P	**P**	**12 49 30.5**	**+4.6**
SONM	**Songino Array**	**59.05**	**352**	P	**P**	**12 51 29.4**	**-0.6**
	0.5nm,0.5s,baz=170,slow=9.0,SNR=4.4						
MKAR	**Makanchi Array**	**65.04**	**335**	P	**P**	**12 52 09.7**	**-0.5**
	0.5nm,0.5s,baz=148,slow=7.3,SNR=8.8						
ZALV	**Zalesovo Beam**	**69.91**	**341**	P	**P**	**12 52 39.5**	**-1.3**
	1.6nm,0.5s,baz=153,slow=5.2,SNR=7.0						
SEY	**Seymchan**	**78.43**	**16**	P	**P**	**12 53 30.7**	**+0.5**
	0.9nm,0.6s,baz=250,slow=24,SNR=9.7						
AKTO	**Aktyubinsk**	**79.42**	**326**	P	**P**	**12 53 36.7**	**+0.7**
	1.8nm,0.5s,baz=93,slow=8.2,SNR=9.7						

*MAN **19** 12:47:08.3, 8°42N×126°25E, h116km, mb4.7, ML3.6, MS3.5*

*IDC **19** 12:47:21.8±10.0, 7°98N×126°45E, h187km±99km, mb3.4/6, mb1 3.5/6, mb1mx3.0/70, mbtmp3.9/6, Error ellipse: s-maj=87.0km s-min=25.8km az=96.0*

ISC 19 12:47:09.6±0.9, **8°44N**±0.04×**126°32E**±0.08, **h103**km±9km, **n22, σ1°62/25, mb3.9/6, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.86**	**307**	*e*P	**Pn**	**12 47 29.1**	**+0.3**
BUTP				*e*S	**Sn**	**12 47 45.0**	**+1.6**
GLSP	**General Luna,**	**1.34**	**352**	*e*P	**Pn**	**12 47 33.5**	**-0.7**
GLSP				*e*S	**Sn**	**12 47 50.9**	**-1.9**
BUKP	**Musuan**	**1.36**	**246**	*e*P	**Pn**	**12 47 34.2**	**-0.1**
BUKP				*e*S	**Sn**	**12 47 50.5**	**-2.7**
MATI	**Mati**	**1.49**	**182**	*e*P	**Pn**	**12 47 36.3**	**+0.4**
MATI				*e*S	**Sn**	**12 47 57.1**	**+1.3**
CGP	**Cagayan de Oro**	**1.60**	**271°**	*e*P	**Pn**	**12 47 37.3**	**0.0**
CGP				*i* S	**Sn**	**12 47 58.0**	**-0.3**
KCP	**Kidapawan**	**1.87**	**221°**	*e*P	**Pn**	**12 47 42.5**	**+1.8**
KCP				*i* S	**Sn**	**12 48 05.6**	**+1.1**
MSLP	**Maasin**	**2.21**	**320**	*e*P	**Pn**	**12 47 45.1**	**+0.1**
MSLP				*e*S	**Sn**	**12 48 11.7**	**-0.5**
DDMP	**Don Marcelino,**	**2.40**	**195**	*e*P	**Pn**	**12 47 46.0**	**-1.5**
DDMP				*e*S	**Sn**	**12 48 11.3**	**-5.3**
PAGZ	**Pagadian**	**2.96**	**259**	*e*P	**Pn**	**12 47 54.3**	**-0.6**
LLP	**Lapu-Lapu**	**2.97**	**309**	*e*P	**Pn**	**12 47 53.6**	**-1.5**
LLP				*i* S	**Sn**	**12 48 30.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**26.38**	**181**	P	**P**	**12 52 37.2**	**+0.8**
	0.6nm,0.5s,baz=353,slow=8.1,SNR=1.5						
WRA	**Warramunga Arr**	**29.29**	**164**	P	**P**	**12 53 01.9**	**-0.4**
	0.4nm,0.6s,baz=350,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**32.76**	**167**	P	**P**	**12 53 32.9**	**0.0**
	0.4nm,0.3s,baz=352,slow=7.2,SNR=28						
ASAR				PcP	**PcP**	**12 56 16.4**	**+0.4**
	0.6nm,0.6s,baz=339,slow=2.5,SNR=12						
CTA	**Charters Tower**	**34.48**	**146**	P	**P**	**12 53 48.4**	**+0.5**
	2.3nm,0.7s,baz=330,slow=8.1,SNR=1.8						
H11S3	**WAKE ISLAND Hy**	**40.42**	**71**	T	T	13 37 52.4	
	baz=262,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**40.44**	**71**	T	T	13 37 50.1	
	baz=262,slow=75,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**40.44**	**71**	T	T	13 37 51.3	
	baz=262,slow=75,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**40.81**	**70**	T	T	13 38 37.0	
	baz=270,slow=75						
H11N2	**WAKE ISLAND Hy**	**40.82**	**70**	T	T	13 38 41.8	
	baz=270						
H11N3	**WAKE ISLAND Hy**	**40.83**	**70**	T	T	13 38 42.5	
	baz=270,slow=75						
STKA	**Stephens Creek**	**42.67**	**161**	P	**P**	**12 54 56.6**	**+0.5**
	1.5nm,0.3s,baz=340,slow=9.1,SNR=8.5						
PETK	**Petropavlovsk-**	**51.28**	**24**	P	P	12 56 09.2	+6.3
	3.4nm,0.9s,baz=237,slow=9.5,SNR=1.6						

IDC 19 12:54:27.6±7.3, **16°91S**×**177°70W, h0**km, **mb3.6**/3, **mb1 3.9**/3, **mb1mx3.5**/37, **mbtmp3.6**/3, **MS3.6**/1, **Ms1 3.6**/1, **ms1mx2.6**/25, **Error ellipse: s-maj=323.2km s-min=37.1km az=142.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.49**	**258**	P	P	13 02 49.0	-0.1
	0.2nm,0.4s,baz=94,slow=7.1,SNR=15						
ASAR	**Alice Springs**	**45.72**	**253**	P	P	13 02 50.8	-0.1
	0.8nm,0.6s,baz=88,slow=9.1,SNR=16						
FITZ	**Fitzroy Crossi**	**53.87**	**260**	LR	LR	13 24 24.9	
	comp=Z,56nm,19.5s,baz=210,slow=33						
ILAR	**Eielson Array**	**84.77**	**13**	P	P	13 07 03.4	0.0
	0.6nm,1.0s,baz=222,slow=5.3,SNR=4.9						

*NEIC **19** 13:00:15.6±2.8, 6°92S×0°03×125°7E±0°1, h526km±8km, mb4.4/33, Error ellipse: s-maj=17.3km s-min=4.3km az=81.0*

*DJA **19** 13:00:16.8±0.2, 7°S×3°×12°6E±°, h517km±3km, M4.2/25, mb4.4/25, mB4.7/13, MLv4.6/17, Mw(mB)3.9/13, MwMwp5.7/1, Mwp5.8/1*

*IDC **19** 13:00:16.8±0.7, 6°92S×125°69E, h526km±8km, mb3.4/15, mb1 3.6/21, mb1mx3.4/38, mbtmp4.4/21, Error ellipse: s-maj=14.5km s-min=7.3km az=66.0*

ISC 19 13:00:15.1±0.4, **6°92S**±0.05×**125°74E**±0.06, **h511**km, **n105, σ1°78/114, mb4.2/26, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**3.17**	**207**		**P**	**13 01 31.0**	**+2.7**
SOEI	**Soe**	**3.17**	**207**	P	**P**	**13 01 30.9**	**+2.7**
SOEI				S	**S**	**13 02 28.0**	**+0.2**
BATI	**Baumata**	**3.85**	**212**	P	**P**	**13 01 36.1**	**+2.9**
	95nm,0.3s,baz=64,slow=0.9,SNR=48						
BATI				S	**S**	**13 02 39.3**	**+2.6**
	41nm,0.3s,baz=99,slow=22,SNR=12						
BATI	**Baumata**	**3.85**	**212**	P	**P**	**13 01 35.9**	**+2.7**
BATI				S	**S**	**13 02 38.3**	**+1.6**
MMRI	**Maumere**	**3.86**	**244**		**P**	**13 01 34.5**	**+1.2**
MMRI	**Maumere**	**3.86**	**244**	P	**P**	**13 01 34.6**	**+1.4**
MMRI				S	**S**	**13 02 36.0**	**-0.8**
NLAI	**Namlea**	**3.91**	**20**	P	**P**	**13 01 36.6**	**+3.0**
EDFI	**Ende, Flores**	**4.40**	**245**	P	**P**	**13 01 38.2**	**+0.5**
BNDI	**Bandanaira**	**4.79**	**60**	P	**P**	**13 01 43.7**	**+2.8**
SANI	**Sanana**	**4.85**	**3**	P	**P**	**13 01 43.6**	**+2.1**
BSSI	**Bau Bau, Buton**	**5.27**	**278**	P	**P**	**13 01 48.6**	**+3.4**
	0.5nm1µm127nm,0.8s						
SAUI	**Saumlaki**	**5.62**	**101**	P	**P**	**13 01 50.5**	**+2.1**
SAUI	**Saumlaki**	**5.62**	**101**	P	**P**	**13 01 51.1**	**+2.7**
	0.7nm214nm,1.0s						
BKSI	**Bulukumba**	**5.80**	**286**	P	**P**	**13 01 53.0**	**+2.9**
	0.3nm733nm77nm,0.8s						
BASI	**Baing, Sumba**	**6.06**	**237**	P	**P**	**13 01 54.4**	**+1.8**
BNSI	**Bone**	**6.14**	**294**	P	**P**	**13 01 55.9**	**+2.6**
	0.2nm505nm58nm,0.9s						
KAPI	**Kappang**	**6.25**	**287**	P	**P**	**13 01 58.1**	**+3.8**
	4.6nm,0.3s,baz=125,slow=6.0,SNR=32						
KAPI				S	**S**	**13 03 18.0**	**+2.6**
	baz=13,slow=23,SNR=0.7						
KAPI	**Kappang**	**6.25**	**287**		**P**	**13 01 58.0**	**+3.6**
LUWI	**Luwuk**	**6.55**	**333**	P	**P**	**13 02 01.0**	**+3.7**
	0.3nm39nm,0.7s						

SPSI	**Sidrap Palu**	**6.63**	**296**	P		**P**	**13 02 01.0**	**+2.9**
	0.1nm876nm22nm,1.1s							
TTSI	**Tana Toraja**	**7.04**	**303**	P		P	13 02 12.5	+10
FAKI	**Fak Fak**	**7.61**	**59**	P		**P**	**13 02 08.7**	**+0.7**
FAKI	**Fak Fak**	**7.61**	**59**	P		**P**	**13 02 09.3**	**+1.4**
	2.7nm7µm613nm,0.7s							
KMSI	**Cibinong**	**7.65**	**347**	P		P	13 02 16.0	+7.7
TNTI	**Ternate**	**7.82**	**12**	P		**P**	**13 02 09.2**	**-0.8**
MTN	**Manton Dam**	**7.93**	**138**	P		**P**	**13 02 13.0**	**+1.9**
GTOI	**Gorontalo**	**7.99**	**340**	P		**P**	**13 02 15.8**	**+4.0**
	16nm,1.1s							
PLAI	**Plampang**	**8.11**	**256**	P		**P**	**13 02 12.8**	**-0.2**
	574nm35nm,0.6s							
SIJI	**Sorong**	**8.16**	**43**	P		**P**	**13 02 15.7**	**+2.2**
	35nm,0.3s,baz=213,slow=9.7,SNR=66							
SIJI				S		**S**	**13 03 50.1**	**-0.5**
	4.0nm,0.3s,baz=125,slow=18,SNR=4.8							
SWI	**Sorong**	**8.16**	**43**	P		P	**13 02 16.0**	**+2.5**
	3µm188nm,0.6s							
TWSI	**Taliwang, Sumb**	**8.96**	**258**	P		**P**	**13 02 20.2**	**-1.5**
	304nm14nm,0.8s							
FITZ	**Fitzroy Crossi**	**11.11**	**180**	P		**P**	**13 02 45.8**	**+1.5**
	1.1nm,0.3s,baz=15,slow=7.8,SNR=33							
FITZ				S		**S**	**13 04 46.4**	**-0.6**
	0.9nm,0.3s,baz=165,slow=15,SNR=15							
BBKI	**Banjar Baru**	**11.38**	**287**	P		**P**	**13 02 50.1**	**+2.8**
	1µm26nm,1.1s							
JAGI	**Jajag, Banyuwa**	**11.58**	**262**	P		**P**	**13 02 48.7**	**-0.7**
JAGI	**Jajag, Banyuwa**	**11.58**	**262**	P		**P**	**13 02 49.9**	**+0.5**
	52nm,0.7s							
BAKI	**Biak**	**11.81**	**62**	P		**P**	**13 02 53.2**	**+1.5**
	153nm,1.1s							
GENI	**Genyem**	**15.01**	**74**	P		**P**	**13 03 27.9**	**+2.5**
	31nm,0.9s							
UGM	**Wanagama**	**15.12**	**265**	P		**P**	**13 03 24.6**	**-2.0**
WB0	**Warramunga Arr**	**15.29**	**147**	P		**P**	**13 03 27.7**	**-0.6**
WRAB	**Tennant Creek**	**15.40**	**148**	P		**P**	**13 03 29.8**	**+0.4**
WRA	**Warramunga Arr**	**15.40**	**148**	P		**P**	**13 03 29.8**	**+0.4**
	1.9nm,0.3s,baz=336,slow=9.6,SNR=170							
WRA				S		**S**	**13 06 06.9**	**-2.7**
	0.1nm,0.3s,baz=331,slow=16,SNR=6.6							
WRA				ScP		**ScP**	**13 10 40.9**	**-3.0**
	0.1nm,0.3s,baz=313,slow=2.3,SNR=6.6							
WRA	**Warramunga Arr**	**15.40**	**148**	P		**P**	**13 03 28.6**	**-0.8**
WB2	**Warramunga Arr**	**15.41**	**148**	P		**P**	**13 03 30.1**	**+0.6**
WR0	**Warramunga Arr**	**15.52**	**147**	P		**P**	**13 03 30.4**	**-0.2**
JAY	**Jayapura**	**15.54**	**74**	P		**P**	**13 03 26.2**	**-4.8**
	0.6nm,0.3s,baz=163,slow=20,SNR=1.7							
PSA00	**Pilbara Seismi**	**15.64**	**201**	P		**P**	**13 03 31.8**	**0.0**
PSA00				IAmb		IAmb	13 03 33.0	
	comp=Z,13nm,0.7s							
PSA00	**Pilbara Seismi**	**15.64**	**201**	P		**P**	**13 03 31.1**	**-0.7**
PSA00				IAmb		IAmb	13 03 32.3	
	comp=Z,6.4nm,0.8s							
STKI	**Sintang**	**15.83**	**295**	P		**P**	**13 03 32.9**	**-1.1**
KSM	**Kuching**	**17.51**	**298**	P		**P**	**13 03 50.1**	**-0.6**
KSM				IAmb		IAmb	13 03 52.6	
	comp=Z,12nm,0.7s							
CISI	**Cisompet, Garu**	**17.79**	**267**	P		**P**	**13 03 52.4**	**-0.8**
CISI	**Cisompet, Garu**	**17.79**	**267**	P		**P**	**13 03 52.6**	**-0.7**
	comp=Z,3µmcomp=Z,116nm,1.0s							
LEM	**Lembang**	**17.99**	**269**	P		**P**	**13 03 54.8**	**-0.5**
	comp=Z,3.4nm,0.3s,baz=326,slow=23,SNR=5.3							
AS31	**Alice Springs**	**18.40**	**156**			**P**	**13 04 00.0**	**+1.3**
ASAR	**Alice Springs**	**18.40**	**156**	P		**P**	**13 04 00.0**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=327,slow=8.0,SNR=106							
ASAR				S		**S**	**13 07 01.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=347,slow=22,SNR=13							
ASAR				PcP		**PcP**	**13 08 02.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=4.7,slow=1.3,SNR=6.1							
ASAR				ScP		**ScP**	**13 10 47.6**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=341,slow=2.0,SNR=39							
ASAR	**Alice Springs**	**18.40**	**156**			**P**	**13 03 59.7**	**+1.0**
TPI	**Tanjungpandan**	**18.48**	**282**	P		**P**	**13 04 00.8**	**+1.3**
COEN	**Coen**	**18.51**	**114**	P		**P**	**13 04 00.1**	**+0.3**
COEN				IAmb		IAmb	13 04 02.4	
	comp=Z,3.0nm,0.6s							
GIRL	**Giralia**	**19.16**	**214**	P		**P**	**13 04 06.9**	**+1.3**
PPBI	**Pangkal Pinang**	**20.10**	**283**	P		**P**	**13 04 15.4**	**+1.1**
	comp=Z,16nm,0.6s							
XMIS	**Christmas Isla**	**20.16**	**258**	P		**P**	**13 04 12.2**	**-2.7**
CTA	**Charters Tower**	**23.82**	**125**	P		**P**	**13 04 48.8**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=20,slow=19,SNR=1.5							
CTAO	**Charters Tower**	**23.82**	**125**	P		**P**	**13 04 49.3**	**+1.6**
CTAO				IAmb		IAmb	13 04 52.9	
	comp=Z,7.8nm,1.1s							
FORT	**Forrest**	**23.83**	**175**	P		**P**	**13 04 48.9**	**+1.3**
FORT				IAmb		IAmb	13 04 49.0	
	comp=Z,15nm,0.9s							
MORW	**Morawa**	**23.85**	**201**	P		**P**	**13 04 45.2**	**-2.7**
MORW

comp=Z,3.9nm,0.4s,baz=288,slow=9.5,SNR=4.6
TEIG Tepich 144.49 65 PKP **PKPab 13 18 54.5 +0.2**
comp=Z,5.5nm,0.9s,baz=45,slow=10.0,SNR=2.4
CPUP Villa Florida 146.81 175 PKPbc **PKPbc 13 19 00.8 +0.3**
comp=Z,4.7nm,0.9s,baz=152,slow=1.0,SNR=6.4
LVC Limon Verde 147.33 154 PKPbc **PKiKP 13 19 03.2 -0.9**
comp=Z,4.8nm,0.7s,baz=76,slow=2.2,SNR=3.8
JTS Las Juntas de 149.48 82 PKPbc **PKPbc 13 19 07.7 +0.1**
comp=Z,3.4nm,0.4s,baz=346,slow=6.0,SNR=4.3
LPAZ La Paz 153.16 149 PKPab **PKPab 13 19 31.4 +0.9**
comp=Z,2.6nm,0.7s,baz=206,slow=3.8,SNR=3.7

NEIC ***19*** *13:11:48.5±2.6, 18°.44S±0°.07×71°.7W±0°.1, h28km±8km, mb4.6/5,ML4.6(ARE),ML4.2(GUC),Error ellipse: s-maj=15.9km s-min=8.0km az=108.0*
IDC ***19*** *13:11:48.4±0.9, 18°.37S×71°.13W, h0km, mb4.1/11, mb1 4.3/14,mb1mx4.1/31, mbtmp4.1/14,ML4.1/2,MS3.4/10, Ms1 3.4/10, ms1mx3.3/22, Error ellipse: s-maj=29.5km s-min=18.3km az=36.0*
ARE ***19*** *13:11:49±4.0, 18°.58S±0°.07×71°.3W±0°.1, h25km±7km, Error ellipse: s-maj=0.0km s-min=0.0km az=199.0*
GUC ***19*** *13:11:53.3±0.8, 18°.57S×71°.28W, h27km±8km, ML4.2*
VAO ***19*** *13:11:54.8±1.2, 18°.49S×71°.36W, h72km±6km, mb4.4*
ISC 19 13:11:52.5±0.5, 18°.48S±0°.05×71°.32W±0°.06, h41km, n123, σ1§53/117, mb4.3/12, MS3.2/5, 5C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.93**	**83**		**Pn**	**13 12 08.3**	**-0.8**
PSGC	**Pisagua**	**1.58**	**135**	⇑*eP*	**Pn**	**13 12 17.4**	**-0.7**
PSGC				*i* S	**Sn**	**13 12 36.5**	**-1.0**
PSGCX	**Pisagua**	**1.58**	**135**		**Pn**	**13 12 17.9**	**-0.3**
PB16	**IPOC Station P**	**1.72**	**85**		**Pn**	**13 12 21.0**	**+0.5**
MNMC	**Minye Minye**	**1.75**	**112**	⇓*eP*	**Pn**	**13 12 21.2**	**+0.5**
MNMC				*i* S	**Sn**	**13 12 43.6**	**+1.6**
MNMC				IAML		13 12 49.6	
	comp=N,7μm,0.5s						
MNMC	**Minye Minye**	**1.75**	**112**		**Pn**	**13 12 21.3**	**+0.6**
TA02	**Huaiquique**	**2.10**	**148**	⇑*eP*	**Pn**	**13 12 25.6**	**+0.4**
TA02				*i* S	**Sn**	**13 12 50.2**	**+0.1**
TA02				IAML		13 12 52.2	
	comp=N,2μm,0.2s						
TA01	**Diego Aracena**	**2.33**	**153**		**Pn**	**13 12 28.7**	**+0.3**
PB08	**IPOC Station P**	**2.63**	**129**	⇑*eP*	**Pn**	**13 12 33.4**	**+0.6**
PB08				*i* S	**Sn**	**13 13 03.4**	**-0.2**
PB08	**IPOC Station P**	**2.63**	**129**		**Pn**	**13 12 34.0**	**+1.2**
PB01	**IPOC Station P**	**3.08**	**146**	⇑*eP*	**Pn**	**13 12 38.6**	**0.0**
PB01				IAML		13 13 17.1	
	comp=E,524nm,0.3s						
PB01	**IPOC Station P**	**3.08**	**146**		**Pn**	**13 12 39.1**	**+0.5**
PB07	**IPOC Station P**	**3.50**	**158**	⇓*eP*	**Pn**	**13 12 44.6**	**0.0**
PB07				*i* S	**Sn**	**13 13 21.1**	**-3.7**
PB07				IAML		13 13 59.1	
	comp=E,364nm,0.5s						
PB07	**IPOC Station P**	**3.50**	**158**		**Pn**	**13 12 44.8**	**+0.2**
LPAZ	**La Paz**	**3.74**	**55**	Pn	**Pn**	**13 12 52.5**	**+4.2**
	comp=E,4.7nm,0.3s,baz=238,slow=7.9,SNR=71						
LPAZ				Sn	**Sn**	**13 13 40.1**	**+8.6**
	comp=E,0.8nm,0.3s,baz=82,slow=15,SNR=1.7						
LPAZ				LR	LR	13 14 29.2	
	comp=E,714nm,18.4s,baz=238,slow=46						
LPAZ	**La Paz**	**3.74**	**55**		**Pn**	**13 12 52.7**	**+4.4**
LPAZ	**La Paz**	**3.74**	**55**	*eP*	**Pn**	**13 12 51.5**	**+3.2**
PB09	**IPOC Station P**	**3.83**	**150**	⇑*eP*	**Pn**	**13 12 50.2**	**+1.1**
PB09				*i* S	**Sn**	**13 13 33.4**	**+0.4**
PB09				IAML		13 13 51.2	
	comp=E,349nm,0.4s						
PB09	**IPOC Station P**	**3.83**	**150**		**Pn**	**13 12 50.5**	**+1.3**
PB04	**IPOC Station P**	**3.99**	**164**		**Pn**	**13 12 50.9**	**-0.3**
PB06	**IPOC Station P**	**4.51**	**159**		**Pn**	**13 12 57.9**	**-0.5**
LVC	**Limon Verde**	**4.69**	**152**	Pn	**Pn**	**13 13 02.4**	**+1.4**
	comp=E,11nm,0.3s,baz=346,slow=8.7,SNR=80						
LVC				Sn	**Sn**	**13 13 54.4**	**+0.1**
	comp=E,9.2nm,0.3s,baz=108,slow=17,SNR=4.7						
LVC	**Limon Verde**	**4.69**	**152**	*eP*	**Pn**	**13 13 02.5**	**+1.5**
PB15	**IPOC Station P**	**5.01**	**160**		**Pn**	**13 13 04.3**	**-1.1**
PB10	**IPOC Station P**	**5.06**	**172**		**Pn**	**13 13 04.5**	**-1.3**
PB14	**IPOC Station P**	**6.17**	**172**		**Pn**	**13 13 19.6**	**-1.9**
GO02	**Mina Guanaco**	**6.84**	**167**		**Pn**	**13 13 29.7**	**-0.9**
NNA	**Nana**	**8.37**	**320**	Pn	**Pn**	13 14 01.8	+10
	comp=E,2.4nm,0.3s,baz=218,slow=18,SNR=2.7						
NNA				Sn	**Sn**	**13 15 20.2**	**-4.5**
	comp=E,2.8nm,0.3s,baz=194,slow=16,SNR=2.1						
NNA				LR	LR	13 17 26.7	
	comp=E,118nm,20.6s,baz=168,slow=40						
AC02	**Maricunga**	**8.56**	**167**		**Pn**	**13 13 54.1**	**-0.2**
AC04	**Llanos de Chal**	**9.68**	**179**	Pn	Pn	13 14 05.1	-4.1
ETMB	**Extrema**	**9.93**	**31**	*eP*	**Pn**	**13 14 16.1**	**+3.4**
SIV	**San Ignacio**	**10.10**	**77**	Pn	**Pn**	**13 14 16.6**	**+1.6**
	comp=E,2.9nm,0.3s,baz=273,slow=10,SNR=32						
SIV				Sn	**Sn**	**13 16 02.3**	**-4.7**
	baz=295,slow=20,SNR=0.8						
SIV				LR	LR	13 18 40.2	
	comp=E,536nm,18.7s,baz=256,slow=42						
VILB	**Vilhena**	**12.03**	**64**	*eP*	**Pn**	**13 14 43.5**	**+2.0**
PTLB	**Pontes e Lacer**	**12.04**	**77**	*eP*	**Pn**	**13 14 43.1**	**+1.5**
SAML	**Samuel**	**12.33**	**41**	Pn	**Pn**	**13 14 45.2**	**-0.4**
ATAH	**Atahualpa**	**13.22**	**328**	Pn	**Pn**	**13 14 57.4**	**-0.6**
	baz=41,slow=19,SNR=2.2						
ATAH				LR	LR	13 20 44.3	
	comp=E,74nm,21.6s,baz=152,slow=40						
AQDB	**Aquidauana**	**14.86**	**100**	*eP*	**Pn**	**13 15 22.4**	**+2.4**
CPUP	**Villa Florida**	**15.10**	**124**	Pn	**Pn**	**13 15 22.6**	**-0.5**
	comp=E,0.2nm,0.3s,baz=278,slow=15,SNR=2.2						
CPUP				LR	LR	13 21 42.7	
	comp=E,129nm,21.2s,baz=254,slow=40						
H03N1	**Juan Fernandez**	**16.38**	**203**	T	T	13 32 43.3	
	baz=234,slow=74,SNR=321						
H03N2	**Juan Fernandez**	**16.39**	**203**	T	T	13 32 52.2	
	baz=27,slow=74,SNR=208						
H03N3	**Juan Fernandez** SNR=145	**16.40**	**203**	T	T	13 33 24.3	
CLDB	**Colider**	**16.80**	**65**	*eP*	**P**	**13 15 46.2**	**-0.4**
MACA	**Manacapuru-AM**	**18.44**	**36**	*eP*	**Pn**	**13 16 04.4**	**-0.8**
PTGB	**Pitanga**	**18.94**	**112**	*eP*	**P**	**13 16 10.7**	**+0.5**
PCMB	**Pacaembu**	**19.10**	**103**	*eP*	**Pn**	**13 16 12.5**	**-0.5**
NPGB	**Novo Progresso**	**19.25**	**56**	*eP*	**P**	**13 16 12.9**	**-0.7**
ITRB	**Iturama**	**19.84**	**97**	*eP*	**P**	**13 16 20.5**	**+0.4**
CPSB	**Cacapava Do Su**	**20.11**	**130**	*eP*	**P**	**13 16 23.6**	**+0.7**
SNDB	**Serra Nova Dou**	**20.36**	**74**	*eP*	**P**	**13 16 24.8**	**-0.9**
ITTB	**Itaituba**	**20.71**	**49**	*eP*	**P**	**13 16 28.4**	**-1.1**
PTGA	**Pitinga**	**20.86**	**34**	P	**P**	**13 16 30.4**	**-0.7**
	comp=E,13nm,0.4s,baz=213,slow=10,SNR=24						
PTGA	**Pitinga**	**20.86**	**34**	P	**P**	**13 16 29.9**	**-1.2**
PTGA				IAmb	IAmb	13 16 31.0	
	comp=Z,16nm,0.7s						
PTGA	**Pitinga**	**20.86**	**34**	*eP*	**P**	**13 16 30.5**	**-0.7**
FRTB	**Fartura**	**20.88**	**107**	*eP*	**P**	**13 16 32.2**	**+0.9**
SOTA	**Rioblanco**	**21.14**	**345**	*eP*	**P**	**13 16 37.4**	**+2.8**
BBAC	**Balboa, Cauca**	**21.19**	**343**	*eP*	**P**	**13 16 36.8**	**+1.9**
PCON	**Cinco Dias**	**21.27**	**346**	*eP*	**P**	**13 16 38.7**	**+2.6**
BB19B	**Bebedouro**	**21.60**	**101**	*eP*	**P**	**13 16 39.2**	**+0.2**
TIJ01	**Guaruva-PR**	**21.78**	**112**	*eP*	**P**	**13 16 40.8**	**-0.2**
IPMB	**Ipameri, GO**	**21.95**	**92**	*eP*	**P**	**13 16 42.2**	**-0.6**
PLCA	**Paso Flores**	**22.19**	**178**	LR	LR	13 24 29.8	
	comp=Z,72nm,18.3s,baz=162,slow=34						
BDFB	**Brasilia**	**22.45**	**86**	P	**P**	**13 16 48.3**	**-0.1**
	comp=Z,6.5nm,0.6s,baz=258,slow=12,SNR=10						
BDFB				LR	LR	13 26 56.0	
	comp=Z,80nm,18.4s,baz=204,slow=41						
BDFB	**Brasilia**	**22.45**	**86**	P	**P**	**13 16 45.0**	**-3.4**
ORTC	**Ortega, Tolima**	**22.58**	**350**	*eP*	**P**	**13 16 50.3**	**+0.7**
YOTC	**Yotoco, Valle**	**22.86**	**347**	*eP*	**P**	**13 16 53.3**	**+0.6**
PEXB	**Peixe**	**23.07**	**77**	*eP*	**P**	**13 16 55.0**	**+0.3**
VAO	**Valinhos**	**23.20**	**105**	*eP*	**P**	**13 16 55.9**	**-0.1**
BOAV	**Boa Vista**	**23.31**	**28**	*eP*	**P**	**13 16 56.4**	**-0.6**
ROSC	**El Rosal**	**23.36**	**352**	LR	LR	13 27 42.5	
	comp=Z,81nm,19.2s,baz=198,slow=41						
MALB	**Monte Alegre**	**23.51**	**47**	*eP*	**P**	**13 16 60.0**	**+1.1**
RREF	**El Recreo**	**23.57**	**350**	*eP*	**P**	**13 17 03.4**	**+3.2**
PLMC	**San Jos del P**	**23.75**	**348**	*eP*	**P**	**13 17 01.5**	**+0.3**
GUY2C	**Guyana, Caldas**	**23.89**	**350**	*eP*	**P**	**13 17 05.2**	**+2.2**
NORC	**Norcasia**	**24.15**	**351**	*eP*	**P**	**13 17 05.4**	**+0.5**
PRPB	**Parauapebas**	**24.27**	**62**	*eP*	**P**	**13 17 06.1**	**0.0**
RUSC	**La Rusia**	**24.28**	**356**	*eP*	**P**	**13 17 06.6**	**0.0**
CBOC	**Ciudad Bolivar**	**24.63**	**349**	*eP*	**P**	**13 17 11.3**	**+1.9**
SMTB	**Santa Maria do**	**24.93**	**71**	*eP*	**P**	**13 17 12.4**	**+0.3**
BSCB	**Bom Sucesso**	**25.10**	**100**	*eP*	**P**	**13 17 13.3**	**-0.3**
JANB	**Januaria**	**26.07**	**87**	*eP*	**P**	**13 17 22.0**	**-0.5**
MCPB	**Macapa, AP**	**26.12**	**49**	*eP*	**P**	**13 17 22.9**	**+0.1**
SDBA	**SAO DESIDERIO**	**26.15**	**80**	*eP*	**P**	**13 17 23.5**	**+0.3**
DIAM	**Diamantina, MG**	**26.23**	**94**	*eP*	**P**	**13 17 24.0**	**0.0**
SDV	**Santo Domingo**	**27.20**	**1**	P	**P**	**13 17 35.1**	**+2.4**
	comp=Z,2.1nm,0.2s,baz=27,slow=18,SNR=1.6						
SJMB	**Sao Joao De Ma**	**28.55**	**95**	*eP*	**P**	**13 17 44.0**	**-0.6**
BSFB	**Barra de Sao F**	**28.86**	**96**	*eP*	**P**	**13 17 47.3**	**-0.1**
NAN01	**Guarapari, ES**	**29.63**	**94**	*eP*	**P**	**13 17 53.8**	**-0.4**
NBPN	**Ponto Novo - B**	**31.01**	**80**	*eP*	**P**	**13 18 05.8**	**-0.7**
NBLA	**Lagarto - SE**	**33.23**	**82**	*eP*	**P**	**13 18 25.4**	**-0.6**
NBPB	**Pedra_Branca-C**	**33.52**	**71**	*eP*	**P**	**13 18 28.6**	**+0.1**
MLPR	**Magueyes Islan**	**36.46**	**7**	P	**P**	**13 18 50.4**	**-3.3**
PDPR	**Patillas Dam,**	**36.64**	**75**	P	**P**	**13 18 51.8**	**-3.4**
RCBR	**Riachuelo**	**36.74**	**75**	P	**P**	**13 18 56.0**	**-0.3**
CBYP	**Canovanas**	**36.91**	**9**	P	**P**	**13 18 54.5**	**-3.1**
CUPR	**Culebra, Puert**	**37.03**	**10**	P	**P**	**13 18 55.1**	**-3.4**
TXAR	**Lajitas Array**	**56.87**	**326**	P	**P**	**13 21 35.4**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=156,slow=8.9,SNR=2.6						
LIC	**Lamto**	**69.79**	**76**	*eP*	**P**	**13 22 57.1**	**-2.0**
	comp=Z,7.2nm,0.6s						
TIC	**Toumodi**	**69.95**	**76**	*eP*	**P**	**13 22 59.8**	**-0.4**
KIC	**Kosan Boka**	**70.10**	**76**	*eP*	**P**	**13 23 00.8**	**-0.3**
	comp=Z,4.4nm,0.6s						
DBIC	**Dimbokro**	**70.11**	**76**	P	**P**	**13 23 01.3**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=248,slow=6.0,SNR=7.0						
DBIC	**Dimbokro**	**70.11**	**76**	P	**P**	**13 22 58.1**	**-3.0**
DBIC				IAmb	IAmb	13 23 05.8	
	comp=Z,5.7nm,0.8s						
PDAR	**Pinedale Array**	**70.38**	**331**	P	**P**	**13 23 04.4**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=133,slow=6.3,SNR=2.8						
NVAR	**Mina Array Bea**	**71.73**	**323**	P	**P**	**13 23 13.1**	**+2.4**
	comp=Z,0.5nm,0.8s,baz=128,slow=8.5,SNR=2.9						
ULM	**Lac du Bonnet**	**71.78**	**344**	P	**P**	**13 23 10.8**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=165,slow=9.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**78.53**	**72**	P	**P**	**13 23 50.1**	**0.0**
	comp=Z,5.5nm,0.8s,baz=255,slow=5.4,SNR=23						
TORD				LR	LR	13 57 32.5	
	comp=Z,75nm,19.0s,baz=215,slow=35						
TORD	**Torodi Ar. Bea**	**78.53**	**72**	P	**P**	**13 23 48.9**	**-1.2**
TORD				IAmb	IAmb	13 23 50.9	
	comp=Z,4.0nm,0.8s						
ESDC	**Sonseca Array**	**85.31**	**46**	P	**P**	**13 24 26.3**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=272,slow=4.5,SNR=3.9						
ESDC				LR	LR	13 58 06.0	
	comp=Z,35nm,22.0s,baz=280,slow=33						
YKA	**Yellowknife Ar**	**87.61**	**341**	P	**P**	**13 24 37.6**	**+1.7**
	comp=Z,2.2nm,0.8s,baz=133,slow=5.3,SNR=38						
H11S2	**WAKE ISLAND Hyd**	**25.19**	**280**	T	T	15 48 26.1	
	baz=100,slow=74,SNR=62						
H11S1	**WAKE ISLAND Hyd**	**25.20**	**280**	T	T	15 48 39.5	
	baz=100,slow=74,SNR=56						
H11N3	**WAKE ISLAND Hyd**	**25.20**	**281**	T	T	15 48 25.4	
	baz=100,slow=75,SNR=36						
H11S3	**WAKE ISLAND Hyd**	**25.21**	**280**	T	T	15 48 23.8	
	baz=100,slow=74,SNR=56						
H11N2	**WAKE ISLAND Hyd**	**25.22**	**281**	T	T	15 48 31.3	
	baz=100,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hyd**	**25.22**	**281**	T	T	15 48 28.5	
	baz=100,slow=75,SNR=16						
ASAR	**Alice Springs**	**131.41**	**211**	PKP	**PKiKP**	**13 31 02.8**	**+0.6**
	comp=Z,0.8nm,1.1s,baz=123,slow=2.8,SNR=2.4						
WRA	**Warramunga Arr**	**134.27**	**215**	PKP	**PKiKP**	**13 31 08.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=141,slow=1.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**140.10**	**22**	PKP	**PKiKP**	**13 31 18.6**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=299,slow=3.1,SNR=4.7						
MKAR	**Makanchi Array**	**144.39**	**32**	PKP	**PKPdf**	**13 31 24.3**	**0.0**
	comp=Z,0.9nm,0.7s,baz=324,slow=4.7,SNR=14						
MKAR	**Makanchi Array**	**144.39**	**32**	PKPdf	**PKPdf**	**13 31 24.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**147.76**	**328**	PKPbc	**PKPab**	**13 31 35.4**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=30,slow=2.7,SNR=7.6						
MJAR	**Matsushiro Arr**	**148.41**	**311**	PKPbc	**PKPab**	**13 31 37.5**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=94,slow=2.5,SNR=4.7						
SONM	**Songino Array**	**150.66**	**3**	PKPbc	**PKiKP**	**13 31 42.5**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=2.9,slow=1.7,SNR=8.6						
CMAR	**Chiang Mai Arr**	**170.76**	**89**	PKPab	**PKPab**	**13 33 17.0**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=270,slow=6.8,SNR=4.8						

IDC ***19*** *14:01:20.7±2.4, 30°.04S×177°.33W, h0km, mb4.2/4, mb1 4.3/6,mb1mx3.9/29,mbtmp4.2/6,ML3.5/2, Error ellipse: s-maj=54.1km s-min=37.7km az=119.0*
ISC 19 14:01:25.3±2.5, 30°.2S±0°.1×177°.2W±0°.4, h35km, n7, σ1§10/9, mb4.1/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.31**	**209**	Pn	**Pn**	**14 03 36.9**	**-0.1**
	0.3nm,0.3s,baz=318,slow=2.8,SNR=1.9						
URZ				Sn	**Sn**	**14 05 20.5**	**0.0**
	1.0nm,0.3s,baz=207,slow=23,SNR=10						
RPZ	**Rata Peaks**	**16.41**	**211**	Pn	**Pn**	**14 05 12.7**	**-0.2**
	0.3nm,0.3s,baz=237,slow=23,SNR=1.2						
CTA	**Charters Tower**	**34.44**	**78**	P	**P**	**14 08 10.3**	**+0.5**
	1.7nm,0.6s,baz=97,slow=9.7,SNR=9.6						
STKA	**Stephens Creek**	**35.19**	**256**	P	**P**	**14 08 17.4**	**+1.3**
	0.8nm,0.4s,baz=91,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**43.80**	**266**	P	**P**	**14 09 26.6**	**-1.5**
	1.7nm,0.6s,baz=105,slow=7.6,SNR=33						
ASAR				PcP	**PcP**	**14 11 15.1**	**+0.8**
	0.2nm,0.7s,baz=122,slow=3.7,SNR=1.7						
WRA	**Warramunga Arr**	**44.77**	**272**	P	**P**	**14 09 34.3**	**-1.5**
	2.0nm,0.6s,baz=110,slow=7.6,SNR=35						
FINES	**FINESS Array B**	**145.18**	**341**	PKPbc	**PKPbc**	**14 20 57.7**	**-0.3**
	5.5nm,0.5s,baz=61,slow=3.8,SNR=41						

IDC ***19*** *14:05:19.1±1.6, 1°.99N×96°.20E, h0km, mb3.6/8, mb1 3.6/10,mb1mx3.5/38,mbtmp3.6/10,ML3.7/2,MS3.5/1, Ms1 3.5/1,ms1mx2.6/36,Error ellipse: s-maj=47.2km s-min=19.5km az=52.0*
DJA ***19*** *14:05:22.9±1.4, 2°.N±7°.9×96°.6E±1°.6, h23km±8km, M4.2/8, mb4.5/2, mB4.6/1, MLv4.1/8, Mw(mB)3.8/1*
ISC 19 14:05:24.3±1.1, 2°.16N±0°.08×96°.4E±0°.1, h28km, n23, σ0§76/17, mb3.6/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.26**	**346**	P	**Pb**	**14 05 30.8**	**-0.2**
TPTI		**1.35**	**36**	P	**Pn**	**14 05 46.4**	**-0.9**
GSI	**Gunungsitoli**	**1.46**	**125**	P	**Pn**	**14 05 48.2**	**-0.6**
TSI	**Tuntungan**	**2.55**	**58**	P	**Pn**	**14 06 04.7**	**+0.9**
PSI	**Prapat**	**2.61**	**76**	Pn	**Pn**	**14 06 05.3**	**+0.5**
	2.4nm,0.3s,baz=180,slow=11,SNR=8.2						
PSI				Sn	**Sn**	**14 06 34.2**	**-1.5**
	3.9nm,0.3s,baz=360,slow=18,SNR=6.0						
LHMI	**Lhok Sumawe**	**3.10**	**10**	P	**Pn**	**14 06 11.2**	**-0.2**
MNSI	**Mandailing Nat**	**3.46**	**113**	P	**Pn**	**14 06 17.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**16.39**	**9**	Pn	**Pn**	**14 09 13.6**	**+1.0**
	0.3nm,0.3s,baz=199,slow=12,SNR=12						
H08S2	**Diego Garcia H** baz=69	**25.75**	**248**	T	T	14 37 34.6	
H08S3	**Diego Garcia H** baz=69	**25.75**	**248**	T	T	14 37 25.2	
H08S1	**Diego Garcia H** baz=69	**25.77**	**248**	T	T	14 37 25.9	
H01W3	**Cape Leeuwin H** baz=332	**40.43**	**157**	T	T	14 55 52.2	
H01W2	**Cape Leeuwin H** baz=332	**40.45**	**157**	T	T	14 55 53.0	
H01W1	**Cape Leeuwin H** baz=332	**40.45**	**157**	T	T	14 55 50.9	
WRA	**Warramunga Arr**	**43.23**	**122**	P	**P**	**14 13 22.7**	**-0.7**
	0.4nm,0.9s,baz=302,slow=9.1,SNR=6.2						
ASAR	**Alice Springs**	**44.62**	**127**	P	**P**	**14 13 34.3**	**-0.3**
	0.3nm,0.8s,baz=301,slow=8.4,SNR=4.8						
KSRS	**Korea Array**	**45.54**	**36**	P	**P**	**14 13 42.3**	**+0.7**
	0.3nm,0.5s,baz=232,slow=9.2,SNR=1.8						
MKAR	**Makanchi Array**	**46.13**	**347**	P	**P**	**14 13 46.3**	**+0.1**
	2.5nm,0.9s,baz=157,slow=7.9,SNR=21						
SONM	**Songino Array**	**46.32**	**9**	P	**P**	**14 13 48.4**	**+0.6**
	0.1nm,0.4s,baz=187,slow=10,SNR=2.0						
KURBB	**Kurchatov Arra**	**50.60**	**345**	P	**P**	**14 14 20.4**	**-0.2**
	0.7nm,0.8s,baz=170,slow=6.4,SNR=7.6						
ZALV	**Zalesovo Beam**	**52.49**	**351**	P	**P**	**14 14 34.7**	**0.0**
	1.9nm,0.6s,baz=183,slow=5.9,SNR=12						
BVAR	**Borovoye Array**	**55.09**	**341**	P	**P**	**14 14 53.2**	**-0.5**
	0.7nm,0.9s,baz=140,slow=9.7,SNR=4.0						
KMBO	**Kilima Mbogo**	**59.22**	**267**	LR	LR	14 36 33.8	
	comp=Z,39nm,19.2s,baz=92,slow=32						

IDC ***19*** *14:06:26.0±1.2, 2°.15N×96°.30E, h0km, mb4.0/10, mb1 4.0/12,mb1mx3.8/37,mbtmp3.9/12,ML3.8/2,MS3.5/1, Ms1 3.7/1,ms1mx2.7/33,Error ellipse: s-maj=39.3km s-min=17.3km az=55.0*
NEIC ***19*** *14:06:29.3±1.1, 2°.09N±0°.08×96°.3E±0°.1, h29km±9km, mb4.3/9,Error ellipse: s-maj=20.0km s-min=2.6km az=55.0.*
ISC 19 14:06:29.8±0.9, 2°.11N±0°.09×96°.4E±0°.1, h28km, n36, σ0§77/33, mb4.0/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.46**	**123**	Pn	**Pn**	**14 06 54.0**	**-0.3**
RPSI	**Rantau Prapat**	**2.64**	**77**	Pn	**Pn**	**14 07 11.3**	**+0.8**
PSI	**Prapat**	**2.66**	**75**	Pn	**Pn**	**14 07 10.7**	**-0.3**
	3.3nm,0.3s,baz=180,slow=19,SNR=3.8						
PSI				Sn	Sn	14 07 31.4	-11
	7.4nm,0.3s,baz=181,slow=3.8,SNR=3.7						
IPM	**Ipoh**	**5.23**	**63**	Pn	**Pn**	**14 07 46.5**	**+0.3**
KULM	**Kulim**	**5.33**	**54**	Pn	**Pn**	**14 07 47.7**	**+0.2**
MYKOM	**Kota Tinggi**	**7.50**	**92**	Pn	**Pn**	**14 08 18.2**	**+0.8**
MNAI	**Manna**	**9.21**	**134**	Pn	**Pn**	**14 08 41.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**16.45**	**9**	Pn	**Pn**	**14 10 19.1**	**+0.4**
	0.3nm,0.3s,baz=196,slow=12,SNR=6.8						
CMAR				LR	LR	14 16 27.9	
	comp=Z,138nm,18.4s,baz=229,slow=37						
TOLI2	**Tolitoli**	**24.44**	**92**	P	**P**	**14 11 46.6**	**+0.1**
H08S2	**Diego Garcia H** baz=69,slow=76	**25.70**	**248**	T	T	14 38 28.9	
H08S3	**Diego Garcia H** baz=69,slow=76	**25.70**	**248**	T	T	14 38 28.9	
H08S1	**Diego Garcia H** baz=69,slow=76	**25.71**	**248**	T	T	14 38 29.3	
XAN	**Xi'an**	**33.87**	**19**	P	**P**	**14 13 08.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**35.15**	**126**	P	**P**	**14 13 19.9**	**-1.4**
H01W3	**Cape Leeuwin H** baz=333,slow=76,SNR=8.7	**40.40**	**157**	T	T	14 57 00.6	
H01W2	**Cape Leeuwin H** baz=333,slow=76,SNR=15	**40.42**	**157**	T	T	14 57 02.5	
H01W1	**Cape Leeuwin H** baz=333,slow=76,SNR=12	**40.42**	**157**	T	T	14 57 04.3	
WB0	**Warramunga Arr**	**43.20**	**122**	P	**P**	**14 14 28.0**	**-0.7**
WB0				IAmb	IAmb	14 14 44.5	
	comp=Z,2.2nm,0.7s						
WRA	**Warramunga Arr**	**43.23**	**122**	P	**P**	**14 14 29.7**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=302,slow=9.0,SNR=6.3						
WRA				PcP	**PcP**	**14 16 19.5**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=311,slow=2.8,SNR=1.8						
WB2	**Warramunga Arr**	**43.24**	**122**	P	**P**	**14 14 29.0**	**-0.1**
WB2				IAmb	IAmb	14 14 42.5	
	comp=Z,3.2nm,0.9s						
ASAR	**Alice Springs**	**44.62**	**127**	P	**P**	**14 14 41.0**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=300,slow=8.2,SNR=12						
ASAR				PcP	**PP**	**14 16 23.5**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=318,slow=5.1,SNR=1.6						
ASAR	**Alice Springs**	**44.62**	**127**	P	**P**	**14 14 40.1**	**0.0**
AS31	**Alice Springs**	**44.62**	**127**	P	**P**	**14 14 40.3**	**+0.2**
KSRS	**Korea Array**	**45.60**	**36**	P

KPKS				*e*S		**Sb**	**14 28 36.2**	**+0.5**
	5.9nm,0.4s							
MK31	**Makanchi Array**	**4.82**	**350**	Pg		**Pb**	**14 28 05.2**	**-0.7**
	0.2nm,0.3s,baz=167,slow=16,SNR=3.9							
MK31				⇑Lg		Lg	14 29 06.2	
	2.2nm,0.8s,baz=163,slow=27,SNR=5.0							
MAKZ	**Makanchi**	**4.88**	**347**	⇓Pg		**Pb**	**14 28 06.1**	**-0.8**
	0.7nm,0.7s							
MAKZ				⇑Lg		Lg	14 29 07.4	
	1.0nm,0.8s							

IDC ***19*** *14:31:51.5±0.9,39.°74N×69.°28E,h0km,mb3.5/8, mb1 3.6/15,mb1mx3.5/41,mbtmp3.5/15,ML3.2/7,MS2.6/1, Ms1 2.6/1,ms1mx2.1/34,Error ellipse: s-maj=18.3km s-min=10.9km az=156.0*

ISU ***19*** *14:31:52,39.°90N×69.°10E,h10km*

KRNET ***19*** *14:31:52.3±0.1,40.°00N×69.°09E,mb4.0*

SOME ***19*** *14:31:54.5,40.°07N×69.°25E,h0km*

NNC ***19*** *14:31:54.4±1.6,40.°06N×69.°11E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=12.7km s-min=11.2km az=46.0*

ISC 19 14:31:56.0±1.4,39.°91N±0.°05×68.°97E±0.°03,h25km±11km, n60,σ1°93/84,mb3.5/7,22C-16D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZI	**Dzhizak**	**0.91**	**284**	P			**Pb**	**14 32 12.0**	**-1.0**
DZI				S			**Sn**	**14 32 26.0**	**+0.6**
BTK	**Batken**	**1.43**	**83**	⇓*i*P			**Pn**	**14 32 17.5**	**-2.9**
	baz=87								
BTK				⇓*i*S			**Sn**	**14 32 36.5**	**-2.0**
	baz=87								
BTK	**Batken**	**1.43**	**83**	*e*P			**Pn**	**14 32 16.0**	**-4.4**
BTK				*e*S			**Sn**	**14 32 35.0**	**-3.5**
TAS	**Tashkent**	**1.44**	**10**	P			**Pb**	**14 32 21.0**	**-1.2**
TAS				S			**Sb**	**14 32 39.0**	**-1.1**
CHMG	**Chimgan**	**1.82**	**25**	P			**Pn**	**14 32 26.0**	**+0.1**
CHMG				S			**Sn**	**14 32 48.0**	**-0.3**
CHRV	**Charvak**	**1.89**	**23**	P			**Pn**	**14 32 25.0**	**-1.7**
CHRV				S			**Sn**	**14 32 50.0**	**+0.2**
DRK	**Karamyk**	**2.23**	**100**	⇑*i*P			**Pn**	**14 32 32.0**	**+0.4**
	baz=3.0								
DRK				⇑*i*S			**Sb**	**14 33 00.8**	**-2.2**
	baz=3.0								
TRKS	**Terek-Say**	**2.32**	**45**	⇓*i*P			**Pn**	**14 32 32.2**	**-0.5**
	baz=47								
TRKS				⇓*i*S			**Sn**	**14 33 00.7**	**+0.2**
	baz=47								
IUG	**Iuzhnay**	**2.38**	**19**	*e*P			**Pb**	**14 32 35.4**	**-2.9**
	135nm,0.7s								
IUG				*e*S			**Sb**	**14 33 05.4**	**-1.8**
	606nm,0.5s								
IUG	**Iuzhnay**	**2.38**	**19**	Pg			**Pb**	**14 32 35.4**	**-2.9**
	135nm,0.7s								
IUG				Lg			Lg	14 33 05.4	
	606nm,0.5s								
NUT	**Nurota**	**2.60**	**286**	P			**Pn**	**14 32 39.0**	**+2.6**
NUT				S			Sb	14 33 24.0	+11
OHH	**Osh**	**2.99**	**77**	⇑*e*P			**Pn**	**14 32 42.3**	**+0.5**
	baz=78								
OHH				⇑*i*S			**Sn**	**14 33 18.0**	**+1.1**
	baz=78								
BRLS	**Boroldday**	**3.19**	**12**	*e*P			**Pn**	**14 32 44.5**	**-0.1**
	29nm,0.4s								
BRLS				*e*S			**Sn**	**14 33 20.8**	**-1.0**
	263nm,0.3s								
BRLS	**Boroldday**	**3.19**	**12**	Pg			**Pb**	**14 32 44.5**	**-0.1**
	29nm,0.4s								
BRLS				Lg			Lg	14 33 20.8	
	263nm,0.3s								
ARSB	**Arslanbob**	**3.37**	**64**	⇑*i*P			**Pn**	**14 32 47.0**	**-0.1**
	baz=65								
ARSB				⇑*i*S			**Sn**	**14 33 26.2**	**-0.2**
	baz=65								
KK31	**Karatay Array**	**3.40**	**19**	⇑Pn			**Pn**	**14 32 46.4**	**-1.1**
	0.7nm,0.2s								
KK31				⇑Pg			**Pb**	**14 32 53.7**	**-1.9**
	12nm,0.5s,baz=214,slow=17,SNR=12								
KK31				⇓Lg			Lg	14 33 36.5	
	70nm,0.5s,baz=198,slow=28,SNR=13								
DZA	**Taraz**	**3.48**	**30**	*e*P			**Pb**	**14 32 54.8**	**-2.0**
	67nm,0.1s								
DZA				*e*S			**Sb**	**14 33 38.4**	**-0.2**
	174nm,0.2s								
MNAS	**Manas**	**3.71**	**45**	⇓*i*P			**Pn**	**14 32 51.5**	**-0.3**
	baz=45								
MNAS				⇓*i*S			**Sn**	**14 33 34.9**	**+0.1**
	baz=45								
AML	**Almayashu**	**4.21**	**57**	⇑*i*P			**Pn**	**14 32 58.2**	**-0.7**
	baz=57								
AML				⇑*i*S			**Sn**	**14 33 47.3**	**-0.2**
	baz=57								
AML	**Almayashu**	**4.21**	**57**	P			**Pn**	**14 32 58.0**	**-0.9**
	SNR=48								
ARLS	**Aral**	**4.51**	**63**	⇑*i*P			**Pn**	**14 33 02.1**	**-0.7**
	baz=63								
ARLS				⇑*i*S			**Sn**	**14 33 54.2**	**-0.3**
	baz=63								
EKS2	**Erkin-Say**	**4.55**	**51**	⇑*i*P			**Pn**	**14 33 03.5**	**+0.1**
	baz=52								
EKS2				⇑*i*S			**Sn**	**14 33 55.0**	**-0.5**
	baz=52								
EKS2	**Erkin-Say**	**4.55**	**51**	P			**Pn**	**14 33 03.5**	**+0.1**
	SNR=13								
UCH	**Uchtor**	**4.79**	**59**	⇑*e*P			**Pn**	**14 33 06.2**	**-0.8**
	baz=60								
UCH				⇑*i*S			**Sn**	**14 34 01.3**	**-0.6**
	baz=60								
UCH	**Uchtor**	**4.79**	**59**	P			**Pn**	**14 33 05.8**	**-1.1**
	SNR=38								
AAK	**Ala-Archa**	**4.98**	**55**	Pn			**Pn**	**14 33 08.7**	**-0.6**
	2.6nm,0.3s,baz=252,slow=7.3,SNR=35								
AAK				Sn			**Sn**	**14 34 05.3**	**-0.9**
	2.3nm,0.3s,baz=284,slow=15,SNR=1.7								
AAK				Lg			Lg	14 34 23.6	
	1.5nm,0.3s,baz=19,slow=21,SNR=1.5								
AAK	**Ala-Archa**	**4.98**	**55**	P			**Pn**	**14 33 08.8**	**-0.5**
	SNR=18								
AAK	**Ala-Archa**	**4.98**	**55**	⇑Pn			**Pn**	**14 33 08.5**	**-0.8**
	7.3nm,0.7s								
AAK				⇓Pg			**Pb**	**14 33 24.2**	**+1.7**
	16nm,0.6s								
AAK				⇑Lg			Lg	14 34 25.9	
	30nm,0.7s								
KBK	**Karagaybulak**	**5.28**	**57**	⇓*i*P			**Pn**	**14 33 13.2**	**-0.2**
	baz=57								
KBK				⇓*i*S			**Sn**	**14 34 12.7**	**-0.8**
	baz=57								
KBK	**Karagaybulak**	**5.28**	**57**	P			**Pn**	**14 33 12.8**	**-0.6**
	SNR=24								
CHMS	**Chumysh**	**5.33**	**53**	P			**Pn**	**14 33 13.8**	**-0.2**
	SNR=8.6								
SGDS	**Sogindy**	**5.53**	**48**	Pg			**Pb**	**14 33 31.5**	**-0.2**
	7.8nm,0.4s								
SGDS				Lg			Lg	14 34 41.1	
	27nm,0.6s								
TKM2	**Tokmak 2**	**5.83**	**57**	P			**Pn**	**14 33 18.8**	**-2.2**
	SNR=13								
TKM2	**Tokmak 2**	**5.83**	**57**	⇑Pn			**Pn**	**14 33 19.1**	**-1.8**
	3.3nm,0.4s								
TKM2				⇑Lg			Lg	14 34 51.6	
	20nm,0.7s								
DGS	**Degeres**	**6.10**	**55**	*e*P			**Pb**	**14 33 42.1**	**+0.6**
	13nm,0.4s								
DGS				*e*S			**Sb**	**14 34 59.8**	**+5.8**
	33nm,0.6s								
DGS	**Degeres**	**6.10**	**55**	Pg			**Pb**	**14 33 42.1**	**+0.6**
	13nm,0.4s								
DGS				Lg			Lg	14 34 59.8	
	33nm,0.6s								
KST	**Kastek**	**6.12**	**57**	*e*P			**Pb**	**14 33 43.1**	**+1.2**
	8.0nm,0.5s								
KST				*e*S			**Sb**	**14 35 01.0**	**+6.3**
	35nm,0.7s								
KST	**Kastek**	**6.12**	**57**	Pg			**Pb**	**14 33 43.1**	**+1.2**
	8.0nm,0.5s								
KST				Lg			Lg	14 35 01.0	
	35nm,0.7s								
BTLS	**Baital**	**6.36**	**35**	*e*P			**Pb**	**14 33 49.6**	**+3.7**
	4.8nm,0.7s								
BTLS				*e*S			Sb	14 35 12.1	+11
	17nm,0.5s								
BTLS	**Baital**	**6.36**	**35**	Pg			**Pb**	**14 33 49.6**	**+3.7**
	4.8nm,0.7s								
BTLS				Lg			Lg	14 35 12.1	
	17nm,0.5s								
MDOK	**Medeo**	**6.88**	**59**	⇓Pn			**Pn**	**14 33 31.6**	**-3.8**
	16nm,0.8s								
MDOK				⇓Lg			Lg	14 35 28.0	
	17nm,0.8s								
PDGK	**Podgornoye**	**8.59**	**63**	⇓Pn			**Pn**	**14 34 00.9**	**+2.0**
	2.5nm,0.8s								
PDGK				⇑Lg			Lg	14 36 18.9	
	18nm,0.9s								
GEYT	**Alibeck**	**8.68**	**260**	Pn			**Pn**	**14 34 02.3**	**+2.3**
	0.8nm,0.3s,baz=48,slow=12,SNR=2.3								
GEYT				Sn			**Sn**	**14 35 36.5**	**-0.6**
	0.8nm,0.3s,baz=286,slow=38,SNR=1.2								
GEYT				LR			LR	14 37 36.9	
	comp=Z,39nm,18.9s,baz=305,slow=39								
AB31	**Akbulak array**	**11.34**	**328**	Pn			**Pn**	**14 34 32.8**	**-3.4**
	0.8nm,0.3s,baz=145,slow=12,SNR=56								
AB31				⇓Sn			Sn	14 36 30.9	-11
	2.6nm,0.6s,baz=155,slow=22,SNR=4.2								
MK31	**Makanchi Array**	**11.89**	**50**	Pn			**Pn**	**14 34 41.8**	**-2.0**
	0.7nm,0.7s,baz=226,slow=14,SNR=5.4								
MK31				⇓Lg			Lg	14 38 03.5	
	4.4nm,0.8s,baz=242,slow=31,SNR=3.7								
MKAR	**Makanchi Array**	**11.89**	**50**	Pn			**Pn**	**14 34 41.6**	**-2.2**
	0.1nm,0.3s,baz=235,slow=14,SNR=5.9								
MKAR				Lg			Lg	14 38 02.8	
	0.1nm,0.3s,baz=243,slow=26,SNR=3.6								
KURBB	**Kurchatov Arra**	**12.65**	**29**	Pn			**Pn**	**14 34 50.9**	**-3.2**
	0.0nm,0.3s,baz=216,slow=13,SNR=4.1								
KURBB				Lg			Lg	14 38 27.7	
	0.1nm,0.3s,baz=218,slow=28,SNR=2.0								
KURBB	**Kurchatov Arra**	**12.65**	**29**	⇑Lg			Lg	14 38 29.1	
	15nm,0.8s								
AKTO	**Aktyubinsk**	**13.04**	**327**	Pn			**Pn**	**14 34 59.7**	**+0.2**
	0.3nm,0.3s,baz=71,slow=4.5,SNR=5.0								
AKTO				Sn			Sn	14 37 13.6	-10
	0.1nm,0.3s,baz=334,slow=24,SNR=1.9								
AKTO				Lg			Lg	14 38 50.0	
	0.1nm,0.3s,baz=59,slow=19,SNR=3.6								
AKTO	**Aktyubinsk**	**13.04**	**327**	⇓Pn			**Pn**	**14 35 01.0**	**+1.4**
	1.8nm,0.8s								
BVAR	**Borovoye Array**	**13.16**	**4**	Pn			**Pn**	**14 35 00.3**	**-0.9**
	0.1nm,0.3s,baz=199,slow=18,SNR=2.1								
BVAR				Lg			Lg	14 38 53.3	
	0.1nm,0.3s,baz=171,slow=36,SNR=2.2								
ZALV	**Zalesovo Beam**	**17.68**	**32**	P			**Pn**	**14 35 57.6**	**-2.6**
	0.3nm,0.3s,baz=234,slow=10.0,SNR=5.6								
KBZ	**Khabaz**	**19.77**	**290**	P			**P**	**14 36 24.4**	**+0.3**
	1.4nm,0.8s,baz=128,slow=8.8,SNR=2.7								
SONM	**Songino Array**	**27.90**	**61**	P			**P**	**14 37 42.5**	**-1.5**
	0.2nm,0.5s,baz=262,slow=9.6,SNR=2.6								
AKASG	**Malin Array Be**	**29.63**	**305**	P			**P**	**14 38 01.7**	**+2.6**
	0.4nm,0.4s,baz=228,slow=26,SNR=1.6								
GERES	**GERESS Array B**	**39.71**	**302**	P			**P**	**14 39 27.4**	**+1.1**
	0.3nm,0.6s,baz=80,slow=8.4,SNR=2.0								
TORD	**Torodi Ar. Bea**	**64.28**	**266**	P			**P**	**14 42 29.7**	**+0.3**
	1.1nm,0.8s,baz=39,slow=7.2,SNR=4.9								
YKA	**Yellowknife Ar**	**77.91**	**2**	P			**P**	**14 43 50.5**	**-0.7**
	0.4nm,0.8s,baz=354,slow=5.6,SNR=5.9								
WRA	**Warramunga Arr**	**85.13**	**121**	P			**P**	**14 44 28.6**	**-1.4**
	0.2nm,0.6s,baz=306,slow=5.8,SNR=7.0								
ASAR	**Alice Springs**	**87.50**	**124**	P			**P**	**14 44 40.1**	**-1.4**
	0.3nm,0.7s,baz=316,slow=4.4,SNR=7.5								

SOME ***19*** *14:43:42.6,41.°77N×84.°00E,h10km*

IDC ***19*** *14:43:43.1±0.9,41.°91N×84.°02E,h0km,mb3.6/8, mb1 3.6/15,mb1mx3.5/64,mbtmp3.5/15,ML3.1/6,Error ellipse: s-maj=21.1km s-min=12.9km az=58.0*

NNC ***19*** *14:43:46.3±1.0,41.°90N×83.°85E,h0km,mb4.2,mpv3.8, Error ellipse: s-maj=8.8km s-min=5.7km az=166.0*

ISC 19 14:43:43.7±0.9,41.°71N±0.°07×84.°28E±0.°05,h10km,n55, σ2s32/73,mb3.5/8,14C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.38**	**302**	*e*P			**Pb**	**14 44 41.4**	**-2.4**
	19nm,0.4s								
KTMS				*e*S			**Sb**	**14 45 23.3**	**-1.7**
	128nm,0.6s								
KTMS	**Ketmen**	**3.38**	**302**	Pg			**Pb**	**14 44 41.4**	**-2.4**
	19nm,0.4s								
KTMS				Lg			Lg	14 45 23.3	
	128nm,0.6s								
SHLS	**Shalkode**	**3.85**	**294**	*e*P			**Pn**	**14 44 44.5**	**+1.4**
	38nm,0.5s								
SHLS				*e*S			**Sn**	**14 45 28.5**	**+0.1**
	156nm,0.8s								
SHLS	**Shalkode**	**3.85**	**294**	Pg			**Pn**	**14 44 44.5**	**+1.4**
	38nm,0.5s								
SHLS				Lg			Lg	14 45 28.5	
	156nm,0.8s								
PDGK	**Podgornoye**	**3.89**	**296**	Pg			**Pb**	**14 44 49.5**	**-3.0**
	3.6nm,0.3s								
PDGK				Lg			Lg	14 45 36.9	
	54nm,0.5s								
PDGK	**Podgornoye**	**3.89**	**296**	⇓Pn			**Pn**	**14 44 42.8**	**-0.9**
	14nm,0.5s								
PDGK				⇑Lg			Lg	14 45 33.9	
	85nm,0.6s								
DJR	**Jarkent**	**4.21**	**310**	*e*P			**Pb**	**14 44 57.2**	**-0.6**
	22nm,0.4s								
DJR				*e*S			**Sb**	**14 45 50.5**	**+1.7**
	25nm,0.5s								
DJR	**Jarkent**	**4.21**	**310**	Pg			**Pb**	**14 44 57.2**	**-0.6**
	22nm,0.4s								
DJR				Lg			Lg	14 45 50.5	
	25nm,0.5s								
KPKS	**Kokpek**	**4.49**	**295**	*e*P			**Pb**	**14 45 01.9**	**-0.7**
	43nm,0.4s								
KPKS				*e*S			**Sb**	**14 45 58.4**	**+1.6**
	78nm,0.5s								
SATY	**Saty**	**4.55**	**289**	*e*P			**Pb**	**14 45 02.5**	**-1.3**
	13nm,0.8s								
SATY				*e*S			**Sb**	**14 45 59.4**	**+0.6**
	80nm,0.6s								
SATY	**Saty**	**4.55**	**289**	Pg			**Pb**	**14 45 02.5**	**-1.3**
	13nm,0.8s								
SATY				Lg			Lg	14 45 59.4	
	80nm,0.6s								
KURS	**Kuram**	**4.85**	**294**	*e*P			**Pb**	**14 45 07.5**	**-1.3**
	9.6nm,0.5s								
KURS				*e*S			**Sb**	**14 46 07.4**	**+0.3**
	35nm,1.1s								
KURS	**Kuram**	**4.85**	**294**	Pg			**Pb**	**14 45 07.5**	**-1.3**
	9.6nm,0.5s								
KURS				Lg			Lg	14 46 07.4	
	35nm,1.1s								
KAPS	**Kapalarasan**	**5.06**	**317**	*e*P			**Pb**	**14 45 11.9**	**-0.4**
	11nm,0.5s								
KAPS				*e*S			**Sb**	**14 46 15.6**	**+2.4**
	14nm,0.7s								
KAPS	**Kapalarasan**	**5.06**	**317**	Pg			**Pb**	**14 45 11.9**	**-0.4**
	11nm,0.5s								
KAPS				Lg			Lg	14 46 15.6	
	14nm,0.7s								
MK31	**Makanchi Array**	**5.28**	**345**	⇑Pn			**Pn**	**14 45 02.1**	**-0.6**
	0.6nm,0.4s,baz=175,slow=14,SNR=66								
MK31				⇑Pg			**Pb**	**14 45 18.0**	**+1.9**
	5.6nm,0.5s,baz=168,slow=17,SNR=33								
MK31				⇑Lg			Lg	14 46 24.2	
	28nm,0.7s,baz=164,slow=28,SNR=5.2								
MKAR	**Makanchi Array**	**5.28**	**345**	Pn			**Pn**	**14 45 02.2**	**-0.5**
	0.3nm,0.3s,baz=178,slow=14,SNR=9.5								
MKAR				Pg			**Pb**	**14 45 16.0**	**-0.1**
	1.3nm,0.3s,baz=166,slow=16,SNR=14								
MKAR				Sn			**Sn**	**14 46 01.8**	**-1.8**
	2.0nm,0.3s,baz=173,slow=28,SNR=4.1								
MKAR				Lg			Lg	14 46 22.3	
	3.9nm,0.3s,baz=179,slow=28,SNR=5.5								
ARXS	**Arharly**	**5.36**	**300**	*e*P			**Pb**	**14 45 18.1**	**+0.7**
	9.8nm,0.5s								
ARXS				*e*S			**Sb**	**14 46 25.9**	**+4.1**
	21nm,0.4s								
ARXS	**Arharly**	**5.36**	**300**	Pg			**Pb**	**14 45 18.1**	**+0.7**
	9.8nm,0.5s								
ARXS				Lg			Lg	14 46 25.8	
	21nm,0.4s								
MAKZ	**Makanchi**	**5.36**	**343**	⇑Pn			**Pn**	**14 45 03.4**	**-0.4**
	0.9nm,0.4s								
MAKZ				⇑Pg			**Pb**	**14 45 19.9**	**+2.5**
	13nm,0.8s								
MAKZ				⇑Lg			Lg	14 46 26.8	
	18nm,0.7s								
TDK	**Taldyqorghan**	**5.40**	**310**	*e*P			**Pb**	**14 45 21.1**	**+3.0**
	17nm,0.1s								
TDK				*e*S			**Sb**	**14 46 31.3**	**+8.3**
	107nm,1.4s								
TDK	**Taldyqorghan**	**5.40**	**310**	Pg			**Pb**	**14 45 21.1**	**+3.0**
	17nm,0.1s								
TDK				Lg			Lg	14 46 31.3	
	107nm,1.4s								
KOTS	**Kotyrbulak**	**5.52**	**288**	*e*P			**Pb**	**14 45 19.7**	**-0.5**
	14nm,0.5s								
KOTS				*e*S			**Sb**	**14 46 28.7**	**+2.3**
	22nm,0.4s								
KOTS	**Kotyrbulak**	**5.52**	**288**	Pg			**Pb**	**14 45 19.7**	**-0.5**
	14nm,0.5s								
KOTS				Lg			Lg	14 46 28.7	
	22nm,0.4s								
MDOK	**Medeo**	**5.54**	**288**	*e*P			**Pb**	**14 45 21.8**	**+1.1**
	5.1nm,0.5s								
MDOK				*e*S			**Sb**	**14 46 32.2**	**+4.9**
	19nm,0.6s								
MDOK	**Medeo**	**5.54**	**288**	⇑Lg			Lg	14 46 30.2	
	25nm,0.7s								
MDOK	**Medeo**	**5.54**	**288**	Pg			**Pb**	**14 45 21.8**	**+1.1**
	5.1nm,0.5s								
MDOK				Lg			Lg	14 46 32.2	
	19nm,0.6s								
TNSS	**Tian-Shan**	**5.59**	**286**	*e*P			**Pb**	**14 45 22.6**	**+1.0**
	3.9nm,0.4s								
TNSS				*e*S			**Sb**	**14 46 33.5**	**+4.7**
	11nm,0.8s								
TNSS	**Tian-Shan**	**5.59**	**286**	Pg			**Pb**	**14 45 22.6**	**+1.0**
	3.9nm,0.4s								
TNSS				Lg			Lg	14 46 33.5	
	11nm,0.8s								
IZV	**Izvestkoviy**	**5.83**	**286**	*e*P			**Pb**	**14 45 26.7**	**+1.1**
	4.7nm,0.4s								
IZV				*e*S			**Sb**	**14 46 40.7**	**+5.2**
	22nm,0.6s								
IZV	**Izvestkoviy**	**5.83**	**286**	Pg			**Pb**	**14 45 26.7**	**+1.1**
	4.7nm,0.4s								
IZV				Lg			Lg	14 46 40.7	
	22nm,0.6s								
KTBS	**Karatobe**	**5.94**	**292**	*e*P			**Pb**	**14 45 28.8**	**+1.4**
	3.0nm,0.4s								
KTBS				*e*S			**Sb**	**14 46 44.2**	**+5.5**
	23nm,0.6s								
KTBS	**Karatobe**	**5.94**	**292**	Pg			**Pb**	**14 45 28.8**	**+1.4**
	3.0nm,0.4s								
KTBS				Lg			Lg	14 46 44.2	
	23nm,0.6s								
MTBS	**Maitube**	**5.98**	**286**	*e*P			**Pb**	**14 45 27.4**	**-0.7**
	2.0nm,0.4s								
MTBS				*e*S			**Sb**	**14 46 42.2**	**+2.5**
	8.9nm,0.6s								
MTBS	**Maitube**	**5.98**	**286**	Pg			**Pb**	**14 45 27.4**	**-0.7**
	2.0nm,0.4s								
MTBS				Lg			Lg	14 46 42.3	
	8.9nm,0.6s								
KST	**Kastek**	**6.30**	**285**	*e*P			**Pb**	**14 45 34.2**	**+0.6**
	10nm,0.4s								
KST				*e*S			**Sb**	**14 46 53.9**	**+4.9**
	21nm,0.8s								
KST	**Kastek**	**6.30**	**285**	Pg			**Pb**	**14 45 34.2**	**+0.6**
	10nm,0.4s								
KST				Lg			Lg	14 46 53.9	
	21nm,0.8s								
TKM2	**Tokmak 2**	**6.55**	**284**	⇑Pn			**Pn**	**14 45 19.4**	**-0.8**
	6.4nm,0.4s								
TKM2				⇑Sn			**Sn**	**14 46 32.6**	**-2.5**
	7.9nm,0.6s								
TKM2				⇑Lg			Lg	14 47 02.4	
	30nm,0.8s								
AAK	**Ala-Archa**	**7.33**	**281**	Pn			**Pn**	**14 45 30.0**	**-0.9**
	0.8nm,0.3s,baz=128,slow=9.6,SNR=9.9								
AAK				Lg			Lg	14 47 28.9	
	0.8nm,0.3s,baz=12,slow=18,SNR=4.3								
AAK	**Ala-Archa**	**7.33**	**281**	⇑Pn			**Pn**	**14 45 30.2**	**-0.7**
	1.4nm,0.5s								
AAK				⇑Lg			Lg	14 47 29.8	
	19nm,1.0s								
KURBB	**Kurchatov Arra**	**9.76**	**338**	Pn			**Pn**	**14 46 01.8**	**-2.3**
	0.1nm,0.3s,baz=165,slow=13,SNR=5.8								
KURBB				Lg			Lg	14 48 43.7	
	0.1nm,0.3s,baz=167,slow=34,SNR=2.5								
KURBB	**Kurchatov Arra**	**9.76**	**338**	⇓Lg			Lg	14 48 51.9	
	22nm,0.8s								
KK31	**Karatay Array**	**10.28**	**282**	⇑Lg			Lg	14 49 00.2	
	3.3nm,0.8s,baz=90,slow=25,SNR=4.5								
ZALV	**Zalesovo Beam**	**12.25**	**2**	Pn			**Pn**	**14 46 35.1**	**-3.0**
	0.2nm,0.3s,baz=183,slow=13,SNR=5.9								
ZALV				Lg			Lg	14 50 03.8	
	0.1nm,0.3s,baz=189,slow=28,SNR=1.8								
BVAR	**Borovoye Array**	**14.69**	**325**	Pn			**Pn**	**14 47 07.5**	**-3.9**
	0.2nm,0.3s,baz=79,slow=32,SNR=3.0								
BVAR				Lg			Lg	14 51 17.5	
	0.1nm,0.3s,baz=124,slow=31,SNR=3.5								
SONM	**Songino Array**	**16.83**	**61**	Pn			**P**	**14 47 42.4**	**+0.8**
	baz=267,slow=9.6,SNR=2.6								
AKTO	**Aktyubinsk**	**20.12**	**305**	P			**P**	**14 48 16.7**	**-0.9**
	0.2nm,0.3s,baz=104,slow=14,SNR=3.7								
ARU	**Arti**	**22.20**	**320**	P			**P**	**14 48 38.9**	**-1.0**
	0.5nm,0.3s,baz=156,slow=10.0,SNR=1.8								
FINES	**FINESS Array B**	**39.57**	**320**	P			**P**	**14 51 13.1**	**-1.5**
	0.6nm,0.5s,baz=104,slow=16,SNR=3.6								
ARCES	**ARCESS Array B**	**40.80**	**333**	P			**P**	**14 51 24.2**	**-0.5**
	5.1nm,1.0s,baz=90,slow=4.9,SNR=5.9			

PABE	**Paberze**	**3.23**	**70**	*e*P		**Pn**	**15 00 55.0**	**+1.3**
PABE				IAML			15 01 44.3	
	comp=Z,8.3nm,0.2s							
DEL	**Delary**	**3.35**	**308**	P		**Pn**	**15 00 56.0**	**+0.6**
DEL	**Delary**	**3.35**	**308**	*e*P		**Pn**	**15 00 56.0**	**+0.6**
VSTU	**Vaestervik**	**3.37**	**340**	P		**Pn**	**15 00 57.7**	**+2.1**
	baz=149							
VSTU	**Vaestervik**	**3.37**	**340**	P		**Pn**	**15 00 57.7**	**+2.1**
	baz=149							
VSTU	**Vaestervik**	**3.37**	**340**	P		**Pn**	**15 00 57.7**	**+2.1**
	baz=149							
VSTU	**Vaestervik**	**3.37**	**340**	*e*P		**Pn**	**15 00 57.7**	**+2.1**
SLIT	**Slitere, Latvi**	**3.74**	**32**	*e*P		**Pn**	**15 01 01.6**	**+1.0**
SLIT	**Slitere, Latvi**	**3.74**	**32**	*e*P		**Pn**	**15 01 01.5**	**+0.9**
SLIT				*e*S		**Sn**	**15 01 43.8**	**-1.5**
LNKU	**Linkoeping**	**4.11**	**336**	P		**Pn**	**15 01 07.3**	**+1.6**
LNKU	**Linkoeping**	**4.11**	**336**	P		**Pn**	**15 01 07.3**	**+1.6**
LNKU	**Linkoeping**	**4.11**	**336**	P		**Pn**	**15 01 07.3**	**+1.6**
LNKU	**Linkoeping**	**4.11**	**336**	*e*P		**Pn**	**15 01 07.3**	**+1.6**
VIKU	**Vikbolandet**	**4.14**	**346**	P		**Pn**	**15 01 08.6**	**+2.4**
VIKU	**Vikbolandet**	**4.14**	**346**	P		**Pn**	**15 01 08.6**	**+2.4**
VIKU	**Vikbolandet**	**4.14**	**346**	P		**Pn**	**15 01 08.6**	**+2.4**
VIKU	**Vikbolandet**	**4.14**	**346**	*e*P		**Pn**	**15 01 08.6**	**+2.4**
FABU	**Falkenberg**	**4.17**	**309**	P		**Pn**	**15 01 07.5**	**+0.8**
FABU	**Falkenberg**	**4.17**	**309**	P		**Pn**	**15 01 07.5**	**+0.8**
FABU	**Falkenberg**	**4.17**	**309**	*e*P		**Pn**	**15 01 07.5**	**+0.8**
OSTC	**Ostas**	**4.23**	**201**	*e*PG		**Pn**	**15 01 08.7**	**+1.2**
UPC	**Upice**	**4.32**	**203**	*e*PG		**Pn**	**15 01 09.6**	**+0.9**
DPC	**Dobruska-Polom**	**4.40**	**200**	*e*PG		**Pn**	**15 01 10.6**	**+0.7**
DPC				*e*SG		**Sn**	**15 02 01.8**	**0.0**
ISAL	**Salakas**	**4.44**	**73**	*e*P		**Pb**	**15 01 23.1**	**+2.6**
IIGN	**Ignalina**	**4.46**	**76**	*e*P		**Pb**	**15 01 22.8**	**+1.9**
KRLC	**Kraliky**	**4.59**	**195**	*e*SG		**Sn**	**15 02 06.0**	**-0.4**
MTSE	**Matsula**	**5.09**	**32**	*e*P		**Pn**	**15 01 20.3**	**+1.1**
AAL	**Aland**	**5.73**	**7**	*e*P		**Pn**	**15 01 28.4**	**+0.4**
AAL	**Aland**	**5.73**	**7**	*e*P		**Pn**	**15 01 29.3**	**+1.3**
VSU	**Vasula**	**5.98**	**45**	*e*P		**Pn**	**15 01 32.9**	**+1.4**
STRU	**Stroemstad**	**6.11**	**321**	*e*P		**Pn**	**15 01 34.2**	**+1.0**
MEF	**Metsahovi**	**6.51**	**26**	MPN			15 01 40.9	
	comp=Z,2.2nm,0.2s							
MEF				*e*S		**Sn**	**15 02 50.4**	**-3.2**
RAF	**Rauma**	**6.74**	**13**	*e*P		**Pn**	**15 01 42.1**	**+0.2**
RAF				MPN			15 01 44.5	
	comp=Z,1.6nm,0.1s							
RAF				*e*S		**Sn**	**15 02 56.2**	**-3.1**
KONO	**Kongsberg**	**7.12**	**320**	*e*P		**Pn**	**15 01 46.9**	**-0.2**
NC602	**NORSAR Array S**	**7.31**	**332**	*e*P		**Pn**	**15 01 48.8**	**-0.9**
NC602				IAML			15 03 19.6	
	comp=Z,1.3nm,0.9s							
NAO01	**NORSAR Array S**	**7.58**	**330**	*e*P		**Pn**	**15 01 53.3**	**-0.2**
NB201	**NORSAR Array S**	**7.64**	**332**	*e*P		**Pn**	**15 01 53.8**	**-0.4**
NB201				IAML			15 03 04.3	
	comp=Z,1.2nm,0.9s							
NOA	**NORSAR Array B**	**7.65**	**332**	Pn		**Pn**	**15 01 53.8**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=152,slow=12,SNR=12							
NBO00	**NORSAR Array S**	**7.77**	**330**	*e*P		**Pn**	**15 01 55.1**	**-0.8**
NC204	**NORSAR Array S**	**7.97**	**331**	*e*P		**Pn**	**15 01 58.5**	**-0.3**
NC204				IAML			15 03 23.8	
	comp=Z,1.0nm,0.9s							
FINES	**FINESS Array B**	**7.99**	**27**	Pn		**Pn**	**15 01 59.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=216,slow=11,SNR=8.8							
FINES				Sn		**Sn**	**15 03 28.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=208,slow=22,SNR=2.3							
FIA1	**FINESS Array S**	**7.99**	**27**	*e*P		**Pn**	**15 01 58.1**	**-0.9**
FIA1				MPN			15 02 01.1	
	comp=Z,0.6nm,0.1s							
FIA1				*e*S		**Sn**	**15 03 25.3**	**-4.8**
SKAR	**Skarslia**	**8.30**	**322**	*e*P		**Pn**	**15 02 03.5**	**+0.1**
SKAR				IAML			15 03 40.7	
	comp=Z,1.2nm,0.8s							
JOF	**Joensuu**	**10.68**	**33**	*e*P		**Pn**	**15 02 33.0**	**-2.8**
ARCES	**ARCESS Array B**	**15.40**	**9**	Pn		**Pn**	**15 03 35.0**	**-5.1**
	baz=189,slow=14,SNR=5.9							

IDC 19 15:13:43.1±11.0, 35.°84N×144.°39E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.3/31, mbtmp3.6/3, ML2.5/1, Error ellipse: s-maj=268.3km s-min=62.9km az=162.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.04**	**280**	Pn	Pn	15 14 59.2	-0.9
	0.2nm,0.3s,baz=96,slow=14,SNR=9.7						
MKAR	**Makanchi Array**	**46.78**	**304**	P	P	15 22 14.6	+0.3
	0.3nm,0.5s,baz=86,slow=8.7,SNR=5.1						
FINES	**FINESS Array B**	**70.97**	**333**	P	P	15 25 01.9	-0.2
	1.7nm,0.8s,baz=57,slow=7.0,SNR=3.6						

*IDC **19** 15:36:42.1±2.1, 0.°28N×126.°64E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/33, mbtmp3.2/3, Error ellipse: s-maj=190.9km s-min=26.3km az=66.0*
*DJA **19** 15:36:49.1±0.9, 0.°S±8.°×12.°5E±.°, h47.7km±98.4km, M3.2/6, MLv3.2/6*

ISC 19 15:36:48.7±1.4, 0.°2S±0.°2×125.°2E±0.°2, h35km, n8, σ1s95/7, mb3.1/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.47**	**301**	P	**Pn**	**15 37 13.1**	**+0.3**
SANI	**Sanana**	**1.98**	**158**	P	**Pn**	**15 37 21.2**	**+1.4**
LUWI	**Luwuk**	**2.60**	**251**	P	Pn	15 37 36.2	+7.9
MRSI	**Marisa**	**3.37**	**282**	P	**Pn**	**15 37 38.9**	**+0.1**
APSI	**Ampana**	**3.66**	**259**	P	**Pn**	**15 37 43.8**	**+0.9**
WRA	**Warramunga Arr**	**21.55**	**156**	P	**P**	**15 41 32.2**	**-3.1**
	0.5nm,0.6s,baz=339,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**24.80**	**161**	P	**P**	**15 42 06.4**	**-1.3**
	0.5nm,1.0s,baz=351,slow=15,SNR=5.8						
MKAR	**Makanchi Array**	**59.97**	**327**	P	**P**	**15 46 52.8**	**+1.1**
	0.1nm,0.4s,baz=113,slow=7.9,SNR=3.2						

IDC 19 16:21:45.7±3.3, 28.°70S×62.°27E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.3/40, mbtmp3.5/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/22, Error ellipse: s-maj=97.2km s-min=55.0km az=54.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**58.53**	**95**	LR	LR	16 51 30.1	
	comp=Z,29nm,19.8s,baz=143,slow=30						
CMAR	**Chiang Mai Arr**	**58.77**	**42**	P	P	16 31 45.9	0.0
	0.5nm,0.6s,baz=229,slow=7.5,SNR=6.4						
ASAR	**Alice Springs**	**63.61**	**104**	P	P	16 32 18.9	0.0
	0.3nm,0.8s,baz=245,slow=6.5,SNR=7.8						
YKA	**Yellowknife Ar**	**146.14**	**357**	PKPbc	PKPdf	16 41 26.3	0.0
	0.2nm,0.7s,baz=2.8,slow=3.5,SNR=4.1						

MAN 19 16:25:10.0, 15.°08N×122.°54E, h22km, mb4.3, ML3.2, MS2.9, 4C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.68**	**239**	*e*P	Pb	16 25 23.1	-0.2
POLP				*e*S	Sb	16 25 33.1	+0.9
JCNP	**Jose Panganiba**	**0.81**	**169**	*e*P	Pb	16 25 24.5	-0.8
JCNP				*e*S	Sb	16 25 34.9	-0.9
GQP	**Guinayangan**	**1.18**	**185**	↑*i*P	Pb	16 25 31.6	0.0
GQP				*i*S	Sn	16 25 46.9	+0.4
LQP	**Lukban**	**1.37**	**225**	↑*e*P	Pb	16 25 34.5	-0.5
LQP				*e*S	Sb	16 25 53.7	+1.5
BOAC	**Boac**	**1.75**	**203**	*e*P	Pn	16 25 39.1	0.0
BOAC				*e*S	Sn	16 26 00.6	-0.1
TGY	**Tagaytay City**	**1.83**	**238**	↑*e*P	Pb	16 25 50.2	+7.3
MACP	**Maragondon, Ca**	**1.94**	**245**	*e*P	Pb	16 25 44.6	-0.1
MACP				*e*S	Sn	16 25 57.5	-8.0
CAUP	**Cauayan**	**1.97**	**340**	*e*P	Pn	16 25 42.6	+0.5
CAUP				*e*S	Sn	16 26 06.0	-0.2
PGP	**Puerto Galera**	**2.20**	**225**	↑*e*P	Pn	16 25 44.7	-0.6
PGP				*e*S	Sn	16 25 57.4	-14
LUBP	**Lubang**	**2.60**	**239**	*e*P	Pn	16 25 43.6	-7.0
LUBP				*e*S	Pb	16 25 55.1	-0.7
APYP	**Conner**	**3.03**	**336**	*e*P	Pn	16 25 56.8	+0.2
APYP				*e*S	Sn	16 26 30.5	-1.8
BUSP	**Coron**	**3.82**	**217**	*e*P	Pn	16 25 57.9	-10
BUSP				*e*S	Pb	16 26 20.1	+3.4
CUYO	**Cuyo Island**	**4.46**	**200**	*e*P	Pn	16 26 11.8	-4.6
CUYO				*e*S	Sn	16 26 45.2	-23
ENPP	**El Nido**	**4.91**	**219**	*e*P	Pn	16 26 10.8	-12
ENPP				*e*S	Pb	16 26 41.5	+6.3

*IDC **19** 16:35:49.4±1.9, 1.°83N×127.°19E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/34, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=108.5km s-min=23.9km az=69.0*
*DJA **19** 16:36:00.7±1.2, 2.°N±5.°×12.°7E±1.°0, h93km±14km, M3.9/9, mb3.9/2, MLv3.9/9*

ISC 19 16:36:00.9±1.4, 1.°87N±0.°09×127.°5E±0.°1, h112km, n10, σ0s96/10, mb3.5/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**188**	P	**Pn**	**16 36 23.1**	**-0.3**
SGSI	**Sangihe**	**2.69**	**312**	P	**Pn**	**16 36 41.7**	**-1.2**
KMSI	**Cibinong**	**3.77**	**250**	P	**Pn**	**16 36 56.0**	**-1.2**
SANI	**Sanana**	**4.19**	**202**	P	**Pn**	**16 37 02.1**	**-0.8**
GTOI	**Gorontalo**	**4.67**	**255**	P	**Pn**	**16 37 10.4**	**+1.0**
LUWI	**Luwuk**	**5.56**	**239**	P	**Pn**	**16 37 21.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**19.93**	**185**	P	**P**	**16 40 23.4**	**-0.7**
	0.1nm,0.3s,baz=20,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**22.69**	**163**	P	**P**	**16 40 53.3**	**0.0**
	1.8nm,0.5s,baz=340,slow=11,SNR=37						
ASAR	**Alice Springs**	**26.13**	**167**	P	**P**	**16 41 25.1**	**+0.3**
	0.7nm,0.5s,baz=344,slow=7.2,SNR=38						
MKAR	**Makanchi Array**	**59.52**	**326**	P	**P**	**16 45 53.6**	**+1.1**
	0.2nm,0.5s,baz=119,slow=7.2,SNR=6.2						

*JMA **19** 16:56:02.5±0.1, 36.°09N×140.°01E, h66km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs194.00000°, δ28.00000°, λ102.00000°. NP2: φs0.00000°, δ62.00000°, λ83.00000°. Principal axes: T Plg72.0000°, Azm255.0000°; N Plg6.0000°, Azm3.0000°; P Plg17.0000°, Azm95.0000°;*
JMA Felt II J1.
*IDC **19** 16:56:02.0±1.6, 36.°05N×139.°96E, h74km±13km, mb3.7/11, mb1 3.8/14, mb1mx3.5/44, mbtmp4.0/14, MS2.7/2, Ms1 2.8/2, ms1mx2.4/37 Error ellipse: s-maj=21.6km s-min=7.6km az=65.0*
*NIED **19** 16:56:02.6, 36.°09N×140.°01E, h66km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr5.31; Mθθ-0.31; Mφφ-5.00; Mrθ 0.17; Mθφ-0.58; Mφr 3.64; Fault plane solution: M0 6.35000×10^14^ NP1: φs5.00000°, δ63.00000°, λ.88.00000°. NP2: φs189.00000°, δ28.00000°, λ94.00000°.*

ISC 19 16:56:01.6±0.8, 36.°09N±0.°05×140.°08E±0.°06, h72km±6km, n35, σ1s35/41, mb3.9/11, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.17**	**34**	⇑P	**Pn**	**16 56 12.8**	**+0.5**
JYT				S	**Sn**	**16 56 20.5**	**+0.3**
JAG	**Ashikaga**	**0.61**	**304**	⇓P	**Pn**	**16 56 15.8**	**+0.1**
JAG				S	**Sn**	**16 56 25.7**	**-0.3**
JKT	**Katashina**	**0.95**	**316**	⇓P	**Pn**	**16 56 19.8**	**+0.1**
JKT				S	**Sn**	**16 56 33.2**	**+0.1**
JRY	**Ryogami san**	**0.95**	**266**	⇓P	**Pn**	**16 56 19.8**	**+0.1**
JRY				S	**Sn**	**16 56 32.5**	**-0.6**
JOD2	**Odawara 2**	**1.15**	**225**	⇓P	**Pn**	**16 56 22.1**	**0.0**
JOD2				S	**Sn**	**16 56 36.5**	**-1.0**
BSO3	**Boso 3**	**1.33**	**164**	⇑P	**Pn**	**16 56 24.7**	**+0.5**
JFY	**Yanaizu**	**1.35**	**347**	P	**Pn**	**16 56 25.5**	**+0.8**
JFY				S	**Sn**	**16 56 42.3**	**+0.3**
JYN	**Shimob**	**1.38**	**245**	⇓P	**Pn**	**16 56 25.6**	**+0.5**
JYN				S	**Sn**	**16 56 42.4**	**-0.4**
MJAR	**Matsushiro Arr**	**1.57**	**287**	P	**Pn**	**16 56 27.3**	**-0.3**
	16nm,0.3s,baz=146,slow=9.8,SNR=542						
MJAR				S	**Sn**	**16 56 45.1**	**-2.3**
	8.0nm,0.3s,baz=84,slow=15,SNR=14						
MJAR				LR	LR	16 57 04.5	
	comp=Z,76nm,18.4s,baz=125,slow=43						
MAT	**Matsushiro**	**1.58**	**287**	P	**Pn**	**16 56 27.6**	**0.0**
MAT				*e*S	**Sn**	**16 56 46.8**	**-0.6**
JHJ	**Hachijo jima 2**	**2.97**	**185**	P	**Pn**	**16 56 46.9**	**+0.4**
	47nm,0.3s,baz=333,slow=23,SNR=25						
JHJ				S	**Sn**	**16 57 20.9**	**-0.1**
	82nm,0.3s,baz=52,slow=22,SNR=9.0						
JNU	**Nakatsue**	**8.14**	**251**	P	**Pn**	**16 57 57.8**	**+0.8**
	0.4nm,0.3s,baz=66,slow=20,SNR=1.6						
ASAJ	**Asahikawa**	**8.25**	**13**	P	**Pn**	**16 57 57.9**	**-0.5**
	0.5nm,0.3s,baz=228,slow=8.8,SNR=6.5						
ASAJ				S	**Sn**	**16 59 25.4**	**-4.5**
	0.3nm,0.3s,baz=125,slow=19,SNR=2.7						
JCJ	**Chichijima**	**9.14**	**168**	P	**Pn**	**16 58 07.9**	**-2.8**
	4.6nm,0.3s,baz=290,slow=23,SNR=6.5						
JCJ				S	Sn	16 59 42.4	-10
	2.7nm,0.3s,baz=336,slow=19,SNR=3.0						
KSRS	**Korea Array**	**9.85**	**282**	P	**Pn**	**16 58 23.9**	**+3.6**
	0.2nm,0.3s,baz=96,slow=14,SNR=4.6						
KSRS				LR	LR	17 01 49.9	
	comp=Z,34nm,20.9s,baz=118,slow=36						
USRK	**Ussuriysk Ar.**	**10.19**	**325**	P	**Pn**	**16 58 28.1**	**+3.2**
	baz=194,slow=11,SNR=4.3						
SONM	**Songino Array**	**27.44**	**306**	P	**P**	**17 01 39.2**	**-1.5**
	0.8nm,0.6s,baz=104,slow=8.9,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**28.63**	**117**	T	T	17 32 03.8	
	baz=312,slow=75,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**28.64**	**118**	T	T	17 32 04.6	
	baz=312,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**28.65**	**117**	T	T	17 32 02.3	
	baz=312,slow=75,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**29.29**	**120**	T	T	17 32 58.9	
	baz=314,SNR=3.4						
H11S3	**WAKE ISLAND Hy**	**29.29**	**120**	T	T	17 32 52.7	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**29.30**	**120**	T	T	17 32 58.1	
	baz=314						
CMAR	**Chiang Mai Arr**	**40.22**	**255**	LR	LR	17 22 28.9	
	comp=Z,12nm,20.4s,baz=105,slow=40						
ZALV	**Zalesovo Beam**	**41.77**	**313**	P	**P**	**17 03 43.5**	**0.0**
	2.5nm,0.9s,baz=104,slow=6.3,SNR=8.0						
ZALV				PcP	**PcP**	**17 05 38.4**	**-0.1**
	1.2nm,0.5s,baz=101,slow=2.9,SNR=6.5						
MKAR	**Makanchi Array**	**43.72**	**303**	P	**P**	**17 03 59.6**	**+0.2**
	2.6nm,0.7s,baz=89,slow=9.7,SNR=32						
MKAR				PcP	**PcP**	**17 05 45.2**	**0.0**
	0.3nm,0.7s,baz=60,slow=3.5,SNR=3.0						
ILAR	**Eielson Array**	**50.87**	**32**	P	**P**	**17 04 56.4**	**+1.7**
	0.4nm,0.8s,baz=286,slow=6.5,SNR=4.3						
WRA	**Warramunga Arr**	**55.99**	**187**	P	**P**	**17 05 32.1**	**-0.5**
	0.6nm,0.5s,baz=1.4,slow=7.5,SNR=26						
ASAR	**Alice Springs**	**59.72**	**187**	P	**P**	**17 05 58.8**	**0.0**
	0.3nm,0.5s,baz=19,slow=12,SNR=16						
ARCES	**ARCESS Array B**	**64.50**	**339**	P	**P**	**17 06 30.6**	**+0.4**
	3.4nm,0.9s,baz=78,slow=1.7,SNR=3.6						
FINES	**FINESS Array B**	**69.14**	**332**	P	**P**	**17 06 59.6**	**-0.2**
	1.2nm,0.4s,baz=47,slow=6.9,SNR=14						
AKASG	**Malin Array Be**	**74.38**	**322**	P	**P**	**17 07 31.1**	**-0.2**
	0.5nm,0.3s,baz=48,slow=6.1,SNR=8.4						
NB2	**NORSAR Subarra**	**74.64**	**337**	P	**P**	**17 07 32.5**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.64**	**337**	P	**P**	**17 07 33.1**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=27,slow=17,SNR=8.9						
GERES	**GERESS Array B**	**82.94**	**328**	P	**P**	**17 08 18.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=34,slow=5.0,SNR=3.7						

*SOF **19** 16:56:28.4, 42.°17N×23.°58E, h7km, MD2.7*
*THE **19** 16:56:29.1, 42.°19N×23.°47E, h1km±1km, ML2.8/8, Error ellipse: s-maj=2.1km s-min=1.2km az=345.0*
*SKO **19** 16:56:30.5, 42.°18N×23.°52E, h2km*
*BEO **19** 16:56:30.3±0.3, 42.°17N×23.°49E, h9km±2km, ML2.6/14*

ISC 19 16:56:29.4±1.1, 42.°18N±0.°02×23.°51E±0.°02, h5km±9km, n58, σ0s98/93, 19C-10D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.44**	**226**	*i*P	**Pg**	**16 56 38.0**	**+0.1**
VTS	**Vitosha**	**0.49**	**335**	*e*Pg	**Pg**	**16 56 38.8**	**0.0**
VTS				*e*Sg	**Sg**	**16 56 44.7**	**-0.4**
VTS	**Vitosha**	**0.49**	**335**	*i*P	**Pg**	**16 56 38.6**	**-0.2**
VTS	**Vitosha**	**0.49**	**335**	↑*i*Pg	**Pg**	**16 56 38.8**	**0.0**
VTS				*i*Sg	**Sg**	**16 56 45.8**	**+0.7**
MMB	**Musomiste**	**0.61**	**164**	*i*P	**Pg**	**16 56 41.2**	**+0.1**
PGB	**Panagyurishte**	**0.61**	**52**	*i*P	**Pg**	**16 56 40.1**	**-1.1**
BOSS	**Bosilegrad**	**0.83**	**293**	*e*Pg	**Pg**	**16 56 45.5**	**+0.2**
BOSS				*e*Sg	**Sg**	**16 56 56.2**	**+0.2**
NVR	**Nevrokopi**	**0.87**	**162**	P	**Pg**	**16 56 45.7**	**-0.3**
NVR				S	**Sb**	**16 56 59.0**	**+0.1**
	390nm,0.2s						
PLD	**Plovdiv**	**0.89**	**94**	*i*P	**Pg**	**16 56 45.2**	**-1.2**
PLD	**Plovdiv**	**0.89**	**94**	*i*Pg	**Pg**	**16 56 46.0**	**-0.4**
PLD				*i*Sg	**Sg**	**16 56 57.6**	**-0.4**
RZN	**Rozhen**	**1.02**	**118**	*i*P	**Pg**	**16 56 47.8**	**-1.2**
SRS	**Serrai**	**1.06**	**177**	P	**Pg**	**16 56 49.2**	**-0.5**
SRS				S	**Sb**	**16 57 05.6**	**+1.2**
	715nm,0.4s						
SRS	**Serrai**	**1.06**	**177**	*e*Pg	**Pg**	**16 56 49.1**	**-0.6**
SRS				*e*Sg	**Sg**	**16 57 04.0**	**+0.6**
SRS	**Serrai**	**1.06**	**177**	*i*Pg	**Pg**	**16 56 50.0**	**+0.3**
STIP	**Stip**	**1.10**	**244**	*i*Pg	Pg	16 56 46.0	-4.5
STIP				*i*Sg	**Sg**	**16 56 59.0**	**-5.7**
VAY	**Valandovo**	**1.11**	**220**	*e*Pg	**Pg**	**16 56 50.2**	**-0.4**
VAY				*e*Sg	**Sg**	**16 57 05.6**	**+0.7**
VAY	**Valandovo**	**1.11**	**220**	*i*Pg	**Pg**	**16 56 50.4**	**-0.1**
VAY				*i*Sg	**Sg**	**16 57 06.2**	**+1.3**
VAY				*e*Lg	Lg	16 57 08.3	
	comp=N,192nm,0.4s						
VAY				*e*Lg	Lg	16 57 08.6	
	comp=E,196nm,0.3s						
KNT	**Kendrikon**	**1.11**	**205**	P	**Pg**	**16 56 49.9**	**-0.8**
KNT				S	**Sg**	**16 57 06.3**	**+1.2**
	comp=E,338nm,0.2s						
PRVS	**Prvonek**	**1.11**	**288**	*e*Pg	**Pg**	**16 56 51.4**	**+0.7**
PRVS				*e*Sg	**Sg**	**16 57 05.8**	**+0.6**
ZAPS	**Zavoj**	**1.27**	**330**	*e*Pg	**Pn**	**16 56 54.5**	**+0.6**
ZAPS				*e*Sg	**Sn**	**16 57 11.1**	**+0.2**
SOH	**Sokhos**	**1.36**	**185**	P	**Pn**	**16 56 54.1**	**-1.0**
SOH				S	**Sb**	**16 57 13.8**	**+0.8**
	comp=E,460nm,0.4s						
KAVA	**Kavala**	**1.40**	**147**	P	**Pn**	**16 56 55.6**	**0.0**
KAVA				S	**Sg**	**16 57 16.1**	**+1.8**
	comp=E,588nm,0.4s						
BARS	**Barje**	**1.41**	**298**	*e*Pg	**Pn**	**16 56 56.3**	**+0.6**
BARS	**Barje**	**1.41**	**298**	*e*Pn	Pg	16 57 06.0	+10
BARS				*e*Sg	**Sb**	**16 57 14.1**	**-0.3**
BARS				*e*Sn	Sg	16 57 34.0	+19
BARS	**Barje**	**1.41**	**298**	*i*Pg	**Pn**	**16 56 56.4**	**+0.6**
PLVB	**Pleven**	**1.46**	**34**	⇓P	**Pn**	**16 56 57.1**	**+0.6**
PLVB				⇑S	**Sn**	**16 57 14.4**	**-1.6**
GRG	**Griva**	**1.48**	**215**	P	**Pn**	**16 56 56.6**	**-0.1**
GRG				S	**Sn**	**16 57 16.5**	**+0.1**
	comp=E,112nm,0.5s						
BLKB	**Belogradchik**	**1.57**	**337**	*e*Pn	**Pn**	**16 56 58.8**	**+0.8**
BLKB				*e*Sn	**Sb**	**16 57 20.1**	**+0.9**
BLKB	**Belogradchik**	**1.57**	**337**	⇑S	**Sn**	**16 57 18.3**	**-0.5**
HORT	**Hortiatis**	**1.61**	**191**	P	**Pn**	**16 56 58.7**	**+0.2**
THAS	**Thassos island**	**1.81**	**149**	P	**Pn**	**16 57 00.6**	**-0.7**
THAS				S	**Sb**	**16 57 26.8**	**+0.7**
	comp=E,222nm,0.3s						
RDO	**Rodhopi**	**1.83**	**123**	P	**Pn**	**16 57 01.6**	**0.0**
ZAGS	**Zajecar**	**1.89**	**331**	*e*Pn	**Pn**	**16 57 03.6**	**+1.3**
ZAGS				*e*Sn	**Sn**	**16 57 26.9**	**+0.5**
ALN	**Alexandroupoli**	**2.29**	**123**	P	**Pn**	**16 57 07.5**	**-0.4**
ALN				S	**Sn**	**16 57 37.7**	**+1.2**
	comp=E,178nm,0.7s						
COPA	**Copaceanca**	**2.32**	**32**	⇑P	**Pn**	**16 57 09.4**	**+1.1**
COPA				⇓S	**Sn**	**16 57 37.6**	**+0.4**
SRE	**Strehaia**	**2.50**	**355**	⇑P	**Pn**	**16 57 11.4**	**+0.7**
SRE				⇑S	**Sn**	**16 57 41.2**	**-0.3**
KUBS	**Kucevo**	**2.61**	**330**	*e*Pn	**Pn**	**16 57 11.3**	**-0.9**
GRUS	**Gruza**	**2.67**	**311**	*e*Pn	**Pn**	**16 57 13.2**	**+0.1**
GRUS				*e*Sn	**Sn**	**16 57 45.4**	**-0.4**
HERR	**Herculane**	**2.82**	**344**	⇑P	**Pn**	**16 57 14.8**	**-0.3**
HERR				⇑S	**Sn**	**16 57 48.3**	**-1.1**
SJES	**Sjenica**	**2.82**	**294**	*e*Pn	**Pn**	**16 57 15.8**	**+0.5**
SJES				*e*Sn	**Sn**	**16 57 48.9**	**-0.8**
IVAS	**Ivanjica**	**2.84**	**301**	*e*Pn	**Pn**	**16 57 15.6**	**+0.2**
IVAS				*e*Sn	**Sn**	**16 57 50.1**	**+0.1**
MDVR	**Moldovita**	**2.91**	**334**	*e*Pn	**Pn**	**16 57 16.7**	**+0.2**
MDVR	**Moldovita**	**2.91**	**334**	⇑P	**Pn**	**16 57 16.7**	**+0.2**
MDVR		

GUDG	**Gudauri**	**0.69**	**95**	P	**Pb**	**17 18 56.7**	**+0.3**
GUDG				S	**Sb**	**17 19 05.8**	**0.0**
MTEO	**Meteo**	**0.74**	**78**	P	**Pb**	**17 18 57.1**	**-0.4**
BKRG	**Bakuriani**	**0.77**	**182**	P	**Pg**	**17 18 57.5**	**-0.1**
BKRG				S	**Sb**	**17 19 08.7**	**+0.5**
LSNR	**Lesken**	**0.77**	**15**	*e*Pg	**Pn**	**17 18 58.4**	**-0.7**
LSNR				*e*Sg	**Sn**	**17 19 10.3**	**-0.3**
ARNR	**Ardon**	**0.84**	**39**	*e*Pg	**Pn**	**17 19 00.3**	**+0.3**
ARNR				*e*Sg	**Sn**	**17 19 13.4**	**+1.2**
STDR	**Stavd-Durt**	**0.92**	**24**	*e*Pg	**Pn**	**17 19 02.4**	**+1.4**
STDR				*e*Sg	**Sn**	**17 19 16.8**	**+2.8**
BRNG	**Burnasheti**	**0.93**	**167**	P	**Pb**	**17 19 00.6**	**+0.1**
BRNG				S	**Sn**	**17 19 14.0**	**-0.5**
NEY	**Neytrino**	**0.94**	**320**	*e*Pg	**Pn**	**17 19 01.5**	**-0.1**
NEY				*e*Sg	**Sn**	**17 19 14.0**	**-0.9**
ABS	**Abastumani**	**0.95**	**216**	P	**Pg**	**17 19 00.6**	**-0.4**
ABS				S	**Sb**	**17 19 14.0**	**+0.6**
TRLG	**Trialeti**	**1.07**	**157**	P	**Pb**	**17 19 02.9**	**0.0**
TRLG				S	**Sn**	**17 19 18.1**	**+0.1**
CHVG	**Ch'k'valeri**	**1.10**	**280**	P	**Pn**	**17 19 03.7**	**+0.1**
CHVG				S	**Sn**	**17 19 19.5**	**+0.9**
AKH	**Akhalkalaki**	**1.12**	**182**	P	**Pn**	**17 19 04.1**	**+0.2**
AKH				S	**Sn**	**17 19 19.2**	**+0.1**
BGD	**Bogdanovka**	**1.26**	**179**	P	**Pn**	**17 19 06.2**	**+0.2**
BGD				S	**Sg**	**17 19 23.6**	**+0.1**
DMNI	**Dmanisi**	**1.29**	**158**	P	**Pn**	**17 19 06.1**	**-0.1**
DMNI				S	**Sn**	**17 19 23.7**	**+0.4**
SHA1	**Shidzhatmaz**	**1.38**	**332**	*e*Pg	**Pg**	**17 19 09.3**	**+0.2**
SHA1				*e*Sg	**Sg**	**17 19 27.4**	**+0.4**
BATM	**Batumi**	**1.67**	**237**	P	**Pb**	**17 19 12.7**	**-0.3**
BATM				S	**Sg**	**17 19 35.2**	**-1.0**

MOS ***19*** *17:27:46.0±0.9, 39.°70N×143.°56E, h27km, mb4.2/5, Error ellipse: s-maj=8.5km s-min=5.4km az=95.5*

JMA ***19*** *17:27:46.1±0.2, 39.°80N×143.°56E, h33km, M4.1*

NIED ***19*** *17:27:46.2, 39.°80N×143.°56E, h33km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.10; Mθθ-0.09; Mφφ-1.01; Mrθ0.36; Mθφ-0.47; Mφr0.79; Fault plane solution: M₀1.44000×10¹⁵ NP1:φ₁24.00000°, δ64.00000°, λ,91.00000°. NP2:φ₂201.00000°, δ26.00000°, λ88.00000°.*

NEIC ***19*** *17:27:47.8±1.5, 39.°62N±0.°07×143.°6E±0.°2, h33km±7km, mb4.3/23 Error ellipse: s-maj=17.6km s-min=8.6km az=107.0*

IDC ***19*** *17:27:50.5±3.4, 39.°73N×143.°37E, h37km±28km, mb3.6/15, mb1 3.8/19, mb1mx3.7/38, mbtmp3.8/19, ML3.0/4, MS3.2/9, Ms1 3.2/9, ms1mx2.9/38, Error ellipse: s-maj=20.3km s-min=15.3km az=113.0*

ISC 19 17:27:48.5±3.4, 39.°71N±0.°05×143.°59E±0.°06, h32km±25km, n128, σ1°51/120, mb4.1/37, MS3.2/7, 3C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.35**	**280**	P	Pn	17 28 08.8	-2.3
MIYJ	**Miyakonagasawa**	**1.37**	**265**	P	Pn	17 28 09.7	-1.7
MIYJ				*e*S	**Sn**	**17 28 26.4**	**-2.1**
JKEN	**Kujiedanarisaw**	**1.53**	**290**	P	Pn	17 28 10.9	-2.7
JKEN				*e*S	**Sn**	**17 28 29.6**	**-2.7**
JANG	**Nango**	**1.72**	**293**	P	Pn	17 28 14.0	-2.3
JANG				*e*S	**Sn**	**17 28 34.3**	**-2.9**
JOM	**Ohasama**	**1.79**	**263**	P	**Pn**	**17 28 16.2**	**-1.0**
JMK	**Ichinoseki**	**1.99**	**248**	P	**Pn**	**17 28 18.8**	**-1.1**
JMK				*e*S	**Sn**	**17 28 42.5**	**-1.1**
JTM	**Tenmabayashi**	**2.21**	**300**		Pn	17 28 21.1	-1.9
ERM	**Erimo**	**2.33**	**352**	P	**Pn**	**17 28 24.4**	**-0.2**
ERM	**Erimo**	**2.33**	**352**	Pn	**Pn**	**17 28 24.4**	**-0.2**
JYK	**Kaneyama**	**2.63**	**254**	P	**Pn**	**17 28 28.1**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.65**	**346**	P	**Pn**	**17 28 29.1**	**+0.1**
JMM	**Marumori**	**2.85**	**231**		Pn	17 28 29.5	-2.3
JCH	**Churui**	**2.91**	**357**	P	**Pn**	**17 28 31.7**	**-0.9**
JCH				*e*S	**Sn**	**17 29 04.2**	**-2.2**
JFT	**Otama**	**3.36**	**230**	P	**Pn**	**17 28 38.1**	**-0.7**
JAK	**Akkeshi**	**3.39**	**14**	P	**Pn**	**17 28 38.4**	**-0.8**
JAK				*e*S	**Sn**	**17 29 16.5**	**-1.8**
JEW	**Eniwo**	**3.52**	**333**	Pn	**Pn**	**17 28 41.5**	**+0.5**
NMR	**Nemuro--Hokkai**	**4.00**	**23**↑	*i*P	**Pn**	**17 28 46.5**	**-1.0**
NMR				*i*S	**Sn**	**17 29 29.3**	**-3.9**
GLVR	**Golovnino**	**4.28**	**19**	*e*P	**Pn**	**17 28 50.8**	**-0.6**
GLVR				*e*S	**Sn**	**17 29 36.7**	**-3.5**
GLVR				smax	smax		
	comp=E,687nm,0.3s						
GLVR				smax	smax		
	comp=N,790nm,0.4s						
JYT	**Yasato**	**4.39**	**219**	Pn	Pn	17 28 50.1	-2.9
JKA	**Kamikawa-asahi**	**4.47**	**351**	Pn	**Pn**	**17 28 53.8**	**-0.2**
ASAJ	**Asahikawa**	**4.47**	**351**	Pn	**Pn**	**17 28 54.8**	**+0.8**
	comp=N,1.9nm,0.3s,baz=223,slow=7.4,SNR=28						
ASAJ				Sn	**Sn**	**17 29 43.6**	**-1.3**
	comp=N,4.4nm,0.3s,baz=240,slow=20,SNR=2.6						
JSD	**Sado**	**4.48**	**250**	Pn	**Pn**	**17 28 54.2**	**0.0**
RUSJ	**Misakicho**	**4.56**	**15**	*e*P	**Pn**	**17 28 54.6**	**-0.7**
RUSJ				*e*S	**Sn**	**17 29 46.0**	**-1.2**
GRPR	**Tuman**	**4.58**	**20**	*e*P	**Pn**	**17 28 55.0**	**-0.6**
GRPR				*e*S	**Sn**	**17 29 43.3**	**-4.4**
GRPR				pmax	pmax		
	comp=Z,95nm,0.3s						
GRPR				pmax	pmax		
	comp=E,38nm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.4s						
GRPR				smax	smax		
	comp=N,230nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.64**	**21***c*	*i*P	**Pn**	**17 28 55.5**	**-0.9**
YUK				*i*S	**Sn**	**17 29 45.1**	**-4.1**
YUK				pmax	pmax		
	comp=E,30nm,0.3s						
YUK				pmax	pmax		
	comp=Z,104nm,0.3s						
YUK				smax	smax		
	comp=N,740nm,0.4s						
YUK				smax	smax		
	comp=E,128nm,0.3s						
YUK				MLR	MLR		
	comp=Z,178nm,14.0s						
MAJO	**Matsushiro**	**5.29**	**235**	P	**Pn**	**17 29 04.0**	**-1.3**
MAJO	**Matsushiro**	**5.29**	**235**	Pn	**Pn**	**17 29 04.0**	**-1.3**
MAT	**Matsushiro**	**5.29**	**235**	P	**Pn**	**17 29 05.8**	**+0.5**
MAT				*e*S	**Sn**	**17 30 04.1**	**-1.1**
MJAR	**Matsushiro Arr**	**5.29**	**235**	Pn	**Pn**	**17 29 05.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=41,slow=12,SNR=20						
MJAR	**Matsushiro Arr**	**5.29**	**235**	Pn	**Pn**	**17 29 04.0**	**-1.3**
MJB9	**Matsu-Tunnel**	**5.29**	**235**	Pn	Pn	17 29 00.4	-4.9
KUR	**Kuril'sk**	**6.36**	**28**	*i*P	**Pn**	**17 29 20.1**	**+0.1**
KUR				*i*S	**Sn**	**17 30 27.8**	**-3.7**
KUR				pmax	pmax		
	comp=Z,35nm,0.4s						
KUR				pmax	pmax		
	comp=E,15nm,0.2s						
KUR				smax	smax		
	comp=E,185nm,0.6s						
KUR				smax	smax		
	comp=N,157nm,0.5s						
KUR				MLR	MLR		
	comp=Z,292nm,12.0s						
JGF	**Kuroka**	**6.42**	**232**	Pn	Pn	17 29 18.5	-2.4
INU	**Inuyama**	**6.79**	**232**	Pn	Pn	17 29 20.6	-5.3
JHJ	**Hachijo jima 2**	**7.25**	**206**	Sn	**Sn**	**17 30 47.7**	**-5.9**
	comp=Z,7.6nm,0.3s,baz=204,slow=20,SNR=2.0						
YSS	**Yuzh-Sakhalins**	**7.27**	**355**	*e*P	**Pn**	**17 29 33.8**	**+1.4**
YSS				*e*S	**Sn**	**17 30 51.4**	**-2.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=N,200nm,13.0s						
YSS				MLR	MLR		
	comp=Z,200nm,13.0s						
YSS	**Yuzh-Sakhalins**	**7.27**	**355**		**Pn**	**17 29 32.2**	**-0.2**
TEY	**Ternei**	**7.42**	**318**↑	*e*P	**Pn**	**17 29 35.7**	**+1.2**
TEY				pmax	pmax		
	comp=E,10.0nm,0.8s						
TEY				pmax	pmax		
	comp=Z,20nm,0.7s						
USA0B	**Ussuriysk Arra**	**9.73**	**301**	P	**Pn**	**17 30 05.1**	**-1.1**
USA0B	**Ussuriysk Arra**	**9.73**	**301**	Pn	**Pn**	**17 30 05.1**	**-1.1**
USRK	**Ussuriysk Ar.**	**9.73**	**301**	Pn	**Pn**	**17 30 06.2**	**-0.1**
	baz=92,slow=13,SNR=13						
USRK	**Ussuriysk Ar.**	**9.73**	**301**	P	**Pn**	**17 30 07.1**	**+0.8**
USRK	**Ussuriysk Ar.**	**9.73**	**301**	Pn	**Pn**	**17 30 07.0**	**+0.8**
TYV	**Tymovskoe**	**11.18**	**357**	*e*P	Pn	17 30 14.4	-12
TYV				pmax	pmax		
	comp=Z,5.0nm,1.6s						
TYV				pmax	pmax		
	comp=Z,300nm,7.8s						
JNU	**Nakatsue**	**12.16**	**241**	LR	LR	17 35 44.9	
	comp=Z,212nm,18.0s,baz=44,slow=39						
KSRS	**Korea Array**	**12.46**	**265**	Pn	**Pn**	**17 30 46.4**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=87,slow=13,SNR=5.6						
KSRS				LR	LR	17 35 10.5	
	comp=Z,166nm,18.5s,baz=100,slow=36						
KLR	**Kul'dur**	**12.72**	**322**	Pn	**Pn**	**17 30 47.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=164,slow=12,SNR=3.7						
KLR				LR	LR	17 35 49.2	
	comp=Z,116nm,21.0s,baz=126,slow=38						
PETK	**Petropavlovsk-**	**16.52**	**31**	LR	LR	17 37 30.7	
	comp=Z,39nm,20.3s,baz=176,slow=35						
HIA	**Hailar**	**19.44**	**307**	P	**P**		
HIA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HIA	**Hailar**	**19.44**	**307**	P	**P**	**17 32 09.5**	**-2.8**
MA2	**Magadan**	**20.40**	**11**	P	**P**	**17 32 23.2**	**+0.7**
	comp=Z,4.4nm,0.6s,baz=212,slow=9.8,SNR=7.0						
MA2				LR	LR	17 42 05.4	
	comp=Z,50nm,18.1s,baz=204,slow=42						
MA2	**Magadan**	**20.40**	**11**	*e*P	**P**	**17 32 23.7**	**+1.1**
MA2				pmax	pmax		
	comp=Z,15nm,2.5s						
MA2	**Magadan**	**20.40**	**11**	P	**P**	**17 32 23.6**	**+1.1**
SEY	**Seymchan**	**23.85**	**10**	P	**P**	**17 32 59.4**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=199,slow=6.5,SNR=8.9						
YAK	**Yakutsk**	**23.91**	**344**	LR	LR	17 44 12.8	
	comp=Z,47nm,18.7s,baz=100,slow=41						
YAK	**Yakutsk**	**23.91**	**344**	*e*P	**P**	**17 33 00.0**	**+0.9**
YAK				pmax	pmax		
	comp=Z,12nm,1.3s						
YAK	**Yakutsk**	**23.91**	**344**	P	**P**	**17 32 57.6**	**-1.6**
HHC	**Hu-ho-hao-te**	**24.39**	**283**	*e*P	**P**	**17 33 03.8**	**-0.2**
HHC				S	S	17 37 08.5	-13
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,97nm,4.5s						
HHC				LR	LR		
	comp=N,160nm,13.6s						
HHC				LR	LR		
	comp=E,180nm,15.3s						
HHC				LR	LR		
	comp=Z,220nm,14.2s						
BOD	**Bodaibo**	**26.29**	**323**	*e*P	**P**	**17 33 20.8**	**-0.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	**Ulaanbaatar**	**27.40**	**299**	P	**P**	**17 33 31.0**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**27.40**	**299**	P	**P**	**17 33 31.0**	**-0.2**
SONM	**Songino Array**	**27.84**	**299**	P	**P**	**17 33 35.6**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=92,slow=8.7,SNR=15						
SONM				LR	LR	17 45 14.3	
	comp=Z,116nm,21.2s,baz=64,slow=38						
SONM	**Songino Array**	**27.84**	**299**	P	**P**	**17 33 34.9**	**-0.2**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**27.84**	**299**	P	**P**	**17 33 34.9**	**-0.2**
XAN	**Xi'an**	**28.19**	**269**	P	**P**	**17 33 38.3**	**+0.1**
XAN				pP	sP	17 33 47.4	-2.9
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN	**Xi'an**	**28.19**	**269**	P	**P**	**17 33 36.7**	**-1.5**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
XAN	**Xi'an**	**28.19**	**269**	P	**P**	**17 33 36.7**	**-1.5**
XAN				IAmb	IAmb	17 33 39.0	
	comp=Z,3.9nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.25**	**128**	T	T	18 04 46.8	
	baz=319,slow=74,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	**28.26**	**128**	T	T	18 04 50.6	
	baz=319,slow=74,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**28.26**	**128**	T	T	18 04 51.6	
	baz=319,slow=74,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**29.07**	**130**	T	T	18 05 54.9	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**29.07**	**130**	T	T	18 05 55.7	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**29.09**	**130**	T	T	18 05 50.8	
	baz=322						
ENH	**Enshi**	**29.33**	**262**	P	**P**	**17 33 47.5**	**-0.9**
ENH				IAmb	IAmb	17 33 51.3	
	comp=Z,8.8nm,1.0s						
TLY	**Talaya**	**29.98**	**307**	LR	LR	17 46 51.6	
	comp=Z,54nm,18.2s,baz=72,slow=38						
ZAK	**Zakamensk**	**30.07**	**304**	*e*P	**P**	**17 33 54.2**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BILL	**Bilibino**	**30.98**	**16**	*i*P	**P**	**17 34 03.3**	**+0.8**
BILL				*i*		17 34 18.7	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA	**Gaotai**	**33.50**	**284**	*e*P	**P**	**17 34 25.3**	**+0.2**
GTA				pP	pP	17 34 30.1	-3.5
GTA				sP	sP	17 34 33.3	-3.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
WMQ	**Urumqi**	**41.22**	**295**	*e*P	**P**	**17 35 31.8**	**+1.4**
WMQ				pP	pwP	17 35 41.6	-0.3
WMQ				sP	sP	17 35 46.4	+3.8
WMQ				pmax	pmax		
	comp=Z,16nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.1s						
WMQ	**Urumqi**	**41.22**	**295**	P	**P**	**17 35 30.4**	**0.0**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WMQ	**Urumqi**	**41.22**	**295**	P	**P**	**17 35 30.4**	**0.0**
ZAA0	**Zalesovo Array**	**41.44**	**310**	P	**P**	**17 35 31.9**	**+0.1**
ZAA0				IAmb	IAmb	17 35 32.8	
	comp=Z,2.6nm,0.6s						
ZALV	**Zalesovo Beam**	**41.44**	**310**	P	**P**	**17 35 32.2**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=91,slow=8.4,SNR=14						
ZALV	**Zalesovo Beam**	**41.44**	**310**	P	**P**	**17 35 31.3**	**-0.6**
LSA	**Lhasa**	**43.71**	**274**	P	**P**	**17 35 49.3**	**-1.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**43.71**	**274**	P	**P**	**17 35 49.3**	**-1.9**
CMAR	**Chiang Mai Arr**	**43.85**	**254**	P	**P**	**17 35 52.1**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=23,slow=7.8,SNR=4.2						
MK31	**Makanchi Array**	**44.20**	**300**	P	**P**	**17 35 54.1**	**-0.3**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**44.20**	**300**	P	**P**	**17 35 54.1**	**-0.3**
MK31				IAmb	IAmb	17 36 13.1	
	comp=Z,2.8nm,0.9s						
MKAR	**Makanchi Array**	**44.20**	**300**	P	**P**	**17 35 54.7**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=83,slow=9.1,SNR=18						
MKAR	**Makanchi Array**	**44.20**	**300**	P	**P**	**17 35 54.0**	**-0.5**
MAKZ	**Makanchi**	**44.41**	**300**	P	**P**	**17 35 56.3**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MAKZ	**Makanchi**	**44.41**	**300**	P	**P**	**17 35 56.3**	**+0.2**
MAKZ				IAmb	IAmb	17 36 15.4	
	comp=Z,4.1nm,1.1s						
ILAR	**Eielson Array**	**46.32**	**34**	P	**P**	**17 36 12.6**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=261,slow=6.4,SNR=4.3						
BRVK	**Borovoye**	**50.12**	**311**	P	**P**	**17 36 41.4**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	**Borovoye**	**50.12**	**311**	P	**P**	**17 36 41.4**	**+0.9**
BRVK				IAmb	IAmb	17 36 51.2	
	comp=Z,2.8nm,0.9s						
AAK	**Ala-Archa**	**50.76**	**297**	P	**P**	**17 36 45.7**	**0.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**50.76**	**297**	P	**P**	**17 36 45.7**	**0.0**
AAK				IAmb	IAmb	17 36 55.4	
	comp=Z,1.5nm,0.7s						
KK31	**Karatay Array**	**53.29**	**299**	P	**P**	**17 37 03.6**	**-0.7**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KK31	**Karatay Array**	**53.29**	**299**	P	**P**	**17 37 03.6**	**-0.7**
KK31				IAmb	IAmb	17 37 14.1	
	comp=Z,2.2nm,0.8s						
KKAR	**Karatay Array**	**53.29**	**299**	P	**P**	**17 37 03.4**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	**Karatay Array**	**53.29**	**299**	P	**P**	**17 37 03.4**	**-0.9**
KKAR				IAmb	IAmb	17 37 14.1	
	comp=Z,2.2nm,0.8s						
NIL	**Nilore**	**55.42**	**287**	P	**P**	**17 37 19.6**	**-0.3**
NIL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NIL	**Nilore**	**55.42**	**287**	P	**P**	**17 37 19.6**	**-0.3**
ARU	**Arti**	**55.51**	**318**	P	**P**	**17 37 20.1**	**-0.1**
ARU				IAmb	IAmb	17 37 31.1	
	comp=Z,4.5nm,1.0s						
ABKAR	**Akbulak array**	**57.54**	**309**		pP	17 37 44.0	+0.2
ABKAR	**Akbulak array**	**57.54**	**309**	P	**P**	**17 37 34.1**	**-0.6**
ABKAR				IAmb	IAmb	17 37 45.0	
	comp=Z,3.2nm,0.6s						
KBL	**Kabul**	**58.07**	**290**	P	**P**	**17 37 37.9**	**-1.1**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KBL	**Kabul**	**58.07**	**290**	P	**P**	**17 37 37.9**	**-1.1**
KBL				IAmb	IAmb	17 37 48.7	
	comp=Z,3.4nm,0.7s						
WRA	**Warramunga Arr**	**59.97**	**190**	P	**P**	**17 37 52.1**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=7.0,slow=6.9,SNR=5.2						
ASAR	**Alice Springs**	**63.69**	**190**	P	**P**	**17 38 17.5**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=9.7,slow=6.6,SNR=4.4						
ASAR	**Alice Springs**	**63.69**	**190**	P	**P**	**17 38 15.3**	**-1.5**
OBN	**Obninsk**	**66.98**	**323**	LR	LR	18 11 31.4	
	comp=Z,11nm,18.8s,baz=2.0,slow=39						
FINES	**FINESS Array B**	**67.24**	**332**	P	**P**	**17 38 38.4**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=62,slow=9.0,SNR=5.6						
FINES	**FINESS Array B**	**67.24**	**332**	P	**P**	**17 38 38.6**	**-0.8**
FINES	**FINESS Array B**	**67.24**	**332**	P	**P**	**17 38 38.6**	**-0.8**
COCO	**West Island**	**67.46**	**230**	P	**P**	**17 38 41.4**	**+0.1**
COCO	**West Island**	**67.46**	**230**	P	**P**	**17 38 41.4**	**+0.1**
KIV	**Kislovodsk**	**70.44**	**311**	*e*P	**P**	**17 39 01.0**	**+1.3**
KIV				pmax	pmax		
	comp=Z,26nm,1.1s						
KIV				MLR	MLR		
	comp=Z,98nm,18.0s						
KIV	**Kislovodsk**	**70.44**	**311**	P	**P**	**17 39 01.0**	**+1.3**
KBZ	**Khabaz**	**70.45**	**311**	P	**P**	**17 39 00.8**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=301,slow=2.6,SNR=5.9						
NVAR	**Mina Array Bea**	**72.04**	**55**	P	**P**	**17 39 12.3**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=230,slow=4.2,SNR=1.9						
NB2	**NORSAR Subarra**	**72.37**	**338**	P	**P**	**17 39 11.2**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**72.37**	**338**	P	**P**	**17 39 11.4**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=39,slow=5.9,SNR=6.0						
BURAR	**Bucovina Array**	**77.26**	**322**	P	**P**	**17 39 38.5**	**-1.1**
BURAR	**Bucovina Array**	**77.26**	**322**	P	**P**	**17 39 38.5**	**-1.1**
BGRES	**GERESS Array B**	**81.32**	**329**	P	**P**	**17 40 02.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=28,slow=4.4,SNR=2.8						
TXAR	**Lajitas Array**	**87.15**	**54**	P	**P**	**17 40 35.4**	**+3.7**
	comp=Z,0.1nm,0.3s,baz=340,slow=7.0,SNR=2.3						

MAN 19 17:29:04.6, 7.°33N×124.°69E, h1km, mb4.4, ML3.3, MS3.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.52**	**129**↑	*i*P	Pg	17 29 15.4	+0.8
KCP				*i*S	Sn	17 29 32.1	+3.5
BUKP	**Musuan**	**0.66**	**35**	*e*P	Pg	17 29 17.6	+0.3
BUKP				*e*S	Sg	17 29 25.4	-0.4
SKMP	**Bagumbayan, Su**	**0.82**	**190**	*e*P	Pg	17 29 20.6	+0.2
SKMP				*e*S	Sg	17 29 31.0	-0.1
CGP	**Cagayan de Oro**	**1.11**	**0**↑	*e*P	Pb	17 29 26.5	-0.3
CGP				*i*S	Sg	17 29 41.1	+0.6
PAGZ	**Pagadian**	**1.39**	**292**	*e*P	Pn	17 29 30.6	-0.6
PAGZ				*e*S	Sn	17 29 50.5	+0.3
DDMP	**Don Marcelino,**	**1.59**	**140**	*e*P	Pn	17 29 33.9	-0.1
MATI	**Mati**	**1.61**	**104**	*e*P	Pn	17 29 33.4	-0.8

IDC ***19*** *17:29:15.3±0.9, 39.°65N×143.°36E, h0km, mb3.7/11, mb1 3.9/14, mb1mx3.7/37, mbtmp3.8/14, ML3.2/2, Error ellipse: s-maj=29.9km s-min=15.4km az=96.0*

NIED ***19*** *17:29:16.7, 39.°78N×143.°58E, h31km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr7.68; Mθθ-1.48; Mφφ-6.20; Mrθ1.30; Mθφ-3.63; Mφr2.87; Fault plane solution: M₀8.53000×10¹⁴ NP1:φ₁27.00000°, δ56.00000°, λ,88.00000°. NP2:φ₂210.00000°, δ34.00000°, λ,93.00000°.*

JMA ***19*** *17:29:16.6±0.1, 39.°78N×143.°58E, h31km, M4.1*

NEIC ***19*** *17:29:17.9±0.6, 39.°54N±0.°06×143.°7E±0.°1, h30km±7km, mb4.0/8, Error ellipse: s-maj=14.9km s-min=8.7km az=99.0*

ISC 19 17:29:16.1±0.7, 39.°65N±0.°05×143.°56E±0.°06, h11km, n48, σ1°57/52, mb3.9/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.34**	**283**	P	**Pn**	**17 29 39.7**	**-1.1**
JTH				*e*S	**Sb**	**17 29 56.5**	**-1.9**
MIYJ	**Miyakonagasawa**	**1.35**	**267**	P	**Pn**	**17 29 40.4**	**-0.5**
MIYJ				*e*S	**Sb**	**17 29 57.5**	**-1.1**
JKEN	**Kujiedanarisaw**	**1.53**	**292**	P	**Pn**	**17 29 42.1**	**-1.2**
JANG	**Nango**	**1.73**	**295**	P	**Pn**	**17 29 44.8**	**-1.3**
JOM	**Ohasama**	**1.76**	**265**	P	**Pn**	**17 29 46.9**	**+0.3**
JMK	**Ichinoseki**	**1.95**	**250**	P	**Pn**	**17 29 49.4**	**+0.3**
JMK				*e*S	**Sn**	**17 30 14.1**	**+0.6**
JTM	**Tenmabayashi**	**2.22**	**302**	Pn	**Pn**	**17 29 54.5**	**+1.6**
ERM	**Erimo**	**2.38**

NOA	**NORSAR Array B**	**72.42**	**338**	P	**P**	**17 40 42.1**	**0.0**
	comp=Z,0.9nm,0.7s,baz=38,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**73.25**	**323**	P	**P**	**17 40 47.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=44,slow=6.0,SNR=2.9						
KNB	**Kanab**	**76.38**	**53**	P	**P**	**17 41 04.2**	**-1.5**

NIED ***19*** *17:30:52.6, 39.79N×143.51E, h34km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.44; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-2.31; $M_{r\theta}$0.45; $M_{\theta\phi}$-1.04; $M_{\phi r}$1.62; Fault plane solution: $M_0$3.08000×10^{14} NP1:ϕ_s18.00000°, δ62.00000°, λ86.00000°. NP2:ϕ_s206.00000°, δ29.00000°, λ97.00000°.*

JMA 19 17:30:52.5±0.2, 39.79N×143.51E, h34km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.28**	**277**	P	Pn	17 31 14.7	+0.8
JTH				*e*S	Sn	17 31 30.8	+1.0
MIYJ	**Miyakonagasawa**	**1.32**	**261**	P	Pn	17 31 15.4	+0.9
JKEN	**Kujiedanarisaw**	**1.44**	**287**	P	Pn	17 31 17.0	+0.8
JKEN				*e*S	Sn	17 31 34.8	+0.8
JANG	**Nango**	**1.64**	**291**	P	Pn	17 31 19.8	+0.9
JOM	**Ohasama**	**1.74**	**260**	P	Pn	17 31 22.0	+1.7
JOM				*e*S	Sn	17 31 42.9	+1.6
JMK	**Ichinoseki**	**1.96**	**245**	P	Pn	17 31 24.4	+1.1
JMK				*e*S	Sn	17 31 48.2	+1.4
JIO	**Ouri**	**2.15**	**232**	P	Pn	17 31 26.3	+0.4
JNBK	**Urakawa-nobuka**	**2.55**	**347**	*e*S	Sb	17 32 05.8	-2.8
JCH	**Churui**	**2.82**	**358**	*e*S	Sn	17 32 09.9	+1.9
JAK	**Akkeshi**	**3.33**	**15**	*e*S	Sn	17 32 23.0	+2.6

UPP ***19*** *18:03:49.6±0.1, 67.05N×20.94E, h0km, ML2.4, Explosion*
HEL ***19*** *18:03:50.4±0.1, 67.05N×20.98E, h0km, ML2.4, ML2.4(UPP), Explosion*
IDC ***19*** *18:03:50.7±0.8, 67.01N×21.24E, h0km, mb1 3.3/5, mb1mx3.0/44, mbtmp3.3/5, ML2.3/5, Error ellipse: s-maj=15.3km s-min=7.3km az=111.0*
NAO ***19*** *18:03:51.1±0.7, 67.00N×21.34E, ML2.6*
BER ***19*** *18:03:52.8±4.0, 67.00N×21.13E, h0km, ML1.9, ML2.4(UPP), Suspected explosion*

ISC 19 18:03:49.5±0.7, 67.04N±0.02×20.91E±0.02, h0km, n66, σ1s07/105, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.60**	**45**	P	**Pg**	**18 04 00.8**	**-0.1**
MASU	**Masugnsbyn**	**0.60**	**45**	*i* P	**Pg**	**18 04 00.8**	**-0.1**
PAJU	**Pajala**	**0.87**	**90**	P	**Pg**	**18 04 05.4**	**-0.7**
PAJU				S	**Sg**	**18 04 17.4**	**+0.1**
PAJU	**Pajala**	**0.87**	**90**	*e*P	**Pg**	**18 04 05.3**	**-0.7**
PAJU				*e*SB	**Sg**	**18 04 17.3**	**+0.1**
HARU	**Harads**	**0.88**	**178**	P	**Pg**	**18 04 06.3**	**0.0**
HARU	**Harads**	**0.88**	**178**	*i* P	**Pg**	**18 04 06.3**	**0.0**
RATU	**Laukkuluspa**	**0.94**	**328**	P	**Pg**	**18 04 07.0**	**-0.4**
RATU	**Laukkuluspa**	**0.94**	**328**	*e*P	**Pg**	**18 04 07.0**	**-0.4**
KUA	**Kurravaara**	**0.95**	**347**	P	**Pg**	**18 04 07.0**	**-0.6**
KUA	**Kurravaara**	**0.95**	**347**	*e*P	**Pg**	**18 04 07.0**	**-0.6**
SALU	**Saltoluokta**	**1.00**	**291**	P	**Pb**	**18 04 08.9**	**-0.7**
SALU	**Saltoluokta**	**1.00**	**291**	*e*P	**Pn**	**18 04 09.6**	**-1.1**
SALU				*e*S	**Sn**	**18 04 27.3**	**+1.8**
SALU	**Saltoluokta**	**1.00**	**291**	*e*P	**Pb**	**18 04 08.9**	**-0.7**
LANU	**Lannavaara**	**1.10**	**22**	P	**Pg**	**18 04 09.5**	**-1.1**
LANU	**Lannavaara**	**1.10**	**22**	*e*P	**Pg**	**18 04 09.4**	**-1.1**
LANU				*e*SB	**Sg**	**18 04 25.5**	**+0.7**
NIKU	**Nikkaluokta**	**1.10**	**320**	P	**Pg**	**18 04 10.1**	**-0.5**
NIKU	**Nikkaluokta**	**1.10**	**320**	*e*P	**Pg**	**18 04 10.1**	**-0.5**
KOVU	**Salmi**	**1.23**	**347**	P	**Pg**	**18 04 12.1**	**-0.8**
KOVU	**Salmi**	**1.23**	**347**	*e*P	**Pg**	**18 04 12.1**	**-0.8**
KALU	**Kalix**	**1.54**	**139**	P	**Pn**	**18 04 17.6**	**-0.6**
KALU	**Kalix**	**1.54**	**139**	*e*P	**Pn**	**18 04 17.6**	**-0.6**
TOF	**Tornio**	**1.67**	**124**	*e*P	**Pn**	**18 04 20.0**	**0.0**
TOF				MSG		18 04 39.9	
	comp=Z,38nm,0.2s						
TOF				*e*SN	**Sn**	**18 04 42.5**	**+0.5**
HEF	**Hetta**	**1.73**	**36**	*e*P	**Pn**	**18 04 20.8**	**0.0**
HEF				*e*S	**Sn**	**18 04 43.8**	**+0.2**
HEF	**Hetta**	**1.73**	**36**	*e*P	**Pn**	**18 04 20.4**	**-0.5**
	baz=216						
HEF				MSG		18 04 40.7	
	comp=Z,38nm,0.2s						
HEF				*e*SN	**Sn**	**18 04 43.7**	**+0.1**
KIF	**Kilpisjarvi**	**1.98**	**359**	Pn	**Pb**	**18 04 25.8**	**-0.5**
KIF				Sn	**Sg**	**18 04 53.0**	**+0.1**
KIF	**Kilpisjarvi**	**1.98**	**359**	*e*P	**Pb**	**18 04 25.9**	**-0.5**
KIF				*e*S	**Sg**	**18 04 52.5**	**-0.4**
KIF	**Kilpisjarvi**	**1.98**	**359**	*e*PB	**Pb**	**18 04 25.7**	**-0.5**
KIF				MSG		18 04 49.5	
	comp=Z,32nm,0.2s						
KIF				*e*SG	**Sg**	**18 04 53.1**	**+0.1**
RNF	**Rovaniemi**	**2.07**	**100**	*e*PB	**Pn**	**18 04 26.2**	**+0.8**
RNF				*e*SG	**Sb**	**18 04 54.4**	**+0.4**
KTK1	**Kautokeino**	**2.17**	**23**	Pn	**Pb**	**18 04 28.5**	**-1.1**
KTK1				Sn	**Sb**	**18 04 57.1**	**+0.1**
KTK1	**Kautokeino**	**2.17**	**23**	*e*P	**Pb**	**18 04 28.5**	**-1.1**
KTK1				*e*S	**Sb**	**18 04 56.0**	**-1.0**
KTK1				IAML		18 04 59.8	
	comp=Z,14nm,0.4s						
SGF	**Sodankyl**	**2.22**	**77**	*e*PB	**Pn**	**18 04 28.6**	**+1.0**
SGF				*e*SG	**Sb**	**18 04 58.8**	**+0.3**
BURU	**Burvik**	**2.47**	**175**	*e*P	**Pn**	**18 04 32.4**	**+1.5**
	baz=358						
JETT	**Jettan, Norway**	**2.54**	**356**	Pn	**Pb**	**18 04 35.3**	**-0.6**
JETT				Sn	**Sb**	**18 05 08.1**	**+0.5**
OUL	**Oulu**	**2.83**	**132**	*e*PB	**Pn**	**18 04 37.8**	**+2.0**
	baz=318						
OUL				*e*SG	**Sb**	**18 05 16.4**	**+0.6**
OBF0	**Syolatti, Pyha**	**2.90**	**150**	*e*PB	**Pb**	**18 04 39.7**	**-2.2**
LOF	**Lofoten**	**3.03**	**295**	*e*P	**Pn**	**18 04 40.0**	**+1.4**
ARA0	**ARCESS Array S**	**3.04**	**32**	Pn	**Pn**	**18 04 39.1**	**+0.4**
	baz=206,slow=16						
ARA0				Sn	**Sn**	**18 05 16.1**	**+0.3**
	baz=208,slow=28						
ARA0	**ARCESS Array S**	**3.04**	**32**	Pn	**Pn**	**18 04 39.1**	**+0.4**
	baz=206,slow=16						
ARA0				Sn	**Sn**	**18 05 16.1**	**+0.3**
	baz=208,slow=28						
ARCES	**ARCESS Array B**	**3.04**	**32**	Pn	**Pn**	**18 04 39.1**	**+0.3**
	baz=210,slow=14,SNR=52						
ARCES				Sn	**Sn**	**18 05 16.3**	**+0.6**
	baz=215,slow=25,SNR=8.8						
OUF	**Merijarvi**	**3.11**	**148**	*e*P	**Pn**	**18 04 40.9**	**+1.2**
OUF				MSG		18 05 21.9	
	comp=Z,5.1nm,0.2s						
KONS	**Konsvik**	**3.13**	**264**	*e*P	**Pn**	**18 04 42.0**	**+2.0**
KONS				IAML		18 05 39.6	
	comp=Z,7.6nm,0.5s						
VRF	**Varrio**	**3.44**	**74**	*e*P	**Pn**	**18 04 45.0**	**+0.8**
VRF				*e*SG	**Sb**	**18 05 34.2**	**+0.8**
MSF	**Maaselka**	**3.45**	**105**	*e*P	**Pn**	**18 04 45.4**	**+1.0**
	baz=291						
MSF				*e*SG	**Sb**	**18 05 35.5**	**+1.6**
OLKF	**Oulanka, Finla**	**3.46**	**98**	*e*P	**Pn**	**18 04 46.0**	**+1.5**
KEV	**Kevo**	**3.54**	**37**	*e*P	**Pn**	**18 04 46.2**	**+0.6**
KEV	**Kevo**	**3.54**	**37**	*e*P	**Pn**	**18 04 46.5**	**+0.9**
KEV				*e*S	**Sn**	**18 05 28.6**	**+0.5**
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pn**	**18 04 48.9**	**+0.6**
	baz=289						
KU6				*e*S	**Sn**	**18 05 33.8**	**+0.9**
HAMF	**Hammerfest**	**3.76**	**14**	*e*P	**Pn**	**18 04 50.4**	**+1.7**
HAMF				*e*S	**Sn**	**18 05 33.4**	**-0.1**
HAMF				IAML		18 06 12.5	
	comp=Z,6.4nm,1.0s						
HUSU	**Husum**	**3.78**	**192**	*e*P	**Pn**	**18 04 50.2**	**+1.3**
HUSU				*e*S	**Sn**	**18 05 34.9**	**+0.9**
VAF	**Ylistaro**	**4.08**	**169**	*e*P	**Pn**	**18 04 54.7**	**+1.7**
	baz=346						
APA0	**Apatity Array**	**4.71**	**77**	Pn	**Pn**	**18 05 01.8**	**+0.1**
	baz=257,slow=14						
APA0				Sn	**Sn**	**18 05 55.7**	**-1.3**
	baz=271,slow=28						
APA0				Lg	Lg	18 06 12.8	
APA0	**Apatity Array**	**4.71**	**77**	Pn	**Pn**	**18 05 01.8**	**+0.1**
	baz=257,slow=14						
APA0				Sn	**Sn**	**18 05 55.7**	**-1.3**
	baz=271,slow=28						
APA0				Sg	**Sb**	**18 06 12.8**	**+2.7**
FIA0	**FINESS Array S**	**6.05**	**156**	Pn	**Pn**	**18 05 21.4**	**+1.3**
	baz=345,slow=16						
FIA0				Sn	**Sn**	**18 06 29.1**	**-0.8**
	baz=342,slow=22						
FIA0	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**18 05 21.4**	**+1.3**
	baz=345,slow=16						
FIA0				Sn	**Sn**	**18 06 29.1**	**-0.8**
	baz=342,slow=22						
FINES	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**18 05 21.4**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=348,slow=12,SNR=15						
FINES				Sn	**Sn**	**18 06 27.9**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=347,slow=22,SNR=6.3						
NB2	**NORSAR Subarra**	**7.36**	**220**	Pn	**Pn**	**18 05 37.8**	**-0.4**
	baz=20,slow=12						
NB2				Sn	**Sn**	**18 07 00.6**	**-1.7**
NB2	**NORSAR Subarra**	**7.36**	**220**	Pn	**Pn**	**18 05 37.8**	**-0.4**
	baz=20,slow=12						
NB2				Sn	**Sn**	**18 07 00.6**	**-1.7**
NOA	**NORSAR Array B**	**7.36**	**220**	Pn	**Pn**	**18 05 37.5**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=56,slow=14,SNR=4.5						
NOA				Sn	**Sn**	**18 07 02.4**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=18,slow=17,SNR=1.8						
NRA0	**NORESS Array S**	**7.55**	**218**	Pn	**Pn**	**18 05 41.3**	**+0.7**
	baz=21,slow=12						
NRA0				Sn	**Sn**	**18 07 04.4**	**-2.3**
	baz=23,slow=22						
NRA0	**NORESS Array S**	**7.55**	**218**	Pn	**Pn**	**18 05 41.3**	**+0.7**
	baz=21,slow=12						
NRA0				Sn	**Sn**	**18 07 04.4**	**-2.3**
	baz=23,slow=22						
HFS	**Hagfors**	**7.63**	**208**	Pn	**Pn**	**18 05 41.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=9.7						
HFS				Sn	**Sn**	**18 07 05.3**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=38,slow=24,SNR=1.1						
HFS				Lg	Lg	18 07 45.8	
	comp=Z,0.1nm,0.3s,baz=36,slow=25,SNR=2.3						
HFS	**Hagfors**	**7.63**	**208**	Pn	**Pn**	**18 05 42.1**	**+0.3**
	baz=28,slow=14						
HFS				Sn	**Sn**	**18 07 07.6**	**-1.2**
	baz=18,slow=37						
HFS	**Hagfors**	**7.63**	**208**	Pn	**Pn**	**18 05 42.1**	**+0.3**
	baz=28,slow=14						
HFS				Sn	**Sn**	**18 07 07.6**	**-1.2**
	baz=18,slow=37						
SPA0	**Spitsbergen Ar**	**11.28**	**355**	Pn	**Pn**	**18 06 32.8**	**+1.2**
	baz=166,slow=28						
SPA0	**Spitsbergen Ar**	**11.28**	**355**	Pn	**Pn**	**18 06 32.8**	**+1.2**
	baz=166,slow=28						
SPITS	**Spitsbergen Ar**	**11.28**	**355**	Pn	**Pn**	**18 06 31.6**	**0.0**
	baz=161,slow=18,SNR=6.4						

NEIC ***19*** *18:07:25.2±1.3, 18.74N±0.08×146.3E±0.2, h69km±6km, mb4.4/10, Error ellipse: s-maj=22.4km s-min=10.9km az=83.0*
IDC ***19*** *18:07:25.1±3.2, 18.71N×146.44E, h68km±27km, mb3.5/12, mb1 3.8/13, mb1mx3.5/38, mbtmp3.9/13, MS2.6/2, Ms1 2.6/2, ms1mx2.4/27, Error ellipse: s-maj=26.7km s-min=15.8km az=98.0*

ISC 19 18:07:24.5±0.6, 18.74N±0.07×146.4E±0.1, h64km, n33, σ1s22/29, mb4.1/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.48**	**196**		**Pn**	**18 08 02.9**	**+0.3**
GUMO	**Guam**	**5.33**	**196**	Pn	**Pn**	**18 08 42.2**	**+0.6**
JCJ	**Chichijima**	**9.19**	**336**	P	**Pn**	**18 09 35.8**	**+1.4**
	1.7nm,0.3s,baz=162,slow=20,SNR=1.3						
JCJ				S	**Sn**	**18 11 12.6**	**-3.7**
	1.2nm,0.3s,baz=288,slow=19,SNR=2.5						
JCJ				LR	LR	18 12 23.6	
	comp=Z,25nm,19.0s,baz=116,slow=32						
JCJ	**Chichijima**	**9.19**	**336**		**Pn**	**18 09 33.9**	**-0.4**
PATS	**Pohnpei**	**16.55**	**134**	Pn	**Pn**	**18 11 10.3**	**-2.3**
H11S3	**WAKE ISLAND Hy**	**19.21**	**87**	T	T	18 32 48.2	
	baz=275,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**19.23**	**87**	T	T	18 32 52.0	
	baz=275,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**19.23**	**87**	T	T	18 32 49.8	
	baz=275,slow=74,SNR=16						
H11N1	**WAKE ISLAND Hy**	**19.36**	**84**	T	T	18 33 02.1	
	baz=267,slow=74,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**19.36**	**84**	T	T	18 33 11.0	
	baz=267,slow=74,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**19.38**	**84**	T	T	18 33 09.8	
	baz=267,slow=74,SNR=5.6						
KSRS	**Korea Array**	**24.70**	**323**	P	**P**	**18 12 39.8**	**+0.2**
	0.5nm,0.5s,baz=144,slow=8.9,SNR=3.7						
KSRS				LR	LR	18 20 47.8	
	comp=Z,19nm,21.6s,baz=71,slow=32						
FAKI	**Fak Fak**	**25.64**	**214**	P	**P**	**18 12 47.8**	**-0.6**
FAKI				IAmb	IAmb	18 12 56.3	
	comp=Z,27nm,1.1s						
WB0	**Warramunga Arr**	**40.04**	**198**	P	**P**	**18 14 53.6**	**0.0**
WB0				IAmb	IAmb	18 15 09.3	
	comp=Z,8.6nm,1.3s						
WR0	**Warramunga Arr**	**40.18**	**197**	P	**P**	**18 14 52.6**	**-2.2**
WR0				IAmb	IAmb	18 15 20.4	
	comp=Z,6.3nm,1.4s						
WRAB	**Tennant Creek**	**40.21**	**198**	P	**P**	**18 14 55.2**	**+0.2**
WRAB				IAmb	IAmb	18 15 19.9	
	comp=Z,6.4nm,1.3s						
WB2	**Warramunga Arr**	**40.22**	**198**	P	**P**	**18 14 55.7**	**+0.7**
WB2				IAmb	IAmb	18 15 19.7	
	comp=Z,6.5nm,1.2s						
WRA	**Warramunga Arr**	**40.22**	**198**	P	**P**	**18 14 55.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=32,slow=8.8,SNR=20						
WRA				PcP	**PcP**	**18 16 57.9**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=17,slow=3.6,SNR=6.0						
WRA				ScP	**ScP**	**18 20 41.2**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=24,slow=4.3,SNR=5.3						
FITZ	**Fitzroy Crossi**	**41.91**	**210**	P	**P**	**18 15 08.8**	**-0.2**
SONM	**Songino Array**	**43.54**	**321**	P	**P**	**18 15 23.3**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=128,slow=6.9,SNR=2.7						
ASAR	**Alice Springs**	**43.88**	**197**	P	**P**	**18 15 23.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=19,slow=6.4,SNR=8.1						
MKAR	**Manchi Array**	**58.93**	**314**	P	**P**	**18 17 17.5**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=99,slow=9.1,SNR=3.0						
ILAR	**Eielson Array**	**63.31**	**26**	P	**P**	**18 17 46.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=255,slow=5.1,SNR=8.2						
BVAR	**Borovoye Array**	**66.88**	**320**	P	**P**	**18 18 10.4**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=173,slow=5.8,SNR=4.7						
INK	**Inuvik**	**69.07**	**23**	P	**P**	**18 18 23.1**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=265,slow=11,SNR=5.6						
INK	**Inuvik**	**69.07**	**23**	IAmb	IAmb	18 18 28.2	
	comp=Z,3.9nm,1.3s						
YKA	**Yellowknife Ar**	**77.64**	**28**	P	**P**	**18 19 14.1**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=290,slow=5.0,SNR=20						
PINE	**Pine Mountain**	**79.13**	**47**	P	**P**	**18 19 24.1**	**+1.4**
NVAR	**Mina Array Bea**	**82.58**	**52**	P	**P**	**18 19 42.2**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=269,slow=6.0,SNR=7.8						
NVAR	**Mina Array Bea**	**82.58**	**52**	P	**P**	**18 19 41.6**	**+0.4**
ARCES	**ARCESS Array B**	**82.67**	**342**	P	**P**	**18 19 41.7**	**+0.9**
	comp=Z,2.6nm,0.9s,baz=83,slow=7.6,SNR=3.6						
YMR	**Madison River**	**85.64**	**44**	P	**P**	**18 19 58.1**	**+1.4**
YMR				IAmb	IAmb	18 19 59.0	
	comp=Z,4.5nm,0.9s						
FINES	**FINESS Array B**	**87.14**	**335**	P	**P**	**18 20 02.4**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=75,slow=4.6,SNR=6.8						

BJI ***19*** *18:26:03.5±0.0, 28.64S×174.64W, h8km, mB5.5/5, mb5.1/13, Ms4.8/2, Ms7 4.5/2*
NEIC ***19*** *18:26:06.0±1.6, 28.49S±0.10×174.7W±0.1, h16km±2km, mb4.8/54, Error ellipse: s-maj=14.6km s-min=14.1km az=128.0*
IDC ***19*** *18:26:05.3±0.5, 28.17S×174.83W, h0km, mb4.4/18, mb1 4.5/20, mb1mx4.4/40, mbtmp4.4/20, ML5.2/2, MS4.0/30, Ms1 4.0/30, ms1mx3.9/39, Error ellipse: s-maj=21.1km s-min=17.3km az=159.0*
GCMT ***19*** *18:26:08.9±0.2, 28.11S±0.02×174.68W±0.01, h18km, MW5.0/100, Moment Tensor Solution. s47,c57; s100,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.83±.19; $M_{\theta\theta}$0.31±.12; $M_{\phi\phi}$3.52±.12; $M_{r\theta}$-1.10±.32; $M_{\theta\phi}$-0.94±.07; $M_{\phi r}$-1.15±.24; Best double couple: M_o4.10300×10^{16} NP1:ϕ_s149.00000°, δ41.00000°, λ-116.00000°. NP2:ϕ_s2.00000°, δ54.00000°, λ-69.00000°. Principal axes: T 3.8700, Plg6.0000°, Azm77.0000°; N 0.4700, Plg17.0000°, Azm169.0000°; P -4.3360, Plg72.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 18:26:05.4±0.4, 28.40S±0.06×174.72W±0.07, h10km, n201, σ1s60/173, mb4.9/46, MS4.2/29, 1C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.93**	**252**	Pn	**Pn**	**18 26 51.2**	**-0.7**
NIUE	**Niue**	**10.27**	**26**	Pn	**Pn**	**18 28 30.0**	**-2.8**
MXZ	**Matakaoa Point**	**10.84**	**211**	Pn	**Pn**	**18 28 39.4**	**-1.2**
MXZ	**Matakaoa Point**	**10.84**	**211**	P	**Pn**	**18 28 39.9**	**-0.8**
WMGZ	**Waiomatatini S**	**11.01**	**210**	P	**Pn**	**18 28 42.7**	**-0.2**
PKGZ	**Pakihiroa**	**11.21**	**211**	P	**Pn**	**18 28 43.9**	**-1.9**
HAZ	**Te Kaha**	**11.24**	**212**	P	**Pn**	**18 28 44.7**	**-1.4**
RUGZ	**Raukumara Rang**	**11.46**	**212**	P	**Pn**	**18 28 47.6**	**-1.6**
TWGZ	**Tauwhareparae**	**11.49**	**210**	P	**Pn**	**18 28 49.4**	**-0.2**
CNGZ	**Carnagh Statio**	**11.65**	**209**	P	**Pn**	**18 28 50.3**	**-1.5**
MWZ	**Matawai**	**11.83**	**211**	P	**Pn**	**18 28 53.2**	**-0.9**
URZ	**Urewera**	**11.96**	**213**	Pn	**Pn**	**18 28 53.4**	**-2.6**
	0.9nm,0.3s,baz=278,slow=3.9,SNR=23						
URZ				Sn	**Sn**	**18 31 03.8**	**-5.6**
	15nm,0.3s,baz=198,slow=19,SNR=17						
URZ				LR	LR	18 34 45.3	
	comp=Z,275nm,19.8s,baz=32,slow=43						
URZ	**Urewera**	**11.96**	**213**	Pn	**Pn**	**18 28 53.6**	**-2.3**
URZ	**Urewera**	**11.96**	**213**	P	**Pn**	**18 28 53.7**	**-2.3**
OUZ	**Omahuta**	**12.03**	**233**		**Pn**	**18 28 57.1**	**+0.3**
MUGZ	**Murupara**	**12.30**	**213**	P	**Pn**	**18 28 59.4**	**-1.2**
RAHZ	**Arahi**	**12.50**	**211**	P	**Pn**	**18 29 03.0**	**-0.4**
MSVF	**Nonsavu**	**12.53**	**326**	Pn	**Pn**	**18 29 02.3**	**-1.5**
	0.7nm,0.3s,baz=150,slow=15,SNR=7.5						
MSVF				LR	LR	18 33 19.6	
	comp=Z,1μm,18.7s,baz=182,slow=35						
MSVF	**Nonsavu**	**12.53**	**326**	Pn	**Pn**	**18 29 02.2**	**-1.6**
MTHZ	**Maungataniwha**	**12.56**	**212**	P	**Pn**	**18 29 02.7**	**-1.6**
BKZ	**Black Stump Fm**	**12.97**	**212**	Pn	**Pn**	**18 29 07.6**	**-2.2**
BKZ	**Black Stump Fm**	**12.97**	**212**	P	**Pn**	**18 29 11.0**	**+1.1**
KWHZ	**Kaweka Forest**	**13.21**	**211**	P	**Pn**	**18 29 12.7**	**-0.4**
HIZ	**Hauiti**	**13.30**	**218**	Pn	**Pn**	**18 29 11.4**	**-2.9**
HIZ	**Hauiti**	**13.30**	**218**	P	P	18 29 18.5	-5.6
TMVZ	**Te Maari**	**13.31**	**214**	P	**Pn**	**18 29 13.4**	**-1.2**
BHHZ	**Black Hill Sta**	**13.43**	**212**	P	**Pn**	**18 29 15.6**	**-0.5**
BFZ	**Birch Farm**	**14.32**	**209**	Pn	**Pn**	**18 29 26.7**	**-1.5**
AFI	**Afiamalu**	**14.68**	**11**	Sn	Sn	18 31 50.3	-26
	7.5nm,0.3s,baz=90,slow=20,SNR=5.9						
AFI	**Afiamalu**	**14.68**	**11**	Pn	**Pn**	**18 29 30.4**	**-2.9**
RAR	**Rarotonga**	**15.34**	**66**	Pn	Pn	18 29 35.0	-7.0
	5.8nm,0.3s,baz=278,slow=8.1,SNR=14						
RAR				Sn	Sn	18 32 10.9	-21
	3.5nm,0.3s,baz=359,slow=11,SNR=3.1						
RAR				LR	LR	18 35 19.6	
	comp=Z,493nm,18.5s,baz=268,slow=36						
RAR	**Rarotonga**	**15.34**	**66**	Pn	Pn	18 29 34.5	-7.5
RAR				IAmb	IAmb	18 30 00.9	
	comp=Z,38nm,0.8s						
MSWZ	**Moikau Station**	**15.35**	**210**	Pn	**Pn**	**18 29 40.3**	**-1.8**
PLWZ	**Palliser**	**15.47**	**209**	Pn	**Pn**	**18 29 41.8**	**-2.0**
SNZO	**South Karori**	**15.51**	**211**	Pn	**Pn**	**18 29 41.4**	**-2.7**
BHW	**Baring Head**	**15.51**	**211**	Pn	**Pn**	**18 29 43.4**	**-0.8**
TUWZ	**Tuamarina**	**15.96**	**213**		**Pn**	**18 29 48.0**	**-1.9**
NNZ	**Nelson**	**16.07**	**214**	Pn	**Pn**	**18 29 49.6**	**-1.7**
NNZ				IAmb	IAmb	18 30 16.1	
	comp=Z,105nm,1.5s						
BSWZ	**Blackbirch Sta**	**16.21**	**212**	Pn	**Pn**	**18 29 51.2**	**-2.0**
QRZ	**Quartz Range**	**16.21**	**217**	Pn	**Pn**	**18 29 51.6**	**-1.7**
THZ	**Tophouse**	**16.71**	**214**	P	**Pn**	**18 29 58.2**	**-1.5**
THZ				IAmb	IAmb	18 30 05.5	
	comp=Z,60nm,1.3s						
KHZ	**Kahutara**	**16.92**	**211**	Pn	**Pn**	**18 30 01.4**	**-0.7**
KHZ				IAmb	IAmb	18 30 14.0	
	comp=Z,90nm,0.9s						
LTZ	**Lake Taylor**	**17.79**	**213**		**Pn**	**18 30 12.3**	**-0.8**
DZM	**Mont Dzumac**	**18.16**	**286**	*e*P	**P**	**18 30 21.0**	**+2.9**
	comp=Z,58nm,0.9s						
DZM				*e*LQ	LQ	18 33 50.9	
	comp=Z,2μm,30.7s						
DZM				*e*LR	LR	18 34 40.4	
	comp=Z,2μm,26.7s						
DZM	**Mont Dzumac**	**18.16**	**286**	P	**P**	**18 30 20.9**	**+2.7**
	comp=Z,0.5nm,0.3s,baz=76,slow=15,SNR=8.4						

comp=Z,2.5nm,0.3s,baz=109,slow=6.3,SNR=98
WRA LR LR 18 52 55.7
comp=Z,102nm,18.2s,baz=95,slow=34
WRA Warramunga Arr 46.94 269 P **P** **18 34 36.1 -0.5**
WB0 Warramunga Arr 46.96 269 P **P** **18 34 36.5 -0.3**
WB0 IAmb IAmb 18 34 39.1
comp=Z,15nm,1.1s
FORT Forrest 49.35 253 P **P** **18 34 56.0 +0.9**
GENI Genyem 50.03 293 P **P** **18 34 59.8 -0.6**
comp=Z,15nm,0.6s
SRPI Serui, Papua 53.66 290 P **P** **18 35 27.2 -0.4**
comp=Z,2µmcomp=Z,73nm,0.8s
FITZ Fitzroy Crossi 55.27 267 P **P** **18 35 40.2 +0.9**
SWI Sorong 58.36 288 P **P** **18 36 02.5 +1.3**
comp=Z,89nm,0.8s
PSA00 Pilbara Seismi 59.07 261 P **P** **18 36 06.7 +0.5**
PSA00 IAmb IAmb 18 36 08.2
comp=Z,11nm,0.9s
SOEI Soe 59.97 275 P **P** **18 36 14.1 +1.6**
SOEI Soe 59.97 275 P **P** **18 36 14.5 +2.0**
comp=Z,57nm,0.8s
BATI Baumata 60.29 274 P **P** **18 36 16.9 +2.3**
comp=Z,17nm,0.7s
NLAI Namlea 60.64 283 P **P** **18 36 16.9 0.0**
comp=Z,3µmcomp=Z,18nm,0.9s
SANI Sanana 62.20 284 P **P** **18 36 28.0 +0.5**
comp=Z,27nm,0.8s
MMRI Maumere 62.26 275 P **P** **18 36 28.4 +0.5**
MMRI Maumere 62.26 275 P **P** **18 36 28.7 +0.8**
comp=Z,28nm,0.9s
EDFI Ende, Flores 62.68 275 P **P** **18 36 31.1 +0.2**
comp=Z,11nm,0.7s
PLAI Plampang 66.09 273 P **P** **18 36 52.8 -0.3**
comp=Z,32nm,0.7s
JCJ Chichijima 68.95 319 P **P** **18 37 09.9 -0.9**
BELA Belgrano 2 71.36 172 P **P** **18 37 24.5 -0.5**
BELA IAmb IAmb 18 37 28.4
comp=Z,5.4nm,0.8s
UGM Wanagama 72.89 270 P **P** **18 37 34.3 -0.9**
KKM Kota Kinabalu 74.72 286 P **P** **18 37 45.0 -0.9**
KKM IAmb IAmb 18 37 48.1
comp=Z,8.3nm,0.7s
MAW Mawson 75.16 200 P **P** **18 37 51.1 +3.6**
comp=Z,2.3nm,0.7s,baz=138,slow=15,SNR=2.3
MAW LR LR 19 07 55.5
comp=Z,106nm,20.9s,baz=72,slow=33
MAW Mawson 75.16 200 P **P** **18 37 46.6 -0.9**
MJAR Matsushiro Arr 78.31 323 P **P** **18 38 04.6 -1.0**
comp=Z,0.9nm,0.8s,baz=157,slow=6.8,SNR=4.0
MJAR Matsushiro Arr 78.31 323 IAmb IAmb 18 38 11.6
comp=Z,4.0nm,1.3s
SYO Syowa Base 79.67 192 ‖ *ep*P **P** **18 38 17.0 +4.3**
SYO Syowa Base 79.67 192 ‖ *ep*PcP P 18 38 19.4 +6.7
SNAA Sanae 80.04 177 P **P** **18 38 17.7 +2.9**
VNA3 Neumayer Olymp 80.07 175 P **P** **18 38 17.5 +2.6**
VNA2 Neumayer--Watz 80.54 176 P **P** **18 38 19.9 +2.4**
baz=173,slow=7.6
VNA1 Neumayer--Stat 80.75 175 P **P** **18 38 20.8 +2.3**
SSLB Suanglung 80.80 303 P **P** **18 38 19.4 -0.1**
SSLB IAmb IAmb 18 38 21.0
comp=Z,14nm,0.8s
LPIG La Paz 81.06 57 LR LR 19 07 40.9
comp=Z,167nm,18.3s,baz=213,slow=31
PLCA Paso Flores 81.74 132 LR LR 19 08 12.5
comp=Z,140nm,18.3s,baz=190,slow=31
JKA Kamikawa-asahi 82.06 330 P **P** **18 38 26.7 +1.0**
JKA Kamikawa-asahi 82.06 330 IAmb IAmb 18 38 32.8
comp=Z,13nm,1.3s
ASAJ Asahikawa 82.06 330 P **P** **18 38 26.7 +1.0**
comp=Z,3.7nm,0.7s,baz=165,slow=8.1,SNR=5.4
PFO Pinyon Flats O 82.76 46 LR LR 19 08 27.7
comp=Z,92nm,18.5s,baz=206,slow=31
YSS Yuzh-Sakhalins 84.26 332 P **P** **18 38 38.1 +1.2**
PETK Petropavlovsk- 84.65 344 P **P** **18 38 39.1 +0.2**
comp=Z,6.4nm,0.7s,baz=142,slow=7.5,SNR=7.3
PETK LR LR 19 09 54.2
comp=Z,46nm,19.7s,baz=157,slow=31
YBH Yreka Blue Hor 84.72 36 P **P** **18 38 40.1 +0.5**
comp=Z,1.9nm,0.9s,baz=170,slow=8.4,SNR=4.5
YBH LR LR 19 10 50.0
comp=Z,76nm,18.3s,baz=230,slow=32
YBH Yreka Blue Hor 84.72 36 IAmb IAmb 18 38 53.0
comp=Z,5.6nm,1.2s
KSRS Korea Array 84.74 318 P **P** **18 38 40.9 +1.2**
comp=Z,2.1nm,0.8s,baz=141,slow=5.6,SNR=13
KSRS LR LR 19 14 49.9
comp=Z,34nm,18.5s,baz=123,slow=35
KSAR Wonju Array Be 84.76 318 P **P** **18 38 40.2 +0.5**
NVAR Mina Array Bea 84.85 41 P **P** **18 38 41.7 +1.2**
comp=Z,1.3nm,0.8s,baz=226,slow=9.3,SNR=6.3
NVAR LR LR 19 14 29.5
comp=Z,91nm,18.2s,baz=216,slow=34
NVAR Mina Array Bea 84.85 41 P **P** **18 38 40.7 +0.1**
USRK Ussuriysk Ar. 87.13 325 P **P** **18 38 52.0 +0.7**
comp=Z,3.2nm,0.8s,baz=107,slow=3.2,SNR=7.4
USRK LR LR 19 11 41.0
comp=Z,47nm,19.8s,baz=123,slow=32
NJ2 Nanjing 87.17 309 *eP* **P** **18 38 52.5 +0.6**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
U15A North Rim 87.19 46 P **P** **18 38 52.4 +0.2**
KNB Kanab 87.22 45 P **P** **18 38 51.2 -1.1**
ELK Elko 88.16 41 LR LR 19 10 57.4
comp=Z,121nm,19.9s,baz=233,slow=31
TX31 Lajitas Ar. Si 88.91 56 P **P** **18 38 59.0 -1.3**
TX32 Lajitas Array 88.91 56 P **P** **18 38 57.3 -3.1**
TX32 IAmb IAmb 18 39 21.1
comp=Z,10nm,1.4s
TXAR Lajitas Array 88.91 56 P **P** **18 39 01.1 +0.8**
comp=Z,0.8nm,0.7s,baz=209,slow=7.6,SNR=11
TXAR LR LR 19 12 47.7
comp=Z,78nm,18.3s,baz=0.0,slow=32
TXAR Lajitas Array 88.91 56 P **P** **18 39 00.9 +0.6**
MNTX Cornudas Mount 89.00 53 P **P** **18 38 58.0 -2.6**
MNTX IAmb IAmb 18 39 14.4
comp=Z,9.4nm,1.2s
CMIG Matias Romero 89.40 70 P **P** **18 39 04.7 +1.9**
comp=Z,3.1nm,0.9s,baz=215,slow=10,SNR=3.9
CMIG LR LR 19 10 33.5
comp=Z,55nm,18.6s,baz=226,slow=30
BBB Bella Bella 90.02 27 LR LR 19 16 21.7
comp=Z,62nm,18.1s,baz=244,slow=34
ANMO Albuquerque 90.11 50 P **P** **18 39 06.7 +0.8**
comp=Z,1.0nm,0.6s,baz=225,slow=8.6,SNR=3.5
ANMO LR LR 19 12 44.8
comp=Z,120nm,18.9s,baz=238,slow=31
ANMO Albuquerque 90.11 50 IAmb IAmb 18 39 19.9
comp=Z,8.7nm,1.1s
F10A Beach Ranch, E 90.52 36 P **P** **18 39 06.1 -1.4**
F10A IAmb IAmb 18 39 19.9
comp=Z,9.6nm,1.2s
KLR Kul'dur 90.81 328 P **P** **18 39 10.1 +1.5**
comp=Z,1.2nm,0.8s,baz=349,slow=5.2,SNR=4.9
NEW Newport 92.10 34 LR LR 19 11 29.4
comp=Z,90nm,22.0s,baz=212,slow=30
LVC Limon Verde 92.35 117 P **P** **18 39 20.7 +3.7**
comp=Z,3.0nm,0.7s,baz=271,slow=6.5,SNR=4.1
LVC Limon Verde 92.35 117 P **P** **18 39 15.3 -1.7**
PDAR Pinedale Array 92.73 42 LR LR 19 18 07.5
comp=Z,88nm,18.3s,baz=278,slow=34
ENH Enshi 92.88 303 P **P** **18 39 19.3 +0.6**
GYA Guiyang 93.08 298 *eP* **P** **18 39 22.0 +2.1**
GYA pmax pmax
comp=Z,6.0nm,1.4s
ILAR Eielson Array 95.38 12 P **P** **18 39 29.2 -0.1**
comp=Z,1.2nm,0.7s,baz=218,slow=5.4,SNR=18
ILAR Eielson Array 95.38 12 P **P** **18 39 28.9 -0.4**
CMAR Chiang Mai Arr 95.48 288 LR LR 19 21 56.5
comp=Z,14nm,22.0s,baz=145,slow=35
LPAZ La Paz 96.30 112 LR LR 19 15 20.7
comp=Z,56nm,20.3s,baz=234,slow=31
TEIG Tepich 96.39 71 LR LR 19 14 55.5
comp=Z,33nm,19.9s,baz=156,slow=30
CPUP Villa Florida 98.92 126 LR LR 19 18 14.4
comp=Z,107nm,18.9s,baz=216,slow=32
SONM Songino Array 103.61 317 PP **PKiKP** **18 44 27.8 +2.6**
comp=Z,1.0nm,0.9s,baz=101,slow=7.7,SNR=6.0
WMQ Urumqi 114.25 308 *ePKP PKPdf 18 44 44.6 -0.6
ZAA0 Zalesovo Array 118.44 319 PKPdf **PKPdf** **18 44 52.1 -0.7**
ZALV Zalesovo Beam 118.44 319 PKP **PKPdf** **18 44 52.7 -0.1**
comp=Z,2.2nm,0.7s,baz=137,slow=1.6,SNR=14
ZALV Zalesovo Beam 118.44 319 PKPdf **PKPdf** **18 44 52.1 -0.7**
MK31 Makanchi Array 118.67 310 **PKPdf** **18 44 53.1 -0.5**
MKAR Makanchi Array 118.67 310 PKP **PKPdf** **18 44 53.7 +0.1**
comp=Z,1.7nm,0.6s,baz=70,slow=1.7,SNR=27
MAKZ Makanchi 118.89 310 PKPdf **PKPdf** **18 44 53.9 -0.1**

KSH Kashi 121.68 301 PKP **PKiKP** **18 45 01.4 +1.6**
KBL Kabul 126.05 294 PKPdf **PKPdf** **18 45 07.7 -0.6**
KK31 Karatay Array 126.33 304 PKPdf **PKiKP** **18 45 09.1 +0.3**
KKAR Karatay Array 126.33 304 **PKiKP** **18 45 08.9 +0.2**
KKAR Karatay Array 126.33 304 PKPdf **PKiKP** **18 45 09.0 +0.2**
GEYT Alibeck 135.27 296 PKP **PKiKP** **18 45 27.6 +0.6**
comp=Z,1.5nm,0.6s,baz=212,slow=6.8,SNR=3.6
GEYT Alibeck 135.27 296 **PKPdf** **18 45 24.9 -0.5**
FINES FINESS Array B 144.17 343 PKP **PKPab** **18 45 39.0 +0.6**
comp=Z,4.0nm,0.8s,baz=29,slow=4.4,SNR=8.0
FINES FINESS Array B 144.17 343 **PKPab** **18 45 38.6 +0.2**
KBZ Khabaz 146.28 307 PKPbc **PKPab** **18 45 47.4 +0.4**
comp=Z,5.6nm,0.7s,baz=115,slow=3.3,SNR=24
VSU Vasula 146.46 340 *eP* **PKPbc** **18 45 46.7 +0.5**
AAL Aland 146.69 347 *eP* **PKPbc** **18 45 47.0 +0.3**
NC303 NORSAR Array S 146.93 355 **PKPbc** **18 45 47.5 +0.1**
NC405 NORSAR Array S 147.01 354 **PKPbc** **18 45 48.1 +0.4**
MTSE Matsula 147.09 342 *eP* **PKPbc** **18 45 48.5 +0.6**
NB2 NORSAR Subarra 147.12 355 PKP **PKPbc** **18 45 48.4 +0.3**
comp=Z,1.9nm,0.7s,baz=18,slow=3.0
NOA NORSAR Array B 147.12 355 PKPbc **PKPbc** **18 45 48.0 -0.1**
comp=Z,2.4nm,0.7s,baz=6.9,slow=2.7,SNR=14
UPP Uppsala 147.44 348 *eP* **PKPbc** **18 45 48.1 -0.8**
KOPT Kop Dagi 148.85 301 **PKPbc** **18 45 52.5 -1.2**
IDID Didziasalis 148.97 336 *eP* **PKiKP** **18 45 54.5 0.0**
ISAL Salakas 148.99 337 *eP* **PKiKP** **18 45 54.8 +0.3**
IIGN Ignalina 149.13 337 *eP* **PKPbc** **18 45 54.5 +0.9**
PABE Paberze 149.76 339 *eP* **PKiKP** **18 45 56.1 0.0**
AKASG Malin Array Be 151.31 327 PKPbc **PKPbc** **18 45 59.3 +0.4**
comp=Z,7.3nm,0.8s,baz=45,slow=2.6,SNR=34
AKASG Malin Array Be 151.31 327 **PKPbc** **18 45 59.1 +0.2**
AKBB Malin Array Si 151.31 327 **PKPbc** **18 45 58.3 -0.6**
BRTR Keskin Array B 154.04 303 PKPbc **PKiKP** **18 46 06.2 +0.6**
comp=Z,1.0nm,0.7s,baz=107,slow=3.0,SNR=5.9
BRTR PKPab **pPKPab** **18 46 20.1 -0.4**
comp=Z,2.8nm,0.7s,baz=89,slow=4.5,SNR=11
BRTR Keskin Array B 154.04 303 PKPab **PKPab** **18 46 18.5 -0.6**
BUR08 Bucovina Ar. S 155.32 327 PKPab **PKPab** **18 46 24.4 +0.2**
DBIC Dimbokro 156.35 154 PKPab **PKPab** **18 46 31.8 +2.6**
comp=Z,1.6nm,0.7s,baz=219,slow=6.5,SNR=3.2
CLL Collm 156.39 348 *e*PKPab **PKPab** **18 46 28.0 -0.4**
comp=Z,3.0nm,0.8s
DPC Dobruska-Polom 156.53 342 *e*PKPAB **PKPab** **18 46 30.2 +1.1**
KRLC Kraliky 156.65 341 *e*PKPAB **PKPab** **18 46 30.4 +0.7**
NKC Novy Kostel 157.53 348 *e*PKPAB **PKPab** **18 46 33.3 -0.1**
KHC Kasperske Hory 158.34 345 *e*PKPAB **PKPab** **18 46 37.7 +0.7**
TORD Torodi Ar. Bea 164.46 167 PKP **PKPdf** **18 46 11.1 +1.0**
comp=Z,0.9nm,0.7s,baz=163,slow=1.5,SNR=3.6
TORD PKPab **sPKPab** **18 47 06.7 +0.4**
comp=Z,1.3nm,0.7s,baz=191,slow=3.6,SNR=4.8

*NIC **19** 18:37:15.5±0.0,35˚.26N×32˚.12E,h6km,Ml3.1/5*
*ISK **19** 18:37:15.5,35˚.40N×32˚.22E,h13km,ML3.3/36*
*GII **19** 18:37:17.0±0.0,35˚.04N×32˚.07E,h20km±2km,Mm3.3/4*
*DDA **19** 18:37:17.7,35˚.45N×32˚.47E,h18km±5km,ML2.7*

ISC 19 18:37:14.6±0.9,**35˚.32N**±0˚.02×**32˚.12E**±0˚.02,**h22**km±7km,
n83,σ1§74/126,3C-1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.35**	**149**	P		**Pb**	**18 37 21.7**	**-0.4**
AKMS				S		**Sb**	**18 37 27.1**	**-0.2**
AKMS				AML		AML	18 37 27.5	
	9.5nm,0.4s							
AKMS				AML		AML	18 37 27.5	
	9.5nm,0.4s							
AKMS				AML		AML	18 37 28.8	
	15nm,0.3s							
AKMS				AML		AML	18 37 28.8	
	15nm,0.3s							
ALFC	**Alefka**	**0.42**	**112**	⇑P		**Pb**	**18 37 23.7**	**+0.3**
ALFC				S		**Sb**	**18 37 30.7**	**+1.3**
ALFC				AML		AML	18 37 32.2	
	6.0nm,0.4s							
ALFC				AML		AML	18 37 32.2	
	6.0nm,0.4s							
ALFC				AML		AML	18 37 34.1	
	6.7nm,0.3s							
ALFC				AML		AML	18 37 34.1	
	6.7nm,0.3s							
NATA	**Nata**	**0.65**	**145**	P		**Pb**	**18 37 28.0**	**+0.7**
NATA				S		**Sb**	**18 37 36.6**	**+0.6**
NATA				AML		AML	18 37 41.9	
	9.7nm,0.3s							
NATA				AML		AML	18 37 41.9	
	9.7nm,0.3s							
NATA				AML		AML	18 37 42.3	
	11nm,0.6s							
NATA				AML		AML	18 37 42.3	
	11nm,0.6s							
LEF	**Lefka**	**0.66**	**107**	PG		**Pb**	**18 37 26.9**	**-0.5**
LEF				SG		**Sb**	**18 37 35.9**	**-0.3**
LEF	**Lefka**	**0.66**	**107**	*i* P		**Pb**	**18 37 26.7**	**-0.8**
LEF				*i* S		**Sb**	**18 37 32.5**	**-3.8**
LEF				IAML			18 37 39.0	
	comp=E,441nm,0.4s							
LEF				IAML			18 37 42.0	
	comp=N,469nm,0.3s							
AKDN	**Akdeniz- Kıbrı**	**0.69**	**91**	PG		**Pb**	**18 37 28.2**	**+0.2**
SZAC	**Souni**	**0.84**	**132**	⇑P		**Pb**	**18 37 31.0**	**+0.5**
SZAC				S		**Sn**	**18 37 43.8**	**+1.0**
SZAC				AML		AML	18 37 45.9	
	comp=N,3.1nm,0.4s							
SZAC				AML		AML	18 37 45.9	
	comp=N,3.1nm,0.4s							
SZAC				AML		AML	18 37 48.2	
	comp=N,2.9nm,0.6s							
SZAC				AML		AML	18 37 48.2	
	comp=N,2.9nm,0.6s							
GAZI	**Gazipasa**	**0.93**	**10**	PG		**Pb**	**18 37 32.3**	**+0.3**
GAZI				SG		**Sb**	**18 37 44.3**	**+0.3**
GAZI	**Gazipasa**	**0.93**	**10**	*i* P		**Pb**	**18 37 32.5**	**+0.4**
GAZI				*i* S		**Sb**	**18 37 40.4**	**-3.5**
GAZI				IAML			18 37 45.0	
	comp=E,354nm,0.5s							
BOZY	**Bozyazi-Mersin**	**1.05**	**41**	PG		**Pb**	**18 37 34.1**	**0.0**
CSS	**Mathiatis**	**1.05**	**109**	PG		**Pn**	**18 37 35.3**	**+1.3**
CSS				SG		**Sn**	**18 37 49.8**	**+1.8**
CSS	**Mathiatis**	**1.05**	**109**	‖P		**Pn**	**18 37 34.7**	**+0.7**
CSS				S		**Sn**	**18 37 51.0**	**+3.0**
ASGA	**Asgata**	**1.07**	**120**	P		**Pn**	**18 37 35.3**	**+1.1**
ASGA				S		**Sn**	**18 37 50.5**	**+2.2**
ASGA				AML		AML	18 37 54.9	
	comp=E,1.7nm,0.7s							
ASGA				AML		AML	18 37 54.9	
	comp=E,1.7nm,0.7s							
ASGA				AML		AML	18 37 55.1	
	comp=E,2.1nm,0.3s							
ASGA				AML		AML	18 37 55.1	
	comp=E,2.1nm,0.3s							
AKIN	**Akıncılar- Kıb**	**1.14**	**105**	PN		**Pb**	**18 37 36.9**	**+1.3**
TEKE	**Tekeli-Mersin**	**1.15**	**44**	PG		**Pb**	**18 37 35.9**	**+0.1**
TEKE				SG		**Sn**	**18 37 50.8**	**+0.3**
ALAN	**Alanya-ANTALYA**	**1.24**	**357**	PN		**Pb**	**18 37 38.2**	**+0.9**
MVOU	**Mavrovouni**	**1.27**	**103**	⇑P		**Pb**	**18 37 39.5**	**+1.6**
YORU	**Yoruktepe-Mers**	**1.34**	**51**	PN		**Pb**	**18 37 38.8**	**-0.2**
BERE	**Bereket-Mersin**	**1.36**	**41**	PN		**Pn**	**18 37 38.9**	**+0.5**
BERE				SN		**Sb**	**18 37 56.6**	**0.0**
OREN	**Orenkoy-Mersin**	**1.41**	**50**	PN		**Pb**	**18 37 39.6**	**-0.5**
AKK1	**Akkuyu-Mersin**	**1.42**	**54**	PN		**Pb**	**18 37 39.8**	**-0.5**
AKK2	**Akkuyu-Mersin**	**1.42**	**54**	PN		**Pb**	**18 37 40.2**	**-0.2**
AKKU	**Akkuyu-Mersin**	**1.44**	**54**	PN		**Pn**	**18 37 39.8**	**+0.5**
AKKU				SN		**Sb**	**18 37 57.9**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.45**	**53**	*i* P		**Pn**	**18 37 39.9**	**+0.6**
GULN				*i* S		**Sn**	**18 37 52.9**	**-4.7**
ERMK	**Ermenek**	**1.47**	**26**	*i* P		**Pb**	**18 37 42.0**	**+0.6**
ERMK				*i* S		**Sn**	**18 37 57.8**	**-0.8**
ERMK				IAML			18 38 10.0	
	comp=N,118nm,0.4s							
TEPK	**Tepekoy-MERSIN**	**1.47**	**52**	PN		**Pn**	**18 37 40.6**	**+0.8**
YESI	**Yesilovacik-Me**	**1.52**	**54**	PN		**Pb**	**18 37 41.7**	**-0.3**
TISA	**Tisan-Mersin**	**1.52**	**56**	PN		**Pb**	**18 37 41.7**	**-0.4**
TEVE	**Tevekalti-Mers**	**1.55**	**44**	PN		**Pb**	**18 37 42.1**	**-0.5**
TEVE				SN		**Sb**	**18 38 02.1**	**+0.3**
KARG	**Kargicak-Mersi**	**1.56**	**55**	PN		**Pb**	**18 37 42.1**	**-0.8**
IKL	**Isikli**	**1.57**	**54**	PN		**Pb**	**18 37 42.3**	**-0.6**
IKL				SN		**Sb**	**18 38 01.5**	**-0.8**
PARAL	**Paralimni**	**1.60**	**101**	P		**Pb**	**18 37 44.4**	**+0.8**
KEPZ	**Antalya-Kepez**	**1.64**	**345**	*i* P		**Pn**	**18 37 42.8**	**+0.7**
KEPZ				*i* S		**Sn**	**18 38 00.4**	**-2.1**
EREN	**Erenkoy**	**1.69**	**82**	PN		**Pb**	**18 37 44.5**	**-0.4**
EREN	**Erenkoy**	**1.69**	**82**	*i* P		**Pb**	**18 37 45.7**	**+0.8**
EREN				*i* S		**Sb**	**18 38 05.3**	**-0.4**
AKUM	**Antalya-Kumluc**	**1.76**	**305**	*i* P		**Pn**	**18 37 44.9**	**+1.2**
AKUM				*i* S		**Sb**	**18 38 09.0**	**+1.3**
AKUM				IAML			18 38 23.0	
	comp=N,61nm,0.7s							
SILI	**Silifke-Mersin**	**1.80**	**54**	PN		**Pn**	**18 37 45.1**	**+0.8**
SLFK	**Silifke-Mersin**	**1.83**	**54**	PN		**Pn**	**18 37 45.9**	**+1.2**
KKBE	**Karaman, Kazim**	**2.01**	**19**	*i* P		**Pb**	**18 37 50.5**	**0.0**
KKBE				*i* S		**Sn**	**18 38 10.1**	**-1.7**
KIZK	**Mersin**	**2.01**	**54**	PN		**Pn**	**18 37 48.4**	**+1.2**
KIZK	**Mersin**	**2.01**	**54**	*i* P		**Pb**	**18 37 49.2**	**-1.3**
KIZK				*i* S		**Sn**	**18 38 08.6**	**-3.1**
KRMN	**Karaman**	**2.07**	**26**	PN		**Pb**	**18 37 49.8**	**+1.7**
SEDI	**Konya, Seydise**	**2.15**	**352**	*i* P		**Pb**	**18 37 53.7**	**+0.8**
SEDI				*i* S		**Sn**	**18 38 17.1**	**+1.8**
SEDI				IAML			18 38 29.0	
	comp=N,87nm,0.7s							
SEDI				IAML			18 38 31.0	
	comp=E,67nm,0.7s							
KORT	**Korkueli**	**2.21**	**320**	PN		**Pb**	**18 37 53.1**	**-0.8**
KORT	**Korkueli**	**2.21**	**320**	*i* P		**Pb**	**18 37 55.7**	**+1.8**
KORT				*i* S		**Sb**	**18 38 26.3**	**+5.5**
AKAS	**Kas**	**2.24**	**295**	PN		**Pb**	**18 37 54.1**	**-0.3**
KMER	**Konya-Meram**	**2.45**	**5**	*i* P		**Pb**	**18 37 56.7**	**-1.4**
KMER				*i* S		**Sn**	**18 38 23.0**	**+0.2**
KMER				IAML			18 38 35.0	
	comp=E,34nm,1.0s							
MERS	**Mersin**	**2.48**	**51**	PN		**Pn**	**18 37 54.9**	**+1.1**
KONT	**Konya--Tatoy**	**2.63**	**4**	PN		**Pn**	**18 37 57.9**	**+2.2**
KONT	**Konya--Tatoy**	**2.63**	**4**	*i* P		**Pb**	**18 37 59.3**	**-1.7**
KONT				*i* S		**Sn**	**18 38 27.8**	**+0.8**
KERG	**Konya-Eregli**	**2.65**	**37**	*i* P		**Pb**	**18 38 00.3**	**-1.1**
KERG				*i* S		**Sn**	**18 38 26.3**	**-1.2**
KERG				IAML			18 38 38.0	
	comp=N,44nm,0.3s							
KERG				IAML			18 38 40.0	
	comp=E,37nm,0.5s							
DED	**Mersin**	**2.72**	**52**	*i* P		**Pn**	**18 37 59.5**	**+2.5**
DED				*i* S		**Sn**	**18 38 27.8**	**-1.4**
FETY	**Fethiye**	**2.79**	**299**	PN		**Pn**	**18 37 57.3**	**-0.7**
FETY	**Fethiye**	**2.79**	**299**	*i* P		**Pn**	**18 37 59.2**	**+1.3**
FETY				*i* S		**Sn**	**18 38 24.2**	**-6.8**
DOGA	**KONYA_Doganhis**	**2.81**	**353**	*i* P		**Pb**	**18 38 02.0**	**-2.1**
DOGA				*i* S		**Sn**	**18 38 33.4**	**+1.9**
GOLH	**Golhisar**	**2.82**	**314**	*i* P		**Pb**	**18 38 03.2**	**-1.1**
GOLH				*i* S		**Sn**	**18 38 33.2**	**+1.5**
BAGO	**Egridir - ISPA**	**2.88**	**339**	*i* P		**Pn**	**18 38 02.5**	**+3.3**
BAGO				*i* S		**Sn**	**18 38 30.6**	**-2.5**
LADK	**Ladik-KONYA**	**2.88**	**4**	PN		**Pn**	**18 38 00.8**	**+1.5**
KRTS	**Karatas**	**2.92**	**64**	PN		**Pn**	**18 38 01.7**	**+2.0**
YVAC	**Isparta, Yalva**	**3.03**	**347**	*i* P		**Pn**	**18 38 04.9**	**+3.6**
YVAC				*i* S		**Sn**	**18 38 34.3**	**-2.7**
ALIN	**Konya, Altinte**	**3.04**	**11**	*i* P		**Pn**	**18 38 04.6**	**+3.2**
ALIN				*i* S		**Sn**	**18 38 32.6**	**-4.5**
KARA	**Karaisali**	**3.06**	**50**	PN		**Pn**	**18 38 03.3**	**+1.6**
CMRD	**Camardi-Nigde**	**3.29**	**44**	PN		**Pn**	**18 38 06.8**	**+1.9**
HNTI	**Hanita**	**3.37**	**131**	PN		**Pn**	**18 38 07.4**	**+1.5**
CEYT	**Ceyhan**	**3.39**	**59**	PN		**Pn**	**18 38 08.2**	**+2.1**
NIDE	**Nigde/Merkez-G**	**3.42**	**38**	*i* S		**Sn**	**18 38 45.8**	**-1.0**
TAHT	**Tahtakopru-Hat**	**3.47**	**71**	PN		**Pn**	**18 38 09.4**	**+2.2**
MMC7	**Mount Meron ar**	**3.55**	**129**	Pn		**Pn**	**18 38 09.5**	**+1.1**
MMA0B	**Mount Meron ar**	**3.56**	**129**	Pn		**Pn**	**18 38 09.6**	**+1.0**
MMA0B						**Sn**	**18 38 50.7**	**+0.7**
OFRI	**`Ofer**	**3.59**	**138**	Pn		**Pn**	**18 38 07.7**	**-1.3**
OFRI						**Sn**	**18 38 50.0**	**-0.7**
GEM	**Giv'at Ha'Em**	**3.61**	**125**	Pn		**Pn**	**18 38 10.1**	**+0.9**
GEM						**Sn**	**18 38 51.7**	**+0.6**
NATI	**Neve Ativ**	**3.63**	**123**	Pn		**Pn**	**18 38 10.0**	**+0.6**
NATI						**Sn**	**18 38 51.7**	**+0.2**
KOZT	**Kozan**	**3.69**	**53**	PN		**Pn**	**18 38 12.5**	**+2.2**
MMLI	**Mount Malkishu**	**3.97**	**135**	PN		**Pn**	**18 38 14.7**	**+0.5**
MMLI	**Mount Malkishu**	**3.97**	**135**	Pn		**Pn**	**18 38 14.9**	**+0.7**
MMLI						**Sn**	**18 38 58.5**	**-1.6**
HMDT	**Nahal Hemdat**	**4.17**	**136**	Pn		**Pn**	**18 38 18.4**	**+1.5**
DSI	**Dead Sea**	**4.62**	**143**	Pn		**Pn**	**18 38 24.0**	**+0.9**
YTIR	**Yattir**	**4.67**	**147**	Pn		**Pn**	**18 38 24.0**	**+0.1**
YTIR						**Sn**	**18 39 15.4**	**-2.1**
KZIT	**Kziot**	**4.80**	**156**	Pn		**Pn**	**18 38 25.1**	**-0.4**
KZIT						**Sn**	**18 39 17.2**	**-3.2**
PRNI	**Paran**	**5.51**	**153**	Pn		**Pn**	**18 38 35.3**	**-0.1**
HRFI	**Mount Harif**	**5.81**	**154**	Pn		**Pn**	**18 38 39.6**	**+0.1**
HRFI						**Sn**	**18 39 42.9**	**-2.6**
MBRI	**Mt Berech**	**5.99**	**156**	Pn		**Pn**	**18 38 42.3**	**+0.3**
EIL	**Elat**	**6.12**	**156**	Pn		**Pn**	**18 38 43.7**	**0.0**

*IDC **19** 18:40:10.9±1.0,39˚.65N×143˚.56E,h0km,mb3.9/13,*
mb1 3.9/18,mb1mx3.8/37,mbtmp3.8/18,ML3.2/5,MS3.1/6,
Ms1 3.1/6,ms1mx2.8/37,Error ellipse: s-maj=23.9km
s-min=16.3km az=105.0
*MOS **19** 18:40:12.9±0.9,39˚.70N×143˚.61E,h28km,mb4.3/5,Error*
ellipse: s-maj=8.9km s-min=5.5km az=94.4
*JMA **19** 18:40:12.2±0.2,39˚.67N×143˚.60E,h32km,M4.0*
*NIED **19** 18:40:12.3,39˚.67N×143˚.60E,h32km,MW3.9,Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm;
M_{rr}7.88; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-7.84; $M_{r\theta}$2.53; $M_{r\phi}$-2.84; $M_{\theta\phi}$3.34;
Fault plane solution: $M_0$9.33000×10¹⁴ NP1:ϕ_{s1}27.00000°,
δ58.00000°, λ.100.00000°. NP2:ϕ_{s}188.00000°,δ33.00000°,
λ.74.00000°.
*NEIC **19** 18:40:14.7±1.2,39˚.66N±0˚.07×143˚.5E±0˚.2,h28km±5km,*
mb4.1/11 Error ellipse: s-maj=20.0km s-min=8.5km
az=104.0

ISC 19 18:40:12.6±3.6,**39˚.65N**±0˚.05×**143˚.62E**±0˚.06,**h17**km±24km,
n104,σ1§63/109,mb4.0/20,1C-1D,Off east coast of Honshu

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

YUK					pmax	pmax		
	comp=Z,103nm,0.3s							
YUK					smax	smax		
	comp=E,281nm,0.4s							
YUK					smax	smax		
	comp=N,458nm,0.6s							
MJAR	**Matsushiro Arr**	**5.28**	**236**		Pn	**Pn**	**18 41 31.7**	**+1.0**
	comp=N,0.3nm,0.3s,baz=37,slow=12,SNR=21							
MJAR					LR	LR	18 43 44.8	
	comp=N,102nm,18.2s,baz=15,slow=41							
MJAR	**Matsushiro Arr**	**5.28**	**236**			**Pn**	**18 41 30.9**	**+0.2**
MAJO	**Matsushiro**	**5.28**	**236**		P	**Pn**	**18 41 31.3**	**+0.6**
MAJO	**Matsushiro**	**5.28**	**236**		Pn	**Pn**	**18 41 31.3**	**+0.6**
MAT	**Matsushiro**	**5.28**	**236**		P	**Pn**	**18 41 31.6**	**+0.8**
MAT					*e*S	**Sn**	**18 42 29.9**	**-1.3**
KUR	**Kuril'sk**	**6.40**	**28**	⇓ *i* P		**Pn**	**18 41 47.2**	**+1.1**
KUR					*e*S	**Sn**	**18 42 54.9**	**-3.9**
KUR					pmax	pmax		
	comp=Z,25nm,0.3s							
KUR					smax	smax		
	comp=E,45nm,0.5s							
KUR					smax	smax		
	comp=N,84nm,0.4s							
JGF	**Kuroka**	**6.41**	**233**		Pn	**Pn**	**18 41 47.9**	**+1.6**
INU	**Inuyama**	**6.78**	**233**		Pn	**Pn**	**18 41 47.3**	**-4.1**
YSS	**Yuzh-Sakhalins**	**7.33**	**355**		*e*P	**Pn**	**18 42 00.3**	**+1.4**
YSS					pmax	pmax		
	comp=Z,10.0nm,1.0s							
YSS					MLR	MLR		
	comp=Z,200nm,16.0s							
YSS					MLR	MLR		
	comp=N,200nm,17.0s							
TEY	**Ternei**	**7.48**	**318**		*e*P	**Pn**	**18 42 03.8**	**+2.8**
JWT	**Wachi**	**7.86**	**239**		Pn	**Pn**	**18 42 06.8**	**+0.7**
USA0B	**Ussuriysk Arra**	**9.79**	**301**		P	**Pn**	**18 42 34.7**	**+2.1**
USA0B	**Ussuriysk Arra**	**9.79**	**301**		Pn	**Pn**	**18 42 34.7**	**+2.1**
USRK	**Ussuriysk Ar.**	**9.79**	**301**		Pn	**Pn**	**18 42 34.5**	**+1.9**
	baz=98,slow=13,SNR=12							
USRK					LR	LR	18 46 17.3	
	comp=N,122nm,18.2s,baz=120,slow=38							
USRK	**Ussuriysk Ar.**	**9.79**	**301**		P	**Pn**	**18 42 34.7**	**+2.1**
USRK	**Ussuriysk Ar.**	**9.79**	**301**		Pn	**Pn**	**18 42 34.7**	**+2.1**
KSRS	**Korea Array**	**12.49**	**265**		Pn	**Pn**	**18 43 11.6**	**+2.1**
	comp=N,0.1nm,0.3s,baz=94,slow=15,SNR=5.2							
KSRS					LR	LR	18 47 28.9	
	comp=N,65nm,19.9s,baz=84,slow=35							
KSAR	**Wonju Array Be**	**12.52**	**265**		P	**Pn**	**18 43 06.3**	**-3.7**
KSAR	**Wonju Array Be**	**12.52**	**265**		Pn	**Pn**	**18 43 06.3**	**-3.7**
JCJ	**Chichijima**	**12.58**	**186**		Pn	**Pn**	**18 43 08.2**	**-2.6**
	comp=N,2.2nm,0.3s,baz=288,slow=20,SNR=1.6							
JCJ	**Chichijima**	**12.58**	**186**			**Pn**	**18 43 11.4**	**+0.6**
KLR	**Kul'dur**	**12.78**	**322**		Pn	**Pn**	**18 43 12.2**	**-1.3**
	comp=N,0.1nm,0.3s,baz=180,slow=7.1,SNR=3.6							
KLR					LR	LR	18 48 07.6	
	comp=N,52nm,21.6s,baz=100,slow=37							
KLR	**Kul'dur**	**12.78**	**322**	*i* P		**Pn**	**18 43 13.3**	**-0.2**
TJN	**Taejon**	**13.23**	**261**	*e*P		**Pn**	**18 43 23.2**	**+3.5**
ZEA	**Zeya**	**17.96**	**327**	*e*P		**Pn**	**18 44 19.6**	**-1.7**
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.8s							
MA2	**Magadan**	**20.45**	**10**	P		Pn	18 44 50.7	-0.5
	comp=Z,5.8nm,0.7s,baz=200,slow=10,SNR=12							
MA2	**Magadan**	**20.45**	**10**	*e*P		Pn	18 44 50.5	-0.8
MA2					pmax	pmax		
	comp=Z,8.0nm,1.3s							
MA2	**Magadan**	**20.45**	**10**			Pn	18 44 50.4	-0.9
MA2					IAmb	IAmb	18 44 52.2	
	comp=Z,6.6nm,0.8s							
SEY	**Seymchan**	**23.91**	**10**	P		**P**	**18 45 26.4**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=186,slow=7.8,SNR=11							
YAK	**Yakutsk**	**23.97**	**344**	P		**P**	**18 45 25.2**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=110,slow=1.1,SNR=4.8							
YAK	**Yakutsk**	**23.97**	**344**	*i* P		**P**	**18 45 24.9**	**-1.0**
YAK					pmax	pmax		
	comp=Z,6.0nm,0.8s							
YAK	**Yakutsk**	**23.97**	**344**	P		**P**	**18 45 23.9**	**-2.0**
YAK					IAmb	IAmb	18 45 34.9	
	comp=Z,6.9nm,0.9s							
BOD	**Bodaibo**	**26.36**	**323**	*e*P		**P**	**18 45 47.6**	**0.0**
BOD					pmax	pmax		
	comp=Z,7.0nm,0.9s							
ULN	**Ulaanbaatar**	**27.45**	**300**	P		**P**	**18 45 58.3**	**+0.5**
ULN					pmax	pmax		
	comp=Z,6.0nm,1.2s							
ULN	**Ulaanbaatar**	**27.45**	**300**	P		**P**	**18 45 58.2**	**+0.5**
ULN					IAmb	IAmb	18 45 59.1	
	comp=Z,5.5nm,1.2s							
SONM	**Songino Array**	**27.89**	**299**	P		**P**	**18 46 01.9**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=93,slow=8.3,SNR=10							
SONM					LR	LR	18 57 59.7	
	comp=Z,54nm,18.2s,baz=68,slow=38							
SONM	**Songino Array**	**27.89**	**299**	P		**P**	**18 46 01.5**	**-0.2**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.9s							
SONM	**Songino Array**	**27.89**	**299**	P		**P**	**18 46 01.5**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**28.19**	**128**	T		T	19 15 41.7	
	baz=318,slow=75,SNR=28							
H11N1	**WAKE ISLAND Hy**	**28.20**	**128**	T		T	19 15 40.0	
	baz=318,slow=75,SNR=30							
H11N3	**WAKE ISLAND Hy**	**28.21**	**128**	T		T	19 15 44.5	
	baz=318,slow=75,SNR=28							
H11S1	**WAKE ISLAND Hy**	**29.01**	**130**	T		T	19 16 46.6	
	baz=322,slow=76,SNR=5.3							
H11S3	**WAKE ISLAND Hy**	**29.01**	**130**	T		T	19 16 46.6	
	baz=322,slow=76,SNR=3.6							
H11S2	**WAKE ISLAND Hy**	**29.03**	**130**	T		T	19 16 46.2	
	baz=322,slow=76,SNR=4.5							
ENH	**Enshi**	**29.35**	**262**	P		**P**	**18 46 13.5**	**-1.2**
DGZ	**Jazzator, Alta**	**40.34**	**304**	*i* P		**P**	**18 47 49.8**	**+0.5**
DGZ					pmax	pmax		
	comp=Z,4.0nm,0.8s							
ZALV	**Zalesovo Beam**	**41.50**	**310**	P		**P**	**18 47 59.2**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=93,slow=7.9,SNR=7.2							
ZALV	**Zalesovo Beam**	**41.50**	**310**	P		**P**	**18 47 58.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**43.86**	**254**	P		**P**	**18 48 18.7**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=37,slow=6.7,SNR=4.5							
CMAR	**Chiang Mai Arr**	**43.86**	**254**	P		**P**	**18 48 17.9**	**-0.2**
MK31	**Makanchi Array**	**44.26**	**300**	P		**P**	**18 48 20.8**	**-0.3**
MK31					pmax	pmax		
	comp=Z,2.0nm,0.9s							
MK31	**Makanchi Array**	**44.26**	**300**	P		**P**	**18 48 20.8**	**-0.3**
MK31					IAmb	IAmb	18 48 22.0	
	comp=Z,1.9nm,0.9s							
MKAR	**Makanchi Array**	**44.26**	**300**	P		**P**	**18 48 21.1**	**0.0**
	comp=Z,1.9nm,0.9s,baz=83,slow=8.8,SNR=14							
MKAR	**Makanchi Array**	**44.26**	**300**	P		**P**	**18 48 20.8**	**-0.3**
MAKZ	**Makanchi**	**44.46**	**300**	P		**P**	**18 48 22.4**	**-0.3**
MAKZ					pmax	pmax		
	comp=Z,3.0nm,1.0s							
MAKZ	**Makanchi**	**44.46**	**300**	P		**P**	**18 48 22.4**	**-0.3**
MAKZ					IAmb	IAmb	18 48 24.3	
	comp=Z,2.6nm,1.0s							
ILAR	**Eielson Array**	**46.36**	**34**	P		**P**	**18 48 39.7**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=270,slow=6.5,SNR=4.1							
AAK	**Ala-Archa**	**50.81**	**297**	*i* P		**P**	**18 49 12.3**	**0.0**
KK31	**Karatay Array**	**53.35**	**299**	P		**P**	**18 49 30.5**	**-0.5**
KK31					pmax	pmax		
	comp=Z,3.0nm,1.3s							
KK31	**Karatay Array**	**53.35**	**299**	P		**P**	**18 49 30.5**	**-0.5**
KK31					IAmb	IAmb	18 49 47.1	
	comp=Z,2.9nm,1.2s							
KKAR	**Karatay Array**	**53.35**	**299**	P		**P**	**18 49 30.5**	**-0.5**
KKAR					pmax	pmax		
	comp=Z,3.0nm,1.3s							
KKAR	**Karatay Array**	**53.35**	**299**	P		**P**	**18 49 30.5**	**-0.5**
KKAR					IAmb	IAmb	18 49 47.1	
	comp=Z,2.9nm,1.2s							
DLBC	**Dease Lake**	**55.50**	**40**	LR		LR	19 12 42.6	
	comp=Z,68nm,20.9s,baz=132,slow=35							
ABKAR	**Akbulak array**	**57.60**	**310**	P		**P**	**18 50 01.3**	**-0.1**
ABKAR	**Akbulak array**	**57.60**	**310**	P		**P**	**18 50 01.1**	**-0.3**
WRA	**Warramunga Arr**	**59.91**	**190**	P		**P**	**18 50 18.0**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=9.9,slow=7.5,SNR=4.6							
WRA	**Warramunga Arr**	**59.91**	**190**	IAmb		IAmb	18 50 19.7	
	comp=Z,0.2nm,1.2s							
ASAR	**Alice Springs**	**63.64**	**190**	P		**P**	**18 50 43.7**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=19,slow=8.0,SNR=4.6							
FINES	**FINESS Array B**	**67.31**	**332**	P		**P**	**18 51 06.4**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=100,slow=5.8,SNR=5.7							
FINES	**FINESS Array B**	**67.31**	**332**	*e*P		**P**	**18 51 07.2**	**+1.1**
FINES					pmax	pmax		
	comp=Z,2.0nm,0.9s							
COCO	**West Island**	**67.45**	**230**	*e*P		**P**	**18 51 10.3**	**+2.8**
KIV	**Kislovodsk**	**70.50**	**311**	*e*P		**P**	**18 51 27.6**	**+1.2**
KIV					pmax	pmax		
	comp=Z,13nm,1.0s							
KBZ	**Khabaz**	**70.51**	**311**	P		**P**	**18 51 27.3**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=109,slow=2.9,SNR=5.5							
NB2	**NORSAR Subarra**	**72.44**	**338**	P		**P**	**18 51 38.2**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**72.44**	**338**	P		**P**	**18 51 38.1**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=39,slow=6.0,SNR=5.5							

IDC 19 18:54:50.6±8.7, 15°59S×173°10W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/40, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=411.1km s-min=26.9km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.11**	**38**	Pn	Pn	18 55 25.7	-1.4
	22nm,0.3s,baz=238,slow=3.5,SNR=19						
AFI				Sn	Sn	18 55 43.8	-10
	85nm,0.3s,baz=87,slow=21,SNR=17						
WRA	**Warramunga Arr**	**50.08**	**257**	P	P	19 03 47.5	-0.2
	0.3nm,0.6s,baz=94,slow=6.7,SNR=4.9						
ASAR	**Alice Springs**	**50.33**	**252**	P	P	19 03 48.5	-1.0
	0.7nm,0.6s,baz=86,slow=7.9,SNR=20						
BRTR	**Keskin Array B**	**146.49**	**321**	PKPbc	PKPab	19 14 35.9	+0.6
	0.5nm,0.8s,baz=70,slow=2.4,SNR=4.3						

*TIF **19** 18:59:28.8, 42°37N×41°01E, h12km±1km*
*MOS **19** 18:59:30.2±0.0, 42°51N×41°03E, h5km, MPVA3.3*
*NORS **19** 18:59:31.8±0.0, 42°52N×41°33E, h4km, MPVA3.0*
ISC 19 18:59:29.7±1.5, 42°47N±0°05×41°02E±0°03, h3km±11km, n19, σ0§68/38, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVG	**Ch'k'valeri**	**0.82**	**72**	P		**Pg**	18 59 45.9	+0.3
CHVG				S		**Sb**	18 59 58.7	+0.5
DOMR	**Dombai**	**0.94**	**28**	*i* Pg		**Pb**	18 59 48.0	-0.7
DOMR				*e*Sg		**Sb**	19 00 00.6	-1.0
ARXR	**Arkhyz**	**1.11**	**10**	*i* Pg		**Pb**	18 59 51.3	-0.3
ARXR				*i* Sg		**Sn**	19 00 07.0	-1.3
VSLR	**Vesyoloye**	**1.23**	**324**	*i* Pg		**Pg**	18 59 53.3	0.0
VSLR				*i* Sg		**Sn**	19 00 12.7	+1.6
RPOR	**Krasnaya Polya**	**1.35**	**336**	*i* Pg		**Pb**	18 59 55.6	-0.1
RPOR				*i* Sg		**Sn**	19 00 14.8	+0.8
TKB	**Tkibuli**	**1.47**	**94**	P		**Pn**	18 59 56.3	-0.8
TKB				S		**Sb**	19 00 16.6	-0.1
SOC	**Sochi**	**1.47**	**320**	*e*Pg		**Pb**	18 59 57.4	-0.3
SOC				*e*Sg		**Sg**	19 00 17.8	+0.9
NEY	**Neytrino**	**1.47**	**57**	*i* Pg		**Pn**	18 59 57.4	0.0
NEY				*e*Sg		**Sg**	19 00 17.3	+0.2
ABS	**Abastumani**	**1.51**	**118**	P		**Pn**	18 59 57.2	-0.7
ABS				S		**Sn**	19 00 17.8	-0.4
GUZR	**Guzeripl'**	**1.66**	**337**	*i* Pg		**Pb**	19 00 00.7	-0.4
GUZR				*i* Sg		**Sg**	19 00 23.6	+0.4
SHA1	**Shidzhatmaz**	**1.75**	**43**	*i* Pg		**Pb**	19 00 02.7	+0.1
SHA1				*i* Sg		**Sg**	19 00 26.2	+0.4
ONI	**Oni**	**1.80**	**85**	P		**Pn**	19 00 02.2	+0.5
ONI				S		**Sg**	19 00 27.2	-0.4
ONI	**Oni**	**1.80**	**85**	*e*Pg		**Pb**	19 00 02.9	-0.5
ONI				*e*Sg		**Sb**	19 00 27.0	+0.6
KBZ	**Khabaz**	**1.86**	**47**	*i* Pg		**Pg**	19 00 04.9	-0.6
KBZ				*e*Sg		**Sb**	19 00 28.0	-0.1
LZRR	**Lazarevskoye**	**1.90**	**321**	*e*Pg		**Pn**	19 00 03.8	+0.8
LZRR				*e*Sg		**Sb**	19 00 28.1	-0.9
DIGR	**Digorskoe uzhe**	**1.94**	**76**	*e*Pg		**Pb**	19 00 06.2	+0.4
DIGR				*e*Sg		**Sb**	19 00 30.7	+0.3
BKRG	**Bakuriani**	**1.99**	**110**	P		**Pn**	19 00 05.1	+0.6
BKRG				S		**Sb**	19 00 31.9	-0.1
TPSR	**Tuapse**	**2.14**	**320**	*e*Pg		**Pb**	19 00 07.6	-1.5
TPSR				*e*Sg		**Sb**	19 00 35.8	-0.2
ZEI	**Tsey**	**2.15**	**80**	*e*Pg		**Pb**	19 00 09.6	+0.2
ZEI				*e*Sg		**Sb**	19 00 37.1	+0.5

*NEIC **19** 19:10:47.2±1.9, 51°37N±0°08×176°31W±0°06, h52km±10km, Error ellipse: s-maj=11.4km s-min=5.5km az=168.0*
AEIC 19 19:10:46±1.6, 51°34N±0°06×176°29W±0°02, h41km±7km, ML3.5, mb4.5/24(NEIC), Error ellipse: s-maj=8.6km s-min=1.6km az=182.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETKA	**Kagalaska Isla**	**0.53**	**352**		Pn	19 10 58.0	+0.8
ADK	**Adak**	**0.60**	**336**		Pn	19 10 58.8	+0.7
ADK	**Adak**	**0.60**	**336**		Sn	19 11 07.6	+0.9
ADAG	**Mount Adagdak**	**0.67**	**343**		Pn	19 11 00.5	+1.5
GSMY	**Great Sitkin M**	**0.72**	**12**		Pn	19 11 01.1	+1.3
GSTD	**Great Sitkin T**	**0.72**	**7**		Pn	19 11 01.2	+1.4
GSTD					Sn	19 11 11.7	+1.9
KIMD	**Kanaga Island**	**0.72**	**306**		Pn	19 11 00.3	+0.5
KIMD					Sn	19 11 09.6	-0.1
KIKV	**Kanaga Island**	**0.77**	**315**		Pn	19 11 01.3	+0.9
GSTR	**Great Sitkin T**	**0.77**	**11**		Pn	19 11 01.9	+1.5
KICM	**Kanaga Island**	**0.81**	**316**		Pn	19 11 01.9	+1.0
TAFP	**Tanaga Falls P**	**1.19**	**299**		Pn	19 11 07.3	+1.1
TAFP					Sn	19 11 22.6	+1.4
TASE	**Tanaga Southea**	**1.20**	**295**		Pn	19 11 07.2	+0.9
ATKA	**Atka Island**	**1.56**	**56**		Pn	19 11 11.2	0.0
ATKA	**Atka Island**	**1.56**	**56**		Sn	19 11 31.2	+1.0
GALAA	**Gareloi Lava P**	**1.60**	**286**		Pn	19 11 13.3	+1.4
KOKL	**Mount Kliuchef**	**1.63**	**52**		Pn	19 11 14.4	+2.2
KOFP	**Korovin Flat P**	**1.65**	**55**		Pn	19 11 14.4	+1.8
MAPS	**Pakushin South**	**6.21**	**63**		Pn	19 12 17.8	+2.7
MREP	**Makushin Rep't**	**6.32**	**63**		Pn	19 12 19.9	+3.3
KDAK	**Kodiak Island**	**15.14**	**56**	Pn	Pn	19 14 16.9	+0.3
KDAK				IAmb	IAmb	19 14 52.6	
	comp=Z,238nm,1.9s						
SUA	**Susitna One**	**17.27**	**44**		P	19 14 44.6	-0.3
SUA				IAmb	IAmb	19 14 59.1	
	comp=Z,71nm,1.9s						
KTH	**Kantishna Hill**	**18.17**	**38**	P	P	19 14 54.6	-0.2
KTH				IAmb	IAmb	19 15 37.5	
	comp=Z,33nm,1.8s						
GHO	**Glory Hole Cre**	**18.19**	**44**		Pn	19 14 56.2	+1.1
GHO				IAmb	IAmb	19 15 47.1	
	comp=Z,56nm,1.8s						
KNK	**Knik Glacier**	**18.27**	**46**	P	Pn	19 14 56.9	+0.9
KNK				IAmb	IAmb	19 15 24.1	
	comp=Z,29nm,1.4s						
TRF	**Thorofare Moun**	**18.36**	**39**	P	Pn	19 14 58.3	+1.0
SCM	**Sheep Creek Mo**	**18.92**	**45**	P	Pn	19 15 04.3	+0.3
SCM				IAmb	IAmb	19 15 55.5	
	comp=Z,138nm,2.0s						
MDM	**Murphy Dome**	**19.89**	**36**		P	19 15 13.7	+0.2
CCB	**Clear Creek Bu**	**19.90**	**37**	P	Pn	19 15 14.8	-0.7
N25K	**Chitina, Valde**	**20.08**	**47**	P	P	19 15 16.7	+0.9
N25K				IAmb	IAmb	19 15 33.3	
	comp=Z,45nm,1.7s						
COLD	**Coldfoot**	**20.50**	**29**	P	P	19 15 19.8	-0.3
DOT	**Dot Lake**	**20.97**	**42**	P	P	19 15 24.6	-0.7
DOT				IAmb	IAmb	19 15 26.6	
	comp=Z,27nm,1.6s						
SCRK	**Sand Creek**	**21.12**	**41**	P	P	19 15 27.8	+0.8
K27K	**Chicken**	**21.93**	**42**	P	P	19 15 36.2	+0.8
K27K				IAmb	IAmb	19 16 31.0	
	comp=Z,18nm,1.8s						
PV14	**Lion Creek, Pa**	**47.78**	**78**	P	P	19 19 18.4	-0.9
PV14				IAmb	IAmb	19 20 10.8	
	comp=Z,8.2nm,0.9s						
KAN13	**South Haven SW**	**55.65**	**72**	P	P	19 20 16.5	-1.1
OK031	**S. Brethren Rd**	**56.74**	**73**	P	P	19 20 23.6	-1.8
OK030	**Cody Creek RV**	**56.79**	**73**	P	P	19 20 24.6	-1.3
K62A	**Royalston**	**65.57**	**52**	P	P	19 21 24.7	-0.4
QUA2	**Belchertown**	**65.80**	**52**	P	P	19 21 28.0	+1.4
PAULI	**Pauline**	**66.27**	**64**	P	P	19 21 28.8	-1.0
PAULI				IAmb	IAmb	19 21 33.6	
	comp=Z,12nm,0.6s						
KMSC	**Kings Mountain**	**66.31**	**63**	P	P	19 21 29.3	-0.7

*NEIC **19** 19:13:53.9±1.5, 27°90S±0°07×66°6W±0°1, h156km±10km, Error ellipse: s-maj=14.1km s-min=10.0km az=109.0*
*IDC **19** 19:13:53.5±1.9, 27°96S×66°59W, h148km±20km, mb3.7/5, mb1 3.6/10, mb1mx3.4/29, mbtmp4.0/10, Error ellipse: s-maj=23.2km s-min=14.6km az=94.0*
*VAO **19** 19:14:00.5±1.6, 27°50S×66°81W, h233km±10km, mb4.1*
ISC 19 19:13:54.5±0.5, 27°88S±0°06×66°73W±0°06, h167km, n71, σ1§17/75, mb4.0/6, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC02	**Maricunga**	**2.37**	**295**	Pn	**Pn**	**19 14 35.8**	**+0.3**
GO03	**Copiap**	**3.12**	**274**		**Pn**	**19 14 45.2**	**+1.1**
GO03				Sn	**Sn**	**19 15 22.3**	**-0.4**
AC05	**El Transito**	**3.27**	**252**		**Pn**	**19 14 47.2**	**+1.2**
AC05				Sn	**Sn**	**19 15 27.1**	**+1.0**
CO01	**Juntas del Tor**	**3.62**	**234**		**Pn**	**19 14 52.0**	**+1.5**
LCO	**Las Campanas**	**3.68**	**251**		**Pn**	**19 14 51.8**	**+0.5**
LCO				Sn	**Sn**	**19 15 35.6**	**+0.1**
GO02	**Mina Guanaco**	**3.73**	**316**		**Pn**	**19 14 54.6**	**+2.5**
AC04	**Llanos de Chal**	**3.86**	**264**		**Pn**	**19 14 53.2**	**-0.2**
AC01	**Pan de Azucar**	**3.86**	**296**		**Pn**	**19 14 54.7**	**+1.3**
ZON	**Zonda**	**4.03**	**204**		**Pn**	**19 14 55.7**	**0.0**
GO04	**Tololo Observa**	**4.24**	**236**		**Pn**	**19 14 58.2**	**-0.3**
CO03	**El Pedregal**	**4.55**	**229**		**Pn**	**19 15 02.2**	**-0.2**
PB14	**IPOC Station P**	**4.62**	**314**	Pn	**Pn**	**19 15 05.2**	**+1.5**
CO02	**Combarbal**	**4.99**	**227**		**Pn**	**19 15 07.1**	**-1.1**
PB15	**IPOC Station P**	**5.27**	**331**		**Pn**	**19 15 12.5**	**+0.5**
PB10	**IPOC Station P**	**5.55**	**321**	Pn	**Pn**	**19 15 15.6**	**+0.2**
LVC	**Limon Verde**	**5.60**	**339**	P	**Pn**	**19 15 18.6**	**+2.0**
	7.1nm,0.3s,baz=146,slow=11,SNR=72						
LVC				S	**Sn**	**19 16 20.7**	**-0.1**
	5.8nm,0.3s,baz=299,slow=17,SNR=17						
LVC	**Limon Verde**	**5.60**	**339**	Pn	**Pn**	**19 15 18.0**	**+1.5**
LVC	**Limon Verde**	**5.60**	**339**	*e*P	**Pn**	**19 15 18.9**	**+2.4**
PB06	**IPOC Station P**	**5.75**	**333**		**Pn**	**19 15 19.1**	**+0.7**
VA03	**San Esteban**	**5.89**	**213**		**Pn**	**19 15 20.0**	**0.0**
PEL	**Peldehue**	**6.26**	**212**	Pn	**Pn**	**19 15 24.2**	**-0.6**
PB04	**IPOC Station P**	**6.33**	**330**	Pn	**Pn**	**19 15 25.6**	**-0.3**
PB09	**IPOC Station P**	**6.47**	**339**		**Pn**	**19 15 25.5**	**-2.3**
MT02	**Curacav**	**6.58**	**214**	Pn	**Pn**	**19 15 28.2**	**-0.7**
PB07	**IPOC Station P**	**6.76**	**334**		**Pn**	**19 15 31.7**	**0.0**
PB01	**IPOC Station P**	**7.25**	**339**		**Pn**	**19 15 37.8**	**-0.3**
BO02	**Sierra Bellavi**	**7.72**	**206**		**Pn**	**19 15 42.9**	**-1.2**
TA01	**Diego Aracena**	**7.93**	**336**	Pn	**Pn**	**19 15 47.2**	**+0.3**
PB08	**IPOC Station P**	**8.01**	**343**		**Pn**	**19 15 48.8**	**+0.4**
CPUP	**Villa Florida**	**8.52**	**82**	P	**Pn**	**19 15 53.6**	**-1.0**
	0.3nm,0.3s,baz=219,slow=8.3,SNR=4.3						
CPUP	**Villa Florida**	**8.52**	**82**		**Pn**	**19 15 52.5**	**-2.2**
PSGCX	**Pisagua**	**8.81**	**339**	Pn	**Pn**	**19 15 57.3**	**-1.4**
MNMC	**Minye Minye**	**9.09**	**343**		**Pn**	**19 16 01.3**	**-1.4**
BI02	**San Fabin de**	**9.57**	**203**		**Pn**	**19 16 06.4**	**-2.2**
PB16	**IPOC Station P**	**9.83**	**344**	Pn	**Pn**	**19 16 12.5**	**-0.2**
LPAZ	**La Paz**	**11.61**	**353**	P	**Pn**	**19 16 37.2**	**+1.3**
	0.7nm,0.3s,baz=170,slow=9.6,SNR=12						
LPAZ	**La Paz**	**11.61**	**353**		**Pn**	**19 16 36.9**	**+1.0**
AQDB	**Aquidauana**	**12.47**	**56**	*e*P	**Pn**	**19 16 47.3**	**+0.9**
SIV	**San Ignacio**	**12.93**	**25**	P	**Pn**	**19 16 51.9**	**-0.5**
	0.3nm,0.3s,baz=219,slow=14,SNR=8.6						
ITAB	**Concordia**	**12.97**	**91**	*e*P	**P**	**19 16 58.1**	**+1.1**
PLCA	**Paso Flores**	**13.21**	**193**	P	**Pn**	**19 16 53.0**	**-2.7**
	0.2nm,0.3s,baz=21,slow=8.6,SNR=2.6						
PTGB	**Pitanga**	**13.52**	**80**	*e*P	**P**	**19 17 04.9**	**+1.5**
LL01	**San Ignacio de**	**15.19**	**196**	P	**P**	**19 17 22.8**	**+1.3**
LL01				IAmb	IAmb	19 17 28.0	
	comp=Z,6.5nm,1.1s						
PCMB	**Pacaembu**	**15.37**	**69**	*e*P	**P**	**19 17 25.3**	**+1.6**
FRTB	**Fartura**	**16.12**	**78**	*e*P	**P**	**19 17 33.2**	**+1.1**
ITRB	**Iturama**	**17.03**	**65**	*e*P	**Pn**	**19 17 43.6**	**+0.6**
BB19B	**Bebedouro**	**17.89**	**72**	*e*P	**Pn**	**19 17 52.3**	**-0.9**
ARAG	**Araguaiana, MT**	**18.38**	**52**	*e*P	**P**	**19 17 57.4**	**+0.6**
VAO	**Valinhos**	**

s-min=12.6km az=140.0
*SKHL **19** 19:43:46.7±0.3,44.°90N×151.°60E,h39km±5km,mb4.6/8, ms4.4/6,msh4.9/3*
*NEIC **19** 19:43:46.1±1.7,45.°04N±0.°09×151.°2E±0.°1,h10km±1km, mb4.7/79,Error ellipse: s-maj=17.6km s-min=11.4km az=135.0*
*JMA **19** 19:43:47.0±0.6,45.°12N×151.°44E,h30km,M4.6*
*MOS **19** 19:43:49.0±1.2,45.°11N×151.°19E,h39km,mb5.0/26, MS3.8/9,Error ellipse: s-maj=6.1km s-min=4.7km az=125.1*
*BGR **19** 19:44:00.4±0.0,46.°61N×151.°90E,h47km,mb4.9,Ms4.2*
ISC 19 19:43:48.7±0.5,**44.°87N**±0.°05×**151.°33E**±0.°05,**h36**km,**n380,** σ1ᵎ**73**/401,**mb4.7**/113,**MS4.2**/26,**7C-1D,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.48**	**280**	*c i*	PN	**Pn**	**19 44 26.8**	**+0.3**
KUR				*i*	S	**Sn**	**19 44 59.6**	**+4.0**
KUR					pmax	pmax		
	comp=Z,191nm,0.5s							
KUR					pmax	pmax		
	comp=N,57nm,0.2s							
KUR					pmax	pmax		
	comp=E,58nm,0.2s							
KUR					smax	smax		
	comp=N,1μm,0.4s							
KUR					smax	smax		
	comp=E,366nm,0.5s							
KUR					smax	smax		
	comp=N,2μm,1.5s							
KUR					smax	smax		
	comp=E,1μm,0.8s							
KUR					MLR	MLR		
	comp=E,5μm,10.0s							
KUR					MLR	MLR		
	comp=Z,4μm,10.0s							
KUR	**Kuril'sk**	**2.48**	**280**	*i*	P	**Pn**	**19 44 27.1**	**+0.6**
KUR					AMB	AMB	19 44 32.0	
	comp=Z,190nm,0.5s							
KUR				*i*	S	**Sn**	**19 44 57.3**	**+1.7**
KUR					A	A	19 45 05.0	
	comp=Z,4μm,3.0s							
KUR					A	A	19 45 05.0	
	comp=Z,2μm,3.0s							
KUR					A	A	19 45 06.0	
	comp=Z,1μm,0.5s							
KUR					A	A	19 45 06.0	
	comp=Z,420nm,0.5s							
KUR					AMS	AMS	19 45 58.0	
	comp=Z,7μm,10.0s							
KUR					AMS	AMS	19 45 58.0	
	comp=Z,9μm,10.0s							
KUR					AMS	AMS	19 45 58.0	
	comp=Z,6μm,10.0s							
YUK	**Yuzh-Kuril'sk**	**4.00**	**260**	⇑ *i*	PN	**Pn**	**19 44 49.8**	**+2.3**
YUK					eS	**Sn**	**19 45 35.7**	**+2.6**
YUK					pmax	pmax		
	comp=Z,142nm,0.4s							
YUK					pmax	pmax		
	comp=N,27nm,0.2s							
YUK					pmax	pmax		
	comp=E,42nm,0.2s							
YUK					pmax	pmax		
	comp=Z,280nm,1.0s							
YUK					smax	smax		
	comp=N,373nm,0.6s							
YUK					smax	smax		
	comp=E,401nm,0.6s							
YUK					smax	smax		
	comp=E,319nm,1.0s							
YUK					smax	smax		
	comp=N,693nm,1.7s							
YUK					MLR	MLR		
	comp=Z,1μm,13.0s							
YUK					MLR	MLR		
	comp=N,1μm,10.0s							
YUK					MLR	MLR		
	comp=E,2μm,12.0s							
YUK	**Yuzh-Kuril'sk**	**4.00**	**260**	*i*	P	**Pn**	**19 44 49.7**	**+2.3**
YUK					AMB	AMB	19 44 51.0	
	comp=E,140nm,0.4s							
YUK					AMB	AMB	19 44 54.0	
	comp=E,300nm,1.0s							
YUK					eS	**Sn**	**19 45 35.5**	**+2.4**
YUK					A	A	19 45 43.0	
	comp=E,2μm,3.0s							
YUK					A	A	19 45 43.0	
	comp=E,800nm,3.0s							
YUK					A	A	19 45 49.3	
	comp=E,670nm,0.6s							
YUK					A	A	19 45 49.3	
	comp=E,980nm,0.6s							
YUK					AMS	AMS	19 46 28.2	
	comp=E,3μm,15.0s							
YUK					AMS	AMS	19 46 28.2	
	comp=E,4μm,15.0s							
YUK					AMS	AMS	19 46 28.2	
	comp=E,2μm,15.0s							
GRPR	**Tuman**	**4.08**	**260**	*e*	PN	**Pn**	**19 44 50.3**	**+1.8**
GRPR					eS	**Sn**	**19 45 37.6**	**+2.7**
GRPR					pmax	pmax		
	comp=Z,82nm,0.6s							
GRPR					smax	smax		
	comp=E,518nm,1.1s							
GRPR					smax	smax		
	comp=N,401nm,0.6s							
GRPR					smax	smax		
	comp=N,128nm,0.5s							
GRPR					smax	smax		
	comp=E,399nm,0.5s							
GRPR	**Tuman**	**4.08**	**260**	*e*	P	**Pn**	**19 44 50.3**	**+1.8**
GRPR					AMB	AMB	19 44 51.0	
	comp=E,80nm,0.6s							
GRPR					eS	**Sn**	**19 45 37.6**	**+2.7**
GRPR					A	A	19 45 41.0	
	comp=E,400nm,2.0s							
GRPR					A	A	19 45 41.0	
	comp=E,500nm,2.0s							
GRPR					A	A	19 45 43.0	
	comp=E,130nm,0.5s							
GRPR					A	A	19 45 43.0	
	comp=E,400nm,0.5s							
NEM2	**Nemuro 2**	**4.30**	**251**		P	**Pn**	**19 44 51.7**	**+0.2**
NEM2					eS	**Sn**	**19 45 39.2**	**-1.1**
NMR	**Nemuro--Hokkai**	**4.30**	**252**	*e*	PN	**Pn**	**19 44 52.3**	**+0.7**
NMR	**Nemuro--Hokkai**	**4.30**	**252**	*e*	P	**Pn**	**19 44 52.4**	**+0.8**
NMR					eS	**Sn**	**19 45 41.9**	**+1.4**
GLVR	**Golovnino**	**4.32**	**257**	*e*	PN	**Pn**	**19 44 54.0**	**+2.2**
GLVR					eS	**Sn**	**19 45 42.8**	**+1.9**
GLVR					smax	smax		
	comp=N,135nm,0.2s							
GLVR					smax	smax		
	comp=E,602nm,0.7s							
GLVR	**Golovnino**	**4.32**	**257**	*e*	P	**Pn**	**19 44 54.0**	**+2.2**
GLVR					eS	**Sn**	**19 45 42.8**	**+1.9**
GLVR					A	A	19 45 48.0	
	comp=E,140nm,0.6s							
GLVR					A	A	19 45 48.0	
	comp=E,600nm,0.6s							
RUSJ	**Misakicho**	**4.42**	**262**	*e*	PN	**Pn**	**19 44 55.7**	**+2.5**
RUSJ					eS	**Sn**	**19 45 48.3**	**+5.0**
JRA	**Rausu**	**4.55**	**260**		P	**Pn**	**19 44 57.0**	**+2.1**
JNK	**Nakash**	**4.92**	**257**		P	**Pn**	**19 45 00.9**	**+0.8**
JNK					eS	**Sn**	**19 45 56.1**	**+0.3**
AKK	**Akkeshi**	**5.04**	**251**	*e*	P	**Pn**	**19 45 01.9**	**+0.2**
AKK					eS	**Sn**	**19 45 58.2**	**-0.4**
JAK	**Akkeshi**	**5.14**	**251**		P	**Pn**	**19 45 03.6**	**+0.5**
JTKR	**Abashiri--Toko**	**5.39**	**263**		P	**Pn**	**19 45 08.7**	**+2.2**
JAR	**Ashorobuto**	**5.67**	**257**		P	**Pn**	**19 45 10.8**	**+0.5**
JAR					eS	**Sn**	**19 46 14.2**	**0.0**
JMP	**Maruseppu**	**5.77**	**264**		P	**Pn**	**19 45 14.1**	**+2.3**
JCH	**Churui**	**6.20**	**251**		P	**Pn**	**19 45 18.6**	**+1.0**
JCH					eS	**Sn**	**19 46 26.1**	**-1.0**
JSE	**Soyaes**	**6.21**	**274**		P	**Pn**	**19 45 20.5**	**+2.7**
JKK2	**Kamakawa 2**	**6.23**	**264**		P	**Pn**	**19 45 20.7**	**+2.6**
JKA	**Kamikawa-asahi**	**6.29**	**266**		Pn	**Pn**	**19 45 18.4**	**-0.5**
ASAJ	**Asahikawa**	**6.29**	**266**		Pn	**Pn**	**19 45 21.6**	**+2.7**
	comp=E,2.7nm,0.3s,baz=90,slow=16,SNR=36							
ASAJ					LR	LR	19 48 13.9	
	comp=E,2μm,19.1s,baz=89,slow=43							
ASAJ	**Asahikawa**	**6.29**	**266**		P	**Pn**	**19 45 22.0**	**+3.1**
ASAJ	**Asahikawa**	**6.29**	**266**		PN	**Pn**	**19 45 18.4**	**-0.5**
YSS	**Yuzh-Sakhalins**	**6.34**	**292**	*e*	PN	**Pn**	**19 45 21.2**	**+1.7**
YSS					eS	**Sn**	**19 46 33.5**	**+3.0**
YSS					pmax	pmax		
	comp=Z,30nm,1.0s							
YSS					MLR	MLR		
	comp=Z,2μm,16.0s							
YSS					MLR	MLR		
	comp=N,1μm,17.0s							
YSS					MLR	MLR		
	comp=E,1μm,17.0s							
YSS	**Yuzh-Sakhalins**	**6.34**	**292**		Pn	**Pn**	**19 45 15.7**	**-3.8**
YSS	**Yuzh-Sakhalins**	**6.34**	**292**	*e*	P	**Pn**	**19 45 21.4**	**+1.9**
YSS					AMB	AMB	19 45 28.8	
	comp=E,30nm,1.0s							
YSS					eS	**Sn**	**19 46 32.5**	**+2.0**
YSS					AMS	AMS	19 47 49.0	
	comp=E,1μm,16.0s							
YSS					AMS	AMS	19 47 49.0	
	comp=E,2μm,16.0s							
YSS					AMS	AMS	19 47 49.0	
	comp=E,2μm,16.0s							
JFR	**Furan**	**6.53**	**258**		P	**Pn**	**19 45 23.8**	**+1.7**
JEM	**Erimo**	**6.60**	**247**		Pn	**Pn**	19 45 17.0	-6.1
ERM	**Erimo**	**6.60**	**247**	*e*	PN	**Pn**	**19 45 25.9**	**+2.8**
ERM					pmax	pmax		
	comp=Z,209nm,1.7s							
ERM	**Erimo**	**6.60**	**247**		Pn	**Pn**	**19 45 21.4**	**-1.6**
SKR	**Severo-Kuril's**	**6.65**	**27**	*e*	P	**Pn**	**19 45 22.5**	**-1.2**
SKR					AMB	AMB	19 45 24.3	
	comp=Z,30nm,0.5s							
JAB	**Ashibetsu**	**6.69**	**261**		P	**Pn**	**19 45 27.6**	**+3.3**
JWK2	**Keihoku**	**6.69**	**277**		P	**Pn**	**19 45 28.6**	**+4.2**
JNBK	**Urakawa-nobuka**	**6.75**	**250**		P	**Pn**	**19 45 25.1**	**0.0**
JNBK					eS	**Sn**	**19 46 40.6**	**-0.1**
JBT2	**Biratori 2**	**6.81**	**255**		P	**Pn**	**19 45 26.8**	**+0.7**
JBT2					eS	**Sn**	**19 46 41.7**	**-0.6**
JHR	**Hokuryu**	**6.99**	**264**		P	**Pn**	**19 45 31.6**	**+3.2**
JRBN	**Rebuntou**	**7.28**	**278**		P	**Pn**	**19 45 35.6**	**+3.2**
JEW	**Eniwo**	**7.43**	**258**		P	**Pn**	**19 45 35.2**	**+0.8**
JEW	**Eniwo**	**7.43**	**258**		Pn	**Pn**	**19 45 33.6**	**-0.9**
PAU	**Pauzhetka**	**7.55**	**27**	*e*	P	**Pn**	**19 45 33.1**	**-3.0**
UGL	**Uglegorsk**	**7.61**	**307**	*e*	PN	Pn	19 45 47.8	+11
UGL					eS	Sn	19 47 12.7	+11
UGL					pmax	pmax		
	comp=Z,100nm,1.0s							
UGL					smax	smax		
	comp=N,100nm,1.0s							
UGL					MLR	MLR		
	comp=E,1μm,9.0s							
UGL					MLR	MLR		
	comp=N,1μm,15.0s							
UGL					MLR	MLR		
	comp=Z,2μm,13.0s							
UGL	**Uglegorsk**	**7.61**	**307**	*e*	P	**Pn**	**19 45 39.3**	**+2.4**
UGL					AMB	AMB	19 45 43.8	
	comp=Z,100nm,1.0s							
UGL					eS	**Sn**	**19 47 03.1**	**+1.4**
UGL					A	A	19 47 13.4	
	comp=Z,80nm,0.8s							
UGL					A	A	19 47 13.4	
	comp=Z,70nm,0.8s							
UGL					AMS	AMS	19 48 39.1	
	comp=Z,2μm,15.0s							
UGL					AMS	AMS	19 48 39.1	
	comp=Z,2μm,15.0s							
UGL					AMS	AMS	19 48 39.1	
	comp=Z,2μm,15.0s							
JNB	**Noboribetsu**	**7.84**	**256**		P	**Pn**	**19 45 40.8**	**+0.7**
JNB					eS	**Sn**	**19 47 05.9**	**-1.6**
JKB	**Kayabe**	**8.07**	**252**		P	**Pn**	**19 45 43.8**	**+0.5**
JKB					eS	**Sn**	**19 47 09.7**	**-3.5**
TYV	**Tymovskoe**	**8.36**	**319**	*e*	PN	**Pn**	**19 45 48.3**	**+1.1**
TYV					pmax	pmax		
	comp=Z,10.0nm,1.0s							
TYV					pmax	pmax		
	comp=Z,100nm,4.5s							
TYV					MLR	MLR		
	comp=Z,2μm,15.0s							
TYV	**Tymovskoe**	**8.36**	**319**	*e*	P	**Pn**	**19 45 48.3**	**+1.1**
TYV					AMB	AMB	19 45 51.2	
	comp=Z,10.0nm,0.8s							
TYV					eS	**Sn**	**19 47 19.7**	**-0.6**
TYV					AMS	AMS	19 48 59.9	
	comp=Z,1μm,15.0s							
TYV					AMS	AMS	19 48 59.9	
	comp=Z,2μm,15.0s							
TYV					AMS	AMS	19 48 59.9	
	comp=Z,2μm,15.0s							
JYM2	**Yakumo 2**	**8.43**	**255**		P	**Pn**	**19 45 49.1**	**+0.9**
JYM2					eS	**Sn**	**19 47 21.5**	**-0.6**
JSH	**Shimam**	**8.47**	**259**		P	**Pn**	**19 45 51.9**	**+3.2**
JANG	**Nango**	**8.52**	**242**		P	**Pn**	**19 45 48.8**	**-0.6**
JANG					eS	**Sn**	**19 47 17.4**	**-6.8**
JTH	**Tanohata**	**8.56**	**238**		P	**Pn**	**19 45 49.4**	**-0.6**
JTH					eS	**Sn**	**19 47 17.9**	**-7.4**
JTM	**Tenmabayashi**	**8.57**	**245**		P	**Pn**	**19 45 50.4**	**+0.2**
JTM					eS	**Sn**	**19 47 20.3**	**-5.3**
JTM	**Tenmabayashi**	**8.57**	**245**		Pn	**Pn**	**19 45 51.4**	**+1.2**
JOSM	**Okushiri--Mats**	**9.06**	**256**		P	**Pn**	**19 45 56.1**	**-0.7**
OFUJ	**Ofunato**	**9.23**	**235**		P	**Pn**	**19 45 58.8**	**-0.4**
OFUJ					eS	**Sn**	**19 47 35.8**	**-5.9**
PEA0B	**Petropavlovsk-**	**9.24**	**25**		PN	**Pn**	**19 45 57.7**	**-1.6**
PEA0B	**Petropavlovsk-**	**9.24**	**25**		Pn	**Pn**	**19 45 57.7**	**-1.6**
PETK	**Petropavlovsk-**	**9.24**	**25**		Pn	**Pn**	**19 45 57.5**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=184,slow=9.8,SNR=8.0							
PETK					LR	LR	19 49 40.8	
	comp=Z,156nm,18.2s,baz=210,slow=39							
PETK	**Petropavlovsk-**	**9.24**	**25**			**Pn**	**19 45 57.2**	**-2.1**
PET	**Petropavlovsk**	**9.47**	**28**	*e*	S	**Sn**	**19 47 43.7**	**-3.8**
PET					AMS	AMS	19 51 20.3	
	comp=Z,900nm,15.0s							
JRG	**Rokugo**	**9.64**	**239**		P	**Pn**	**19 46 06.2**	**+1.3**
JRG					eS	**Sn**	**19 47 47.3**	**-4.6**
JIO	**Ouri**	**9.84**	**233**		P	**Pn**	**19 46 07.1**	**-0.4**
JIO					eS	**Sn**	**19 47 49.8**	**-6.8**
TEY	**Ternei**	**10.45**	**276**	⇑ *e*	PN	**Pn**	**19 46 18.2**	**+2.4**
TEY					pmax	pmax		
	comp=N,10.0nm,1.3s							
TEY					pmax	pmax		
	comp=Z,10.0nm,1.2s							
TEY	**Ternei**	**10.45**	**276**	*e*	P	**Pn**	**19 46 18.2**	**+2.4**
TEY					AMB	AMB	19 46 19.4	
	comp=Z,10.0nm,1.0s							
JMM	**Marumori**	**10.56**	**232**		Pn	**Pn**	**19 46 16.4**	**-1.0**
JYA	**Atsumi**	**10.71**	**238**		P	**Pn**	**19 46 19.8**	**+0.4**
GRNR	**Gornyy**	**11.62**	**306**	⇑ *i*	PN	**Pn**	**19 46 33.9**	**+2.0**
GRNR					eS	**Sn**	**19 48 45.5**	**+5.2**
GRNR					pmax	pmax		
	comp=Z,2.0nm,0.8s							
GRNR					smax	smax		
	comp=N,1.0nm,0.7s							
GRNR					MLR	MLR		
	comp=E,540nm,14.0s							
GRNR					MLR	MLR		
	comp=N,370nm,13.0s							
GRNR					MLR	MLR		
	comp=Z,760nm,18.0s							
GRNR	**Gornyy**	**11.62**	**306**	*e*	P	**Pn**	**19 46 33.9**	**+2.0**
GRNR					AMB	AMB	19 46 36.0	
	comp=Z,2.0nm,0.8s							
GRNR					AMS	AMS	19 51 14.2	
	comp=Z,400nm,14.0s							
GRNR					AMS	AMS	19 51 14.2	
	comp=Z,600nm,14.0s							
GRNR					AMS	AMS	19 51 14.2	
	comp=Z,800nm,14.0s							
JSD	**Sado**	**11.94**	**240**		Pn	**Pn**	**19 46 36.1**	**-0.2**
MJAR	**Matsushiro Arr**	**12.96**	**235**		Pn	**Pn**	**19 46 49.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=14							
MJAR					LR	LR	19 54 22.8	
	comp=Z,285nm,18.6s,baz=60,slow=49							
MJAR	**Matsushiro Arr**	**12.96**	**235**		PN	**Pn**	**19 46 50.1**	**-0.2**
MJAR	**Matsushiro Arr**	**12.96**	**235**			**Pn**	**19 46 50.1**	**-0.2**
MAJO	**Matsushiro**	**12.96**	**235**		PN	**Pn**	**19 46 50.2**	**-0.1**
MAJO	**Matsushiro**	**12.96**	**235**		Pn	**Pn**	**19 46 50.2**	**-0.1**
USA0B	**Ussuriysk Arra**	**13.82**	**274**		P	**Pn**	**19 47 01.6**	**-0.3**
USA0B	**Ussuriysk Arra**	**13.82**	**274**		Pn	**Pn**	**19 47 01.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**13.82**	**274**		Pn	**Pn**	**19 47 03.1**	**+1.3**
	baz=82,slow=13,SNR=38							
USRK					LR	LR	19 52 45.1	
	comp=Z,863nm,18.2s,baz=70,slow=39							
USRK	**Ussuriysk Ar.**	**13.82**	**274**		P	**Pn**	**19 47 01.8**	**-0.1**
USRK	**Ussuriysk Ar.**	**13.82**	**274**		Pn	**Pn**	**19 47 01.8**	**-0.1**
KLR	**Kul'dur**	**14.04**	**295**		Pn	**Pn**	**19 47 07.8**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=99,slow=13,SNR=20							
KLR					LR	LR	19 53 04.0	
	comp=Z,1μm,18.3s,baz=98,slow=40							
KLR	**Kul'dur**	**14.04**	**295**	*e*	P	**Pn**	**19 47 05.0**	**+0.2**
EKMR	**Ekimchan**	**14.56**	**311**	*e*	P	**Pn**	**19 47 12.0**	**0.0**
EKMR					AMB	AMB	19 47 28.5	
	comp=Z,10.0nm,1.0s							
MA2	**Magadan**	**14.73**	**359**		Pn	**Pn**	**19 47 13.4**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=177,slow=7.9,SNR=7.5							
MA2					LR	LR	19 53 17.3	
	comp=Z,556nm,18.4s,baz=184,slow=40							
MA2	**Magadan**	**14.73**	**359**			**Pn**	**19 47 12.7**	**-1.6**
MA2	**Magadan**	**14.73**	**359**	*e*	P	**Pn**	**19 47 12.5**	**-1.7**
MDJ	**Mudanjiang**	**15.45**	**277**		P	**Pn**	**19 47 23.3**	**-0.5**
MDJ					pmax	pmax		
	comp=Z,9.0nm,1.1s							
MDJ					pmax	pmax		
	comp=Z,160nm,5.6s							
MDJ					LR	LR		
	comp=Z,710nm,16.9s							
MDJ					LR	LR		
	comp=Z,850nm,16.5s							
MDJ					LR	LR		
	comp=Z,2μm,13.5s							
MDJ	**Mudanjiang**	**15.45**	**277**		Pn	**Pn**	**19 47 22.2**	**-1.5**
MDJ					IAmb	IAmb	19 47 28.5	
	comp=Z,26nm,0.9s							
JWT	**Wachi**	**15.48**	**237**		P	**P**	**19 47 29.4**	**+1.2**
JWT					IAmb	IAmb	19 47 32.5	
	comp=Z,46nm,0.9s							
JHS	**Saijyo**	**17.06**	**241**		Pn	**Pn**	**19 47 42.9**	**-1.5**
ZEA	**Zeya**	**17.96**	**308**	*e*	P	**Pn**	**19 47 54.5**	**-0.8**
ZEA					pmax	pmax		
	comp=N,10.0nm,1.2s							
ZEA					pmax	pmax		
	comp=Z,20nm,1.2s							
ZEA					pmax	pmax		
	comp=E,10.0nm,1.3s							
ZEA					pmax	pmax		
	comp=Z,200nm,4.6s							
ZEA					MLR	MLR		
	comp=E,300nm,10.0s							
ZEA					MLR	MLR		
	comp=N,300nm,13.0s							
ZEA					MLR	MLR		
	comp=Z,400nm,13.0s							
ZEA	**Zeya**	**17.96**	**308**	*e*	P	**P**	**19 47 55.9**	**+0.3**
ZEA					AMB	AMB	19 48 02.0	
	comp=Z,10.0nm,1.0s							
ZEA					AMB	AMB	19 48 02.0	
	comp=Z,10.0nm,1.0s							
ZEA					AMB	AMB	19 48 02.0	
	comp=Z,20nm,1.0s							
ZEA					AMS	AMS	19 56 46.0	
	comp=Z,300nm,12.0s							
ZEA					AMS	AMS	19 56 46.0	
	comp=Z,300nm,12.0s							
ZEA					AMS	AMS	19 56 46.0	
	comp=Z,400nm,12.0s							
SEY	**Seymchan**	**18.11**	**2**		P	**Pn**	**19 47 53.9**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=9.9,SNR=11							
KROS	**Kirovskiy**	**18.36**	**310**	*e*	P	**Pn**	**19 48 00.5**	**+0.3**
KROS					AMB	AMB	19 48 37.0	
	comp=Z,8.0nm,0.8s							
CN2	**Changchun**	**18.53**	**276**	*e*	P	**P**	**19 48 00.8**	**-1.1**
CN2					sP	pP	19 48 07.9	-1.8
CN2					S	**Sn**	**19 51 21.1**	**-7.1**
CN2					pmax	pmax		
	comp=Z,20nm,1.0s							
CN2					LR	LR		
	comp=Z,850nm,17.0s							
CN2					LR	LR		
	comp=Z,340nm,17.0s							
CN2					LR	LR		
	comp=Z,950nm,17.0s							
KSRS	**Korea Array**	**19.08**	**255**		P	**Pn**	**19 48 09.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=64,slow=10,SNR=8.4							
KSRS					LR	LR	19 55 22.8	
	comp=Z,173nm,18.3s,baz=62,slow=36							
KS19	**Wonju Array Si**	**19.09**	**256**		P	**P**	**19 48 08.2**	**0.0**
KSAR	**Wonju Array Be**	**19.11**	**255**		P	**P**	**19 48 08.6**	**+0.3**
KSAR	**Wonju Array Be**	**19.11**	**255**		P	**P**	**19 48 08.6**	**+0.3**
JNU	**Nakatsue**	**19.70**	**240**		LR	LR	19 57 48.2	
	comp=Z,574nm,18.4s,baz=40,slow=43							
YAK	**Yakutsk**	**21.30**	**331**		P	**P**	**19 48 30.5**	**-1.4**
	comp=Z,9.1nm,0.6s,baz=262,slow=0.4,SNR=10							
YAK					LR	LR	19 57 30.1	
	comp=Z,287nm,18.6s,baz=125,slow=39							
YAK	**Yakutsk**	**21.30**	**331**	*e*	P	**P**	**19 48 29.0**	**-2.9**
YAK				*e*			19 48 47.4	
YAK				*e*	S	**S**	**19 52 26.9**	**+0.6**
YAK				*e*			19 52 36.5	
YAK				*e*	SS	**SnSn**	**19 52 48.5**	**-1.3**
YAK				*e*			19 59 52.8	
YAK					pmax	pmax		
	comp=Z,14nm,0.9s							
YAK					pmax	pmax		
	comp=E,2.0nm,1.0s							
YAK					pmax	pmax		
	comp=N,4.0nm,1.2s							
YAK					smax	smax		
	comp=E,42nm,2.6s							
YAK					smax	smax		
	comp=N,31nm,2.9s							
YAK					MLR	MLR		
	comp=Z,291nm,17.0s							
YAK					MLR	MLR		
	comp=E,286nm,18.0s							
YAK					MLR	MLR		
	comp=N,198nm,16.0s							
YAK	**Yakutsk**	**21.30**	**331**		P	**P**	**19 48 28.4**	**-3.5**
YAK					IAmb	IAmb	19 48 40.2	
	comp=Z,44nm,0.9s							
HIA	**Hailar**	**21.87**	**293**		P	**P**	**19 48 35.5**	**-2.7**
HIA					pmax	pmax		
	comp=Z,6.0nm,0.6s							
HIA	**Hailar**	**21.87**	**293**		P	**P**	**19 48 35.5**	**-2.7**
DL2	**Dalian**	**22.82**	**265**		P	**P**	**19 48 48.8**	**+0.4**
DL2					S	**S**	**19 52 55.3**	**+0.2**
DL2					pmax	pmax		
	comp=Z,25nm,1.2s							
DL2					pmax	pmax		
	comp=Z,250nm,6.6s							
DL2					LR	LR		
	comp=Z,260nm,18.5s							
DL2					LR	LR		
	comp=Z,230nm,17.8s							
DL2					LR	LR		
	comp=Z,350nm,14.6s							
BILL	**Bilibino**	**24.51**	**14**	*i*	P	**P**	**19 49 00.6**	**-3.6**
BILL				*i*			19 49 13.8	
BILL				*i*			19 49 33.2	
BILL				*i*			19 52 38.9	
BILL					pmax	pmax		
	comp=Z,5.0nm,1.0s							
BILL					MLR	MLR		
	comp=Z,723nm,18.0s							
BILL	**Bilibino**	**24.51**	**14**		P	**P**	**19 49 01.2**	**-3.0**
BILL	**Bilibino**	**24.51**	**14**	*e*	P	**P**	**19 49 04.5**	**+0.3**
BJT	**Baijiatuau**	**26.26**	**272**		P	**P**	**19 49 18.9**	**-1.5**
BJT					pmax	pmax		
	comp=Z,11nm,1.1s							
BJT	**Baijiatuau**	**26.26**	**272**		P	**P**	**19 49 18.9**	**-1.5**
BJT					IAmb	IAmb	19 49 40.3	
	comp=Z,11nm,1.1s							
BOD	**Bodaibo**	**26.29**	**313**	*e*	P	**P**	**19 49 17.8**	**-2.7**
BOD					pmax	pmax		
	comp=Z,7.0nm,1.3s							
TIA	**Tai'an**	**27.23**	**263**		P	**P**	**19 49 29.4**	**+0.2**
TIA					pmax	pmax		
	comp=Z,10.0nm,1.1s							
TIA					LR	LR		
	comp=Z,320nm,16.2s		

TIXI **Tiksi** 28.95 346 P **P** 19 49 41.4 -2.7
H11S1 **WAKE ISLAND Hy** 29.25 149 T T 20 21 57.4
baz=338,slow=76,SNR=45
H11S3 **WAKE ISLAND Hy** 29.26 149 T T 20 21 56.7
baz=338,slow=76,SNR=36
H11S2 **WAKE ISLAND Hy** 29.27 149 T T 20 21 59.7
baz=338,slow=76,SNR=40
ULN **Ulaanbaatar** 30.39 292 P **P** 19 49 56.1 -1.2
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN **Ulaanbaatar** 30.39 292 P **P** 19 49 56.1 -1.2
ULN IAmb IAmb 19 50 02.1
comp=Z,8.6nm,1.0s
ULN **Ulaanbaatar** 30.39 292 *e*P **P** 19 49 57.8 +0.5
BTO **Baotou** 30.40 277 *e*P **P** 19 49 58.8 +1.4
BTO LR LR
comp=Z,2µm,15.4s
BTO LR LR
comp=Z,2µm,16.3s
BTO LR LR
comp=Z,3µm,18.2s
SONM **Songino Array** 30.83 292 P **P** 19 50 01.6 +0.4
comp=Z,4.7nm,0.9s,baz=93,slow=6.3,SNR=19
SONM LR LR 20 03 38.7
comp=Z,472nm,18.5s,baz=85,slow=39
SONM **Songino Array** 30.83 292 P **P** 19 50 00.3 -0.9
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM **Songino Array** 30.83 292 P **P** 19 50 00.3 -0.9
ANM **Nome** 30.94 35 P **P** 19 50 02.5 +0.7
ANM pmax pmax
comp=Z,8.0nm,1.3s
ANM **Nome** 30.94 35 P **P** 19 50 02.5 +0.7
ANM IAmb IAmb 19 50 17.4
comp=Z,7.5nm,1.3s
TLY **Talaya** 31.98 300 *i* P **P** 19 50 10.4 -0.7
TLY pmax pmax
comp=Z,5.0nm,1.3s
ZAK **Zakamensk** 32.39 297 *e*P **P** 19 50 13.8 -1.0
ZAK pmax pmax
comp=Z,6.0nm,1.2s
XAN **Xi'an** 34.13 266 P **P** 19 50 30.9 +0.8
XAN sP sP 19 50 43.8 +1.0
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN LR LR
comp=Z,230nm,16.3s
XAN LR LR
comp=Z,270nm,15.2s
XAN LR LR
comp=Z,460nm,17.3s
XAN **Xi'an** 34.13 266 P **P** 19 50 31.1 +1.0
XAN pmax pmax
comp=Z,5.0nm,0.9s
XAN **Xi'an** 34.13 266 P **P** 19 50 31.1 +1.0
XAN IAmb IAmb 19 50 31.4
comp=Z,5.1nm,0.9s
ENH **Enshi** 35.81 261 P **P** 19 50 45.0 +0.4
ENH IAmb IAmb 19 50 45.7
comp=Z,6.7nm,0.9s
IMAR **Indian Mountai** 36.02 35 P **P** 19 50 45.6 -0.4
LZH **Lanzhou** 36.72 273 *e*P **P** 19 50 54.8 +2.3
LZH pP pP 19 50 59.8 -1.2
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,100nm,5.1s
MLY **Manley** 37.17 37 P **P** 19 50 55.0 -0.8
COLD **Coldfoot** 37.59 33 P **P** 19 50 59.8 +0.5
I23K **Minto, Yukon-K** 37.76 36 P **P** 19 51 01.2 +0.6
MCK **McKinley** 37.89 39 P **P** 19 51 02.9 +1.0
MCK pmax pmax
comp=Z,16nm,1.2s
MCK **McKinley** 37.89 39 P **P** 19 51 02.9 +1.0
MCK IAmb IAmb 19 51 18.8
comp=Z,16nm,1.2s
RND **Reindeer** 37.93 39 P **P** 19 51 02.2 -0.1
RND pmax pmax
comp=Z,15nm,1.2s
RND **Reindeer** 37.93 39 P **P** 19 51 02.2 -0.1
RND IAmb IAmb 19 51 27.1
comp=Z,15nm,1.2s
TOLK **Toolik Lake Re** 38.00 31 P **P** 19 51 03.1 +0.3
TOLK IAmb IAmb 19 51 04.3
comp=Z,12nm,1.4s
GTA **Gaotai** 38.06 280 ⇑P **P** 19 51 04.8 +1.1
GTA pP pP 19 51 13.8 +1.5
GTA sP sP 19 51 18.3 +1.7
GTA pmax pmax
comp=Z,19nm,1.2s
GTA pmax pmax
comp=Z,120nm,7.2s
GTA LR LR
comp=Z,180nm,12.0s
GTA LR LR
comp=Z,300nm,11.6s
GTA LR LR
comp=Z,360nm,13.9s
MDM **Murphy Dome** 38.23 37 P **P** 19 51 04.9 +0.2
IL31 38.80 37 P **P** 19 51 09.6 +0.2
ILAR **Eielson Array** 38.80 37 P **P** 19 51 09.2 -0.3
comp=Z,3.6nm,1.2s,baz=256,slow=7.1,SNR=14
ILAR **Eielson Array** 38.80 37 P **P** 19 51 09.9 +0.4
ILAR **Eielson Array** 38.80 37 P **P** 19 51 09.9 +0.4
PRP **Porcupine Dome** 39.37 36 P **P** 19 51 15.7 +1.2
FYU **Fort Yukon** 39.50 34 P **P** 19 51 17.3 +2.0
FYU IAmb IAmb 19 51 20.6
comp=Z,21nm,1.4s
BMAR **Burnt Mountain** 39.77 33 P **P** 19 51 18.6 +0.9
K27K **Chicken** 40.92 38 P **P** 19 51 28.0 +1.0
K27K IAmb IAmb 19 51 43.8
comp=Z,11nm,0.9s
BCAR **Beaver Creek A** 41.14 40 P **P** 19 51 29.8 +0.8
EGAK **Eagle** 41.25 37 P **P** 19 51 29.9 +0.1
DGZ **Jazzator, Alta** 42.45 300 P **P** 19 51 40.6 +0.6
DGZ pmax pmax
comp=Z,3.0nm,0.8s
ZALV **Zalesovo Beam** 42.72 307 P **P** 19 51 40.5 -1.4
comp=Z,1.5nm,0.8s,baz=78,slow=6.8,SNR=5.4
ZALV PcP **PcP** 19 53 33.8 +0.8
comp=Z,1.6nm,0.8s,baz=87,slow=3.1,SNR=5.7
ZALV LR LR 20 10 54.3
comp=Z,444nm,18.4s,baz=70,slow=38
ZALV **Zalesovo Beam** 42.72 307 *i* P **P** 19 51 40.9 -1.0
ZALV pmax pmax
comp=Z,2.0nm,0.8s
EPYK **Eagle Plains** 42.92 34 P **P** 19 51 42.8 -0.7
EPYK IAmb IAmb 19 52 01.0
comp=Z,16nm,1.1s
INK **Inuvik** 43.90 31 P **P** 19 51 52.6 +1.3
comp=Z,2.8nm,0.8s,baz=286,slow=10,SNR=8.0
INK **Inuvik** 43.90 31 P **P** 19 51 52.6 +1.3
INK pmax pmax
comp=Z,5.0nm,0.8s
INK **Inuvik** 43.90 31 P **P** 19 51 52.6 +1.3
WMQ **Urumqi** 44.46 292 P **P** 19 51 56.3 +0.1
WMQ pmax pmax
comp=Z,13nm,1.0s
WMQ **Urumqi** 44.46 292 P **P** 19 51 56.3 +0.1
WMQ IAmb IAmb 19 52 03.8
comp=Z,13nm,1.0s
ZSN **Zaisan** 44.84 298 *e*P **P** 19 51 59.8 +0.7
baz=298
ZSN **Zaisan** 44.84 298 *e*P **P** 19 51 59.8 +0.7
MK31 **Makanchi Array** 46.72 298 P **P** 19 52 13.7 -0.2
MK31 pmax pmax
comp=Z,10.0nm,0.9s
MK31 **Makanchi Array** 46.72 298 P **P** 19 52 13.7 -0.2
MK31 IAmb IAmb 19 52 15.6
comp=Z,9.7nm,0.9s
MKAR **Makanchi Array** 46.72 298 P **P** 19 52 14.1 +0.1
comp=Z,12nm,0.9s,baz=71,slow=7.4,SNR=76
MKAR LR LR 20 13 20.1
comp=Z,770nm,18.1s,baz=66,slow=38
MKAR **Makanchi Array** 46.72 298 P **P** 19 52 13.4 -0.5
MAKZ **Makanchi** 46.91 298 P **P** 19 52 15.3 -0.1
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ **Makanchi** 46.91 298 P **P** 19 52 15.3 -0.1
MAKZ IAmb IAmb 19 52 17.1
comp=Z,8.3nm,0.9s
LSA **Lhasa** 49.14 274 P **P** 19 52 33.5 +0.1
LSA pmax pmax
comp=Z,27nm,1.0s
LSA **Lhasa** 49.14 274 P **P** 19 52 35.2 +1.8
LSA pmax pmax
comp=Z,6.0nm,0.9s
LSA **Lhasa** 49.14 274 P **P** 19 52 35.1 +1.8
LSA IAmb IAmb 19 53 03.9
comp=Z,6.3nm,0.9s
TDK **Taldyqorghan** 49.94 298 *e*P **P** 19 52 39.7 +0.9
comp=Z,26nm,1.3s,baz=298
TDK **Taldyqorghan** 49.94 298 *e*P **P** 19 52 39.6 +0.9
TDK pmax pmax
comp=Z,26nm,1.3s
SHLS **Shalkode** 50.12 295 *e*P **P** 19 52 38.9 -1.4
comp=Z,5.9nm,0.9s,baz=295
SHLS **Shalkode** 50.12 295 *e*P **P** 19 52 38.9 -1.4
SHLS pmax pmax
comp=Z,6.0nm,0.9s
UZB **Uzynbulak** 50.41 295 *e*P **P** 19 52 43.2 +0.7
comp=Z,14nm,1.0s,baz=295
UZB **Uzynbulak** 50.41 295 *e*P **P** 19 52 43.2 +0.7
UZB pmax pmax
comp=Z,14nm,1.0s
CHTO **Chiang Mai** 50.47 257 P **P** 19 52 43.1 0.0
CHTO pmax pmax
comp=Z,3.0nm,1.0s
CHTO **Chiang Mai** 50.47 257 P **P** 19 52 43.1 0.0
KPKS **Kokpek** 50.48 296 *e*P **P** 19 52 43.9 +0.9
comp=Z,16nm,0.9s,baz=296
KPKS **Kokpek** 50.48 296 *e*P **P** 19 52 43.9 +0.9
KPKS pmax pmax
comp=Z,16nm,0.9s
CMAR **Chiang Mai Arr** 50.72 256 P **P** 19 52 46.7 +1.8
comp=Z,0.4nm,0.4s,baz=35,slow=7.0,SNR=6.8
CMAR LR LR 20 16 05.8
comp=Z,122nm,18.1s,baz=89,slow=38
CMAR **Chiang Mai Arr** 50.72 256 *i* P **P** 19 52 46.9 +2.0
CMAR **Chiang Mai Arr** 50.72 256 P **P** 19 52 46.4 +1.5
SATY **Saty** 50.85 295 *e*P **P** 19 52 46.9 +1.1
comp=Z,9.6nm,1.1s,baz=295
SATY **Saty** 50.85 295 *e*P **P** 19 52 46.8 +1.0
SATY pmax pmax
comp=Z,10.0nm,1.1s
BRVK **Borovoye** 51.14 310 P **P** 19 52 47.3 -0.4
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BRVK **Borovoye** 51.14 310 P **P** 19 52 47.2 -0.4
CHKK **Chushkaly** 51.37 297 *e*P **P** 19 52 49.9 +0.2
baz=297
CHKK **Chushkaly** 51.37 297 *e*P **P** 19 52 49.8 +0.2
MDOK **Medeo** 51.67 296 *e*P **P** 19 52 52.7 +0.7
baz=296
MDOK **Medeo** 51.67 296 *e*P **P** 19 52 52.7 +0.7
AAA **Alma-Ata** 51.73 296 *e*P **P** 19 52 53.5 +1.2
comp=Z,15nm,1.0s,baz=296
AAA **Alma-Ata** 51.73 296 *e*P **P** 19 52 53.5 +1.2
AAA pmax pmax
comp=Z,15nm,1.0s
AAA **Alma-Ata** 51.73 296 *e*P **P** 19 52 53.5 +1.2
KUU **Kurty** 51.77 297 *e*P **P** 19 52 52.5 0.0
comp=Z,14nm,1.3s,baz=297
KUU **Kurty** 51.77 297 *e*P **P** 19 52 52.5 0.0
KUU pmax pmax
comp=Z,13nm,1.3s
TNSS **Tian-Shan** 51.80 296 *e*P **P** 19 52 54.3 +1.0
baz=296
TNSS **Tian-Shan** 51.80 296 *e*P **P** 19 52 54.2 +1.0
BTLS **Baital** 52.64 300 *e*P **P** 19 52 59.5 +0.6
baz=299
BTLS **Baital** 52.64 300 *e*P **P** 19 52 59.5 +0.6
ULHL **Ulahol** 52.64 295 P **P** 19 53 01.0 +1.7
SNR=22
TKM2 **Tokmak 2** 52.71 297 P **P** 19 53 01.1 +1.3
SNR=9.7
TAPN **Taplejung** 52.96 273 *e*P **P** 19 53 03.1 +1.2
comp=Z,19nm,0.8s
RES **Resolute Bay** 53.01 18 P **P** 19 53 01.6 +0.4
comp=Z,3.5nm,0.8s,baz=321,slow=7.1,SNR=13
RES **Resolute Bay** 53.01 18 P **P** 19 53 01.9 +0.7
RES pmax pmax
comp=Z,4.0nm,0.9s
RES **Resolute Bay** 53.01 18 P **P** 19 53 01.9 +0.7
SGDS **Sogindy** 53.06 298 *e*P **P** 19 53 03.2 +0.9
comp=Z,11nm,1.2s,baz=297
SGDS **Sogindy** 53.06 298 *e*P **P** 19 53 03.1 +0.9
SGDS pmax pmax
comp=Z,11nm,1.2s
YKA **Yellowknife Ar** 53.18 35 P **P** 19 53 02.7 +0.1
comp=Z,0.4nm,0.6s,baz=299,slow=6.9,SNR=5.7
CHMS **Chumysh** 53.21 297 P **P** 19 53 04.5 +1.3
SNR=6.0
USP **Ospenovka** 53.24 297 P **P** 19 53 04.8 +1.3
SNR=22
KBK **Karagaybulak** 53.26 297 P **P** 19 53 05.4 +1.6
SNR=17
ODAN **Odare** 53.49 273 *e*P **P** 19 53 07.0 +1.3
AAK **Ala-Archa** 53.56 297 P **P** 19 53 06.8 +0.8
AAK pmax pmax
comp=Z,14nm,1.0s
AAK **Ala-Archa** 53.56 297 P **P** 19 53 06.8 +0.8
AAK IAmb IAmb 19 53 08.1
comp=Z,14nm,0.9s
AAK **Ala-Archa** 53.56 297 *e*P **P** 19 53 07.0 +1.0
GUN **Gumba** 53.93 275 *e*P **P** 19 53 10.3 +1.2
comp=Z,42nm,1.1s
RAMN **Ramite** 53.99 274 *e*P **P** 19 53 10.6 +1.2
comp=Z,34nm,0.8s
EKS2 **Erkin-Say** 54.00 297 P **P** 19 53 10.4 +1.3
SNR=18
AML **Almayashu** 54.33 297 P **P** 19 53 13.8 +1.9
SNR=13
SVE **Sverdlovsk** 54.37 317 *e*P **P** 19 53 11.4 0.0
SVE **Sverdlovsk** 54.37 317 *e*P **P** 19 53 11.4 0.0
KKN **Kakani** 54.42 275 *e*P **P** 19 53 13.7 +1.2
comp=Z,32nm,0.9s
PKI **Pulchoki** 54.46 275 *e*P **P** 19 53 14.0 +1.0
comp=Z,47nm,1.3s
PKIN **Phulchoki** 54.47 275 *e*P **P** 19 53 13.9 +1.0
comp=Z,40nm,1.3s
DMN **Daman** 54.65 275 *e*P **P** 19 53 15.8 +1.5
comp=Z,23nm,0.8s
GKN **Gorkha** 54.75 276 *e*P **P** 19 53 16.0 +1.2
comp=Z,52nm,1.1s
DZA **Taraz** 55.42 298 *e*P **P** 19 53 19.9 +0.6
baz=298
DZA **Taraz** 55.42 298 *e*P **P** 19 53 19.9 +0.6
ARU **Arti** 55.56 318 *c* *i* P **P** 19 53 18.2 -1.9
ARU 19 54 19.5
ARU S **S** 20 01 00.9 -1.9
ARU pmax pmax
comp=Z,15nm,1.4s
ARU **Arti** 55.56 318 P **P** 19 53 18.7 -1.4
ARU IAmb IAmb 19 53 19.5
comp=Z,17nm,1.3s
KK31 **Karatay Array** 55.82 299 P **P** 19 53 22.1 -0.1
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KK31 **Karatay Array** 55.82 299 P **P** 19 53 22.1 -0.1
KK31 IAmb IAmb 19 53 23.8
comp=Z,10nm,0.8s
KKAR **Karatay Array** 55.82 299 P **P** 19 53 22.3 +0.1
KKAR **Karatay Array** 55.82 299 P **P** 19 53 22.3 +0.1
KKAR IAmb IAmb 19 53 23.8
comp=Z,10nm,0.8s
IUG **Iuzhnay** 56.63 298 *e*P **P** 19 53 29.1 +1.0
comp=Z,5.9nm,0.8s,baz=298
IUG **Iuzhnay** 56.63 298 *e*P **P** 19 53 29.1 +1.0
IUG pmax pmax
comp=Z,6.0nm,0.8s
DAG **Danmarks Havn** 58.47 357 *i* P **P** 19 53 39.8 -0.5
DAG *i* 19 53 53.9
DAG **Danmarks Havn** 58.47 357 *i* P **P** 19 53 39.8 -0.5
DAG *i* 19 53 53.9
DAG **Danmarks Havn** 58.47 357 *i* P **P** 19 53 39.9 -0.5
DAG *i* 19 53 53.9
ABKAR **Akbulak array** 58.68 310 P **P** 19 53 41.1 -1.0
ABKAR **Akbulak array** 58.68 310 P **P** 19 53 41.6 -0.6
ABKAR IAmb IAmb 19 53 44.3
comp=Z,5.2nm,1.1s
AKTO **Aktyubinsk** 59.05 312 P **P** 19 53 45.1 +0.3
comp=Z,0.7nm,0.5s,baz=29,slow=10
ARCES **ARCESS Array B** 59.22 341 LR LR 20 24 50.5
comp=Z,79nm,18.9s,baz=215,slow=42
NIL **Nilore** 59.32 288 P **P** 19 53 48.1 +1.2
NIL pmax pmax
comp=Z,23nm,0.9s
NIL **Nilore** 59.32 288 P **P** 19 53 48.1 +1.2
KBL **Kabul** 61.60 292 P **P** 19 54 02.1 -0.6
KBL pmax pmax
comp=Z,13nm,0.8s
KBL **Kabul** 61.60 292 P **P** 19 54 02.1 -0.6
SUMG **Summit** 62.66 3 *i* P **P** 19 54 10.0 +0.6
SUMG *i* 19 54 23.4
SUMG **Summit** 62.66 3 P **P** 19 54 10.8 +1.4
SUMG pmax pmax
comp=Z,23nm,1.0s
SUMG **Summit** 62.66 3 P **P** 19 54 10.8 +1.4
SUMG **Summit** 62.66 3 *i* P **P** 19 54 10.0 +0.6
SUMG *i* 19 54 23.5
FFC **Flin Flon** 62.98 39 P **P** 19 54 11.8 +0.4
FFC pmax pmax
comp=Z,8.0nm,1.1s
FFC **Flin Flon** 62.98 39 P **P** 19 54 11.8 +0.4
FFC IAmb IAmb 19 54 28.1
comp=Z,7.9nm,1.1s
FCC **Fort Churchill** 63.52 32 P **P** 19 54 15.3 +0.5
FCC pmax pmax
comp=Z,4.0nm,0.8s
FCC **Fort Churchill** 63.52 32 P **P** 19 54 15.3 +0.5
FCC IAmb IAmb 19 54 30.7
comp=Z,3.7nm,0.8s
NVAR **Mina Array Bea** 64.43 61 P **P** 19 54 22.3 +0.8
comp=Z,0.2nm,0.5s,baz=294,slow=6.8,SNR=2.4
SCO **Scoresbysund** 64.86 358 P **P** 19 54 24.5 +1.1
SCO **Scoresbysund** 64.86 358 P **P** 19 54 24.5 +1.1
ELK **Elko** 64.86 57 LR LR 20 21 58.8
comp=Z,55nm,19.5s,baz=334,slow=35
FIA1 **FINESS Array S** 65.20 334 P **P** 19 54 25.1 -0.6
FINES **FINESS Array B** 65.20 334 P **P** 19 54 24.9 -0.9
comp=Z,2.0nm,0.6s,baz=31,slow=8.1,SNR=20
FINES LR LR 20 25 59.4
comp=Z,117nm,18.9s,baz=38,slow=39
FINES **FINESS Array B** 65.20 334 *i* P **P** 19 54 25.3 -0.5
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES **FINESS Array B** 65.20 334 P **P** 19 54 25.1 -0.7
HRA **Herat** 66.13 295 P **P** 19 54 33.0 +0.5
OBN **Obninsk** 66.15 325 *i* P **P** 19 54 29.9 -2.1
OBN *i* 19 56 58.6
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,143nm,16.0s
WB0 **Warramunga Arr** 66.16 197 P **P** 19 54 33.8 +1.4
WB0 IAmb IAmb 19 54 36.8
comp=Z,8.2nm,1.2s
WRA **Warramunga Arr** 66.34 197 P **P** 19 54 35.8 +2.3
comp=Z,1.4nm,1.0s,baz=17,slow=6.5,SNR=5.5
WRA **Warramunga Arr** 66.34 197 P **P** 19 54 35.6 +2.1
GEYT **Alibeck** 66.49 301 P **P** 19 54 35.4 +0.8
comp=Z,7.8nm,0.8s,baz=0.0,slow=4.4,SNR=15
GEYT LR LR 20 26 40.1
comp=Z,276nm,18.1s,baz=55,slow=39
GEYT **Alibeck** 66.49 301 P **P** 19 54 35.2 +0.6
GEYT IAmb IAmb 19 54 37.6
comp=Z,9.4nm,1.0s
GYA0B **ALIBECK ARRAY** 66.49 301 P **P** 19 54 36.1 +1.5
PDAR **Pinedale Array** 66.87 52 P **P** 19 54 37.9 +0.8
comp=Z,0.3nm,0.6s,baz=325,slow=1.1,SNR=2.8
DZM **Mont Dzumac** 68.03 165 *e*LR LR 20 15 44.8
comp=Z,90nm,20.9s
NC405 **NORSAR Array S** 69.41 340 P **P** 19 54 52.6 +0.1
NB201 **NORSAR Array S** 69.57 341 P **P** 19 54 53.3 -0.2
NB201 IAmb IAmb 19 55 12.8
comp=Z,5.3nm,0.8s
NB2 **NORSAR Subarra** 69.59 341 P **P** 19 54 53.7 +0.1
comp=Z,2.4nm,0.7s,baz=28,slow=6.5
NOA **NORSAR Array B** 69.59 341 P **P** 19 54 53.8 +0.1
comp=Z,6.0nm,0.9s,baz=29,slow=6.4,SNR=14
NOA LR LR 20 29 14.8
comp=Z,81nm,19.8s,baz=10.0,slow=39
HFS **Hagfors** 69.77 339 P **P** 19 54 54.7 0.0
comp=Z,7.5nm,0.9s,baz=38,slow=5.6,SNR=12
ASAR **Alice Springs** 70.04 197 P **P** 19 55 00.1 +3.4
comp=Z,1.0nm,0.8s,baz=11,slow=5.6,SNR=12
ASAR LR LR 20 23 39.2
comp=Z,36nm,21.9s,baz=342,slow=34
ASAR **Alice Springs** 70.04 197 P **P** 19 54 59.9 +3.1
NACGM **Naroch** 70.06 330 *i* P **P** 19 54 52.3 -4.2
NACGM *i* P **P** 19 54 52.3 -4.2
NACGM *i* P **P** 19 54 52.3 -4.2
NACGM *i* PP PP 19 57 20.9 -10
NACGM *i* PPP PPP 19 59 22.1
NACGM *i* S **S** **20 03 57.2 -7.1**
NACGM *i* SS SS 20 08 13.8 -19
NACGM *i* SSS SSS 20 11 48.5
NACGM *i* LQ LQ 20 20 19.2
NACGM *i* LR LR 20 26 33.4
AKT **Akhty** 70.23 309 *e*P **P** 19 54 59.4 +1.4
AKT *e* 19 55 21.6
AKT pmax pmax
comp=Z,25nm,1.2s
GOF **Gofitskoye** 70.25 314 ⇑ *e*P **P** 19 54 59.2 +1.3
GOF pmax pmax
comp=Z,57nm,0.9s
PV13 **Radium Mtn., P** 70.32 56 P **P** 19 54 58.9 +0.1
PV13 IAmb IAmb 19 55 01.8
comp=Z,9.0nm,1.4s
NCK **Nalchik** 71.06 313 *i* P **P** 19 55 03.9 +1.0
NCK pmax pmax
comp=Z,21nm,1.1s
KONO **Kongsberg** 71.20 341 *e*P **P** 19 55 02.9 -0.5
KONO pmax pmax
comp=Z,18nm,1.7s
KIV **Kislovodsk** 71.21 314 *e*P **P** 19 55 05.1 +1.2
KIV pmax pmax
comp=Z,75nm,1.1s
KIV **Kislovodsk** 71.21 314 P **P** 19 55 05.0 +1.2
KIV **Kislovodsk** 71.21 314 *e*P **P** 19 55 05.7 +1.8
KBZ **Khabaz** 71.26 313 P **P** 19 55 05.0 +1.0
comp=Z,18nm,1.0s,baz=64,slow=4.7,SNR=34
KBZ LR LR 20 30 29.7
comp=Z,480nm,19.3s,baz=38,slow=40
KBZ **Khabaz** 71.26 313 *e*P **P** 19 55 05.2 +1.2
ZEI **Tsey** 71.39 312 *e*P **P** 19 55 03.8 -1.4
ZEI pmax pmax
comp=Z,11nm,1.0s
AKASG **Malin Array Be** 72.40 326 P **P** 19 55 10.6 -0.2
comp=Z,2.4nm,0.4s,baz=37,slow=6.6,SNR=27
AKASG LR LR 20 29 36.8
comp=Z,273nm,18.5s,baz=340,slow=38
AKASG **Malin Array Be** 72.40 326 P **P** 19 55 10.5 -0.2
AKASG pmax pmax
comp=Z,4.0nm,1.2s
AKASG **Malin Array Be** 72.40 326 P **P** 19 55 10.5 -0.2
AKBB **Malin Array Si** 72.40 326 P **P** 19 55 10.9 +0.1
AKBB pmax pmax
comp=Z,10.0nm,1.0s
AKBB **Malin Array Si** 72.40 326 P **P** 19 55 10.9 +0.1
AKBB IAmb IAmb 19 55 11.5
comp=Z,10nm,1.0s
GNI **Garni** 72.78 310 P **P** 19 55 15.3 +1.8
comp=Z,8.1nm,1.0s,baz=49,slow=2.2,SNR=9.4
GNI **Garni** 72.78 310 P **P** 19 55 16.8 +3.3
GNI pmax pmax
comp=Z,24nm,1.3s
GNI **Garni** 72.78 310 P **P** 19 55 16.8 +3.3
LVV **L'vov** 75.13 328 *e*P **P** 19 55 27.3 +0.5
KOPT **Kop Dagi** 75.16 312 P **P** 19 55 28.9 +1.4
KOPT IAmb IAmb 19 55 45.9
comp=Z,6.7nm,0.9s
KWP **Kalwaria Pacla** 75.78 328 P **P** 19 55 31.9 +1.3
KWP pmax pmax
comp=Z,56nm,1.2s
KWP **Kalwaria Pacla** 75.78 328 P **P** 19 55 31.9 +1.3
UOSS **Minazif** 76.28 291 P **P** 19 55 34.1 +0.3
UOSS IAmb IAmb 19 55 52.5
comp=Z,8.7nm,1.0s
OJC **Ojcow** 76.35 330 P **P** 19 55 34.2 +0.4
OJC pmax pmax
comp=Z,23nm,1.2s
OJC **Ojcow** 76.35 330 P **P** 19 55 34.1 +0.4
BUR08 **Bucovina Ar. S** 76.44 326 P **P** 19 55 35.2 +0.7
BURAR **Bucovina Array** 76.46 326 P **P** 19 55 34.4 -0.2
KOLS **Kolonicke sedl** 76.52 328 pmax pmax
comp=Z,12nm,1.2s
UZH **Uzhgorod** 76.76 328 ⇓ *i* P **P** 19 55 35.6 -0.5
UZH *e* 19 55 45.2
MARD **Mardin** 76.97 310 P **P** 19 55 38.0 +0.3
MARD IAmb IAmb 19 55 41.8
comp=Z,9.9nm,0.8s
VRI **Vrincioaia** 77.24 324 P **P** 19 55 40.5 +1.6
VRI pmax pmax
comp=Z,8.0nm,1.5s

LANS	**Liptovska Anna**	**77.36**	**330**	pmax	pmax					
	comp=Z,13nm,1.3s									
DPC	**Dobruska-Polom**	**77.42**	**332**	*e*P	**P**		**19 55 40.5**	**+0.6**		
DPC				*e*			19 55 54.9			
DPC	**Dobruska-Polom**	**77.42**	**332**	*e*P	**P**		**19 55 40.5**	**+0.6**		
DPC				*ex*	x		19 55 54.9			
MORC	**Moravsky Berou**	**77.51**	**331**	*e*P	**P**		**19 55 41.4**	**+1.1**		
MORC				*e*			19 55 54.8			
MORC	**Moravsky Berou**	**77.51**	**331**	P	**P**		**19 55 40.5**	**+0.2**		
MORC				pmax	pmax					
	comp=Z,12nm,0.9s									
MORC	**Moravsky Berou**	**77.51**	**331**	P	**P**		**19 55 40.5**	**+0.2**		
KRLC	**Kraliky**	**77.51**	**332**	*e*P	**P**		**19 55 41.4**	**+1.0**		
KRLC				*e*			19 55 55.1			
KRLC	**Kraliky**	**77.51**	**332**	*e*P	**P**		**19 55 41.4**	**+1.0**		
KRLC				*ex*	x		19 55 55.1			
TIRR	**Tirgusor**	**77.64**	**322**	P	**P**		**19 55 42.6**	**+1.5**		
TIRR				pmax	pmax					
	comp=Z,36nm,1.2s									
TIRR	**Tirgusor**	**77.64**	**322**	P	**P**		**19 55 42.6**	**+1.5**		
CLL	**Collm**	**77.65**	**335**	*i* P	**P**		**19 55 40.8**	**-0.2**		
	comp=Z,20nm,1.2s									
CLL				*i*			19 55 54.7			
CLL				LmH			20 29 00.0			
	comp=N,100nm,21.3s									
CLL				LmH			20 29 00.0			
	comp=E,200nm,19.2s									
CLL				LmV			20 35 00.0			
	comp=Z,200nm,18.1s									
CLL	**Collm**	**77.65**	**335**	*i* P	**P**		**19 55 40.8**	**-0.2**		
CLL				*i*			19 55 54.7			
CLL				pmax	pmax					
	comp=Z,20nm,1.2s									
CLL	**Collm**	**77.65**	**335**	P	**P**		**19 55 40.7**	**-0.2**		
BRG	**Berggiesshubel**	**77.74**	**334**	*e*P	**P**		**19 55 42.1**	**+0.6**		
BRG				Amp			19 55 46.1			
	comp=Z,12nm,1.5s									
BRG				*ex*	x		19 55 56.7			
BRG				Amp			19 55 57.7			
	comp=Z,4.0nm,1.2s									
ILGA	**Ilgaz**	**77.83**	**317**	P	**P**		**19 55 44.6**	**+2.0**		
EKA	**Eskdalemuir Ar**	**77.86**	**345**	P	**P**		**19 55 42.8**	**+0.7**		
	comp=Z,3.4nm,0.8s,baz=22,slow=5.1,SNR=9.7									
VYHS	**Vyhne**	**78.14**	**330**	pmax	pmax					
	comp=Z,21nm,1.5s									
VRAC	**Vranov**	**78.23**	**332**	P	**P**		**19 55 45.4**	**+1.1**		
	comp=Z,8.3nm,1.0s,baz=19,slow=6.5,SNR=11									
VRAC	**Vranov**	**78.23**	**332**	*e*	P		19 55 58.9	+15		
VRAC	**Vranov**	**78.23**	**332**	*e*P	**P**		**19 55 45.5**	**+1.1**		
JAVC	**Velka Javorina**	**78.24**	**331**	*e*	P		19 56 00.1	+16		
JAVC	**Velka Javorina**	**78.24**	**331**	*e*P	**P**		**19 55 46.5**	**+2.0**		
GOPC	**GO Pecny, Ondr**	**78.30**	**333**	*e*P	**P**		**19 55 46.3**	**+1.6**		
GOPC	**GO Pecny, Ondr**	**78.30**	**333**	*e*P	**P**		**19 55 46.3**	**+1.6**		
PRU	**Pruhonice**	**78.32**	**333**	*e*P	**P**		**19 55 45.9**	**+1.1**		
PRU				*e*			19 55 59.5			
PRU	**Pruhonice**	**78.32**	**333**	*e*P	**P**		**19 55 45.9**	**+1.1**		
PRU				*ex*	x		19 55 59.5			
KRUC	**Moravsky**	**78.51**	**332**	*e*			19 56 00.5			
KRUC	**Moravsky**	**78.51**	**332**	*e*P	**P**		**19 55 47.0**	**+1.1**		
MOX	**Moxa**	**78.65**	**335**	P	**P**		**19 55 47.6**	**+1.0**		
MOX				pmax	pmax					
	comp=Z,8.0nm,0.6s									
BR131	**Keskin Array S**	**78.89**	**316**	P	**P**		**19 55 49.5**	**+1.2**		
BR131				pmax	pmax					
	comp=Z,10.0nm,1.0s									
BR131	**Keskin Array S**	**78.89**	**316**	P	**P**		**19 55 49.5**	**+1.2**		
BR131				IAmb	IAmb		19 55 51.6			
	comp=Z,9.7nm,1.0s									
BRTR	**Keskin Array B**	**78.89**	**316**	P	**P**		**19 55 49.6**	**+1.2**		
	comp=Z,3.3nm,0.8s,baz=69,slow=4.3,SNR=18									
BRTR				LR	LR		20 36 40.5			
	comp=Z,188nm,18.6s,baz=56,slow=40									
BRTR	**Keskin Array B**	**78.89**	**316**	P	**P**		**19 55 48.4**	**+0.1**		
KHC	**Kasperske Hory**	**79.37**	**333**	P	**P**		**19 55 51.3**	**+0.6**		
KHC				pmax	pmax					
	comp=Z,10.0nm,1.0s									
KHC	**Kasperske Hory**	**79.37**	**333**	*e*P	**P**		**19 55 51.6**	**+0.9**		
KHC				*ex*	x		19 56 04.8			
KHC	**Kasperske Hory**	**79.37**	**333**	P	**P**		**19 55 51.3**	**+0.6**		
KHC				IAmb	IAmb		19 56 06.2			
	comp=Z,10.0nm,1.0s									
CKRC	**Cesky Krumlov**	**79.41**	**333**	*e*P	**P**		**19 55 52.4**	**+1.6**		
TXAR	**Lajitas Array**	**79.51**	**59**	P	**P**		**19 55 52.1**	**+0.3**		
	comp=Z,0.5nm,0.7s,baz=308,slow=3.7,SNR=6.7									
GEC2	**GERESS Array S**	**79.58**	**333**	P	**P**		**19 55 50.9**	**-1.0**		
GEC2				IAmb	IAmb		19 55 54.3			
	comp=Z,12nm,1.4s									
GERES	**GERESS Array B**	**79.58**	**333**	P	**P**		**19 55 52.6**	**+0.7**		
	comp=Z,1.5nm,0.6s,baz=38,slow=5.0,SNR=12									
GERES				LR	LR		20 35 15.1			
	comp=Z,140nm,18.0s,baz=37,slow=39									
GERES	**GERESS Array B**	**79.58**	**333**	P	**P**		**19 55 51.7**	**-0.2**		
GRA1	**Grafenberg Arr**	**79.61**	**335**	P	**P**		**19 55 51.4**	**-0.5**		
GRA1				IAmb	IAmb		19 55 54.9			
	comp=Z,16nm,1.0s									
GRF	**Grafenberg Arr**	**79.61**	**335**	P	**P**		**19 55 51.4**	**-0.5**		
GRF				pmax	pmax					
	comp=Z,16nm,1.0s									
GRF	**Grafenberg Arr**	**79.61**	**335**	*e*P	**P**		**19 55 53.1**	**+1.2**		
	comp=Z,13nm,1.3s,baz=28,slow=4.8									
GRF				*ep*P	**sP**		**19 56 06.6**	**+1.5**		
	baz=25,slow=4.8									
GRF				*e*L	L		20 33 58.8			
	comp=Z,115nm,21.2s									
GRFO	**Grafenberg**	**79.61**	**335**	P	**P**		**19 55 51.3**	**-0.6**		
GRFO				pmax	pmax					
	comp=Z,18nm,1.1s									
GRFO	**Grafenberg**	**79.61**	**335**	P	**P**		**19 55 51.3**	**-0.6**		
LCAR	**Lake Charles**	**81.60**	**47**	P	**P**		**19 56 04.4**	**+1.6**		
LCAR				IAmb	IAmb		19 56 18.5			
	comp=Z,6.5nm,0.9s									
PPT2	**Papeete2**	**82.11**	**124**	*e*LR	LR		20 22 14.7			
	comp=Z,485nm,25.5s									
DAVOX	**Davos/Dischmat**	**82.61**	**334**	P	**P**		**19 56 09.6**	**+1.4**		
	comp=Z,2.4nm,0.4s,baz=90,slow=11,SNR=7.4									
MMAI	**Mount Meron Ar**	**83.10**	**310**	P	**P**		**19 56 12.8**	**+2.1**		
	comp=Z,5.3nm,0.6s,baz=50,slow=7.8,SNR=7.3									
SENIN	**Lac Senin/Sane**	**83.76**	**336**	P	**P**		**19 56 14.5**	**+0.4**		
SENIN				IAmb	IAmb		19 56 16.6			
	comp=Z,5.8nm,0.8s									
RAYN	**Ar Rayn**	**84.20**	**297**	P	**P**		**19 56 17.1**	**+0.6**		
RAYN				pmax	pmax					
	comp=Z,8.0nm,1.1s									
RAYN	**Ar Rayn**	**84.20**	**297**	P	**P**		**19 56 17.1**	**+0.6**		
RAYN				IAmb	IAmb		19 56 19.1			
	comp=Z,8.1nm,1.1s									
SSB	**Saint Sauveur**	**85.53**	**337**	P	**P**		**19 56 23.5**	**+0.6**		
SSB				pmax	pmax					
	comp=Z,9.0nm,1.1s									
SSB	**Saint Sauveur**	**85.53**	**337**	P	**P**		**19 56 23.4**	**+0.6**		
SSB				IAmb	IAmb		19 56 25.1			
	comp=Z,8.7nm,1.1s									
EIL	**Elat**	**85.91**	**309**	P	**P**		**19 56 26.7**	**+1.8**		
	comp=Z,5.6nm,0.9s,baz=49,slow=9.3,SNR=4.0									
TBI	**Tubuai**	**86.70**	**128**	*e*LR	LR		20 24 19.9			
	comp=Z,129nm,23.5s									

TIR 19 19:53:29.5,41°32N×19°62E,h22km±22km, Md2.3, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TIR	**Tirane**	**0.19**	**83**	P		Pb	19 53 34.2	-1.0
	baz=82							
TIR				S		Sb	19 53 38.5	-0.8
	baz=82							
PHP	**Peshkopia**	**0.72**	**60**	P		Pb	19 53 43.0	-0.3
	baz=59							
PHP				S		Sn	19 53 54.2	-0.6
	baz=59							
PUK	**Puka**	**0.75**	**16**	P		Pn	19 53 44.4	-0.4
	baz=16							
PUK				S		Sn	19 53 55.5	-0.1
	baz=16							

*IDC **19** 19:53:41.0±1.7,41°.20N×19°.38E,h0km,mb3.5/5, mb1 3.7/11,mb1mx3.5/38,mbtmp3.6/11,ML3.5/5, Error ellipse: s-maj=27.1km s-min=14.0km az=32.0*
*LDG **19** 19:53:43.8±0.2,41°.30N×19°.46E,h5km,Ml3.3/12, Error ellipse: s-maj=6.3km s-min=4.7km az=26.0*
*TIR **19** 19:53:44.1,41°.24N×19°.54E,h19km,Md3.5,Ml3.6*
*PDG **19** 19:53:44.4±0.6,41°.29N×19°.49E,h17km±1km,MD3.5/7,*

ML3.4/8, Error ellipse: s-maj=0.6km s-min=1.1km az=0.0
*BEO **19** 19:53:44.9±0.4,41°.25N×19°.48E,h10km±1km,ML3.3/17*
*SKO **19** 19:53:45.6,41°.22N×19°.53E,h14km*

ISC 19 19:53:43.8±0.9,41°23N±0°.02×19°47E±0°.02,h18km±6km, n164,σ1s39/218,mb3.8/3,31C-19D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TIR	**Tirane**	**0.32**	**68**	*e*Pg		**Pg**	**19 53 50.2**	**-0.4**
TIR				*e*Sg		**Sb**	**19 53 56.5**	**+0.7**
TIR	**Tirane**	**0.32**	**68**	S		**Sb**	**19 53 57.8**	**+1.9**
TIR	**Tirane**	**0.32**	**68**	P		**Pg**	**19 53 50.4**	**-0.2**
	baz=65							
TIR				S		**Sg**	**19 53 55.3**	**0.0**
	baz=65							
TIR				AMP				
	comp=N,17nm,0.4s,baz=65							
TIR	**Tirane**	**0.32**	**68**	⇓*i* Pg		**Pg**	**19 53 50.3**	**-0.4**
ULC	**Ulcinj**	**0.75**	**347**	⇓*i* Pg		**Pb**	**19 53 58.8**	**+0.4**
ULC				*i* Sg		**Sb**	**19 54 09.3**	**+0.9**
VLO	**Vlora**	**0.76**	**179**	P		**Pb**	**19 53 59.3**	**+0.8**
	baz=183							
VLO				S		**Sn**	**19 54 10.9**	**+0.2**
	baz=183							
PHP	**Peshkopia**	**0.86**	**58**	P		**Pb**	**19 53 59.6**	**-0.6**
	baz=56							
PHP				S		**Sb**	**19 54 11.9**	**+0.5**
	baz=56							
PHP				AMP				
	comp=N,9.3nm,0.4s,baz=56							
PUK	**Puka**	**0.87**	**21**	P		**Pg**	**19 54 00.9**	**+0.1**
	baz=18							
PUK				S		**Sn**	**19 54 13.4**	**-0.2**
	baz=18							
PUK				AMP				
	comp=N,11nm,0.4s,baz=18							
OHR	**Ohrid**	**1.01**	**96**	*i* Pg		**Pn**	**19 54 03.8**	**+0.7**
OHR				*i* Sg		**Sn**	**19 54 17.9**	**+0.9**
OHR				*e*Lg		Lg	19 54 21.2	
	comp=N,485nm,0.7s							
OHR				*e*Lg		Lg	19 54 21.4	
	comp=E,796nm,0.7s							
BUM	**Brajici-Budva**	**1.15**	**338**	*e*Pg		**Pb**	**19 54 05.2**	**-0.1**
BUM				*i* Sg		**Sg**	**19 54 23.1**	**+1.9**
KBN	**Korca**	**1.17**	**121**	P		**Pn**	**19 54 05.4**	**+0.1**
	baz=122							
KBN				S		**Sg**	**19 54 22.2**	**+0.6**
	baz=122							
KBN				AMP				
	comp=N,5.4nm,1.0s,baz=122							
PDG	**Podgorica**	**1.21**	**352**	*e*Pg		**Pg**	**19 54 07.1**	**-0.1**
PDG				*e*Sg		**Sg**	**19 54 24.5**	**+1.5**
PDG	**Podgorica**	**1.21**	**352**	⇑P		**Pg**	**19 54 06.8**	**-0.3**
PDG				⇑S		**Sg**	**19 54 23.1**	**+0.1**
PDG	**Podgorica**	**1.21**	**352**	*e*Pn		**Pg**	**19 54 06.9**	**-0.3**
PDG	**Podgorica**	**1.21**	**352**	*e*Pg		**Pg**	**19 54 07.3**	**+0.2**
PDG				*e*Sg		**Sg**	**19 54 25.8**	**+2.8**
TTG	**Podgorica**	**1.21**	**352**	⇑*i* Pg		**Pb**	**19 54 06.2**	**0.0**
TTG				*i* Sg		**Sg**	**19 54 24.4**	**+1.5**
BCI	**Bajram Curri**	**1.22**	**21**	P		**Pb**	**19 54 06.6**	**+0.3**
	baz=19							
BCI				S		**Sg**	**19 54 24.3**	**+1.0**
	baz=19							
BCI				AMP				
	comp=E,11nm,0.8s,baz=19							
LSK	**Leskovik**	**1.38**	**141**	P		**Pb**	**19 54 09.8**	**+0.7**
	baz=143							
LSK				S		**Sg**	**19 54 29.0**	**+0.6**
	baz=143							
SRN	**Sarande**	**1.41**	**163**	P		**Pb**	**19 54 10.3**	**+0.8**
	baz=165							
SRN				S		**Sg**	**19 54 30.0**	**+0.7**
	baz=165							
SRN				AMP				
	comp=E,1.8nm,1.1s,baz=165							
PVY	**Plav**	**1.41**	**15**	*e*Pg		**Pb**	**19 54 09.5**	**-0.2**
PVY				*i* Sg		**Sg**	**19 54 30.0**	**+0.6**
HCY	**Herceg Novi**	**1.42**	**329**	*e*Pg		**Pb**	**19 54 10.1**	**+0.4**
HCY				*i* Sg		**Sg**	**19 54 30.4**	**+0.8**
FNA	**Florina**	**1.51**	**107**	*e*Pn		**Pn**	**19 54 10.9**	**+0.9**
FNA				*e*Sn		**Sg**	**19 54 32.1**	**-0.4**
FNA	**Florina**	**1.51**	**107**	*i* Pg		**Pb**	**19 54 11.4**	**+0.1**
FNA				*e*Sg		**Sg**	**19 54 32.2**	**-0.4**
NKY	**Niksic**	**1.62**	**347**	⇓*i* Pg		**Pb**	**19 54 12.8**	**-0.5**
NKY				*i* Sg		**Sg**	**19 54 35.0**	**-1.1**
SKO	**Skopje**	**1.65**	**63**	*i* Pg		**Pb**	**19 54 13.9**	**+0.2**
SKO				*i* Sg		**Sg**	**19 54 36.5**	**-0.6**
IVA	**Berane**	**1.67**	**11**	*e*Pn		**Pb**	**19 54 13.2**	**+0.9**
IVA				*i* Sn		**Sb**	**19 54 36.0**	**+1.2**
TREB	**Trebinje**	**1.70**	**331**	*e*Pn		**Pn**	**19 54 13.4**	**+0.7**
TREB				*e*Sn		**Sb**	**19 54 36.2**	**+0.5**
TREB	**Trebinje**	**1.70**	**331**	⇑*i* Pn		**Pn**	**19 54 13.4**	**+0.7**
DBRK	**Dubrovnik**	**1.74**	**326**	*e*Pn		**Pn**	**19 54 12.8**	**-0.4**
BRY	**Bratogost**	**1.81**	**338**	*e*Pn		**Pn**	**19 54 15.2**	**+1.0**
BRY				*i* Sn		**Sb**	**19 54 39.6**	**+0.7**
IGT	**Igoumenitsa**	**1.82**	**159**	*e*Pn		**Pb**	**19 54 16.2**	**-0.4**
IGT				*e*Sn		**Sg**	**19 54 41.5**	**-0.9**
UPM	**Unac-Piva**	**2.02**	**348**	*e*Pn		**Pn**	**19 54 17.8**	**+0.7**
UPM				*i* Sn		**Sb**	**19 54 44.6**	**-0.3**
SJES	**Sjenica**	**2.06**	**10**	*e*Pn		**Pb**	**19 54 20.7**	**-0.1**
SJES				*e*Sg		**Sg**	**19 54 50.2**	**0.0**
STIP	**Stip**	**2.09**	**76**	⇓*i* Pn		**Pb**	**19 54 22.2**	**+0.9**
STIP				*e*Sn		**Sg**	**19 54 50.7**	**-0.4**
PLE	**Pljevlja**	**2.10**	**358**	*e*Pn		**Pn**	**19 54 19.1**	**+0.9**
PLE				*i* Sn		**Sb**	**19 54 46.5**	**-0.7**
STON	**Ston**	**2.10**	**322**	*e*Pn		**Pn**	**19 54 18.0**	**-0.1**
MATE	**Matera**	**2.17**	**255**	⇑P		**Pn**	**19 54 20.5**	**+1.4**
MATE				⇓S		**Sn**	**19 54 47.0**	**+1.4**
GRG	**Griva**	**2.23**	**96**	*i* Pn		**Pn**	**19 54 21.8**	**+1.8**
PRVS	**Prvonek**	**2.33**	**56**	*e*Pn		**Pn**	**19 54 23.1**	**+1.9**
PRVS				*e*Sn		**Sn**	**19 54 50.3**	**+0.9**
VAY	**Valandovo**	**2.34**	**87**	*e*Pn		**Pn**	**19 54 22.3**	**+1.0**
VAY				*e*Sn		**Sb**	**19 54 53.1**	**-0.8**
VAY	**Valandovo**	**2.34**	**87**	*i* Pn		**Pn**	**19 54 22.5**	**+1.2**
VAY				*e*Sn		**Sb**	**19 54 53.6**	**-0.3**
VAY				*e*Lg		Lg	19 54 58.4	
	comp=N,134nm,0.7s							
VAY				*e*Lg		Lg	19 55 00.7	
	comp=E,187nm,0.8s							
BARS	**Barje**	**2.36**	**47**	*e*Pn		**Pn**	**19 54 23.0**	**+1.3**
BARS	**Barje**	**2.36**	**47**	*e*Pn		Pg	19 54 36.3	+7.3
BARS				*e*Sn		**Sn**	**19 54 52.1**	**+1.9**
RUDO	**Rudo**	**2.39**	**358**	*e*Pn		**Pb**	**19 54 24.3**	**-2.0**
IVAS	**Ivanjica**	**2.40**	**12**	*e*Pn		**Pn**	**19 54 23.7**	**+1.4**
IVAS				*e*Sn		**Sb**	**19 54 54.4**	**-1.4**
BOSS	**Bosilegrad**	**2.58**	**60**	*e*Pn		**Pn**	**19 54 26.2**	**+1.5**
BOSS				*e*Sn		**Sn**	**19 54 58.5**	**+2.9**
BBLS	**Lazi?i**	**2.63**	**359**	*e*Pn		**Pb**	**19 54 28.2**	**-2.3**
BBLS				*e*Sn		**Sb**	**19 55 00.3**	**-2.3**
BBLS	**Lazi?i**	**2.63**	**359**	*e*Pn		**Pn**	**19 54 27.2**	**+1.7**
MAKA	**Makarska**	**2.75**	**319**	*i* Pn		**Pn**	**19 54 27.8**	**+0.9**
MAKA						Sn	**19 54 59.6**	**0.0**
GRUS	**Gruza**	**2.81**	**19**	*e*Pn		**Pn**	**19 54 29.7**	**+1.8**
RICI	**Ricice**	**2.85**	**323**	*e*Pn		**Pn**	**19 54 28.9**	**+0.4**
HAPS	**Han Pijesak,Bl**	**2.88**	**353**	*e*Pn		**Pn**	**19 54 31.5**	**+2.6**
HAPS	**Han Pijesak,Bl**	**2.88**	**353**	*e*Pn		**Pb**	**19 54 32.5**	**-2.2**
DIVS	**Divibare**	**2.89**	**7**	*e*Pn		**Pn**	**19 54 30.2**	**+1.2**
DIVS				*e*Sn		**Sn**	**19 55 05.8**	**+2.4**
DIVS	**Divibare**	**2.89**	**7**	⇑*i* Pn		**Pn**	**19 54 30.3**	**+1.2**
BOVS	**Bovan**	**2.92**	**34**	⇑P		**Pn**	**19 54 30.0**	**+0.7**
TIP	**Timpagrande**	**2.92**	**226**	⇑P		**Pn**	**19 54 30.4**	**+1.0**
HVAR	**Hvar**	**2.97**	**312**	*e*Pn		**Pn**	**19 54 30.2**	**+0.2**
TRUS	**Trudelj**	**3.07**	**13**	*e*Pn		**Pn**	**19 54 33.1**	**+1.7**
TRUS				*e*Sn		**Sn**	**19 55 10.8**	**+3.1**
ZAPS	**Zavoj**	**3.11**	**48**	*e*Pn		**Pn**	**19 54 34.7**	**+2.7**
ZAPS				*e*Sn		**Sn**	**19 55 11.0**	**+2.2**
ZAGS	**Zajecar**	**3.29**	**37**	*e*Pn		**Pn**	**19 54 35.7**	**+1.3**
ZAGS				*e*Sn		**Sn**	**19 55 14.0**	**+0.9**
TEKS	**Tekeris**	**3.32**	**1**	*e*Pn		**Pn**	**19 54 36.0**	**+1.2**
TEKS				*e*Sn		**Sn**	**19 55 14.7**	**+0.9**
TEKS	**Tekeris**	**3.32**	**1**	*e*Pn		**Pn**	**19 54 35.8**	**+1.0**
BLKB	**Belogradchik**	**3.37**	**44**	⇓S		**Sn**	**19 55 16.8**	**+1.7**
KUBS	**Kucevo**	**3.57**	**26**	*e*Pn		**Pn**	**19 54 38.7**	**+0.4**
KIJV	**Kijevo**	**3.58**	**322**	*e*Pn		**Pn**	**19 54 39.8**	**+1.4**
KIJV						Sn	**19 55 20.1**	**-0.2**
MGRS	**Mrkonjic Grad**	**3.64**	**332**	*e*Pn		**Pn**	**19 54 40.9**	**+1.7**
ZIRJ	**Zirje**	**3.73**	**312**	*e*Pn		**Pn**	**19 54 40.9**	**+0.4**
MORI	**Morici**	**3.83**	**315**	*e*Pn		**Pn**	**19 54 43.0**	**+1.2**
MORI						Sn	**19 55 27.1**	**+0.7**
BLY	**Banja Luka**	**3.90**	**335**	⇑*i* Pn		**Pn**	**19 54 43.5**	**+0.7**
MDVR	**Moldovita**	**3.91**	**24**	⇓P		**Pn**	**19 54 44.3**	**+1.2**
MDVR				⇓S		**Sn**	**19 55 28.4**	**-0.1**
FRGS	**Fruska Gora**	**3.93**	**3**	*e*Pn		**Pn**	**19 54 44.1**	**+0.8**
FRGS				*e*Sn		**Sn**	**19 55 28.6**	**-0.4**
FRGS	**Fruska Gora**	**3.93**	**3**	⇓P		**Pn**	**19 54 44.1**	**+0.8**
FRGS	**Fruska Gora**	**3.93**	**3**	⇑*i* Pn		**Pn**	**19 54 43.8**	**+0.5**
PUNG	**Punghina**	**3.97**	**39**	⇓P		**Pn**	**19 54 45.5**	**+1.7**
HERR	**Herculane**	**4.24**	**30**	⇓P		**Pn**	**19 54 49.3**	**+1.8**
HERR				⇑S		**Sn**	**19 55 36.8**	**+0.3**
DUGI	**Dugi Otok**	**4.27**	**312**	*e*Pn		**Pn**	**19 54 48.9**	**+1.0**
DUGI						Sn	**19 55 38.0**	**+0.7**
PLVB	**Pleven**	**4.38**	**59**	⇑P		**Pn**	**19 54 51.4**	**+1.9**
SRE	**Strehaia**	**4.39**	**37**	⇑P		**Pn**	**19 54 51.3**	**+1.8**
BZS	**Buzias**	**4.65**	**19**	⇓P		**Pn**	**19 54 54.3**	**+1.1**
AQU	**L'Aquila**	**4.67**	**286**	*e*Pn		**Pn**	**19 54 54.4**	**+0.9**
NVLJ	**Novalja**	**4.74**	**316**	*i* Pn		**Pn**	**19 54 55.1**	**+0.8**
GZR	**Gura Zlata**	**4.81**	**29**	⇓P		**Pn**	**19 54 57.4**	**+2.0**
GZR				⇑S		**Sn**	**19 55 51.0**	**+0.4**
MORH	**Mrgy, Hungar**	**5.02**	**353**	⇑P		**Pn**	**19 54 58.9**	**+0.7**
MORH	**Mrgy, Hungar**	**5.02**	**353**	*e*Pn		**Pn**	**19 54 58.1**	**-0.1**
HUMR	**Humele**	**5.22**	**49**	⇓P		**Pn**	**19 55 02.9**	**+2.0**
LOT	**Lotru**	**5.25**	**35**	⇓P		**Pn**	**19 55 03.5**	**+2.0**
OZLJ	**Ozalj**	**5.26**	**328**	*e*Pn		**Pn**	**19 55 02.3**	**+0.8**
SIRR	**Siria**	**5.28**	**17**	⇑P		**Pn**	**19 55 03.1**	**+1.3**
SIRR				⇑S		**Sn**	**19 56 01.6**	**-0.6**
PTJ	**Puntijarka**	**5.32**	**333**	*i* Pn		**Pn**	**19 55 02.7**	**+0.3**
PTJ						Sn	**19 56 01.9**	**-1.4**
KALN	**Kalnik**	**5.36**	**337**	*e*Pn		**Pn**	**19 55 03.2**	**+0.2**
CRES	**Cresnjev**	**5.44**	**329**	⇑*i* Pn		**Pn**	**19 55 04.5**	**+0.5**
RIY	**Rijeka**	**5.48**	**320**	*e*Pn		**Pn**	**19 55 05.8**	**+1.3**
BEHE	**Becsehely**	**5.59**	**340**	*e*Pn		**Pn**	**19 55 04.9**	**-1.1**
ARR	**Arges**	**5.59**	**41**	⇑P		**Pn**	**19 55 08.1**	**+1.9**
CEY	**Cerknica**	**5.81**	**323**	⇑*i* Pn		**Pn**	**19 55 09.5**	**+0.4**
VOIR		**5.85**	**42**	⇑P		**Pn**	**19 55 11.8**	**+2.1**
LJU	**Ljubljana**	**6.00**	**325**	*e*Pn		**Pn**	**19 55 12.4**	**+0.7**
SOKA	**Soboth**	**6.32**	**331**	*i* Pn		**Pn**	**19 55 16.6**	**+0.5**
	comp=E,1.4nm,0.2s							
MLR	**Muntele Rosu**	**6.35**	**46**	Pn		**Pn**	**19 55 19.2**	**+2.6**
	comp=E,1.4nm,0.3s,baz=130,slow=4.9,SNR=13							
MLR	**Muntele Rosu**	**6.35**	**46**	⇓P		**Pn**	**19 55 18.2**	**+1.6**
OBKA	**Obir**	**6.36**	**328**	*i* Pn		**Pn**	**19 55 18.1**	**+1.3**
	comp=E,2.6nm,0.2s,SNR=8.3							
OBKA				*e*Sn		**Sn**	**19 56 29.9**	**+1.0**
	comp=E,11nm,0.4s							
DOPR	**Dopca**	**6.39**	**40**	⇑P		**Pn**	**19 55 18.6**	**+1.5**
NEHR	**Nehoiu**	**6.51**	**48**	⇓P		**Pn**	**19 55 20.4**	**+1.8**
ARSA	**Arzberg**	**6.65**	**336**	*e*Pn		**Pn**	**19 55 21.8**	**+1.2**
	comp=E,1.8nm,0.3s							
OZUR		**6.68**	**41**	⇑P		**Pn**	**19 55 22.7**	**+1.7**
PSZ	**Piszkesteto**	**6.69**	**2**	⇓P		**Pn**	**19 55 21.6**	**+0.3**
PLOR	**Plostina**	**6.96**	**46**	⇑P		**Pn**	**19 55 26.1**	**+1.2**
VRI	**Vrincioaia**	**7.02**	**46**	⇑P		**Pn**	**19 55 26.5**	**+0.9**
HARR	**Harsova**	**7.10**	**58**	⇑P		**Pn**	**19 55 27.6**	**+0.8**
VYHS	**Vyhne**	**7.28**	**357**	*e*P		**Pb**	**19 55 45.9**	**-3

az=90.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.52**	**13**	P	Pb	20 29 02.8	0.0
QRZ				S	Sb	20 29 09.7	-0.7
THZ	**Tophouse**	**0.59**	**137**	P	Pg	20 29 03.4	+0.3
DSZ	**Denniston Nort**	**0.59**	**226**	P	Pb	20 29 04.0	0.0
DSZ				S	Sb	20 29 11.7	-0.8
NNZ	**Nelson**	**0.77**	**82**	P	Pg	20 29 06.7	+0.2
TUWZ	**Tuamarina**	**1.19**	**95**	P	Pb	20 29 13.9	-0.3
BSWZ	**Blackbirch Sta**	**1.19**	**109**	P	Pg	20 29 15.0	+0.5
BSWZ				S	Sn	20 29 30.8	+0.2
DUWZ	**D'Urville Isla**	**1.29**	**66**	P	Pg	20 29 16.1	-0.2
DUWZ				S	Sg	20 29 33.6	+0.6
KHZ	**Kahutara**	**1.39**	**142**	P	Pg	20 29 19.1	+0.8
KHZ				S	Sg	20 29 37.6	+1.3
TCW	**Tory Channel**	**1.44**	**86**	P	Pb	20 29 18.4	-0.1
CMWZ	**Cape Campbell**	**1.45**	**107**	P	Pg	20 29 20.6	+1.2
LTZ	**Lake Taylor**	**1.45**	**183**	P	Pg	20 29 19.4	0.0
LTZ				S	Sg	20 29 39.0	+0.7
INZ	**Inchbonnie**	**1.55**	**206**	P	Pn	20 29 19.7	+0.5
GVZ	**Greta Valley S**	**1.71**	**163**	P	Pb	20 29 23.3	+0.3
GVZ				S	Sg	20 29 46.6	0.0
WEL	**Wellington**	**1.81**	**89**	P	Pg	20 29 26.0	-0.2
AMCZ	**Amberley**	**1.85**	**174**	P	Pb	20 29 25.6	0.0
BHW	**Baring Head**	**1.88**	**93**	P	Pb	20 29 26.5	+0.4
KIW	**Kapiti Island**	**1.98**	**77**	P	Pb	20 29 28.0	+0.3
OXZ	**Oxford**	**2.01**	**187**	P	Pb	20 29 26.9	-1.3
CAW	**Cannon Point**	**2.05**	**85**	P	Pb	20 29 29.0	+0.2
WVZ	**Waitaha Valley**	**2.12**	**214**	P	Pn	20 29 27.8	+0.7
MSWZ	**Moikau Station**	**2.17**	**93**	P	Pb	20 29 29.7	-1.3
OGWZ	**Otaki Gorge**	**2.18**	**77**	P	Pb	20 29 31.1	+0.1
PLWZ	**Palliser**	**2.18**	**97**	P	Pb	20 29 29.9	-1.3
NMEZ	**Namu Road**	**2.24**	**31**	P	Pb	20 29 31.0	-1.0
PAWZ	**Paruwai Farm**	**2.30**	**92**	P	Pn	20 29 31.1	+1.6
NBEZ	**Newall Road No**	**2.36**	**30**	P	Pn	20 29 32.4	-1.7
MTW	**Mount Morrison**	**2.37**	**87**	P	Pb	20 29 32.7	-1.6
MQZ	**McQueen's Vall**	**2.38**	**175**	P	Pn	20 29 31.2	+0.6
KHEZ	**Kahui Hut**	**2.39**	**32**	P	Pb	20 29 33.2	-1.5
RACZ	**Rakaia**	**2.40**	**184**	P	Pn	20 29 31.7	+0.8
PREZ	**Palmer Road**	**2.41**	**35**	P	Pb	20 29 33.6	-1.5
HOWZ	**Holdsworth Sta**	**2.42**	**81**	P	Pb	20 29 33.7	-1.5
OKCZ	**Okains Bay**	**2.44**	**168**	P	Pn	20 29 33.1	+1.6
NEZ	**North Egmont**	**2.45**	**33**	P	Pb	20 29 33.9	-1.8
PKE	**Pukeiti**	**2.47**	**31**	P	Pb	20 29 34.3	-1.7
GCSZ	**Gaunt Creek Bo**	**2.50**	**217**	P	Pn	20 29 32.9	+0.7
MRZ	**Mangatainoka R**	**2.52**	**76**	P	Pb	20 29 35.5	-1.4
WAZ	**Wanganui**	**2.54**	**53**	P	Pb	20 29 36.3	-1.0
AKCZ	**Akaroa Harbour**	**2.57**	**171**	P	Pb	20 29 36.1	-1.7
RPZ	**Rata Peaks**	**2.57**	**202**	P	Pn	20 29 34.9	+1.5
WACZ	**Wakanui South**	**2.64**	**188**	P	Pn	20 29 36.2	+2.0
TMWZ	**Te Maipa**	**2.67**	**86**	P	Pb	20 29 37.2	-2.2
MHEZ	**Mangahewa**	**2.70**	**34**	P	Pb	20 29 37.7	-2.3
TIWZ	**Tintock**	**2.72**	**79**	P	Pn	20 29 37.5	+2.2
POWZ	**Post Office Ro**	**2.74**	**71**	P	Pb	20 29 41.0	+0.3
ARCZ	**Arundel**	**2.76**	**198**	P	Pn	20 29 36.7	+0.8
PRWZ	**Pori Road**	**2.84**	**75**	P	Pb	20 29 42.5	+0.2
VRZ	**Vera Road**	**2.86**	**40**	P	Pn	20 29 39.5	+2.2
FOZ	**Fox Glacier**	**2.90**	**220**	P	Pn	20 29 38.1	+0.3
BFZ	**Birch Farm**	**3.00**	**79**	P	Pn	20 29 40.8	+1.6
TSZ	**Takapari Road**	**3.01**	**66**	P	Pb	20 29 42.8	-2.5
PKVZ	**Pokaka**	**3.06**	**49**	P	Pb	20 29 43.3	-2.8
DVHZ	**Dannevirke**	**3.06**	**72**	P	Pb	20 29 46.2	0.0
TRVZ	**Turoa**	**3.17**	**51**	P	Pb	20 29 46.3	-1.7
WNVZ	**Wahianoa**	**3.18**	**52**	P	Pb	20 29 46.4	-1.8
FWVZ	**Far West T-bar**	**3.20**	**51**	P	Pb	20 29 45.5	-3.1
TMZ	**Timaru**	**3.21**	**198**	P	Pn	20 29 43.1	+1.0
MOVZ	**Moawhango**	**3.22**	**54**	P	Pb	20 29 45.8	-3.1
PNHZ	**Pukenui**	**3.24**	**65**	P	Pn	20 29 45.1	+2.6
TUVZ	**Tukino**	**3.25**	**52**	P	Pb	20 29 47.2	-2.3
TWVZ	**Taurewa**	**3.26**	**47**	P	Pn	20 29 45.5	+2.7
NGZ	**Ngauruhoe**	**3.28**	**50**	P	Pb	20 29 46.6	-3.3
WTVZ	**West Tongariro**	**3.31**	**49**	P	Pb	20 29 47.3	-3.2
OTVZ	**Oturere**	**3.32**	**50**	P	Pb	20 29 47.3	-3.4
KRVZ	**Karewarewa**	**3.36**	**49**	P	Pn	20 29 47.3	+3.2
BHHZ	**Black Hill Sta**	**3.37**	**58**	P	Pn	20 29 47.0	+2.7
ETVZ	**East Tongariro**	**3.37**	**50**	P	Pb	20 29 50.6	-0.9
TMVZ	**Te Maari**	**3.38**	**50**	P	Pb	20 29 48.3	-3.4
HIZ	**Hauiti**	**3.40**	**35**	P	Pn	20 29 46.2	+1.5
LBZ	**Lake Benmore**	**3.45**	**207**	P	Pn	20 29 46.7	+1.3
KATZ	**Kakaramea**	**3.47**	**48**	P	Pn	20 29 48.4	+2.6
KRHZ	**Kereru**	**3.48**	**62**	P	Pn	20 29 48.3	+2.4
RATZ	**Rangitukua**	**3.59**	**48**	P	Pb	20 29 52.0	-3.2
WATZ	**Wairara**	**3.68**	**46**	P	Pb	20 29 55.2	-1.5
JCZ	**Jackson Bay**	**3.81**	**223**	P	Pn	20 29 50.4	+0.1
BKZ	**Black Stump Fm**	**3.83**	**57**	P	Pn	20 29 54.5	+4.0
TLZ	**Tolley Road**	**3.87**	**40**	P	Pn	20 29 53.1	+2.0
ODZ	**Otahua Downs**	**3.92**	**198**	P	Pn	20 29 52.3	+0.5
MTHZ	**Maungataniwha**	**4.23**	**56**	P	Pn	20 30 00.3	+4.2
WKZ	**Wanaka**	**4.27**	**214**	P	Pn	20 29 57.4	+0.8
AWAZ	**Awhitu Peninsu**	**4.61**	**23**	P	Pn	20 30 03.6	+2.2
MBAZ	**Motutapu North**	**4.96**	**24**	P	Pn	20 30 08.8	+2.7
WIAZ	**Waiheke Island**	**5.02**	**26**	P	Pn	20 30 09.3	+2.4
WCZ	**Waipu Caves**	**5.60**	**17**	P	Pn	20 30 16.6	+1.6

*TEH **19** 20:33:08.1, 28.°12N × 56.°51E, h8km, ML3.1*
*DSN **19** 20:33:09.1±0.8, 27.°88N × 56.°84E, h10km, ML3.1/5, Error ellipse: s-maj=35.9km s-min=6.6km az=100.0*
*OMAN **19** 20:33:12.1, 27.°89N × 56.°71E, h35km, ml3.0/10*

ISC 19 20:33:07.9±1.7, 28.°00N±0.°04 × 56.°46E±0.°04, h11km±13km, n32, σ0.°98/43, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.65**	**203**	*e*Pg	**Pn**	**20 33 23.2**	**-0.1**
KHNJ	**Kahnooj**	**1.10**	**92**	*e*Pg	**Pg**	**20 33 28.4**	**-0.8**
NGRK	**Negar Kerman**	**1.66**	**8**	*e*Pg	**Pn**	**20 33 38.0**	**+0.7**
NGRK				*e*		20 34 00.8	
	comp=Z,99nm,0.2s						
LAR1	**LAR**	**1.88**	**260**	*e*Pn	**Pg**	**20 33 44.1**	**+0.2**
LAR1				*e*		20 34 17.9	
	comp=Z,99nm,0.4s						
SHME	**Shamm**	**1.96**	**188**	*e*P	**Pn**	**20 33 41.8**	**+0.6**
	SNR=6.2						
SHME	**Shamm**	**1.96**	**188**	P	**Pn**	**20 33 41.4**	**+0.2**
	SNR=6.4						
SHME				S	**Sn**	**20 34 04.6**	**-1.3**
KRBR	**Kerman**	**1.99**	**8**	*e*Pn	**Pn**	**20 33 41.9**	**0.0**
TVBK	**TV Kerman**	**2.00**	**8**	*e*Pn	**Pn**	**20 33 42.1**	**+0.1**
TVBK				*e*		20 34 12.1	
	comp=Z,99nm,0.2s						
BANOM	**Banah**	**2.07**	**184**	*e*P	**Pn**	**20 33 43.0**	**+0.2**
	SNR=36						
BANOM				S	**Sn**	**20 34 09.3**	**+0.7**
BANOM	**Banah**	**2.07**	**184**	P	**Pn**	**20 33 42.9**	**+0.2**
	SNR=36						
BANOM				S	**Sn**	**20 34 07.5**	**-1.1**
CHMN	**Cheshme madani**	**2.08**	**27**	*e*Pn	**Pn**	**20 33 43.4**	**+0.2**
CHMN				*e*		20 34 12.5	
	comp=Z,99nm,0.3s						
KBAM	**BAM**	**2.09**	**57**	*e*Pn	**Pn**	**20 33 43.3**	**+0.3**
KBAM				*e*		20 34 14.6	
	comp=Z,99nm,0.2s						
KHGB	**Koh Gabri**	**2.37**	**0**	*e*Pn	**Pn**	**20 33 47.5**	**+0.5**
MASF	**Masafi**	**2.63**	**186**	P	**Pn**	**20 33 51.3**	**+0.8**
MASF				S	**Sn**	**20 34 21.9**	**-0.5**
MDH	**Madha**	**2.69**	**183**	P	**Pn**	**20 33 52.1**	**+0.8**
MDH				S	**Sn**	**20 34 23.2**	**-0.7**
UOSS	**Minazif**	**3.05**	**184**	*e*P	**Pn**	**20 33 56.3**	**+0.1**
	SNR=6.1						
UOSS	**Minazif**	**3.05**	**184**	P	**Pn**	**20 33 56.3**	**+0.1**
UOSS				S	**Sn**	**20 34 30.8**	**-1.9**
NAZ	**Nazwa, Dubai**	**3.08**	**194**	P	**Pn**	**20 33 58.1**	**+1.5**
NAZ				S	**Sn**	**20 34 33.2**	**-0.3**
HATD	**Hatta, Dubai**	**3.17**	**185**	P	**Pn**	**20 33 59.1**	**+1.2**
HATD				S	**Sn**	**20 34 34.4**	**-1.4**
ASHO	**Ashiyiah**	**3.32**	**186**	*i* P	**Pn**	**20 34 01.0**	**+1.0**
	SNR=30						
ASHO	**Ashiyiah**	**3.32**	**186**	P	**Pn**	**20 34 00.7**	**+0.7**
	SNR=30						
ASHO				S	**Sn**	**20 34 39.9**	**+0.5**
FAQ	**Al Faqa, Dubai**	**3.33**	**194**	*i* P	**Pn**	**20 34 01.0**	**+1.0**
	SNR=42						
FAQ	**Al Faqa, Dubai**	**3.33**	**194**	P	**Pn**	**20 34 01.0**	**+1.0**
	SNR=42						
FAQ				S	**Sn**	**20 34 38.1**	**-1.6**
ASUD	**Al Ashush, Dub**	**3.51**	**197**	*i* P	**Pn**	**20 34 04.0**	**+1.6**
	SNR=44						
ASUD	**Al Ashush, Dub**	**3.51**	**197**	P	**Pn**	**20 34 04.0**	**+1.6**
	SNR=44						
ASUD				⇑S	**Sn**	**20 34 44.2**	**+0.2**
AJN	**Ajban**	**3.67**	**201**	P	**Pn**	**20 34 05.7**	**+1.0**
IMEH	**Mehriz**	**3.74**	**335**	*e*Pn	**Pn**	**20 34 06.2**	**+0.3**
ZHSF	**Zahedan**	**4.11**	**66**	*e*Pn	**Pn**	**20 34 13.0**	**+2.1**
NHDN	**Nehbandan**	**4.60**	**42**	*e*Pn	**Pn**	**20 34 19.1**	**+1.5**
YZKH	**Yazd**	**4.67**	**340**	*e*Pn	**Pn**	**20 34 18.4**	**0.0**
IRAM	**Rameshеh**	**5.19**	**318**	*e*Pn	**Pn**	**20 34 27.1**	**+1.3**
IGAR	**Gharneh**	**5.82**	**320**	*e*Pn	**Pn**	**20 34 34.1**	**-0.4**

*VAO **19** 20:39:21.9±2.4, 19.°43S × 70.°44W, h55km±13km, mb4.4*
*NEIC **19** 20:39:25.9±2.5, 19.°29S±0.°05 × 70.°2W±0.°1, h74km±5km, Error ellipse: s-maj=17.0km s-min=6.7km az=91.0*
*IDC **19** 20:39:26.5±2.7, 19.°21S × 70.°17W, h72km±25km, mb3.7/7, mb1 4.0/9, mb1mx3.7/44, mbtmp4.1/9, MS3.0/1, Ms1 3.0/1, ms1mx2.5/36, Error ellipse: s-maj=23.7km s-min=16.5km az=102.0*
*GUC **19** 20:39:26.9±0.8, 19.°27S × 70.°23W, h78km±4km, ML4.3*

ISC 19 20:39:26.0±0.8, 19.°28S±0.°04 × 70.°30W±0.°07, h73km±6km, n91, σ1.°29/87, mb4.2/8, 6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.35**	**152**	⇓*i*P	**Pn**	**20 39 38.7**	**+0.7**
PSGC				*e*S	**Sn**	**20 39 47.3**	**+0.6**
PSGC				IAML		20 39 48.0	
	comp=N,15μm,0.4s						
PSGCX	**Pisagua**	**0.35**	**152**	Pn	**Pn**	**20 39 37.8**	**-0.2**
MNMC	**Minye Minye**	**0.68**	**77**	⇓*i*P	**Pn**	**20 39 41.9**	**+0.7**
MNMC				*e*S	**Sn**	**20 39 53.0**	**+0.6**
MNMC				IAML		20 39 56.6	
	comp=E,26μm,0.5s						
MNMC	**Minye Minye**	**0.68**	**77**		**Pn**	**20 39 41.1**	**-0.1**
AP01	**Chacalluta**	**0.91**	**357**	⇓*e*P	**Pn**	**20 39 44.4**	**+0.9**
AP01				*e*S	**Sn**	**20 39 57.2**	**+0.8**
AP01	**Chacalluta**	**0.91**	**357**		**Pn**	**20 39 44.4**	**+0.9**
TA02	**Huaiquique**	**1.00**	**171**	*e*P	**Pn**	**20 39 45.4**	**+0.8**
TA02				*e*S	**Sn**	**20 39 58.5**	**+0.1**
TA02				IAML		20 40 00.0	
	comp=N,22μm,0.4s						
PB16	**IPOC Station P**	**1.20**	**39**		**Pn**	**20 39 48.1**	**+0.3**
TA01	**Diego Aracena**	**1.28**	**175**	*e*P	**Pn**	**20 39 49.0**	**+0.8**
TA01				*e*S	**Sn**	**20 40 04.5**	**-0.3**
TA01				IAML		20 40 06.5	
	comp=E,9μm,0.3s						
TA01	**Diego Aracena**	**1.28**	**175**	Pn	**Pn**	**20 39 48.9**	**+0.7**
PB08	**IPOC Station P**	**1.38**	**129**	⇓*i*P	**Pn**	**20 39 50.8**	**+1.0**
PB08				*e*S	**Sn**	**20 40 08.1**	**+0.5**
PB08	**IPOC Station P**	**1.38**	**129**		**Pn**	**20 39 50.4**	**+0.6**
PB01	**IPOC Station P**	**1.91**	**157**	⇓*i*P	**Pn**	**20 39 57.0**	**+0.4**
PB01				IAML		20 40 21.2	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**1.91**	**157**		**Pn**	**20 39 56.6**	**0.0**
PB07	**IPOC Station P**	**2.46**	**171**	*e*P	**Pn**	**20 40 04.8**	**+0.7**
PB07				IAML		20 40 33.6	
	comp=E,2μm,0.5s						
PB07	**IPOC Station P**	**2.46**	**171**		**Pn**	**20 40 04.6**	**+0.5**
PB09	**IPOC Station P**	**2.69**	**159**	*e*P	**Pn**	**20 40 08.3**	**+1.1**
PB09				IAML		20 40 47.9	
	comp=E,733nm,0.4s						
PB09	**IPOC Station P**	**2.69**	**159**		**Pn**	**20 40 08.3**	**+1.1**
PB03	**IPOC Station P**	**2.80**	**170**	⇓*i*P	**Pn**	**20 40 09.2**	**+0.5**
PB03				IAML		20 40 45.2	
	comp=E,743nm,0.3s						
PB04	**IPOC Station P**	**3.04**	**177**	*e*P	**Pn**	**20 40 12.1**	**+0.2**
PB04				IAML		20 40 48.5	
	comp=N,950nm,0.3s						
PB04	**IPOC Station P**	**3.04**	**177**		**Pn**	**20 40 11.6**	**-0.4**
PB06	**IPOC Station P**	**3.47**	**169**	*e*P	**Pn**	**20 40 17.7**	**-0.2**
PB06	**IPOC Station P**	**3.47**	**169**		**Pn**	**20 40 17.5**	**-0.3**
PB05	**IPOC Station P**	**3.55**	**179**	*e*P	**Pn**	**20 40 18.6**	**-0.3**
LVC	**Limon Verde**	**3.56**	**159**	P	**Pn**	**20 40 20.4**	**+1.2**
	comp=N,18nm,0.3s,baz=10,slow=7.4,SNR=343						
LVC				S	**Sn**	**20 41 01.5**	**+1.3**
	comp=N,38nm,0.3s,baz=161,slow=21,SNR=17						
LPAZ	**La Paz**	**3.62**	**35**	P	**Pn**	**20 40 23.7**	**+3.4**
	comp=N,8.8nm,0.3s,baz=206,slow=7.5,SNR=123						
PB15	**IPOC Station P**	**3.98**	**169**	*e*P	**Pn**	**20 40 24.7**	**-0.2**
PB15	**IPOC Station P**	**3.98**	**169**		**Pn**	**20 40 24.6**	**-0.2**
PB10	**IPOC Station P**	**4.22**	**183**	*e*P	**Pn**	**20 40 26.8**	**-1.0**
PB10	**IPOC Station P**	**4.22**	**183**		**Pn**	**20 40 26.9**	**-0.9**
PB14	**IPOC Station P**	**5.32**	**181**		**Pn**	**20 40 41.6**	**-1.6**
GO02	**Mina Guanaco**	**5.89**	**174**	Pn	**Pn**	**20 40 50.0**	**-1.0**
AC01	**Pan de Azucar**	**6.84**	**182**	Pn	**Pn**	**20 41 01.3**	**-2.4**
GO03	**Copiap**	**8.27**	**180**	Pn	**Pn**	**20 41 20.0**	**-3.3**
SIV	**San Ignacio**	**9.38**	**71**	P	**Pn**	**20 41 37.0**	**-1.5**
	comp=N,3.7nm,0.3s,baz=265,slow=11,SNR=30						
SIV				LR	LR	20 45 48.8	
	comp=N,110nm,21.8s,baz=226,slow=41						
AC05	**El Transito**	**9.51**	**180**	Pn	Pn	20 41 35.1	-5.2
ETMB	**Extrema**	**10.21**	**23**	*e*P	**Pn**	**20 41 47.9**	**-1.8**
GO04	**Tololo Observa**	**10.85**	**182**	Pn	**Pn**	**20 41 55.2**	**-3.5**
PTLB	**Pontes e Lacer**	**11.32**	**72**	*e*P	**Pn**	**20 42 03.1**	**-1.8**
VILB	**Vilhena**	**11.56**	**59**	*e*P	**Pn**	**20 42 07.5**	**-0.8**
SAML	**Samuel**	**12.37**	**35**	Pn	**Pn**	**20 42 17.2**	**-2.1**
CPUP	**Villa Florida**	**13.86**	**123**	P	**Pn**	**20 42 41.7**	**+2.6**
	comp=N,0.2nm,0.3s,baz=318,slow=9.4,SNR=3.5						
MT02	**Curacav**	**13.94**	**183**	Pn	**Pn**	**20 42 40.4**	**+0.3**
BO02	**Sierra Bellavi**	**15.46**	**181**	P	**Pn**	**20 43 00.6**	**+0.8**
BO02				IAmb	IAmb	20 43 06.9	
	comp=Z,22nm,1.2s						
H03N1	**Juan Fernandez**	**16.06**	**207**	T	T	20 59 35.4	
	baz=30,SNR=74						
H03N2	**Juan Fernandez**	**16.07**	**207**	T	T	20 59 33.9	
	baz=30,slow=74,SNR=71						
H03N3	**Juan Fernandez**	**16.08**	**207**	T	T	20 59 34.7	
	baz=30,slow=74,SNR=80						
CLDB	**Colider**	**16.30**	**61**	*e*P	**Pn**	**20 43 10.6**	**0.0**
BI02	**San Fabin de**	**17.34**	**183**	P	**P**	**20 43 24.3**	**+0.7**
NPGB	**Novo Progresso**	**18.94**	**52**	*e*P	**P**	**20 43 39.7**	**-1.7**
SNDB	**Serra Nova Dou**	**19.68**	**71**	*e*P	**P**	**20 43 48.4**	**-1.0**
BB19B	**Bebedouro**	**20.51**	**99**	*e*P	**P**	**20 43 57.3**	**-1.2**
IPMB	**Ipameri, GO**	**20.97**	**90**	*e*P	**P**	**20 44 02.1**	**-1.3**
PTGA	**Pitinga**	**21.04**	**30**	P	**P**	**20 44 02.4**	**-1.6**
	comp=Z,26nm,0.2s,baz=318,slow=22,SNR=28						
PTGA	**Pitinga**	**21.04**	**30**	P	**P**		
PLCA	**Paso Flores**	**21.38**	**181**	P	**P**	**20 44 02.0**	**-2.0**
	comp=Z,6.0nm,0.8s,baz=351,slow=12,SNR=11					**20 44 08.9**	**+1.3**
PLCA	**Paso Flores**	**21.38**	**181**	P	**P**	**20 44 09.2**	**+1.6**
PLCA				IAmb	IAmb	20 44 12.2	
	comp=Z,9.2nm,1.0s						
BDFB	**Brasilia**	**21.56**	**84**	P	**P**	**20 44 09.1**	**-0.7**
	comp=Z,5.2nm,0.4s,baz=251,slow=8.6,SNR=10.0						
PEXB	**Peixe**	**22.33**	**75**	*e*P	**P**	**20 44 16.8**	**-1.2**
MALB	**Monte Alegre**	**23.38**	**44**	*e*P	**P**	**20 44 26.3**	**-2.2**
BOAV	**Boa Vista**	**23.59**	**25**	*e*P	**P**	**20 44 30.2**	**-0.2**
PRPB	**Parauapebas**	**23.81**	**60**	*e*P	**P**	**20 44 32.4**	**-0.1**
BSCB	**Bom Sucesso**	**24.02**	**98**	*e*P	**P**	**20 44 32.4**	**-2.0**
SMTB	**Santa Maria do**	**24.31**	**68**	*e*P	**P**	**20 44 37.3**	**+0.4**
DIAM	**Diamantina, MG**	**25.22**	**92**	*e*P	**P**	**20 44 44.3**	**-1.1**
VAS01	**Vassouras-RJ**	**25.27**	**101**	*e*P	**P**	**20 44 43.7**	**-2.0**
MCPB	**Macapa, AP**	**25.95**	**46**	*e*P	**P**	**20 44 51.1**	**-0.8**
DUB01	**Friburgo-RJ**	**26.26**	**101**	*e*P	**P**	**20 44 53.4**	**-1.3**
TMAB	**Tom-Au,PA,Br**	**27.46**	**55**	*e*P	**P**	**20 45 04.6**	**-0.9**
SDV	**Santo Domingo**	**27.99**	**359**	*e*P	**P**	**20 45 09.5**	**-0.8**
NAN01	**Guarapari, ES**	**28.62**	**92**	*e*P	**P**	**20 45 13.9**	**-1.9**
GDU01	**Guandu, BA**	**29.95**	**84**	*e*P	**P**	**20 45 26.4**	**-1.1**
NBPN	**Ponto Novo - B**	**30.21**	**78**	*e*P	**P**	**20 45 30.0**	**+0.1**
NBLA	**Lagarto - SE**	**32.40**	**80**	*e*P	**P**	**20 45 47.7**	**-1.5**
TXAR	**Lajitas Array**	**58.07**	**326**	P	**P**	**20 49 12.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=142,slow=9.0,SNR=3.1						
DBIC	**Dimbokro**	**69.39**	**75**	P	**P**	**20 50 28.0**	**+1.4**
	comp=Z,2.9nm,0.5s,baz=248,slow=7.6,SNR=3.4						
NVAR	**Mina Array Bea**	**72.95**	**322**	P	**P**	**20 50 50.2**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=122,slow=6.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**77.86**	**71**	P	**P**	**20 51 15.3**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=256,slow=6.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**77.86**	**71**	IAmb	IAmb	20 51 24.3	
	comp=Z,2.7nm,0.6s						
YKA	**Yellowknife Ar**	**88.67**	**341**	P	**P**	**20 52 11.3**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=132,slow=5.4,SNR=22						
H11S2	**WAKE ISLAND Hyd**	**26.27**	**279**	T	T	23 17 35.2	
	baz=100,slow=74,SNR=130						
H11S1	**WAKE ISLAND Hyd**	**26.28**	**279**	T	T	23 17 35.7	
	baz=100,slow=74,SNR=40						
H11S3	**WAKE ISLAND Hyd**	**26.29**	**279**	T	T	23 17 36.4	
	baz=100,slow=74,SNR=48						
H11N3	**WAKE ISLAND Hyd**	**26.30**	**281**	T	T	23 17 32.3	
	baz=100,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hyd**	**26.32**	**281**	T	T	23 17 35.1	
	baz=100,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hyd**	**26.32**	**281**	T	T	23 17 36.7	
	baz=100,slow=75,SNR=7.3						
ASAR	**Alice Springs**	**131.22**	**210**	PKP	**PKPdf**	**20 58 30.7**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=138,slow=1.5,SNR=5.7						
WRA	**Warramunga Arr**	**134.14**	**213**	PKP	**PKPdf**	**20 58 36.8**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=144,slow=1.7,SNR=8.5						
ZALV	**Zalesovo Beam**	**140.47**	**23**	PKP	**PKPdf**	**20 58 47.6**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=298,slow=3.1,SNR=2.5						
MKAR	**Makanchi Array**	**144.55**	**33**	PKP	**PKPab**	**20 58 52.8**	**0.0**
	comp=Z,0.3nm,0.7s,baz=315,slow=3.1,SNR=5.1						
SONM	**Songino Array**	**151.39**	**5**	PKPbc	**PKPbc**	**20 59 10.4**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=344,slow=0.3,SNR=3.7						

*IDC **19** 20:42:08.4±0.9, 1.°28N × 120.°27E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/36, mbtmp4.0/9, ML4.2/1, MS2.9/4, Ms1 2.9/4, ms1mx2.6/37, Error ellipse: s-maj=56.5km s-min=14.8km az=71.0*
*DJA **19** 20:42:13.9±0.8, 1.°N±5.°× 12.°0E±.°, h24km±8km, M4.4/8, mb4.8/1, mB5.0/1, MLv4.2/8, Mw(mB)4.3/1*
*NEIC **19** 20:42:15.0±1.8, 1.°3N±0.°1 × 120.°48E±0.°9, h50km±7km, mb4.2/15, Error ellipse: s-maj=18.3km s-min=6.6km az=220.0*

ISC 19 20:42:14.1±0.6, 1.°33N±0.°06 × 120.°36E±0.°06, h35km, n43, σ1.°28/39, mb4.1/15, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**0.47**	**117**		**Pn**	**20 42 24.9**	**+0.5**
MRSI	**Marisa**	**1.79**	**118**	P	**Pn**	**20 42 43.7**	**+1.2**
APSI	**Ampana**	**2.57**	**150**	P	**Pn**	**20 42 54.7**	**+1.4**
LUWI	**Luwuk**	**3.37**	**134**		**Pn**	**20 43 05.2**	**+0.9**
LUWI	**Luwuk**	**3.37**	**134**	P	**Pn**	**20 43 07.6**	**+3.3**
MYLDM	**Lahad Datu**	**4.25**	**334**		**Pn**	**20 43 17.9**	**+1.6**
TTSI	**Tana Toraja**	**4.38**	**187**	P	**Pn**	**20 43 17.5**	**-0.6**
MTKI	**Muara Teweh, K**	**5.91**	**248**	P	**Pn**	**20 43 39.3**	**+0.1**
KKM	**Kota Kinabalu**	**6.25**	**319**	Pn	**Pn**	**20 43 44.8**	**+0.9**
KAPI	**Kappang**	**6.33**	**186**	LR	LR	20 46 33.6	
	comp=Z,81nm,20.1s,baz=62,slow=42						
DAV	**Davao City (W)**	**7.72**	**42**	LR	LR	20 46 52.8	
	comp=Z,88nm,21.6s,baz=185,slow=36						
SBUM	**Sibu**	**8.21**	**278**	Pn	**Pn**	**20 44 11.2**	**+0.4**
LEM	**Lembang**	**15.08**

GRUS	**Gruza**	**0.61**	**107**	*e*Pg	**Pg**	**20 42 56.6**	**+0.4**
GRUS				*e*Sg	**Sb**	**20 43 06.2**	**0.0**
GRUS	**Gruza**	**0.61**	**107**	Pg	**Pg**	**20 42 56.6**	**+0.4**
GRUS				Lg	Lg	20 43 06.2	
HAPS	**Han Pijesak,BI**	**0.69**	**272**	*e*Pg	**Pg**	**20 42 56.4**	**-1.2**
HAPS				*e*Sg	**Sg**	**20 43 05.7**	**-0.9**
HAPS	**Han Pijesak,BI**	**0.69**	**272**	*e*Pg	**Pg**	**20 42 56.4**	**-1.2**
HAPS				*e*Sg	**Sg**	**20 43 06.2**	**-0.4**
HAPS	**Han Pijesak,BI**	**0.69**	**272**	Pg	**Pg**	**20 42 56.4**	**-1.2**
HAPS				Lg	Lg	20 43 05.7	
HAPS				Sg	**Sg**	**20 43 06.2**	**-0.4**
SJES	**Sjenica**	**0.81**	**176**	*e*Pg	**Pg**	**20 43 00.0**	**+0.1**
SJES				*e*Sg	**Sg**	**20 43 09.9**	**-0.5**
SJES	**Sjenica**	**0.81**	**176**	Pg	**Pg**	**20 43 00.0**	**+0.1**
SJES				Lg	Lg	20 43 09.9	
PLE	**Pljevlja**	**0.83**	**207**	*e*Pg	**Pg**	**20 43 00.1**	**-0.2**
PLE				*e*Sg	**Sb**	**20 43 12.7**	**+0.2**
BEO	**Beograd**	**0.84**	**29**	Pg	**Pg**	**20 42 59.5**	**-1.1**
	comp=Z,6.3nm,SNR=67						
BEO				Lg	Lg	20 43 12.4	
SVIS	**Svilajnac**	**0.96**	**78**	*e*Pg	**Pb**	**20 43 03.5**	**+0.1**
SVIS				*e*Sg	**Sb**	**20 43 16.7**	**+0.4**
SVIS	**Svilajnac**	**0.96**	**78**	Pn	**Pb**	**20 43 03.5**	**+0.1**
SVIS				Lg	Lg	20 43 16.7	
FRGS	**Fruska Gora**	**1.09**	**356**	*e*Pg	**Pg**	**20 43 05.4**	**+0.1**
FRGS				*e*Sg	**Sg**	**20 43 19.6**	**+0.1**
FRGS	**Fruska Gora**	**1.09**	**356**	⇓P	**Pg**	**20 43 05.4**	**+0.1**
FRGS				⇓S	**Sb**	**20 43 21.0**	**+0.9**
FRGS	**Fruska Gora**	**1.09**	**356**	⇑ *i* Pg	**Pg**	**20 43 05.1**	**-0.2**
FRGS				*e*Sg	**Sg**	**20 43 19.6**	**+0.1**
FRGS	**Fruska Gora**	**1.09**	**356**	Pn	**Pg**	**20 43 05.1**	**-0.2**
FRGS				Pg	**Pg**	**20 43 05.4**	**+0.1**
FRGS				Pg	**Pg**	**20 43 05.4**	**+0.1**
FRGS				Lg	Lg	20 43 19.6	
FRGS				Sg	**Sb**	**20 43 21.0**	**+0.9**
UPM	**Unac-Piva**	**1.13**	**220**	*e*Pg	**Pg**	**20 43 05.4**	**-0.6**
UPM				*e*Sg	**Sn**	**20 43 23.4**	**+0.8**
IVA	**Berane**	**1.20**	**180**	*e*Pg	**Pg**	**20 43 06.8**	**-0.5**
IVA				*e*Sg	**Sn**	**20 43 24.6**	**+0.5**
KUBS	**Kucevo**	**1.32**	**74**	*e*Pg	**Pn**	**20 43 09.3**	**+0.1**
KUBS				*e*Sg	**Sn**	**20 43 27.9**	**+0.8**
KUBS	**Kucevo**	**1.32**	**74**	Pn	**Pn**	**20 43 09.3**	**+0.1**
KUBS				Lg	Lg	20 43 27.9	
BOVS	**Bovan**	**1.37**	**108**	*e*Pn	**Pn**	**20 43 09.8**	**-0.2**
BOVS				*e*Sg	**Sb**	**20 43 27.6**	**-0.5**
BOVS	**Bovan**	**1.37**	**108**	⇓P	**Pn**	**20 43 09.7**	**-0.2**
BOVS				⇓S	**Sg**	**20 43 29.5**	**+1.0**
BOVS	**Bovan**	**1.37**	**108**	Pn	**Pn**	**20 43 09.7**	**-0.2**
BOVS				Pn	**Pn**	**20 43 09.8**	**-0.2**
BOVS				Sn	**Sb**	**20 43 27.6**	**-0.5**
BOVS				Lg	Lg	20 43 29.5	
NKY	**Niksic**	**1.42**	**208**	⇓ *i* Pg	**Pn**	**20 43 11.1**	**+0.4**
NKY				*i* Sg	**Sg**	**20 43 31.8**	**+1.8**
PVY	**Plav**	**1.47**	**178**	*e*Pg	**Pn**	**20 43 11.6**	**+0.1**
PVY				*e*Sg	**Sg**	**20 43 32.7**	**+1.0**
MDVR	**Moldovita**	**1.48**	**61**	⇓P	**Pn**	**20 43 11.1**	**-0.3**
MDVR				⇑S	**Sg**	**20 43 32.6**	**+0.7**
MDVR	**Moldovita**	**1.48**	**61**	Pn	**Pn**	**20 43 11.1**	**-0.3**
MDVR				Lg	Lg	20 43 32.6	
BRY	**Bratogost**	**1.53**	**221**	*e*Pg	**Pn**	**20 43 12.2**	**-0.1**
BRY				*e*Sg	**Sg**	**20 43 34.0**	**+0.4**
BANR	**Banloc**	**1.58**	**33**	⇑P	**Pn**	**20 43 12.5**	**-0.3**
BANR				⇓S	**Sn**	**20 43 33.6**	**+0.1**
BANR	**Banloc**	**1.58**	**33**	Pn	**Pn**	**20 43 12.5**	**-0.3**
BANR				Pg	**Pb**	**20 43 12.7**	**-1.3**
	comp=Z,0.7nm,SNR=8.3						
BANR				Lg	Lg	20 43 32.4	
BANR				Sn	**Sn**	**20 43 33.6**	**+0.1**
ZAGS	**Zajecar**	**1.70**	**98**	*e*Pn	**Pn**	**20 43 14.3**	**-0.2**
ZAGS				*e*Sn	**Sn**	**20 43 36.6**	**+0.1**
ZAGS	**Zajecar**	**1.70**	**98**	Pn	**Pn**	**20 43 14.3**	**-0.2**
ZAGS				Sn	**Sn**	**20 43 36.6**	**+0.1**
PDG	**Podgorica**	**1.70**	**196**	⇓P	**Pn**	**20 43 14.1**	**-0.3**
PDG				⇓S	**Sn**	**20 43 35.1**	**-1.4**
PDG	**Podgorica**	**1.70**	**196**	*e*Pn	**Pn**	**20 43 14.9**	**+0.4**
PDG				*e*Sn	**Sn**	**20 43 37.0**	**+0.5**
PDG	**Podgorica**	**1.70**	**196**	Pn	**Pn**	**20 43 14.1**	**-0.3**
PDG				Pg	**Pn**	**20 43 14.9**	**+0.4**
PDG				Sn	**Sn**	**20 43 35.1**	**-1.4**
PDG				Lg	Lg	20 43 37.0	
TTG	**Podgorica**	**1.70**	**196**	⇑ *i* Pn	**Pn**	**20 43 14.9**	**+0.4**
TTG				*i* Sn	**Sb**	**20 43 38.3**	**+0.7**
TREB	**Trebinje**	**1.76**	**221**	*e*Pn	**Pb**	**20 43 17.0**	**0.0**
TREB	**Trebinje**	**1.76**	**221**	*e*Pn	**Pn**	**20 43 16.3**	**+1.0**
TREB				*e*Sn	**Sb**	**20 43 38.9**	**-0.4**
TREB	**Trebinje**	**1.76**	**221**	Pn	**Pn**	**20 43 16.3**	**+1.0**
TREB				Pg	**Pb**	**20 43 17.0**	**0.0**
TREB				Sn	**Sb**	**20 43 38.9**	**-0.4**
BARS	**Barje**	**1.87**	**131**	*e*Pg	Pn	20 43 11.0	-5.8
BARS	**Barje**	**1.87**	**131**	*e*Pn	**Pn**	**20 43 16.8**	**0.0**
BARS				*e*Sg	**Sn**	**20 43 32.7**	**-8.0**
BARS				*e*Sn	**Sb**	**20 43 41.7**	**-0.8**
BARS	**Barje**	**1.87**	**131**	Pn	Pn	20 43 11.0	-5.8
BARS				Pg	**Pn**	**20 43 16.8**	**0.0**
BARS				Sn	**Sn**	**20 43 32.7**	**-8.0**
BARS				Lg	Lg	20 43 41.7	
DBRK	**Dubrovnik**	**1.90**	**223**	*e*Pn	**Pn**	**20 43 18.1**	**+1.0**
DBRK				Sn	**Sg**	**20 43 44.8**	**-0.5**
DBRK	**Dubrovnik**	**1.90**	**223**	Pn	**Pn**	**20 43 18.1**	**+1.0**
DBRK				Lg	Lg	20 43 44.8	
BUM	**Brajici-Budva**	**1.92**	**203**	*e*Pn	**Pb**	**20 43 19.1**	**-0.6**
BUM				*e*Sn	**Sb**	**20 43 44.1**	**+0.3**
HCY	**Herceg Novi**	**1.92**	**213**	*e*Pn	**Pb**	**20 43 19.7**	**0.0**
HCY				*i* Sn	**Sb**	**20 43 44.0**	**+0.1**
DJES	**Djerdap**	**1.97**	**71**	Pn	**Pn**	**20 43 18.8**	**+0.6**
	comp=Z,0.7nm,SNR=4.6						
BZS	**Buzias**	**1.97**	**38**	⇑P	**Pn**	**20 43 17.7**	**-0.5**
BZS				⇑S	**Sb**	**20 43 44.9**	**-0.4**
BZS	**Buzias**	**1.97**	**38**	Pn	**Pn**	**20 43 17.5**	**-0.6**
	comp=Z,0.5nm,SNR=24						
BZS				Pn	**Pn**	**20 43 17.7**	**-0.5**
BZS				Sn	**Sn**	**20 43 41.3**	**-1.8**
BZS				Sn	**Sb**	**20 43 44.9**	**-0.4**
HERR	**Herculane**	**1.97**	**65**	⇑P	**Pn**	**20 43 18.4**	**+0.2**
HERR				⇓S	**Sn**	**20 43 44.1**	**+0.9**
HERR	**Herculane**	**1.97**	**65**	Pn	**Pn**	**20 43 18.4**	**+0.2**
HERR				Sn	**Sn**	**20 43 44.1**	**+0.9**
STON	**Ston**	**2.00**	**234**	*e*Pn	**Pn**	**20 43 19.1**	**+0.5**
STON				Sn	**Sn**	**20 43 45.1**	**+1.3**
STON	**Ston**	**2.00**	**234**	Pn	**Pn**	**20 43 19.1**	**+0.5**
STON				Sn	**Sn**	**20 43 45.1**	**+1.3**
BLKB	**Belogradchik**	**2.05**	**102**	⇓S	**Sn**	**20 43 45.5**	**+0.3**
BLKB	**Belogradchik**	**2.05**	**102**	Sn	**Sn**	**20 43 45.5**	**+0.3**
MGRS	**Mrkonjic Grad**	**2.06**	**281**	*e*Pn	**Pn**	**20 43 19.6**	**+0.2**
MGRS				*e*Sn	**Sn**	**20 43 46.2**	**+0.9**
MGRS	**Mrkonjic Grad**	**2.06**	**281**	Pn	**Pn**	**20 43 19.6**	**+0.2**
MGRS				Sn	**Sn**	**20 43 46.2**	**+0.9**
BLY	**Banja Luka**	**2.06**	**290**	⇑ *i* Pn	**Pn**	**20 43 19.4**	**-0.1**
BLY				*e*Sn	**Sb**	**20 43 47.1**	**-1.0**
BLY	**Banja Luka**	**2.06**	**290**	Pn	**Pn**	**20 43 19.4**	**-0.1**
BLY				Pg	**Pb**	**20 43 23.1**	**+0.9**
BLY				Sn	**Sb**	**20 43 47.1**	**-1.0**
RMGR	**Halanga-Turnu**	**2.09**	**72**	⇑P	**Pn**	**20 43 20.4**	**+0.6**
RMGR				⇓S	**Sn**	**20 43 47.1**	**+1.2**
RMGR	**Halanga-Turnu**	**2.09**	**72**	Pn	**Pn**	**20 43 20.4**	**+0.6**
RMGR				Sn	**Sn**	**20 43 47.1**	**+1.2**
RICI	**Ricice**	**2.09**	**255**	*e*Pn	**Pn**	**20 43 20.5**	**+0.7**
RICI	**Ricice**	**2.09**	**255**	Pn	**Pn**	**20 43 20.5**	**+0.7**
ZAPS	**Zavoj**	**2.13**	**111**	*e*Pn	**Pn**	**20 43 21.3**	**+0.8**
ZAPS				*e*Sn	**Sn**	**20 43 46.5**	**-0.7**
ZAPS	**Zavoj**	**2.13**	**111**	Pn	**Pn**	**20 43 21.3**	**+0.8**
ZAPS				Sn	**Sn**	**20 43 46.5**	**-0.7**
ULC	**Ulcinj**	**2.16**	**193**	*e*Pn	**Pn**	**20 43 21.5**	**+0.7**
ULC				*e*Sn	**Sb**	**20 43 49.7**	**-1.1**
PUNG	**Punghina**	**2.19**	**83**	⇓P	**Pn**	**20 43 21.5**	**+0.3**
PUNG				⇑S	**Sn**	**20 43 49.6**	**+1.1**
PUNG	**Punghina**	**2.19**	**83**	Pn	**Pn**	**20 43 21.5**	**+0.3**
PUNG				Sn	**Sn**	**20 43 49.6**	**+1.1**
PRVS	**Prvonek**	**2.22**	**134**	*e*Pn	**Pn**	**20 43 22.0**	**+0.3**
PRVS				*e*Sn	**Sn**	**20 43 51.1**	**+1.7**
PRVS	**Prvonek**	**2.22**	**134**	Pn	**Pn**	**20 43 22.0**	**+0.3**
PRVS				Sn	**Sn**	**20 43 51.1**	**+1.7**
MAKA	**Makarska**	**2.23**	**251**	*e*Pn	**Pb**	**20 43 23.6**	**-1.4**
MAKA				Sn	**Sb**	**20 43 53.4**	**+0.5**
MAKA	**Makarska**	**2.23**	**251**	Pn	**Pb**	**20 43 23.6**	**-1.4**
MAKA				Sn	**Sb**	**20 43 53.4**	**+0.5**
MORH	**Mrgy, Hungar**	**2.33**	**338**	⇑P	**Pn**	**20 43 22.5**	**-0.5**
MORH				⇓S	**Sn**	**20 43 50.8**	**-1.1**
MORH	**Mrgy, Hungar**	**2.33**	**338**	*e*Pn	**Pn**	**20 43 24.1**	**+1.1**
MORH				*e*Sn	**Sn**	**20 43 53.5**	**+1.6**
MORH	**Mrgy, Hungar**	**2.33**	**338**	Pg	**Pn**	**20 43 22.5**	**-0.5**
	comp=Z,0.2nm,SNR=7.9						
MORH				Pn	**Pn**	**20 43 24.1**	**+1.1**
MORH				Sn	**Sn**	**20 43 50.8**	**-1.1**
MORH				Lg	Lg	20 43 53.5	
MRAK	**Mrakovica**	**2.35**	**295**	*e*Pn	**Pn**	**20 43 24.2**	**+0.8**
MRAK				*e*Sn	**Sn**	**20 43 53.8**	**+1.3**
MRAK	**Mrakovica**	**2.35**	**295**	Pn	**Pn**	**20 43 24.2**	**+0.8**
MRAK				Sn	**Sn**	**20 43 53.8**	**+1.3**
AMBH	**Ambrzfalva**	**2.35**	**14**	⇓P	**Pn**	**20 43 23.9**	**+0.4**
AMBH				⇓S	**Sn**	**20 43 53.7**	**+1.1**
AMBH	**Ambrzfalva**	**2.35**	**14**	Pn	**Pn**	**20 43 23.9**	**+0.4**
AMBH				Pg	**Pg**	**20 43 31.2**	**+1.7**
AMBH				Sn	**Sn**	**20 43 53.7**	**+1.1**
GZR	**Gura Zlata**	**2.44**	**56**	⇑P	**Pn**	**20 43 24.5**	**-0.1**
GZR				⇑S	**Sn**	**20 43 55.6**	**+0.8**
GZR	**Gura Zlata**	**2.44**	**56**	Pn	**Pn**	**20 43 24.6**	**-0.1**
	comp=Z,0.4nm,SNR=14						
GZR				Sn	**Sn**	**20 43 54.3**	**-0.5**
GZR				Lg	Lg	20 43 55.6	
BOSS	**Bosilegrad**	**2.45**	**129**	*e*Pn	**Pn**	**20 43 24.8**	**0.0**
BOSS				*e*Sn	**Sn**	**20 43 56.5**	**+1.5**
BOSS	**Bosilegrad**	**2.45**	**129**	Pn	**Pn**	**20 43 24.8**	**0.0**
BOSS				Sn	**Sn**	**20 43 56.5**	**+1.5**
PRIJ	**Prijedor**	**2.46**	**293**	*e*Pn	**Pn**	**20 43 26.1**	**+1.3**
PRIJ				*e*Sn	**Sn**	**20 43 56.2**	**+1.1**
PRIJ	**Prijedor**	**2.46**	**293**	Pn	**Pn**	**20 43 26.1**	**+1.3**
PRIJ				Sn	**Sn**	**20 43 56.2**	**+1.1**
BAIL	**Bailesti**	**2.48**	**90**	⇓P	**Pn**	**20 43 25.3**	**+0.1**
BAIL				⇑S	**Sn**	**20 43 56.3**	**+0.6**
BAIL	**Bailesti**	**2.48**	**90**	Pn	**Pn**	**20 43 25.3**	**+0.1**
BAIL				Sn	**Sn**	**20 43 56.3**	**+0.6**
KIJV	**Kijevo**	**2.52**	**270**	*e*Pn	**Pn**	**20 43 27.0**	**+1.1**
KIJV	**Kijevo**	**2.52**	**270**	Pn	**Pn**	**20 43 27.0**	**+1.1**
SIRR	**Siria**	**2.53**	**29**	Pn	**Pn**	**20 43 25.0**	**-0.8**
	comp=Z,0.2nm,SNR=9.2						
HVAR	**Hvar**	**2.66**	**252**	*e*Pn	**Pn**	**20 43 29.4**	**+1.8**
HVAR				Sn	**Sn**	**20 44 02.7**	**+2.6**
HVAR	**Hvar**	**2.66**	**252**	Pn	**Pn**	**20 43 29.4**	**+1.8**
HVAR				Sn	**Sn**	**20 44 02.7**	**+2.6**
DEV	**Deva**	**2.80**	**48**	⇑P	**Pn**	**20 43 29.7**	**+0.1**
DEV	**Deva**	**2.80**	**48**	Pg	**Pn**	**20 43 29.7**	**+0.1**
DEV				Pn	**Pb**	**20 43 30.2**	**-4.5**
	comp=Z,0.3nm,SNR=8.8						
VTS	**Vitosha**	**2.83**	**120**	⇑P	**Pn**	**20 43 30.3**	**+0.2**
VTS	**Vitosha**	**2.83**	**120**	Pn	**Pn**	**20 43 30.3**	**+0.2**
	comp=Z,0.1nm,SNR=6.8						
STIP	**Stip**	**2.91**	**144**	*i* Pn	**Pn**	**20 43 31.6**	**+0.6**
MORI	**Morici**	**3.04**	**268**	*e*Pn	**Pn**	**20 43 34.8**	**+2.0**
MORI				Sn	**Sn**	**20 44 11.6**	**+2.2**
MORI	**Morici**	**3.04**	**268**	Pn	**Pn**	**20 43 34.8**	**+2.0**
MORI				Sn	**Sn**	**20 44 11.6**	**+2.2**
LOT	**Lotru**	**3.08**	**62**	⇓P	**Pn**	**20 43 34.6**	**+1.0**
LOT				⇓S	**Sn**	**20 44 11.8**	**+1.2**
LOT	**Lotru**	**3.08**	**62**	Pg	**Pn**	**20 43 34.6**	**+1.0**
LOT				Pn	Pb	20 43 34.8	-4.8
	comp=Z,0.2nm,SNR=4.5						
LOT				Sn	**Sn**	**20 44 11.8**	**+1.2**
ZIRJ	**Zirje**	**3.11**	**264**	*i* Pn	**Pn**	**20 43 35.8**	**+2.0**
ZIRJ				Sn	**Sn**	**20 44 12.9**	**+1.7**
ZIRJ	**Zirje**	**3.11**	**264**	Pn	**Pn**	**20 43 35.8**	**+2.0**
ZIRJ				Sn	**Sn**	**20 44 12.9**	**+1.7**
TIH	**Tihany**	**3.17**	**334**	Pn	**Pn**	**20 43 34.4**	**-0.2**
	comp=Z,1.3nm,SNR=17						
KALN	**Kalnik**	**3.20**	**311**	*e*Pn	**Pn**	**20 43 34.5**	**-0.6**
KALN	**Kalnik**	**3.20**	**311**	Pn	**Pn**	**20 43 34.5**	**-0.6**
VLAD	**Vladila**	**3.25**	**90**	⇓P	**Pn**	**20 43 35.4**	**-0.3**
VLAD				⇓S	**Sn**	**20 44 14.9**	**+0.4**
VLAD	**Vladila**	**3.25**	**90**	Pn	**Pn**	**20 43 35.4**	**-0.3**
VLAD				Sn	**Sn**	**20 44 14.9**	**+0.4**
BEHE	**Becsehely**	**3.26**	**318**	*e*Pn	**Pn**	**20 43 36.3**	**+0.3**
BEHE				*e*Sn	**Sn**	**20 44 15.8**	**+0.8**
BEHE	**Becsehely**	**3.26**	**318**	Pn	**Pn**	**20 43 36.3**	**+0.3**
BEHE				Sn	**Sn**	**20 44 15.8**	**+0.8**
PTJ	**Puntijarka**	**3.34**	**305**	*e*Pn	**Pn**	**20 43 36.8**	**-0.3**
PTJ	**Puntijarka**	**3.34**	**305**	Pn	**Pn**	**20 43 36.8**	**-0.3**
DRGR		**3.37**	**35**	⇑P	**Pn**	**20 43 38.0**	**+0.6**
DRGR		**3.37**	**35**	Pg	**Pn**	**20 43 36.9**	**-0.6**
	comp=Z,0.1nm,SNR=3.5						
DRGR				Pn	Pb	20 43 38.0	-6.4
VAY	**Valandovo**	**3.38**	**143**	*i* Pn	**Pn**	**20 43 38.3**	**+0.8**
BUD	**Budapest**	**3.47**	**350**	Pn	**Pn**	**20 43 40.2**	**+1.4**
	comp=Z,0.1nm,SNR=2.7						
PLVB	**Pleven**	**3.49**	**100**	⇓P	**Pn**	**20 43 39.4**	**+0.4**
PLVB	**Pleven**	**3.49**	**100**	Pn	**Pn**	**20 43 39.4**	**+0.4**
CSKK	**Cekako**	**3.49**	**341**	Pn	**Pn**	**20 43 39.2**	**+0.1**
	comp=Z,0.1nm,SNR=14						
DUGI	**Dugi Otok**	**3.50**	**270**	*e*Pn	**Pn**	**20 43 40.4**	**+1.2**
DUGI	**Dugi Otok**	**3.50**	**270**	Pn	**Pn**	**20 43 40.4**	**+1.2**
OZLJ	**Ozalj**	**3.52**	**298**	*i* Pn	**Pn**	**20 43 40.4**	**+1.0**
OZLJ	**Ozalj**	**3.52**	**298**	Pn	**Pn**	**20 43 40.4**	**+1.0**
MPLH	**Magyarpolny**	**3.52**	**333**	Pn	**Pn**	**20 43 39.6**	**+0.1**
	comp=Z,0.4nm,SNR=9.7						
MPLH				Sn	**Sn**	**20 44 20.7**	**-0.6**
ARR	**Arges**	**3.61**	**67**	⇓P	**Pn**	**20 43 41.6**	**+0.8**
ARR	**Arges**	**3.61**	**67**	Pn	**Pn**	**20 43 41.6**	**+0.8**
CRES	**Cresnjev**	**3.61**	**301**	*e*Pn	**Pn**	**20 43 41.0**	**+0.2**
CRES				*e*Sn	**Sn**	**20 44 24.4**	**+0.7**
CRES	**Cresnjev**	**3.61**	**301**	Pn	**Pn**	**20 43 41.0**	**+0.2**
CRES				Sn	**Sn**	**20 44 24.4**	**+0.7**
NVLJ	**Novalja**	**3.65**	**280**	*e*Pn	**Pn**	**20 43 42.3**	**+1.1**
NVLJ	**Novalja**	**3.65**	**280**	Pn	**Pn**	**20 43 42.3**	**+1.1**
HUMR	**Humele**	**3.67**	**81**	⇓P	**Pn**	**20 43 41.9**	**+0.4**
HUMR	**Humele**	**3.67**	**81**	Pn	**Pn**	**20 43 41.9**	**+0.4**
CJR	**Cluj-Napoca**	**3.71**	**43**	⇑P	**Pn**	**20 43 42.4**	**+0.2**
CJR	**Cluj-Napoca**	**3.71**	**43**	Pn	**Pn**	**20 43 42.4**	**+0.2**
EGYH	**Egyhazaskeszo**	**3.80**	**333**	Pn	**Pn**	**20 43 39.7**	**-3.6**
COPA	**Copaceanca**	**3.83**	**87**	⇑P	**Pn**	**20 43 43.9**	**+0.2**
COPA	**Copaceanca**	**3.83**	**87**	Pn	**Pn**	**20 43 43.9**	**+0.2**
SRO2	**Moca**	**3.84**	**345**	*e*PN	**Pn**	**20 43 42.9**	**-1.0**
SRO2				*e*SN	**Sn**	**20 44 26.5**	**-2.8**
SRO2				*e*LG	Lg	20 44 49.5	
SRO2	**Moca**	**3.84**	**345**	Pn	**Pn**	**20 43 42.9**	**-1.0**
SRO2				Sn	**Sn**	**20 44 26.5**	**-2.8**
SRO2				Lg	Lg	20 44 49.5	
PSZ	**Piszkesteto**	**3.85**	**360**	⇓P	**Pn**	**20 43 43.9**	**-0.2**
PSZ	**Piszkesteto**	**3.85**	**360**	Pg	**Pn**	**20 43 43.7**	**-0.4**
	comp=Z,0.1nm,SNR=2.7						
PSZ				Pn	**Pn**	**20 43 43.9**	**-0.2**
PSZ				Sn	**Sn**	**20 44 24.8**	**-4.9**
SRO	**Srobarova**	**3.91**	**344**	*e*PN	**Pn**	**20 43 44.9**	**+0.1**
SRO				*e*SN	**Sn**	**20 44 31.0**	**+0.1**
SRO				*e*LG	Lg	20 44 58.3	
SRO	**Srobarova**	**3.91**	**344**	Pn	**Pn**	**20 43 44.9**	**+0.1**
SRO				Sn	**Sn**	**20 44 31.0**	**+0.1**
SRO				Lg	Lg	20 44 58.3	
VOIR		**3.91**	**68**	⇓P	**Pn**	**20 43 46.0**	**+1.0**
VOIR		**3.91**	**68**	Pn	**Pn**	**20 43 46.0**	**+1.0**
CEY	**Cerknica**	**4.24**	**295**	*e*Pn	**Pn**	**20 43 49.7**	**+0.4**
CEY				*e*Sn	**Sn**	**20 44 38.8**	**-0.2**
CEY	**Cerknica**	**4.24**	**295**	Pn	**Pn**	**20 43 49.7**	**+0.4**
CEY				Sn	**Sn**	**20 44 38.8**	**-0.2**
SOP	**Sopron**	**4.30**	**328**	Pn	**Pn**	**20 43 49.6**	**-0.6**
	comp=Z,0.1nm,SNR=1.7						
SOP				Sn	**Sn**	**20 44 37.5**	**-3.2**
SOKA	**Soboth**	**4.31**	**309**	P	**Pn**	**20 43 50.3**	**-0.2**
	comp=Z,2.2nm,0.2s,SNR=8.5						
SOKA				*e*Sn	**Sn**	**20 44 40.5**	**-0.5**
	comp=Z,2.8nm,0.4s						
SOKA	**Soboth**	**4.31**	**309**	Pn	**Pn**	**20 43 50.3**	**-0.2**
	comp=Z,2.2nm,0.2s,SNR=8.5						
SOKA				Sn	**Sn**	**20 44 40.5**	**-0.5**
	comp=Z,2.8nm,0.4s						
DOPR	**Dopca**	**4.33**	**62**	⇓P	**Pn**	**20 43 51.1**	**+0.6**
DOPR	**Dopca**	**4.33**	**62**	Pn	**Pn**	**20 43 51.1**	**+0.6**
ARSA	**Arzberg**	**4.42**	**318**	Pn	**Pn**	**20 43 52.0**	**+0.1**
	comp=Z,13nm,0.3s,SNR=25						
ARSA	**Arzberg**	**4.42**	**318**	Pn	**Pn**	**20 43 52.0**	**+0.1**
	comp=Z,0.1nm,SNR=4.1						
ARSA				Sn	**Sn**	**20 44 40.0**	**-3.7**
VYHS	**Vyhne**	**4.49**	**351**	*e*PN	**Pn**	**20 43 53.2**	**+0.4**
VYHS				*e*SN	**Sn**	**20 44 44.5**	**-0.8**
VYHS	**Vyhne**	**4.49**	**351**	Pn	**Pn**	**20 43 53.2**	**+0.4**
VYHS				Sn	**Sn**	**20 44 44.5**	**-0.8**
OBKA	**Obir**	**4.50**	**305**	*e*Pn	**Pn**	**20 43 53.5**	**+0.4**
	comp=Z,1.8nm,0.3s						
OBKA				*e*Sn	**Sg**	**20 45 10.2**	**+1.4**
	comp=Z,11nm,0.5s						
OBKA	**Obir**	**4.50**	**305**	Pg	**Pn**	**20 43 53.2**	**+0.2**
	comp=Z,0.1nm,SNR=1.5						
OBKA				Pn	**Pn**	**20 43 53.5**	**+0.4**
	comp=Z,1.8nm,0.3s						
OBKA				Lg	Lg	20 45 10.2	
	comp=Z,11nm,0.5s						
MLR	**Muntele Rosu**	**4.53**	**70**	⇓P	**Pn**	**20 43 53.6**	**+0.1**
MLR	**Muntele Rosu**	**4.53**	**70**	Pn	**Pn**	**20 43 53.6**	**+0.1**
ZST	**Bratislava**	**4.56**	**336**	*e*PN	**Pn**	**20 43 53.8**	**0.0**
ZST				*e*SN	**Sn**	**20 44 46.0**	**-1.1**
ZST	**Bratislava**	**4.56**	**336**	Pn	**Pn**	**20 43 53.8**	**0.0**
ZST				Sn	**Sn**	**20 44 46.0**	**-1.1**
OZUR		**4.63**	**62**	⇑P	**Pn**	**20 43 55.0**	**+0.2**
OZUR		**4.63**	**62**	Pn	**Pn**	**20 43 55.0**	**+0.2**
MODS	**Modra-Piesok**	**4.68**	**338**	*e*PN	**Pn**	**20 43 55.8**	**+0.4**
MODS				*e*SN	**Sn**	**20 44 46.2**	**-3.7**
MODS	**Modra-Piesok**	**4.68**	**338**	Pn	**Pn**	**20 43 55.8**	**+0.4**
MODS				Sn	**Sn**	**20 44 46.2**	**-3.7**
SMOL	**Smolenice**	**4.77**	**340**	*e*SN	**Sn**	**20 44 47.8**	**-4.3**
SMOL	**Smolenice**	**4.77**	**340**	Sn	**Sn**	**20 44 47.8**	**-4.3**
CONA	**Conrad Observa**	**4.78**	**325**	Pn	**Pn**	**20 43 56.5**	**-0.3**
	comp=Z,3.1nm,0.3s,SNR=13						
CONA	**Conrad Observa**	**4.78**	**325**	Pn	**Pn**	**20 43 56.5**	**-0.3**
	comp=Z,3.1nm,0.3s,SNR=13						
CRVS	**Cervenica-Dubn**	**4.95**	**12**	*e*PN	**Pn**	**20 44 00.4**	**+1.2**
CRVS				*e*PG	**Pg**	**20 44 24.0**	**+4.8**
CRVS	**Cervenica-Dubn**	**4.95**	**12**	Pn	**Pn**	**20 44 00.4**	**+1.2**
CRVS				Pg	**Pg**	**20 44 24.0**	**+4.8**
JAVC	**Velka Javorina**	**5.04**	**343**	*e*PN	**Pn**	**20 43 59.4**	**-0.9**
JAVC	**Velka Javorina**	**5.04**	**343**	Pn	**Pn**	**20 43 59.4**	**-0.9**
MYKA	**Terra Mystica**	**5.10**	**302**	*e*Pn	**Pn**	**20 44 02.5**	**+1.2**
	comp=Z,4.7nm,0.7s						
MYKA	**Terra Mystica**	**5.10**	**302**	Pn	**Pn**	**20 44 02.5**	**+1.2**
	comp=Z,4.7nm,0.7s						
PLOR	**Plostina**	**5.11**	**67**	⇑

comp=Z,22nm,19.6s,baz=125,slow=32
WUAZ Wupatki 81.15 48 P 21 12 27.1 -0.6
WUAZ IAmb IAmb 21 12 37.6
comp=Z,11nm,0.6s
TXAR Lajitas Array 83.93 56 P P 21 12 42.1 0.0
comp=Z,0.5nm,1.0s,baz=226,slow=8.6,SNR=4.0
AMTX Amarillo 87.84 52 P P 21 13 01.3 +0.2
OK029 Liberty Lake 91.37 53 P P 21 13 17.3 0.0
BRTR Keskin Array B 148.16 316 PKPbc PKPab 21 19 59.6 -0.4
comp=Z,0.5nm,0.6s,baz=57,slow=4.6,SNR=3.8

*IDC **19**21:10:07.5±0.8, 43°.72N×105°.39W, h0km, mb4.0/7, mb1 4.0/15, mb1mx3.8/52, mbtmp3.8/15, ML3.4/7, Error ellipse: s-maj=17.0km s-min=7.3km az=150.0*
*NEIC **19**21:10:08.6±1.3, 43°.83N±0°.05×105°.28W±0°.08, h0km±2km, ML3.7/70, Error ellipse: s-maj=9.9km s-min=8.1km az=99.0*
ISC 19 21:10:08.4±0.6, **43°.84N**±0°.06×**105°.26W**±0°.07, **h0**km, **n101**, σ1**90/98**, **mb4.1/8**, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**72**	Op Pg		**Pg**	**21 10 26.7**	**+0.6**
K22A	**Casper**	**1.51**	**218**			**Pn**	**21 10 34.0**	**-2.8**
K22A				IAML			21 10 58.9	
comp=N,1μm,0.4s								
PHWY	**Pilot Hill**	**2.54**	**183**			**Pn**	**21 10 50.3**	**-0.9**
RWWY	**Rawlins**	**2.59**	**214**			**Pn**	**21 10 51.5**	**-0.2**
RWWY				IAML			21 11 28.4	
comp=N,335nm,0.6s								
RWWY				IAML			21 11 30.9	
comp=N,413nm,0.8s								
LAO	**LASA Array**	**2.93**	**347**			**Pn**	**21 10 54.7**	**-1.6**
LAO				IAML			21 11 51.7	
comp=N,364nm,0.8s								
LAO				IAML			21 11 54.8	
comp=N,402nm,0.7s								
RLMT	**Red Lodge**	**3.14**	**295**			**Pn**	**21 10 59.3**	**-0.1**
RLMT				IAML			21 11 48.1	
comp=N,123nm,0.5s								
RLMT				IAML			21 11 53.0	
comp=N,125nm,0.5s								
BW06	**Boulder Array**	**3.32**	**253**	Pn		**Pn**	**21 11 01.5**	**-0.3**
BW06				IAML			21 11 50.0	
comp=N,116nm,0.6s								
PD31	**Pinedale Array**	**3.32**	**253**	Pn		**Pn**	**21 11 01.6**	**-0.2**
PDAR	**Pinedale Array**	**3.32**	**253**	Pn		**Pn**	**21 11 01.6**	**-0.2**
comp=N,9.3nm,0.3s,baz=63,slow=17,SNR=37								
PDAR				Lg	Lg		21 11 45.6	
comp=N,22nm,0.3s,baz=330,slow=8.6,SNR=11								
PDAR	**Pinedale Array**	**3.32**	**253**	Pn		**Pn**	**21 11 01.8**	**0.0**
YNE	**Yellowstone No**	**3.60**	**291**	Pn		**Pn**	**21 11 04.7**	**-1.0**
YNE				IAML			21 12 06.0	
comp=E,108nm,0.7s								
YNE				IAML			21 12 09.8	
comp=N,131nm,0.7s								
YMP	**Mirror Lake Pl**	**3.63**	**286**			**Pn**	**21 11 05.8**	**-0.4**
YMP				IAML			21 12 10.7	
comp=E,176nm,0.7s								
YMP				IAML			21 12 16.3	
comp=N,184nm,0.6s								
GCMT	**Greycliff**	**3.69**	**303**			**Pn**	**21 11 07.4**	**+0.5**
OGNE	**Ogallala**	**3.75**	**139**	Pn		**Pn**	**21 11 07.7**	**+0.1**
LKWY	**Lake**	**3.77**	**283**			**Pn**	**21 11 09.5**	**+1.5**
LKWY				IAML			21 11 35.6	
comp=N,83nm,0.6s								
LKWY				IAML			21 11 39.7	
comp=N,164nm,0.7s								
H17A	**Grant Village**	**3.87**	**280**			**Pn**	**21 11 09.9**	**+0.5**
H17A				IAML			21 12 14.6	
comp=N,95nm,0.7s								
LOHW	**Long Hollow**	**3.88**	**268**			**Pn**	**21 11 09.8**	**+0.3**
FLWY	**Flagg Ranch**	**3.94**	**275**			**Pn**	**21 11 10.3**	**0.0**
FLWY				IAML			21 12 19.6	
comp=N,111nm,1.8s								
FLWY				IAML			21 12 24.7	
comp=N,91nm,1.7s								
YNR	**Norris Junctio**	**3.99**	**285**			**Pn**	**21 11 12.3**	**+1.3**
SNOW	**Snow King Moun**	**4.01**	**266**			**Pn**	**21 11 11.9**	**+0.7**
SNOW				IAML			21 12 15.7	
comp=N,102nm,1.2s								
SNOW				IAML			21 12 32.5	
comp=N,108nm,1.1s								
YPP	**Pitchstone Pla**	**4.02**	**278**			**Pn**	**21 11 11.7**	**+0.2**
ISCO	**Idaho Springs**	**4.05**	**184**	Pn		**Pn**	**21 11 11.5**	**-0.3**
REDW	**Red Top Meadow**	**4.09**	**265**			**Pn**	**21 11 12.5**	**+0.1**
REDW				IAML			21 12 18.8	
comp=N,95nm,1.2s								
REDW				IAML			21 12 26.7	
comp=N,113nm,1.2s								
YHH	**Holmes Hill**	**4.12**	**285**			**Pn**	**21 11 12.7**	**-0.2**
YMR	**Madison River**	**4.18**	**283**			**Pn**	**21 11 14.5**	**+0.8**
YMR				IAML			21 12 35.9	
comp=E,74nm,1.3s								
YMR				IAML			21 12 36.0	
comp=N,84nm,1.1s								
E28A	**Huff**	**4.23**	**48**			**Pn**	**21 11 15.3**	**+1.3**
O20A	**White River Ci**	**4.32**	**212**	IAML			21 12 34.0	
comp=E,87nm,0.9s								
O20A				IAML			21 12 39.8	
comp=N,99nm,0.9s								
YHL	**Hebgen Lake**	**4.37**	**285**			**Pn**	**21 11 16.3**	**0.0**
YHL				IAML			21 12 31.3	
comp=N,63nm,1.2s								
YHL				IAML			21 12 36.7	
comp=E,76nm,1.2s								
AHID	**Auburn Hatcher**	**4.40**	**258**	Pn		**Pn**	**21 11 16.3**	**-0.3**
AHID				IAML			21 11 49.0	
comp=E,116nm,1.0s								
AHID				IAML			21 12 29.4	
comp=N,127nm,1.1s								
QLMT	**Earthquake Lak**	**4.54**	**285**			**Pn**	**21 11 18.0**	**-0.5**
RDMU	**Red Mountain**	**4.58**	**226**	IAML			21 12 36.8	
comp=E,87nm,1.0s								
RDMU				IAML			21 12 39.9	
comp=N,71nm,0.9s								
SUSD	**Miller**	**4.58**	**80**			**Pn**	**21 11 19.5**	**+0.7**
DGMT	**Dagmar**	**4.69**	**9**	Pn		**Pn**	**21 11 21.5**	**+1.1**
SMCO	**Snowmass**	**4.83**	**196**			**Pn**	**21 11 23.4**	**+0.6**
SMCO				IAML			21 12 41.1	
comp=N,56nm,0.5s								
SMCO				IAML			21 12 46.8	
comp=N,45nm,1.1s								
BOZ	**Bozeman (W)**	**4.87**	**293**			**Pn**	**21 11 22.7**	**-0.3**
BOZ				IAML			21 12 44.5	
comp=N,35nm,1.2s								
BOZ				IAML			21 12 50.3	
comp=N,37nm,0.8s								
K31A	**O'Neill**	**4.90**	**102**			**Pn**	**21 11 24.1**	**+0.7**
HWUT	**Hardware Ranch**	**5.16**	**247**	IAML			21 12 55.6	
comp=N,80nm,0.9s								
KSCO	**Kaye Shedlock'**	**5.21**	**157**			**Pn**	**21 11 27.2**	**-0.5**
EGMT	**Eagleton**	**5.23**	**325**			**Pn**	**21 11 27.8**	**-0.1**
TCUT	**Toone Canyon**	**5.30**	**241**			**Pn**	**21 11 28.6**	**-0.4**
HRY	**Holter Researc**	**5.46**	**304**			**Pn**	**21 11 31.0**	**0.0**
DLMT	**Dillon**	**5.46**	**289**			**Pn**	**21 11 29.9**	**-1.1**
LRM	**Limekiln Ridge**	**5.49**	**294**			**Pn**	**21 11 31.3**	**-0.2**
MCMT	**McKenzie Canyo**	**5.54**	**283**			**Pn**	**21 11 32.9**	**+0.7**
MDND	**Maddock**	**5.63**	**43**			**Pn**	**21 11 33.9**	**+0.7**
CTU	**Camp Tracy**	**5.75**	**239**			**Pn**	**21 11 35.2**	**0.0**
BGNE	**Belgrade**	**5.78**	**112**			**Pn**	**21 11 35.7**	**+0.3**
BCYI	**Bear Canyon**	**5.89**	**277**			**Pn**	**21 11 37.8**	**+0.7**
PV22	**Blue Mesa, Par**	**5.93**	**208**			**Pn**	**21 11 37.7**	**+0.1**
MPU	**Maple Canyon**	**6.10**	**233**			**Pn**	**21 11 39.5**	**-0.5**
PV14	**Lion Creek, Pa**	**6.16**	**209**	Pn		**Pn**	**21 11 40.7**	**-0.1**
PV10	**Paradox Valley**	**6.16**	**209**			**Pn**	**21 11 41.5**	**+0.6**
PV19	**Morning Glory**	**6.20**	**208**	Pn		**Pn**	**21 11 40.9**	**-0.5**
ECSD	**EROS Data Cent**	**6.26**	**88**			**Pn**	**21 11 42.8**	**+0.9**
CBKS	**Cedar Bluff**	**6.52**	**139**			**Pn**	**21 11 45.8**	**+0.2**
HLID	**Hailey**	**6.64**	**271**			**Pn**	**21 11 47.7**	**+0.3**
T25A	**Trinidad**	**6.72**	**174**	Pn		**Pn**	**21 11 47.9**	**-0.7**
L34A	**Svendsen Farm,**	**6.79**	**103**			**Pn**	**21 11 49.1**	**0.0**
MSO	**Missoula**	**6.81**	**299**	Pn		**Pn**	**21 11 49.1**	**-0.5**
MVCO	**Mesa Verde**	**7.07**	**202**	Pn		**Pn**	**21 11 54.3**	**+1.0**
JTMT	**Jette**	**7.42**	**305**	Pn		**Pn**	**21 11 58.1**	**+0.1**
MSU	**Marysvale**	**7.45**	**227**	Pn		**Pn**	**21 11 55.6**	**-2.9**
MFID	**Camas Ranch**	**7.68**	**270**	Pn		**Pn**	**21 12 02.6**	**+1.0**
AGMN	**Agassiz Nation**	**7.91**	**52**			**Pn**	**21 12 05.0**	**+0.5**
ELK	**Elko**	**8.02**	**251**	Pn		**Pn**	**21 12 05.5**	**-0.8**
comp=N,0.5nm,0.3s,baz=66,slow=9.4,SNR=9.0								
ELK				Lg	Lg		21 14 15.5	
comp=N,0.1nm,0.3s,baz=198,slow=20,SNR=1.3								
PKCU	**Pink Cliffs**	**8.34**	**222**	Pn		**Pn**	**21 12 11.0**	**+0.2**
SPR3	**Spring Creek 3**	**8.36**	**238**	Pn		**Pn**	**21 12 11.8**	**+0.8**
PSUT	**Pine Spring**	**8.37**	**234**			**Pn**	**21 12 11.2**	**+0.1**
SZCU	**Shurtz Canyon**	**8.61**	**226**			**Pn**	**21 12 14.0**	**-0.4**
KAN08	**Anthony NE Sta**	**8.62**	**138**	Pn		**Pn**	**21 12 14.0**	**-0.4**
KAN10	**Anthony SW Sta**	**8.64**	**138**	Pn		**Pn**	**21 12 12.8**	**-1.9**
BMO	**Blue Mountains**	**8.70**	**281**	Pn		**Pn**	**21 12 16.6**	**+1.1**
CCUT	**Cedar City**	**8.79**	**227**	Pn		**Pn**	**21 12 16.6**	**-0.3**
U32A	**Winter Ranch,**	**8.86**	**145**	Pn		**Pn**	**21 12 14.9**	**-2.8**
KAN09	**Caldwell North**	**8.87**	**136**	Pn		**Pn**	**21 12 17.6**	**-0.1**
KNB	**Kanab**	**8.93**	**223**	Pn		**Pn**	**21 12 18.2**	**-0.5**
ANMO	**Albuquerque**	**8.93**	**186**	Pn		**Pn**	**21 12 20.3**	**+1.5**
SPMN	**Marine on St.**	**9.00**	**77**	Pn		**Pn**	**21 12 19.6**	**0.0**
KAN13	**South Haven SW**	**9.03**	**136**	Pn		**Pn**	**21 12 21.1**	**+1.1**
ULM	**Lac du Bonnet**	**9.06**	**42**	Pn		**Pn**	**21 12 19.2**	**-1.1**
comp=N,2.2nm,0.3s,baz=227,slow=10,SNR=23								
ULM				Lg	Lg		21 14 46.2	
comp=N,0.8nm,0.3s,baz=143,slow=20,SNR=1.8								
LCMT	**Little Creek M**	**9.14**	**224**	Pn		**Pn**	**21 12 22.2**	**+0.6**
NEW	**Newport**	**9.36**	**302**	Pn		**Pn**	**21 12 23.9**	**-0.6**
comp=N,0.2nm,0.3s,baz=127,slow=9.4,SNR=3.9								
NEW				Lg	Lg		21 14 55.2	
comp=N,0.3nm,0.3s,baz=42,slow=15,SNR=1.9								
WVOR	**Wild Horse Val**	**9.88**	**266**			**Pn**	**21 12 33.0**	**+1.2**
KVN	**Kaiserville**	**10.76**	**248**	Pn		**Pn**	**21 12 44.1**	**+0.3**
FFC	**Flin Flon**	**11.10**	**10**	Pn		**Pn**	**21 12 47.2**	**-1.1**
NV11	**Mina Array Sit**	**11.12**	**245**			**Pn**	**21 12 49.8**	**+1.0**
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn		**Pn**	**21 12 50.6**	**+0.4**
comp=N,0.3nm,0.3s,baz=52,slow=12,SNR=13								
RYN	**Ryan**	**11.26**	**247**	Pn		**Pn**	**21 12 50.5**	**-0.2**
D41A	**Chassel**	**12.16**	**69**			**Pn**	**21 13 02.6**	**-0.1**
YBH	**Yreka Blue Hor**	**12.99**	**267**	Pn		**Pn**	**21 13 18.4**	**+4.1**
comp=N,0.2nm,0.3s,baz=71,slow=7.6,SNR=8.0								
YBH	**Yreka Blue Hor**	**12.99**	**267**			**Pn**	**21 13 17.0**	**+2.7**
TXAR	**Lajitas Array**	**14.53**	**174**	Pn		**Pn**	**21 13 35.3**	**-0.1**
comp=N,0.0nm,0.3s,baz=355,slow=9.1,SNR=1.9								
YKA	**Yellowknife Ar**	**19.47**	**347**	P		**P**	**21 14 35.9**	**-0.6**
comp=N,0.2nm,0.3s,baz=161,slow=13,SNR=10.0								
CMIG	**Matias Romero**	**28.07**	**159**	P		**P**	**21 16 02.5**	**+0.9**
comp=N,1.2nm,0.6s,baz=61,slow=7.1,SNR=2.3								
ILAR	**Eielson Array**	**31.19**	**327**	P		**P**	**21 16 30.4**	**+1.6**
comp=N,0.2nm,0.6s,baz=109,slow=8.2,SNR=4.4								
SEY	**Seymchan**	**57.12**	**328**	P		**P**	**21 19 55.6**	**-0.5**
comp=N,0.5nm,0.5s,baz=80,slow=3.7,SNR=6.0								
ARCES	**ARCESS Array B**	**61.32**	**18**	P		**P**	**21 20 24.2**	**-0.9**
comp=N,11nm,1.1s,baz=328,slow=3.3,SNR=4.6								
FINES	**FINESS Array B**	**67.93**	**23**	P		**P**	**21 21 07.4**	**-1.0**
comp=N,2.5nm,1.0s,baz=344,slow=12,SNR=3.7								
ZALV	**Zalesovo Beam**	**82.21**	**354**	P		**P**	**21 22 30.2**	**-0.7**
comp=N,1.2nm,0.6s,baz=349,slow=6.1,SNR=8.2								
SONM	**Songino Array**	**84.55**	**339**	P		**P**	**21 22 43.0**	**-0.3**
comp=N,0.5nm,0.6s,baz=20,slow=3.7,SNR=6.0								
MKAR	**Makanchi Array**	**89.50**	**355**	P		**P**	**21 23 06.9**	**-0.4**
comp=N,1.1nm,0.6s,baz=12,slow=4.5,SNR=18								

*IDC **19**21:12:28.7±1.2, 0°.65N×27°.15W, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.7/45, mbtmp4.0/8, ML3.9/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/28, Error ellipse: s-maj=49.3km s-min=23.3km az=156.0*
*NEIC **19**21:12:30.2±1.7, 0°.8N±0°.2×27°.2W±0°.1, h10km±2km, mb4.2/4, Error ellipse: s-maj=34.2km s-min=9.0km az=154.0*
ISC 19 21:12:30.2±0.8, **0°.8N**±0°.2×**27°.2W**±0°.1, **h10**km, **n25**, σ1**09/17**, **mb3.9/7**, **MS3.2/6**, **Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.87**	**233**	Op Pn		**Pn**	**21 15 05.9**	**-0.1**
0.9nm,0.3s,baz=48,slow=23,SNR=6.7								
RCBR				Sn		Sn	21 16 55.2	-13
0.2nm,0.3s,baz=231,slow=20,SNR=2.7								
RCBR				LR		LR	21 18 10.8	
comp=Z,143nm,19.9s,baz=137,slow=32								
SACV	**Santiago Islan**	**14.55**	**14**	Pn		**Pn**	**21 15 55.4**	**-1.0**
H10N3	**ASCENSION HYDR**	**15.30**	**124**	T		T	21 31 44.2	
baz=303,slow=74,SNR=69								
H10N2	**ASCENSION HYDR**	**15.31**	**124**	T		T	21 31 45.7	
baz=303,slow=74,SNR=57								
H10N1	**ASCENSION HYDR**	**15.32**	**124**	T		T	21 31 50.9	
baz=303,slow=74,SNR=62								
H10S3	**ASCENSION HYDR**	**15.81**	**128**	T		T	21 32 23.4	
baz=306,slow=74,SNR=48								
H10S2	**ASCENSION HYDR**	**15.83**	**128**	T		T	21 32 26.4	
baz=274,slow=74,SNR=24								
DBIC	**Dimbokro**	**23.07**	**75**	P		**P**	**21 17 35.4**	**-0.8**
3.1nm,0.9s,baz=252,slow=11,SNR=4.5								
DBIC				LR		LR	21 24 11.1	
comp=Z,47nm,21.9s,baz=174,slow=30								
DBIC	**Dimbokro**	**23.07**	**75**	P		**P**	**21 17 35.1**	**-1.1**
BDFB	**Brasilia**	**26.23**	**231**	LR		LR	21 27 13.6	
comp=Z,128nm,18.1s,baz=105,slow=34								
KOWA	**Kowa**	**26.69**	**58**	P		**P**	**21 18 09.6**	**-0.2**
5.8nm,0.8s,baz=243,slow=8.1,SNR=20								
KOWA				LR		LR	21 27 28.1	
comp=Z,57nm,20.4s,baz=199,slow=34								
KOWA	**Kowa**	**26.69**	**58**	P		**P**	**21 18 09.7**	**-0.2**
KOWA				IAmb		IAmb	21 18 10.9	
comp=Z,5.8nm,0.8s								
TOA0	**Torodi Ar. Sit**	**31.17**	**66**	P		**P**	**21 18 49.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**31.17**	**66**	P		**P**	**21 18 49.8**	**+0.1**
comp=Z,2.2nm,0.6s,baz=259,slow=9.5,SNR=12								
TORD	**Torodi Ar. Bea**	**31.17**	**66**	P		**P**	**21 18 49.9**	**+0.1**
TORD				IAmb		IAmb	21 18 51.0	
comp=Z,3.7nm,1.2s								
CPUP	**Villa Florida**	**39.61**	**225**	LR		LR	21 35 45.8	
comp=Z,68nm,20.1s,baz=124,slow=35								
CDVI	**St. Croix**	**40.57**	**297**	P		**P**	**21 20 07.8**	**-2.5**
ICMP	**Isla Caja de M**	**42.19**	**296**	P		**P**	**21 20 25.2**	**+1.6**
GERES	**GERESS Array B**	**59.39**	**30**	P		**P**	**21 22 33.8**	**+0.8**
comp=Z,0.7nm,0.7s,baz=203,slow=5.8,SNR=5.8								
CLL	**Colim**	**60.68**	**28**	*eP*		**P**	**21 22 43.0**	**+1.3**
NOA	**NORSAR Array B**	**66.86**	**19**	LR		LR	21 49 38.6	
comp=Z,7.3nm,18.6s,baz=245,slow=33								
BRTR	**Keskin Array B**	**67.42**	**47**	P		**P**	**21 23 27.2**	**+0.8**
comp=Z,0.9nm,1.0s,baz=224,slow=4.0,SNR=2.2								
AKASG	**Malin Array Be**	**68.79**	**35**	P		**P**	**21 23 35.0**	**+0.5**
comp=Z,0.5nm,0.3s,baz=241,slow=5.9,SNR=5.9								
TXAR	**Lajitas Array**	**77.81**	**300**	P		**P**	**21 24 28.9**	**+0.5**
comp=Z,0.5nm,0.9s,baz=128,slow=8.2,SNR=3.8								
TXAR				LR		LR	21 59 53.2	
comp=Z,17nm,19.5s,baz=0.0,slow=36								
ASAR	**Alice Springs**	**150.80**	**143**	PKPbc		**PKiKP**	**21 32 23.4**	**-1.1**
comp=Z,0.3nm,0.6s,baz=196,slow=1.7,SNR=6.2								

*ISK **19**21:12:55.9, 36°.48N×28°.78E, h5km, ML2.6/14*
*ATH **19**21:12:56.2, 36°.33N×28°.68E, h58km±5km, ML2.2/1, Error ellipse: s-maj=5.1km s-min=1.9km az=124.0*
*DDA **19**21:12:58.3, 36°.55N×28°.71E, h4km±3km, ML2.2*
ISC 19 21:12:56.7±1.0, **36°.51N**±0°.02×**28°.76E**±0°.02, **h19**km±2km, **n38**, σ1**49/67**, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.29**	**64**	Op PG		**Pb**	**21 13 01.9**	**-1.3**
FETY				SG		**Sb**	**21 13 07.7**	**+0.1**
DALY	**Dalyan (Mula)**	**0.32**	**344**	PG		**Pb**	**21 13 03.8**	**0.0**
DALY				SG		**Sb**	**21 13 09.9**	**+1.3**
DALY	**Dalyan (Mula)**	**0.32**	**344**	*i* P		**Pb**	**21 13 03.7**	**-0.1**
DALY				*i* S		**Sg**	**21 13 07.6**	**-0.8**
TURN	**Turunc**	**0.49**	**303**	PG		**Pb**	**21 13 06.9**	**+0.1**
TURN				SG		**Sb**	**21 13 15.6**	**+2.0**
TURN	**Turunc**	**0.49**	**303**	*i* P		**Pb**	**21 13 06.9**	**+0.1**
TURN				*i* S		**Sb**	**21 13 14.0**	**+0.4**
TURN				IAML			21 13 15.0	
comp=N,210nm,0.6s								
ARG	**Arkhangelos**	**0.59**	**240**	P		**Pb**	**21 13 08.1**	**-0.2**
ARG				S		**Sb**	**21 13 17.3**	**+1.1**
ARG				AML	AML		21 13 19.4	
comp=N,387μm,0.3s								
ARG				AML	AML		21 13 20.7	
comp=E,462μm,0.3s								
ARG	**Arkhangelos**	**0.59**	**240**	PG		**Pb**	**21 13 07.9**	**-0.5**
ARG				SG		**Sb**	**21 13 17.6**	**+1.3**
YER	**Yerkesik**	**0.73**	**328**	PG		**Pn**	**21 13 12.1**	**0.0**
YER				SG		**Sn**	**21 13 23.3**	**+0.5**
AKAS	**Kas**	**0.73**	**112**	PG		**Pb**	**21 13 10.3**	**-0.7**
AKAS				SG		**Sn**	**21 13 21.9**	**-1.0**
AKAS	**Kas**	**0.73**	**112**	*i* P		**Pb**	**21 13 10.1**	**-0.9**
AKAS				*i* S		**Sb**	**21 13 18.8**	**-1.9**
KSL	**Kastellorizon**	**0.76**	**118**	P		**Pn**	**21 13 11.6**	**-0.7**
KSL				S		**Sn**	**21 13 24.4**	**+1.2**
CAEL	**Denizli, Camel**	**0.76**	**36**	*i* P		**Pn**	**21 13 13.4**	**+0.9**
CAEL				*i* S		**Sb**	**21 13 21.7**	**+0.4**
CAEL				IAML			21 13 33.0	
comp=N,89nm,0.6s								
MULA	**Mugla, Merkez-**	**0.82**	**335**	*i* P		**Pn**	**21 13 14.2**	**+0.8**
MULA				*i* S		**Sg**	**21 13 21.2**	**-2.7**
MULA				IAML			21 13 38.0	
comp=E,78nm,0.4s								
TAVA	**DENIZLI_Tavas**	**0.96**	**7**	*i* P		**Pn**	**21 13 16.0**	**+0.7**
TAVA				*i* S		**Sn**	**21 13 29.6**	**+1.1**
GOLH	**Golhisar**	**0.97**	**41**	*i* P		**Pn**	**21 13 16.4**	**+1.0**
GOLH				*i* S		**Sb**	**21 13 27.3**	**-0.1**
BDRM	**Kayabasi**	**1.19**	**298**	*i* P		**Pg**	**21 13 20.8**	**+1.0**
BDRM				*i* S		**Sb**	**21 13 33.7**	**-0.1**
BDRM				IAML			21 13 42.0	
comp=E,52nm,0.6s								
NIS1	**Nisyros Isl.**	**1.28**	**275**	P		**Pn**	**21 13 18.6**	**-0.9**
NIS1	**Nisyros Isl.**	**1.28**	**275**	PN		**Pg**	**21 13 21.8**	**+0.3**
NIS1				SN		**Sg**	**21 13 40.5**	**+2.3**
AKUM	**Antalya-Kumluc**	**1.29**	**98**	*i* P		**Pg**	**21 13 22.8**	**+1.2**
AKUM				*i* S		**Sn**	**21 13 39.8**	**+3.4**
AKUM				IAML			21 13 52.0	
comp=N,33nm,0.6s								
AKUM				IAML			21 13 56.0	
comp=E,36nm,0.7s								
BODT	**Bodrum**	**1.29**	**296**	PN		**Pg**	**21 13 22.1**	**+0.4**
AYDN	**Tasoluk**	**1.35**	**329**	*i* P		**Pg**	**21 13 23.6**	**+0.8**
AYDN				*i* S		**Sb**	**21 13 35.8**	**-2.5**
AYDN				IAML			21 13 45.0	
comp=E,32nm,0.6s								
AYDN				IAML			21 13 46.0	
comp=N,34nm,0.6s								
KORT	**Korkueli**	**1.37**	**69**	PN		**Pg**	**21 13 23.7**	**+0.6**
KORT				SN		**Sg**	**21 13 43.6**	**+2.6**
BRDR	**BURDUR-Merkez**	**1.57**	**41**	*i* P		**Pg**	**21 13 27.1**	**0.0**
BRDR				*i* S		**Sg**	**21 13 45.5**	**-2.1**
BRDR				IAML			21 13 55.0	
comp=N,32nm,0.5s								
BRDR				IAML			21 13 56.0	
comp=E,27nm,0.6s								
AYDB	**Zeytinkoy-Aydi**	**1.59**	**334**	PN		**Pg**	**21 13 27.2**	**-0.3**
AYDB				SN		**Sg**	**21 13 49.5**	**+1.3**
KARP	**Karpathos**	**1.61**	**234**	P		**Pn**	**21 13 23.8**	**-0.4**
KARP	**Karpathos**	**1.61**	**234**	PN		**Pg**	**21 13 26.7**	**-1.2**
GCAM	**G?zelcaml?**	**1.70**	**315**	PN		**Pg**	**21 13 28.7**	**-0.8**
GCAM				SN		**Sg**	**21 13 52.2**	**+0.5**
GCAM	**G?zelcaml?**	**1.70**	**315**	*i* P		**Pg**	**21 13 29.1**	**-0.5**
GCAM				*i* S		**Sn**	**21 13 44.3**	**-2.3**
GCAM				IAML			21 13 55.0	
comp=N,57nm,0.8s								
GCAM				IAML			21 13 58.0	
comp=E,44nm,1.2s								
KHAL	**Karahalli**	**1.94**	**17**	*i* P		**Pb**	**21 13 31.3**	**-0.3**
KHAL				*i* S		**Sn**	**21 13 52.6**	**-0.1**
SMG	**Samos**	**1.95**	**308**	P		**Pb**	**21 13 31.4**	**-0.2**
SMG				S		**Sg**	**21 13 59.6**	**+0.1**
DGB	**zmir**	**2.15**	**316**	*i* P		**Pb**	**21 13 35.0**	**0.0**
DGB				*i* S		**Sn**	**21 13 56.0**	**-1.5**
DGB				IAML			21 14 05.0	
comp=N,19nm,0.4s								
DGB				IAML			21 14 05.0	
comp=E,26nm,0.2s								
USAK	**Uak-Merkez**	**2.21**	**5**	*i* P		**Pb**	**21 13 35.8**	**-0.3**
USAK				*i* S		**Sn**	**21 13 54.9**	**-4.3**
USAK				IAML			21 14 03.0	
comp=N,22nm,2.7s								
BLCB	**Balcova**	**2.32**	**324**	PN		**Pb**	**21 13 37.4**	**-0.5**
ZKR	**Zakros**	**2.49**	**237**	P		**Pb**	**21 13 38.6**	**-2.3**
URLA	**Izmir**	**2.53**	**318**	PN		**Pb**	**21 13 40.4**	**-1.1**
NPS	**Neapolis**	**2.84**	**245**	P		**Pb**	**21 13 44.4**	**-2.5**
LAST	**Lasithi**	**2.99**	**244**	P		**Pb**	**21 13 46.4**	**-3.0**
LAST		

ZALV	**Zalesovo Beam**	**33.78**	**40**	P	**P**	**21 36 35.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=252,slow=12,SNR=2.8						
TORD	**Torodi Ar. Bea**	**46.26**	**256**	P	**P**	**21 38 17.9**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=60,slow=6.8,SNR=2.7						
WRA	**Warramunga Arr**	**97.74**	**109**	LR	LR	22 33 40.1	
	comp=Z,12nm,20.0s,baz=65,slow=39						

MOS ***19*** *21:32:22.8±1.2,51.99N×178.36E,h121km,mb4.3/8, Error ellipse: s-maj=11.5km s-min=8.6km az=87.5*
NEIC ***19*** *21:32:22.8±1.6,51.8N±0.1×178.37E±0.09,h114km±6km, Error ellipse: s-maj=19.8km s-min=7.2km az=193.0*
AEIC ***19*** *21:32:23±1.5,51.8N±0.2×178.37E±0.10,h110km±6km, ML3.8,mb4.2/59(NEIC), Error ellipse: s-maj=24.0km s-min=8.7km az=184.0*
IDC ***19*** *21:32:24.0±1.7,52.00N×178.42E,h120km±13km, mb3.7/26,mb1 3.8/29,mb1mx3.7/45,mbtmp4.1/29,MS2.8/7, Ms1 2.8/7,ms1mx2.6/40, Error ellipse: s-maj=15.1km s-min=9.6km az=163.0*

ISC 19 21:32:22.8±0.5,51.87N±0.08×178.43E±0.05,h113km, n177,σ1§17/174,mb4.1/58,4C-1D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.10**	**32**		**Pn**	**21 32 38.2**	**-0.2**
LSNW	**Little Sitkin**	**0.12**	**27**		**Pn**	**21 32 38.0**	**-0.4**
LSPA	**Little Sitkin**	**0.13**	**44**		**Pn**	**21 32 38.3**	**-0.1**
CESW	**Semis' Southwe**	**0.70**	**87**		**Pn**	**21 32 41.4**	**-0.1**
CEAP	**Semis' Anvil P**	**0.72**	**79**		**Pn**	**21 32 41.9**	**+0.3**
AMKA	**Amchitka**	**0.73**	**132**		**Pn**	**21 32 42.9**	**+1.2**
CERB	**Semis' Cerberu**	**0.75**	**84**		**Pn**	**21 32 42.0**	**+0.2**
CERAA	**Semis' Rag'd T**	**0.78**	**86**		**Pn**	**21 32 42.2**	**0.0**
GALAA	**Gareloi Lava P**	**1.74**	**92**		**Pn**	**21 32 53.0**	**+0.3**
TASE	**Tanaga Southea**	**2.19**	**89**		**Pn**	**21 32 58.5**	**+0.1**
TAFP	**Tanaga Falls P**	**2.22**	**88**		**Pn**	**21 32 58.8**	**+0.1**
KIMD	**Kanaga Island**	**2.69**	**91**		**Pn**	**21 33 04.7**	**-0.1**
KICM	**Kanaga Island**	**2.71**	**87**		**Pn**	**21 33 05.5**	**+0.5**
KIKV	**Kanaga Island**	**2.73**	**88**		**Pn**	**21 33 05.3**	**+0.1**
KINC	**Kanaga Island**	**2.75**	**87**		**Pn**	**21 33 05.7**	**+0.1**
KIRH	**Kanaga Island**	**2.77**	**88**		**Pn**	**21 33 06.0**	**+0.1**
SMY	**Shemya**	**2.79**	**290**	P	**Pn**	**21 33 05.2**	**-0.9**
SMY	**Shemya**	**2.79**	**290**		**Pn**	**21 33 05.2**	**-0.9**
ADK	**Adak**	**3.03**	**88**	P	**Pn**	**21 33 08.7**	**-0.5**
ADK	**Adak**	**3.03**	**88**	Pn	**Pn**	**21 33 08.7**	**-0.5**
ADAG	**Mount Adagdak**	**3.08**	**86**		**Pn**	**21 33 09.8**	**0.0**
GSTD	**Great Sitkin T**	**3.36**	**85**		**Pn**	**21 33 13.4**	**-0.3**
GSTR	**Great Sitkin T**	**3.42**	**84**	Pn	**Pn**	**21 33 14.7**	**+0.3**
GSMY	**Great Sitkin M**	**3.42**	**85**		**Pn**	**21 33 14.3**	**-0.1**
ATKA	**Atka Island**	**4.57**	**83**		**Pn**	**21 33 29.9**	**+0.2**
KOKL	**Mount Kliuchef**	**4.57**	**81**		**Pn**	**21 33 30.0**	**+0.1**
KOFP	**Korovin Flat P**	**4.63**	**82**		**Pn**	**21 33 31.6**	**+0.9**
NIKH	**Nikolski High**	**7.86**	**77**		**Pn**	**21 34 14.8**	**+0.6**
OKWE	**Okmok W'ng Wal**	**8.26**	**74**		**Pn**	**21 34 21.7**	**+1.9**
SPIA	**Saint Paul Isl**	**8.46**	**47**		**Pn**	**21 34 23.7**	**+1.3**
MAPS	**Pakushin South**	**9.07**	**72**		**Pn**	**21 34 31.9**	**+1.3**
MGOD	**Makushin Gods**	**9.11**	**72**		**Pn**	**21 34 32.7**	**+1.5**
MREP	**Makushin Rep't**	**9.19**	**72**		**Pn**	**21 34 33.5**	**+1.3**
MNAT	**Makushin Natee**	**9.23**	**72**		**Pn**	**21 34 34.6**	**+1.8**
LVA	**Lava Point**	**9.64**	**70**		**Pn**	**21 34 40.6**	**+2.2**
AKGG	**Akutan Green G**	**9.67**	**70**		**Pn**	**21 34 40.7**	**+1.9**
AKBBA	**Akutan Broad B**	**9.70**	**71**		**Pn**	**21 34 41.5**	**+2.4**
AKUT	**Akutan**	**9.79**	**70**	Pn	**Pn**	**21 34 43.0**	**+2.6**
FALS	**False Pass**	**11.25**	**67**	Pn	**Pn**	**21 35 01.2**	**+1.1**
PETK	**Petropavlovsk-**	**12.69**	**284**	P	**Pn**	**21 35 19.1**	**0.0**
	baz=102,slow=17,SNR=6.1						
PETK				LR	LR	21 39 48.2	
	comp=Z,26nm,20.8s,baz=65,slow=35						
SDPT	**Sand Point**	**12.99**	**66**	Pn	**Pn**	**21 35 24.1**	**+1.2**
CHGN	**Chignik**	**14.27**	**63**	Pn	**P**	**21 35 40.6**	**-2.6**
SII	**Sitkinak Islan**	**16.63**	**63**	Pn	**Pn**	**21 36 06.8**	**-2.1**
SVW2	**Sparrevohn**	**16.96**	**47**		**P**	**21 36 13.9**	**+0.9**
OHAK	**Old Harbor**	**17.19**	**61**	P	**P**	**21 36 13.2**	**-2.3**
BILL	**Bilibino**	**17.27**	**345**	*i* P	**Pn**	**21 36 17.3**	**+0.8**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BILL	**Bilibino**	**17.27**	**345**	P	**Pn**	**21 36 18.1**	**+1.6**
BILL				IAmb	IAmb	21 36 18.7	
	comp=Z,12nm,0.8s						
KDAK	**Kodiak Island**	**17.63**	**59**	P	**P**	**21 36 18.4**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=192,slow=2.4,SNR=23						
KDAK	**Kodiak Island**	**17.63**	**59**	P	**Pn**	**21 36 19.7**	**-1.3**
KDAK				pmax	pmax		
	comp=Z,12nm,1.0s						
KDAK	**Kodiak Island**	**17.63**	**59**	P	**Pn**	**21 36 19.7**	**-1.3**
KDAK				IAmb	IAmb	21 36 36.3	
	comp=Z,12nm,1.0s						
SEY	**Seymchan**	**17.73**	**319**	P	**Pn**	**21 36 21.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=128,slow=15,SNR=3.6						
SEY				ScP	**ScP**	**21 44 17.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=168,slow=5.8,SNR=5.2						
RDOG	**Red Dog Mine**	**18.59**	**22**	P	**Pn**	**21 36 31.5**	**-0.8**
RDOG				IAmb	IAmb	21 36 37.3	
	comp=Z,8.7nm,0.8s						
CNPM	**China Poot**	**18.60**	**54**	P	**Pn**	**21 36 30.9**	**-1.7**
CNPM				IAmb	IAmb	21 36 33.4	
	comp=Z,16nm,0.8s						
BRLK	**Bradley Lake**	**18.82**	**53**	P	**P**	**21 36 32.9**	**-0.5**
SKT	**Skwentna**	**19.08**	**46**	P	**Pn**	**21 36 38.3**	**0.0**
PPLA	**Purkeypile**	**19.11**	**43**	P	**Pn**	**21 36 38.6**	**-0.1**
PPLA				IAmb	IAmb	21 36 57.2	
	comp=Z,11nm,1.2s						
SUA	**Susitna One**	**19.29**	**48**	P	**Pn**	**21 36 40.4**	**-0.4**
SUA				IAmb	IAmb	21 36 43.7	
	comp=Z,15nm,0.9s						
SEW	**Seward**	**19.59**	**53**	P	**P**	**21 36 41.8**	**0.0**
RC01	**Rabbit Creek A**	**19.66**	**50**	P	**Pn**	**21 36 44.2**	**-0.9**
RC01				IAmb	IAmb	21 36 49.6	
	comp=Z,10nm,1.0s						
KTH	**Kantishna Hill**	**19.89**	**42**	P	**Pn**	**21 36 47.5**	**-0.1**
IMAR	**Indian Mountai**	**19.90**	**34**	P	**Pn**	**21 36 46.3**	**-1.4**
TRF	**Thorofare Moun**	**20.11**	**43**	P	Pn	21 36 49.4	-1.0
TRF				IAmb	IAmb	21 36 50.7	
	comp=Z,9.6nm,1.2s						
GHO	**Glory Hole Cre**	**20.21**	**48**	P	Pn	21 36 49.8	-1.7
GHO				IAmb	IAmb	21 37 04.1	
	comp=Z,11nm,0.9s						
PWL	**Port Wells**	**20.28**	**51**	P	**P**	**21 36 48.6**	**-0.6**
KNK	**Knik Glacier**	**20.34**	**49**	P	Pn	21 36 50.4	-2.6
SML	**Sawmill**	**20.49**	**48**	P	Pn	21 36 52.4	-2.3
SML				IAmb	IAmb	21 37 06.7	
	comp=Z,7.9nm,0.8s						
MLY	**Manley**	**20.55**	**38**	P	Pn	21 36 53.2	-2.1
RND	**Reindeer**	**20.71**	**43**	P	**P**	**21 36 53.6**	**-0.2**
RND				pmax	pmax		
	comp=Z,4.0nm,0.9s						
RND	**Reindeer**	**20.71**	**43**	P	**P**	**21 36 53.6**	**-0.2**
GLI	**Glacier Island**	**20.88**	**51**	P	**P**	**21 36 55.0**	**-0.6**
SCM	**Sheep Creek Mo**	**20.96**	**48**	P	Pn	21 36 57.4	-2.8
SCM				pmax	pmax		
	comp=Z,14nm,0.8s						
SCM	**Sheep Creek Mo**	**20.96**	**48**	P	Pn	21 36 57.4	-2.8
SCM				IAmb	IAmb	21 36 58.9	
	comp=Z,14nm,0.8s						
I23K	**Minto, Yukon-K**	**21.13**	**39**	P	**P**	**21 37 01.0**	**+2.8**
FID	**Port Fidalgo**	**21.16**	**51**	P	**P**	**21 36 56.9**	**-1.7**
EYAK	**Cordova Ski Ar**	**21.48**	**52**	P	**P**	**21 37 04.1**	**+2.1**
MDM	**Murphy Dome**	**21.50**	**40**	P	**P**	**21 37 03.4**	**+1.2**
KLU	**Klutina**	**21.55**	**50**	P	**P**	**21 37 04.1**	**+1.3**
KLU				IAmb	IAmb	21 37 07.9	
	comp=Z,9.2nm,1.2s						
M24K	**Tolsona, Glenn**	**21.55**	**48**	P	**P**	**21 37 05.1**	**+2.3**
M24K				IAmb	IAmb	21 37 19.0	
	comp=Z,9.0nm,0.8s						
CCB	**Clear Creek Bu**	**21.56**	**41**	P	**P**	**21 37 04.2**	**+1.4**
COLA	**College**	**21.62**	**40**	*i* P	**P**	**21 37 03.9**	**+0.5**
COLA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
IL31		**21.97**	**41**	P	**P**	**21 37 07.7**	**+0.6**
ILAR	**Eielson Array**	**21.97**	**41**	P	**P**	**21 37 07.0**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=248,slow=8.2,SNR=14						
ILAR				PcP	**PcP**	**21 40 59.6**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=274,slow=2.9,SNR=4.9						
ILAR				ScP	**ScP**	**21 44 26.5**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=262,slow=3.0,SNR=5.9						
RAGM	**Ragged Mountai**	**21.99**	**53**	P	**P**	**21 37 08.5**	**+1.0**
PAX	**Paxson**	**22.06**	**46**	P	**P**	**21 37 08.8**	**+0.6**
PAX				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PAX	**Paxson**	**22.06**	**46**	P	**P**	**21 37 08.8**	**+0.6**
BMRM	**Bremner River**	**22.10**	**51**	P	**P**	**21 37 08.1**	**-0.5**
BMRM				IAmb	IAmb	21 37 09.0	
	comp=Z,15nm,1.0s						
N25K	**Chitina, Valde**	**22.20**	**50**	P	**P**	**21 37 10.2**	**+0.6**
N25K				IAmb	IAmb	21 37 24.4	
	comp=Z,9.3nm,1.1s						
GLB	**Gilahina Butte**	**22.54**	**50**	P	**P**	**21 37 13.3**	**+0.2**
GLB				IAmb	IAmb	21 37 16.3	
	comp=Z,7.4nm,0.6s						
TOLK	**Toolik Lake Re**	**22.68**	**30**	P	**P**	**21 37 15.1**	**+0.6**
TOLK				IAmb	IAmb	21 37 16.6	
	comp=Z,5.2nm,0.8s						
VRDI	**Verde Repeater**	**22.69**	**51**	P	**P**	**21 37 14.3**	**-0.4**
PRP	**Porcupine Dome**	**22.77**	**39**	P	**P**	**21 37 15.8**	**+0.4**
CRQM	**Cirque**	**22.79**	**52**	P	**P**	**21 37 15.5**	**-0.2**
CRQM				IAmb	IAmb	21 37 18.0	
	comp=Z,18nm,1.0s						
DOT	**Dot Lake**	**22.84**	**44**	P	**P**	**21 37 17.1**	**+1.1**
DOT				IAmb	IAmb	21 37 19.4	
	comp=Z,5.2nm,1.0s						
MCARA	**McCarthy VSAT**	**22.91**	**50**	P	**P**	**21 37 17.4**	**+0.8**
MCARA				IAmb	IAmb	21 37 18.0	
	comp=Z,12nm,0.9s						
TGL	**Tana Glacier**	**22.94**	**52**	P	**P**	**21 37 17.8**	**+0.7**
TGL				IAmb	IAmb	21 37 19.1	
	comp=Z,8.3nm,0.8s						
YAH	**Yahtse**	**23.44**	**53**	P	**P**	**21 37 22.8**	**+0.9**
GRNC	**Granite Creek**	**23.46**	**52**	P	**P**	**21 37 22.9**	**+0.8**
BARN	**Barnard Glacie**	**23.53**	**51**	P	**P**	**21 37 24.0**	**+1.3**
BARN				IAmb	IAmb	21 37 25.1	
	comp=Z,10nm,0.6s						
CTGM	**Chitina Glacie**	**23.68**	**52**	P	**P**	**21 37 25.2**	**+1.2**
CTGM				IAmb	IAmb	21 37 26.3	
	comp=Z,9.5nm,0.6s						
L27K	**Beaver Creek,**	**23.71**	**46**	P	**P**	**21 37 25.8**	**+1.7**
L27K				IAmb	IAmb	21 37 26.5	
	comp=Z,3.9nm,0.7s						
BCAR	**Beaver Creek A**	**23.73**	**46**	P	**P**	**21 37 25.7**	**+1.4**
TABL	**Table Mountain**	**23.75**	**53**	P	**P**	**21 37 25.7**	**+1.1**
K27K	**Chicken**	**23.78**	**44**	P	**P**	**21 37 25.8**	**+1.1**
BMAR	**Burnt Mountain**	**23.81**	**35**	P	**P**	**21 37 25.3**	**+0.4**
LOGN	**Logan Glacier**	**23.84**	**52**	P	**P**	**21 37 26.2**	**+0.9**
LOGN				IAmb	IAmb	21 37 27.7	
	comp=Z,10nm,0.7s						
PCA	**Pinnacle**	**24.17**	**54**	P	**P**	**21 37 28.4**	**+0.1**
PCA				IAmb	IAmb	21 37 46.1	
	comp=Z,12nm,0.9s						
EGAK	**Eagle**	**24.33**	**42**	P	**P**	**21 37 30.4**	**+0.9**
EGAK				IAmb	IAmb	21 37 32.2	
	comp=Z,5.6nm,1.0s						
BCPM	**Bancas Point**	**24.48**	**54**	P	**P**	**21 37 31.0**	**0.0**
DAWY	**Dawson**	**24.95**	**44**	P	**P**	**21 37 39.9**	**+2.6**
ASAJ	**Asahikawa**	**25.00**	**266**	P	**P**	**21 37 37.1**	**+1.3**
	comp=Z,3.9nm,0.7s,baz=14,slow=4.2,SNR=2.3						
INK	**Inuvik**	**28.06**	**36**	P	**P**	**21 38 04.2**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=331,slow=16,SNR=6.9						
INK	**Inuvik**	**28.06**	**36**	IAmb	IAmb	21 38 12.9	
	comp=Z,1.3nm,1.1s						
TIXI	**Tiksi**	**29.36**	**331**	P	**P**	**21 38 14.6**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=12,slow=0.8,SNR=7.9						
TIXI				PcP	**PcP**	**21 41 17.0**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=152,slow=4.4,SNR=3.8						
TIXI				ScP	**ScP**	**21 44 47.3**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=102,slow=1.2,SNR=7.5						
KLR	**Kul'dur**	**29.39**	**284**	P	**P**	**21 38 14.9**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=63,slow=8.7,SNR=23						
KLR				LR	LR	21 49 11.5	
	comp=Z,20nm,21.5s,baz=62,slow=34						
USRK	**Ussuriysk Ar.**	**31.53**	**275**	P	**P**	**21 38 33.8**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=65,slow=9.1,SNR=6.0						
USRK				PcP	**PcP**	**21 41 24.8**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=326,slow=2.3,SNR=6.7						
MJAR	**Matsushiro Arr**	**32.18**	**258**	LR	LR	21 52 26.3	
	comp=Z,7.5nm,20.3s,baz=260,slow=37						
H11N2	**WAKE ISLAND Hy**	**33.32**	**200**	T	T	22 14 11.0	
	baz=11,slow=76,SNR=46						
H11N3	**WAKE ISLAND Hy**	**33.33**	**200**	T	T	22 14 15.8	
	baz=11,slow=76,SNR=41						
H11N1	**WAKE ISLAND Hy**	**33.34**	**200**	T	T	22 14 15.0	
	baz=11,slow=76,SNR=50						
H11S1	**WAKE ISLAND Hy**	**34.55**	**200**	T	T	22 16 04.4	
	baz=10,slow=76,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**34.56**	**200**	T	T	22 16 05.6	
	baz=10,slow=76,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**34.56**	**200**	T	T	22 16 02.0	
	baz=10,slow=76,SNR=4.1						
YKA	**Yellowknife Ar**	**36.15**	**46**	P	**P**	**21 39 14.3**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=282,slow=7.7,SNR=7.1						
YKA				ScP	**ScP**	**21 45 09.6**	**-2.8**
	comp=Z,0.4nm,0.8s,baz=268,slow=2.5,SNR=5.0						
YKA				LR	LR	21 54 56.7	
	comp=Z,30nm,19.1s,baz=0.0,slow=38						
KSRS	**Korea Array**	**37.91**	**268**	P	**P**	**21 39 30.2**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=57,slow=8.9,SNR=5.2						
KSRS				LR	LR	21 53 34.5	
	comp=Z,5.2nm,20.3s,baz=145,slow=34						
RES	**Resolute Bay**	**40.01**	**24**	P	**P**	**21 39 46.0**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=227,slow=1.8,SNR=5.3						
ULN	**Ulaanbaatar**	**44.49**	**294**	P	**P**	**21 40 23.1**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**44.49**	**294**	P	**P**	**21 40 23.1**	**+0.3**
ULN				IAmb	IAmb	21 40 23.2	
	comp=Z,2.3nm,0.7s						
SONM	**Songino Array**	**44.88**	**295**	P	**P**	**21 40 26.4**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=65,slow=7.7,SNR=16						
SONM				PcP	**PcP**	**21 42 05.5**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=61,slow=3.0,SNR=7.9						
SONM				ScP	**ScP**	**21 45 47.7**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=37,slow=4.1,SNR=5.0						
NVAR	**Mina Array Bea**	**45.20**	**81**	P	**P**	**21 40 29.9**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=302,slow=7.4,SNR=5.4						
NVAR				PcP	**PcP**	**21 42 08.1**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=296,slow=2.9,SNR=2.6						
NVAR				LR	LR	21 57 40.7	
	comp=Z,19nm,19.4s,baz=318,slow=34						
PDAR	**Pinedale Array**	**47.80**	**71**	P	**P**	**21 40 48.1**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=303,slow=3.8,SNR=9.6						
SPITS	**Spitsbergen Ar**	**49.76**	**355**	P	**P**	**21 41 02.0**	**-1.0**
	comp=Z,4.8nm,0.7s,baz=108,slow=4.7,SNR=17						
CBX	**Cerro Bola**	**50.21**	**86**	P	**P**	**21 41 08.4**	**+1.3**
CBX				IAmb	IAmb	21 41 24.0	
	comp=Z,3.4nm,1.1s						
ZALV	**Zalesovo Beam**	**52.43**	**312**	P	**P**	**21 41 24.6**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=67,slow=4.8,SNR=2.4						
ZALV				PcP	**PcP**	**21 42 32.9**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=26,slow=3.9,SNR=12						
SUMG	**Summit**	**53.23**	**13**	*i* P	**P**	**21 41 27.9**	**-1.4**
SUMG	**Summit**	**53.23**	**13**	*i* P	**P**	**21 41 27.9**	**-1.4**
SUMG	**Summit**	**53.23**	**13**	*i* P	**P**	**21 41 28.0**	**-1.4**
ARCES	**ARCESS Array B**	**57.30**	**349**	P	**P**	**21 41 56.3**	**-1.8**
	comp=Z,6.0nm,1.0s,baz=22,slow=9.9,SNR=1.9						
KURBB	**Kurchatov Arra**	**57.53**	**312**	PcP	**PcP**	**21 42 52.0**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=42,slow=4.5,SNR=7.5						
MKAR	**Makanchi Array**	**58.37**	**307**	P	**P**	**21 42 05.1**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=49,slow=5.8,SNR=31						
BRVK	**Borovoye**	**59.41**	**318**	*eP*	**P**	**21 42 12.7**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
TXAR	**Lajitas Array**	**60.27**	**79**	P	**P**	**21 42 19.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=296,slow=4.9,SNR=10.0						
ARU	**Arti**	**61.26**	**327**	*c iP*	**P**	**21 42 25.1**	**-0.4**
ARU						21 44 42.1	
ARU				S	**S**	**21 50 41.7**	**+5.4**
ARU				SS	**SS**	**21 54 39.5**	**+2.1**
ARU				pmax	pmax		
	comp=Z,11nm,0.7s						
FINES	**FINESS Array B**	**64.91**	**346**	P	**P**	**21 42 47.7**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=26,slow=6.8,SNR=9.1						
FINES				LR	LR	22 14 28.5	
	comp=Z,15nm,18.4s,baz=264,slow=39						
FINES	**FINESS Array B**	**64.91**	**346**	*i* P	P	21 42 40.9	-8.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**65.21**	**308**	*eP*	**P**	**21 42 52.4**	**+0.4**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KKAR	**Karatay Array**	**66.77**	**311**	P	**P**	**21 43 01.8**	**0.0**
KKAR	**Karatay Array**	**66.77**	**311**	P	**P**	**21 43 01.8**	**0.0**
NB2	**NORSAR Subarra**	**66.98**	**353**	P	**P**	**21 43 01.7**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=9.2,slow=6.5						
NOA	**NORSAR Array B**	**66.98**	**353**	P	**P**	**21 43 01.8**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=2.9,slow=5.5,SNR=3.9						
CMAR	**Chiang Mai Arr**	**69.25**	**274**	P	**P**	**21 43 17.6**	**0.0**
	comp=Z,1.3nm,0.7s,baz=22,slow=6.9,SNR=12						
CMAR	**Chiang Mai Arr**	**69.25**	**274**	*eP*	**P**	**21 43 18.1**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TAPN	**Taplejung**	**69.41**	**288**	*eP*	**P**	**21 43 18.9**	**0.0**
	comp=Z,20nm,0.8s						
ODAN	**Odare**	**69.97**	**288**	*eP*	**P**	**21 43 22.4**	**+0.2**
	comp=Z,9.1nm,0.8s						
GUN	**Gumba**	**70.07**	**290**	*eP*	**P**	**21 43 23.5**	**+0.5**
	comp=Z,34nm,0.6s						
RAMN	**Ramite**	**70.37**	**289**	*eP*	**P**	**21 43 24.9**	**+0.2**
	comp=Z,28nm,0.7s						
KKN	**Kakani**	**70.51**	**290**	*eP*	**P**	**21 43 26.0**	**+0.5**
	comp=Z,24nm,0.6s						
PKI	**Pulchoki**	**70.60**	**290**	*eP*	**P**	**21 43 26.3**	**+0.1**
	comp=Z,21nm,0.6s						
PKIN	**Phulchoki**	**70.60**	**290**	*eP*	**P**	**21 43 26.2**	**+0.1**
	comp=Z,19nm,0.6s						
GKN	**Gorkha**	**70.72**	**291**	*eP*	**P**	**21 43 26.8**	**+0.1**
	comp=Z,23nm,0.7s						
AKASG	**Malin Array Be**	**74.53**	**340**	P	**P**	**21 43 48.1**	**-0.5**
	comp=Z,0.4nm,0.2s,baz=22,slow=6.3,SNR=5.8						
KBZ	**Khabaz**	**77.31**	**329**	P	**P**	**21 44 03.9**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=152,slow=4.0,SNR=8.3						
KBZ	**Khabaz**	**77.31**	**329**	*eP*	**P**	**21 44 04.6**	**0.0**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BMR	**Baia Mare**	**78.54**	**343**	⇑P	**P**	**21 44 14.7**	**+3.4**
DRGR		**79.53**	**343**	⇑P	**P**	**21 44 17.2**	**+0.4**
VOIR		**80.40**	**341**	⇓P	**P**	**21 44 21.6**	**+0.1**
GZR	**Gura Zlata**	**80.87**	**343**	⇑P	**P**	**21 44 23.9**	**-0.2**
WRAB	**Tennant Creek**	**81.19**	**221**	*i* P	**P**	**21 44 25.1**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**81.20**	**221**	P	**P**	**21 44 26.1**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=31,slow=6.3,SNR=23						
BRTR	**Keskin Array B**	**83.76**	**333**	P	**P**	**21 44 39.1**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=27,slow=3.1,SNR=5.6						
ASAR	**Alice Springs**	**84.71**	**220**	P	**P**	**21 44 44.6**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=24,slow=4.9,SNR=20						
STKA	**Stephens Creek**	**89.43**	**211**	P	**P**	**21 45 08.0**	**+1.5**
	comp=Z,3.1nm,0.6s,baz=356,slow=4.3,SNR=7.8						
STKA	**Stephens Creek**	**89.43**	**211**	P	**P**	**21 45 08.0**	**+1.5**
TORD	**Torodi Ar. Bea**	**115.20**	**356**	PKP	**PKiKP**	**21 50 49.4**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=350,slow=2.6,SNR=6.3						
DBIC	**Dimbokro**	**121.63**	**4**	PKP	**PKPdf**	**21 51 02.0**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=81,slow=4.5,SNR=4.3						
DBIC	**Dimbokro**	**121.63**	**4**	PKIKP	**PKPdf**	**21 51 02.0**	**-1.4**
MAW	**Mawson**	**145.81**	**218**	PKPbc	**PKPab**	**21 51 47.3**	**-0.6**
	comp=Z,4.9nm,0.8s,baz=90,slow=6.1,SNR=4.1						
BOSA	**Boshof**	**149.35**	**309**	PKPbc	**PKiKP**	**21 51 58.6**	**-0.8**
	comp=Z,4.9nm,0.6s,baz=32,slow=2.1,SNR=21						

DJA ***19*** *21:55:57.0±1.4,6.7N±8.1×11.9E±.7,h20km±16km,M4.4/7, mb4.6/6,mB4.9/3,MLv4.4/7,Mw(mB)4.2/3*
IDC ***19*** *21:56:00.0±0.9,5.48N×118.38E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.6/39,mbtmp3.8/8,ML3.7/1,MS2.9/3, Ms1 2.9/3,ms1mx2.5/40,Error ellipse: s-maj=69.1km s-min=15.9km az=62.0*
NEIC ***19*** *21:56:06.7±2.3,5.54N±0.10×118.6E±0.1,h51km±7km, mb4.1/

comp=N,8.0nm,2.9s
WAKR Walker 2.34 192 Pn 22 55 30.1 -0.6
WAKR IAML 22 55 59.6
comp=E,10nm,4.9s
WAKR IAML 22 56 08.4
comp=N,10nm,4.7s
NVAR Mina Array Bea 2.40 170 Pn Pn 22 55 31.2 -0.3
comp=N,1.5nm,0.3s,baz=350,slow=13,SNR=21
NVAR Pg Pg 22 55 37.6 +0.9
comp=N,1.7nm,0.3s,baz=29,slow=29,SNR=13
NVAR Lg Lg 22 56 08.5
comp=N,1.0nm,0.3s,baz=273,slow=30,SNR=2.0
NVAR Mina Array Bea 2.40 170 Pn 22 55 31.0 -0.5
ORV Oroville 2.40 240 Pn 22 55 31.7 +0.3
NV11 Mina Array Sit 2.41 168 Pn 22 55 31.8 +0.1
NV11 IAML 22 55 52.8
comp=N,7.5nm,3.9s
NV11 IAML 22 56 21.4
comp=E,8.9nm,2.1s
K05A Summer Lake 2.48 322 Pn 22 55 34.1 +1.5
AFDM Forest Hills D 2.48 223 Pn Pn 22 55 32.2 -0.4
AFDM IAML 22 56 30.4
comp=E,6.2nm,3.1s
AFDM IAML 22 56 44.7
comp=N,5.8nm,4.7s
LHV Little Huntoon 2.55 175 Pn 22 55 34.0 +0.6
LHV IAML 22 56 46.5
comp=N,12nm,4.9s
J08A Circle Bar Ran 2.57 5 Pn 22 55 34.5 +0.7
J08A IAML 22 56 14.3
comp=E,10nm,4.6s
J08A IAML 22 56 46.2
comp=N,8.2nm,4.5s
ELK Elko 2.71 90 Pn 22 55 36.1 +0.2
ELK IAML 22 56 20.6
comp=N,5.3nm,2.5s
TPH Tonopah 2.98 155 Pn 22 55 40.5 +0.9
TPH Tonopah 2.98 155 IAML 22 56 28.2
comp=N,8.1nm,2.1s
TPH IAML 22 57 27.3
comp=E,7.8nm,4.4s
MFID Camas Ranch 3.43 39 Pn 22 55 46.0 +0.3
R11A Troy Canyon, C 3.49 133 Pn 22 55 45.4 -1.1
R11A IAML 22 56 46.9
comp=N,3.3nm,3.4s
R11A IAML 22 56 56.9
comp=E,4.0nm,4.3s
TCRU Three Creeks R 5.37 112 Pn 22 56 13.8 +1.3
PDAR Pinedale Array 7.19 71 Pn **Pn 22 56 37.0 -0.4**
comp=E,0.1nm,0.3s,baz=164,slow=23,SNR=1.9
INK Inuvik 28.69 349 LR LR 23 12 27.4
comp=E,39nm,18.8s,baz=140,slow=37
ILAR Eielson Array 28.94 335 P **P 23 00 50.6 -0.9**
comp=E,0.1nm,0.5s,baz=130,slow=9.5,SNR=1.1

*RSNC **19** 23:04:57.0±1.2, 7.°85N×72.°95W, h4km±5km, ML3.3, Mw3.4*
*IDC **19** 23:05:02.3±1.5, 7.°89N×72.°81W, h92km±21km, mb2.9/2, mb1 3.4/4, mb1mx3.0/35, mbtmp3.4/4, Error ellipse: s-maj=37.1km s-min=9.2km az=134.0*
ISC 19 23:04:54.2±0.7, 7.°97N±0.°03×72.°82W±0.°03, h10km, n34, σ2$09/61, 5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OCAC	**Ocana**	**0.56**	**298**	*i*	*P*	**Pb**	**23 05 06.0**	**-0.1**
OCAC				*e*	*S*	**Sb**	**23 05 14.5**	**+0.2**
PAMC	**Pamplona, Colo**	**0.64**	**169**	⇓*i*	*P*	**Pg**	**23 05 04.3**	**-2.4**
PAMC				*e*	*S*	**Sg**	**23 05 11.8**	**-3.5**
PAMC				*i*			23 05 13.3	
	comp=Z,2μm,0.2s							
BRRC	**Barranca, Sant**	**1.23**	**226**	⇓*e*	*P*	**Pn**	**23 05 16.2**	**-1.3**
BRRC				*e*	*S*	**Sb**	**23 05 31.9**	**-1.7**
BRRC				*i*			23 05 37.1	
	comp=Z,239nm,0.3s							
BARC	**Barichara**	**1.42**	**195**	⇓*e*	*P*	**Pn**	**23 05 18.4**	**-1.8**
BARC				*e*	*S*	**Sn**	**23 05 36.4**	**-2.7**
BARC				*i*			23 05 37.8	
	comp=Z,338nm,0.2s							
SMLC	**San Martn de**	**1.48**	**304**	⇓*e*	*P*	**Pb**	**23 05 21.8**	**-0.2**
SMLC				*e*	*S*	**Sg**	**23 05 42.1**	**+0.1**
SMLC				*i*			23 05 43.9	
	comp=Z,882nm,0.3s							
TAMC	**Tame, Arauca**	**1.84**	**146**	*e*	*P*	**Pb**	**23 05 28.1**	**+0.2**
TAMC				*e*	*S*	**Sn**	**23 05 51.0**	**+1.7**
TAMC				*i*			23 05 55.3	
	comp=Z,627nm,0.4s							
ZARC	**Zaragoza, Cauc**	**2.07**	**257**	*e*	*P*	**Pn**	**23 05 29.5**	**+0.4**
ZARC				*e*	*S*	**Sn**	**23 05 55.8**	**+0.8**
ZARC				*i*			23 06 00.9	
	comp=Z,248nm,0.8s							
RUSC	**La Rusia**	**2.08**	**187**	*e*	*P*	**Pn**	**23 05 29.9**	**+0.3**
RUSC				*e*	*S*	**Sn**	**23 05 55.8**	**-0.1**
RUSC				*i*			23 05 57.3	
	comp=Z,222nm,0.3s							
PTBC	**PUERTO BERRIO,**	**2.16**	**229**	*e*	*P*	**Pn**	**23 05 29.1**	**-1.2**
PTBC				*e*	*S*	**Sn**	**23 05 58.4**	**+1.3**
PTBC				*i*			23 06 00.4	
	comp=Z,479nm,0.6s							
SDV	**Santo Domingo**	**2.35**	**67**	P		**Pg**	**23 05 38.4**	**-0.8**
	comp=Z,68nm,0.3s,baz=234,slow=15,SNR=209							
SDV				S		**Sg**	**23 06 09.1**	**-0.6**
	comp=Z,132nm,0.3s,baz=340,slow=18,SNR=20							
SDV	**Santo Domingo**	**2.35**	**67**	*e*	*P*	**Pg**	**23 05 38.5**	**-0.7**
SDV				*e*	*S*	**Sg**	**23 06 09.4**	**-0.3**
SDV				*i*			23 06 12.9	
	comp=Z,327nm,0.4s							
CVALL	**Valledupar, Ce**	**2.56**	**350**	*e*	*P*	**Pg**	**23 05 41.4**	**-1.8**
CVALL				*e*	*S*	**Sg**	**23 06 16.4**	**0.0**
CVALL				*i*			23 06 18.9	
	comp=Z,132nm,0.4s							
SPBC	**San Pablo de B**	**2.62**	**208**	*e*	*P*	**Pn**	**23 05 37.1**	**+0.5**
SPBC				*e*	*S*	**Sb**	**23 06 13.5**	**-0.1**
SPBC				*i*			23 06 17.9	
	comp=Z,160nm,0.5s							
UREC	**San Jos de Ur**	**2.69**	**266**	*e*	*P*	**Pn**	**23 05 39.0**	**+1.3**
UREC				*e*	*S*	**Sn**	**23 06 12.0**	**+1.6**
UREC				*i*			23 06 17.9	
	comp=Z,79nm,0.2s							
SJCC	**San Jacinto, C**	**3.01**	**310**	*e*	*P*	**Pb**	**23 05 45.7**	**-2.3**
SJCC				*e*	*S*	**Sb**	**23 06 23.8**	**-1.2**
SJCC				*i*			23 06 27.2	
	comp=Z,61nm,0.4s							
NORC	**Norcasia**	**3.14**	**220**	*e*	*P*	**Pn**	**23 05 44.0**	**+0.2**
NORC				*e*	*S*	**Sn**	**23 06 21.4**	**-0.1**
NORC				*i*			23 06 33.0	
	comp=Z,44nm,0.5s							
HELC	**Santa Helena**	**3.22**	**237**	*e*	*P*	**Pn**	**23 05 46.1**	**+1.0**
HELC				*e*	*S*	**Sb**	**23 06 32.5**	**+1.3**
HELC				*i*			23 06 41.5	
	comp=Z,65nm,0.6s							
ROSC	**El Rosal**	**3.45**	**206**	P		**Pn**	**23 05 52.2**	**+3.9**
	comp=Z,3.8nm,0.3s,baz=194,slow=20,SNR=5.1							
ROSC				S		**Sn**	**23 06 33.8**	**+4.2**
	comp=Z,3.5nm,0.3s,baz=108,slow=21,SNR=1.6							
ROSC	**El Rosal**	**3.45**	**206**	*e*	*S*	**Sb**	**23 06 39.3**	**+1.5**
ROSC				*i*			23 06 55.1	
	comp=Z,44nm,0.6s							
DBBC	**Dabeiba**	**3.49**	**254**	*e*	*P*	**Pb**	**23 05 53.1**	**-3.1**
DBBC				*e*	*S*	**Sn**	**23 06 33.7**	**+3.5**
DBBC				*i*			23 06 47.6	
	comp=Z,264nm,0.5s							
GUY2C	**Guyana, Caldas**	**3.72**	**223**	*e*	*P*	**Pn**	**23 05 53.0**	**+0.9**
GUY2C				*e*	*S*	**Sb**	**23 06 43.4**	**-2.3**
GUY2C				*i*			23 06 53.0	
	comp=Z,60nm,0.8s							
CBOC	**Ciudad Bolivar**	**3.80**	**237**	*e*	*P*	**Pn**	**23 05 55.2**	**+2.2**
CBOC				*e*	*S*	**Sb**	**23 06 49.7**	**+2.0**
CBOC				*i*			23 06 57.0	
	comp=Z,25nm,0.7s							
PTGC	**Puerto Gaitan,**	**3.81**	**170**	*e*	*S*	**Sn**	**23 06 37.3**	**-0.6**
PTGC				*i*			23 07 04.8	
	comp=Z,53nm,0.6s							
VILC	**Villavicencio,**	**3.93**	**193**	*e*	*P*	**Pn**	**23 05 58.7**	**+3.9**
VILC				*e*	*S*	**Sn**	**23 06 45.2**	**+4.1**
VILC				*i*			23 07 08.6	
	comp=Z,58nm,0.8s							
RREF	**El Recreo**	**3.95**	**220**	*e*	*P*	**Pn**	**23 05 57.1**	**+1.6**
RREF				*e*	*S*	**Sb**	**23 06 54.6**	**+2.1**
RREF				*i*			23 07 03.8	
	comp=Z,46nm,0.4s							
TOLC	**Tolima**	**4.18**	**217**	*e*	*P*	**Pn**	**23 05 59.7**	**+1.3**
TOLC				*e*	*S*	**Sb**	**23 07 03.2**	**+4.3**
TOLC				*i*			23 07 11.3	
	comp=Z,47nm,0.6s							
ANIL	**Santa Ana**	**4.31**	**217**	*e*	*P*	**Pn**	**23 06 03.3**	**+3.2**
ANIL				*e*	*S*	**Sb**	**23 07 00.9**	**-1.5**
PLMC	**San Jos del P**	**4.59**	**229**	*e*	*P*	**Pn**	**23 06 06.4**	**+2.5**
ORTC	**Ortega, Tolima**	**4.70**	**211**	*e*	*P*	**Pn**	**23 06 05.6**	**+0.3**
ORTC				*e*	*S*	**Sn**	**23 07 04.4**	**+4.4**
ORTC				*i*			23 07 21.3	
	comp=Z,28nm,0.5s							
PRAC	**Prado**	**4.70**	**206**	*e*	*P*	**Pn**	**23 06 07.2**	**+1.9**
PRAC				*e*	*S*	**Sn**	**23 07 02.5**	**+2.5**
PRAC				*i*			23 07 37.7	
	comp=Z,30nm,0.7s							
TXAR	**Lajitas Array**	**35.94**	**310**	P		**P**	**23 11 54.6**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=125,slow=11,SNR=1.8							
YKA	**Yellowknife Ar**	**62.29**	**340**	P		**P**	**23 15 15.1**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=125,slow=7.6,SNR=3.8							
ASAR	**Alice Springs**	**150.01**	**236**	PKPbc		**PKPdf**	**23 24 42.9**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=116,slow=3.2,SNR=2.5							
WRA	**Warramunga Arr**	**151.14**	**243**	PKPbc		**PKPdf**	**23 24 45.5**	**+2.6**
	comp=Z,0.7nm,0.5s,baz=107,slow=2.7,SNR=12							

*ASRS **19** 23:29:34.1±0.2, 51.°8N±0.°9×8.°6E±.°, h10km, MLh3.2/13, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*
*NNC **19** 23:29:38.4±2.1, 51.°65N×85.°54E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=16.3km s-min=9.9km az=47.0*
ISC 19 23:29:34.7±0.8, 51.°75N±0.°02×85.°92E±0.°02, h10km, n31, σ1$89/54, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GALT	**Gorno-Altaysk,**	**0.21**	**4**	Pg		**Pg**	**23 29 37.7**	**-1.5**
GALT				Sg		**Sg**	**23 29 40.2**	**-1.9**
ARTR	**Artybash**	**0.84**	**86**	Pg		**Pg**	**23 29 49.6**	**-1.4**
ARTR				Sg		**Sg**	**23 30 00.8**	**-1.2**
UKR	**Ust'-Kan**	**1.09**	**222**	Pg		**Pb**	**23 29 53.4**	**-2.3**
UKR				Sg		**Sg**	**23 30 07.5**	**-2.3**
ELT	**Eltsovka**	**1.53**	**7**	Pg		**Pb**	**23 30 02.6**	**-0.6**
ELT				Sg		**Sg**	**23 30 23.1**	**-0.7**
TASR	**Tashtagol**	**1.57**	**49**	Pg		**Pn**	**23 30 02.4**	**-0.3**
TASR				Sg		**Sg**	**23 30 23.6**	**-1.7**
ULGR	**Ulagan, Altay**	**1.71**	**131**	Pg		**Pn**	**23 30 05.2**	**+0.6**
ULGR				Sg		**Sb**	**23 30 27.8**	**0.0**
CHBI	**Chibit, Altay**	**1.75**	**145**	Pg		**Pn**	**23 30 06.0**	**+0.7**
CHBI				Sg		**Sg**	**23 30 32.4**	**+1.4**
CUR	**Chagan-Uzun**	**2.25**	**136**	Pg		**Pb**	**23 30 15.8**	**+0.2**
CUR				Sg		**Sg**	**23 30 47.5**	**+0.3**
DGZ	**Jazzator, Alta**	**2.26**	**154**	Pg		**Pb**	**23 30 15.1**	**-0.7**
DGZ				Sg		**Sb**	**23 30 45.5**	**+1.6**
BJR3	**Bachatsky-3 (S**	**2.48**	**3**	Sg		**Sb**	**23 30 50.9**	**+0.8**
SALR	**Pechorkino, Sa**	**2.68**	**357**	Sg		**Sb**	**23 30 56.1**	**+0.6**
POMOR	**Pomortsevo, Ku**	**2.69**	**8**	Sg		**Sg**	**23 30 58.5**	**-2.5**
TEL	**Teeli**	**2.78**	**104**	Pg		**Pg**	**23 30 26.6**	**-1.3**
TEL				Sg		**Sg**	**23 31 01.4**	**-2.5**
TBTR	**Tabat**	**3.17**	**66**	Pg		**Pn**	**23 30 26.6**	**+1.9**
TBTR				Sg		**Sg**	**23 31 08.5**	**-1.3**
DJO	**Djoy, Khakassi**	**3.41**	**70**	Sg		**Sg**	**23 31 20.1**	**-4.2**
BSTK	**Bystrovka, Nov**	**3.44**	**326**	Pg		**Pb**	**23 30 36.7**	**+1.0**
BSTK				Sg		**Sg**	**23 31 23.3**	**-1.9**
NVS	**Novosibirsk**	**3.49**	**334**	Pg		**Pb**	**23 30 37.9**	**+1.3**
NVS				Sg		**Sg**	**23 31 25.1**	**-1.7**
NVSII	**Novosibirsk**	**3.49**	**334**	Pg		**Pb**	**23 30 38.7**	**+2.2**
NVSII				Sg		**Sg**	**23 31 27.0**	**+0.2**
DJOS	**Djoyskaya Sosn**	**3.52**	**71**	Sg		**Sg**	**23 31 25.6**	**-2.1**
CERR	**Cheremushki**	**3.55**	**70**	Pg		**Pb**	**23 30 37.9**	**+0.3**
CERR				Sg		**Sb**	**23 31 22.6**	**+1.9**
NHES	**Novosibirsk, N**	**3.58**	**332**	Pg		**Pb**	**23 30 38.6**	**+0.5**
NHES				Sg		**Sg**	**23 31 27.5**	**-2.0**
SHRR	**Shira**	**3.75**	**41**	Pg		**Pb**	**23 30 40.8**	**-0.2**
SHRR				Sg		**Sg**	**23 31 36.6**	**+1.5**
ABNR	**Abakan**	**3.89**	**57**	Pg		**Pb**	**23 30 45.6**	**+2.2**
ABNR				Sg		**Sg**	**23 31 36.9**	**-2.7**
BRCR	**Berchikul'**	**4.15**	**19**	Pg		**Pb**	**23 30 47.5**	**-0.3**
BRCR				Sg		**Sg**	**23 31 46.2**	**-1.7**
BLRR	**Bol'shaya Rech**	**4.19**	**69**	Pg		**Pb**	**23 30 48.1**	**-0.4**
BLRR				Sg		**Sb**	**23 31 42.0**	**+2.9**
ARDR	**Aradan**	**4.70**	**77**	Pg		**Pb**	**23 30 58.6**	**+1.5**
ARDR				Sg		**Sg**	**23 32 01.9**	**-3.5**
KURBB	**Kurchatov Arra**	**4.79**	**259**	⇑Pn		**Pn**	**23 30 47.6**	**+0.8**
	1.7nm,0.3s							
KURBB				⇑Sn		**Sn**	**23 31 43.1**	**+0.8**
	1.8nm,0.4s							
KURBB				⇑Lg		Lg	23 32 01.2	
	20nm,0.6s							
MK31	**Makanchi Array**	**5.50**	**207**	Pn		**Pn**	**23 30 58.8**	**+2.1**
	baz=25,slow=13,SNR=24							
MK31				⇓Lg		Lg	23 32 25.1	
	2.4nm,0.5s,baz=26,slow=30,SNR=7.7							
MKAR	**Makanchi Array**	**5.50**	**207**	Sg		**Sg**	**23 32 27.1**	**-4.1**
MAKZ	**Makanchi**	**5.58**	**209**	Sg		**Sg**	**23 32 30.2**	**-3.5**
MAKZ	**Makanchi**	**5.58**	**209**	⇓Pn		**Pn**	**23 31 00.2**	**+2.4**
	0.3nm,0.3s							
MAKZ				⇑Sn		**Sn**	**23 32 04.3**	**+2.4**
	0.5nm,0.5s							
MAKZ				⇓Lg		Lg	23 32 27.2	
	4.4nm,0.7s							

*IDC **19** 23:30:16.9±0.7, 39.°64N×143.°49E, h0km, mb4.3/28, mb1 4.4/34, mb1mx4.3/45, mbtmp4.3/34, ML3.3/6, MS3.7/21, Ms1 3.7/21, ms1mx3.5/48, Error ellipse: s-maj=16.2km s-min=13.5km az=136.0*
*BJI **19** 23:30:16.7±0.0, 39.°63N×143.°60E, h17km, mB4.9/38, mb4.6/62, Ms4.3/41, Ms7 4.1/41*
*NIED **19** 23:30:17.6, 39.°70N×143.°65E, h31km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr3.36; Mθθ-0.33; Mφφ-3.03; Mrθ1.59; Mrφ-1.51; Mθφ2.23; Fault plane solution: M0 4.47000×10^15^ NP1:φs31.00000°, δ64.00000°, λ97.00000°. NP2:φs196.00000°, δ27.00000°, λ76.00000°.*
*JMA **19** 23:30:17.5±0.2, 39.°69N×143.°65E, h31km, M4.6*
JMA Felt I J1.
*MOS **19** 23:30:17.7±0.9, 39.°66N×143.°44E, h16km, mb4.9/20, Error ellipse: s-maj=6.4km s-min=4.1km az=108.9*
*NEIC **19** 23:30:21.2±1.6, 39.°629N±0.°006×143.°5E±0.°1, h29km±5km, mb4.6/49, Error ellipse: s-maj=11.2km s-min=0.8km az=91.0*
ISC 19 23:30:20.1±0.5, 39.°69N±0.°04×143.°48E±0.°04, h20km±5km, n310, σ1$31/329, mb4.6/97, MS4.0/26, 15C-23D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTH	**Tanohata**	**1.27**	**282**	P		**Pn**	**23 30 41.5**	**-1.2**
JTH				*e*	*S*	**Sn**	**23 30 59.1**	**-0.1**
MIYJ	**Miyakonagasawa**	**1.29**	**265**	P		**Pn**	**23 30 42.0**	**-1.0**
MIYJ				*e*	*S*	**Sb**	**23 31 00.2**	**+0.4**
JKEN	**Kujiedanarisaw**	**1.46**	**291**	P		**Pn**	**23 30 43.6**	**-1.7**
JANG	**Nango**	**1.66**	**295**	P		**Pn**	**23 30 46.9**	**-1.2**
JOM	**Ohasama**	**1.71**	**263**	*e*	*S*	**Sn**	**23 31 10.2**	**+0.3**
JMK	**Ichinoseki**	**1.90**	**248**	P		**Pn**	**23 30 50.7**	**-0.7**
JMK				*e*	*S*	**Sn**	**23 31 14.7**	**-0.1**
JIO	**Ouri**	**2.07**	**234**	P		**Pn**	**23 30 52.3**	**-1.4**
JTM	**Tenmabayashi**	**2.15**	**301**	Pn		**Pn**	**23 30 54.8**	**0.0**
ERM	**Erimo**	**2.33**	**354**	P		**Pn**	**23 30 58.1**	**+0.8**
ERM	**Erimo**	**2.33**	**354**	Pn		**Pn**	**23 30 58.1**	**+0.8**
JOT	**Ohata**	**2.51**	**313**	P		**Pn**	**23 30 59.7**	**-0.1**
JYK	**Kaneyama**	**2.54**	**253**	P		**Pn**	**23 31 00.1**	**-0.1**
JYK				*e*	*S*	**Sn**	**23 31 31.6**	**+1.0**
JNBK	**Urakawa-nobuka**	**2.65**	**348**	P		**Pn**	**23 31 02.0**	**+0.4**
JMM	**Marumori**	**2.78**	**230**			**Pn**	**23 31 02.1**	**-1.4**
JCH	**Churui**	**2.92**	**358**	P		**Pn**	**23 31 05.0**	**-0.4**
JCH				*e*	*S*	**Sn**	**23 31 38.2**	**-1.7**
JFT	**Otama**	**3.28**	**230**	P		**Pn**	**23 31 09.7**	**-0.7**
JAK	**Akkeshi**	**3.43**	**15**	P		**Pn**	**23 31 11.4**	**-0.9**
JAK				*e*	*S*	**Sn**	**23 31 49.9**	**-2.4**
JEW	**Eniwo**	**3.50**	**335**	Pn		**Pn**	**23 31 15.0**	**+1.6**
NMR	**Nemuro--Hokkai**	**4.04**	**24**	*c i*	P	**Pn**	**23 31 19.6**	**-1.2**
NMR				*i*	S	**Sn**	**23 32 03.6**	**-3.9**
GLVR	**Golovnino**	**4.32**	**20**	*e*	*P*	**Pn**	**23 31 25.6**	**+0.9**
GLVR				*e*	*S*	**Sn**	**23 32 10.5**	**-3.9**
GLVR				smax		smax		
	comp=N,1μm,0.3s							
GLVR				smax		smax		
	comp=E,607nm,0.3s							
JYT	**Yasato**	**4.33**	**218**	Pn		**Pn**	**23 31 22.0**	**-2.7**
JSD	**Sado**	**4.40**	**250**	Pn		**Pn**	**23 31 25.9**	**+0.2**
JKA	**Kamikawa-asahi**	**4.47**	**352**	Pn		**Pn**	**23 31 27.2**	**+0.5**
JKA	**Kamikawa-asahi**	**4.47**	**352**			**Sn**	**23 32 17.9**	**-0.3**
ASAJ	**Asahikawa**	**4.47**	**352**	Pn		**Pn**	**23 31 27.7**	**+0.9**
	comp=E,4.1nm,0.3s,baz=227,slow=16,SNR=22							
ASAJ				Sn		**Sn**	**23 32 17.9**	**-0.3**
	comp=E,5.3nm,0.3s,baz=93,slow=18,SNR=5.7							
RUSJ	**Misakicho**	**4.60**	**16**	*e*	*P*	**Pn**	**23 31 28.8**	**+0.3**
RUSJ				*e*	*S*	**Sn**	**23 32 20.6**	**-0.7**
GRPR	**Tuman**	**4.63**	**21**	*e*	*P*	**Pn**	**23 31 29.7**	**+0.9**
GRPR				*e*	*S*	**Sn**	**23 32 16.6**	**-5.3**
GRPR				pmax		pmax		
	comp=Z,93nm,0.2s							
GRPR				smax		smax		
	comp=E,711nm,0.2s							
GRPR				smax		smax		
	comp=N,810nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.69**	**21**	*e*	*P*	**Pn**	**23 31 29.0**	**-0.7**
YUK				*e*	*S*	**Sn**	**23 32 19.9**	**-3.6**
YUK				pmax		pmax		
	comp=N,115nm,0.3s							
YUK				pmax		pmax		
	comp=E,94nm,0.3s							
YUK				pmax		pmax		
	comp=Z,327nm,0.3s							
YUK				smax		smax		
	comp=N,1μm,0.6s							
YUK				smax		smax		
	comp=E,545nm,0.2s							
YUK				MLR		MLR		
	comp=Z,412nm,16.0s							
MAJO	**Matsushiro**	**5.21**	**235**	P		**Pn**	**23 31 37.4**	**+0.4**
MAJO	**Matsushiro**	**5.21**	**235**	Pn		**Pn**	**23 31 37.4**	**+0.4**
MAT	**Matsushiro**	**5.21**	**235**	P		**Pn**	**23 31 37.5**	**+0.5**
MAT				*e*	*S*	**Sn**	**23 32 37.6**	**+1.1**
MJAR	**Matsushiro Arr**	**5.21**	**235**	Pn		**Pn**	**23 31 37.3**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=36,slow=12,SNR=91							
MJAR				LR		LR	23 33 50.4	
	comp=Z,535nm,18.4s,baz=35,slow=41							
MJAR	**Matsushiro Arr**	**5.21**	**235**			**Pn**	**23 31 36.5**	**-0.4**
MJB9	**Matsu-Tunnel**	**5.21**	**235**			**Pn**	**23 31 37.0**	**0.0**
JGF	**Kuroka**	**6.35**	**232**	Pn		**Pn**	**23 31 52.5**	**0.0**
KUR	**Kuril'sk**	**6.42**	**29**	*e*	*P*	**Pn**	**23 31 54.0**	**+0.6**
KUR				*e*	*S*	**Sn**	**23 33 02.1**	**-3.9**
KUR				pmax		pmax		
	comp=Z,41nm,0.3s							
KUR				pmax		pmax		
	comp=E,24nm,0.2s							
KUR				smax		smax		
	comp=N,120nm,0.3s							
KUR				smax		smax		
	comp=E,190nm,0.3s							
INU	**Inuyama**	**6.72**	**232**	Pn		**Pn**	**23 31 57.5**	**-0.1**
JHJ	**Hachijo jima 2**	**7.20**	**206**	LR		LR	23 35 07.9	
	comp=E,227nm,18.3s,baz=116,slow=41							
YSS	**Yuzh-Sakhalins**	**7.28**	**356**	*e*	*P*	**Pn**	**23 32 06.8**	**+1.5**
YSS				*e*	*S*	**Sn**	**23 33 27.0**	**-0.2**
YSS				pmax		pmax		
	comp=Z,20nm,0.9s							
YSS				MLR		MLR		
	comp=Z,400nm,14.0s							
YSS				MLR		MLR		
	comp=E,600nm,15.0s							
YSS	**Yuzh-Sakhalins**	**7.28**	**356**	Pn		**Pn**	**23 32 06.3**	**+1.1**
TEY	**Ternei**	**7.38**	**319**	⇑*i*	*P*	**Pn**	**23 32 09.3**	**+2.7**
TEY				pmax		pmax		
	comp=N,20nm,0.9s							
TEY				pmax		pmax		
	comp=E,30nm,0.9s							
TEY				pmax		pmax		
	comp=Z,30nm,0.9s							
JWT	**Wachi**	**7.79**	**238**			**Pn**	**23 32 13.9**	**+1.7**
JHS	**Saijyo**	**9.49**	**244**			**Pn**	**23 32 37.2**	**+1.5**
USA0B	**Ussuriysk Arra**	**9.67**	**301**	P		**Pn**	**23 32 40.4**	**+2.3**
USA0B	**Ussuriysk Arra**	**9.67**	**301**	Pn		**Pn**	**23 32 40.4**	**+2.3**
USRK	**Ussuriysk Ar.**	**9.67**	**301**	Pn		**Pn**	**23 32 39.7**	**+1.6**
	baz=101,slow=14,SNR=37							
USRK				LR		LR	23 36 23.3	
	comp=Z,537nm,18.4s,baz=98,slow=38							
MDJ	**Mudanjiang**	**11.42**	**300**	P		**Pn**	**23 33 04.6**	**+2.6**
MDJ				pP			23 33 12.5	
MDJ				S		Sn	23 35 20.3	+11
MDJ				pmax		pmax		
	comp=Z,17nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,130nm,6.0s							
MDJ				LR		LR		
	comp=Z,490nm,13.8s							
MDJ				LR		LR		
	comp=Z,710nm,13.1s							
MDJ				LR		LR		
	comp=Z,940nm,13.2s							
MDJ	**Mudanjiang**	**11.42**	**300**	Pn		**Pn**	**23 33 03.7**	**+1.7**
JNU	**Nakatsue**	**12.08**	**241**	LR		LR	23 38 16.9	
	comp=Z,553nm,18.3s,baz=47,slow=40							
JNU	**Nakatsue**	**12.08**	**241**	Pn		**Pn**	**23 33 12.1**	**+0.9**
KSRS	**Korea Array**	**12.38**	**265**	Pn		**Pn**	**23 33 16.9**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=86,slow=14,SNR=12							
KSRS				LR		LR	23 37 43.0	
	comp=Z,386nm,18.3s,baz=80,slow=36							
KS19	**Wonju Array Si**	**12.41**	**265**	Pn		**Pn**	**23 33 15.8**	**+0.2**
JCJ	**Chichijima**	**12.61**	**185**	Pn		**Pn**	**23 33 17.0**	**-1.3**
KLR	**Kul'dur**	**12.68**	**323**	Pn		**Pn**	**23 33 18.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=128,slow=13,SNR=11							
KLR				LR		LR	23 38 24.0	
	comp=Z,354nm,20.4s,baz=134,slow=38							
CN2	**Changchun**	**14.07**	**293**	*e*	*P*	**Pn**	**23 33 35.9**	**-2.4**
CN2				S		**Sn**	**23 36 12

comp=Z,13nm,0.9s
BJT Baijiatuau 20.95 280 P **P** **23 34 59.6 -2.0**
TIA Tai'an 21.05 269 P **P** **23 35 01.4 -1.4**
TIA pmax pmax
comp=Z,22nm,1.2s
TIA LR LR
comp=Z,330nm,17.7s
TIA LR LR
comp=Z,540nm,17.2s
TIA LR LR
comp=Z,760nm,17.2s
SEY Seymchan 23.88 10 P **P** **23 35 31.1 -0.9**
comp=Z,16nm,0.8s,baz=188,slow=7.3,SNR=41
YAK Yakutsk 23.90 344 P **P** **23 35 30.7 -1.5**
comp=Z,10nm,0.4s,baz=309,slow=1.0,SNR=4.8
YAK LR LR 23 45 38.0
comp=Z,60nm,21.8s,baz=97,slow=38
YAK Yakutsk 23.90 344 *e*P **P** **23 35 29.8 -2.4**
YAK *e**PP **pP** **23 35 38.7 +1.0**
YAK *e*S **S** **23 39 45.4 -1.8**
YAK *e*SSS SSS 23 40 42.2
YAK pmax pmax
comp=Z,18nm,0.7s
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK smax smax
comp=N,85nm,3.3s
YAK smax smax
comp=E,60nm,3.3s
YAK MLR MLR
comp=Z,57nm,11.0s
YAK MLR MLR
comp=N,218nm,20.0s
HHC Hu-ho-hao-te 24.32 283 *e*P **P** **23 35 34.6 -1.8**
HHC pmax pmax
comp=N,6.0nm,1.0s
HHC pmax pmax
comp=N,94nm,5.5s
HHC LR LR
comp=N,200nm,12.2s
HHC LR LR
comp=N,500nm,12.9s
HHC LR LR
comp=N,610nm,12.9s
YULB Yu-li 24.83 236 P **P** **23 35 39.3 -1.8**
YULB IAmb IAmb 23 35 46.1
comp=Z,9.3nm,0.9s
WHN Wuhan 25.43 258 ⇓P **P** **23 35 46.3 -0.1**
WHN sP **pwP** **23 35 55.8 +1.0**
WHN pmax pmax
comp=Z,74nm,0.8s
BTO Baotou 25.51 283 *e*P **P** **23 35 46.8 -0.5**
BTO S **S** **23 40 03.1 -11**
BTO LR LR
comp=Z,750nm,16.8s
BTO LR LR
comp=Z,2µm,16.8s
BTO LR LR
comp=Z,2µm,18.0s
BOD Bodaibo 26.26 323 *e*P **P** **23 35 53.8 +0.1**
BOD pmax pmax
comp=Z,30nm,1.3s
ULN Ulaanbaatar 27.34 299 P **P** **23 36 04.0 +0.3**
ULN pmax pmax
comp=Z,13nm,1.1s
ULN Ulaanbaatar 27.34 299 P **P** **23 36 04.0 +0.3**
ULN IAmb IAmb 23 36 05.2
comp=Z,13nm,1.1s
AMKA Amchitka 27.40 53 P **P** **23 36 03.2 -0.8**
SONM Songino Array 27.78 299 P **P** **23 36 08.2 +0.5**
comp=Z,6.8nm,0.7s,baz=92,slow=8.4,SNR=32
SONM LR LR 23 47 48.1
comp=Z,331nm,19.4s,baz=75,slow=38
SONM Songino Array 27.78 299 P **P** **23 36 07.5 -0.2**
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 27.78 299 P **P** **23 36 07.5 -0.2**
XAN Xi'an 28.11 269 P **P** **23 36 09.3 -1.3**
XAN pmax pmax
comp=Z,14nm,0.7s
XAN pmax pmax
comp=Z,160nm,5.3s
XAN LR LR
comp=Z,170nm,16.3s
XAN LR LR
comp=Z,460nm,16.3s
XAN LR LR
comp=Z,400nm,16.3s
XAN Xi'an 28.11 269 P **P** **23 36 09.9 -0.7**
XAN pmax pmax
comp=Z,9.0nm,0.7s
XAN Xi'an 28.11 269 P **P** **23 36 09.9 -0.7**
XAN IAmb IAmb 23 36 11.6
comp=Z,9.3nm,0.7s
H11N2 WAKE ISLAND Hy 28.30 128 T T 00 05 46.2
baz=318,slow=76
H11N1 WAKE ISLAND Hy 28.31 128 T T 00 05 45.4
baz=318,slow=76
H11N3 WAKE ISLAND Hy 28.32 128 T T 00 05 47.8
baz=318,slow=76
H11S1 WAKE ISLAND Hy 29.12 130 T T 00 06 48.3
baz=320
H11S3 WAKE ISLAND Hy 29.12 130 T T 00 06 47.6
baz=320
H11S2 WAKE ISLAND Hy 29.14 130 T T 00 06 48.3
baz=320
ENH Enshi 29.25 262 P **P** **23 36 20.2 -0.7**
TLY Talaya 29.93 307 P **P** **23 36 27.0 +0.4**
comp=Z,5.1nm,0.7s,baz=84,slow=5.3,SNR=4.8
TLY LR LR 23 49 08.4
comp=Z,88nm,18.5s,baz=68,slow=38
TLY Talaya 29.93 307 P **P** **23 36 27.0 +0.4**
TLY Talaya 29.93 307 IAmb IAmb 23 36 32.0
comp=Z,6.3nm,0.9s
ZAK Zakamensk 30.01 304 *e*P **P** **23 36 27.2 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
BILL Bilibino 31.02 16 *i* P **P** **23 36 36.4 +0.4**
BILL *i* 23 37 38.8
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL Bilibino 31.02 16 P **P** **23 36 36.8 +0.7**
LZH Lanzhou 31.31 276 *e*P **P** **23 36 39.5 +0.3**
LZH sP pwP 23 36 53.1 +5.5
LZH pmax pmax
comp=Z,14nm,1.4s
MOY Mondy 31.57 307 *e*P **P** **23 36 41.7 +0.5**
MOY pmax pmax
comp=Z,22nm,1.5s
TIXI Tiksi 32.88 352 P **P** **23 36 53.2 +1.0**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 32.88 352 P **P** **23 36 53.2 +1.0**
GYA Guiyang 33.32 258 ⇓P **P** **23 36 56.3 -0.5**
GYA sP pwP 23 37 08.0 +2.8
GYA S **S** **23 42 14.3 -2.1**
GYA sS sS 23 42 31.0 +5.0
GYA pmax pmax
comp=Z,17nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.6s
GYA LR LR
comp=Z,110nm,10.7s
CD2 Chengdu 33.36 267 ⇓*i*P **P** **23 36 56.3 -0.7**
CD2 pP pP 23 37 03.8 +1.3
CD2 sP pwP 23 37 06.3 +0.8
CD2 S **S** **23 42 15.8 -1.1**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,130nm,6.5s
CD2 LR LR
comp=Z,500nm,12.8s
CD2 LR LR
comp=Z,350nm,10.6s
CD2 LR LR
comp=Z,540nm,12.0s
GTA Gaotai 33.42 284 ⇓P **P** **23 36 58.3 +0.7**
GTA pP pP 23 37 03.0 -0.1
GTA sP sP 23 37 05.8 +0.4
GTA pmax pmax
comp=Z,7.0nm,1.0s
KMI Kunming 37.01 259 ⇓P **P** **23 37 28.9 +0.2**
KMI pmax pmax
comp=Z,9.0nm,0.9s
KMI LR LR
comp=Z,200nm,14.1s
KMI LR LR
comp=Z,130nm,11.9s
KMI LR LR
comp=Z,220nm,17.4s
KMI Kunming 37.01 259 P **P** **23 37 27.8 -0.9**
KMI pmax pmax
comp=Z,10.0nm,1.1s
KMI Kunming 37.01 259 P **P** **23 37 27.8 -0.9**
KMI IAmb IAmb 23 37 29.4
comp=Z,10nm,1.1s
DGZ Jazzator, Alta 40.22 303 *i* P **P** **23 37 56.2 +0.9**
DGZ pmax pmax
comp=Z,14nm,0.7s
WMQ Urumqi 41.16 295 P **P** **23 38 04.3 +1.3**
WMQ sP pwP 23 38 14.5 +2.9
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ pmax pmax
comp=Z,280nm,5.7s
WMQ Urumqi 41.16 295 P **P** **23 38 03.6 +0.6**
WMQ pmax pmax
comp=Z,17nm,0.8s
WMQ Urumqi 41.16 295 P **P** **23 38 03.5 +0.6**
ZAA0 Zalesovo Array 41.39 310 P **P** **23 38 05.0 +0.3**
ZAA0 IAmb IAmb 23 38 05.6
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 41.39 310 P **P** **23 38 05.0 +0.3**
comp=Z,6.0nm,0.6s,baz=90,slow=7.5,SNR=28
ZALV PcP **PcP** **23 40 03.0 +0.5**
comp=Z,2.7nm,0.7s,baz=90,slow=3.0,SNR=4.5
ZALV LR LR 23 55 39.6
comp=Z,80nm,19.7s,baz=72,slow=37
ZALV Zalesovo Beam 41.39 310 P **P** **23 38 05.0 +0.3**
ZALV 23 40 03.0
ZALV Zalesovo Beam 41.39 310 P **P** **23 38 05.1 +0.4**
ZSN Zaisan 42.28 301 *e*P **P** **23 38 12.3 +0.1**
baz=300
ZSN Zaisan 42.28 301 *e*P **P** **23 38 12.2 +0.1**
CHTO Chiang Mai 43.54 255 P **P** **23 38 21.7 -0.9**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 43.54 255 P **P** **23 38 21.7 -0.9**
LSA Lhasa 43.63 274 P **P** **23 38 23.6 -0.2**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 43.63 274 P **P** **23 38 23.6 -0.2**
LSA IAmb IAmb 23 38 39.6
comp=Z,5.5nm,0.8s
CMAR Chiang Mai Arr 43.76 254 P **P** **23 38 24.1 -0.3**
comp=Z,1.0nm,0.4s,baz=41,slow=7.1,SNR=8.0
CMAR LR LR 23 59 09.1
comp=Z,48nm,18.6s,baz=160,slow=40
PPLA Purkeypile 44.06 36 P **P** **23 38 27.7 +1.3**
PPLA IAmb IAmb 23 38 30.9
comp=Z,20nm,1.4s
MK31 Makanchi Array 44.14 300 P **P** **23 38 27.2 +0.1**
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 44.14 300 P **P** **23 38 27.2 +0.1**
MK31 IAmb IAmb 23 38 44.2
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 44.14 300 P **P** **23 38 27.2 0.0**
comp=Z,6.7nm,0.8s,baz=82,slow=9.5,SNR=74
MKAR LR LR 23 57 45.7
comp=Z,177nm,18.7s,baz=74,slow=37
MAKZ Makanchi 44.34 300 P **P** **23 38 28.8 0.0**
MAKZ pmax pmax
comp=Z,10.0nm,0.9s
MAKZ Makanchi 44.34 300 P **P** **23 38 28.8 0.0**
MAKZ IAmb IAmb 23 38 46.0
comp=Z,9.7nm,0.8s
POKR Poker Plat Res 46.14 33 P **P** **23 38 44.0 +1.3**
POKR IAmb IAmb 23 38 45.9
comp=Z,3.9nm,0.8s
IL31 46.38 34 P **P** **23 38 45.7 +1.1**
ILAR Eielson Array 46.38 34 P **P** **23 38 45.2 +0.5**
comp=Z,1.7nm,0.7s,baz=262,slow=6.5,SNR=22
PDGK Podgornoye 47.01 296 *i* P **P** **23 38 49.5 -0.6**
PDGK pmax pmax
comp=Z,9.0nm,1.1s
SHLS Shalkode 47.09 296 *e*P **P** **23 38 47.8 -2.9**
baz=296
SHLS Shalkode 47.09 296 *e*P **P** **23 38 47.7 -2.9**
TDK Taldyqorghan 47.24 299 *e*P **P** **23 38 51.7 0.0**
comp=Z,15nm,1.0s,baz=299
TDK Taldyqorghan 47.24 299 *e*P **P** **23 38 51.6 0.0**
TDK pmax pmax
comp=Z,15nm,1.0s
UZB Uzynbulak 47.40 296 *e*P **P** **23 38 52.3 -0.8**
baz=296
UZB Uzynbulak 47.40 296 *e*P **P** **23 38 52.3 -0.8**
TAPN Taplejung 47.41 273 *e*P **P** **23 38 53.5 -0.1**
comp=Z,24nm,1.1s
KPKS Kokpek 47.53 297 *e*P **P** **23 38 53.5 -0.5**
comp=Z,3.9nm,0.7s,baz=297
KPKS Kokpek 47.53 297 *e*P **P** **23 38 53.5 -0.5**
KPKS pmax pmax
comp=Z,4.0nm,0.7s
SATY Saty 47.85 296 *e*P **P** **23 38 56.4 -0.2**
baz=296
SATY Saty 47.85 296 *e*P **P** **23 38 56.3 -0.2**
ODAN Odare 47.90 272 *e*P **P** **23 38 57.3 0.0**
comp=Z,13nm,0.8s
RAMN Ramite 48.47 273 *e*P **P** **23 39 01.7 0.0**
comp=Z,30nm,0.8s
GUN Gumba 48.54 274 *e*P **P** **23 39 02.5 +0.1**
comp=Z,45nm,0.7s
MDOK Medeo 48.75 297 *e*P **P** **23 39 03.5 -0.1**
baz=297
MDOK Medeo 48.75 297 *e*P **P** **23 39 03.5 -0.1**
AAA Alma-Ata 48.83 297 *e*P **P** **23 39 04.3 +0.2**
comp=Z,5.2nm,0.6s,baz=297
AAA Alma-Ata 48.83 297 *e*P **P** **23 39 04.2 +0.2**
AAA pmax pmax
comp=Z,5.0nm,0.6s
TNSS Tian-Shan 48.87 297 *e*P **P** **23 39 04.9 +0.2**
baz=297
TNSS Tian-Shan 48.87 297 *e*P **P** **23 39 04.9 +0.2**
KUU Kurty 48.99 298 *e*P **P** **23 39 04.5 -0.8**
comp=Z,11nm,0.7s,baz=298
KUU Kurty 48.99 298 *e*P **P** **23 39 04.4 -0.8**
KUU pmax pmax
comp=Z,11nm,0.7s
KKN Kakani 49.06 275 *e*P **P** **23 39 06.3 +0.1**
comp=Z,40nm,0.7s
PKI Pulchoki 49.07 274 *e*P **P** **23 39 05.4 -1.0**
comp=Z,5.4nm,0.6s
PKIN Phulchoki 49.08 274 *e*P **P** **23 39 05.6 -0.8**
comp=Z,8.0nm,0.6s
BRZS Berezniki 49.49 307 *e*P **P** **23 39 08.4 -0.6**
baz=307
BRZS Berezniki 49.49 307 *e*P **P** **23 39 08.3 -0.6**
TKM2 Tokmak 2 49.84 297 P **P** **23 39 12.8 +0.8**
SNR=17
TKM2 Tokmak 2 49.84 297 *i* P **P** **23 39 12.6 +0.7**
TKM2 pmax pmax
comp=Z,15nm,0.7s
BVAR Borovoye Array 50.02 311 P **P** **23 39 12.9 -0.1**
comp=Z,4.0nm,0.7s,baz=137,slow=16,SNR=40
PCA Pinnacle 50.03 39 P **P** **23 39 14.3 +1.3**
BRVK Borovoye 50.08 311 P **P** **23 39 13.8 +0.5**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 50.08 311 P **P** **23 39 13.8 +0.5**
BRVK IAmb IAmb 23 39 32.5
comp=Z,7.9nm,0.8s
BTLS Baital 50.15 300 *e*P **P** **23 39 13.1 -0.9**
baz=300
BTLS Baital 50.15 300 *e*P **P** **23 39 13.1 -0.9**
SGDS Sogindy 50.31 298 *e*P **P** **23 39 15.2 -0.2**
baz=298
SGDS Sogindy 50.31 298 *e*P **P** **23 39 15.1 -0.2**
KBK Karagaybulak 50.38 297 P **P** **23 39 16.6 +0.6**
SNR=21
EPYK Eagle Plains 50.41 31 P **P** **23 39 17.0 +1.3**
EPYK IAmb IAmb 23 39 18.6
comp=Z,3.9nm,0.8s
USP Ospenovka 50.46 298 P **P** **23 39 16.7 +0.2**
SNR=6.8
AAK Ala-Archa 50.70 297 P **P** **23 39 18.2 -0.2**
comp=Z,2.2nm,0.7s,baz=103,slow=4.6,SNR=16
AAK Ala-Archa 50.70 297 P **P** **23 39 18.2 -0.2**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 50.70 297 P **P** **23 39 18.2 -0.2**
KSH Kashi 50.84 293 *e*P **P** **23 39 23.5 +4.0**
KSH pP pwP 23 39 31.5 +3.4
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH pmax pmax
comp=Z,310nm,4.8s
EKS2 Erkin-Say 51.18 297 P **P** **23 39 22.2 +0.3**
SNR=13
INK Inuvik 51.28 28 P **P** **23 39 22.8 +0.6**
comp=Z,1.3nm,0.7s,baz=271,slow=6.3,SNR=6.1
AML Almayashu 51.43 297 P **P** **23 39 24.9 +0.7**
SNR=10
DZA Taraz 52.76 299 *e*P **P** **23 39 33.6 0.0**
comp=Z,4.1nm,0.6s,baz=298
DZA Taraz 52.76 299 *e*P **P** **23 39 33.6 0.0**
DZA pmax pmax
comp=Z,4.0nm,0.6s
KK31 Karatay Array 53.23 299 P **P** **23 39 36.6 -0.5**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 53.23 299 P **P** **23 39 36.6 -0.5**
KK31 IAmb IAmb 23 39 37.8
comp=Z,4.8nm,0.8s
KKAR Karatay Array 53.23 299 P **P** **23 39 36.5 -0.6**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 53.23 299 P **P** **23 39 36.5 -0.6**
KKAR IAmb IAmb 23 39 37.8
comp=Z,4.8nm,0.8s
IUG luzhnay 53.94 298 *e*P **P** **23 39 42.1 -0.3**
baz=298
IUG luzhnay 53.94 298 *e*P **P** **23 39 42.0 -0.3**
SVE Sverdlovsk 54.26 318 *e*P **P** **23 39 44.6 +0.3**
SVE pmax pmax
comp=Z,13nm,0.9s
SVE MLR MLR
comp=Z,471nm,16.0s
PSI Prapat 54.55 239 LR LR 00 04 30.7
comp=Z,43nm,18.2s,baz=82,slow=38
NIL Nilore 55.35 287 P **P** **23 39 53.2 +0.5**
NIL pmax pmax
comp=Z,11nm,0.8s
NIL Nilore 55.35 287 P **P** **23 39 53.2 +0.5**
ARU Arti 55.47 318 P **P** **23 39 53.2 +0.1**
comp=Z,3.0nm,0.7s,baz=33,slow=1.8,SNR=12
ARU Arti 55.47 318*d* *i*P **P** **23 39 53.9 +0.8**
ARU 23 41 52.9
ARU S **S** **23 47 39.0 +2.2**
ARU SS **SS** **23 51 21.2 +0.2**
ARU pmax pmax
comp=Z,19nm,1.3s
ARU MLR MLR
comp=Z,376nm,15.0s
ARU Arti 55.47 318 P **P** **23 39 52.6 -0.5**
KBL Kabul 58.00 290 P **P** **23 40 11.5 -0.2**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 58.00 290 P **P** **23 40 11.5 -0.2**
KBL IAmb IAmb 23 40 12.1
comp=Z,6.5nm,0.8s
AKTO Aktyubinsk 58.13 311 P **P** **23 40 11.8 -0.3**
comp=Z,4.1nm,0.7s,baz=76,slow=13,SNR=14
RES Resolute Bay 59.62 15 P **P** **23 40 22.9 +0.8**
RES pmax pmax
comp=Z,3.0nm,0.9s
RES Resolute Bay 59.62 15 P **P** **23 40 22.9 +0.8**
RES IAmb IAmb 23 40 23.6
comp=Z,2.6nm,0.8s
WRAB Tennant Creek 59.92 190 P **P** **23 40 24.4 -0.4**
WRAB pmax pmax
comp=Z,7.0nm,0.6s
WRAB Tennant Creek 59.92 190 P **P** **23 40 24.4 -0.4**
WRA Warramunga Arr 59.93 190 P **P** **23 40 23.9 -0.9**
comp=Z,1.2nm,0.8s,baz=7.4,slow=7.0,SNR=14
YKA Yellowknife Ar 60.70 31 P **P** **23 40 30.6 +1.0**
comp=Z,0.6nm,0.8s,baz=300,slow=6.1,SNR=11
ARCES ARCESS Array B 62.09 339 LR LR 00 10 16.8
comp=Z,82nm,21.3s,baz=270,slow=39
BELG Belogornoye 62.97 317 P **P** **23 40 45.3 +0.3**
comp=Z,20nm,0.7s,baz=300,slow=8.1,SNR=6.5
DAG Sunmarks Havn 63.27 355 *i* P **P** **23 40 46.6 0.0**
DAG Danmarks Havn 63.27 355 *i* P **P** **23 40 46.6 0.0**
DAG Danmarks Havn 63.27 355 *i* P **P** **23 40 46.7 0.0**
ASAR Alice Springs 63.66 190 P **P** **23 40 49.0 -0.8**
comp=Z,0.7nm,0.8s,baz=7.4,slow=5.8,SNR=5.3
GEYT Alibeck 63.98 299 P **P** **23 40 51.4 -0.7**
comp=Z,1.9nm,0.7s,baz=9.7,slow=10,SNR=4.7
GEYT Alibeck 63.98 299 IAmb IAmb 23 40 53.0
comp=Z,2.3nm,0.8s
D05A Enumclaw 64.94 49 P **P** **23 40 58.5 +0.4**
OBN Obninsk 66.94 323 *i* P **P** **23 41 09.6 -1.2**
OBN *i* 23 41 40.4
OBN *i* 23 43 41.1
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,133nm,15.0s
FINES FINESS Array B 67.22 332 P **P** **23 41 12.9 +0.4**
comp=Z,5.8nm,0.7s,baz=44,slow=8.8,SNR=16
FINES LR LR 00 13 27.1
comp=Z,142nm,18.9s,baz=11,slow=38
SUMG Summit 68.02 1 *i* P **P** **23 41 19.5 +1.6**
SUMG Summit 68.02 1 *i* P **P** **23 41 19.5 +1.6**
SUMG Summit 68.02 1 *i* P **P** **23 41 19.5 +1.6**
MTSE Matsula 69.92 331 *e*P **P** **23 41 27.6 -1.7**
ZEI Tsey 70.37 310 *e*P **P** **23 41 31.7 -1.0**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
KVAR Kislovodsk Arr 70.39 311 P **P** **23 41 33.5 +0.8**
comp=Z,6.4nm,0.8s,baz=95,slow=23,SNR=6.5
KIV Kislovodsk 70.39 311 ⇓P **P** **23 41 33.9 +1.2**
KIV Kislovodsk 70.39 311 *e*P **P** **23 41 34.1 +1.4**
KIV pmax pmax
comp=Z,64nm,1.1s
KIV MLR MLR
comp=Z,324nm,18.0s
KIV Kislovodsk 70.39 311 P **P** **23 41 33.1 +0.4**
KBZ Khabaz 70.40 311 P **P** **23 41 33.4 +0.8**
comp=Z,7.0nm,0.8s,baz=66,slow=3.9,SNR=24
IDID Didziasalis 71.13 327 *e*P **P** **23 41 37.6 +0.8**
MNK Minsk 71.20 326 *i* P **P** **23 41 35.8 -1.5**
comp=E,2.0nm,1.4s
MNK *i* P **P** **23 41 35.8 -1.5**
comp=N,24nm,1.7s
MNK *i* P **P** **23 41 35.8 -1.5**
comp=Z,10.0nm,0.8s
MNK *i* PP **PP** **23 44 15.4 +0.8**
MNK *i* PPP PPP 23 45 59.5
MNK *i* S **S** **23 50 50.7 -2.3**
MNK *i* SS SS 23 54 36.5 -49
MNK *i* SSS SSS 23 59 15.1
ISAL Salakas 71.21 328 *e*P **P** **23 41 38.4 +1.1**
IIGN Ignalina 71.32 328 *e*P **P** **23 41 39.4 +1.4**
NACGM Naroch 71.39 327 *i* P **P** **23 41 39.1 +0.6**
NACGM *i* P **P** **23 41 39.1 +0.6**
NACGM *i* P **P** **23 41 39.1 +0.6**
NACGM *i* PP PP 23 44 05.9 -10
NACGM *i* PPP PPP 23 45 56.0
NACGM *i* S **S** **23 50 57.4 +2.2**
NACGM *i* SS SS 23 55 58.8 +30
NACGM *i* SSS SSS 23 58 52.8
AKH Akhalkalaki 71.43 309 ⇑P **P** **23 41 40.8 +1.7**
CHVG Ch'k'valeri 71.48 310 ⇑P **P** **23 41 40.7 +1.5**
CHVG Ch'k'valeri 71.48 310 ⇑P **P** **23 41 40.7 +1.5**
PABE Paberze 72.13 329 *e*P **P** **23 41 43.4 +0.5**
NC204 NORSAR Array S 72.30 338 P **P** **23 41 44.0 +0.2**
NB2 NORSAR Subarra 72.36 338 P **P** **23 41 44.4 +0.2**
comp=Z,13nm,1.0s,baz=38,slow=6.2
NOA NORSAR Array B 72.36 338 P **P** **23 41 44.4 +0.2**
comp=Z,5.2nm,0.8s,baz=38,slow=6.0,SNR=26
NOA LR LR 00 16 38.1
comp=Z,70nm,20.9s,baz=20,slow=38
UOSS Minazif 72.54 288 P **P** **23 41 45.1 -0.8**
UOSS IAmb IAmb 23 41 46.5
comp=Z,4.8nm,0.8s
AKASG Malin Array Be 73.18 323 P **P** **23 41 49.5 +0.3**
comp=Z,3.8nm,0.7s,baz=45,slow=6.0,SNR=22
AKASG Malin Array Be 73.18 323 P **P** **23 41 49.5 +0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 73.18 323 IAmb IAmb 23 41 49.9
comp=Z,1.4nm,0.7s
PDAR Pinedale Array 74.66 47 P **P** **23 41 59.1 +0.8**

comp=Z,0.5nm,0.7s,baz=252,slow=4.8,SNR=6.0
SORM Soroca 75.36 321 ⇑P **P 23 42 02.0 +0.1**
SORM Soroca 75.36 321 ⇑P **P 23 42 02.0 +0.1**
MARD Mardin 75.60 307 P **P 23 42 04.1 +0.4**
KWP Kalwaria Pacla 76.91 325 P **P 23 42 11.1 +0.4**
KWP Kalwaria Pacla 76.91 325 P **P 23 42 11.1 +0.4**
BUR08 Bucovina Ar. S 77.21 322 P **P 23 42 12.7 0.0**
BUR08 IAmb IAmb 23 42 15.5
comp=Z,5.5nm,1.1s
BURAR Bucovina Array 77.22 322 ⇓P **P 23 42 13.3 +0.6**
BURAR Bucovina Array 77.22 322 ⇓P **P 23 42 13.3 +0.6**
BURAR Bucovina Array 77.22 322 eP **P 23 42 12.9 +0.2**
KOLS Kolonicke sedl 77.61 325 eP **P 23 42 16.0 +1.3**
KOLS Kolonicke sedl 77.61 325 eP **P 23 42 16.0 +1.3**
OJC Ojcow 77.73 327 P **P 23 42 15.2 -0.1**
OJC pmax pmax
comp=Z,8.0nm,0.9s
OJC Ojcow 77.73 327 P **P 23 42 15.2 -0.1**
OJC IAmb IAmb 23 42 17.2
comp=Z,7.6nm,0.9s
BRTR Keskin Array B 78.29 312 P **P 23 42 19.1 +0.3**
comp=Z,0.8nm,0.7s,baz=64,slow=2.9,SNR=6.0
BRTR LR LR 00 21 50.8
comp=Z,63nm,18.9s,baz=36,slow=40
BRTR Keskin Array B 78.29 312 P **P 23 42 18.4 -0.5**
LANS Liptovska Anna 78.67 326 eP **P 23 42 22.9 +2.2**
LANS pmax pmax
comp=Z,3.0nm,1.0s
LANS Liptovska Anna 78.67 326 eP **P 23 42 22.9 +2.2**
VOIR 78.87 321 ⇑P **P 23 42 23.3 +1.4**
VOIR 78.87 321 ⇑P **P 23 42 23.3 +1.4**
CHVC Chvalec 78.98 329 i P **P 23 42 23.4 +1.1**
MORC Moravsky Berou 79.00 328 ⇓P **P 23 42 23.5 +1.1**
MORC Moravsky Berou 79.00 328 ⇓P **P 23 42 23.5 +1.1**
DPC Dobruska-Polom 79.06 329 ⇓i P **P 23 42 24.2 +1.5**
DPC Dobruska-Polom 79.06 329 ⇓i P **P 23 42 24.2 +1.5**
KRLC Kraliky 79.08 328 ⇓i P **P 23 42 24.0 +1.1**
KRLC Kraliky 79.08 328 ⇓i P **P 23 42 24.0 +1.1**
ARR Arges 79.12 321 ⇓P **P 23 42 25.1 +1.9**
PSZ Piszkesteto 79.42 325 P **P 23 42 24.9 +0.1**
PSZ pmax pmax
comp=Z,5.0nm,0.9s
PSZ Piszkesteto 79.42 325 P **P 23 42 24.9 +0.1**
PSZ IAmb IAmb 23 42 26.9
comp=Z,5.2nm,0.9s
BRG Berggiesshubel 79.58 330 eP **P 23 42 26.3 +0.8**
BRG Amp 23 42 27.7
comp=Z,6.2nm,1.3s
CLL Collm 79.59 331 i P **P 23 42 26.0 +0.5**
comp=Z,7.0nm,0.9s
CLL Collm 79.59 331 i P **P 23 42 26.0 +0.5**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 79.59 331 P **P 23 42 25.3 -0.2**
CLL IAmb IAmb 23 42 26.8
comp=Z,6.6nm,0.9s
PVCC Panska Ves 79.61 330 eP **P 23 42 27.0 +1.3**
PVCC Panska Ves 79.61 330⇓eP **P 23 42 27.0 +1.3**
VRAC Vranov 79.76 328 ⇑P **P 23 42 27.9 +1.3**
VRAC Vranov 79.76 328 ⇑P **P 23 42 27.9 +1.3**
GZR Gura Zlata 80.00 322 ⇑P **P 23 42 28.5 +0.6**
GZR Gura Zlata 80.00 322 ⇑P **P 23 42 28.5 +0.6**
GOPC GO Pecny, Ondr 80.01 329 eP **P 23 42 29.1 +1.2**
GOPC GO Pecny, Ondr 80.01 329⇓eP **P 23 42 29.1 +1.2**
PRU Pruhonice 80.05 329 eP **P 23 42 29.2 +1.1**
PRU Pruhonice 80.05 329⇓eP **P 23 42 29.2 +1.1**
MODS Modra-Piesok 80.20 327 eP **P 23 42 30.0 +1.0**
MODS pmax pmax
comp=Z,6.0nm,1.0s
MODS Modra-Piesok 80.20 327 eP **P 23 42 30.0 +1.0**
MDVR Moldovita 80.95 322 ⇑P **P 23 42 34.0 +0.9**
CKRC Cesky Krumlov 81.07 329 ⇓i P **P 23 42 34.4 +0.8**
KHC Kasperske Hory 81.11 329 P **P 23 42 34.1 +0.2**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 81.11 329 ⇓i P **P 23 42 34.9 +1.1**
KHC ex x 23 42 47.6
KHC Kasperske Hory 81.11 329 P **P 23 42 34.1 +0.2**
RAYN Ar Rayn 81.13 293 P **P 23 42 33.8 -0.6**
RAYN pmax pmax
comp=Z,3.0nm,0.8s
RAYN Ar Rayn 81.13 293 P **P 23 42 33.8 -0.6**
CONA Conrad Observa 81.14 327 i P **P 23 42 35.4 +1.3**
comp=Z,3.8nm,0.9s,SNR=5.2
GERES GERESS Array B 81.29 329 P **P 23 42 35.0 +0.1**
comp=Z,0.9nm,0.7s,baz=46,slow=5.8,SNR=9.0
GERES LR LR 00 23 18.4
comp=Z,96nm,18.4s,baz=9.0,slow=39
GERES GERESS Array B 81.29 329 P **P 23 42 35.0 +0.1**
GERES GERESS Array B 81.29 329 P **P 23 42 34.3 -0.6**
FRGS Fruska Gora 81.56 323 ⇑P **P 23 42 36.6 +0.4**
VTS Vitosha 81.82 320 ⇓P **P 23 42 39.3 +1.5**
VTS Vitosha 81.82 320 P **P 23 42 37.8 -0.1**
VTS pmax pmax
comp=Z,4.0nm,0.8s
VTS Vitosha 81.82 320 P **P 23 42 37.8 -0.1**
VTS IAmb IAmb 23 42 39.9
comp=Z,4.3nm,0.8s
SOKA Soboth 82.48 327 eP **P 23 42 41.8 +0.6**
comp=Z,5.3nm,0.9s
KBA Koelnbreinsper 82.85 328 eP **P 23 42 44.9 +1.7**
comp=Z,4.9nm,0.8s
MOTA Moosalm 83.53 330 eP **P 23 42 47.8 +1.1**
comp=Z,3.4nm,0.9s
RETA Reutte 83.55 330 eP **P 23 42 47.5 +0.8**
comp=Z,6.3nm,1.2s
FETA Feichten 83.94 330 eP **P 23 42 49.2 +0.4**
comp=Z,3.5nm,0.9s,SNR=5.0
DAVA Damuels 84.05 330 eP **P 23 42 50.3 +0.9**
comp=Z,5.5nm,1.0s
TXAR Lajitas Array 87.23 54 P **P 23 43 06.2 +0.8**
comp=Z,0.3nm,0.8s,baz=305,slow=3.2,SNR=2.6
ESDC Sonseca Array 95.59 335 LR LR 00 32 31.3
comp=Z,74nm,18.5s,baz=310,slow=39

*IDC **19** 23:59:27.3±1.8, 14°.62N×90°.64W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/26, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=131.5km s-min=28.6km az=64.0*
*GCG **19** 23:59:35.7±0.3, 13°.99N×91°.59W, h35km±999km, MD3.8*
ISC 19 23:59:33.5±1.3, 14°.1N±0°.2×91°.82W±0°.10, h35km, n7, σ1§49/8, mb3.6/3, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.01**	**69**	*eP*	**Pn**	**23 59 51.7**	**+0.3**
PCG	**Pacaya**	**1.21**	**76**	*eP*	**Pn**	**23 59 54.5**	**+0.3**
NBG	**Las Nubes**	**1.51**	**71**	*eP*	**Pn**	**23 59 58.9**	**+0.6**
NBG				*eS*	**Sn**	**00 00 17.0**	**+0.1**
TXAR	**Lajitas Array**	**18.72**	**326**	P	**P**	**00 03 50.2**	**+0.9**
	0.0nm,0.3s,baz=139,slow=8.4,SNR=3.0						
NVAR	**Mina Array Bea**	**33.71**	**321**	P	**P**	**00 06 13.4**	**+1.6**
	0.4nm,0.5s,baz=125,slow=9.1,SNR=4.5						
YKA	**Yellowknife Ar**	**50.98**	**347**	P	**P**	**00 08 28.8**	**-2.7**
	0.2nm,0.7s,baz=145,slow=7.9,SNR=3.2						
PLCA	**Paso Flores**	**58.00**	**161**	P	**P**	**00 09 22.8**	**-0.1**
	1.0nm,0.6s,baz=321,slow=10,SNR=3.4						

*IDC **20** 00:21:41.9±2.0, 11°.71S×166°.58E, h109km±16km, mb4.3/22, mb1 4.4/24, mb1mx4.3/34, mbtmp4.7/24, MS3.7/11, Ms1 3.7/11, ms1mx3.5/22, Error ellipse: s-maj=14.8km s-min=10.9km az=92.0*
*GCMT **20** 00:21:45.1±0.2, 11°.79S±0°.02×166°.35E±0°.01, h126km±1km, MW5.1/130, Moment Tensor Solution. s85,c101; s130,c188; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.16±.09; Mθθ0.05±.14; Mϕϕ-5.21±.13; Mrθ-1.22±.11; Mrϕ 1.04±.15; Mθϕ-0.15±.12; Best double couple: M≈5.42900×10^16^ NP1:ϕs182.00000°, δ46.00000°, λ109.00000°. NP2:ϕs336.00000°, δ47.00000°, λ72.00000°. Principal axes: T 5.4500, Plg77.0000°, Azm171.0000°; N -0.0430, Plg13.0000°, Azm349.0000°; P -5.4090, Plg0.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **20** 00:21:46.1±1.8, 11°.74S±0°.05×166°.44E±0°.08, h142km±5km, mb4.9/102 Error ellipse: s-maj=12.9km s-min=1.7km az=57.0*
*BJI **20** 00:21:47.0±0.0, 11°.43S×166°.09E, h135km, mB5.0/23, mb5.0/44*

ISC 20 00:21:46.4±0.3, 11°.85S±0°.05×166°.49E±0°.05, h150km, n243, σ1§36/251, mb4.9/87, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.87**	**290**	P	**Pn**	**00 23 22.1**	**-2.6**
	16nm,0.3s,baz=269,slow=21,SNR=4.8						
HNR				S	**Sn**	**00 24 42.0**	**+0.2**
	baz=102,slow=19,SNR=1.0						
HNR				LR	LR	00 26 01.8	
	comp=Z,705nm,19.4s,baz=120,slow=38						
HNR	**Honiara**	**6.87**	**290**		**Pn**	**00 23 23.4**	**-1.3**
LIFNC	**LIFOU**	**8.91**	**175**	P	**Pn**	**00 23 51.5**	**-0.4**
MARNC	**Mare, Loyalty**	**9.69**	**171**	P	**Pn**	**00 24 02.0**	**-0.3**
YATNC	**Mamie plateau,**	**10.16**	**178**	P	**Pn**	**00 24 09.1**	**+0.5**
DZM	**Mont Dzumac**	**10.17**	**180**	*e*Pn	**Pn**	**00 24 10.2**	**+1.5**
	70nm,0.3s						
DZM				*e*Sn	**Sn**	**00 25 55.9**	**-5.5**
	28nm,0.3s						
DZM				*e*LR	LR	00 26 35.5	
	comp=Z,860nm,31.9s						
DZM	**Mont Dzumac**	**10.17**	**180**	P	**Pn**	**00 24 09.3**	**+0.5**
	24nm,0.3s,baz=334,slow=11,SNR=170						
DZM				S	**Sn**	**00 25 59.9**	**-1.4**
	5.3nm,0.3s,baz=318,slow=22,SNR=12						
DZM				LR	LR	00 27 48.0	
	comp=Z,203nm,18.8s,baz=266,slow=36						
DZM	**Mont Dzumac**	**10.17**	**180**	Pn	**Pn**	**00 24 10.0**	**+1.3**
DZM	**Mont Dzumac**	**10.17**	**180**	P	**Pn**	**00 24 10.3**	**+1.5**
ONTNC	**Ouen Toro**	**10.40**	**180**	P	**Pn**	**00 24 14.1**	**+2.4**
OUENC	**Ouen Island, N**	**10.52**	**178**	P	**Pn**	**00 24 16.0**	**+2.7**
MSVF	**Nonsavu**	**12.61**	**119**	P	**P**	**00 24 46.5**	**+0.2**
	1.0nm,0.3s,baz=280,slow=8.0,SNR=19						
MSVF				LR	LR	00 28 40.6	
	comp=Z,647nm,19.8s,baz=225,slow=33						
MSVF	**Nonsavu**	**12.61**	**119**	Pn	**Pn**	**00 24 42.7**	**+2.0**
FUNA	**Funafuti**	**12.93**	**76**	Pn	**Pn**	**00 24 44.4**	**-0.4**
PMG	**Port Moresby**	**19.16**	**275**	P	**P**	**00 25 59.3**	**+0.9**
	2.5nm,0.3s,baz=114,slow=8.8,SNR=4.1						
PMG	**Port Moresby**	**19.16**	**275**	P	**P**	**00 25 59.1**	**+0.7**
PMG				IAmb	IAmb	00 26 06.7	
	comp=Z,19nm,0.6s						
EIDS	**Eidsvold**	**19.82**	**225**	P	**P**	**00 26 07.5**	**+2.0**
	baz=20,SNR=12						
EIDS	**Eidsvold**	**19.82**	**225**	P	**P**	**00 26 06.8**	**+1.3**
EIDS				IAmb	IAmb	00 26 08.3	
	comp=Z,21nm,0.6s						
PATS	**Pohnpei**	**20.27**	**336**	P	**P**	**00 26 09.4**	**-0.9**
LHI	**Lord Howe Isla**	**20.75**	**198**	P	**P**	**00 26 16.5**	**+1.2**
	baz=21,SNR=3.7						
LHI	**Lord Howe Isla**	**20.75**	**198**	P	**P**	**00 26 16.0**	**+0.7**
LHI				IAmb	IAmb	00 26 29.1	
	comp=Z,82nm,0.9s						
CTA	**Charters Tower**	**21.09**	**245**	P	**P**	**00 26 19.6**	**+0.4**
	comp=Z,7.8nm,0.7s,baz=78,slow=12,SNR=12						
CTAO	**Charters Tower**	**21.09**	**245**	P	**P**	**00 26 19.9**	**+0.7**
AFI	**Afiamalu**	**21.28**	**98**	P	P	00 26 12.5	-8.8
RMQ	**Roma**	**22.15**	**226**	P	**P**	**00 26 31.5**	**+1.3**
	baz=22,SNR=19						
MTSU	**Mount Surprise**	**22.30**	**251**	P	**P**	**00 26 32.2**	**+0.4**
	baz=22,SNR=28						
COEN	**Coen**	**22.82**	**262**	P	**P**	**00 26 36.6**	**-0.1**
ARMA	**Armidale**	**23.05**	**214**	P	**P**	**00 26 40.5**	**+1.7**
	baz=23,SNR=19						
ARMA	**Armidale**	**23.05**	**214**	P	**P**	**00 26 40.5**	**+1.7**
ARMA				IAmb	IAmb	00 26 43.5	
	comp=Z,49nm,1.1s						
KNTN	**Kanton**	**23.39**	**69**	P	**P**	**00 26 42.9**	**+1.0**
KNTN				IAmb	IAmb	00 26 44.7	
	comp=Z,48nm,0.8s						
OUZ	**Omahuta**	**24.15**	**166**	P	**P**	**00 26 50.8**	**+2.3**
MGCD	**Mangrove Creek**	**25.51**	**211**	P	**P**	**00 27 02.8**	**+1.9**
	baz=26,SNR=7.2						
QLP	**Quilpie**	**25.56**	**232**	P	**P**	**00 27 02.5**	**+1.0**
	baz=26,SNR=4.7						
QIS	**Mount Isa**	**27.20**	**248**	P	**P**	**00 27 16.4**	**+0.1**
	baz=27,SNR=5.6						
CMSA	**Cobar Meteorol**	**27.43**	**221**	P	**P**	**00 27 19.0**	**+0.8**
	baz=27,SNR=11						
HAZ	**Te Kaha**	**27.71**	**161**	P	**P**	**00 27 22.2**	**+1.6**
MXZ	**Matakaoa Point**	**27.71**	**160**	P	**P**	**00 27 21.5**	**+0.9**
MXZ				IAmb	IAmb	00 27 23.2	
	comp=Z,30nm,0.8s						
YNG	**Young**	**27.77**	**213**	P	**P**	**00 27 22.6**	**+1.4**
	baz=28,SNR=9.8						
URZ	**Urewera**	**27.96**	**162**	P	**P**	**00 27 24.1**	**+1.3**
	comp=Z,10nm,0.4s,baz=271,slow=2.7,SNR=8.0						
URZ	**Urewera**	**27.96**	**162**	IAmb	IAmb	00 27 26.2	
	comp=Z,22nm,1.0s						
URZ	**Urewera**	**27.96**	**162**	P	**P**	**00 27 23.6**	**+0.7**
CNB	**Canberra Magne**	**28.05**	**211**	P	**P**	**00 27 25.2**	**+1.4**
	baz=28,SNR=6.8						
MUGZ	**Murupara**	**28.06**	**163**	P	**P**	**00 27 25.5**	**+1.7**
CAN	**Canberra**	**28.24**	**211**	P	**P**	**00 27 25.5**	**0.0**
CAN				IAmb	IAmb	00 27 33.4	
	comp=Z,18nm,1.1s						
WTVZ	**West Tongariro**	**28.34**	**165**	P	**P**	**00 27 28.6**	**+2.3**
TMVZ	**Te Maari**	**28.37**	**165**	P	**P**	**00 27 29.5**	**+3.0**
ETVZ	**East Tongariro**	**28.39**	**165**	P	**P**	**00 27 30.9**	**+4.1**
NGZ	**Ngauruhoe**	**28.40**	**165**	P	**P**	**00 27 30.7**	**+3.9**
OTVZ	**Oturere**	**28.40**	**165**	P	**P**	**00 27 29.8**	**+2.9**
OTVZ				S	**S**	**00 31 57.7**	**-5.3**
CNGZ	**Carnagh Statio**	**28.51**	**160**	P	**P**	**00 27 29.2**	**+1.4**
RIGZ	**Rimuhau**	**28.57**	**161**	P	**P**	**00 27 28.5**	**+0.2**
BKZ	**Black Stump Fm**	**28.62**	**164**	P	**P**	**00 27 30.2**	**+1.4**
BHHZ	**Black Hill Sta**	**28.81**	**165**	P	**P**	**00 27 31.6**	**+1.2**
BHHZ				S	**S**	**00 32 02.8**	**-6.5**
QRZ	**Quartz Range**	**29.35**	**171**	P	**P**	**00 27 37.6**	**+2.5**
NNZ	**Nelson**	**29.88**	**170**	P	**P**	**00 27 42.1**	**+2.4**
NNZ				IAmb	IAmb	00 27 44.5	
	comp=Z,30nm,1.0s						
BFZ	**Birch Farm**	**29.98**	**165**	P	**P**	**00 27 40.6**	**-0.1**
H11S2	**WAKE ISLAND Hy**	**30.15**	**0**	T	T	00 58 24.7	
	baz=181,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**30.15**	**0**	T	T	00 58 24.2	
	baz=181,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**30.16**	**0**	T	T	00 58 44.9	
	baz=181,slow=76,SNR=8.3						
TUWZ	**Tuamarina**	**30.18**	**169**	P	**P**	**00 27 43.7**	**+1.2**
THZ	**Tophouse**	**30.33**	**170**	P	**P**	**00 27 45.9**	**+2.1**
STKA	**Stephens Creek**	**30.38**	**225**	P	**P**	**00 27 45.8**	**+1.4**
	comp=Z,21nm,0.7s,baz=45,slow=7.9,SNR=34						
STKA				PcP	**PcP**	**00 30 41.8**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=56,slow=4.7,SNR=3.1						
STKA				LR	LR	00 40 23.8	
	comp=Z,265nm,18.1s,baz=55,slow=37						
STKA	**Stephens Creek**	**30.38**	**225**	P	**P**	**00 27 45.5**	**+1.2**
	baz=30,SNR=14						
STKA	**Stephens Creek**	**30.38**	**225**	P	**P**	**00 27 45.7**	**+1.4**
MSWZ	**Moikau Station**	**30.44**	**167**	P	**P**	**00 27 45.2**	**+0.5**
BSWZ	**Blackbirch Sta**	**30.45**	**169**	P	**P**	**00 27 47.0**	**+2.2**
PLWZ	**Palliser**	**30.59**	**167**	P	**P**	**00 27 46.5**	**+0.4**
KHZ	**Kahutara**	**31.07**	**170**	P	**P**	**00 27 51.0**	**+0.8**
KHZ				IAmb	IAmb	00 27 52.9	
	comp=Z,44nm,1.1s						
LTZ	**Lake Taylor**	**31.23**	**172**	P	**P**	**00 27 53.5**	**+1.8**
FOZ	**Fox Glacier**	**31.70**	**175**	P	**P**	**00 27 57.6**	**+1.9**
WR0	**Warramunga Arr**	**31.72**	**251**	P	**P**	**00 27 55.5**	**-0.8**
WR0				IAmb	IAmb	00 27 57.8	
	comp=Z,12nm,1.1s						
OXZ	**Oxford**	**31.73**	**172**	P	**P**	**00 27 57.7**	**+1.6**
TOO	**Toolangi**	**31.78**	**213**	P	**P**	**00 27 57.8**	**+1.2**
	baz=32,SNR=23						
TOO	**Toolangi**	**31.78**	**213**	P	**P**	**00 27 57.9**	**+1.2**
WB0	**Warramunga Arr**	**31.83**	**252**	P	**P**	**00 27 56.6**	**-0.7**
WB0				IAmb	IAmb	00 27 58.7	
	comp=Z,32nm,0.8s						
WC3	**Warramunga Arr**	**31.88**	**251**	P	**P**	**00 27 57.1**	**-0.6**
	baz=32						
WRAB	**Tennant Creek**	**31.90**	**251**	P	**P**	**00 27 57.1**	**-0.7**
WB2	**Warramunga Arr**	**31.90**	**251**	IAmb	IAmb	00 27 57.6	
	comp=Z,8.4nm,0.7s						
WRA	**Warramunga Arr**	**31.91**	**251**	P	**P**	**00 27 57.2**	**-0.7**
	comp=Z,5.7nm,0.5s,baz=84,slow=9.0,SNR=110						
WRA				PcP	**PcP**	**00 30 45.8**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=78,slow=3.2,SNR=9.5						
WRA				LR	LR	00 41 18.2	
	comp=Z,130nm,18.7s,baz=60,slow=37						
WRA	**Warramunga Arr**	**31.91**	**251**	P	**P**	**00 27 56.9**	**-1.1**
WRA					**PcP**	**00 30 45.7**	**+0.8**
RPZ	**Rata Peaks**	**32.00**	**174**	P	**P**	**00 27 58.4**	**0.0**
	comp=Z,23nm,0.6s,baz=335,slow=2.5,SNR=12						
RPZ	**Rata Peaks**	**32.00**	**174**	P	**P**	**00 28 00.7**	**+2.3**
MQZ	**McQueen's Vall**	**32.19**	**172**	P	**P**	**00 28 01.7**	**+1.7**
LBZ	**Lake Benmore**	**32.58**	**175**	P	**P**	**00 28 04.1**	**+0.6**
LBZ				IAmb	IAmb	00 28 06.2	
	comp=Z,34nm,1.1s						
WKZ	**Wanaka**	**32.94**	**177**	P	**P**	**00 28 08.0**	**+1.4**
AS31	**Alice Springs**	**33.10**	**245**		**PcP**	**00 30 48.8**	**+0.5**
ASAR	**Alice Springs**	**33.10**	**245**	P	**P**	**00 28 07.3**	**-1.0**
	comp=Z,8.4nm,0.7s,baz=70,slow=9.9,SNR=125						
ASAR				PcP	**PcP**	**00 30 48.2**	**0.0**
	comp=Z,5.9nm,0.8s,baz=76,slow=2.8,SNR=19						
ASAR				ScP	**ScP**	**00 34 22.3**	**+3.6**
	comp=Z,0.9nm,0.9s,baz=96,slow=4.2,SNR=4.7						
ASAR				LR	LR	00 41 13.7	
	comp=Z,117nm,19.3s,baz=70,slow=35						
ASPA	**Alice Springs**	**33.10**	**245**	P	**P**	**00 28 07.7**	**-0.7**
	baz=33						
HTT	**Hallett**	**33.12**	**225**	P	**P**	**00 28 09.4**	**+1.0**
	baz=33,SNR=13						
KDU	**Kakadu**	**33.24**	**265**	P	**P**	**00 28 08.8**	**-0.8**
	baz=33,SNR=14						
ODZ	**Otahua Downs**	**33.27**	**175**	P	**P**	**00 28 10.5**	**+1.1**
ODZ				IAmb	IAmb	00 28 20.7	
	comp=Z,27nm,1.1s						
ARPS	**Mount Arapiles**	**33.28**	**218**	P	**P**	**00 28 11.4**	**+1.8**
	baz=33						
MLZ	**Mavora Lakes**	**33.43**	**178**	P	**P**	**00 28 12.3**	**+1.4**
DCZ	**Deep Cove**	**33.51**	**179**	P	**P**	**00 28 12.5**	**+1.1**
DCZ				IAmb	IAmb	00 28 15.8	
	comp=Z,21nm,1.0s						
WHZ	**Wether Hill Ro**	**33.95**	**178**	P	**P**	**00 28 16.0**	**+0.6**
WHZ				IAmb	IAmb	00 28 16.9	
	comp=Z,41nm,1.2s						
PYZ	**Puysegur Point**	**34.20**	**180**	P	**P**	**00 28 18.1**	**+0.6**
MTN	**Manton Dam**	**34.54**	**265**		**PcP**	**00 30 53.1**	**+0.6**
BBOO	**Buckleboo**	**34.83**	**228**	P	**P**	**00 28 23.6**	**+0.5**
	baz=35,SNR=44						
BBOO	**Buckleboo**	**34.83**	**228**	IAmb	IAmb	00 28 25.0	
	comp=Z,44nm,1.1s						
WRKA	**Warakurna**	**38.39**	**245**	P	**P**	**00 28 53.0**	**-0.5**
	baz=38,SNR=35						
FITZ	**Fitzroy Crossi**	**39.89**	**256**	P	**P**	**00 29 05.9**	**0.0**
	baz=40,SNR=40						
FITZ	**Fitzroy Crossi**	**39.89**	**256**	IAmb	IAmb	00 29 07.9	
	comp=Z,23nm,0.8s						
FITZ					**PcP**	**00 31 10.1**	**+1.3**
FORT	**Forrest**	**40.19**	**236**	P	**P**	**00 29 08.6**	**+0.4**
	baz=40,SNR=24						
FORT	**Forrest**	**40.19**	**236**	P	**P**	**00 29 08.9**	**+0.7**
PPT2	**Papeete2**	**42.80**	**103**	*e*LR	LR	00 41 28.7	
	comp=Z,957nm,30.2s						
TBI	**Tubuai**	**43.36**	**111**	*e*LR	LR	00 41 45.2	
	comp=Z,281nm,35.2s						
EDFI	**Ende, Flores**	**44.15**	**270**	P	**P**	**00 29 39.5**	**-1.2**
	comp=Z,6.0nm,1.7s						
LUWI	**Luwuk**	**44.67**	**281**	P	**P**	**00 29 43.9**	**-0.8**
JCJ	**Chichijima**	**45.34**	**329**	P	**P**	**00 29 48.8**	**-0.8**
	comp=Z,26nm,0.5s,baz=295,slow=22,SNR=4.0						
JCJ	**Chichijima**	**45.34**	**329**	IAmb	IAmb	00 30 07.8	
	comp=Z,32nm,0.8s						
KMBL	**Kambalda**	**45.43**	**237**	P	**P**	**00 29 50.7**	**+0.3**
	baz=45,SNR=19						
PSA00	**Pilbara Seismi**	**45.56**	**251**	P	**P**	**00 29 52.3**	**+0.7**
PSA00				IAmb	IAmb	00 29 52.6	
	comp=Z,25nm,0.6s						
PSA00	**Pilbara Seismi**	**45.56**	**251**	P	**P**	**00 29 51.4**	**-0.3**
PSA00				IAmb	IAmb	00 30 02.1	
	comp=Z,13nm,0.7s						
TOLI2	**Tolitoli**	**47.19**	**283**	P	**P**	**00 30 03.5**	**-0.9**
TOLI2				IAmb	IAmb	00 30 04.9	
	comp=Z,12nm,0.8s						
TWSI	**Taliwang, Sumb**	**48.86**	**269**	P	**P**	**00 30 16.3**	**-0.9**
	comp=Z,16nm,1.6s						
KLBR	**Kellerberrin**	**48.91**	**238**	P	**P**	**00 30 17.2**	**-0.2**
	baz=49,SNR=16						
BLDU	**Ballidu**	**49.59**	**240**	P	**P**	**00 30 22.4**	**-0.1**
	baz=49,SNR=8.9						
NWAO	**Narrogin (SRO)**	**49.63**	**237**	P	**P**	**00 30 23.2**	**+0.3**
	baz=50,SNR=13						
NWAO	**Narrogin (SRO)**	**49.63**	**237**	P	**P**	**00 30 23.0**	**+0.2**
NWAO				IAmb	IAmb	00 30 24.3	
	comp=Z,25nm,0.8s						
MORW	**Morawa**	**49.89**	**242**	P	**P**	**00 30 25.1**	**+0.3**
	baz=50,SNR=7.3						
MORW	**Morawa**	**49.89**	**242**	P	**P**	**00 30 25.4**	**+0.6**
MORW				IAmb	IAmb	00 30 27.3	
	comp=Z,26nm,0.9s						
MUN	**Mundaring**	**50.27**	**238**	P	**P**	**00 30 28.2**	**+0.5**
	baz=50,SNR=5.8						
GIRL	**Giralia**	**50.83**	**250**	P	**P**	**00 30 33.4**	**+1.5**
GIRL				IAmb	IAmb	00 30 53.3	
	comp=Z,27nm,0.7s						
JAGI	**Jajag, Banyuwa**	**51.57**	**269**	P	**P**	**00 30 36.0**	**-1.7**
BBKI	**Banjar Baru**	**51.79**	**275**	P	**P**	**00 30 39.3**	**0.0**
KKM	**Kota Kinabalu**	**53.07**	**287**	P	**P**	**00 30 48.7**	**-0.1**
JOW	**Kunigami**	**53.44**	**317**	P	**P**	**00 30 50.6**	**-0.6**
JGF	**Kuroka**	**54.64**	**331**	P	**P**	**00 30 58.3**	**-1.5**
JGF				IAmb	IAmb	00 31 00.8	
	comp=Z,7.7nm,0.7s						
JMN	**Monobe**	**54.94**	**327**	P	**P**	**00 31 01.9**	**0.0**
MJAR	**Matsushiro Arr**	**55.02**	**332**	P	**P**	**00 31 00.4**	**-2.0**
	comp=Z,4.1nm,0.8s,baz=161,slow=8.4,SNR=7.9						
MJAR	**Matsushiro Arr**	**55.02**	**332**	P	**P**	**00 31 01.4**	**-1.0**
UGM	**Wanagama**	**55.21**	**269**	P	**P**	**00 31 04.0**	**-0.2**
UGM				IAmb	IAmb	00 31 11.9	
	comp=Z,23nm,0.8s						
JSU	**Suzuyama**	**55.24**	**322**	P	**P**	**00 31 04.0**	**-0.1**
JWT	**Wachi**	**55.35**	**329**	P	**P**	**00 31 04.1**	**-0.7**
JWT				IAmb	IAmb	00 31 13.4	
	comp=Z,10.0nm,0.9s						
JSD	**Sado**	**56.23**	**333**	P	**P**	**00 31 09.9**	**-1.0**
JSD				IAmb	IAmb	00 31 11.4	
	comp=Z,14nm,0.9s						
JHS	**Saijyo**	**56.31**	**327**	P	**P**	**00 31 11.2**	**-0.4**
JHS				IAmb	I

comp=Z,14nm,1.1s
CN2 Changchun 66.80 329 *e*P P **00 32 21.3 -0.5**
CN2 pmax pmax
comp=Z,30nm,1.0s
MNSI Mandailing Nat 67.60 276 P P **00 32 27.0 -0.5**
comp=Z,57nm,0.7s
KULM Kulim 67.65 281 IAmb IAmb 00 32 29.4
comp=Z,12nm,0.9s
RPSI Rantau Prapat 68.68 278 P P **00 32 33.8 -0.4**
RPSI IAmb IAmb 00 32 35.8
comp=Z,28nm,0.8s
ENH Enshi 68.97 309 P P **00 32 36.2 +0.5**
ENH IAmb IAmb 00 32 36.9
comp=Z,26nm,0.9s
GSI Gunungsitoli 69.67 276 P P **00 32 40.9 +0.6**
GSI Gunungsitoli 69.67 276 P P **00 32 41.0 +0.6**
XAN Xi'an 71.20 312 ⇑P P **00 32 49.4 +0.1**
XAN pP pwP 00 33 27.4 -1.0
XAN pmax pmax
comp=Z,28nm,1.0s
XAN Xi'an 71.20 312 P P **00 32 48.8 -0.4**
XAN IAmb IAmb 00 32 51.0
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 73.10 294 P P **00 33 01.9 +1.1**
comp=Z,19nm,0.7s,baz=128,slow=4.7,SNR=79
CMAR Chiang Mai Arr 73.10 294 P P **00 33 02.2 +1.4**
CHTO Chiang Mai 73.22 294 P P **00 33 02.2 +0.7**
CHTO IAmb IAmb 00 33 02.7
comp=Z,14nm,0.6s
LZH Lanzhou 75.83 312 *e*P P **00 33 17.5 +1.0**
LZH pmax pmax
comp=Z,38nm,1.3s
ULN Ulaanbaatar 79.38 324 P P **00 33 36.3 +0.4**
ULN IAmb IAmb 00 33 37.2
comp=Z,11nm,0.7s
BILL Bilibino 79.67 360 P P **00 33 36.2 -0.7**
SONM Songino Array 79.74 324 P P **00 33 37.9 +0.1**
comp=Z,6.5nm,0.7s,baz=149,slow=5.6,SNR=26
SONM LR LR 01 08 36.5
comp=Z,19nm,20.0s,baz=40,slow=35
GTA Gaotai 80.14 314 *e*P P **00 33 40.9 +0.8**
GTA pmax pmax
comp=Z,10.0nm,0.9s
YBH Yreka Blue Hor 83.93 45 P P **00 33 59.2 -0.7**
comp=Z,2.3nm,0.7s,baz=199,slow=1.0,SNR=11
YBH Yreka Blue Hor 83.93 45 P P **00 34 01.7 +1.9**
ORV Oroville 84.01 48 P P **00 34 01.4 +1.2**
ILAR Eielson Array 84.04 18 P P **00 33 58.4 -1.3**
comp=Z,1.4nm,0.5s,baz=246,slow=5.0,SNR=45
ILAR PKKPbc **PKKPdf 00 52 12.6 +4.3**
comp=Z,0.2nm,0.6s,baz=342,slow=1.2,SNR=4.5
ILAR LR LR 01 05 21.9
comp=Z,79nm,21.3s,baz=114,slow=31
ILAR Eielson Array 84.04 18 P P **00 33 59.0 -0.8**
SCRK Sand Creek 84.42 20 P P **00 34 01.8 0.0**
TAPN Taplejung 85.63 299 *e*P P **00 34 09.0 +0.1**
comp=Z,26nm,0.8s
ODAN Odare 85.78 298 *e*P P **00 34 09.4 -0.2**
comp=Z,30nm,0.8s
NVAR Mina Array Bea 85.98 50 P P **00 34 09.9 -0.4**
comp=Z,1.4nm,0.7s,baz=233,slow=8.5,SNR=12
NVAR LR LR 01 10 12.3
comp=Z,68nm,18.2s,baz=212,slow=34
NVAR Mina Array Bea 85.98 50 P P **00 34 11.4 +1.1**
RAMN Ramite 86.48 298 *e*P P **00 34 12.8 -0.2**
comp=Z,9.4nm,0.5s
BMAR Burnt Mountain 86.55 17 P P **00 34 12.8 +0.6**
TIXI Tiksi 87.01 349 P P **00 34 15.0 +0.8**
GUN Gumba 87.34 299 *e*P P **00 34 17.0 -0.3**
comp=Z,24nm,0.8s
PALK Pallekele 87.38 278 P P **00 34 18.6 +1.2**
PALK IAmb IAmb 00 34 19.9
comp=Z,7.7nm,0.8s
PKI Pulchoki 87.66 299 *e*P P **00 34 18.2 -0.6**
comp=Z,22nm,0.5s
PKIN Phulchoki 87.67 299 *e*P P **00 34 18.4 -0.4**
comp=Z,24nm,0.5s
KKN Kakani 87.83 299 *e*P P **00 34 19.1 -0.4**
comp=Z,24nm,0.5s
DMN Daman 87.93 299 *e*P P **00 34 19.9 -0.1**
comp=Z,55nm,0.6s
GKN Gorkha 88.43 299 *e*P P **00 34 21.7 -0.5**
comp=Z,42nm,0.6s
BELA Belgrano 2 89.64 176 P P **00 34 26.2 -0.5**
BELA IAmb IAmb 00 34 29.7
comp=Z,5.5nm,0.7s
U15A North Rim 90.00 53 P P **00 34 31.1 +1.6**
MTPU Mount Pierson 90.49 51 P P **00 34 33.1 +1.2**
HYB Hyderabad 91.55 287 *i* P P **00 34 36.0 -0.8**
PDAR Pinedale Array 93.56 47 P P **00 34 47.0 +1.2**
comp=Z,0.3nm,0.6s,baz=174,slow=3.0,SNR=4.5
PDAR PKKPbc **PKKPdf 00 51 51.0 -0.1**
comp=Z,0.4nm,0.6s,baz=106,slow=4.9,SNR=5.0
MK31 Makanchi Array 94.60 317 P P **00 34 50.2 0.0**
MKAR Makanchi Array 94.60 317 P P **00 34 50.1 -0.1**
comp=Z,19nm,0.6s,baz=91,slow=6.4,SNR=288
MKAR PKiKP **PKiKP 00 39 31.5 -0.8**
comp=Z,0.3nm,0.6s,baz=63,slow=1.7,SNR=4.1
MKAR PKKPbc **PKKPdf 00 51 47.0 -2.1**
comp=Z,0.7nm,0.6s,baz=282,slow=3.4,SNR=10
ZAA0 Zalesovo Array 94.63 324 IAmb IAmb 00 34 50.9
comp=Z,4.6nm,0.8s
ZALV Zalesovo Beam 94.63 324 P P **00 34 49.0 -1.1**
comp=Z,4.5nm,0.7s,baz=109,slow=4.2,SNR=22
ZALV Zalesovo Beam 94.63 324 P P **00 34 48.2 -1.9**
MAKZ Makanchi 94.82 317 P P **00 34 51.2 0.0**
MAKZ IAmb IAmb 00 34 53.1
comp=Z,11nm,0.9s
YKA Yellowknife Ar 95.35 27 P P **00 34 51.4 -1.8**
comp=Z,0.6nm,0.5s,baz=254,slow=4.1,SNR=13
TXAR Lajitas Array 95.57 61 P P **00 34 54.8 -0.3**
comp=Z,0.2nm,0.7s,baz=226,slow=6.1,SNR=2.9
TXAR PKKPbc **PKKPdf 00 51 47.2 +0.3**
comp=Z,0.2nm,0.5s,baz=96,slow=1.9,SNR=4.3
TXAR LR LR 01 10 35.3
comp=Z,36nm,20.3s,baz=0.0,slow=31
SNAA Sanae 96.37 183 P P 00 34 53.0 -4.8
VNA3 Neumayer Olymp 97.06 181 P P **00 34 57.7 -3.3**
VNA2 Neumayer--Watz 97.32 182 P P 00 34 57.1 -5.0
ARCES ARCESS Array B 117.29 346 PKP **PKPdf 00 40 12.7 -0.7**
comp=Z,4.2nm,0.7s,baz=40,slow=0.7,SNR=18
LPAZ La Paz 119.17 116 PKP **PKPdf 00 40 19.3 -0.1**
comp=Z,1.5nm,0.6s,baz=232,slow=3.4,SNR=6.8
KBZ Khabaz 122.22 314 PKP **PKPdf 00 40 23.6 0.0**
comp=Z,1.5nm,0.8s,baz=111,slow=3.9,SNR=6.2
FINES FINESS Array B 122.78 339 PKP **PKPdf 00 40 23.8 -0.4**
comp=Z,2.6nm,0.8s,baz=48,slow=2.3,SNR=18
RAYN Ar Rayn 122.93 290 PKPdf **PKiKP 00 40 26.4 +0.5**
BOSA Boshof 125.03 222 PKP **PKiKP 00 40 30.6 +0.5**
comp=Z,4.6nm,0.6s,baz=149,slow=1.9,SNR=17
SAML Samuel 126.47 111 **PKPdf 00 40 32.4 -0.2**
NACGM Naroch 126.71 332 *i* PKP **PKiKP 00 40 32.7 +0.4**
NACGM *i* PKP **PKiKP 00 40 32.7 +0.4**
NACGM *i* PKP **PKiKP 00 40 32.7 +0.4**
NACGM *i* PP PP 00 42 16.8 -13
NACGM *i* PPP PPP 00 44 36.4
NACGM *i* SKS **SKSdf 00 47 32.2 +2.7**
NACGM *i* SKKS SKKSac 00 48 43.5 -30
NACGM *i* PS PS 00 51 53.8 -42
NACGM *i* SS SKKSdf 00 58 21.2 +33
NACGM *i* SSS SSS 01 02 51.5
NACGM *i* LQ LQ 01 16 40.6
NACGM *i* LR LR 01 22 24.4
NB2 NORSAR Subarra127.66 345 PKPdf **PKPdf 00 40 33.3 -0.3**
comp=Z,3.0nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B127.66 345 PKP **PKPdf 00 40 33.6 0.0**
comp=Z,1.4nm,0.7s,baz=32,slow=2.0,SNR=9.0
KMBO Kilima Mbogo 127.96 259 PKP **PKiKP 00 40 36.8 +0.3**
comp=Z,1.0nm,0.6s,baz=86,slow=6.6,SNR=4.1
BR131 Keskin Array S 130.04 312 PKPdf **PKiKP 00 40 39.4 -0.4**
BRTR Keskin Array B 130.04 312 PKP **PKiKP 00 40 39.3 -0.4**
comp=Z,0.6nm,0.5s,baz=144,slow=4.2,SNR=7.7
LSZ Lusaka 130.70 238 PKPdf **PKiKP 00 40 42.2 +0.5**
BURAR Bucovina Array 131.83 325 **PKiKP 00 40 43.3 +0.2**
CLL Collm 135.13 337 *e*PKPdf **PKPdf 00 40 48.0 +0.1**
comp=Z,4.0nm,1.1s
CONA Conrad Observa 136.45 331 *e*P **PKPdf 00 40 51.3 +0.7**
comp=Z,1.8nm,0.5s
KHC Kasperske Hory 136.58 334 PKPdf **PKiKP 00 40 52.0 -0.6**
GERES GERESS Array B 136.74 334 PKP **PKPdf 00 40 51.8 +0.6**
comp=Z,1.7nm,0.8s,baz=48,slow=2.0,SNR=11
GERES SKPbc **SKiKP 00 44 14.7 -0.5**
comp=Z,0.5nm,0.7s,baz=63,slow=3.6,SNR=4.7
GERES GERESS Array B 136.74 334 PKPdf **PKPdf 00 40 52.0 +0.8**
MOA Molln 137.24 332 *e*P **PKPdf 00 40 51.5 -0.5**
comp=Z,3.1nm,1.0s
ABTA Abfaltersbach 138.86 333 *e*P **PKPdf 00 40 52.1 -3.0**
comp=Z,3.3nm,1.2s
MOTA Moosalm 139.01 334 *e*P **PKiKP 00 40 57.7 0.0**
comp=Z,2.8nm,0.6s
RAFF Raffo Rosso 144.46 320 **PKPdf 00 41 04.9 -0.5**
KEST Kesra 148.49 323 PKPbc **PKiKP 00 41 16.7 -0.8**
comp=Z,9.8nm,0.7s,baz=70,slow=0.7,SNR=20
KEST Kesra 148.49 323 **PKiKP 00 41 16.8 -0.6**
ESDC Sonseca Array 151.02 345 PKPbc **PKPbc 00 41 22.1 +0.1**
comp=Z,2.9nm,0.8s,baz=26,slow=2.8,SNR=13
ESDC PKPab **PKPab 00 41 29.5 -0.4**
comp=Z,1.3nm,0.5s,baz=8.1,slow=3.1,SNR=9.9
ESDC Sonseca Array 151.02 345 **PKiKP 00 41 22.4 -0.1**
ESDC PKPab **PKPab 00 41 30.3 +0.4**
TORD Torodi Ar. Bea 165.10 277 PKP **PKPdf 00 41 33.4 -0.4**
comp=Z,1.4nm,0.8s,baz=10,slow=2.0,SNR=5.8
TORD PKPab **PKPab 00 42 31.1 -0.4**
comp=Z,2.6nm,0.9s,baz=81,slow=5.7,SNR=8.4
TORD PP PP **00 46 21.0 +2.2**
comp=Z,0.6nm,0.9s,baz=76,slow=6.3,SNR=3.7
TORD Torodi Ar. Bea 165.10 277 **PKPdf 00 41 34.0 +0.2**
DBIC Dimbokro 170.03 240 PKPab **PKPab 00 42 53.6 +0.4**
comp=Z,5.3nm,0.9s,baz=109,slow=4.6,SNR=5.7

VAO ***20*** *00:44:50.4±0.7, 15°.64S×75°.77W, h10km, mb4.4*
IDC ***20*** *00:44:56.8±3.6, 15°.55S×75°.17W, h35km±27km, mb3.7/8, mb1 3.8/11, mb1mx3.7/33, mbtmp3.9/11, ML3.9/3, MS3.3/10, Ms1 3.3/10, ms1mx3.2/30, Error ellipse: s-maj=40.5km s-min=16.5km az=42.0*
NEIC ***20*** *00:44:57.3±1.7, 15°.71S±0°.07×75°.3W±0°.1, h35km±2km, mb4.5/6, Error ellipse: s-maj=19.4km s-min=10.7km az=65.0*

ISC 20 00:44:55.2±0.6, **15°.65S**±0°.07×**75°.36W**±0°.08, **h26**km, **n89,** σ1§**47**/76, **mb4.2**/10, **MS3.4**/4, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.92**	**338**	Pn	**Pn**	**00 45 55.4**	**+1.7**
	9.1nm,0.3s,baz=183,slow=11,SNR=13						
NNA				Lg	Lg	00 46 54.8	
	27nm,0.3s,baz=336,slow=14,SNR=5.1						
NNA				LR	LR	00 47 11.8	
	comp=Z,72nm,20.5s,baz=120,slow=35						
NNA	**Nana**	**3.92**	**338**		**Pn**	**00 45 56.9**	**+3.2**
NNA					**Sb**	**00 46 48.5**	**-2.1**
AP01	**Chacalluta**	**5.51**	**120**	Pn	**Pn**	**00 46 17.5**	**+2.0**
PB16	**IPOC Station P**	**6.20**	**116**		**Pn**	**00 46 27.7**	**+2.1**
PSGCX	**Pisagua**	**6.35**	**129**		**Pn**	**00 46 27.5**	**+0.3**
MNMC	**Minye Minye**	**6.50**	**123**		**Pn**	**00 46 29.7**	**+0.3**
TA01	**Diego Aracena**	**6.94**	**136**		**Pn**	**00 46 35.5**	**+0.3**
LPAZ	**La Paz**	**6.98**	**96**	Pn	**Pn**	**00 46 38.2**	**+1.9**
	1.9nm,0.3s,baz=285,slow=8.5,SNR=50						
LPAZ				LR	LR	00 49 28.3	
	comp=Z,218nm,19.3s,baz=270,slow=40						
LPAZ	**La Paz**	**6.98**	**96**		**Pn**	**00 46 40.8**	**+4.4**
PB08	**IPOC Station P**	**7.41**	**128**		**Pn**	**00 46 43.1**	**+1.1**
PB01	**IPOC Station P**	**7.74**	**135**		**Pn**	**00 46 47.1**	**+0.8**
PB07	**IPOC Station P**	**7.96**	**140**		**Pn**	**00 46 49.2**	**-0.2**
PB04	**IPOC Station P**	**8.27**	**144**		**Pn**	**00 46 53.6**	**-0.1**
CZSB	**Cruzeiro do Su**	**8.29**	**19**	*e*P	**Pn**	**00 46 53.8**	**0.0**
PB09	**IPOC Station P**	**8.42**	**137**		**Pn**	**00 46 57.0**	**+1.2**
PB06	**IPOC Station P**	**8.89**	**143**		**Pn**	**00 47 02.7**	**+0.4**
ATAH	**Atahualpa**	**8.97**	**340**	Pn	**Pn**	**00 47 05.5**	**+2.0**
	baz=193,slow=11,SNR=0.9						
ATAH				LR	LR	00 51 11.8	
	comp=Z,117nm,19.8s,baz=226,slow=42						
PB10	**IPOC Station P**	**9.04**	**151**	Pn	**Pn**	**00 47 04.0**	**0.0**
LVC	**Limon Verde**	**9.22**	**140**	Pn	**Pn**	**00 47 08.4**	**+1.5**
	9.1nm,0.3s,baz=322,slow=9.5,SNR=70						
LVC				Sn	**Sn**	**00 48 45.3**	**-4.8**
	1.2nm,0.3s,baz=89,slow=18,SNR=2.6						
LVC				Lg	Lg	00 49 49.2	
	0.5nm,0.3s,baz=114,slow=19,SNR=3.8						
LVC				LR	LR	00 50 37.3	
	comp=Z,129nm,18.1s,baz=306,slow=37						
LVC	**Limon Verde**	**9.22**	**140**	*e*P	**Pn**	**00 47 07.7**	**+0.9**
PB14	**IPOC Station P**	**10.07**	**153**	Pn	**Pn**	**00 47 18.0**	**-0.4**
ETMB	**Extrema**	**10.64**	**58**	*e*P	**Pn**	**00 47 26.0**	**0.0**
GO02	**Mina Guanaco**	**10.90**	**151**	Pn	**Pn**	**00 47 30.1**	**+0.3**
AC01	**Pan de Azucar**	**11.35**	**158**	Pn	**Pn**	**00 47 35.5**	**-0.2**
AC02	**Maricunga**	**12.55**	**153**	Pn	**Pn**	**00 47 52.6**	**0.0**
GO03	**Copiap**	**12.80**	**159**	Pn	**Pn**	**00 47 56.2**	**+0.6**
SAML	**Samuel**	**13.63**	**62**		**Pn**	**00 48 06.9**	**0.0**
SIV	**San Ignacio**	**13.75**	**93**	Pn	**Pn**	**00 48 06.7**	**-2.0**
	0.1nm,0.3s,baz=266,slow=18,SNR=4.0						
SIV				LR	LR	00 53 52.7	
	comp=Z,115nm,22.0s,baz=284,slow=40						
AC05	**El Transito**	**13.94**	**161**	Pn	**Pn**	**00 48 12.5**	**+1.3**
VILB	**Vilhena**	**14.93**	**82**	*e*P	**P**	**00 48 28.6**	**-1.5**
PTLB	**Pontes e Lacer**	**15.63**	**91**	*e*P	**Pn**	**00 48 34.9**	**+1.0**
OTAV	**Otavalo**	**16.08**	**349**	*e*P	**Pn**	**00 48 34.9**	**-5.2**
H03N1	**Juan Fernandez**	**18.00**	**190**	T	T	01 07 53.5	
	baz=12,slow=74,SNR=1005						
H03N2	**Juan Fernandez**	**18.00**	**190**	T	T	01 07 55.9	
	baz=12,slow=74,SNR=752						
H03N3	**Juan Fernandez**	**18.02**	**190**	T	T	01 07 52.3	
	baz=12,slow=74,SNR=1015						
MACA	**Manacapuru-AM**	**19.05**	**51**	*e*P	**Pn**	**00 49 17.5**	**+1.0**
CLDB	**Colider**	**19.62**	**78**	*e*P	**Pn**	**00 49 24.3**	**+0.9**
PP1B	**Ponte de Pedra**	**19.72**	**99**	*e*P	**Pn**	**00 49 24.7**	**+0.1**
CPUP	**Villa Florida**	**19.88**	**125**	LR	LR	00 58 15.5	
	comp=Z,88nm,18.6s,baz=269,slow=40						
CPUP	**Villa Florida**	**19.88**	**125**	*e*P	**Pn**	**00 49 26.3**	**-0.1**
ROSC	**El Rosal**	**20.39**	**3**	LR	LR	00 59 16.4	
	comp=Z,275nm,19.4s,baz=223,slow=42						
PAYG	**Puerto Ayora**	**20.94**	**314**	P	Pn	00 49 38.9	0.0
PTGA	**Pitinga**	**21.23**	**47**	LR	LR	00 57 49.8	
	comp=Z,99nm,18.1s,baz=238,slow=37						
PTGA	**Pitinga**	**21.23**	**47**	*e*P	**P**	**00 49 40.6**	**+1.3**
NPGB	**Novo Progresso**	**21.38**	**69**	*e*P	**P**	**00 49 42.6**	**+1.7**
ITQB	**Itaqui**	**22.17**	**132**	*e*P	**P**	**00 49 50.3**	**+1.0**
ITTB	**Itaituba**	**22.32**	**62**	*e*P	**P**	**00 49 51.4**	**+0.4**
BOAV	**Boa Vista**	**23.17**	**41**	*e*P	**P**	**00 50 00.1**	**+0.2**
PCMB	**Pacaembu**	**23.58**	**108**	*e*P	**P**	**00 50 04.0**	**+0.1**
SDV	**Santo Domingo**	**24.82**	**11**	LR	LR	01 00 50.4	
	comp=Z,82nm,19.2s,baz=212,slow=39						
PLCA	**Paso Flores**	**25.34**	**171**	P	**P**	**00 50 21.4**	**+1.3**
IPMB	**Ipameri, GO**	**26.08**	**99**	*e*P	**P**	**00 50 27.1**	**0.0**
BDFB	**Brasilia**	**26.33**	**94**	P	**P**	**00 50 26.8**	**-2.5**
	1.1nm,0.4s,baz=239,slow=16,SNR=3.2						
PEXB	**Peixe**	**26.50**	**86**	*e*P	**P**	**00 50 31.5**	**+0.7**
PRPB	**Parauapebas**	**26.79**	**72**	*e*P	**P**	**00 50 35.0**	**+1.8**
TER01	**Tubarao-SC**	**27.40**	**122**	*e*P	**P**	**00 50 40.2**	**+1.4**
PARB	**Paraibuna**	**29.02**	**110**	*e*P	**P**	**00 50 54.3**	**+1.0**
JANB	**Januaria**	**29.93**	**93**	*e*P	**P**	**00 51 01.3**	**-0.2**
DIAM	**Diamantina, MG**	**30.40**	**100**	*e*P	**P**	**00 51 06.2**	**+0.5**
MAN01	**Angra dos Reis**	**30.45**	**109**	*e*P	**P**	**00 51 07.3**	**+1.3**
MDP	**Montagnes des**	**30.52**	**49**	LR	LR	01 03 47.2	
	comp=Z,123nm,20.0s,baz=218,slow=37						
VAS01	**Vassouras-RJ**	**30.85**	**107**	*e*P	**P**	**00 51 11.2**	**+1.6**
NBPN	**Ponto Novo - B**	**34.53**	**86**	*e*P	**P**	**00 51 41.2**	**-0.5**
GDU01	**Guandu, BA**	**34.64**	**92**	*e*P	**P**	**00 51 42.8**	**+0.1**
NBPB	**Pedra_Branca-C**	**36.51**	**78**	*e*P	**P**	**00 51 59.0**	**+0.2**
RCBR	**Riachuelo**	**39.91**	**80**	*e*P	**P**	**00 52 28.0**	**+0.5**
TXAR	**Lajitas Array**	**52.41**	**328**	P	**P**	**00 54 05.6**	**-0.1**
	0.4nm,0.6s,baz=154,slow=9.4,SNR=6.7						
TXAR	**Lajitas Array**	**52.41**	**328**	P	**P**	**00 54 06.8**	**+1.1**
L56A	**Greenwood**	**57.53**	**358**	P	**P**	**00 54 42.9**	**+0.5**
L56A				IAmb	IAmb	00 54 59.7	
	comp=Z,9.6nm,1.1s						
PDAR	**Pinedale Array**	**66.08**	**333**	P	**P**	**00 55 39.6**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=90,slow=6.3,SNR=1.8						
ULM	**Lac du Bonnet**	**68.06**	**346**	P	**P**	**00 55 50.5**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=147,slow=7.2,SNR=3.1						
DBIC	**Dimbokro**	**73.23**	**78**	P	**P**	**00 56 23.7**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=252,slow=3.5,SNR=2.1						
KOWA	**Kowa**	**76.60**	**71**	P	**P**	**00 56 43.2**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=253,slow=7.1,SNR=6.2						
KOWA	**Kowa**	**76.60**	**71**	P	**P**	**00 56 44.6**	**+0.5**
KOWA				IAmb	IAmb	00 56 52.5	
	comp=Z,2.6nm,0.8s						
TOA0	**Torodi Ar. Sit**	**81.39**	**74**	P	**P**	**00 57 11.1**	**+0.8**
TOA0				IAmb	IAmb	00 57 19.4	
	comp=Z,4.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.39**	**74**	P	**P**	**00 57 10.8**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=262,slow=5.1,SNR=13						
TORD	**Torodi Ar. Bea**	**81.39**	**74**	P	**P**	**00 57 10.8**	**+0.5**
TORD				IAmb	IAmb	00 57 19.4	
	comp=Z,3.2nm,0.8s						
YKA	**Yellowknife Ar**	**83.75**	**343**	P	**P**	**00 57 21.4**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=135,slow=5.7,SNR=14						
H11N3	**WAKE ISLAND Hyl**	**20.81**	**284**	T	T	03 16 09.7	
	baz=98,slow=74,SNR=7.1						
H11N2	**WAKE ISLAND Hyl**	**20.83**	**284**	T	T	03 16 12.7	
	baz=98,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hyl**	**20.83**	**284**	T	T	03 16 11.2	
	baz=98,slow=74,SNR=8.8						
H11S2	**WAKE ISLAND Hyl**	**20.85**	**282**	T	T	03 16 10.1	
	baz=98,slow=74,SNR=9.5						
H11S1	**WAKE ISLAND Hyl**	**20.86**	**282**	T	T	03 16 21.7	
	baz=98,slow=74,SNR=6.4						
H11S3	**WAKE ISLAND Hyl**	**20.87**	**282**	T	T	03 16 21.3	
	baz=98,slow=74,SNR=5.5						
ASAR	**Alice Springs**	**131.57**	**217**	PKP	**PKPdf**	**01 04 06.7**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=152,slow=5.5,SNR=4.1						
WRA	**Warramunga Arr**	**134.14**	**220**	PKP	**PKPdf**	**01 04 10.6**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=136,slow=1.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**138.76**	**18**	PKP	**PKPdf**	**01 04 18.6**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=298,slow=3.2,SNR=5.3						
SONM	**Songino Array**	**147.88**	**358**	PKPbc	**PKPbc**	**01 04 38.6**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=341,slow=1.7,SNR=4.9						
KSRS	**Korea Array**	**150.06**	**321**	PKPbc	**PKPbc**	**01 04 45.0**	**+1.2**
	comp=Z,0.6nm,0.2s,baz=176,slow=1.9,SNR=4.9						

IDC ***20*** *01:02:44.6±0.5, 6°.24S×149°.99E, h0km, mb4.6/17, mb1 4.8/21, mb1mx4.7/29, mbtmp4.7/21, ML4.0/3, MS3.9/26, Ms1 3.9/26, ms1mx3.9/37, Error ellipse: s-maj=16.0km s-min=12.0km az=85.0*
BJI ***20*** *01:02:50.0±0.0, 6°.30S×149°.90E, h35km, mB5.1/39, mb4.9/56, Ms4.6/21, Ms7 4.3/25*
MOS ***20*** *01:02:51.7±1.1, 6°.29S×149°.68E, h55km, mb4.9/21, Error ellipse: s-maj=11.7km s-min=7.4km az=96.5*
NEIC ***20*** *01:02:51.6±1.2, 6°.34S±0°.05×149°.97E±0°.07, h53km±5km, mb5.0/50, Error ellipse: s-maj=10.3km s-min=6.8km az=89.0*
DJA ***20*** *01:02:52.7±0.4, 6°.S±3°×15°.0E±°, h45km±4km, M5.2/41, mB5.7/14, mb5.2/41, MLv5.3/3, Mw(mB)5.2/14*

ISC 20 01:02:51.2±0.3, **6°.42S**±0°.04×**149°.99E**±0°.05, **h43**km, **n307,** σ1§**56**/304, **mb5.0**/74, **MS4.1**/32, **27C-16D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.09**	**44**		**Pn**	**01 03 38.7**	**+1.1**
RABL	**Rabaul**	**3.09**	**44**	P	**Pn**	**01 03 39.2**	**+1.7**
PMG	**Port Moresby**	**4.09**	**223**	Pn	**Pn**	**01 03 52.1**	**+0.8**
	298nm,0.3s,baz=53,slow=5.7,SNR=107						
PMG				Sn	**Sn**	**01 04 39.2**	**+1.4**
	260nm,0.3s,baz=346,slow=22,SNR=17						
PMG				LR	LR	01 05 36.7	
	comp=Z,2µm,20.7s,baz=348,slow=41						
PMG	**Port Moresby**	**4.09**	**223**	*e*P	**Pn**	**01 03 52.8**	**+1.6**
PMG				pmax	pmax		
	comp=Z,635nm,0.7s						
PMG	**Port Moresby**	**4.09**	**223**		**Pn**	**01 03 52.6**	**+1.4**
PMG	**Port Moresby**	**4.09**	**223**	P	**Pn**	**01 03 53.2**	**+2.0**
MANU	**Manus Island**	**5.07**	**329**		**Pn**	**01 04 05.4**	**+0.7**
MMPI	**Merauke**	**9.75**	**257**	P	**Pn**	**01 05 07.8**	**-1.1**
JAY	**Jayapura**	**10.04**	**292**	Pn	**Pn**	**01 05 13.6**	**+0.6**
	comp=Z,2.6nm,0.3s,baz=113,slow=4.1,SNR=8.2						
JAY				LR	LR	01 08 42.0	
	comp=Z,1µm,19.4s,baz=14,slow=36						
JAY	**Jayapura**	**10.04**	**292**	P	**Pn**	**01 05 12.6**	**-0.3**
	comp=Z,25nm,1.2s						
COEN	**Coen**	**10.06**	**221**	P	**Pn**	**01 05 13.7**	**+0.5**
	baz=10.0						
COEN				S	**Sn**	**01 07 00.7**	**-4.0**
	baz=10.0						
COEN	**Coen**	**10.06**	**221**	Pn	**Pn**	**01 05 13.2**	**0.0**
HNR	**Honiara**	**10.30**	**108**	Pn	**Pn**	**01 05 15.1**	**-1.5**
	comp=Z,45nm,0.3s,baz=264,slow=3.0,SNR=4.3						
HNR				LR	LR	01 07 58.6	
	comp=Z,142nm,20.0s,baz=288,slow=30						
GENI	**Genyem**	**10.51**	**291**	P	**Pn**	**01 05 18.2**	**-1.1**
	comp=Z,80nm,0.7s						
SMPI	**Sarmi**	**12.08**	**291**	P	**Pn**	**01 05 38.6**	**-2.2**
	comp=Z,2µmcomp=Z,30nm,1.2s						
MTSU	**Mount Surprise**	**12.90**	**205**	P	**Pn**	**01 05 53.6**	**+1.6**
	baz=13,SNR=41						
CTA	**Charters Tower**	**14.07**	**195**	Pn	**Pn**	**01 06 09.7**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=37,slow=13,SNR=8.1						
CTAO	**Charters Tower**	**14.07**	**195**	P	**Pn**	**01 06 09.4**	**+1.4**
CTAO	**Charters Tower**	**14.07**	**195**	Pn	**Pn**	**01 06 09.4**	**+1.4**
QIS	**Mount Isa**	**17.30**	**215**	P	**Pn**	**01 06 49.8**	**+0.1**
	baz=17,SNR=29						
FAKI	**Fak Fak**	**18.02**	**280**	P	**Pn**	**01 06 57.4**	**-1.2**
	comp=Z,32nm,1.3s						
KDU	**Kakadu**	**18.36**	**249**	P	**P**	**01 07 01.4**	**-1.0**
	baz=18,SNR=37						
SAUI	**Saumlaki**	**18.61**	**264**	P	**P**	**01 07 04.4**	**-0.8**
SAUI				IAmb	IAmb	01 07 42.1	
	comp=Z,104nm,0.9s						
SAUI	**Saumlaki**	**18.61**	**264**	P	**P**	**01 07 04.5**	**-0.8**
	comp=Z,12µmcomp=Z,114nm,0.6s						
EIDS	**Eidsvold**	**18.88**	**177**	P	**Pn**	**01 07 10.2**	**+1.3**
	baz=19,SNR=12						
EIDS	**Eidsvold**	**18.88**	**177**	P	**Pn**	**01 07 09.0**	**+0.1**
EIDS					**P**	**01 07 09.8**	**+1.7**
EIDS				IAmb	IAmb	01 07 11.6	
	comp=Z,90nm,1.2s						
SIJI	**Sorong**	**19.48**	**286**	P	**P**	**01 07 13.8**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=92,slow=12,SNR=4.9						

ARMA Armidale 23.93 177 P **P** **01 08 02.9 +1.5**
baz=24,SNR=9.3
ARMA Armidale 23.93 177 P **P** **01 08 02.0 +0.6**
ARMA IAmb IAmb 01 08 04.8
comp=Z,47nm,0.7s
CMSA Cobar Meteorol 25.32 189 P **P** **01 08 15.0 +1.1**
baz=25,SNR=16
SOEI Soe 25.68 261 P **P** **01 08 16.3 -1.3**
SOEI Soe 25.68 261 P **P** **01 08 18.5 +0.9**
comp=Z,μmcomp=Z,138nm,0.7s
BATI Baumata 26.32 260 P **P** **01 08 23.3 0.0**
comp=Z,153nm,0.6s,baz=135,slow=2.1,SNR=32
BATI LR LR 01 21 16.7
comp=Z,208nm,20.2s,baz=98,slow=42
BATI Baumata 26.32 260 P **P** **01 08 24.1 +0.8**
comp=Z,883nmcomp=Z,114nm,0.6s
FITZ Fitzroy Crossi 26.44 242 P **P** **01 08 24.4 +0.2**
comp=Z,50nm,0.8s,baz=62,slow=8.0,SNR=105
FITZ LR LR 01 19 31.7
comp=Z,239nm,18.4s,baz=62,slow=38
FITZ Fitzroy Crossi 26.44 242 P **P** **01 08 24.5 +0.2**
baz=26,SNR=114
FITZ Fitzroy Crossi 26.44 242 P **P** **01 08 23.6 -0.6**
FITZ IAmb IAmb 01 08 33.8
comp=Z,48nm,0.7s
STKA Stephens Creek 26.52 196 P **P** **01 08 25.5 +0.6**
comp=Z,49nm,0.8s,baz=358,slow=9.7,SNR=52
STKA LR LR 01 19 47.1
comp=Z,576nm,18.2s,baz=19,slow=38
STKA Stephens Creek 26.52 196 P **P** **01 08 26.6 +1.8**
baz=27,SNR=41
STKA Stephens Creek 26.52 196 P **P** **01 08 25.2 +0.3**
STKA pmax pmax
comp=Z,12nm,0.9s
STKA Stephens Creek 26.52 196 P **P** **01 08 25.2 +0.3**
MMRI Maumere 27.60 264 P **P** **01 08 32.9 -1.9**
MMRI Maumere 27.60 264 P **P** **01 08 32.8 -2.0**
comp=Z,4μmcomp=Z,193nm,0.9s
WRKA Warakurna 27.83 226 P **P** **01 08 36.7 0.0**
baz=28,SNR=128
EDFI Ende, Flores 28.15 263 P **P** **01 08 37.5 -2.3**
comp=Z,476nmcomp=Z,68nm,0.7s
HTT Hallett 28.78 199 P **P** **01 08 46.8 +1.7**
baz=29,SNR=5.5
BASI Baing, Sumba 29.34 261 P P 01 08 57.7 +7.4
MSVF Nonsavu 29.60 115 LR LR 01 19 03.9
comp=Z,244nm,18.8s,baz=205,slow=33
BNSI Bone 29.82 272 P **P** **01 08 55.8 +1.3**
comp=Z,18nm,0.8s
KAPI Kappang 30.12 271 P **P** **01 08 55.9 -1.3**
comp=Z,5.5nm,0.5s,baz=45,slow=2.5,SNR=3.6
KAPI LR LR 01 22 28.3
comp=Z,151nm,21.2s,baz=90,slow=39
KAPI Kappang 30.12 271 P **P** **01 08 56.2 -1.0**
KAPI pmax pmax
comp=Z,25nm,1.4s
KAPI Kappang 30.12 271 P **P** **01 08 56.2 -1.0**
KAPI IAmb IAmb 01 08 56.8
comp=Z,25nm,1.4s
ARPS Mount Arapiles 31.12 193 P **P** **01 09 07.0 +1.3**
baz=31,SNR=6.7
TOO Toolangi 31.28 187 P **P** **01 09 09.3 +2.1**
baz=31,SNR=3.8
TOO Toolangi 31.28 187 P **P** **01 09 08.4 +1.2**
TOO pmax pmax
comp=Z,41nm,1.4s
TOO Toolangi 31.28 187 P **P** **01 09 08.4 +1.2**
TOO IAmb IAmb 01 09 21.0
comp=Z,41nm,1.4s
FORT Forrest 31.80 218 P **P** **01 09 12.3 +0.5**
baz=32,SNR=6.8
FORT Forrest 31.80 218 P **P** **01 09 11.7 -0.1**
FORT IAmb IAmb 01 09 13.1
comp=Z,36nm,0.8s
PLAI Plampang 32.02 264 P **P** **01 09 11.7 -2.2**
comp=Z,668nmcomp=Z,80nm,0.8s
TWSI Taliwang, Sumb 32.90 264 P **P** **01 09 21.0 -0.6**
comp=Z,17nm,0.6s
JCJ Chichijima 34.16 348 LR LR 01 22 34.4
comp=Z,82nm,18.4s,baz=134,slow=35
SRBI Singaraja 34.54 265 P **P** **01 09 37.6 +1.7**
comp=Z,36nm,0.9s
KMBL Kambalda 36.17 223 P **P** **01 09 50.2 +0.5**
baz=36,SNR=7.6
GIRL Giralia 38.05 241 P **P** **01 10 07.1 +1.3**
baz=38,SNR=3.6
SBUM Sibu 38.73 282 P **P** **01 10 12.0 +0.4**
KLBR Kellerberrin 39.18 226 P **P** **01 10 15.0 -0.2**
baz=39,SNR=5.3
UGM Wanagama 39.18 265 P P 01 10 22.3 +6.8
SMRI Semarang 39.28 267 P **P** **01 10 16.0 -0.2**
comp=Z,102nm,0.8s
YULB Yu-li 40.79 318 P **P** **01 10 29.3 +0.7**
YULB IAmb IAmb 01 10 35.4
comp=Z,20nm,0.7s
TUWZ Tuamarina 40.87 152 P **P** **01 10 29.9 +0.8**
NACB Ninganchiao 41.13 319 P **P** **01 10 30.0 -1.3**
NACB IAmb IAmb 01 10 36.0
comp=Z,35nm,0.7s
BFZ Birch Farm 41.42 149 P **P** **01 10 33.7 +0.2**
RPZ Rata Peaks 41.50 157 P **P** **01 10 35.1 +0.8**
comp=Z,16nm,0.7s,baz=323,slow=4.4,SNR=11
RPZ Rata Peaks 41.50 157 IAmb IAmb 01 10 36.1
comp=Z,129nm,1.7s
YHNB Yeheng 41.61 319 P **P** **01 10 34.8 -0.6**
YHNB IAmb IAmb 01 10 39.3
comp=Z,43nm,0.9s
CISI Cisompet, Garu 41.87 266 P **P** **01 10 36.2 -1.5**
CISI Cisompet, Garu 41.87 266 P **P** **01 10 35.9 -1.8**
comp=Z,333nm,0.8s
TPI Tanjungpandan 42.35 273 P **P** **01 10 41.5 -0.1**
comp=Z,548nmcomp=Z,60nm,0.8s
CBJI Citeko 42.86 267 P **P** **01 10 48.6 +2.9**
QZH Quanzhou 43.66 317 *eP* **P** **01 10 54.0 +2.1**
QZH S **S** **01 17 24.9 +6.0**
QZH LR LR
comp=Z,230nm,15.4s
PPBI Pangkal Pinang 43.92 274 P P 01 11 02.4 +8.1
XMIS Christmas Isla 44.02 262 P **P** **01 10 54.8 -0.3**
XMIS IAmb IAmb 01 10 56.5
comp=Z,64nm,1.1s
MJAR Matsushiro Arr 44.14 346 P **P** **01 10 53.4 -2.2**
comp=Z,1.4nm,0.6s,baz=203,slow=0.8,SNR=5.0
MJAR LR LR 01 27 44.2
comp=Z,66nm,18.0s,baz=170,slow=34
MJAR Matsushiro Arr 44.14 346 P **P** **01 10 53.4 -2.2**
MJAR pmax pmax
comp=Z,2.0nm,0.6s
MJAR Matsushiro Arr 44.14 346 P **P** **01 10 53.4 -2.2**
KLSI 45.07 270 P **P** **01 11 03.7 +0.2**
comp=Z,4.7nm,1.3s
KASI Kota Agung 45.25 269 P **P** **01 11 02.4 -2.5**
comp=Z,821nmcomp=Z,79nm,0.9s
MDSI Maura Dua 45.64 270 P **P** **01 11 06.6 -1.3**
comp=Z,25nm,1.1s
KSRS Korea Array 48.26 336 P **P** **01 11 26.8 -1.2**
comp=Z,5.8nm,0.7s,baz=155,slow=8.2,SNR=21
KSRS LR LR 01 31 27.7
comp=Z,103nm,18.6s,baz=149,slow=36
KSAR Wonju Array Be 48.27 336 P **P** **01 11 26.7 -1.4**
KSAR Wonju Array Be 48.27 336 P **P** **01 11 26.7 -1.4**
KS19 Wonju Array Si 48.33 336 P **P** **01 11 27.1 -1.4**
NJ2 Nanjing 48.42 324 *eP* **P** **01 11 29.3 0.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
JRMM Jerantut 48.53 281 P **P** **01 11 31.0 +0.5**
WHN Wuhan 50.16 319 ⇑P **P** **01 11 45.4 +2.8**
KULM Kulim 50.61 282 P **P** **01 11 47.0 +0.6**
MNSI Mandailing Nat 50.82 276 P **P** **01 11 47.6 -0.4**
DL2 Dalian 52.20 332 P **P** **01 12 01.0 +3.2**
DL2 S **S** **01 19 26.3 +6.8**
DL2 pmax pmax
comp=Z,28nm,0.7s
DL2 pmax pmax
comp=Z,250nm,6.3s
DL2 LR LR
comp=Z,200nm,16.2s
DL2 LR LR
comp=Z,130nm,14.8s
DL2 LR LR
comp=Z,260nm,17.8s
TIA Tai'an 52.43 326 P **P** **01 12 01.3 +1.7**
TIA pmax pmax
comp=Z,13nm,0.7s
GSI Gunungsitoli 52.88 276 P **P** **01 12 00.9 -2.5**
GSI IAmb IAmb 01 12 07.4
comp=Z,19nm,0.7s
USA0B Ussuriysk Arra 52.94 344 P **P** **01 12 02.2 -0.9**
USA0B pmax pmax
comp=Z,30nm,1.9s
USA0B Ussuriysk Arra 52.94 344 P **P** **01 12 02.2 -0.9**
USA0B IAmb IAmb 01 12 22.6
comp=Z,30nm,1.9s
USRK Ussuriysk Ar. 52.94 344 P **P** **01 12 01.6 -1.6**
comp=Z,2.8nm,0.6s,baz=152,slow=7.4,SNR=8.0
USRK LR LR 01 32 09.7
comp=Z,108nm,21.9s,baz=135,slow=33
USRK Ussuriysk Ar. 52.94 344 P **P** **01 12 01.4 -1.7**
USRK Ussuriysk Ar. 52.94 344 P **P** **01 12 01.4 -1.7**
GYA Guiyang 53.21 310 *eP* **P** **01 12 07.3 +1.6**
GYA S **S** **01 19 31.1 -2.9**
GYA pmax pmax
comp=Z,8.0nm,0.9s
GYA LR LR
comp=Z,180nm,12.0s
YSS Yuzh-Sakhalins 53.52 354 *eP* **P** **01 12 07.0 -0.4**
YSS *eS* **S** **01 19 35.6 -1.6**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,100nm,19.0s
MDJ Mudanjiang 54.02 342 P **P** **01 12 11.8 +0.7**
MDJ pP pP 01 12 22.4 -1.0
MDJ sP sP 01 12 26.8 -1.6
MDJ PP **PP** **01 14 09.4 -3.6**
MDJ S **S** **01 19 46.8 +2.7**
MDJ sS sS 01 20 06.6 +1.8
MDJ pmax pmax
comp=Z,14nm,0.7s
MDJ pmax pmax
comp=Z,200nm,3.5s
MDJ LR LR
comp=Z,220nm,22.8s
MDJ LR LR
comp=Z,180nm,27.1s
MDJ LR LR
comp=Z,300nm,27.1s
MDJ Mudanjiang 54.02 342 P **P** **01 12 09.3 -1.8**
MDJ IAmb IAmb 01 12 12.4
comp=Z,9.4nm,0.8s
KMI Kunming 55.62 306 ⇓P **P** **01 12 25.3 +1.9**
KMI pP pP 01 12 33.8 -1.8
KMI pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuan 55.74 329 P **P** **01 12 23.5 -0.2**
BJT pmax pmax
comp=Z,6.0nm,0.7s
BJT Baijiatuan 55.74 329 P **P** **01 12 23.5 -0.2**
BJT IAmb IAmb 01 12 26.5
comp=Z,6.0nm,0.7s
BJI Beijing 55.75 329 P **P** **01 12 24.9 +1.2**
BJI pmax pmax
comp=Z,6.0nm,0.6s
XAN Xi'an 55.92 319 P **P** **01 12 27.0 +1.9**
XAN pmax pmax
comp=Z,15nm,0.8s
XAN LR LR
comp=Z,140nm,19.5s
XAN LR LR
comp=Z,140nm,17.3s
XAN LR LR
comp=Z,290nm,17.3s
XAN Xi'an 55.92 319 P **P** **01 12 24.4 -0.7**
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN Xi'an 55.92 319 P **P** **01 12 24.4 -0.7**
XAN IAmb IAmb 01 12 28.1
comp=Z,9.8nm,0.8s
CMAR Chiang Mai Arr 56.08 297 P **P** **01 12 25.1 -1.4**
comp=Z,1.8nm,0.5s,baz=121,slow=5.3,SNR=6.3
CMAR LR LR 01 37 50.7
comp=Z,33nm,19.0s,baz=150,slow=38
CMAR Chiang Mai Arr 56.08 297 *ceP* **P** **01 12 26.7 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 56.08 297 P **P** **01 12 24.8 -1.7**
KLR Kul'dur 57.66 346 *ceP* **P** **01 12 36.8 -0.3**
KLR pmax pmax
comp=Z,7.0nm,1.3s
HHC Hu-ho-hao-te 58.78 327 *eP* **P** **01 12 46.0 +0.7**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,69nm,7.6s
PEA0B Petropavlovsk- 59.66 5 P **P** **01 12 49.7 -1.2**
PEA0B pmax pmax
comp=Z,65nm,1.6s
PEA0B Petropavlovsk- 59.66 5 P **P** **01 12 49.7 -1.2**
PETK Petropavlovsk- 59.66 5 P **P** **01 12 50.0 -0.9**
comp=Z,2.9nm,0.6s,baz=150,slow=5.4,SNR=14
PETK LR LR 01 34 11.1
comp=Z,117nm,21.2s,baz=188,slow=32
PETK Petropavlovsk- 59.66 5 P **P** **01 12 49.2 -1.7**
PETK Petropavlovsk- 59.66 5 P **P** **01 12 49.2 -1.7**
LZH Lanzhou 60.49 318 *eP* **P** **01 13 01.0 +3.8**
LZH pP pP 01 13 11.4 +1.9
LZH PP **PP** **01 15 18.1 +7.1**
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,100nm,4.3s
LZH LR LR
comp=Z,220nm,11.9s
LZH LR LR
comp=Z,200nm,14.3s
LZH LR LR
comp=Z,260nm,14.6s
HIA Hailar 61.41 338 P **P** **01 13 01.6 -1.4**
HIA pmax pmax
comp=Z,6.0nm,0.8s
HIA Hailar 61.41 338 P **P** **01 13 01.6 -1.4**
HIA IAmb IAmb 01 13 06.3
comp=Z,5.7nm,0.8s
ZEA Zeya 62.92 345 *eP* **P** **01 13 14.4 +1.4**
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
SHL Shillong 64.75 302 P **P** **01 13 25.0 -0.9**
SHL pmax pmax
comp=Z,20nm,0.3s
SHL Shillong 64.75 302 P **P** **01 13 24.9 -0.9**
GTA Gaotai 64.98 319 *eP* **P** **01 13 30.6 +3.6**
GTA pP pP 01 13 34.9 -4.6
GTA sP sP 01 13 37.8 -6.6
GTA pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 65.93 330 *ceP* **P** **01 13 32.8 -0.2**
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 65.93 330 P **P** **01 13 32.1 -0.9**
SONM Songino Array 66.24 329 P **P** **01 13 34.9 -0.1**
comp=Z,1.8nm,0.6s,baz=140,slow=7.2,SNR=8.2
SONM LR LR 01 40 21.3
comp=Z,61nm,21.5s,baz=86,slow=34
SONM Songino Array 66.24 329 P **P** **01 13 35.2 +0.2**
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 66.24 329 P **P** **01 13 35.2 +0.2**
LSA Lhasa 66.88 306 P **P** **01 13 39.0 -0.9**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 66.88 306 P **P** **01 13 39.0 -0.9**
LSA IAmb IAmb 01 13 43.9
comp=Z,8.3nm,0.7s
ODAN Odare 68.98 302 *eP* **P** **01 13 51.5 -1.3**
comp=Z,26nm,0.6s
ZAK Zakamensk 69.45 330 *eP* **P** **01 13 52.8 -2.3**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
RAMN Ramite 69.68 302 *eP* **P** **01 13 57.2 0.0**
comp=Z,8.9nm,0.5s
GUN Gumba 70.59 302 *eP* **P** **01 14 01.6 -1.3**
comp=Z,38nm,0.6s
DMN Daman 71.15 302 *eP* **P** **01 14 08.4 +2.3**
comp=Z,18nm,0.5s
VNDA Vanda 71.34 177 P **P** **01 14 07.7 +1.6**
VNDA comp=Z,4.4nm,0.8s,baz=325,slow=7.2,SNR=19 LR LR 01 42 13.9
comp=Z,107nm,19.2s,baz=296,slow=33
VNDA Vanda 71.34 177 P **P** **01 14 07.3 +1.2**
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 71.34 177 P **P** **01 14 07.3 +1.2**
GKN Gorkha 71.67 302 *eP* **P** **01 14 10.5 +1.4**
comp=Z,20nm,0.6s
WMQ Urumqi 75.06 318 *eP* **P** **01 14 26.3 -2.4**
WMQ pP pP 01 14 36.6 -4.8
WMQ LR LR
comp=Z,81nm,18.3s
BILL Bilibino 75.17 6 *eP* **P** **01 14 30.9 +2.2**
BILL *e* 01 14 44.3
BILL *e* 01 17 12.7
BILL pmax pmax
comp=Z,1.0nm,0.4s
DGZ Jazzator, Alta 77.71 324 *i* P **P** **01 14 42.2 -1.5**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 79.14 353 *i* P **P** **01 14 53.4 +2.5**
MK31 Makanchi Array 79.72 320 P **P** **01 14 53.1 -1.6**
MK31 pmax pmax
comp=Z,2.0nm,1.1s
MK31 Makanchi Array 79.72 320 P **P** **01 14 53.1 -1.6**
MKAR Makanchi Array 79.72 320 P **P** **01 14 53.1 -1.5**
comp=Z,0.8nm,0.5s,baz=100,slow=7.9,SNR=17
MKAR LR LR 01 49 57.1
comp=Z,86nm,19.1s,baz=90,slow=36
MKAR Makanchi Array 79.72 320 P **P** **01 14 52.8 -1.9**
MKAR Makanchi Array 79.72 320 P **P** **01 14 52.8 -1.9**
MAKZ Makanchi 79.93 320 P **P** **01 14 54.0 -1.8**
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
MAKZ Makanchi 79.93 320 P **P** **01 14 54.0 -1.8**
ZAA0 Zalesovo Array 80.96 327 P **P** **01 14 58.9 -2.2**
ZALV Zalesovo Beam 80.96 327 P **P** **01 14 58.5 -2.6**
comp=Z,3.4nm,0.6s,baz=111,slow=5.6,SNR=16
ZALV LR LR 01 51 16.2
comp=Z,80nm,19.4s,baz=89,slow=36
ZALV Zalesovo Beam 80.96 327 *i* P **P** **01 15 01.0 -0.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 80.96 327 P **P** **01 14 58.8 -2.3**
KSH Kashi 81.88 311 *eP* **P** **01 15 06.9 +0.4**
KSH sP pP 01 15 20.8 +1.4
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,220nm,5.0s
NIL Nilore 82.59 305 P **P** **01 15 09.1 -1.1**
NIL pmax pmax
comp=Z,17nm,0.6s
NIL Nilore 82.59 305 **P** **01 15 09.1 -1.1**
NIL IAmb IAmb 01 15 09.5
comp=Z,17nm,0.6s
MAW Mawson 83.01 203 LR LR 01 50 48.5
comp=Z,152nm,19.4s,baz=68,slow=35
WAT2 Susitna Watana 83.19 24 P 01 15 12.8
baz=242
MLY Manley 83.39 22 P 01 15 13.3
baz=239
MCK McKinley 83.42 23 P 01 15 13.4
baz=241
AAK Ala-Archa 83.76 314 LR LR 01 52 27.8
comp=Z,133nm,20.2s,baz=94,slow=36
AAK Ala-Archa 83.76 314 *ceP* **P** **01 15 17.4 +1.2**
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 83.76 314 P **P** **01 15 15.6 -0.7**
IL31 84.70 23 P **P** **01 15 19.8 -0.4**
ILAR Eielson Array 84.70 23 P **P** **01 15 19.4 -0.9**
comp=Z,1.9nm,0.6s,baz=250,slow=5.1,SNR=9.0
ILAR LR LR 01 52 12.6
comp=Z,41nm,18.2s,baz=160,slow=35
ILAR Eielson Array 84.70 23 P **P** **01 15 18.8 -1.5**
ILAR Eielson Array 84.70 23 P **P** **01 15 18.8 -1.5**
KK31 Karatay Array 86.72 314 P **P** **01 15 29.2 -1.6**
KK31 pmax pmax
comp=Z,7.0nm,1.3s
KK31 Karatay Array 86.72 314 P **P** **01 15 29.1 -1.6**
KK31 IAmb IAmb 01 16 03.6
comp=Z,6.8nm,1.3s
KKAR Karatay Array 86.72 314 P **P** **01 15 29.2 -1.6**
KKAR Karatay Array 86.72 314 P **P** **01 15 29.2 -1.6**
SYO Syowa Base 91.22 200 ⇓*eX* P 01 15 56.6 +5.1
NVAR Mina Array Bea 95.27 52 LR LR 01 51 37.8
comp=Z,130nm,21.5s,baz=262,slow=31
GEYT Alibeck 95.38 307 LR LR 02 01 05.5
comp=Z,106nm,20.7s,baz=290,slow=37
YKA Yellowknife Ar 98.15 28 PKiKP **PKiKP** **01 20 56.2 +0.3**
comp=Z,0.3nm,0.7s,baz=279,slow=1.0,SNR=5.0
ARCES ARCESS Array B 107.57 342 PKiKP **PKiKP** **01 21 11.9 -1.1**
comp=Z,10nm,1.1s,baz=3.4,slow=4.5,SNR=2.1
ULM Lac du Bonnet 110.24 39 PKiKP **PKiKP** **01 21 17.4 -1.1**
comp=Z,0.6nm,0.5s,baz=280,slow=2.8,SNR=3.4
ECSD EROS Data Cent 111.25 46 P 01 21 20.2
baz=282
FINES FINESS Array B 111.33 335 PKiKP **PKiKP** **01 21 19.5 -0.7**
comp=Z,1.7nm,0.7s,baz=64,slow=4.4,SNR=6.4
AKASG Malin Array Be 114.14 323 PKP PKPdf 01 21 24.7 -1.2
comp=Z,0.5nm,0.3s,baz=50,slow=1.4,SNR=4.3
BRTR Keskin Array B 114.26 311 PKP PKPdf 01 21 25.4 -1.3
comp=Z,0.5nm,0.7s,baz=71,slow=2.2,SNR=2.8
U40A Yellville 115.57 53 **PKiKP** **01 21 28.3 -0.8**
U40A Yellville 115.57 53 P 01 21 28.8
baz=282
SORM Soroca 115.57 321 ⇓P **PKiKP** **01 21 27.7 -1.0**
SORM Soroca 115.57 321 ⇓PKiKP **PKiKP** **01 21 27.7 -1.0**
JFWS Jewell Farm 115.96 45 P 01 21 28.7
baz=286
TLCR 116.25 318 ⇑P **PKPdf** **01 21 29.7 -0.4**
TLCR 116.25 318 ⇑PKiKP **PKPdf** **01 21 29.7 -0.4**
BOSA Boshof 116.42 234 PKP **PKiKP** **01 21 31.7 +0.5**
comp=Z,3.0nm,1.1s,baz=148,slow=4.6,SNR=3.3
CFR Carcaliu 116.71 318 ⇓P **PKPdf** **01 21 30.0 -1.0**
CFR Carcaliu 116.71 318 ⇓PKiKP **PKPdf** **01 21 30.0 -1.0**
TLBR Topalu 116.98 317 ⇑P **PKPdf** **01 21 29.6 -2.0**
BIZ Bicaz 117.42 320 ⇓P **PKiKP** **01 21 32.5 +0.1**
NOA NORSAR Array B 117.44 339 PKP **PKPdf** **01 21 30.8 -1.2**
comp=Z,0.4nm,0.7s,baz=48,slow=1.9,SNR=2.3
BURAR Bucovina Array 117.73 321 ⇑P **PKiKP** **01 21 33.5 +0.4**
BURAR Bucovina Array 117.73 321 ⇑PKiKP **PKiKP** **01 21 33.5 +0.4**
BURAR Bucovina Array 117.73 321 **PKPdf** **01 21 32.0 -1.1**
LL01 San Ignacio de 117.98 146 PKPdf **PKPdf** **01 21 32.9 -0.7**
DOPR Dopca 118.24 319 ⇓P **PKiKP** **01 21 34.0 0.0**
VOIR 118.66 319 ⇓P **PKPdf** **01 21 34.4 -0.5**
VOIR 118.66 319 ⇓PKiKP **PKPdf** **01 21 34.4 -0.5**
ARR Arges 118.96 319 ⇑P **PKPdf** **01 21 34.3 -1.1**
HUMR Humele 119.04 318 ⇑P **PKPdf** **01 21 34.6 -1.0**
DRGR 119.62 321 ⇑P **PKPdf** **01 21 35.6 -1.1**
DRGR 119.62 321 ⇑PKiKP **PKPdf** **01 21 35.6 -1.1**
PLVB Pleven 119.70 317 ⇓P **PKPdf** **01 21 36.1 -0.7**
BLO Bloomington 119.74 48 PKiKP **PKPdf** **01 21 36.2 -0.8**
BLO Bloomington 119.74 48 PKPdf **PKPdf** **01 21 36.2 -0.8**
PLCA Paso Flores 120.12 145 PKP **PKiKP** **01 21 38.1 +0.1**
comp=Z,1.0nm,0.6s,baz=221,slow=4.5,SNR=4.3
GZR Gura Zlata 120.15 320 ⇑P **PKPdf** **01 21 36.5 -1.2**
GZR Gura Zlata 120.15 320 ⇑PKiKP **PKPdf** **01 21 36.5 -1.2**
P48A Milroy 120.46 48 **PKPdf** **01 21 37.4 -1.0**
HERR Herculane 120.59 319 ⇑P **PKPdf** **01 21 37.5 -1.0**
BZS Buzias 120.80 320 ⇑P **PKPdf** **01 21 38.1 -0.8**
BZS Buzias 120.80 320 ⇑PKiKP **PKPdf** **01 21 38.1 -0.8**
VTS Vitosha 120.92 316 ⇑P **PKPdf** **01 21 38.6 -0.8**
VTS Vitosha 120.92 316 ⇑PKiKP **PKPdf** **01 21 38.6 -0.8**
VTS Vitosha 120.92 316 **PKPdf** **01 21 38.5 -0.9**
P49A Miami Univ. Ec 120.95 47 P 01 21 38.8
baz=289
LRAL Lakeview Retre 121.00 55 P 01 21 39.2
baz=284
MDVR Moldovita 121.09 319 ⇑P **PKPdf** **01 21 38.7 -0.9**
MORC Moravsky Berou 121.29 326 ⇓P **PKiKP** **01 21 39.9 0.0**
MORC Moravsky Berou 121.29 326 ⇓PKiKP **PKiKP** **01 21 39.9 0.0**
BOVS Bovan 121.56 318 ⇑P **PKPdf** **01 21 39.1 -1.3**
T50A Nancy 121.65 50 **PKPdf** **01 21 40.0 -0.8**
I51A Listowel 121.95 42 P 01 21 40.6
baz=295
ACSO Alum Creek Sta 121.97 46 P 01 21 40.9
baz=291
FRGS Fruska Gora 122.15 320 ⇓P **PKPdf** **01 21 40.8 -0.7**
VLDQ Val d'Or 122.19 36 **PKPdf** **01 21 40.0 -1.4**
MORH Mrgy, Hungar 122.40 322 ⇑P **PKPdf** **01 21 41.0 -0.9**
DIVS Divibare 122.50 319 **PKPdf** **01 21 41.8 -0.6**
BRG Berggiesshubel 122.63 329 *i* PKP **PKPdf** **01 21 42.1 -0.1**
BRG Amp 01 21 42.8
comp=Z,3.8nm,0.7s

CLL	**Collm**	**122.86**	**329**	⇑*i*PKPdf	**PKPdf**	**01 21 41.8**	**-0.8**
	comp=Z,5.0nm,0.6s						
CLL				Lm	MLR	02 16 00.0	
	comp=N,100nm,19.2s						
CLL				Lm	MLR	02 16 00.0	
	comp=E,100nm,18.1s						
CLL				Lm	MLR	02 16 00.0	
	comp=Z,100nm,19.3s						
CLL	**Collm**	**122.86**	**329**	PKIKP	**PKPdf**	**01 21 41.8**	**-0.8**
CLL	**Collm**	**122.86**	**329**		**PKPdf**	**01 21 41.8**	**-0.8**
ALGO	**Algonquin Park**	**122.89**	**38**	P		01 21 42.3	
	baz=298						
FNA	**Florina**	**122.90**	**315**	PKIKP	**PKPdf**	**01 21 41.9**	**-1.3**
FNA	**Florina**	**122.90**	**315**		**PKPdf**	**01 21 41.9**	**-1.3**
G54A	**Lake Saint Pet**	**123.13**	**39**	P		01 21 43.0	
	baz=298						
M53A	**WI Miller and**	**123.14**	**44**	P		01 21 43.1	
	baz=294						
CONA	**Conrad Observa**	**123.20**	**325**	*i* P	**PKPdf**	**01 21 43.1**	**-0.5**
	comp=Z,2.9nm,0.7s,SNR=4.8						
Q53A	**Leroy**	**123.52**	**47**	P		01 21 43.9	
	baz=291						
N54A	**Moraine State**	**123.81**	**44**	P		01 21 44.3	
	baz=294						
M54A	**Oil Creek Stat**	**123.81**	**44**	P		01 21 44.5	
	baz=294						
D55A	**Sainte-Anne-du**	**123.91**	**36**	P		01 21 44.2	
	baz=302						
GERES	**GERESS Array B**	**123.91**	**327**	PKP	**PKPdf**	**01 21 43.9**	**-1.0**
	comp=Z,3.7nm,0.6s,baz=74,slow=1.9,SNR=45						
S54A	**Dingess, Beckl**	**124.05**	**48**	P		01 21 45.2	
	baz=291						
R54A	**Victor**	**124.15**	**48**	P		01 21 44.9	
	baz=291						
D56A	**ZEC Mazanza, M**	**124.31**	**36**	P		01 21 44.9	
	baz=302						
SOKA	**Soboth**	**124.33**	**324**	*e*P	**PKPdf**	**01 21 44.8**	**-1.0**
	comp=Z,3.0nm,0.9s						
R55A	**Marlinton**	**124.75**	**47**	P		01 21 46.5	
	baz=292						
J56A	**Wolcott**	**124.90**	**41**	P		01 21 46.1	
	baz=298						
BLA	**Blacksburg**	**124.92**	**49**	P		01 21 47.0	
	baz=291						
KMSC	**Kings Mountain**	**124.93**	**51**	P		01 21 47.1	
	baz=289						
L56A	**Greenwood**	**124.97**	**42**	P		01 21 46.6	
	baz=297						
N56A	**West Decatur**	**125.00**	**44**	P		01 21 47.2	
	baz=295						
O56A	**Blue Knob Stat**	**125.08**	**45**	P		01 21 47.3	
	baz=295						
KBA	**Koelnbreinsper**	**125.09**	**325**	*e*P	**PKPdf**	**01 21 45.9**	**-1.4**
	comp=Z,1.6nm,0.7s						
MYKA	**Terra Mystica**	**125.17**	**324**	*e*P	**PKPdf**	**01 21 46.2**	**-1.2**
	comp=Z,2.0nm,0.6s						
T56A	**Rocky Mt**	**125.28**	**49**	P		01 21 47.4	
	baz=291						
N57A	**Milroy**	**125.58**	**44**	P		01 21 48.0	
	baz=296						
M57A	**Sunshine Farm,**	**125.61**	**43**	P		01 21 48.3	
	baz=297						
Q57A	**Strasburg**	**125.69**	**46**	P		01 21 48.2	
	baz=294						
ABTA	**Abfaltersbach**	**125.75**	**325**	*e*P	**PKPdf**	**01 21 47.1**	**-1.4**
	comp=Z,4.4nm,0.6s						
WATA	**Walderalm**	**125.94**	**326**	*e*P	**PKPdf**	**01 21 48.2**	**-0.7**
	comp=Z,3.3nm,0.7s						
WTTA	**Wattenberg**	**125.95**	**326**	*e*P	**PKPdf**	**01 21 48.4**	**-0.5**
	comp=Z,8.0nm,0.8s						
N58A	**Sunbury**	**126.11**	**43**	P		01 21 48.9	
	baz=297						
L58A	**Harry Jones Me**	**126.14**	**41**	P		01 21 49.1	
	baz=298						
MOTA	**Moosalm**	**126.20**	**326**	*i* P	**PKPdf**	**01 21 48.5**	**-0.9**
	comp=Z,6.0nm,0.6s,SNR=7.9						
SQTA	**Sankt Quirin**	**126.21**	**326**	*e*P	**PKPdf**	**01 21 48.6**	**-0.8**
	comp=Z,6.3nm,0.8s						
Q58A	**Fox Den Farm,**	**126.25**	**46**	P		01 21 49.4	
	baz=294						
O58A	**Lewisberry**	**126.28**	**44**	P		01 21 49.7	
	baz=296						
RETA	**Reutte**	**126.30**	**327**	*e*P	**PKPdf**	**01 21 48.8**	**-0.7**
	comp=Z,3.6nm,1.1s						
T58A	**Grand View Acr**	**126.42**	**48**	P		01 21 49.8	
	baz=292						
R58B	**Mineral**	**126.50**	**47**	P		01 21 49.6	
	baz=294						
FETA	**Feichten**	**126.60**	**326**	*e*P	**PKPdf**	**01 21 49.6**	**-0.5**
	comp=Z,4.1nm,0.7s						
L59A	**Walton**	**126.60**	**41**	P		01 21 50.3	
	baz=299						
U58A	**Oxford**	**126.62**	**49**	P		01 21 50.3	
	baz=292						
M59A	**Waymart**	**126.65**	**42**	P		01 21 50.5	
	baz=298						
BTNL	**Ternell**	**126.67**	**332**	*d*PKP	**PKPdf**	**01 21 49.8**	**-0.2**
MEM	**Membach**	**126.71**	**332**	*d*PKP	**PKPdf**	**01 21 50.0**	**0.0**
DAVA	**Damuels**	**126.90**	**327**	*e*P	**PKPdf**	**01 21 50.9**	**+0.1**
	comp=Z,8.7nm,0.9s						
TEOL	**Teolo**	**127.02**	**324**	PKPdf	**PKPdf**	**01 21 50.3**	**-0.6**
TUE	**Stuetta**	**127.69**	**326**		**PKPdf**	**01 21 51.4**	**-1.0**
KEST	**Kesra**	**133.61**	**315**	PKP	**PKPdf**	**01 22 02.0**	**-1.8**
	comp=Z,2.1nm,0.7s,baz=108,slow=5.7,SNR=5.0						
CBOC	**Ciudad Bolivar**	**134.27**	**88**	*e*P	**PKPdf**	**01 22 05.5**	**-0.2**
RREF	**El Recreo**	**134.87**	**89**	*e*P	**PKPdf**	**01 22 07.0**	**-0.4**
TOLC	**Tolima**	**134.87**	**90**	*e*P	**PKiKP**	**01 22 08.8**	**+0.4**
GUY2C	**Guyana, Caldas**	**134.87**	**89**	*e*P	**PKPdf**	**01 22 05.8**	**-1.4**
ORTC	**Ortega, Tolima**	**134.89**	**91**	*e*P	**PKPdf**	**01 22 05.8**	**-0.9**
PRAC	**Prado**	**135.23**	**91**	*e*P	**PKPdf**	**01 22 07.0**	**-0.3**
NORC	**Norcasia**	**135.38**	**89**	*e*P	**PKPdf**	**01 22 07.0**	**-0.7**
LPAZ	**La Paz**	**136.04**	**121**	PKP	**PKPdf**	**01 22 08.5**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=10,slow=4.1,SNR=6.8						
MACC	**Macarena, Meta**	**136.09**	**94**	*e*P	**PKPdf**	**01 22 04.9**	**-4.0**
RUSC	**La Rusia**	**137.18**	**88**	*e*P	PKPdf	01 22 01.1	-10
CPUP	**Villa Florida**	**138.02**	**142**	PKP	**PKPdf**	**01 22 12.7**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=268,slow=2.8,SNR=4.6						
ESDC	**Sonseca Array**	**139.44**	**329**	PKP	**PKPdf**	**01 22 14.1**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=78,slow=1.9,SNR=1.7						
HUMP	**Col San Antoni**	**143.17**	**68**		**PKPdf**	**01 22 20.1**	**-1.5**
CDVI	**St. Croix**	**144.26**	**68**	PKPdf	PKPbc	01 22 21.9	+0.1
TOA0	**Torodi Ar. Sit**	**148.08**	**285**		**PKPdf**	**01 22 28.6**	**-1.5**
TOA0				PKPbc	**PKPbc**	**01 22 32.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**148.08**	**285**	PKPbc	**PKPbc**	**01 22 32.4**	**-0.9**
	comp=Z,21nm,0.7s,baz=52,slow=3.1,SNR=75						
TORD	**Torodi Ar. Bea**	**148.08**	**285**		**PKPdf**	**01 22 28.4**	**-1.7**
TORD				PKPbc	**PKPbc**	**01 22 32.4**	**-0.9**
PTGA	**Pitinga**	**149.26**	**102**		**PKPbc**	**01 22 36.5**	**+0.1**
BDFB	**Brasilia**	**151.74**	**141**	PKPbc	**PKPbc**	**01 22 41.9**	**-0.4**
	comp=Z,5.1nm,0.5s,baz=218,slow=5.5,SNR=10						
BDFB	**Brasilia**	**151.74**	**141**	PKIKP	**PKPbc**	**01 22 42.4**	**+0.1**
BDFB	**Brasilia**	**151.74**	**141**		**PKPbc**	**01 22 42.4**	**+0.1**
KOWA	**Kowa**	**153.23**	**290**		**PKPdf**	**01 22 38.0**	**-0.1**
KOWA				PKPbc	**PKPbc**	**01 22 44.5**	**-1.1**
KIC	**Kosan Boka**	**154.89**	**271**	*e*PKP1	**PKPbc**	**01 22 48.6**	**-0.6**
	comp=Z,22nm,0.7s						
DBIC	**Dimbokro**	**155.01**	**272**	PKPbc	**PKPdf**	**01 22 47.8**	**+7.1**
	comp=Z,4.2nm,0.7s,baz=113,slow=1.8,SNR=6.7						
LIC	**Lamto**	**155.17**	**271**	*e*PKP1	PKPdf	01 22 49.3	+8.4
	comp=Z,32nm,1.2s						
TIC	**Toumodi**	**155.18**	**272**	*e*PKP1	PKPdf	01 22 49.3	+8.4

IDC ***20*** *01:13:31.8±1.4, 15°.81S×174°.95W, h253km±14km, mb3.4/8, mb1 3.7/9, mb1mx3.4/35, mbtmp4.0/9, Error ellipse: s-maj=33.5km s-min=14.4km az=146.0*

ISC 20 01:13:33.9±0.9, 15°.8S±0°.2×174°.8W±0°.2, h278km, n11, σ1°.9 17/12, mb3.6/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.44**	**57**	P	**Pn**	**01 14 31.4**	**-1.5**
	6.7nm,0.3s,baz=277,slow=24,SNR=2.7						
AFI				S	**S**	**01 15 18.9**	**-1.1**
	34nm,0.3s,baz=354,slow=18,SNR=10						
WRA	**Warramunga Arr**	**48.48**	**257**	P	**P**	**01 21 48.0**	**-1.3**
	2.1nm,0.6s,baz=91,slow=7.0,SNR=39						
ASAR	**Alice Springs**	**48.74**	**252**	P	**P**	**01 21 50.0**	**-1.3**
	6.5nm,0.7s,baz=85,slow=8.8,SNR=58						
VNDA	**Vanda**	**62.86**	**186**	P	**P**	**01 23 30.2**	**+0.2**
	1.0nm,0.7s,baz=12,slow=5.0,SNR=4.0						
PETK	**Petropavlovsk-**	**72.61**	**343**	P	**P**	**01 24 31.0**	**+0.1**
	1.7nm,0.7s,baz=134,slow=10,SNR=1.7						
NVAR	**Mina Array Bea**	**75.50**	**43**	P	**P**	**01 24 49.7**	**+1.4**
	0.7nm,0.7s,baz=225,slow=9.0,SNR=6.6						
TXAR	**Lajitas Array**	**81.92**	**57**	P	**P**	**01 25 24.7**	**+1.6**
	0.6nm,0.9s,baz=206,slow=8.2,SNR=5.6						
ILAR	**Eielson Array**	**83.09**	**12**	P	**P**	**01 25 28.3**	**+0.1**
	0.3nm,0.7s,baz=217,slow=4.6,SNR=2.1						
PDAR	**Pinedale Array**	**83.43**	**42**	P	**P**	**01 25 31.2**	**+0.5**
	0.5nm,0.6s,baz=164,slow=2.1,SNR=6.4						
BRTR	**Keskin Array B**	**145.62**	**319**	PKPbc	**PKPab**	**01 32 41.6**	**+0.5**
	0.6nm,0.8s,baz=103,slow=5.3,SNR=4.4						
GERES	**GERESS Array B**	**146.31**	**350**	PKPbc	**PKPbc**	**01 32 42.6**	**+0.5**
	0.1nm,0.2s,baz=326,slow=4.7,SNR=1.7						

IDC ***20*** *01:14:37.6±1.1, 24°.02N×121°.81E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/34, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=35.4km s-min=21.5km az=66.0*

JMA ***20*** *01:14:42.4±0.1, 23°.97N×121°.72E, h33km±1km, M3.6*

TAP ***20*** *01:14:43.2, 24°.01N×121°.71E, h35km, ML4.2, B*

ISC 20 01:14:42.9±0.9, 24°.00N±0°.01×121°.73E±0°.02, h34km±2km, n165, σ0°.94/297, mb3.5/7, 7C-20D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.11**	**257**	⇑*i*P	**Pb**	**01 14 49.6**	**+0.7**
	baz=248						
HWA				S	**Sb**	**01 14 54.6**	**+1.6**
	baz=248						
TWD	**Chiawan**	**0.14**	**303**	⇑*i*P	**Pb**	**01 14 49.3**	**+0.2**
	baz=307						
TWD				*i* S	**Sb**	**01 14 53.8**	**+0.4**
	baz=307						
NACB	**Ninganchiao**	**0.21**	**325**	⇑*i*P	**Pb**	**01 14 49.7**	**0.0**
	baz=327						
NACB				*i* S	**Sb**	**01 14 54.5**	**+0.1**
	baz=327						
ETLH	**Xiulin Townshi**	**0.30**	**312**	*i* P	**Pb**	**01 14 51.0**	**+0.1**
	baz=313						
ETLH				*i* S	**Sb**	**01 14 56.4**	**+0.1**
	baz=313						
ESL	**Shilin**	**0.33**	**235**	*i* P	**Pb**	**01 14 51.1**	**0.0**
	baz=239						
ESL				*e*S	**Sn**	**01 14 57.0**	**+0.7**
	baz=239						
ENA	**Nanau**	**0.42**	**2**	*i* P	**Pb**	**01 14 52.5**	**+0.1**
	baz=12						
ENA				S	**Sn**	**01 14 59.5**	**+0.3**
	baz=12						
EGFH	**Guangfu**	**0.43**	**220**	P	**Pn**	**01 14 52.9**	**+0.2**
	baz=228						
EGFH				*e*S	**Sn**	**01 15 00.1**	**+0.9**
	baz=228						
WHF	**Hehuan Shan**	**0.45**	**289**	⇓*i*P	**Pb**	**01 14 53.0**	**-0.1**
	baz=282						
WHF				S	**Sb**	**01 14 59.9**	**-0.2**
	baz=282						
FUSS	**Fushou**	**0.51**	**299**	⇓*i*P	**Pb**	**01 14 54.0**	**+0.2**
	baz=299						
FUSS				S	**Sn**	**01 15 01.7**	**+0.2**
	baz=299						
NNSB	**Datong**	**0.53**	**324**	⇓*i*P	**Pb**	**01 14 54.2**	**+0.1**
	baz=319						
NNSB				*e*S	**Sb**	**01 15 01.9**	**+0.1**
	baz=319						
NNSH	**Datong**	**0.53**	**324**	⇓*i*P	**Pn**	**01 14 54.2**	**+0.1**
	baz=318						
NNSH				S	**Sb**	**01 15 01.8**	**0.0**
	baz=318						
NNS	**Nan Shan**	**0.54**	**324**	⇓*i*P	**Pb**	**01 14 54.4**	**+0.1**
	baz=319						
NNS				S	**Sb**	**01 15 02.2**	**0.0**
	baz=319						
TWT	**Tachien**	**0.56**	**297**	⇓*e*P	**Pn**	**01 14 55.0**	**+0.5**
	baz=290						
TWT				*e*S	**Sb**	**01 15 03.0**	**+0.2**
	baz=290						
TDCB	**Techi**	**0.58**	**296**	⇓*i*P	**Pn**	**01 14 55.0**	**+0.3**
	baz=290						
TDCB				S	**Sb**	**01 15 02.9**	**-0.2**
	baz=290						
HGSD	**Ruisui**	**0.58**	**209**	⇑*i*P	**Pb**	**01 14 55.2**	**+0.5**
	baz=218						
HGSD				*e*S	**Sn**	**01 15 05.5**	**+2.6**
	baz=218						
VWDT	**VWDT**	**0.59**	**245**	⇓*i*P	**Pb**	**01 14 55.3**	**+0.3**
	baz=234						
VWDT				*e*S	**Sb**	**01 15 03.6**	**+0.3**
	baz=234						
TWC	**Suao**	**0.61**	**10**	⇑*i*P	**Pb**	**01 14 55.5**	**+0.2**
	baz=18						
TWC				*e*S	**Sn**	**01 15 04.2**	**+0.4**
	baz=18						
EHY	**Hungye**	**0.62**	**217**	P	**Pn**	**01 14 54.7**	**-0.4**
	baz=224						
EHY				*e*S	**Sb**	**01 15 03.9**	**-0.2**
	baz=224						
NDT	**Datong Townshi**	**0.63**	**342**	⇑*i*P	**Pb**	**01 14 55.7**	**+0.1**
	baz=343						
NDT				*e*S	**Sn**	**01 15 04.4**	**+0.2**
	baz=343						
ENTT	**Nioudou**	**0.65**	**347**	⇑*i*P	**Pn**	**01 14 55.9**	**+0.2**
	baz=349						
ENTT				*e*S	**Sn**	**01 15 05.0**	**+0.3**
	baz=349						
WPL	**Puli Township**	**0.70**	**271**	⇓P	**Pb**	**01 14 56.9**	**+0.1**
	baz=268						
WPL				*e*S	**Sn**	**01 15 06.4**	**+0.4**
	baz=268						
TWE	**Neicheng**	**0.72**	**356**	P	**Pb**	**01 14 57.0**	**-0.1**
	baz=352						
TWE				*e*S	**Sb**	**01 15 06.9**	**+0.1**
	baz=352						
YULB	**Yu-li**	**0.72**	**213**	*e*P	**Pn**	**01 14 55.9**	**-0.7**
	baz=221						
YULB				*e*S	**Sn**	**01 15 06.0**	**-0.6**
	baz=221						
DPDB	**Guoxing**	**0.73**	**273**	⇓*i*P	**Pb**	**01 14 57.5**	**+0.1**
	baz=272						
DPDB				*e*S	**Sn**	**01 15 07.2**	**+0.3**
	baz=272						
YHNB	**Yeheng**	**0.74**	**334**	*e*P	**Pb**	**01 14 57.4**	**-0.1**
	baz=335						
YHNB				*e*S	**Sn**	**01 15 07.1**	**+0.1**
	baz=335						
SSLB	**Suanglung**	**0.74**	**253**	⇓*i*P	**Pn**	**01 14 57.1**	**+0.3**
	baz=256						
SSLB				*e*S	**Sn**	**01 15 06.5**	**-0.5**
	baz=256						
NSK	**Sanguang**	**0.75**	**333**	⇓P	**Pb**	**01 14 57.5**	**-0.1**
	baz=335						
NSK				*e*S	**Sn**	**01 15 07.4**	**0.0**
	baz=335						
TWF1	**Yuli**	**0.76**	**211**	P	**Pn**	**01 14 56.6**	**-0.5**
	baz=220						
TWF1				*e*S	**Sn**	**01 15 06.8**	**-0.6**
	baz=220						
ILA	**Ilan**	**0.76**	**1**	*e*P	**Pn**	**01 14 57.5**	**+0.3**
	baz=356						
ILA				*e*S	**Sb**	**01 15 08.4**	**+0.5**
	baz=356						
WHP	**Taichung City**	**0.77**	**291**	⇓*i*P	**Pb**	**01 14 58.0**	**+0.1**
	baz=291						
WHP				*e*S	**Sb**	**01 15 08.2**	**+0.1**
	baz=291						
SMLT	**Sun Moon Lake**	**0.77**	**261**	⇓*i*P	**Pn**	**01 14 57.9**	**+0.5**
	baz=260						
SMLT				S	**Sn**	**01 15 08.2**	**+0.4**
	baz=260						
NWLT	**Wulai**	**0.80**	**345**	*e*P	**Pn**	**01 14 58.1**	**+0.4**
	baz=347						
NWLT				*e*S	**Sn**	**01 15 08.5**	**0.0**
	baz=347						
TYC	**Yuchr**	**0.80**	**263**	⇓*i*P	**Pn**	**01 14 58.2**	**+0.5**
	baz=262						
TYC				S	**Sn**	**01 15 08.8**	**+0.4**
	baz=262						
NTC	**Toucheng**	**0.85**	**6**	*e*P	**Pn**	**01 14 58.9**	**+0.5**
	baz=16						
NTC				*e*S	**Sb**	**01 15 10.9**	**+0.4**
	baz=16						
WHYT	**Xinyi Township**	**0.86**	**249**	*e*P	**Pn**	**01 14 59.0**	**+0.5**
	baz=246						
WHYT				*e*S	**Sb**	**01 15 10.9**	**+0.2**
	baz=246						
EGS		**0.86**	**13**	*e*P	**Pb**	**01 14 60.0**	**+0.5**
	baz=23						
EGS				*e*S	**Sb**	**01 15 12.2**	**+1.5**
	baz=23						
YUS	**Yu-Shan**	**0.88**	**234**	P	**Pn**	**01 14 59.7**	**+0.5**
	baz=224						
YUS				S	**Sn**	**01 15 11.0**	**+0.1**
	baz=224						
FULB	**Fuli**	**0.89**	**207**	P	**Pn**	**01 14 59.4**	**+0.4**
	baz=216						
FULB				*e*S	**Sb**	**01 15 12.6**	**+0.9**
	baz=216						
LIOB	**Emei**	**0.91**	**315**	⇓P	**Pb**	**01 15 01.0**	**+0.7**
	baz=315						
LIOB				*e*S	**Sb**	**01 15 12.7**	**+0.5**
	baz=315						
NSTT	**Nanjuang**	**0.91**	**314**	⇓P	**Pb**	**01 15 00.8**	**+0.5**
	baz=314						
NSTT				*e*S	**Sb**	**01 15 12.5**	**+0.3**
	baz=314						
WJS	**Zhushan**	**0.93**	**259**	*e*P	**Pb**	**01 15 01.2**	**+0.6**
	baz=258						
WJS				*e*S	**Sb**	**01 15 13.7**	**+0.9**
	baz=258						
TWQ1	**Liyutan**	**0.94**	**292**	⇓*e*P	**Pb**	**01 15 01.4**	**+0.7**
	baz=292						
TWQ1				*e*S	**Sb**	**01 15 13.9**	**+1.0**
	baz=292						
WWF	**Wufeng**	**0.94**	**273**	*e*P	**Pb**	**01 15 01.8**	**+1.0**
	baz=272						
WWF				*e*S	**Sb**	**01 15 15.3**	**+2.3**
	baz=272						
CHKT	**Chengkung**	**0.96**	**200**	*e*P	**Pn**	**01 14 59.9**	**0.0**
	baz=186						
CHKT				*e*S	**Sn**	**01 15 11.8**	**-0.4**
	baz=186						
WNT	**Mingjian**	**0.96**	**263**	*e*P	**Pb**	**01 15 01.7**	**+0.6**
	baz=262						
WNT				*e*S	**Sb**	**01 15 15.0**	**+1.4**
	baz=262						
WNT1	**Nantou City**	**0.96**	**265**	*e*P	**Pb**	**01 15 01.8**	**+0.7**
	baz=264						
WNT1				*e*S	**Sb**	**01 15 15.2**	**+1.6**
	baz=264						
TIPB	**Shuangxi**	**0.97**	**5**	*e*P	**Pb**	**01 15 01.2**	**-0.1**
	baz=357						
TIPB				*e*S	**Sb**	**01 15 15.2**	**+1.3**
	baz=357						
TCU	**Taichung**	**0.97**	**279**	*e*P	**Pb**	**01 15 02.0**	**+0.7**
	baz=279						
TCU				*e*S	**Sb**	**01 15 15.8**	**+2.0**
	baz=279						
NHDH	**Xindian Distri**	**0.97**	**349**	*e*P	**Pb**	**01 15 01.2**	**-0.1**
	baz=342						
NHDH				*e*S	**Sb**	**01 15 13.6**	**-0.4**
	baz=342						
NSY	**Sanyi**	**0.97**	**295**	⇓*e*P	**Pb**	**01 15 02.1**	**+0.8**
	baz=296						
NSY				*e*S	**Sb**	**01 15 15.7**	**+1.8**
	baz=296						
ALS	**Alishan**	**0.98**	**240**	*e*P	**Pb**	**01 15 01.4**	**-0.2**
	baz=230						
ALS				*e*S	**Sb**	**01 15 14.3**	**0.0**
	baz=230						
TWA	**Mucha**	**0.98**	**352**	*e*P	**Pb**	**01 15 01.4**	**-0.1**
	baz=345						
TWA				*e*S	**Sb**	**01 15 13.9**	**-0.3**
	baz=345						
TATO	**Taipei**	**0.99**	**347**	*e*P	**Pn**	**01 15 00.9**	**+0.6**
	baz=348						
TATO				*e*S	**Sb**	**01 15 14.3**	**-0.2**
	baz=348						
HSN1	**Hsinchu**	**1.01**	**320**	*e*P	**Pb**	**01 15 02.1**	**+0.3**
	baz=321						
HSN1				*e*S	**Sb**	**01 15 16.6**	**+1.8**
	baz=321						
NMLH	**Miaoli**	**1.01**	**302**	*e*P	**Pb**	**01 15 02.6**	**+0.8**
	baz=302						
NMLH				*e*S	**Sb**	**01 15 16.7**	**+1.9**
	baz=302						
BACT	**New Taipei Cit**	**1.02**	**345**	*e*P	**Pn**	**01 15 01.0**	**+0.2**
	baz=347						
TWB1	**Santiao Chiao**	**1.03**	**13**	*e*P	**Pb**	**01 15 02.6**	**+0.4**
	baz=15						
TWB1				*e*S	**Sb**	**01 15 16.0**	**+0.5**
	baz=15						
SBCB	**Hsinchu**	**1.04**	**319**	*e*P	**Pb**	**01 15 02.4**	**0.0**
	baz=320						
SBCB				*e*S	**Sb**	**01 15 17.4**	**+1.6**
	baz=320						
ELDTW	**Lidau**	**1.04**	**219**	*e*P	**Pn**	**01 15 00.8**	**-0.3**
	baz=218						
ELDTW				*e*S	**Sn**	**01 15 14.0**	**-0.5**
	baz=218						
CHN5	**Tsauling**	**1.04**	**247**	P	**Pb**	**01 15 02.6**	**+0.1**
	baz=236						
CHN5				*e*S	**Sb**	**01 15 17.0**	**+1.1**
	baz=236						
TAP1	**Taipei**	**1.05**	**350**	*e*P	**Pb**	**01 15 03.3**	**+0.7**
	baz=351						
TAP1				*e*S	**Sb**	**01 15 16.2**	**+0.2**
	baz=351						
WDJ	**Dajia District**	**1.05**	**289**	*e*P	**Pb**	**01 15 03.0**	**+0.4**
	baz=289						
WDJ				*e*S	**Sb**	**01 15 16.3**	**+0.2**
	baz=289						
TAP	**Taipei**	**1.05**	**349**	*e*P	**Pb**	**01 15 02.2**	**-0.4**
	baz=351						
TAP				*e*S	**Sb**	**01 15 16.5**	**+0.3**
	baz=351						
HSN	**Hsinchu**	**1.05**	**319**	*e*P	**Pb**	**01 15 03.0**	**+0.4**
	baz=323						
HSN				*e*S	**Sb**	**01 15 17.8**	**+1.6**
	baz=323						
NWF	**Wu-fen Shan**	**1.06**	**3**	*e*P	**Pb**	**01 15 02.4**	**-0.5**
	baz=352						
NWF				*e*S	**Sb**	**01 15 18.4**	**+1.8**
	baz=352						
WFSB	**Wu-fen Shan**	**1.06**	**3**	*e*P	**Pb**	**01 15 02.8**	**0.0**
	baz=352						
WFSB				*e*S	**Sb**	**01 15 18.4**	**+1.9**
	baz=352						
NTY	**Taoyuan**	**1.07**	**339**	*e*P	**Pb**	**01 15 02.9**	**0.0**
	baz=340						
NTY				*e*S	**Sb**	**01 15 17.8**	**+1.2**
	baz=340						
WCHH	**Zhanghua**	**1.07**	**274**	*e*P	**Pb**	**01 15 03.3**	**+0.4**
	baz=274						
WCHH				*e*S	**Sb**	**01 15 18.0**	**+1.3**
	baz=274						
NCUH	**Zhongli**	**1.08**	**333**	*e*P	**Pb**	**01 15 03.1**	**0.0**
	baz=334						
NCUH				*e*S	**Sb**	**01 15 17.5**	**+0.5**
	baz=334						
NCU	**National Centr**	**1.08**	**333**	*e*P	**Pb**	**01 15 02.9**	**-0.2**
	baz=334						
NCU				*e*S	**Sb**	**01 15 17.9**	**+0.9**
	baz=334						
EDH	**Donghe**	**1.10**	**201**	*e*P	**Pn**	**01 15 01.7**	**-0.1**
	baz=189						
EDH				*e*S	**Sn**	**01 15 16.5**	**+0.8**
	baz=189						
WGK	**Gukeng**	**1.11**	**254**

YM08	**YM08** baz=346	**1.19 354**	*eP*	**Pn**	**01 15 03.4**	**+0.3**
YM08	baz=346		*eS*	**Sn**	**01 15 18.2**	**+0.1**
ANP	**Anpu** baz=353	**1.19 351**	*eP*	**Pn**	**01 15 04.1**	**+0.8**
JYNG	**Yonagunijimaku**	**1.20 68**	P	**Pn**	**01 15 04.0**	**+0.8**
JYNG			S	**Sb**	**01 15 19.5**	**-0.8**
LONT	**Longtian** baz=207	**1.22 207**	*eP*	**Pn**	**01 15 03.3**	**-0.2**
LONT	baz=207		*eS*	**Sn**	**01 15 18.6**	**-0.2**
STYT	**Tauyuan** baz=221	**1.22 227**	*eP*	**Pb**	**01 15 04.9**	**-0.6**
STYT	baz=221		*eS*	**Sb**	**01 15 20.6**	**-0.4**
CHN4	**Tsaushan** baz=229	**1.23 238**	*eP*	**Pb**	**01 15 05.3**	**-0.2**
CHN4	baz=229		*eS*	**Sb**	**01 15 22.5**	**+1.4**
TPUB	**Ta-pu** baz=228	**1.23 235**	*eP*	**Pb**	**01 15 05.4**	**-0.1**
TPUB	baz=228		*eS*	**Sb**	**01 15 21.8**	**+0.7**
CHN2	**Minshiung** baz=248	**1.24 248**	*eP*	**Pb**	**01 15 06.5**	**+0.8**
CHN2	baz=248		*eS*	**Sb**	**01 15 23.3**	**+1.9**
YOJ	**Yonaguni jima** baz=69	**1.26 68**	*eP*	**Pn**	**01 15 04.7**	**+0.7**
YOJ	baz=69		*eS*	**Sn**	**01 15 20.7**	**+1.0**
YOJ	**Yonaguni jima**	**1.26 68**	P	**Pn**	**01 15 04.7**	**+0.7**
YOJ			*eS*	**Sn**	**01 15 20.7**	**+1.0**
WTK	**Tuku** baz=256	**1.27 256**	*eP*	**Pb**	**01 15 05.9**	**-0.3**
WTK	baz=256		*eS*	**Sn**	**01 15 21.1**	**+1.2**
WTP	**Ta-pu** baz=233	**1.27 234**	*eP*	**Pb**	**01 15 06.0**	**-0.2**
WTP	baz=233		*eS*	**Sb**	**01 15 22.6**	**+0.2**
TWY	**Chenhua** baz=344	**1.27 355**	*eP*	**Pb**	**01 15 05.6**	**-0.7**
CHY	**Chiayi** baz=247	**1.29 247**	*eP*	**Pb**	**01 15 06.3**	**-0.4**
CHY	baz=247		*eS*	**Sb**	**01 15 23.6**	**+0.6**
TWGBT	**Beinan** baz=207	**1.32 207**	*eP*	**Pn**	**01 15 04.1**	**-0.8**
TWGBT	baz=207		*eS*	**Sn**	**01 15 20.3**	**-0.9**
TWG	**Pinlang** baz=207	**1.32 207**	*eP*	**Pn**	**01 15 03.7**	**-1.2**
TWG	baz=207		*eS*	**Sn**	**01 15 20.3**	**-1.0**
WTCT	**Ta-ch'eng** baz=275	**1.33 264**	*eP*	**Pb**	**01 15 07.2**	**-0.1**
WTCT	baz=275		*eS*	**Sb**	**01 15 25.0**	**+1.0**
LDUT	**Ludao** baz=181	**1.34 190**	*eP*	**Pn**	**01 15 04.2**	**-1.0**
LDUT	baz=181		*eS*	**Sn**	**01 15 20.4**	**-1.4**
TWK	**Hsinying** baz=226	**1.35 237**	*eP*	**Pb**	**01 15 07.2**	**-0.5**
TWK	baz=226		*eS*	**Sb**	**01 15 24.9**	**+0.1**
CHN1	**Nanshi** baz=234	**1.37 234**	*eP*	**Pb**	**01 15 07.1**	**-0.8**
CHN1	baz=234		*eS*	**Sb**	**01 15 25.7**	**+0.5**
WMLT	**Mailiao** baz=261	**1.39 262**	*eP*	**Pb**	**01 15 08.0**	**-0.3**
SGST	**Jiashian** baz=229	**1.39 229**	*eP*	**Pn**	**01 15 06.9**	**+1.0**
SGST	baz=229		*eS*	**Sb**	**01 15 25.5**	**-0.4**
SLGT	**Liugui** baz=225	**1.41 225**	*eP*	**Pb**	**01 15 08.7**	**0.0**
SLGT	baz=225		*eS*	**Sb**	**01 15 26.2**	**-0.2**
WSF	**Szhu** baz=255	**1.43 256**	*eP*	**Pb**	**01 15 08.1**	**-0.8**
WSF	baz=255		*eS*	**Sb**	**01 15 26.4**	**-0.4**
ICHU	**Yijhu** baz=244	**1.47 245**	*eP*	**Pb**	**01 15 08.8**	**-0.9**
ICHU	baz=244		*eS*	**Sb**	**01 15 27.4**	**-0.7**
CHN8	**Yiju** baz=245	**1.54 245**	*eP*	**Pb**	**01 15 09.7**	**-1.1**
CHN8	baz=245		*eS*	**Sn**	**01 15 28.1**	**+1.5**
CHN3	**Shinhua** baz=233	**1.55 234**	*eP*	**Pb**	**01 15 10.0**	**-1.1**
ECL	**Taimali** baz=197	**1.57 207**	*eP*	**Pb**	**01 15 08.0**	**-0.3**
ECL	baz=197		*eS*	**Sn**	**01 15 28.9**	**+1.5**
SCST	**Cishan** baz=227	**1.59 226**	*eP*	**Pb**	**01 15 11.2**	**-0.5**
SCST	baz=227		*eS*	**Sb**	**01 15 33.0**	**+1.7**
SSD	**Sandimen** baz=220	**1.60 219**	*eP*	**Pn**	**01 15 10.0**	**+1.2**
SSD	baz=220		*eS*	**Sb**	**01 15 31.8**	**-0.1**
TSMG	**Majia** baz=219	**1.63 218**	*eP*	**Pn**	**01 15 10.6**	**+1.5**
TSMG	baz=219		*eS*	**Sb**	**01 15 32.4**	**-0.2**
SCLT	**Jiali** baz=240	**1.63 240**	*eP*	**Pb**	**01 15 11.3**	**-1.0**
SCLT	baz=240		*eS*	**Sb**	**01 15 32.7**	**+0.1**
PCYT	**Pengchaiyu** baz=14	**1.65 11**	*eP*	**Pb**	**01 15 11.4**	**-1.3**
TWM1	**Shoushan** baz=226	**1.68 226**	*eP*	**Pb**	**01 15 13.7**	**+0.5**
TWM1	baz=226		*eS*	**Sb**	**01 15 37.4**	**+3.4**
MASBT	**Mashibuluo** baz=217	**1.71 216**	*eP*	**Pn**	**01 15 11.4**	**+1.2**
MASBT	baz=217		*eS*	**Sb**	**01 15 34.8**	**-0.1**
EAST	**Anshuo** baz=199	**1.80 207**	*eP*	**Pn**	**01 15 11.4**	**-0.2**
EAST	baz=199		*eS*	**Sb**	**01 15 37.2**	**-0.4**
SSPT	**Xinbi** baz=204	**1.85 215**	*eP*	**Pb**	**01 15 14.5**	**-1.5**
SSPT	baz=204		*eS*	**Sb**	**01 15 37.4**	**-1.5**
IRIF	**Iriomote-Funau**	**1.86 79**	P	**Pn**	**01 15 13.1**	**+0.8**
IRIF			S	**Sn**	**01 15 35.2**	**+0.6**
HATJ	**Hateruma jima**	**1.90 88**	P	**Pn**	**01 15 14.0**	**+1.2**
HATJ			S	**Sn**	**01 15 36.8**	**+1.2**
SCZT	**Fangliau** baz=228	**1.92 212**	*eP*	**Pb**	**01 15 15.5**	**-1.7**
SCZT	baz=228		*eS*	**Sb**	**01 15 39.0**	**-1.7**
LAY	**Lan-yu** baz=174	**1.96 185**	*eP*	**Pn**	**01 15 12.8**	**-0.9**
LAY	baz=174		*eS*	**Sn**	**01 15 34.7**	**-2.4**
SLIU	**Shizi** baz=197	**1.97 206**	*eP*	**Pn**	**01 15 15.2**	**+1.3**
SLIU	baz=197		*eS*	**Sn**	**01 15 39.8**	**+2.4**
PHUB	**P'eng-hu** baz=256	**2.03 257**	*eP*	**Pn**	**01 15 15.6**	**+1.0**
PHUB	baz=256		*eS*	**Sn**	**01 15 40.0**	**+1.2**
WDGT	**Dungji** baz=249	**2.04 249**	*eP*	**Pn**	**01 15 15.8**	**+1.1**
WDGT	baz=249		*eS*	**Sn**	**01 15 40.1**	**+1.2**
PNG	**Penghu** baz=258	**2.04 258**	*eP*	**Pn**	**01 15 15.7**	**+1.0**
PNG	baz=258		*eS*	**Sn**	**01 15 40.0**	**+1.1**
JKRS	**Kuro-shima**	**2.10 83**	P	**Pn**	**01 15 16.9**	**+1.3**
JKRS			S	**Sn**	**01 15 42.2**	**+1.7**
HEN	**Hengchun** baz=191	**2.19 205**	*eP*	**Pn**	**01 15 18.4**	**+1.7**
TWK1	**Hengchun** baz=190	**2.22 203**	*eP*	**Pn**	**01 15 19.2**	**+2.0**
TWKBT	**Hengchun** baz=188	**2.22 203**	*eP*	**Pn**	**01 15 18.5**	**+1.3**
TWKBT	baz=188		*eS*	**Sn**	**01 15 45.9**	**+2.5**
TSEB	**Hengchuen, Pin** baz=204	**2.23 200**	*eP*	**Pn**	**01 15 18.6**	**+1.2**
TSEB	baz=204		*eS*	**Sn**	**01 15 46.3**	**+2.7**
JIJ	**Ishigaki jima**	**2.23 80**	P	**Pn**	**01 15 18.1**	**+0.7**
JIJ			*eS*	**Sn**	**01 15 43.9**	**0.0**
VCHM	**Qimei** baz=239	**2.25 250**	*eP*	**Pn**	**01 15 19.0**	**+1.3**
VCHM	baz=239		*eS*	**Sn**	**01 15 45.2**	**+1.0**
VWUC	**VWUC** baz=296	**2.30 296**	*eP*	**Pn**	**01 15 18.5**	**+0.2**
VWUC	baz=296		*eS*	**Sn**	**01 15 44.2**	**-1.2**
JISG	**Ishigakijimahi**	**2.43 76**	P	**Pn**	**01 15 20.7**	**+0.6**
JISG			S	**Sn**	**01 15 48.5**	**-0.1**
PTMZ	**Houxiangcun** baz=294	**2.59 294**	*eP*	**Pn**	**01 15 22.6**	**+0.3**
PTMZ	baz=294		*eS*	**Sn**	**01 15 51.4**	**-1.2**
MATB	**Ma-tsu** baz=334	**2.68 323**	*eP*	**Pn**	**01 15 23.8**	**+0.2**
MATB	baz=334		*eS*	**Sn**	**01 15 53.6**	**-1.3**
MSUT	**Lienchiang** baz=335	**2.71 323**	*eP*	**Pn**	**01 15 24.3**	**+0.4**
MSUT	baz=335		*eS*	**Sn**	**01 15 54.4**	**-1.1**
JTJ	**Tarama**	**2.79 76**	P	**Pn**	**01 15 26.2**	**+1.2**
JTJ			*eS*	**Sn**	**01 15 58.7**	**+1.2**
KNM	**Kinmen** baz=277	**3.04 278**	*eP*	**Pn**	**01 15 30.5**	**+2.1**
KNM	baz=277		*eS*	**Sn**	**01 16 05.1**	**+1.5**
KNMB	**Chin-men Tao** baz=278	**3.08 279**	*eP*	**Pn**	**01 15 29.3**	**+0.2**
KNMB	baz=278		*eS*	**Sn**	**01 16 03.3**	**-1.4**
LYJJ	**Jianjiangzhen** baz=335	**3.10 325**	*eP*	**Pn**	**01 15 29.7**	**+0.3**
LYJJ	baz=335		*eS*	**Sn**	**01 16 03.0**	**-2.2**
MHZQ	**Yeshan** baz=310	**3.22 311**	*eP*	**Pn**	**01 15 31.0**	**+0.1**
MHZQ	baz=310		*eS*	**Sn**	**01 16 06.7**	**-1.4**
XPSS	**Dashiqiu** baz=334	**3.23 335**	*eP*	**Pn**	**01 15 31.0**	**-0.1**
XPSS	baz=334		*eS*	**Sn**	**01 16 06.4**	**-2.0**
JIRB	**Irabujima**	**3.25 75**	S	**Sn**	**01 16 09.9**	**+1.1**
JIKM	**Ikemajima**	**3.34 73**	P	**Pn**	**01 15 34.2**	**+1.6**
JIKM			*eS*	**Sn**	**01 16 12.0**	**+1.0**
JMJ	**Miyako jima 2** baz=77	**3.35 75**	*eP*	**Pn**	**01 15 33.2**	**+0.4**
JMJ	baz=77		*eS*	**Sn**	**01 16 12.6**	**+1.2**
JMJ2	**Miyako jima3**	**3.37 77**	*eS*	**Sn**	**01 16 13.4**	**+1.7**
AXDP	**Jialang** baz=285	**3.54 285**	*eP*	**Pn**	**01 15 35.9**	**+0.6**
AXDP	baz=285		*eS*	**Sn**	**01 16 14.6**	**-1.5**
ZPLA	**Ao Xicun** baz=268	**3.64 270**⇓	*eP*	**Pn**	**01 15 37.4**	**+0.6**
ZPLA	baz=268		*eS*	**Sn**	**01 16 18.1**	**-0.4**
JOW	**Kunigami** 1.4nm,0.3s,baz=329,slow=30,SNR=7.0	**6.56 63**	Pn	**Pn**	**01 16 14.0**	**-2.9**
JOW	**Kunigami** baz=67	**6.56 63**	*eP*	**Pn**	**01 16 16.5**	**-0.4**
KSRS	**Korea Array** 0.3nm,0.3s,baz=205,slow=12,SNR=1.9	**14.42 20**	Pn	**Pn**	**01 18 03.3**	**-1.2**
SONM	**Songino Array** 0.2nm,0.6s,baz=142,slow=7.3,SNR=1.9	**26.73 337**	P	**P**	**01 20 19.6**	**+0.4**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=105,slow=11,SNR=7.9	**38.81 316**	P	**P**	**01 22 05.2**	**+0.7**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=107,slow=7.7,SNR=3.2	**40.67 327**	P	**P**	**01 22 19.0**	**-0.7**
H11N1	**WAKE ISLAND Hy** baz=274	**42.00 87**	T	T	02 07 44.5	
H11N2	**WAKE ISLAND Hy** baz=274,SNR=4.4	**42.00 87**	T	T	02 07 42.4	
H11N3	**WAKE ISLAND Hy** baz=274	**42.02 87**	T	T	02 07 40.8	
H11S3	**WAKE ISLAND Hy** baz=293,SNR=5.6	**42.13 89**	T	T	02 07 45.7	
H11S1	**WAKE ISLAND Hy** baz=293,slow=74,SNR=5.5	**42.14 89**	T	T	02 07 46.2	
H11S2	**WAKE ISLAND Hy** baz=293,slow=74,SNR=3.6	**42.15 89**	T	T	02 07 48.7	
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=349,slow=8.5,SNR=2.5	**45.38 163**	P	**P**	**01 22 57.7**	**-0.5**
ASAR	**Alice Springs** 0.1nm,0.5s,baz=328,slow=8.4,SNR=1.6	**48.84 165**	P	**P**	**01 23 25.2**	**+0.1**
FINES	**FINESS Array B** 2.7nm,1.0s,baz=31,slow=6.5,SNR=2.2	**71.85 330**	P	**P**	**01 26 01.1**	**-0.9**
YKA	**Yellowknife Ar** 0.5nm,0.7s,baz=319,slow=4.4,SNR=9.5	**82.94 23**	P	**P**	**01 27 04.2**	**+0.2**

ATH 20 01:20:10.1,38°33N×22°16E,h8km±2km,ML1.2/2,Error ellipse: s-maj=2.3km s-min=0.7km az=299.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALE	**Kalithea**	**0.07**	**347**	P	Pg	01 20 11.7	-0.3
KALE				S	Sg	01 20 13.4	-0.1
KALE				AML	AML	01 20 13.7	
	comp=N,788μm,0.2s						
KALE				AML	AML	01 20 14.0	
	comp=E,486μm,0.2s						
TRIZ	**Trizonia**	**0.08**	**301**	P	Pg	01 20 11.8	-0.3
TRIZ				S	Sg	01 20 13.5	0.0
SERG	**Sergoula**	**0.12**	**317**	P	Pg	01 20 12.5	-0.3
SERG				S	Sg	01 20 14.6	0.0
SERG				AML	AML	01 20 14.8	
	comp=E,421μm,0.2s						
SERG				AML	AML	01 20 15.6	
	comp=N,232μm,0.1s						
LAKA	**Lakka**	**0.17**	**239**	P	Pg	01 20 13.6	+0.1
LAKA				S	Sg	01 20 16.4	+0.5
KLV	**Kalavryta, Ach**	**0.28**	**181**	P	Pg	01 20 15.5	-0.2
KLV				S	Sg	01 20 19.9	+0.4
DSF	**Desfina**	**0.30**	**73**	P	Pg	01 20 15.6	-0.5
DSF				S	Sg	01 20 20.6	+0.5
ANX	**Ano Chora**	**0.33**	**325**	P	Pg	01 20 16.1	-0.5
ANX				S	Sg	01 20 21.1	+0.2
DRO	**Drossia**	**0.51**	**224**	P	Pg	01 20 19.7	-0.4
DRO				S	Sg	01 20 27.5	+0.7
PVO	**Paravola**	**0.58**	**301**	P	Pg	01 20 21.5	+0.3
AXAR	**Agios Charalam**	**0.59**	**42**	P	Pg	01 20 21.1	-0.4
AXAR				S	Sg	01 20 29.9	+0.7
RLS	**Riolos of Patr**	**0.61**	**244**	P	Pg	01 20 21.4	-0.4
EVR	**Evrytania**	**0.65**	**335**	P	Pg	01 20 22.3	-0.5
EVR				S	Sg	01 20 31.9	+0.7
MAKR	**Makrakomi, Fth**	**0.69**	**358**	P	Pg	01 20 23.3	-0.1
MAKR				S	Sg	01 20 33.2	+0.9
AGG	**Agios Georgios**	**0.71**	**11**	P	Pg	01 20 22.8	-1.0
AGG				S	Sg	01 20 33.0	0.0
LKR	**Lokris**	**0.73**	**64**	P	Pg	01 20 24.1	-0.2
PDO	**Prodromos**	**0.81**	**290**	P	Pg	01 20 24.9	-0.8
AMT	**Artemida-Makis**	**0.87**	**204**	P	Pg	01 20 26.3	-0.5

IDC 20 01:20:12.2±1.7,54°34S×137°73W,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.7/20,mbtmp3.9/2,Error ellipse: s-maj=191.7km s-min=48.4km az=175.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 1.2nm,0.9s,baz=134,slow=5.8,SNR=6.2	**70.19**	**257**	P	P	01 31 27.2	+0.4
WRA	**Warramunga Arr** 1.2nm,1.0s,baz=140,slow=5.5,SNR=3.1	**72.86**	**260**	P	P	01 31 42.4	-0.5
ESDC	**Sonseca Array** 2.4nm,1.1s,baz=204,slow=2.8,SNR=5.5	**145.90**	**96**	PKPbc	PKPdf	01 39 52.1	-0.2
MKAR	**Makanchi Array** 1.0nm,1.0s,baz=127,slow=4.7,SNR=6.7	**153.78**	**270**	PKPab	PKPab	01 40 24.7	-0.7
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=101,slow=1.5,SNR=2.6	**155.35**	**287**	PKPab	PKPab	01 40 31.7	-0.1

IDC 20 01:41:33.1±5.8,4°96S×133°36E,h0km,mb3.4/1, mb1 3.5/3,mb1mx3.2/33,mbtmp3.3/3,ML3.3/2,Error ellipse: s-maj=339.0km s-min=33.3km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=355,slow=13,SNR=7.7	**14.92**	**176**	Pn	Pn	01 45 03.5	-2.0
ASAR	**Alice Springs** 0.2nm,0.3s,baz=1.2,slow=10,SNR=10	**18.61**	**178**	P	Pn	01 45 52.9	+0.5
MKAR	**Makanchi Array** 0.3nm,0.9s,baz=122,slow=7.5,SNR=2.8	**68.42**	**325**	P	P	01 52 36.9	0.0

NNC 20 01:44:57.9±3.1,37°06N×71°07E,h176km±46km,mb2.5, mpv3.3,4C-1D,Error ellipse: s-maj=30.6km s-min=19.5km az=22.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array** 0.8nm,0.3s,baz=180,slow=13,SNR=27	**6.05**	**356**	P	Pn	01 46 25.7	+0.3
KK31				⇑S	Sn	01 47 34.7	+0.3
	4.0nm,0.4s,baz=177,slow=16,SNR=23						
AAK	**Ala-Archa** 1.9nm,0.5s	**6.16**	**24**	⇓P	Pn	01 46 26.6	-0.5
AAK				⇑S	Sn	01 47 37.9	+0.6
	6.0nm,0.6s						
SMLA	**Simla**	**7.78**	**138**	*eP*	Pn	01 46 38.3	-10
AB31	**Akbulak array** 0.3nm,0.5s,baz=142,slow=13,SNR=4.7	**14.62**	**330**	⇑P	P	01 48 17.5	-0.4
AKTO	**Aktyubinsk** 0.8nm,0.5s	**16.33**	**329**	⇑P	P	01 48 35.7	-1.0

*IDC **20** 01:55:06.4±0.8,54°55S×136°96W,h0km,mb3.9/5, mb1 4.2/5,mb1mx4.0/25,mbtmp3.9/5,MS3.8/12, Ms1 3.8/12,ms1mx3.5/37,Error ellipse: s-maj=81.2km s-min=22.2km az=173.0*

ISC 20 01:55:07.7±0.9,54°55S±0°5×137°0W±0°2,h10km,n27, σ0°97/9,mb4.3/5,MS3.9/13,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda** comp=Z,64nm,20.7s,baz=284,slow=32	**31.34**	**201**	LR	LR	02 11 48.9	
TBI	**Tubuai** comp=Z,495nm,29.0s	**32.49**	**338**	*e*LR	LR	02 09 44.5	
TBI	**Tubuai** 24nm,0.3s	**32.49**	**338**	*eT*	T	02 35 12.3	
RAR	**Rarotonga** comp=Z,280nm,21.1s,baz=196,slow=29	**37.45**	**324**	LR	LR	02 13 15.7	
VAH	**Vaihoa** 12nm,0.3s	**40.05**	**344**	*eT*	T	02 44 36.9	
H03S2	**Juan Fernandez** baz=223,slow=74,SNR=9.5	**45.01**	**87**	T	T	02 51 34.6	
H03S1	**Juan Fernandez** baz=223,slow=74,SNR=8.8	**45.02**	**87**	T	T	02 51 35.9	
H03S3	**Juan Fernandez** baz=223,slow=74,SNR=8.7	**45.03**	**87**	T	T	02 51 35.8	
PLCA	**Paso Flores** comp=Z,119nm,18.1s,baz=210,slow=30	**45.16**	**101**	LR	LR	02 17 36.9	
H03N3	**Juan Fernandez** baz=226,slow=72,SNR=164	**45.28**	**87**	T	T	02 51 55.1	
H03N2	**Juan Fernandez** baz=226,slow=72,SNR=301	**45.29**	**87**	T	T	02 51 51.6	
H03N1	**Juan Fernandez** baz=226,slow=72,SNR=205	**45.30**	**87**	T	T	02 51 53.6	
SNAA	**Sanae** comp=Z,129nm,20.3s,baz=186,slow=33	**50.05**	**163**	LR	LR	02 22 28.8	
LVC	**Limon Verde** comp=Z,29nm,20.8s,baz=208,slow=31	**59.22**	**86**	LR	LR	02 25 23.6	
CPUP	**Villa Florida** 2.0nm,0.9s,baz=219,slow=8.8,SNR=4.1	**63.11**	**98**	P	**P**	**02 05 35.5**	**+0.2**
CPUP	comp=Z,135nm,19.0s,baz=212,slow=32			LR	LR	02 28 37.7	
LPAZ	**La Paz** 2.4nm,1.0s,baz=228,slow=8.8,SNR=5.6	**64.63**	**82**	P	**P**	**02 05 45.5**	**-0.7**
LPAZ	comp=Z,53nm,18.1s,baz=192,slow=30			LR	LR	02 27 35.8	
ASAR	**Alice Springs** 2.6nm,0.9s,baz=138,slow=6.3,SNR=15	**70.57**	**256**	P	**P**	**02 06 23.1**	**+0.1**
WRA	**Warramunga Arr** 1.0nm,0.9s,baz=142,slow=5.3,SNR=6.8	**73.25**	**259**	P	**P**	**02 06 38.1**	**-1.0**
JTS	**Las Juntas de** comp=Z,71nm,20.3s,baz=250,slow=29	**77.94**	**53**	LR	LR	02 33 13.2	
APG	**El Apazote** comp=Z,48nm,18.7s,baz=109,slow=30	**79.70**	**45**	LR	LR	02 34 31.6	
PTGA	**Pitinga** comp=Z,76nm,20.8s,baz=217,slow=31	**81.88**	**80**	LR	LR	02 37 28.4	
TXAR	**Lajitas Array** 0.2nm,0.8s,baz=185,slow=9.1,SNR=2.1	**88.31**	**29**	P	**P**	**02 07 59.2**	**+0.1**
MDP	**Montagnes des** comp=Z,45nm,20.1s,baz=266,slow=32	**90.83**	**82**	LR	LR	02 43 12.3	
BOSA	**Boshof** comp=Z,76nm,20.9s,baz=188,slow=32	**95.81**	**164**	LR	LR	02 46 20.5	
ESDC	**Sonseca Array** 2.4nm,0.9s,baz=221,slow=1.8,SNR=6.8	**145.46**	**96**	PKPbc	**PKPab**	**02 14 46.0**	**+0.4**
MKAR	**Makanchi Array** 0.9nm,1.1s,baz=92,slow=2.9,SNR=5.6	**154.21**	**269**	PKPbc	**PKiKP**	**02 15 08.8**	**+1.7**
MKAR	1.5nm,0.8s,baz=116,slow=2.8,SNR=10			PKPab	**pPKPab**	**02 15 22.6**	**-0.9**
ZALV	**Zalesovo Beam** 0.5nm,0.6s,baz=98,slow=3.0,SNR=4.6	**155.81**	**286**	PKPab	**PKPab**	**02 15 27.7**	**+0.1**

*IDC **20** 02:04:50.1±1.6,29°99S×177°71W,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.8/21,mbtmp3.7/4,ML3.1/1,Error ellipse: s-maj=62.7km s-min=31.6km az=150.0*

ISC 20 02:04:55.5±1.2,30°1S±0°2×177°8W±0°3,h35km,n10, σ0°93/8,mb3.7/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera** 0.2nm,0.3s,baz=51,slow=18,SNR=1.3	**9.17**	**206**	Pn	**Pn**	**02 07 05.5**	**+0.3**
URZ	1.1nm,0.3s,baz=180,slow=19,SNR=1.9			Sn	**Sn**	**02 08 46.7**	**-0.4**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=100,slow=7.6,SNR=5.6	**43.33**	**267**	P	**P**	**02 12 54.9**	**+0.5**
WRA	**Warramunga Arr** 1.5nm,0.6s,baz=110,slow=7.7,SNR=24	**44.29**	**272**	P	**P**	**02 13 02.4**	**+0.3**
NVAR	**Mina Array Bea** 0.2nm,0.5s,baz=248,slow=7.4,SNR=2.0	**87.89**	**43**	P	**P**	**02 17 42.3**	**+0.6**
H10N3	**ASCENSION HYDR** baz=203,slow=75,SNR=6.0	**138.98**	**154**	T	T	05 00 06.1	
H10N1	**ASCENSION HYDR** baz=203,slow=75,SNR=9.4	**138.99**	**154**	T	T	05 00 08.9	
H10N2	**ASCENSION HYDR** baz=203,slow=75,SNR=7.6	**139.00**	**154**	T	T	05 00 10.6	
FINES	**FINESS Array B** 1.1nm,0.6s,baz=48,slow=2.1,SNR=7.5	**144.94**	**340**	PKP	**PKPab**	**02 24 27.4**	**-0.1**
NOA	**NORSAR Array B** 0.6nm,0.8s,baz=18,slow=4.3,SNR=2.3	**148.50**	**352**	PKPbc	**PKPbc**	**02 24 37.8**	**-0.1**
AKASG	**Malin Array Be** 0.8nm,0.5s,baz=48,slow=2.8,SNR=5.7	**151.19**	**323**	PKPbc	**PKPbc**	**02 24 42.9**	**-1.8**

*IDC **20** 02:16:56.5±1.1,6°45S×150°26E,h0km,mb4.0/9, mb1 4.2/9,mb1mx4.1/22,mbtmp4.0/9,MS3.4/2,Ms1 3.4/2, ms1mx2.9/23,Error ellipse: s-maj=44.3km s-min=18.6km az=97.0*

*DJA **20** 02:17:02.7±2.8,7°S±5°×15°0E±°,h22km±25km,M4.8/8, mB5.0/2,mb4.5/8,MLv5.0/3,Mw(mB)4.4/2*

*NEIC **20** 02:17:04.0±1.8,6°46S±0°08×150°03E±0°10,h60km±3km, mb4.3/15,Error ellipse: s-maj=14.7km s-min=10.5km az=118.0*

ISC 20 02:17:03.0±0.6,6°47S±0°07×150°01E±0°08,h43km,n42, σ1°50/40,mb4.1/14,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.12**	**44**		**Pn**	**02 17 50.1**	**+0.4**
RABL	**Rabaul**	**3.12**	**44**	P	**Pn**	**02 17 50.6**	**+0.8**
PMG	**Port Moresby**	**4.06**	**224**	Pn	**Pn**	**02 18 03.7**	**+1.1**
PMG	**Port Moresby**	**4.06**	**224**	P	**Pn**	**02 18 04.0**	**+1.4**
MANU	**Manus Island**	**5.13**	**329**	Pn	**Pn**	**02 18 19.1**	**+1.7**
MMPI	**Merauke**	**9.75**	**258**	P	**Pn**	**02 19 16.9**	**-3.8**
COEN	**Coen**	**10.03**	**222**	Pn	**Pn**	**02 19 25.8**	**+1.3**
JAY	**Jayapura** 5.8nm,1.1s	**10.07**	**293**	P	**Pn**	**02 19 25.3**	**+0.1**
HNR	**Honiara** comp=Z,82nm,19.5s,baz=272,slow=34	**10.27**	**107**	LR	LR	02 22 41.5	

GENI	**Genyem**	**10.54 291**	P	**Pn**	**02 19 33.1**	**+1.5**
SMPI	**Sarmi**	**12.11 291**	P	**Pn**	**02 19 55.7**	**+2.6**
	2µm9.6nm,1.1s					
EIDS	**Eidsvold**	**18.82 177**	P	**Pn**	**02 21 20.6**	**+0.6**
MTN	**Manton Dam**	**19.65 250**	P	**P**	**02 21 27.5**	**-0.9**
MTN			IAmb	IAmb	02 21 39.0	
	comp=Z,9.5nm,0.9s					
WB0	**Warramunga Arr**	**20.12 227**	P	**P**	**02 21 33.5**	**0.0**
WB0			IAmb	IAmb	02 21 34.2	
	comp=Z,16nm,0.6s					
WR0	**Warramunga Arr**	**20.13 227**	P	**P**	**02 21 33.5**	**-0.2**
WR0			IAmb	IAmb	02 21 35.2	
	comp=Z,16nm,0.8s					
WB2	**Warramunga Arr**	**20.26 227**	P	**P**	**02 21 34.8**	**-0.2**
WRA	**Warramunga Arr**	**20.27 227**	P	**P**	**02 21 35.0**	**-0.1**
	comp=Z,16nm,0.5s,baz=51,slow=11,SNR=238					
DZM	**Mont Dzumac**	**22.19 136**	P	**P**	**02 21 55.8**	**-0.1**
DZM			IAmb	IAmb	02 22 01.9	
	comp=Z,15nm,1.1s					
DZM	**Mont Dzumac**	**22.19 136**	P	**P**	**02 21 57.5**	**+1.6**
AS31	**Alice Springs**	**23.06 220**	P	**P**	**02 22 04.7**	**-0.3**
ASAR	**Alice Springs**	**23.07 220**	P	**P**	**02 22 04.7**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=55,slow=9.0,SNR=48					
ASAR	**Alice Springs**	**23.07 220**	P	**P**	**02 22 04.2**	**-0.8**
ARMA	**Armidale**	**23.87 177**	P	**P**	**02 22 12.9**	**+0.2**
ARMA			IAmb	IAmb	02 22 15.5	
	comp=Z,8.5nm,0.6s					
SOEI	**Soe**	**25.69 261**	P	**P**	**02 22 28.2**	**-1.2**
SOEI			IAmb	IAmb	02 23 09.6	
	comp=Z,13nm,0.9s					
FITZ	**Fitzroy Crossi**	**26.42 242**	P	**P**	**02 22 35.5**	**-0.5**
FITZ			IAmb	IAmb	02 22 37.7	
	comp=Z,8.3nm,0.8s					
STKA	**Stephens Creek**	**26.47 196**	P	**P**	**02 22 37.9**	**+1.7**
	comp=Z,7.9nm,0.8s,baz=5.0,slow=12,SNR=11					
STKA	**Stephens Creek**	**26.47 196**	P	**P**	**02 22 37.6**	**+1.4**
FORT	**Forrest**	**31.76 218**	P	**P**	**02 23 22.5**	**-0.8**
URZ	**Urewera**	**40.05 146**	LR	LR	02 38 56.5	
	comp=Z,170nm,20.9s,baz=213,slow=33					
KSRS	**Korea Array**	**48.32 336**	P	**P**	**02 25 41.9**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=157,slow=8.1,SNR=4.7					
ULN	**Ulaanbaatar**	**65.99 330**	P	**P**	**02 27 41.9**	**-3.3**
ULN			IAmb	IAmb	02 27 48.6	
	comp=Z,2.7nm,0.9s					
SONM	**Songino Array**	**66.30 329**	P	**P**	**02 27 48.6**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=160,slow=4.7,SNR=4.0					
VNDA	**Vanda**	**71.28 177**	P	**P**	**02 28 18.4**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=328,slow=7.0,SNR=7.9					
MK31	**Makanchi Array**	**79.78 320**	P	**P**	**02 29 04.1**	**-2.6**
MK31			IAmb	IAmb	02 30 14.0	
	comp=Z,2.6nm,1.4s					
MKAR	**Makanchi Array**	**79.78 320**	P	**P**	**02 29 08.2**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=104,slow=7.3,SNR=5.1					
MKAR	**Makanchi Array**	**79.78 320**	P	**P**	**02 29 05.6**	**-1.2**
ZALV	**Zalesovo Beam**	**81.02 327**	P	**P**	**02 29 14.0**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=133,slow=5.0,SNR=4.3					
ZALV	**Zalesovo Beam**	**81.02 327**	P	**P**	**02 29 13.1**	**-0.1**
ILAR	**Eielson Array**	**84.75 23**	P	**P**	**02 29 30.6**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=240,slow=4.5,SNR=4.6					
GERES	**GERESS Array B**	**123.97 327**	PKP	**PKPdf**	**02 35 54.6**	**-2.2**
	comp=Z,0.5nm,0.6s,baz=84,slow=4.2,SNR=5.4					
TORD	**Torodi Ar. Bea**	**148.10 284**	PKPbc	**PKPbc**	**02 36 43.8**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=52,slow=2.8,SNR=13					
TORD	**Torodi Ar. Bea**	**148.10 284**		**PKPbc**	**02 36 44.0**	**-1.2**

IDC 20 02:17:06.2±1.6,**54.88S**×**137.10W**,**h0**km,**mb4.0/2, mb1 4.2/2,mb1mx3.7**/34,**mbtmp4.0/2,MS3.6/1,Ms1 3.6**/1, **ms1mx3.0**/19,**Error ellipse: s-maj=196.7km s-min=49.0km az=175.0,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**35.94**	**136**	LR	LR	02 35 35.5	
	comp=Z,82nm,19.1s,baz=255,slow=31						
ASAR	**Alice Springs**	**70.43**	**257**	P	P	02 28 21.8	-0.4
	1.6nm,0.8s,baz=135,slow=5.7,SNR=5.0						
WRA	**Warramunga Arr**	**73.12**	**259**	P	P	02 28 38.3	-0.1
	1.1nm,0.8s,baz=146,slow=5.2,SNR=6.0						
ESDC	**Sonseca Array**	**145.47**	**96**	PKPbc	PKPdf	02 36 44.5	-1.0
	1.5nm,1.1s,baz=240,slow=1.9,SNR=4.0						
MKAR	**Makanchi Array**	**154.14**	**268**	PKPbc	PKPbc	02 37 07.0	0.0
	0.4nm,0.9s,baz=114,slow=3.5,SNR=2.8						
MKAR				PKPab	PKPab	02 37 21.8	+0.9
	0.9nm,0.8s,baz=148,slow=1.7,SNR=10						
ZALV	**Zalesovo Beam**	**155.85**	**285**	PKPab	PKPab	02 37 26.7	-1.2
	0.3nm,0.2s,baz=88,slow=4.8,SNR=1.7						

ATH 20 02:19:49.0,38.34N×20.49E,h13km±2km,**ML1.6/1,Error ellipse: s-maj=2.7km s-min=0.8km az=263.0,Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF5	**Kardakata, Kep**	**0.06**	**197**	P	Pg	02 19 51.4	-0.3
KEF5				S	Sg	02 19 53.1	-0.4
KEF4	**Livadi, Kephal**	**0.09**	**214**	P	Pg	02 19 51.9	0.0
KEF4				S	Sg	02 19 54.3	+0.3
DMLN	**Damoulianata-K**	**0.13**	**224**	P	Pg	02 19 52.5	0.0
LXRA	**Lixouri, Kepha**	**0.14**	**197**	P	Pg	02 19 52.7	+0.1
LXRA				S	Sg	02 19 55.6	+0.6
KEF3	**Kipouria, Keph**	**0.17**	**220**	P	Pg	02 19 52.5	-0.5
KEF3				S	Sg	02 19 55.4	-0.4
VLS	**Valsamata**	**0.18**	**154**	P	Pg	02 19 52.9	-0.3
VLS				S	Sg	02 19 56.0	+0.1
VLS				AML	AML	02 19 56.2	
	comp=N,454µm,0.2s						
VLS				AML	AML	02 19 57.1	
	comp=E,660µm,0.1s						
PSDA	**Pessada-Kefalo**	**0.23**	**161**	P	Pg	02 19 53.8	-0.2
PSDA				S	Sg	02 19 57.8	+0.3
EVGI	**Lefkada island**	**0.31**	**24**	P	Pg	02 19 55.6	+0.1
EVGI				S	Sg	02 20 00.1	+0.3
NYDR	**Nydri-Lefkada**	**0.41**	**23**	P	Pg	02 19 57.2	-0.1
NYDR				S	Sg	02 20 02.5	-0.3
PDO	**Prodromos**	**0.60**	**64**	P	Pg	02 20 00.6	-0.3
PVO	**Paravola**	**0.86**	**71**	P	Pg	02 20 05.4	-0.2
DRO	**Drossia**	**1.03**	**111**	P	Pb	02 20 06.8	-2.0

INET ***20*** *02:20:12.6,12.01N×87.86W,h15km,ML3.7*

SNET 20 02:20:12.9±1.3,**12.10N×88.06W,h4**km±12km,**ML3.3,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**1.00**	**29**	*i* P	Pb	02 20 32.9	0.0
CSGN				eS	Sb	02 20 46.7	+0.2
CNCH	**Conchagua**	**1.19**	**11**	*e*P	Pg	02 20 34.5	-1.3
CNCH				eS	Sg	02 20 52.6	+0.6
LCND	**La Caada**	**1.22**	**8**	*e*P	Pg	02 20 34.7	-1.5
LCND				eS	Sg	02 20 52.0	0.0
ALJI	**Alcalda de J**	**1.32**	**338**	*e*P	Pn	02 20 37.4	-0.7
ALJI				eS	Sn	02 20 56.0	-0.2
ALJI				IAML		02 21 00.8	
	comp=Z,431nm,0.3s						
LCY	**Lacayo**	**1.34**	**350**	*e*P	Pn	02 20 37.3	-1.2
PACA	**Pacayal**	**1.39**	**349**	*e*P	Pn	02 20 38.5	-0.8
PACA				eS	Sn	02 20 58.8	+0.7
COEB	**Comit de Eme**	**1.47**	**342**	*e*P	Pn	02 20 39.4	-0.9
COEG	**Centro de Oper**	**1.71**	**332**	*e*P	Pn	02 20 43.5	-0.1
COEG				IAML		02 21 11.1	
	comp=Z,342nm,0.5s						
LFRS	**El Faro**	**1.81**	**327**	*e*P	Pn	02 20 44.3	-0.6
LBRS	**Las Brisas**	**1.89**	**330**	*e*P	Pn	02 20 46.5	+0.4
PMON	**Piamonte**	**2.02**	**323**	*e*P	Pn	02 20 48.1	+0.3
JAYA	**Jayaque - finc**	**2.06**	**319**	*e*P	Pn	02 20 47.4	-1.1
LLGN	**La Laguna**	**2.23**	**337**	eS	Sn	02 21 19.6	+0.9
CEVE	**Cerro Verde**	**2.30**	**319**	*e*P	Pn	02 20 52.6	+0.8
CEVE				IAML		02 21 36.8	
	comp=Z,258nm,0.4s						
MTO3	**Montecristo**	**2.62**	**331**	*e*P	Pn	02 20 56.0	-0.2

IDC ***20*** *02:22:25.3±4.1,19.03N×65.38W,h0km,mb3.4/3, mb1 3.9/3,mb1mx3.4/38,mbtmp3.4/3,MS2.7/1,Ms1 2.7/1, ms1mx2.3/27,Error ellipse: s-maj=96.7km s-min=20.2km az=111.0*

RSPR ***20*** *02:22:30.9,19.15N×65.41W,h46km±11km,MD3.4/15*

NEIC ***20*** *02:22:32.1±1.5,19.02N±0.03×65.54W±0.02,h32km±7km, Error ellipse: s-maj=4.4km s-min=1.8km az=218.0*

OSPL ***20*** *02:22:34.6±0.7,18.73N×65.73W,h0km±16km,MB3.2*

ISC 20 02:22:29.1±1.5,**19.14N**±0.05×**65.60W**±0.03,**h16**km±9km,
n84,σ1**28/99,mb3.5/3,3C-12D,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUPR	**Culebra, Puert**	**0.88**	**160**	*e*P	**Pb**	**02 22 46.0**	**-0.1**
CUPR	**Culebra, Puert**	**0.88**	**160**	*e*S	**Sb**	**02 22 56.9**	**-0.7**
CUPR	**Culebra, Puert**	**0.88**	**160**		**Pb**	**02 22 46.0**	**-0.1**
CUPR					**Sb**	**02 22 56.9**	**-0.7**
CBYP	**Canovanas**	**0.90**	**196**	*e*P	**Pb**	**02 22 46.7**	**+0.2**
CBYP	**Canovanas**	**0.90**	**196**	*e*S	**Sn**	**02 23 00.7**	**+0.8**
CBYP	**Canovanas**	**0.90**	**196**		**Pb**	**02 22 46.7**	**+0.2**
CBYP					**Sn**	**02 23 00.7**	**+0.8**
GCPR	**Guaynabo City**	**0.95**	**209**	*e*P	**Pn**	**02 22 47.6**	**-0.2**
GCPR	**Guaynabo City**	**0.95**	**209**		**Pn**	**02 22 47.6**	**-0.2**
HUMP	**Col San Antoni**	**1.02**	**194**	*e*P	**Pb**	**02 22 48.3**	**-0.2**
HUMP	**Col San Antoni**	**1.02**	**194**	*e*S	**Sb**	**02 23 01.8**	**+0.1**
HUMP	**Col San Antoni**	**1.02**	**194**		**Pb**	**02 22 48.3**	**-0.2**
HUMP					**Sb**	**02 23 01.8**	**+0.1**
MTP	**Monte Pirata**	**1.04**	**178**	*e*P	**Pn**	**02 22 48.5**	**-0.5**
MTP	**Monte Pirata**	**1.04**	**178**	*e*S	**Sb**	**02 23 02.0**	**-0.2**
MTP	**Monte Pirata**	**1.04**	**178**		**Pn**	**02 22 48.5**	**-0.5**
MTP					**Sb**	**02 23 02.0**	**-0.2**
MTP	**Monte Pirata**	**1.04**	**178**	IAML		02 23 02.7	
	comp=E,1µm,0.4s						
EMPR	**Esperanza - Ma**	**1.11**	**233**	*e*P	**Pg**	**02 22 51.1**	**+0.6**
EMPR	**Esperanza - Ma**	**1.11**	**233**	*e*S	**Sg**	**02 23 07.0**	**+2.0**
EMPR	**Esperanza - Ma**	**1.11**	**233**		**Pg**	**02 22 51.1**	**+0.6**
EMPR					**Sg**	**02 23 07.0**	**+2.0**
SJG	**San Juan**	**1.15**	**207**	Pn	**Pn**	**02 22 49.6**	**-1.0**
	comp=E,31nm,0.3s,baz=22,slow=7.3,SNR=83						
SJG				Sn	**Sb**	**02 23 04.7**	**-0.7**
	comp=E,147nm,0.3s,baz=236,slow=21,SNR=20						
SJG	**San Juan**	**1.15**	**207**	*e*P	**Pn**	**02 22 50.6**	**0.0**
SJG				eS	**Sb**	**02 23 04.1**	**-1.3**
SJG	**San Juan**	**1.15**	**207**		**Pn**	**02 22 50.5**	**0.0**
SJG				IAML		02 23 08.9	
	comp=E,1µm,0.4s						
PDPR	**Patillas Dam,**	**1.19**	**200**	Pn	**Pn**	**02 22 50.8**	**-0.3**
IGPR	**InterUniversit**	**1.27**	**203**	*e*P	**Pn**	**02 22 52.1**	**-0.1**
AOPR	**Arecibo Observ**	**1.35**	**234**	*e*P	**Pg**	**02 22 54.3**	**-0.9**
AOPR				eS	**Sg**	**02 23 12.9**	**0.0**
AOPR	**Arecibo Observ**	**1.35**	**234**	*e*P	**Pg**	**02 22 54.5**	**-0.7**
AOPR	**Arecibo Observ**	**1.35**	**234**		**Pg**	**02 22 54.5**	**-0.7**
AOPR					**Sg**	**02 23 12.9**	**0.0**
AOPR	**Arecibo Observ**	**1.35**	**234**	IAML		02 23 19.3	
	comp=N,1µm,0.4s						
CELP	**Cerrillos**	**1.41**	**221**	*e*P	**Pb**	**02 22 55.1**	**-0.1**
CELP	**Cerrillos**	**1.41**	**221**	*e*S	**Sb**	**02 23 13.2**	**+0.3**
CELP	**Cerrillos**	**1.41**	**221**		**Pb**	**02 22 55.1**	**-0.1**
CELP					**Sb**	**02 23 13.2**	**+0.3**
OBIP	**Obispado Ponce**	**1.46**	**221**	*e*P	**Pn**	**02 22 54.8**	**0.0**
OBIP	**Obispado Ponce**	**1.46**	**221**	*e*S	**Sb**	**02 23 15.2**	**+1.1**
OBIP	**Obispado Ponce**	**1.46**	**221**		**Pn**	**02 22 54.8**	**0.0**
OBIP					**Sb**	**02 23 15.2**	**+1.1**
ICMP	**Isla Caja de M**	**1.53**	**215**	*e*P	**Pb**	**02 22 57.0**	**-0.1**
ICMP	**Isla Caja de M**	**1.53**	**215**	*e*S	**Sn**	**02 23 15.9**	**+0.5**
ICMP	**Isla Caja de M**	**1.53**	**215**		**Pb**	**02 22 57.0**	**-0.1**
ICMP					**Sn**	**02 23 15.9**	**+0.5**
AGPR	**Aguadilla, PR**	**1.58**	**245**	*e*P	**Pb**	**02 22 58.0**	**-0.1**
AGPR	**Aguadilla, PR**	**1.58**	**245**	*e*S	**Sg**	**02 23 18.6**	**-1.7**
AGPR	**Aguadilla, PR**	**1.58**	**245**		**Pb**	**02 22 58.0**	**-0.1**
AGPR					**Sg**	**02 23 18.6**	**-1.7**
AGPR	**Aguadilla, PR**	**1.58**	**245**	*i* P	**Pb**	**02 22 58.0**	**-0.1**
AGPR				eS	**Sn**	**02 23 16.2**	**-0.5**
AGPR				IAML		02 23 30.6	
	comp=Z,282nm,0.3s						
CDVI	**St. Croix**	**1.59**	**150**	*e*P	**Pn**	**02 22 57.6**	**+1.0**
CDVI				eS	**Sn**	**02 23 18.6**	**+1.8**
CDVI	**St. Croix**	**1.59**	**150**		**Pn**	**02 22 57.1**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.68**	**227**	*e*P	**Pb**	**02 22 59.6**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.68**	**227**	*e*S	**Sb**	**02 23 21.4**	**+0.7**
GBPR	**Guanica, Bosqu**	**1.68**	**227**		**Pb**	**02 22 59.6**	**-0.1**
GBPR					**Sb**	**02 23 21.4**	**+0.7**
LSP	**Las Mesas**	**1.71**	**236**	*e*P	**Pb**	**02 22 59.6**	**-0.6**
LSP	**Las Mesas**	**1.71**	**236**	*e*S	**Sb**	**02 23 21.4**	**0.0**
LSP	**Las Mesas**	**1.71**	**236**		**Pb**	**02 22 59.6**	**-0.6**
LSP					**Sb**	**02 23 21.4**	**0.0**
MPR	**Mayaguez**	**1.73**	**238**		**Pb**	**02 22 59.8**	**-0.8**
MPR	**Mayaguez**	**1.73**	**238**	*i* P	**Pb**	**02 23 00.0**	**-0.5**
MPR				IAML		02 23 25.4	
	comp=Z,134nm,0.8s						
MLPR	**Magueyes Islan**	**1.80**	**230**	*e*P	**Pb**	**02 23 00.9**	**-0.9**
MLPR	**Magueyes Islan**	**1.80**	**230**	*e*S	**Sb**	**02 23 24.3**	**+0.2**
MLPR	**Magueyes Islan**	**1.80**	**230**		**Pb**	**02 23 00.9**	**-0.9**
MLPR					**Sb**	**02 23 24.3**	**+0.2**
SKI	**Saint Kitts**	**3.26**	**123**	*e*P	**Pn**	**02 23 21.4**	**+1.8**
SKI				eS	**Sn**	**02 24 02.5**	**+4.4**
SKI	**Saint Kitts**	**3.26**	**123**		**Pn**	**02 23 19.5**	**-0.1**
ANWB	**Willy Bob**	**3.90**	**111**	*e*P	**Pn**	**02 23 29.1**	**+0.7**
ANWB				eS	**Sn**	**02 24 14.1**	**+0.1**
ANWB	**Willy Bob**	**3.90**	**111**	Pn	**Pn**	**02 23 26.8**	**-1.6**
ANWB				IAML		02 24 21.9	
	comp=Z,119nm,1.7s						
MLYT	**Lee's Yard**	**4.04**	**126**	*e*P	**Pn**	**02 23 29.7**	**-0.6**
MLYT	**Lee's Yard**	**4.04**	**126**	*e*S	**Sn**	**02 24 15.4**	**-1.9**
BPA	**Boggy Peak**	**4.12**	**120**	*e*P	**Pn**	**02 23 32.6**	**+1.1**
BPA	**Boggy Peak**	**4.12**	**120**	*e*S	**Sn**	**02 24 19.6**	**+0.2**
ANBD	**Bethesda, Anti**	**4.20**	**119**	*e*P	**Pn**	**02 23 32.5**	**0.0**
ANBD				*e*S	**Sn**	**02 24 17.2**	**-4.0**
SC01	**Santiago de lo**	**4.86**	**274**	*i* P	Pn	02 23 45.7	+4.2
SC01				IAML		02 25 03.7	
	comp=Z,46nm,0.6s						
CBE	**Ff, Capester**	**4.88**	**128**	*e*P	**Pn**	**02 23 44.1**	**+2.2**
CBE	**Ff, Capester**	**4.88**	**128**	*e*S	**Sn**	**02 24 37.5**	**-0.7**
MAGL	**Barre de l'ile**	**5.20**	**127**	*e*P	**Pn**	**02 23 49.4**	**+3.1**
SDDR	**Presa de Saban**	**5.39**	**269**	*e*P	**Pn**	**02 23 53.0**	**+4.1**
SDDR	**Presa de Saban**	**5.39**	**269**	*e*S	**Sn**	**02 24 54.5**	**+3.8**
SDDR	**Presa de Saban**	**5.39**	**269**		**Pn**	**02 23 51.7**	**+2.8**
SDDR	**Presa de Saban**	**5.39**	**269**	*i* P	Pn	02 23 52.7	+3.8
SDDR				IAML		02 25 10.9	
	comp=Z,20nm,0.4s						
SDV	**Santo Domingo**	**11.31**	**206**	LR	LR	02 29 51.7	
	comp=Z,42nm,21.0s,baz=69,slow=40						
PAMC	**Pamplona, Colo**	**13.61**	**211**	*e*P	**Pn**	**02 25 43.0**	**+0.9**
UREC	**San Jos de Ur**	**14.88**	**222**	*e*P	**Pn**	**02 26 00.6**	**+1.7**
RUSC	**La Rusia**	**15.06**	**210**	*e*P	**Pn**	**02 26 01.5**	**-0.3**
PTBC	**PUERTO BERRIO,**	**15.21**	**216**	*e*P	**Pn**	**02 26 00.1**	**-3.3**
CBOC	**Ciudad Bolivar**	**16.65**	**219**	*e*P	**P**	**02 26 23.4**	**-1.0**
GUY2C	**Guyana, Caldas**	**16.80**	**216**	*e*P	**Pn**	**02 26 22.3**	**-1.9**
PLMC	**San Jos del P**	**17.58**	**218**	*e*P	**Pn**	**02 26 32.8**	**-0.9**
PRAC	**Prado**	**17.82**	**212**	*e*P	**Pn**	**02 26 34.1**	**-2.5**
PCON	**Cinco Dias**	**19.78**	**214**	*e*P	**P**	**02 26 59.3**	**0.0**
SOTA	**Rioblanco**	**20.05**	**214**	*e*P	**P**	**02 26 59.4**	**-2.8**
TXAR	**Lajitas Array**	**36.03**	**294**	P	**P**	**02 29 31.0**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=106,slow=10,SNR=9.2						
YKA	**Yellowknife Ar**	**54.79**	**335**	P	**P**	**02 31 57.4**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=112,slow=8.0,SNR=6.0						
ILAR	**Eielson Array**	**69.15**	**333**	P	**P**	**02 33 34.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=102,slow=4.1,SNR=4.6						

BJI ***20*** *02:25:49.4±0.0,19.98S×168.43E,h11km,mB5.1/15, mb4.9/20,Ms4.9/3,Ms7 4.6/2*

NEIC ***20*** *02:25:50.9±1.2,20.17S±0.10×168.09E±0.08,h10km±1km, mb5.0/73,Error ellipse: s-maj=17.1km s-min=11.1km az=153.0*

NOU ***20*** *02:25:51.6,20.17S×168.04E,h0km,MLv4.5,Loyalty Islands*

IDC ***20*** *02:25:55.0±0.8,20.03S×168.08E,h34km±6km,mb4.2/16, mb1 4.4/18,mb1mx4.3/27,mbtmp4.4/18,ML4.6/2,MS3.8/8, Ms1 3.8/8,ms1mx3.4/25,Error ellipse: s-maj=19.3km s-min=14.5km az=156.0*

ISC 20 02:25:53.7±0.4,**20.18S**±0.06×**168.05E**±0.06,**h27**km,**n134,** σ1**19/108,mb4.9/59,1C-1D,Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**0.97**	**232**	P	**Pn**	**02 26 10.1**	**-1.4**
MARNC	**Mare, Loyalty**	**1.30**	**181**	P	**Pn**	**02 26 15.9**	**-0.2**
YATNC	**Mamie plateau,**	**2.16**	**210**	P	**Pn**	**02 26 28.6**	**+0.6**
DZM	**Mont Dzumac**	**2.41**	**218**	*e*Sn	**Sn**	**02 26 58.6**	**-1.6**
	415nm,0.2s						
DZM	**Mont Dzumac**	**2.41**	**218**	Pn	**Pn**	**02 26 30.7**	**-0.8**
DZM	**Mont Dzumac**	**2.41**	**218**	P	**Pn**	**02 26 32.6**	**+1.1**
DZM	**Mont Dzumac**	**2.41**	**218**	*e*Pn	**Pn**	**02 26 31.1**	**-0.4**
	422nm,0.3s						
PINNC	**Pines Island,**	**2.49**	**193**	P	**Pn**	**02 26 33.4**	**+0.9**
OUENC	**Ouen Island, N**	**2.50**	**207**	P	**Pn**	**02 26 32.7**	**+0.1**
ONTNC	**Ouen Toro**	**2.59**	**215**	P	**Pn**	**02 26 34.8**	**+0.9**
MSVF	**Nonsavu**	**9.77**	**77**	Pn	**Pn**	**02 28 14.1**	**+1.5**
	0.4nm,0.3s,baz=237,slow=13,SNR=3.7						
MSVF				LR	LR	02 31 15.8	
	comp=Z,811nm,19.3s,baz=286,slow=33						
MSVF	**Nonsavu**	**9.77**	**77**	Pn	**Pn**	**02 28 11.8**	**-0.9**
EIDS	**Eidsvold**	**16.48**	**249**	Pn	**Pn**	**02 29 40.5**	**-2.7**
ARMA	**Armidale**	**17.99**	**232**	Pn	**Pn**	**02 29 59.9**	**-2.2**
URZ	**Urewera**	**19.65**	**158**	P	**Pn**	**02 30 23.7**	**+1.7**
	0.4nm,0.3s,baz=206,slow=4.3,SNR=4.2						
URZ	**Urewera**	**19.65**	**158**	P	**P**	**02 30 19.9**	**-0.6**
BKZ	**Black Stump Fm**	**20.27**	**161**	P	**P**	**02 30 27.9**	**+0.6**
CTA	**Charters Tower**	**20.47**	**266**	P	Pn	02 30 31.9	+0.1
	15nm,0.8s,baz=87,slow=16,SNR=11						
CTAO	**Charters Tower**	**20.47**	**266**		**P**	**02 30 30.1**	**+0.6**
PMG	**Port Moresby**	**22.84**	**295**	P	**P**	**02 30 56.4**	**+1.5**
	4.9nm,0.3s,baz=120,slow=8.6,SNR=3.6						
STKA	**Stephens Creek**	**26.40**	**238**	P	**P**	**02 31 30.3**	**+2.2**
	3.9nm,0.6s,baz=79,slow=9.5,SNR=12						
STKA				LR	LR	02 41 15.6	
	comp=Z,217nm,19.7s,baz=51,slow=35						
STKA	**Stephens Creek**	**26.40**	**238**	P	**P**	**02 31 28.6**	**+0.5**
BBOO	**Buckleboo**	**31.15**	**240**	P	**P**	**02 32 11.4**	**+0.9**
BBOO				IAmb	IAmb	02 32 24.1	
	comp=Z,22nm,1.0s						
WR0	**Warramunga Arr**	**31.45**	**265**	P	**P**	**02 32 12.7**	**-0.5**
WB0	**Warramunga Arr**	**31.61**	**265**	P	**P**	**02 32 14.0**	**-0.6**
WRA	**Warramunga Arr**	**31.64**	**265**	P	**P**	**02 32 14.6**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=95,slow=8.5,SNR=33						
WRA				pP	**sP**	**02 32 24.5**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=98,slow=8.2,SNR=8.0						
WRA				PcP	**PcP**	**02 35 06.7**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=90,slow=2.6,SNR=6.2						
WRA				LR	LR	02 45 12.6	
	comp=Z,103nm,18.4s,baz=150,slow=36						
AS31	**Alice Springs**	**31.82**	**257**	P	**P**	**02 32 16.4**	**-0.1**
ASAR	**Alice Springs**	**31.82**	**257**	P	**P**	**02 32 16.9**	**+0.4**
	comp=Z,5.4nm,0.6s,baz=86,slow=8.8,SNR=76						
ASAR				pP	**sP**	**02 32 27.1**	**+1.2**
	comp=Z,13nm,0.8s,baz=85,slow=9.0,SNR=24						
ASAR				LR	LR	02 44 23.6	
	comp=Z,208nm,19.4s,baz=97,slow=35						
ASAR	**Alice Springs**	**31.82**	**257**	P	**P**	**02 32 16.6**	**+0.1**
JAY	**Jayapura**	**31.95**	**300**	LR	LR	02 44 21.9	
	comp=Z,139nm,20.5s,baz=328,slow=35						
FITZ	**Fitzroy Crossi**	**40.05**	**266**	LR	LR	02 48 58.2	
	comp=Z,125nm,21.7s,baz=102,slow=34						
FITZ	**Fitzroy Crossi**	**40.05**	**266**	P	**P**	**02 33 27.1**	**+0.2**
XMAS	**Kiritimati**	**40.40**	**61**	P	**P**	**02 33 29.1**	**-0.7**
BATI	**Baumata**	**43.85**	**276**	LR	LR	02 51 19.2	
	comp=Z,134nm,20.6s,baz=140,slow=35						
TOLI2	**Tolitoli**	**50.90**	**289**	P	**P**	**02 34 52.7**	**-0.2**
TOLI2				IAmb	IAmb	02 35 05.8	
	comp=Z,13nm,0.9s						
VNDA	**Vanda**	**57.46**	**182**	P	**P**	**02 35 40.4**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=350,slow=5.8,SNR=6.5						
VNDA	**Vanda**	**57.46**	**182**	P	**P**	**02 35 40.1**	**+0.3**
SBA	**Scott Base**	**57.72**	**180**	P	**P**	**02 35 42.4**	**+0.8

	baz=241						
CMB	**Columbia Colle**	**88.61**	**49**	IAmb	IAmb	02 38 44.9	
	comp=Z,7.4nm,0.9s						
O03E	**Paynes Creek**	**88.67**	**46**	P		02 38 44.2	
	baz=242,SNR=7.1						
BFSC	**Mount Baldy Ra**	**88.93**	**53**	P		02 38 45.9	
	baz=245						
ISA	**Isabella, Lake**	**88.94**	**51**	P		02 38 45.6	
	baz=244,SNR=7.7						
EDW2	**Edwards Air Fo**	**88.95**	**52**	P		02 38 45.6	
	baz=244						
HUMO	**Hull Mountain**	**89.01**	**44**	IAmb	IAmb	02 38 47.3	
	comp=Z,12nm,0.9s						
MURC	**Murrieta**	**89.01**	**54**	P		02 38 46.1	
	baz=245						
L04D	**Klamath Falls**	**89.24**	**44**	P		02 38 47.1	
	baz=242,SNR=6.9						
I03D	**Drain, OR**	**89.28**	**42**	P		02 38 47.5	
	baz=241						
MONP2	**Monument Peak**	**89.30**	**55**	P		02 38 47.4	
	baz=245						
M04C	**Macdoel**	**89.34**	**45**	P		02 38 48.0	
	baz=242						
LRMC	**Laurel Mtn Rad**	**89.44**	**52**	P		02 38 48.2	
	baz=245,SNR=5.6						
BEKR	**Beckworth**	**89.46**	**47**	IAmb	IAmb	02 39 00.5	
	comp=Z,12nm,1.2s						
TRF	**Thorofare Moun**	**89.48**	**17**	P		02 38 49.0	
	baz=219						
WAKR	**Walker**	**89.49**	**48**	IAmb	IAmb	02 38 49.7	
	comp=Z,12nm,1.1s						
MLAC	**Mammoth, Mammo**	**89.53**	**49**	P		02 38 49.0	
	baz=244						
CWC	**Cottonwood Cre**	**89.56**	**51**	P		02 38 49.1	
	baz=244						
TPFO	**Pinon Flats**	**89.57**	**54**	P		02 38 48.9	
	baz=245						
PNTR	**Pine Nut**	**89.64**	**48**	P	**P**	**02 38 48.3**	**-1.2**
PNTR				IAmb	IAmb	02 39 01.5	
	comp=Z,11nm,1.0s						
K04D	**Chiloquin, OR**	**89.80**	**44**	P		02 38 49.6	
	baz=242						
SWSC	**Sam W. Stewart**	**89.80**	**55**	P		02 38 50.0	
	baz=246						
N25K	**Chitina, Valde**	**89.83**	**21**	P		02 38 51.1	
	baz=224						
MPMC	**Manual Prospec**	**89.83**	**51**	P		02 38 49.9	
	baz=245,SNR=11						
YERR	**Yerington**	**89.84**	**48**	IAmb	IAmb	02 39 02.9	
	comp=Z,11nm,1.2s						
J04D	**Umpqua Nationa**	**89.85**	**43**	P		02 38 50.2	
	baz=242						
I04A	**Tendick Farm,**	**89.92**	**43**	P		02 38 50.7	
	baz=242						
GSC	**Goldstone, Bar**	**90.01**	**52**	IAmb	IAmb	02 38 53.7	
	comp=Z,8.3nm,1.1s						
GSC	**Goldstone, Bar**	**90.01**	**52**	P		02 38 50.8	
	baz=245						
LHV	**Little Huntoon**	**90.04**	**49**	IAmb	IAmb	02 39 03.5	
	comp=Z,14nm,1.1s						
PAHR	**Pah Rah Range**	**90.06**	**47**	IAmb	IAmb	02 39 03.9	
	comp=Z,13nm,1.1s						
H04D	**Lebanon**	**90.06**	**42**	P		02 38 51.1	
	baz=241						
G03D	**McMinnville, O**	**90.07**	**41**	P		02 38 50.8	
	baz=241						
BELC	**Belle Mtn. Jos**	**90.08**	**54**	P		02 38 51.1	
	baz=246,SNR=9.4						
HEC	**Hector,Ludlow**	**90.17**	**53**	P		02 38 51.2	
	baz=245						
RYN	**Ryan**	**90.19**	**49**	IAmb	IAmb	02 38 52.6	
	comp=Z,8.2nm,1.0s						
NVAR	**Mina Array Bea**	**90.26**	**49**	P	**P**	**02 38 52.0**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=229,slow=7.9,SNR=36						
NVAR				pP	**sP**	**02 39 03.5**	**+1.7**
	comp=Z,6.8nm,0.9s,baz=230,slow=7.3,SNR=9.0						
NVAR				LR	LR	03 12 32.8	
	comp=Z,35nm,20.4s,baz=238,slow=31						
NVAR	**Mina Array Bea**	**90.26**	**49**	P	**P**	**02 38 51.8**	**-0.7**
GRAC	**Grapevine Rang**	**90.31**	**51**	P		02 38 52.2	
	baz=245,SNR=7.7						
BC3	**Big Chuckawall**	**90.35**	**54**	P		02 38 52.5	
	baz=246						
NV11	**Mina Array Sit**	**90.36**	**49**	IAmb	IAmb	02 38 53.3	
	comp=Z,12nm,1.1s						
K05A	**Summer Lake**	**90.41**	**44**	IAmb	IAmb	02 38 53.9	
	comp=Z,12nm,1.0s						
MOD	**Modoc Plateau**	**90.42**	**45**	IAmb	IAmb	02 39 04.8	
	comp=Z,9.6nm,0.9s						
J05D	**Fort Rock, OR**	**90.44**	**44**	P		02 38 53.0	
	baz=242						
FURC	**Furnace Creek,**	**90.46**	**51**	P		02 38 52.5	
	baz=245,SNR=8.8						
SHOC	**Shoshone, Teco**	**90.66**	**52**	P		02 38 53.8	
	baz=245						
GMRC	**Granite Mounta**	**90.66**	**53**	P		02 38 53.6	
	baz=246,SNR=6.3						
KVN	**Kaiserville**	**90.67**	**48**	IAmb	IAmb	02 39 06.0	
	comp=Z,9.4nm,1.0s						
IRM	**Iron Mountain**	**90.79**	**54**	P		02 38 54.5	
	baz=246,SNR=7.2						
TPNV	**Topopah Spring**	**91.11**	**51**	P		02 38 55.7	
	baz=246,SNR=14						
E04D	**Cinebar**	**91.14**	**40**	P		02 38 57.0	
	baz=242						
WRAK	**Wrangell Islan**	**91.20**	**29**	P		02 38 56.9	
	baz=234						
D03D	**Eldon**	**91.29**	**39**	P		02 38 57.5	
	baz=241						
ILAR	**Eielson Array**	**91.46**	**18**	P	**P**	**02 38 54.8**	**-2.3**
	comp=Z,1.1nm,0.7s,baz=236,slow=4.7,SNR=12						
ILAR	**Eielson Array**	**91.46**	**18**	P	**P**	**02 38 55.2**	**-1.9**
PDMCI	**Parker Dam,Lak**	**91.61**	**54**	P		02 38 58.1	
	baz=247,SNR=6.8						
214A	**Organ Pipe Nat**	**91.72**	**57**	P		02 38 59.0	
	baz=247						
SHPR	**Sheep Range**	**91.73**	**52**	IAmb	IAmb	02 39 11.3	
	comp=Z,11nm,1.3s						
SCRK	**Sand Creek**	**91.73**	**19**	P		02 38 59.2	
	baz=224						
I07A	**Izee**	**91.92**	**43**	IAmb	IAmb	02 39 12.5	
	comp=Z,11nm,1.3s						
A04D	**Lummi Island**	**92.09**	**38**	P		02 39 01.2	
	baz=241						
HSIG		**92.11**	**60**	P	**P**	**02 39 00.5**	**-0.4**
W13A	**Hualapai Mount**	**92.12**	**53**	P	**P**	**02 39 00.0**	**-1.1**
W13A				IAmb	IAmb	02 39 13.1	
	comp=Z,5.6nm,0.9s						
B05A	**Bryant**	**92.23**	**39**	P		02 39 01.8	
	baz=242						
COLD	**Coldfoot**	**92.47**	**15**	P		02 39 01.9	
	baz=219						
G08A	**Pilot Rock**	**92.80**	**43**	IAmb	IAmb	02 39 15.7	
	comp=Z,3.4nm,0.9s						
EGAK	**Eagle**	**93.17**	**19**	P		02 39 04.8	
	baz=227						
SPR3	**Spring Creek 3**	**93.32**	**50**	IAmb	IAmb	02 39 20.4	
	comp=Z,4.1nm,1.1s						
TUC	**Tucson**	**93.45**	**57**	P	**P**	**02 39 06.9**	**-0.3**
TUC				IAmb	IAmb	02 39 20.0	
	comp=Z,5.6nm,1.1s						
TUC	**Tucson**	**93.45**	**57**	P		02 39 07.0	
	baz=248						
KNB	**Kanab**	**93.65**	**52**	IAmb	IAmb	02 39 20.2	
	comp=Z,8.8nm,1.1s						
TOLK	**Toolik Lake Re**	**93.72**	**14**	P		02 39 08.3	
	baz=219						
U15A	**North Rim**	**93.83**	**53**	IAmb	IAmb	02 39 10.3	
	comp=Z,3.3nm,0.7s						
WUAZ	**Wupatki**	**94.17**	**54**	P		02 39 10.3	
	baz=248						
WUAZ	**Wupatki**	**94.18**	**54**	IAmb	IAmb	02 39 11.3	
	comp=Z,5.3nm,1.1s						
319A	**Douglas**	**94.31**	**58**	IAmb	IAmb	02 39 23.9	
	comp=Z,6.7nm,0.8s						
MTPU	**Mount Pierson**	**94.51**	**51**	IAmb	IAmb	02 39 15.9	
	comp=Z,11nm,1.6s						
DUG	**Dugway, Tooele**	**94.86**	**49**	P		02 39 12.7	
	baz=248						
HLID	**Hailey**	**95.05**	**45**	P		02 39 14.0	
	baz=247						
HVU	**Hansel Valley**	**95.49**	**48**	IAmb	IAmb	02 39 16.4	
	comp=Z,3.4nm,0.9s						
WMQ	**Urumqi**	**97.05**	**314**	*eP*	Pdif	02 39 24.3	+0.9
MNTX	**Cornudas Mount**	**97.55**	**59**	P		02 39 25.3	
	baz=251						
ANMO	**Albuquerque**	**97.75**	**56**	P		02 39 26.2	
	baz=251						

PDAR	**Pinedale Array**	**98.07**	**47**	P	**P**	**02 39 27.5**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=198,slow=4.2,SNR=4.6						
TXAR	**Lajitas Array**	**98.19**	**62**	P	**P**	**02 39 28.5**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=201,slow=7.4,SNR=3.7						
S22A	**4UR Ranch, Cre**	**98.38**	**53**	P		02 39 28.2	
	baz=251						
C36M	**Paulatuk**	**101.25**	**20**	P		02 39 40.6	
	baz=242						
YKA	**Yellowknife Ar**	**102.01**	**28**	P	**Pdif**	**02 39 44.6**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=251,slow=4.2,SNR=8.6						
GRGR	**Grenville**	**131.74**	**92**		**PKPdf**	**02 45 05.1**	**-0.1**
KRLC	**Kraliky**	**142.47**	**329**	*e*PKP	**PKPdf**	**02 45 23.8**	**-0.2**
CLL	**Collm**	**143.28**	**334**	*e*PKPdf	**PKiKP**	**02 45 27.0**	**-1.6**
CONA	**Conrad Observa**	**144.35**	**327**	*e*P	**PKPdf**	**02 45 26.8**	**-0.6**
	comp=Z,7.7nm,1.0s						
CKRC	**Cesky Krumlov**	**144.50**	**330**	*e*PKP	PKPbc	02 45 26.6	+0.4
KHC	**Kasperske Hory**	**144.62**	**331**	*e*PKP	**PKPdf**	**02 45 27.3**	**-0.6**
GERES	**GERESS Array B**	**144.77**	**330**	PKP	**PKPdf**	**02 45 27.8**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=60,slow=3.2,SNR=9.9						
GERES	**GERESS Array B**	**144.77**	**330**		PKPbc	02 45 27.1	-0.1
ARSA	**Arzberg**	**144.97**	**327**	*e*P	**PKPdf**	**02 45 28.7**	**+0.2**
	comp=Z,9.7nm,1.2s						
MOA	**Molln**	**145.20**	**329**	*i* P	**PKPdf**	**02 45 29.3**	**+0.5**
	comp=Z,8.5nm,0.8s,SNR=9.1						
SOKA	**Soboth**	**145.60**	**326**	*i* P	**PKPab**	**02 45 30.4**	**+0.2**
	comp=Z,8.5nm,1.2s,SNR=7.4						
KBA	**Koelnbreinsper**	**146.18**	**328**	*e*P	**PKPab**	**02 45 33.0**	**+0.5**
	comp=Z,2.8nm,0.7s						
ABTA	**Abfaltersbach**	**146.82**	**329**	*e*P	**PKPbc**	**02 45 33.2**	**-0.3**
	comp=Z,8.2nm,1.0s						
WATA	**Walderalm**	**146.85**	**330**	*e*P	**PKiKP**	**02 45 37.0**	**+0.6**
	comp=Z,4.9nm,1.0s						
WTTA	**Wattenberg**	**146.87**	**330**	*e*P	**PKPbc**	**02 45 33.4**	**-0.4**
	comp=Z,5.4nm,1.0s						
MOTA	**Moosalm**	**147.06**	**331**	*e*P	**PKPbc**	**02 45 33.8**	**-0.5**
	comp=Z,3.1nm,0.8s						
SQTA	**Sankt Quirin**	**147.10**	**330**	*e*P	**PKPdf**	**02 45 33.2**	**+0.9**
	comp=Z,4.8nm,0.8s						
RETA	**Reute**	**147.11**	**331**	*e*P	**PKPab**	**02 45 36.2**	**+0.3**
	comp=Z,4.4nm,1.0s						
WLF	**Walferdange**	**147.23**	**338**		**PKPbc**	**02 45 34.9**	**+0.4**
FETA	**Feichten**	**147.47**	**331**	*i* P	**PKPbc**	**02 45 35.8**	**+0.4**
	comp=Z,8.6nm,1.1s,SNR=7.2						
BFO	**Black Forest**	**147.50**	**335**	PKPbc	**PKPbc**	**02 45 35.6**	**+0.3**
TUE	**Stuetta**	**148.51**	**331**		**PKPbc**	**02 45 37.0**	**-1.3**
BNI	**Bardonecchia**	**150.79**	**332**		**PKPbc**	**02 45 42.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**165.18**	**244**	PKP	**PKPdf**	**02 45 55.7**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=55,slow=1.8,SNR=4.4						

*IDC **20** 02:35:29.6±2.1, 6°.29S×149°.96E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/29, mbtmp4.0/6, ML2.4/1, Error ellipse: s-maj=59.3km s-min=26.6km az=110.0*
*NEIC **20** 02:35:36.4±0.5, 6°.3S±0°.3×149°.9E±0°.3, h52km±13km, mb4.0/6, Error ellipse: s-maj=56.1km s-min=10.7km az=133.0*

ISC 20 02:35:36.1±1.0, **6°.4S**±0°.2×**149°.9E**±0°.2, **h43**km, **n16**, σ0**86**/16, **mb3.7**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.09**	**46**		**Pn**	**02 36 22.6**	**+0.1**
PMG	**Port Moresby**	**4.09**	**222**	Pn	**Pn**	**02 36 35.5**	**-0.7**
	16nm,0.3s,baz=50,slow=8.3,SNR=22						
PMG				Sn	**Sn**	**02 37 24.6**	**+1.8**
	7.0nm,0.3s,baz=337,slow=22,SNR=6.1						
PMG	**Port Moresby**	**4.09**	**222**		**Pn**	**02 36 36.5**	**+0.3**
COEN	**Coen**	**10.06**	**221**	Pn	**Pn**	**02 37 58.3**	**+0.1**
WB0	**Warramunga Arr**	**20.14**	**227**	P	**P**	**02 40 06.5**	**-0.3**
WB0				IAmb	IAmb	02 40 07.2	
	comp=Z,6.1nm,0.6s						
WR0	**Warramunga Arr**	**20.16**	**226**	P	**P**	**02 40 06.9**	**-0.1**
WR0				IAmb	IAmb	02 40 08.8	
	comp=Z,13nm,1.3s						
WB2	**Warramunga Arr**	**20.28**	**227**	P	**P**	**02 40 08.1**	**-0.3**
WRA	**Warramunga Arr**	**20.29**	**227**	P	**P**	**02 40 08.0**	**-0.5**
	comp=Z,5.5nm,0.4s,baz=52,slow=11,SNR=104						
AS31	**Alice Springs**	**23.10**	**220**	P	**P**	**02 40 37.9**	**-0.6**
ASAR	**Alice Springs**	**23.10**	**220**	P	**P**	**02 40 37.1**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=55,slow=9.1,SNR=23						
FITZ	**Fitzroy Crossi**	**26.41**	**242**	P	**P**	**02 41 08.3**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=59,slow=12,SNR=15						
FITZ	**Fitzroy Crossi**	**26.41**	**242**	P	**P**	**02 41 08.2**	**-0.7**
FITZ				IAmb	IAmb	02 41 10.8	
	comp=Z,5.7nm,1.0s						
STKA	**Stephens Creek**	**26.57**	**196**	P	**P**	**02 41 10.4**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=350,slow=12,SNR=5.1						
STKA	**Stephens Creek**	**26.57**	**196**	IAmb	IAmb	02 41 11.7	
	comp=Z,7.7nm,1.4s						
MKAR	**Makanchi Array**	**79.63**	**320**	P	**P**	**02 47 40.0**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=92,slow=8.8,SNR=1.9						
TORD	**Torodi Ar. Bea**	**147.99**	**285**	PKPbc	**PKPbc**	**02 55 16.9**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=85,slow=2.4,SNR=9.7						

*IDC **20** 02:38:04.9±2.5, 6°.12S×149°.86E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/29, mbtmp4.0/5, ML2.3/1, Error ellipse: s-maj=66.9km s-min=35.8km az=115.0*

ISC 20 02:38:12.0±2.2, **6°.2S**±0°.3×**149°.8E**±0°.4, **h52**km, **n6**, σ0**78**/7, **mb3.8**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.11**	**220**	Pn	**Pn**	**02 39 11.5**	**-0.8**
	12nm,0.3s,baz=48,slow=6.3,SNR=7.1						
PMG				Sn	**Sn**	**02 39 59.8**	**+0.6**
	6.6nm,0.3s,baz=190,slow=23,SNR=5.7						
WRA	**Warramunga Arr**	**20.30**	**226**	P	**P**	**02 42 43.6**	**-0.1**
	3.8nm,0.5s,baz=51,slow=11,SNR=22						
ASAR	**Alice Springs**	**23.13**	**220**	P	**P**	**02 43 13.2**	**-0.7**
	1.3nm,0.8s,baz=55,slow=9.0,SNR=6.8						
FITZ	**Fitzroy Crossi**	**26.38**	**241**	P	**P**	**02 43 44.2**	**+0.6**
	1.8nm,0.6s,baz=59,slow=9.4,SNR=7.1						
STKA	**Stephens Creek**	**26.64**	**196**	P	**P**	**02 43 46.5**	**+0.6**
	1.7nm,0.7s,baz=0.0,slow=12,SNR=3.3						
TORD	**Torodi Ar. Bea**	**147.87**	**285**	PKPbc	**PKPbc**	**02 57 52.5**	**+0.1**
	0.6nm,0.4s,baz=88,slow=2.8,SNR=7.8						

WEL 20 03:10:05.6±1.6, **45°S**±8°×**16°7E**±1°.2, **h5**km, **M3.4**/9, **ML3.6**/9, **MLv3.4**/9, **Error ellipse: s-maj=0.0km s-min=0.0km az=123.1, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.46**	**131**	P	Pg	03 10 14.9	+0.4
PYZ	**Puysegur Point**	**1.00**	**179**	P	Pg	03 10 23.8	-1.0
MSZ	**Milford Sound**	**1.03**	**62**	P	Pg	03 10 23.9	-1.4
MSZ				S	Sg	03 10 37.9	-0.6
MLZ	**Mavora Lakes**	**1.05**	**102**	P	Pg	03 10 24.8	-1.0
WHZ	**Wether Hill Ro**	**1.16**	**129**	P	Pg	03 10 26.5	-1.4
WKZ	**Wanaka**	**1.71**	**79**	P	Pb	03 10 37.1	-0.3
WKZ				S	Sb	03 10 59.7	+0.4
JCZ	**Jackson Bay**	**1.87**	**55**	P	Pb	03 10 39.4	-0.9
EAZ	**Earnscleugh**	**1.88**	**93**	P	Pn	03 10 38.3	0.0
APZ	**The Paps**	**1.91**	**151**	P	Pb	03 10 40.0	-0.9
SYZ	**Scrubby Hill**	**2.21**	**129**	P	Pn	03 10 42.4	-0.5
TUZ	**Tuapeka**	**2.23**	**112**	P	Pn	03 10 43.8	+0.6
LBZ	**Lake Benmore**	**2.63**	**74**	P	Pn	03 10 48.2	-0.5
FOZ	**Fox Glacier**	**2.79**	**55**	P	Pb	03 10 56.8	+0.9
ODZ	**Otahua Downs**	**2.83**	**89**	P	Pn	03 10 50.2	-1.1
HHSZ	**Highcliff Hill**	**2.86**	**106**	P	Pn	03 10 52.9	+1.0
TMZ	**Timaru**	**3.19**	**77**	P	Pn	03 10 55.5	-1.0
GCSZ	**Gaunt Creek Bo**	**3.22**	**56**	P	Pn	03 10 54.3	-2.5
ARCZ	**Arundel**	**3.45**	**71**	P	Pn	03 10 58.7	-1.3
RPZ	**Rata Peaks**	**3.47**	**67**	P	Pn	03 10 59.2	-1.0
WACZ	**Wakanui South**	**3.90**	**74**	P	Pn	03 11 05.4	-0.7
INZ	**Inchbonnie**	**4.23**	**56**	P	Pn	03 11 08.1	-2.5
OXZ	**Oxford**	**4.28**	**66**	P	Pn	03 11 10.8	-0.6
MQZ	**McQueen's Vall**	**4.54**	**73**	P	Pn	03 11 13.5	-1.3
LTZ	**Lake Taylor**	**4.70**	**62**	P	Pn	03 11 16.2	-1.0
DSZ	**Denniston Nort**	**5.07**	**49**	P	Pn	03 11 20.0	-2.3
THZ	**Tophouse**	**5.68**	**55**	P	Pn	03 11 29.7	-0.9
QRZ	**Quartz Range**	**6.11**	**47**	P	Pn	03 11 33.3	-3.1

DJA 20 03:15:53.0±0.2, **1°S**±2°×**12°2E**±°, **h10**km, **M4.1**/14, **mb4.5**/5, **mB5.2**/2, **MLv3.9**/14, **Mw(mB)4.5**/2, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.68**	**141**	P	Pb	03 16 06.7	-0.3
LUWI				S	Sb	03 16 16.4	-0.1

APSI	**Ampana**	**0.80**	**240**	P	Pg	03 16 08.6	+0.2
MRSI	**Marisa**	**1.06**	**338**	P	Pg	03 16 13.0	-0.4
GTOI	**Gorontalo**	**1.32**	**31**	P	Pb	03 16 17.8	-0.1
KMSI	**Cibinong**	**1.96**	**57**	P	Pn	03 16 26.3	-0.1
TTSI	**Tana Toraja**	**3.56**	**225**	P	Pn	03 16 48.3	-0.1
SANI	**Sanana**	**3.96**	**113**	P	Pn	03 16 53.7	-0.1
SPSI	**Sidrap Palu**	**4.29**	**217**	P	Pn	03 16 58.4	+0.1
BNSI	**Bone**	**4.46**	**210**	P	Pn	03 17 00.8	0.0
TNTI	**Ternate**	**5.18**	**76**	P	Pn	03 17 10.8	+0.1
	0.2nm35nm,0.7s						
BKSI	**Bulukumba**	**5.27**	**205**	P	Pn	03 17 12.0	+0.2
	0.1nm14nm,0.4s						
BKB	**Balikpapan**	**5.49**	**262**	P	Pn	03 17 14.6	-0.4

*ECX **20** 03:21:28.9±1.1, 26°.50N×110°.72W, h20km±26km, MD3.2*
*MEX **20** 03:21:35.3±0.8, 26°.63N×110°.50W, h13km±11km, MD3.7*

ISC 20 03:21:30.1±1.8, **26°.53N**±0°.07×**110°.73W**±0°.07, **h29**km±18km, **n6**, σ1**9**30/12, **Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUYB	**Guaymas**	**1.37**	**355**	*i* P	**Pb**	**03 21 55.8**	**+0.7**
GUYB				*i* S	**Sn**	**03 22 11.1**	**+0.6**
GUYB	**Guaymas**	**1.37**	**355**	*e*P	**Pn**	**03 21 52.2**	**-1.1**
GUYB				*e*S	**Sn**	**03 22 11.3**	**+0.8**
SRIG	**Santa Rosalia**	**1.56**	**301**	*e*P	**Pn**	**03 21 55.5**	**-0.5**
SRIG				*e*S	**Sn**	**03 22 15.0**	**-0.2**
TSIG	**Topolobambo**	**1.78**	**121**	*e*P	**Pb**	**03 22 01.1**	**-1.0**
TSIG				*i* S	**Sn**	**03 22 20.0**	**-0.7**
CSIG	**Choix**	**2.13**	**81**	*i* P	**Pn**	**03 22 03.8**	**-0.1**
CSIG				*i* S	**Sn**	**03 22 27.8**	**-1.6**
SSIG	**Sanalona**	**3.66**	**117**	*i* P	**Pn**	**03 22 27.4**	**+2.5**
SSIG				*i* S	**Sn**	**03 23 07.4**	**+0.2**

*GCG **20** 03:30:07.8±0.6, 14°.72N×92°.82W, h34km±999km, MD4.6*
*NEIC **20** 03:30:09.9±1.6, 14°.61N±0°.03×92°.55W±0°.07, h67km±5km, mb4.5/171, Md4.2/40(MEX), Error ellipse: s-maj=9.4km s-min=4.4km az=81.0*
*MEX **20** 03:30:09.7±0.5, 14°.68N×92°.47W, h85km±4km, MD4.2*
*IDC **20** 03:30:10.1±0.7, 14°.68N×92°.34W, h71km±5km, mb4.0/17, mb1 4.2/19, mb1mx3.9/41, mbtmp4.3/19, MS3.3/14, Ms1 3.3/14, ms1mx3.1/44, Error ellipse: s-maj=24.0km s-min=10.2km az=53.0*
*SNET **20** 03:30:11.2±2.2, 14°.26N×92°.64W, h34km±999km, ML4.5*

ISC 20 03:30:10.5±0.6, **14°.70N**±0°.05×**92°.55W**±0°.04, **h74**km±5km, **n219**, σ1**9**43/183, **mb4.5**/82, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.34**	**52**	*i* P	**Pn**	**03 30 21.0**	**-1.4**
THIG				*i* S	**Sn**	**03 30 30.3**	**-0.8**
THIG		**0.34**	**52**		**Pn**	**03 30 21.0**	**-1.4**
THIG					**Sn**	**03 30 30.3**	**-0.8**
PCIG		**1.19**	**327**	*e*P	**Pn**	**03 30 31.0**	**-0.6**
PCIG				*e*S	**Sn**	**03 30 46.6**	**-0.9**
PCIG		**1.19**	**327**		**Pn**	**03 30 31.0**	**-0.6**
PCIG					**Sn**	**03 30 46.6**	**-0.9**
CCIG	**Comitan**	**1.62**	**14**	*e*P	**Pn**	**03 30 39.6**	**+2.2**
CCIG				*e*S	**Sn**	**03 30 60.0**	**+2.2**
CCIG	**Comitan**	**1.62**	**14**	Pn	**Pn**	**03 30 37.5**	**+0.1**
FUG	**Fuego 3**	**1.67**	**98**	*e*P	**Pn**	**03 30 38.6**	**+0.6**
PCG	**Pacaya**	**1.90**	**99**	*e*P	**Pn**	**03 30 42.5**	**+1.4**
NBG	**Las Nubes**	**2.13**	**93**	*e*P	**Pn**	**03 30 46.7**	**+2.4**
NBG				*e*S	**Sn**	**03 31 15.1**	**+5.1**
TGIG		**2.14**	**345**	*e*P	**Pn**	**03 30 44.3**	**+0.1**
TGIG				*e*S	**Sn**	**03 31 10.7**	**+0.8**
TGIG		**2.14**	**345**		**Pn**	**03 30 44.3**	**+0.1**
TGIG					**Sn**	**03 31 10.7**	**+0.8**
MRL	**Marmol**	**2.79**	**82**	*e*P	**Pn**	**03 30 54.6**	**+1.4**
CEVE	**Cerro Verde**	**2.96**	**107**	*e*P	**Pn**	**03 30 56.7**	**+1.2**
CEVE				*e*S	**Sn**	**03 31 33.4**	**+3.3**
CEVE				IAML		03 31 46.5	
	comp=Z,4μm,0.5s						
MTO3	**Montecristo**	**3.10**	**95**		**Pn**	**03 30 56.0**	**-1.3**
TACO	**Tacachico**	**3.18**	**103**	*e*P	**Pn**	**03 30 58.1**	**-0.1**
TACO				IAML		03 31 52.5	
	comp=Z,244nm,0.6s						
JAYA	**Jayaque - finc**	**3.18**	**109**	*e*P	**Pn**	**03 30 58.2**	**-0.1**
JAYA				*e*S	**Sn**	**03 31 34.4**	**-0.9**
JAYA				IAML		03 31 40.7	
	comp=Z,3μm,0.2s						
CMIG	**Matias Romero**	**3.27**	**317**	P	**Pn**	**03 30 60.0**	**+0.5**
	comp=Z,16nm,0.3s,baz=148,slow=13,SNR=66						
CMIG				S	**Sn**	**03 31 39.4**	**+2.0**
	comp=Z,139nm,0.3s,baz=66,slow=19,SNR=12						
CMIG				LR	LR	03 32 21.4	
	comp=Z,200nm,18.3s,baz=141,slow=38						
CMIG	**Matias Romero**	**3.

441A IAmb IAmb 03 34 00.3
comp=Z,29nm,0.8s
342A Flagon Creek P 16.60 1 Pn **Pn** **03 33 58.7 +0.1**
435B Jarrell 16.67 345 P 03 34 03.4
baz=163
344A Westbrook Farm 16.76 5 Pn **Pn** **03 34 00.8 +0.3**
344A IAmb IAmb 03 34 03.6
comp=Z,26nm,1.1s
346A Big Creek Wild 16.85 9 Pn **Pn** **03 34 01.6 -0.1**
346A IAmb IAmb 03 34 22.7
comp=Z,24nm,0.8s
JCT Junction City 17.07 338 **Pn** **03 34 04.9 +0.5**
JCT Junction City 17.07 338 P 03 34 08.1
baz=156
NATX Nacogdoches 17.09 354 P 03 34 07.6
baz=173
NATX Nacogdoches 17.10 354 **P** **03 34 06.2 +0.8**
VBMS Vicksburg 17.54 6 **P** **03 34 09.9 -0.3**
VBMS IAmb IAmb 03 34 16.1
comp=Z,24nm,0.8s
VBMS Vicksburg 17.54 6 P 03 34 11.4
baz=186
WHTX Lake Whitney, 17.79 346 P 03 34 15.7
baz=164
TXAR Lajitas Array 17.83 327 P **Pn** **03 34 16.5 +2.7**
comp=Z,0.1nm,0.3s,baz=147,slow=12,SNR=37
TX31 Lajitas Ar. Si 17.83 327 IAmb IAmb 03 34 19.4
comp=Z,38nm,1.1s
TX32 Lajitas Array 17.83 327 P **Pn** **03 34 14.8 +1.0**
143A Socs Landing, 17.96 3 P **Pn** **03 34 15.7 +0.5**
143A IAmb IAmb 03 34 34.2
comp=Z,29nm,0.7s
352A Blakely 18.10 21 P **Pn** **03 34 17.9 +0.9**
352A IAmb IAmb 03 34 20.7
comp=Z,49nm,1.0s
250A Grady 18.13 17 **Pn** **03 34 18.8 +1.5**
250A IAmb IAmb 03 34 20.5
comp=Z,36nm,1.0s
CBOC Ciudad Bolivar 18.47 117 *eP* **P** **03 34 20.5 -0.3**
Z41A Richland Creek 18.48 359 P 03 34 23.2
baz=179,SNR=5.4
TIGA Tifton 18.57 25 P **Pn** **03 34 23.0 +0.4**
TIGA IAmb IAmb 03 34 41.2
comp=Z,31nm,0.9s
TIGA Tifton 18.57 25 P 03 34 22.5
baz=208
Z47A Carrollton 18.86 12 P **P** **03 34 26.0 +1.2**
Z47A IAmb IAmb 03 34 29.4
comp=Z,20nm,0.7s
WLAR White Oak Lake 18.91 359 P **Pn** **03 34 26.9 +0.2**
WLAR IAmb IAmb 03 34 31.2
comp=Z,43nm,0.9s
LRAL Lakeview Retre 18.94 14 P **Pn** **03 34 27.0 0.0**
LRAL Lakeview Retre 18.94 14 P 03 34 26.8
baz=197
ABTX Abilene, Hawle 18.98 341 P **Pn** **03 34 27.7 +0.1**
ABTX Abilene, Hawle 18.98 341 P 03 34 28.6
baz=159
LPIG La Paz 19.17 302 LR LR 03 40 58.3
comp=Z,60nm,18.9s,baz=202,slow=34
YOTC Yotoco, Valle 19.19 122 *eP* **P** **03 34 28.1 -0.5**
152A Waverly Hall 19.26 20 IAmb IAmb 03 34 49.0
comp=Z,42nm,1.2s
Y45A Yeager Farm, C 19.28 8 P **P** **03 34 30.7 +1.4**
GUY2C Guyana, Caldas 19.35 117 *eP* **P** **03 34 28.0 -2.7**
PTBC PUERTO BERRIO, 19.53 113 *eP* **P** **03 34 30.9 -1.4**
BBAC Balboa, Cauca 19.67 128 *eP* **P** **03 34 33.9 -0.1**
X40A Basin Creek Fa 19.71 359 P 03 34 35.1
baz=179
TOLC Tolima 19.71 119 *eP* **Pn** **03 34 36.3 -0.4**
POPC Popayan, Colom 19.78 126 *eP* **P** **03 34 35.6 +0.5**
MIAR Mount Ida 19.79 357 P 03 34 36.6
baz=177,SNR=31
MIAR Mount Ida 19.79 357 P **P** **03 34 36.4 +1.6**
X43A Marvell 19.79 4 P 03 34 35.7
baz=185,SNR=7.1
OXF Oxford 19.93 8 P 03 34 37.9
baz=189
X37A Clayton 19.97 353 IAmb IAmb 03 34 44.4
comp=Z,27nm,1.0s
OTAV Otavalo 20.02 135 P **P** **03 34 35.5 -2.5**
SOTA Rioblanco 20.08 127 *eP* **P** **03 34 39.3 +0.6**
PCON Cinco Dias 20.13 126 *eP* Pn 03 34 41.2 -0.6
ORTC Ortega, Tolima 20.14 120 *eP* **P** **03 34 37.9 -1.0**
MARP Paez Belalcaza 20.16 124 *eP* **P** **03 34 39.9 +0.5**
SPBC San Pablo de B 20.27 114 *eP* **P** **03 34 35.0 -5.3**
X48A Hartselle 20.29 13 IAmb IAmb 03 34 46.9
comp=Z,18nm,0.8s
GOGA Godfrey 20.37 22 IAmb IAmb 03 34 47.9
comp=Z,15nm,0.8s
GOGA Godfrey 20.37 22 P 03 34 41.8
baz=206
W41B Gary Mavity, V 20.39 1 P 03 34 42.9
baz=181,SNR=5.1
ROSC El Rosal 20.44 117 *eP* P 03 34 33.7 -8.8
W39A Magazine 20.44 357 P 03 34 44.1
baz=177,SNR=8.1
WHAR Wooly Hollow 20.51 1 P **P** **03 34 44.3 +1.6**
WHAR IAmb IAmb 03 35 07.1
comp=Z,35nm,1.5s
PRAC Prado 20.54 120 *eP* **P** **03 34 43.2 0.0**
Y52A Lilburn 20.57 20 P **P** **03 34 44.1 +0.8**
Y52A IAmb IAmb 03 35 02.8
comp=Z,30nm,0.9s
MNTX Cornudas Mount 20.60 327 P 03 34 45.9
baz=143
FPAL Fort Paine 20.73 16 IAmb IAmb 03 35 04.9
comp=Z,27nm,1.0s
WMOK Wichita Mounta 20.73 345 P 03 34 46.4
baz=163
SDDR Presa de Saban 20.78 75 P **P** **03 34 46.1 +0.3**
SDDR IAmb IAmb 03 35 06.1
comp=Z,20nm,0.9s
PAMC Pamplona, Colo 20.80 108 *eP* **P** **03 34 41.6 -4.9**
RUSC La Rusia 21.04 113 *eP* **P** **03 34 48.0 -1.0**
OK025 Westminster Rd 21.24 349 IAmb IAmb 03 35 09.3
comp=Z,21nm,0.7s
SWET Sewanee 21.28 15 IAmb IAmb 03 35 00.7
comp=Z,15nm,0.8s
MSTX Muleshoe 21.30 336 P 03 34 54.0
baz=152
MSTX Muleshoe 21.30 336 P **P** **03 34 51.8 +0.5**
MSTX IAmb IAmb 03 34 59.2
comp=Z,16nm,1.1s
TUL1 Leonard 21.32 353 P 03 34 53.2
baz=171,SNR=5.6
OK030 Cody Creek RV 21.48 351 IAmb IAmb 03 35 10.8
comp=Z,17nm,1.0s
U40A Yellville 21.57 359 P 03 34 54.4
baz=179
V48A Smith Brothers 21.58 13 IAmb IAmb 03 34 54.9
comp=Z,20nm,1.4s
AMTX Amarillo 21.72 339 IAmb IAmb 03 35 14.7
comp=Z,19nm,0.8s
AMTX Amarillo 21.72 339 P 03 34 57.6
baz=156
WVT Waverly 21.76 10 P **P** **03 34 56.9 +0.9**
WVT Waverly 21.76 10 P 03 34 55.6
baz=192
CPCT Cooper Cave 21.89 18 IAmb IAmb 03 35 16.6
comp=Z,30nm,1.4s
PBMO Poplar Bluff 22.07 5 IAmb IAmb 03 35 08.8
comp=Z,13nm,0.8s
SDV Santo Domingo 22.20 103 P **P** **03 34 59.5 -1.7**
comp=Z,7.4nm,0.6s,baz=307,slow=5.7,SNR=7.3
SDV LR LR 03 43 57.9
comp=Z,27nm,20.6s,baz=300,slow=38
SDV Santo Domingo 22.20 103 P **P** **03 35 01.2 -0.1**
TKL Tuckaleechee C 22.31 19 P **P** **03 35 01.8 -0.2**
comp=Z,12nm,0.9s,baz=187,slow=12,SNR=12
TKL LR LR 03 44 36.7
comp=Z,82nm,20.8s,baz=196,slow=39
TKL Tuckaleechee C 22.31 19 P **P** **03 35 02.1 +0.1**
TKL IAmb IAmb 03 35 03.4
comp=Z,29nm,1.3s
V52A Sevierville 22.54 19 IAmb IAmb 03 35 04.9
comp=Z,20nm,1.0s
121A Cookes Peak, D 22.54 325 P 03 35 07.2
baz=139,SNR=6.7
121A Cookes Peak, D 22.54 325 IAmb IAmb 03 35 23.7
comp=Z,22nm,1.0s
U49A Red Boiling Sp 22.55 14 IAmb IAmb 03 35 14.0
comp=Z,20nm,1.0s
319A Douglas 22.59 320 P **P** **03 35 05.2 0.0**
319A IAmb IAmb 03 35 24.5
comp=Z,16nm,1.1s

V53A Saluda 22.64 21 IAmb IAmb 03 35 06.2
comp=Z,16nm,0.8s
KMSC Kings Mountain 22.72 24 P 03 35 05.2
baz=209,SNR=5.1
KMSC Kings Mountain 22.72 24 IAmb IAmb 03 35 06.8
comp=Z,15nm,0.7s
T47A Sharon Grove 22.73 11 IAmb IAmb 03 35 07.0
comp=Z,22nm,0.8s
W56A Indian Trail 23.02 26 P 03 35 08.3
baz=211
S44A Carbondale 23.09 7 IAmb IAmb 03 35 21.4
comp=Z,14nm,0.8s
SIUC Southern Illin 23.12 7 IAmb IAmb 03 35 21.6
comp=Z,16nm,0.8s
T50A Nancy 23.27 16 IAmb IAmb 03 35 11.1
comp=Z,13nm,0.8s
V55A Taylorsville 23.39 24 IAmb IAmb 03 35 12.9
comp=Z,16nm,0.8s
V56A Mocksville 23.64 25 P 03 35 13.9
baz=210
ANMO Albuquerque 23.74 331 P 03 35 18.5
baz=145
ANMO Albuquerque 23.74 331 P **P** **03 35 16.8 +0.6**
comp=Z,3.6nm,0.7s,baz=146,slow=12,SNR=9.4
ANMO LR LR 03 45 50.8
comp=Z,25nm,19.0s,baz=150,slow=40
ANMO Albuquerque 23.74 331 P **P** **03 35 16.7 +0.4**
U54A Nelsons Funny 23.75 22 P 03 35 15.4
baz=206,SNR=6.4
X60A Albert Glenn T 23.76 31 P 03 35 15.5
baz=217
V57A Coltrane Farms 24.01 26 P 03 35 17.2
baz=212,SNR=5.7
WCI Wyandotte Cave 24.08 12 P 03 35 18.7
baz=195
WCI Wyandotte Cave 24.09 12 P **P** **03 35 18.8 -0.3**
WCI IAmb IAmb 03 35 19.9
comp=Z,21nm,0.8s
U56A King 24.15 25 IAmb IAmb 03 35 19.9
comp=Z,27nm,1.1s
U56A King 24.15 25 P 03 35 18.8
baz=210
S51A Beattyville 24.20 18 IAmb IAmb 03 35 20.6
comp=Z,12nm,0.7s
V58A Windy Hill, Pi 24.22 27 IAmb IAmb 03 35 20.5
comp=Z,21nm,0.8s
R49A Shelbyville 24.39 14 IAmb IAmb 03 35 21.9
comp=Z,10nm,0.7s
KSU1 Kansas State U 24.57 352 P 03 35 23.5
baz=171
KSU1 Kansas State U 24.57 352 P **P** **03 35 22.9 -0.6**
KSU1 IAmb IAmb 03 35 24.8
comp=Z,17nm,0.8s
R50A Paris 24.59 16 IAmb IAmb 03 35 24.7
comp=Z,12nm,0.8s
U57A Blanch 24.66 26 P 03 35 23.1
baz=212,SNR=7.2
T25A Trinidad 24.72 337 IAmb IAmb 03 35 45.2
comp=Z,14nm,0.9s
T25A Trinidad 24.72 337 P 03 35 27.4
baz=152,SNR=10
T56A Rocky Mt 24.88 24 P 03 35 25.0
baz=210
BLO Bloomington 24.95 11 IAmb IAmb 03 35 46.9
comp=Z,13nm,0.7s
S54A Dingess, Beckl 25.08 21 P 03 35 27.0
baz=206
T58A Grand View Acr 25.43 27 P 03 35 29.7
baz=213
P48A Milroy 25.45 13 IAmb IAmb 03 35 30.7
comp=Z,11nm,0.7s
SJG San Juan 25.54 79 LR LR 03 45 21.8
comp=Z,34nm,18.9s,baz=256,slow=36
Q51A Peebles 25.56 17 IAmb IAmb 03 35 32.8
comp=Z,19nm,0.8s
S56A Natural Bridge 25.62 24 P 03 35 31.8
baz=210
P49A Miami Univ. Ec 25.68 14 P 03 35 32.3
baz=198
Q52A Bidwell 25.81 19 IAmb IAmb 03 35 38.6
comp=Z,12nm,0.8s
ATAH Atahualpa 25.84 146 LR LR 03 43 09.4
comp=Z,49nm,20.2s,baz=317,slow=30
R55A Marlinton 25.94 23 P 03 35 34.4
baz=208
S57A Dark Hollow, R 25.95 25 P 03 35 34.6
baz=211
Q53A Leroy 25.96 20 P 03 35 34.9
baz=205
SFIN Lafayette 26.03 10 P 03 35 35.2
baz=192
P51A Williamsport 26.06 17 IAmb IAmb 03 35 39.6
comp=Z,10nm,0.8s
S58A Poland Farm, P 26.20 27 P 03 35 36.4
baz=213
S22A 4UR Ranch, Cre 26.22 334 P 03 35 40.5
baz=148,SNR=8.8
R56A Bull Pasture M 26.32 24 P 03 35 37.8
baz=210
O49A Covington 26.39 14 IAmb IAmb 03 35 39.4
comp=Z,10nm,0.9s
T60A Surry 26.41 29 P 03 35 38.3
baz=216
MVCO Mesa Verde 26.54 331 P 03 35 43.9
baz=144,SNR=17
MVCO Mesa Verde 26.54 331 IAmb IAmb 03 35 44.9
comp=Z,21nm,0.9s
R58B Mineral 26.57 27 P 03 35 39.5
baz=213
R57A Stanardsville 26.58 25 P 03 35 39.8
baz=211
S59A Mechanicsville 26.66 28 P 03 35 40.6
baz=214
R58A Rapidan 26.80 26 P 03 35 41.6
baz=212
Q56A Snyder Ridge, 26.95 23 P 03 35 44.0
baz=209
CBN Corbin Frederi 26.99 27 P **P** **03 35 44.9 -0.6**
CBN IAmb IAmb 03 35 45.5
comp=Z,20nm,0.9s
R59A King George, V 27.10 27 P 03 35 45.3
baz=214
PV13 Radium Mtn., P 27.45 331 IAmb IAmb 03 35 53.2
comp=Z,20nm,1.0s
PV02 Paradox Valley 27.45 332 IAmb IAmb 03 35 53.4
comp=Z,20nm,1.2s
SMCO Snowmass 27.49 335 P **P** **03 35 51.6 +1.1**
ISCO Idaho Springs 27.51 338 P 03 35 51.6
baz=152
PV05 Paradox Valley 27.52 331 IAmb IAmb 03 35 53.5
comp=Z,14nm,0.9s
PV03 Paradox Valley 27.54 331 IAmb IAmb 03 35 53.9
comp=Z,16nm,1.0s
PV18 Skein Mesa, Pa 27.56 331 IAmb IAmb 03 36 10.4
comp=Z,18nm,1.0s
PDMCI Parker Dam,Lak 27.59 319 P 03 35 53.2
baz=130
PV04 Paradox Valley 27.68 332 P **P** **03 35 52.8 +0.9**
PV04 IAmb IAmb 03 35 55.1
comp=Z,20nm,1.0s
P57A Homestead Farm 27.80 25 P 03 35 51.5
baz=211
L48A N Adams 28.04 13 IAmb IAmb 03 35 54.0
comp=Z,14nm,0.8s
BC3 Big Chuckawall 28.05 316 P 03 35 57.9
baz=127
O56A Blue Knob Stat 28.26 23 P 03 35 55.4
baz=209
N54A Mcalpine State 28.36 20 P 03 35 55.6
baz=206
O57A Amberson 28.57 24 P 03 35 57.8
baz=211
M53A WI Miller and 28.57 19 P 03 35 57.9
baz=204
PFO Pinyon Flats O 28.70 315 LR LR 03 47 17.1
comp=Z,77nm,19.8s,baz=133,slow=36
O20A White River Ci 28.82 335 P 03 36 03.6
baz=147
GMRC Granite Mounta 28.87 318 P 03 36 04.8
baz=128
P60A Greenville 29.08 27 P 03 36 02.3
baz=215
ECSD EROS Data Cent 29.15 354 P 03 36 04.1
baz=172
P17A Butcher Ranch, 29.40 331 IAmb IAmb 03 36 10.2
comp=Z,8.2nm,0.9s
M56A Emporium 29.46 22 P 03 36 05.9
baz=209

M58A Price's Panora 30.03 25 P 03 36 10.7
baz=212
MPU Maple Canyon 30.25 330 P **P** **03 36 16.2 +1.5**
MPU IAmb IAmb 03 36 34.2
comp=Z,6.1nm,0.9s
L57A Andrews Acres 30.41 23 P 03 36 13.7
baz=211
M59A Waymart 30.59 26 P 03 36 15.9
baz=214
M60A Port Jervis 30.76 27 P 03 36 17.3
baz=215
PAL Palisades 30.82 28 P 03 36 17.9
baz=217
MPMC Manual Prospec 30.83 318 P 03 36 22.0
baz=128
K56A Middlesex 30.83 22 P 03 36 18.0
baz=210
L58A Harry Jones Me 30.84 25 P 03 36 17.9
baz=213
BINY Binghamton 30.91 24 P 03 36 18.6
baz=212
TCUT Toone Canyon 31.02 332 IAmb IAmb 03 36 40.6
comp=Z,10nm,1.0s
M61A Granite Spring 31.13 28 P 03 36 20.3
baz=217
K57A Scipio Center 31.16 23 P 03 36 20.7
baz=211
L59A Walton 31.29 25 P 03 36 22.0
baz=214
J56A Wolcott 31.50 22 P 03 36 23.5
baz=210,SNR=6.1
K58A Earlville 31.52 24 P 03 36 24.1
baz=212
BW06 Boulder Array 31.57 336 P 03 36 27.3
baz=147
PDAR Pinedale Array 31.57 336 P **P** **03 36 27.1 +0.9**
comp=Z,1.0nm,0.9s,baz=117,slow=8.6,SNR=5.3
PDAR PcP **PcP** **03 39 17.7 +0.4**
comp=Z,0.4nm,0.6s,baz=157,slow=4.9,SNR=3.1
J57A Williamstown 31.94 23 P 03 36 27.5
baz=211
H53A Bobcaygeon 32.06 19 P 03 36 28.7
baz=206
SADO Sadowa 32.06 18 P **P** **03 36 30.1 -0.2**
comp=Z,3.4nm,0.7s,baz=241,slow=4.6,SNR=3.8
SADO Sadowa 32.06 18 IAmb IAmb 03 36 30.2
comp=Z,15nm,1.4s
HVU Hansel Valley 32.17 331 IAmb IAmb 03 36 34.6
comp=Z,7.7nm,0.9s
I58A Old Forge 32.57 24 P 03 36 33.0
baz=213,SNR=5.1
LOHW Long Hollow 32.70 335 IAmb IAmb 03 36 38.5
comp=Z,5.2nm,1.0s
NV11 Mina Array Sit 32.71 321 P **P** **03 36 38.2 +2.0**
NV11 IAmb IAmb 03 36 57.6
comp=Z,9.9nm,1.2s
NVAR Mina Array Bea 32.80 321 P **P** **03 36 39.4 +2.3**
comp=Z,3.6nm,0.8s,baz=134,slow=8.3,SNR=36
NVAR pP **pP** **03 36 55.8 +1.2**
comp=Z,3.8nm,0.8s,baz=136,slow=8.4,SNR=7.8
NVAR PcP **PcP** **03 39 21.9 +1.1**
comp=Z,1.1nm,0.8s,baz=154,slow=2.5,SNR=6.5
J60A Lant Hill Farm 32.84 26 P 03 36 36.0
baz=216
G54A Lake Saint Pet 32.95 19 P 03 36 36.4
baz=206
RYN Ryan 33.06 321 IAmb IAmb 03 36 59.7
comp=Z,8.5nm,1.4s
ALGO Algonquin Park 33.46 18 P 03 36 40.4
baz=206
H58A Gabriels 33.49 24 P 03 36 40.4
baz=213
LONY Lake Ozonia 33.50 24 P 03 36 40.7
baz=213
YNE Yellowstone No 33.64 337 IAmb IAmb 03 37 04.1
comp=Z,9.0nm,1.4s
HLID Hailey 34.31 331 IAmb IAmb 03 36 54.9
comp=Z,6.0nm,0.8s
HLID Hailey 34.31 331 P 03 36 51.9
baz=140
BEKR Beckworth 34.94 321 P **P** **03 36 57.5 +1.8**
DLMT Dillon 34.95 335 IAmb IAmb 03 36 59.3
comp=Z,11nm,1.4s
E56A St. Veronique 34.98 21 P 03 36 53.9
baz=210
DGMT Dagmar 35.02 346 P 03 36 56.4
baz=160
D55A Sainte-Anne-du 35.24 20 P 03 36 56.0
baz=209
ULM Lac du Bonnet 35.56 356 P **P** **03 36 59.0 -1.5**
comp=Z,1.4nm,0.8s,baz=192,slow=9.6,SNR=3.2
ULM PcP **PcP** **03 39 27.9 -0.2**
comp=Z,1.0nm,0.4s,baz=194,slow=2.9,SNR=5.3
ULM LR LR 03 52 56.9
comp=Z,52nm,18.9s,baz=178,slow=38
WVOR Wild Horse Val 35.62 326 IAmb IAmb 03 37 20.7
comp=Z,12nm,1.4s
PTGA Pitinga 35.69 113 P **P** **03 37 00.0 -2.1**
comp=Z,1.3nm,0.3s,baz=315,slow=8.1,SNR=4.2
MOD Modoc Plateau 36.20 324 IAmb IAmb 03 37 08.7
comp=Z,8.3nm,1.4s
D58A Chemin du LacG 36.23 23 P 03 37 04.5
baz=213
BMO Blue Mountains 36.66 330 IAmb IAmb 03 37 11.9
comp=Z,6.9nm,1.1s
D60A Saint Jean D'O 36.84 25 P 03 37 09.1
baz=216
MATQ Matagami 37.03 16 P 03 37 10.6
baz=204
I07A Izee 37.21 327 IAmb IAmb 03 37 18.8
comp=Z,5.3nm,1.1s
D61A St Aubert, Com 37.38 25 P 03 37 14.4
baz=217
SAML Samuel 37.41 127 P **P** **03 37 15.3 -1.4**
SAML IAmb IAmb 03 37 33.8
comp=Z,7.0nm,1.1s
G08A Pilot Rock 37.78 329 IAmb IAmb 03 37 37.2
comp=Z,8.1nm,1.5s
PINE Pine Mountain 37.78 326 IAmb IAmb 03 37 23.3
comp=Z,5.4nm,1.0s
J04D Umpqua Nationa 38.08 324 P 03 37 24.5
baz=129
E09A Wood Farm, Sta 38.28 331 IAmb IAmb 03 37 26.3
comp=Z,6.5nm,0.9s
I04A Tendick Farm, 38.60 325 P 03 37 29.0
baz=130
K02D Willamette Mer 38.64 322 P 03 37 29.9
baz=127
I03D Drain, OR 39.06 324 P 03 37 31.6
baz=128
LPAZ La Paz 39.11 141 P **P** **03 37 30.1 -1.5**
comp=Z,0.7nm,0.6s,baz=304,slow=11,SNR=2.5
F05D White Salmon 39.46 328 P 03 37 35.7
baz=133
B08A Colville Reser 40.18 332 P **P** **03 37 40.0 +0.4**
LON Longmire 40.22 329 P **P** **03 37 41.0 +1.1**
LON IAmb IAmb 03 37 46.1
comp=Z,7.8nm,1.1s
B05A Bryant 41.40 330 P 03 37 50.1
baz=134
A04D Lummi Island 42.01 330 P 03 37 56.0
baz=134
SIV San Ignacio 43.55 133 P **P** **03 38 05.9 -1.5**
comp=Z,1.3nm,0.8s,baz=278,slow=7.9,SNR=6.2
SIV pP **pP** **03 38 24.3 -1.2**
comp=Z,9.8nm,0.9s,baz=322,slow=7.4,SNR=18
YKA Yellowknife Ar 50.23 347 P **P** **03 38 58.3 -0.5**
comp=Z,4.4nm,0.8s,baz=148,slow=7.9,SNR=51
YKA PcP **PcP** **03 40 16.5 -0.3**
comp=Z,0.5nm,0.7s,baz=142,slow=3.9,SNR=5.9
BDFB Brasilia 53.34 123 P **P** **03 39 21.1 -1.6**
comp=Z,6.1nm,1.0s,baz=171,slow=8.6,SNR=5.3
BDFB Brasilia 53.34 123 IAmb IAmb 03 39 22.9
comp=Z,6.7nm,0.9s
NRS Narsarsuaq 57.34 25 P **P** **03 39 52.3 +1.6**
C36M Paulatuk 58.10 347 P 03 39 55.8
baz=144
PLCA Paso Flores 58.80 161 P **P** **03 39 60.0 -1.3**
comp=Z,1.8nm,0.8s,baz=24,slow=15,SNR=2.9
MCARA McCarthy VSAT 58.84 334 P 03 40 02.9
baz=119
BCAR Beaver Creek A 59.19 336 P **P** **03 40 04.6 +0.9**
L27K Beaver Creek, 59.21 336 P 03 40 05.2
baz=122
N25K Chitina, Valde 59.61 334 P 03 40 07.8
baz=118
INK Inuvik 59.63 344 P **P** **03 40 07.1 +0.6**
comp=Z,9.0nm,0.7s,baz=123,slow=6.5,SNR=37

EGAK	Eagle	59.87	338	P	P	03 40 08.4 +0.1
EGAK	Eagle	59.87	338	P		03 40 08.7
	baz=123					
RES	Resolute Bay	60.00	359	LR	LR	04 07 25.8
	comp=Z,44nm,21.0s,baz=116,slow=37					
KLU	Klutina	60.12	334	P		03 40 11.2
	baz=116					
SCRK	Sand Creek	60.51	337	P	P	03 40 13.6 +0.8
SCRK				IAmb	IAmb	03 40 15.3
	comp=Z,5.2nm,1.1s					
SCRK	Sand Creek	60.51	337	P		03 40 14.0
	baz=120					
PAX	Paxson	60.61	335	P		03 40 14.1
	baz=118					
WAT6	Susitna Watana	61.37	334	P		03 40 19.3
	baz=115,SNR=5.2					
PRP	Porcupine Dome	61.84	338	P		03 40 22.4
	baz=119,SNR=11					
HDA	Harding Lake	61.85	336	P		03 40 22.5
	baz=117					
HDA				P		03 40 22.5
	baz=117					
WAT2	Susitna Watana	61.88	335	P		03 40 22.8
	baz=115,SNR=7.6					
ILAR	Eielson Array	61.99	337	P	P	03 40 23.1 +0.4
	comp=Z,4.9nm,0.9s,baz=127,slow=5.0,SNR=44					
ILAR				pP	pP	03 40 40.5 -1.2
	comp=Z,1.4nm,1.0s,baz=129,slow=4.7,SNR=3.3					
ILAR				PcP	PcP	03 41 00.3 -2.2
	comp=Z,2.0nm,1.1s,baz=130,slow=3.6,SNR=4.7					
ILAR	Eielson Array	61.99	337	P	P	03 40 22.7 0.0
RND	Reindeer	62.18	335	P	P	03 40 25.0 +1.0
SUA	Susitna One	62.23	333	P		03 40 25.0
	baz=112					
MCK	McKinley	62.35	335	P		03 40 25.6
	baz=115					
BMAR	Burnt Mountain	62.46	340	P	P	03 40 26.4 +0.6
SKT	Skwentna	62.76	333	P		03 40 28.8
	baz=111					
TRF	Thorofare Moun	62.79	335	P		03 40 28.7
	baz=113					
I23K	Minto, Yukon-K	63.11	337	P		03 40 30.8
	baz=115,SNR=11					
BPAW	Bear Paw Mtn.	63.33	335	IAmb	IAmb	03 40 32.5
	comp=Z,7.0nm,1.2s					
BPAW	Bear Paw Mtn.	63.33	335	P		03 40 32.0
	baz=113					
PPLA	Purkeypile	63.38	334	P		03 40 31.8
	baz=111					
MLY	Manley	63.59	336	P		03 40 33.8
	baz=113,SNR=10					
CHUM	Lake Minchumin	63.79	335	P		03 40 35.5
	baz=111					
COLD	Coldfoot	64.29	339	P		03 40 39.1
	baz=115,SNR=8.2					
TOLK	Toolik Lake Re	64.69	340	IAmb	IAmb	03 40 42.4
	comp=Z,6.7nm,0.8s					
TOLK	Toolik Lake Re	64.69	340	P		03 40 41.4
	baz=116,SNR=7.4					
RDOG	Red Dog Mine	69.15	338	IAmb	IAmb	03 41 10.5
	comp=Z,6.7nm,1.1s					
RDOG	Red Dog Mine	69.15	338	P		03 41 09.0
	baz=103					
ESDC	Sonseca Array	79.70	52	LR	LR	04 11 08.6
	comp=Z,30nm,21.2s,baz=275,slow=31					
BILL	Billibino	80.62	338	P	P	03 42 15.6 +0.7
NOA	NORSAR Array B	83.79	28	LR	LR	04 18 13.1
	comp=Z,28nm,21.6s,baz=285,slow=34					
ARCES	ARCESS Array B	85.64	18	LR	LR	04 20 24.1
	comp=Z,29nm,21.8s,baz=330,slow=35					
SEY	Seymchan	87.90	336	P	P	03 42 52.4 +0.6
	comp=Z,2.3nm,0.6s,baz=85,slow=5.5,SNR=9.5					
GERES	GERESS Array B	89.40	39	P	P	03 42 59.8 +0.5
TIXI	Tiksi	89.47	348	P	P	03 42 58.5 -0.5
	comp=Z,2.9nm,0.7s,baz=20,slow=5.3,SNR=11					
TIXI	Tiksi	89.47	348	P	P	03 42 58.8 -0.2
FINES	FINESS Array B	90.09	25	LR	LR	04 26 29.7
	comp=Z,17nm,18.4s,baz=293,slow=38					
MKAR	Makanchi Array	118.62	4	PKP	PKPdf	03 48 49.3 -0.9
	comp=Z,0.2nm,0.8s,baz=41,slow=3.9,SNR=3.5					
BOSA	Boshof	121.13	115	PKP	PKPdf	03 48 54.3 -1.3
	comp=Z,1.9nm,0.8s,baz=193,slow=5.6,SNR=3.5					
WRA	Warramunga Arr	135.05	256	PKP	PKiKP	03 49 23.0 -0.7
	comp=Z,0.2nm,0.7s,baz=82,slow=2.7,SNR=1.3					
ASAR	Alice Springs	135.39	251	PKP	PKiKP	03 49 24.8 +0.4
	comp=Z,0.4nm,0.8s,baz=131,slow=2.6,SNR=2.6					
CM31	Chiang Mai Arr	145.16	341	PKPbc	PKPdf	03 49 41.1 +0.5
CMAR	Chiang Mai Arr	145.16	341	PKPbc	PKPdf	03 49 40.5 -0.1
	comp=Z,2.6nm,0.6s,baz=338,slow=3.7,SNR=17					
CMAR				pPKPbc	pPKPab	03 49 58.8 -1.9
	comp=Z,1.3nm,0.3s,baz=340,slow=3.7,SNR=2.7					
CMAR	Chiang Mai Arr	145.16	341		PKPdf	03 49 40.3 -0.2

*IDC **20** 04:09:37.3±2.9, 19°.49S×177°.94W, h541km±21km, mb3.5/3, mb1 3.7/3, mb1mx3.0/33, mbtmp4.5/3, Error ellipse: s-maj=79.8km s-min=24.5km az=148.0*

ISC 20 04:09:35.9±2.2, 19°.5S±0°.4×177.7W±0°.3, h550km, n6, σ0§66/7, mb4.2/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.42	293	P	P	04 11 00.9	-0.2
	1.2nm,0.3s,baz=94,slow=23,SNR=5.2						
STKA	Stephens Creek	38.47	243	P	P	04 16 10.7	-0.5
	1.5nm,0.8s,baz=89,slow=10,SNR=4.8						
ASAR	Alice Springs	45.02	256	P	P	04 17 03.5	+0.4
	6.6nm,0.5s,baz=92,slow=7.5,SNR=109						
ASAR				S	S	04 23 02.5	+0.5
	0.4nm,0.8s,baz=97,slow=14,SNR=4.4						
WRA	Warramunga Arr	45.02	261	P	P	04 17 03.0	0.0
	2.7nm,0.3s,baz=96,slow=7.6,SNR=69						
BRTR	Keskin Array B	146.40	314	PKPbc	PKiKP	04 28 17.5	-0.6
	0.4nm,0.6s,baz=30,slow=3.3,SNR=4.5						
GERES	GERESS Array B	149.36	345	PKPbc	PKiKP	04 28 24.7	+0.9
	0.4nm,0.5s,baz=29,slow=3.0,SNR=4.8						

*IDC **20** 04:10:05.2±0.7, 57°.90S×25°.60W, h59km±5km, mb4.0/8, mb1 4.1/9, mb1mx3.8/33, mbtmp4.3/9, MS3.5/7, Ms1 3.5/7, ms1mx3.3/23, Error ellipse: s-maj=24.5km s-min=17.9km az=70.0*

*NEIC **20** 04:10:06.0±1.2, 57°.9S±0°.1×25°.7W±0°.3, h67km±6km, mb4.3/15, Error ellipse: s-maj=24.6km s-min=17.2km az=69.0*

ISC 20 04:10:05.5±0.7, 57°.98S±0°.08×25°.5W±0°.2, h66km±6km, h66km:pP-P, n52, σ1§48/48, mb4.3/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	14.66	157	P	Pn	04 13 29.9	+1.0
VNA3	Neumayer Olymp	14.86	160	P	Pn	04 13 32.1	+0.5
VNA3				S	Sn	04 16 02.0	-13
VNA2	Neumayer--Watz	15.06	157	P	Pn	04 13 35.8	+1.7
	baz=319,slow=15						
SNAA	Sanae	16.61	155	P	P	04 13 56.4	+1.2
SNAA				S	Sn	04 16 49.4	-7.7
SNAA	Sanae	16.61	155	P	Pn	04 13 55.6	+1.9
	1.1nm,0.3s,baz=325,slow=18,SNR=22						
SNAA				S	Sn	04 16 48.3	-8.7
	0.3nm,0.3s,baz=208,slow=16,SNR=2.0						
SNAA				LR	LR	04 18 36.6	
	comp=Z,158nm,18.8s,baz=6.0,slow=31						
SNAA	Sanae	16.61	155	P	P	04 13 56.4	+1.2
SNAA				IAmb	IAmb	04 14 16.9	
	comp=Z,26nm,1.5s						
PMSA	Palmer Station	19.39	233	LR	LR	04 20 44.0	
	comp=Z,187nm,19.0s,baz=132,slow=33						
BELA	Belgrano 2	20.23	186	P	P	04 14 35.3	+0.7
QSPA	South Pole Qui	32.27	180	P	P	04 16 29.2	+1.7
PLCA	Paso Flores	33.25	281	P	P	04 16 35.8	-0.4
	comp=Z,3.6nm,1.0s,baz=136,slow=4.3,SNR=3.9						
PLCA				LR	LR	04 29 16.8	
	comp=Z,66nm,19.1s,baz=177,slow=35						
PLCA	Paso Flores	33.25	281	IAmb	IAmb	04 16 41.1	
	comp=Z,2.0nm,0.8s						
CPUP	Villa Florida	38.77	311	P	P	04 17 22.6	-0.8
	comp=Z,2.9nm,1.0s,baz=166,slow=10,SNR=4.1						
CPUP				LR	LR	04 35 28.0	
	comp=Z,25nm,18.6s,baz=185,slow=39						
CPUP	Villa Florida	38.77	311	IAmb	IAmb	04 17 49.3	
	comp=Z,4.3nm,1.2s						
VNDA	Vanda	44.68	182	P	P	04 18 12.7	+1.6
	comp=Z,2.7nm,0.8s,baz=191,slow=5.5,SNR=12						
VNDA	Vanda	44.68	182	P	P	04 18 12.8	+1.7
VNDA				IAmb	IAmb	04 18 14.4	
	comp=Z,4.7nm,0.9s						
BDFB	Brasilia	45.49	329	P	P	04 18 18.2	0.0
	comp=Z,3.1nm,0.7s,baz=177,slow=5.7,SNR=7.1						
BDFB	Brasilia	45.49	329	IAmb	IAmb	04 18 20.8	
	comp=Z,4.4nm,1.0s						
BOSA	Boshof	45.63	72	LR	LR	04 33 03.8	
	comp=Z,77nm,21.2s,baz=156,slow=30						
H10S2	ASCENSION HYDR	49.62	14	T	T	05 13 26.9	
	baz=33,slow=74,SNR=4.3						
H10S3	ASCENSION HYDR	49.63	14	T	T	05 13 26.8	
	baz=187,slow=74,SNR=5.9						
H10N1	ASCENSION HYDR	50.74	14	T	T	05 14 52.2	
	baz=188,slow=75,SNR=5.0						
H10N3	ASCENSION HYDR	50.74	14	T	T	05 14 50.4	
	baz=188,slow=75,SNR=10						
H10N2	ASCENSION HYDR	50.76	14	T	T	05 14 51.6	
	baz=188,slow=75,SNR=5.6						
LPAZ	La Paz	52.23	305	P	P	04 19 09.8	-0.6
	comp=Z,1.2nm,0.8s,baz=141,slow=4.6,SNR=6.1						
SAML	Samuel	56.80	314	P	P	04 19 41.9	-1.0
SAML				IAmb	IAmb	04 19 44.2	
	comp=Z,2.5nm,0.6s						
DBIC	Dimbokro	66.58	22	P	P	04 20 48.2	-0.3
	comp=Z,4.6nm,0.9s,baz=166,slow=10,SNR=5.2						
DBIC				pP	pP	04 21 05.4	+0.6
	comp=Z,3.0nm,0.7s,baz=145,slow=4.8,SNR=3.6						
DBIC				LR	LR	04 42 04.3	
	comp=Z,48nm,21.6s,baz=168,slow=29						
DBIC	Dimbokro	66.58	22	IAmb	IAmb	04 21 04.9	
	comp=Z,9.8nm,1.3s						
TOA0	Torodi Ar. Sit	74.32	28	P	P	04 21 36.5	+0.8
TOA0				pP	pP	04 21 52.8	+0.5
TORD	Torodi Ar. Bea	74.32	28	P	P	04 21 36.0	+0.4
	comp=Z,3.0nm,0.8s,baz=199,slow=5.5,SNR=12						
TORD				pP	pP	04 21 52.5	+0.3
	comp=Z,5.0nm,0.9s,baz=198,slow=4.9,SNR=9.5						
TORD	Torodi Ar. Bea	74.32	28	P	P	04 21 36.2	+0.5
TORD				pP	pP	04 21 53.2	+1.0
TORD				IAmb	IAmb	04 21 54.3	
	comp=Z,6.6nm,1.1s						
KOWA	Kowa	74.36	22	P	P	04 21 36.0	+0.1
KOWA				IAmb	IAmb	04 21 54.8	
	comp=Z,5.0nm,1.1s						
KMBO	Kilima Mbogo	74.92	67	LR	LR	04 50 44.9	
	comp=Z,43nm,21.6s,baz=128,slow=33						
CSGN	Cosiguina Volc	86.86	300	P	P	04 22 41.7	-1.1
ASAR	Alice Springs	96.87	161	P	P	04 23 29.0	-0.3
	comp=Z,1.1nm,0.8s,baz=194,slow=4.1,SNR=9.1						
AS31	Alice Springs	96.87	161	P	P	04 23 28.5	-0.8
AS31				IAmb	IAmb	04 23 55.9	
	comp=Z,0.9nm,1.2s						
PDAR	Pinedale Array	122.12	300	PKP	PKPdf	04 28 52.0	+0.1
	comp=Z,0.4nm,0.7s,baz=132,slow=8.2,SNR=4.5						
NVAR	Mina Array Bea	122.96	291	PKP	PKiKP	04 28 54.8	+0.8
	comp=Z,0.4nm,0.7s,baz=125,slow=5.1,SNR=4.1						
FINES	FINESS Array B	125.67	28	PKP	PKiKP	04 28 58.4	+0.2
	comp=Z,0.6nm,0.7s,baz=270,slow=3.8,SNR=3.7						
FINES				pPKP	pPKPdf	04 29 15.1	-0.5
	comp=Z,1.7nm,0.5s,baz=146,slow=3.7,SNR=3.2						
KKAR	Karatay Array	128.12	68	PKPdf	PKPdf	04 29 03.6	+0.5
MKAR	Makanchi Array	136.63	72	PKP	PKPdf	04 29 19.3	+0.3
	comp=Z,0.3nm,0.7s,baz=278,slow=2.2,SNR=3.0						
YKA	Yellowknife Ar	138.20	316	PKP	PKPdf	04 29 21.8	+0.4
	comp=Z,2.8nm,1.0s,baz=124,slow=2.8,SNR=19						
YKA				pPKP	pPKPdf	04 29 39.0	-0.4
	comp=Z,2.9nm,0.7s,baz=123,slow=2.9,SNR=14						
ZALV	Zalesovo Beam	142.38	65	PKP	PKPdf	04 29 26.9	-2.4
	comp=Z,0.4nm,0.4s,baz=126,slow=2.0,SNR=1.9						
SKAG	Skagway	145.06	303	PKPdf	PKiKP	04 29 36.4	-1.2
INK	Inuvik	147.86	318	PKPbc	PKPbc	04 29 41.5	+0.2
EPYK	Eagle Plains	148.44	314	PKPbc	PKPbc	04 29 43.3	+0.3
DAWY	Dawson	148.74	309	PKPbc	PKPbc	04 29 43.3	-0.5
BCAR	Beaver Creek A	149.40	307	PKPbc	PKPbc	04 29 45.8	+0.3
L27K	Beaver Creek,	149.41	307	PKPbc	PKPbc	04 29 45.5	0.0
K27K	Chicken	149.84	308	PKPbc	PKiKP	04 29 47.3	-0.1
SONM	Songino Array	149.91	89	PKPbc	PKPbc	04 29 47.2	-0.1
	comp=Z,2.3nm,0.7s,baz=216,slow=4.3,SNR=10						
SONM				pPKPbc	pPKPbc	04 30 04.1	-0.9
	comp=Z,2.8nm,0.5s,baz=223,slow=3.6,SNR=9.6						
ILAR	Eielson Array	152.06	309	PKPbc	PKiKP	04 29 52.1	+0.2
	comp=Z,12nm,1.0s,baz=141,slow=2.1,SNR=60						
ILAR	Eielson Array	152.06	309		PKPbc	04 29 51.8	+0.2

IDC 20 04:17:49.6±45.0, 17°.01S×174°.58W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/35, mbtmp4.2/3, Error ellipse: s-maj=846.4km s-min=173.0km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	42.26	241	P	P	04 25 46.8	+1.8
	1.3nm,0.4s,baz=98,slow=7.7,SNR=4.1						
WRA	Warramunga Arr	48.39	258	P	P	04 26 32.3	-1.6
	0.7nm,0.5s,baz=100,slow=8.0,SNR=7.0						
ASAR	Alice Springs	48.55	253	P	P	04 26 34.8	-0.3
	4.7nm,0.5s,baz=88,slow=8.5,SNR=81						

WEL 20 04:23:40.4±0.6, 32°S±8°×18°0E±1°8, h33km, M4.7/22, mB5.3/15, ML5.0/22, MLv4.8/22, Mw(mB)4.7/15, Error ellipse: s-maj=0.0km s-min=0.0km az=111.9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	3.79	32	P	Pn	04 24 36.4	0.0
GLKZ				S	Sn	04 25 18.2	-1.7
MXZ	Matakaoa Point	5.19	193	P	Pn	04 24 56.9	+1.2
MXZ				S	Sn	04 25 58.0	+3.5
WMGZ	Waiomatatini S	5.42	191	P	Pn	04 25 00.8	+1.9
WMGZ				S	Sn	04 26 03.7	+3.5
HAZ	Te Kaha	5.49	197	P	Pn	04 25 01.5	+1.6
HAZ				S	Sn	04 26 04.3	+2.5
PKGZ	Pakihiroa	5.55	194	P	Pn	04 25 02.5	+1.8
PKGZ				S	Sn	04 26 03.6	+0.2
PUZ	Puketiti	5.70	192	P	Pn	04 25 03.6	+0.9
PUZ				S	Sn	04 26 08.2	+1.2
RUGZ	Raukumara Rang	5.72	197	P	Pn	04 25 03.9	+0.9
RUGZ				S	Sn	04 26 07.2	-0.4
WHRZ	Whale Island	5.81	202	P	Pn	04 25 07.3	+3.0
TWGZ	Tauwhareparae	5.85	194	P	Pn	04 25 06.2	+1.4
TWGZ				S	Sn	04 26 12.9	+2.1
OPRZ	Ohinepanea	5.95	205	P	Pn	04 25 08.6	+2.5
MWZ	Matawai	6.10	197	P	Pn	04 25 07.6	-0.7
MWZ				S	Sn	04 26 16.9	-0.1
CNGZ	Carnagh Statio	6.11	192	P	Pn	04 25 09.5	+1.2
EDRZ	Edgecumbe	6.12	203	P	Pn	04 25 10.0	+1.5
TKGZ	Te Karaka	6.13	194	P	Pn	04 25 08.5	-0.1
TKGZ				S	Sn	04 26 17.8	+0.2
URZ	Urewera	6.14	200	P	Pn	04 25 08.6	-0.2
URZ				S	Sn	04 26 15.3	-2.6
RAGZ	Rawiri	6.29	197	P	Pn	04 25 10.9	+0.1
RAGZ				S	Sn	04 26 21.9	+0.4
TARZ	Mount Tarawera	6.32	204	P	Pn	04 25 13.9	+2.6
RIGZ	Rimuhau	6.41	194	P	Pn	04 25 11.8	-0.6
MUGZ	Murupara	6.45	201	P	Pn	04 25 11.9	-1.1
MUGZ				S	Sn	04 26 23.8	-1.6
RTZ	Ruatahuna	6.51	200	P	Pn	04 25 12.0	-2.0
RTZ				S	Sn	04 26 26.0	-1.1
SNGZ	Shannon Statio	6.58	197	P	Pn	04 25 14.2	-0.5
SNGZ				S	Sn	04 26 27.8	-0.7
PRRZ	Plateau Road	6.59	204	P	Pn	04 25 15.4	+0.5
PRGZ	Paritu Road	6.59	193	P	Pn	04 25 15.1	+0.2
PRGZ				S	Sn	04 26 29.2	+0.2
ALRZ	Allen Road	6.66	204	P	Pn	04 25 16.0	0.0
KNZ	Kokohu	6.73	194	P	Pn	04 25 15.9	-0.9
RAHZ	Arahi	6.77	198	P	Pn	04 25 16.0	-1.3
RAHZ				S	Sn	04 26 31.8	-1.5
TLZ	Tolley Road	6.77	209	P	Pn	04 25 19.5	+2.2
MTHZ	Maungataniwha	6.77	200	P	Pn	04 25 16.3	-1.2
MTHZ				S	Sn	04 26 32.9	-0.6
KUTZ	Kaahu Road	6.79	207	P	Pn	04 25 18.0	+0.3
MHGZ	Mahia Peninsul	6.81	192	P	Pn	04 25 16.8	-1.2
WHHZ	Waihua	6.88	197	P	Pn	04 25 17.6	-1.3
WHHZ				S	Sn	04 26 35.1	-1.0
MRHZ	Matea Rd	6.88	202	P	Pn	04 25 17.8	-1.2
MRHZ				S	Sn	04 26 38.3	+2.0
NMHZ	Naumai	7.01	199	P	Pn	04 25 19.0	-1.8
WATZ	Wairara	7.01	207	P	Pn	04 25 21.0	+0.2
HATZ	Hinemaiaia	7.04	204	P	Pn	04 25 19.8	-1.4
ARHZ	Aropaoanui	7.12	198	P	Pn	04 25 20.4	-1.8
RATZ	Rangitukua	7.14	206	P	Pn	04 25 22.0	-0.4
BKZ	Black Stump Fm	7.17	201	P	Pn	04 25 19.0	-3.8
RITZ	Rihia Road	7.20	205	P	Pn	04 25 22.6	-0.8
HIZ	Hauiti	7.21	212	P	Pn	04 25 25.8	+2.3
KATZ	Kakaramea	7.26	206	P	Pn	04 25 23.3	-0.9
MCHZ	McNeill Hill	7.37	199	P	Pn	04 25 23.1	-2.4
TMVZ	Te Maari	7.38	205	P	Pn	04 25 24.2	-1.7
KRVZ	Karewarewa	7.39	206	P	Pn	04 25 24.8	-1.1
ETVZ	East Tongariro	7.40	205	P	Pn	04 25 24.1	-2.0
KWHZ	Kaweka Forest	7.42	200	P	Pn	04 25 23.3	-3.1
WTVZ	West Tongariro	7.42	206	P	Pn	04 25 25.2	-1.3
OTVZ	Oturere	7.44	205	P	Pn	04 25 24.2	-2.5
TWVZ	Taurewa	7.44	207	P	Pn	04 25 25.5	-1.2
NGZ	Ngauruhoe	7.47	206	P	Pn	04 25 25.6	-1.6
TUVZ	Tukino	7.54	205	P	Pn	04 25 25.8	-2.2
FWVZ	Far West T-bar	7.56	206	P	Pn	04 25 26.5	-2.0
BHHZ	Black Hill Sta	7.59	202	P	Pn	04 25 25.4	-3.4
WNVZ	Wahianoa	7.61	205	P	Pn	04 25 26.6	-2.5
MOVZ	Moawhango	7.62	204	P	Pn	04 25 26.0	-3.2
KAHZ	Kahuranaki	7.65	197	P	Pn	04 25 25.9	-3.6
PKVZ	Pokaka	7.67	207	P	Pn	04 25 28.0	-1.8
MTVZ	Mangateitei	7.70	206	P	Pn	04 25 28.2	-2.0
PXZ	Pawanui	7.88	196	P	Pn	04 25 28.5	-4.1
PNHZ	Pukenui	7.94	200	P	Pn	04 25 29.4	-4.1
PRHZ	Porangahau	8.15	197	P	Pn	04 25 31.6	-4.7
PKE	Pukeiti	8.16	213	P	Pn	04 25 37.0	+0.5
KHEZ	Kahui Hut	8.23	213	P	Pn	04 25 37.6	+0.1
ANWZ	Angora Road	8.38	198	P	Pn	04 25 35.0	-4.4
PRWZ	Pori Road	8.60	200	P	Pn	04 25 37.8	-4.7

*DJA **20** 04:29:52.6±0.4, 2°N±3°×12°7E±°, h126km±6km, M4.5/14, mb4.9/8, mB5.0/6, MLv4.5/14, Mw(mB)4.3/6*

*IDC **20** 04:29:52.8±3.5, 1°.41N×127°.23E, h129km±32km, mb3.5/7, mb1 3.6/8, mb1mx3.2/58, mbtmp3.8/8, Error ellipse: s-maj=36.3km s-min=12.9km az=76.0*

*NEIC **20** 04:29:53.1±1.6, 1°.4N±0°.1×127°.1E±0°.1, h128km±7km, mb4.2/11, Error ellipse: s-maj=23.0km s-min=13.6km az=222.0*

ISC 20 04:29:52.6±0.7, 1°.43N±0°.05×127°.10E±0°.07, h128km, n42, σ1§30/45, mb3.9/13, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	0.71	158		Pn	04 30 12.9	+0.1
TNTI	Ternate	0.71	158	P	Pn	04 30 14.2	+1.4
SGSI	Sangihe	2.74	325	P	Pn	04 30 34.2	-1.5
SGSI				S	Sn	04 31 06.0	-3.0
KMSI	Cibinong	3.23	255	P	Pn	04 30 42.2	0.0
KMSI				S	Sn	04 31 21.4	+0.9
SANI	Sanana	3.63	198	P	Pn	04 30 46.8	-0.6
SANI				S	Sn	04 31 26.6	-3.3
GTOI	Gorontalo	4.17	259	P	Pn	04 30 56.2	+1.7
GTOI				S	Sn	04 31 43.5	+1.0
NLAI	Namlea	4.64	180	P	Pn	04 31 02.8	+2.0
SWI	Sorong	4.74	119	P	Pn	04 31 03.4	+1.2
LUWI	Luwuk	4.98	240		Pn	04 31 06.2	+0.8
LUWI	Luwuk	4.98	240	P	Pn	04 31 06.2	+0.8
	1.1nm10μm113nm,0.8s						
MRSI	Marisa	5.25	260	P	Pn	04 31 09.1	+0.2
	0.4nm2μm74nm,0.5s						
KCP	Kidapawan	5.89	340	i	eP	04 31 17.3	-0.4
KCP				i	S	04 32 26.8	+2.6
APSI	Ampana	5.93	247	P	Pn	04 31 18.5	+0.4
	0.4nm2μm86nm,0.8s						
TOLI2	Tolitoli	6.33	267		Pn	04 31 23.5	0.0
TTSI	Tana Toraja	8.53	239	P	Pn	04 31 53.2	0.0
	0.5nm1μm111nm,0.6s						
BNSI	Bone	9.08	230	P	Pn	04 32 02.4	+1.8
	646nm67nm,0.7s						
SPSI	Sidrap Palu	9.08	234	P	Pn	04 32 02.2	+1.6
	2μm155nm,0.5s						
KAPI	Kappang	9.74	229	P	Pn	04 32 11.8	+2.3
	12nm,0.3s,baz=22,slow=4.4,SNR=58						
KAPI				S	Sn	04 33 57.1	-0.1
	2.9nm,0.3s,baz=289,slow=22,SNR=4.4						
KAPI	Kappang	9.74	229		Pn	04 32 10.8	+1.2
WSI	Waingapu	12.94	211	P	Pn	04 32 38.5	-13
MTN	Manton Dam	14.73	164		Pn	04 33 13.8	-0.9
FITZ	Fitzroy Crossi	19.46	184	P	P	04 34 09.2	-0.2
	0.2nm,0.3s,baz=6.6,slow=8.4,SNR=6.7						
FITZ	Fitzroy Crossi	19.46	184	IAmb	IAmb	04 34 10.8	
	comp=Z,2.1nm,1.0s						
WB0	Warramunga Arr	22.25	162	P	P	04 34 38.5	-0.7
WB0				IAmb	IAmb	04 34 46.1	
	comp=Z,13nm,0.6s						
WRAB	Tennant Creek	22.39	162	P	P	04 34 40.1	-0.4
WRAB				IAmb	IAmb	04 34 47.8	
	comp=Z,17nm,1.0s						
WRA	Warramunga Arr	22.39	162	P	P	04 34 40.2	-0.4
	comp=Z,5.1nm,0.4s,baz=341,slow=11,SNR=82						
WRA				S	S	04 38 36.4	-1.2
	comp=Z,0.9nm,0.7s,baz=335,slow=20,SNR=4.6						
WB2	Warramunga Arr	22.40	162	P	P	04 34 40.4	-0.3
WB2				IAmb	IAmb	04 34 47.9	
	comp=Z,17nm,0.9s				

comp=Z,9.5nm,0.8s,baz=344,slow=7.4,SNR=2.0
EIDS Eidsvold 29.05 250 P **P** **04 39 38.4 +0.2**
ARMA Armidale 29.75 240 P **P** **04 39 45.4 +1.2**
CTA Charters Tower 33.21 260 P **P** **04 40 13.3 -0.4**
comp=Z,5.3nm,0.6s,baz=87,slow=9.0,SNR=8.5
CTAO Charters Tower 33.21 260 P **P** **04 40 13.4 -0.4**
PMG Port Moresby 34.21 280 P **P** **04 40 23.2 +1.0**
TOO Toolangi 37.00 231 P **P** **04 40 46.2 +1.2**
STKA Stephens Creek 38.43 241 P **P** **04 40 58.0 +1.3**
comp=Z,7.2nm,0.5s,baz=91,slow=10,SNR=30
STKA Stephens Creek 38.43 241 **P** **04 40 57.5 +0.9**
WB2 Warramunga Arr 44.39 260 P **P** **04 41 43.0 -0.8**
WB2 IAmb IAmb 04 41 44.2
comp=Z,4.5nm,0.7s
WRA Warramunga Arr 44.40 260 P **P** **04 41 43.8 -0.1**
comp=Z,2.3nm,0.5s,baz=95,slow=6.9,SNR=74
WRA PcP **PcP** **04 43 16.1 +1.1**
comp=Z,1.3nm,0.7s,baz=91,slow=3.5,SNR=5.5
WRA S **S** **04 47 37.9 +0.5**
comp=Z,0.7nm,0.8s,baz=94,slow=13,SNR=3.7
WRA Warramunga Arr 44.40 260 **P** **04 41 42.9 -1.0**
AS31 Alice Springs 44.56 254 P **P** **04 41 45.5 +0.3**
AS31 IAmb IAmb 04 41 46.1
comp=Z,8.9nm,0.6s
ASAR Alice Springs 44.56 254 P **P** **04 41 45.5 +0.4**
comp=Z,30nm,0.5s,baz=89,slow=8.2,SNR=366
ASAR PcP **PcP** **04 43 16.6 +1.1**
comp=Z,1.4nm,0.4s,baz=100,slow=3.9,SNR=5.5
ASAR ScP **ScP** **04 46 17.2 +4.2**
comp=Z,0.8nm,0.8s,baz=93,slow=4.2,SNR=6.3
ASAR S **S** **04 47 39.4 -0.3**
comp=Z,1.4nm,0.9s,baz=86,slow=15,SNR=10
ASAR Alice Springs 44.56 254 **P** **04 41 44.6 -0.6**
FITZ Fitzroy Crossi 52.79 261 P **P** **04 42 46.6 +0.7**
comp=Z,0.4nm,0.3s,baz=72,slow=6.6,SNR=5.8
MJAR Matsushiro Arr 67.74 323 P **P** **04 44 23.9 -0.2**
comp=Z,6.0nm,0.5s,baz=162,slow=5.8,SNR=11
MJAR Matsushiro Arr 67.74 323 IAmb IAmb 04 44 24.7
comp=Z,2.7nm,0.5s
MAJO Matsushiro 67.74 323 P **P** **04 44 24.1 -0.1**
MAJO IAmb IAmb 04 44 25.0
comp=Z,8.9nm,0.9s
MAT Matsushiro 67.74 323 P **P** **04 44 24.1 -0.1**
JHS Saijyo 69.72 319 P **P** **04 44 36.3 +0.2**
ASAJ Asahikawa 71.14 332 P **P** **04 44 45.8 +1.5**
comp=Z,5.0nm,0.6s,baz=283,slow=17,SNR=2.0
PETK Petropavlovsk- 73.59 345 P **P** **04 44 58.3 +0.1**
comp=Z,6.0nm,0.6s,baz=119,slow=8.2,SNR=11
KSAR Wonju Array Be 74.53 318 P **P** **04 45 04.3 +0.5**
USRK Ussuriysk Ar. 76.45 326 P **P** **04 45 14.3 +0.1**
comp=Z,2.1nm,0.7s,baz=152,slow=3.0,SNR=6.4
USRK Ussuriysk Ar. 76.45 326 P **P** **04 45 14.2 -0.1**
ISA Isabella, Lake 77.97 46 P **P** **04 45 23.7 +0.9**
ISA IAmb IAmb 04 45 25.1
comp=Z,7.2nm,1.0s
CMB Columbia Colle 77.98 43 P **P** **04 45 23.4 +0.6**
MDJ Mudanjiang 78.02 325 P **P** **04 45 23.5 +0.7**
MDJ IAmb IAmb 04 45 25.3
comp=Z,12nm,1.0s
ORV Oroville 78.13 42 P **P** **04 45 24.7 +1.2**
KDAK Kodiak Island 78.43 14 P **P** **04 45 25.1 +0.5**
comp=Z,7.5nm,0.7s,baz=270,slow=8.1,SNR=2.4
YBH Yreka Blue Hor 78.66 39 P **P** **04 45 27.8 +1.4**
HUMO Hull Mountain 79.03 38 P **P** **04 45 29.3 +1.0**
BEKR Beckworth 79.03 42 P **P** **04 45 29.0 +0.5**
BEKR IAmb IAmb 04 45 30.0
comp=Z,4.5nm,0.6s
PNTR Pine Nut 79.08 43 P **P** **04 45 29.8 +0.9**
PNTR IAmb IAmb 04 45 31.1
comp=Z,11nm,0.8s
YERR Yerington 79.26 43 IAmb IAmb 04 45 31.7
comp=Z,8.1nm,0.6s
NVAR Mina Array Bea 79.57 44 P **P** **04 45 31.9 +0.5**
comp=Z,3.8nm,0.8s,baz=225,slow=8.8,SNR=34
NVAR Mina Array Bea 79.57 44 P **P** **04 45 31.6 +0.1**
KLR Kul'dur 79.96 330 P **P** **04 45 33.6 +0.7**
comp=Z,1.1nm,0.7s,baz=291,slow=3.6,SNR=5.0
KVN Kaiserville 80.04 44 P **P** **04 45 34.9 +1.1**
MOD Modoc Plateau 80.22 40 P **P** **04 45 35.1 +0.4**
MOD IAmb IAmb 04 45 36.6
comp=Z,5.9nm,0.7s
K05A Summer Lake 80.33 39 P **P** **04 45 36.4 +1.1**
K05A IAmb IAmb 04 45 37.6
comp=Z,10nm,1.1s
PINE Pine Mountain 80.92 38 P **P** **04 45 39.6 +1.3**
PINE IAmb IAmb 04 45 40.7
comp=Z,7.8nm,0.8s
MA2 Magadan 81.10 345 P **P** **04 45 38.2 -0.4**
comp=Z,4.0nm,0.5s,baz=84,slow=9.9,SNR=4.5
MA2 Magadan 81.10 345 IAmb IAmb 04 45 39.0
comp=Z,4.5nm,0.6s
PRN Pahroc Range 81.23 46 IAmb IAmb 04 45 42.6
comp=Z,6.1nm,0.8s
WVOR Wild Horse Val 81.54 40 IAmb IAmb 04 45 43.6
comp=Z,9.2nm,1.1s
TUC Tucson 81.87 52 P **P** **04 45 44.7 +1.4**
I07A Izee 81.94 39 P **P** **04 45 44.4 +1.0**
I07A IAmb IAmb 04 45 45.6
comp=Z,6.8nm,0.8s
J08A Circle Bar Ran 82.15 40 IAmb IAmb 04 45 46.2
comp=Z,5.9nm,0.8s
SUA Susitna One 82.16 13 IAmb IAmb 04 45 45.3
comp=Z,9.7nm,0.7s
SPR3 Spring Creek 3 82.52 45 P **P** **04 45 47.5 +0.8**
PSUT Pine Spring 82.61 46 P **P** **04 45 48.2 +1.1**
U15A North Rim 82.68 48 IAmb IAmb 04 45 50.3
comp=Z,8.5nm,0.8s
SZCU Shurtz Canyon 82.68 47 IAmb IAmb 04 45 50.7
comp=Z,12nm,1.5s
ELK Elko 82.80 43 P **P** **04 45 48.8 +0.8**
WUAZ Wupatki 82.91 49 P **P** **04 45 50.0 +1.4**
G08A Pilot Rock 82.94 38 IAmb IAmb 04 45 50.4
comp=Z,8.7nm,1.3s
LTY Liberty 83.08 36 IAmb IAmb 04 45 50.5
comp=Z,7.5nm,1.1s
PKCU Pink Cliffs 83.15 47 P **P** **04 45 52.1 +2.2**
PKCU IAmb IAmb 04 45 53.2
comp=Z,8.3nm,1.0s
SCM Sheep Creek Mo 83.26 14 P **P** **04 45 49.8 +0.2**
BMO Blue Mountains 83.67 39 P **P** **04 45 52.3 +0.2**
BMO IAmb IAmb 04 47 16.4
comp=Z,12nm,1.9s
SEY Seymchan 83.69 347 P **P** **04 45 51.9 +0.3**
comp=Z,12nm,0.6s,baz=156,slow=5.2,SNR=34
MFID Camas Ranch 83.81 41 P **P** **04 45 53.9 +1.1**
MFID IAmb IAmb 04 45 54.9
comp=Z,5.7nm,1.1s
D08A Wollman Farm, 83.95 36 IAmb IAmb 04 45 55.2
comp=Z,6.2nm,1.0s
ENH Enshi 84.05 304 P **P** **04 45 55.6 +1.5**
RND Reindeer 84.30 13 P **P** **04 45 54.7 0.0**
F10A Beach Ranch, E 84.33 38 IAmb IAmb 04 45 56.7
comp=Z,9.6nm,1.0s
B08A Colville Reser 84.45 35 IAmb IAmb 04 45 57.0
comp=Z,4.2nm,0.8s
SLVN Son La 85.25 294 P **P** **04 45 59.6 -0.6**
WRH Wood River Hil 85.39 13 IAmb IAmb 04 46 01.0
comp=Z,8.1nm,1.0s
DOT Dot Lake 85.60 15 IAmb IAmb 04 46 01.8
comp=Z,4.5nm,0.7s
CCB Clear Creek Bu 85.61 13 IAmb IAmb 04 46 01.2
comp=Z,6.5nm,1.1s
NEW Newport 85.63 36 P **P** **04 46 02.1 +0.7**
comp=Z,2.4nm,0.6s,baz=230,slow=3.5,SNR=8.0
NEW Newport 85.63 36 IAmb IAmb 04 46 02.6
comp=Z,2.8nm,0.7s
IMAR Indian Mountai 85.69 10 P **P** **04 46 01.2 -0.1**
COLA College 85.80 13 P **P** **04 46 01.4 -0.3**
DLBC Dease Lake 85.90 23 P **P** **04 46 02.8 +0.3**
comp=Z,0.9nm,0.7s,baz=226,slow=10,SNR=3.1
IL31 85.91 13 IAmb IAmb 04 46 02.6
comp=Z,2.9nm,0.6s
ILAR Eielson Array 85.91 13 P **P** **04 46 01.6 -0.7**
comp=Z,2.0nm,0.5s,baz=223,slow=5.1,SNR=51
ILAR Eielson Array 85.91 13 P **P** **04 46 01.8 -0.6**
XAN Xi'an 86.05 307 P **P** **04 46 05.4 +1.6**
XAN pmax pmax
comp=Z,10.0nm,1.1s
XAN Xi'an 86.05 307 P **P** **04 46 04.8 +1.1**
XAN IAmb IAmb 04 46 06.3
comp=Z,8.0nm,1.0s
TX32 Lajitas Array 86.18 58 IAmb IAmb 04 46 07.4
comp=Z,5.1nm,0.9s
TXAR Lajitas Array 86.18 58 P **P** **04 46 06.0 +1.5**
comp=Z,3.9nm,0.8s,baz=218,slow=6.0,SNR=46
TXAR Lajitas Array 86.18 58 P **P** **04 46 05.9 +1.3**

ANMO Albuquerque 86.27 52 P **P** **04 46 05.8 +0.8**
ANMO IAmb IAmb 04 46 07.0
comp=Z,5.5nm,1.4s
BILL Bilibino 86.38 354 P **P** **04 46 04.7 +0.2**
BILL IAmb IAmb 04 46 05.7
comp=Z,4.1nm,0.6s
REDW Red Top Meadow 86.93 43 IAmb IAmb 04 46 10.2
comp=Z,5.3nm,0.9s
SNOW Snow King Moun 87.04 42 IAmb IAmb 04 46 10.4
comp=Z,4.3nm,0.8s
HHC Hu-ho-hao-te 87.08 315 *e*P **P** **04 46 10.8 +2.3**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,220nm,8.5s
LOHW Long Hollow 87.21 42 IAmb IAmb 04 46 10.9
comp=Z,2.8nm,0.8s
FLWY Flagg Ranch 87.37 42 IAmb IAmb 04 46 12.6
comp=Z,5.5nm,0.9s
YHL Hebgen Lake 87.42 41 IAmb IAmb 04 46 13.2
comp=Z,5.2nm,0.9s
COLD Coldfoot 87.43 11 IAmb IAmb 04 46 10.8
comp=Z,3.4nm,0.8s
BW06 Boulder Array 87.50 44 IAmb IAmb 04 46 11.7
comp=Z,2.9nm,0.7s
PD31 Pinedale Array 87.50 44 IAmb IAmb 04 46 11.7
comp=Z,12nm,1.6s
PDAR Pinedale Array 87.50 44 P **P** **04 46 11.2 +0.6**
comp=Z,1.1nm,0.5s,baz=214,slow=3.4,SNR=30
PDAR Pinedale Array 87.50 44 P **P** **04 46 11.1 +0.5**
H17A Grant Village 87.59 42 IAmb IAmb 04 46 14.4
comp=Z,5.5nm,0.9s
LKWY Lake 87.78 42 IAmb IAmb 04 46 15.4
comp=Z,3.5nm,0.8s
YNE Yellowstone No 88.23 41 IAmb IAmb 04 46 16.1
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 88.65 290 P **P** **04 46 17.6 +1.5**
comp=Z,0.9nm,0.3s,baz=108,slow=3.1,SNR=6.6
CMAR Chiang Mai Ar 88.65 290 P **P** **04 46 16.8 +0.6**
BMAR Burnt Mountain 88.68 12 P **P** **04 46 15.1 -0.3**
SNAA Sanae 90.63 179 P **P** **04 46 25.2 +0.7**
VNA3 Neumayer Olymp 90.78 176 P **P** **04 46 26.5 +1.4**
VNA2 Neumayer--Watz 91.22 177 P **P** **04 46 27.1 0.0**
INK Inuvik 91.92 15 P **P** **04 46 30.1 0.0**
comp=Z,2.5nm,0.8s,baz=215,slow=3.8,SNR=11
SONM Songino Array 93.37 319 P **P** **04 46 37.2 -0.3**
comp=Z,0.5nm,0.7s,baz=119,slow=5.2,SNR=3.9
YKA Yellowknife Ar 94.41 25 P **P** **04 46 41.8 +0.2**
comp=Z,1.9nm,0.8s,baz=240,slow=4.3,SNR=20
ZALV Zalesovo Beam 108.06 322 PKiKP **PKiKP** **04 51 44.3 -1.5**
comp=Z,0.8nm,0.6s,baz=340,slow=1.5,SNR=4.2
MKAR Makanchi Array 108.94 314 PKiKP **PKiKP** **04 51 47.7 -0.1**
comp=Z,0.9nm,0.5s,baz=86,slow=2.5,SNR=23
MKAR Makanchi Array 108.94 314 **PKiKP** **04 51 47.5 -0.2**
KURK Kurchatov 111.64 318 **PKiKP** **04 51 52.5 -0.1**
KURBB Kurchatov Arra 111.69 318 PKiKP **PKiKP** **04 51 52.5 -0.2**
comp=Z,1.1nm,0.6s,baz=88,slow=1.9,SNR=12
BVAR Borovoye Array 116.67 321 PKP **PKPdf** **04 52 01.9 -0.4**
comp=Z,1.2nm,0.3s,baz=62,slow=5.2,SNR=11
KK31 Karatay Array 117.11 310 PKPdf **PKPdf** **04 52 03.1 -0.4**
KKAR Karatay Array 117.11 310 **PKiKP** **04 52 03.6 +0.1**
SPITS Spitsbergen Ar 119.22 356 PKP **PKPdf** **04 52 06.3 -0.3**
comp=Z,7.5nm,0.9s,baz=141,slow=5.0,SNR=5.4
ARU Arti 122.69 326 PKP **PKiKP** **04 52 13.9 -0.1**
comp=Z,2.9nm,0.2s,baz=321,slow=7.1,SNR=5.6
AKTO Aktyubinsk 124.69 319 PKP **PKPdf** **04 52 16.6 -1.2**
comp=Z,1.6nm,0.6s,baz=104,slow=1.9,SNR=4.2
ARCES ARCESS Array B 126.24 350 PKP **PKPdf** **04 52 19.2 -1.0**
comp=Z,7.1nm,0.9s,baz=40,slow=0.6,SNR=11
BELG Begoniya 130.15 325 PKP **PKPdf** **04 52 28.2 +0.3**
comp=Z,9.3nm,0.8s,baz=200,slow=5.4,SNR=5.8
FINES FINESS Array B 133.09 344 PKhKP PKPpre 04 52 27.2
comp=Z,1.6nm,0.9s,baz=350,slow=5.8,SNR=4.1
FINES PKP **PKPdf** **04 52 33.7 +0.3**
comp=Z,1.5nm,0.7s,baz=52,slow=2.2,SNR=7.2
NB2 NORSAR Subarra 136.32 353 PKP PKPpre 04 52 30.4
comp=Z,0.7nm,0.9s,baz=29,slow=2.6
NOA NORSAR Array B 136.32 353 PKP **PKPdf** **04 52 40.0 +0.6**
comp=Z,0.7nm,0.6s,baz=14,slow=4.0,SNR=3.6
HFS Hagfors 136.87 351 PKhKP PKPpre 04 52 29.3
comp=Z,0.9nm,0.4s,baz=64,slow=3.4,SNR=12
AKASG Malin Array Be 140.42 332 PKhKP PKPpre 04 52 40.9
AKASG PKP **PKPdf** **04 52 48.2 +1.1**
comp=Z,1.0nm,0.3s,baz=42,slow=3.0,SNR=6.1
AKASG Malin Array Be 140.42 332 PKPdf **PKiKP** **04 52 49.2 -0.7**
EKA Eskdalemuir Ar 142.46 4 PKhKP PKPpre 04 52 47.2
comp=Z,1.0nm,0.6s,baz=3.1,SNR=6.8
SORM Soroca 142.64 330 ⇑P **PKPdf** **04 52 48.9 -2.3**
BSEG Bad Segeberg 143.35 351 *e*PKPbc PKPbc 04 52 51.4 +0.6
baz=16,slow=2.8
ILGA Ilgaz 143.89 317 **PKPdf** **04 52 54.4 +0.5**
HPK Haverah Park 143.92 3 *e*P PKPbc 04 52 52.6 0.0
WME Myndd Eilian 144.28 6 *e*P PKPbc 04 52 53.8 0.0
WLF1 Llynfaes 144.38 6⇑*e*P **PKPdf** **04 52 54.2 +0.2**
YRC Rhoscolyn 144.40 6⇑*i*P PKPbc 04 52 54.3 +0.1
LMK Market Rasen 144.47 2 *e*P **PKPab** **04 52 54.7 -0.2**
BURAR Bucovina Array 144.47 332 ⇓P **PKPab** **04 52 56.4 +1.1**
BURAR Bucovina Array 144.47 332 **PKPab** **04 52 55.1 -0.2**
BIZ Bicaz 144.56 330 ⇑P **PKPab** **04 52 56.5 +0.9**
BR131 Keskin Array S 144.59 315 **PKPab** **04 52 55.8 -0.3**
BRTR Keskin Array B 144.59 315 PKP **PKPab** **04 52 56.1 0.0**
comp=Z,0.7nm,0.7s,baz=106,slow=2.0,SNR=34
BRTR Keskin Array B 144.59 315 PKPbc 04 52 55.4 0.0
TESR Tescani 144.61 329 ⇓P **PKPab** **04 52 55.9 +0.2**
KOLS Kolonicke sedl 144.68 336 *e*PKP **PKPab** **04 52 56.4 +0.5**
FLTG Flechtingen 144.75 349 *e*PKPbc PKPbc 04 52 55.6 +0.3
baz=16,slow=2.8
STNC Stoke 144.75 4 *e*P **PKPab** **04 52 56.0 0.0**
NRDL Niedersach Rie 144.78 351 *e*PKPbc **PKPab** **04 52 56.1 +0.1**
baz=16,slow=2.8
FOEL Foel Wylfa 144.88 5 *e*P **PKPdf** **04 52 55.2 +0.2**
CRVS Cervenica-Dubn 145.01 337 *e*PKP **PKPab** **04 52 57.4 +0.2**
ASSE Asse, Remlinge 145.04 350 *e*PKPbc **PKPab** **04 52 57.0 -0.1**
baz=16,slow=2.8
HLM1 Long Mynd 145.28 5 *e*P **PKPbc** **04 52 57.0 +0.2**
IBBN Ibbenburen 145.28 353 *e*PKPbc **PKPab** **04 52 57.7 -0.4**
baz=16,slow=2.8
OSTC Ostas 145.29 343 *e*PKP **PKPbc** **04 52 57.5 +0.5**
CHVC Chvalec 145.31 343 *e*PKP **PKPab** **04 52 58.1 -0.2**
CLZ Clausthal 145.37 350 *e*PKPbc **PKPab** **04 52 58.2 -0.3**
baz=16,slow=2.8
CLL Collm 145.38 347 *i* PKPbc **PKPab** **04 52 57.9 -0.6**
comp=Z,18nm,0.6s
CLL Collm 145.38 347 *e*PKPbc **PKPbc** **04 52 57.8 +0.6**
baz=16,slow=2.8
UPC Upice 145.39 343 *e*PKP **PKPab** **04 52 58.5 -0.1**
DPC Dobruska-Polom 145.45 343 *e*PKP **PKPab** **04 52 58.9 0.0**
LANS Liptovska Anna 145.53 339 *e*PKP **PKPab** **04 52 59.7 +0.4**
KRLC Kraliky 145.57 342 *e*PKP **PKPab** **04 52 58.8 -0.6**
BRG Berggiesshubel 145.58 346 *i* P **PKPab** **04 52 58.7 -0.6**
BRG Amp 04 53 00.4
comp=Z,18nm,1.3s
BRG Berggiesshubel 145.58 346 *e*PKPbc **PKPab** **04 52 58.7 -0.6**
baz=16,slow=2.8
MORC Moravsky Berou 145.60 341 ⇑P **PKPab** **04 52 59.7 +0.1**
MORC Moravsky Berou 145.60 341 *e*PKP **PKPbc** **04 52 58.7 +0.8**
RSBS Rosebush, Pemb 145.66 7 *e*P **PKPbc** **04 52 57.7 -0.2**
FBE Freiberg 145.67 346 *e*PKPbc **PKPab** **04 52 59.2 -0.5**
baz=16,slow=2.8
MLR Muntele Rosu 145.68 329 PKPbc **PKPbc** **04 52 59.0 +0.6**
comp=Z,3.3nm,0.5s,baz=348,slow=5.1,SNR=5.2
GTTG Gottingen 145.72 350 *e*PKPbc **PKPab** **04 52 59.4 -0.5**
baz=16,slow=2.8
MBAR Mbarara 145.73 241 PKPbc **PKPab** **04 53 00.6 -0.7**
PVCC Panska Ves 145.75 345 *e*PKP **PKPab** **04 52 59.6 -0.4**
MDUB Mudurnu 145.82 317 PKPbc **PKPbc** **04 52 59.0 0.0**
MMAI Mount Meron Ar 145.92 303 PKPbc **PKPbc** **04 53 00.2 +0.8**
comp=Z,5.1nm,0.5s,baz=66,slow=4.9,SNR=8.9
SECR 145.94 328 ⇓P **PKPab** **04 53 00.8 -0.2**
MONM Monmouth 145.96 5 *e*P **PKPbc** **04 52 59.2 +0.4**
VOIR 146.16 329 ⇑P **PKPbc** **04 53 00.7 +1.0**
PRU Pruhonice 146.25 345 *e*PKP **PKPbc** **04 53 00.4 +0.7**
PRU *ex* x 04 53 03.1
GOPC GO Pecny, Ondr 146.26 344 *e*PKP **PKiKP** **04 53 00.9 -1.1**
GOPC *ex* x 04 53 02.5
KASTN Kahler Asten 146.28 352 *e*PKPbc **PKPbc** **04 53 00.3 +0.6**
baz=16,slow=2.8
MOX Moxa 146.29 348 *e*PKPbc **PKPbc** **04 53 00.6 +0.8**
baz=16,slow=2.8
VYHS Vyhne 146.30 339 *e*PKP **PKiKP** **04 53 01.0 -1.1**
VRAC Vranov 146.31 342 PKPbc **PKPbc** **04 53 00.8 +0.9**
comp=Z,4.9nm,0.8s,baz=50,slow=3.7,SNR=5.1
VRAC Vranov 146.31 342 ⇑P **PKPbc** **04 53 00.9 +1.1**
VRAC Vranov 146.31 342 *e*PKP **PKPbc** **04 53 00.7 +0.8**

PLN Plauen 146.34 348 *e*PKPbc **PKPbc** **04 53 01.0 +1.1**
baz=16,slow=2.8
PLN *e*PKPab **PKPab** **04 53 02.7 +0.3**
baz=15,slow=4.4
TANN Tannenbergstha 146.34 347 *e*PKPbc **PKPbc** **04 53 00.9 +0.9**
baz=16,slow=2.8
TANN *e*PKPab **PKPab** **04 53 02.7 +0.3**
baz=15,slow=4.4
WERD Werda 146.34 347 *e*PKPbc **PKPbc** **04 53 01.0 +1.0**
baz=16,slow=2.8
JAVC Velka Javorina 146.37 340 *e*PKP **PKiKP** **04 53 02.2 -0.1**
ARR Arges 146.41 330 ⇑P **PKPab** **04 53 02.8 -0.2**
GUNZ Gunzen 146.41 347 *e*PKPbc **PKPbc** **04 53 01.2 +1.1**
baz=16,slow=2.8
PSZ Piszkesteto 146.41 337 ⇓P **PKiKP** **04 53 02.4 0.0**
WERN Wernitzgruen 146.48 347 *e*PKPbc **PKiKP** **04 53 01.7 -0.8**
baz=16,slow=2.8
WERN *e*PKPab **PKPab** **04 53 04.0 +1.0**
baz=15,slow=4.4
NKC Novy Kostel 146.51 347 *e*PKP **PKPbc** **04 53 01.4 +1.0**
KRUC Moravsky 146.59 342 *e*PKP **PKPbc** **04 53 01.4 +0.8**
SMOL Smolenice 146.75 340 *e*PKP **PKiKP** **04 53 02.7 -0.4**
MANZ Manzenberg 146.82 347 *e*PKPbc **PKiKP** **04 53 02.3 -0.9**
baz=16,slow=2.8
MODS Modra-Piesok 146.92 340 *e*PKP **PKiKP** **04 53 03.0 -0.4**
ROTZ Rotzenmuhle 147.00 347 *e*PKPbc **PKiKP** **04 53 02.6 -0.9**
baz=16,slow=2.8
MEM Membach 147.13 355 *d*PKP **PKPbc** **04 53 02.6 +0.6**
ZST Bratislava 147.14 340 *e*PKP **PKiKP** **04 53 03.8 0.0**
BSTI Sart Tilman 147.20 355 *d*PKP **PKiKP** **04 53 03.2 -0.6**
TNS Taunus Mts 147.23 352 *e*PKPbc **PKiKP** **04 53 03.7 -0.4**
baz=16,slow=2.8
TNS *e*PKPab **PKPab** **04 53 06.7 +0.7**
baz=15,slow=4.4
GZR Gura Zlata 147.26 332 ⇑P **PKPbc** **04 53 03.1 +0.5**
GRF Grafenberg Arr 147.28 348 *e*PKPbc **PKiKP** **04 53 03.6 -0.5**
baz=16,slow=2.8
GRF *e*PKPab **PKPab** **04 53 07.2 +1.0**
baz=15,slow=4.4
KHC Kasperske Hory 147.28 345 *e*PKP **PKiKP** **04 53 03.6 -0.6**
KHC *ex* x 04 53 07.6
KHC Kasperske Hory 147.28 345 **PKiKP** **04 53 03.4 -0.8**
SNF Seneffe 147.36 357 *d*PKP **PKPbc** **04 53 03.3 +0.7**
CKRC Cesky Krumlov 147.39 344 *d*PKP **PKiKP** **04 53 04.0 -0.4**
MILB Miltenberg 147.49 350 *e*PKPbc **PKiKP** **04 53 04.3 -0.2**
baz=16,slow=2.8
MILB *e*PKPab **PKPab** **04 53 07.7 +0.6**
baz=15,slow=4.4
GEC2 GERESS Array S 147.52 345 *e*PKPbc **PKiKP** **04 53 04.1 -0.6**
baz=16,slow=2.8
GERES GERESS Array B 147.52 345 PKPbc **PKiKP** **04 53 04.1 -0.6**
comp=Z,8.1nm,0.6s,baz=31,slow=3.1,SNR=65
GERES GERESS Array B 147.52 345 **PKiKP** **04 53 04.0 -0.7**
BZS Buzias 147.60 333 ⇓P **PKPab** **04 53 04.0 +0.3**
DOU Dourbes 147.75 356 *d*PKP **PKiKP** **04 53 04.5 -0.5**
CONA Conrad Observa 147.76 342 *i* P **PKiKP** **04 53 05.2 0.0**
comp=Z,8.6nm,0.6s,SNR=7.7
WLF Walferdange 148.05 354 *d*PKP **PKiKP** **04 53 05.8 +0.1**
WLF Walferdange 148.05 354 *e*PKPbc **PKiKP** **04 53 06.1 +0.4**
baz=16,slow=2.8
MDVR Moldovita 148.21 332 ⇑P **PKiKP** **04 53 05.8 -0.5**
MOA Molln 148.29 343 *e*P **PKiKP** **04 53 06.0 -0.3**
comp=Z,2.5nm,0.7s
ARSA Arzberg 148.47 341 *e*P **PKPbc** **04 53 06.1 +0.5**
comp=Z,1.5nm,0.5s
MANT Manisa 148.61 316 PKPbc **PKiKP** **04 53 07.2 -0.3**
FUR Furstenfeldbru 148.72 347 *e*PKPab **PKPab** **04 53 13.5 +1.3**
baz=15,slow=4.4
FRGS Fruska Gora 148.73 334 ⇓P **PKiKP** **04 53 07.5 +0.2**
FRGS Fruska Gora 148.73 334 *e*P **PKPbc** **04 53 06.7 +0.5**
RJOB Jochberg 148.77 345 *e*PKPbc **PKiKP** **04 53 06.9 -0.4**
baz=16,slow=2.8
BOVS Bovan 149.09 331 ⇓P **PKPbc** **04 53 06.9 -0.3**
BFO Black Forest 149.10 351 **PKiKP** **04 53 08.0 0.0**
BFO Black Forest 149.10 351 *e*PKPbc **PKiKP** **04 53 07.6 -0.3**
baz=16,slow=2.8
VTS Vitosha 149.10 328 ⇓P **PKiKP** **04 53 08.5 +0.2**
SOKA Soboth 149.13 341 *e*P **PKiKP** **04 53 07.7 -0.4**
comp=Z,9.0nm,1.2s
KBA Koelnbreinsper 149.24 344 *i* P **PKPbc** **04 53 07.9 +0.2**
comp=Z,6.6nm,0.5s,SNR=7.1
UBR Ueberruh 149.42 348 *e*PKPbc **PKiKP** **04 53 08.7 +0.1**
baz=16,slow=2.8
OBKA Obir 149.43 342 *e*P **PKPbc** **04 53 08.2 +0.2**
comp=Z,4.4nm,1.4s
WATA Walderalm 149.44 346 *e*P **PKiKP** **04 53 08.6 -0.2**
comp=Z,6.1nm,0.5s
RETA Reutte 149.47 347 *i* P **PKiKP** **04 53 09.0 +0.2**
comp=Z,3.3nm,0.4s
WTTA Wattenberg 149.49 346 *i* P **PKiKP** **04 53 09.1 +0.2**
comp=Z,12nm,0.4s,SNR=7.6
DIVS Divibare 149.50 333⇑*i*P **PKiKP** **04 53 08.9 -0.1**
MOTA Moosalm 149.53 347 *e*P **PKiKP** **04 53 09.0 -0.1**
comp=Z,16nm,1.2s
MYKA Terra Mystica 149.58 343 *i* P **PKPbc** **04 53 08.3 0.0**
comp=Z,6.9nm,0.4s,SNR=5.6
SQTA Sankt Quirin 149.63 347 *i* P **PKiKP** **04 53 09.4 +0.2**
comp=Z,9.8nm,0.5s,SNR=5.5
CRES Cresnjev 149.76 340⇑*i*P **PKiKP** **04 53 09.4 +0.1**
ABTA Abfaltersbach 149.77 345 *i* P **PKPbc** **04 53 09.1 +0.3**
comp=Z,11nm,0.6s,SNR=7.0
DAVA Damuels 149.84 348 *i* P **PKiKP** **04 53 10.6 +1.0**
comp=Z,7.8nm,0.9s
LJU Ljubljana 149.85 342 *e*P **PKiKP** **04 53 09.4 -0.1**
FETA Feichten 149.92 347 *e*P **PKiKP** **04 53 10.1 +0.3**
comp=Z,9.7nm,1.1s
BBLS Lazići 149.94 333⇑*i*P **PKiKP** **04 53 10.1 +0.2**
HAPS Han Pijesak,Bl 149.96 334 *e*P **PKPbc** **04 53 09.3 0.0**
BLY Banja Luka 150.10 337⇑*i*P **PKiKP** **04 53 10.2 +0.1**
CEY Cerknica 150.16 341⇑*i*P **PKiKP** **04 53 10.2 0.0**
DAVOX Davos/Dischmat 150.33 348 PKPbc **PKiKP** **04 53 10.7 0.0**
comp=Z,21nm,0.7s,baz=262,slow=2.6,SNR=40
MGRS Mrkonjic Grad 150.42 337 *e*P **PKiKP** **04 53 11.6 +0.8**
KIJV Kijevo 151.02 337 *i* P **PKiKP** **04 53 11.9 -0.1**
NVLJ Novalja 151.07 340 *i* P **PKPbc** **04 53 11.5 -0.2**
BRY Bratogost 151.09 333 *e*P **PKPbc** **04 53 12.1 +0.1**
PDG Podgorica 151.16 332 *e*P **PKiKP** **04 53 12.4 +0.1**
RICI Ricice 151.18 336 P **PKPbc** **04 53 11.9 -0.1**
TREB Trebinje 151.32 333 *e*P **PKPbc** **04 53 12.4 0.0**
DRME Dracevica, Mon 151.38 332 *e*P **PKiKP** **04 53 12.9 +0.1**
FNA Florina 151.39 327 **PKiKP** **04 53 13.0 0.0**
MORI Morici 151.40 338 *i* P **PKiKP** **04 53 12.8 0.0**
DBRK Dubrovnik 151.45 333 *i* P **PKPbc** **04 53 11.4 -1.2**
STON Ston 151.47 334 *i* P **PKPbc** **04 53 11.1 -1.5**
ESDC Sonseca Array 157.80 11 PKPab **PKPab** **04 53 49.9 -1.2**
comp=Z,1.0nm,0.9s,baz=347,slow=5.3,SNR=4.9
TORD Torodi Ar. Bea 175.28 184 PKP **PKPdf** **04 53 28.3 -0.1**
comp=Z,1.3nm,1.2s,baz=228,slow=3.7,SNR=4.2
TORD PKPab **PKPab** **04 55 09.8 +1.2**
comp=Z,0.2nm,0.5s,baz=195,slow=4.2,SNR=2.1

NEIC ***20*** *04:50:45.3±1.2, 11°.00S±0°.10×165°.9E±0°.1, h44km±9km, mb4.5/11, Error ellipse: s-maj=15.5km s-min=12.9km az=132.0*
IDC ***20*** *04:50:46.2±3.9, 11°.00S×165°.93E, h54km±34km, mb4.0/9, mb1 4.2/11, mb1mx3.8/35, mbtmp4.3/11, ML4.8/2, MS3.5/11, Ms1 3.5/11, ms1mx3.2/35, Error ellipse: s-maj=32.4km s-min=26.6km az=122.0*

ISC 20 04:50:47.1±1.0, 11°.1S±0°.1×165°.9E±0°.1, h61km, n33, σ0.967/24, mb4.4/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
HNR	**Honiara**	**6.07**	**285**	P	**Pn**	**04 52 13.8**	**-0.5**
	76nm,0.3s,baz=160,slow=3.3,SNR=17						
HNR				LR	LR	04 54 51.9	
	comp=Z,795nm,18.5s,baz=136,slow=40						
HNR	**Honiara**	**6.07**	**285**		**Pn**	**04 52 12.9**	**-1.4**
DZM	**Mont Dzumac**	**10.97**	**177**	*e*Pn		**04 53 20.6**	**-0.8**
	8.3nm,0.3s						
DZM				*e*LR	LR	04 55 56.0	
	comp=Z,180nm

CTAO					IAmb	IAmb	04 55 33.7	
	comp=Z,22nm,1.4s							
AFI	**Afiamalu**	**21.98**	**100**	LR	LR	LR	05 02 00.1	
	comp=Z,177nm,20.5s,baz=318,slow=31							
JAY	**Jayapura**	**26.39**	**287**	P		**P**	**04 56 17.8**	**-0.3**
	comp=Z,15nm,0.9s,baz=102,slow=16,SNR=3.5							
JAY				LR		LR	05 08 03.4	
	comp=Z,90nm,18.0s,baz=352,slow=39							
H11S2	**WAKE ISLAND Hy**	**29.36**	**2**	T		T	05 27 10.7	
	baz=181,slow=76,SNR=96							
H11S3	**WAKE ISLAND Hy**	**29.37**	**2**	T		T	05 27 08.2	
	baz=181,slow=76,SNR=37							
H11S1	**WAKE ISLAND Hy**	**29.38**	**2**	T		T	05 27 10.0	
	baz=181,slow=76,SNR=53							
BKZ	**Black Stump Fm**	**29.55**	**163**	P		**P**	**04 56 45.8**	**-0.2**
BKZ					IAmb	IAmb	04 57 01.7	
	comp=Z,11nm,0.9s							
STKA	**Stephens Creek**	**30.54**	**224**	P		**P**	**04 56 55.6**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=25,slow=9.4,SNR=3.1							
STKA				LR		LR	05 08 41.0	
	comp=Z,127nm,18.9s,baz=39,slow=35							
STKA	**Stephens Creek**	**30.54**	**224**	IAmb		IAmb	04 57 02.7	
	comp=Z,1.6nm,1.3s							
WB0	**Warramunga Arr**	**31.54**	**250**	P		**P**	**04 57 04.1**	**+0.3**
WRAB	**Tennant Creek**	**31.61**	**250**	P		**P**	**04 57 05.0**	**+0.6**
WB2	**Warramunga Arr**	**31.61**	**250**	P		**P**	**04 57 04.3**	**-0.1**
WB2					IAmb	IAmb	04 57 05.8	
	comp=Z,11nm,0.9s							
WRA	**Warramunga Arr**	**31.62**	**250**	P		**P**	**04 57 04.3**	**-0.3**
	comp=Z,9.0nm,0.8s,baz=81,slow=9.0,SNR=40							
WRA				LR		LR	05 08 15.7	
	comp=Z,75nm,21.2s,baz=180,slow=33							
AS31	**Alice Springs**	**32.92**	**243**	P		**P**	**04 57 15.8**	**-0.1**
ASAR	**Alice Springs**	**32.92**	**243**	P		**P**	**04 57 15.7**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=69,slow=9.6,SNR=16							
ASAR				LR		LR	05 09 31.0	
	comp=Z,77nm,20.1s,baz=91,slow=34							
MTN	**Manton Dam**	**34.04**	**263**	P		**P**	**04 57 25.7**	**0.0**
MTN					IAmb	IAmb	04 57 27.1	
	comp=Z,6.2nm,1.1s							
FITZ	**Fitzroy Crossi**	**39.52**	**255**	P		**P**	**04 58 12.6**	**+0.3**
	comp=Z,7.4nm,0.7s,baz=93,slow=6.8,SNR=45							
FITZ	**Fitzroy Crossi**	**39.52**	**255**	P		**P**	**04 58 12.9**	**+0.6**
FITZ					IAmb	IAmb	04 58 13.7	
	comp=Z,9.0nm,0.8s							
TBI	**Tubuai**	**44.19**	**112**	*e*LR		LR	05 11 23.1	
	comp=Z,126nm,27.2s							
CMAR	**Chiang Mai Arr**	**72.25**	**293**	P		**P**	**05 02 07.4**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=125,slow=5.0,SNR=5.5							
CMAR				LR		LR	05 36 20.4	
	comp=Z,7.8nm,18.1s,baz=190,slow=38							
KDAK	**Kodiak Island**	**76.53**	**21**	LR		LR	05 30 57.4	
	comp=Z,24nm,18.9s,baz=73,slow=32							
IL31		**83.47**	**18**	P		**P**	**05 03 08.4**	**+0.8**
IL31					IAmb	IAmb	05 03 32.3	
	comp=Z,2.0nm,1.1s							
ILAR	**Eielson Array**	**83.47**	**18**	P		**P**	**05 03 07.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=230,slow=5.1,SNR=8.3							
MK31	**Makanchi Array**	**93.63**	**317**	P		**P**	**05 03 56.9**	**0.0**
MK31					IAmb	IAmb	05 03 58.2	
	comp=Z,2.3nm,1.2s							
MKAR	**Makanchi Array**	**93.63**	**317**	P		**P**	**05 03 55.8**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=99,slow=7.5,SNR=4.6							

*SOME **20** 04:51:02.2, 41.83N × 82.68E, h10km*
*NNC **20** 04:51:06.3 ± 2.5, 42.01N × 82.45E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=21.1km s-min=14.1km az=173.0
ISC 20 04:51:01.8 ± 2.5, 41.8N ± 0.1 × 82.55E ± 0.08, h13km, n31,
σ1§68/45, 6C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KTMS	**Ketmen**	**2.30**	**316**	*e*P	**Pg**	**04 51 45.3**		**-0.5**
	15nm,0.3s							
KTMS				*e*S	**Sg**	**04 52 16.8**		**+1.2**
	68nm,0.4s							
KTMS	**Ketmen**	**2.30**	**316**	Pg	**Pg**	**04 51 45.7**		**-0.1**
	15nm,0.3s							
KTMS				Lg	Lg	04 52 17.2		
	68nm,0.4s							
SHLS	**Shalkode**	**2.65**	**301**	*e*P	**Pb**	**04 51 47.0**		**-2.1**
	12nm,0.3s							
SHLS				*e*S	**Sb**	**04 52 19.5**		**-2.0**
	122nm,0.5s							
SHLS	**Shalkode**	**2.65**	**301**	Pg	**Pb**	**04 51 48.2**		**-0.9**
	12nm,0.2s							
SHLS				Lg	Lg	04 52 20.8		
	122nm,0.5s							
PDGK	**Podgornoye**	**2.72**	**305**	Pg	**Pb**	**04 51 51.6**		**+1.3**
	2.3nm,0.3s							
PDGK				Lg	Lg	04 52 26.7		
	15nm,0.4s							
PDGK	**Podgornoye**	**2.72**	**305**	⇑Pn	**Pb**	**04 51 50.8**		**+0.5**
	3.7nm,0.8s							
PDGK				⇑Lg	Lg	04 52 27.2		
	31nm,0.7s							
UZB	**Uzynbulak**	**2.93**	**298**	*e*P	**Pg**	**04 51 57.0**		**-0.9**
	2.8nm,0.2s							
UZB				*e*S	**Sg**	**04 52 36.8**		**+1.0**
	25nm,0.4s							
UZB	**Uzynbulak**	**2.93**	**298**	Pg	**Pg**	**04 51 57.5**		**-0.3**
	2.8nm,0.2s							
UZB				Lg	Lg	04 52 36.8		
	25nm,0.4s							
DJR	**Jarkent**	**3.22**	**322**	*e*P	**Pg**	**04 52 02.6**		**-1.0**
	1.6nm,0.3s							
DJR				*e*S	**Sg**	**04 52 46.2**		**+0.9**
	6.6nm,0.4s							
DJR	**Jarkent**	**3.22**	**322**	Pg	**Pb**	**04 51 57.7**		**-1.2**
	1.3nm,0.1s							
DJR				Lg	Lg	04 52 37.6		
	7.7nm,0.3s							
KPKS	**Kokpek**	**3.29**	**301**	*e*P	**Pg**	**04 52 03.3**		**-1.5**
	5.3nm,0.2s							
KPKS				*e*S	**Sg**	**04 52 47.4**		**-0.1**
	30nm,0.3s							
SATY	**Saty**	**3.31**	**293**	*e*P	**Pg**	**04 52 05.1**		**-0.1**
	1.7nm,0.2s							
SATY				*e*S	**Sg**	**04 52 50.5**		**+2.6**
	16nm,0.4s							
SATY	**Saty**	**3.31**	**293**	Pg	**Pb**	**04 52 00.3**		**-0.1**
	2.0nm,0.1s							
SATY				Lg	Lg	04 52 41.8		
	9.1nm,0.2s							
ARXS	**Arharly**	**4.21**	**306**	*e*P	**Pg**	**04 52 21.4**		**-0.9**
	3.3nm,0.4s							
ARXS				*e*S	**Sg**	**04 53 18.6**		**+1.8**
	5.3nm,0.4s							
ARXS	**Arharly**	**4.21**	**306**	Pg	**Pg**	**04 52 21.2**		**-1.1**
	3.3nm,0.4s							
ARXS				Lg	Lg	04 53 17.9		
	5.3nm,0.4s							
KOTS	**Kotyrbulak**	**4.26**	**291**	*e*P	**Pg**	**04 52 22.6**		**-0.8**
	4.8nm,0.2s							
KOTS				*e*S	**Sg**	**04 53 20.6**		**+2.1**
	8.2nm,0.4s							
KOTS	**Kotyrbulak**	**4.26**	**291**	Pg	**Pg**	**04 52 22.9**		**-0.4**
	4.8nm,0.2s							
KOTS				Lg	Lg	04 53 20.5		
	8.2nm,0.4s							
TNSS	**Tian-Shan**	**4.32**	**288**	*e*P	**Pg**	**04 52 24.1**		**-0.5**
	1.2nm,0.3s							
TNSS				*e*S	**Sg**	**04 53 23.0**		**+2.4**
	2.6nm,0.5s							
TNSS	**Tian-Shan**	**4.32**	**288**	Pg	**Pg**	**04 52 22.3**		**-2.3**
	2.6nm,0.5s							
TNSS				Lg	Lg	04 53 19.2		
	2.5nm,0.6s							
IZV	**Izvestkoviy**	**4.56**	**287**	*e*P	**Pg**	**04 52 26.8**		**-2.2**
	1.5nm,0.5s							
IZV				*e*S	**Sg**	**04 53 27.4**		**-0.7**
	5.9nm,0.7s							
IZV	**Izvestkoviy**	**4.56**	**287**	Pg	**Pg**	**04 52 26.6**		**-2.4**
	2.4nm,0.6s							
IZV				Lg	Lg	04 53 27.2		
	5.9nm,0.7s							
KTBS	**Karatobe**	**4.71**	**296**	*e*P	**Pg**	**04 52 29.6**		**-2.4**
	1.5nm,0.3s							
KTBS				*e*S	**Sg**	**04 53 32.3**		**-0.8**
	11nm,0.6s							
KTBS	**Karatobe**	**4.71**	**296**	Pg	**Pg**	**04 52 30.0**		**-2.0**
	1.5nm,0.3s							
KTBS				Lg	Lg	04 53 32.6		
	11nm,0.6s							
MK31	**Makanchi Array**	**4.98**	**358**	⇓Pn	**Pn**	**04 52 19.6**		**+3.4**
	0.1nm,0.2s,baz=189,slow=13,SNR=18							
MK31				⇑Pg	**Pg**	**04 52 34.8**		**-2.2**
	0.2nm,0.2s,baz=171,slow=15,SNR=7.4							
MK31				⇑Lg	Lg	04 53 39.8		
	1.2nm,0.4s,baz=160,slow=38,SNR=5.6							
MAKZ	**Makanchi**	**5.01**	**356**	⇑Pg	**Pg**	**04 52 34.7**		**-2.9**
	0.7nm,0.5s							
MAKZ				⇑Lg	Lg	04 53 40.2		
	1.9nm,0.6s							
KUU	**Kurty**	**5.01**	**297**	*e*P	**Pg**	**04 52 35.3**		**-2.4**
	0.7nm,0.3s							
KUU				*e*S	**Sg**	**04 53 42.0**		**-0.7**
	3.8nm,0.6s							
KUU	**Kurty**	**5.01**	**297**	Pg	**Pg**	**04 52 36.6**		**-1.1**
	0.7nm,0.3s							
KUU				Lg	Lg	04 53 43.9		
	3.8nm,0.6s							
KST	**Kastek**	**5.02**	**286**	*e*P	**Pg**	**04 52 35.3**		**-2.7**
	2.5nm,0.4s							
KST				*e*S	**Sg**	**04 53 42.1**		**-1.0**
	4.3nm,0.8s							
KST	**Kastek**	**5.02**	**286**	Pg	**Pg**	**04 52 37.4**		**-0.6**
	2.5nm,0.3s							
KST				Lg	Lg	04 53 46.8		
	4.3nm,0.8s							
DGS	**Degeres**	**5.20**	**288**	Pg	**Pg**	**04 52 40.1**		**-1.3**
	1.5nm,0.5s							
DGS				Lg	Lg	04 53 50.3		
	6.0nm,0.4s							
KRBS	**Karabastau**	**5.40**	**293**	Pg	**Pg**	**04 52 42.8**		**-2.3**
	0.8nm,0.3s							
KRBS				Lg	Lg	04 53 54.5		
	1.4nm,0.3s							

*JMA **20** 05:13:21.9 ± 0.2, 26.16N × 128.68E, h38km ± 4km, M3.2*
*IDC **20** 05:13:23.5 ± 2.7, 25.25N × 126.63E, h0km, mb3.6/5,*
mb1 3.8/5, mb1mx3.5/41, mbtmp3.6/5, Error ellipse:
s-maj=179.0km s-min=19.7km az=66.0
ISC 20 05:13:22.4 ± 0.9, 26.13N ± 0.05 × 128.73E ± 0.04, h35km, n16,
σ1§46/25, mb3.5/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JNTH	**Nagotoyohara**	**0.74**	**301**	P	**Pn**	**05 13 34.9**		**-1.5**
JNTH				*e*S	**Sn**	**05 13 44.8**		**-1.7**
JOW	**Kunigami**	**0.81**	**330**	P	**Pn**	**05 13 36.3**		**-1.0**
JOW				*e*S	**Sn**	**05 13 45.9**		**-2.2**
JJT3	**Tamagusuku3**	**0.85**	**271**	P	**Pn**	**05 13 37.0**		**-0.9**
JJT3				*e*S	**Sn**	**05 13 47.7**		**-1.5**
JYRO	**Yoronjima**	**0.92**	**344**	P	**Pn**	**05 13 38.0**		**-0.9**
JYRO				*e*S	**Sn**	**05 13 50.4**		**-0.6**
JIH	**Iheya**	**1.13**	**323**	P	**Pn**	**05 13 41.3**		**-0.4**
JIH				*e*S	**Sn**	**05 13 54.1**		**-1.9**
JOKE	**Okinoerabujima**	**1.23**	**353**	P	**Pn**	**05 13 42.9**		**-0.3**
JOKE				*e*S	**Sn**	**05 13 58.4**		**-0.2**
JAGN	**Aguni-jima**	**1.41**	**289**	P	**Pn**	**05 13 45.2**		**-0.4**
JAGN				S	**Sn**	**05 14 01.8**		**-1.2**
JTK	**Tokunoshima**	**1.66**	**7**	P	**Pn**	**05 13 48.8**		**-0.2**
JTK				*e*S	**Sn**	**05 14 08.0**		**-1.1**
JKE	**Kume jima 2**	**1.76**	**277**	S	**Sn**	**05 14 10.4**		**-1.1**
JMZ	**Minamidaito 2**	**2.26**	**97**	P	**Pn**	**05 13 56.1**		**-1.2**
JMZ				*e*S	**Sn**	**05 14 22.0**		**-2.0**
JKDJ	**Kitadaitoujima**	**2.32**	**94**	P	**Pn**	**05 13 57.0**		**-1.1**
JKDJ				S	**Sn**	**05 14 23.9**		**-1.4**
SONM	**Songino Array**	**27.88**	**327**	P	**P**	**05 19 11.8**		**+2.8**
	0.4nm,0.4s,baz=142,slow=10,SNR=6.3							
MKAR	**Makanchi Array**	**41.93**	**312**	P	**P**	**05 21 09.2**		**-0.6**
	0.6nm,0.7s,baz=107,slow=8.5,SNR=9.8							
ZALV	**Zalesovo Beam**	**42.60**	**323**	P		05 21 19.1		+4.1
	0.5nm,0.5s,baz=101,slow=7.8,SNR=3.8							
WRA	**Warramunga Arr**	**46.12**	**173**	P	**P**	**05 21 44.3**		**+0.8**
	0.6nm,0.3s,baz=350,slow=8.2,SNR=16							
ASAR	**Alice Springs**	**49.76**	**174**	P	**P**	**05 22 13.9**		**+2.4**
	0.4nm,0.4s,baz=4.2,slow=14,SNR=7.4							

*IDC **20** 05:19:16.4 ± 1.0, 36.87N × 104.92W, h0km, mb3.4/2,*
mb1 3.7/6, mb1mx3.4/51, mbtmp3.4/6, ML3.4/4, Error
ellipse: s-maj=22.3km s-min=9.4km az=87.0
*ANF **20** 05:19:17.3 ± 0.2, 36.88N × 104.83W, h0km, ML4.2/17, Error*
ellipse: s-maj=3.2km s-min=2.1km az=126.0, Hypocentre
not reviewed by the ISC
*NEIC **20** 05:19:18.9 ± 1.6, 36.89N ± 0.05 × 104.75W ± 0.06, h5km,*
mb_Lg3.6/117, ML3.8/57, Error ellipse: s-maj=9.1km
s-min=6.4km az=131.0
ISC 20 05:19:20.4 ± 0.8, 36.90N ± 0.05 × 104.73W ± 0.05, h10km, n96,
σ1§45/81, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
T25A	**Trinidad**	**0.35**	**46**		**Pg**	**05 19 25.6**		**-1.9**
T25A				Sg	**Sg**	**05 19 31.5**		**-0.7**
T25A	**Trinidad**	**0.35**	**46**	P		05 19 25.5		
	baz=228,SNR=1000							
T25A				S		05 19 31.5		
	baz=228							
SDCO	**Great Sand Dun**	**1.05**	**324**	S		05 19 50.2		
	baz=145							
S22A	**4UR Ranch, Cre**	**1.88**	**297**	Pb		05 19 50.9		
	baz=117,SNR=1000							
S22A				S		05 20 15.1		
	baz=117							
Q24A	**Divide**	**2.09**	**351**	Pb		05 19 55.4		
	baz=171							
Q24A				S		05 20 22.8		
	baz=171							
ANMO	**Albuquerque**	**2.40**	**216**	Pn	**Pn**	**05 19 57.3**		**-2.7**
	8.0nm,0.3s,baz=30,slow=14,SNR=38							
ANMO				Lg	Lg	05 20 28.2		
	17nm,0.3s,baz=229,slow=12,SNR=8.5							
ANMO	**Albuquerque**	**2.40**	**216**	Pn	**Pn**	**05 19 56.9**		**-3.1**
ANMO	**Albuquerque**	**2.40**	**216**	P	**Pn**	**05 19 56.9**		**-3.1**
	baz=35,SNR=175							
ANMO	**Albuquerque**	**2.40**	**216**	P		05 19 56.8		
	baz=35							
ANMO				S		05 20 27.4		
	baz=35							
ANMO	**Albuquerque**	**2.40**	**216**	P		05 19 56.9		
	baz=35,SNR=175							
KSCO	**Kaye Shedlock'**	**2.69**	**38**		**Pn**	**05 20 03.0**		**-0.8**
KSCO	**Kaye Shedlock'**	**2.69**	**38**	P	**Pn**	**05 20 03.9**		**+0.1**
	baz=219,SNR=28							
KSCO				Sb	**Sb**	**05 20 42.9**		**+1.2**
	baz=219							
KSCO	**Kaye Shedlock'**	**2.69**	**38**	P		05 20 03.7		
	baz=219,SNR=28							
KSCO				Sb		05 20 42.3		
	baz=219							
KSCO	**Kaye Shedlock'**	**2.69**	**38**	P		05 20 03.9		
	baz=219,SNR=28							
KSCO				Sb		05 20 42.9		
	baz=219							
SMCO	**Snowmass**	**2.89**	**323**	Pn	**Pn**	**05 20 05.9**		**-1.0**
ISCO	**Idaho Springs**	**2.98**	**347**	Pn	**Pn**	**05 20 07.6**		**-0.5**
ISCO	**Idaho Springs**	**2.98**	**347**	P	**Pn**	**05 20 07.9**		**-0.2**
	baz=167,SNR=77							
ISCO				S	**Sb**	**05 20 50.2**		**-0.2**
	baz=167							
ISCO	**Idaho Springs**	**2.98**	**347**	P		05 20 07.4		
	baz=167,SNR=77							
ISCO				Sb		05 20 50.2		
	baz=167							
ISCO	**Idaho Springs**	**2.98**	**347**	P		05 20 07.9		
	baz=167,SNR=77							
ISCO				S		05 20 50.2		
	baz=167							
MVCO	**Mesa Verde**	**3.03**	**277**	Pn	**Pn**	**05 20 08.1**		**-0.7**
MVCO				IAML		05 20 53.2		
	287nm,0.6s							
MVCO	**Mesa Verde**	**3.03**	**277**	P		05 20 06.6		
	baz=95,SNR=431							
MVCO				Sb		05 20 49.1		
	baz=95							
BNM	**Barren Site**	**3.15**	**210**	Pn	**Pn**	**05 20 08.8**		**-1.5**
AMTX	**Amarillo**	**3.19**	**128**	Pn	**Pn**	**05 20 09.8**		**-0.9**
AMTX				IAmb_Lg		05 21 09.1		
	comp=Z,166nm,0.7s							
AMTX	**Amarillo**	**3.19**	**128**	P	**Pn**	**05 20 09.4**		**-1.3**
	baz=310,SNR=164							
AMTX	**Amarillo**	**3.19**	**128**	P		05 20 09.1		
	baz=310							
AMTX	**Amarillo**	**3.19**	**128**	P		05 20 09.4		
	baz=310,SNR=164							
LENM	**Lemitar**	**3.28**	**215**		**Pn**	**05 20 10.0**		**-2.1**
PV01	**Paradox Valley**	**3.29**	**293**		**Pn**	**05 20 10.6**		**-1.7**
PV15	**Paradox Valley**	**3.31**	**297**		**Pn**	**05 20 11.2**		**-1.4**
PV15				IAML		05 21 03.1		
	comp=N,284nm,0.8s							
MSTX	**Muleshoe**	**3.33**	**151**		**Pn**	**05 20 12.7**		**+0.1**
MSTX				IAmb_Lg		05 21 11.0		
	comp=Z,187nm,0.8s							
MSTX	**Muleshoe**	**3.33**	**151**	P	**Pn**	**05 20 14.2**		**+1.5**
	baz=332,SNR=137							
MSTX				S	**Sb**	**05 20 59.2**		**-1.0**
	baz=332							
MSTX	**Muleshoe**	**3.33**	**151**	Pb		05 20 17.3		
	baz=332							
MSTX				Sb		05 20 59.9		
	baz=332							
MSTX	**Muleshoe**	**3.33**	**151**	P		05 20 14.2		
	baz=332,SNR=137							
MSTX				S		05 20 59.2		
	baz=332							
Y22D	**IRIS PASSCAL I**	**3.34**	**213**		**Pn**	**05 20 11.5**		**-1.3**
Y22D				IAML		05 21 09.8		
	comp=E,333nm,1.1s							
Y22D				IAML		05 21 12.3		
	comp=N,238nm,0.7s							
Y22D	**IRIS PASSCAL I**	**3.34**	**213**	P		05 20 10.6		
	baz=32							
Y22D				Sb		05 20 58.3		
	baz=32							
PV02	**Paradox Valley**	**3.44**	**294**		**Pn**	**05 20 13.3**		**-1.1**
PV02				IAML		05 21 11.4		
	comp=N,276nm,0.7s							
PV07	**Paradox Valley**	**3.47**	**297**	Pn	**Pn**	**05 20 14.0**		**-0.7**
PV07				IAML		05 21 08.7		
	comp=E,190nm,0.9s							
PV07				IAML		05 21 12.4		
	comp=N,144nm,1.0s							
Y22A	**Socorro**	**3.47**	**212**	P	**Pn**	**05 20 13.8**		**-0.9**
	baz=31							
Y22A	**Socorro**	**3.47**	**212**	P		05 20 13.8		
	baz=31							
PV13	**Radium Mtn., P**	**3.49**	**292**		**Pn**	**05 20 13.7**		**-1.3**
PV13				IAML		05 21 12.0		
	comp=E,226nm,0.7s							
PV13				IAML		05 21 22.4		
	comp=N,166nm,0.8s							
PV10	**Paradox Valley**	**3.73**	**295**	Pn	**Pn**	**05 20 18.0**		**-0.3**
O20A	**White River Ci**	**4.25**	**321**		**Pn**	**05 20 25.1**		**-0.2**
O20A				IAML		05 21 38.2		
	comp=E,75nm,1.1s							
O20A				IAML		05 21 40.3		
	comp=N,90nm,0.8s							
O20A	**White River Ci**	**4.25**	**321**	P		05 20 24.8		
	baz=139,SNR=11							
CBKS	**Cedar Bluff**	**4.39**	**63**	Pn	**Pn**	**05 20 26.0**		**-1.1**
CBKS	**Cedar Bluff**	**4.39**	**63**	P	**Pn**	**05 20 25.8**		**-1.3**
	baz=246,SNR=13							
CBKS				Sb	**Sb**	**05 21 33.1**		**+2.5**
	baz=246							
CBKS	**Cedar Bluff**	**4.39**	**63**	P		05 20 26.3		
	baz=246,SNR=13							
CBKS				Sb		05 21 33.7		
	baz=246							
CBKS	**Cedar Bluff**	**4.39**	**63**	P		05 20 25.8		
	baz=246,SNR=13							
CBKS				Sb		05 21 33.1		
	baz=246							
W18A	**Petrified Fore**	**4.43**	**248**	Pn	**Pn**	**05 20 28.2**		**+0.3**
W18A				IAML		05 21 39.0		
	comp=E,111nm,1.1s							
W18A	**Petrified Fore**	**4.43**	**248**	Pb		05 20 34.5		
	baz=65							
PHWY	**Pilot Hill**	**4.43**	**353**		**Pn**	**05 20 27.9**		**-0.1**
OGNE	**Ogallala**	**4.55**	**27**		**Pn**	**05 20 28.2**		**-1.3**
OGNE	**Ogallala**	**4.55**	**27**	P	**Pn**	**05 20 29.0**		**-0.5**
	baz=208,SNR=5.3							
OGNE	**Ogallala**	**4.55**	**27**	P		05 20 28.7		
	baz=208							
OGNE	**Ogallala**	**4.55**	**27**	P		05 20 29.0		
	baz=208,SNR=5.3							
U32A	**Winter Ranch,**	**4.63**	**95**		**Pn**	**05 20 28.8**		**-1.7**
U32A				IAmb_Lg		05 21 55.0		
	comp=Z,101nm,0.9s							
U32A	**Winter Ranch,**	**4.63**	**95**	P	**Pn**	**05 20 30.4**		**-0.1**
	baz=278,SNR=7.3							
U32A	**Winter Ranch,**	**4.63**	**95**	P		05 20 30.4		
	baz=278,SNR=7.3							
GDL2	**Guadalupe Moun**	**4.70**	**176**	Pn	**Pn**	**05 20 32.1**		**+0.7**
X18A	**Snowflake**	**4.86**	**242**	Pn	**Pn**	**05 20 33.8**		**0.0**
X18A				IAML		05 21 47.6		
	comp=E,97nm,0.6s							
R32A	**Long Quarter,**	**5.01**	**70**		**Pn**	**05 20 34.9**		**-0.8**
R32A				IAmb_Lg		05 22 04.1		
	comp=Z,109nm,0.7s							
R32A	**Long Quarter,**	**5.01**	**70**	P	**Pn**	**05 20 33.9**		**-1.8**
	baz=254							
R32A	**Long Quarter,**	**5.01**	**70**	P		05 20 33.9		
	baz=254							
121A	**Cookes Peak, D**	**5.03**	**211**	Pn	**Pn**	**05 20 33.5**		**-2.6**
SRU	**San Rafael Swe**	**5.08**	**298**		**Pn**	**05 20 36.0**		**-0.9**
RWWY	**Rawlins**	**5.16**	**339**	Pn	**Pn**	**05 20 38.4**		**+0.5**
RWWY				IAML		05 22 05.9		
	comp=Z,70nm,0.9s							
RWWY				IAML		05 22 10.8		
	comp=Z,71nm,0.9s							
MNTX	**Cornudas Mount**	**5.21**	**186**	Pb		05 20 49.4		
	baz=5.6							
MNTX				Sb		05 21 55.5		
	baz=5.6							
OK032	**Salt Plains WL**	**5.23**	**89**		**Pn**	**05 20 38.5**		**-0.2**
OK032				IAmb_Lg		05 22 05.3		
	comp=Z,95nm,1.0s							
RDMU	**Red Mountain**	**5.27**	**316**	Pn	**Pn**	**05 20 39.0**		**-0.5**
RDMU				IAML		05 22 11.3		
	comp=N,30nm,1.3s							
RDMU				IAML		05 22 14.8		
	comp=E,37nm,0.8s							
WMOK	**Wichita Mounta**	**5.29**	**112**		**Pn**	**05 20 39.3**		**-0.2**
WMOK				IAmb_Lg		05 22 18.6		
	comp=Z,112nm,1.0s							
WMOK	**Wichita Mounta**	**5.29**	**112**	P		05 20 38.3		
	baz=296							
KAN10	**Anthony SW Sta**	**5.31**	**86**		**Pn**	**05 20 38.2**		**-1.6**
KAN12	**Harper NE Stat**	**5.39**	**84**	Pn	**Pn**	**05 20 40.0**		**-1.0**
KAN12				IAmb_Lg		05 22 09.2		

baz=231
BGNE **Belgrade** 6.81 47 P 05 20 58.7
baz=231
LCMT **Little Creek M** 6.82 274 Pn **05 21 00.2 -0.5**
N33A **J Bar K, Exete** 6.85 54 IAmb_Lg 05 23 03.7
comp=Z,90nm,0.8s
PDAR **Pinedale Array** 6.94 329 Pn Pn **05 21 00.3 -2.0**
comp=Z,0.2nm,0.3s,baz=139,slow=14,SNR=7.1
PDAR Pg **Pb** **05 21 25.0 +3.8**
comp=Z,1.9nm,0.3s,baz=139,slow=16,SNR=21
PDAR Lg Lg 05 22 56.1
comp=Z,1.0nm,0.3s,baz=141,slow=30,SNR=3.5
Z35A **Perchaven, San** 7.08 118 IAmb_Lg 05 23 05.4
comp=Z,105nm,1.2s
RSSD **Black Hills** 7.24 4 Pn **05 21 04.1 -2.3**
RSSD IAmb_Lg 05 23 14.1
comp=Z,56nm,1.1s
RSSD **Black Hills** 7.24 4 P 05 21 04.5
baz=184
TUL1 **Leonard** 7.27 95 P Pn **05 21 05.5 -1.3**
baz=280,SNR=7.7
TUL1 **Leonard** 7.27 95 P 05 21 05.3
baz=280,SNR=7.7
TUL1 **Leonard** 7.27 95 P 05 21 05.5
baz=280,SNR=7.7
K31A **O'Neill** 7.34 37 Pn Pn **05 21 07.0 -0.7**
TX31 **Lajitas Ar. Si** 7.59 173 Pn Pn **05 21 12.0 +0.7**
TX32 **Lajitas Array** 7.59 173 Pn Pn **05 21 12.3 +1.0**
TXAR **Lajitas Array** 7.59 173 Pn Pn **05 21 09.9 -1.3**
comp=Z,0.5nm,0.3s,baz=1.1,slow=11,SNR=7.8
TXAR Pg **Pb** **05 21 35.5 +3.2**
comp=Z,1.7nm,0.3s,baz=359,slow=12,SNR=12
TXAR Lg Lg 05 23 10.1
comp=Z,3.6nm,0.3s,baz=347,slow=27,SNR=11
JCT **Junction City** 7.60 146 IAmb_Lg 05 23 30.6
comp=Z,86nm,0.8s
JCT **Junction City** 7.60 146 P 05 21 10.9
baz=329
WHTX **Lake Whitney,** 7.75 127 P 05 21 13.4
baz=311
X37A **Clayton** 7.95 104 IAmb_Lg 05 23 46.4
comp=Z,61nm,0.8s
U38A **Gravette** 8.32 90 IAmb_Lg 05 23 45.4
comp=Z,49nm,0.7s
HHAR **Hobbs** 8.70 91 IAmb_Lg 05 23 57.6
comp=Z,82nm,1.0s
SUSD **Miller** 8.72 28 IAmb_Lg 05 24 02.1
comp=Z,52nm,0.9s
SUSD **Miller** 8.72 28 P 05 21 25.1
baz=212
W39A **Magazine** 9.02 98 IAmb_Lg 05 24 17.5
comp=Z,55nm,0.8s
ELK **Elko** 9.06 298 Lg Lg 05 23 59.6
comp=Z,0.1nm,0.3s,baz=104,slow=7.6,SNR=1.5
S39A **Bolivar** 9.12 82 P Pn **05 21 31.8 -0.4**
baz=268,SNR=5.5
S39A **Bolivar** 9.12 82 P 05 21 31.8
baz=268,SNR=5.5
P38A **Dawn** 9.22 69 P Pn **05 21 30.7 -2.7**
baz=256,SNR=7.0
P38A **Dawn** 9.22 69 P 05 21 30.7
baz=256,SNR=7.0
MIAR **Mount Ida** 9.37 101 IAmb_Lg 05 24 31.8
comp=Z,65nm,1.2s
MIAR **Mount Ida** 9.37 101 P 05 21 34.1
baz=288,SNR=6.7
U40A **Yellville** 9.56 90 IAmb_Lg 05 24 31.6
comp=Z,48nm,0.9s
NATX **Nacogdoches** 9.77 119 IAmb_Lg 05 24 43.1
comp=Z,39nm,1.0s
MGMO **Mountain Grove** 9.97 85 IAmb_Lg 05 24 39.6
comp=Z,43nm,0.8s
X40A **Basin Creek Fa** 9.97 100 IAmb_Lg 05 24 43.8
comp=Z,47nm,0.8s
NVAR **Mina Array Bea** 10.87 282 Pg Pn 05 22 36.1 +40
comp=Z,0.2nm,0.3s,baz=104,slow=18,SNR=7.2
ULM **Lac du Bonnet** 14.79 23 Pn Pn 05 22 44.7 -4.9
comp=Z,0.3nm,0.3s,baz=202,slow=12,SNR=2.3
ULM Lg Lg 05 26 59.1
comp=Z,0.3nm,0.3s,baz=108,slow=20,SNR=3.5
TKL **Tuckaleechee C** 16.94 88 Lg Lg 05 28 11.5
comp=Z,0.4nm,0.3s,baz=14,slow=23,SNR=5.9
YKA **Yellowknife Ar** 26.34 350 P **P** **05 24 53.8 -2.4**
comp=Z,0.3nm,0.6s,baz=159,slow=9.7,SNR=6.2
ILAR **Eielson Array** 37.36 332 P **P** **05 26 31.3 -1.6**
comp=Z,0.5nm,0.9s,baz=129,slow=9.7,SNR=6.0

*SJA **20** 05:23:25.3±0.5,36°.30S×75°.18W,h10km,ML4.0,MW3.9*
*NEIC **20** 05:23:40.9±2.0,36°.26S±0°.05×73°.82W±0°.07,h16km±5km, mb4.0/6,ML4.3(GUC),Error ellipse: s-maj=8.1km s-min=7.3km az=69.0*
*IDC **20** 05:23:41.5±1.4,36°.16S×73°.41W,h0km,mb3.5/4, mb1 3.9/5,mb1mx3.6/29,mbtmp3.5/5,ML3.8/1,Error ellipse: s-maj=47.4km s-min=18.2km az=73.0*
*GUC **20** 05:23:43.1±0.7,36°.35S×73°.83W,h44km±3km,ML4.3*
ISC 20 05:23:42.1±1.3,36°.23S±0°.04×73.71W±0°.06,h17km±4km, n47,σ1§61/52,mb3.6/4,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.82**	**138**	**⇑*i*P**		**Pg**	**05 23 58.1**	**-0.1**
BI03				*i* S		**Sg**	**05 24 09.2**	**0.0**
BI03				IAML			05 24 12.0	
comp=N,26μm,0.5s								
BI03	**Tigo**	**0.82**	**138**			**Pg**	**05 23 58.2**	**0.0**
BI03				Sn		**Sg**	**05 24 09.0**	**-0.2**
LAJA	**Laja**	**1.32**	**143**	*e*P		**Pn**	**05 24 05.1**	**-0.6**
LAJA				*i* S		**Sb**	**05 24 21.3**	**-1.8**
BI02	**San Fabin de**	**2.01**	**103**	*e*P		**Pn**	**05 24 15.6**	**+0.3**
BI02				*i* S		**Sn**	**05 24 40.9**	**+0.7**
BI02	**San Fabin de**	**2.01**	**103**			**Pn**	**05 24 15.5**	**+0.1**
BO03	**Pichilemu**	**2.25**	**40**	⇑*i*P		**Pn**	**05 24 17.4**	**-1.0**
CANA	**Caviahue**	**2.69**	**129**	*i* P		**Pn**	**05 24 26.7**	**+2.0**
CANA				*e*S		**Sg**	**05 25 09.2**	**+0.6**
CANA				IAML			05 25 14.9	
comp=Z,213nm,0.6s								
BO02	**Sierra Bellavi**	**2.79**	**60**	*e*P		**Pn**	**05 24 27.4**	**+1.4**
BO02				IAML			05 25 20.9	
comp=N,901nm,0.7s								
BO02	**Sierra Bellavi**	**2.79**	**60**			**Pn**	**05 24 26.1**	**+0.1**
EDS3	**Malargue**	**3.53**	**84**	*i* P		**Pb**	**05 24 45.9**	**+1.7**
EDS3				*e*S		**Sg**	**05 25 35.6**	**+0.2**
COIS	**El Sosneado**	**3.54**	**73**	*i* P		**Pn**	**05 24 39.0**	**+2.7**
COIS				*e*S		**Sg**	**05 25 34.9**	**-0.8**
MT02	**Curacav**	**3.64**	**36**			**Pn**	**05 24 36.7**	**-1.0**
MT05	**Renca**	**3.74**	**42**			**Pn**	**05 24 39.4**	**+0.3**
LAMA	**Las Malvinas**	**3.89**	**72**	*e*P		**Pb**	**05 24 51.5**	**+1.2**
ROC1	**El Roble**	**3.94**	**35**	*i* P		**Pn**	**05 24 41.4**	**-0.6**
ROC1				*e*S		**Sb**	**05 25 42.1**	**+3.5**
PEL	**Peldehue**	**3.96**	**40**			**Pn**	**05 24 42.7**	**+0.6**
PEL	**Peldehue**	**3.96**	**40**	*i* P		**Pn**	**05 24 42.4**	**+0.3**
VA03	**San Esteban**	**4.33**	**38**			**Pn**	**05 24 47.4**	**+0.1**
RFA	**San Rafael**	**4.52**	**73**	*i* P		**Pn**	**05 24 51.8**	**+2.0**
RFA				IAML			05 26 15.4	
comp=Z,105nm,0.8s								
H03S1	**Juan Fernandez**	**4.88**	**298**	T		T	05 30 08.1	
baz=118,slow=74,SNR=297								
H03S3	**Juan Fernandez**	**4.89**	**298**	T		T	05 29 56.2	
baz=118,slow=74,SNR=287								
H03S2	**Juan Fernandez**	**4.90**	**298**	T		T	05 30 06.3	
baz=118,slow=74,SNR=268								
VA04	**Juan Fernndez**	**4.93**	**300**	Pn		**Pn**	**05 24 53.2**	**-2.2**
AAGR	**Agrelo**	**5.10**	**53**	*i* P		**Pn**	**05 24 59.9**	**+2.0**
AAGR				IAML			05 26 45.6	
comp=Z,38nm,1.8s								
PLCA	**Paso Flores**	**5.13**	**152**	Pn		**Pn**	**05 24 59.9**	**+1.7**
comp=Z,0.8nm,0.3s,baz=333,slow=12,SNR=28								
PLCA				Pg		**Pb**	**05 25 15.0**	**+3.5**
comp=Z,1.2nm,0.3s,baz=324,slow=14,SNR=9.5								
PLCA				Lg		Lg	05 26 21.8	
comp=Z,1.5nm,0.3s,baz=277,slow=12,SNR=4.8								
CO02	**Combarbal**	**5.50**	**25**			**Pn**	**05 25 03.0**	**-0.3**
CO03	**El Pedregal**	**5.94**	**26**			**Pn**	**05 25 09.2**	**-0.1**
LL01	**San Ignacio de**	**6.22**	**171**			**Pn**	**05 25 11.1**	**-2.0**
ZON	**Zonda**	**6.27**	**43**			**Pn**	**05 25 14.5**	**+0.6**
GO04	**Tololo Observa**	**6.51**	**23**			**Pn**	**05 25 16.1**	**-1.3**
ACCO	**Cerro Coronel**	**6.84**	**36**	*i* P		**Pn**	**05 25 22.2**	**+0.3**
ACCO				IAML			05 27 25.6	
comp=Z,13nm,1.9s								
CO01	**Juntas del Tor**	**6.94**	**27**			**Pn**	**05 25 23.6**	**+0.4**
LCO	**Las Campanas**	**7.63**	**20**	Pn		**Pn**	**05 25 31.6**	**-1.2**
AC05	**El Transito**	**7.92**	**22**			**Pn**	**05 25 36.4**	**-0.3**
AC04	**Llanos de Chal**	**8.31**	**16**	Pn		**Pn**	**05 25 45.1**	**+3.3**
ACLC	**CERRO LA CRUZ**	**8.85**	**42**	*i* P		**Pn**	**05 25 47.0**	**-2.4**
ACLC				IAML			05 27 53.8	
comp=Z,5.0nm,1.0s								
AC02	**Maricunga**	**10.15**	**24**			**Pn**	**05 26 06.3**	**-1.1**
PSGCX	**Pisagua**	**16.87**	**12**	P		**Pn**	**05 27 37.2**	**-0.4**
PSGCX				IAmb		IAmb	05 27 48.8	
comp=Z,16nm,1.2s								
MNMC	**Minye Minye**	**17.42**	**13**	P		**Pn**	**05 27 45.3**	**+0.7**
MNMC				IAmb		IAmb	05 27 51.7	
comp=Z,5.1nm,0.7s								
PB16	**IPOC Station P**	**18.21**	**13**	P		**Pn**	**05 27 54.0**	**-0.7**
PB16				IAmb		IAmb	05 28 18.8	
comp=Z,12nm,1.5s								
LPAZ	**La Paz**	**20.47**	**15**	P		Pn	05 28 21.8	-0.1
comp=Z,1.7nm,0.7s,baz=190,slow=7.9,SNR=8.3								
LPAZ	**La Paz**	**20.47**	**15**	P		**P**	**05 28 18.9**	**-0.8**
SIV	**San Ignacio**	**23.09**	**32**	P		**P**	**05 28 45.9**	**-1.1**
comp=Z,0.8nm,0.5s,baz=226,slow=13,SNR=6.1								
BDFB	**Brasilia**	**30.73**	**55**	P		**P**	**05 29 53.5**	**-3.0**
QSPA	**South Pole Qui**	**54.01**	**180**	P		**P**	**05 33 02.3**	**-2.7**
QSPA				IAmb		IAmb	05 33 29.4	
comp=Z,5.0nm,1.4s								
TXAR	**Lajitas Array**	**71.04**	**333**	P		**P**	**05 35 01.6**	**+2.4**
comp=Z,0.4nm,0.6s,baz=153,slow=8.8,SNR=4.9								
NVAR	**Mina Array Bea**	**84.95**	**326**	P		**P**	**05 36 18.7**	**+2.4**
comp=Z,0.2nm,0.6s,baz=134,slow=5.2,SNR=2.4								

*GCG **20** 05:35:38.7±0.3,13°.14N×89°.67W,h114km±29km,MD3.9*
*SNET **20** 05:35:42.5±1.2,13°.27N×89°.78W,h43km±13km,ML3.9*
*NEIC **20** 05:35:42.7±1.4,13°.28N±0°.06×89°.77W±0°.07,h47km±11km, Error ellipse: s-maj=13.8km s-min=1.1km az=47.0*
*INET **20** 05:35:43.9,13°.37N×89°.70W,h49km,ML3.2*
*IDC **20** 05:35:44.6±4.8,13°.35N×89°.80W,h59km±38km,mb2.9/2, mb1 3.5/3,mb1mx3.1/24,mbtmp3.3/3,ML3.8/2,Error ellipse: s-maj=39.9km s-min=31.6km az=27.0*
ISC 20 05:35:43.5±1.2,13°.30N±0°.07×89°.70W±0°.05,h50km±10km, n52,σ1§40/73,5D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.41**	**63**	*e*P		**Pn**	**05 35 53.4**	**-0.3**
LALI				*e*S		**Sn**	**05 36 01.1**	**-0.1**
LALI				IAML			05 36 01.1	
comp=Z,2μm,0.2s								
JAYA	**Jayaque - finc**	**0.43**	**34**	⇓*i*P		**Pn**	**05 35 53.8**	**-0.3**
JAYA				*e*S		**Sn**	**05 36 02.1**	**+0.3**
JAYA				IAML			05 36 03.1	
comp=Z,23μm,0.2s								
CEVE	**Cerro Verde**	**0.53**	**8**	⇓*i*P		**Pn**	**05 35 55.0**	**-0.4**
CEVE				*e*S		**Sn**	**05 36 04.7**	**+0.8**
CEVE				IAML			05 36 08.3	
comp=Z,18μm,0.2s								
SBLS	**San Blas**	**0.54**	**8**	*i* P		**Pn**	**05 35 55.1**	**-0.5**
MAGS	**Ministerio de**	**0.55**	**46**	*e*P		**Pn**	**05 35 55.3**	**-0.3**
PMON	**Piamonte**	**0.55**	**42**	*e*P		**Pn**	**05 35 55.4**	**-0.2**
PMON				*e*S		**Sn**	**05 36 05.8**	**+1.6**
SNJE	**San Jose**	**0.57**	**9**	*i* P		**Pn**	**05 35 55.4**	**-0.5**
CEDA	**San Andres**	**0.58**	**30**	*e*P		**Pn**	**05 35 55.8**	**-0.1**
CEDA				*e*S		**Sn**	**05 36 05.8**	**+1.1**
CEDA				IAML			05 36 10.2	
comp=Z,6μm,0.2s								
BOQS	**Boqueron**	**0.59**	**43**	*e*P		**Pn**	**05 35 56.1**	**0.0**
SNET	**Serv Nac Est T**	**0.59**	**50**	*e*P		**Pn**	**05 35 55.7**	**-0.4**
SNET				*e*S		**Sn**	**05 36 05.8**	**+0.8**
SNET				IAML			05 36 08.0	
comp=Z,4μm,0.2s								
SNET	**Serv Nac Est T**	**0.59**	**50**			**Pn**	**05 35 55.7**	**-0.4**
UEES	**Universidad Ev**	**0.61**	**47**	*e*P		**Pn**	**05 35 56.0**	**-0.2**
UTEC	**Universidad Te**	**0.63**	**50**	*e*P		**Pn**	**05 35 56.2**	**-0.2**
OPAM	**Oficina de Pla**	**0.64**	**50**	*e*P		**Pn**	**05 35 56.5**	**-0.1**
OPAM				*e*S		**Sn**	**05 36 07.2**	**+1.3**
OPAM				IAML			05 36 10.4	
comp=Z,3μm,0.2s								
IGN	**Direccin Gen**	**0.66**	**51**	*e*P		**Pn**	**05 35 56.7**	**-0.1**
IGN				*e*S		**Sn**	**05 36 07.8**	**+1.3**
UDBS	**Universidad Do**	**0.67**	**52**	*e*P		**Pn**	**05 35 56.9**	**-0.1**
UDBS				*e*S		**Sn**	**05 36 08.0**	**+1.3**
UDBS				IAML			05 36 08.9	
comp=Z,8μm,0.2s								
AEIL	**Aeropuerto Ilo**	**0.69**	**55**	*e*P		**Pn**	**05 35 57.4**	**+0.2**
AEIL				*e*S		**Sn**	**05 36 08.8**	**+1.6**
AEIL				IAML			05 36 13.3	
comp=Z,7μm,0.3s								
UNIC	**Universidad Ca**	**0.69**	**12**	*i* P		**Pn**	**05 35 57.0**	**-0.3**
UNIC				*e*S		**Sn**	**05 36 08.5**	**+1.3**
LFRS	**El Faro**	**0.70**	**62**	⇓*i*P		**Pn**	**05 35 57.3**	**-0.1**
LFU	**La Fuente**	**0.72**	**52**	*i* P		**Pn**	**05 35 57.9**	**+0.3**
LBRS	**Las Brisas**	**0.77**	**55**	⇓*i*P		**Pn**	**05 35 58.6**	**+0.3**
COEG	**Centro de Oper**	**0.86**	**68**	*e*P		**Pn**	**05 35 59.5**	**+0.1**
COEG				*e*S		**Sn**	**05 36 12.6**	**+1.5**
COEG				IAML			05 36 16.1	
comp=Z,3μm,0.3s								
UESV	**Universidad de**	**0.95**	**69**	*e*P		**Pn**	**05 36 01.1**	**+0.5**
UESV				*e*S		**Sn**	**05 36 15.2**	**+2.1**
UESV				IAML			05 36 17.8	
comp=Z,2μm,0.2s								
ALJI	**Alcalda de J**	**1.10**	**88**	*e*P		**Pn**	**05 36 02.3**	**-0.2**
ALJI				*e*S		**Sn**	**05 36 19.4**	**+2.7**
ALJI				IAML			05 36 20.4	
comp=Z,764nm,0.3s								
LLGN	**La Laguna**	**1.13**	**40**	*e*P		**Pn**	**05 36 02.9**	**-0.2**
MTO3	**Montecristo**	**1.14**	**17**	⇓*i*P		**Pn**	**05 36 03.0**	**-0.4**
MTO3	**Montecristo**	**1.14**	**17**			**Pn**	**05 36 02.8**	**-0.6**
MTO3				Sn		**Sn**	**05 36 17.6**	**-0.5**
COEB	**Comit de Eme**	**1.15**	**80**	*e*P		**Pn**	**05 36 03.4**	**0.0**
COEB				*e*S		**Sn**	**05 36 18.8**	**+0.6**
COEB				IAML			05 36 23.3	
comp=Z,1μm,0.4s								
TECA	**Tecapa**	**1.18**	**80**	*e*P		**Pn**	**05 36 04.0**	**+0.1**
PACA	**Pacayal**	**1.35**	**83**	*e*P		**Pn**	**05 36 06.8**	**+0.7**
PACA				*e*S		**Sn**	**05 36 25.9**	**+2.9**
PCG	**Pacaya**	**1.40**	**321**	*e*P		**Pn**	**05 36 07.4**	**+0.4**
PCG				*e*S		**Sn**	**05 36 29.7**	**+5.2**
NBG	**Las Nubes**	**1.43**	**334**	*e*P		**Pn**	**05 36 08.0**	**+0.6**
NBG				*e*S		**Sn**	**05 36 30.7**	**+5.6**
FUG	**Fuego 3**	**1.59**	**316**	*e*P		**Pn**	**05 36 09.3**	**-0.2**
FUG				*e*S		**Sn**	**05 36 33.3**	**+4.2**
MRL	**Marmol**	**1.77**	**0**	*e*P		**Pn**	**05 36 11.9**	**-0.1**
MRL	**Marmol**	**1.77**	**0**	*e*P		**Pn**	**05 36 11.9**	**-0.1**
APG	**El Apazote**	**1.85**	**336**	P		**Pn**	**05 36 12.6**	**-0.4**
comp=Z,4.2nm,0.3s,baz=120,slow=20,SNR=115								
APG				S		**Sn**	**05 36 34.9**	**-0.5**
comp=Z,11nm,0.3s,baz=122,slow=18,SNR=8.7								
CSGN	**Cosiguina Volc**	**2.11**	**99**			**Pn**	**05 36 17.0**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.47**	**72**			**Pn**	**05 36 21.6**	**+0.1**
CRIN	**San Cristobal**	**2.65**	**103**			**Pn**	**05 36 23.5**	**-0.3**
CCIG	**Comitan**	**3.79**	**322**			**Pn**	**05 36 37.1**	**-2.5**
BOAB	**BOACO BROADBAN**	**4.02**	**102**			**Pn**	**05 36 42.4**	**-0.2**
JTS	**Las Juntas de**	**5.52**	**122**	Pn		**Pn**	**05 37 03.2**	**-0.1**
CAO2	**Cobano, Puntar**	**5.75**	**128**	Pn		**Pn**	**05 37 06.1**	**-0.4**
CMIG	**Matias Romero**	**6.27**	**308**	P		**Pn**	**05 37 12.5**	**-1.0**
comp=Z,0.7nm,0.3s,baz=108,slow=9.4,SNR=13								
CMIG				S		**Sn**	**05 38 22.6**	**-1.1**
comp=Z,1.7nm,0.3s,baz=353,slow=17,SNR=6.1								
TEIG	**Tepich**	**7.02**	**11**	P		**Pn**	**05 37 24.5**	**+0.7**
comp=Z,5.8nm,0.3s,baz=228,slow=1.9,SNR=28								
TEIG	**Tepich**	**7.02**	**11**			**Pn**	**05 37 23.9**	**+0.1**
PEZE	**Perez Zeledon,**	**7.07**	**123**	Pn		**Pn**	**05 37 24.4**	**-0.2**
RIOS	**Rincon, Osa**	**7.60**	**126**	Pn		**Pn**	**05 37 32.2**	**+0.5**
TXAR	**Lajitas Array**	**20.56**	**323**	P		Pn	05 40 19.0	-1.8
comp=Z,0.3nm,0.5s,baz=133,slow=11,SNR=8.3								
NVAR	**Mina Array Bea**	**35.63**	**320**	P		**P**	**05 42 35.0**	**-2.0**
comp=Z,0.2nm,0.5s,baz=132,slow=8.4,SNR=4.4								
WRA	**Warramunga Arr**	**137.38**	**255**	PKP		**PKiKP**	**05 55 02.9**	**-1.5**
comp=Z,0.3nm,0.7s,baz=89,slow=2.4,SNR=2.1								
FITZ	**Fitzroy Crossi**	**145.68**	**257**	PKPab		**PKPab**	**05 55 18.6**	**+0.5**

NNC 20 05:38:49.8±3.5,36°.44N×70°.55E,h88km±70km,mb3.4, mpv3.6,2C-1D,Error ellipse: s-maj=34.1km s-min=26.7km az=107.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.66**	**360**	P		Pn	05 40 24.9	-0.1
1.5nm,0.3s,baz=168,slow=11,SNR=37								
KK31				S		Sn	05 41 40.0	+0.7
3.3nm,0.4s,baz=191,slow=18,SNR=7.5								
AAK	**Ala-Archa**	**6.90**	**25**	⇑P		Pn	05 40 28.5	+0.1
2.1nm,0.5s								
AAK				⇑S		Sn	05 41 45.9	+0.5
10nm,1.0s								
AB31	**Akbulak array**	**14.97**	**332**	P		Pn	05 42 15.2	-1.3
0.9nm,0.5s,baz=164,slow=12,SNR=33								
AKTO	**Aktyubinsk**	**16.66**	**331**	⇓P		P	05 42 38.8	+0.2
2.3nm,0.8s								

*SNET **20** 05:56:59.1±1.2,13°.16N×89°.37W,h55km±12km,ML3.1*
*INET **20** 05:56:59.7,13°.20N×89°.35W,h52km,ML3.2*
*GCG **20** 05:57:01.0±0.4,16°.14N×90°.29W,h98km±85km,MD3.8*
ISC 20 05:57:01.1±2.1,13°.2N±0°.1×89°.31W±0°.04,h34km±3km,n17, σ1§16/27,2D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.33**	**358**	⇓*i*P		**Pb**	**05 57 08.9**	**-0.3**
LALI				IAML			05 57 16.3	
comp=Z,810nm,0.2s								
LALI				*e*S		**Sb**	**05 57 16.4**	**+1.6**
JAYA	**Jayaque - finc**	**0.51**	**344**	*e*P		**Pb**	**05 57 10.6**	**-1.4**
LFRS	**El Faro**	**0.52**	**27**	⇓*i*P		**Pb**	**05 57 11.4**	**-0.7**
OPAM	**Oficina de Pla**	**0.56**	**11**	*e*P		**Pn**	**05 57 11.8**	**-0.9**
AEIL	**Aeropuerto Ilo**	**0.56**	**19**	*e*P		**Pn**	**05 57 12.2**	**-0.5**
AEIL				*e*S		**Sn**	**05 57 22.8**	**+1.8**
BOQS	**Boqueron**	**0.57**	**3**	*i* P		**Pn**	**05 57 12.0**	**-1.0**
LFU	**La Fuente**	**0.61**	**18**	*e*P		**Pn**	**05 57 13.1**	**-0.4**
COEG	**Centro de Oper**	**0.62**	**42**	*i* P		**Pn**	**05 57 12.4**	**-1.1**
COEG				*e*S		**Sb**	**05 57 23.0**	**+0.7**
COEG				IAML			05 57 28.1	
comp=Z,933nm,0.3s								
LBRS	**Las Brisas**	**0.63**	**24**	*i* P		**Pn**	**05 57 13.3**	**-0.4**
CEDA	**San Andres**	**0.65**	**352**	*e*P		**Pn**	**05 57 12.5**	**-1.3**
CEDA				*e*S		**Sn**	**05 57 23.3**	**+0.3**
CEVE	**Cerro Verde**	**0.73**	**335**	*e*P		**Pn**	**05 57 13.6**	**-1.7**
CEVE				*e*S		**Sn**	**05 57 25.2**	**-0.2**
ALJI	**Alcalda de J**	**0.74**	**77**	*e*P		**Pn**	**05 57 14.6**	**-0.5**
ALJI				*e*S		**Sb**	**05 57 26.6**	**+1.1**
COEB	**Comit de Eme**	**0.83**	**66**	*e*P		**Pn**	**05 57 15.4**	**-1.1**
COEB				*e*S		**Sn**	**05 57 28.1**	**+0.5**
PACA	**Pacayal**	**1.01**	**72**	*e*P		**Pn**	**05 57 18.8**	**-0.2**
NBG	**Las Nubes**	**1.74**	**325**	*e*P		**Pn**	**05 57 28.9**	**-0.3**
NBG				*e*S		**Sn**	**05 57 52.6**	**+2.2**
PCG	**Pacaya**	**1.76**	**314**	*e*P		**Pn**	**05 57 31.5**	**+2.0**
PCG				*e*S		**Sb**	**05 57 55.6**	**+0.9**
FUG	**Fuego 3**	**1.96**	**311**	*e*P		**Pn**	**05 57 31.5**	**-0.7**
FUG				*e*S		**Sn**	**05 57 54.9**	**-0.9**

*NEIC **20** 05:57:22.4±0.8,18°.02N±0°.06×67°.93W±0°.06,h25km±14km, Error ellipse: s-maj=9.5km s-min=6.8km az=220.0*
*RSPR **20** 05:57:23.8,18°.04N×67°.92W,h67km±1km,MD3.4/12*
*OSPL **20** 05:57:24.1±0.8,17°.95N×67°.59W,h95km±13km,ML2.7*
ISC 20 05:57:23.5±1.3,18°.1N±0°.1×67°.80W±0°.04,h94km,n55, σ1§17/64,9C-3D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**0.64**	**79**			**Pn**	**05 57 38.3**	**-1.5**
MPR				IAML			05 57 49.9	
comp=N,276nm,0.6s								
MPR	**Mayaguez**	**0.64**	**79**	*i* P		**Pn**	**05 57 38.3**	**-1.5**
MPR				*e*S		**Sn**	**05 57 49.3**	**-2.7**
MPR				IAML			05 57 51.8	
comp=Z,124nm,0.3s								
LSP	**Las Mesas**	**0.68**	**83**	⇑*e*P		**Pn**	**05 57 39.1**	**-1.2**
LSP	**Las Mesas**	**0.68**	**83**	*e*S		**Sn**	**05 57 51.2**	**-1.6**
LSP	**Las Mesas**	**0.68**	**83**			**Pn**	**05 57 39.1**	**-1.2**
LSP						**Sn**	**05 57 51.2**	**-1.6**
MLPR	**Magueyes Islan**	**0.72**	**99**	⇑*e*P		**Pn**	**05 57 39.4**	**-1.2**
MLPR	**Magueyes Islan**	**0.72**	**99**	*e*S		**Sn**	**05 57 51.5**	**-1.9**
MLPR	**Magueyes Islan**	**0.72**	**99**			**Pn**	**05 57 39.4**	**-1.2**
MLPR						**Sn**	**05 57 51.5**	**-1.9**
MLPR	**Magueyes Islan**	**0.72**	**99**	IAML			05 57 52.8	
comp=N,377nm,0.4s								
AGPR	**Aguadilla, PR**	**0.75**	**60**	⇓*e*P		**Pn**	**05 57 39.8**	**-1.1**
AGPR	**Aguadilla, PR**	**0.75**	**60**	*e*S		**Sn**	**05 57 52.3**	**-1.6**
AGPR	**Aguadilla, PR**	**0.75**	**60**			**Pn**	**05 57 39.8**	**-1.1**
AGPR						**Sn**	**05 57 52.3**	**-1.6**
AGPR	**Aguadilla, PR**	**0.75**	**60**	IAML			05 57 54.2	
comp=N,246nm,0.5s								
AGPR				IAML			05 57 54.5	
comp=E,246nm,0.4s								
AGPR	**Aguadilla, PR**	**0.75**	**60**	*i* P		**Pn**	**05 57 39.7**	**-1.1**
AGPR				*e*S		**Sn**	**05 57 52.1**	**-1.8**
AGPR				IAML			05 57 56.2	
comp=Z,115nm,0.3s								
AOPR	**Arecibo Observ**	**1.02**	**75**	⇑*e*P		**Pn**	**05 57 43.2**	**-0.6**
AOPR	**Arecibo Observ**	**1.02**	**75**	*e*S		**Sn**	**05 57 58.3**	**-0.7**
AOPR	**Arecibo Observ**	**1.02**	**75**			**Pn**	**05 57 43.2**	**-0.6**
AOPR						**Sn**	**05 57 58.3**	**-0.7**
AOPR	**Arecibo Observ**	**1.02**	**75

mb1 3.8/4, **mb1mx3.4**/28, **mbtmp3.6**/4, **ML2.5**/2, **Error ellipse: s-maj=60.0km s-min=39.9km az=167.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.06**	**264**	Pn	Pn	06 08 40.6	+0.3
	27nm,0.3s,baz=90,slow=8.2,SNR=27						
PMG				Sn	Sn	06 09 06.2	-0.5
	32nm,0.3s,baz=356,slow=23,SNR=6.5						
WRA	**Warramunga Arr**	**17.91**	**232**	P	Pn	06 12 15.3	0.0
	0.1nm,0.3s,baz=58,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**20.53**	**224**	P	P	06 12 44.9	+0.3
	1.6nm,0.7s,baz=59,slow=10,SNR=23						
FITZ	**Fitzroy Crossi**	**24.54**	**246**	P	P	06 13 24.9	-1.2
	1.1nm,0.7s,baz=78,slow=9.3,SNR=6.8						
TORD	**Torodi Ar. Bea**	**147.93**	**280**	PKPbc	PKPbc	06 27 53.3	+0.5
	0.3nm,0.5s,baz=94,slow=2.6,SNR=1.8						

*IDC **20** 06:46:09.3±2.0, 0.°88S×134.°61E, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.6/47, mbtmp3.8/6, ML3.9/3, Error ellipse: s-maj=48.5km s-min=24.0km az=67.0*
*DJA **20** 06:46:13.1±0.4, 1.°5S±3.°×13.°4E±.°, h14km±3km, M4.6/7, mb5.9/1, mB6.4/1, MLv3.9/7, Mw(mB)6.2/1*
ISC 20 06:46:14.1±0.9, **1.°09S**±0.°09×**134.°47E**±0.°05, **h27**km, **n13**, σ1§**42**/16, **mb3.6**/3, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.51**	**215**	P	**Pb**	**06 46 23.9**	**-0.7**
RKPI				S	**Sb**	**06 46 31.1**	**-0.5**
BAKI	**Biak**	**1.64**	**93**	P	**Pb**	**06 46 42.4**	**-1.4**
BAKI				S	**Sb**	**06 47 05.4**	**+1.3**
SRPI	**Serui, Papua**	**1.94**	**114**	P	**Pb**	**06 46 46.9**	**-1.9**
FAKI	**Fak Fak**	**2.86**	**231**	P	**Pn**	**06 46 57.5**	**-0.6**
SIJI	**Sorong**	**3.21**	**274**	Pn	**Pn**	**06 47 04.3**	**+1.5**
	4.4nm,0.3s,baz=230,slow=23,SNR=18						
SIJI				Sn	**Sn**	**06 47 41.6**	**+1.4**
	3.9nm,0.3s,baz=66,slow=20,SNR=1.7						
SWI	**Sorong**	**3.21**	**274**	P	**Pn**	**06 47 02.1**	**-0.8**
SMPI	**Sarmi**	**4.34**	**102**	P	**Pn**	**06 47 19.6**	**+1.3**
MSAI	**Masohi**	**5.97**	**248**	P	**Pn**	**06 47 40.0**	**-0.8**
WRA	**Warramunga Arr**	**18.73**	**180**	P	**Pn**	**06 50 31.0**	**-0.5**
	0.4nm,0.3s,baz=0.5,slow=12,SNR=31						
FITZ	**Fitzroy Crossi**	**18.99**	**207**	P	**Pn**	**06 50 33.8**	**-0.9**
	0.4nm,0.3s,baz=34,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**22.45**	**181**	P	**P**	**06 51 12.1**	**+0.8**
	1.2nm,0.6s,baz=7.9,slow=11,SNR=21						
STKA	**Stephens Creek**	**31.35**	**168**	P	**P**	**06 52 35.1**	**+2.5**
	3.2nm,0.8s,baz=350,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**65.95**	**324**	P	**P**	**06 56 56.4**	**-1.7**
	0.3nm,0.6s,baz=116,slow=8.2,SNR=4.1						

IDC 20 06:47:02.4±7.8, **6.°20S**×**149.°83E**, **h50**km±62km, **mb3.8**/3, **mb1 4.2**/4, **mb1mx3.4**/37, **mbtmp4.2**/4, **ML2.6**/1, **MS3.0**/2, **Ms1 3.0**/2, **ms1mx2.5**/38, **Error ellipse: s-maj=100.1km s-min=48.5km az=130.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.15**	**220**	P	Pn	06 48 02.6	-0.6
	30nm,0.3s,baz=20,slow=4.6,SNR=35						
PMG				S	Sn	06 48 51.4	+1.0
	10nm,0.3s,baz=302,slow=22,SNR=13						
PMG				LR	LR	06 49 34.6	
	comp=Z,124nm,21.0s,baz=326,slow=37						
WRA	**Warramunga Arr**	**20.33**	**226**	P	P	06 51 34.3	-0.3
	6.8nm,0.5s,baz=52,slow=11,SNR=46						
WRA				LR	LR	07 00 34.8	
	comp=Z,53nm,19.1s,baz=170,slow=40						
ASAR	**Alice Springs**	**23.16**	**220**	P	P	06 52 04.4	-0.3
	1.3nm,0.6s,baz=54,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**26.40**	**241**	P	P	06 52 34.4	0.0
	1.9nm,0.4s,baz=66,slow=11,SNR=7.6						
TORD	**Torodi Ar. Bea**	**147.87**	**285**	PKPbc	PKPbc	07 06 42.8	-0.2
	0.7nm,0.4s,baz=85,slow=2.4,SNR=6.6						

*JMA **20** 07:07:21.7±0.1, 24.°83N×122.°44E, h127km±2km, M2.1*
*TAP **20** 07:07:22.2, 24.°91N×122.°49E, h118km±1km, ML3.2, D*
ISC 20 07:07:22.9±1.8, **24.°90N**±0.°06×**122.°47E**±0.°03, **h116**km±10km, **n57**, σ0§**39**/103, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45**	**284**	*e*P	**Pn**	**07 07 40.1**	**+0.1**
	baz=282						
TWB1				*e*S	**Sn**	**07 07 53.7**	**+0.8**
	baz=282						
EGS		**0.49**	**264**	*e*P	**Pn**	**07 07 40.0**	**-0.2**
	baz=262						
EGS				*e*S	**Sn**	**07 07 53.1**	**-0.2**
	baz=262						
NTC	**Toucheng**	**0.58**	**266**	*e*P	**Pn**	**07 07 40.8**	**0.0**
	baz=265						
NTC				*e*S	**Sn**	**07 07 54.7**	**+0.2**
	baz=265						
TIPB	**Shuangxi**	**0.59**	**278**	P	**Pn**	**07 07 41.0**	**0.0**
	baz=276						
TIPB				*e*S	**Sn**	**07 07 53.7**	**-0.9**
	baz=276						
JYNG	**Yonagunijimaku**	**0.62**	**136**	P	**Pn**	**07 07 41.1**	**0.0**
JYNG				S	**Sn**	**07 07 56.0**	**+1.1**
TWC	**Suao**	**0.63**	**243**	P	**Pn**	**07 07 41.0**	**-0.3**
	baz=242						
TWC				S	**Sn**	**07 07 54.8**	**-0.3**
	baz=242						
WFSB	**Wu-fen Shan**	**0.65**	**286**	*e*P	**Pn**	**07 07 41.5**	**+0.1**
	baz=284						
YOJ	**Yonaguni jima**	**0.66**	**131**	*e*P	**Pn**	**07 07 41.5**	**+0.1**
	baz=133						
YOJ				*e*S	**Sn**	**07 07 55.2**	**-0.2**
	baz=133						
YOJ	**Yonaguni jima**	**0.66**	**131**	P	**Pn**	**07 07 41.4**	**0.0**
YOJ				S	**Sn**	**07 07 56.4**	**+1.0**
ILA	**Ilan**	**0.67**	**259**	*e*S	**Sn**	**07 07 55.3**	**-0.3**
	baz=258						
NDS	**Dongshan**	**0.73**	**249**	*e*P	**Pn**	**07 07 42.0**	**-0.1**
	baz=248						
NDS				S	**Sn**	**07 07 56.5**	**-0.1**
	baz=248						
TWE	**Neicheng**	**0.75**	**257**	P	**Pn**	**07 07 42.3**	**+0.1**
	baz=255						
TWE				S	**Sn**	**07 07 56.6**	**-0.2**
	baz=255						
EWUT	**Wuta**	**0.77**	**235**	*e*P	**Pn**	**07 07 42.3**	**-0.1**
	baz=234						
EWUT				*e*S	**Sn**	**07 07 57.1**	**0.0**
	baz=234						
TWA	**Mucha**	**0.81**	**276**	*e*P	**Pn**	**07 07 42.5**	**-0.2**
	baz=275						
TWA				*e*S	**Sn**	**07 07 58.0**	**+0.3**
	baz=275						
ENA	**Nanau**	**0.81**	**235**	*e*P	**Pn**	**07 07 42.3**	**-0.4**
	baz=234						
ENA				*e*S	**Sn**	**07 07 56.9**	**-0.8**
	baz=234						
YM01	**YM01**	**0.85**	**287**	*e*P	**Pn**	**07 07 42.3**	**-0.9**
	baz=285						
ENTT	**Nioudou**	**0.86**	**253**	*e*P	**Pn**	**07 07 43.4**	**+0.2**
	baz=252						
ENTT				*e*S	**Sn**	**07 07 58.6**	**+0.1**
	baz=252						
NHDH	**Xindian Distri**	**0.86**	**275**	*e*P	**Pn**	**07 07 42.9**	**-0.3**
	baz=273						
NHDH				*e*S	**Sn**	**07 07 57.9**	**-0.6**
	baz=273						
YM05	**YM05**	**0.86**	**288**	*e*P	**Pn**	**07 07 43.0**	**-0.3**
	baz=287						
YM04	**YM04**	**0.89**	**287**	*e*P	**Pn**	**07 07 43.3**	**-0.1**
	baz=285						
YM04				*e*S	**Sn**	**07 07 59.0**	**0.0**
	baz=285						
NWLT	**Wulai**	**0.89**	**263**	*i* P	**Pn**	**07 07 43.2**	**-0.3**
	baz=261						
NWLT				S	**Sn**	**07 07 59.4**	**+0.4**
	baz=261						
TAP	**Taipei**	**0.89**	**279**	*e*S	**Sn**	**07 07 59.1**	**+0.2**
	baz=278						
NDT	**Datong Townshi**	**0.92**	**252**	*i* P	**Pn**	**07 07 44.2**	**+0.4**
	baz=251						
NDT				S	**Sn**	**07 08 00.3**	**+0.9**
	baz=251						
BACT	**New Taipei Cit**	**0.94**	**276**	*e*P	**Pn**	**07 07 43.9**	**0.0**
	baz=275						
BACT				*e*S	**Sn**	**07 08 00.1**	**+0.3**
	baz=275						
TWS1	**Kuangyinshan**	**0.98**	**282**	*e*P	**Pn**	**07 07 44.4**	**+0.1**
	baz=281						
TWS1				*e*S	**Sn**	**07 08 01.1**	**+0.6**
	baz=281						
NSK	**Sanguang**	**1.03**	**258**	*i* P	**Pn**	**07 07 45.0**	**0.0**
	baz=257						
NSK				S	**Sn**	**07 08 01.6**	**0.0**
	baz=257						
NTY	**Taoyuan**	**1.07**	**276**	*e*S	**Sn**	**07 08 01.5**	**-0.6**
	baz=274						
NACB	**Ninganchiao**	**1.07**	**228**	P	**Pn**	**07 07 44.5**	**-0.7**
	baz=228						
NACB				S	**Sn**	**07 08 01.4**	**-0.8**
	baz=228						
NNSB	**Datong**	**1.09**	**245**	*i* P	**Pn**	**07 07 45.9**	**+0.3**
	baz=244						
NNSB				*i* S	**Sn**	**07 08 03.3**	**+0.5**
	baz=244						
NNSH	**Datong**	**1.09**	**245**	*e*P	**Pn**	**07 07 45.8**	**+0.2**
	baz=244						
NNS	**Nan Shan**	**1.10**	**246**	*e*P	**Pn**	**07 07 45.8**	**+0.2**
	baz=245						
NNS				*e*S	**Sn**	**07 08 02.8**	**-0.1**
	baz=245						
ETLH	**Xiulin Townshi**	**1.13**	**233**	P	**Pn**	**07 07 45.5**	**-0.5**
	baz=232						
ETLH				S	**Sn**	**07 08 03.1**	**-0.3**
	baz=232						
TWD	**Chiawan**	**1.14**	**225**	*e*P	**Pn**	**07 07 45.6**	**-0.4**
	baz=224						
TWD				S	**Sn**	**07 08 03.5**	**+0.1**
	baz=224						
IRIF	**Iriomote-Funau**	**1.27**	**116**	P	**Pn**	**07 07 47.2**	**-0.2**
FUSS	**Fushou**	**1.29**	**240**	*e*P	**Pn**	**07 07 48.0**	**+0.1**
	baz=240						
FUSS				*e*S	**Sn**	**07 08 07.4**	**+0.6**
	baz=240						
WHF	**Hehuan Shan**	**1.33**	**236**	P	**Pn**	**07 07 48.6**	**+0.1**
	baz=235						
WHF				S	**Sn**	**07 08 07.7**	**-0.2**
	baz=235						
LIOB	**Emei**	**1.35**	**260**	P	**Pn**	**07 07 48.1**	**-0.1**
	baz=259						
LIOB				S	**Sn**	**07 08 07.5**	**0.0**
	baz=259						
TDCB	**Techi**	**1.35**	**242**	*e*P	**Pn**	**07 07 48.5**	**0.0**
	baz=241						
TDCB				*e*S	**Sn**	**07 08 08.0**	**+0.1**
	baz=241						
NSTT	**Nanjuang**	**1.36**	**259**	P	**Pn**	**07 07 48.3**	**-0.1**
	baz=258						
NSTT				S	**Sn**	**07 08 07.4**	**-0.4**
	baz=258						
ESL	**Shilin**	**1.43**	**222**	*e*P	**Pn**	**07 07 49.1**	**-0.1**
	baz=221						
ESL				*e*S	**Sn**	**07 08 08.8**	**-0.4**
	baz=221						
CHGB	**Renai**	**1.45**	**235**	*e*S	**Sn**	**07 08 10.6**	**+0.7**
	baz=234						
WHP	**Taichung City**	**1.52**	**246**	P	**Pn**	**07 07 50.6**	**+0.3**
	baz=246						
WHP				*e*S	**Sn**	**07 08 11.3**	**+0.1**
	baz=246						
JKRS	**Kuro-shima**	**1.55**	**115**	P	**Pn**	**07 07 50.8**	**+0.3**
JKRS				S	**Sn**	**07 08 12.2**	**+0.6**
JIJ	**Ishigaki jima**	**1.61**	**109**	P	**Pn**	**07 07 51.4**	**+0.1**
JIJ				S	**Sn**	**07 08 12.6**	**-0.4**
TWQ1	**Liyutan**	**1.64**	**251**	*e*P	**Pn**	**07 07 52.0**	**+0.4**
	baz=250						
TWQ1				*e*S	**Sn**	**07 08 13.9**	**+0.3**
	baz=250						
WCS	**Beigang Elemen**	**1.65**	**240**	*e*P	**Pn**	**07 07 52.1**	**+0.3**
	baz=239						
VWDT	**VWDT**	**1.66**	**227**	P	**Pn**	**07 07 51.8**	**-0.1**
	baz=227						
VWDT				S	**Sn**	**07 08 13.8**	**-0.2**
	baz=227						
HGSD	**Ruisui**	**1.69**	**215**	*e*P	**Pn**	**07 07 51.9**	**-0.4**
	baz=214						
HGSD				*e*S	**Sn**	**07 08 15.0**	**+0.2**
	baz=214						
JISG	**Ishigakijimahi**	**1.70**	**100**	P	**Pn**	**07 07 52.3**	**-0.1**
JISG				*e*S	**Sn**	**07 08 14.5**	**-0.4**
SSLB	**Suanglung**	**1.77**	**232**	P	**Pn**	**07 07 53.6**	**+0.3**
	baz=231						
SSLB				*e*S	**Sn**	**07 08 16.9**	**+0.4**
	baz=231						
TYC	**Yuchr**	**1.77**	**236**	*e*P	**Pn**	**07 07 53.6**	**+0.3**
	baz=236						
TYC				*e*S	**Sn**	**07 08 16.5**	**+0.1**
	baz=236						
YULB	**Yu-li**	**1.84**	**216**	*e*P	**Pn**	**07 07 54.1**	**-0.1**
	baz=215						
YULB				*e*S	**Sn**	**07 08 17.6**	**-0.4**
	baz=215						
JTJ	**Tarama**	**2.04**	**97**	*e*S	**Sn**	**07 08 21.9**	**-0.6**
ALS	**Alishan**	**2.05**	**228**	*e*P	**Pn**	**07 07 57.2**	**+0.2**
	baz=227						
ALS				*e*S	**Sn**	**07 08 23.0**	**-0.2**
	baz=227						
CHN5	**Tsauling**	**2.08**	**232**	*e*P	**Pn**	**07 07 57.7**	**+0.4**
	baz=231						
CHN5				*e*S	**Sn**	**07 08 23.7**	**+0.1**
	baz=231						
ELDTW	**Lidau**	**2.16**	**218**	*e*P	**Pn**	**07 07 58.3**	**0.0**
	baz=218						
ELDTW				*e*S	**Sn**	**07 08 24.7**	**-0.6**
	baz=218						
CHN4	**Tsaushan**	**2.30**	**229**	P	**Pn**	**07 08 00.1**	**+0.1**
	baz=228						
CHN4				*e*S	**Sn**	**07 08 28.6**	**+0.1**
	baz=228						

*NEIC **20** 07:08:53.7±1.8, 17.°9S±0.°2×178.°31W±0.°10, h591km±8km, mb4.2/20, Error ellipse: s-maj=25.1km s-min=6.4km az=151.0*
*IDC **20** 07:08:55.3±1.8, 17.°60S×178.°51W, h600km±18km, mb3.4/10, mb1 3.8/11, mb1mx3.5/25, mbtmp4.3/11, Error ellipse: s-maj=46.5km s-min=14.3km az=147.0*
ISC 20 07:08:54.2±0.5, **17.°9S**±0.°1×**178.°28W**±0.°09, **h600**km, **n63**, σ0§**84**/67, **mb4.1**/20, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.50**	**273**	P	**P**	**07 10 16.1**	**-0.4**
	6.0nm,0.3s,baz=111,slow=2.8,SNR=37						
MSVF				S	**S**	**07 11 24.4**	**+0.9**
	baz=82,slow=20,SNR=6.9						
MSVF	**Nonsavu**	**3.50**	**273**	P	**P**	**07 10 15.8**	**-0.7**
NIUE	**Niue**	**8.00**	**100**	P	**P**	**07 10 51.9**	**-1.6**
ARMA	**Armidale**	**30.04**	**240**	P	**P**	**07 14 16.5**	**0.0**
ARMA				IAmb	IAmb	07 14 24.6	
	comp=Z,21nm,1.5s						
STKA	**Stephens Creek**	**38.73**	**241**	P	**P**	**07 15 29.2**	**+0.6**
	comp=Z,4.8nm,0.7s,baz=78,slow=9.0,SNR=8.7						
STKA	**Stephens Creek**	**38.73**	**241**	P	**P**	**07 15 29.7**	**+1.1**
BBOO	**Buckleboo**	**43.51**	**241**	P	**P**	**07 16 06.4**	**+0.2**
WB0	**Warramunga Arr**	**44.72**	**260**	P	**P**	**07 16 14.8**	**-1.0**
WB0				IAmb	IAmb	07 16 16.0	
	comp=Z,3.8nm,0.6s						
WRA	**Warramunga Arr**	**44.75**	**260**	P	**P**	**07 16 15.8**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=96,slow=7.0,SNR=105						
WRA				PcP	**PcP**	**07 17 45.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=88,slow=3.4,SNR=6.2						
WRA	**Warramunga Arr**	**44.75**	**260**	P	**P**	**07 16 15.3**	**-0.7**
AS31	**Alice Springs**	**44.91**	**254**	P	**P**	**07 16 16.9**	**-0.2**
AS31				IAmb	IAmb	07 16 18.3	
	comp=Z,4.9nm,0.6s						
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**07 16 17.2**	**+0.1**
	comp=Z,18nm,0.6s,baz=88,slow=8.4,SNR=359						
ASAR				PcP	**PcP**	**07 17 46.0**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=103,slow=3.7,SNR=11						
ASAR				S	**S**	**07 22 10.8**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=92,slow=15,SNR=7.8						
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**07 16 16.9**	**-0.2**
FORT	**Forrest**	**50.11**	**245**	P	**P**	**07 16 55.7**	**0.0**
FITZ	**Fitzroy Crossi**	**53.15**	**261**	P	**P**	**07 17 17.9**	**+0.2**
FITZ				IAmb	IAmb	07 17 30.9	
	comp=Z,6.3nm,1.5s						
PSA00	**Pilbara Seismi**	**58.03**	**255**	P	**P**	**07 17 51.1**	**-0.3**
PSA00				IAmb	IAmb	07 18 18.1	
	comp=Z,23nm,1.4s						
LUWI	**Luwuk**	**60.23**	**279**	P	**P**	**07 18 05.8**	**-0.4**
UGM	**Wanagama**	**69.77**	**268**	P	**P**	**07 19 06.5**	**+0.5**
JHS	**Saijyo**	**69.99**	**319**	P	**P**	**07 19 07.5**	**+0.7**
JHS				IAmb	IAmb	07 19 08.4	
	comp=Z,7.8nm,0.9s						
QSPA	**South Pole Qui**	**72.13**	**180**	P	**P**	**07 19 19.9**	**+1.0**
PEA0B	**Petropavlovsk-**	**73.73**	**345**	P	**P**	**07 19 28.3**	**+0.3**
PEA0B				IAmb	IAmb	07 19 33.0	
	comp=Z,22nm,1.2s						
PETK	**Petropavlovsk-**	**73.73**	**345**	P	**P**	**07 19 27.4**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=114,slow=7.0,SNR=5.2						
PETK	**Petropavlovsk-**	**73.73**	**345**	P	**P**	**07 19 28.0**	**+0.1**
BEKR	**Beckworth**	**78.82**	**42**	P	**P**	**07 19 56.8**	**+0.4**
YERR	**Yerington**	**79.04**	**43**	P	**P**	**07 19 58.5**	**+0.9**
NVAR	**Mina Array Bea**	**79.35**	**44**	P	**P**	**07 20 00.2**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=225,slow=7.3,SNR=12						
NVAR	**Mina Array Bea**	**79.35**	**44**	P	**P**	**07 19 59.9**	**+0.6**
N25K	**Chitina, Valde**	**83.68**	**15**	P	**P**	**07 20 20.3**	**-0.3**
N25K				IAmb	IAmb	07 20 21.7	
	comp=Z,8.7nm,1.2s						
IL31		**85.88**	**13**	P	**P**	**07 20 30.2**	**-0.7**
IL31				IAmb	IAmb	07 20 51.0	
	comp=Z,4.0nm,1.4s						
ILAR	**Eielson Array**	**85.88**	**13**	P	**P**	**07 20 30.1**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=218,slow=5.0,SNR=22						
TX31	**Lajitas Ar. Si**	**85.90**	**58**	P	**P**	**07 20 33.1**	**+1.0**
TX32	**Lajitas Array**	**85.90**	**58**	P	**P**	**07 20 33.1**	**+1.0**
TX32				IAmb	IAmb	07 20 35.0	
	comp=Z,4.8nm,1.1s						
TXAR	**Lajitas Array**	**85.90**	**58**	P	**P**	**07 20 34.1**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=216,slow=6.0,SNR=19						
TXAR	**Lajitas Array**	**85.90**	**58**	P	**P**	**07 20 33.6**	**+1.5**
MCMT	**McKenzie Canyo**	**86.17**	**40**	P	**P**	**07 20 33.5**	**+0.2**
PDAR	**Pinedale Array**	**87.28**	**43**	P	**P**	**07 20 38.9**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=215,slow=3.2,SNR=11						
CMAR	**Chiang Mai Arr**	**89.01**	**290**	P	**P**	**07 20 47.2**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=124,slow=2.6,SNR=5.5						
YKA	**Yellowknife Ar**	**94.30**	**25**	P	**P**	**07 21 08.9**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=242,slow=4.2,SNR=8.0						
MKAR	**Makanchi Array**	**109.24**	**314**	PKiKP	**PKiKP**	**07 26 16.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=194,slow=0.4,SNR=7.1						
KURK	**Kurchatov**	**111.92**	**318**		**PKiKP**	**07 26 21.0**	**-0.8**
KURBB	**Kurchatov Arra**	**111.98**	**318**	PKiKP	**PKiKP**	**07 26 21.0**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=81,slow=1.9,SNR=7.6						
BVAR	**Borovoye Array**	**116.94**	**321**	PKP	**PKPdf**	**07 26 29.7**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=193,slow=6.1,SNR=4.9						
BUR08	**Bucovina Ar. S**	**144.67**	**332**		**PKPab**	**07 27 25.7**	**+0.8**
BURAR	**Bucovina Array**	**144.69**	**332**		**PKPab**	**07 27 24.6**	**-0.3**
BR131	**Keskin Array S**	**144.88**	**315**		PKPbc	07 27 24.9	-0.1
BRTR	**Keskin Array B**	**144.88**	**315**	PKP	**PKPab**	**07 27 25.4**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=118,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**144.88**	**315**		**PKPdf**	**07 27 24.1**	**-0.2**
CLL	**Collm**	**145.51**	**347**	*i* PKPbc	**PKPbc**	**07 27 26.4**	**+0.1**
	comp=Z,10.0nm,0.9s						
CLL				*e*PKiKP	**PKiKP**	**07 27 32.0**	**+2.9**
CLL	**Collm**	**145.51**	**347**		**PKPbc**	**07 27 26.1**	**-0.1**
MDUB	**Mudurnu**	**146.11**	**318**	PKPbc	**PKPdf**	**07 27 27.2**	**+0.9**
GERES	**GERESS Array B**	**147.66**	**345**	PKPbc	**PKPbc**	**07 27 32.7**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=26,slow=3.4,SNR=18						
GERES	**GERESS Array B**	**147.66**	**345**		**PKPbc**	**07 27 31.8**	**-0.5**
CONA	**Conrad Observa**	**147.92**	**342**	*e*P	**PKiKP**	**07 27 33.9**	**-0.4**
	comp=Z,3.3nm,0.7s						
SOKA	**Soboth**	**149.29**	**342**	*e*P	**PKPbc**	**07 27 36.8**	**+0.4**
	comp=Z,2.0nm,1.0s						
KBA	**Koelnbreinsper**	**149.39**	**344**	*e*P	**PKPbc**	**07 27 36.4**	**-0.3**
	comp=Z,2.3nm,0.5s						
WATA	**Walderalm**	**149.57**	**347**	*e*P	**PKPbc**	**07 27 37.3**	**+0.2**
	comp=Z,5.5nm,0.5s						
WTTA	**Wattenberg**	**149.63**	**347**	*e*P	**PKPbc**	**07 27 37.5**	**+0.2**
	comp=Z,5.4nm,0.5s						
MOTA	**Moosalm**	**149.66**	**347**	*e*P	**PKiKP**	**07 27 38.2**	**+0.2**
	comp=Z,6.8nm,1.1s						
MYKA	**Terra Mystica**	**149.73**	**344**	*e*P	**PKPbc**	**07 27 37.1**	**-0.3**
	comp=Z,3.6nm,0.5s						
SQTA	**Sankt Quirin**	**149.76**	**347**	*e*P	**PKPbc**	**07 27 38.0**	**+0.5**
	comp=Z,7.4nm,0.8s						
ABTA	**Abfaltersbach**	**149.91**	**345**	*e*P	**PKPbc**	**07 27 37.8**	**0.0**
	comp=Z,5.3nm,0.6s						
DAVA	**Damuels**	**149.96**	**349**	*e*P	**PKiKP**	**07 27 39.0**	**+0.4**
	comp=Z,6.9nm,1.0s						
FETA	**Feichten**	**150.05**	**348**	*e*P	**PKPbc**	**07 27 38.8**	**+0.5**
	comp=Z,3.7nm,0.7s						

*NNC **20** 07:27:57.4±0.3, 50.°00N×78.°57E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=6.4km s-min=1.6km az=84.0, Suspected Mining explosion.*
*IDC **20** 07:27:58.4±1.0, 50.°06N×78.°72E, h0km, mb1 3.2/2, mb1mx3.0/33, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=12.6km s-min=6.4km az=66.0*
ISC 20 07:27:57.9±1.1, **50.°22N**±0.°05×**78.°94E**±0.°08, **h0**km, **n26**, σ1§**41**/34, **21C-5D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.46**	**324**	⇑P	**Pb**	**07 28 08.8**	**-0.1**
KUR07				⇑S	**Sb**	**07 28 17.4**	**+1.2**
KUR14	**Kurchatov Arra**	**0.46**	**331**	⇓P	**Pb**	**07 28 09.1**	**+0.2**
KUR14				⇑S	**Sb**	**07 28 18.0**	**+1.7**
KUR06	**Kurchatov Arra**	**0.47**	**325**	⇑P	**Pb**	**07 28 09.2**	**+0.1**
KUR06				⇑S	**Sb**	**07 28 18.0**	**+1.4**
KUR15	**Kurchatov Arra**	**0.47**	**329**	⇑P	**Pb**	**07 28 09.2**	**+0.1**
KUR15				⇓S	**Sb**	**07 28 18.3**	**+1.7**
KURBB	**Kurchatov Arra**	**0.48**	**327**	Pg	**Pb**	**07 28 09.2**	**-0.1**
	4.6nm,0.3s,baz=166,slow=16,SNR=277						
KURBB				Lg	Lg	07 28 18.5	
	6.2nm,0.3s,baz=169,slow=32,SNR=31						
KURBB	**Kurchatov Arra**	**

	1.7nm,0.7s				
KTBS			Lg	Lg	07 31 19.2
	19nm,0.9s				
KTMS	**Ketmen**	**6.84 171**	Pg	**Pb**	**07 30 01.1 +3.4**
	0.9nm,0.3s				
KTMS			Lg	Lg	07 31 30.8
	4.1nm,0.6s				
PDGK	**Podgornoye**	**6.90 177**	Pg	**Pb**	**07 30 00.6 +1.9**
	0.5nm,0.4s				
PDGK			Lg	Lg	07 31 29.9
	2.9nm,0.8s				
UZB	**Uzynbulak**	**7.07 180**	Pg	**Pb**	**07 30 03.8 +2.1**
	4.8nm,0.3s				
UZB			Lg	Lg	07 31 36.4
	7.0nm,0.8s				
TKM2	**Tokmak 2**	**7.65 199**	⇓Lg	Lg	07 31 50.6
	4.4nm,0.8s				
AAK	**Ala-Archa**	**8.18 204**	⇓Lg	Lg	07 32 06.6
	4.3nm,0.8s				

*IDC **20** 08:15:30.8±0.6,31°.11N×142°.05E,h0km,mb3.9/20, mb1 4.1/26,mb1mx3.9/67,mbtmp3.9/26,ML3.6/6,MS3.0/6, Ms1 3.0/6,ms1mx2.7/46,Error ellipse: s-maj=18.7km s-min=13.5km az=77.0*

*NEIC **20** 08:15:35.4±1.5,31°.18N±0°.07×142°.0E±0°.1,h29km±2km, mb4.3/21,Error ellipse: s-maj=15.0km s-min=8.6km az=70.0*

ISC 20 08:15:34.6±0.5,31°.14N±0°.06×142°.01E±0°.09,h24km,n66,
σ0s75/64,**mb4.1**/27,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.71**	**317**	Pn	**Pn**	**08 16 17.4**	**+0.8**
JHJ	**Hachijo jima 2**	**2.74**	**317**	**Pn**	**Pn**	**08 16 16.9**	**-0.2**
	13nm,0.3s,baz=75,slow=20,SNR=1.4						
JHJ				Sn	**Sn**	**08 16 49.1**	**-0.3**
	36nm,0.3s,baz=89,slow=22,SNR=2.0						
JHJ				LR	LR	08 17 18.9	
	comp=Z,294nm,19.0s,baz=89,slow=39						
JCJ	**Chichijima**	**4.03**	**178**	Pn	**Pn**	**08 16 34.4**	**-0.4**
	14nm,0.3s,baz=272,slow=21,SNR=16						
JCJ				Sn	**Sn**	**08 17 21.8**	**+0.5**
	25nm,0.3s,baz=276,slow=22,SNR=5.8						
JCJ	**Chichijima**	**4.03**	**178**		**Pn**	**08 16 35.9**	**+1.1**
JYT	**Yasato**	**5.30**	**344**	Pn	**Pn**	**08 16 52.1**	**-0.2**
JGF	**Kuroka**	**5.92**	**320**	Pn	**Pn**	**08 17 00.3**	**-0.5**
MJAR	**Matsushiro Arr**	**6.25**	**331**	Pn	**Pn**	**08 17 05.4**	**+0.1**
	0.4nm,0.3s,baz=151,slow=9.6,SNR=12						
MJAR				LR	LR	08 19 36.7	
	comp=Z,122nm,18.8s,baz=160,slow=39						
MAJO	**Matsushiro**	**6.25**	**331**	Pn	**Pn**	**08 17 05.9**	**+0.5**
MAT	**Matsushiro**	**6.25**	**331**	P	**Pn**	**08 17 06.6**	**+1.2**
MAT				S	**Sn**	**08 18 16.0**	**-0.1**
JMM	**Marumori**	**6.79**	**352**		**Pn**	**08 17 10.8**	**-1.9**
JNU	**Nakatsue**	**9.65**	**285**	LR	LR	08 20 53.6	
	comp=Z,131nm,18.7s,baz=69,slow=33						
JOW	**Kunigami**	**12.77**	**254**	LR	LR	08 23 15.1	
	comp=Z,62nm,18.0s,baz=274,slow=36						
ASAJ	**Asahikawa**	**12.97**	**2**	Pn	**Pn**	**08 18 36.7**	**-0.6**
	0.6nm,0.3s,baz=274,slow=16,SNR=1.8						
ASAJ				LR	LR	08 24 30.8	
	comp=Z,58nm,21.0s,baz=170,slow=42						
KSRS	**Korea Array**	**13.24**	**302**	Pn	**Pn**	**08 18 41.5**	**+0.5**
	0.2nm,0.3s,baz=110,slow=12,SNR=1.4						
KSRS				LR	LR	08 23 42.7	
	comp=Z,75nm,19.9s,baz=114,slow=37						
KLR	**Kul'dur**	**19.67**	**340**	P	**P**	**08 20 01.1**	**-0.6**
	0.3nm,0.3s,baz=134,slow=12,SNR=6.4						
YULB	**Yu-li**	**19.95**	**252**	P	**P**	**08 20 04.9**	**-0.1**
YULB				IAmb	IAmb	08 20 21.1	
	comp=Z,12nm,0.9s						
SSLB	**Suanglung**	**20.05**	**254**	P	Pn	08 20 07.5	-0.5
SSLB				IAmb	IAmb	08 20 10.3	
	comp=Z,32nm,1.2s						
BJT	**Baijiatuau**	**22.75**	**300**	P	**P**	**08 20 33.6**	**-1.4**
BJT				IAmb	IAmb	08 20 34.6	
	comp=Z,11nm,1.4s						
HIA	**Hailar**	**24.69**	**324**	P	**P**	**08 20 53.0**	**-0.7**
ULN	**Ulaanbaatar**	**31.39**	**312**	P	**P**	**08 21 54.3**	**+0.6**
ULN				IAmb	IAmb	08 21 56.5	
	comp=Z,4.6nm,1.0s						
SONM	**Songino Array**	**31.80**	**312**	P	**P**	**08 21 58.2**	**+0.9**
	comp=Z,2.5nm,1.0s,baz=114,slow=8.2,SNR=9.0						
SONM	**Songino Array**	**31.80**	**312**	P	**P**	**08 21 57.9**	**+0.6**
SEY	**Seymchan**	**32.50**	**9**	P	**P**	**08 22 03.8**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=212,slow=4.0,SNR=4.9						
SOEI	**Soe**	**44.08**	**206**	P	**P**	**08 23 39.5**	**-1.6**
ZALV	**Zalesovo Beam**	**46.40**	**317**	P	**P**	**08 23 59.0**	**0.0**
	comp=Z,1.0nm,0.5s,baz=101,slow=6.2,SNR=5.4						
MK31	**Makanchi Array**	**47.86**	**307**	P	**P**	**08 24 10.1**	**-0.5**
MKAR	**Makanchi Array**	**47.86**	**307**	P	**P**	**08 24 10.6**	**0.0**
	comp=Z,0.8nm,0.5s,baz=90,slow=9.6,SNR=12						
MKAR	**Makanchi Array**	**47.86**	**307**	P	**P**	**08 24 09.9**	**-0.7**
MAKZ	**Makanchi**	**48.08**	**307**	P	**P**	**08 24 12.0**	**-0.2**
MAKZ				IAmb	IAmb	08 24 13.8	
	comp=Z,3.8nm,1.2s						
KURK	**Kurchatov**	**50.11**	**312**	P	**P**	**08 24 27.2**	**-0.4**
KURBB	**Kurchatov Arra**	**50.17**	**312**	P	**P**	**08 24 27.2**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=85,slow=7.5,SNR=14						
WB0	**Warramunga Arr**	**51.14**	**189**	P	**P**	**08 24 35.4**	**-0.3**
WRAB	**Tennant Creek**	**51.31**	**189**	P	**P**	**08 24 36.7**	**-0.3**
WRAB				IAmb	IAmb	08 24 57.6	
	comp=Z,3.5nm,0.9s						
WRA	**Warramunga Arr**	**51.32**	**189**	P	**P**	**08 24 35.9**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=6.2,slow=7.5,SNR=71						
WRA	**Warramunga Arr**	**51.32**	**189**	P	**P**	**08 24 36.8**	**-0.3**
RSO	**Redoubt South**	**51.32**	**35**	P	**P**	**08 24 37.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**51.42**	**200**		**P**	**08 24 39.8**	**+2.1**
IMAR	**Indian Mountai**	**51.54**	**28**	P	**P**	**08 24 39.4**	**+1.2**
PPLA	**Purkeypile**	**51.80**	**32**	P	**P**	**08 24 41.6**	**+1.2**
ILAR	**Eielson Array**	**54.27**	**30**	P	**P**	**08 24 58.0**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=257,slow=5.9,SNR=7.7						
BVAR	**Borovoye Array**	**55.02**	**316**	P	**P**	**08 25 04.3**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=127,slow=12,SNR=4.0						
AS31	**Alice Springs**	**55.04**	**189**	P	**P**	**08 25 04.6**	**+0.2**
ASAR	**Alice Springs**	**55.04**	**189**	P	**P**	**08 25 04.6**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=15,slow=10,SNR=16						
ASAR	**Alice Springs**	**55.04**	**189**	P	**P**	**08 25 04.0**	**-0.5**
KK31	**Karatay Array**	**56.66**	**304**	P	**P**	**08 25 15.9**	**0.0**
KKAR	**Karatay Array**	**56.66**	**304**	P	**P**	**08 25 16.4**	**+0.4**
INK	**Inuvik**	**59.44**	**25**	P	**P**	**08 25 35.5**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=286,slow=12,SNR=3.6						
INK	**Inuvik**	**59.44**	**25**	IAmb	IAmb	08 25 48.3	
	comp=Z,5.8nm,1.4s						
ABKAR	**Akbulak array**	**62.21**	**313**	P	**P**	**08 25 54.0**	**-0.1**
ABKAR	**Akbulak array**	**62.21**	**313**	P	**P**	**08 25 53.8**	**-0.4**
ABKAR				IAmb	IAmb	08 26 01.5	
	comp=Z,3.5nm,1.2s						
C36M	**Paulatuk**	**62.59**	**23**	P	**P**	**08 25 56.3**	**0.0**
C36M				IAmb	IAmb	08 25 57.8	
	comp=Z,3.5nm,1.1s						
STKA	**Stephens Creek**	**62.67**	**180**	P	**P**	**08 25 57.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=332,slow=9.4,SNR=3.3						
STKA	**Stephens Creek**	**62.67**	**180**	IAmb	IAmb	08 26 24.1	
	comp=Z,2.6nm,1.5s						
YKA	**Yellowknife Ar**	**68.68**	**29**	P	**P**	**08 26 35.5**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=295,slow=5.9,SNR=7.9						
FINES	**FINESS Array B**	**74.27**	**333**	P	**P**	**08 27 09.8**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=7.8,slow=11,SNR=1.8						
KBZ	**Khabaz**	**75.17**	**312**	P	**P**	**08 27 16.3**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=217,slow=4.8,SNR=4.8						
NVAR	**Mina Array Bea**	**78.16**	**52**	P	**P**	**08 27 33.0**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=289,slow=5.9,SNR=12						
NVAR	**Mina Array Bea**	**78.16**	**52**	P	**P**	**08 27 32.7**	**+0.4**
AKASG	**Malin Array Be**	**79.29**	**323**	P	**P**	**08 27 38.1**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=50,slow=4.8,SNR=1.8						
NOA	**NORSAR Array B**	**79.82**	**338**	P	**P**	**08 27 40.8**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=41,slow=5.3,SNR=2.0						
PDAR	**Pinedale Array**	**81.46**	**45**	P	**P**	**08 27 50.2**	**0.0**
	comp=Z,0.4nm,0.5s,baz=265,slow=1.7,SNR=4.6						
PDAR	**Pinedale Array**	**81.46**	**45**	P	**P**	**08 27 49.3**	**-0.9**
BRTR	**Keskin Array B**	**83.16**	**313**	P	**P**	**08 27 58.3**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=98,slow=5.1,SNR=7.3						
TX32	**Lajitas Array**	**93.30**	**53**	P	**P**	**08 28 48.3**	**+0.4**
TX32				IAmb	IAmb	08 28 50.3	
	comp=Z,1.9nm,1.0s						
TXAR	**Lajitas Array**	**93.30**	**53**	P	**P**	**08 28 46.8**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=318,slow=3.4,SNR=6.0						
TXAR	**Lajitas Array**	**93.30**	**53**	P	**P**	**08 28 48.9**	**+1.0**

*IDC **20** 08:24:25.9±0.7,33°.72N×69°.41E,h0km,mb4.0/21, mb1 4.2/27,mb1mx4.0/63,mbtmp4.1/27,ML4.0/6,MS3.1/9,*

Ms1 3.2/9,ms1mx2.9/60,Error ellipse: s-maj=16.0km s-min=14.2km az=31.0

*NEIC **20** 08:24:27.7±2.4,33°.77N±0°.06×69°.35E±0°.08,h10km±1km, mb4.2/15,Error ellipse: s-maj=12.8km s-min=7.7km az=235.0*

*NNC **20** 08:24:30.9±2.7,33°.58N×69°.59E,h55km±21km,mb4.2, Error ellipse: s-maj=21.9km s-min=20.5km az=117.0*

*MOS **20** 08:24:31.3±0.9,33°.86N×69°.51E,h48km,mb4.4/11,Error ellipse: s-maj=8.2km s-min=4.5km az=76.4*

ISC 20 08:24:31.0±0.4,33°.70N±0°.06×69°.38E±0°.04,h35km,n145,
σ1s95/163,**mb4.0**/32,**MS3.2**/10,**10C-3D,Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**0.89**	**342**		**Pn**	**08 24 43.5**	**-3.7**
KBL				Sn	**Sn**	**08 24 57.1**	**-1.9**
CEP	**Cherat**	**2.11**	**86**	P	**Pn**	**08 25 05.4**	**+1.5**
CEP				S	**Sn**	**08 25 36.0**	**+7.0**
THW	**Thamme Wali**	**2.17**	**114**	P	**Pn**	**08 25 05.6**	**+0.9**
NIL	**Nilore**	**3.23**	**90**	P	**Pn**	**08 25 20.8**	**+1.6**
NIL	**Nilore**	**3.23**	**90**	Pn	**Pn**	**08 25 20.8**	**+1.6**
THN	**Thein Dam**	**5.46**	**102**	*e*P	**Pn**	**08 25 52.5**	**+2.6**
THN				*e*P	**Pn**	**08 25 52.5**	**+2.6**
THN				*e*S	**Sn**	**08 26 54.5**	**+3.0**
HRA	**Herat**	**5.97**	**279**	Pn	**Pn**	**08 25 57.8**	**+0.8**
DHRM	**DHARAMSHALA**	**5.99**	**102**	*e*P	**Pn**	**08 25 57.2**	**-0.2**
DHRM				*e*S	**Sn**	**08 27 05.7**	**+0.9**
DHRM				IAML		08 27 10.4	
	comp=Z,272nm,0.7s						
DHRM				IAML		08 27 11.6	
	comp=N,780nm,0.6s						
BHK	**Bhakra**	**6.36**	**109**	*e*P	**Pn**	**08 26 01.4**	**-0.8**
BHK				*e*S	**Sn**	**08 27 12.8**	**-0.8**
SMLA	**Simla**	**7.06**	**109**	*e*P	**Pn**	**08 26 11.9**	**0.0**
SMLA				*e*S	**Sn**	**08 27 31.3**	**+0.5**
SMLA				IAML		08 27 34.4	
	comp=E,402nm,0.0s						
SMLA				IAML		08 27 34.5	
	comp=N,437nm,0.2s						
NDI	**New Delhi**	**8.36**	**125**	*e*P	**Pn**	**08 26 30.0**	**+0.3**
NDI				*e*S	**Sn**	**08 28 00.0**	**-3.0**
IUG	**Iuzhnay**	**8.45**	**3**	*e*P	**Pn**	**08 26 32.7**	**+1.7**
	comp=N,4.5nm,0.6s,baz=1.8						
IUG	**Iuzhnay**	**8.45**	**3**	*e*P	**Pn**	**08 26 32.7**	**+1.7**
IUG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AJM	**Ajmer**	**8.51**	**146**	*e*P	Pn	08 26 25.0	-6.8
AJM				*i* x	x	08 27 09.0	
AML	**Almayashu**	**9.08**	**21**	P	**Pn**	**08 26 41.4**	**+1.4**
	SNR=46						
DZA	**Taraz**	**9.31**	**9**	*e*P	**Pn**	**08 26 43.9**	**+1.2**
	comp=Z,8.5nm,0.5s,baz=8.0						
DZA	**Taraz**	**9.31**	**9**	*e*P	**Pn**	**08 26 43.8**	**+1.2**
DZA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
UCH	**Uchtor**	**9.43**	**24**	P	**Pn**	**08 26 46.2**	**+1.5**
	SNR=18						
KK31	**Karatay Array**	**9.44**	**5**	P	**Pn**	**08 26 45.6**	**+1.2**
	comp=Z,7.6nm,0.5s,baz=201,slow=13,SNR=76						
KK31				⇑S	**Sn**	**08 28 31.6**	**+2.4**
	comp=Z,31nm,0.9s,baz=194,slow=25,SNR=4.4						
KK31	**Karatay Array**	**9.44**	**5**	P	**Pn**	**08 26 45.6**	**+1.2**
KK31				S	**Sn**	**08 28 31.6**	**+2.4**
KK31	**Karatay Array**	**9.44**	**5**	Pn	**Pn**	**08 26 44.5**	**+0.1**
KKAR	**Karatay Array**	**9.44**	**5**	P	**Pn**	**08 26 44.0**	**-0.4**
KKAR	**Karatay Array**	**9.44**	**5**	Pn	**Pn**	**08 26 44.0**	**-0.4**
KKAR	**Karatay Array**	**9.44**	**5**		**Pn**	**08 26 44.4**	**0.0**
EKS2	**Erkin-Say**	**9.60**	**20**	P	**Pn**	**08 26 50.3**	**+3.6**
	SNR=13						
AAK	**Ala-Archa**	**9.79**	**23**	Pn	**Pn**	**08 26 50.5**	**+1.1**
	comp=Z,4.0nm,0.3s,baz=193,slow=7.0,SNR=32						
AAK				Sn	**Sn**	**08 28 39.8**	**+1.6**
	baz=25,slow=19,SNR=3.2						
AAK				LR	LR	08 31 25.2	
	comp=Z,122nm,20.8s,baz=214,slow=43						
AAK	**Ala-Archa**	**9.79**	**23**	P	**Pn**	**08 26 50.9**	**+1.5**
	SNR=21						
AAK	**Ala-Archa**	**9.79**	**23**	⇑P	**Pn**	**08 26 50.9**	**+1.5**
	comp=Z,17nm,0.8s						
AAK				⇓S	**Sn**	**08 28 40.1**	**+2.0**
	comp=Z,32nm,0.8s						
AAK	**Ala-Archa**	**9.79**	**23**	Pn	**Pn**	**08 26 48.2**	**-1.2**
GEYT	**Aliibeck**	**10.08**	**298**	Pn	**Pn**	**08 26 53.6**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=78,slow=13,SNR=2.9						
TKM2	**Tokmak 2**	**10.42**	**26**	P	**Pn**	**08 26 59.7**	**+1.7**
	SNR=10.0						
TKM2	**Tokmak 2**	**10.42**	**26**	⇑P	**Pn**	**08 26 57.4**	**-0.7**
	comp=Z,6.9nm,0.6s						
TKM2				⇓S	**Sn**	**08 28 53.6**	**-0.1**
	comp=Z,17nm,0.8s						
TKM2	**Tokmak 2**	**10.42**	**26**	P	Pn	**08 26 57.4**	**-0.7**
TKM2				S	**Sn**	**08 28 53.6**	**-0.1**
TNSS	**Tian-Shan**	**11.05**	**30**	*e*P	**Pn**	**08 27 07.2**	**+0.4**
	baz=31						
TNSS	**Tian-Shan**	**11.05**	**30**	*e*P	**Pn**	**08 27 07.2**	**+0.4**
AAA	**Alma-Ata**	**11.18**	**30**	*e*P	**Pn**	**08 27 09.4**	**+1.0**
	SNR=30						
AAA	**Alma-Ata**	**11.18**	**30**	*e*P	**Pn**	**08 27 09.3**	**+1.0**
MDOK	**Medeo**	**11.20**	**30**	*e*P	**Pn**	**08 27 09.2**	**+0.6**
	baz=31						
MDOK	**Medeo**	**11.20**	**30**	P	**Pn**	**08 27 09.2**	**+0.6**
	comp=Z,9.0nm,0.8s						
MDOK	**Medeo**	**11.20**	**30**	*e*P	**Pn**	**08 27 09.2**	**+0.6**
CHKK	**Chushkaly**	**11.74**	**28**	*e*P	**Pn**	**08 27 16.0**	**0.0**
	baz=29						
CHKK	**Chushkaly**	**11.74**	**28**	*e*P	**Pn**	**08 27 16.0**	**0.0**
PDGK	**Podgornoye**	**12.45**	**36**	⇑P	**Pn**	**08 27 23.7**	**-2.0**
	comp=Z,7.9nm,0.8s						
PDGK	**Podgornoye**	**12.45**	**36**	*i* P	**Pn**	**08 27 23.7**	**-2.0**
BHPL	**Bhopal**	**12.58**	**144**	*e*P	Pn	08 27 22.6	-5.0
BHPL				*e*S	Sn	08 29 31.1	-15
BHPL				IAML		08 29 44.5	
	comp=N,32nm,0.0s						
BHPL				IAML		08 29 50.0	
	comp=E,50nm,0.9s						
TDK	**Taldyqorghan**	**13.26**	**29**	*e*P	**Pn**	**08 27 36.6**	**-0.2**
	comp=E,5.1nm,0.6s,baz=30						
TDK	**Taldyqorghan**	**13.26**	**29**	*e*P	**Pn**	**08 27 36.5**	**-0.2**
TDK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GKN	**Gorkha**	**14.27**	**109**	*e*P	**Pn**	**08 27 47.3**	**-3.5**
	comp=Z,36nm,0.3s						
DMN	**Daman**	**14.82**	**110**	*e*P	**Pn**	**08 27 54.5**	**-3.8**
	comp=Z,41nm,0.5s						
KKN	**Kakani**	**14.88**	**109**	*e*P	**Pn**	**08 27 55.5**	**-3.5**
	comp=Z,0.8nm,0.5s						
PKIN	**Phulchoki**	**15.07**	**110**	*e*P	**Pn**	**08 27 58.0**	**-3.5**
	comp=Z,56nm,0.4s						
PKI	**Pulchoki**	**15.08**	**110**	*e*P	**Pn**	**08 27 57.7**	**-4.1**
	comp=Z,91nm,0.6s						
GUN	**Gumba**	**15.30**	**108**	*e*P	**Pn**	**08 28 01.2**	**-3.5**
	comp=Z,29nm,0.4s						
MAKZ	**Makanchi**	**16.22**	**32**	P	**Pn**	**08 28 13.2**	**-2.9**
MAKZ				pmax	pmax		
	comp=Z,15nm,0.7s						
MAKZ	**Makanchi**	**16.22**	**32**	Pn	**Pn**	**08 28 13.2**	**-2.9**
MAKZ				IAmb	IAmb	08 28 24.9	
	comp=Z,15nm,0.7s						
RAMN	**Ramite**	**16.31**	**110**	*e*P	**Pn**	**08 28 13.9**	**-3.6**
	comp=Z,35nm,0.5s						
MK31	**Makanchi Array**	**16.35**	**33**	P	**Pn**	**08 28 15.5**	**-2.3**
	comp=Z,5.5nm,0.6s,baz=213,slow=14,SNR=79						
MK31	**Makanchi Array**	**16.35**	**33**	*i* P	**Pn**	**08 28 15.4**	**-2.3**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MK31	**Makanchi Array**	**16.35**	**33**		**Pn**	**08 28 16.0**	**-1.7**
MK31				IAmb	IAmb	08 28 33.8	
	comp=Z,9.8nm,1.1s						
MKAR	**Makanchi Array**	**16.35**	**33**	Pn	**Pn**	**08 28 16.3**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=213,slow=11,SNR=34						
MKAR	**Makanchi Array**	**16.35**	**33**	*ce*P	**Pn**	**08 28 16.2**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MKAR	**Makanchi Array**	**16.35**	**33**	Pn	**Pn**	**08 28 15.5**	**-2.2**
BRZS	**Berezniki**	**16.46**	**8**	*e*P	**Pn**	**08 28 18.6**	**-0.5**
	baz=7.1						
BRZS	**Berezniki**	**16.46**	**8**	*e*P	**Pn**	**08 28 18.5**	**-0.5**
ODAN	**Odare**	**16.97**	**109**	*e*P	**Pn**	**08 28 23.3**	**-2.6**
	comp=Z,23nm,0.8s						
TAPN	**Taplejung**	**17.00**	**107**	*e*P	**Pn**	**08 28 23.4**	**-3.0**
	comp=Z,32nm,0.6s						
AB31	**Akbulak array**	**17.06**	**339**	P	**Pn**	**08 28 25.4**	**-1.2**
	comp=Z,2.0nm,0.5s,baz=153,slow=9.3,SNR=49						

AB31	**Akbulak array**	**17.06**	**339**	*e*P	**Pn**	**08 28 25.4**	**-1.2**
ABKAR	**Akbulak array**	**17.06**	**339**		**Pn**	**08 28 24.6**	**-2.0**
ABKAR	**Akbulak array**	**17.06**	**339**	P	**Pn**	**08 28 24.6**	**-2.0**
WMQ	**Urumqi**	**17.46**	**49**	P	**Pn**	**08 28 30.2**	**-1.6**
WMQ				pmax	pmax		
	comp=Z,26nm,1.3s						
WMQ	**Urumqi**	**17.46**	**49**	P	**Pn**	**08 28 30.2**	**-1.6**
WMQ				IAmb	IAmb	08 28 53.1	
	comp=Z,26nm,1.3s						
ZSN	**Zaisan**	**18.04**	**36**	*e*P	**Pn**	**08 28 37.5**	**-1.3**
	baz=36						
ZSN	**Zaisan**	**18.04**	**36**	*e*P	**Pn**	**08 28 37.4**	**-1.3**
HYB	**Hyderabad**	**18.18**	**151**	*i* P	**P**	**08 28 43.0**	**+2.2**
KURBB	**Kurchatov Arra**	**18.20**	**19**	P	**Pn**	**08 28 38.8**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=208,slow=10,SNR=31						
KURBB	**Kurchatov Arra**	**18.20**	**19**	⇑P	**Pn**	**08 28 40.0**	**-0.6**
	comp=Z,8.5nm,0.7s						
KURK	**Kurchatov**	**18.31**	**19**	P	P	**08 28 38.8**	**-3.1**
AKTO	**Aktyubinsk**	**18.70**	**337**	P	**P**	**08 28 46.2**	**0.0**
	comp=Z,0.6nm,0.3s,baz=152,slow=12,SNR=16						
AKTO	**Aktyubinsk**	**18.70**	**337**	⇑P	**Pn**	**08 28 46.7**	**0.0**
	comp=Z,12nm,0.8s						
LSA	**Lhasa**	**18.94**	**96**	P	**P**	**08 28 49.7**	**+0.2**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s						
LSA	**Lhasa**	**18.94**	**96**	P	**P**	**08 28 49.7**	**+0.2**
LSA				IAmb	IAmb	08 29 08.9	
	comp=Z,11nm,0.8s						
BVAR	**Borovoye Array**	**19.34**	**2**	P	**P**	**08 28 52.7**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=162,slow=15,SNR=23						
BRVK	**Borovoye**	**19.37**	**2**	⇑P	**P**	**08 28 53.5**	**+0.1**
	comp=Z,6.1nm,0.7s						
BRVK	**Borovoye**	**19.37**	**2**	P	**P**	**08 28 53.7**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRVK	**Borovoye**	**19.37**	**2**	P	**P**	**08 28 53.7**	**+0.3**
BRVK				IAmb	IAmb	08 29 22.7	
	comp=Z,7.7nm,0.8s						
MAK	**Makhachkala**	**19.45**	**305**	*e*P	**Pn**	**08 28 57.3**	**+1.4**
MAK				*e*S	**S**	**08 32 31.6**	**-0.8**
MAK				pmax	pmax		
	comp=Z,352nm,1.3s						
MAK				MLR	MLR		
	comp=Z,78nm,13.0s						
GNI	**Garni**	**20.69**	**295**	*i* P	Pn	08 29 14.8	+4.1
GNI				pmax	pmax		
	comp=Z,11nm,0.9s						
DGZ	**Jazzator, Alta**	**20.83**	**34**	*c i*P	**P**	**08 29 08.5**	**-1.1**
DGZ				pmax	pmax		
	comp=Z,11nm,0.7s						
SHL	**Shillong**	**21.14**	**107**	P	**P**	**08 29 12.1**	**-1.0**
SHL				pmax	pmax		
	comp=Z,33nm,0.7s						
SHL	**Shillong**	**21.14**	**107**	P	**P**	**08 29 12.1**	**-1.0**
ZEI	**Tsey**	**21.91**	**302**	*e*P	**P**	**08 29 26.2**	**+4.9**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KBZ	**Khabaz**	**22.88**	**304**	*i* P	**P**	**08 29 33.7**	**+2.3**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZAA0	**Zalesovo Array**	**23.01**	**24**	⇓P	**P**	**08 29 31.2**	**-1.5**
	comp=Z,1.5nm,0.8s						
ZAA0	**Zalesovo Array**	**23.01**	**24**		**P**	**08 29 31.3**	**-1.4**
ZAA0				IAmb	IAmb	08 29 53.0	
	comp=Z,8.4nm,0.8s						
ZALV	**Zalesovo Beam**	**23.01**	**24**	P	**P**	**08 29 31.2**	**-1.4**
	comp=Z,4.4nm,0.3s,baz=223,slow=9.6,SNR=20						
ZALV				LR	LR	08 38 54.2	
	comp=Z,35nm,19.3s,baz=228,slow=38						
ZALV	**Zalesovo Beam**	**23.01**	**24**		**P**	**08 29 30.6**	**-2.0**
SHA1	**Shidzhatmaz**	**23.05**	**304**	*i* P	**P**	**08 29 35.9**	**+2.5**
KIV	**Kislovodsk**	**23.09**	**304**	*e*P	**P**	**08 29 37.6**	**+3.9**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV				MLR	MLR		
	comp=Z,55nm,14.0s						
RAYN	**Ar Rayn**	**23.24**	**250**

KSAR	Wonju Array Be	47.08	68	P		P		08 33 00.3	+0.9
KSRS	Korea Array	47.10	68	P		P		08 33 00.1	+0.5
	comp=Z,0.7nm,0.4s,baz=282,slow=7.1,SNR=4.5								
KSRS				LR		LR		08 55 34.6	
	comp=Z,3.5nm,21.5s,baz=185,slow=40								
USRK	Ussuriysk Ar.	48.73	58	P		P		08 33 12.1	0.0
USRK	Ussuriysk Ar.	48.73	58	P		P		08 33 12.1	0.0
TIXI	Tiksi	48.86	21	P		P		08 33 12.5	-0.1
	comp=Z,3.5nm,0.4s,baz=270,slow=5.0,SNR=17								
TIXI	Tiksi	48.86	21	*ce*P		P		08 33 12.3	-0.4
TIXI				pmax		pmax			
	comp=Z,21nm,0.7s								
TIXI	Tiksi	48.86	21	P		P		08 33 11.7	-1.0
SEY	Seymchan	57.49	33	P		P		08 34 16.4	+0.2
	comp=Z,2.4nm,0.8s,baz=255,slow=9.5,SNR=9.0								
SEY	Seymchan	57.49	33	*i* P		P		08 34 16.3	+0.1
BILL	Bilibino	61.70	25	*e*P		P		08 34 44.7	-0.5
BILL				*e*				08 35 04.4	
BILL				*e*				08 35 26.7	
BILL				*e*				08 36 57.4	
BILL				pmax		pmax			
	comp=Z,5.0nm,1.7s								
TORD	Torodi Ar. Bea	64.33	269	P		P		08 35 02.6	-0.9
	comp=Z,2.1nm,1.1s,baz=53,slow=7.6,SNR=5.4								
BOSA	Boshof	74.75	219	P		P		08 36 09.8	+2.4
	comp=Z,1.1nm,0.6s,baz=34,slow=8.3,SNR=1.7								
INK	Inuvik	76.87	9	P		P		08 36 19.4	+0.4
	comp=Z,1.6nm,0.6s,baz=336,slow=6.5,SNR=11								
COLA	College	77.53	15	*i* P		P		08 36 22.3	-0.4
COLA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ILAR	Eielson Array	77.83	15	P		P		08 36 24.1	-0.3
	comp=Z,0.7nm,0.7s,baz=320,slow=4.1,SNR=7.3								
WRA	Warramunga Arr	81.67	121	P		P		08 36 45.6	-0.3
	comp=Z,1.1nm,0.8s,baz=323,slow=4.9,SNR=15								
ASAR	Alice Springs	83.78	124	P		P		08 36 56.6	-0.1
	comp=Z,0.7nm,0.6s,baz=310,slow=5.1,SNR=12								
YKA	Yellowknife Ar	84.09	2	P		P		08 36 57.9	+0.1
	comp=Z,0.8nm,0.7s,baz=354,slow=4.7,SNR=18								

JMA ***20*** *08:28:33.0±0.3, 43.˚68N×147.˚59E, h2km±4km, M3.6*
SKHL ***20*** *08:28:33.7±0.7, 43.˚80N×147.˚80E, h43km±2km, mb4.1/4*
ISC 20 08:28:31.8±3.5, 43.˚9N±0.˚1×147.˚7E±0.˚1, h6km±25km, n15, σ1°31/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	1.32	276	*e*P			Pn	08 28 56.4	-0.3
YUK				AMB			AMB	08 28 58.0	
	140nm,0.4s								
YUK				*e*S			Sb	08 29 13.6	-0.5
YUK				A			A	08 29 15.0	
	440nm,0.4s								
YUK				A			A	08 29 15.0	
	600nm,0.4s								
KUR	Kuril'sk	1.33	6	*e*P			Pb	08 28 56.9	-0.2
KUR				AMB			AMB	08 28 57.0	
	50nm,0.3s								
KUR				*e*S			Sb	08 29 13.4	-1.1
KUR				A			A	08 29 15.0	
	210nm,0.3s								
KUR				A			A	08 29 15.0	
	400nm,0.3s								
GRPR	Tuman	1.38	274	*e*P			Pb	08 28 57.9	-0.1
GRPR				AMB			AMB	08 28 59.0	
	90nm,0.3s								
GRPR				*e*S			Sn	08 29 15.6	-0.5
GRPR				A			A	08 29 17.0	
	650nm,0.4s								
GRPR				A			A	08 29 17.0	
	470nm,0.4s								
NEM2	Nemuro 2	1.51	250	P			Pn	08 28 59.1	-0.1
NEM2				*e*S			Sn	08 29 17.2	-2.0
NMR	Nemuro--Hokkai	1.52	250	*i* P			Pn	08 28 58.6	-0.8
NMR				*e*S			Sn	08 29 17.8	-1.6
GLVR	Golovnino	1.57	265	*e*P			Pn	08 28 59.7	-0.5
GLVR				AMB			AMB	08 29 01.0	
	40nm,0.3s								
GLVR				*e*S			Sn	08 29 19.5	-1.3
GLVR				A			A	08 29 20.0	
	210nm,0.3s								
GLVR				A			A	08 29 20.0	
	160nm,0.3s								
JRA	Rausu	1.85	272	P			Pb	08 29 05.4	-0.5
JRA				*e*S			Sb	08 29 29.8	+0.5
JNSB	Nemuroshibetsu	1.94	267	P			Pb	08 29 06.7	-0.8
JNK	Nakash	2.17	263	P			Pn	08 29 09.5	+1.1
JNK				*e*S			Sn	08 29 35.7	+0.1
JAK	Akkeshi	2.36	248	P			Pn	08 29 11.5	+0.6
JAK				*e*S			Sn	08 29 40.3	+0.2
JTKR	Abashiri--Toko	2.73	273	P			Pn	08 29 18.2	+2.2
JTKR				*e*S			Sb	08 29 53.1	-1.4
JAR	Ashorobuto	2.91	259	P			Pn	08 29 20.5	+2.0
JAR				*e*S			Sn	08 29 55.8	+2.1
JMP	Maruseppu	3.12	273	P			Pn	08 29 23.9	+2.4
JCH	Churui	3.41	249	P			Pn	08 29 26.7	+1.3
JCH				*e*S			Sn	08 30 06.9	+0.8
JNBK	Urakawa-nobuka	3.96	247	P			Pn	08 29 34.6	+1.7

ARE ***20*** *08:49:23±2.4, 17.˚78S±0.˚07×71.˚61W±0.˚09, h28km±5km, ML4.3, mb4.0/6(NEIC), ML4.0(GUC), Error ellipse: s-maj=12.8km s-min=9.3km az=79.0*
NEIC ***20*** *08:49:23.7±2.1, 17.˚77S±0.˚07×71.˚6W±0.˚1, h37km±8km, Error ellipse: s-maj=14.2km s-min=10.3km az=87.0*
GUC ***20*** *08:49:25.4±0.5, 17.˚79S×71.˚55W, h50km±10km, ML4.0*
IDC ***20*** *08:49:29.8±1.6, 17.˚92S×71.˚25W, h94km±16km, mb3.3/5, mb1 3.7/9, mb1mx3.5/33, mbtmp3.8/9, MS2.7/2, Ms1 2.7/2, ms1mx2.5/13, Error ellipse: s-maj=24.3km s-min=12.7km az=62.0*
ISC 20 08:49:18.7±2.0, 17.˚72S±0.˚06×71.˚72W±0.˚06, h8km±13km, n54, σ1°85/53, mb3.9/6, 1C-2D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	1.46	117	*e*P			Pg	08 49 47.1	+0.4
AP01				*i* S			Sb	08 50 05.2	+0.5
AP01				IAML				08 50 08.1	
	comp=E,18μm,0.4s								
AP01	Chacalluta	1.46	117				Pn	08 49 45.6	+0.3
AP01				Sn			Sn	08 50 00.8	-3.8
PSGC	Pisagua	2.40	141	ǁ *i* P			Pn	08 49 59.5	+1.1
PSGC				*i* S			Sn	08 50 25.8	-2.3
PSGC				IAML				08 50 36.6	
	comp=E,430nm,0.5s								
PSGCX	Pisagua	2.40	141	Pn			Pn	08 49 59.6	+1.2
MNMC	Minye Minye	2.45	125	ǁ *i* P			Pn	08 50 00.9	+1.7
MNMC				*i* S			Sn	08 50 28.5	-1.1
MNMC				IAML				08 50 38.9	
MNMC	Minye Minye	2.45	125	Pn			Pn	08 50 00.6	+1.3
TA02	Huaiquique	2.94	150	*e*P			Pn	08 50 07.7	+1.8
TA02				*i* S			Sn	08 50 38.4	-3.0
TA01	Diego Aracena	3.18	153	*e*P			Pn	08 50 10.3	+1.4
TA01				*i* S			Sn	08 50 43.3	-3.8
TA01				IAML				08 50 50.4	
	comp=N,226nm,0.3s								
TA01	Diego Aracena	3.18	153	Pn			Pn	08 50 10.4	+1.4
PB08	IPOC Station P	3.42	135	*e*P			Pn	08 50 14.3	+1.6
PB08				*i* S			Sn	08 50 52.5	-1.0
PB08	IPOC Station P	3.42	135				Pn	08 50 14.3	+1.6
LPAZ	La Paz	3.71	68	P			Pb	08 50 22.8	-2.2
	comp=N,2.1nm,0.3s,baz=290,slow=7.4,SNR=55								
LPAZ				LR			LR	08 51 57.4	
	comp=N,52nm,21.4s,baz=244,slow=44								
LPAZ	La Paz	3.71	68	Pn			Pn	08 50 19.3	+2.3
PB01	IPOC Station P	3.92	148	ǁ *e*P			Pn	08 50 20.3	+1.0
PB01				*i* S			Sn	08 51 02.0	-3.5
PB01	IPOC Station P	3.92	148				Pn	08 50 19.7	+0.5
PB07	IPOC Station P	4.34	157				Pn	08 50 26.3	+1.1
PB09	IPOC Station P	4.67	151				Pn	08 50 31.4	+1.6
PB04	IPOC Station P	4.82	162				Pn	08 50 32.5	+0.8
PB06	IPOC Station P	5.35	158				Pn	08 50 39.7	+0.6
LVC	Limon Verde	5.53	152	P			Pn	08 50 43.6	+1.9
	comp=N,11nm,0.3s,baz=338,slow=8.9,SNR=82								
LVC				S			Sn	08 51 43.4	-2.3
	comp=N,7.5nm,0.3s,baz=81,slow=19,SNR=9.0								
LVC				LR			LR	08 52 55.2	
	comp=N,157nm,21.8s,baz=316,slow=40								
LVC	Limon Verde	5.53	152	Pn			Pn	08 50 43.8	+2.1
PB15	IPOC Station P	5.85	159				Pn	08 50 46.7	+0.8
PB10	IPOC Station P	5.86	170	Pn			Pn	08 50 46.9	+1.0
PB14	IPOC Station P	6.98	170	Pn			Pn	08 51 02.0	+0.4

NNA	Nana	7.55	318	P			Pb	08 51 22.4	-7.7
	comp=N,2.7nm,0.3s,baz=149,slow=11,SNR=7.8								
NNA				S			Sb	08 52 55.6	-4.8
	comp=N,2.6nm,0.3s,baz=50,slow=23,SNR=7.7								
GO02	Mina Guanaco	7.66	165	Pn			Pn	08 51 12.1	+1.1
AC01	Pan de Azucar	8.45	173	Pn			Pn	08 51 21.1	-0.4
AC02	Maricunga	9.38	166	Pn			Pn	08 51 36.1	+1.5
SIV	San Ignacio	10.33	82	P			Pn	08 51 48.9	+1.6
	comp=N,0.9nm,0.3s,baz=262,slow=8.0,SNR=19								
LCO	Las Campanas	11.28	175	Pn			Pn	08 52 01.1	+0.6
SAML	Samuel	12.04	45	Pn			Pn	08 52 10.2	-0.5
GO04	Tololo Observa	12.42	176	Pn			Pn	08 52 14.3	-1.8
VA03	San Esteban	15.02	176	Pn			Pn	08 52 51.9	+0.5
H03N1	Juan Fernandez	16.94	201	T			T	09 11 02.6	
	baz=26,slow=73,SNR=489								
H03N2	Juan Fernandez	16.94	201	T			T	09 11 02.4	
	baz=26,slow=73,SNR=139								
H03N3	Juan Fernandez	16.95	201	T			T	09 10 53.8	
	baz=26,slow=73,SNR=831								
BI02	San Fabin de	18.87	179	P			P	08 53 38.3	-1.2
OTAV	Otavalo	19.04	339	P			Pn	08 53 42.4	-0.2
OTAV				IAmb			IAmb	08 54 04.3	
	comp=Z,6.0nm,1.4s								
PLCA	Paso Flores	22.95	178	P			P	08 54 25.8	+2.2
	comp=Z,4.9nm,0.9s,baz=359,slow=9.9,SNR=7.2								
PLCA	Paso Flores	22.95	178	P			P	08 54 23.3	-0.3
PLCA				IAmb			IAmb	08 54 27.1	
	comp=Z,8.5nm,1.1s								
SDV	Santo Domingo	26.46	2	P			P	08 54 56.2	-0.4
SDV				IAmb			IAmb	08 55 13.5	
	comp=Z,4.9nm,1.1s								
ESPN	Las Esperanzas	32.22	336	P			P	08 55 48.6	+1.0
TXAR	Lajitas Array	56.03	326	P			P	08 59 00.2	+1.9
	comp=Z,0.3nm,0.4s,baz=144,slow=9.3,SNR=4.8								
NVAR	Mina Array Bea	70.90	323	P			P	09 00 40.0	+3.2
	comp=Z,0.1nm,0.5s,baz=104,slow=3.8,SNR=2.5								
TORD	Torodi Ar. Bea	78.65	72	P			P	09 01 20.2	-1.7
	comp=Z,0.4nm,0.8s,baz=251,slow=4.4,SNR=1.7								
TORD	Torodi Ar. Bea	78.65	72	IAmb			IAmb	09 01 38.6	
	comp=Z,1.5nm,0.8s								
YKA	Yellowknife Ar	86.77	342	P			P	09 02 04.2	+1.1
	comp=Z,0.7nm,0.7s,baz=134,slow=5.4,SNR=11								
H11N3	WAKE ISLAND Hyd	24.68	282	T			T	11 25 48.1	
	baz=99,slow=75,SNR=17								
H11S2	WAKE ISLAND Hyd	24.69	281	T			T	11 25 45.8	
	baz=100,slow=75,SNR=16								
H11N2	WAKE ISLAND Hyd	24.69	282	T			T	11 25 49.2	
	baz=99,slow=75,SNR=17								
H11S1	WAKE ISLAND Hyd	24.69	281	T			T	11 25 46.5	
	baz=100,slow=75,SNR=20								
H11N1	WAKE ISLAND Hyd	24.69	282	T			T	11 25 49.3	
	baz=99,slow=75,SNR=19								
H11S3	WAKE ISLAND Hyd	24.70	281	T			T	11 25 47.2	
	baz=100,slow=75,SNR=18								
SONM	Songino Array	149.93	3	PKPbc			PKiKP	09 09 10.8	0.0
	comp=Z,0.1nm,0.3s,baz=329,slow=1.6,SNR=3.5								

ANF ***20*** *09:00:40.5±0.4, 36.˚55N×97.˚57W, h5km, ML3.8/14, Error ellipse: s-maj=4.1km s-min=3.8km az=149.0*
NEIC ***20*** *09:00:40.5±1.6, 36.˚58N±0.˚02×97.˚58W±0.˚06, h5km±2km, Error ellipse: s-maj=8.8km s-min=3.0km az=252.0*
TUL ***20*** *09:00:40.3±1.5, 36.˚58N±0.˚02×97.˚60W±0.˚06, h6km±7km, ML3.2, mb_Lg3.2/75(NEIC), Error ellipse: s-maj=7.6km s-min=2.0km az=72.0*
ISC 20 09:00:40.4±1.1, 36.˚58N±0.˚02×97.˚59W±0.˚02, h3km±10km, n93, σ0°80/78, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.32	257				Pg	09 00 46.8	+0.2
CROK				Sg			Sg	09 00 51.7	+0.9
GC02	Grant County #	0.35	322				Pg	09 00 47.3	+0.2
GC02				Sg			Sg	09 00 52.5	+0.8
KAN13	South Haven SW	0.45	12				Pg	09 00 49.1	+0.2
KAN13				Sg			Sg	09 00 55.7	+0.9
OK032	Salt Plains WL	0.55	295				Pg	09 00 50.8	-0.1
OK032				Sg			Sg	09 00 58.6	+0.7
KAN09	Caldwell North	0.56	358				Pg	09 00 51.1	0.0
KAN09				Sg			Sg	09 00 58.9	+0.5
KAN05	Bluff City Nor	0.58	337				Pg	09 00 51.5	0.0
KAN05				Sg			Sg	09 00 59.1	+0.2
KAN01	Argonia South	0.59	347				Pg	09 00 51.7	0.0
KAN01				Sg			Sg	09 01 00.1	+0.7
KAN10	Anthony SW Sta	0.68	324				Pg	09 00 53.3	-0.1
KAN10				Sg			Sg	09 01 02.8	+0.6
KAN08	Anthony NE Sta	0.72	335				Pg	09 00 54.1	0.0
KAN08				Sg			Sg	09 01 03.9	+0.5
OK029	Liberty Lake	0.79	172				Pg	09 00 55.3	-0.1
KAN12	Harper NE Stat	0.79	336				Pg	09 00 55.4	-0.1
QUOK	Quay	0.82	119				Pg	09 00 56.0	-0.2
OK031	S. Brethren Rd	0.87	135				Pg	09 00 56.9	-0.1
BCOK	Bluff Creek, N	0.92	181				Pg	09 00 57.7	-0.3
OK030	Cody Creek RV	0.92	134				Pg	09 00 57.8	-0.2
T35A	Sooner Cattle	0.93	68				Pg	09 00 57.9	-0.4
T35B	Sooner Cattle	0.93	68	P			Pg	09 00 58.0	-0.3
T35B				S			Sg	09 01 10.5	+0.2
	baz=248,SNR=72								
T35B	Sooner Cattle	0.93	68	P				09 00 58.0	
	baz=248,SNR=72								
T35B				S				09 01 10.5	
	baz=248								
OK025	Westminster Rd	1.01	168				Pg	09 00 59.5	-0.3
U32A	Winter Ranch,	1.15	261				Pg	09 01 01.7	-0.8
U32A	Winter Ranch,	1.15	261	P			Pg	09 01 01.6	-0.8
	baz=80,SNR=41								
U32A				S			Sg	09 01 17.4	0.0
	baz=80								
U32A	Winter Ranch,	1.15	261	P				09 01 01.6	
	baz=80,SNR=41								
U32A				S				09 01 17.4	
	baz=80								
OKCFA	Oklahoma City	1.17	174	Pg			Pg	09 01 02.1	-0.6
OKCFA	Oklahoma City	1.17	174	P			Pg	09 01 02.1	-0.6
	baz=354,SNR=9.4								
OKCFA				S			Sb	09 01 18.4	-0.2
	baz=354								
OKCFA	Oklahoma City	1.17	174	P				09 01 02.1	
	baz=354,SNR=9.4								
OKCFA				S				09 01 18.4	
	baz=354								
OKCSW	OKLAHOMA CITY	1.18	174				Pg	09 01 02.3	-0.6
FNO	Franklin	1.33	173				Pn	09 01 05.3	-0.4
TUL1	Leonard	1.60	114	P			Pn	09 01 09.3	-0.2
	baz=295,SNR=92								
TUL1				S			Sb	09 01 30.9	-0.2
	baz=295								
TUL1	Leonard	1.60	114	P				09 01 09.3	
	baz=295								
TUL1				S				09 01 31.0	
	baz=295								
TUL1	Leonard	1.60	114	P				09 01 09.3	
	baz=295,SNR=92								
TUL1				S				09 01 30.9	
	baz=295								
R32A	Long Quarter,	2.05	335				Pb	09 01 16.8	-1.4
R32A	Long Quarter,	2.05	335	P			Pb	09 01 16.9	-1.3
	baz=154,SNR=36								
R32A				S			Sb	09 01 42.8	-1.2
	baz=154								
R32A	Long Quarter,	2.05	335	P				09 01 16.9	
	baz=154,SNR=36								
R32A				S				09 01 42.8	
	baz=154								
WMOK	Wichita Mounta	2.07	208				Pn	09 01 16.3	+0.2
WMOK				IAmb_Lg				09 01 47.0	
	comp=Z,100nm,0.9s								
WMOK	Wichita Mounta	2.07	208	P			Pn	09 01 16.2	+0.2
	baz=27,SNR=85								
WMOK	Wichita Mounta	2.07	208	P				09 01 16.3	
	baz=27								
WMOK				S				09 01 43.9	
	baz=27								
WMOK	Wichita Mounta	2.07	208	P				09 01 16.2	
	baz=27,SNR=85								
U38A	Gravette	2.59	92				Pn	09 01 23.9	+0.8
KSU1	Kansas State U	2.64	17	Pn			Pn	09 01 24.4	+0.6
KSU1	Kansas State U	2.64	17	P			Pn	09 01 24.0	+0.2
	baz=197,SNR=6.0								
KSU1	Kansas State U	2.64	17	P				09 01 24.3	
	baz=197								
KSU1				S				09 01 56.4	
	baz=197								
KSU1	Kansas State U	2.64	17	P				09 01 24.0	
	baz=197,SNR=6.0								
X37A	Clayton	2.69	137				Pn	09 01 25.1	+0.6
X37A				IAmb_Lg				09 02 11.5	
	comp=Z,48nm,0.8s								
X37A	Clayton	2.69	137	P			Pn	09 01 24.8	+0.3
	baz=318,SNR=58								
X37A	Clayton	2.69	137	P				09 01 24.8	
	baz=318,SNR=58								
CBKS	Cedar Bluff	2.81	323	Pn			Pn	09 01 26.6	+0.4
CBKS	Cedar Bluff	2.81	323	S			Sb	09 02 07.0	+1.1
	baz=142								
CBKS	Cedar Bluff	2.81	323	S				09 02 07.0	
	baz=142								
HHAR	Hobbs	2.96	95				Pn	09 01 28.8	+0.5
Z35A	Perchaven, San	3.25	175				Pn	09 01 33.8	+1.6
Z35A	Perchaven, San	3.25	175	S			Sn	09 02 13.0	+1.6
	baz=355								
Z35A	Perchaven, San	3.25	175	S				09 02 13.0	
	baz=355								
W39A	Magazine	3.39	113				Pn	09 01 35.8	+1.7
S39A	Bolivar	3.59	71	Pn			Pn	09 01 37.3	+0.4
S39A	Bolivar	3.59	71	P			Pn	09 01 36.7	-0.2
	baz=253,SNR=6.9								
S39A				S			Sn	09 02 19.6	-0.2
	baz=253								
S39A	Bolivar	3.59	71	P				09 01 36.7	
	baz=253,SNR=6.9								
S39A				S				09 02 19.6	
	baz=253								
AMTX	Amarillo	3.73	244	Pn			Pn	09 01 39.4	+0.5
AMTX				IAmb_Lg				09 02 45.4	
	comp=Z,54nm,0.7s								
AMTX	Amarillo	3.73	244	Sb				09 02 36.6	
	baz=62								
U40A	Yellville	3.83	92	Pn			Pn	09 01 42.5	+2.3
MIAR	Mount Ida	3.85	121	Pn			Pn	09 01 42.2	+1.8
Z38A	Mt. Pleasant	3.94	146	Pn			Pn	09 01 43.7	+2.0
ABTX	Abilene, Hawle	4.29	204	Pn			Pn	09 01 47.9	+1.4
ABTX	Abilene, Hawle	4.29	204	Pb				09 01 54.9	
	baz=22								
MGMO	Mountain Grove	4.31	81	Pn			Pn	09 01 47.6	+0.8
MGMO				IAmb_Lg				09 02 59.3	
	comp=Z,44nm,0.8s								
X40A	Basin Creek Fa	4.41	117	Pn			Pn	09 01 49.0	+0.9
P38A	Dawn	4.42	45	Pn			Pn	09 01 48.6	+0.3
P38A				IAmb_Lg				09 03 13.1	
	comp=Z,35nm,0.7s								
P38A	Dawn	4.42	45	P			Pn	09 01 47.8	-0.5
	baz=228								
P38A	Dawn	4.42	45	P				09 01 47.8	
	baz=228								
FCAR	Ozark Folk Cen	4.47	97	Pn			Pn	09 01 49.5	+0.5
WHAR	Wooly Hollow	4.49	105	Pn			Pn	09 01 48.7	-0.6
N35A	Tabor	4.54	19				Pn	09 01 49.6	-0.3
N35A				IAmb_Lg				09 03 12.8	
	comp=Z,68nm,0.8s								
N35A	Tabor	4.54	19	P			Pn	09 01 50.0	+0.1
	baz=200,SNR=8.6								
N35A	Tabor	4.54	19	P				09 01 50.0	
	baz=200,SNR=8.6								
R40A	Maddies Statio	4.57	66	IAmb_Lg				09 03 14.7	
	comp=Z,26nm,0.7s								
WHTX	Lake Whitney,	4.58	179				Pn	09 01 50.0	-0.5
WHTX	Lake Whitney,	4.58	179	P			Pn	09 01 50.3	-0.2
	baz=359,SNR=11								
WHTX	Lake Whitney,	4.58	179	P				09 01 50.4	
	baz=359								
WHTX	Lake Whitney,	4.58	179	P				09 01 50.3	
	baz=359,SNR=11								
WLAR	White Oak Lake	4.67	127	Pn			Pn	09 01 51.8	+0.1
WLAR				IAmb_Lg				09 03 06.7	
	comp=Z,28nm,1.2s								
KSCO	Kaye Shedlock'	4.67	303	Pn			Pn	09 01 53.8	+1.9
237A	Washetta, Mont	4.80	162	IAmb_Lg				09 03 24.3	
	comp=Z,27nm,1.0s								
BGNE	Belgrade	4.84	355	Pn			Pn	09 01 53.9	-0.3
BGNE				IAmb_Lg				09 03 21.8	
	comp=Z,58nm,0.7s								
BGNE	Belgrade	4.84	355	P			Pn	09 01 54.0	-0.1
	baz=175								
BGNE	Belgrade	4.84	355	P				09 01 53.9	
	baz=175								
BGNE	Belgrade	4.84	355	P				09 01 54.0	
	baz=175								
LCAR	Lake Charles	5.22	94	IAmb_Lg				09 03 26.6	
	comp=Z,35nm,0.8s								
T42A	Van Buren	5.24	83	IAmb_Lg				09 03 32.5	
	comp=Z,32nm,0.9s								
CCM	Cathedral Cave	5.27	72	IAmb_Lg				09 03 34.2	
	comp=Z,48nm,0.8s								
P40A	Paris	5.28	54	IAmb_Lg				09 03 28.6	
	comp=Z,50nm,0.7s								
N38A	Joes South For	5.42	38	IAmb_Lg				09 03 38.1	
	comp=Z,24nm,0.8s								
L34A	Svendsen Farm,	5.46	10	IAmb_Lg				09 03 37.2	
	comp=Z,43nm,0.8s								
T25A	Trinidad	5.50	278	IAmb_Lg				09 03 49.6	
	comp=Z,24nm,1.0s								
OGNE	Ogallala	5.57	323	Pn			Pn	09 02 05.2	+1.0
OGNE				IAmb_Lg				09 03 46.2	
	comp=Z,42nm,0.8s								
PBMO	Poplar Bluff	5.76	86	IAmb_Lg				09 03 51.4	
	comp=Z,40nm,0.8s			

comp=Z,650nm,0.2s
YUK pmax pmax
comp=E,60nm,0.1s
YUK smax smax
comp=N,1μm,0.2s
YUK smax smax
comp=E,3μm,0.5s
YUK Yuzh-Kuril'sk 1.18 286 *e*P **Pn 09 03 58.2 -0.5**
YUK AMB AMB 09 03 58.7
comp=E,510nm,0.3s
YUK *i* S **Sn 09 04 11.5 -2.1**
YUK A A 09 04 14.6
comp=E,2μm,0.6s
YUK A A 09 04 14.6
comp=E,4μm,0.6s
GRPR Tuman 1.23 283 *e*PN **Pn 09 03 59.0 -0.4**
GRPR *e*S **Sn 09 04 13.7 -1.2**
GRPR pmax pmax
comp=N,245nm,0.3s
GRPR pmax pmax
comp=Z,291nm,0.3s
GRPR pmax pmax
comp=E,88nm,0.2s
GRPR smax smax
comp=N,3μm,0.3s
GRPR smax smax
comp=E,888nm,0.3s
GRPR Tuman 1.23 283 *e*P **Pn 09 03 59.0 -0.4**
GRPR AMB AMB 09 03 59.0
comp=E,290nm,0.3s
GRPR *e*S **Sn 09 04 13.7 -1.2**
GRPR A A 09 04 16.0
comp=E,3μm,0.3s
GRPR A A 09 04 16.0
comp=E,890nm,0.3s
NEM2 Nemuro 2 1.28 254 P **Pn 09 04 00.3 +0.2**
NEM2 *e*S **Sn 09 04 14.7 -1.3**
NMR Nemuro--Hokkai 1.29 255 ⇓ *i*PN **Pn 09 04 00.3 +0.1**
NMR *e*S **Sn 09 04 15.1 -1.2**
NMR Nemuro--Hokkai 1.29 255 *i* P **Pn 09 04 00.3 +0.1**
NMR *e*S **Sn 09 04 15.1 -1.2**
GLVR Golovnino 1.39 271 *e*PN **Pn 09 04 01.9 +0.3**
GLVR *e*S **Sn 09 04 18.4 -0.3**
GLVR pmax pmax
comp=E,235nm,0.2s
GLVR pmax pmax
comp=Z,304nm,0.2s
GLVR pmax pmax
comp=N,167nm,0.1s
GLVR smax smax
comp=E,2μm,0.4s
GLVR smax smax
comp=N,3μm,0.3s
GLVR Golovnino 1.39 271 *e*P **Pn 09 04 01.9 +0.3**
GLVR AMB AMB 09 04 04.0
comp=N,300nm,0.2s
GLVR *e*S **Sn 09 04 18.4 -0.3**
GLVR A A 09 04 19.0
comp=N,3μm,0.4s
GLVR A A 09 04 19.0
comp=N,2μm,0.4s
KUR Kuril'sk 1.54 12 *e*PN **Pn 09 04 04.5 +0.8**
KUR *e*S **Sn 09 04 22.1 -0.4**
KUR pmax pmax
comp=Z,29nm,0.3s
KUR smax smax
comp=E,977nm,0.3s
KUR smax smax
comp=N,747nm,0.2s
KUR Kuril'sk 1.54 12 *e*P **Pn 09 04 04.5 +0.8**
KUR AMB AMB 09 04 05.5
comp=N,70nm,0.3s
KUR *e*S **Sn 09 04 22.1 -0.4**
KUR A A 09 04 24.5
comp=N,2μm,0.4s
KUR A A 09 04 24.5
comp=N,2μm,0.4s
RUSJ Misakicho 1.62 284 *e*PN **Pn 09 04 05.6 +0.8**
RUSJ *e*S **Sn 09 04 24.1 -0.4**
JRA Rausu 1.69 278 P **Pn 09 04 06.2 +0.5**
JRA *e*S **Sn 09 04 26.6 +0.6**
JNSB Nemuroshibetsu 1.76 273 P **Pn 09 04 07.5 +0.8**
JNSB *e*S **Sn 09 04 27.8 -0.1**
JKHN Kushirohamanak 1.77 250 P **Pn 09 04 07.5 +0.6**
JKHN *e*S **Sn 09 04 27.6 -0.6**
JNK Nakash 1.97 267 P **Pn 09 04 10.1 +0.5**
JAK Akkeshi 2.12 251 P **Pn 09 04 12.3 +0.6**
JAK *e*S **Sn 09 04 35.2 -1.6**
JTKR Abashiri--Toko 2.56 277 P **Pn 09 04 18.8 +1.1**
JTKR *e*S **Sn 09 04 49.7 +2.1**
JAR Ashorobuto 2.70 262 P **Pn 09 04 20.8 +1.2**
JOB Onbets 2.75 254 P **Pn 09 04 21.5 +1.2**
JOB *e*S **Sn 09 04 51.7 -0.5**
JMP Maruseppu 2.96 277 P **Pn 09 04 24.5 +1.3**
JCH Churui 3.18 251 P **Pn 09 04 26.9 +0.8**
JCH *e*S **Sn 09 05 02.5 -0.3**
JKK2 Kamakawa 2 3.39 274 P **Pn 09 04 31.4 +2.2**
JKA Kamikawa-asahi 3.51 278 *e*P **Pn 09 04 32.2 +1.4**
ASAJ Asahikawa 3.52 278 P **Pn 09 04 32.2 +1.4**
comp=N,5.9nm,0.3s,baz=72,slow=15,SNR=51
ASAJ S **Sn 09 05 18.9 +7.8**
comp=N,4.6nm,0.3s,baz=24,slow=31,SNR=4.6
ASAJ LR LR 09 06 07.2
comp=N,75nm,18.1s,baz=62,slow=44
JEM Erimo 3.58 243 P **Pn 09 04 34.6 +3.0**
JSE Soyaes 3.69 291 P **Pn 09 04 34.1 +0.9**
JNBK Urakawa-nobuka 3.72 249 P **Pn 09 04 34.4 +0.8**
YSS Yuzh-Sakhalins 4.62 316 ⇑ *e*PN **Pn 09 04 46.4 +0.5**
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS Yuzh-Sakhalins 4.62 316 *e*P **Pn 09 04 46.4 +0.5**
YSS AMB AMB 09 04 47.4
comp=Z,10.0nm,0.7s
MJAR Matsushiro Arr 10.06 228 P **Pn 09 06 01.3 +0.8**
comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=2.8
PETK Petropavlovsk- 11.59 32 P **Pn 09 06 22.1 +0.7**
comp=Z,0.3nm,0.3s,baz=217,slow=12,SNR=9.4
KLR Kul'dur 12.12 302 LR LR 09 10 55.5
comp=Z,36nm,21.3s,baz=119,slow=36
SEY Seymchan 19.46 7 P **P 09 07 58.9 -2.4**
comp=Z,0.2nm,0.3s,baz=178,slow=7.7,SNR=12
H11N2 WAKE ISLAND Hy 28.95 140 T T 09 40 13.5
baz=330,slow=75,SNR=279
H11N1 WAKE ISLAND Hy 28.96 140 T T 09 40 16.2
baz=330,slow=75,SNR=284
H11N3 WAKE ISLAND Hy 28.97 140 T T 09 40 24.8
baz=330,slow=75,SNR=251
H11S1 WAKE ISLAND Hy 29.92 141 T T 09 41 36.0
baz=332,slow=76,SNR=413
H11S3 WAKE ISLAND Hy 29.92 141 T T 09 41 28.4
baz=332,slow=76,SNR=350
H11S2 WAKE ISLAND Hy 29.94 141 T T 09 41 30.1
baz=332,slow=76,SNR=287
ILAR Eielson Array 41.39 36 P **P 09 11 20.6 +0.5**
comp=Z,1.2nm,0.8s,baz=258,slow=5.2,SNR=18
MKAR Makanchi Array 44.78 298 P **P 09 11 47.8 0.0**
comp=Z,0.2nm,0.6s,baz=73,slow=9.6,SNR=2.7
YKA Yellowknife Ar 55.71 34 P **P 09 13 10.2 0.0**
comp=Z,1.1nm,0.7s,baz=299,slow=6.2,SNR=19
WRA Warramunga Arr 64.48 194 P **P 09 14 11.5 +0.8**
comp=Z,0.2nm,0.6s,baz=9.6,slow=6.8,SNR=2.3
FINES FINESS Array B 64.99 333 P **P 09 14 11.4 -2.1**
comp=Z,1.6nm,0.8s,baz=34,slow=5.1,SNR=4.9
NVAR Mina Array Bea 67.42 58 P **P 09 14 31.0 +1.1**
comp=Z,0.7nm,0.6s,baz=298,slow=7.1,SNR=8.2
NB2 NORSAR Subarra 69.70 339 P **P 09 14 41.7 -1.8**
comp=Z,0.3nm,0.3s,baz=31,slow=6.5
NOA NORSAR Array B 69.70 339 P **P 09 14 41.6 -1.8**
comp=Z,0.3nm,0.3s,baz=42,slow=5.5,SNR=2.0
PDAR Pinedale Array 69.77 50 P **P 09 14 44.5 +0.1**
comp=Z,0.4nm,0.6s,baz=240,slow=2.0,SNR=4.7
H03N2 Juan Fernandez 142.76 90 T T 12 02 20.3
baz=304,slow=77,SNR=6.8
H03N3 Juan Fernandez 142.77 90 T T 12 02 21.3
baz=304,slow=77,SNR=9.4
H03N1 Juan Fernandez 142.78 90 T T 12 02 16.6
baz=304,slow=77,SNR=6.3

*IDC **20** 09:41:19.2±1.9, 38.57°S×177.03°E, h78km±12km, mb3.1/2, mb1 3.5/3, mb1mx3.3/22, mbtmp3.6/3, Error ellipse: s-maj=50.4km s-min=33.0km az=115.0*
*NOU **20** 09:41:22.0, 38.46°S×176.75°E, h56km, MLv3.9, North Island, New Zealand*

*WEL **20** 09:41:22.0, 38°S±1.1°×17.7°E±°, h70km±1km, M3.4/43, ML3.7/43, MLv3.4/43, Error ellipse: s-maj=0.0km s-min=0.0km az=129.4*
ISC 20 09:41:21.2±1.0, 38.49S±0.03×176.68E±0.03, h77km±6km, n145, σ1833/151, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MUGZ	**Murupara**	**0.07**	**77**	P	P	Pn	09 41 32.2	-0.1
RRRZ	**Republican Roa**	**0.20**	**319**	P	P	Pn	09 41 32.7	0.0
RRRZ				S	S	Sn	09 41 40.6	-0.6
PRRZ	**Plateau Road**	**0.23**	**268**	P	P	Pn	09 41 32.9	+0.1
RTZ	**Ruatahuna**	**0.26**	**118**	P	P	Pn	09 41 33.2	+0.1
ALRZ	**Allen Road**	**0.28**	**255**	P	P	Pn	09 41 33.3	+0.3
TARZ	**Mount Tarawera**	**0.29**	**332**	P	P	Pn	09 41 33.4	+0.2
HRRZ	**Handcock Road**	**0.33**	**288**	P	P	Pn	09 41 33.6	+0.2
HLRZ	**Highlands Stat**	**0.35**	**313**	P	P	Pn	09 41 33.8	+0.3
MTHZ	**Maungataniwha**	**0.38**	**161**	P	P	Pn	09 41 34.3	+0.5
EDRZ	**Edgecumbe**	**0.39**	**7**	P	P	Pn	09 41 33.6	-0.3
EDRZ				S	S	Sn	09 41 42.4	-0.8
HSRZ	**Hossack Road**	**0.39**	**298**	P	P	Pn	09 41 34.1	+0.3
HSRZ				S	S	Sn	09 41 43.1	0.0
MKRZ	**Makatiti**	**0.39**	**334**	P	P	Pn	09 41 34.7	+0.8
MRHZ	**Matea Rd**	**0.40**	**211**	P	P	Pn	09 41 34.2	+0.3
WPRZ	**Whakapapatarin**	**0.41**	**266**	P	P	Pn	09 41 34.4	+0.4
URZ	**Urewera**	**0.41**	**55**	P	P	Pn	09 41 33.0	-0.9
	342nm,0.3s,baz=242,slow=5.9,SNR=3421							
URZ				S	S	Sn	09 41 42.2	-1.0
	999nm,0.3s,baz=73,slow=16,SNR=43							
URZ	**Urewera**	**0.41**	**55**	P	P	Pn	09 41 33.6	-0.3
URZ				S	S	Sn	09 41 42.4	-0.9
OMRZ	**Omania**	**0.46**	**328**	P	P	Pn	09 41 34.3	0.0
GRRZ	**Galatos Road**	**0.47**	**287**	P	P	Pn	09 41 35.0	+0.5
UTU	**Utuhina**	**0.50**	**309**	P	P	Pn	09 41 35.1	+0.5
MARZ	**Manawahe**	**0.51**	**359**	P	P	Pn	09 41 34.7	-0.1
RAHZ	**Arahi**	**0.53**	**143**	P	P	Pn	09 41 36.0	+1.0
LIRZ	**Lichensteins R**	**0.54**	**334**	P	P	Pn	09 41 35.1	+0.1
NGRZ	**Ngongotaha**	**0.55**	**315**	P	P	Pn	09 41 35.7	+0.4
RAGZ	**Rawiri**	**0.57**	**90**	P	P	Pn	09 41 35.8	+0.3
KARZ	**Kaharoa**	**0.58**	**324**	P	P	Pn	09 41 35.4	-0.1
SNGZ	**Shannon Statio**	**0.59**	**119**	P	P	Pn	09 41 36.7	+1.1
WHTZ	**Whakaora**	**0.59**	**253**	P	P	Pn	09 41 36.6	+1.0
HATZ	**Hinemaiaia**	**0.61**	**229**	P	P	Pn	09 41 36.3	+0.6
NMHZ	**Naumai**	**0.61**	**171**	P	P	Pn	09 41 37.2	+1.4
OPRZ	**Ohinepanea**	**0.66**	**351**	P	P	Pn	09 41 35.8	-0.4
KUTZ	**Kaahu Road**	**0.67**	**270**	P	P	Pn	09 41 37.0	+0.6
WHRZ	**Whale Island**	**0.68**	**20**	P	P	Pn	09 41 37.3	+0.9
MWZ	**Matawai**	**0.68**	**77**	P	P	Pn	09 41 36.6	+0.1
BKZ	**Black Stump Fm**	**0.69**	**192**	P	P	Pn	09 41 37.3	+0.8
WHHZ	**Waihua**	**0.72**	**144**	P	P	Pn	09 41 38.5	+1.6
WATZ	**Wairara**	**0.77**	**254**	P	P	Pn	09 41 38.1	+0.6
RATZ	**Rangitukua**	**0.80**	**242**	P	P	Pn	09 41 38.6	+0.8
RITZ	**Rihia Road**	**0.81**	**233**	P	P	Pn	09 41 39.0	+1.2
ARHZ	**Arapaoanui**	**0.81**	**162**	P	P	Pn	09 41 39.6	+1.8
TGRZ	**Tauranga**	**0.83**	**336**	P	P	Pn	09 41 38.0	-0.1
KMRZ	**Kaimai**	**0.87**	**318**	P	P	Pn	09 41 38.8	+0.2
RIGZ	**Rigahuahua**	**0.87**	**104**	P	P	Pn	09 41 39.5	+0.9
KATZ	**Kakaramea**	**0.91**	**238**	P	P	Pn	09 41 40.0	+0.8
TLZ	**Tolley Road**	**0.91**	**280**	P	P	Pn	09 41 39.6	+0.6
TKGZ	**Te Karaka**	**0.92**	**87**	P	P	Pn	09 41 40.1	+1.1
KNZ	**Kokohu**	**0.94**	**125**	P	P	Pn	09 41 40.4	+1.1
RUGZ	**Raukumara Rang**	**0.94**	**56**	P	P	Pn	09 41 39.1	-0.4
MCHZ	**McNeill Hill**	**0.95**	**179**	P	P	Pn	09 41 41.3	+1.9
KWHZ	**Kaweka Forest**	**0.95**	**192**	P	P	Pn	09 41 41.1	+1.6
TMVZ	**Te Maari**	**0.98**	**231**	P	P	Pn	09 41 41.2	+1.2
ETVZ	**East Tongariro**	**0.99**	**230**	P	P	Pn	09 41 41.3	+1.1
KRVZ	**Karewarewa**	**1.01**	**233**	P	P	Pn	09 41 41.5	+1.2
PRGZ	**Paritu Road**	**1.03**	**115**	P	P	Pn	09 41 41.2	+0.7
OTVZ	**Oturere**	**1.04**	**230**	P	P	Pn	09 41 41.9	+1.2
WIZ	**White Island**	**1.04**	**23**	P	P	Pn	09 41 41.1	+0.5
WTVZ	**West Tongariro**	**1.06**	**234**	P	P	Pn	09 41 42.0	+1.2
TWGZ	**Tauwhareparae**	**1.07**	**73**	P	P	Pn	09 41 42.0	+1.0
NGZ	**Ngauruhoe**	**1.08**	**231**	P	P	Pn	09 41 42.6	+1.4
BHHZ	**Black Hill Sta**	**1.11**	**206**	P	P	Pn	09 41 42.4	+1.0
TUVZ	**Tukino**	**1.11**	**226**	P	P	Pn	09 41 42.9	+1.3
TWVZ	**Taurewa**	**1.13**	**239**	P	P	Pn	09 41 42.8	+1.0
HAZ	**Te Kaha**	**1.14**	**50**	P	P	Pn	09 41 41.3	-0.4
MHGZ	**Mahia Peninsul**	**1.16**	**125**	P	P	Pn	09 41 43.1	+1.0
WHVZ	**Whangaehu Hut**	**1.16**	**227**	P	P	Pn	09 41 43.5	+1.2
FWVZ	**Far West T-bar**	**1.17**	**229**	P	P	Pn	09 41 43.7	+1.4
MOVZ	**Moawhango**	**1.17**	**218**	P	P	Pn	09 41 43.1	+0.9
DRZ	**Dome Shelter**	**1.17**	**228**	P	P	Pn	09 41 44.1	+1.6
KRHZ	**Kereru**	**1.17**	**192**	P	P	Pn	09 41 43.4	+1.1
WNVZ	**Wahianoa**	**1.19**	**225**	P	P	Pn	09 41 43.7	+1.2
TRVZ	**Turoa**	**1.20**	**227**	P	P	Pn	09 41 44.0	+1.3
CNGZ	**Carnagh Statio**	**1.20**	**90**	P	P	Pn	09 41 43.7	+1.2
CKHZ	**Cape Kidnapper**	**1.20**	**165**	P	P	Pn	09 41 43.7	+1.1
TOZ	**Tahuroa Road**	**1.20**	**309**	P	P	Pn	09 41 43.0	+0.5
PKGZ	**Pakihiroa**	**1.25**	**62**	P	P	Pn	09 41 44.2	+0.9
MYRZ	**Mayor Island**	**1.26**	**344**	P	P	Pn	09 41 43.6	+0.3
MTVZ	**Mangateitei**	**1.30**	**226**	P	P	Pn	09 41 45.3	+1.5
KAHZ	**Kahutaki**	**1.31**	**173**	P	P	Pn	09 41 44.9	+1.0
PUZ	**Puketiti**	**1.31**	**72**	P	P	Pn	09 41 44.5	+0.6
PKVZ	**Pokaka**	**1.31**	**232**	P	P	Pn	09 41 45.3	+1.3
HIZ	**Hauiti**	**1.43**	**269**	P	P	Pn	09 41 46.7	+1.2
PNHZ	**Pukenui**	**1.47**	**195**	P	P	Pn	09 41 46.6	+0.6
WMGZ	**Waiomatatini S**	**1.52**	**64**	P	P	Pn	09 41 47.3	+0.7
PXZ	**Pawanui**	**1.54**	**175**	P	P	Pn	09 41 47.2	+0.3
WPHZ	**Waipukurau**	**1.58**	**187**	P	P	Pn	09 41 47.7	+0.3
MXZ	**Matakaoa Point**	**1.58**	**55**	P	P	Pn	09 41 48.8	+1.3
VRZ	**Vera Road**	**1.63**	**247**	P	P	Pn	09 41 49.5	+1.4
TSZ	**Takapari Road**	**1.66**	**199**	P	P	Pn	09 41 48.9	+0.4
PRHZ	**Porangahau**	**1.77**	**181**	P	P	Pn	09 41 50.2	+0.3
WAZ	**Wanganui**	**1.82**	**226**	P	P	Pn	09 41 52.7	+2.0
DVHZ	**Dannevirke**	**1.85**	**192**	P	P	Pn	09 41 50.7	-0.3
KUZ	**Kuaotunu**	**1.91**	**336**	P	P	Pn	09 41 51.9	+0.2
MHEZ	**Mangahewa**	**1.93**	**252**	P	P	Pn	09 41 54.7	+2.6
ANWZ	**Angora Road**	**1.97**	**185**	P	P	Pn	09 41 53.2	+0.6
OHWZ	**Ohakea**	**2.01**	**211**	P	P	Pn	09 41 54.9	+1.8
LREZ	**Lake Rotokare**	**2.02**	**241**	P	P	Pn	09 41 55.6	+2.4
POWZ	**Post Office Ro**	**2.02**	**200**	P	P	Pn	09 41 53.4	+0.1
ETAZ	**East Tamaki Re**	**2.07**	**317**	P	P	Pn	09 41 55.0	+1.0
WIAZ	**Waiheke Island**	**2.10**	**324**	P	P	Pn	09 41 55.0	+0.8
PRWZ	**Pori Road**	**2.13**	**195**	P	P	Pn	09 41 55.1	+0.3
PREZ	**Palmer Road**	**2.14**	**246**	P	P	Pn	09 41 57.6	+2.7
AWAZ	**Awhitu Peninsu**	**2.16**	**311**	P	P	Pn	09 41 55.9	+0.9
NEZ	**North Egmont**	**2.16**	**248**	P	P	Pn	09 41 57.6	+2.3
BFZ	**Birch Farm**	**2.21**	**189**	P	P	Pn	09 41 55.1	-0.7
PKE	**Pukeiti**	**2.22**	**251**	P	P	Pn	09 41 57.9	+2.0
MBAZ	**Motutapu North**	**2.23**	**320**	P	P	Pn	09 41 57.0	+1.0
EPAZ	**Eden Park BICE**	**2.23**	**316**	P	P	Pn	09 41 57.0	+0.9
KHEZ	**Kahui Hut**	**2.23**	**248**	P	P	Pn	09 41 58.3	+2.2
HBAZ	**Herne Bay Bore**	**2.26**	**316**	P	P	Pn	09 41 57.4	+1.0
WTAZ	**Waiatarua**	**2.29**	**312**	P	P	Pn	09 41 57.9	+1.1
MRZ	**Mangatainoka R**	**2.33**	**201**	P	P	Pn	09 41 56.6	-0.7
NBEZ	**Newall Road No**	**2.35**	**250**	P	P	Pn	09 41 59.5	+2.1
TIWZ	**Tintock**	**2.36**	**195**	P	P	Pn	09 41 57.1	-0.7
NMEZ	**Namu Road**	**2.37**	**246**	P	P	Pn	09 42 00.1	+2.2
ABAZ	**Army Bay**	**2.39**	**322**	P	P	Pn	09 41 59.5	+1.2
RVAZ	**Riverhead Bore**	**2.40**	**315**	P	P	Pn	09 41 59.0	+0.7
GRZ	**Great Barrier**	**2.44**	**336**	P	P	Pn	09 41 59.4	+0.5
HOWZ	**Holdsworth Sta**	**2.56**	**200**	P	P	Pn	09 41 59.4	-1.2
OGWZ	**Otaki Gorge**	**2.60**	**206**	P	P	Pn	09 42 00.9	-0.1
TMWZ	**Te Maipa**	**2.68**	**193**	P	P	Pn	09 42 01.7	-0.4
KIW	**Kapiti Island**	**2.73**	**209**	P	P	Pn	09 42 02.4	-0.4
MTW	**Mount Morrison**	**2.81**	**198**	P	P	Pn	09 42 02.9	-1.0
CAW	**Cannon Point**	**2.89**	**205**	P	P	Pn	09 42 03.8	-1.2
TRWZ	**Traveller**	**3.00**	**194**	P	P	Pn	09 42 05.1	-1.3
PAWZ	**Paruwai Farm**	**3.04**	**198**	P	P	Pn	09 42 05.9	-1.1
MSWZ	**Moikau Station**	**3.12**	**200**	P	P	Pn	09 42 07.0	-1.1
DUWZ	**D'Urville Isla**	**3.14**	**222**	P	P	Pn	09 42 07.9	-0.4
WCZ	**Waipu Caves**	**3.16**	**323**	P	P	Pn	09 42 09.6	+1.0
TCW	**Tory Channel**	**3.29**	**214**	P	P	Pn	09 42 09.8	-0.5
TUMZ	**Tuamarina**	**3.61**	**215**	P	P	Pn	09 42 11.3	-1.4
NNZ	**Nelson**	**3.72**	**222**	P	P	Pn	09 42 13.6	-0.7
BSWZ	**Blackbirch Sta**	**3.87**	**213**	P	P	Pn	09 42 18.3	0.0
QRZ	**Quartz Range**	**3.96**	**233**	P	P	Pn	09 42 19.3	-0.2
OUZ	**Omahuta**	**4.10**	**322**	P	P	Pn	09 42 22.7	+1.4
THZ	**Tophouse**	**4.36**	**220**	P	P	Pn	09 42 23.9	-1.2
KHZ	**Kahutara**	**4.59**	**210**	P	P	Pn	09 42 27.4	-0.7
DSZ	**Denniston Nort**	**4.95**	**227**	P	P	Pn	09 42 31.9	-1.1
INZ	**Inchbonnie**	**5.81**	**222**	P	P	Pn	09 42 45.0	+0.3
WVZ	**Waitaha Valley**	**6.42**	**223**	P	P	Pn	09 42 57.6	+4.5
RPZ	**Rata Peaks**	**6.73**	**217**	P	P	Pn	09 42 55.2	-2.1
	0.4nm,0.3s,baz=113,slow=14,SNR=2.2							
RPZ				S	S	Sn	09 44 04.8	-7.6
	1.3nm,0.3s,baz=142,slow=24,SNR=8.8							
GCSZ	**Gaunt Creek Bo**	**6.81**	**223**	P	P	Pn	09 43 01.0	+2.7
CTZ	**Chatham Island**	**7.28**	**138**	P	P	Pn	09 43 03.8	-0.9
JCZ	**Jackson Bay**	**8.15**	**224**	P	P	Pn	09 43 19.5	+2.8
ASAR	**Alice Springs**	**39.15**	**279**	P	P	**P**	**09 48 42.0**	**+0.5**
	0.6nm,0.7s,baz=123,slow=8.2,SNR=14							
WRA	**Warramunga Arr**	**40.90**	**285**	P	P	**P**	**09 48 56.0**	**0.0**
	0.3nm,0.7s,baz=125,slow=7.3,SNR=6.2							
FINES	**FINESS Array B**	**150.71**	**331**	PKPbc	**PKPdf**		**10 01 00.8**	**+3.0**
	1.4nm,0.6s,baz=35,slow=5.1,SNR=2.4							

IDC 20 09:57:10.5±2.4, 54.68N×83.81E, h0km, mb1 2.5/2, mb1mx2.5/50, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=19.2km s-min=11.6km az=174.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**141**	*i*			10 02 40.0	
	baz=319,slow=334,SNR=3.0							
ZALV	**Zalesovo Beam**	**0.94**	**141**	Pg	Pg		09 57 28.2	-0.2
	2.1nm,0.3s,baz=322,slow=16,SNR=14							
ZALV				Lg	Lg		09 57 42.1	
	4.2nm,0.3s,baz=325,slow=31,SNR=19							
KURBB	**Kurchatov Arra**	**5.18**	**221**	Pn	Pn		09 58 29.4	+0.3
	0.0nm,0.3s,baz=40,slow=14,SNR=4.7							
KURBB				Lg	Lg		09 59 58.4	
	0.1nm,0.3s,baz=39,slow=30,SNR=5.8							
MKAR	**Makanchi Array**	**7.95**	**188**	Pn	Pn		09 59 06.6	-0.7
	0.1nm,0.3s,baz=21,slow=15,SNR=4.7							
MKAR				Lg	Lg		10 01 22.5	
	0.1nm,0.3s,baz=23,slow=22,SNR=5.4							

*IDC **20** 09:58:43.3±1.0, 37.64N×144.20E, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.6/50, mbtmp3.8/9, ML3.6/3, MS2.5/3, Ms1 2.5/3, ms1mx2.3/59, Error ellipse: s-maj=32.3km s-min=18.2km az=113.0*
*NEIC **20** 09:58:46.3±2.3, 37.81N±0.07×144.0E±0.1, h15km±5km, mb4.5/10, Error ellipse: s-maj=12.7km s-min=7.9km az=120.0*
*JMA **20** 09:58:47.6±0.1, 37.81N×144.00E, h45km, M4.2*
*NIED **20** 09:58:47.6, 37.81N×144.00E, h45km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.15; Mθθ0.23; Mφφ1.92; Mrθ-0.59; Mθφ0.86; Mφr-0.22; Fault plane solution: M₀2.30000×10¹⁴ NP1:φs35.00000°, δ52.00000°, λ-75.00000°. NP2:φs191.00000°, δ41.00000°, λ-108.00000°.*
ISC 20 09:58:48.8±0.7, 37.78N±0.04×144.03E±0.07, h35km, n59, σ1875/78, mb4.1/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.10**	**285**	P	P	**Pn**	**09 59 20.8**	**-0.5**
JIKH				S	S	Sn	09 59 45.2	-1.0
JIO	**Ouri**	**2.22**	**288**	P	P	**Pn**	**09 59 22.6**	**-0.5**
JIO				S	S	Sn	09 59 48.6	-0.7
JKMT	**Kesennumamotoy**	**2.26**	**298**	P	P	**Pn**	**09 59 23.1**	**-0.5**
JKMT				S	S	Sn	09 59 49.6	-0.7
OFUJ	**Ofunato**	**2.27**	**306**	P	P	**Pn**	**09 59 23.1**	**-0.6**
OFUJ				S	S	Sn	09 59 49.4	-1.0
JMK	**Ichinoseki**	**2.50**	**299**	P	P	**Pn**	**09 59 26.7**	**-0.2**
JMK				S	S	Sn	09 59 55.7	-0.5
JMM	**Marumori**	**2.57**	**273**	P	P	**Pn**	**09 59 27.1**	**-0.7**
JMM				Sn	Sn	Sn	09 59 57.0	-0.8
JOM	**Ohasama**	**2.73**	**309**	P	P	**Pn**	**09 59 30.0**	**-0.1**
JOM				S	S	Sn	10 00 02.2	+0.3
JFT	**Otama**	**2.95**	**266**	P	P	**Pn**	**09 59 33.4**	**+0.3**
JFT				*e*S	S	Sn	10 00 07.5	+0.3
JYK	**Kaneyama**	**3.10**	**293**	P	P	**Pn**	**09 59 35.8**	**+0.6**
JYK				*e*S	S	Sn	10 00 11.3	+0.2
JANG	**Nango**	**3.25**	**324**	P	P	**Pn**	**09 59 37.0**	**-0.2**
JANG				*e*S	S	Sn	10 00 12.8	-1.8
JYT	**Yasato**	**3.44**	**244**			**Pn**	**09 59 39.1**	**-0.7**
JYT				Sn	Sn	Sn	10 00 17.7	-1.7
JTM	**Tenmabayashi**	**3.78**	**323**			**Pn**	**09 59 45.2**	**+0.7**
JTM				Sn	Sn	Sn	10 00 26.2	-1.6
BSO1	**Boso 1**	**3.98**	**219**	P	P	**Pn**	**09 59 45.0**	**-1.8**
JOT	**Ohata**	**4.27**	**328**	*e*S	S	**Sn**	**10 00 37.2**	**-2.7**
ERM	**Erimo**	**4.28**	**351**	Pn	Pn	**Pn**	**09 59 50.2**	**-1.1**
ERM				Sn	Sn	Sn	10 00 36.2	-3.9
JRY	**Ryogami san**	**4.47**	**248**	P	P	**Pn**	**09 59 53.4**	**-0.7**
JRY				S	S	Sn	10 00 42.5	-2.4
JSD	**Sado**	**4.57**	**275**	Pn	Pn	**Pn**	**09 59 56.3**	**+0.9**
JKB	**Kayabe**	**4.71**	**332**	P	P	**Pn**	**09 59 57.6**	**+0.4**
JKB				*e*S	S	Sn	10 00 47.5	-3.1
JOD2	**Odawara 2**	**4.71**	**239**	P	P	**Pn**	**09 59 55.9**	**-1.4**
JOD2				*e*S	S	Sn	10 00 46.4	-4.3
MJAR	**Matsushiro Arr**	**4.81**	**257**	Pn	Pn	**Pn**	**09 59 59.9**	**+1.1**
	0.5nm,0.3s,baz=330,slow=14,SNR=20							
MJAR				Sn	Sn	Sn	10 00 53.2	-0.1
	0.3nm,0.3s,baz=19,slow=16,SNR=4.7							
MJAR				LR	LR		10 02 00.9	
	comp=Z,42nm,21.0s,baz=100,slow=40							
MJAR	**Matsushiro Arr**	**4.81**	**257**			**Pn**	**09 59 58.9**	**+0.2**
MAJO	**Matsushiro**	**4.81**	**257**			**Pn**	**09 59 58.6**	**-0.2**
MAT	**Matsushiro**	**4.81**	**257**	P	P	**Pn**	**10 00 00.3**	**+1.5**
MAT				S	S	Sn	10 00 53.5	+0.2
MJB9	**Matsu-Tunnel

YKA	Yellowknife Ar	62.10	31	P		P	10 09 06.0	+0.3
TULEG	Thule	64.08	8	P		P	10 09 20.0	+1.5
CMB	Columbia Colle	71.73	56	P		P	10 10 08.1	+0.7

IDC ***20*** *10:00:49.1±0.7,6˙31S×150˙00E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/39, mbtmp4.3/13, ML2.6/1, MS3.7/19, Ms1 3.7/19, ms1mx3.5/35, Error ellipse: s-maj=22.5km s-min=14.9km az=99.0*

NEIC ***20*** *10:00:54.3±2.2,6˙25S±0˙.09×149˙.9E±0˙.1, h35km±1km, mb4.6/19, Error ellipse: s-maj=20.8km s-min=10.6km az=129.0*

DJA ***20*** *10:00:56.1±0.8,7˚S±4˚×15˚0E±˚, h38km±9km, M4.9/11, mB5.8/3, mb4.5/11, MLv5.0/3, Mw(mB)5.3/3*

ISC 20 10:00:55.2±0.5,**6˙30S**±0˙.07×**149˙.95E**±0˙.08,**h43km, n63, σ1§10/54, mb4.2/17, MS3.7**/16**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.05**	**47**			**Pn**	**10 01 40.8**	**-0.2**
RABL	**Rabaul**	**3.05**	**47**	P		**Pn**	**10 01 41.7**	**+0.7**
PMG	**Port Moresby**	**4.14**	**222**	Pn		**Pn**	**10 01 56.2**	**+0.2**
	28nm,0.3s,baz=22,slow=10,SNR=96							
PMG				Sn		**Sn**	**10 02 43.5**	**+0.4**
	24nm,0.3s,baz=168,slow=23,SNR=15							
PMG				LR		LR	10 03 39.5	
	comp=Z,895nm,21.5s,baz=350,slow=41							
PMG	**Port Moresby**	**4.14**	**222**			**Pn**	**10 01 56.4**	**+0.4**
PMG				Sn		**Sn**	**10 02 43.6**	**+0.5**
PMG	**Port Moresby**	**4.14**	**222**	P		**Pn**	**10 01 56.8**	**+0.8**
JAY	**Jayapura**	**9.95**	**292**	LR		LR	10 06 46.6	
	comp=Z,482nm,18.9s,baz=79,slow=36							
COEN	**Coen**	**10.11**	**221**	Pn		**Pn**	**10 03 17.5**	**-0.5**
HNR	**Honiara**	**10.38**	**108**	LR		LR	10 06 33.8	
	comp=Z,277nm,20.3s,baz=264,slow=33							
EIDS	**Eidsvold**	**18.99**	**177**	P		**P**	**10 05 12.9**	**-0.4**
EIDS				IAmb		IAmb	10 05 15.9	
	comp=Z,13nm,0.8s							
MTN	**Manton Dam**	**19.65**	**249**	P		**P**	**10 05 19.4**	**-1.2**
MTN				IAmb		IAmb	10 05 29.6	
	comp=Z,11nm,0.7s							
BNDI	**Bandanaira**	**20.03**	**274**	P		Pn	10 05 27.5	+0.7
	comp=Z,33µmcomp=Z,50nm,0.8s							
WB0	**Warramunga Arr**	**20.19**	**227**	P		**P**	**10 05 25.4**	**-1.0**
WB0				IAmb		IAmb	10 05 27.5	
	comp=Z,25nm,0.7s							
WR0	**Warramunga Arr**	**20.20**	**226**	P		**P**	**10 05 25.8**	**-0.9**
WRAB	**Tennant Creek**	**20.32**	**227**	P		**P**	**10 05 27.5**	**-0.5**
WRAB				IAmb		IAmb	10 05 28.9	
	comp=Z,28nm,0.8s							
WB2	**Warramunga Arr**	**20.33**	**227**	P		**P**	**10 05 27.8**	**-0.2**
WB2				IAmb		IAmb	10 05 29.0	
	comp=Z,34nm,0.9s							
WRA	**Warramunga Arr**	**20.34**	**227**	P		**P**	**10 05 27.7**	**-0.4**
	comp=Z,19nm,0.4s,baz=51,slow=11,SNR=277							
WRA				LR		LR	10 14 20.5	
	comp=Z,218nm,18.5s,baz=55,slow=40							
WRA	**Warramunga Arr**	**20.34**	**227**	P		**P**	**10 05 26.7**	**-1.4**
DZM	**Mont Dzumac**	**22.36**	**136**	P		**P**	**10 05 49.6**	**-0.3**
	comp=Z,11nm,0.5s,baz=250,slow=9.8,SNR=18							
DZM	**Mont Dzumac**	**22.36**	**136**	IAmb		IAmb	10 05 51.8	
	comp=Z,13nm,0.7s							
AS31	**Alice Springs**	**23.15**	**220**	P		**P**	**10 05 56.6**	**-1.5**
ASAR	**Alice Springs**	**23.15**	**220**	P		**P**	**10 05 57.5**	**-0.7**
	comp=Z,4.4nm,0.5s,baz=53,slow=9.0,SNR=50							
ASAR				S		**S**	**10 10 07.0**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=38,slow=18,SNR=4.4							
ASAR				ScP		**ScP**	**10 13 24.6**	**+4.1**
	comp=Z,0.5nm,0.7s,baz=51,slow=3.6,SNR=5.6							
ASAR				LR		LR	10 15 17.1	
	comp=Z,221nm,18.2s,baz=54,slow=37							
ASAR	**Alice Springs**	**23.15**	**220**	P		**P**	**10 05 56.7**	**-1.4**
ARMA	**Armidale**	**24.04**	**176**	P		**P**	**10 06 08.3**	**+1.8**
ARMA				IAmb		IAmb	10 06 09.1	
	comp=Z,35nm,1.2s							
SOEI	**Soe**	**25.65**	**261**	P		**P**	**10 06 21.7**	**+0.3**
SOEI				IAmb		IAmb	10 06 27.9	
	comp=Z,18nm,0.7s							
SOEI	**Soe**	**25.65**	**261**	P		**P**	**10 06 23.1**	**+1.7**
	comp=Z,26nm,0.6s							
BATI	**Baumata**	**26.29**	**260**	P		**P**	**10 06 28.2**	**+1.2**
	comp=Z,35nm,0.5s,baz=7.1,slow=0.6,SNR=5.3							
FITZ	**Fitzroy Crossi**	**26.45**	**242**	P		**P**	**10 06 27.7**	**-0.7**
	comp=Z,9.5nm,0.6s,baz=53,slow=9.2,SNR=44							
FITZ	**Fitzroy Crossi**	**26.45**	**242**	P		**P**	**10 06 27.6**	**-0.8**
FITZ				IAmb		IAmb	10 06 31.3	
	comp=Z,24nm,1.1s							
STKA	**Stephens Creek**	**26.61**	**196**	P		**P**	**10 06 29.8**	**0.0**
	comp=Z,24nm,1.1s,baz=1.9,slow=10,SNR=21							
STKA				LR		LR	10 17 41.8	
	comp=Z,229nm,18.8s,baz=17,slow=38							
STKA	**Stephens Creek**	**26.61**	**196**	P		**P**	**10 06 31.0**	**+1.2**
MMRI	**Maumere**	**27.57**	**263**	P		**P**	**10 06 37.0**	**-1.6**
EDFI	**Ende, Flores**	**28.11**	**263**	P		**P**	**10 06 41.4**	**-2.1**
FORT	**Forrest**	**31.85**	**217**	P		**P**	**10 07 15.8**	**-0.5**
JOW	**Kunigami**	**39.06**	**328**	LR		LR	10 21 18.2	
	comp=Z,120nm,20.2s,baz=136,slow=31							
JHJ	**Hachijo jima 2**	**40.38**	**347**	LR		LR	10 24 39.6	
	comp=Z,71nm,20.2s,baz=168,slow=35							
THZ	**Tophouse**	**40.79**	**153**	P		**P**	**10 08 32.5**	**0.0**
THZ				IAmb		IAmb	10 08 40.4	
	comp=Z,15nm,1.0s							
TUWZ	**Tuamarina**	**40.99**	**152**	P		**P**	**10 08 34.8**	**+0.7**
LTZ	**Lake Taylor**	**41.34**	**155**	P		**P**	**10 08 38.3**	**+1.3**
MSWZ	**Moikau Station**	**41.60**	**151**	P		**P**	**10 08 38.2**	**-0.9**
RPZ	**Rata Peaks**	**41.62**	**157**	P		**P**	**10 08 40.1**	**+0.8**
RPZ				IAmb		IAmb	10 08 44.1	
	comp=Z,27nm,1.3s							
PLWZ	**Palliser**	**41.72**	**151**	P		**P**	**10 08 39.6**	**-0.5**
MJAR	**Matsushiro Arr**	**44.02**	**346**	LR		LR	10 25 48.8	
	comp=Z,36nm,18.4s,baz=165,slow=34							
KSRS	**Korea Array**	**48.14**	**336**	P		**P**	**10 09 30.4**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=154,slow=7.7,SNR=4.1							
KLR	**Kul'dur**	**57.54**	**346**	P		**P**	**10 10 41.1**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=179,slow=2.3,SNR=4.0							
PETK	**Petropavlovsk-**	**59.55**	**5**	P		**P**	**10 10 55.4**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=129,slow=5.8,SNR=5.5							
PETK				LR		LR	10 33 27.4	
	comp=Z,37nm,20.5s,baz=195,slow=33							
SONM	**Songino Array**	**66.12**	**329**	P		**P**	**10 11 39.1**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=120,slow=5.5,SNR=2.3							
SONM				LR		LR	10 38 26.9	
	comp=Z,35nm,21.8s,baz=72,slow=34							
TLY	**Talaya**	**69.99**	**331**	LR		LR	10 40 56.7	
	comp=Z,54nm,20.1s,baz=106,slow=34							
VNDA	**Vanda**	**71.46**	**177**	P		**P**	**10 12 10.8**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=330,slow=7.0,SNR=12							
VNDA	**Vanda**	**71.46**	**177**	P		**P**	**10 12 11.4**	**+0.6**
MKAR	**Makanchi Array**	**79.61**	**320**	P		**P**	**10 12 57.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=105,slow=4.9,SNR=1.5							
MKAR				LR		LR	10 47 44.0	
	comp=Z,43nm,19.6s,baz=82,slow=35							
ZALV	**Zalesovo Beam**	**80.84**	**327**	P		**P**	**10 13 06.2**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=114,slow=3.5,SNR=2.4							
ZALV				LR		LR	10 49 21.6	
	comp=Z,37nm,19.7s,baz=104,slow=36							
MAW	**Mawson**	**83.10**	**203**	LR		LR	10 47 47.2	
	comp=Z,165nm,19.6s,baz=78,slow=34							
ILAR	**Eielson Array**	**84.62**	**23**	P		**P**	**10 13 23.3**	**-0.6**
	comp=Z,0.8nm,1.1s,baz=258,slow=6.0,SNR=3.0							
NVAR	**Mina Array Bea**	**95.24**	**52**	LR		LR	10 49 52.0	
	comp=Z,40nm,21.2s,baz=205,slow=31							
ARU	**Arti**	**95.97**	**326**	LR		LR	10 57 12.0	
	comp=Z,90nm,20.2s,baz=112,slow=35							
AKTO	**Aktyubinsk**	**96.04**	**320**	LR			10 57 47.9	
	comp=Z,50nm,19.7s,baz=93,slow=36							
YKA	**Yellowknife Ar**	**98.07**	**28**	LR		LR	10 55 17.8	
	comp=Z,43nm,21.3s,baz=0.0,slow=33							
GERES	**GERESS Array B**	**123.79**	**327**	PKP		**PKiKP**	**10 19 48.8**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=42,slow=4.3,SNR=4.7							
GERES	**GERESS Array B**	**123.79**	**327**			**PKPdf**	**10 19 48.2**	**-0.5**
LPAZ	**La Paz**	**136.14**	**121**	PKP		**PKiKP**	**10 20 14.6**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=307,slow=4.8,SNR=3.6							
TORD	**Torodi Ar. Bea**	**148.00**	**285**	PKPbc		**PKPbc**	**10 20 36.1**	**-1.0**
	comp=Z,3.6nm,0.7s,baz=47,slow=3.1,SNR=17							
TORD	**Torodi Ar. Bea**	**148.00**	**285**			**PKPbc**	**10 20 36.0**	**-1.2**
BDFB	**Brasilia**	**151.86**	**141**	PKPbc		**PKPbc**	**10 20 46.4**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=171,slow=3.6,SNR=4.7							

IDC 20 10:15:26.9±1.3,**11˙80N**×**143˙37E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.4/56, mbtmp3.4/5, Error ellipse: s-maj=44.9km s-min=26.1km az=99.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.77**	**196**	P		P	10 22 01.0	-1.0
	0.3nm,0.7s,baz=20,slow=9.6,SNR=4.9							
ASAR	**Alice Springs**	**36.44**	**195**	P		P	10 22 34.7	+1.0
	0.1nm,0.7s,baz=16,slow=12,SNR=2.3							
CMAR	**Chiang Mai Ar**	**43.31**	**284**	P		P	10 23 30.6	-0.4
	0.6nm,0.3s,baz=84,slow=2.6,SNR=4.1							
KURBB	**Kurchatov Arra**	**65.05**	**321**	P		P	10 26 09.4	+0.2
	0.2nm,0.5s,baz=106,slow=5.8,SNR=2.4							
ILAR	**Eielson Array**	**70.80**	**25**	P		P	10 26 45.1	0.0
	0.3nm,0.6s,baz=238,slow=6.0,SNR=6.9							

IDC 20 10:24:15.2±605.0,**58˙31N**×**56˙52E, h0km, Error ellipse: s-maj=267.4km s-min=148.0km az=154.0, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.96**	**173**	*i*			11 14 50.0	
	baz=354,slow=336,SNR=1.1							
I46RU	**ZALESOVO INFRA**	**16.30**	**93**	*i*			12 07 30.0	
	baz=296,slow=337,SNR=1.4							
I34MN	**SONGINO INFRAS**	**31.07**	**88**	*i*			13 33 40.0	
	baz=309,slow=319,SNR=0.7							

ISC 20 10:39:55.8±1.2,**48˙87N**±0˙.05×**18˙17E**±0˙.04,**h11km**±12**km, n6, σ1§30/12, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOLL	**Kolacno**	**0.33**	**152**	*e*PG		**Pg**	**10 40 02.6**	**+0.2**
KOLL				*e*SG		**Sg**	**10 40 07.1**	**+0.3**
JAVC	**Velka Javorina**	**0.33**	**269**	*e*PG		**Pg**	**10 40 01.8**	**-0.7**
JAVC				*e*SG		**Sg**	**10 40 05.0**	**-1.9**
VYHS	**Vyhne**	**0.58**	**130**	*e*PG		**Pg**	**10 40 07.0**	**-0.1**
VYHS				*e*SG		**Sb**	**10 40 15.2**	**-1.0**
MODS	**Modra-Piesok**	**0.77**	**230**	*e*PG		**Pg**	**10 40 11.9**	**+1.2**
MODS				*e*SG		**Sg**	**10 40 22.9**	**+2.1**
MORC	**Moravsky Berou**	**1.00**	**336**	*e*PG		**Pg**	**10 40 16.0**	**+0.9**
MORC				*e*SG		**Sg**	**10 40 29.0**	**+0.9**
VRAC	**Vranov**	**1.13**	**294**	*e*PG		**Pn**	**10 40 17.4**	**-0.1**
VRAC				*e*SG		**Sb**	**10 40 31.0**	**-0.9**

HEL ***20*** *10:49:17.6±0.5,67˙56N×34˙07E, h0km, ML2.2, Explosion*

KOLA ***20*** *10:49:18.7,67˙64N×33˙91E, h0km, ML2.4, Khibiny, mines Rasvumchorr, Central*

NAO ***20*** *10:49:19.5±1.1,67˙62N×33˙81E, ML2.6*

IDC ***20*** *10:49:20.7±2.0,67˙64N×33˙65E, h0km, mb1 3.4/5, mb1mx3.1/52, mbtmp3.4/5, ML2.6/5, Error ellipse: s-maj=22.7km s-min=10.5km az=79.0*

ISC 20 10:49:17.0±1.6,**67˙68N**±0˙.03×**34˙00E**±0˙.08,**h0km, n38, σ1§56/63, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.25**	**245**	P		**Pg**	**10 49 22.6**	**+0.7**
APA				S		**Sg**	**10 49 25.2**	**+0.1**
APZ9	**Apatity**	**0.25**	**245**	Pg		**Pg**	**10 49 22.5**	**+0.6**
APZ9				Lg		Lg	10 49 25.4	
APZ9	**Apatity**	**0.25**	**245**	Pg		**Pg**	**10 49 22.5**	**+0.6**
APZ9				Sg		**Sg**	**10 49 25.4**	**+0.3**
APA0	**Apatity Array**	**0.39**	**260**	Pg		**Pg**	**10 49 25.1**	**+0.6**
	baz=94,slow=16							
APA0				Lg		Lg	10 49 29.9	
	baz=90,slow=37							
APA0				Rg		Rg	10 49 31.3	
	baz=74,slow=37							
APA0	**Apatity Array**	**0.39**	**260**	Pg		**Pg**	**10 49 25.1**	**+0.6**
	baz=94,slow=16							
APA0				Sg		**Sg**	**10 49 29.9**	**+0.3**
	baz=90,slow=37							
APA0	**Apatity Array**	**0.39**	**260**	P		**Pg**	**10 49 25.1**	**+0.6**
APA0				S		**Sg**	**10 49 29.7**	**+0.1**
VRF	**Varrio**	**1.68**	**274**	PG		**Pn**	**10 49 48.1**	**+0.5**
VRF				MSG			10 50 08.7	
	comp=Z,30nm,0.2s							
VRF				SG		**Sn**	**10 50 09.8**	**0.0**
OLKF	**Oulanka, Finla**	**2.26**	**235**	PG		**Pb**	**10 49 57.2**	**-1.5**
	baz=56							
OLKF				SG		**Sb**	**10 50 26.9**	**-0.3**
KU6	**Riekki**	**2.32**	**226**	PG		**Pn**	**10 49 57.8**	**+1.3**
	baz=47							
KU6				MSG			10 50 24.5	
	comp=Z,9.4nm,0.2s							
KU6				SG		**Sb**	**10 50 28.8**	**-0.2**
MSF	**Maaselka**	**2.65**	**230**	PB		**Pn**	**10 50 02.6**	**+1.7**
	baz=50							
MSF				SG		**Sb**	**10 50 38.1**	**-0.2**
SGF	**Sodankyl**	**2.88**	**269**	PN		**Pn**	**10 50 04.9**	**+0.8**
KEV	**Kevo**	**3.30**	**312**	*e*P		**Pn**	**10 50 12.1**	**+2.3**
KEV				*e*S		**Sn**	**10 50 49.8**	**+0.2**
KEV	**Kevo**	**3.30**	**312**	PN		**Pn**	**10 50 11.9**	**+2.1**
KEV				SN		**Sn**	**10 50 50.6**	**+1.0**
RNF	**Rovaniemi**	**3.30**	**255**	PN		**Pn**	**10 50 10.7**	**+0.9**
	baz=71							
ARA0	**ARCESS Array S**	**3.63**	**305**	Pn		**Pn**	**10 50 15.8**	**+1.4**
	baz=122,slow=16							
ARA0				Pg		**Pg**	**10 50 24.8**	**-1.7**
	baz=122,slow=16							
ARA0				Sn		**Sn**	**10 50 57.8**	**-0.1**
	baz=121,slow=28							
ARA0				Lg		Lg	10 51 11.8	
	baz=119,slow=37							
ARA0	**ARCESS Array S**	**3.63**	**305**	Pn		**Pn**	**10 50 15.8**	**+1.4**
	baz=122,slow=16							
ARA0				Pg		**Pg**	**10 50 24.8**	**-1.7**
	baz=122,slow=16							
ARA0				Sn		**Sn**	**10 50 57.8**	**-0.1**
	baz=121,slow=28							
ARA0				Sg		**Sg**	**10 51 11.8**	**-1.7**
	baz=119,slow=37							
ARCES	**ARCESS Array B**	**3.63**	**305**	Pn		**Pn**	**10 50 15.8**	**+1.5**
	baz=122,slow=15,SNR=215							
ARCES				Pg		**Pb**	**10 50 24.5**	**+2.5**
	baz=121,slow=15,SNR=12							
ARCES				Sn		**Sn**	**10 50 57.9**	**0.0**
	baz=117,slow=28,SNR=28							
ARCES				Lg		Lg	10 51 10.9	
	baz=121,slow=35,SNR=5.8							
HEF	**Hetta**	**3.95**	**285**	*e*P		**Pn**	**10 50 19.5**	**+0.7**
HEF				*e*S		**Sn**	**10 51 04.8**	**-1.0**
HEF	**Hetta**	**3.95**	**285**	PN		**Pn**	**10 50 19.9**	**+1.1**
HEF				SN		**Sn**	**10 51 06.1**	**+0.2**
TOF	**Tornio**	**4.14**	**252**	PN		**Pn**	**10 50 21.9**	**+0.6**
KTK1	**Kautokeino**	**4.21**	**293**	Pn		**Pn**	**10 50 23.7**	**+1.4**
KTK1				Sn		**Sn**	**10 51 10.5**	**-1.6**
KTK1				Lg		Lg	10 51 27.1	
KTK1	**Kautokeino**	**4.21**	**293**	*e*P		**Pn**	**10 50 23.4**	**+1.1**
KTK1				*e*S		**Sn**	**10 51 09.8**	**-2.3**
KTK1				IAML			10 51 33.7	
	comp=Z,4.6nm,0.6s							
PAJU	**Pajala**	**4.26**	**266**	PN		**Pn**	**10 50 23.0**	**-0.1**
LANU	**Lannavaara**	**4.56**	**280**	PN		**Pn**	**10 50 27.0**	**-0.2**
KALU	**Kalix**	**4.59**	**252**	PN		**Pn**	**10 50 28.1**	**+0.5**
	baz=63							
KIF	**Kilpisjarvi**	**5.07**	**291**	Pn		**Pn**	**10 50 34.8**	**+0.8**
KIF				Sn		**Sn**	**10 51 31.8**	**-1.5**
KIF	**Kilpisjarvi**	**5.07**	**291**	*e*P		**Pn**	**10 50 34.2**	**+0.1**
JETT	**Jettan, Norway**	**5.32**	**297**	*e*P		**Pn**	**10 50 39.2**	**+1.6**
FIA0	**FINESS Array S**	**7.12**	**212**	Pn		**Pn**	**10 51 02.6**	**+0.3**
	baz=16,slow=16							
FIA0				Sn		**Sn**	**10 52 20.5**	**-3.3**
	baz=45,slow=22							
FIA0				Lg		Lg	10 52 53.7	
	baz=28,slow=22							
FIA0	**FINESS Array S**	**7.12**	**212**	Pn		**Pn**	**10 51 02.6**	**+0.3**
	baz=16,slow=16							
FIA0				Sn		**Sn**	**10 52 20.5**	**-3.3**
	baz=45,slow=22							
FIA0				Sg		**Sb**	**10 52 53.7**	**+6.9**
	baz=28,slow=22							
FINES	**FINESS Array B**	**7.12**	**212**	Pn		**Pn**	**10 51 02.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=24,slow=13,SNR=3.9							
FINES				Lg		Lg	10 52 57.4	
	comp=Z,0.4nm,0.3s,baz=24,slow=26,SNR=3.4							
HFS	**Hagfors**	**11.65**	**239**	Pn		**Pn**	**10 52 02.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=50,slow=14,SNR=1.2							
HFS	**Hagfors**	**11.65**	**239**	Pn		**Pn**	**10 52 03.0**	**-1.4**
	baz=52,slow=14							
HFS	**Hagfors**	**11.65**	**239**	Pn		**Pn**	**10 52 03.0**	**-1.4**
	baz=52,slow=14							
SPA0	**Spitsbergen Ar**	**11.66**	**342**	Pn		**Pn**	**10 52 03.1**	**-1.3**
	baz=144,slow=22							
SPA0	**Spitsbergen Ar**	**11.66**	**342**	Pn		**Pn**	**10 52 03.1**	**-1.3**
	baz=144,slow=22							
SPITS	**Spitsbergen Ar**	**11.66**	**342**	Pn		**Pn**	**10 52 03.3**	**-1.0**
	baz=153,slow=24,SNR=1.7							
NOA	**NORSAR Array B**	**11.84**	**247**	Pn		**Pn**	**10 52 05.4**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=40,slow=10,SNR=3.8							

JMA ***20*** *10:54:14.9±0.2,35˙72N×140˙73E, h50km±2km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs156.00000°, δ17.00000°, λ16.00000°. NP2: ϕs51.00000°, δ85.00000°, λ107.00000°. Principal axes: T Plg47.0000°, Azm338.0000°; N Plg17.0000°, Azm229.0000°; P Plg38.0000°, Azm126.0000°;*

JMA Felt II J1.

NEIC ***20*** *10:54:14.6±2.0,35˙64N±0˙.05×140˙89E±0˙.10, h41km±8km, mb4.3/12 Error ellipse: s-maj=11.3km s-min=7.2km az=93.0*

IDC ***20*** *10:54:15.0±2.1,35˙69N×140˙68E, h40km±20km, mb3.5/15, mb1 3.7/21, mb1mx3.6/47, mbtmp3.8/21, ML3.7/4, MS2.9/9, Ms1 2.9/9, ms1mx2.7/32, Error ellipse: s-maj=19.2km s-min=14.2km az=87.0*

NIED ***20*** *10:54:14.9, 35˙72N×140˙73E, h50km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr0.50; Mθθ0.68; Mϕϕ-1.18; Mrθ0.32; Mϕθ0.18; Mϕr0.29; Fault plane solution: M0 1.10000×1015 NP1: ϕs32.00000°, δ71.00000°, λ145.00000°. NP2: ϕs135.00000°, δ57.00000°, λ23.00000°.*

ISC 20 10:54:15.5±0.7,**35˙70N**±0˙.04×**140˙78E**±0˙.05,**h46km**±6**km, n86, σ1§22/84, mb3.9**/23**, MS2.9**/3,**2C-7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**84**	⇑P		**Pn**	**10 54 22.6**	**-0.1**
CHOJ				S		**Sn**	**10 54 28.3**	**+0.5**
JSMT	**Sammumatsuo**	**0.27**	**259**	⇓P		**Pn**	**10 54 23.8**	**-0.2**
JSMT				S		**Sn**	**10 54 31.2**	**+1.3**
JIHU	**Itakohorinouch**	**0.34**	**323**	⇓P		**Pn**	**10 54 24.5**	**-0.1**
JIHU				S		**Sn**	**10 54 31.8**	**+0.7**
JCN	**Nagara**	**0.54**	**240**	⇓P		**Pn**	**10 54 27.2**	**+0.2**
JCN				S		**Sn**	**10 54 36.2**	**+0.9**
JYT	**Yasato**	**0.71**	**319**	⇓P		**Pn**	**10 54 28.1**	**-1.1**
JYT				*e*S		**Sn**	**10 54 37.7**	**-1.4**
JYT	**Yasato**	**0.71**	**319**			**Pn**	**10 54 28.0**	**-1.1**
BSO4	**Boso 4**	**0.79**	**207**	⇑P		**Pn**	**10 54 30.0**	**-0.2**
BSO4				X			10 54 41.0	
BSO3	**Boso 3**	**0.92**	**194**	P		**Pn**	**10 54 31.6**	**-0.2**
JHO	**Hitachi**	**0.93**	**350**	⇓P		**Pn**	**10 54 31.8**	**-0.4**
BSO1	**Boso 1**	**1.05**	**171**	P		**Pn**	**10 54 33.5**	**+0.2**
JAG	**Ashikaga**	**1.29**	**305**	P		**Pn**	**10 54 35.8**	**-1.4**
JOD2	**Odawara 2**	**1.44**	**253**	⇓P		**Pn**	**10 54 38.3**	**-0.9**
JOD2				*e*S		**Sn**	**10 54 56.2**	**-0.8**
JMM	**Marumori**	**2.17**	**0**			**Pn**	**10 54 49.6**	**+0.5**
MJAR	**Matsushiro Arr**	**2.24**	**293**	Pn		**Pn**	**10 54 50.1**	**0.0**
	4.9nm,0.3s,baz=96,slow=8.5,SNR=204							
MJAR				Sn		**Sn**	**10 55 17.2**	**+0.6**
	4.2nm,0.3s,baz=145,slow=30,SNR=3.6							
MJAR				LR		LR	10 55 49.7	
	comp=Z,203nm,18.2s,baz=105,slow=44							
MJAR	**Matsushiro Arr**	**2.24**	**293**			**Pn**	**10 54 49.7**	**-0.4**
MAJO	**Matsushiro**	**2.24**	**293**	Pn		**Pn**	**10 54 50.6**	**+0.4**
MAT	**Matsushiro**	**2.24**	**293**	P		**Pn**	**10 54 50.5**	**+0.3**
MAT				*e*S		**Sn**	**10 55 17.7**	**+1.0**
MJB9	**Matsu-Tunnel**	**2.25**	**293**			**Pn**	**10 54 51.7**	**+1.5**
JSG	**Sagara**	**2.35**	**245**			**Pn**	**10 54 53.2**	**+1.6**
JHJ2	**Mitsune**	**2.70**	**197**	Pn		**Pn**	**10 54 56.2**	**-0.2**
JHJ	**Hachijo jima 2**	**2.70**	**198**	Pn		**Pn**	**10 54 55.5**	**-0.8**
	63nm,0.3s,baz=327,slow=21,SNR=25							
JHJ				Sn		**Sn**	**10 55 26.3**	**-1.5**
	150nm,0.3s,baz=90,slow=22,SNR=7.3							
JHJ				LR		LR	10 56 16.0	
	comp=Z,110nm,19.1s,baz=301,slow=45							
JGF	**Kuroka**	**2.79**	**269**	Pn		**Pn**	**10 54 58.3**	**+0.7**
INU	**Inuyama**	**3.08**	**265**	Pn		**Pn**	**10 55 01.9**	**+0.2**
JSD	**Sado**	**3.09**	**320**	Pn		**Pn**	**10 55 02.7**	**+1.0**
JWT	**Wachi**	**4.40**	**266**	Pn		**Pn**	**10 55 20.

IMAR	**Indian Mountai**	**48.06**	**30**	P	**P**	**11 02 51.5**	**+1.5**
MTN	**Manton Dam**	**49.13**	**192**	P	**P**	**11 02 57.2**	**-1.4**
MTN				IAmb	IAmb	11 03 09.9	
	comp=Z,5.4nm,1.1s						
I23K	**Minto, Yukon-K**	**49.84**	**31**	P	**P**	**11 03 02.7**	**-0.8**
I23K				IAmb	IAmb	11 03 19.2	
	comp=Z,3.1nm,1.4s						
ILAR	**Eielson Array**	**50.90**	**32**	P	**P**	**11 03 12.2**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=267,slow=6.5,SNR=13						
WB0	**Warramunga Arr**	**55.49**	**187**	P	**P**	**11 03 44.1**	**-1.6**
WB0				IAmb	IAmb	11 04 09.0	
	comp=Z,7.3nm,1.3s						
WRAB	**Tennant Creek**	**55.66**	**187**	P	**P**	**11 03 46.3**	**-0.6**
WRAB				IAmb	IAmb	11 03 52.1	
	comp=Z,8.1nm,1.4s						
WR0	**Warramunga Arr**	**55.66**	**187**	P	**P**	**11 03 46.2**	**-0.8**
WB2	**Warramunga Arr**	**55.67**	**187**	P	**P**	**11 03 46.6**	**-0.4**
WRA	**Warramunga Arr**	**55.67**	**187**	P	**P**	**11 03 46.5**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=0.6,slow=7.5,SNR=18						
WRA	**Warramunga Arr**	**55.67**	**187**	P	**P**	**11 03 47.3**	**+0.2**
ABKAR	**Akbulak array**	**58.41**	**311**	P	**P**	**11 04 06.0**	**-0.2**
ASAR	**Alice Springs**	**59.40**	**187**	P	**P**	**11 04 14.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=19,slow=12,SNR=2.5						
EUNU	**Eureka**	**61.58**	**8**	P	**P**	**11 04 27.9**	**+0.3**
RES	**Resolute Bay**	**64.02**	**14**	P	**P**	**11 04 44.4**	**+0.6**
RES				IAmb	IAmb	11 04 44.6	
	comp=Z,2.2nm,1.1s						
YKA	**Yellowknife Ar**	**65.22**	**30**	P	**P**	**11 04 51.5**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=303,slow=6.2,SNR=6.0						
AKASG	**Malin Array Be**	**75.04**	**322**	P	**P**	**11 05 51.3**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=49,slow=5.5,SNR=2.2						
NB2	**NORSAR Subarra**	**75.22**	**337**	P	**P**	**11 05 52.7**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**75.22**	**337**	P	**P**	**11 05 52.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=39,slow=5.7,SNR=2.1						
NVAR	**Mina Array Bea**	**76.21**	**53**	P	**P**	**11 06 00.8**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=291,slow=3.8,SNR=2.1						
PDAR	**Pinedale Array**	**78.97**	**45**	P	**P**	**11 06 14.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=318,slow=2.0,SNR=4.3						
TXAR	**Lajitas Array**	**91.35**	**52**	P	**P**	**11 07 18.6**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=299,slow=1.9,SNR=2.0						
H03N2	**Juan Fernandez**	**147.38**	**98**	T	T	13 58 41.2	
	baz=290,slow=76,SNR=7.4						
H03N3	**Juan Fernandez**	**147.39**	**98**	T	T	13 58 39.7	
	baz=290,slow=76,SNR=7.2						
H03N1	**Juan Fernandez**	**147.39**	**98**	T	T	13 58 42.2	
	baz=290,slow=76,SNR=7.1						

*NEIC **20** 11:10:19.8±1.4, 11°.69S±0°.05×166°.9E±0°.1, h227km±7km, mb4.8/52, Error ellipse: s-maj=17.2km s-min=6.0km az=100.0*

*IDC **20** 11:10:19.2±2.0, 11°.70S×166°.88E, h223km±18km, mb4.0/18, mb1 4.1/20, mb1mx4.0/34, mbtmp4.6/20, Error ellipse: s-maj=14.0km s-min=10.9km az=75.0*

*NOU **20** 11:10:24.0, 11°.70S×166°.77E, h270km, mb4.6, Santa Cruz Islands*

ISC 20 11:10:21.3±0.5, 11°.69S±0°.06×166°.86E±0°.09, h242km, n153, σ1s23/160, mb4.6/47, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.16**	**288**	Pn	**Pn**	**11 12 04.4**	**+0.5**
YATNC	**Mamie plateau,**	**10.31**	**180**	P	**Pn**	**11 12 45.5**	**+1.6**
DZM	**Mont Dzumac**	**10.33**	**182**	P	**Pn**	**11 12 43.9**	**-0.3**
	0.7nm,0.3s,baz=18,slow=19,SNR=1.9						
DZM	**Mont Dzumac**	**10.33**	**182**	P	**Pn**	**11 12 46.3**	**+2.1**
OUENC	**Ouen Island, N**	**10.67**	**180**	P	**P**	**11 12 51.0**	**-2.5**
PINNC	**Pines Island,**	**10.88**	**177**	P	**Pn**	**11 12 52.8**	**+1.8**
PMG	**Port Moresby**	**19.50**	**275**	P	**P**	**11 14 30.5**	**-0.2**
	1.7nm,0.3s,baz=67,slow=5.7,SNR=4.1						
PMG	**Port Moresby**			IAmb	IAmb	11 14 34.9	
	comp=Z,15nm,0.6s						
EIDS	**Eidsvold**	**20.19**	**225**		**P**	**11 14 38.6**	**+0.6**
LHI	**Lord Howe Isla**	**21.01**	**199**	P	**P**	**11 14 46.3**	**-0.2**
CTA	**Charters Tower**	**21.49**	**245**	P	**P**	**11 14 50.5**	**-0.9**
	comp=Z,10.0nm,0.6s,baz=74,slow=12,SNR=20						
CTAO	**Charters Tower**	**21.49**	**245**	P	**P**	**11 14 51.1**	**-0.2**
CTAO				IAmb	IAmb	11 14 51.7	
	comp=Z,13nm,0.8s						
COEN	**Coen**	**23.20**	**262**	P	**P**	**11 15 07.5**	**+0.4**
COEN				IAmb	IAmb	11 15 08.5	
	comp=Z,18nm,0.8s						
ARMA	**Armidale**	**23.39**	**215**	P	**P**	**11 15 09.5**	**+0.8**
OUZ	**Omahuta**	**24.21**	**166**	P	**P**	**11 15 16.8**	**+0.8**
OUZ				IAmb	IAmb	11 15 18.6	
	comp=Z,13nm,0.8s						
OUZ	**Omahuta**	**24.21**	**166**	P	**P**	**11 15 17.7**	**+1.7**
TOZ	**Tahuroa Road**	**27.06**	**165**	P	**P**	**11 15 42.7**	**+1.2**
TGRZ	**Tauranga**	**27.26**	**164**	P	**P**	**11 15 47.2**	**+3.9**
OPRZ	**Ohinepanea**	**27.45**	**163**	P	**P**	**11 15 46.6**	**+1.6**
MARZ	**Manawahe**	**27.62**	**163**	P	**P**	**11 15 49.0**	**+2.5**
OMRZ	**Omania**	**27.65**	**164**	P	**P**	**11 15 48.7**	**+1.9**
HIZ	**Hauiti**	**27.65**	**166**	P	**P**	**11 15 48.5**	**+1.8**
MXZ	**Matakaoa Point**	**27.73**	**160**	P	**P**	**11 15 47.6**	**+0.2**
HAZ	**Te Kaha**	**27.74**	**161**	P	**P**	**11 15 48.8**	**+1.3**
RUGZ	**Raukumara Rang**	**27.90**	**162**	P	**P**	**11 15 49.0**	**-0.1**
PKGZ	**Pakihiroa**	**27.95**	**161**	P	**P**	**11 15 49.5**	**0.0**
URZ	**Urewera**	**28.00**	**163**	P	**P**	**11 15 50.3**	**+0.5**
	comp=Z,11nm,0.3s,baz=270,slow=2.6,SNR=32						
URZ	**Urewera**	**28.00**	**163**	P	**P**	**11 15 50.1**	**+0.3**
URZ				IAmb	IAmb	11 15 51.0	
	comp=Z,18nm,0.8s						
URZ	**Urewera**	**28.00**	**163**	P	**P**	**11 15 50.2**	**+0.4**
MUGZ	**Murupara**	**28.10**	**163**	P	**P**	**11 15 51.6**	**+0.9**
PUZ	**Puketiti**	**28.18**	**161**	P	**P**	**11 15 51.1**	**-0.4**
TWGZ	**Tauwhareparae**	**28.19**	**161**	P	**P**	**11 15 51.8**	**+0.3**
MWZ	**Matawai**	**28.19**	**162**	P	**P**	**11 15 51.5**	**-0.1**
NEZ	**North Egmont**	**28.21**	**168**	P	P	11 15 59.0	+7.2
VRZ	**Vera Road**	**28.21**	**167**	P	**P**	**11 15 56.3**	**+4.6**
RTZ	**Ruatahuna**	**28.29**	**163**	P	**P**	**11 15 51.9**	**-0.6**
RAGZ	**Rawiri**	**28.31**	**162**	P	**P**	**11 15 53.3**	**+0.6**
HATZ	**Hinemaiaia**	**28.31**	**165**	P	**P**	**11 15 54.2**	**+1.6**
MRHZ	**Matea Rd**	**28.34**	**164**	P	**P**	**11 15 52.1**	**-0.9**
TKGZ	**Te Karaka**	**28.39**	**162**	P	**P**	**11 15 53.2**	**0.0**
WTVZ	**West Tongariro**	**28.39**	**166**	P	**P**	**11 15 56.1**	**+2.6**
TMVZ	**Te Maari**	**28.42**	**165**	P	**P**	**11 15 56.5**	**+2.8**
ETVZ	**East Tongariro**	**28.44**	**165**	P	**P**	**11 15 56.4**	**+2.5**
NGZ	**Ngauruhoe**	**28.45**	**166**	P	**P**	**11 15 56.7**	**+2.7**
OTVZ	**Oturere**	**28.46**	**166**	P	**P**	**11 15 56.8**	**+2.7**
MTHZ	**Maungataniwha**	**28.47**	**164**	P	**P**	**11 15 54.6**	**+0.6**
FWVZ	**Far West T-bar**	**28.52**	**166**	P	**P**	**11 15 57.0**	**+2.3**
CNGZ	**Carnagh Statio**	**28.54**	**161**	P	**P**	**11 15 55.3**	**+0.7**
SNGZ	**Shannon Statio**	**28.55**	**163**	P	**P**	**11 15 54.7**	**0.0**
WHVZ	**Whangaehu Hut**	**28.55**	**166**	P	**P**	**11 15 58.6**	**+3.6**
CAN	**Canberra**	**28.57**	**212**	P	**P**	**11 15 55.0**	**0.0**
CAN				IAmb	IAmb	11 16 03.6	
	comp=Z,32nm,1.3s						
WNVZ	**Wahianoa**	**28.60**	**166**	P	**P**	**11 15 57.0**	**+1.6**
RAHZ	**Arahi**	**28.60**	**163**	P	**P**	**11 15 55.9**	**+0.7**
RIGZ	**Rimuhau**	**28.60**	**162**	P	**P**	**11 15 55.7**	**+0.4**
BKZ	**Black Stump Fm**	**28.67**	**164**	P	**P**	**11 15 56.3**	**+0.4**
BKZ	**Black Stump Fm**	**28.67**	**164**	P	**P**	**11 15 56.1**	**+0.2**
NMHZ	**Naumai**	**28.69**	**164**	P	**P**	**11 15 56.9**	**+0.9**
MOVZ	**Moawhango**	**28.71**	**166**	P	**P**	**11 15 57.7**	**+1.5**
BHHZ	**Black Hill Sta**	**28.86**	**165**	P	**P**	**11 15 58.4**	**+0.8**
KWHZ	**Kaweka Forest**	**28.90**	**165**	P	**P**	**11 15 58.6**	**+0.7**
ARHZ	**Aropaoanui**	**28.90**	**164**	P	**P**	**11 15 58.3**	**+0.5**
MCHZ	**McNeill Hill**	**28.99**	**164**	P	**P**	**11 15 59.3**	**+0.7**
KRHZ	**Kereru**	**29.09**	**165**	P	**P**	**11 15 59.6**	**+0.1**
KAHZ	**Kahuranaki**	**29.36**	**164**	P	**P**	**11 16 02.2**	**+0.2**
QRZ	**Quartz Range**	**29.45**	**171**	P	**P**	**11 16 03.4**	**+0.8**
QRZ				IAmb	IAmb	11 16 04.6	
	comp=Z,24nm,1.1s						
QRZ	**Quartz Range**	**29.45**	**171**	P	**P**	**11 16 04.1**	**+1.5**
PXZ	**Pawanui**	**29.58**	**164**	P	**P**	**11 16 03.7**	**-0.1**
NNZ	**Nelson**	**29.96**	**170**	P	**P**	**11 16 08.2**	**+1.1**
NNZ				IAmb	IAmb	11 16 17.0	
	comp=Z,39nm,1.4s						
BFZ	**Birch Farm**	**30.04**	**166**	P	**P**	**11 16 07.4**	**-0.4**
TCW	**Tory Channel**	**30.12**	**169**	P	**P**	**11 16 08.0**	**-0.5**
SNZO	**South Karori**	**30.30**	**168**	P	**P**	**11 16 09.8**	**-0.3**
THZ	**Tophouse**	**30.42**	**171**	P	**P**	**11 16 11.6**	**+0.4**
THZ				IAmb	IAmb	11 16 35.4	
	comp=Z,36nm,1.3s						
THZ	**Tophouse**	**30.42**	**171**	P	**P**	**11 16 11.1**	**-0.1**
MSWZ	**Moikau Station**	**30.51**	**168**	P	**P**	**11 16 11.4**	**-0.6**
BSWZ	**Blackbirch Sta**	**30.53**	**170**	P	**P**	**11 16 14.5**	**+2.4**
TRWZ	**Traveller**	**30.59**	**167**	P	**P**	**11 16 12.5**	**-0.1**
PLWZ	**Palliser**	**30.66**	**168**	P	**P**	**11 16 13.1**	**-0.2**
STKA	**Stephens Creek**	**30.75**	**225**	P	**P**	**11 16 14.4**	**+0.2**
	comp=Z,9.4nm,0.4s,baz=52,slow=9.0,SNR=50						
STKA				PcP	**PcP**	**11 19 05.4**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=87,slow=3.0,SNR=5.7						
STKA	**Stephens Creek**	**30.75**	**225**	P	**P**	**11 16 14.5**	**+0.3**
LTZ	**Lake Taylor**	**31.33**	**172**	P	**P**	**11 16 19.4**	**+0.2**
LTZ				IAmb	IAmb	11 16 20.7	
	comp=Z,25nm,0.7s						
FOZ	**Fox Glacier**	**31.83**	**176**	P	**P**	**11 16 24.5**	**+1.1**
FOZ				IAmb	IAmb	11 16 24.7	
	comp=Z,20nm,0.6s						
OXZ	**Oxford**	**31.84**	**173**	P	**P**	**11 16 23.8**	**+0.3**
TOO	**Toolangi**	**32.11**	**213**	P	**P**	**11 16 26.1**	**0.0**
TOO				IAmb	IAmb	11 16 37.8	
	comp=Z,28nm,1.4s						
RPZ	**Rata Peaks**	**32.11**	**174**	P	**P**	**11 16 25.6**	**-0.4**
	comp=Z,22nm,0.5s,baz=352,slow=2.6,SNR=16						
RPZ	**Rata Peaks**	**32.11**	**174**	P	**P**	**11 16 25.8**	**-0.1**
RPZ				IAmb	IAmb	11 16 27.9	
	comp=Z,30nm,0.8s						
WR0	**Warramunga Arr**	**32.12**	**251**	P	**P**	**11 16 25.2**	**-1.1**
WB0	**Warramunga Arr**	**32.22**	**251**	P	**P**	**11 16 26.3**	**-1.0**
WB0				IAmb	IAmb	11 16 27.0	
	comp=Z,28nm,0.8s						
MQZ	**McQueen's Vall**	**32.29**	**172**	P	**P**	**11 16 28.1**	**+0.7**
MQZ				IAmb	IAmb	11 16 32.1	
	comp=Z,34nm,1.1s						
MQZ	**McQueen's Vall**	**32.29**	**172**	P	**P**	**11 16 27.5**	**+0.1**
WB2	**Warramunga Arr**	**32.29**	**251**	P	**P**	**11 16 26.8**	**-1.0**
WB2				IAmb	IAmb	11 16 27.1	
	comp=Z,10nm,0.7s						
WRAB	**Tennant Creek**	**32.29**	**251**	P	**P**	**11 16 26.4**	**-1.5**
WRAB				IAmb	IAmb	11 16 27.5	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**32.30**	**251**	P	**P**	**11 16 26.8**	**-1.1**
	comp=Z,10nm,0.6s,baz=85,slow=8.7,SNR=156						
WRA				PcP	**PcP**	**11 19 10.0**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=80,slow=3.0,SNR=4.6						
WRA				ScP	**ScP**	**11 22 33.2**	**+2.6**
	comp=Z,1.3nm,0.8s,baz=80,slow=3.6,SNR=10						
WRA	**Warramunga Arr**	**32.30**	**251**	P	**P**	**11 16 25.8**	**-2.2**
WRA					**ScP**	**11 22 33.3**	**+2.6**
JCZ	**Jackson Bay**	**32.31**	**177**	P	**P**	**11 16 29.2**	**+1.4**
LBZ	**Lake Benmore**	**32.70**	**176**	P	**P**	**11 16 31.4**	**+0.3**
WKZ	**Wanaka**	**33.07**	**177**	P	**P**	**11 16 35.1**	**+0.8**
WKZ				IAmb	IAmb	11 16 44.1	
	comp=Z,42nm,1.2s						
ODZ	**Otahua Downs**	**33.39**	**175**	P	**P**	**11 16 37.3**	**+0.3**
AS31	**Alice Springs**	**33.49**	**245**	P	**P**	**11 16 36.9**	**-1.4**
ASAR	**Alice Springs**	**33.49**	**245**	P	**P**	**11 16 36.9**	**-1.4**
	comp=Z,12nm,0.6s,baz=73,slow=10.0,SNR=188						
ASAR				pP	**pP**	**11 17 26.8**	**+1.3**
	comp=Z,3.5nm,0.8s,baz=74,slow=9.2,SNR=7.1						
ASAR				PcP	**PcP**	**11 19 13.3**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=79,slow=3.0,SNR=6.2						
ASAR				ScP	**ScP**	**11 22 37.0**	**+2.2**
	comp=Z,1.2nm,0.8s,baz=81,slow=3.4,SNR=9.7						
ASAR	**Alice Springs**	**33.49**	**245**	P	**P**	**11 16 36.5**	**-1.8**
ASAR					**ScP**	**11 22 37.2**	**+2.4**
MLZ	**Mavora Lakes**	**33.58**	**178**	P	**P**	**11 16 38.5**	**-0.1**
MLZ				IAmb	IAmb	11 17 03.2	
	comp=Z,18nm,1.1s						
DCZ	**Deep Cove**	**33.66**	**180**	P	**P**	**11 16 40.9**	**+1.6**
DCZ				IAmb	IAmb	11 16 47.5	
	comp=Z,42nm,1.3s						
MTN	**Manton Dam**	**34.92**	**264**	P	**P**	**11 16 50.2**	**-0.3**
BBOO	**Buckleboo**	**35.21**	**228**	P	**P**	**11 16 52.5**	**-0.2**
BNDI	**Bandanaira**	**37.24**	**278**	P	**P**	**11 17 10.9**	**+0.7**
	comp=Z,3µmcomp=Z,100nm,1.3s						
FITZ	**Fitzroy Crossi**	**40.28**	**256**		**P**	**11 17 34.6**	**-0.7**
FITZ				IAmb	IAmb	11 17 35.7	
	comp=Z,17nm,0.7s						
FORT	**Forrest**	**40.58**	**236**		**P**	**11 17 37.6**	**0.0**
EDFI	**Ende, Flores**	**44.52**	**269**	P	**P**	**11 18 08.8**	**-0.8**
	comp=Z,6.9nm,0.6s						
PSA00	**Pilbara Seismi**	**45.96**	**251**	P	**P**	**11 18 20.6**	**-0.1**
PSA00				IAmb	IAmb	11 18 21.0	
	comp=Z,27nm,0.5s						
NWAO	**Narrogin (SRO)**	**50.02**	**237**	P	**P**	**11 18 51.0**	**-0.5**
	comp=Z,12nm,0.5s,baz=78,slow=6.8,SNR=23						
NWAO	**Narrogin (SRO)**	**50.02**	**237**	P	**P**	**11 18 51.0**	**-0.5**
NWAO				IAmb	IAmb	11 18 51.6	
	comp=Z,21nm,0.9s						
MORW	**Morawa**	**50.28**	**242**	P	**P**	**11 18 53.2**	**-0.4**
MORW				IAmb	IAmb	11 18 54.0	
	comp=Z,22nm,1.1s						
JAGI	**Jajag, Banyuwa**	**51.94**	**268**	P	**P**	**11 19 04.5**	**-1.6**
JAGI				IAmb	IAmb	11 19 30.2	
	comp=Z,40nm,1.0s						
UGM	**Wanagama**	**55.57**	**268**	P	**P**	**11 19 32.1**	**-0.2**
CISI	**Cisompet, Garu**	**58.28**	**268**	P	**P**	**11 19 50.2**	**-1.2**
LEM	**Lembang**	**58.59**	**269**	P	**P**	**11 19 54.0**	**+0.4**
	comp=Z,33nm,0.6s,baz=323,slow=20						
KSRS	**Korea Array**	**61.03**	**325**	P	**P**	**11 20 09.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=133,slow=8.2,SNR=4.7						
MDSI	**Maura Dua**	**62.37**	**271**	P	**P**	**11 20 18.2**	**-0.7**
	comp=Z,7.4nm,0.7s						
NJ2	**Nanjing**	**63.25**	**315**	*e*P	**P**	**11 20 25.5**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**64.02**	**333**	P	**P**	**11 20 29.5**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=152,slow=16,SNR=2.6						
PETK	**Petropavlovsk-**	**65.02**	**354**	P	**P**	**11 20 35.6**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=118,slow=15,SNR=5.5						
VNDA	**Vanda**	**65.87**	**181**	P	**P**	**11 20 40.1**	**-0.4**
	comp=Z,4.8nm,0.7s,baz=342,slow=6.4,SNR=23						
VNDA	**Vanda**	**65.87**	**181**		**P**	**11 20 41.0**	**+0.5**
SBA	**Scott Base**	**66.16**	**180**	P	**P**	**11 20 43.0**	**+0.7**
SBA				IAmb	IAmb	11 20 44.6	
	comp=Z,11nm,0.8s						
XAN	**Xi'an**	**71.36**	**312**	P	**P**	**11 21 15.3**	**+0.1**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KMI	**Kunming**	**72.39**	**301**	*e*P	**P**	**11 21 22.4**	**+0.7**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,83nm,4.2s						
HHC	**Hu-ho-hao-te**	**73.03**	**319**	*e*P	**P**	**11 21 26.0**	**+1.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,51nm,6.6s						
CMAR	**Chiang Mai Arr**	**73.37**	**293**	P	**P**	**11 21 28.4**	**+1.0**
	comp=Z,3.7nm,0.8s,baz=115,slow=4.3,SNR=19						
CMAR	**Chiang Mai Arr**	**73.37**	**293**	P	**P**	**11 21 27.8**	**+0.5**
CHTO	**Chiang Mai**	**73.49**	**294**	P	**P**	**11 21 27.7**	**-0.2**
QSPA	**South Pole Qui**	**78.32**	**180**	P	**P**	**11 21 54.1**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=8.1,slow=0.4,SNR=17						
QSPA	**South Pole Qui**	**78.32**	**180**	P	**P**	**11 21 54.5**	**0.0**
BILL	**Bilibino**	**79.52**	**360**	P	**P**	**11 22 00.6**	**-0.1**
SONM	**Songino Array**	**79.83**	**323**	P	**P**	**11 22 03.7**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=140,slow=4.7,SNR=4.0						
SONM	**Songino Array**	**79.83**	**323**	P	**P**	**11 22 04.8**	**+1.9**
IL31		**83.78**	**18**	P	**P**	**11 22 23.2**	**+0.3**
ILAR	**Eielson Array**	**83.78**	**18**	P	**P**	**11 22 22.8**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=239,slow=4.9,SNR=48						
ILAR	**Eielson Array**	**83.78**	**18**	P	**P**	**11 22 22.9**	**-0.1**
NVAR	**Mina Array Bea**	**85.60**	**49**	P	**P**	**11 22 32.4**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=233,slow=10.0,SNR=2.5						
NVAR	**Mina Array Bea**	**85.60**	**49**	P	**P**	**11 22 32.8**	**-0.2**
EGAK	**Eagle**	**85.61**	**20**	P	**P**	**11 22 32.6**	**+0.6**
WMQ	**Urumqi**	**90.33**	**315**	*e*P	**P**	**11 22 55.4**	**+0.4**
MK31	**Makanchi Array**	**94.74**	**317**	P	**P**	**11 23 15.0**	**-0.2**
MKAR	**Makanchi Array**	**94.74**	**317**	P	**P**	**11 23 15.2**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=94,slow=6.2,SNR=23						
MKAR	**Makanchi Array**	**94.74**	**317**	P	**P**	**11 23 14.6**	**-0.6**
YKA	**Yellowknife Ar**	**95.04**	**27**	P	**P**	**11 23 14.2**	**-2.1**
	comp=Z,0.2nm,0.4s,baz=255,slow=4.3,SNR=5.8						
FINES	**FINESS Array B**	**122.77**	**339**	PKP	**PKPdf**	**11 28 47.7**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=95,slow=1.7,SNR=1.1						
BOSA	**Boshof**	**125.39**	**222**	PKP	**PKiKP**	**11 28 54.5**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=161,slow=2.0,SNR=8.2						
ESDC	**Sonseca Array**	**150.97**	**345**	PKPab	**PKPab**	**11 29 53.2**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=359,slow=5.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**165.44**	**277**	PKP	**PKPdf**	**11 29 56.2**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=258,slow=0.9,SNR=3.8						
KIC	**Kosan Boka**	**170.16**	**238**	*e*PKP2	**PKPab**	**11 31 18.2**	**0.0**
	comp=Z,9.1nm,0.6s						
LIC	**Lamto**	**170.32**	**237**	*e*PKP2	**PKPab**	**11 31 18.1**	**-0.8**
	comp=Z,13nm,0.7s						
TIC	**Toumodi**	**170.55**	**239**	*e*PKP2	**PKPab**	**11 31 19.8**	**-0.1**

*IDC **20** 11:14:34.6±1.3, 15°.53S×71°.33W, h141km±13km, mb3.3/5, mb1 3.6/10, mb1mx3.4/33, mbtmp3.9/10, MS2.5/1,*

Ms1 2.5/1, ms1mx2.3/13, Error ellipse: s-maj=28.4km s-min=11.6km az=24.0

*NEIC **20** 11:14:35.2±2.5, 15°.78S±0°.07×71°.34W±0°.08, h165km±9km, mb4.4/7, Error ellipse: s-maj=12.2km s-min=10.0km az=52.0*

ISC 20 11:14:33.8±0.6, 15°.79S±0°.05×71°.44W±0°.06, h150km, n49, σ1s83/71, mb3.9/8, 1C-3D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.77**	**158**		**Pn**	**11 15 21.6**	**+3.3**
AP01				Sn	**Sn**	**11 15 53.0**	**+0.3**
LPAZ	**La Paz**	**3.22**	**99**	P	**Pn**	**11 15 26.1**	**+1.5**
	4.0nm,0.3s,baz=304,slow=9.3,SNR=93						
LPAZ				S	**Sn**	**11 16 03.6**	**-0.1**
	1.6nm,0.3s,baz=86,slow=24,SNR=7.1						
LPAZ	**La Paz**	**3.22**	**99**		**Pn**	**11 15 26.6**	**+2.0**
LPAZ				Sn	**Sn**	**11 16 04.3**	**+0.6**
MNMC	**Minye Minye**	**3.76**	**152**	*i*P	**Pn**	**11 15 33.7**	**+2.5**
MNMC				*i* S	**Sn**	**11 16 15.9**	**+0.2**
MNMC	**Minye Minye**	**3.76**	**152**	Pn	**Pn**	**11 15 33.4**	**+2.2**
MNMC				Sn	**Sn**	**11 16 19.0**	**+3.3**
PSGC	**Pisagua**	**3.99**	**162**	*i*P	**Pn**	**11 15 35.8**	**+1.8**
PSGC				*i* S	**Sn**	**11 16 21.1**	**+0.3**
PSGCX	**Pisagua**	**3.99**	**162**	Pn	**Pn**	**11 15 35.5**	**+1.5**
PSGCX				Sn	**Sn**	**11 16 20.7**	**-0.1**
TA02	**Huaiquique**	**4.63**	**165**	*e*P	**Pn**	**11 15 44.2**	**+1.9**
TA02				*e*S	**Sn**	**11 16 35.3**	**-0.4**
PB08	**IPOC Station P**	**4.84**	**154**	*i*P	**Pn**	**11 15 48.1**	**+2.6**
PB08				*i* S	**Sn**	**11 16 41.5**	**+0.1**
PB08	**IPOC Station P**	**4.84**	**154**		**Pn**	**11 15 47.7**	**+2.2**
PB08				Sn	**Sn**	**11 16 41.6**	**+0.2**
TA01	**Diego Aracena**	**4.90**	**166**	*i*P	**Pn**	**11 15 47.8**	**+2.0**
TA01				*e*S	**Sn**	**11 16 40.5**	**-1.6**
TA01	**Diego Aracena**	**4.90**	**166**	Pn	**Pn**	**11 15 47.7**	**+1.9**
TA01				Sn	**Sn**	**11 16 40.8**	**-1.4**
PB01	**IPOC Station P**	**5.54**	**161**	*e*P	**Pn**	**11 15 55.3**	**+0.8**
PB01				*i* S	**Sn**	**11 16 55.3**	**-2.3**
PB01	**IPOC Station P**	**5.54**	**161**		**Pn**	**11 15 55.8**	**+1.2**
PB01				Sn	**Sn**	**11 16 55.9**	**-1.7**
PB07	**IPOC Station P**	**6.08**	**166**	*i*P	**Pn**	**11 16 03.4**	**+1.6**
PB07				*i* S	**Sn**	**11 17 08.1**	**-2.6**
PB07	**IPOC Station P**	**6.08**	**166**		**Pn**	**11 16 03.7**	**+1.9**
PB07				Sn	**Sn**	**11 17 08.6**	**-2.1**
PB09	**IPOC Station P**	**6.33**	**161**		**Pn**	**11 16 07.0**	**+2.0**
PB09				Sn	**Sn**	**11 17 16.1**	**-0.4**
NNA	**Nana**	**6.47**	**305**	P	**Pn**	**11 16 08.0**	**+1.2**
	3.0nm,0.3s,baz=140,slow=10,SNR=6.2						
NNA				S	**Sn**	**

JKDJ	**Kitadaitoujima**	**1.59**	**135**	P	**Pn**	**11 35 33.3**	**-1.3**
JKDJ				S	**Sn**	**11 35 53.3**	**-1.9**
JOW	**Kunigami**	**1.61**	**261**	Pn	**Pn**	**11 35 34.7**	**-0.2**
	46nm,0.3s,baz=306,slow=25,SNR=334						
JOW				Sn	**Sn**	**11 35 52.8**	**-2.8**
	34nm,0.3s,baz=118,slow=16,SNR=9.2						
JOW	**Kunigami**	**1.61**	**261**	P	**Pn**	**11 35 34.7**	**-0.2**
JOW				*e*S	**Sn**	**11 35 53.6**	**-2.0**
JMZ	**Minamidaito 2**	**1.64**	**140**	P	**Pn**	**11 35 34.1**	**-1.2**
JMZ				S	**Sn**	**11 35 53.7**	**-2.7**
JIH	**Iheya**	**1.86**	**269**	P	**Pn**	**11 35 38.5**	**+0.2**
JIH				*e*S	**Sn**	**11 36 01.0**	**-0.8**
JNTH	**Nagotoyohara**	**1.90**	**253**	P	**Pn**	**11 35 38.2**	**-0.7**
JNTH				S	**Sn**	**11 36 01.1**	**-1.7**
JTAJ	**Takarajima**	**2.19**	**340**	P	**Pn**	**11 35 42.1**	**-0.7**
JTAJ				S	**Sn**	**11 36 07.2**	**-2.7**
JJT3	**Tamagusuku3**	**2.24**	**246**	P	**Pn**	**11 35 43.4**	**-0.1**
JJT3				*e*S	**Sn**	**11 36 09.8**	**-1.3**
JAGN	**Aguni-jima**	**2.56**	**259**	P	**Pn**	**11 35 47.3**	**-0.6**
JAGN				*e*S	**Sn**	**11 36 17.3**	**-1.7**
JNN	**Nakanoshima**	**2.75**	**357**	S	**Sn**	**11 36 21.5**	**-2.2**
JKE	**Kume jima 2**	**3.02**	**256**	P	**Pn**	**11 35 53.9**	**-0.3**
JKE				S	**Sn**	**11 36 29.2**	**-1.2**
JNU	**Nakatsue**	**6.05**	**7**	Pn	**Pn**	**11 36 36.9**	**+0.9**
	1.1nm,0.3s,baz=340,slow=6.4,SNR=8.9						
MKAR	**Makanchi Array**	**42.19**	**311**	P	**P**	**11 43 01.2**	**+1.8**
	0.1nm,0.5s,baz=102,slow=14,SNR=1.7						
WRA	**Warramunga Arr**	**46.94**	**174**	P	**P**	**11 43 38.7**	**+1.3**
	0.3nm,0.8s,baz=356,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**50.60**	**175**	P	**P**	**11 44 08.6**	**+3.1**
	0.2nm,0.8s,baz=10,slow=11,SNR=4.5						
YKA	**Yellowknife Ar**	**77.06**	**26**	P	**P**	**11 46 59.6**	**+0.2**
	0.2nm,0.7s,baz=299,slow=6.3,SNR=2.0						

IDC 20 11:43:08.6±729.0, 49°31.N×52°50.E, h0km, Error ellipse: s-maj=353.0km s-min=90.3km az=70.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**3.75**	**71**	*i*		12 08 10.0	
	baz=255,slow=310,SNR=3.0						
I46RU	**ZALESOVO INFRA**	**20.48**	**65**	*i*		13 50 10.0	
	baz=269,slow=338,SNR=0.5						
I34MN	**SONGINO INFRAS**	**35.08**	**71**	*i*		15 15 30.0	
	baz=297,slow=318,SNR=0.5						

JMA 20 11:43:56.5±0.2, 37°55.N×141°88.E, h18km±3km, M1.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMST	**Minamisoumatoc**	**0.81**	**283**	P	Pb	11 44 11.6	-0.4
JMST				*e*S	Sb	11 44 22.3	-0.2
JFK	**Kawauchi**	**0.82**	**257**	S	Sb	11 44 22.7	-0.3
JIKH	**Ishinomakikobu**	**0.83**	**337**	P	Pb	11 44 12.0	-0.3
JIKH				*e*S	Sb	11 44 22.6	-0.5
JMM	**Marumori**	**0.92**	**290**	P	Pb	11 44 13.8	-0.1
JMM				*e*S	Sb	11 44 26.0	+0.3
ONAJ	**Iwakimizuishiy**	**0.97**	**243**	*e*S	Sb	11 44 26.6	-0.7
JIO	**Ouri**	**1.00**	**335**	P	Pb	11 44 14.8	-0.4
JIO				*e*S	Sb	11 44 27.2	-0.8
JFT	**Otama**	**1.23**	**269**	*e*S	Sn	11 44 34.9	0.0
JOU	**Okura**	**1.26**	**311**	S	Sn	11 44 35.9	+0.2

*MOS **20** 11:44:15.9±1.1, 36°74N×142°20E, h28km, mb4.5/20, Error ellipse: s-maj=8.6km s-min=5.7km az=104.0*
*NIED **20** 11:44:17.4, 36°71N×142°03E, h43km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.26; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-1.17; $M_{r\theta}$0.52; $M_{\theta\phi}$-0.67; $M_{\phi r}$1.89; Fault plane solution: $M_0$2.40000×10^{15} NP1:ϕ_s17.00000°, δ73.00000°, λ84.00000°. NP2:ϕ_s217.00000°, δ18.00000°, λ109.00000°.*
*JMA **20** 11:44:17.4±0.3, 36°71N×142°03E, h43km, M4.2*
*NEIC **20** 11:44:18.4±1.8, 36°69N±0°05×142°09E±0°09, h29km±5km, mb4.3/30, Error ellipse: s-maj=10.9km s-min=7.4km az=105.0*
*IDC **20** 11:44:19.2±0.6, 36°60N×141°98E, h35km±5km, mb3.7/21, mb1 3.9/26,mb1mx3.8/56, mbtmp4.0/26, ML3.4/5, MS3.5/9, Ms1 3.5/9, ms1mx3.2/39, Error ellipse: s-maj=16.1km s-min=11.6km az=114.0*

ISC 20 11:44:16.9±0.5, 36.73N±0°05×142.17E±0°05, h19km, n143, σ1s75/147, mb4.3/46, MS3.4/5, 8C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.16**	**289**	P	**Pn**	**11 44 36.0**	**-2.2**
JFK	**Kawauchi**	**1.22**	**302**	P	**Pn**	**11 44 36.9**	**-2.1**
JHO	**Hitachi**	**1.29**	**265**	P	**Pn**	**11 44 37.6**	**-2.3**
JHYU	**Hitachinakayam**	**1.33**	**254**	P	**Pn**	**11 44 38.5**	**-1.9**
JHYU				*e*S	**Sn**	**11 44 54.4**	**-3.2**
JFFD	**Fukushimafurud**	**1.34**	**286**	P	**Pn**	**11 44 38.6**	**-2.0**
JMM	**Marumori**	**1.58**	**316**	P	**Pn**	**11 44 42.8**	**-1.1**
JMM	**Marumori**	**1.58**	**316**		**Pn**	**11 44 42.8**	**-1.1**
JFT	**Otama**	**1.67**	**299**	P	**Pn**	**11 44 44.4**	**-0.7**
JYT	**Yasato**	**1.67**	**253**		**Pn**	**11 44 43.8**	**-1.3**
JIO	**Ouri**	**1.85**	**340**	P	**Pn**	**11 44 47.2**	**-0.3**
JOU	**Okura**	**2.03**	**324**	P	**Pn**	**11 44 50.1**	**0.0**
JFY	**Yanaizu**	**2.09**	**290**	P	**Pn**	**11 44 50.8**	**-0.1**
JAG	**Ashikaga**	**2.21**	**263**	P	**Pn**	**11 44 51.2**	**-1.3**
BSO1	**Boso 1**	**2.28**	**205**	P	**Pn**	**11 44 52.2**	**-0.9**
JMK	**Ichinoseki**	**2.35**	**342**	P	**Pn**	**11 44 54.7**	**+0.3**
MJAR	**Matsushiro Arr**	**3.19**	**268**	Pn	**Pn**	**11 45 06.5**	**+0.5**
	3.1nm,0.3s,baz=95,slow=9.6,SNR=281						
MJAR				Sn	**Sn**	**11 45 45.9**	**+2.3**
	1.2nm,0.3s,baz=88,slow=9.0,SNR=5.3						
MJAR				LR	LR	11 46 23.4	
	comp=Z,381nm,21.6s,baz=120,slow=41						
MJAR	**Matsushiro Arr**	**3.19**	**268**		**Pn**	**11 45 05.5**	**-0.6**
MAJO	**Matsushiro**	**3.19**	**268**	*i* P	**Pn**	**11 45 06.3**	**+0.2**
MAJO	**Matsushiro**	**3.19**	**268**		**Pn**	**11 45 06.0**	**0.0**
MAT	**Matsushiro**	**3.19**	**268**	P	**Pn**	**11 45 06.3**	**+0.2**
MAT				*e*S	**Sn**	**11 45 45.4**	**+1.8**
MJB9	**Matsu-Tunnel**	**3.19**	**268**	Pn	**Pn**	**11 45 07.0**	**+0.9**
JSD	**Sado**	**3.38**	**294**	Pn	**Pn**	**11 45 07.8**	**-0.9**
JSG	**Sagara**	**3.83**	**239**	Pn	**Pn**	**11 45 12.9**	**-1.9**
JGF	**Kuroka**	**4.05**	**255**	Pn	**Pn**	**11 45 19.6**	**+1.7**
JHJ2	**Mitsune**	**4.09**	**209**	Pn	**Pn**	**11 45 16.8**	**-1.6**
JHJ	**Hachijo jima 2**	**4.10**	**209**	Pn	**Pn**	**11 45 17.4**	**-1.1**
	23nm,0.3s,baz=350,slow=19,SNR=16						
JHJ				Sn	**Sn**	**11 46 01.9**	**-4.0**
	58nm,0.3s,baz=53,slow=22,SNR=8.5						
JTM	**Tenmabayashi**	**4.15**	**348**	Pn	**Pn**	**11 45 21.1**	**+1.9**
INU	**Inuyama**	**4.39**	**253**	Pn	**Pn**	**11 45 23.1**	**+0.5**
ERM	**Erimo**	**5.34**	**8**	P	**Pn**	**11 45 35.3**	**-0.2**
ERM	**Erimo**	**5.34**	**8**	Pn	**Pn**	**11 45 35.3**	**-0.2**
JWT	**Wachi**	**5.67**	**257**	Pn	**Pn**	**11 45 41.8**	**+1.6**
JEW	**Eniwo**	**6.13**	**355**	Pn	**Pn**	**11 45 47.8**	**+1.3**
NMR	**Nemuro--Hokkai**	**7.17**	**21**	P	**Pn**	**11 45 59.3**	**-1.4**
NMR				*e*S	**Sn**	**11 47 14.9**	**-6.8**
ASAJ	**Asahikawa**	**7.39**	**2**	Pn	**Pn**	**11 46 04.7**	**+0.9**
	1.3nm,0.3s,baz=216,slow=10,SNR=9.2						
ASAJ				Sn	**Sn**	**11 47 22.8**	**-4.2**
	0.4nm,0.3s,baz=332,slow=28,SNR=1.3						
JKA	**Kamikawa-asahi**	**7.39**	**2**		**Pn**	**11 46 04.5**	**+0.8**
JHS	**Saijyo**	**7.55**	**259**	Pn	**Pn**	**11 46 07.2**	**+1.2**
RUSJ	**Misakicho**	**7.74**	**17**	*e*P	**Pn**	**11 46 07.4**	**-1.0**
RUSJ				*e*S	**Sn**	**11 47 29.2**	**-6.3**
GRPR	**Tuman**	**7.76**	**20**	*e*P	**Pn**	**11 46 08.1**	**-0.7**
GRPR				*e*S	**Sn**	**11 47 29.4**	**-6.7**
GRPR				pmax	pmax		
	comp=Z,50nm,0.5s						
GRPR				pmax	pmax		
	comp=N,33nm,0.1s						
GRPR				pmax	pmax		
	comp=E,34nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**7.83**	**20**	*e*P	**Pn**	**11 46 10.5**	**+0.8**
YUK				*e*S	**Sn**	**11 47 31.8**	**-5.9**
YUK				pmax	pmax		
	comp=Z,32nm,0.5s						
YUK				pmax	pmax		
	comp=E,32nm,0.2s						
TEY	**Ternei**	**9.31**	**335**	*e*P	Pn	11 46 36.4	+6.4
JCJ	**Chichijima**	**9.60**	**180**	Pn	**Pn**	**11 46 29.8**	**-4.3**
	comp=E,4.5nm,0.3s,baz=98,slow=22,SNR=5.4						
JCJ				Sn	Sn	11 48 10.7	-11
	comp=E,7.9nm,0.3s,baz=262,slow=21,SNR=1.5						
JCJ	**Chichijima**	**9.60**	**180**	Pn	**Pn**	**11 46 35.6**	**+1.5**
JNU	**Nakatsue**	**9.94**	**252**	LR	LR	11 51 10.6	
	comp=E,384nm,18.2s,baz=56,slow=42						
JNU	**Nakatsue**	**9.94**	**252**	Pn	**Pn**	**11 46 38.0**	**-0.8**
YSS	**Yuzh-Sakhalins**	**10.23**	**2**	*e*P	**Pn**	**11 46 41.9**	**-0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
USA0B	**Ussuriysk Arra**	**10.76**	**317**	P	**Pn**	**11 46 51.3**	**+1.4**
USA0B	**Ussuriysk Arra**	**10.76**	**317**	Pn	**Pn**	**11 46 51.3**	**+1.4**
USRK	**Ussuriysk Ar.**	**10.76**	**317**	Pn	**Pn**	**11 46 52.5**	**+2.7**
	baz=132,slow=13,SNR=16						
USRK				LR	LR	11 50 49.8	
	comp=Z,286nm,18.8s,baz=124,slow=36						
KSRS	**Korea Array**	**11.40**	**278**	Pn	**Pn**	**11 46 59.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=96,slow=12,SNR=9.3						
KSRS				LR	LR	11 51 12.8	
	comp=Z,252nm,19.4s,baz=102,slow=37						
TJN	**Taejon**	**11.91**	**273**	*ce*P	**Pn**	**11 47 07.2**	**+1.5**
KLR	**Kul'dur**	**14.62**	**332**	Pn	**P**	**11 47 48.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=222,slow=19,SNR=2.3						
KLR	**Kul'dur**	**14.62**	**332**	*i* P	**Pn**	**11 47 40.8**	**-1.8**
MA2	**Magadan**	**23.54**	**11**	P	**P**	**11 49 26.6**	**+0.9**
	comp=Z,3.9nm,0.7s,baz=192,slow=9.4,SNR=7.5						
MA2	**Magadan**	**23.54**	**11**	*ce*P	**P**	**11 49 26.1**	**+0.4**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.7s						
MA2	**Magadan**	**23.54**	**11**	P	**P**	**11 49 26.6**	**+0.9**
YAK	**Yakutsk**	**26.51**	**347**	P	**P**	**11 49 53.0**	**+0.2**
	comp=Z,5.1nm,0.4s,baz=331,slow=5.1,SNR=5.5						
YAK	**Yakutsk**	**26.51**	**347**	*ce*P	**P**	**11 49 52.7**	**-0.1**
YAK				pmax	pmax		
	comp=Z,19nm,0.8s						
YAK	**Yakutsk**	**26.51**	**347**	P	**P**	**11 49 52.5**	**-0.4**
SEY	**Seymchan**	**26.98**	**10**	P	**P**	**11 49 59.1**	**+2.0**
	comp=Z,1.8nm,0.4s,baz=193,slow=6.7,SNR=13						
XAN	**Xi'an**	**27.16**	**274**	P	**P**	**11 49 58.3**	**-0.9**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
XAN	**Xi'an**	**27.16**	**274**	P	**P**	**11 49 58.3**	**-0.9**
XAN				IAmb	IAmb	11 50 19.3	
	comp=Z,7.7nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**27.47**	**121**	T	T	12 19 17.6	
	baz=313,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.48**	**121**	T	T	12 19 38.3	
	baz=313,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**27.49**	**121**	T	T	12 19 25.7	
	baz=313,slow=75,SNR=24						
ENH	**Enshi**	**27.91**	**266**	P	**P**	**11 50 04.6**	**-1.3**
ULN	**Ulaanbaatar**	**28.03**	**304**	*ce*P	**P**	**11 50 07.2**	**+0.3**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ULN	**Ulaanbaatar**	**28.03**	**304**	P	**P**	**11 50 07.1**	**+0.3**
ULN				IAmb	IAmb	11 50 08.6	
	comp=Z,9.8nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**28.18**	**123**	T	T	12 20 12.9	
	baz=315,slow=75,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**28.18**	**124**	T	T	12 20 13.7	
	baz=315,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.20**	**123**	T	T	12 20 15.1	
	baz=315,slow=75,SNR=12						
SONM	**Songino Array**	**28.46**	**304**	P	**P**	**11 50 09.7**	**-1.0**
	comp=Z,6.3nm,0.8s,baz=106,slow=9.2,SNR=33						
SONM				LR	LR	12 01 08.8	
	comp=Z,55nm,20.1s,baz=90,slow=36						
SONM	**Songino Array**	**28.46**	**304**	P	**P**	**11 50 10.5**	**-0.2**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**28.46**	**304**	P	**P**	**11 50 10.5**	**-0.2**
SONM				IAmb	IAmb	11 50 11.9	
	comp=Z,5.3nm,0.9s						
ZAK	**Zakamensk**	**30.94**	**309**	*e*P	**P**	**11 50 31.7**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TLY	**Talaya**	**30.99**	**311**	*i* P	**P**	**11 50 33.0**	**+0.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TLY	**Talaya**	**30.99**	**311**	P	**P**	**11 50 32.5**	**-0.4**
TLY				IAmb	IAmb	11 50 35.0	
	comp=Z,7.5nm,1.4s						
BILL	**Bilibino**	**34.16**	**16**	*e*P	**P**	**11 50 59.9**	**-0.5**
BILL				*e*		11 51 15.4	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TIXI	**Tiksi**	**35.67**	**353**	*ce*P	**P**	**11 51 13.2**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,21nm,2.5s						
TIXI	**Tiksi**	**35.67**	**353**	P	**P**	**11 51 13.5**	**+0.1**
SIJI	**Sorong**	**38.75**	**198**	LR	LR	12 05 10.7	
	comp=Z,47nm,20.4s,baz=274,slow=32						
DGZ	**Jazzator, Alta**	**41.06**	**306**	*i* P	**P**	**11 51 58.4**	**-0.9**
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CM31	**Chiang Mai Arr**	**42.01**	**256**	P	**P**	**11 52 06.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**42.01**	**256**	P	**P**	**11 52 06.5**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=47,slow=8.0,SNR=5.0						
ZAA0	**Zalesovo Array**	**42.57**	**313**	P	**P**	**11 52 11.2**	**0.0**
ZAA0				IAmb	IAmb	11 52 12.7	
	comp=Z,4.5nm,0.9s						
ZALV	**Zalesovo Beam**	**42.57**	**313**	P	**P**	**11 52 11.9**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=90,slow=7.4,SNR=15						
SHL	**Shillong**	**44.01**	**270**	P	**P**	**11 52 22.8**	**-0.7**
SHL				pmax	pmax		
	comp=Z,12nm,0.4s						
SHL	**Shillong**	**44.01**	**270**	P	**P**	**11 52 22.8**	**-0.7**
MK31	**Makanchi Array**	**44.80**	**302**	P	**P**	**11 52 28.5**	**-0.9**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MK31	**Makanchi Array**	**44.80**	**302**	P	**P**	**11 52 28.5**	**-0.9**
MKAR	**Makanchi Array**	**44.80**	**302**	P	**P**	**11 52 29.1**	**-0.3**
	comp=Z,2.9nm,1.0s,baz=88,slow=9.3,SNR=20						
MKAR				LR	LR	12 10 53.3	
	comp=Z,51nm,21.1s,baz=93,slow=36						
MKAR	**Makanchi Array**	**44.80**	**302**	P	**P**	**11 52 28.6**	**-0.8**
MAKZ	**Makanchi**	**45.01**	**303**	P	**P**	**11 52 31.0**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MAKZ	**Makanchi**	**45.01**	**303**	P	**P**	**11 52 30.9**	**-0.1**
MAKZ				IAmb	IAmb	11 52 32.5	
	comp=Z,6.3nm,1.4s						
IMAR	**Indian Mountai**	**46.61**	**30**	P	**P**	**11 52 45.8**	**+2.4**
KNK	**Knik Glacier**	**48.84**	**37**	P	**P**	**11 53 04.3**	**+3.5**
MDM	**Murphy Dome**	**48.85**	**32**	P	**P**	**11 53 04.4**	**+3.5**
MDM				IAmb	IAmb	11 53 25.3	
	comp=Z,7.1nm,1.5s						
ILAR	**Eielson Array**	**49.43**	**32**	P	**P**	**11 53 06.3**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=260,slow=6.0,SNR=9.3						
ILAR				pP	**pwP**	**11 53 17.1**	**+3.2**
	comp=Z,1.1nm,0.7s,baz=267,slow=4.8,SNR=8.1						
ILAR	**Eielson Array**	**49.43**	**32**	P	**P**	**11 53 06.8**	**+1.6**
KLU	**Klutina**	**50.05**	**37**	P	**P**	**11 53 11.1**	**+1.0**
MTN	**Manton Dam**	**50.39**	**194**	P	**P**	**11 53 13.1**	**+0.1**
MTN				IAmb	IAmb	11 53 27.6	
	comp=Z,4.9nm,0.9s						
AAK	**Ala-Archa**	**51.17**	**299**	LR	LR	12 16 19.7	
	comp=Z,124nm,18.7s,baz=84,slow=38						
EPYK	**Eagle Plains**	**53.49**	**30**	P	**P**	**11 53 38.2**	**+2.6**
KK31	**Karatay Array**	**53.80**	**301**	P	**P**	**11 53 38.0**	**-0.3**
KK31				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KK31	**Karatay Array**	**53.80**	**301**	P	**P**	**11 53 38.0**	**-0.3**
KK31				IAmb	IAmb	11 53 51.9	
	comp=Z,2.4nm,0.9s						
KKAR	**Karatay Array**	**53.80**	**301**	P	**P**	**11 53 38.1**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KKAR	**Karatay Array**	**53.80**	**301**	P	**P**	**11 53 37.8**	**-0.4**
KKAR				IAmb	IAmb	11 53 51.9	
	comp=Z,2.4nm,0.9s						
KKAR	**Karatay Array**	**53.80**	**301**	P	**P**	**11 53 38.1**	**-0.2**
NIL	**Nilore**	**55.29**	**289**	P	**P**	**11 53 48.1**	**-1.1**
NIL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NIL	**Nilore**	**55.29**	**289**	P	**P**	**11 53 48.1**	**-1.1**
NIL				IAmb	IAmb	11 53 54.9	
	comp=Z,5.6nm,0.9s						
WB0	**Warramunga Arr**	**56.66**	**189**	P	**P**	**11 53 58.1**	**-0.9**
WB0				IAmb	IAmb	11 54 19.0	
	comp=Z,3.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**56.72**	**199**	P	**P**	**11 53 59.7**	**+0.3**
FITZ				IAmb	IAmb	11 54 11.0	
	comp=Z,3.5nm,1.1s						
WR0	**Warramunga Arr**	**56.84**	**189**	P	**P**	**11 53 59.9**	**-0.3**
WR0				IAmb	IAmb	11 54 20.9	
	comp=Z,5.2nm,1.2s						
WB2	**Warramunga Arr**	**56.84**	**189**	P	**P**	**11 53 59.0**	**-1.3**
WRA	**Warramunga Arr**	**56.84**	**189**	P	**P**	**11 53 58.4**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=6.9,slow=7.3,SNR=11						
WRA				pP	**pwP**	**11 54 08.8**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=6.4,slow=7.6,SNR=8.7						
WRA	**Warramunga Ar**	**56.84**	**189**	P	**P**	**11 53 59.8**	**-0.4**
ARU	**Arti**	**56.99**	**319**	P	**P**	**11 54 00.4**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=281,slow=5.2,SNR=1.2						
C36M	**Paulatuk**	**57.45**	**25**	P	**P**	**11 54 04.8**	**+0.8**
ABKAR	**Akbulak array**	**58.60**	**310**	P	**P**	**11 54 12.2**	**-0.2**
ABKAR				IAmb	IAmb	11 54 12.5	
	comp=Z,2.5nm,0.7s						
ABKAR	**Akbulak array**	**58.60**	**310**	P	**P**	**11 54 11.8**	**-0.6**
AKTO	**Aktyubinsk**	**59.33**	**312**	P	**P**	**11 54 17.4**	**0.0**
	comp=Z,1.5nm,0.6s,baz=75,slow=10,SNR=5.8						
EUNU	**Eureka**	**60.40**	**9**	P	**P**	**11 54 25.4**	**+0.9**
EUNU				IAmb	IAmb	11 54 36.7	
	comp=Z,2.1nm,1.1s						
ASAR	**Alice Springs**	**60.57**	**189**	P	**P**	**11 54 25.7**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=9.0,slow=11,SNR=7.1						
ASAR				pP	**pwP**	**11 54 36.2**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=12,slow=8.1,SNR=7.0						
ASAR	**Alice Springs**	**60.57**	**189**	P	**P**	**11 54 25.4**	**-0.8**
YKA	**Yellowknife Ar**	**63.77**	**30**	P	**P**	**11 54 49.2**	**+2.1**
	comp=Z,0.3nm,0.8s,baz=299,slow=6.3,SNR=3.7						
OBN	**Obninsk**	**68.70**	**324**	*e*P	**P**	**11 55 19.2**	**+0.3**
OBN				*e*		11 55 44.5	
OBN				*e*		11 57 51.5	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KBZ	**Khabaz**	**71.56**	**311**	P	**P**	**11 55 35.9**	**-0.8**
	comp=Z,3.9nm,1.0s,baz=133,slow=1.0,SNR=4.9						
KBZ	**Khabaz**	**71.56**	**311**	*ce*P	**P**	**11 55 36.8**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV	**Kislovodsk**	**71.57**	**311**	*i* P	**P**	**11 55 36.9**	**+0.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NEY	**Neytrino**	**71.93**	**311**	*i* P	**P**	**11 55 40.0**	**+0.8**
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**74.69**	**53**	P	**P**	**11 55 56.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=232,slow=4.4,SNR=1.5						
NB2	**NORSAR Subarra**	**74.70**	**338**	P	**P**	**11 55 55.2**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**74.70**	**338**	P	**P**	**11 55 56.0**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=38,slow=5.8,SNR=3.2						
NOA	**NORSAR Array B**	**74.70**	**338**	P	**P**	**11 55 56.0**	**+1.0**
AKASG	**Malin Array Be**	**74.91**	**323**	P	**P**	**11 55 55.7**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=48,slow=5.8,SNR=7.3						
AKASG				LR	LR	12 30 45.8	
	comp=Z,35nm,18.1s,baz=290,slow=37						
AKASG	**Malin Array Be**	**74.91**	**323**	P	**P**	**11 55 56.7**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,1.5s						
AKASG	**Malin Array Be**	**74.91**	**323**	P	**P**	**11 55 56.7**	**+0.4**
PDAR	**Pinedale Array**	**77.45**	**46**	P	**P**	**11 56 14.0**	**+2.8**
	comp=Z,0.3nm,0.7s,baz=258,slow=2.7,SNR=2.7						
PDAR				pP	**PcP**	**11 56 23.4**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=296,slow=2.2,SNR=4.9						
PDAR	**Pinedale Array**	**77.45**	**46**	P	**P**	**11 56 10.7**	**-0.5**
BRTR	**Keskin Array B**	**79.51**	**312**	P	**P**	**11 56 21.2**	**-1.3**
	comp=Z,1.1nm,0.9s,baz=123,slow=2.1,SNR=4.6						
BRTR	**Keskin Array B**	**79.51**	**312**	*ce*P	**P**	**11 56 23.7**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CLL	**Collm**	**81.66**	**331**	*i* P	**P**	**11 56 34.2**	**+0.5**
	comp=Z,5.0nm,1.1s						
GERES	**GERESS Array B**	**83.29**	**329**	P	**P**	**11 56 42.9**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=36,slow=5.0,SNR=4.6						
TXAR	**Lajitas Array**	**89.83**	**53**	P	**P**	**11 57 17.0**	**+2.3**
	comp=Z,0.1nm,0.7s,baz=262,slow=1.8,SNR=2.2						
TXAR				pP	**pwP**	**11 57 27.0**	**+3.4**
	comp=Z,0.4nm,0.7s,baz=292,slow=3.2,SNR=5.0						

*HEL **20** 11:54:01.2±0.2, 59°21N×27°

mb1 3.9/23,mb1mx3.7/57,mbtmp4.1/23,MS3.2/10,
Ms1 3.2/10,ms1mx3.0/42,Error ellipse: s-maj=15.8km
s-min=11.0km az=93.0
BJI ***20*** *12:01:32.6±0.0,24°.53N×122°.59E,h58km,mB4.5/23,*
mb4.4/37,ML4.0/8,Ms3.8/9,Ms7 3.7/12
ISC 20 12:01:31.2±0.4,24°.50N±0°.03×122.87E±0°.02,h70km×3km,
h70km:pP-P,n296,σ1$45/453,mb4.7/58,2C-18D,Taiwan
region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.08**	**125**	P			**Pn**	**12 01 41.4**	**0.0**
JYNG							**Sn**	**12 01 49.1**	**+0.2**
YOJ	**Yonaguni jima**	**0.13**	**106**	⇑*i* P			**Pn**	**12 01 41.6**	**+0.1**
	baz=108								
YOJ				*i* S			**Sn**	**12 01 49.2**	**+0.1**
	baz=108								
YOJ	**Yonaguni jima**	**0.13**	**106**	P			**Pn**	**12 01 41.5**	**0.0**
YOJ				S			**Sn**	**12 01 49.1**	**+0.1**
YOJ	**Yonaguni jima**	**0.13**	**106**				**Pn**	**12 01 41.7**	**+0.2**
YOJ				Sn			**Sn**	**12 01 49.5**	**+0.4**
IRIF	**Iriomote-Funau**	**0.80**	**102**	P			**Pn**	**12 01 47.3**	**+0.1**
IRIF				S			**Sn**	**12 01 59.7**	**+0.6**
EGS		**0.92**	**292**	P			**Pn**	**12 01 49.0**	**+0.2**
	baz=284								
EGS				*e*S			**Sn**	**12 02 01.0**	**-0.8**
	baz=284								
TWC	**Suao**	**0.94**	**277**	⇓*i*P			**Pn**	**12 01 48.7**	**-0.3**
	baz=283								
TWC				S			**Sn**	**12 02 01.1**	**-1.0**
	baz=283								
TWB1	**Santiao Chiao**	**0.95**	**302**	*i* P			**Pn**	**12 01 49.1**	**0.0**
	baz=302								
HATJ	**Hateruma jima**	**0.96**	**117**	P			**Pn**	**12 01 49.8**	**+0.6**
HATJ				S			**Sn**	**12 02 03.8**	**+1.3**
EWUT	**Wuta**	**1.00**	**267**	*e*P			**Pn**	**12 01 49.9**	**+0.2**
	baz=271								
EWUT				*e*S			**Sn**	**12 02 03.6**	**+0.2**
	baz=271								
NTC	**Toucheng**	**1.01**	**291**	*e*P			**Pn**	**12 01 50.6**	**+0.8**
	baz=283								
NTC				S			**Sn**	**12 02 04.3**	**+0.5**
	baz=283								
ENA	**Nanau**	**1.03**	**266**	*i* P			**Pn**	**12 01 50.0**	**-0.1**
	baz=270								
ENA				*e*S			**Sn**	**12 02 04.8**	**+0.6**
	baz=270								
ILA	**Ilan**	**1.06**	**285**	*e*P			**Pn**	**12 01 50.8**	**+0.4**
	baz=284								
ILA				*e*S			**Sn**	**12 02 05.0**	**+0.3**
	baz=284								
NDS	**Dongshan**	**1.06**	**278**	P			**Pn**	**12 01 50.8**	**+0.3**
	baz=281								
NDS				*e*S			**Sn**	**12 02 04.5**	**-0.3**
	baz=281								
TIPB	**Shuangxi**	**1.06**	**297**	*i* P			**Pn**	**12 01 50.7**	**+0.2**
	baz=296								
TIPB				S			**Sn**	**12 02 04.3**	**-0.6**
	baz=296								
JKRS	**Kuro-shima**	**1.07**	**104**	P			**Pn**	**12 01 51.1**	**+0.6**
JKRS				S			**Sn**	**12 02 06.3**	**+1.3**
TWE	**Neicheng**	**1.12**	**282**	*i* P			**Pn**	**12 01 51.4**	**+0.2**
	baz=281								
TWE				S			**Sn**	**12 02 06.1**	**0.0**
	baz=281								
NWF	**Wu-fen Shan**	**1.15**	**300**	P			**Pn**	**12 01 52.1**	**+0.5**
	baz=291								
NWF				*e*S			**Sn**	**12 02 07.0**	**+0.1**
	baz=291								
WFSB	**Wu-fen Shan**	**1.15**	**300**	*i* P			**Pn**	**12 01 52.1**	**+0.5**
	baz=291								
WFSB				S			**Sn**	**12 02 06.9**	**+0.2**
	baz=291								
JIJ	**Ishigaki jima**	**1.17**	**96**	P			**Pn**	**12 01 51.7**	**-0.1**
JIJ				S			**Sn**	**12 02 07.2**	**0.0**
TNOU	**National Taiwa**	**1.19**	**303**	*i* P			**Pn**	**12 01 52.5**	**+0.4**
	baz=294								
TNOU				*e*S			**Sn**	**12 02 08.0**	**+0.2**
	baz=294								
ENTT	**Nioudou**	**1.20**	**277**	⇓*i*P			**Pn**	**12 01 52.6**	**+0.4**
	baz=276								
ENTT				*e*S			**Sn**	**12 02 08.6**	**+0.6**
	baz=276								
NACB	**Ninganchiao**	**1.21**	**255**	⇓*i*P			**Pn**	**12 01 52.0**	**-0.4**
	baz=254								
NACB				*i* S			**Sn**	**12 02 07.5**	**-0.7**
	baz=254								
NACB	**Ninganchiao**	**1.21**	**255**				**Pn**	**12 01 52.0**	**-0.4**
NACB				Sn			**Sn**	**12 02 08.2**	**-0.1**
TWD	**Chiawan**	**1.24**	**251**	P			**Pn**	**12 01 52.2**	**-0.5**
	baz=250								
TWD				S			**Sn**	**12 02 08.0**	**-0.9**
	baz=250								
NDT	**Datong Townshi**	**1.24**	**275**	P			**Pn**	**12 01 53.5**	**+0.7**
	baz=280								
NDT				*e*S			**Sn**	**12 02 10.0**	**+0.9**
	baz=280								
TWA	**Mucha**	**1.27**	**293**	⇓*i*P			**Pn**	**12 01 53.6**	**+0.5**
	baz=292								
TWA				S			**Sn**	**12 02 10.0**	**+0.4**
	baz=292								
HWA	**Hwalien**	**1.27**	**246**	*e*P			**Pn**	**12 01 53.3**	**+0.1**
	baz=245								
HWA				*e*S			**Sn**	**12 02 10.0**	**+0.4**
	baz=245								
NWLT	**Wulai**	**1.28**	**283**	*e*P			**Pn**	**12 01 54.1**	**+0.8**
	baz=282								
NWLT				*e*S			**Sn**	**12 02 09.8**	**0.0**
	baz=282								
ETLH	**Xiulin Townshi**	**1.30**	**257**	*i* P			**Pn**	**12 01 53.5**	**-0.1**
	baz=248								
ETLH				S			**Sn**	**12 02 10.3**	**-0.2**
	baz=248								
NHDH	**Xindian Distri**	**1.31**	**291**	*e*P			**Pn**	**12 01 54.4**	**+0.8**
	baz=290								
NHDH				*e*S			**Sn**	**12 02 11.3**	**+0.7**
	baz=290								
JISG	**Ishigakijimahi**	**1.31**	**86**	P			**Pn**	**12 01 53.7**	**0.0**
JISG				S			**Sn**	**12 02 11.0**	**+0.4**
PCYT	**Pengchaiyu**	**1.34**	**327**	P			**Pn**	**12 01 55.4**	**+1.3**
	baz=327								
PCYT				*e*S			**Sn**	**12 02 12.4**	**+1.1**
	baz=327								
TAP1	**Taipei**	**1.34**	**294**	*e*P			**Pn**	**12 01 54.3**	**+0.2**
	baz=293								
TAP1				*e*S			**Sn**	**12 02 12.4**	**+1.2**
	baz=293								
TATO	**Taipei**	**1.35**	**291**	P			**Pn**	**12 01 54.7**	**+0.5**
	baz=282								
TATO				*e*S			**Sn**	**12 02 12.3**	**+0.9**
	baz=282								
TATO	**Taipei**	**1.35**	**291**	Pn			**Pn**	**12 01 54.3**	**+0.1**
TATO				Sn			**Sn**	**12 02 12.6**	**+1.2**
YM01	**YM01**	**1.35**	**299**	*i* P			**Pn**	**12 01 53.8**	**-0.4**
	baz=291								
YM01				S			**Sn**	**12 02 11.6**	**+0.1**
	baz=291								
YM08	**YM08**	**1.35**	**301**	*i* P			**Pn**	**12 01 54.7**	**+0.4**
	baz=292								
YM08				*e*S			**Sn**	**12 02 11.4**	**-0.2**
	baz=292								
TAP	**Taipei**	**1.35**	**294**	*e*P			**Pn**	**12 01 55.2**	**+1.0**
	baz=293								
TAP				*e*S			**Sn**	**12 02 12.7**	**+1.1**
	baz=293								
YM11	**YM11**	**1.35**	**300**	P			**Pn**	**12 01 55.1**	**+0.8**
	baz=299								
NNSB	**Datong**	**1.36**	**267**	⇓*i*P			**Pn**	**12 01 54.7**	**+0.3**
	baz=257								
NNSB				S			**Sn**	**12 02 11.8**	**-0.1**
	baz=257								
NNSH	**Datong**	**1.36**	**267**	P			**Pn**	**12 01 54.9**	**+0.4**
	baz=257								
NNSH				*e*S			**Sn**	**12 02 11.8**	**-0.1**
	baz=257								
YM10	**YM10**	**1.36**	**299**	*i* P			**Pn**	**12 01 55.0**	**+0.6**
	baz=298								
YM05	**YM05**	**1.36**	**299**	*i* P			**Pn**	**12 01 55.0**	**+0.6**
	baz=291								
YM05				*e*S			**Sn**	**12 02 12.3**	**+0.4**
	baz=291								
NNS	**Nan Shan**	**1.37**	**268**	⇓*i*P			**Pn**	**12 01 55.0**	**+0.4**
	baz=257								
NNS				*e*S			**Sn**	**12 02 11.8**	**-0.3**
	baz=257								
YHNB	**Yeheng**	**1.37**	**277**	⇓*i*P			**Pn**	**12 01 55.4**	**+0.8**
	baz=277								
YHNB					S		**Sn**	**12 02 12.1**	**-0.1**
	baz=277								
YHNB	**Yeheng**	**1.37**	**277**				**Pn**	**12 01 55.7**	**+1.1**
YHNB					Sn		**Sn**	**12 02 12.5**	**+0.3**
YM04	**YM04**	**1.38**	**299**	*i* P			**Pn**	**12 01 55.1**	**+0.5**
	baz=290								
YM04					S		**Sn**	**12 02 12.4**	**+0.2**
	baz=290								
YM03	**YM03**	**1.39**	**300**	P			**Pn**	**12 01 55.3**	**+0.5**
	baz=291								
YM03					*e*S		**Sn**	**12 02 13.0**	**+0.5**
	baz=291								
NSK	**Sanguang**	**1.39**	**278**	⇓*i*P			**Pn**	**12 01 55.6**	**+0.8**
	baz=277								
NSK					S		**Sn**	**12 02 12.7**	**+0.2**
	baz=277								
TWY	**Chenhua**	**1.39**	**304**	P			**Pn**	**12 01 55.6**	**+0.9**
	baz=295								
TWY					*e*S		**Sn**	**12 02 13.8**	**+1.4**
	baz=295								
BACT	**New Taipei Cit**	**1.39**	**291**	*e*P			**Pn**	**12 01 56.5**	**+1.8**
	baz=291								
ANP	**Anpu**	**1.41**	**299**	P			**Pn**	**12 01 55.4**	**+0.4**
	baz=291								
TWS1	**Kuangyinshan**	**1.45**	**295**	P			**Pn**	**12 01 56.3**	**+0.8**
	baz=294								
TWS1					*e*S		**Sn**	**12 02 15.0**	**+1.2**
	baz=294								
NTST	**Danshui**	**1.45**	**297**	*e*P			**Pn**	**12 01 56.7**	**+1.1**
	baz=290								
NTST					*e*S		**Sn**	**12 02 14.8**	**+0.9**
	baz=290								
ESL	**Shilin**	**1.48**	**243**	P			**Pn**	**12 01 55.3**	**-0.6**
	baz=234								
ESL					*e*S		**Sn**	**12 02 13.9**	**-0.7**
	baz=234								
FUSS	**Fushou**	**1.51**	**261**	P			**Pn**	**12 01 57.0**	**+0.5**
	baz=260								
FUSS					*e*S		**Sn**	**12 02 15.4**	**-0.1**
	baz=260								
WHF	**Hehuan Shan**	**1.51**	**257**	P			**Pn**	**12 01 56.6**	**0.0**
	baz=246								
WHF					*e*S		**Sn**	**12 02 15.2**	**-0.6**
	baz=246								
NTY	**Taoyuan**	**1.52**	**290**	*e*P			**Pn**	**12 01 57.3**	**+0.9**
	baz=289								
NTY					*e*S		**Sn**	**12 02 16.7**	**+1.3**
	baz=289								
EGFH	**Guangfu**	**1.56**	**238**	*e*P			**Pn**	**12 01 56.5**	**-0.4**
	baz=230								
EGFH					*e*S		**Sn**	**12 02 15.4**	**-1.0**
	baz=230								
TWT	**Tachien**	**1.57**	**261**	P			**Pn**	**12 01 58.4**	**+1.2**
	baz=260								
TWT					*e*S		**Sn**	**12 02 17.0**	**+0.2**
	baz=260								
TDCB	**Techi**	**1.58**	**262**	P			**Pn**	**12 01 58.1**	**+0.7**
	baz=261								
TDCB					*e*S		**Sn**	**12 02 17.3**	**+0.2**
	baz=261								
NCU	**National Centr**	**1.60**	**287**	*e*P			**Pn**	**12 01 58.0**	**+0.5**
	baz=287								
NCUH	**Zhongli**	**1.60**	**287**	*e*P			**Pn**	**12 01 58.5**	**+1.0**
	baz=286								
NCUH					*e*S		**Sn**	**12 02 18.8**	**+1.3**
	baz=286								
CHGB	**Renai**	**1.61**	**255**	*e*P			**Pn**	**12 01 58.0**	**+0.2**
	baz=244								
CHGB					*e*S		**Sn**	**12 02 18.8**	**+0.8**
	baz=244								
HGSD	**Ruisui**	**1.66**	**233**	P			**Pn**	**12 01 57.8**	**-0.5**
	baz=232								
HGSD					*e*S		**Sn**	**12 02 19.3**	**+0.5**
	baz=232								
JTJ	**Tarama**	**1.67**	**85**	P			**Pn**	**12 01 59.0**	**+0.6**
JTJ				S			**Sn**	**12 02 19.9**	**+0.8**
LIOB	**Emei**	**1.70**	**275**	P			**Pn**	**12 01 59.9**	**+1.0**
	baz=275								
NSTT	**Nanjuang**	**1.71**	**275**	P			**Pn**	**12 02 00.0**	**+1.0**
	baz=275								
HSN1	**Hsinchu**	**1.71**	**280**	*e*P			**Pn**	**12 01 59.6**	**+0.7**
	baz=279								
EHY	**Hungye**	**1.73**	**235**	*i* P			**Pn**	**12 01 58.6**	**-0.6**
	baz=234								
EHY					*e*S		**Sn**	**12 02 20.3**	**-0.2**
	baz=234								
SBCB	**Hsinchu**	**1.74**	**280**	P			**Pn**	**12 02 00.5**	**+1.1**
	baz=280								
VWDT	**VWDT**	**1.75**	**245**	P			**Pn**	**12 01 59.9**	**+0.5**
	baz=244								
VWDT					*e*S		**Sn**	**12 02 20.4**	**-0.4**
	baz=244								
HSN	**Hsinchu**	**1.76**	**280**	*e*P			**Pn**	**12 01 58.6**	**-1.0**
	baz=291								
WHP	**Taichung City**	**1.77**	**263**	P			**Pn**	**12 02 01.3**	**+1.4**
	baz=262								
WHP					*e*S		**Sn**	**12 02 23.2**	**+1.6**
	baz=262								
YULB	**Yu-li**	**1.81**	**233**	*i* P			**Pn**	**12 01 59.9**	**-0.6**
	baz=242								
YULB					S		**Sn**	**12 02 21.3**	**-1.3**
	baz=242								
YULB	**Yu-li**	**1.81**	**233**				**Pn**	**12 01 59.8**	**-0.6**
YULB					Sn		**Sn**	**12 02 21.4**	**-1.1**
WPL	**Puli Township**	**1.81**	**255**	*i* P			**Pn**	**12 02 01.1**	**+0.7**
	baz=247								
WPL					S		**Sn**	**12 02 23.2**	**+0.7**
	baz=247								
EYUL	**Yuli**	**1.83**	**231**	P			**Pn**	**12 02 00.6**	**+0.1**
	baz=224								
EYUL					*e*S		**Sn**	**12 02 22.6**	**-0.2**
	baz=224								
NJN	**Zhunan**	**1.83**	**276**	*e*P			**Pn**	**12 02 02.2**	**+1.6**
	baz=276								
DPDB	**Guoxing**	**1.84**	**256**	*i* P			**Pn**	**12 02 01.6**	**+0.9**
	baz=248								
DPDB					*e*S		**Sn**	**12 02 23.2**	**+0.1**
	baz=248								
TWF1	**Yuli**	**1.84**	**232**	⇓*i*P			**Pn**	**12 02 00.3**	**-0.4**
	baz=225								
TWF1					*e*S		**Sn**	**12 02 22.0**	**-1.1**
	baz=225								
WCS	**Beigang Elemen**	**1.84**	**257**	P			**Pn**	**12 02 01.9**	**+1.1**
	baz=249								
WCS					*e*S		**Sn**	**12 02 24.7**	**+1.6**
	baz=249								
SSLB	**Suanglung**	**1.89**	**248**	⇓*i*P			**Pn**	**12 02 01.6**	**+0.1**
	baz=247								
SSLB					S		**Sn**	**12 02 23.9**	**-0.5**
	baz=247								
SSLB	**Suanglung**	**1.89**	**248**				**Pn**	**12 02 01.7**	**+0.3**
SSLB					Sn		**Sn**	**12 02 24.1**	**-0.3**
NMLH	**Miaoli**	**1.90**	**272**	*e*P			**Pn**	**12 02 02.8**	**+1.3**
	baz=271								
NMLH					*e*S		**Sn**	**12 02 26.2**	**+1.7**
	baz=271								
SMLT	**Sun Moon Lake**	**1.90**	**252**	⇓*i*P			**Pn**	**12 02 02.3**	**+0.7**
	baz=243								
SMLT					S		**Sn**	**12 02 24.7**	**-0.1**
	baz=243								
TWQ1	**Liyutan**	**1.92**	**266**	P			**Pn**	**12 02 02.8**	**+1.0**
	baz=265								
TWQ1					*e*S		**Sn**	**12 02 27.7**	**+2.7**
	baz=265								
NSY	**Sanyi**	**1.93**	**268**	*e*P			**Pn**	**12 02 03.4**	**+1.6**
	baz=268								
TYC	**Yuchr**	**1.93**	**253**	⇓*i*P			**Pn**	**12 02 02.7**	**+0.7**
	baz=245								
TYC					*e*S		**Sn**	**12 02 25.8**	**+0.4**
	baz=245								
FULB	**Fuli**	**1.94**	**229**	P			**Pn**	**12 02 01.3**	**-0.8**
	baz=228								
FULB					*e*S		**Sn**	**12 02 24.1**	**-1.4**
	baz=228								
CHKT	**Chengkung**	**1.96**	**225**	*e*P			**Pn**	**12 02 01.5**	**-0.8**
	baz=224								
CHKT					*e*S		**Sn**	**12 02 23.2**	**-2.8**
	baz=224								
WHYT	**Xinyi Township**	**2.01**	**247**	*i* P			**Pn**	**12 02 04.2**	**+1.1**
	baz=246								
WHYT					S		**Sn**	**12 02 28.3**	**+1.0**
	baz=246								
YUS	**Yu-Shan**	**2.02**	**241**	P			**Pn**	**12 02 04.1**	**+0.5**
	baz=231								
YUS					*e*S		**Sn**	**12 02 27.1**	**-1.1**
	baz=231								
TCU	**Taichung**	**2.03**	**261**	*e*P			**Pn**	**12 02 04.8**	**+1.5**
	baz=272								
TCU					*e*S		**Sn**	**12 02 30.1**	**+2.3**
	baz=272								
WWF	**Wufeng**	**2.04**	**258**	*e*P			**Pn**	**12 02 04.9**	**+1.6**
	baz=270								
WWF					*e*S		**Sn**	**12 02 29.5**	**+1.7**
	baz=270								
WDJ	**Dajia District**	**2.04**	**266**	*e*P			**Pn**	**12 02 04.9**	**+1.5**
	baz=265								
WDJ					*e*S		**Sn**	**12 02 27.8**	**-0.2**
	baz=265								
WJS	**Zhushan**	**2.07**	**251**	P			**Pn**	**12 02 05.9**	**+2.0**
	baz=246								
WJS					*e*S		**Sn**	**12 02 31.2**	**+2.5**
	baz=246								
WNT1	**Nantou City**	**2.09**	**254**	*e*P			**Pn**	**12 02 06.2**	**+2.1**
	baz=253								
WNT1					*e*S		**Sn**	**12 02 31.9**	**+2.9**
	baz=253								
EDH	**Donghe**	**2.09**	**224**	*e*P			**Pn**	**12 02 03.4**	**-0.7**
	baz=223								
EDH					*e*S		**Sn**	**12 02 26.9**	**-2.2**
	baz=223								
WNT	**Mingjian**	**2.09**	**253**	*i* P			**Pn**	**12 02 06.1**	**+2.0**
	baz=252								
WNT					*e*S		**Sn**	**12 02 31.3**	**+2.1**
	baz=252								
JIRB	**Irabujima**	**2.12**	**81**	P			**Pn**	**12 02 05.1**	**+0.7**
JIRB				S			**Sn**	**12 02 30.4**	**+0.6**
ALS	**Alishan**	**2.13**	**243**	P			**Pn**	**12 02 06.0**	**+1.1**
	baz=234								
ALS					*e*S		**Sn**	**12 02 31.5**	**+0.9**
	baz=234								
ELDTW	**Lidau**	**2.14**	**233**	*i* P			**Pn**	**12 02 04.4**	**-0.5**
	baz=232								
ELDTW					*e*S		**Sn**	**12 02 29.3**	**-1.2**
	baz=232								
WCHH	**Zhanghua**	**2.15**	**259**	*e*P			**Pn**	**12 02 06.0**	**+1.1**
	baz=269								
CHN5	**Tsauling**	**2.20**	**246**	⇓*i*P			**Pn**	**12 02 06.9**	**+1.3**
	baz=237								
CHN5					S		**Sn**	**12 02 33.1**	**+1.2**
	baz=237								
JIKM	**Ikemajima**	**2.20**	**78**	P			**Pn**	**12 02 06.4**	**+0.8**
JIKM					*e*S		**Sn**	**12 02 32.9**	**+1.1**
JMJ	**Miyako jima 2**	**2.23**	**81**	P			**Pn**	**12 02 07.4**	**+1.5**
	baz=82								
JMJ					*e*S		**Sn**	**12 02 35.1**	**+2.7**
	baz=82								
LDUT	**Ludao**	**2.23**	**216**	P			**Pn**	**12 02 05.0**	**-0.9**
	baz=209								
LDUT					*e*S		**Sn**	**12 02 29.5**	**-2.9**
	baz=209								
JMJ2	**Miyako jima3**	**2.25**	**83**	P			**Pn**	**12 02 07.2**	**+1.0**
JMJ2				S			**Sn**	**12 02 33.7**	**+0.8**
LONT	**Longtian**	**2.25**	**226**	*e*P			**Pn**	**12 02 06.0**	**-0.3**
	baz=233								
LONT					*e*S		**Sn**	**12 02 32.0**	**-1.0**
	baz=233								
WGK	**Gukeng**	**2.26**	**250**	P			**Pn**	**12 02 08.2**	**+1.8**
	baz=248								
WGK					*e*S		**Sn**	**12 02 36.2**	**+2.9**
	baz=248								
WDLH	**Douliu**	**2.28**	**250**	P			**Pn**	**12 02 08.7**	**+2.1**
	baz=248								
WDLH					*e*S		**Sn**	**12 02 36.0**	**+2.3**
	baz=248								
JOGS	**Gusukube**	**2.32**	**83**	P			**Pn**	**12 02 08.3**	**+1.1**
JOGS				S			**Sn**	**12 02 36.3**	**+1.6**
STYH	**Taoyuan**	**2.33**	**236**	*e*P			**Pn**	**12 02 08.3**	**+1.0**
	baz=235								
STYH					*e*S		**Sn**	**12 02 35.2**	**+0.2**
	baz=235								
TWGBT	**Beinan**	**2.34**	**225**	P			**Pn**	**12 02 06.8**	**-0.8**
	baz=232								
TWGBT					*e*S		**Sn**	**12 02 33.3**	**-2.0**
	baz=232								
TWG	**Pinlang**	**2.35**	**225**	P			**Pn**	**12 02 06.9**	**-0.7**
	baz=232								
TWG					*e*S		**Sn**	**12 02 33.4**	**-2.0**
	baz=232								
TWG	**Pinlang**	**2.35**	**225**				**Pn**	**12 02 07.0**	**-0.6**
TWG					Sn		**Sn**	**12 02 33.6**	**-1.8**
STYT	**Tauyuan**	**2.35**	**236**	⇓*i*P			**Pn**	**12 02 08.6**	**+1.0**
	baz=235								
STYT					S		**Sn**	**12 02 35.9**	**+0.4**
	baz=235								
TTN	**Taitung**	**2.35**	**223**	*e*P			**Pn**	**12 02 08.1**	**+0.6**
	baz=222								
TTN					*e*S		**Sn**	**12 02 36.4**	**+1.0**
	baz=222								
WRL	**Guolierlin Hig**	**2.35**	**256**	*e*P			**Pn**	**12 02 08.7**	**+1.0**
	baz=267								
WRL					*e*S		**Sn**	**12 02 36.3**	**+0.8**
	baz=267								
TPUB	**Ta-pu**	**2.37**	**240**	⇓*i*P			**Pn**	**12 02 09.2**	**+1.2**
	baz=233								
TPUB					S		**Sn**	**12 02 37.2**	**+1.1**
	baz=233								
TPUB	**Ta-pu**	**2.37**	**240**				**Pn**	**12 02 09.4**	**+1.5**
TPUB					Sn		**Sn**	**12 02 37.0**	**+1.0**
CHN4	**Tsaushan**	**2.38**	**242**	P			**Pn**	**12 02 09.7**	**+1.7**
	baz=234								
CHN4					*e*S		**Sn**	**12 02 38.2**	**+2.0**
	baz=234								
CHN2	**Minshiung**	**2.39**	**247**	P			**Pn**	**12 02 10.6**	**+2.5**
	baz=245								
CHN2					*e*S		**Sn**	**12 02 39.7**	**+3.2**
	baz=245								
WTK	**Tuku**	**2.41**	**251**	*e*P			**Pn**	**12 02 10.1**	**+1.7**
	baz=263								
WTK					*e*S		**Sn**	**12 02 39.2**	**+2.3**
	baz=263								
WTP	**Ta-pu**	**2.41**	**239**	P			**Pn**	**12 02 09.9**	**+1.4**
	baz=238								
WTP					*e*S		**Sn**	**12 02 38.3**	**+1.2**
	baz=238								
WTCT	**Ta-ch'eng**	**2.45**	**256**	P			**Pn**	**12 02 10.1**	**+1.1**
	baz=254								
WTCT					S		**Sn**	**12 02 39.0**	**+1.2**
	baz=254								
CHY	**Chiayi**	**2.45**	**247**	*e*P			**Pn**	**12 02 11.8**	**+2.8**
	baz=245								
CHY					*e*S		**Sn**	**12 02 40.8**	**+2.9**
	baz=245								
TWK	**Hsinying**	**2.50**	**241**	P			**Pn**	**12 02 11.0**	**+1.3**
	baz=240								
TWK					*e*S		**Sn**	**12 02 40.8**	**+1.6**
	baz=240								
CHN1	**Nanshi**	**2.51**	**239**	P			**Pn**	**12 02 11.2**	**+1.3**
	baz=238								
CHN1					*e*S		**Sn**	**12 02 41.8**	**+2.4**
	baz=238								
SNST	**Tainan City**	**2.52**	**240**	*e*P			**Pn**	**12 02 11.7**	**+1.8**
	baz=239								
SNST					*e*S		**Sn**	**12 02 41.7**	**+2.1**
	baz=239								
SGST	**Jiashian**	**2.53**	**237**	⇓*i*P			**Pn**	**12 02 10.8**	**+0.8**
	baz=235								
SGST					S		**Sn**	**

SCST	**Cishan**	**2.71**	**234**	P	**Pn**	**12 02 14.7**	**+2.3**
	baz=243						
SCST				*eS*	**Sn**	**12 02 47.5**	**+3.4**
	baz=243						
TSMG	**Majia**	**2.71**	**229**	*eP*	**Pn**	**12 02 13.2**	**+0.6**
	baz=227						
TSMG				*eS*	**Sn**	**12 02 45.3**	**+1.0**
	baz=227						
LAY	**Lan-yu**	**2.73**	**207**	*eP*	**Pn**	**12 02 11.2**	**-1.6**
	baz=199						
LAY				*eS*	**Sn**	**12 02 40.5**	**-4.3**
	baz=199						
MASBT	**Mashibuluo**	**2.78**	**228**	P	**Pn**	**12 02 14.3**	**+0.8**
	baz=226						
MASBT				*eS*	**Sn**	**12 02 45.8**	**-0.2**
	baz=226						
SCLT	**Jiali**	**2.78**	**242**	*eP*	**Pn**	**12 02 14.9**	**+1.5**
	baz=241						
SCLT				*eS*	**Sn**	**12 02 48.7**	**+2.8**
	baz=241						
TWM1	**Shoushan**	**2.80**	**234**	*eP*	**Pn**	**12 02 16.7**	**+3.0**
	baz=234						
TAW	**Tawu**	**2.80**	**221**	*eP*	**Pn**	**12 02 13.6**	**-0.1**
	baz=226						
TAW				*eS*	**Sn**	**12 02 44.3**	**-2.0**
	baz=226						
SGLT	**Jiouru**	**2.81**	**232**	*eP*	**Pn**	**12 02 16.7**	**+2.9**
	baz=232						
EAST	**Anshuo**	**2.81**	**222**	P	**Pn**	**12 02 13.2**	**-0.6**
	baz=227						
EAST				*eS*	**Sn**	**12 02 44.3**	**-2.4**
	baz=227						
TAI1	**Yung-k'ang**	**2.82**	**240**	*eP*	**Pn**	**12 02 16.2**	**+2.2**
	baz=248						
TAI1				*eS*	**Sn**	**12 02 50.7**	**+3.8**
	baz=248						
TSPT	**Pingtung City**	**2.83**	**231**	*eP*	**Pn**	**12 02 17.6**	**+3.4**
	baz=231						
SNJT	**Kaohsiung City**	**2.90**	**234**	*eP*	**Pn**	**12 02 17.4**	**+2.3**
	baz=233						
SNJT				*eS*	**Sn**	**12 02 53.4**	**+4.5**
	baz=233						
SSPT	**Xinbi**	**2.92**	**227**	*eP*	**Pn**	**12 02 16.9**	**+1.7**
	baz=224						
SCZT	**Fangliau**	**2.96**	**225**	*eP*	**Pn**	**12 02 16.6**	**+0.8**
	baz=221						
SCZT				*eS*	**Sn**	**12 02 52.3**	**+2.0**
	baz=221						
SLIU	**Shizi**	**2.96**	**220**	*eP*	**Pn**	**12 02 15.5**	**-0.4**
	baz=226						
MATB	**Ma-tsu**	**3.12**	**302**	*eP*	**Pn**	**12 02 18.4**	**+0.3**
	baz=302						
WLCH	**Liuqiu**	**3.13**	**227**	*eP*	**Pn**	**12 02 21.1**	**+2.9**
	baz=239						
MSUT	**Lienchiang**	**3.15**	**303**	*eP*	**Pn**	**12 02 18.7**	**+0.3**
	baz=302						
TWP	**Hsiaoliuchiu**	**3.15**	**228**	*eP*	**Pn**	**12 02 21.1**	**+2.6**
	baz=239						
VWUC	**VWUC**	**3.15**	**280**	P	**Pn**	**12 02 18.4**	**-0.1**
	baz=271						
VWUC				*eS*	**Sn**	**12 02 52.6**	**-2.3**
	baz=271						
HEN	**Hengchun**	**3.16**	**219**	*eP*	**Pn**	**12 02 19.4**	**+0.8**
	baz=218						
HEN				*eS*	**Sn**	**12 02 54.9**	**-0.3**
	baz=218						
PNG	**Penghu**	**3.17**	**254**	*eP*	**Pn**	**12 02 18.5**	**-0.2**
	baz=252						
PNG				*eS*	**Sn**	**12 02 54.8**	**-0.6**
	baz=252						
TWKBT	**Hengchun**	**3.17**	**217**	*eP*	**Pn**	**12 02 19.3**	**+0.5**
	baz=217						
TWKBT				*eS*	**Sn**	**12 02 55.2**	**-0.3**
	baz=217						
PHUB	**P'eng-hu**	**3.17**	**253**	P	**Pn**	**12 02 18.6**	**-0.1**
	baz=251						
PHUB				*eS*	**Sn**	**12 02 53.6**	**-1.9**
	baz=251						
TWK1	**Hengchun**	**3.17**	**217**	*eP*	**Pn**	**12 02 19.0**	**+0.2**
	baz=217						
TWK1				*eS*	**Sn**	**12 02 55.2**	**-0.4**
	baz=217						
WDGT	**Dungji**	**3.19**	**248**	P	**Pn**	**12 02 19.6**	**+0.6**
	baz=246						
WDGT				*eS*	**Sn**	**12 02 55.6**	**-0.2**
	baz=246						
VCHM	**Qimei**	**3.40**	**249**	*eP*	**Pn**	**12 02 22.5**	**+0.6**
	baz=247						
VCHM				*eS*	**Sn**	**12 03 00.4**	**-0.7**
	baz=247						
XPSS	**Dashiqiu**	**3.42**	**316**	*eP*	**Pn**	**12 02 22.2**	**+0.1**
	baz=315						
PTMZ	**Houxiangcun**	**3.45**	**280**	P	**Pn**	**12 02 22.5**	**-0.1**
	baz=269						
PTMZ				*eS*	**Sn**	**12 03 00.7**	**-1.7**
	baz=269						
LYJJ	**Jianjiangzhen**	**3.48**	**307**	P	**Pn**	**12 02 23.2**	**+0.3**
	baz=306						
MHZQ	**Yeshan**	**3.83**	**295**	*eP*	**Pn**	**12 02 27.9**	**+0.2**
	baz=285						
QZH	**Quanzhou**	**3.92**	**277**	⇓*i*P	**Pn**	**12 02 28.6**	**-0.3**
QZH				S	**Sn**	**12 03 10.0**	**-3.7**
QZH				*smax*	*smax*		
	comp=N,120nm,0.7s						
QZH				*smax*	*smax*		
	comp=E,96nm,0.9s						
KNM	**Kinmen**	**4.05**	**270**	*eP*	**Pn**	**12 02 31.8**	**+1.1**
	baz=269						
KNMB	**Chin-men Tao**	**4.09**	**270**	Pn	**Pn**	**12 02 30.7**	**-0.5**
AXDP	**Jialang**	**4.48**	**276**	P	**Pn**	**12 02 36.5**	**0.0**
	baz=276						
ZPLA	**Ao Xicun**	**4.71**	**264**	*eP*	**Pn**	**12 02 39.3**	**-0.5**
	baz=263						
JOW	**Kunigami**	**5.40**	**63**	P	**Pn**	**12 02 48.7**	**-0.5**
	30nm,0.3s,baz=149,slow=22,SNR=161						
JOW				S	**Sn**	**12 03 49.0**	**-1.0**
	9.7nm,0.3s,baz=144,slow=19,SNR=2.7						
JOW	**Kunigami**	**5.40**	**63**	P	**Pn**	**12 02 48.8**	**-0.5**
	baz=61						
JOW	**Kunigami**	**5.40**	**63**	Pn	**Pn**	**12 02 48.6**	**-0.5**
JOW				Sn	**Sn**	**12 03 50.0**	**0.0**
SZP	**Santa**	**7.27**	**199**	Sn	**Sn**	**12 04 37.0**	**+1.1**
JMZ	**Minamidaito 2**	**7.68**	**78**	Pn	**Pn**	**12 03 17.9**	**-2.4**
NJ2	**Nanjing**	**8.32**	**336**	*eP*	**Pn**	**12 03 29.0**	**-0.1**
NJ2				S	**Sn**	**12 05 02.6**	**+1.2**
NJ2				*pmax*	*pmax*		
	comp=Z,18nm,0.9s						
NJ2				*pmax*	*pmax*		
	comp=Z,110nm,3.5s						
NJ2				*smax*	*smax*		
	comp=N,53nm,1.5s						
NJ2				*smax*	*smax*		
	comp=E,61nm,1.0s						
NJ2				LR	LR		
	comp=Z,380nm,3.9s						
WHN	**Wuhan**	**9.67**	**310**	⇑P	**Pn**	**12 03 48.3**	**+0.8**
WHN				S	**Sn**	**12 05 35.3**	**+0.8**
WHN				*pmax*	*pmax*		
	comp=Z,46nm,0.8s						
WHN				LR	LR		
	comp=Z,710nm,7.8s						
JNU	**Nakatsue**	**11.09**	**37**	P	**Pn**	**12 04 09.1**	**+2.1**
	0.5nm,0.3s,baz=221,slow=9.3,SNR=3.0						
JNU	**Nakatsue**	**11.09**	**37**		**Pn**	**12 04 07.8**	**+0.8**
KSAR	**Wonju Array Be**	**13.60**	**17**	Pn	**Pn**	**12 04 43.5**	**+2.6**
KSRS	**Korea Array**	**13.62**	**17**	P	**Pn**	**12 04 42.3**	**+1.2**
	0.8nm,0.3s,baz=197,slow=12,SNR=36						
KSRS				LR	LR	12 09 31.5	
	comp=Z,66nm,19.7s,baz=180,slow=36						
KS19	**Wonju Array Si**	**13.65**	**17**	Pn	**P**	**12 04 44.9**	**-3.2**
GYA	**Guiyang**	**14.77**	**281**	*eP*	**Pn**	**12 04 57.6**	**+1.2**
GYA				pP	P	12 05 07.5	+6.8
GYA				S	**Sn**	**12 07 38.5**	**-0.6**
GYA				*pmax*	*pmax*		
	comp=Z,9.0nm,0.8s						
GYA				LR	LR		
	comp=Z,140nm,7.6s						
XAN	**Xi'an**	**15.43**	**311**	P	**P**	**12 05 07.4**	**-0.6**
XAN				*pmax*	*pmax*		
	comp=Z,44nm,1.2s						
XAN				*pmax*	*pmax*		
	comp=Z,120nm,3.5s						
XAN				LR	LR		
	comp=E,160nm,11.9s						
XAN	**Xi'an**	**15.43**	**311**	Pn	**Pn**	**12 05 05.8**	**+0.9**
XAN				IAmb	IAmb	12 05 09.9	
	comp=Z,66nm,1.3s						
MJAR	**Matsushiro Arr**	**17.82**	**44**	P	**P**	**12 05 34.0**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=225,slow=9.2,SNR=2.1						
MJAR				LR	LR	12 12 31.5	
	comp=Z,46nm,20.4s,baz=225,slow=37						
CD2	**Chengdu**	**18.08**	**295**	*eP*	**Pn**	**12 05 38.0**	**+0.3**
CD2				*pmax*	*pmax*		
	comp=E,10.0nm,0.5s						
KMI	**Kunming**	**18.29**	**276**	⇓P	**Pn**	**12 05 41.1**	**+0.6**
KMI				pP	pP	12 05 54.3	+0.3
KMI				PP	**sP**	**12 05 58.4**	**-4.4**
KMI				S	**Sn**	**12 08 59.5**	**-4.9**
KMI				sS	S	12 09 15.5	+11
KMI				SS	**SnSn**	**12 09 25.4**	**+6.3**
KMI				*pmax*	*pmax*		
	comp=E,7.0nm,0.5s						
KMI				LR	LR		
	comp=E,130nm,7.1s						
KMI				LR	LR		
	comp=E,140nm,8.0s						
KMI				LR	LR		
	comp=E,150nm,10.3s						
PANO	**Nakornpanom**	**18.56**	**250**	P	**Pn**	**12 05 50.5**	**+7.0**
	comp=Z,24µmcomp=Z,956nm,0.5s						
HHC	**Hu-ho-hao-te**	**18.85**	**333**	*eP*	**Pn**	**12 05 47.5**	**+0.5**
HHC				*pmax*	*pmax*		
	comp=E,18nm,0.8s						
HHC				*pmax*	*pmax*		
	comp=E,140nm,7.6s						
NONG	**Nongkai**	**19.46**	**255**	P	**Pn**	**12 05 58.6**	**+4.4**
	comp=Z,4µmcomp=Z,14nm,1.1s						
LZH	**Lanzhou**	**20.05**	**310**	*eP*	Pn	12 06 01.3	+0.1
LZH				sP	sP	12 06 23.1	+1.3
LZH				*pmax*	*pmax*		
	comp=E,14nm,1.3s						
MDJ	**Mudanjiang**	**20.80**	**14**	P	**P**	**12 06 07.8**	**+1.1**
MDJ				*pmax*	*pmax*		
	comp=E,7.0nm,0.7s						
MDJ				*pmax*	*pmax*		
	comp=E,150nm,5.4s						
USA0B	**Ussuriysk Arra**	**21.02**	**19**	P	**P**	**12 06 07.4**	**-1.7**
USRK	**Ussuriysk Ar.**	**21.02**	**19**	P	**P**	**12 06 06.7**	**-2.3**
	comp=Z,2.8nm,0.6s,baz=210,slow=11,SNR=9.5						
USRK				LR	LR	12 14 33.7	
	comp=Z,39nm,20.3s,baz=170,slow=37						
USRK	**Ussuriysk Ar.**	**21.02**	**19**	P	**P**	**12 06 08.3**	**-0.7**
CHAI	**Chaiyaphum**	**21.36**	**250**	P	**P**	**12 06 16.0**	**+3.0**
	comp=E,14nm,1.0s						
LAMP	**Lampang**	**22.41**	**259**	P	**P**		
	comp=E,12nm,0.8s						
CM33	**Chiang Mai Arr**	**22.93**	**260**	P	**P**	**12 06 32.0**	**+2.3**
CMMT	**Chiang Mai**	**22.93**	**260**	P	**P**	**12 06 32.1**	**+2.4**
	comp=Z,2.5nm,1.3s						
CM31	**Chiang Mai Arr**	**23.05**	**260**	P	**P**	**12 06 31.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**23.05**	**260**	P	**P**	**12 06 29.6**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=58,slow=8.1,SNR=9.9						
CMAR				LR	LR	12 15 35.6	
	comp=Z,64nm,19.2s,baz=162,slow=37						
CMAR	**Chiang Mai Arr**	**23.05**	**260**	P	**P**	**12 06 31.6**	**+0.8**
CM32	**Chiang Mai Arr**	**23.07**	**260**	P	**P**	**12 06 35.0**	**+3.9**
GTOI	**Gorontalo**	**23.72**	**180**	P	**P**	**12 06 36.9**	**-0.1**
	comp=Z,462nmcomp=Z,34nm,0.9s						
MRSI	**Marisa**	**23.90**	**182**	P	**P**	**12 06 42.0**	**+3.4**
	comp=Z,31nm,0.9s						
TNTI	**Ternate**	**23.98**	**169**	P	**P**	**12 06 40.4**	**+1.1**
TNTI				IAmb	IAmb	12 06 42.6	
	comp=E,30nm,1.0s						
SBUM	**Sibu**	**24.21**	**207**	P	**P**	**12 06 40.4**	**-1.1**
SBUM				IAmb	IAmb	12 06 43.2	
	comp=E,14nm,0.7s						
ASAJ	**Asahikawa**	**25.35**	**35**	P	**P**	**12 06 49.9**	**-1.7**
	comp=Z,2.2nm,0.4s,baz=242,slow=8.5,SNR=11						
ASAJ				LR	LR	12 17 09.1	
	comp=Z,36nm,18.2s,baz=175,slow=37						
JKA	**Kamikawa-asahi**	**25.35**	**35**	P	**P**	**12 06 49.9**	**-1.7**
KLR	**Kul'dur**	**25.65**	**14**	P	**P**	**12 06 53.2**	**-1.1**
	comp=Z,5.3nm,0.9s,baz=235,slow=7.0,SNR=14						
KLR				ScP	**ScP**	**12 13 53.2**	**-3.3**
	comp=Z,0.5nm,0.5s,baz=162,slow=3.2,SNR=4.1						
KLR				LR	LR	12 16 49.8	
	comp=Z,61nm,20.4s,baz=192,slow=36						
SONM	**Songino Array**	**26.71**	**335**	P	**P**	**12 07 02.4**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=150,slow=9.2,SNR=6.2						
SONM				pP	**pP**	**12 07 21.0**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=146,slow=8.9,SNR=9.0						
SONM				ScP	**ScP**	**12 13 57.1**	**-2.8**
	comp=Z,0.6nm,0.9s,baz=151,slow=3.4,SNR=4.1						
SONM				LR	LR	12 17 19.3	
	comp=Z,52nm,18.7s,baz=144,slow=36						
SONM	**Songino Array**	**26.71**	**335**	P	**P**	**12 07 04.3**	**+0.3**
MMRI	**Maumere**	**32.94**	**181**	P	**P**	**12 07 59.3**	**+0.1**
MMRI	**Maumere**	**32.94**	**181**	P	**P**	**12 08 00.7**	**+1.5**
	comp=Z,25nm,0.8s						
EDFI	**Ende, Flores**	**33.06**	**182**	P	**P**	**12 08 00.1**	**-0.3**
	comp=Z,24nm,0.8s						
SAUI	**Saumlaki**	**33.31**	**165**	P	**P**	**12 08 02.1**	**-0.4**
WMQ	**Urumqi**	**34.56**	**313**	*eP*	**P**	**12 08 15.1**	**+1.9**
WMQ				*pmax*	*pmax*		
	comp=E,16nm,0.9s						
WMQ				*pmax*	*pmax*		
	comp=Z,220nm,5.3s						
PETK	**Petropavlovsk-**	**38.75**	**33**	P	**P**	**12 08 45.7**	**-2.9**
	comp=Z,0.6nm,0.6s,baz=172,slow=3.0,SNR=5.7						
PETK				LR	LR	12 28 10.8	
	comp=Z,17nm,18.1s,baz=175,slow=41						
MK31	**Makanchi Array**	**39.20**	**315**	P	**P**	**12 08 52.4**	**-0.1**
MKAR	**Makanchi Array**	**39.20**	**315**	P	**P**	**12 08 50.9**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=102,slow=11,SNR=10						
MKAR				pP	**pP**	**12 09 09.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=100,slow=8.6,SNR=7.0						
MKAR	**Makanchi Array**	**39.20**	**315**	P	**P**	**12 08 52.4**	**0.0**
MAKZ	**Makanchi**	**39.40**	**315**	P	**P**	**12 08 53.8**	**-0.3**
ZALV	**Zalesovo Beam**	**40.83**	**326**	P	**P**	**12 09 05.4**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=120,slow=8.5,SNR=1.7						
ZALV				pP	**pP**	**12 09 22.0**	**-0.8**
	comp=Z,1.8nm,0.4s,baz=115,slow=8.9,SNR=3.1						
ZALV				LR	LR	12 26 41.6	
	comp=Z,46nm,19.4s,baz=109,slow=37						
PMG	**Port Moresby**	**41.20**	**142**	P	**P**	**12 09 10.0**	**+0.7**
PMG				IAmb	IAmb	12 09 16.6	
	comp=E,16nm,1.1s						
KSH	**Kashi**	**42.03**	**302**	*eP*	**P**	**12 09 19.8**	**+3.8**
KSH				*pmax*	*pmax*		
	comp=Z,15nm,1.5s						
FITZ	**Fitzroy Crossi**	**42.42**	**176**	P	**P**	**12 09 18.7**	**-0.4**
FITZ				IAmb	IAmb	12 09 20.2	
	comp=Z,11nm,1.0s						
KURBB	**Kurchatov Arra**	**42.87**	**319**	P	**P**	**12 09 21.6**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=103,slow=9.6,SNR=5.2						
KURBB				pP	**pP**	**12 09 40.5**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=115,slow=7.8,SNR=6.7						
COEN	**Coen**	**43.05**	**150**	P	**P**	**12 09 25.3**	**+0.9**
COEN				IAmb	IAmb	12 09 31.2	
	comp=Z,22nm,1.4s						
SEY	**Seymchan**	**43.17**	**19**	P	**P**	**12 09 22.8**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=245,slow=8.4,SNR=6.9						
WB0	**Warramunga Arr**	**45.41**	**165**	P	**P**	**12 09 43.5**	**+0.4**
WRAB	**Tennant Creek**	**45.55**	**165**	P	**P**	**12 09 44.6**	**+0.4**
WRA	**Warramunga Arr**	**45.56**	**165**	P	**P**	**12 09 44.6**	**+0.3**
	comp=Z,43nm,0.7s,baz=347,slow=8.8,SNR=309						
WRA	**Warramunga Arr**	**45.56**	**165**	P	**P**	**12 09 43.6**	**-0.7**
WB2	**Warramunga Arr**	**45.56**	**165**	P	**P**	**12 09 44.9**	**+0.6**
WR0	**Warramunga Arr**	**45.63**	**165**	P	**P**	**12 09 45.4**	**+0.6**
PSA00	**Pilbara Seismi**	**45.89**	**184**	P	**P**	**12 09 46.6**	**-0.2**
TIXI	**Tiksi**	**47.30**	**3**	P	**P**	**12 09 55.9**	**-1.4**
	comp=Z,1.8nm,0.4s,baz=194,slow=1.1,SNR=6.4						
AS31	**Alice Springs**	**49.06**	**167**	P	**P**	**12 10 12.3**	**+0.8**
AS31				IAmb	IAmb	12 10 15.6	
	comp=Z,4.4nm,0.5s						
ASAR	**Alice Springs**	**49.06**	**167**	P	**P**	**12 10 12.1**	**+0.6**
	comp=Z,11nm,0.9s,baz=348,slow=10,SNR=133						
ASAR	**Alice Springs**	**49.06**	**167**	P	**P**	**12 10 12.5**	**+1.1**
ABKAR	**Akbulak array**	**54.33**	**314**	P	**P**	**12 10 49.3**	**-1.1**
FORT	**Forrest**	**55.19**	**175**	P	**P**	**12 10 57.1**	**+0.4**
EIDS	**Eidsvold**	**56.59**	**149**	P	**P**	**12 11 07.6**	**+0.7**
EIDS				IAmb	IAmb	12 11 10.2	
	comp=Z,15nm,1.4s						
NWAO	**Narrogin (SRO)**	**57.36**	**186**	P	**P**	**12 11 12.4**	**+0.2**
	comp=Z,9.6nm,0.7s,baz=28,slow=6.1,SNR=7.3						
NWAO	**Narrogin (SRO)**	**57.36**	**186**	P	**P**	**12 11 12.7**	**+0.5**
BBOO	**Buckleboo**	**58.36**	**167**	P	**P**	**12 11 19.5**	**+0.3**
STKA	**Stephens Creek**	**58.84**	**161**	P	**P**	**12 11 22.9**	**+0.3**
	comp=Z,5.2nm,0.5s,baz=343,slow=6.4,SNR=13						
STKA	**Stephens Creek**	**58.84**	**161**	P	**P**	**12 11 23.2**	**+0.6**
CAN	**Canberra**	**64.43**	**156**	P	**P**	**12 12 01.4**	**+1.1**
TOO	**Toolangi**	**65.30**	**160**	P	**P**	**12 12 06.9**	**+1.1**
TOO				IAmb	IAmb	12 12 28.9	
	comp=Z,22nm,1.2s						
TOLK	**Toolik Lake Re**	**66.55**	**24**	P	**P**	**12 12 14.5**	**+1.0**
SUA	**Susitna One**	**67.09**	**31**	P	**P**	**12 12 17.0**	**-0.2**
SUA				IAmb	IAmb	12 12 40.1	
	comp=Z,26nm,1.4s						
RND	**Reindeer**	**67.63**	**29**	P	**P**	**12 12 19.2**	**-1.3**
RND				IAmb	IAmb	12 12 20.7	
	comp=Z,4.2nm,0.8s						
MSVF	**Nonsavu**	**68.22**	**123**	LR	LR	12 39 26.0	
	comp=Z,37nm,18.3s,baz=186,slow=33						
ILAR	**Eielson Array**	**68.23**	**27**	P	**P**	**12 12 23.1**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=290,slow=7.1,SNR=8.2						
ILAR	**Eielson Array**	**68.23**	**27**	P	**P**	**12 12 22.5**	**-1.6**
BMAR	**Burnt Mountain**	**68.61**	**24**	P	**P**	**12 12 26.3**	**-0.2**
SCM	**Sheep Creek Mo**	**68.62**	**31**	P	**P**	**12 12 25.2**	**-1.5**
SCM				IAmb	IAmb	12 12 33.8	
	comp=Z,20nm,1.4s						
GLB	**Gilahina Butte**	**70.35**	**31**	P	**P**	**12 12 37.6**	**+0.3**
GLB				IAmb	IAmb	12 12 52.3	
	comp=Z,13nm,1.4s						
EGAK	**Eagle**	**70.61**	**27**	P	**P**	**12 12 37.9**	**-0.9**
BCAR	**Beaver Creek A**	**70.82**	**29**	P	**P**	**12 12 39.7**	**-0.5**
DAWY	**Dawson**	**71.55**	**27**	P	**P**	**12 12 44.7**	**+0.1**
FINES	**FINESS Array B**	**71.95**	**330**	P	**P**	**12 12 44.8**	**-2.1**
	comp=Z,0.9nm,0.6s,baz=46,slow=5.5,SNR=5.2						
FINES	**FINESS Array B**	**71.95**	**330**	P	**P**	**12 12 45.5**	**-1.4**
INK	**Inuvik**	**72.35**	**22**	P	**P**	**12 12 48.7**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=262,slow=6.2,SNR=3.5						
BRTR	**Keskin Array B**	**74.22**	**307**	pP	pP	12 13 19.2	-0.3
	comp=Z,0.8nm,0.8s,baz=61,slow=2.6,SNR=2.8						
DLBC	**Dease Lake**	**77.89**	**31**	P	**P**	**12 13 21.3**	**0.0**
	comp=Z,2.3nm,1.0s,baz=259,slow=6.0,SNR=2.5						
DLBC	**Dease Lake**	**77.89**	**31**	P	**P**	**12 13 22.1**	**+0.8**
DLBC				IAmb	IAmb	12 13 47.3	
	comp=Z,8.6nm,1.4s						
URZ	**Urewera**	**80.51**	**140**	P	**P**	**12 13 35.4**	**-0.3**
BKZ	**Black Stump Fm**	**80.75**	**141**	P	**P**	**12 13 36.9**	**-0.1**
BKZ				IAmb	IAmb	12 13 57.9	
	comp=Z,25nm,1.5s						
YKA	**Yellowknife Ar**	**82.08**	**23**	P	**P**	**12 13 43.1**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=317,slow=4.5,SNR=16						
B08A	**Colville Reser**	**88.63**	**36**	P	**P**	**12 14 16.9**	**+0.2**
B08A				IAmb	IAmb	12 14 18.1	
	comp=Z,7.4nm,0.8s						
E07A	**Sunnyside**	**89.41**	**38**	P	**P**	**12 14 21.0**	**+0.7**
E07A				IAmb	IAmb	12 14 22.0	
	comp=Z,11nm,1.1s						
C09A	**Chrisman Ranch**	**89.53**	**36**	P	**P**	**12 14 20.4**	**-0.5**
D08A	**Wollman Farm,**	**89.63**	**37**	P	**P**	**12 14 20.6**	**-0.8**
D08A				IAmb	IAmb	12 14 22.6	
	comp=Z,6.6nm,0.7s						
NEW	**Newport**	**89.86**	**35**	P	**P**	**12 14 22.3**	**-0.1**
	comp=Z,5.7nm,0.8s,baz=290,slow=3.5,SNR=13						
NEW	**Newport**	**89.86**	**35**	P	**P**	**12 14 22.1**	**-0.4**
NEW				IAmb	IAmb	12 14 24.1	
	comp=Z,7.4nm,0.9s						
E09A	**Wood Farm, Sta**	**90.38**	**37**	P	**P**	**12 14 25.1**	**+0.2**
E09A				IAmb	IAmb	12 14 26.4	
	comp=Z,5.4nm,0.9s						
WALA	**Waterton Lakes**	**91.01**	**33**	P	**P**	**12 14 27.6**	**-0.3**
WALA				IAmb	IAmb	12 14 29.5	
	comp=Z,7.5nm,1.1s						
JTMT	**Jette**	**91.67**	**35**	P	**P**	**12 14 31.5**	**+0.5**
JTMT				IAmb	IAmb	12 14 32.3	
	comp=Z,3.3nm,0.8s						
BMO	**Blue Mountains**	**91.86**	**38**	P	**P**	**12 14 31.9**	**0.0**
BMO				IAmb	IAmb	12 14 32.9	
	comp=Z,3.0nm,0.9s						
MOD	**Modoc Plateau**	**91.86**	**42**	P	**P**	**12 14 32.2**	**+0.2**
MOD				IAmb	IAmb	12 14 33.4	
	comp=Z,4.1nm,0.8s						
J08A	**Circle Bar Ran**	**92.09**	**40**	P	**P**	**12 14 33.5**	**+0.5**
J08A				IAmb	IAmb	12 14 34.6	
	comp=Z,4.6nm,0.7s						
WVOR	**Wild Horse Val**	**92.55**	**41**	P	**P**	**12 14 35.7**	**+0.5**
WVOR				IAmb	IAmb	12 14 36.1	
	comp=Z,2.2nm,0.9s						
MFID	**Camas Ranch**	**93.58**	**39**	P	**P**	**12 14 39.9**	**0.0**
MFID				IAmb	IAmb	12 14 41.9	
	comp=Z,3.3nm,0.9s						
VCNR	**Virginia City**	**93.79**	**44**	P	**P**	**12 14 40.3**	**-0.8**
VCNR				IAmb	IAmb	12 14 42.8	
	comp=Z,2.3nm,0.9s						
HLID	**Hailey**	**94.29**	**38**	P	**P**	**12 14 44.5**	**+1.3**
HLID				IAmb	IAmb	12 14 47.2	
	comp=Z,2.3nm,1.0s						
NVAR	**Mina Array Bea**	**95.15**	**44**	P	**P**	**12 14 46.1**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=304,slow=5.2,SNR=12						
NVAR	**Mina Array Bea**	**95.15**	**44**	P	**P**	**12 14 46.2**	**-1.1**

RSPR ***20*** *12:18:56.9, 19°.04N×64°.20W, h9km±17km, MD4.0/13*
BGR ***20*** *12:18:57.1±0.0, 19°.08N×64°.45W, h33km, mb4.8*
IDC ***20*** *12:18:57.5±2.7, 18°.87N×64°.29W, h33km±21km, mb4.0/23, mb1 4.2/28, mb1mx4.1/43, mbtmp4.3/28, ML4.4/5, MS3.6/26, Ms1 3.6/26, ms1mx3.5/38, Error ellipse: s-maj=12.5km s-min=11.3km az=50.0*
NEIC ***20*** *12:18:60.0±2.8, 18°.98N±0°.07×64°.29W±0°.05, h52km±6km, Error ellipse: s-maj=10.0km s-min=7.1km az=193.0*

ISC 20 12:18:57.2±1.7**, 18°.94N**±0°.04×**64°.28W**±0.03**, h30**km±12km**,

SJG eS Sn 12 19 53.3 +1.2
IGPR InterUniversit 1.99 241 eP Pn 12 19 29.6 +0.7
IGPR InterUniversit 1.99 241 eS Sn 12 19 54.6 +1.8
IGPR InterUniversit 1.99 241 Pn 12 19 29.6 +0.7
IGPR IAML 12 20 00.6
comp=E,11µm,0.3s
SKI Saint Kitts 2.17 137 eP Pn 12 19 32.5 +1.2
SKI eS Sn 12 19 60.0 +2.7
SKI Saint Kitts 2.17 137 Pn 12 19 33.1 +1.8
EMPR Esperanza - Ma 2.19 258 eP Pn 12 19 32.1 +0.6
EMPR Esperanza - Ma 2.19 258 eS Sn 12 19 59.0 +1.4
EMPR Esperanza - Ma 2.19 258 Pn 12 19 32.2 +0.6
EMPR Sn 12 20 00.5 +2.9
EMPR IAML 12 20 08.8
comp=N,8µm,0.8s
SKOC St. Kitts, UWI 2.20 138 eP Pn 12 19 31.0 -0.8
SKOC eS Sn 12 19 56.6 -1.4
CELP Cerrillos 2.35 249 eP Pn 12 19 34.5 +0.7
CELP eS Sn 12 20 03.9 +2.1
CELP Cerrillos 2.35 249 eP Pn 12 19 34.5 +0.7
CELP Cerrillos 2.35 249 Pn 12 19 34.5 +0.7
CELP Sn 12 20 03.9 +2.1
ICMP Isla Caja de M 2.38 244 Pn 12 19 35.6 +1.4
OBIP Obispado Ponce 2.39 248 Pn 12 19 33.9 -0.4
AOPR Arecibo Observ 2.42 256 eP Pn 12 19 35.2 +0.4
AOPR Arecibo Observ 2.42 256 eP Pn 12 19 35.3 +0.4
AOPR eS Sn 12 20 04.3 +0.7
AOPR eS Sb 12 20 05.6 -4.1
AOPR Arecibo Observ 2.42 256 eP Pn 12 19 35.3 +0.4
AOPR Arecibo Observ 2.42 256 Pn 12 19 35.5 +0.7
AOPR Sn 12 20 05.9 +2.4
GBPR Guanica, Bosqu 2.65 249 eP Pn 12 19 39.3 +1.3
GBPR eS Sn 12 20 11.2 +2.0
GBPR Guanica, Bosqu 2.65 249 eP Pn 12 19 39.3 +1.3
GBPR Guanica, Bosqu 2.65 249 Pn 12 19 39.3 +1.3
GBPR Sn 12 20 11.2 +2.0
ANWB Willy Bob 2.68 118 eP Pn 12 19 38.2 -0.2
ANWB eS Sn 12 20 14.4 +4.4
ANWB Willy Bob 2.68 118 Pn Pn 12 19 38.3 -0.2
AGPR Aguadilla, PR 2.73 260 eP Pn 12 19 39.0 0.0
AGPR eS Sn 12 20 12.6 +1.6
AGPR Aguadilla, PR 2.73 260 eP Pn 12 19 39.0 0.0
AGPR Aguadilla, PR 2.73 260 Pn 12 19 39.3 +0.2
AGPR Sn 12 20 12.9 +1.9
AGPR IAML 12 20 22.5
comp=E,3µm,0.4s
AGPR IAML 12 20 31.5
comp=N,4µm,0.5s
LSP Las Mesas 2.77 254 eP Pn 12 19 40.3 +0.7
LSP eS Sn 12 20 14.4 +2.2
LSP Las Mesas 2.77 254 eP Pn 12 19 40.3 +0.7
LSP Las Mesas 2.77 254 Pn 12 19 40.3 +0.7
LSP Sn 12 20 14.4 +2.2
MLPR Magueyes Islan 2.80 250 eP Pn 12 19 41.1 +1.2
MLPR Magueyes Islan 2.80 250 eS Sn 12 20 15.0 +2.2
MLPR Magueyes Islan 2.80 250 Pn Pn 12 19 41.2 +1.2
MLPR Sn 12 20 16.6 +3.8
MLPR IAML 12 20 25.6
comp=N,2µm,0.7s
MLPR IAML 12 20 30.0
comp=E,2µm,0.5s
MPR Mayaguez 2.81 255 Pn 12 19 41.1 +0.9
MPR IAML 12 20 28.7
comp=N,2µm,0.9s
MLYT Lee's Yard 2.97 138 eP Pn 12 19 42.8 +0.4
MLYT eS Sn 12 20 18.6 +1.6
BPA Boggy Peak 2.98 129 eP Pn 12 19 43.0 +0.5
BPA eS Sn 12 20 18.7 +1.5
ANBD Bethesda, Anti 3.04 128 eP Pn 12 19 44.2 +0.8
ANBD eS Sn 12 20 18.5 -0.3
ABD La Joyeuse, An 3.62 132 eP Pn 12 19 52.8 +1.5
ABD eS Sn 12 20 36.0 +3.1
CBE Ff, Capester 3.83 138 eP Pn 12 19 56.9 +2.7
CBE Ff, Capester 3.83 138 eS Sn 12 20 44.6 +6.4
TBG Guadaloupe-3 3.97 140 eP Pn 12 19 58.3 +2.2
TBG Guadaloupe-3 3.97 140 eS Sn 12 20 47.8 +6.2
TDBA Terre de Bas, 3.98 140 eP Pn 12 19 58.3 +2.1
TDBA Terre de Bas, 3.98 140 eS Sn 12 20 45.8 +3.9
DEG La Desirade 4.03 130 eP Pn 12 19 54.8 -2.2
H05N1 Guadeloupe/Mar 4.03 130 Pn Pn 12 19 57.4 +0.4
H05N1 Sn Sn 12 20 46.0 +2.8
SNR=507
MAGL Barre de l'ile 4.13 136 eP Pn 12 19 59.9 +1.6
MAGL Barre de l'ile 4.13 136 eS Sn 12 20 46.7 +1.1
DSLB Salisbury 4.43 142 eP Pn 12 20 04.8 +2.4
DSLB Salisbury 4.43 142 eS Sn 12 20 56.5 +3.5
DLPL La Plaine 4.61 141 eP Pn 12 20 09.6 +4.6
DLPL La Plaine 4.61 141 eS Sn 12 20 57.6 +0.1
DLPL La Plaine 4.61 141 Pn Pn 12 20 57.0 +0.1
DR12 Loma Pena Alta 4.84 269 Pn Pn 12 20 10.5 +2.4
FDF Fort de France 5.15 144 eP Pn 12 20 15.4 +3.1
FDF Fort de France 5.15 144 eS Sn 12 21 16.5 +5.7
FDF Fort de France 5.15 144 Pn Pn 12 20 16.2 +3.8
FDF IAML 12 22 01.5
comp=N,319nm,0.8s
ILAM Ilet Lapin Mar 5.27 141 eP Pn 12 20 15.6 +1.6
ILAM Ilet Lapin Mar 5.27 141 eS Sn 12 21 12.5 -1.3
SDD Santo Domingo 5.37 266 Pn Pn 12 20 16.9 +1.6
MPOM Morne Pois Mar 5.54 143 eP Pn 12 20 20.8 +3.1
MPOM Morne Pois Mar 5.54 143 eS Sn 12 21 24.4 +3.9
H05S1 Guadeloupe/Mar 5.57 143 Pn Pn 12 20 19.1 +1.0
SNR=106
H05S1 Sn Sn 12 21 23.6 +2.4
BANI BANI 5.79 266 Pn Pn 12 20 23.7 +2.4
SLBI Saint Lucia, B 5.83 147 eP Pn 12 20 23.7 +2.1
SLBI Saint Lucia, B 5.83 147 eS Sn 12 21 22.8 -4.7
SLB Belfond 5.96 148 eP Pn 12 20 24.1 +0.6
MCLT Moule a Chique 6.11 148 eP Pn 12 20 29.0 +3.5
MCLT Moule a Chique 6.11 148 Pn Pn 12 20 29.8 +4.2
SC01 Santiago de lo 6.12 276 Pn 12 20 27.4 +1.7
SVB Belmont 6.34 152 Pn 12 20 30.8 +2.1
SDDR Presa de Saban 6.64 271 eP Pn 12 20 33.2 +0.4
SDDR Presa de Saban 6.64 271 eS Sn 12 21 50.5 +3.0
SDDR Presa de Saban 6.64 271 Pn 12 20 33.6 +0.7
SDDR Presa de Saban 6.64 271 eP Pn 12 20 33.3 +0.5
GCMP Grenada, Carri 6.98 156 eP Pn 12 20 38.6 +1.1
GRGR Grenville 7.23 159 eP Pn 12 20 43.1 +2.2
GRGR Grenville 7.23 159 Pn Pn 12 20 42.9 +1.9
LGNH Logne 7.91 268 Pn 12 20 51.0 +0.8
PCRV Puerto La Cruz 8.72 182 Pn Pn 12 21 00.3 -1.1
comp=N,5.5nm,0.3s,baz=67,slow=1.5,SNR=26
PCRV Sn Sn 12 22 32.1 -6.8
comp=N,1.9nm,0.3s,baz=42,slow=3.8,SNR=3.0
GTBY Guantanamo Bay 10.27 277 Pn Pn 12 21 20.6 -2.1
URIC Uribia, Colomb 10.35 227 eP Pn 12 21 18.7 -5.1
URIC eS Sn 12 22 59.4 -19
CRJC Cerrejon, Guaj 11.45 228 eP Pn 12 21 36.1 -2.7
CRJC eS Sn 12 23 26.0 -20
SDV Santo Domingo 11.75 213 Pn Pn 12 21 43.4 +0.4
comp=N,9.5nm,0.3s,baz=51,slow=9.3,SNR=24
SDV Sn Sn 12 23 51.2 -2.1
comp=N,3.8nm,0.3s,baz=260,slow=16,SNR=3.8
SDV LR LR 12 26 37.3
comp=N,276nm,19.5s,baz=60,slow=39
SDV Santo Domingo 11.75 213 Pn 12 21 44.4 +1.4
SDV Santo Domingo 11.75 213 eP Pn 12 21 45.3 +2.3
SDV Santo Domingo 11.75 213 eP Pn 12 21 44.5 +1.4
MTDJ Mount Denham 12.59 269 Pn Pn 12 21 53.2 -1.4
OCAC Ocana 13.79 221 eP Pn 12 22 09.4 -1.6
SMLC San Martn de 13.85 225 eP Pn 12 22 07.6 -4.0
SJCC San Jacinto, C 13.86 231 eP Pn 12 22 09.5 -2.4
PAMC Pamplona, Colo 14.15 216 eP Pn 12 22 16.6 +0.5
CBCY The Bluff, Cay 14.64 276 Pn 12 22 21.7 -0.6
BRRC Barranca, Sant 14.92 219 eP Pn 12 22 25.9 -0.3
LCCY Blossom Villag 14.94 275 Pn Pn 12 22 25.6 -0.8
MOTC Monteria, Cord 14.97 229 eP Pn 12 22 25.2 -1.7
BARC Barichara 15.03 216 eP Pn 12 22 28.5 +0.6
ZARC Zaragoza, Cauc 15.34 223 eP Pn 12 22 29.5 -2.3
RUSC La Rusia 15.55 215 eP Pn 12 22 35.1 +0.1
UREC San Jos de Ur 15.60 226 eP Pn 12 22 35.8 +0.6
PTBC PUERTO BERRIO, 15.82 220 eP Pn 12 22 36.8 -1.2
WBCY West Bay, Gran 16.18 274 Pn Pn 12 22 42.9 +0.3
WBCY IAmb IAmb 12 22 51.1
comp=Z,71nm,1.0s
SPBC San Pablo de B 16.30 217 eP Pn 12 22 44.7 +0.5
DBBC Dabeiba 16.59 226 eP Pn 12 22 47.3 -0.5
HELC Santa Helena 16.76 222 eP Pn 12 22 50.4 +0.1
NORC Norcasia 16.84 219 eP Pn 12 22 51.2 +0.2
061Z Ochoppi 16.84 297 Pn 12 22 50.4 -0.5
BOAV Boa Vista 16.85 167 eP Pn 12 22 51.8 +0.7
ROSC El Rosal 17.11 216 P Pn 12 22 55.5 +0.9
comp=Z,30nm,0.3s,baz=229,slow=1.5,SNR=18
ROSC LR LR 12 30 09.5
comp=Z,612nm,20.3s,baz=48,slow=39
ROSC El Rosal 17.11 216 Pn **P** **12 22 57.9 +1.8**
ROSC El Rosal 17.11 216 eP **P** **12 22 57.6 +1.5**
CBOC Ciudad Bolivar 17.32 223 eP Pn **12 22 57.5 +0.5**
GUY2C Guyana, Caldas 17.41 220 eP Pn **12 22 57.2 -1.3**
PTAC Punta Ardita, 17.63 230 eP Pn **12 23 01.7 +0.9**
RREF El Recreo 17.65 219 eP Pn **12 23 01.9 +0.2**
MDP Montagnes des 17.84 139 P Pn **12 23 02.6 -0.8**
comp=Z,0.9nm,0.3s,baz=276,slow=18,SNR=1.4
MDP LR LR 12 30 52.4
comp=Z,98nm,20.4s,baz=316,slow=40
TOLC Tolima 17.89 218 eP Pn **12 23 05.2 +1.0**
SOR Soroa 17.92 286 Pn **P** **12 23 05.5 +0.8**
BCIP Isla Barro Col 17.94 239 Pn Pn **12 23 04.7 +0.1**
BCIP IAmb IAmb 12 23 16.8
comp=Z,31nm,0.9s
BCIP Isla Barro Col 17.94 239 eP Pn **12 23 02.8 -1.8**
SOLC Bahia Solano 17.98 227 eP **P** **12 23 07.7 +2.3**
ANIL Santa Ana 18.01 218 eP Pn **12 23 05.7 -0.1**
DWPF Disney Wildern 18.17 303 Pn **P** **12 23 07.8 +0.4**
DWPF Disney Wildern 18.17 303 S 12 26 15.0
baz=116
PLMC San Jos del P 18.22 222 eP **P** **12 23 08.8 +0.7**
PRAC Prado 18.35 216 eP **P** **12 23 09.3 -0.3**
ORTC Ortega, Tolima 18.39 217 eP **P** **12 23 10.7 +0.7**
YOTC Yotoco, Valle 18.98 220 eP **P** **12 23 15.7 -0.9**
MALC Bahia Malaga 19.57 222 eP Pn **12 23 26.7 +2.3**
MARP Paez Belalcaza 19.66 217 eP **P** **12 23 24.1 -0.1**
X60A Albert Glenn T 19.77 325 S 12 26 51.0
baz=138
GARC Garzon, Huila 19.95 215 eP **P** **12 23 27.1 -0.2**
V61A Roper 19.99 330 P Pn **12 23 29.8 +0.6**
PTGA Pitinga 20.00 167 P **P** **12 23 26.2 -1.5**
comp=Z,2.1nm,0.3s,baz=316,slow=22,SNR=10
PTGA LR LR 12 31 04.9
comp=Z,141nm,19.4s,baz=42,slow=36
PTGA Pitinga 20.00 167 P **P** **12 23 27.6 0.0**
PTGA Pitinga 20.00 167 eP **P** **12 23 26.1 -1.5**
CNNC Cliffs of the 20.22 326 S 12 27 04.5
baz=140
POPC Popayan, Colom 20.33 218 eP **P** **12 23 30.5 -0.8**
PCON Cinco Dias 20.34 217 eP **P** **12 23 32.3 +0.5**
SOTA Rioblanco 20.61 217 eP **P** **12 23 34.0 -0.7**
PEZE Perez Zeledon, 21.06 246 P **P** **12 23 40.0 +0.8**
BBAC Balboa, Cauca 21.08 219 eP **P** **12 23 38.5 -0.9**
ACON Acoyapa 21.29 254 P **P** **12 23 41.7 +0.2**
BOAB BOAO4 BROADBAN 21.57 256 P **P** **12 23 44.4 -0.1**
JTS Las Juntas de 21.76 250 P **P** **12 23 45.1 -1.6**
comp=Z,9.0nm,0.6s,baz=127,slow=5.9,SNR=4.8
JTS LR LR 12 31 59.0
comp=Z,106nm,18.7s,baz=136,slow=36
JTS Las Juntas de 21.76 250 P **P** **12 23 46.5 -0.1**
JTS IAmb IAmb 12 24 05.9
comp=Z,19nm,0.9s
TEIG Tepich 22.65 277 LR LR 12 32 57.9
comp=Z,127nm,21.1s,baz=102,slow=37
BLA Blacksburg 23.05 325 P **P** **12 24 01.7 +1.5**
OTAV Otavalo 23.22 218 P **P** **12 24 04.2 +1.7**
OTAV IAmb IAmb 12 24 10.1
comp=Z,14nm,0.7s
OTAV Otavalo 23.22 218 eP **P** **12 24 01.7 -0.8**
OTAV Otavalo 23.22 218 eP **P** **12 24 02.9 +0.4**
TKL Tuckaleechee C 23.95 318 LR LR 12 31 58.4
comp=Z,107nm,20.9s,baz=140,slow=32
MTO3 Montecristo 24.44 263 P **P** **12 24 14.9 +1.0**
MTO3 IAmb IAmb 12 24 29.9
comp=Z,13nm,0.8s
Q54A Coxs Mills 24.59 328 P **P** **12 24 14.0 -0.8**
Q54A IAmb IAmb 12 25 05.6
comp=Z,34nm,1.4s
APG El Apazote 25.34 265 P **P** **12 24 22.2 +0.2**
comp=Z,9.6nm,0.6s,baz=90,slow=4.8,SNR=14
APG LR LR 12 34 44.2
comp=Z,139nm,19.6s,baz=90,slow=37
PLAL Pickwick Lake 26.45 312 P **P** **12 24 32.2 +0.5**
PLAL IAmb IAmb 12 25 20.2
comp=Z,7.7nm,0.8s
CCIG Comitan 26.68 269 P **P** **12 24 34.1 +0.1**
NPGB Novo Progresso 27.28 160 eP **P** **12 24 39.2 0.0**
SAML Samuel 27.74 178 P **P** **12 24 42.6 -0.7**
SAML IAmb IAmb 12 24 51.0
comp=Z,5.9nm,0.8s
SAML Samuel 27.74 178 eP **P** **12 24 41.7 -1.6**
CZSB Cruzeiro do Su 27.78 198 eP **P** **12 24 44.1 +0.4**
SADO Sadowa 28.58 338 LR LR 12 36 32.7
comp=Z,98nm,18.8s,baz=197,slow=37
CMIG Matias Romero 29.15 271 LR LR 12 36 26.0
comp=Z,80nm,19.8s,baz=62,slow=36
ATAH Atahualpa 29.42 210 P **P** **12 24 58.4 -0.4**
comp=Z,6.4nm,0.9s,baz=108,slow=20,SNR=3.1
W41B Garwity, V 29.56 309 P 12 24 59.4
baz=116
X40A Basin Creek Fa 29.70 307 P 12 25 01.1
baz=114
FCAR Ozark Folk Cen 29.79 310 P **P** **12 25 01.6 +0.2**
FCAR IAmb IAmb 12 25 18.0
comp=Z,9.3nm,1.2s
U40A Yellville 30.52 311 P 12 25 08.2
baz=117
W39A Magazine 30.71 308 P 12 25 10.4
baz=114
SMTB Santa Maria do 32.16 148 eP **P** **12 25 23.8 +1.3**
NBPS Pedro II - PI 32.30 134 eP **P** **12 25 25.3 +1.4**
TUL1 Leonard 32.49 308 P 12 25 25.9
baz=113
NNA Nana 33.14 203 P **P** **12 25 28.7 -2.4**
SNDB Serra Nova Dou 33.28 156 eP **P** **12 25 33.1 +0.8**
833A Chaparral WMA, 33.40 293 P 12 25 33.3
baz=98
JCT Junction City 34.12 297 P 12 25 39.1
baz=101
WMOK Wichita Mounta 34.37 304 P **P** **12 25 41.1 -0.6**
WMOK Wichita Mounta 34.37 304 P 12 25 41.1
baz=108
ABTX Abilene, Hawle 34.47 300 P 12 25 42.8
baz=104
PTLB Pontes e Lacer 34.55 171 eP **P** **12 25 43.0 -0.2**
LPAZ La Paz 35.22 186 P **P** **12 25 49.6 -0.2**
comp=Z,1.6nm,0.5s,baz=188,slow=7.5,SNR=7.1
LPAZ LR LR 12 41 03.1
comp=Z,53nm,19.1s,baz=54,slow=38
LPAZ La Paz 35.22 186 P P 12 25 43.8 -6.0
LPAZ La Paz 35.22 186 eP **P** **12 25 49.6 -0.2**
ECSD EROS Data Cent 36.68 320 P **P** **12 26 01.2 -0.2**
ECSD EROS Data Cent 36.68 320 P 12 26 01.2
baz=122
AMTX Amarillo 36.69 303 P **P** **12 26 01.7 -0.1**
AMTX Amarillo 36.69 303 P 12 26 01.5
baz=106
TXAR Lajitas Array 37.25 294 P **P** **12 26 06.7 +0.1**
comp=Z,3.8nm,0.6s,baz=112,slow=10,SNR=58
TXAR PcP **PcP** **12 28 26.9 +0.9**
comp=Z,1.4nm,0.6s,baz=115,slow=4.8,SNR=7.4
TXAR ScP **ScP** **12 32 10.8 -0.3**
comp=Z,0.4nm,0.7s,baz=100,slow=3.7,SNR=4.4
TXAR LR LR 12 45 45.9
comp=Z,45nm,20.4s,baz=0.0,slow=43
TXAR Lajitas Array 37.25 294 P **P** **12 26 07.0 +0.4**
TX31 Lajitas Ar. Si 37.25 294 P **P** **12 26 06.7 +0.1**
TX32 Lajitas Array 37.25 294 P **P** **12 26 06.5 0.0**
TX32 IAmb IAmb 12 26 09.0
comp=Z,5.3nm,0.7s
MSTX Muleshoe 37.34 301 P 12 26 06.8
baz=104
BDFB Brasilia 37.91 154 P **P** **12 26 11.9 -0.3**
comp=Z,2.1nm,0.5s,baz=36,slow=4.9,SNR=4.2
MNMC Minye Minye 38.20 188 P **P** **12 26 12.5 -2.2**
MNMC IAmb IAmb 12 26 36.8
comp=Z,15nm,1.1s
KSCO Kaye Shedlock' 38.69 309 P **P** **12 26 17.1 -1.4**
KSCO Kaye Shedlock' 38.69 309 P 12 26 17.8
baz=110
AGMN Agassiz Nation 38.87 326 P **P** **12 26 18.9 -0.9**
AGMN Agassiz Nation 38.87 326 P 12 26 18.7
baz=128
MNTX Cornudas Mount 39.05 297 P **P** **12 26 22.1 +0.5**
MNTX Cornudas Mount 39.05 297 P 12 26 21.4
baz=99
PB08 IPOC Station P 39.14 187 P **P** **12 26 20.3 -2.5**
PB08 IAmb IAmb 12 26 31.8
comp=Z,10nm,0.6s
T25A Trinidad 39.44 306 P **P** **12 26 24.6 -0.4**
T25A IAmb IAmb 12 26 26.9
comp=Z,9.7nm,1.0s
T25A Trinidad 39.44 306 P 12 26 25.1
baz=106,SNR=5.8
PB01 IPOC Station P 40.07 188 P **P** **12 26 27.3 -2.8**
PB01 IAmb IAmb 12 26 29.3
comp=Z,12nm,0.8s
ULM Lac du Bonnet 40.10 329 P **P** **12 26 28.7 -1.3**
comp=Z,3.3nm,0.6s,baz=164,slow=8.7,SNR=6.8
ULM LR LR 12 45 31.0
comp=Z,54nm,18.2s,baz=98,slow=40
ULM Lac du Bonnet 40.10 329 P **P** **12 26 29.2 -0.8**
ULM IAmb IAmb 12 27 28.0
comp=Z,26nm,1.8s
BNM Barren Site 40.50 301 P **P** **12 26 35.2 +1.3**
ANMO Albuquerque 40.52 302 P **P** **12 26 34.8 +0.8**
ANMO Albuquerque 40.52 302 P 12 26 34.5
baz=102
Q24A Divide 40.53 308 P 12 26 33.5
baz=108
PB07 IPOC Station P 40.79 188 P **P** **12 26 33.5 -2.8**
ISCO Idaho Springs 41.13 309 P **P** **12 26 39.6 +0.5**
ISCO Idaho Springs 41.13 309 P 12 26 38.6
baz=108,SNR=5.1
121A Cookes Peak, D 41.19 298 P 12 26 40.9
baz=98
S22A 4UR Ranch, Cre 41.46 306 P 12 26 42.8
baz=105
PHWY Pilot Hill 41.51 312 P **P** **12 26 42.9 +0.8**
PHWY IAmb IAmb 12 26 43.5
comp=Z,25nm,1.9s
LVC Limon Verde 41.55 186 P **P** **12 26 39.9 -2.8**
comp=Z,4.6nm,0.5s,baz=13,slow=2.9,SNR=6.0
LVC Limon Verde 41.55 186 IAmb IAmb 12 26 42.0
comp=Z,15nm,1.4s
N23A Red Feather La 41.72 311 P 12 26 43.8
baz=109
SMCO Snowmass 41.95 308 P **P** **12 26 46.8 +0.9**
K22A Casper 42.72 313 P 12 26 52.4
baz=110
PV15 Paradox Valley 42.87 306 P **P** **12 26 54.5 +1.3**
PV15 IAmb IAmb 12 26 55.4
comp=Z,8.3nm,0.9s
PV01 Paradox Valley 42.89 306 P **P** **12 26 54.7 +1.3**
PV12 Saucer Basin, 43.11 306 P **P** **12 26 56.3 +1.2**
PV12 IAmb IAmb 12 26 57.2
comp=Z,8.4nm,0.7s
O20A White River Ci 43.16 309 P **P** **12 26 55.9 +0.4**
O20A White River Ci 43.16 309 P 12 26 56.5
baz=106
PV11 David Mesa, Pa 43.16 306 P **P** **12 26 56.6 +1.1**
PV11 IAmb IAmb 12 26 57.4
comp=Z,9.0nm,0.7s
TUC Tucson 43.67 297 P **P** **12 27 00.8 +1.1**
TUC Tucson 43.67 297 P 12 27 00.9
baz=96
GO02 Mina Guanaco 44.15 187 P **P** **12 27 00.7 -2.9**
GO02 IAmb IAmb 12 27 38.2
comp=Z,6.8nm,0.7s
WUAZ Wupatki 44.58 302 P **P** **12 27 07.0 0.0**
WUAZ IAmb IAmb 12 27 22.5
comp=Z,6.8nm,1.1s
WUAZ Wupatki 44.58 302 P 12 27 07.9
baz=99
SRU San Rafael Swe 44.60 307 P **P** **12 27 08.1 +0.9**
BW06 Boulder Array 44.87 312 P **P** **12 27 09.9 +0.7**
BW06 IAmb IAmb 12 27 10.6
comp=Z,5.3nm,0.6s
BW06 Boulder Array 44.87 312 P 12 27 09.2
baz=108,SNR=9.5
PD31 Pinedale Array 44.87 312 P **P** **12 27 10.0 +0.8**
PD31 IAmb IAmb 12 27 10.6
comp=Z,4.9nm,0.6s
PDAR Pinedale Array 44.87 312 P **P** **12 27 09.7 +0.4**
comp=Z,4.8nm,0.6s,baz=117,slow=9.4,SNR=55
PDAR PcP **PcP** **12 28 50.6 0.0**
comp=Z,1.3nm,0.7s,baz=121,slow=5.6,SNR=3.4
PDAR LR LR 12 47 36.2
comp=Z,48nm,18.8s,baz=118,slow=38
PDAR Pinedale Array 44.87 312 P **P** **12 27 10.1 +0.8**
TMUT Trail Mountain 45.16 307 P **P** **12 27 12.5 +0.8**
FCC Fort Churchill 45.30 339 P **P** **12 27 11.6 -0.5**
FCC IAmb IAmb 12 27 24.8
comp=Z,25nm,2.0s
214A Organ Pipe Nat 45.35 296 P 12 27 14.3
baz=94
CPUP Villa Florida 45.51 171 P **P** **12 27 11.7 -2.4**
comp=Z,3.2nm,0.6s,baz=355,slow=5.9,SNR=7.3
CPUP Villa Florida 45.51 171 P **P** **12 27 14.9 +0.8**
CPUP IAmb IAmb 12 27 38.6
comp=Z,6.2nm,1.1s
MPU Maple Canyon 45.65 308 P **P** **12 27 16.8 +1.4**
MTPU Mount Pierson 45.66 305 P **P** **12 27 16.4 +0.7**
MSU Marysvale 45.74 306 P **P** **12 27 17.6 +1.4**
TCUT Toone Canyon 45.74 309 P **P** **12 27 16.0 -0.2**
AC02 Maricunga 45.75 186 P **P** **12 27 14.7 -1.9**
LOHW Long Hollow 45.85 313 P **P** **12 27 17.5 +0.5**
LOHW IAmb IAmb 12 27 38.0
comp=Z,8.1nm,1.2s
CTU Camp Tracy 45.89 309 P **P** **12 27 18.1 +0.8**
CTU IAmb IAmb 12 27 19.1
comp=Z,8.6nm,0.9s
REDW Red Top Meadow 45.95 313 P **P** **12 27 18.4 +0.6**
REDW IAmb IAmb 12 27 42.0
comp=Z,9.8nm,1.1s
AHID Auburn Hatcher 45.95 312 P **P** **12 27 18.1 +0.3**
HWUT Hardware Ranch 45.98 310 P **P** **12 27 18.6 +0.6**
HWUT IAmb IAmb 12 27 19.3
comp=Z,8.4nm,0.9s
HWUT PcP **PcP** **12 28 55.4 +0.9**
YHH Holmes Hill 46.38 314 P **P** **12 27 23.3 +2.0**
CCUT Cedar City 46.49 304 P **P** **12 27 22.4 +0.2**
W13A Hualapai Mount 46.56 301 P **P** **12 27 24.6 +1.9**
DUG Dugway, Tooele 46.57 308 P **P** **12 27 23.4 +0.7**
DUG IAmb IAmb 12 27 24.5
comp=Z,6.1nm,1.1s
DUG Dugway, Tooele 46.57 308 P 12 27 22.7
baz=102,SNR=6.5
YHB Horse Butte 46.60 314 P **P** **12 27 25.8 +2.9**
YHL Hebgen Lake 46.62 314 P **P** **12 27 25.1 +2.0**
YHL IAmb IAmb 12 27 46.9
comp=Z,11nm,1.4s
QLMT Earthquake Lak 46.79 314 P **P** **12 27 26.1 +1.8**
BGU Big Grassy Mou 46.89 309 P **P** **12 27 25.9 +0.8**
HVU Hansel Valley 46.90 310 P **P** **12 27 25.7 +0.5**
HVU IAmb IAmb 12 27 26.6
comp=Z,6.3nm,0.8s
PSUT Pine Spring 47.04 305 P **P** **12 27 27.7 +1.3**
PSUT IAmb IAmb 12 27 29.0
comp=Z,4.7nm,0.9s
BOZ Bozeman (W) 47.16 315 IAmb IAmb 12 28 01.8
comp=Z,6.3nm,1.4s
BOZ Bozeman (W) 47.16 315 P 12 27 27.5
baz=108
SPR3 Spring Creek 3 47.49 306 P **P** **12 27 31.6 +1.6**
SPR3 IAmb IAmb 12 27 32.4
comp=Z,5.7nm,1.0s
IRM Iron Mountain 47.49 299 P 12 27 31.2
baz=95
BC3 Big Chuckawall 47.71 299 P 12 27 32.8
baz=94
DLMT Dillon 47.73 315 IAmb IAmb 12 27 57.8
comp=Z,16nm,1.7s
R11A Troy Canyon, C 48.35 305 P 12 27 38.0
baz=98
MONP2 Monument Peak 48.47 297 P 12 27 38.8
baz=93,SNR=7.7
ELK Elko 48.49 308 IAmb IAmb 12 27 39.0
comp=Z,3.3nm,0.8s
HLID Hailey 48.50 312 P **P** **12 27 38.5 +0.9**
HLID Hailey 48.50 312 P 12 27 38.1
baz=104,SNR=6.5
SHOC Shoshone, Teco 48.59 301 P 12 27 39.7
baz=96
TPNV Topopah Spring 48.68 303 P **P** **12 27 40.7 +1.6**
TPNV IAmb IAmb 12 27 41.7
comp=Z,5.0nm,0.8s
TPNV Topopah Spring 48.68 303 P 12 27 40.2
baz=97,SNR=8.0
GSC Goldstone, Bar 48.96 301 P 12 27 42.1
baz=95
MFID Camas Ranch 49.47 311 P **P** **12 27 45.7 +0.7**
MFID IAmb IAmb 12 27 46.8
comp=Z,6.7nm,1.1s
JTMT Jette 49.56 317 P **P** **12 27 46.7 +1.1**
JTMT IAmb IAmb 12 27 47.2
comp=Z,10nm,1.5s

MPMC Manual Prospec 49.58 302 P 12 27 45.6
baz=95

TPH Tonopah 49.59 304 P **P** **12 27 47.1 +1.1**
LRMC Laurel Mtn Rad 49.69 301 P 12 27 47.8
baz=95

EDW2 Edwards Air Fo 49.90 300 P 12 27 49.3
baz=94

CWC Cottonwood Cre 50.09 302 P 12 27 50.4
baz=95

NV11 Mina Array Sit 50.36 305 P **P** **12 27 52.5 +0.7**
NV11 IAmb IAmb 12 27 54.0
comp=Z,6.0nm,1.0s

NVAR Mina Array Bea 50.48 305 P **P** **12 27 52.6 -0.2**
comp=Z,1.6nm,0.8s,baz=99,slow=5.9,SNR=12

NVAR PcP **PcP** **12 29 12.1 +1.3**
comp=Z,0.7nm,0.6s,baz=99,slow=5.1,SNR=3.5

NVAR LR LR 12 50 23.0
comp=Z,69nm,21.6s,baz=153,slow=37

NVAR Mina Array Bea 50.48 305 P **P** **12 27 51.6 -1.2**
WVOR Wild Horse Val 51.30 310 P **P** **12 27 59.1 +0.2**
WVOR IAmb IAmb 12 28 00.4
comp=Z,24nm,1.9s

J08A Circle Bar Ran 51.35 311 P **P** **12 27 59.4 +0.2**
J08A IAmb IAmb 12 28 00.5
comp=Z,8.9nm,0.8s

NEW Newport 51.53 317 P **P** **12 28 00.7 +0.3**
NEW IAmb IAmb 12 28 17.9
comp=Z,5.4nm,0.8s

NEW Newport 51.53 317 P 12 28 00.5
baz=105

SMMC Simmler 51.56 300 P 12 28 01.2
baz=93

I07A Izee 52.21 311 P **P** **12 28 06.0 +0.3**
I07A IAmb IAmb 12 28 07.1
comp=Z,7.9nm,1.0s

ORV Oroville 53.07 306 P **P** **12 28 13.0 +1.1**
PINE Pine Mountain 53.19 311 P **P** **12 28 15.0 +2.1**
J05D Fort Rock, OR 53.32 310 P 12 28 14.0
baz=98

M04C Macdoel 53.57 308 P 12 28 15.3
baz=97

K04D Chiloquin, OR 53.61 309 P 12 28 16.0
baz=97

BO02 Sierra Bellavi 53.80 187 P **P** **12 28 15.9 -1.3**
L04D Klamath Falls 53.96 309 P 12 28 18.6
baz=97

O02D Mt. Diablo Mer 54.12 306 P 12 28 19.4
baz=95

YBH Yreka Blue Hor 54.21 308 P **P** **12 28 19.3 -1.0**
YBH IAmb IAmb 12 28 20.4
comp=Z,7.2nm,0.8s

H04A Detroit Lake 54.21 312 P **P** **12 28 20.6 +0.4**
H04A IAmb IAmb 12 28 37.5
comp=Z,11nm,1.1s

M02C Callahan 54.28 308 P 12 28 20.2
baz=96

HUMO Hull Mountain 54.49 309 P **P** **12 28 22.3 +0.1**
HUMO IAmb IAmb 12 29 38.0
comp=Z,14nm,1.4s

H04D Lebanon 54.58 312 P 12 28 22.2
baz=98

L02E Cave Junction 54.91 309 P 12 28 25.2
baz=96

ESDC Sonseca Array 55.46 54 P **P** **12 28 29.6 +0.2**
comp=Z,2.7nm,1.0s,baz=282,slow=7.5,SNR=5.7

ESDC LR LR 12 48 05.9
comp=Z,53nm,21.9s,baz=215,slow=32

YKA Yellowknife Ar 55.51 334 P **P** **12 28 28.3 -0.9**
comp=Z,0.9nm,0.6s,baz=108,slow=7.9,SNR=14

DBIC Dimbokro 58.97 94 P **P** **12 28 54.1 -0.3**
comp=Z,1.3nm,0.6s,baz=252,slow=9.6,SNR=1.7

DBIC LR LR 12 51 02.7
comp=Z,76nm,19.9s,baz=244,slow=33

PLCA Paso Flores 59.66 186 P **P** **12 28 58.1 -0.6**
comp=Z,2.3nm,0.7s,baz=3.9,slow=9.0,SNR=5.0

TORD Torodi Ar. Bea 63.36 84 P **P** **12 29 22.8 -1.4**
comp=Z,0.9nm,0.6s,baz=291,slow=7.2,SNR=5.3

TORD LR LR 12 54 44.7
comp=Z,81nm,19.6s,baz=260,slow=34

TORD Torodi Ar. Bea 63.36 84 P **P** **12 29 24.2 0.0**
TORD IAmb IAmb 12 29 33.2
comp=Z,2.5nm,0.8s

DAVA Damuels 65.65 46 *eP* P 12 29 48.3 +9.4
comp=Z,7.6nm,0.8s

DAVOX Davos/Dischmat 65.67 47 LR LR 12 53 39.7
comp=Z,34nm,18.9s,baz=78,slow=32

FETA Feichten 66.24 46 *eP* P 12 29 51.4 +8.7
comp=Z,8.2nm,0.7s

RETA Reute 66.24 46 *eP* P 12 29 53.3 +11
comp=Z,7.8nm,0.8s

GRF Grafenberg Arr 66.47 43 *eP* P 12 29 58.1 +14
comp=Z,8.1nm,1.1s,baz=265,slow=6.6

MOTA Moosalm 66.48 46 *eP* P 12 29 52.4 +8.2
comp=Z,5.5nm,0.9s

SQTA Sankt Quirin 66.56 46 *eP* P 12 29 53.9 +9.3
comp=Z,6.4nm,0.5s

NB2 NORSAR Subarr 66.59 31 P P 12 29 58.3 +14
comp=Z,3.8nm,1.0s,baz=268,slow=6.9

NOA NORSAR Array B 66.59 31 P **P** **12 29 46.4 +1.9**
comp=Z,0.4nm,0.7s,baz=280,slow=5.4,SNR=1.2

NOA LR LR 12 56 15.6
comp=Z,41nm,19.1s,baz=270,slow=34

WATA Walderalm 66.80 46 *eP* P 12 29 55.2 +8.9
comp=Z,4.1nm,0.5s

WTTA Wattenberg 66.85 46 *eP* P 12 29 55.2 +8.6
comp=Z,4.2nm,0.7s

CTG Chitna Glacier 67.35 329 P 12 29 50.8
baz=92

EGAK Eagle 67.44 333 P 12 29 50.3
baz=93

ABTA Abfaltersbach 67.48 46 *eP* P 12 29 59.7 +9.2
comp=Z,4.7nm,0.8s

BCAR Beaver Creek A 67.63 331 P **P** **12 29 52.3 +1.2**
L27K Beaver Creek, 67.65 331 P 12 29 51.0
baz=92

HFS Hagfors 67.78 32 LR LR 12 52 53.0
comp=Z,83nm,20.4s,baz=274,slow=30

KBA Koelnbreinsper 68.02 46 *eP* P 12 30 03.2 +9.1
comp=Z,3.6nm,0.5s

GERES GERESS Array B 68.13 44 P **P** **12 29 53.1 -1.5**
comp=Z,0.7nm,0.7s,baz=254,slow=3.8,SNR=4.1

GERES LR LR 12 55 55.1
comp=Z,30nm,19.9s,baz=278,slow=32

MYKA Terra Mystica 68.26 47 *eP* P 12 30 03.5 +8.1
comp=Z,2.2nm,0.7s

MOA Molln 68.58 45 *eP* P 12 30 06.0 +8.6
comp=Z,1.6nm,0.4s

SCRK Sand Creek 68.64 332 P 12 29 57.4
baz=90

SOKA Soboth 69.21 46 *eP* P 12 30 09.8 +8.4
comp=Z,7.0nm,1.3s

PRP Porcupine Dome 69.31 334 P 12 30 01.8
baz=90

ARSA Arzberg 69.49 46 *eP* P 12 30 12.0 +9.1
comp=Z,4.2nm,0.7s

CONA Conrad Observa 69.64 45 *eP* P 12 30 13.1 +9.1
comp=Z,2.8nm,0.7s

ILAR Eielson Array 69.90 333 P **P** **12 30 04.6 -0.5**
comp=Z,0.9nm,0.6s,baz=111,slow=4.4,SNR=17

ILAR Eielson Array 69.90 333 P **P** **12 30 04.9 -0.2**
VRAC Vranov 69.98 43 LR LR 12 57 03.1
comp=Z,42nm,20.0s,baz=272,slow=33

NEA2 Nenana 70.84 333 P 12 30 10.5
baz=86

I23K Minto, Yukon-K 70.93 334 P 12 30 11.7
baz=86

TRF Thorofare Moun 71.47 332 P **P** **12 30 15.6 +0.7**
BPAW Bear Paw Mtn. 71.72 332 P **P** **12 30 16.4 +0.2**
BPAW Bear Paw Mtn. 71.72 332 P 12 30 15.7
baz=84

KTH Kantishna Hill 71.74 332 P **P** **12 30 17.2 +0.8**
KTH IAmb IAmb 12 30 37.4
comp=Z,9.2nm,1.0s

ARCES ARCESS Array B 72.34 22 P **P** **12 30 21.3 +1.4**
comp=Z,2.5nm,0.8s,baz=264,slow=5.3,SNR=1.6

ARCES LR LR 13 01 30.4
comp=Z,21nm,18.1s,baz=255,slow=35

IMAR Indian Mountai 72.66 335 P **P** **12 30 22.1 +0.3**
FINES FINESS Array B 73.73 30 P **P** **12 30 29.0 +0.9**
comp=Z,1.3nm,0.6s,baz=293,slow=3.0,SNR=7.8

FINES LR LR 12 58 02.8
comp=Z,50nm,21.4s,baz=270,slow=32

AKASG Malin Array Be 77.74 41 P **P** **12 30 53.1 +1.8**
comp=Z,0.2nm,0.3s,baz=281,slow=4.6,SNR=1.3

BRTR Keskin Array B 83.98 50 P **P** **12 31 26.3 +1.2**
comp=Z,0.8nm,0.9s,baz=284,slow=5.8,SNR=1.8

BRTR LR LR 13 03 38.8
comp=Z,28nm,21.7s,baz=296,slow=32

SONM Songino Array 113.00 7 PKKPbc PKKPbc 12 48 24.9 +5.1
comp=Z,0.6nm,0.7s,baz=156,slow=4.7,SNR=3.8

WRA Warramunga Arr 162.41 264 PKP **PKPdf** **12 38 54.7 -2.2**
comp=Z,0.4nm,0.7s,baz=57,slow=0.7,SNR=5.9

WRA PKPab **PKPab** **12 39 43.9 -0.8**
comp=Z,1.3nm,0.7s,baz=89,slow=4.3,SNR=8.7

WRA Warramunga Arr 162.41 264 PKPab **PKPab** **12 39 44.0 -0.6**
ASAR Alice Springs 162.42 251 PKP **PKPdf** **12 38 55.9 -1.0**
comp=Z,0.6nm,1.1s,baz=91,slow=1.7,SNR=2.2

ASAR PKPab **PKPab** **12 39 43.8 -0.8**
comp=Z,2.2nm,0.8s,baz=112,slow=4.4,SNR=16

ASAR Alice Springs 162.42 251 PKPdf **PKPdf** **12 38 56.3 -0.6**
ASAR PKPab **PKPab** **12 39 43.6 -1.0**

IDC 20 12:37:02.0±1.9, 16.60S×127.84E, h0km, mb3.6/1, mb1 3.1/3, mb1mx3.0/32, mbtmp3.0/3, ML2.5/2, Error ellipse: s-maj=58.6km s-min=30.0km az=50.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**7.01**	**119**	Pn	Pn	12 38 45.6	-0.5
	0.1nm,0.3s,baz=296,slow=12,SNR=10						
WRA				Sn	Sn	12 39 58.9	-7.7
	0.2nm,0.3s,baz=303,slow=27,SNR=5.3						
WRA				Lg	Lg	12 40 35.6	
	0.3nm,0.3s,baz=298,slow=29,SNR=4.9						
ASAR	**Alice Springs**	**9.04**	**142**	Pn	Pn	12 39 14.8	+0.8
	0.0nm,0.3s,baz=321,slow=11,SNR=2.0						
ASAR				Sn	Sn	12 40 49.4	-7.3
	0.1nm,0.3s,baz=313,slow=21,SNR=2.6						
MKAR	**Makanchi Array**	**75.22**	**330**	P	P	12 48 46.6	0.0
	0.4nm,0.7s,baz=137,slow=6.6,SNR=5.0						

IDC 20 12:38:23.7±8.2, 29.66N×85.44E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.2/45, mbtmp3.5/3, ML3.5/2, MS2.9/3, Ms1 3.0/3, ms1mx2.6/33, Error ellipse: s-maj=167.4km s-min=42.7km az=64.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.61**	**129**	Pn	Pn	12 42 18.2	+0.1
	0.2nm,0.3s,baz=307,slow=12,SNR=11						
CMAR				LR	LR	12 50 21.9	
	comp=Z,23nm,18.2s,baz=110,slow=43						
MKAR	**Makanchi Array**	**17.28**	**353**	P	Pn	12 42 26.4	0.0
	0.0nm,0.3s,baz=165,slow=12,SNR=5.2						
SONM	**Songino Array**	**24.29**	**36**	P	P	12 43 42.8	0.0
	0.8nm,0.6s,baz=218,slow=11,SNR=5.7						
KSRS	**Korea Array**	**36.01**	**66**	LR	LR	13 02 34.8	
	comp=Z,10nm,19.4s,baz=55,slow=40						
KAPI	**Kappang**	**47.67**	**131**	LR	LR	13 13 17.1	
	comp=Z,39nm,18.9s,baz=202,slow=44						

*IDC **20** 12:46:30.4±1.3, 34.65N×25.00E, h0km, mb3.4/4, mb1 3.6/9, mb1mx3.4/40, mbtmp3.5/9, ML3.8/5, MS2.9/1, Ms1 2.9/1, ms1mx2.2/34, Error ellipse: s-maj=24.7km s-min=10.4km az=74.0*
*ATH **20** 12:46:34.5, 34.80N×24.99E, h20km±5km, ML3.4/8, Error ellipse: s-maj=5.6km s-min=1.1km az=340.0*
*THE **20** 12:46:34.2, 34.79N×25.00E, h15km, ML3.3/7, Error ellipse: s-maj=1.3km s-min=0.5km az=6.0*
ISC 20 12:46:33.6±1.1, 34.76N±0.04×25.01E±0.02, h18km±4km, n48, σ074/61, mb3.4/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.30**	**328**	P	**Pg**	**12 46 40.3**	**+0.1**
SIVA				S	**Sg**	**12 46 44.9**	**+0.2**
SIVA				AML	AML	12 46 46.0	
	comp=N,48230μm,0.4s						
SIVA				AML	AML	12 46 48.8	
	comp=E,58695μm,0.5s						
SIVA	**Sivas**	**0.30**	**328**	P	**Pg**	**12 46 40.2**	**+0.1**
SIVA				S	**Sg**	**12 46 44.8**	**+0.2**
	comp=E,27μm,0.5s						
TMBK	**Timbaki Herakl**	**0.37**	**328**	P	**Pg**	**12 46 41.6**	**+0.3**
TMBK				S	**Sb**	**12 46 46.9**	**-0.1**
IDI	**Anoyia**	**0.53**	**350**	Pg	**Pg**	**12 46 43.8**	**-0.5**
	comp=E,84nm,0.3s,baz=167,slow=11,SNR=666						
IDI				Lg	Lg	12 46 51.4	
	comp=E,760nm,0.3s,baz=263,slow=22,SNR=58						
IDI	**Anoyia**	**0.53**	**350**	P	**Pg**	**12 46 43.8**	**-0.5**
IDI				S	**Sg**	**12 46 51.3**	**-0.3**
IDI				AML	AML	12 46 54.1	
	comp=N,9264μm,0.2s						
IDI				AML	AML	12 46 54.5	
	comp=E,7050μm,0.3s						
IDI	**Anoyia**	**0.53**	**350**	P	**Pg**	**12 46 43.8**	**-0.5**
IDI				S	**Sb**	**12 46 51.9**	**+0.1**
	comp=E,3μm,0.2s						
KSTL	**Kastelli Herak**	**0.54**	**6**	P	**Pg**	**12 46 44.4**	**-0.1**
KSTL				S	**Sb**	**12 46 52.3**	**+0.3**
IACM	**Heraklion**	**0.55**	**6**	P	**Pg**	**12 46 44.8**	**+0.3**
LAST	**Lasithi**	**0.56**	**44**	P	**Pg**	**12 46 44.9**	**+0.1**
LAST				S	**Sb**	**12 46 52.8**	**+0.3**
LAST				AML	AML	12 46 54.8	
	comp=E,2663μm,0.4s						
LAST				AML	AML	12 47 01.6	
	comp=N,3314μm,0.6s						
LAST	**Lasithi**	**0.56**	**44**	P	**Pg**	**12 46 44.7**	**-0.1**
LAST				S	**Sg**	**12 46 52.6**	**+0.3**
	comp=N,1μm,0.5s						
FRMA	**Ierapetra Chan**	**0.65**	**67**	P	**Pn**	**12 46 48.0**	**+0.1**
NPS	**Neapolis**	**0.71**	**45**	P	**Pg**	**12 46 47.4**	**-0.1**
NPS				AML	AML	12 46 58.9	
	comp=N,3292μm,0.2s						
NPS				AML	AML	12 47 00.8	
	comp=E,4686μm,0.3s						
NPS	**Neapolis**	**0.71**	**45**	P	**Pg**	**12 46 47.4**	**-0.1**
NPS				S	**Sb**	**12 46 57.5**	**+0.8**
	comp=E,2μm,0.2s						
GVDS	**Gavdos**	**0.76**	**276**	P	**Pb**	**12 46 49.0**	**+0.8**
GVD	**Gavdhos**	**0.76**	**276**	P	**Pg**	**12 46 48.4**	**-0.1**
GVD				S	**Sb**	**12 46 59.1**	**+0.8**
GVD				AML	AML	12 47 03.2	
	comp=N,12266μm,0.4s						
GVD				AML	AML	12 47 03.4	
	comp=E,12524μm,0.5s						
GVD	**Gavdhos**	**0.76**	**276**	P	**Pg**	**12 46 48.4**	**-0.1**
VAM	**Vamos**	**0.92**	**315**	P	**Pb**	**12 46 50.7**	**-0.4**
VAM				AML	AML	12 47 09.2	
	comp=E,5641μm,0.5s						
VAM				AML	AML	12 47 11.3	
	comp=N,5665μm,0.5s						
VAM	**Vamos**	**0.92**	**315**	P	**Pb**	**12 46 50.5**	**-0.5**
VAM				S	**Sb**	**12 47 03.5**	**+0.5**
	comp=N,3μm,0.4s						
STIA	**Sitia Lasithi**	**0.99**	**63**	P	**Pb**	**12 46 51.9**	**-0.4**
ZKR	**Zakros**	**1.06**	**70**	P	**Pb**	**12 46 53.4**	**+0.1**
ZKR				AML	AML	12 47 17.3	
	comp=E,2824μm,0.4s						
ZKR				AML	AML	12 47 17.4	
	comp=N,1079μm,0.3s						
ZKR	**Zakros**	**1.06**	**70**	P	**Pb**	**12 46 53.5**	**+0.1**
ZKR				S	**Sb**	**12 47 07.1**	**+0.3**
	comp=N,870nm,0.3s						
IMMV	**Iera Moni Meta**	**1.09**	**310**	P	**Pb**	**12 46 53.2**	**-0.7**
IMMV				S	**Sb**	**12 47 08.5**	**+0.7**
IMMV				AML	AML	12 47 12.8	
	comp=N,5824μm,0.4s						
IMMV				AML	AML	12 47 14.2	
	comp=E,6659μm,0.8s						
IMMV	**Iera Moni Meta**	**1.09**	**310**	P	**Pb**	**12 46 53.2**	**-0.7**
IMMV				S	**Sg**	**12 47 08.8**	**-0.3**
	comp=E,3μm,0.6s						
THR9	**Santorini-Faro**	**1.62**	**10**	P	**Pn**	**12 47 01.9**	**+0.7**
THR6	**Thira Island,**	**1.62**	**11**	P	**Pb**	**12 47 03.1**	**+0.1**
SANT	**Santorini**	**1.65**	**13**	P	**Pn**	**12 47 03.0**	**+1.3**
THR3	**Thira Island,**	**1.68**	**11**	P	**Pb**	**12 47 04.0**	**+0.1**
THR5	**Thira Island,**	**1.68**	**10**	P	**Pb**	**12 47 04.0**	**+0.1**
THR8	**Santorini-Mono**	**1.69**	**13**	P	**Pn**	**12 47 03.5**	**+1.4**
SAP3	**Santorini-Thir**	**1.69**	**9**	P	**Pb**	**12 47 04.4**	**+0.2**
THT2	**Imerovigli**	**1.70**	**11**	P	**Pb**	**12 47 04.4**	**0.0**
THR2	**Thira island,**	**1.72**	**12**	P	**Pb**	**12 47 04.2**	**-0.4**
ANKY	**Antikythira Is**	**1.78**	**309**	P	**Pb**	**12 47 05.8**	**+0.2**
KARP	**Karpathos**	**1.93**	**65**	P	**Pb**	**12 47 09.0**	**+0.7**
MHLO	**Agia Marina, M**	**1.99**	**346**	P	**Pn**	**12 47 08.0**	**+1.8**
MHLA	**Plaka, Milos I**	**2.04**	**347**	P	**Pb**	**12 47 09.7**	**-0.3**
KTHA	**Kythira Island**	**2.18**	**314**	P	**Pn**	**12 47 11.2**	**+2.3**

APE Apeiranthos 2.34 10 P **Pn** **12 47 13.4 +2.2**
MMAI Mount Meron Ar 8.82 98 Pn **Pn** **12 48 41.0 +0.8**
comp=E,2.2nm,0.3s,baz=301,slow=13,SNR=5.7

EIL Elat 9.83 118 Pn **Pn** **12 48 52.8 -1.2**
comp=E,0.5nm,0.3s,baz=333,slow=11,SNR=7.1

AKASG Malin Array Be 16.23 10 Pn **Pn** **12 50 18.9 -1.6**
comp=E,0.6nm,0.3s,baz=200,slow=10,SNR=2.9

GERES GERESS Array B 16.38 333 Pn **Pn** **12 50 22.4 -0.1**
comp=E,0.1nm,0.3s,baz=154,slow=9.8,SNR=1.8

KVAR Kislovodsk Arr 16.45 51 LR LR 12 59 18.7
comp=E,38nm,18.4s,baz=87,slow=46

KBZ Khabaz 16.48 52 Pn **P** **12 50 27.1 +0.9**
comp=E,0.2nm,0.3s,baz=236,slow=9.9,SNR=6.7

TORD Torodi Ar. Bea 30.14 230 P **P** **12 52 41.9 -0.7**
comp=E,0.3nm,0.5s,baz=36,slow=8.8,SNR=2.0

MKAR Makanchi Array 44.10 56 P **P** **12 54 40.4 -0.2**
comp=E,0.3nm,0.5s,baz=264,slow=10.0,SNR=7.3

ZALV Zalesovo Beam 45.37 46 P **P** **12 54 49.5 -1.1**
comp=E,0.4nm,0.5s,baz=297,slow=13,SNR=1.6

YKA Yellowknife Ar 77.79 342 P **P** **12 58 29.3 +0.1**
comp=E,0.1nm,0.5s,baz=46,slow=6.0,SNR=1.9

*TAP **20** 12:49:06.8, 24.50N×122.86E, h67km, ML3.0, B*
*JMA **20** 12:49:06.4±0.1, 24.54N×122.86E, h70km±1km, M2.4*
ISC 20 12:49:07.2±1.2, 24.45N±0.04×122.86E±0.02, h65km±7km, n77, σ1910/130, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.08**	**89**	P	**Pn**	**12 49 16.8**	**+0.1**
JYNG				S	**Sn**	**12 49 24.2**	**+0.5**
YOJ	**Yonaguni jima**	**0.14**	**85**	*i* P	**Pn**	**12 49 16.9**	**0.0**
	baz=104						
YOJ				*i* S	**Sn**	**12 49 24.3**	**+0.3**
	baz=104						
YOJ	**Yonaguni jima**	**0.14**	**85**	P	**Pn**	**12 49 16.9**	**0.0**
YOJ				S	**Sn**	**12 49 24.3**	**+0.3**
IRIF	**Iriomote-Funau**	**0.80**	**98**	P	**Pn**	**12 49 22.7**	**-0.2**
IRIF				S	**Sn**	**12 49 35.1**	**+0.6**
TWC	**Suao**	**0.93**	**280**	*i* P	**Pn**	**12 49 24.1**	**-0.4**
	baz=285						
TWC				S	**Sn**	**12 49 36.2**	**-1.2**
	baz=285						
HATJ	**Hateruma jima**	**0.95**	**114**	P	**Pn**	**12 49 25.3**	**+0.6**
HATJ				*e*S	**Sn**	**12 49 39.5**	**+1.8**
ENA	**Nanau**	**1.02**	**269**	*i* P	**Pn**	**12 49 25.9**	**+0.2**
	baz=270						
ENA				*e*S	**Sn**	**12 49 39.4**	**0.0**
	baz=270						
NTC	**Toucheng**	**1.02**	**293**	*e*P	**Pn**	**12 49 24.9**	**-0.7**
	baz=283						
NTC				*e*S	**Sn**	**12 49 38.7**	**-0.7**
	baz=283						
JKRS	**Kuro-shima**	**1.07**	**101**	P	**Pn**	**12 49 26.4**	**+0.1**
JKRS				S	**Sn**	**12 49 41.4**	**+0.9**
TIPB	**Shuangxi**	**1.07**	**299**	*i* P	**Pn**	**12 49 26.1**	**-0.3**
	baz=296						
TIPB				*e*S	**Sn**	**12 49 39.9**	**-0.9**
	baz=296						
TWE	**Neicheng**	**1.12**	**284**	*i*P	**Pn**	**12 49 26.7**	**-0.2**
	baz=281						
TWE				*e*S	**Sn**	**12 49 41.0**	**-0.7**
	baz=281						
JIJ	**Ishigaki jima**	**1.17**	**94**	P	**Pn**	**12 49 27.2**	**-0.4**
JIJ				S	**Sn**	**12 49 42.7**	**-0.2**
NACB	**Ninganchiao**	**1.19**	**257**	P	**Pn**	**12 49 27.4**	**-0.4**
	baz=254						
NACB				*e*S	**Sn**	**12 49 42.6**	**-0.6**
	baz=254						
ENTT	**Nioudou**	**1.19**	**279**	P	**Pn**	**12 49 28.1**	**+0.2**
	baz=283						
ENTT				*e*S	**Sn**	**12 49 43.4**	**0.0**
	baz=283						
TWD	**Chiawan**	**1.21**	**253**	*e*P	**Pn**	**12 49 29.1**	**+0.9**
	baz=249						
TWD				*e*S	**Sn**	**12 49 43.1**	**-0.7**
	baz=249						
NDT	**Datong Townshi**	**1.24**	**277**	*e*P	**Pn**	**12 49 29.3**	**+0.8**
	baz=280						
NDT				*e*S	**Sn**	**12 49 44.9**	**+0.5**
	baz=280						
TWA	**Mucha**	**1.27**	**295**	*e*P	**Pn**	**12 49 28.9**	**-0.1**
	baz=292						
TWA				*e*S	**Sn**	**12 49 44.2**	**-1.1**
	baz=292						
NWLT	**Wulai**	**1.28**	**285**	*e*P	**Pn**	**12 49 29.2**	**+0.2**
	baz=282						
NWLT				*e*S	**Sn**	**12 49 44.5**	**-0.9**
	baz=282						
ETLH	**Xiulin Townshi**	**1.28**	**259**	*i* P	**Pn**	**12 49 28.9**	**-0.3**
	baz=248						
ETLH				*e*S	**Sn**	**12 49 45.3**	**-0.3**
	baz=248						
NHDH	**Xindian Distri**	**1.32**	**293**	*e*P	**Pn**	**12 49 29.6**	**+0.1**
	baz=290						
NHDH				*e*S	**Sn**	**12 49 46.0**	**-0.3**
	baz=290						
JISG	**Ishigakijimahi**	**1.33**	**84**	P	**Pn**	**12 49 29.0**	**-0.7**
JISG				S	**Sn**	**12 49 46.2**	**-0.4**
NNSB	**Datong**	**1.35**	**269**	P	**Pn**	**12 49 30.1**	**+0.1**
	baz=257						
NNSB				*e*S	**Sn**	**12 49 47.3**	**+0.1**
	baz=257						
NNSH	**Datong**	**1.35**	**269**	*e*P	**Pn**	**12 49 30.1**	**+0.1**
	baz=257						
TATO	**Taipei**	**1.35**	**293**	*e*P	**Pn**	**12 49 30.9**	**+0.9**
	baz=291						
NNS	**Nan Shan**	**1.35**	**270**	*e*P	**Pn**	**12 49 30.4**	**+0.2**
	baz=257						
NNS				*e*S	**Sn**	**12 49 47.4**	**0.0**
	baz=257						
YM01	**YM01**	**1.36**	**301**	*e*P	**Pn**	**12 49 29.9**	**-0.3**
	baz=299						
YHNB	**Yeheng**	**1.37**	**280**	*e*P	**Pn**	**12 49 30.9**	**+0.6**
	baz=277						
YHNB				*e*S	**Sn**	**12 49 47.9**	**+0.2**
	baz=277						
YM10	**YM10**	**1.37**	**301**	*e*P	**Pn**	**12 49 30.5**	**+0.1**
	baz=299						
PCYT	**Pengchaiyu**	**1.38**	**329**	*e*P	**Pn**	**12 49 30.6**	**+0.3**
	baz=327						
PCYT				*e*S	**Sn**	**12 49 46.4**	**-1.3**
	baz=327						
YM05	**YM05**	**1.38**	**301**	*e*P	**Pn**	**12 49 30.8**	**+0.4**
	baz=299						
NSK	**Sanguang**	**1.39**	**280**	*e*P	**Pn**	**12 49 31.2**	**+0.6**
	baz=277						
NSK				*e*S	**Sn**	**12 49 48.0**	**-0.1**
	baz=277						
YM04	**YM04**	**1.39**	**301**	*e*P	**Pn**	**12 49 30.7**	**+0.1**
	baz=298						
ESL	**Shilin**	**1.45**	**244**	*e*P	**Pn**	**12 49 31.0**	**-0.3**
	baz=242						
TWS1	**Kuangyinshan**	**1.46**	**297**	*e*P	**Pn**	**12 49 31.7**	**+0.3**
	baz=295						
WHF	**Hehuan Shan**	**1.49**	**259**	*e*P	**Pn**	**12 49 32.1**	**-0.1**
	baz=247						
FUSS	**Fushou**	**1.49**	**263**	*e*P	**Pn**	**12 49 32.2**	**+0.1**
	baz=260						
FUSS				*e*S	**Sn**	**12 49 50.3**	**-0.4**
	baz=260						
TWT	**Tachien**	**1.55**	**263**	*e*P	**Pn**	**12 49 33.6**	**+0.8**
	baz=261						
TWT				*e*S	**Sn**	**12 49 52.2**	**+0.1**
	baz=261						
TDCB	**Techi**	**1.56**	**263**	*e*P	**Pn**	**12 49 33.4**	**+0.4**
	baz=261						
TDCB				*e*S	**Sn**	**12 49 51.9**	**-0.5**
	baz=261						
CHGB	**Renai**	**1.59**	**256**	*e*P	**Pn**	**12 49 33.4**	**0.0**
	baz=244						
CHGB				*e*S	**Sn**	**12 49 52.5**	**-0.5**
	baz=244						
HGSD	**Ruisui**	**1.62**	**234**	*e*P	**Pn**	**12 49 33.1**	**-0.6**
	baz=232						
HGSD				*e*S	**Sn**	**12 49 50.3**	**-3.4**
	baz=232						
JTJ	**Tarama**	**1.69**	**83**	P	**Pn**	**12 49 34.4**	**-0.1**
JTJ				S	**Sn**	**12 49 55.1**	**-0.1**
LIOB	**Emei**	**1.69**	**277**	*e*P	**Pn**	**12 49 35.1**	**+0.6**
	baz=275						
LIOB				*e*S	**Sn**	**12 49 56.7**	**+1.4**
	baz=275						
EHY	**Hungye**	**1.69**	**237**	*e*P	**Pn**	**12 49 33.9**	**-0.6**
	baz=234						
EHY				*e*S	**Sn**	**12 49 51.7**	**-3.6**

	baz=234							
VWDT	**VWDT**	**1.72**	**247**	*e*P		**Pn**	**12 49 35.2**	**+0.3**
	baz=244							
VWDT				*e*S		**Sn**	**12 49 55.7**	**-0.1**
	baz=244							
WHP	**Taichung City**	**1.75**	**265**	P		**Pn**	**12 49 36.5**	**+1.1**
	baz=262							
WHP				*e*S		**Sn**	**12 49 57.6**	**+0.7**
	baz=262							
YULB	**Yu-li**	**1.77**	**234**	*e*P		**Pn**	**12 49 35.2**	**-0.5**
	baz=242							
YULB				*e*S		**Sn**	**12 49 55.7**	**-1.6**
	baz=242							
TWF1	**Yuli**	**1.80**	**233**	*e*P		**Pn**	**12 49 35.7**	**-0.3**
	baz=242							
TWF1				*e*S		**Sn**	**12 49 56.8**	**-1.1**
	baz=242							
DPDB	**Guoxing**	**1.81**	**257**	*e*P		**Pn**	**12 49 37.1**	**+0.8**
	baz=250							
SSLB	**Suanglung**	**1.86**	**250**	*e*P		**Pn**	**12 49 37.1**	**+0.2**
	baz=247							
SSLB				*e*S		**Sn**	**12 50 02.9**	**+3.5**
	baz=247							
SMLT	**Sun Moon Lake**	**1.88**	**253**	*e*P		**Pn**	**12 49 37.7**	**+0.6**
	baz=244							
FULB	**Fuli**	**1.90**	**229**	*e*P		**Pn**	**12 49 36.6**	**-0.8**
	baz=227							
FULB				*e*S		**Sn**	**12 49 58.8**	**-1.5**
	baz=227							
TWQ1	**Liyutan**	**1.91**	**267**	*e*P		**Pn**	**12 49 36.5**	**-0.9**
	baz=266							
TYC	**Yuchr**	**1.91**	**254**	*e*P		**Pn**	**12 49 38.5**	**+1.0**
	baz=245							
WJS	**Zhushan**	**2.05**	**253**	*e*P		**Pn**	**12 49 41.0**	**+1.6**
	baz=245							
WJS				*e*S		**Sn**	**12 50 06.3**	**+2.4**
	baz=245							
EDH	**Donghe**	**2.05**	**224**	*e*P		**Pn**	**12 49 38.2**	**-1.2**
	baz=223							
EDH				*e*S		**Sn**	**12 50 01.8**	**-2.1**
	baz=223							
ELDTW	**Lidau**	**2.10**	**234**	*e*P		**Pn**	**12 49 39.8**	**-0.4**
	baz=232							
ELDTW				*e*S		**Sn**	**12 50 03.9**	**-1.5**
	baz=232							
JIRB	**Irabujima**	**2.14**	**79**	P		**Pn**	**12 49 40.1**	**-0.5**
JIRB				*e*S		**Sn**	**12 50 05.9**	**-0.2**
CHN5	**Tsauling**	**2.17**	**247**	*e*P		**Pn**	**12 49 42.4**	**+1.3**
	baz=237							
CHN5				*e*S		**Sn**	**12 50 09.2**	**+2.2**
	baz=237							
LDUT	**Ludao**	**2.18**	**216**	*e*P		**Pn**	**12 49 40.1**	**-1.0**
	baz=209							
LDUT				*e*S		**Sn**	**12 50 04.5**	**-2.6**
	baz=209							
LONT	**Longtian**	**2.21**	**226**	*e*P		**Pn**	**12 49 41.1**	**-0.5**
	baz=234							
JMJ	**Miyako jima 2**	**2.24**	**80**	*e*P		**Pn**	**12 49 41.8**	**-0.3**
	baz=82							
WDLH	**Douliu**	**2.25**	**251**	*e*P		**Pn**	**12 49 43.6**	**+1.4**
	baz=248							
WDLH				*e*S		**Sn**	**12 50 11.6**	**+2.8**
	baz=248							
TWGBT	**Beinan**	**2.30**	**225**	*e*P		**Pn**	**12 49 42.6**	**-0.3**
	baz=232							
TWGBT				*e*S		**Sn**	**12 50 08.6**	**-1.5**
	baz=232							
TWG	**Pinlang**	**2.31**	**226**	*e*P		**Pn**	**12 49 42.4**	**-0.5**
	baz=233							
STYT	**Tauyuan**	**2.31**	**237**	*e*P		**Pn**	**12 49 44.0**	**+1.0**
	baz=235							
STYT				*e*S		**Sn**	**12 50 11.6**	**+1.2**
	baz=235							
TPUB	**Ta-pu**	**2.34**	**241**	*e*P		**Pn**	**12 49 44.6**	**+1.3**
	baz=233							
TPUB				*e*S		**Sn**	**12 50 13.0**	**+1.9**
	baz=233							
CHN4	**Tsaushan**	**2.34**	**243**	*e*P		**Pn**	**12 49 45.2**	**+1.8**
	baz=234							
CHN4				*e*S		**Sn**	**12 50 13.3**	**+2.2**
	baz=234							
WTP	**Ta-pu**	**2.38**	**240**	*e*P		**Pn**	**12 49 45.3**	**+1.4**
	baz=238							
WTP				*e*S		**Sn**	**12 50 13.7**	**+1.6**
	baz=238							
WTK	**Tuku**	**2.38**	**252**	*e*P		**Pn**	**12 49 45.0**	**+1.1**
	baz=250							
TWK	**Hsinying**	**2.47**	**242**	*e*P		**Pn**	**12 49 46.6**	**+1.5**
	baz=239							
TWK				*e*S		**Sn**	**12 50 16.5**	**+2.2**
	baz=239							
SGST	**Jiashian**	**2.49**	**237**	*e*P		**Pn**	**12 49 46.0**	**+0.6**
	baz=236							
TSMG	**Majia**	**2.67**	**230**	*e*P		**Pn**	**12 49 48.9**	**+1.1**
	baz=224							
MASBT	**Mashibuluo**	**2.74**	**229**	*e*P		**Pn**	**12 49 49.4**	**+0.6**
	baz=223							
EAST	**Anshuo**	**2.77**	**222**	*e*P		**Pn**	**12 49 51.4**	**+2.2**
	baz=228							
PHUB	**P'eng-hu**	**3.15**	**253**	*e*P		**Pn**	**12 49 53.9**	**-0.5**
	baz=252							
PTMZ	**Houxiangcun**	**3.45**	**281**	*e*P		**Pn**	**12 49 57.8**	**-0.6**
	baz=269							
KNMB	**Chin-men Tao**	**4.08**	**271**	*e*P		**Pn**	**12 50 06.1**	**-0.9**
	baz=269							

*BJI **20** 13:10:01.5±0.0,35.98N×99.19E,h6km,mB4.3/2, mb4.2/11, ML4.1/19, Ms3.7/11, Ms7 3.6/7*
*IDC **20** 13:10:06.8±5.1,36.22N×99.16E,h33km±39km,mb3.8/15, mb1 3.9/18,mb1mx3.7/45,mbtmp3.9/18,ML3.8/3,MS3.2/4, Ms1 3.2/4,ms1mx2.8/41, Error ellipse: s-maj=22.9km s-min=15.2km az=49.0*

ISC 20 13:10:02.5±0.6,36.07N±0.05×99.09E±0.06,h10km,n24, σ2s42/32,mb3.9/12,1D,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GTA	**Gaotai**	**3.39**	**10**	Pn		**Pn**	**13 10 58.4**	**+2.8**
GTA				Pg		**Pb**	**13 11 05.0**	**+2.3**
GTA				Sn		**Sb**	**13 11 40.9**	**-3.1**
GTA				Sg		**Sg**	**13 11 49.8**	**-1.5**
GTA				smax		smax		
	comp=N,120nm,0.7s							
GTA				smax		smax		
	comp=E,190nm,0.8s							
GTA				LR		LR		
	comp=N,520nm,7.6s							
GTA				LR		LR		
	comp=E,510nm,7.2s							
GTA				LR		LR		
	comp=Z,540nm,7.2s							
LZH	**Lanzhou**	**3.85**	**88**	*e*Pn		**Pn**	**13 11 02.8**	**+0.8**
LZH				Pg		**Pb**	**13 11 11.0**	**+0.3**
LZH				Sn		**Sn**	**13 11 47.6**	**+0.2**
LZH				Sg		**Sb**	**13 12 00.0**	**+2.6**
LZH				smax		smax		
	comp=N,600nm,1.5s							
LZH				smax		smax		
	comp=E,690nm,1.2s							
LZH				LR		LR		
	comp=N,510nm,6.5s							
LZH				LR		LR		
	comp=E,670nm,7.1s							
LZH				LR		LR		
	comp=Z,650nm,7.3s							
XAN	**Xi'an**	**8.31**	**101**	P		**Pn**	**13 12 00.1**	**-3.0**
XAN				smax		smax		
	comp=N,36nm,1.1s							
XAN				smax		smax		
	comp=E,46nm,1.0s							
XAN				LR		LR		
	comp=N,260nm,13.0s							
XAN				LR		LR		
	comp=E,330nm,13.0s							
XAN				LR		LR		
	comp=Z,320nm,13.0s							
GYA	**Guiyang**	**11.56**	**144**	*e*P		**Pn**	**13 12 48.0**	**+0.3**
GYA				S		**Sn**	**13 14 51.6**	**-5.3**
GYA				pmax		pmax		
	comp=Z,7.0nm,0.6s							
GYA				LR		LR		
	comp=N,200nm,10.4s							
GYA				LR		LR		
	comp=E,170nm,9.0s							
GYA				LR		LR		
	comp=Z,210nm,9.4s							
WMQ	**Urumqi**	**11.67**	**315**	*e*P		**Pn**	**13 12 50.0**	**+0.8**
WMQ				pP			13 12 53.8	
WMQ				sP			13 12 58.3	
WMQ				PP		**PnPn**	**13 13 01.9**	**+5.0**
WMQ				LR		LR		
	comp=N,350nm,8.7s							
WMQ				LR		LR		
	comp=E,210nm,5.3s							
SONM	**Songino Array**	**12.95**	**22**	Pn		**Pn**	**13 13 06.5**	**-0.2**
	0.4nm,0.3s,baz=204,slow=15,SNR=12							
SONM				Lg		Lg	13 16 50.6	
	0.2nm,0.3s,baz=205,slow=22,SNR=2.4							
SONM				LR		LR	13 18 32.4	
	comp=Z,105nm,18.2s,baz=315,slow=40							
WHN	**Wuhan**	**13.89**	**109**	⇓P		P	13 13 36.1	+8.3
MKAR	**Makanchi Array**	**16.50**	**316**	Pn		**Pn**	**13 13 51.8**	**-2.3**
	0.6nm,0.3s,baz=121,slow=14,SNR=33							
MKAR				Sn		**Sn**	**13 16 50.5**	**-6.8**
	0.1nm,0.3s,baz=122,slow=24,SNR=5.1							
MKAR				LR		LR	13 20 56.3	
	comp=Z,100nm,20.2s,baz=120,slow=40							
CMAR	**Chiang Mai Arr**	**17.54**	**180**	P		**P**	**13 14 09.7**	**+1.3**
	0.1nm,0.3s,baz=349,slow=11,SNR=5.8							
AAK	**Ala-Archa**	**20.08**	**297**	P		**P**	**13 14 37.3**	**+1.1**
	1.1nm,0.6s,baz=124,slow=11,SNR=5.2							
AAK				LR		LR	13 23 00.2	
	comp=Z,106nm,19.9s,baz=108,slow=38							
ZALV	**Zalesovo Beam**	**20.46**	**335**	P		**P**	**13 14 40.6**	**+0.5**
	13nm,0.5s,baz=139,slow=12,SNR=42							
KURBB	**Kurchatov Arra**	**20.76**	**321**	P		**P**	**13 14 44.2**	**+0.8**
	6.8nm,0.4s,baz=125,slow=12,SNR=75							
KSRS	**Korea Array**	**23.11**	**78**	P		**P**	**13 15 09.8**	**+1.3**
	1.8nm,0.9s,baz=271,slow=10,SNR=7.2							
KSRS				LR		LR	13 25 23.2	
	comp=Z,34nm,19.1s,baz=230,slow=40							
BVAR	**Borovoye Array**	**26.31**	**319**	P		**P**	**13 15 39.3**	**+1.1**
	1.0nm,0.6s,baz=196,slow=9.2,SNR=9.5							
TIXI	**Tiksi**	**38.86**	**15**	P		**P**	**13 17 26.4**	**-1.0**
	1.1nm,0.3s,baz=250,slow=5.1,SNR=4.0							
ARCES	**ARCESS Array B**	**51.01**	**334**	P		**P**	**13 19 04.2**	**0.0**
	3.0nm,0.8s,baz=72,slow=4.0,SNR=5.1							
FINES	**FINESS Array B**	**51.11**	**324**	P		**P**	**13 19 05.6**	**+0.6**
	2.0nm,0.4s,baz=90,slow=8.0,SNR=19							
NOA	**NORSAR Array B**	**58.22**	**325**	P		**P**	**13 19 55.7**	**-1.0**
	0.5nm,0.7s,baz=78,slow=7.3,SNR=2.1							
WRA	**Warramunga Arr**	**64.93**	**143**	P		**P**	**13 20 45.5**	**+3.1**
	1.1nm,0.9s,baz=337,slow=7.1,SNR=6.5							
ASAR	**Alice Springs**	**67.92**	**146**	P		**P**	**13 21 00.9**	**-0.6**
	0.3nm,0.6s,baz=331,slow=6.0,SNR=4.0							
INK	**Inuvik**	**68.83**	**18**	P		**P**	**13 21 05.1**	**-1.5**
	1.1nm,1.0s,baz=334,slow=11,SNR=3.8							
ESDC	**Sonseca Array**	**76.62**	**309**	P		**P**	**13 21 53.0**	**-0.5**
	0.7nm,0.7s,baz=44,slow=5.6,SNR=5.1							
YKA	**Yellowknife Ar**	**78.10**	**15**	P		**P**	**13 22 01.0**	**-0.3**
	0.7nm,0.8s,baz=336,slow=4.7,SNR=11							
NVAR	**Mina Array Bea**	**98.21**	**29**	P		**P**	**13 23 40.2**	**0.0**
	0.1nm,0.3s,baz=270,slow=1.7,SNR=2.0							

*NEIC **20** 13:44:46.5±2.4,28.13S±0.08×27.4E±0.2,h5km±1km, mb4.2/4, Error ellipse: s-maj=22.9km s-min=13.2km az=97.0*
*PRE **20** 13:44:48.6±0.8,28.04S×26.85E,h2km,ML3.1*
*IDC **20** 13:44:50.7±1.8,27.96S×26.88E,h0km,mb4.2/2, mb1 4.1/5,mb1mx3.6/42,mbtmp4.1/5,ML3.7/3, Error ellipse: s-maj=23.9km s-min=12.3km az=126.0*

ISC 20 13:44:47.7±1.6,28.12S±0.05×27.13E±0.07,h9km±11km, n25,σ1s68/35,mb4.2/4,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WDLM	**Western Deep L**	**1.71**	**9**	*e*P		**Pg**	**13 45 20.0**	**-0.6**
WDLM				*e*S		**Sg**	**13 45 41.7**	**-1.1**
WDLM				AML		AML	13 45 46.1	
	comp=Z,331nm,0.2s							
BOSA	**Boshof**	**1.73**	**253**	Pg		**Pn**	**13 45 19.8**	**+1.7**
	comp=Z,16nm,0.3s,baz=65,slow=17,SNR=396							
BOSA				Lg		Lg	13 45 39.3	
	comp=Z,13nm,0.3s,baz=272,slow=21,SNR=5.4							
BOSA	**Boshof**	**1.73**	**253**	*e*P		**Pn**	**13 45 17.6**	**-0.4**
BOSA				*e*S		**Sn**	**13 45 38.4**	**-1.8**
BOSA				AML		AML	13 45 42.6	
	comp=Z,141nm,0.8s							
BOSA	**Boshof**	**1.73**	**253**			**Pn**	**13 45 19.9**	**+1.9**
KLOF	**Kloof**	**1.81**	**14**	*e*P		**Pg**	**13 45 21.8**	**-0.8**
KLOF				*e*S		**Sg**	**13 45 44.9**	**-1.2**
KLOF				AML		AML	13 45 49.2	
	comp=Z,617nm,0.3s							
ERPM	**east rand prop**	**2.03**	**29**	*e*P		**Pg**	**13 45 26.7**	**+0.1**
ERPM				*e*S		**Sg**	**13 45 53.9**	**+0.9**
ERPM				AML		AML	13 45 58.6	
	comp=Z,163nm,0.4s							
SLR	**Silverton**	**2.59**	**24**	*e*P		**Pb**	**13 45 33.2**	**-1.2**
SLR				*e*S		**Sb**	**13 46 04.7**	**-1.7**
SLR				AML		AML	13 46 20.9	
	comp=Z,90nm,0.3s							
LBTB	**Lobatse**	**3.39**	**336**	Pn		**Pn**	**13 45 43.4**	**+2.5**
	comp=Z,1.3nm,0.3s,baz=161,slow=12,SNR=1.2							
LBTB				Pg		**Pb**	**13 45 49.9**	**+1.9**
	comp=Z,9.1nm,0.3s,baz=157,slow=17,SNR=4.5							
LBTB				Sn		**Sn**	**13 46 20.4**	**-0.9**
	comp=Z,7.1nm,0.3s,baz=125,slow=19,SNR=5.7							
LBTB				Lg		Lg	13 46 31.3	
	comp=Z,42nm,0.3s,baz=242,slow=22,SNR=17							
LBTB	**Lobatse**	**3.39**	**336**	*e*P		**Pn**	**13 45 40.9**	**0.0**
LBTB				*e*S		**Sn**	**13 46 19.4**	**-1.8**
LBTB				AML		AML	13 46 36.5	
	comp=Z,155nm,0.6s							
LBTB	**Lobatse**	**3.39**	**336**			**Pn**	**13 45 43.5**	**+2.7**
UPI	**Upington**	**5.19**	**266**	*e*P		**Pn**	**13 46 04.3**	**-1.3**
UPI				*e*S		Sn	13 47 00.1	-5.7
UPI				AML		AML	13 47 32.6	
	comp=Z,16nm,0.5s							
KEIM	**Keimoes**	**5.46**	**262**	*e*P		**Pn**	**13 46 08.6**	**-0.8**
KEIM				*e*S		Sn	13 47 07.1	-5.3
KEIM				AML		AML	13 47 35.6	
	comp=Z,40nm,0.6s							
GRAN	**Grantham**	**5.98**	**225**	*e*P		**Pn**	**13 46 17.7**	**+1.2**
GRAN				*e*S		**Sn**	**13 47 22.0**	**-3.2**
GRAN				AML		AML	13 47 57.5	
	comp=Z,24nm,0.7s							
SUR	**Sutherland**	**6.92**	**231**	Pn		**Pn**	**13 46 32.6**	**+3.1**
MATP	**Matopo**	**7.76**	**10**	Pn		**Pn**	**13 46 43.7**	**+2.6**
	comp=Z,1.4nm,0.3s,baz=193,slow=12,SNR=15							
MATP				Sn		**Sn**	**13 48 07.5**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=142,slow=3.5,SNR=9.5							
MATP				Lg		Lg	13 48 51.5	
	comp=Z,3.9nm,0.3s,baz=285,slow=23,SNR=8.0							
TSUM	**Tsumeb**	**12.46**	**313**	Pn		**Pn**	**13 47 45.7**	**+0.3**
LSZ	**Lusaka**	**12.82**	**5**	Pn		**Pn**	**13 47 51.3**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=174,slow=11,SNR=6.9							
LSZ	**Lusaka**	**12.82**	**5**			**Pn**	**13 47 49.5**	**-0.9**
KMBO	**Kilima Mbogo**	**28.54**	**22**	P		**P**	**13 50 46.2**	**+2.1**
	comp=Z,1.9nm,0.3s,baz=172,slow=18,SNR=2.7							
MAW	**Mawson**	**44.94**	**162**	P		**P**	**13 53 01.0**	**-1.6**
MAW				IAmb		IAmb	13 53 08.4	
	comp=Z,4.3nm,1.4s							
SNAA	**Sanae**	**46.62**	**193**	P		**P**	**13 53 16.4**	**+0.5**
TOA0	**Tordi Ar. Sit**	**47.85**	**326**	P		**P**	**13 53 27.3**	**+1.2**
TOA0				IAmb		IAmb	13 53 29.7	
	comp=Z,1.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**47.85**	**326**	P		**P**	**13 53 27.9**	**+1.8**
	comp=Z,1.0nm,0.5s,baz=143,slow=6.0,SNR=7.5							
TORD	**Torodi Ar. Bea**	**47.85**	**326**	P		**P**	**13 53 25.3**	**-0.8**
NVAR	**Mina Array Bea**	**149.49**	**299**	PKPbc		**PKPab**	**14 04 42.9**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=77,slow=4.7,SNR=3.9							

*IDC **20** 14:01:39.1±1.1,36.12N×99.37E,h0km,mb3.5/9, mb1 3.6/11,mb1mx3.4/40,mbtmp3.5/11,ML3.3/2,MS2.7/1, Ms1 2.7/1,ms1mx2.1/30, Error ellipse: s-maj=37.1km s-min=20.1km az=55.0*
*BJI **20** 14:01:40.8±0.0,35.97N×99.19E,h7km,ML3.6/15*

ISC 20 14:01:41.5±0.8,36.17N±0.08×99.12E±0.07,h10km,n16, σ1s72/20,mb3.5/6,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GTA	**Gaotai**	**3.29**	**9**	Pg		**Pg**	**14 02 43.3**	**-1.1**
LZH	**Lanzhou**	**3.83**	**90**	*e*Pn		**Pn**	**14 02 41.0**	**+0.4**
LZH				Pg		**Pb**	**14 02 49.3**	**+0.1**
LZH				Sn		**Sn**	**14 03 25.9**	**+0.2**
LZH				Sg		**Sb**	**14 03 37.4**	**+1.8**
LZH				smax		smax		
	comp=N,280nm,1.1s							
LZH				smax		smax		
	comp=E,350nm,1.2s							
XAN	**Xi'an**	**8.31**	**102**	P		**Pn**	**14 03 42.4**	**+0.4**
XAN				smax		smax		
	comp=N,13nm,0.9s							
XAN				smax		smax		
	comp=E,19nm,1.1s							
WMQ	**Urumqi**	**11.62**	**315**	*e*P		**Pn**	**14 04 31.4**	**+4.0**
GYA	**Guiyang**	**11.62**	**144**	*e*P		**Pn**	**14 04 26.5**	**-1.0**
GYA				S		**Sn**	**14 06 39.6**	**+2.1**
SONM	**Songino Array**	**12.85**	**23**	Pn		**Pn**	**14 04 44.4**	**+0.2**
	0.1nm,0.3s,baz=208,slow=14,SNR=5.6							
SONM				Lg		Lg	14 08 29.0	
	0.1nm,0.3s,baz=195,slow=37,SNR=1.9							
MKAR	**Makanchi Array**	**16.45**	**315**	Pn		**Pn**	**14 05 30.6**	**-1.8**
	0.2nm,0.3s,baz=124,slow=14,SNR=8.3							
AAK	**Ala-Archa**	**20.06**	**296**	P		**P**	**14 06 15.7**	**+0.7**
	0.4nm,0.4s,baz=96,slow=19,SNR=1.5							
AAK				LR		LR	14 16 01.1	
	comp=Z,22nm,19.8s,baz=130,slow=42							
ZALV	**Zalesovo Beam**	**20.38**	**335**	P		**P**	**14 06 19.1**	**+0.9**
	2.8nm,0.4s,baz=138,slow=12,SNR=18							
KURBB	**Kurchatov Arra**	**20.70**	**321**	P		**P**	**14 06 22.5**	**+0.8**
	2.1nm,0.4s,baz=125,slow=12,SNR=7.9							
TIXI	**Tiksi**	**38.76**	**15**	P		**P**	**14 09 03.2**	**-2.3**
	0.3nm,0.3s,baz=255,slow=6.7,SNR=1.8							
FINES	**FINESS Array B**	**51.05**	**324**	P		**P**	**14 10 42.7**	**-0.8**
	0.7nm,0.4s,baz=84,slow=6.9,SNR=6.4							
NOA	**NORSAR Array B**	**58.15**	**325**	P		**P**	**14 11 36.2**	**+1.0**
	0.9nm,0.9s,baz=45,slow=6.3,SNR=3.3							
WRA	**Warramunga Arr**	**64.99**	**143**	P		**P**	**14 12 18.3**	**-3.4**
	0.1nm,0.6s,baz=341,slow=6.9,SNR=1.9							
ASAR	**Alice Springs**	**67.98**	**146**	P		**P**	**14 12 40.9**	**0.0**
	0.2nm,0.7s,baz=330,slow=6.7,SNR=1.7							
YKA	**Yellowknife Ar**	**78.00**	**15**	P		**P**	**14 13 39.5**	**-0.1**
	0.3nm,0.7s,baz=332,slow=4.6,SNR=4.3							

*THE **20** 14:29:26.3,35.34N×26.12E,h9km±2km,ML2.5/4, Error ellipse: s-maj=3.2km s-min=0.7km az=174.0*
*ATH **20** 14:29:26.0,35.38N×26.13E,h14km±3km,ML2.7/7, Error ellipse: s-maj=3.5km s-min=0.9km az=186.0*

ISC 20 14:29:25.7±1.0,35.39N±0.04×26.13E±0.03,h10km±11km, n25,σ0s64/36,Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STIA	**Sitia Lasithi**	**0.19**	**189**	P		**Pg**	**14 29 29.3**	**-0.4**
STIA				S		**Sg**	**14 29 32.1**	**-0.3**
ZKR	**Zakros**	**0.28**	**165**	P		**Pg**	**14 29 31.6**	**+0.2**
ZKR				S		**Sg**	**14 29 35.4**	**+0.2**
ZKR				AML		AML	14 29 35.7	
	comp=E,14019μm,0.2s							
ZKR				AML		AML	14 29 35.8	
	comp=N,4030μm,0.1s							
ZKR	**Zakros**	**0.28**	**165**	P		**Pg**	**14 29 31.6**	**+0.2**
ZKR				S		**Sg**	**14 29 35.4**	**+0.2**
	comp=N,5μm,0.2s							
NPS	**Neapolis**	**0.44**	**253**	P		**Pg**	**14 29 35.3**	**+0.9**
NPS				S		**Sg**	**14 29 40.6**	**+0.5**
NPS				AML		AML	14 29 41.6	
	comp=N,2878μm,0.2s							
NPS				AML		AML	14 29 42.2	
	comp=E,4263μm,0.2s							
NPS	**Neapolis**	**0.44**	**253**	P		**Pg**	**14 29 35.2**	**+0.9**
NPS				S		**Sg**	**14 29 41.2**	**+1.1**
	comp=E,2μm,0.2s							
FRMA	**Ierapetra Chan**	**0.49**	**221**	P		**Pg**	**14 29 34.5**	**-0.8**
FRMA				S		**Sg**	**14 29 40.1**	**-1.7**
	comp=E,722nm,0.2s							
LAST	**Lasithi**	**0.58**	**247**	P		**Pg**	**14 29 37.4**	**+0.5**
LAST				S		**Sg**	**14 29 44.6**	**+0.1**
LAST				AML		AML	14 29 45.6	
	comp=E,1436μm,0.2s							
LAST				AML		AML	14 29 45.9	
	comp=N,912μm,0.1s							
KARP	**Karpathos**	**0.86**	**79**	P		**Pg**	**14 29 42.6**	**+0.4**
KARP				S		**Sg**	**14 29 53.8**	**+0.4**
KARP				AML		AML	14 29 57.0	
	comp=E,886μm,0.1s							
KARP				AML		AML	14 29 57.3	
	comp=N,1107μm,0.2s							
KARP	**Karpathos**	**0.86**	**79**	P		**Pg**	**14 29 42.4**	**+0.2**
IACM	**Heraklion**	**0.87**	**265**	P		**Pb**	**14 29 43.3**	**+0.5**
IDI	**Anoyia**	**1.02**	**265**	P		**Pg**	**14 29 45.1**	**-0.1**
IDI				S		**Sg**	**14 29 57.8**	**-0.7**
IDI				AML		AML	14 30 00.9	
	comp=E,444μm,0.3s							
IDI				AML		AML	14 30 01.6	
	comp=N,574μm,0.2s							
IDI	**Anoyia**	**1.02**	**265**	P		**Pg**	**14 29 45.3**	**+0.1**
IDI				S		**Sb**	**14 29 59.1**	**+0.2**
	comp=N,235nm,0.2s							
SANT	**Santorini**	**1.12**	**331**	P		**Pb**	**14 29 47.0**	**-0.1**
THR6	**Thira Island,**	**1.13**	**329**	P		**Pb**	**14 29 47.8**	**+0.4**
SIVA	**Sivas**	**1.14**	**251**	P		**Pb**	**14 29 47.5**	**0.0**
SIVA				S		**Sb**	**14 30 02.3**	**-0.1**
SIVA				AML		AML	14 30 08.4	
	comp=N,681μm,0.4s							
SIVA				AML		AML	14 30 09.5	
	comp=E,919μm,0.6s							
SIVA	**Sivas**	**1.14**	**251**	P		**Pb**	**14 29 47.2**	**-0.3**
THR8	**Santorini-Mono**	**1.14**	**333**	P		**Pb**	**14 29 46.5**	**-1.0**
THR9	**Santorini-Faro**	**1.15**	**327**	P		**Pb**	**14 29 47.6**	**-0.1**
THR3	**Thira Island,**	**1.18**	**330**	P		**Pn**	**14 29 47.7**	**-0.4**
THR3	**Thira Island,**	**1.18**	**330**	P		**Pn**	**14 29 47.6**	**-0.6**
THR2	**Thira Island,**	**1.20**	**332**	P		**Pn**	**14 29 47.2**	**-1.3**
THR5	**Thira Island,**	**1.21**	**329**	P		**Pn**	**14 29 47.9**	**-0.7**
VAM	**Vamos**	**1.58**	**271**	P		**Pn**	**14 29 54.6**	**+0.9**
VAM				AML		AML	14 30 18.4	
	comp=E,378μm,0.2s							
VAM				AML		AML	14 30 20.3	
	comp=N,426μm,0.4s							
IMMV	**Iera Moni Meta**	**1.75**	**273**	P		**Pn**	**14 29 56.2**	**0.0**
ARG	**Arkhangelos**	**1.82**	**62**	P		**Pn**	**14 29 57.4**	**+0.3**

*NEIC **20** 14:53:08.9±2.2,35.70N±0

2.1nm,0.3s,baz=280,slow=24,SNR=2.4
MJAR LR LR 14 54 43.9
comp=Z,418nm,19.4s,baz=120,slow=44
MAJO Matsushiro 2.19 294 Pn 14 53 44.5 +0.6
MAT Matsushiro 2.19 294 P **Pn 14 53 44.6 +0.8**
MAT S **Sn 14 54 11.5 +1.7**
JMM Marumori 2.20 2 Pn 14 53 44.5 +0.6
MJB9 Matsu-Tunnel 2.20 294 Pn 14 53 44.9 +1.0
JSG Sagara 2.28 245 Pn 14 53 47.4 +2.4
JHJ Hachijo jima 2 2.65 197 P **Pn 14 53 50.7 +0.6**
46nm,0.3s,baz=294,slow=22,SNR=13
JHJ S **Sn 14 54 22.6 +1.7**
59nm,0.3s,baz=42,slow=22,SNR=6.3
JHJ2 Mitsune 2.65 196 Pn **Pn 14 53 50.8 +0.8**
JGF Kuroka 2.72 270 Pn **Pn 14 53 52.6 +1.6**
INU Inuyama 3.01 265 Pn **Pn 14 53 55.8 +0.8**
JSD Sado 3.07 321 Pn **Pn 14 53 56.7 +0.9**
JWT Wachi 4.33 266 Pn **Pn 14 54 13.6 +0.5**
JTM Tenmabayashi 5.12 3 Pn **Pn 14 54 24.3 +0.4**
JHS Saijyo 6.23 266 Pn **Pn 14 54 42.5 +3.4**
ERM Erimo 6.63 16 Pn **Pn 14 54 43.7 -0.8**
ASAJ Asahikawa 8.57 9 P **Pn 14 55 09.5 -1.5**
1.0nm,0.3s,baz=230,slow=12,SNR=2.1
ASAJ LR LR 14 59 28.8
comp=Z,42nm,21.0s,baz=334,slow=44
JCJ Chichijima 8.64 171 P **Pn 14 55 11.7 -0.5**
6.5nm,0.3s,baz=43,slow=23,SNR=11
JCJ S **Sn 14 56 43.2 -4.9**
3.8nm,0.3s,baz=303,slow=22,SNR=1.2
KSRS Korea Array 10.43 284 P **Pn 14 55 38.5 +1.9**
0.2nm,0.3s,baz=100,slow=14,SNR=15
KSRS LR LR 14 59 31.2
comp=Z,133nm,21.4s,baz=90,slow=37
USRK Ussuriysk Ar. 10.82 325 P **Pn 14 55 41.9 0.0**
baz=142,slow=13,SNR=5.2
KLR Kul'dur 15.06 337 P **Pn 14 56 39.1 0.0**
0.1nm,0.3s,baz=145,slow=16,SNR=2.1
BJT Baijiatuan 19.83 290 P **P 14 57 33.5 -2.4**
NACB Ninganchiao 20.09 240 P **P 14 57 36.0 -2.9**
NACB IAmb IAmb 14 57 49.2
comp=Z,11nm,0.9s
TPUB Ta-pu 21.32 240 P **P 14 57 50.7 -1.6**
TPUB IAmb IAmb 14 57 57.0
comp=Z,16nm,1.0s
MA2 Magadan 24.81 12 P **P 14 58 27.5 +1.0**
comp=Z,1.4nm,0.3s,baz=198,slow=11,SNR=4.4
XAN Xi'an 26.07 276 P **P 14 58 37.9 -0.3**
XAN IAmb IAmb 14 58 38.9
comp=Z,5.7nm,0.6s
ENH Enshi 26.66 267 P **P 14 58 41.8 -1.8**
H11N2 WAKE ISLAND Hy 27.99 118 T T 15 28 07.9
baz=310,slow=75,SNR=23
H11N1 WAKE ISLAND Hy 28.00 118 T T 15 28 07.8
baz=310,slow=75,SNR=21
H11N3 WAKE ISLAND Hy 28.01 118 T T 15 28 07.8
baz=310,slow=75,SNR=26
SONM Songino Array 28.09 306 P **P 14 58 55.7 -0.7**
comp=Z,0.8nm,0.5s,baz=104,slow=10,SNR=7.0
SONM LR LR 15 09 41.9
comp=Z,58nm,19.5s,baz=85,slow=35
SONM Songino Array 28.09 306 P **P 14 58 54.5 -2.0**
SEY Seymchan 28.24 11 P **P 14 58 57.4 0.0**
comp=Z,0.4nm,0.6s,baz=253,slow=19,SNR=2.2
H11S1 WAKE ISLAND Hy 28.65 120 T T 15 29 00.4
baz=312,slow=75,SNR=36
H11S3 WAKE ISLAND Hy 28.65 120 T T 15 28 56.7
baz=312,slow=75,SNR=34
H11S2 WAKE ISLAND Hy 28.66 120 T T 15 28 51.5
baz=312,slow=75,SNR=29
FAKI Fak Fak 39.19 193 P **P 15 00 33.0 +0.4**
FAKI IAmb IAmb 15 00 36.3
comp=Z,9.8nm,1.1s
LUWI Luwuk 40.17 208 P **P 15 00 40.3 -0.4**
CMAR Chiang Mai Air 40.60 256 LR LR 15 18 22.6
comp=Z,24nm,18.2s,baz=200,slow=37
ZAA0 Zalesovo Array 42.42 313 P **P 15 00 59.7 +0.8**
ZALV Zalesovo Beam 42.42 313 P **P 15 00 58.9 0.0**
comp=Z,1.5nm,0.6s,baz=95,slow=7.4,SNR=7.4
ZALV Zalesovo Beam 42.42 313 P **P 15 00 59.3 +0.4**
ANM Nome 43.07 31 P **P 15 01 04.4 +0.4**
ANM IAmb IAmb 15 01 20.2
comp=Z,7.5nm,1.5s
MK31 Makanchi Array 44.37 303 P **P 15 01 15.4 +0.7**
MK31 IAmb IAmb 15 01 16.1
comp=Z,2.2nm,0.8s
MKAR Makanchi Array 44.37 303 P **P 15 01 15.3 +0.6**
comp=Z,1.9nm,0.5s,baz=87,slow=9.6,SNR=33
MKAR LR LR 15 20 10.5
comp=Z,28nm,18.2s,baz=68,slow=37
MAKZ Makanchi 44.58 303 P **P 15 01 16.5 +0.1**
MAKZ IAmb IAmb 15 01 17.5
comp=Z,2.4nm,0.7s
TAPN Taplejung 45.47 275 *e*P **P 15 01 24.8 +0.8**
comp=Z,5.9nm,0.4s
ODAN Odare 45.93 274 *e*P **P 15 01 26.8 -0.8**
comp=Z,7.6nm,0.7s
RAMN Ramite 46.53 275 *e*P **P 15 01 32.5 +0.1**
comp=Z,13nm,0.7s
GUN Gumba 46.72 277 *e*P **P 15 01 33.9 -0.1**
comp=Z,9.0nm,0.5s
GKN Gorkha 47.69 277 *e*P **P 15 01 40.9 -0.4**
comp=Z,12nm,0.5s
ILAR Eielson Array 50.96 32 P **P 15 02 07.5 +2.0**
comp=Z,0.3nm,0.6s,baz=268,slow=5.9,SNR=9.8
ILAR Eielson Array 50.96 32 P **P 15 02 06.7 +1.1**
FITZ Fitzroy Crossi 55.34 197 P **P 15 02 39.5 +1.3**
comp=Z,2.0nm,0.7s,baz=30,slow=11,SNR=6.5
FITZ Fitzroy Crossi 55.34 197 P **P 15 02 38.7 +0.6**
FITZ IAmb IAmb 15 02 40.4
comp=Z,5.0nm,1.1s
WB0 Warramunga Arr 55.45 187 P **P 15 02 39.1 +0.1**
WB0 IAmb IAmb 15 02 56.1
comp=Z,3.3nm,0.9s
WR0 Warramunga Arr 55.63 187 P **P 15 02 40.4 +0.2**
WR0 IAmb IAmb 15 02 56.5
comp=Z,7.6nm,1.5s
WB2 Warramunga Arr 55.63 187 P **P 15 02 40.7 +0.5**
WRA Warramunga Arr 55.63 187 P **P 15 02 40.8 +0.5**
comp=Z,1.7nm,0.8s,baz=2.6,slow=7.5,SNR=21
WRA Warramunga Arr 55.63 187 P **P 15 02 39.9 -0.4**
INK Inuvik 55.87 27 P **P 15 02 41.9 +0.6**
INK IAmb IAmb 15 02 48.2
comp=Z,4.3nm,1.4s
ABKAR Akbulak array 58.38 311 P **P 15 03 00.0 +0.6**
AS31 Alice Springs 59.36 187 P **P 15 03 06.4 -0.1**
ASAR Alice Springs 59.36 187 P **P 15 03 06.9 +0.5**
comp=Z,0.6nm,0.7s,baz=17,slow=9.3,SNR=15
ASAR Alice Springs 59.36 187 P **P 15 03 06.6 +0.2**
FINES FINESS Array B 69.75 332 P **P 15 04 13.5 -0.3**
comp=Z,2.3nm,0.9s,baz=55,slow=7.2,SNR=6.3
KBZ Khabaz 71.35 311 P **P 15 04 24.9 +1.1**
comp=Z,1.8nm,0.8s,baz=325,slow=12,SNR=4.3
AKASG Malin Array Be 75.02 322 P **P 15 04 45.2 -0.2**
comp=Z,1.0nm,0.4s,baz=49,slow=5.9,SNR=8.9
NB2 NORSAR Subarra 75.22 337 P **P 15 04 47.4 +1.0**
comp=Z,0.7nm,0.6s,baz=41,slow=5.9
NOA NORSAR Array B 75.22 337 P **P 15 04 47.1 +0.7**
comp=Z,1.7nm,0.8s,baz=40,slow=5.8,SNR=5.7
CLL Collm 81.99 330 *i* P **P 15 05 24.2 +0.5**
comp=Z,6.0nm,1.1s
H03N3 Juan Fernandez 147.45 98 T T 17 57 27.0
baz=290,slow=74,SNR=4.1
H03N1 Juan Fernandez 147.46 98 T T 17 57 30.7
baz=99,slow=74,SNR=5.8

JMA 20 14:55:08.2±0.2, 31°33N×129°57E, h1km±2km, M2.0, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JSJ	**Shimokoshiki**	**0.37**	**20**	P		Pg	14 55 15.5	+0.2
JSJ				*e*S		Sg	14 55 20.9	+0.8
JSU	**Suzuyama**	**0.78**	**77**	P		Pg	14 55 23.4	+0.3
JSU				*e*S		Sb	14 55 34.5	-1.1
JSU	**Suzuyama**	**0.78**	**77**	Pn		Pg	14 55 23.6	+0.5
JKC	**Kuchinoerabu**	**1.02**	**148**	P		Pg	14 55 27.7	0.0
JKC				*e*S		Sg	14 55 41.4	+0.5
JTSR	**Tashiro 2**	**1.17**	**98**	P		Pg	14 55 30.5	-0.1
JTSR				*e*S		Sb	14 55 46.9	0.0
JHD	**Hondo**	**1.23**	**23**	P		Pg	14 55 32.0	+0.2
JHD				*e*S		Sb	14 55 48.5	-0.1

NNC 20 14:55:54.0±4.6, 36°72N×70°85E, h0km, mb3.5, mpv3.4,

2C, Error ellipse: s-maj=57.7km s-min=36.5km az=72.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**6.38**	**358**	P		Pn	14 57 30.7	+1.4
	1.5nm,0.4s,baz=177,slow=12,SNR=25							
KK31				⇑S		Sn	14 58 44.0	+1.0
	0.5nm,0.3s,baz=181,slow=15,SNR=4.2							
AAK	**Ala-Archa**	**6.55**	**24**	⇑P		Pn	14 57 31.0	-0.7
	2.1nm,0.8s							
AB31	**Akbulak array**	**14.83**	**331**	P		Pn	14 59 23.4	-1.6
	0.1nm,0.3s,baz=142,slow=13,SNR=11							

IDC 20 15:02:10.8±2.5, 18°93S×65°31E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/28, mbtmp3.6/6, MS3.4/2, Ms1 3.4/2, ms1mx3.0/30, Error ellipse: s-maj=76.6km s-min=33.7km az=55.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S1	**Diego Carcia H**	**13.20**	**33**	T		T	15 18 33.7	
	baz=211,slow=75,SNR=8.4							
H08S2	**Diego Garcia H**	**13.21**	**33**	T		T	15 18 34.9	
	baz=211,slow=75,SNR=11							
H08S3	**Diego Garcia H**	**13.22**	**33**	T		T	15 18 48.7	
	baz=211,slow=75,SNR=66							
BOSA	**Boshof**	**37.75**	**248**	LR		LR	15 23 26.5	
	comp=Z,73nm,19.3s,baz=176,slow=34							
CMAR	**Chiang Mai Arr**	**49.72**	**44**	P		P	15 11 05.5	+0.5
	0.7nm,0.3s,baz=227,slow=7.7,SNR=4.7							
CMAR				LR		LR	15 30 05.3	
	comp=Z,24nm,18.2s,baz=185,slow=34							
ASAR	**Alice Springs**	**63.55**	**108**	P		P	15 12 43.8	+0.2
	0.4nm,0.8s,baz=271,slow=5.5,SNR=5.1							
WRA	**Warramunga Arr**	**64.66**	**104**	P		P	15 12 50.7	-0.3
	0.5nm,0.8s,baz=259,slow=5.8,SNR=4.8							
MKAR	**Makanchi Array**	**67.19**	**13**	P		P	15 13 06.7	0.0
	0.4nm,0.8s,baz=204,slow=7.6,SNR=3.6							
ZALV	**Zalesovo Beam**	**74.50**	**12**	P		P	15 13 50.5	-0.3
	1.0nm,0.8s,baz=188,slow=8.5,SNR=2.6							
SONM	**Songino Array**	**75.97**	**27**	P		P	15 13 59.2	-0.5
	0.4nm,0.9s,baz=190,slow=7.2,SNR=2.6							
ULM	**Lac du Bonnet**	**145.33**	**339**	PKPbc		PKPbc	15 21 49.9	-0.4
	2.5nm,0.7s,baz=20,slow=6.3,SNR=5.6							

*IDC **20** 15:20:31.0±0.5, 11°.33N×86°.75W, h0km, mb4.2/23, mb1 4.4/26, mb1mx4.3/41, mbtmp4.3/26, ML3.7/3, MS4.5/19, Ms1 4.5/19, ms1mx4.3/42, Error ellipse: s-maj=23.1km s-min=9.6km az=52.0*
*INET **20** 15:20:32.9, 10°.96N×87°.07W, h15km, MW5.1*
*NEIC **20** 15:20:35.7±1.9, 11°.12N±0°.06×86°.90W±0°.07, h40km±4km, mb5.0/297, Md5.1(SNET), Error ellipse: s-maj=11.2km s-min=7.3km az=55.0*
*GCMT **20** 15:20:36.7±0.2, 10°.87N±0°.01×87°.26W±0°.01, h14km, MW5.1/126, Moment Tensor Solution. s60,c77; s126,c189; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.99±.14; Mθθ-2.62±.10; Mϕϕ-1.37±.09; Mrθ2.87±.25; Mrϕ1.65±.06; Mθϕ-4.13±.31; Best double couple: M₀6.33700×10¹⁶ NP1:ϕs293.00000°, δ21.00000°, λ65.00000°. NP2:ϕs140.00000°, δ72.00000°, λ99.00000°. Principal axes: T 6.5900, Plg62.0000°, Azm64.0000°; N -0.5070, Plg9.0000°, Azm317.0000°; P -6.0830, Plg26.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 15:20:35.3±0.3, 11°.17N±0°.05×86°.88W±0°.05, h30km, n454, σ1s64/334, mb5.0/158, MS4.7/25, 2C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRIN	**San Cristobal**	**1.53**	**354**			**Pn**	**15 21 01.4**	**+0.7**
ORTG	**Ortega, Santa**	**1.61**	**120**			**Pn**	**15 21 00.5**	**-1.2**
BOAB	**BOACO BROADBAN**	**1.74**	**43**			**Pn**	**15 21 04.7**	**+1.2**
ACON	**Acoyapa**	**1.85**	**64**			**Pn**	**15 21 05.7**	**+0.7**
CSGN	**Cosiguina Volc**	**1.91**	**340**	*e*P		**Pn**	**15 21 05.4**	**-0.5**
CSGN	**Cosiguina Volc**	**1.91**	**340**			**Pn**	**15 21 06.7**	**+0.7**
MATN	**Matagalpa**	**1.98**	**28**			**Pn**	**15 21 08.4**	**+1.5**
JTS	**Las Juntas de**	**2.08**	**115**	Pn		**Pn**	**15 21 08.4**	**+0.1**
	13nm,0.3s,baz=175,slow=22,SNR=40							
JTS				Sn		**Sb**	**15 21 35.5**	**-2.5**
	154nm,0.3s,baz=63,slow=7.7,SNR=7.8							
JTS				LR		LR	15 21 40.5	
	comp=Z,5μm,18.1s,baz=352,slow=34							
JTS	**Las Juntas de**	**2.08**	**115**	Pn		**Pn**	**15 21 07.6**	**-0.6**
JTS	**Las Juntas de**	**2.08**	**115**	*e*P		**Pn**	**15 21 07.7**	**-0.6**
CAO2	**Cobano, Puntar**	**2.28**	**130**			**Pn**	**15 21 09.7**	**-1.3**
CNCH	**Conchagua**	**2.29**	**336**	*e*P		**Pn**	**15 21 11.1**	**-0.2**
COVE	**Coope Vega, Sa**	**2.47**	**100**			**Pn**	**15 21 13.7**	**+0.1**
VSM	**San Miguel**	**2.63**	**329**	*e*P		**Pn**	**15 21 15.4**	**-0.5**
LCY	**Lacayo**	**2.63**	**328**	*e*P		**Pn**	**15 21 16.0**	**+0.1**
PACA	**Pacayal**	**2.69**	**328**	*e*P		**Pn**	**15 21 16.6**	**0.0**
PACA				*e*S		**Sn**	**15 21 45.3**	**-2.9**
PACA				IAML			15 22 03.8	
PACA				IAML			15 22 04.0	
	comp=Z,360nm,0.2s							
TECA	**Tecapa**	**2.80**	**326**	*e*P		**Pn**	**15 21 17.2**	**-1.1**
TGUH	**Tegucigalpa,Un**	**2.90**	**352**	*e*P		**Pn**	**15 21 20.6**	**+1.1**
TGUH	**Tegucigalpa,Un**	**2.90**	**352**			**Pn**	**15 21 20.8**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.90**	**352**	⇑*i*P		**Pn**	**15 21 21.1**	**+1.6**
HDC	**Heredia**	**2.96**	**113**			**Pn**	**15 21 20.9**	**+0.6**
LFRS	**El Faro**	**3.24**	**319**	*e*P		**Pn**	**15 21 23.6**	**-0.6**
LFRS				*e*S		**Sn**	**15 21 56.8**	**-5.1**
LBRS	**Las Brisas**	**3.31**	**321**	*e*P		**Pn**	**15 21 24.4**	**-0.8**
MTO3	**Montecristo**	**4.02**	**323**			**Pn**	**15 21 34.6**	**-0.4**
RIOS	**Rincon, Osa**	**4.12**	**126**			**Pn**	**15 21 36.2**	**-0.1**
APG	**El Apazote**	**5.17**	**318**	Pn		**Pn**	**15 21 51.0**	**+0.1**
	comp=Z,2.7nm,0.3s,baz=125,slow=7.8,SNR=11							
CCIG	**Comizan**	**7.21**	**315**			**Pn**	**15 22 20.2**	**+1.4**
BCIP	**Isla Barro Col**	**7.21**	**105**	Pn		**Pn**	**15 22 20.3**	**+1.5**
BCIP	**Isla Barro Col**	**7.21**	**105**	*e*P		**Pn**	**15 22 19.8**	**+1.1**
AZU	**Azuero**	**7.33**	**117**	*e*P		Pn	15 22 29.0	+8.6
UPA	**Univ. de Panam**	**7.55**	**106**	*e*P		Pn	15 22 27.9	+4.5
TEIG	**Tepich**	**9.10**	**352**	Pn		**Pn**	**15 22 45.9**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=140,slow=6.5,SNR=8.1							
TEIG				LR		LR	15 25 49.2	
	comp=Z,1μm,21.6s,baz=164,slow=36							
TEIG	**Tepich**	**9.10**	**352**			**Pn**	**15 22 46.9**	**+2.2**
TEIG	**Tepich**	**9.10**	**352**	*e*P		**Pn**	**15 22 47.0**	**+2.2**
UPD2	**Meteti**	**9.11**	**106**	*e*P		**Pn**	**15 22 48.6**	**+3.7**
CAPC	**Capurgana**	**9.72**	**104**	*e*P		Pn	15 23 03.1	+10
WBCY	**West Bay, Gran**	**9.72**	**92**	Pn		**Pn**	**15 22 54.0**	**+0.8**
CMIG	**Matias Romero**	**9.74**	**308**	Pn		**Pn**	**15 22 53.1**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=105,slow=9.7,SNR=56							
PTAC	**Punta Ardita,**	**9.80**	**113**	*e*P		Pn	15 23 01.2	+6.8
PIZC	**Pizarro, Choco**	**11.26**	**122**	*e*P		**Pn**	**15 23 16.8**	**+2.5**
MOTC	**Monteria, Cord**	**11.30**	**101**	*e*P		Pn	15 23 28.8	+14
DBBC	**Dabeiba**	**11.31**	**110**	*e*P		**Pn**	**15 23 18.4**	**+3.3**
MTDJ	**Mount Denham**	**11.44**	**51**	*e*P		**Pn**	**15 23 19.1**	**+2.4**
SJCC	**San Jacinto, C**	**11.57**	**95**	*e*P		**Pn**	**15 23 19.8**	**+1.2**
UREC	**San Jos de Ur**	**11.70**	**106**	*e*P		**Pn**	**15 23 20.5**	**+0.2**
CBOC	**Ciudad Bolivar**	**11.97**	**115**	*e*P		Pn	15 23 31.4	+7.3
PLMC	**San Jos del P**	**12.20**	**120**	*e*P		**Pn**	**15 23 26.5**	**-0.7**
HELC	**Santa Helena**	**12.26**	**113**	*e*P		**P**	**15 23 38.4**	**-2.0**
TUMC	**Tumaco**	**12.32**	**138**	*e*P		**Pn**	**15 23 28.2**	**-0.5**
ZARC	**Zaragoza, Cauc**	**12.41**	**106**	*e*P		**Pn**	**15 23 30.8**	**+0.8**
YOTC	**Yotoco, Valle**	**12.64**	**124**	*e*P		**P**	**15 23 45.6**	**+1.2**
SMLC	**San Martn de**	**12.83**	**99**	*e*P		**P**	**15 23 46.2**	**-0.2**
GUY2C	**Guyana, Caldas**	**12.83**	**116**	*e*P		**Pn**	**15 23 35.4**	**-0.8**
TLIG	**Tlapa**	**12.98**	**301**			**Pn**	**15 23 39.5**	**+1.6**
RREF	**El Recreo**	**13.00**	**118**	*e*P		**Pn**	**15 23 34.7**	**-4.0**
PTBC	**PUERTO BERRIO,**	**13.11**	**110**	*e*P		**Pn**	**15 23 42.1**	**+2.6**
NORC	**Norcasia**	**13.12**	**114**	*e*P		**Pn**	**15 23 43.0**	**+3.2**
ANIL	**Santa Ana**	**13.16**	**119**	*e*P		P	15 23 59.3	+9.0
TOLC	**Tolima**	**13.18**	**119**	*e*P		**Pn**	**15 23 44.0**	**+3.2**
BBAC	**Balboa, Cauca**	**13.19**	**133**	*e*P		**Pn**	**15 23 41.5**	**+0.6**
POPC	**Popayan, Colom**	**13.26**	**130**	*e*P		P	15 23 46.1	-5.3
SOTA	**Rioblanco**	**13.58**	**131**	*e*P		**Pn**	**15 23 47.5**	**+1.0**
ORTC	**Ortega, Tolima**	**13.60**	**121**	*e*P		**Pn**	**15 23 49.2**	**+3.0**
BRRC	**Barranca, Sant**	**13.61**	**106**	*e*P		**Pn**	**15 23 48.8**	**+2.3**
PCON	**Cinco Dias**	**13.61**	**129**	*e*P		**Pn**	**15 23 43.0**	**-4.0**
MARP	**Paez Belalcaza**	**13.63**	**127**	*e*P		P	15 24 00.3	+4.7
OCAC	**Ocana**	**13.68**	**101**	*e*P		**Pn**	**15 23 45.9**	**-1.6**
OTAV	**Otavalo**	**13.71**	**142**	Pn		**Pn**	**15 23 49.5**	**+1.3**
OTAV	**Otavalo**	**13.71**	**142**	*e*P		**P**	**15 23 53.4**	**-3.2**
OTAV	**Otavalo**	**13.71**	**142**	*e*P		**P**	**15 23 53.7**	**-3.0**
CRJC	**Cerrejon, Guaj**	**13.74**	**89**	*e*P		**Pn**	**15 23 48.1**	**-0.2**
SPBC	**San Pablo de B**	**13.80**	**112**	*e*P		**Pn**	**15 23 51.4**	**+2.2**
ROSC	**El Rosal**	**13.93**	**116**	*e*P		**P**	**15 23 57.5**	**-1.5**
PRAC	**Prado**	**14.00**	**121**	*e*P		**P**	**15 24 01.2**	**+1.8**
BETC	**Betania**	**14.13**	**126**	*e*P		**P**	**15 24 04.7**	**+3.8**
BARC	**Barichara**	**14.27**	**107**	*e*P		**P**	**15 24 04.1**	**+1.5**
GTBY	**Guantanamo Bay**	**14.29**	**51**	P		**P**	**15 24 02.0**	**-0.5**
GTBY	**Guantanamo Bay**	**14.29**	**51**	*e*P		**Pn**	**15 23 55.8**	**+0.1**
GARC	**Garzon, Huila**	**14.40**	**128**	*e*P		**P**	**15 24 03.9**	**-0.2**
PAMC	**Pamplona, Colo**	**14.50**	**104**	*e*P		**P**	**15 24 02.8**	**-2.6**
URIC	**Uribia, Colomb**	**14.60**	**86**	*e*P		Pn	15 23 54.6	-5.4
RUSC	**La Rusia**	**14.61**	**110**	*e*P		**Pn**	**15 23 59.8**	**-0.7**
TAMC	**Tame, Arauca**	**15.63**	**106**	*e*P		**P**	**15 24 17.2**	**-0.3**
SDV	**Santo Domingo**	**16.16**	**97**	Pn		**Pn**	**15 24 21.0**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=293,slow=7.3,SNR=15							
SDV				LR		LR	15 31 51.2	
	comp=Z,2μm,18.1s,baz=273,slow=42							
SDV	**Santo Domingo**	**16.16**	**97**	P		**P**	**15 24 22.3**	**-1.2**
SDV	**Santo Domingo**	**16.16**	**97**	*e*P		**Pn**	**15 24 18.6**	**-1.9**
SDV	**Santo Domingo**	**16.16**	**97**	*e*P		**P**	**15 24 22.9**	**-0.6**
PTGC	**Puerto Gaitan,**	**16.16**	**114**	*e*P		**Pn**	**15 24 17.1**	**-3.4**
MOIG	**Morelia**	**16.17**	**303**			**P**	**15 24 22.0**	**-1.7**
GUVC	**San Jose del G**	**16.53**	**120**	*e*P		**Pn**	**15 24 25.2**	**+0.1**
SDDR	**Presa de Saban**	**16.93**	**61**	P		**P**	**15 24 33.0**	**+1.0**
SDDR	**Presa de Saban**	**16.93**	**61**	*e*P		**Pn**	**15 24 30.0**	**-0.1**
060A	**Indiantown**	**16.93**	**20**	P		**P**	**15 24 33.2**	**+1.4**
060A					IAmb	IAmb	15 24 53.4	
	comp=Z,131nm,1.1s							
DWPF	**Disney Wildern**	**17.61**	**16**	P		**Pn**	**15 24 38.5**	**0.0**
DWPF					IAmb	IAmb	15 24 44.5	
	comp=Z,238nm,1.6s							
DWPF	**Disney Wildern**	**17.61**	**16**	P			15 24 40.3	
	baz=198							
ZAIG	**Zacatecas**	**18.90**	**310**			**Pn**	**15 24 55.3**	**+0.6**
553A	**Crawfordville**	**19.06**	**6**	P		**P**	**15 24 55.5**	**+0.3**
KVTX	**Kingsville**	**19.30**	**329**	P		**P**	**15 24 57.7**	**-0.2**
KVTX					IAmb	IAmb	15 25 16.8	
	comp=Z,96nm,0.8s							
451A	**Vernon**	**19.38**	**3**	P		**P**	**15 24 59.0**	**+0.2**
BRAL	**Brewton**	**19.90**	**360**	P		**Pn**	**15 25 05.9**	**-0.3**
BRAL	**Brewton**	**19.90**	**360**	P			15 25 05.6	
	baz=180							
456A	**Hilliard**	**19.97**	**12**	P		**P**	**15 25 05.7**	**+0.4**
ATAH	**Atahualpa**	**20.05**	**155**	P		Pn	15 25 08.2	-0.4
	comp=Z,4.0nm,0.7s,baz=328,slow=15,SNR=5.0							
ATAH				LR		LR	15 31 52.6	
	comp=Z,2μm,18.8s,baz=337,slow=34							
346A	**Big Creek Wild**	**20.26**	**354**	P		Pn	15 25 10.0	-0.5
352A	**Blakely**	**20.29**	**5**	P		**P**	**15 25 09.7**	**+1.1**
MPR	**Mayaguez**	**20.32**	**68**	P		**P**	**15 25 08.4**	**-0.7**
MLPR	**Magueyes Islan**	**20.34**	**68**			**P**	**15 25 09.8**	**+0.5**
441A	**DeRidder**	**20.34**	**344**	P		**P**	**15 25 10.3**	**+1.1**
735A	**Kenedy**	**20.35**	**331**	P		**P**	**15 25 09.7**	**+0.4**
TIGA	**Tifton**	**20.40**	**8**	P		Pn	15 25 11.2	-0.9
TIGA	**Tifton**	**20.40**	**8**	P			15 25 11.6	
	baz=189							
AGPR	**Aguadilla, PR**	**20.43**	**67**	P		**P**	**15 25 10.4**	**+0.1**
HKT	**Hockley**	**20.46**	**337**			**P**	**15 25 11.1**	**+0.6**
HKT					IAmb	IAmb	15 25 16.2	
	comp=Z,200nm,1.6s							
344A	**Westbrook Farm**	**20.50**	**351**	P		**P**	**15 25 11.7**	**+0.8**
833A	**Chaparral WMA,**	**20.70**	**327**	P			15 25 13.2	
	baz=143							
AOPR	**Arecibo Observ**	**20.71**	**68**	P		**P**	**15 25 12.1**	**-1.3**
250A	**Grady**	**20.71**	**1**	P		**P**	**15 25 14.0**	**+0.8**
342A	**Flagon Creek P**	**20.73**	**347**	P		**P**	**15 25 13.8**	**+0.4**
342A					IAmb	IAmb	15 25 20.9	
	comp=Z,157nm,1.5s							
OBIP	**Obispado Ponce**	**20.76**	**68**	P		**P**	**15 25 13.4**	**-0.5**
OBIP					IAmb	IAmb	15 25 42.2	
	comp=Z,219nm,1.9s							
ICMP	**Isla Caja de M**	**20.79**	**69**	P		**P**	**15 25 12.8**	**-1.4**
255A	**Hazlehurst**	**21.05**	**10**			**P**	**15 25 18.3**	**+1.4**
SJG	**San Juan**	**21.20**	**69**	P		**P**	**15 25 18.4**	**-0.2**
	comp=Z,25nm,0.2s,baz=328,slow=18,SNR=6.1							
SJG	**San Juan**	**21.20**	**69**	P		**P**	**15 25 18.2**	**-0.4**
SJG					IAmb	IAmb	15 25 39.4	
	comp=Z,71nm,1.4s							
SJG	**San Juan**	**21.20**	**69**	*e*P		**P**	**15 25 12.5**	**-6.1**
VBMS	**Vicksburg**	**21.21**	**351**	P		**P**	**15 25 17.8**	**-0.8**
PDPR	**Patillas Dam,**	**21.29**	**69**	P		**P**	**15 25 17.4**	**-2.1**
257A	**Skidaway Islan**	**21.40**	**14**	P		**P**	**15 25 20.0**	**-0.6**
146A	**Union**	**21.46**	**355**	P		**P**	**15 25 18.8**	**-2.4**
HUMP	**Col San Antoni**	**21.48**	**69**	P		**P**	**15 25 20.3**	**-1.3**
152A	**Waverly Hall**	**21.49**	**5**	P		**P**	**15 25 20.8**	**-0.9**
152A					IAmb	IAmb	15 25 33.6	
	comp=Z,72nm,0.9s							
154A	**Montrose**	**21.62**	**9**	P		**P**	**15 25 24.8**	**+1.8**
154A					IAmb	IAmb	15 25 26.6	
	comp=Z,136nm,1.3s							
NATX

comp=Z,127nm,1.8s
X40A **Basin Creek Fa** 23.84 348 P 15 25 45.1
baz=166,SNR=6.4
TXAR **Lajitas Array** 23.91 322 P **P** **15 25 47.0 +0.2**
comp=Z,5.2nm,0.6s,baz=138,slow=9.2,SNR=51
TXAR PcP **PcP** **15 29 31.1 +1.9**
comp=Z,3.7nm,0.9s,baz=151,slow=5.6,SNR=6.5
TXAR S **S** **15 30 09.3 +7.8**
comp=Z,0.2nm,0.3s,baz=125,slow=15,SNR=6.7
TXAR ScP **ScP** **15 33 09.6 +4.0**
comp=Z,0.8nm,1.1s,baz=157,slow=4.8,SNR=1.6
TXAR Lajitas Array 23.91 322 P **P** **15 25 46.1 -0.7**
TX31 Lajitas Ar. Si 23.92 322 P **P** **15 25 45.2 -1.7**
TX32 Lajitas Array 23.92 322 P **P** **15 25 45.8 -1.0**
SWET Sewanee 23.95 2 P **P** **15 25 47.1 0.0**
SWET IAmb IAmb 15 25 49.7
comp=Z,74nm,1.1s
W50A Signal Mountai 23.96 3 P **P** **15 25 45.8 -1.3**
W50A IAmb IAmb 15 25 50.1
comp=Z,49nm,0.9s
W52A Murphy 23.97 6 P **P** **15 25 46.9 -0.2**
W45A Hickory Valley 23.97 355 P **P** **15 25 46.9 -0.2**
W45A IAmb IAmb 15 25 56.3
comp=Z,70nm,1.0s
BG3 Lake Jocassee 23.98 8 P **P** **15 25 47.1 -0.2**
BG3 IAmb IAmb 15 25 49.8
comp=Z,55nm,1.3s
PAULI Pauline 23.99 10 P **P** **15 25 45.8 -1.5**
PAULI IAmb IAmb 15 26 23.1
comp=Z,80nm,1.5s
Z35A Perchaven, San 24.02 338 P **P** **15 25 46.9 -0.8**
MIAR Mount Ida 24.06 346 P **P** **15 25 46.8 -1.2**
MIAR IAmb IAmb 15 25 57.5
comp=Z,30nm,0.8s
MIAR Mount Ida 24.06 346 P 15 25 46.9
baz=164,SNR=14
BIRD Birdtown, Kers 24.09 13 P **P** **15 25 48.4 +0.1**
CPCT Cooper Cave 24.27 5 IAmb IAmb 15 26 00.1
comp=Z,46nm,1.1s
ABTX Abilene, Hawle 24.37 333 IAmb IAmb 15 26 06.3
comp=Z,53nm,1.2s
ABTX Abilene, Hawle 24.37 333 P 15 25 50.6
baz=148
W41B Gary Mavity, V 24.39 349 P 15 25 49.8
baz=167,SNR=7.0
KMSC Kings Mountain 24.39 11 P 15 25 51.3
baz=193
KMSC Kings Mountain 24.39 11 IAmb IAmb 15 26 27.8
comp=Z,129nm,1.9s
H06E1 SOCORRO T-PHAS 24.41 291 T T 15 51 06.6
SNR=86
H06S1 SOCORRO T 24.43 291 T T 15 51 10.5
SNR=9.8
V48A Smith Brothers 24.46 0 P **P** **15 25 52.0 +0.3**
H06N1 SOCORRO T-PHAS 24.49 291 T T 15 51 08.7
SNR=5.3
W56A Indian Trail 24.53 12 P 15 25 51.8
baz=195
TKL Tuckaleechee C 24.54 6 P **P** **15 25 52.1 -0.3**
comp=Z,18nm,0.6s,baz=176,slow=12,SNR=28
TKL Tuckaleechee C 24.54 6 IAmb IAmb 15 25 56.5
comp=Z,34nm,0.9s
X37A Clayton 24.57 343 P **P** **15 25 51.8 -0.8**
V51A Loudon 24.63 5 IAmb IAmb 15 25 56.7
comp=Z,98nm,1.4s
V53A Saluda 24.67 8 IAmb IAmb 15 26 03.9
comp=Z,34nm,0.9s
X60A Albert Glenn T 24.67 18 P 15 25 52.8
baz=201
W57A Gilead 24.68 14 IAmb IAmb 15 25 57.4
comp=Z,109nm,1.7s
W39A Magazine 24.73 346 P **P** **15 25 52.8 -1.3**
W39A Magazine 24.73 346 P 15 25 53.4
baz=164
V52A Sevierville 24.74 6 IAmb IAmb 15 25 57.9
comp=Z,86nm,1.6s
CLTN Cedars of Leba 24.82 1 IAmb IAmb 15 26 04.2
comp=Z,36nm,0.9s
WVT Waverly 24.86 358 P 15 25 56.5
baz=178
WVT Waverly 24.86 358 P **P** **15 25 54.1 -1.2**
NNA Nana 25.07 156 P **P** **15 25 59.5 +2.1**
comp=Z,3.9nm,0.3s,baz=310,slow=7.9,SNR=3.7
NNA LR LR 15 34 30.8
comp=Z,735nm,20.6s,baz=338,slow=33
NNA Nana 25.07 156 IAmb IAmb 15 26 02.3
comp=Z,49nm,1.5s
V55A Taylorsville 25.10 11 IAmb IAmb 15 26 00.4
comp=Z,39nm,1.1s
V56A Mocksville 25.20 12 P 15 25 58.6
baz=195
SLBS Sierra La Lagu 25.23 303 P **P** **15 25 58.8 -0.1**
SLBS IAmb IAmb 15 26 04.4
comp=Z,53nm,1.4s
U49A Red Boiling Sp 25.25 2 IAmb IAmb 15 26 09.2
comp=Z,120nm,1.6s
V57A Coltrane Farms 25.43 14 P 15 26 00.6
baz=196
V58A Windy Hill, Pi 25.50 15 IAmb IAmb 15 26 03.7
comp=Z,78nm,1.1s
U54A Nelsons Funny 25.65 9 P 15 26 02.7
baz=192
U40A Yellville 25.65 349 P 15 26 00.9
baz=166,SNR=15
U54A Nelsons Funny 25.65 9 IAmb IAmb 15 26 12.9
comp=Z,49nm,1.1s
T47A Sharon Grove 25.71 360 P **P** **15 26 01.5 -1.5**
V59A Middlesex 25.71 16 P 15 26 03.0
baz=200
LPIG La Paz 25.71 303 LR LR 15 37 04.6
comp=Z,733nm,19.2s,baz=124,slow=39
U56A King 25.74 12 P 15 26 03.2
baz=195
T50A Nancy 25.80 4 IAmb IAmb 15 26 39.7
comp=Z,102nm,1.9s
WMOK Wichita Mounta 25.85 337 P **P** **15 26 02.6 -1.7**
WMOK IAmb IAmb 15 26 19.7
comp=Z,61nm,1.1s
WMOK Wichita Mounta 25.85 337 P 15 26 02.9
baz=152,SNR=31
TUL1 Leonard 25.92 343 P 15 26 05.2
baz=160
V60A Jim Taylor Roa 25.99 18 P 15 26 05.7
baz=202
U57A Blanch 26.06 14 P 15 26 05.8
baz=197,SNR=7.2
OK025 Westminster Rd 26.09 340 P **P** **15 26 04.5 -1.9**
OK025 IAmb IAmb 15 26 28.6
comp=Z,119nm,1.6s
U58A Oxford 26.22 15 P 15 26 07.2
baz=199
OK030 Cody Creek RV 26.23 342 IAmb IAmb 15 26 19.6
comp=Z,42nm,0.9s
BCOK Bluff Creek, N 26.25 340 pP 15 26 18.4 +1.9
OK031 S. Brethren Rd 26.27 342 IAmb IAmb 15 26 20.4
comp=Z,46nm,0.9s
OK029 Liberty Lake 26.33 340 IAmb IAmb 15 26 20.5
comp=Z,45nm,0.9s
QUOK Quay 26.43 342 IAmb IAmb 15 26 20.0
comp=Z,42nm,0.7s
T56A Rocky Mt 26.48 12 P 15 26 10.1
baz=195
S44A Carbondale 26.50 356 P **P** **15 26 08.0 -2.0**
BLA Blacksburg 26.57 12 IAmb IAmb 15 26 20.2
comp=Z,43nm,1.2s
BLA Blacksburg 26.57 12 P 15 26 11.0
baz=194
MNTX Cornudas Mount 26.64 323 P 15 26 10.4
baz=136
U60A Pendleton 26.68 18 P 15 26 11.4
baz=202
U61A Possum Corner 26.77 19 P 15 26 11.4
baz=203
WCI Wyandotte Cave 26.95 1 P **P** **15 26 13.2 -0.9**
WCI IAmb IAmb 15 26 14.8
comp=Z,109nm,1.7s
WCI Wyandotte Cave 26.95 1 P 15 26 13.4
baz=181
MSTX Muleshoe 26.95 330 IAmb IAmb 15 26 33.9
comp=Z,41nm,0.9s
MSTX Muleshoe 26.95 330 P 15 26 13.0
baz=144,SNR=6.6
S54A Dingess, Beckl 26.98 10 P 15 26 13.0
baz=192
S39A Bolivar 27.03 349 IAmb IAmb 15 26 22.3
comp=Z,28nm,0.8s
CCM Cathedral Cave 27.05 352 P 15 26 13.6
baz=171
CCM Cathedral Cave 27.06 352 P **P** **15 26 13.3 -1.8**
CCM IAmb IAmb 15 26 22.4
comp=Z,32nm,1.1s
T35A Sooner Cattle 27.07 343 P **P** **15 26 13.9 -1.3**
AMTX Amarillo 27.18 333 IAmb IAmb 15 26 31.0
comp=Z,35nm,0.8s
AMTX Amarillo 27.18 333 P 15 26 15.4
baz=147
S56A Natural Bridge 27.20 13 P 15 26 15.9
baz=196
R54A Victor 27.41 10 P 15 26 17.6
baz=193
S57A Dark Hollow, R 27.41 14 P 15 26 18.5
baz=197
T60A Surry 27.42 18 P 15 26 17.7
baz=202
OK032 Salt Plains WL 27.49 340 IAmb IAmb 15 27 05.8
comp=Z,69nm,1.6s
S58A Poland Farm, P 27.50 15 P 15 26 18.9
baz=199
BOAV Boa Vista 27.56 107 eP **P** **15 26 20.6 +0.7**
KAN05 Bluff City Nor 27.66 341 IAmb IAmb 15 26 36.7
comp=Z,20nm,0.6s
KAN01 Argonia South 27.66 341 P **P** **15 26 19.0 -1.6**
R55A Marlinton 27.67 12 IAmb IAmb 15 26 31.4
comp=Z,30nm,0.9s
R55A Marlinton 27.67 12 P 15 26 19.5
baz=194,SNR=5.2
S59A Mechanicsville 27.84 16 P 15 26 21.8
baz=200
R58B Mineral 27.87 15 P 15 26 22.9
baz=199
Q51A Peebles 27.92 6 IAmb IAmb 15 26 31.5
comp=Z,40nm,0.8s
R56A Bull Pasture M 27.93 13 P 15 26 23.3
baz=196
Q52A Bidwell 27.98 8 IAmb IAmb 15 26 32.1
comp=Z,41nm,0.9s
Q53A Leroy 27.98 9 P 15 26 23.3
baz=191
R57A Stanardsville 28.03 14 P 15 26 23.7
baz=198
R58A Rapidan 28.16 15 P 15 26 24.6
baz=199
P48A Milroy 28.20 2 IAmb IAmb 15 26 32.9
comp=Z,51nm,1.2s
Q54A Coxs Mills 28.22 10 IAmb IAmb 15 26 27.9
comp=Z,25nm,0.8s
R59A King George, V 28.30 16 P 15 26 26.7
baz=200
P49A Miami Univ. Ec 28.31 4 P 15 26 26.6
baz=184
P49A Miami Univ. Ec 28.31 4 IAmb IAmb 15 26 34.0
comp=Z,28nm,1.0s
Q56A Snyder Ridge, 28.59 13 IAmb IAmb 15 26 32.2
comp=Z,30nm,0.8s
Q56A Snyder Ridge, 28.59 13 P 15 26 29.3
baz=196,SNR=6.6
P40A Paris 28.61 352 IAmb IAmb 15 27 16.4
comp=Z,48nm,1.8s
P53A Whipple 28.62 9 IAmb IAmb 15 26 31.6
comp=Z,38nm,0.8s
P52A Corning 28.66 8 P 15 26 28.8
baz=190,SNR=8.4
P52A Corning 28.66 8 IAmb IAmb 15 26 37.8
comp=Z,42nm,0.9s
121A Cookes Peak, D 28.67 321 P **P** **15 26 29.4 -0.5**
Q57A Strasburg 28.76 14 P 15 26 30.5
baz=197
Q58A Fox Den Farm, 28.85 15 P 15 26 31.1
baz=199
P38A Dawn 28.95 349 IAmb IAmb 15 26 39.1
comp=Z,26nm,0.9s
O49A Covington 28.99 4 IAmb IAmb 15 26 40.3
comp=Z,37nm,1.1s
MCWV Mont Chateau 29.05 11 P 15 26 32.8
baz=194
SFIN Lafayette 29.09 360 P 15 26 32.0
baz=180
P56A Dayton Farm, R 29.11 13 P 15 26 33.8
baz=196,SNR=7.0
BNM Barren Site 29.13 325 P **P** **15 26 32.4 -1.6**
KSU1 Kansas State U 29.14 344 IAmb IAmb 15 26 41.3
comp=Z,23nm,0.8s
KSU1 Kansas State U 29.14 344 P 15 26 32.3
baz=160
ACSO Alum Creek Sta 29.15 6 IAmb IAmb 15 26 35.7
comp=Z,30nm,1.0s
ACSO Alum Creek Sta 29.15 6 P 15 26 33.1
baz=188,SNR=5.5
O52A Adamsville 29.17 8 IAmb IAmb 15 26 36.0
comp=Z,34nm,0.9s
PTGA Pitinga 29.25 112 P **P** **15 26 36.3 +1.3**
comp=Z,2.6nm,0.3s,baz=293,slow=10.0,SNR=9.2
PTGA LR LR 15 41 11.4
comp=Z,2µm,18.3s,baz=293,slow=42
PTGA Pitinga 29.25 112 eP **P** **15 26 35.5 +0.5**
ETMB Extrema 29.27 135 eP **P** **15 26 35.9 +0.8**
P57A Homestead Farm 29.28 14 P 15 26 35.8
baz=198
O53A New Philadelph 29.39 9 P 15 26 35.7
baz=191,SNR=8.9
O53A New Philadelph 29.39 9 P **P** **15 26 35.3 -0.6**
O54A Avella 29.46 10 IAmb IAmb 15 26 38.6
comp=Z,16nm,0.7s
ANMO Albuquerque 29.62 326 P **P** **15 26 38.1 -0.2**
comp=Z,1.0nm,0.5s,baz=170,slow=8.4,SNR=5.6
ANMO LR LR 15 39 27.5
comp=Z,307nm,20.5s,baz=158,slow=38
ANMO Albuquerque 29.62 326 P **P** **15 26 37.9 -0.4**
MACA Manacapuru-AM 29.70 117 eP **P** **15 26 40.4 +1.5**
P59A Jarrettsville 29.80 16 P 15 26 39.9
baz=201
CBKS Cedar Bluff 29.82 340 P 15 26 38.8
baz=154
O56A Blue Knob Stat 29.90 13 P 15 26 40.6
baz=196,SNR=6.5
N53A Lisbon 30.00 9 IAmb IAmb 15 26 43.2
comp=Z,39nm,0.8s
N38A Joes South For 30.03 350 IAmb IAmb 15 27 41.1
comp=Z,20nm,0.6s
O57A Amberson 30.06 14 P 15 26 42.0
baz=198
O58A Lewisberry 30.15 15 P 15 26 42.7
baz=200
P60A Greenville 30.22 17 P 15 26 42.8
baz=202
N54A Moraine State 30.29 10 P 15 26 43.3
baz=193
T25A Trinidad 30.29 331 P 15 26 44.2
baz=144
M50A Fremont 30.30 6 P **P** **15 26 43.1 -0.9**
M50A IAmb IAmb 15 26 51.8
comp=Z,31nm,0.9s
M51A Elyria 30.33 7 P 15 26 44.8
baz=189
TUC Tucson 30.45 317 pP pP 15 26 57.2 +2.9
N56A West Decatur 30.58 13 P 15 26 46.5
baz=197,SNR=7.4
N57A Milroy 30.59 14 P 15 26 46.5
baz=198
M53A WI Miller and 30.64 9 P 15 26 46.3
baz=192,SNR=9.9
M53A WI Miller and 30.64 9 IAmb IAmb 15 26 49.0
comp=Z,37nm,0.8s
L48A N Adams 30.73 4 P **P** **15 26 45.6 -2.1**
L48A IAmb IAmb 15 26 55.1
comp=Z,30nm,0.9s
L42A Oliver, Polo 30.81 356 IAmb IAmb 15 26 55.5
comp=Z,32nm,1.0s
M54A Oil Creek Stat 30.88 11 P 15 26 48.4
baz=194
M54A Oil Creek Stat 30.88 11 IAmb IAmb 15 26 56.8
comp=Z,22nm,0.8s
N58A Sunbury 30.88 15 IAmb IAmb 15 26 57.5
comp=Z,27nm,0.8s
N58A Sunbury 30.88 15 P 15 26 49.3
baz=200
SAML Samuel 30.90 129 P **P** **15 26 48.8 -0.8**
L40A Anamosa 31.01 354 IAmb IAmb 15 26 57.7
comp=Z,18nm,0.8s
M55A Ridgway 31.01 12 IAmb IAmb 15 26 58.2
comp=Z,29nm,1.0s
LUPA Lehigh Univers 31.02 17 IAmb IAmb 15 26 53.3
comp=Z,20nm,0.8s
SCIA State Center 31.12 351 P 15 26 49.8
baz=168
AAM Ann Arbor 31.14 5 P 15 26 50.3
baz=186
M56A Emporium 31.15 13 P 15 26 51.1
baz=197,SNR=12
M56A Emporium 31.15 13 P **P** **15 26 50.8 -0.6**
N59A State Game Lan 31.20 16 P 15 26 52.2
baz=201
L53A Girard 31.21 10 P 15 26 51.5
baz=193
M57A Sunshine Farm, 31.25 14 P 15 26 52.3
baz=199
BRNJ Basking Ridge 31.34 18 IAmb IAmb 15 27 00.5
comp=Z,26nm,1.0s
N60A Cedar Hill Far 31.35 17 P 15 26 53.6
baz=203
ERPA Erie 31.41 10 P 15 26 53.1
baz=193
M58A Price's Panora 31.45 15 P 15 26 54.3
baz=200,SNR=5.4
214A Organ Pipe Nat 31.62 315 P **P** **15 26 52.7 -3.1**
214A IAmb IAmb 15 27 06.6
comp=Z,43nm,1.9s
W18A Petrified Fore 31.62 323 IAmb IAmb 15 27 12.3
comp=Z,18nm,0.8s
JFWS Jewell Farm 31.76 355 P 15 26 56.3
baz=174
JFWS Jewell Farm 31.76 355 IAmb IAmb 15 27 04.0
comp=Z,31nm,1.1s
K38A Parkersburg 31.78 352 IAmb IAmb 15 27 03.5
comp=Z,26nm,0.9s
KSPA Keystone Colle 31.80 16 P **P** **15 26 56.6 -0.6**
KSPA IAmb IAmb 15 26 58.0
comp=Z,19nm,0.9s
PAL Palisades 31.84 19 P 15 26 57.5
baz=205
M59A Waymart 31.88 16 P 15 26 58.2
baz=202
L56A Greenwood 31.91 13 P 15 26 57.8
baz=197
M60A Port Jervis 31.91 18 P 15 26 58.1
baz=203,SNR=5.4
L57A Andrews Acres 31.94 14 P 15 26 58.1
baz=199,SNR=5.2
S22A 4UR Ranch, Cre 31.95 329 P 15 26 58.6
baz=141,SNR=8.4
WVNY West Valley, N 31.95 12 IAmb IAmb 15 27 00.5
comp=Z,19nm,0.9s
M61A Granite Spring 32.16 19 P 15 27 00.5
baz=205
L58A Harry Jones Me 32.23 15 P 15 27 00.8
baz=200,SNR=13
BINY Binghamton 32.34 15 P 15 27 02.1
baz=200,SNR=11
MMNY Mt. Morris Dam 32.40 12 P **P** **15 27 01.6 -0.8**
MMNY IAmb IAmb 15 27 04.1
comp=Z,44nm,1.2s
MVCO Mesa Verde 32.41 327 P 15 27 01.5
baz=138
MVCO Mesa Verde 32.41 327 IAmb IAmb 15 27 18.9
comp=Z,13nm,0.8s
K56A Middlesex 32.49 13 P 15 27 02.6
baz=198,SNR=9.3
OGNE Ogallala 32.52 338 P 15 27 03.2
baz=152
M62A Hamden 32.56 20 P 15 27 03.8
baz=206
L59A Walton 32.59 16 IAmb IAmb 15 27 04.9
comp=Z,29nm,0.9s
L59A Walton 32.59 16 P 15 27 04.3
baz=202
L60A Shokan 32.64 18 P 15 27 04.8
baz=203,SNR=7.0
K57A Scipio Center 32.71 14 P 15 27 04.9
baz=199
I40A Norwalk 32.76 355 IAmb IAmb 15 27 11.9
comp=Z,24nm,0.9s
M63A Gales Ferry 32.81 21 P 15 27 06.5
baz=208
I51A Listowel 32.91 8 P 15 27 05.8
baz=191
K58A Earlville 32.96 15 P 15 27 07.0
baz=200,SNR=7.3
K58A Earlville 32.96 15 IAmb IAmb 15 27 09.4
comp=Z,27nm,0.8s
LPAZ La Paz 32.99 145 P **P** **15 27 09.1 +0.6**
comp=Z,0.7nm,0.4s,baz=323,slow=5.6,SNR=4.8
LPAZ LR LR 15 40 33.7
comp=Z,1µm,20.3s,baz=332,slow=36
LPAZ La Paz 32.99 145 P **P** **15 27 07.3 -1.2**
LPAZ La Paz 32.99 145 eP **P** **15 27 09.6 +1.0**
L61A Hillsdale 1, H 33.03 18 P 15 27 07.9
baz=204
SMCO Snowmass 33.13 331 IAmb IAmb 15 27 34.3
comp=Z,39nm,1.9s
J56A Wolcott 33.15 13 P 15 27 07.9
baz=198,SNR=12
K59A Cooperstown 33.18 16 P 15 27 08.8
baz=202,SNR=7.2
I37A Lemond, Waseca 33.21 351 IAmb IAmb 15 27 16.5
comp=Z,46nm,1.2s
PV15 Paradox Valley 33.24 328 pP 15 27 20.6 +1.7
PV03 Paradox Valley 33.37 328 IAmb IAmb 15 27 26.4
comp=Z,16nm,0.7s
PV05 Paradox Valley 33.37 327 IAmb IAmb 15 27 25.3
comp=Z,24nm,1.2s
PV12 Saucer Basin, 33.39 328 IAmb IAmb 15 27 26.5
comp=Z,28nm,0.8s
PV18 Skein Mesa, Pa 33.40 328 IAmb IAmb 15 27 35.8
comp=Z,20nm,0.8s
PV16 Nyswonger Mesa 33.45 328 IAmb IAmb 15 27 26.7
comp=Z,14nm,0.7s
J57A Williamstown 33.48 14 P 15 27 10.7
baz=200,SNR=7.4
J57A Williamstown 33.48 14 IAmb IAmb 15 27 19.9
comp=Z,27nm,0.9s
PV19 Morning Glory 33.48 328 IAmb IAmb 15 27 27.5
comp=Z,14nm,0.7s
PV20 West Nyswonger 33.50 328 IAmb IAmb 15 27 39.2
comp=Z,11nm,0.6s
PV04 Paradox Valley 33.50 328 IAmb IAmb 15 27 27.2
comp=Z,21nm,0.9s
ECSD EROS Data Cent 33.52 347 P 15 27 10.0
baz=163,SNR=11
ECSD EROS Data Cent 33.52 347 IAmb IAmb 15 27 19.1
comp=Z,34nm,1.1s
L61B Northampton 33.54 19 P 15 27 11.2
baz=206
K61A Williamstown 33.55 18 P 15 27 12.8
baz=205
PV14 Lion Creek, Pa 33.55 328 IAmb IAmb 15 27 27.8
comp=Z,16nm,0.7s
PV10 Paradox Valley 33.56 328 IAmb IAmb 15 27 36.5
comp=Z,21nm,0.8s
PECO Prince Edward 33.74 13 IAmb IAmb 15 27 15.0
comp=Z,19nm,0.8s
K62A Royalston 33.87 20 P 15 27 15.5
baz=206
J59A Piesco 33.92 16 P 15 27 15.3
baz=202
J59A Piesco 33.92 16 IAmb IAmb 15 27 17.1
comp=Z,15nm,0.9s
HRV Adam Dziewonsk 33.96 20 P 15 27 16.3
baz=208
I58A Old Forge 34.00 16 P 15 27 15.8
baz=201,SNR=7.3
J60A Lant Hill Farm 34.02 18 P 15 27 17.0
baz=204
H53A Bobcaygeon 34.04 11 P 15 27 15.6
baz=195,SNR=18
N23A Red Feather La 34.04 334 P 15 27 16.6
baz=145
I57A Carthage 34.06 15 P 15 27 16.1
baz=200
G40A Rib Lake 34.10 356 IAmb IAmb 15 27 24.1
comp=Z,26nm,1.1s
SADO Sadowa 34.13 10 LR LR 15 41 59.8
comp=Z,508nm,18.9s,baz=201,slow=38
RMX La Rumorosa 34.29 313 IAmb IAmb 15 27 23.4
comp=Z,27nm,1.6s
SPMN Marine on St. 34.31 353 P 15 27 17.2
baz=170,SNR=7.8
J61A Chester 34.38 19 P 15 27 19.3
baz=205
O20A White River Ci 34.49 330 IAmb IAmb 15 27 45.6
comp=Z,24nm,1.0s
J62A Henniker 34.51 20 P 15 27 20.8
baz=207
MNMC Minye Minye 34.60 150 P **P** **15 27 20.6 -1.5**

I60A	**Shoreham**	**34.61**	**17**	P			15 27 21.7		
	baz=204								
H57A	**Richville**	**34.62**	**15**	P			15 27 21.0		
	baz=200								
ITTB	**Itaituba**	**34.62**	**115**	*e*P		**P**	**15 27 22.6**	**+0.5**	
SUSD	**Miller**	**34.75**	**345**	P			15 27 22.4		
	baz=159								
PLVO	**Plevna**	**34.78**	**12**	IAmb		IAmb	15 27 32.0		
	comp=Z,22nm,1.0s								
J63A	**Strafford**	**34.81**	**20**	P			15 27 23.1		
	baz=208								
COWI	**Conover**	**34.86**	**357**	IAmb		IAmb	15 27 29.9		
	comp=Z,23nm,0.8s								
SRU	**San Rafael Swe**	**34.89**	**327**	IAmb		IAmb	15 27 48.3		
	comp=Z,13nm,0.9s								
H58A	**Gabriels**	**34.89**	**16**	P			15 27 23.0		
	baz=202,SNR=6.6								
MALB	**Monte Alegre**	**34.92**	**110**	*e*P		**P**	**15 27 24.8**	**+0.1**	
G54A	**Lake Saint Pet**	**34.93**	**11**	P			15 27 22.8		
	baz=195,SNR=13								
LONY	**Lake Ozonia**	**34.97**	**15**	IAmb		IAmb	15 27 26.6		
	comp=Z,21nm,0.8s								
LONY	**Lake Ozonia**	**34.97**	**15**	P			15 27 23.9		
	baz=201								
BELC	**Belle Mtn. Jos**	**34.98**	**315**	P			15 27 23.6		
	baz=124								
F36A	**Milaca**	**35.03**	**352**	IAmb		IAmb	15 27 31.8		
	comp=Z,20nm,0.8s								
MTPU	**Mount Pierson**	**35.06**	**324**	IAmb		IAmb	15 27 40.3		
	comp=Z,47nm,1.7s								
E43A	**Lone Tree Farm**	**35.09**	**360**	IAmb		IAmb	15 27 32.2		
	comp=Z,29nm,1.0s								
PFO	**Pinyon Flats O**	**35.09**	**314**	P		**P**	**15 27 26.0**	**-0.1**	
	comp=Z,1.2nm,0.6s,baz=126,slow=14,SNR=6.6								
PFO	**Pinyon Flats O**	**35.09**	**314**	P		**P**	**15 27 24.5**	**-1.6**	
PFO				IAmb		IAmb	15 27 29.7		
	comp=Z,47nm,1.9s								
H59A	**Cadyville**	**35.23**	**16**	P			15 27 26.2		
	baz=203								
I62A	**Tamworth**	**35.25**	**20**	P			15 27 27.0		
	baz=207								
G57A	**Newington**	**35.32**	**15**	P			15 27 27.0		
	baz=200								
LBNH	**Lisbon**	**35.39**	**19**	P			15 27 28.2		
	baz=206								
H60A	**Morristown**	**35.44**	**18**	P			15 27 28.2		
	baz=204								
ALGO	**Algonquin Park**	**35.47**	**11**	P			15 27 28.3		
	baz=195,SNR=11								
F33A	**5 Mile Ranch,**	**35.47**	**349**	IAmb		IAmb	15 27 35.6		
	comp=Z,28nm,0.8s								
TCRU	**Three Creeks R**	**35.60**	**324**			pP	15 27 39.4	+0.1	
G58A	**Ormstown**	**35.60**	**16**	P			15 27 30.0		
	baz=202								
H61A	**Lyndonville**	**35.65**	**18**	P			15 27 30.0		
	baz=206								
I63A	**Otisfield**	**35.66**	**20**	P			15 27 30.2		
	baz=208								
VILB	**Vilhena**	**35.71**	**131**	*e*P		**P**	**15 27 32.4**	**+0.9**	
K22A	**Casper**	**35.73**	**335**	P			15 27 31.2		
	baz=146								
I64A	**Boothbay**	**35.87**	**21**	P			15 27 32.8		
	baz=210								
F57A	**Harrington**	**36.05**	**15**	P			15 27 33.2		
	baz=200								
NPGB	**Novo Progresso**	**36.21**	**119**	*e*P		**P**	**15 27 35.2**	**-0.6**	
E55A	**Montcerf-Lytto**	**36.35**	**13**	P			15 27 36.5		
	baz=198								
H63A	**New Sharon**	**36.38**	**20**	P			15 27 36.2		
	baz=208								
G61A	**St-Isidore-de-**	**36.45**	**18**	P			15 27 38.1		
	baz=206								
MCPB	**Macapa, AP**	**36.45**	**106**	*e*P		**P**	**15 27 38.4**	**+0.5**	
MWC	**Mount Wilson**	**36.54**	**314**	IAmb		IAmb	15 27 42.0		
	comp=Z,60nm,1.8s								
F59A	**Saint Guillaume**	**36.59**	**17**	P			15 27 39.5		
	baz=204								
H64A	**Troy**	**36.65**	**21**	P			15 27 39.6		
	baz=210								
E56A	**St. Veronique**	**36.66**	**14**	P			15 27 39.2		
	baz=200								
G62A	**West of Eustis**	**36.71**	**19**	IAmb		IAmb	15 27 40.3		
	comp=Z,19nm,0.9s								
G62A	**West of Eustis**	**36.71**	**19**	P			15 27 39.8		
	baz=207								
TCUT	**Toone Canyon**	**36.81**	**328**	IAmb		IAmb	15 27 58.1		
	comp=Z,12nm,0.7s								
TPNV	**Topopah Spring**	**36.84**	**319**	P			15 27 39.3		
	baz=127								
EDW2	**Edwards Air Fo**	**36.84**	**315**	P			15 27 40.1		
	baz=122								
EYMN	**Ely**	**36.86**	**355**	P			15 27 40.3		
	baz=172								
EYMN	**Ely**	**36.86**	**355**	IAmb		IAmb	15 27 47.3		
	comp=Z,19nm,1.1s								
G63A	**Kingsbury**	**36.92**	**20**	P			15 27 41.5		
	baz=209								
E58A	**La Victoria**	**36.94**	**16**	P			15 27 41.4		
	baz=202								
F60A	**Warwick**	**36.94**	**17**	P			15 27 41.7		
	baz=205								
D55A	**Sainte-Anne-du**	**37.01**	**13**	P			15 27 41.5		
	baz=199								
H65A	**Eastbrook**	**37.05**	**22**	P			15 27 42.3		
	baz=211								
BW06	**Boulder Array**	**37.16**	**332**	P			15 27 43.4		
	baz=141								
PDAR	**Pinedale Array**	**37.16**	**332**	P		**P**	**15 27 43.1**	**-0.7**	
	comp=Z,1.6nm,0.6s,baz=135,slow=10,SNR=18								
PDAR				PcP		**PcP**	**15 30 03.5**	**-0.1**	
	comp=Z,0.9nm,0.5s,baz=124,slow=3.6,SNR=5.3								
PDAR				ScP		**ScP**	**15 33 54.1**	**+5.4**	
	comp=Z,1.0nm,0.8s,baz=150,slow=4.1,SNR=7.1								
PDAR				LR		LR	15 45 37.9		
	comp=Z,319nm,20.8s,baz=128,slow=41								
PDAR	**Pinedale Array**	**37.16**	**332**	P		**P**	**15 27 42.7**	**-1.1**	
PKME	**Peaks-Kenny Pk**	**37.16**	**21**	P			15 27 43.7		
	baz=209								
F61A	**St Evariste**	**37.23**	**18**	P			15 27 43.7		
	baz=206								
HWUT	**Hardware Ranch**	**37.25**	**329**	IAmb		IAmb	15 27 57.0		
	comp=Z,22nm,0.8s								
E60A	**Ste Agathe de**	**37.45**	**18**	P			15 27 46.6		
	baz=205								
B35A	**Bob, Littlefor**	**37.51**	**352**	IAmb		IAmb	15 27 45.6		
	comp=Z,65nm,1.9s								
BGU	**Big Grassy Mou**	**37.53**	**327**	IAmb		IAmb	15 28 02.3		
	comp=Z,34nm,1.8s								
ISA	**Isabella, Lake**	**37.59**	**316**	IAmb		IAmb	15 27 51.1		
	comp=Z,36nm,1.8s								
F63A	**Nahmakanta, Br**	**37.61**	**21**	P			15 27 47.0		
	baz=209								
VLDQ	**Val d'Or**	**37.66**	**10**	IAmb		IAmb	15 27 53.4		
	comp=Z,36nm,1.6s								
D58A	**Chemin du LacG**	**37.71**	**16**	P			15 27 47.8		
	baz=203								
G65A	**Princeton**	**37.73**	**22**	P			15 27 48.2		
	baz=212								
AGMN	**Agassiz Nation**	**37.77**	**350**	IAmb		IAmb	15 27 55.5		
	comp=Z,24nm,1.0s								
AGMN	**Agassiz Nation**	**37.77**	**350**	P			15 27 46.3		
	baz=166,SNR=9.0								
CLDB	**Colider**	**37.87**	**124**	*e*P		**P**	**15 27 49.9**	**0.0**	
AHID	**Auburn Hatcher**	**37.88**	**331**	IAmb		IAmb	15 28 04.9		
	comp=Z,13nm,0.7s								
LVC	**Limon Verde**	**37.91**	**152**	*e*P		**P**	**15 27 52.0**	**+1.5**	
LATQ	**La Tuque**	**38.00**	**16**	P			15 27 50.1		
	baz=203								
F64A	**Sherman**	**38.01**	**21**	P			15 27 50.6		
	baz=210								
MDND	**Maddock**	**38.09**	**346**	P			15 27 51.0		
	baz=160								
D60A	**Saint Jean D'O**	**38.10**	**18**	P			15 27 50.7		
	baz=206								
PTLB	**Pontes e Lacer**	**38.13**	**133**	*e*P		**P**	**15 27 51.9**	**-0.2**	
SNOW	**Snow King Moun**	**38.25**	**332**	IAmb		IAmb	15 28 09.0		
	comp=Z,19nm,0.8s								
LOHW	**Long Hollow**	**38.30**	**332**	IAmb		IAmb	15 28 16.7		
	comp=Z,41nm,1.8s								
E63A	**Oxbow**	**38.47**	**21**	P			15 27 54.5		
	baz=210								
D61A	**St Aubert, Com**	**38.58**	**18**	P			15 27 54.7		
	baz=207								
ELK	**Elko**	**38.63**	**325**	P		**P**	**15 27 55.8**	**-0.4**	
	comp=Z,2.3nm,0.8s,baz=137,slow=4.9,SNR=8.9								
E64A	**Bridgewater**	**38.68**	**21**	P			15 27 55.6		
	baz=211								
D62A	**Allapoint, All**	**38.84**	**19**	P			15 27 57.2		

	baz=208								
LAO	**LASA Array**	**39.01**	**339**	P			15 27 59.1		
	baz=149								
NVAR	**Mina Array Bea**	**39.03**	**319**	P		**P**	**15 28 00.1**	**+0.4**	
	comp=Z,1.8nm,0.6s,baz=139,slow=7.6,SNR=19								
NVAR				PcP		**PcP**	**15 30 10.8**	**+1.3**	
	comp=Z,2.4nm,0.6s,baz=129,slow=4.0,SNR=9.6								
NVAR				ScP		**S**	**15 34 00.7**	**+3.5**	
	comp=Z,0.3nm,0.7s,baz=113,slow=4.4,SNR=2.6								
NVAR				LR		LR	15 47 43.2		
	comp=Z,981nm,18.8s,baz=136,slow=42								
D63A	**Stockholm**	**39.11**	**20**	P			15 27 59.3		
	baz=210								
MATQ	**Matagami**	**39.23**	**9**	P			15 27 59.2		
	baz=194,SNR=6.1								
LMN	**Caledonia Moun**	**39.35**	**24**	IAmb		IAmb	15 28 03.7		
	comp=Z,16nm,0.7s								
GCMT	**Greycliff**	**39.60**	**335**			pP	15 28 14.2	+1.2	
ULM	**Lac du Bonnet**	**39.66**	**351**	P		**P**	**15 28 02.4**	**-2.0**	
	comp=Z,9.8nm,0.8s,baz=170,slow=8.4,SNR=18								
ULM				PcP		**PcP**	**15 30 11.2**	**+0.3**	
	comp=Z,3.1nm,0.7s,baz=20,slow=2.5,SNR=2.9								
ULM				ScP		**ScP**	**15 34 01.2**	**+3.5**	
	comp=Z,1.2nm,0.5s,baz=164,slow=1.5,SNR=4.7								
ULM	**Lac du Bonnet**	**39.66**	**351**	P		**P**	**15 28 02.2**	**-2.2**	
ULM				IAmb		IAmb	15 28 10.7		
	comp=Z,20nm,0.9s								
GO02	**Mina Guanaco**	**39.85**	**155**	P		**P**	**15 28 07.0**	**+0.3**	
BATG	**Bathurst New B**	**40.05**	**22**	P		**P**	**15 28 07.5**	**-0.2**	
BATG				IAmb		IAmb	15 29 05.0		
	comp=Z,51nm,1.7s								
PNTR	**Pine Nut**	**40.24**	**319**			pP	15 28 21.3	+2.7	
MCMT	**McKenzie Canyo**	**40.27**	**331**	P		**P**	**15 28 10.6**	**+0.7**	
PRPB	**Parauapebas**	**40.71**	**113**	*e*P		**P**	**15 28 13.5**	**-0.2**	
TMAB	**Tom-Au,PA,Br**	**40.85**	**107**	*e*P		**P**	**15 28 15.7**	**+0.9**	
BEKR	**Beckworth**	**41.16**	**320**	P		**P**	**15 28 17.6**	**+0.3**	
EGMT	**Eagleton**	**41.44**	**337**	P			15 28 18.6		
	baz=145								
WVOR	**Wild Horse Val**	**41.66**	**324**	P		**P**	**15 28 21.6**	**+0.3**	
SNDB	**Serra Nova Dou**	**42.16**	**122**	*e*P		**P**	**15 28 25.6**	**+0.1**	
MOD	**Modoc Plateau**	**42.31**	**322**			pP	15 28 37.1	+1.6	
BMO	**Blue Mountains**	**42.51**	**328**	P		**P**	**15 28 26.5**	**-1.6**	
ARAG	**Araguaiana, MT**	**43.80**	**127**	*e*P		**P**	**15 28 38.9**	**+0.1**	
SMTB	**Santa Maria do**	**43.86**	**115**	*e*P		**P**	**15 28 39.2**	**-0.1**	
AQDB	**Aquidauana**	**43.93**	**136**	*e*P		**P**	**15 28 39.6**	**-0.1**	
PEXB	**Peixe**	**44.75**	**120**	*e*P		**P**	**15 28 46.0**	**-0.5**	
ROSB	**Rosrio**	**44.77**	**106**	*e*P		**P**	**15 28 46.0**	**-0.6**	
NEW	**Newport**	**44.79**	**331**	PcP		**PcP**	**15 30 28.4**	**+0.4**	
	comp=Z,1.8nm,0.6s,baz=139,slow=3.2,SNR=2.2								
H03N2	**Juan Fernandez**	**45.00**	**171**	T		T	16 16 53.7		
	baz=349,slow=76,SNR=9.9								
H03N1	**Juan Fernandez**	**45.01**	**171**	T		T	16 16 59.4		
	baz=349,slow=76,SNR=10								
H03N3	**Juan Fernandez**	**45.02**	**171**	T		T	16 16 58.2		
	baz=349,slow=76,SNR=11								
FFC	**Flin Flon**	**45.06**	**348**	P		**P**	**15 28 46.1**	**-2.2**	
B08A	**Colville Reser**	**45.92**	**330**	P		**P**	**15 28 54.6**	**-0.7**	
BDFB	**Brasilia**	**46.80**	**124**	P		**P**	**15 29 02.4**	**-0.4**	
	comp=Z,8.3nm,0.6s,baz=279,slow=6.3,SNR=9.9								
BDFB				LR		LR	15 49 25.7		
	comp=Z,1μm,18.7s,baz=302,slow=37								
CPUP	**Villa Florida**	**47.06**	**143**	P		**P**	**15 29 04.0**	**-0.5**	
	comp=Z,3.0nm,0.7s,baz=325,slow=7.2,SNR=5.1								
CPUP				LR		LR	15 50 48.7		
	comp=Z,336nm,18.2s,baz=330,slow=39								
CPUP	**Villa Florida**	**47.06**	**143**	*e*P		**P**	**15 29 04.5**	**0.0**	
ITRB	**Iturama**	**47.27**	**130**	*e*P		**P**	**15 29 06.4**	**+0.1**	
PCMB	**Pacaembu**	**47.79**	**133**	*e*P		**P**	**15 29 11.2**	**+0.9**	
IPMB	**Ipameri, GO**	**47.92**	**127**	*e*P		**P**	**15 29 10.5**	**-0.8**	
BB19B	**Bebedouro**	**49.46**	**130**	*e*P		**P**	**15 29 22.9**	**-0.3**	
JANB	**Januaria**	**49.57**	**121**	*e*P		**P**	**15 29 23.7**	**-0.4**	
ITAB	**Concordia**	**50.93**	**139**	*e*P		**P**	**15 29 34.1**	**0.0**	
NBPN	**Ponto Novo - B**	**51.29**	**114**	*e*P		**P**	**15 29 36.0**	**-1.1**	
NBMA	**Muriti-CE**	**51.29**	**109**	*e*P		**P**	**15 29 36.2**	**-0.9**	
VAO	**Valinhos**	**51.77**	**131**	*e*P		**P**	**15 29 40.4**	**-0.3**	
BSCB	**Bom Sucesso**	**52.29**	**128**	*e*P		**P**	**15 29 44.2**	**-0.3**	
NBPA	**Parau_RN**	**52.30**	**106**	*e*P		**P**	**15 29 44.2**	**-0.4**	
CPSB	**Cacapava Do Su**	**52.37**	**143**	*e*P		**P**	**15 29 44.0**	**-0.8**	
NBTA	**Tacaratu-PE**	**52.57**	**111**	*e*P		**P**	**15 29 46.2**	**-0.4**	
PLTB	**Pedras Altas**	**53.27**	**144**	*e*P		**P**	**15 29 52.6**	**+1.1**	
NBIT	**Itapeh - BA**	**53.68**	**118**	*e*P		**P**	**15 29 54.8**	**0.0**	
PLCA	**Paso Flores**	**53.81**	**165**	P		**P**	**15 29 55.2**	**-0.1**	
	comp=Z,6.0nm,0.7s,baz=340,slow=7.4,SNR=15								
PLCA				LR		LR	15 47 32.2		
	comp=Z,192nm,20.4s,baz=10.0,slow=30								
PLCA	**Paso Flores**	**53.81**	**165**	*e*P		**P**	**15 29 55.8**	**+0.5**	
SJMB	**Sao Joao De Ma**	**53.96**	**123**	*e*P		**P**	**15 29 56.5**	**-0.2**	
BSFB	**Barra de Sao F**	**54.30**	**123**	*e*P		**P**	**15 29 58.7**	**-0.5**	
NBAN	**Anadia - AL**	**54.41**	**110**	*e*P		**P**	**15 29 59.3**	**-0.8**	
RIB01	**Linhares ES**	**54.91**	**123**	*e*P		**P**	**15 30 03.1**	**-0.5**	
YKA	**Yellowknife Ar**	**54.99**	**345**	P		**P**	**15 30 01.9**	**-1.6**	
	comp=Z,1.4nm,0.7s,baz=138,slow=7.9,SNR=23								
YKA				PcP		**PcP**	**15 31 04.7**	**-0.3**	
	comp=Z,0.9nm,0.6s,baz=141,slow=4.4,SNR=6.1								
YKA				ScP		**ScP**	**15 35 06.2**	**+4.5**	
	comp=Z,0.7nm,0.8s,baz=138,slow=4.6,SNR=10								
YKA				LR		LR	15 56 27.1		
	comp=Z,529nm,18.7s,baz=0.0,slow=39								
NBRF	**Rio Formoso -**	**55.12**	**109**	*e*P		**P**	**15 30 05.0**	**-0.3**	
CAM01	**Campos-RJ**	**55.17**	**127**	*e*P		**P**	**15 30 06.4**	**+0.9**	
DLBC	**Dease Lake**	**57.30**	**335**	P		**P**	**15 30 19.1**	**-1.2**	
	comp=Z,4.7nm,0.9s,baz=129,slow=8.0,SNR=6.3								
DLBC	**Dease Lake**	**57.30**	**335**	IAmb		IAmb	15 30 28.3		
	comp=Z,39nm,1.8s								
INK	**Inuvik**	**64.59**	**343**	P		**P**	**15 31 09.0**	**-0.5**	
INK				IAmb		IAmb	15 31 27.8		
	comp=Z,22nm,1.6s								
L27K	**Beaver Creek,**	**64.66**	**336**	P			15 31 09.5		
	baz=117								
BMRM	**Bremner River**	**64.94**	**333**	P			15 31 11.3		
	baz=114								
EGAK	**Eagle**	**65.20**	**337**	P			15 31 13.0		
	baz=119								
KLU	**Klutina**	**65.73**	**333**	P			15 31 16.0		
	baz=113								
DOT	**Dot Lake**	**65.82**	**336**	IAmb		IAmb	15 31 19.0		
	comp=Z,22nm,1.6s								
SCRK	**Sand Creek**	**65.93**	**336**	P		**P**	**15 31 17.9**	**-0.6**	
SCRK				IAmb		IAmb	15 31 33.5		
	comp=Z,19nm,1.8s								
SCRK	**Sand Creek**	**65.93**	**336**	P			15 31 16.9		
	baz=116								
PRP	**Porcupine Dome**	**67.19**	**337**	IAmb		IAmb	15 32 02.6		
	comp=Z,24nm,1.8s								
PRP	**Porcupine Dome**	**67.19**	**337**	P			15 31 25.6		
	baz=115								
HDA	**Harding Lake**	**67.29**	**336**	P			15 31 26.1		
	baz=113								
HDA				P			15 31 26.1		
	baz=113								
IL31		**67.41**	**336**	IAmb		IAmb	15 31 28.4		
	comp=Z,40nm,1.8s								
ILAR	**Eielson Array**	**67.41**	**336**	P		**P**	**15 31 26.8**	**-0.9**	
	comp=Z,1.1nm,0.6s,baz=143,slow=4.0,SNR=28								
ILAR				PP		**PP**	**15 33 57.1**	**+0.8**	
	comp=Z,1.2nm,1.1s,baz=124,slow=7.6,SNR=4.8								
ILAR	**Eielson Array**	**67.41**	**336**	P		**P**	**15 31 26.9**	**-0.8**	
WAT2	**Susitna Watana**	**67.43**	**334**	P			15 31 27.7		
	baz=111								
BMAR	**Burnt Mountain**	**67.67**	**339**	P		**P**	**15 31 29.0**	**-0.3**	
SUMG	**Summit**	**67.68**	**14**	*i* P		**P**	**15 31 26.6**	**-3.2**	
SUMG	**Summit**	**67.68**	**14**	*i* P		**P**	**15 31 26.6**	**-3.2**	
TRF	**Thorofare Moun**	**68.33**	**334**	P			15 31 33.6		
	baz=109								
I23K	**Minto, Yukon-K**	**68.53**	**336**	P			15 31 34.1		
	baz=111								
BPAW	**Bear Paw Mtn.**	**68.83**	**335**	P		**P**	**15 31 36.0**	**-0.7**	
BPAW	**Bear Paw Mtn.**	**68.83**	**335**	P			15 31 35.8		
	baz=109								
PPLA	**Purkeypile**	**68.97**	**334**	P			15 31 37.0		
	baz=107								
MLY	**Manley**	**69.04**	**336**	P			15 31 37.1		
	baz=109								
COLD	**Coldfoot**	**69.59**	**338**	P		**P**	**15 31 40.6**	**-0.7**	
COLD	**Coldfoot**	**69.59**	**338**	P			15 31 40.8		
	baz=111								
TOLK	**Toolik Lake Re**	**69.88**	**340**	P			15 31 42.3		
	baz=112								
SDPT	**Sand Point**	**71.56**	**325**	P			15 31 53.3		
	baz=97								
FALS	**False Pass**	**73.19**	**324**	P			15 32 02.9		
	baz=95								
DAG	**Danmarks Havn**	**74.27**	**13**	*i* P		**P**	**15 32 06.1**	**-3.0**	
DAG	**Danmarks Havn**	**74.27**	**13**	*i* P		**P**	**15 32 06.2**	**-3.0**	
ANM	**Nome**	**75.04**	**334**	P			15 32 13.6		

	baz=96								
ESDC	**Sonseca Array**	**77.54**	**52**	P		**P**	**15 32 26.3**	**-2.3**	
	comp=Z,0.7nm,0.6s,baz=283,slow=4.7,SNR=4.1								
ESDC				LR		LR	16 04 08.8		
	comp=Z,596nm,18.9s,baz=275,slow=34								
NOA	**NORSAR Array B**	**84.21**	**29**	P		**P**	**15 33 02.5**	**-1.3**	
	comp=Z,0.8nm,0.7s,baz=286,slow=4.8,SNR=3.2								
TORD	**Torodi Ar, Bea**	**86.14**	**77**	P		**P**	**15 33 13.7**	**-0.6**	
	comp=Z,0.5nm,0.8s,baz=266,slow=4.7,SNR=2.6								
TORD				LR		LR	16 09 08.2		
	comp=Z,123nm,21.0s,baz=305,slow=34								
DAVOX	**Davos/Dischmat**	**86.53**	**43**	LR		LR	16 10 12.7		
	comp=Z,372nm,18.3s,baz=271,slow=34								
NKC	**Novy Kostel**	**87.40**	**39**	AMS		AMS	16 12 00.0		
	comp=Z,500nm,19.3s								
CLL	**Collm**	**87.47**	**38**	*e*P		**P**	**15 33 22.0**	**+1.9**	
CLL				*e*S		**S**	**15 43 54.0**	**-5.1**	
CLL				*e*SP		**SPn**	**15 44 56.0**	**-2.0**	
CLL				*e*SS		**SS**	**15 49 54.0**	**+10**	
CLL				*e*SSS		SSS	15 53 12.0		
CLL				Lm		MLR	16 10 00.0		
	comp=N,100nm,18.3s								
CLL				Lm		MLR	16 10 00.0		
	comp=E,400nm,19.8s								
CLL				Lm		MLR	16 10 00.0		
	comp=Z,600nm,19.0s								
KHC	**Kasperske Hory**	**88.39**	**40**	AMS		AMS	16 10 00.0		
	comp=Z,900nm,18.9s								
PRU	**Pruhonice**	**88.76**	**39**	AMS		AMS	16 09 00.0		
	comp=Z,700nm,21.3s								
CKRC	**Cesky Krumlov**	**88.93**	**40**	AMS		AMS	16 09 50.0		
	comp=Z,700nm,19.1s								
GOPC	**GO Pecny, Ondr**	**88.94**	**39**	AMS		AMS	16 07 10.0		
	comp=Z,700nm,17.9s								
TREC	**Trest**	**89.55**	**40**	AMS		AMS	16 10 00.0		
	comp=Z,800nm,18.9s								
DPC	**Dobruska-Polom**	**89.76**	**39**	AMS		AMS	16 13 10.0		
	comp=Z,600nm,21.5s								
FINES	**FINESS Array B**	**90.86**	**26**	P		**P**	**15 33 33.8**	**-2.0**	
	comp=Z,0.5nm,0.6s,baz=311,slow=9.0,SNR=1.1								
BOSA	**Boshof**	**114.63**	**116**	PKP		**PKiKP**	**15 39 13.5**	**0.0**	
	comp=Z,1.9nm,0.9s,baz=308,slow=2.3,SNR=3.6								
ZALV	**Zalesovo Beam**	**114.75**	**5**	PKP		**PKiKP**	**15 39 12.3**	**-0.6**	
	comp=Z,0.5nm,0.4s,baz=287,slow=1.5,SNR=5.3								
MATP	**Matopo**	**117.47**	**107**	PKP		**PKPdf**	**15 39 18.6**	**-0.5**	
	comp=Z,1.8nm,0.6s,baz=245,slow=4.0,SNR=7.2								
SONM	**Songino Array**	**120.08**	**350**	PKP		**PKiKP**	**15 39 23.5**	**-0.1**	
	comp=Z,0.7nm,0.7s,baz=6.4,slow=1.5,SNR=4.4								
GEYT	**Alibeck**	**121.18**	**32**	PKP		**PKiKP**	**15 39 26.2**	**+0.2**	
	comp=Z,2.3nm,0.5s,baz=338,slow=6.4,SNR=4.3								
MKAR	**Makanchi Array**	**121.49**	**9**	PKP		**PKPdf**	**15 39 25.6**	**-0.5**	
	comp=Z,0.4nm,0.5s,baz=318,slow=2.4,SNR=7.2								
KSRS	**Korea Array**	**121.65**	**328**	PKP		**PKiKP**	**15 39 26.9**	**+0.1**	
	comp=Z,2.3nm,0.6s,baz=7.9,slow=1.4,SNR=14								
KSAR	**Wonju Array Be**	**121.68**	**328**			**PKiKP**	**15 39 27.4**	**+0.5**	
WMQ	**Urumqi**	**125.05**	**5**	*e*PKP		**PKPdf**	**15 39 32.0**	**-1.1**	
HHC	**Hui-ho-hao-te**	**125.50**	**343**	*e*PKP		**PKPdf**	**15 39 32.0**	**-2.1**	
KSH	**Kashi**	**127.11**	**17**	PKP		**PKiKP**	**15 39 39.8**	**+2.1**	
GTA	**Gaotai**	**129.30**	**353**	*e*PKP		**PKiKP**	**15 39 42.6**	**+0.5**	
NJ2	**Nanjing**	**130.47**	**331**	*e*PKP		**PKPdf**	**15 39 43.1**	**-0.5**	
STKA	**Stephens Creek**	**130.89**	**237**	PKP		**PKPdf**	**15 39 44.1**	**-0.3**	
	comp=Z,1.0nm,0.5s,baz=125,slow=4.6,SNR=4.4								
STKA	**Stephens Creek**	**130.89**	**237**			**PKiKP**	**15 39 44.6**	**-0.7**	
LZH	**Lanzhou**	**131.92**	**348**	*e*PKP		**PKiKP**	**15 39 47.4**	**-0.2**	
LZH				sPKP			15 40 01.8		
XAN	**Xi'an**	**132.60**	**342**	PKP		**PKiKP**	**15 39 48.9**	**+0.1**	
XAN				sPKP			15 40 03.8		
CD2	**Chengdu**	**136.93**	**347**	PKP		**PKPdf**	**15 39 53.5**	**-2.4**	
ASAR	**Alice Springs**	**139.30**	**247**	PKhKP		PKPpre	15 39 51.5		
	comp=Z,0.5nm,0.6s,baz=125,slow=4.0,SNR=10.0								
ASAR				PKP		**PKPdf**	**15 39 60.0**	**-0.4**	
	comp=Z,1.5nm,0.6s,baz=107,slow=2.6,SNR=12								
WB2	**Warramunga Arr**	**139.43**	**252**	PKPdf		**PKPdf**	**15 40 01.3**	**+0.6**	
WRA	**Warramunga Arr**	**139.44**	**252**	PKhKP		P

FINES				Sn		Sn	15 29 40.9	-3.6
	comp=Z,0.1nm,0.3s,baz=225,slow=22,SNR=1.9							
KEF	Keuruu	8.35	21	MSN			15 29 55.1	
	comp=Z,0.4nm,0.2s							
ARCES	ARCESS Array B	15.40	9	Pn		Pn	15 29 50.5	-3.9
	baz=188,slow=13,SNR=6.9							

IDC ***20*** *15:30:47.0±0.9, 17.7°N×63.9°W, h0km, mb3.9/13, mb1 4.1/15, mb1mx3.9/41, mbtmp3.9/15, ML4.0/2, Error ellipse: s-maj=26.8km s-min=17.1km az=2.0*
TRN ***20*** *15:30:47.0, 17.65°N×63.99°W, h15km, MD4.6*
RSPR ***20*** *15:30:49.8, 17.37°N×63.92°W, h22km±26km, MD4.0/12*
NEIC ***20*** *15:30:50.4±2.4, 17.40°N±0.06°×64.03°W±0.03, h35km±8km, Error ellipse: s-maj=9.8km s-min=3.1km az=196.0*

ISC 20 15:30:47.5±1.4**, 17.56N**±0.05°×**64.01W**±0.02**, h7**km±10km**, n151, σ1s29/176, mb4.0**/14**, 19C-4D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDVI	**St. Croix**	**0.74**	**285**	*i*	P		**Pn**	**15 31 03.8**	**-0.6**
CDVI					eS		**Sn**	**15 31 16.3**	**+0.4**
CDVI	**St. Croix**	**0.74**	**285**	↑	*i*P		**Pn**	**15 31 04.0**	**-0.4**
CDVI	**St. Croix**	**0.74**	**285**		eS		**Sn**	**15 31 15.3**	**-0.6**
CDVI	**St. Croix**	**0.74**	**285**				**Pb**	**15 31 03.7**	**+0.9**
CDVI	**St. Croix**	**0.74**	**285**				**Sn**	**15 31 16.3**	**+0.4**
SEUS	**St. Eustatius**	**0.99**	**93**		eP		**Pn**	**15 31 07.1**	**-0.6**
SEUS					eS		**Sn**	**15 31 22.8**	**+0.9**
SEUS	**St. Eustatius**	**0.99**	**93**				**Pn**	**15 31 07.0**	**-0.6**
SEUS	**St. Eustatius**	**0.99**	**93**				**Sn**	**15 31 22.8**	**+0.9**
SKI	**Saint Kitts**	**1.24**	**100**		eP		**Pg**	**15 31 11.4**	**+0.1**
SKI					eS		**Sn**	**15 31 28.8**	**+0.6**
SKI	**Saint Kitts**	**1.24**	**100**				**Pg**	**15 31 11.0**	**-0.2**
SKI	**Saint Kitts**	**1.24**	**100**				**Sn**	**15 31 28.8**	**+0.6**
SKOC	**St. Kitts, UWI**	**1.25**	**102**		eP		**Pg**	**15 31 11.7**	**+0.1**
SKOC					eS		**Sn**	**15 31 29.3**	**+0.9**
SKOC	**St. Kitts, UWI**	**1.25**	**102**				**Pg**	**15 31 11.7**	**+0.1**
SKOC							**Sn**	**15 31 29.3**	**+0.9**
CUPR	**Culebra, Puert**	**1.42**	**302**	↑	eP		**Pg**	**15 31 14.6**	**-0.2**
CUPR	**Culebra, Puert**	**1.42**	**302**				**Pb**	**15 31 13.4**	**-0.9**
MTP	**Monte Pirata**	**1.56**	**290**	‖	eP		**Pb**	**15 31 16.6**	**-0.2**
MTP					eS		**Sb**	**15 31 36.8**	**+0.1**
MTP	**Monte Pirata**	**1.56**	**290**	‖	eP		**Pb**	**15 31 16.6**	**-0.2**
MTP	**Monte Pirata**	**1.56**	**290**		Pn		**Pn**	**15 31 15.3**	**-0.3**
MTP	**Monte Pirata**	**1.56**	**290**				**Sb**	**15 31 36.8**	**+0.1**
HUMP	**Col San Antoni**	**1.84**	**289**	‖	eP		**Pn**	**15 31 20.1**	**+0.6**
HUMP					eS		**Sb**	**15 31 43.9**	**-0.9**
HUMP	**Col San Antoni**	**1.84**	**289**	‖	eP		**Pn**	**15 31 20.1**	**+0.6**
HUMP	**Col San Antoni**	**1.84**	**289**				**Pn**	**15 31 19.3**	**-0.2**
HUMP	**Col San Antoni**	**1.84**	**289**				**Sb**	**15 31 43.9**	**-0.9**
CBYP	**Canovanas**	**1.89**	**292**	‖	eP		**Pb**	**15 31 21.3**	**-1.1**
CBYP					eS		**Sn**	**15 31 44.8**	**+0.4**
CBYP	**Canovanas**	**1.89**	**292**	‖	eP		**Pb**	**15 31 21.3**	**-1.1**
CBYP	**Canovanas**	**1.89**	**292**				**Pn**	**15 31 20.5**	**+0.2**
CBYP	**Canovanas**	**1.89**	**292**				**Sn**	**15 31 44.8**	**+0.4**
MLYT	**Lee's Yard**	**1.93**	**115**		eP		**Pb**	**15 31 21.7**	**-1.3**
MLYT					eS		**Sb**	**15 31 47.0**	**-0.3**
PDPR	**Patillas Dam,**	**1.97**	**284**				**Pn**	**15 31 21.2**	**-0.1**
IGPR	**InterUniversit**	**2.04**	**282**	‖	eP		**Pn**	**15 31 22.4**	**+0.2**
IGPR	**InterUniversit**	**2.04**	**282**		eS		**Sn**	**15 31 48.1**	**+0.2**
IGPR	**InterUniversit**	**2.04**	**282**				**Sn**	**15 31 48.1**	**+0.2**
GCPR	**Guaynabo City**	**2.11**	**291**	‖	eP		**Pb**	**15 31 24.5**	**-1.5**
GCPR	**Guaynabo City**	**2.11**	**291**		eS		**Sn**	**15 31 50.4**	**+0.8**
GCPR	**Guaynabo City**	**2.11**	**291**				**Pn**	**15 31 23.0**	**-0.2**
GCPR	**Guaynabo City**	**2.11**	**291**				**Sn**	**15 31 50.4**	**+0.8**
SJG	**San Juan**	**2.11**	**286**		Pn		**Pn**	**15 31 23.4**	**+0.2**
	39nm,0.3s,baz=112,slow=17,SNR=19								
SJG						Sn	**Sn**	**15 31 48.5**	**-1.1**
	109nm,0.3s,baz=251,slow=13,SNR=7.8								
SJG	**San Juan**	**2.11**	**286**		eP		**Pn**	**15 31 23.6**	**+0.4**
BPA	**Boggy Peak**	**2.12**	**104**		eP		**Pn**	**15 31 23.4**	**0.0**
BPA					eS		**Sb**	**15 31 50.4**	**-2.5**
BPA	**Boggy Peak**	**2.12**	**104**				**Pn**	**15 31 23.4**	**0.0**
BPA							**Sb**	**15 31 50.4**	**-2.5**
ANWB	**Willy Bob**	**2.13**	**87**		eP		**Pn**	**15 31 23.2**	**-0.3**
ANWB	**Willy Bob**	**2.13**	**87**				**Pn**	**15 31 22.9**	**-0.5**
ANBD	**Bethesda, Anti**	**2.21**	**103**		eP		**Pn**	**15 31 25.1**	**+0.5**
ANBD	**Bethesda, Anti**	**2.21**	**103**				**Pn**	**15 31 25.1**	**+0.5**
ICMP	**Isla Caja de M**	**2.42**	**278**	‖	eP		**Pn**	**15 31 27.4**	**-0.1**
ICMP	**Isla Caja de M**	**2.42**	**278**				**Pn**	**15 31 27.4**	**-0.1**
CELP	**Cerrillos**	**2.50**	**282**	‖	eP		**Pn**	**15 31 29.0**	**+0.5**
CELP					eS		**Sn**	**15 31 59.6**	**+0.4**
CELP	**Cerrillos**	**2.50**	**282**	‖	eP		**Pn**	**15 31 29.0**	**+0.5**
CELP	**Cerrillos**	**2.50**	**282**				**Pn**	**15 31 29.0**	**+0.5**
CELP							**Sn**	**15 31 59.6**	**+0.4**
OBIP	**Obispado Ponce**	**2.52**	**281**	↑	eP		**Pn**	**15 31 29.1**	**+0.3**
OBIP					eS		**Sn**	**15 32 00.3**	**+0.6**
OBIP	**Obispado Ponce**	**2.52**	**281**	↑	eP		**Pn**	**15 31 29.1**	**+0.3**
OBIP	**Obispado Ponce**	**2.52**	**281**				**Sn**	**15 32 00.3**	**+0.6**
OBIP	**Obispado Ponce**	**2.52**	**281**				**Pn**	**15 31 27.9**	**-0.9**
EMPR	**Esperanza - Ma**	**2.56**	**291**	↑	eP		**Pn**	**15 31 31.1**	**+1.6**
EMPR	**Esperanza - Ma**	**2.56**	**291**		eS		**Sn**	**15 32 01.6**	**+0.8**
EMPR	**Esperanza - Ma**	**2.56**	**291**				**Pn**	**15 31 31.0**	**+1.6**
EMPR	**Esperanza - Ma**	**2.56**	**291**				**Sn**	**15 32 01.6**	**+0.8**
ABD	**La Joyeuse, An**	**2.65**	**114**		eP		**Pn**	**15 31 31.9**	**+1.3**
ABD					eS		**Sn**	**15 32 04.3**	**+1.5**
ABD	**La Joyeuse, An**	**2.65**	**114**				**Pn**	**15 31 31.9**	**+1.3**
ABD							**Sn**	**15 32 04.3**	**+1.5**
AOPR	**Arecibo Observ**	**2.73**	**287**		eP		**Pn**	**15 31 32.9**	**+1.3**
AOPR					eS		**Sn**	**15 32 06.0**	**+1.1**
AOPR	**Arecibo Observ**	**2.73**	**287**	‖	eP		**Pn**	**15 31 33.0**	**+1.3**
AOPR	**Arecibo Observ**	**2.73**	**287**		Pn		**Pn**	**15 31 32.6**	**+0.9**
AOPR	**Arecibo Observ**	**2.73**	**287**				**Sn**	**15 32 06.0**	**+1.1**
CBE	**Ff, Capester**	**2.74**	**122**		eP		**Pn**	**15 31 32.8**	**+0.9**
CBE					eS		**Sn**	**15 32 07.0**	**+1.8**
CBE	**Ff, Capester**	**2.74**	**122**				**Pn**	**15 31 32.8**	**+0.9**
CBE							**Sn**	**15 32 07.0**	**+1.8**
GBPR	**Guanica, Bosqu**	**2.76**	**279**	‖	eP		**Pn**	**15 31 32.2**	**+0.1**
GBPR	**Guanica, Bosqu**	**2.76**	**279**	‖	eP		**Pn**	**15 31 32.2**	**+0.1**
GBPR	**Guanica, Bosqu**	**2.76**	**279**				**Pn**	**15 31 32.2**	**+0.1**
TBG	**Guadaloupe-3**	**2.83**	**126**		eP		**Pn**	**15 31 34.3**	**+1.2**
TBG	**Guadaloupe-3**	**2.83**	**126**				**Pn**	**15 31 34.3**	**+1.2**
TDBA	**Terre de Bas,**	**2.84**	**126**		eP		**Pn**	**15 31 34.7**	**+1.4**
MLPR	**Magueyes Islan**	**2.92**	**279**	‖	eP		**Pn**	**15 31 34.2**	**-0.1**
MLPR	**Magueyes Islan**	**2.92**	**279**		eS		**Sn**	**15 32 09.3**	**+0.3**
MLPR	**Magueyes Islan**	**2.92**	**279**		Pn		**Pn**	**15 31 34.2**	**+0.1**
MLPR	**Magueyes Islan**	**2.92**	**279**				**Sn**	**15 32 09.9**	**+0.3**
LSP	**Las Mesas**	**2.99**	**282**	‖	eP		**Pn**	**15 31 36.2**	**+0.8**
LSP					eS		**Sn**	**15 32 11.6**	**+0.1**
LSP	**Las Mesas**	**2.99**	**282**	‖	eP		**Pn**	**15 31 36.2**	**+0.8**
LSP	**Las Mesas**	**2.99**	**282**				**Pn**	**15 31 36.2**	**+0.8**
LSP							**Sn**	**15 32 11.6**	**+0.1**
MPR	**Mayaguez**	**3.05**	**283**				**Pn**	**15 31 36.3**	**+0.2**
MAGL	**Barre de l'ile**	**3.07**	**121**		eP		**Pn**	**15 31 37.8**	**+1.5**
MAGL					eS		**Sn**	**15 32 13.4**	**+0.1**
MAGL	**Barre de l'ile**	**3.07**	**121**				**Pn**	**15 31 37.8**	**+1.5**
MAGL							**Sn**	**15 32 13.4**	**+0.1**
AGPR	**Aguadilla, PR**	**3.08**	**288**	↑	eP		**Pn**	**15 31 37.8**	**+1.2**
AGPR					eS		**Sn**	**15 32 14.8**	**+1.1**
AGPR	**Aguadilla, PR**	**3.08**	**288**	↑	eP		**Pn**	**15 31 37.8**	**+1.2**
AGPR	**Aguadilla, PR**	**3.08**	**288**				**Pn**	**15 31 37.8**	**+1.2**
AGPR	**Aguadilla, PR**	**3.08**	**288**				**Sn**	**15 32 14.8**	**+1.1**
DEG	**La Desirade**	**3.08**	**113**		eP		**Pn**	**15 31 37.3**	**+0.6**
DEG	**La Desirade**	**3.08**	**113**				**Pn**	**15 31 38.3**	**+1.6**
H05N1	**Guadeloupe/Mar**	**3.09**	**113**		Pn		**Pn**	**15 31 38.4**	**+1.7**
	SNR=210								
DSLB	**Salisbury**	**3.26**	**130**		eP		**Pn**	**15 31 40.0**	**+1.0**
DSLB	**Salisbury**	**3.26**	**130**				**Pn**	**15 31 40.0**	**+1.0**
DLPL	**La Plaine**	**3.46**	**129**		Pn		**Pn**	**15 31 37.3**	**-4.5**
FDF	**Fort de France**	**3.93**	**135**		Pn		Pn	15 31 43.8	-4.5
ILAM	**Ilet Lapin Mar**	**4.09**	**132**		eP		**Pn**	**15 31 52.9**	**+2.4**
ILAM	**Ilet Lapin Mar**	**4.09**	**132**				**Pn**	**15 31 52.9**	**+2.4**
BIM	**Bigot**	**4.14**	**136**		eP		**Pn**	**15 31 52.3**	**+1.2**
BIM	**Bigot**	**4.14**	**136**		eS		**Sn**	**15 32 40.8**	**+0.9**
BIM	**Bigot**	**4.14**	**136**				**Pn**	**15 31 52.3**	**+1.2**
BIM							**Sn**	**15 32 40.8**	**+0.9**
MPOM	**Morne Pois Mar**	**4.33**	**135**		eP		**Pn**	**15 31 56.1**	**+2.3**
MPOM	**Morne Pois Mar**	**4.33**	**135**		eS		**Sn**	**15 32 44.9**	**+0.3**
MPOM	**Morne Pois Mar**	**4.33**	**135**				**Pn**	**15 31 56.1**	**+2.3**
MPOM							**Sn**	**15 32 44.9**	**+0.3**
H05S1	**Guadeloupe/Mar**	**4.36**	**135**		Pn		**Pn**	**15 31 55.8**	**+1.6**
	SNR=44								
SLBI	**Saint Lucia, B**	**4.57**	**140**		eP		**Pn**	**15 31 57.8**	**+0.7**
SLBI	**Saint Lucia, B**	**4.57**	**140**				**Pn**	**15 31 57.8**	**+0.7**
SLB	**Belfond**	**4.68**	**142**		eP		**Pn**	**15 32 01.0**	**+2.3**
SLB	**Belfond**	**4.68**	**142**				**Pn**	**15 32 01.0**	**+2.3**
MCLT	**Moule a Chique**	**4.83**	**142**		*e*		**Pn**	**15 32 04.5**	**+3.7**
SVV	**Soufriere Volc**	**5.00**	**147**		eP		**Pn**	**15 32 04.6**	**+1.6**
SVV	**Soufriere Volc**	**5.00**	**147**				**Pn**	**15 32 04.6**	**+1.6**
SVB	**Belmont**	**5.02**	**148**		eP		**Pn**	**15 32 04.5**	**+1.1**
SVB	**Belmont**	**5.02**	**148**		Pn		**Pn**	**15 32 02.8**	**-0.5**
DR12	**Loma Pena Alta**	**5.25**	**284**				**Pn**	**15 32 06.9**	**+0.4**
GCMP	**Grenada, Carri**	**5.63**	**153**		*e*		**Pn**	**15 32 12.9**	**+1.3**
BANI	**BANI**	**6.10**	**279**		Pn		**Pn**	**15 32 21.1**	**+3.0**
SDDR	**Presa de Saban**	**7.06**	**283**				**Pn**	**15 32 33.3**	**+2.0**
SDDR	**Presa de Saban**	**7.06**	**283**		eP		**Pn**	**15 32 34.5**	**+3.2**
TRN	**Trinidad (W)**	**7.32**	**159**		*e*		**Pn**	**15 32 36.4**	**+1.5**
PCRV	**Puerto La Cruz**	**7.36**	**185**		Pn		**Pn**	**15 32 36.8**	**+1.3**
	2.3nm,0.3s,baz=358,slow=18,SNR=3.0								
GRTK	**Grand Turk**	**7.78**	**302**		Pn		**Pn**	**15 32 40.2**	**-1.0**
LGNH	**Logne**	**8.23**	**278**		Pn		**Pn**	**15 32 48.4**	**+1.0**
URIC	**Uribia, Colomb**	**9.67**	**234**		eP		**Pn**	**15 33 04.3**	**-2.8**
SDV	**Santa Domingo**	**10.76**	**218**		Sn		**Sn**	**15 35 18.8**	**-4.3**
	1.1nm,0.3s,baz=233,slow=9.8,SNR=4.6								
CRJC	**Cerrejon, Guaj**	**10.77**	**234**		eP		**Pn**	**15 33 20.4**	**-1.9**
OCAC	**Ocana**	**12.96**	**226**		eP		**Pn**	**15 33 51.0**	**-1.3**
PAMC	**Pamplona, Colo**	**13.22**	**221**		eP		**Pn**	**15 33 59.5**	**+3.3**
ZARC	**Zaragoza, Cauc**	**14.55**	**228**		eP		Pn	15 34 10.1	-4.0
UREC	**San Jos de Ur**	**14.87**	**230**		eP		**Pn**	**15 34 18.7**	**+0.4**
PTBC	**PUERTO BERRIO,**	**14.96**	**224**		eP		**Pn**	**15 34 16.8**	**-2.8**
NORC	**Norcasia**	**15.96**	**223**		eP		**P**	**15 34 35.9**	**-0.5**
CBOC	**Ciudad Bolivar**	**16.51**	**227**		eP		**P**	**15 34 44.5**	**+1.9**
GUY2C	**Guyana, Caldas**	**16.54**	**224**		eP		**Pn**	**15 34 41.6**	**+1.1**
DWPF	**Disney Wildern**	**19.16**	**306**		P		**Pn**	**15 35 12.7**	**+0.2**
DWPF						IAmb	IAmb	15 35 23.0	
	comp=Z,34nm,1.1s								
BBAC	**Balboa, Cauca**	**20.18**	**222**		eP		**P**	**15 35 21.9**	**-1.2**
JTS	**Las Juntas de**	**21.55**	**253**		P		**P**	**15 35 41.2**	**+3.5**
	2.6nm,0.9s,baz=99,slow=7.6,SNR=5.6								
TEIG	**Tepich**	**23.10**	**280**		P		**P**	**15 35 56.6**	**+2.5**
	comp=Z,5.1nm,0.6s,baz=350,slow=13,SNR=3.6								
TXAR	**Lajitas Array**	**38.05**	**295**		P		**P**	**15 38 07.7**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=100,slow=9.8,SNR=4.2								
ULM	**Lac du Bonnet**	**41.41**	**329**		P		**P**	**15 38 34.2**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=170,slow=11,SNR=3.1								
LAO	**LASA Array**	**45.26**	**319**		P		**P**	**15 39 04.8**	**-0.9**
SRU	**San Rafael Swe**	**45.64**	**308**		P		**P**	**15 39 08.2**	**-0.8**
BW06	**Boulder Array**	**45.98**	**313**		P		**P**	**15 39 12.1**	**+0.4**
BW06						IAmb	IAmb	15 39 21.4	
	comp=Z,3.3nm,1.1s								
PD31	**Pinedale Array**	**45.98**	**313**		P		**P**	**15 39 12.5**	**+0.8**
PD31						IAmb	IAmb	15 39 21.4	
	comp=Z,2.9nm,1.0s								
PDAR	**Pinedale Array**	**45.98**	**313**		P		**P**	**15 39 12.6**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=125,slow=11,SNR=9.2								
PDAR	**Pinedale Array**	**45.98**	**313**		P		**P**	**15 39 10.4**	**-1.4**
NVAR	**Mina Array Bea**	**51.47**	**305**		P		**P**	**15 39 54.3**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=87,slow=10.0,SNR=4.6								
YKA	**Yellowknife Ar**	**56.86**	**335**		P		**P**	**15 40 31.6**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=111,slow=8.1,SNR=7.7								
DBIC	**Dimbokro**	**58.64**	**93**		P		**P**	**15 40 46.2**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=247,slow=7.8,SNR=1.8								
TORD	**Torodi Ar. Bea**	**63.25**	**84**		P		**P**	**15 41 17.1**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=292,slow=6.6,SNR=3.3								
NOA	**NORSAR Array B**	**67.65**	**31**		P		**P**	**15 41 44.9**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=269,slow=6.7,SNR=2.1								
ILAR	**Eielson Array**	**71.24**	**333**		P		**P**	**15 42 07.0**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=89,slow=4.6,SNR=8.4								
ARCES	**ARCESS Array B**	**73.53**	**22**		P		**P**	**15 42 20.5**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=274,slow=3.5,SNR=3.6								
FINES	**FINESS Array B**	**74.80**	**30**		P		**P**	**15 42 28.3**	**+0.1**
	comp=Z,2.9nm,1.0s,baz=342,slow=8.0,SNR=2.6								
WRA	**Warramunga Arr**	**162.46**	**259**		PKP		**PKPdf**	**15 50 49.4**	**-1.6**
	comp=Z,8.7nm,0.5s,baz=120,slow=1.0,SNR=1.6								

BJI ***20*** *15:42:50.1±0.0, 4.45S×154.98E, h16km, mB5.7/66, mb5.7/88, Ms5.3/95, Ms7 5.2/89*
NEIC ***20*** *15:42:52.4±2.4, 4.79S±0.07°×154.38E±0.06°, h24km±3km, mb6.1/240, Ms_20 5.7/783, Mwb5.5/30, Mww5.6, Mwc5.7(GCMT), Error ellipse: s-maj=10.2km s-min=8.3km az=199.0*
MOS ***20*** *15:42:52.3±1.1, 4.71S×154.77E, h29km, mb6.2/68, MS5.2/35, Error ellipse: s-maj=7.1km s-min=4.8km az=111.2*
NEIC ***20*** *15:42:52.5, 4.77S×154.84E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 1.81; Mθθ-1.11; Mθφ-0.70; Mrθ 1.37; Mφφ 0.40; Mφr-0.72; Fault plane solution: Mo 2.25000×10^17 NP1:φs 118.92000°, δ 67.18000°, λ 88.71000°. NP2:φs 302.24000°, δ 22.86000°, λ 93.06000°. Principal axes: T 2.4465, Plg 68.0000°, Azm 27.0000°; N -0.4580, Plg 1.0000°, Azm 119.0000°; P -1.9885, Plg 22.0000°, Azm 210.0000°;*
BGR ***20*** *15:42:53.3±0.0, 4.95S×155.22E, h33km, Ms5.5*
IDC ***20*** *15:42:54.4±0.5, 4.82S×154.75E, h37km±4km, mb5.5/30, mb1 5.6/32, mb1mx5.6/35, mbtmp5.7/32, ML5.5/2, MS5.1/33, Ms1 5.1/33, ms1mx5.0/40, Error ellipse: s-maj=12.2km s-min=10.3km az=72.0*
GCMT ***20*** *15:42:54.4±0.1, 4.79S±0.01°×154.83E±0.01°, h22km, MW5.6/154, Moment Tensor Solution. s139,c244; s154,c287; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr 2.23±.03; Mθθ-0.62±.02; Mφφ-1.61±.03; Mrθ 2.25±.06; Mθφ 1.24±.02; Mφr-1.19±.04; Best double couple: Mo 3.46200×10^17 NP1:φs 344.00000°, δ 26.00000°, λ 126.00000°. NP2:φs 126.00000°, δ 69.00000°, λ 74.00000°. Principal axes: T 3.5120, Plg 62.0000°, Azm 12.0000°; N -0.0980, Plg 15.0000°, Azm 132.0000°; P -3.4110, Plg 23.0000°, Azm 228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***20*** *15:42:55, 4.67S×154.84E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 2.29; Mθθ-0.56; Mφφ-1.73; Mrθ 2.30; Mφθ 0.87; Mφr 0.65; Fault plane solution: Mo 3.28000×10^17 NP1:φs 350.00000°, δ 40.00000°, λ 137.00000°. NP2:φs 115.00000°, δ 64.00000°, λ 58.00000°. Principal axes: T 3.7539, Plg 59.0000°, Azm 340.0000°; N -1.4412, Plg 28.0000°, Azm 131.0000°; P -2.3128, Plg 13.0000°, Azm 228.0000°;*
NEIC ***20*** *15:42:55, 4.80S×154.91E, h25km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 2.30; Mθθ-0.51; Mφφ-1.79; Mrθ 2.66; Mφθ 1.39; Mφr-1.05; Fault plane solution: Mo 3.81000×10^17 NP1:φs 350.00000°, δ 27.00000°, λ 134.00000°. NP2:φs 122.00000°, δ 71.00000°, λ 70.00000°. Principal axes: T 3.9095, Plg 59.0000°, Azm 4.0000°; N -0.2160, Plg 19.0000°, Azm 129.0000°; P -3.6936, Plg 23.0000°, Azm 227.0000°;*
DJA ***20*** *15:42:56.3±0.5, 5°S±3°×15°E±°, h78km±4km, M5.7/97, mB6.1/85, mb5.9/97, MLv6.1/3, Mw(mB)5.8/85, MwMwp5.2/18, Mwp5.5/18*

ISC 20 15:42:53.1±0.3**, 4.81S**±0.03°×**154.77E**±0.03**, h30**km±1km**, h30**km**:pP-P, n1507**, σ1s**56**/1263**, mb6.0**/306**, MS5.7**/478**, 178C-32D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.67**	**283**		Pn		**Pb**	**15 43 37.4**	**-2.8**
RABL							**Sn**	**15 44 10.1**	**-2.5**
RABL	**Rabaul**	**2.67**	**283**		P		**Pb**	**15 43 38.1**	**-2.1**
HNR	**Honiara**	**6.89**	**132**		Pn		**Pn**	**15 44 33.5**	**+1.4**
	333nm,0.3s,baz=237,slow=2.7,SNR=143								
HNR						Sn	**Sn**	**15 45 50.0**	**+0.5**
	161nm,0.3s,baz=299,slow=12,SNR=3.9								
HNR						LR	LR	15 47 36.3	
	comp=Z,12μm,20.8s,baz=298,slow=41								
HNR	**Honiara**	**6.89**	**132**		Pn		**Pn**	**15 44 33.1**	**+1.0**
MANU	**Manus Island**	**7.88**	**290**				**Pn**	**15 44 48.6**	**+2.9**
PMG	**Port Moresby**	**8.82**	**238**		Pn		Pn	15 45 03.5	+4.8
	220nm,0.3s,baz=55,slow=7.5,SNR=381								
PMG						Sn	**Sn**	**15 46 39.1**	**+2.0**
	34nm,0.3s,baz=35,slow=4.0,SNR=3.4								
PMG						LR	LR	15 48 25.7	
	comp=Z,23μm,22.0s,baz=100,slow=38								
PMG	**Port Moresby**	**8.82**	**238**	*ce*	P		**Pn**	**15 45 03.2**	**+4.6**
PMG						pmax	pmax		
	comp=Z,1μm,0.9s								
PMG	**Port Moresby**	**8.82**	**238**		Pn		**Pn**	**15 45 02.5**	**+3.8**
PMG	**Port Moresby**	**8.82**	**238**		P		Pn	15 45 04.0	+5.4
PATS	**Pohnpei**	**12.10**	**17**		P		**Pn**	**15 45 39.2**	**-4.3**
	baz=12,SNR=12								
PATS	**Pohnpei**	**12.10**	**17**		Pn		**Pn**	**15 45 39.1**	**-4.3**
JAY	**Jayapura**	**14.22**	**279**		Pn		**Pn**	**15 46 15.0**	**+2.4**
	comp=Z,5.6nm,0.3s,baz=104,slow=5.1,SNR=35								
JAY						LR	LR	15 51 51.2	
	comp=Z,11μm,18.3s,baz=83,slow=38								
JAY	**Jayapura**	**14.22**	**279**		P		**Pn**	**15 46 14.9**	**+2.4**
	comp=Z,3μmcomp=Z,311nm,1.0s								
COEN	**Coen**	**14.60**	**231**		Pn		**P**	**15 46 21.3**	**-2.5**

GENI	**Genyem**	**14.73**	**278**		P		**Pn**	**15 46 21.7**	**+2.2**
	comp=Z,7μmcomp=Z,15μmcomp=Z,911nm,0.8s								
MMPI	**Merauke**	**14.74**	**255**		P		**Pn**	**15 46 22.1**	**+2.5**
	comp=Z,37μmcomp=Z,4μm,1.0s								
MTSU	**Mount Surprise**	**16.73**	**217**		P		**P**	**15 46 49.6**	**+2.2**
	baz=17,SNR=210								
CTA	**Charters Tower**	**17.30**	**208**		P		**P**	**15 46 56.4**	**+2.7**
	comp=Z,6.2nm,0.3s,baz=26,slow=13,SNR=107								
CTA						LR	LR	15 53 47.9	
	comp=Z,9μm,18.5s,baz=28,slow=38								
CTAO	**Charters Tower**	**17.30**	**208**		P		**P**	**15 46 56.2**	**+2.5**
CTAO						pmax	pmax		
	comp=Z,546nm,1.0s								
CTAO	**Charters Tower**	**17.30**	**208**		P		**P**	**15 46 56.2**	**+2.5**
KWAJ	**Kwajalein Atol**	**18.62**	**43**		P		**P**	**15 47 07.2**	**-1.1**
KWAJ						pmax	pmax		
	comp=Z,2μm,1.0s								
KWAJ	**Kwajalein Atol**	**18.62**	**43**		P		**P**	**15 47 07.2**	**-1.1**
KWAJ						IAmb	IAmb	15 47 32.6	
	comp=Z,2μm,0.9s								
KWAJ	**Kwajalein Atol**	**18.62**	**43**		P		**Pn**	**15 47 10.3**	**+1.6**
SRPI	**Serui, Papua**	**18.72**	**278**		P		**Pn**	**15 47 10.3**	**+0.3**
	comp=Z,8μmcomp=Z,725nm,1.1s								
BAKI	**Biak**	**18.98**	**280**		P		**Pn**	**15 47 13.0**	**-0.1**
	comp=Z,11μmcomp=Z,867nm,1.2s								
LIFNC	**LIFOU**	**19.97**	**144**		P		**Pn**	**15 47 24.5**	**-0.4**
DZM	**Mont Dzumac**	**20.55**	**148**		eP		Pn	15 47 30.8	-1.0

RIV Riverview 29.07 186 P P 15 48 52.1 +1.3
baz=29,SNR=5.9
STKA Stephens Creek 29.63 203 P P 15 48 56.2 +0.3
comp=Z,69nm,0.7s,baz=8.1,slow=8.5,SNR=147
STKA LR LR 16 01 54.7
comp=Z,6µm,18.0s,baz=21,slow=38
STKA Stephens Creek 29.63 203 P P 15 48 56.0 +0.2
baz=30,SNR=109
STKA Stephens Creek 29.63 203 P P 15 48 55.9 +0.1
STKA pmax pmax
comp=Z,25nm,0.8s
STKA MLR MLR
comp=Z,1µm,18.0s
STKA Stephens Creek 29.63 203 P P 15 48 55.9 +0.1
YNG Young 29.93 191 P P 15 48 59.6 +1.0
baz=30,SNR=12
SGSI Sangihe 30.41 286 P P 15 49 00.1 -2.9
comp=Z,5µmcomp=Z,374nm,0.9s
SOEI Soe 30.64 259 P P 15 49 04.9 -0.3
SOEI IAmb IAmb 15 49 25.6
comp=Z,364nm,0.9s
SOEI Soe 30.64 259 P P 15 49 05.5 +0.3
comp=Z,3µmcomp=Z,4µmcomp=Z,450nm,0.9s
MATI Mati 30.76 292 eP P 15 49 04.0 -2.1
CNB Canberra Magne 30.77 189 P P 15 49 07.3 +1.3
baz=31,SNR=9.1
CAN Canberra 30.83 189 P P 15 49 07.0 +0.5
CAN pmax pmax
comp=Z,137nm,1.0s
CAN MLR MLR
comp=Z,8µm,20.0s
CAN Canberra 30.83 189 P P 15 49 07.0 +0.5
DDMP Don Marcelino, 30.97 290 eP P 15 49 06.0 -1.9
KMSI Cibinong 31.22 279 P P 15 49 10.2 +0.1
comp=Z,5µmcomp=Z,547nm,0.9s
BATI Baumata 31.29 258 LR LR 16 05 08.4
comp=Z,7µm,19.9s,baz=97,slow=43
BATI Baumata 31.29 258 P P 15 49 11.5 +0.7
comp=Z,2µmcomp=Z,251nm,0.8s
FITZ Fitzroy Crossi 31.39 243 P P 15 49 11.5 -0.1
comp=Z,227nm,0.6s,baz=64,slow=7.2,SNR=7.2
FITZ LR LR 16 03 39.8
comp=Z,4µm,18.1s,baz=52,slow=40
FITZ Fitzroy Crossi 31.39 243 P P 15 49 11.6 +0.1
baz=32,SNR=635
FITZ Fitzroy Crossi 31.39 243 P P 15 49 11.7 +0.2
KCP Kidapawan 31.86 291 ⇓iP P 15 49 17.3 +1.5
GLSP General Luna, 32.01 297 eP P 15 49 15.1 -2.0
HTT Hallett 32.08 205 P P 15 49 18.1 +0.6
baz=32,SNR=105
BUTP Butuan 32.12 295 eP P 15 49 26.0 +8.0
LUWI Luwuk 32.17 276 P P 15 49 18.4 -0.1
LUWI Luwuk 32.17 276 P P 15 49 17.8 -0.7
comp=Z,4µmcomp=Z,280nm,1.2s
GTOI Gorontalo 32.18 279 P P 15 49 19.5 +0.9
comp=Z,2µmcomp=Z,149nm,0.7s
SKMP Bagumbayan, Su 32.20 290 eP P 15 49 17.9 -0.9
BUKP Musuan 32.20 293 eP P 15 49 19.0 +0.2
WRKA Warakurna 32.41 229 P P 15 49 20.5 -0.1
baz=33,SNR=883
MMRI Maumere 32.52 262 P P 15 49 20.3 -1.3
MMRI Maumere 32.52 262 P P 15 49 20.1 -1.5
comp=Z,2µmcomp=Z,4µmcomp=Z,406nm,1.2s
CGP Cagayan de Oro 32.76 294 eP P 15 49 24.6 +1.0
BBOO Buckleboo 32.89 210 P P 15 49 24.7 +0.2
baz=33,SNR=90
BBOO Buckleboo 32.89 210 P P 15 49 24.5 0.0
BBOO IAmb IAmb 15 49 25.9
comp=Z,239nm,0.8s
EDFI Ende, Flores 33.07 261 P P 15 49 25.0 -1.5
comp=Z,1µmcomp=Z,2µmcomp=Z,348nm,0.8s
MRSI Marisa 33.21 278 P P 15 49 25.4 -2.2
comp=Z,1µmcomp=Z,108nm,0.9s
MSLP Maasin 33.29 297 eP P 15 49 28.5 +0.2
APSI Ampana 33.30 276 P P 15 49 26.6 -1.8
comp=Z,3µmcomp=Z,254nm,1.2s
BESP Borongan 33.42 299 eP P 15 49 31.1 +1.7
TOO Toolangi 33.70 193 P P 15 49 32.6 +1.0
baz=34,SNR=15
TOO Toolangi 33.70 193 P P 15 49 32.4 +0.8
TOO pmax pmax
comp=Z,53nm,0.9s
TOO MLR MLR
comp=Z,8µm,22.0s
TOO Toolangi 33.70 193 P P 15 49 32.4 +0.8
PAGZ Pagadian 33.74 292 eP P 15 49 32.9 +0.6
OCLP Ormoc 33.90 298 eP P 15 49 33.3 -0.3
ARPS Mount Arapiles 33.95 199 P P 15 49 34.7 +0.9
baz=34,SNR=98
JCJ Chichijima 33.97 340 P P 15 49 31.6 -2.5
JCJ IAmb IAmb 15 49 33.0
comp=Z,340nm,1.0s
AFI Afiamalu 34.18 108 P P 15 49 36.3 +0.2
comp=Z,109nm,1.0s,baz=95,slow=22,SNR=9.6
AFI Afiamalu 34.18 108 P P 15 49 35.5 -0.7
AFI pmax pmax
comp=Z,161nm,1.1s
AFI Afiamalu 34.18 108 P P 15 49 35.5 -0.7
AFI IAmb IAmb 15 49 37.5
comp=Z,161nm,1.1s
AFI Afiamalu 34.18 108 P P 15 49 36.8 +0.6
BASI Baing, Sumba 34.30 259 P P 15 49 36.5 -0.6
comp=Z,7µmcomp=Z,918nm,1.0s
BKSI Bulukumba 34.51 268 P P 15 49 38.2 -0.8
comp=Z,1µmcomp=Z,117nm,1.0s
BNSI Bone 34.55 269 P P 15 49 39.0 -0.3
comp=Z,2µmcomp=Z,218nm,0.9s
KAPI Kappang 34.89 268 P P 15 49 42.7 +0.5
comp=Z,106nm,0.8s,baz=111,slow=8.2
KAPI LR LR 16 05 25.6
comp=Z,2µm,21.7s,baz=99,slow=39
KAPI Kappang 34.89 268 P P 15 49 42.3 +0.1
KAPI pmax pmax
comp=Z,107nm,0.8s
KAPI MLR MLR
comp=Z,2µm,21.0s
KAPI Kappang 34.89 268 P P 15 49 42.3 +0.1
KAPI Kappang 34.89 268 P P 15 49 42.4 +0.2
KAPI S S 15 55 10.9 -0.9
SPSI Sidrap Palu 34.91 270 P P 15 49 41.0 -1.3
comp=Z,1µmcomp=Z,138nm,1.1s
TTSI Tana Toraja 34.91 272 P P 15 49 42.9 +0.5
comp=Z,1µmcomp=Z,98nm,1.2s
CNOP Candoni, Negro 35.16 294 eP P 15 49 44.0 -0.5
GUIM Jordan 35.52 296 eP P 15 49 47.4 -0.2
FORT Forrest 36.05 221 P P 15 49 52.2 +0.3
baz=36,SNR=268
FORT Forrest 36.05 221 P P 15 49 52.4 +0.5
PLAI Plampang 36.93 262 P P 15 49 57.9 -1.8
comp=Z,4µmcomp=Z,576nm,0.8s
CUYO Cuyo Island 37.02 295 eP P 15 50 01.1 +0.6
NIUE Niue 37.23 115 P P 15 50 05.3 +3.1
MYLDM Lahad Datu 37.56 285 P P 15 50 05.6 +0.5
MYLDM IAmb IAmb 15 50 24.3
comp=Z,357nm,1.2s
SJMP San Jose 37.59 297 eP P 15 50 06.4 +1.1
MBWA Marble Bar 37.68 241 P P 15 50 05.6 -0.4
MBWA P P 15 50 05.6 -0.4
MBWA S S 15 55 51.5 -2.9
MBWA S S 15 55 51.5 -2.9
PSA00 Pilbara Seismi 37.73 241 P P 15 50 06.0 -0.4
PSA00 IAmb IAmb 15 50 07.4
comp=Z,236nm,0.8s
PSA00 Pilbara Seismi 37.73 241 P P 15 50 05.3 -1.0
PSA00 IAmb IAmb 15 50 06.7
comp=Z,98nm,0.8s
TWSI Taliwang, Sumb 37.81 262 P P 15 50 04.9 -2.3
comp=Z,1µmcomp=Z,159nm,0.9s
TOZ Tahuroa Road 37.84 153 P P 15 50 08.8 +1.7
LQP Lukban 37.95 300 eP P 15 50 08.8 +0.3
BKB Balikpapan 37.98 274 P P 15 50 07.8 -0.8
comp=Z,3µmcomp=Z,113nm,1.1s
MOO Moorlands 38.08 189 P P 15 50 10.6 +1.6
baz=38,SNR=3.5
HIZ Hauiti 38.20 154 P P 15 50 12.0 +1.9
BUSP Coron 38.22 296 eP P 15 50 10.9 +0.4
TGY Tagaytay City 38.46 300 LR LR 16 03 35.5
comp=Z,3µm,22.0s,baz=118,slow=32
TAU Tasmania Unive 38.51 189 P P 15 50 13.4 +0.7
TAU pmax pmax
comp=Z,530nm,1.2s
TAU Tasmania Unive 38.51 189 P P 15 50 13.4 +0.7
TAU IAmb IAmb 15 50 27.0
comp=Z,530nm,1.2s
KBKI Kotabaru 38.53 271 P P 15 50 12.1 -1.2
comp=Z,675nmcomp=Z,74nm,0.9s

ENPP El Nido 38.60 295 eP P 15 50 14.6 +0.7
QVP Quezon City--P 38.64 301 eP P 15 50 14.8 +0.7
MACP Maragondon, Ca 38.73 300 eP P 15 50 14.7 -0.1
LUBP Lubang 38.90 299 eP P 15 50 15.1 -1.2
KATZ Kakaramea 38.95 154 P P 15 50 18.2 +1.6
URZ Urewera 39.02 152 IAMs_20 IAMs_20 16 05 42.0
comp=Z,6µm,18.0s
NGZ Ngauruhoe 39.07 154 P P 15 50 19.5 +1.9
OTVZ Oturere 39.09 154 P P 15 50 19.8 +2.0
FWVZ Far West T-bar 39.12 154 P P 15 50 19.9 +1.8
TRVZ Turoa 39.15 154 P P 15 50 20.4 +2.0
PKGZ Pakihiroa 39.19 150 P P 15 50 20.3 +1.7
WNVZ Wahianoa 39.20 154 P P 15 50 21.0 +2.3
QRZ Quartz Range 39.25 159 P P 15 50 19.9 +1.1
QRZ IAmb IAmb 15 50 32.6
comp=Z,215nm,0.8s
BATP Bataraza 39.26 290 eP P 15 50 19.6 +0.3
RAGZ Rawiri 39.35 152 P P 15 50 21.3 +1.5
TWGZ Tauwhareparae 39.37 151 P P 15 50 21.2 +1.2
SRBI Singaraja 39.43 263 P P 15 50 19.1 -1.7
comp=Z,2µmcomp=Z,100nm,0.8s
DNP Denpasar 39.46 262 P P 15 50 19.1 -1.9
comp=Z,12µmcomp=Z,507nm,0.9s
BKZ Black Stump Fm 39.46 153 P P 15 50 20.7 -0.1
TKGZ Te Karaka 39.51 151 P P 15 50 21.9 +0.8
SNGZ Shannon Statio 39.54 152 P P 15 50 22.9 +1.5
SGCP Mt. Cagua 39.57 306 eP P 15 50 21.5 -0.4
BBKI Banjar Baru 39.84 270 P P 15 50 24.3 +0.1
comp=Z,3µmcomp=Z,226nm,1.0s
NNZ Nelson 39.90 158 P P 15 50 24.6 +0.3
MTKI Muara Teweh, K 40.00 274 P P 15 50 25.1 -0.4
comp=Z,849nmcomp=Z,2µmcomp=Z,82nm,0.9s
APYP Conner 40.02 305 eP P 15 50 25.2 -0.4
THZ Tophouse 40.20 159 P P 15 50 27.1 +0.2
THZ IAmb IAmb 15 50 39.4
comp=Z,239nm,0.8s
TUWZ Tuamarina 40.30 158 P P 15 50 27.9 +0.3
BOLP Bolinao 40.39 302 eP P 15 50 22.6 -6.1
JAGI Jajag, Banyuwa 40.49 263 P P 15 50 26.6 -3.0
comp=Z,2µmcomp=Z,256nm,0.8s
SNZO South Karori 40.49 157 P P 15 50 29.7 +0.5
BSWZ Blackbirch Sta 40.52 158 P P 15 50 29.0 -0.4
JOW Kunigami 40.58 322 LR LR 16 04 10.9
comp=Z,2µm,21.7s,baz=150,slow=32
JOW Kunigami 40.58 322 P P 15 50 30.8 +0.7
JOW IAmb IAmb 15 50 32.7
comp=Z,454nm,1.1s
BFZ Birch Farm 40.60 155 P P 15 50 30.1 0.0
KMBL Kambalda 40.63 226 P P 15 50 30.6 0.0
baz=41,SNR=184
KMMI Kalianget 40.64 265 P P 15 50 30.1 -0.7
comp=Z,2µmcomp=Z,121nm,1.4s
FOZ Fox Glacier 40.79 163 P P 15 50 31.3 -0.3
FOZ IAmb IAmb 15 50 45.1
comp=Z,255nm,1.1s
MSWZ Moikau Station 40.80 156 P P 15 50 31.3 -0.5
LTZ Lake Taylor 40.88 160 P P 15 50 32.2 -0.3
LTZ IAMs_20 IAMs_20 16 07 13.9
comp=Z,12µm,18.0s
PLWZ Palliser 40.93 156 P P 15 50 32.4 -0.5
KHZ Kahutara 41.01 159 P P 15 50 33.0 -0.4
KHZ IAMs_20 IAMs_20 16 05 36.1
comp=Z,8µm,20.0s
OXZ Oxford 41.29 161 P P 15 50 35.1 -0.7
OXZ IAmb IAmb 15 50 48.4
comp=Z,237nm,0.9s
OXZ IAMs_20 IAMs_20 16 07 15.8
comp=Z,8µm,19.0s
RPZ Rata Peaks 41.33 162 P P 15 50 36.1 0.0
RPZ IAmb IAmb 15 50 49.5
comp=Z,322nm,0.9s
LBZ Lake Benmore 41.68 163 IAMs_20 IAMs_20 16 06 11.9
comp=Z,8µm,20.0s
WKZ Wanaka 41.77 165 IAMs_20 IAMs_20 16 05 37.7
comp=Z,14µm,21.0s
MQZ McQueen's Vall 41.83 160 IAMs_20 IAMs_20 16 07 42.1
comp=Z,6µm,18.0s
MLZ Mavora Lakes 42.05 166 IAMs_20 IAMs_20 16 04 56.2
comp=Z,10µm,22.0s
MIDW Midway 42.41 38 IAMs_20 IAMs_20 16 06 39.8
comp=Z,8µm,20.0s
ODZ Otahua Downs 42.42 163 IAMs_20 IAMs_20 16 06 33.7
comp=Z,8µm,20.0s
PYZ Puysegur Point 42.48 168 IAMs_20 IAMs_20 16 07 34.7
comp=Z,6µm,18.0s
JSU Suzuyama 42.91 329 P P 15 50 49.6 +0.4
JSU IAmb IAmb 15 50 51.0
comp=Z,522nm,1.2s
GIRL Giralia 42.98 242 P P 15 50 50.9 +1.0
baz=43,SNR=10
YULB Yu-li 43.04 312 P P 15 50 50.2 -0.1
JYT Yasato 43.04 343 P P 15 50 49.3 -0.7
JYT IAmb IAmb 15 50 51.3
comp=Z,263nm,0.9s
PBKI Pangkalan Bun 43.05 271 P P 15 50 51.2 +0.6
comp=Z,5µmcomp=Z,626nm,1.0s
SBUM Sibu 43.12 279 P P 15 50 51.9 +0.8
SBUM Sibu 43.12 279 P P 15 50 53.0 +1.9
JMN Monobe 43.12 334 P P 15 50 50.6 -0.2
JMN IAmb IAmb 15 50 52.8
comp=Z,426nm,1.1s
NACB Ninganchiao 43.29 313 IAmb IAmb 15 50 54.3
comp=Z,226nm,1.0s
INU Inuyama 43.29 339 P P 15 50 51.0 -1.1
STKI Sintang 43.51 275 P P 15 50 54.1 -0.2
comp=Z,15µmcomp=Z,43nm,0.8s
SSLB Suanglung 43.53 312 P P 15 50 54.2 -0.1
KLBR Kellerberrin 43.74 228 P P 15 50 55.3 -0.6
baz=44,SNR=31
YHNB Yeheng 43.75 314 P P 15 50 56.5 +0.5
YHNB IAmb IAmb 15 51 02.2
comp=Z,245nm,1.1s
JWT Wachi 43.84 337 P P 15 50 55.7 -0.9
TATO Taipei 43.85 314 P P 15 50 58.1 +1.3
TATO P P 15 50 58.1 +1.3
TATO P P 15 50 58.1 +1.3
MORW Morawa 43.88 232 P P 15 50 56.7 -0.3
baz=44,SNR=80
MORW Morawa 43.88 232 P P 15 50 56.5 -0.6
MORW IAmb IAmb 15 50 58.0
comp=Z,195nm,0.8s
MJAR Matsushiro Arr 43.95 341 P P 15 50 56.1 -1.3
comp=Z,31nm,0.9s,baz=171,slow=8.2,SNR=75
MJAR PcP PcP 15 52 44.1 +1.1
comp=Z,31nm,0.9s,baz=166,slow=3.7,SNR=8.1
MJAR LR LR 16 08 19.7
comp=Z,600nm,18.1s,baz=230,slow=35
MJAR PKPPKP P'P'df 16 22 50.0 +6.8
comp=Z,0.8nm,0.6s,baz=0.0,slow=1.5,SNR=4.5
MJAR Matsushiro Arr 43.95 341 P P 15 50 56.6 -0.9
MJAR 15 52 43.3
MJAR pmax pmax
comp=Z,17nm,0.8s
MJAR Matsushiro Arr 43.95 341 P P 15 50 56.6 -0.9
MJAR PcP 15 52 43.2 +0.2
MAJO Matsushiro 43.96 341 P P 15 50 56.3 -1.2
MAJO pmax pmax
comp=Z,113nm,1.2s
MAJO MLR MLR
comp=Z,1µm,18.0s
MAJO Matsushiro 43.96 341 P P 15 50 56.2 -1.2
MAT Matsushiro 43.96 341 P P 15 50 56.1 -1.4
MAT S S 15 57 27.4 0.0
MJB9 Matsu-Tunnel 43.96 341 P P 15 50 56.4 -1.2
JNU Nakatsue 44.00 331 LR LR 16 07 00.6
comp=Z,919nm,20.9s,baz=138,slow=33
BLDU Ballidu 44.06 230 P P 15 50 58.0 -0.5
baz=44,SNR=47
UGM Wanagama 44.07 264 P P 15 50 58.4 -0.4
UGM IAmb IAmb 15 51 24.1
comp=Z,419nm,1.0s
UGM Wanagama 44.07 264 P P 15 50 58.3 -0.5
comp=Z,5µmcomp=Z,425nm,1.5s
SMRI Semarang 44.13 265 P P 15 50 59.3 0.0
SMRI IAmb IAmb 15 51 01.1
comp=Z,234nm,0.7s
SMRI Semarang 44.13 265 P P 15 50 59.2 -0.1
comp=Z,5µmcomp=Z,377nm,0.9s
JMM Marumori 44.40 344 P P 15 51 00.9 -0.1
JHS Saijyo 44.53 334 P P 15 51 01.8 -0.3
JHS IAmb IAmb 15 51 03.5
comp=Z,282nm,1.1s
NWAO Narrogin (SRO) 44.79 227 P P 15 51 03.4 -0.9
comp=Z,46nm,0.8s,baz=69,slow=8.8
NWAO Narrogin (SRO) 44.79 227 P P 15 51 03.9 -0.4
baz=45,SNR=13
NWAO Narrogin (SRO) 44.79 227 P P 15 51 03.9 -0.4
NWAO pmax pmax
comp=Z,58nm,0.9s
NWAO MLR MLR
comp=Z,6µm,20.0s
NWAO Narrogin (SRO) 44.79 227 P P 15 51 03.9 -0.4
NWAO Narrogin (SRO) 44.79 227 P P 15 51 03.9 -0.4
NWAO IAmb IAmb 15 51 13.6
comp=Z,83nm,1.2s
NWAO Narrogin (SRO) 44.79 227 IAMs_20 IAMs_20 16 09 32.6
comp=Z,7µm,20.0s
NWAO Narrogin (SRO) 44.79 227 P P 15 51 03.9 -0.4
NWAO P P 15 51 03.9 -0.4
KSM Kuching 44.85 277 P P 15 51 05.4 +0.3
KSM Kuching 44.85 277 P P 15 51 06.0 +0.9
MUN Mundaring 45.08 228 P P 15 51 06.4 -0.2
baz=45,SNR=33
JSD Sado 45.30 342 IAmb IAmb 15 51 09.6
comp=Z,519nm,1.7s
QZH Quanzhou 45.95 312 ⇑iP P 15 51 14.1 +0.6
QZH S S 15 57 55.8 -0.7
QZH pmax pmax
comp=Z,90nm,1.6s
QZH LR LR
comp=Z,870nm,19.9s
QZH LR LR
comp=Z,1µm,16.1s
QZH LR LR
comp=Z,2µm,17.0s
JCJI Jatiwangi 46.29 266 P P 15 51 16.4 0.0
comp=Z,6µmcomp=Z,776nm,1.2s
CISI Cisompet, Garu 46.74 264 P P 15 51 18.9 -1.2
comp=Z,1µmcomp=Z,11µmcomp=Z,1µm,1.0s
LEM Lembang 46.94 265 P P 15 51 21.5 -0.2
comp=Z,2µmcomp=Z,213nm,0.9s
TPI Tanjungpandan 47.05 271 P P 15 51 22.8 +0.4
comp=Z,2µmcomp=Z,186nm,1.0s
CBJI Citeko 47.70 266 P P 15 51 26.0 -1.5
comp=Z,5µmcomp=Z,590nm,0.8s
ERM Erimo 47.79 348 ceP P 15 51 28.0 +0.4
ERM pmax pmax
comp=Z,64nm,1.0s
DBJI Dramaga 47.80 266 P P 15 51 26.5 -1.8
comp=Z,3µmcomp=Z,164nm,1.2s
SSE Sheshan 47.98 320 P P 15 51 30.8 +1.5
SSE S S 15 58 27.1 +1.7
SSE pmax pmax
comp=Z,50nm,1.4s
SSE pmax pmax
comp=Z,380nm,7.4s
SSE LR LR
comp=Z,460nm,22.9s
SSE LR LR
comp=Z,770nm,20.3s
HKC Hong Kong Obse 47.98 306 ⇑P P 15 51 31.0 +1.5
H01W1 Cape Leeuwin H 47.99 226 P P 15 51 30.5 +1.3
baz=70,slow=7.3,SNR=7.6
H01W3 Cape Leeuwin H 48.00 226 P P 15 51 30.4 +1.2
baz=70,slow=7.3,SNR=6.0
H01W2 Cape Leeuwin H 48.01 226 P P 15 51 30.4 +1.2
baz=70,slow=7.3,SNR=3.3
XMAS Kiritimati 48.23 83 IAMs_20 IAMs_20 16 09 04.2
comp=Z,7µm,19.0s
XMAS Kiritimati 48.23 83 P P 15 51 32.9 +1.4
TJN Taejon 48.33 330 ceP P 15 51 32.9 +1.0
PPBI Pangkal Pinang 48.60 271 P P 15 51 33.8 -0.7
comp=Z,14µmcomp=Z,83nm,0.8s
KSRS Korea Array 48.92 332 P P 15 51 37.0 +0.7
comp=Z,114nm,0.9s,baz=150,slow=9.0,SNR=364
KSRS LR LR 16 11 28.0
comp=Z,1µm,19.2s,baz=140,slow=35
XMI Christmas Isla 48.92 260 P P 15 51 37.9 +1.0
comp=Z,216nm,1.0s
KSAR Wonju Array Be 48.92 331 P P 15 51 37.1 +0.6
KSAR Wonju Array Be 48.92 331 P P 15 51 37.1 +0.6
DLV T Lat 48.94 290 P P 15 51 37.9 +0.7
DLV IAmb IAmb 15 51 53.6
comp=Z,140nm,0.9s
XMIS Christmas Isla 48.96 260 P P 15 51 36.9 -0.3
XMIS IAmb IAmb 15 51 38.3
comp=Z,132nm,0.8s
XMIS Christmas Isla 48.96 260 P P 15 51 37.7 +0.5
comp=Z,182nm,0.9s
KS19 Wonju Array Si 48.98 332 IAmb IAmb 15 51 38.5
comp=Z,219nm,1.1s
YUK Yuzh-Kuril'sk 49.28 352 diP P 15 51 38.8 -0.2
YUK eS S 15 58 46.1 +2.9
YUK e 16 01 24.6
YUK pmax pmax
comp=Z,515nm,1.1s
YUK pmax pmax
comp=N,273nm,0.9s
INCN Inchon 49.56 330 P P 15 51 42.1 +0.7
INCN pmax pmax
comp=Z,821nm,1.0s
INCN Inchon 49.56 330 P P 15 51 42.1 +0.7
INCN Inchon 49.56 330 P P 15 51 42.5 +1.1
INCN P P 15 51 42.5 +1.1
INCN P P 15 51 42.5 +1.1
INCN S S 15 58 49.6 +2.1
INCN S S 15 58 49.6 +2.1
INCN S S 15 58 49.6 +2.1
KLSI 49.86 268 P P 15 51 41.1 -2.9
comp=Z,446nmcomp=Z,17nm,1.1s
PMBI Palembang 49.91 270 P P 15 51 41.4 -3.0
comp=Z,2µmcomp=Z,12µmcomp=Z,242nm,0.4s
JKA Kamikawa-asahi 49.92 349 IAmb IAmb 15 51 46.7
comp=Z,213nm,0.9s
KASI Kota Agung 50.06 267 P P 15 51 42.8 -2.8
comp=Z,2µmcomp=Z,260nm,0.9s
NJ2 Nanjing 50.11 320 ⇑iP P 15 51 46.8 +1.2
NJ2 pP pP 15 51 52.9 -1.2
NJ2 sP pwP 15 51 56.0 -0.9
NJ2 PcP PcP 15 53 05.9 +1.0
NJ2 PP PP 15 53 39.3 -1.7
NJ2 S S 15 58 57.8 +2.6
NJ2 sS sS 15 59 08.6 -0.8
NJ2 ScS ScS 16 01 34.5 -0.5
NJ2 SS SS 16 02 25.6 -3.3
NJ2 pmax pmax
comp=Z,68nm,1.9s
NJ2 pmax pmax
comp=Z,900nm,3.5s
NJ2 LR LR
comp=Z,2µm,22.3s
NJ2 LR LR
comp=Z,2µm,21.8s
NJ2 LR LR
comp=Z,2µm,23.2s
QIZ Qiongzhong 50.17 300 P P 15 51 48.0 +1.6
QIZ S S 15 58 58.8 +2.2
QIZ pmax pmax
comp=Z,84nm,0.9s
QIZ LR LR
comp=Z,650nm,15.7s
QIZ LR LR
comp=Z,1µm,20.4s
QIZ LR LR
comp=Z,2µm,20.6s
QIZ Qiongzhong 50.17 300 P P 15 51 47.9 +1.6
QIZ IAmb IAmb 15 51 49.2
comp=Z,116nm,0.9s
KUR Kuril'sk 50.20 354 ciP P 15 51 47.0 +1.0
KUR i 15 53 35.8
KUR eS S 15 58 57.3 +1.2
KUR eSSS SSS 16 03 49.0
KUR pmax pmax
comp=Z,498nm,1.2s
KUR pmax pmax
comp=N,115nm,2.0s
KUR pmax pmax
comp=Z,1µm,4.4s
KUR MLR MLR
comp=Z,1µm,18.0s
KUR MLR MLR
comp=E,992nm,16.0s
KUR MLR MLR
comp=N,1µm,17.0s
LWLI Liwa 50.51 267 P P 15 51 46.3 -2.9
comp=N,4µmcomp=N,249nm,0.8s
LHSI Lahat 51.10 269 P P 15 51 50.8 -2.6
comp=N,1µmcomp=N,82nm,1.3s
JMBI JAMBI 51.13 272 P P 15 51 53.1 -0.6
comp=N,118nm,0.9s
MYKOM Kota Tinggi 51.29 276 P P 15 51 54.6 -0.3

MYKOM **Kota Tinggi** 51.29 276 P **P** 15 51 55.0 +0.1
MNAI Manna 51.64 268 P **P** 15 51 55.0 -2.5
comp=N,2µmcomp=N,173nm,0.7s
MSHR Mys Shultsa 51.81 338 *ce*P **P** 15 51 58.8 +0.6
MSHR pmax pmax
comp=Z,158nm,1.7s
TEY Ternei 52.22 344⇑ *e*P **P** 15 52 01.5 +0.3
TEY pmax pmax
comp=N,20nm,1.0s
TEY pmax pmax
comp=E,20nm,1.0s
TEY pmax pmax
comp=Z,30nm,2.0s
WHN Wuhan 52.23 315 ⇑P **P** 15 52 02.6 +1.0
WHN S **S** 15 59 25.8 +1.1
WHN pmax pmax
comp=Z,210nm,1.2s
WHN pmax pmax
comp=Z,1µm,4.0s
WHN LR LR
comp=Z,4µm,19.3s
WHN LR LR
comp=Z,2µm,15.7s
WHN LR LR
comp=Z,6µm,20.9s
YSS Yuzh-Sakhalins 52.62 350⇑ *i*P **P** 15 52 05.1 +1.0
YSS *e**PP **pwP** 15 52 15.1 -0.5
YSS *e* 15 53 14.5
YSS *e*S **S** 15 59 27.7 -1.8
YSS *e*SS **ScS** 16 01 52.5 +0.8
YSS pmax pmax
comp=Z,240nm,0.9s
YSS pmax pmax
comp=Z,1µm,6.0s
YSS MLR MLR
comp=Z,2µm,16.0s
YSS MLR MLR
comp=N,1µm,17.0s
YSS MLR MLR
comp=E,500nm,18.0s
YSS Yuzh-Sakhalins 52.62 350 P **P** 15 52 04.9 +0.8
YSS IAmb IAmb 15 52 06.3
comp=Z,263nm,1.0s
YSS pwP **pwP** 15 52 15.3 -0.3
UBPT Khong Chiam 52.74 293 P **P** 15 52 07.4 +1.8
comp=Z,16nm,2.2s
USA0B Ussuriysk Arra 52.91 340 *c*i P **P** 15 52 07.1 +0.7
USA0B Ussuriysk Arra 52.91 340 IAmb IAmb 15 52 08.7
comp=Z,339nm,1.1s
USRK Ussuriysk Ar. 52.91 340 P **P** 15 52 07.2 +0.8
comp=Z,146nm,0.9s,baz=164,slow=7.5,SNR=261
USRK LR LR 16 15 08.5
comp=Z,672nm,18.1s,baz=141,slow=36
USRK PKPPKP P'P'df 16 22 41.9 +11
comp=Z,2.1nm,0.9s,baz=2.8,slow=7.8,SNR=5.1
USRK Ussuriysk Ar. 52.91 340 P **P** 15 52 06.4 0.0
JRMM Jerantut 52.95 278 P **P** 15 52 07.0 -0.2
KIP Kipapa 53.10 59 *ce*P **P** 15 52 08.5 +0.4
KIP pmax pmax
comp=Z,299nm,2.5s
DL2 Dalian 53.20 328⇑ *i*P **P** 15 52 08.6 0.0
DL2 PcP **PcP** 15 53 17.5 +1.2
DL2 S **S** 15 59 35.8 -1.9
DL2 pmax pmax
comp=Z,210nm,1.1s
DL2 pmax pmax
comp=Z,600nm,7.5s
DL2 LR LR
comp=Z,920nm,16.5s
DL2 LR LR
comp=Z,960nm,17.8s
DL2 LR LR
comp=Z,2µm,27.1s
TIA Tai'an 53.90 322 P **P** 15 52 13.8 0.0
TIA pP **pwP** 15 52 24.0 -1.2
TIA PP **PP** 15 54 17.4 +2.0
TIA S **S** 15 59 46.8 -0.5
TIA pmax pmax
comp=Z,65nm,1.0s
TIA pmax pmax
comp=Z,400nm,3.7s
TIA LR LR
comp=Z,930nm,17.1s
TIA LR LR
comp=Z,860nm,17.8s
TIA LR LR
comp=Z,2µm,17.1s
BKNI Bangkinang 53.91 274 P **P** 15 52 13.8 -0.4
BKNI IAmb IAmb 15 52 29.5
comp=Z,127nm,0.8s
BKNI Bangkinang 53.91 274 P **P** 15 52 13.5 -0.8
comp=Z,2µmcomp=Z,183nm,0.9s
MDJ Mudanjiang 54.14 338 P **P** 15 52 15.9 +0.5
MDJ pP pP 15 52 23.9 0.0
MDJ sP sP 15 52 27.3 0.0
MDJ PP **PP** 15 54 17.6 +0.3
MDJ S **S** 15 59 50.8 +0.6
MDJ sS sS 16 00 06.3 +1.9
MDJ ScS **ScS** 16 02 04.3 +1.7
MDJ pmax pmax
comp=Z,190nm,1.0s
MDJ LR LR
comp=Z,970nm,19.9s
MDJ LR LR
comp=Z,1µm,19.9s
MDJ LR LR
comp=Z,2µm,18.5s
HLK Haleakala 54.36 60 P **P** 15 52 18.0 +0.3
HLK IAMs_20 IAMs_20 16 12 06.7
comp=Z,7µm,19.0s
SNY Shenyang 54.42 332 ⇑P **P** 15 52 18.3 +0.8
SNY S **S** 15 59 55.6 +1.5
SNY pmax pmax
comp=Z,61nm,1.4s
SNY pmax pmax
comp=Z,480nm,3.8s
SNY LR LR
comp=Z,1µm,18.5s
SNY LR LR
comp=Z,1µm,19.9s
SNY LR LR
comp=Z,3µm,18.5s
IPM Ipoh 54.47 279 P **P** 15 52 18.0 -0.4
IPM Ipoh 54.47 279 P **P** 15 52 18.0 -0.4
MLOA Mauna Loa Obse 54.49 62 P **P** 15 52 18.9 0.0
MLOA IAmb IAmb 15 52 21.0
comp=Z,198nm,1.1s
HMH Humu'ula Sheep 54.60 62 P **P** 15 52 20.3 +0.7
POHA Pohakuloa 54.61 62 P **P** 15 52 20.6 +1.1
MLH Mauna Loa 54.65 62 P **P** 15 52 20.4 +0.6
MLH IAmb IAmb 15 52 22.7
comp=Z,297nm,1.3s
UGL Uglegorsk 54.80 350 *e*P **P** 15 52 20.5 +0.5
UGL *e* 15 52 31.4
UGL *e*S **S** 15 59 56.5 -2.3
UGL *e*SS **ScS** 16 02 10.5 +3.5
UGL pmax pmax
comp=E,210nm,0.9s
UGL pmax pmax
comp=N,80nm,1.0s
UGL pmax pmax
comp=Z,380nm,1.0s
UGL pmax pmax
comp=Z,2µm,6.0s
UGL MLR MLR
comp=E,1µm,16.0s
UGL MLR MLR
comp=N,2µm,19.0s
UGL MLR MLR
comp=Z,2µm,18.0s
KULM Kulim 54.97 280 P **P** 15 52 21.8 -0.1
KULM Kulim 54.97 280 P **P** 15 52 22.0 0.0
CN2 Changchun 55.13 334 ⇑P **P** 15 52 22.9 +0.3
CN2 PP **PP** 15 54 28.1 +1.9
CN2 *e*S **S** 16 00 07.1 +3.5
CN2 pmax pmax
comp=Z,160nm,1.3s
CN2 pmax pmax
comp=Z,1µm,4.0s
CN2 LR LR
comp=Z,970nm,16.0s
CN2 LR LR
comp=Z,810nm,16.0s
CN2 LR LR
comp=Z,1µm,18.0s
SKR Severo-Kuril's 55.28 1 *e*P **P** 15 52 23.9 +0.4

SKR *e* 15 53 23.1
SKR *e*S **S** 16 00 03.2 -2.1
SKR pmax pmax
comp=Z,900nm,5.2s
SKR pmax pmax
comp=Z,178nm,1.4s
SKR pmax pmax
comp=Z,300nm,13.0s
SKR MLR MLR
comp=Z,900nm,17.0s
SKR MLR MLR
comp=Z,900nm,16.0s
KHON Khomkaen 55.49 293 P **P** 15 52 27.0 +1.3
comp=Z,3µmcomp=Z,107nm,0.9s
ENH Enshi 55.61 312 P **P** 15 52 27.0 +0.7
NONG Nongkai 55.74 296 P **P** 15 52 28.0 +0.6
comp=Z,151nm,0.9s
PPT Papeete 55.85 108 LR LR 16 13 57.8
comp=Z,817nm,18.3s,baz=306,slow=33
PPT2 Papeete2 55.86 108 *e*P **P** 15 52 29.7 +1.3
comp=Z,194nm,1.6s
PPT2 *e*S **S** 16 00 12.0 -2.3
comp=Z,2µm,26.2s
PPT2 *e*LQ LQ 16 06 26.3
comp=Z,2µm,25.8s
PPT2 *e*LR LR 16 08 41.8
comp=Z,1µm,23.8s
GYA Guiyang 55.97 306 ⇑P **P** 15 52 30.6 +1.5
GYA PcP **PcP** 15 53 28.6 +1.2
GYA S **S** 16 00 17.3 +1.7
GYA ScS **ScS** 16 02 15.8 -0.9
GYA pmax pmax
comp=Z,150nm,1.0s
GYA LR LR
comp=Z,650nm,19.7s
GYA LR LR
comp=Z,770nm,18.7s
GYA LR LR
comp=Z,1µm,19.3s
CHAI Chaiyaphum 56.13 293 P **P** 15 52 31.5 +1.2
comp=Z,645nmcomp=Z,57nm,0.8s
TRTT Trang 56.36 283 P **P** 15 52 31.2 -0.7
TYV Tymovskoe 56.42 351 *e*P **P** 15 52 33.0 +1.3
TYV *e*S **S** 16 00 23.3 +2.8
TYV pmax pmax
comp=Z,1µm,4.2s
TYV pmax pmax
comp=Z,252nm,1.0s
TYV smax smax
comp=E,300nm,5.0s
TBI Tubuai 56.77 115 *e*S **S** 16 00 24.4 -1.7
comp=E,2µm,27.5s
TBI *e*LQ LQ 16 06 47.5
comp=E,2µm,32.0s
TBI *e*LR LR 16 09 12.8
comp=E,2µm,25.2s
KRAB Krabi 56.92 283 P P 15 52 42.5 +6.6
comp=E,29µmcomp=E,531nm,0.8s
BJI Beijing 57.00 325 P **P** 15 52 36.3 +0.3
BJI sP **pwP** 15 52 46.8 -0.7
BJI PcP **PcP** 15 53 31.9 +1.0
BJI S **S** 16 00 28.3 -0.3
BJI sS **sS** 16 00 43.9 +1.1
BJI pmax pmax
comp=E,48nm,1.4s
BJI pmax pmax
comp=E,630nm,3.5s
BJI LR LR
comp=E,1µm,17.8s
BJI LR LR
comp=E,740nm,17.1s
BJI LR LR
comp=E,2µm,18.6s
KLR Kul'dur 57.43 342 *ce*P **P** 15 52 39.7 +0.8
KLR pmax pmax
comp=Z,368nm,1.1s
KLR MLR MLR
comp=Z,941nm,18.0s
SURT Suratani 57.45 284 P **P** 15 52 42.2 +2.5
comp=Z,2.3nm,1.1s
GSI Gunungsitoli 57.46 275 IAmb IAmb 15 52 58.4
comp=Z,126nm,1.0s
VAH Vaihoa 57.51 105 *e*P **P** 15 52 41.1 +1.0
comp=Z,233nm,1.3s
PHET Kaeng Krachan 57.53 288 P **P** 15 52 41.8 +1.6
comp=Z,853nmcomp=Z,91nm,0.9s
GRNR Gornyy 57.57 346⇑ *i*P **P** 15 52 40.9 +1.1
GRNR *e*S **S** 16 00 39.5 +3.8
GRNR pmax pmax
comp=E,20nm,0.8s
GRNR pmax pmax
comp=N,60nm,1.0s
GRNR pmax pmax
comp=Z,100nm,0.9s
GRNR smax smax
comp=N,1.0nm,1.1s
PKDT Phuket 57.69 282 P **P** 15 52 40.5 -0.9
PET Petropavlovsk 57.71 3⇑ *i*P **P** 15 52 41.6 +0.9
PET *e**PP **pwP** 15 52 52.9 +0.4
PET *e* 15 53 32.6
PET *e* 15 54 50.5
PET ePPP PPP 15 56 08.4
PET *e*S **S** 16 00 36.1 -1.2
PET *e*SS **SS** 16 04 34.1 +5.8
PET 16 06 46.2
PET pmax pmax
comp=Z,339nm,0.9s
PET pmax pmax
comp=Z,2µm,4.1s
PET pmax pmax
comp=Z,1µm,16.7s
PET Petropavlovsk 57.71 3 P **P** 15 52 41.5 +0.7
PEA0B Petropavlovsk- 57.75 2 P **P** 15 52 42.3 +1.2
PEA0B *PP **pwP** 15 52 54.2 +1.3
PEA0B pmax pmax
comp=Z,913nm,1.2s
PEA0B Petropavlovsk- 57.75 2 P **P** 15 52 42.3 +1.2
PEA0B pwP **pwP** 15 52 54.2 +1.3
PETK Petropavlovsk- 57.75 2 P **P** 15 52 42.2 +1.1
comp=Z,276nm,0.8s,baz=152,slow=6.7,SNR=333
PETK pP **pwP** 15 52 53.3 +0.4
comp=Z,259nm,0.9s,baz=158,slow=3.8,SNR=18
PETK LR LR 16 13 27.1
comp=Z,2µm,21.9s,baz=180,slow=32
TIY Taiyuan 57.76 321 *e*P **P** 15 52 42.4 +0.9
TIY pP **sP** 15 52 55.1 +1.6
TIY S **S** 16 00 36.8 -2.0
TIY sS **sS** 16 00 52.3 -0.7
TIY ScS **ScS** 16 02 29.3 +0.1
TIY pmax pmax
comp=Z,42nm,0.5s
TIY pmax pmax
comp=Z,460nm,5.0s
TIY LR LR
comp=Z,650nm,16.2s
TIY LR LR
comp=Z,1µm,20.0s
TIY LR LR
comp=Z,2µm,20.5s
PHIT Phitsanulok 57.95 294 P **P** 15 52 44.8 +1.7
comp=Z,2µmcomp=Z,235nm,0.9s
UTTA Uttaradit 57.99 294 P **P** 15 52 44.7 +1.3
comp=Z,1µmcomp=Z,110nm,0.9s
XAN Xi'an 57.99 315 P **P** 15 52 43.3 +0.1
XAN PcP **PcP** 15 53 32.8 -2.3
XAN ScP **ScP** 15 57 28.8 -4.5
XAN PcS **PcS** 15 57 36.3 -0.3
XAN S **S** 16 00 40.6 -1.3
XAN ScS **ScS** 16 02 29.0 -2.0
XAN SS **SS** 16 04 31.5 -2.1
XAN pmax pmax
comp=Z,100nm,1.3s
XAN pmax pmax
comp=Z,880nm,4.2s
XAN LR LR
comp=Z,830nm,22.8s
XAN LR LR
comp=Z,2µm,20.1s
XAN LR LR
comp=Z,3µm,20.6s
NANT Nan 58.18 295 P **P** 15 52 46.2 +1.4
comp=Z,42µmcomp=Z,995nm,0.7s
SRDT SRDT 58.37 290 P **P** 15 52 46.8 +0.7
comp=Z,73nm,1.2s
UTHA Uthaitani 58.38 291 P **P** 15 52 47.5 +1.3
comp=Z,1µmcomp=Z,121nm,1.0s

KMI Kunming 58.62 303 ⇑P **P** 15 52 49.8 +1.8
KMI pP pP 15 52 56.8 +0.1
KMI sP sP 15 53 02.4 +2.4
KMI S **S** 16 00 53.9 +3.1
KMI pmax pmax
comp=Z,210nm,1.1s
KMI pmax pmax
comp=Z,720nm,4.3s
KMI LR LR
comp=Z,990nm,19.3s
KMI LR LR
comp=Z,1µm,19.8s
KMI LR LR
comp=Z,2µm,20.0s
KMI Kunming 58.62 303 P **P** 15 52 48.1 +0.1
KMI pmax pmax
comp=Z,253nm,1.1s
KMI Kunming 58.62 303 P **P** 15 52 48.1 +0.1
KMI IAmb IAmb 15 52 51.1
comp=Z,253nm,1.1s
SUKH Sukhothai 58.75 294 P **P** 15 52 50.2 +1.5
comp=Z,1µmcomp=Z,134nm,0.8s
LAMP Lampang 59.06 295 P **P** 15 52 52.0 +1.2
comp=Z,1µmcomp=Z,122nm,0.9s
UMPA Umpang Tak 59.10 292 P **P** 15 52 52.6 +1.4
comp=Z,3µmcomp=Z,98nm,1.1s
CM35 Chiang Mai Arr 59.53 295 P **P** 15 52 55.5 +1.3
CM36 Chiang Mai Arr 59.54 295 P **P** 15 52 55.0 +0.8
CM34 Chiang Mai Arr 59.59 295 P **P** 15 52 55.0 +0.5
CM04 Chiang Mai Arr 59.61 294 P **P** 15 52 56.0 +1.3
comp=Z,764nmcomp=Z,96nm,1.0s
CM09 Chiang Mai Arr 59.61 295 P **P** 15 52 56.0 +1.3
comp=Z,788nmcomp=Z,96nm,0.9s
CM01 Chiang Mai Arr 59.64 294 P **P** 15 52 56.4 +1.5
comp=Z,769nmcomp=Z,95nm,0.9s
CM05 Chiang Mai Arr 59.64 294 P **P** 15 52 56.4 +1.5
comp=Z,546nmcomp=Z,66nm,1.0s
CM02 Chiang Mai Arr 59.65 294 P **P** 15 52 56.5 +1.5
comp=Z,729nmcomp=Z,92nm,0.9s
CM31 Chiang Mai Arr 59.66 295 P **P** 15 52 56.6 +1.5
comp=Z,19µmcomp=Z,2µm,0.9s
CMAR Chiang Mai Arr 59.66 295 P **P** 15 52 56.5 +1.5
comp=Z,48nm,0.8s,baz=113,slow=5.1,SNR=244
CMAR LR LR 16 19 53.0
comp=Z,642nm,18.1s,baz=153,slow=37
CMAR PKPPKP **P'P'df** **16 22 24.2 -0.5**
comp=Z,7.4nm,1.1s,baz=287,slow=3.5,SNR=15
CMAR Chiang Mai Arr 59.66 295 *i* P **P** 15 52 56.5 +1.5
CMAR pmax pmax
comp=Z,52nm,0.8s
CMAR Chiang Mai Arr 59.66 295 P **P** 15 52 56.3 +1.2
CM15 Chiang Mai Arr 59.68 294 P **P** 15 52 56.0 +0.9
comp=Z,708nmcomp=Z,91nm,0.9s
CM13 Chiang Mai Arr 59.68 294 P **P** 15 52 56.5 +1.4
comp=Z,642nmcomp=Z,81nm,0.9s
CMMT Chiang Mai 59.76 295 P **P** 15 52 55.7 0.0
comp=Z,578nmcomp=Z,33nm,1.5s
CM33 Chiang Mai Arr 59.76 295 P **P** 15 52 56.0 +0.3
CHTO Chiang Mai 59.77 295 P **P** 15 52 55.3 -0.5
CHTO pmax pmax
comp=Z,94nm,1.3s
CHTO Chiang Mai 59.77 295 P **P** 15 52 55.3 -0.5
CHTO Chiang Mai 59.77 295 P **P** 15 52 56.8 +1.0
CHTO P **P** 15 52 56.8 +1.0
CHTO P **P** 15 52 56.8 +1.0
CHTO S **S** 16 01 07.5 +2.2
CHTO S **S** 16 01 07.5 +2.2
CHTO S **S** 16 01 07.5 +2.2
AMKA Amchitka 59.78 18 P **P** 15 52 55.1 -0.1
AMKA pwP **pwP** 15 53 06.8 -0.1
CM32 Chiang Mai Arr 59.81 295 P **P** 15 52 57.0 +1.0
HHC Hu-ho-hao-te 60.21 323 *e*P **P** 15 52 59.0 +0.5
HHC sP sP 15 53 11.3 +0.7
HHC S **S** 16 01 11.3 +0.7
HHC SS **SS** 16 05 04.6 -3.8
HHC pmax pmax
comp=Z,70nm,1.4s
HHC LR LR
comp=Z,1µm,20.8s
HHC LR LR
comp=Z,2µm,20.4s
HHC LR LR
comp=Z,2µm,20.2s
CD2 Chengdu 60.24 310 ⇑P **P** 15 52 59.8 +0.9
CD2 pP pP 15 53 08.0 +0.4
CD2 sP sP 15 53 11.5 +0.6
CD2 S **S** 16 01 11.5 +0.3
CD2 sS sS 16 01 27.3 +1.6
CD2 SS **SS** 16 05 13.4 +4.3
CD2 pmax pmax
comp=Z,440nm,0.8s
CD2 pmax pmax
comp=Z,440nm,4.9s
CD2 LR LR
comp=Z,2µm,22.1s
CD2 LR LR
comp=Z,2µm,19.1s
CD2 LR LR
comp=Z,2µm,20.6s
MHMT Maesarieng 60.50 294 P **P** 15 53 01.0 +0.2
comp=Z,1µmcomp=Z,103nm,1.0s
BTO Baotou 61.00 322 *e*P **P** 15 53 05.5 +1.6
BTO S **S** 16 01 27.6 +7.0
BTO pmax pmax
comp=Z,190nm,1.4s
BTO pmax pmax
comp=Z,2µm,8.4s
BTO LR LR
comp=Z,3µm,24.9s
BTO LR LR
comp=Z,3µm,21.6s
BTO LR LR
comp=Z,4µm,25.5s
ADK Adak 61.49 20 P **P** 15 53 07.9 +1.1
ADK pmax pmax
comp=Z,253nm,0.9s
ADK Adak 61.49 20 P **P** 15 53 07.9 +1.1
HIA Hailar 61.86 335 P **P** 15 53 10.3 +0.9
HIA pwP **sP** 15 53 22.5 +1.0
LZH Lanzhou 62.61 315 ⇑P **P** 15 53 16.5 +1.5
LZH pP pP 15 53 23.8 +0.1
LZH sP sP 15 53 28.9 +1.9
LZH S **S** 16 01 45.8 +4.4
LZH sS sS 16 01 58.3 +2.5
LZH SS **SS** 16 05 41.3 -5.0
LZH pmax pmax
comp=Z,160nm,1.2s
LZH pmax pmax
comp=Z,290nm,4.3s
LZH LR LR
comp=Z,1µm,12.5s
LZH LR LR
comp=Z,1µm,15.2s
LZH LR LR
comp=Z,1µm,15.7s
ATKA Atka Island 62.62 21 IAmb IAmb 15 53 27.0
comp=Z,200nm,1.2s
ATKA IAMs_20 IAMs_20 16 16 52.1
comp=Z,5µm,20.0s
ZEA Zeya 62.74 342 *ce*P **P** 15 53 16.5 +1.3
ZEA *e*S **S** 16 01 46.0 +4.1
ZEA pmax pmax
comp=E,40nm,0.9s
ZEA pmax pmax
comp=N,130nm,1.2s
ZEA pmax pmax
comp=Z,240nm,1.2s
ZEA smax smax
comp=N,200nm,6.3s
ZEA smax smax
comp=E,300nm,10.3s
DGPR DIGLIPUR 63.95 287 *e*P **P** 15 53 23.9 0.0
DGPR IAmb IAmb 15 53 35.4
comp=Z,121nm,1.4s
MA2 Magadan 64.26 358 *ce*P **P** 15 53 25.3 +0.2
MA2 pmax pmax
comp=Z,468nm,1.3s
MA2 Magadan 64.26 358 P **P** 15 53 25.7 +0.6
MA2 pwP **pwP** 15 53 37.3 +0.2
TAOE Nuku Hiva Isla 64.68 97 *e*P **P** 15 53 29.7 +0.8
comp=Z,423nm,1.2s
TAOE Nuku Hiva Isla 64.68 97 *e*LR LR 16 12 47.6
comp=Z,1µm,24.9s
TAOE Nuku Hiva Isla 64.68 97 *e*T T 17 03 06.2
comp=Z,43nm,0.2s

TAOE **Nuku Hiva Isla** 64.68 97 P P 15 53 29.9 +1.0
LKP **Lekhapani** 65.19 303 IAmb IAmb 15 53 33.6
comp=Z,150nm,1.3s
NIKH **Nikolski High** 65.23 23 P P 15 53 32.1 +0.5
NIKH pwP **pwP** 15 53 43.4 +0.1
NIKH IAMs_20 IAMs_20 16 17 25.1
comp=Z,5µm,20.0s
NIKH **Nikolski High** 65.23 23 P 15 53 31.5
baz=220
MOKO **MOKOCHONG** 65.98 301⇑ *i*P **P** 15 53 36.6 -0.6
DIBR **DIBRUGARH** 66.02 303 *e*P **P** 15 53 38.6 +1.4
KOHI **KOHIMA** 66.14 301 *e*P **P** 15 53 37.6 -0.6
KOHI IAmb IAmb 15 53 39.7
comp=Z,163nm,1.8s
SAIH **SAIHA** 66.16 297⇑ *i*P **P** 15 53 38.8 +0.4
JORH **JORHAT** 66.34 302 *e*P **P** 15 53 39.5 +0.2
CIT **Chita** 66.56 334 *e*P **P** 15 53 41.8 +1.5
CIT *e* 15 53 53.7
CIT *e* 15 56 07.3
CIT pmax pmax
comp=Z,480nm,2.2s
ZIRO **ZIRO** 66.93 302⇑ *i*P **P** 15 53 44.4 +1.1
SILR **SILCHAR** 66.98 299⇑ *i*P **P** 15 53 45.1 +1.7
SILR IAmb IAmb 15 53 46.7
comp=Z,278nm,1.8s
GTA **Gaotai** 67.00 316⇑ P **P** 15 53 44.6 +1.1
GTA pP pP 15 53 52.3 +0.1
GTA sP sP 15 53 56.1 +0.5
GTA S **S** **16 02 36.9 +1.6**
GTA sS sS 16 02 51.3 +1.5
GTA pmax pmax
comp=Z,120nm,1.3s
GTA pmax pmax
comp=Z,700nm,7.6s
GTA LR LR
comp=Z,800nm,21.1s
GTA LR LR
comp=Z,890nm,20.3s
GTA LR LR
comp=Z,400nm,21.9s
ULN **Ulaanbaatar** 67.05 327 P **P** 15 53 44.9 +1.3
ULN pmax pmax
comp=Z,157nm,1.2s
ULN MLR MLR
comp=Z,2µm,19.0s
ULN **Ulaanbaatar** 67.05 327 P **P** 15 53 44.9 +1.3
ULN IAmb IAmb 15 53 46.5
comp=Z,157nm,1.2s
ULN **Ulaanbaatar** 67.05 327 P **P** 15 53 44.8 +1.3
ULN P **P** 15 53 44.8 +1.3
ULN S **S** **16 02 38.9 +3.3**
ULN S **S** **16 02 38.9 +3.3**
AKUT **Akutan** 67.33 24 IAMs_20 IAMs_20 16 20 52.6
comp=Z,4µm,20.0s
SONM **Songino Array** 67.39 327 P **P** 15 53 46.8 +1.1
comp=Z,108nm,1.2s,baz=137,slow=4.0,SNR=230
SONM PKPPKP **P'P'df** **16 22 11.7 +1.9**
comp=Z,8.2nm,1.1s,baz=295,slow=2.2,SNR=22
SONM LR LR 16 23 47.4
comp=Z,1µm,18.7s,baz=124,slow=36
SONM **Songino Array** 67.39 327 P **P** 15 53 46.7 +1.0
SONM pmax pmax
comp=Z,126nm,1.3s
SONM **Songino Array** 67.39 327 P **P** 15 53 46.7 +1.0
SONM IAmb IAmb 15 53 48.5
comp=Z,126nm,1.3s
SEY **Seymchan** 67.58 359*c* *i*P **P** 15 53 46.9 +0.5
BELO **BELONIA** 67.74 297 *i* P **P** 15 53 49.6 +1.4
SPIA **Saint Paul Isl** 67.98 20 P 15 53 49.6
baz=218
SPIA **Saint Paul Isl** 67.98 20 IAMs_20 IAMs_20 16 20 23.0
comp=Z,3µm,20.0s
SHL **Shillong** 68.01 300 P **P** 15 53 50.8 +0.6
SHL pmax pmax
comp=Z,352nm,1.0s
SHL **Shillong** 68.01 300⇑ *i*P **P** 15 53 50.2 +0.1
SHL IAmb IAmb 15 53 52.6
comp=Z,170nm,1.8s
SHL **Shillong** 68.01 300 P **P** 15 53 50.8 +0.6
SHL **Shillong** 68.01 300 P **P** 15 53 50.9 +0.8
SNR=127
AGT **Agartala** 68.08 298⇑ *i*P **P** 15 53 52.4 +2.0
GUWA **GUWAHATI** 68.36 300 *e*P **P** 15 53 51.7 -0.4
CASY **Casey** 68.59 198 IAMs_20 IAMs_20 16 19 17.7
comp=Z,5µm,19.0s
FALS **False Pass** 68.81 24 P 15 53 54.3
baz=225
FALS **False Pass** 68.81 24 pwP **pwP** 15 54 06.1 +0.1
FALS IAMs_20 IAMs_20 16 20 48.6
comp=Z,4µm,20.0s
YAK **Yakutsk** 69.39 348*c* *i*P **P** 15 53 58.6 +0.9
YAK *e**PP **pwP** 15 54 09.5 +0.1
YAK *e* 15 54 20.5
YAK *e*PPP PPP 15 58 05.6
YAK *e*S **S** **16 03 03.3 +0.8**
YAK *e**SS sS 16 03 27.0 +10
YAK *e* 16 03 49.9
YAK *e*SS **SS** **16 07 25.8 -4.3**
YAK pmax pmax
comp=Z,327nm,1.1s
YAK pmax pmax
comp=E,46nm,1.1s
YAK pmax pmax
comp=N,95nm,1.0s
YAK smax smax
comp=E,661nm,5.9s
YAK smax smax
comp=N,211nm,4.3s
YAK **Yakutsk** 69.39 348 P **P** 15 53 59.1 +1.4
YAK pwP **sP** 15 54 10.7 +0.9
LSA **Lhasa** 69.87 304 P **P** 15 54 03.0 +1.0
LSA pmax pmax
comp=N,400nm,1.1s
LSA **Lhasa** 69.87 304 P **P** 15 54 03.3 +1.3
LSA **Lhasa** 69.87 304 IAmb IAmb 15 54 04.8
comp=Z,122nm,1.0s
LSA **Lhasa** 69.87 304 P **P** 15 54 03.5 +1.6
LSA P **P** 15 54 03.5 +1.6
LSA S **S** **16 03 12.9 +2.5**
LSA S **S** **16 03 12.9 +2.5**
RKT **Rikitea** 69.98 113 *e*S **S** **16 03 09.1 -1.9**
RKT comp=Z,1µm,26.5s *e*LQ LQ 16 11 40.1
comp=Z,830nm,28.2s
RKT *e*LR LR 16 15 15.3
comp=Z,2µm,24.5s
SDPT **Sand Point** 70.38 25 P 15 54 03.5
baz=228
SDPT **Sand Point** 70.38 25 IAMs_20 IAMs_20 16 22 19.1
comp=Z,3µm,19.0s
BOD **Bodaibo** 70.51 338 *e*P **P** 15 54 05.4 +0.7
BOD pmax pmax
comp=Z,329nm,1.2s
ZAK **Zakamensk** 70.53 328 *e*P **P** 15 54 05.6 +0.4
ZAK pmax pmax
comp=Z,177nm,1.3s
TLY **Talaya** 71.08 329 P **P** 15 54 09.6 +1.2
comp=Z,56nm,0.9s,baz=145,slow=4.4,SNR=52
TLY **Talaya** 71.08 329 *e*P **P** 15 54 09.4 +1.1
TLY *e*SS SS 16 07 58.1 +1.4
TLY pmax pmax
comp=Z,504nm,1.6s
TLY MLR MLR
comp=Z,2µm,18.0s
TLY **Talaya** 71.08 329 P **P** 15 54 09.5 +1.1
TLY IAmb IAmb 15 54 11.0
comp=Z,139nm,1.1s
TLY **Talaya** 71.08 329 P **P** 15 54 09.5 +1.1
TLY P **P** 15 54 09.5 +1.1
IRK **Irkutsk** 71.09 330 *e*P **P** 15 54 08.1 -0.3
IRK pmax pmax
comp=Z,347nm,2.1s
GTK **Tadong** 71.32 301 *e*P **P** 15 54 11.2 +0.7
GTK IAmb IAmb 15 54 13.2
comp=Z,116nm,2.2s
CHGN **Chignik** 71.88 25 pwP **pwP** 15 54 24.6 -0.2
CHGN IAMs_20 IAMs_20 16 23 43.9
comp=Z,3µm,20.0s
CHGN **Chignik** 71.88 25 P 15 54 12.6
baz=230
TAPN **Taplejung** 72.09 301 *e*P **P** 15 54 16.3 +0.9
comp=Z,558nm,1.1s
ODAN **Odare** 72.24 300 *e*P **P** 15 54 17.1 +0.9
comp=Z,727nm,1.2s
MOY **Mondy** 72.44 328 *e*P **P** 15 54 17.7 +1.0
MOY pmax pmax
comp=Z,354nm,1.7s
VNDA **Vanda** 72.76 178 P **P** 15 54 18.1 +0.1
comp=Z,5.4nm,0.7s,baz=340,slow=5.9,SNR=30
VNDA LR LR 16 20 58.8
comp=Z,830nm,21.6s,baz=347,slow=31
VNDA **Vanda** 72.76 178 P **P** 15 54 18.4 +0.4
VNDA pmax pmax
comp=Z,32nm,0.9s
VNDA **Vanda** 72.76 178 P **P** 15 54 18.4 +0.4
BOK **Bokaro** 72.81 297 *e*P **P** 15 54 20.4 +1.0
BOK IAmb IAmb 15 54 22.1
comp=Z,111nm,1.5s
RAMN **Ramite** 72.95 300 *e*P **P** 15 54 20.9 +0.5
comp=Z,273nm,1.3s
BILL **Bilibino** 73.13 4*de*P **P** 15 54 21.1 +0.8
BILL *i* *PP **sP** 15 54 31.2 -1.1
BILL *e* 15 54 37.3
BILL *e* 15 57 05.9
BILL *e*PPP PPP 15 58 47.1
BILL *e*S **SKiKP** **16 03 54.8 +4.4**
BILL *e*SS **SS** **16 08 29.0 +1.5**
BILL pmax pmax
comp=Z,274nm,1.0s
BILL pmax pmax
comp=Z,274nm,1.0s
BILL MLR MLR
comp=Z,1µm,19.0s
BILL **Bilibino** 73.13 4 P **P** 15 54 21.3 +1.0
GUN **Gumba** 73.81 301 *e*P **P** 15 54 26.4 +0.8
comp=Z,392nm,0.9s
SII **Sitkinak Islan** 73.89 27 P 15 54 25.4
baz=234
SII **Sitkinak Islan** 73.89 27 pwP **pwP** 15 54 37.4 +0.6
SII IAMs_20 IAMs_20 16 23 58.0
comp=Z,4µm,20.0s
PKI **Pulchoki** 74.13 300 *e*P **P** 15 54 27.8 +0.4
comp=Z,611nm,1.3s
PKIN **Phulchoki** 74.14 300 *e*P **P** 15 54 27.6 +0.2
comp=Z,535nm,1.3s
KKN **Kakani** 74.29 300 *e*P **P** 15 54 28.9 +0.7
comp=Z,441nm,1.3s
DMN **Daman** 74.40 300 *e*P **P** 15 54 29.8 +0.9
comp=Z,831nm,1.1s
OHAK **Old Harbor** 74.67 26 pwP **pwP** 15 54 41.9 +0.6
OHAK IAmb IAmb 15 54 42.7
comp=Z,222nm,0.8s
OHAK **Old Harbor** 74.67 26 P 15 54 29.7
baz=234
PALK **Pallekele** 74.88 279 P **P** 15 54 32.2 +0.5
PALK pmax pmax
comp=Z,44nm,0.9s
PALK MLR MLR
comp=Z,800nm,22.0s
PALK **Pallekele** 74.88 279 P **P** 15 54 32.2 +0.5
PALK **Pallekele** 74.88 279 P **P** 15 54 32.5 +0.8
PALK P **P** 15 54 32.5 +0.8
PALK S **S** **16 04 06.9 -0.5**
PALK S **S** **16 04 06.9 -0.5**
GKN **Gorkha** 74.90 301 *e*P **P** 15 54 32.2 +0.5
comp=Z,924nm,1.2s
ANM **Nome** 75.21 17 P 15 54 33.7
baz=221,SNR=97
ANM **Nome** 75.21 17 IAmb IAmb 15 54 46.5
comp=Z,339nm,1.6s
KDAK **Kodiak Island** 75.31 26 LR LR 16 22 13.2
comp=Z,2µm,21.6s,baz=255,slow=31
KDAK **Kodiak Island** 75.31 26 *i* P **P** 15 54 32.5 -0.7
KDAK pmax pmax
comp=Z,175nm,1.1s
KDAK **Kodiak Island** 75.31 26 IAMs_20 IAMs_20 16 21 16.6
comp=Z,3µm,22.0s
KDAK **Kodiak Island** 75.31 26 P 15 54 33.7
baz=235
SVW2 **Sparrevohn** 76.07 22 IAMs_20 IAMs_20 16 24 34.6
comp=Z,4µm,20.0s
MDRS **Chennai** 76.09 285 *e*P **P** 15 54 38.6 +0.1
HOM **Homer** 76.79 25 IAMs_20 IAMs_20 16 24 28.5
comp=Z,3µm,20.0s
HOM **Homer** 76.79 25 P 15 54 42.4
baz=235
CNPM **China Poot** 76.88 25 IAMs_20 IAMs_20 16 22 57.0
comp=Z,4µm,21.0s
WMQ **Urumqi** 77.08 317 *e*P **P** 15 54 44.8 +1.1
WMQ S **S** **16 04 31.1 +0.4**
WMQ sS sS 16 04 45.3 -0.3
WMQ pmax pmax
comp=Z,170nm,1.5s
WMQ pmax pmax
comp=Z,1µm,3.6s
WMQ LR LR
comp=Z,540nm,20.5s
WMQ LR LR
comp=Z,750nm,28.1s
WMQ LR LR
comp=Z,3µm,28.1s
BRLK **Bradley Lake** 77.16 25 pwP **pwP** 15 54 56.3 +0.6
BRLK IAmb IAmb 15 54 56.9
comp=Z,210nm,1.0s
BRLK IAMs_20 IAMs_20 16 24 50.2
comp=Z,4µm,20.0s
BRSE **Bradley Lake S** 77.21 25 P 15 54 44.5
baz=236,SNR=12
SPCR **Spurr Chakacha** 77.44 23 P 15 54 44.9
baz=235,SNR=7.5
CAPN **Captain Cook N** 77.62 24 IAMs_20 IAMs_20 16 20 13.6
comp=Z,3µm,20.0s
CAPN **Captain Cook N** 77.62 24 P 15 54 47.4
baz=236
SEW **Seward** 77.95 25 IAmb IAmb 15 55 01.4
comp=Z,162nm,0.9s
SEW IAMs_20 IAMs_20 16 23 17.5
comp=Z,5µm,22.0s
SEW **Seward** 77.95 25 P 15 54 48.6
baz=237,SNR=11
O22K **Cooper Landing** 78.05 25 IAMs_20 IAMs_20 16 25 39.9
comp=Z,4µm,20.0s
O22K **Cooper Landing** 78.05 25 P 15 54 49.1
baz=237,SNR=12
SKT **Skwentna** 78.16 23 P 15 54 48.3
baz=235,SNR=11
SKT **Skwentna** 78.16 23 IAMs_20 IAMs_20 16 23 20.9
comp=Z,5µm,22.0s
SUA **Susitna One** 78.17 24 P 15 54 49.2
baz=236,SNR=19
TIXI **Tiksi** 78.17 352*ce*P **P** 15 54 49.0 0.0
TIXI pmax pmax
comp=Z,822nm,1.7s
TIXI **Tiksi** 78.17 352 P **P** 15 54 49.6 +0.5
TIXI IAmb IAmb 15 54 51.7
comp=Z,204nm,1.4s
TIXI pwP **pwP** 15 55 01.5 +0.1
SUA **Susitna One** 78.17 24 IAmb IAmb 15 55 02.0
comp=Z,161nm,0.8s
SUA IAMs_20 IAMs_20 16 23 20.3
comp=Z,3µm,22.0s
HYB **Hyderabad** 78.35 289 *i* P **P** 15 54 51.5 +0.3
comp=Z,90nm,1.0s
HYB **Hyderabad** 78.35 289 *e*P **P** 15 54 49.2 -2.1
HYB IAmb IAmb 15 54 51.1
comp=Z,42nm,0.4s
RC01 **Rabbit Creek A** 78.37 24 IAmb IAmb 15 55 03.6
comp=Z,237nm,1.1s
RC01 IAMs_20 IAMs_20 16 23 50.5
comp=Z,3µm,22.0s
RC01 **Rabbit Creek A** 78.37 24 P 15 54 50.8
baz=237,SNR=38
PPLA **Purkeypile** 78.44 22 IAmb IAmb 15 55 09.2
comp=Z,161nm,1.2s
PPLA **Purkeypile** 78.44 22 P 15 54 50.8
baz=234,SNR=23
RDOG **Red Dog Mine** 78.47 15 IAMs_20 IAMs_20 16 26 37.4
comp=Z,3µm,20.0s
RDOG **Red Dog Mine** 78.47 15 P 15 54 52.4
baz=223,SNR=154
PWL **Port Wells** 78.83 25 P **P** 15 54 53.0 +0.1
PWL pwP **sP** 15 55 05.2 +0.1
PWL IAMs_20 IAMs_20 16 25 22.6
comp=Z,4µm,20.0s
CUT **Chulitna** 78.89 23 P 15 54 52.6
baz=236,SNR=18
CUT **Chulitna** 78.89 23 IAMs_20 IAMs_20 16 23 55.3
comp=Z,4µm,22.0s
PMR **Palmer** 78.89 24 P 15 54 53.4
baz=237,SNR=38
PMR **Palmer** 78.89 24 IAmb IAmb 15 55 06.3
comp=Z,163nm,1.0s
PMR IAMs_20 IAMs_20 16 24 07.3
comp=Z,3µm,22.0s
CHUM **Lake Minchumin** 78.97 21 P 15 54 54.5
baz=234,SNR=106
KNK **Knik Glacier** 79.07 24 P 15 54 54.9
baz=238,SNR=30
KNK **Knik Glacier** 79.07 24 IAmb IAmb 15 54 56.4
comp=Z,301nm,1.4s
KNK IAMs_20 IAMs_20 16 23 60.0
comp=Z,4µm,22.0s
GHO **Glory Hole Cre** 79.07 24 IAmb IAmb 15 55 07.6
comp=Z,111nm,0.8s
GHO IAMs_20 IAMs_20 16 24 14.0
comp=Z,2µm,21.0s
DGZ **Jazzator, Alta** 79.28 322*c* *i*P **P** **15 54 56.3 +0.5**
DGZ pmax pmax
comp=Z,166nm,1.1s
KTH **Kantishna Hill** 79.29 22 IAmb IAmb 15 55 08.0
comp=Z,149nm,1.0s
KTH IAMs_20 IAMs_20 16 26 16.8
comp=Z,5µm,20.0s
SML **Sawmill** 79.33 24 P 15 54 56.3
baz=238,SNR=67
SML **Sawmill** 79.33 24 IAMs_20 IAMs_20 16 24 09.8
comp=Z,4µm,22.0s
GLI **Glacier Island** 79.36 25 IAMs_20 IAMs_20 16 24 00.5
comp=Z,3µm,22.0s
GLI **Glacier Island** 79.36 25 P 15 54 56.3
baz=239,SNR=28
HIN **Hinchinbrook I** 79.36 26 IAmb IAmb 15 54 58.0
comp=Z,367nm,1.4s
TRF **Thorofare Moun** 79.46 22 P 15 54 56.0
baz=236,SNR=28
TRF **Thorofare Moun** 79.46 22 IAmb IAmb 15 55 09.6
comp=Z,124nm,1.0s
BPAW **Bear Paw Mtn.** 79.58 21 IAMs_20 IAMs_20 16 27 45.4
comp=Z,5µm,20.0s
BPAW **Bear Paw Mtn.** 79.58 21 P 15 54 56.7
baz=235,SNR=42
IMAR **Indian Mountai** 79.74 19 P **P** **15 54 58.6 +0.8**
SCM **Sheep Creek Mo** 79.75 24 IAmb IAmb 15 55 11.8
comp=Z,288nm,1.1s
SCM IAMs_20 IAMs_20 16 24 42.9
comp=Z,4µm,21.0s
EYAK **Cordova Ski Ar** 79.76 26 IAmb IAmb 15 55 11.7
comp=Z,269nm,1.4s
EYAK IAMs_20 IAMs_20 16 24 39.2
comp=Z,3µm,21.0s
EYAK **Cordova Ski Ar** 79.76 26 P 15 54 58.7
baz=241,SNR=14
WAT2 **Susitna Watana** 79.84 23 P 15 54 58.6
baz=238,SNR=41
WAT6 **Susitna Watana** 79.97 23 P 15 54 59.6
baz=238,SNR=89
RND **Reindeer** 79.98 22 IAmb IAmb 15 55 12.0
comp=Z,225nm,1.0s
KAIM **Kayak Island** 80.05 27 P 15 55 00.8
baz=242,SNR=5.3
MCK **McKinley** 80.12 22 P 15 54 59.7
baz=237,SNR=152
ZSN **Zaisan** 80.14 320⇑ *i*P **P** **15 55 00.9 +0.5**
comp=Z,111nm,1.3s,baz=320
ZSN *e*S **S** **16 05 03.7 +0.5**
baz=320
ZSN **Zaisan** 80.14 320*c* *i*P **P** **15 55 00.8 +0.5**
ZSN *e*S **S** **16 05 03.7 +0.5**
ZSN pmax pmax
comp=Z,111nm,1.3s
RAGM **Ragged Mountai** 80.15 26 IAmb IAmb 15 55 14.8
comp=Z,296nm,1.2s
RAGM IAMs_20 IAMs_20 16 24 36.6
comp=Z,3µm,22.0s
KLU **Klutina** 80.16 25 IAmb IAmb 15 55 02.7
comp=Z,318nm,1.2s
KLU IAMs_20 IAMs_20 16 27 05.7
comp=Z,3µm,20.0s
KLU **Klutina** 80.16 25 P 15 55 01.1
baz=240,SNR=74
MLY **Manley** 80.19 21 P 15 55 00.8
baz=235,SNR=68
MLY **Manley** 80.19 21 IAmb IAmb 15 55 13.7
comp=Z,205nm,1.0s
MLY IAMs_20 IAMs_20 16 26 55.7
comp=Z,5µm,20.0s
HMT **Hamilton** 80.31 26 IAmb IAmb 15 55 14.9
comp=Z,300nm,1.3s
HMT IAMs_20 IAMs_20 16 24 07.8
comp=Z,4µm,22.0s
BHPL **Bhopal** 80.32 294 *i* P **P** **15 55 00.5 -1.4**
BHPL IAmb IAmb 15 55 01.5
comp=Z,53nm,0.9s
M24K **Tolsona, Glenn** 80.36 24 IAMs_20 IAMs_20 16 25 11.0
comp=Z,3µm,20.0s
M24K **Tolsona, Glenn** 80.36 24 P 15 55 02.4
baz=240,SNR=53
BMRM **Bremner River** 80.46 26 P 15 55 02.6
baz=242,SNR=26
BMRM **Bremner River** 80.46 26 IAmb IAmb 15 55 20.1
comp=Z,255nm,1.1s
BMRM IAMs_20 IAMs_20 16 25 22.7
comp=Z,4µm,22.0s
NEA2 **Nenana** 80.54 21 IAmb IAmb 15 55 14.7
comp=Z,194nm,1.0s
NEA2 IAMs_20 IAMs_20 16 29 03.0
comp=Z,3µm,20.0s
NEA2 **Nenana** 80.54 21 P 15 55 01.6
baz=237,SNR=64
BERG **Berg Lake** 80.58 26 IAMs_20 IAMs_20 16 23 52.0
comp=Z,3µm,21.0s
BGLC **Bering Glacier** 80.64 27 P 15 55 03.9
baz=243
I23K **Minto, Yukon-K** 80.74 21 P 15 55 03.2
baz=237,SNR=30
I23K **Minto, Yukon-K** 80.75 21 IAMs_20 IAMs_20 16 26 30.3
comp=Z,5µm,21.0s
N25K **Chitina, Valde** 80.77 25 P 15 55 04.6
baz=242,SNR=52
WRH **Wood River Hil** 80.84 22 IAMs_20 IAMs_20 16 28 54.7
comp=Z,4µm,20.0s
CRQM **Cirque** 81.00 26 IAmb IAmb 15 55 18.7
comp=Z,258nm,1.1s
CRQM IAMs_20 IAMs_20 16 24 18.0
comp=Z,3µm,22.0s
DDI **Dehra Dun** 81.01 302 *e*P **P** **15 55 06.3 +0.8**
DDI IAmb IAmb 15 55 07.3
comp=Z,126nm,0.5s
GLB **Gilahina Butte** 81.02 25 IAmb IAmb 15 55 18.6
comp=Z,247nm,0.9s
GLB IAMs_20 IAMs_20 16 28 03.6
comp=Z,2µm,19.0s
CCB **Clear Creek Bu** 81.03 22 IAmb IAmb 15 55 17.1
comp=Z,176nm,1.1s
CCB IAMs_20 IAMs_20 16 29 38.9
comp=Z,4µm,20.0s
MDM **Murphy Dome** 81.05 21 IAmb IAmb 15 55 18.1
comp=Z,154nm,1.1s
MDM IAMs_20 IAMs_20 16 29 57.3
comp=Z,3µm,19.0s
PAX **Paxson** 81.07 24 P 15 55 05.2
baz=241,SNR=30
PAX **Paxson** 81.07 24 IAMs_20 IAMs_20 16 25 14.9
comp=Z,4µm,22.0s
VRDI **Verde Repeater** 81.08 26 IAmb IAmb 15 55 19.0
comp=Z,312nm,1.3s
VRDI IAMs_20 IAMs_20 16 26 02.6
comp=Z,3µm,21.0s
TGL **Tana Glacier** 81.13 26 IAmb IAmb 15 55 19.4
comp=Z,190nm,1.2s
TGL IAMs_20 IAMs_20 16 24 44.5
comp=Z,2µm,22.0s
TCOL **CIGO, UAF Yank** 81.13 21 P 15 55 04.8
baz=238,SNR=23
TCOL **CIGO, UAF Yank** 81.13 21 P **P** **15 55 05.7 +0.5**
TCOL pwP **pwP** **15 55 16.9 -0.3**
TCOL IAmb IAmb 15 55 17.8
comp=Z,244nm,0.9s
TCOL IAMs_20 IAMs_20 16 29 41.6
comp=Z,3µm,20.0s
COLA **College** 81.14 21 P **P** **15 55 05.7 +0.4**
COLA pmax pmax
comp=Z,243nm,1.0s
COLA MLR MLR
comp=Z,3µm,19.0s
COLA **College** 81.14 21 P **P** **15 55 05.7 +0.4**
COLA IAmb IAmb 15 55 17.8
comp=Z,243nm,0.9s
COLA **College** 81.14 21 IAMs_20 IAMs_20 16 30 00.6
comp=Z,3µm,19.0s

COLA	**College**	**81.14**	**21**	P			15 55 04.9		
	baz=238								
HDA	**Harding Lake**	**81.22**	**22**	P			15 55 05.4		
	baz=239,SNR=28								
HDA				P			15 55 05.4		
	baz=239,SNR=28								
MCARA	**McCarthy VSAT**	**81.33**	**26**	IAmb		IAmb	15 55 20.4		
	comp=Z,218nm,1.0s								
MCARA				IAMs_20		IAMs_20	16 25 59.8		
	comp=Z,3µm,21.0s								
MCARA	**McCarthy VSAT**	**81.33**	**26**	P			15 55 07.2		
	baz=243,SNR=42								
POKR	**Poker Plat Res**	**81.42**	**21**	IAMs_20		IAMs_20	16 29 59.1		
	comp=Z,3µm,20.0s								
POKR	**Poker Plat Res**	**81.42**	**21**	P			15 55 06.1		
	baz=238,SNR=28								
IL31		**81.44**	**22**	IAmb		IAmb	15 55 19.2		
	comp=Z,130nm,1.1s								
ILAR	**Eielson Array**	**81.44**	**22**	P		**P**	**15 55 06.0**	**-0.9**	
	comp=Z,39nm,0.9s,baz=255,slow=5.0,SNR=248								
ILAR				pP		**pwP**	**15 55 18.1**	**-0.8**	
	comp=Z,81nm,0.9s,baz=255,slow=5.0,SNR=26								
ILAR				PKKPbc		**PKKPbc**	**16 13 40.6**	**-3.4**	
	comp=Z,0.4nm,0.6s,baz=346,slow=0.8,SNR=5.9								
ILAR				LR		LR	16 29 23.9		
	comp=Z,4µm,19.3s,baz=246,slow=34								
ILAR	**Eielson Array**	**81.44**	**22**	P		**P**	**15 55 06.0**	**-0.9**	
ILAR				pwP		**pwP**	**15 55 17.7**	**-1.2**	
YAH	**Yahtse**	**81.44**	**27**	IAmb		IAmb	15 55 21.3		
	comp=Z,489nm,1.8s								
YAH				IAMs_20		IAMs_20	16 28 03.5		
	comp=Z,3µm,20.0s								
COLD	**Coldfoot**	**81.62**	**19**	P			15 55 09.0		
	baz=236,SNR=89								
COLD	**Coldfoot**	**81.62**	**19**	IAmb		IAmb	15 55 23.0		
	comp=Z,142nm,1.2s								
COLD				IAMs_20		IAMs_20	16 28 47.6		
	comp=Z,3µm,20.0s								
MK31	**Makanchi Array**	**81.63**	**319**	*c* iP		**P**	**15 55 08.7**	**+0.4**	
MK31	**Makanchi Array**	**81.63**	**319**	IAmb		IAmb	15 55 10.5		
	comp=Z,134nm,1.1s								
MKAR	**Makanchi Array**	**81.63**	**319**	P		**P**	**15 55 08.9**	**+0.6**	
	comp=Z,77nm,0.8s,baz=103,slow=5.4,SNR=504								
MKAR				PKKPbc		**PKKPbc**	**16 13 41.9**	**-1.0**	
	comp=Z,4.2nm,0.9s,baz=298,slow=2.6,SNR=17								
MKAR				PKPPKP		**P'P'df**	**16 21 48.8**	**+3.5**	
	comp=Z,2.1nm,0.9s,baz=292,slow=3.3,SNR=12								
MKAR				LR		LR	16 29 44.5		
	comp=Z,957nm,21.5s,baz=84,slow=34								
MKAR	**Makanchi Array**	**81.63**	**319**	*i* P		**P**	**15 55 09.0**	**+0.6**	
MKAR				pmax		pmax			
	comp=Z,77nm,0.8s								
TABL	**Table Mountain**	**81.74**	**27**	IAmb		IAmb	15 55 22.6		
	comp=Z,148nm,1.0s								
TABL				IAMs_20		IAMs_20	16 28 12.6		
	comp=Z,3µm,21.0s								
MENT	**Mentasta**	**81.76**	**24**	IAmb		IAmb	15 55 22.5		
	comp=Z,103nm,0.9s								
MENT				IAMs_20		IAMs_20	16 25 46.0		
	comp=Z,4µm,22.0s								
BARN	**Barnard Glacie**	**81.78**	**26**	IAmb		IAmb	15 55 23.0		
	comp=Z,164nm,1.0s								
BARN				IAMs_20		IAMs_20	16 24 42.5		
	comp=Z,2µm,22.0s								
DGAR	**Diego Garcia**	**81.79**	**263**	*ce*P		**P**	**15 55 10.0**	**+0.2**	
DGAR				pmax		pmax			
	comp=Z,208nm,1.3s								
MAKZ	**Makanchi**	**81.84**	**318**	P		**P**	**15 55 10.2**	**+0.7**	
MAKZ				pmax		pmax			
	comp=Z,212nm,1.1s								
MAKZ				MLR		MLR			
	comp=Z,1µm,22.0s								
MAKZ	**Makanchi**	**81.84**	**318**	P		**P**	**15 55 10.2**	**+0.7**	
MAKZ				IAmb		IAmb	15 55 11.6		
	comp=Z,212nm,1.1s								
CTG	**Chitna Glacier**	**81.88**	**26**	P			15 55 10.5		
	baz=245,SNR=51								
CTGM	**Chitina Glacie**	**81.88**	**26**	P		**P**	**15 55 10.8**	**+1.2**	
CTGM				IAmb		IAmb	15 55 23.5		
	comp=Z,250nm,1.0s								
SMLA	**Simla**	**81.92**	**302**	*e*P		**P**	**15 55 10.4**	**+0.2**	
SMLA				IAML			15 55 12.2		
	comp=Z,148nm,1.3s								
DOT	**Dot Lake**	**81.95**	**23**	IAMs_20		IAMs_20	16 26 06.2		
	comp=Z,4µm,22.0s								
LOGN	**Logan Glacier**	**81.97**	**26**	IAmb		IAmb	15 55 23.9		
	comp=Z,133nm,1.1s								
PCA	**Pinnacle**	**82.00**	**27**	IAmb		IAmb	15 55 28.5		
	comp=Z,229nm,1.1s								
PINM	**Pinnacle**	**82.00**	**27**	P			15 55 11.1		
	baz=246,SNR=18								
SCRK	**Sand Creek**	**82.14**	**23**	IAmb		IAmb	15 55 24.4		
	comp=Z,263nm,1.2s								
SCRK				IAMs_20		IAMs_20	16 26 55.1		
	comp=Z,4µm,21.0s								
SCRK	**Sand Creek**	**82.14**	**23**	P			15 55 11.2		
	baz=242,SNR=84								
ZAA0	**Zalesovo Array**	**82.25**	**326**	IAmb		IAmb	15 55 12.8		
	comp=Z,294nm,1.9s								
ZALV	**Zalesovo Beam**	**82.25**	**326**	P		**P**	**15 55 11.2**	**-0.2**	
	comp=Z,28nm,0.8s,baz=109,slow=5.6,SNR=126								
ZALV				PKKPbc		**PKKPbc**	**16 13 40.5**	**-1.2**	
	comp=Z,3.4nm,0.9s,baz=300,slow=3.3,SNR=10								
ZALV				PKPPKP		**P'P'df**	**16 21 40.5**	**-3.0**	
	comp=Z,1.4nm,0.8s,baz=112,slow=0.8,SNR=5.1								
ZALV				LR		LR	16 31 45.8		
	comp=Z,514nm,19.8s,baz=76,slow=36								
ZALV	**Zalesovo Beam**	**82.25**	**326**	*i* P		**P**	**15 55 11.1**	**-0.3**	
ZALV				pmax		pmax			
	comp=Z,28nm,0.8s								
ZALV	**Zalesovo Beam**	**82.25**	**326**	P		**P**	**15 55 10.9**	**-0.5**	
PRP	**Porcupine Dome**	**82.31**	**21**	P			15 55 10.2		
	baz=240,SNR=19								
PRP	**Porcupine Dome**	**82.31**	**21**	IAMs_20		IAMs_20	16 27 29.7		
	comp=Z,3µm,21.0s								
A21K	**Barrow**	**82.33**	**14**	P			15 55 12.2		
	baz=229								
A21K	**Barrow**	**82.33**	**14**	IAMs_20		IAMs_20	16 27 37.4		
	comp=Z,3µm,22.0s								
MNCI	**Minicoy**	**82.51**	**279**	P		**P**	**15 55 14.6**	**+1.0**	
MNCY	**Minicoy**	**82.54**	**279**	*e*P		**P**	**15 55 13.7**	**-0.1**	
GOA	**Goa**	**82.58**	**286**	*e*P		**P**	**15 55 13.1**	**-0.9**	
GOA				IAmb		IAmb	15 55 14.6		
	comp=Z,44nm,0.9s								
L27K	**Beaver Creek,**	**82.58**	**24**	P			15 55 14.1		
	baz=244								
BHK	**Bhakra**	**82.60**	**302**	*ex*		**P**	**15 55 13.2**	**-0.6**	
BCAR	**Beaver Creek A**	**82.60**	**24**	P		**P**	**15 55 12.7**	**-0.4**	
TOLK	**Toolik Lake Re**	**82.62**	**18**	IAmb		IAmb	15 55 27.1		
	comp=Z,209nm,1.2s								
TOLK	**Toolik Lake Re**	**82.62**	**18**	P			15 55 14.2		
	baz=236,SNR=94								
SHLS	**Shalkode**	**82.63**	**314**	⇑*i* P		**P**	**15 55 13.1**	**-0.8**	
	comp=Z,118nm,1.6s,baz=314								
SHLS				*i* S		**S**	**16 05 27.1**	**-2.4**	
	baz=314								
SHLS	**Shalkode**	**82.63**	**314**	*c* iP		**P**	**15 55 13.0**	**-0.8**	
SHLS				*i* S		**S**	**16 05 27.1**	**-2.4**	
SHLS				pmax		pmax			
	comp=Z,118nm,1.6s								
DHRM	**DHARAMSHALA**	**82.84**	**303**	*e*P		**P**	**15 55 13.8**	**-1.5**	
DHRM				IAmb		IAmb	15 55 16.3		
	comp=Z,520nm,1.2s								
K27K	**Chicken**	**82.91**	**23**	IAmb		IAmb	15 55 29.3		
	comp=Z,226nm,1.1s								
FYU	**Fort Yukon**	**82.94**	**20**	IAmb		IAmb	15 55 29.3		
	comp=Z,150nm,1.2s								
FYU				IAMs_20		IAMs_20	16 29 01.2		
	comp=Z,4µm,20.0s								
POO	**Poona**	**82.94**	**289**	⇑*i* P		**P**	**15 55 12.0**	**-3.8**	
	comp=Z,90nm,1.5s								
POO				*e*P		**PcP**	**15 55 15.5**	**-5.1**	
POO				IAmb		IAmb	15 55 17.0		
	comp=Z,48nm,1.8s								
UZB	**Uzynbulak**	**82.94**	**314**	⇑*i* P		**P**	**15 55 16.2**	**+0.7**	
	comp=Z,117nm,1.5s,baz=314								
UZB				*i* S		**S**	**16 05 33.3**	**+0.5**	
	baz=314								
UZB	**Uzynbulak**	**82.94**	**314**	*c* iP		**P**	**15 55 16.2**	**+0.7**	
UZB				*i* S		**S**	**16 05 33.2**	**+0.5**	
UZB				pmax		pmax			
	comp=Z,117nm,1.5s								
KPKS	**Kokpek**	**83.26**	**315**	⇑*i* P		**P**	**15 55 17.8**	**+0.8**	
	comp=Z,166nm,1.6s,baz=315								
KPKS				*i* S		**S**	**16 05 36.0**	**+0.3**	
	baz=315								
KPKS	**Kokpek**	**83.26**	**315**	*c* iP		**P**	**15 55 17.8**	**+0.8**	
KPKS				*i* S		**S**	**16 05 36.0**	**+0.3**	
KPKS				pmax		pmax			
	comp=Z,166nm,1.6s								
SIT	**Sitka**	**83.26**	**31**	P			15 55 17.7		
	baz=250								
AJM	**Ajmer**	**83.33**	**297**	⇑*i* P		**P**	**15 55 17.0**	**-0.7**	
THN	**Thein Dam**	**83.36**	**303**	*e*P		**P**	**15 55 18.5**	**+0.9**	
SATY	**Saty**	**83.36**	**314**	⇑*i* P		**P**	**15 55 18.5**	**+0.9**	
	comp=Z,84nm,1.4s,baz=314								
SATY				*e*S		**S**	**16 05 36.9**	**0.0**	
	baz=314								
SATY	**Saty**	**83.36**	**314**	*c* iP		**P**	**15 55 18.5**	**+0.9**	
SATY				*e*S		**S**	**16 05 36.9**	**0.0**	
SATY				pmax		pmax			
	comp=Z,84nm,1.4s								
BMAR	**Burnt Mountain**	**83.58**	**20**	P		**P**	**15 55 19.6**	**+1.5**	
EGAK	**Eagle**	**83.60**	**23**	IAmb		IAmb	15 55 32.2		
	comp=Z,195nm,1.1s								
EGAK	**Eagle**	**83.60**	**23**	P			15 55 19.2		
	baz=244,SNR=75								
H02S1	**DAWSON INLET T**	**83.61**	**35**	T		T	17 27 38.5		
	SNR=11								
TDK	**Taldyqorghan**	**83.80**	**316**	*i* P		**P**	**15 55 20.7**	**+1.0**	
	comp=Z,327nm,1.1s,baz=316								
TDK				*e*S		**S**	**16 05 40.0**	**-1.0**	
	baz=316								
TDK				LR		LR	16 33 48.1		
	comp=Z,535nm,16.8s,baz=316								
TDK	**Taldyqorghan**	**83.80**	**316**	*i* P		**P**	**15 55 20.7**	**+1.0**	
TDK				*e*S		**S**	**16 05 39.9**	**-1.0**	
TDK				pmax		pmax			
	comp=Z,327nm,1.1s								
CRAG	**Craig**	**83.92**	**33**	P			15 55 20.6		
	baz=252								
DAWY	**Dawson**	**84.00**	**24**	IAmb		IAmb	15 55 34.7		
	comp=Z,185nm,1.1s								
DAWY				IAMs_20		IAMs_20	16 31 24.2		
	comp=Z,2µm,20.0s								
SKAG	**Skagway**	**84.07**	**29**	P			15 55 22.0		
	baz=250,SNR=18								
MDOK	**Medeo**	**84.36**	**314**	*i* P		**P**	**15 55 23.8**	**+1.0**	
	baz=314								
MDOK				*e*S		**S**	**16 05 43.8**	**-3.2**	
	baz=314								
MDOK				LR		LR	16 34 39.6		
	comp=Z,444nm,15.4s,baz=314								
MDOK	**Medeo**	**84.36**	**314**	*i* P		**P**	**15 55 23.7**	**+1.0**	
MDOK				*e*S		**S**	**16 05 43.8**	**-3.2**	
TNSS	**Tian-Shan**	**84.40**	**314**	⇑*i* P		**P**	**15 55 24.6**	**+1.3**	
	baz=314								
TNSS	**Tian-Shan**	**84.40**	**314**	⇑*i* P		**P**	**15 55 24.6**	**+1.3**	
KSH	**Kashi**	**84.43**	**310**	P		**P**	**15 55 25.9**	**+2.7**	
KSH				sP		sP	15 55 38.0	+2.5	
KSH				PP		**PP**	**15 58 43.5**	**+4.9**	
KSH				S		**S**	**16 05 50.6**	**+2.8**	
KSH				LR		LR			
	comp=Z,340nm,7.8s								
KSH				LR		LR			
	comp=Z,680nm,10.7s								
KSH				LR		LR			
	comp=Z,2µm,19.0s								
AAA	**Alma-Ata**	**84.46**	**314**	*i* P		**P**	**15 55 24.3**	**+1.2**	
	comp=Z,116nm,1.1s,baz=314								
AAA				*e*S		**S**	**16 05 44.5**	**-3.3**	
	baz=314								
AAA				LR		LR	16 36 12.5		
	comp=Z,574nm,19.6s,baz=314								
AAA	**Alma-Ata**	**84.46**	**314**	*i* P		**P**	**15 55 24.3**	**+1.2**	
AAA				*e*S		**S**	**16 05 44.5**	**-3.3**	
AAA				pmax		pmax			
	comp=Z,116nm,1.1s								
CHKK	**Chushkaly**	**84.54**	**315**	*i* P		**P**	**15 55 23.8**	**+0.3**	
	baz=315								
CHKK	**Chushkaly**	**84.54**	**315**	*i* P		**P**	**15 55 23.8**	**+0.3**	
WRAK	**Wrangell Islan**	**84.62**	**32**	IAMs_20		IAMs_20	16 27 16.7		
	comp=Z,2µm,19.0s								
WRAK	**Wrangell Islan**	**84.62**	**32**	P			15 55 24.6		
	baz=253,SNR=7.1								
WHY	**Whitehorse**	**84.69**	**28**	IAmb		IAmb	15 55 38.0		
	comp=Z,133nm,1.0s								
ULHL	**Ulahol**	**84.75**	**313**	P		**P**	**15 55 26.1**	**+1.2**	
	SNR=42								
KURK	**Kurchatov**	**84.99**	**322**	P		**P**	**15 55 25.8**	**+0.3**	
KURK	**Kurchatov**	**84.99**	**322**	P		**P**	**15 55 25.8**	**+0.3**	
KUU	**Kurty**	**85.01**	**315**	*i* P		**P**	**15 55 26.6**	**+0.7**	
	comp=Z,486nm,1.0s,baz=315								
KUU	**Kurty**	**85.01**	**315**	*i* P		**P**	**15 55 26.5**	**+0.7**	
KUU				pmax		pmax			
	comp=Z,486nm,1.0s								
KURBB	**Kurchatov Arra**	**85.02**	**322**	P		**P**	**15 55 25.8**	**+0.1**	
	comp=Z,109nm,0.9s,baz=108,slow=3.8,SNR=399								
KURBB				PKKPbc		**PKKPbc**	**16 13 34.5**	**-0.5**	
	comp=Z,4.0nm,0.9s,baz=288,slow=3.0,SNR=22								
KURBB				PKPPKP		**P'P'df**	**16 21 38.5**	**-0.3**	
	comp=Z,3.0nm,0.9s,baz=292,slow=2.7,SNR=12								
QSPA	**South Pole Qui**	**85.15**	**180**	P		**P**	**15 55 25.9**	**-0.4**	
TKM2	**Tokmak 2**	**85.35**	**314**	P		**P**	**15 55 28.8**	**+1.0**	
	SNR=171								
NIL	**Nilore**	**85.60**	**304**	P		**P**	**15 55 29.8**	**+0.8**	
NIL				pmax		pmax			
	comp=Z,256nm,1.0s								
NIL				MLR		MLR			
	comp=Z,500nm,20.0s								
NIL	**Nilore**	**85.60**	**304**	P		**P**	**15 55 29.8**	**+0.8**	
KBK	**Karagaybulak**	**85.77**	**313**	P		**P**	**15 55 30.9**	**+1.0**	
	SNR=56								
BBB	**Bella Bella**	**85.92**	**37**	IAMs_20		IAMs_20	16 32 09.2		
	comp=Z,3µm,19.0s								
EPYK	**Eagle Plains**	**85.93**	**22**	IAMs_20		IAMs_20	16 32 59.3		
	comp=Z,3µm,19.0s								
EPYK	**Eagle Plains**	**85.93**	**22**	P			15 55 31.0		
	baz=248,SNR=136								
CHMS	**Chumysh**	**85.98**	**314**	P		**P**	**15 55 31.3**	**+0.6**	
	SNR=107								
UCH	**Uchtor**	**86.01**	**313**	P		**P**	**15 55 32.7**	**+1.3**	
	SNR=80								
AAK	**Ala-Archa**	**86.10**	**313**	P		**P**	**15 55 32.5**	**+1.0**	
	comp=Z,96nm,0.9s,baz=121,slow=4.5,SNR=173								
AAK				PKKPbc		**PKKPbc**	**16 13 33.2**	**+0.8**	
	comp=Z,3.2nm,0.9s,baz=234,slow=2.0,SNR=11								
AAK	**Ala-Archa**	**86.10**	**313**	P		**P**	**15 55 32.5**	**+1.0**	
	SNR=64								
AAK	**Ala-Archa**	**86.10**	**313**	*i* P		**P**	**15 55 32.5**	**+1.0**	
	SNR=67								
AAK	**Ala-Archa**	**86.10**	**313**	P		**P**	**15 55 32.2**	**+0.7**	
AAK				pmax		pmax			
	comp=Z,150nm,1.0s								
AAK				MLR		MLR			
	comp=Z,800nm,21.0s								
AAK	**Ala-Archa**	**86.10**	**313**	P		**P**	**15 55 32.2**	**+0.7**	
AAK				IAmb		IAmb	15 55 33.7		
	comp=Z,150nm,1.0s								
AAK	**Ala-Archa**	**86.10**	**313**	P		**P**	**15 55 32.7**	**+1.3**	
AAK				P		**P**	**15 55 32.7**	**+1.3**	
SGDS	**Sogindy**	**86.14**	**314**	⇑*i* P		**P**	**15 55 32.1**	**+0.5**	
	comp=Z,80nm,1.1s,baz=314								
SGDS	**Sogindy**	**86.14**	**314**	*c* iP		**P**	**15 55 32.1**	**+0.5**	
SGDS				pmax		pmax			
	comp=Z,80nm,1.1s								
USP	**Ospenovka**	**86.21**	**314**	P		**P**	**15 55 32.7**	**+0.8**	
	SNR=55								
MAW	**Mawson**	**86.32**	**203**	P		**P**	**15 55 31.5**	**-0.3**	
	comp=Z,12nm,0.6s,baz=109,slow=7.8,SNR=16								
MAW				LR		LR	16 31 13.7		
	comp=Z,876nm,20.4s,baz=86,slow=34								
MAW	**Mawson**	**86.32**	**203**	P		**P**	**15 55 31.6**	**-0.1**	
	baz=86,SNR=10								
DLBC	**Dease Lake**	**86.39**	**31**	IAMs_20		IAMs_20	16 31 23.4		
	comp=Z,2µm,20.0s								
JCC	**Jacoby Creek,**	**86.47**	**49**	IAMs_20		IAMs_20	16 31 27.3		
	comp=Z,2µm,19.0s								
KBO	**Bosley Butte**	**86.56**	**47**	IAMs_20		IAMs_20	16 27 15.4		
	comp=Z,4µm,21.0s								
AML	**Almayashu**	**86.60**	**313**	P		**P**	**15 55 35.5**	**+1.3**	
	SNR=103								
EKS2	**Erkin-Say**	**86.62**	**313**	P		**P**	**15 55 34.8**	**+0.7**	
	SNR=93								
KCPM	**Cahto Peak**	**86.63**	**50**	IAMs_20		IAMs_20	16 27 17.5		
	comp=Z,4µm,20.0s								
KHMM	**Horse Mountain**	**86.71**	**49**	P		**P**	**15 55 33.2**	**-1.3**	
KHMM				IAMs_20		IAMs_20	16 27 16.4		
	comp=Z,3µm,20.0s								
BTLS	**Baital**	**86.84**	**316**	⇑*i* P		**P**	**15 55 35.3**	**+0.5**	
	comp=Z,103nm,1.2s,baz=316								
BTLS	**Baital**	**86.84**	**316**	*c* iP		**P**	**15 55 35.3**	**+0.5**	
BTLS				pmax		pmax			
	comp=Z,103nm,1.2s								
HOPS	**Hopland Field**	**86.92**	**51**	IAMs_20		IAMs_20	16 29 42.0		
	comp=Z,3µm,19.0s								
J01E	**Myrtle Point**	**86.93**	**46**	P			15 55 36.3		
	baz=260								
MCCM	**Marconi Confer**	**86.94**	**51**	IAMs_20		IAMs_20	16 27 16.7		
	comp=Z,2µm,20.0s								
L02E	**Cave Junction**	**87.01**	**47**	P			15 55 35.9		
	baz=261								
K02D	**Willamette Mer**	**87.05**	**47**	P			15 55 36.9		
	baz=261								
GDXM	**Geysers**	**87.10**	**51**	IAMs_20		IAMs_20	16 29 48.0		
	comp=Z,3µm,19.0s								
I02D	**Swisshome**	**87.14**	**45**	P			15 55 37.6		
	baz=260								
O02D	**Mt. Diablo Mer**	**87.31**	**49**	P			15 55 38.8		
	baz=261								
BHUJ	**Bhuj**	**87.40**	**293**	*e*P		**P**	**15 55 37.9**	**-0.1**	
I03D	**Drain, OR**	**87.44**	**46**	P			15 55 38.1		
	baz=261								
M02C	**Callahan**	**87.44**	**48**	P			15 55 39.3		
	baz=261,SNR=34								
N02D	**Trinity Center**	**87.49**	**49**	P			15 55 39.5		
	baz=261,SNR=13								
HUMO	**Hull Mountain**	**87.55**	**47**	IAmb		IAmb	15 55 41.7		
	comp=Z,71nm,0.9s								
WDC	**Whiskeytown Da**	**87.56**	**49**	P		**P**	**15 55 37.0**	**-1.4**	
WDC				pmax		pmax			
	comp=Z,61nm,1.3s								
WDC				MLR		MLR			
	comp=Z,3µm,21.0s								
WDC	**Whiskeytown Da**	**87.56**	**49**	P		**P**	**15 55 37.0**	**-1.4**	
WDC				IAMs_20		IAMs_20	16 28 01.9		
	comp=Z,3µm,21.0s								
COR	**Corvallis**	**87.61**	**45**	IAMs_20		IAMs_20	16 32 10.1		
	comp=Z,4µm,19.0s								
NLWA	**Neilton Lookou**	**87.67**	**42**	IAMs_20		IAMs_20	16 28 06.7		
	comp=Z,4µm,20.0s								
G03D	**McMinnville, O**	**87.73**	**44**	P			15 55 40.2		
	baz=261,SNR=6.4								
E03A	**Lebam**	**87.74**	**43**	P		**P**	**15 55 40.0**	**+0.9**	
E03A				IAMs_20		IAMs_20	16 29 25.5		
	comp=Z,4µm,20.0s								
INK	**Inuvik**	**87.76**	**21**	PKKPbc		PKKPbc	16 13 25.9	-3.2	
	comp=Z,1.1nm,0.8s,baz=17,slow=2.9,SNR=3.1								
INK	**Inuvik**	**87.76**	**21**	IAmb		IAmb	15 55 52.2		
	comp=Z,143nm,1.1s								
SAO	**San Andreas Ge**	**87.88**	**53**	IAMs_20		IAMs_20	16 31 57.5		
	comp=Z,2µm,19.0s								
L04D	**Klamath Falls**	**87.97**	**48**	P			15 55 41.3		
	baz=262,SNR=14								
H04D	**Lebanon**	**88.00**	**45**	P			15 55 41.0		
	baz=261								
F04D	**Rainier, OR**	**88.05**	**44**	P			15 55 41.5		
	baz=261								
O03E	**Paynes Creek**	**88.08**	**49**	P			15 55 41.6		
	baz=262,SNR=21								
I04A	**Tendick Farm,**	**88.12**	**46**	P			15 55 41.5		
	baz=262,SNR=15								
ORV	**Oroville**	**88.20**	**50**	IAMs_20		IAMs_20	16 26 34.1		
	comp=Z,2µm,22.0s								
D03D	**Eldon**	**88.22**	**42**	P			15 55 42.4		
	baz=261,SNR=12								
M04C	**Macdoel**	**88.25**	**48**	P			15 55 42.9		
	baz=262,SNR=25								
J04D	**Umpqua Nationa**	**88.26**	**47**	P			15 55 42.5		
	baz=262								
PMPB	**Monarch Peak**	**88.32**	**54**	IAMs_20		IAMs_20	16 29 37.4		
	comp=Z,3µm,20.0s								
D04E	**Lakebay**	**88.38**	**43**	P			15 55 42.8		
	baz=261								
H04A	**Detroit Lake**	**88.41**	**45**	IAMs_20		IAMs_20	16 32 44.3		
	comp=Z,3µm,19.0s								
E04D	**Cinebar**	**88.42**	**43**	P			15 55 43.4		
	baz=261,SNR=14								
K04D	**Chiloquin, OR**	**88.43**	**47**	P			15 55 43.6		
	baz=262,SNR=7.5								
DZA	**Taraz**	**88.44**	**313**	*e*P		**P**	**15 55 42.6**	**0.0**	
	comp=Z,33nm,1.0s,baz=313								
DZA	**Taraz**	**88.44**	**313**	*e*P		**P**	**15 55 42.6**	**0.0**	
DZA				pmax		pmax			
	comp=Z,33nm,1.0s								
BRZS	**Berezniki**	**88.57**	**320**	⇑*i* P		**P**	**15 55 42.4**	**-0.6**	
	comp=Z,38nm,1.1s,baz=320								
BRZS	**Berezniki**	**88.57**	**320**	*c* iP		**P**	**15 55 42.4**	**-0.6**	
BRZS				pmax		pmax			
	comp=Z,38nm,1.1s								
A04D	**Lummi Island**	**88.66**	**41**	P			15 55 44.2		
	baz=261,SNR=6.2								
PAGB	**Antelope Grade**	**88.71**	**54**	IAMs_20		IAMs_20	16 29 49.6		
	comp=Z,2µm,20.0s								
SMMC	**Simmler**	**88.87**	**55**	P			15 55 46.7		
	baz=263,SNR=6.8								
CMB	**Columbia Colle**	**88.88**	**52**	IAMs_20		IAMs_20	16 33 49.9		
	comp=Z,3µm,19.0s								
J05D	**Fort Rock, OR**	**88.90**	**47**	P			15 55 46.0		
	baz=262								
D05A	**Enumcl

DECC	Green Verdugo baz=264	90.11	56	P			15 55 51.3		
ISA	Isabella, Lake comp=Z,3μm,19.0s	90.14	54	IAMs_20	IAMs_20		16 30 53.5		
ISA	Isabella, Lake baz=264,SNR=12	90.14	54	P			15 55 51.8		
F07A	Phinny Hill Vi comp=Z,3μm,20.0s	90.15	44	IAMs_20	IAMs_20		16 30 01.3		
PASC	Pasadena Art C comp=Z,2μm,18.0s	90.23	56	IAMs_20	IAMs_20		16 32 49.9		
I07A	Izee comp=Z,136nm,1.2s	90.24	46	IAmb	IAmb		15 55 53.4		
I07A	comp=Z,3μm,19.0s			IAMs_20	IAMs_20		16 34 06.8		
E07A	Sunnyside comp=Z,3μm,20.0s	90.28	43	IAMs_20	IAMs_20		16 29 27.6		
MWC	Mount Wilson comp=Z,2μm,18.0s	90.34	56	IAMs_20	IAMs_20		16 36 50.8		
LHV	Little Huntoon comp=Z,3μm,19.0s	90.37	52	IAMs_20	IAMs_20		16 34 31.6		
RYN	Ryan comp=Z,2μm,18.0s	90.40	51	IAMs_20	IAMs_20		16 35 34.2		
BVAR	Borovoye Array comp=Z,88nm,0.8s,baz=100,slow=8.1,SNR=255	90.42	323	P	P		15 55 50.5	-1.2	
BVAR	comp=Z,1.0nm,0.7s,baz=194,slow=1.2,SNR=6.5			PKKPbc	PKKPbc		16 13 20.9	-1.0	
EDW2	Edwards Air Fo baz=264,SNR=28	90.45	55	P			15 55 53.8		
TIN	Tinemaha, Big baz=264	90.47	53	P			15 55 53.5		
HAWA	Hanford comp=Z,4μm,20.0s	90.48	44	IAMs_20	IAMs_20		16 29 03.0		
BRVK	Borovoye	90.49	323	P	P		15 55 52.2	+0.3	
BRVK	comp=Z,164nm,1.0s			pmax	pmax				
BRVK	comp=Z,1μm,22.0s			MLR	MLR				
BRVK	Borovoye	90.49	323	P	P		15 55 52.2	+0.3	
BRVK	Borovoye	90.49	323	P	P		15 55 51.8	-0.1	
BRVK				P	P		15 55 51.8	-0.1	
CWC	Cottonwood Cre baz=264	90.53	54	P			15 55 53.8		
NVAR	Mina Array Bea comp=Z,45nm,1.0s,baz=253,slow=6.0,SNR=210	90.55	52	P	P		15 55 54.0	+1.1	
NVAR	comp=Z,18nm,0.8s,baz=261,slow=6.6,SNR=8.7			pP	sP		15 56 05.4	+0.3	
NVAR	comp=Z,2μm,18.1s,baz=278,slow=34			LR	LR		16 33 41.0		
NVAR	Mina Array Bea	90.55	52	P	P		15 55 53.6	+0.8	
NV11	Mina Array Sit comp=Z,145nm,1.2s	90.67	52	IAmb	IAmb		15 55 55.9		
NV11	comp=Z,2μm,19.0s			IAMs_20	IAMs_20		16 32 24.3		
BFSC	Mount Baldy Ra baz=265,SNR=14	90.67	56	P			15 55 54.5		
WVOR	Wild Horse Val comp=Z,92nm,1.4s	90.70	48	IAmb	IAmb		15 55 55.6		
G08A	Pilot Rock comp=Z,161nm,1.2s	90.76	45	IAmb	IAmb		15 56 07.8		
G08A	comp=Z,3μm,18.0s			IAMs_20	IAMs_20		16 33 59.4		
LRMC	Laurel Mtn Rad baz=265,SNR=35	90.76	55	P			15 55 55.3		
KVN	Kaiserville comp=Z,138nm,1.4s	90.77	51	IAmb	IAmb		15 55 56.3		
KVN	comp=Z,2μm,18.0s			IAMs_20	IAMs_20		16 41 12.9		
E08A	Dider Farm, El comp=Z,4μm,20.0s	90.81	44	IAMs_20	IAMs_20		16 30 04.9		
B08A	Colville Reser comp=Z,212nm,1.9s	90.83	42	IAmb	IAmb		15 55 55.2		
D08A	Wollman Farm, comp=Z,4μm,20.0s	90.97	43	IAMs_20	IAMs_20		16 29 29.9		
MPMC	Manual Prospec baz=265,SNR=26	90.97	54	P			15 55 56.1		
MURC	Murrieta baz=265,SNR=5.2	90.99	57	P			15 55 55.9		
109C	Camp Elliot, M comp=Z,3μm,18.0s	91.01	57	IAMs_20	IAMs_20		16 34 05.6		
109C	Camp Elliot, M baz=265	91.01	57	P			15 55 56.1		
GRAC	Grapevine Rang baz=265,SNR=6.2	91.16	53	P			15 55 57.0		
RRX	Edison Barstow baz=265	91.27	55	P			15 55 57.1		
BBRC	Big Bear Solar baz=265	91.28	56	P			15 55 57.6		
CCX	Cicese comp=Z,4μm,19.0s	91.29	58	IAMs_20	IAMs_20		16 33 30.1		
C36M	Paulatuk comp=Z,3μm,20.0s	91.35	21	IAMs_20	IAMs_20		16 34 51.5		
C36M	Paulatuk baz=260,SNR=30	91.35	21	P			15 55 55.7		
BAR	Barrett comp=Z,3μm,18.0s	91.35	57	IAMs_20	IAMs_20		16 33 50.7		
E09A	Wood Farm, Sta comp=Z,4μm,20.0s	91.44	44	IAMs_20	IAMs_20		16 31 41.6		
GSC	Goldstone, Bar comp=Z,3μm,18.0s	91.46	55	IAMs_20	IAMs_20		16 37 30.5		
GSC	Goldstone, Bar baz=265,SNR=14	91.46	55	P			15 55 58.2		
FURC	Furnace Creek, baz=265,SNR=16	91.51	54	P			15 55 58.4		
MONP2	Monument Peak baz=265,SNR=46	91.58	57	P			15 55 59.7		
PFO	Pinyon Flats O baz=265,SNR=18	91.61	57	P			15 55 59.2		
TPFO	Pinon Flats baz=265,SNR=22	91.61	57	P			15 55 59.2		
HEC	Hector,Ludlow baz=265,SNR=16	91.81	55	P			15 55 59.9		
IKP	In-Ko-Pah, Jac baz=266,SNR=28	91.82	58	P			15 56 00.7		
BMO	Blue Mountains comp=Z,121nm,1.1s	91.88	45	IAmb	IAmb		15 56 00.6		
BMO	comp=Z,3μm,18.0s			IAMs_20	IAMs_20		16 39 08.2		
SHOC	Shoshone, Teco baz=266	91.94	54	P			15 56 00.2		
BELC	Belle Mtn. Jos baz=266,SNR=44	92.02	56	P			15 56 01.2		
F10A	Beach Ranch, E comp=Z,2μm,19.0s	92.03	44	IAMs_20	IAMs_20		16 35 00.1		
TPNV	Topopah Spring comp=Z,134nm,1.4s	92.04	53	IAmb	IAmb		15 56 02.4		
TPNV	comp=Z,2μm,20.0s			IAMs_20	IAMs_20		16 31 35.8		
TPNV	Topopah Spring baz=266,SNR=66	92.04	53	P			15 56 01.0		
SWSC	Sam W. Stewart baz=266,SNR=21	92.11	57	P			15 56 01.7		
SPX	San Pedro Mart comp=Z,3μm,20.0s	92.25	59	IAMs_20	IAMs_20		16 30 12.5		
NEW	Newport baz=265,SNR=31	92.29	42	P			15 56 00.9		
GMRC	Granite Mounta baz=266,SNR=32	92.36	55	P			15 56 02.6		
UABX	UABC, Campus M comp=Z,3μm,19.0s	92.39	58	IAMs_20	IAMs_20		16 34 04.0		
BC3	Big Chuckawall baz=266	92.45	57	P			15 56 03.4		
CPBX	Cerro Prieto comp=Z,3μm,19.0s	92.48	58	IAMs_20	IAMs_20		16 34 03.7		
R11A	Troy Canyon, C comp=Z,117nm,1.3s	92.67	52	IAmb	IAmb		15 56 05.2		
R11A	comp=Z,3μm,19.0s			IAMs_20	IAMs_20		16 34 26.4		
R11A	Troy Canyon, C baz=266,SNR=121	92.67	52	P			15 56 03.9		
IRM	Iron Mountain baz=266,SNR=68	92.74	56	P			15 56 04.6		
SFX	San Felipe comp=Z,3μm,20.0s	92.77	59	IAMs_20	IAMs_20		16 30 27.4		
SHPR	Sheep Range comp=Z,66nm,1.0s	92.88	54	IAmb	IAmb		15 56 18.3		
SHPR	comp=Z,3μm,20.0s			IAMs_20	IAMs_20		16 32 52.2		
GLA	Glamis comp=Z,3μm,18.0s	92.93	57	IAMs_20	IAMs_20		16 34 22.5		
GLA	Glamis baz=266,SNR=14	92.93	57	P			15 56 05.9		
PRN	Pahroc Range comp=Z,2μm,19.0s	93.03	53	IAMs_20	IAMs_20		16 35 41.9		
RPN	Rapa Nui comp=Z,698nm,20.2s,baz=302,slow=30	93.07	117	LR	LR		16 29 31.2		
ELK	Elko comp=Z,2μm,20.0s	93.10	50	IAMs_20	IAMs_20		16 30 55.5		
NEE2	Needles Airpor	93.21	56	P			15 56 06.2		
PDMCI	Parker Dam,Lak baz=267,SNR=22	93.58	56	P			15 56 08.2		
SPR3	Spring Creek 3 comp=Z,2μm,18.0s	93.69	51	IAMs_20	IAMs_20		16 42 23.3		
W13A	Hualapai Mount comp=Z,2μm,18.0s	93.83	55	IAMs_20	IAMs_20		16 36 18.3		
HLID	Hailey baz=267,SNR=25	93.87	47	P			15 56 09.2		
PIX	Pinacate comp=Z,3μm,19.0s	93.99	59	IAMs_20	IAMs_20		16 35 03.8		
SYO	Syowa Base	94.31	199	*e*X	P		15 56 15.0	+5.8	
SYO	Syowa Base	94.31	199	*e*sP	sP		15 56 20.4	-1.4	
MSO	Missoula baz=268	94.36	44	P			15 56 09.6		
WALA	Waterton Lakes comp=Z,4μm,20.0s	94.46	41	IAMs_20	IAMs_20		16 33 50.3		
YKA	Yellowknife Ar comp=Z,51nm,1.1s,baz=266,slow=4.2,SNR=231	94.52	28	P	P		15 56 10.8	+0.5	
YKA	comp=Z,45nm,0.8s,baz=264,slow=3.7,SNR=26			pP	sP		15 56 22.8	+0.3	
YKA	comp=Z,1.0nm,0.9s,baz=96,slow=3.4,SNR=8.8			PKKPbc	PKKPdf		16 13 07.9	-3.1	
YKA	comp=Z,985nm,18.1s,baz=0.0,slow=36			LR	LR		16 39 51.5		
214A	Organ Pipe Nat baz=267,SNR=14	94.57	58	P			15 56 13.5		
SRIG	Santa Rosalia comp=Z,4μm,21.0s	94.83	63	IAMs_20	IAMs_20		16 31 17.2		
DUG	Dugway, Tooele baz=268,SNR=12	94.92	50	P			15 56 13.7		
DUG	Dugway, Tooele comp=Z,2μm,21.0s	94.92	50	IAMs_20	IAMs_20		16 31 19.8		
U15A	North Rim comp=Z,2μm,20.0s	95.19	54	IAMs_20	IAMs_20		16 34 05.1		
DLMT	Dillon comp=Z,2μm,18.0s	95.24	45	IAMs_20	IAMs_20		16 41 07.1		
WUAZ	Wupatki baz=268,SNR=22	95.90	55	P			15 56 19.2		
WUAZ	Wupatki comp=Z,2μm,18.0s	95.90	55	IAMs_20	IAMs_20		16 37 00.1		
HWUT	Hardware Ranch comp=Z,2μm,20.0s	95.90	49	IAMs_20	IAMs_20		16 35 13.8		
BOZ	Bozeman (W) comp=Z,2μm,18.0s	95.92	45	IAMs_20	IAMs_20		16 41 20.2		
BOZ	Bozeman (W) baz=269,SNR=36	95.92	45	P			15 56 17.8		
SVE	Sverdlovsk	96.26	327	*de*P	P		15 56 17.5	-0.9	
SVE	comp=Z,65nm,1.5s			pmax	pmax				
SVE	comp=Z,1μm,21.0s			MLR	MLR				
TUC	Tucson baz=268	96.30	58	P			15 56 21.2		
H17A	Grant Village comp=Z,3μm,18.0s	96.66	46	IAMs_20	IAMs_20		16 38 15.7		
H17A	Grant Village baz=270,SNR=19	96.66	46	P			15 56 22.5		
AB31	Akbulak array	96.77	319	*i* P	P		15 56 19.3	-1.6	
AB31	comp=Z,30nm,0.9s			pmax	pmax				
ABKAR	Akbulak array	96.77	319	P	P		15 56 19.3	-1.6	
ABKAR	Akbulak array comp=Z,37nm,0.9s	96.77	319	IAmb	IAmb		15 56 20.5		
X18A	Snowflake comp=Z,2μm,18.0s	97.05	56	IAMs_20	IAMs_20		16 42 34.5		
WBK	Wadi Bani Khal SNR=5.7	97.17	292	P	P		15 56 23.1	-0.3	
WBK	SNR=5.7			P	P		15 56 23.1	-0.3	
EGMT	Eagleton baz=271	97.21	42	P			15 56 23.1		
EGMT	Eagleton comp=Z,3μm,20.0s	97.21	42	IAMs_20	IAMs_20		16 34 35.1		
W18A	Petrified Fore comp=Z,3μm,18.0s	97.23	55	IAMs_20	IAMs_20		16 42 18.1		
W18A	Petrified Fore baz=269	97.23	55	P			15 56 24.7		
BW06	Boulder Array comp=Z,3μm,20.0s	97.40	48	IAMs_20	IAMs_20		16 34 28.4		
BW06	Boulder Array baz=270	97.40	48	P			15 56 23.8		
PDAR	Pinedale Array comp=Z,11nm,0.9s,baz=252,slow=3.0,SNR=65	97.40	48	P	P		15 56 23.9	-0.4	
PDAR	comp=Z,9.5nm,0.8s,baz=256,slow=2.7,SNR=12			pP	pwP		15 56 35.2	-1.0	
PDAR	comp=Z,3.9nm,1.2s,baz=255,slow=2.9,SNR=5.7			PP	PP		16 00 21.2	-0.2	
PDAR	comp=Z,3μm,20.1s,baz=271,slow=32			LR	LR		16 34 49.5		
ARU	Arti	97.42	326	P	P		15 56 22.0	-1.6	
ARU	comp=Z,4.5nm,0.7s,baz=115,slow=1.9,SNR=9.5	97.42	326	*ce*P	P		15 56 21.8	-1.8	
ARU	comp=Z,37nm,1.2s			pmax	pmax				
ARU	Arti	97.42	326	P	P		15 56 22.5	-1.1	
ARU	comp=Z,101nm,1.5s			IAmb	IAmb		15 56 23.5		
319A	Douglas comp=Z,3μm,19.0s	97.56	59	IAMs_20	IAMs_20		16 37 14.1		
PV10	Paradox Valley comp=Z,2μm,19.0s	97.81	52	IAMs_20	IAMs_20		16 38 22.5		
PV14	Lion Creek, Pa comp=Z,2μm,19.0s	97.83	52	IAMs_20	IAMs_20		16 38 48.9		
PV19	Morning Glory comp=Z,2μm,20.0s	97.86	52	IAMs_20	IAMs_20		16 38 59.7		
PV16	Nyswonger Mesa comp=Z,2μm,19.0s	97.91	52	IAMs_20	IAMs_20		16 39 20.1		
PV18	Skein Mesa, Pa comp=Z,2μm,19.0s	97.92	52	IAMs_20	IAMs_20		16 38 44.2		
PV04	Paradox Valley comp=Z,3μm,21.0s	97.92	52	IAMs_20	IAMs_20		16 38 53.3		
JMDO	Jabal Madar	97.97	292	P	P		15 56 26.4	-0.5	
JMDO				P	P		15 56 26.4	-0.5	
BIDO	Bidbid SNR=5.2	97.98	293	P	Pdif		15 56 27.7	+0.7	
AKTO	Aktyubinsk comp=Z,19nm,0.8s,baz=93,slow=5.2,SNR=43	97.99	320	P	P		15 56 24.9	-1.5	
PV12	Saucer Basin, comp=Z,4μm,21.0s	98.00	52	IAMs_20	IAMs_20		16 38 55.5		
PV22	Blue Mesa, Par comp=Z,2μm,19.0s	98.01	52	IAMs_20	IAMs_20		16 39 23.7		
SMDO	Samad	98.04	293	P	P		15 56 26.9	-0.4	
SMDO				P	P		15 56 26.9	-0.4	
MHTO	MHTO SNR=5.6	98.04	290	P	P		15 56 26.5	-0.8	
MHTO	SNR=5.6			P	P		15 56 26.5	-0.8	
GEYT	Alibeck comp=Z,29nm,1.0s,baz=163,slow=1.5,SNR=37	98.18	307	P	P		15 56 26.9	-0.7	
GEYT	comp=Z,11nm,1.1s,baz=160,slow=4.7,SNR=4.7			PP	PP		16 00 29.8	+2.5	
GEYT	comp=Z,345nm,20.4s,baz=45,slow=37			LR	LR		16 42 59.9		
GEYT	Alibeck	98.18	307	P	P		15 56 27.0	-0.6	
PV01	Paradox Valley comp=Z,3μm,20.0s	98.18	52	IAMs_20	IAMs_20		16 39 45.4		
MVCO	Mesa Verde comp=Z,2μm,20.0s	98.25	53	IAMs_20	IAMs_20		16 35 55.0		
MVCO	Mesa Verde baz=270	98.25	53	P			15 56 29.4		
PV15	Paradox Valley comp=Z,3μm,19.0s	98.25	52	IAMs_20	IAMs_20		16 39 22.2		
O20A	White River Ci comp=Z,2μm,20.0s	98.42	50	IAMs_20	IAMs_20		16 34 29.5		
O20A	White River Ci baz=271	98.42	50	P			15 56 29.3		
HOQ	Hoqain	98.73	293	P	P		15 56 29.8	-0.5	
HOQ				P	P		15 56 29.8	-0.5	
BSY	Bisya	98.81	292	P	P		15 56 29.9	-0.8	
BSY				P	P		15 56 29.9	-0.8	
121A	Cookes Peak, D baz=270	98.84	58	P			15 56 32.0		
RWWY	Rawlins comp=Z,3μm,20.0s	99.17	49	IAMs_20	IAMs_20		16 37 12.1		
SMCO	Snowmass comp=Z,2μm,19.0s	99.42	51	IAMs_20	IAMs_20		16 39 02.9		
ARQ	Araqi SNR=5.1	99.45	293	P	Pdif		15 56 32.8	-0.8	
ARQ	SNR=5.1			P	Pdif		15 56 32.8	-0.8	
SOHO	SOHO	99.45	294	Pdiff	Pdif		15 56 32.3	-1.2	
SOHO	SOHO	99.45	294	P	Pdif		15 56 32.6	-0.9	
Y22D	IRIS PASSCAL I comp=Z,2μm,18.0s	99.55	56	IAMs_20	IAMs_20		16 42 55.8		
S22A	4UR Ranch, Cre baz=271	99.56	53	P			15 56 35.7		
K22A	Casper comp=Z,2μm,21.0s	99.64	48	IAMs_20	IAMs_20		16 35 39.7		
K22A	Casper baz=272	99.64	48	P			15 56 34.3		
LAO	LASA Array comp=Z,3μm,21.0s	99.66	44	IAMs_20	IAMs_20		16 34 32.9		
LAO	LASA Array baz=273	99.66	44	P			15 56 34.7		
BANOM	Banah SNR=11	99.69	295	*i* Pdiff	Pdif		15 56 33.9	-0.7	
BANOM	Banah SNR=7.6	99.69	295	P	Pdif		15 56 34.4	-0.2	
UOSS	Minazif	99.77	294	Pdiff	Pdif		15 56 33.2	-1.7	
UOSS	Minazif	99.77	294	P	Pdif		15 56 33.6	-1.3	
MASF	Masafi SNR=9.1	99.81	295	P	Pdif		15 56 34.8	-0.3	
MSFE	Esma-Masafi SNR=6.7	99.81	295	*i* Pdiff	Pdif		15 56 34.5	-0.6	
HATD	Hatta, Dubai	99.83	294	Pdiff	Pdif		15 56 33.9	-1.3	
HATD	Hatta, Dubai	99.83	294	P	Pdif		15 56 34.0	-1.3	
SHME	Shamm SNR=6.5	99.84	295	*i* Pdiff	Pdif		15 56 34.6	-0.6	
SHME	Shamm SNR=6.4	99.84	295	P	Pdif		15 56 35.0	-0.2	
ASHO	Ashiyiah	99.90	294	Pdiff	Pdif		15 56 34.8	-0.7	
RES	Resolute Bay comp=Z,2μm,21.0s	99.92	15	IAMs_20	IAMs_20		16 41 49.1		
ANMO	Albuquerque	99.92	56	*i* P	Pdif		15 56 35.2	-0.5	
ANMO	comp=Z,16nm,1.4s			pmax	pmax				
ANMO	Albuquerque comp=Z,2μm,19.0s	99.92	56	IAMs_20	IAMs_20		16 43 47.6		
ANMO	Albuquerque baz=271	99.92	56	P			15 56 37.3		
EPT	El Paso comp=Z,3μm,19.0s	99.93	59	IAMs_20	IAMs_20		16 39 16.8		
N23A	Red Feather La baz=272	100.15	49	P			15 56 37.3		
ALNE	Al Ain	100.17	293	Pdiff	Pdif		15 56 36.6	-0.1	
FAQ	Al Faqa, Dubai	100.32	294	Pdiff	Pdif		15 56 36.1	-1.3	
ISCO	Idaho Springs comp=Z,2μm,20.0s	100.45	51	IAMs_20	IAMs_20		16 35 37.2		
ISCO	Idaho Springs baz=272	100.45	51	P			15 56 39.0		
PHWY	Pilot Hill comp=Z,2μm,20.0s	100.50	49	IAMs_20	IAMs_20		16 37 55.4		
ASUD	Al Ashush, Dub	100.56	294	Pdiff	Pdif		15 56 37.0	-1.4	
ASUD	Al Ashush, Dub	100.56	294	P	Pdif		15 56 37.5	-0.9	
UMZA	Um Al Zommool	100.69	292	P	Pdif		15 56 37.8	-1.3	
Q24A	Divide baz=273	100.84	51	P			15 56 41.1		
DGMT	Dagmar comp=Z,3μm,20.0s	100.90	42	IAMs_20	IAMs_20		16 38 01.6		
DGMT	Dagmar baz=275	100.90	42	P			15 56 39.5		
RSSD	Black Hills baz=274	101.37	46	P			15 56 41.9		
RSSD	Black Hills comp=Z,3μm,19.0s	101.37	46	IAMs_20	IAMs_20		16 41 45.2		
T25A	Trinidad comp=Z,2μm,20.0s	101.51	53	IAMs_20	IAMs_20		16 37 05.4		
T25A	Trinidad baz=273	101.51	53	P			15 56 42.6		
FFC	Flin Flon comp=Z,3μm,19.0s	101.56	35	IAMs_20	IAMs_20		16 41 20.7		
DOK	Doka	101.59	288	P	Pdif		15 56 42.0	-1.2	
WHFO	Wadi Hawf	101.92	287	P	Pdif		15 56 43.3	-1.3	
SNAA	Sanae comp=Z,3μm,21.0s	102.27	187	IAMs_20	IAMs_20		16 41 10.8		
TXAR	Lajitas Array comp=Z,1.6nm,1.0s,baz=251,slow=3.8,SNR=8.2	102.42	61	P	Pdif		15 56 47.9	+1.1	
TXAR	comp=Z,1.2nm,0.9s,baz=258,slow=6.3,SNR=5.7			PP	PP		16 00 59.3	-0.4	
TXAR	comp=Z,0.9nm,0.7s,baz=116,slow=3.9,SNR=6.8			PKKPbc	PKKPbc		16 12 48.2	-0.3	
KSCO	Kaye Shedlock' comp=Z,2μm,21.0s	102.80	51	IAMs_20	IAMs_20		16 36 30.5		
KSCO	Kaye Shedlock' baz=274	102.80	51	P			15 56 48.5		
MSTX	Muleshoe comp=Z,2μm,19.0s	103.00	56	IAMs_20	IAMs_20		16 41 01.1		
OGNE	Ogallala comp=Z,3μm,19.0s	103.10	49	IAMs_20	IAMs_20		16 39 18.4		
NOR	Nord comp=Z,17nm,1.3s	103.14	359	*i* P	Pdif		15 56 48.2	-0.5	
NOR	Nord	103.14	359	*i* P	Pdif		15 56 48.2	-0.5	
NOR	Nord	103.14	359	*i* P	Pdif		15 56 48.3	-0.5	
NOR	comp=Z,17nm,1.3s			IAmb	IAmb		15 56 49.4		
PRGR	Permogore	103.25	332	*e*P	Pdif		15 56 45.4	-4.1	
PRGR				*e*			16 01 00.9		
PRGR	comp=Z,47nm,0.9s			pmax	pmax				
ZAIG	Zacatecas comp=Z,2μm,19.0s	103.51	68	IAMs_20	IAMs_20		16 38 03.4		
MDND	Maddock baz=278	104.03	42	P			15 56 53.5		
BELG	Belogornoye comp=Z,48nm,0.9s,baz=128,slow=2.0,SNR=18	104.23	323	Pdiff	Pdif		15 56 52.9	-1.1	
BELG	comp=Z,26nm,1.1s,baz=278,slow=7.7,SNR=3.9			PP	PP		16 01 13.3	+1.0	
ABPO	Ambohimpanom comp=Z,1μm,19.0s	104.90	249	IAMs_20	IAMs_20		16 43 27.9		
SUSD	Miller comp=Z,2μm,19.0s	104.96	45	IAMs_20	IAMs_20		16 43 16.3		
CBKS	Cedar Bluff comp=Z,2μm,20.0s	105.07	51	IAMs_20	IAMs_20		16 37 44.5		
ABTX	Abilene, Hawle comp=Z,2μm,18.0s	105.70	58	IAMs_20	IAMs_20		16 46 22.7		
D32A	Dogwood Acres, comp=Z,3μm,20.0s	105.87	42	IAMs_20	IAMs_20		16 41 25.2		
MAK	Makhachkala	105.88	313	*e*P	Pdif		15 56 59.5	-2.2	
MAK				*e*			16 01 23.1		
MAK				*e*			16 07 38.0		
MAK				*e*PS	PS		16 10 41.4	-1.1	
MAK				*e*SS	SS		16 16 24.3	+1.5	
U32A	Winter Ranch, comp=Z,2μm,18.0s	105.90	54	IAMs_20	IAMs_20		16 47 09.6		
R32A	Long Quarter, comp=Z,2μm,20.0s	105.91	52	IAMs_20	IAMs_20		16 40 39.8		
BGNE	Belgrade comp=Z,2μm,21.0s	105.96	48	IAMs_20	IAMs_20		16 40 54.0		
ULM	Lac du Bonnet comp=Z,13nm,1.1s,baz=305,slow=6.3,SNR=11	106.01	39	Pdiff	Pdif		15 57 02.4	+0.3	
ULM	Lac du Bonnet comp=Z,2μm,19.0s	106.01	39	IAMs_20	IAMs_20		16 48 24.8		
APA	Apatity	106.02	340	*i* P	Pdif		15 56 55.6	-6.1	
APA				*i*			16 07 39.0		
APA				*i* PPS	PPS		16 11 47.0		
APA	comp=Z,12nm,0.9s			pmax	pmax				
WMOK	Wichita Mounta comp=Z,2μm,19.0s	106.24	55	IAMs_20	IAMs_20		16 43 24.7		
KLMR	Klimovskoe	106.30	333	*e*P	Pdif		15 57 00.7	-2.4	
KLMR				*e*			16 01 26.9		
KLMR				*e*PPP	PPP		16 03 45.6		
KLMR	comp=Z,50nm,1.2s			pmax	pmax				
KLMR	Klimovskoe	106.30	333	*e*Pdif	Pdif		15 57 00.8	-2.4	
KLMR	comp=Z,50nm,1.2s			AMP			15 57 03.1		
KLMR				*e*PP	PP		16 01 26.9	-0.4	
KLMR				*e*PPP	PPP		16 03 45.6		
KLMR				*e*PKKPbc	PKKPbc		16 12 30.4	-7.3	
KLMR				LQ	LQ		16 36 52.9		
KLMR				LQ	LQ		16 36 52.9		
KLMR				LR	LR		16 43 12.8		
AGMN	Agassiz Nation comp=Z,3μm,20.0s	106.42	41	IAMs_20	IAMs_20		16 41 51.6		
OK032	Salt Plains WL comp=Z,3μm,19.0s	106.49	53	IAMs_20	IAMs_20		16 43 08.2		
N33A	J Bar K, Exete comp=Z,2μm,20.0s	106.58	49	IAMs_20	IAMs_20		16 41 54.4		
F33A	5 Mile Ranch, comp=Z,3μm,20.0s	106.60	44	IAMs_20	IAMs_20		16 38 37.4		
UNM	Universidad Na comp=Z,2μm,20.0s	106.72	71	IAMs_20	IAMs_20		16 38 33.4		
ECSD	EROS Data Cent comp=Z,3μm,20.0s	106.74	46	IAMs_20	IAMs_20		16 42 32.3		
ECSD	EROS Data Cent baz=280	106.74	46	P			16 01 15.6		
OK029	Liberty Lake comp=Z,2μm,18.0s	107.21	54	IAMs_20	IAMs_20		16 47 25.3		
TLIG	Tlapa comp=Z,3μm,20.0s	107.31	73	IAMs_20	IAMs_20		16 38 01.3		
OK025	Westminster Rd	107.33	54	IAMs_20	IAMs_20		16 47 11.5		

comp=Z,2µm,19.0s
ARCES **ARCESS Array B** 107.44 343 PKiKP **PKiKP** **16 01 18.9 +2.5**
comp=Z,6.0nm,0.9s,baz=79,slow=2.6,SNR=3.6
KSU1 **Kansas State U** 107.45 51 IAms_20 IAms_20 16 39 04.5
comp=Z,3µm,21.0s
735A **Kenedy** 107.56 61 IAms_20 IAms_20 16 43 09.2
comp=Z,2µm,19.0s
KVTX **Kingsville** 107.58 63 IAms_20 IAms_20 16 42 30.7
comp=Z,3µm,19.0s
WHTX **Lake Whitney,** 107.60 58 IAms_20 IAms_20 16 44 11.0
comp=Z,3µm,18.0s
Z35A **Perchaven, San** 107.64 57 IAms_20 IAms_20 16 44 21.0
comp=Z,2µm,19.0s
OK030 **Cody Creek RV** 107.73 54 IAms_20 IAms_20 16 48 46.2
comp=Z,3µm,19.0s
B35A **Bob, Littlefor** 107.80 41 IAms_20 IAms_20 16 42 24.1
comp=Z,3µm,20.0s
T35A **Sooner Cattle** 107.83 53 IAms_20 IAms_20 16 45 27.6
comp=Z,2µm,19.0s
N35A **Tabor** 107.92 49 IAms_20 IAms_20 16 44 51.8
comp=Z,3µm,20.0s
DAG **Danmarks Havn** 108.00 358 *i* P **Pdif** **15 57 09.5 -0.9**
comp=Z,17nm,0.9s
DAG **Danmarks Havn** 108.00 358 *i* P **Pdif** **15 57 09.6 -0.9**
DAG **Danmarks Havn** 108.00 358 *i* P **Pdif** **15 57 09.6 -0.9**
DAG IAmb IAmb 15 57 10.6
comp=Z,17nm,0.9s
VRH **Novokhopyorsk** 108.07 322 *e*P **Pdif** **15 57 08.6 -2.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
F36A **Milaca** 108.49 43 IAms_20 IAms_20 16 39 24.5
comp=Z,3µm,22.0s
ZEI **Tsey** 108.52 313 *e*P **Pdif** **15 57 12.1 -1.6**
ZEI pmax pmax
comp=Z,12nm,1.4s
I37A **Lemond, Waseca** 108.97 45 IAms_20 IAms_20 16 49 32.3
comp=Z,2µm,18.0s
237A **Washetta, Mont** 108.99 58 IAms_20 IAms_20 16 45 31.9
comp=Z,2µm,18.0s
MOS **Moscow** 109.01 328 *e*P **Pdif** **15 57 12.1 -3.2**
MOS MLR MLR
comp=Z,1µm,21.0s
X37A **Clayton** 109.05 55 IAms_20 IAms_20 16 44 41.1
comp=Z,2µm,18.0s
SPMN **Marine on St.** 109.12 44 IAms_20 IAms_20 16 40 27.3
comp=Z,3µm,20.0s
EYMN **Ely** 109.35 41 IAms_20 IAms_20 16 41 24.1
comp=Z,3µm,20.0s
EYMN **Ely** 109.35 41 P 16 01 20.5
baz=285
Z38A **Mt. Pleasant** 109.53 57 IAms_20 IAms_20 16 45 33.1
comp=Z,2µm,19.0s
U38A **Gravette** 109.58 53 IAms_20 IAms_20 16 47 19.2
comp=Z,2µm,20.0s
VORD **Divnogorie** 109.61 323 *e*P **Pdif** **15 57 15.9 -2.1**
VORD pmax pmax
comp=Z,8.0nm,1.1s
VSR **Storozhevoye** 109.61 323 *e*P **Pdif** **15 57 15.1 -3.0**
VSR pmax pmax
comp=Z,10.0nm,1.3s
P38A **Dawn** 109.72 50 IAms_20 IAms_20 16 43 46.6
comp=Z,2µm,20.0s
N38A **Joes South For** 109.73 48 IAms_20 IAms_20 16 43 41.7
comp=Z,3µm,21.0s
OBN **Obninsk** 109.80 327 *e*P **Pdif** **15 57 18.2 -0.6**
OBN *e* 16 01 53.4
OBN *e*PPP PPP 16 04 11.5
OBN *e* 16 08 30.8
OBN *e*SS SS 16 17 16.6 +1.8
OBN *e*SSS SSS 16 21 23.1
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,1µm,21.0s
S39A **Bolivar** 110.22 52 IAms_20 IAms_20 16 42 42.0
comp=Z,2µm,20.0s
W39A **Magazine** 110.25 54 IAms_20 IAms_20 16 44 55.5
comp=Z,2µm,20.0s
DBG **Daneborg** 110.51 359 *i* P **Pdif** **15 57 21.7 +0.2**
DBG IAmb IAmb 15 57 23.0
comp=Z,9.3nm,0.9s
MIAR **Mount Ida** 110.52 55 IAms_20 IAms_20 16 43 41.1
comp=Z,2µm,20.0s
USHA **Ushuaia** 110.63 155 PKKPbc PKKPbc 16 12 20.5 -3.3
comp=Z,30nm,0.4s,baz=86,slow=0.3,SNR=3.6
U40A **Yellville** 110.82 53 IAms_20 IAms_20 16 47 20.8
comp=Z,2µm,18.0s
U40A **Yellville** 110.82 53 P 16 01 23.1
baz=280
P40A **Paris** 110.87 50 IAms_20 IAms_20 16 44 21.8
comp=Z,2µm,20.0s
R40A **Maddies Statio** 110.94 51 IAms_20 IAms_20 16 41 43.8
comp=Z,3µm,19.0s
I40A **Norwalk** 110.95 45 IAms_20 IAms_20 16 47 09.8
comp=Z,2µm,19.0s
WLAR **White Oak Lake** 111.03 56 IAms_20 IAms_20 16 46 13.6
comp=Z,2µm,19.0s
X40A **Basin Creek Fa** 111.14 55 IAms_20 IAms_20 16 44 29.4
comp=Z,2µm,20.0s
MGMO **Mountain Grove** 111.14 52 IAms_20 IAms_20 16 42 38.3
comp=Z,2µm,20.0s
SOC **Sochi** 111.34 315 *i* PKIKP **PKiKP** **16 01 21.6 -2.8**
SOC *e* 16 02 01.1
SOC *e*PS **PS** **16 11 29.8 -7.1**
SOC *e*SSS SSS 16 21 38.6
SOC MLR MLR
comp=Z,650nm,22.0s
WHAR **Wooly Hollow** 111.45 54 IAms_20 IAms_20 16 45 52.6
comp=Z,2µm,20.0s
JFWS **Jewell Farm** 111.45 46 P 16 01 24.2
baz=284
W41B **Gary Mavity, V** 111.50 54 P 16 01 24.3
baz=280
CCM **Cathedral Cave** 111.77 51 IAms_20 IAms_20 16 41 42.9
comp=Z,2µm,20.0s
CCM **Cathedral Cave** 111.77 51 P 16 01 24.8
baz=281
SUMG **Summit** 111.82 4 *i* P **Pdif** **15 57 43.0 +15**
SUMG **Summit** 111.82 4 *i* P **Pdif** **15 57 43.0 +15**
FINES **FINESS Array B** 111.86 336 Pdiff **Pdif** **15 57 27.0 -0.8**
comp=Z,5.7nm,1.1s,baz=123,slow=7.0,SNR=6.3
FINES PKiKP **PKiKP** **16 01 25.2 +0.4**
comp=Z,3.7nm,0.8s,baz=2.5,slow=3.2,SNR=7.0
FINES PP **PP** **16 02 04.8 -2.8**
comp=Z,7.6nm,0.9s,baz=76,slow=8.0,SNR=5.0
FINES PKKPbc **PKKPbc** **16 12 18.3 -1.6**
comp=Z,0.9nm,0.5s,baz=132,slow=2.8,SNR=6.0
342A **Flagon Creek P** 112.02 58 IAms_20 IAms_20 16 49 28.0
comp=Z,2µm,18.0s
T42A **Van Buren** 112.09 52 IAms_20 IAms_20 16 51 42.4
comp=Z,2µm,19.0s
I42A **Draeger Farm,** 112.14 44 IAms_20 IAms_20 16 51 32.3
comp=Z,2µm,19.0s
FVM **French Village** 112.42 51 IAms_20 IAms_20 16 52 34.0
comp=Z,2µm,18.0s
SLM **Saint Louis** 112.43 50 IAms_20 IAms_20 16 53 31.3
comp=Z,2µm,19.0s
ANN **Anapa** 112.60 317 *i* PKIKP **PKiKP** **16 01 21.6 -5.1**
ANN *e* 16 01 34.0
ANN *e* 16 02 11.3
ANN pmax pmax
comp=Z,16nm,0.8s
ANN MLR MLR
comp=Z,532nm,18.0s
PBMO **Poplar Bluff** 112.66 52 IAms_20 IAms_20 16 44 25.5
comp=Z,3µm,19.0s
HDIL **Hopedale** 112.71 48 P 16 01 26.9
baz=284
HBAR **Harrisburg** 112.71 54 IAms_20 IAms_20 16 49 35.0
comp=Z,2µm,19.0s
P43A **Skaggs, Pawnee** 112.75 49 IAms_20 IAms_20 16 48 58.7
comp=Z,3µm,20.0s
K43A **Burlington** 112.87 46 IAms_20 IAms_20 16 45 41.5
comp=Z,2µm,20.0s
LPAR **Lepanto** 112.99 53 IAms_20 IAms_20 16 48 29.4
comp=Z,2µm,19.0s
VSU **Vasula** 113.18 333 *e*P **PKiKP** **16 01 28.1 +0.7**
PARMO **Parma** 113.22 52 IAms_20 IAms_20 16 44 12.2
comp=Z,2µm,20.0s
PEBM **Pemiscott Bayo** 113.24 53 IAms_20 IAms_20 16 47 50.9
comp=Z,2µm,19.0s
Q44A **Meyer Farm, Va** 113.30 50 IAms_20 IAms_20 16 45 45.3
comp=Z,3µm,20.0s
PVMO **Portageville** 113.31 52 IAms_20 IAms_20 16 48 11.7
comp=Z,2µm,20.0s
PENMO **Penman** 113.36 52 IAms_20 IAms_20 16 43 05.0
comp=Z,2µm,20.0s

S44A **Carbondale** 113.39 51 IAms_20 IAms_20 16 45 45.7
comp=Z,2µm,19.0s
SIUC **Southern Illin** 113.41 51 IAms_20 IAms_20 16 53 31.9
comp=Z,2µm,18.0s
VBMS **Vicksburg** 113.41 57 IAms_20 IAms_20 16 46 53.8
comp=Z,2µm,20.0s
O44A **Mansfield** 113.42 48 IAms_20 IAms_20 16 47 59.3
comp=Z,3µm,20.0s
M44A **Midewin, Midew** 113.42 47 IAms_20 IAms_20 16 48 43.2
comp=Z,3µm,19.0s
HENM **Henderson Moun** 113.42 52 IAms_20 IAms_20 16 44 06.8
comp=Z,2µm,20.0s
LNXT **Lenox** 113.54 53 IAms_20 IAms_20 16 48 08.8
comp=Z,3µm,19.0s
HICK **Hickman** 113.65 52 IAms_20 IAms_20 16 44 14.8
comp=Z,2µm,19.0s
GLAT **Glass** 113.66 53 IAms_20 IAms_20 16 48 14.1
comp=Z,2µm,18.0s
HALT **Halls** 113.69 53 IAms_20 IAms_20 16 48 21.0
comp=Z,2µm,19.0s
OXF **Oxford** 113.92 54 IAms_20 IAms_20 16 45 55.0
comp=Z,2µm,20.0s
Y45A **Yeager Farm, C** 113.93 55 IAms_20 IAms_20 16 54 33.4
comp=Z,2µm,20.0s
T45A **Paducah** 114.01 52 IAms_20 IAms_20 16 45 15.2
comp=Z,3µm,20.0s
SFIN **Lafayette** 114.37 48 IAms_20 IAms_20 16 45 05.6
comp=Z,3µm,21.0s
SFIN **Lafayette** 114.37 48 P 16 01 30.0
baz=285
346A **Big Creek Wild** 114.43 58 IAms_20 IAms_20 16 49 33.9
comp=Z,1µm,20.0s
P46A **Rosedale** 114.49 49 IAms_20 IAms_20 16 53 36.7
comp=Z,2µm,19.0s
USIN **University of** 114.55 50 IAms_20 IAms_20 16 55 07.4
comp=Z,3µm,19.0s
MNK **Minsk** 114.61 329 *i* PKP **PKiKP** **16 01 24.4 -5.9**
comp=E,2.0nm,0.9s
MNK *i* PKP **PKiKP** **16 01 24.4 -5.9**
comp=N,12nm,0.8s
MNK *i* PKP **PKiKP** **16 01 24.4 -5.9**
comp=Z,7.0nm,0.7s
MNK *i* PP **PP** **16 02 21.7 -5.6**
MNK *i* PPP PPP 16 04 47.0
MNK *i* SKP 16 04 57.2
MNK *i* PKS 16 05 01.1
MNK *i* SKS **SKSdf** **16 08 35.4 -4.8**
MNK *i* SS **SS** **16 18 11.5 -7.2**
MNK *i* SKKS **SKKSdf** **16 19 34.0 -10**
MNK *i* SSS SSS 16 22 30.0
MNK *i* LQ LQ 16 43 15.1
MNK *i* LR LR 16 49 11.3
MNK *i* LRM MLR 16 51 12.0
comp=E,68nm,15.3s
MNK *i* LRM MLR 16 51 15.2
comp=N,436nm,20.8s
MNK *i* LRM MLR 16 51 15.8
comp=Z,724nm,20.1s
GLMI **Grayling** 114.81 42 P 16 01 30.7
baz=289
WVT **Waverly** 114.84 52 IAms_20 IAms_20 16 44 41.4
comp=Z,2µm,20.0s
WVT **Waverly** 114.84 52 P 16 01 30.6
baz=283
ISAL **Salakas** 114.96 331 *e*P PKPdf 16 01 31.8 +0.9
NACGM **Naroch** 114.97 330 *i* PKP **PKiKP** **16 01 29.6 -1.4**
NACGM *i* PKP **PKiKP** **16 01 29.6 -1.4**
NACGM *i* PKP **PKiKP** **16 01 29.6 -1.4**
NACGM *i* PP PP 16 03 20.9 +51
NACGM *i* PPP PPP 16 05 55.1
NACGM *i* SKS **SKSdf** **16 08 35.0 -5.9**
NACGM *i* SS SKKSdf 16 19 57.7 +14
NACGM *i* SSS SSS 16 23 49.8
NACGM *i* LQ LQ 16 42 21.3
NACGM *i* LR LR 16 47 50.2
AAL **Aland** 115.02 337 *e*P **PKiKP** **16 01 30.6 -0.2**
DIKM **Dikmen** 115.03 314 ⇓P PKKPbc 16 11 49.5 -19
IIGN **Ignalina** 115.03 330 *e*P **PKPdf** **16 01 31.6 +0.5**
T47A **Sharon Grove** 115.22 51 IAms_20 IAms_20 16 46 51.1
comp=Z,2µm,20.0s
N47A **Urbana** 115.26 47 IAms_20 IAms_20 16 49 40.0
comp=Z,2µm,19.0s
Z47A **Carrollton** 115.26 56 IAms_20 IAms_20 16 46 38.8
comp=Z,2µm,20.0s
AKASG **Malin Array Be** 115.64 325 PKP **PKiKP** **16 01 32.2 -0.1**
comp=Z,22nm,0.8s,baz=61,slow=2.3,SNR=59
AKASG PKKPbc **PKKPbc** **16 12 05.7 -1.1**
comp=Z,3.5nm,0.7s,baz=261,slow=3.4,SNR=15
AKBB **Malin Array Si** 115.64 325*c* *i* PKIKP **PKPdf** **16 01 32.5 +0.1**
V48A **Smith Brothers** 115.73 53 IAms_20 IAms_20 16 43 52.8
comp=Z,2µm,22.0s
X48A **Hartselle** 115.84 54 IAms_20 IAms_20 16 47 58.9
comp=Z,3µm,19.0s
L48A **N Adams** 115.86 45 IAms_20 IAms_20 16 47 43.6
comp=Z,2µm,20.0s
P48A **Milroy** 115.86 48 IAms_20 IAms_20 16 54 19.9
comp=Z,2µm,18.0s
CLTN **Cedars of Leba** 116.03 52 IAms_20 IAms_20 16 46 36.8
comp=Z,2µm,20.0s
PABE **Paberze** 116.03 331 *e*P **PKPdf** **16 01 33.7 +0.7**
LRAL **Lakeview Retre** 116.18 56 IAms_20 IAms_20 16 47 35.0
comp=Z,2µm,20.0s
LRAL **Lakeview Retre** 116.18 56 P 16 01 33.4
baz=282
AAM **Ann Arbor** 116.29 45 IAms_20 IAms_20 16 51 16.1
comp=Z,2µm,20.0s
U49A **Red Boiling Sp** 116.36 52 IAms_20 IAms_20 16 47 46.5
comp=Z,2µm,20.0s
P49A **Miami Univ. Ec** 116.36 48 IAms_20 IAms_20 16 44 44.3
comp=Z,2µm,20.0s
P49A **Miami Univ. Ec** 116.36 48 P 16 01 33.5
baz=287
Y49A **Blount Mountai** 116.48 55 IAms_20 IAms_20 16 47 30.9
comp=Z,2µm,20.0s
SWET **Sewanee** 116.56 53 IAms_20 IAms_20 16 44 40.8
comp=Z,2µm,20.0s
BR131 **Keskin Array S** 116.76 312 *i* PKIKP **PKPdf** **16 01 35.0 0.0**
BRTR **Keskin Array B** 116.76 312 PKP **PKPdf** **16 01 34.7 -0.4**
comp=Z,9.2nm,0.9s,baz=116,slow=2.9,SNR=24
BRTR PP **PP** **16 02 43.2 -0.1**
comp=Z,6.8nm,1.0s,baz=106,slow=8.2,SNR=5.9
BRTR PKKPbc **PKKPbc** **16 12 03.3 +0.6**
comp=Z,2.3nm,1.0s,baz=207,slow=2.5,SNR=7.0
BRTR **Keskin Array B** 116.76 312 PKIKP **PKPdf** **16 01 35.1 0.0**
BRTR **Keskin Array B** 116.76 312 PKPdf **PKPdf** **16 01 35.1 0.0**
K50A **Casco** 116.86 44 IAMs_20 IAMs_20 16 45 52.9
comp=Z,2µm,20.0s
TEIG **Tepich** 116.92 70 IAMs_20 IAMs_20 16 43 54.8
comp=Z,1µm,18.0s
250A **Grady** 117.00 57 IAMs_20 IAMs_20 16 56 12.8
comp=Z,2µm,18.0s
M50A **Fremont** 117.01 46 IAMs_20 IAMs_20 16 48 28.3
comp=Z,2µm,20.0s
W50A **Signal Mountai** 117.05 53 IAMs_20 IAMs_20 16 45 05.9
comp=Z,2µm,21.0s
MMAI **Mount Meron Ar** 117.11 305 PKP **PKiKP** **16 01 36.2 +0.3**
comp=Z,10nm,0.9s,baz=33,slow=5.0,SNR=6.8
SUW **Suwalki** 117.23 330 *e*PKP **PKiKP** **16 01 35.8 +0.4**
SUW **Suwalki** 117.23 330 *e*P **PKiKP** **16 01 35.8 +0.4**
MATQ **Matagami** 117.23 35 P 16 01 34.8
baz=297
SORM **Soroca** 117.27 323 ⇑P **PKPdf** **16 01 35.4 -0.2**
SORM **Soroca** 117.27 323 ⇓P **PKKPbc** **16 12 00.1 -0.9**
SORM **Soroca** 117.27 323 ⇑PKIKP **PKPdf** **16 01 35.4 -0.2**
HFS **Hagfors** 117.39 339 PP PP 16 02 45.5 -1.0
comp=Z,6.3nm,0.8s,baz=56,slow=5.4,SNR=3.5
ACSO **Alum Creek Sta** 117.43 47 IAMs_20 IAMs_20 16 46 26.4
comp=Z,2µm,20.0s
ACSO **Alum Creek Sta** 117.43 47 P 16 01 35.9
baz=288
KIS **Kishinev** 117.46 321 *e*P **Pdif** **15 57 52.0 -1.1**
KIS **Kishinev** 117.46 321 *e*PKP **PKiKP** **16 01 36.0 0.0**
KIS *e*LR LR 16 48 00.0
comp=Z,200nm,21.0s
KIS **Kishinev** 117.46 321 *e*P **Pdif** **15 57 52.0 -1.1**
KIS *e* 16 01 36.0
Q51A **Peebles** 117.53 48 IAMs_20 IAMs_20 16 45 29.2
comp=Z,2µm,21.0s
X51A **Calhoun** 117.57 53 IAMs_20 IAMs_20 16 50 14.7
comp=Z,2µm,19.0s
NB2 **NORSAR Subarra** 117.57 341 PKPdf **PKiKP** **16 01 36.1 +0.2**
comp=Z,2.6nm,0.7s,baz=42,slow=1.9
NOA **NORSAR Array B** 117.57 341 PKP **PKPdf** **16 01 35.7 -0.2**
comp=Z,4.4nm,0.8s,baz=45,slow=1.9,SNR=17
NOA PP **PP** **16 02 43.9 -3.9**
comp=Z,10nm,1.1s,baz=40,slow=7.4,SNR=4.1

I51A **Listowel** 117.58 42 P 16 01 36.1
baz=292
P51A **Williamsport** 117.60 48 IAMs_20 IAMs_20 16 51 13.1
comp=Z,2µm,20.0s
CPCT **Cooper Cave** 117.62 52 IAMs_20 IAMs_20 16 45 45.8
comp=Z,2µm,20.0s
M51A **Elyria** 117.65 45 P 16 01 35.6
baz=290
V51A **Loudon** 117.66 52 IAMs_20 IAMs_20 16 46 30.9
comp=Z,2µm,21.0s
451A **Vernon** 117.71 58 IAMs_20 IAMs_20 16 47 03.8
comp=Z,2µm,19.0s
VLDQ **Val d'Or** 118.09 37 PKPdf **PKPdf** **16 01 36.6 -0.6**
TKL **Tuckaleechee C** 118.15 52 IAMs_20 IAMs_20 16 46 44.9
comp=Z,2µm,20.0s
EIL **Elat** 118.18 301 PKP **PKiKP** **16 01 38.2 +0.3**
comp=Z,16nm,1.0s,baz=307,slow=1.0,SNR=7.6
TLCR **118.21 319** ⇑P **PKiKP** **16 01 37.9 +0.4**
TLCR **118.21 319** ⇑PKIKP **PKiKP** **16 01 37.9 +0.4**
352A **Blakely** 118.22 57 IAMs_20 IAMs_20 16 56 29.1
comp=Z,2µm,18.0s
P52A **Corning** 118.24 47 IAMs_20 IAMs_20 16 48 29.8
comp=Z,2µm,20.0s
P52A **Corning** 118.24 47 P 16 01 36.8
baz=289
V52A **Sevierville** 118.24 52 IAMs_20 IAMs_20 16 49 25.3
comp=Z,2µm,20.0s
Q52A **Bidwell** 118.35 48 IAMs_20 IAMs_20 16 46 25.8
comp=Z,2µm,20.0s
PLCA **Paso Flores** 118.58 142 PKP **PKiKP** **16 01 39.7 +1.1**
comp=Z,14nm,0.8s,baz=236,slow=2.5,SNR=20
PLCA PKKPbc **PKKPbc** **16 11 55.5 -0.8**
comp=Z,10nm,1.1s,baz=25,slow=6.6,SNR=6.9
TPGR **Topolog** 118.59 319 ⇑P **PKiKP** **16 01 39.2 +0.9**
CFR **Carcaliu** 118.65 320 ⇑P **PKiKP** **16 01 38.7 +0.3**
CFR **Carcaliu** 118.65 320 ⇑PKIKP **PKiKP** **16 01 38.7 +0.3**
ALGO **Algonquin Park** 118.67 39 P 16 01 38.3
baz=295
M53A **WI Miller and** 118.68 45 IAMs_20 IAMs_20 16 51 45.2
comp=Z,2µm,21.0s
M53A **WI Miller and** 118.68 45 P 16 01 38.4
baz=291
O53A **New Philadelph** 118.70 46 P 16 01 38.7
baz=290
GHRR **118.74 321** ⇑P **PKiKP** **16 01 39.7 +1.2**
TIRR **Tirgusor** 118.76 319 IAMs_20 IAMs_20 16 55 37.4
comp=Z,2µm,21.0s
L53A **Girard** 118.78 44 P 16 01 38.6
baz=291
MFTR **Murfatlar** 118.87 319 ⇑P **PKiKP** **16 01 39.7 +0.9**
G54A **Lake Saint Pet** 118.88 40 P 16 01 38.8
baz=295
PRAR **RASCA** 118.89 323 ⇑P **PKKPbc** **16 11 55.4 +0.2**
V53A **Saluda** 118.90 52 IAMs_20 IAMs_20 16 47 59.8
comp=Z,2µm,21.0s
H53A **Bobcaygeon** 118.91 41 P 16 01 38.7
baz=294
ERPA **Erie** 118.91 44 P 16 01 38.5
baz=292
Q53A **Leroy** 118.93 48 P 16 01 38.2
baz=289
TLBR **Topalu** 118.97 319 ⇑P **PKiKP** **16 01 39.4 +0.4**
GOGA **Godfrey** 118.97 54 IAMs_20 IAMs_20 16 55 02.9
comp=Z,2µm,19.0s
GOGA **Godfrey** 118.97 54 P 16 01 38.5
baz=284
LVV **L'vov** 118.99 326 *e*PKIKP **PKPdf** **16 01 38.8 -0.1**
BG3 **Lake Jocassee** 118.99 53 IAMs_20 IAMs_20 16 50 45.2
comp=Z,1µm,19.0s
TESR **Tescani** 119.02 322 ⇑P **PKPdf** **16 01 39.0 -0.1**
BIZ **Bicaz** 119.16 322 ⇑P **PKiKP** **16 01 40.2 +0.8**
BIZ **Bicaz** 119.16 322 ⇑P **PKKPbc** **16 11 54.1 -0.1**
VRI **Vrincioaia** 119.25 321 ⇑P **PKiKP** **16 01 39.6 0.0**
VRI **Vrincioaia** 119.25 321 ⇑P **PKKPbc** **16 11 53.4 -0.4**
VRI **Vrincioaia** 119.25 321 ⇑PKIKP **PKiKP** **16 01 39.6 0.0**
PLOR **Plostina** 119.31 321 ⇑P **PKPdf** **16 01 39.5 -0.1**
PLOR **Plostina** 119.31 321 ⇑P **PKKPbc** **16 11 52.7 -1.0**
PLOR **Plostina** 119.31 321 ⇑PKIKP **PKPdf** **16 01 39.5 -0.1**
N54A **Moraine State** 119.33 45 P 16 01 39.3
baz=291
M54A **Oil Creek Stat** 119.36 45 IAMs_20 IAMs_20 16 52 51.3
comp=Z,2µm,20.0s
M54A **Oil Creek Stat** 119.36 45 P 16 01 39.4
baz=292
BURAR **Bucovina Array** 119.38 323 ⇓P **PKKPbc** **16 11 54.2 +0.7**
BURAR **Bucovina Array** 119.38 323 PKPdf **PKiKP** **16 01 42.0 +2.0**
S54A **Dingess, Beckl** 119.43 49 P 16 01 39.7
baz=288
U54A **Nelsons Funny** 119.43 51 IAMs_20 IAMs_20 16 52 33.6
comp=Z,2µm,20.0s
U54A **Nelsons Funny** 119.43 51 P 16 01 39.9
baz=287
154A **Montrose** 119.47 55 IAMs_20 IAMs_20 16 50 21.9
comp=Z,2µm,20.0s
R54A **Victor** 119.55 48 P 16 01 38.8
baz=289
BEL **Belsk** 119.65 329 *e*PKP **PKiKP** **16 01 41.2 +1.1**
E55A **Montcerf-Lytto** 119.69 38 P 16 01 40.0
baz=297
ISR **Istrita** 119.69 320 ⇑P **PKKPbc** **16 11 51.9 -0.4**
NEHR **Nehoiu** 119.72 321 ⇑P **PKKPbc** **16 11 51.5 -0.6**
OZUR **119.74 321** ⇑P **PKiKP** **16 01 40.8 +0.2**
OZUR **119.74 321** ⇑P **PKKPbc** **16 11 51.8 -0.3**
D55A **Sainte-Anne-du** 119.79 37 P 16 01 40.3
baz=298
LEHL **Lehliu** 119.79 319 ⇓P **PKiKP** **16 01 41.7 +1.1**
KWP **Kalwaria Pacla** 119.82 326 *e*PKP **PKiKP** **16 01 41.4 +0.8**
MCWV **Mont Chateau** 119.89 47 IAMs_20 IAMs_20 16 52 52.6
comp=Z,2µm,20.0s
MCWV **Mont Chateau** 119.89 47 P 16 01 40.8
baz=290
MLR **Muntele Rosu** 119.91 321 PKP **PKiKP** **16 01 41.1 0.0**
comp=Z,13nm,0.8s,baz=353,slow=5.4,SNR=11
MLR PKKPbc **PKKPbc** **16 11 51.1 -0.5**
comp=Z,8.0nm,0.8s,baz=334,slow=16,SNR=5.9
MLR **Muntele Rosu** 119.91 321 ⇑P **PKPdf** **16 01 40.9 0.0**
MLR **Muntele Rosu** 119.91 321 ⇓P **PKKPbc** **16 11 51.2 -0.3**
MLR **Muntele Rosu** 119.91 321 IAMs_20 IAMs_20 16 57 55.5
comp=Z,1µm,19.0s
PAULI **Pauline** 119.92 52 IAMs_20 IAMs_20 16 51 41.9
comp=Z,2µm,19.0s
M55A **Ridgway** 120.00 44 IAMs_20 IAMs_20 16 47 44.3
comp=Z,2µm,21.0s
SECR **120.03 320** ⇑P **PKiKP** **16 01 41.5 +0.3**
DOPR **Dopca** 120.04 321 ⇑P **PKiKP** **16 01 41.8 +0.7**
DOPR **Dopca** 120.04 321 ⇓P **PKKPbc** **16 11 50.8 -0.1**
ORTG **Ortega, Santa** 120.11 81 IAMs_20 IAMs_20 16 57 43.9
comp=Z,1µm,19.0s
255A **Hazlehurst** 120.15 56 IAMs_20 IAMs_20 16 56 16.2
comp=Z,2µm,18.0s
R55A **Marlinton** 120.16 48 IAMs_20 IAMs_20 16 46 28.8
comp=Z,2µm,19.0s
R55A **Marlinton** 120.16 48 P 16 01 40.8
baz=290
D56A **ZEC Mazanza, M** 120.20 37 P 16 01 41.3
baz=299
KMSC **Kings Mountain** 120.21 52 IAMs_20 IAMs_20 16 51 26.4
comp=Z,2µm,19.0s
KMSC **Kings Mountain** 120.21 52 P 16 01 40.9
baz=287
E56A **St. Veronique** 120.28 38 P 16 01 40.9
baz=298
BLA **Blacksburg** 120.29 49 P 16 01 41.3
baz=289
RAZG **Razgrad** 120.38 319 ⇑P **PKiKP** **16 01 42.1 +0.2**
M56A **Emporium** 120.40 44 IAMs_20 IAMs_20 16 47 33.8
comp=Z,2µm,20.0s
M56A **Emporium** 120.40 44 P 16 01 41.5
baz=293
KOLS **Kolonicke sedl** 120.43 326 *e*PKIKP **PKiKP** **16 01 42.5 +0.7**
KOLS **Kolonicke sedl** 120.43 326 *e*PKP **PKiKP** **16 01 42.5 +0.7**
CAO2 **Cobano, Puntar** 120.47 82 IAMs_20 IAMs_20 16 48 48.2
comp=Z,2µm,18.0s
VOIR **120.50 321** ⇑P **PKiKP** **16 01 42.7 +0.6**
VOIR **120.50 321** ⇑PKIKP **PKiKP** **16 01 42.7 +0.6**
K56A **Middlesex** 120.50 42 P 16 01 41.5
baz=294
JSC **Jenkinsville** 120.51 53 IAMs_20 IAMs_20 16 50 55.5
comp=Z,1µm,19.0s
GKP **Gorka Klasztor** 120.54 332 *e*PKP **PKiKP** **16 01 43.0 +1.2**
N56A **West Decatur** 120.54 45 P 16 01 41.6
baz=292
L56A **Greenwood** 120.57 43 P 16 01 41.8
baz=294
J56A **Wolcott** 120.58 42 P 16 01 41.7
baz=295

UZH	Uzhgorod	120.58	325	⇓*i*	PKIKP		PKPdf	16 01 41.7	-0.2
UZH				*e*				16 01 54.8	
UZH				*e*				16 03 14.8	
U56A	King comp=Z,2µm,21.0s	120.59	50		IAMs_20	IAMs_20		16 47 03.2	
U56A	King baz=288	120.59	50	P				16 01 42.4	
Q56A	Snyder Ridge, baz=291	120.59	47	P				16 01 42.0	
O56A	Blue Knob Stat baz=292,SNR=5.9	120.59	45	P				16 01 42.3	
JTS	Las Juntas de comp=Z,2µm,18.0s	120.61	81		IAMs_20	IAMs_20		16 45 45.1	
T56A	Rocky Mt baz=289	120.64	49	P				16 01 42.2	
R56A	Bull Pasture M baz=290	120.65	48	P				16 01 41.8	
V56A	Mocksville baz=288	120.67	51	P				16 01 42.0	
P56A	Dayton Farm, R baz=291	120.68	46	P				16 01 42.3	
656A	Willston comp=Z,1µm,20.0s	120.70	59		IAMs_20	IAMs_20		16 54 37.9	
S56A	Natural Bridge baz=290	120.78	49	P				16 01 42.2	
CJR	Cluj-Napoca	120.78	323	⇑P			PKiKP	16 01 43.3	+0.7
CJR	Cluj-Napoca	120.78	323	⇑PKIKP			PKiKP	16 01 43.3	+0.7
ARR	Arges	120.79	321	⇑P			PKiKP	16 01 44.5	+1.8
ARR	Arges	120.79	321	⇓P			PKKPbc	16 11 47.9	-0.3
W56A	Indian Trail baz=287	120.80	52	P				16 01 42.0	
456A	Hilliard comp=Z,2µm,19.0s	120.82	57		IAMs_20	IAMs_20		16 52 49.9	
CRVS	Cervenica-Dubn	120.90	326	*e*PKIKP			PKiKP	16 01 43.3	+0.6
CRVS	Cervenica-Dubn	120.90	326	*e*PKP			PKiKP	16 01 43.3	+0.6
HUMR	Humele	120.95	320	⇑P			PKPdf	16 01 42.8	0.0
COPA	Copaceanca	120.98	320	⇓P			PKiKP	16 01 43.3	+0.3
G57A	Newington baz=298	120.98	39	P				16 01 42.2	
H57A	Richville baz=297	121.02	40	P				16 01 42.4	
K57A	Scipio Center baz=295	121.03	42	P				16 01 42.8	
I57A	Carthage baz=296	121.08	41	P				16 01 42.7	
OJC	Ojcow	121.08	328	*e*PKP			PKiKP	16 01 43.8	+0.7
J57A	Williamstown baz=296	121.09	41	P				16 01 43.1	
ZIMR		121.09	319	⇑P			PKiKP	16 01 43.9	+0.7
ZIMR		121.09	319	⇑PKIKP			PKiKP	16 01 43.9	+0.7
L57A	Andrews Acres baz=294,SNR=5.2	121.11	43	P				16 01 42.7	
N57A	Milroy baz=293,SNR=5.4	121.12	45	P				16 01 43.2	
COVE	Coope Vega, Sa comp=Z,2µm,19.0s	121.15	80		IAMs_20	IAMs_20		16 44 19.3	
Q57A	Strasburg baz=291	121.16	47	P				16 01 43.0	
BOSA	Boshof comp=Z,5.0nm,0.7s,baz=131,slow=1.9,SNR=16	121.19	232	PKP			PKPdf	16 01 42.8	-1.1
BOSA	Boshof	121.19	232	PKIKP			PKPdf	16 01 43.9	0.0
BOSA	Boshof	121.19	232	PKPdf			PKPdf	16 01 43.9	0.0
M57A	Sunshine Farm, baz=294	121.19	44	P				16 01 43.0	
V57A	Coltrane Farms baz=288	121.20	51	P				16 01 43.2	
S57A	Dark Hollow, R comp=Z,2µm,20.0s	121.20	48		IAMs_20	IAMs_20		16 52 55.4	
S57A	Dark Hollow, R baz=290	121.20	48	P				16 01 43.1	
LATQ	La Tuque baz=301	121.21	36	P				16 01 42.9	
W57A	Gilead baz=292	121.26	52		IAMs_20	IAMs_20		16 49 41.1	
NIE	Niedzica	121.26	327	*e*PKP			PKiKP	16 01 45.1	+1.6
O57A	Amberson baz=293	121.27	45	P				16 01 43.6	
DRGR		121.28	323	⇑P			PKiKP	16 01 43.8	+0.2
DRGR		121.28	323	⇑P			PKKPbc	16 11 46.1	-0.3
DRGR		121.28	323	⇑PKIKP			PKiKP	16 01 43.8	+0.2
P57A	Homestead Farm baz=292	121.28	46	P				16 01 43.1	
LOT	Lotru	121.29	322	⇑P			PKPdf	16 01 43.4	-0.2
D58A	Chemin du LacG baz=300	121.30	36	P				16 01 43.2	
257A	Skidaway Islan comp=Z,2µm,18.0s	121.33	55		IAMs_20	IAMs_20		16 57 36.4	
R57A	Stanardsville baz=291	121.34	48	P				16 01 43.7	
E58A	La Victoria baz=300	121.42	37	P				16 01 43.7	
LTVH	Ltavrtes, Hu	121.45	324	⇑P			PKiKP	16 01 45.3	+1.5
LONY	Lake Ozonia baz=298	121.46	39	P				16 01 43.9	
G58A	Ormstown baz=298	121.54	39	P				16 01 44.1	
K58A	Earlville baz=296	121.60	42	P				16 01 43.6	
DEV	Deva	121.61	322	⇑P			PKiKP	16 01 44.5	+0.3
DEV	Deva	121.61	322	⇑PKIKP			PKiKP	16 01 44.5	+0.3
BINY	Binghamton baz=295	121.61	43	P				16 01 43.8	
I58A	Old Forge baz=297	121.63	41	P				16 01 44.0	
M58A	Price's Panora baz=294	121.63	44	P				16 01 43.6	
N58A	Sunbury comp=Z,2µm,20.0s	121.67	44		IAMs_20	IAMs_20		16 48 45.4	
N58A	Sunbury baz=294	121.67	44	P				16 01 44.0	
PLVB	Pleven	121.70	319	⇑P			PKiKP	16 01 45.1	+0.6
Q58A	Fox Den Farm, baz=292	121.72	47	P				16 01 44.0	
R58A	Rapidan baz=291	121.72	47	P				16 01 44.0	
V58A	Windy Hill, Pi comp=Z,2µm,22.0s	121.74	51		IAMs_20	IAMs_20		16 47 04.7	
L58A	Harry Jones Me baz=295,SNR=5.3	121.77	43	P				16 01 44.3	
T58A	Grand View Acr baz=290	121.80	49	P				16 01 44.6	
H58A	Gabriels baz=298	121.81	39	P				16 01 44.3	
O58A	Lewisberry baz=293,SNR=7.4	121.81	45	P				16 01 44.8	
LANS	Liptovska Anna	121.86	327	*e*PKIKP			PKiKP	16 01 46.3	+1.7
LANS	Liptovska Anna	121.86	327	*e*PKP			PKiKP	16 01 46.3	+1.7
DWPF	Disney Wildern comp=Z,1µm,18.0s	121.92	60		IAMs_20	IAMs_20		16 49 44.3	
S58A	Poland Farm, P baz=291	121.93	48	P				16 01 44.7	
GZR	Gura Zlata	121.93	322	⇑P			PKPdf	16 01 44.8	0.0
GZR	Gura Zlata	121.93	322	⇓P			PKKPbc	16 11 44.2	+0.3
GZR	Gura Zlata	121.93	322	⇑PKIKP			PKPdf	16 01 44.8	0.0
U58A	Oxford baz=290	121.97	50	P				16 01 44.8	
F59A	Saint Guilaume baz=300	121.98	37	P				16 01 44.8	
FRNY	Flat Rock comp=Z,2µm,20.0s	121.98	39		IAMs_20	IAMs_20		16 57 31.2	
NCB	Newcomb	121.99	40				PKiKP	16 01 45.5	+0.5
H59A	Cadyville baz=298	122.01	39	P				16 01 45.1	
SRE	Strehaia	122.01	321	⇑P			PKiKP	16 01 45.7	+0.7
SRE	Strehaia	122.01	321	⇑PKIKP			PKiKP	16 01 45.7	+0.7
J59A	Piesco baz=297	122.04	41	P				16 01 45.1	
K59A	Cooperstown baz=296,SNR=5.4	122.12	41	P				16 01 45.2	
SDMD	Soldier's Deli comp=Z,1µm,19.0s	122.15	46		IAMs_20	IAMs_20		16 54 32.1	
BATAN	Batan comp=Z,1µm,18.0s	122.17	81		IAMs_20	IAMs_20		16 49 53.3	
SIRR	Siria	122.17	323	⇑P			PKiKP	16 01 45.6	+0.3
SIRR	Siria	122.17	323	⇑P			PKKPbc	16 11 42.9	-0.1
OKC	Ostrava-Krasne comp=Z,800nm,18.6s	122.17	328	AMS		AMS		17 00 00.0	
L59A	Walton baz=296,SNR=5.4	122.25	42	P				16 01 45.2	
M59A	Waymart baz=295	122.27	43	P				16 01 45.6	
N59A	State Game Lan baz=294	122.30	44	P				16 01 45.5	
PSZ	Piszkesteto	122.31	326	⇑P			PKiKP	16 01 45.6	0.0
PSZ	Piszkesteto	122.31	326	⇑PKIKP			PKiKP	16 01 45.6	0.0
P59A	Jarrettsville	122.36	45	P				16 01 45.9	
	baz=293								
PUNG	Punghina	122.37	321	⇑P			PKPdf	16 01 45.3	-0.2
HERR	Herculane	122.40	322	⇑P			PKiKP	16 01 45.8	0.0
HERR	Herculane	122.40	322	⇑P			PKKPbc	16 11 42.0	0.0
R59A	King George, V baz=292	122.40	47	P				16 01 45.5	
V59A	Middlesex baz=290	122.42	50	P				16 01 46.1	
F60A	Warwick baz=301	122.42	37	P				16 01 45.4	
KSP	Ksiaz	122.51	330	*e*PKP			PKiKP	16 01 46.6	+0.8
E60A	Ste Agathe de baz=302	122.52	36	P				16 01 45.9	
MORC	Moravsky Berou	122.52	329	⇑P			PKiKP	16 01 46.5	+0.6
MORC	Moravsky Berou	122.52	329	⇓P			PKKPbc	16 11 41.8	+0.1
MORC	Moravsky Berou	122.52	329	*e*PKP			PKiKP	16 01 46.4	+0.5
MORC				*e*PKKP			PKKPbc	16 11 41.8	+0.1
MORC	Moravsky Berou	122.52	329	⇑PKIKP			PKiKP	16 01 46.5	+0.6
BZS	Buzias	122.53	323	⇑P			PKiKP	16 01 46.1	+0.1
BZS	Buzias	122.53	323	⇑P			PKKPbc	16 11 41.4	-0.1
BZS	Buzias	122.53	323	⇑PKIKP			PKiKP	16 01 46.1	+0.1
D60A	Saint Jean D'O baz=302	122.53	36	P				16 01 45.7	
VYHS	Vyhne	122.58	327	*e*PKIKP			PKiKP	16 01 46.1	+0.1
VYHS	Vyhne	122.58	327	*e*PKP			PKiKP	16 01 46.1	+0.1
G60A	Masonville baz=300	122.63	38	P				16 01 46.5	
I60A	Shoreham baz=298,SNR=12	122.64	40	P				16 01 46.5	
RUE	Ruedersdorf baz=48,slow=1.9	122.65	333	*e*PKPdf			PKiKP	16 01 46.4	+0.4
H60A	Morristown baz=299	122.67	39	P				16 01 46.1	
TIM	Timisoara	122.70	323	⇑P			PKiKP	16 01 48.0	+1.7
TIM	Timisoara	122.70	323	⇑PKIKP			PKiKP	16 01 48.0	+1.7
OSTC	Ostas	122.72	330	*e*PKPDF			PKiKP	16 01 47.6	+1.3
OSTC	comp=Z,1µm,20.0s				AMS	AMS		16 56 50.0	
KRLC	Kraliky comp=Z,900nm,17.2s	122.73	329	*e*PKIKP	MLR	MLR	PKiKP	16 01 47.2	+0.9
KRLC	Kraliky comp=Z,900nm,17.2s	122.73	329	*e*PKPDF	AMS	AMS	PKiKP	16 01 47.2	+0.9
SUR	Sutherland comp=Z,2µm,21.0s	122.75	226		IAMs_20	IAMs_20		16 47 24.1	
N60A	Cedar Hill Far baz=295	122.78	44	P				16 01 46.4	
O60A	Telford baz=294	122.80	44	P				16 01 46.4	
DPC	Dobruska-Polom comp=Z,1µm,19.9s	122.80	330	*e*PKIKP	MLR	MLR	PKiKP	16 01 47.3	+0.8
DPC	Dobruska-Polom comp=Z,1µm,19.9s	122.80	330	*e*PKPDF	AMS	AMS	PKiKP	16 01 47.3	+0.8
D61A	St Aubert, Com baz=303	122.80	35	P				16 01 46.5	
WUPA	West Chester U comp=Z,2µm,19.0s	122.81	45		IAMs_20	IAMs_20		16 54 41.7	
K60A	Five Rivers En baz=297	122.83	41	P				16 01 46.7	
J60A	Lant Hill Farm baz=298	122.84	40	P				16 01 46.7	
P60A	Greenville comp=Z,2µm,19.0s	122.84	45		IAMs_20	IAMs_20		16 54 31.5	
P60A	Greenville baz=294	122.84	45	P				16 01 46.6	
061Z	Ochoppi comp=Z,2µm,19.0s	122.85	62		IAMs_20	IAMs_20		16 51 20.1	
UPC	Upice comp=Z,1µm,18.2s	122.86	330	*e*PKIKP	MLR	MLR	PKiKP	16 01 47.4	+0.9
UPC	Upice comp=Z,1µm,18.2s	122.86	330	*e*PKPDF	AMS	AMS	PKiKP	16 01 47.4	+0.9
MDVR	Moldovita	122.89	322	⇑P			PKiKP	16 01 47.0	+0.2
MDVR	Moldovita	122.89	322	⇑P			PKKPbc	16 11 40.6	+0.5
L60A	Shokan baz=296	122.89	42	P				16 01 46.8	
M60A	Port Jervis baz=296	122.91	43	P				16 01 46.8	
SKMB	Sankelmark Bun baz=48,slow=1.9	122.91	337	*e*PKPdf			PKiKP	16 01 47.3	+0.8
VTS	Vitosha	122.95	319	⇑P			PKiKP	16 01 47.4	+0.3
VTS	Vitosha	122.95	319	⇑PKIKP			PKiKP	16 01 47.4	+0.3
F61A	St Evariste baz=302	122.99	37	P				16 01 46.9	
U60A	Pendleton baz=291	123.00	49	P				16 01 46.5	
JAVC	Velka Javorina	123.00	328	*e*PKP			PKiKP	16 01 48.3	+1.4
JAVC				*e*PP			PP	16 03 27.2	+1.8
JAVC				*e*PKKP			PKKPbc	16 11 40.3	+0.4
G61A	St-Isidore-de- baz=301	123.03	38	P				16 01 46.5	
E61A	Lac Etchemin baz=302	123.05	36	P				16 01 47.0	
T60A	Surry comp=Z,2µm,20.0s	123.08	48		IAMs_20	IAMs_20		16 54 44.9	
T60A	Surry baz=292	123.08	48	P				16 01 47.1	
060A	Indiantown comp=Z,2µm,18.0s	123.08	61		IAMs_20	IAMs_20		16 48 53.2	
BSEG	Bad Segeberg baz=48,slow=1.9	123.13	336	*e*PKPdf			PKiKP	16 01 47.4	+0.5
H61A	Lyndonville baz=300,SNR=7.2	123.16	38	P				16 01 47.5	
V60A	Jim Taylor Roa baz=290	123.17	50	P				16 01 47.3	
K61A	Williamstown baz=298,SNR=7.5	123.21	41	P				16 01 47.6	
VRAC	Vranov comp=Z,19nm,0.9s,baz=76,slow=1.7,SNR=20	123.30	329	PKP			PKPdf	16 01 47.1	-0.1
VRAC	Vranov	123.30	329	⇑P			PKiKP	16 01 48.2	+0.8
VRAC	Vranov	123.30	329	*e*PKP			PKiKP	16 01 47.8	+0.4
VRAC				*e*PP			PP	16 03 30.3	+2.9
VRAC				*e*PKKP			PKKPbc	16 11 38.0	-0.6
VRAC	Vranov	123.30	329	⇑PKIKP			PKiKP	16 01 48.2	+0.8
LBNH	Lisbon baz=300	123.31	39	P				16 01 47.9	
SMOL	Smolenice	123.33	327	*e*PKIKP			PKiKP	16 01 48.2	+0.7
SMOL	Smolenice	123.33	327	*e*PKP			PKiKP	16 01 48.2	+0.7
J61A	Chester baz=299,SNR=5.2	123.35	40	P				16 01 47.5	
N61A	South Mountain baz=296	123.38	43	P				16 01 47.7	
M61A	Granite Spring baz=296,SNR=6.2	123.49	43	P				16 01 48.1	
MODS	Modra-Piesok	123.50	327	*e*PKIKP			PKiKP	16 01 48.7	+0.8
MODS	Modra-Piesok	123.50	327	*e*PKP			PKiKP	16 01 48.7	+0.8
PAL	Palisades baz=296	123.53	43	P				16 01 48.1	
KRUC	Moravsky	123.55	328	*e*PKP			PKiKP	16 01 48.2	+0.3
KRUC				*e*PKKP			PKKPbc	16 11 36.9	-0.7
H62A	Milan baz=301	123.62	38	P				16 01 48.4	
BRG	Berggiesshubel comp=Z,80nm,1.1s	123.63	331	*i* PKP	Amp		PKiKP	16 01 48.6	+0.6
BRG								16 01 49.8	
BRG				*ex*		x		16 02 02.2	
BRG					Amp			16 02 03.8	
BRG	comp=Z,44nm,1.4s			PP		PP		16 03 23.3	-6.2
BRG					Amp			16 03 25.8	
BRG	comp=Z,21nm,1.4s Berggiesshubel baz=48,slow=1.9	123.63	331	*e*PKPdf			PKiKP	16 01 48.3	+0.3
G62A	West of Eustis baz=302	123.66	37	P				16 01 48.1	
L61B	Northampton baz=298	123.69	41	P				16 01 48.3	
ZST	Bratislava	123.69	327	*e*PKIKP			PKiKP	16 01 49.3	+1.1
ZST	Bratislava	123.69	327	*e*PKP			PKiKP	16 01 49.3	+1.1
CLL	Collm comp=Z,63nm,1.0s	123.79	332	*i* PKPdf			PKiKP	16 01 48.4	+0.1
CLL				*ep*PKPdf			pPKPdf	16 01 56.0	-1.2
CLL				*e*PP			PP	16 03 29.0	-1.5
CLL				*e*PKKPbc			PKKPbc	16 11 36.0	-0.7
CLL	comp=Z,10.0nm,1.3s			*ep*PKKPbc				16 11 44.0	
CLL				*e*PKKSbc		PKKSbc		16 15 24.0	-4.9
CLL					Lm	MLR		16 59 00.0	
CLL	comp=Z,1µm,18.7s Collm	123.79	332	*i* PKIKP			PKiKP	16 01 48.4	+0.1
CLL				*e*				16 01 56.0	
CLL	comp=Z,63nm,1.0s				pmax	pmax			
CLL					MLR	MLR			
CLL	comp=Z,1µm,18.7s Collm	123.79	332		IAMs_20	IAMs_20		16 59 20.4	
CLL	comp=Z,1µm,19.0s Collm baz=48,slow=1.9	123.79	332	*e*PKPdf			PKiKP	16 01 48.5	+0.2
GOPC	GO Pecny, Ondr	123.84	330	*e*PKIKP			PKiKP	16 01 49.1	+0.6
GOPC	comp=Z,1µm,20.5s				MLR	MLR			
GOPC	GO Pecny, Ondr comp=Z,1µm,20.5s	123.84	330	*e*PKPDF			PKiKP	16 01 49.1	+0.6
GOPC					AMS	AMS		16 56 00.0	
FRGS	Fruska Gora	123.85	323	⇑P			PKiKP	16 01 49.0	+0.3
FRGS	Fruska Gora	123.85	323	⇑*i*P			PKiKP	16 01 48.6	-0.1
I62A	Tamworth baz=300	123.86	39	P				16 01 48.7	
TREC	Trest comp=Z,1µm,19.7s	123.88	329	*e*PKIKP			PKiKP	16 01 49.2	+0.6
TREC					MLR	MLR			
TREC	Trest comp=Z,1µm,19.7s	123.88	329	*e*PKPDF			PKiKP	16 01 49.2	+0.6
TREC					AMS	AMS		16 58 50.0	
J62A	Henniker baz=299	123.88	40	P				16 01 48.5	
K62A	Royalston baz=299	123.88	41	P				16 01 48.8	
FBE	Freiberg baz=48,slow=1.9	123.88	332	*e*PKPdf			PKiKP	16 01 49.0	+0.5
FLTG	Flechtingen baz=48,slow=1.9	123.89	334	*e*PKPdf			PKiKP	16 01 48.9	+0.5
PRU	Pruhonice comp=Z,900nm,16.6s	123.92	330	*e*PKIKP	MLR	MLR	PKiKP	16 01 49.0	+0.4
PRU	Pruhonice comp=Z,900nm,16.6s	123.92	330	*e*PKPDF	AMS	AMS	PKiKP	16 01 49.0	+0.4
PRU								16 58 20.0	
PRA	Prague comp=Z,900nm,18.7s	123.92	330	AMS		AMS		16 59 00.0	
SANT	Santorini	123.97	311	⇓P			PKPdf	16 01 48.2	-0.7
MORH	Mrgy, Hungar	123.97	325	⇑P			PKiKP	16 01 49.2	+0.4
MORH	Mrgy, Hungar	123.97	325	⇓P			PKKPab	16 11 35.9	+1.6
MORH	Mrgy, Hungar	123.97	325	⇑*i*P			PKiKP	16 01 48.7	-0.1
VAY	Valandovo	123.98	318	*i* P			PKPdf	16 01 48.0	-0.7
STIP	Stip	124.07	318	*i* P			PKPdf	16 01 47.5	-1.4
D63A	Stockholm baz=305	124.07	34	P				16 01 48.9	
I63A	Otisfield baz=301	124.24	38	P				16 01 49.5	
E63A	Oxbow baz=304	124.25	35	P				16 01 49.2	
F63A	Nahmakanta, Br baz=303	124.25	36	P				16 01 49.3	
H63A	New Sharon baz=302	124.26	37	P				16 01 49.3	
NRDL	Niedersach Rie baz=48,slow=1.9	124.26	335	*e*PKPdf			PKiKP	16 01 49.7	+0.6
G63A	Kingsbury baz=302	124.27	37	P				16 01 49.6	
ASSE	Asse, Remlinge baz=48,slow=1.9	124.27	334	*e*PKPdf			PKiKP	16 01 49.6	+0.4
DIVS	Divibare	124.29	322	⇑*i*P			PKiKP	16 01 49.7	0.0
J63A	Strafford baz=300	124.32	39	P				16 01 49.6	
K63A	Dunstable baz=299	124.33	40	P				16 01 49.6	
TEKS	Tekeris	124.34	322	⇑*i*P			PKiKP	16 01 49.9	+0.2
PKME	Peaks-Kenny Pk baz=303,SNR=5.1	124.38	37	P				16 01 49.8	
HRV	Adam Dziewonsk baz=299	124.40	40	P				16 01 49.3	
NEUB	Neuenburg baz=48,slow=1.9	124.42	333	*e*PKPdf			PKiKP	16 01 49.7	+0.1
SKO	Skopje	124.43	319	*i* P			PKiKP	16 01 49.8	-0.1
CONA	Conrad Observa comp=Z,62nm,1.6s,SNR=28	124.52	328	*i* P			PKiKP	16 01 50.2	+0.2
E64A	Bridgewater baz=305	124.58	35	P				16 01 49.4	
F64A	Sherman comp=Z,2µm,19.0s	124.60	35		IAMs_20	IAMs_20		17 03 11.2	
F64A	Sherman baz=304	124.60	35	P				16 01 49.5	
M63A	Gales Ferry baz=298	124.60	42	P				16 01 49.4	
CLZ	Clausthal baz=48,slow=1.9	124.61	334	*e*PKPdf			PKiKP	16 01 50.5	+0.5
TANN	Tannenbergstha baz=48,slow=1.9	124.64	332	*e*PKPdf			PKiKP	16 01 50.3	+0.1
TANN				*e*PP			PP	16 03 38.4	+2.1
L63A	North Scituate baz=299	124.67	41	P				16 01 50.7	
G64A	Maxfield baz=303	124.70	36	P				16 01 50.0	
GUNZ	Gunzen baz=48,slow=1.9	124.74	332	*e*PKPdf			PKiKP	16 01 50.6	+0.3
GUNZ				*e*PP			PP	16 03 39.3	+2.3
PLN	Plauen baz=48,slow=1.9	124.74	332	*e*PKPdf			PKiKP	16 01 50.4	+0.1
H64A	Troy baz=303	124.76	37	P				16 01 50.2	
WERN	Wernitzgruen baz=48,slow=1.9	124.77	332	*e*PKPdf			PKiKP	16 01 50.6	+0.3
NKC	Novy Kostel comp=Z,1µm,22.1s	124.77	331	*e*PKIKP	MLR	MLR	PKiKP	16 01 50.9	+0.6
NKC	Novy Kostel comp=Z,1µm,22.1s	124.77	331	*e*PKPDF	AMS	AMS	PKiKP	16 01 50.9	+0.6
NKC								16 57 00.0	
BBLS	Lazići	124.78	322	⇑*i*P			PKiKP	16 01 50.8	+0.2
CKRC	Cesky Krumlov	124.78	329	*e*PKPDF			PKiKP	16 01 51.2	+0.8
CKRC	comp=Z,1µm,22.6s				AMS	AMS		17 02 20.0	
IDI	Anoyia comp=Z,50nm,1.1s,baz=167,slow=7.3,SNR=7.0	124.79	310	PKP			PKiKP	16 01 50.9	0.0
MOX	Moxa baz=48,slow=1.9	124.89	332	*e*PKPdf			PKiKP	16 01 50.6	+0.1
MOX	baz=44,slow=7.2			*e*PP			PP	16 03 39.3	+1.5
MOX	comp=Z,992nm,20.3s			*e*L		L		17 00 10.3	
LCO	Las Campanas	124.89	130	PKIKP			PKiKP	16 01 52.1	+0.5
LCO	Las Campanas	124.89	130	PKPdf			PKiKP	16 01 52.0	+0.5
BEHE	Becsehely	124.89	326	⇑*i*P			PKiKP	16 01 53.3	+2.7
I64A	Boothbay baz=302	124.89	38	P				16 01 50.2	
HAPS	Han Pijesak,Bl	124.94	322	⇑*i*P			PKPdf	16 01 50.5	-0.1
KHC	Kasperske Hory	124.95	330	*e*PKIKP			PKiKP	16 01 51.4	+0.7
KHC				*e*				16 01 57.5	
KHC	comp=Z,1µm,19.2s				MLR	MLR			
KHC	Kasperske Hory comp=Z,1µm,19.2s	124.95	330	*e*PKPDF			PKiKP	16 01 51.4	+0.7
KHC				*ep*PKP			pPKPdf	16 01 57.5	-2.1
KHC				*e*PKKP			PKKPbc	16 11 31.5	-0.6
KHC					AMS	AMS		16 58 30.0	
KHC	Kasperske Hory comp=Z,1µm,22.0s	124.95	330		IAMs_20	IAMs_20		16 57 05.4	
GTTG	Gottingen baz=48,slow=1.9	125.00	334	*e*PKPdf			PKiKP	16 01 51.1	+0.4
DRUM	Mains of Drumt	125.01	345	*e*P			PKPdf	16 01 50.3	+0.1
GEC2	GERESS Array S comp=Z,1µm,20.0s	125.07	330		IAMs_20	IAMs_20		16 58 43.7	
GEC2	GERESS Array S baz=48,slow=1.9	125.07	330	*e*PKPdf			PKiKP	16 01 51.0	-0.1
GERES	GERESS Array B comp=Z,32nm,0.9s,baz=73,slow=1.8,SNR=143	125.07	330	PKP			PKiKP	16 01 51.5	+0.5
GERES					PKKPbc		PKKPbc	16 11 31.3	-0.4
GERES	comp=Z,1.1nm,0.7s,baz=183,slow=2.3,SNR=7.2 GERESS Array B	125.07	330	PKIKP			PKiKP	16 01 51.7	+0.6
GERES	GERESS Array B	125.07	330	PKPdf			PKiKP	16 01 51.7	+0.6
M64A	Tiverton baz=299	125.08	41	P				16 01 50.6	
MANZ	Manzenberg baz=48,slow=1.9	125.10	331	*e*PKPdf			PKiKP	16 01 51.2	+0.2
ARSA	Arzberg comp=Z,21nm,1.1s,SNR=8.7	125.11	327	*i* P			PKiKP	16 01 51.0	-0.2
L64A	Middleborough baz=300	125.14	41	P				16 01 50.6	
KAC	Achnashellach	125.16	347	*e*P			PKiKP	16 01 51.3	+0.5
ROTZ	Rotzenmuhle baz=48,slow=1.9	125.20	331	*e*PKPdf			PKiKP	16 01 51.3	+0.1
AZU	Azuero	125.24	84	*e*P			PKPdf	16 01 51.9	0.0
OHR	Ohrid	125.26	318	*i* P			PKPdf	16 01 51.3	0.0

KALN Kalnik 125.27 325 *i* P PKiKP 16 01 51.3 -0.1
WET Wettzell 125.29 330 *e*PKPdf PKiKP 16 01 51.6 +0.2
baz=48,slow=1.9
H65A Eastbrook 125.31 37 P 16 01 51.3
baz=304,SNR=5.4
IBBN Ibbenburen 125.38 336 *e*PKPdf PKiKP 16 01 51.8 +0.4
baz=48,slow=1.9
KPL Plockton 125.39 347 *e*P PKiKP 16 01 51.3 0.0
MOA Molln 125.41 328 *i* P PKiKP 16 01 51.6 -0.1
comp=Z,19nm,0.9s,SNR=11
G65A Princeton 125.43 36 P 16 01 51.5
baz=305,SNR=8.5
UPM Unac-Piva 125.43 321 *e*P PKPdf 16 01 51.1 -0.6
UBBA Unterbreizbach 125.50 333 *e*PKPdf PKiKP 16 01 51.9 +0.3
baz=48,slow=1.9
PDG Podgorica 125.61 320 ⇓P PKiKP 16 01 52.2 0.0
PDG Podgorica 125.61 320 ⇑*i*P PKPdf 16 01 51.6 -0.2
BLY Banja Luka 125.64 324 ⇑*i*P PKiKP 16 01 52.2 0.0
MRAK Mrakovica 125.66 324 *e*P PKiKP 16 01 55.9 +3.6
BCIP Isla Barro Col 125.67 82 ⇓*e*P PKPdf 16 01 52.0 -0.7
PTJ Puntijarka 125.67 326 P PKiKP 16 01 52.4 0.0
PERS Pernice 125.71 327 *i* PKPdf PKPdf 16 01 52.0 0.0
GRA1 Grafenberg Arr 125.72 332 IAMs_20 IAMs_20 17 00 25.6
comp=Z,1μm,20.0s
GRF Grafenberg Arr 125.72 332 *e*PKPdf PKiKP 16 01 52.3 0.0
baz=48,slow=1.9
GRF *e*PP PP 16 03 46.8 +3.3
baz=44,slow=7.2
GRF *e*L L 17 00 36.7
comp=Z,1μm,20.7s
GRFO Grafenberg 125.72 332 IAMs_20 IAMs_20 17 00 25.6
comp=Z,1μm,20.0s
SOKA Soboth 125.73 327 *i* P PKPdf 16 01 52.0 -0.1
comp=Z,48nm,1.1s,SNR=30
DRME Dracevica, Mon 125.78 320 ⇑*i*P PKPdf 16 01 52.2 0.0
H66A Whiting 125.81 36 P 16 01 52.1
baz=305
BRY Bratogost 125.82 321 *e*P PKPdf 16 01 52.0 -0.4
INVG Invergeldie, C 125.83 346 *e*P PKPdf 16 01 51.7 -0.1
MGRS Mrkonjic Grad 125.88 323 *e*P PKiKP 16 01 53.1 +0.4
KASTN Kahler Asten 125.92 335 *e*PKPdf PKiKP 16 01 52.8 +0.2
baz=48,slow=1.9
ESY Stoneypath 125.92 344 *e*P PKiKP 16 01 52.8 +0.4
CRES Cresnjev 126.01 326 ⇑*i*P PKiKP 16 01 52.9 0.0
TREB Trebinje 126.04 321 *e*P PKPdf 16 01 52.6 0.0
NNA Nana 126.04 108 *i* PKiKP PKPdf 16 01 52.4 -1.1
HCY Herceg Novi 126.09 321 *e*P PKPdf 16 01 52.3 -0.4
OBKA Obir 126.10 327 *i* P PKiKP 16 01 53.0 -0.1
comp=Z,29nm,1.5s,SNR=12
EBL Broad Law 126.16 345 *e*P PKiKP 16 01 52.7 -0.2
BUG Bochum--Univer 126.22 335 *e*PP PP 16 03 49.3 +2.7
baz=44,slow=7.2
RJOB Jochberg 126.25 329 *e*PKPdf PKPdf 16 01 53.1 +0.2
baz=48,slow=1.9
LAWE Loch Awe, Argy 126.31 346 *e*P PKPdf 16 01 52.8 +0.1
BOJS Bojanci 126.31 325 *i* PKPdf PKiKP 16 01 53.7 +0.2
RICI Ricice 126.37 322 P PKPdf 16 01 53.4 +0.1
KBA Koelnbreinsper 126.39 328 *i* P PKPdf 16 01 53.1 -0.3
comp=Z,53nm,1.2s,SNR=28
LJU Ljubljana 126.39 326 *i* PKPdf PKiKP 16 01 53.8 +0.1
LJU Ljubljana 126.39 326 ⇑*i*P PKiKP 16 01 53.6 -0.1
PGBU Glenifferbraes 126.50 346 *e*P PKiKP 16 01 53.4 -0.1
MYKA Terra Mystica 126.51 327 *i* P PKPdf 16 01 53.5 0.0
comp=Z,37nm,1.5s,SNR=14
KIJV Kijevo 126.52 323 *i* P PKPdf 16 01 53.7 +0.2
MILB Miltenberg 126.52 333 *e*PKPdf PKiKP 16 01 53.9 +0.1
baz=48,slow=1.9
TUMC Tumaco 126.52 91 *e*P PKPdf 16 01 52.0 -2.4
MAKA Makarska 126.55 322 *i* P PKPdf 16 01 53.3 -0.3
EKA Eskdalemuir Ar 126.58 344 PP PP 16 03 50.4 +1.6
comp=Z,6.6nm,1.0s,baz=30,slow=6.8,SNR=3.7
ESK Eskdalemuir 126.61 345 *e*P PKPdf 16 01 53.2 -0.1
TNS Taunus Mts 126.62 334 *e*PKPdf PKiKP 16 01 54.1 +0.1
baz=48,slow=1.9
CEY Cerknica 126.64 326 ⇑*i*P PKPdf 16 01 53.9 +0.2
OTAV Otavalo 126.66 93 IAMs_20 IAMs_20 16 46 29.6
comp=Z,1μm,18.0s
OTAV Otavalo 126.66 93 ⇑*i*P PKPdf 16 01 54.5 -0.7
OTAV Otavalo 126.66 93 *e*P PKPdf 16 01 55.4 +0.2
EDMD Edmundbyers 126.70 343 *e*P PKiKP 16 01 53.6 0.0
GDLE Glaisdale, N Y 126.72 342 *e*P PKiKP 16 01 53.9 -0.1
FUR Furstenfeldbru 126.73 330 *e*PKPdf PKiKP 16 01 54.2 -0.1
baz=48,slow=1.9
ROBS Robic 126.83 327 *i* PKPdf PKPdf 16 01 53.8 -0.2
AHRW Bad Neuenahr-A 126.98 335 *e*PKPdf PKiKP 16 01 54.9 +0.3
baz=48,slow=1.9
MORI Morici 127.01 324 *i* P PKPdf 16 01 54.6 +0.2
ABTA Abfaltersbach 127.04 328 *i* P PKiKP 16 01 54.8 -0.3
comp=Z,82nm,1.1s,SNR=36
NEWG New Galloway 127.06 345 *e*P PKiKP 16 01 54.5 -0.2
NVLJ Novalja 127.09 325 *i* P PKiKP 16 01 55.1 0.0
WATA Walderalm 127.14 329 *i* P PKPdf 16 01 55.0 +0.2
comp=Z,88nm,1.1s,SNR=27
WTTA Wattenberg 127.15 329 *i* P PKiKP 16 01 55.2 -0.2
comp=Z,145nm,1.1s,SNR=44
KESW Keswick, Cumbr 127.23 344 *e*P PKiKP 16 01 55.0 -0.1
MTDJ Mount Denham 127.23 71 IAMs_20 IAMs_20 16 45 25.9
comp=Z,2μm,20.0s
STU Stuttgart 127.32 332 *e*PKPdf PKiKP 16 01 55.4 -0.1
baz=48,slow=1.9
DUGI Dugi Otok 127.32 324 *i* P PKPdf 16 01 55.0 -0.1
BTNL Ternell 127.34 335 *d*PKP PKiKP 16 01 55.4 0.0
BEBN Eben Emael 127.37 336 *d*PKP PKiKP 16 01 56.2 +0.8
MOTA Moosalm 127.37 330 *i* P PKPdf 16 01 55.5 +0.2
comp=Z,107nm,1.0s,SNR=31
MEM Membach 127.38 335 *d*PKP PKiKP 16 01 56.0 +0.6
SQTA Sankt Quirin 127.40 329 *i* P PKiKP 16 01 55.8 0.0
comp=Z,93nm,1.1s,SNR=26
GAL1 Galloway 127.41 345 *e*P PKPdf 16 01 54.7 -0.2
RETA Reutte 127.45 330 *i* P PKiKP 16 01 55.8 -0.1
comp=Z,43nm,1.0s,SNR=12
CLGH Cloghs, Cushen 127.55 346 *e*P PKPdf 16 01 55.4 +0.2
BHOU Houvegnez 127.57 335 *d*PKP PKiKP 16 01 56.4 +0.5
BSTI Sart Tilman 127.58 336 *d*PKP PKiKP 16 01 56.6 +0.7
UBR Ueberruh 127.64 330 *e*PKPdf PKPdf 16 01 55.7 +0.1
baz=48,slow=1.9
FETA Feichten 127.78 329 *i* P PKiKP 16 01 57.1 +0.5
comp=Z,111nm,1.1s,SNR=38
BCLA Clavier 127.81 336 *d*PKP PKiKP 16 01 56.5 +0.1
UCC Uccle 127.90 337 *d*PKP PKiKP 16 01 56.9 +0.4
BGES Gesves 127.93 336 *d*PKP PKiKP 16 01 56.7 +0.2
CTI Castel Tesino 127.94 328 IAMs_20 IAMs_20 16 59 10.9
comp=Z,2μm,22.0s
BBAC Balboa, Cauca 128.01 91 ⇑*e*P PKiKP 16 01 58.0 -0.1
DAVA Damuels 128.02 330 *i* P PKiKP 16 01 57.0 0.0
comp=Z,66nm,1.0s,SNR=16
WLF Walferdange 128.03 335 *d*PKP PKiKP 16 01 57.5 +0.7
WLF Walferdange 128.03 335 IAMs_20 IAMs_20 16 59 12.2
comp=Z,1μm,21.0s
WLF Walferdange 128.03 335 *e*PKPdf PKiKP 16 01 57.5 +0.7
baz=48,slow=1.9
BFO Black Forest 128.04 332 *e*PKPdf PKPdf 16 01 56.5 +0.1
baz=48,slow=1.9
BFO *e*PP PP 16 04 02.5 +3.7
baz=44,slow=7.2
RCHB Rochefort 128.04 336 *d*PKP PKiKP 16 01 57.4 +0.6
SOLC Bahia Solano 128.06 86 *e*P PKPdf 16 01 57.2 -0.1
PIZC Pizarro, Choco 128.07 87 *e*P PKiKP 16 01 58.1 +0.2
BMRD Maredsous 128.12 336 *d*PKP PKiKP 16 01 57.1 +0.1
SNF Seneffe 128.16 336 *d*PKP PKiKP 16 01 57.7 +0.7
MATE Matera 128.18 320 ⇑P PKPdf 16 01 57.0 +0.3
DOU Dourbes 128.35 336 *d*PKP PKiKP 16 01 57.5 +0.1
DAVOX Davos/Dischmat 128.37 330 PKP PKiKP 16 01 58.0 +0.1
comp=Z,58nm,0.9s,baz=317,slow=0.2,SNR=54
DAVOX Davos/Dischmat 128.37 330 PKiKP PKiKP 16 01 58.0 +0.1
ILTH Belurgan, Co L 128.57 346 *e*P PKPdf 16 01 57.2 +0.1
POPC Popayan, Colom 128.62 91 ⇑*i*P PKPdf 16 01 58.9 +0.2
SOTA Rioblanco 128.66 91 ⇑*i*P PKiKP 16 01 59.7 0.0
TUE Stuetta 128.85 330 IAMs_20 IAMs_20 17 01 03.5
comp=Z,2μm,20.0s
PCON Cinco Dias 128.88 91 ⇑*i*P PKiKP 16 02 00.6 +0.4
TIP Timpagrande 128.91 318 ⇑P PKiKP 16 01 59.5 +0.5
YOTC Yotoco, Valle 129.04 89 ⇑*i*P PKPdf 16 01 59.3 -0.1
PLMC San Jos del P 129.14 88 ⇑*i*P PKPdf 16 01 58.3 -1.2
GTBY Guantanamo Bay 129.23 68 IAMs_20 IAMs_20 16 46 56.6
comp=Z,2μm,20.0s
DBBC Dabeiba 129.26 85 *e*P PKiKP 16 02 00.3 -0.1
AQU L'Aquila 129.26 323 ⇑*i*P PKPdf 16 01 59.2 +0.3
LVC Limon Verde 129.36 124 *e*P PKiKP 16 02 00.8 0.0
MARP Paez Belalcaza 129.36 90 ⇑*e*P PKiKP 16 02 12.8 +12
CBOC Ciudad Bolivar 129.44 86 *e*P PKiKP 16 02 00.8 -0.1
GARC Garzon, Huila 129.77 91 ⇑*e*P PKPdf 16 02 01.1 +0.2
MOTC Monteria, Cord 129.79 83 ⇑*i*P PKiKP 16 02 01.0 -0.4
VLC Villacollemand 129.86 327 IAMs_20 IAMs_20 17 03 46.7
comp=Z,1μm,19.0s
BETC Betania 129.86 91 ⇑*e*P PKiKP 16 02 01.5 -0.1
HELC Santa Helena 129.93 86 ⇑*i*P PKPdf 16 02 01.6 +0.3
UREC San Jos de Ur 129.94 84 *e*P PKPdf 16 01 58.6 -2.3
ANIL Santa Ana 130.00 88 ⇑*e*P PKPdf 16 02 01.8 +0.4
GUY2C Guyana, Caldas 130.07 87 ⇑*i*P PKiKP 16 02 02.2 -0.3
RREF El Recreo 130.07 88 ⇑*i*P PKiKP 16 02 03.4 +0.7
TOLC Tolima 130.09 88 ⇑*e*P PKiKP 16 02 02.3 -0.1
ORTC Ortega, Tolima 130.13 89 ⇑*i*P PKPdf 16 02 01.4 +0.1
SJCC San Jacinto, C 130.24 81 ⇑*i*P PKiKP 16 02 02.4 +0.1
PRAC Prado 130.48 89 ⇑*i*P PKiKP 16 02 02.5 -0.3
NORC Norcasia 130.57 87 ⇑*e*P PKPdf 16 02 01.8 -0.3
ZARC Zaragoza, Cauc 130.61 84 ⇑*i*P PKPdf 16 02 02.2 0.0
LPL La Plagne 130.82 331 *e*PKiKP PKiKP 16 02 02.8 0.0
LPL pmax pmax
comp=Z,23nm,1.1s
CLF Chambon-Foret 130.93 336 IAMs_20 IAMs_20 17 02 00.6
comp=Z,2μm,21.0s
PTBC PUERTO BERRIO 131.00 86 *e*P PKPdf 16 02 02.6 -0.3
CZSB Cruzeiro do Su 131.03 105 *e*P PKiKP 16 02 03.6 -0.3
ROSC El Rosal 131.09 88 PKP PKiKP 16 02 05.0 +0.5
comp=Z,57nm,0.9s,baz=165,slow=2.6,SNR=21
ROSC El Rosal 131.09 88 IAMs_20 IAMs_20 16 47 51.1
comp=Z,1μm,18.0s
ROSC El Rosal 131.09 88 ⇑*i*P PKiKP 16 02 04.2 -0.3
SSF Saint Saulge 131.16 334 *e*PKiKP PKiKP 16 02 03.1 -0.1
SSF pmax pmax
comp=Z,83nm,1.3s
BNI Bardonecchia 131.18 330 IAMs_20 IAMs_20 17 09 00.3
comp=Z,1μm,20.0s
SPBC San Pablo de B 131.37 87 ⇑*i*P PKPdf 16 02 03.7 0.0
MACC Macarena, Meta 131.41 91 ⇑*e*P PKPdf 16 02 03.3 -0.4
TSUM Tsumeb 131.58 239 IAMs_20 IAMs_20 16 55 47.7
comp=Z,2μm,21.0s
BRRC Barranca, Sant 131.74 85 *e*P PKPdf 16 02 04.8 +0.5
BARC Barichara 132.27 85 *e*P PKPdf 16 02 04.7 -0.9
RUSC La Rusia 132.35 86 ⇑*i*P PKPdf 16 02 06.3 +0.3
CRJC Cerrejon, Guaj 132.45 80 *e*P PKiKP 16 02 06.2 -0.5
LPAZ La Paz 132.68 117 PKhKP PKPpre 16 01 56.0
comp=Z,3.6nm,0.7s,baz=334,slow=3.5,SNR=4.3
LPAZ PKP PKiKP 16 02 08.1 +0.2
comp=Z,16nm,0.7s,baz=317,slow=1.6,SNR=37
LPAZ La Paz 132.68 117 ⇑*i*P PKiKP 16 02 07.9 0.0
LPAZ La Paz 132.68 117 *e*P PKPdf 16 02 06.7 0.0
PAMC Pamplona, Colo 132.75 84 *e*P PKPdf 16 02 05.9 -0.9
SDDR Presa de Saban 132.95 69 IAMs_20 IAMs_20 16 58 57.2
comp=Z,1μm,19.0s
SDDR Presa de Saban 132.95 69 ⇑*i*P PKPdf 16 02 06.4 -0.1
PTGC Puerto Gaitan, 133.25 89 *e*P PKPdf 16 02 04.7 -2.4
TAMC Tame, Arauca 133.65 86 *e*P PKPdf 16 02 07.1 -0.9
LFF La Frestale 134.02 334 *e*PKiKP PKPdf 16 02 08.1 +0.4
LFF pmax pmax
comp=Z,46nm,1.4s
ITQB Itaqui 134.37 141 *e*P PKPdf 16 02 09.4 +0.6
PLTB Pedras Altas 134.69 145 *e*P PKiKP 16 02 10.2 -0.6
SDV Santo Domingo 134.76 82 IAMs_20 IAMs_20 16 52 39.2
comp=Z,1μm,20.0s
KEST Kesra 135.72 319 PKP PKPdf 16 02 11.9 +0.6
comp=Z,28nm,1.0s,baz=231,slow=4.1,SNR=11
CPSB Capivara Do Su 135.79 144 *e*P PKiKP 16 02 12.4 -0.7
CPUP Villa Florida 136.13 137 PKP PKiKP 16 02 13.6 -0.3
comp=Z,36nm,0.9s,baz=269,slow=1.9,SNR=18
CPUP Villa Florida 136.13 137 *e*P PKPdf 16 02 13.0 +0.8
ETMB Extrema 136.66 110 *e*P PKPdf 16 02 13.6 +0.1
SJG San Juan 137.89 68 IAMs_20 IAMs_20 17 01 37.2
comp=Z,1μm,19.0s
SJG San Juan 137.89 68 ⇑*e*P PKPdf 16 02 15.3 -0.3
ITAB Concordia 138.88 142 *e*P PKPdf 16 02 18.2 +0.9
PBRG Braganca 139.63 339 *e*PKPdf PKPdf 16 02 14.7 -3.6
TER01 Tubaro-SC 139.65 147 *e*P PKPdf 16 02 19.7 +1.0
SAML Samuel 139.77 110 ⇑*i*P PKPdf 16 02 19.8 +0.6
SAML Samuel 139.77 110 *e*P PKPdf 16 02 19.8 +0.6
PCAV Caieiera, Arco 140.03 340 *e*PKPdf PKPdf 16 02 19.4 -2.7
PCAB Cabril 140.17 340 *e*PKPdf PKiKP 16 02 20.6 -1.1
MVO Moncorvo 140.29 338 *e*PKPdf PKPdf 16 02 18.2 -1.3
ES17 SONSECA Array 140.31 334 IAMs_20 IAMs_20 17 10 29.1
comp=Z,949nm,21.0s
ES06 SONSECA Array 140.32 334 IAMs_20 IAMs_20 17 02 15.4
comp=Z,842nm,20.0s
ES01 SONSECA Array 140.32 334 IAMs_20 IAMs_20 17 02 15.5
comp=Z,919nm,20.0s
ESDC Sonseca Array 140.32 334 PKhKP PKPpre 16 02 12.9
comp=Z,4.6nm,0.9s,baz=19,slow=3.2,SNR=11
ESDC PP PP 16 05 14.7 -2.1
comp=Z,2.6nm,0.9s,baz=11,slow=6.3,SNR=4.2
POLO Lamas de Olo 140.39 339 *e*PKPdf PKiKP 16 02 21.4 -0.9
PTGB Pitanga 140.72 140 *e*P PKPdf 16 02 21.4 +0.6
PVIS Viseu 141.00 339 *e*PKPdf PKPdf 16 02 21.0 +0.2
MTE Manteigas 141.15 338 *e*PKPdf PKPdf 16 02 21.4 +0.3
MTE Manteigas 141.15 338 *e*PP PP 16 05 23.9 +2.1
SKI Saint Kitts 141.24 68 IAMs_20 IAMs_20 17 11 22.8
comp=Z,1μm,21.0s
PCBR Castelo Branco 141.62 338 *e*PKPdf PKPdf 16 02 16.3 -5.5
PMRV Marv??o 141.94 337 *e*PKPdf PKPdf 16 02 18.1 -4.4
PMRV Marv??o 141.94 337 *e*LR LR 16 56 44.9
comp=Z,742nm,20.0s
TIJ01 Guuvi-PR 142.18 143 *e*P PKPdf 16 02 23.9 +0.5
PMTG Montargil 142.57 338 *e*PKPdf PKPdf 16 02 19.8 -3.8
PBAR Barrancos 142.88 336 *e*PKPdf PKPdf 16 02 21.1 -3.1
DLPL La Plaine 143.09 71 IAMs_20 IAMs_20 17 02 48.2
comp=Z,953nm,18.0s
LIS Lisbon 143.22 339 *e*PKPdf PKPdf 16 02 23.4 -1.4
LIS AMS AMS 17 04 12.0
comp=N,798nm,28.8s
LIS Lisbon 143.22 339 *e*PKiKP PKPdf 16 02 23.3 -1.4
PP1B Ponte de Pedra 143.23 128 *e*P PKPdf 16 02 24.1 -1.2
GRGR Grenville 143.28 76 IAMs_20 IAMs_20 17 12 12.6
comp=Z,945nm,20.0s
FDF Fort de France 143.31 72 IAMs_20 IAMs_20 17 00 18.1
comp=Z,1μm,18.0s
PBEJ Beja 143.34 337 *e*PKPdf PKPbc 16 02 23.2 +1.2
PCMB Pacaembu 143.40 137 *e*P PKPbc 16 02 23.0 +0.3
PNCL Nicolau / Gran 143.52 338 *e*PKPdf PKPbc 16 02 23.5 +1.0
MESJ Messejana 143.64 337 *e*PKPdf PKPbc 16 02 24.0 +1.1
MESJ AMS AMS 17 06 11.2
comp=Z,544nm,24.1s
MESJ Messejana 143.64 337 *e*PKiKP PKPbc 16 02 23.9 +1.0
MESJ Messejana 143.64 337 *e*PKPdf PKPbc 16 02 24.0 +1.1
MESJ Messejana 143.64 337 *e*PP PP 16 05 36.0 -0.8
MCLT Moule a Chique 143.71 73 IAMs_20 IAMs_20 16 55 29.0
comp=Z,1μm,20.0s
PCVE Castro Verde 143.75 337 *e*PKPdf PKPdf 16 02 24.6 -1.1
PVAQ Vaqueiros 143.82 336 *e*PKPdf PKPdf 16 02 25.1 -0.8
PVAQ Vaqueiros 143.82 336 *e*LR LR 16 57 06.2
comp=Z,1μm,20.0s
PVAQ Vaqueiros 143.82 336 PKPdf 16 02 25.0 -0.8
SFS San Fernando 143.97 333 IAMs_20 IAMs_20 17 01 42.1
comp=Z,1μm,21.0s
PET01 Itanhaem-SP 143.98 144 *e*P PKPbc 16 02 25.0 +0.7
PBDV Barranco-do-Ve 144.04 336 *e*PKPdf PKPbc 16 02 25.1 +0.9
PTEO Sao Teotonio 144.09 337 *e*PKPdf PKPdf 16 02 25.3 -1.0
MORF Marmelete 144.27 337 *e*PKPdf PKPbc 16 02 25.2 +0.3
MORF AMS AMS 17 05 01.1
comp=Z,703nm,20.8s
MORF Marmelete 144.27 337 *e*PKiKP PKPbc 16 02 25.1 +0.2
MORF Marmelete 144.27 337 *e*PKPdf PKPdf 16 02 26.8 +0.1
SPB Sao Paulo 144.42 143 IAMs_20 IAMs_20 17 06 12.8
comp=Z,996nm,20.0s
SPB Sao Paulo 144.42 143 *e*P PKPdf 16 02 26.9 -0.4
PFVI Vila Bisbo 144.49 337 *e*PKPdf PKPbc 16 02 26.0 +0.5
BOAV Boa Vista 144.70 93 *e*P PKPab 16 02 25.6 -1.1
H07N1 FLORES T-PHASB 144.87 8 *e*PKP PKPab 16 02 26.0 -0.6
PTGA Pitinga 144.87 98 PKPdf 16 02 28.2 -0.1
PTGA IAMs_20 IAMs_20 16 59 15.2
comp=Z,933nm,19.0s
PTGA Pitinga 144.87 98 *e*P PKPbc 16 02 27.8 +0.4
VAO Valinhos 145.15 143 *e*P PKPab 16 02 28.4 +0.2
H07S1 FLORES T-PHASB 145.16 8 *e*PKP PKPbc 16 02 26.6 -1.1
ITRB Iturama 145.30 135 *e*P PKPdf 16 02 28.9 0.0
TAM Tamanrasset 145.32 304 PKiKP PKPdf 16 02 30.4 +1.3
TAM Tamanrasset 145.32 304 PKPdf 16 02 30.4 +1.3
BB19B Bebedouro 145.60 139 *e*P PKPab 16 02 30.0 +0.1
PARB Paraibuna 145.67 145 *e*P PKPbc 16 02 29.9 +0.1
CLDB Colider 145.82 117 *e*P PKPbc 16 02 30.2 -0.2
SRBC Serra Branca 145.83 4 *e*PKP PKPdf 16 02 26.6 -2.7
PGRA Graciosa 145.84 4 *e*PKP PKPdf 16 02 26.7 -2.6
MDT Midelt 146.13 328 PKPbc PKPab 16 02 31.9 +0.2
comp=Z,78nm,0.9s,baz=61,slow=2.1,SNR=72
ROSA Rosais 146.13 4 *e*PKP PKPdf 16 02 28.4 -1.4
PAGU Agualva, Azore 146.15 3 *e*PKP PKPdf 16 02 27.6 -2.2
PCED Cedros 146.19 5 *e*PKP PKPdf 16 02 28.4 -1.5
PMAN Manadas 146.23 4 *e*PKP PKPdf 16 02 28.0 -1.9
CALA Caldeira 146.23 5 *e*PKP PKPdf 16 02 27.9 -2.2
ADH Angra Heroismo 146.26 3 *e*PKP PKPdf 16 02 28.2 -1.8
PICO Pico 146.34 5 *e*PKP PKPdf 16 02 28.8 -1.4
PCAN Candelaria 146.37 5 *e*PKP PKPdf 16 02 29.5 -0.7
PID Ribeirinha 146.42 4 *e*PKP PKPdf 16 02 28.3 -2.0
ESAR Angra dos Reis 146.58 147 *e*P PKPdf 16 02 31.4 +0.5
ARAG Araguaiana, MT 146.71 128 *e*P PKPdf 16 02 31.8 +0.4
MAN01 Angra dos Reis 146.96 147 *e*P PKPdf 16 02 32.4 +0.6
PSET Sete Cidades 147.14 1 *e*PKP PKPdf 16 02 29.2 -2.3
BART Pico Bartolome 147.19 360 *e*PKP PKPdf 16 02 28.6 -3.1
NPGB Novo Progresso 147.71 111 *e*P PKPdf 16 02 33.5 +0.3
VAS01 Vassouras-RJ 147.71 147 *e*P PKPdf 16 02 33.5 +0.5
IPMB Ipameri, GO 147.96 136 *e*P PKPdf 16 02 34.2 +0.8
PSMN Pico do Norte, 147.96 360 *e*PKP PKPdf 16 02 31.9 -1.0
PSMA Santa Maria 147.97 360 *e*PKP PKPdf 16 02 31.3 -1.6
BSCB Bom Sucesso 147.98 144 *e*P PKPdf 16 02 33.9 +0.4
ITTB Itaituba 148.19 106 *e*P PKPdf 16 02 34.2 +0.3
DUB01 Friburgo-RJ 148.44 149 *e*P PKPbc 16 02 36.3 -1.4
CAM01 Campos-RJ 149.02 149 *e*P PKPdf 16 02 36.4 +1.3
SNDB Serra Nova Dou 149.18 123 *e*P PKPdf 16 02 35.8 +0.3
BDFB Brasilia 149.64 132 PKP PKPdf 16 02 37.8 +1.4
comp=Z,78nm,1.0s,baz=238,slow=1.6,SNR=56
BDFB PKPbc PKiKP 16 02 41.5 -0.5
comp=Z,78nm,1.0s,baz=334,slow=1.7,SNR=24
BDFB Brasilia 149.64 132 IAMs_20 IAMs_20 17 11 57.8
comp=Z,1μm,20.0s
MALB Monte Alegre 150.25 102 *e*P PKPdf 16 02 37.7 +0.5
ALF01 Guarapari-ES 150.51 149 *e*P PKPdf 16 02 38.0 +0.5
PMPST Porto Santo, M 150.67 345 *e*PKPdf PKiKP 16 02 44.7 +1.2
DIAM Diamantina, MG 150.71 142 *e*P PKPdf 16 02 39.6 +1.6
PMOZ Porto Moniz, M 151.13 346 *e*PKPdf PKiKP 16 02 45.7 +1.1
PEXB Peixe 151.57 126 *e*P PKPdf 16 02 40.3 +1.1
RIB01 Linhares ES 151.76 149 *e*P PKPdf 16 02 39.6 +0.2
SJMB Sao Joao De Ma 151.84 146 *e*P PKPdf 16 02 39.8 +0.3
BSFB Barra de Sao F 151.92 147 *e*P PKPdf 16 02 40.0 +0.4
TOC3 Torodi Ar. Sit 152.15 289 IAMs_20 IAMs_20 17 14 31.3
comp=Z,826nm,22.0s
TOC1 Torodi Ar. Sit 152.16 289 IAMs_20 IAMs_20 17 24 10.6
comp=Z,894nm,21.0s
TOA2 Torodi Ar. Sit 152.16 289 IAMs_20 IAMs_20 17 14 42.8
comp=Z,799nm,21.0s
TOA0 Torodi Ar. Sit 152.17 289 IAMs_20 IAMs_20 17 11 39.9
comp=Z,821nm,22.0s
TORD Torodi Ar. Bea 152.17 289 PKP PKPdf 16 02 39.1 -1.0
comp=Z,14nm,1.0s,baz=6.1,slow=1.6,SNR=22
TORD PKPbc PKPbc 16 02 45.8 -1.0
comp=Z,23nm,0.8s,baz=30,slow=2.7,SNR=25
TOC4 Torodi Ar. Sit 152.17 289 IAMs_20 IAMs_20 17 14 33.0
comp=Z,798nm,21.0s
TOB5 Torodi Ar. Sit 152.18 289 IAMs_20 IAMs_20 17 24 08.2
comp=Z,797nm,20.0s
TOC7 Torodi Ar. Sit 152.18 289 IAMs_20 IAMs_20 17 24 10.2
comp=Z,744nm,20.0s
TOC5 Torodi Ar. Sit 152.19 289 IAMs_20 IAMs_20 17 14 42.5
comp=Z,891nm,21.0s
JANB Januaria 152.67 137 *e*P PKPdf 16 02 40.9 0.0
MCPB Macapa, AP 152.72 100 *e*P PKPdf 16 02 41.8 +0.8
NAN01 Guarapari, ES 153.12 147 *e*P PKPdf 16 02 42.5 +1.1
PRPB Parauapebas 153.14 114 *e*P PKPdf 16 02 41.9 +0.3
SMTB Santa Maria do 153.90 121 *e*P PKPdf 16 02 43.9 +1.2
SDBA SAO DESIDERIO 154.02 131 *e*P PKPdf 16 02 43.4 +0.5
NBIT Itapeh - BA 155.86 145 *e*P PKPdf 16 02 45.2 -0.1
TMAB Tom-A-PA,Br 156.07 107 *e*P PKPdf 16 02 46.9 +1.3
GDU01 Guandu, BA 156.73 142 *e*P PKPdf 16 02 47.1 +0.6
KOWA Kowa 157.00 296 PKP PKPdf 16 02 46.5 -0.2
comp=Z,9.1nm,0.9s,baz=79,slow=2.0,SNR=13
NBPN Ponto Novo - B 158.46 136 *e*P PKPdf 16 02 49.0 +0.3
KIC Kosan Boka 159.55 275 *e*PKP1 PKPdf 16 02 49.6 -0.4
comp=Z,30nm,1.1s
ROSB Rosrio 159.63 112 *e*P PKPdf 16 02 50.8 +0.7
DBIC Dimbokro 159.64 276 PKP PKPdf 16 02 49.6 -0.4
comp=Z,3.5nm,0.7s,baz=93,slow=3.2,SNR=4.3
TIC Toumodi 159.81 276 *e*PKP1 PKPdf 16 02 49.7 -0.6
LIC Lamto 159.84 275 *e*PKP1 PKPdf 16 02 48.7 -1.6
comp=Z,96nm,2.0s
NBLA Lagarto - SE 159.93 142 *e*P PKPdf 16 02 50.8 +0.4
NBTA Tacaratu-PE 161.16 137 *e*P PKPdf 16 02 52.7 +0.9
NBPS Pedro II - PI 161.40 119 *e*P PKPdf 16 02 52.5 +0.4
NBMA Muriti-CE 161.87 132 *e*P PKPdf 16 02 53.1 +0.6
NBAN Anadia - AL 161.89 143 *e*P PKPdf 16 02 53.2 +0.8
NBPB Pedra_Branca-C 162.36 125 *e*P PKPdf 16 02 53.4 +0.4
NBMO Morrinhos-CE 163.15 118 *e*P PKPdf 16 02 54.4 +0.6
NBLI Livramento-PB 163.18 136 *e*P PKPdf 16 02 54.6 +0.8
NBRF Rio Formoso - 163.36 144 *e*P PKPdf 16 02 54.0 +0.1
NBPA Parau_RN 164.16 131 *e*P PKPdf 16 02 54.0 -0.7
NBCL Cascavel-CE 164.17 124 *e*P PKPdf 16 02 55.2 +0.5
NBPV Pedro Velho 164.99 138 *e*P PKPdf 16 02 55.8 +0.4
RCBR Riachuelo 165.00 135 *e*P PKPdf 16 02 56.2 +0.8

INET 20 15:43:28.4, 11°.54N×86°.78W, h15km, ML2.6, MW3.6, Near coast of Nicaragua

DDA 20 16:09:37.2, 38°.52N×26°.56E, h4km±2km, ML1.6, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.16**	**169**	*i* P		Pg	16 09 40.0	-0.4
URLA				*i* S		Sg	16 09 43.7	+1.2
ZEYE	**Izmir, Urla-Ze**	**0.28**	**188**	*i* P		Pg	16 09 43.6	+1.0
ZEYE				*i* S		Sb	16 09 48.3	-1.6
ZEYE				IAML			16 09 51.0	
	comp=E,108nm,0.3s							
ZEYE				IAML			16 09 52.0	
	comp=N,82nm,0.8s							
DGB	**zmir**	**0.53**	**151**	*i* P		Pg	16 09 48.1	+0.7
DGB				*i* S		Sg	16 09 55.4	+1.1
DGB				IAML			16 09 58.0	
	comp=E,36nm,0.4s							
KOCA	**Canakkale, Ayv**	**1.03**	**342**	*i* P		Pb	16 09 57.4	-0.3
KOCA				*i* S		Sb	16 10 11.4	-0.2
KOCA				IAML			16 10 13.0	
	comp=E,45nm,1.3s							
KOCA				IAML			16 10 14.0	
	comp=N,32nm,0.7s							
BUHA	**Balikesir, Bur**	**1.06**	**22**	*i* P		Pg	16 09 57.3	-0.3
BUHA				*i* S		Sb	16 10 13.0	+0.6
BUHA				IAML			16 10 17.0	
	comp=N,8.7nm,0.4s							
BUHA				IAML			16 10 20.0	
	comp=E,11nm,0.7s							
BAYC	**CANAKKALE_Bayr**	**1.22**	**360**	*i* P		Pg	16 09 59.4	-1.2
BAYC				*i* S		Sg	16 10 15.7	-0.7
BAYC				IAML			16 10 17.0	
	comp=N,15nm,0.9s							
BAYC				IAML			16 10 19.0	
	comp=E,10nm,0.4s							

*IDC **20** 16:15:26.9±2.2, 18°.01S×178°.08W, h626km±20km, mb3.2/7, mb1 3.5/8, mb1mx3.1/27, mbtmp4.2/8, Error ellipse: s-maj=44.4km s-min=18.4km az=135.0*

ISC 20 16:15:23.5±1.3, 18°.0S±0°.3×178°.0W±0°.3, h590km, n11, σ0s95/11, mb3.8/7, Fiji Islands region

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

*ATH **20** 16:23:26.6,38˚.42N×20˚.52E,h14km±1km,ML2.5/18,Error ellipse: s-maj=1.7km s-min=0.5km az=273.0*
*THE **20** 16:23:26.9,38˚.43N×20˚.50E,h7km±1km,ML2.8/8,Error ellipse: s-maj=1.1km s-min=0.3km az=112.0*
ISC 20 16:23:26.1±0.8,38.43N±0.02×20.52E±0.02,h14km±4km, n62,σ0≥93/102,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSK1	**VASILIKIADES**	**0.04**	**116**	P	**Pg**	**16 23 28.4**	**-0.3**
VSK1				S	**Sg**	**16 23 29.5**	**-1.0**
FSK	**Fiskardo**	**0.05**	**49**	P	**Pg**	**16 23 28.3**	**-0.5**
FSK				S	**Sg**	**16 23 29.4**	**-1.2**
KEF5	**Kardakata, Kep**	**0.15**	**194**	P	**Pg**	**16 23 30.1**	**+0.2**
KEF5				S	**Sg**	**16 23 33.1**	**+0.5**
KEF5	**Kardakata, Kep**	**0.15**	**194**	P	**Pg**	**16 23 30.1**	**+0.2**
KEF5				S	**Sg**	**16 23 33.0**	**+0.5**
KEF4	**Livadi, Kephal**	**0.18**	**203**	P	**Pg**	**16 23 30.7**	**+0.3**
KEF4				S	**Sg**	**16 23 34.1**	**+0.8**
KEF4	**Livadi, Kephal**	**0.18**	**203**	P	**Pg**	**16 23 30.7**	**+0.3**
KEF4				S	**Sg**	**16 23 33.9**	**+0.6**
DMLN	**Damoulianata-K**	**0.22**	**211**	P	**Pg**	**16 23 31.4**	**+0.4**
DMLN				S	**Sg**	**16 23 34.2**	**0.0**
DMLN	**Damoulianata-K**	**0.22**	**211**	P	**Pg**	**16 23 31.4**	**+0.4**
DMLN				S	**Sg**	**16 23 34.5**	**+0.2**
	5μm,0.1s						
EVGI	**Lefkada island**	**0.22**	**30**	P	**Pg**	**16 23 31.4**	**+0.3**
EVGI				S	**Sg**	**16 23 34.9**	**+0.6**
EVGI	**Lefkada island**	**0.22**	**30**	P	**Pg**	**16 23 31.4**	**+0.3**
EVGI				S	**Sg**	**16 23 35.1**	**+0.7**
LXRA	**Lixouri, Kepha**	**0.24**	**195**	P	**Pg**	**16 23 31.6**	**+0.4**
LXRA				S	**Sg**	**16 23 36.0**	**+1.3**
ARG2	**Argostoli**	**0.25**	**185**	P	**Pg**	**16 23 31.8**	**+0.4**
ARG2				S	**Sg**	**16 23 35.9**	**+0.8**
ARGA	**Argostoli. Kep**	**0.25**	**187**	P	**Pg**	**16 23 31.7**	**+0.2**
ARGA				S	**Sg**	**16 23 35.4**	**+0.3**
VLS	**Valsamata**	**0.26**	**167**	P	**Pg**	**16 23 31.7**	**+0.1**
VLS				S	**Sg**	**16 23 35.9**	**+0.6**
VLS				AML	AML	16 23 36.3	
	comp=N,8901μm,0.2s						
VLS				AML	AML	16 23 36.3	
	comp=E,9205μm,0.2s						
VLS	**Valsamata**	**0.26**	**167**	P	**Pg**	**16 23 31.7**	**+0.1**
VLS				S	**Sg**	**16 23 36.0**	**+0.7**
	comp=E,5μm,0.2s						
KEF3	**Kipouria, Keph**	**0.26**	**211**	P	**Pg**	**16 23 31.6**	**-0.1**
KEF3				S	**Sg**	**16 23 35.6**	**+0.3**
KEF3	**Kipouria, Keph**	**0.26**	**211**	P	**Pg**	**16 23 31.5**	**-0.1**
KEF3				S	**Sg**	**16 23 35.4**	**0.0**
PSDA	**Pessada-Kefalo**	**0.32**	**170**	P	**Pg**	**16 23 32.8**	**+0.2**
PSDA				S	**Sg**	**16 23 37.9**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.32**	**170**	P	**Pg**	**16 23 32.8**	**+0.2**
PSDA				S	**Sg**	**16 23 38.0**	**+0.9**
NYDR	**Nydri-Lefkada**	**0.32**	**27**	P	**Pg**	**16 23 32.9**	**+0.2**
NYDR				S	**Sg**	**16 23 37.6**	**+0.5**
NYDR	**Nydri-Lefkada**	**0.32**	**27**	P	**Pg**	**16 23 32.9**	**+0.2**
NYDR				S	**Sg**	**16 23 38.2**	**+1.0**
	comp=E,1μm,0.3s						
LKD2	**Lefkada island**	**0.38**	**17**	P	**Pg**	**16 23 33.9**	**+0.2**
LKD2				S	**Sg**	**16 23 39.8**	**+0.8**
LKD2				AML	AML	16 23 41.2	
	comp=E,1048μm,0.2s						
LKD2				AML	AML	16 23 41.7	
	comp=N,1255μm,0.2s						
LKD2	**Lefkada island**	**0.38**	**17**	P	**Pg**	**16 23 33.9**	**+0.2**
LKD2				S	**Sg**	**16 23 39.8**	**+0.8**
	comp=N,670nm,0.3s						
TSLK	**Tsoukalades, L**	**0.41**	**15**	P	**Pg**	**16 23 34.7**	**+0.3**
TSLK				S	**Sb**	**16 23 41.7**	**+0.5**
TSLK				AML	AML	16 23 42.3	
	comp=N,1925μm,0.5s						
TSLK				AML	AML	16 23 42.4	
	comp=E,1761μm,0.4s						
TSLK	**Tsoukalades, L**	**0.41**	**15**	P	**Pg**	**16 23 34.6**	**+0.3**
PDO	**Prodromos**	**0.55**	**72**	P	**Pg**	**16 23 36.3**	**-0.6**
PDO				S	**Sb**	**16 23 45.7**	**+0.5**
PDO				AML	AML	16 23 47.4	
	comp=E,2056μm,0.4s						
PDO				AML	AML	16 23 51.0	
	comp=N,1881μm,0.4s						
PDO	**Prodromos**	**0.55**	**72**	P	**Pg**	**16 23 37.1**	**+0.2**
PDO				S	**Sb**	**16 23 45.8**	**+0.5**
	comp=N,1μm,0.3s						
VLMS	**Volimes, Zakyn**	**0.56**	**168**	P	**Pg**	**16 23 37.1**	**0.0**
VLMS				S	**Sg**	**16 23 45.5**	**+0.9**
VLMS				AML	AML	16 23 50.0	
	comp=E,2798μm,0.3s						
VLMS				AML	AML	16 23 50.5	
	comp=N,3475μm,0.4s						
VLMS	**Volimes, Zakyn**	**0.56**	**168**	P	**Pg**	**16 23 37.2**	**0.0**
VLMS				S	**Sb**	**16 23 46.3**	**+0.7**
	comp=N,1μm,0.2s						
VTN	**Vitineika**	**0.73**	**134**	P	**Pg**	**16 23 40.7**	**+0.4**
LTHK	**Lithakia**	**0.76**	**160**	P	**Pg**	**16 23 40.3**	**-0.5**
LTHK				S	**Sg**	**16 23 50.9**	**0.0**
LTHK				AML	AML	16 23 54.5	
	comp=N,1426μm,0.2s						
LTHK				AML	AML	16 24 03.5	
	comp=E,1058μm,0.5s						
LTHK	**Lithakia**	**0.76**	**160**	P	**Pg**	**16 23 40.4**	**-0.5**
LTHK				S	**Sb**	**16 23 52.5**	**+1.3**
	comp=E,605nm,0.3s						
PVO	**Paravola**	**0.81**	**76**	P	**Pg**	**16 23 42.0**	**+0.2**
PVO				S	**Sb**	**16 23 54.2**	**+1.3**
PVO				AML	AML	16 23 56.2	
	comp=E,1459μm,0.3s						
PVO				AML	AML	16 23 56.8	
	comp=N,994μm,0.2s						
PVO	**Paravola**	**0.81**	**76**	P	**Pg**	**16 23 42.2**	**+0.3**
PVO				S	**Sb**	**16 23 54.8**	**+2.0**
	comp=N,595nm,0.2s						
RLS	**Riolos of Patr**	**0.83**	**116**	P	**Pg**	**16 23 41.9**	**-0.4**
RLS				AML	AML	16 24 00.3	
	comp=N,307μm,0.3s						
RLS				AML	AML	16 24 05.5	
	comp=E,259μm,0.3s						
DRO	**Drossia**	**1.05**	**116**	P	**Pg**	**16 23 45.9**	**-0.5**
DRO				S	**Sg**	**16 24 00.4**	**+0.2**
DRO				AML	AML	16 24 08.1	
	comp=N,703μm,0.2s						
DRO				AML	AML	16 24 08.2	
	comp=E,795μm,0.3s						
IGT	**Igoumenitsa**	**1.11**	**353**	P	**Pb**	**16 23 47.1**	**0.0**
IGT				AML	AML	16 24 07.4	
	comp=E,267μm,0.4s						
IGT				AML	AML	16 24 09.3	
	comp=N,211μm,0.2s						
IGT	**Igoumenitsa**	**1.11**	**353**	P	**Pb**	**16 23 47.9**	**+0.8**
ANX	**Ano Chora**	**1.11**	**81**	P	**Pb**	**16 23 46.6**	**-0.5**
EVR	**Evrytania**	**1.12**	**64**	P	**Pb**	**16 23 46.0**	**-1.3**
EVR				AML	AML	16 24 06.6	
	comp=E,195μm,0.4s						
EVR				AML	AML	16 24 12.8	
	comp=N,215μm,0.8s						
LAKA	**Lakka**	**1.17**	**99**	P	**Pb**	**16 23 47.1**	**-0.9**
LAKA				S	**Sb**	**16 24 03.7**	**+0.8**
SERG	**Sergoula**	**1.21**	**90**	P	**Pn**	**16 23 48.2**	**-0.4**
SERG				AML	AML	16 24 09.7	
	comp=N,362μm,0.3s						
SERG				AML	AML	16 24 11.9	
	comp=E,348μm,0.4s						
TRIZ	**Trizonia**	**1.23**	**92**	P	**Pn**	**16 23 48.2**	**-0.5**
JAN	**Janina**	**1.25**	**12**	P	**Pg**	**16 23 50.9**	**+0.6**
JAN				AML	AML	16 24 13.4	
	comp=E,280μm,0.7s						
JAN				AML	AML	16 24 14.1	
	comp=N,218μm,0.5s						
KALE	**Kalithea**	**1.28**	**91**	P	**Pn**	**16 23 49.1**	**-0.5**
KALE				AML	AML	16 24 16.8	
	comp=N,311μm,0.5s						
KALE				AML	AML	16 24 22.7	
	comp=E,199μm,0.6s						
AMT	**Artemida-Makis**	**1.30**	**133**	P	**Pn**	**16 23 50.4**	**+0.6**
KLV	**Kalavryta, Ach**	**1.34**	**106**	P	**Pn**	**16 23 50.5**	**+0.1**
KLV				AML	AML	16 24 15.3	
	comp=E,129μm,0.4s						
KLV				AML	AML	16 24 21.0	
	comp=N,135μm,0.6s						
MAKR	**Makrakomi, Fth**	**1.39**	**65**	P	**Pn**	**16 23 51.7**	**+0.6**
MAKR				AML	AML	16 24 19.1	
	comp=E,479μm,0.5s						
MAKR				AML	AML	16 24 21.5	
	comp=N,465μm,0.8s						
KEK	**Kerkira**	**1.40**	**337**	P	**Pn**	**16 23 52.2**	**+1.0**
AGG	**Agios Georgios**	**1.54**	**67**	P	**Pn**	**16 23 54.7**	**+1.6**
AGG				AML	AML	16 24 25.8	
	comp=E,147μm,0.8s						
AGG				AML	AML	16 24 30.4	
	comp=N,225μm,0.6s						
DSF	**Desfina**	**1.58**	**90**	P	**Pn**	**16 23 54.7**	**+1.0**
THL	**Klokotos Trika**	**1.63**	**45**	P	**Pb**	**16 23 56.6**	**+0.7**
THL				AML	AML	16 24 27.8	
	comp=E,180μm,0.7s						
THL				AML	AML	16 24 28.2	
	comp=N,202μm,0.7s						
ITM	**Ithomi**	**1.67**	**138**	P	**Pb**	**16 23 57.3**	**+0.6**
AXAR	**Agios Charalam**	**1.71**	**78**	P	**Pb**	**16 23 58.3**	**+0.9**
NEST	**Nestorio**	**2.03**	**12**	P	**Pb**	**16 24 03.6**	**+0.9**
STON	**Ston**	**4.93**	**335**	*i* Pn	**Pn**	**16 24 38.1**	**-1.5**
HVAR	**Hvar**	**5.66**	**328**	*e*Pn	**Pn**	**16 24 50.0**	**+0.3**
HVAR				Sn	**Sn**	**16 25 51.2**	**-3.2**
RICI	**Ricice**	**5.67**	**334**	*e*Pn	**Pn**	**16 24 50.1**	**+0.2**
RICI				Sn	**Sn**	**16 25 53.1**	**-1.7**
KIJV	**Kijevo**	**6.38**	**332**	*e*Pn	**Pn**	**16 25 00.4**	**+0.9**
KIJV				Sn	**Sn**	**16 26 11.8**	**-0.3**
ZIRJ	**Zirje**	**6.39**	**326**	*e*Pn	**Pn**	**16 24 58.6**	**-1.1**
ZIRJ				Sn	**Sn**	**16 26 08.4**	**-4.0**
MORI	**Morici**	**6.53**	**328**	*e*Pn	**Pn**	**16 25 02.5**	**+0.8**
MORI				Sn	**Sn**	**16 26 14.9**	**-1.1**
DUGI	**Dugi Otok**	**6.92**	**325**	*i* Pn	**Pn**	**16 25 07.5**	**+0.6**
DUGI				Sn	**Sn**	**16 26 22.1**	**-3.3**

*ATH **20** 16:32:14.4,38˚.43N×20˚.52E,h14km±1km,ML2.4/15,Error ellipse: s-maj=1.9km s-min=0.6km az=277.0*
*THE **20** 16:32:14.7,38˚.43N×20˚.50E,h7km±1km,ML2.6/4,Error ellipse: s-maj=1.1km s-min=0.3km az=96.0*
ISC 20 16:32:14.5±0.9,38.43N±0.02×20.53E±0.03,h10km±5km, n50,σ0≥65/75,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSK1	**VASILIKIADES**	**0.03**	**120**	P	**Pg**	**16 32 16.4**	**+0.1**
VSK1				S	**Sg**	**16 32 17.3**	**-0.4**
FSK	**Fiskardo**	**0.04**	**37**	P	**Pg**	**16 32 16.3**	**-0.1**
FSK				S	**Sg**	**16 32 17.5**	**-0.3**
KEF5	**Kardakata, Kep**	**0.15**	**198**	P	**Pg**	**16 32 17.9**	**0.0**
KEF5	**Kardakata, Kep**	**0.15**	**198**	P	**Pg**	**16 32 18.1**	**+0.2**
KEF4	**Livadi, Kephal**	**0.19**	**206**	P	**Pg**	**16 32 17.7**	**-0.7**
KEF4				S	**Sg**	**16 32 22.1**	**+1.0**
KEF4	**Livadi, Kephal**	**0.19**	**206**	P	**Pg**	**16 32 18.6**	**+0.2**
EVGI	**Lefkada island**	**0.22**	**27**	P	**Pg**	**16 32 18.6**	**-0.4**
EVGI				S	**Sg**	**16 32 22.9**	**+0.8**
EVGI	**Lefkada island**	**0.22**	**27**	P	**Pg**	**16 32 18.8**	**-0.2**
EVGI				S	**Sg**	**16 32 23.1**	**+1.0**
DMLN	**Damoulianata-K**	**0.22**	**213**	P	**Pg**	**16 32 19.2**	**+0.2**
DMLN				S	**Sg**	**16 32 23.3**	**+1.1**
DMLN	**Damoulianata-K**	**0.22**	**213**	P	**Pg**	**16 32 19.3**	**+0.2**
LXRA	**Lixouri, Kepha**	**0.24**	**198**	P	**Pg**	**16 32 19.5**	**+0.2**
LXRA				S	**Sg**	**16 32 24.0**	**+1.5**
ARGA	**Argostoli. Kep**	**0.25**	**189**	P	**Pg**	**16 32 19.3**	**0.0**
ARGA				S	**Sg**	**16 32 23.8**	**+0.9**
VLS	**Valsamata**	**0.25**	**169**	P	**Pg**	**16 32 19.4**	**-0.2**
VLS				S	**Sg**	**16 32 23.7**	**+0.6**
VLS				AML	AML	16 32 24.2	
	comp=E,14165μm,0.2s						
VLS				AML	AML	16 32 25.8	
	comp=N,5062μm,0.3s						
VLS	**Valsamata**	**0.25**	**169**	P	**Pg**	**16 32 19.6**	**0.0**
VLS				S	**Sg**	**16 32 24.0**	**+1.0**
	comp=N,5μm,0.1s						
KEF3	**Kipouria, Keph**	**0.26**	**213**	P	**Pg**	**16 32 19.5**	**-0.3**
KEF3				S	**Sg**	**16 32 23.4**	**+0.1**
KEF3	**Kipouria, Keph**	**0.26**	**213**	P	**Pg**	**16 32 19.4**	**-0.3**
KEF3				S	**Sg**	**16 32 23.5**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.31**	**172**	P	**Pg**	**16 32 20.8**	**+0.1**
PSDA				S	**Sg**	**16 32 26.0**	**+1.1**
PSDA	**Pessada-Kefalo**	**0.31**	**172**	P	**Pg**	**16 32 20.9**	**+0.1**
PSDA				S	**Sg**	**16 32 26.1**	**+1.2**
NYDR	**Nydri-Lefkada**	**0.32**	**25**	P	**Pg**	**16 32 21.0**	**+0.1**
NYDR				S	**Sg**	**16 32 25.3**	**+0.3**
NYDR	**Nydri-Lefkada**	**0.32**	**25**	P	**Pg**	**16 32 20.9**	**+0.1**
NYDR				S	**Sg**	**16 32 26.1**	**+1.0**
	comp=N,2μm,0.3s						
LKD2	**Lefkada island**	**0.38**	**15**	P	**Pg**	**16 32 21.9**	**0.0**
LKD2				S	**Sg**	**16 32 27.1**	**+0.1**
LKD2				AML	AML	16 32 31.0	
	comp=E,745μm,0.4s						
LKD2				AML	AML	16 32 32.4	
	comp=N,1076μm,0.3s						
LKD2	**Lefkada island**	**0.38**	**15**	P	**Pg**	**16 32 22.0**	**0.0**
TSLK	**Tsoukalades, L**	**0.41**	**14**	P	**Pg**	**16 32 22.9**	**+0.3**
TSLK				S	**Sg**	**16 32 29.0**	**+1.0**
TSLK				AML	AML	16 32 30.1	
	comp=N,1219μm,0.5s						
TSLK				AML	AML	16 32 32.2	
	comp=E,1233μm,0.3s						
TSLK	**Tsoukalades, L**	**0.41**	**14**	P	**Pg**	**16 32 22.8**	**+0.3**
PDO	**Prodromos**	**0.54**	**71**	P	**Pg**	**16 32 24.6**	**-0.4**
PDO				S	**Sg**	**16 32 33.4**	**+1.3**
PDO				AML	AML	16 32 38.6	
	comp=E,883μm,0.4s						
PDO				AML	AML	16 32 38.9	
	comp=N,1617μm,0.4s						
PDO	**Prodromos**	**0.54**	**71**	P	**Pg**	**16 32 25.1**	**+0.1**
VLMS	**Volimes, Zakyn**	**0.56**	**169**	P	**Pg**	**16 32 24.5**	**-0.7**
VLMS				S	**Sg**	**16 32 32.6**	**0.0**
VLMS				AML	AML	16 32 38.3	
	comp=E,3192μm,0.3s						
VLMS				AML	AML	16 32 39.0	
	comp=N,3300μm,0.3s						
VLMS	**Volimes, Zakyn**	**0.56**	**169**	P	**Pg**	**16 32 25.1**	**-0.2**
VLMS				S	**Sg**	**16 32 33.6**	**+1.0**
VTN	**Vitineika**	**0.72**	**134**	P	**Pg**	**16 32 28.5**	**0.0**
LTHK	**Lithakia**	**0.75**	**161**	P	**Pg**	**16 32 28.4**	**-0.6**
LTHK				S	**Sb**	**16 32 40.2**	**+0.2**
LTHK				AML	AML	16 32 42.0	
	comp=N,1530μm,0.2s						
LTHK				AML	AML	16 32 42.2	
	comp=E,660μm,0.3s						
LTHK	**Lithakia**	**0.75**	**161**	P	**Pg**	**16 32 28.4**	**-0.6**
LTHK				S	**Sb**	**16 32 40.2**	**+0.2**
	comp=E,540nm,0.3s						
PVO	**Paravola**	**0.81**	**76**	P	**Pg**	**16 32 30.2**	**+0.2**
PVO				AML	AML	16 32 44.3	
	comp=N,843μm,0.3s						
PVO				AML	AML	16 32 51.3	
	comp=E,650μm,0.4s						
PVO	**Paravola**	**0.81**	**76**	P	**Pg**	**16 32 30.1**	**+0.2**
PVO				S	**Sb**	**16 32 42.6**	**+1.1**
	comp=E,318nm,0.3s						
RLS	**Riolos of Patr**	**0.82**	**116**	P	**Pg**	**16 32 29.7**	**-0.6**
RLS				AML	AML	16 32 47.2	
	comp=N,237μm,0.5s						
RLS				AML	AML	16 32 51.4	
	comp=E,232μm,0.4s						
DRO	**Drossia**	**1.04**	**117**	P	**Pg**	**16 32 34.0**	**-0.5**
DRO				AML	AML	16 32 54.5	
	comp=E,644μm,0.3s						
DRO				AML	AML	16 32 57.6	
	comp=N,489μm,0.3s						
ANX	**Ano Chora**	**1.10**	**81**	P	**Pb**	**16 32 35.0**	**-0.8**
ANX				AML	AML	16 32 57.7	
	comp=E,307μm,0.5s						
ANX				AML	AML	16 33 02.2	
	comp=N,439μm,0.5s						
ANX	**Ano Chora**	**1.10**	**81**	P	**Pb**	**16 32 35.8**	**+0.1**
EVR	**Evrytania**	**1.12**	**63**	P	**Pb**	**16 32 35.1**	**-0.8**
IGT	**Igoumenitsa**	**1.12**	**352**	P	**Pb**	**16 32 34.2**	**-1.7**
LAKA	**Lakka**	**1.16**	**99**	P	**Pb**	**16 32 35.4**	**-1.1**
LAKA				S	**Sb**	**16 32 51.9**	**+0.3**
SERG	**Sergoula**	**1.20**	**90**	P	**Pn**	**16 32 36.5**	**-0.8**
SERG				AML	AML	16 32 56.7	
	comp=N,278μm,0.4s						
SERG				AML	AML	16 33 01.8	
	comp=E,264μm,0.4s						
KALE	**Kalithea**	**1.27**	**91**	P	**Pn**	**16 32 37.0**	**-1.3**
KALE				AML	AML	16 33 02.1	
	comp=E,136μm,0.3s						
KALE				AML	AML	16 33 06.6	
	comp=N,227μm,0.6s						
AMT	**Artemida-Makis**	**1.29**	**133**	P	**Pn**	**16 32 38.9**	**+0.4**
KLV	**Kalavryta, Ach**	**1.33**	**106**	P	**Pn**	**16 32 38.5**	**-0.7**
KLV				AML	AML	16 33 06.3	
	comp=E,97μm,0.3s						
KLV				AML	AML	16 33 08.9	
	comp=N,81μm,0.8s						
MAKR	**Makrakomi, Fth**	**1.38**	**64**	P	**Pn**	**16 32 40.2**	**+0.3**
MAKR				AML	AML	16 33 13.9	
	comp=N,269μm,0.5s						
MAKR				AML	AML	16 33 14.4	
	comp=E,339μm,0.6s						
KEK	**Kerkira**	**1.41**	**336**	P	**Pn**	**16 32 40.3**	**+0.2**
AGG	**Agios Georgios**	**1.53**	**66**	P	**Pn**	**16 32 41.8**	**-0.1**
DSF	**Desfina**	**1.57**	**90**	P	**Pn**	**16 32 42.4**	**-0.1**
THL	**Klokotos Trika**	**1.62**	**45**	P	**Pb**	**16 32 44.5**	**0.0**
THL				AML	AML	16 33 15.5	
	comp=N,114μm,0.8s						
THL				AML	AML	16 33 15.7	
	comp=E,128μm,0.6s						
ITM	**Ithomi**	**1.67**	**138**	P	**Pn**	**16 32 44.4**	**+0.6**

*IDC **20** 16:37:52.6±0.8, 11˚.64N×86˚.50W, h0km, mb4.1/8, mb1 4.4/11, mb1mx4.0/52, mbtmp4.1/11, ML3.5/3, MS4.3/8, Ms1 4.3/8, ms1mx3.9/47, Error ellipse: s-maj=40.1km s-min=16.3km az=50.0*
*INET **20** 16:37:53.5, 11˚.04N×86˚.97W, h6km, MW4.5*
*UCR **20** 16:37:54.6±2.2, 11˚.06N×87˚.00W, h38km±10km, MW4.7, mb4.6(NEIC)*
*SNET **20** 16:37:55.8±0.9, 11˚.07N×87˚.16W, h61km±127km, ML4.0*
*NEIC **20** 16:37:56.7±1.9, 11˚.16N±0˚.04×86˚.85W±0˚.08, h42km±11km, mb4.6/19, Error ellipse: s-maj=13.3km s-min=1.6km az=64.0*
*GCMT **20** 16:37:59.7±0.4, 10˚.95N±0˚.03×87˚.08W±0˚.04, h28km±1km, MW4.9/65, Moment Tensor Solution. s27,c31; s65,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.63±.24; $M_{\theta\theta}$-2.11±.14; $M_{\phi\phi}$-0.52±.18; $M_{r\theta}$1.04±.19; $M_{\theta\phi}$1.48±.10; $M_{\phi r}$-0.14±.29; Best double couple: $M_0$3.00800×10^{16} NP1:ϕ_s311.00000°, δ36.00000°, λ105.00000°. NP2: ϕ_s112.00000°, δ55.00000°, λ79.00000°. Principal axes: T 2.8580, Plg77.0000°, Azm346.0000°; N 0.2980, Plg9.0000°, Azm118.0000°; P -3.1580, Plg10.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 16:37:56.8±0.5,11.14N±0.05×86.90W±0.06,h35km,n120, σ1≥72/124,mb4.5/14,MS4.4/6,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HZTE	**Horizontes, Gu**	**1.35**	**108**	*e*P	**Pn**	**16 38 17.9**	**-1.3**
CNGN	**Cerro Negro**	**1.37**	**8**	*e*P	**Pn**	**16 38 18.6**	**-0.8**
GBS3	**Finca Las Img**	**1.46**	**104**	*i* P	**Pn**	**16 38 19.5**	**-1.2**
GBS3				*i* S	**Sn**	**16 38 39.8**	**+1.1**
LAPC	**Finca la Perla**	**1.49**	**104**	*i* P	**Pn**	**16 38 18.7**	**-2.3**
VRLE	**La Escondida,**	**1.55**	**103**	*e*P	**Pn**	**16 38 20.9**	**-1.0**
CRIN	**San Cristobal**	**1.56**	**355**		**Pn**	**16 38 21.4**	**-0.7**
BUAI	**Buenos Aires**	**1.56**	**99**	*i* P	**Pn**	**16 38 20.9**	**-1.1**
GPS2	**Hotel Rincn d**	**1.57**	**104**	*e*P	**Pn**	**16 38 20.0**	**-2.2**
GPS2				*e*S	**Sn**	**16 38 42.6**	**+1.2**
SAJU	**San Juanillo,**	**1.58**	**132**	*e*P	**Pn**	**16 38 20.0**	**-2.4**
SAJU				*e*S	**Sn**	**16 38 39.1**	**-2.5**
ORTG	**Ortega, Santa**	**1.61**	**118**	*e*P	**Pn**	**16 38 20.8**	**-2.1**
ORTG	**Ortega, Santa**	**1.61**	**118**		**Pn**	**16 38 21.1**	**-1.7**
GUAI	**GUAI**	**1.62**	**122**	*i* P	**Pn**	**16 38 20.6**	**-2.2**
PLVR	**Palo Verde**	**1.71**	**117**	*e*P	**Pn**	**16 38 22.3**	**-2.0**
COLC	**Colonia**	**1.73**	**106**	*i* P	**Pn**	**16 38 23.8**	**-0.6**
DUNO	**Dulce Nombre,**	**1.74**	**127**	*e*P	**Pn**	**16 38 22.3**	**-2.2**
GRZA	**Playa Garza**	**1.74**	**134**	*e*P	**Pn**	**16 38 22.2**	**-2.3**
CUI	**Cuipilapa**	**1.77**	**106**	*i* P	**Pn**	**16 38 23.2**	**-1.8**
BOAB	**BOACO BROADBAN**	**1.78**	**43**	Pn	**Pn**	**16 38 23.8**	**-1.3**
INDI	**Punta indio, G**	**1.87**	**132**	*e*P	**Pn**	**16 38 24.1**	**-2.2**
ACON	**Acoyapa**	**1.88**	**64**	*e*P	**Pn**	**16 38 25.3**	**-1.2**
ACON	**Acoyapa**	**1.88**	**64**		**Pn**	**16 38 25.7**	**-0.8**
ACAL	**Aguas Claras**	**1.90**	**105**	*i* P	**Pn**	**16 38 26.6**	**-0.2**
PTEN	**Parque Tenorio**	**1.93**	**102**	*i* P	**Pn**	**16 38 27.0**	**-0.1**
CSGN	**Cosiguina Volc**	**1.94**	**341**	*e*P	**Pn**	**16 38 26.4**	**-0.9**
CSGN	**Cosiguina Volc**	**1.94**	**341**	*e*P	**Pn**	**16 38 26.3**	**-1.0**
CSGN				*e*S	**Sn**	**16 38 51.1**	**+0.6**
JTS	**Las Juntas de**	**2.09**	**114**	Pn	**Pn**	**16 38 28.5**	**-0.8**
	11nm,0.3s,baz=165,slow=22,SNR=50						
JTS				LR	LR	16 38 52.2	
	comp=Z,914nm,21.4s,baz=356,slow=30						
JTS				Sn	**Sn**	**16 38 53.8**	**-0.4**
	61nm,0.3s,baz=39,slow=16,SNR=8.9						
JTS	**Las Juntas de**	**2.09**	**114**	Pn	**Pn**	**16 38 28.3**	**-1.1**
CEDE	**Laguna Cedeo**	**2.25**	**107**	*e*P	**Pn**	**16 38 30.4**	**-1.2**
CNCH	**Conchagua**	**2.31**	**337**	*e*P	**Pn**	**16 38 31.2**	**-1.3**
CNCH				*e*P		16 38 32.2	
LAFE	**Finca La Fe, P**	**2.36**	**124**	*e*P	**Pn**	**16 38 31.5**	**-1.6**
LCND	**La Caada**	**2.36**	**336**	*e*P	**Pn**	**16 38 32.3**	**-0.8**
JUCU	**Jucuarn**	**2.48**	**328**	*e*P	**Pn**	**16 38 33.3**	**-1.5**
JUCU				*e*S	**Sn**	**16 39 02.5**	**-1.5**
COVE	**Coope Vega, Sa**	**2.49**	**99**	*e*P	**Pn**	**16 38 33.5**	**-1.4**
LCY	**Lacayo**	**2.65**	**329**	*e*P	**Pn**	**16 38 36.1**	**-1.0**
ESPN	**Las Esperanzas**	**2.75**	**67**	*e*P	**Pn**	**16 38 38.1**	**-0.4**
ESPN	**Las Esperanzas**	**2.75**	**67**		**Pn**	**16 38 38.3**	**-0.1**
TECA	**Tecapa**	**2.82**	**326**	*e*P	**Pn**	**16 38 38.5**	**-1.1**
COEB	**Comit de Eme**	**2.83**	**326**	*e*P	**Pn**	**16 38 38.8**	**-0.9**
COEB				IAML		16 39 10.

PV03				IAmb	IAmb	16 44 33.5	
	comp=Z,4.8nm,0.8s						
SPMN	**Marine on St.**	**34.34**	**353**	P	**P**	**16 44 37.3**	**-2.8**
ITTB	**Itaituba**	**34.63**	**115**	*e*P	**P**	**16 44 42.0**	**-1.0**
E43A	**Lone Tree Farm**	**35.12**	**360**	P	**P**	**16 44 43.7**	**-3.1**
E43A				IAmb	IAmb	16 44 45.1	
	comp=Z,9.4nm,0.9s						
F33A	**5 Mile Ranch,**	**35.50**	**349**	P	**P**	**16 44 47.7**	**-2.4**
NPGB	**Novo Progresso**	**36.22**	**119**	*e*P	**P**	**16 44 55.8**	**-1.0**
PDAR	**Pinedale Array**	**37.17**	**332**	P	**P**	**16 45 03.0**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=133,slow=10,SNR=7.6						
PDAR				ScP	**ScP**	**16 51 14.8**	**+5.8**
	comp=Z,0.1nm,0.5s,baz=197,slow=1.5,SNR=4.1						
PTLB	**Pontes e Lacer**	**38.13**	**133**	*e*P	**P**	**16 45 13.1**	**+0.3**
NVAR	**Mina Array Bea**	**39.04**	**319**	P	**P**	**16 45 21.2**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=137,slow=7.8,SNR=11						
NVAR				PcP	**PcP**	**16 47 31.8**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=155,slow=3.6,SNR=4.7						
NVAR				ScP	**S**	**16 51 22.6**	**+4.9**
	comp=Z,0.4nm,0.5s,baz=64,slow=2.1,SNR=3.8						
NVAR				LR	LR	17 04 52.8	
	comp=Z,344nm,18.4s,baz=142,slow=42						
ULM	**Lac du Bonnet**	**39.69**	**351**	P	**P**	**16 45 22.6**	**-2.9**
	comp=Z,6.8nm,0.8s,baz=171,slow=6.7,SNR=12						
ULM	**Lac du Bonnet**	**39.69**	**351**	P	**P**	**16 45 21.7**	**-3.8**
ULM				IAmb	IAmb	16 45 23.3	
	comp=Z,14nm,1.1s						
MCMT	**McKenzie Canyo**	**40.29**	**331**	P	**P**	**16 45 29.7**	**-1.2**
SNDB	**Serra Nova Dou**	**42.16**	**122**	*e*P	**P**	**16 45 46.2**	**-0.2**
ARAG	**Araguaiana, MT**	**43.80**	**127**	*e*P	**P**	**16 45 59.5**	**0.0**
AODB	**Aquidauana**	**43.92**	**136**	*e*P	**P**	**16 46 01.2**	**+0.7**
PEXB	**Peixe**	**44.75**	**120**	*e*P	**P**	**16 46 06.0**	**-1.3**
H03N2	**Juan Fernandez**	**44.98**	**171**	T	T	17 34 37.2	
	baz=349,slow=76,SNR=7.0						
H03N1	**Juan Fernandez**	**44.98**	**171**	T	T	17 34 12.2	
	baz=349,slow=76,SNR=9.2						
H03N3	**Juan Fernandez**	**44.99**	**171**	T	T	17 34 10.4	
	baz=349,slow=76,SNR=9.3						
BDFB	**Brasilia**	**46.80**	**124**	P	**P**	**16 46 23.2**	**-0.4**
	comp=Z,2.6nm,0.4s,baz=289,slow=7.9,SNR=5.8						
CPUP	**Vila Florida**	**47.05**	**143**	*e*P	**P**	**16 46 26.4**	**+1.3**
ITRB	**Iturama**	**47.27**	**130**	*e*P	**P**	**16 46 27.0**	**-0.1**
PCMB	**Pacaembu**	**47.78**	**133**	*e*P	**P**	**16 46 31.1**	**+0.1**
SDBA	**SAO DESIDERIO**	**47.81**	**118**	*e*P	**P**	**16 46 30.0**	**-1.4**
IPMB	**Ipameri, GO**	**47.92**	**127**	*e*P	**P**	**16 46 31.9**	**-0.3**
BB19B	**Bebedouro**	**49.46**	**130**	*e*P	**P**	**16 46 43.7**	**-0.2**
JANB	**Januaria**	**49.57**	**121**	*e*P	**P**	**16 46 44.1**	**-0.8**
DIAM	**Diamantina, MG**	**51.72**	**124**	*e*P	**P**	**16 47 00.2**	**-1.0**
NBIT	**Itapeh - BA**	**53.69**	**118**	*e*P	**P**	**16 47 12.8**	**-2.8**
YKA	**Yellowknife Ar**	**55.01**	**345**	P	**P**	**16 47 22.0**	**-2.5**
	comp=Z,0.8nm,0.8s,baz=137,slow=8.1,SNR=14						
YKA				PcP	**PcP**	**16 48 25.3**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=138,slow=4.3,SNR=4.9						
YKA				ScP	**ScP**	**16 52 26.0**	**+4.1**
	comp=Z,0.3nm,0.6s,baz=130,slow=4.5,SNR=4.0						
YKA				LR	LR	17 13 11.6	
	comp=Z,277nm,18.7s,baz=0.0,slow=39						
BCAR	**Beaver Creek A**	**64.66**	**336**	P	**P**	**16 48 30.1**	**-0.8**
ILAR	**Eielson Array**	**67.43**	**336**	P	**P**	**16 48 47.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=142,slow=5.6,SNR=10.0						
ILAR	**Eielson Array**	**67.43**	**336**	P	**P**	**16 48 46.5**	**-2.1**
PPT	**Papeete**	**68.15**	**246**	LR	LR	17 12 35.1	
	comp=Z,355nm,19.0s,baz=202,slow=30						
SPITS	**Spitsbergen Ar**	**81.87**	**12**	LR	LR	17 27 04.7	
	comp=Z,360nm,19.9s,baz=215,slow=36						
NOA	**NORSAR Array B**	**84.25**	**29**	LR	LR	17 25 60.0	
	comp=Z,136nm,19.6s,baz=225,slow=34						
KSRS	**Korea Array**	**121.66**	**328**	PKP	**PKiKP**	**16 56 48.5**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=3.0,slow=1.5,SNR=8.3						
ASAR	**Alice Springs**	**139.27**	**247**	PKhKP	PKPpre	16 57 19.7	
ASAR				PKP	**PKPdf**	**16 57 25.1**	**+4.1**
	comp=Z,0.5nm,0.7s,baz=125,slow=3.6,SNR=4.3						
WRA	**Warramunga Arr**	**139.41**	**252**	PKP	**PKiKP**	**16 57 25.6**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=91,slow=2.1,SNR=8.1						
FITZ	**Fitzroy Crossi**	**147.80**	**254**	PKPbc	**PKPab**	**16 57 41.1**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=190,slow=4.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**150.03**	**349**	PKPbc	**PKiKP**	**16 57 44.1**	**-1.4**
	comp=Z,4.0nm,1.0s,baz=331,slow=1.4,SNR=27						

*IPEC **20** 16:45:33.6±0.3,51°.50N×16°.25E,h0km,ML2.6/4, Error ellipse: s-maj=3.6km s-min=2.0km az=73.0*
*IDC **20** 16:45:34.0±0.7,51°.50N×16°.00E,h0km,mb1 3.3/8, mb1mx3.1/51,mbtmp3.2/8,ML2.7/8, Error ellipse: s-maj=11.4km s-min=6.9km az=113.0*
*PRU **20** 16:45:34.2±0.0,51°.48N×16°.12E,h0km*
*DNK **20** 16:45:35.9±1.2,51°.61N×15°.48E,h0km,±201km*
*BGR **20** 16:45:35.1±0.4,51°.45N×16°.09E,h1km,ML3.0/16, Error ellipse: s-maj=4.4km s-min=2.2km az=13.0*
*VIE **20** 16:45:35.9,51°.40N×16°.07E,h0km,ML2.9/3 74 km WNW of Wroclaw Suspected Mining induced.*

ISC 20 16:45:31.6±0.7, 51°.61N±0°.03×16°.17E±0°.02, h0km, n66, σ1s36/119, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.77**	**174**	*i* Pg	**Pg**	**16 45 46.7**	**+0.4**
KSP				*e*Sg	**Sg**	**16 45 55.6**	**-0.7**
KSP	**Ksiaz**	**0.77**	**174**	*e*Pg	**Pg**	**16 45 46.8**	**+0.4**
CHVC	**Chvalec**	**1.02**	**184**	*e*PG	**Pg**	**16 45 51.5**	**+0.3**
CHVC				*e*SG	**Sg**	**16 46 03.4**	**-1.0**
OSTC	**Ostas**	**1.05**	**178**	*e*SG	**Sg**	**16 46 04.8**	**-0.6**
UPC	**Upice**	**1.11**	**185**	*e*PG	**Pg**	**16 45 52.8**	**+0.1**
UPC				*e*SG	**Sg**	**16 46 05.8**	**-1.3**
	comp=Z,117nm,0.3s						
DPC	**Dobruska-Polom**	**1.26**	**175**	*e*PG	**Pg**	**16 45 55.5**	**-0.3**
DPC				*e*SG	**Sg**	**16 46 10.3**	**-1.8**
DPC	**Dobruska-Polom**	**1.26**	**175**	*e*Pg	**Pg**	**16 45 55.7**	**-0.1**
DPC				*e*Sg	**Sg**	**16 46 10.5**	**-1.6**
PVCC	**Panska Ves**	**1.48**	**224**	*e*PG	**Pn**	**16 45 59.5**	**+0.1**
PVCC				*e*SG	**Sb**	**16 46 19.3**	**+0.1**
	comp=Z,141nm,0.3s						
BRG	**Berggiesshubel**	**1.58**	**243**	Pn	**Pn**	**16 46 01.3**	**+0.5**
BRG				Pg	**Pg**	**16 46 02.3**	**+0.5**
BRG				Sg	**Sn**	**16 46 22.1**	**+0.1**
BRG				Amp		16 46 23.0	
	comp=Z,86nm,0.4s						
BRG	**Berggiesshubel**	**1.58**	**243**	*e*Pn	**Pb**	**16 46 02.0**	**+0.4**
BRG				*e*Sg	**Sn**	**16 46 22.2**	**+0.3**
KRLC	**Kraliky**	**1.58**	**165**	*e*PG	**Pn**	**16 46 01.4**	**+0.5**
KRLC				*e*SG	**Sn**	**16 46 21.5**	**-0.6**
	comp=Z,92nm,0.5s						
FBE	**Freiberg**	**1.90**	**250**	*e*Pn	**Pn**	**16 46 06.5**	**+1.3**
FBE				*e*Sg	**Sb**	**16 46 31.6**	**+0.4**
PRU	**Pruhonice**	**1.92**	**213**	*e*PN	**Pn**	**16 46 05.0**	**-0.5**
PRU				*e*PG	**Pb**	**16 46 06.8**	**-0.7**
PRU				*e*SG	**Sn**	**16 46 31.3**	**+0.9**
	comp=Z,59nm,0.7s						
CLL	**Collm**	**2.00**	**263**	*e*Pn	**Pn**	**16 46 07.0**	**+0.4**
CLL				*e*Pg	**Pb**	**16 46 10.0**	**+1.2**
CLL				*e*		16 46 13.0	
CLL				*i* Sg	**Sg**	**16 46 35.8**	**0.0**
	comp=Z,33nm,0.6s						
CLL	**Collm**	**2.00**	**263**	*e*Pn	**Pn**	**16 46 06.9**	**+0.2**
MORC	**Moravsky Berou**	**2.03**	**154**	*e*PN	**Pn**	**16 46 07.3**	**+0.2**
MORC				*e*SG	**Sn**	**16 46 33.8**	**+0.6**
MORC	**Moravsky Berou**	**2.03**	**154**	*e*Pn	**Pn**	**16 46 07.2**	**+0.2**
	baz=335						
MORC				*e*Sg	**Sn**	**16 46 33.8**	**+0.6**
	comp=Z,25nm,0.3s,baz=335						
MORC	**Moravsky Berou**	**2.03**	**154**	*e*Pn	**Pn**	**16 46 07.4**	**+0.2**
MORC				*e*Sg	**Sb**	**16 46 35.5**	**+0.3**
VRAC	**Vranov**	**2.32**	**173**	Pn	**Pn**	**16 46 11.6**	**+0.6**
	comp=Z,2.4nm,0.3s,baz=330,slow=20,SNR=7.0						
VRAC				Lg	Lg	16 46 42.7	
	comp=Z,2.1nm,0.3s,baz=70,slow=19,SNR=3.8						
VRAC	**Vranov**	**2.32**	**173**	*e*PN	**Pn**	**16 46 11.3**	**+0.3**
VRAC				*e*SG	**Sb**	**16 46 42.6**	**-0.8**
VRAC	**Vranov**	**2.32**	**173**	*e*Pn	**Pn**	**16 46 11.3**	**+0.3**
	baz=354						
VRAC				*e*Sg	**Sb**	**16 46 42.6**	**-0.8**
	comp=Z,27nm,0.5s,baz=354						
KRUC	**Moravsky**	**2.55**	**177**	*e*SG	**Sb**	**16 46 50.0**	**-0.2**
KRUC	**Moravsky**	**2.55**	**177**	*e*Sg	**Sb**	**16 46 50.0**	**-0.2**
	comp=Z,26nm,0.5s,baz=358						
TANN	**Tannenbergstha**	**2.63**	**244**	*e*Pn	**Pn**	**16 46 16.1**	**+0.8**
TANN				*e*Sg	**Sg**	**16 46 55.0**	**-0.9**
OJC	**Ojcow**	**2.69**	**120**	*e*Pg	**Pg**	**16 46 23.7**	**+0.7**
OJC				*e*Sg	**Sg**	**16 46 58.6**	**+0.8**
OJC	**Ojcow**	**2.69**	**120**	*e*Sg	**Sg**	**16 46 59.9**	**+2.0**
WERD	**Werda**	**2.70**	**246**	*e*Pn	**Pn**	**16 46 16.6**	**+0.4**
NKC	**Novy Kostel**	**2.73**	**241**	*e*PN	**Pn**	**16 46 17.9**	**+1.3**
NKC				*e*PG	**Pg**	**16 46 23.9**	**+0.1**
JAVC	**Velka Javorina**	**2.92**	**160**	*e*PN	**Pn**	**16 46 19.6**	**+0.3**
JAVC				*e*SG	**Sb**	**16 47 01.4**	**+0.7**
JAVC	**Velka Javorina**	**2.92**	**160**	*e*Pn	**Pn**	**16 46 19.5**	**+0.3**
	baz=342						
JAVC				*e*Sg	**Sb**	**16 47 01.3**	**+0.6**
	comp=Z,26nm,0.9s,baz=342						
KHC	**Kasperske Hory**	**2.98**	**215**	*e*PN	**Pn**	**16 46 20.3**	**+0.2**
KHC				*e*PG	**Pb**	**16 46 26.5**	**+0.9**
KHC				*e*SN	**Sn**	**16 46 55.1**	**-1.5**
KHC				*e*SG	**Sb**	**16 47 05.0**	**+2.5**
	comp=Z,15nm,0.4s						
MOX	**Moxa**	**3.02**	**253**	*e*Sg	**Sg**	**16 47 09.4**	**+0.8**
CKRC	**Cesky Krumlov**	**3.04**	**204**	*e*PN	**Pn**	**16 46 21.4**	**+0.5**
CKRC				*e*PG	**Pb**	**16 46 27.6**	**+1.1**
CKRC				*e*SG	**Sb**	**16 47 05.8**	**+1.8**
	comp=Z,26nm,0.6s						
MANZ	**Manzenberg**	**3.04**	**239**	*e*Pn	**Pn**	**16 46 21.8**	**+0.9**
ROTZ	**Rotzenmuhle**	**3.12**	**235**	*e*Pn	**Pn**	**16 46 22.6**	**+0.6**
ROTZ				*e*Sg	**Sb**	**16 47 09.3**	**+2.8**
GEC2	**GERESS Array S**	**3.19**	**211**	*e*Pn	**Pn**	**16 46 24.1**	**+1.1**
GEC2				*e*Sg	**Sb**	**16 47 10.8**	**+2.3**
GERES	**GERESS Array B**	**3.19**	**211**	Pn	**Pn**	**16 46 23.1**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=31,slow=13,SNR=35						
GERES				Pg	**Pb**	**16 46 30.1**	**+1.0**
	comp=Z,3.0nm,0.3s,baz=30,slow=16,SNR=26						
GERES				Lg	Lg	16 47 10.5	
	comp=Z,4.0nm,0.3s,baz=32,slow=27,SNR=10						
SMOL	**Smolenice**	**3.20**	**165**	*e*SG	**Sg**	**16 47 13.4**	**-1.0**
WET	**Wettzell**	**3.24**	**222**	*e*Pn	**Pn**	**16 46 24.2**	**+0.5**
WET				*e*Sg	**Sg**	**16 47 13.5**	**-2.2**
LANS	**Liptovska Anna**	**3.24**	**138**	*e*PN	**Pn**	**16 46 25.1**	**+1.4**
LANS				*e*PG	**Pg**	**16 46 33.6**	**-0.1**
LANS				*e*SG	**Sg**	**16 47 15.2**	**-0.5**
MODS	**Modra-Piesok**	**3.32**	**167**	*e*PG	**Pg**	**16 46 34.6**	**-0.5**
MODS				*e*SG	**Sg**	**16 47 17.8**	**-0.3**
NIE	**Niedzica**	**3.43**	**128**	*e*Pg	**Pg**	**16 46 37.7**	**+0.4**
NIE				*e*Sg	**Sg**	**16 47 21.9**	**+0.2**
ZST	**Bratislava**	**3.47**	**170**	*e*SG	**Sg**	**16 47 20.9**	**-2.1**
VYHS	**Vyhne**	**3.56**	**150**	*e*PN	**Pn**	**16 46 28.4**	**+0.3**
VYHS				*e*PG	**Pg**	**16 46 40.3**	**+0.5**
BSD	**Bornholm Skovb**	**3.59**	**348**	*i* P	**Pn**	**16 46 29.0**	**+0.6**
BSD				*i* S	**Sn**	**16 47 10.0**	**-1.5**
BSD	**Bornholm Skovb**	**3.59**	**348**	*e*P	**Pn**	**16 46 29.1**	**+0.6**
BSD				*i* S	**Sn**	**16 47 10.1**	**-1.5**
CLZ	**Clausthal**	**3.61**	**276**	*e*Pn	**Pn**	**16 46 30.6**	**+1.8**
GRF	**Grafenberg Arr**	**3.69**	**241**	*e*Sg	**Sg**	**16 47 28.9**	**-1.0**
CONA	**Conrad Observa**	**3.69**	**183**	*e*Pn	**Pn**	**16 46 31.1**	**+1.2**
	comp=Z,1.8nm,0.3s						
CONA				*e*Sg	**Sb**	**16 47 26.5**	**+3.6**
	comp=Z,20nm,0.5s						
MOA	**Molln**	**3.96**	**199**	*e*Pn	**Pn**	**16 46 34.3**	**+0.7**
	comp=Z,3.4nm,0.3s						
MOA				*e*Sg	**Sg**	**16 47 36.5**	**-2.2**
	comp=Z,22nm,0.7s						
ARSA	**Arzberg**	**4.38**	**186**	*e*Pn	**Pn**	**16 46 41.7**	**+2.4**
	comp=Z,1.3nm,0.2s						
ARSA				*e*Sg	**Sg**	**16 47 50.8**	**-1.5**
	comp=Z,11nm,0.6s						
KOLS	**Kolonicke sedl**	**4.74**	**122**	*e*PG	**Pg**	**16 47 06.3**	**+3.9**
KBA	**Koelnbreinsper**	**4.89**	**203**	*e*Pn	**Pn**	**16 46 47.5**	**+1.0**
	comp=Z,3.6nm,0.5s						
KBA				*e*Sg	**Sg**	**16 48 08.4**	**-0.3**
	comp=Z,6.6nm,0.6s						
SOKA	**Soboth**	**4.99**	**189**	*e*Pn	**Pn**	**16 46 48.7**	**+0.9**
	comp=Z,0.5nm,0.4s						
SOKA				*e*Sg	**Sg**	**16 48 11.2**	**-0.6**
	comp=Z,3.0nm,0.7s						
OBKA	**Obir**	**5.21**	**192**	*e*Pn	**Pb**	**16 47 03.6**	**0.0**
	comp=Z,0.6nm,0.3s						
OBKA				*e*Sg	**Sg**	**16 48 20.8**	**+1.9**
	comp=Z,5.6nm,0.5s						
WTTA	**Wattenberg**	**5.26**	**216**	*e*Pn	**Pn**	**16 46 52.4**	**+0.9**
	comp=Z,3.1nm,0.6s						
WTTA				*e*Sg	**Sg**	**16 48 21.3**	**+1.0**
	comp=Z,6.8nm,0.5s						
MOTA	**Moosalm**	**5.39**	**220**	*e*Pn	**Pn**	**16 46 54.1**	**+0.8**
	comp=Z,1.5nm,0.4s						
MOTA				*e*Sg	**Sb**	**16 48 17.7**	**+5.7**
	comp=Z,2.5nm,0.4s						
ABTA	**Abfaltersbach**	**5.42**	**208**	*e*Pn	**Pn**	**16 46 56.4**	**+2.7**
	comp=Z,1.3nm,0.4s						
ABTA				*e*Sg	**Sg**	**16 48 22.1**	**-3.6**
FETA	**Feichten**	**5.80**	**220**	*e*Pn	**Pn**	**16 46 58.2**	**-0.8**
	comp=Z,0.7nm,0.5s						
FETA				*e*Sg	**Sg**	**16 48 38.8**	**+0.9**
	comp=Z,4.1nm,0.7s						
DAVOX	**Davos/Dischmat**	**6.35**	**223**	Pn	**Pn**	**16 47 06.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=345,slow=20,SNR=2.0						
DAVOX				Lg	Lg	16 48 56.5	
	comp=Z,0.4nm,0.3s,baz=13,slow=21,SNR=3.6						
AKASG	**Malin Array Be**	**8.26**	**91**	Pn	**Pn**	**16 47 33.6**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=279,slow=12,SNR=6.3						
AKASG				Sn	**Sn**	**16 49 04.1**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=268,slow=23,SNR=2.1						
HFS	**Hagfors**	**8.66**	**352**	Pn	**Pn**	**16 47 39.2**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=1.6						
NOA	**NORSAR Array B**	**9.84**	**346**	Pn	**Pn**	**16 47 53.4**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=157,slow=14,SNR=1.6						
FINES	**FINESS Array B**	**11.26**	**25**	Pn	**Pn**	**16 48 13.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=8.1						
FINES				Sn	**Sn**	**16 50 17.0**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=212,slow=21,SNR=1.6						
EKA	**Eskdalemuir Ar**	**12.09**	**296**	Pn	**Pn**	**16 48 22.6**	**-2.4**
	baz=99,slow=13,SNR=1.9						
ARCES	**ARCESS Array B**	**18.52**	**10**	Pn	**P**	**16 49 47.2**	**-1.9**
	baz=194,slow=14,SNR=1.4						

*SOME **20** 16:53:05.2, 43°.97N×82°.33E,h10km*
*NNC **20** 16:53:07.8±1.2, 44°.14N×82°.18E,h6km±5km,mb3.8, mpv3.4, Error ellipse: s-maj=11.7km s-min=4.0km az=127.0*

ISC 20 16:53:05.7±1.8, 43°.99N±0°.06×82°.28E±0°.07, h7km±12km, n38, σ1s58/59, 15C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.50**	**250**	*e*P	**Pb**	**16 53 34.9**	**+1.0**
	1.2nm,0.1s						
KTMS				*e*S	**Sg**	**16 53 56.6**	**+2.6**
	758nm,0.4s						
KTMS	**Ketmen**	**1.50**	**250**	P	**Pb**	**16 53 34.9**	**+1.0**
	1.2nm,0.1s						
KTMS				S	**Sg**	**16 53 56.6**	**+2.6**
	758nm,0.4s						
DJR	**Jarkent**	**1.83**	**282**	*e*P	**Pb**	**16 53 40.1**	**+0.6**
	36nm,0.3s						
DJR				*e*S	**Sg**	**16 54 05.5**	**+1.1**
	352nm,0.5s						
DJR	**Jarkent**	**1.83**	**282**	Pg	**Pg**	**16 53 40.7**	**0.0**
	36nm,0.3s						
DJR				Lg	Lg	16 54 06.6	
	352nm,0.5s						
PDGK	**Podgornoye**	**2.13**	**253**	Pg	**Pb**	**16 53 44.8**	**+0.1**
	6.5nm,0.3s						
PDGK				Lg	Lg	16 54 13.4	
	55nm,0.4s						
PDGK	**Podgornoye**	**2.13**	**253**	⇑Pn	**Pb**	**16 53 44.8**	**+0.1**
	3.3nm,0.3s						
PDGK				⇑Pg	**Pg**	**16 53 47.8**	**+1.3**
	18nm,0.6s						
PDGK				⇑Lg	Lg	16 54 15.6	
	67nm,0.5s						
SHLS	**Shalkode**	**2.21**	**249**	*e*P	**Pn**	**16 53 42.2**	**-0.6**
	95nm,0.2s						
SHLS				*e*S	**Sn**	**16 54 09.1**	**-1.4**
	368nm,0.6s						
SHLS	**Shalkode**	**2.21**	**249**	Pg	**Pn**	**16 53 42.2**	**-0.6**
	95nm,0.2s						
SHLS				Lg	Lg	16 54 09.1	
	368nm,0.6s						
UZB	**Uzynbulak**	**2.52**	**252**	*e*P	**Pb**	**16 53 51.5**	**+0.3**
	7.5nm,0.1s						
UZB				*e*S	**Sb**	**16 54 25.3**	**+2.9**
	56nm,0.2s						
UZB	**Uzynbulak**	**2.52**	**252**	Pg	**Pb**	**16 53 51.6**	**+0.3**
	7.5nm,0.1s						
UZB				Lg	Lg	16 54 25.3	
	56nm,0.2s						
KPKS	**Kokpek**	**2.66**	**260**	*e*P	**Pb**	**16 53 54.2**	**+0.5**
	13nm,0.2s						
KPKS				*e*S	**Sg**	**16 54 30.0**	**-1.2**
	142nm,0.3s						
MK31	**Makanchi Array**	**2.81**	**0**	⇑Pn	**Pn**	**16 53 51.0**	**+0.1**
	0.4nm,0.3s,baz=187,slow=12,SNR=398						
MK31				⇑Pg	**Pb**	**16 53 56.8**	**+0.7**
	1.1nm,0.2s,baz=172,slow=16,SNR=16						
MK31				⇑Sn	**Sn**	**16 54 23.8**	**-1.2**
	5.9nm,0.3s,baz=182,slow=26,SNR=4.2						
MK31				⇑Lg	Lg	16 54 33.3	
	45nm,0.5s,baz=183,slow=26,SNR=9.8						
MAKZ	**Makanchi**	**2.83**	**356**	⇓Pn	**Pn**	**16 53 51.9**	**+0.6**
	0.7nm,0.4s						
MAKZ				⇑Pg	**Pb**	**16 53 57.6**	**+1.1**
	12nm,0.5s						
MAKZ				⇑Sn	**Sn**	**16 54 24.7**	**-0.9**
	8.6nm,0.5s						
MAKZ				⇑Lg	Lg	16 54 34.0	
	12nm,0.4s						
SATY	**Saty**	**2.97**	**253**	*e*P	**Pb**	**16 54 01.0**	**+2.0**
	3.5nm,0.2s						
SATY				*e*S	**Sg**	**16 54 41.3**	**+0.3**
	57nm,0.2s						
SATY	**Saty**	**2.97**	**253**	Pg	**Pb**	**16 53 58.1**	**-0.9**
	4.1nm,0.1s						
SATY				Lg	Lg	16 54 36.0	
	36nm,0.2s						
KURS	**Kuram**	**3.02**	**262**	*e*P	**Pb**	**16 54 01.5**	**+1.7**
	6.7nm,0.5s						
KURS				*e*S	**Sg**	**16 54 42.6**	**-0.2**
	33nm,0.6s						
KURS	**Kuram**	**3.02**	**262**	Pg	**Pb**	**16 54 01.7**	**+1.9**
	6.7nm,0.5s						
KURS				Lg	Lg	16 54 42.6	
	33nm,0.6s						
ARXS	**Arharly**	**3.22**	**276**	*e*P	**Pb**	**16 54 04.3**	**+1.1**
	5.9nm,0.2s						
ARXS				*e*S	**Sg**	**16 54 47.3**	**-1.7**
	59nm,0.3s						
ARXS	**Arharly**	**3.22**	**276**	Pg	**Pb**	**16 54 04.5**	**+1.4**
	5.9nm,0.2s						
ARXS				Lg	Lg	16 54 47.3	
	59nm,0.3s						
CHKK	**Chushkaly**	**3.83**	**270**	*e*P	**Pb**	**16 54 17.4**	**-1.6**
	2.1nm,0.2s						
CHKK				*e*S	**Sg**	**16 55 09.0**	**+0.4**
	42nm,0.2s						
CHKK	**Chushkaly**	**3.83**	**270**	Pg	**Pb**	**16 54 14.8**	**+1.2**
	2.1nm,0.2s						
CHKK				Lg	Lg	16 55 04.6	
	42nm,0.2s						
MDOK	**Medeo**	**3.89**	**260**	*e*P	**Pb**	**16 54 17.2**	**+2.5**
	9.1nm,0.5s						
MDOK				*e*S	**Sg**	**16 55 08.5**	**-2.2**
	24nm,0.4s						
MDOK	**Medeo**	**3.89**	**260**	⇓Pg	**Pg**	**16 54 18.4**	**-1.8**
	10nm,0.5s						
MDOK				⇑Lg	Lg	16 55 10.6	
	28nm,0.7s						
MDOK	**Medeo**	**3.89**	**260**	Pg	**Pg**	**16 54 18.7**	**-1.6**
	9.1nm,0.5s						
MDOK				Lg	Lg	16 55 11.7	
	24nm,0.4s						
ZSN	**Zaisan**	**3.91**	**27**	*e*P	**Pb**	**16 54 14.9**	**+0.1**
	15nm,0.2s						
ZSN				*e*S	**Sb**	**16 55 05.2**	**+2.9**
	49nm,0.4s						
ZSN	**Zaisan**	**3.91**	**27**	Pg	**Pb**	**16 54 14.9**	**+0.1**
	15nm,0.2s						
ZSN				Lg	Lg	16 55 05.2	
	49nm,0.4s						
TNSS	**Tian-Shan**	**4.00**	**258**	*e*P	**Pb**	**16 54 18.5**	**+1.8**
	1.9nm,0.3s						
TNSS				*e*S	**Sg**	**16 55 10.7**	**-3.3**
	12nm,0.5s						
TNSS	**Tian-Shan**	**4.00**	**258**	Pg	**Pg**	**16 54 22.1**	**-0.1**
	3.7nm,0.3s						
TNSS				Lg	Lg	16 55 17.5	
	12nm,0.5s						
KUU	**Kurty**	**4.29**	**271**	*e*P	**Pb**	**16 54 26.6**	**-1.3**
	2.0nm,0.3s						
KUU				*e*S	**Sg**	**16 55 24.6**	**+1.1**
	30nm,0.4s						
KUU	**Kurty**	**4.29**	**271**	Pg	**Pb**	**16 54 22.8**	**+1.3**
	1.6n

CMIG	**Matias Romero**	**9.71**	**308**	Pn	**Pn**	**17 09 13.4**	**+1.0**
	0.2nm,0.3s,baz=104,slow=13,SNR=4.4						
SDV	**Santo Domingo**	**16.21**	**96**	Pn	**Pn**	**17 10 38.9**	**-1.8**
	0.3nm,0.3s,baz=0.0,slow=7.1,SNR=2.3						
SDV	**Santo Domingo**	**16.21**	**96**	P	**Pn**	**17 10 41.7**	**+0.9**
HKT	**Hockley**	**20.46**	**337**	P	**P**	**17 11 29.7**	**-0.2**
HKT				IAmb	IAmb	17 11 44.8	
	comp=Z,12nm,1.4s						
152A	**Waverly Hall**	**21.52**	**5**	P	**P**	**17 11 42.2**	**+0.8**
TX31	**Lajitas Ar. Si**	**23.90**	**322**	P	**P**	**17 12 06.5**	**+0.4**
TX31				IAmb	IAmb	17 12 28.4	
	comp=Z,6.6nm,0.8s						
TX32	**Lajitas Array**	**23.90**	**322**	P	**P**	**17 12 05.9**	**-0.2**
TXAR	**Lajitas Array**	**23.90**	**322**	P	**P**	**17 12 06.1**	**0.0**
	comp=Z,1.9nm,0.8s,baz=138,slow=9.6,SNR=17						
TXAR				PcP	**PcP**	**17 15 52.0**	**+3.4**
	comp=Z,0.7nm,0.8s,baz=134,slow=3.6,SNR=5.2						
TXAR	**Lajitas Array**	**23.90**	**322**	P	**P**	**17 12 06.2**	**+0.1**
CPCT	**Cooper Cave**	**24.30**	**5**	P	**P**	**17 12 09.4**	**-0.2**
CPCT				IAmb	IAmb	17 12 11.9	
	comp=Z,9.8nm,0.8s						
WMOK	**Wichita Mounta**	**25.85**	**337**	P	**Pn**	**17 12 24.0**	**+0.3**
WMOK				IAmb	IAmb	17 12 35.4	
	comp=Z,6.4nm,1.1s						
MSTX	**Muleshoe**	**26.94**	**330**	P	**P**	**17 12 33.3**	**-0.4**
MSTX				IAmb	IAmb	17 12 34.7	
	comp=Z,4.3nm,0.8s						
N49A	**Columbus Grove**	**29.76**	**4**	P	**P**	**17 12 57.7**	**-0.9**
PV17	**East Wray Mesa**	**33.44**	**328**	P	**P**	**17 13 30.4**	**-0.9**
PV17				IAmb	IAmb	17 13 46.4	
	comp=Z,3.3nm,0.7s						
PDAR	**Pinedale Array**	**37.15**	**332**	P	**P**	**17 14 03.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=139,slow=9.2,SNR=5.3						
NVAR	**Mina Array Bea**	**39.01**	**320**	P	**P**	**17 14 20.7**	**+1.8**
	comp=Z,0.6nm,0.9s,baz=142,slow=6.4,SNR=2.9						
ULM	**Lac du Bonnet**	**39.68**	**351**	P	**P**	**17 14 22.2**	**-1.8**
	comp=Z,1.2nm,0.5s,baz=160,slow=7.1,SNR=4.0						
YKA	**Yellowknife Ar**	**54.99**	**345**	P	**P**	**17 16 21.1**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=134,slow=8.4,SNR=5.7						
KSRS	**Korea Array**	**121.64**	**328**	PKP	**PKiKP**	**17 25 48.2**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=19,slow=2.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**150.02**	**349**	PKPbc	**PKiKP**	**17 26 44.5**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=348,slow=3.5,SNR=9.0						

IDC ***20*** *17:11:13.4±2.1,6.˚19S×130.˚58E,h105km±19km, mb3.9/19, mb1 3.9/23,mb1mx3.8/47,mbtmp4.3/23,MS3.3/1, Ms1 3.3/1,ms1mx2.6/43,Error ellipse: s-maj=16.7km s-min=11.4km az=78.0*

NEIC ***20*** *17:11:15.5±1.8,6.˚09S±0.˚06×130.˚60E±0.˚08,h122km±6km, mb4.6/57,Error ellipse: s-maj=11.5km s-min=8.4km az=88.0*

DJA ***20*** *17:11:16.6±0.2,6.˚S±2.˚×13.˚1E±.˚,h139km±3km,M4.5/41, mb4.6/41,mB5.0/19,MLv5.2/12,Mw(mB)4.3/19, MwMwp6.2/1,Mwp6.2/1*

ISC 20 17:11:15.4±0.3, 6.˚15S±0.˚04×130.˚66E±0.˚05, h124km, n206, σ1§47/210, mb4.6/80, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.78**	**335**	P	**Pn**	**17 11 48.3**	**+1.9**
BNDI				S	**Sn**	**17 12 11.8**	**+1.8**
SAUI	**Saumlaki**	**1.93**	**161**	Pn	**Pn**	**17 11 51.8**	**+3.5**
SAUI	**Saumlaki**	**1.93**	**161**	P	**Pn**	**17 11 51.4**	**+3.2**
FAKI	**Fak Fak**	**3.58**	**26**	Pn	**Pn**	**17 12 09.1**	**-0.4**
FAKI	**Fak Fak**	**3.58**	**26**	P	**Pn**	**17 12 09.0**	**-0.4**
NLAI	**Namlea**	**4.57**	**309**	P	**Pn**	**17 12 25.0**	**+2.3**
SIJI	**Sorong**	**5.28**	**7**	P	**Pn**	**17 12 31.4**	**-0.8**
	32nm,0.3s,baz=50,slow=6.1,SNR=217						
SIJI				S	**Sn**	**17 13 26.2**	**-5.8**
	158nm,0.3s,baz=265,slow=24,SNR=30						
SWI	**Sorong**	**5.28**	**7**	P	**Pn**	**17 12 31.0**	**-1.3**
	4.9nm19µm121nm,0.5s						
SANI	**Sanana**	**6.18**	**311**	P	**Pn**	**17 12 45.5**	**+1.1**
	0.5nm779nm38nm,0.5s						
SRPI	**Seruj, Papua**	**7.01**	**53**	P	**Pn**	**17 12 55.3**	**-0.2**
	1.9nm2µm101nm,0.5s						
SOEI	**Soe**	**7.27**	**240**	Pn	**Pn**	**17 13 01.0**	**+1.8**
SOEI	**Soe**	**7.27**	**240**	P	**Pn**	**17 13 01.1**	**+1.9**
	4.7nm1µm97nm,0.6s						
BAKI	**Biak**	**7.34**	**48**	P	**Pn**	**17 13 02.0**	**+2.1**
	5.6nm15µm2µm,0.7s						
BATI	**Baumata**	**8.01**	**239**	P	**Pn**	**17 13 10.0**	**+1.0**
	16nm,0.3s,baz=64,slow=1.7,SNR=21						
BATI	**Baumata**	**8.01**	**239**	P	**Pn**	**17 13 10.1**	**+1.0**
	734nm62nm,0.8s						
WAMI	**Wamena**	**8.33**	**75**	P	**Pn**	**17 13 17.8**	**+4.4**
	2µm215nm,0.8s						
MMRI	**Maumere**	**8.71**	**253**	Pn	**Pn**	**17 13 20.3**	**+1.9**
MMRI	**Maumere**	**8.71**	**253**	P	**Pn**	**17 13 20.2**	**+1.8**
	30nm,1.2s						
EDFI	**Ende, Flores**	**9.26**	**253**	P	**Pn**	**17 13 28.5**	**+2.5**
	194nm9.0nm,0.8s						
LUWI	**Luwuk**	**9.36**	**303**	Pn	**Pn**	**17 13 28.6**	**+1.3**
LUWI	**Luwuk**	**9.36**	**303**	P	**Pn**	**17 13 28.3**	**+1.0**
	2µm29nm,0.9s						
KMSI	**Cibinong**	**9.43**	**315**	P	**Pn**	**17 13 27.7**	**-0.5**
	742nm56nm,0.6s						
KNRA	**Kununurra**	**9.65**	**191**	Pn	**Pn**	**17 13 30.6**	**-0.6**
MMPI	**Merauke**	**9.92**	**104**	P	**Pn**	**17 13 36.5**	**+1.7**
	174nm,0.7s						
GENI	**Genyem**	**10.12**	**70**	P	**Pn**	**17 13 38.6**	**+1.1**
	44nm,1.0s						
GTOI	**Gorontalo**	**10.18**	**311**	P	**Pn**	**17 13 42.0**	**+3.7**
	21nm,1.0s						
APSI	**Ampana**	**10.38**	**300**	P	**Pn**	**17 13 42.5**	**+1.4**
	31nm,0.9s						
BKSI	**Bulukumba**	**10.51**	**274**	P	**Pn**	**17 13 45.9**	**+3.1**
	42nm,0.8s						
BNSI	**Bone**	**10.65**	**279**	P	**Pn**	**17 13 47.3**	**+2.7**
	32nm,0.9s						
JAY	**Jayapura**	**10.65**	**71**	P	**Pn**	**17 13 44.8**	**+0.1**
	0.5nm,0.3s,baz=164,slow=15,SNR=2.7						
BASI	**Baing, Sumba**	**10.76**	**247**	P	**Pn**	**17 13 46.8**	**+0.7**
	59nm,0.8s						
MRSI	**Marisa**	**10.91**	**307**	P	**Pn**	**17 13 48.8**	**+0.7**
	558nm58nm,0.8s						
SPSI	**Sidrap Palu**	**11.06**	**281**	P	**Pn**	**17 13 52.1**	**+2.0**
	31nm,1.0s						
TTSI	**Tana Toraja**	**11.23**	**285**	P	**Pn**	**17 13 56.9**	**+4.5**
TOLI2	**Tolitoli**	**12.21**	**306**		**Pn**	**17 14 06.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**12.85**	**202**	P	**Pn**	**17 14 11.3**	**-2.2**
	7.7nm,0.3s,baz=21,slow=10.0,SNR=120						
FITZ				S	Sn	17 16 23.8	-11
	7.6nm,0.3s,baz=73,slow=18,SNR=8.8						
FITZ	**Fitzroy Crossi**	**12.85**	**202**	Pn	**Pn**	**17 14 11.2**	**-2.4**
PLAI	**Plampang**	**13.04**	**257**	P	**Pn**	**17 14 12.9**	**-3.3**
TWSI	**Taliwang, Sumb**	**13.90**	**258**	P	**Pn**	**17 14 28.4**	**+1.2**
	12nm,0.9s						
WB0	**Warramunga Arr**	**14.02**	**165**	Pn	**Pn**	**17 14 26.7**	**-2.0**
WRAB	**Tennant Creek**	**14.17**	**166**		**Pn**	**17 14 27.9**	**-2.6**
WRA	**Warramunga Arr**	**14.17**	**166**	P	**Pn**	**17 14 29.0**	**-1.7**
	1.5nm,0.3s,baz=350,slow=13,SNR=48						
WRA				S	Sn	17 16 57.2	-10
	5.7nm,0.3s,baz=349,slow=22,SNR=7.4						
WRA	**Warramunga Arr**	**14.17**	**166**		**Pn**	**17 14 28.2**	**-2.4**
WB2	**Warramunga Arr**	**14.18**	**166**	Pn	**Pn**	**17 14 27.7**	**-3.0**
WR0	**Warramunga Arr**	**14.24**	**165**	Pn	**Pn**	**17 14 29.4**	**-2.1**
COEN	**Coen**	**14.56**	**123**		**P**	**17 14 38.2**	**-0.4**
BKB	**Balikpapan**	**14.56**	**289**	P	**Pn**	**17 14 35.8**	**+0.2**
BKB	**Balikpapan**	**14.56**	**289**	P	**P**	**17 14 43.0**	**+4.4**
KBKI	**Kotabaru**	**14.71**	**280**	P	**P**	**17 14 39.1**	**-1.2**
	477nm53nm,1.1s						
SRBI	**Singaraja**	**15.44**	**262**	P	**Pn**	**17 14 45.6**	**-1.1**
	36nm,0.9s						
BBKI	**Banjar Baru**	**15.98**	**279**	P	**P**	**17 14 55.4**	**+1.0**
	702nm73nm,0.7s						
JAGI	**Jajag, Banyuwa**	**16.53**	**261**		**Pn**	**17 14 59.6**	**-0.5**
JAGI				IAmb	IAmb	17 15 03.2	
	comp=Z,73nm,1.5s						
JAGI	**Jajag, Banyuwa**	**16.53**	**261**	P	**Pn**	**17 14 59.4**	**-0.7**
	comp=Z,31nm,0.6s						
MYLDM	**Lahad Datu**	**16.55**	**313**		**Pn**	**17 15 00.1**	**-0.2**
MYLDM				IAmb	IAmb	17 15 14.6	
	comp=Z,24nm,1.0s						
MTKI	**Muara Teweh, K**	**16.55**	**288**	P	**P**	**17 15 01.3**	**+0.5**
	comp=Z,763nmcomp=Z,32nm,0.9s						
KMMI	**Kalianget**	**16.60**	**266**	P	**P**	**17 15 03.4**	**+2.1**
	comp=Z,53nm,0.8s						
PMG	**Port Moresby**	**16.67**	**102**	P	**P**	**17 15 04.9**	**+2.9**
	comp=Z,1.1nm,0.3s,baz=302,slow=6.6,SNR=8.0						
PMG	**Port Moresby**	**16.67**	**102**	P	**P**	**17 15 03.2**	**+1.2**
PMG				IAmb	IAmb	17 15 05.7	
	comp=Z,25nm,0.8s						
MANU	**Manus Island**	**17.16**	**77**	P	**Pn**	**17 15 09.8**	**+2.1**
AS31	**Alice Springs**	**17.70**	**170**		**P**	**17 15 13.9**	**+0.6**
ASAR	**Alice Springs**	**17.70**	**170**	P	**P**	**17 15 13.1**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=350,slow=11,SNR=79						
ASAR				S	**S**	**17 18 24.0**	**-7.0**
	comp=Z,1.4nm,0.3s,baz=351,slow=26,SNR=10						
ASAR	**Alice Springs**	**17.70**	**170**		**Pn**	**17 15 15.0**	**+0.8**
PSA00	**Pilbara Seismi**	**18.56**	**213**		**P**	**17 15 23.7**	**+1.0**
PSA00				IAmb	IAmb	17 15 25.2	
	comp=Z,25nm,0.6s						
PSA00	**Pilbara Seismi**	**18.56**	**213**	P	**P**	**17 15 23.2**	**+0.4**
PSA00				IAmb	IAmb	17 15 24.9	
	comp=Z,11nm,0.6s						
KKM	**Kota Kinabalu**	**18.83**	**310**	P	**P**	**17 15 25.9**	**+0.1**
KKM				IAmb	IAmb	17 15 34.3	
	comp=Z,44nm,1.0s						
PBKI	**Pangkalan Bun**	**19.23**	**279**	P	**P**	**17 15 30.5**	**+0.3**
	comp=Z,2µmcomp=Z,109nm,1.0s						
SBUM	**Sibu**	**20.29**	**294**	P	**P**	**17 15 41.2**	**-0.4**
SBUM				IAmb	IAmb	17 15 45.2	
	comp=Z,32nm,1.3s						
SBUM	**Sibu**	**20.29**	**294**	P	**P**	**17 15 42.0**	**+0.4**
CTA	**Charters Tower**	**20.53**	**134**	P	**P**	**17 15 43.0**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=221,slow=19,SNR=2.1						
KSM	**Kuching**	**21.68**	**290**	P	**P**	**17 15 55.9**	**-0.5**
KSM				IAmb	IAmb	17 15 59.7	
	comp=Z,18nm,0.9s						
TGY	**Tagaytay City**	**22.31**	**334**	P	**P**	**17 16 03.1**	**+0.1**
	comp=Z,88nm,0.4s,baz=205,slow=1.4,SNR=7.6						
CISI	**Cisompet, Garu**	**22.72**	**265**	P	**P**	**17 16 04.9**	**-2.2**
CISI	**Cisompet, Garu**	**22.72**	**265**	P	**P**	**17 16 05.3**	**-1.8**
	comp=Z,1µmcomp=Z,140nm,1.0s						
GIRL	**Giralia**	**22.80**	**222**	P	**P**	**17 16 07.1**	**-0.7**
LEM	**Lembang**	**22.90**	**267**	P	**P**	**17 16 08.0**	**-0.9**
	comp=Z,32nm,0.7s,baz=26,slow=8.9,SNR=10						
LEM				LR	LR	17 27 47.3	
	comp=Z,65nm,18.5s,baz=228,slow=44						
LEM	**Lembang**	**22.90**	**267**	P	**P**	**17 16 08.4**	**-0.6**
	comp=Z,27nm,0.8s						
TPI	**Tanjungpandan**	**23.18**	**277**	P	**P**	**17 16 09.7**	**-1.7**
	comp=Z,13nm,1.0s						
CBJI	**Cileko**	**23.66**	**268**	P	**P**	**17 16 15.2**	**-0.6**
	comp=Z,70nm,0.8s						
DBJI	**Dramaga**	**23.76**	**268**	P	**P**	**17 16 15.9**	**-0.8**
	comp=Z,18nm,0.9s						
GUMO	**Guam**	**24.16**	**36**	P	**P**	**17 16 20.5**	**+0.3**
FORT	**Forrest**	**24.62**	**185**	P	**P**	**17 16 23.6**	**-0.7**
PPBI	**Pangkal Pinang**	**24.77**	**278**	P	**P**	**17 16 25.5**	**-0.3**
KASI	**Kota Agung**	**26.03**	**270**	P	**P**	**17 16 34.8**	**-2.5**
	comp=Z,16nm,0.9s						
MORW	**Morawa**	**26.66**	**209**	P	**P**	**17 16 41.2**	**-1.5**
MORW				IAmb	IAmb	17 16 45.3	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**27.57**	**160**	P	**P**	**17 16 48.5**	**-2.3**
	comp=Z,1.0nm,0.5s,baz=330,slow=14,SNR=1.5						
MNAI	**Manna**	**27.64**	**272**	P	**P**	**17 16 52.6**	**+0.9**
MYKOM	**Kota Tinggi**	**27.90**	**286**	P	**P**	**17 16 53.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**29.43**	**203**	P	**P**	**17 17 08.9**	**+1.6**
	comp=Z,8.1nm,0.8s,baz=346,slow=4.2,SNR=2.5						
NWAO	**Narrogin (SRO)**	**29.43**	**203**	P	**P**	**17 17 08.9**	**+1.6**
NWAO				IAmb	IAmb	17 17 18.2	
	comp=Z,20nm,1.2s						
NWAO	**Narrogin (SRO)**	**29.43**	**203**	P	**P**	**17 17 08.7**	**+1.3**
NWAO				IAmb	IAmb	17 17 18.2	
	comp=Z,18nm,1.2s						
YHNB	**Yeheng**	**31.94**	**344**	P	**P**	**17 17 29.3**	**-0.3**
UBPT	**Khong Chiam**	**32.80**	**311**	P	**P**	**17 17 37.7**	**+0.5**
	comp=Z,6nm,1.3s						
UBPT	**Khong Chiam**	**32.80**	**311**	P	**P**	**17 17 36.5**	**-0.7**
UBPT				IAmb	IAmb	17 17 37.8	
	comp=Z,16nm,1.1s						
RPSI	**Rantau Prapat**	**32.88**	**285**	P	**P**	**17 17 35.6**	**-2.3**
RPSI				IAmb	IAmb	17 17 41.6	
	comp=Z,14nm,0.8s						
PSI	**Prapat**	**32.91**	**285**	P	**P**	**17 17 36.3**	**-2.0**
	comp=Z,15nm,0.9s,baz=181,slow=2.1,SNR=9.3						
GSI	**Gunungsitoli**	**33.85**	**282**	P	**P**	**17 17 44.4**	**-1.9**
KHON	**Khomkaen**	**35.46**	**309**	P	**P**	**17 18 00.5**	**+0.4**
	comp=Z,40nm,0.7s						
CHAI	**Chaiyaphum**	**35.86**	**308**	P	**P**	**17 18 03.5**	**0.0**
	comp=Z,291nmcomp=Z,24nm,0.6s						
SRDT	**SRDT**	**37.33**	**303**	P	**P**	**17 18 15.5**	**-0.5**
	comp=Z,9.1nm,0.8s						
UTHA	**Uthaitani**	**37.69**	**305**	P	**P**	**17 18 19.0**	**-0.1**
	comp=Z,229nmcomp=Z,27nm,0.8s						
PHIT	**Phitsanulok**	**37.83**	**308**	P	**P**	**17 18 21.0**	**+0.8**
	comp=Z,76nm,0.8s						
UTTA	**Uttaradit**	**38.04**	**309**	P	**P**	**17 18 22.4**	**+0.5**
	comp=Z,187nmcomp=Z,21nm,0.8s						
SUKH	**Sukhothai**	**38.61**	**308**	P	**P**	**17 18 27.0**	**+0.3**
	comp=Z,22nm,0.9s						
LAMP	**Lampang**	**39.20**	**309**	P	**P**	**17 18 33.6**	**+1.9**
	comp=Z,12nm,0.8s						
NJ2	**Nanjing**	**39.62**	**344**	*e*P	**P**	**17 18 36.9**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CM35	**Chiang Mai Arr**	**39.66**	**309**	P	**P**	**17 18 35.0**	**-0.5**
CM01	**Chiang Mai Arr**	**39.66**	**309**	P	**P**	**17 18 36.0**	**+0.4**
	comp=Z,60nmcomp=Z,6.1nm,0.9s						
WHN	**Wuhan**	**39.69**	**338**	⇓P	**P**	**17 18 36.3**	**+0.8**
CM31	**Chiang Mai Arr**	**39.70**	**309**	P	**P**	**17 18 34.5**	**-1.4**
CM31				IAmb	IAmb	17 18 37.0	
	comp=Z,13nm,1.2s						
CMAR	**Chiang Mai Arr**	**39.70**	**309**	P	**P**	**17 18 35.9**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=135,slow=6.7,SNR=11						
CMAR				PcP	**PcP**	**17 20 40.6**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=156,slow=2.3,SNR=6.5						
CMAR	**Chiang Mai Arr**	**39.70**	**309**	P	**P**	**17 18 35.2**	**-0.7**
CM34	**Chiang Mai Arr**	**39.77**	**309**	P	**P**	**17 18 36.0**	**-0.4**
GYA	**Guiyang**	**39.90**	**325**	*e*P	**P**	**17 18 37.4**	**-0.1**
GYA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CMMT	**Chiang Mai**	**39.90**	**309**	P	**P**	**17 18 36.0**	**-1.5**
	comp=Z,5.9nm,1.1s						
CHTO	**Chiang Mai**	**39.90**	**309**	P	**P**	**17 18 37.4**	**-0.1**
CHTO				IAmb	IAmb	17 18 38.5	
	comp=Z,16nm,1.3s						
JHJ2	**Mitsune**	**40.00**	**12**	P	**P**	**17 18 38.0**	**-0.1**
KMI	**Kunming**	**41.28**	**320**	⇑P	**P**	**17 18 50.8**	**+1.8**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,140nm,5.3s						
JWT	**Wachi**	**41.45**	**6**	P	**P**	**17 18 50.5**	**+0.6**
JWT				IAmb	IAmb	17 19 19.3	
	comp=Z,20nm,1.3s						
ENH	**Enshi**	**41.51**	**332**	P	**P**	**17 18 50.1**	**-0.5**
ENH				IAmb	IAmb	17 18 50.8	
	comp=Z,9.7nm,0.8s						
KSRS	**Korea Array**	**43.45**	**357**	P	**P**	**17 19 05.2**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=173,slow=9.1,SNR=6.3						
JMM	**Marumori**	**44.80**	**11**	P	**P**	**17 19 18.1**	**+1.4**
XAN	**Xi'an**	**44.95**	**334**	P	**P**	**17 19 17.4**	**-0.8**
XAN				pP	pP	17 19 44.9	-1.0
XAN				sP	sP	17 19 56.3	-3.2
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN	**Xi'an**	**44.95**	**334**	P	**P**	**17 19 17.2**	**-1.0**
XAN				IAmb	IAmb	17 19 18.1	
	comp=Z,7.4nm,0.8s						
BJT	**Baijiatuan**	**47.84**	**345**	P	**P**	**17 19 40.7**	**+0.1**
BJT				IAmb	IAmb	17 19 41.2	
	comp=Z,7.4nm,0.6s						
BJI	**Beijing**	**47.86**	**345**	P	**P**	**17 19 40.8**	**+0.1**
BJI				PcP	**PcP**	**17 21 08.4**	**+0.9**
BJI				PP	**PP**	**17 21 35.6**	**+1.8**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
FUNA	**Funafuti**	**48.18**	**96**	P	**P**	**17 19 42.8**	**-0.9**
SHL	**Shillong**	**49.12**	**312**	P	**P**	**17 19 49.4**	**-1.5**
SHL				IAmb	IAmb	17 19 50.7	
	comp=Z,7.3nm,0.9s						
HHC	**Hu-ho-hao-te**	**49.95**	**341**	*e*P	**P**	**17 19 58.0**	**+1.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,58nm,7.6s						
USRK	**Ussuriysk Ar.**	**50.13**	**1**	P	**P**	**17 19 57.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=165,slow=6.0,SNR=5.5						
USRK	**Ussuriysk Ar.**	**50.13**	**1**	P	**P**	**17 19 57.2**	**-0.8**
ASAJ	**Asahikawa**	**51.18**	**11**	P	**P**	**17 20 05.8**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=180,slow=19,SNR=0.9						
LSA	**Lhasa**	**52.04**	**315**	P	**P**	**17 20 13.1**	**-0.1**
LSA				IAmb	IAmb	17 20 14.1	
	comp=Z,4.2nm,0.7s						
ODAN	**Odare**	**53.20**	**310**	*e*P	**P**	**17 20 20.8**	**-0.6**
	comp=Z,20nm,0.7s						
TAPN	**Taplejung**	**53.22**	**311**	*e*P	**P**	**17 20 21.1**	**-0.5**
	comp=Z,14nm,0.5s						
GTA	**Gaotai**	**53.55**	**330**	*e*P	**P**	**17 20 24.0**	**+0.4**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RAMN	**Ramite**	**53.85**	**310**	*e*P	**P**	**17 20 26.0**	**-0.2**
	comp=Z,47nm,0.6s						
GUN	**Gumba**	**54.89**	**310**	*e*P	**P**	**17 20 33.4**	**-0.4**
	comp=Z,39nm,0.7s						
PKI	**Pulchoki**	**55.08**	**310**	*e*P	**P**	**17 20 34.3**	**-0.9**
	comp=Z,9.2nm,0.7s						
PKIN	**Phulchoki**	**55.09**	**310**	*e*P	**P**	**17 20 34.4**	**-0.8**
	comp=Z,9.4nm,0.7s						
KLR	**Kul'dur**	**55.16**	**1**	P	**P**	**17 20 34.8**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=169,slow=1.8,SNR=4.2						
KKN	**Kakani**	**55.29**	**310**	*e*P	**P**	**17 20 36.0**	**-0.5**
DMN	**Daman**	**55.33**	**310**	*e*P	**P**	**17 20 36.4**	**-0.5**
	comp=Z,20nm,0.8s						
GKN	**Gorkha**	**55.88**	**310**	*e*P	**P**	**17 20 40.2**	**-0.5**
	comp=Z,30nm,0.7s						
ULN	**Ulaanbaatar**	**57.66**	**341**	P	**P**	**17 20 53.2**	**+0.3**
ULN				IAmb	IAmb	17 20 54.5	
	comp=Z,8.0nm,0.7s						
SONM	**Songino Array**	**57.85**	**341**	P	**P**	**17 20 54.4**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=163,slow=6.5,SNR=25						
SONM	**Songino Array**	**57.85**	**341**	P	**P**	**17 20 54.3**	**+0.1**
WMQ	**Urumqi**	**63.04**	**326**	*e*P	**P**	**17 21 30.0**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,18nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,180nm,6.3s						
WMQ				LR	LR		
	comp=N,2µm,28.8s						
WMQ				LR	LR		
	comp=E,3µm,28.8s						
WMQ				LR	LR		
	comp=Z,210nm,29.2s						
WMQ	**Urumqi**	**63.04**	**326**	P	**P**	**17 21 30.2**	**+0.7**
PETK	**Petropavlovsk-**	**63.32**	**18**	P	**P**	**17 21 32.0**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=134,slow=4.2,SNR=5.1						
ZSN	**Zaisan**	**66.89**	**328**	*e*P	**P**	**17 21 54.1**	**-0.2**
	comp=Z,4.9nm,1.0s,baz=328						
NIL	**Nilore**	**67.16**	**310**	P	**P**	**17 21 56.0**	**-0.3**
MA2	**Magadan**	**67.44**	**11**	P	**P**	**17 21 58.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=180,slow=3.9,SNR=4.0						
SHLS	**Shalkode**	**67.45**	**322**	*e*P	**P**	**17 21 56.5**	**-1.5**
	comp=Z,8.9nm,0.7s,baz=322						
UZB	**Uzynbulak**	**67.72**	**322**	*e*P	**P**	**17 21 59.7**	**0.0**
	comp=Z,3.8nm,0.8s,baz=322						
KSH	**Kashi**	**67.84**	**317**	*e*P	**P**	**17 22 01.8**	**+1.3**
KSH				pP	sP	17 22 39.4	-3.8
KSH				pmax	pmax		
	comp=Z,19nm,1.1s						
KSH				pmax	pmax		
	comp=Z,170nm,3.9s						
MK31	**Makanchi Array**	**67.88**	**326**	P	**P**	**17 22 00.5**	**0.0**
MKAR	**Makanchi Array**	**67.88**	**326**	P	**P**	**17 22 01.0**	**+0.5**
	comp=Z,27nm,0.7s,baz=120,slow=8.2,SNR=307						
MKAR	**Makanchi Array**	**67.88**	**326**	P	**P**	**17 22 00.7**	**+0.2**
YAK	**Yakutsk**	**67.98**	**360**	P	**P**	**17 22 00.6**	**-0.1**
SATY	**Saty**	**68.05**	**321**	*e*P	**P**	**17 22 01.8**	**0.0**
	comp=Z,8.2nm,0.9s,baz=321						
MAKZ	**Makanchi**	**68.06**	**326**	P	**P**	**17 22 01.7**	**0.0**
KPKS	**Kokpek**	**68.09**	**322**	*e*P	**P**	**17 22 02.0**	**-0.1**
	comp=Z,20nm,1.2s,baz=322						
TNSS	**Tian-Shan**	**68.95**	**321**	*e*P	**P**	**17 22 07.9**	**+0.2**
	baz=321						
MDOK	**Medeo**	**68.95**	**321**	*e*P	**P**	**17 22 07.8**	**+0.3**
	baz=321						
AAA	**Alma-Ata**	**69.06**	**321**

SOEI	Soe	4.86	231	Pn		Pn	17 14 16.1	-0.3
FAKI	Fak Fak	5.58	48	Pn		Pn	17 14 24.0	-0.8
BATI	Baumata	5.60	231	P		Pn	17 14 25.0	0.0
	371nm,0.3s,baz=38,slow=0.2,SNR=94							
BATI				S		S	17 15 29.7	-3.5
	51nm,0.3s,baz=89,slow=19,SNR=6.1							
MMRI	Maumere	6.11	251	Pn		Pn	17 14 30.1	-1.0
SIJI	Sorong	6.59	29	P		Pn	17 14 36.5	-0.4
	baz=282,slow=20,SNR=0.8							
SIJI				S		S	17 15 49.4	-5.4
	4.7nm,0.3s,baz=253,slow=19,SNR=2.6							
MTN	Manton Dam	6.82	154	Pn		Pn	17 14 38.3	-1.3
TNTI	Ternate	7.44	354	Pn		Pn	17 14 48.6	+1.4
LUWI	Luwuk	7.71	316	Pn		Pn	17 14 52.4	+1.9
KNRA	Kununurra	8.96	176	Pn		Pn	17 15 04.8	-1.1
TOLI2	Tolitoli	10.63	316			Pn	17 15 27.1	+0.8
FITZ	Fitzroy Crossi	11.60	192	P		P	17 15 40.1	+0.3
	4.2nm,0.3s,baz=23,slow=12,SNR=2.3							
FITZ	Fitzroy Crossi	11.60	192	Pn		Pn	17 15 37.8	-0.3
JAGI	Jajag, Banyuwa	13.92	262			P	17 16 03.9	-1.9
WB0	Warramunga Arr	14.38	155			P	17 16 10.4	-0.3
WRAB	Tennant Creek	14.51	156			P	17 16 11.9	-0.3
WRA	Warramunga Arr	14.52	156	P		P	17 16 11.9	-0.3
	14nm,0.3s,baz=333,slow=12,SNR=22							
WRA	Warramunga Arr	14.52	156	P		P	17 16 10.5	-1.8
WB2	Warramunga Arr	14.52	156			P	17 16 12.3	0.0
WR0	Warramunga Arr	14.61	155			P	17 16 13.2	-0.1
COEN	Coen	16.51	117			P	17 16 34.9	+0.8
PSA00	Pilbara Seismi	16.81	207			P	17 16 37.6	+0.3
PSA00				IAmb		IAmb	17 16 38.2	
	comp=Z,21nm,1.1s							
AS31	Alice Springs	17.79	162	P		P	17 16 48.6	+0.6
ASAR	Alice Springs	17.79	162	P		P	17 16 48.9	+0.9
	comp=Z,20nm,0.3s,baz=344,slow=12,SNR=67							
ASAR	Alice Springs	17.79	162	P		P	17 16 48.0	+0.1
CTA	Charters Tower	22.10	129	P		P	17 17 32.0	+0.5
	comp=Z,2.5nm,0.5s,baz=298,slow=13,SNR=2.0							
CTAO	Charters Tower	22.10	129	P		P	17 17 32.4	+0.9
CTAO				IAmb		IAmb	17 17 45.9	
	comp=Z,26nm,1.6s							
FORT	Forrest	23.97	180	P		P	17 17 48.0	-0.3
MORW	Morawa	25.00	206	P		P	17 17 58.3	+0.6
MORW				IAmb		IAmb	17 18 20.1	
	comp=Z,23nm,1.5s							
BBOO	Buckleboo	27.04	165	P		P	17 18 15.9	+0.1
BBOO				IAmb		IAmb	17 18 16.1	
	comp=Z,12nm,0.5s							
NWAO	Narrogin (SRO)	28.00	200	P		P	17 18 23.9	-0.3
	comp=Z,5.5nm,0.5s,baz=17,slow=5.4,SNR=2.2							
NWAO	Narrogin (SRO)	28.00	200	P		P	17 18 24.1	-0.1
NWAO	Narrogin (SRO)	28.00	200	P		P	17 18 24.2	-0.1
NWAO				IAmb		IAmb	17 18 29.8	
	comp=Z,62nm,1.6s							
STKA	Stephens Creek	28.07	155	P		P	17 18 24.3	-0.6
	comp=Z,5.2nm,0.4s,baz=337,slow=7.4,SNR=5.4							
STKA	Stephens Creek	28.07	155	P		P	17 18 24.7	-0.2
YULB	Yu-li	30.62	348	P		P	17 18 48.1	+0.8
YULB				IAmb		IAmb	17 19 25.5	
	comp=Z,8.9nm,1.1s							
TPUB	Ta-pu	30.68	346	P		P	17 18 46.5	-1.5
TPUB				IAmb		IAmb	17 18 50.9	
	comp=Z,14nm,1.1s							
ARMA	Armidale	32.35	140	P		P	17 19 04.0	+1.5
ARMA				IAmb		IAmb	17 19 33.8	
	comp=Z,31nm,1.4s							
JOW	Kunigami	33.31	0	P		P	17 19 11.6	+0.8
	comp=Z,18nm,0.6s,baz=189,slow=9.4,SNR=6.9							
JOW	Kunigami	33.31	0	P		P	17 19 11.6	+0.8
JOW				IAmb		IAmb	17 19 12.5	
	comp=Z,26nm,1.1s							
CAN	Canberra	34.38	149	P		P	17 19 21.4	+1.5
TOO	Toolangi	34.59	155	P		P	17 19 23.2	+1.6
TOO				IAmb		IAmb	17 19 31.6	
	comp=Z,21nm,1.3s							
JCJ	Chichijima	36.25	22	P		P	17 19 34.7	-1.0
	comp=Z,37nm,0.8s,baz=270,slow=23,SNR=5.3							
JMN	Monobe	40.56	7	P		P	17 20 11.0	-0.4
JMN				IAmb		IAmb	17 20 33.1	
	comp=Z,48nm,1.5s							
JHS	Saijyo	41.73	6	P		P	17 20 21.3	+0.5
KSAR	Wonju Array Be	43.89	360	P		P	17 20 38.7	+0.7
KSRS	Korea Array	43.91	360	P		P	17 20 39.0	+0.9
	comp=Z,2.8nm,0.6s,baz=177,slow=10,SNR=16							
KS19	Wonju Array Si	43.95	360	P		P	17 20 38.5	0.0
MJAR	Matsushiro Arr	44.03	12	P		P	17 20 38.3	-0.8
	comp=Z,0.8nm,0.5s,baz=197,slow=11,SNR=4.7							
MJAR	Matsushiro Arr	44.03	12	IAmb		IAmb	17 20 43.2	
	comp=Z,2.8nm,1.3s							
MAJO	Matsushiro	44.03	12	P		P	17 20 38.3	-0.8
JYT	Yasato	44.17	14	P		P	17 20 39.2	-1.0
JYT				IAmb		IAmb	17 20 56.9	
	comp=Z,40nm,1.6s							
JSD	Sado	45.49	11	P		P	17 20 50.4	-0.1
JSD				IAmb		IAmb	17 21 14.4	
	comp=Z,22nm,1.6s							
JMM	Marumori	45.88	14	P		P	17 20 53.2	-0.3
JMM				IAmb		IAmb	17 21 16.4	
	comp=Z,63nm,1.6s							
BJT	Baijiatuan	47.75	348	P		P	17 21 07.5	-0.3
USA0B	Ussuriysk Arra	50.77	4	P		P	17 21 31.1	+0.7
USRK	Ussuriysk Ar.	50.77	4	P		P	17 21 30.6	+0.1
	comp=Z,1.5nm,0.5s,baz=194,slow=7.0,SNR=8.1							
WHZ	Wether Hill Ro	52.03	145	P		P	17 21 40.0	+0.1
ASAJ	Asahikawa	52.23	13	P		P	17 21 41.5	+0.2
	comp=Z,4.3nm,0.8s,baz=231,slow=9.1,SNR=7.0							
JKA	Kamikawa-asahi	52.23	13	P		P	17 21 41.5	+0.2
JKA	Kamikawa-asahi	52.23	13	IAmb		IAmb	17 21 47.2	
	comp=Z,15nm,1.4s							
NNZ	Nelson	52.92	138	P		P	17 21 46.5	+0.1
NNZ				IAmb		IAmb	17 22 18.4	
	comp=Z,19nm,1.1s							
TUWZ	Tuamarina	53.39	138	P		P	17 21 50.0	+0.2
KHZ	Kahutara	53.59	139	P		P	17 21 51.6	+0.4
BKZ	Black Stump Fm	54.18	134	P		P	17 21 55.8	+0.2
BKZ				IAmb		IAmb	17 21 59.7	
	comp=Z,46nm,1.6s							
ULN	Ulaanbaatar	57.40	343	P		P	17 22 19.5	+1.3
ULN				IAmb		IAmb	17 22 20.5	
	comp=Z,9.4nm,1.3s							
SONM	Songino Array	57.56	343	P		P	17 22 20.7	+1.4
	comp=Z,3.1nm,0.7s,baz=161,slow=7.0,SNR=11							
SONM	Songino Array	57.56	343	P		P	17 22 20.2	+0.9
PEA0B	Petropavlovsk-	64.63	19	P		P	17 23 07.1	+0.9
PETK	Petropavlovsk-	64.63	19	P		P	17 23 07.2	+0.9
	comp=Z,3.6nm,0.6s,baz=167,slow=3.9,SNR=19							
MK31	Makanchi Array	66.93	328	P		P	17 23 21.2	+0.2
MKAR	Makanchi Array	66.93	328	P		P	17 23 21.1	0.0
	comp=Z,1.9nm,0.5s,baz=118,slow=8.2,SNR=5.9							
MAKZ	Makanchi	67.10	327	P		P	17 23 22.3	+0.2
MA2	Magadan	68.47	12	P		P	17 23 31.1	+0.9
	comp=Z,2.3nm,0.6s,baz=183,slow=2.7,SNR=8.9							
MA2	Magadan	68.47	12	P		P	17 23 31.2	+0.9
MA2				IAmb		IAmb	17 23 32.1	
	comp=Z,3.8nm,0.8s							
YAK	Yakutsk	68.52	1	P		P	17 23 31.0	+0.5
	comp=Z,5.7nm,0.3s,baz=180,slow=1.4,SNR=4.3							
YAK	Yakutsk	68.52	1	P		P	17 23 30.9	+0.5
YAK				IAmb		IAmb	17 23 31.5	
	comp=Z,13nm,0.7s							
ZAA0	Zalesovo Array	70.47	335	P		P	17 23 43.0	+0.4
ZAA0				IAmb		IAmb	17 23 43.3	
	comp=Z,4.1nm,0.8s							
ZALV	Zalesovo Beam	70.47	335	P		P	17 23 41.9	-0.7
	comp=Z,3.4nm,0.7s,baz=130,slow=5.3,SNR=7.2							
ZALV	Zalesovo Beam	70.47	335	P		P	17 23 42.4	-0.1
KURBB	Kurchatov Arra	71.25	329	P		P	17 23 48.3	+1.0
	baz=126,slow=5.1							
SEY	Seymchan	71.86	11	P		P	17 23 51.8	+1.1
	comp=Z,5.0nm,0.6s,baz=226,slow=5.3,SNR=17							
TIXI	Tiksi	78.17	0	P		P	17 24 26.4	+0.1
	comp=Z,3.5nm,0.6s,baz=162,slow=4.9,SNR=9.1							
TIXI	Tiksi	78.17	0	P		P	17 24 26.2	-0.2
TIXI				IAmb		IAmb	17 24 27.0	
	comp=Z,3.7nm,0.6s							
AKTO	Aktyubinsk	82.66	323	P		P	17 24 51.4	+0.8
	comp=Z,1.6nm,0.6s,baz=85,slow=12,SNR=3.9							

IDC 20 17:23:44.7±20.0, 35.12N×109.68E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.2/52, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=314.3km s-min=88.4km az=127.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	12.94	350	Pn		Pn		17 26 50.4	+0.4
	0.1nm,0.3s,baz=168,slow=13,SNR=8.4								
MKAR	Makanchi Array	23.62	308	P		P		17 28 57.3	0.0
	0.8nm,0.7s,baz=106,slow=10,SNR=8.2								
ZALV	Zalesovo Beam	25.64	325	P		P		17 29 15.2	-0.5
	0.4nm,0.4s,baz=123,slow=10,SNR=4.7								
KURBB	Kurchatov Arra	27.34	314	P		P		17 29 31.6	+0.4
	1.0nm,0.8s,baz=112,slow=11,SNR=4.9								

IDC 20 17:56:25.7±1.8, 2.00N×126.49E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/31, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=116.6km s-min=22.5km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.99	182	P		Pn		18 01 01.3	-0.3
	0.1nm,0.3s,baz=1,2,slow=14,SNR=6.1								
WRA	Warramunga Arr	23.12	161	P		P		18 01 33.1	-0.5
	0.7nm,0.4s,baz=338,slow=11,SNR=12								
ASAR	Alice Springs	26.51	165	P		P		18 02 05.0	-0.2
	0.2nm,0.3s,baz=340,slow=7.2,SNR=8.2								
MKAR	Makanchi Array	58.84	326	P		P		18 06 26.2	0.0
	0.3nm,0.4s,baz=114,slow=8.2,SNR=12								

TIF 20 18:08:14.3, 42.39N×40.97E, h23km±2km
DDA 20 18:08:16.6, 42.31N×41.35E, h5km±7km, ML1.7
MOS 20 18:08:16.0±0.0, 42.49N×41.06E, h9km, ML1.8/7, MPVA2.9

ISC 20 18:08:14.9±1.1, 42.42N±0.03×41.08E±0.03, h14km±11km, n19, σ0°62/35, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHVG	Ch'k'valeri	0.80	68	P		P	Pn	18 08 31.5	-0.3
CHVG				S			Sn	18 08 44.3	+0.7
DOMR	Dombai	0.96	24	*e*Pg			Pn	18 08 34.2	+0.1
DOMR				*e*Sg			Sg	18 08 46.4	+0.3
ARXR	Arkhyz	1.15	7	*e*Pg			Pb	18 08 36.8	+0.1
ARXR				*e*Sg			Sg	18 08 52.4	+0.2
ARXR				*i* AML			AML	18 09 00.5	
	30nm,0.8s								
DBOC	Borcka	1.16	158	*i* P			Pb	18 08 36.3	-0.4
DBOC				*i* S			Sb	18 08 51.8	+0.2
DBOC				IAML				18 08 53.0	
	comp=E,26nm,0.1s								
VSLR	Vesyoloye	1.30	324	*e*Pg			Pb	18 08 39.5	+0.4
VSLR				*e*Sg			Sg	18 08 57.3	+0.5
RPOR	Krasnaya Polya	1.41	335	*e*Pg			Pb	18 08 41.3	+0.3
RPOR				*e*Sg			Sg	18 09 00.5	+0.1
RPOR				*i* AML			AML	18 09 01.6	
	comp=E,15nm,0.3s								
ABS	Abastumani	1.45	117	P			Pg	18 08 42.9	0.0
ABS				S			Sg	18 09 03.2	+1.5
NEY	Neytrino	1.47	55	*e*Pg			Pb	18 08 42.4	+0.4
NEY				*e*Sg			Sg	18 09 02.1	-0.1
DBAD	Bademkaya	1.47	162	*i* P			Pn	18 08 41.1	0.0
DBAD				*i* S			Sn	18 08 58.9	-1.4
DBAD				IAML				18 09 02.0	
	comp=E,10.0nm,0.3s								
DBAD				IAML				18 09 02.0	
	comp=N,12nm,0.7s								
EPOS	Posof	1.53	126	*i* P			Pn	18 08 41.3	-0.7
SOC	Sochi	1.54	320	*e*Pg			Pb	18 08 43.5	+0.3
SOC				*e*Sg			Sb	18 09 02.8	+0.4
SOC				*i* AML			AML	18 09 05.2	
	comp=N,37nm,0.2s								
GUZR	Guzeripl'	1.73	336	*i* Pg			Pb	18 08 46.0	-0.4
GUZR				*i* Sg			Sb	18 09 09.2	+1.2
SHA1	Shidzhatmaz	1.75	41	*e*Pg			Pg	18 08 48.3	-0.3
SHA1				*e*Sg			Sg	18 09 10.8	-0.6
SHA1				*i* AML			AML	18 09 15.5	
	comp=N,5.6nm,0.5s								
ONI	Oni	1.76	84	P			Pb	18 08 47.5	+0.5
ONI				S			Sg	18 09 11.7	0.0
ONI	Oni	1.76	84	*e*Pg			Pb	18 08 47.3	+0.2
ONI				*e*Sg			Sg	18 09 12.2	+0.6
KBZ	Khabaz	1.87	45	*e*Pg			Pg	18 08 49.9	-0.8
KBZ				*e*Sg			Sg	18 09 14.4	-0.6
LZRR	Lazarevskoye	1.96	321	*e*Pg			Pb	18 08 50.2	-0.2
LZRR				*e*Sg			Sb	18 09 14.2	-0.5
LZRR				*i* AML			AML	18 09 21.3	
	comp=N,20nm,0.4s								
KRIK	Erzurum-spir	2.08	183	*i* P			Pn	18 08 50.7	+1.1
BAYB	BAYBURT	2.25	196	*i* P			Pg	18 08 57.5	-0.5
BAYB				IAML				18 09 25.0	
	comp=E,4.8nm,0.9s								

INET 20 18:11:28.2, 11.18N×87.05W, h15km, MW3.0

UCR 20 18:11:29.5±2.1, 11.07N×86.72W, h40km±404km, MW3.5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLVR	Palo Verde	1.52	118	*e*P			Pn	18 11 54.1	-0.3
CUI	Cuipilapa	1.58	105	*e*P			Pn	18 11 55.9	+0.8
JTS	Las Juntas de	1.90	114	*e*P			Pn	18 12 01.0	+1.6
CSGN	Cosiguina Volc	2.07	337	*e*P			Pn	18 12 01.4	-0.4
LAFE	Finca La Fe, P	2.17	125	*e*P			Pn	18 12 03.2	0.0
LAFE				*e*S			Sn	18 12 29.2	+0.3
LCR2	La Lucha 2	2.98	116	*e*P			Pn	18 12 17.1	+2.6
CVTR	Volcan Turrial	3.09	109	*e*P			Pn	18 12 16.6	+0.4
CVTR				*e*S			Sn	18 12 52.7	+0.5
CDM	Cerro de Muert	3.27	117	*e*P			Pn	18 12 21.0	+2.3

IDC 20 18:24:03.1±6.0, 6.69S×149.94E, h82km±42km, mb3.3/4, mb1 3.5/5, mb1mx3.2/31, mbtmp3.7/5, ML1.7/1, Error ellipse: s-maj=76.5km s-min=33.8km az=115.0

ISC 20 18:23:57.4±2.6, 6.7S±0.4×150.3E±0.5, h35km, n6, σ1s22/7, mb3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.13	228	P		P	Pn	18 24 59.4	+1.4
	4.5nm,0.3s,baz=46,slow=5.6,SNR=18								
PMG				S			Sn	18 25 45.0	-0.2
	2.4nm,0.3s,baz=205,slow=18,SNR=4.5								
WRA	Warramunga Arr	20.35	228	P		P		18 28 30.5	-0.5
	2.6nm,0.5s,baz=52,slow=11,SNR=36								
ASAR	Alice Springs	23.11	221	P		P		18 28 60.0	-0.5
	0.7nm,0.8s,baz=54,slow=9.2,SNR=22								
FITZ	Fitzroy Crossi	26.59	242	P		P		18 29 30.7	-1.8
	1.8nm,0.6s,baz=59,slow=9.4,SNR=17								
MKAR	Makanchi Array	80.10	320	P		P		18 36 04.2	+0.4
	0.1nm,0.5s,baz=91,slow=6.3,SNR=2.6								
TORD	Torodi Ar. Bea	148.43	284	PKPbc		PKPdf		18 43 37.9	+0.1
	0.6nm,0.7s,baz=61,slow=3.4,SNR=2.3								

DJA 20 18:29:59.4±0.4, 6.3S×3.12°9E±°, h305km±5km, M4.5/12, mb4.5/7, mB4.9/4, MLv4.6/12, Mw(mB)4.2/4
NEIC 20 18:30:03.0±2.5, 5.76S±0.06×128.78E±0.09, h293km±7km, mb4.4/18, Error ellipse: s-maj=13.6km s-min=9.2km az=98.0
IDC 20 18:30:03.2±1.2, 5.78S×128.67E, h287km±14km, mb3.2/7, mb1 3.6/13, mb1mx3.3/36, mbtmp4.3/13, Error ellipse: s-maj=14.8km s-min=11.1km az=77.0

ISC 20 18:30:03.0±0.5, 5.78S±0.04×128.84E±0.05, h300km, n49, σ2s31/62, mb3.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.64	40	P		P	Pn	18 30 47.6	+0.5
BNDI				S			S	18 31 20.7	-1.6
NLAI	Namlea	3.07	325	P		P	Pn	18 30 57.5	-1.9
NLAI				S			S	18 31 45.3	+0.8
SAUI	Saumlaki	3.28	132	P		Pn	Pn	18 31 02.0	+0.5
SAUI				S			S	18 31 43.7	-4.7
SAUI	Saumlaki	3.28	132	P		P	Pn	18 31 00.7	-0.9
SAUI				S			S	18 31 45.6	-2.8
FAKI	Fak Fak	4.43	50	P		P	Pn	18 31 13.6	-0.5
FAKI				S			S	18 32 05.8	-5.4
FAKI	Fak Fak	4.43	50	P		P	Pn	18 31 13.2	-0.9
FAKI				S			S	18 32 06.3	-4.8
SANI	Sanana	4.67	322	P		P	Pn	18 31 13.1	-3.7
SANI				S			S	18 32 11.3	-4.8
SIJI	Sorong	5.45	26	P		P	Pn	18 31 24.9	-1.0
	16nm,0.3s,baz=53,slow=11,SNR=196								
SIJI				S			S	18 32 27.2	-5.3
	31nm,0.3s,baz=254,slow=23,SNR=27								
SWI	Sorong	5.45	26	P		P	Pn	18 31 24.6	-1.3
	0.8nm2µm68nm,0.5s								
SOEI	Soe	6.01	229	P		P	Pn	18 31 28.2	-4.4
	0.9nm3µm176nm,0.6s								
BATI	Baumata	6.75	229	P		P	Pn	18 31 41.9	+0.4
	52nm,0.3s,baz=220,slow=1.7,SNR=37								
BATI				S		S		18 32 57.5	-3.4
	baz=86,slow=19,SNR=1.2								
BATI	Baumata	6.75	229	P		Pn		18 31 32.7	-8.7
	0.5nm2µm103nm,0.5s								
MTN	Manton Dam	7.37	162			Pn		18 31 48.5	-0.4
SPSI	Sidrap Palu	9.22	281	P		Pn		18 32 13.5	+1.9
TOLI2	Tolitoli	10.57	310	Pn		Pn		18 32 28.4	+0.2
JAY	Jayapura	12.27	75	P		P		18 32 50.1	0.0
	0.7nm,0.3s,baz=252,slow=9.6,SNR=3.7								
FITZ	Fitzroy Crossi	12.63	194	P		Pn		18 32 52.1	-1.1
	2.9nm,0.3s,baz=27,slow=9.3,SNR=85								
FITZ				S		S		18 35 07.4	-6.0
	0.4nm,0.3s,baz=100,slow=17,SNR=2.2								
WB0	Warramunga Arr	14.91	159			Pn		18 33 20.2	-0.3
WRAB	Tennant Creek	15.05	160			Pn		18 33 21.9	-0.2
WRAB				IAmb		IAmb		18 33 23.4	
	comp=Z,19nm,0.9s								
WRA	Warramunga Arr	15.05	160	P		Pn		18 33 21.9	-0.3
	comp=Z,6.7nm,0.3s,baz=341,slow=11,SNR=197								
WRA				S		S		18 36 01.0	-4.0
	comp=Z,0.9nm,0.3s,baz=347,slow=21,SNR=9.3								
WRA	Warramunga Arr	15.05	160	P		P		18 33 20.4	-0.3
WB2	Warramunga Arr	15.06	160			Pn		18 33 21.9	-0.3
WB2				IAmb		IAmb		18 33 23.4	
	comp=Z,21nm,1.0s								
WB2						S		18 36 02.7	-2.4
WR0	Warramunga Arr	15.14	159			Pn		18 33 22.7	-0.5
WR0				IAmb		IAmb		18 33 25.4	
	comp=Z,14nm,0.6s								
COEN	Coen	16.28	121	P		Pn		18 33 36.0	-0.6
PSA00	Pilbara Seismi	17.95	208	P		P		18 33 52.7	+0.5
PSA00				IAmb		IAmb		18 33 53.0	
	comp=Z,14nm,0.9s								
PSA00	Pilbara Seismi	17.95	208	P		P		18 33 52.0	-0.2
PSA00				IAmb		IAmb		18 34 05.8	
	comp=Z,5.4nm,0.7s								
AS31	Alice Springs	18.43	165	P		P		18 33 59.0	+1.6
ASAR	Alice Springs	18.44	165	P		P		18 33 59.2	+1.8
	comp=Z,7.1nm,0.3s,baz=346,slow=12,SNR=661								
ASAR				S		S		18 37 09.4	-2.6
	comp=Z,0.6nm,0.3s,baz=346,slow=21,SNR=33								
ASAR				ScP		ScP		18 41 21.1	+0.8
	comp=Z,0.1nm,0.3s,baz=347,slow=2.4,SNR=6.9								
ASAR	Alice Springs	18.44	165	P		P		18 33 58.7	+1.3
ASAR				S		S		18 37 11.8	-0.2
PMG	Port Moresby	18.51	102	P		P		18 34 01.5	+3.3
	comp=Z,1.1nm,0.3s,baz=144,slow=19,SNR=1.7								
PMG	Port Moresby	18.51	102	P		P		18 34 02.5	+4.2
PMG				IAmb		IAmb		18 34 21.0	
	comp=Z,13nm,0.9s								
CTA	Charters Tower	22.10	132	P		P		18 34 37.2	+3.0
	comp=Z,3.1nm,0.6s,baz=310,slow=13,SNR=5.5								
CTAO	Charters Tower	22.10	132	P		P		18 34 37.1	+3.0
CTAO				IAmb		IAmb		18 34 40.9	
	comp=Z,18nm,1.6s								
MORW	Morawa	26.13	206	P		P		18 35 10.7	+0.3
MORW				IAmb		IAmb		18 35 47.0	
	comp=Z,27nm,1.5s								
BBOO	Buckleboo	27.72	167	P		P		18 35 23.6	-0.8
STKA	Stephens Creek	28.57	157	P		P		18 35 33.6	+1.7
	comp=Z,1.3nm,0.7s,baz=328,slow=17,SNR=2.8								
NWAO	Narrogin (SRO)	29.09	200	P		P		18 35 36.8	+0.3
	comp=Z,5.8nm,0.9s,baz=65,slow=17,SNR=2.3								
NWAO	Narrogin (SRO)	29.09	200	P		P		18 35 37.0	+0.5
NWAO				IAmb		IAmb		18 35 42.5	
	comp=Z,26nm,1.3s								
TPUB	Ta-pu	30.00	345	P		P		18 35 43.9	-0.7
CMAR	Chiang Mai Arr	38.07	310	P		P		18 36 53.1	-0.6
	comp=Z,0.2nm,0.4s,baz=132,slow=6.9,SNR=4.2								
JWT	Wachi	41.31	8	P		P		18 37 20.4	+0.5
JWT				IAmb		IAmb		18 37 31.0	
	comp=Z,26nm,1.6s								
KSRS	Korea Array	43.02	359	P		P		18 37 35.4	+1.8
	comp=Z,0.5nm,0.6s,baz=175,slow=9.1,SNR=3.2								
THZ	Tophouse	53.04	139	P		P		18 38 51.7	+1.7
THZ				IAmb		IAmb		18 39 22.6	
	comp=Z,38nm,1.5s								
TUWZ	Tuamarina	53.55	139	P		P		18 38 54.4	+0.8
MK31	Makanchi Array	66.58	327	P		P		18 40 22.6	+1.2
MKAR	Makanchi Array	66.58	327	P		P		18 40 22.8	+1.3
	comp=Z,0.5nm,0.5s,baz=117,slow=9.0,SNR=13								
MKAR	Makanchi Array	66.58	327	P	

	baz=302							
NNS	**Nan Shan**	**0.49**	**335**	*e*S		Sn	18 39 09.5	-0.6
	baz=336							

*JMA **20** 19:11:48.2±0.2,23°.21N×121°.62E,h5km±3km,M2.7*
*TAP **20** 19:11:49.6,23°.26N×121°.51E,h18km,ML2.9,B*
ISC 20 19:11:49.5±0.9,23°.25N±0°.01×121°.54E±0°.02,h16km±7km,
n119,σ0s72/224,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.22**	**227**	P			**Pb**	**19 11 55.8**	**+0.7**
	baz=218								
CHKT				S			**Sg**	**19 11 59.7**	**+1.8**
	baz=218								
EYUL	**Yuli**	**0.22**	**296**	*i* P			**Pb**	**19 11 55.5**	**+0.3**
	baz=297								
EYUL				S			**Sb**	**19 11 59.9**	**+0.9**
	baz=297								
FULB	**Fuli**	**0.23**	**258**	*i* P			**Pb**	**19 11 55.3**	**0.0**
	baz=253								
FULB				S			**Sb**	**19 12 00.1**	**+0.9**
	baz=253								
TWF1	**Yuli**	**0.24**	**295**	P			**Pb**	**19 11 55.7**	**+0.1**
	baz=296								
TWF1				S			**Sb**	**19 11 59.7**	**+0.1**
	baz=296								
YULB	**Yu-li**	**0.26**	**303**	*e*P			**Pb**	**19 11 55.9**	**0.0**
	baz=305								
YULB				*e*S			**Sb**	**19 12 00.1**	**-0.1**
	baz=305								
HGSD	**Ruisui**	**0.26**	**337**	*i* P			**Pb**	**19 11 56.1**	**+0.2**
	baz=342								
HGSD				*e*S			**Sb**	**19 12 00.2**	**0.0**
	baz=342								
EHY	**Hungye**	**0.32**	**323**	P			**Pb**	**19 11 56.9**	**-0.1**
	baz=326								
EHY				S			**Sg**	**19 12 01.7**	**+0.7**
	baz=326								
EDH	**Donghe**	**0.35**	**218**	P			**Pb**	**19 11 57.4**	**+0.1**
	baz=213								
EDH				*e*S			**Sb**	**19 12 03.9**	**+1.3**
	baz=213								
EGFH	**Guangfu**	**0.43**	**347**	*e*P			**Pg**	**19 11 57.4**	**-0.8**
	baz=349								
EGFH				*e*S			**Sb**	**19 12 05.9**	**+0.9**
	baz=349								
ELDTW	**Lidau**	**0.48**	**263**	P			**Pg**	**19 11 58.6**	**-0.6**
	baz=261								
ELDTW				S			**Sg**	**19 12 04.8**	**-0.9**
	baz=261								
LONT	**Longtian**	**0.51**	**228**	*e*P			**Pb**	**19 11 59.7**	**-0.4**
	baz=224								
LONT				*e*S			**Sb**	**19 12 08.8**	**+1.6**
	baz=224								
ESL	**Shilin**	**0.57**	**351**	P			**Pb**	**19 12 01.1**	**-0.1**
	baz=353								
ESL				S			**Sb**	**19 12 09.6**	**+0.5**
	baz=353								
LDUT	**Ludao**	**0.57**	**186**	*e*P			**Pb**	**19 12 01.2**	**0.0**
	baz=183								
LDUT				S			**Sb**	**19 12 09.8**	**+0.7**
	baz=183								
YUS	**Yu-Shan**	**0.59**	**294**	P			**Pg**	**19 12 00.9**	**-0.4**
	baz=293								
YUS				S			**Sg**	**19 12 08.8**	**-0.4**
	baz=293								
TWGBT	**Beinan**	**0.60**	**225**	*i* P			**Pg**	**19 12 01.1**	**-0.2**
	baz=222								
TWGBT				*e*S			**Sb**	**19 12 09.6**	**-0.3**
	baz=222								
TWG	**Pinlang**	**0.60**	**225**	P			**Pg**	**19 12 01.1**	**-0.3**
	baz=222								
TWG				S			**Sb**	**19 12 09.7**	**-0.2**
	baz=222								
TTN	**Taitung**	**0.61**	**216**	P			**Pb**	**19 12 02.3**	**+0.5**
	baz=212								
TTN				S			**Sn**	**19 12 12.6**	**-0.3**
	baz=212								
VWDT	**VWDT**	**0.62**	**324**	P			**Pg**	**19 12 01.5**	**-0.2**
	baz=325								
VWDT				S			**Sg**	**19 12 09.3**	**-0.7**
	baz=325								
STYH	**Taoyuan**	**0.70**	**264**	P			**Pg**	**19 12 02.6**	**-0.7**
	baz=262								
STYH				S			**Sg**	**19 12 11.7**	**-1.0**
	baz=262								
ALS	**Alishan**	**0.72**	**291**	P			**Pg**	**19 12 03.4**	**-0.3**
	baz=291								
ALS				S			**Sg**	**19 12 13.9**	**+0.6**
	baz=291								
STYT	**Tauyuan**	**0.72**	**263**	P			**Pg**	**19 12 03.0**	**-0.7**
	baz=262								
STYT				S			**Sg**	**19 12 12.2**	**-1.0**
	baz=262								
HWA	**Hwalien**	**0.73**	**5**	*e*P			**Pb**	**19 12 04.4**	**+0.5**
	baz=7.0								
HWA				*e*S			**Sb**	**19 12 14.9**	**+1.3**
	baz=7.0								
SSLB	**Suanglung**	**0.76**	**315**	*i* P			**Pg**	**19 12 03.6**	**-0.8**
	baz=316								
SSLB				*e*S			**Sg**	**19 12 14.6**	**+0.2**
	baz=316								
WHYT	**Xinyi Township**	**0.77**	**306**	P			**Pb**	**19 12 04.8**	**+0.2**
	baz=306								
WHYT				S			**Sg**	**19 12 14.6**	**-0.1**
	baz=306								
TWD	**Chiawan**	**0.83**	**4**	P			**Pb**	**19 12 05.8**	**+0.3**
	baz=6.0								
TWD				S			**Sn**	**19 12 18.2**	**-0.3**
	baz=6.0								
TPUB	**Ta-pu**	**0.83**	**274**	*i* P			**Pg**	**19 12 05.5**	**-0.3**
	baz=273								
TPUB				S			**Sg**	**19 12 17.0**	**+0.2**
	baz=273								
ECL	**Taimali**	**0.84**	**220**	*e*P			**Pb**	**19 12 05.8**	**0.0**
	baz=217								
ECL				S			**Sg**	**19 12 16.1**	**-0.9**
	baz=217								
WTP	**Ta-pu**	**0.85**	**270**	P			**Pg**	**19 12 05.6**	**-0.4**
	baz=269								
WTP				S			**Sb**	**19 12 17.7**	**+0.6**
	baz=269								
SLGT	**Liugui**	**0.86**	**253**	*e*P			**Pg**	**19 12 05.1**	**-1.1**
	baz=251								
SLGT				*e*S			**Sb**	**19 12 17.7**	**+0.4**
	baz=251								
SMLT	**Sun Moon Lake**	**0.86**	**317**	*e*P			**Pg**	**19 12 06.1**	**-0.2**
	baz=318								
SMLT				*e*S			**Sg**	**19 12 17.9**	**+0.3**
	baz=318								
CHN5	**Tsauling**	**0.86**	**294**	P			**Pg**	**19 12 06.2**	**-0.1**
	baz=294								
CHN5				*e*S			**Sg**	**19 12 16.8**	**-0.8**
	baz=294								
CHN4	**Tsaushan**	**0.87**	**277**	P			**Pg**	**19 12 06.3**	**-0.2**
	baz=276								
CHN4				S			**Sb**	**19 12 18.5**	**+0.7**
	baz=276								
CHGB	**Renai**	**0.87**	**338**	P			**Pg**	**19 12 06.2**	**-0.4**
	baz=339								
CHGB				S			**Sg**	**19 12 17.6**	**-0.5**
	baz=339								
SGST	**Jiashian**	**0.89**	**260**	P			**Pg**	**19 12 05.5**	**-1.4**
	baz=258								
SGST				S			**Sg**	**19 12 18.5**	**-0.1**
	baz=258								
TYC	**Yuchr**	**0.90**	**316**	P			**Pg**	**19 12 06.3**	**-0.7**
	baz=317								
TYC				*e*S			**Sg**	**19 12 18.6**	**-0.3**
	baz=317								
NACB	**Ninganchiao**	**0.92**	**3**	*e*P			**Pg**	**19 12 06.5**	**-1.0**
	baz=5.0								
NACB				*e*S			**Sn**	**19 12 22.4**	**+1.6**
	baz=5.0								
WHF	**Hehuan Shan**	**0.93**	**345**	P			**Pg**	**19 12 07.0**	**-0.7**
	baz=346								
WHF				*e*S			**Sg**	**19 12 19.3**	**-0.5**
	baz=346								
WPL	**Puli Township**	**0.93**	**325**	P			**Pg**	**19 12 06.8**	**-0.8**
	baz=325								
WPL				S			**Sg**	**19 12 19.8**	**0.0**
	baz=325								
CHN1	**Nanshi**	**0.93**	**266**	P			**Pb**	**19 12 07.6**	**+0.3**
	baz=265								
CHN1				S			**Sb**	**19 12 20.2**	**+0.8**
	baz=265								
WJS	**Zhushan**	**0.94**	**308**	P			**Pb**	**19 12 07.8**	**+0.4**
	baz=308								
WJS				S			**Sb**	**19 12 20.6**	**+1.0**
	baz=308								
ETLH	**Xiulin Townshi**	**0.96**	**357**	P			**Pg**	**19 12 06.9**	**-1.2**
	baz=358								
ETLH				*e*S			**Sb**	**19 12 21.3**	**+1.1**
	baz=358								
SNST	**Tainan City**	**0.96**	**269**	*e*P			**Pg**	**19 12 07.5**	**-0.5**
	baz=267								
SNST				S			**Sb**	**19 12 21.2**	**+1.0**
	baz=267								
DPDB	**Guoxing**	**0.96**	**325**	P			**Pg**	**19 12 06.5**	**-1.7**
	baz=325								
DPDB				S			**Sb**	**19 12 21.6**	**+1.2**
	baz=325								
TWK	**Hsinying**	**0.96**	**271**	P			**Pg**	**19 12 07.7**	**-0.6**
	baz=270								
TWK				S			**Sg**	**19 12 20.9**	**0.0**
	baz=270								
SSD	**Sandimen**	**0.97**	**239**	*e*P			**Pb**	**19 12 08.3**	**+0.3**
	baz=237								
SSD				*e*S			**Sg**	**19 12 19.9**	**-1.2**
	baz=237								
TSMG	**Majia**	**0.98**	**237**	*e*P			**Pg**	**19 12 08.0**	**-0.5**
	baz=235								
TSMG				*e*S			**Sn**	**19 12 23.4**	**+1.1**
	baz=235								
WCS	**Beigang Elemen**	**0.99**	**325**	P			**Pg**	**19 12 08.4**	**-0.2**
	baz=325								
WCS				*e*S			**Sg**	**19 12 21.7**	**+0.1**
	baz=325								
WGK	**Gukeng**	**0.99**	**296**	P			**Pg**	**19 12 08.7**	**-0.1**
	baz=296								
WGK				S			**Sb**	**19 12 22.1**	**+0.9**
	baz=296								
WNT	**Mingjian**	**1.00**	**309**	P			**Pg**	**19 12 08.9**	**0.0**
	baz=309								
WNT				S			**Sb**	**19 12 22.6**	**+1.1**
	baz=309								
CHN2	**Minshiung**	**1.01**	**286**	P			**Pn**	**19 12 09.7**	**+0.6**
	baz=286								
CHN2				S			**Sg**	**19 12 22.1**	**-0.3**
	baz=286								
WDLH	**Douliu**	**1.02**	**296**	P			**Pb**	**19 12 08.8**	**+0.1**
	baz=295								
WDLH				S			**Sb**	**19 12 23.3**	**+1.4**
	baz=295								
WNT1	**Nantou City**	**1.02**	**310**	P			**Pn**	**19 12 09.5**	**+0.3**
	baz=310								
WNT1				*e*S			**Sb**	**19 12 23.1**	**+1.0**
	baz=310								
SCST	**Cishan**	**1.02**	**250**	*e*P			**Pg**	**19 12 09.1**	**-0.2**
	baz=248								
SCST				*e*S			**Sn**	**19 12 23.4**	**+0.1**
	baz=248								
FUSS	**Fushou**	**1.03**	**345**	P			**Pg**	**19 12 08.9**	**-0.7**
	baz=346								
FUSS				*e*S			**Sg**	**19 12 21.8**	**-1.2**
	baz=346								
MASBT	**Mashibuluo**	**1.05**	**233**	*e*P			**Pb**	**19 12 07.9**	**-1.4**
	baz=231								
MASBT				*e*S			**Sn**	**19 12 24.1**	**+0.3**
	baz=231								
CHY	**Chiayi**	**1.05**	**284**	P			**Pg**	**19 12 09.7**	**-0.2**
	baz=283								
CHY				S			**Sb**	**19 12 23.1**	**+0.2**
	baz=283								
TWT	**Tachien**	**1.05**	**342**	P			**Pb**	**19 12 09.3**	**-0.2**
	baz=342								
TWT				S			**Sg**	**19 12 22.4**	**-1.4**
	baz=342								
TDCB	**Techi**	**1.06**	**341**	*e*P			**Pb**	**19 12 09.6**	**0.0**
	baz=342								
TDCB				*e*S			**Sb**	**19 12 24.2**	**+1.0**
	baz=342								
EAST	**Anshuo**	**1.07**	**217**	*e*P			**Pb**	**19 12 09.4**	**-0.3**
	baz=214								
EAST				*e*S			**Sn**	**19 12 24.4**	**-0.1**
	baz=214								
CHN3	**Shinhua**	**1.09**	**261**	*e*P			**Pg**	**19 12 10.4**	**-0.2**
	baz=260								
CHN3				*e*S			**Sb**	**19 12 24.5**	**+0.5**
	baz=260								
SGLT	**Jiouru**	**1.09**	**242**	*e*P			**Pn**	**19 12 10.9**	**+0.8**
	baz=240								
SGLT				*e*S			**Sg**	**19 12 24.9**	**-0.1**
	baz=240								
WWF	**Wufeng**	**1.10**	**316**	*e*P			**Pb**	**19 12 10.5**	**+0.3**
	baz=316								
WWF				S			**Sg**	**19 12 25.4**	**+0.1**
	baz=316								
TWM1	**Shoushan**	**1.11**	**248**	*e*P			**Pb**	**19 12 10.4**	**0.0**
	baz=246								
TWM1				*e*S			**Sb**	**19 12 24.8**	**+0.2**
	baz=246								
TSPT	**Pingtung City**	**1.11**	**240**	*e*S			**Sn**	**19 12 26.1**	**+0.6**
	baz=238								
WTK	**Tuku**	**1.14**	**293**	P			**Pb**	**19 12 11.0**	**+0.1**
	baz=292								
WTK				*e*S			**Sb**	**19 12 26.1**	**+0.7**
	baz=292								
WHP	**Taichung City**	**1.16**	**332**	*e*P			**Pg**	**19 12 11.9**	**0.0**
	baz=333								
WHP				*e*S			**Sb**	**19 12 26.6**	**+0.5**
	baz=333								
ICHU	**Yijhu**	**1.16**	**276**	P			**Pn**	**19 12 11.3**	**+0.2**
	baz=275								
ICHU				*e*S			**Sb**	**19 12 26.9**	**+0.9**
	baz=275								
SSPT	**Xinbi**	**1.17**	**230**	*e*P			**Pg**	**19 12 11.8**	**-0.4**
	baz=228								
SSPT				*e*S			**Sg**	**19 12 27.0**	**-0.5**
	baz=228								
NNSB	**Datong**	**1.18**	**353**	*e*P			**Pn**	**19 12 10.7**	**-0.9**
	baz=354								
NNSB				*e*S			**Sb**	**19 12 25.5**	**-1.3**
	baz=354								
NNSH	**Datong**	**1.18**	**353**	*e*P			**Pn**	**19 12 10.9**	**-0.6**
	baz=354								
NNSH				*e*S			**Sb**	**19 12 26.8**	**-0.1**
	baz=354								
ENA	**Nanau**	**1.19**	**9**	*e*P			**Pb**	**19 12 11.8**	**+0.1**
	baz=10.0								
ENA				S			**Sn**	**19 12 28.1**	**+0.8**
	baz=10.0								
TCU	**Taichung**	**1.19**	**319**	P			**Pg**	**19 12 12.8**	**+0.3**
	baz=319								
TCU				*e*S			**Sn**	**19 12 28.8**	**+1.4**
	baz=319								
NNS	**Nan Shan**	**1.20**	**353**	*e*P			**Pn**	**19 12 10.5**	**-1.2**
	baz=354								
NNS				S			**Sb**	**19 12 25.6**	**-1.6**
	baz=354								
LAY	**Lan-yu**	**1.20**	**179**	*e*P			**Pg**	**19 12 11.7**	**-1.1**
	baz=177								
LAY				*e*S			**Sn**	**19 12 28.1**	**+0.4**
	baz=177								
SNJT	**Kaohsiung City**	**1.21**	**246**	*e*P			**Pn**	**19 12 11.7**	**-0.1**
	baz=245								
SNJT				*e*S			**Sb**	**19 12 27.7**	**+0.3**
	baz=245								
EWUT	**Wuta**	**1.21**	**10**	*e*S			**Sg**	**19 12 28.1**	**-0.6**
	baz=11								
SCZT	**Fangliau**	**1.21**	**224**	*e*P			**Pb**	**19 12 12.2**	**+0.1**
	baz=222								
SCZT				*e*S			**Sb**	**19 12 28.0**	**+0.4**
	baz=222								
WCHH	**Zhanghua**	**1.22**	**313**	*e*P			**Pg**	**19 12 13.6**	**+0.5**
	baz=313								
WCHH				*e*S			**Sg**	**19 12 29.5**	**+0.5**
	baz=313								
CHN8	**Yiju**	**1.22**	**275**	*e*P			**Pn**	**19 12 11.5**	**-0.4**
	baz=274								
CHN8				*e*S			**Sn**	**19 12 29.0**	**+0.8**
	baz=274								
SLIU	**Shizi**	**1.23**	**214**	*e*P			**Pn**	**19 12 10.5**	**-1.6**
	baz=212								
SLIU				*e*S			**Sn**	**19 12 30.0**	**+1.6**
	baz=212								
SCLT	**Jiali**	**1.24**	**267**	*e*S			**Sb**	**19 12 28.0**	**-0.2**
	baz=266								
WRL	**Guolierlin Hig**	**1.25**	**302**	*e*S			**Sb**	**19 12 28.3**	**-0.2**
	baz=301								
WSF	**Szhu**	**1.27**	**288**	*e*P			**Pn**	**19 12 12.9**	**+0.3**
	baz=287								
WSF				*e*S			**Sb**	**19 12 30.0**	**+0.9**
	baz=287								
TWQ1	**Liyutan**	**1.30**	**328**	P			**Pg**	**19 12 14.1**	**-0.5**
	baz=328								
TWQ1				S			**Sg**	**19 12 31.8**	**+0.2**
	baz=328								
NDT	**Datong Townshi**	**1.35**	**359**	*e*P			**Pn**	**19 12 13.6**	**-0.1**
NDT				S			**Sn**	**19 12 32.3**	**+1.0**
NSY	**Sanyi**	**1.36**	**329**	*e*P			**Pn**	**19 12 14.2**	**+0.3**
	baz=329								
NSY				*e*S			**Sn**	**19 12 31.9**	**+0.3**
	baz=329								
WDJ	**Dajia District**	**1.37**	**323**	*e*P			**Pn**	**19 12 13.6**	**-0.4**
	baz=323								
WDJ				*e*S			**Sn**	**19 12 31.9**	**+0.2**
	baz=323								
TWC	**Suao**	**1.39**	**12**	P			**Pn**	**19 12 14.6**	**+0.4**
	baz=13								
TWC				*e*S			**Sb**	**19 12 33.0**	**+0.6**
	baz=13								
ENTT	**Nioudou**	**1.39**	**1**	*e*P			**Pn**	**19 12 13.3**	**-0.9**
	baz=2.0								
ENTT				*e*S			**Sg**	**19 12 33.7**	**-0.6**
	baz=2.0								
NDS	**Dongshan**	**1.39**	**7**	*e*P			**Pg**	**19 12 16.1**	**-0.2**
	baz=7.0								
NDS				*e*S			**Sg**	**19 12 33.9**	**-0.5**
	baz=7.0								
WLCH	**Liuqiu**	**1.39**	**230**	*e*P			**Pn**	**19 12 14.4**	**+0.2**
	baz=229								
WLCH				*e*S			**Sn**	**19 12 32.6**	**+0.3**
	baz=229								
TWP	**Hsiaoliuchiu**	**1.41**	**231**	*e*S			**Sn**	**19 12 32.9**	**+0.2**
	baz=229								
YHNB	**Yeheng**	**1.42**	**354**	*e*P			**Pn**	**19 12 15.2**	**+0.3**
	baz=355								
YHNB				*e*S			**Sn**	**19 12 33.9**	**+0.6**
	baz=355								
NSK	**Sanguang**	**1.43**	**354**	*e*P			**Pn**	**19 12 15.0**	**+0.1**
	baz=354								
NSK				S			**Sn**	**19 12 32.3**	**-1.1**
	baz=354								
HEN	**Hengchun**	**1.44**	**211**	*e*S			**Sg**	**19 12 35.3**	**-0.7**
	baz=209								
NMLH	**Miaoli**	**1.45**	**332**	*e*P			**Pn**	**19 12 15.3**	**+0.1**
	baz=332								
NMLH				*e*S			**Sn**	**19 12 33.7**	**-0.1**
	baz=332								
NSTT	**Nanjuang**	**1.46**	**341**	P			**Pn**	**19 12 15.4**	**+0.2**
	baz=341								
NSTT				*e*S			**Sn**	**19 12 34.1**	**+0.1**
	baz=341								
TWKBT	**Hengchun**	**1.46**	**207**	*e*S			**Sn**	**19 12 34.1**	**+0.1**
	baz=206								
TWK1	**Hengchun**	**1.46**	**208**	*e*S			**Sn**	**19 12 33.9**	**-0.2**
	baz=206								
LIOB	**Emei**	**1.47**	**341**	*e*P			**Pb**	**19 12 16.3**	**-0.2**
	baz=342								
LIOB				*e*S			**Sn**	**19 12 34.1**	**-0.2**
	baz=342								
TWE	**Neicheng**	**1.47**	**5**	*e*P			**Pb**	**19 12 16.6**	**0.0**
	baz=6.0								
TWE				*e*S			**Sn**	**19 12 34.8**	**+0.5**
	baz=6.0								
NWLT	**Wulai**	**1.52**	**359**	*e*P			**Pb**	**19 12 17.1**	**-0.3**
	baz=359								
NWLT				*e*S			**Sn**	**19 12 34.6**	**-1.1**
	baz=359								
NJD	**Zhudong**	**1.54**	**345**	*e*S			**Sn**	**19 12 36.0**	**0.0**
	baz=345								
NHDH	**Xindian Distri**	**1.71**	**360**	*e*P			**Pn**	**19 12 19.6**	**+1.0**
NHDH				*e*S			**Sn**	**19 12 39.6**	**-0.5**
TIPB	**Shuangxi**	**1.74**	**9**	*e*P			**Pn**	**19 12 20.0**	**+1.0**
	baz=9.0								
TIPB				*e*S			**Sn**	**19 12 41.6**	**+0.7**
	baz=9.0								
JYNG	**Yonagunijimaku**	**1.76**	**47**	P			**Pn**	**19 12 19.8**	**+0.5**
JYNG				*e*S			**Sn**	**19 12 41.8**	**+0.4**
YOJ	**Yonaguni jima**	**1.81**	**48**	*e*S			**Sb**	**19 12 43.9**	**-0.8**
	baz=48								
PHUB	**P'eng-hu**	**1.82**	**279**	*e*P			**Pn**	**19 12 19.5**	**-0.7**
	baz=278								
PHUB				S			**Sn**	**19 12 41.4**	**-1.6**
	baz=278								
PNG	**Penghu**	**1.85**	**280**	*e*P			**Pn**	**19 12 20.3**	**-0.2**
	baz=279								
PNG				S			**Sn**	**19 12 41.9**	**-1.7**
	baz=279								
YM10	**YM10**	**1.90**	**1**	*e*S			**Sn**	**19 12 45.5**	**+0.5**
	baz=1.0								
HATJ	**Hateruma jima**	**2.23**	**68**	S			**Sn**	**19 12 53.3**	**+0.2**
IRIF	**Iriomote-Funau**	**2.28**	**61**	P			**Pn**	**19 12 27.9**	**+1.4**
IRIF				S			**Sn**	**19 12 55.1**	**+0.8**
JKRS	**Kuro-shima**	**2.47**	**66**	P			**Pn**	**19 12 30.4**	**+1.3**
JKRS				*e*S			**Sn**	**19 12 59.6**	**+0.6**
VWUC	**VWUC**	**2.58**	**313**	*e*P			**Pn**	**19 12 30.9**	**+0.3**
	baz=312								
VWUC				*e*S			**Sn**	**19 13 00.9**	**-0.8**
	baz=312								
JIJ	**Ishigaki jima**	**2.63**	**65**	*e*S			**Sn**	**19 13 02.2**	**-0.8**
PTMZ	**Houxiangcun**	**2.84**	**309**	*e*P			**Pn**	**19 12 34.6**	**+0.4**
	baz=309								
PTMZ				*e*S			**Sn**	**19 13 07.4**	**-0.6**
	baz=309								
JISG	**Ishigakijimahi**	**2.87**	**62**	P			**Pn**	**19 12 35.2**	**+0.6**
JISG				S			**Sn**	**19 13 07.3**	**-1.5**
JTJ	**Tarama**	**3.21**	**64**	P			**Pn**	**19 12 40.5**	**+1.2**
JTJ				S			**Sn**	**19 13 18.3**	**+1.0**
MATB	**Ma-tsu**	**3.23**	**334**	*e*S			**Sn**	**19 13 16.5**	**-1.3**
	baz=333								

*ISU **20** 19:13:01,39°.87N×71°.38E,h5km*
*KRNET **20** 19:13:01.6±0.1,39°.68N×71°.38E,h15km,mb2.9*
*SOME **20** 19:13:02.6,39°.82N×71°.70E,h10km*
*NNC **20** 19:13:04.8±2.7,39°.78N×71°.60E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=21.4km s-min=10.5km az=10.0
ISC 20 19:12:58.6±1.7,39°.53N±0°.07×71°.11E±0°.04,h3km±10km,
n50,σ2s19/82,16C-14D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.54**	**95**	⇑*i* P			**Pg**	**19 13 09.4**	**+0.5**
	baz=21								
DRK				⇑*i* S			**Sg**	**19 13 14.6**	**-1.4**
	baz=21								
BTK	**Batken**	**0.57**	**337**	⇓*i* P			**Pn**	**19 13 12.8**	**-0.9**
	baz=11								
BTK				⇓*i* S			**Sb**	**19 13 20.5**	**+0.7**
	baz=11								
BTK	**Batken**	**0.57**	**337**	*e*P			**Pn**	**19 13 12.0**	**-1.7**
BTK				*e*S			**Sb**	**19 13 20.0**	**+0.2**
SHAK	**Shakhimardan**	**0.65**	**49**	*e*P			**Pg**	**19 13 08.0**	**-3.0**
SHAK				*e*S			**Sg**	**19 13 14.0**	**-5.4**
FRG	**Fergana**	**1.31**	**23**	*e*P			Pn	19 13 15.0	-8.8
FRG				*e*S			Sn	19 13 26.0	-16
NAM	**Namangan**	**1.52**	**16**	*e*P			**Pg**	**19 13 28.0**	**+0.3**
NAM				*e*S			**Sn**	**19 13 46.0**	**-0.9**
OHH	**Osh**	**1.63**	**52**	⇓*i* P			**Pn**	**19 13 26.4**	**-1.8**
	baz=52								
OHH				⇓*i* S			**Sn**	**19 13 45.7**	**-3.9**
	baz=52								
OHH	**Osh**	**1.63**	**52**	*e*P			**Pn**	**19 13 26.0**	**-2.2**
OHH				*e*S			**Sn**	**19 13 43.0**	**-6.6**
SFK	**Sufi-Kurgan**	**1.91**	**75**	⇓*i* P			**Pn**	**19 13 31.8**	**-0.4**
	baz=78								
SFK				⇓*i* S			**Sn**	**19 13 54.5**	**-2.3**
	baz=78								
TRKS	**Terek-Say**	**2.00**	**1**	⇑⇓*i* P			**Pb**	**19 13 34.9**	**

MNAS	**Manas**	**3.14**	**19**	⇑*e*P		**Pn**	**19 13 49.6**	**+0.6**
	baz=17							
MNAS				⇑*i*S		**Sn**	**19 14 26.3**	**-0.7**
	baz=17							
AML	**Almayashu**	**3.26**	**36**	⇓*e*P		**Pn**	**19 13 52.2**	**+1.4**
	baz=35							
AML				⇓*i*S		**Sn**	**19 14 28.2**	**-2.1**
	baz=35							
DZA	**Taraz**	**3.36**	**3**	*e*P		**Pb**	**19 14 00.5**	**+1.7**
	30nm,0.2s							
DZA				*e*S		**Sb**	**19 14 42.4**	**+2.3**
	133nm,0.3s							
DZA	**Taraz**	**3.36**	**3**	Pg		**Pb**	**19 14 00.5**	**+1.7**
	30nm,0.2s							
DZA				Lg		Lg	19 14 42.3	
	133nm,0.3s							
ARLS	**Aral**	**3.38**	**45**	⇑*i*P		**Pn**	**19 13 53.3**	**+1.0**
	baz=45							
ARLS				⇑*i*S		**Sn**	**19 14 30.2**	**-2.7**
	baz=45							
KK31	**Karatay Array**	**3.60**	**353**	⇓Pn		**Pb**	**19 13 58.3**	**-4.5**
	0.1nm,0.2s,baz=153,slow=11,SNR=39							
KK31				Pg		**Pg**	**19 14 05.8**	**-1.7**
	2.1nm,0.4s,baz=170,slow=18,SNR=32							
KK31				Lg		Lg	19 14 51.3	
	3.7nm,0.3s,baz=169,slow=28,SNR=10							
BRLS	**Borolday**	**3.62**	**345**	*e*P		**Pb**	**19 14 03.5**	**+0.2**
	23nm,0.2s							
BRLS				*e*S		**Sb**	**19 14 47.2**	**-0.4**
	17nm,0.2s							
BRLS	**Borolday**	**3.62**	**345**	Pg		**Pb**	**19 14 03.4**	**+0.2**
	23nm,0.2s							
BRLS				Lg		Lg	19 14 47.2	
	17nm,0.2s							
EKS2	**Erkin-Say**	**3.72**	**32**	⇑*i*P		**Pn**	**19 13 58.5**	**+1.5**
	baz=31							
EKS2				⇑*i*S		**Sn**	**19 14 39.3**	**-2.1**
	baz=31							
UCH	**Uchtor**	**3.73**	**43**	⇑*i*P		**Pn**	**19 13 58.5**	**+1.1**
	baz=42							
UCH				⇑*i*S		**Sn**	**19 14 39.3**	**-2.8**
	baz=42							
AAK	**Ala-Archa**	**4.02**	**38**	⇑*i*P		**Pn**	**19 14 02.1**	**+0.9**
	baz=38							
AAK				⇑*i*S		**Sn**	**19 14 46.1**	**-2.8**
	baz=38							
AAK	**Ala-Archa**	**4.02**	**38**	⇑Pn		**Pn**	**19 14 03.3**	**+2.1**
	0.6nm,0.2s							
AAK				⇑Pg		**Pb**	**19 14 11.5**	**+1.3**
	3.8nm,0.6s							
AAK				⇓Lg		Lg	19 14 59.1	
	11nm,0.6s							
SGDS	**Sogindy**	**4.73**	**33**	Pg		**Pb**	**19 14 22.3**	**+0.2**
	2.0nm,0.4s							
SGDS				Lg		Lg	19 15 19.5	
	10.0nm,0.8s							
TKM2	**Tokmak 2**	**4.79**	**44**	⇓Pn		**Pn**	**19 14 12.7**	**+1.0**
	2.6nm,0.6s							
TKM2				⇓Lg		Lg	19 15 23.1	
	5.6nm,0.7s							
KST	**Kastek**	**5.07**	**45**	*e*P		**Pb**	**19 14 29.1**	**+1.2**
	1.2nm,0.1s							
KST				*e*S		**Sb**	**19 15 31.4**	**+2.2**
	5.3nm,0.9s							
KST	**Kastek**	**5.07**	**45**	Pg		**Pb**	**19 14 29.1**	**+1.2**
	1.2nm,0.1s							
KST				Lg		Lg	19 15 31.4	
	5.3nm,0.9s							
DGS	**Degeres**	**5.11**	**42**	*e*P		**Pb**	**19 14 29.6**	**+1.0**
	3.0nm,0.5s							
DGS				*e*S		**Sb**	**19 15 32.3**	**+2.1**
	8.3nm,0.6s							
DGS	**Degeres**	**5.11**	**42**	Pg		**Pb**	**19 14 29.5**	**+1.0**
	3.0nm,0.5s							
DGS				Lg		Lg	19 15 32.3	
	8.3nm,0.6s							
MTBS	**Maitube**	**5.38**	**46**	*e*P		**Pb**	**19 14 35.4**	**+2.1**
	1.1nm,0.1s							
MTBS				*e*S		**Sb**	**19 15 41.7**	**+3.5**
	5.5nm,0.3s							
MTBS	**Maitube**	**5.38**	**46**	Pg		**Pb**	**19 14 35.4**	**+2.1**
	1.1nm,0.1s							
MTBS				Lg		Lg	19 15 41.7	
	5.5nm,0.3s							
KRBS	**Karabastau**	**5.39**	**38**	*e*P		**Pb**	**19 14 34.4**	**+1.0**
	0.9nm,0.3s							
KRBS				*e*S		**Sb**	**19 15 40.3**	**+1.9**
	5.4nm,0.4s							
KRBS	**Karabastau**	**5.39**	**38**	Pg		**Pb**	**19 14 34.4**	**+1.0**
	0.9nm,0.3s							
KRBS				Lg		Lg	19 15 40.3	
	5.4nm,0.4s							
IZV	**Izvestkoviy**	**5.43**	**48**	*e*P		**Pb**	**19 14 36.2**	**+2.1**
	1.5nm,0.3s							
IZV				*e*S		**Sb**	**19 15 43.5**	**+3.9**
	6.1nm,0.4s							
IZV	**Izvestkoviy**	**5.43**	**48**	Pg		**Pb**	**19 14 36.2**	**+2.1**
	1.5nm,0.3s							
IZV				Lg		Lg	19 15 43.5	
	6.1nm,0.4s							
TNSS	**Tian-Shan**	**5.62**	**50**	*e*P		**Pb**	**19 14 39.4**	**+1.9**
	1.3nm,0.3s							
TNSS				*e*S		**Sb**	**19 15 48.9**	**+3.4**
	1.8nm,0.3s							
TNSS	**Tian-Shan**	**5.62**	**50**	Pg		**Pb**	**19 14 39.4**	**+1.9**
	1.3nm,0.3s							
TNSS				Lg		Lg	19 15 48.9	
	1.8nm,0.3s							
MDOK	**Medeo**	**5.76**	**49**	*e*P		**Pb**	**19 14 41.5**	**+1.8**
	1.9nm,0.6s							
MDOK				*e*S		**Sb**	**19 15 52.7**	**+3.6**
	3.4nm,0.6s							
MDOK	**Medeo**	**5.76**	**49**	Pg		**Pb**	**19 14 40.8**	**+1.1**
	3.7nm,1.1s							
MDOK				Lg		Lg	19 15 53.3	
	5.6nm,1.0s							
MDOK	**Medeo**	**5.76**	**49**	Pg		**Pb**	**19 14 41.5**	**+1.8**
	1.9nm,0.6s							
MDOK				Lg		Lg	19 15 52.7	
	3.4nm,0.6s							
KOTS	**Kotyrbulak**	**5.84**	**49**	*e*P		**Pb**	**19 14 43.0**	**+1.9**
	2.5nm,0.3s							
KOTS				*e*S		**Sb**	**19 15 55.3**	**+3.9**
	5.7nm,0.6s							
KOTS	**Kotyrbulak**	**5.84**	**49**	Pg		**Pb**	**19 14 43.0**	**+1.9**
	2.5nm,0.3s							
KOTS				Lg		Lg	19 15 55.3	
	5.7nm,0.6s							
KUU	**Kurty**	**5.86**	**40**	*e*P		**Pb**	**19 14 42.7**	**+1.4**
	0.6nm,0.2s							
KUU				*e*S		**Sb**	**19 15 54.9**	**+3.1**
	6.2nm,0.6s							
KUU	**Kurty**	**5.86**	**40**	Pg		**Pb**	**19 14 42.7**	**+1.4**
	0.6nm,0.2s							
KUU				Lg		Lg	19 15 54.9	
	6.2nm,0.6s							
KTBS	**Karatobe**	**5.91**	**43**	*e*P		**Pb**	**19 14 44.1**	**+1.9**
	0.8nm,0.4s							
KTBS				*e*S		**Sb**	**19 15 56.9**	**+3.6**
	7.3nm,0.4s							
KTBS	**Karatobe**	**5.91**	**43**	Pg		**Pb**	**19 14 44.1**	**+1.9**
	0.8nm,0.4s							
KTBS				Lg		Lg	19 15 56.9	
	7.3nm,0.4s							

JMA 20 19:39:46.8±0.2, 23.78°N × 123.39°E, h42km±2km, M2.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.47**	**54**	P		Pn	19 39 57.1	-0.1
HATJ				S		Sn	19 40 04.5	-0.1
IRIF	**Iriomote-Funau**	**0.63**	**29**	P		Pn	19 39 59.3	-0.1
IRIF				eS		Sn	19 40 08.3	-0.1
JKRS	**Kuro-shima**	**0.73**	**51**	P		Pn	19 40 01.1	+0.5
JKRS				S		Sn	19 40 11.2	+0.6
YOJ	**Yonaguni jima**	**0.76**	**333**	P		Pn	19 40 01.3	+0.2
YOJ				S		Sn	19 40 11.9	+0.4
JYNG	**Yonagunijimaku**	**0.78**	**329**	P		Pn	19 40 01.6	+0.2
JYNG				S		Sn	19 40 12.0	0.0
JIJ	**Ishigaki jima**	**0.90**	**50**	P		Pn	19 40 03.2	+0.2
JIJ				S		Sn	19 40 14.9	0.0
JISG	**Ishigakijimahi**	**1.16**	**46**	P		Pn	19 40 06.6	0.0
JISG				S		Sn	19 40 21.7	+0.4
JTJ	**Tarama**	**1.47**	**54**	P		Pn	19 40 11.5	+0.6

TAP 20 19:39:58.3, 23.89°N × 121.55°E, h10km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HWA	**Hwalien**	**0.10**	**32**	*e*P		Pg	19 40 01.8	+0.8
	baz=35							
HWA				*e*S		Sg	19 40 04.0	+1.2
	baz=35							
ESL	**Shilin**	**0.13**	**234**	*i* P		Pb	19 40 02.4	-0.5
	baz=230							
ESL				*i* S		Sg	19 40 04.5	+1.0
	baz=230							
TWD	**Chiawan**	**0.19**	**13**	*e*P		Pg	19 40 03.1	+0.7
	baz=15							
TWD				*e*S		Sg	19 40 05.8	+0.7
	baz=15							
EGFH	**Guangfu**	**0.25**	**206**	*e*S		Sg	19 40 08.1	+1.3
	baz=206							
NACB	**Ninganchiao**	**0.28**	**9**	*e*P		Pg	19 40 04.7	+0.7
	baz=8.0							
ETLH	**Xiulin Townshi**	**0.32**	**349**	*e*P		Pb	19 40 05.6	-0.5
	baz=349							
ETLH				S		Sb	19 40 10.4	-1.0
	baz=349							
WHF	**Hehuan Shan**	**0.36**	**314**	P		Pb	19 40 06.5	-0.5
	baz=314							
WHF				S		Sb	19 40 12.2	-0.7
	baz=314							
CHGB	**Renai**	**0.38**	**296**	*e*P		Pb	19 40 07.4	+0.2
	baz=295							
CHGB				*e*S		Sb	19 40 13.1	-0.2
	baz=295							
VWDT	**VWDT**	**0.40**	**250**	*e*S		Sb	19 40 13.7	+0.2
	baz=249							
EHY	**Hungye**	**0.44**	**208**	*e*S		Sb	19 40 14.4	-0.3
	baz=207							
FUSS	**Fushou**	**0.45**	**322**	*e*P		Pb	19 40 08.3	-0.1
	baz=321							
FUSS				*e*S		Sb	19 40 15.1	-0.2
	baz=321							
TWT	**Tachien**	**0.49**	**317**	*e*P		Pb	19 40 09.3	+0.2
	baz=315							
TWT				*e*S		Sb	19 40 16.3	-0.2
	baz=315							
TDCB	**Techi**	**0.51**	**315**	*e*P		Pb	19 40 09.9	+0.6
	baz=315							
TDCB				*e*S		Sb	19 40 16.2	-0.6
	baz=315							
YULB	**Yu-li**	**0.55**	**205**	*e*S		Sb	19 40 18.0	+0.1
	baz=204							
SSLB	**Suanglung**	**0.55**	**259**	*e*P		Pb	19 40 10.9	+0.8
	baz=259							
SSLB				*e*S		Sb	19 40 17.5	-0.6
	baz=259							
NNSB	**Datong**	**0.56**	**344**	*e*P		Pb	19 40 10.3	+0.1
	baz=344							
NNSB				*e*S		Sb	19 40 18.2	0.0
	baz=344							
NNSH	**Datong**	**0.56**	**344**	*e*P		Pb	19 40 10.5	+0.3
	baz=344							
NNSH				*e*S		Sb	19 40 18.2	0.0
	baz=344							
NNS	**Nan Shan**	**0.57**	**344**	*e*P		Pb	19 40 10.5	+0.1
	baz=344							
NNS				*e*S		Sb	19 40 18.1	-0.5
	baz=344							
EYUL	**Yuli**	**0.58**	**201**	*e*P		Pb	19 40 10.8	+0.3
	baz=201							
EYUL				*e*S		Sb	19 40 19.1	+0.3
	baz=201							
TWF1	**Yuli**	**0.58**	**203**	*e*P		Pb	19 40 10.7	+0.1
	baz=202							
TWF1				*e*S		Sb	19 40 18.2	-0.8
	baz=202							
WHP	**Taichung City**	**0.67**	**305**	*e*P		Pn	19 40 13.2	-0.7
	baz=304							

IDC 20 19:44:31.1±2.0, 1.56°N × 126.62°E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/39, mbtmp3.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/19, Error ellipse: s-maj=170.5km s-min=24.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**9.47**	**226**	LR		LR	19 51 20.3	
	comp=Z,47nm,18.6s,baz=66,slow=43							
WRA	**Warramunga Arr**	**22.67**	**161**	P		P	19 49 34.5	+0.2
	0.5nm,0.4s,baz=340,slow=11,SNR=7.7							
ASAR	**Alice Springs**	**26.05**	**165**	P		P	19 50 06.2	-0.2
	0.1nm,0.3s,baz=343,slow=7.6,SNR=7.1							
MKAR	**Makanchi Array**	**59.28**	**326**	P		P	19 54 34.6	0.0
	0.1nm,0.6s,baz=113,slow=6.8,SNR=3.4							

*IDC **20** 19:52:48.9±0.6, 46.91°N × 155.64°E, h0km, mb3.8/20, mb1 4.0/26, mb1mx3.9/41, mbtmp3.8/26, ML3.1/5, MS3.2/9, Ms1 3.2/9, ms1mx2.8/39, Error ellipse: s-maj=15.6km s-min=12.3km az=134.0*

*SKHL **20** 19:52:53.4±0.2, 47.10°N × 155.40°E, h42km±7km, mb4.6/9*
*NEIC **20** 19:52:53.2±1.7, 46.87°N±0.07° × 155.7°E±0.1, h28km±4km, mb4.5/43, Error ellipse: s-maj=14.2km s-min=9.5km az=119.0*
*MOS **20** 19:52:53.8±1.4, 47.00°N × 155.54°E, h47km, mb4.4/11, Error ellipse: s-maj=8.5km s-min=6.2km az=77.4*

ISC 20 19:52:52.0±0.5, 46.95°N±0.06° × 155.62°E±0.06°, h18km, n169, σ1s48/166, mb4.3/58, MS3.2/7, 6C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.75**	**5**	*e*PN		**Pn**	**19 53 48.1**	**-0.7**
SKR				MLR		MLR		
	comp=Z,200nm,14.0s							
SKR				MLR		MLR		
	comp=Z,400nm,16.0s							
SKR	**Severo-Kuril's**	**3.75**	**5**	*e*P		**Pn**	**19 53 47.8**	**-1.0**
SKR				AMB		AMB	19 53 48.9	
	comp=Z,20nm,0.4s							
SKR				*e*S		**Sn**	**19 54 28.5**	**-4.0**
SKR				A		A	19 54 34.4	
	comp=Z,70nm,0.2s							
SKR				A		A	19 54 34.4	
	comp=Z,110nm,0.2s							
PAU	**Pauzhetka**	**4.58**	**9**	*e*P		**Pn**	**19 53 59.7**	**-0.6**
PAU				AMB		AMB	19 54 01.1	
	comp=Z,20nm,0.4s							
PAU				*e*S		**Sn**	**19 54 49.6**	**-3.5**
PAU				A		A	19 54 52.9	
	comp=Z,280nm,0.5s							
PAU				A		A	19 54 52.9	
	comp=Z,270nm,0.5s							
KUR	**Kuril'sk**	**5.66**	**255**	*e*PN		**Pn**	**19 54 15.4**	**+0.3**
KUR				pmax		pmax		
	comp=E,25nm,0.4s							
KUR				pmax		pmax		
	comp=Z,82nm,0.4s							
KUR				pmax		pmax		
	comp=N,33nm,0.3s							
KUR	**Kuril'sk**	**5.66**	**255**	*e*P		**Pn**	**19 54 15.5**	**+0.3**
KUR				AMB		AMB	19 54 18.6	
	comp=N,70nm,0.8s							
KUR				*e*S		**Sn**	**19 55 16.6**	**-3.0**
KUR				A		A	19 55 21.4	
	comp=N,100nm,0.5s							
KUR				A		A	19 55 21.4	
	comp=N,50nm,0.5s							
PEA0B	**Petropavlovsk-**	**6.31**	**11**	PN		**Pn**	**19 54 22.9**	**-1.1**
PEA0B	**Petropavlovsk-**	**6.31**	**11**			**Pn**	**19 54 22.9**	**-1.1**
PETK	**Petropavlovsk-**	**6.31**	**11**	Pn		**Pn**	**19 54 23.1**	**-0.9**
	comp=N,1.4nm,0.3s,baz=189,slow=10,SNR=42							
PETK				Sn		**Sn**	**19 55 36.1**	**+0.6**
	comp=N,0.7nm,0.3s,baz=130,slow=25,SNR=1.6							
PETK				LR		LR	19 57 14.5	
	comp=N,112nm,18.4s,baz=189,slow=42							
PET	**Petropavlovsk**	**6.38**	**17**	*e*PN		**Pn**	**19 54 26.9**	**+1.9**
PET				MLR		MLR		
	comp=Z,200nm,20.0s							
PET	**Petropavlovsk**	**6.38**	**17**	Pn		**Pn**	**19 54 23.1**	**-1.9**
PET	**Petropavlovsk**	**6.38**	**17**	*e*P		**Pn**	**19 54 25.3**	**+0.3**
PET				AMB		AMB	19 54 29.2	
	comp=Z,40nm,0.4s							
PET				*e*S		**Sn**	**19 55 32.8**	**-4.6**
PET				A		A	19 55 40.5	
	comp=Z,110nm,0.6s							

YUK	**Yuzh-Kuril'sk**	**7.45**	**250**	*e*PN		**Pn**	**19 54 40.2**	**+0.5**
YUK				pmax		pmax		
	comp=Z,96nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**7.45**	**250**	*e*P		**Pn**	**19 54 40.3**	**+0.5**
YUK				AMB		AMB	19 54 42.1	
	comp=Z,50nm,0.6s							
GRPR	**Tuman**	**7.53**	**250**	*e*PN		**Pn**	**19 54 40.3**	**-0.5**
GRPR				pmax		pmax		
	comp=N,54nm,0.4s							
GRPR				pmax		pmax		
	comp=Z,73nm,0.4s							
GRPR	**Tuman**	**7.53**	**250**	*e*P		**Pn**	**19 54 40.3**	**-0.5**
GRPR				AMB		AMB	19 54 45.0	
	comp=Z,50nm,0.4s							
GRPR				AMB		AMB	19 54 45.0	
	comp=Z,70nm,0.4s							
GRPR				*e*S		**Sn**	**19 56 00.2**	**-5.4**
RUSJ	**Misakicho**	**7.82**	**252**	*e*PN		**Pn**	**19 54 46.2**	**+1.4**
RUSJ				S		**Sn**	**19 56 15.9**	**+3.1**
NMR	**Nemuro--Hokkai**	**7.86**	**246**	*e*PN		**Pn**	**19 54 43.2**	**-2.0**
NMR	**Nemuro--Hokkai**	**7.86**	**246**	*e*P		**Pn**	**19 54 43.4**	**-1.8**
YSS	**Yuzh-Sakhalins**	**8.80**	**275**	*e*PN		Pn	19 55 10.5	+12
YSS				pmax		pmax		
	comp=Z,10.0nm,0.9s							
YSS				MLR		MLR		
	comp=Z,200nm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.80**	**275**	*e*P		**Pn**	**19 54 57.0**	**-1.2**
YSS				AMB		AMB	19 54 59.0	
	comp=Z,30nm,0.9s							
YSS				AMS		AMS	20 00 22.0	
TYV	**Tymovskoe**	**9.39**	**299**	*e*P		**Pn**	**19 55 05.0**	**-1.3**
TYV				AMB		AMB	19 55 06.3	
	comp=Z,20nm,0.7s							
JKA	**Kamikawa-asahi**	**9.57**	**257**	Pn		**Pn**	**19 55 11.1**	**+2.3**
JKA	**Kamikawa-asahi**	**9.57**	**257**	*e*P		**Pn**	**19 55 11.1**	**+2.3**
ASAJ	**Asahikawa**	**9.57**	**258**	Pn		**Pn**	**19 55 09.5**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=73,slow=23,SNR=13							
ASAJ	**Asahikawa**	**9.57**	**258**	PN		**Pn**	**19 55 11.1**	**+2.3**
ERM	**Erimo**	**10.18**	**246**	PN		**Pn**	**19 55 17.0**	**-0.1**
ERM	**Erimo**	**10.18**	**246**	Pn		**Pn**	**19 55 17.0**	**-0.1**
JEW	**Eniwo**	**10.86**	**253**			**Pn**	**19 55 25.6**	**-0.8**
MA2	**Magadan**	**12.97**	**349**	Pn		**Pn**	**19 55 57.4**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=160,slow=11,SNR=4.6							
MA2				LR		LR	20 00 59.1	
	comp=Z,74nm,20.8s,baz=168,slow=38							
MA2	**Magadan**	**12.97**	**349**	*i* PN		**Pn**	**19 55 55.3**	**+0.1**
JSD	**Sado**	**15.57**	**241**	P		**Pn**	**19 56 30.1**	**-0.4**
EKMR	**Ekimchan**	**15.77**	**301**	*e*P		**Pn**	**19 56 29.0**	**-4.0**
EKMR				AMB		AMB	19 56 38.8	
	comp=Z,4.0nm,0.8s							
KLR	**Kul'dur**	**16.10**	**287**	Pn		**P**	**19 56 40.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=66,slow=8.9,SNR=5.6							
KLR				LR		LR	20 02 37.9	
	comp=Z,38nm,21.7s,baz=84,slow=36							
KLR	**Kul'dur**	**16.10**	**287**	*e*P		**Pn**	**19 56 37.0**	**-0.2**
KLR	**Kul'dur**	**16.10**	**287**	*e*P		**Pn**	**19 56 32.0**	**-5.2**
SEY	**Seymchan**	**16.12**	**355**	Pn		**P**	**19 56 39.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=168,slow=8.3,SNR=5.3							
SEY	**Seymchan**	**16.12**	**355**	*i* P		**Pn**	**19 56 38.8**	**+1.4**
MAT	**Matsushiro**	**16.61**	**237**	P		**Pn**	**19 56 43.9**	**+0.1**
MJAR	**Matsushiro Arr**	**16.61**	**237**	Pn		**Pn**	**19 56 43.2**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=37,slow=12,SNR=7.5							
MJAR	**Matsushiro Arr**	**16.61**	**237**	P		**Pn**	**19 56 43.2**	**-0.6**
MJAR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
MJAR	**Matsushiro Arr**	**16.61**	**237**	IAmb		IAmb	19 56 53.0	
	comp=Z,2.2nm,0.9s							
USA0B	**Ussuriysk Arra**	**16.76**	**269**	P		**Pn**	**19 56 46.3**	**+0.7**
USA0B				pmax		pmax		
	comp=Z,4.0nm,0.8s							
USA0B	**Ussuriysk Arra**	**16.76**	**269**	Pn		**Pn**	**19 56 46.3**	**+0.7**
USRK	**Ussuriysk Ar.**	**16.76**	**269**	Pn		**Pn**	**19 56 45.8**	**+0.2**
	baz=82,slow=12,SNR=4.1							
USRK	**Ussuriysk Ar.**	**16.76**	**269**	P		**P**	**19 56 47.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**16.76**	**269**			**P**	**19 56 47.0**	**-0.8**
ZEA	**Zeya**	**19.25**	**301**	*e*P		Pn	19 57 23.7	+7.5
KROS	**Kirovskiy**	**19.53**	**303**	*e*P		**P**	**19 57 18.1**	**-0.1**
KROS				AMB		AMB	19 57 20.1	
	comp=Z,10.0nm,0.8s							
YAK	**Yakutsk**	**21.11**	**325**	P		**P**	**19 57 38.5**	**+3.2**
	comp=Z,4.1nm,0.5s,baz=316,slow=2.5,SNR=3.0							
YAK				LR		LR	20 05 46.5	
	comp=Z,32nm,20.4s,baz=87,slow=37							
YAK	**Yakutsk**	**21.11**	**325**	*e*P		**P**	**19 57 33.2**	**-2.1**
YAK				*e*S		**S**	**20 01 28.9**	**-0.3**
YAK				pmax		pmax		
	comp=Z,7.0nm,0.9s							
YAK				pmax		pmax		
	comp=N,1.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,2.0nm,0.6s							
YAK				smax		smax		
	comp=E,6.0nm,1.5s							
YAK				smax		smax		
	comp=N,7.0nm,1.3s							
YAK	**Yakutsk**	**21.11**	**325**	P		**P**	**19 57 34.7**	**-0.6**
YAK	**Yakutsk**	**21.11**	**325**	*e*P		**P**	**19 57 34.7**	**-0.6**
CN2	**Changchun**	**21.36**	**273**	*e*P		**P**	**19 57 42.3**	**+4.1**
BILL	**Bilibino**	**21.84**	**11**	*ce*P		**P**	**19 57 44.3**	**+1.2**
BILL				*e*			19 58 05.2	
BILL				pmax		pmax		
	comp=Z,14nm,2.5s							
BILL				MLR		MLR		
	comp=Z,49nm,6.0s							
BILL	**Bilibino**	**21.84**	**11**	P		**P**	**19 57 44.5**	**+1.5**
BILL	**Bilibino**	**21.84**	**11**	*e*P		**P**	**19 57 44.3**	**+1.2**
KSRS	**Korea Array**	**22.51**	**255**	P		**P**	**19 57 52.1**	**+1.7**
	comp=Z,1.7nm,0.9s,baz=57,slow=9.9,SNR=7.2							
KSAR	**Wonju Array Be**	**22.54**	**255**	P		**P**	**19 57 51.4**	**+0.6**
KSAR	**Wonju Array Be**	**22.54**	**255**	P		**P**	**19 57 51.4**	**+0.6**
KSAR	**Wonju Array Be**	**22.54**	**255**	*e*P		**P**	**19 57 51.4**	**+0.6**
TIXI	**Tiksi**	**27.78**	**342**	P		**P**	**19 58 39.4**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=261,slow=2.5,SNR=4.8							
TIXI	**Tiksi**	**27.78**	**342**	*ce*P		**P**	**19 58 38.0**	**-1.3**
TIXI				pmax		pmax		
	comp=Z,15nm,1.7s							
TIXI	**Tiksi**	**27.78**	**342**	P		**P**	**19 58 39.5**	**+0.2**
JMZ	**Minamidaito 2**	**28.61**	**231**	P		**P**	**19 58 45.3**	**-1.9**
H11N2	**WAKE ISLAND Hy**	**28.68**	**157**	T		T	20 28 28.7	
	baz=345,slow=76,SNR=6.4							
H11N1	**WAKE ISLAND Hy**	**28.69**	**157**	T		T	20 28 26.1	
	baz=345,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**28.69**	**157**	T		T	20 28 28.2	
	baz=345,slow=76,SNR=5.7							
**H

comp=Z,8.2nm,1.6s
ILAR Eielson Array 35.31 39 P P 19 59 45.0 -0.6
comp=Z,0.3nm,0.5s,baz=252,slow=8.1,SNR=6.5
ILAR Eielson Array 35.31 39 P P 19 59 44.0 -1.6
M24K Tolsona, Glenn 35.64 43 P P 19 59 48.9 +0.4
BMAR Burnt Mountain 36.38 34 P P 19 59 55.3 +0.5
N25K Chitina, Valde 36.42 44 P P 19 59 55.3 +0.1
XAN Xi'an 37.25 267 P P 20 00 05.6 +3.1
XAN pP pwP 20 00 11.8 -1.9
XAN pmax pmax
comp=Z,4.0nm,1.0s
EGAK Eagle 37.77 39 P P 20 00 05.8 -0.7
EGAK IAmb IAmb 20 00 06.8
comp=Z,4.8nm,0.8s
BARN Barnard Glacie 37.88 45 P P 20 00 08.3 +0.5
BARN IAmb IAmb 20 00 15.3
comp=Z,14nm,1.6s
CTGM Chitina Glacie 38.06 45 P P 20 00 09.2 +0.1
CTGM IAmb IAmb 20 00 23.4
comp=Z,18nm,1.6s
INK Inuvik 40.55 33 P P 20 00 30.6 +0.9
comp=Z,2.0nm,0.6s,baz=276,slow=6.1,SNR=7.6
INK Inuvik 40.55 33 P P 20 00 31.0 +1.3
INK pmax pmax
comp=Z,5.0nm,1.3s
INK Inuvik 40.55 33 P P 20 00 31.0 +1.3
GYA Guiyang 43.44 260 *eP* **P 20 00 55.3 +1.4**
GYA pmax pmax
comp=Z,6.0nm,1.1s
ZAA0 Zalesovo Array 43.88 306 P P 20 00 57.6 +0.6
ZALV Zalesovo Beam 43.88 306 P P 20 00 58.2 +1.2
comp=Z,0.6nm,0.5s,baz=62,slow=6.8,SNR=4.3
ZALV LR LR 20 18 60.0
comp=Z,32nm,20.3s,baz=54,slow=36
ZALV Zalesovo Beam 43.88 306 P P 20 00 57.2 +0.2
DGZ Jazzator, Alta 44.00 300 *i P* **P 20 00 58.5 +0.2**
DGZ pmax pmax
comp=Z,5.0nm,2.6s
WMQ Urumqi 46.45 292 *eP* **P 20 01 20.4 +2.8**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,120nm,6.9s
WMQ LR LR
comp=N,2μm,29.0s
WMQ LR LR
comp=E,3μm,29.0s
WMQ LR LR
comp=Z,240nm,29.2s
KMI Kunming 46.97 261 ⇓*P* **P 20 01 22.9 +0.8**
KMI pP pwP 20 01 32.4 -1.0
KMI pmax pmax
comp=Z,8.0nm,0.6s
MK31 Makanchi Array 48.37 298 P P 20 01 32.9 +0.4
MK31 pmax pmax
comp=Z,3.0nm,1.6s
MK31 Makanchi Array 48.37 298 P P 20 01 32.9 +0.4
MKAR Makanchi Array 48.37 298 P P 20 01 33.3 +0.8
comp=Z,0.5nm,0.7s,baz=67,slow=9.5,SNR=7.1
MKAR Makanchi Array 48.37 298 P P 20 01 33.1 +0.7
MKAR Makanchi Array 48.37 298 *eP* **P 20 01 33.5 +1.0**
MAKZ Makanchi 48.55 298 P P 20 01 34.8 +0.9
MAKZ pmax pmax
comp=Z,6.0nm,1.7s
MAKZ Makanchi 48.55 298 P P 20 01 34.8 +0.9
MAKZ IAmb IAmb 20 01 40.5
comp=Z,5.5nm,1.6s
EUNU Eureka 48.58 12 P P 20 01 35.4 +1.7
EUNU IAmb IAmb 20 01 50.3
comp=Z,3.6nm,0.7s
YKA Yellowknife Ar 49.72 37 P P 20 01 42.2 -0.3
comp=Z,0.6nm,0.9s,baz=290,slow=7.1,SNR=4.6
BRVK Borovoye 52.09 310 *ceP* **P 20 02 01.6 +1.1**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BRVK Borovoye 52.09 310 P P 20 02 01.8 +1.3
BRVK IAmb IAmb 20 02 11.3
comp=Z,3.2nm,0.7s
BRVK Borovoye 52.09 310 *eP* **P 20 02 01.6 +1.1**
CM31 Chiang Mai Arr 54.09 258 P P 20 02 16.8 +1.1
CM31 IAmb IAmb 20 02 20.0
comp=Z,3.1nm,0.8s
CMAR Chiang Mai Arr 54.09 258 P P 20 02 14.5 -1.2
comp=Z,1.0nm,0.7s,baz=38,slow=7.2,SNR=7.6
CMAR Chiang Mai Arr 54.09 258 P P 20 02 16.6 +0.9
CMAR Chiang Mai Arr 54.09 258 P P 20 02 16.6 +0.9
AAK Ala-Archa 55.28 297 *ceP* **P 20 02 24.9 +0.7**
AAK pmax pmax
comp=Z,17nm,2.5s
AAK Ala-Archa 55.28 297 P P 20 02 26.0 +1.7
AAK IAmb IAmb 20 02 34.9
comp=Z,3.8nm,1.4s
AAK Ala-Archa 55.28 297 *eP* **P 20 02 24.9 +0.7**
ARU Arti 56.02 318 *i P* **P 20 02 29.9 +0.8**
ARU pmax pmax
comp=Z,4.0nm,0.9s
ARU Arti 56.02 318 P P 20 02 28.7 -0.4
ARU IAmb IAmb 20 02 39.7
comp=Z,5.1nm,0.7s
ARU Arti 56.02 318 *eP* **P 20 02 29.9 +0.8**
ARCES ARCESS Array B 58.22 342 P P 20 02 45.0 +0.5
comp=Z,4.8nm,0.9s,baz=52,slow=10,SNR=2.0
ARCES LR LR 20 32 05.0
comp=Z,33nm,18.8s,baz=25,slow=40
ARCES ARCESS Array B 58.22 342 P P 20 02 45.0 +0.5
ABKAR Akbulak array 59.61 311 P P 20 02 52.8 -1.7
ABKAR Akbulak array 59.61 311 P P 20 02 53.6 -0.9
ABKAR IAmb IAmb 20 03 05.9
comp=Z,3.2nm,0.8s
BOZ Bozeman (W) 60.28 54 P P 20 02 59.2 -0.2
BOZ pmax pmax
comp=Z,10.0nm,1.6s
BOZ Bozeman (W) 60.28 54 P P 20 02 59.2 -0.2
BOZ IAmb IAmb 20 03 00.6
comp=Z,9.6nm,1.6s
KVN Kaiserville 60.55 63 P P 20 03 01.1 -0.2
KVN pmax pmax
comp=Z,3.0nm,1.1s
KVN Kaiserville 60.55 63 P P 20 03 01.1 -0.2
KVN IAmb IAmb 20 03 03.0
comp=Z,2.6nm,1.1s
NVAR Mina Array Bea 60.81 64 P P 20 03 03.5 +0.4
comp=Z,1.0nm,0.7s,baz=298,slow=6.9,SNR=6.3
REDW Red Top Meadow 62.12 55 P P 20 03 11.6 -0.3
REDW IAmb IAmb 20 03 13.4
comp=Z,4.0nm,1.0s
PDAR Pinedale Array 63.23 55 P P 20 03 19.4 +0.1
comp=Z,0.5nm,0.4s,baz=298,slow=3.2,SNR=6.8
PDAR Pinedale Array 63.23 55 P P 20 03 18.5 -0.9
BELG Belogornoye 63.51 319 *i P* **P 20 03 21.8 +1.1**
BELG pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 64.58 336 P P 20 03 27.6 0.0
comp=Z,0.9nm,0.4s,baz=45,slow=6.5,SNR=13
FINES LR LR 20 33 49.7
comp=Z,49nm,20.0s,baz=350,slow=38
RDMU Red Mountain 64.65 57 P P 20 03 29.0 +0.3
PV17 East Wray Mesa 66.52 59 P P 20 03 40.8 0.0
PV17 IAmb IAmb 20 03 41.6
comp=Z,4.9nm,0.8s
PV03 Paradox Valley 66.60 59 P P 20 03 40.9 -0.4
PV03 IAmb IAmb 20 03 42.3
comp=Z,2.9nm,1.0s
PV13 Radium Mtn., P 66.68 59 P P 20 03 41.6 -0.3
PV13 IAmb IAmb 20 03 42.8
comp=Z,5.3nm,1.0s
NOA NORSAR Array B 68.58 342 P P 20 03 51.8 -1.4
comp=Z,0.7nm,0.9s,baz=25,slow=6.5,SNR=2.9
NOA LR LR 20 37 04.3
comp=Z,15nm,20.7s,baz=355,slow=39
WRA Warramunga Arr 69.30 201 P P 20 03 56.6 -1.5
comp=Z,1.2nm,0.7s,baz=21,slow=6.8,SNR=11
WRA Warramunga Arr 69.30 201 P P 20 03 56.1 -1.9
KSCO Kaye Shedlock' 69.64 54 P P 20 03 58.1 -2.1
ANMO Albuquerque 70.25 60 *ceP* **P 20 04 04.2 0.0**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
KIV Kislovodsk 71.88 316 *eP* **P 20 04 14.4 +0.6**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 71.88 316 *eP* **P 20 04 14.4 +0.6**
KBZ Khabaz 71.94 315 P P 20 04 13.0 -1.0
comp=Z,1.2nm,0.7s,baz=255,slow=3.3,SNR=3.6
KBZ Khabaz 71.94 315 *i P* **P 20 04 13.9 -0.1**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 71.94 315 *eP* **P 20 04 13.9 -0.1**
SHA1 Shidzhatmaz 72.05 315 *i P* **P 20 04 15.4 +0.4**
AKASG Malin Array Be 72.32 328 P P 20 04 15.6 -0.6
comp=Z,0.2nm,0.3s,baz=32,slow=6.2,SNR=4.9
ASAR Alice Springs 72.98 201 P P 20 04 19.7 -0.6
comp=Z,1.1nm,0.7s,baz=14,slow=5.4,SNR=21
TX31 Lajitas Ar. Si 75.88 62 P P 20 04 37.2 -0.3
TX32 Lajitas Array 75.88 62 P P 20 04 37.4 -0.1
TX32 IAmb IAmb 20 04 38.5
comp=Z,4.6nm,0.8s
TXAR Lajitas Array 75.88 62 P P 20 04 37.7 +0.3
comp=Z,3.3nm,0.7s,baz=301,slow=4.2,SNR=28
TXAR Lajitas Array 75.88 62 P P 20 04 37.1 -0.4
BUR08 Bucovina Ar. S 76.33 328 P P 20 04 40.3 +0.6
BUR08 IAmb IAmb 20 04 47.9
comp=Z,2.3nm,0.7s
DPC Dobruska-Polom 76.90 335 *eP* P 20 04 49.8 +7.0
DPC Dobruska-Polom 76.90 335 *eP* P 20 04 49.8 +7.0
KHC Kasperske Hory 78.78 336 *eP* **P 20 04 57.2 +3.9**
KHC Kasperske Hory 78.78 336 *eP* **P 20 04 57.2 +3.9**
GERES GERESS Array B 79.01 335 P **P 20 04 55.8 +1.2**
comp=Z,0.3nm,0.5s,baz=14,slow=5.0,SNR=2.1
BRTR Keskin Array B 79.40 318 P P 20 04 58.0 +1.0
comp=Z,1.0nm,0.8s,baz=60,slow=6.1,SNR=5.1
SIV San Ignacio 136.70 57 PKP PKPdf 20 12 13.4 0.0
comp=Z,1.0nm,0.6s,baz=273,slow=1.8,SNR=5.5
PLCA Paso Flores 146.52 96 PKPbc PKPbc 20 12 31.7 0.0
comp=Z,4.9nm,0.9s,baz=278,slow=0.3,SNR=4.8
CPUP Villa Florida 146.85 63 PKPbc PKPbc 20 12 32.4 -0.6
comp=Z,2.4nm,0.8s,baz=314,slow=4.1,SNR=4.0

*IDC **20** 20:52:35.7±0.6,29°.45S×177°.05W,h0km,mb4.3/12, mb1 4.5/13,mb1mx4.2/45,mbtmp4.4/13,ML4.7/1,MS4.1/14, Ms1 4.1/14,ms1mx4.0/25,Error ellipse: s-maj=22.8km s-min=16.9km az=1.0*
*NEIC **20** 20:52:36.2±2.3,29°.69S±0°.07×177°.04W±0°.08,h10km±1km, mb4.8/44,Error ellipse: s-maj=12.5km s-min=11.3km az=143.0*
ISC 20 20:52:36.7±0.4,**29°.73S**±0°.06×**177°.12W**±0°.07,**h10**km, **n140**,**σ1**§**70**/128,**mb4.7**/26,**MS4.2**/14,**1C**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**0.84**	**304**	Pn		**Pb**	**20 52 53.6**	**+0.2**
	926nm,0.3s,baz=125,slow=8.3,SNR=20							
RAO	**Raoul Island**	**0.84**	**304**			**Pb**	**20 52 54.0**	**+0.6**
HAZ	**Te Kaha**	**9.06**	**207**	P		**Pn**	**20 54 47.1**	**-0.5**
PKGZ	**Pakihiroa**	**9.06**	**205**	P		**Pn**	**20 54 46.5**	**-1.2**
PUZ	**Puketiti**	**9.16**	**204**	P		**Pn**	**20 54 48.7**	**-0.3**
RUGZ	**Raukumara Rang**	**9.28**	**206**	P		**Pn**	**20 54 50.3**	**-0.4**
TWGZ	**Tauwhareparae**	**9.36**	**204**	P		**Pn**	**20 54 54.3**	**+2.7**
WCZ	**Waipu Caves**	**9.48**	**227**	P		Pn	20 55 03.9	+11
CNGZ	**Carnagh Statio**	**9.55**	**203**	P		**Pn**	**20 54 54.9**	**+0.6**
MWZ	**Matawai**	**9.66**	**206**	P		**Pn**	**20 54 56.7**	**+0.8**
URZ	**Urewera**	**9.76**	**208**	Pn		**Pn**	**20 54 55.9**	**-1.2**
	1.3nm,0.3s,baz=313,slow=19,SNR=2.2							
URZ				Sn		**Sn**	**20 56 46.5**	**-0.3**
	3.7nm,0.3s,baz=240,slow=16,SNR=2.6							
MTHZ	**Maungataniwha**	**10.38**	**207**	P		**Pn**	**20 55 06.0**	**+0.4**
TLZ	**Tolley Road**	**10.52**	**213**	P		**Pn**	**20 55 03.5**	**-4.1**
BKZ	**Black Stump Fm**	**10.79**	**208**	Pn		**Pn**	**20 55 09.3**	**-1.9**
HIZ	**Hauiti**	**10.99**	**215**	Pn		**Pn**	**20 55 15.0**	**+1.0**
BFZ	**Birch Farm**	**12.20**	**205**	Pn		**Pn**	**20 55 28.8**	**-1.6**
MSVF	**Nonsavu**	**12.73**	**339**	LR		LR	20 59 51.9	
	comp=Z,1μm,18.2s,baz=172,slow=35							
MSWZ	**Moikau Station**	**13.20**	**206**	Pn		**Pn**	**20 55 42.4**	**-1.8**
MSWZ	**Moikau Station**	**13.20**	**206**	P		**P**	**20 55 49.6**	**-4.7**
DUWZ	**D'Urville Isla**	**13.24**	**211**	P		**P**	**20 55 50.1**	**-4.6**
TUWZ	**Tuamarina**	**13.74**	**209**			**Pn**	**20 55 49.5**	**-2.1**
TUWZ						**Sn**	**20 58 18.9**	**-5.4**
TUWZ	**Tuamarina**	**13.74**	**209**	P		**Pn**	**20 55 52.0**	**+0.4**
NNZ	**Nelson**	**13.82**	**211**	Pn		**Pn**	**20 55 52.5**	**-0.1**
NNZ	**Nelson**	**13.82**	**211**	P		**Pn**	**20 55 55.8**	**+3.2**
QRZ	**Quartz Range**	**13.92**	**215**	Pn		**Pn**	**20 55 54.6**	**+0.6**
QRZ	**Quartz Range**	**13.92**	**215**	P		**P**	**20 55 59.6**	**-2.6**
BSWZ	**Blackbirch Sta**	**14.01**	**209**	Pn		**Pn**	**20 55 54.1**	**-1.1**
BSWZ	**Blackbirch Sta**	**14.01**	**209**	P		**P**	**20 56 00.4**	**-2.8**
THZ	**Tophouse**	**14.47**	**211**			**Pn**	**20 56 00.4**	**-1.2**
THZ	**Tophouse**	**14.47**	**211**	P		**Pn**	**20 56 02.4**	**+0.8**
KHZ	**Kahutara**	**14.73**	**208**	Pn		**Pn**	**20 56 03.8**	**-1.3**
KHZ	**Kahutara**	**14.73**	**208**	P		**Pn**	**20 56 04.0**	**-1.0**
GVZ	**Greta Valley S**	**15.39**	**208**	P		**Pn**	**20 56 08.2**	**-5.7**
LTZ	**Lake Taylor**	**15.57**	**210**	Pn		**Pn**	**20 56 12.9**	**-3.3**
LTZ	**Lake Taylor**	**15.57**	**210**	P		**Pn**	**20 56 15.1**	**-1.1**
INZ	**Inchbonnie**	**15.89**	**212**	P		**P**	**20 56 26.2**	**+2.0**
OXZ	**Oxford**	**16.11**	**210**	P		**Pn**	**20 56 21.1**	**-2.1**
OXZ				IAmb		IAmb	20 56 41.0	
	comp=Z,41nm,0.4s							
OXZ	**Oxford**	**16.11**	**210**	P		**Pn**	**20 56 21.5**	**-1.7**
MQZ	**McQueen's Vall**	**16.16**	**208**	Pn		**Pn**	**20 56 21.5**	**-2.4**
MQZ				IAmb		IAmb	20 56 44.7	
	comp=Z,88nm,1.5s							
AFI	**Afiamalu**	**16.50**	**19**	LR		LR	21 01 29.7	
	comp=Z,275nm,20.2s,baz=212,slow=33							
DZM	**Mont Dzumac**	**16.63**	**293**	*eP*		**Pn**	**20 56 26.3**	**-3.7**
	comp=Z,72nm,0.9s							
DZM				*e*LR		LR	21 00 14.4	
	comp=Z,2μm,23.4s							
DZM	**Mont Dzumac**	**16.63**	**293**	LR		LR	21 01 57.2	
	comp=Z,2μm,18.5s,baz=74,slow=34							
RPZ	**Rata Peaks**	**16.85**	**211**	P		**P**	**20 56 35.0**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=98,slow=1.4,SNR=5.2							
RPZ	**Rata Peaks**	**16.85**	**211**	P		**Pn**	**20 56 32.9**	**+0.3**
FOZ	**Fox Glacier**	**17.28**	**214**	Pn		**Pn**	**20 56 37.4**	**-0.7**
LBZ	**Lake Benmore**	**17.76**	**211**	Pn		**Pn**	**20 56 41.9**	**-2.2**
LBZ				IAmb		IAmb	20 57 03.3	
	comp=Z,98nm,1.7s							
RAR	**Rarotonga**	**17.80**	**66**	LR		LR	21 01 42.5	
	comp=Z,688nm,20.3s,baz=272,slow=31							
RAR	**Rarotonga**	**17.80**	**66**	Pn		**Pn**	**20 56 41.5**	**-3.1**
RAR				IAmb		IAmb	20 57 21.6	
	comp=Z,44nm,0.8s							
ODZ	**Otahua Downs**	**18.08**	**209**	Pn		**Pn**	**20 56 46.0**	**-2.0**
WKZ	**Wanaka**	**18.64**	**212**	P		**P**	**20 56 53.6**	**-0.9**
WKZ				IAmb		IAmb	20 57 00.9	
	comp=Z,155nm,1.6s							
DCZ	**Deep Cove**	**19.99**	**214**	P		**P**	**20 57 08.2**	**-1.1**
DCZ				IAmb		IAmb	20 57 12.6	
	comp=Z,102nm,1.6s							
TBI	**Tubuai**	**25.51**	**82**	*e*LR		LR	21 04 10.1	
	comp=Z,840nm,27.2s,baz=246							
ARMA	**Armidale**	**27.01**	**261**	P		**P**	**20 58 18.0**	**-1.1**
ARMA				IAmb		IAmb	20 58 36.6	
	comp=Z,28nm,1.2s							
PPT2	**Papeete2**	**27.90**	**71**	*e*LR		LR	21 05 12.9	
	comp=Z,846nm,26.0s							
PPTF	**Pamatai, Papee**	**27.91**	**71**	P		**P**	**20 58 26.1**	**-1.1**
PPT	**Papeete**	**27.91**	**70**	LR		LR	21 07 12.6	
	comp=Z,76nm,21.0s,baz=206,slow=32							
EIDS	**Eidsvold**	**28.47**	**271**	P		**P**	**20 58 33.4**	**+1.3**
EIDS				IAmb		IAmb	20 58 52.7	
	comp=Z,14nm,1.1s							
CAN	**Canberra**	**29.02**	**250**	P		**P**	**20 58 36.7**	**-0.2**
TAU	**Tasmania Unive**	**31.29**	**235**	P		**P**	**20 58 56.2**	**-0.6**
TOO	**Toolangi**	**31.93**	**246**	P		**P**	**20 59 05.9**	**+3.3**
TOO				IAmb		IAmb	20 59 37.0	
	comp=Z,25nm,1.4s							
CTA	**Charters Tower**	**34.45**	**278**	P		**P**	**20 59 26.1**	**+1.3**
	comp=Z,4.2nm,0.6s,baz=94,slow=11,SNR=12							
CTAO	**Charters Tower**	**34.45**	**278**	P		**P**	**20 59 26.7**	**+1.9**
CTAO				IAmb		IAmb	20 59 38.2	
	comp=Z,11nm,0.8s							
STKA	**Stephens Creek**	**35.38**	**256**	P		**P**	**20 59 35.8**	**+3.1**
	comp=Z,7.8nm,0.7s,baz=92,slow=9.7,SNR=23							
STKA				LR		LR	21 13 13.7	
	comp=Z,608nm,18.3s,baz=96,slow=35							
STKA	**Stephens Creek**	**35.38**	**256**	P		**P**	**20 59 35.4**	**+2.7**
RKT	**Rikitea**	**38.16**	**90**	*e*LR		LR	21 10 03.2	
	comp=Z,516nm,25.8s							
BBOO	**Buckleboo**	**39.89**	**253**	P		**P**	**21 00 11.8**	**+0.9**
BBOO				IAmb		IAmb	21 00 25.0	
	comp=Z,32nm,1.2s							
TAOE	**Nuku Hiva Isla**	**40.34**	**67**	*e*LR		LR	21 10 58.8	
	comp=Z,489nm,26.0s							
AS31	**Alice Springs**	**43.91**	**266**	P		**P**	**21 00 43.9**	**0.0**
ASAR	**Alice Springs**	**43.91**	**266**	P		**P**	**21 00 43.8**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=98,slow=7.0,SNR=27							
ASAR				LR		LR	21 18 43.1	
	comp=Z,1μm,18.5s,baz=112,slow=36							
ASAR	**Alice Springs**	**43.91**	**266**	P		**P**	**21 00 43.4**	**-0.5**
WR0	**Warramunga Arr**	**44.66**	**271**	P		**P**	**21 00 49.5**	**-0.4**
WR0				IAmb		IAmb	21 01 09.8	
	comp=Z,12nm,1.2s							
WB2	**Warramunga Arr**	**44.83**	**271**	P		**P**	**21 00 51.4**	**+0.1**
WB2				IAmb		IAmb	21 01 07.0	
	comp=Z,17nm,1.2s							
WRAB	**Tennant Creek**	**44.83**	**271**	P		**P**	**21 00 50.8**	**-0.4**
WRA	**Warramunga Arr**	**44.84**	**271**	P		**P**	**21 00 51.5**	**+0.2**
	comp=Z,4.3nm,0.6s,baz=110,slow=7.5,SNR=40							
WRA				LR		LR	21 18 39.5	
	comp=Z,349nm,18.1s,baz=115,slow=35							
WRA	**Warramunga Arr**	**44.84**	**271**	P		**P**	**21 00 51.3**	**0.0**
WB0	**Warramunga Arr**	**44.86**	**271**	P		**P**	**21 00 51.2**	**-0.3**
WB0				IAmb		IAmb	21 01 06.9	
	comp=Z,12nm,1.2s							
FORT	**Forrest**	**46.96**	**254**	P		**P**	**21 01 08.4**	**+0.5**
SBA	**Scott Base**	**48.76**	**184**	P		P	21 01 25.9	+4.6
SBA				IAmb		IAmb	21 01 47.6	
	comp=Z,20nm,1.3s							
VNDA	**Vanda**	**48.84**	**186**	P		**P**	**21 01 25.6**	**+3.7**
	comp=Z,0.9nm,0.7s,baz=7.7,slow=6.1,SNR=6.3							
VNDA	**Vanda**	**48.84**	**186**	P		**P**	**21 01 22.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.13**	**269**	P		**P**	**21 01 55.5**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=145,slow=9.1,SNR=13							
FITZ	**Fitzroy Crossi**	**53.13**	**269**	P		**P**	**21 01 55.2**	**+0.3**
FITZ				IAmb		IAmb	21 02 01.5	
	comp=Z,8.0nm,1.1s							
CASY	**Casey**	**56.09**	**208**	P		**P**	**21 02 17.0**	**+1.3**
MORW	**Morawa**	**57.45**	**253**	P		**P**	**21 02 25.9**	**-0.2**
SOEI	**Soe**	**58.02**	**277**	P		**P**	**21 02 31.3**	**+1.0**
SOEI				IAmb		IAmb	21 02 53.8	
	comp=Z,13nm,1.0s							
QSPA	**South Pole Qui**	**60.38**	**180**	P		**P**	**21 02 47.4**	**+1.5**
BELA	**Belgrano 2**	**70.34**	**172**	P		**P**	**21 03 51.0**	**+0.9**
BELA				IAmb		IAmb	21 04 03.6	
	comp=Z,6.9nm,0.9s							
MAW	**Mawson**	**73.20**	**200**	P		**P**	**21 04 08.6**	**+1.2**
MAW				IAmb		IAmb	21 04 49.7	
	comp=Z,9.4nm,1.8s							
JGF	**Kuroka**	**77.84**	**324**	P		**P**	**21 04 33.7**	**-0.7**
SYO	**Syowa Base**	**77.94**	**193**	‖*e*PcP		**PcP**	**21 04 45.8**	**+1.5**
MJAR	**Matsushiro Ar**	**78.13**	**325**	P		**P**	**21 04 35.0**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=160,slow=7.5,SNR=3.1							
MJAR				LR		LR	21 33 38.3	
	comp=Z,45nm,21.8s,baz=205,slow=32							
SNAA	**Sanae**	**78.80**	**178**	P		**P**	**21 04 41.1**	**+1.7**
SNAA	**Sanae**	**78.80**	**178**	P		**P**	**21 04 42.6**	**+3.2**
VNA3	**Neumayer Olymp**	**78.92**	**176**	P		**P**	**21 04 41.5**	**+1.5**
JSD	**Sado**	**79.27**	**326**	P		**P**	**21 04 42.9**	**+0.7**
VNA2	**Neumayer--Watz**	**79.36**	**177**	P		**P**	**21 04 41.5**	**-0.9**
	baz=192,slow=3.1							
JNU	**Nakatsue**	**79.57**	**318**	P		**P**	**21 04 43.5**	**-0.5**
VNA1	**Neumayer--Stat**	**79.59**	**176**	P		**P**	**21 04 44.2**	**+0.7**
JHS	**Saijyo**	**79.66**	**320**	P		**P**	**21 04 43.8**	**-0.6**
JHS				IAmb		IAmb	21 04 50.8	
	comp=Z,24nm,1.6s							
PLCA	**Paso Flores**	**82.40**	**133**	P		**P**	**21 04 59.5**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=226,slow=7.1,SNR=4.5							
BI02	**San Fabin de**	**84.13**	**129**	P		**P**	**21 05 08.4**	**+0.1**
BI02				IAmb		IAmb	21 05 10.0	
	comp=Z,7.4nm,0.9s							
YSS	**Yuzh-Sakhalins**	**84.48**	**334**	P		**P**	**21 05 08.4**	**-1.0**
PETK	**Petropavlovsk-**	**85.36**	**345**	P		**P**	**21 05 13.6**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=120,slow=8.8,SNR=4.4							
PETK				LR		LR	21 41 48.1	
	comp=Z,91nm,18.1s,baz=135,slow=35							
PETK	**Petropavlovsk-**	**85.36**	**345**	P		**P**	**21 05 13.3**	**-0.4**
USRK	**Ussuriysk Ar.**	**87.03**	**326**	P		**P**	**21 05 22.2**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=109,slow=6.3,SNR=8.8							
NVAR	**Mina Array Bea**	**87.23**	**42**	P		**P**	**21 05 23.3**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=238,slow=9.9,SNR=4.8							
NVAR				LR		LR	21 40 52.8	
	comp=Z,147nm,18.1s,baz=234,slow=33							
U15A	**North Rim**	**89.62**	**47**	P		**P**	**21 05 34.5**	**-0.6**
U15A				IAmb		IAmb	21 06 20.5	
	comp=Z,15nm,1.8s							
KLR	**Kul'dur**	**90.84**	**329**	P		**P**	**21 05 40.7**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=32,slow=3.4,SNR=6.5							
TXAR	**Lajitas Array**	**91.39**	**57**	LR		LR	21 42 09.0	
	comp=Z,43nm,18.0s,baz=0.0,slow=33							
CMAR	**Chiang Mai Arr**	**93.90**	**289**	LR		LR	21 50 42.4	
	comp=Z,51nm,18.7s,baz=184,slow=37							
PDAR	**Pinedale Array**	**95.12**	**43**	LR		LR	21 46 23.0	
	comp=Z,80nm,18.3s,baz=262,slow=34							
MKAR	**Makanchi Array**	**117.92**	**310**	PKP		**PKPdf**	**21 11 22.9**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=131,slow=0.4,SNR=4.9							
MKAR	**Makanchi Array**	**117.92**	**310**			**PKPdf**	**21 11 22.5**	**-0.9**
KURK	**Kurchatov**	**121.13**	**314**			**PKiKP**	**21 11 29.1**	**-0.4**
KURBB	**Kurchatov Arra**	**121.17**	**314**	PKP		**PKPdf**	**21 11 29.1**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=112,slow=2.0,SNR=16							
BVAR	**Borovoye Array**	**126.45**	**316**	PKP		**PKiKP**	**21 11 39.5**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=186,slow=12,SNR=12							
ARU	**Arti**	**133.05**	**321**	PKP		**PKiKP**	**21 11 52.2**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=355,slow=7.6,SNR=3.9							
FINES	**FINESS Array B**	**144.77**	**341**	PKP		**PKPab**	**21 12 11.5**	**-0.5**
	comp=Z,8.0nm,0.6s,baz=58,slow=2.5,SNR=29							
KBZ	**Khabaz**	**145.36**	**305**	PKPbc		**PKPbc**	**21 12 14.0**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=149,slow=2.0,SNR=14							
NB2	**NORSAR Subarra**	**148.20**	**352**	PKP		**PKPbc**	**21 12 21.5**	**-0.8**
	comp=Z,46nm,2.5s,baz=10,slow=3.2							
NOA	**NORSAR Array B**	**148.20**	**352**	PKPbc		**PKPbc**	**21 12 21.9**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=15,slow=4.4,SNR=6.3							
HFS	**Hagfors**	**148.73**	**350**	PKPbc		**PKPbc**	**21 12 23.1**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=70,slow=1.7,SNR=9.0							
AKASG	**Malin Array Be**	**151.22**	**324**	PKPbc		**PKiKP**	**21 12 29.9**	**-0.6**
	comp=Z,4.8nm,0.7s,baz=47,slow=2.8,SNR=16							
BRTR	**Keskin Array B**	**152.94**	**300**	PKPbc		**PKiKP**	**21 12 35.2**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=76,slow=1.4,SNR=5.2							
OSTC	**Ostas**	**156.90**	**338**	*e*PKPAB		**PKPab**	**21 13 03.4**	**+1.4**
OSTC				*ex*		x	21 13 13.5

TNTI	**Ternate**	**4.44**	**79**	P		**Pn**	**20 56 05.1**	**+0.2**
TNTI				S		**Sn**	**20 56 53.1**	**-3.6**
SPSI	**Sidrap Palu**	**5.03**	**220**	P		**Pn**	**20 56 11.7**	**-1.0**
	0.1nm12nm,0.5s							
NLAI	**Namlea**	**5.14**	**127**	P		**Pn**	**20 56 15.0**	**+0.9**
NLAI				S		**Sn**	**20 57 13.2**	**0.0**
BNSI	**Bone**	**5.17**	**214**	P		**Pn**	**20 56 16.8**	**+2.3**
	0.1nm14nm,1.3s							
FITZ	**Fitzroy Crossi**	**18.07**	**172**	P		**P**	**20 58 59.0**	**+1.2**
	0.6nm,0.3s,baz=1.0,slow=9.1,SNR=23							
WRA	**Warramunga Arr**	**22.63**	**151**	P		**P**	**20 59 46.2**	**+0.3**
	1.6nm,0.5s,baz=327,slow=11,SNR=28							
ASAR	**Alice Springs**	**25.70**	**156**	P		**P**	**21 00 14.9**	**+1.0**
	0.5nm,0.6s,baz=342,slow=13,SNR=9.8							
MKAR	**Makanchi Array**	**58.70**	**328**	P		**P**	**21 04 38.5**	**-0.6**
	0.2nm,0.4s,baz=116,slow=6.6,SNR=9.5							

IDC 20 21:10:13.7±10.0, 30°26S×177°88W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/27, mbtmp3.3/2, Error ellipse: s-maj=449.6km s-min=62.2km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.22**	**267**	P	P	21 18 16.5	-0.3
	0.2nm,0.4s,baz=107,slow=7.4,SNR=4.4						
WRA	**Warramunga Arr**	**44.20**	**272**	P	P	21 18 24.7	0.0
	0.1nm,0.3s,baz=110,slow=8.0,SNR=3.4						
FINES	**FINESS Array B**	**145.05**	**340**	PKPbc	PKPbc	21 29 50.8	-0.8
	2.2nm,1.0s,baz=28,slow=3.9,SNR=3.7						

*IDC **20** 21:27:58.4±0.8, 49°.31S×127°.35E, h0km, mb4.2/8, mb1 4.5/8, mb1mx4.3/22, mbtmp4.3/8, MS3.9/6, Ms1 3.8/6, ms1mx3.3/32, Error ellipse: s-maj=53.8km s-min=18.3km az=97.0*
*NEIC **20** 21:27:59.7±0.7, 49°.26S±0°.06×127°.3E±0°.3, h10km±1km, mb4.4/17, Error ellipse: s-maj=33.5km s-min=6.7km az=284.0*
ISC 20 21:28:00.0±0.7, 49°29S±0°.09×127°3E±0°.2, h10km, n36, σ0s75/29, mb4.4/14, MS3.7/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**17.34**	**321**	T	T	21 49 53.6	
	baz=148,slow=74,SNR=20						
H01W2	**Cape Leeuwin H**	**17.35**	**321**	T	T	21 49 58.0	
	baz=148,slow=74,SNR=19						
H01W3	**Cape Leeuwin H**	**17.36**	**321**	T	T	21 49 54.0	
	baz=148,slow=74,SNR=21						
TOO	**Toolangi**	**17.60**	**55**		**Pn**	**21 32 05.5**	**+0.1**
BBOO	**Buckleboo**	**17.72**	**25**		**Pn**	**21 32 06.0**	**-0.7**
BBOO				IAmb	IAmb	21 32 07.2	
	comp=Z,43nm,1.4s						
STKA	**Stephens Creek**	**20.44**	**37**	P	**P**	**21 32 38.6**	**+1.1**
	comp=Z,3.3nm,0.7s,baz=164,slow=20,SNR=6.3						
STKA				LR	LR	21 39 20.8	
	comp=Z,158nm,20.2s,baz=201,slow=33						
STKA	**Stephens Creek**	**20.44**	**37**	P	**P**	**21 32 37.8**	**+0.3**
MORW	**Morawa**	**21.95**	**333**	P	**P**	**21 32 53.1**	**-0.6**
MORW				IAmb	IAmb	21 32 55.4	
	comp=Z,20nm,1.1s						
ASAR	**Alice Springs**	**26.10**	**14**	P	**P**	**21 33 33.3**	**-0.6**
	comp=Z,12nm,0.6s,baz=188,slow=9.0,SNR=142						
ASAR				PcP	**PcP**	**21 37 00.9**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=198,slow=2.1,SNR=9.4						
ASAR	**Alice Springs**	**26.10**	**14**		**P**	**21 33 33.1**	**-0.9**
AS31	**Alice Springs**	**26.10**	**14**		**P**	**21 33 33.4**	**-0.6**
AS31				IAmb	IAmb	21 33 34.3	
	comp=Z,4.2nm,0.6s						
PSA00	**Pilbara Seismi**	**28.29**	**345**	P	**P**	**21 33 53.0**	**-0.6**
PSA00				IAmb	IAmb	21 33 54.1	
	comp=Z,9.1nm,0.8s						
WRA	**Warramunga Arr**	**29.82**	**13**	P	**P**	**21 34 06.0**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=192,slow=8.2,SNR=14						
WRA				PcP	**PcP**	**21 37 10.1**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=199,slow=2.4,SNR=4.7						
WRA	**Warramunga Arr**	**29.82**	**13**	P	**P**	**21 34 06.4**	**-0.8**
WB2	**Warramunga Arr**	**29.82**	**13**	P	**P**	**21 34 06.6**	**-0.6**
WB2				IAmb	IAmb	21 34 07.5	
	comp=Z,3.6nm,0.9s						
WR0	**Warramunga Arr**	**29.83**	**14**	P	**P**	**21 34 06.5**	**-0.8**
WR0				IAmb	IAmb	21 34 07.6	
	comp=Z,9.5nm,1.1s						
WB0	**Warramunga Arr**	**30.00**	**13**	P	**P**	**21 34 08.0**	**-0.8**
RPZ	**Rata Peaks**	**30.30**	**96**	LR	LR	21 43 45.4	
	comp=Z,158nm,18.1s,baz=269,slow=31						
FITZ	**Fitzroy Crossi**	**31.14**	**357**	P	**P**	**21 34 18.1**	**-0.7**
FITZ				IAmb	IAmb	21 34 19.8	
	comp=Z,5.8nm,1.1s						
VNDA	**Vanda**	**31.23**	**166**	P	**P**	**21 34 19.3**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=313,slow=8.4,SNR=23						
VNDA	**Vanda**	**31.23**	**166**	P	**P**	**21 34 19.8**	**+0.6**
VNDA				IAmb	IAmb	21 34 21.5	
	comp=Z,6.8nm,0.9s						
MAW	**Mawson**	**36.25**	**216**	LR	LR	21 47 39.4	
	comp=Z,133nm,18.1s,baz=70,slow=33						
MTN	**Manton Dam**	**36.48**	**6**	P	**P**	**21 35 05.2**	**-0.1**
URZ	**Urewera**	**36.99**	**92**	LR	LR	21 48 46.0	
	comp=Z,121nm,19.6s,baz=215,slow=34						
QSPA	**South Pole Qui**	**40.83**	**180**	P	**P**	**21 35 41.6**	**+0.1**
QSPA				IAmb	IAmb	21 35 51.5	
	comp=Z,18nm,1.5s						
SNAA	**Sanae**	**54.30**	**197**	P	**P**	**21 37 25.2**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=138,slow=12,SNR=7.4						
SNAA	**Sanae**	**54.30**	**197**	IAmb	IAmb	21 37 34.7	
	comp=Z,9.2nm,1.1s						
IPM	**Ipoh**	**58.22**	**329**	P	**P**	**21 37 54.9**	**+0.5**
KULM	**Kulim**	**59.10**	**329**	P	**P**	**21 38 01.0**	**+0.4**
AFI	**Afiamalu**	**60.69**	**77**	LR	LR	21 58 24.5	
	comp=Z,70nm,20.9s,baz=162,slow=30						
PMSA	**Palmer Station**	**65.93**	**175**	LR	LR	22 06 59.9	
	comp=Z,371nm,18.0s,baz=318,slow=36						
CMAR	**Chiang Mai Arr**	**72.00**	**332**	P	**P**	**21 39 24.9**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=181,slow=5.6,SNR=4.1						
MJAR	**Matsushiro Arr**	**86.00**	**9**	P	**P**	**21 40 40.9**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=167,slow=5.8,SNR=4.2						
KSRS	**Korea Array**	**86.37**	**0**	P	**P**	**21 40 42.8**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=163,slow=4.7,SNR=4.4						
ILAR	**Eielson Array**	**131.49**	**35**	PKP	**PKPdf**	**21 47 10.0**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=270,slow=2.7,SNR=2.8						
YKA	**Yellowknife Ar**	**144.35**	**45**	PKP	**PKPab**	**21 47 33.4**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=265,slow=2.9,SNR=24						

*IDC **20** 21:47:20.7±1.4, 36°.06S×73°.66W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/33, mbtmp3.9/8, ML3.4/1, Error ellipse: s-maj=42.4km s-min=32.8km az=85.0*
*NEIC **20** 21:47:22.6±3.0, 36°.11S±0°.02×73°.58W±0°.09, h26km±7km, mb4.1/5, ML3.7(GUC), Error ellipse: s-maj=10.8km s-min=1.8km az=81.0*
*GUC **20** 21:47:22.2±0.7, 36°.05S×73°.62W, h30km±13km, ML3.7*
ISC 20 21:47:21.7±0.7, 36°01S±0°.04×73°54W±0°.06, h10km, n42, σ1s54/41, mb4.0/6, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.93**	**154**	*i* P	**Pg**	**21 47 38.5**	**-1.3**
BI03				*i* S	**Sg**	**21 47 50.2**	**-1.7**
BI03	**Tigo**	**0.93**	**154**		**Pg**	**21 47 38.7**	**-1.0**
LAJA	**Laja**	**1.44**	**153**	*e*P	**Pn**	**21 47 46.1**	**-1.7**
LAJA				*i* S	**Sb**	**21 48 04.0**	**-3.0**
LAJA				IAML		21 48 04.6	
	comp=N,1μm,0.4s						
BI02	**San Fabín de**	**1.94**	**110**	*i* P	**Pn**	**21 47 54.9**	**0.0**
BI02				*i* S	**Sb**	**21 48 19.4**	**-2.3**
BI02				IAML		21 48 27.1	
	comp=N,984nm,0.3s						
BI02	**San Fabín de**	**1.94**	**110**		**Pn**	**21 47 55.0**	**+0.1**
BO03	**Pichilemu**	**1.98**	**41**	*i* P	**Pn**	**21 47 54.9**	**-0.4**
BO03				*i* S	**Sn**	**21 48 19.1**	**-1.2**
BO03				IAML		21 48 20.8	
	comp=E,493nm,0.6s						
BO02	**Sierra Bellavi**	**2.56**	**63**	*e*P	**Pn**	**21 48 03.9**	**+0.5**
BO02				*e*S	**Sn**	**21 48 34.7**	**+0.1**
BO02				IAML		21 48 49.9	
	comp=N,955nm,0.5s						
BO02	**Sierra Bellavi**	**2.56**	**63**		**Pn**	**21 48 04.0**	**+0.6**
MT02	**Curacav**	**3.38**	**37**		**Pn**	**21 48 13.6**	**-1.0**
MT05	**Renca**	**3.48**	**42**		**Pn**	**21 48 16.9**	**+0.9**
PEL	**Peldehue**	**3.70**	**40**		**Pn**	**21 48 19.5**	**+0.5**
VA03	**San Esteban**	**4.07**	**38**		**Pn**	**21 48 24.6**	**+0.4**

H03S1	**Juan Fernandez**	**4.91**	**295**	T	T	21 53 28.2		
	baz=119,slow=74,SNR=587							
H03S3	**Juan Fernandez**	**4.92**	**295**	T	T	21 53 29.9		
	baz=119,slow=74,SNR=403							
H03S2	**Juan Fernandez**	**4.93**	**294**	T	T	21 53 28.2		
	baz=119,slow=74,SNR=622							
VA04	**Juan Fernndez**	**4.95**	**297**	Pn	**Pn**	**21 48 34.5**	**-1.6**	
H03N1	**Juan Fernandez**	**5.11**	**298**	T	T	21 53 50.2		
	baz=110,slow=76,SNR=7.9							
H03N3	**Juan Fernandez**	**5.11**	**298**	T	T	21 53 49.7		
	baz=110,slow=76,SNR=20							
H03N2	**Juan Fernandez**	**5.12**	**298**	T	T	21 53 52.1		
	baz=110,slow=76,SNR=19							
CO02	**Combarbal**	**5.24**	**25**		**Pn**	**21 48 39.0**	**-1.2**	
PLCA	**Paso Flores**	**5.27**	**154**	Pn	**Pn**	**21 48 41.3**	**+0.6**	
	comp=N,0.3nm,0.3s,baz=330,slow=12,SNR=5.3							
PLCA				Sn	**Sn**	**21 49 48.0**	**+6.5**	
	comp=N,0.9nm,0.3s,baz=298,slow=17,SNR=3.2							
PLCA	**Paso Flores**	**5.27**	**154**		**Pn**	**21 48 40.7**	**0.0**	
CO03	**El Pedregal**	**5.68**	**26**		**Pn**	**21 48 45.5**	**-0.8**	
ZON	**Zonda**	**6.01**	**44**		**Pn**	**21 48 52.1**	**+1.3**	
GO04	**Tololo Observa**	**6.25**	**22**		**Pn**	**21 48 53.3**	**-1.0**	
LL01	**San Ignacio de**	**6.42**	**173**	Pn	**Pn**	**21 48 56.0**	**-0.4**	
CO01	**Juntas del Tor**	**6.67**	**27**		**Pn**	**21 49 00.3**	**+0.3**	
LCO	**Las Campanas**	**7.37**	**20**	Pn	**Pn**	**21 49 09.9**	**+0.2**	
AC04	**Llanos de Chal**	**8.05**	**16**	Pn	**Pn**	**21 49 19.9**	**+1.1**	
PB01	**IPOC Station P**	**15.32**	**14**	Pn	**Pn**	**21 51 00.8**	**+2.6**	
PB01				IAmb	IAmb	21 51 05.9		
	comp=Z,13nm,1.1s							
MNMC	**Minye Minye**	**17.17**	**13**	P	**Pn**	**21 51 22.8**	**+0.7**	
MNMC				IAmb	IAmb	21 51 32.5		
	comp=Z,55nm,1.8s							
PB16	**IPOC Station P**	**17.96**	**13**	P	**Pn**	**21 51 31.1**	**-1.0**	
PB16				IAmb	IAmb	21 51 37.9		
	comp=Z,9.8nm,1.1s							
LPAZ	**La Paz**	**20.22**	**15**	P	Pn	21 52 00.2	+0.8	
	comp=Z,2.8nm,0.9s,baz=101,slow=6.1,SNR=7.1							
LPAZ	**La Paz**	**20.22**	**15**	P	**P**	**21 51 57.7**	**+0.1**	
SIV	**San Ignacio**	**22.82**	**32**	P	**P**	**21 52 25.8**	**+0.9**	
	comp=Z,4.2nm,1.0s,baz=236,slow=12,SNR=12							
QSPA	**South Pole Qui**	**54.23**	**180**	P	**P**	**21 56 47.7**	**+0.2**	
TXAR	**Lajitas Array**	**70.91**	**332**	P	**P**	**21 58 39.9**	**+0.7**	
	comp=Z,1.3nm,0.6s,baz=154,slow=8.9,SNR=8.4							
TXAR	**Lajitas Array**	**70.91**	**332**	P	**P**	**21 58 39.5**	**+0.4**	
ANMO	**Albuquerque**	**76.97**	**333**	P	**P**	**21 59 15.0**	**+0.4**	
	comp=Z,0.5nm,0.5s,baz=179,slow=8.8,SNR=3.7							
NVAR	**Mina Array Bea**	**84.84**	**326**	P	**P**	**21 59 57.9**	**+1.3**	
	comp=Z,1.0nm,0.8s,baz=154,slow=6.4,SNR=6.3							
PDAR	**Pinedale Array**	**85.01**	**334**	P	**P**	**21 59 58.1**	**+0.8**	
	comp=Z,0.7nm,0.9s,baz=117,slow=5.6,SNR=6.2							
ULM	**Lac du Bonnet**	**88.12**	**346**	P	**P**	**22 00 11.4**	**-0.7**	
	comp=Z,1.1nm,0.5s,baz=202,slow=5.6,SNR=3.7							

*IDC **20** 21:48:34.8±2.8, 35°.49S×74°.05W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/32, mbtmp3.7/4, ML3.5/1, MS3.6/5, Ms1 3.6/5, ms1mx3.4/21, Error ellipse: s-maj=61.0km s-min=53.6km az=14.0*
*GUC **20** 21:48:34.9±0.6, 36°.22S×73°.66W, h35km±8km, ML4.6*
ISC 20 21:48:35.9±1.3, 36°26S±0°.07×73°7W±0°.1, h35km, n18, σ2s10/12, mb3.7/3, MS3.5/4, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.79**	**137**	*e*P	**Pn**	**21 48 49.2**	**-1.4**
BI03				*e*S	**Sn**	**21 48 59.9**	**-1.4**
BI03				IAML		21 49 06.0	
	comp=N,50μm,0.4s						
LAJA	**Laja**	**1.29**	**142**	*e*P	**Pn**	**21 48 56.8**	**-0.6**
LAJA				*e*S	**Sn**	**21 49 14.0**	**+0.6**
BI02	**San Fabín de**	**2.00**	**102**	*e*P	**Pn**	**21 49 06.7**	**-0.6**
BI02				*e*S	**Sn**	**21 49 31.3**	**+0.3**
BI02				IAML		21 49 37.4	
	comp=E,2μm,0.5s						
BO02	**Sierra Bellavi**	**2.79**	**59**	*e*P	**Pn**	**21 49 17.9**	**-0.3**
BO02				*e*S	**Sn**	**21 49 50.3**	**-0.5**
BO02				IAML		21 49 59.8	
	comp=N,4μm,0.4s						
H03S1	**Juan Fernandez**	**4.91**	**298**	T	T	21 54 41.7	
	baz=115						
H03S3	**Juan Fernandez**	**4.92**	**298**	T	T	21 54 43.2	
	baz=115						
H03S2	**Juan Fernandez**	**4.92**	**298**	T	T	21 54 42.1	
	baz=115						
H03N1	**Juan Fernandez**	**5.13**	**302**	T	T	21 55 01.1	
	baz=110,slow=76,SNR=18						
H03N3	**Juan Fernandez**	**5.13**	**302**	T	T	21 54 59.6	
	baz=110,slow=76,SNR=18						
H03N2	**Juan Fernandez**	**5.14**	**302**	T	T	21 55 00.7	
	baz=110,slow=76,SNR=12						
LVC	**Limon Verde**	**14.23**	**18**	LR	LR	21 56 46.1	
	comp=N,233nm,19.7s,baz=204,slow=36						
LPAZ	**La Paz**	**20.50**	**15**	P	**P**	**21 53 09.4**	**-2.3**
	comp=N,0.1nm,0.3s,baz=193,slow=16,SNR=1.6						
SIV	**San Ignacio**	**23.11**	**32**	P	**P**	**21 53 36.3**	**-2.6**
	comp=N,2.0nm,0.8s,baz=225,slow=15,SNR=2.1						
SIV				LR	LR	22 03 59.5	
	comp=N,239nm,20.0s,baz=225,slow=41						
NNA	**Nana**	**24.34**	**353**	LR	LR	22 00 55.1	
	comp=N,99nm,19.5s,baz=186,slow=32						
ATAH	**Atahualpa**	**29.31**	**350**	LR	LR	22 03 38.9	
	comp=N,110nm,18.6s,baz=194,slow=32						
BDFB	**Brasilia**	**30.74**	**55**	LR	LR	22 09 10.4	
	comp=N,118nm,21.6s,baz=189,slow=40						
TXAR	**Lajitas Array**	**71.08**	**333**	P	**P**	**21 59 49.7**	**-0.8**
	comp=N,0.6nm,0.7s,baz=151,slow=8.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**86.25**	**71**	P	**P**	**22 01 18.9**	**+4.7**
	comp=N,0.4nm,0.8s,baz=251,slow=4.4,SNR=2.7						

*IDC **20** 21:54:20.2±4.1, 6°.51S×154°.90E, h75km±35km, mb3.5/11, mb1 3.8/14, mb1mx3.7/39, mbtmp3.9/14, ML3.2/3, MS3.3/5, Ms1 3.3/5, ms1mx3.0/21, Error ellipse: s-maj=23.1km s-min=20.7km az=99.0*
*NEIC **20** 21:54:22.2±1.6, 6°.5S±0°.1×154°.91E±0°.09, h97km±14km, mb4.1/13, Error ellipse: s-maj=18.9km s-min=12.1km az=201.0*
ISC 20 21:54:23.1±0.6, 6°61S±0°.08×154°82E±0°.07, h100km, n36, σ1s00/35, mb3.9/17, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.57**	**312**		**Pn**	**21 55 17.8**	**+1.3**
HNR	**Honiara**	**5.80**	**119**	S	**Sn**	**21 56 53.0**	**+1.0**
	15nm,0.3s,baz=147,slow=8.2,SNR=3.5						
HNR				LR	LR	21 57 54.8	
	comp=Z,306nm,21.8s,baz=276,slow=37						
PMG	**Port Moresby**	**8.08**	**249**	P	**Pn**	**21 56 18.2**	**+0.5**
	4.1nm,0.3s,baz=48,slow=9.3,SNR=13						
PMG				S	**Sn**	**21 57 46.9**	**-0.6**
	1.4nm,0.3s,baz=135,slow=10.0,SNR=2.1						
PMG				LR	LR	21 59 35.9	
	comp=Z,158nm,18.6s,baz=79,slow=38						
PMG	**Port Moresby**	**8.08**	**249**		**Pn**	**21 56 17.9**	**+0.2**
PATS	**Pohnpei**	**13.80**	**15**	Pn	Pn	21 57 28.6	-5.9
CTA	**Charters Tower**	**15.77**	**211**	P	**Pn**	**21 57 58.0**	**-1.6**
	0.2nm,0.3s,baz=47,slow=17,SNR=2.3						
CTAO	**Charters Tower**	**15.77**	**211**	Pn	**Pn**	**21 57 58.3**	**-1.4**
DZM	**Mont Dzumac**	**19.04**	**145**	P	**P**	**21 58 36.1**	**-1.4**
	0.2nm,0.3s,baz=97,slow=16,SNR=2.0						
DZM				LR	LR	22 04 15.7	
	comp=Z,127nm,20.0s,baz=260,slow=31						
DZM	**Mont Dzumac**	**19.04**	**145**	P	**P**	**21 58 36.1**	**-1.4**
DZM				IAmb	IAmb	21 58 46.2	
	comp=Z,12nm,1.0s						
FAKI	**Fak Fak**	**22.79**	**278**	P	**P**	**21 59 17.5**	**0.0**
FAKI				IAmb	IAmb	21 59 18.5	
	comp=Z,8.0nm,0.9s						
WR0	**Warramunga Arr**	**23.74**	**234**	P	**P**	**21 59 26.7**	**+0.3**
WR0				IAmb	IAmb	21 59 38.7	
	comp=Z,8.9nm,1.1s						
WB0	**Warramunga Arr**	**23.77**	**235**	P	**P**	**21 59 27.1**	**+0.6**
WB0				IAmb	IAmb	21 59 37.5	
	comp=Z,7.7nm,1.1s						
WB2	**Warramunga Arr**	**23.89**	**234**	P	**P**	**21 59 28.7**	**+1.0**
WB2				IAmb	IAmb	21 59 37.6	
	comp=Z,5.5nm,1.0s						
WRA	**Warramunga Arr**	**23.90**	**234**	P	**P**	**21 59 28.8**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=56,slow=9.6,SNR=9.5						
WRA				PcP	**PcP**	**22 03 09.3**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=59,slow=2.2,SNR=7.5						
WRA	**Warramunga Arr**	**23.90**	**234**	P	**P**	**21 59 27.1**	**-0.7**

MTN	**Manton Dam**	**24.14**	**253**	P	**P**	**21 59 30.7**	**+0.7**	
MTN				IAmb	IAmb	21 59 47.4		
	comp=Z,7.5nm,1.1s							
AS31	**Alice Springs**	**26.30**	**228**	P	**P**	**21 59 49.7**	**+0.2**	
ASAR	**Alice Springs**	**26.30**	**228**	P	**P**	**21 59 50.0**	**+0.4**	
	comp=Z,0.3nm,0.3s,baz=57,slow=9.3,SNR=12							
ASAR				PcP	**PcP**	**22 03 14.4**	**+0.9**	
	comp=Z,1.0nm,0.9s,baz=47,slow=3.4,SNR=5.5							
ASAR	**Alice Springs**	**26.30**	**228**	P	P	21 59 56.9	+7.3	
STKA	**Stephens Creek**	**28.01**	**204**	LR	LR	22 10 45.3		
	comp=Z,147nm,18.5s,baz=201,slow=35							
FITZ	**Fitzroy Crossi**	**30.65**	**245**	P	**P**	**22 00 29.0**	**+0.8**	
	comp=Z,1.1nm,0.6s,baz=86,slow=9.2,SNR=2.1							
FITZ	**Fitzroy Crossi**	**30.65**	**245**	P	**P**	**22 00 28.8**	**+0.5**	
BKZ	**Black Stump Fm**	**37.85**	**152**	P	**P**	**22 01 30.5**	**+0.2**	
BKZ				IAmb	IAmb	22 01 38.6		
	comp=Z,13nm,1.2s							
NNZ	**Nelson**	**38.23**	**157**	P	**P**	**22 01 34.3**	**+1.0**	
THZ	**Tophouse**	**38.53**	**158**	P	**P**	**22 01 35.8**	**-0.1**	
FOZ	**Fox Glacier**	**39.07**	**163**	P	**P**	**22 01 43.0**	**+2.8**	
MJAR	**Matsushiro Arr**	**45.66**	**341**	LR	LR	22 19 51.9		
	comp=Z,17nm,21.5s,baz=130,slow=34							
PETK	**Petropavlovsk-**	**59.53**	**2**	P	**P**	**22 04 15.5**	**-0.3**	
	comp=Z,1.5nm,0.8s,baz=172,slow=11,SNR=2.4							
CMAR	**Chiang Mai Arr**	**60.46**	**295**	P	**P**	**22 04 23.1**	**+0.3**	
	comp=Z,2.4nm,0.6s,baz=111,slow=5.1,SNR=16							
SONM	**Songino Array**	**68.92**	**327**	P	**P**	**22 05 17.2**	**-0.2**	
	comp=Z,0.4nm,0.5s,baz=147,slow=4.9,SNR=5.2							
VNDA	**Vanda**	**70.97**	**178**	P	**P**	**22 05 30.1**	**+0.8**	
	comp=Z,1.0nm,1.0s,baz=358,slow=7.1,SNR=3.0							
MKAR	**Makanchi Array**	**83.00**	**319**	P	**P**	**22 06 36.7**	**-0.6**	
	comp=Z,0.9nm,0.8s,baz=91,slow=7.0,SNR=8.7							
ILAR	**Eielson Array**	**83.08**	**22**	P	**P**	**22 06 36.4**	**-0.9**	
	comp=Z,0.2nm,0.5s,baz=234,slow=4.7,SNR=4.1							
NVAR	**Mina Array Bea**	**91.62**	**52**	P	**P**	**22 07 20.1**	**+0.6**	
	comp=Z,0.2nm,0.5s,baz=271,slow=8.7,SNR=4.2							
YKA	**Yellowknife Ar**	**96.08**	**28**	P	**P**	**22 07 37.5**	**-1.5**	
	comp=Z,0.2nm,0.5s,baz=265,slow=4.3,SNR=5.0							
TORD	**Torodi Ar. Bea**	**152.75**	**286**	PKPbc	**PKPbc**	**22 14 08.7**	**-0.6**	
	comp=Z,0.5nm,0.7s,baz=74,slow=2.8,SNR=4.5							

*TAP **20** 22:14:21.0, 24°.98N×122°.12E, h121km, ML3.0, B*
*JMA **20** 22:14:21.1±0.2, 24°.86N×122°.13E, h120km±2km, M1.9*
ISC 20 22:14:20.4±1.6, 24°98N±0°.05×122°13E±0°.03, h125km±8km, n79, σ0s69/138, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.14**	**280**	P	**Pn**	**22 14 37.6**	**+0.2**
	baz=283						
TIPB	**Shuangxi**	**0.28**	**268**	*i* P	**Pn**	**22 14 38.0**	**+0.2**
	baz=268						
TIPB				*i* S	**Sn**	**22 14 50.0**	**-1.0**
	baz=268						
NTC	**Toucheng**	**0.30**	**245**	*e*P	**Pn**	**22 14 37.9**	**0.0**
	baz=245						
NWF	**Wu-fen Shan**	**0.33**	**285**	*i* P	**Pn**	**22 14 38.4**	**+0.3**
	baz=286						
NWF				*i* S	**Sn**	**22 14 51.0**	**-0.4**
	baz=286						
WFSB	**Wu-fen Shan**	**0.33**	**285**	*i* P	**Pn**	**22 14 38.4**	**+0.4**
	baz=286						
WFSB				S	**Sn**	**22 14 50.9**	**-0.4**
	baz=286						
TNOU	**National Taiwa**	**0.37**	**297**	*e*P	**Pn**	**22 14 38.5**	**+0.4**
	baz=297						
ILA	**Ilan**	**0.41**	**238**	*e*P	**Pn**	**22 14 38.5**	**+0.2**
	baz=237						
TWC	**Suao**	**0.46**	**215**	P	**Pn**	**22 14 38.4**	**-0.2**
	baz=212						
TWE	**Neicheng**	**0.50**	**238**	*i* P	**Pn**	**22 14 38.9**	**+0.1**
	baz=236						
TWE				*e*S	**Sn**	**22 14 53.2**	**+0.5**
	baz=236						
TWA	**Mucha**	**0.50**	**270**	*e*P	**Pn**	**22 14 39.0**	**+0.2**
	baz=269						
TWA				*e*S	**Sn**	**22 14 53.4**	**+0.6**
	baz=269						
NDS	**Dongshan**	**0.52**	**228**	P	**Pn**	**22 14 39.5**	**+0.6**
	baz=227						
NDS				S	**Sn**	**22 14 53.6**	**+0.7**
	baz=227						
YM08	**YM08**	**0.53**	**292**	*e*P	**Pn**	**22 14

JYNG				S	Sn	22 14 57.6	-0.6
NACB	**Ninganchiao**	**0.94**	**211**	*e*P	Pn	22 14 41.9	-0.4
	baz=210						
NACB				*e*S	Sn	22 14 57.5	-1.3
	baz=210						
YOJ	**Yonaguni jima**	**0.95**	**123**	*e*P	Pn	22 14 42.5	+0.2
	baz=122						
YOJ	**Yonaguni jima**	**0.95**	**123**	P	Pn	22 14 42.3	0.0
ETLH	**Xiulin Townshi**	**0.98**	**218**	P	Pn	22 14 42.7	0.0
	baz=217						
ETLH				S	Sn	22 14 59.2	-0.4
	baz=217						
TWD	**Chiawan**	**1.02**	**209**	*e*P	Pn	22 14 43.1	+0.1
	baz=207						
TWD				*e*S	Sn	22 14 58.7	-1.5
	baz=207						
SBCB	**Hsinchu**	**1.06**	**260**	*e*P	Pn	22 14 43.9	+0.5
	baz=259						
LIOB	**Emei**	**1.07**	**252**	P	Pn	22 14 43.9	+0.4
	baz=251						
LIOB				S	Sn	22 15 00.7	-0.4
	baz=251						
NSTT	**Nanjuang**	**1.09**	**251**	P	Pn	22 14 44.0	+0.3
	baz=251						
NSTT				S	Sn	22 15 00.4	-0.9
	baz=251						
FUSS	**Fushou**	**1.09**	**228**	P	Pn	22 14 45.0	+1.0
	baz=227						
FUSS				S	Sn	22 15 01.5	-0.4
	baz=227						
TWT	**Tachien**	**1.14**	**230**	P	Pn	22 14 45.4	+1.1
	baz=230						
TWT				S	Sn	22 15 02.8	+0.3
	baz=230						
TDCB	**Techi**	**1.15**	**231**	P	Pn	22 14 45.3	+0.8
	baz=230						
TDCB				S	Sn	22 15 02.6	-0.1
	baz=230						
WHF	**Hehuan Shan**	**1.15**	**224**	P	Pn	22 14 45.0	+0.2
	baz=222						
WHF				S	Sn	22 15 02.5	-0.7
	baz=222						
CHGB	**Renai**	**1.27**	**224**	*i* P	Pn	22 14 46.6	+0.8
	baz=223						
CHGB				S	Sn	22 15 05.4	+0.3
	baz=223						
WHP	**Taichung City**	**1.29**	**237**	P	Pn	22 14 46.5	+0.6
	baz=236						
WHP				S	Sn	22 15 04.6	-0.6
	baz=236						
ESL	**Shilin**	**1.33**	**209**	*e*P	Pn	22 14 46.9	+0.7
	baz=208						
TWQ1	**Liyutan**	**1.39**	**243**	P	Pn	22 14 47.5	+0.6
	baz=242						
TWQ1				S	Sn	22 15 06.9	-0.1
	baz=242						
WCS	**Beigang Elemen**	**1.45**	**231**	P	Pn	22 14 48.2	+0.7
	baz=230						
WCS				S	Sn	22 15 07.6	-0.5
	baz=230						
DPDB	**Guoxing**	**1.45**	**230**	*e*P	Pn	22 14 48.2	+0.6
	baz=229						
DPDB				*e*S	Sn	22 15 07.6	-0.8
	baz=229						
VWDT	**VWDT**	**1.52**	**217**	*i* P	Pn	22 14 49.1	+0.8
	baz=216						
VWDT				S	Sn	22 15 09.5	-0.2
	baz=216						
SMLT	**Sun Moon Lake**	**1.57**	**226**	P	Pn	22 14 50.4	+1.3
	baz=225						
SMLT				S	Sn	22 15 11.2	+0.3
	baz=225						
TYC	**Yuchr**	**1.58**	**228**	P	Pn	22 14 49.9	+0.8
	baz=226						
TYC				S	Sn	22 15 10.9	0.0
	baz=226						
IRIF	**Iriomote-Funau**	**1.59**	**114**	P	Pn	22 14 49.2	+0.1
IRIF				S	Sn	22 15 10.3	-0.7
SSLB	**Suanglung**	**1.61**	**222**	P	Pn	22 14 50.2	+0.8
	baz=221						
SSLB				S	Sn	22 15 11.5	+0.1
	baz=221						
HGSD	**Ruisui**	**1.62**	**204**	*e*P	Pn	22 14 49.5	0.0
	baz=203						
HGSD				*e*S	Sn	22 15 11.0	-0.7
	baz=203						
WNT	**Mingjian**	**1.72**	**230**	*e*S	Sn	22 15 13.9	+0.1
	baz=229						
WJS	**Zhushan**	**1.73**	**228**	*e*S	Sn	22 15 13.9	-0.1
	baz=227						
YULB	**Yu-li**	**1.76**	**206**	*e*P	Pn	22 14 51.9	+0.7
	baz=205						
YULB				*e*S	Sn	22 15 14.4	-0.2
	baz=205						
EYUL	**Yuli**	**1.79**	**205**	*e*P	Pn	22 14 53.0	+1.5
	baz=204						
EYUL				*e*S	Sn	22 15 15.1	-0.2
	baz=204						
TWF1	**Yuli**	**1.80**	**205**	*e*P	Pn	22 14 52.1	+0.5
	baz=204						
TWF1				*e*S	Sn	22 15 13.8	-1.6
	baz=204						
YUS	**Yu-Shan**	**1.84**	**216**	*e*S	Sn	22 15 17.4	+0.3
	baz=215						
JKRS	**Kuro-shima**	**1.86**	**113**	P	Pn	22 14 53.0	+0.6
JKRS				*e*S	Sn	22 15 16.8	0.0
ALS	**Alishan**	**1.90**	**220**	*i* P	Pn	22 14 53.7	+0.5
	baz=219						
ALS				S	Sn	22 15 18.1	-0.1
	baz=219						
CHN5	**Tsauling**	**1.92**	**224**	*e*P	Pn	22 14 54.0	+0.9
	baz=223						
CHN5				S	Sn	22 15 18.1	-0.1
	baz=223						
JIJ	**Ishigaki jima**	**1.93**	**108**	P	Pn	22 14 53.5	+0.3
JIJ				S	Sn	22 15 17.6	-0.7
FULB	**Fuli**	**1.94**	**204**	*e*P	Pn	22 14 54.1	+0.8
	baz=203						
FULB				*e*S	Sn	22 15 18.1	-0.4
	baz=203						
JISG	**Ishigakijimahi**	**2.02**	**101**	S	Sn	22 15 19.8	-0.4
WTK	**Tuku**	**2.05**	**231**	*e*S	Sn	22 15 20.2	-0.7
	baz=230						
CHN4	**Tsaushan**	**2.15**	**221**	*e*P	Pn	22 14 57.8	+1.8
	baz=220						
CHN4				*e*S	Sn	22 15 23.0	-0.2
	baz=220						
TPUB	**Ta-pu**	**2.17**	**220**	*e*P	Pn	22 14 56.0	-0.2
	baz=219						
TPUB				*e*S	Sn	22 15 23.3	-0.3
	baz=219						
STYH	**Taoyuan**	**2.19**	**215**	*e*P	Pn	22 14 58.7	+2.2
	baz=214						
STYH				*e*S	Sn	22 15 23.4	-0.7
	baz=214						
CHN1	**Nanshi**	**2.32**	**220**	*e*S	Sn	22 15 26.6	-0.4
	baz=219						
LDUT	**Ludao**	**2.38**	**195**	*e*P	Pn	22 14 59.7	+0.8
	baz=194						
VWUC	**VWUC**	**2.44**	**271**	*e*P	Pn	22 14 60.0	+0.5
	baz=270						
VWUC				*e*S	Sn	22 15 27.6	-2.0
	baz=270						
PHUB	**P'eng-hu**	**2.76**	**238**	*e*P	Pn	22 15 03.3	-0.4
	baz=237						
PHUB				*e*S	Sn	22 15 34.4	-2.6
	baz=237						

*BJI **20** 22:30:06.7±0.0, 18°.14N×98°.73W, h53km, mB5.3/18, mb5.4/3, Ms5.3/18, Ms7 4.9/20*
*MOS **20** 22:30:07.1±1.0, 18°.16N×98°.45W, h56km, mb5.8/26, Error ellipse: s-maj=6.6km s-min=4.2km az=97.3*
*NEIC **20** 22:30:07.5±1.8, 18°.03N±0°.04×98°.51W±0°.06, h52km±1km, mb5.3/716, Mwb5.4/22, Md5.4(MEX), Error ellipse: s-maj=9.5km s-min=6.3km az=247.0*
*NEIC **20** 22:30:07.8, 18°.07N×98°.52W, h53km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=1.27; Mθθ1.03; Mθφ 0.24; Mrθ-0.60; Mθφ-0.27; Mrφ0.06; Fault plane solution: M₀1.34000×10¹⁷ NP1:φ₁290.53000°, δ31.88000°, λ-83.03000°. NP2:φ₂102.33000°, δ58.38000°, λ-94.32000°. Principal axes: T 1.2552, Plg13.0000°, Azm195.0000°; N 0.1618, Plg4.0000°, Azm105.0000°; P -1.4169, Plg76.0000°, Azm359.0000°;*
*IDC **20** 22:30:08.3±0.3, 18°.12N×98.45W, h56km±2km, mb4.9/38, mb1 5.0/43, mb1mx5.0/50, mbtmp5.2/43, MS4.5/33, Ms1 4.5/33, ms1mx4.5/39 Error ellipse: s-maj=12.4km s-min=6.3km az=45.0*
*MEX **20** 22:30:09.4±0.9, 17°.94N×98°.61W, h59km±5km, MD5.4*
*GCMT **20** 22:30:10.6±0.1, 18°.12N±0°.01×98°.35W±0°.01, h58km, MW5.4/141, Moment Tensor Solution. s141,c252; s120,c206; Duration: 1s2 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.44±.02; Mθθ 1.64±.02; Mφφ-0.19±.02; Mrθ-0.59±.02; Mrφ-0.34±.02; Mθφ 0.01±.02; Best double couple: M₀1.67700×10¹⁷ NP1:φ₁285.00000°, δ35.00000°, λ-83.00000°. NP2:φ₂96.00000°, δ55.00000°, λ-95.00000°. Principal axes: T 1.8050, Plg10.0000°, Azm190.0000°; N -0.2470, Plg4.0000°, Azm99.0000°; P -1.5500, Plg79.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SNET **20** 22:30:21.8±0.5, 19°.12N×96°.50W, h0km±999km, ML5.1*
ISC 20 22:30:07.4±0.2, 18°.00N±0°.02×98°.57W±0°.03, h58km±1km, h58km:pP-P, n1293, σ1944/1267, mb5.3/457, MS4.6/46, 40C-58D, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FTIG	**Fresnillo de T**	**0.42**	**102**	⇓*i*	P	**Pn**	**22 30 18.8**	**+0.3**
FTIG				⇑*i*	S	**Sn**	**22 30 26.7**	**+0.2**
TLIG	**Tlapa**	**0.43**	**180**	⇑*e*	P	**Pn**	**22 30 18.6**	**-0.1**
TLIG				*e*	S	**Sn**	**22 30 26.4**	**-0.4**
TLIG	**Tlapa**	**0.43**	**180**	Pn		**Pn**	**22 30 18.1**	**-0.5**
TLIG				Sn		**Sn**	**22 30 26.4**	**-0.4**
HLIG	**Huajuapan de L**	**0.74**	**103**	⇓*i*	P	**Pn**	**22 30 23.1**	**+0.8**
HLIG				*i*	S	**Sn**	**22 30 33.9**	**+0.7**
PLIG	**Platanillo**	**0.97**	**294**	*e*	P	**Pn**	**22 30 25.1**	**-0.1**
PLIG				*i*	S	**Sn**	**22 30 38.3**	**+0.1**
YAIG	**Yautepec**	**0.98**	**331**	*i*	P	**Pn**	**22 30 25.4**	**+0.1**
YAIG				*i*	S	**Sn**	**22 30 38.6**	**+0.1**
MEIG	**Mezcala**	**1.01**	**266**	*e*	P	**Pn**	**22 30 25.1**	**-0.5**
MEIG				*i*	S	**Sn**	**22 30 38.7**	**-0.3**
TXIG	**Tlaxiaco**	**1.06**	**134**	⇑*i*	P	**Pn**	**22 30 27.4**	**+0.9**
TXIG				*i*	S	**Sn**	**22 30 41.3**	**+0.7**
PPM	**Popocatepetl**	**1.06**	**357**	*e*	P	**Pn**	**22 30 27.3**	**+0.5**
PPM	**Popocatepetl**	**1.06**	**357**	⇓*i*	P	**Pn**	**22 30 27.3**	**+0.5**
PPM				*i*	S	**Sn**	**22 30 42.2**	**+1.2**
AMVM	**AMECAMECA**	**1.15**	**350**	⇑*i*	P	**Pn**	**22 30 28.3**	**+0.7**
AMVM				*i*	S	**Sn**	**22 30 43.9**	**+1.3**
MAVM	**Malinalco, Edo**	**1.30**	**317**	⇑*i*	P	**Pn**	**22 30 30.2**	**+0.7**
MAVM				*i*	S	**Sn**	**22 30 46.6**	**+0.5**
CRIG	**Cruz Grande**	**1.37**	**203**	*e*	P	**Pn**	**22 30 29.0**	**-1.3**
CRIG				*i*	S	**Sn**	**22 30 46.2**	**-1.2**
TOIG	**Toxpalan**	**1.43**	**86**	⇑*i*	P	**Pn**	**22 30 32.6**	**+1.4**
TOIG				*i*	S	**Sn**	**22 30 50.9**	**+1.8**
UNM	**Universidad Na**	**1.45**	**336**	P		**Pn**	**22 30 32.4**	**+0.8**
UNM				SN		**Sn**	**22 30 50.9**	**+1.2**
UNM	**Universidad Na**	**1.45**	**336**			**Pn**	**22 30 32.7**	**+1.1**
UNM				Sn		**Sn**	**22 30 50.3**	**+0.6**
CVM	**Colonia del Va**	**1.49**	**337**	*i*	P	**Pn**	**22 30 33.5**	**+1.5**
CVM				*i*	S	**Sn**	**22 30 51.6**	**+1.1**
YOIG	**Yosondua**	**1.50**	**139**	⇑*i*	P	**Pn**	**22 30 33.4**	**+1.1**
YOIG				*i*	S	**Sn**	**22 30 51.5**	**+0.5**
PBVM	**Pinon**	**1.52**	**341**	*i*	P	Pn	22 30 47.4	+15
PBVM				*i*	S	Sn	22 31 04.9	+14
PNIG	**Pinotepa**	**1.65**	**165**	*i*	P	**Pn**	**22 30 34.0**	**-0.2**
PNIG				*i*	S	**Sn**	**22 30 53.8**	**-0.6**
TOVM	**TOLUCA**	**1.66**	**321**	⇑*i*	P	**Pn**	**22 30 35.7**	**+1.1**
TOVM				*i*	S	**Sn**	**22 30 55.2**	**+0.3**
PTVM	**Pico Tres Padr**	**1.67**	**342**	*i*	P	**Pn**	**22 30 35.8**	**+1.1**
ACP2	**Acapulco**	**1.69**	**229**	*e*	P	**Pn**	**22 30 33.3**	**-1.4**
ACP2				*i*	S	**Sn**	**22 30 54.2**	**-0.9**
ARIG	**Puente Sto Nin**	**1.72**	**280**	*e*	P	**Pn**	**22 30 35.3**	**+0.2**
ARIG				*i*	S	**Sn**	**22 30 54.8**	**-1.2**
ZUVM	**ZUMPANGO**	**1.88**	**345**	⇑*i*	P	**Pn**	**22 30 38.1**	**+0.7**
ZUVM				*i*	S	**Sn**	**22 31 01.3**	**+1.0**
VHO	**Vista Hermosa**	**1.98**	**118**	*e*	P	**Pn**	**22 30 40.2**	**+1.5**
VHO				*e*	S	**Sn**	**22 31 03.7**	**+1.2**
ATVM	**ATLACOMULCO**	**2.13**	**326**	⇑*i*	P	**Pn**	**22 30 42.3**	**+1.3**
ATVM				*i*	S	**Sn**	**22 31 07.2**	**+0.8**
DEIG	**Demacu**	**2.33**	**349**	*i*	P	**Pn**	**22 30 44.0**	**+0.4**
DEIG				*i*	S	**Sn**	**22 31 12.7**	**+1.4**
PEIG	**Puerto Escondi**	**2.41**	**146**	*e*	P	**Pn**	**22 30 44.8**	**+0.4**
PEIG				*i*	S	**Sn**	**22 31 13.0**	**+0.2**
ZIIG	**Zihuatanejo**	**2.79**	**262**	*e*	P	**Pn**	**22 30 49.1**	**-0.5**
ZIIG				*i*	S	**Sn**	**22 31 20.7**	**-1.5**
MOIG	**Morelia**	**2.99**	**304**			**Pn**	**22 30 54.5**	**+1.9**
CMIG	**Matias Romero**	**3.63**	**104**	P		**Pn**	**22 31 02.7**	**+1.6**
	49nm,0.3s,baz=265,slow=11,SNR=541							
CMIG				S		**Sn**	**22 31 41.4**	**-1.3**
	490nm,0.3s,baz=143,slow=20,SNR=14							
CMIG	**Matias Romero**	**3.63**	**104**	*i*	P	**Pn**	**22 31 02.9**	**+1.8**
CMIG				*i*	S	**Sn**	**22 31 43.1**	**+0.4**
CMIG	**Matias Romero**	**3.63**	**104**			**Pn**	**22 31 02.9**	**+1.8**
IGIG	**Irapuato, Guan**	**3.78**	**317**	⇑*i*	P	**Pn**	**22 31 04.6**	**+1.1**
IGIG				*i*	S	**Sn**	**22 31 47.2**	**+0.4**
RPIG	**Rio Verde**	**4.09**	**341**	*i*	P	**Pn**	**22 31 08.8**	**+1.2**
RPIG				*i*	S	**Sn**	**22 31 55.2**	**+1.0**
MMIG	**Aquila**	**4.55**	**274**	*e*	P	**Pn**	**22 31 13.6**	**-0.2**
MMIG				*i*	S	**Sn**	**22 32 04.7**	**-0.8**
EZ5V		**5.00**	**288**	*e*	P	**Pn**	**22 31 22.2**	**+2.1**
EZ5V				*i*	S	**Sn**	**22 32 16.4**	**-0.4**
COIG	**Colima**	**5.00**	**284**	*e*	P	**Pn**	**22 31 21.1**	**+1.1**
COIG				*i*	S	**Sn**	**22 32 16.1**	**-0.6**
GTIG	**Gomez Farias**	**5.07**	**354**	*e*	P	**Pn**	**22 31 21.5**	**+0.5**
GTIG				*i*	S	**Sn**	**22 32 20.2**	**+1.9**
R15V		**5.27**	**284**	⇓*i*	P	**Pn**	**22 31 25.6**	**+1.9**
AAIG	**Aguscalientes**	**5.33**	**318**	⇑*e*	P	**Pn**	**22 31 25.9**	**+1.1**
TGIG		**5.34**	**102**	⇑*e*	P	**Pn**	**22 31 26.1**	**+1.5**
PCIG		**5.60**	**113**	*i*	P	**Pn**	**22 31 31.1**	**+2.8**
PCIG				*i*	S	**Sn**	**22 32 32.5**	**+1.2**
ZAIG	**Zacatecas**	**6.05**	**322**	Pn		**Pn**	**22 31 36.1**	**+1.5**
CJM	**Chamela**	**6.32**	**285**	⇑*i*	P	**Pn**	**22 31 40.3**	**+2.3**
CCIG	**Comitan**	**6.38**	**105**	⇑*e*	P	**Pn**	**22 31 41.2**	**+2.1**
CCIG	**Comitan**	**6.38**	**105**			**Pn**	**22 31 40.6**	**+1.5**
APG	**El Apazote**	**8.32**	**110**	P		**Pn**	**22 32 07.6**	**+1.9**
	6.4nm,0.3s,baz=339,slow=9.5,SNR=16							
APG				S		**Sn**	**22 33 35.4**	**-3.0**
	26nm,0.3s,baz=83,slow=18,SNR=7.2							
MRL	**Marmol**	**9.00**	**109**	*e*	P	**Pn**	**22 32 16.2**	**+1.2**
KVTX	**Kingsville**	**9.52**	**4**			**Pn**	**22 32 22.7**	**+0.8**
MTO3	**Montecristo**	**9.54**	**111**	*e*	P	**Pn**	**22 32 24.5**	**+2.2**
MTO3	**Montecristo**	**9.54**	**111**			**Pn**	**22 32 23.7**	**+1.4**
CEVE	**Cerro Verde**	**9.55**	**114**	*e*	P	**Pn**	**22 32 27.2**	**+4.7**
CEVE					IAML		22 35 16.7	
	comp=Z,133nm,0.6s							
JAYA	**Jayaque - finc**	**9.78**	**115**	*e*	S	**Sn**	**22 34 09.1**	**-5.0**
TEIG	**Tepich**	**9.97**	**76**	P		**Pn**	**22 32 27.6**	**-0.5**
	comp=Z,31nm,0.3s,baz=264,slow=2.2,SNR=166							
TEIG				S		**Sn**	**22 34 10.4**	**-8.2**
	comp=Z,88nm,0.3s,baz=172,slow=22,SNR=11							
TEIG				LR		LR	22 37 02.1	
	comp=Z,4μm,20.6s,baz=256,slow=42							
TEIG	**Tepich**	**9.97**	**76**	Sn		**Sn**	**22 34 11.3**	**-7.3**
TEIG	**Tepich**	**9.97**	**76**	Pn		**Pn**	**22 32 27.1**	**-1.0**
MCIG	**Muzquiz**	**10.19**	**345**	*e*	P	**Pn**	**22 32 34.4**	**+3.3**
833A	**Chaparral WMA,**	**10.30**	**356**	P			22 32 34.8	
	baz=175							
735A	**Kenedy**	**10.83**	**4**			**Pn**	**22 32 41.9**	**+2.2**
HPIG		**11.05**	**325**	Pn		**Pn**	**22 32 46.1**	**+3.1**
SLBS	**Sierra La Lagu**	**12.05**	**300**	Pn		**Pn**	**22 32 58.8**	**+2.3**
HKT	**Hockley**	**12.16**	**11**	P		**Pn**	**22 32 57.8**	**0.0**
HKT	**Hockley**	**12.16**	**11**	Pn		**Pn**	**22 32 57.8**	**0.0**
TXAR	**Lajitas Array**	**12.21**	**338**	P		**Pn**	**22 33 00.7**	**+2.0**
	comp=Z,1.1nm,0.3s,baz=162,slow=14,SNR=102							
TXAR				LR		LR	22 38 14.8	
	comp=Z,8μm,19.9s,baz=0.0,slow=40							
CRIN	**San Cristobal**	**12.29**	**114**	Pn		**Pn**	**22 33 03.4**	**+3.5**
JCT	**Junction City**	**12.48**	**355**	P		**Pn**	**22 33 03.4**	**+1.1**
JCT	**Junction City**	**12.48**	**355**	Pn		**Pn**	**22 33 03.4**	**+1.1**
JCT	**Junction City**	**12.48**	**355**	P			22 33 03.1	
	baz=174,SNR=47							
LPIG	**La Paz**	**12.53**	**301**	P		**Pn**	**22 33 06.6**	**+3.6**
	comp=Z,4.6nm,0.3s,baz=299,slow=3.7,SNR=6.3							
LPIG				LR		LR	22 37 46.1	
	comp=Z,3μm,20.6s,baz=96,slow=36							
CSIG	**Choix**	**12.62**	**316**	⇑*e*	P	**P**	**22 33 10.6**	**-3.3**
435B	**Jarrell**	**12.76**	**4**	P			22 33 06.4	
	baz=184							
BOAB	**BOACO BROADBAN**	**13.61**	**112**	Pn		**Pn**	**22 33 19.7**	**+1.9**
NATX	**Nacogdoches**	**14.15**	**14**	Pn		**Pn**	**22 33 23.9**	**-1.0**
NATX	**Nacogdoches**	**14.15**	**14**	P			22 33 24.0	
	baz=195,SNR=45							
237A	**Washetta, Mont**	**14.16**	**10**			**Pn**	**22 33 24.5**	**-0.6**
ACON	**Acoyapa**	**14.26**	**113**			**Pn**	**22 33 28.8**	**+2.4**
342A	**Flagon Creek P**	**14.47**	**22**	Pn		**Pn**	**22 33 27.4**	**-1.6**
ABTX	**Abilene, Hawle**	**14.60**	**356**	Pn		**Pn**	**22 33 30.6**	**-0.2**
ABTX	**Abilene, Hawle**	**14.60**	**356**	P			22 33 31.1	
	baz=176							
ORTG	**Ortega, Santa**	**14.79**	**119**	P		**P**	**22 33 36.5**	**-1.7**
MNTX	**Cornudas Mount**	**14.97**	**337**	P			22 33 36.6	
	baz=154,SNR=46							
344A	**Westbrook Farm**	**15.16**	**26**	IAmb		IAmb	22 33 43.2	
	comp=Z,178nm,1.0s							
JTS	**Las Juntas de**	**15.26**	**118**	P		**P**	**22 33 41.6**	**-1.6**
	comp=Z,3.1nm,0.3s,baz=346,slow=6.5,SNR=9.3							
JTS	**Las Juntas de**	**15.26**	**118**	*i* P		**Pn**	**22 33 40.1**	**+0.7**
JTS	**Las Juntas de**	**15.26**	**118**			**P**	**22 33 42.1**	**-1.1**
JTS	**Las Juntas de**	**15.26**	**118**	*e* P		**P**	**22 33 41.8**	**-1.4**
COVE	**Coope Vega, Sa**	**15.51**	**116**	P		**P**	**22 33 45.3**	**-0.6**
COVE				IAmb		IAmb	22 34 04.7	
	comp=Z,145nm,0.8s							
Z38A	**Mt. Pleasant**	**15.53**	**11**	IAmb		IAmb	22 33 48.5	
	comp=Z,224nm,0.9s							
SRIG	**Santa Rosalia**	**15.65**	**309**	Pn		**Pn**	**22 33 44.5**	**+0.1**
HSIG		**15.78**	**316**			**P**	**22 33 48.1**	**-0.8**
VBMS	**Vicksburg**	**15.91**	**26**	IAmb		IAmb	22 33 51.3	
	comp=Z,417nm,1.1s							
VBMS	**Vicksburg**	**15.91**	**26**	P			22 33 45.7	
	baz=209,SNR=7.1							
143A	**Socs Landing,**	**16.00**	**22**	IAmb		IAmb	22 33 49.3	
	comp=Z,261nm,0.9s							
Z41A	**Richland Creek**	**16.05**	**18**	P			22 33 48.0	
	baz=200							
HDC	**Heredia**	**16.11**	**118**			**P**	**22 33 53.0**	**+0.1**
HDC				IAmb		IAmb	22 34 02.8	
	comp=Z,80nm,0.4s							
WBCY	**West Bay, Gran**	**16.32**	**82**	P		**P**	**22 33 54.7**	**-0.3**
MSTX	**Muleshoe**	**16.34**	**347**	Pn		**Pn**	**22 33 53.8**	**+0.5**
MSTX				IAmb		IAmb	22 33 55.3	
	comp=Z,232nm,1.0s							
MSTX	**Muleshoe**	**16.34**	**347**	P			22 33 52.4	
	baz=166							
WLAR	**White Oak Lake**	**16.37**	**16**	Pn		**Pn**	**22 33 53.0**	**-0.4**
WLAR				IAmb		IAmb	22 34 11.5	
	comp=Z,249nm,0.8s							
319A	**Douglas**	**16.48**	**326**	P		**P**	**22 33 57.2**	**+0.4**
FSCY	**Frank Sound, G**	**16.52**	**83**			**Pn**	**22 33 55.6**	**+0.2**
WMOK	**Wichita Mounta**	**16.67**	**359**	P			22 33 56.3	
	baz=179,SNR=88							
WMOK	**Wichita Mounta**	**16.67**	**359**	P		**Pn**	**22 33 56.2**	**-1.1**
WMOK				pmax		pmax		
	comp=Z,57nm,0.8s							
WMOK	**Wichita Mounta**	**16.67**	**359**			**Pn**	**22 33 56.2**	**-1.1**
121A	**Cookes Peak, D**	**16.69**	**332**	P			22 33 59.6	
	baz=148							
121A	**Cookes Peak, D**	**16.69**	**332**	P		**P**	**22 33 59.0**	**-0.2**
BRAL	**Brewton**	**16.76**	**36**			**Pn**	**22 33 57.9**	**-0.5**
BRAL				IAmb		IAmb	22 34 12.5	
	comp=Z,181nm,1.1s							
BRAL	**Brewton**	**16.76**	**36**	P			22 33 56.6	
	baz=221							
X37A	**Clayton**	**16.77**	**9**			**Pn**	**22 33 58.1**	**-0.3**
PEZE	**Perez Zeledon,**	**16.80**	**119**	P		**P**	**22 34 01.9**	**+1.4**
146A	**Union**	**16.91**	**29**	IAmb		IAmb	22 34 09.2	
	comp=Z,160nm,0.8s							
MIAR	**Mount Ida**	**17.07**	**14**	P		**Pn**	**22 34 01.2**	**-1.0**
MIAR				pmax		pmax		
	comp=Z,337nm,1.0s							
MIAR	**Mount Ida**	**17.07**	**14**	P		**Pn**	**22 34 01.2**	**-1.0**
MIAR				IAmb		IAmb	22 34 02.5	
	comp=Z,337nm,0.9s							
MIAR	**Mount Ida**	**17.07**	**14**	P			22 34 01.2	
	baz=196,SNR=133							
X40A	**Basin Creek Fa**	**17.20**	**16**	IAmb		IAmb	22 34 07.5	
	comp=Z,174nm,1.1s							
X40A	**Basin Creek Fa**	**17.20**	**16**	P			22 34 02.3	
	baz=199							
FNO	**Franklin**	**17.22**	**3**	IAmb		IAmb	22 34 06.7	
	comp=Z,221nm,0.6s							
RIOS	**Rincon, Osa**	**17.30**	**120**	Pn		**P**	**22 34 08.6**	**+2.7**
OKCSW	**OKLAHOMA CITY**	**17.37**	**3**	P		**P**	**22 34 06.4**	**-0.1**
LCCY	**Blossom Villag**	**17.57**	**82**			**P**	**22 34 09.1**	**+0.3**
LCCY				IAmb		IAmb	22 34 13.7	
	comp=Z,355nm,1.0s							
BNM	**Barren Site**	**17.63**	**337**			**P**	**22 34 11.2**	**+1.6**
W39A	**Magazine**	**17.65**	**13**	P			22 34 09.1	
	baz=195							
W39A	**Magazine**	**17.65**	**13**	IAmb		IAmb	22 34 15.7	
	comp=Z,181nm,0.7s							
Y22D	**IRIS PASSCAL I**	**17.67**	**337**			**P**	**22 34 11.0**	**+1.1**
Y22D	**IRIS PASSCAL I**	**17.67**	**337**	P			22 34 10.8	
	baz=153							
553A	**Crawfordville**	**17.69**	**44**	P		**Pn**	**22 34 07.8**	**-2.1**
553A				IAmb		IAmb	22 34 10.2	
	comp=Z,148nm,0.8s							
Y45A	**Yeager Farm, C**	**17.75**	**25**	IAmb		IAmb	22 34 23.9	
	comp=Z,274nm,1.1s							
250A	**Grady**	**17.81**	**36**	P		**Pn**	**22 34 09.7**	**-1.6**
X43A	**Marvell**	**17.82**

W45A **Hickory Valley** 19.02 24 IAmb IAmb 22 34 37.7
comp=Z,157nm,0.8s
KAN05 **Bluff City Nor** 19.05 2 P **P** 22 34 24.5 -0.4
KAN05 IAmb IAmb 22 34 26.1
comp=Z,161nm,0.8s
060A **Indiantown** 19.05 59 P **P** 22 34 25.7 +0.6
060A IAmb IAmb 22 34 26.8
comp=Z,162nm,0.7s
TIGA **Tifton** 19.05 43 P **P** 22 34 24.8 -0.2
TIGA **Tifton** 19.05 43 P 22 34 24.2
baz=229
KAN10 **Anthony SW Sta** 19.06 1 P **P** 22 34 24.9 -0.1
PIX **Pinacate** 19.08 318 P **Pn** 22 34 26.6 -0.1
KAN09 **Caldwell North** 19.08 2 IAmb IAmb 22 34 29.9
comp=Z,149nm,0.9s
KAN01 **Argonia South** 19.09 2 P **P** 22 34 25.2 -0.3
KAN01 IAmb IAmb 22 34 36.9
comp=Z,172nm,1.0s
LCAR **Lake Charles** 19.16 19 IAmb IAmb 22 34 44.8
comp=Z,383nm,1.2s
KAN08 **Anthony NE Sta** 19.16 1 P **P** 22 34 25.4 -0.8
KAN08 IAmb IAmb 22 34 27.6
comp=Z,160nm,1.1s
152A **Waverly Hall** 19.20 38 IAmb IAmb 22 34 28.2
comp=Z,131nm,0.9s
KAN12 **Harper NE Stat** 19.23 1 P **P** 22 34 26.7 -0.3
KAN12 IAmb IAmb 22 34 28.4
comp=Z,289nm,1.2s
KAN12 **PcP** 22 38 50.7 +2.5
PLAL **Pickwick Lake** 19.32 27 IAmb IAmb 22 34 29.6
comp=Z,166nm,1.1s
X18A **Snowflake** 19.34 331 IAmb IAmb 22 34 32.2
comp=Z,177nm,1.0s
X48A **Hartselle** 19.34 30 IAmb IAmb 22 34 30.7
comp=Z,183nm,1.0s
Z51A **Franklin** 19.42 36 IAmb IAmb 22 34 31.4
comp=Z,111nm,0.8s
PEBM **Pemiscott Bayo** 19.62 21 IAmb IAmb 22 34 39.7
comp=Z,248nm,0.9s
456A **Hilliard** 19.66 47 P **P** 22 34 31.6 0.0
456A IAmb IAmb 22 34 38.2
comp=Z,164nm,1.1s
SFX **San Felipe** 19.67 314 P **Pn** 22 34 33.5 0.0
SFX IAmb IAmb 22 34 35.1
comp=Z,121nm,1.2s
W18A **Petrified Fore** 19.73 332 P 22 34 34.6
baz=147
T25A **Trinidad** 19.75 346 IAmb IAmb 22 34 40.4
comp=Z,300nm,1.1s
T25A **Trinidad** 19.75 346 P 22 34 34.6
baz=163
MTDJ **Mount Denham** 19.99 86 P **P** 22 34 35.8 +0.3
MTDJ IAmb IAmb 22 34 42.9
comp=Z,187nm,1.0s
MTDJ **Mount Denham** 19.99 86 eP **Pn** 22 34 37.1 -0.5
PENMO **Penman** 20.00 21 P **P** 22 34 34.6 -0.7
T42A **Van Buren** 20.07 18 IAmb IAmb 22 34 47.5
comp=Z,138nm,0.9s
SPX **San Pedro Mart** 20.09 313 P Pn 22 34 38.3 -0.6
255A **Hazlehurst** 20.09 43 IAmb IAmb 22 34 42.8
comp=Z,211nm,1.1s
PNME **Penonome** 20.10 116 eP Pn 22 34 38.3 -0.5
FPAL **Fort Paine** 20.12 33 IAmb IAmb 22 34 54.4
comp=Z,128nm,1.2s
S39A **Bolivar** 20.15 12 IAmb IAmb 22 34 41.2
comp=Z,171nm,0.8s
PARMO **Parma** 20.15 21 P **P** 22 34 36.5 -0.4
UTMT **University of** 20.18 23 P **P** 22 34 36.3 -0.9
BCIP **Isla Barro Col** 20.19 113 P Pn 22 34 39.3 -0.6
BCIP pmax pmax
comp=Z,36nm,1.1s
BCIP **Isla Barro Col** 20.19 113 P Pn 22 34 39.3 -0.6
BCIP **Isla Barro Col** 20.19 113 eP **P** 22 34 34.5 -3.0
HICK **Hickman** 20.23 22 P **P** 22 34 37.1 -0.6
PAYG **Puerto Ayora** 20.27 155 P Pn 22 34 40.6 -0.2
HENM **Henderson Moun** 20.30 21 P **P** 22 34 37.9 -0.6
R32A **Long Quarter,** 20.35 360 P **P** 22 34 38.5 -0.7
R32A IAmb IAmb 22 34 43.1
comp=Z,196nm,0.9s
WVT **Waverly** 20.41 26 P 22 34 38.2
baz=210
WVT **Waverly** 20.41 26 P **P** 22 34 38.1 -1.6
WVT pmax pmax
comp=Z,98nm,0.7s
WVT **Waverly** 20.41 26 P **P** 22 34 38.1 -1.6
WVT IAmb IAmb 22 34 39.4
comp=Z,98nm,0.7s
Y52A **Lilburn** 20.45 37 IAmb IAmb 22 34 43.1
comp=Z,157nm,0.9s
GOGA **Godfrey** 20.47 39 P **P** 22 34 39.3 -1.1
GOGA pmax pmax
comp=Z,208nm,1.4s
GOGA **Godfrey** 20.47 39 P 22 34 38.7
baz=225,SNR=18
AZU **Azuero** 20.49 117 eP Pn 22 34 43.3 -0.1
SWET **Sewanee** 20.50 31 IAmb IAmb 22 34 43.2
comp=Z,104nm,0.8s
V48A **Smith Brothers** 20.51 28 IAmb IAmb 22 34 40.7
comp=Z,124nm,1.1s
X51A **Calhoun** 20.54 34 P **P** 22 34 41.0 -0.1
X51A IAmb IAmb 22 34 44.2
comp=Z,198nm,0.9s
CBKS **Cedar Bluff** 20.77 357 P 22 34 43.4
baz=177,SNR=54
W50A **Signal Mountai** 20.79 32 IAmb IAmb 22 34 46.8
comp=Z,96nm,0.9s
WUAZ **Wupatki** 20.83 329 P Pn 22 34 46.8 -0.7
WUAZ **Wupatki** 20.83 329 P 22 34 46.6
baz=144,SNR=366
CPBX **Cerro Prieto** 20.83 317 P **P** 22 34 45.6 +1.3
GLA **Glamis** 20.93 319 P **P** 22 34 46.5 +1.0
GLA pmax pmax
comp=Z,85nm,0.9s
GLA **Glamis** 20.93 319 P **P** 22 34 46.5 +1.0
GLA IAmb IAmb 22 34 48.1
comp=Z,85nm,0.9s
GLA **Glamis** 20.93 319 P 22 34 46.6
baz=132,SNR=20
S22A **4UR Ranch, Cre** 20.97 341 P 22 34 46.9
baz=158
CCM **Cathedral Cave** 20.98 16 P **P** 22 34 44.8 -1.2
CCM pmax pmax
comp=Z,239nm,1.2s
CCM **Cathedral Cave** 20.98 16 P **P** 22 34 44.8 -1.2
CCM IAmb IAmb 22 34 51.6
comp=Z,239nm,1.1s
CCM **Cathedral Cave** 20.98 16 P 22 34 44.9
baz=200
ESJX **Sierra Juarez** 21.00 315 P **P** 22 34 47.7 +1.4
CLTN **Cedars of Leba** 21.02 29 IAmb IAmb 22 34 49.9
comp=Z,140nm,0.8s
MVCO **Mesa Verde** 21.04 337 IAmb IAmb 22 34 49.1
comp=Z,138nm,1.0s
MVCO **Mesa Verde** 21.04 337 P 22 34 47.7
baz=153,SNR=54
257A **Skidaway Islan** 21.08 45 P **P** 22 34 47.7 +0.7
257A IAmb IAmb 22 34 50.8
comp=Z,174nm,0.8s
KSU1 **Kansas State U** 21.09 4 IAmb IAmb 22 34 48.1
comp=Z,224nm,1.0s
KSU1 **Kansas State U** 21.09 4 P 22 34 45.9
baz=185,SNR=34
FVM **French Village** 21.15 18 IAmb IAmb 22 34 49.9
comp=Z,89nm,0.8s
KSCO **Kaye Shedlock'** 21.23 351 P **P** 22 34 49.3 +0.5
KSCO **Kaye Shedlock'** 21.23 351 P 22 34 49.5
baz=169
S44A **Carbondale** 21.25 21 IAmb IAmb 22 34 51.1
comp=Z,151nm,0.7s
SIUC **Southern Illin** 21.29 21 IAmb IAmb 22 34 51.3
comp=Z,139nm,0.7s
PDMCI **Parker Dam,Lak** 21.38 322 P 22 34 51.3
baz=136,SNR=64
CCX **Cicese** 21.40 314 P **P** 22 34 51.5 +1.1
W52A **Murphy** 21.43 35 IAmb IAmb 22 34 53.8
comp=Z,96nm,1.0s
SWSC **Sam W. Stewart** 21.48 317 P 22 34 52.6
baz=130,SNR=32
IKP **In-Ko-Pah, Jac** 21.50 316 P 22 34 53.2
baz=128,SNR=19
Q24A **Divide** 21.66 346 P 22 34 52.9
baz=163
CBX **Cerro Bola** 21.67 315 P **P** 22 34 54.9 +1.5
BC3 **Big Chuckawall** 21.73 319 P 22 34 55.2
baz=132,SNR=86
V51A **Loudon** 21.75 33 IAmb IAmb 22 34 58.7
comp=Z,74nm,0.8s
TKX **Tecate** 21.78 315 P **P** 22 34 55.3 +0.7
TKX IAmb IAmb 22 34 58.1
comp=Z,126nm,1.2s
SLM **Saint Louis** 21.81 18 IAmb IAmb 22 34 57.0
comp=Z,137nm,0.9s
W13A **Hualapai Mount** 21.81 324 IAmb IAmb 22 35 00.5
comp=Z,116nm,1.1s
MONP2 **Monument Peak** 21.86 316 P 22 34 56.8
baz=128,SNR=20
IRM **Iron Mountain** 21.87 321 P 22 34 56.9
baz=133,SNR=84
PV01 **Paradox Valley** 21.89 338 P **P** 22 34 56.8 +0.9
PV01 IAmb IAmb 22 34 59.7
comp=Z,96nm,1.1s
TKL **Tuckaleechee C** 21.94 34 P **P** 22 34 54.5 -1.7
comp=Z,38nm,0.7s,baz=194,slow=11,SNR=24
TKL S **S** 22 38 50.2 -5.1
comp=Z,18nm,1.0s,baz=350,slow=12,SNR=2.2
TKL **Tuckaleechee C** 21.94 34 IAmb IAmb 22 35 09.8
comp=Z,81nm,1.1s
P38A **Dawn** 21.99 10 IAmb IAmb 22 35 13.9
comp=Z,95nm,0.8s
NEE2 **Needles Airpor** 21.99 323 P 22 34 57.5
baz=135
PV15 **Paradox Valley** 22.04 339 IAmb IAmb 22 35 02.6
comp=Z,64nm,0.8s
TJX **Tijuana** 22.05 314 P **P** 22 34 58.1 +0.7
PV03 **Paradox Valley** 22.09 338 IAmb IAmb 22 35 01.1
comp=Z,113nm,1.1s
PV18 **Skein Mesa, Pa** 22.11 338 P **P** 22 34 58.5 +0.3
PV18 IAmb IAmb 22 35 01.2
comp=Z,87nm,1.1s
PV12 **Saucer Basin,** 22.13 338 IAmb IAmb 22 35 01.8
comp=Z,191nm,1.1s
PV11 **David Mesa, Pa** 22.14 338 IAmb IAmb 22 35 01.6
comp=Z,113nm,1.1s
PV17 **East Wray Mesa** 22.16 338 IAmb IAmb 22 35 01.6
comp=Z,93nm,1.1s
PV16 **Nyswonger Mesa** 22.17 338 P **P** 22 34 59.2 +0.3
PV07 **Paradox Valley** 22.19 339 IAmb IAmb 22 35 02.4
comp=Z,89nm,1.0s
RGRS **Roger Stewart** 22.21 45 P **P** 22 34 59.5 +0.4
PV04 **Paradox Valley** 22.24 338 IAmb IAmb 22 35 05.8
comp=Z,105nm,0.9s
GTBY **Guantanamo Bay** 22.26 81 P **P** 22 35 00.8 +1.0
GTBY IAmb IAmb 22 35 01.9
comp=Z,128nm,0.9s
GTBY **Guantanamo Bay** 22.26 81 eP **P** 22 35 00.4 +0.6
PV10 **Paradox Valley** 22.27 338 IAmb IAmb 22 35 01.9
comp=Z,83nm,1.1s
BELC **Belle Mtn. Jos** 22.29 319 P 22 35 01.2
baz=131,SNR=47
109C **Camp Elliot, M** 22.31 315 P **P** 22 35 00.7 +0.5
109C **Camp Elliot, M** 22.31 315 P 22 35 01.0
baz=127
PV22 **Blue Mesa, Par** 22.32 339 IAmb IAmb 22 35 03.4
comp=Z,100nm,1.1s
TPFO **Pinon Flats** 22.33 318 P 22 35 01.9
baz=130
XPFO **Pion Flat** 22.33 318 P **P** 22 35 01.2 +0.6
PFO **Pinyon Flats O** 22.33 318 P **P** 22 35 02.3 +1.7
comp=Z,26nm,1.1s,baz=112,slow=12,SNR=20
PFO PcP **PcP** 22 38 55.8 +1.5
comp=Z,5.7nm,1.0s,baz=108,slow=5.0,SNR=4.3
PFO **Pinyon Flats O** 22.33 318 *i* P **P** 22 35 01.4 +0.8
PFO pmax pmax
comp=Z,88nm,1.4s
PFO **Pinyon Flats O** 22.33 318 P **P** 22 35 01.8 +1.2
PFO **Pinyon Flats O** 22.33 318 P 22 35 01.9
baz=130,SNR=20
CSU **Charleston Sou** 22.34 45 P **P** 22 35 01.6 +1.1
NHSC **New Hope** 22.34 44 P 22 35 01.6
baz=232,SNR=19
PAULI **Pauline** 22.43 38 IAmb IAmb 22 35 05.4
comp=Z,62nm,0.8s
V53A **Saluda** 22.47 35 IAmb IAmb 22 35 15.7
comp=Z,98nm,0.9s
T50A **Nancy** 22.47 30 IAmb IAmb 22 35 02.3
comp=Z,116nm,0.9s
ISCO **Idaho Springs** 22.57 346 P **P** 22 35 02.8 -0.4
ISCO pmax pmax
comp=Z,106nm,1.1s
ISCO **Idaho Springs** 22.57 346 P **P** 22 35 02.8 -0.4
ISCO IAmb IAmb 22 35 05.8
comp=Z,106nm,1.1s
ISCO **Idaho Springs** 22.57 346 P 22 35 03.5
baz=162,SNR=96
OLIL **Olney** 22.59 22 IAmb IAmb 22 35 03.4
comp=Z,131nm,0.8s
GMRC **Granite Mounta** 22.61 321 P 22 35 04.4
baz=133,SNR=74
N33A **J Bar K, Exete** 22.68 2 P **P** 22 35 02.8 -1.3
KNB **Kanab** 22.73 329 P **P** 22 35 05.7 +0.9
KNB pmax pmax
comp=Z,109nm,1.2s
KNB **Kanab** 22.73 329 P **P** 22 35 05.7 +0.9
KNB IAmb IAmb 22 35 15.4
comp=Z,109nm,1.2s
Y57A **Sumter** 22.77 42 IAmb IAmb 22 35 06.7
comp=Z,84nm,0.7s
MURC **Murrieta** 22.80 317 P 22 35 06.5
baz=128,SNR=12
PKCU **Pink Cliffs** 22.82 331 P **P** 22 35 07.3 +1.3
WCI **Wyandotte Cave** 22.83 26 P 22 35 04.2
baz=211
WCI **Wyandotte Cave** 22.83 26 P **P** 22 35 04.0 -1.7
WCI pmax pmax
comp=Z,316nm,1.0s
WCI **Wyandotte Cave** 22.83 26 P **P** 22 35 04.0 -1.7
KMSC **Kings Mountain** 22.94 39 P 22 35 05.6
baz=226
BBRC **Big Bear Solar** 23.04 318 P 22 35 09.6
baz=130
HEC **Hector,Ludlow** 23.05 320 P 22 35 09.2
baz=132,SNR=15
OGNE **Ogallala** 23.06 353 P 22 35 08.4
baz=172,SNR=24
MTPU **Mount Pierson** 23.26 332 IAmb IAmb 22 35 12.5
comp=Z,200nm,1.1s
BGNE **Belgrade** 23.33 1 P 22 35 10.2
baz=181
SCI2 **San Clemente I** 23.34 314 P 22 35 11.1
baz=125
R49A **Shelbyville** 23.36 27 IAmb IAmb 22 35 11.1
comp=Z,78nm,0.9s
W56A **Indian Trail** 23.39 40 P 22 35 09.1
baz=228
RRX **Edison Barstow** 23.49 319 P 22 35 13.4
baz=131
CIS **Catalina Islan** 23.50 315 P 22 35 13.3
baz=126
BFSC **Mount Baldy Ra** 23.50 317 P 22 35 13.1
baz=129,SNR=14
V55A **Taylorsville** 23.50 37 IAmb IAmb 22 35 13.2
comp=Z,59nm,0.8s
BLO **Bloomington** 23.55 24 IAmb IAmb 22 35 13.1
comp=Z,142nm,0.8s
Q16A **Castle Valley** 23.56 335 IAmb IAmb 22 35 16.3
comp=Z,155nm,1.2s
S51A **Beattyville** 23.57 31 IAmb IAmb 22 35 13.3
comp=Z,97nm,0.9s
N41A **Harden Midland** 23.59 15 IAmb IAmb 22 35 13.0
comp=Z,115nm,0.8s
O20A **White River Ci** 23.59 341 IAmb IAmb 22 35 30.0
comp=Z,68nm,1.0s
O20A **White River Ci** 23.59 341 P 22 35 13.8
baz=156
FMP **Fort Macarthur** 23.60 315 P 22 35 14.4
baz=127
U54A **Nelsons Funny** 23.64 35 IAmb IAmb 22 35 14.5
comp=Z,98nm,0.8s
U54A **Nelsons Funny** 23.64 35 P 22 35 12.7
baz=223
MSU **Marysvale** 23.64 333 **PcP** 22 38 59.5 +2.4
GSC **Goldstone, Bar** 23.65 320 P **P** 22 35 14.2 +0.4
GSC pmax pmax
comp=Z,24nm,0.9s
GSC **Goldstone, Bar** 23.65 320 P **P** 22 35 14.2 +0.4
GSC **Goldstone, Bar** 23.65 320 P 22 35 14.7
baz=132,SNR=25
N23A **Red Feather La** 23.68 346 P 22 35 14.6
baz=162
P46A **Rosedale** 23.69 22 IAmb IAmb 22 35 13.9
comp=Z,65nm,0.8s
R50A **Paris** 23.73 29 IAmb IAmb 22 35 13.8
comp=Z,73nm,0.8s
Y59A **Loris** 23.74 44 P **P** 22 35 14.1 -0.4
SHOC **Shoshone, Teco** 23.75 322 P 22 35 14.7
baz=134,SNR=7.6
MWC **Mount Wilson** 23.75 317 P **P** 22 35 15.5 +0.7
MWC pmax pmax
comp=Z,17nm,1.0s
MWC **Mount Wilson** 23.75 317 P **P** 22 35 15.5 +0.7
W57A **Gilead** 23.76 40 P **P** 22 35 13.6 -1.0
X58A **Rowland** 23.79 42 P **P** 22 35 14.8 0.0
X58A IAmb IAmb 22 35 16.6
comp=Z,103nm,0.9s
PASC **Pasadena Art C** 23.80 316 P **P** 22 35 16.2 +1.2
TCRU **Three Creeks R** 23.84 332 P **P** 22 35 16.3 +0.7
HDIL **Hopedale** 23.86 18 P 22 35 13.9
baz=202,SNR=37
P17A **Butcher Ranch,** 23.86 336 IAmb IAmb 22 35 18.0
comp=Z,143nm,1.2s
DECC **Green Verdugo** 23.95 316 P 22 35 17.2
baz=128
SJCC **San Jacinto, C** 24.06 106 eP **P** 22 35 19.4 +1.7
EDW2 **Edwards Air Fo** 24.12 318 P 22 35 18.9
baz=129,SNR=26
PRN **Pahroc Range** 24.15 326 P **P** 22 35 19.2 +0.9
PRN IAmb IAmb 22 35 22.8
comp=Z,136nm,1.2s
SNCC **San Nicolas Is** 24.17 313 P **P** 22 35 19.5 +1.1
SNCC **San Nicolas Is** 24.17 313 P 22 35 18.3
baz=124
P48A **Milroy** 24.24 25 IAmb IAmb 22 35 18.0
comp=Z,85nm,0.8s
SCIA **State Center** 24.26 10 P 22 35 18.4
baz=192,SNR=25
LRMC **Laurel Mtn Rad** 24.31 320 P 22 35 21.0
baz=131,SNR=31
U56A **King** 24.33 38 IAmb IAmb 22 35 36.6
comp=Z,65nm,1.1s
U56A **King** 24.33 38 P 22 35 17.7
baz=226
DBBC **Dabeiba** 24.37 114 eP **P** 22 35 23.3 +2.9
V57A **Coltrane Farms** 24.38 39 P 22 35 19.4
baz=226
SFIN **Lafayette** 24.40 22 IAmb IAmb 22 35 21.1
comp=Z,128nm,0.8s
SFIN **Lafayette** 24.40 22 P 22 35 19.2
baz=207
RDMU **Red Mountain** 24.41 339 P **P** 22 35 20.6 -0.1
RDMU IAmb IAmb 22 35 23.5
comp=Z,146nm,1.1s
OSI **Osito Audit: C** 24.43 317 P 22 35 21.1
baz=128
PSUT **Pine Spring** 24.43 330 IAmb IAmb 22 35 24.0
comp=Z,66nm,1.0s
PIZC **Pizarro, Choco** 24.45 119 eP **P** 22 35 24.3 +3.3
TPNV **Topopah Spring** 24.47 324 IAmb IAmb 22 35 26.2
comp=Z,59nm,0.8s
TPNV **Topopah Spring** 24.47 324 P 22 35 23.0
baz=136,SNR=116
FURC **Furnace Creek,** 24.48 322 P 22 35 22.6
baz=134,SNR=20
SMRC **Santa Marta, M** 24.50 103 eP **P** 22 35 23.1 +1.5
K31A **O'Neill** 24.55 360 P **P** 22 35 22.0 +0.3
MPMC **Manual Prospec** 24.57 321 P 22 35 23.2
baz=132,SNR=67
P49A **Miami Univ. Ec** 24.59 26 P 22 35 20.7
baz=213
UREC **San Jos de Ur** 24.62 111 eP **P** 22 35 24.1 +1.4
LGNH **Logne** 24.65 85 P **P** 22 35 24.1 +1.2
LGNH IAmb IAmb 22 35 27.1
comp=Z,56nm,0.7s
SCZ2 **Santa Cruz Isl** 24.67 314 P 22 35 23.6
baz=125
X60A **Albert Glenn T** 24.69 44 P 22 35 22.5
baz=233
V58A **Windy Hill, Pi** 24.72 40 IAmb IAmb 22 35 25.6
comp=Z,100nm,0.9s
RWWY **Rawlins** 24.74 344 IAmb IAmb 22 35 27.1
comp=Z,137nm,0.9s
JAKH **Jacmel** 24.75 85 P **P** 22 35 24.4 +0.6
JAKH IAmb IAmb 22 35 32.1
comp=Z,53nm,0.8s
ARVC **Arvin** 24.81 317 P 22 35 25.1
baz=128,SNR=8.6
S54A **Dingess, Beckl** 24.85 34 IAmb IAmb 22 35 26.0
comp=Z,82nm,0.8s
S54A **Dingess, Beckl** 24.85 34 P 22 35 23.9
baz=222
BLA **Blacksburg** 24.91 36 P 22 35 24.5
baz=225,SNR=9.1
ISA **Isabella, Lake** 24.92 319 P **P** 22 35 26.8 +1.5
ISA PCP **PcP** 22 39 01.8 +2.1
ISA pmax pmax
comp=Z,48nm,1.2s
ISA **Isabella, Lake** 24.92 319 P **P** 22 35 26.8 +1.5
ISA **PcP** 22 39 01.8 +2.1
ISA **Isabella, Lake** 24.92 319 P 22 35 26.8
baz=130,SNR=25
ARGC **Ariguani, Magd** 24.93 106 eP **P** 22 35 27.5 +2.0
SBC **Santa Barbara** 24.98 315 P 22 35 25.4
baz=126
MALC **Bahia Malaga** 25.00 121 eP **P** 22 35 26.4 +0.3
U57A **Blanch** 25.00 39 P 22 35 23.9
baz=228
T56A **Rocky Mt** 25.01 37 P 22 35 25.1
baz=226
CBOC **Ciudad Bolivar** 25.11 116 eP **P** 22 35 30.9 +3.6
GRAC **Grapevine Rang** 25.14 323 P 22 35 28.6
baz=134,SNR=14
R11A **Troy Canyon, C** 25.14 327 P 22 35 28.6
baz=139
CNNC **Cliffs of the** 25.14 43 P **P** 22 35 26.6 -0.6
CNNC IAmb IAmb 22 35 28.0
comp=Z,144nm,1.1s
CNNC **Cliffs of the** 25.14 43 P 22 35 26.2
baz=232
CWC **Cottonwood Cre** 25.18 321 P 22 35 28.7
baz=132
V59A **Middlesex** 25.25 41 P 22 35 27.8
baz=231
R54A **Victor** 25.30 34 P 22 35 28.3
baz=222
CTU **Camp Tracy** 25.31 336 P **P** 22 35 29.3 +0.4
PKM **Mcpherson Peak** 25.31 316 P 22 35 29.9
baz=126,SNR=17
DUG **Dugway, Tooele** 25.31 334 P 22 35 29.7
baz=147,SNR=48
ZARC **Zaragoza, Cauc** 25.34 111 eP **P** 22 35 30.6 +1.4
HELC **Santa Helena** 25.36 115 eP **P** 22 35 32.4 +2.6
PLMC **San Jos del P** 25.38 118 eP **P** 22 35 31.7 +2.1
VES **Vestal, Richgr** 25.42 318 P 22 35 31.3
baz=129,SNR=23
U58A **Oxford** 25.46 40 P 22 35 28.2
baz=229
K22A **Casper** 25.49 346 P 22 35 30.0
baz=162
SMLC **San Martn de** 25.49 108 eP **P** 22 35 32.3 +1.8
Q53A **Leroy** 25.54 32 P 22 35 29.4
baz=220
TCUT **Toone Canyon** 25.55 337 P **P** 22 35 32.0 +0.9
TCUT IAmb IAmb 22 35 35.1
comp=Z,89nm,0.9s
SMMC **Simmler** 25.68 316 P 22 35 33.7
baz=127,SNR=24
TIN **Tinemaha, Big** 25.68 322 P 22 35 30.0
baz=132
ECSD **EROS Data Cent** 25.71 3 P **P** 22 35 31.4 -0.9
ECSD **EROS Data Cent** 25.71 3 P 22 35 31.2
baz=184,SNR=168
LL3C **La Loma 3 Cana** 25.74 105 eP **P** 22 35 35.1 +2.3
L44A **Lake County Fo** 25.76 18 P 22 35 31.6
baz=204
CRJC **Cerrejon, Guaj** 25.79 102 eP **P** 22 35 35.0 +1.5
JFWS **Jewell Farm** 25.82 14 P 22 35 31.7
baz=198,SNR=43
T58A **Grand View Acr** 25.83 39 P 22 35 32.2
baz=228
YOTC **Yotoco, Valle** 25.83 120 eP **P** 22 35 36.0 +2.2
P52A **Corning** 25.84 30 P 22 35 32.2
baz=218
P52A **Corning** 25.84 30 IAmb IAmb 22 35 32.9
comp=Z,68nm,0.8s
R55A **Marlinton** 25.85 35 IAmb IAmb 22 35 35.8
comp=Z,80nm,0.8s
R55A **Marlinton** 25.85 35 P 22 35 32.5
baz=224
V60A **Jim Taylor Roa** 25.87 43 P **P** 22 35 32.8 -0.9
V60A IAmb IAmb 22 35 36.4

comp=Z,91nm,0.8s
V60A Jim Taylor Roa 25.87 43 P 22 35 32.8
baz=232
SDDR Presa de Saban 25.88 84 P P **22 35 35.8 +1.7**
SDDR IAmb IAmb 22 35 39.7
comp=Z,139nm,0.9s
VOG Valley Oaks Go 25.91 319 P 22 35 34.6
baz=129
ACSO Alum Creek Sta 25.92 28 P 22 35 32.7
baz=216,SNR=66
N49A Columbus Grove 25.98 25 IAmb IAmb 22 35 35.7
comp=Z,84nm,0.9s
Q54A Coxs Mills 25.98 33 IAmb IAmb 22 35 35.0
comp=Z,54nm,0.8s
GUY2C Guyana, Caldas 25.99 116 eP P **22 35 38.9 +3.3**
GRTK Grand Turk 26.04 78 P P **22 35 35.6 +0.1**
P53A Whipple 26.09 31 IAmb IAmb 22 35 35.5
comp=Z,45nm,0.8s
PAGB Antelope Grade 26.09 317 P P **22 35 36.7 +0.8**
SPUT South Promonto 26.11 336 PcP **22 39 04.0 +1.6**
K43A Burlington 26.12 17 P P **22 35 34.5 -1.5**
K43A IAmb IAmb 22 35 36.0
comp=Z,127nm,0.9s
PTBC PUERTO BERRIO, 26.13 113 eP P **22 35 38.4 +2.0**
L46A Eue Claire 26.13 21 IAmb IAmb 22 35 37.1
comp=Z,101nm,0.7s
S57A Dark Hollow, R 26.13 37 IAmb IAmb 22 35 36.7
comp=Z,42nm,0.7s
S57A Dark Hollow, R 26.13 37 P 22 35 36.0
baz=226
NORC Norcasia 26.24 115 eP P **22 35 40.1 +2.7**
BBAC Balboa, Cauca 26.26 125 eP P **22 35 40.8 +3.0**
I37A Lemond, Waseca 26.30 8 IAmb IAmb 22 35 39.8
comp=Z,96nm,0.8s
V61A Roper 26.33 43 P P **22 35 37.8 -0.2**
V61A IAmb IAmb 22 35 39.7
comp=Z,144nm,1.0s
R56A Bull Pasture M 26.33 36 P 22 35 38.1
baz=225
ANIL Santa Ana 26.34 118 eP P **22 35 41.6 +3.0**
TOLC Tolima 26.36 118 eP P **22 35 42.5 +3.7**
SUSD Miller 26.37 359 P P **22 35 38.3 +0.1**
SUSD IAmb IAmb 22 35 42.3
comp=Z,123nm,0.9s
SUSD Miller 26.37 359 P 22 35 37.8
baz=179
U60A Pendleton 26.37 41 P 22 35 37.6
baz=231
SC01 Santiago de lo 26.39 82 P P **22 35 40.3 +1.6**
BW06 Boulder Array 26.40 342 P 22 35 38.7
baz=156,SNR=93
PD31 Pinedale Array 26.40 342 P P **22 35 38.6 -0.2**
PDAR Pinedale Array 26.40 342 P P **22 35 38.9 +0.1**
comp=Z,38nm,0.7s,baz=144,slow=11,SNR=191
PDAR pP **pP** **22 35 54.3 +1.0**
comp=Z,14nm,0.7s,baz=165,slow=10,SNR=6.9
PDAR sP **sP** **22 36 00.9 +0.6**
comp=Z,38nm,0.9s,baz=150,slow=10,SNR=6.0
PDAR PcP **PcP** **22 39 03.5 +0.3**
comp=Z,5.5nm,1.0s,baz=101,slow=4.7,SNR=3.9
PDAR LR LR 22 46 58.8
comp=Z,2µm,21.3s,baz=166,slow=38
PDAR Pinedale Array 26.40 342 P P **22 35 38.6 -0.2**
PDAR PcP **PcP** **22 39 03.3 +0.1**
OCAC Ocana 26.40 108 eP P **22 35 39.4 +0.4**
POPC Popayan, Colom 26.40 123 eP P **22 35 41.4 +2.4**
URIC Uribia, Colomb 26.42 100 eP P **22 35 40.2 +1.2**
MLAC Mammoth, Mammo 26.43 322 P 22 35 39.2
baz=132
T59A Double "B" Far 26.44 40 P P **22 35 37.0 -1.9**
RSSD Black Hills 26.45 351 P P **22 35 39.6 +0.4**
RSSD pmax pmax
comp=Z,27nm,0.7s
RSSD Black Hills 26.45 351 P P **22 35 39.6 +0.4**
RSSD Black Hills 26.45 351 P 22 35 39.2
baz=168
OTAV Otavalo 26.51 130 P P **22 35 42.6 +2.3**
OTAV pmax pmax
comp=Z,15nm,1.0s
OTAV Otavalo 26.51 130 P P **22 35 42.6 +2.3**
OTAV Otavalo 26.51 130 eP P **22 35 43.0 +2.7**
OTAV Otavalo 26.51 130 eP P **22 35 39.3 -0.9**
BRRC Barranca, Sant 26.53 111 eP P **22 35 41.8 +1.9**
S58A Poland Farm, P 26.56 38 P P **22 35 39.6 -0.4**
MDPB Devils Postpil 26.57 322 P P **22 35 38.4 -2.1**
NV11 Mina Array Sit 26.59 324 P P **22 35 41.6 +1.2**
NV11 IAmb IAmb 22 35 42.8
comp=Z,53nm,0.9s
LHV Little Huntoon 26.66 323 P P **22 35 42.5 +1.7**
LHV IAmb IAmb 22 35 50.6
comp=Z,61nm,0.8s
NVAR Mina Array Bea 26.67 324 P P **22 35 42.6 +1.4**
comp=Z,29nm,0.6s,baz=142,slow=9.0,SNR=270
NVAR PcP **PcP** **22 39 05.3 +1.5**
comp=Z,8.5nm,1.0s,baz=156,slow=2.6,SNR=5.7
NVAR LR LR 22 47 20.8
comp=Z,1µm,18.4s,baz=132,slow=39
NVAR Mina Array Bea 26.67 324 P P **22 35 41.6 +0.4**
NVAR PcP **PcP** **22 39 05.3 +1.5**
I40A Norwalk 26.67 13 P P **22 35 39.5 -1.5**
I40A IAmb IAmb 22 35 42.8
comp=Z,61nm,0.8s
SOTA Rioblanco 26.70 124 eP P **22 35 44.3 +2.2**
U61A Possum Corner 26.74 43 P 22 35 39.6
baz=233
PMPB Monarch Peak 26.74 317 P P **22 35 43.0 +1.3**
R57A Stanardsville 26.75 37 P 22 35 41.0
baz=226
PCON Cinco Dias 26.75 123 eP P **22 35 45.7 +3.1**
N51A Ashland 26.75 28 P P **22 35 39.9 -1.8**
N51A IAmb IAmb 22 35 40.6
comp=Z,89nm,0.7s
O53A New Philadelph 26.76 30 P 22 35 40.6
baz=219
ORTC Ortega, Tolima 26.78 119 eP P **22 35 44.8 +2.5**
MARP Paez Belalcaza 26.80 122 eP P **22 35 46.2 +3.5**
ELK Elko 26.83 331 P P **22 35 43.8 +1.2**
comp=Z,18nm,1.0s,baz=148,slow=6.2,SNR=49
ELK Elko 26.83 331 P P **22 35 43.9 +1.2**
ELK pmax pmax
comp=Z,29nm,1.2s
ELK Elko 26.83 331 P P **22 35 43.9 +1.2**
M50A Fremont 26.86 26 IAmb IAmb 22 35 42.3
comp=Z,64nm,0.9s
SPBC San Pablo de B 26.88 114 eP P **22 35 45.2 +1.9**
AHID Auburn Hatcher 26.89 339 P P **22 35 43.5 +0.3**
R58B Mineral 26.89 38 P 22 35 42.7
baz=228
Q56A Snyder Ridge, 26.90 35 P 22 35 42.9
baz=224
RYN Ryan 26.93 324 P P **22 35 44.8 +1.3**
RYN IAmb IAmb 22 35 49.2
comp=Z,54nm,0.9s
KVN Kaiserville 26.99 325 P P **22 35 44.8 +0.7**
KVN pmax pmax
comp=Z,73nm,1.1s
KVN Kaiserville 26.99 325 P P **22 35 44.8 +0.7**
KVN IAmb IAmb 22 35 50.4
comp=Z,73nm,1.1s
MCWV Mont Chateau 27.00 33 P P **22 35 42.8 -1.1**
MCWV IAmb IAmb 22 35 44.7
comp=Z,53nm,0.9s
MCWV Mont Chateau 27.00 33 P 22 35 43.4
baz=222,SNR=16
R58A Rapidan 27.05 37 P 22 35 43.6
baz=227
T60A Surry 27.05 41 P 22 35 43.9
baz=231
ROSC El Rosal 27.07 116 P P **22 35 48.8 +3.5**
comp=Z,43nm,1.0s,baz=167,slow=2.4,SNR=12
ROSC LR LR 22 47 49.4
comp=Z,503nm,21.3s,baz=317,slow=39
ROSC El Rosal 27.07 116 P P **22 35 48.5 +3.2**
ROSC pmax pmax
comp=Z,54nm,1.0s
ROSC El Rosal 27.07 116 P P **22 35 48.5 +3.2**
ROSC IAmb IAmb 22 35 55.3
comp=Z,54nm,0.9s
ROSC El Rosal 27.07 116 eP P **22 35 49.1 +3.8**
S59A Mechanicsville 27.11 39 P 22 35 44.7
baz=229
M51A Elyria 27.17 28 P 22 35 43.6
baz=216
PRAC Prado 27.19 119 eP P **22 35 47.7 +1.7**
SDD Santo Domingo 27.21 85 P P **22 35 48.6 +2.6**

BARC Barichara 27.23 111 eP P **22 35 48.3 +1.8**
BETC Betania 27.31 121 eP P **22 35 50.0 +2.9**
Q57A Strasburg 27.32 36 P 22 35 46.4
baz=225
PAMC Pamplona, Colo 27.33 110 eP P **22 35 49.8 +2.1**
CBN Corbin Frederi 27.35 38 P 22 35 46.5
baz=228
AAM Ann Arbor 27.35 25 P 22 35 45.8
baz=212,SNR=12
WAKR Walker 27.36 323 PcP **22 39 08.0 +2.5**
N53A Lisbon 27.37 30 IAmb IAmb 22 35 46.6
comp=Z,72nm,0.8s
P56A Dayton Farm, R 27.42 35 P 22 35 47.4
baz=224
S60A Water View 27.46 40 P 22 35 47.7
baz=230
SAO San Andreas Ge 27.49 317 P P **22 35 48.4 0.0**
SAO pmax pmax
comp=Z,12nm,1.1s
SAO San Andreas Ge 27.49 317 P P **22 35 48.4 0.0**
R59A King George, V 27.50 39 P 22 35 48.4
baz=229
GARC Garzon, Huila 27.56 122 eP P **22 35 51.9 +2.5**
SPMN Marine on St. 27.57 9 IAmb IAmb 22 35 52.8
comp=Z,74nm,0.7s
SPMN Marine on St. 27.57 9 P 22 35 48.3
baz=192
YERR Yerington 27.58 324 P P **22 35 50.5 +1.1**
RUSC La Rusia 27.63 113 eP P **22 35 52.2 +1.8**
RUSC eP pP 22 35 52.4 -13
Q58A Fox Den Farm, 27.67 37 P 22 35 49.5
baz=227
DR12 Loma Pena Alta 27.69 84 P P **22 35 52.1 +1.7**
PNTR Pine Nut 27.85 323 P P **22 35 52.4 +0.5**
P57A Homestead Farm 27.86 36 P 22 35 51.6
baz=226
N54A Moraine State 27.90 31 P P **22 35 50.7 -1.4**
N54A IAmb IAmb 22 35 51.6
comp=Z,42nm,0.9s
N54A Moraine State 27.90 31 P 22 35 50.5
baz=220
H43A Windswept, Lux 27.91 17 P P **22 35 50.5 -1.4**
FLWY Flagg Ranch 27.94 341 IAmb IAmb 22 35 55.6
comp=Z,68nm,1.1s
M53A WI Miller and 27.94 30 P P **22 35 50.6 -1.8**
M53A IAmb IAmb 22 35 51.5
comp=Z,53nm,0.8s
M53A WI Miller and 27.94 30 P 22 35 50.6
baz=218
I45A Fountain 27.96 19 P P **22 35 51.7 -0.7**
VILC Villavicencio, 27.98 117 eP P **22 35 59.1 +5.9**
VCNR Virginia City 28.02 324 P P **22 35 53.9 +0.5**
G40A Rib Lake 28.07 13 IAmb IAmb 22 35 53.4
comp=Z,46nm,0.9s
O56A Blue Knob Stat 28.11 34 P P **22 35 53.1 -0.9**
O56A IAmb IAmb 22 35 54.7
comp=Z,70nm,0.9s
O56A Blue Knob Stat 28.11 34 P 22 35 52.3
baz=224
YPP Pitchstone Pla 28.14 341 P P **22 35 54.5 +0.1**
RUBR Rubicon Trail 28.15 323 P P **22 35 56.0 +1.5**
RUBR IAmb IAmb 22 35 58.6
comp=Z,64nm,0.9s
K50A Casco 28.17 25 IAmb IAmb 22 35 54.5
comp=Z,89nm,1.0s
H17A Grant Village 28.18 342 P 22 35 55.4
baz=155
LKWY Lake 28.29 342 P P **22 35 56.2 +0.5**
LKWY pmax pmax
comp=Z,56nm,1.1s
LKWY Lake 28.29 342 P P **22 35 56.2 +0.5**
LKWY IAmb IAmb 22 35 58.6
comp=Z,56nm,1.1s
ALLY Alegheny Colle 28.36 30 IAmb IAmb 22 35 56.5
comp=Z,55nm,0.8s
YMP Mirror Lake Pl 28.38 342 P P **22 35 56.6 +0.1**
YMP IAmb IAmb 22 36 11.2
comp=Z,61nm,1.1s
YUF Upper Falls 28.45 342 P P **22 35 57.7 +0.5**
SDMD Soldier's Deli 28.47 37 P P **22 35 55.3 -1.7**
M54A Oil Creek Stat 28.48 31 P 22 35 55.4
baz=220
M54A Oil Creek Stat 28.48 31 IAmb IAmb 22 35 58.0
comp=Z,64nm,0.8s
RLMT Red Lodge 28.48 344 P 22 35 57.8
baz=158,SNR=114
YNR Norris Junctio 28.51 342 P P **22 35 57.8 +0.1**
YNM Yellowstone No 28.52 342 P P **22 35 57.7 -0.1**
TAMC Tame, Arauca 28.53 110 eP P **22 35 59.8 +1.8**
L53A Girard 28.54 29 P 22 35 56.2
baz=219
E28A Huff 28.55 357 IAmb IAmb 22 35 59.6
comp=Z,102nm,0.9s
YMR Madison River 28.55 341 P P **22 35 58.7 +0.7**
YMR IAmb IAmb 22 36 00.5
comp=Z,94nm,1.1s
AFDM Forest Hills D 28.56 322 PcP **22 39 09.9 +1.7**
O57A Amberson 28.57 35 P 22 35 57.6
baz=225
SDV Santo Domingo 28.60 105 P P **22 36 00.5 +1.8**
comp=Z,72nm,0.9s,baz=307,slow=2.5,SNR=78
SDV LR LR 22 49 39.0
comp=Z,480nm,19.6s,baz=294,slow=41
SDV Santo Domingo 28.60 105 P P **22 36 00.5 +1.8**
SDV IAmb IAmb 22 36 01.8
comp=Z,99nm,0.9s
SDV Santo Domingo 28.60 105 eP P **22 36 00.5 +1.8**
SDV Santo Domingo 28.60 105 eP P **22 36 00.6 +1.8**
YHH Holmes Hill 28.62 342 IAmb IAmb 22 36 01.0
comp=Z,62nm,1.2s
YHB Horse Butte 28.70 341 P P **22 35 59.9 +0.5**
N56A West Decatur 28.73 33 P 22 35 58.9
baz=223
HLID Hailey 28.79 336 P 22 36 00.7
baz=147,SNR=54
ERPA Erie 28.79 29 IAmb IAmb 22 35 59.0
comp=Z,44nm,0.8s
ERPA Erie 28.79 29 P 22 35 58.0
baz=219,SNR=8.1
BEKR Beckworth 28.81 324 P P **22 36 01.1 +0.8**
BEKR PcP **22 39 10.8 +1.8**
P59A Jarrettsville 28.83 37 P 22 36 00.0
baz=228
O58A Lewisberry 28.90 36 P 22 36 00.3
baz=226
N57A Milroy 29.00 34 P 22 36 01.1
baz=225
F42A Maple Grove Fa 29.01 15 IAmb IAmb 22 36 01.6
comp=Z,36nm,0.8s
BCYI Bear Canyon 29.05 338 P P **22 36 03.4 +1.0**
D32A Dogwood Acres, 29.09 2 P P **22 36 01.3 -1.2**
D32A IAmb IAmb 22 36 02.3
comp=Z,43nm,0.7s
COWI Conover 29.09 14 IAmb IAmb 22 36 02.7
comp=Z,56nm,0.8s
E38A The Farm, Brul 29.11 10 IAmb IAmb 22 36 03.6
comp=Z,33nm,0.6s
GLMI Grayling 29.18 21 P 22 36 01.8
baz=208,SNR=14
M56A Emporium 29.20 32 IAmb IAmb 22 36 03.4
comp=Z,63nm,0.7s
M56A Emporium 29.20 32 P 22 36 02.9
baz=223
MFID Camas Ranch 29.24 334 IAmb IAmb 22 36 06.9
comp=Z,50nm,1.1s
ORV Vioville 29.26 322 PcP PcP **22 39 12.3 +2.4**
PTGC Puerto Gaitan, 29.28 115 eP P **22 36 06.6 +2.1**
LAO LASA Array 29.30 349 P 22 36 04.2
baz=165,SNR=26
LAO LASA Array 29.30 349 IAmb IAmb 22 36 05.5
comp=Z,81nm,1.1s
P60A Greenville 29.43 38 P P **22 36 06.2 +0.7**
P60A Greenville 29.43 38 P 22 36 03.6
baz=229
O59A Robesonia 29.45 36 P 22 36 05.2
baz=227
N58A Sunbury 29.51 35 P P **22 36 05.1 -1.2**
N58A Sunbury 29.51 35 P 22 36 05.5
baz=226
GDXM Geysers 29.57 319 P P **22 36 07.8 +0.8**
BOZ Bozeman (W) 29.59 341 P 22 36 07.9
baz=154,SNR=60
M57A Sunshine Farm, 29.64 34 P 22 36 07.0
baz=225
M57A Sunshine Farm, 29.64 34 IAmb IAmb 22 36 08.1
comp=Z,42nm,0.8s

WVNY West Valley, N 29.67 31 P P **22 36 06.6 -1.2**
I51A Listowel 29.68 26 P 22 36 05.9
baz=215
WVOR Wild Horse Val 29.75 329 PcP **22 39 13.7 +2.4**
MDND Maddock 29.78 359 P 22 36 07.6
baz=178
HOPS Hopland Field 29.86 320 P P **22 36 10.3 +0.9**
AGPR Aguadilla, PR 29.86 84 P P **22 36 11.1 +1.5**
E43A Lone Tree Farm 29.88 16 IAmb IAmb 22 36 09.1
comp=Z,79nm,0.9s
O60A Telford 29.89 37 P 22 36 08.4
baz=228
O03E Paynes Creek 29.92 323 P 22 36 09.1
baz=131
L56A Greenwood 29.99 32 IAmb IAmb 22 36 10.4
comp=Z,37nm,0.8s
L56A Greenwood 29.99 32 P 22 36 08.9
baz=223
M58A Price's Panora 30.02 34 P 22 36 09.7
baz=226
LRM Limekiln Ridge 30.05 340 PcP **22 39 14.3 +2.2**
N59A State Game Lan 30.09 36 P 22 36 09.2
baz=227
LUPA Lehigh Univers 30.10 37 P P **22 36 11.2 -0.3**
LUPA IAmb IAmb 22 36 13.7
comp=Z,29nm,0.7s
MOD Modoc Plateau 30.20 327 IAmb IAmb 22 36 14.2
comp=Z,39nm,0.9s
MOD PcP PcP **22 39 14.4 +1.9**
AOPR Arecibo Observ 30.21 84 P P **22 36 13.9 +1.1**
AOPR IAmb IAmb 22 36 27.5
comp=Z,54nm,1.1s
O61A Allentown 30.24 38 P 22 36 11.3
baz=230
L57A Andrews Acres 30.26 33 P 22 36 10.4
baz=224
MMNY Mt. Morris Dam 30.26 31 IAmb IAmb 22 36 13.9
comp=Z,28nm,0.7s
AGMN Agassiz Nation 30.30 4 P 22 36 11.8
baz=185,SNR=56
AGMN Agassiz Nation 30.30 4 IAmb IAmb 22 36 13.7
comp=Z,74nm,0.9s
J54A Appleton 30.32 30 IAmb IAmb 22 36 12.4
comp=Z,35nm,0.9s
OBIP Obispado Ponce 30.37 85 IAmb IAmb 22 36 19.1
comp=Z,45nm,1.1s
J08A Circle Bar Ran 30.37 331 IAmb IAmb 22 36 17.1
comp=Z,71nm,0.7s
EYMN Ely 30.42 9 IAmb IAmb 22 36 13.9
comp=Z,24nm,0.6s
EYMN Ely 30.42 9 P 22 36 12.8
baz=193,SNR=8.6
N60A Cedar Hill Far 30.43 37 P 22 36 13.2
baz=228
K56A Middlesex 30.52 32 P 22 36 14.0
baz=223
WDC Whiskeytown Da 30.54 322 PcP PcP **22 39 14.1 +1.0**
KCPM Cahto Peak 30.59 320 P P **22 36 17.4 +1.4**
BRNJ Basking Ridge 30.62 37 P P **22 36 15.8 -0.2**
BRNJ IAmb IAmb 22 36 17.3
comp=Z,42nm,0.8s
M59A Waymart 30.70 35 P 22 36 15.2
baz=227
J55A Hilton 30.70 30 IAmb IAmb 22 36 16.5
comp=Z,72nm,1.1s
DGMT Dagmar 30.74 353 IAmb IAmb 22 36 18.3
comp=Z,48nm,0.7s
DGMT Dagmar 30.74 353 P 22 36 16.8
baz=169,SNR=21
SJG San Juan 30.80 85 LR LR 22 48 47.4
comp=Z,414nm,21.8s,baz=278,slow=36
SJG San Juan 30.80 85 P P **22 36 18.7 +0.8**
SJG pmax pmax
comp=Z,60nm,0.8s
SJG San Juan 30.80 85 P P **22 36 18.7 +0.8**
SJG IAmb IAmb 22 36 19.4
comp=Z,60nm,0.8s
SJG San Juan 30.80 85 eP P **22 36 18.2 +0.2**
N61A South Mountain 30.82 38 P 22 36 17.1
baz=230
L58A Harry Jones Me 30.82 34 P 22 36 17.0
baz=226
GCPR Guaynabo City 30.84 84 P P **22 36 19.8 +1.4**
GCPR IAmb IAmb 22 36 20.9
comp=Z,50nm,0.9s
BINY Binghamton 30.85 34 IAmb IAmb 22 36 19.0
comp=Z,77nm,1.1s
BINY Binghamton 30.85 34 P 22 36 17.8
baz=225,SNR=13
ODNJ Ogdensburg 30.85 37 P P **22 36 17.8 -0.3**
N02D Trinity Center 30.89 323 P 22 36 17.8
baz=131
PDPR Patillas Dam, 30.93 85 IAmb IAmb 22 36 20.3
comp=Z,67nm,0.9s
M04C Macdoel 30.94 325 P 22 36 18.9
baz=133
K57A Scipio Center 30.95 33 P 22 36 17.8
baz=224
M60A Port Jervis 31.00 36 P 22 36 19.1
baz=228
BMO Blue Mountains 31.03 334 IAmb IAmb 22 36 20.4
comp=Z,42nm,1.1s
BMO PcP **22 39 16.0 +1.5**
CPNY Central Park 31.04 38 P P **22 36 18.7 -1.0**
CBYP Canovanas 31.06 84 IAmb IAmb 22 36 23.2
comp=Z,64nm,0.9s
K05A Summer Lake 31.09 327 P P **22 36 20.9 +0.4**
TRNY Table Rock, Ra 31.11 37 IAmb IAmb 22 36 21.4
comp=Z,41nm,0.8s
J56A Wolcott 31.18 31 IAmb IAmb 22 36 22.0
comp=Z,47nm,1.0s
J56A Wolcott 31.18 31 P 22 36 19.7
baz=223
PAL Palisades 31.20 38 P P **22 36 20.5 -0.7**
PAL pmax pmax
comp=Z,32nm,0.9s
PAL Palisades 31.20 38 P P **22 36 20.5 -0.7**
PAL IAmb IAmb 22 36 21.5
comp=Z,32nm,0.8s
PAL Palisades 31.20 38 P 22 36 20.4
baz=230,SNR=5.1
M02C Callahan 31.24 323 P 22 36 21.5
baz=131
SADO Sadowa 31.25 27 P P **22 36 19.8 -1.8**
comp=Z,40nm,0.7s,baz=242,slow=9.3,SNR=68
SADO Sadowa 31.25 27 IAmb IAmb 22 36 20.4
comp=Z,48nm,0.8s
EGMT Eagleton 31.31 345 IAmb IAmb 22 36 42.1
comp=Z,50nm,1.1s
EGMT Eagleton 31.31 345 P 22 36 22.4
baz=159,SNR=45
H53A Bobcaygeon 31.35 28 P 22 36 20.4
baz=219
L59A Walton 31.35 35 P P **22 36 21.9 -0.7**
L59A IAmb IAmb 22 36 23.5
comp=Z,67nm,0.9s
L59A Walton 31.35 35 P 22 36 22.2
baz=227
YBH Yreka Blue Hor 31.39 324 LR LR 22 50 20.8
comp=Z,1µm,20.6s,baz=146,slow=39
I07A Izee 31.41 330 P P **22 36 23.5 +0.3**
KHMM Horse Mountain 31.42 322 IAmb IAmb 22 36 28.8
comp=Z,43nm,1.0s
MSO Missoula 31.42 340 IAmb IAmb 22 36 25.3
comp=Z,43nm,0.7s
MSO Missoula 31.42 340 P 22 36 23.4
baz=151,SNR=28
K58A Earlville 31.43 33 IAmb IAmb 22 36 24.5
comp=Z,47nm,0.8s
K58A Earlville 31.43 33 P 22 36 21.7
baz=225
K04D Chiloquin, OR 31.47 326 P 22 36 23.8
baz=134
M61A Granite Spring 31.48 37 P 22 36 22.3
baz=230
L04D Klamath Falls 31.49 325 P 22 36 24.0
baz=133
JCC Jacoby Creek, 31.56 321 P P **22 36 24.8 +0.5**
PECO Prince Edward 31.60 30 IAmb IAmb 22 36 23.9
comp=Z,30nm,0.7s
CUPR Culebra, Puert 31.60 84 P P **22 36 26.6 +1.6**
CUPR IAmb IAmb 22 36 35.0
comp=Z,41nm,1.1s
WSPT Westport, CT 31.65 38 IAmb IAmb 22 36 25.8
comp=Z,92nm,1.2s
L60A Shokan 31.67 36 P 22 36 24.5
baz=228

J05D	**Fort Rock, OR**	**31.67**	**328**	P			22 36 25.5		
	baz=136								
J57A	**Williamstown**	**31.71**	**32**	P			22 36 24.4		
	baz=224								
DELO	**Deloro Mine**	**31.74**	**29**	IAmb	IAmb		22 36 25.0		
	comp=Z,49nm,1.0s								
K59A	**Cooperstown**	**31.86**	**34**	P			22 36 25.8		
	baz=226								
PINE	**Pine Mountain**	**31.89**	**329**	P	**P**		**22 36 27.7**	**+0.3**	
PINE				IAmb	IAmb		22 36 29.1		
	comp=Z,30nm,1.0s								
PINE				PcP	**PcP**		**22 39 19.2**	**+2.3**	
KSCT	**Kent School, K**	**31.91**	**37**	P	**P**		**22 36 26.6**	**-0.9**	
KSCT				IAmb	IAmb		22 36 28.4		
	comp=Z,54nm,1.0s								
KRMB	**Red Mountain**	**31.93**	**323**	P	**P**		**22 36 28.7**	**+0.8**	
ATAH	**Atahualpa**	**31.94**	**140**	LR	LR		22 47 26.2		
	comp=Z,1µm,19.5s,baz=327,slow=32								
YLE	**Yale**	**31.97**	**38**	IAmb	IAmb		22 36 29.6		
	comp=Z,49nm,0.9s								
M62A	**Hamden**	**32.07**	**38**	P			22 36 28.0		
	baz=231								
G08A	**Pilot Rock**	**32.09**	**332**	IAmb	IAmb		22 36 30.7		
	comp=Z,84nm,1.1s								
G08A					**PcP**		**22 39 19.2**	**+1.9**	
J04D	**Umpqua Nationa**	**32.09**	**327**	P			22 36 29.5		
	baz=134								
HUMO	**Hull Mountain**	**32.11**	**325**		**PcP**		**22 39 19.6**	**+2.2**	
L61A	**Hillsdale 1, H**	**32.18**	**36**	P			22 36 29.4		
	baz=229								
G54A	**Lake Saint Pet**	**32.21**	**28**	P			22 36 28.1		
	baz=218								
ULM	**Lac du Bonnet**	**32.25**	**3**	P	**P**		**22 36 29.0**	**-1.3**	
	comp=Z,19nm,0.4s,baz=187,slow=8.9,SNR=56								
ULM				PcP	**PcP**		**22 39 16.6**	**-0.9**	
	comp=Z,21nm,0.9s,baz=298,slow=2.4,SNR=4.2								
ULM				LR	LR		22 50 39.6		
	comp=Z,1µm,19.9s,baz=179,slow=38								
ULM	**Lac du Bonnet**	**32.25**	**3**	IAmb	IAmb		22 36 30.2		
	comp=Z,53nm,1.0s								
I57A	**Carthage**	**32.26**	**32**	P			22 36 28.9		
	baz=224								
K60A	**Five Rivers En**	**32.27**	**35**	P			22 36 29.2		
	baz=228								
I58A	**Old Forge**	**32.43**	**33**	P			22 36 30.8		
	baz=225								
I05D	**Terrebonne, OR**	**32.48**	**329**	P			22 36 32.7		
	baz=137								
J59A	**Piesco**	**32.52**	**34**	IAmb	IAmb		22 36 32.7		
	comp=Z,49nm,0.8s								
J59A	**Piesco**	**32.52**	**34**	P			22 36 31.7		
	baz=226								
M63A	**Gales Ferry**	**32.55**	**39**	P			22 36 32.2		
	baz=232								
K02D	**Willamette Mer**	**32.56**	**324**	P			22 36 33.6		
	baz=131								
KBO	**Bosley Butte**	**32.56**	**323**	P	**P**		**22 36 33.5**	**+0.3**	
L62A	**Suffield**	**32.58**	**37**	P	**P**		**22 36 32.9**	**-0.4**	
L62A	**Suffield**	**32.58**	**37**	P			22 36 32.9		
	baz=230								
I04A	**Tendick Farm,**	**32.63**	**327**	P			22 36 33.0		
	baz=134								
K61A	**Williamstown**	**32.65**	**36**	P			22 36 33.4		
	baz=229								
ALGO	**Algonquin Park**	**32.66**	**27**	P			22 36 32.1		
	baz=218,SNR=23								
UCCT	**U. Connecticut**	**32.68**	**38**	P	**P**		**22 36 33.7**	**-0.5**	
E09A	**Wood Farm, Sta**	**32.72**	**335**	IAmb	IAmb		22 36 35.1		
	comp=Z,74nm,1.1s								
H57A	**Richville**	**32.77**	**31**	P			22 36 33.3		
	baz=224								
L61B	**Northampton**	**32.84**	**37**	P			22 36 34.4		
	baz=230								
ACCN	**Adirondack Com**	**32.91**	**34**	IAmb	IAmb		22 36 36.7		
	comp=Z,57nm,0.9s								
QUA2	**Belchertown**	**32.91**	**37**	IAmb	IAmb		22 36 37.7		
	comp=Z,47nm,0.9s								
J60A	**Lant Hill Farm**	**32.95**	**35**	P			22 36 36.1		
	baz=228								
F07A	**Phinny Hill Vi**	**32.99**	**332**	P	**P**		**22 36 36.6**	**-0.2**	
F07A				IAmb	IAmb		22 36 38.3		
	comp=Z,40nm,1.1s								
J01E	**Myrtle Point**	**33.01**	**325**	P			22 36 37.1		
	baz=132								
NCB	**Newcomb**	**33.01**	**33**	IAmb	IAmb		22 36 37.9		
	comp=Z,34nm,0.7s								
KEBM	**Edson Butte**	**33.05**	**324**	P	**P**		**22 36 38.1**	**+0.6**	
I03D	**Drain, OR**	**33.06**	**326**	P			22 36 37.3		
	baz=133								
I59A	**Olmsteadville**	**33.08**	**34**	P			22 36 36.5		
	baz=227								
E08A	**Dider Farm, El**	**33.08**	**334**	P	**P**		**22 36 36.9**	**-0.7**	
L63A	**North Scituate**	**33.09**	**38**	IAmb	IAmb		22 36 38.3		
	comp=Z,52nm,0.9s								
L63A	**North Scituate**	**33.09**	**38**	P			22 36 36.9		
	baz=232								
G05D	**Wamic, OR**	**33.13**	**330**	P			22 36 39.0		
	baz=136								
M64A	**Tiverton**	**33.14**	**39**	P	**P**		**22 36 37.6**	**-0.6**	
M64A				IAmb	IAmb		22 36 38.9		
	comp=Z,58nm,0.8s								
M64A	**Tiverton**	**33.14**	**39**	P			22 36 37.5		
	baz=233								
H04A	**Detroit Lake**	**33.15**	**328**	IAmb	IAmb		22 36 43.5		
	comp=Z,47nm,0.8s								
BRYW	**Bryant College**	**33.16**	**38**	P	**P**		**22 36 37.8**	**-0.6**	
BRYW				IAmb	IAmb		22 36 38.9		
	comp=Z,48nm,0.7s								
K62A	**Royalston**	**33.23**	**37**	P	**P**		**22 36 38.2**	**-0.8**	
K62A				IAmb	IAmb		22 36 39.9		
	comp=Z,27nm,0.9s								
K62A	**Royalston**	**33.23**	**37**	P			22 36 38.4		
	baz=230								
LONY	**Lake Ozonia**	**33.28**	**32**	P			22 36 38.3		
	baz=225								
LONY	**Lake Ozonia**	**33.29**	**32**	IAmb	IAmb		22 36 40.3		
	comp=Z,32nm,0.9s								
H04D	**Lebanon**	**33.31**	**328**	P			22 36 39.1		
	baz=135								
H58A	**Gabriels**	**33.35**	**33**	P			22 36 38.6		
	baz=226								
WALA	**Waterton Lakes**	**33.38**	**342**	IAmb	IAmb		22 36 41.5		
	comp=Z,39nm,0.9s								
I60A	**Shoreham**	**33.42**	**34**	P			22 36 39.7		
	baz=227								
G57A	**Newington**	**33.43**	**31**	P			22 36 39.3		
	baz=223								
D08A	**Wollman Farm,**	**33.47**	**334**	IAmb	IAmb		22 36 41.9		
	comp=Z,39nm,1.1s								
E07A	**Sunnyside**	**33.47**	**333**	IAmb	IAmb		22 36 42.8		
	comp=Z,46nm,1.2s								
J61A	**Chester**	**33.49**	**35**	P			22 36 41.0		
	baz=229								
HRV	**Adam Dziewonsk**	**33.52**	**37**	P	**P**		**22 36 41.2**	**-0.3**	
HRV				pmax	pmax				
	comp=Z,57nm,0.9s								
HRV	**Adam Dziewonsk**	**33.52**	**37**	P	**P**		**22 36 41.2**	**-0.3**	
HRV				IAmb	IAmb		22 36 42.3		
	comp=Z,57nm,0.9s								
HRV	**Adam Dziewonsk**	**33.52**	**37**	P			22 36 41.2		
	baz=231								
WES	**Weston**	**33.58**	**38**	P	**P**		**22 36 41.6**	**-0.4**	
WES				pmax	pmax				
	comp=Z,45nm,0.9s								
WES	**Weston**	**33.58**	**38**	P	**P**		**22 36 41.6**	**-0.4**	
WES				IAmb	IAmb		22 36 42.2		
	comp=Z,45nm,0.9s								
L64A	**Middleborough**	**33.59**	**39**	P			22 36 41.7		
	baz=233								
I02D	**Swisshome**	**33.60**	**326**	P			22 36 42.2		
	baz=133								
BCX	**Boston College**	**33.63**	**38**	P	**P**		**22 36 42.1**	**-0.4**	
BCX				IAmb	IAmb		22 36 43.2		
	comp=Z,47nm,1.1s								
COR	**Corvallis**	**33.65**	**327**	P	**P**		**22 36 43.1**	**+0.5**	
COR				pmax	pmax				
	comp=Z,68nm,1.1s								
COR	**Corvallis**	**33.65**	**327**	P	**P**		**22 36 43.1**	**+0.5**	
COR				IAmb	IAmb		22 36 50.1		
	comp=Z,68nm,1.1s								
K63A	**Dunstable**	**33.65**	**37**	IAmb	IAmb		22 36 43.7		
	comp=Z,67nm,0.9s								
K63A	**Dunstable**	**33.65**	**37**	P			22 36 42.0		
	baz=231								
BBSR	**BB Station**	**33.66**	**58**	P	**P**		**22 36 42.7**	**-0.1**	
F05D	**White Salmon**	**33.68**	**331**	P			22 36 43.0		
	baz=138								
H59A	**Cadyville**	**33.76**	**33**	P			22 36 42.0		
	baz=226								
NEW	**Newport**	**33.76**	**338**	P			22 36 43.2		
	baz=147,SNR=21								
J62A	**Henniker**	**33.82**	**36**	P			22 36 43.5		
	baz=230								
HNH	**Hanover**	**33.87**	**35**	IAmb	IAmb		22 36 45.8		
	comp=Z,47nm,1.0s								
G58A	**Ormstown**	**33.93**	**32**	P			22 36 43.5		
	baz=225								
E55A	**Montcerf-Lytto**	**33.93**	**28**	P			22 36 43.3		
	baz=221								
FRNY	**Flat Rock**	**33.94**	**33**	IAmb	IAmb		22 36 46.5		
	comp=Z,37nm,1.1s								
G03D	**McMinnville, O**	**34.06**	**328**	P			22 36 46.8		
	baz=135								
F57A	**Harrington**	**34.09**	**30**	P			22 36 45.5		
	baz=223								
H60A	**Morristown**	**34.22**	**34**	P			22 36 47.0		
	baz=228								
J63A	**Strafford**	**34.27**	**37**	P			22 36 47.0		
	baz=231								
G59A	**Clarenceville**	**34.32**	**33**	P			22 36 47.9		
	baz=226								
LTY	**Liberty**	**34.37**	**333**	IAmb	IAmb		22 36 59.5		
	comp=Z,25nm,0.9s								
LBNH	**Lisbon**	**34.42**	**35**	IAmb	IAmb		22 36 50.7		
	comp=Z,47nm,0.9s								
LBNH	**Lisbon**	**34.42**	**35**	P			22 36 49.5		
	baz=229,SNR=11								
E56A	**St. Veronique**	**34.46**	**29**	P			22 36 48.9		
	baz=222								
LON	**Longmire**	**34.49**	**331**	P	**P**		**22 36 50.7**	**+0.8**	
LON				pmax	pmax				
	comp=Z,93nm,1.2s								
LON	**Longmire**	**34.49**	**331**	P	**P**		**22 36 50.7**	**+0.8**	
I62A	**Tamworth**	**34.50**	**36**	P			22 36 49.6		
	baz=230								
F04D	**Rainier, OR**	**34.56**	**329**	P			22 36 51.4		
	baz=136								
H61A	**Lyndonville**	**34.61**	**34**	P			22 36 51.2		
	baz=229								
D55A	**Sainte-Anne-du**	**34.62**	**28**	P			22 36 49.8		
	baz=221								
VLDQ	**Val d'Or**	**34.62**	**25**	IAmb	IAmb		22 36 49.9		
	comp=Z,35nm,0.9s								
E04D	**Cinebar**	**34.69**	**330**	P			22 36 51.4		
	baz=137								
G60A	**Masonville**	**34.77**	**33**	P			22 36 51.7		
	baz=227								
D05A	**Enumclaw**	**34.90**	**332**	P	**P**		**22 36 54.1**	**+0.8**	
D56A	**ZEC Mazanza, M**	**34.97**	**29**	P			22 36 52.6		
	baz=222								
C06D	**Leavenworth**	**34.98**	**334**	P			22 36 55.3		
	baz=141								
ANWB	**Willy Bob**	**34.98**	**85**	P	**P**		**22 36 54.7**	**+0.3**	
I63A	**Otisfield**	**35.04**	**36**	P			22 36 54.5		
	baz=231								
H62A	**Milan**	**35.05**	**35**	P	**P**		**22 36 53.8**	**-1.0**	
H62A				IAmb	IAmb		22 36 55.5		
	comp=Z,37nm,0.9s								
H62A	**Milan**	**35.05**	**35**	P			22 36 54.5		
	baz=230								
F59A	**Saint Guilaume**	**35.06**	**32**	P			22 36 54.4		
	baz=226								
E03A	**Leam**	**35.16**	**330**	P	**P**		**22 36 56.2**	**+0.6**	
E58A	**La Victoria**	**35.18**	**31**	P			22 36 54.6		
	baz=225								
D04E	**Lakebay**	**35.24**	**331**	P			22 36 57.3		
	baz=137								
G61A	**St-Isidore-de-**	**35.32**	**34**	P			22 36 56.9		
	baz=228								
I64A	**Boothbay**	**35.49**	**37**	P			22 36 57.4		
	baz=232								
F60A	**Warwick**	**35.56**	**32**	P			22 36 58.5		
	baz=227								
E59A	**St. Maurice**	**35.63**	**31**	P			22 36 58.4		
	baz=226								
D03D	**Eldon**	**35.65**	**331**	P			22 37 00.3		
	baz=137								
B06A	**Marblemount**	**35.69**	**334**	IAmb	IAmb		22 37 01.2		
	comp=Z,39nm,1.1s								
H63A	**New Sharon**	**35.73**	**36**	P			22 37 00.2		
	baz=231								
B05A	**Brynt**	**35.76**	**333**	P			22 37 00.9		
	baz=139								
G62A	**West of Eustis**	**35.81**	**35**	P			22 37 01.2		
	baz=230								
WVL	**Waterville**	**35.88**	**36**	P	**P**		**22 37 01.1**	**-0.7**	
WVL				IAmb	IAmb		22 37 02.5		
	comp=Z,35nm,0.8s								
MATQ	**Matagami**	**35.88**	**23**	P			22 37 00.5		
	baz=215,SNR=84								
D58A	**Chemin du LacG**	**35.88**	**30**	P			22 37 00.9		
	baz=225								
NLWA	**Neilton Lookou**	**35.91**	**330**	P	**P**		**22 37 02.6**	**+0.5**	
NLWA				IAmb	IAmb		22 37 08.8		
	comp=Z,57nm,1.1s								
FDF	**Fort de France**	**36.01**	**90**	P	**P**		**22 37 03.5**	**+0.2**	
FDF				pmax	pmax				
	comp=Z,71nm,0.9s								
FDF	**Fort de France**	**36.01**	**90**	P	**P**		**22 37 03.5**	**+0.2**	
F61A	**St Evariste**	**36.06**	**33**	P			22 37 02.9		
	baz=228								
GRGR	**Grenville**	**36.07**	**94**	P	**P**		**22 37 04.7**	**+0.8**	
E60A	**Ste Agathe de**	**36.09**	**32**	P			22 37 02.9		
	baz=227								
CZSB	**Cruzeiro do Su**	**36.13**	**133**	*e*P	**P**		**22 37 05.3**	**+1.0**	
LATQ	**La Tuque**	**36.13**	**30**	P	**P**		**22 37 02.5**	**-1.5**	
LATQ				IAmb	IAmb		22 37 03.9		
	comp=Z,27nm,1.1s								
LATQ	**La Tuque**	**36.13**	**30**	P			22 37 03.3		
	baz=224								
H64A	**Troy**	**36.17**	**36**	P			22 37 04.3		
	baz=232								
SVB	**Belmont**	**36.20**	**92**	P	**P**		**22 37 06.0**	**+1.1**	
G63A	**Kingsbury**	**36.24**	**35**	P			22 37 04.7		
	baz=231								
A05A	**Maple Falls**	**36.31**	**334**	IAmb	IAmb		22 37 09.6		
	comp=Z,42nm,0.7s								
D59A	**Saint-Raymond**	**36.33**	**31**	P			22 37 04.9		
	baz=226								
A04D	**Lummi Island**	**36.37**	**333**	P			22 37 06.0		
	baz=139								
PKME	**Peak-Kenny Pk**	**36.52**	**35**	IAmb	IAmb		22 37 08.3		
	comp=Z,44nm,0.8s								
PKME	**Peaks-Kenny Pk**	**36.52**	**35**	P			22 37 07.3		
	baz=231,SNR=14								
E61A	**Lac Etchemin**	**36.62**	**33**	P			22 37 07.6		
	baz=228								
PGC	**Sidney**	**36.64**	**332**	P	**P**		**22 37 08.9**	**+0.7**	
PGC				IAmb	IAmb		22 37 12.7		
	comp=Z,36nm,1.0s								
NNA	**Nana**	**36.71**	**143**	LR	LR		22 49 32.4		
	comp=Z,931nm,21.1s,baz=326,slow=32								
D60A	**Saint Jean D'O**	**36.72**	**32**	P			22 37 08.4		
	baz=228								
FFC	**Flin Flon**	**36.75**	**357**	P	**P**		**22 37 08.4**	**-0.7**	
FFC				pmax	pmax				
	comp=Z,40nm,0.8s								
FFC	**Flin Flon**	**36.75**	**357**	P	**P**		**22 37 08.4**	**-0.7**	
FFC				IAmb	IAmb		22 37 09.5		
	comp=Z,40nm,0.8s								
H65A	**Eastbrook**	**36.76**	**37**	P			22 37 09.0		
	baz=233								
G64A	**Maxfield**	**36.80**	**36**	P			22 37 09.1		
	baz=232								
F63A	**Nahmakanta, Br**	**36.89**	**35**	IAmb	IAmb		22 37 10.8		
	comp=Z,41nm,0.8s								
F63A	**Nahmakanta, Br**	**36.89**	**35**	P			22 37 10.0		
	baz=231								
EMMW	**East Machias**	**37.22**	**38**	P	**P**		**22 37 12.7**	**-0.5**	
EMMW				IAmb	IAmb		22 37 13.6		
	comp=Z,47nm,0.9s								
D61A	**St Aubert, Com**	**37.29**	**32**	P			22 37 13.5		
	baz=228								
H66A	**Whiting**	**37.35**	**38**	P			22 37 14.1		
	baz=234								
F64A	**Sherman**	**37.41**	**35**	P			22 37 14.4		
	baz=232								
G65A	**Princeton**	**37.45**	**37**	P			22 37 14.9		
	baz=234								
E63A	**Oxbow**	**37.71**	**35**	P			22 37 16.9		
	baz=231								
D62A	**Allapoint, All**	**37.80**	**33**	P	**P**		**22 37 17.6**	**-0.5**	
GGN	**Saint George**	**37.81**	**37**	IAmb	IAmb		22 37 18.6		
	comp=Z,48nm,0.8s								
E64A	**Bridgewater**	**38.03**	**35**	P			22 37 19.7		
	baz=232								
PQI	**Presque Isle**	**38.09**	**35**	P	**P**		**22 37 19.9**	**-0.6**	
PQI				IAmb	IAmb		22 37 20.9		
	comp=Z,42nm,1.0s								
PQI					**PcP**		**22 39 35.6**	**+0.9**	
D63A	**Stockholm**	**38.27**	**34**	P			22 37 21.8		
	baz=231								
LMN	**Caledonia Moun**	**39.41**	**38**	IAmb	IAmb		22 37 31.9		
	comp=Z,43nm,0.9s								
HAL	**Halifax**	**39.48**	**40**	P	**P**		**22 37 31.9**	**-0.4**	
HAL				pmax	pmax				
	comp=Z,35nm,0.9s								
HAL	**Halifax**	**39.48**	**40**	P	**P**		**22 37 31.9**	**-0.4**	
HAL				IAmb	IAmb		22 37 32.9		
	comp=Z,35nm,0.9s								
BATG	**Bathurst New B**	**39.52**	**35**	IAmb	IAmb		22 37 33.3		
	comp=Z,52nm,1.0s								
BOAV	**Boa Vista**	**40.40**	**108**	*e*P	**P**		**22 37 41.0**	**+0.7**	
GBN	**Guysborough**	**41.15**	**40**	P	**P**		**22 37 45.7**	**-0.3**	
ETMB	**Extrema**	**42.24**	**128**	*e*P	**P**		**22 37 55.8**	**+0.5**	
PTGA	**Pitinga**	**42.28**	**112**	P	**P**		**22 37 56.8**	**+1.0**	
PTGA	**Pitinga**	**42.28**	**112**	*e*P	**P**		**22 37 56.6**	**+0.9**	
PTGA	**Pitinga**	**42.28**	**112**	*e*P	**P**		**22 37 56.8**	**+1.0**	
MACA	**Manacapuru-AM**	**42.85**	**116**	*e*P	**P**		**22 38 00.8**	**+0.5**	
DIB	**Dawson Inlet,**	**43.91**	**331**	P	**P**		**22 38 08.9**	**+0.7**	
DIB				IAmb	IAmb		22 38 10.7		
	comp=Z,84nm,1.2s								
SAML	**Samuel**	**44.02**	**125**	P	**P**		**22 38 09.5**	**-0.2**	
SAML				pmax	pmax				
	comp=Z,81nm,1.1s								
SAML	**Samuel**	**44.02**	**125**	P	**P**		**22 38 09.5**	**-0.2**	
SAML				IAmb	IAmb		22 38 25.3		
	comp=Z,81nm,1.1s								
LPAZ	**La Paz**	**45.38**	**137**	P	**P**		**22 38 22.3**	**+1.2**	
	comp=Z,16nm,0.8s,baz=332,slow=5.8,SNR=57								
LPAZ				pP	**pP**		**22 38 36.6**	**0.0**	
	comp=Z,18nm,1.0s,baz=2.6,slow=10.0,SNR=9.1								
LPAZ				LR	LR		22 56 39.2		
	comp=Z,491nm,19.8s,baz=312,slow=35								
LPAZ	**La Paz**	**45.38**	**137**	P	**P**				
LPAZ				pmax	pmax				
	comp=Z,20nm,0.9s								
LPAZ	**La Paz**	**45.38**	**137**	P	**P**		**22 38 22.4**	**+1.2**	
LPAZ	**La Paz**	**45.38**	**137**	*e*P	**P**		**22 38 22.5**	**+1.3**	
DRLN	**Deer Lake**	**45.40**	**37**	P	**P**		**22 38 19.5**	**-0.7**	
DRLN				IAmb	IAmb		22 38 26.4		
	comp=Z,36nm,0.9s								
YKA	**Yellowknife Ar**	**45.84**	**350**	P	**P**		**22 38 22.4**	**-1.1**	
	comp=Z,22nm,0.7s,baz=155,slow=8.1,SNR=200								
YKA				pP	**pP**		**22 38 38.0**	**-0.9**	
	comp=Z,14nm,0.7s,baz=153,slow=7.8,SNR=8.0								
YKA				PcP	**PcP**		**22 40 00.0**	**0.0**	
	comp=Z,11nm,1.1s,baz=148,slow=4.0,SNR=5.2								
YKA				LR	LR		22 58 57.4		
	comp=Z,857nm,19.3s,baz=0.0,slow=38								
PB16	**IPOC Station P**	**46.04**	**140**	P	**P**		**22 38 28.0**	**+1.7**	
PB16				IAmb	IAmb		22 38 29.6		
	comp=Z,39nm,0.9s								
RPN	**Rapa Nui**	**46.06**	**193**	LR	LR		22 53 30.5		
	comp=Z,469nm,20.4s,baz=34,slow=30								
DLBC	**Dease Lake**	**46.51**	**338**	P	**P**		**22 38 29.9**	**+0.9**	
DLBC				IAmb	IAmb		22 38 31.6		
	comp=Z,43nm,1.1s								
MNMC	**Minye Minye**	**46.60**	**141**	P	**P**		**22 38 31.7**	**+1.4**	
MNMC				IAmb	IAmb		22 38 33.3		
	comp=Z,43nm,0.9s								
PSGCX	**Pisagua**	**46.65**	**142**	P	**P**		**22 38 31.8**	**+1.3**	
TA01	**Diego Aracena**	**47.37**	**143**	P	**P**		**22 38 37.5**	**+1.5**	
PB08	**IPOC Station P**	**47.64**	**141**	P	**P**		**22 38 39.8**	**+1.2**	
PB08				IAmb	IAmb		22 38 41.0		
	comp=Z,17nm,0.8s								
ITTB	**Itaituba**	**47.73**	**114**	*e*P	**P**		**22 38 38.7**	**-0.3**	
MALB	**Monte Alegre**	**47.87**	**110**	*e*P	**P**		**22 38 41.0**	**+1.0**	
JIS	**Juneau Island**	**48.05**	**335**	P	**P**		**22 38 41.1**	**+0.3**	
PB01	**IPOC Station P**	**48.14**	**142**	P	**P**		**22 38 43.0**	**+0.9**	
PB07	**IPOC Station P**	**48.45**	**143**	P	**P**		**22 38 45.7**	**+1.1**	
PB07				IAmb	IAmb		22 38 47.4		
	comp=Z,35nm,0.9s								
VILB	**Vilhena**	**48.77**	**126**	*e*P	**P**		**22 38 47.5**	**+0.5**	
PB04	**IPOC Station P**	**48.78**	**144**	P	**P**		**22 38 47.9**	**+0.8**	
PB04				IAmb	IAmb		22 38 50.7		
	comp=Z,32nm,1.1s								
PB09	**IPOC Station P**	**48.87**	**143**	P	**P**		**22 38 48.8**	**+1.0**	
PB09				IAmb	IAmb		22 38 51.1		
	comp=Z,41nm,1.0s								
TAOE	**Nuku Hiva Isla**	**48.97**	**240**	*e*LR	LR		22 52 39.6		
	comp=Z,1µm,27.9s								
MCPB	**Macapa, AP**	**49.23**	**107**	*e*P	**P**		**22 38 51.3**	**+0.8**	
NPGB	**Novo Progresso**	**49.38**	**116**	*e*P	**P**		**22 38 51.1**	**-0.6**	
PB06	**IPOC Station P**	**49.40**	**144**	P	**P**		**22 38 53.0**	**+1.1**	
PB06				IAmb	IAmb		22 38 54.1		
	comp=Z,23nm,0.8s								
LVC	**Limon Verde**	**49.70**	**143**	P	**P**		**22 38 55.9**	**+1.5**	
	baz=290,slow=9.3								
LVC				pP	**pP**		**22 39 11.4**	**+1.4**	
	baz=311,slow=8.9								
LVC				LR	LR		22 56 07.1		
	comp=Z,476nm,21.7s,baz=338,slow=31								
LVC	**Limon Verde**	**49.70**	**143**	P	**P**		**22 38 55.1**	**+0.8**	
LVC				pmax	pmax				
	comp=Z,14nm,0.9s								
LVC	**Limon Verde**	**49.70**	**143**	P	**P**		**22 38 55.1**	**+0.8**	
WHY	**Whitehorse**	**49.84**	**338**	P	**P**		**22 38 54.7**	**+0.1**	
PB15	**IPOC Station P**	**49.85**	**144**	P	**P**		**22 38 56.7**	**+1.4**	
SIV	**San Ignacio**	**50.05**	**130**	P	**P**		**22 38 56.9**	**+0.2**	
	comp=Z,18nm,0.9s,baz=314,slow=8.4,SNR=56								
SIV				pP	**pP**		**22 39 11.9**	**-0.5**	
	comp=Z,46nm,1.2s,baz=322,slow=6.7,SNR=12								
SIV				PcP	**PcP**		**22 40 17.2**	**+1.3**	
	comp=Z,17nm,1.0s,baz=337,slow=2.5,SNR=4.4								
PB14	**IPOC Station P**	**50.48**	**146**	P	**P**		**22 39 00.2**	**0.0**	
CLDB	**

GLB **Gilahina Butte** 53.75 335 P **P** 22 39 24.6 +1.0
GLB IAmb IAmb 22 39 41.0
comp=Z,25nm,0.7s
PRPB Parauapebas 53.77 112 *e*P **P** 22 39 25.1 +0.7
Q23K Middleton Isla 53.78 332 P 22 39 24.3
baz=119
MLOA Mauna Loa Obse 53.79 281 P **P** 22 39 25.9 +0.9
MWH Moku'aweowe 53.81 281 P **P** 22 39 26.6 +1.2
BMRM Bremner River 53.82 334 P **P** 22 39 25.1 +1.0
BMRM IAmb IAmb 22 39 30.6
comp=Z,30nm,0.9s
BMRM Bremner River 53.82 334 P 22 39 25.7
baz=122,SNR=9.4
KHU Kahuku 53.87 281 P **P** 22 39 26.4 +1.0
KHU pmax pmax
comp=Z,151nm,1.2s
KHU Kahuku 53.87 281 P **P** 22 39 26.4 +1.0
BCAR Beaver Creek A 53.90 337 P **P** 22 39 26.6 +1.9
L27K Beaver Creek, 53.91 337 P **P** 22 39 25.6 +0.8
L27K IAmb IAmb 22 39 27.4
comp=Z,32nm,1.1s
LCO Las Campanas 53.93 150 P **P** 22 39 27.6 +1.9
LCO pmax pmax
comp=Z,14nm,0.9s
LCO Las Campanas 53.93 150 P **P** 22 39 27.6 +1.9
AC05 El Transito 53.99 149 P **P** 22 39 27.4 +1.5
EYAK Cordova Ski Ar 54.08 333 P **P** 22 39 27.3 +1.3
EYAK IAmb IAmb 22 39 29.5
comp=Z,21nm,0.7s
EYAK Cordova Ski Ar 54.08 333 P 22 39 26.6
baz=120
N25K Chitina, Valde 54.16 335 P **P** 22 39 27.9 +1.2
N25K IAmb IAmb 22 39 29.9
comp=Z,31nm,1.1s
N25K Chitina, Valde 54.16 335 P 22 39 28.4
baz=122,SNR=14
RKT Rikitea 54.18 222 *e*S **S** 22 46 58.7 -1.6
comp=Z,514nm,30.2s
RKT *e*LR LR 22 55 19.6
comp=Z,1µm,27.2s
HIN Hinchinbrook I 54.33 333 P **P** 22 39 28.9 +1.0
HIN IAmb IAmb 22 39 30.1
comp=Z,30nm,0.8s
EPYK Eagle Plains 54.36 342 P 22 39 28.0
baz=134,SNR=9.4
FID Port Fidalgo 54.49 333 P **P** 22 39 30.2 +1.2
MENT Mentasta 54.54 337 P **P** 22 39 30.5 +1.1
MENT IAmb IAmb 22 39 32.0
comp=Z,18nm,1.0s
K27K Chicken 54.57 338 P **P** 22 39 30.8 +1.2
KLU Klutina 54.64 334 IAmb IAmb 22 39 33.1
comp=Z,36nm,1.1s
KLU Klutina 54.64 334 P 22 39 30.9
baz=121,SNR=9.3
EGAK Eagle 54.71 339 IAmb IAmb 22 39 32.1
comp=Z,20nm,0.8s
EGAK Eagle 54.71 339 P 22 39 30.8
baz=128,SNR=29
GLI Glacier Island 54.82 333 P **P** 22 39 31.7 +0.3
GLI IAmb IAmb 22 39 35.0
comp=Z,26nm,0.8s
GLI Glacier Island 54.82 333 P 22 39 31.7
baz=119
GO04 Tololo Observa 54.86 150 IAmb IAmb 22 39 34.3
comp=Z,26nm,1.1s
INK Inuvik 54.89 345 LR LR 23 04 56.5
comp=Z,1µm,18.8s,baz=116,slow=38
CO01 Juntas del Tor 55.03 150 P **P** 22 39 35.9 +2.3
M24K Tolsona, Glenn 55.06 335 P **P** 22 39 34.6 +1.4
M24K IAmb IAmb 22 39 52.3
comp=Z,30nm,0.8s
M24K Tolsona, Glenn 55.06 335 P 22 39 33.6
baz=121
DOT Dot Lake 55.07 337 IAmb IAmb 22 39 35.9
comp=Z,62nm,1.2s
SCRK Sand Creek 55.23 338 IAmb IAmb 22 39 37.1
comp=Z,48nm,1.2s
SCRK Sand Creek 55.23 338 P 22 39 35.4
baz=124,SNR=25
SCRK S 22 47 15.3
baz=124
PAX Paxson 55.23 336 IAmb IAmb 22 39 36.7
comp=Z,29nm,1.0s
PAX Paxson 55.23 336 P 22 39 35.2
baz=122,SNR=18
PWL Port Wells 55.34 333 IAmb IAmb 22 39 37.2
comp=Z,21nm,0.9s
SNDB Serra Nova Dou 55.35 119 *e*P **P** 22 39 36.8 +0.9
SCM Sheep Creek Mo 55.39 334 IAmb IAmb 22 39 41.5
comp=Z,26nm,1.1s
CO03 El Pedregal 55.47 151 IAmb IAmb 22 39 39.0
comp=Z,30nm,1.1s
SEW Seward 55.49 332 IAmb IAmb 22 39 38.7
comp=Z,34nm,1.0s
SEW Seward 55.49 332 P 22 39 37.2
baz=116
KNK Knik Glacier 55.66 334 P 22 39 38.4
baz=118
PP1B Ponte de Pedra 55.66 127 *e*P **P** 22 39 38.9 +0.8
O22K Cooper Landing 55.78 332 P **P** 22 39 38.8 +0.6
O22K Cooper Landing 55.78 332 P 22 39 38.7
baz=116
O22K S 22 47 22.6
baz=116
KIP Kipapa 55.79 284 P **P** 22 39 40.6 +1.6
KIP pmax pmax
comp=Z,61nm,0.7s
KIP Kipapa 55.79 284 P **P** 22 39 40.6 +1.6
HON Honolulu 55.79 284 P **P** 22 39 39.8 +0.8
HON pmax pmax
comp=Z,315nm,1.1s
HON Honolulu 55.79 284 P **P** 22 39 39.8 +0.8
SML Sawmill 55.79 334 P 22 39 38.9
baz=118
BRSE Bradley Lake S 55.92 331 P 22 39 39.7
baz=115
WAT6 Susitna Watana 55.93 335 P 22 39 39.9
baz=120,SNR=16
WAT6 S 22 47 24.8
baz=120
BRLK Bradley Lake 55.99 331 IAmb IAmb 22 39 56.6
comp=Z,35nm,0.7s
GHO Glory Hole Cre 56.02 334 IAmb IAmb 22 39 42.2
comp=Z,32nm,1.0s
KDAK Kodiak Island 56.02 328 P **P** 22 39 41.1 +1.0
comp=Z,11nm,0.9s,baz=212,slow=3.6,SNR=9.6
KDAK pP **pP** 22 39 55.4 -0.5
comp=Z,12nm,0.8s,baz=354,slow=11,SNR=4.3
KDAK Kodiak Island 56.02 328 P **P** 22 39 41.1 +1.0
KDAK pmax pmax
comp=Z,10.0nm,0.8s
PMR Palmer 56.03 334 P **P** 22 39 40.6 +0.6
PMR Palmer 56.03 334 P **P** 22 39 40.6 +0.6
PMR IAmb IAmb 22 39 41.5
comp=Z,28nm,1.0s
RC01 Rabbit Creek A 56.06 333 IAmb IAmb 22 39 43.1
comp=Z,21nm,0.6s
RC01 Rabbit Creek A 56.06 333 P 22 39 40.8
baz=117,SNR=8.0
CNPM China Poot 56.06 331 P **P** 22 39 41.3 +0.9
CNPM IAmb IAmb 22 39 43.0
comp=Z,45nm,1.2s
OHAK Old Harbor 56.17 328 P 22 39 40.7
baz=111
HOM Homer 56.30 331 P 22 39 42.1
baz=114
SII Sitkinak Islan 56.41 327 P 22 39 43.4
baz=109
WAT2 Susitna Watana 56.45 335 P 22 39 44.0
baz=119,SNR=30
CAPN Captain Cook N 56.54 332 P 22 39 44.8
baz=115
HDA Harding Lake 56.55 337 P 22 39 44.1
baz=122,SNR=33
HDA P 22 39 44.1
baz=122,SNR=33
HDA S 22 47 33.0
baz=122
HDA S 22 47 33.0
baz=122
PRP Porcupine Dome 56.64 339 P 22 39 45.1
baz=124,SNR=25
SUA Susitna One 56.66 333 P 22 39 45.8
baz=116,SNR=19
IL31 56.72 337 IAmb IAmb 22 39 46.9
comp=Z,53nm,1.1s
ILAR Eielson Array 56.72 337 P **P** 22 39 45.3 +0.3
comp=Z,25nm,1.1s,baz=130,slow=5.4,SNR=128
ILAR pP **pP** 22 40 00.1 -0.7
comp=Z,8.1nm,0.9s,baz=126,slow=6.9,SNR=7.5
ILAR LR LR 23 06 18.8
comp=Z,2µm,19.0s,baz=131,slow=38
ILAR Eielson Array 56.72 337 P **P** 22 39 45.5 +0.5
RND Reindeer 56.77 336 IAmb IAmb 22 39 50.3
comp=Z,42nm,1.1s
AQDB Aquidauana 56.83 130 *e*P **P** 22 39 46.2 -0.1
CUT Chulitna 56.88 334 P 22 39 46.6
baz=117
ARAG Araguaiana, MT 56.95 123 *e*P **P** 22 39 47.7 +0.4
SMTB Santa Maria do 56.97 114 *e*P **P** 22 39 48.7 +1.2
MCK McKinley 56.97 336 IAmb IAmb 22 39 48.8
comp=Z,34nm,1.0s
MCK McKinley 56.97 336 P 22 39 47.4
baz=119,SNR=11
WRH Wood River Hil 57.01 337 IAmb IAmb 22 39 50.6
comp=Z,36nm,1.2s
POKR Poker Flat Res 57.10 338 IAmb IAmb 22 39 49.5
comp=Z,50nm,1.1s
POKR Poker Flat Res 57.10 338 P 22 39 48.1
baz=121,SNR=17
POKR S 22 47 40.3
baz=121
COLA College 57.13 337 P **P** 22 39 48.2 +0.4
COLA pmax pmax
comp=Z,41nm,0.9s
COLA College 57.13 337 P **P** 22 39 48.2 +0.4
COLA IAmb IAmb 22 39 49.3
comp=Z,41nm,0.9s
COLA College 57.13 337 P 22 39 48.0
baz=121
TCOL CIGO, UAF Yank 57.13 337 IAmb IAmb 22 39 49.3
comp=Z,42nm,0.9s
TCOL CIGO, UAF Yank 57.13 337 P 22 39 48.0
baz=121,SNR=6.0
VA03 San Esteban 57.15 152 P **P** 22 39 49.5 +1.0
SPCR Spurr Chakacha 57.19 332 P 22 39 48.9
baz=114,SNR=9.8
SKT Skwentna 57.22 333 IAmb IAmb 22 39 50.0
comp=Z,26nm,0.8s
SKT Skwentna 57.22 333 P 22 39 49.1
baz=115,SNR=15
MDM Murphy Dome 57.31 337 IAmb IAmb 22 39 50.6
comp=Z,22nm,1.1s
TRF Thorofare Moun 57.37 335 P 22 39 50.5
baz=118,SNR=37
TRF S 22 47 40.7
baz=118
BMAR Burnt Mountain 57.42 341 P **P** 22 39 50.6 +0.7
NEA2 Nenana 57.44 337 P 22 39 50.3
baz=119,SNR=8.8
NEA2 S 22 47 42.7
baz=119
ROSB Rosrio 57.50 106 *e*P **P** 22 39 52.2 +1.0
MT05 Renca 57.60 152 P **P** 22 39 53.5 +1.9
MT05 IAmb IAmb 22 40 11.9
comp=Z,25nm,0.6s
KTH Kantishna Hill 57.66 335 IAmb IAmb 22 40 08.9
comp=Z,19nm,0.8s
SFJD Kangerlussuaq 57.79 20 *i* P **P** 22 39 52.7 +0.3
comp=Z,22nm,0.8s
SFJD Kangerlussuaq 57.79 20 P **P** 22 39 52.9 +0.5
SFJD pmax pmax
comp=Z,38nm,0.9s
SFJD Kangerlussuaq 57.79 20 P **P** 22 39 52.9 +0.5
SFJD Kangerlussuaq 57.79 20 *i* P **P** 22 39 52.8 +0.3
SFJD IAmb IAmb 22 39 53.4
comp=Z,22nm,0.8s
I23K Minto, Yukon-K 57.82 337 P 22 39 53.4
baz=119,SNR=56
I23K S 22 47 48.5
baz=119
PPLA Purkeypile 57.89 334 P 22 39 53.7
baz=115,SNR=21
PPLA S 22 47 49.6
baz=115
PEXB Peixe 57.93 117 *e*P **P** 22 39 55.2 +0.9
BPAW Bear Paw Mtn. 57.94 336 IAmb IAmb 22 39 55.4
comp=Z,40nm,1.1s
BPAW Bear Paw Mtn. 57.94 336 P 22 39 53.8
baz=117,SNR=24
BPAW S 22 47 51.1
baz=117
MLY Manley 58.28 337 P 22 39 56.6
baz=118,SNR=58
MLY S 22 47 54.9
baz=118
CHUM Lake Minchumin 58.37 335 P 22 39 56.6
baz=116,SNR=6.9
CHUM S 22 47 57.5
baz=116
CHGN Chignik 58.57 326 P 22 39 57.2
baz=105
SVW2 Sparrevohn 58.66 332 IAmb IAmb 22 39 59.9
comp=Z,21nm,0.9s
BO02 Sierra Bellavi 58.77 153 P **P** 22 40 00.8 +1.0
BO02 IAmb IAmb 22 40 16.8
comp=Z,22nm,1.1s
ILULI Ilulissat 58.90 18 P **P** 22 39 59.7 -0.4
ILULI pmax pmax
comp=Z,39nm,1.1s
ILULI Ilulissat 58.90 18 P **P** 22 39 59.7 -0.4
ILULI IAmb IAmb 22 40 01.2
comp=Z,39nm,1.1s
COLD Coldfoot 59.15 339 IAmb IAmb 22 40 03.7
comp=Z,23nm,1.0s
COLD Coldfoot 59.15 339 P 22 40 02.9
baz=120,SNR=18
COLD S 22 48 06.3
baz=120
SDPT Sand Point 59.47 324 P 22 40 05.0
baz=103
CPUP Villa Florida 59.55 137 P **P** 22 40 05.5 +0.2
comp=Z,27nm,1.1s,baz=328,slow=7.9,SNR=35
CPUP pP **pP** 22 40 20.9 -0.4
comp=Z,9.2nm,0.9s,baz=330,slow=8.4,SNR=3.7
CPUP LR LR 23 04 26.9
comp=Z,268nm,21.2s,baz=324,slow=35
CPUP Villa Florida 59.55 137 IAmb IAmb 22 40 06.2
comp=Z,40nm,1.1s
CPUP Villa Florida 59.55 137 *e*P **P** 22 40 03.9 -1.4
TOLK Toolik Lake Re 59.66 341 IAmb IAmb 22 40 07.3
comp=Z,44nm,1.1s
TOLK Toolik Lake Re 59.66 341 P 22 40 05.9
baz=121,SNR=25
TOLK S 22 48 11.8
baz=121
NUUG Nuugaatsiaq 59.73 15 *i* P **P** 22 40 06.1 +0.3
NUUG IAmb IAmb 22 40 06.5
comp=Z,50nm,1.3s
IMAR Indian Mountai 59.83 337 P **P** 22 40 05.9 -0.7
UPNV Upernavik 59.84 13 *i* P **P** 22 40 06.1 -0.5
UPNV IAmb IAmb 22 40 07.2
comp=Z,18nm,1.1s
BDFB Brasilia 59.98 121 P **P** 22 40 09.8 +1.3
comp=Z,39nm,0.9s,baz=294,slow=8.6,SNR=50
BDFB pP **pP** 22 40 24.7 +0.2
comp=Z,35nm,0.9s,baz=235,slow=7.6,SNR=10
BDFB LR LR 23 07 29.6
comp=Z,339nm,19.7s,baz=305,slow=37
BI02 San Fabin de 60.17 155 IAmb IAmb 22 40 27.1
comp=Z,25nm,1.1s
ITRB Iturama 60.35 126 *e*P **P** 22 40 11.6 +0.6
TULEG Thule 60.52 8 *i* P **P** 22 40 10.8 -0.3
TULEG IAmb IAmb 22 40 13.8
comp=Z,17nm,1.0s
NBPS Pedro II - PI 60.54 106 *e*P **P** 22 40 13.4 +1.0
PCMB Pacaembu 60.78 128 *e*P **P** 22 40 13.9 +0.1
SDBA SAO DESIDERIO 60.97 116 *e*P **P** 22 40 16.0 +0.8
FALS False Pass 61.03 323 P **P** 22 40 15.6 +0.6
FALS False Pass 61.03 323 P 22 40 14.7
baz=100
IPMB Ipameri, GO 61.08 123 *e*P **P** 22 40 16.3 +0.4
PPT Papeete 61.38 238 LR LR 22 59 35.9
comp=Z,355nm,21.5s,baz=4.0,slow=29
PPT2 Papeete2 61.39 238 *e*LR LR 22 58 30.2
comp=Z,2µm,27.0s
NBMO Morrinhos-CE 61.41 104 *e*P **P** 22 40 19.3 +1.0
PTGB Pitanga 62.09 132 *e*P **P** 22 40 22.9 +0.3
ITQB Itaqui 62.30 139 *e*P **P** 22 40 24.8 +0.9
BB19B Bebedouro 62.54 126 *e*P **P** 22 40 26.3 +0.7
NBPB Pedra_Branca-C 62.70 106 *e*P **P** 22 40 27.3 +0.4
JANB Januaria 62.75 118 *e*P **P** 22 40 28.0 +0.8
A21K Barrow 63.06 342 P **P** 22 40 28.2 -0.1
A21K Barrow 63.06 342 P 22 40 27.5
baz=115
NBCL Cascavel-CE 63.38 104 *e*P **P** 22 40 32.5 +1.1
ITAB Concordia 63.63 134 *e*P **P** 22 40 33.5 +0.8
RDOG Red Dog Mine 63.93 338 IAmb IAmb 22 40 35.8
comp=Z,48nm,1.2s
RDOG Red Dog Mine 63.93 338 P 22 40 34.4
baz=107,SNR=12
ANM Nome 63.97 334 P 22 40 35.2
baz=103,SNR=28
PLCA Paso Flores 63.97 157 P **P** 22 40 36.4 +1.6
comp=Z,5.3nm,0.8s,baz=332,slow=8.5,SNR=9.1
PLCA pP **pP** 22 40 50.7 -0.3
comp=Z,9.4nm,0.9s,baz=316,slow=7.6,SNR=6.5
PLCA LR LR 23 02 14.6
comp=Z,527nm,20.6s,baz=347,slow=30
PLCA Paso Flores 63.97 157 P **P** 22 40 36.0 +1.2
PLCA pmax pmax
comp=Z,17nm,1.1s
PLCA Paso Flores 63.97 157 P **P** 22 40 36.0 +1.2
PLCA Paso Flores 63.97 157 *e*P **P** 22 40 35.6 +0.8
NIKH Nikolski High 63.98 321 P **P** 22 40 34.6 -0.1
NIKH Nikolski High 63.98 321 P 22 40 34.6
baz=94
SUMG Summit 64.17 17 *i* P **P** 22 40 36.9 +0.8
comp=Z,80nm,0.9s
SUMG Summit 64.17 17 P **P** 22 40 35.2 -0.9
SUMG pmax pmax
comp=Z,31nm,0.9s
SUMG Summit 64.17 17 P **P** 22 40 35.2 -0.9
SUMG IAmb IAmb 22 40 38.2
comp=Z,31nm,0.9s
SUMG Summit 64.17 17 *i* P **P** 22 40 36.9 +0.8
SUMG IAmb IAmb 22 40 38.0
comp=Z,80nm,0.9s
NBMA Muriti-CE 64.17 108 *e*P **P** 22 40 38.1 +1.4
NBPN Ponto Novo - B 64.35 112 *e*P **P** 22 40 38.5 +0.8
TBI Tubuai 64.49 232 *e*S **S** 22 49 12.7 -0.8
comp=Z,163nm,33.5s
TBI Tubuai 64.49 232 *e*LR LR 23 00 04.3
comp=Z,1µm,28.0s
TIJ01 Guaruva-PR 64.66 130 *e*P **P** 22 40 40.8 +1.2
SPB Sao Paulo 64.81 128 P **P** 22 40 40.5 0.0
SPB IAmb IAmb 22 40 41.6
comp=Z,28nm,1.1s
SPB Sao Paulo 64.81 128 *e*P **P** 22 40 41.0 +0.5
CPSB Cacapava Do Su 64.82 137 *e*P **P** 22 40 41.0 +0.6
VAO Valinhos 64.83 127 *e*P **P** 22 40 41.8 +1.1
DIAM Diamantina, MG 64.90 121 *e*P **P** 22 40 41.8 +0.4
NBPA Parau_RN 65.04 105 *e*P **P** 22 40 43.9 +1.7
PET01 Itanhaem-SP 65.33 128 *e*P **P** 22 40 44.6 +0.8
BSCB Bom Sucesso 65.42 124 *e*P **P** 22 40 45.5 +0.8
NBTA Tacaratu-PE 65.52 109 *e*P **P** 22 40 46.9 +1.5
PLTB Pedras Altas 65.62 139 *e*P **P** 22 40 46.3 +0.6
NBLI Livramento-PB 65.82 107 *e*P **P** 22 40 49.2 +1.9
PARB Paraiba 66.04 127 *e*P **P** 22 40 49.2 +0.7
GDU01 Guandu, BA 66.17 114 *e*P **P** 22 40 50.6 +1.1
RCBR Riachuelo 66.18 105 P **P** 22 40 51.6 +1.9
comp=Z,19nm,1.0s,baz=7.1,slow=11,SNR=5.4
RCBR Riachuelo 66.18 105 P **P** 22 40 49.6 -0.1
RCBR pmax pmax
comp=Z,21nm,0.9s
RCBR Riachuelo 66.18 105 P **P** 22 40 49.6 -0.1
RCBR IAmb IAmb 22 40 52.0
comp=Z,21nm,0.9s
RCBR Riachuelo 66.18 105 *e*P **P** 22 40 51.0 +1.4
TER01 Tubaro-SC 66.51 133 *e*P **P** 22 40 52.8 +1.4
NBLA Lagarto - SE 66.55 111 *e*P **P** 22 40 52.8 +0.9
ESAR Angra dos Reis 66.77 126 *e*P **P** 22 40 54.4 +1.3
NBPV Pedro Velho 66.97 105 *e*P **P** 22 40 56.1 +1.5
MAN01 Angra dos Reis 67.06 125 *e*P **P** 22 40 56.4 +1.3
SJMB Sao Joao De Ma 67.15 120 *e*P **P** 22 40 56.5 +0.9
VAS01 Vassouras-RJ 67.15 124 *e*P **P** 22 40 56.9 +1.2
NBAN Anadia - AL 67.35 109 *e*P **P** 22 40 58.1 +1.0
BSFB Barra de Sao F 67.49 120 *e*P **P** 22 40 59.1 +1.3
NAN01 Guarapari, ES 67.61 119 *e*P **P** 22 40 59.7 +1.1
DUB01 Friburgo-RJ 67.89 124 *e*P **P** 22 41 02.0 +1.6
NBRF Rio Formoso - 67.99 107 *e*P **P** 22 41 02.5 +1.4
RIB01 Linhares ES 68.10 120 *e*P **P** 22 41 02.5 +0.9
CAM01 Campos-RJ 68.33 123 *e*P **P** 22 41 04.7 +1.7
ALF01 Guarapari-ES 68.47 122 *e*P **P** 22 41 05.3 +1.4
DAG Danmarks Havn 70.29 14 *i* P **P** 22 41 12.5 -1.8
comp=Z,40nm,1.0s
DAG Danmarks Havn 70.29 14 *i* P **P** 22 41 12.5 -1.8
DAG Danmarks Havn 70.29 14 *i* P **P** 22 41 12.5 -1.8
DAG IAmb IAmb 22 41 15.2
comp=Z,40nm,1.0s
NOR Nord 71.12 9 *i* P **P** 22 41 19.9 +0.6
comp=Z,94nm,1.4s
NOR Nord 71.12 9 *i* P **P** 22 41 19.9 +0.6
NOR Nord 71.12 9 *i* P **P** 22 41 20.0 +0.6
NOR IAmb IAmb 22 41 20.9
comp=Z,94nm,1.4s
AMKA Amchitka 71.28 319 P **P** 22 41 21.0 +0.3
BILL Bilibino 75.38 337 *ce*P **P** 22 41 45.1 +0.5
BILL *e* 22 41 56.5
BILL *e**PP **pP** 22 42 00.5 -0.5
BILL *e**SP **sP** 22 42 06.2 -1.3
BILL *e* 22 44 32.6
BILL *e*PPP PPP 22 46 15.8
BILL *e*S **S** 22 51 19.6 -0.2
BILL *e*SS **SS** 22 56 10.5 +0.2
BILL pmax pmax
comp=Z,209nm,1.7s
BILL MLR MLR
comp=Z,189nm,18.0s
BILL Bilibino 75.38 337 P **P** 22 41 45.6 +1.0
KBS Kingsbay 76.30 11 *ce*P **P** 22 41 48.9 -0.7
KBS pmax pmax
comp=Z,104nm,1.3s
KBS Kingsbay 76.30 11 P **P** 22 41 51.3 +1.6
KPL Plockton 76.59 34 *e*P **P** 22 41 51.5 -0.1
KPL IAmb IAmb 22 41 52.6
comp=Z,61nm,1.1s
LAWE Loch Awe, Argy 76.97 35 *e*P **P** 22 41 53.4 -0.3
LAWE IAmb IAmb 22 41 55.2
comp=Z,97nm,1.3s
SPA0 Spitsbergen Ar 77.42 11 P **P** 22 41 56.0 0.0
SPA0 IAmb IAmb 22 41 59.6
comp=Z,42nm,1.1s
SPA0 Spitsbergen Ar 77.42 11 *e*P **P** 22 41 56.5 +0.5
MLA1 Latheron 77.57 33 *e*P **P** 22 41 57.4 +0.3
PGBU Glenifferbraes 77.57 35 *e*P **P** 22 41 57.8 +0.7
PGBU IAmb IAmb 22 41 58.7
comp=Z,107nm,1.2s
INVG Invergeldie, C 77.66 35 *e*P **P** 22 41 58.3 +0.6
HSPB Hornsund (broa 77.81 12 *e*P **P** 22 42 00.2 +2.1
EDI Edinburgh 78.25 35 *e*P **P** 22 42 01.7 +0.8
EDI IAmb IAmb 22 42 02.5
comp=Z,158nm,1.5s
EBL Broad Law 78.37 35 *e*P **P** 22 42 02.4 +0.8
DRUM Mains of Drumt 78.37 34 *e*P **P** 22 42 02.5 +0.9
DRUM IAmb IAmb 22 42 03.2
comp=Z,76nm,1.0s
ESK Eskdalemuir 78.39 36 *e*P **P** 22 41 01.4 -0.3
ESK IAmb IAmb 22 42 03.1
comp=Z,71nm,1.2s
ESK Eskdalemuir 78.39 36 P **P** 22 42 01.8 +0.1
ESK pmax pmax
comp=Z,62nm,1.1s
ESK Eskdalemuir 78.39 36 P **P** 22 42 01.8 +0.1
ESK IAmb IAmb 22 42 03.4
comp=Z,62nm,1.1s
PGAV Gavieira, Arco 78.41 50 *e*P **P** 22 42 02.6 +0.3
comp=Z,87nm,1.9s
ESY Stoneypath 78.56 35 *e*P **P** 22 42 03.3 +0.6
PSBE So Bento 78.60 52 *e*P **P** 22 42 04.6 +1.3
comp=Z,115nm,1.2s
PSBE *e*pP **sP** 22 42 26.1 -0.2
PCAS Casmilo, Conde 78.70 52 *e*P **P** 22 42 05.3 +1.5
comp=Z,192nm,1.2s
PCAS *e*pP **sP** 22 42 26.6 -0.2
COI Coimbra 78.72 51 P **P** 22 42 04.3 +0.4
COI pmax pmax
comp=Z,101nm,1.2s
COI Coimbra 78.72 51 *e*P **P** 22 42 05.2 +1.3
comp=Z,104nm,1.2s
COI Coimbra 78.72 51 P **P** 22 42 04.3 +0.4
POLO Lamas de Olo 78.90 50 *e*P **P** 22 42 04.7 -0.2
comp=Z,33nm,1.3s
POLO *e*pP **sP** 22 42 27.3 -0.7
PVRL Vila Real 78.98 50 *e*P **P** 22 42 06.2 +0.9
comp=Z,59nm,1.4s
PVIS Viseu 78.98 51 *e*P **P** 22 42 06.1 +0.7

PVIS comp=Z,90nm,1.2s *e*pP **sP** **22 42 27.6 -0.8**
PTEO Sao Teotonio 79.14 54 *e*P **P** **22 42 07.7 +1.5**
comp=Z,162nm,1.6s
PMTG Montargil 79.14 52 *e*P **P** **22 42 07.3 +1.1**
comp=Z,110nm,1.4s
PMTG *e*pP **sP** **22 42 28.6 -0.6**
PNCL Nicolau / Gran 79.15 53 *e*P **P** **22 42 07.4 +1.2**
comp=Z,42nm,1.0s
PNCL *e*pP **sP** **22 42 28.7 -0.5**
PFVI Vila Bisbo 79.16 54 *e*P **P** **22 42 07.8 +1.5**
comp=Z,180nm,1.4s
PFVI Vila Bisbo 79.16 54 P **P** **22 42 06.0 -0.3**
EDMD Edmundbyers 79.21 36 *e*P **P** **22 42 07.4 +1.1**
EDMD lAmb lAmb 22 42 08.1
comp=Z,100nm,1.0s
MORF Marmelete 79.25 54 *e*P **P** **22 42 07.8 +0.9**
MORF AMb AMB 22 42 09.3
comp=Z,80nm,1.5s
MORF Marmelete 79.25 54 *e*P **P** **22 42 07.8 +0.9**
MORF Marmelete 79.25 54 *e*P **P** **22 42 08.0 +1.1**
comp=Z,82nm,1.4s
HLM1 Long Mynd 79.31 38 *e*P **P** **22 42 06.5 -0.3**
HLM1 lAmb lAmb 22 42 08.4
comp=Z,157nm,1.7s
MTE Manteigas 79.32 51 *e*P **P** **22 42 08.2 +1.0**
comp=Z,91nm,1.2s
MTE *e*pP **sP** **22 42 29.5 -0.8**
MTE Manteigas 79.32 51 P **P** **22 42 07.4 +0.2**
EVO Evora 79.44 53 *e*P **P** **22 42 09.1 +1.3**
comp=Z,73nm,1.3s
EVO *e*pP **sP** **22 42 30.5 -0.3**
MESJ Messejana 79.45 54 *e*P **P** **22 42 08.7 +0.7**
MESJ AMb AMB 22 42 11.0
comp=Z,67nm,1.3s
MESJ Messejana 79.45 54 *e*P **P** **22 42 08.6 +0.7**
MESJ Messejana 79.45 54 *e*P **P** **22 42 09.1 +1.2**
comp=Z,78nm,1.3s
MESJ *e*pP **sP** **22 42 30.7 -0.2**
MVO Moncorvo 79.51 50 *e*P **P** **22 42 09.4 +1.1**
comp=Z,85nm,1.6s
MVO *e*pP **sP** **22 42 30.9 -0.4**
PCBR Castelo Branco 79.51 52 *e*P **P** **22 42 09.3 +1.1**
comp=Z,86nm,1.4s
PCBR *e*pP **sP** **22 42 30.6 -0.6**
MONM Monmouth 79.54 39 *e*P **P** **22 42 08.4 +0.3**
MONM lAmb lAmb 22 42 09.8
comp=Z,79nm,1.3s
PBRG Braganca 79.55 49 *e*P **P** **22 42 09.5 +1.0**
comp=Z,53nm,1.4s
PBRG *e*pP **sP** **22 42 30.8 -0.7**
PCVE Castro Verde 79.64 54 *e*P **P** **22 42 10.3 +1.3**
comp=Z,66nm,1.2s
PCVE *e*pP **sP** **22 42 31.9 -0.1**
PESTR Estremoz 79.67 53 P **P** **22 42 08.6 -0.5**
PESTR lAmb lAmb 22 42 11.0
comp=Z,25nm,1.0s
PBEJ Beja 79.67 53 *e*P **P** **22 42 10.4 +1.3**
comp=Z,29nm,1.0s
PBEJ *e*pP **sP** **22 42 31.9 -0.3**
PMRV Marv??o 79.68 52 *e*P **P** **22 42 10.1 +0.9**
comp=Z,93nm,1.3s
PMRV *e*pP **sP** **22 42 31.6 -0.6**
PBDV Barranco-do-Ve 79.82 54 *e*P **P** **22 42 11.8 +1.8**
comp=Z,112nm,1.4s
PBDV *e*pP **sP** **22 42 33.3 +0.3**
PVAQ Vaqueiros 79.95 54 *e*P **P** **22 42 12.2 +1.6**
comp=Z,92nm,1.3s
PVAQ *e*pP **sP** **22 42 33.5 -0.1**
PVAQ Vaqueiros 79.95 54 P **P** **22 42 10.8 +0.2**
CWF Charnwood Fore 80.17 38 *e*P **P** **22 42 11.4 -0.1**
PBAR Barrancos 80.27 53 *e*P **P** **22 42 13.6 +1.3**
comp=Z,72nm,1.3s
PBAR *e*pP **sP** **22 42 35.0 -0.4**
FOO Floro 80.64 28 *e*P **P** **22 42 15.2 +1.4**
SUE Sulen 80.70 29 *e*P **P** **22 42 14.2 +0.1**
BER Bergen 81.20 29 *e*P **P** **22 42 17.0 +0.2**
AKN Aaknes 81.29 27 *e*P **P** **22 42 17.7 +0.4**
HYA Hoyanger 81.31 28 *e*P **P** **22 42 17.5 +0.1**
LOF Lofoten 81.34 21 *e*P **P** **22 42 18.3 +0.8**
MOL Molde 81.38 27 *e*P **P** **22 42 18.6 +0.9**
KMY Karmoy 81.58 30 *e*P **P** **22 42 18.9 +0.1**
PAB San Pablo 81.91 51 P **P** **22 42 21.8 +0.6**
PAB pmax pmax
comp=Z,38nm,1.0s
PAB San Pablo 81.91 51 P **P** **22 42 21.8 +0.6**
PAB lAmb lAmb 22 42 22.9
comp=Z,38nm,0.9s
KONS Konsvik 81.93 22 *e*P **P** **22 42 21.4 +0.8**
STOK Stokkvaagen 81.97 22 *e*P **P** **22 42 21.0 +0.2**
ODD1 Odda 81.97 29 *e*P **P** **22 42 22.4 +1.4**
STEI Steigen 82.00 20 *e*P **P** **22 42 22.0 +1.1**
BLS5 Blasjo 82.08 30 *e*P **P** **22 42 22.3 +0.8**
ESDC Sonseca Array 82.16 51 P **P** **22 42 23.3 +0.9**
comp=Z,22nm,1.1s,baz=301,slow=4.4,SNR=33
ESDC pP **pP** **22 42 38.8 -0.2**
comp=Z,5.4nm,1.0s,baz=296,slow=5.9,SNR=3.9
ESDC sP **sP** **22 42 44.8 -0.7**
comp=Z,11nm,0.8s,baz=300,slow=5.4,SNR=6.4
ESDC LR LR 23 16 45.3
comp=Z,146nm,20.2s,baz=305,slow=34
ESDC Sonseca Array 82.16 51 P **P** **22 42 23.3 +0.9**
ESDC lAmb lAmb 22 42 25.8
comp=Z,36nm,1.1s
ESBB Sonseca Array 82.16 51 P **P** **22 42 23.1 +0.6**
ESBB lAmb lAmb 22 42 24.1
comp=Z,29nm,1.1s
DOMB Dombas 82.24 27 *e*P **P** **22 42 23.8 +1.5**
FAUS Fauske 82.28 21 *e*P **P** **22 42 23.3 +0.9**
TRO Tromso 82.31 18 *e*P **P** **22 42 23.6 +1.1**
NSS Namsos 82.38 24 *e*P **P** **22 42 23.7 +0.7**
SKAR Skarslia 82.45 28 *e*P **P** **22 42 24.3 +0.8**
SEY Seymchan 82.47 334 P **P** **22 42 25.0 +1.5**
comp=Z,40nm,1.1s,baz=86,slow=4.3,SNR=72
SEY Seymchan 82.47 334 ⇓*i*P **P** **22 42 24.3 +0.8**
MOR8 Moi Rana 82.56 22 *e*P **P** **22 42 25.3 +1.4**
MFF Saint Martin d 82.74 43 *e*P **P** **22 42 25.2 0.0**
MFF pmax pmax
comp=Z,43nm,1.2s
JETT Jettan, Norway 82.79 18 *e*P **P** **22 42 26.0 +0.9**
SNART Snartemo 82.85 31 *e*P **P** **22 42 26.6 +1.1**
SNART Snartemo 82.85 31 *i*P **P** **22 42 27.5 +2.0**
HAMF Hammerfest 83.09 17 *e*P **P** **22 42 26.9 +0.4**
PET Petropavlovsk 83.25 324 *de*P **P** **22 42 29.0 +1.3**
PET *e**PP **pP** **22 42 44.2 -0.1**
PET *e*S S **22 52 44.3 +0.7**
PET *e*SS **SS** **22 58 09.2 +0.6**
PET pmax pmax
comp=Z,150nm,1.4s
PET pmax pmax
comp=Z,300nm,14.1s
PET Petropavlovsk 83.25 324 P **P** **22 42 28.7 +1.0**
PET lAmb lAmb 22 42 35.5
comp=Z,23nm,1.1s
NC204 NORSAR Array S 83.30 27 P **P** **22 42 28.8 +0.9**
NC204 lAmb lAmb 22 42 29.8
comp=Z,23nm,0.8s
NBO00 NORSAR Array S 83.41 28 P **P** **22 42 29.4 +1.0**
KONO Kongsberg 83.46 29 P **P** **22 42 30.6 +2.0**
KONO pmax pmax
comp=Z,247nm,1.1s
KONO Kongsberg 83.46 29 P **P** **22 42 30.6 +2.0**
KONO Kongsberg 83.46 29 *e*P **P** **22 42 30.7 +2.0**
HOMB Homborsund 83.51 31 *e*P **P** **22 42 30.8 +1.9**
HOMB Homborsund 83.51 31 *i*P **P** **22 42 31.2 +2.3**
HOMB lAmb lAmb 22 42 31.7
comp=Z,208nm,1.2s
NC303 NORSAR Array S 83.58 27 P **P** **22 42 29.8 +0.6**
NB2 NORSAR Subarra 83.59 27 P **P** **22 42 31.0 +1.6**
comp=Z,243nm,1.2s,baz=300,slow=5.1
NB2 NORSAR Subarra 83.59 27 P **P** **22 42 31.0 +1.6**
baz=300,slow=5.1
NOA NORSAR Array B 83.59 27 P **P** **22 42 30.9 +1.6**
comp=Z,57nm,1.0s,baz=300,slow=5.1,SNR=98
NOA NORSAR Array B 83.59 27 P **P** **22 42 31.0 +1.6**
NB201 NORSAR Array S 83.62 27 P **P** **22 42 30.6 +1.1**
MDT Midelt 83.67 58 P **P** **22 42 31.6 +1.2**
comp=Z,26nm,1.1s,baz=306,slow=4.8,SNR=26
MDT pP **pP** **22 42 47.7 +0.6**
comp=Z,12nm,0.9s,baz=279,slow=4.3,SNR=5.4
PEA0B Petropavlovsk- 83.75 324 P **P** **22 42 31.3 +1.0**
PEA0B pmax pmax
comp=Z,93nm,1.0s
PEA0B Petropavlovsk- 83.75 324 P **P** **22 42 31.3 +1.0**
comp=Z,90nm,1.6s
PETK Petropavlovsk- 83.75 324 P **P** **22 42 31.8 +1.5**
comp=Z,72nm,1.0s,baz=78,slow=10,SNR=66
PETK pP **pP** **22 42 47.4 +0.4**
comp=Z,11nm,0.6s,baz=63,slow=9.1,SNR=5.0
PETK LR LR 23 19 36.9
comp=Z,146nm,20.1s,baz=62,slow=36
PETK Petropavlovsk- 83.75 324 P **P** **22 42 31.3 +1.0**
NC405 NORSAR Array S 83.78 27 P **P** **22 42 31.4 +1.1**
CLF Chambon-Foret 83.82 42 lAmb lAmb 22 42 36.4
comp=Z,41nm,1.1s
OSL Oslo 83.85 29 *e*P **P** **22 42 32.2 +1.6**
NC602 NORSAR Array S 83.87 28 P **P** **22 42 32.0 +1.3**
NC602 lAmb lAmb 22 42 36.1
comp=Z,16nm,0.8s
NC602 NORSAR Array S 83.87 28 *e*P **P** **22 42 32.4 +1.6**
KTK1 Kautokeino 83.93 18 *e*P **P** **22 42 31.8 +0.9**
UCC Uccle 84.13 38 *d*P **P** **22 42 33.0 +0.8**
UCC *dx* x 22 42 54.4
UCC Uccle 84.13 38 P **P** **22 42 33.0 +0.8**
UCC pmax pmax
comp=Z,93nm,1.2s
UCC Uccle 84.13 38 P **P** **22 42 33.0 +0.8**
SNF Seneffe 84.19 39 *d*P **P** **22 42 33.6 +1.1**
comp=Z,57nm,1.8s
SNF *dp*P **pP** **22 42 49.5 +0.3**
SNF *ds*P **sP** **22 42 55.1 -0.5**
ARA0 ARCESS Array S 84.26 17 *e*P **P** **22 42 32.9 +0.3**
ARCES ARCESS Array B 84.26 17 P **P** **22 42 33.9 +1.3**
comp=Z,44nm,0.9s,baz=306,slow=4.3,SNR=27
ARCES pP **pP** **22 42 49.3 0.0**
comp=Z,5.7nm,0.6s,baz=340,slow=1.8,SNR=2.0
ARCES LR LR 23 22 04.2
comp=Z,267nm,21.7s,baz=310,slow=37
ARCES ARCESS Array B 84.26 17 P **P** **22 42 33.7 +1.1**
ARCES pmax pmax
comp=Z,66nm,1.0s
ARCES ARCESS Array B 84.26 17 P **P** **22 42 33.7 +1.1**
DOU Dourbes 84.53 39 *k*P **P** **22 42 34.8 +0.5**
DOU *dx* x 22 42 56.1
KEV Kevo 84.54 17 P **P** **22 42 35.5 +1.6**
KEV pmax pmax
comp=Z,31nm,0.9s
KEV Kevo 84.54 17 P **P** **22 42 35.5 +1.6**
KEV lAmb lAmb 22 42 36.0
comp=Z,31nm,0.9s
BMRD Maredsous 84.55 39 *d*P **P** **22 42 35.6 +1.2**
comp=Z,96nm,1.5s
BMRD *dx* x 22 42 57.0
MUD Monsted U'grnd 84.58 32 *i*P **P** **22 42 34.9 +0.5**
comp=Z,96nm,1.3s
MUD Monsted U'grnd 84.58 32 *i*P **P** **22 42 34.9 +0.5**
MUD Monsted U'grnd 84.58 32 *i*P **P** **22 42 34.9 +0.5**
MUD lAmb lAmb 22 42 36.9
comp=Z,96nm,1.3s
MA2 Magadan 84.64 331 P **P** **22 42 36.2 +1.5**
comp=Z,95nm,1.1s,baz=63,slow=4.6,SNR=114
MA2 pP **pP** **22 42 51.7 +0.4**
comp=Z,16nm,0.8s,baz=76,slow=7.4,SNR=3.5
MA2 Magadan 84.64 331 *ce*P **P** **22 42 35.9 +1.2**
MA2 pmax pmax
comp=Z,162nm,1.3s
MA2 Magadan 84.64 331 P **P** **22 42 35.7 +1.0**
BGES Gesves 84.71 39 *k*P **P** **22 42 36.4 +1.1**
comp=Z,105nm,1.5s
BGES *dx* x 22 42 57.8
CAF Calviac 84.75 45 *e*P **P** **22 42 35.3 -0.3**
CAF pmax pmax
comp=Z,61nm,1.4s
BCLA Clavier 84.83 39 *d*P **P** **22 42 37.1 +1.3**
BCLA *dx* x 22 42 58.3
HLG Helgoland 84.83 34 *e*P **P** **22 42 37.0 +1.3**
comp=Z,269nm,1.2s,baz=296,slow=4.6
HLG *es*P **sP** **22 42 59.1 +0.3**
baz=297,slow=4.7
RCHB Rochefort 84.88 39 *d*P **P** **22 42 37.2 +1.1**
comp=Z,84nm,0.0s
RCHB *dx* x 22 42 58.8
BEBN Eben Emael 84.91 38 *d*P **P** **22 42 37.2 +1.0**
BEBN *dx* x 22 42 58.6
BSTI Sart Tilman 84.92 38 *d*P **P** **22 42 37.4 +1.2**
BSTI *dx* x 22 42 58.3
TIXI Tiksi 84.99 346 P **P** **22 42 36.5 +0.3**
comp=Z,77nm,1.0s,baz=25,slow=4.8,SNR=151
TIXI Tiksi 84.99 346 *ce*P **P** **22 42 36.6 +0.5**
TIXI pmax pmax
comp=Z,807nm,1.3s
TIXI Tiksi 84.99 346 P **P** **22 42 35.8 -0.4**
MEM Membach 85.17 38 *d*P **P** **22 42 39.0 +1.5**
comp=Z,57nm,1.4s
MEM *dp*P **pP** **22 42 54.9 +0.7**
MEM *dx* x 22 42 59.9
BTNL Ternell 85.25 38 *d*P **P** **22 42 39.1 +1.2**
comp=Z,41nm,1.6s
BTNL *dx* x 22 43 00.3
BHOU Houvegnez 85.27 38 *d*P **P** **22 42 39.4 +1.3**
BHOU *dp*P **pP** **22 42 55.3 +0.6**
BHOU *ds*P **sP** **22 43 01.2 0.0**
SKMB Sankelmark Bun 85.44 34 *e*P **P** **22 42 40.2 +1.5**
comp=Z,243nm,1.3s,baz=296,slow=4.6
SKMB *es*P **sP** **22 43 02.0 +0.1**
baz=297,slow=4.7
IBBN Ibbenburen 85.51 36 *e*P **P** **22 42 40.1 +1.0**
comp=Z,130nm,1.4s,baz=296,slow=4.6
IBBN *es*P **sP** **22 43 01.9 -0.4**
baz=297,slow=4.7
SKR Severo-Kuril's 85.58 322 *e*P P 22 42 33.4 -6.1
SKR pmax pmax
comp=Z,100nm,8.0s
BUG Bochum--Univer 85.58 37 *e*P **P** **22 42 40.3 +0.8**
comp=Z,123nm,1.6s,baz=296,slow=4.6
BUG *es*P **sP** **22 43 02.2 -0.5**
baz=297,slow=4.7
WLF Walferdange 85.62 39 *d*P **P** **22 42 41.0 +1.2**
comp=Z,61nm,1.5s
WLF *ds*P **sP** **22 43 03.1 +0.1**
WLF Walferdange 85.62 39 lAmb lAmb 22 42 58.3
comp=Z,36nm,1.0s
WLF Walferdange 85.62 39 *e*P **P** **22 42 40.8 +1.0**
comp=Z,122nm,1.3s,baz=296,slow=4.6
WLF *es*P **sP** **22 43 02.7 -0.3**
baz=297,slow=4.7
AHRW Bad Neuenahr-A 85.83 38 *e*P **P** **22 42 41.8 +1.0**
comp=Z,103nm,1.2s,baz=296,slow=4.6
AHRW *es*P **sP** **22 43 03.6 -0.3**
baz=297,slow=4.7
BSEG Bad Segeberg 86.24 34 *e*P **P** **22 42 43.7 +1.0**
comp=Z,29nm,1.0s,baz=296,slow=4.6
BSEG *es*P **sP** **22 43 05.7 -0.2**
baz=297,slow=4.7
SSB Saint Sauveur 86.27 44 lAmb lAmb 22 42 45.9
comp=Z,25nm,1.1s
KASTN Kahler Asten 86.34 37 *e*P **P** **22 42 44.1 +0.8**
comp=Z,47nm,1.3s,baz=296,slow=4.6
KASTN *es*P **sP** **22 43 06.7 +0.1**
baz=297,slow=4.7
NRDL Niedersach Rie 86.75 35 *e*P **P** **22 42 46.1 +1.0**
comp=Z,33nm,1.3s,baz=296,slow=4.6
NRDL *es*P **sP** **22 43 08.1 -0.2**
baz=297,slow=4.7
TNS Taunus Mts 86.76 38 *e*P **P** **22 42 46.3 +0.8**
comp=Z,53nm,1.1s,baz=296,slow=4.6
ECH Echery 86.80 40 lAmb lAmb 22 42 58.8
comp=Z,14nm,1.1s
UPP Uppsala 86.95 27 *e*P **P** **22 42 46.1 +0.1**
GTTG Gottingen 87.08 36 *e*P **P** **22 42 47.8 +0.9**
comp=Z,19nm,1.1s,baz=296,slow=4.6
CLZ Clausthal 87.18 36 *e*P **P** **22 42 48.5 +1.1**
comp=Z,30nm,1.2s,baz=296,slow=4.6
ASSE Asse, Remlinge 87.22 36 *e*P **P** **22 42 48.6 +1.1**
comp=Z,36nm,1.2s,baz=296,slow=4.6
ASSE *es*P **sP** **22 43 10.6 0.0**
baz=297,slow=4.7
UBBA Unterbreizbach 87.41 37 *e*P **P** **22 42 49.8 +1.4**
comp=Z,8.3nm,1.2s,baz=296,slow=4.6
MILB Miltenberg 87.42 38 *e*P **P** **22 42 49.7 +1.1**
comp=Z,21nm,1.0s,baz=296,slow=4.6
FLTG Flechtingen 87.44 35 *e*P **P** **22 42 49.2 +0.7**
comp=Z,25nm,1.2s,baz=296,slow=4.6
BFO Black Forest 87.47 40 P **P** **22 42 49.4 +0.5**
BFO pmax pmax
comp=Z,10.0nm,1.1s
BFO Black Forest 87.47 40 P **P** **22 42 49.4 +0.5**
BFO Black Forest 87.47 40 *e*P **P** **22 42 49.2 +0.3**
comp=Z,9.7nm,1.0s,baz=296,slow=4.6
LPL La Plagne 87.60 43 *e*P **P** **22 42 50.6 +0.8**
LPL pmax pmax
comp=Z,31nm,1.6s
APA Apatity 87.74 17 ⇓*i*P P 22 42 40.1 -10
APA pmax pmax
comp=Z,9.0nm,1.1s
AAL Aland 87.79 26 *e*P **P** **22 42 50.2 +0.2**
STU Stuttgart 87.81 39 *e*P **P** **22 42 51.2 +0.8**
comp=Z,19nm,1.1s,baz=296,slow=4.6
BSD Bornholm Skovb 88.08 32 *e*P **P** **22 42 51.2 -0.3**
NEUB Neuenburg 88.24 36 *e*P **P** **22 42 52.8 +0.3**
comp=Z,38nm,1.3s,baz=296,slow=4.6
NEUB *es*P **sP** **22 43 15.0 -0.7**
baz=297,slow=4.7
MOX Moxa 88.41 37 *e*P **P** **22 42 53.5 +0.2**
comp=Z,22nm,1.2s,baz=296,slow=4.6
GRFO Grafenberg 88.61 38 P **P** **22 42 55.1 +0.9**
GRFO pmax pmax
comp=Z,32nm,1.2s
GRFO Grafenberg 88.61 38 P **P** **22 42 55.1 +0.9**
GRFO lAmb lAmb 22 42 56.6
comp=Z,32nm,1.2s
GRA1 Grafenberg Arr 88.61 38 lAmb lAmb 22 42 57.3
comp=Z,22nm,1.0s
GRF Grafenberg Arr 88.61 38 *e*P **P** **22 42 54.9 +0.6**
comp=Z,35nm,1.2s,baz=296,slow=4.6
RUE Ruedersdorf 88.76 34 *e*P **P** **22 42 54.8 -0.1**
comp=Z,16nm,0.6s,baz=296,slow=4.6
RUE *es*P **sP** **22 43 16.9 -1.2**
baz=297,slow=4.7
PLN Plauen 88.79 37 *e*P **P** **22 42 55.3 +0.2**
comp=Z,28nm,1.3s,baz=296,slow=4.6
PLN *es*P **sP** **22 43 17.2 -1.1**
baz=297,slow=4.7
UBR Ueberruh 88.83 40 *e*P **P** **22 42 56.1 +0.7**
comp=Z,29nm,1.2s,baz=296,slow=4.6
UBR *es*P **sP** **22 43 17.7 -1.0**
baz=297,slow=4.7
DAVA Damuels 88.86 40 *i*P **P** **22 42 56.5 +0.8**
comp=Z,44nm,1.5s,SNR=11
DAVA *e*S **sP** **22 43 17.0 -1.9**
comp=Z,30nm,0.9s
TUE Stuetta 88.87 41 lAmb lAmb 22 42 58.1
comp=Z,23nm,1.1s
CLL Collm 88.88 36 ⇓*i*P **P** **22 42 55.7 +0.2**
comp=Z,23nm,1.2s
CLL *e*pP **pP** **22 43 11.0 -1.3**
CLL *i* sP **sP** **22 43 16.4 -2.3**
comp=Z,26nm,1.1s
CLL *e*SKKSac S 22 53 24.0 -15
CLL *e*S **ScS** **22 53 44.0 +0.2**
CLL *es*S **sS** **22 54 12.0 +4.9**
CLL *e*PS **PnS** **22 54 44.0 -5.0**
CLL *e*PPS PPS 22 55 11.0
CLL *e*SS **SS** **22 59 24.0 -7.2**
CLL *es*SS 23 00 00.0
CLL *e*SSS SSS 23 03 30.0
CLL *e*SSSS 23 06 12.0
CLL LmV 23 26 00.0
comp=Z,300nm,20.8s
CLL Collm 88.88 36 ⇓*i*P **P** **22 42 55.7 +0.2**
CLL *e**PP **pP** **22 43 11.0 -1.3**
CLL *i* *SP **sP** **22 43 16.4 -2.3**
CLL *e*S **ScS** **22 53 44.0 +0.2**
CLL pmax pmax
comp=Z,23nm,1.2s
CLL MLR MLR
comp=Z,300nm,20.8s
CLL Collm 88.88 36 lAmb lAmb 22 42 56.7
comp=Z,14nm,1.1s
CLL Collm 88.88 36 *e*P **P** **22 42 55.5 0.0**
comp=Z,23nm,1.2s,baz=296,slow=4.6
CLL *es*P **sP** **22 43 17.7 -1.0**
baz=297,slow=4.7
WERD Werda 88.89 37 *e*P **P** **22 42 55.8 +0.2**
comp=Z,21nm,1.4s,baz=296,slow=4.6
WERD *es*P **sP** **22 43 17.7 -1.1**
baz=297,slow=4.7
GUNZ Gunzen 88.94 37 *e*P **P** **22 42 56.2 +0.4**
comp=Z,33nm,1.4s,baz=296,slow=4.6
GUNZ *es*P **sP** **22 43 18.1 -1.0**
baz=297,slow=4.7
MANZ Manzenberg 88.99 37 *e*P **P** **22 42 56.4 +0.3**
comp=Z,19nm,1.3s,baz=296,slow=4.6
MANZ *es*P **sP** **22 43 18.2 -1.1**
baz=297,slow=4.7
TANN Tannenbergstha 88.99 37 *e*P **P** **22 42 56.5 +0.3**
comp=Z,37nm,1.4s,baz=296,slow=4.6
TANN *es*P **sP** **22 43 18.6 -0.8**
baz=297,slow=4.7
WERN Wernitzgruen 89.00 37 *e*P **P** **22 42 56.6 +0.5**
comp=Z,41nm,1.4s,baz=296,slow=4.6
WERN *es*P **sP** **22 43 18.7 -0.7**
baz=297,slow=4.7
NKC Novy Kostel 89.07 37 *e*P **P** **22 42 57.5 +1.1**
NKC *e* 22 43 19.3
NKC Novy Kostel 89.07 37 *e*P **P** **22 42 57.5 +1.1**
NKC *es*P **sP** **22 43 19.3 -0.4**
DAVOX Davos/Dischmat 89.07 41 P **P** **22 42 57.9 +1.2**
comp=Z,5.0nm,1.0s,baz=263,slow=1.1,SNR=6.8
ROTZ Rotzenmuhle 89.14 37 *e*P **P** **22 42 57.3 +0.5**
comp=Z,20nm,1.3s,baz=296,slow=4.6
ROTZ *es*P **sP** **22 43 19.2 -0.8**
baz=297,slow=4.7
FBE Freiberg 89.26 36 *e*P **P** **22 42 57.8 +0.5**
comp=Z,47nm,1.4s,baz=296,slow=4.6
FBE *es*P **sP** **22 43 19.9 -0.6**
baz=297,slow=4.7
RETA Reutte 89.31 40 *i*P **P** **22 42 58.6 +0.9**
comp=Z,29nm,1.2s,SNR=10.0
RETA *e*S **sP** **22 43 20.2 -0.7**
comp=Z,34nm,1.2s
FUR Furstenfeldbru 89.32 39 *e*P **P** **22 42 58.4 +0.8**
comp=Z,22nm,0.9s,baz=296,slow=4.6
FUR *es*P **sP** **22 43 20.2 -0.7**
baz=297,slow=4.7
MSVF Nonsavu 89.34 251 P **P** **22 42 58.9 +0.6**
MSVF pmax pmax
comp=Z,56nm,1.0s
MSVF Nonsavu 89.34 251 P **P** **22 42 58.9 +0.6**
FIA1 FINESS Array S 89.46 23 lAmb lAmb 22 42 58.4
comp=Z,26nm,1.1s
FINES FINESS Array B 89.46 23 P **P** **22 42 57.8 -0.2**
comp=Z,17nm,0.9s,baz=336,slow=4.2,SNR=23
FINES PKKPbc **PKKPbc** **23 00 32.5 -1.9**
comp=Z,1.0nm,0.7s,baz=174,slow=3.8,SNR=4.3
FINES LR LR 23 24 52.0
comp=Z,307nm,19.6s,baz=312,slow=37
FINES FINESS Array B 89.46 23 P **P** **22 42 57.7 -0.3**
FETA Feichten 89.49 40 *i*P **P** **22 42 59.6 +0.9**
comp=Z,24nm,1.3s,SNR=8.9
FETA *e*S **sP** **22 43 21.4 -0.5**
comp=Z,23nm,1.3s
MOTA Moosalm 89.58 40 *i*P **P** **22 42 59.9 +0.8**
comp=Z,37nm,1.3s,SNR=13
MOTA *e*S **sP** **22 43 21.5 -0.8**
comp=Z,45nm,1.3s
BRG Berggiesshubel 89.61 36 ⇑*i*P **P** **22 42 59.8 +0.9**
BRG Amp 22 43 01.0
comp=Z,31nm,1.2s
BRG *i* x x 22 43 21.1
BRG Amp 22 43 22.5
comp=Z,30nm,1.0s
BRG Berggiesshubel 89.61 36 *e*P **P** **22 42 59.1 +0.2**
comp=Z,31nm,1.2s,baz=296,slow=4.6
BRG *es*P **sP** **22 43 21.2 -0.9**
baz=297,slow=4.7
SQTA Sankt Quirin 89.70 40 *i*P **P** **22 43 00.5 +1.0**
comp=Z,41nm,1.3s,SNR=13
SQTA *e*S **sP** **22 43 21.5 -1.4**
comp=Z,44nm,1.3s
KOWA Kowa 89.81 75 P **P** **22 43 01.2 +0.7**
comp=Z,15nm,0.9s,baz=276,slow=3.0,SNR=24
KOWA pP **pP** **22 43 17.2 -0.2**
comp=Z,19nm,1.1s,baz=288,slow=4.2,SNR=6.6
KOWA LR LR 23 19 59.6
comp=Z,283nm,20.7s,baz=286,slow=33
KOWA Kowa 89.81 75 P **P** **22 43 00.4 -0.1**
WET Wettzell 89.82 38 *e*P **P** **22 43 00.6 +0.6**
comp=Z,34nm,1.4s,baz=296,slow=4.6
WET *es*P **sP** **22 43 22.5 -0.8**
baz=297,slow=4.7
WATA Walderalm 89.87 40 *i*P **P** **22 43 01.2 +0.8**
comp=Z,36nm,1.4s,SNR=14
WATA *e*S **sP** **22 43 21.9 -1.7**
comp=Z,30nm,1.1s
WTTA Wattenberg 89.94 40 *i*P **P** **22 43 01.6 +0.9**
comp=Z,24nm,1.3s,SNR=12
WTTA *e*S **sP** **22 43 22.5 -1.5**

comp=Z,28nm,1.4s
PVCC Panska Ves 90.13 36 *e*P **P 22 43 02.2 +0.9**
PVCC Panska Ves 90.13 36 *e*P **P 22 43 02.2 +0.9**
GKP Gorka Klasztor 90.19 33 *e*P **P 22 43 02.0 +0.5**
GKP Gorka Klasztor 90.19 33 *e*P **P 22 43 01.9 +0.5**
PBCC Pribram 90.21 37 *e*P **P 22 43 02.7 +1.0**
PBCC *es*P **sP 22 43 24.3 -0.7**
KHC Kasperske Hory 90.23 37 *d i*P **P 22 43 01.5 -0.4**
KHC pmax pmax
comp=Z,19nm,1.2s
KHC Kasperske Hory 90.23 37 *e*P **P 22 43 02.7 +0.8**
KHC *es*P **sP 22 43 24.4 -0.8**
PRU Pruhonice 90.37 36 *e*P **P 22 43 03.3 +0.8**
PRU *e* 22 43 24.9
PRU Pruhonice 90.37 36 *e*P **P 22 43 03.3 +0.8**
PRU *es*P **sP 22 43 24.9 -0.8**
RJOB Jochberg 90.42 39 *e*P **P 22 43 03.3 +0.4**
comp=Z,130nm,1.5s,baz=296,slow=4.6
RJOB *es*P **sP 22 43 25.2 -0.9**
baz=297,slow=4.7
GEC2 GERESS Array S 90.44 38 IAmb IAmb 22 43 04.1
comp=Z,12nm,1.1s
GEC2 GERESS Array S 90.44 38 *e*P **P 22 43 03.2 +0.3**
comp=Z,32nm,1.5s,baz=296,slow=4.6
GEC2 *es*P **sP 22 43 25.2 -1.0**
baz=297,slow=4.7
GERES GERESS Array B 90.44 38 P **P 22 43 03.4 +0.4**
comp=Z,4.5nm,0.9s,baz=323,slow=3.5,SNR=35
GERES sP **sP 22 43 25.7 -0.5**
comp=Z,5.1nm,0.7s,baz=339,slow=3.4,SNR=13
GERES PP **PP 22 46 35.9 -1.6**
comp=Z,1.7nm,0.9s,baz=299,slow=5.5,SNR=5.3
GERES PKKP **PKKPbc 23 00 30.6 -1.2**
comp=Z,1.2nm,1.0s,baz=126,slow=1.8,SNR=7.1
GERES LR LR 23 26 26.7
comp=Z,147nm,18.4s,baz=292,slow=37
GERES GERESS Array B 90.44 38 P **P 22 43 03.2 +0.3**
CTI Castel Tesino 90.50 41 IAmb IAmb 22 43 21.2
comp=Z,9.7nm,1.0s
GOPC GO Pecny, Ondr 90.55 36 *e*P **P 22 43 04.4 +1.1**
GOPC GO Pecny, Ondr 90.55 36 *e*P **P 22 43 04.4 +1.1**
ABTA Abfaltersbach 90.71 40 *i*P **P 22 43 04.9 +0.6**
comp=Z,40nm,1.2s,SNR=21
ABTA *e*S **sP 22 43 26.9 -0.6**
comp=Z,32nm,1.0s
CKRC Cesky Krumlov 90.80 38 *e*P **P 22 43 04.9 +0.3**
ZCCA Zocca 90.83 43 P **P 22 43 05.1 +0.3**
CHVC Chvalec 90.92 35 *ex* x 22 43 27.5
KSP Ksiaz 90.92 35 *e*P **P 22 43 06.2 +1.2**
UPC Upice 90.94 36 *e*P **P 22 43 06.2 +1.1**
UPC Upice 90.94 36 *e*P **P 22 43 06.2 +1.1**
OSTC Ostas 91.03 35 *e*P **P 22 43 06.6 +1.0**
OSTC *es*P **sP 22 43 28.2 -0.6**
KBA Koelnbreinsper 91.06 39 *i*P **P 22 43 06.5 +0.5**
comp=Z,24nm,1.2s,SNR=16
KBA *e*S **sP 22 43 28.6 -0.7**
comp=Z,23nm,1.1s
ZOU Zoufplan 91.08 40 IAmb IAmb 22 43 07.6
comp=Z,13nm,1.2s
DPC Dobruska-Polom 91.19 36 *e*P **P 22 43 07.4 +1.1**
DPC *e* 22 43 29.1
DPC Dobruska-Polom 91.19 36 *e*P **P 22 43 07.4 +1.1**
DPC *es*P **sP 22 43 29.1 -0.5**
MOA Molln 91.24 38 *i*P **P 22 43 07.2 +0.5**
comp=Z,15nm,1.1s,SNR=10.0
MOA *e*S **sP 22 43 29.3 -0.6**
comp=Z,16nm,0.9s
TREC Trest 91.25 37 *e*P **P 22 43 07.1 +0.5**
TREC Trest 91.25 37 *e*P **P 22 43 07.1 +0.5**
VALR Valaam 91.27 22 *i*P **P 22 43 05.9 -0.5**
VALR pmax pmax
comp=Z,30nm,1.3s
TIC Toumodi 91.33 83 *e*P **P 22 43 07.3 -0.3**
OSSC Osservatorio P 91.37 43 IAmb IAmb 22 43 07.8
comp=Z,22nm,1.2s
LIC Lamto 91.45 83 *e*P **P 22 43 07.5 -0.7**
comp=Z,156nm,1.1s
MYKA Terra Mystica 91.45 40 *i*P **P 22 43 07.8 +0.2**
comp=Z,20nm,1.5s,SNR=7.7
MYKA *e*S **sP 22 43 29.8 -1.2**
comp=Z,24nm,1.7s
DBIC Dimbokro 91.47 83 P **P 22 43 08.7 +0.4**
comp=Z,25nm,0.9s,baz=287,slow=4.6,SNR=20
DBIC pP **pP 22 43 24.5 -0.6**
comp=Z,22nm,0.9s,baz=247,slow=3.6,SNR=8.1
DBIC LR LR 23 20 31.1
comp=Z,84nm,21.7s,baz=268,slow=33
DBIC Dimbokro 91.47 83 P **P 22 43 08.0 -0.3**
DBIC pmax pmax
comp=Z,39nm,1.0s
DBIC Dimbokro 91.47 83 P **P 22 43 08.0 -0.3**
KRLC Kraliky 91.58 36 *e*P **P 22 43 09.4 +1.2**
KRLC *e* 22 43 30.9
KRLC Kraliky 91.58 36 *e*P **P 22 43 09.4 +1.2**
KRLC *es*P **sP 22 43 30.9 -0.5**
YAK Yakutsk 91.60 339 P **P 22 43 08.8 +0.9**
comp=Z,28nm,0.7s,baz=60,slow=1.4,SNR=25
YAK pP **pP 22 43 25.2 +0.5**
comp=Z,22nm,0.6s,baz=74,slow=0.3,SNR=2.6
YAK Yakutsk 91.60 339 *d i*P **P 22 43 08.9 +1.0**
YAK *e**PP **pP 22 43 23.9 -0.8**
YAK *e* 22 46 46.9
YAK *e*S **SKSac 22 53 36.5 +1.1**
YAK *e**SS **S 22 54 00.8 -2.5**
YAK pmax pmax
comp=Z,160nm,1.3s
YAK pmax pmax
comp=N,22nm,1.3s
YAK pmax pmax
comp=E,30nm,1.3s
YAK pmax pmax
comp=Z,189nm,5.3s
YAK pmax pmax
comp=N,119nm,4.9s
YAK pmax pmax
comp=E,63nm,4.2s
YAK smax smax
comp=E,97nm,4.3s
YAK smax smax
comp=N,62nm,3.5s
YAK Yakutsk 91.60 339 P **P 22 43 08.4 +0.5**
KIC Kosan Boka 91.68 83 *e*P **P 22 43 08.6 -0.7**
comp=N,98nm,1.0s
VRAC Vranov 91.87 36 P **P 22 43 10.2 +0.8**
comp=N,8.1nm,1.1s,baz=292,slow=5.8,SNR=14
VRAC Vranov 91.87 36 ⇓P **P 22 43 10.2 +0.8**
VRAC Vranov 91.87 36 *e*P **P 22 43 09.7 +0.2**
VRAC *es*P **sP 22 43 31.7 -1.0**
KRUC Moravsky 91.88 37 *e*P **P 22 43 09.4 -0.1**
KRUC *es*P **sP 22 43 31.5 -1.3**
VOJS Vojsko 91.88 40 *e*P **P 22 43 10.2 +0.4**
TRI Trieste 91.96 40 P **P 22 43 09.6 -0.3**
TRI pmax pmax
comp=Z,23nm,1.1s
TRI Trieste 91.96 40 P **P 22 43 09.6 -0.3**
OBKA Obir 92.06 39 *i*P **P 22 43 10.9 +0.4**
comp=Z,22nm,1.1s,SNR=9.0
OBKA *e*S **sP 22 43 32.7 -1.1**
comp=Z,23nm,0.9s
CONA Conrad Observa 92.14 38 *i*P **P 22 43 11.9 +1.0**
comp=Z,24nm,1.7s,SNR=13
CONA *e*S **sP 22 43 32.8 -1.3**
comp=Z,23nm,1.9s
MORC Moravsky Berou 92.16 36 ⇑P **P 22 43 11.9 +1.1**
MORC Moravsky Berou 92.16 36 *e*P **P 22 43 11.3 +0.5**
MORC *es*P **sP 22 43 33.2 -0.9**
MORC Moravsky Berou 92.16 36 ⇑P **P 22 43 11.9 +1.1**
MORC Moravsky Berou 92.16 36 IAmb IAmb 22 43 12.4
comp=Z,14nm,1.1s
SKDS Skadanscina 92.19 40 *e*P **P 22 43 11.7 +0.6**
SKDS *i*P **pP 22 43 28.1 +0.2**
SKDS *i*S **sP 22 43 33.5 -0.8**
PABE Paberze 92.21 29 *e*P **P 22 43 11.0 +0.2**
SOKA Soboth 92.27 39 *i*P **P 22 43 11.5 0.0**
comp=Z,29nm,1.1s,SNR=20
SOKA *e*S **sP 22 43 32.7 -2.1**
comp=Z,24nm,1.0s
LJU Ljubljana 92.27 40 *e*P **P 22 43 12.2 +0.8**
LJU *es*P **sP 22 43 33.6 -1.1**
LJU Ljubljana 92.27 40 ⇓*i*P **P 22 43 12.0 +0.6**
ARSA Arzberg 92.28 38 *e*P **P 22 43 12.1 +0.7**
comp=Z,5.9nm,1.1s
ARSA *e*S **sP 22 43 33.1 -1.6**
comp=Z,8.3nm,1.1s
MURB Monte Urbino 92.32 43 IAmb IAmb 22 43 16.5
comp=Z,15nm,1.1s
CEY Cerknica 92.36 40 ⇓*i*P **P 22 43 12.3 +0.5**
VISS Visnje 92.58 40 *e*P **P 22 43 13.3 +0.5**
JAVC Velka Javorina 92.71 36 *e*P **P 22 43 14.8 +1.4**
JAVC *es*P **sP 22 43 36.9 +0.2**
ZST Bratislava 92.72 37 *e*P **P 22 43 14.5 +1.1**
ZST pmax pmax
comp=Z,114nm,1.3s
ZST Bratislava 92.72 37 *e*P **P 22 43 14.5 +1.1**
SUW Suwalki 92.73 30 *e*P **P 22 43 13.1 -0.2**
SUW Suwalki 92.73 30 *e*P **P 22 43 13.4 +0.2**
SUW Suwalki 92.73 30 IAmb IAmb 22 43 15.2
comp=Z,21nm,1.1s
MODS Modra-Piesok 92.73 37 *e*P **P 22 43 14.9 +1.4**
MODS *e* 22 43 36.3
MODS pmax pmax
comp=Z,60nm,1.6s
MODS Modra-Piesok 92.73 37 *e*P **P 22 43 14.9 +1.4**
MODS *e* 22 43 36.3
SMOL Smolenice 92.75 37 *e*P **P 22 43 15.1 +1.6**
SMOL *e* 22 43 37.1
SMOL pmax pmax
comp=Z,21nm,1.5s
SMOL Smolenice 92.75 37 *e*P **P 22 43 15.1 +1.6**
SMOL *e* 22 43 37.1
BEL Belsk 92.79 33 *e*P **P 22 43 14.8 +1.2**
CRES Cresnjev 92.94 40 ⇓*i*P **P 22 43 14.6 +0.1**
TYV Tymovskoe 93.03 326 *e*P **P 22 43 15.8 +1.1**
TYV pmax pmax
comp=Z,400nm,4.9s
TYV pmax pmax
comp=Z,23nm,1.2s
ISAL Salakas 93.14 28 *e*P **P 22 43 15.3 +0.1**
OJC Ojcow 93.16 34 *e*P **P 22 43 16.4 +1.0**
OJC Ojcow 93.16 34 IAmb IAmb 22 43 16.5
comp=Z,16nm,1.0s
IIGN Ignalina 93.33 28 *e*P **P 22 43 16.5 +0.5**
KEST Kesra 93.41 51 P **P 22 43 17.7 +0.7**
comp=Z,21nm,1.0s,baz=234,slow=3.0,SNR=8.6
KEST LR LR 23 22 41.3
comp=Z,129nm,21.7s,baz=210,slow=34
KEST Kesra 93.41 51 P **P 22 43 17.1 +0.1**
LANS Liptovska Anna 93.56 35 *e*P **P 22 43 18.5 +1.2**
LANS *e* 22 43 40.9
LANS pmax pmax
comp=Z,7.0nm,1.1s
LANS Liptovska Anna 93.56 35 *e*P **P 22 43 18.5 +1.2**
LANS *e* 22 43 40.9
VYHS Vyhne 93.56 36 *e*P **P 22 43 18.6 +1.3**
VYHS *e* 22 43 39.8
VYHS pmax pmax
comp=Z,24nm,1.4s
VYHS Vyhne 93.56 36 *e*P **P 22 43 18.6 +1.3**
VYHS *e* 22 43 39.8
IDID Didziasalis 93.58 28 *e*P **P 22 43 17.5 +0.3**
SRO Srobarova 93.62 37 *e*P **P 22 43 18.5 +1.0**
SRO pmax pmax
comp=Z,25nm,1.1s
SRO Srobarova 93.62 37 *e*P **P 22 43 18.5 +1.0**
SRO2 Moca 93.69 37 *e*P **P 22 43 17.9 0.0**
SRO2 pmax pmax
comp=Z,16nm,1.3s
SRO2 Moca 93.69 37 *e*P **P 22 43 17.8 -0.1**
INTR Introdacqua 93.80 44 P **P 22 43 18.9 +0.2**
INTR IAmb IAmb 22 43 22.0
comp=Z,11nm,1.1s
NACGM Naroch 93.86 28 *i*P **P 22 43 15.4 -3.0**
NACGM *i*P **P 22 43 15.4 -3.0**
NACGM *i*P **P 22 43 15.4 -3.0**
NACGM *i* PPP PPP 22 48 19.6
NACGM *i* SKS S 22 54 36.7 +13
NACGM *i* PS **PS 22 55 59.0 +14**
NACGM *i* SS SS 23 00 17.1 -25
NACGM *i* SSS SSS 23 03 55.2
NACGM *i* LQ LQ 23 18 09.9
NACGM *i* LR LR 23 24 07.9
NIE Niedzica 93.87 35 *e*P **P 22 43 20.4 +1.7**
PSZ Piszkesteto 94.46 36 ⇑P **P 22 43 23.3 +1.8**
PSZ Piszkesteto 94.46 36 P **P 22 43 21.8 +0.3**
PSZ pmax pmax
comp=Z,7.0nm,1.0s
PSZ Piszkesteto 94.46 36 P **P 22 43 21.8 +0.3**
PSZ IAmb IAmb 22 43 29.3
comp=Z,7.5nm,1.0s
KLMR Klimovskoe 94.52 19 *e*P **P 22 43 19.4 -2.0**
KLMR pmax pmax
comp=Z,50nm,1.5s
KLMR Klimovskoe 94.52 19 *e*P **P 22 43 19.4 -2.0**
KLMR AMP 22 43 22.8
comp=Z,50nm,1.5s
KLMR *e*PP **PP 22 47 03.5 -5.4**
BLY Banja Luka 94.54 40 ⇓*i*P **P 22 43 22.5 +0.7**
MNK Minsk 94.61 28 *e*P **P 22 43 21.0 -0.9**
MNK Minsk 94.61 28 *i*P **P 22 43 20.2 -1.7**
comp=E,2.0nm,1.1s
MNK *i*P **P 22 43 20.2 -1.7**
comp=N,5.0nm,0.7s
MNK *i*P **P 22 43 20.2 -1.7**
comp=Z,30nm,0.9s
MNK *i* PP **PP 22 47 07.4 -2.4**
MNK *i* PPP PPP 22 49 07.8
MNK *i* S **SKSac 22 53 50.4 -2.0**
MNK *i* SS **SS 23 00 49.5 -3.6**
MNK *i* SSS SSS 23 04 31.0
MNK *i* LQ LQ 23 19 57.0
MNK *i* LR LR 23 26 58.2
MNK *i* LRM MLR 23 28 44.6
comp=N,148nm,16.1s
MNK *i* LRM MLR 23 29 02.0
comp=E,16nm,18.7s
MNK *i* LRM MLR 23 29 05.8
comp=Z,145nm,19.4s
MORH Mrgy, Hungar 94.65 38 ⇓P **P 22 43 22.7 +0.4**
MORH Mrgy, Hungar 94.65 38 *e*P **P 22 43 22.0 -0.3**
CRVS Cervenica-Dubn 94.79 35 *e*P **P 22 43 24.3 +1.4**
CRVS *e* 22 43 46.1
CRVS pmax pmax
comp=Z,60nm,1.6s
CRVS Cervenica-Dubn 94.79 35 *e*P **P 22 43 24.3 +1.4**
CRVS *e* 22 43 46.0
KWP Kalwaria Pacla 95.04 34 *e*P **P 22 43 25.5 +1.5**
YSS Yuzh-Sakhalins 95.11 323 *e*P **P 22 43 24.5 +0.1**
YSS *e* 22 43 40.5
YSS pmax pmax
comp=Z,20nm,1.2s
SGRT San Giovanni R 95.13 43 IAmb IAmb 22 43 25.4
comp=Z,18nm,1.0s
KOLS Kolonicke sedl 95.21 35 *e*P **P 22 43 26.0 +1.2**
KOLS *e* 22 43 48.1
KOLS pmax pmax
comp=Z,18nm,1.3s
KOLS Kolonicke sedl 95.21 35 *e*P **P 22 43 26.0 +1.2**
KOLS *e* 22 43 48.1
UZH Uzhgorod 95.39 35 *e*P **P 22 43 25.7 +0.1**
UZH *e* 22 43 37.3
UZH *e* 22 43 48.2
TAM Tamanrasset 95.48 64 IAmb IAmb 22 43 30.0
comp=Z,8.1nm,1.0s
TOA0 Torodi Ar. Sit 95.49 74 IAmb IAmb 22 43 26.8
comp=Z,8.7nm,1.1s
TORD Torodi Ar. Bea 95.49 74 P **P 22 43 26.4 -0.3**
comp=Z,4.3nm,0.9s,baz=294,slow=6.0,SNR=16
TORD pP **pP 22 43 42.0 -1.6**
comp=Z,3.1nm,0.8s,baz=295,slow=4.8,SNR=7.4
TORD PKKP **PKKPdf 23 00 19.8 +1.8**
comp=Z,1.1nm,0.6s,baz=104,slow=2.5,SNR=5.5
TORD LR LR 23 23 23.0
comp=Z,308nm,21.2s,baz=280,slow=34
TORD Torodi Ar. Bea 95.49 74 P **P 22 43 26.1 -0.6**
LVV L'vov 95.63 33 *e*P **P 22 43 27.2 +0.5**
LVV *e* 22 43 48.3
PRGR Permogore 95.67 16 *e*P **P 22 43 24.3 -2.3**
PRGR pmax pmax
comp=Z,45nm,0.9s
FRGS Fruska Gora 95.91 39 ⇑P **P 22 43 29.3 +1.1**
FRGS Fruska Gora 95.91 39 ⇓*i*P **P 22 43 28.3 +0.2**
GRNR Gornyy 96.28 328 ⇓*i*P **P 22 43 30.7 +1.0**
GRNR pmax pmax
comp=Z,8.0nm,1.0s
GRNR MLR MLR
comp=E,140nm,15.0s
GRNR MLR MLR
comp=N,130nm,15.0s
GRNR MLR MLR
comp=Z,180nm,17.0s
BBLS Lazići 96.36 40 ⇓*i*P **P 22 43 31.1 +0.8**
SIRR Siria 96.38 37 ⇓P **P 22 43 30.6 +0.3**
UPM Unac-Piva 96.40 41 *e*P **P 22 43 30.8 +0.2**
DIVS Divibare 96.59 40 ⇓*i*P **P 22 43 31.1 -0.2**
URZ Urewera 96.62 232 LR LR 23 20 25.0
comp=Z,214nm,19.2s,baz=31,slow=31
DRGR 96.68 36 ⇑P **P 22 43 32.3 +0.6**
DRGR 96.68 36 ⇑P **P 22 43 32.3 +0.6**
BZS Buzias 96.72 38 ⇑P **P 22 43 32.6 +0.8**
BZS Buzias 96.72 38 ⇑P **P 22 43 32.6 +0.8**
TIP Timpagrande 97.07 45 ⇑P **P 22 43 33.5 -0.1**
MDVR Moldovita 97.24 38 ⇓P **P 22 43 33.6 -0.7**
GZR Gura Zlata 97.52 37 ⇑P Pdif 22 43 36.2 +0.7
GZR Gura Zlata 97.52 37 ⇑P Pdif 22 43 36.2 +0.7
AKASG Malin Array Be 97.69 30 P **P 22 43 35.0 -1.0**
comp=Z,0.9nm,0.6s,baz=284,slow=3.6,SNR=8.0
AKASG pP **pP 22 43 51.8 -1.0**
comp=Z,1.1nm,0.6s,baz=290,slow=4.1,SNR=2.5
AKASG sP **sP 22 43 57.2 -2.1**
comp=Z,2.4nm,0.7s,baz=285,slow=3.9,SNR=4.6
AKASG PP **PP 22 47 31.2 -2.5**
comp=Z,3.8nm,0.8s,baz=313,slow=6.7,SNR=9.8
AKASG PKKP **PKKPbc 23 00 11.2 -1.6**
comp=Z,0.2nm,0.4s,baz=103,slow=2.2,SNR=4.6
AKASG LR LR 23 30 32.6
comp=Z,149nm,18.9s,baz=310,slow=37
AKASG Malin Array Be 97.69 30 IAmb IAmb 22 43 35.6
comp=Z,1.7nm,1.1s
AKBB Malin Array Si 97.69 30 *ce*P **P 22 43 34.1 -1.9**
MOS Moscow 97.77 23 *e*P **P 22 43 34.6 -1.6**
MOS *e* 22 47 30.1
OBN Obninsk 97.83 24 P **P 22 43 35.8 -0.6**
comp=Z,1.7nm,0.4s,baz=308,slow=15
OBN Obninsk 97.83 24 *e*P **P 22 43 35.9 -0.6**
OBN *e**PP **pP 22 43 52.8 -0.5**
OBN *e**SP **sP 22 43 57.6 -2.2**
OBN *e* 22 47 32.1
OBN *e*PPP PPP 22 49 39.8
OBN *e*S **SKSac 22 54 07.7 -1.4**
OBN pmax pmax
comp=Z,18nm,1.3s
OBN MLR MLR
comp=Z,158nm,5.0s
ZEA Zeya 98.45 334 *e*P Pdif 22 43 40.3 +0.9
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ARR Arges 98.60 37 ⇓P **P 22 43 40.1 -0.2**
MLR Muntele Rosu 99.26 36 P **Pdif 22 43 43.9 +0.6**
comp=Z,8.5nm,1.0s,baz=5.5,slow=5.5,SNR=5.5
MLR pP **pP 22 43 59.8 -0.5**
comp=Z,3.6nm,0.8s,baz=166,slow=23,SNR=2.5
MLR sP **sP 22 44 05.3 -1.4**
comp=Z,10nm,1.0s,baz=173,slow=2.9,SNR=5.3
MLR Muntele Rosu 99.26 36 ⇑P **Pdif 22 43 43.5 +0.2**
MLR Muntele Rosu 99.26 36 IAmb IAmb 22 43 44.9
comp=Z,11nm,1.1s
KIRV Kirov 99.27 16 *ce*P **Pdif 22 43 40.6 -2.2**
KLR Kul'dur 99.58 329 P **Pdif 22 43 45.0 +0.4**
comp=Z,0.6nm,0.6s,baz=1.2,slow=4.0,SNR=4.1
KLR Kul'dur 99.58 329 *ce*P **Pdif 22 43 43.9 -0.6**
KLR pmax pmax
comp=Z,2.0nm,1.1s
BOD Bodaibo 99.77 343 *e*P **Pdif 22 43 44.6 -0.6**
BOD pmax pmax
comp=Z,12nm,1.6s
LPSR Galich'ya Gora 100.63 25 *e*P **Pdif 22 43 48.9 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
DZM Mont Dzumac 101.04 250 *e*LR LR 23 16 56.2
comp=Z,1μm,24.9s
VSR Storozhevoye 101.78 26 *e*P **Pdif 22 43 53.5 -0.7**
VSR pmax pmax
comp=Z,30nm,1.5s
VORD Divnogorie 102.02 26 *e*P **Pdif 22 43 54.1 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Ar. 102.80 325 P **Pdif 22 44 00.7 +1.7**
comp=Z,2.4nm,0.9s,baz=74,slow=3.3,SNR=7.2
USRK Ussuriysk Ar. 102.80 325 Pdif **Pdif 22 44 00.3 +1.4**
VRH Novokhopyorsk 102.82 24 *e*P **Pdif 22 43 58.0 -0.8**
VRH pmax pmax
comp=Z,20nm,1.0s
BRTR Keskin Array B 107.31 37 PKiKP **PKiKP 22 48 27.4 -0.5**
comp=Z,0.9nm,0.8s,baz=288,slow=1.2,SNR=4.6
TLY Talaya 107.95 346 *e*P **Pdif 22 44 23.7 +1.9**
TLY *i* 22 48 49.0
TLY pmax pmax
comp=Z,17nm,1.2s
ZALV Zalesovo Beam 108.29 358 Pdiff **Pdif 22 44 26.5 +3.4**
comp=Z,0.3nm,0.4s,baz=0.0,slow=4.9,SNR=3.8
VNDA Vanda 109.53 193 PKiKP **PKiKP 22 48 32.1 +1.4**
comp=Z,0.7nm,0.8s,baz=22,slow=5.4,SNR=4.2
KSRS Korea Array 109.60 322 PKiKP **PKiKP 22 48 32.5 +0.5**
comp=Z,0.9nm,0.4s,baz=52,slow=2.1,SNR=5.9
KSRS PKKPbc **PKKPab 22 59 46.1 -4.2**
comp=Z,0.5nm,0.3s,baz=216,slow=5.5,SNR=5.1
ULN Ulaanbaatar 110.53 342 *i* PKiKP **PKiKP 22 48 32.7 -1.1**
SONM Songino Array 110.75 342 Pdiff **Pdif 22 44 36.7 +2.3**
comp=Z,0.3nm,0.7s,baz=336,slow=3.2,SNR=2.6
SONM PKiKP **PKiKP 22 48 34.2 +0.1**
comp=Z,0.8nm,0.8s,baz=354,slow=2.9,SNR=4.8
SONM PKKPbc **PKKPbc 22 59 32.4 -1.5**
comp=Z,1.0nm,0.8s,baz=202,slow=3.4,SNR=6.9
SONM PKKPab **PKKPab 22 59 42.6 -3.0**
comp=Z,0.9nm,0.9s,baz=165,slow=6.2,SNR=5.6
MAK Makhachkala 111.78 26 *e*P **Pdif 22 44 39.9 +1.0**
MAK *i* 22 48 36.1
MAK *e* 22 49 16.4
MAK *e*PPP PPP 22 51 39.0
MAK *e*PS **SP 22 58 40.6 -3.8**
MAK pmax pmax
comp=Z,185nm,1.3s
MAK MLR MLR
comp=Z,206nm,22.0s
ZSN Zaisan 114.78 357 *e*PKP **PKiKP 22 48 40.8 -0.9**
baz=358
ZSN Zaisan 114.78 357 *e*PKiKP **PKiKP 22 48 40.7 -0.9**
HHC Hu-ho-hao-te 115.11 335 *e*P **PKPdf 22 48 50.3 +7.7**
MAKZ Makanchi 115.50 360 PKiKP **PKiKP 22 48 42.0 -1.1**
MAKZ Makanchi 115.50 360 **PKiKP 22 48 42.0 -1.1**
MK31 Makanchi Array 115.51 359 PKiKP **PKiKP 22 48 42.6 -0.5**
MK31 Makanchi Array 115.51 359 **PKiKP 22 48 42.6 -0.5**
MKAR Makanchi Array 115.51 359 PKP **PKiKP 22 48 42.6 -0.5**
comp=Z,2.3nm,0.9s,baz=5.6,slow=1.9,SNR=13
MKAR PKKPbc **PKKPbc 22 59 15.8 -2.1**
comp=Z,1.0nm,0.9s,baz=167,slow=5.9,SNR=3.8
MKAR Makanchi Array 115.51 359 *c i* PKiKP **PKiKP 22 48 42.5 -0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 115.51 359 **PKiKP 22 48 42.2 -0.9**
BTLS Baital 116.91 6 *e*PKP **PKPdf 22 48 45.3 -0.5**
baz=6.0
BTLS Baital 116.91 6 *e*PKiKP **PKPdf 22 48 45.3 -0.5**
WMQ Urumqi 118.22 355 *e*PKP **PKiKP 22 48 49.0 +0.5**
WMQ LR LR
comp=Z,150nm,17.5s
WMQ LR LR
comp=Z,230nm,23.9s
WMQ LR LR
comp=Z,760nm,26.1s
KUU Kurty 118.24 4 *e*PKP **PKPdf 22 48 47.4 -1.1**
baz=4.3
KUU Kurty 118.24 4 *e*PKiKP **PKPdf 22 48 47.3 -1.1**
CHKK Chushkaly 118.32 4 *e*PKP **PKPdf 22 48 47.9 -0.8**
baz=3.8
CHKK Chushkaly 118.32 4 *e*PKiKP **PKPdf 22 48 47.8 -0.8**
KKAR Karatay Array 118.38 9 PKiKP **PKPdf 22 48 48.6 -0.2**
KKAR Karatay Array 118.38 9 PKPdf **PKPdf 22 48 48.6 -0.2**
SGDS Sogindy 118.53 6 *e*PKP **PKPdf 22 48 48.4 -0.8**
baz=5.8
SGDS Sogindy 118.53 6 *e*PKiKP **PKPdf 22 48 48.3 -0.8**
NJ2 Nanjing 118.66 324 *e*PKP **PKPdf 22 48 49.5 0.0**
DZA Taraz 118.70 8 *e*PKP **PKPdf 22 48 49.3 -0.1**
baz=8.6
DZA Taraz 118.70 8 *e*PKiKP **PKPdf 22 48 49.3 -0.1**
KPKS Kokpek 118.79 2 *e*PKP **PKPdf 22 48 48.9 -0.7**
baz=2.5
KPKS Kokpek 118.79 2 *e*PKiKP **PKPdf 22 48 48.9 -0.7**
AAA Alma-Ata 118.95 4 *e*PKP **PKPdf 22 48 49.2 -0.8**
baz=3.9
AAA Alma-Ata 118.95 4 *e*PKiKP **PKPdf 22 48 49.1 -0.8**
UZB Uzynbulak 119.12 2 *e*PKP **PKPdf 22 48 49.7 -0.6**
baz=2.2

UZB	Uzynbulak	119.12	2	ePKIKP	PKPdf	22 48 49.7	-0.6
SHLS	Shalkode	119.12	2	ePKP	PKPdf	22 48 49.5	-0.8
	baz=1.5						
SHLS	Shalkode	119.12	2	ePKIKP	PKPdf	22 48 49.5	-0.8
TNSS	Tian-Shan	119.13	4	ePKP	PKPdf	22 48 50.1	-0.7
	baz=3.9						
TNSS	Tian-Shan	119.13	4	ePKIKP	PKPdf	22 48 50.0	-0.7
SATY	Saty	119.18	3	ePKP	PKPdf	22 48 49.4	-1.0
	baz=2.7						
SATY	Saty	119.18	3	ePKIKP	PKPdf	22 48 49.4	-1.0
IUG	luzhnay	119.24	10	ePKP	PKPdf	22 48 50.2	-0.3
	baz=9.8						
IUG	luzhnay	119.24	10	ePKIKP	PKPdf	22 48 50.2	-0.3
AAK	Ala-Archa	119.33	6	PKiKP	PKiKP	22 48 51.7	+0.8
AAK	Ala-Archa	119.33	6c	*i* PKIKP	PKiKP	22 48 51.5	+0.7
AAK				pmax	pmax		
	comp=Z,27nm,2.5s						
AAK	Ala-Archa	119.33	6	PKPdf	PKiKP	22 48 51.2	+0.4
TSUM	Tsumeb	119.79	102	pPKP	pPKPdf	22 49 09.2	-0.4
	comp=Z,2.4nm,0.8s,baz=171,slow=4.5,SNR=2.7						
TSUM	Tsumeb	119.79	102	PKPdf	PKPdf	22 48 51.9	-0.2
GEYT	Alibeck	120.20	21	PKP	PKiKP	22 48 52.4	0.0
	comp=Z,3.8nm,0.9s,baz=255,slow=4.5,SNR=7.9						
GEYT	Alibeck	120.20	21	PKPdf	PKiKP	22 48 52.9	+0.4
GTA	Gaotai	120.36	344	ePKP	PKPdf	22 48 52.8	0.0
XAN	Xi'an	122.00	333	PKP	PKPdf	22 48 56.0	0.0
XAN				sPKP		22 49 20.3	
XAN				LR	LR		
	comp=Z,180nm,24.9s						
XAN				LR	LR		
	comp=Z,280nm,26.0s						
XAN				LR	LR		
	comp=Z,380nm,26.0s						
LZH	Lanzhou	122.18	339	ePKP	PKiKP	22 48 57.6	+1.0
LZH				LR	LR		
	comp=Z,230nm,14.1s						
LZH				LR	LR		
	comp=Z,260nm,14.0s						
LZH				LR	LR		
	comp=Z,270nm,14.6s						
WHN	Wuhan	122.27	326	⇓PKP	PKiKP	22 48 57.1	+0.4
WHN				AMB	AMB		
	comp=Z,420nm,14.4s						
WHN				LR	LR		
	comp=Z,570nm,25.0s						
KSH	Kashi	122.56	5	PKP	PKiKP	22 48 58.9	+1.7
KSH				sPKP		22 49 14.8	
SYO	Syowa Base	122.82	163	⇑ePdiff	Pdif	22 45 26.0	-1.2
SSLB	Suanglung	123.32	316	PKPdf	PKPdf	22 48 58.8	+0.1
STKA	Stephens Creek	124.35	243	PKP	PKiKP	22 49 01.3	+0.6
	comp=Z,12nm,0.8s,baz=97,slow=2.0,SNR=18						
STKA				pPKP	pPKPdf	22 49 18.1	+0.3
	comp=Z,6.2nm,0.7s,baz=333,slow=1.1,SNR=5.7						
RAYN	Ar Rayn	125.83	42	*i* PKiKP	PKiKP	22 49 04.4	+0.4
	SNR=7.8						
RAYN	Ar Rayn	125.83	42	PKiKP	PKiKP	22 49 04.2	+0.2
RAYN	Ar Rayn	125.83	42	PKPdf	PKiKP	22 49 04.2	+0.2
KBL	Kabul	126.44	13	PKiKP	PKiKP	22 49 05.4	+0.2
KBL	Kabul	126.44	13	PKPdf	PKiKP	22 49 05.4	+0.2
CD2	Chengdu	126.84	336	PKP	PKPdf	22 49 04.0	-1.4
MBAR	Mbarara	127.30	77	PKP	PKiKP	22 49 08.7	+1.3
	comp=Z,8.8nm,0.8s,baz=129,slow=1.0,SNR=14						
MBAR				pPKP	pPKPdf	22 49 23.7	-0.5
	comp=Z,10nm,0.8s,baz=142,slow=1.7,SNR=12						
MBAR	Mbarara	127.30	77		PKiKP	22 49 08.6	+1.3
MBAR				pPKPdf	pPKPdf	22 49 24.9	+0.6
BOSA	Boshof	127.74	113	PKP	PKiKP	22 49 07.8	0.0
	comp=Z,11nm,0.9s,baz=264,slow=2.1,SNR=12						
BOSA				pPKP	pPKPdf	22 49 24.9	+0.2
	comp=Z,6.0nm,0.8s,baz=251,slow=4.8,SNR=5.0						
NIL	Nilore	128.05	9	PKPdf	PKPdf	22 49 07.8	+0.2
NIL				pPKPdf	pPKPdf	22 49 24.3	-0.8
MAW	Mawson	129.00	171	PKP	PKiKP	22 49 09.8	+0.9
	comp=Z,18nm,0.9s,baz=218,slow=1.5,SNR=7.7						
MAW				pPKP	pPKPdf	22 49 25.7	+0.1
	comp=Z,8.1nm,0.8s,baz=257,slow=3.6,SNR=2.9						
MAW	Mawson	129.00	171		PKiKP	22 49 09.9	+1.0
GYA	Guiyang	129.47	330	⇓PKP	PKPdf	22 49 10.6	0.0
GYA				PP	PP	22 51 21.8	+2.4
GYA				SKKS		22 58 03.3	
GYA				AMB	AMB		
	comp=Z,66nm,5.3s						
GYA				LR	LR		
	comp=Z,110nm,6.3s						
GYA				LR	LR		
	comp=Z,100nm,5.7s						
GYA				LR	LR		
	comp=Z,89nm,12.2s						
SHME	Shamm	129.78	30	*i* PKPdf	PKPdf	22 49 10.9	-0.1
	SNR=7.3						
WR0	Warramunga Arr	129.91	259	pPKPdf	pPKPdf	22 49 28.1	-0.8
BANOM	Banah	129.97	30	PKiKP	PKPdf	22 49 11.5	+0.1
WB0	Warramunga Arr	130.03	259	pPKPdf	pPKPdf	22 49 28.8	-0.2
WRAB	Tennant Creek	130.09	259c	*i* PKIKP	PKiKP	22 49 12.5	0.0
WRAB				pmax	pmax		
	comp=Z,34nm,1.7s						
WRA	Warramunga Arr	130.10	259	PKP	PKiKP	22 49 12.6	0.0
	comp=Z,20nm,1.0s,baz=78,slow=1.7,SNR=64						
WRA				pPKP	pPKPdf	22 49 29.6	+0.5
	comp=Z,7.7nm,0.8s,baz=74,slow=1.4,SNR=10						
WRA				SKKPbc	SKKPbc	23 02 08.7	-1.3
	comp=Z,1.8nm,1.0s,baz=269,slow=1.6,SNR=5.1						
WRA	Warramunga Arr	130.10	259		PKPdf	22 49 11.3	-0.4
MSFE	Esma-Masafi	130.37	30	*i* PKiKP	PKPdf	22 49 12.4	+0.2
	SNR=9.6						
NAZ	Nazwa, Dubai	130.44	31	*i* PKiKP	PKPdf	22 49 12.4	+0.1
	SNR=13						
MDH	Madha	130.49	30	*i* PKiKP	PKPdf	22 49 12.7	+0.3
	SNR=7.3						
ASUD	Al Ashush, Dub	130.58	32	*i* PKiKP	PKiKP	22 49 13.4	0.0
	SNR=7.1						
FAQ	Al Faqa, Dubai	130.61	31	PKiKP	PKiKP	22 49 13.1	-0.4
UOSS	Minazif	130.74	31	*i* PKiKP	PKPdf	22 49 12.8	-0.1
	SNR=7.6						
UOSS	Minazif	130.74	31	PKPdf	PKPdf	22 49 13.0	+0.1
HATD	Hatta, Dubai	130.81	31	*i* PKiKP	PKPdf	22 49 13.4	+0.4
	SNR=12						
ASAR	Alice Springs	130.85	254	PKhKP	PKPpre	22 49 00.7	
	comp=Z,0.8nm,0.9s,baz=96,slow=4.3,SNR=7.5						
ASAR				PKP	PKiKP	22 49 13.6	-0.4
	comp=Z,10nm,1.0s,baz=95,slow=2.0,SNR=12						
ASAR				pPKP	pPKPdf	22 49 30.4	-0.1
	comp=Z,3.9nm,0.7s,baz=72,slow=2.0,SNR=5.8						
ASAR				SKKPbc	SKKPbc	23 02 05.8	-1.7
	comp=Z,1.3nm,0.9s,baz=266,slow=3.1,SNR=6.8						
ASHO	Ashiyiah	130.89	31	*i* PKPdf	PKPdf	22 49 13.2	0.0
	SNR=15						
ALNE	Al Ain	131.26	32	*i* PKiKP	PKPdf	22 49 14.1	+0.2
	SNR=6.8						
SOHO	SOHO	131.59	31	*i* PKPdf	PKPdf	22 49 14.4	-0.1
	SNR=11						
ATD	Arta Tunnel	131.92	55	PKP	PKPdf	22 49 14.9	-0.5
	baz=290,slow=5.4						
KMI	Kunming	132.38	334	⇓PKP	PKPdf	22 49 16.4	+0.1
KMI				sPKP		22 49 34.8	
KMI				PP	PP	22 51 43.1	+4.8
KMI				PKS	PKSdf	22 52 46.4	-6.7
KMI				SKS	SKSdf	22 56 17.3	-6.0
KMI				AMB	AMB		
	comp=Z,85nm,6.1s						
KMI				LR	LR		
	comp=Z,120nm,18.4s						
KMI				LR	LR		
	comp=Z,140nm,15.6s						
KMI				LR	LR		
	comp=Z,230nm,22.9s						
KMBO	Kilima Mbogo	133.50	74	PKP	PKiKP	22 49 20.9	+1.1
	comp=Z,6.2nm,1.2s,baz=325,slow=3.6,SNR=13						
KMBO	Kilima Mbogo	133.50	74	PKiKP	PKiKP	22 49 21.0	+1.1
GUN	Gumba	134.16	355	*e*P	PKPdf	22 49 19.6	-0.1
	comp=Z,75nm,1.4s						
KKN	Kakani	134.33	355	*e*P	PKPdf	22 49 20.2	+0.3
	comp=Z,24nm,1.0s						
TAPN	Taplejung	134.51	352	*e*P	PKPdf	22 49 20.3	0.0
	comp=Z,22nm,0.9s						
PKIN	Phulchoki	134.53	355	*e*P	PKPdf	22 49 19.7	-0.6
	comp=Z,42nm,1.3s						
PKI	Pulchoki	134.54	355	*e*P	PKPdf	22 49 19.8	-0.6
ODAN	Odare	135.03	352	*e*P	PKPdf	22 49 21.0	-0.2
RAMN	Ramite	135.04	353	*e*P	PKPdf	22 49 21.0	-0.2
	comp=Z,18nm,0.9s						
FITZ	Fitzroy Crossi	138.05	263	PKP	PKPdf	22 49 26.6	0.0
	comp=Z,9.1nm,1.0s,baz=38,slow=4.3						
FITZ	Fitzroy Crossi	138.05	263	PKPdf	PKPdf	22 49 27.5	+0.9
NONG	Nongkai	138.28	328	P	PKiKP	22 49 30.0	+0.8
BATI	Baumata	138.40	275	PKP	PKiKP	22 49 29.2	-0.3
	comp=Z,8.1nm,0.3s,baz=133,slow=5.6,SNR=2.0						
CM34	Chiang Mai Arr	139.45	334	P	PKPdf	22 49 30.0	+0.7
CM33	Chiang Mai Arr	139.57	334	P	PKPdf	22 49 27.0	-2.5
CMMT	Chiang Mai	139.57	334	P	PKPdf	22 49 28.8	-0.7
CHTO	Chiang Mai	139.57	334	PKHKP	PKPpre	22 49 21.2	
CHTO						22 49 30.2	
CHTO	Chiang Mai	139.57	334		PKPpre	22 49 21.2	
CHTO				PKPdf	PKPdf	22 49 30.1	+0.7
CM35	Chiang Mai Arr	139.60	334	P	PKPdf	22 49 29.0	-0.5
CM32	Chiang Mai Arr	139.76	334	P	PKPdf	22 49 31.0	+1.2
CM36	Chiang Mai Arr	139.77	334	P	PKPdf	22 49 24.0	-5.8
UTTA	Uttaradit	139.81	331	P	PKiKP	22 49 33.0	+0.7
CM09	Chiang Mai Arr	139.88	334	P	PKPdf	22 49 31.0	+0.9
CMAR	Chiang Mai Arr	139.89	334	PKhKP	PKPpre	22 49 21.6	
	comp=Z,5.1nm,1.1s,baz=355,slow=5.2,SNR=10						
CMAR				PKP	PKPdf	22 49 31.1	+1.1
	comp=Z,7.7nm,1.0s,baz=342,slow=2.1,SNR=24						
CMAR				pPKP	pPKPdf	22 49 48.0	+0.6
	comp=Z,5.5nm,0.8s,baz=333,slow=2.2,SNR=5.0						
CMAR				PP	PP	22 52 25.2	+0.1
	comp=Z,0.5nm,0.3s,baz=345,slow=5.6,SNR=1.7						
CMAR	Chiang Mai Arr	139.89	334		PKPpre	22 49 23.7	
CMAR				PKPdf	PKPdf	22 49 30.9	+0.9
CMAR				pPKPdf	pPKPdf	22 49 47.8	+0.3
CM15	Chiang Mai Arr	139.90	334	P	PKPdf	22 49 29.0	-1.1
CM02	Chiang Mai Arr	139.91	334	P	PKPdf	22 49 25.9	-4.3
CM01	Chiang Mai Arr	139.92	334	P	PKPdf	22 49 28.9	-1.3
CM04	Chiang Mai Arr	139.93	334	P	PKPdf	22 49 25.8	-4.3
CM13	Chiang Mai Arr	139.94	334	P	PKPdf	22 49 27.0	-3.2
CM05	Chiang Mai Arr	139.94	334	P	PKPdf	22 49 25.4	-4.7
POO	Poona	142.94	12	*e*P	PKPdf	22 49 28.0	-7.6
PSA00	Pilbara Seismi	143.74	258	PKPdf	PKPab	22 49 33.8	+0.1
PSA00	Pilbara Seismi	143.74	258		PKPpre	22 49 33.9	
NWAO	Narrogin (SRO)	144.62	238	PKiKP	PKPbc	22 49 37.2	+0.3
NWAO	Narrogin (SRO)	144.62	238	PKPdf	PKPbc	22 49 37.2	+0.3
HYB	Hyderabad	144.69	5	*i* PKP	PKPab	22 49 36.0	-1.4
HYB				*e*		22 49 53.5	
MORW	Morawa	146.53	244	PKPdf	PKPbc	22 49 43.1	+0.2
ABPO	Ambohimpanom	147.57	97	PKP2	PKPbc	22 49 45.4	-1.0
ABPO	Ambohimpanom	147.57	97	PKPdf	PKPbc	22 49 45.4	-1.0
PBA	Port Blair	148.49	338	PKPdf	PKPdf	22 49 45.3	+0.3
IPM	Ipoh	150.46	317	PKPdf	PKPdf	22 49 49.1	+0.8
IPM					PKiKP	22 49 54.3	-0.1
LEM	Lembang	152.17	290	PKPbc	PKPbc	22 49 57.5	-0.3
	comp=Z,14nm,0.3s,baz=33,slow=4.5,SNR=7.7						
CISI	Cisompet, Garu	152.30	289	PKPbc	PKPbc	22 49 57.4	-0.5
MNCI	Minicoy	152.61	18		PKiKP	22 49 59.2	+0.5
PSI	Prapat	153.09	318	PKP	PKPdf	22 49 53.0	+0.6
	comp=Z,13nm,0.8s,baz=180,slow=2.8,SNR=16						
PSI				PKPbc	PKiKP	22 50 00.3	+0.4
	comp=Z,42nm,0.8s,baz=360,slow=1.7,SNR=22						
PSI				pPKPbc	pPKPbc	22 50 16.8	-0.3
	comp=Z,17nm,0.8s,baz=180,slow=2.2,SNR=3.6						
GSI	Gunungsitoli	155.09	319	PKPab	PKPab	22 50 21.1	+1.5

*GCG **20** 22:44:41.9±0.5, 15.66N×91.87W, h127km±45km, MD3.9*
*NEIC **20** 22:44:45.1±1.0, 12.7N±0.1×90.73W±0.09, h38km±15km, mb4.4/6, Error ellipse: s-maj=18.7km s-min=10.6km az=207.0*
*IDC **20** 22:44:47.6±1.2, 12.83N×90.56W, h37km±8km, mb3.6/6, mb1 3.9/9, mb1mx3.6/46, mbtmp3.8/9, ML3.4/3, Error ellipse: s-maj=33.5km s-min=16.7km az=58.0*
*SNET **20** 22:44:52.9±0.8, 13.11N×90.32W, h23km±8km, ML3.3*

ISC 20 22:44:44.9±0.8, 12.78N±0.06×90.65W±0.06, h24km, n36, σ1§70/43, mb4.1/8, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEVE	Cerro Verde	1.45	44	*e*P		Pb	Pb	22 45 11.0	-0.3
CEVE				*e*S		Sn	Sn	22 45 25.9	-2.2
CEVE				IAML				22 45 26.1	
	comp=Z,762nm,0.3s								
JAYA	Jayaque - finc	1.46	53	*e*P		Pb	Pb	22 45 11.5	0.0
JAYA				IAML				22 45 22.5	
	comp=Z,387nm,0.4s								
LALI	Alcalda de L	1.48	61	*e*P		Pb	Pb	22 45 11.4	-0.2
PCG	Pacaya	1.60	2	*e*P		Pb	Pb	22 45 14.2	+0.2
PCG				*e*S		Sb	Sb	22 45 39.0	+5.0
SNET	Serv Nac Est T	1.65	57	Pn		Pb	Pb	22 45 13.6	-1.1
FUG	Fuego 3	1.67	354	*e*P		Pn	Pn	22 45 11.3	-1.5
FUG				*e*S		Sn	Sn	22 45 34.4	+0.8
TACO	Tacachico	1.73	47	*e*P		Pb	Pb	22 45 15.4	-0.6
NBG	Las Nubes	1.82	9	*e*P		Pn	Pn	22 45 14.5	-0.5
COEG	Centro de Oper	1.92	64	*e*P		Pb	Pb	22 45 18.1	-1.1
COEG				IAML				22 45 20.0	
	comp=Z,835nm,0.3s								
MTO3	Montecristo	2.04	38			Pn	Pn	22 45 19.4	+1.4
COEB	Comit de Eme	2.19	71	*e*P		Pb	Pb	22 45 22.6	-1.3
APG	El Apazote	2.22	5	Pn		Pn	Pn	22 45 21.2	+0.7
	comp=Z,9.2nm,0.3s,baz=184,slow=11,SNR=82								
APG				Sn		Sb	Sb	22 45 50.4	-1.3
	comp=Z,8.1nm,0.3s,baz=323,slow=18,SNR=12								
MRL	Marmol	2.48	22	*e*P		Pn	Pn	22 45 19.3	-4.6
CRIN	San Cristobal	3.52	91	Pn		Pn	Pn	22 45 38.3	+0.2
TGUH	Tegucigalpa,Un	3.52	68	Pn		Pn	Pn	22 45 39.4	+1.1
CCIG	Comitan	3.77	338			Pn	Pn	22 45 42.5	+0.8
MATN	Matagalpa	4.61	88	Pn		Pn	Pn	22 45 52.1	-1.1
BOAB	BOACO BROADBAN	4.88	93	Pn		Pn	Pn	22 45 57.2	+0.5
ORTG	Ortega, Santa	5.63	115	Pn		Pn	Pn	22 46 06.4	-0.7
CMIG	Matias Romero	5.93	317	Pn		Pn	Pn	22 46 11.2	+0.1
	comp=Z,0.4nm,0.3s,baz=114,slow=13,SNR=5.1								
CMIG				Sn		Sn	Sn	22 47 13.7	-4.7
	comp=Z,1.3nm,0.3s,baz=345,slow=19,SNR=2.7								
CMIG	Matias Romero	5.93	317			Pn	Pn	22 46 10.7	-0.5
TEIG	Tepich	7.75	17	Pn		Pn	Pn	22 46 38.8	+2.6
	comp=Z,2.4nm,0.3s,baz=147,slow=3.2,SNR=12								
TXAR	Lajitas Array	20.44	326	P		Pn		22 49 22.9	+0.1
	comp=Z,0.9nm,0.6s,baz=146,slow=11,SNR=7.7								
TXAR	Lajitas Array	20.44	326	P		P	P	22 49 20.1	-0.6
TX31	Lajitas Ar. Si	20.44	326	P		P	P	22 49 21.2	+0.5
TX31				IAmb		IAmb	IAmb	22 49 37.1	
	comp=Z,15nm,1.3s								
TX32	Lajitas Array	20.44	326	P		P	P	22 49 21.5	+0.8
TKL	Tuckaleechee C	23.61	14	P		P	P	22 49 54.1	0.0
	comp=Z,4.9nm,0.7s,baz=186,slow=12,SNR=7.4								
TKL				pP		pwP		22 50 04.8	+0.4
	comp=Z,4.0nm,0.8s,baz=182,slow=11,SNR=3.2								
U49A	Red Boiling Sp	24.04	10	P		P	P	22 49 57.9	-0.2
U49A				IAmb		IAmb	IAmb	22 50 09.0	
	comp=Z,10nm,0.8s								
T47A	Sharon Grove	24.32	7	P		P	P	22 49 59.9	-0.8
S39A	Bolivar	24.92	355	P		P	P	22 50 05.8	-0.4
S39A				IAmb		IAmb	IAmb	22 50 07.1	
	comp=Z,7.3nm,0.6s								
JLU	Jordanelle	33.19	330	P		P	P	22 51 16.6	-3.5
JLU				IAmb		IAmb	IAmb	22 51 19.7	
	comp=Z,11nm,0.8s								
NVAR	Mina Array Bea	35.44	321	P		P	P	22 51 41.0	+1.5
	comp=Z,0.8nm,0.7s,baz=140,slow=7.0,SNR=7.3								
NVAR				pP		pwP		22 51 51.6	+1.4
	comp=Z,1.8nm,0.8s,baz=128,slow=7.9,SNR=10								
NVAR	Mina Array Bea	35.44	321	P		P	P	22 51 40.4	+0.8
ULM	Lac du Bonnet	37.61	355	P		P	P	22 51 57.9	+0.2
	comp=Z,1.7nm,0.5s,baz=156,slow=10.0,SNR=3.8								
SIV	San Ignacio	40.90	134	P		P	P	22 52 26.4	+0.8
	comp=Z,2.5nm,1.0s,baz=314,slow=11,SNR=7.7								
SIV				pP		pwP	P	22 52 36.7	-0.1
	comp=Z,1.3nm,0.8s,baz=320,slow=9.2,SNR=3.3								
YKA	Yellowknife Ar	52.51	346	P		P	P	22 53 56.4	+0.5
	comp=Z,0.2nm,0.6s,baz=143,slow=9.2,SNR=2.7								

*IEPN **20** 23:06:00.0, 85.99N×72.56E, h10km*

ISC 20 23:06:04.5±4.4, 85.9N±0.2×62.2E±0.2, h10km, n9, σ1§26/17, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZFI	Zemlya Franca-	5.34	206	*e*P		Pn	Pn	23 07 23.8	-0.3
ZFI				*e*S		Sn	Sn	23 08 26.4	+0.9
KBS	Kingsbay	9.07	251	*e*P		Pn	Pn	23 08 15.0	-0.2
KBS				*e*S		Sn	Sn	23 09 57.0	0.0
KBS				IAML				23 10 01.4	
	comp=Z,2.6nm,0.9s								
KBS	Kingsbay	9.07	251	*e*P		Pn		23 08 14.9	-0.2
KBS				*e*S		Sn		23 09 55.4	-1.6
SPA0	Spitsbergen Ar	9.48	244	*e*P		Pn		23 08 20.3	-0.6
SPA0				*e*S		Sn		23 10 08.2	+1.0
SPA0				IAML				23 10 21.5	
	comp=Z,1.6nm,0.8s								
BRBB	Barentsburg B	9.70	246	*e*P		Pn		23 08 24.8	+1.0
BRBB				*e*S		Sn		23 10 13.7	+1.1
BRBA	Barentsburg A	9.73	246	*e*P		Pn		23 08 24.6	+0.4
BRBA				*e*S		Sn		23 10 15.1	+1.7
BRBA				IAML				23 10 35.3	
	comp=Z,4.4nm,0.8s								
HOPEN	Hopen	10.57	231	*e*P		Pn		23 08 34.4	-1.3
HOPEN				*e*S		Sn		23 10 34.2	+0.4
HOPEN				IAML				23 10 40.5	
	comp=Z,4.1nm,0.9s								
HSPB	Hornsund (broa	10.66	243	*e*P		Pn		23 08 38.0	+1.0
HSPB	Hornsund (broa	10.66	243	*e*P		Pn		23 08 37.9	+1.0
HSPB				*e*S		Sn		23 10 33.2	-2.9

*IDC **20** 23:11:30.3±0.6, 24.29S×176.53W, h0km, mb4.5/16, mb1 4.7/18, mb1mx4.6/25, mbtmp4.5/18, ML4.5/2, MS3.8/17, Ms1 3.8/17, ms1mx3.7/32, Error ellipse: s-maj=22.0km s-min=16.1km az=132.0*
*BGR **20** 23:11:34.3±0.0, 24.53S×176.28W, h33km*
*NEIC **20** 23:11:37.9±2.2, 24.49S±0.03×176.4W±0.1, h60km±1km, mb4.7/78, Error ellipse: s-maj=16.6km s-min=2.9km az=107.0*

ISC 20 23:11:35.8±0.6, 24.43S±0.05×176.27W±0.07, h45km±4km, h45km:pP-P, n271, σ1§44/269, mb4.7/59, MS3.9/17, 26C-12D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.02	197	Sn		Sn	Sn	23 13 46.2	+0.8
	111nm,0.3s,baz=92,slow=22,SNR=3.6								
RAO	Raoul Island	5.02	197	Pn		Pn		23 12 46.5	-2.1
RAO				Sn		Sn		23 13 45.3	-0.1
NIUE	Niue	7.95	49	P		Pn		23 13 25.3	-3.5
	baz=7.5,SNR=9.9								
MSVF	Nonsavu	8.51	320	Pn		Pn		23 13 40.6	+4.0
	31nm,0.3s,baz=154,slow=13,SNR=72								
MSVF				LR		LR		23 16 36.2	
	comp=Z,809nm,21.6s,baz=158,slow=37								
MSVF	Nonsavu	8.51	320	Pn		Pn		23 13 39.6	+3.0
AFI	Afiamalu	11.29	23	Pn		Pn		23 14 10.6	-4.1
	11nm,0.3s,baz=154,slow=5.7,SNR=8.1								
AFI				Sn		Sn		23 16 04.4	-15
	4.0nm,0.3s,baz=69,slow=17,SNR=2.1								
AFI	Afiamalu	11.29	23	Pn		Pn		23 14 12.9	-1.8
MXZ	Matakaoa Point	13.89	198	Pn		Pn		23 14 50.6	+0.6
URZ	Urewera	14.89	201	Pn		Pn		23 15 03.0	-0.3
	0.7nm,0.3s,baz=114,slow=20,SNR=5.5								
URZ				Sn		Sn		23 17 33.5	-14
	0.7nm,0.3s,baz=162,slow=20,SNR=2.1								
URZ	Urewera	14.89	201	Pn		Pn		23 15 03.5	+0.1
RAR	Rarotonga	15.55	81	Pn		Pn		23 15 09.2	-2.8
	17nm,0.3s,baz=266,slow=7.3,SNR=14								
RAR				Sn		Sn		23 17 46.6	-17
	4.5nm,0.3s,baz=106,slow=19,SNR=1.8								
RAR				LR		LR		23 19 53.1	
	comp=Z,307nm,20.6s,baz=264,slow=32								
RAR	Rarotonga	15.55	81	Pn		Pn		23 15 11.2	-0.7
BKZ	Black Stump Fm	15.92	201	Pn		Pn		23 15 15.9	-0.8
HIZ	Hauiti	15.94	206	Pn		Pn		23 15 16.9	0.0
DZM	Mont Dzumac	16.06	275	*e*P		P		23 15 22.7	+1.3
	87nm,1.2s								
DZM				*e*LR		LR		23 19 07.8	
	comp=Z,1μm,24.9s								
DZM	Mont Dzumac	16.06	275	Pn		P		23 15 21.4	0.0
	0.3nm,0.3s,baz=240,slow=14,SNR=3.0								
DZM				LR		LR		23 18 51.0	
	comp=Z,292nm,21.6s,baz=76,slow=28								
DZM	Mont Dzumac	16.06	275	P		P		23 15 21.7	+0.3
BFZ	Birch Farm	17.38	199	Pn		Pn		23 15 33.1	-1.9
MSWZ	Moikau Station	18.36	201			P		23 15 45.1	-1.5
BHW	Baring Head	18.47	201			P		23 15 45.3	-2.6
PLWZ	Palliser	18.49	200	P		P		23 15 46.3	-1.9
TUWZ	Tuamarina	18.81	203	P		P		23 15 47

AS31	**Alice Springs**	**45.30**	**260**	P	**P**		**23**	**19**	**48.7**	**-0.8**
AS31				lAmb	lAmb		23	19	51.0	
	comp=Z,3.8nm,0.6s									
ASAR	**Alice Springs**	**45.30**	**260**	P	**P**		**23**	**19**	**47.9**	**-1.7**
	comp=Z,19nm,0.9s,baz=87,slow=6.7,SNR=91									
ASAR				LR	LR		23	38	12.4	
	comp=Z,244nm,19.2s,baz=105,slow=36									
ASAR	**Alice Springs**	**45.30**	**260**	P	**P**		**23**	**19**	**48.1**	**-1.4**
WR0	**Warramunga Arr**	**45.58**	**265**	P	**P**		**23**	**19**	**49.7**	**-2.0**
WR0				lAmb	lAmb		23	19	51.8	
	comp=Z,7.1nm,0.5s									
WB2	**Warramunga Arr**	**45.75**	**265**	P	**P**		**23**	**19**	**51.0**	**-2.1**
WB0	**Warramunga Arr**	**45.76**	**266**	P	**P**		**23**	**19**	**51.0**	**-2.1**
WRA	**Warramunga Arr**	**45.76**	**265**	P	**P**		**23**	**19**	**50.8**	**-2.4**
	comp=Z,9.3nm,0.5s,baz=103,slow=8.0,SNR=81									
WRA				LR	LR		23	37	55.0	
	comp=Z,186nm,19.8s,baz=85,slow=35									
WRA	**Warramunga Arr**	**45.76**	**265**	P	**P**		**23**	**19**	**50.9**	**-2.2**
FORT	**Forrest**	**49.32**	**250**	P	**P**		**23**	**20**	**19.3**	**-1.3**
KDU	**Kakadu**	**49.72**	**274**	P	**P**		**23**	**20**	**21.4**	**-2.5**
	baz=50,SNR=6.7									
WRKA	**Warakurna**	**50.04**	**257**	P	**P**		**23**	**20**	**23.9**	**-2.4**
	baz=50,SNR=70									
FAKI	**Fak Fak**	**54.00**	**285**	P	**P**		**23**	**20**	**53.5**	**-2.3**
FAKI				lAmb	lAmb		23	20	55.0	
	comp=Z,5.4nm,0.7s									
SBA	**Scott Base**	**54.08**	**184**	P	**P**		**23**	**20**	**58.5**	**+3.1**
SBA				lAmb	lAmb		23	21	12.1	
	comp=Z,8.6nm,0.9s									
SBA				PcP	**PcP**		**23**	**22**	**02.4**	**+2.7**
VNDA	**Vanda**	**54.17**	**186**	P	**P**		**23**	**20**	**58.8**	**+2.7**
	comp=Z,1.2nm,0.7s,baz=344,slow=6.5,SNR=5.2									
VNDA	**Vanda**	**54.17**	**186**	P	**P**		**23**	**20**	**57.8**	**+1.7**
FITZ	**Fitzroy Crossi**	**54.18**	**265**	LR	LR		23	42	50.9	
	comp=Z,196nm,18.7s,baz=82,slow=35									
FITZ	**Fitzroy Crossi**	**54.18**	**265**	P	**P**		**23**	**20**	**55.3**	**-1.7**
	baz=54,SNR=15									
FITZ	**Fitzroy Crossi**	**54.18**	**265**	P	**P**		**23**	**20**	**55.7**	**-1.3**
FITZ				lAmb	lAmb		23	20	56.5	
	comp=Z,5.7nm,0.8s									
SIJI	**Sorong**	**55.84**	**287**	LR	LR		23	45	02.3	
	comp=Z,101nm,19.0s,baz=85,slow=36									
KLBR	**Kellerberrin**	**57.92**	**247**	P	**P**		**23**	**21**	**24.4**	**+0.8**
	baz=58,SNR=5.3									
PSA00	**Pilbara Seismi**	**58.41**	**259**	P	**P**		**23**	**21**	**25.2**	**-2.0**
PSA00				lAmb	lAmb		23	21	26.4	
	comp=Z,6.9nm,0.9s									
MORW	**Morawa**	**59.88**	**249**	P	**P**		**23**	**21**	**36.2**	**-1.1**
	baz=60,SNR=3.6									
MORW	**Morawa**	**59.88**	**249**	P	**P**		**23**	**21**	**36.3**	**-1.1**
CASY	**Casey**	**61.13**	**206**		**P**		**23**	**21**	**45.4**	**+0.3**
CASY				lAmb	lAmb		23	21	53.1	
	comp=Z,12nm,1.1s									
GIRL	**Giralia**	**63.10**	**256**	P	**P**		**23**	**21**	**58.6**	**-0.5**
MJAR	**Matsushiro Arr**	**74.30**	**323**	P	**P**		**23**	**23**	**07.5**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=155,slow=6.0,SNR=10									
MJAR				LR	LR		23	49	28.7	
	comp=Z,40nm,21.5s,baz=125,slow=31									
MAT	**Matsushiro**	**74.31**	**323**	P	**P**		**23**	**23**	**07.4**	**-1.1**
JSD	**Sado**	**75.38**	**324**	P	**P**		**23**	**23**	**14.2**	**-0.5**
JSD				lAmb	lAmb		23	23	19.6	
	comp=Z,6.2nm,0.8s									
BELA	**Belgrano 2**	**75.47**	**172**	P	**P**		**23**	**23**	**15.5**	**+0.8**
BELA				lAmb	lAmb		23	23	16.6	
	comp=Z,5.5nm,0.9s									
MAW	**Mawson**	**78.42**	**200**	P	**P**		**23**	**23**	**33.2**	**+1.8**
	comp=Z,11nm,0.7s,baz=141,slow=9.3,SNR=7.4									
MAW	**Mawson**	**78.42**	**200**	P	**P**		**23**	**23**	**32.7**	**+1.3**
PEA0B	**Petropavlovsk-**	**80.46**	**344**	P	**P**		**23**	**23**	**42.4**	**-0.1**
PETK	**Petropavlovsk-**	**80.46**	**344**	P	**P**		**23**	**23**	**43.0**	**+0.5**
	comp=Z,10nm,0.8s,baz=126,slow=7.5,SNR=18									
PETK				LR	LR		23	53	50.7	
	comp=Z,47nm,20.4s,baz=148,slow=32									
PETK	**Petropavlovsk-**	**80.46**	**344**	P	**P**		**23**	**23**	**42.8**	**+0.3**
KSRS	**Korea Array**	**80.87**	**318**	P	**P**		**23**	**23**	**46.5**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=132,slow=5.8,SNR=6.2									
KSRS				LR	LR		23	54	25.8	
	comp=Z,32nm,21.5s,baz=0.0,slow=32									
GSC	**Goldstone, Bar**	**81.83**	**45**	P	**P**		**23**	**23**	**52.4**	**+2.0**
WAKR	**Walker**	**82.17**	**42**	P	**P**		**23**	**23**	**51.4**	**-0.8**
WAKR				lAmb	lAmb		23	23	55.8	
	comp=Z,5.4nm,0.9s									
PNTR	**Pine Nut**	**82.45**	**41**	P	**P**		**23**	**23**	**55.9**	**+2.3**
PNTR				lAmb	lAmb		23	23	57.0	
	comp=Z,8.1nm,0.8s									
H03S2	**Juan Fernandez**	**82.48**	**124**	T	T		00	54	48.7	
	baz=244,slow=74,SNR=118									
H03S1	**Juan Fernandez**	**82.49**	**124**	T	T		00	54	47.8	
	baz=244,slow=74,SNR=136									
H03S3	**Juan Fernandez**	**82.49**	**124**	T	T		00	54	47.2	
	baz=244,slow=74,SNR=143									
H03N2	**Juan Fernandez**	**82.63**	**123**	T	T		00	54	57.7	
	baz=250,slow=72,SNR=432									
H03N3	**Juan Fernandez**	**82.63**	**123**	T	T		00	54	59.0	
	baz=250,slow=72,SNR=678									
H03N1	**Juan Fernandez**	**82.65**	**123**	T	T		00	55	00.2	
	baz=250,slow=72,SNR=251									
NVAR	**Mina Array Bea**	**82.81**	**42**	P	**P**		**23**	**23**	**57.6**	**+2.0**
	comp=Z,2.1nm,0.7s,baz=224,slow=7.8,SNR=17									
NVAR				LR	LR		23	56	54.3	
	comp=Z,37nm,19.0s,baz=214,slow=33									
PAHR	**Pah Rah Range**	**82.97**	**41**	P	**P**		**23**	**23**	**56.5**	**+0.3**
PAHR				lAmb	lAmb		23	23	59.0	
	comp=Z,4.2nm,0.9s									
USRK	**Ussuriysk Ar.**	**83.09**	**325**	P	**P**		**23**	**23**	**58.0**	**+1.4**
	comp=Z,4.7nm,0.7s,baz=125,slow=2.8,SNR=11									
USRK				LR	LR		23	59	19.9	
	comp=Z,31nm,18.4s,baz=172,slow=35									
USRK	**Ussuriysk Ar.**	**83.09**	**325**	P	**P**		**23**	**23**	**57.1**	**+0.5**
TPNV	**Topopah Spring**	**83.18**	**44**	P	**P**		**23**	**23**	**59.6**	**+2.1**
KVN	**Kaiserville**	**83.33**	**42**	P	**P**		**23**	**23**	**59.1**	**+1.0**
KVN				lAmb	lAmb		23	24	01.1	
	comp=Z,3.8nm,0.7s									
MOD	**Modoc Plateau**	**83.85**	**38**	P	**P**		**23**	**24**	**02.5**	**+1.8**
MOD				lAmb	lAmb		23	24	03.7	
	comp=Z,6.1nm,0.7s									
SNAA	**Sanae**	**84.05**	**178**	P	**P**		**23**	**24**	**02.1**	**+0.8**
K05A	**Summer Lake**	**84.06**	**38**	P	**P**		**23**	**24**	**04.0**	**+2.2**
K05A				lAmb	lAmb		23	24	05.2	
	comp=Z,8.2nm,0.8s									
VNA3	**Neumayer Olymp**	**84.13**	**176**	P	**P**		**23**	**24**	**02.4**	**+0.7**
VNA2	**Neumayer--Watz**	**84.58**	**176**	P	**P**		**23**	**24**	**05.0**	**+1.0**
	baz=182,slow=4.5									
PINE	**Pine Mountain**	**84.73**	**37**	P	**P**		**23**	**24**	**05.8**	**+0.6**
PINE				lAmb	lAmb		23	24	08.7	
	comp=Z,10nm,0.9s									
VNA1	**Neumayer--Stat**	**84.80**	**176**	P	**P**		**23**	**24**	**06.0**	**+1.0**
LCMT	**Little Creek M**	**85.16**	**46**	P	**P**		**23**	**24**	**09.6**	**+2.2**
LCMT				lAmb	lAmb		23	24	10.7	
	comp=Z,2.9nm,0.7s									
PLCA	**Paso Flores**	**85.43**	**133**	LR	LR		23	53	19.1	
	comp=Z,59nm,20.9s,baz=185,slow=29									
U15A	**North Rim**	**85.45**	**47**	P	**P**		**23**	**24**	**11.6**	**+2.5**
U15A				lAmb	lAmb		23	24	13.1	
	comp=Z,5.9nm,0.8s									
X18A	**Snowflake**	**85.98**	**49**	P	**P**		**23**	**24**	**13.0**	**+1.3**
X18A				lAmb	lAmb		23	24	15.5	
	comp=Z,3.6nm,0.7s									
PKCU	**Pink Cliffs**	**86.02**	**46**	P	**P**		**23**	**24**	**12.8**	**+0.9**
PKCU				lAmb	lAmb		23	24	15.8	
	comp=Z,4.2nm,0.9s									
MTPU	**Mount Pierson**	**86.44**	**45**	P	**P**		**23**	**24**	**16.1**	**+2.0**
MTPU				lAmb	lAmb		23	24	17.8	
	comp=Z,4.0nm,0.8s									
TMUT	**Trail Mountain**	**87.78**	**45**	P	**P**		**23**	**24**	**23.2**	**+2.7**
TXAR	**Lajitas Array**	**87.85**	**56**	P	**P**		**23**	**24**	**23.2**	**+2.4**
	comp=Z,1.3nm,0.8s,baz=222,slow=6.9,SNR=8.9									
TXAR	**Lajitas Array**	**87.85**	**56**	P	**P**		**23**	**24**	**22.5**	**+1.7**
SRU	**San Rafael Swe**	**88.12**	**45**	P	**P**		**23**	**24**	**23.9**	**+1.9**
SRU				lAmb	lAmb		23	24	24.9	
	comp=Z,5.2nm,0.7s									
ANMO	**Albuquerque**	**88.63**	**50**	P	**P**		**23**	**24**	**24.6**	**+0.1**
ANMO				lAmb	lAmb		23	24	41.8	
	comp=Z,5.7nm,1.1s									
N25K	**Chitina, Valde**	**89.45**	**15**	P	**P**		**23**	**24**	**29.1**	**+1.5**
CTGM	**Chitina Glacie**	**89.69**	**16**	P	**P**		**23**	**24**	**29.9**	**+1.1**
BJI	**Beijing**	**89.79**	**315**	P	**P**		**23**	**24**	**30.8**	**+1.3**
BJI				pmax	pmax					
	comp=Z,5.0nm,0.5s									
KTH	**Kantishna Hill**	**89.94**	**11**	P	**P**		**23**	**24**	**30.4**	**+0.7**
TRF	**Thorofare Moun**	**89.95**	**11**	P	**P**		**23**	**24**	**30.7**	**+0.8**
RND	**Reindeer**	**90.18**	**12**	P	**P**		**23**	**24**	**31.7**	**+0.9**
MCK	**McKinley**	**90.46**	**12**	P	**P**		**23**	**24**	**32.2**	**+0.1**
PDAR	**Pinedale Array**	**90.74**	**43**	P	**P**		**23**	**24**	**35.7**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=220,slow=3.3,SNR=11									

PDAR	**Pinedale Array**	**90.74**	**43**	P	**P**		**23**	**24**	**35.4**	**+1.2**
YHL	**Hebgen Lake**	**90.92**	**40**	P	**P**		**23**	**24**	**36.3**	**+1.3**
BOZ	**Bozeman (W)**	**91.08**	**39**	P	**P**		**23**	**24**	**37.2**	**+1.6**
WRH	**Wood River Hil**	**91.29**	**12**	P	**P**		**23**	**24**	**36.8**	**+0.9**
CCB	**Clear Creek Bu**	**91.50**	**12**	P	**P**		**23**	**24**	**38.0**	**+1.1**
CCB				lAmb	lAmb		23	24	38.3	
	comp=Z,3.2nm,0.8s									
MDM	**Murphy Dome**	**91.71**	**12**	P	**P**		**23**	**24**	**38.4**	**+0.5**
MDM				lAmb	lAmb		23	24	41.4	
	comp=Z,5.9nm,1.2s									
XAN	**Xi'an**	**91.76**	**307**	P	**P**		**23**	**24**	**40.1**	**+1.2**
XAN				pP	sP		23	24	55.8	-1.3
XAN				pmax	pmax					
	comp=Z,10.0nm,0.8s									
XAN				pmax	pmax					
	comp=Z,170nm,7.4s									
XAN	**Xi'an**	**91.76**	**307**	P	**P**		**23**	**24**	**39.3**	**+0.3**
IL31		**91.79**	**12**	P	**P**		**23**	**24**	**38.9**	**+0.7**
IL31				lAmb	lAmb		23	24	39.4	
	comp=Z,5.3nm,1.1s									
ILAR	**Eielson Array**	**91.79**	**12**	P	**P**		**23**	**24**	**38.5**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=215,slow=5.1,SNR=21									
ILAR	**Eielson Array**	**91.79**	**12**	P	**P**		**23**	**24**	**38.8**	**+0.5**
K27K	**Chicken**	**92.14**	**14**	P	**P**		**23**	**24**	**42.1**	**+2.2**
K27K				lAmb	lAmb		23	24	43.5	
	comp=Z,3.5nm,1.1s									
KMI	**Kunming**	**92.53**	**296**	⇓P	**P**		**23**	**24**	**43.5**	**+0.6**
KMI				pP	pP		23	24	52.6	-3.6
KMI				pmax	pmax					
	comp=Z,4.0nm,0.7s									
KMI				pmax	pmax					
	comp=Z,77nm,4.9s									
CMAR	**Chiang Mai Arr**	**92.91**	**289**	P	**P**		**23**	**24**	**45.8**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=132,slow=3.7,SNR=8.8									
CHTO	**Chiang Mai**	**93.06**	**289**	P	**P**		**23**	**24**	**45.9**	**+0.7**
CHTO				lAmb	lAmb		23	24	47.2	
	comp=Z,2.5nm,0.7s									
BILL	**Bilibino**	**93.10**	**354**	P	**P**		**23**	**24**	**44.9**	**+0.7**
HHC	**Hu-ho-hao-te**	**93.22**	**314**	eP	**P**		**23**	**24**	**46.1**	**+0.5**
HHC				pmax	pmax					
	comp=Z,15nm,0.6s									
HHC				pmax	pmax					
	comp=Z,110nm,7.6s									
YKA	**Yellowknife Ar**	**99.41**	**24**	P	**Pdif**		**23**	**25**	**13.8**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=234,slow=4.0,SNR=6.5									
YKA				LR	LR		00	04	01.4	
	comp=Z,28nm,20.2s,baz=0.0,slow=32									
ZALV	**Zalesovo Beam**	**114.53**	**320**	PKP	PKPdf		23	30	09.8	-0.7
	comp=Z,0.6nm,0.5s,baz=169,slow=3.0,SNR=4.0									
MKAR	**Makanchi Array**	**115.03**	**312**	PKP	**PKPdf**		**23**	**30**	**11.2**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=222,slow=0.9,SNR=8.7									
MKAR				PKKPbc	**PKKPbc**		**23**	**40**	**49.6**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=308,slow=2.4,SNR=3.9									
ARCES	**ARCESS Array B**	**133.06**	**350**	PKP	**PKPdf**		**23**	**30**	**45.8**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=45,slow=2.1,SNR=12									
FINES	**FINESS Array B**	**139.98**	**343**	PKhKP	PKPpre		23	30	49.6	
	comp=Z,0.6nm,0.5s,baz=129,slow=2.0,SNR=8.3									
FINES				PKP	**PKiKP**		**23**	**31**	**00.3**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=8.1,slow=2.9,SNR=7.0									
VSU	**Vasula**	**142.27**	**340**	eP	**PKPdf**		**23**	**31**	**00.7**	**-2.0**
KBZ	**Khabaz**	**142.71**	**311**	PKhKP	PKPpre		23	30	59.9	
	comp=Z,1.1nm,0.8s,baz=153,slow=4.5,SNR=2.9									
MTSE	**Matsula**	**142.90**	**343**	eP	**PKPdf**		**23**	**30**	**59.9**	**-4.0**
AKH	**Akhalkalaki**	**142.94**	**307**	⇑P	**PKPdf**		**23**	**31**	**01.7**	**-3.1**
NB2	**NORSAR Subarra**	**143.05**	**354**	PKP	PKPbc		23	31	00.5	-0.6
	comp=Z,1.3nm,0.6s,baz=14,slow=3.5									
NOA	**NORSAR Array B**	**143.05**	**354**	PKhKP	PKPpre		23	31	01.3	
	comp=Z,1.3nm,0.6s,baz=21,slow=3.9,SNR=7.8									
UPP	**Uppsala**	**143.28**	**348**	eP	PKPab		23	31	00.2	-0.2
IDID	**Didziasalis**	**144.79**	**337**	eP	PKPbc		23	31	06.8	+0.4
ISAL	**Salakas**	**144.80**	**338**	eP	PKPbc		23	31	06.8	+0.4
IIGN	**Ignalina**	**144.94**	**338**	eP	**PKPdf**		**23**	**31**	**07.5**	**-0.1**
MNK	**Minsk**	**145.00**	**335**	i PKP	**PKPdf**		**23**	**31**	**07.7**	**0.0**
	comp=E,1.0nm,1.2s									
MNK				*i* PKP	**PKPdf**		**23**	**31**	**07.7**	**0.0**
	comp=N,21nm,1.1s									
MNK				*i* PKP	**PKPdf**		**23**	**31**	**07.7**	**0.0**
	comp=Z,42nm,0.8s									
MNK				*i* PP	**PP**		**23**	**34**	**25.1**	**-0.7**
MNK				*i* PP	**PP**		**23**	**34**	**25.1**	**-0.7**
MNK				*i* PPP	PPP		23	37	38.6	
MNK				*i* SKS	**SKSdf**		**23**	**38**	**11.1**	**-2.0**
MNK				*i* SKKS	**SKKSdf**		**23**	**47**	**18.1**	**-6.4**
MNK				*i* SS	**SS**		**23**	**53**	**10.9**	**-0.8**
MNK				*i* SSS	SSS		23	58	37.3	
NACGM	**Naroch**	**145.10**	**337**	*i* PKP	**PKPab**		**23**	**31**	**07.7**	**+0.2**
NACGM				*i* PKP	**PKPab**		**23**	**31**	**07.7**	**+0.2**
NACGM				*i* PKP	**PKPab**		**23**	**31**	**07.7**	**+0.2**
NACGM				*i* PPP	PPP		23	39	27.1	
NACGM				*i* SKS			23	40	17.6	
NACGM				*i* SS	SS		23	54	24.4	+72
PABE	**Paberze**	**145.57**	**340**	eP	**PKPab**		**23**	**31**	**09.3**	**+0.1**
PBUR	**Paburge**	**145.74**	**342**	eP	**PKPbc**		**23**	**31**	**09.7**	**+0.3**
SNART	**Snartemo**	**146.03**	**357**	*i* P	**PKPab**		**23**	**31**	**10.9**	**+0.1**
SUW	**Suwalki**	**147.06**	**339**	ePKP	**PKPbc**		**23**	**31**	**13.8**	**+0.5**
SUW	**Suwalki**	**147.06**	**339**	eP	**PKPbc**		**23**	**31**	**13.3**	**-0.1**
AKASG	**Malin Array Be**	**147.20**	**330**	PKPbc	**PKPbc**		**23**	**31**	**13.6**	**-0.2**
	comp=Z,6.5nm,0.4s,baz=42,slow=4.1,SNR=37									
AKASG	**Malin Array Be**	**147.20**	**330**		**PKPbc**		**23**	**31**	**13.5**	**-0.3**
MUD	**Monsted U'grnd**	**147.76**	**354**	*i* P	**PKPbc**		**23**	**31**	**16.3**	**+1.2**
MUD	**Monsted U'grnd**	**147.76**	**354**	eP	**PKPbc**		**23**	**31**	**16.4**	**+1.2**
GKP	**Gorka Klasztor**	**149.45**	**344**	eP	**PKiKP**		**23**	**31**	**20.8**	**0.0**
BSEG	**Bad Segeberg**	**150.12**	**352**	ePKPbc	**PKiKP**		**23**	**31**	**22.0**	**-0.1**
	baz=12,slow=2.2									
BSEG				ePKPab	**PKPab**		**23**	**31**	**28.1**	**+0.9**
	baz=13,slow=4.3									
BRTR	**Keskin Array B**	**150.59**	**308**	PKPbc	**PKPbc**		**23**	**31**	**22.9**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=132,slow=4.1,SNR=16									
BRTR	**Keskin Array B**	**150.59**	**308**		**PKPbc**		**23**	**31**	**22.8**	**-0.3**
BRTR				PKPab	**pPKPdf**		**23**	**31**	**30.5**	**-0.8**
KWP	**Kalwaria Pacla**	**150.80**	**334**	ePKP	**PKiKP**		**23**	**31**	**23.8**	**+0.1**
PRAR	**RASCA**	**150.94**	**328**	⇓P	**PKiKP**		**23**	**31**	**24.9**	**+0.8**
RUE	**Ruedersdorf**	**150.96**	**347**	ePKPbc	**PKiKP**		**23**	**31**	**24.7**	**+0.8**
	baz=12,slow=2.2									
TLCR		**151.00**	**322**	⇓P	**PKPbc**		**23**	**31**	**23.1**	**-0.6**
BURAR	**Bucovina Array**	**151.25**	**329**	⇓P	**PKiKP**		**23**	**31**	**25.3**	**+0.5**
BIZ	**Bicaz**	**151.29**	**327**	⇑P	**PKiKP**		**23**	**31**	**25.1**	**+0.3**
TESR	**Tescani**	**151.31**	**326**	⇑P	**PKiKP**		**23**	**31**	**25.1**	**+0.2**
CFR	**Carcaliu**	**151.38**	**322**	⇑P	**PKPbc**		**23**	**31**	**24.2**	**-0.3**
OJC	**Ojcow**	**151.38**	**338**	ePKP	**PKiKP**		**23**	**31**	**25.0**	**+0.1**
TPGR	**Topolog**	**151.42**	**322**	⇓P	**PKiKP**		**23**	**31**	**25.5**	**+0.4**
KOLS	**Kolonicke sedl**	**151.53**	**334**	ePKP	**PKiKP**		**23**	**31**	**25.5**	**+0.3**
FLTG	**Flechtingen**	**151.56**	**350**	ePKPbc	**PKiKP**		**23**	**31**	**25.1**	**0.0**
	baz=12,slow=2.2									
VRI	**Vrincioaia**	**151.70**	**325**	⇓P	**PKPdf**		**23**	**31**	**22.1**	**+3.2**
PLOR	**Plostina**	**151.75**	**325**	⇑P	**PKPab**		**23**	**31**	**36.7**	**+2.3**
CRVS	**Cervenica-Dubn**	**151.87**	**335**	ePKP	**PKiKP**		**23**	**31**	**26.8**	**+0.8**
NIE	**Niedzica**	**151.88**	**337**	ePKP	**PKiKP**		**23**	**31**	**26.6**	**+0.6**
KSP	**Ksiaz**	**151.90**	**343**	ePKP	**PKiKP**		**23**	**31**	**26.5**	**+0.6**
IBBN	**Ibbenbueren**	**152.00**	**355**	ePKPab	**PKPab**		**23**	**31**	**35.6**	**+0.5**
	baz=13,slow=4.3									
ARCR	**ARCALIA**	**152.03**	**329**	⇑P	**PKiKP**		**23**	**31**	**26.7**	**+0.4**
OZUR		**152.03**	**326**	⇓P	**PKiKP**		**23**	**31**	**27.0**	**+0.6**
CLZ	**Clausthal**	**152.16**	**351**	ePKPbc	**PKiKP**		**23**	**31**	**26.9**	**+0.5**
	baz=12,slow=2.2									
OSTC	**Ostas**	**152.18**	**343**	⇑ePKP	**PKiKP**		**23**	**31**	**26.9**	**+0.4**
CHVC	**Chvalec**	**152.19**	**343**	⇑ePKP	**PKiKP**		**23**	**31**	**26.8**	**+0.2**
CLL	**Collm**	**152.23**	**347**	⇑iPKPbc	**PKiKP**		**23**	**31**	**26.7**	**+0.1**
	comp=Z,10.0nm,0.8s									
CLL				*i* PKPab	**PKPab**		**23**	**31**	**36.1**	**0.0**
	comp=Z,11nm,0.8s									
CLL				*i* pPKPbc	**sPKPbc**		**23**	**31**	**44.9**	**+0.1**
CLL				*es*PKPbc	**pPKPab**		**23**	**31**	**51.0**	**+1.5**
CLL				*e*SKPdf	**SKPdf**		**23**	**34**	**46.0**	**-3.2**
CLL	**Collm**	**152.23**	**347**	ePKPbc	**PKiKP**		**23**	**31**	**26.7**	**+0.1**
	baz=12,slow=2.2									
CLL				ePKPab	**PKPab**		**23**	**31**	**36.4**	**+0.3**
	baz=13,slow=4.3									
ISR	**Istrita**	**152.29**	**324**	⇓P	**PKPab**		**23**	**31**	**37.7**	**+1.0**
DOPR	**Dopca**	**152.32**	**326**	⇑P	**PKiKP**		**23**	**31**	**27.4**	**+0.4**
DPC	**Dobruska-Polom**	**152.34**	**342**	⇑ePKP	**PKiKP**		**23**	**31**	**27.4**	**+0.5**
DPC				ePKPAB	**PKPab**		**23**	**31**	**36.6**	**-0.1**
LANS	**Liptovska Anna**	**152.41**	**337**	ePKP	**PKiKP**		**23**	**31**	**28.7**	**+1.6**
BRG	**Berggiesshubel**	**152.44**	**346**	*i* PKP	**PKiKP**		**23**	**31**	**27.5**	**+0.5**
BRG				Amp			23	31	28.8	
	comp=Z,9.0nm,0.8s									
BRG				*i* x	x		23	31	37.6	
BRG				Amp			23	31	38.3	
	comp=Z,6.4nm,0.7s									
BRG	**Berggiesshubel**	**152.44**	**346**	ePKPbc	**PKiKP**		**23**	**31**	**27.4**	**+0.3**
	baz=12,slow=2.2									
KRLC	**Kraliky**	**152.46**	**342**	⇑ePKP	**PKiKP**		**23**	**31**	**27.7**	**+0.5**
MORC	**Moravsky Berou**	**152.50**	**340**	⇑P	**PKiKP**		**23**	**31**	**27.3**	**+0.1**
MORC	**Moravsky Berou**	**152.50**	**340**	ePKIKP	**PKiKP**		**23**	**31**	**27.8**	**+0.5**

FBE	**Freiberg**	**152.53**	**347**	ePKPbc	**PKiKP**		**23**	**31**	**27.8**	**+0.6**
	baz=12,slow=2.2									
NEUB	**Neuenburg**	**152.56**	**349**	ePKPbc	**PKiKP**		**23**	**31**	**27.6**	**+0.4**
	baz=12,slow=2.2									
PVCC	**Panska Ves**	**152.62**	**345**	⇑ePKP	**PKiKP**		**23**	**31**	**28.3**	**+0.9**
VOIR		**152.86**	**326**	⇑P	**PKPbc**		**23**	**31**	**28.2**	**+0.2**
DRGR		**153.01**	**330**	⇑P	**PKPbc**		**23**	**31**	**28.3**	**0.0**
ARR	**Arges**	**153.12**	**326**	⇓P	**PKiKP**		**23**	**31**	**29.5**	**+0.8**
MOX	**Moxa**	**153.12**	**349**	ePKPab	**PKPab**		**23**	**31**	**40.2**	**+0.3**
	baz=13,slow=4.3									
PRU	**Pruhonice**	**153.13**	**344**	⇑ePKP	**PKiKP**		**23**	**31**	**28.8**	**+0.3**
PRU				ePKPAB	**PKPab**		**23**	**31**	**40.6**	**+0.6**
GOPC	**GO Pecny, Ondr**	**153.14**	**344**	⇑ePKP	**PKiKP**		**23**	**

WRA S Sn 00 26 23.4 -11
0.1nm,0.3s,baz=304,slow=24,SNR=2.8
ASAR Alice Springs 20.33 132 P Pn 00 23 29.8 +4.2
4.3nm,0.8s,baz=307,slow=9.4,SNR=45
ASAR S **S 00 27 05.4 -6.2**
0.6nm,0.7s,baz=306,slow=22,SNR=4.8
MMPI Merauke 22.49 87 P P 00 24 02.7 +16
STKA Stephens Creek 30.75 138 P P 00 25 08.7 +6.0
1.2nm,0.5s,baz=313,slow=12,SNR=3.2
KSRS Korea Array 48.58 11 P **P 00 27 30.6 -0.2**
1.5nm,0.7s,baz=179,slow=9.6,SNR=9.5
USRK Ussuriysk Ar. 55.90 12 P **P 00 28 24.4 -0.6**
0.8nm,0.5s,baz=197,slow=6.8,SNR=4.3
SONM Songino Array 58.86 351 P **P 00 28 46.5 +0.5**
1.0nm,0.5s,baz=169,slow=9.6,SNR=9.3
MKAR Makanchi Array 65.13 334 P **P 00 29 29.4 +1.3**
0.4nm,0.3s,baz=138,slow=6.1,SNR=24
ZALV Zalesovo Beam 69.91 340 P **P 00 29 58.7 +0.6**
0.9nm,0.5s,baz=123,slow=3.0,SNR=2.8
PETK Petropavlovsk- 71.90 24 P **P 00 30 10.4 +0.2**
1.2nm,0.7s,baz=197,slow=3.0,SNR=5.2

*NERS **21** 00:22:12.4±0.0,69.°33N×143.°50E,h33km*
*YARS **21** 00:22:53.3±0.0,67.°62N×142.°37E,h9km,Ms3.4/10*
*IDC **21** 00:22:54.5±0.6,67.°69N×142.°65E,h0km,mb3.9/17,*
mb1 4.1/22,mb1mx3.9/48,mbtmp3.9/22,ML3.7/3,MS3.4/13,
Ms1 3.4/13,ms1mx3.1/61,Error ellipse: s-maj=15.7km
s-min=12.1km az=159.0
*NEIC **21** 00:22:56.5±1.2,67.°61N±0.°08×142.°6E±0.°2,h10km±1km,*
mb4.3/43,Error ellipse: s-maj=13.3km s-min=11.1km
az=189.0

ISC 21 00:22:56.1±0.4,67.°64N±0.°03×142.°55E±0.°03,h10km,n115,
σ1s93/126,mb4.2/40,MS3.5/10,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.21**	**167**	*e*	Pg		Pn	00 23 16.1	-2.8
	608nm,0.6s								
MOMR				*e*	Sg		**Sb**	**00 23 32.4**	**-2.2**
	4μm,0.8s								
MOMR				*e*	Sg		**Sb**	**00 23 32.4**	**-2.2**
	3μm,0.6s								
MOMR				*i*	LR		LR	00 23 36.2	
	6μm,3.1s								
YBGR	**Belaya Gora**	**1.64**	**55**	*i*	Pn		**Pn**	**00 23 23.8**	**-1.1**
	182nm,0.4s								
YBGR				*i*	Pg		**Pb**	**00 23 24.4**	**-1.9**
	273nm,0.2s								
YBGR				*e*	Sn		**Sn**	**00 23 45.8**	**-0.1**
	10μm,1.3s								
YBGR				*e*	Sg		**Sb**	**00 23 49.0**	**+2.1**
	7μm,1.0s								
DEPR	**Deputatskiy**	**2.02**	**332**	*i*	Pg		**Pn**	**00 23 30.5**	**+0.4**
	101nm,0.5s								
DEPR				*i*	Sg		**Sg**	**00 24 00.5**	**-0.2**
	890nm,0.3s								
BTGS	**Batagay**	**3.02**	**274**	*e*	Pg		**Pn**	**00 23 45.9**	**+2.0**
	22μm,0.9s								
BTGS				*i*	Sn		**Sn**	**00 24 16.9**	**-3.3**
BTGS				*i*	Sg		**Sg**	**00 24 31.3**	**-1.8**
	179μm,0.9s								
UNR	**Ust'-Nera**	**3.09**	**175**	*i*	Pn		**Pn**	**00 23 42.4**	**-2.5**
	6.4nm,0.7s								
UNR				*i*	Pg		**Pb**	**00 23 49.5**	**-1.7**
	18nm,0.6s								
UNR				*i*	Sn		**Sn**	**00 24 20.2**	**-1.7**
	30nm,0.7s								
UNR				*i*	Sn		**Sn**	**00 24 20.2**	**-1.7**
	75nm,0.8s								
UNR				*i*	Sg		**Sb**	**00 24 34.9**	**+6.0**
	110nm,1.0s								
UNR				*i*	Sg		**Sb**	**00 24 34.9**	**+6.0**
	145nm,0.9s								
UNR				*i*	LR		LR	00 24 44.9	
	592nm,3.7s								
ATKR	**Artyk**	**3.63**	**162**	*i*	Pg		**Pb**	**00 23 59.4**	**-0.9**
	22nm,0.7s								
ATKR				*i*	Lg		Lg	00 24 48.3	
ATKR				*i*	Sg		**Sg**	**00 24 53.0**	**+0.5**
	307nm,0.8s								
SUUS	**Susuman**	**5.42**	**152**	*e*	Pg		**Pn**	**00 24 20.9**	**+4.0**
SUUS					Pgmax			00 24 40.1	
	20nm,0.5s								
SUUS				*e*	Sg		**Sg**	**00 25 46.9**	**-3.0**
SUUS					Sgmax			00 25 49.2	
	60nm,0.8s								
SUUS					Sgmax			00 25 49.2	
	170nm,0.8s								
TIXI	**Tiksi**	**6.24**	**316**		Pn		**Pn**	**00 24 29.1**	**+1.2**
	6.4nm,0.3s,baz=118,slow=16,SNR=118								
TIXI					Sn		**Sn**	**00 25 36.5**	**-2.7**
	22nm,0.3s,baz=150,slow=13,SNR=13								
TIXI					Lg		Lg	00 26 06.5	
	15nm,0.3s,baz=30,slow=19,SNR=8.2								
TIXI	**Tiksi**	**6.24**	**316**	*e*	Pn		**Pn**	**00 24 29.2**	**+1.2**
	201nm,0.7s								
TIXI				*e*	Sn		**Sn**	**00 25 36.2**	**-2.9**
	430nm,0.5s								
TIXI				*e*	Lg		Lg	00 26 06.2	
TIXI				*i*	Sg		**Sg**	**00 26 17.4**	**+1.5**
	948nm,0.8s								
TIXI				*i*	LR		LR	00 26 39.7	
	1μm,8.2s								
SEY	**Seymchan**	**6.26**	**134**		Pn		**Pn**	**00 24 27.7**	**-0.7**
	0.3nm,0.3s,baz=303,slow=12,SNR=6.0								
SEY					Lg		Lg	00 26 07.5	
	1.2nm,0.3s,baz=216,slow=20,SNR=5.4								
SEY	**Seymchan**	**6.26**	**134**	*e*	Sg		**Sb**	**00 26 04.3**	**+4.4**
SEY					Sgmax			00 26 20.7	
	50nm,0.6s								
OCHR	**Omchak**	**6.41**	**157**	*e*	Sg		**Sg**	**00 26 17.2**	**-4.5**
OCHR					Sgmax			00 26 22.7	
	80nm,0.9s								
OCHR					Sgmax			00 26 22.7	
	130nm,0.9s								
TLAR	**Talaya**	**7.79**	**142**	*e*	Pg		Pn	00 24 57.9	+8.5
TLAR				*e*	Sg		Sb	00 26 55.3	+11
TLAR					Sgmax			00 27 13.9	
	50nm,0.8s								
TLAR					Sgmax			00 27 13.9	
	10.0nm,0.8s								
YAK	**Yakutsk**	**7.84**	**230**		Pn		**Pn**	**00 24 50.6**	**+0.5**
	0.1nm,0.3s,baz=101,slow=2.1,SNR=1.1								
YAK					Sn		**Sn**	**00 26 14.7**	**-4.1**
	0.4nm,0.3s,baz=90,slow=3.3,SNR=1.9								
YAK					Lg		Lg	00 27 02.2	
	0.2nm,0.3s,baz=49,slow=23,SNR=1.6								
YAK					LR		LR	00 28 25.6	
	comp=Z,213nm,19.9s,baz=68,slow=42								
YAK	**Yakutsk**	**7.84**	**230**	*i*	Pn		**Pn**	**00 24 47.3**	**-2.7**
	43nm,0.8s								
YAK				*i*	Sn		**Sn**	**00 26 16.1**	**-2.7**
	35nm,0.6s								
YAK				*i*	Lg		Lg	00 27 00.7	
YAK				*i*	Sg		**Sg**	**00 27 10.8**	**+3.3**
	436nm,1.4s								
YAK				*i*	Sg		**Sg**	**00 27 10.8**	**+3.3**
	209nm,1.1s								
YAK				*i*	LR		LR	00 27 36.2	
	692nm,9.8s								
TBGR	**Tabaga**	**8.02**	**229**	*e*	Pn		**Pn**	**00 24 50.6**	**-1.9**
	599nm,1.4s								
TBGR				*e*	Sn		**Sn**	**00 26 20.6**	**-2.5**
	417nm,0.5s								
TBGR				*i*	Lg		Lg	00 27 06.2	
TBGR				*i*	Sg		**Sg**	**00 27 16.5**	**+3.3**
	1μm,1.0s								
TBGR				*i*	LR		LR	00 27 42.5	
	369nm,8.4s								
OKHR	**Okhotsk**	**8.32**	**178**	*e*	Sg		**Sg**	**00 27 26.6**	**+4.0**
OKHR					Sgmax			00 27 30.2	
	20nm,0.7s								
MGD	**Magadan 1**	**8.43**	**151**	*e*	Sg		Sg	00 27 19.8	-6.3
MGD					Sgmax			00 27 33.8	
	30nm,0.4s								
MA2	**Magadan**	**8.87**	**152**		Lg		Lg	00 27 33.3	
	0.8nm,0.3s,baz=268,slow=18,SNR=5.6								
MA2					LR		LR	00 28 43.7	
	comp=Z,136nm,21.3s,baz=338,slow=39								
MA2	**Magadan**	**8.87**	**152**	*e*	Sg		Sg	00 27 34.5	-5.9
MA2					Sgmax			00 27 46.4	
	40nm,1.0s								
BILL	**Bilibino**	**8.95**	**76**	*i*	Lg		Lg	00 27 40.0	
BILL				*i*	LR		LR	00 28 21.2	
BILL	**Bilibino**	**8.95**	**76**		Pn		**Pn**	**00 25 07.0**	**+1.7**
EVEN	**Evensk**	**9.12**	**121**	*e*	S		Sn	00 27 37.6	+48
EVEN					Sgmax			00 27 59.4	
	20nm,0.6s								
CGD	**Chagda**	**10.39**	**217**	*i*	Pn		**Pn**	**00 25 22.4**	**-2.6**
	23nm,0.8s								
CGD				*e*	Sn		**Sn**	**00 27 16.2**	**-5.2**
	50nm,0.3s								
CGD				*i*	Lg		Lg	00 28 21.7	
	306nm,1.9s								
CGD				*i*	LR		LR	00 29 08.9	
	6.0nm,5.2s								
ALDR	**Aldan**	**11.87**	**229**	*i*	Lg		Lg	00 29 08.6	
	45nm,2.1s								
ALDR				*i*	LR		LR	00 30 02.5	
	2.5nm,6.7s								
OLMR	**Olekminsk**	**12.05**	**243**	*i*	Lg		Lg	00 29 14.3	
	87nm,2.3s								
OLMR				*i*	Lg		Lg	00 29 14.4	
OLMR				*i*	LR		LR	00 30 09.2	
	1.4nm,8.2s								
YCRN	**Chernyshevskiy**	**13.28**	**264**	*i*	Pn		**Pn**	**00 26 01.5**	**-2.9**
	25nm,0.8s								
YCRN				*i*	Sn		**Sn**	**00 28 29.8**	**-2.1**
	5.7nm,0.2s								
YCRN				*i*	Lg		Lg	00 29 53.7	
	65nm,1.0s								
CLNS	**Chul'man**	**13.53**	**225**	*i*	Lg		Lg	00 30 01.3	
	75nm,1.2s								
CLNS				*i*	LR		LR	00 31 02.8	
	258nm,7.3s								
YKLR	**Yuktali**	**14.67**	**231**	*i*	Pn		**Pn**	**00 26 20.1**	**-3.3**
	18nm,1.7s								
YKLR				*i*	Sn		**Sn**	**00 29 03.1**	**-2.6**
YKLR				*i*	Sn		**Sn**	**00 29 03.1**	**-2.6**
YKLR				*i*	Lg		Lg	00 30 37.2	
	100nm,1.6s								
YKLR				*i*	LR		LR	00 31 43.9	
	501nm,9.6s								
KHN	**Khani**	**14.96**	**235**	*i*	Pn		Pn	00 26 23.4	-4.0
	13nm,1.0s								
KHN				*i*	Sn		**Sn**	**00 29 08.9**	**-4.1**
	12nm,0.2s								
KHN				*i*	Lg		Lg	00 30 44.8	
KHN				*i*	LR		LR	00 31 52.6	
	25nm,8.7s								
VTMR	**Vitim**	**15.53**	**253**	*i*	Sn		**Sn**	**00 29 23.9**	**-2.6**
	42nm,2.5s								
VTMR				*i*	Lg		Lg	00 31 04.5	
	148nm,3.0s								
VTMR				*i*	LR		LR	00 32 15.1	
	376nm,10.9s								
PETK	**Petropavlovsk-**	**16.30**	**146**		Pn		**Pn**	**00 26 44.4**	**-0.4**
	baz=359,slow=7.2,SNR=1.0								
PETK					LR		LR	00 32 36.9	
	comp=Z,39nm,19.1s,baz=20,slow=36								
PETK	**Petropavlovsk-**	**16.30**	**146**		P		**Pn**	**00 26 46.7**	**+1.8**
PET	**Petropavlovsk**	**16.59**	**144**		Pn		**Pn**	**00 26 48.5**	**+0.1**
PET					IAmb		IAmb	00 26 52.9	
	comp=Z,30nm,1.3s								
KLR	**Kul'dur**	**19.25**	**202**		P		**P**	**00 27 21.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=347,slow=16,SNR=2.1								
KLR					Lg		Lg	00 33 02.6	
	comp=Z,0.1nm,0.3s,baz=98,slow=23,SNR=7.7								
KLR					LR		LR	00 35 03.2	
	comp=Z,107nm,18.7s,baz=2.0,slow=38								
RDOG	**Red Dog Mine**	**20.02**	**63**		P		**P**	**00 27 28.8**	**+0.2**
RDOG					IAmb		IAmb	00 27 32.8	
	comp=Z,14nm,1.0s								
HIA	**Hailar**	**21.70**	**223**		P		**P**	**00 27 47.5**	**+0.6**
HIA					IAmb		IAmb	00 27 53.4	
	comp=Z,11nm,1.0s								
ASAJ	**Asahikawa**	**23.58**	**180**		LR		LR	00 38 21.9	
	comp=Z,71nm,18.1s,baz=358,slow=39								
MDJ	**Mudanjiang**	**24.07**	**203**		P		**P**	**00 28 10.7**	**-0.6**
MDJ					IAmb		IAmb	00 28 12.8	
	comp=Z,20nm,1.4s								
TOLK	**Toolik Lake Re**	**24.15**	**56**		P		**P**	**00 28 11.4**	**-0.4**
TOLK					IAmb		IAmb	00 28 13.3	
	comp=Z,10nm,0.9s								
USA0B	**Ussuriysk Arra**	**24.16**	**199**		P		**P**	**00 28 11.3**	**-0.7**
USA0B					IAmb		IAmb	00 28 12.6	
	comp=Z,6.8nm,1.1s								
USRK	**Ussuriysk Ar.**	**24.16**	**199**		P		**P**	**00 28 11.8**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=7.3,slow=15,SNR=7.5								
USRK					LR		LR	00 38 11.0	
	comp=Z,141nm,21.1s,baz=220,slow=38								
USRK	**Ussuriysk Ar.**	**24.16**	**199**		P		**P**	**00 28 12.0**	**0.0**
IMAR	**Indian Mountai**	**24.17**	**64**		P		**P**	**00 28 12.4**	**+0.4**
AMKA	**Amchitka**	**24.20**	**114**		P		**P**	**00 28 13.8**	**+1.4**
COLD	**Coldfoot**	**24.68**	**59**		P		**P**	**00 28 17.8**	**+1.1**
COLD					IAmb		IAmb	00 28 18.7	
	comp=Z,12nm,0.9s								
TLY	**Talaya**	**24.72**	**249**		LR		LR	00 37 19.6	
	comp=Z,80nm,18.5s,baz=170,slow=35								
MLY	**Manley**	**25.74**	**64**		P		**P**	**00 28 27.1**	**+0.7**
BMAR	**Burnt Mountain**	**26.39**	**56**		P		**P**	**00 28 32.3**	**+0.2**
MDM	**Murphy Dome**	**26.64**	**63**		P		**P**	**00 28 34.2**	**-0.3**
FYU	**Fort Yukon**	**26.68**	**58**		P		**P**	**00 28 35.1**	**+0.5**
ULN	**Ulaanbaatar**	**26.77**	**240**		P		**P**	**00 28 36.8**	**+0.9**
TRF	**Thorofare Moun**	**26.86**	**66**		P		**P**	**00 28 36.2**	**-0.3**
TRF					IAmb		IAmb	00 28 46.1	
	comp=Z,16nm,1.4s								
SONM	**Songino Array**	**27.02**	**241**		P		**P**	**00 28 39.6**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=37,slow=9.3,SNR=6.5								
SONM					LR		LR	00 40 10.8	
	comp=Z,151nm,18.9s,baz=66,slow=38								
SONM	**Songino Array**	**27.02**	**241**		P		**P**	**00 28 39.3**	**+1.2**
IL31		**27.21**	**62**		P		**P**	**00 28 39.9**	**+0.4**
ILAR	**Eielson Array**	**27.21**	**62**		P		**P**	**00 28 39.5**	**0.0**
	comp=Z,2.7nm,0.8s,baz=297,slow=8.0,SNR=33								
ILAR	**Eielson Array**	**27.21**	**62**		P		**P**	**00 28 39.7**	**+0.2**
KDAK	**Kodiak Island**	**29.86**	**77**		LR		LR	00 42 04.3	
	comp=Z,68nm,21.3s,baz=316,slow=39								
BCAR	**Beaver Creek A**	**30.04**	**62**		P		**P**	**00 29 04.6**	**-0.1**
C36M	**Paulatuk**	**31.15**	**43**		P		**P**	**00 29 14.7**	**+0.4**
C36M					IAmb		IAmb	00 29 15.2	
	comp=Z,3.0nm,0.8s								
SUCK	**Suckling Hills**	**31.43**	**67**		P		**P**	**00 29 16.7**	**-0.2**
HHC	**Hu-ho-hao-te**	**31.70**	**228**	*e*	P		**P**	**00 29 21.3**	**+1.7**
HHC					pmax		pmax		
	comp=Z,10.0nm,0.7s								
HHC					pmax		pmax		
	comp=Z,75nm,6.6s								
BVAR	**Borovoye Array**	**36.19**	**283**		P		**P**	**00 29 59.6**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=75,slow=11,SNR=7.6								
MK31	**Makanchi Array**	**36.71**	**266**		P		**P**	**00 30 03.8**	**+0.9**
MKAR	**Makanchi Array**	**36.71**	**266**		P		**P**	**00 30 02.8**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=38,slow=7.0,SNR=19								
MKAR	**Makanchi Array**	**36.71**	**266**		P		**P**	**00 30 03.6**	**+0.7**
MAKZ	**Makanchi**	**36.81**	**267**		P		**P**	**00 30 04.2**	**+0.4**
MAKZ					IAmb		IAmb	00 30 07.5	
	comp=Z,8.1nm,1.5s								
WMQ	**Urumqi**	**37.16**	**258**	*e*	P		**P**	**00 30 08.6**	**+1.8**
WMQ					pmax		pmax		
	comp=Z,9.0nm,1.5s								
WMQ					pmax		pmax		
	comp=Z,33nm,3.7s								
WMQ					LR		LR		
	comp=N,730nm,28.8s								
WMQ					LR		LR		
	comp=E,3μm,29.1s								
WMQ					LR		LR		
	comp=Z,56nm,29.1s								
ARU	**Arti**	**37.77**	**296**		P		**P**	**00 30 13.3**	**+1.6**
ARU					IAmb		IAmb	00 30 16.7	
	comp=Z,4.6nm,1.1s								
WRAK	**Wrangell Islan**	**38.16**	**64**		P		**P**	**00 30 15.7**	**+0.7**
YKA	**Yellowknife Ar**	**38.85**	**46**		P		**P**	**00 30 20.0**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=323,slow=7.7,SNR=12								
AKTO	**Aktyubinsk**	**42.81**	**290**		P		**P**	**00 30 53.3**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=53,slow=7.4,SNR=6.4								
BBB	**Bella Bella**	**43.05**	**64**		LR		LR	00 50 26.6	
	comp=Z,45nm,19.6s,baz=118,slow=38								
ABKAR	**Akbulak array**	**43.09**	**288**		P		**P**	**00 30 57.5**	**+1.7**
ABKAR					IAmb		IAmb	00 31 00.1	
	comp=Z,10.0nm,1.4s								
ABKAR	**Akbulak array**	**43.09**	**288**		P		**P**	**00 30 56.8**	**+1.0**
AAK	**Ala-Archa**	**43.19**	**270**		P		**P**	**00 30 58.8**	**+1.9**
AAK					IAmb		IAmb	00 31 01.9	
	comp=Z,4.3nm,0.7s								
FINES	**FINESS Array B**	**43.26**	**321**		P		**P**	**00 30 56.3**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=37,slow=8.9,SNR=18								
KK31	**Karatay Array**	**44.32**	**274**		P		**P**	**00 31 07.7**	**+1.9**
KK31					IAmb		IAmb	00 31 11.1	
	comp=Z,5.5nm,1.4s								
KKAR	**Karatay Array**	**44.32**	**274**		P		**P**	**00 31 06.6**	**+0.8**
NB2	**NORSAR Subarra**	**46.84**	**330**		P		**P**	**00 31 26.2**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=22,slow=7.9								
NOA	**NORSAR Array B**	**46.84**	**330**		P		**P**	**00 31 24.7**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=24,slow=7.7,SNR=4.4								
FRB	**Frobisher Bay**	**47.02**	**18**		LR		LR	00 53 10.2	
	comp=Z,97nm,18.2s,baz=321,slow=39								
FFC	**Flin Flon**	**48.92**	**44**		P		**P**	**00 31 41.2**	**-0.4**
FFC					IAmb		IAmb	00 31 56.1	
	comp=Z,4.5nm,1.3s								
NEW	**Newport**	**50.09**	**59**		LR		LR	00 55 42.6	
	comp=Z,74nm,18.1s,baz=334,slow=39								
NIL	**Nilore**	**51.51**	**266**		P		**P**	**00 32 02.5**	**+1.0**
NIL					IAmb		IAmb	00 32 06.2	
	comp=Z,2.4nm,0.8s								
AKASG	**Malin Array Be**	**51.93**	**312**		P		**P**	**00 32 03.8**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=28,slow=8.0,SNR=2.3								
KIV	**Kislovodsk**	**53.72**	**298**		P		**P**	**00 32 19.2**	**+1.2**
KBZ	**Khabaz**	**53.85**	**298**		P		**P**	**00 32 19.6**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=47,slow=5.4,SNR=5.3								
MCMT	**McKenzie Canyo**	**54.52**	**58**		P		**P**	**00 32 24.4**	**+0.5**
HRA	**Herat**	**55.06**	**276**		P		**P**	**00 32 29.8**	**+1.9**
HRA					IAmb		IAmb	00 32 32.7	
	comp=Z,1.6nm,0.7s								
YHB	**Horse Butte**	**55.12**	**57**		P		**P**	**00 32 28.8**	**+0.6**
YNE	**Yellowstone No**	**55.26**	**55**		P		**P**	**00 32 29.6**	**+0.3**
RLMT	**Red Lodge**	**55.39**	**55**		P		**P**	**00 32 31.6**	**+1.4**
CLL	**Collm**	**55.51**	**324**	*i*	P		**P**	**00 32 30.5**	**-0.1**
	comp=Z,3.0nm,0.7s								
CLL				*i*				00 32 32.9	
CLL	**Collm**	**55.51**	**324**		P		**P**	**00 32 30.6**	**-0.1**
CLL					IAmb		IAmb	00 32 34.1	
	comp=Z,4.8nm,0.9s								
BURAR	**Bucovina Array**	**55.84**	**313**		P		**P**	**00 32 33.8**	**+0.6**
ELK	**Elko**	**57.37**	**62**		LR		LR	01 02 02.7	
	comp=Z,58nm,18.8s,baz=258,slow=41								
PDAR	**Pinedale Array**	**57.42**	**56**		P		**P**	**00 32 44.7**	**0.0**
	comp=Z,0.8nm,0.6s,baz=9.5,slow=2.7,SNR=13								
PDAR	**Pinedale Array**	**57.42**	**56**		P		**P**	**00 32 44.4**	**-0.3**
GERES	**GERESS Array B**	**57.65**	**322**		P		**P**	**00 32 45.7**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=29,slow=8.2,SNR=4.4								
NVAR	**Mina Array Bea**	**58.39**	**66**		P		**P**	**00 32 51.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=302,slow=5.2,SNR=4.8								
DUG	**Dugway, Tooele**	**58.68**	**60**		P		**P**	**00 32 54.0**	**+0.6**
DUG					IAmb		IAmb	00 32 55.5	
	comp=Z,2.5nm,0.9s								
JLU	**Jordanelle**	**58.76**	**59**		P		**P**	**00 32 54.3**	**+0.2**
JLU					IAmb		IAmb	00 32 56.0	
	comp=Z,2.4nm,0.9s								
NLU	**North Lily Min**	**59.14**	**60**		P		**P**	**00 32 57.2**	**+0.5**
NLU					IAmb		IAmb	00 32 58.6	
	comp=Z,3.2nm,0.9s								
BRTR	**Keskin Array B**	**60.50**	**303**		P		**P**	**00 33 06.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=25,slow=2.5,SNR=4.6								
ANTO	**Ankara**	**60.64**	**304**		P		**P**	**00 33 05.4**	**-1.4**
SMCO	**Snowmass**	**61.49**	**56**		P		**P**	**00 33 13.8**	**+0.7**
PV22	**Blue Mesa, Par**	**61.50**	**58**		P		**P**	**00 33 13.3**	**+0.5**
PV22					IAmb		IAmb	00 33 15.0	
	comp=Z,4.5nm,1.1s								
PV14	**Lion Creek, Pa**	**61.57**	**58**		P		**P**	**00 33 13.5**	**+0.1**
PV07	**Paradox Valley**	**61.63**	**58**		P		**P**	**00 33 13.7**	**-0.1**
PV16	**Nyswonger Mesa**	**61.66**	**58**		P		**P**	**00 33 14.1**	**+0.2**
PV16					IAmb		IAmb	00 33 15.3	
	comp=Z,5.3nm,1.3s								
ESDC	**Sonseca Array**	**70.05**	**333**		P		**P**	**00 34 07.0**	**-0.8**
	comp=Z,1.3nm,1.0s,baz=359,slow=6.9,SNR=7.6								
ESDC	**Sonseca Array**	**70.05**	**333**		P		**P**	**00 34 07.9**	**+0.1**
TXAR	**Lajitas Array**	**71.61**	**57**		P		**P**	**00 34 15.6**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=354,slow=2.7,SNR=2.3								

*IDC **21** 00:33:45.9±3.2,9.°44S×118.°35E,h0km,mb3.2/2,*
mb1 3.5/3,mb1mx3.1/41,mbtmp3.3/3,ML3.3/1,MS3.2/1,
Ms1 3.2/1,ms1mx2.7/15,Error ellipse: s-maj=259.9km
s-min=27.5km az=50.0
*DJA **21** 00:33:52.1±1.1,10.°S±4.°×11.°8E±.°,h15km±8km,M3.6/8,*
MLv3.6/8

ISC 21 00:33:48.6±1.0,9.°81S±0.°10×118.°17E±0.°06,h10km,n11,
σ2s03/15,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.05**	**339**			P	**Pn**	**00 34 11.1**	**+1.7**
PLAI						S	**Sg**	**00 34 23.2**	**+0.7**
TWSI	**Taliwang, Sumb**	**1.66**	**310**			P	**Pn**	**00 34 19.4**	**+1.6**
TWSI						S	**Sn**	**00 34 35.3**	**-3.8**
BASI	**Baing, Sumba**	**2.41**	**100**			P	**Pb**	**00 34 32.4**	**+0.2**
DNP	**Denpasar**	**3.13**	**291**			P	**Pn**	**00 34 40.7**	**+2.7**
DNP						S	**Sn**	**00 35 17.1**	**+1.7**
SRBI	**Singaraja**	**3.38**	**300**			P	**Pn**	**00 34 43.1**	**+1.6**
SRBI						S	**Sn**	**00 35 23.9**	**+2.1**
EDFI	**Ende, Flores**	**3.64**	**73**			P	**Pn**	**00 34 46.9**	**+1.8**
JAGI	**Jajag, Banyuwa**	**4.18**	**288**			P	**Pn**	**00 34 52.8**	**+0.3**
JAGI						S	**Sn**	**00 35 40.6**	**-0.9**
WRA	**Warramun

MSAI **Masohi** 5.86 174 P Pn 00 45 25.0 +1.2
8.4nm34µm1µm,0.8s
BUKP **Musuan** 6.23 329 *e*P Pn 00 45 30.2 +1.4
LUWI **Luwuk** 6.57 238 Pn Pn 00 45 33.0 -0.3
LUWI **Luwuk** 6.57 238 P Pn 00 45 32.8 -0.5
1.7nm4µm347nm,0.9s
MRSI **Marisa** 6.68 252 P Pn 00 45 35.4 +0.6
1.5nm1µm5µm342nm,1.5s
FAKI **Fak Fak** 6.68 144 Pn Pn 00 45 37.1 +2.2
FAKI **Fak Fak** 6.68 144 P Pn 00 45 37.5 +2.6
1.9nm5µm503nm,1.3s
CGP **Cagayan de Oro** 6.91 329‖ *e*P Pn 00 45 45.7 +7.9
BUTP **Butuan** 6.95 337 *e*P Pn 00 45 39.7 +1.4
BNDI **Bandanaira** 7.17 167 P Pn 00 45 43.3 +1.9
1.6nm3µm25µm318nm,1.4s
PAGZ **Pagadian** 7.22 317 *e*P Pn 00 45 41.2 -0.8
APSI **Ampana** 7.48 243 P Pn 00 45 45.2 -0.3
1.0nm3µm361nm,1.0s
GLSP **General Luna,** 7.54 343 *e*P Pn 00 45 43.8 -2.5
TOLI2 **Tolitoli** 7.65 260 Pn Pn 00 45 47.8 0.0
MSLP **Maasin** 8.31 336 *e*P Pn 00 45 53.3 -3.3
BAKI **Biak** 8.62 115 P Pn 00 46 04.4 +3.6
1µm85nm,0.9s
CNOP **Candoni, Negro** 9.19 322 *e*P Pn 00 46 07.7 -0.7
TTSI **Tana Toraja** 10.13 237 P Pn 00 46 20.3 -0.4
3µm405nm,0.8s
MYLDM **Lahad Datu** 10.14 285 Pn Pn 00 46 22.6 +1.7
SPSI **Sidrap Palu** 10.69 233 P Pn 00 46 27.6 -0.6
1µm136nm,0.7s
BNSI **Bone** 10.70 230 P Pn 00 46 27.3 -0.9
883nm113nm,0.9s
SAUI **Saumlaki** 10.85 164 Pn Pn 00 46 29.9 -0.4
SAUI **Saumlaki** 10.85 164 P Pn 00 46 29.6 -0.7
CUYO **Cuyo Island** 10.99 319 *e*P Pn 00 46 31.5 -0.7
BKSI **Bulukumba** 11.29 226 P Pn 00 46 36.2 +0.1
4µm98nm,0.7s
KAPI **Kappang** 11.36 229 P Pn 00 46 38.1 +1.1
5.5nm,0.3s,baz=348,slow=4.2,SNR=17
KAPI S Sn 00 48 39.8 -2.9
1.6nm,0.3s,baz=258,slow=23,SNR=8.6
KAPI **Kappang** 11.36 229 Pn Pn 00 46 36.7 -0.3
BKB **Balikpapan** 12.01 252 Pn Pn 00 46 45.2 -0.2
BKB **Balikpapan** 12.01 252 P Pn 00 46 43.6 -1.9
72nm,0.8s
ENPP **El Nido** 12.34 315 *e*P Pn 00 46 49.6 -0.1
KKM **Kota Kinabalu** 12.56 287 Pn 00 46 52.8 +0.1
MMRI **Maumere** 12.62 209 Pn Pn 00 46 54.7 +1.2
MMRI **Maumere** 12.62 209 P Pn 00 46 53.9 +0.5
4µm57nm,0.8s
SOEI **Soe** 12.84 198 Pn Pn 00 46 57.5 +1.2
SOEI **Soe** 12.84 198 P Pn 00 46 56.0 -0.3
52nm,1.1s
GENI **Genyem** 12.90 113 P P 00 47 01.1 -0.8
3µm108nm,1.3s
EDFI **Ende, Flores** 12.99 210 P Pn 00 46 58.6 +0.3
300nm37nm,0.8s
LQP **Lukban** 13.32 330 *e*P Pn 00 47 04.0 +1.4
JAY **Jayapura** 13.36 112 P Pn 00 47 03.1 +0.1
baz=0.0,slow=20
KBKI **Kotabaru** 13.44 245 P Pn 00 47 03.6 -0.3
2µm83nm,1.1s
BATI **Baumata** 13.46 200 P Pn 00 47 05.2 +1.0
5.9nm,0.3s,baz=90,slow=3.7,SNR=7.5
BATI S Sn 00 49 39.0 +5.7
2.9nm,0.3s,baz=101,slow=10,SNR=1.5
BATI **Baumata** 13.46 200 P Pn 00 47 04.7 +0.5
21nm,0.7s
TGY **Tagaytay City** 13.62 328 P Pn 00 47 08.2 +2.0
baz=194,slow=3.4,SNR=8.2
MACP **Maragondon, Ca** 13.87 328 *e*P Pn 00 47 10.7 +1.4
QVP **Quezon City--P** 14.02 329 *e*P P 00 47 13.5 -0.9
BBKI **Banjar Baru** 14.71 246 P Pn 00 47 19.3 -0.7
7µm79nm,1.1s
PLAI **Plampang** 15.40 223 P P 00 47 29.6 -0.2
1µm83nm,1.5s
MTN **Manton Dam** 15.52 170 Pn Pn 00 47 28.3 -1.5
MTN IAmb IAmb 00 47 29.7
comp=Z,32nm,0.7s
TWSI **Taliwang, Sumb** 15.96 225 P P 00 47 36.3 +0.3
comp=Z,430nmcomp=Z,27nm,1.2s
BOLP **Bolinao** 16.06 330 *e*P P 00 47 38.3 +1.3
SBUM **Sibu** 16.07 270 P P 00 47 38.3 +1.1
SBUM IAmb IAmb 00 47 42.2
comp=Z,64nm,1.0s
APYP **Conner** 16.75 336 *e*P Pn 00 47 45.2 +0.3
SRBI **Singaraja** 16.78 231 P P 00 47 44.9 -0.1
comp=Z,993nmcomp=Z,82nm,1.0s
SZP **Santa** 16.81 333 P Pn 00 47 46.4 +0.7
PBKI **Pangkalan Bun** 17.42 253 P Pn 00 47 52.8 -0.3
comp=Z,139µmcomp=Z,97nm,0.7s
JAGI **Jajag, Banyuwa** 17.84 232 P 00 47 56.7 0.0
JAGI **Jajag, Banyuwa** 17.84 232 P Pn 00 47 58.3 +0.2
comp=Z,1µmcomp=Z,95nm,1.1s
KSM **Kuching** 18.02 267 Pn 00 48 00.2 0.0
KNRA **Kununurra** 18.08 179 P P 00 47 58.7 -0.5
KNRA IAmb IAmb 00 48 01.3
comp=Z,43nm,0.8s
SMRI **Semarang** 20.21 242 P P 00 48 22.4 +0.1
SMRI **Semarang** 20.21 242 P P 00 48 22.7 +0.4
comp=Z,159nm,1.0s
UGM **Wanagama** 20.54 240 P P 00 48 26.4 +0.4
UGM **Wanagama** 20.54 240 P P 00 48 25.8 -0.2
comp=Z,136nm,1.5s
FITZ **Fitzroy Crossi** 20.65 187 P P 00 48 25.6 -1.4
comp=Z,3.6nm,0.6s,baz=20,slow=10,SNR=16
FITZ **Fitzroy Crossi** 20.65 187 P P 00 48 26.1 -0.9
TPI **Tanjungpandan** 21.30 256 P P 00 48 34.3 +0.2
comp=Z,436nmcomp=Z,43nm,1.0s
TWG **Pinlang** 21.37 341 P P 00 48 32.9 -1.8
TWG IAmb IAmb 00 48 33.4
comp=Z,42nm,0.9s
DLV **T Lat** 21.76 296 P P 00 48 38.6 -0.5
DLV IAmb IAmb 00 48 42.0
comp=Z,22nm,0.8s
YULB **Yu-li** 21.84 342 IAmb IAmb 00 48 45.8
comp=Z,18nm,0.7s
SSLB **Suanglung** 22.31 342 P P 00 48 42.9 -1.5
SSLB IAmb IAmb 00 48 46.2
comp=Z,43nm,0.8s
LEM **Lembang** 22.64 246 P P 00 48 48.1 +0.3
comp=Z,70nm,0.8s,baz=80,slow=9.6,SNR=18
LEM **Lembang** 22.64 246 P P 00 48 48.6 +0.8
comp=Z,62nm,1.3s
PPBI **Pangkal Pinang** 22.65 258 P P 00 48 47.9 +0.2
CISI **Cisompet, Garu** 22.76 244 P P 00 48 48.5 -0.4
CISI **Cisompet, Garu** 22.76 244 P P 00 48 47.4 -1.4
comp=Z,55nm,0.9s
WB0 **Warramunga Arr** 22.94 165 IAmb IAmb 00 48 51.3
comp=Z,43nm,0.9s
WRAB **Tennant Creek** 23.09 165 P P 00 48 51.5 -0.1
WRA **Warramunga Arr** 23.09 165 P P 00 48 50.9 -0.9
comp=Z,24nm,0.8s,baz=344,slow=10,SNR=73
WRA S S 00 52 51.8 +0.2
comp=Z,2.7nm,1.1s,baz=343,slow=17,SNR=3.9
WRA ScP ScP 00 55 57.3 -3.0
comp=Z,0.5nm,0.6s,baz=345,slow=2.9,SNR=2.4
WRA **Warramunga Arr** 23.09 165 P P 00 48 50.6 -1.1
WB2 **Warramunga Arr** 23.09 165 P P 00 48 50.6 -1.1
WB2 IAmb IAmb 00 48 53.0
comp=Z,45nm,0.9s
WR0 **Warramunga Arr** 23.16 165 IAmb IAmb 00 48 53.6
comp=Z,34nm,1.0s
TATO **Taipei** 23.28 344 P P 00 48 53.2 -0.1
TNG **Tangerang** 23.29 248 P P 00 48 53.2 -0.4
comp=Z,8µmcomp=Z,684nm,0.5s
DBJI **Dramaga** 23.33 247 P P 00 48 54.1 +0.1
JMZ **Minamidaito 2** 23.34 7 P P 00 48 53.4 -0.5
JOW **Kunigami** 24.18 360 P P 00 49 01.7 +0.2
comp=Z,44nm,0.7s,baz=179,slow=8.7,SNR=20
QZH **Quanzhou** 24.18 338 *e*P P 00 49 02.1 +0.5
QIZ **Qiongzhong** 24.41 314 P P 00 49 04.4 +0.7
QIZ S S 00 53 13.3 +0.5
QIZ pmax pmax
comp=Z,11nm,1.2s
MYKOM **Kota Tinggi** 24.45 269 P P 00 49 05.0 +0.9
MYKOM IAmb IAmb 00 49 07.6
comp=Z,42nm,1.1s
KLSI **24.62 253** P P 00 49 05.6 -0.1
comp=Z,9.9nm,0.9s
KASI **Kota Agung** 25.09 251 P P 00 49 10.3 +0.3
comp=Z,45nm,0.7s
UBPT **Khong Chiam** 25.84 301 P P 00 49 17.4 +0.6
ASAR **Alice Springs** 26.59 168 P P 00 49 22.9 -0.5
comp=Z,4.8nm,0.7s,baz=3.0,slow=7.2,SNR=34
ASAR pP **pP** 00 49 57.6 +2.7
comp=Z,8.3nm,0.8s,baz=350,slow=11,SNR=6.1
ASAR PcP **PcP** 00 52 43.5 -0.5
comp=Z,0.6nm,0.4s,baz=350,slow=2.3,SNR=3.0
ASAR ScP **ScP** 00 56 08.0 -2.2
comp=Z,0.7nm,0.7s,baz=325,slow=2.0,SNR=5.2
ASAR **Alice Springs** 26.59 168 P P 00 49 22.0 -1.4
ASAR **Alice Springs** 26.59 168 **ScP** 00 56 07.8 -2.3
BKNI **Bangkinang** 27.34 266 P P 00 49 31.3 +1.0
CTA **Charters Tower** 28.55 143 P P 00 49 40.2 -0.6
comp=Z,7.4nm,0.9s,baz=323,slow=12,SNR=4.8
PSI **Prapat** 29.35 271 P P 00 49 48.3 0.0
comp=Z,3.8nm,0.3s,baz=179,slow=2.9,SNR=5.8
RPSI **Rantau Prapat** 29.35 271 P P 00 49 47.7 -0.4
RPSI IAmb IAmb 00 49 49.8
comp=Z,16nm,1.0s
JNU **Nakatsue** 30.54 4 P P 00 49 57.8 -0.6
comp=Z,17nm,0.7s,baz=328,slow=1.9,SNR=9.2
NJ2 **Nanjing** 30.70 344 *e*P P 00 50 00.8 +1.1
NJ2 pmax pmax
comp=Z,11nm,0.5s
GSI **Gunungsitoli** 30.74 268 P P 00 49 59.6 -0.7
GSI **Gunungsitoli** 30.74 268 P P 00 49 58.5 -1.8
comp=Z,56nm,1.0s
WHN **Wuhan** 30.85 336 ‖P P 00 50 03.5 +2.5
WHN pmax pmax
comp=Z,36nm,0.7s
GYA **Guiyang** 31.59 321 ‖P P 00 50 10.0 +2.2
GYA pP pwP 00 50 43.1 +0.7
GYA S S 00 55 06.8 +1.0
GYA pmax pmax
comp=Z,11nm,1.0s
GYA pmax pmax
comp=Z,110nm,6.8s
GYA LR LR
comp=Z,93nm,10.9s
JHS **Saijyo** 32.63 7 P P 00 50 16.7 +0.1
JHS IAmb IAmb 00 50 19.3
comp=Z,14nm,0.8s
CMAR **Chiang Mai Arr** 32.84 301 P P 00 50 19.1 +0.4
comp=Z,2.0nm,0.4s,baz=120,slow=7.7,SNR=12
CMAR ScP **ScP** 00 56 28.9 -1.6
comp=Z,1.1nm,0.3s,baz=118,slow=2.4,SNR=5.9
ENH **Enshi** 32.87 329 P P 00 50 19.3 +0.6
ENH IAmb IAmb 00 50 24.1
comp=Z,13nm,0.7s
CHTO **Chiang Mai** 32.99 301 P P 00 50 19.4 -0.6
CHTO IAmb IAmb 00 50 22.4
comp=Z,5.9nm,0.6s
FORT **Forrest** 33.11 180 P P 00 50 19.1 -1.7
FORT IAmb IAmb 00 50 20.6
comp=Z,27nm,0.8s
JWT **Wachi** 33.26 11 P P 00 50 22.1 +0.1
JWT IAmb IAmb 00 50 23.0
comp=Z,18nm,0.7s
KMI **Kunming** 33.35 315 ⇑P P 00 50 25.8 +2.6
KMI pP pwP 00 50 59.6 +1.4
KMI pmax pmax
comp=Z,26nm,0.7s
KMI LR LR
comp=Z,120nm,8.2s
KMI LR LR
comp=Z,110nm,7.4s
KMI LR LR
comp=Z,87nm,6.9s
INU **Inuyama** 33.65 13 IAmb IAmb 00 50 26.1
comp=Z,19nm,0.6s
JGF **Kuroka** 33.97 13 IAmb IAmb 00 50 28.5
comp=Z,10nm,0.9s
KSAR **Wonju Array Be** 34.76 359 P P 00 50 35.0 0.0
KSRS **Korea Array** 34.77 359 P P 00 50 35.7 +0.7
comp=Z,11nm,0.5s,baz=176,slow=9.5,SNR=55
KSRS pP **pwP** 00 51 08.2 -1.0
comp=Z,2.6nm,0.7s,baz=180,slow=10,SNR=2.7
KS19 **Wonju Array Si** 34.82 359 P P 00 50 35.3 -0.2
KS19 IAmb IAmb 00 50 36.1
comp=Z,13nm,0.6s
INCN **Inchon** 34.83 358 P P 00 50 35.3 -0.3
INCN IAmb IAmb 00 50 37.0
comp=Z,14nm,0.7s
MJAR **Matsushiro Arr** 35.07 14 P P 00 50 36.5 -1.2
comp=Z,16nm,0.8s,baz=184,slow=9.6,SNR=38
MJAR **Matsushiro Arr** 35.07 14 P P 00 50 36.3 -1.4
MAJO **Matsushiro** 35.07 14 P P 00 50 36.9 -0.8
MAJO IAmb IAmb 00 50 38.1
comp=Z,17nm,0.7s
MAT **Matsushiro** 35.07 14 P P 00 50 36.6 -1.1
MJB9 **Matsu-Tunnel** 35.07 14 P P 00 50 36.3 -1.4
MJB9 IAmb IAmb 00 50 38.5
comp=Z,23nm,0.7s
EIDS **Eidsvold** 35.44 143 P P 00 50 40.1 -0.8
EIDS IAmb IAmb 00 50 40.9
comp=Z,21nm,0.8s
XAN **Xi'an** 36.21 332 P P 00 50 48.3 +0.8
XAN pmax pmax
comp=Z,29nm,0.8s
XAN pmax pmax
comp=Z,130nm,4.9s
XAN **Xi'an** 36.21 332 P P 00 50 47.6 +0.1
XAN IAmb IAmb 00 50 49.1
comp=Z,22nm,0.9s
STKA **Stephens Creek** 36.46 161 P P 00 50 49.2 -0.3
comp=Z,14nm,0.4s,baz=340,slow=8.4,SNR=46
STKA **Stephens Creek** 36.46 161 P P 00 50 48.7 -0.9
JSD **Sado** 36.51 13 IAmb IAmb 00 50 51.0
comp=Z,17nm,1.0s
CD2 **Chengdu** 36.55 323 P P 00 50 51.8 +1.4
CD2 pmax pmax
comp=Z,30nm,0.5s
DL2 **Dalian** 36.73 351 P P 00 50 52.8 +1.1
DL2 pmax pmax
comp=Z,41nm,0.8s
TIY **Taiyuan** 37.94 339 *e*P P 00 51 03.0 +0.9
TIY pmax pmax
comp=Z,19nm,0.5s
BJT **Baijiatuan** 38.92 345 P P 00 51 10.1 0.0
BJT IAmb IAmb 00 51 11.5
comp=Z,23nm,0.7s
BJI **Beijing** 38.94 345 P P 00 51 10.6 +0.3
BJI pmax pmax
comp=Z,29nm,0.7s
ARMA **Armidale** 39.60 148 P P 00 51 15.9 -0.2
ARMA IAmb IAmb 00 51 16.9
comp=Z,25nm,0.8s
JTM **Tenmabayashi** 39.80 15 P P 00 51 16.4 -1.1
JTM IAmb IAmb 00 51 19.1
comp=Z,41nm,1.1s
LZH **Lanzhou** 40.34 329 *e*P P 00 51 24.1 +1.9
LZH pP pwP 00 51 58.5 +1.0
LZH pmax pmax
comp=Z,48nm,1.1s
LZH pmax pmax
comp=Z,92nm,5.4s
H11S3 **WAKE ISLAND Hy** 40.80 64 T T 01 35 18.4
baz=252,slow=75
H11S2 **WAKE ISLAND Hy** 40.82 64 T T 01 35 14.8
baz=252,slow=75
H11S1 **WAKE ISLAND Hy** 40.82 64 T T 01 35 14.1
baz=252,slow=75
HHC **Hu-ho-hao-te** 41.05 341 *e*P P 00 51 28.9 +1.1
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,70nm,7.6s
H11N1 **WAKE ISLAND Hy** 41.38 63 T T 01 35 55.8
baz=250,slow=75
H11N2 **WAKE ISLAND Hy** 41.39 63 T T 01 36 09.7
baz=250,slow=75
H11N3 **WAKE ISLAND Hy** 41.40 63 T T 01 35 57.1
baz=250,slow=75
USRK **Ussuriysk Ar.** 41.63 4 P P 00 51 33.0 +0.7
comp=Z,7.2nm,0.6s,baz=193,slow=7.9,SNR=20
USRK **Ussuriysk Ar.** 41.63 4 P P 00 51 32.8 +0.4
USA0B **Ussuriysk Arra** 41.64 4 P P 00 51 32.9 +0.6
USA0B IAmb IAmb 00 51 33.9
comp=Z,14nm,1.1s
SHL **Shillong** 41.86 307 P P 00 51 35.7 +0.9
MDJ **Mudanjiang** 41.94 1 P P 00 51 35.5 +0.7
MDJ pP pwP 00 52 10.4 +0.2
MDJ sP sP 00 52 28.9 +4.9
MDJ pmax pmax
comp=Z,14nm,0.9s
MDJ pmax pmax
comp=Z,72nm,4.8s
MDJ **Mudanjiang** 41.94 1 P P 00 51 35.5 +0.7
MDJ IAmb IAmb 00 51 40.8
comp=Z,10nm,0.7s
ASAJ **Asahikawa** 43.32 15 P P 00 51 46.3 +0.3
comp=Z,3.8nm,0.5s,baz=232,slow=14,SNR=6.7
LSA **Lhasa** 44.42 311 P P 00 51 56.5 +0.9
LSA IAmb IAmb 00 51 58.8
comp=Z,11nm,0.9s
GTA **Gaotai** 44.94 328 ⇑P P 00 52 00.4 +1.2
GTA pP pwP 00 52 35.3 -0.4
GTA sP sP 00 52 53.5 +5.1
GTA pmax pmax
comp=Z,11nm,1.1s
TAPN **Taplejung** 46.00 306 *e*P P 00 52 08.3 +0.4
comp=Z,22nm,0.6s
ODAN **Odare** 46.05 306 *e*P P 00 52 09.8 +1.5
comp=Z,42nm,0.7s
KLR **Kul'dur** 46.63 3 P P 00 52 12.2 +0.1
comp=Z,4.9nm,0.6s,baz=202,slow=3.6,SNR=21
RAMN **Ramite** 46.73 305 *e*P P 00 52 15.3 +1.7
comp=Z,55nm,0.6s
GUN **Gumba** 47.71 306 *e*P P 00 52 21.9 +0.7
comp=Z,53nm,0.5s
PKI **Pulchoki** 47.95 306 *e*P P 00 52 23.4 +0.3
comp=Z,16nm,0.6s
PKIN **Phulchoki** 47.96 306 *e*P P 00 52 23.6 +0.5
comp=Z,22nm,0.6s
KKN **Kakani** 48.14 306 *e*P P 00 52 25.2 +0.8
comp=Z,28nm,0.6s
ULN **Ulaanbaatar** 48.76 341 P P 00 52 29.3 +0.5
ULN IAmb IAmb 00 52 30.6
comp=Z,24nm,0.8s
SONM **Songino Array** 48.95 341 P P 00 52 30.9 +0.7
comp=Z,11nm,0.6s,baz=152,slow=8.2,SNR=73
SONM **Songino Array** 48.95 341 P P 00 52 30.9 +0.7
SONM IAmb IAmb 00 52 31.8
comp=Z,11nm,0.6s
HYB **Hyderabad** 51.01 290 *i* P P 00 52 46.0 -0.1
WMQ **Urumqi** 54.62 325 *e*P P 00 53 13.9 +1.7
WMQ sP PcP 00 54 10.1 -3.2
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,92nm,4.3s
PETK **Petropavlovsk-** 55.97 21 P P 00 53 22.0 +0.4
comp=Z,4.0nm,0.7s,baz=207,slow=4.1,SNR=9.8
PETK pP **pwP** 00 53 59.1 -1.2
comp=Z,3.3nm,0.9s,baz=167,slow=7.1,SNR=2.2
PETK **Petropavlovsk-** 55.97 21 P P 00 53 21.4 -0.2
ZSN **Zaisan** 58.38 327 *e*P P 00 53 38.3 -0.3
baz=327
SHLS **Shalkode** 59.28 320 *e*P P 00 53 43.5 -1.6
comp=Z,6.0nm,0.9s,baz=320
YAK **Yakutsk** 59.38 1 P P 00 53 44.3 -0.9
comp=Z,30nm,0.5s,baz=313,slow=3.0,SNR=8.8
YAK **Yakutsk** 59.38 1 P P 00 53 45.3 +0.2
MK31 **Makanchi Array** 59.45 325 P P 00 53 46.1 +0.1
MK31 IAmb IAmb 00 53 47.5
comp=Z,6.6nm,0.7s
MKAR **Makanchi Array** 59.45 325 P P 00 53 46.7 +0.7
comp=Z,9.2nm,0.5s,baz=118,slow=8.4,SNR=185
MKAR pP **pwP** 00 54 23.1 -1.5
comp=Z,2.9nm,0.6s,baz=118,slow=8.6,SNR=3.5
MKAR **Makanchi Array** 59.45 325 P P 00 53 46.5 +0.5
MA2 **Magadan** 59.51 13 P P 00 53 46.9 +0.8
comp=Z,9.5nm,0.7s,baz=196,slow=6.4,SNR=16
MA2 **Magadan** 59.51 13 P P 00 53 46.6 +0.4
MA2 IAmb IAmb 00 53 48.0
comp=Z,9.6nm,0.8s
UZB **Uzynbulak** 59.56 320 *e*P P 00 53 47.3 +0.3
comp=Z,4.3nm,0.6s,baz=320
MAKZ **Makanchi** 59.63 325 P P 00 53 47.6 +0.3
MAKZ IAmb IAmb 00 53 48.7
comp=Z,10nm,0.6s
NIL **Nilore** 59.91 308 P P 00 53 49.3 -0.1
SATY **Saty** 59.91 320 *e*P P 00 53 49.8 +0.4
comp=Z,7.4nm,0.7s,baz=320
KPKS **Kokpek** 59.93 320 *e*P P 00 53 49.5 0.0
comp=Z,5.0nm,0.3s,baz=320
KSH **Kashi** 60.01 315 P P 00 53 52.1 +2.0
KSH pP pwP 00 54 31.5 +2.6
KSH pmax pmax
comp=Z,14nm,1.2s
KSH pmax pmax
comp=Z,180nm,5.0s
MDOK **Medeo** 60.84 319 *e*P P 00 53 56.1 +0.3
baz=319
TNSS **Tian-Shan** 60.85 319 *e*P P 00 53 56.8 +0.6
baz=319
CHKK **Chushkaly** 61.20 320 *e*P P 00 53 57.6 -0.3
baz=320
KUU **Kurty** 61.63 320 *e*P P 00 54 00.8 -0.1
comp=Z,7.8nm,0.7s,baz=320
AAK **Ala-Archa** 62.31 318 P P 00 54 06.4 +0.8
comp=Z,1.6nm,0.5s,baz=126,slow=5.5,SNR=7.6
AAK **Ala-Archa** 62.31 318 P P 00 54 05.8 +0.2
ZAA0 **Zalesovo Array** 62.38 333 P P 00 54 05.0 -0.6
ZALV **Zalesovo Beam** 62.38 333 P P 00 54 05.0 -0.6
comp=Z,1.9nm,0.4s,baz=106,slow=5.3,SNR=17
ZALV **Zalesovo Beam** 62.38 333 P P 00 54 04.9 -0.7
SEY **Seymchan** 62.87 12 P P 00 54 09.6 +0.9
comp=Z,2.5nm,0.4s,baz=224,slow=5.1,SNR=18
KBL **Kabul** 63.51 308 P P 00 54 13.3 -0.4
KURBB **Kurchatov Arra** 63.60 327 P P 00 54 14.0 +0.2
comp=Z,11nm,0.6s,baz=127,slow=6.2,SNR=169
KURBB pP **pwP** 00 54 51.3 -1.3
comp=Z,6.1nm,0.8s,baz=123,slow=6.2,SNR=5.3
DZA **Taraz** 64.55 317 *e*P P 00 54 20.1 -0.1
comp=Z,2.8nm,0.7s,baz=317
IUG **Iuzhnay** 65.18 316 *e*P P 00 54 24.4 +0.1
comp=Z,2.9nm,0.7s,baz=316
KK31 **Karatay Array** 65.19 317 P P 00 54 24.1 -0.2
KKAR **Karatay Array** 65.19 317 P P 00 54 24.3 0.0
BRZS **Berezniki** 66.58 325 *e*P P 00 54 32.5 -0.5
baz=324
TIXI **Tiksi** 69.03 0 P P 00 54 47.7 -0.3
comp=Z,12nm,0.4s,baz=162,slow=5.5,SNR=35
TIXI **Tiksi** 69.03 0 P P 00 54 47.0 -0.9
BVAR **Borovoye Array** 69.19 327 P P 00 54 48.8 -0.5
comp=Z,4.8nm,0.7s,baz=110,slow=13,SNR=43
BRVK **Borovoye** 69.26 327 P P 00 54 49.5 -0.2
BRVK IAmb IAmb 00 54 50.7
comp=Z,11nm,0.9s
GEYT **Alibeck** 72.88 309 P P 00 55 12.1 +0.2
comp=Z,20nm,0.6s,baz=205,slow=3.1,SNR=5.3
GEYT **Alibeck** 72.88 309 P P 00 55 11.4 -0.5
ABKAR **Akbulak array** 74.08 321 P P 00 55 17.9 -0.7
AKTO **Aktyubinsk** 75.58 322 P P 00 55 26.9 -0.3
comp=Z,4.4nm,0.8s,baz=105,slow=6.4,SNR=13
ARU **Arti** 76.80 328 P P 00 55 32.9 -1.1
comp=Z,1.9nm,0.6s,baz=150,slow=6.0,SNR=10
ARU **Arti** 76.80 328 P P 00 55 33.2 -0.7
ARU IAmb IAmb 00 55 34.1
comp=Z,7.0nm,0.7s
CHGN **Chignik** 78.67 33 P P 00 55 46.5 +2.2
VNDA **Vanda** 82.04 173 P P 00 56 00.9 -1.0
comp=Z,2.3nm,1.0s,baz=295,slow=7.7,SNR=4.7
KDAK **Kodiak Island** 82.07 32 P P 00 56 02.8 +0.4
comp=Z,12nm,1.0s,baz=263,slow=2.3,SNR=6.7
KDAK **Kodiak Island** 82.07 32 P P 00 56 01.4 -1.1
KDAK IAmb IAmb 00 56 20.5
comp=Z,11nm,1.1s
RAYN **Ar Rayn** 82.41 293 P P 00 56 04.0 -1.0
COLD **Coldfoot** 84.39 23 P P 00 56 14.5 +0.4
TOLK **Toolik Lake Re** 84.79 21 P P 00 56 17.5 +1.3
KBZ **Khabaz** 84.95 313 P P 00 56 19.0 +1.6
comp=Z,2.4nm,0.9s,baz=124,slow=4.2,SNR=2.8
ILAR **Eielson Array** 85.52 25 P P 00 56 19.4 -0.5
comp=Z,0.4nm,1.0s,baz=250,slow=4.8,SNR=4.1
ARCES **ARCESS Array B** 92.12 340 P P 00 56 49.6 -1.4
comp=Z,5.7nm,0.7s,baz=76,slow=5.1,SNR=9.4
ARCES **ARCESS Array B** 92.12 340 P P 00 56 50.0 -1.0
ARCES IAmb IAmb 00 56 54.0
comp=Z,10nm,0.9s
FINES **FINESS Array B** 93.64 332 P P 00 56 57.0 -1.1
comp=Z,1.3nm,0.7s,baz=54,slow=7.1,SNR=4.3
RES **Resolute Bay** 98.71 11 P P 00 57 20.8 0.0
comp=Z,1.0nm,0.7s,baz=280,slow=6.1,SNR=2.8
YKA **Yellowknife Ar** 99.94 25 P Pdif 00 57 25.5 -1.1
comp=Z,0.2nm,0.6s,baz=284,slow=5.0,SNR=3.7
TORD **Torodi Ar. Bea** 124.79 288 PKP PKPdf 01 02 41.8 -0.2
comp=Z,0.6nm,0.8s,baz=68,slow=1.9,SNR=2.8

IDC ***21*** *01:04:32.0±2.0,27°.49S×65°.84W,h0km,mb3.7/1, mb1 3.7/4,mb1mx3.5/29,mbtmp3.6/4,ML3.6/3,MS3.0/1, Ms1 3.0/1,ms1mx2.5/26, Error ellipse: s-maj=39.5km s-min=29.3km az=12.0*

ISC 21 01:04:37.6±2.1,27°.3S±0°.2×65°.7W±0°.2,h35km,n6,σ1s60/6,

Tucuman Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**5.50**	**328**	Pn	**Pn**	**01 05 56.8**	**-0.6**
	0.3nm,0.3s,baz=149,slow=12,SNR=2.3						
CPUP	**Villa Florida**	**7.55**	**85**	Pn	**Pn**	**01 06 24.1**	**-1.2**
	1.0nm,0.3s,baz=257,slow=12,SNR=12						
CPUP				Lg	Lg	01 08 36.4	
	1.7nm,0.3s,baz=348,slow=18,SNR=3.1						
CPUP				LR	LR	01 09 50.4	
	comp=Z,96nm,19.0s,baz=228,slow=41						
SIV	**San Ignacio**	**12.06**	**22**	Pn	**Pn**	**01 07 27.4**	**+0.4**
	0.2nm,0.3s,baz=229,slow=13,SNR=2.8						
SIV				Lg	Lg	01 11 02.2	
	0.2nm,0.3s,baz=106,slow=22,SNR=1.9						
TORD	**Torodi Ar. Bea**	**76.71**	**68**	P	**P**	**01 16 27.6**	**+2.1**
	0.7nm,0.9s,baz=258,slow=5.8,SNR=3.4						
ZALV	**Zalesovo Beam**	**145.69**	**31**	PKPbc	**PKPab**	**01 24 12.8**	**+0.1**
	0.8nm,0.5s,baz=336,slow=3.2,SNR=3.6						
MKAR	**Makanchi Array**	**148.22**	**44**	PKPbc	**PKPbc**	**01 24 18.5**	**-1.2**
	0.4nm,0.6s,baz=293,slow=3.4,SNR=3.6						

*GII **21** 01:04:07.1±0.0,34.°21N×33.°36E,h10km,MD2.0/4, Mm2.2/3*
*ISK **21** 01:05:04.7,34.°46N×33.°25E,h31km,ML3.4/19*
*NIC **21** 01:05:05.4±0.0,34.°42N×33.°21E,h28km,Ml2.9/7*
*DDA **21** 01:05:07.2,34.°74N×33.°59E,h27km±3km,ML2.5*
ISC 21 01:05:05.3±1.1,34.°44N±0.°02×33.°24E±0.°03,h33km±5km, n68,σ1§12/102,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.35**	**1**	P	**Pb**	**01 05 14.0**	**+0.3**
ASGA				S	**Sn**	**01 05 20.5**	**+0.7**
ASGA				AML	AML	01 05 20.6	
	4.4nm,0.2s						
ASGA				AML	AML	01 05 20.6	
	4.4nm,0.2s						
ASGA				AML	AML	01 05 20.7	
	6.1nm,0.1s						
ASGA				AML	AML	01 05 20.7	
	6.1nm,0.1s						
SZAC	**Souni**	**0.43**	**317**	P	**Pb**	**01 05 15.1**	**+0.3**
SZAC				S	**Sb**	**01 05 21.6**	**+0.1**
SZAC				AML	AML	01 05 24.4	
	4.8nm,0.2s						
SZAC				AML	AML	01 05 24.4	
	4.8nm,0.2s						
SZAC				AML	AML	01 05 24.5	
	5.8nm,0.3s						
SZAC				AML	AML	01 05 24.5	
	5.8nm,0.3s						
CSS	**Mathiatis**	**0.53**	**8**	PG	**Pb**	**01 05 16.1**	**-0.3**
CSS				SG	**Sb**	**01 05 24.2**	**+0.2**
CSS	**Mathiatis**	**0.53**	**8**	P	**Pb**	**01 05 16.2**	**-0.2**
CSS				S	**Sn**	**01 05 25.3**	**+0.9**
CSS				AML	AML	01 05 26.3	
	1.1nm,0.4s						
CSS				AML	AML	01 05 26.3	
	1.1nm,0.4s						
CSS				AML	AML	01 05 26.5	
	1.0nm,0.3s						
CSS				AML	AML	01 05 26.5	
	1.0nm,0.3s						
CSS	**Mathiatis**	**0.53**	**8**	P	**Pb**	**01 05 15.9**	**-0.5**
CSS				S	**Sn**	**01 05 26.6**	**+2.2**
AKIN	**Akıncılar- Kıb**	**0.61**	**18**	PG	**Pb**	**01 05 17.1**	**-0.5**
AKIN				SG	**Sb**	**01 05 25.9**	**-0.2**
NATA	**Nata**	**0.65**	**302**	P	**Pb**	**01 05 18.2**	**-0.1**
NATA				S	**Sn**	**01 05 28.4**	**+1.1**
NATA				AML	AML	01 05 31.1	
	4.0nm,0.4s						
NATA				AML	AML	01 05 31.1	
	4.0nm,0.4s						
NATA				AML	AML	01 05 31.2	
	5.8nm,0.4s						
NATA				AML	AML	01 05 31.2	
	5.8nm,0.4s						
MVOU	**Mavrovouni**	**0.66**	**29**	P	**Pb**	**01 05 18.5**	**0.0**
MVOU				S	**Sn**	**01 05 29.2**	**+1.6**
MVOU				AML	AML	01 05 30.8	
	1.5nm,0.2s						
MVOU				AML	AML	01 05 30.8	
	1.5nm,0.2s						
LEF	**Lefka**	**0.74**	**337**	PG	**Pb**	**01 05 19.3**	**-0.5**
LEF				SG	**Sb**	**01 05 29.2**	**-0.4**
PARAL	**Paralimni**	**0.86**	**50**	P	**Pn**	**01 05 22.0**	**+0.9**
AKDN	**Akdeniz- Kıbrı**	**0.89**	**346**	PG	**Pn**	**01 05 21.2**	**-0.2**
ALFC	**Alefka**	**0.89**	**324**	P	**Pn**	**01 05 21.4**	**-0.1**
ALFC				S	**Sb**	**01 05 32.9**	**-1.0**
ALFC				AML	AML	01 05 36.2	
	1.4nm,0.2s						
ALFC				AML	AML	01 05 36.2	
	1.4nm,0.2s						
ALFC				AML	AML	01 05 38.8	
	1.7nm,0.2s						
ALFC				AML	AML	01 05 38.8	
	1.7nm,0.2s						
AKMS	**Akamas**	**0.94**	**308**	P	**Pn**	**01 05 22.1**	**-0.2**
AKMS				S	**Sb**	**01 05 35.0**	**-0.4**
AKMS				AML	AML	01 05 37.8	
	0.9nm,0.4s						
AKMS				AML	AML	01 05 37.8	
	0.9nm,0.4s						
AKMS				AML	AML	01 05 40.0	
	0.8nm,0.3s						
AKMS				AML	AML	01 05 40.0	
	0.8nm,0.3s						
OSC2	**CSNet OBS 4**	**1.58**	**211**	P	**Pn**	**01 05 31.5**	**+0.5**
OSC2				S	**Sb**	**01 05 53.9**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.71**	**357**	PN	**Pn**	**01 05 32.9**	**+0.2**
TEKE				SN	**Sn**	**01 05 53.3**	**-0.1**
AKK2	**Akkuyu-Mersin**	**1.72**	**8**	PN	**Pn**	**01 05 32.8**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.74**	**8**	PN	**Pn**	**01 05 33.3**	**+0.2**
AKKU				SN	**Sn**	**01 05 53.5**	**-0.7**
TISA	**Tisan-Mersin**	**1.76**	**12**	PN	**Pn**	**01 05 33.5**	**+0.1**
GULN	**MERSIN_Gulnar**	**1.76**	**8**	*i* P	**Pn**	**01 05 33.6**	**+0.1**
GULN				*i* S	**Sn**	**01 05 54.1**	**-0.7**
YESI	**Yesilovacik-Me**	**1.79**	**11**	PN	**Pn**	**01 05 33.8**	**0.0**
TEPK	**Tepekoy-MERSIN**	**1.80**	**8**	PN	**Pn**	**01 05 34.0**	**-0.1**
IKL	**Isikli**	**1.84**	**11**	PN	**Pn**	**01 05 34.6**	**+0.1**
IKL				SN	**Sn**	**01 05 56.4**	**-0.2**
OSC1	**CSNet OBS 1**	**1.88**	**241**	P	**Pn**	**01 05 34.7**	**-0.3**
OSC1				S	**Sn**	**01 05 55.5**	**-2.0**
BERE	**Bereket-Mersin**	**1.91**	**360**	PN	**Pn**	**01 05 35.4**	**-0.2**
GAZI	**Gazipasa**	**1.95**	**337**	PN	**Pn**	**01 05 36.3**	**+0.3**
TEVE	**Tevekalti-Mers**	**2.00**	**5**	PN	**Pn**	**01 05 36.9**	**0.0**
BHL	**Bhannes**	**2.07**	**104**	*e*P	**Pn**	**01 05 41.5**	**-0.8**
HNTI	**Hanita**	**2.10**	**129**	Pn	**Pn**	**01 05 38.7**	**+0.5**
HNTI				Sn	**Sn**	**01 06 03.2**	**0.0**
KIZK	**Mersin**	**2.17**	**20**	PN	**Pn**	**01 05 39.3**	**+0.2**
KIZK	**Mersin**	**2.17**	**20**	*i* P	**Pn**	**01 05 40.4**	**+1.4**
KIZK				IAML		01 06 09.0	
	comp=E,58nm,1.6s						
QRWL	**Qaraoun**	**2.22**	**113**	*e*P	**Pn**	**01 05 40.3**	**+0.5**
ERMK	**Ermenek**	**2.22**	**353**	*i* P	**Pn**	**01 05 41.9**	**+1.9**
ERMK				*i* S	**Sn**	**01 06 08.9**	**+2.6**
HWQ	**Hawqa**	**2.25**	**93**	*e*P	**Pn**	**01 05 41.5**	**+1.3**
MMA0B	**Mount Meron ar**	**2.29**	**128**	Pn	**Pn**	**01 05 41.9**	**+1.0**
MMA0B				Sn	**Sn**	**01 06 08.2**	**+0.2**
OFRI	**`Ofer**	**2.33**	**141**	Pn	**Pn**	**01 05 41.9**	**+0.6**
OFRI				Sn	**Sn**	**01 06 07.9**	**-0.8**
RCY	**Rachaya**	**2.35**	**113**	*e*P	**Pn**	**01 05 42.2**	**+0.5**
BLGI	**Bet Lehem HaGe**	**2.35**	**136**	Pn	**Pn**	**01 05 42.7**	**+1.1**
BLGI				Sn	**Sn**	**01 06 09.3**	**-0.1**
GEM	**Giv'at Ha'Em**	**2.36**	**121**	Pn	**Pn**	**01 05 42.6**	**+0.9**
GEM				Sn	**Sn**	**01 06 09.2**	**-0.3**
NATI	**Neve Ativ**	**2.39**	**119**	Pn	**Pn**	**01 05 43.1**	**+1.1**
NATI				Sn	**Sn**	**01 06 10.8**	**+0.7**
KSHT	**Keshet**	**2.59**	**123**	Pn	**Pn**	**01 05 46.2**	**+1.3**
MERS	**Mersin**	**2.64**	**23**	PN	**Pn**	**01 05 46.2**	**+0.5**
SLTI	**Sal'it**	**2.66**	**145**	Pn	**Pn**	**01 05 46.8**	**+1.0**
SLTI				Sn	**Sn**	**01 06 16.2**	**-0.7**
MMLI	**Mount Malkishu**	**2.70**	**137**	PN	**Pn**	**01 05 47.3**	**+0.8**
MMLI	**Mount Malkishu**	**2.70**	**137**	Pn	**Pn**	**01 05 47.5**	**+1.0**
KRMN	**Karaman**	**2.73**	**0**	PN	**Pn**	**01 05 47.3**	**+0.4**
KKBE	**Karaman, Kazim**	**2.79**	**355**	*i* P	**Pn**	**01 05 49.7**	**+2.0**
KKBE				*i* S	**Sn**	**01 06 20.4**	**+0.1**
DED	**Mersin**	**2.82**	**26**	*i* P	Pn	01 05 42.2	-5.9
HMDT	**Nahal Hemdat**	**2.90**	**138**	Pn	**Pn**	**01 05 50.3**	**+1.2**
HMDT				Sn	**Sn**	**01 06 22.9**	**+0.1**
KERG	**Konya-Ereğli**	**3.06**	**13**	*i* P	**Pn**	**01 05 49.2**	**-2.2**
KERG				*i* S	**Sn**	**01 06 24.4**	**-2.5**
KERG				IAML		01 06 31.0	
	comp=E,15nm,1.0s						
KERG				IAML		01 06 33.0	
	comp=N,13nm,0.6s						
TAHT	**Tahtakopru-Hat**	**3.09**	**50**	PN	**Pn**	**01 05 52.2**	**+0.5**
KARA	**Karaisali**	**3.18**	**27**	PN	**Pn**	**01 05 53.8**	**+0.8**
AMAZ	**Amatzia**	**3.22**	**154**	Pn	**Pn**	**01 05 54.7**	**+1.1**
AMAZ				Sn	**Sn**	**01 06 30.4**	**-0.4**
SEDI	**Konya, Seydise**	**3.24**	**339**	*i* P	**Pn**	**01 05 56.2**	**+2.3**
SEDI				IAML		01 06 40.0	
	comp=N,19nm,1.3s						
DSI	**Dead Sea**	**3.38**	**147**	Pn	**Pn**	**01 05 56.8**	**+1.1**
DSI				Sn	**Sn**	**01 06 34.0**	**-0.6**
YTIR	**Yattir**	**3.45**	**152**	Pn	**Pn**	**01 05 58.2**	**+1.4**
YTIR				Sn	**Sn**	**01 06 36.3**	**-0.2**
CMRD	**Camardi-Nigde**	**3.52**	**23**	PN	**Pn**	**01 05 58.5**	**+0.7**
KZIT	**Kziot**	**3.65**	**164**	Pn	**Pn**	**01 06 00.3**	**+0.8**
GHAJ	**Ghor Haditha**	**3.69**	**147**	P	**Pn**	**01 06 03.3**	**+3.4**
NIDE	**Nigde/Merkez-G**	**3.77**	**19**	*i* P	**Pn**	**01 06 03.8**	**+2.6**
KAMA	**Osmaniye**	**3.91**	**44**	*i* P	**Pn**	**01 06 02.7**	**-0.4**
KAMA				*i* S	**Sn**	**01 06 43.3**	**-4.6**
KAMA				IAML		01 06 46.0	
	comp=E,12nm,1.7s						
KAMA				IAML		01 06 47.0	
	comp=N,7.2nm,1.3s						
YAHY	**KAYSERI_Yahyal**	**4.04**	**25**	*i* P	**Pn**	**01 06 04.3**	**-0.5**
HCB	**Kahramanmara**	**4.16**	**45**	*i* P	**Pn**	**01 06 06.0**	**-0.4**
HCB				*i* S	Sn	01 06 44.5	-9.5
HCB				IAML		01 06 51.0	
	comp=N,8.7nm,1.1s						
HCB				IAML		01 06 56.0	
	comp=E,6.9nm,1.6s						
ZFRI	**Zfri**	**4.20**	**157**	Pn	**Pn**	**01 06 07.7**	**+0.7**
PRNI	**Paran**	**4.34**	**159**	Pn	**Pn**	**01 06 09.7**	**+0.8**
KRMI	**Paran Flat**	**4.49**	**163**	Pn	**Pn**	**01 06 11.7**	**+0.7**
KRMI				Sn	**Sn**	**01 07 00.8**	**-1.3**
HRFI	**Mount Harif**	**4.64**	**160**	Pn	**Pn**	**01 06 14.1**	**+1.0**
HRFI				Sn	**Sn**	**01 07 05.0**	**-0.9**
MBRI	**Mt Berech**	**4.84**	**162**	Pn	**Pn**	**01 06 16.6**	**+0.7**
MBRI				Sn	**Sn**	**01 07 10.5**	**-0.4**
EIL	**Elat**	**4.97**	**163**	Pn	**Pn**	**01 06 18.6**	**+1.0**

*IDC **21** 01:06:34.1±2.5,6.°24S×130.°46E,h106km±25km, mb3.7/2, mb1 3.8/6,mb1mx3.4/29,mbtmp4.2/6,Error ellipse: s-maj=41.8km s-min=22.5km az=91.0*
*DJA **21** 01:06:36.2±0.4,6.°3S×13.°0E,h118km±12km,M4.3/10, mb4.6/6,mB4.9/5,MLv4.2/10,Mw(mB)4.2/5*
ISC 21 01:06:34.4±0.8,6.°16S±0.°05×130.°31E±0.°07,h124km,n16, σ2§78/23,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.68**	**346**	P	**Pn**	**01 07 05.5**	**+1.4**
BNDI				S	**Sn**	**01 07 28.5**	**+1.7**
SAUI	**Saumlaki**	**2.06**	**152**	P	**Pn**	**01 07 11.4**	**+2.6**
SAUI				S	**Sn**	**01 07 37.7**	**+2.5**
FAKI	**Fak Fak**	**3.75**	**31**	P	**Pn**	**01 07 31.4**	**+0.6**
FAKI				S	**Sn**	**01 08 13.6**	**-0.9**
SIJI	**Sorong**	**5.34**	**10**	P	**Pn**	**01 07 52.3**	**+0.3**
	5.4nm,0.3s,baz=312,slow=24,SNR=14						
SIJI				S	**Sn**	**01 08 49.1**	**-3.4**
	8.8nm,0.3s,baz=244,slow=23,SNR=15						
SWI	**Sorong**	**5.35**	**10**	P	**Pn**	**01 07 52.6**	**+0.5**
	0.4nm1µm26nm,0.7s						
SWI				S	**Sn**	**01 08 50.7**	**-1.9**
	0.4nm1µm26nm,0.7s						
RKPI	**Ransiki, Papua**	**6.02**	**40**	P	**Pn**	**01 08 02.9**	**+1.8**
	0.6nm3µm143nm,0.8s						
SOEI	**Soe**	**6.97**	**239**	P	**Pn**	**01 08 16.7**	**+2.6**
	0.2nm758nm62nm,0.8s						
BAKI	**Biak**	**7.60**	**50**	P	**Pn**	**01 08 25.8**	**+3.3**
BATI	**Baumata**	**7.71**	**238**	P	**Pn**	**01 08 25.1**	**+1.1**
	8.6nm,0.3s,baz=32,slow=2.4,SNR=11						
BATI				S	**Sn**	**01 09 50.0**	**+0.2**
	3.8nm,0.3s,baz=269,slow=23,SNR=4.1						
BATI	**Baumata**	**7.71**	**238**	P	**Pn**	**01 08 25.9**	**+1.9**
	0.1nm40nm,0.8s						
LUWI	**Luwuk**	**9.08**	**304**	P	**Pn**	**01 08 43.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**12.71**	**201**	P	**Pn**	**01 09 27.7**	**-3.1**
	0.5nm,0.3s,baz=19,slow=8.5,SNR=44						
FITZ				S	Sn	01 11 40.0	-11
	1.3nm,0.3s,baz=88,slow=16,SNR=7.8						
WRA	**Warramunga Arr**	**14.25**	**164**	P	**Pn**	**01 09 48.0**	**-2.6**
	0.8nm,0.3s,baz=347,slow=13,SNR=19						
WRA				S	Sn	01 12 15.4	-13
	2.4nm,0.3s,baz=331,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.75**	**169**	P	**Pn**	**01 10 33.9**	**+0.1**
	0.5nm,0.3s,baz=347,slow=10,SNR=21						
ASAR				S	**S**	**01 13 42.9**	**-8.1**
	0.5nm,0.3s,baz=353,slow=27,SNR=6.9						
MKAR	**Makanchi Array**	**67.70**	**326**	P	**P**	**01 17 21.2**	**+2.8**
	1.8nm,0.6s,baz=127,slow=7.7,SNR=30						
ZALV	**Zalesovo Beam**	**70.97**	**334**	P	**P**	**01 17 40.3**	**+2.0**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=3.7						

*VIE **21** 01:23:14.6±0.5,50.°11N×18.°44E,h0km,mb1.9/3,ml2.7/4, Error ellipse: s-maj=7.1km s-min=2.8km az=153.0 34 km NNE of Ostrava Suspected Mining induced.*
*IPEC **21** 01:23:15.3±0.1,50.°08N×18.°45E,h1km,ML2.3/3,Error ellipse: s-maj=1.4km s-min=0.7km az=168.0*
*PRU **21** 01:23:15.6±0.0,50.°07N×18.°39E,h0km*
ISC 21 01:23:14.1±0.8,50.°12N±0.°03×18.°47E±0.°02,h0km,n40, σ1§06/70,8C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.35**	**217**	*e*PG	**Pg**	**01 23 21.6**	**+0.9**
OKC				*e*SG	**Sg**	**01 23 25.5**	**+0.3**
	comp=Z,127nm,0.7s						
MORC	**Moravsky Berou**	**0.69**	**241**	⇑P	**Pg**	**01 23 27.7**	**+0.5**
MORC				⇑S	**Sg**	**01 23 36.9**	**+0.7**
MORC	**Moravsky Berou**	**0.69**	**241**	*e*PG	**Pg**	**01 23 27.7**	**+0.5**
MORC				*e*SG	**Sg**	**01 23 36.7**	**+0.6**
MORC	**Moravsky Berou**	**0.69**	**241**	*e*Pg	**Pg**	**01 23 27.6**	**+0.4**
	baz=62						
MORC				*e*Sg	**Sg**	**01 23 36.6**	**+0.5**
	60nm,0.2s,baz=62						
ANAC	**Anensky vrch**	**0.70**	**267**	*e*Pg	**Pg**	**01 23 28.5**	**+1.0**
	baz=89						
OJC	**Ojcow**	**0.86**	**83**	*e*Pg	**Pb**	**01 23 31.7**	**-0.2**
OJC				*e*Sg	**Sb**	**01 23 44.0**	**0.0**
LOSC	**Losov**	**0.86**	**236**	*e*Pg	**Pg**	**01 23 31.3**	**+0.7**
	baz=56						
LIPC	**Lipinka**	**0.96**	**254**	*e*Pg	**Pg**	**01 23 33.1**	**+0.7**
	baz=75						
KRLC	**Kraliky**	**1.09**	**268**	*e*PG	**Pg**	**01 23 35.0**	**+0.1**
KRLC				*e*SG	**Sg**	**01 23 48.4**	**-0.6**
	comp=Z,50nm,0.3s						
LANS	**Liptovska Anna**	**1.17**	**146**	*e*PG	**Pn**	**01 23 37.4**	**-0.3**
LANS				*e*SG	**Sn**	**01 23 53.8**	**-0.5**
LANS				*e*LG	Lg	01 23 56.4	
JAVC	**Velka Javorina**	**1.36**	**203**	*e*PN	**Pb**	**01 23 40.9**	**+0.4**
JAVC	**Velka Javorina**	**1.36**	**203**	*e*Pn	**Pb**	**01 23 40.8**	**+0.3**
	baz=22						
NIE	**Niedzica**	**1.38**	**120**	*e*Pg	**Pb**	**01 23 41.5**	**+0.8**
NIE				*e*Sg	**Sn**	**01 24 01.2**	**+1.7**
DPC	**Dobruska-Polom**	**1.40**	**280**	*e*PG	**Pg**	**01 23 41.1**	**+0.2**
DPC				*e*SG	**Sg**	**01 23 59.4**	**+0.4**
	comp=Z,64nm,0.3s						
VRAC	**Vranov**	**1.46**	**237**	⇑P	**Pn**	**01 23 41.8**	**+0.1**
VRAC				⇓S	**Sg**	**01 24 00.1**	**-0.8**
VRAC	**Vranov**	**1.46**	**237**	*e*PN	**Pn**	**01 23 41.9**	**+0.2**
VRAC				*e*SG	**Sg**	**01 24 00.2**	**-0.8**
VRAC	**Vranov**	**1.46**	**237**	*e*Pn	**Pn**	**01 23 41.9**	**+0.2**
	baz=57						
VRAC				*e*Sg	**Sg**	**01 24 00.2**	**-0.8**
	37nm,0.4s,baz=57						
OSTC	**Ostas**	**1.51**	**288**	*e*PG	**Pb**	**01 23 42.9**	**-0.1**
OSTC				*e*SG	**Sn**	**01 24 03.5**	**+0.7**
	comp=Z,35nm,0.7s						
KSP	**Ksiaz**	**1.57**	**298**	*e*Pg	**Pn**	**01 23 43.3**	**+0.1**
KSP				*e*Sg	**Sg**	**01 24 05.4**	**+1.0**
CHVC	**Chvalec**	**1.62**	**288**	*e*PG	**Pn**	**01 23 44.3**	**+0.4**
CHVC				*e*SG	**Sg**	**01 24 06.4**	**+0.4**
	comp=Z,22nm,0.4s						
UPC	**Upice**	**1.62**	**285**	*e*PG	**Pb**	**01 23 44.7**	**-0.2**
UPC				*e*SG	**Sn**	**01 24 05.9**	**+0.4**
	comp=Z,27nm,0.3s						
VYHS	**Vyhne**	**1.64**	**171**	*e*PG	**Pn**	**01 23 44.3**	**+0.1**
VYHS				*e*SG	**Sg**	**01 24 06.8**	**0.0**
VYHS				*e*LG	Lg	01 24 09.8	
KRUC	**Moravsky**	**1.71**	**233**	*e*PN	**Pn**	**01 23 45.7**	**+0.5**
KRUC				*e*SG	**Sn**	**01 24 07.8**	**0.0**
KRUC	**Moravsky**	**1.71**	**233**	*e*Pn	**Pn**	**01 23 45.7**	**+0.5**
	baz=52						
KRUC				*e*Sg	**Sn**	**01 24 07.7**	**0.0**
	22nm,0.3s,baz=52						
SMOL	**Smolenice**	**1.74**	**203**	*e*PN	**Pn**	**01 23 45.2**	**-0.4**
SMOL				*e*SN	**Sn**	**01 24 08.0**	**-0.5**
SMOL				*e*LG	Lg	01 24 15.8	
MODS	**Modra-Piesok**	**1.91**	**205**	*e*PN	**Pn**	**01 23 47.8**	**-0.1**
MODS				*e*SN	**Sn**	**01 24 11.4**	**-1.3**
TREC	**Trest**	**2.10**	**248**	*e*SG	**Sb**	**01 24 19.6**	**-0.1**
	comp=Z,15nm,0.4s						
CRVS	**Cervenica-Dubn**	**2.30**	**121**	*e*PN	**Pg**	**01 23 57.8**	**-0.3**
CRVS				*e*SN	**Sg**	**01 24 31.1**	**+3.2**
GOPC	**GO Pecny, Ondr**	**2.38**	**267**	*e*SG	**Sb**	**01 24 28.0**	**+0.2**
	comp=Z,11nm,0.4s						
PSZ	**Piszkesteto**	**2.39**	**156**	⇑P	**Pb**	**01 23 56.9**	**-1.2**
PRU	**Pruhonice**	**2.53**	**269**	*e*SG	**Sb**	**01 24 32.6**	**+0.5**
	comp=Z,11nm,0.5s						
KOLS	**Kolonicke sedl**	**2.75**	**114**	*e*PG	**Pg**	**01 24 07.8**	**+1.1**
CONA	**Conrad Observa**	**2.78**	**219**	*e*Pn	**Pn**	**01 24 00.2**	**+0.2**
	0.9nm,0.2s						
CONA				*e*Sn	**Sn**	**01 24 32.8**	**-1.4**
	2.0nm,0.2s						
BRG	**Berggiesshubel**	**2.99**	**286**	Pg	**Pg**	**01 24 09.9**	**-1.4**
BRG				Sg	**Sg**	**01 24 49.0**	**-1.0**
BRG				Amp		01 24 51.9	
	comp=Z,9.8nm,0.4s						
CKRC	**Cesky Krumlov**	**3.01**	**246**	*e*SG	**Sb**	**01 24 46.7**	**+1.0**
	comp=Z,11nm,0.3s						
KHC	**Kasperske Hory**	**3.33**	**255**	*e*PN	**Pn**	**01 24 07.5**	**+0.1**
KHC				*e*PG	**Pb**	**01 24 15.5**	**+1.5**
KHC				*e*SG	**Sg**	**01 24 59.0**	**-2.0**
	comp=Z,13nm,0.3s						
MOA	**Molln**	**3.58**	**232**	*e*Pn	**Pn**	**01 24 11.0**	**+0.2**
	comp=Z,0.1nm,0.1s						
MOA				*i* Sn	**Sn**	**01 24 54.9**	**+1.1**
	comp=Z,1.8nm,0.3s						
CLL	**Collm**	**3.67**	**291**	*e*Pg	**Pg**	**01 24 24.0**	**-0.4**
CLL				*e*Sg	**Sg**	**01 25 10.0**	**-2.0**
	comp=Z,10.0nm,0.8s						
DRGR		**4.36**	**138**	⇑P	**Pn**	**01 24 21.4**	**-0.3**
DRGR				⇑S	**Sn**	**01 25 08.9**	**-4.4**
BZS	**Buzias**	**4.97**	**154**	⇑P	**Pn**	**01 24 30.3**	**+0.3**
BZS				⇑S	**Sn**	**01 25 25.1**	**-3.1**

*DJA **21** 01:31:18.7±0.1,0.°5S±1.°2×123.°3E±.°1,h87km±2km,M4.9/56, mb5.0/56,mB5.4/24,MLv5.3/22,Mw(mB)4.8/24, MwMwp4.3/1,Mwp4.8/1*
*NEIC **21** 01:31:19.4±1.8,0.°38S±0.°04×123.°05E±0.°06,h89km±5km, mb4.8/74,Error ellipse: s-maj=9.3km s-min=6.1km az=91.0*
*KLM **21** 01:31:20,0.°40S×123.°16E,h99km,mb4.9*
*IDC **21** 01:31:20.4±1.2,0.°27S×123.°11E,h99km±11km,mb4.3/24, mb1 4.4/29,mb1mx4.3/46,mbtmp4.6/29,MS3.4/12, Ms1 3.5/12,ms1mx3.2/27,Error ellipse: s-maj=12.6km s-min=8.4km az=74.0*
*GCMT **21** 01:31:20.4±0.3,0.°28S±0.°02×123.°26E±0.°03,h74km±6km, MW4.7/79,Moment Tensor Solution. s14,c14; s79,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.11±. 12; $M_{\theta\theta}$-0.29±.14; $M_{\phi\phi}$0.40±.17; $M_{r\theta}$1.27±.04; $M_{\theta\phi}$-0.96±. 12; $M_{\phi r}$-0.04±.06; Best double couple: $M_0$1.62500×10^{16} NP1:ϕ_s186.00000°,δ39.00000°,λ-5.00000°. NP2: ϕ_s280.00000°,δ87.00000°,λ-129.00000°. Principal axes: T 1.5400, Plg31.0000°, Azm41.0000°; N 0.1700, Plg39.0000°, Azm282.0000°; P -1.7100, Plg36.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 01:31:19.4±0.6,0.°36S±0.°03×123.°08E±0.°04,h88km±5km, n262,σ1§65/274,mb4.8/89,1C-2D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.74**	**204**		**Pn**	**01 31 35.1**	**-1.0**
LUWI	**Luwuk**	**0.74**	**204**	P	**Pn**	**01 31 35.1**	**-1.0**
LUWI				S	**Sn**	**01 31 44.2**	**-4.4**
GTOI	**Gorontalo**	**0.99**	**356**	P	**Pn**	**01 31 38.7**	**-0.1**
GTOI				S	**Sn**	**01 31 52.6**	**-0.8**
KMSI	**Cibinong**	**1.29**	**44**	P	**Pn**	**01 31 41.1**	**-1.4**
KMSI				S	**Sn**	**01 31 58.6**	**-1.2**
MRSI	**Marisa**	**1.41**	**306**	P	**Pn**	**01 31 42.5**	**-1.4**
MRSI				S	**Sn**	**01 31 59.8**	**-2.5**
APSI	**Ampana**	**1.53**	**249**	P	**Pn**	**01 31 45.1**	**-0.3**
APSI				S	**Sn**	**01 32 06.4**	**+1.3**
TOLI2	**Tolitoli**	**2.72**	**302**	Pn	**Pn**	**01 32 01.2**	**+0.1**
SANI	**Sanana**	**3.36**	**120**	P	**Pn**	**01 32 07.1**	**-

643nm37nm,0.6s
PLAI Plampang 9.93 212 P Pn 01 33 37.7 -1.6
93nm,0.9s
CNOP Candoni, Negro 10.13 358 *e*P **Pn 01 33 42.2 +0.2**
GLSP General Luna, 10.52 17 *e*P **Pn 01 33 48.6 +1.2**
GUIM Jordan 10.92 357 *e*P **Pn 01 33 53.6 +0.7**
SRBI Singaraja 10.97 225 P **Pn 01 33 55.1 +1.7**
30nm,1.1s
SAUI Saumlaki 11.16 133 Pn **Pn 01 33 57.0 +0.9**
SAUI Saumlaki 11.16 133 P **Pn 01 33 57.2 +1.2**
8µm102nm,0.4s
SBUM Sibu 11.21 284 Pn 01 33 58.8 +2.1
SBUM Sibu 11.21 284 P Pn 01 34 03.0 +6.3
STKI Sintang 11.61 272 P **Pn 01 34 04.8 +2.7**
JAGI Jajag, Banyuwa 12.00 228 P Pn 01 34 02.0 -5.4
KSM Kuching 12.90 278 Pn 01 34 20.4 +1.0
KSM Kuching 12.90 278 P **P 01 34 25.0 -1.8**
BAKI Biak 13.05 94 P **Pn 01 34 18.1 -3.5**
46nm,1.3s
SRPI Serui, Papua 13.25 97 P **Pn 01 34 23.8 -0.3**
SMRI Semarang 14.25 242 Pn **Pn 01 34 37.4 +0.3**
SMRI Semarang 14.25 242 P **P 01 34 40.3 -1.5**
60nm,0.6s
LQP Lukban 14.46 354 *e*P **P 01 34 46.9 +2.6**
TGY Tagaytay City 14.52 352 P **P 01 34 45.9 +1.0**
26nm,0.3s,baz=206,slow=4.8,SNR=15
MTN Manton Dam 14.75 148 Pn 01 34 42.6 -1.0
QVP Quezon City--P 15.03 352 *e*P **P 01 34 51.2 +0.9**
KDU Kakadu 15.39 143 P **Pn 01 34 51.8 +0.1**
baz=15,SNR=16
TPI Tanjungpandan 15.60 261 P **Pn 01 34 52.4 -2.0**
26nm,1.1s
KNRA Kununurra 16.22 160 Pn **Pn 01 35 01.7 -0.5**
KNRA IAmb IAmb 01 35 06.1
comp=Z,43nm,0.7s
LEM Lembang 16.70 247 P **P 01 35 11.2 +2.0**
comp=Z,4.8nm,0.3s,baz=72,slow=9.0,SNR=9.2
LEM Lembang 16.70 247 P **Pn 01 35 06.7 -1.6**
comp=Z,35nm,0.7s
CISI Cisompet, Garu 16.81 244 P **P 01 35 11.1 +0.8**
CISI IAmb IAmb 01 35 27.3
comp=Z,44nm,0.8s
BOLP Bolinao 16.92 350 *e*P **P 01 35 11.1 -0.4**
PPBI Pangkal Pinang 17.03 264 P **P 01 35 12.9 +0.2**
comp=Z,3µmcomp=Z,24nm,1.0s
GENI Genyem 17.23 98 P **Pn 01 35 13.4 -1.2**
comp=Z,74nm,0.7s
CBJI Citeko 17.27 249 P **P 01 35 16.4 +1.1**
comp=Z,12µmcomp=Z,133nm,0.7s
TNG Tangerang 17.38 250 P **P 01 35 16.8 +0.3**
comp=Z,383nm,0.4s
DBJI Dramaga 17.41 249 P **Pn 01 35 13.4 -3.5**
comp=Z,21µmcomp=Z,42nm,0.5s
FITZ Fitzroy Crossi 17.81 172 P **Pn 01 35 21.6 0.0**
comp=Z,2.1nm,0.3s,baz=4.1,slow=7.3,SNR=98
FITZ Fitzroy Crossi 17.81 172 P **Pn 01 35 21.3 -0.3**
baz=18,SNR=65
FITZ Fitzroy Crossi 17.81 172 P **P 01 35 21.0 -0.1**
SZP Santa 17.98 352 P **Pn 01 35 24.7 +1.0**
APYP Conner 18.20 354 *e*P **Pn 01 35 26.7 +0.4**
BLSI Bandar Lampung 18.48 254 P **P 01 35 29.0 +0.3**
comp=Z,130nm,0.4s
KLSI 18.82 256 P **P 01 35 31.0 -1.4**
comp=Z,16nm,1.1s
DLV T Lat 18.95 311 P **Pn 01 35 35.4 -0.2**
KASI Kota Agung 19.25 254 P **P 01 35 35.6 -1.4**
comp=Z,81nm,1.0s
MYKOM **Kota Tinggi 19.34 276** P **P 01 35 37.5 -0.6**
JMBI JAMBI 19.47 266 P **Pn 01 35 41.6 +0.1**
comp=Z,161nm,0.4s
LWLI Liwa 19.55 256 P **Pn 01 35 43.4 +0.9**
comp=Z,7µmcomp=Z,87nm,0.5s
LHSI Lahat 19.84 260 P **P 01 35 44.0 +0.6**
comp=Z,4µmcomp=Z,65nm,1.1s
XMIS Christmas Isla 20.03 239 P **P 01 35 45.1 -0.5**
XMIS IAmb IAmb 01 35 46.3
comp=Z,51nm,0.8s
JRMM Jerantut 21.01 282 P **P 01 36 00.0 +3.9**
PSA00 Pilbara Seismi 21.32 188 P **P 01 35 59.9 +0.6**
PSA00 IAmb IAmb 01 36 02.6
comp=Z,33nm,0.7s
BKNI Bangkinang 22.05 272 P **P 01 36 07.8 +0.6**
BKNI IAmb IAmb 01 36 10.0
comp=Z,77nm,1.1s
WB0 Warramunga Arr 22.25 151 P **P 01 36 08.4 -0.9**
WB0 IAmb IAmb 01 36 11.7
comp=Z,100nm,1.4s
WRAB Tennant Creek 22.37 151 P **P 01 36 10.6 +0.1**
WRA Warramunga Arr 22.37 151 P **P 01 36 10.0 -0.6**
comp=Z,33nm,0.8s,baz=336,slow=9.9,SNR=128
WRA ScP **ScP 01 43 32.3 -0.3**
comp=Z,5.2nm,0.9s,baz=338,slow=2.8,SNR=12
WRA Warramunga Arr 22.37 151 ScP 01 43 33.1 +0.4
WB2 Warramunga Arr 22.38 151 P **P 01 36 09.9 -0.7**
baz=22
WB2 Warramunga Arr 22.38 151 P **P 01 36 10.4 -0.2**
WR0 Warramunga Arr 22.48 151 IAmb IAmb 01 36 13.0
comp=Z,52nm,0.9s
IPM Ipoh 22.55 283 P **P 01 36 12.8 +0.3**
IPM IAmb IAmb 01 36 14.8
comp=Z,26nm,0.6s
IPM Ipoh 22.55 283 P **P 01 36 13.0 +0.5**
KULM Kulim 23.09 284 P **P 01 36 18.0 +0.1**
TWG Pinlang 23.12 355 IAmb IAmb 01 36 29.7
comp=Z,56nm,1.0s
QIZ Qiongzhong 23.24 327 P **P 01 36 19.0 -0.3**
QIZ S **S 01 40 25.9 +1.2**
QIZ pmax pmax
comp=Z,65nm,4.1s
UBPT Khong Chiam 23.33 313 P **P 01 36 22.2 +2.1**
comp=Z,870nmcomp=Z,11nm,0.7s
UBPT Khong Chiam 23.33 313 P **P 01 36 20.3 +0.1**
MNSI Mandailing Nat 23.52 273 P **P 01 36 21.8 -0.2**
comp=Z,26nm,0.7s
YULB Yu-li 23.67 356 P **P 01 36 21.9 -1.3**
YULB IAmb IAmb 01 36 29.9
comp=Z,50nm,0.8s
SSLB Suanglung 24.09 355 P **P 01 36 26.7 -0.2**
RPSI Rantau Prapat 24.34 277 P **P 01 36 29.0 -0.3**
MANU Manus Island 24.34 94 P **P 01 36 29.0 -0.3**
PSI Prapat 24.35 278 P **P 01 36 28.7 -0.8**
comp=Z,15nm,0.8s,baz=178,slow=2.9,SNR=10
NACB Ninganchiao 24.43 357 IAmb IAmb 01 36 32.2
comp=Z,39nm,1.0s
YHNB Yeheng 24.94 356 P **P 01 36 35.1 +0.4**
YHNB IAmb IAmb 01 36 38.1
comp=Z,54nm,0.9s
WRKA Warakurna 25.05 169 P **P 01 36 36.4 +0.7**
baz=25,SNR=29
AS31 Alice Springs 25.44 156 P **P 01 36 39.3 +0.1**
ASAR Alice Springs 25.44 156 P **P 01 36 40.0 +0.8**
comp=Z,12nm,0.6s,baz=344,slow=15,SNR=105
ASAR PcP **PcP 01 40 09.9 +0.5**
comp=Z,2.7nm,0.6s,baz=346,slow=2.0,SNR=7.7
ASAR ScP **ScP 01 43 41.0 0.0**
comp=Z,3.1nm,0.8s,baz=331,slow=2.4,SNR=14
ASAR Alice Springs 25.44 156 P **P 01 36 39.5 +0.3**
ASAR **PcP 01 40 08.7 -0.7**
QZH Quanzhou 25.52 351 *e*P **P 01 36 42.1 +2.2**
GSI Gunungsitoli 25.55 274 P **P 01 36 39.5 -0.8**
GSI IAmb IAmb 01 37 07.0
comp=Z,22nm,0.7s
PMG Port Moresby 25.60 111 P **P 01 36 39.8 -0.9**
comp=Z,21nm,0.8s,baz=285,slow=6.4,SNR=7.4
PMG Port Moresby 25.60 111 P **P 01 36 40.4 -0.4**
PMG IAmb IAmb 01 36 44.6
comp=Z,24nm,0.8s
PMG Port Moresby 25.60 111 P **P 01 36 41.3 +0.6**
QIS Mount Isa 25.77 142 P **P 01 36 43.2 +0.9**
baz=26,SNR=23
SURT Suratani 25.90 292 P **P 01 36 47.0 +3.6**
comp=Z,1.0nm,1.1s
KHON Khomkaen 25.97 311 P **P 01 36 46.2 +2.1**
comp=Z,7µmcomp=Z,100nm,0.7s
CHAI Chaiyaphum 26.36 309 P **P 01 36 49.5 +2.0**
comp=Z,541nmcomp=Z,50nm,0.7s
PHET Kaeng Krachan 26.73 300 P **P 01 36 54.9 +4.0**
comp=Z,30nm,0.7s
NONG Nongkai 26.82 314 P **P 01 36 56.0 +4.3**
comp=Z,5µmcomp=Z,19nm,0.7s
UTHA Uthaitani 28.20 305 P **P 01 37 06.5 +2.5**
comp=Z,291nmcomp=Z,28nm,0.7s
UTTA Uttaradit 28.55 310 P **P 01 37 09.3 +2.2**
comp=Z,18nm,0.9s
SLVN Son La 28.56 320 P **P 01 37 08.0 +0.8**
SLVN IAmb IAmb 01 37 36.1
comp=Z,28nm,1.5s
SUKH Sukhothai 29.11 309 P **P 01 37 14.5 +2.4**
comp=Z,30nm,0.7s
MORW Morawa 29.33 193 P **P 01 37 14.4 +0.5**
baz=29,SNR=8.4
MORW Morawa 29.33 193 IAmb IAmb 01 37 14.9
comp=Z,16nm,0.8s
LAMP Lampang 29.71 310 P **P 01 37 20.1 +2.6**
comp=Z,24nm,0.8s
CTA Charters Tower 29.98 132 P **P 01 37 20.6 +0.7**
comp=Z,4.1nm,0.8s,baz=324,slow=11,SNR=5.3
CM04 Chiang Mai Arr 30.14 309 P **P 01 37 23.8 +2.5**
comp=Z,107nmcomp=Z,12nm,0.9s
CM09 Chiang Mai Arr 30.16 310 P **P 01 37 25.0 +3.6**
comp=Z,12nm,0.8s
CM05 Chiang Mai Arr 30.17 309 P **P 01 37 23.8 +2.3**
comp=Z,9.2nm,1.0s
CM02 Chiang Mai Arr 30.19 309 P **P 01 37 24.2 +2.6**
comp=Z,84nmcomp=Z,12nm,0.8s
CM31 Chiang Mai Arr 30.20 310 P **P 01 37 22.3 +0.5**
CMAR Chiang Mai Arr 30.20 310 P **P 01 37 23.2 +1.4**
comp=Z,5.9nm,0.8s,baz=134,slow=7.0,SNR=22
CMAR PcP **PcP 01 40 21.2 +0.2**
comp=Z,1.5nm,0.6s,baz=180,slow=1.8,SNR=5.3
CMAR ScP **ScP 01 43 54.0 -1.6**
comp=Z,0.8nm,0.3s,baz=128,slow=3.8,SNR=1.3
CMAR LR LR 01 50 10.5
comp=Z,63nm,19.7s,baz=168,slow=38
CMAR Chiang Mai Arr 30.20 310 P **P 01 37 21.8 0.0**
CM13 Chiang Mai Arr 30.21 309 P **P 01 37 24.2 +2.4**
comp=Z,97nmcomp=Z,12nm,0.8s
CM34 Chiang Mai Arr 30.27 310 P **P 01 37 24.0 +1.6**
CM32 Chiang Mai Arr 30.39 310 P **P** 01 37 32.0 +8.5
CMMT Chiang Mai 30.41 310 P **P 01 37 24.5 +0.9**
comp=Z,9.5nm,0.9s
CHTO Chiang Mai 30.41 310 P **P 01 37 24.3 +0.7**
CHTO IAmb IAmb 01 37 51.0
comp=Z,17nm,0.9s
FORT Forrest 30.62 172 P **P 01 37 26.1 +0.8**
baz=31,SNR=7.9
FORT Forrest 30.62 172 P **P 01 37 24.9 -0.4**
BLDU Ballidu 30.69 191 P **P 01 37 26.4 +0.5**
baz=31,SNR=28
KMBL Kambalda 30.86 182 P **P 01 37 28.1 +0.6**
baz=31,SNR=6.6
GYA Guiyang 31.00 331 *e*P **P 01 37 30.6 +1.7**
GYA pP sP 01 37 54.5 -3.8
GYA S **S 01 42 30.0 +2.4**
GYA pmax pmax
comp=Z,15nm,1.1s
GYA LR LR
comp=Z,65nm,11.0s
KLBR Kellerberrin 31.47 189 P **P 01 37 33.3 +0.5**
baz=32,SNR=10
WHN Wuhan 31.83 346 P **P 01 37 37.9 +1.9**
KMI Kunming 32.08 324 ⇑P **P 01 37 40.8 +2.3**
KMI pP sP 01 38 06.3 -1.7
KMI pmax pmax
comp=Z,16nm,0.6s
KMI LR LR
comp=Z,130nm,6.1s
KMI LR LR
comp=Z,84nm,5.5s
KMI LR LR
comp=Z,72nm,7.7s
NJ2 Nanjing 32.48 353 *e*P **P 01 37 43.9 +2.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NWAO Narrogin (SRO) 32.86 189 P **P 01 37 45.0 0.0**
comp=Z,11nm,0.6s,baz=20,slow=7.5,SNR=11
JCJ Chichijima 32.91 32 P **P 01 37 44.2 -1.3**
comp=Z,142nm,0.4s,baz=270,slow=8.1,SNR=5.6
ENH Enshi 33.10 338 P **P 01 37 47.6 +0.5**
BBOO Buckleboo 34.52 160 P **P 01 38 00.2 +0.9**
baz=35,SNR=17
BBOO Buckleboo 34.52 160 P **P 01 37 59.1 -0.2**
JMN Monobe 35.40 16 P **P 01 38 06.6 -0.4**
RMQ Roma 35.86 138 P **P 01 38 12.5 +1.5**
baz=36,SNR=6.1
STKA Stephens Creek 35.91 153 P **P 01 38 11.6 +0.3**
comp=Z,8.3nm,0.8s,baz=324,slow=8.7,SNR=17
STKA LR LR 01 53 52.1
comp=Z,73nm,19.0s,baz=322,slow=38
STKA Stephens Creek 35.91 153 P **P 01 38 12.4 +1.1**
baz=36,SNR=11
STKA Stephens Creek 35.91 153 P **P 01 38 11.0 -0.3**
CD2 Chengdu 36.11 331 P **P 01 38 14.1 +1.0**
CD2 pmax pmax
comp=Z,60nm,0.6s
HTT Hallett 36.11 157 P **P 01 38 14.1 +1.0**
baz=36,SNR=15
XAN Xi'an 36.71 340 P **P 01 38 18.9 +0.8**
XAN pP pP 01 38 36.5 -1.5
XAN pmax pmax
comp=Z,20nm,0.9s
XAN pmax pmax
comp=Z,88nm,6.5s
XAN Xi'an 36.71 340 P **P 01 38 18.4 +0.3**
XAN IAmb IAmb 01 38 20.6
comp=Z,14nm,0.8s
JWT Wachi 37.28 17 P **P 01 38 22.3 -0.6**
CMSA Cobar Meteorol 37.68 148 P **P 01 38 27.9 +1.6**
baz=38,SNR=13
KSAR Wonju Array Be 37.88 6 P **P 01 38 28.2 +0.3**
KSRS Korea Array 37.89 6 P **P 01 38 27.5 -0.5**
comp=Z,2.0nm,0.7s,baz=181,slow=10,SNR=12
JGF Kuroka 38.17 19 IAmb IAmb 01 38 31.4
comp=Z,11nm,0.8s
MAJO Matsushiro 39.31 19 P **P 01 38 38.4 -1.6**
MAJO IAmb IAmb 01 38 42.9
comp=Z,16nm,0.9s
MAT Matsushiro 39.31 19 P **P 01 38 38.6 -1.4**
MJAR Matsushiro Arr 39.31 19 P **P 01 38 38.6 -1.3**
comp=Z,11nm,0.7s,baz=192,slow=9.0,SNR=34
MJAR LR LR 01 53 17.8
comp=Z,35nm,21.6s,baz=215,slow=34
MJAR Matsushiro Arr 39.31 19 P **P 01 38 38.2 -1.7**
SHL Shillong 39.65 313 P **P 01 38 42.1 -1.0**
SHL IAmb IAmb 01 39 04.5
comp=Z,15nm,0.8s
ARPS Mount Arapiles 40.18 156 P **P 01 38 48.7 +1.5**
baz=40,SNR=10
ARMA Armidale 40.37 140 P **P 01 38 50.5 +1.5**
baz=40,SNR=5.8
LZH Lanzhou 40.44 336 *e*P **P 01 38 52.5 +3.0**
LZH pP pwP 01 39 10.1 -2.2
LZH sP sP 01 39 21.0 +1.7
LZH pmax pmax
comp=Z,19nm,1.2s
JSD Sado 40.69 18 P **P 01 38 49.7 -1.7**
JSD IAmb IAmb 01 38 51.0
comp=Z,13nm,0.9s
HHC Hu-ho-hao-te 42.33 347 *e*P **P 01 39 04.4 -0.4**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,80nm,6.6s
CAN Canberra 42.35 148 P **P 01 39 04.2 -0.9**
TOO Toolangi 42.41 153 P **P 01 39 06.3 +0.8**
TOO IAmb IAmb 01 39 14.5
comp=Z,14nm,1.1s
LSA Lhasa 42.66 317 P **P 01 39 09.8 +1.7**
PALK Pallekele 42.94 281 LR LR 01 57 46.1
comp=Z,49nm,19.5s,baz=213,slow=37
ODAN Odare 43.72 311 *e*P **P 01 39 17.3 +0.9**
comp=Z,19nm,0.7s
TAPN Taplejung 43.74 312 *e*P **P 01 39 17.0 +0.3**
comp=Z,12nm,0.6s
RAMN Ramite 44.36 311 *e*P **P 01 39 22.4 +0.8**
comp=Z,25nm,0.6s
GTA Gaotai 44.95 334 P **P 01 39 28.0 +2.1**
GTA pP sP 01 39 50.9 -5.1
GTA sP pwP 01 40 00.8 +12
GTA pmax pmax
comp=Z,10.0nm,1.3s
USA0B Ussuriysk Arra 45.07 9 P **P 01 39 25.7 -0.9**
USA0B IAmb IAmb 01 39 27.0
comp=Z,9.5nm,0.8s
USRK Ussuriysk Ar. 45.07 9 P **P 01 39 26.1 -0.5**
comp=Z,7.0nm,0.7s,baz=192,slow=7.5,SNR=24
USRK Ussuriysk Ar. 45.07 9 P **P 01 39 25.9 -0.7**
MDJ Mudanjiang 45.16 7 P **P 01 39 26.9 -0.4**
MDJ pmax pmax
comp=Z,19nm,0.9s
MDJ pmax pmax
comp=Z,75nm,4.0s
MDJ Mudanjiang 45.16 7 IAmb IAmb 01 39 28.2
comp=Z,13nm,0.7s
GUN Gumba 45.41 311 *e*P **P 01 39 30.8 +0.8**
comp=Z,23nm,0.5s
PKI Pulchoki 45.59 311 *e*P **P 01 39 30.8 -0.6**
comp=Z,8.8nm,0.7s
PKIN Phulchoki 45.60 311 *e*P **P 01 39 31.9 +0.5**
comp=Z,8.7nm,0.5s
GKN Gorkha 46.40 311 *e*P **P 01 39 37.8 +0.2**
comp=Z,18nm,0.6s
ASAJ Asahikawa 47.58 19 P **P 01 39 45.8 -0.5**
comp=Z,12nm,0.8s,baz=217,slow=14
ULN Ulaanbaatar 50.02 346 P **P 01 40 04.8 -0.2**
ULN IAmb IAmb 01 40 07.6
comp=Z,5.4nm,0.7s
SONM Songino Array 50.15 345 P **P 01 40 06.1 0.0**
comp=Z,7.4nm,0.8s,baz=161,slow=8.4,SNR=38
SONM ScP **ScP 01 45 10.6 -1.8**
comp=Z,1.2nm,0.8s,baz=176,slow=4.2,SNR=5.5
SONM LR LR 02 03 25.5
comp=Z,38nm,19.5s,baz=121,slow=38
SONM Songino Array 50.15 345 P **P 01 40 05.7 -0.4**
YSS Yuzh-Sakhalins 50.17 17 P **P 01 40 05.7 -0.4**
YSS IAmb IAmb 01 40 07.8
comp=Z,9.2nm,0.6s
WMQ Urumqi 54.14 329 *e*P **P 01 40 36.1 +0.5**
WMQ pP pwP 01 41 00.3 +1.0
WMQ sP sP 01 41 07.6 +1.4
WMQ PcP **PcP 01 41 40.3 +1.0**
WMQ pmax pmax
comp=Z,10.0nm,1.7s
WMQ pmax pmax
comp=Z,130nm,4.7s
NIL Nilore 57.68 311 P **P 01 41 01.1 +0.1**
NIL IAmb IAmb 01 41 26.4
comp=Z,9.7nm,0.9s
KSH Kashi 58.49 318 P **P 01 41 07.8 +1.0**
KSH sP sP 01 41 45.5 +7.7
KSH pmax pmax
comp=Z,150nm,6.0s
MK31 Makanchi Array 58.96 328 P **P 01 41 09.5 -0.2**
MK31 IAmb IAmb 01 41 34.9
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 58.96 328 P **P 01 41 09.3 -0.4**
comp=Z,1.9nm,0.5s,baz=122,slow=8.6,SNR=56
MKAR ScP **ScP 01 45 47.5 -3.4**
comp=Z,0.8nm,0.7s,baz=129,slow=4.8,SNR=4.4
MKAR LR LR 02 10 25.9
comp=Z,25nm,18.3s,baz=131,slow=40
MKAR Makanchi Array 58.96 328 P **P 01 41 08.9 -0.8**
MAKZ Makanchi 59.13 328 P **P 01 41 10.1 -0.8**
MAKZ IAmb IAmb 01 41 35.6
comp=Z,6.5nm,0.9s
PETK Petropavlovsk- 60.58 23 P **P 01 41 20.5 -0.2**
comp=Z,4.8nm,0.7s,baz=194,slow=4.7,SNR=9.9
PETK LR LR 02 05 55.7
comp=Z,20nm,21.7s,baz=180,slow=34
PETK Petropavlovsk- 60.58 23 P **P 01 41 21.2 +0.5**
RPZ Rata Peaks 60.68 142 P **P 01 41 21.8 +0.2**
KBL Kabul 61.23 310 P **P 01 41 25.7 0.0**
URZ Urewera 62.21 134 P **P 01 41 32.3 +0.4**
comp=Z,10nm,1.0s,baz=146,slow=2.6,SNR=4.1
URZ Urewera 62.21 134 IAmb IAmb 01 41 33.3
comp=Z,17nm,1.2s
ZAA0 Zalesovo Array 62.67 336 P **P 01 41 33.6 -1.0**
ZAA0 IAmb IAmb 01 41 58.9
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 62.67 336 P **P 01 41 34.1 -0.6**
comp=Z,0.8nm,0.4s,baz=120,slow=5.8,SNR=6.2
ZALV Zalesovo Beam 62.67 336 P **P 01 41 33.8 -0.9**
MA2 Magadan 63.56 15 P **P 01 41 41.1 +0.6**
KK31 Karatay Array 63.84 320 P **P 01 41 42.4 -0.2**
KKAR Karatay Array 63.84 320 P **P 01 41 43.9 +1.3**
CASY Casey 66.39 186 P **P 01 41 59.5 +0.9**
CASY IAmb IAmb 01 42 00.6
comp=Z,17nm,0.9s
BRVK Borovoye 68.90 329 P **P 01 42 15.3 +0.5**
GEYT Alibeck 70.68 311 LR LR 02 18 12.1
comp=Z,18nm,18.8s,baz=90,slow=40
GEYT Alibeck 70.68 311 P **P 01 42 25.9 -0.2**
GYA0B ALIBECK ARRAY 70.68 311 P **P 01 42 25.7 -0.4**
TIXI Tiksi 71.99 2 P **P 01 42 31.8 -1.4**
ABKAR Akbulak array 73.06 322 P **P 01 42 39.3 -0.7**
BILL Bilibino 74.43 16 P **P 01 42 47.5 -0.1**
AKTO Aktyubinsk 74.64 323 P **P 01 42 48.6 -0.7**
comp=Z,1.4nm,0.6s,baz=111,slow=8.1,SNR=7.2
ARU Arti 76.48 329 P **P 01 42 58.3 -1.3**
comp=Z,0.5nm,0.4s,baz=134,slow=7.7,SNR=5.1
ARU Arti 76.48 329 P **P 01 42 58.7 -0.8**
MAW Mawson 78.69 200 LR LR 02 18 50.1
comp=Z,68nm,18.4s,baz=72,slow=36
VNDA Vanda 79.88 172 P **P 01 43 18.7 +0.7**
comp=Z,2.2nm,0.8s,baz=308,slow=6.3,SNR=15
VNDA LR LR 02 17 56.1
comp=Z,64nm,19.9s,baz=306,slow=35
VNDA Vanda 79.88 172 P **P 01 43 18.6 +0.6**
GEVA Gevas 82.39 309 P **P 01 43 31.8 -0.5**
RDOG Red Dog Mine 84.39 21 P **P 01 43 42.2 +0.4**
RDOG IAmb IAmb 01 44 09.7
comp=Z,8.2nm,1.0s
I23K Minto, Yukon-K 89.29 25 P **P 01 44 05.9 +0.4**
I23K IAmb IAmb 01 44 11.3
comp=Z,9.8nm,1.3s
ILAR Eielson Array 90.34 25 P **P 01 44 07.8 -2.7**
comp=Z,0.4nm,0.7s,baz=234,slow=4.8,SNR=6.7
BMAR Burnt Mountain 91.23 23 P **P 01 44 14.9 +0.3**
ARCES ARCESS Array B 92.99 340 P **P 01 44 20.8 -1.9**
comp=Z,13nm,1.3s,baz=75,slow=7.7,SNR=4.8
ARCES LR LR 02 30 43.4
comp=Z,24nm,18.5s,baz=265,slow=38
FINES FINESS Array B 93.67 331 P **P 01 44 24.3 -1.6**
comp=Z,0.8nm,0.6s,baz=97,slow=6.0,SNR=5.1
SPITS Spitsbergen Ar 93.75 349 P **P 01 44 23.9 -2.2**
comp=Z,3.1nm,0.6s,baz=128,slow=13,SNR=13
LSZ Lusaka 94.62 255 P **P 01 44 30.6 -0.8**
LSZ IAmb IAmb 01 44 31.8
comp=Z,2.9nm,0.8s
INK Inuvik 95.28 21 P **P 01 44 31.3 -1.8**
comp=Z,0.7nm,0.5s,baz=249,slow=2.7,SNR=6.0
YKA Yellowknife A 104.70 24 PKKPbc PKKPbc 02 00 58.4 -3.7
comp=Z,0.4nm,0.8s,baz=91,slow=1.8,SNR=5.9
PDAR Pinedale Array 116.82 41 PKKPbc PKKPbc 02 00 21.8 -0.5
comp=Z,0.3nm,0.6s,baz=116,slow=7.4,SNR=4.0
TORD Torodi Ar. Bea 120.58 285 PKP **PKPdf 01 50 01.1 -1.0**
comp=Z,0.5nm,0.4s,baz=50,slow=2.5,SNR=5.0
TXAR Lajitas Array 126.97 53 PKP **PKPdf 01 50 11.5 -2.6**
comp=Z,0.5nm,0.9s,baz=1.9,slow=2.7,SNR=3.2
VA03 San Esteban 144.63 160 PKPdf **PKPdf 01 50 46.5 -0.2**
CO03 El Pedregal 146.33 158 PKPbc **PKPbc 01 50 51.3 +0.4**
CPUP Villa Florida 153.46 179 PKPbc **PKPbc 01 51 08.6 +0.1**
comp=Z,1.6nm,0.5s,baz=134,slow=1.7,SNR=6.7

IDC ***21*** *01:36:29.1±1.3,4.*′*80S×152.*′*38E,h0km,mb3.9/5, mb1 4.1/6,mb1mx3.7/46,mbtmp4.0/6,ML3.8/1,Error ellipse: s-maj=34.9km s-min=26.7km az=139.0*

ISC 21 01:36:36.3±1.3,5.′**0S±0.**′**2×152.**′**4E±0.**′**2,h55km,n7,g0s48/6, mb3.7/5,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JAY	**Jayapura**	**11.94**	**281**	Pn		Pn	01 39 18.6	-5.4
	0.6nm,0.3s,baz=13,slow=5.7,SNR=4.1							
DZM	**Mont Dzumac**	**21.77**	**143**	P		**P**	**01 41 23.5**	**-0.1**
	8.7nm,0.9s,baz=315,slow=16,SNR=3.0							
WRA	**Warramunga Arr**	**23.06**	**228**	P		**P**	**01 41 36.9**	**-0.4**
	1.2nm,0.6s,baz=50,slow=9.4,SNR=3.6							
ASAR	**Alice Springs**	**25.79**	**222**	P		**P**	**01 42 03.0**	**+0.7**
	1.2nm,0.7s,baz=53,slow=9.4,SNR=4.9							
FITZ	**Fitzroy Crossi**	**29.25**	**241**	P		**P**	**01 42 33.3**	**-0.1**
	1.0nm,0.6s,baz=52,slow=10.0,SNR=1.6							
ILAR	**Eielson Array**	**82.44**	**22**	P		**P**	**01 48 52.4**	**-0.1**
	0.9nm,0.8s,baz=242,slow=5.3,SNR=7.8							
TORD	**Torodi Ar. Bea**	**150.00**	**288**	PKPbc		**PKiKP**	**01 56 22.8**	**+0.2**
	0.6nm,0.9s,baz=96,slow=2.9,SNR=2.1							

WEL 21 02:02:03.6,39.′**8S±0.**′**7×175.**′**2E±0.**′**7,h10km±2km,M3.4/49, ML3.7/49,MLv3.4/49,Error ellipse: s-maj=0.0km s-min=0.0km az=53.2,North Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WAZ	**Wanganui**	**0.19**	**295**	P		Pb	02 02 09.5	+0.4
WAZ				S		Sg	02 02 14.0	+3.7
OHWZ	**Ohakea**	**0.38**	**167**	P		Pb	02 02 11.9	-0.6

OHWZ				S	Sb	02 02 18.0	-0.4		
MTVZ	**Mangateitei**	**0.49**	**25**	P	Pb	02 02 14.7	+0.3		
PKVZ	**Pokaka**	**0.55**	**11**	P	Pb	02 02 15.4	0.0		
WNVZ	**Wahianoa**	**0.59**	**31**	P	Pb	02 02 16.3	+0.2		
WNVZ				S	Sb	02 02 25.3	+0.7		
TRVZ	**Turoa**	**0.60**	**27**	P	Pb	02 02 16.3	+0.1		
TRVZ				S	Sb	02 02 25.4	+0.6		
MOVZ	**Moawhango**	**0.60**	**45**	P	Pb	02 02 16.1	-0.1		
MOVZ				S	Sb	02 02 25.1	+0.3		
DRZ	**Dome Shelter**	**0.62**	**27**	P	Pb	02 02 16.8	+0.1		
DRZ				S	Sb	02 02 26.5	+0.9		
TSZ	**Takapari Road**	**0.62**	**111**	P	Pb	02 02 17.0	+0.4		
TSZ				S	Sb	02 02 25.7	+0.3		
WHVZ	**Whangaehu Hut**	**0.62**	**28**	P	Pb	02 02 16.7	0.0		
WHVZ				S	Sb	02 02 26.2	+0.6		
FWVZ	**Far West T-bar**	**0.64**	**25**	P	Pb	02 02 16.9	0.0		
FWVZ				S	Sb	02 02 26.4	+0.4		
TUVZ	**Tukino**	**0.66**	**32**	P	Pb	02 02 17.6	+0.3		
TUVZ				S	Sb	02 02 27.5	+0.8		
POWZ	**Post Office Ro**	**0.70**	**142**	P	Pb	02 02 17.9	-0.1		
POWZ				S	Sb	02 02 27.6	-0.1		
LREZ	**Lake Rotokare**	**0.72**	**301**	P	Pb	02 02 18.1	-0.1		
LREZ				S	Sb	02 02 28.9	+0.8		
NGZ	**Ngauruhoe**	**0.72**	**25**	P	Pb	02 02 18.4	0.0		
BHHZ	**Black Hill Sta**	**0.75**	**63**	P	Pb	02 02 18.7	0.0		
BHHZ				S	Sb	02 02 29.4	+0.5		
OTVZ	**Oturere**	**0.76**	**28**	P	Pb	02 02 19.1	+0.2		
OTVZ				S	Sb	02 02 30.2	+0.8		
PNHZ	**Pukenui**	**0.77**	**96**	P	Pb	02 02 19.4	+0.3		
PNHZ				S	Sb	02 02 30.5	+0.9		
WTVZ	**West Tongariro**	**0.78**	**23**	P	Pb	02 02 19.2	0.0		
TWVZ	**Taurewa**	**0.78**	**13**	P	Pg	02 02 18.9	+0.2		
VRZ	**Vera Road**	**0.79**	**334**	P	Pn	02 02 19.3	-0.1		
ETVZ	**East Tongariro**	**0.80**	**29**	P	Pb	02 02 19.8	+0.2		
ETVZ				S	Sb	02 02 31.1	+0.6		
KRVZ	**Karewarewa**	**0.81**	**25**	P	Pb	02 02 19.8	0.0		
TMVZ	**Te Maari**	**0.81**	**28**	P	Pb	02 02 20.0	+0.1		
DVHZ	**Dannevirke**	**0.87**	**123**	P	Pb	02 02 21.3	+0.5		
DVHZ				S	Sn	02 02 33.6	-1.1		
MRZ	**Mangatainoka R**	**0.88**	**161**	P	Pg	02 02 20.4	0.0		
MRZ				S	Sg	02 02 31.5	-0.3		
KRHZ	**Kereru**	**0.92**	**78**	P	Pb	02 02 21.9	+0.3		
KRHZ				S	Sn	02 02 35.3	-0.5		
PRWZ	**Pori Road**	**0.93**	**141**	P	Pn	02 02 22.3	-0.4		
PRWZ				S	Sn	02 02 35.9	-0.1		
KATZ	**Kakaramea**	**0.94**	**24**	P	Pb	02 02 22.0	0.0		
PREZ	**Palmer Road**	**0.94**	**301**	P	Pb	02 02 22.1	0.0		
PREZ				S	Sb	02 02 35.5	+0.8		
WPHZ	**Waipukurau**	**0.98**	**104**	P	Pn	02 02 23.9	+0.5		
OGWZ	**Otaki Gorge**	**0.98**	**182**	P	Pg	02 02 21.3	-1.1		
RITZ	**Rihia Road**	**0.99**	**31**	P	Pn	02 02 23.3	-0.3		
MHEZ	**Mangahewa**	**1.02**	**318**	P	Pb	02 02 23.4	+0.2		
KWHZ	**Kaweka Forest**	**1.02**	**67**	P	Pb	02 02 23.4	0.0		
NEZ	**North Egmont**	**1.02**	**303**	P	Pg	02 02 23.2	-0.1		
KIW	**Kapiti Island**	**1.05**	**192**	P	Pg	02 02 21.7	-2.1		
RATZ	**Rangitukua**	**1.06**	**25**	P	Pn	02 02 24.4	-0.1		
KHEZ	**Kahui Hut**	**1.07**	**300**	P	Pg	02 02 24.1	0.0		
TIWZ	**Tintock**	**1.08**	**151**	P	Pn	02 02 24.7	0.0		
HOWZ	**Holdsworth Sta**	**1.09**	**168**	P	Pg	02 02 23.8	-0.7		
NMEZ	**Namu Road**	**1.11**	**292**	P	Pb	02 02 24.3	-0.5		
PKE	**Pukeiti**	**1.14**	**304**	P	Pg	02 02 25.4	0.0		
ANWZ	**Angora Road**	**1.16**	**123**	P	Pg	02 02 25.9	+0.1		
BFZ	**Birch Farm**	**1.16**	**137**	P	Pb	02 02 25.6	-0.2		
HATZ	**Hinemaiaia**	**1.17**	**36**	P	Pb	02 02 25.8	0.0		
NBEZ	**Newall Road No**	**1.18**	**298**	P	Pg	02 02 26.2	0.0		
PRHZ	**Porangahau**	**1.18**	**112**	P	Pg	02 02 26.4	+0.2		
WAITZ	**Wairara**	**1.20**	**20**	P	Pb	02 02 26.1	-0.2		
BKZ	**Black Stump Fm**	**1.20**	**57**	P	Pg	02 02 26.5	0.0		
MCHZ	**McNeill Hill**	**1.22**	**72**	P	Pg	02 02 28.8	+1.9		
CAW	**Cannon Point**	**1.28**	**185**	P	Pn	02 02 26.2	-1.3		
KAHZ	**Kahuranaki**	**1.29**	**89**	P	Pg	02 02 28.9	+0.6		
PXZ	**Pawanui**	**1.29**	**99**	P	Pg	02 02 29.2	+0.8		
WHTZ	**Whakaora**	**1.30**	**27**	P	Pg	02 02 29.9	+1.3		
MTW	**Mount Morrison**	**1.34**	**170**	P	Pn	02 02 27.8	-0.5		
HIZ	**Hauiti**	**1.35**	**348**	P	Pn	02 02 27.7	-0.7		
MRHZ	**Matea Rd**	**1.37**	**44**	P	Pb	02 02 29.2	-0.1		
TMWZ	**Te Maipa**	**1.38**	**158**	P	Pn	02 02 28.7	-0.1		
DUWZ	**D'Urville Isla**	**1.38**	**225**	P	Pn	02 02 26.2	-2.7		
KUTZ	**Kaahu Road**	**1.43**	**20**	P	Pb	02 02 30.4	+0.2		
NMHZ	**Naumai**	**1.44**	**60**	P	Pg	02 02 31.3	0.0		
WEL	**Wellington**	**1.49**	**193**	P	Pn	02 02 29.5	-0.9		
ARHZ	**Aropaoanui**	**1.50**	**68**	P	Pg	02 02 32.9	+0.7		
TLZ	**Tolley Road**	**1.52**	**10**	P	Pn	02 02 30.7	-0.2		
ALRZ	**Allen Road**	**1.55**	**35**	P	Pg	02 02 32.8	-0.4		
TCW	**Tory Channel**	**1.55**	**207**	P	Pn	02 02 29.1	-2.0		
PAWZ	**Paruwai Farm**	**1.56**	**174**	P	Pn	02 02 31.3	0.0		
MSWZ	**Moikau Station**	**1.58**	**179**	P	Pn	02 02 31.4	-0.3		
BHW	**Baring Head**	**1.59**	**189**	P	Pn	02 02 30.9	-0.9		
MTHZ	**Maungataniwha**	**1.60**	**53**	P	Pn	02 02 32.2	+0.2		
TRWZ	**Traveller**	**1.61**	**167**	P	Pb	02 02 32.8	-0.5		
PRRZ	**Plateau Road**	**1.62**	**35**	P	Pg	02 02 34.2	-0.4		
HRRZ	**Handcock Road**	**1.67**	**31**	P	Pg	02 02 36.2	+0.6		
RAHZ	**Arahi**	**1.72**	**58**	P	Pb	02 02 35.4	+0.1		
PLWZ	**Palliser**	**1.73**	**179**	P	Pn	02 02 33.6	-0.2		
HLRZ	**Highlands Stat**	**1.81**	**30**	P	Pg	02 02 40.1	+1.7		
MUGZ	**Murupara**	**1.82**	**42**	P	Pb	02 02 36.6	-0.3		
UTU	**Utuhina**	**1.82**	**25**	P	Pg	02 02 39.0	+0.4		
RTZ	**Ruatahuna**	**1.84**	**49**	P	Pb	02 02 37.4	0.0		
TUWZ	**Tuamarina**	**1.86**	**211**	P	Pn	02 02 34.0	-1.4		
TARZ	**Mount Tarawera**	**1.89**	**33**	P	Pg	02 02 39.3	-0.5		
NGRZ	**Ngongotaha**	**1.89**	**24**	P	Pg	02 02 39.5	-0.4		
NNZ	**Nelson**	**1.96**	**225**	P	Pn	02 02 35.8	-1.0		
SNGZ	**Shannon Statio**	**1.96**	**58**	P	Pb	02 02 38.7	-0.7		
KARZ	**Kaharoa**	**1.98**	**24**	P	Pg	02 02 41.5	-0.1		
TOZ	**Tahuroa Road**	**2.11**	**6**	P	Pn	02 02 38.8	-0.1		
BSWZ	**Blackbirch Sta**	**2.13**	**208**	P	Pn	02 02 38.8	-0.4		
URZ	**Urewera**	**2.16**	**44**	P	Pn	02 02 39.2	-0.4		
RAGZ	**Rawiri**	**2.18**	**53**	P	Pb	02 02 43.9	+0.9		
MHGZ	**Mahia Peninsul**	**2.20**	**73**	P	Pn	02 02 41.2	+1.1		
TGRZ	**Tauranga**	**2.26**	**22**	P	Pb	02 02 44.6	+0.2		
QRZ	**Quartz Range**	**2.27**	**243**	P	Pn	02 02 39.1	-2.0		
RIGZ	**Rimuhau**	**2.28**	**61**	P	Pn	02 02 42.6	+1.2		
MWZ	**Matawai**	**2.35**	**51**	P	Pn	02 02 43.4	+1.2		
TKGZ	**Te Karaka**	**2.48**	**57**	P	Pn	02 02 45.0	+1.0		
THZ	**Tophouse**	**2.60**	**221**	P	Pn	02 02 45.3	-0.4		
MYRZ	**Mayor Island**	**2.67**	**18**	P	Pg	02 02 53.7	-1.1		
RUGZ	**Raukumara Rang**	**2.68**	**47**	P	Pn	02 02 47.9	+1.0		
TWGZ	**Tauwhareparae**	**2.72**	**53**	P	Pn	02 02 48.8	+1.4		
AWAZ	**Awhitu Peninsu**	**2.80**	**351**	P	Pn	02 02 48.9	+0.5		
KHZ	**Kahutara**	**2.87**	**205**	P	Pn	02 02 47.6	-1.8		
ETAZ	**East Tamaki Re**	**2.88**	**356**	P	Pb	02 02 54.8	-0.2		
HAZ	**Te Kaha**	**2.89**	**45**	P	Pn	02 02 50.1	+0.5		
PKGZ	**Pakihiroa**	**2.97**	**50**	P	Pn	02 02 51.6	+0.8		
WIAZ	**Waiheke Island**	**3.04**	**359**	P	Pn	02 02 52.0	+0.4		
KUZ	**Kuaotunu**	**3.11**	**8**	P	Pb	02 02 59.7	+0.8		
DSZ	**Denniston Nort**	**3.21**	**232**	P	Pn	02 02 52.2	-1.8		
WMGZ	**Waiomatatini S**	**3.21**	**52**	P	Pn	02 02 54.3	+0.2		
GVZ	**Greta Valley S**	**3.53**	**207**	P	Pn	02 02 56.4	-2.1		
LTZ	**Lake Taylor**	**3.68**	**216**	P	Pn	02 02 58.8	-1.8		
INZ	**Inchbonnie**	**4.05**	**223**	P	Pn	02 03 03.8	-1.7		
ODZ	**Otahua Downs**	**6.20**	**211**	P	Pn	02 03 32.3	-2.8		
CTZ	**Chatham Island**	**7.25**	**125**	P	Pn	02 03 48.3	-1.2		

*TIR **21** 02:08:14.0, 41°.89N×20°.18E, h3$^{km}_{\pm}$1^{km}, Md2.3*
*SKO **21** 02:08:15.7, 41°.90N×20°.18E, h0^{km}*
*BEO **21** 02:08:15.3±0.3, 41°.91N×20°.21E, h0^{km}, ML1.7/11*
*RHSSO **21** 02:08:16.3±0.8, 41°.96N×20°.22E, h4$^{km}_{\pm}$4^{km}, ML1.9/7*

ISC 21 02:08:14.6±1.1, 41°.90N±0°.02×20°.18E±0°.02, h6$^{km}_{\pm}$9^{km}, n41, σ1°37/61, 3D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.26**	**304**	P		**Pb**	**02 08 20.4**	**-1.3**
	baz=307							
PUK				S		**Sg**	**02 08 24.5**	**+1.3**
	baz=307							
PHP	**Peshkopia**	**0.29**	**138**	P		**Pg**	**02 08 20.3**	**+0.1**
	baz=135							
PHP				S		**Sb**	**02 08 25.3**	**-1.8**
	baz=135							
BCI	**Bajram Curri**	**0.48**	**350**	P		**Pb**	**02 08 24.6**	**-0.8**
	baz=351							
BCI				S		**Sb**	**02 08 32.5**	**-0.2**
	baz=351							
TIR	**Tirane**	**0.60**	**204**	*e*Pg		Pn	02 08 34.2	+4.6
TIR				*e*Sg		**Sn**	**02 08 40.7**	**+1.1**
TIR	**Tirane**	**0.60**	**204**	P		**Pb**	**02 08 26.4**	**-1.0**
	baz=204							
TIR				S		**Sb**	**02 08 35.9**	**-0.2**
	baz=204							
TIR	**Tirane**	**0.60**	**204**	*i* Pg		**Pb**	**02 08 26.6**	**-0.9**
ULC	**Ulcinj**	**0.70**	**276**	*i* Pg		**Pb**	**02 08 28.2**	**-1.0**
DRME	**Dracevica, Mon**	**0.80**	**292**	⇓*i* Pg		**Pg**	**02 08 29.6**	**-0.3**
DRME				*e*Sg		**Sb**	**02 08 42.3**	**+0.4**
PDG	**Podgorica**	**0.87**	**308**	*e*Sg		**Pg**	**02 08 31.3**	**0.0**
PDG	**Podgorica**	**0.87**	**308**	*e*Pg		**Sg**	**02 08 43.9**	**+1.2**
PDG	**Podgorica**	**0.87**	**308**	⇓*i* Pg		**Pg**	**02 08 31.3**	**0.0**
PDG				*e*Sg		**Sb**	**02 08 44.1**	**+0.1**
PDG	**Podgorica**	**0.87**	**308**	*i* Pg		**Pg**	**02 08 31.1**	**-0.2**
PDG				*i* Sg		**Sb**	**02 08 45.2**	**+1.2**
OHR	**Ohrid**	**0.91**	**149**	*i* Pg		**Pg**	**02 08 31.2**	**-0.8**
OHR				*i* Sg		**Sb**	**02 08 44.7**	**-0.5**
OHR				*e*Lg		Lg	02 08 45.1	
	comp=N,24nm,0.3s							
OHR				*e*Lg		Lg	02 08 45.6	
	comp=E,50nm,0.5s							
BEY	**Berane**	**1.00**	**348**	*i* Pg		**Pb**	**02 08 34.3**	**0.0**
HCY	**Herceg Novi**	**1.37**	**294**	⇓*i* Pg		**Pn**	**02 08 40.0**	**-0.2**
HCY				*e*Sg		**Sn**	**02 08 59.7**	**+1.0**
SJES	**Sjenica**	**1.37**	**354**	*e*Sg		**Sn**	**02 09 01.4**	**+2.5**
SJES				*e*Pg		**Sg**	**02 08 57.3**	**-1.4**
FNA	**Florina**	**1.43**	**141**	*i* Pg		**Pg**	**02 08 42.3**	**+0.3**
FNA				*i* Sg		**Sn**	**02 09 01.1**	**+1.0**
SELS	**Selova**	**1.49**	**27**	*e*Sg		**Pn**	**02 08 42.1**	**+0.2**
SELS	**Selova**	**1.49**	**27**	*e*Pg		**Pn**	**02 08 42.2**	**+0.3**
BARS	**Barje**	**1.52**	**52**	*e*Sg		**Sg**	**02 09 03.0**	**-0.4**
PRVS	**Prvonek**	**1.53**	**66**	*e*Pg		**Sn**	**02 09 02.6**	**-0.1**
BRY	**Bratogost**	**1.58**	**310**	*e*Pn		**Pg**	**02 08 45.1**	**+0.2**
BRY				*e*Sn		**Sg**	**02 09 05.4**	**+0.1**
TREB	**Trebinje**	**1.59**	**302**	*e*Pn		**Pg**	**02 08 45.1**	**+0.1**
TREB				*e*Sn		**Sg**	**02 09 05.6**	**0.0**
UPM	**Unac-Piva**	**1.61**	**325**	*e*Pn		**Pg**	**02 08 44.9**	**-0.6**
UPM				*e*Sn		**Sg**	**02 09 06.1**	**-0.3**
IVAS	**Ivanjica**	**1.68**	**359**	*e*Pg		**Sg**	**02 09 08.3**	**-0.2**
BOSS	**Bosilegrad**	**1.81**	**70**	*e*Sg		**Pn**	**02 08 46.9**	**+0.7**
BOSS	**Bosilegrad**	**1.81**	**70**	*e*Pg		**Pg**	**02 08 52.5**	**+3.3**
RUDO	**Rudo**	**1.82**	**341**	*e*Pn		**Pb**	**02 08 48.1**	**-0.2**
RUDO				*e*Sn		**Sb**	**02 09 10.9**	**-0.5**
BBLS	**Lazići**	**2.05**	**344**	*e*Pg		**Sg**	**02 09 19.8**	**-0.6**
BBLS	**Lazići**	**2.05**	**344**	*e*Pn		**Pn**	**02 08 50.7**	**+1.1**
BBLS				*e*Sn		**Sn**	**02 09 15.7**	**+0.2**
STON	**Ston**	**2.08**	**299**	*e*Pn		**Pn**	**02 08 50.6**	**+0.7**
STON				Sn		**Sb**	**02 09 18.9**	**+0.1**
DIVS	**Divibare**	**2.21**	**356**	*e*Sg		**Sn**	**02 09 12.3**	**-7.1**
DIVS	**Divibare**	**2.21**	**356**	*e*Pg		**Sg**	**02 09 24.0**	**-1.4**
DIVS	**Divibare**	**2.21**	**356**	*e*Pn		**Pn**	**02 08 52.5**	**+0.7**
DIVS				*e*Sn		**Sn**	**02 09 19.3**	**-0.1**
HAPS	**Han Pijesak,Bl**	**2.37**	**338**	*e*Pn		**Pb**	**02 08 55.8**	**-1.9**
HAPS				*e*Sn		**Sn**	**02 09 23.5**	**+0.1**
MAKA	**Makarska**	**2.72**	**302**	*i* Pn		**Pn**	**02 08 59.5**	**+0.8**
RICI	**Ricice**	**2.76**	**306**	*e*Pn		**Pn**	**02 09 00.9**	**+1.6**
KIJV	**Kijevo**	**3.48**	**308**	*e*Pn		**Pn**	**02 09 11.3**	**+2.1**
KIJV				Sn		**Sn**	**02 09 52.0**	**+1.2**
ZIRJ	**Zirje**	**3.78**	**299**	*e*Pn		**Pn**	**02 09 13.7**	**+0.5**
DUGI	**Dugi Otok**	**4.31**	**301**	*e*Pn		**Pn**	**02 09 21.5**	**+0.9**
NVLJ	**Novalja**	**4.71**	**306**	*i* Pn		**Pn**	**02 09 26.4**	**+0.3**

ROM 21 02:09:09.2±0.1, 43°.252N±0°.009×11°.39E±0°.01, h10^{km}, ML1.0/4, 10C-4D, Error ellipse: s-maj=1.0km s-min=0.9km az=339.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FROS	**Frosini**	**0.18**	**256**	⇑P		Pg	02 09 14.1	+1.1
FROS	**Frosini**	**0.18**	**256**	⇑P		Pg	02 09 14.1	+1.1
FROS				S		Sg	02 09 16.9	+1.2
FROS					AML	AML		
	comp=N,158μm,1.2s							
FROS					AML	AML		
	comp=N,158μm,1.2s							
FROS					AML	AML		
	comp=E,252μm,0.3s							
CSNT	**Castellina Chi**	**0.23**	**341**	P		Pg	02 09 14.7	+0.7
CSNT				S		Sg	02 09 18.4	+1.2
CSNT					AML	AML		
	comp=E,70μm,0.3s							
CSNT					AML	AML		
	comp=E,70μm,0.3s							
CSNT					AML	AML		
	comp=N,62μm,0.1s							
CSNT	**Castellina Chi**	**0.23**	**341**	P		Pg	02 09 14.7	+0.7
OSSC	**Osservatorio P**	**0.29**	**339**	⇓P		Pb	02 09 15.9	-0.7
OSSC	**Osservatorio P**	**0.29**	**339**	⇓P		Pb	02 09 15.9	-0.7
OSSC				S		Sg	02 09 20.2	+1.1
OSSC					AML	AML		
	comp=N,38μm,1.4s							
OSSC					AML	AML		
	comp=E,43μm,1.5s							
OSSC					AML	AML		
	comp=N,38μm,1.4s							
TRIF	**Trifonti**	**0.38**	**249**	⇓P		Pb	02 09 17.8	-0.3
TRIF	**Trifonti**	**0.38**	**249**	⇓P		Pb	02 09 17.8	-0.3
TRIF				S		Sg	02 09 22.7	+0.8
ARCI	**Arcidosso**	**0.40**	**171**	P		Pb	02 09 17.9	-0.7
ARCI				S		Sg	02 09 22.9	+0.4
CAFI	**Castiglion Fio**	**0.43**	**79**	⇑P		Pb	02 09 18.3	-0.5
CAFI	**Castiglion Fio**	**0.43**	**79**	⇑P		Pb	02 09 18.3	-0.5
CAFI				S		Sg	02 09 23.8	+0.6
CAFI					AML	AML		
	comp=E,14μm,1.3s							
CAFI					AML	AML		
	comp=N,18μm,1.4s							
CAFI					AML	AML		
	comp=N,18μm,1.4s							
CAFI					AML	AML		
	comp=E,14μm,1.3s							
MCIV	**Monte Civitell**	**0.52**	**156**	P		Pg	02 09 19.8	+0.5
CRE	**Caprese Michel**	**0.55**	**48**	P		Pb	02 09 21.1	+0.1
SSP9	**Sansepolcro**	**0.63**	**59**	⇑P		Pb	02 09 22.5	+0.2
SSP9	**Sansepolcro**	**0.63**	**59**	⇑P		Pb	02 09 22.5	+0.2
SENI	**Senigallia**	**1.41**	**71**	⇑P		Pg	02 09 38.0	+1.6
SENI	**Senigallia**	**1.41**	**71**	⇑P		Pg	02 09 38.0	+1.6
MNTV	**Mantova**	**1.95**	**347**	⇑P		Pg	02 09 45.9	-0.6
MNTV	**Mantova**	**1.95**	**347**	⇑P		Pg	02 09 45.9	-0.6

*IDC **21** 02:14:00.8±1.8, 7°.20S×129°.61E, h116$^{km}_{\pm}$22^{km}, mb3.5/1, mb1 4.0/6, mb1mx3.5/32, mbtmp4.3/6, Error ellipse: s-maj=26.7km s-min=14.2km az=115.0*

ISC 21 02:13:59.9±0.9, 7°.33S±0°.06×129°.72E±0°.10, h100^{km}, n6, σ2^{s}29/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.60**	**14**	P		**Pn**	**02 15 35.4**	**+1.0**
	1.9nm,0.3s,baz=225,slow=20,SNR=2.0							
SIJI				S		**Sn**	**02 16 46.1**	**-2.1**
	2.3nm,0.3s,baz=73,slow=17,SNR=4.3							
BATI	**Baumata**	**6.64**	**244**	P		**Pn**	**02 15 36.7**	**+1.8**
	12nm,0.3s,baz=55,slow=1.7,SNR=17							
BATI				S		**Sn**	**02 16 48.9**	**-0.2**
	14nm,0.3s,baz=323,slow=21,SNR=14							
FITZ	**Fitzroy Crossi**	**11.42**	**200**	P		**Pn**	**02 16 40.8**	**+0.9**
	2.8nm,0.3s,baz=21,slow=11,SNR=90							
FITZ				S		**Sn**	**02 18 41.0**	**-4.6**
	1.9nm,0.3s,baz=67,slow=17,SNR=5.7							
WRA	**Warramunga Arr**	**13.32**	**161**	P		**Pn**	**02 17 06.4**	**+1.4**
	3.8nm,0.3s,baz=342,slow=14,SNR=48							
WRA				S		**Sn**	**02 19 30.3**	**-1.3**
	1.9nm,0.3s,baz=325,slow=23,SNR=6.4							
ASAR	**Alice Springs**	**16.74**	**167**	P		**P**	**02 17 50.9**	**+1.9**
	0.9nm,0.3s,baz=342,slow=10.0,SNR=36							
ASAR				S		**Sn**	**02 20 53.5**	**-0.7**
	0.4nm,0.3s,baz=322,slow=51,SNR=2.1							
MKAR	**Makanchi Array**	**68.35**	**327**	P		**P**	**02 24 48.7**	**-1.9**
	0.8nm,0.7s,baz=127,slow=6.9,SNR=7.0							

*TIR **21** 03:03:00.9, 39°.35N×20°.86E, h2$^{km}_{\pm}$5^{km}, Md3.4*
*IDC **21** 03:03:01.8±1.3, 39°.50N×20°.75E, h0^{km}, mb3.4/7, mb1 3.5/9, mb1mx3.4/35, mbtmp3.5/9, ML3.2/2, Error ellipse: s-maj=28.3km s-min=19.8km az=62.0*
*ATH **21** 03:03:04.7, 39°.44N×20°.76E, h14$^{km}_{\pm}$2^{km}, ML2.9/13, Error ellipse: s-maj=2.3km s-min=0.8km az=292.0*
*THE **21** 03:03:04.8, 39°.43N×20°.76E, h8$^{km}_{\pm}$1^{km}, ML3.0/14, Error ellipse: s-maj=1.4km s-min=0.5km az=269.0*

ISC 21 03:03:04.6±0.8, 39°.43N±0°.02×20°.74E±0°.02, h17$^{km}_{\pm}$5^{km}, n104, σ1^{s}64/150, mb3.4/7, 14C-2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.24**	**20**	P		**Pg**	**03 03 09.7**	**-0.5**
JAN				S		**Sg**	**03 03 13.8**	**-0.2**
JAN					AML	AML	03 03 14.4	
	comp=N,16615μm,0.2s							
JAN					AML	AML	03 03 14.8	
	comp=E,33186μm,0.3s							
JAN	**Janina**	**0.24**	**20**	P		**Pg**	**03 03 09.7**	**-0.5**
JAN				S		**Sg**	**03 03 14.0**	**0.0**
	comp=E,12μm,0.2s							
IGT	**Igoumenitsa**	**0.34**	**288**	P		**Pg**	**03 03 11.0**	**-0.6**
IGT				S		**Sg**	**03 03 16.7**	**+0.2**
IGT					AML	AML	03 03 19.3	
	comp=N,11850μm,0.4s							
IGT					AML	AML	03 03 19.7	
	comp=E,10823μm,0.4s							
IGT	**Igoumenitsa**	**0.34**	**288**	P		**Pg**	**03 03 11.0**	**-0.6**
IGT				S		**Sg**	**03 03 17.2**	**+0.7**
	comp=E,6μm,0.4s							
DSL	**Palaion Diasel**	**0.40**	**137**	P		**Pg**	**03 03 12.0**	**-0.8**
DSL				S		**Sg**	**03 03 18.5**	**+0.1**
TSLK	**Tsoukalades, L**	**0.60**	**186**	P		**Pg**	**03 03 16.3**	**-0.2**
TSLK				S		**Sg**	**03 03 25.7**	**+1.0**
TSLK	**Tsoukalades, L**	**0.60**	**186**	P		**Pg**	**03 03 16.3**	**-0.2**
LKD2	**Lefkada island**	**0.64**	**186**	P		**Pg**	**03 03 16.7**	**-0.5**
LKD2				S		**Sg**	**03 03 26.7**	**+1.0**
LKD2					AML	AML	03 03 29.9	
	comp=N,3640μm,0.5s							
LKD2					AML	AML	03 03 30.1	
	comp=E,3590μm,0.6s							
LKD2	**Lefkada island**	**0.64**	**186**	P		**Pg**	**03 03 16.8**	**-0.5**
LKD2				S		**Sg**	**03 03 26.3**	**+0.6**
	comp=E,2μm,0.5s							
KPRO	**Kipourio**	**0.71**	**42**	P		**Pg**	**03 03 17.5**	**-1.0**
KPRO				S		**Sg**	**03 03 28.0**	**-0.1**
KPRO					AML	AML	03 03 38.0	
	comp=E,2152μm,0.4s							
KPRO					AML	AML	03 03 39.1	
	comp=N,1961μm,0.6s							
KPRO	**Kipourio**	**0.71**	**42**	P		**Pg**	**03 03 17.7**	**-0.9**
KPRO				S		**Sb**	**03 03 28.4**	**+0.3**
	comp=N,1μm,0.4s							
NYDR	**Nydri-Lefkada**	**0.71**	**183**	P		**Pg**	**03 03 17.7**	**-0.8**
NYDR				S		**Sb**	**03 03 29.7**	**+1.7**
	comp=N,1μm,0.7s							
LSK	**Leskovik**	**0.73**	**351**	P		**Pg**	**03 03 18.6**	**-0.3**
LSK				S		**Sb**	**03 03 30.2**	**+1.6**
	comp=N,2μm,0.7s							
LSK	**Leskovik**	**0.73**	**351**	P		**Pg**	**03 03 18.7**	**-0.2**
	baz=347							
LSK				S		**Sb**	**03 03 30.8**	**+2.2**
	baz=347							
SRN	**Sarande**	**0.73**	**309**	P		**Pg**	**03 03 18.0**	**-0.8**
SRN				S

baz=346
BCI Bajram Curri 2.98 350 P **Pn** **03 03 54.2 +3.2**
baz=350
DRME Dracevica, Mon 3.00 337 *e*Pn **Pn** **03 03 52.0 +0.7**
TIP Timpagrande 3.10 267 ⇑P **Pn** **03 03 53.2 +0.5**
TIP ⇑S **Sn** **03 04 29.9 +0.5**
PDG Podgorica 3.21 340 ⇑P **Pn** **03 03 56.2 +2.2**
PDG ⇑S **Sn** **03 04 34.3 +2.4**
PDG Podgorica 3.21 340 *e*Pn **Pn** **03 03 55.0 +0.9**
MATE Matera 3.33 293 ⇑P **Pn** **03 03 56.3 +0.5**
HCY Herceg Novi 3.46 331 *e*Pn **Pn** **03 03 57.7 0.0**
VTS Vitosha 3.70 30 ⇑P **Pn** **03 04 03.7 +2.6**
VTS ⇑S **Sn** **03 04 47.8 +3.4**
TREB Trebinje 3.75 332 *e*Pn **Pn** **03 04 01.8 +0.2**
BRY Bratogost 3.85 335 *e*Pn **Pn** **03 04 03.6 +0.5**
UPM Unac-Piva 4.02 340 *e*Pn **Pn** **03 04 07.0 +1.6**
STON Ston 4.14 327 *e*Pn **Pn** **03 04 05.5 -1.3**
STON Sn **Sn** **03 04 50.0 -4.8**
RUDO Rudo 4.31 347 *e*Pn **Pn** **03 04 09.9 +0.6**
BBLS Lazići 4.55 348 *e*Pn **Pn** **03 04 15.0 +2.4**
DIVS Divibare 4.70 353 *e*Pn **Pn** **03 04 15.3 +0.6**
MAKA Makarska 4.77 325 *e*Pn **Pn** **03 04 15.6 +0.1**
MAKA Sn **Sn** **03 05 08.8 -1.5**
HAPS Han Pijesak,BI 4.84 345 *e*Pn **Pn** **03 04 15.9 -0.8**
RICI Ricice 4.88 327 *i* Pn **Pn** **03 04 16.7 -0.5**
RICI Sn **Sn** **03 05 10.2 -3.1**
PLVB Pleven 4.91 35 ⇑P **Pn** **03 04 21.5 +3.9**
HVAR Hvar 4.95 321 *i* Pn **Pn** **03 04 17.8 -0.2**
HVAR Sn **Sn** **03 05 10.9 -4.0**
IDI Anoyia 5.29 140 Pn **Pn** **03 04 24.3 +1.5**
comp=E,0.2nm,0.3s,baz=322,slow=17,SNR=2.0
IDI Sn **Sn** **03 05 18.9 -4.5**
comp=E,0.2nm,0.3s,baz=35,slow=15,SNR=1.2
KIJV Kijevo 5.61 326 *e*Pn **Pn** **03 04 27.4 +0.3**
MGRS Mrkonjic Grad 5.68 332 *e*Pn **Pn** **03 04 28.8 +0.6**
ZIRJ Zirje 5.70 319 *i* Pn **Pn** **03 04 27.9 -0.4**
ZIRJ Sn **Sn** **03 05 29.8 -3.5**
MORI Morici 5.82 321 *e*Pn **Pn** **03 04 30.3 +0.3**
BLY Banja Luka 5.94 335 *e*Pn **Pn** **03 04 31.4 -0.2**
HUMR Humele 6.00 30 ⇑P **Pn** **03 04 34.8 +2.4**
GZR Gura Zlata 6.15 14 ⇑P **Pn** **03 04 37.3 +2.7**
BZS Buzias 6.22 6 ⇓P **Pn** **03 04 38.2 +2.8**
DUGI Dugi Otok 6.24 319 *i* Pn **Pn** **03 04 35.8 +0.1**
DUGI Sn **Sn** **03 05 43.3 -3.3**
NVLJ Novalja 6.74 321 *i* Pn **Pn** **03 04 42.6 0.0**
NVLJ Sn **Sn** **03 05 55.1 -3.8**
VOIR 6.80 27 ⇑P **Pn** **03 04 47.2 +3.7**
BOJS Bojanci 7.30 328 *i* Pn **Pn** **03 04 50.8 +0.4**
BOJS *i* Sn **Sn** **03 06 10.3 -2.5**
CRES Cresnjev 7.49 330 *e*Pn **Pn** **03 04 51.9 -1.0**
GBRS Gornja Briga 7.51 326 *i* Pn **Pn** **03 04 53.8 +0.5**
GBRS *i* Sn **Sn** **03 06 14.2 -3.8**
PLOR Plostina 7.75 32 ⇑P Pn 03 05 01.4 +4.8
VRI Vrincioaia 7.80 32 ⇑P **Pn** **03 05 01.4 +4.2**
CEY Cerknica 7.84 326 *e*Pn **Pn** **03 04 57.5 -0.3**
LJU Ljubljana 8.04 327 *e*Pn **Pn** **03 05 00.3 -0.1**
SOKA Soboth 8.36 332 *i* Pn **Pn** **03 05 04.8 -0.2**
comp=E,1.0nm,0.3s,SNR=5.4
OBKA Obir 8.41 329 *i* Pn **Pn** **03 05 05.6 +0.1**
comp=E,2.0nm,0.4s
OBKA *e*Sn **Sn** **03 06 39.1 -1.0**
comp=E,1.3nm,0.3s
ABTA Abfaltersbach 9.47 323 *i* Pn **Pn** **03 05 21.1 +0.9**
comp=E,0.8nm,0.4s
ABTA *i* Sn **Sn** **03 07 04.3 -1.9**
comp=E,3.0nm,0.7s
MOA Molln 9.63 333 *e*Pn **Pn** **03 05 23.3 +1.0**
comp=E,1.1nm,0.2s,SNR=4.2
WTTA Wattenberg 10.26 323 *i* Pn **Pn** **03 05 32.1 +1.1**
comp=E,1.2nm,0.3s
GERES GERESS Array B 10.68 334 Pn **Pn** **03 05 36.6 -0.1**
comp=E,0.2nm,0.3s,baz=158,slow=14,SNR=6.0
HFS Hagfors 21.20 350 P **P** **03 07 47.9 -1.1**
comp=E,2.5nm,0.8s,baz=167,slow=13,SNR=2.5
FINES FINESS Array B 22.29 7 P **P** **03 07 59.5 -1.1**
comp=E,1.0nm,0.7s,baz=206,slow=9.3,SNR=4.6
NOA NORSAR Array B 22.43 348 P **P** **03 08 01.4 -0.9**
comp=E,0.6nm,0.8s,baz=161,slow=13,SNR=1.9
EKA Eskdalemuir Ar 22.52 323 P **P** **03 08 01.9 -1.3**
comp=E,1.0nm,0.6s,baz=114,slow=8.6,SNR=3.7
TORD Torodi Ar. Bea 31.11 218 P **P** **03 09 22.2 +0.1**
comp=E,0.4nm,0.7s,baz=29,slow=8.3,SNR=1.9
MKAR Makanchi Array 44.51 60 P **P** **03 11 14.3 -0.7**
comp=E,0.2nm,0.4s,baz=275,slow=7.2,SNR=6.3
ZALV Zalesovo Beam 44.74 49 P **P** **03 11 15.6 -1.0**
comp=E,0.8nm,0.4s,baz=276,slow=9.0,SNR=3.6

IDC 21 03:12:22.8±11.0,**5°.73S**×**10°.90W**,**h0**km,**mb3.6**/3,
mb1 3.8/3,**mb1mx3.5**/30,**mbtmp3.6**/3,**MS3.4**/10,
Ms1 3.4/10,**ms1mx3.2/22**,**Error ellipse: s-maj=429.1km**
s-min=114.1km az=141.0,**Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H10N2	**ASCENSION HYDR**	**4.13**	**240**	T		T	03 17 02.5	
	baz=58,slow=75,SNR=114							
H10N1	**ASCENSION HYDR**	**4.13**	**239**	T		T	03 17 06.3	
	baz=58,slow=75,SNR=161							
H10N3	**ASCENSION HYDR**	**4.15**	**239**	T		T	03 17 06.2	
	baz=58,slow=75,SNR=106							
H10S2	**ASCENSION HYDR**	**4.91**	**229**	T		T	03 17 57.8	
	baz=171,slow=74,SNR=8.0							
H10S3	**ASCENSION HYDR**	**4.92**	**229**	T		T	03 17 58.4	
	baz=49,slow=74,SNR=9.9							
DBIC	**Dimbokro**	**13.72**	**26**	LR		LR	03 20 01.0	
	comp=Z,96nm,20.0s,baz=184,slow=33							
TORD	**Torodi Ar. Bea**	**22.55**	**34**	P		P	03 17 24.7	0.0
	2.1nm,0.9s,baz=218,slow=11,SNR=7.5							
TORD				LR		LR	03 25 19.6	
	comp=Z,112nm,20.2s,baz=225,slow=34							
BDFB	**Brasilia**	**37.72**	**252**	LR		LR	03 31 54.7	
	comp=Z,84nm,20.6s,baz=106,slow=31							
BOSA	**Boshof**	**41.09**	**128**	LR		LR	03 34 59.7	
	comp=Z,54nm,19.7s,baz=192,slow=33							
CPUP	**Villa Florida**	**48.76**	**240**	LR		LR	03 40 27.9	
	comp=Z,31nm,18.6s,baz=136,slow=35							
LPAZ	**La Paz**	**56.99**	**254**	LR		LR	03 45 55.1	
	comp=Z,18nm,18.2s,baz=104,slow=35							
GERES	**GERESS Array B**	**58.45**	**19**	P		P	03 22 20.6	0.0
	0.5nm,0.7s,baz=203,slow=7.3,SNR=5.0							
GERES				LR		LR	03 49 22.1	
	comp=Z,39nm,18.7s,baz=270,slow=38							
ROSC	**El Rosal**	**64.20**	**278**	LR		LR	03 48 55.2	
	comp=Z,61nm,20.5s,baz=54,slow=34							
AKASG	**Malin Array Be**	**65.97**	**27**	P		P	03 23 10.7	-0.1
	0.6nm,0.7s,baz=228,slow=7.0,SNR=4.0							
NOA	**NORSAR Array B**	**68.78**	**11**	LR		LR	03 53 32.3	
	comp=Z,10nm,20.1s,baz=310,slow=36							
ARCES	**ARCESS Array B**	**79.12**	**12**	LR		LR	04 00 47.0	
	comp=Z,19nm,18.8s,baz=245,slow=37							

*NEIC **21** 03:56:35.2±1.4,18°.1S±0°.2×177°.93W±0°.10,h517km±8km,*
mb4.2/15,Error ellipse: s-maj=23.3km s-min=11.3km
az=158.0
*IDC **21** 03:56:38.1±1.4,18°.04S×178°.11W,h542km±13km,mb3.0/6,*
mb1 3.3/7,mb1mx3.1/34,mbtmp3.9/7,Error ellipse:
s-maj=27.4km s-min=17.8km az=141.0
ISC 21 03:56:38.5±0.7,**18°.2S**±0°.1×**178°.1W**±0°.1,**h550**km,**n31**,
σ1**s28**/30,**mb4.1**/14,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**3.66**	**276**	P		**P**	**03 57 56.7**	**-1.3**
	12nm,0.3s,baz=120,slow=9.1,SNR=38							
MSVF				S		**S**	**03 59 02.3**	**-0.5**
	baz=197,slow=22,SNR=0.9							
MSVF	**Nonsavu**	**3.66**	**276**	P		**P**	**03 57 56.0**	**-2.0**
AFI	**Afiamalu**	**7.42**	**56**	P		P	03 58 22.5	-8.2
	8.2nm,0.3s,baz=113,slow=5.8,SNR=8.7							
AFI				S		S	03 59 47.3	-15
	1.6nm,0.3s,baz=36,slow=23,SNR=2.2							
AFI	**Afiamalu**	**7.42**	**56**	P		P	03 58 22.8	-7.9
NIUE	**Niue**	**7.83**	**98**	P		P	03 58 28.2	-6.3
URZ	**Urewera**	**20.46**	**191**	P		**P**	**04 00 33.7**	**-4.8**
	4.4nm,0.3s,baz=90,slow=3.0,SNR=9.7							
QRZ	**Quartz Range**	**23.98**	**198**	P		**P**	**04 01 08.8**	**-1.2**
EIDS	**Eidsvold**	**29.44**	**250**	P		**P**	**04 01 58.8**	**+0.6**
EIDS				IAmb		IAmb	04 02 11.7	
	comp=Z,14nm,1.4s							
MLZ	**Mavora Lakes**	**29.45**	**200**	P		**P**	**04 01 58.1**	**+0.1**
ARMA	**Armidale**	**30.05**	**240**	P		**P**	**04 02 04.5**	**+1.0**
TOO	**Toolangi**	**37.22**	**231**	P		**P**	**04 03 04.8**	**+1.2**
STKA	**Stephens Creek**	**38.75**	**241**	P		**P**	**04 03 16.5**	**+0.5**
	comp=Z,4.7nm,0.5s,baz=96,slow=11,SNR=15							
STKA	**Stephens Creek**	**38.75**	**241**	P		**P**	**04 03 17.6**	**+1.5**
BBOO	**Buckleboo**	**43.52**	**241**	P		**P**	**04 03 54.4**	**+0.6**
WR0	**Warramunga Arr**	**44.66**	**260**	P		**P**	**04 04 03.1**	**+0.2**
WR0				IAmb		IAmb	04 04 11.8	
	comp=Z,9.3nm,1.4s							
WB0	**Warramunga Arr**	**44.82**	**260**	P		**P**	**04 04 04.3**	**+0.2**
WB2	**Warramunga Arr**	**44.84**	**260**	P		**P**	**04 04 04.3**	**0.0**
WB2				IAmb		IAmb	04 04 05.3	
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**44.85**	**260**	P		**P**	**04 04 04.5**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=98,slow=6.4,SNR=37							
WRA				PcP		**PcP**	**04 05 35.4**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=107,slow=4.0,SNR=3.5							
AS31	**Alice Springs**	**44.98**	**254**	P		**P**	**04 04 06.2**	**+0.9**
AS31				IAmb		IAmb	04 04 06.8	
	comp=Z,5.0nm,0.8s							
ASAR	**Alice Springs**	**44.98**	**254**	P		**P**	**04 04 06.0**	**+0.7**
	comp=Z,18nm,0.6s,baz=89,slow=8.4,SNR=305							
ASAR				PcP		**PcP**	**04 05 35.7**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=104,slow=3.3,SNR=5.3							
FORT	**Forrest**	**50.14**	**245**	P		**P**	**04 04 44.0**	**+0.2**
FORT				IAmb		IAmb	04 04 53.1	
	comp=Z,12nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.25**	**261**	P		**P**	**04 05 06.9**	**+0.5**
SBA	**Scott Base**	**60.19**	**184**	P		**P**	**04 05 53.7**	**+0.8**
VNDA	**Vanda**	**60.22**	**185**	P		**P**	**04 05 54.0**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=350,slow=6.8,SNR=11							
VNDA	**Vanda**	**60.22**	**185**	IAmb		IAmb	04 05 55.8	
	comp=Z,3.8nm,1.4s							
QSPA	**South Pole Qui**	**71.90**	**180**	P		**P**	**04 07 06.8**	**+0.8**
QSPA				IAmb		IAmb	04 07 07.3	
	comp=Z,5.2nm,0.6s							
NVAR	**Mina Array Bea**	**79.42**	**44**	P		**P**	**04 07 48.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=227,slow=8.1,SNR=3.7							
BELA	**Belgrano 2**	**81.89**	**173**	P		**P**	**04 08 00.1**	**0.0**
BELA				IAmb		IAmb	04 08 01.4	
	comp=Z,5.0nm,0.9s							
TXAR	**Lajitas Array**	**85.90**	**58**	P		**P**	**04 08 21.5**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=219,slow=5.4,SNR=5.5							
ILAR	**Eielson Array**	**86.07**	**13**	P		**P**	**04 08 19.6**	**-1.1**
	comp=Z,0.1nm,0.6s,baz=229,slow=4.7,SNR=5.2							
BRTR	**Keskin Array B**	**145.15**	**315**	PKPbc		**PKPdf**	**04 15 14.0**	**0.0**
	comp=Z,2.1nm,1.1s,baz=132,slow=1.8,SNR=4.2							

IDC 21 04:04:20.9±1.9,**2°.77N**×**126°.97E**,**h0**km,**mb3.5**/5,
mb1 3.7/5,**mb1mx3.5**/34,**mbtmp3.6**/5,**Error ellipse:**
s-maj=100.7km s-min=26.1km az=68.0,**Northern**
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**20.77**	**184**	P		P	04 09 03.8	+0.2
	0.9nm,0.7s,baz=12,slow=9.3,SNR=1.8							
WRA	**Warramunga Arr**	**23.70**	**163**	P		P	04 09 34.1	-0.5
	1.3nm,0.5s,baz=342,slow=11,SNR=18							
ASAR	**Alice Springs**	**27.12**	**166**	P		P	04 10 05.9	0.0
	0.3nm,0.5s,baz=346,slow=7.2,SNR=7.0							
STKA	**Stephens Creek**	**37.15**	**159**	P		P	04 11 33.9	+0.3
	0.6nm,0.3s,baz=357,slow=9.9,SNR=4.1							
MKAR	**Makanchi Array**	**58.48**	**325**	P		P	04 14 18.8	-0.1
	0.2nm,0.5s,baz=114,slow=8.0,SNR=3.0							

IDC 21 04:08:26.9±1.8,**52°.60S**×**118°.45W**,**h0**km,**mb3.7**/1,
mb1 3.9/1,**mb1mx3.4**/29,**mbtmp3.7**/1,**Error ellipse:**
s-maj=269.0km s-min=68.7km az=158.0,**Southern East**
Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H03N3	**Juan Fernandez**	**34.09**	**72**	T		T	04 51 01.1	
	baz=224							
H03N2	**Juan Fernandez**	**34.10**	**72**	T		T	04 50 53.3	
	baz=224							
H03N1	**Juan Fernandez**	**34.11**	**72**	T		T	04 50 54.2	
	baz=224							
ASAR	**Alice Springs**	**81.56**	**242**	P		P	04 20 46.5	0.0
	0.7nm,1.0s,baz=132,slow=6.4,SNR=3.5							
H11S2	**WAKE ISLAND Hy**	**95.65**	**293**	T		T	06 09 03.2	
	baz=145							
H11S3	**WAKE ISLAND Hy**	**95.66**	**293**	T		T	06 08 58.8	
	baz=145							
H11S1	**WAKE ISLAND Hy**	**95.67**	**293**	T		T	06 08 56.0	
	baz=145							
H11N3	**WAKE ISLAND Hy**	**96.52**	**294**	T		T	06 10 03.8	
	baz=144							
H11N1	**WAKE ISLAND Hy**	**96.52**	**294**	T		T	06 10 02.4	
	baz=144							
H11N2	**WAKE ISLAND Hy**	**96.53**	**294**	T		T	06 10 09.9	
	baz=144							
GERES	**GERESS Array B**	**149.92**	**78**	PKPbc		PKPbc	04 28 17.8	-0.5
	0.3nm,0.7s,baz=224,slow=4.0,SNR=2.3							
SONM	**Songino Array**	**151.27**	**279**	PKPbc		PKPbc	04 28 21.4	-0.2
	0.3nm,0.8s,baz=90,slow=3.2,SNR=2.7							

*IDC **21** 04:09:08.6±0.6,52°.98S×118°.22W,h0km,mb4.2/7,*
mb1 4.3/7,mb1mx4.1/27,mbtmp4.2/7,MS3.6/1,Ms1 3.6/1,
ms1mx3.2/12,Error ellipse: s-maj=28.9km s-min=20.3km
az=121.0
*NEIC **21** 04:09:11.8±1.2,53°.2S±0°.1×118°.1W±0°.3,h10km±1km,*
mb4.6/19,Error ellipse: s-maj=27.0km s-min=18.9km
az=289.0
ISC 21 04:09:11.2±0.5,**53°.1S**±0°.1×**118°.3W**±0°.1,**h10**km,**n83**,
σ1**s09**/64,**mb4.4**/14,**MS3.9**/5,**2C-1D**,**Southern East**
Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RPN	**Rapa Nui**	**26.81**	**18**	LR		LR	04 23 00.8	
	comp=Z,124nm,19.7s,baz=199,slow=31							
H03S2	**Juan Fernandez**	**33.87**	**71**	T		T	04 51 23.1	
	baz=221							
H03S1	**Juan Fernandez**	**33.88**	**71**	T		T	04 51 25.9	
	baz=221							
H03S3	**Juan Fernandez**	**33.89**	**71**	T		T	04 51 20.4	
	baz=221							
H03N3	**Juan Fernandez**	**34.15**	**71**	T		T	04 51 32.7	
	baz=224,slow=71,SNR=94							
H03N2	**Juan Fernandez**	**34.16**	**71**	T		T	04 51 40.8	
	baz=224,slow=71,SNR=16							
H03N1	**Juan Fernandez**	**34.17**	**71**	T		T	04 51 41.8	
	baz=224,slow=71,SNR=106							
VNDA	**Vanda**	**36.69**	**201**	P		**P**	**04 16 18.4**	**+0.8**
	1.5nm,0.9s,baz=80,slow=6.1,SNR=5.6							
QSPA	**South Pole Qui**	**37.06**	**180**	P		**P**	**04 16 21.2**	**0.0**
	5.3nm,1.1s,baz=106,slow=4.3,SNR=7.7							
QSPA	**South Pole Qui**	**37.06**	**180**	P		**P**	**04 16 22.4**	**+1.2**
QSPA				IAmb		IAmb	04 16 29.4	
	comp=Z,13nm,1.1s							
BELA	**Belgrano 2**	**37.42**	**160**	P		**P**	**04 16 23.9**	**0.0**
BELA				IAmb		IAmb	04 16 25.6	
	comp=Z,11nm,1.3s							
TBI	**Tubuai**	**37.98**	**309**	*e*LR		LR	04 26 45.9	
	comp=Z,272nm,26.0s							
PPT2	**Papeete2**	**43.05**	**313**	*e*LR		LR	04 29 07.7	
	comp=Z,366nm,26.0s							
VAH	**Vaihoa**	**44.33**	**317**	*e*T		T	05 04 33.8	
	comp=Z,6.2nm,0.2s							
SNAA	**Sanae**	**47.53**	**157**	P		**P**	**04 17 46.1**	**0.0**
	comp=Z,1.4nm,0.7s,baz=233,slow=10,SNR=1.7							
TAOE	**Nuku Hiva Isla**	**47.58**	**330**	*e*LR		LR	04 31 17.2	
	comp=Z,92nm,26.2s							
LPAZ	**La Paz**	**53.59**	**66**	P		**P**	**04 18 32.0**	**-1.2**
	comp=Z,5.0nm,1.3s,baz=208,slow=7.9,SNR=5.7							
LPAZ	**La Paz**	**53.59**	**66**	P		**P**	**04 18 33.3**	**+0.1**
LPAZ				IAmb		IAmb	04 18 39.5	
	comp=Z,7.8nm,1.4s							
CASY	**Casey**	**55.30**	**202**	P		**P**	**04 18 45.0**	**+0.7**
OTAV	**Otavalo**	**62.63**	**46**	P		**P**	**04 19 36.7**	**+0.4**
OTAV				IAmb		IAmb	04 19 39.8	
	comp=Z,7.3nm,1.2s							
DZM	**Mont Dzumac**	**63.90**	**268**	*e*LR		LR	04 38 39.2	
	comp=Z,210nm,26.1s							
ROSC	**El Rosal**	**68.56**	**48**	P		**P**	**04 20 13.1**	**-1.4**
	comp=Z,3.9nm,0.5s,baz=147,slow=5.4,SNR=5.2							
ROSC	**El Rosal**	**68.56**	**48**	P		**P**	**04 20 15.4**	**+1.0**
ZAIG	**Zacatecas**	**76.80**	**15**	P		**P**	**04 21 04.3**	**+1.2**
H01W1	**Cape Leeuwin H**	**81.24**	**221**	T		T	05 51 55.9	
	baz=151,slow=76,SNR=4.4							
H01W2	**Cape Leeuwin H**	**81.25**	**221**	T		T	05 51 59.5	
	baz=151,slow=76,SNR=3.7							
H01W3	**Cape Leeuwin H**	**81.26**	**221**	T		T	05 52 00.1	
	baz=151,slow=76,SNR=3.9							
AS31	**Alice Springs**	**81.42**	**242**	P		**P**	**04 21 28.1**	**-0.3**
ASAR	**Alice Springs**	**81.42**	**242**	P		**P**	**04 21 24.4**	**-4.0**
	comp=Z,1.1nm,1.0s,baz=134,slow=6.6,SNR=2.0							
ASAR	**Alice Springs**	**81.42**	**242**	P		**P**	**04 21 28.2**	**-0.2**
TX31	**Lajitas Ar. Si**	**83.09**	**13**	P		**P**	**04 21 37.2**	**+0.4**
TX31				IAmb		IAmb	04 21 39.7	
	comp=Z,6.7nm,1.1s							
TX32	**Lajitas Array**	**83.09**	**13**	P		**P**	**04 21 37.7**	**+0.9**
TX32				IAmb		IAmb	04 21 39.7	
	comp=Z,2.3nm,1.1s							
TXAR	**Lajitas Array**	**83.09**	**13**	P		**P**	**04 21 35.3**	**-1.5**
	comp=Z,1.3nm,1.0s,baz=187,slow=6.4,SNR=8.8							
TXAR	**Lajitas Array**	**83.09**	**13**	P		**P**	**04 21 37.5**	**+0.7**
WRA	**Warramunga Arr**	**84.20**	**244**	P		**P**	**04 21 42.0**	**-0.8**
	comp=Z,1.8nm,1.0s,baz=143,slow=4.5,SNR=5.3							
JCT	**Junction City**	**84.80**	**16**	P		**P**	**04 21 46.4**	**+1.0**
JCT				IAmb		IAmb	04 21 47.8	
	comp=Z,6.0nm,1.1s							
435B	**Jarrell**	**85.48**	**18**	P		**P**	**04 21 50.4**	**+1.7**
WHTX	**Lake Whitney,**	**86.68**	**18**	P		**P**	**04 21 55.4**	**+0.8**
X18A	**Snowflake**	**87.59**	**7**	P		**P**	**04 22 00.2**	**+0.9**
ANMO	**Albuquerque**	**88.31**	**10**	P		**P**	**04 22 04.2**	**+1.6**
PV16	**Nyswonger Mesa**	**91.43**	**7**	P		**P**	**04 22 18.3**	**+1.1**
PV16				IAmb		IAmb	04 22 23.2	
	comp=Z,1.7nm,0.9s							
ORV	**Oroville**	**92.35**	**357**	P		**P**	**04 22 22.1**	**+0.9**
H11S2	**WAKE ISLAND Hy**	**95.97**	**293**	T		T	06 09 32.5	
	baz=143,slow=75,SNR=46							
H11S3	**WAKE ISLAND Hy**	**95.98**	**293**	T		T	06 09 47.7	
	baz=143,slow=75,SNR=10							
H11S1	**WAKE ISLAND Hy**	**95.98**	**293**	T		T	06 09 36.3	
	baz=143,slow=75,SNR=38							
H11N3	**WAKE ISLAND Hy**	**96.84**	**294**	T		T	06 10 39.5	
	baz=144,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**96.85**	**294**	T		T	06 10 45.9	
	baz=144,slow=76,SNR=8.4							
H11N2	**WAKE ISLAND Hy**	**96.86**	**294**	T		T	06 10 45.9	
	baz=144,slow=76,SNR=7.5							
YHB	**Horse Butte**	**97.69**	**5**	P		Pdif	04 22 46.9	+1.1
ILAR	**Eielson Array**	**119.63**	**346**	PKP		**PKPdf**	**04 27 58.7**	**-1.1**
	comp=Z,0.6nm,1.0s,baz=178,slow=3.9,SNR=2.7							
HIA	**Hailar**	**144.31**	**288**	PKPdf		**PKPdf**	**04 28 45.9**	**-0.6**
SHL	**Shillong**	**144.41**	**231**	PKPdf		**PKPab**	**04 28 46.0**	**+0.2**
UCC	**Uccle**	**145.37**	**70**	PKPbc		**PKPbc**	**04 28 47.6**	**-0.5**
LATE	**Laterza**	**145.55**	**87**			**PKPab**	**04 28 49.8**	**+0.4**
TIXI	**Tiksi**	**146.22**	**328**	PKPbc		**PKPdf**	**04 28 48.4**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=114,slow=5.9,SNR=7.1							
TIXI	**Tiksi**	**146.22**	**328**	PKPbc		**PKPab**	**04 28 50.9**	**0.0**
RETA	**Reutte**	**147.54**	**79**	*e*P		**PKPbc**	**04 28 54.5**	**-0.3**
	comp=Z,9.8nm,1.3s							
MOTA	**Moosalm**	**147.67**	**79**	*e*P		**PKPbc**	**04 28 54.7**	**-0.5**
	comp=Z,8.4nm,1.6s							
SQTA	**Sankt Quirin**	**147.67**	**80**	*e*P		**PKPbc**	**04 28 54.8**	**-0.4**
	comp=Z,10nm,1.3s							
WTTA	**Wattenberg**	**147.94**	**80**	*e*P		**PKPbc**	**04 28 55.8**	**-0.2**
	comp=Z,8.4nm,1.4s							
RAYN	**Ar Rayn**	**147.97**	**151**	PKPbc		**PKPbc**	**04 28 55.8**	**-0.8**
ABTA	**Abfaltersbach**	**148.21**	**81**	*e*P		**PKPbc**	**04 28 56.1**	**-0.5**
	comp=Z,7.3nm,1.3s							
LSA	**Lhasa**	**148.23**	**234**	PKPbc		**PKPbc**	**04 28 58.5**	**+0.8**
MYKA	**Terra Mystica**	**148.82**	**82**	*e*P		**PKPbc**	**04 28 56.8**	**-1.3**
	comp=Z,1.1nm,1.0s							
KBA	**Koelnbreinsper**	**148.87**	**81**	*i* P		**PKPbc**	**04 28 57.2**	**-1.2**
	comp=Z,3.0nm,1.2s							
OBKA	**Obir**	**149.31**	**83**	*e*P		**PKPbc**	**04 28 57.2**	**-2.2**
	comp=Z,7.8nm,1.5s							
SOKA	**Soboth**	**149.68**	**83**	*i* P		**PKPbc**	**04 28 58.8**	**-1.5**
	comp=Z,8.4nm,1.6s							
MOA	**Molln**	**149.79**	**81**	*i* P		**PKPbc**	**04 28 59.7**	**-0.7**
	comp=Z,8.7nm,1.5s							
GEC2	**GERESS Array S**	**149.91**	**78**	PKPbc		**PKPbc**	**04 28 59.8**	**-1.0**
GERES	**GERESS Array B**	**149.91**	**78**	PKPbc		**PKPdf**	**04 28 57.6**	**+1.6**
	comp=Z,2.2nm,1.0s,baz=224,slow=2.7,SNR=11							
GERES				PKPab		**sPKPbc**	**04 29 05.0**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=208,slow=2.6,SNR=10							
GERES	**GERESS Array B**	**149.91**	**78**			**PKPbc**	**04 28 59.4**	**-1.4**
KHC	**Kasperske Hory**	**149.97**	**78**⇑	*e*PKP		**PKPbc**	**04 29 00.9**	**0.0**
ARSA	**Arzberg**	**150.25**	**82**	*e*P		**PKiKP**	**04 29 02.5**	**+0.1**
	comp=Z,7.9nm,1.5s							
CKRC	**Cesky Krumlov**

IKMR	**Kamar-syah**	**2.08**	**22**	*e*Pn		**Pn**	**04 25 52.7**	**+1.0**
IKMR				*e*			04 26 28.8	
	comp=Z,99nm,0.5s							
KHMZ	**Khomeyn**	**3.01**	**44**	*e*Pn		**Pn**	**04 26 05.3**	**+0.6**
IPIR	**Pirpir**	**3.11**	**69**	*e*Pn		**Pn**	**04 26 07.3**	**+1.1**
IPIR				*e*			04 27 05.5	
	comp=Z,99nm,0.6s							
IDHR	**Dehrash**	**3.23**	**344**	*e*Pn		**Pn**	**04 26 08.7**	**+0.9**
IDHR				*e*			04 27 16.6	
	comp=Z,99nm,0.6s							
SNGE	**Sanandaj**	**3.50**	**359**	*e*Pn		**Pn**	**04 26 10.5**	**-0.9**
HAGD	**Aghdareh**	**3.52**	**23**	*e*Pn		**Pn**	**04 26 12.7**	**+0.9**
HAGD				*e*			04 27 27.9	
	comp=Z,99nm,0.7s							
KLNJ	**Kolanjah**	**3.58**	**98**	*e*Pn		**Pn**	**04 26 12.7**	**-0.1**
KLNJ				*e*			04 27 40.2	
	comp=Z,99nm,1.0s							
IKLH	**Kolahrood**	**3.89**	**63**	*e*Pn		**Pn**	**04 26 16.3**	**-0.5**
IKLH				*e*			04 27 31.2	
	comp=Z,99nm,0.5s							
QAM	**Ghamsar**	**4.00**	**56**	*e*Pn		**Pn**	**04 26 19.8**	**+1.5**
IZEF	**Zefreh**	**4.33**	**71**	*e*Pn		**Pn**	**04 26 23.8**	**+0.9**
IRAZ	**Razeghan**	**4.33**	**28**	*e*Pn		**Pn**	**04 26 24.4**	**+1.5**
IQOM	**Qom**	**4.44**	**42**	*e*Pn		**Pn**	**04 26 25.2**	**+0.8**
KRSH	**Karshahi**	**4.60**	**58**	*e*Pn		**Pn**	**04 26 27.2**	**+0.7**
ISFB	**Sefidab**	**4.87**	**54**	*e*Pn		**Pn**	**04 26 29.7**	**-0.5**
IVRN	**Varamin**	**4.93**	**45**	*e*Pn		**Pn**	**04 26 31.2**	**+0.2**

IDC ***21*** *04:37:43.7±0.8,29.˚79S×176.˚97W,h0km,mb4.1/9, mb1 4.3/11,mb1mx4.2/28,mbtmp4.2/11,ML4.4/2,MS3.8/6, Ms1 3.8/6,ms1mx3.3/27,Error ellipse: s-maj=21.5km s-min=19.0km az=9.0*
NEIC ***21*** *04:37:47.8±2.1,29.˚56S±0.˚09×176.˚90W±0.˚08,h26km±4km, mb4.5/15,Error ellipse: s-maj=15.1km s-min=7.0km az=208.0*

ISC 21 04:37:48.5±0.5,29.˚66S±0.˚05×176.˚96W±0.˚07,h31km,n76, σ1s78/81,mb4.3/18,MS3.9/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**0.93**	**295**	P	**Pb**	**04 38 05.4**	**-0.6**
RAO	**Raoul Island**	**0.93**	**296**	Pn	**Pn**	**04 38 05.2**	**-0.2**
	641nm,0.3s,baz=151,slow=7.5,SNR=20						
RAO				LR	LR	04 38 13.6	
	comp=Z,648nm,19.5s,baz=108,slow=30						
RAO				Sn	**Sb**	**04 38 18.9**	**+0.8**
	3µm,0.3s,baz=259,slow=23,SNR=16						
RAO	**Raoul Island**	**0.93**	**296**		**Pb**	**04 38 05.6**	**-0.4**
RIZ	**Raoul Island**	**0.94**	**296**	P	**Pb**	**04 38 05.7**	**-0.6**
RIZ				S	**Sb**	**04 38 18.6**	**+0.2**
MXZ	**Matakaoa Point**	**8.82**	**205**	P	**Pn**	**04 39 51.3**	**-2.4**
MXZ				S	**Sn**	**04 41 34.0**	**+2.0**
WMGZ	**Waiomatatini S**	**9.00**	**204**	P	**Pn**	**04 39 55.4**	**-1.0**
WMGZ				S	**Sn**	**04 41 38.3**	**+1.6**
HAZ	**Te Kaha**	**9.19**	**207**	P	**Pn**	**04 39 55.8**	**-3.0**
HAZ				S	**Sn**	**04 41 40.2**	**-0.9**
PKGZ	**Pakihiroa**	**9.19**	**205**	P	**Pn**	**04 39 56.1**	**-2.8**
PKGZ				S	**Sn**	**04 41 39.6**	**-1.7**
PUZ	**Puketiti**	**9.29**	**204**	P	**Pn**	**04 39 57.4**	**-2.8**
PUZ				S	**Sn**	**04 41 43.3**	**-0.4**
RUGZ	**Raukumara Rang**	**9.41**	**207**	P	**Pn**	**04 39 60.0**	**-2.1**
RUGZ				S	**Sn**	**04 41 47.1**	**+0.3**
TWGZ	**Tauwhareparae**	**9.48**	**205**	P	**Pn**	**04 40 00.4**	**-2.5**
TWGZ				S	**Sn**	**04 41 48.5**	**+0.1**
WHRZ	**Whale Island**	**9.61**	**210**	P	**Pn**	**04 40 02.4**	**-2.3**
MWZ	**Matawai**	**9.79**	**206**	P	**Pn**	**04 40 03.2**	**-3.9**
MWZ				S	**Sn**	**04 41 54.4**	**-1.6**
URZ	**Urewera**	**9.89**	**208**	Pn	**Pn**	**04 40 04.2**	**-4.3**
	1.6nm,0.3s,baz=290,slow=1.9,SNR=9.7						
URZ				Sn	**Sn**	**04 41 57.7**	**-0.6**
	2.8nm,0.3s,baz=132,slow=14,SNR=6.3						
URZ				LR	LR	04 43 56.0	
	comp=Z,269nm,19.0s,baz=31,slow=38						
URZ	**Urewera**	**9.89**	**208**	P	**Pn**	**04 40 05.4**	**-3.0**
URZ				S	**Sn**	**04 41 56.0**	**-2.4**
RIGZ	**Rimuhau**	**10.03**	**204**	P	**Pn**	**04 40 09.9**	**-0.5**
RIGZ				S	**Sn**	**04 41 59.6**	**-2.2**
MKRZ	**Makatiti**	**10.07**	**211**	P	**Pn**	**04 40 13.5**	**+2.5**
MTHZ	**Maungataniwha**	**10.51**	**208**	P	**Pn**	**04 40 14.8**	**-2.1**
MTHZ				S	**Sn**	**04 42 10.9**	**-2.6**
BKZ	**Black Stump Fm**	**10.91**	**208**	P	**Pn**	**04 40 18.3**	**-4.3**
HIZ	**Hauiti**	**11.13**	**215**	P	Pn	04 40 30.0	+4.5
ETVZ	**East Tongariro**	**11.22**	**211**	P	**Pn**	**04 40 27.8**	**+0.9**
OTVZ	**Oturere**	**11.27**	**211**	P	**Pn**	**04 40 26.4**	**-1.1**
KAHZ	**Kahuranaki**	**11.31**	**205**	P	**Pn**	**04 40 25.0**	**-3.0**
KAHZ				S	**Sn**	**04 42 30.5**	**-2.7**
BHHZ	**Black Hill Sta**	**11.37**	**208**	P	**Pn**	**04 40 28.7**	**0.0**
BHHZ				S	**Sn**	**04 42 31.4**	**-3.3**
TSZ	**Takapari Road**	**11.89**	**207**	P	**Pn**	**04 40 35.8**	**-0.1**
NIUE	**Niue**	**12.32**	**33**	Pn	**Pn**	**04 40 40.8**	**-1.1**
MSVF	**Nonsavu**	**12.72**	**338**	LR	LR	04 44 51.4	
	comp=Z,360nm,19.0s,baz=170,slow=33						
THZ	**Tophouse**	**14.60**	**211**		**Pn**	**04 41 12.2**	**-0.7**
AFI	**Afiamalu**	**16.39**	**18**	Pn	**Pn**	**04 41 30.9**	**-5.5**
AFI				IAmb	IAmb	04 41 32.0	
	comp=Z,30nm,0.8s						
DZM	**Mont Dzumac**	**16.73**	**293**	LR	LR	04 47 07.5	
	comp=Z,445nm,18.9s,baz=84,slow=34						
RPZ	**Rata Peaks**	**16.98**	**211**	Pn	**Pn**	**04 41 42.0**	**-1.6**
	comp=Z,3.0nm,0.3s,baz=0.0,slow=8.1,SNR=2.3						
CTAO	**Charters Tower**	**34.58**	**277**	P	**P**	**04 44 35.3**	**+0.5**
CTAO				IAmb	IAmb	04 44 50.0	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**35.53**	**256**	P	**P**	**04 44 42.2**	**-0.5**
	comp=Z,4.0nm,0.6s,baz=90,slow=9.5,SNR=12						
STKA				LR	LR	04 58 15.0	
	comp=Z,186nm,18.2s,baz=174,slow=35						
STKA	**Stephens Creek**	**35.53**	**256**	P	**P**	**04 44 45.5**	**+2.8**
BBOO	**Buckleboo**	**40.04**	**253**	P	**P**	**04 45 21.4**	**+0.5**
BBOO				IAmb	IAmb	04 45 38.1	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**44.06**	**266**	P	**P**	**04 45 53.4**	**-0.4**
AS31				IAmb	IAmb	04 46 12.7	
	comp=Z,1.2nm,0.6s						
ASAR	**Alice Springs**	**44.06**	**266**	P	**P**	**04 45 53.2**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=107,slow=7.7,SNR=20						
ASAR				PcP	**PcP**	**04 47 39.6**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=119,slow=4.6,SNR=1.8						
WR0	**Warramunga Arr**	**44.80**	**271**	P	**P**	**04 45 59.4**	**-0.3**
WR0				IAmb	IAmb	04 46 21.1	
	comp=Z,10.0nm,1.2s						
WB2	**Warramunga Arr**	**44.97**	**271**	P	**P**	**04 46 00.6**	**-0.5**
WB2				IAmb	IAmb	04 46 08.3	
	comp=Z,6.9nm,0.9s						
WRA	**Warramunga Arr**	**44.98**	**271**	P	**P**	**04 46 00.8**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=111,slow=7.3,SNR=33						
WRA				PcP	**PcP**	**04 47 42.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=133,slow=3.7,SNR=1.3						
WRA				LR	LR	05 03 57.5	
	comp=Z,128nm,18.0s,baz=140,slow=35						
WRA	**Warramunga Arr**	**44.98**	**271**	P	**P**	**04 46 01.6**	**+0.5**
WB0	**Warramunga Arr**	**45.00**	**271**	P	**P**	**04 46 01.1**	**-0.2**
WB0				IAmb	IAmb	04 46 03.2	
	comp=Z,4.8nm,0.7s						
FORT	**Forrest**	**47.11**	**254**	P	**P**	**04 46 18.2**	**+0.4**
VNDA	**Vanda**	**48.92**	**186**	P	**P**	**04 46 33.5**	**+2.3**
	comp=Z,0.7nm,0.9s,baz=355,slow=3.7,SNR=4.1						
FITZ	**Fitzroy Crossi**	**53.27**	**269**	P	**P**	**04 47 04.7**	**+0.1**
FITZ				IAmb	IAmb	04 47 16.3	
	comp=Z,3.3nm,1.0s						
CASY	**Casey**	**56.22**	**208**	P	**P**	**04 47 26.3**	**+1.1**
QSPA	**South Pole Qui**	**60.45**	**180**	LR	LR	05 10 30.9	
	comp=Z,40nm,19.2s,baz=314,slow=33						
QSPA	**South Pole Qui**	**60.45**	**180**	P	**P**	**04 47 57.7**	**+2.6**
BELA	**Belgrano 2**	**70.40**	**172**	P	**P**	**04 48 59.1**	**+0.1**
BELA				IAmb	IAmb	04 49 01.2	
	comp=Z,2.7nm,0.8s						
MJAR	**Matsushiro Arr**	**78.15**	**325**	P	**P**	**04 49 45.5**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=173,slow=5.2,SNR=1.9						
H03S2	**Juan Fernandez**	**80.12**	**123**	T	T	06 19 41.8	
	baz=239						
H03S1	**Juan Fernandez**	**80.13**	**123**	T	T	06 19 39.6	
	baz=239						
H03S3	**Juan Fernandez**	**80.14**	**123**	T	T	06 19 38.5	
	baz=239						
H03N3	**Juan Fernandez**	**80.31**	**123**	T	T	06 19 50.3	
	baz=237						
H03N2	**Juan Fernandez**	**80.31**	**123**	T	T	06 19 45.7	
	baz=237						
H03N1	**Juan Fernandez**	**80.32**	**123**	T	T	06 19 46.9	
	baz=237						
KSRS	**Korea Array**	**84.37**	**319**	P	**P**	**04 50 17.9**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=142,slow=6.4,SNR=1.4						
PETK	**Petropavlovsk-**	**85.33**	**345**	P	**P**	**04 50 22.7**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=146,slow=4.9,SNR=2.5						
USRK	**Ussuriysk Ar.**	**87.05**	**326**	P	**P**	**04 50 31.6**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=139,slow=5.3,SNR=2.8						
NVAR	**Mina Array Bea**	**87.08**	**42**	P	**P**	**04 50 32.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=230,slow=7.0,SNR=2.5						
NVAR	**Mina Array Bea**	**87.08**	**42**	P	**P**	**04 50 31.3**	**-0.1**
TXAR	**Lajitas Array**	**91.23**	**57**	P	**P**	**04 50 51.0**	**0.0**
	comp=Z,0.4nm,0.9s,baz=268,slow=6.3,SNR=2.7						
MKAR	**Makanchi Array**	**117.99**	**310**	PKP	**PKiKP**	**04 56 32.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=90,slow=4.3,SNR=1.9						
H10N3	**ASCENSION HYDR**	**139.07**	**153**	T	T	07 33 39.4	
	baz=204						
H10N1	**ASCENSION HYDR**	**139.08**	**153**	T	T	07 33 38.6	
	baz=204,slow=74						
H10N2	**ASCENSION HYDR**	**139.09**	**153**	T	T	07 33 38.6	
	baz=204,slow=74						
FINES	**FINESS Array B**	**144.75**	**341**	PKP	**PKPdf**	**04 57 20.6**	**-0.9**
	comp=Z,3.3nm,0.6s,baz=94,slow=3.4,SNR=20						
KBZ	**Khabaz**	**145.44**	**305**	PKPbc	**PKPab**	**04 57 22.9**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=102,slow=1.7,SNR=5.9						
GEVA	**Gevas**	**145.93**	**295**	PKPbc	**PKiKP**	**04 57 27.4**	**-1.2**
MARD	**Mardin**	**147.78**	**294**	PKPbc	**PKiKP**	**04 57 32.0**	**-0.4**
NB2	**NORSAR Subarra**	**148.15**	**352**	PKP	**PKiKP**	**04 57 31.1**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=12,slow=2.9						
NOA	**NORSAR Array B**	**148.15**	**352**	PKPbc	**PKPbc**	**04 57 30.7**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=15,slow=4.5,SNR=3.2						
AKASG	**Malin Array Be**	**151.24**	**324**	PKPbc	**PKiKP**	**04 57 38.7**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=49,slow=3.1,SNR=12						
AKASG	**Malin Array Be**	**151.24**	**324**		**PKiKP**	**04 57 39.1**	**+0.1**
BRTR	**Keskin Array B**	**153.02**	**300**	PKPbc	**PKiKP**	**04 57 42.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=111,slow=3.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**163.52**	**175**	PKPab	**PKPab**	**04 58 39.3**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=168,slow=3.5,SNR=1.9						

SKO ***21*** *04:45:19.8,41.˚24N×20.˚45E,h27km*
TIR ***21*** *04:45:20.6,41.˚23N×20.˚43E,h0km,Md2.8*

ISC 21 04:45:20.9±1.1,41.˚18N±0.˚04×20.˚43E±0.˚04,h17km±9km, n9,σ1s07/17,1D,Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.29**	**104**	*i* Pg	**Pg**	**04 45 27.3**	**0.0**
OHR				*i* Sg	**Sb**	**04 45 32.5**	**+0.2**
OHR				*e*Lg	Lg	04 45 32.8	
	comp=N,68nm,0.4s						
OHR				*e*Lg	Lg	04 45 33.0	
	comp=E,158nm,0.5s						
TIR	**Tirane**	**0.45**	**291**	P	**Pg**	**04 45 29.9**	**-0.2**
	baz=286						
TIR				S	**Sb**	**04 45 37.5**	**+0.5**
	baz=286						
TIR	**Tirane**	**0.45**	**291**	*i* Pg	**Pg**	**04 45 29.9**	**-0.2**
PHP	**Peshkopia**	**0.50**	**1**	P	**Pb**	**04 45 30.2**	**-1.2**
	baz=1.0						
PHP				S	**Sg**	**04 45 37.5**	**-0.3**
	baz=1.0						
KBN	**Korca**	**0.62**	**154**	P	**Pn**	**04 45 34.9**	**-0.2**
	baz=155						
KBN				S	**Sn**	**04 45 44.9**	**+0.3**
	baz=155						
FNA	**Florina**	**0.82**	**119**	↓*i* Pg	**Pb**	**04 45 36.8**	**0.0**
FNA				*i* Sg	**Sn**	**04 45 50.5**	**+0.9**
PUK	**Puka**	**0.95**	**335**	P	**Pb**	**04 45 38.4**	**-0.6**
	baz=334						
PUK				S	**Sn**	**04 45 53.0**	**+0.2**
	baz=334						
SKO	**Skopje**	**1.09**	**44**	*i* Pg	**Pn**	**04 45 39.9**	**-1.6**
SKO				*i* Sg	**Sb**	**04 45 54.9**	**-0.6**
BCI	**Bajram Curri**	**1.21**	**347**	P	**Pg**	**04 45 46.8**	**+2.4**
	baz=347						
BCI				S	**Sg**	**04 46 02.0**	**+1.7**
	baz=347						

IDC 21 05:15:03.3±3.1,30.˚35S×138.˚38E,h0km,mb1 3.5/4, mb1mx3.4/38,mbtmp3.3/4,ML3.1/4,Error ellipse: s-maj=77.9km s-min=21.3km az=44.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.15**	**120**	Pn	Pn	05 15 53.7	-0.4
	0.4nm,0.3s,baz=304,slow=15,SNR=2.9						
STKA				Sn	Sn	05 16 33.4	+1.0
	2.5nm,0.3s,baz=60,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**7.76**	**328**	Pn	Pn	05 16 59.7	+2.0
	0.5nm,0.3s,baz=147,slow=13,SNR=30						
ASAR				Sn	Sn	05 18 25.9	-0.4
	0.2nm,0.3s,baz=149,slow=22,SNR=3.4						
WRA	**Warramunga Arr**	**10.99**	**340**	Pn	Pn	05 17 42.2	+0.3
	0.2nm,0.3s,baz=159,slow=13,SNR=12						
WRA				Sn	Sn	05 19 44.2	-1.4
	0.1nm,0.3s,baz=166,slow=21,SNR=2.5						
FITZ	**Fitzroy Crossi**	**16.83**	**314**	Pn	Pn	05 18 59.1	-1.3
	0.1nm,0.3s,baz=139,slow=9.3,SNR=2.0						

IDC ***21*** *05:27:13.3±1.1,34.˚82N×137.˚83E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.4/35,mbtmp3.5/5,ML3.7/1,MS2.8/1, Ms1 2.8/1,ms1mx2.2/31,Error ellipse: s-maj=21.7km s-min=12.7km az=91.0*
JMA ***21*** *05:27:15.7±0.2,35.˚63N×140.˚04E,h69km±2km,M3.1*
JMA Felt I J1.

ISC 21 05:27:15.3±1.0,35.˚55N±0.˚05×140.˚03E±0.˚06,h78km±7km, n25,σ0s80/24,mb3.6/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.19**	**134**	P	**Pn**	**05 27 27.0**	**+0.2**
JCN				S	**Sn**	**05 27 35.7**	**+0.5**
JSMT	**Sammumatsuo**	**0.35**	**75**	P	**Pn**	**05 27 27.5**	**-0.1**
JOD2	**Odawara 2**	**0.82**	**250**	P	**Pn**	**05 27 32.1**	**-0.1**
JOD2				S	**Sn**	**05 27 43.8**	**-0.9**
BSO3	**Boso 3**	**0.84**	**152**	P	**Pn**	**05 27 32.1**	**0.0**
BSO3				S	**Sn**	**05 27 45.5**	**+0.9**
JIM2	**Oshima 3**	**0.97**	**211**	P	**Pn**	**05 27 33.5**	**-0.4**
JAG	**Ashikaga**	**0.99**	**332**	P	**Pn**	**05 27 33.6**	**-0.5**
JRY	**Ryogami san**	**1.03**	**297**	P	**Pn**	**05 27 34.9**	**+0.3**
JFNN	**Fujinakano**	**1.16**	**252**	P	**Pn**	**05 27 36.5**	**+0.3**
BSO1	**Boso 1**	**1.19**	**139**	P	**Pn**	**05 27 35.7**	**-0.3**
JYN	**Shimob**	**1.22**	**268**	P	**Pn**	**05 27 37.2**	**+0.2**
JIZS	**Izushimoda**	**1.26**	**229**	P	**Pn**	**05 27 37.8**	**+0.3**
JIZS				S	**Sn**	**05 27 54.0**	**-0.1**
MJAR	**Matsushiro Arr**	**1.78**	**304**	Pg	**Pn**	**05 27 43.9**	**-0.3**
	3.1nm,0.3s,baz=193,slow=24,SNR=64						
MJAR				Lg	Lg	05 28 08.2	
	2.0nm,0.3s,baz=194,slow=27,SNR=4.3						
MAT	**Matsushiro**	**1.78**	**304**	P	**Pn**	**05 27 44.9**	**+0.7**
MAT				S	**Sn**	**05 28 07.3**	**+1.1**
JHJ	**Hachijo jima 2**	**2.44**	**185**	Pn	**Pn**	**05 27 53.8**	**+0.8**
	38nm,0.3s,baz=127,slow=20,SNR=9.0						
JHJ				Sn	**Sn**	**05 28 20.2**	**-1.7**
	56nm,0.3s,baz=282,slow=22,SNR=9.3						
KLR	**Kul'dur**	**14.96**	**339**	LR	LR	05 37 00.9	
	comp=Z,33nm,18.7s,baz=188,slow=39						
SONM	**Songino Array**	**27.73**	**307**	P	**P**	**05 32 54.7**	**-1.8**
	0.1nm,0.3s,baz=99,slow=9.3,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**28.42**	**117**	T	T	06 02 58.8	
	baz=308,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**28.42**	**117**	T	T	06 02 51.1	
	baz=308,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.43**	**117**	T	T	06 03 01.9	
	baz=308,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.06**	**119**	T	T	06 03 20.6	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**29.06**	**119**	T	T	06 03 21.5	
	baz=311						
H11S2	**WAKE ISLAND Hy**	**29.07**	**119**	T	T	06 03 24.8	
	baz=311						
MKAR	**Makanchi Array**	**43.98**	**303**	P	**P**	**05 35 14.7**	**-0.1**
	1.0nm,0.8s,baz=87,slow=10.0,SNR=8.2						
WRA	**Warramunga Arr**	**55.45**	**187**	P	**P**	**05 36 42.4**	**+0.5**
	0.5nm,0.3s,baz=0.3,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**59.18**	**187**	P	**P**	**05 37 09.5**	**+1.3**
	0.1nm,0.3s,baz=356,slow=5.7,SNR=2.1						

TAP ***21*** *05:28:51.8,25.˚57N×122.˚36E,h252km,ML3.4,C*
JMA ***21*** *05:28:54.3±0.2,25.˚36N×122.˚45E,h218km,M3.2*

ISC 21 05:28:51.5±3.5,25.˚5N±0.˚1×122.˚48E±0.˚05,h238km±20km, n41,σ0s90/77,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.67**	**222**	*e*P	**Pn**	**05 29 24.5**	**+0.9**
	baz=204						
TIPB	**Shuangxi**	**0.80**	**228**	*i* P	**Pn**	**05 29 25.1**	**+0.8**
	baz=220						
TIPB				*i* S	**S**	**05 29 49.6**	**-0.3**
	baz=220						
TAP	**Taipei**	**0.99**	**242**	*i* P	**Pn**	**05 29 25.9**	**+0.7**
	baz=240						
TAP				*i* S	**S**	**05 29 50.9**	**-0.6**
	baz=240						
NHDH	**Xindian Distri**	**1.02**	**238**	*i* P	**Pn**	**05 29 26.0**	**+0.6**
	baz=238						
NHDH				*i* S	**S**	**05 29 50.6**	**-1.2**
	baz=238						
TWC	**Suao**	**1.06**	**213**	*i* P	**Pn**	**05 29 26.8**	**+1.1**
	baz=199						
TWC				*i* S	**S**	**05 29 52.3**	**0.0**
	baz=199						
TWE	**Neicheng**	**1.07**	**223**	*i* P	**Pn**	**05 29 26.9**	**+1.1**
	baz=216						
NDS	**Dongshan**	**1.11**	**219**	*i* P	**Pn**	**05 29 27.2**	**+1.2**
	baz=214						
NDS				*i* S	**S**	**05 29 53.3**	**+0.4**
	baz=214						
NWLT	**Wulai**	**1.14**	**231**	*i* P	**Pn**	**05 29 26.8**	**+0.5**
	baz=218						
NWLT				*i* S	**S**	**05 29 53.0**	**-0.4**
	baz=218						
ENTT	**Nioudou**	**1.20**	**224**	P	**Pn**	**05 29 27.6**	**+1.1**
	baz=218						
ENTT				*e*S	**S**	**05 29 53.9**	**-0.1**
	baz=218						
EWUT	**Wuta**	**1.23**	**211**	P	**Pn**	**05 29 28.1**	**+1.3**
	baz=198						
EWUT				S	**S**	**05 29 54.6**	**+0.2**
	baz=198						
NDT	**Datong Townshi**	**1.26**	**224**	P	**Pn**	**05 29 27.8**	**+0.8**
	baz=226						
NDT				S	**S**	**05 29 54.5**	**-0.2**
	baz=226						
ENA	**Nanau**	**1.27**	**212**	P	**Pn**	**05 29 28.4**	**+1.4**
	baz=199						
ENA				*e*S	**S**	**05 29 54.6**	**-0.2**
	baz=199						
YHNB	**Yeheng**	**1.30**	**230**	P	**Pn**	**05 29 27.9**	**+0.5**
	baz=218						
YHNB				S	**S**	**05 29 54.0**	**-1.4**
	baz=218						
NSK	**Sanguang**	**1.31**	**231**	P	**Pn**	**05 29 27.9**	**+0.5**
	baz=218						
NSK				S	**S**	**05 29 54.1**	**-1.3**
	baz=218						
NNS	**Nan Shan**	**1.46**	**223**	P	**Pn**	**05 29 29.4**	**+0.8**
	baz=222						
NNS				S	**S**	**05 29 56.7**	**-0.8**
	baz=222						
NNSB	**Datong**	**1.46**	**223**	*e*P	**Pn**	**05 29 29.2**	**+0.6**
	baz=221						
NNSB				*e*S	**S**	**05 29 56.5**	**-1.1**
	baz=221						
NNSH	**Datong**	**1.46**	**223**	P	**Pn**	**05 29 29.3**	**+0.7**
	baz=220						
NNSH				S	**S**	**05 29 56.2**	**-1.4**
	baz=220						
NACB	**Ninganchiao**	**1.55**	**211**	*e*P	**Pn**	**05 29 30.0**	**+0.9**
	baz=215						
NACB				*e*S	**S**	**05 29 58.2**	**-0.4**
	baz=215						
LIOB	**Emei**	**1.58**	**237**	*e*P	**Pn**	**05 29 29.9**	**+0.5**
	baz=233						
LIOB				*e*S	**S**	**05 29 58.1**	**-0.9**
	baz=233						
ETLH	**Xiulin Townshi**	**1.58**	**215**	*e*P	**Pn**	**05 29 29.8**	**+0.3**
	baz=218						
ETLH				*e*S	**S**	**05 29 58.4**	**-0.8**
	baz=218						
NSTT	**Nanjuang**	**1.60**	**237**	*e*P	**Pn**	**05 29 29.9**	**+0.4**
	baz=233						
NSTT				*e*S	**S**	**05 29 58.0**	**-1.2**
	baz=233						
IRIF	**Iriomote-Funau**	**1.63**	**135**	P	**Pn**	**05 29 30.3**	**+0.5**
TWD	**Chiawan**	**1.63**	**210**	*e*P	**Pn**	**05 29 31.0**	**+1.2**
	baz=213						
TWD				*e*S	**S**	**05 29 59.4**	**-0.4**
	baz=213						
FUSS	**Fushou**	**1.68**	**222**	*e*P	**Pn**	**05 29 31.4**	**+0.9**
	baz=218						
FUSS				*e*S	**S**	**05 30 00.9**	**-0.1**
	baz=218						
TWT	**Tachien**	**1.72**	**224**	*e*P	**Pn**	**05 29 31.7**	**+1.0**
	baz=220						
TWT				*e*S	**S**	**05 30 00.9**	**-0.5**
	baz=220						
TDCB	**Techi**	**1.73**	**224**	*e*P	**Pn**	**05 29 31.5**	**+0.7**
	baz=220						
TDCB				*e*S	**S**	**05 30 00.7**	**-0.9**
	baz=220						
WHF	**Hehuan Shan**	**1.75**	**219**	*e*P	**

ISP				SG	Sb	05 42 32.8	+0.2	
BCK	**Bucak**	**0.42**	**115**	PG	Pb	05 42 27.4	+0.1	
BCK				SG	Sb	05 42 34.7	+0.8	
BUCA	**Burdur, Bucak-**	**0.47**	**131**	*i* P	Pg	05 42 27.5	+0.7	
BUCA				*i* S	Sg	05 42 33.6	+0.6	
GOLH	**Golhisar**	**0.59**	**228**	*i* P	Pg	05 42 28.9	-0.2	
GOLH				*i* S	Sg	05 42 36.1	-0.9	
GOLH				IAML		05 42 43.0		
	comp=N,309nm,0.4s							
KZIL	**AFYON_Kizioren**	**0.62**	**2**	*i* P	Pb	05 42 30.4	-0.4	
KZIL				IAML		05 42 44.0		
	comp=E,161nm,0.7s							
BAGO	**Egridir - ISPA**	**0.64**	**57**	*i* P	Pn	05 42 33.0	-0.1	
BAGO				*i* S	Sb	05 42 40.2	-0.1	
KORT	**Korkueli**	**0.67**	**163**	PG	Pb	05 42 32.2	+0.6	
KORT				SG	Sn	05 42 42.6	-1.6	
KORT	**Korkueli**	**0.67**	**163**	*i* P	Pg	05 42 31.0	+0.5	
KORT				*i* S	Sg	05 42 38.4	-0.8	
KORT				IAML		05 42 45.0		
	comp=E,244nm,0.8s							
KORT				IAML		05 42 47.0		
	comp=N,152nm,0.7s							
KHL	**Karahalli**	**0.83**	**326**	PG	Pb	05 42 34.2	-0.1	
KHL				SG	Sb	05 42 45.9	+0.3	
ANTB	**Antalya**	**0.86**	**150**	PG	Pn	05 42 35.2	-0.8	
KHAL	**Karahalli**	**0.88**	**326**	*i* P	Pb	05 42 35.1	-0.1	
KHAL				*i* S	Sn	05 42 49.8	+0.3	
KHAL				IAML		05 42 53.0		
	comp=N,135nm,0.3s							
KHAL				IAML		05 42 53.0		
	comp=E,184nm,0.4s							
TAVA	**DENIZLI_Tavas**	**0.97**	**260**	*i* P	Pn	05 42 38.6	+1.0	
USAK	**Uak-Merkez**	**1.38**	**322**	*i* P	Pg	05 42 44.0	0.0	
USAK				*i* S	Sg	05 43 03.6	+1.7	
USAK				IAML		05 43 10.0		
	comp=N,62nm,0.4s							

IDC ***21*** *05:43:58.6±1.1,35˚.64N×5˚.65E,h0km,mb3.5/5,mb1 3.6/9, mb1mx3.4/59,mbtmp3.5/9,ML3.1/4,MS2.9/2,Ms1 2.9/2, ms1mx2.3/40,Error ellipse: s-maj=26.6km s-min=17.0km az=162.0*

LDG ***21*** *05:43:58.1±0.5,35˚.59N×5˚.67E,h10km,Ml2.9/9,Error ellipse: s-maj=10.5km s-min=5.3km az=150.0*

CRAAG ***21*** *05:43:59.4,35˚.74N×5˚.67E,Ml3.8*

MDD ***21*** *05:44:02.2±0.9,35˚.83N×5˚.61E,h0km,mb4.3/8,Error ellipse: s-maj=11.5km s-min=5.1km az=4.0,PRXIMO*

ISC 21 05:44:01.4±0.7,35˚.89N±0˚.06×5˚.66E±0˚.03,h10km,n69, σ2s92/99,mb3.5/5,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.38**	**326**	P	**Pg**	**05 44 08.0**	**-0.8**
SET	**Setif**	**0.38**	**326**	P	**Pg**	**05 44 08.0**	**-0.8**
CTEI	**Djebel Teioual**	**0.63**	**74**	P	**Pb**	**05 44 14.8**	**+0.3**
CTEI	**Djebel Teioual**	**0.63**	**74**	P	**Pb**	**05 44 14.8**	**+0.3**
DFRA	**Djebel Bou Aff**	**0.68**	**15**	P	**Pn**	**05 44 17.5**	**+0.3**
DFRA	**Djebel Bou Aff**	**0.68**	**15**	P	**Pn**	**05 44 17.5**	**+0.3**
CASM	**Ain Smara**	**0.77**	**61**	P	**Pg**	**05 44 15.5**	**-0.7**
CASM	**Ain Smara**	**0.77**	**61**	P	**Pg**	**05 44 15.5**	**-0.7**
CKFL	**Kef-Lekhel**	**1.00**	**59**	P	**Pb**	**05 44 21.2**	**+0.4**
CKFL	**Kef-Lekhel**	**1.00**	**59**	P	**Pb**	**05 44 21.2**	**+0.4**
CAEH	**'Ain El Ouahch**	**1.31**	**47**	P	**Pg**	**05 44 28.3**	**+1.8**
CAEH	**'Ain El Ouahch**	**1.31**	**47**	P	**Pg**	**05 44 28.3**	**+1.8**
ABSA	**Djebel Ababsia**	**1.52**	**75**	P	**Pn**	**05 44 28.3**	**-0.4**
CABS	**Djebel Ababsia**	**1.52**	**75**	P	**Pn**	**05 44 28.3**	**-0.4**
CMAH	**Djebel Manchou**	**1.60**	**62**	P	**Pg**	**05 44 33.2**	**+1.1**
CMAH	**Djebel Manchou**	**1.60**	**62**	P	**Pg**	**05 44 33.2**	**+1.1**
KEST	**Kesra**	**3.00**	**92**	Pn	**Pn**	**05 44 47.7**	**-1.4**
	2.0nm,0.3s,baz=102,slow=3.8,SNR=26						
KEST				S	**Sn**	**05 45 24.5**	**-0.6**
	2.8nm,0.3s,baz=154,slow=20,SNR=2.3						
EBNR	**Beni Rached**	**3.37**	**278**	P	**Pg**	**05 45 05.7**	**-0.2**
ECHA	**Ech Chlef**	**3.49**	**276**	P	**Pg**	**05 45 08.8**	**+0.6**
ECHF	**Ech Chlef**	**3.51**	**276**	P	**Pg**	**05 45 08.8**	**+0.2**
EANR	**'Ain N'Sour**	**3.70**	**272**	P	**Pg**	**05 45 12.4**	**+0.1**
EANR	**'Ain N'Sour**	**3.70**	**272**	P	**Pg**	**05 45 12.4**	**+0.1**
ETOS	**Mallorca**	**4.48**	**331**	P	**Pn**	**05 45 11.1**	**+1.7**
	0.1nm,0.1s,SNR=9.6						
ETOS				S	**Sn**	**05 46 03.7**	**+2.2**
	1.0nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**4.65**	**314**	P	**Pn**	**05 45 12.8**	**+1.2**
	13nm,0.2s,SNR=10.0						
EIBI				S	**Sn**	**05 46 07.8**	**+2.2**
	1.7nm,0.4s,SNR=7.9						
EBEN2	**Beniarda presa**	**5.43**	**303**	P	**Pn**	**05 45 24.3**	**+1.9**
	4.3nm,0.2s,SNR=7.9						
AFON	**Font Roja**	**5.67**	**301**	P	**Pn**	**05 45 28.1**	**+2.4**
	0.4nm,0.1s,SNR=7.9						
AFON				S	**Sn**	**05 46 33.6**	**+2.6**
	SNR=7.9						
EMUR	**La Murta**	**5.87**	**291**	P	**Pn**	**05 45 28.1**	**-0.2**
	2.3nm,0.3s,SNR=9.1						
EMUR				S	**Sn**	**05 46 37.0**	**+1.3**
	0.3nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.37**	**298**	P	**Pn**	**05 45 36.5**	**+1.1**
	0.3nm,0.2s,SNR=9.1						
ETOB				S	**Sn**	**05 46 49.2**	**+1.0**
	0.2nm,0.4s,SNR=7.9						
ECHE	**Chera**	**6.42**	**307**	P	**Pn**	**05 45 39.8**	**+3.8**
	1.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**6.58**	**315**	P	**Pn**	**05 45 39.8**	**+1.5**
	2.6nm,0.3s,SNR=7.9						
EMOS				S	**Sn**	**05 46 52.2**	**-1.3**
	0.3nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**6.93**	**291**	P	**Pn**	**05 45 44.7**	**+1.6**
	2.8nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**05 47 05.4**	**+3.2**
	SNR=7.9						
EBER	**Berja**	**6.97**	**281**	P	**Pn**	**05 45 43.7**	**+0.1**
	2.2nm,0.2s,SNR=11						
EBER				S	**Sn**	**05 47 03.3**	**+0.2**
	SNR=7.9						
PGF	**Pioggiola**	**7.14**	**20**	P	**Pn**	**05 45 43.5**	**-2.4**
PGF				S	**Sn**	**05 47 03.4**	**-3.7**
	1.7nm,0.5s						
PGF	**Pioggiola**	**7.14**	**20**	*e*Pn	**Pn**	**05 45 43.5**	**-2.4**
PGF				*e*Sn	**Sn**	**05 47 03.4**	**-3.7**
	3.4nm,0.5s						
EQES	**Quesada**	**7.26**	**288**	P	**Pn**	**05 45 48.7**	**+1.1**
	0.5nm,0.2s,SNR=15						
EQES				S	**Sn**	**05 47 14.9**	**+4.9**
	0.4nm,0.4s,SNR=7.9						
CSOR	**Sort**	**7.37**	**333**	P	**Pn**	**05 45 52.1**	**+3.0**
	0.4nm,0.1s,SNR=7.9						
LMR	**La Mourre**	**7.46**	**5**	P	**Pn**	**05 45 53.8**	**+3.5**
LMR				S	**Sn**	**05 47 11.4**	**-3.6**
	0.1nm,0.2s						
LMR	**La Mourre**	**7.46**	**5**	*e*P	**Pn**	**05 45 53.8**	**+3.5**
LMR				*e*Sn	**Sn**	**05 47 11.4**	**-3.6**
	0.2nm,0.2s						
ELGU	**Los Guajares,**	**7.55**	**280**	P	**Pn**	**05 45 51.8**	**+0.2**
	1.8nm,0.2s,SNR=7.9						
FRF	**La Foret Royal**	**7.70**	**5**	P	**Pn**	**05 45 57.1**	**+3.6**
FRF				S	**Sn**	**05 47 16.9**	**-3.9**
	1.7nm,0.5s						
FRF	**La Foret Royal**	**7.70**	**5**	*e*P	**Pn**	**05 45 57.1**	**+3.6**
FRF				*e*Sn	**Sn**	**05 47 16.9**	**-3.9**
	3.4nm,0.5s						
MTLF	**Montolieu**	**7.90**	**341**	P	**Pn**	**05 46 00.4**	**+4.1**
MTLF				S	**Sn**	**05 47 22.4**	**-3.3**
	0.2nm,0.2s						
MTLF	**Montolieu**	**7.90**	**341**	*e*P	**Pn**	**05 46 00.4**	**+4.1**
MTLF				*e*Sn	**Sn**	**05 47 22.4**	**-3.3**
	0.5nm,0.2s						
SBF	**Sospel**	**8.08**	**9**	P	**Pn**	**05 45 57.1**	**-1.7**
SBF				S	**Sn**	**05 47 25.6**	**-4.6**
	1.2nm,0.3s						
SBF	**Sospel**	**8.08**	**9**	*e*Pn	**Pn**	**05 45 57.1**	**-1.7**
SBF				*e*Sn	**Sn**	**05 47 25.6**	**-4.6**
	2.4nm,0.3s						
EPF	**Esparros**	**8.23**	**332**	P	**Pn**	**05 46 04.9**	**+4.0**
EPF				S	**Sn**	**05 47 29.9**	**-4.0**
	0.2nm,0.3s						
EPF	**Esparros**	**8.23**	**332**	*e*P	**Pn**	**05 46 04.9**	**+4.0**
EPF				*e*Sn	**Sn**	**05 47 29.9**	**-4.0**
	0.4nm,0.3s						
LASF	**Ste Croix**	**8.29**	**351**	P	**Pn**	**05 46 06.0**	**+4.3**
LASF				S	**Sn**	**05 47 32.0**	**-3.4**
LASF	**Ste Croix**	**8.29**	**351**	*e*P	**Pn**	**05 46 06.0**	**+4.3**
LASF				*e*Sn	**Sn**	**05 47 32.0**	**-3.4**
ETSF	**Etsaut**	**8.49**	**327**	P	**Pn**	**05 46 08.4**	**+3.9**
ETSF				S	**Sn**	**05 47 36.0**	**-4.4**
	0.2nm,0.2s						
ETSF	**Etsaut**	**8.49**	**327**	*e*P	**Pn**	**05 46 08.4**	**+3.9**
ETSF				*e*Sn	**Sn**	**05 47 36.0**	**-4.4**
	0.3nm,0.2s						
ESDC	**Sonseca Array**	**8.50**	**299**	Pn	**Pn**	**05 46 04.4**	**-0.2**
	0.1nm,0.3s,baz=111,slow=13,SNR=4.4						
ESDC				Sn	**Sn**	**05 47 46.3**	**+5.6**
	0.0nm,0.3s,baz=105,slow=23,SNR=2.5						
ATE	**Arette**	**8.71**	**328**	P	**Pn**	**05 46 11.5**	**+4.2**
	0.1nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**8.73**	**298**	P	**Pn**	**05 46 09.2**	**+1.5**
	0.1nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**8.96**	**326**	P	**Pn**	**05 46 14.6**	**+3.8**
SJPF				S	**Sn**	**05 47 46.9**	**-4.9**
	0.2nm,0.3s						
SJPF	**Ste Jean**	**8.96**	**326**	*e*P	**Pn**	**05 46 14.6**	**+3.8**
SJPF				*e*Sn	**Sn**	**05 47 46.9**	**-4.9**
	0.3nm,0.3s						
VIVF	**Saint-Julien-l**	**8.99**	**356**	P	**Pn**	**05 46 15.5**	**+4.3**
VIVF				S	**Sn**	**05 47 48.4**	**-4.1**
	0.2nm,0.2s						
VIVF	**Saint-Julien-l**	**8.99**	**356**	*e*P	**Pn**	**05 46 15.5**	**+4.3**
VIVF				*e*Sn	**Sn**	**05 47 48.4**	**-4.1**
	0.5nm,0.2s						
MDT	**Midelt**	**9.03**	**253**	Pn	**Pn**	**05 46 09.5**	**-2.3**
	0.1nm,0.3s,baz=9.4,slow=22,SNR=2.1						
MDT				Sn	**Sn**	**05 47 49.1**	**-4.5**
	0.1nm,0.3s,baz=286,slow=19,SNR=1.6						
MDT				Lg	Lg	05 48 42.9	
	0.1nm,0.3s,baz=298,slow=9.6,SNR=1.7						
MDT				LR	LR	05 49 06.1	
	comp=Z,61nm,21.6s,baz=114,slow=34						
ECAB	**El Cabril**	**9.13**	**287**	P	**Pn**	**05 46 12.7**	**-0.5**
	0.4nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**9.92**	**343**	*e*P	Pn	05 46 28.9	+5.0
GERES	**GERESS Array B**	**14.23**	**22**	Pn	**Pn**	**05 47 25.5**	**+2.5**
	0.1nm,0.3s,baz=204,slow=12,SNR=1.3						
KHC	**Kasperske Hory**	**14.45**	**21**	*e*P	**P**	**05 47 36.0**	**+3.2**
BRTR	**Keskin Array B**	**22.40**	**72**	P	**P**	**05 49 00.6**	**+0.5**
	1.3nm,0.9s,baz=282,slow=7.6,SNR=4.1						
AKASG	**Malin Array Be**	**22.52**	**42**	P	**P**	**05 49 00.5**	**-0.6**
	0.7nm,0.5s,baz=236,slow=9.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	**22.92**	**190**	P	**P**	**05 49 01.7**	**-3.9**
	1.4nm,0.8s,baz=11,slow=9.9,SNR=5.5						
ARCES	**ARCESS Array B**	**35.42**	**12**	LR	LR	06 07 02.8	
	comp=Z,22nm,18.2s,baz=50,slow=39						
MKAR	**Makanchi Array**	**56.42**	**53**	P	**P**	**05 53 42.6**	**-0.4**
	0.9nm,0.7s,baz=299,slow=4.8,SNR=8.9						
YKA	**Yellowknife Ar**	**70.92**	**335**	P	**P**	**05 55 18.7**	**+0.3**
	0.2nm,0.4s,baz=54,slow=6.4,SNR=8.7						

JMA ***21*** *06:37:37.0±0.1,38˚.86N×142˚.05E,h45km±1km,M3.2*

IDC ***21*** *06:37:39.1±3.1,38˚.96N×141˚.97E,h75km±30km,mb3.0/2, mb1 3.0/4,mb1mx2.8/55,mbtmp3.1/4,Error ellipse: s-maj=51.3km s-min=19.8km az=104.0*

ISC 21 06:37:36.9±1.5,38˚.85N±0˚.06×142˚.0E±0˚.1,h48km±11km, n20,σ0s84/20,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.36**	**310**	P	**Pn**	**06 37 46.6**	**+0.2**
OFUJ				S	**Sn**	**06 37 53.1**	**0.0**
JKMT	**Kesennumamotoy**	**0.43**	**265**	P	**Pn**	**06 37 47.4**	**+0.3**
JKMT				S	**Sn**	**06 37 54.5**	**+0.1**
JMK	**Ichinoseki**	**0.63**	**279**	P	**Pn**	**06 37 50.0**	**+0.3**
JIO	**Ouri**	**0.66**	**233**	P	**Pn**	**06 37 50.1**	**+0.1**
JIO				S	**Sn**	**06 37 59.0**	**-0.4**
JOM	**Ohasama**	**0.84**	**318**	P	**Pn**	**06 37 52.8**	**+0.4**
JOM				*e*S	**Sn**	**06 38 04.1**	**+0.4**
JOU	**Okura**	**1.17**	**246**	P	**Pn**	**06 37 57.3**	**+0.4**
JRG	**Rokugo**	**1.21**	**297**	P	**Pn**	**06 37 57.9**	**+0.5**
JYK	**Kaneyama**	**1.30**	**273**	P	**Pn**	**06 37 59.3**	**+0.7**
JMM	**Marumori**	**1.38**	**225**	P	**Pn**	**06 37 59.9**	**+0.2**
JMM				*e*S	**Sn**	**06 38 16.8**	**0.0**
JANG	**Nango**	**1.57**	**346**	P	**Pn**	**06 38 02.7**	**+0.4**
MJAR	**Matsushiro Arr**	**3.80**	**234**	P	**Pn**	**06 38 35.5**	**+2.6**
	0.1nm,0.3s,baz=36,slow=14,SNR=4.5						
ASAJ	**Asahikawa**	**5.28**	**5**	P	**Pn**	**06 38 54.4**	**+1.2**
	0.3nm,0.3s,baz=214,slow=17,SNR=1.8						
ASAJ				S	**Sn**	**06 39 52.6**	**0.0**
	0.1nm,0.3s,baz=182,slow=10,SNR=1.7						
H11N2	**WAKE ISLAND Hy**	**28.72**	**124**	T	T	07 13 54.4	
	baz=317,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.73**	**124**	T	T	07 13 54.0	
	baz=317,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**28.74**	**124**	T	T	07 13 53.2	
	baz=317,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**29.50**	**126**	T	T	07 14 50.7	
	baz=318,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.50**	**126**	T	T	07 14 48.6	
	baz=318,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**29.51**	**126**	T	T	07 14 54.3	
	baz=318,slow=76,SNR=15						
MKAR	**Makanchi Array**	**43.58**	**301**	P	**P**	**06 45 35.1**	**-1.1**
	0.3nm,0.6s,baz=79,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**58.93**	**198**	P	**P**	**06 47 30.8**	**-0.4**
	0.1nm,0.5s,baz=8.8,slow=5.1,SNR=1.3						

SOME ***21*** *06:48:15.6,42˚.33N×79˚.77E,h0km*

NNC ***21*** *06:48:17.2±0.9,42˚.35N×79˚.81E,h0km,mb3.5,mpv3.4, Error ellipse: s-maj=5.9km s-min=3.6km az=140.0*

KRNET ***21*** *06:48:18.2±0.1,42˚.42N×79˚.76E,h10km,mb2.8*

ISC 21 06:48:16.9±1.6,42˚.35N±0˚.05×79˚.72E±0˚.04,h8km±10km, n57,σ1s72/97,21C-5D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.83**	**347**	*e*P	**Pb**	**06 48 32.9**	**-0.8**
	61nm,0.2s						
SHLS				*e*S	**Sn**	**06 48 45.7**	**-1.9**
	149nm,0.3s						
SHLS	**Shalkode**	**0.83**	**347**	P	**Pb**	**06 48 32.9**	**-0.8**
	61nm,0.2s						
SHLS				S	**Sn**	**06 48 45.7**	**-1.9**
	149nm,0.3s						
UZB	**Uzynbulak**	**0.95**	**327**	*e*P	**Pn**	**06 48 35.7**	**-1.1**
	11nm,0.4s						
UZB				*e*S	**Sn**	**06 48 50.0**	**-0.6**
	46nm,0.2s						
UZB	**Uzynbulak**	**0.95**	**327**	P	**Pn**	**06 48 35.7**	**-1.1**
	11nm,0.4s						
UZB				S	**Sn**	**06 48 50.0**	**-0.6**
	46nm,0.2s						
PRZ	**Przheval'sk**	**0.99**	**278**	⇑*i*P	**Pn**	**06 48 37.8**	**+0.5**
	baz=75						
PRZ				⇑*i*S	**Sn**	**06 48 51.4**	**-0.2**
	baz=75						
PDGK	**Podgornoye**	**0.99**	**350**	P	**Pn**	**06 48 35.9**	**-1.4**
	3.6nm,0.3s						
PDGK				S	**Sn**	**06 48 50.4**	**-1.4**
	12nm,0.5s						
PDGK	**Podgornoye**	**0.99**	**350**	⇑P	**Pn**	**06 48 35.9**	**-1.4**
	4.1nm,0.4s						
PDGK				⇑S	**Sn**	**06 48 50.3**	**-1.4**
	14nm,0.5s						
KTMS	**Ketmen**	**1.19**	**23**	*e*P	**Pg**	**06 48 38.7**	**-1.0**
	67nm,0.3s						
KTMS				*e*S	**Sn**	**06 48 55.2**	**-1.3**
	26nm,0.3s						
KTMS	**Ketmen**	**1.19**	**23**	P	**Pg**	**06 48 38.7**	**-1.0**
	67nm,0.3s						
KTMS				S	**Sn**	**06 48 55.2**	**-1.3**
	26nm,0.3s						
SATY	**Saty**	**1.20**	**307**	*e*P	**Pg**	**06 48 40.7**	**+0.8**
	2.5nm,0.5s						
SATY				*e*S	**Sn**	**06 48 58.6**	**+1.9**
	25nm,0.3s						
SATY	**Saty**	**1.20**	**307**	P	**Pg**	**06 48 40.7**	**+0.8**
	2.5nm,0.5s						
SATY				S	**Sn**	**06 48 58.6**	**+1.9**
	25nm,0.3s						
ZHN	**Zhinishke**	**1.25**	**311**	*e*P	**Pg**	**06 48 42.0**	**+1.1**
	237nm,0.4s						
ZHN				*e*S	**Sn**	**06 49 01.5**	**+3.5**
	8.4nm,0.2s						
ZHN	**Zhinishke**	**1.25**	**311**	P	**Pg**	**06 48 42.0**	**+1.1**
	237nm,0.4s						
ZHN				S	**Sn**	**06 49 01.5**	**+3.5**
	8.4nm,0.2s						
KPKS	**Kokpek**	**1.35**	**326**	*e*P	**Pg**	**06 48 42.8**	**0.0**
	36nm,0.2s						
KPKS				*e*S	**Sg**	**06 49 02.3**	**+2.0**
	57nm,0.3s						
ANVS	**Anan'yevo**	**1.58**	**287**	⇑*i*P	**Pg**	**06 48 47.9**	**+0.8**
	baz=84						
ANVS				⇑*i*S	**Sg**	**06 49 10.5**	**+2.9**
	baz=84						
KURS	**Kuram**	**1.61**	**316**	*e*P	**Pg**	**06 48 47.5**	**-0.3**
	5.6nm,0.3s						
KURS				*e*S	**Sg**	**06 49 10.9**	**+2.3**
	32nm,0.5s						
KURS	**Kuram**	**1.61**	**316**	P	**Pg**	**06 48 47.4**	**-0.3**
	5.6nm,0.3s						
KURS				S	**Sg**	**06 49 10.9**	**+2.3**
	32nm,0.5s						
KDJ	**Kajisay**	**1.90**	**264**	⇑*e*P	**Pg**	**06 48 53.9**	**+0.6**
	baz=62						
KDJ				⇑*i*S	**Sg**	**06 49 20.8**	**+2.9**
	baz=62						
MNBS	**Baschi**	**1.98**	**331**	*e*P	**Pg**	**06 48 54.3**	**-0.5**
	26nm,0.3s						
MNBS				*e*S	**Sg**	**06 49 22.1**	**+1.5**
	68nm,0.3s						
MNBS	**Baschi**	**1.98**	**331**	Pg	**Pg**	**06 48 54.3**	**-0.5**
	26nm,0.3s						
MNBS				Lg	Lg	06 49 22.1	
	68nm,0.3s						
DJR	**Jarkent**	**1.98**	**1**	*e*P	**Pg**	**06 48 53.9**	**-1.0**
	42nm,0.3s						
DJR				*e*S	**Sg**	**06 49 21.7**	**+1.0**
	35nm,0.3s						
DJR	**Jarkent**	**1.98**	**1**	Pg	**Pg**	**06 48 53.9**	**-1.0**
	42nm,0.3s						
DJR				Lg	Lg	06 49 21.7	
	35nm,0.3s						
KOTS	**Kotyrbulak**	**2.11**	**296**	*e*P	**Pg**	**06 48 57.9**	**+0.4**
	23nm,0.3s						
KOTS				*e*S	**Sg**	**06 49 28.7**	**+3.9**
	51nm,0.3s						
KOTS	**Kotyrbulak**	**2.11**	**296**	Pg	**Pg**	**06 48 57.9**	**+0.4**
	23nm,0.3s						
KOTS				Lg	Lg	06 49 28.7	
	51nm,0.3s						
MDOK	**Medeo**	**2.13**	**293**	*e*P	**Pg**	**06 48 56.6**	**-1.1**
	8.5nm,0.4s						
MDOK				*e*S	**Sg**	**06 49 25.9**	**+0.6**
	14nm,0.6s						
MDOK	**Medeo**	**2.13**	**293**	Pn	**Pg**	**06 48 56.3**	**-1.4**
	4.5nm,0.4s						
MDOK				Sn	**Sg**	**06 49 25.5**	**+0.2**
	12nm,0.6s						
MDOK	**Medeo**	**2.13**	**293**	Pg	**Pg**	**06 48 56.6**	**-1.1**
	8.5nm,0.4s						
MDOK				Lg	Lg	06 49 25.9	
	14nm,0.6s						
TNSS	**Tian-Shan**	**2.16**	**290**	*e*P	**Pg**	**06 48 57.2**	**-1.0**
	7.0nm,0.2s						
TNSS				*e*S	**Sg**	**06 49 26.9**	**+0.7**
	7.7nm,0.3s						
TNSS	**Tian-Shan**	**2.16**	**290**	Pg	**Pg**	**06 48 57.2**	**-1.0**
	7.0nm,0.2s						
TNSS				Lg	Lg	06 49 26.9	
	7.7nm,0.3s						
ARXS	**Arharly**	**2.32**	**324**	*e*P	**Pg**	**06 48 59.9**	**-1.4**
	11nm,0.4s						
ARXS				*e*S	**Sg**	**06 49 32.2**	**+0.8**
	62nm,0.5s						
ARXS	**Arharly**	**2.32**	**324**	Pg	**Pg**	**06 48 59.9**	**-1.4**
	11nm,0.4s						
ARXS				Lg	Lg	06 49 32.2	
	62nm,0.5s						
IZV	**Izvestkoviy**	**2.39**	**288**	*e*P	**Pg**	**06 49 02.1**	**-0.6**
	6.3nm,0.2s						
IZV				*e*S	**Sg**	**06 49 35.3**	**+1.5**
	50nm,0.6s						
IZV	**Izvestkoviy**	**2.39**	**288**	Pg	**Pg**	**06 49 02.1**	**-0.6**
	6.3nm,0.2s						
IZV				Lg	Lg	06 49 35.3	
	50nm,0.6s						
CHKK	**Chushkaly**	**2.50**	**308**	*e*P	**Pg**	**06 49 03.3**	**-1.6**
	3.6nm,0.3s						
CHKK				*e*S	**Sg**	**06 49 37.6**	**+0.3**
	27nm,0.3s						
CHKK	**Chushkaly**	**2.50**	**308**	Pg	**Pg**	**06 49 03.3**	**-1.6**
	3.6nm,0.3s						
CHKK				Lg	Lg	06 49 37.6	
	27nm,0.3s						
MTBS	**Maitube**	**2.55**	**289**	*e*P	**Pg**	**06 49 04.2**	**-1.5**
	8.3nm,0.1s						
MTBS				*e*S	**Sg**	**06 49 39.0**	**+0.3**
	16nm,0.4s						
MTBS	**Maitube**	**2.55**	**289**	Pg	**Pg**	**06 49 04.2**	**-1.5**
	8.3nm,0.1s						
MTBS				Lg	Lg	06 49 39.0	
	16nm,0.4s						
ULHL	**Ulahol**	**2.58**	**269**	⇑*i*P	**Pb**	**06 49 03.7**	**+0.1**
	baz=67						
ULHL				⇑*i*S	**Sg**	**06 49 38.2**	**-1.6**
	baz=67						
KTBS	**Karatobe**	**2.61**	**302**	*e*P	**Pg**	**06 49 04.9**	**-2.1**
	5.2nm,0.3s						
KTBS				*e*S	**Sg**	**06 49 40.1**	**-0.6**
	35nm,0.4s						
KTBS	**Karatobe**	**2.61**	**302**	Pg	**Pg**	**06 49 04.9**	**-2.1**
	5.2nm,0.3s						
KTBS				Lg	Lg	06 49 40.1	
	35nm,0.4s						
BOOM	**Boomskoye usch**	**2.80**	**274**	⇑*i*P	**Pb**	**06 49 07.0**	**-0.3**
	baz=73						
BOOM				⇑*i*S	**Sb**	**06 49 42.5**	**+0.6**
	baz=73						
TDK

MK31	**Makanchi Array**	**4.81**	**22**	⇑Pn		**Pn**	**06 49 31.5**	**+1.9**
	0.6nm,0.3s,baz=202,slow=13,SNR=80							
MK31				⇑Sn		**Sn**	**06 50 30.5**	**+5.0**
	0.9nm,0.6s,baz=211,slow=26,SNR=4.6							
MK31				⇓Lg		Lg	06 50 51.2	
	1.1nm,0.5s,baz=196,slow=28,SNR=6.0							

IDC ***21*** *06:50:40.9±0.8, 39°.43N×20°.58E, h0km, mb3.8/13, mb1 3.9/20,mb1mx3.7/50,mbtmp3.8/20,ML3.5/7, Error ellipse: s-maj=15.5km s-min=15.1km az=6.0*
THE ***21*** *06:50:43.2, 39°.36N×20°.52E, h0km±1km, ML3.4/12, Error ellipse: s-maj=1.9km s-min=0.4km az=234.0*
ATH ***21*** *06:50:43.4, 39°.36N×20°.52E, h9km±2km, ML3.4/15, Error ellipse: s-maj=2.7km s-min=0.9km az=268.0*
BEO ***21*** *06:50:44.9±0.7, 39°.42N×20°.36E, h12km±2km, ML3.3/8*
ISC 21 06:50:43.0±0.8**, 39°37N**±0°.02×**20°50E**±0°.02**, h12**km±5**km, n130, σ1s53/177, mb3.8/13, 5C-10D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.21**	**321**	P		**Pg**	**06 50 47.5**	**0.0**
IGT				S		**Sg**	**06 50 51.3**	**+0.6**
IGT				AML		AML	06 50 52.5	
	comp=E,31113μm,0.2s							
IGT				AML		AML	06 50 52.7	
	comp=N,15954μm,0.2s							
IGT	**Igoumenitsa**	**0.21**	**321**	P		**Pg**	**06 50 47.5**	**0.0**
IGT				S		**Sg**	**06 50 51.6**	**+0.9**
	comp=N,12μm,0.2s							
IGT	**Igoumenitsa**	**0.21**	**321**	*e*Pg		**Pg**	**06 50 47.6**	**0.0**
IGT				*e*Sg		**Sg**	**06 50 51.7**	**+1.0**
JAN	**Janina**	**0.39**	**43**	P		**Pg**	**06 50 50.3**	**-0.6**
JAN				S		**Sb**	**06 50 56.7**	**-1.3**
JAN				AML		AML	06 50 58.3	
	comp=E,43208μm,0.4s							
JAN				AML		AML	06 50 58.5	
	comp=N,35167μm,0.3s							
JAN	**Janina**	**0.39**	**43**	P		**Pg**	**06 50 50.1**	**-0.8**
JAN				S		**Sb**	**06 50 56.5**	**-1.5**
	comp=N,20μm,0.4s							
DSL	**Palaion Diasel**	**0.52**	**117**	P		**Pg**	**06 50 52.9**	**-0.3**
DSL				S		**Sg**	**06 51 00.4**	**+0.3**
TSLK	**Tsoukalades, L**	**0.56**	**168**	P		**Pg**	**06 50 53.8**	**-0.1**
LKD2	**Lefkada island**	**0.59**	**168**	P		**Pg**	**06 50 54.4**	**-0.2**
LKD2				S		**Sg**	**06 51 02.4**	**0.0**
LKD2				AML		AML	06 51 07.6	
	comp=E,10323μm,0.4s							
LKD2				AML		AML	06 51 12.4	
	comp=N,8129μm,0.4s							
LKD2	**Lefkada island**	**0.59**	**168**	P		**Pg**	**06 50 54.3**	**-0.2**
SRN	**Sarande**	**0.64**	**323**	P		**Pg**	**06 50 55.2**	**-0.3**
SRN				S		**Sb**	**06 51 05.1**	**+0.1**
	comp=N,1μm,0.5s							
KEK	**Kerkira**	**0.64**	**302**	P		**Pg**	**06 50 55.5**	**0.0**
KEK				S		**Sb**	**06 51 05.9**	**+0.8**
KEK				AML		AML	06 51 10.9	
	comp=E,5960μm,0.4s							
KEK				AML		AML	06 51 12.9	
	comp=N,4953μm,0.7s							
KEK	**Kerkira**	**0.64**	**302**	P		**Pg**	**06 50 55.5**	**0.0**
NYDR	**Nydri-Lefkada**	**0.67**	**167**	P		**Pg**	**06 50 55.6**	**-0.5**
NYDR				S		**Sg**	**06 51 05.9**	**+1.0**
	comp=N,3μm,0.5s							
EVGI	**Lefkada island**	**0.76**	**171**	P		**Pg**	**06 50 57.1**	**-0.6**
EVGI	**Lefkada island**	**0.76**	**171**	P		**Pg**	**06 50 56.9**	**-0.8**
EVGI				S		**Sg**	**06 51 09.2**	**+1.6**
	comp=N,1μm,0.3s							
LSK	**Leskovik**	**0.78**	**6**	P		**Pg**	**06 50 57.8**	**-0.4**
LSK				S		**Sn**	**06 51 10.1**	**-1.5**
	comp=N,5μm,0.8s							
KPRO	**Kipourio**	**0.89**	**48**	P		**Pg**	**06 50 59.5**	**-0.7**
KPRO				AML		AML	06 51 17.9	
	comp=E,3825μm,0.4s							
KPRO				AML		AML	06 51 27.2	
	comp=N,5669μm,0.6s							
KPRO	**Kipourio**	**0.89**	**48**	P		**Pg**	**06 50 58.7**	**-1.4**
FSK	**Fiskardo**	**0.91**	**177**	P		**Pg**	**06 51 00.1**	**-0.5**
PDO	**Prodromos**	**0.94**	**145**	P		**Pg**	**06 51 00.8**	**-0.3**
PDO				AML		AML	06 51 25.0	
	comp=N,5162μm,0.6s							
PDO				AML		AML	06 51 26.4	
	comp=E,4515μm,0.7s							
PDO	**Prodromos**	**0.94**	**145**	P		**Pg**	**06 51 00.8**	**-0.3**
PENT	**Pentalofos**	**0.96**	**31**	P		**Pg**	**06 51 00.9**	**-0.7**
PENT				S		**Sn**	**06 51 15.1**	**-1.0**
PENT				AML		AML	06 51 18.7	
	comp=E,2483μm,0.4s							
PENT				AML		AML	06 51 25.2	
	comp=N,2545μm,0.5s							
PENT	**Pentalofos**	**0.96**	**31**	P		**Pg**	**06 51 00.8**	**-0.8**
PENT				S		**Sn**	**06 51 15.6**	**-0.4**
	comp=N,1μm,0.4s							
PVO	**Paravola**	**1.10**	**133**	P		**Pb**	**06 51 04.2**	**+0.3**
PVO				AML		AML	06 51 25.3	
	comp=N,3082μm,0.5s							
PVO				AML		AML	06 51 26.1	
	comp=E,3212μm,0.7s							
PVO	**Paravola**	**1.10**	**133**	P		**Pb**	**06 51 04.2**	**+0.3**
EVR	**Evrytania**	**1.11**	**114**	P		**Pg**	**06 51 04.3**	**-0.2**
EVR				AML		AML	06 51 25.4	
	comp=N,1788μm,0.9s							
EVR				AML		AML	06 51 27.0	
	comp=E,1333μm,0.3s							
EVR	**Evrytania**	**1.11**	**114**	P		**Pg**	**06 51 04.3**	**-0.2**
NEST	**Nestorio**	**1.12**	**22**	P		**Pg**	**06 51 03.9**	**-0.8**
NEST				S		**Sn**	**06 51 20.2**	**0.0**
NEST				AML		AML	06 51 27.5	
	comp=N,3442μm,0.7s							
NEST				AML		AML	06 51 28.4	
	comp=E,5950μm,0.5s							
NEST	**Nestorio**	**1.12**	**22**	P		**Pg**	**06 51 04.1**	**-0.6**
KEF3	**Kipouria, Keph**	**1.17**	**186**	P		**Pn**	**06 51 04.4**	**-0.8**
THL	**Klokotos Trika**	**1.19**	**80**	P		**Pb**	**06 51 04.9**	**-0.6**
THL				AML		AML	06 51 28.1	
	comp=N,1448μm,0.5s							
THL				AML		AML	06 51 29.3	
	comp=E,1702μm,0.4s							
THL	**Klokotos Trika**	**1.19**	**80**	P		**Pb**	**06 51 04.5**	**-0.9**
VLS	**Valsamata**	**1.19**	**177**	P		**Pn**	**06 51 05.1**	**-0.4**
VLS				AML		AML	06 51 26.5	
	comp=N,10270μm,0.5s							
VLS				AML		AML	06 51 27.6	
	comp=E,7008μm,0.3s							
VLS	**Valsamata**	**1.19**	**177**	P		**Pn**	**06 51 05.4**	**-0.1**
VLS				S		**Sn**	**06 51 23.5**	**+1.9**
	comp=E,4μm,0.4s							
PSDA	**Pessada-Kefalo**	**1.25**	**177**	P		**Pn**	**06 51 06.6**	**+0.3**
PSDA				S		**Sg**	**06 51 25.9**	**+2.4**
	comp=E,425nm,0.3s							
KBN	**Korca**	**1.27**	**10**	P		**Pg**	**06 51 07.9**	**+0.4**
KBN				S		**Sn**	**06 51 26.6**	**+2.9**
	comp=E,1μm,0.8s							
MAKR	**Makrakomi, Fth**	**1.32**	**105**	P		**Pn**	**06 51 07.6**	**+0.4**
MAKR				S		**Sg**	**06 51 27.5**	**+2.1**
	comp=E,3μm,0.5s							
ANX	**Ano Chora**	**1.35**	**125**	P		**Pn**	**06 51 08.1**	**+0.3**
KZN	**Kozani**	**1.35**	**46**	P		**Pb**	**06 51 08.1**	**-0.2**
KZN				S		**Sg**	**06 51 26.4**	**-0.3**
KZN				AML		AML	06 51 34.5	
	comp=E,1931μm,0.5s							
KZN				AML		AML	06 51 34.6	
	comp=N,1780μm,0.5s							
KZN	**Kozani**	**1.35**	**46**	P		**Pb**	**06 51 08.3**	**0.0**
AGG	**Agios Georgios**	**1.46**	**103**	P		**Pn**	**06 51 09.5**	**+0.2**
AGG				AML		AML	06 51 36.8	
	comp=N,2806μm,0.4s							
AGG				AML		AML	06 51 38.5	
	comp=E,1622μm,0.5s							
AGG	**Agios Georgios**	**1.46**	**103**	P		**Pn**	**06 51 09.4**	**+0.2**
FNA	**Florina**	**1.56**	**25**	P		**Pb**	**06 51 11.7**	**-0.2**
FNA				AML		AML	06 51 39.2	
	comp=N,2564μm,0.6s							
FNA				AML		AML	06 51 41.6	
	comp=E,3974μm,0.5s							
FNA	**Florina**	**1.56**	**25**	P		**Pb**	**06 51 11.5**	**-0.4**
FNA				S		**Sg**	**06 51 34.4**	**+1.0**
	comp=E,2μm,0.5s							
FNA	**Florina**	**1.56**	**25**	*e*Pn		**Pg**	**06 51 12.3**	**-0.8**
FNA				*e*Sn		**Sg**	**06 51 34.4**	**+1.0**
LIT	**Litokhoron**	**1.70**	**64**	P		**Pb**	**06 51 13.8**	**-0.4**
OHR	**Ohrid**	**1.75**	**7**	*i* Pn		**Pg**	**06 51 17.0**	**+0.3**
TIR	**Tirane**	**2.04**	**346**	*e*Pn		**Pb**	**06 51 18.6**	**-1.3**
TIR				*e*Sn		**Sb**	**06 51 43.6**	**-1.6**
TIR	**Tirane**	**2.04**	**346**	⇓P		**Pb**	**06 51 20.5**	**+0.6**
TIR				⇑S		**Sg**	**06 51 47.9**	**-0.6**
STIP	**Stip**	**2.65**	**28**	*i* Pn		**Pb**	**06 51 29.8**	**-0.7**
TIP	**Timpagrande**	**2.91**	**267**	⇓P		**Pn**	**06 51 30.1**	**+0.9**
TIP				⇑S		**Sn**	**06 52 06.1**	**+1.9**
SRS	**Serrai**	**2.94**	**53**	*e*Pn		**Pn**	**06 51 31.5**	**+2.0**
SRS				*e*Sn		**Sn**	**06 52 07.1**	**+2.4**
DRME	**Dracevica, Mon**	**2.99**	**341**	*e*Pn		**Pn**	**06 51 30.9**	**+0.7**
MATE	**Matera**	**3.18**	**295**	⇓P		**Pn**	**06 51 34.1**	**+1.3**
PDG	**Podgorica**	**3.20**	**343**	⇓P		**Pn**	**06 51 34.7**	**+1.6**
PDG	**Podgorica**	**3.20**	**343**	*e*Pn		**Pn**	**06 51 34.2**	**+1.1**
PRVS	**Prvonek**	**3.35**	**20**	*e*Pn		**Pn**	**06 51 37.7**	**+2.4**
PRVS				*e*Sn		**Sn**	**06 52 17.0**	**+2.0**
HCY	**Herceg Novi**	**3.43**	**334**	*e*Pn		**Pn**	**06 51 35.9**	**-0.4**
BOSS	**Bosilegrad**	**3.46**	**25**	*e*Pn		**Pn**	**06 51 39.1**	**+2.4**
BARS	**Barje**	**3.58**	**16**	*e*Pn		**Pn**	**06 51 39.9**	**+1.5**
BARS				*e*Sn		**Sn**	**06 52 21.0**	**+0.4**
TREB	**Trebinje**	**3.72**	**335**	*e*Pn		**Pn**	**06 51 40.0**	**-0.2**
BRY	**Bratogost**	**3.83**	**338**	*e*Pn		**Pn**	**06 51 42.3**	**+0.5**
VTS	**Vitosha**	**3.85**	**32**	⇑P		**Pn**	**06 51 44.6**	**+2.5**
SELS	**Selova**	**3.87**	**7**	*e*Pn		**Pn**	**06 51 43.9**	**+1.5**
SJES	**Sjenica**	**3.91**	**354**	*e*Pn		**Pn**	**06 51 44.8**	**+1.9**
SJES				*e*Sn		**Sn**	**06 52 27.4**	**-1.4**
UPM	**Unac-Piva**	**4.01**	**343**	*e*Pn		**Pn**	**06 51 46.2**	**+1.7**
STON	**Ston**	**4.09**	**330**	*e*Pn		**Pn**	**06 51 44.1**	**-1.1**
STON				Sn		**Sn**	**06 52 31.3**	**-1.7**
IVAS	**Ivanjica**	**4.21**	**357**	*e*Pn		**Pn**	**06 51 48.3**	**+1.2**
ZAPS	**Zavoj**	**4.22**	**22**	*e*Pn		**Pn**	**06 51 50.1**	**+3.0**
BBLS	**Lazići**	**4.57**	**350**	*e*Pn		**Pn**	**06 51 52.5**	**+0.5**
BBLS	**Lazići**	**4.57**	**350**	*e*Pn		**Pn**	**06 51 53.4**	**+1.4**
ZAGS	**Zajecar**	**4.62**	**11**	*e*Pn		**Pn**	**06 51 54.2**	**+1.5**
MAKA	**Makarska**	**4.71**	**327**	*e*Pn		**Pn**	**06 51 54.5**	**+0.7**
DIVS	**Divibare**	**4.74**	**356**	*e*Pn		**Pn**	**06 51 54.7**	**+0.4**
DIVS				*e*Sn		**Sn**	**06 52 46.6**	**-2.6**
DIVS	**Divibare**	**4.74**	**356**	*e*Pn		**Pn**	**06 51 54.3**	**0.0**
RICI	**Ricice**	**4.84**	**330**	*i* Pn		**Pn**	**06 51 55.8**	**+0.2**
RICI				Sn		**Sn**	**06 52 50.4**	**-1.1**
TRUS	**Trudelj**	**4.85**	**359**	*e*Pn		**Pn**	**06 51 56.5**	**+0.7**
HAPS	**Han Pijesak,Bl**	**4.85**	**347**	*e*Pn		Pn	06 51 50.5	-5.4
HVAR	**Hvar**	**4.88**	**323**	*i* Pn		**Pn**	**06 51 55.9**	**-0.2**
TEKS	**Tekeris**	**5.23**	**352**	*e*Pn		**Pn**	**06 52 01.1**	**+0.1**
IDI	**Andoyia**	**5.37**	**138**	Pn		**Pn**	**06 52 02.6**	**-0.4**
	comp=E,0.3nm,0.3s,baz=267,slow=3.8,SNR=1.7							
IDI				Sn		**Sn**	**06 53 01.8**	**-2.9**
	comp=E,0.8nm,0.3s,baz=107,slow=2.8,SNR=1.3							
KIJV	**Kijevo**	**5.55**	**328**	*i* Pn		**Pn**	**06 52 05.9**	**+0.4**
ZIRJ	**Zirje**	**5.62**	**321**	*e*Pn		**Pn**	**06 52 06.3**	**-0.1**
HERR	**Herculane**	**5.69**	**14**	⇓P		**Pn**	**06 52 10.9**	**+3.6**
MORI	**Morici**	**5.75**	**323**	*i* Pn		**Pn**	**06 52 08.7**	**+0.6**
MORI				Sn		**Sn**	**06 53 13.7**	**-0.3**
FRGS	**Fruska Gora**	**5.81**	**355**	*e*Pn		**Pn**	**06 52 07.6**	**-1.3**
BLY	**Banja Luka**	**5.92**	**336**	*e*Pn		**Pn**	**06 52 07.0**	**-3.4**
DUGI	**Dugi Otok**	**6.16**	**320**	*e*Pn		**Pn**	**06 52 14.1**	**+0.4**
DUGI				Sn		**Sn**	**06 53 21.9**	**-2.2**
GZR	**Gura Zlata**	**6.25**	**15**	⇑P		**Pn**	**06 52 18.0**	**+3.0**
NVLJ	**Novalja**	**6.67**	**323**	*e*Pn		**Pn**	**06 52 21.1**	**+0.4**
ARR	**Arges**	**6.73**	**26**	⇓P		**Pn**	**06 52 25.1**	**+3.5**
VOIR		**6.93**	**28**	⇓P		**Pn**	**06 52 27.4**	**+2.9**
BOJS	**Bojanci**	**7.25**	**329**	*i* Pn		**Pn**	**06 52 29.2**	**+0.4**
BOJS				*i* Sn		**Sn**	**06 53 48.1**	**-3.0**
MLR	**Muntele Rosu**	**7.32**	**32**	Pn		**Pn**	**06 52 30.9**	**+1.1**
	comp=E,0.5nm,0.3s,baz=316,slow=22,SNR=2.3							
MLR	**Muntele Rosu**	**7.32**	**32**	⇓P		**Pn**	**06 52 33.7**	**+3.8**
CRES	**Cresnjev**	**7.45**	**332**	*e*Pn		**Pn**	**06 52 30.9**	**-0.5**
GBRS	**Gornja Briga**	**7.46**	**328**	*i* Pn		**Pn**	**06 52 32.2**	**+0.7**
GBRS				*i* Sn		**Sn**	**06 53 52.7**	**-3.3**
BISRR	**Bisoca**	**7.69**	**35**	⇑P		**Pn**	**06 52 38.4**	**+3.6**
CEY	**Cerknica**	**7.78**	**327**	*e*Pn		**Pn**	**06 52 36.1**	**0.0**
PLOR	**Plostina**	**7.90**	**33**	⇓P		**Pn**	**06 52 41.1**	**+3.4**
VRI	**Vrincioaia**	**7.95**	**33**	⇓P		**Pn**	**06 52 41.8**	**+3.5**
SOKA	**Soboth**	**8.33**	**333**	*i* Pn		**Pn**	**06 52 43.3**	**-0.3**
	comp=E,1.6nm,0.3s,SNR=8.5							
SOKA				*i* Sn		**Sn**	**06 54 19.6**	**+2.1**
	comp=E,2.9nm,0.6s							
OBKA	**Obir**	**8.36**	**330**	*i* Pn		**Pn**	**06 52 44.3**	**+0.2**
	comp=E,5.3nm,0.5s,SNR=4.5							
OBKA				*i* Sn		**Sn**	**06 54 16.6**	**-1.8**
	comp=E,6.2nm,0.6s							
KBA	**Koelnbreinsper**	**9.30**	**328**	*i* Pn		**Pn**	**06 52 57.3**	**+0.3**
	comp=E,1.6nm,0.3s							
KBA				*e*Sn		**Sn**	**06 54 40.9**	**-0.8**
	comp=E,2.0nm,0.7s							
MOA	**Molln**	**9.60**	**334**	*i* Pn		**Pn**	**06 53 01.6**	**+0.6**
	comp=E,1.2nm,0.2s							
BRTR	**Keskin Array B**	**10.15**	**84**	Pn		**Pn**	**06 53 10.7**	**+2.0**
	comp=E,0.2nm,0.3s,baz=264,slow=13,SNR=1.7							
WTTA	**Wattenberg**	**10.19**	**324**	*i* Pn		**Pn**	**06 53 10.8**	**+1.6**
	comp=E,1.5nm,0.3s							
WTTA				*e*Sn		**Sn**	**06 55 03.0**	**-0.4**
	comp=E,3.9nm,0.6s							
WATA	**Walderalm**	**10.27**	**324**	*e*Pn		**Pn**	**06 53 11.7**	**+1.5**
	comp=E,4.4nm,0.5s							
SQTA	**Sankt Quirin**	**10.36**	**322**	*i* Pn		**Pn**	**06 53 13.2**	**+1.8**
	comp=E,2.7nm,0.3s							
MOTA	**Moosalm**	**10.50**	**322**	*e*Pn		**Pn**	**06 53 14.3**	**+0.9**
	comp=E,6.2nm,0.7s,SNR=6.1							
MOTA				*i* Sn		**Sn**	**06 55 12.4**	**+1.5**
	comp=E,2.9nm,0.5s							
GERES	**GERESS Array B**	**10.65**	**335**	Pn		**Pn**	**06 53 14.7**	**-0.7**
	comp=E,0.2nm,0.3s,baz=158,slow=14,SNR=6.2							
DAVOX	**Davos/Dischmat**	**10.73**	**317**	Pn		**Pn**	**06 53 16.6**	**+0.1**
	comp=E,0.3nm,0.3s,baz=152,slow=21,SNR=2.5							
KHC	**Kasperske Hory**	**10.94**	**335**	*e*P		**Pn**	**06 53 20.4**	**+1.0**
MMAI	**Mount Meron Ar**	**13.60**	**113**	Pn		**Pn**	**06 53 54.5**	**-1.2**
	comp=E,0.5nm,0.3s,baz=294,slow=11,SNR=2.1							
MNK	**Minsk**	**15.94**	**16**	*i* P		**P**	**06 54 29.9**	**-0.6**
	comp=E,2.0nm,0.8s							
MNK				*i* P		**P**	**06 54 29.9**	**-0.6**
	comp=N,19nm,0.8s							
MNK				*i* P		**P**	**06 54 29.9**	**-0.6**
	comp=Z,9.0nm,0.7s							
MNK				*i* PP		**PnPn**	**06 54 38.5**	**+3.0**
MNK				*i* PPP		PPP	06 54 46.1	
MNK				*i* S		**Sn**	**06 57 29.2**	**+5.8**
MNK				*i* SS		**S**	**06 57 43.5**	**+6.0**
MNK				*i* SSS		SSS	06 57 56.1	
MNK				*i* LQ		LQ	06 58 52.1	
MNK				*i* LR		LR	07 00 08.5	
MNK				*i* LRM		MLR	07 01 29.2	
	comp=E,14nm,16.9s							
MNK				*i* LRM		MLR	07 01 29.2	
	comp=N,92nm,16.1s							
MNK				*i* LRM		MLR	07 01 29.2	
	comp=Z,46nm,14.0s							
ESDC	**Sonseca Array**	**18.87**	**279**	P		**Pn**	**06 55 04.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=78,slow=10,SNR=5.7							
HFS	**Hagfors**	**21.22**	**351**	P		**P**	**06 55 27.5**	**-0.9**
	comp=E,1.6nm,0.6s,baz=163,slow=11,SNR=6.9							
FINES	**FINESS Array B**	**22.37**	**7**	P		**P**	**06 55 39.8**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=179,slow=8.7,SNR=10.0							
NB2	**NORSAR Subarra**	**22.45**	**348**	P		**P**	**06 55 40.8**	**-0.9**
	comp=Z,4.5nm,0.9s,baz=154,slow=11							
NOA	**NORSAR Array B**	**22.45**	**348**	P		**P**	**06 55 40.7**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=154,slow=10.0,SNR=5.3							
EKA	**Eskdalemuir Ar**	**22.46**	**323**	P		**P**	**06 55 41.1**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=124,slow=9.9,SNR=6.6							
BELG	**Belogornoye**	**22.77**	**46**	P		**P**	**06 55 42.9**	**-2.2**
	comp=Z,1.6nm,0.3s,baz=248,slow=17,SNR=2.0							
AKTO	**Aktyubinsk**	**28.49**	**55**	P		**P**	**06 56 36.6**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=271,slow=13,SNR=2.3							
ARCES	**ARCESS Array B**	**30.34**	**3**	P		**P**	**06 56 53.1**	**-1.0**
	comp=Z,2.6nm,1.0s,baz=187,slow=11,SNR=1.4							
TORD	**Torodi Ar. Bea**	**30.95**	**218**	P		**P**	**06 57 00.3**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=32,slow=8.8,SNR=4.8							
DBIC	**Dimbokro**	**39.76**	**222**	P		**P**	**06 58 15.9**	**+0.2**
	comp=Z,4.7nm,1.0s,baz=90,slow=7.1,SNR=1.7							
MKAR	**Makanchi Array**	**44.70**	**59**	P		**P**	**06 58 54.7**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=280,slow=6.9,SNR=20							
MKAR				PcP		**PcP**	**07 00 36.9**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=272,slow=3.0,SNR=2.0							
ZALV	**Zalesovo Beam**	**44.91**	**49**	P		**P**	**06 58 56.0**	**-1.3**
	comp=Z,2.2nm,0.4s,baz=273,slow=8.8,SNR=10							
YKA	**Yellowknife Ar**	**72.27**	**340**	P		**P**	**07 02 08.0**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=47,slow=5.8,SNR=6.3							
TXAR	**Lajitas Array**	**94.14**	**314**	P		**P**	**07 04 02.3**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=75,slow=4.8,SNR=4.0							

NEIC ***21*** *07:08:25.2±0.5, 19°.7N±0°.1×66°.05W±0°.06, h26km±25km, Error ellipse: s-maj=21.4km s-min=7.5km az=187.0*
RSPR ***21*** *07:08:26.4, 19°.71N×66°.05W, h40km±10km, MD3.4/6*
ISC 21 07:08:23.8±2.3**, 19°6N**±0°.1×**66°04W**±0°.07**, h14**km**, n31, σ0s48/33, 3C-6D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GCPR	**Guaynabo City**	**1.31**	**182**	⇑*e*P		**Pb**	**07 08 47.7**	**-0.4**
GCPR	**Guaynabo City**	**1.31**	**182**	*e*S		**Sn**	**07 09 05.1**	**+0.3**
GCPR	**Guaynabo City**	**1.31**	**182**			**Pb**	**07 08 47.7**	**-0.4**
GCPR						**Sn**	**07 09 05.1**	**+0.3**
CBYP	**Canovanas**	**1.35**	**173**	⇓*e*P		**Pb**	**07 08 48.8**	**-0.2**
CBYP	**Canovanas**	**1.35**	**173**			**Pb**	**07 08 48.8**	**-0.2**
CBYP	**Canovanas**	**1.35**	**173**	IAML			07 09 07.4	
	comp=E,130nm,0.2s							
CBYP				IAML			07 09 13.1	
	comp=N,122nm,0.2s							
AOPR	**Arecibo Observ**	**1.44**	**208**	⇓*e*P		**Pb**	**07 08 49.8**	**-0.5**
AOPR	**Arecibo Observ**	**1.44**	**208**	*e*S		**Sn**	**07 09 08.0**	**-0.1**
AOPR	**Arecibo Observ**	**1.44**	**208**			**Pb**	**07 08 49.8**	**-0.5**
AOPR						**Sn**	**07 09 08.0**	**-0.1**
AOPR	**Arecibo Observ**	**1.44**	**208**	IAML			07 09 16.4	
	comp=N,188nm,0.4s							
CUPR	**Culebra, Puert**	**1.49**	**151**	⇓*e*P		**Pb**	**07 08 50.4**	**-0.8**
CUPR	**Culebra, Puert**	**1.49**	**151**	*e*S		**Sn**	**07 09 09.8**	**+0.4**
CUPR	**Culebra, Puert**	**1.49**	**151**			**Pb**	**07 08 50.4**	**-0.8**
CUPR						**Sn**	**07 09 09.8**	**+0.4**
SJG	**San Juan**	**1.50**	**184**			**Pb**	**07 08 51.5**	**0.0**
SJG				IAML			07 09 11.9	
	comp=N,76nm,0.4s							
SJG				IAML			07 09 13.9	
	comp=N,58nm,0.5s							
PDPR	**Patillas Dam,**	**1.59**	**179**			**Pb**	**07 08 52.5**	**-0.5**
PDPR				IAML			07 09 14.9	
	comp=E,61nm,1.4s							
CELP	**Cerrillos**	**1.62**	**199**	⇓*e*P		**Pb**	**07 08 52.7**	**-0.8**
CELP	**Cerrillos**	**1.62**	**199**	*e*S		**Sn**	**07 09 12.8**	**+0.2**
CELP	**Cerrillos**	**1.62**	**199**			**Pb**	**07 08 52.7**	**-0.8**
CELP						**Sn**	**07 09 12.8**	**+0.2**
IGPR	**InterUniversit**	**1.65**	**182**	⇓*e*P		**Pb**	**07 08 53.0**	**-0.9**
IGPR	**InterUniversit**	**1.65**	**182**	*e*S		**Sn**	**07 09 13.8**	**+0.5**
OBIP	**Obispado Ponce**	**1.66**	**199**	⇑*e*P		**Pb**	**07 08 52.6**	**+0.1**
OBIP	**Obispado Ponce**	**1.66**	**199**	*e*S		**Sn**	**07 09 13.9**	**+0.3**
OBIP	**Obispado Ponce**	**1.66**	**199**			**Pb**	**07 08 52.6**	**+0.1**
OBIP						**Sn**	**07 09 13.9**	**+0.3**
OBIP	**Obispado Ponce**	**1.66**	**199**	IAML			07 09 14.6	
	comp=E,41nm,0.5s							
OBIP				IAML			07 09 26.5	
	comp=N,40nm,0.8s							
LSP	**Las Mesas**	**1.75**	**215**	⇑*e*P		**Pn**	**07 08 54.1**	**+0.4**
LSP	**Las Mesas**	**1.75**	**215**			**Pn**	**07 08 54.1**	**+0.4**
MLPR	**Magueyes Islan**	**1.90**	**210**	⇓*e*P		**Pn**	**07 08 56.3**	**+0.5**
MLPR	**Magueyes Islan**	**1.90**	**210**	*e*S		**Sn**	**07 09 19.6**	**+0.1**
MLPR	**Magueyes Islan**	**1.90**	**210**			**Pn**	**07 08 56.3**	**+0.5**
MLPR						**Sn**	**07 09 19.6**	**+0.1**
MLPR	**Magueyes Islan**	**1.90**	**210**	IAML			07 09 23.8	
	comp=E,30nm,2

KMBO				Lg	Lg	08 19 01.4	
	3.0nm,0.3s,baz=332,slow=22,SNR=11						
TORD	**Torodi Ar. Bea**	**31.48**	**302**	P	**P**	**08 20 57.1**	**-1.2**
	1.0nm,0.7s,baz=113,slow=7.8,SNR=5.1						
BRTR	**Keskin Array B**	**42.90**	**5**	P	**P**	**08 22 35.9**	**+0.8**
	0.8nm,0.8s,baz=186,slow=7.2,SNR=2.6						
GERES	**GERESS Array B**	**53.45**	**348**	P	**P**	**08 23 55.3**	**-1.1**
	0.4nm,0.6s,baz=158,slow=8.1,SNR=2.8						
MKAR	**Makanchi Array**	**68.34**	**36**	P	**P**	**08 25 37.5**	**-0.2**
	0.4nm,0.5s,baz=244,slow=6.9,SNR=6.5						

*SJA **21** 08:56:25.5±0.7, 36°.14S×74°.54W, h10km, ML4.2, MW4.3*
*IDC **21** 08:56:30.5±1.6, 36°.28S×74°.10W, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.8/27, mbtmp3.7/7, ML3.8/2, MS3.7/6, Ms1 3.7/6, ms1mx3.3/33, Error ellipse: s-maj=43.5km s-min=20.7km az=69.0*
*NEIC **21** 08:56:34.1±1.9, 36°.28S±0°.05×73°.8W±0°.1, h32km±5km, Error ellipse: s-maj=14.4km s-min=7.6km az=84.0*
*GUC **21** 08:56:35.3±0.7, 36°.21S×73°.59W, h31km±11km, ML4.2*
*NEIC **21** 08:56:35, 36°.23S×73°.63W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr3.98; Mθθ-1.05; Mφφ-2.92; Mrθ-0.39; Mθφ-0.97; Mφr-1.07; Fault plane solution: M0 3.87000×10^15 NP1:φs202.18000°, δ53.64000°, λ89.17000°. NP2:φs23.57000°, δ36.36000°, λ91.12000°. Principal axes: T 4.1511, Plg81.0000°, Azm108.0000°; N -0.6447, Plg1.0000°, Azm203.0000°; P -3.5065, Plg9.0000°, Azm293.0000°;*
ISC 21 08:56:34.3±2.0**, 36°.25S**±0°.04×**73°.84W**±0°.08**, h31**km±14km**, n60, σ1s99**/64**, mb4.0**/5**, MS3.7**/3**, 6C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.88**	**132**	⇑*i*P	**Pn**	**08 56 49.3**	**-1.1**
BI03				*i* S	**Sn**	**08 56 59.8**	**-2.5**
BI03				IAML		08 57 01.9	
	comp=E,68μm,0.3s						
BI03	**Tigo**	**0.88**	**132**		**Pn**	**08 56 49.4**	**-1.1**
BI03				Sn	**Sn**	**08 56 60.0**	**-2.3**
LAJA	**Laja**	**1.37**	**139**	⇑*i*P	**Pn**	**08 56 56.3**	**-0.9**
LAJA				*i* S	**Sn**	**08 57 12.8**	**-1.4**
BI02	**San Fabin de**	**2.11**	**102**	⇑*i*P	**Pn**	**08 57 06.9**	**-0.6**
BI02				*i* S	**Sn**	**08 57 30.9**	**-1.7**
BI02				IAML		08 57 37.1	
	comp=N,3μm,0.4s						
BI02	**San Fabin de**	**2.11**	**102**	Pn	**Pn**	**08 57 06.8**	**-0.6**
BI02				Sn	**Sn**	**08 57 30.6**	**-2.0**
BO03	**Pichilemu**	**2.33**	**42**	⇑*i*P	**Pn**	**08 57 09.9**	**-0.5**
BO03				*e*S	**Sn**	**08 57 35.2**	**-2.7**
CANA	**Caviahue**	**2.75**	**127**	*e*P	**Pb**	**08 57 19.9**	**-3.1**
CANA				*e*S	**Sb**	**08 58 00.1**	**+3.8**
CANA				IAML		08 58 15.4	
	comp=Z,554nm,1.1s						
BO02	**Sierra Bellavi**	**2.89**	**61**	*e*P	**Pn**	**08 57 17.9**	**-0.2**
BO02				*i* S	**Sn**	**08 57 51.1**	**-0.8**
BO02				IAML		08 58 09.2	
	comp=E,1μm,0.3s						
BO02	**Sierra Bellavi**	**2.89**	**61**	Pn	**Pn**	**08 57 18.6**	**+0.4**
VA05	**Santo Domingo**	**3.17**	**36**	⇑*e*P	**Pn**	**08 57 21.7**	**-0.3**
VA05				*e*S	**Sn**	**08 57 55.4**	**-3.3**
VA05				IAML		08 58 21.5	
	comp=E,434nm,0.2s						
MT09	**Talagante**	**3.40**	**44**	*e*P	**Pn**	**08 57 25.6**	**+0.2**
MT09				IAML		08 58 23.6	
	comp=N,410nm,0.5s						
EDS3	**Malargue**	**3.63**	**84**	*e*P	**Pb**	**08 57 33.6**	**-4.2**
EDS3				*e*S	**Sb**	**08 58 25.9**	**+4.4**
MT02	**Curacav**	**3.72**	**37**	*e*P	**Pn**	**08 57 29.2**	**-0.3**
MT02				*e*S	**Sn**	**08 58 10.2**	**-2.2**
MT02				IAML		08 58 38.6	
	comp=E,120nm,0.5s						
MT02	**Curacav**	**3.72**	**37**		**Pn**	**08 57 29.3**	**-0.3**
LMEL	**Las Melosas**	**3.83**	**52**	⇑*e*P	**Pn**	**08 57 31.8**	**+0.6**
LMEL				*e*S	**Sn**	**08 58 11.8**	**-3.4**
LMEL				IAML		08 58 39.2	
	comp=N,245nm,0.4s						
MT05	**Renca**	**3.83**	**43**		**Pn**	**08 57 31.0**	**-0.1**
ROC1	**El Roble**	**4.01**	**36**	*e*P	**Pn**	**08 57 34.4**	**+0.6**
ROC1				*e*S	**Sb**	**08 58 37.8**	**+5.3**
PEL	**Peldehue**	**4.04**	**41**	Pn	**Pn**	**08 57 34.3**	**+0.2**
PEL	**Peldehue**	**4.04**	**41**	*e*P	**Pn**	**08 57 35.4**	**+1.3**
PEL				*e*S	**Sb**	**08 58 37.5**	**+4.2**
VA03	**San Esteban**	**4.41**	**39**		**Pn**	**08 57 39.6**	**+0.4**
H03S1	**Juan Fernandez**	**4.80**	**299**	T	T	09 02 50.3	
	baz=118,slow=74						
H03S3	**Juan Fernandez**	**4.81**	**299**	T	T	09 02 48.9	
	baz=118,slow=74						
H03S2	**Juan Fernandez**	**4.82**	**299**	T	T	09 02 53.4	
	baz=118,slow=74						
H03N3	**Juan Fernandez**	**5.03**	**302**	T	T	09 03 14.3	
	baz=127,slow=77,SNR=26						
H03N1	**Juan Fernandez**	**5.03**	**302**	T	T	09 03 16.0	
	baz=127,slow=77,SNR=32						
H03N2	**Juan Fernandez**	**5.04**	**302**	T	T	09 03 13.0	
	baz=127,slow=77,SNR=47						
PLCA	**Paso Flores**	**5.16**	**151**	Pn	**Pn**	**08 57 51.4**	**+1.9**
	comp=N,1.3nm,0.3s,baz=331,slow=12,SNR=42						
PLCA				Lg	Lg	08 59 13.9	
	comp=N,3.1nm,0.3s,baz=89,slow=21,SNR=3.7						
PLCA				LR	LR	08 59 44.6	
	comp=N,418nm,19.7s,baz=321,slow=37						
AAGR	**Agrelo**	**5.20**	**54**	*e*P	**Pn**	**08 57 52.2**	**+2.2**
AAGR				IAML		08 59 37.1	
	comp=Z,96nm,1.8s						
ARCO	**CERRO ARCO**	**5.29**	**51**	*e*P	**Pn**	**08 57 53.5**	**+2.2**
ARCO				IAML		08 59 28.6	
	comp=Z,65nm,1.3s						
CO02	**Combarbal**	**5.56**	**26**		**Pn**	**08 57 55.1**	**+0.1**
RTLS	**Leoncito**	**5.83**	**42**	*e*P	**Pn**	**08 58 00.6**	**+1.8**
RTLS				IAML		08 59 43.4	
	comp=Z,86nm,1.5s						
CO03	**El Pedregal**	**6.00**	**27**		**Pn**	**08 58 01.4**	**+0.3**
RTCV	**Cerro Valdivia**	**6.20**	**47**	*e*P	**Pn**	**08 58 04.8**	**+1.0**
RTCV				IAML		09 00 09.4	
	comp=Z,71nm,2.2s						
LL01	**San Ignacio de**	**6.22**	**170**	Pn	**Pn**	**08 58 03.2**	**-0.6**
ZON	**Zonda**	**6.36**	**44**		**Pn**	**08 58 05.9**	**0.0**
ZON	**Zonda**	**6.36**	**44**	*e*P	**Pn**	**08 58 07.4**	**+1.5**
ZON				IAML		09 00 10.9	
	comp=Z,56nm,1.7s						
GO04	**Tololo Observa**	**6.58**	**24**	Pn	**Pn**	**08 58 08.5**	**-0.6**
RTLL	**Cerro Villicun**	**6.63**	**44**	*e*P	**Pn**	**08 58 11.0**	**+1.3**
RTLL				*e*S	**Sn**	**08 59 24.8**	**+0.5**
RTLL				IAML		09 00 18.4	
	comp=Z,43nm,0.9s						
CO01	**Juntas del Tor**	**7.00**	**28**		**Pn**	**08 58 15.6**	**+0.8**
LCO	**Las Campanas**	**7.69**	**21**	Pn	**Pn**	**08 58 24.3**	**-0.1**
AC05	**El Transito**	**7.98**	**23**	Pn	**Pn**	**08 58 28.7**	**+0.5**
AC04	**Llanos de Chal**	**8.36**	**17**	Pn	**Pn**	**08 58 32.6**	**-0.7**
AC02	**Maricunga**	**10.21**	**24**		**Pn**	**08 58 56.0**	**-3.1**
LVC	**Limon Verde**	**14.25**	**19**	Pn	**Pn**	**08 59 55.6**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=230,slow=16,SNR=1.9						
LVC				LR	LR	09 05 51.3	
	comp=Z,230nm,18.9s,baz=198,slow=39						
PB01	**IPOC Station P**	**15.62**	**15**	Pn	**Pn**	**09 00 11.0**	**-1.3**
CPUP	**Villa Florida**	**17.21**	**60**	LR	LR	09 07 40.2	
	comp=Z,363nm,19.6s,baz=236,slow=38						
CPUP	**Villa Florida**	**17.21**	**60**	Pn	**Pn**	**09 00 30.5**	**-1.8**
MNMC	**Minye Minye**	**17.46**	**13**	Pn	**Pn**	**09 00 35.1**	**-0.7**
MNMC				IAmb	IAmb	09 00 50.7	
	comp=Z,23nm,1.5s						
LPAZ	**La Paz**	**20.52**	**16**	P	Pn	09 01 11.7	-1.2
	comp=Z,1.7nm,1.0s,baz=180,slow=9.1,SNR=3.1						
LPAZ	**La Paz**	**20.52**	**16**	P	**P**	**09 01 10.2**	**-0.4**
LPAZ				IAmb	IAmb	09 01 29.1	
	comp=Z,12nm,1.3s						
SIV	**San Ignacio**	**23.16**	**33**	P	**P**	**09 01 39.6**	**+1.4**
	comp=Z,4.4nm,0.9s,baz=228,slow=15,SNR=15						
PMSA	**Palmer Station**	**29.16**	**171**	LR	LR	09 14 08.2	
	comp=Z,93nm,20.6s,baz=356,slow=36						
PTGA	**Pitinga**	**37.62**	**23**	LR	LR	09 21 51.3	
	comp=Z,110nm,18.0s,baz=189,slow=40						
MDP	**Montagnes des**	**45.68**	**30**	LR	LR	09 25 39.0	
	comp=Z,106nm,18.4s,baz=266,slow=38						
QSPA	**South Pole Qui**	**53.99**	**180**	P	**P**	**09 05 57.3**	**+2.3**
TXAR	**Lajitas Array**	**71.02**	**333**	P	**P**	**09 07 48.4**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=156,slow=6.9,SNR=2.2						
NVAR	**Mina Array Bea**	**84.92**	**326**	P	**P**	**09 09 07.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=150,slow=7.3,SNR=2.1						
TOA0	**Torodi Ar. Sit**	**86.35**	**71**	P	**P**	**09 09 12.4**	**-1.2**
TOA0				IAmb	IAmb	09 09 17.6	
	comp=Z,6.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**86.35**	**71**	P	**P**	**09 09 17.1**	**+3.5**
	comp=Z,1.2nm,1.1s,baz=219,slow=5.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**86.35**	**71**	P	**P**	**09 09 11.6**	**-2.0**
TORD				IAmb	IAmb	09 09 17.6	
	comp=Z,1.8nm,1.2s						

WEL 21 09:08:18.5±1.1**, 35°S**±13°×**17°9W**±1°6**, h222**km±15km**, M3.8**/48**, mB4.5**/23**, ML4.6**/20**, MLv4.6**/48**, Mw(mB)3.6**/23**, Error ellipse: s-maj=0.0km s-min=0.0km az=122.6, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.83**	**218**	P	Pn	09 09 17.4	-1.5
MXZ				S	S	09 10 06.4	+0.1
WMGZ	**Waiomatatini S**	**3.98**	**214**	P	Pn	09 09 20.8	+0.2
WMGZ				S	S	09 10 12.0	+2.4
PKGZ	**Pakihiroa**	**4.19**	**217**	P	Pn	09 09 23.0	-0.4
PKGZ				S	S	09 10 13.2	-1.3
HAZ	**Te Kaha**	**4.24**	**220**	P	Pn	09 09 23.1	-0.8
HAZ				S	S	09 10 16.4	+0.9
PUZ	**Puketiti**	**4.25**	**214**	P	Pn	09 09 23.5	-0.6
PUZ				S	S	09 10 16.4	+0.6
RUGZ	**Raukumara Rang**	**4.45**	**219**	P	Pn	09 09 25.3	-1.4
TWGZ	**Tauwhareparae**	**4.47**	**215**	P	Pn	09 09 26.3	-0.5
TWGZ				S	S	09 10 22.5	+1.9
CNGZ	**Carnagh Statio**	**4.61**	**211**	P	Pn	09 09 29.5	+1.0
TKGZ	**Te Karaka**	**4.74**	**214**	P	Pn	09 09 31.1	+1.1
WHRZ	**Whale Island**	**4.77**	**225**	P	Pn	09 09 31.8	+1.3
MWZ	**Matawai**	**4.81**	**218**	P	Pn	09 09 29.7	-1.3
MWZ				S	S	09 10 29.8	+1.4
URZ	**Urewera**	**4.97**	**221**	P	Pn	09 09 31.2	-1.7
URZ				S	S	09 10 30.3	-1.6
OPRZ	**Ohinepanea**	**5.01**	**228**	P	Pn	09 09 32.8	-0.7
SNGZ	**Shannon Statio**	**5.25**	**216**	P	Pn	09 09 38.0	+1.5
SNGZ				S	S	09 10 39.7	+1.4
NMHZ	**Naumai**	**5.76**	**217**	P	Pn	09 09 43.9	+0.9
NMHZ				S	S	09 10 52.3	+2.3
TLZ	**Tolley Road**	**5.94**	**229**	P	Pn	09 09 46.1	+0.8
BKZ	**Black Stump Fm**	**5.97**	**218**	P	Pn	09 09 44.6	-1.1
BKZ				S	S	09 10 52.5	-2.3
HATZ	**Hinemaiaia**	**5.98**	**222**	P	Pn	09 09 45.2	-0.6
CKHZ	**Cape Kidnapper**	**6.08**	**212**	P	Pn	09 09 49.2	+2.3
RATZ	**Rangitukua**	**6.15**	**224**	P	Pn	09 09 48.5	+0.6
KWHZ	**Kaweka Forest**	**6.20**	**217**	P	Pn	09 09 48.1	-0.5
KATZ	**Kakaramea**	**6.26**	**224**	P	Pn	09 09 50.0	+0.5
KAHZ	**Kahuranaki**	**6.28**	**213**	P	Pn	09 09 50.3	+0.8
TMVZ	**Te Maari**	**6.36**	**223**	P	Pn	09 09 49.8	-0.9
ETVZ	**East Tongariro**	**6.37**	**223**	P	Pn	09 09 50.2	-0.5
KRVZ	**Karewarewa**	**6.38**	**223**	P	Pn	09 09 51.4	+0.5
KRHZ	**Kereru**	**6.39**	**216**	P	Pn	09 09 50.6	-0.4
OTVZ	**Oturere**	**6.41**	**223**	P	Pn	09 09 51.2	-0.1
WTVZ	**West Tongariro**	**6.42**	**223**	P	Pn	09 09 51.4	-0.1
BHHZ	**Black Hill Sta**	**6.43**	**219**	P	Pn	09 09 51.2	-0.4
NGZ	**Ngauruhoe**	**6.46**	**223**	P	Pn	09 09 52.1	+0.2
TWVZ	**Taurewa**	**6.48**	**224**	P	Pn	09 09 52.4	+0.2
PXZ	**Pawanui**	**6.48**	**211**	P	Pn	09 09 53.2	+1.1
HIZ	**Hauiti**	**6.48**	**231**	P	Pn	09 09 52.7	+0.6
TUVZ	**Tukino**	**6.49**	**222**	P	Pn	09 09 52.4	0.0
MOVZ	**Moawhango**	**6.53**	**221**	P	Pn	09 09 52.3	-0.5
WHVZ	**Whangaehu Hut**	**6.54**	**222**	P	Pn	09 09 53.0	0.0
FWVZ	**Far West T-bar**	**6.54**	**223**	P	Pn	09 09 52.8	-0.2
WNVZ	**Wahianoa**	**6.56**	**222**	P	Pn	09 09 53.0	-0.3
MTVZ	**Mangateitei**	**6.67**	**222**	P	Pn	09 09 54.4	-0.2
PKVZ	**Pokaka**	**6.68**	**223**	P	Pn	09 09 54.5	-0.1
PNHZ	**Pukenui**	**6.69**	**216**	P	Pn	09 09 54.2	-0.6
WPHZ	**Waipukurau**	**6.69**	**214**	P	Pn	09 09 55.2	+0.4
PRHZ	**Porangahau**	**6.77**	**212**	P	Pn	09 09 56.3	+0.5
VRZ	**Vera Road**	**6.91**	**227**	P	Pn	09 09 57.9	+0.3
TSZ	**Takapari Road**	**6.91**	**216**	P	Pn	09 09 56.8	-0.9
ANWZ	**Angora Road**	**7.00**	**211**	P	Pn	09 09 59.5	+0.8
DVHZ	**Dannevirke**	**7.01**	**214**	P	Pn	09 09 58.5	-0.3
WAZ	**Wanganui**	**7.20**	**222**	P	Pn	09 10 01.0	-0.3
POWZ	**Post Office Ro**	**7.27**	**215**	P	Pn	09 10 01.7	-0.5
BFZ	**Birch Farm**	**7.28**	**212**	P	Pn	09 10 02.1	-0.3
PRWZ	**Pori Road**	**7.30**	**214**	P	Pn	09 10 03.0	+0.4
NEZ	**North Egmont**	**7.41**	**229**	P	Pn	09 10 05.6	+1.6
PKE	**Pukeiti**	**7.43**	**229**	P	Pn	09 10 05.6	+1.3
TIWZ	**Tintock**	**7.52**	**213**	P	Pn	09 10 05.7	+0.2
MRZ	**Mangatainoka R**	**7.57**	**215**	P	Pn	09 10 04.3	-1.7
HOWZ	**Holdsworth Sta**	**7.78**	**214**	P	Pn	09 10 07.3	-1.5
TMWZ	**Te Maipa**	**7.78**	**211**	P	Pn	09 10 08.7	-0.2
OGWZ	**Otaki Gorge**	**7.88**	**216**	P	Pn	09 10 09.5	-0.6
MTW	**Mount Morrison**	**8.00**	**213**	P	Pn	09 10 10.5	-1.0
TRWZ	**Traveller**	**8.11**	**211**	P	Pn	09 10 12.8	-0.2
PAWZ	**Paruwai Farm**	**8.21**	**212**	P	Pn	09 10 14.3	0.0
MSWZ	**Moikau Station**	**8.32**	**213**	P	Pn	09 10 14.8	-0.9

*NEIC **21** 09:18:15.8±1.2, 10°.83S±0°.10×74°.18W±0°.09, h114km±10km, mb4.4/37, Error ellipse: s-maj=15.0km s-min=12.2km az=221.0*
*IDC **21** 09:18:16.4±0.7, 10°.73S×74°.28W, h116km±6km, mb3.5/13, mb1 3.9/19, mb1mx3.7/41, mbtmp4.1/19, MS3.5/2, Ms1 3.5/2, ms1mx2.8/25, Error ellipse: s-maj=11.2km s-min=9.8km az=159.0*
*VAO **21** 09:18:18.7±0.9, 10°.64S×74°.07W, h115km±9km, mb4.4*
ISC 21 09:18:15.2±0.4**, 10°.78S**±0°.05×**74°.19W**±0°.05**, h100**km**, n123, σ1s48**/130**, mb4.3**/28**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.87**	**245**	P	**Pn**	**09 19 00.3**	**+1.1**
	149nm,0.3s,baz=95,slow=11,SNR=163						
NNA				S	**Sn**	**09 19 34.2**	**+1.1**
	240nm,0.3s,baz=284,slow=10,SNR=11						
NNA				LR	LR	09 19 58.8	
	comp=Z,168nm,19.5s,baz=177,slow=36						
NNA	**Nana**	**2.87**	**245**		**Pn**	**09 19 00.0**	**+0.8**
NNA				Sn	**Sn**	**09 19 33.2**	**+0.1**
CZSB	**Cruzeiro do Su**	**3.37**	**26**	*e*P	**Pn**	**09 19 08.5**	**+2.6**
CZSB				*e*S	**Sn**	**09 19 44.6**	**-0.4**
ATAH	**Atahualpa**	**5.51**	**311**	P	**Pn**	**09 19 36.0**	**+0.8**
	12nm,0.3s,baz=126,slow=8.8,SNR=68						
ATAH				S	**Sn**	**09 20 37.1**	**-0.6**
	7.1nm,0.3s,baz=81,slow=23,SNR=1.7						
ETMB	**Extrema**	**7.90**	**84**	*e*P	**Pn**	**09 20 08.9**	**+1.5**
LPAZ	**La Paz**	**8.04**	**134**	P	**Pn**	**09 20 13.4**	**+3.6**
	1.8nm,0.3s,baz=325,slow=10,SNR=49						
LPAZ	**La Paz**	**8.04**	**134**	Pn	**Pn**	**09 20 12.7**	**+2.9**
LPAZ	**La Paz**	**8.04**	**134**	*e*P	Pn	09 20 15.5	+5.7
LPAZ	**La Paz**	**8.04**	**134**	*e*P	**Pn**	**09 20 13.2**	**+3.4**
MNMC	**Minye Minye**	**9.41**	**152**		**Pn**	**09 20 28.6**	**+0.5**
PSGCX	**Pisagua**	**9.60**	**156**	Pn	**Pn**	**09 20 31.0**	**+0.4**
PB08	**IPOC Station P**	**10.49**	**153**	Pn	**Pn**	**09 20 43.5**	**+0.6**
SAML	**Samuel**	**10.99**	**81**	Pn	**Pn**	**09 20 49.6**	**+0.2**
PB01	**IPOC Station P**	**11.16**	**157**	Pn	**Pn**	**09 20 52.0**	**+0.3**
PB07	**IPOC Station P**	**11.64**	**160**		**Pn**	**09 20 57.3**	**-1.0**
OTAV	**Otavalo**	**11.74**	**339**		**Pn**	**09 21 01.5**	**+1.6**
OTAV	**Otavalo**	**11.74**	**339**	*e*P	**Pn**	**09 21 00.5**	**+0.7**
OTAV	**Otavalo**	**11.74**	**339**	*e*P	**Pn**	**09 21 01.5**	**+1.6**
LVC	**Limon Verde**	**12.80**	**157**	LR	LR	09 26 30.0	
	comp=Z,967nm,18.4s,baz=13,slow=38						
MACC	**Macarena, Meta**	**12.85**	**2**	*e*P	**Pn**	**09 21 11.5**	**-2.6**
GARC	**Garzon, Huila**	**12.95**	**354**	*e*P	**Pn**	**09 21 14.8**	**-0.9**
SOTA	**Rioblanco**	**13.05**	**349**	*e*P	**Pn**	**09 21 18.1**	**+0.8**
BBAC	**Balboa, Cauca**	**13.08**	**346**	*e*P	**Pn**	**09 21 18.1**	**+0.7**
PCON	**Cinco Dias**	**13.21**	**350**	*e*P	**Pn**	**09 21 20.3**	**+0.9**
GUVC	**San Jose del G**	**13.33**	**7**	*e*P	**Pn**	**09 21 22.5**	**+2.0**
BETC	**Betania**	**13.43**	**355**	*e*P	**Pn**	**09 21 23.6**	**+1.7**
POPC	**Popayan, Colom**	**13.46**	**349**	*e*P	**Pn**	**09 21 23.6**	**+1.1**
SIV	**San Ignacio**	**13.77**	**114**	P	**Pn**	**09 21 27.5**	**+1.3**
	1.4nm,0.3s,baz=294,slow=9.8,SNR=15						
SIV				S	**Sn**	**09 23 55.5**	**-2.3**
	0.4nm,0.3s,baz=28,slow=20,SNR=1.9						
VILB	**Vilhena**	**13.86**	**100**	*e*P	**Pn**	**09 21 29.6**	**+2.2**
ORTC	**Ortega, Tolima**	**14.63**	**356**	*e*P	**Pn**	**09 21 38.8**	**+1.4**
VILC	**Villavicencio,**	**14.80**	**2**	*e*P	**P**	**09 21 42.0**	**-0.9**
PTGC	**Puerto Gaitan,**	**15.02**	**8**	*e*P	**P**	**09 21 44.1**	**-1.2**
TOLC	**Tolima**	**15.31**	**356**	*e*P	**P**	**09 21 49.6**	**+0.9**
PTLB	**Pontes e Lacer**	**15.37**	**109**	*e*P	**P**	**09 21 48.2**	**-0.9**
MACA	**Manacapuru-AM**	**15.38**	**61**	*e*P	**Pn**	**09 21 47.1**	**+0.3**
ROSC	**El Rosal**	**15.52**	**359**	P	**P**	**09 21 52.1**	**+0.9**
	2.8nm,0.3s,baz=34,slow=23,SNR=6.6						
ROSC				S	**S**	**09 24 48.3**	**-1.5**
	2.0nm,0.3s,baz=273,slow=20,SNR=1.7						
ROSC	**El Rosal**	**15.52**	**359**	P	**P**	**09 21 53.6**	**+2.4**
ROSC				IAmb	IAmb	09 22 21.7	
	comp=Z,16nm,0.6s						
ROSC	**El Rosal**	**15.52**	**359**	*e*P	**P**	**09 21 54.7**	**+3.5**
RREF	**El Recreo**	**15.62**	**356**	*e*P	**P**	**09 21 53.8**	**+1.2**
GUY2C	**Guyana, Caldas**	**15.94**	**356**	*e*P	**P**	**09 21 58.7**	**+2.7**
NORC	**Norcasia**	**16.25**	**358**	*e*P	**Pn**	**09 21 55.7**	**-2.0**
SPBC	**San Pablo de B**	**16.32**	**0**	*e*P	**Pn**	**09 21 58.5**	**-0.2**
RUSC	**La Rusia**	**16.60**	**4**	*e*P	**P**	**09 22 03.9**	**+0.7**
CBOC	**Ciudad Bolivar**	**16.64**	**354**	*e*P	**P**	**09 22 03.6**	**+0.3**
AC02	**Maricunga**	**16.67**	**164**	P	**Pn**	**09 21 56.9**	**-6.3**
SOLC	**Bahia Solano**	**17.20**	**349**	*e*P	**P**	**09 22 11.4**	**+2.1**
PTBC	**PUERTO BERRIO,**	**17.21**	**359**	*e*P	**Pn**	**09 22 08.2**	**-1.2**
PTGA	**Pitinga**	**17.30**	**56**	P	**Pn**	**09 22 10.6**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=235,slow=14,SNR=18						
PTGA	**Pitinga**	**17.30**	**56**	P	**Pn**	**09 22 10.4**	**-0.2**
PTGA				IAmb	IAmb	09 22 35.4	
	comp=Z,14nm,0.6s						
PTGA	**Pitinga**	**17.30**	**56**	*e*P	**Pn**	**09 22 10.5**	**-0.1**
DBBC	**Dabeiba**	**17.80**	**353**	*e*P	**Pn**	**09 22 17.3**	**+0.7**
PAMC	**Pamplona, Colo**	**18.06**	**5**	*e*P	**Pn**	**09 22 19.9**	**-0.3**
CLDB	**Colider**	**18.06**	**92**	*e*P	**Pn**	**09 22 21.1**	**+1.3**
ZARC	**Zaragoza, Cauc**	**18.16**	**358**	*e*P	**P**	**09 22 18.9**	**-1.1**
UREC	**San Jos de Ur**	**18.46**	**356**	*e*P	**P**	**09 22 21.4**	**-1.8**
BOAV	**Boa Vista**	**18.87**	**47**	*e*P	**Pn**	**09 22 28.8**	**-0.6**
OCAC	**Ocana**	**18.91**	**3**	*e*P	**P**	**09 22 27.8**	**-0.6**
NPGB	**Novo Progresso**	**18.96**	**80**	*e*P	**Pn**	**09 22 29.6**	**-0.9**
ITTB	**Itaituba**	**19.36**	**72**	*e*P	**P**	**09 22 33.3**	**+0.2**
SMLC	**San Martn de**	**19.45**	**0**	*e*P	**P**	**09 22 32.6**	**-1.5**
SDV	**Santo Domingo**	**19.86**	**10**	P	**P**	**09 22 38.1**	**-0.5**
	comp=Z,4.6nm,0.3s,baz=174,slow=12,SNR=21						
SDV				S	**S**	**09 26 16.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=322,slow=12,SNR=2.6						
SDV	**Santo Domingo**	**19.86**	**10**	P	**P**	**09 22 38.8**	**+0.1**
SDV	**Santo Domingo**	**19.86**	**10**	*e*P	**P**	**09 22 38.3**	**-0.3**
SDV	**Santo Domingo**	**19.86**	**10**	*e*P	**P**	**09 22 39.0**	**+0.4**
ARGC	**Ariguani, Magd**	**20.50**	**360**	*e*P	**P**	**09 22 45.1**	**-0.3**
SJCC	**San Jacinto, C**	**20.57**	**357**	*e*P	**P**	**09 22 45.5**	**-0.6**
BCIP	**Isla Barro Col**	**20.60**	**344**	P	**P**	**09 22 47.0**	**+0.5**
MALB	**Monte Alegre**	**21.68**	**67**	*e*P	**P**	**09 22 59.3**	**+1.3**
CRJC	**Cerrejon, Guaj**	**21.70**	**3**	*e*P	**P**	**09 22 56.5**	**-1.8**
SMRC	**Santa Marta, M**	**21.80**	**360**	*e*P	**P**	**09 22 55.8**	**-3.5**
CPUP	**Villa Florida**	**22.20**	**136**	P	**P**	**09 23 03.8**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=310,slow=11,SNR=4.4						
CPUP	**Villa Florida**	**22.20**	**136**	P	**P**	**09 23 02.0**	**-1.3**
URIC	**Uribia, Colomb**	**22.44**	**6**	*e*P	**P**	**09 23 02.3**	**-3.7**
SNDB	**Serra Nova Dou**	**22.47**	**95**	*e*P	**P**	**09 23 08.1**	**+1.6**
MCPB	**Macapa, AP**	**24.31**	**66**	*e*P	**P**	**09 23 24.3**	**+0.7**
ITRB	**Iturama**	**24.61**	**114**	*e*P	**P**	**09 23 27.1**	**+0.7**
OBIP	**Obispado Ponce**	**29.60**	**15**	P	**P**	**09 24 09.9**	**-1.1**
SDDR	**Presa de Saban**	**29.71**	**6**	P	**P**	**09 24 11.1**	**-0.9**
SDDR				IAmb	IAmb	09 24 32.2	
	comp=Z,11nm,1.1s						
PDPR	**Patillas Dam,**	**29.73**	**16**	P	**P**	**09 24 11.2**	**-0.9**
PLCA	**Paso Flores**	**30.00**	**174**	P	**P**	**09 24 15.1**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=331,slow=14,SNR=1.8						
CUPR	**Culebra, Puert**	**30.21**	**17**	P	**P**	**09 24 14.6**	**-1.8**
TEIG	**Tepich**	**33.79**	**336**	P	**P**	**09 24 47.9**	**+0.2**
TXAR	**Lajitas Array**	**48.98**	**325**	P	**P**	**09 26 51.2**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=150,slow=8.7,SNR=49						
TXAR	**Lajitas Array**	**48.98**	**325**	P	**P**	**09 26 51.4**	**-0.5**
TX31	**Lajitas Ar. Si**	**48.98**	**325**	P	**P**	**09 26 51.5**	**-0.4**
TX31				IAmb	IAmb	09 26 57.7	
	comp=Z,6.6nm,1.4s						
TX32	**Lajitas Array**	**48.98**	**325**	P	**P**	**09 26 51.5**	**-0.4**
X37A	**Clayton**	**49.40**	**337**	P	**P**	**09 26 54.7**	**-0.1**
X37A				IAmb	IAmb	09 26 58.2	
	comp=Z,9.0nm,1.5s						
ABTX	**Abilene, Hawle**	**49.54**	**332**	P	**P**	**09 26 55.8**	**-0.2**
WMOK	**Wichita Mounta**	**50.92**	**334**	P	**P**	**09 27 06.0**	**-0.4**
ANMO	**Albuquerque**	**54.79**	**328**	P	**P**	**09 27 34.2**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=341,slow=6.7,SNR=2.0						
WUAZ	**Wupatki**	**57.92**	**324**	P	**P**	**09 27 55.5**	**-1.8**
WUAZ				IAmb	IAmb	09 27 58.5	
	comp=Z,4.8nm,1.1s						
PV01	**Paradox Valley**	**58.32**	**328**	P	**P**	**09 27 59.7**	**-0.3**
PV01				IAmb	IAmb	09 28 00.4	
	comp=Z,2.4nm,0.8s						
RDMU	**Red Mountain**	**60.67**	**330**	P	**P**	**09 28 15.6**	**-0.6**
PSUT	**Pine Spring**	**61.45**	**325**	P	**P**	**09 28 21.2**	**-0.3**
PSUT				IAmb	IAmb	09 28 22.6	
	comp=Z,4.5nm,1.2s						
DRLN	**Deer Lake**	**61.56**	**12**	P	**P**	**09 28 21.1**	**-0.6**
TCUT	**Toone Canyon**	**62.00**	**329**	P	**P**	**09 28 24.5**	**-0.7**
TCUT				IAmb	IAmb	09 28 25.4	
	comp=Z,5.7nm,0.9s						
DUG	**Dugway, Tooele**	**62.06**	**327**	P	**P**	**09 28 25.3**	**-0.2**
DUG				IAmb	IAmb	09 28 26.6	
	comp=Z,4.8nm,1.3s						
PDAR	**Pinedale Array**	**62.34**	**331**	P	**P**	**09 28 26.3**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=120,slow=8.6,SNR=6.1						
PDAR	**Pinedale Array**	**62.34**	**331**	P	**P**	**09 28 26.1**	**-1.3**
HWUT	**Hardware Ranch**	**62.45**	**329**	P	**P**	**09 28 27.3**	**-0.8**
HWUT				IAmb	IAmb	09 28 27.7	
	comp=Z,3.2nm,0.8s						
ULM	**Lac du Bonnet**	**63.66**	**345**	P	**P**	**09 28 34.0**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=162,slow=6.4,SNR=3.1						
ULM	**Lac du Bonnet**	**63.66**	**345**	P	**P**	**09 28 34.3**	**-1.4**
ULM				IAmb	IAmb	09 28 34.2	
	comp=Z,7.0nm,1.2s						
ELK	**Elko**	**63.76**	**326**	P	**P**	**09 28 35.9**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=147,slow=4.4,SNR=3.9						
ELK	**Elko**	**63.76**	**326**	IAmb	IAmb	09 28 36.5	
	comp=Z,1.8nm,1.1s						
NVAR	**Mina Array Bea**	**63.96**	**323**	P	**P**	**09 28 36.2**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=104,slow=7.5,SNR=3.3						
YNE	**Yellowstone No**	**64.27**	**333**	P	**P**	**09 28 39.4**	**-0.6**
YHH	**Holmes Hill**	**64.48**	**332**	P	**P**	**09 28 41.8**	**+0.2**
YHL	**Hebgen Lake**	**64.69**	**332**	P	**P**	**09 28 43.3**	**+0.5**
YHL				IAmb	IAmb	09 28 44.3	
	comp=Z,10nm,1.5s						
BOZ	**Bozeman (W)**	**65.46**	**332**	P	**P**	**09 28 47.1**	**-0.5**
MFID	**Camas Ranch**	**65.93**	**328**	P	**P**	**09 28 50.9**	**+0.1**
MFID				IAmb	IAmb	09 28 51.4	
	comp=Z,4.3nm,0.9s						
EGMT	**Eagleton**	**66.50**	**335**	P	**P**	**09 28 53.4**	**-0.8**
EGMT				IAmb	IAmb	09 28 59.3	
	comp=Z,8.5nm,1.4s						
MOD	**Modoc Plateau**	**67.37**	**324**	P	**P**	**09 28 59.8**	**-0.1**
MOD				IAmb	IAmb	09 29 00.2	
	comp=Z,3.1nm,0.7s						
I07A	**Izee**	**68.34**	**327**	P	**P**	**09 29 06.1**	**+0.1**
I07A				IAmb	IAmb	09 29 06.7	
	comp=Z,2.6nm,0.7s						
YBH	**Yreka Blue Hor**	**68.66**	**323**	P	**P**	**09 29 05.9**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=129,slow=6.5,SNR=2.4						
YBH	**Yreka Blue Hor**	**68.66**	**323**	P	**P**	**09 29 06.4**	**-1.6**
FCC	**Fort Churchill**	**71.16**	**349**	P	**P**	**09 29 21.8**	**-1.0**
FCC				IAmb	IAmb	09 29 22.1	
	comp=Z,2.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.96**	**74**	P	**P**	**09 30 08.3**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=240,slow=4.0,SNR=7.8						
TORD				pP	**pP**	**09 30 37.6**	**+3.1**
	comp=Z,2.3nm,0.9s,baz=268,slow=5.4,SNR=6.3						
YKA	**Yellowknife Ar**	**79.47**	**342**	P	**P**	**09 30 09.2**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=135,slow=6.4,SNR=34						
YKA				pP	**pP**	**09 30 39.3**	**+2.7**
	comp=Z,0.5nm,0.7s,baz=135,slow=6.5,SNR=3.0						
ESDC	**Sonseca Array**	**82.04**	**47**	P	**P**	**09 30 25.1**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=247,slow=4.7,SNR=4.1						
INK	**Inuvik**	**89.21**	**341**	P	**P**	**09 30 58.7**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=98,slow=6.5,SNR=6.7						
INK				pP	**pP**	**09 31 28.1**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=74,slow=7.8,SNR=3.0						
INK	**Inuvik**	**89.21**	**341**	P	**P**	**09 30 59.3**	**0.0**
INK				IAmb	IAmb	09 30 59.5	
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**133.80**	**17**	PKP	**PKPdf**	**09 37 20.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=326,slow=3.1,SNR=4.8						
KSRS	**Korea Array**	**146.82**	**327**	PKPbc	**PKPdf**	**09 37 45.0**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=68,slow=3.3,SNR=4.9						

*SJA **21** 09:29:26.8±0.9, 36°.27S×74°.85W, h7km±20km, ML4.0, MW4.3*
*IDC **21** 09:29:39.4±0.9, 36°.24S×73°.37W, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.0/29, mbtmp3.9/10, ML3.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/36, Error ellipse: s-maj=36.0km s-min=16.6km az=75.0*
*GUC **21** 09:29:39.8±0.4, 36°.32S×73°.77W, h37km±4km, ML4.2*
*NEIC **21** 09:29:40.1±1.2, 36°.19S±0°.04×73°.56W±0°.08, h10km±1km, Error ellipse: s-maj=11.8km s-min=6.2km az=69.0*
ISC 21 09:29:39.9±1.7**, 36°.20S**±0°.04×**73°.58W**±0°.06**, h7**km±10km**, n61, σ1s45**/71**, mb3.9**/8**, 3C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.78**	**145**⇑	*eP*	**Pg**	**09 29 55.2**	**+0.4**
BI03				*eS*	**Sg**	**09 30 04.8**	**-0.3**
BI03				IAML		09 30 07.9	
	comp=N,90μm,0.4s						
BI03	**Tigo**	**0.78**	**145**		**Pg**	**09 29 55.1**	**+0.3**
BI03					**Sb**	**09 30 05.6**	**-1.0**
LAJA	**Laja**	**1.28**	**147**	*eP*	**Pn**	**09 30 01.4**	**-2.8**
LAJA				*i* S	**Sb**	**09 30 17.9**	**-3.1**
BI02	**San Fabin de**	**1.92**	**105**⇑	*iP*	**Pn**	**09 30 12.8**	**-0.2**
BI02				*eS*	**Sn**	**09 30 37.3**	**-0.1**
BI02				IAML		09 30 43.3	
	comp=N,2μm,0.5s						
BI02	**San Fabin de**	**1.92**	**105**	Pn	**Pn**	**09 30 12.7**	**-0.3**
BO03	**Pichilemu**	**2.16**	**38**⇑	*eP*	**Pn**	**09 30 15.7**	**-0.5**
BO03				*eS*	**Sn**	**09 30 40.7**	**-2.5**
BO03				IAML		09 31 02.0	
	comp=N,452nm,0.7s						
CANA	**Caviahue**	**2.62**	**131**	*i* P	**Pn**	**09 30 23.8**	**+1.0**
CANA				*i* S	**Sg**	**09 31 06.0**	**+1.8**
BO02	**Sierra Bellavi**	**2.68**	**59**	*eP*	**Pn**	**09 30 24.1**	**+0.5**
BO02				*i* S	**Sn**	**09 30 57.9**	**+1.7**
BO02				IAML		09 31 11.0	
	comp=N,846nm,0.4s						
BO02	**Sierra Bellavi**	**2.68**	**59**	Pn	**Pn**	**09 30 23.6**	**+0.1**
VA05	**Santo Domingo**	**3.01**	**33**	*eP*	**Pn**	**09 30 27.3**	**-0.6**
VA05				IAML		09 31 23.9	
	comp=E,278nm,0.6s						
MT09	**Talagante**	**3.22**	**42**⇓	*eP*	**Pn**	**09 30 31.3**	**+0.3**
MT09				*i* S	**Sn**	**09 31 08.4**	**-1.3**
MT09				IAML		09 31 40.6	
	comp=E,372nm,0.7s						
EDS3	**Malargue**	**3.42**	**84**	*i* P	**Pb**	**09 30 39.1**	**-1.7**
EDS3				*eS*	**Sg**	**09 31 28.6**	**-1.0**
COIS	**El Sosneado**	**3.42**	**73**	*i* P	**Pn**	**09 30 35.3**	**+1.7**
COIS				*eS*	**Sg**	**09 31 30.7**	**+0.8**
MT02	**Curacav**	**3.56**	**35**		**Pn**	**09 30 34.8**	**-0.7**
MT05	**Renca**	**3.65**	**41**		**Pn**	**09 30 37.4**	**+0.5**
LAMA	**Las Malvinas**	**3.78**	**72**	*i* P	**Pn**	**09 30 42.1**	**+3.5**
LAMA				*eS*	**Sg**	**09 31 39.0**	**-2.2**
ROC1	**El Roble**	**3.85**	**34**	*i* P	**Pn**	**09 30 39.7**	**0.0**
ROC1				*eS*	**Sg**	**09 31 47.9**	**+4.2**
PEL	**Peldehue**	**3.87**	**39**	Pn	**Pn**	**09 30 40.0**	**+0.2**
PEL	**Peldehue**	**3.87**	**39**	*i* P	**Pn**	**09 30 40.8**	**+1.0**
PEL				*eS*	**Sg**	**09 31 44.2**	**-0.1**
VA03	**San Esteban**	**4.25**	**37**		**Pn**	**09 30 45.3**	**+0.2**
RFA	**San Rafael**	**4.41**	**73**	*i* P	**Pn**	**09 30 49.8**	**+2.6**
H03S1	**Juan Fernandez**	**4.96**	**297**	T	T	09 35 58.7	
	baz=118,slow=75,SNR=250						
H03S3	**Juan Fernandez**	**4.97**	**297**	T	T	09 35 57.5	
	baz=118,slow=75,SNR=278						
H03S2	**Juan Fernandez**	**4.98**	**297**	T	T	09 35 57.5	
	baz=118,slow=75,SNR=247						
AAGR	**Agrelo**	**5.00**	**53**	*i* P	**Pn**	**09 30 57.7**	**+2.3**
AAGR				IAML		09 30 57.8	
	comp=Z,23nm,0.3s						
ARCO	**CERRO ARCO**	**5.09**	**50**	*i* P	**Pn**	**09 30 58.8**	**+2.0**
PLCA	**Paso Flores**	**5.11**	**153**	Pn	**Pn**	**09 30 57.4**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=331,slow=13,SNR=42						
PLCA				Lg	Lg	09 32 17.6	
	comp=Z,1.3nm,0.3s,baz=42,slow=15,SNR=5.0						
PLCA	**Paso Flores**	**5.11**	**153**		**Pn**	**09 30 56.3**	**-0.5**
AUSP	**Uspallata**	**5.27**	**42**	*i* P	**Pn**	**09 31 01.4**	**+2.1**
CO02	**Combarbal**	**5.43**	**24**		**Pn**	**09 31 01.0**	**-0.4**
RTLS	**Leoncito**	**5.65**	**40**	*i* P	**Pn**	**09 31 06.3**	**+1.7**
CO03	**El Pedregal**	**5.87**	**25**		**Pn**	**09 31 06.7**	**-0.6**
RTCV	**Cerro Valdivia**	**6.02**	**45**	*i* P	**Pn**	**09 31 10.6**	**+1.2**
ZON	**Zonda**	**6.18**	**43**	Pn	**Pn**	**09 31 11.9**	**+0.3**
ZON	**Zonda**	**6.18**	**43**	*i* P	**Pn**	**09 31 12.8**	**+1.2**
LL01	**San Ignacio de**	**6.23**	**172**	Pn	**Pn**	**09 31 09.8**	**-2.4**
GO04	**Tololo Observa**	**6.45**	**22**	Pn	**Pn**	**09 31 14.8**	**-0.7**
ACCO	**Cerro Coronel**	**6.75**	**35**	*i* P	**Pn**	**09 31 20.3**	**+0.6**
ACCO				IAML		09 31 22.4	
	comp=Z,34nm,0.4s						
CO01	**Juntas del Tor**	**6.86**	**26**		**Pn**	**09 31 20.1**	**-1.0**
AROD	**Rodeo**	**6.93**	**31**	*i* P	**Pn**	**09 31 23.7**	**+1.5**
ACDV	**Cuesta del Vie**	**7.08**	**33**	*i* P	**Pn**	**09 31 25.1**	**+1.0**
ACDV				IAML		09 31 25.5	
	comp=Z,20nm,0.4s						
MRA	**San Martin**	**7.52**	**62**	*i* P	**Pn**	**09 31 31.3**	**+1.2**
LCO	**Las Campanas**	**7.57**	**20**	Pn	**Pn**	**09 31 30.0**	**-0.9**
AC05	**El Transito**	**7.86**	**22**	Pn	**Pn**	**09 31 33.6**	**-1.1**
ACLC	**CERRO LA CRUZ**	**8.76**	**41**	*i* P	**Pn**	**09 31 45.2**	**-1.9**
AC02	**Maricunga**	**10.08**	**23**	Pn	**Pn**	**09 32 04.3**	**-1.2**
LPAZ	**La Paz**	**20.42**	**15**	P	**P**	**09 34 20.2**	**+2.0**
	comp=Z,3.1nm,0.7s,baz=192,slow=4.8,SNR=7.0						
LPAZ	**La Paz**	**20.42**	**15**		**P**	**09 34 16.5**	**-1.8**
LPAZ				IAmb	IAmb	09 34 26.6	
	comp=Z,4.8nm,0.9s						
SIV	**San Ignacio**	**23.01**	**32**	P	**P**	**09 34 45.3**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=227,slow=14,SNR=8.3						
SIV				LR	LR	09 45 31.8	
	comp=Z,128nm,19.9s,baz=238,slow=42						
RCBR	**Riachuelo**	**45.88**	**58**	P	**P**	**09 38 03.0**	**-0.1**
QSPA	**South Pole Qui**	**54.04**	**180**	P	**P**	**09 39 05.2**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=140,slow=2.6,SNR=8.5						
QSPA	**South Pole Qui**	**54.04**	**180**	P	**P**	**09 39 04.7**	**0.0**
QSPA				IAmb	IAmb	09 39 28.3	
	comp=Z,4.9nm,1.4s						
TXAR	**Lajitas Array**	**71.07**	**332**	P	**P**	**09 41 00.2**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=152,slow=8.4,SNR=9.1						
BOSA	**Boshof**	**80.16**	**118**	P	**P**	**09 41 50.8**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=238,slow=6.1,SNR=4.1						
BOSA	**Boshof**	**80.16**	**118**	P	**P**	**09 41 51.0**	**-0.1**
NVAR	**Mina Array Bea**	**84.99**	**326**	P	**P**	**09 42 17.8**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=158,slow=5.9,SNR=4.4						
NVAR	**Mina Array Bea**	**84.99**	**326**	P	**P**	**09 42 15.8**	**-0.1**
PDAR	**Pinedale Array**	**85.17**	**334**	P	**P**	**09 42 18.0**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=119,slow=5.6,SNR=2.2						
TORD	**Torodi Ar. Bea**	**86.14**	**71**	P	**P**	**09 42 21.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=238,slow=8.3,SNR=2.0						
ULM	**Lac du Bonnet**	**88.31**	**346**	P	**P**	**09 42 31.8**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=229,slow=6.4,SNR=3.0						
MKAR	**Makanchi Array**	**159.14**	**52**	PKP	**PKPdf**	**09 49 38.1**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=286,slow=1.0,SNR=2.7						

*IDC **21** 09:43:11.2±8.9, 36.10N×70.54E, h159km±102km, mb3.1/2, mb1 3.1/4, mb1mx2.8/30, mbtmp3.5/4, Error ellipse: s-maj=80.1km s-min=29.0km az=141.0*
*NNC **21** 09:43:16.3±3.8, 36.80N×70.65E, h125km±71km, mb3.3, mpv3.7, Error ellipse: s-maj=30.4km s-min=23.6km az=28.0*

ISC 21 09:43:11.7±1.3, 36.54N±0.10×70.66E±0.07, h150km, n10, σ26°27/15, 6C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.85**	**133**	*eP*	Pn	09 44 28.3	-8.1
THN				*eS*	Sn	09 45 26.5	-16

BUC 21 09:39:60.0±0.3, 45.07N×22.84E, h17km±2km, ml0.8/2, 8C-15D, Error ellipse: s-maj=2.8km s-min=1.7km az=151.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.33**	**352**	⇓P	Pb	09 40 07.7	+0.2
GZR				⇑S	Sg	09 40 11.9	+0.1
GZR	**Gura Zlata**	**0.33**	**352**	⇓P	Pb	09 40 07.8	+0.3
GZR				⇓S	Sb	09 40 12.6	0.0
GZR	**Gura Zlata**	**0.33**	**352**	⇓P	Pb	09 40 07.7	+0.2
GZR				⇑S	Sg	09 40 11.9	+0.1
HERR	**Herculane**	**0.35**	**239**	⇓P	Pb	09 40 07.8	0.0
HERR				⇓S	Sg	09 40 12.3	-0.1
HERR	**Herculane**	**0.35**	**239**	⇓P	Pg	09 40 07.5	+0.2
HERR				⇓S	Sg	09 40 12.3	-0.1
HERR	**Herculane**	**0.35**	**239**	⇓P	Pb	09 40 07.8	0.0
HERR				⇓S	Sg	09 40 12.3	-0.1
LOT	**Lotru**	**0.76**	**59**	⇓P	Pg	09 40 14.9	0.0
LOT				⇑S	Sb	09 40 25.3	+0.4
LOT	**Lotru**	**0.76**	**59**	⇑S	Sb	09 40 25.3	+0.4
LOT	**Lotru**	**0.76**	**59**	⇓P	Pg	09 40 14.9	0.0
LOT				⇑S	Sb	09 40 25.3	+0.4
BZS	**Buzias**	**1.03**	**303**	⇑P	Pb	09 40 19.0	-0.3
BZS				⇓S	Sg	09 40 33.0	-0.3
BZS	**Buzias**	**1.03**	**303**	⇑P	Pb	09 40 19.0	-0.3
BZS				⇓S	Sg	09 40 33.0	-0.3
BZS	**Buzias**	**1.03**	**303**	⇑P	Pb	09 40 19.0	-0.3
BZS				⇓S	Sg	09 40 33.0	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.56**	**359**	⇓P	**Pn**	**09 44 47.0**	**+1.1**
	3.3nm,0.3s,baz=177,slow=12,SNR=98						
KK31				⇑S	**Sn**	**09 45 59.4**	**-0.2**
	5.9nm,0.3s,baz=185,slow=23,SNR=7.5						
AAK	**Ala-Archa**	**6.77**	**25**	⇑P	**Pn**	**09 44 49.2**	**+0.4**
	2.8nm,0.3s						
AAK				⇑S	**Sn**	**09 46 03.8**	**-1.1**
	16nm,0.7s						
TKM2	**Tokmak 2**	**7.42**	**29**	⇑P	**Pn**	**09 44 59.0**	**+1.5**
	1.7nm,0.5s						
TKM2				⇓S	**Sn**	**09 46 19.3**	**-1.3**
	9.5nm,0.8s						
GEYT	**Alibeck**	**10.10**	**282**	P	**Pn**	**09 45 32.7**	**-0.3**
	0.8nm,0.3s,baz=111,slow=11,SNR=2.6						
GEYT				S	**Sn**	**09 47 24.0**	**-0.8**
	1.3nm,0.3s,baz=90,slow=20,SNR=2.0						
MKAR	**Makanchi Array**	**13.42**	**37**	P	**P**	**09 46 20.3**	**0.0**
	0.0nm,0.3s,baz=219,slow=13,SNR=2.2						
AB31	**Akbulak array**	**14.92**	**332**	⇓P	**P**	**09 46 38.3**	**+1.4**
	1.1nm,0.3s,baz=148,slow=12,SNR=95						
AB31				⇓S	**Sn**	**09 49 16.7**	**-3.8**
	1.5nm,0.5s,baz=144,slow=24,SNR=12						
AKTO	**Aktyubinsk**	**16.61**	**331**	⇑P	**Pn**	**09 47 01.1**	**+5.4**
	3.2nm,0.7s						
AKTO				⇑S	**S**	**09 49 58.4**	**-1.8**
	2.5nm,0.9s						
ZALV	**Zalesovo Beam**	**20.00**	**25**	P	**Pn**	**09 47 35.9**	**+0.2**
	0.7nm,0.3s,baz=212,slow=9.9,SNR=5.5						
WRA	**Warramunga Arr**	**82.24**	**122**	P	**P**	**09 55 14.0**	**-2.4**
	0.3nm,0.9s,baz=329,slow=5.4,SNR=1.3						

*NEIC **21** 09:50:39.3±1.4, 26.25S±0.2×112.21W±0.1, h10km±1km, mb4.6/11, Error ellipse: s-maj=32.3km s-min=16.6km az=191.0*
*IDC **21** 09:50:39.3±4.1, 26.27S×111.93W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.8/34, mbtmp3.8/5, MS3.6/1, Ms1 3.6/1, ms1mx2.9/28, Error ellipse: s-maj=264.0km s-min=48.9km az=111.0*

ISC 21 09:50:39.5±0.9, 26.25S±0.2×112.21W±0.1, h10km, n36, σ0°66/28, mb4.3/10, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**2.56**	**106**	Pn	**Pn**	**09 51 20.7**	**-0.3**
PTCN	**Pitcairn Islan**	**16.27**	**271**	Pn	**Pn**	**09 54 27.6**	**-0.6**
H03N2	**Juan Fernandez**	**29.48**	**112**	T	T	10 28 20.8	
	baz=279						
H03N3	**Juan Fernandez**	**29.49**	**112**	T	T	10 28 20.9	
	baz=279,slow=74						
H03N1	**Juan Fernandez**	**29.50**	**112**	T	T	10 28 20.7	
	baz=279,slow=74						
SDV	**Santo Domingo**	**53.44**	**55**	LR	LR	10 18 27.0	
	comp=Z,54nm,19.1s,baz=192,slow=31						
TXAR	**Lajitas Array**	**56.07**	**9**	P	**P**	**10 00 19.9**	**+1.1**
	0.5nm,0.9s,baz=170,slow=8.4,SNR=4.8						
TXAR	**Lajitas Array**	**56.07**	**9**	P	**P**	**10 00 18.1**	**-0.8**
PTGA	**Pitinga**	**56.23**	**72**	P	**P**	**10 00 20.7**	**+0.3**
PTGA				IAmb	IAmb	10 00 25.3	
	comp=Z,7.3nm,1.2s						
JCT	**Junction City**	**57.83**	**13**	P	**P**	**10 00 31.6**	**+0.2**
JCT				IAmb	IAmb	10 00 33.3	
	comp=Z,7.5nm,1.1s						
MIAR	**Mount Ida**	**63.17**	**17**	P	**P**	**10 01 08.5**	**+0.9**
MIAR				IAmb	IAmb	10 01 33.7	
	comp=Z,6.7nm,1.4s						
NVAR	**Mina Array Bea**	**64.82**	**355**	P	**P**	**10 01 19.3**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=181,slow=8.3,SNR=7.5						
NVAR	**Mina Array Bea**	**64.82**	**355**	P	**P**	**10 01 17.9**	**-0.8**
SWET	**Sewanee**	**66.16**	**23**	P	**P**	**10 01 26.6**	**-0.6**
SWET				IAmb	IAmb	10 01 41.8	
	comp=Z,4.2nm,1.1s						
RDMU	**Red Mountain**	**66.73**	**2**	P	**P**	**10 01 31.2**	**+0.2**
OLIL	**Olney**	**68.64**	**20**	P	**P**	**10 01 42.7**	**-0.1**
PDAR	**Pinedale Array**	**68.93**	**2**	P	**P**	**10 01 44.0**	**-0.8**
	comp=Z,0.9nm,1.0s,baz=185,slow=5.4,SNR=6.3						
PDAR	**Pinedale Array**	**68.93**	**2**	P	**P**	**10 01 43.9**	**-0.8**
HLID	**Hailey**	**69.72**	**358**	P	**P**	**10 01 49.2**	**-0.4**
YHH	**Holmes Hill**	**70.92**	**1**	P	**P**	**10 01 57.5**	**+0.5**
MCMT	**McKenzie Canyo**	**70.95**	**359**	P	**P**	**10 01 56.9**	**-0.3**
QLMT	**Earthquake Lak**	**70.95**	**1**		**P**	**10 01 57.5**	**+0.3**
ULM	**Lac du Bonnet**	**77.72**	**11**	P	**P**	**10 02 35.4**	**-0.8**
ULM				IAmb	IAmb	10 02 35.7	
	comp=Z,5.1nm,1.4s						
YKA	**Yellowknife Ar**	**88.67**	**359**	P	**P**	**10 03 32.6**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=164,slow=5.4,SNR=11						
H11S2	**WAKE ISLAND Hy**	**90.55**	**290**	T	T	11 43 15.5	
	baz=118,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**90.56**	**290**	T	T	11 43 16.3	
	baz=118,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**90.56**	**290**	T	T	11 43 18.7	
	baz=118,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**90.94**	**291**	T	T	11 43 48.5	
	baz=126						
H11N1	**WAKE ISLAND Hy**	**90.95**	**291**	T	T	11 43 46.6	
	baz=126						
H11N2	**WAKE ISLAND Hy**	**90.96**	**291**	T	T	11 43 45.2	
	baz=126						
KTH	**Kantishna Hill**	**94.80**	**344**	P	**P**	**10 04 01.1**	**+0.1**
ILAR	**Eielson Array**	**94.88**	**346**	P	**P**	**10 04 01.7**	**+0.5**
	comp=Z,0.4nm,1.0s,baz=171,slow=6.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**149.82**	**340**	PKPbc	**PKPbc**	**10 10 29.9**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=356,slow=1.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**149.82**	**340**	PKPdf	**PKPdf**	**10 10 23.9**	**-0.7**
ZALV					**PKPbc**	**10 10 29.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**150.28**	**261**	PKPbc	**PKiKP**	**10 10 33.8**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=121,slow=0.3,SNR=5.5						
CMAR	**Chiang Mai Arr**	**150.28**	**261**	PKPdf	**PKPdf**	**10 10 26.2**	**-0.3**
CMAR					**PKiKP**	**10 10 33.3**	**+0.8**

*IDC **21** 09:56:58.6±0.7, 6.68N×72.91W, h162km±9km, mb3.0/4, mb1 3.6/7, mb1mx3.2/30, mbtmp3.7/7, Error ellipse: s-maj=29.9km s-min=7.6km az=133.0*
*RSNC **21** 09:56:59.5±1.7, 6.83N×73.12W, h152km±7km, ML3.5, Mw3.8, Fault plane solution: NP1:ϕs137.00000°, δ54.00000°, λ-142.00000°.*

ISC 21 09:56:58.6±0.8, 6.87N±0.03×73.09W±0.04, h156km±5km, n37, σ1°47/65, mb3.3/4, 5C-8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**199**	⇓*iP*	**Pn**	**09 57 20.2**	**-0.1**
BARC				*eS*	**Sn**	**09 57 35.9**	**-0.8**
BARC				*i*		09 57 37.1	
	comp=Z,412nm,0.4s						
PAMC	**Pamplona, Colo**	**0.61**	**40**	⇓*iP*	**Pn**	**09 57 22.9**	**+1.1**
PAMC				*eS*	**Sn**	**09 57 40.1**	**+0.6**
PAMC				*i*		09 57 42.3	
	comp=Z,303nm,0.5s						
BRRC	**Barranca, Sant**	**0.66**	**291**	⇓*iP*	**Pn**	**09 57 22.0**	**+0.5**
BRRC				*i*		09 57 22.4	
	comp=Z,269nm,0.2s						
BRRC				*eS*	**Sn**	**09 57 38.6**	**-0.4**
RUSC	**La Rusia**	**0.97**	**180**	⇓*iP*	**Pn**	**09 57 24.0**	**-0.3**
RUSC				*eS*	**Sn**	**09 57 42.7**	**-1.3**
RUSC				*i*		09 57 43.9	
	comp=Z,246nm,0.3s						
OCAC	**Ocana**	**1.38**	**350**	*eP*	**Pn**	**09 57 28.2**	**+0.6**
OCAC				*eS*	**Sn**	**09 57 50.6**	**+0.7**
OCAC				*i*		09 57 56.7	
	comp=Z,566nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.40**	**257**⇑	*iP*	**Pn**	**09 57 26.8**	**-0.8**
PTBC				*eS*	**Sn**	**09 57 48.4**	**-1.5**
PTBC				*i*		09 57 54.3	
	comp=Z,476nm,0.4s						
SPBC	**San Pablo de B**	**1.56**	**219**	⇓*iP*	**Pn**	**09 57 29.1**	**-0.2**
SPBC				*eS*	**Sn**	**09 57 51.4**	**-1.6**
SPBC				*i*		09 57 58.4	
	comp=Z,721nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*eP*	**Pn**	**09 57 32.3**	**-0.3**
ZARC				*eS*	**Sn**	**09 57 58.0**	**-0.7**
ZARC				*i*		09 58 04.8	
	comp=Z,521nm,0.4s						
SMLC	**San Martn de**	**2.15**	**333**	*eP*	**Pn**	**09 57 36.5**	**+0.6**
SMLC				*eS*	**Sn**	**09 58 04.6**	**-0.1**
SMLC				*i*		09 58 08.2	
	comp=Z,380nm,0.1s						
NORC	**Norcasia**	**2.19**	**234**	*eP*	**Pn**	**09 57 36.0**	**-0.5**
NORC				*eS*	**Sn**	**09 58 03.9**	**-1.7**
NORC				*i*		09 58 11.4	
	comp=Z,247nm,0.3s						
ROSC	**El Rosal**	**2.36**	**211**	P	**Pn**	**09 57 39.6**	**+0.9**
	comp=Z,60nm,0.3s,baz=256,slow=5.8,SNR=45						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC				S	**Sn**	**09 58 08.5**	**-1.2**
	comp=Z,51nm,0.3s,baz=318,slow=22,SNR=9.3						
ROSC	**El Rosal**	**2.36**	**211**⇓	*iP*	**Pn**	**09 57 39.5**	**+0.7**
ROSC				*eS*	**Sn**	**09 58 09.3**	**-0.4**
ROSC				*i*		09 58 18.0	
	comp=Z,386nm,0.4s						
UREC	**San Jos de Ur**	**2.58**	**290**	*eP*	**Pn**	**09 57 39.9**	**-1.1**
UREC				*eS*	**Sn**	**09 58 10.9**	**-2.8**
UREC				*i*		09 58 25.2	
	comp=Z,144nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.79**	**234**	*eP*	**Pn**	**09 57 44.1**	**0.0**
GUY2C				*eS*	**Sn**	**09 58 18.6**	**-0.6**
GUY2C				*i*		09 58 27.2	
	comp=Z,226nm,0.4s						
VILC	**Villavicencio,**	**2.80**	**192**	*eP*	**Pn**	**09 57 42.7**	**-1.2**
VILC				*eS*	**Sn**	**09 58 17.8**	**-1.2**
VILC				*i*		09 58 31.7	
	comp=Z,178nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.82**	**160**⇓	*iP*	**Pn**	**09 57 43.0**	**-1.0**
PTGC				*eS*	**Sn**	**09 58 16.4**	**-2.8**
RREF	**El Recreo**	**2.98**	**229**	*eP*	**Pn**	**09 57 47.4**	**+0.8**
RREF				*eS*	**Sn**	**09 58 23.6**	**0.0**
RREF				*i*		09 58 29.6	
	comp=Z,191nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.07**	**251**⇑	*eP*	**Pn**	**09 57 47.3**	**0.0**
CBOC				*i*		09 58 35.7	
	comp=Z,66nm,0.6s						
DBBC	**Dabeiba**	**3.10**	**273**⇑	*iP*	**Pn**	**09 57 47.7**	**+0.1**
SDV	**Santo Domingo**	**3.15**	**50**	P	**Pn**	**09 57 49.4**	**+1.1**
	comp=Z,30nm,0.3s,baz=219,slow=4.1,SNR=95						
SDV				S	**Sn**	**09 58 26.7**	**-0.1**
	comp=Z,26nm,0.3s,baz=67,slow=20,SNR=21						
SDV	**Santo Domingo**	**3.15**	**50**⇑	*iP*	**Pn**	**09 57 49.3**	**+1.0**
SDV				*i*		09 57 50.2	
	comp=Z,55nm,0.3s						
SDV				*eS*	**Sn**	**09 58 26.9**	**+0.1**
TOLC	**Tolima**	**3.17**	**225**	*eP*	**Pn**	**09 57 49.1**	**+0.3**
TOLC				*eS*	**Sn**	**09 58 27.1**	**-0.6**
ARGC	**Ariguani, Magd**	**3.18**	**339**	*eP*	**Pn**	**09 57 50.2**	**+1.6**
ARGC				*eS*	**Sn**	**09 58 28.0**	**+0.6**
ARGC				*i*		09 58 39.8	
	comp=Z,51nm,0.4s						
CVALL	**Valledupar, Ce**	**3.62**	**357**	*eP*	**Pn**	**09 57 54.0**	**-0.1**
CVALL				*eS*	**Sn**	**09 58 35.3**	**-2.1**
ORTC	**Ortega, Tolima**	**3.64**	**216**⇑	*eP*	**Pn**	**09 57 54.2**	**-0.3**
ORTC				*eS*	**Sn**	**09 58 37.2**	**-0.7**
ORTC				*i*		09 58 41.9	
	comp=Z,101nm,0.4s						
SJCC	**San Jacinto, C**	**3.65**	**326**	*eP*	**Pn**	**09 57 54.0**	**-0.6**
SJCC				*eS*	**Sn**	**09 58 34.3**	**-3.8**
SJCC				*i*		09 58 39.8	
	comp=Z,38nm,0.4s						
LCBC	**Los crdobas,**	**3.80**	**302**	*eP*	**Pn**	**09 57 57.0**	**+0.6**
LCBC				*eS*	**Sn**	**09 58 41.2**	**-0.2**
LCBC				*i*		09 58 45.4	
	comp=Z,82nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.13**	**3**⇓	*eP*	**Pn**	**09 58 00.3**	**-0.6**
CRJC				*eS*	**Sn**	**09 58 47.4**	**-1.9**
CRJC				*i*		09 58 51.0	
	comp=Z,55nm,0.5s						
SMRC	**Santa Marta, M**	**4.41**	**345**	*eP*	**Pn**	**09 58 04.7**	**+0.3**
SMRC				*eS*	**Sn**	**09 58 52.5**	**-3.3**
URIC	**Uribia, Colomb**	**4.92**	**13**	*eP*	**Pn**	**09 58 10.4**	**-0.7**
URIC				*eS*	**Sn**	**09 59 02.4**	**-5.4**
URIC				*i*		09 59 10.9	
	comp=Z,12nm,0.6s						
PCRV	**Puerto La Cruz**	**8.98**	**68**	P	**Pn**	**09 59 01.9**	**-3.3**
	comp=Z,0.6nm,0.3s,baz=19,slow=15,SNR=1.5						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**10 03 49.7**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=126,slow=8.7,SNR=7.6						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**10 05 23.2**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=131,slow=9.3,SNR=4.1						
NVAR	**Mina Array Bea**	**51.47**	**315**	P	**P**	**10 05 49.1**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=108,slow=7.7,SNR=2.9						
**

KAN10 Anthony SW Sta 1.15 312 Pg 10 09 12.7 -0.4
FNO Franklin 1.15 196 Pg 10 09 13.0 -0.1
KAN08 Anthony NE Sta 1.15 319 Pg 10 09 12.8 -0.3
KAN12 Harper NE Stat 1.22 320 Pg 10 09 14.1 -0.3
U32A Winter Ranch, 1.60 271 Pn 10 09 19.8 -0.1
U32A Winter Ranch, 1.60 271 P Pn 10 09 19.9 -0.1
baz=90,SNR=380
U32A S Sn 10 09 40.7 -0.3
baz=90
U32A Winter Ranch, 1.60 271 P 10 09 19.9
baz=90,SNR=380
U32A S 10 09 40.7
baz=90
U38A Gravette 2.13 87 Pb 10 09 29.8 -0.3
U38A Gravette 2.13 87 P Pb 10 09 29.6 -0.5
baz=269,SNR=256
U38A S Sg 10 09 59.8 +0.3
baz=269
U38A Gravette 2.13 87 P 10 09 29.6
baz=269,SNR=256
U38A S 10 09 59.8
baz=269
WMOK Wichita Mounta 2.17 222 Pn 10 09 28.2 +0.4
WMOK Wichita Mounta 2.17 222 P Pn 10 09 28.1 +0.4
baz=40,SNR=362
WMOK S Sn 10 09 56.4 +1.4
baz=40
WMOK Wichita Mounta 2.17 222 P 10 09 28.2
baz=40,SNR=223
WMOK S 10 09 56.3
baz=40
WMOK Wichita Mounta 2.17 222 P 10 09 28.1
baz=40,SNR=362
WMOK S 10 09 56.4
baz=40
X37A Clayton 2.23 142 Pn 10 09 30.3 +1.7
X37A IAmb_Lg 10 10 02.1
comp=Z,229nm,0.8s
X37A Clayton 2.23 142 P Pn 10 09 30.3 +1.7
baz=322,SNR=434
X37A S Sg 10 10 02.5 -0.1
baz=322
X37A Clayton 2.23 142 P 10 09 30.3
baz=322,SNR=434
X37A S 10 10 02.5
baz=322
R32A Long Quarter, 2.46 327 Pn 10 09 32.8 +1.0
R32A Long Quarter, 2.46 327 P Pn 10 09 32.7 +1.0
baz=148,SNR=89
R32A S Sn 10 10 03.3 +1.2
baz=148
R32A Long Quarter, 2.46 327 P 10 09 32.7
baz=148,SNR=89
R32A S 10 10 03.3
baz=148
HHAR Hobbs 2.49 91 Pn 10 09 34.3 +2.1
HHAR Hobbs 2.49 91 P Pb 10 09 34.5 -1.8
baz=273,SNR=87
HHAR Sb Sg 10 10 10.4 -0.7
baz=273
HHAR Hobbs 2.49 91 P 10 09 34.5
baz=273,SNR=87
HHAR Sb 10 10 10.4
baz=273
KSU1 Kansas State U 2.75 7 Pn 10 09 36.8 +1.0
KSU1 IAmb_Lg 10 10 27.1
comp=Z,284nm,0.7s
KSU1 Kansas State U 2.75 7 P Pn 10 09 37.0 +1.3
baz=188,SNR=139
KSU1 Kansas State U 2.75 7 P 10 09 37.1
baz=188,SNR=152
KSU1 Kansas State U 2.75 7 P 10 09 37.0
baz=188,SNR=139
W39A Magazine 2.88 113 Pn Pb 10 09 40.7 -2.2
W39A Magazine 2.88 113 P Pn 10 09 39.3 +1.7
baz=294,SNR=155
W39A Magazine 2.88 113 P 10 09 39.4
baz=294,SNR=71
W39A Magazine 2.88 113 P 10 09 39.3
baz=294,SNR=155
Z35A Perchaven, San 3.03 184 Pn 10 09 40.3 +0.6
Z35A Perchaven, San 3.03 184 P Pn 10 09 40.6 +0.9
baz=2.4,SNR=63
Z35A Perchaven, San 3.03 184 P 10 09 40.6
baz=2.4,SNR=63
S39A Bolivar 3.24 65 Pn 10 09 45.0 +2.4
S39A IAmb_Lg 10 10 41.4
comp=Z,498nm,0.7s
S39A Bolivar 3.24 65 P Pn 10 09 44.7 +2.1
baz=247,SNR=65
S39A Bolivar 3.24 65 P 10 09 44.7
baz=247,SNR=65
CBKS Cedar Bluff 3.26 319 Pn Pn 10 09 43.6 +0.8
CBKS Cedar Bluff 3.26 319 P Pn 10 09 43.3 +0.5
baz=139,SNR=36
CBKS Cedar Bluff 3.26 319 P 10 09 43.6
baz=139,SNR=59
CBKS Sb 10 10 31.1
baz=139
CBKS Cedar Bluff 3.26 319 P 10 09 43.3
baz=139,SNR=36
MIAR Mount Ida 3.35 122 Pn 10 09 46.0 +2.0
MIAR IAmb_Lg 10 10 44.7
comp=Z,299nm,0.9s
MIAR Mount Ida 3.35 122 P Pn 10 09 45.9 +2.0
baz=303,SNR=47
MIAR Mount Ida 3.35 122 P 10 09 46.0
baz=303,SNR=17
MIAR S 10 10 26.9
baz=303
MIAR Mount Ida 3.35 122 P 10 09 45.9
baz=303,SNR=47
U40A Yellville 3.36 89 Pn Pn 10 09 46.2 +2.0
U40A Yellville 3.36 89 P Pn 10 09 45.7 +1.5
baz=271,SNR=111
U40A Yellville 3.36 89 P 10 09 46.1
baz=271,SNR=118
U40A Yellville 3.36 89 P 10 09 45.7
baz=271,SNR=111
U40A P 10 09 45.7
baz=271,SNR=111
Z38A Mt. Pleasant 3.52 151 Pn Pn 10 09 47.5 +1.1
Z38A IAmb_Lg 10 10 51.4
comp=Z,355nm,0.8s
MGMO Mountain Grove 3.90 77 Pn Pn 10 09 53.8 +2.3
MGMO IAmb_Lg 10 10 57.0
comp=Z,228nm,0.8s
X40A Basin Creek Fa 3.90 118 Pn 10 09 53.7 +2.1
X40A Basin Creek Fa 3.90 118 P Pn 10 09 53.7 +2.1
baz=300,SNR=24
X40A Basin Creek Fa 3.90 118 P 10 09 54.0
baz=300,SNR=7.2
X40A Basin Creek Fa 3.90 118 P 10 09 53.7
baz=300,SNR=24
X40A P 10 09 53.7
baz=300,SNR=24
FCAR Ozark Folk Cen 3.99 95 Pn 10 09 54.2 +1.3
FCAR IAmb_Lg 10 11 03.7
comp=Z,157nm,0.9s
WHAR Wooly Hollow 3.99 104 Pn Pn 10 09 54.5 +1.7
W41B Gary Mavity, V 4.06 106 P Pn 10 09 55.2 +1.5
baz=288,SNR=47
W41B Gary Mavity, V 4.06 106 P 10 09 55.2
baz=288,SNR=18
W41B Sb 10 10 59.2
baz=288
W41B Gary Mavity, V 4.06 106 P 10 09 55.2
baz=288,SNR=47
AMTX Amarillo 4.07 250 Pn Pn 10 09 54.4 +0.3
AMTX IAmb_Lg 10 11 07.5
comp=Z,264nm,0.9s
AMTX Amarillo 4.07 250 P Pn 10 09 54.4 +0.3
baz=67,SNR=9.8
AMTX Amarillo 4.07 250 P 10 09 54.6
baz=67
AMTX Amarillo 4.07 250 P 10 09 54.4
baz=67,SNR=9.8
WLAR White Oak Lake 4.17 129 Pn Pn 10 09 56.8 +1.5
WLAR IAmb_Lg 10 11 14.5
comp=Z,315nm,0.8s
R40A Maddies Statio 4.25 62 Pn 10 09 58.3 +2.0
R40A IAmb_Lg 10 11 08.5
comp=Z,321nm,0.8s
R40A Maddies Statio 4.25 62 P Pn 10 09 58.3 +2.0
baz=245,SNR=87
R40A Maddies Statio 4.25 62 P 10 09 58.3
baz=245,SNR=87

P38A Dawn 4.26 39 Pn 10 09 57.9 +1.3
P38A Dawn 4.26 39 P Pn 10 09 58.6 +2.0
baz=222,SNR=31
P38A Dawn 4.26 39 P 10 09 58.6
baz=222,SNR=31
ABTX Abilene, Hawle 4.32 211 Pn Pn 10 09 57.5 +0.2
ABTX IAmb_Lg 10 11 09.4
comp=Z,235nm,0.9s
ABTX Abilene, Hawle 4.32 211 P Pn 10 09 57.5 +0.2
baz=29
ABTX Abilene, Hawle 4.32 211 Sb 10 11 02.7
baz=29
ABTX Abilene, Hawle 4.32 211 P 10 09 57.5
baz=29
N33B J Bar K, Exete 4.38 356 P Pn 10 09 58.7 +0.5
baz=176,SNR=17
N33B J Bar K, Exete 4.38 356 P 10 09 58.7
baz=176,SNR=17
WHTX Lake Whitney, 4.38 185 Pn 10 09 58.4 +0.2
WHTX Lake Whitney, 4.38 185 P Pn 10 09 58.6 +0.4
baz=3.8,SNR=17
WHTX Lake Whitney, 4.38 185 P 10 09 58.6
baz=3.8,SNR=8.1
WHTX Lake Whitney, 4.38 185 P 10 09 58.6
baz=3.8,SNR=17
N33A J Bar K, Exete 4.38 356 Pn 10 09 58.9 +0.8
N33A IAmb_Lg 10 11 16.4
comp=Z,199nm,0.8s
237A Washetta, Mont 4.47 167 Pn 10 10 00.1 +0.7
237A Washetta, Mont 4.47 167 P Pn 10 10 00.0 +0.7
baz=347,SNR=92
237A Washetta, Mont 4.47 167 P 10 10 00.0
baz=347,SNR=92
N35A Tabor 4.62 13 Pn 10 10 02.4 +1.0
N35A Tabor 4.62 13 P Pn 10 10 02.6 +1.2
baz=195,SNR=11
N35A Tabor 4.62 13 P 10 10 02.6
baz=195,SNR=11
Z41A Richland Creek 4.65 131 P Pn 10 10 03.1 +1.2
baz=313,SNR=7.3
Z41A Richland Creek 4.65 131 P 10 10 03.1
baz=313,SNR=7.5
Z41A S 10 10 56.9
baz=313
Z41A Richland Creek 4.65 131 P 10 10 03.1
baz=313,SNR=7.3
Z41A P 10 10 03.1
baz=313,SNR=7.3
LCAR Lake Charles 4.75 92 Pn 10 10 04.7 +1.4
LCAR IAmb_Lg 10 11 26.3
comp=Z,230nm,0.8s
T42A Van Buren 4.81 80 Pn Pn 10 10 05.9 +1.9
T42A IAmb_Lg 10 11 39.0
comp=Z,226nm,0.8s
T42A Van Buren 4.81 80 P Pn 10 10 05.8 +1.8
baz=264,SNR=36
T42A Van Buren 4.81 80 P 10 10 05.8
baz=264,SNR=36
CCM Cathedral Cave 4.91 68 Pn Pn 10 10 06.9 +1.4
CCM IAmb_Lg 10 11 38.7
comp=Z,260nm,0.8s
CCM Cathedral Cave 4.91 68 P 10 10 07.4
baz=252
CCAR Cane Creek 4.95 118 Pn 10 10 07.3 +1.3
CCAR IAmb_Lg 10 11 40.0
comp=Z,213nm,0.8s
NATX Nacogdoches 4.99 156 Pn Pn 10 10 06.9 +0.2
NATX IAmb_Lg 10 11 28.0
comp=Z,97nm,0.8s
NATX Nacogdoches 4.99 156 P Pn 10 10 06.8 +0.2
baz=337
NATX Nacogdoches 4.99 156 P 10 10 07.8
baz=337
NATX Nacogdoches 4.99 156 P 10 10 06.8
baz=337
P40A Paris 5.04 50 Pn 10 10 08.7 +1.4
BGNE Belgrade 5.11 350 Pn 10 10 08.8 +0.5
BGNE IAmb_Lg 10 11 42.8
comp=Z,318nm,0.9s
BGNE Belgrade 5.11 350 P Pn 10 10 08.8 +0.5
baz=170,SNR=23
BGNE Belgrade 5.11 350 P 10 10 09.0
baz=170,SNR=11
BGNE Belgrade 5.11 350 P 10 10 08.8
baz=170,SNR=23
KSCO Kaye Shedlock' 5.17 302 Pn 10 10 09.9 +0.7
KSCO IAmb_Lg 10 11 46.4
comp=Z,183nm,0.9s
KSCO Kaye Shedlock' 5.17 302 P 10 10 10.1
baz=120,SNR=6.2
MSTX Muleshoe 5.28 245 Pn Pn 10 10 10.2 -0.5
MSTX IAmb_Lg 10 11 47.2
comp=Z,87nm,1.0s
MSTX Muleshoe 5.28 245 P 10 10 10.7
baz=61,SNR=8.9
PBMO Poplar Bluff 5.32 84 Pn Pn 10 10 13.0 +1.9
PBMO IAmb_Lg 10 11 44.5
comp=Z,324nm,0.8s
N38A Joes South For 5.32 33 Pn 10 10 12.6 +1.5
N38A Joes South For 5.32 33 P Pn 10 10 11.9 +0.8
baz=216,SNR=12
N38A Joes South For 5.32 33 P 10 10 11.9
baz=216,SNR=12
FVM French Village 5.51 71 Pn 10 10 15.0 +1.3
FVM IAmb_Lg 10 11 50.0
comp=Z,191nm,0.9s
FVM French Village 5.51 71 P Pn 10 10 15.0 +1.3
baz=255,SNR=20
FVM French Village 5.51 71 P 10 10 15.0
baz=255,SNR=20
435B Jarrell 5.59 185 Pn Pn 10 10 14.4 -0.3
435B IAmb_Lg 10 12 00.1
comp=Z,146nm,0.8s
435B Jarrell 5.59 185 P Pn 10 10 14.5 -0.3
baz=4.0,SNR=5.6
435B Jarrell 5.59 185 P 10 10 14.5
baz=4.0,SNR=5.9
435B Jarrell 5.59 185 P 10 10 14.5
baz=4.0,SNR=5.6
L34A Svendsen Farm, 5.62 5 Pn Pn 10 10 15.5 +0.3
SLM Saint Louis 5.85 65 Pn Pn 10 10 19.9 +1.5
SLM IAmb_Lg 10 12 05.7
comp=Z,184nm,0.8s
143A Socs Landing, 5.90 127 Pn 10 10 19.9 +0.8
143A IAmb_Lg 10 12 07.0
comp=Z,180nm,0.8s
T25A Trinidad 5.98 280 Pn Pn 10 10 20.6 +0.1
T25A IAmb_Lg 10 12 03.8
comp=Z,173nm,0.8s
T25A Trinidad 5.98 280 P 10 10 20.4
baz=95,SNR=9.9
OGNE Ogallala 6.02 321 Pn Pn 10 10 21.8 +0.9
OGNE IAmb_Lg 10 12 09.9
comp=Z,182nm,0.8s
OGNE Ogallala 6.02 321 P 10 10 22.2
baz=138
SCIA State Center 6.27 27 Pn 10 10 25.1 +0.9
SCIA State Center 6.27 27 P 10 10 26.2
baz=210
JCT Junction City 6.31 202 Pn Pn 10 10 24.2 -0.6
JCT IAmb_Lg 10 12 16.0
comp=Z,206nm,0.9s
S44A Carbondale 6.35 76 Pn 10 10 26.9 +1.7
S44A IAmb_Lg 10 12 19.4
comp=Z,196nm,0.8s
SIUC Southern Illin 6.38 76 IAmb_Lg 10 12 16.4
comp=Z,227nm,0.8s
K31A O'Neill 6.39 348 Pn Pn 10 10 26.6 +0.8
K31A IAmb_Lg 10 12 26.0
comp=Z,173nm,0.8s
HKT Hockley 6.47 171 Pn 10 10 27.3 +0.4
OXF Oxford 6.48 104 Pn Pn 10 10 26.9 -0.1
W45A Hickory Valley 6.48 98 Pn Pn 10 10 28.9 +1.8
Y45A Yeager Farm, C 6.62 110 IAmb_Lg 10 12 32.8
comp=Z,235nm,0.8s
P43A Skaggs, Pawnee 6.76 59 Pn Pn 10 10 32.4 +1.5
P43A IAmb_Lg 10 12 31.9
comp=Z,238nm,0.8s
P43A Skaggs, Pawnee 6.76 59 P Pn 10 10 32.1 +1.2
baz=244,SNR=20
P43A Skaggs, Pawnee 6.76 59 P 10 10 32.1
baz=244,SNR=20
VBMS Vicksburg 6.79 126 IAmb_Lg 10 12 25.2
comp=Z,93nm,1.1s
Q44A Meyer Farm, Va 6.84 66 Pn Pn 10 10 33.3 +1.4
Q44A Meyer Farm, Va 6.84 66 P Pn 10 10 33.6 +1.7
baz=251

Q44A Meyer Farm, Va 6.84 66 P 10 10 33.6
baz=251
SDCO Great Sand Dun 6.92 284 P 10 10 34.6
baz=99
Q24A Divide 6.95 294 P 10 10 34.5
baz=110
K38A Parkersburg 7.08 26 IAmb_Lg 10 12 45.8
comp=Z,221nm,0.7s
L40A Anamosa 7.25 37 Pn Pn 10 10 38.6 +1.0
L40A IAmb_Lg 10 12 51.3
comp=Z,221nm,0.9s
GDL2 Guadalupe Moun 7.36 238 Pn Pn 10 10 39.7 +0.4
HDIL Hopedale 7.36 53 Pn 10 10 40.0 +0.9
HDIL Hopedale 7.36 53 S 10 12 01.4
baz=238
ECSD EROS Data Cent 7.37 2 Pn Pn 10 10 39.0 -0.2
ECSD EROS Data Cent 7.37 2 P Pn 10 10 39.0 -0.2
baz=183
ECSD EROS Data Cent 7.37 2 P 10 10 39.1
baz=183,SNR=15
ECSD EROS Data Cent 7.37 2 P 10 10 39.0
baz=183
PLAL Pickwick Lake 7.41 98 Pn 10 10 41.0 +1.3
PLAL IAmb_Lg 10 12 54.5
comp=Z,88nm,0.8s
WVT Waverly 7.43 89 Pn Pn 10 10 41.4 +1.3
WVT IAmb_Lg 10 13 04.9
comp=Z,60nm,0.8s
OLIL Olney 7.47 69 IAmb_Lg 10 12 53.0
comp=Z,150nm,0.7s
735A Kenedy 7.52 185 IAmb_Lg 10 13 06.1
comp=Z,98nm,0.9s
146A Union 7.55 117 IAmb_Lg 10 13 07.7
comp=Z,121nm,0.9s
ISCO Idaho Springs 7.59 299 Pn 10 10 42.6 0.0
ISCO IAmb_Lg 10 13 09.1
comp=Z,62nm,0.8s
ISCO Idaho Springs 7.59 299 P Pn 10 10 42.6 0.0
baz=114,SNR=5.1
ISCO Idaho Springs 7.59 299 P 10 10 42.6
baz=114,SNR=5.1
USIN University of 7.64 75 IAmb_Lg 10 13 04.7
comp=Z,196nm,1.0s
O44A Mansfield 7.72 58 Pn Pn 10 10 45.2 +1.2
ANMO Albuquerque 7.81 262 Pn Pn 10 10 46.7 +1.2
comp=Z,0.2nm,0.3s,baz=83,slow=17,SNR=3.6
ANMO Pg Pg 10 11 14.2 -6.5
comp=Z,1.9nm,0.3s,baz=77,slow=16,SNR=16
ANMO Lg Lg 10 12 55.3
comp=Z,2.2nm,0.3s,baz=54,slow=7.9,SNR=3.1
ANMO Albuquerque 7.81 262 Pn Pn 10 10 44.9 -0.6
T47A Sharon Grove 7.99 83 Pn Pn 10 10 49.0 +1.3
T47A Sharon Grove 7.99 83 P Pn 10 10 48.9 +1.1
baz=268
T47A Sharon Grove 7.99 83 P 10 10 48.9
baz=268
Z47A Carrollton 8.01 111 IAmb_Lg 10 13 23.4
comp=Z,64nm,0.8s
I37A Lemond, Miseca 8.13 19 IAmb_Lg 10 13 29.3
comp=Z,138nm,0.9s
BNM Barren Site 8.16 257 Pn Pn 10 10 49.8 -0.5
SUSD Miller 8.20 350 Pn 10 10 50.5 -0.2
SUSD IAmb_Lg 10 13 32.9
comp=Z,68nm,0.8s
PHWY Pilot Hill 8.22 309 Pn 10 10 49.9 -1.3
V48A Smith Brothers 8.29 91 IAmb_Lg 10 13 18.0
comp=Z,72nm,1.0s
N23A Red Feather La 8.32 306 P 10 10 53.7
baz=120
MNTX Cornudas Mount 8.35 239 Pn Pn 10 10 52.1 -0.7
MNTX Cornudas Mount 8.36 239 P 10 10 53.3
baz=54,SNR=9.7
X48A Hartselle 8.37 100 Pn 10 10 53.9 +1.0
X48A IAmb_Lg 10 13 18.8
comp=Z,93nm,0.8s
JFWS Jewell Farm 8.37 37 Pn 10 10 53.4 +0.5
P46A Rosedale 8.40 64 Pn 10 10 54.8 +1.4
P46A IAmb_Lg 10 13 14.3
comp=Z,185nm,0.9s
M44A Midewin, Midew 8.61 52 IAmb_Lg 10 13 32.6
comp=Z,160nm,0.9s
CLTN Cedars of Leba 8.64 89 IAmb_Lg 10 13 32.3
comp=Z,70nm,0.7s
WCI Wyandotte Cave 8.75 75 Pn Pn 10 10 59.1 +1.0
WCI IAmb_Lg 10 13 31.5
comp=Z,128nm,0.7s
WCI Wyandotte Cave 8.75 75 P Pn 10 10 59.5 +1.4
baz=261,SNR=7.2
WCI Wyandotte Cave 8.75 75 P 10 11 00.7
baz=261
WCI Wyandotte Cave 8.75 75 P 10 10 59.5
baz=261,SNR=7.2
SFIN Lafayette 8.76 60 Pn Pn 10 10 60.0 +1.7
SFIN IAmb_Lg 10 13 31.0
comp=Z,164nm,0.8s
SFIN Lafayette 8.76 60 P 10 11 00.9
baz=246
LRAL Lakeview Retre 8.90 109 IAmb_Lg 10 13 44.8
comp=Z,56nm,0.8s
TX31 Lajitas Ar. Si 8.96 220 Pn 10 11 00.9 -0.3
TX32 Lajitas Array 8.96 220 Pn 10 11 01.2 0.0
TXAR Lajitas Array 8.96 220 Pn Pn 10 11 00.1 -1.1
comp=Z,0.2nm,0.3s,baz=45,slow=11,SNR=16
TXAR Sn Sn 10 12 38.2 -4.4
baz=58,slow=14,SNR=0.9
TXAR Lg Lg 10 13 28.0
comp=Z,2.8nm,0.3s,baz=39,slow=24,SNR=6.3
TXAR Lajitas Array 8.96 220 Pn Pn 10 11 01.4 +0.1
I40A Norwalk 8.97 31 Pn Pn 10 11 02.0 +0.8
I40A IAmb_Lg 10 13 42.4
comp=Z,154nm,1.0s
Y49A Blount Mountai 9.04 103 IAmb_Lg 10 13 46.7
comp=Z,111nm,0.8s
U49A Red Boiling Sp 9.06 86 Pn Pn 10 11 03.7 +1.3
U49A IAmb_Lg 10 13 38.1
comp=Z,64nm,0.9s
SWET Sewanee 9.08 94 IAmb_Lg 10 13 37.1
comp=Z,70nm,0.8s
L44A Lake County Fo 9.14 48 S 10 12 43.4
baz=234
K43A Burlington 9.22 44 Pn Pn 10 11 05.8 +1.2
SPMN Marine on St. 9.41 19 IAmb_Lg 10 14 03.2
comp=Z,77nm,1.0s
RSSD Black Hills 9.42 327 Pn Pn 10 11 07.3 -0.2
RSSD IAmb_Lg 10 13 57.9
comp=Z,42nm,0.8s
RSSD Black Hills 9.42 327 P 10 11 08.2
baz=143
F33A 5 Mile Ranch, 9.48 3 IAmb_Lg 10 13 59.0
comp=Z,51nm,0.9s
FPAL Fort Paine 9.49 98 IAmb_Lg 10 14 17.3
comp=Z,52nm,0.8s
RWWY Rawlins 9.54 307 IAmb_Lg 10 14 12.7
comp=Z,42nm,1.0s
W50A Signal Mountai 9.59 94 IAmb_Lg 10 14 00.1
comp=Z,85nm,0.7s
R49A Shelbyville 9.63 75 IAmb_Lg 10 14 02.8
comp=Z,64nm,0.9s
PV11 David Mesa, Pa 9.63 285 IAmb_Lg 10 14 07.5
comp=Z,41nm,1.3s
K22A Casper 9.66 313 IAmb_Lg 10 14 18.9
comp=Z,74nm,1.1s
P48A Milroy 9.67 68 IAmb_Lg 10 14 02.2
comp=Z,131nm,0.7s
PV04 Paradox Valley 9.67 286 IAmb_Lg 10 14 09.3
comp=Z,42nm,1.2s
I42A Draeger Farm, 9.74 37 IAmb_Lg 10 14 07.1
comp=Z,121nm,0.8s
T50A Nancy 9.81 83 IAmb_Lg 10 14 18.9
comp=Z,74nm,1.1s
250A Grady 9.92 113 IAmb_Lg 10 14 21.9
comp=Z,79nm,1.2s
N47A Urbana 9.94 60 IAmb_Lg 10 14 12.3
comp=Z,126nm,0.8s
TKL Tuckaleechee C 10.76 90 Pn Pn 10 11 27.1 +1.4
comp=Z,0.4nm,0.3s,baz=214,slow=18,SNR=5.1
TKL Sn Sn 10 13 28.4 +2.0
comp=Z,0.6nm,0.3s,baz=171,slow=19,SNR=1.7
TKL Lg Lg 10 14 27.2
comp=Z,4.3nm,0.3s,baz=327,slow=24,SNR=10
TKL Tuckaleechee C 10.76 90 Pn Pn 10 11 26.3 +0.7
S51A Beattyville 10.81 79 Pn Pn 10 11 27.6 +1.1
N49A Columbus Grove 11.02 62 Pn Pn 10 11 28.8 -0.5
Q51A Peebles 11.16 72 Pn Pn 10 11 31.4 +0.3
L48A N Adams 11.24 56 Pn Pn 10 11 32.1 -0.3
PDAR Pinedale Array 11.59 307 Pn Pn 10 11 36.9 -0.4
comp=Z,0.2nm,0.3s,baz=121,slow=14,SNR=5.5

PDAR				Lg	Lg	10 14 49.1	
	comp=Z,0.4nm,0.3s,baz=108,slow=35,SNR=2.3						
ACSO	**Alum Creek Sta**	**11.69**	**66**	Pn	**Pn**	**10 11 38.5**	**+0.2**
AGMN	**Agassiz Nation**	**11.96**	**4**	Pn	**Pn**	**10 11 40.2**	**-1.8**
Q52A	**Bidwell**	**11.98**	**73**	Pn	**Pn**	**10 11 43.0**	**+0.6**
P52A	**Corning**	**12.19**	**70**	Pn	**Pn**	**10 11 45.6**	**+0.3**
B35A	**Bob, Littlefor**	**12.23**	**10**	Pn	**Pn**	**10 11 43.6**	**-2.1**
EYMN	**Ely**	**12.27**	**18**	Pn	**Pn**	**10 11 46.0**	**-0.4**
N51A	**Ashland**	**12.32**	**64**	Pn	**Pn**	**10 11 47.2**	**+0.2**
E43A	**Lone Tree Farm**	**12.51**	**34**	Pn	**Pn**	**10 11 48.1**	**-1.5**
S54A	**Dingess, Beckl**	**12.63**	**79**	Pn	**Pn**	**10 11 51.0**	**-0.3**
P53A	**Whipple**	**12.73**	**71**	Pn	**Pn**	**10 11 52.3**	**-0.4**
V55A	**Taylorsville**	**12.80**	**88**	Pn	**Pn**	**10 11 55.4**	**+1.8**
O53A	**New Philadelph**	**13.01**	**68**	Pn	**Pn**	**10 11 56.3**	**-0.1**
DGMT	**Dagmar**	**13.20**	**339**	Pn	**Pn**	**10 11 57.1**	**-1.9**
R55A	**Marlinton**	**13.59**	**77**	Pn	**Pn**	**10 12 04.4**	**0.0**
O54A	**Avella**	**13.62**	**69**	Pn	**Pn**	**10 12 06.3**	**+1.5**
E46A	**Sault Ste Mari**	**13.80**	**40**	Pn	**Pn**	**10 12 06.2**	**-1.0**
ULM	**Lac du Bonnet**	**13.90**	**3**	Pn	**Pn**	**10 12 05.0**	**-3.6**
	comp=Z,0.4nm,0.3s,baz=178,slow=14,SNR=4.0						
ULM				Sn	Sn	10 14 32.1	-11
	comp=Z,0.6nm,0.3s,baz=266,slow=19,SNR=2.6						
ULM				Lg	Lg	10 16 00.7	
	comp=Z,0.5nm,0.3s,baz=106,slow=18,SNR=2.4						
EGMT	**Eagleton**	**14.97**	**325**	Pn	**Pn**	**10 12 22.3**	**-0.9**
SADO	**Sadowa**	**15.95**	**53**	Pn	**Pn**	**10 12 34.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=254,slow=20,SNR=1.3						
SADO				Sn	**Sn**	**10 15 26.3**	**-6.7**
	comp=Z,0.6nm,0.3s,baz=77,slow=19,SNR=1.8						
SADO				Lg	Lg	10 17 07.8	
	comp=Z,0.7nm,0.3s,baz=162,slow=19,SNR=5.5						
PFO	**Pinyon Flats O**	**16.17**	**266**	LR	LR	10 19 16.4	
	comp=Z,70nm,18.0s,baz=164,slow=39						
NVAR	**Mina Array Bea**	**17.04**	**283**	Pn	**P**	**10 12 52.9**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=91,slow=15,SNR=4.1						
TEIG	**Tepich**	**17.81**	**152**	P	**P**	**10 13 03.1**	**+2.7**
	comp=Z,0.5nm,0.3s,baz=11,slow=16,SNR=7.3						
TEIG				S	Sn	10 16 06.7	-12
	comp=Z,0.2nm,0.3s,baz=287,slow=19,SNR=1.5						
APG	**El Apazote**	**22.07**	**163**	P	**P**	**10 13 49.5**	**+2.5**
	comp=Z,1.1nm,0.6s,baz=322,slow=19,SNR=2.1						
YKA	**Yellowknife Ar**	**28.34**	**343**	P	**P**	**10 14 46.0**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=142,slow=9,SNR=3.8						
FRB	**Frobisher Bay**	**32.40**	**23**	LR	LR	10 29 03.3	
	comp=Z,61nm,19.3s,baz=198,slow=37						
ILAR	**Eielson Array**	**40.85**	**330**	P	**P**	**10 16 35.1**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=105,slow=7.2,SNR=12						
ARCES	**ARCESS Array B**	**66.42**	**19**	P	**P**	**10 19 42.1**	**+1.4**
	comp=Z,8.7nm,1.0s,baz=320,slow=8.3,SNR=2.4						
HHC	**Hu-ho-hao-te**	**98.80**	**338**	*e*P	**P**	**10 22 31.5**	**-0.5**
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,50nm,6.6s						

MEX 21 10:09:57.8±0.7, 13°92N×92°84W, h20km±999km, MD3.7, Off coast of Chiapas

*JMA **21** 10:15:14.2±0.1, 24°51N×122°68E, h84km±1km, M2.9*
*TAP **21** 10:15:15.0, 24°56N×122°68E, h73km±1km, ML3.7, C*
ISC 21 10:15:15.3±1.2, 24°55N±0′04×122°69E±0′02, h75km±7km, n94, σ0°95/169, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.25**	**113**	P		**Pn**	**Pn**	**10 15 26.7**	**0.0**
JYNG				S		**Sn**	**Sn**	**10 15 36.0**	**+0.9**
YOJ	**Yonaguni jima**	**0.30**	**106**	*e*P		**Pn**	**Pn**	**10 15 26.8**	**-0.2**
	baz=106								
YOJ				*e*S		**Sn**	**Sn**	**10 15 36.5**	**+0.9**
	baz=106								
YOJ	**Yonaguni jima**	**0.30**	**106**	P		**Pn**	**Pn**	**10 15 27.0**	**0.0**
YOJ				*e*S		**Sn**	**Sn**	**10 15 36.3**	**+0.7**
TWC	**Suao**	**0.77**	**275**	*i* P		**Pn**	**Pn**	**10 15 31.0**	**-0.4**
	baz=274								
TWC				*i* S		**Sn**	**Sn**	**10 15 42.7**	**-0.6**
	baz=274								
TWB1	**Santiao Chiao**	**0.79**	**306**	P		**Pn**	**Pn**	**10 15 31.1**	**-0.4**
	baz=306								
TWB1				S		**Sn**	**Sn**	**10 15 42.8**	**-0.8**
	baz=306								
EWUT	**Wuta**	**0.84**	**263**	P		**Pn**	**Pn**	**10 15 32.4**	**+0.3**
	baz=262								
EWUT				S		**Sn**	**Sn**	**10 15 45.0**	**+0.4**
	baz=262								
NTC	**Toucheng**	**0.84**	**291**	*i* P		**Pn**	**Pn**	**10 15 32.0**	**-0.2**
	baz=291								
NTC				*i* S		**Sn**	**Sn**	**10 15 44.2**	**-0.5**
	baz=291								
ENA	**Nanau**	**0.88**	**262**	P		**Pn**	**Pn**	**10 15 32.7**	**+0.1**
	baz=261								
ENA				*i* S		**Sn**	**Sn**	**10 15 46.8**	**+1.3**
	baz=261								
NDS	**Dongshan**	**0.89**	**276**	*e*P		**Pn**	**Pn**	**10 15 33.1**	**+0.3**
	baz=275								
NDS				*e*S		**Sn**	**Sn**	**10 15 46.4**	**+0.5**
	baz=275								
TIPB	**Shuangxi**	**0.90**	**298**	P		**Pn**	**Pn**	**10 15 32.6**	**-0.2**
	baz=298								
TIPB				S		**Sn**	**Sn**	**10 15 45.0**	**-0.9**
	baz=298								
TWE	**Neicheng**	**0.95**	**281**	*i* P		**Pn**	**Pn**	**10 15 33.4**	**-0.1**
	baz=280								
TWE				S		**Sn**	**Sn**	**10 15 46.8**	**-0.2**
	baz=280								
IRIF	**Iriomote-Funau**	**0.97**	**102**	P		**Pn**	**Pn**	**10 15 33.1**	**-0.6**
IRIF				S		**Sn**	**Sn**	**10 15 47.4**	**0.0**
NWF	**Wu-fen Shan**	**0.98**	**302**	P		**Pn**	**Pn**	**10 15 33.8**	**-0.1**
	baz=302								
NWF				*e*S		**Sn**	**Sn**	**10 15 48.2**	**+0.4**
	baz=302								
WFSB	**Wu-fen Shan**	**0.98**	**302**	P		**Pn**	**Pn**	**10 15 33.8**	**0.0**
	baz=302								
WFSB				S		**Sn**	**Sn**	**10 15 47.4**	**-0.2**
	baz=302								
ENTT	**Nioudou**	**1.03**	**275**	*i* P		**Pn**	**Pn**	**10 15 34.8**	**+0.3**
	baz=274								
NACB	**Ninganchiao**	**1.07**	**250**	P		**Pn**	**Pn**	**10 15 34.5**	**-0.5**
	baz=248								
NACB				S		**Sn**	**Sn**	**10 15 49.4**	**-0.1**
	baz=248								
NDT	**Datong Townshi**	**1.08**	**273**	*i* P		**Pn**	**Pn**	**10 15 35.7**	**+0.7**
	baz=272								
NDT				S		**Sn**	**Sn**	**10 15 50.8**	**+1.0**
	baz=272								
TWA	**Mucha**	**1.10**	**293**	P		**Pn**	**Pn**	**10 15 35.2**	**-0.1**
	baz=293								
TWA				*e*S		**Sn**	**Sn**	**10 15 51.0**	**+0.8**
	baz=293								
TWD	**Chiawan**	**1.10**	**245**	*e*P		**Pn**	**Pn**	**10 15 35.2**	**-0.2**
	baz=244								
TWD				*e*S		**Sn**	**Sn**	**10 15 49.7**	**-0.7**
	baz=244								
NWLT	**Wulai**	**1.11**	**282**	*e*P		**Pn**	**Pn**	**10 15 35.9**	**+0.5**
	baz=281								
NWLT				*e*S		**Sn**	**Sn**	**10 15 50.4**	**-0.1**
	baz=281								
HATJ	**Hateruma jima**	**1.13**	**115**	P		**Pn**	**Pn**	**10 15 35.7**	**+0.1**
NHDH	**Xindian Distri**	**1.14**	**292**	P		**Pn**	**Pn**	**10 15 35.7**	**-0.1**
	baz=291								
NHDH				*e*S		**Sn**	**Sn**	**10 15 51.0**	**-0.2**
	baz=291								
HWA	**Hwalien**	**1.14**	**240**	*e*S		**Sn**	**Sn**	**10 15 52.0**	**+0.7**
	baz=239								
ETLH	**Xiulin Townshi**	**1.16**	**253**	P		**Pn**	**Pn**	**10 15 36.0**	**-0.2**
	baz=252								
ETLH				S		**Sn**	**Sn**	**10 15 52.2**	**+0.5**
	baz=252								
YM08	**YM08**	**1.19**	**303**	*e*P		**Pn**	**Pn**	**10 15 35.9**	**-0.6**
	baz=302								
YM11	**YM11**	**1.19**	**301**	*e*P		**Pn**	**Pn**	**10 15 36.8**	**+0.2**
	baz=301								
YM05	**YM05**	**1.19**	**301**	*e*P		**Pn**	**Pn**	**10 15 36.3**	**-0.3**
	baz=300								
YM10	**YM10**	**1.19**	**301**	*e*P		**Pn**	**Pn**	**10 15 36.4**	**-0.2**
	baz=300								
NNSB	**Datong**	**1.20**	**265**	P		**Pn**	**Pn**	**10 15 36.5**	**-0.1**
	baz=263								
NNSB				S		**Sn**	**Sn**	**10 15 52.5**	**-0.2**
	baz=263								
NNSH	**Datong**	**1.20**	**265**	*e*P		**Pn**	**Pn**	**10 15 36.6**	**-0.1**
	baz=263								
NNSH				*e*S		**Sn**	**Sn**	**10 15 52.5**	**-0.2**
	baz=263								
YHNB	**Yeheng**	**1.21**	**276**	*i* P		**Pn**	**Pn**	**10 15 37.1**	**+0.4**
	baz=275								
YHNB				S		**Sn**	**Sn**	**10 15 53.2**	**+0.4**
	baz=275								
NNS	**Nan Shan**	**1.21**	**265**	P		**Pn**	**Pn**	**10 15 36.6**	**-0.2**
	baz=264								
NNS				*e*S		**Sn**	**Sn**	**10 15 52.7**	**-0.2**
	baz=264								
YM04	**YM04**	**1.21**	**300**	*e*P		**Pn**	**Pn**	**10 15 36.5**	**-0.3**
	baz=299								
NSK	**Sanguang**	**1.22**	**276**	P		**Pn**	**Pn**	**10 15 37.2**	**+0.3**
	baz=275								
NSK				*e*S		**Sn**	**Sn**	**10 15 53.5**	**+0.4**
	baz=275								
JKRS	**Kuro-shima**	**1.24**	**104**	P		**Pn**	**Pn**	**10 15 37.0**	**-0.1**
JKRS				*e*S		**Sn**	**Sn**	**10 15 53.5**	**+0.1**
TWS1	**Kuangyinshan**	**1.28**	**296**	*e*P		**Pn**	**Pn**	**10 15 37.8**	**+0.1**
	baz=295								
JIJ	**Ishigaki jima**	**1.33**	**98**	P		**Pn**	**Pn**	**10 15 37.6**	**-0.7**
JIJ				*e*S		**Sn**	**Sn**	**10 15 54.5**	**-1.1**
FUSS	**Fushou**	**1.35**	**258**	*e*P		**Pn**	**Pn**	**10 15 38.6**	**-0.2**
	baz=256								
FUSS				*e*S		**Sn**	**Sn**	**10 15 56.8**	**+0.3**
	baz=256								
ESL	**Shilin**	**1.36**	**238**	*i* P		**Pn**	**Pn**	**10 15 38.0**	**-0.7**
	baz=236								
ESL				*e*S		**Sn**	**Sn**	**10 15 55.2**	**-1.0**
	baz=236								
WHF	**Hehuan Shan**	**1.36**	**253**	*e*P		**Pn**	**Pn**	**10 15 39.0**	**-0.1**
	baz=252								
WHF				*e*S		**Sn**	**Sn**	**10 15 56.5**	**-0.4**
	baz=252								
TWT	**Tachien**	**1.41**	**258**	*e*P		**Pn**	**Pn**	**10 15 40.1**	**+0.6**
	baz=257								
TWT				*e*S		**Sn**	**Sn**	**10 15 57.9**	**+0.2**
	baz=257								
TDCB	**Techi**	**1.43**	**258**	P		**Pn**	**Pn**	**10 15 40.1**	**+0.5**
	baz=257								
TDCB				*e*S		**Sn**	**Sn**	**10 15 57.6**	**-0.4**
	baz=257								
CHGB	**Renai**	**1.47**	**251**	*i* P		**Pn**	**Pn**	**10 15 40.4**	**+0.1**
	baz=250								
CHGB				S		**Sn**	**Sn**	**10 15 58.7**	**-0.3**
	baz=250								
JISG	**Ishigakijimahi**	**1.47**	**88**	P		**Pn**	**Pn**	**10 15 39.3**	**-0.8**
JISG				S		**Sn**	**Sn**	**10 15 58.6**	**-0.2**
LIOB	**Emei**	**1.53**	**274**	*e*P		**Pn**	**Pn**	**10 15 41.4**	**+0.5**
	baz=273								
LIOB				*e*S		**Sn**	**Sn**	**10 16 01.3**	**+1.2**
	baz=273								
NSTT	**Nanjuang**	**1.54**	**273**	*e*P		**Pn**	**Pn**	**10 15 41.3**	**+0.3**
	baz=272								
NSTT				*e*S		**Sn**	**Sn**	**10 16 00.5**	**+0.1**
	baz=272								
HGSD	**Ruisui**	**1.57**	**228**	P		**Pn**	**Pn**	**10 15 40.7**	**-0.6**
	baz=227								
HGSD				*e*S		**Sn**	**Sn**	**10 16 00.8**	**-0.2**
	baz=227								
WHP	**Taichung City**	**1.61**	**261**	*i* P		**Pn**	**Pn**	**10 15 43.3**	**+1.2**
	baz=260								
WHP				S		**Sn**	**Sn**	**10 16 03.1**	**+0.8**
	baz=260								
VWDT	**VWDT**	**1.62**	**241**	P		**Pn**	**Pn**	**10 15 42.3**	**+0.2**
	baz=240								
VWDT				S		**Sn**	**Sn**	**10 16 02.2**	**-0.1**
	baz=240								
EHY	**Hungye**	**1.63**	**231**	P		**Pn**	**Pn**	**10 15 41.3**	**-0.9**
	baz=229								
WPL	**Puli Township**	**1.67**	**252**	*e*P		**Pn**	**Pn**	**10 15 43.2**	**+0.5**
	baz=251								
WPL				*e*S		**Sn**	**Sn**	**10 16 04.6**	**+1.2**
	baz=251								
DPDB	**Guoxing**	**1.69**	**253**	*e*P		**Pn**	**Pn**	**10 15 43.6**	**+0.6**
	baz=251								
YULB	**Yu-li**	**1.72**	**228**	*e*P		**Pn**	**Pn**	**10 15 42.7**	**-0.7**
	baz=227								
YULB				*e*S		**Sn**	**Sn**	**10 16 03.7**	**-0.9**
	baz=227								
NMLH	**Miaoli**	**1.73**	**270**	*e*P		**Pn**	**Pn**	**10 15 44.1**	**+0.5**
	baz=269								
NMLH				*e*S		**Sn**	**Sn**	**10 16 06.5**	**+1.6**
	baz=269								
TWF1	**Yuli**	**1.75**	**227**	P		**Pn**	**Pn**	**10 15 43.1**	**-0.6**
	baz=226								
TWF1				*e*S		**Sn**	**Sn**	**10 16 04.0**	**-1.2**
	baz=226								
SSLB	**Suanglung**	**1.76**	**245**	P		**Pn**	**Pn**	**10 15 43.9**	**0.0**
	baz=244								
SSLB				S		**Sn**	**Sn**	**10 16 05.2**	**-0.4**
	baz=244								
TWQ1	**Liyutan**	**1.76**	**264**	*e*P		**Pn**	**Pn**	**10 15 44.0**	**+0.1**
	baz=263								
TWQ1				*e*S		**Sn**	**Sn**	**10 16 06.5**	**+0.9**
	baz=263								
NSY	**Sanyi**	**1.77**	**266**	*e*P		**Pn**	**Pn**	**10 15 44.5**	**+0.6**
	baz=265								
NSY				*e*S		**Sn**	**Sn**	**10 16 06.5**	**+0.8**
	baz=265								
TYC	**Yuchr**	**1.79**	**249**	P		**Pn**	**Pn**	**10 15 45.0**	**+0.7**
	baz=248								
TYC				*e*S		**Sn**	**Sn**	**10 16 07.8**	**+1.4**
	baz=248								
JTJ	**Tarama**	**1.83**	**87**	P		**Pn**	**Pn**	**10 15 44.4**	**-0.4**
JTJ				*e*S		**Sn**	**Sn**	**10 16 07.9**	**+0.7**
FULB	**Fuli**	**1.86**	**224**	*e*P		**Pn**	**Pn**	**10 15 44.6**	**-0.6**
	baz=223								
FULB				*e*S		**Sn**	**Sn**	**10 16 06.8**	**-1.0**
	baz=223								
WWF	**Wufeng**	**1.89**	**255**	*e*P		**Pn**	**Pn**	**10 15 45.9**	**+0.3**
	baz=254								
WWF				*e*S		**Sn**	**Sn**	**10 16 10.6**	**+2.0**
	baz=254								
YUS	**Yu-Shan**	**1.91**	**237**	P		**Pn**	**Pn**	**10 15 46.6**	**+0.3**
	baz=235								
YUS				*e*S		**Sn**	**Sn**	**10 16 08.9**	**-0.9**
	baz=235								
ALS	**Alishan**	**2.01**	**240**	P		**Pn**	**Pn**	**10 15 48.4**	**+0.8**
	baz=238								
ALS				*e*S		**Sn**	**Sn**	**10 16 12.5**	**+0.5**
	baz=238								
EDH	**Donghe**	**2.02**	**219**	*e*P		**Pn**	**Pn**	**10 15 46.4**	**-1.0**
	baz=218								
EDH				*e*S		**Sn**	**Sn**	**10 16 09.7**	**-2.1**
	baz=218								
ELDTW	**Lidau**	**2.04**	**229**	*e*P		**Pn**	**Pn**	**10 15 47.4**	**-0.4**
	baz=227								
CHN5	**Tsauling**	**2.07**	**243**	P		**Pn**	**Pn**	**10 15 49.7**	**+1.6**
	baz=242								
CHN5				*e*S		**Sn**	**Sn**	**10 16 15.4**	**+2.3**
	baz=242								
WDLH	**Douliu**	**2.15**	**247**	*e*P		**Pn**	**Pn**	**10 15 50.0**	**+1.0**
	baz=246								
WDLH				*e*S		**Sn**	**Sn**	**10 16 17.4**	**+2.6**
	baz=246								
LONT	**Longtian**	**2.17**	**222**	*e*P		**Pn**	**Pn**	**10 15 48.9**	**-0.6**
	baz=220								
LONT				*e*S		**Sn**	**Sn**	**10 16 14.2**	**-1.3**
	baz=220								
LDUT	**Ludao**	**2.18**	**211**	*e*S		**Sn**	**Sn**	**10 16 13.3**	**-2.3**
	baz=210								
WRL	**Guolierlin Hig**	**2.21**	**254**	*e*S		**Sn**	**Sn**	**10 16 16.3**	**-0.1**
	baz=252								
STYH	**Taoyuan**	**2.23**	**232**	*e*P		**Pn**	**Pn**	**10 15 50.8**	**+0.6**
	baz=231								
STYH				*e*S		**Sn**	**Sn**	**10 16 17.2**	**+0.5**
	baz=231								
STYT	**Tauyuan**	**2.25**	**233**	*e*P		**Pn**	**Pn**	**10 15 51.0**	**+0.5**
	baz=231								
STYT				*e*S		**Sn**	**Sn**	**10 16 18.6**	**+1.3**
	baz=231								
TPUB	**Ta-pu**	**2.26**	**237**	*e*P		**Pn**	**Pn**	**10 15 51.7**	**+1.1**
	baz=236								
TPUB				*e*S		**Sn**	**Sn**	**10 16 20.1**	**+2.5**
	baz=236								
CHN4	**Tsaushan**	**2.26**	**239**	P		**Pn**	**Pn**	**10 15 51.9**	**+1.3**
	baz=237								
CHN4				*e*S		**Sn**	**Sn**	**10 16 19.8**	**+2.2**
	baz=237								
TWGBT	**Beinan**	**2.27**	**221**	*e*P		**Pn**	**Pn**	**10 15 49.8**	**-1.0**
	baz=220								
TWGBT				*e*S		**Sn**	**Sn**	**10 16 16.3**	**-1.5**
	baz=220								
TWG	**Pinlang**	**2.27**	**221**	*e*P		**Pn**	**Pn**	**10 15 49.9**	**-0.9**
	baz=220								
TWG				*e*S		**Sn**	**Sn**	**10 16 16.6**	**-1.3**
	baz=220								
JIRB	**Irabujima**	**2.27**	**82**	P		**Pn**	**Pn**	**10 15 50.7**	**0.0**
WTP	**Ta-pu**	**2.30**	**236**	*e*P		**Pn**	**Pn**	**10 15 52.3**	**+1.1**
	baz=235								
WTP				*e*S		**Sn**	**Sn**	**10 16 19.9**	**+1.2**
	baz=235								
JIKM	**Ikemajima**	**2.35**	**80**	P		**Pn**	**Pn**	**10 15 51.4**	**-0.4**
JIKM				*e*S		**Sn**	**Sn**	**10 16 22.2**	**+2.4**
JMJ	**Miyako jima 2**	**2.38**	**83**	*e*P		**Pn**	**Pn**	**10 15 52.1**	**-0.1**
	baz=83								
TWK	**Hsinying**	**2.39**	**238**	P		**Pn**	**Pn**	**10 15 53.8**	**+1.4**
	baz=237								
TWK				*e*S		**Sn**	**Sn**	**10 16 22.6**	**+1.9**
	baz=237								
CHN1	**Nanshi**	**2.40**	**236**	*e*P		**Pn**	**Pn**	**10 15 54.3**	**+1.8**
	baz=235								
CHN1				*e*S		**Sn**	**Sn**	**10 16 22.5**	**+1.5**
	baz=235								
JMJ2	**Miyako jima3**	**2.41**	**85**	P		**Pn**	**Pn**	**10 15 52.3**	**-0.2**
JMJ2				*e*S		**Sn**	**Sn**	**10 16 22.6**	**+1.6**
SGST	**Jiashian**	**2.42**	**233**	*e*P		**Pn**	**Pn**	**10 15 52.4**	**-0.3**
	baz=232								
SGST				*e*S		**Sn**	**Sn**	**10 16 22.7**	**+1.3**
	baz=232								
JOGS	**Gusukube**	**2.48**	**85**	P		**Pn**	**Pn**	**10 15 53.3**	**-0.2**
JOGS				*e*S		**Sn**	**Sn**	**10 16 23.1**	**+0.3**
ICHU	**Yijhu**	**2.50**	**242**	*e*P		**Pn**	**Pn**	**10 15 55.2**	**+1.3**
	baz=241								
ICHU				*e*S		**Sn**	**Sn**	**10 16 24.2**	**+0.8**
	baz=241								
TSMG	**Majia**	**2.62**	**226**	*e*P		**Pn**	**Pn**	**10 15 57.2**	**+1.6**
	baz=225								
TSMG				*e*S		**Sn**	**Sn**	**10 16 28.4**	**+2.0**
	baz=225								
MASBT	**Mashibuluo**	**2.70**	**225**	*e*P		**Pn**	**Pn**	**10 15 57.1**	**+0.5**
	baz=224								
MASBT				*e*S		**Sn**	**Sn**	**10 16 30.0**	**+1.8**
	baz=224								
MATB	**Ma-tsu**	**2.96**	**303**	*e*P		**Pn**	**Pn**	**10 15 59.3**	**-0.7**
	baz=302								
VWUC	**VWUC**	**2.98**	**279**	P		**Pn**	**Pn**	**10 15 59.5**	**-0.9**
	baz=278								
VWUC				*e*S		**Sn**	**Sn**	**10 16 31.8**	**-3.3**
	baz=278								
PHUB	**P'eng-hu**	**3.03**	**251**	P		**Pn**	**Pn**	**10 16 00.3**	**-0.8**
	baz=249								
PHUB				*e*S		**Sn**	**Sn**	**10 16 34.1**	**-2.2**
	baz=249								
KNMB	**Chin-men Tao**	**3.92**	**270**	*e*P		**Pn**	**Pn**	**10 16 11.9**	**-1.3**
	baz=268								
AXDP	**Jialang**	**4.31**	**276**	*e*P		**Pn**	**Pn**	**10 16 17.6**	**-0.8**
	baz=274								

*SOME **21** 10:21:36.3, 42°00N×83°63E, h0km*
*NNC **21** 10:22:20.3±3.6, 44°01N×82°19E, h0km, mb2.5, mpv2.1, Error ellipse: s-maj=46.4km s-min=10.5km az=130.0*
ISC 21 10:21:35.9±2.2, 41°9N±0′1×83°59E±0′06, h10km, n10, σ1°89/16, 3C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.82**	**303**	*e*P		**Pn**	**Pg**	**10 22 29.5**	**-0.4**
	3.5nm,0.2s								
KTMS				*e*S		**Sn**	**Sg**	**10 23 08.4**	**+2.0**
	23nm,0.3s								
SHLS	**Shalkode**	**3.28**	**293**	*e*P		**Pn**	**Pb**	**10 22 33.4**	**-0.8**
	4.9nm,0.2s								
SHLS				*e*S		**Sn**	**Sb**	**10 23 14.3**	**0.0**
	24nm,0.4s								
PDGK	**Podgornoye**	**3.33**	**296**	⇑Pn		Pg	Pg	10 22 56.9	+17
	0.7nm,0.4s								
PDGK				⇓Sn		**Sg**	**Sg**	**10 23 24.0**	**+1.4**
	6.8nm,0.6s								
WMQ	**Urumqi**	**3.55**	**57**	*e*P		**Pn**	**Pb**	**10 22 40.1**	**+1.3**
UZB	**Uzynbulak**	**3.58**	**291**	*e*P		**Pn**	**Pg**	**10 22 43.2**	**-1.3**
	2.1nm,0.4s								
UZB				*e*S		**Sn**	**Sg**	**10 23 31.4**	**+0.5**
	5.1nm,0.3s								
KPKS	**Kokpek**	**3.92**	**294**	*e*P		**Pn**	**Pg**	**10 22 48.9**	**-2.1**
	2.5nm,0.3s								
KPKS				*e*S		**Sn**	**Sg**	**10 23 41.5**	**-0.3**
	8.1nm,0.3s								
SATY	**Saty**	**3.99**	**288**	*e*P		**Pn**	**Pg**	**10 22 51.5**	**-0.8**
	0.8nm,0.4s								
SATY				*e*S		**Sn**	**Sg**	**10 23 45.4**	**+1.4**
	5.5nm,0.2s								
MNBS	**Baschi**	**4.36**	**301**	*e*P		**Pn**	**Pg**	**10 22 58.0**	**-1.4**
	0.8nm,0.2s								
MNBS				*e*S		**Sn**	**Sg**	**10 23 56.4**	**+0.5**
	5.0nm,0.3s								
MK31	**Makanchi Array**	**4.94**	**350**	⇓Pn		**Pn**	**Pb**	**10 23 05.5**	**+3.2**
	0.2nm,0.3s,baz=163,slow=17,SNR=8.1								
MK31				⇑Lg		Lg	Lg	10 23 49.1	
	2.4nm,0.5s,baz=164,slow=26,SNR=4.7								
MAKZ	**Makanchi**	**5.00**	**347**	⇑Pn		**Pg**	**Pg**	**10 23 07.4**	**-4.2**
	0.6nm,0.5s								
MAKZ				⇓Lg		Lg	Lg	10 23

H03N3	**Juan Fernandez**	**5.06**	**301**	Pn	**Pn**	**10 39 19.7**	**+2.0**
H03N3				Sn	**Sn**	**10 40 11.5**	**-5.2**
H03N2	**Juan Fernandez**	**5.08**	**301**	Pn	**Pn**	**10 39 19.9**	**+2.1**
H03N2				Sn	**Sn**	**10 40 11.6**	**-5.3**
AAGR	**Agrelo**	**5.09**	**54**	*i* P	**Pn**	**10 39 20.2**	**+1.9**
AAGR				IAML		10 39 20.6	
	comp=Z,58nm,0.4s						
ARCO	**CERRO ARCO**	**5.18**	**51**	*i* P	**Pn**	**10 39 21.5**	**+1.9**
ARCO				IAML		10 39 26.6	
	comp=Z,100nm,0.5s						
PLCA	**Paso Flores**	**5.18**	**152**	Pn	**Pn**	**10 39 19.9**	**+0.2**
	comp=Z,2.6nm,0.3s,baz=330,slow=13,SNR=104						
PLCA				Lg	Lg	10 40 40.6	
	comp=Z,8.9nm,0.3s,baz=58,slow=19,SNR=5.4						
PLCA				LR	LR	10 40 46.4	
	comp=Z,68nm,19.8s,baz=315,slow=33						
PLCA	**Paso Flores**	**5.18**	**152**	*eP*	**Pn**	**10 39 19.8**	**+0.2**
CO02	**Combarbal**	**5.47**	**25**		**Pn**	**10 39 23.8**	**+0.3**
RTLS	**Leoncito**	**5.72**	**41**	*i* P	**Pn**	**10 39 28.7**	**+1.5**
RTLS				*eS*	**Sb**	**10 40 45.9**	**-4.9**
CO03	**El Pedregal**	**5.91**	**26**		**Pn**	**10 39 29.7**	**+0.1**
RTCV	**Cerro Valdivia**	**6.10**	**46**	*i* P	**Pn**	**10 39 33.0**	**+0.9**
RTCV				IAML		10 39 49.5	
	comp=Z,33nm,0.5s						
ZON	**Zonda**	**6.25**	**44**		**Pn**	**10 39 35.5**	**+1.2**
LL01	**San Ignacio de**	**6.27**	**171**	Pn	**Pn**	**10 39 34.0**	**-0.4**
GO04	**Tololo Observa**	**6.48**	**23**	Pn	**Pn**	**10 39 37.4**	**-0.2**
RTLL	**Cerro Villicun**	**6.53**	**44**	*i* P	**Pn**	**10 39 38.5**	**+0.5**
CO01	**Juntas del Tor**	**6.90**	**27**		**Pn**	**10 39 43.9**	**+0.5**
LCO	**Las Campanas**	**7.60**	**21**	Pn	**Pn**	**10 39 51.6**	**-1.4**
AC05	**El Transito**	**7.89**	**23**	Pn	**Pn**	**10 39 56.6**	**-0.2**
AC04	**Llanos de Chal**	**8.27**	**17**		**Pn**	**10 40 01.1**	**-0.8**
GO03	**Copiap**	**9.07**	**20**		**Pn**	**10 40 13.8**	**+0.9**
AC02	**Maricunga**	**10.11**	**24**		**Pn**	**10 40 27.0**	**-0.7**
GO02	**Mina Guanaco**	**11.55**	**19**		**Pn**	**10 40 47.4**	**+0.3**
PB14	**IPOC Station P**	**11.87**	**15**	Pn	**Pn**	**10 40 52.1**	**+0.5**
LPA	**La Plata**	**12.94**	**89**	*eP*	Pn	10 40 55.9	-10
LPA				sP		10 41 14.3	
LPA				PPP	PPP	10 41 21.1	
LPA				pPP		10 41 51.2	
LPA				S	Sn	10 43 12.8	-18
LPA				SS	**SnSn**	**10 43 40.3**	**-2.0**
LPA				SSS	SSS	10 43 49.1	
LPA				SS	**SbSb**	**10 44 31.9**	**+8.7**
LPA				SS	**SbSb**	**10 44 31.9**	**+8.7**
LPA				SCS	**ScS**	**10 53 50.0**	**-1.0**
LPA				PKIKP	**PKiKP**	**10 54 30.1**	**-7.3**
LPA				SKIKP		10 57 52.2	
LVC	**Limon Verde**	**14.16**	**19**	Pn	**Pn**	**10 41 25.0**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=180,slow=16,SNR=2.6						
LVC				Lg	Lg	10 45 17.3	
	comp=Z,0.2nm,0.3s,baz=330,slow=16,SNR=3.1						
LVC				LR	LR	10 46 59.7	
	comp=Z,203nm,18.5s,baz=208,slow=38						
LVC	**Limon Verde**	**14.16**	**19**	Pn	**Pn**	**10 41 22.3**	**-0.7**
PSGCX	**Pisagua**	**16.83**	**12**	Pn	**Pn**	**10 41 58.5**	**+0.7**
CPUP	**Villa Florida**	**17.10**	**60**	Pn	**Pn**	**10 42 01.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=233,slow=16,SNR=2.0						
CPUP				LR	LR	10 48 42.0	
	comp=Z,149nm,21.9s,baz=234,slow=38						
CPUP	**Villa Florida**	**17.10**	**60**	IAmb	IAmb	10 42 04.6	
	comp=Z,8.3nm,1.3s						
PLTB	**Pedras Altas**	**17.27**	**81**	*eP*	**Pn**	**10 42 01.5**	**-1.7**
MNMC	**Minye Minye**	**17.38**	**13**		**Pn**	**10 42 04.6**	**-0.4**
ITAB	**Concordia**	**20.40**	**70**	*eP*	**P**	**10 42 38.7**	**-0.5**
LPAZ	**La Paz**	**20.44**	**16**	P	Pn	10 42 43.4	+1.1
	comp=Z,8.3nm,0.8s,baz=185,slow=6.6,SNR=11						
LPAZ	**La Paz**	**20.44**	**16**	P	**P**	**10 42 39.0**	**-1.3**
PTGB	**Pitanga**	**21.85**	**64**	*eP*	**P**	**10 42 55.0**	**0.0**
AQDB	**Aquidauana**	**22.23**	**50**	*eP*	**P**	**10 42 58.5**	**-0.5**
SIV	**San Ignacio**	**23.06**	**33**	P	**P**	**10 43 07.5**	**-0.4**
	comp=Z,9.1nm,0.9s,baz=222,slow=14,SNR=34						
SIV				LR	LR	10 54 04.2	
	comp=Z,304nm,18.5s,baz=222,slow=42						
NNA	**Nana**	**24.26**	**353**	P	**P**	**10 43 21.9**	**+2.3**
	comp=Z,6.8nm,0.7s,baz=202,slow=13,SNR=5.4						
PCMB	**Pacaembu**	**24.38**	**60**	*eP*	**P**	**10 43 19.6**	**-1.0**
PTLB	**Pontes e Lacer**	**24.42**	**36**	*eP*	**P**	**10 43 21.2**	**+0.2**
FRTB	**Fartura**	**24.50**	**65**	*eP*	**P**	**10 43 20.0**	**-1.8**
PET01	**Itanhaem-SP**	**25.66**	**70**	*eP*	**P**	**10 43 30.8**	**-1.5**
VILB	**Vilhena**	**26.14**	**31**	*eP*	**P**	**10 43 38.5**	**+1.8**
ITRB	**Iturama**	**26.28**	**58**	*eP*	**P**	**10 43 38.8**	**+0.9**
VAO	**Valinhos**	**26.63**	**68**	*eP*	**P**	**10 43 40.0**	**-1.1**
BB19B	**Bebedouro**	**26.66**	**62**	*eP*	**P**	**10 43 41.3**	**-0.1**
ETMB	**Extrema**	**27.12**	**16**	*eP*	**P**	**10 43 46.9**	**+1.4**
ARAG	**Araguaiana, MT**	**28.24**	**49**	*eP*	**P**	**10 43 55.4**	**-0.1**
PMSA	**Palmer Station**	**29.21**	**172**	LR	LR	10 56 14.6	
	comp=Z,133nm,18.9s,baz=264,slow=38						
ATAH	**Atahualpa**	**29.23**	**350**	LR	LR	10 54 17.2	
	comp=Z,40nm,18.9s,baz=234,slow=33						
BDFB	**Brasilia**	**30.72**	**55**	P	**P**	**10 44 17.1**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=195,slow=5.4,SNR=3.7						
BDFB				LR	LR	10 58 23.1	
	comp=Z,128nm,18.7s,baz=276,slow=40						
BDFB	**Brasilia**	**30.72**	**55**	IAmb	IAmb	10 44 18.3	
	comp=Z,7.2nm,1.1s						
JANB	**Januaria**	**33.64**	**59**	*eP*	**P**	**10 44 42.2**	**-1.1**
BSFB	**Barra de Sao F**	**33.69**	**68**	*eP*	**P**	**10 44 43.2**	**-0.4**
SDBA	**SAO DESIDERIO**	**35.13**	**55**	*eP*	**P**	**10 44 55.8**	**-0.4**
ITTB	**Itaituba**	**35.74**	**32**	*eP*	**P**	**10 45 00.6**	**-0.7**
SMTB	**Santa Maria do**	**36.14**	**48**	*eP*	**P**	**10 45 04.7**	**-0.1**
PTGA	**Pitinga**	**37.52**	**23**	*eP*	**P**	**10 45 16.9**	**+0.4**
BOAV	**Boa Vista**	**40.31**	**21**	*eP*	**P**	**10 45 40.4**	**+0.5**
NBTA	**Tacaratu-PE**	**42.13**	**59**	*eP*	**P**	**10 45 54.4**	**-0.5**
NBMA	**Muriti-CE**	**42.91**	**57**	*eP*	**P**	**10 46 01.3**	**0.0**
VNA3	**Neumayer Olymp**	**47.88**	**157**	P	**P**	**10 46 40.3**	**+0.2**
VNA1	**Neumayer--Stat**	**48.23**	**156**	P	**P**	**10 46 42.4**	**-0.2**
VNA2	**Neumayer--Watz**	**48.56**	**156**	P	**P**	**10 46 45.4**	**+0.1**
	baz=284,slow=9.0						
SNAA	**Sanae**	**50.10**	**157**	P	**P**	**10 46 56.9**	**-0.2**
SNAA	**Sanae**	**50.10**	**157**	P	**P**	**10 46 57.2**	**+0.1**
QSPA	**South Pole Qui**	**54.05**	**180**	P	**P**	**10 47 27.7**	**+1.0**
QSPA				IAmb	IAmb	10 47 29.0	
	comp=Z,7.8nm,1.1s						
TEIG	**Tepich**	**57.77**	**344**	P	**P**	**10 47 55.5**	**+1.9**
SYO	**Syowa Base**	**64.35**	**158**	*lgeX*	P	10 48 25.8	-12
Z47A	**Carrollton**	**70.32**	**347**	P	**P**	**10 49 18.1**	**+2.3**
TXAR	**Lajitas Array**	**70.99**	**333**	P	**P**	**10 49 22.6**	**+2.3**
	comp=Z,1.1nm,0.7s,baz=152,slow=8.1,SNR=19						
TXAR	**Lajitas Array**	**70.99**	**333**	P	**P**	**10 49 22.8**	**+2.5**
TX31	**Lajitas Ar. Si**	**71.00**	**333**	P	**P**	**10 49 22.8**	**+2.5**
TX31				IAmb	IAmb	10 49 24.9	
	comp=Z,17nm,1.4s						
TX32	**Lajitas Array**	**71.00**	**333**	P	**P**	**10 49 23.2**	**+2.9**
TX32				IAmb	IAmb	10 49 24.9	
	comp=Z,7.0nm,1.5s						
W50A	**Signal Mountai**	**71.84**	**350**	P	**P**	**10 49 26.3**	**+1.2**
W50A				IAmb	IAmb	10 49 27.3	
	comp=Z,6.0nm,0.8s						
SWET	**Sewanee**	**71.94**	**350**	P	**P**	**10 49 27.5**	**+1.8**
SWET				IAmb	IAmb	10 49 27.9	
	comp=Z,8.9nm,0.7s						
CPCT	**Cooper Cave**	**71.97**	**351**	P	**P**	**10 49 27.1**	**+1.2**
V55A	**Taylorsville**	**72.01**	**354**	P	**P**	**10 49 27.3**	**+1.2**
V52A	**Sevierville**	**72.25**	**352**	P	**P**	**10 49 28.1**	**+0.5**
V52A				IAmb	IAmb	10 49 43.6	
	comp=Z,11nm,1.3s						
Z35A	**Perchaven, San**	**72.57**	**340**	P	**P**	**10 49 30.6**	**+1.1**
Z35A				IAmb	IAmb	10 49 32.5	
	comp=Z,10nm,0.8s						
V48A	**Smith Brothers**	**72.59**	**349**	P	**P**	**10 49 30.7**	**+1.1**
ABTX	**Abilene, Hawle**	**72.62**	**337**	P	**P**	**10 49 31.5**	**+1.6**
ABTX				IAmb	IAmb	10 49 32.5	
	comp=Z,5.8nm,0.9s						
LCAR	**Lake Charles**	**73.69**	**345**	P	**P**	**10 49 37.3**	**+1.2**
LCAR				IAmb	IAmb	10 49 37.7	
	comp=Z,3.8nm,0.7s						
FCAR	**Ozark Folk Cen**	**73.72**	**345**	P	**P**	**10 49 37.3**	**+1.1**
MNTX	**Cornudas Mount**	**73.76**	**332**	P	**P**	**10 49 37.6**	**+1.0**
MNTX				IAmb	IAmb	10 49 39.4	
	comp=Z,5.7nm,1.2s						
S51A	**Beattyville**	**74.02**	**352**	P	**P**	**10 49 38.8**	**+0.8**
S51A				IAmb	IAmb	10 49 40.5	
	comp=Z,9.6nm,1.0s						
U40A	**Yellville**	**74.33**	**344**	P	**P**	**10 49 40.6**	**+0.8**
U40A				IAmb	IAmb	10 49 42.3	
	comp=Z,6.6nm,1.2s						
R55A	**Marlinton**	**74.33**	**355**	P	**P**	**10 49 41.0**	**+1.1**
R55A				IAmb	IAmb	10 49 50.6	
	comp=Z,17nm,1.4s						
OK031	**S. Brethren Rd**	**74.92**	**341**	P	**P**	**10 49 43.5**	**+0.3**
CCM	**Cathedral Cave**	**75.63**	**346**	P	**P**	**10 49 49.2**	**+1.9**
CCM				IAmb	IAmb	10 49 49.3	
	comp=Z,5.0nm,0.7s						
P48A	**Milroy**	**76.04**	**351**	P	**P**	**10 49 50.1**	**+0.5**
LIC	**Lamto**	**76.78**	**72**	*eP*	**P**	**10 49 53.2**	**-1.2**
	comp=Z,89nm,2.3s						
TIC	**Toumodi**	**77.05**	**72**	*eP*	**P**	**10 49 56.2**	**+0.2**
KIC	**Kosan Boka**	**77.08**	**72**	*eP*	**P**	**10 49 54.8**	**-1.3**
	comp=Z,13nm,0.9s						
DBIC	**Dimbokro**	**77.19**	**72**	P	**P**	**10 49 56.3**	**-0.4**
	comp=Z,3.0nm,0.6s,baz=164,slow=3.9,SNR=4.4						
DBIC	**Dimbokro**	**77.19**	**72**	P	**P**	**10 49 56.3**	**-0.4**
DBIC				IAmb	IAmb	10 50 23.4	
	comp=Z,13nm,1.4s						
N38A	**Joes South For**	**78.67**	**345**	P	**P**	**10 50 05.6**	**+1.3**
XPFO	**Pion Flat**	**80.09**	**325**	P	**P**	**10 50 12.9**	**+0.5**
PFO	**Pinyon Flats O**	**80.09**	**325**	P	**P**	**10 50 12.9**	**+0.5**
BOSA	**Boshof**	**80.28**	**118**	P	**P**	**10 50 13.1**	**-0.7**
	comp=Z,4.0nm,1.0s,baz=18,slow=4.4,SNR=3.5						
BOSA	**Boshof**	**80.28**	**118**	P	**P**	**10 50 13.7**	**-0.1**
BOSA				IAmb	IAmb	10 50 33.2	
	comp=Z,8.9nm,1.2s						
SMCO	**Snowmass**	**81.02**	**334**	P	**P**	**10 50 19.1**	**+1.5**
KNB	**Kanab**	**81.36**	**329**	P	**P**	**10 50 19.4**	**+0.2**
K31A	**O'Neill**	**81.69**	**342**	P	**P**	**10 50 21.0**	**+0.3**
TRQ	**Mont Tremblant**	**82.04**	**359**	P	**P**	**10 50 22.9**	**+0.5**
ECSD	**EROS Data Cent**	**82.22**	**343**	P	**P**	**10 50 24.9**	**+1.6**
ECSD				IAmb	IAmb	10 50 25.4	
	comp=Z,6.1nm,0.8s						
E63A	**Oxbow**	**82.37**	**4**	P	**P**	**10 50 25.6**	**+1.5**
E63A				IAmb	IAmb	10 50 49.7	
	comp=Z,14nm,1.2s						
LBTB	**Lobatse**	**82.64**	**115**	P	**P**	**10 50 25.9**	**-0.4**
LBTB				IAmb	IAmb	10 50 52.1	
	comp=Z,6.7nm,1.1s						
E46A	**Sault Ste Mari**	**82.73**	**353**	P	**P**	**10 50 25.7**	**-0.2**
D62A	**Allapoint, All**	**83.00**	**3**	P	**P**	**10 50 28.3**	**+1.0**
D62A				IAmb	IAmb	10 50 29.9	
	comp=Z,5.1nm,0.8s						
F36A	**Milaca**	**83.60**	**346**	P	**P**	**10 50 31.2**	**+0.8**
F36A				IAmb	IAmb	10 50 55.5	
	comp=Z,4.5nm,1.1s						
HWUT	**Hardware Ranch**	**84.82**	**332**	P	**P**	**10 50 38.4**	**+1.4**
HWUT				IAmb	IAmb	10 50 39.9	
	comp=Z,6.9nm,1.2s						
NVAR	**Mina Array Bea**	**84.91**	**326**	P	**P**	**10 50 40.5**	**+2.9**
	comp=Z,0.7nm,0.8s,baz=158,slow=7.1,SNR=7.0						
NVAR	**Mina Array Bea**	**84.91**	**326**	P	**P**	**10 50 37.7**	**+0.1**
PDAR	**Pinedale Array**	**85.10**	**334**	P	**P**	**10 50 40.9**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=142,slow=8.9,SNR=4.5						
PDAR	**Pinedale Array**	**85.10**	**334**	P	**P**	**10 50 39.6**	**+1.1**
TORD	**Torodi Ar. Bea**	**86.25**	**71**	P	**P**	**10 50 44.1**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=256,slow=3.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**86.25**	**71**	P	**P**	**10 50 43.6**	**-0.9**
MCMT	**McKenzie Canyo**	**88.07**	**333**	P	**P**	**10 50 53.5**	**+0.6**
ULM	**Lac du Bonnet**	**88.26**	**346**	P	**P**	**10 50 54.3**	**+0.9**
BRTR	**Keskin Array B**	**124.09**	**63**	PKP	**PKPdf**	**10 57 01.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=223,slow=3.2,SNR=2.3						
SEY	**Seymchan**	**141.19**	**328**	PKP	**PKPdf**	**10 57 34.0**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=88,slow=7.9,SNR=5.6						
AAK	**Ala-Archa**	**154.72**	**65**	PKPbc	**PKiKP**	**10 58 04.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=303,slow=1.9,SNR=4.1						
AAK				PKPab	**PKPab**	**10 58 18.8**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=220,slow=6.3,SNR=4.4						
AAK	**Ala-Archa**	**154.72**	**65**		**PKPbc**	**10 58 03.9**	**+0.2**
AAK				PKPab	**PKPab**	**10 58 18.8**	**+0.1**
KURBB	**Kurchatov Arra**	**155.40**	**45**	PKP	**PKPdf**	**10 57 53.8**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=39,slow=1.0,SNR=2.4						
KURBB				PKPab	**PKPab**	**10 58 21.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=201,slow=32,SNR=4.7						
KURK	**Kurchatov**	**155.41**	**45**		**PKPab**	**10 58 21.7**	**+0.6**
ZALV	**Zalesovo Beam**	**156.81**	**33**	PKP	**PKPdf**	**10 57 56.5**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=309,slow=4.7,SNR=5.0						
ZALV				PKPab	**PKPab**	**10 58 27.7**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=316,slow=6.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**156.81**	**33**		**PKPdf**	**10 57 56.6**	**-0.7**
ZALV					**PKPab**	**10 58 27.8**	**+0.8**
MKAR	**Makanchi Array**	**159.22**	**52**	PKP	**PKPdf**	**10 58 00.5**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=180,slow=0.6,SNR=5.0						
MKAR				PKPab	**PKPab**	**10 58 37.6**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=256,slow=4.9,SNR=4.0						
SONM	**Songino Array**	**168.36**	**360**	PKP	**PKPdf**	**10 58 08.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=116,slow=3.4,SNR=1.9						
SONM				PKPab	**PKPab**	**10 59 18.5**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=342,slow=3.6,SNR=3.1						
KSU1	**Kansas State U**	**2.87**	**29**	Sb		11 00 14.8	
	baz=209						
X37A	**Clayton**	**3.16**	**128**		**Pn**	**10 59 36.2**	**0.0**
X37A				IAmb_Lg		11 00 29.9	
	comp=Z,22nm,0.9s						
X37A	**Clayton**	**3.16**	**128**	P	**Pn**	**10 59 36.4**	**+0.2**
	baz=311,SNR=12						
X37A	**Clayton**	**3.16**	**128**	P		10 59 36.4	
	baz=311,SNR=12						
U38A	**Gravette**	**3.22**	**92**		**Pn**	**10 59 36.6**	**-0.4**
Z35A	**Perchaven, San**	**3.38**	**164**	P	**Pn**	**10 59 39.9**	**+0.7**
	baz=345						
Z35A	**Perchaven, San**	**3.38**	**164**	P		10 59 39.9	
	baz=345						
W39A	**Magazine**	**3.98**	**109**	IAmb_Lg		11 00 53.2	
	comp=Z,22nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.14**	**307**	IAmb_Lg		11 01 01.5	
	comp=Z,21nm,0.7s						
S39A	**Bolivar**	**4.18**	**73**	P	**Pn**	**10 59 50.3**	**0.0**
	baz=256,SNR=11						
S39A	**Bolivar**	**4.18**	**73**	P		10 59 50.3	
	baz=256,SNR=11						
N33A	**J Bar K, Exete**	**4.20**	**10**	IAmb_Lg		11 00 58.8	
	comp=Z,15nm,0.8s						
Z38A	**Mt. Pleasant**	**4.34**	**139**		**Pn**	**10 59 52.5**	**+0.1**
Z38A				IAmb_Lg		11 01 12.6	
	comp=Z,19nm,1.1s						
MIAR	**Mount Ida**	**4.42**	**116**	Pn	**Pn**	**10 59 53.4**	**0.0**
U40A	**Yellville**	**4.46**	**91**	Pn	**Pn**	**10 59 53.7**	**-0.3**
WHTX	**Lake Whitney,**	**4.66**	**170**	Pn	**Pn**	**10 59 56.7**	**0.0**
WHTX	**Lake Whitney,**	**4.66**	**170**	P	**Pn**	**10 59 56.6**	**-0.1**
	baz=351,SNR=12						
WHTX	**Lake Whitney,**	**4.66**	**170**	P		10 59 56.6	
	baz=351,SNR=12						
BGNE	**Belgrade**	**4.81**	**2**	P	**Pn**	**10 59 58.8**	**0.0**
	baz=182						
BGNE	**Belgrade**	**4.81**	**2**	P		10 59 58.8	
	baz=182						
T25A	**Trinidad**	**4.87**	**278**	Pn	**Pn**	**10 59 59.6**	**-0.3**
T25A				IAmb_Lg		11 01 23.5	
	comp=Z,22nm,0.8s						
MGMO	**Mountain Grove**	**4.93**	**82**	IAmb_Lg		11 01 22.5	
	comp=Z,15nm,0.7s						
X40A	**Basin Creek Fa**	**4.99**	**113**	IAmb_Lg		11 01 29.6	
	comp=Z,19nm,0.8s						
237A	**Washetta, Mont**	**5.05**	**154**	P	**Pn**	**11 00 01.7**	**-0.5**
	baz=336,SNR=11						
237A	**Washetta, Mont**	**5.05**	**154**	P		11 00 01.7	
	baz=336,SNR=11						
FCAR	**Ozark Folk Cen**	**5.10**	**96**	IAmb_Lg		11 01 26.2	
	comp=Z,16nm,0.7s						
WHAR	**Wooly Hollow**	**5.11**	**103**	IAmb_Lg		11 01 40.4	
	comp=Z,18nm,0.7s						
R40A	**Maddies Statio**	**5.15**	**69**	Pn	**Pn**	**11 00 03.1**	**-0.4**
P40A	**Paris**	**5.79**	**58**	IAmb_Lg		11 01 53.6	
	comp=Z,20nm,1.1s						
N38A	**Joes South For**	**5.81**	**42**	IAmb_Lg		11 01 53.1	
	comp=Z,20nm,0.8s						
435B	**Jarrell**	**5.83**	**173**	IAmb_Lg		11 01 59.1	
	comp=Z,12nm,0.8s						
LCAR	**Lake Charles**	**5.85**	**93**	Pn	**Pn**	**11 00 12.3**	**-0.9**
LCAR				IAmb_Lg		11 01 55.5	
	comp=Z,14nm,0.9s						
T42A	**Van Buren**	**5.86**	**84**	IAmb_Lg		11 01 54.2	
	comp=Z,11nm,0.7s						
CCM	**Cathedral Cave**	**5.87**	**73**	IAmb_Lg		11 01 54.4	
	comp=Z,24nm,0.9s						
K31A	**O'Neill**	**6.03**	**357**	IAmb_Lg		11 02 05.9	
	comp=Z,19nm,0.7s						
PBMO	**Poplar Bluff**	**6.39**	**86**	IAmb_Lg		11 02 12.0	
	comp=Z,16nm,0.8s						
SLM	**Saint Louis**	**6.78**	**70**	IAmb_Lg		11 02 22.5	
	comp=Z,13nm,0.9s						
143A	**Socs Landing,**	**6.93**	**122**	IAmb_Lg		11 02 45.0	
	comp=Z,8.7nm,0.7s						
SIUC	**Southern Illin**	**7.40**	**79**	IAmb_Lg		11 02 43.7	
	comp=Z,17nm,0.8s						
SUSD	**Miller**	**7.85**	**357**	IAmb_Lg		11 03 03.6	
	comp=Z,9.7nm,0.9s						
HDIL	**Hopedale**	**8.14**	**58**	IAmb_Lg		11 03 17.5	
	comp=Z,13nm,0.7s						
JFWS	**Jewell Farm**	**8.88**	**42**	IAmb_Lg		11 03 28.9	
	comp=Z,8.6nm,0.8s						
P46A	**Rosedale**	**9.31**	**68**	IAmb_Lg		11 03 42.0	
	comp=Z,9.0nm,0.9s						

*NEIC **21** 10:58:45.3±0.8,36°.59N±0°.02×98°.40W±0°.04, h5km±2km, Error ellipse: s-maj=5.8km s-min=3.0km az=84.0*
*ANF **21** 10:58:45.9±0.2,36°.60N×98°.36W, h5km, ML3.5/11, Error ellipse: s-maj=2.5km s-min=1.8km az=119.0*
*TUL **21** 10:58:45.6±0.7,36°.61N±0°.02×98°.38W±0°.04, h6km±7km, ML3.2,mb_Lg2.8/49(NEIC), Error ellipse: s-maj=5.1km s-min=2.2km az=82.0*

ISC 21 10:58:45.7±1.1,36°.60N±0°.02×98°.38W±0°.03, h5km±11km, n67,σ0°53/55, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK032	**Salt Plains WL**	**0.25**	**33**		**Pg**	**10 58 50.8**	**+0.2**
OK032				Sg	**Sg**	**10 58 54.3**	**+0.5**
CROK	**Carrier**	**0.33**	**106**		**Pg**	**10 58 52.5**	**+0.4**
CROK				Sg	**Sg**	**10 58 57.2**	**+0.8**
GC02	**Grant County #**	**0.49**	**58**		**Pg**	**10 58 55.2**	**+0.1**
U32A	**Winter Ranch,**	**0.55**	**247**		**Pg**	**10 58 56.4**	**+0.1**
U32A	**Winter Ranch,**	**0.55**	**247**	P	**Pg**	**10 58 56.3**	**+0.1**
	baz=67						
U32A	**Winter Ranch,**	**0.55**	**247**	P		10 58 56.3	
	baz=67						
KAN10	**Anthony SW Sta**	**0.57**	**23**		**Pg**	**10 58 56.6**	**-0.2**
KAN10				Sg	**Sg**	**10 59 04.5**	**+0.3**
KAN05	**Bluff City Nor**	**0.65**	**38**		**Pg**	**10 58 58.1**	**-0.1**
KAN05				Sg	**Sg**	**10 59 06.9**	**+0.2**
KAN08	**Anthony NE Sta**	**0.71**	**27**		**Pg**	**10 58 59.2**	**-0.2**
KAN01	**Argonia South**	**0.74**	**41**		**Pg**	**10 58 59.8**	**-0.3**
KAN12	**Harper NE Stat**	**0.76**	**23**		**Pg**	**10 59 00.1**	**-0.3**
KAN12				Sg	**Sg**	**10 59 10.4**	**+0.1**
KAN09	**Caldwell North**	**0.81**	**48**		**Pg**	**10 59 01.0**	**-0.4**
KAN13	**South Haven SW**	**0.83**	**60**		**Pg**	**10 59 01.4**	**-0.4**
OK029	**Liberty Lake**	**1.09**	**137**		**Pg**	**10 59 05.9**	**-0.7**
OK029				Sg	**Sg**	**10 59 21.1**	**+0.3**
BCOK	**Bluff Creek, N**	**1.12**	**146**		**Pg**	**10 59 06.6**	**-0.7**
OK025	**Westminster Rd**	**1.32**	**140**		**Pn**	**10 59 10.0**	**-0.8**
OKCFA	**Oklahoma City**	**1.40**	**147**		**Pn**	**10 59 11.1**	**-0.8**
OKCFA	**Oklahoma City**	**1.40**	**147**	P	**Pn**	**10 59 11.4**	**-0.5**
	baz=329,SNR=12						
OKCFA	**Oklahoma City**	**1.40**	**147**	P		10 59 11.4	
	baz=329,SNR=12						
OK031	**S. Brethren Rd**	**1.40**	**117**		**Pn**	**10 59 11.4**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**1.41**	**147**		**Pn**	**10 59 11.4**	**-0.8**
QUOK	**Quay**	**1.41**	**107**		**Pn**	**10 59 11.7**	**-0.4**
OK030	**Cody Creek RV**	**1.45**	**117**		**Pn**	**10 59 12.2**	**-0.5**
T35A	**Sooner Cattle**	**1.53**	**77**		**Pn**	**10 59 13.7**	**-0.1**
T35B	**Sooner Cattle**	**1.53**	**77**	P	**Pn**	**10 59 13.7**	**-0.1**
	baz=258,SNR=84						
T35B				S	**Sb**	**10 59 34.5**	**+0.1**
	baz=258						
T35B	**Sooner Cattle**	**1.53**	**77**	P		10 59 13.7	
	baz=258,SNR=84						
T35B				S

NIKH Nikolski High 3.61 44 Pn Pn 11 11 11.9 -1.1
NIKH Nikolski High 3.61 44 Sn 11 11 50.8 -4.7
NIKH Nikolski High 3.61 44 P 11 11 12.0
baz=228,SNR=18
GALAA Gareloi Lava P 3.89 292 Pn 11 11 17.1 +0.2
OKSP Okmok Steeple 4.05 44 Pn 11 11 18.2 -0.9
OKER Okmok East Rim 4.29 43 Pn 11 11 22.9 +0.5
CERAA Semis' Rag'd T 4.85 290 Pn 11 11 30.5 +0.4
CESW Semis' Southwe 4.92 290 Pn 11 11 31.2 +0.2
CEAP Semis' Anvil P 4.94 291 Pn 11 11 31.3 +0.1
AMKA Amchitka 4.98 284 Pn Pn 11 11 31.4 -0.4
MAPS Pakushin South 5.02 45 Pn 11 11 32.3 -0.2
MGOD Makushin Gods 5.04 46 Pn 11 11 32.4 -0.4
MREP Makushin Rep't 5.11 46 Pn 11 11 33.4 -0.3
MSW Makushin Switc 5.16 45 Pn 11 11 34.2 -0.1
MNAT Makushin Natee 5.19 46 Pn 11 11 34.5 -0.2
LSPA Little Sitkin 5.53 289 Pn 11 11 39.8 +0.4
LSSA Little Sitkin 5.56 289 Pn 11 11 40.4 +0.5
LSNW Little Sitkin 5.56 289 Pn 11 11 40.1 +0.2
AKRB Akutan Reef Bi 5.62 46 Pn 11 11 41.1 +0.5
AKMO Akutan Morgan 5.63 47 Pn 11 11 41.1 +0.4
AKBBA Akutan Broad B 5.67 47 Pn 11 11 41.9 +0.6
AKLV Akutan Long Va 5.70 46 Pn 11 11 42.2 +0.5
AKUT Akutan 5.76 47 Pn Pn 11 11 42.6 0.0
WESP Westdahl Peak 6.47 48 Pn 11 11 53.2 +0.8
WEBT Westdahl Beart 6.52 47 Pn 11 11 53.6 +0.7
SSBA Shishaldin 6.92 48 Pn 11 11 59.0 +0.5
SPIA Saint Paul Isl 6.94 12 Pn 11 11 59.2 +0.5
SPIA Saint Paul Isl 6.94 12 P 11 12 00.8
baz=195
FALS False Pass 7.30 49 Pn Pn 11 12 04.1 +0.3
FALS False Pass 7.30 49 P 11 12 04.8
baz=237,SNR=13
SDPT Sand Point 9.01 52 Pn Pn 11 12 27.3 +0.2
SDPT Sand Point 9.01 52 P 11 12 27.2
baz=243,SNR=12
CHGN Chignik 10.49 50 Pn 11 12 46.5 -0.8
CHGN Chignik 10.49 50 P 11 12 47.0
baz=242,SNR=9.8
SII Sitkinak Islan 12.73 54 Pn Pn 11 13 16.3 -1.7
SII Sitkinak Islan 12.73 54 P 11 13 16.8
baz=250,SNR=11
OHAK Old Harbor 13.43 52 Pn Pn 11 13 24.3 -3.2
OHAK Old Harbor 13.44 52 P 11 13 24.7
baz=248,SNR=7.9
KDAK Kodiak Island 14.00 50 Pn Pn 11 13 31.7 -3.5
14nm,0.3s,baz=252,slow=6.0,SNR=140
KDAK LR LR 11 19 04.4
comp=Z,647nm,21.2s,baz=255,slow=38
KDAK Kodiak Island 14.00 50 *d iP* Pn 11 13 31.6 -3.7
KDAK Kodiak Island 14.00 50 Pn Pn 11 13 32.0 -3.3
KDAK Kodiak Island 14.00 50 P 11 13 32.0
baz=247
SVW2 Sparrevohn 14.43 36 Pn 11 13 42.0 +0.9
ANM Nome 14.72 13 P Pn 11 13 46.3 +1.2
ANM Nome 14.72 13 Pn Pn 11 13 46.3 +1.2
ANM Nome 14.72 13 P 11 13 46.9
baz=200,SNR=38
RSO Redoubt South 15.17 41 Pn 11 13 51.0 -0.4
HOM Homer 15.25 45 Pn Pn 11 13 49.3 -2.9
HOM Homer 15.25 45 P 11 13 50.9
baz=242,SNR=5.9
CNPM China Poot 15.38 45 Pn Pn 11 13 50.5 -3.4
CNPM IAmb IAmb 11 14 02.5
comp=Z,106nm,0.9s
BRLK Bradley Lake 15.64 45 Pn 11 13 52.9 -4.5
BRLK IAmb IAmb 11 14 04.3
comp=Z,87nm,0.8s
BRSE Bradley Lake S 15.70 45 P 11 13 55.4
baz=244,SNR=10
CAPN Captain Cook N 16.01 41 Pn 11 14 02.1 +0.1
SEW Seward 16.44 45 Pn Pn 11 14 03.9 -3.6
SEW Seward 16.44 45 P 11 14 04.2
baz=245,SNR=16
O22K Cooper Landing 16.49 44 Pn 11 14 05.0 -3.2
O22K Cooper Landing 16.49 44 P 11 14 05.4
baz=243,SNR=21
SKT Skwentna 16.51 37 Pn 11 14 08.3 -0.2
SKT Skwentna 16.51 37 P 11 14 08.9
baz=236,SNR=23
SUA Susitna One 16.54 40 Pn 11 14 07.3 -1.7
SUA Susitna One 16.54 40 P 11 14 07.2
baz=238,SNR=13
FIS Fire Island 16.59 41 Pn 11 14 09.3 -0.2
RC01 Rabbit Creek A 16.77 42 Pn 11 14 09.6 -2.2
RC01 Rabbit Creek A 16.77 42 P 11 14 09.6
baz=241,SNR=21
PPLA Purkeypile 16.81 34 Pn 11 14 12.6 +0.1
PPLA IAmb IAmb 11 14 21.6
comp=Z,217nm,1.5s
PPLA Purkeypile 16.81 34 P 11 14 13.3
baz=232,SNR=21
CUT Chulitna 17.24 37 P Pn 11 14 17.5 -0.1
CUT Chulitna 17.24 37 P 11 14 18.3
baz=237
PWL Port Wells 17.27 43 Pn 11 14 14.0 -4.0
PWL IAmb IAmb 11 14 23.4
comp=Z,50nm,0.5s
PMR Palmer 17.27 41 P Pn 11 14 15.7 -2.4
PMR pmax pmax
comp=Z,10.0nm,0.6s
PMR Palmer 17.27 41 P Pn 11 14 15.7 -2.4
PMR Palmer 17.27 41 P 11 14 17.8
baz=241
CHUM Lake Minchumin 17.40 31 P 11 14 20.3
baz=229,SNR=25
GHO Glory Hole Cre 17.45 40 P Pn 11 14 18.9 -1.4
GHO IAmb IAmb 11 14 24.1
comp=Z,48nm,0.4s
KNK Knik Glacier 17.47 42 P Pn 11 14 17.9 -2.7
KNK Knik Glacier 17.47 42 P 11 14 17.9
baz=242,SNR=25
Q23K Middleton Isla 17.64 49 Pn 11 14 21.6 -1.0
Q23K IAmb IAmb 11 14 29.7
comp=Z,226nm,0.9s
MID Middleton Isla 17.64 49 P Pn 11 14 21.0 -1.7
MID pmax pmax
comp=Z,219nm,0.9s
MID Middleton Isla 17.64 49 Pn 11 14 21.0 -1.7
MID IAmb IAmb 11 14 29.7
comp=Z,219nm,0.9s
KTH Kantishna Hill 17.67 34 Pn 11 14 23.1 0.0
KTH IAmb IAmb 11 14 28.2
comp=Z,155nm,1.3s
SML Sawmill 17.71 41 P Pn 11 14 22.4 -1.2
SML Sawmill 17.71 41 P 11 14 21.5
baz=241,SNR=24
PET Petropavlovsk 17.71 289 *eP* P 11 14 24.2 -0.3
PET *eS* Sn 11 17 37.4 -3.4
PET pmax pmax
comp=Z,500nm,8.6s
PET pmax pmax
comp=Z,300nm,12.2s
PET pmax pmax
comp=Z,48nm,1.2s
PET MLR MLR
comp=Z,700nm,15.0s
PET MLR MLR
comp=Z,500nm,16.0s
PET Petropavlovsk 17.71 289 P Pn 11 14 21.9 -1.7
GLI Glacier Island 17.82 44 P Pn 11 14 25.0 0.0
GLI Glacier Island 17.82 44 P 11 14 22.8
baz=246,SNR=12
TRF Thorofare Moun 17.83 34 P Pn 11 14 24.9 -0.3
TRF Thorofare Moun 17.83 34 P 11 14 25.8
baz=234,SNR=21
HIN Hinchinbrook I 17.90 46 Pn 11 14 23.8 -2.1
HIN IAmb IAmb 11 14 34.3
comp=Z,82nm,0.8s
BPAW Bear Paw Mtn. 17.99 32 P Pn 11 14 27.2 +0.2
BPAW IAmb IAmb 11 14 33.0
comp=Z,144nm,1.3s
BPAW Bear Paw Mtn. 17.99 32 P 11 14 27.2
baz=231,SNR=64
FID Port Fidalgo 18.05 45 P Pn 11 14 25.4 -2.3
FID IAmb IAmb 11 14 31.2
comp=Z,68nm,0.6s
SCM Sheep Creek Mo 18.14 41 P Pn 11 14 27.5 -1.4
SCM pmax pmax
comp=Z,114nm,1.0s
SCM Sheep Creek Mo 18.14 41 P Pn 11 14 27.5 -1.4
SCM IAmb IAmb 11 14 32.5
comp=Z,114nm,1.0s
WAT2 Susitna Watana 18.20 37 P 11 14 27.8
baz=238,SNR=11
PEA0B Petropavlovsk- 18.29 290 *ceP* P 11 14 31.8 +1.0
PEA0B Petropavlovsk- 18.29 290 P P 11 14 31.6 +0.8
PETK Petropavlovsk- 18.29 290 P P 11 14 31.1 +0.3
comp=Z,0.9nm,0.3s,baz=92,slow=15,SNR=31
PETK S Sn 11 17 48.2 -6.4
comp=Z,0.2nm,0.3s,baz=93,slow=22,SNR=1.4
PETK LR LR 11 21 15.1
comp=Z,254nm,19.7s,baz=93,slow=36
PETK Petropavlovsk- 18.29 290 P Pn 11 14 30.1 -0.6
EYAK Cordova Ski Ar 18.31 46 P Pn 11 14 28.7 -2.2
EYAK Cordova Ski Ar 18.31 46 P 11 14 28.2
baz=249,SNR=12
WAT6 Susitna Watana 18.33 39 P 11 14 30.0
baz=240,SNR=18
RND Reindeer 18.34 36 P Pn 11 14 30.5 -0.8
RND pmax pmax
comp=Z,65nm,1.2s
RND Reindeer 18.34 36 Pn 11 14 30.5 -0.8
RDOG Red Dog Mine 18.36 12 P P 11 14 32.9 +1.4
RDOG Red Dog Mine 18.36 12 P 11 14 34.1
baz=201,SNR=18
IMAR Indian Mountai 18.45 25 P Pn 11 14 33.5 +1.0
MCK McKinley 18.49 35 P P 11 14 32.1 -0.9
MCK pmax pmax
comp=Z,68nm,1.0s
MCK McKinley 18.49 35 P 11 14 32.0 -0.9
MCK McKinley 18.49 35 P 11 14 32.0
baz=235,SNR=52
KLU Klutina 18.60 43 P P 11 14 31.4 -2.8
KLU IAmb IAmb 11 14 34.4
comp=Z,62nm,0.4s
KLU Klutina 18.60 43 P 11 14 31.7
baz=246,SNR=47
MLY Manley 18.67 30 P Pn 11 14 35.6 +0.3
MLY Manley 18.67 30 P 11 14 35.7
baz=229,SNR=66
KAIM Kayak Island 18.72 49 P P 11 14 35.4 -0.2
KAIM IAmb IAmb 11 14 53.5
comp=Z,96nm,0.9s
KAIM Kayak Island 18.72 49 P 11 14 35.9
baz=252
RAGM Ragged Mountai 18.75 47 P P 11 14 35.8 -0.2
M24K Tolsona, Glenn 18.75 41 P P 11 14 35.1 -0.8
M24K IAmb IAmb 11 14 41.2
comp=Z,118nm,0.7s
M24K Tolsona, Glenn 18.75 41 P 11 14 35.0
baz=244,SNR=46
HMT Hamilton 18.93 47 P P 11 14 38.0 +0.2
HMT IAmb IAmb 11 14 43.9
comp=Z,165nm,0.9s
NEA2 Nenana 18.95 33 P P 11 14 37.2 -0.8
NEA2 Nenana 18.95 33 P 11 14 37.3
baz=233
BMRM Bremner River 18.98 45 P P 11 14 37.6 -0.9
BMRM IAmb IAmb 11 14 48.9
comp=Z,79nm,0.9s
BMRM Bremner River 18.98 45 P 11 14 37.2
baz=249,SNR=13
SUCK Suckling Hills 19.07 48 P P 11 14 39.4 -0.1
SUCK IAmb IAmb 11 14 45.7
comp=Z,160nm,1.1s
I23K Minto, Yukon-K 19.19 31 P Pn 11 14 41.4 -0.2
I23K Minto, Yukon-K 19.20 31 P 11 14 41.0
baz=231,SNR=59
BERG Berg Lake 19.21 48 P 11 14 40.9 0.0
BERG IAmb IAmb 11 14 48.0
comp=Z,102nm,0.7s
WRH Wood River Hil 19.22 34 P P 11 14 39.4 -1.6
N25K Chitina, Valde 19.22 44 P P 11 14 40.0 -1.2
N25K Chitina, Valde 19.22 44 P 11 14 39.9
baz=248,SNR=32
CCB Clear Creek Bu 19.42 33 P P 11 14 41.4 -1.7
PAX Paxson 19.43 39 P P 11 14 42.6 -0.8
PAX pmax pmax
comp=Z,38nm,1.0s
PAX Paxson 19.43 39 P P 11 14 42.6 -0.8
PAX Paxson 19.43 39 P 11 14 43.3
baz=243,SNR=20
MDM Murphy Dome 19.46 32 P 11 14 42.6 -1.0
GLB Gilahina Butte 19.51 45 P 11 14 43.5 -0.7
TCOL CIGO, UAF Yank 19.53 33 P P 11 14 43.9 -0.5
TCOL CIGO, UAF Yank 19.53 33 P 11 14 44.8
baz=234,SNR=21
COLA College 19.54 33 *c iP* P 11 14 44.7 +0.3
COLA pmax pmax
comp=Z,37nm,0.9s
COLA College 19.54 33 P P 11 14 43.9 -0.5
COLA College 19.54 33 P 11 14 44.2
baz=234
SKR Severo-Kuril's 19.57 283 *eP* P 11 14 45.2 +0.3
SKR pmax pmax
comp=Z,200nm,4.4s
SKR MLR MLR
comp=Z,200nm,14.0s
CRQM Cirque 19.59 47 P P 11 14 45.6 +0.3
HDA Harding Lake 19.59 35 P 11 14 44.4
baz=237,SNR=48
HDA P 11 14 44.4
baz=237,SNR=48
VRDI Verde Repeater 19.60 45 P P 11 14 45.0 -0.3
VRDI IAmb IAmb 11 14 53.5
comp=Z,182nm,1.4s
CRQE Cirque 19.61 47 P 11 14 45.8
baz=252
TGL Tana Glacier 19.73 47 P Pn 11 14 47.6 -0.6
IL31 19.82 34 P P 11 14 45.8 -1.7
ILAR Eielson Array 19.82 34 P P 11 14 45.9 -1.6
comp=Z,2.6nm,0.3s,baz=230,slow=9.5,SNR=83
ILAR S S 11 18 20.1 -10
comp=Z,0.0nm,0.3s,baz=222,slow=16,SNR=3.4
ILAR Eielson Array 19.82 34 P P 11 14 45.6 -1.9
ILAR Eielson Array 19.82 34 P P 11 14 45.6 -1.9
POKR Poker Plat Res 19.82 33 P P 11 14 45.8 -1.8
POKR Poker Plat Res 19.82 33 P 11 14 45.9
baz=234,SNR=18
MCARA McCarthy VSAT 19.85 45 P P 11 14 48.0 +0.2
MCARA IAmb IAmb 11 14 55.8
comp=Z,151nm,0.9s
MCARA McCarthy VSAT 19.85 45 P 11 14 48.3
baz=250,SNR=22
YAH Yahtse 20.13 48 P Pn 11 14 54.0 +1.0
YAH IAmb IAmb 11 14 56.6
comp=Z,134nm,0.9s
MENT Mentasta 20.14 40 P Pn 11 14 52.1 -0.8
GRNC Granite Creek 20.23 47 P Pn 11 14 55.2 +1.1
DOT Dot Lake 20.31 38 P P 11 14 53.5 +0.6
DOT IAmb IAmb 11 15 04.7
comp=Z,85nm,0.9s
COLD Coldfoot 20.33 26 Pn 11 14 55.5 +0.5
COLD Coldfoot 20.33 26 P 11 14 55.1
baz=226,SNR=307
BARN Barnard Glacie 20.37 47 P Pn 11 14 56.2 +0.4
BILL Bilibino 20.40 338 *c iP* P 11 14 54.8 +1.0
BILL *e* 11 15 09.9
BILL pmax pmax
comp=Z,111nm,1.5s
BILL Bilibino 20.40 338 P 11 14 54.5 +0.8
BILL IAmb IAmb 11 15 01.4
comp=Z,97nm,1.3s
TABL Table Mountain 20.44 48 P Pn 11 14 57.9 +1.3
CTG Chitina Glacier 20.49 47 P 11 14 58.0
baz=254,SNR=58
SCRK Sand Creek 20.49 38 P P 11 14 54.9 0.0
SCRK IAmb IAmb 11 15 06.1
comp=Z,80nm,0.9s
SCRK Sand Creek 20.49 38 P 11 14 54.6
baz=242,SNR=57
CTGM Chitina Glacie 20.49 47 Pn 11 14 57.1 -0.1
LOGN Logan Glacier 20.61 47 Pn 11 14 58.7 +0.2
LOGN IAmb IAmb 11 15 03.0
comp=Z,125nm,0.8s
PRP Porcupine Dome 20.71 33 P P 11 14 55.2 -2.2
PRP Porcupine Dome 20.71 33 P 11 14 56.9
baz=237,SNR=23
PCA Pinnacle 20.78 50 P Pn 11 15 00.7 +0.2
PCA IAmb IAmb 11 15 04.2
comp=Z,142nm,1.0s
PINM Pinnacle 20.79 50 P 11 15 01.0
baz=257,SNR=16
L27K Beaver Creek, 20.98 41 P Pn 11 15 02.0 -0.7
L27K Beaver Creek, 20.98 41 P 11 15 01.2
baz=248,SNR=31
BCAR Beaver Creek A 21.00 41 P P 11 15 00.7 +0.3
BCPM Bancas Point 21.06 50 P 11 15 03.5 +2.5
BCPM IAmb IAmb 11 15 08.2
comp=Z,125nm,0.9s
K27K Chicken 21.27 39 P P 11 15 03.5 +0.2
K27K IAmb IAmb 11 15 14.3
comp=Z,105nm,1.0s
K27K Chicken 21.27 39 P 11 15 04.0
baz=245
FYU Fort Yukon 21.41 31 P P 11 15 04.2 -0.5
FYU IAmb IAmb 11 15 10.9
comp=Z,145nm,1.3s
TOLK Toolik Lake Re 21.51 23 P P 11 15 07.3 +1.5
TOLK Toolik Lake Re 21.51 23 P 11 15 07.1
baz=224,SNR=167
EGAK Eagle 21.95 37 P P 11 15 10.7 +0.2
EGAK IAmb IAmb 11 15 18.3
comp=Z,96nm,0.8s
EGAK Eagle 21.95 37 P 11 15 11.2
baz=245,SNR=90
BMAR Burnt Mountain 22.12 29 P P 11 15 13.9 +1.5
A21K Barrow 22.25 14 P P 11 15 13.4 -0.3
A21K Barrow 22.25 14 P 11 15 13.5
baz=208,SNR=73
DAWY Dawson 22.37 40 P P 11 15 15.3 +0.3
DAWY IAmb IAmb 11 15 21.8
comp=Z,88nm,1.2s
SEY Seymchan 22.43 317 P P 11 15 16.6 +0.9
comp=Z,23nm,0.8s,baz=112,slow=8.1,SNR=140
SEY PcP PcP 11 19 09.2 -0.5
comp=Z,5.1nm,0.9s,baz=79,slow=5.2,SNR=4.3
SEY S S 11 19 22.4 +0.8
comp=Z,2.1nm,0.7s,baz=139,slow=4.0,SNR=4.2
MA2 Magadan 22.45 308 P P 11 15 16.4 +0.6
comp=Z,13nm,0.8s,baz=100,slow=9.9,SNR=28
MA2 S S 11 19 22.4 +0.3
comp=Z,0.9nm,0.5s,baz=17,slow=21,SNR=1.4
MA2 LR LR 11 23 26.8
comp=Z,325nm,19.7s,baz=102,slow=35
MA2 Magadan 22.45 308 *ceP* P 11 15 17.0 +1.1
MA2 pmax pmax
comp=Z,32nm,1.3s
SKAG Skagway 23.14 53 P P 11 15 25.1 +2.0
SKAG IAmb IAmb 11 15 51.9
comp=Z,51nm,0.9s
SKAG Skagway 23.14 53 P 11 15 25.5
baz=264
BESE Bessie Mountai 23.30 55 P P 11 15 25.7 +0.8
BESE IAmb IAmb 11 15 45.2
comp=Z,71nm,1.2s
WHY Whitehorse 23.51 50 P P 11 15 27.6 +0.6
WHY IAmb IAmb 11 15 39.2
comp=Z,54nm,0.8s
EPYK Eagle Plains 24.29 35 P P 11 15 34.8 +0.5
EPYK Eagle Plains 24.29 35 P 11 15 34.9
baz=247,SNR=73
WRAK Wrangell Islan 24.65 60 P P 11 15 38.1 +0.6
WRAK Wrangell Islan 24.65 60 P 11 15 39.9
baz=274,SNR=8.4
DLBC Dease Lake 25.83 55 P P 11 15 51.0 +2.7
comp=Z,20nm,1.0s,baz=274,slow=11,SNR=17
DLBC Dease Lake 25.83 55 P P 11 15 51.3 +2.9
INK Inuvik 26.20 32 P P 11 15 52.8 +1.3
comp=Z,114nm,0.9s,baz=231,slow=10,SNR=87
INK PcP PcP 11 19 18.1 +0.4
comp=Z,8.0nm,0.9s,baz=255,slow=5.8,SNR=3.6
INK S S 11 20 26.7 +3.8
comp=Z,4.2nm,1.0s,baz=130,slow=31,SNR=2.4
INK LR LR 11 27 07.1
comp=Z,343nm,18.3s,baz=236,slow=38
INK Inuvik 26.20 32 P P 11 15 52.9 +1.5
KUR Kuril'sk 26.57 274 *eP* P 11 16 02.0 +7.0
KUR S S 11 20 34.1 +4.8
BBB Bella Bella 27.76 69 S S 11 20 48.9 +0.9
comp=Z,9.5nm,1.0s,baz=68,slow=8.1,SNR=1.5
BBB LR LR 11 25 31.9
comp=Z,213nm,18.5s,baz=294,slow=33
YSS Yuzh-Sakhalins 29.10 281 *eP* P 11 16 19.2 +1.6
YSS *e*SP* pwP 11 16 24.9 -1.6
YSS *eS* S 11 21 09.4 +0.3
YSS pmax pmax
comp=Z,30nm,1.2s
YSS MLR MLR
comp=Z,300nm,12.0s
YSS Yuzh-Sakhalins 29.10 281 P P 11 16 18.4 +0.8
YSS IAmb IAmb 11 16 21.4
comp=Z,31nm,1.0s
C36M Paulatuk 29.78 33 P P 11 16 24.8 +1.4
C36M IAmb IAmb 11 16 30.3
comp=Z,45nm,1.1s
C36M Paulatuk 29.78 33 P 11 16 24.9
baz=256,SNR=30
ERM Erimo 31.10 271 P P 11 16 36.5 +1.1
ERM pmax pmax
comp=Z,38nm,1.3s
ERM Erimo 31.10 271 P P 11 16 36.5 +1.1
ERM IAmb IAmb 11 16 37.7
comp=Z,38nm,1.2s
NLWA Neilton Lookou 31.95 76 P P 11 16 45.1 +2.3
D03D Eldon 32.37 75 P 11 16 48.7
baz=294,SNR=16
A05A Maple Falls 32.41 72 P P 11 16 47.1 +0.3
A05A IAmb IAmb 11 16 49.4
comp=Z,48nm,1.3s
B05A Bryant 32.69 74 P 11 16 51.0
baz=294,SNR=16
YAK Yakutsk 32.79 313 P P 11 16 50.3 +0.3
comp=Z,3.8nm,0.3s,baz=233,slow=2.1,SNR=5.7
YAK PcP PcP 11 19 34.3 -0.4
comp=Z,3.7nm,0.4s,baz=91,slow=2.4,SNR=1.3
YAK S S 11 22 04.7 -1.8
comp=Z,6.5nm,0.5s,baz=258,slow=22,SNR=7.1
YAK Yakutsk 32.79 313 *eP* P 11 16 49.5 -0.4
YAK *e*PP* pwP 11 16 58.3 -0.4
YAK *e* 11 19 33.4
YAK *eS* S 11 22 04.1 -2.4
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK smax smax
comp=N,150nm,2.4s
YAK smax smax
comp=E,26nm,1.5s
YAK MLR MLR
comp=Z,347nm,19.0s
YAK MLR MLR
comp=E,261nm,20.0s
YAK Yakutsk 32.79 313 P P 11 16 49.6 -0.3
YAK IAmb IAmb 11 16 51.8
comp=Z,27nm,1.0s
B06A Marblemount 32.97 73 P P 11 16 52.0 +0.3
B06A IAmb IAmb 11 16 54.0
comp=Z,34nm,1.2s
E04D Cinebar 33.11 77 P 11 16 55.1
baz=296,SNR=12
D05A Enumclaw 33.20 75 P P 11 16 54.8 +1.1
YKA Yellowknife Ar 33.21 46 P P 11 16 54.9 +1.2
comp=Z,9.8nm,0.9s,baz=274,slow=8.6,SNR=89
YKA PcP PcP 11 19 36.5 +0.6
comp=Z,4.7nm,0.9s,baz=272,slow=1.9,SNR=10
YKA LR LR 11 30 36.9
comp=Z,261nm,19.5s,baz=0.0,slow=37
TIXI Tiksi 33.27 331 P P 11 16 54.8 +0.7
comp=Z,1.3nm,0.3s,baz=108,slow=13,SNR=3.5
TIXI PcP PcP 11 19 35.3 -0.6
comp=Z,6.1nm,0.9s,baz=89,slow=2.6,SNR=5.2
TIXI Tiksi 33.27 331 *eP* P 11 16 55.0 +0.9
TIXI Tiksi 33.27 331 P P 11 16 54.4 +0.3
LON Longmire 33.49 76 P P 11 16 56.7 +0.3
LON pmax pmax
comp=Z,26nm,1.0s
LON Longmire 33.49 76 P P 11 16 56.7 +0.3
LON IAmb IAmb 11 17 11.1
comp=Z,26nm,0.9s
TEY Ternei 33.80 281⇑ *eP* P 11 16 59.6 +0.7
TEY pmax pmax
comp=N,10.0nm,1.3s
TEY pmax pmax
comp=Z,30nm,1.2s
TEY pmax pmax
comp=E,10.0nm,1.2s
LTY Liberty 33.98 75 P P 11 17 01.1 +0.5
LTY IAmb IAmb 11 17 06.0
comp=Z,37nm,1.1s
F05D White Salmon 34.09 77 P 11 17 02.9

baz=297
H04A Detroit Lake 34.19 80 P **P** **11 17 02.4 -0.1**
H04A IAmb IAmb 11 17 06.1
comp=Z,36nm,1.2s
B08A Colville Reser 34.34 72 P **P** **11 17 05.0 +1.2**
B08A IAmb IAmb 11 17 06.1
comp=Z,30nm,0.9s
G05D Wamic, OR 34.48 78 P 11 17 05.3
baz=298
I04A Tendick Farm, 34.48 81 P 11 17 06.4
baz=300
L02E Cave Junction 34.54 84 P 11 17 04.7
baz=301
H11N2 WAKE ISLAND Hy 34.55 215 T T 11 53 23.2
baz=31
H11N3 WAKE ISLAND Hy 34.56 215 T T 11 53 25.9
baz=31
H11N1 WAKE ISLAND Hy 34.57 215 T T 11 53 24.4
baz=31
HUMO Hull Mountain 34.72 83 P **P** **11 17 07.2 +0.2**
E07A Sunnyside 34.79 75 P **P** **11 17 08.7 +1.0**
I05D Terrebonne, OR 34.89 80 P 11 17 10.2
baz=299,SNR=6.3
KLR Kul'dur 34.98 290 P **P** **11 17 09.5 +0.3**
comp=Z,6.3nm,0.6s,baz=64,slow=8.8,SNR=33
KLR LR LR 11 32 23.6
comp=Z,132nm,19.2s,baz=26,slow=38
KLR Kul'dur 34.98 290*ceP* **P** **11 17 09.4 +0.3**
KLR pmax pmax
comp=Z,19nm,1.3s
F07A Phinny Hill Vi 35.04 76 P **P** **11 17 10.3 +0.5**
HAWA Hanford 35.06 75 P **P** **11 17 11.3 +1.3**
D08A Wollman Farm, 35.15 74 P **P** **11 17 10.9 +0.3**
D08A IAmb IAmb 11 17 12.8
comp=Z,49nm,1.2s
C09A Chrisman Ranch 35.22 73 P **P** **11 17 12.2 +0.9**
C09A IAmb IAmb 11 17 13.3
comp=Z,23nm,0.8s
E08A Dider Farm, El 35.31 75 P **P** **11 17 12.3 +0.3**
YBH Yreka Blue Hor 35.33 84 P **P** **11 17 13.3 +0.9**
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH Yreka Blue Hor 35.33 84 P **P** **11 17 13.3 +0.9**
L04D Klamath Falls 35.34 83 P 11 17 13.8
baz=302
PINE Pine Mountain 35.41 80 P **P** **11 17 14.5 +1.3**
PINE IAmb IAmb 11 17 16.5
comp=Z,37nm,1.2s
M02C Callahan 35.42 85 P 11 17 15.6
baz=302
J05D Fort Rock, OR 35.47 81 P 11 17 15.9
baz=300,SNR=6.0
NEW Newport 35.72 71 P **P** **11 17 15.9 +0.2**
NEW pmax pmax
comp=Z,27nm,0.9s
NEW Newport 35.72 71 P **P** **11 17 15.9 +0.2**
NEW IAmb IAmb 11 17 17.5
comp=Z,27nm,0.9s
NEW Newport 35.72 71 P 11 17 16.4
baz=295,SNR=28
N02D Trinity Center 35.74 86 P 11 17 18.2
baz=303,SNR=6.1
H11S1 WAKE ISLAND Hy 35.75 214 T T 11 54 59.6
baz=21
H11S2 WAKE ISLAND Hy 35.76 214 T T 11 55 05.7
baz=21,slow=74
H11S3 WAKE ISLAND Hy 35.77 214 T T 11 54 52.3
baz=21,slow=74
M04C Macdoel 35.86 84 P 11 17 19.1
baz=302,SNR=9.2
E09A Wood Farm, Sta 35.86 74 P **P** **11 17 16.9 +0.1**
KCPM Cahto Peak 35.89 88 P **P** **11 17 17.0 -0.2**
KCPM IAmb IAmb 11 17 23.1
comp=Z,57nm,1.2s
G08A Pilot Rock 35.92 77 P **P** **11 17 18.0 +0.5**
G08A IAmb IAmb 11 17 22.2
comp=Z,20nm,0.9s
ZEA Zeya 35.93 299 *e*P **P** **11 17 17.0 -0.3**
ZEA *e*S **S** **11 22 49.3 -6.0**
ZEA pmax pmax
comp=E,10.0nm,1.4s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA pmax pmax
comp=Z,100nm,6.3s
ZEA smax smax
comp=E,100nm,4.2s
ZEA MLR MLR
comp=Z,100nm,21.0s
K05A Summer Lake 35.97 82 P **P** **11 17 18.8 +0.8**
K05A IAmb IAmb 11 17 24.1
comp=Z,26nm,0.8s
WDC Whiskeytown Da 36.06 86 P **P** **11 17 19.2 +0.6**
WDC pmax pmax
comp=Z,17nm,1.1s
WDC Whiskeytown Da 36.06 86 P **P** **11 17 19.1 +0.6**
O02D Mt. Diablo Mer 36.12 87 P 11 17 21.6
baz=304,SNR=10
I07A Izee 36.17 79 P **P** **11 17 20.2 +0.6**
I07A IAmb IAmb 11 17 22.3
comp=Z,22nm,0.9s
JSD Sado 36.43 269 P **P** **11 17 21.7 -0.1**
JSD IAmb IAmb 11 17 36.5
comp=Z,17nm,0.8s
F10A Beach Ranch, E 36.68 75 P **P** **11 17 24.3 +0.4**
O03E Paynes Creek 36.69 86 P 11 17 25.4
baz=304,SNR=17
MOD Modoc Plateau 36.77 83 P **P** **11 17 25.2 +0.4**
GDXM Geysers 36.89 89 P **P** **11 17 26.0 +0.2**
USA0B Ussuriysk Arra 37.09 282*d iP* **P** **11 17 27.1 -0.2**
USA0B Ussuriysk Arra 37.09 282 P **P** **11 17 26.7 -0.5**
USRK Ussuriysk Ar. 37.09 282 P **P** **11 17 27.2 -0.1**
comp=Z,4.2nm,0.9s,baz=72,slow=8.2,SNR=17
USRK PcP **PcP** **11 19 47.4 -0.2**
comp=Z,3.5nm,1.0s,baz=34,slow=2.2,SNR=5.0
USRK LR LR 11 32 55.1
comp=Z,82nm,21.4s,baz=102,slow=37
USRK Ussuriysk Ar. 37.09 282 P **P** **11 17 27.3 +0.1**
BMO Blue Mountains 37.16 76 P **P** **11 17 28.4 +0.4**
BMO pmax pmax
comp=Z,29nm,1.4s
BMO Blue Mountains 37.16 76 P **P** **11 17 28.4 +0.4**
J08A Circle Bar Ran 37.17 79 P **P** **11 17 28.8 +0.6**
J08A IAmb IAmb 11 17 33.7
comp=Z,28nm,0.8s
ORV Oroville 37.29 87 P **P** **11 17 30.1 +1.0**
ORV pmax pmax
comp=Z,9.0nm,1.2s
ORV Oroville 37.29 87 P **P** **11 17 30.1 +1.0**
WALA Waterton Lakes 37.31 69 P **P** **11 17 29.3 0.0**
MAJO Matsushiro 37.36 267 P **P** **11 17 30.8 +1.1**
MAJO pmax pmax
comp=Z,14nm,0.8s
MAJO Matsushiro 37.36 267 P **P** **11 17 30.8 +1.1**
MJAR Matsushiro Arr 37.36 267 P **P** **11 17 30.1 +0.4**
comp=Z,4.0nm,1.0s,baz=50,slow=6.1,SNR=13
MJAR PcP **PcP** **11 19 48.6 +0.1**
comp=Z,5.4nm,1.0s,baz=30,slow=0.6,SNR=10
MJAR Matsushiro Arr 37.36 267 P **P** **11 17 30.9 +1.2**
MAT Matsushiro 37.36 267 P **P** **11 17 30.3 +0.6**
MAT S **S** **11 23 18.0 +0.6**
WVOR Wild Horse Val 37.55 81 P **P** **11 17 31.4 0.0**
WVOR pmax pmax
comp=Z,25nm,1.1s
WVOR Wild Horse Val 37.55 81 P **P** **11 17 31.4 0.0**
WVOR IAmb IAmb 11 17 34.0
comp=Z,24nm,1.1s
JTMT Jette 37.67 71 P **P** **11 17 32.6 +0.3**
BEKR Beckworth 37.84 85 P **P** **11 17 35.4 +1.4**
AFDM Forest Hills D 37.97 87 P **P** **11 17 34.1 -0.8**
MSO Missoula 38.29 72 P **P** **11 17 37.6 0.0**
MSO Missoula 38.29 72 P 11 17 38.5
baz=298,SNR=10
MDJ Mudanjiang 38.37 284 P **P** **11 17 37.8 -0.3**
MDJ pP sP 11 17 40.3 +0.1
MDJ sP pP 11 17 41.8 +2.2
MDJ S **S** **11 23 31.6 -1.0**
MDJ pmax pmax
comp=Z,10.0nm,1.1s
MDJ pmax pmax
comp=Z,170nm,6.7s
MDJ Mudanjiang 38.37 284 P **P** **11 17 36.2 -1.9**
MSHR Mys Shultsa 38.44 280*ceP* **P** **11 17 39.8 +1.1**
MSHR pmax pmax
comp=Z,53nm,1.3s

JGF Kuroka 38.48 267 P **P** **11 17 39.3 +0.1**
PAHR Pah Rah Range 38.55 85 P **P** **11 17 40.9 +0.9**
VCNR Virginia City 38.62 86 P **P** **11 17 41.3 +0.7**
PNTR Pine Nut 38.77 86 P **P** **11 17 42.5 +0.7**
PNTR IAmb IAmb 11 17 52.8
comp=Z,22nm,0.8s
MFID Camas Ranch 38.80 78 P **P** **11 17 42.4 +0.5**
MFID IAmb IAmb 11 17 44.0
comp=Z,34nm,1.2s
CMB Columbia Colle 38.88 88 P **P** **11 17 42.9 +0.4**
CMB pmax pmax
comp=Z,18nm,1.2s
CMB Columbia Colle 38.88 88 P **P** **11 17 42.9 +0.4**
RES Resolute Bay 39.08 24 P **P** **11 17 44.1 +0.4**
RES pmax pmax
comp=Z,11nm,1.3s
RES Resolute Bay 39.08 24 P **P** **11 17 44.1 +0.4**
WAKR Walker 39.21 87 P **P** **11 17 46.4 +0.9**
HLID Hailey 39.61 77 P **P** **11 17 49.8 +1.0**
HLID IAmb IAmb 11 17 54.0
comp=Z,31nm,1.1s
HLID Hailey 39.61 77 P 11 17 49.7
baz=301,SNR=44
HRY Holter Researc 39.63 71 P **P** **11 17 49.0 +0.2**
LRM Limekiln Ridge 39.68 72 P **P** **11 17 50.0 +0.6**
RYN Ryan 39.72 86 P **P** **11 17 50.8 +1.1**
KVN Kaiserville 39.75 85 P **P** **11 17 49.9 0.0**
KVN pmax pmax
comp=Z,13nm,1.1s
KVN Kaiserville 39.75 85 P **P** **11 17 49.9 0.0**
DLMT Dillon 39.82 73 P **P** **11 17 50.5 +0.1**
BCYI Bear Canyon 39.85 75 P **P** **11 17 51.5 +0.7**
JWT Wachi 39.92 268 P **P** **11 17 51.1 -0.1**
MCMT McKenzie Canyo 39.93 74 P **P** **11 17 52.0 +0.5**
MDPB Devils Postpil 39.95 87 P **P** **11 17 52.9 +1.2**
LHV Little Huntoon 39.95 86 P **P** **11 17 53.0 +1.6**
NVAR Mina Array Bea 39.98 86 P **P** **11 17 53.0 +1.1**
comp=Z,6.4nm,0.8s,baz=292,slow=8.2,SNR=32
NVAR PcP **PcP** **11 19 57.2 +0.3**
comp=Z,4.8nm,0.8s,baz=279,slow=2.6,SNR=10
NVAR LR LR 11 31 09.7
comp=Z,200nm,20.9s,baz=291,slow=31
NVAR Mina Array Bea 39.98 86 P **P** **11 17 52.9 +1.1**
NV11 Mina Array Sit 40.07 86 P **P** **11 17 53.5 +0.9**
EGMT Eagleton 40.25 68 P **P** **11 17 54.3 +0.5**
EGMT IAmb IAmb 11 17 59.9
comp=Z,35nm,0.9s
EGMT Eagleton 40.25 68 P 11 17 54.2
baz=298,SNR=30
BOZ Bozeman (W) 40.29 72 P **P** **11 17 54.5 +0.1**
BOZ pmax pmax
comp=Z,17nm,0.8s
BOZ Bozeman (W) 40.29 72 P **P** **11 17 54.5 +0.1**
BOZ Bozeman (W) 40.29 72 P 11 17 54.6
baz=300,SNR=38
PAGB Antelope Grade 40.35 91 P **P** **11 17 55.7 +0.9**
ELK Elko 40.60 81 P **P** **11 17 57.4 +0.3**
ELK pmax pmax
comp=Z,14nm,1.1s
ELK Elko 40.60 81 P **P** **11 17 57.4 +0.3**
SMMC Simmler 40.77 91 P 11 18 00.2
baz=309
QLMT Earthquake Lak 40.80 73 P **P** **11 17 59.4 +0.8**
TIN Tinemaha, Big 40.84 87 P 11 18 00.9
baz=307
TPH Tonopah 40.87 86 P **P** **11 17 59.5 +0.2**
TPH pmax pmax
comp=Z,85nm,1.0s
TPH Tonopah 40.87 86 P **P** **11 17 59.5 +0.2**
YHL Hebgen Lake 40.94 73 P **P** **11 18 00.1 +0.2**
YHL IAmb IAmb 11 18 02.3
comp=Z,36nm,1.2s
YHB Horse Butte 40.98 73 P **P** **11 18 00.4 +0.2**
VES Vestal, Richgr 41.03 90 P 11 18 01.2
baz=308,SNR=6.8
YMR Madison River 41.17 73 P **P** **11 18 02.3 +0.7**
YMR IAmb IAmb 11 18 03.5
comp=Z,33nm,1.2s
YHH Holmes Hill 41.18 73 P **P** **11 18 02.2 +0.4**
YHH IAmb IAmb 11 18 06.4
comp=Z,28nm,0.9s
CWC Cottonwood Cre 41.30 88 P 11 18 04.1
baz=308
YNR Norris Junctio 41.32 73 P **P** **11 18 03.9 +0.9**
YNR IAmb IAmb 11 18 08.2
comp=Z,38nm,1.0s
CN2 Changchun 41.35 285 *e*P **P** **11 18 02.8 -0.1**
CN2 *e*S **S** **11 24 14.6 -2.6**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,140nm,10.0s
CN2 LR LR
comp=Z,140nm,13.0s
GCMT Greycliff 41.39 71 P **P** **11 18 03.9 +0.5**
BOD Bodaibo 41.46 309 *eP* **P** **11 18 03.2 -0.4**
BOD *e* 11 24 17.6
BOD pmax pmax
comp=Z,50nm,1.2s
YPP Pitchstone Pla 41.47 74 P **P** **11 18 04.7 +0.4**
ISA Isabella, Lake 41.53 89 P **P** **11 18 04.5 -0.1**
ISA pmax pmax
comp=Z,17nm,1.0s
ISA Isabella, Lake 41.53 89 P **P** **11 18 04.5 -0.1**
ISA Isabella, Lake 41.53 89 P 11 18 05.2
baz=309,SNR=12
H17A Grant Village 41.55 73 P **P** **11 18 06.3 +1.4**
H17A IAmb IAmb 11 18 11.0
comp=Z,48nm,1.1s
H17A Grant Village 41.55 73 P 11 18 07.0
baz=302,SNR=28
LKWY Lake 41.57 73 P **P** **11 18 06.3 +1.3**
LKWY pmax pmax
comp=Z,26nm,0.9s
LKWY Lake 41.57 73 P **P** **11 18 06.3 +1.3**
LKWY IAmb IAmb 11 18 15.9
comp=Z,26nm,0.8s
YNE Yellowstone No 41.58 72 P **P** **11 18 05.4 +0.3**
HVU Hansel Valley 41.58 78 P **P** **11 18 06.1 +1.1**
HVU pmax pmax
comp=Z,18nm,0.8s
HVU Hansel Valley 41.58 78 P **P** **11 18 06.1 +1.1**
YMP Mirror Lake Pl 41.62 73 P **P** **11 18 05.8 +0.3**
FLWY Flagg Ranch 41.63 74 P **P** **11 18 06.3 +0.8**
FLWY IAmb IAmb 11 18 08.0
comp=Z,38nm,1.3s
FFC Flin Flon 41.66 56 P **P** **11 18 05.4 0.0**
FFC pmax pmax
comp=Z,18nm,1.1s
FFC Flin Flon 41.66 56 P **P** **11 18 05.4 0.0**
R11A Troy Canyon, C 41.75 84 P **P** **11 18 06.6 +0.1**
R11A Troy Canyon, C 41.76 84 P 11 18 07.5
baz=306,SNR=12
ECR Eagle Creek 41.77 75 P **P** **11 18 08.1 +1.5**
BGU Big Grassy Mou 41.89 79 P **P** **11 18 08.3 +0.7**
MPMC Manual Prospec 41.92 88 P 11 18 08.8
baz=308,SNR=15
REDW Red Top Meadow 41.92 75 P **P** **11 18 08.2 +0.4**
REDW IAmb IAmb 11 18 13.4
comp=Z,64nm,1.4s
SNOW Snow King Moun 41.93 75 P **P** **11 18 09.0 +1.0**
SNOW IAmb IAmb 11 18 12.9
comp=Z,33nm,1.2s
LOHW Long Hollow 41.94 74 P **P** **11 18 08.1 +0.1**
RLMT Red Lodge 41.97 72 P **P** **11 18 08.9 +0.7**
RLMT IAmb IAmb 11 18 10.2
comp=Z,41nm,1.1s
RLMT Red Lodge 41.97 72 P 11 18 09.2
baz=301,SNR=27
HIA Hailar 42.04 296 P **P** **11 18 08.4 -0.1**
HIA pmax pmax
comp=Z,33nm,1.1s
HIA Hailar 42.04 296 P **P** **11 18 08.4 -0.1**
HIA IAmb IAmb 11 18 10.1
comp=Z,33nm,1.1s
SPUT South Promonto 42.05 78 P **P** **11 18 10.0 +1.2**
SPUT IAmb IAmb 11 18 15.0
comp=Z,41nm,1.3s
FURC Furnace Creek, 42.07 87 P 11 18 10.1
baz=308,SNR=17
AHID Auburn Hatcher 42.09 76 P **P** **11 18 10.4 +1.2**
AHID IAmb IAmb 11 18 11.5
comp=Z,53nm,1.2s

TPNV Topopah Spring 42.16 86 P **P** **11 18 10.8 +0.9**
TPNV pmax pmax
comp=Z,26nm,0.8s
TPNV Topopah Spring 42.16 86 P **P** **11 18 10.8 +0.9**
TPNV IAmb IAmb 11 18 14.9
comp=Z,26nm,0.8s
TPNV Topopah Spring 42.16 86 P 11 18 11.0
baz=308,SNR=30
EDW2 Edwards Air Fo 42.32 90 P 11 18 12.1
baz=309
HWUT Hardware Ranch 42.43 77 P **P** **11 18 12.9 +0.9**
DUG Dugway, Tooele 42.44 80 P **P** **11 18 13.0 +0.9**
DUG pmax pmax
comp=Z,40nm,1.2s
DUG Dugway, Tooele 42.44 80 P **P** **11 18 13.0 +0.9**
DUG IAmb IAmb 11 18 17.2
comp=Z,40nm,1.2s
DUG Dugway, Tooele 42.44 80 P 11 18 13.0
baz=305,SNR=32
PRN Pahroc Range 42.65 85 P **P** **11 18 15.0 +1.2**
PRN IAmb IAmb 11 18 19.0
comp=Z,52nm,1.0s
MWC Mount Wilson 42.70 91 P **P** **11 18 15.3 +1.1**
MWC pmax pmax
comp=Z,40nm,1.4s
MWC Mount Wilson 42.70 91 P **P** **11 18 15.3 +1.1**
MWC IAmb IAmb 11 18 19.2
comp=Z,40nm,1.4s
PSUT Pine Spring 42.74 83 P **P** **11 18 15.7 +1.1**
SHOC Shoshone, Teco 42.79 87 P 11 18 15.8
baz=308,SNR=12
TCUT Toone Canyon 42.80 78 P **P** **11 18 15.6 +0.5**
TCUT IAmb IAmb 11 18 17.2
comp=Z,43nm,1.0s
GSC Goldstone, Bar 42.82 89 P **P** **11 18 15.5 +0.4**
GSC pmax pmax
comp=Z,32nm,1.0s
GSC Goldstone, Bar 42.82 89 P **P** **11 18 15.5 +0.4**
GSC IAmb IAmb 11 18 20.1
comp=Z,32nm,1.0s
GSC Goldstone, Bar 42.82 89 P 11 18 16.4
baz=309,SNR=28
CTU Camp Tracy 42.83 79 P **P** **11 18 16.0 +0.8**
CTU IAmb IAmb 11 18 17.1
comp=Z,35nm,1.1s
BFSC Mount Baldy Ra 42.94 90 P 11 18 17.4
baz=310,SNR=12
LAO LASA Array 42.99 68 P **P** **11 18 16.4 +0.1**
LAO IAmb IAmb 11 18 20.4
comp=Z,38nm,1.4s
LAO LASA Array 43.00 68 P 11 18 16.7
baz=301
BW06 Boulder Array 43.04 75 P **P** **11 18 17.4 +0.4**
BW06 IAmb IAmb 11 18 21.6
comp=Z,41nm,0.8s
PD31 Pinedale Array 43.04 75 P **P** **11 18 17.4 +0.5**
PD31 IAmb IAmb 11 18 21.6
comp=Z,36nm,0.8s
PDAR Pinedale Array 43.04 75 P **P** **11 18 17.6 +0.6**
comp=Z,33nm,0.8s,baz=305,slow=5.2,SNR=161
PDAR LR LR 11 34 26.3
comp=Z,183nm,18.8s,baz=321,slow=34
PDAR Pinedale Array 43.04 75 P **P** **11 18 17.4 +0.4**
BW06 Boulder Array 43.04 75 P 11 18 17.5
baz=303,SNR=68
NLU North Lily Min 43.04 80 P **P** **11 18 17.9 +0.9**
NLU IAmb IAmb 11 18 22.0
comp=Z,32nm,1.0s
JLU Jordanelle 43.07 79 P **P** **11 18 18.2 +1.0**
JLU IAmb IAmb 11 18 19.4
comp=Z,51nm,1.1s
SHPR Sheep Range 43.13 86 P **P** **11 18 18.2 +0.5**
MPU Maple Canyon 43.29 79 P **P** **11 18 19.1 +0.1**
DGMT Dagmar 43.29 65 P **P** **11 18 18.7 0.0**
DGMT Dagmar 43.29 65 P 11 18 18.8
baz=300
KSRS Korea Array 43.37 276 P **P** **11 18 20.4 +0.9**
comp=Z,4.1nm,0.9s,baz=59,slow=8.1,SNR=19
KSRS PcP **PcP** **11 20 08.4 +0.6**
comp=Z,3.1nm,1.0s,baz=55,slow=4.2,SNR=6.3
KSRS LR LR 11 35 55.3
comp=Z,41nm,20.8s,baz=45,slow=36
BBRC Big Bear Solar 43.40 90 P 11 18 21.5
baz=310,SNR=12
KSAR Wonju Array Be 43.41 276 P **P** **11 18 19.9 +0.2**
KSAR Wonju Array Be 43.41 276 P **P** **11 18 19.9 +0.2**
HEC Hector,Ludlow 43.42 89 P 11 18 20.7
baz=309
TCRU Three Creeks R 43.59 82 P **P** **11 18 21.8 +0.3**
CCUT Cedar City 43.64 83 P **P** **11 18 22.1 +0.2**
MURC Murrieta 43.65 91 P 11 18 22.4
baz=310
SZCU Shurtz Canyon 43.79 83 P **P** **11 18 23.4 +0.3**
MSU Marysvale 43.82 82 P **P** **11 18 24.6 +1.3**
MSU Marysvale 43.82 82 P **P** **11 18 24.6 +1.3**
GMRC Granite Mounta 43.88 88 P 11 18 24.3
baz=309,SNR=17
FCC Fort Churchill 43.91 48 P **P** **11 18 24.3 +0.8**
FCC pmax pmax
comp=Z,47nm,1.0s
FCC Fort Churchill 43.91 48 P **P** **11 18 24.2 +0.8**
FCC IAmb IAmb 11 18 25.4
comp=Z,47nm,1.0s
TMUT Trail Mountain 43.97 80 P **P** **11 18 25.6 +1.0**
TMUT IAmb IAmb 11 18 29.7
comp=Z,22nm,0.8s
LCMT Little Creek M 44.04 84 P **P** **11 18 26.2 +1.2**
LCMT IAmb IAmb 11 18 30.2
comp=Z,21nm,0.9s
MTPU Mount Pierson 44.09 82 P **P** **11 18 26.9 +1.2**
MTPU IAmb IAmb 11 18 28.1
comp=Z,26nm,1.3s
PFO Pinyon Flats O 44.11 90*c iP* **P** **11 18 26.4 +0.8**
PFO pmax pmax
comp=Z,15nm,0.9s
PFO Pinyon Flats O 44.11 90 P **P** **11 18 26.5 +0.9**
PFO Pinyon Flats O 44.11 90 P 11 18 26.5
baz=310,SNR=8.2
XPFO Pion Flat 44.11 90 P **P** **11 18 26.5 +0.9**
BELC Belle Mtn. Jos 44.16 89 P 11 18 26.3
baz=310,SNR=14
109C Camp Elliot, M 44.16 91 P **P** **11 18 26.5 +0.7**
109C IAmb IAmb 11 18 30.9
comp=Z,29nm,1.0s
109C Camp Elliot, M 44.16 91 P 11 18 27.0
baz=311
P17A Butcher Ranch, 44.16 79 P **P** **11 18 26.8 +0.8**
P17A IAmb IAmb 11 18 31.0
comp=Z,23nm,0.9s
INCN Inchon 44.18 277 P **P** **11 18 26.0 +0.1**
INCN pmax pmax
comp=Z,30nm,1.4s
INCN Inchon 44.18 277 P **P** **11 18 26.0 +0.1**
INCN IAmb IAmb 11 18 28.9
comp=Z,30nm,1.4s
Q16A Castle Valley 44.22 80 P **P** **11 18 27.2 +0.8**
Q16A IAmb IAmb 11 18 31.7
comp=Z,47nm,0.9s
KNB Kanab 44.31 84 P **P** **11 18 28.0 +0.8**
KNB pmax pmax
comp=Z,25nm,1.1s
KNB Kanab 44.31 84 P **P** **11 18 27.9 +0.8**
KNB IAmb IAmb 11 18 29.6
comp=Z,25nm,1.1s
PKCU Pink Cliffs 44.37 83 P **P** **11 18 28.5 +0.6**
PKCU IAmb IAmb 11 18 33.2
comp=Z,20nm,1.0s
TJN Taejon 44.38 275*ceP* **P** **11 18 28.9 +1.4**
SRU San Rafael Swe 44.51 80 P **P** **11 18 29.6 +0.8**
SRU pmax pmax
comp=Z,44nm,0.9s
SRU San Rafael Swe 44.51 80 P **P** **11 18 29.6 +0.8**
SRU IAmb IAmb 11 18 34.7
comp=Z,44nm,0.9s
NEE2 Needles Airpor 44.55 87 P 11 18 29.9
baz=309
BAR Barrett 44.57 91 P **P** **11 18 29.8 +0.6**
MONP2 Monument Peak 44.60 91 P 11 18 30.1
baz=311,SNR=7.3
IRM Iron Mountain 44.60 89 P 11 18 30.1
baz=310,SNR=16
TKX Tecate 44.69 91 P **P** **11 18 30.2 +0.1**
TKX IAmb IAmb 11 18 34.0
comp=Z,18nm,1.0s
BC3 Big Chuckawall 44.72 89 P 11 18 30.9
baz=310

W13A Hualapai Mount 44.81 87 P **P** **11 18 31.8 +0.5**
CBX Cerro Bola 44.82 92 P **P** **11 18 32.2 +0.9**
IKP In-Ko-Pah, Jac 44.95 91 P 11 18 33.1
baz=311
SWSC Sam W. Stewart 44.96 90 P 11 18 32.9
baz=311
K22A Casper 44.97 73 P **P** **11 18 32.5 +0.1**
K22A IAmb IAmb 11 18 33.4
comp=Z,27nm,1.2s
K22A Casper 44.97 73 P 11 18 32.5
baz=304,SNR=8.6
U15A North Rim 45.00 84 P **P** **11 18 33.9 +1.0**
U15A IAmb IAmb 11 18 38.1
comp=Z,30nm,0.8s
RMX La Rumorosa 45.00 91 P **P** **11 18 33.3 +0.6**
RWWY Rawlins 45.09 75 P **P** **11 18 33.7 +0.2**
RWWY IAmb IAmb 11 18 34.5
comp=Z,46nm,1.2s
PDMCI Parker Dam,Lak 45.15 88 P 11 18 34.6
baz=310,SNR=12
O20A White River Ci 45.34 77 P **P** **11 18 35.8 +0.4**
O20A White River Ci 45.34 77 P 11 18 35.8
baz=306,SNR=40
ESJX Sierra Juarez 45.48 91 P **P** **11 18 37.4 +0.9**
GLA Glamis 45.51 89 P **P** **11 18 37.3 +0.6**
GLA pmax pmax
comp=Z,17nm,1.0s
GLA Glamis 45.51 89 P **P** **11 18 37.3 +0.6**
GLA IAmb IAmb 11 18 41.4
comp=Z,17nm,1.0s
GLA Glamis 45.51 89 P 11 18 37.6
baz=311
RSSD Black Hills 45.66 70 P **P** **11 18 36.2 -1.8**
RSSD pmax pmax
comp=Z,13nm,1.3s
RSSD Black Hills 45.66 70 P **P** **11 18 36.2 -1.8**
RSSD Black Hills 45.66 70 P 11 18 38.2
baz=304
PV10 Paradox Valley 45.88 80 P **P** **11 18 40.5 +0.7**
PV10 IAmb IAmb 11 18 44.9
comp=Z,33nm,0.9s
PV14 Lion Creek, Pa 45.89 80 P **P** **11 18 39.6 -0.3**
PV14 IAmb IAmb 11 18 41.2
comp=Z,32nm,1.0s
PV22 Blue Mesa, Par 45.94 79 P **P** **11 18 40.1 -0.1**
PV22 IAmb IAmb 11 18 44.5
comp=Z,30nm,1.0s
PV04 Paradox Valley 45.95 79 P **P** **11 18 40.6 +0.4**
PV19 Morning Glory 45.95 80 P **P** **11 18 40.5 +0.2**
PV19 IAmb IAmb 11 18 44.6
comp=Z,36nm,0.9s
PV17 East Wray Mesa 45.99 80 P **P** **11 18 40.8 +0.2**
PV16 Nyswonger Mesa 46.00 80 P **P** **11 18 40.4 -0.2**
PV16 IAmb IAmb 11 18 42.0
comp=Z,39nm,1.0s
PV11 David Mesa, Pa 46.03 80 P **P** **11 18 41.0 +0.1**
PV18 Skein Mesa, Pa 46.04 80 P **P** **11 18 40.8 -0.2**
PV12 Saucer Basin, 46.06 79 P **P** **11 18 40.9 -0.3**
PV03 Paradox Valley 46.07 80 P **P** **11 18 41.4 +0.1**
PV07 Paradox Valley 46.09 79 P **P** **11 18 41.0 -0.4**
PV07 IAmb IAmb 11 18 45.6
comp=Z,28nm,0.8s
PV13 Radium Mtn., P 46.15 80 P **P** **11 18 42.2 +0.3**
WUAZ Wupatki 46.15 84 P **P** **11 18 42.7 +0.9**
WUAZ IAmb IAmb 11 18 46.8
comp=Z,30nm,0.8s
WUAZ Wupatki 46.15 84 P 11 18 42.9
baz=309,SNR=23
PV02 Paradox Valley 46.17 80 P **P** **11 18 42.5 +0.5**
MDND Maddock 46.25 63 P **P** **11 18 42.7 +0.5**
MDND Maddock 46.25 63 P 11 18 42.5
baz=302
PV15 Paradox Valley 46.25 79 P **P** **11 18 42.8 +0.1**
PV15 IAmb IAmb 11 18 43.9
comp=Z,35nm,0.9s
E28A Huff 46.30 65 P **P** **11 18 43.0 +0.3**
E28A IAmb IAmb 11 18 59.0
comp=Z,55nm,1.5s
PV01 Paradox Valley 46.32 80 P **P** **11 18 43.4 +0.2**
N23A Red Feather La 46.33 75 P 11 18 44.0
baz=306,SNR=27
PHWY Pilot Hill 46.39 74 P **P** **11 18 42.8 -1.0**
DL2 Dalian 46.48 282 P **P** **11 18 40.8 -3.3**
DL2 pmax pmax
comp=Z,33nm,1.0s
SMCO Snowmass 46.70 77 P **P** **11 18 46.5 +0.2**
SMCO IAmb IAmb 11 18 59.4
comp=Z,22nm,1.4s
MVCO Mesa Verde 46.93 80 P **P** **11 18 48.0 +0.1**
MVCO Mesa Verde 46.93 80 P 11 18 48.5
baz=308,SNR=37
ULM Lac du Bonnet 47.07 59 P **P** **11 18 47.5 -1.2**
comp=Z,18nm,1.1s,baz=299,slow=8.9,SNR=14
ULM LR LR 11 40 02.1
comp=Z,168nm,18.9s,baz=308,slow=38
ULM Lac du Bonnet 47.07 59 *c i* P **P** **11 18 48.5 -0.1**
ULM Lac du Bonnet 47.07 59 P **P** **11 18 48.1 -0.5**
ULM IAmb IAmb 11 19 01.4
comp=Z,24nm,0.8s
ISCO Idaho Springs 47.17 76 P **P** **11 18 50.2 +0.2**
ISCO pmax pmax
comp=Z,22nm,1.4s
ISCO Idaho Springs 47.17 76 P **P** **11 18 50.2 +0.2**
ISCO IAmb IAmb 11 18 51.9
comp=Z,22nm,1.4s
ISCO Idaho Springs 47.17 76 P 11 18 50.7
baz=307,SNR=13
PIX Pinacate 47.36 90 P **P** **11 18 51.0 -0.2**
PIX IAmb IAmb 11 18 55.6
comp=Z,18nm,1.5s
W18A Petrified Fore 47.44 84 P **P** **11 18 52.4 +0.5**
W18A IAmb IAmb 11 18 56.8
comp=Z,33nm,1.1s
W18A Petrified Fore 47.44 84 P 11 18 52.9
baz=310,SNR=7.0
214A Organ Pipe Nat 47.52 89 P **P** **11 18 52.5 +0.1**
214A IAmb IAmb 11 18 57.0
comp=Z,16nm,1.1s
214A Organ Pipe Nat 47.52 89 P 11 18 53.0
baz=312,SNR=10.0
NOR Nord 47.59 5 *i* P **P** **11 18 52.6 +0.3**
comp=Z,22nm,1.4s
NOR Nord 47.59 5 *i* P **P** **11 18 52.6 +0.3**
NOR Nord 47.59 5 *i* P **P** **11 18 52.6 +0.3**
NOR IAmb IAmb 11 18 55.7
comp=Z,22nm,1.4s
S22A 4UR Ranch, Cre 47.65 79 P 11 18 54.6
baz=308,SNR=32
X18A Snowflake 47.68 84 P **P** **11 18 54.0 +0.2**
X18A IAmb IAmb 11 18 58.8
comp=Z,13nm,0.9s
AGMN Agassiz Nation 48.12 61 P **P** **11 18 56.1 -0.8**
AGMN Agassiz Nation 48.12 61 P 11 18 56.2
baz=303,SNR=11
KULLO Kullorsuaq 48.20 19 *i* P **P** **11 18 58.2 +1.1**
comp=Z,35nm,1.0s
KULLO Kullorsuaq 48.20 19 *i* P **P** **11 18 58.2 +1.1**
KULLO Kullorsuaq 48.20 19 *i* P **P** **11 18 58.3 +1.1**
KULLO IAmb IAmb 11 18 59.3
comp=Z,35nm,1.0s
SUSD Miller 48.50 67 P **P** **11 18 59.5 -0.3**
SUSD Miller 48.50 67 P 11 18 59.3
baz=305
TUC Tucson 48.58 87 P **P** **11 19 01.1 +0.4**
TUC pmax pmax
comp=Z,16nm,1.1s
TUC Tucson 48.58 87 P **P** **11 19 01.1 +0.4**
TUC IAmb IAmb 11 19 05.4
comp=Z,16nm,1.1s
TUC Tucson 48.58 87 P 11 19 01.1
baz=311
OGNE Ogallala 48.69 72 P **P** **11 19 01.4 0.0**
OGNE Ogallala 48.70 72 P 11 19 01.7
baz=307
IRK Irkutsk 49.01 306 *e* P **P** **11 19 03.6 0.0**
IRK pmax pmax
comp=Z,67nm,1.6s
BJI Beijing 49.18 287 P **P** **11 19 05.9 +0.9**
BJI S **S** **11 26 06.6 -3.7**
BJI pmax pmax
comp=Z,11nm,0.8s
BJI LR LR
comp=Z,160nm,24.0s
BJI LR LR
comp=Z,87nm,14.2s
BJI LR LR
comp=Z,190nm,33.7s
BJT Baijiatuao 49.20 287 P **P** **11 19 05.3 +0.1**
BJT pmax pmax
comp=Z,20nm,1.3s
BJT Baijiatuao 49.20 287 P **P** **11 19 05.3 +0.1**
BJT IAmb IAmb 11 19 07.0
comp=Z,20nm,1.3s
B35A Bob, Littlefor 49.27 60 P **P** **11 19 05.2 -0.5**
B35A IAmb IAmb 11 19 19.1
comp=Z,18nm,0.8s
KSCO Kaye Shedlock' 49.49 75 P **P** **11 19 07.7 0.0**
KSCO Kaye Shedlock' 49.49 75 P 11 19 08.7
baz=308,SNR=7.7
T25A Trinidad 49.54 78 P **P** **11 19 08.9 +0.8**
T25A **S** **11 26 15.2 -0.8**
T25A Trinidad 49.54 78 P 11 19 09.1
baz=309,SNR=41
ANMO Albuquerque 49.63 81 *c e* P **P** **11 19 09.5 +0.7**
ANMO pmax pmax
comp=Z,19nm,1.1s
ANMO Albuquerque 49.63 81 P **P** **11 19 08.7 -0.1**
ANMO IAmb IAmb 11 19 13.5
comp=Z,23nm,1.1s
ANMO Albuquerque 49.63 81 P 11 19 09.4
baz=310
TLY Talaya 49.64 306 P **P** **11 19 10.0 +1.5**
comp=Z,13nm,0.9s,baz=38,slow=6.4,SNR=30
TLY Talaya 49.64 306 *e* P **P** **11 19 10.2 +1.7**
TLY *e* S **S** **11 26 24.6 +7.9**
TLY pmax pmax
comp=Z,102nm,1.4s
TLY MLR MLR
comp=Z,309nm,16.0s
TLY Talaya 49.64 306 P **P** **11 19 09.2 +0.7**
TLY IAmb IAmb 11 19 11.1
comp=Z,31nm,1.1s
LENM Lemitar 49.80 83 P **P** **11 19 10.4 +0.3**
Y22D IRIS PASSCAL I 49.90 83 P **P** **11 19 10.6 -0.2**
Y22D IAmb IAmb 11 19 17.3
comp=Z,30nm,0.8s
ULN Ulaanbaatar 49.95 300 *d e* P **P** **11 19 11.6 +0.5**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 49.95 300 P **P** **11 19 10.7 -0.4**
ULN IAmb IAmb 11 19 13.2
comp=Z,20nm,1.1s
BNM Barren Site 50.03 82 P **P** **11 19 12.6 +0.7**
JOW Kunigami 50.09 265 LR LR 11 37 59.8
comp=Z,69nm,21.1s,baz=84,slow=33
319A Douglas 50.16 87 P **P** **11 19 12.6 -0.2**
ECSD EROS Data Cent 50.29 66 P **P** **11 19 12.5 -1.0**
ECSD EROS Data Cent 50.29 66 P 11 19 12.1
baz=306
SONM Songino Array 50.34 300 P **P** **11 19 14.9 +0.9**
comp=Z,16nm,1.1s,baz=58,slow=7.5,SNR=66
SONM PcP **PcP** **11 20 31.6 -0.9**
comp=Z,3.9nm,1.0s,baz=56,slow=5.9,SNR=4.1
SONM LR LR 11 42 32.8
comp=Z,86nm,19.6s,baz=52,slow=38
SONM Songino Array 50.34 300 P **P** **11 19 14.3 +0.4**
SONM IAmb IAmb 11 19 16.3
comp=Z,20nm,1.2s
121A Cookes Peak, D 50.35 85 P **P** **11 19 14.9 +0.6**
121A IAmb IAmb 11 19 18.9
comp=Z,14nm,0.8s
121A Cookes Peak, D 50.35 85 P 11 19 14.9
baz=311,SNR=11
ZAK Zakamensk 50.56 305 *e* P **P** **11 19 16.2 +0.6**
ZAK *e* 11 20 32.3
ZAK pmax pmax
comp=Z,40nm,1.3s
ZAK pmax pmax
comp=Z,8.0nm,1.3s
HSIG 50.67 91 P **P** **11 19 16.9 +0.3**
EYMN Ely 50.74 59 P **P** **11 19 16.4 -0.5**
EYMN IAmb IAmb 11 19 30.2
comp=Z,29nm,1.1s
EYMN Ely 50.74 59 P 11 19 16.2
baz=305
BGNE Belgrade 50.77 70 P **P** **11 19 15.8 -1.4**
BGNE IAmb IAmb 11 19 17.7
comp=Z,51nm,1.3s
TIA Tai'an 50.95 282 P **P** **11 19 18.6 0.0**
TIA pmax pmax
comp=Z,28nm,1.1s
MOY Mondy 51.02 307 *e* P **P** **11 19 20.1 +1.1**
MOY pmax pmax
comp=Z,50nm,2.6s
NUUG Nuugaatsiaq 51.13 21 *i* P **P** **11 19 20.5 +1.2**
NUUG IAmb IAmb 11 19 21.4
comp=Z,48nm,1.0s
CBKS Cedar Bluff 51.39 73 P **P** **11 19 21.8 -0.1**
CBKS pmax pmax
comp=Z,31nm,1.0s
CBKS Cedar Bluff 51.39 73 P **P** **11 19 21.8 -0.1**
CBKS IAmb IAmb 11 19 23.1
comp=Z,31nm,1.0s
CBKS Cedar Bluff 51.39 73 P 11 19 22.1
baz=309,SNR=5.5
L34A Svendsen Farm, 51.48 68 P **P** **11 19 21.7 -0.9**
L34A IAmb IAmb 11 19 38.1
comp=Z,34nm,1.0s
HHC Hu-ho-hao-te 51.48 290 *e* P **P** **11 19 23.8 +1.1**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,180nm,9.2s
HHC LR LR
comp=Z,250nm,16.3s
HHC LR LR
comp=Z,190nm,10.0s
SPA0 Spitsbergen Ar 51.52 358 P **P** **11 19 22.3 0.0**
SPMN Marine on St. 51.60 63 P **P** **11 19 22.0 -1.3**
SPMN IAmb IAmb 11 19 37.8
comp=Z,19nm,1.0s
SPMN Marine on St. 51.60 63 P 11 19 22.6
baz=307
I37A Lemond, Waseca 51.99 64 P **P** **11 19 26.0 -0.2**
DAG Danmarks Havn 52.02 7 *i* P **P** **11 19 25.8 -0.1**
comp=Z,20nm,1.0s
DAG Danmarks Havn 52.02 7 *i* P **P** **11 19 25.8 -0.1**
DAG Danmarks Havn 52.02 7 *i* P **P** **11 19 25.9 -0.1**
DAG IAmb IAmb 11 19 27.5
comp=Z,20nm,1.0s
R32A Long Quarter, 52.26 73 P **P** **11 19 27.9 -0.5**
R32A IAmb IAmb 11 19 29.7
comp=Z,34nm,1.3s
MNTX Cornudas Mount 52.43 84 P **P** **11 19 29.8 +0.2**
MNTX IAmb IAmb 11 19 34.3
comp=Z,14nm,0.8s
MNTX Cornudas Mount 52.43 84 P 11 19 30.1
baz=312,SNR=25
NJ2 Nanjing 52.56 277 *e* P **P** **11 19 30.3 -0.3**
NJ2 pmax pmax
comp=Z,11nm,0.6s
MSTX Muleshoe 52.58 80 P **P** **11 19 30.8 -0.1**
MSTX Muleshoe 52.59 80 P 11 19 31.2
baz=311,SNR=45
N35A Tabor 52.60 69 P **P** **11 19 30.4 -0.5**
N35A IAmb IAmb 11 19 47.2
comp=Z,18nm,0.8s
AMTX Amarillo 52.68 78 P **P** **11 19 31.7 +0.1**
AMTX IAmb IAmb 11 19 32.8
comp=Z,27nm,1.0s
AMTX Amarillo 52.68 78 P 11 19 31.7
baz=311
GDL2 Guadalupe Moun 52.74 83 P **P** **11 19 32.9 +0.8**
TIY Taiyuan 52.91 287 *e* P **P** **11 19 35.4 +2.2**
KSU1 Kansas State U 53.12 71 P **P** **11 19 33.8 -0.8**
KSU1 IAmb IAmb 11 19 34.8
comp=Z,18nm,0.9s
SUMG Summit 53.27 16 *i* P **P** **11 19 37.4 +1.6**
comp=Z,102nm,1.1s
SUMG Summit 53.27 16 *i* P **P** **11 19 37.4 +1.6**
SUMG Summit 53.27 16 P **P** **11 19 37.4 +1.6**
SUMG Summit 53.27 16 *i* P **P** **11 19 37.5 +1.6**
SUMG IAmb IAmb 11 19 38.3
comp=Z,102nm,1.1s
U32A Winter Ranch, 53.38 75 P **P** **11 19 36.9 +0.2**
U32A IAmb IAmb 11 19 37.5
comp=Z,30nm,1.0s
SCIA State Center 53.38 66 P **P** **11 19 36.4 -0.1**
SCIA IAmb IAmb 11 19 54.6
comp=Z,20nm,0.5s
KAN09 Caldwell North 53.75 73 P **P** **11 19 38.8 -0.5**
KAN09 IAmb IAmb 11 19 39.6
comp=Z,34nm,1.2s
N38A Joes South For 54.07 67 P **P** **11 19 40.5 -1.1**
DBG Daneborg 54.19 9 *i* P **P** **11 19 42.1 +0.1**
DBG IAmb IAmb 11 19 43.2
comp=Z,26nm,0.9s
L40A Anamosa 54.45 65 P **P** **11 19 42.8 -1.5**
L40A IAmb IAmb 11 19 44.1
comp=Z,26nm,1.2s
T35A Sooner Cattle 54.57 73 P **P** **11 19 44.2 -1.1**
T35A IAmb IAmb 11 19 48.6
comp=Z,14nm,1.1s
WMOK Wichita Mounta 54.58 76 P **P** **11 19 45.2 -0.3**
WMOK pmax pmax
comp=Z,30nm,1.0s
WMOK Wichita Mounta 54.58 76 P **P** **11 19 45.2 -0.3**
WMOK IAmb IAmb 11 19 46.6
comp=Z,30nm,1.0s
WMOK Wichita Mounta 54.58 76 P 11 19 45.7
baz=311,SNR=24
P38A Dawn 54.63 69 P **P** **11 19 44.6 -1.1**
P38A IAmb IAmb 11 20 01.4
comp=Z,15nm,0.9s
OK029 Liberty Lake 54.71 75 P **P** **11 19 45.7 -0.7**
OK029 IAmb IAmb 11 19 47.1
comp=Z,22nm,1.1s
OK031 S. Brethren Rd 54.99 74 P **P** **11 19 48.4 0.0**
OK031 IAmb IAmb 11 19 49.0
comp=Z,47nm,1.3s
OK030 Cody Creek RV 55.04 74 P **P** **11 19 48.2 -0.5**
OK030 IAmb IAmb 11 19 49.4
comp=Z,39nm,1.3s
SFJD Kangerlussuaq 55.08 24 *i* P **P** **11 19 49.7 +1.2**
comp=Z,46nm,1.1s
SFJD Kangerlussuaq 55.08 24 *i* P **P** **11 19 49.7 +1.2**
SFJD Kangerlussuaq 55.08 24 P **P** **11 19 49.4 +0.9**
SFJD Kangerlussuaq 55.08 24 *i* P **P** **11 19 49.8 +1.2**
SFJD IAmb IAmb 11 19 50.5
comp=Z,46nm,1.1s
TX31 Lajitas Ar. Si 55.11 85 P **P** **11 19 49.4 0.0**
TX32 Lajitas Array 55.11 85 P **P** **11 19 49.4 0.0**
TX32 IAmb IAmb 11 19 53.6
comp=Z,20nm,1.0s
TXAR Lajitas Array 55.11 85 P **P** **11 19 49.3 -0.1**
comp=Z,12nm,0.9s,baz=294,slow=5.3,SNR=71
TXAR PcP **PcP** **11 20 50.4 -0.3**
comp=Z,2.9nm,0.8s,baz=310,slow=3.4,SNR=2.1
ABTX Abilene, Hawle 55.44 79 P **P** **11 19 51.4 -0.3**
ABTX Abilene, Hawle 55.44 79 P 11 19 51.6
baz=312,SNR=15
HPIG 55.48 88 P **P** **11 19 52.4 +0.1**
HPIG IAmb IAmb 11 19 56.3
comp=Z,27nm,1.3s
P40A Paris 55.57 68 P **P** **11 19 51.5 -1.1**
P40A IAmb IAmb 11 20 08.1
comp=Z,24nm,0.8s
E46A Sault Ste Mari 55.60 57 P **P** **11 19 52.6 0.0**
E46A IAmb IAmb 11 19 53.3
comp=Z,39nm,1.1s
TUL1 Leonard 55.66 73 P 11 19 52.6
baz=311
S39A Bolivar 56.00 70 P **P** **11 19 53.4 -2.3**
U38A Gravette 56.17 72 P **P** **11 19 55.8 -1.1**
R40A Maddies Statio 56.24 69 P **P** **11 19 55.5 -1.8**
GLMI Grayling 56.41 59 P **P** **11 19 58.4 -0.1**
GLMI Grayling 56.41 59 P 11 19 58.8
baz=310
WHN Wuhan 56.42 279 ⇑ P **P** **11 19 59.3 +0.6**
WHN pmax pmax
comp=Z,110nm,1.0s
Z35A Perchaven, San 56.46 77 P **P** **11 19 59.0 +0.1**
Z35A IAmb IAmb 11 19 59.9
comp=Z,36nm,1.1s
HDIL Hopedale 56.53 65 P 11 19 58.4
baz=311
JCT Junction City 56.78 81 P **P** **11 20 00.3 -1.1**
JCT pmax pmax
comp=Z,35nm,1.3s
JCT Junction City 56.78 81 P **P** **11 20 00.2 -1.1**
JCT IAmb IAmb 11 20 02.4
comp=Z,35nm,1.2s
JCT Junction City 56.78 81 P 11 20 00.7
baz=313,SNR=11
X37A Clayton 56.79 74 P **P** **11 20 01.5 +0.2**
X37A IAmb IAmb 11 20 02.3
comp=Z,18nm,1.1s
MATQ Matagami 56.86 50 P 11 20 00.8
baz=311
SSLB Suanglung 56.91 268 P **P** **11 20 02.6 +0.3**
MGMO Mountain Grove 56.98 70 P **P** **11 20 00.7 -2.0**
MGMO IAmb IAmb 11 20 02.0
comp=Z,24nm,1.4s
P43A Skaggs, Pawnee 56.99 66 P **P** **11 20 01.8 -0.8**
P43A IAmb IAmb 11 20 17.8
comp=Z,19nm,0.8s
CCM Cathedral Cave 57.01 69 P **P** **11 20 01.0 -1.8**
CCM pmax pmax
comp=Z,17nm,1.4s
CCM Cathedral Cave 57.01 69 P **P** **11 20 01.0 -1.8**
CCM IAmb IAmb 11 20 01.9
comp=Z,17nm,1.4s
CCM Cathedral Cave 57.01 69 P 11 20 00.9
baz=311
U40A Yellville 57.16 71 P **P** **11 20 02.1 -1.8**
U40A IAmb IAmb 11 20 03.3
comp=Z,19nm,1.2s
U40A Yellville 57.16 71 P 11 20 02.1
baz=312,SNR=9.6
WHTX Lake Whitney, 57.23 78 P **P** **11 20 04.7 +0.2**
WHTX Lake Whitney, 57.23 78 P 11 20 04.8
baz=313,SNR=6.2
ZAA0 Zalesovo Array 57.30 317 P **P** **11 20 04.6 0.0**
ZAA0 IAmb IAmb 11 20 18.7
comp=Z,17nm,1.2s
ZALV Zalesovo Beam 57.30 317 P **P** **11 20 04.4 -0.2**
comp=Z,6.2nm,0.9s,baz=35,slow=5.4,SNR=20
ZALV PcP **PcP** **11 20 58.5 -0.1**
comp=Z,2.0nm,0.7s,baz=46,slow=4.2,SNR=1.8
ZALV LR LR 11 46 00.4
comp=Z,138nm,19.5s,baz=49,slow=37
ZALV Zalesovo Beam 57.30 317 *i* P **P** **11 20 05.1 +0.5**
ZALV pmax pmax
comp=Z,6.0nm,0.9s
ZALV Zalesovo Beam 57.30 317 P **P** **11 20 04.6 0.0**
W39A Magazine 57.36 73 P **P** **11 20 04.8 -0.5**
W39A Magazine 57.36 73 P 11 20 04.7
baz=312,SNR=6.9
XAN Xi'an 57.46 285 P **P** **11 20 05.8 -0.3**
XAN pP sP 11 20 09.0 +0.8
XAN sP pwP 11 20 12.4 -2.6
XAN PP **PP** **11 22 16.8 +3.5**
XAN S **S** **11 28 03.3 +0.1**
XAN sS sS 11 28 10.5 +4.8
XAN pmax pmax
comp=Z,30nm,1.3s
XAN pmax pmax
comp=Z,82nm,3.7s
XAN LR LR
comp=Z,210nm,16.5s
XAN LR LR
comp=Z,150nm,20.9s
XAN Xi'an 57.46 285 P **P** **11 20 05.6 -0.5**
XAN pmax pmax
comp=Z,38nm,1.2s
XAN Xi'an 57.46 285 P **P** **11 20 05.6 -0.5**
XAN IAmb IAmb 11 20 07.4
comp=Z,38nm,1.2s
FVM French Village 57.54 68 P **P** **11 20 04.8 -1.7**
FVM pmax pmax
comp=Z,9.0nm,0.8s
FVM French Village 57.54 68 P **P** **11 20 04.8 -1.7**
SCO Scoresbysund 57.58 11 P **P** **11 20 07.0 +0.7**
SCO pmax pmax
comp=Z,32nm,0.9s
SCO Scoresbysund 57.58 11 P **P** **11 20 07.0 +0.7**
SCO IAmb IAmb 11 20 08.8
comp=Z,32nm,0.9s
FCAR Ozark Folk Cen 57.91 71 P **P** **11 20 07.7 -1.5**
FCAR IAmb IAmb 11 20 08.5
comp=Z,19nm,1.1s
SFIN Lafayette 57.91 64 P 11 20 08.3
baz=311
Z38A Mt. Pleasant 57.92 75 P **P** **11 20 08.7 -0.5**
Z38A IAmb IAmb 11 20 10.0

comp=Z,28nm,0.9s
MIAR Mount Ida 57.92 73 P **P** 11 20 09.1 -0.2
MIAR pmax pmax
comp=Z,28nm,1.1s
MIAR Mount Ida 57.92 73 P **P** 11 20 09.1 -0.2
MIAR lAmb lAmb 11 20 10.0
comp=Z,28nm,1.1s
MIAR Mount Ida 57.92 73 P 11 20 09.0
baz=312,SNR=11
435B Jarrell 57.97 79 P **P** 11 20 10.0 +0.3
435B lAmb lAmb 11 20 10.8
comp=Z,44nm,1.2s
435B Jarrell 57.97 79 P 11 20 10.3
baz=313
VLDQ Val d'Or 58.03 52 P **P** 11 20 08.3 -1.5
VLDQ lAmb lAmb 11 20 09.2
comp=Z,18nm,1.4s
WHAR Wooly Hollow 58.21 72 P **P** 11 20 10.3 -1.0
WHAR lAmb lAmb 11 20 11.1
comp=Z,19nm,1.1s
237A Washetta, Mont 58.26 77 P **P** 11 20 11.1 -0.5
W41B Gary Mavity, V 58.31 72 P 11 20 10.7
baz=312
PBMO Poplar Bluff 58.34 69 P **P** 11 20 10.7 -1.4
LCAR Lake Charles 58.37 70 P **P** 11 20 10.7 -1.7
N47A Urbana 58.38 63 P **P** 11 20 11.2 -1.3
N47A lAmb lAmb 11 20 26.5
comp=Z,25nm,0.8s
L48A N Adams 58.39 61 P **P** 11 20 11.8 -0.7
L48A lAmb lAmb 11 20 26.7
comp=Z,28nm,0.9s
X40A Basin Creek Fa 58.41 73 P **P** 11 20 11.9 -0.8
X40A lAmb lAmb 11 20 13.0
comp=Z,13nm,1.1s
X40A Basin Creek Fa 58.41 73 P 11 20 12.5
baz=313,SNR=5.0
833A Chaparral WMA, 58.52 83 P 11 20 13.6
baz=314,SNR=8.4
HAMF Hammerfest 58.63 354 *e*P **P** 11 20 13.0 -0.7
WLAR White Oak Lake 58.78 74 P **P** 11 20 14.6 -0.6
DGZ Jazzator, Alta 58.97 312 *d*iP **P** 11 20 17.2 +0.6
DGZ pmax pmax
comp=Z,28nm,1.6s
HBAR Harrisburg 59.02 70 P **P** 11 20 15.9 -1.0
I51A Listowel 59.03 58 P 11 20 17.2
baz=312,SNR=5.5
BLO Bloomington 59.04 65 P **P** 11 20 16.2 -0.8
BLO pmax pmax
comp=Z,19nm,1.1s
BLO Bloomington 59.04 65 P **P** 11 20 16.2 -0.8
BLO lAmb lAmb 11 20 18.6
comp=Z,19nm,1.1s
NATX Nacogdoches 59.13 76 P **P** 11 20 17.9 +0.1
ALGO Algonquin Park 59.17 54 P 11 20 17.8
baz=312,SNR=8.5
LZH Lanzhou 59.18 291 *e*P **P** 11 20 19.6 +1.4
LZH sP pwP 11 20 31.0 +3.9
LZH S **S** **11 28 33.3 +7.5**
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,100nm,4.9s
LZH LR LR
comp=Z,220nm,14.6s
LZH LR LR
comp=Z,280nm,16.2s
LZH LR LR
comp=Z,340nm,16.8s
GTA Gaotai 59.32 296 ⇓P **P** 11 20 19.4 +0.3
GTA pP sP 11 20 23.5 +2.3
GTA sP pwP 11 20 26.3 -1.7
GTA S **S** **11 28 28.6 +1.2**
GTA sS sS 11 28 40.6 +11
GTA pmax pmax
comp=Z,16nm,1.1s
GTA pmax pmax
comp=Z,120nm,6.2s
GTA LR LR
comp=Z,190nm,18.9s
GTA LR LR
comp=Z,190nm,19.3s
GTA LR LR
comp=Z,140nm,19.3s
P48A Milroy 59.48 64 P **P** 11 20 18.7 -1.4
G54A Lake Saint Pet 59.52 55 P 11 20 20.3
baz=312,SNR=7.9
HALT Halls 59.57 69 P **P** 11 20 20.2 -0.5
ARA0 ARCESS Array S 59.57 353 *e*P **P** 11 20 21.1 +0.8
ARCES ARCESS Array B 59.57 353 P **P** 11 20 20.9 +0.6
comp=Z,14nm,0.8s,baz=11,slow=5.9,SNR=25
ARCES LR LR 11 45 34.7
comp=Z,194nm,21.7s,baz=355,slow=36
ARCES ARCESS Array B 59.57 353 P **P** 11 20 17.6 -2.7
ARCES lAmb lAmb 11 20 22.0
comp=Z,19nm,0.8s
HKT Hockley 59.64 79 *d*iP **P** 11 20 21.2 0.0
HKT pmax pmax
comp=Z,35nm,1.5s
HKT Hockley 59.64 79 P **P** 11 20 20.7 -0.5
HKT lAmb lAmb 11 20 23.5
comp=Z,40nm,1.4s
ENH Enshi 59.67 282 P **P** 11 20 21.3 -0.2
D55A Sainte-Anne-du 59.76 52 P 11 20 21.3
baz=313,SNR=8.4
WCI Wyandotte Cave 59.81 65 P 11 20 21.6
baz=313
H53A Bobcaygeon 59.82 56 P 11 20 22.2
baz=313
E55A Montcerf-Lytto 59.85 53 P 11 20 22.3
baz=313
JETT Jettan, Norway 59.92 355 *e*P **P** 11 20 23.7 +1.1
JETT *e*PP **PP** **11 22 36.5 +2.3**
TRO Tromso 59.93 355 *e*P **P** 11 20 23.6 +0.9
D56A ZEC Mazanza, M 60.10 51 P 11 20 23.6
baz=313,SNR=5.5
T47A Sharon Grove 60.17 67 P **P** 11 20 24.2 -0.6
T47A lAmb lAmb 11 20 41.4
comp=Z,28nm,1.1s
W45A Hickory Valley 60.17 70 P **P** 11 20 24.2 -0.6
LVZ Lovozero 60.18 348 *ce*P **P** 11 20 25.8 +1.3
LVZ pmax pmax
comp=Z,190nm,2.5s
LVZ Lovozero 60.18 348 P **P** 11 20 24.6 +0.1
KTK1 Kautokeino 60.27 353 *e*P **P** 11 20 25.3 +0.3
KTK1 *e*PP **PP** **11 22 38.7 +1.5**
PLVO Plevna 60.29 54 P **P** 11 20 25.9 +0.3
E56A St. Veronique 60.31 52 P 11 20 24.9
baz=313
WVT Waverly 60.32 68 P **P** 11 20 24.9 -1.0
WVT pmax pmax
comp=Z,8.0nm,1.1s
WVT Waverly 60.32 68 P **P** 11 20 24.9 -1.0
WVT Waverly 60.32 68 P 11 20 25.0
baz=313
DELO Deloro Mine 60.36 55 P **P** 11 20 26.5 +0.4
DELO lAmb lAmb 11 20 27.3
comp=Z,26nm,1.3s
ZAIG Zacatecas 60.41 89 P **P** 11 20 26.7 -0.3
ZAIG lAmb lAmb 11 20 28.1
comp=Z,14nm,1.2s
OXF Oxford 60.48 71 P **P** 11 20 26.3 -0.6
OXF pmax pmax
comp=Z,37nm,1.1s
OXF Oxford 60.48 71 P **P** 11 20 26.3 -0.6
OXF Oxford 60.48 71 P 11 20 26.3
baz=313,SNR=5.4
L53A Girard 60.69 59 P 11 20 28.2
baz=313
ERPA Erie 60.73 58 P **P** 11 20 28.4 -0.1
ERPA Erie 60.73 58 P 11 20 28.2
baz=313
TRQ Mont Tremblant 60.77 52 P **P** 11 20 28.3 -0.6
M53A WI Miller and 60.82 59 P **P** 11 20 28.9 -0.3
M53A WI Miller and 60.82 59 P 11 20 28.8
baz=313
342A Flagon Creek P 60.84 75 P **P** 11 20 29.5 0.0
342A lAmb lAmb 11 20 30.2
comp=Z,23nm,1.1s
PLAL Pickwick Lake 60.96 69 P **P** 11 20 28.6 -1.6
PLAL lAmb lAmb 11 20 30.0
comp=Z,15nm,1.1s
Q51A Peebles 60.96 63 P **P** 11 20 29.5 -0.7
Q51A lAmb lAmb 11 20 44.9
comp=Z,22nm,1.1s
ALLY Alegheny Colle 60.96 59 P **P** 11 20 29.5 -0.7

D58A Chemin du LacG 61.00 50 P 11 20 29.6
baz=314,SNR=5.8
O52A Adamsville 61.07 61 P **P** 11 20 30.5 -0.4
PECO Prince Edward 61.09 55 P **P** 11 20 30.9 -0.1
N53A Lisbon 61.16 60 P **P** 11 20 30.7 -0.8
N53A lAmb lAmb 11 20 31.9
comp=Z,29nm,1.2s
V48A Smith Brothers 61.18 68 P **P** 11 20 30.6 -1.2
V48A lAmb lAmb 11 20 31.6
comp=Z,15nm,1.3s
CLTN Cedars of Leba 61.23 67 P **P** 11 20 31.5 -0.6
CLTN lAmb lAmb 11 20 48.4
comp=Z,9.7nm,0.9s
WVNY West Valley, N 61.28 57 P **P** 11 20 32.4 0.0
WVNY lAmb lAmb 11 20 33.3
comp=Z,30nm,1.1s
E58A La Victoria 61.31 51 P 11 20 31.3
baz=314
M54A Oil Creek Stat 61.32 59 P **P** 11 20 32.4 -0.2
M54A lAmb lAmb 11 20 46.9
comp=Z,29nm,1.1s
M54A Oil Creek Stat 61.32 59 P 11 20 32.4
baz=314
O53A New Philadelph 61.33 61 P 11 20 32.0
baz=314
MMNY Mt. Morris Dam 61.43 57 P **P** 11 20 33.1 -0.2
MMNY lAmb lAmb 11 20 34.2
comp=Z,26nm,1.1s
N54A Moraine State 61.52 59 P **P** 11 20 33.1 -0.8
N54A Moraine State 61.52 59 P 11 20 33.5
baz=314
H57A Richville 61.56 54 P 11 20 33.9
baz=314,SNR=8.1
J56A Wolcott 61.62 56 P **P** 11 20 33.5 -1.0
J56A Wolcott 61.62 56 P 11 20 34.6
baz=314
LOF Lofoten 61.65 357 *e*P **P** 11 20 35.5 +1.1
P53A Whipple 61.75 61 P **P** 11 20 35.0 -0.6
P53A lAmb lAmb 11 20 35.9
comp=Z,28nm,1.1s
ZSN Zaisan 61.76 311 *e*P **P** 11 20 35.5 0.0
comp=Z,47nm,2.4s,baz=311
ZSN Zaisan 61.76 311 *e*P **P** 11 20 35.5 0.0
ZSN pmax pmax
comp=Z,47nm,2.4s
G58A Ormstown 61.77 53 P 11 20 34.7
baz=314
K56A Middlesex 61.77 56 P 11 20 35.9
baz=314,SNR=6.5
I57A Carthage 61.78 54 P 11 20 35.4
baz=314,SNR=7.9
STEI Steigen 61.79 356 *e*P **P** 11 20 36.2 +0.9
O54A Avella 61.84 60 P **P** 11 20 35.0 -1.1
LONY Lake Ozonia 61.87 53 P 11 20 35.7
baz=314
F59A Saint Guilaume 61.92 51 P 11 20 36.2
baz=315
J57A Williamstown 61.98 55 P **P** 11 20 37.3 +0.3
J57A lAmb lAmb 11 20 50.2
comp=Z,18nm,0.9s
J57A Williamstown 61.98 55 P 11 20 36.9
baz=314
146A Union 61.98 72 P **P** 11 20 36.9 -0.2
L56A Greenwood 62.03 57 P **P** 11 20 37.1 -0.3
L56A Greenwood 62.03 57 P 11 20 37.4
baz=314,SNR=6.1
D60A Saint Jean D'O 62.08 49 P 11 20 37.1
baz=315
Q53A Leroy 62.11 62 P 11 20 36.9
baz=314
M56A Emporium 62.15 58 P **P** 11 20 38.2 0.0
M56A lAmb lAmb 11 20 52.6
comp=Z,25nm,1.0s
M56A Emporium 62.15 58 P 11 20 38.1
baz=314
K57A Scipio Center 62.17 56 P 11 20 38.1
baz=314
Z47A Carrollton 62.19 71 P **P** 11 20 37.6 -0.9
Z47A lAmb lAmb 11 20 38.4
comp=Z,20nm,1.1s
E60A Ste Agathe de 62.21 50 P 11 20 37.8
baz=315
D61A St Aubert, Com 62.23 49 P 11 20 38.6
baz=315
F60A Warwick 62.25 51 P 11 20 38.6
baz=315
KURK Kurchatov 62.28 317 P **P** 11 20 40.4 +1.5
H59A Cadyville 62.30 53 P 11 20 38.8
baz=315,SNR=5.9
I58A Old Forge 62.31 54 P 11 20 39.0
baz=315,SNR=6.1
KURBB Kurchatov Arra 62.39 317 P **P** 11 20 40.4 +0.7
comp=Z,21nm,1.0s,baz=40,slow=6.8,SNR=80
Q54A Coxs Mills 62.41 61 P **P** 11 20 39.8 -0.2
Q54A lAmb lAmb 11 20 40.1
comp=Z,20nm,1.1s
W50A Signal Mountai 62.45 67 P **P** 11 20 39.4 -0.9
W50A lAmb lAmb 11 20 40.3
comp=Z,21nm,1.4s
MCWV Mont Chateau 62.50 60 P **P** 11 20 40.3 -0.3
MCWV lAmb lAmb 11 20 55.4
comp=Z,18nm,1.1s
MCWV Mont Chateau 62.50 60 P 11 20 40.2
baz=314
NCB Newcomb 62.50 54 P **P** 11 20 40.7 +0.2
NCB lAmb lAmb 11 20 45.3
comp=Z,14nm,1.1s
L57A Andrews Acres 62.51 57 P 11 20 40.1
baz=314,SNR=5.7
MOQ Mont Orford 62.56 51 P **P** 11 20 40.7 -0.2
K58A Earlville 62.61 55 P 11 20 41.6
baz=315
J59A Piesco 62.71 54 P **P** 11 20 41.9 -0.1
F61A St Evariste 62.72 50 P 11 20 41.3
baz=316
J59A Piesco 62.72 54 P 11 20 40.7
baz=315
FPAL Fort Paine 62.73 68 P **P** 11 20 41.1 -1.1
FPAL lAmb lAmb 11 20 41.9
comp=Z,17nm,1.1s
CD2 Chengdu 62.78 286 P **P** 11 20 43.3 +0.7
CD2 pmax pmax
comp=Z,20nm,0.6s
O56A Blue Knob Stat 62.78 59 P 11 20 41.9
baz=314
I59A Olmsteadville 62.81 54 P 11 20 42.5
baz=315
BINY Binghamton 62.83 56 P **P** 11 20 42.5 -0.3
BINY Binghamton 62.83 56 P 11 20 42.7
baz=315
D62A Allapoint, All 62.86 48 P **P** 11 20 42.4 -0.4
D62A lAmb lAmb 11 20 43.9
comp=Z,35nm,1.4s
D62A Allapoint, All 62.86 48 P 11 20 42.8
baz=316
R54A Victor 62.88 62 P 11 20 42.9
baz=314,SNR=5.4
WMQ Urumqi 62.91 307 *e*P **P** 11 20 44.5 +1.2
WMQ pP pwP 11 20 49.5 -2.7
WMQ pmax pmax
comp=Z,21nm,1.5s
WMQ pmax pmax
comp=Z,200nm,3.7s
WMQ Urumqi 62.91 307 P **P** 11 20 43.7 +0.4
WMQ pmax pmax
comp=Z,30nm,1.1s
WMQ Urumqi 62.91 307 P **P** 11 20 43.7 +0.4
G61A St-Isidore-de- 62.94 51 P 11 20 42.6
baz=316
S54A Dingess, Beckl 62.97 63 P 11 20 43.3
baz=314
VT1 Waterbury 63.00 52 P **P** 11 20 43.4 -0.4
VT1 lAmb lAmb 11 20 45.3
comp=Z,26nm,1.3s
L58A Harry Jones Me 63.01 56 P 11 20 43.8
baz=315
K59A Cooperstown 63.02 55 P 11 20 44.7
baz=315
M58A Price's Panora 63.15 57 P 11 20 44.5
baz=315
P56A Dayton Farm, R 63.16 60 P 11 20 44.7
baz=315,SNR=6.1
ACCN Adirondack Com 63.20 54 P **P** 11 20 44.8 -0.4
H61A Lyndonville 63.27 52 P 11 20 45.2
baz=316
KONS Konsvik 63.30 357 *e*P **P** 11 20 46.5 +1.1

L59A Walton 63.33 55 P 11 20 46.2
baz=315
O57A Amberson 63.33 59 P 11 20 45.9
baz=315
D63A Stockholm 63.34 48 P 11 20 46.0
baz=316
J60A Lant Hill Farm 63.43 54 P 11 20 47.1
baz=315,SNR=8.5
MK31 Makanchi Array 63.46 312 *d*iP **P** **11 20 46.9 0.0**
MK31 Makanchi Array 63.46 312 P **P** **11 20 46.9 0.0**
MKAR Makanchi Array 63.46 312 P **P** **11 20 47.0 +0.1**
comp=Z,4.3nm,0.8s,baz=52,slow=6.3,SNR=39
MKAR S **S** **11 29 23.2 +3.7**
comp=Z,0.2nm,0.5s,baz=51,slow=9.6,SNR=3.7
MKAR LR LR 11 47 47.2
comp=Z,110nm,21.6s,baz=30,slow=35
MKAR Makanchi Array 63.46 312 P **P** **11 20 46.4 -0.4**
STOK Stokkvaagen 63.47 357 *e*P **P** **11 20 47.7 +1.2**
G62A West of Eustis 63.48 50 P **P** **11 20 47.1 +0.1**
G62A lAmb lAmb 11 20 48.0
comp=Z,26nm,1.1s
G62A West of Eustis 63.48 50 P 11 20 46.9
baz=316
MOIG Morelia 63.53 91 P **P** **11 20 48.0 +0.1**
U54A Nelsons Funny 63.57 64 P 11 20 47.2
baz=315
M59A Waymart 63.58 56 P 11 20 47.5
baz=315
MOR8 Moi Rana 63.58 357 *e*P **P** **11 20 47.0 -0.3**
MAKZ Makanchi 63.59 312 P **P** **11 20 47.9 +0.2**
MAKZ pmax pmax
comp=Z,33nm,1.5s
MAKZ Makanchi 63.59 312 P **P** **11 20 47.9 +0.2**
MAKZ lAmb lAmb 11 20 49.3
comp=Z,33nm,1.5s
H62A Milan 63.63 51 P **P** **11 20 47.5 -0.5**
H62A Milan 63.63 51 P 11 20 47.9
baz=316
P57A Homestead Farm 63.63 59 P 11 20 47.9
baz=315
J61A Chester 63.80 53 P 11 20 49.5
baz=316
F63A Nahmakanta, Br 63.83 49 P **P** **11 20 49.4 0.0**
F63A lAmb lAmb 11 20 50.0
comp=Z,19nm,1.1s
F63A Nahmakanta, Br 63.83 49 P 11 20 49.3
baz=316
N59A State Game Lan 63.84 57 P 11 20 49.6
baz=315
BLA Blacksburg 63.88 63 P **P** **11 20 49.2 -0.6**
BLA pmax pmax
comp=Z,27nm,0.9s
BLA Blacksburg 63.88 63 P **P** **11 20 49.2 -0.6**
BLA Blacksburg 63.88 63 P 11 20 49.7
baz=315
BVAR Borovoye Array 63.92 323 P **P** **11 20 50.3 +0.5**
comp=Z,16nm,0.9s,baz=52,slow=9.6,SNR=38
E64A Bridgewater 63.92 48 P 11 20 49.5
baz=317
BRVK Borovoye 63.94 323 *ce*P **P** **11 20 51.0 +1.1**
BRVK pmax pmax
comp=Z,47nm,1.2s
BRVK Borovoye 63.94 323 P **P** **11 20 51.3 +1.4**
TGY Tagaytay City 64.05 261 LR LR 11 45 06.6
comp=Z,2µm,20.0s,baz=317,slow=33
O59A Robesonia 64.05 58 P 11 20 50.7
baz=315
PKME Peaks-Kenny Pk 64.06 50 P **P** **11 20 50.3 -0.4**
PKME lAmb lAmb 11 20 51.8
comp=Z,31nm,1.3s
PRGR Permogore 64.10 341 *e*P **P** **11 20 50.9 +0.2**
PRGR pmax pmax
comp=Z,49nm,0.9s
GYA Guiyang 64.11 281 ⇓P **P** **11 20 51.5 0.0**
GYA S **S** **11 29 23.3 -5.1**
GYA pmax pmax
comp=Z,47nm,1.2s
GYA pmax pmax
comp=Z,150nm,3.6s
GYA LR LR
comp=Z,88nm,7.1s
250A Grady 64.12 71 P **P** **11 20 50.6 -0.8**
M60A Port Jervis 64.16 56 P 11 20 51.7
baz=316
R57A Stanardsville 64.19 61 P 11 20 51.6
baz=315
N60A Cedar Hill Far 64.23 57 P 11 20 52.0
baz=316
J62A Henniker 64.27 53 P 11 20 51.7
baz=316
I63A Otisfield 64.30 51 P 11 20 52.4
baz=316
SVE Sverdlovsk 64.30 331 *ce*P **P** **11 20 53.7 +1.5**
SVE pmax pmax
comp=Z,76nm,1.3s
P59A Jarrettsville 64.41 58 P 11 20 52.9
baz=315
GOGA Godfrey 64.79 68 P 11 20 54.3
baz=315
KMSC Kings Mountain 64.81 65 P **P** **11 20 55.5 -0.4**
KMSC lAmb lAmb 11 21 11.8
comp=Z,20nm,0.9s
KMSC Kings Mountain 64.82 65 P 11 20 55.4
baz=315
V56A Mocksville 64.83 64 P 11 20 55.4
baz=315
U57A Blanch 65.05 63 P 11 20 57.2
baz=316
T58A Grand View Acr 65.14 62 P 11 20 57.5
baz=316
ARU Arti 65.27 331 P **P** **11 20 59.6 +1.1**
comp=Z,14nm,0.8s,baz=19,slow=4.5,SNR=49
ARU LR LR 11 53 13.8
comp=Z,169nm,19.6s,baz=62,slow=39
ARU Arti 65.27 331 *d*iP **P** **11 20 59.4 +0.9**
ARU S **S** **11 29 45.2 +3.6**
ARU SS **SS** **11 33 52.7 -0.6**
ARU pmax pmax
comp=Z,75nm,1.0s
ARU MLR MLR
comp=Z,254nm,21.0s
ARU Arti 65.27 331 P **P** **11 20 58.9 +0.4**
352A Blakely 65.28 70 P **P** **11 20 58.0 -1.0**
NSS Namsos 65.31 358 *e*P **P** **11 20 59.1 +0.5**
BRZS Berezniki 65.36 320 *e*P **P** **11 20 58.8 -0.5**
comp=Z,15nm,1.2s,baz=320
BRZS Berezniki 65.36 320 *e*P **P** **11 20 58.7 -0.5**
BRZS pmax pmax
comp=Z,15nm,1.2s
TAOE Nuku Hiva Isla 65.58 144 *e*S **S** **11 29 48.0 +1.6**
comp=Z,484nm,26.3s
TAOE Nuku Hiva Isla 65.58 144 *e*LR LR 11 40 48.1
comp=Z,196nm,27.2s
LMN Caledonia Moun 65.76 47 P **P** **11 21 01.9 0.0**
JAY Jayapura 65.94 232 LR LR 11 52 25.2
comp=Z,83nm,18.1s,baz=31,slow=38
KIRV Kirov 65.95 337 P **P** **11 21 04.2 +1.4**
comp=Z,56nm,0.8s,baz=19,slow=2.4,SNR=24
KIRV Kirov 65.95 337 *ce*P **P** **11 21 04.1 +1.3**
KLMR Klimovskoe 66.02 343 *e*P **P** **11 21 02.3 -1.0**
KLMR pmax pmax
comp=Z,65nm,1.3s
KLMR Klimovskoe 66.02 343 *e*P **P** **11 21 02.4 -0.9**
KLMR AMP 11 21 04.8
comp=Z,65nm,1.3s
DRLN Deer Lake 66.38 40 P **P** **11 21 06.0 +0.2**
DRLN lAmb lAmb 11 21 07.2
comp=Z,25nm,1.0s
TDK Taldyqorghan 66.61 313 *e*P **P** **11 21 07.9 +0.5**
comp=Z,20nm,1.2s,baz=313
TDK Taldyqorghan 66.61 313 *e*P **P** **11 21 07.9 +0.5**
TDK pmax pmax
comp=Z,20nm,1.2s
TLIG Tlapa 66.76 90 P **P** **11 21 08.5 -0.3**
TLIG lAmb lAmb 11 21 12.4
comp=Z,16nm,1.2s
MOL Molde 67.34 360 *e*P **P** **11 21 12.0 +0.4**
FIA1 FINESS Array S 67.43 350 P **P** **11 21 12.1 -0.1**
FINES FINESS Array B 67.43 350 P **P** **11 21 12.8 +0.6**
comp=Z,35nm,1.0s,baz=31,slow=7.8,SNR=35
FINES LR LR 11 50 36.2
comp=Z,142nm,21.9s,baz=9.0,slow=36
SHLS Shalkode 67.49 311 *e*P **P** **11 21 12.1 -1.1**
comp=Z,34nm,1.2s,baz=311
SHLS Shalkode 67.49 311 *e*P **P** **11 21 12.0 -1.1**
SHLS pmax pmax

comp=Z,34nm,1.2s
KMI Kunming 67.52 283 ⇑P **P** **11 21 14.4 +0.7**
KMI pP sP 11 21 18.3 +2.5
KMI pmax pmax
comp=Z,29nm,1.2s
KMI Kunming 67.52 283 P **P** **11 21 13.5 -0.2**
KMI pmax pmax
comp=Z,42nm,1.2s
KMI Kunming 67.52 283 P **P** **11 21 13.5 -0.2**
GBN Guysborough 67.61 45 P **P** **11 21 14.2 +0.6**
KPKS Kokpek 67.63 312 *e*P **P** **11 21 14.2 +0.2**
comp=Z,51nm,1.7s,baz=312
KPKS Kokpek 67.63 312 *e*P **P** **11 21 14.2 +0.2**
KPKS pmax pmax
comp=Z,51nm,1.7s
UZB Uzynbulak 67.71 311 *e*P **P** **11 21 14.9 +0.3**
comp=Z,21nm,1.2s,baz=311
UZB Uzynbulak 67.71 311 *e*P **P** **11 21 14.8 +0.3**
UZB pmax pmax
comp=Z,21nm,1.2s
DOMB Dombas 67.86 359 *e*P **P** **11 21 15.8 +0.8**
SATY Saty 68.07 312 *e*P **P** **11 21 17.3 +0.4**
comp=Z,22nm,1.4s,baz=312
SATY Saty 68.07 312 *e*P **P** **11 21 17.2 +0.4**
SATY pmax pmax
comp=Z,21nm,1.4s
KUU Kurty 68.42 313 *e*P **P** **11 21 18.3 -0.5**
comp=Z,15nm,1.3s,baz=313
KUU Kurty 68.42 313 *e*P **P** **11 21 18.3 -0.5**
KUU pmax pmax
comp=Z,15nm,1.3s
BTLS Baital 68.58 315 *e*P **P** **11 21 19.4 -0.4**
comp=Z,16nm,1.2s,baz=316
BTLS Baital 68.58 315 *e*P **P** **11 21 19.4 -0.4**
BTLS pmax pmax
comp=Z,16nm,1.2s
NC204 NORSAR Array S 68.60 358 P **P** **11 21 19.2 -0.5**
NC303 NORSAR Array S 68.63 358 P **P** **11 21 20.2 +0.4**
MDOK Medeo 68.64 312 *e*P **P** **11 21 20.7 +0.3**
baz=312
MDOK Medeo 68.64 312 *e*P **P** **11 21 20.7 +0.3**
AAA Alma-Ata 68.67 313 *e*P **P** **11 21 20.6 +0.1**
baz=312
AAA Alma-Ata 68.67 313 *e*P **P** **11 21 20.6 +0.1**
NC405 NORSAR Array S 68.74 358 P **P** **11 21 21.3 +0.8**
TNSS Tian-Shan 68.78 312 *e*P **P** **11 21 22.1 +0.5**
baz=312
TNSS Tian-Shan 68.78 312 *e*P **P** **11 21 22.1 +0.5**
NB201 NORSAR Array S 68.81 358 P **P** **11 21 21.6 +0.6**
NB2 NORSAR Subarra 68.82 358 P **P** **11 21 21.9 +0.8**
comp=Z,10nm,0.7s,baz=2.1,slow=6.5
NB2 NORSAR Subarra 68.82 358 P **P** **11 21 21.9 +0.8**
baz=2.1,slow=6.5
NOA NORSAR Array B 68.82 358 P **P** **11 21 22.1 +1.0**
comp=Z,22nm,0.8s,baz=1.9,slow=6.3,SNR=58
PMG Port Moresby 68.93 223*ce*P **P** **11 21 21.4 -0.8**
PMG pmax pmax
comp=Z,18nm,1.3s
PMG Port Moresby 68.93 223 P **P** **11 21 21.7 -0.5**
PMG lAmb lAmb 11 21 50.5
comp=Z,14nm,0.8s
NC602 NORSAR Array S 69.12 358 P **P** **11 21 23.8 +0.9**
NC602 NORSAR Array S 69.12 358 *e*P **P** **11 21 24.0 +1.1**
SKAR Skarsla 69.23 359 *e*P **P** **11 21 24.8 +1.2**
AAL Aland 69.24 353 *e*P **P** **11 21 24.6 +1.1**
TKM2 Tokmak 2 69.51 313 P **P** **11 21 27.2 +1.4**
SNR=16
TKM2 Tokmak 2 69.51 313 *i* P **P** **11 21 26.6 +0.7**
TKM2 pmax pmax
comp=Z,33nm,1.2s
SLVN Son La 69.54 279 P **P** **11 21 26.7 +0.5**
SLVN lAmb lAmb 11 21 28.0
comp=Z,22nm,1.1s
SGDS Sogindy 69.55 314 *e*P **P** **11 21 26.3 +0.3**
comp=Z,28nm,1.5s,baz=314
SGDS Sogindy 69.55 314 *e*P **P** **11 21 26.2 +0.3**
SGDS pmax pmax
comp=Z,28nm,1.5s
SIJI Sorong 69.62 242 LR LR 11 45 20.8
comp=Z,47nm,19.9s,baz=7.5,slow=30
UPP Uppsala 69.72 354 *e*P **P** **11 21 26.8 +0.2**
USP Ospenovka 69.75 314 P **P** **11 21 28.6 +1.5**
SNR=36
CHMS Chumysh 69.84 314 P **P** **11 21 29.2 +1.6**
SNR=10
OSL Oslo 69.94 358 *e*P **P** **11 21 29.2 +1.3**
KBK Karagaybulak 70.02 313 P **P** **11 21 30.2 +1.2**
SNR=21
AAK Ala-Archa 70.24 314 P **P** **11 21 31.6 +1.4**
comp=Z,22nm,0.9s,baz=112,slow=3.3,SNR=58
AAK Ala-Archa 70.24 314 P **P** **11 21 31.7 +1.4**
SNR=32
AAK Ala-Archa 70.24 314*ce*P **P** **11 21 31.5 +1.2**
AAK pmax pmax
comp=Z,141nm,1.3s
AAK Ala-Archa 70.24 314 P **P** **11 21 31.4 +1.1**
KONO Kongsberg 70.25 359*ce*P **P** **11 21 31.9 +2.1**
KONO pmax pmax
comp=Z,45nm,1.3s
KONO Kongsberg 70.25 359 *e*P **P** **11 21 31.1 +1.3**
VSU Vasula 70.27 349 *e*P **P** **11 21 30.6 +0.7**
MTSE Matsula 70.34 351 *e*P **P** **11 21 27.7 -2.7**
AKTO Aktyubinsk 70.51 328 P **P** **11 21 32.6 +1.0**
comp=Z,22nm,1.0s,baz=36,slow=6.2,SNR=32
AKTO LR LR 11 54 59.8
comp=Z,170nm,21.9s,baz=24,slow=38
UCH Uchtor 70.55 313 P **P** **11 21 34.0 +1.4**
SNR=23
PPT Papeete 70.78 156 LR LR 11 44 21.9
comp=Z,183nm,21.1s,baz=305,slow=29
PPT2 Papeete2 70.80 156 *e*LR LR 11 43 05.5
comp=Z,267nm,25.0s
ABKAR Akbulak array 70.84 326 P **P** **11 21 33.9 +0.2**
ABKAR Akbulak array 70.84 326 P **P** **11 21 34.8 +1.2**
ABKAR lAmb lAmb 11 21 47.4
comp=Z,47nm,1.2s
AML Almayashu 71.01 314 P **P** **11 21 36.9 +1.6**
SNR=33
MOS Moscow 71.17 342 *e*P **P** **11 21 35.2 -0.3**
MOS pmax pmax
comp=Z,40nm,0.9s
DZA Taraz 71.48 316 *e*P **P** **11 21 38.2 +0.5**
baz=316
DZA Taraz 71.48 316 *e*P **P** **11 21 38.2 +0.5**
KK31 Karatay Array 71.67 316 P **P** **11 21 39.4 +0.6**
KK31 pmax pmax
comp=Z,23nm,1.2s
KK31 Karatay Array 71.67 316 P **P** **11 21 39.4 +0.6**
KK31 lAmb lAmb 11 21 40.8
comp=Z,23nm,1.1s
KKAR Karatay Array 71.67 316 P **P** **11 21 39.1 +0.2**
KKAR pmax pmax
comp=Z,23nm,1.2s
KKAR Karatay Array 71.67 316 P **P** **11 21 39.0 +0.2**
KKAR Karatay Array 71.67 316 P **P** **11 21 39.1 +0.2**
KKAR lAmb lAmb 11 21 40.7
comp=Z,23nm,1.1s
CCIG Comitan 71.82 86 P **P** **11 21 39.8 -0.4**
CCIG lAmb lAmb 11 21 44.8
comp=Z,31nm,1.4s
BELG Belogornoye 71.94 335 P **P** **11 21 41.2 +1.0**
comp=Z,49nm,1.1s,baz=134,slow=0.7,SNR=16
BELG Belogornoye 71.94 335 *i* P **P** **11 21 41.0 +0.8**
BELG pmax pmax
comp=Z,13nm,1.2s
OBN Obninsk 71.96 343*c i*P **P** **11 21 41.0 +0.8**
OBN *e* 11 21 58.0
OBN *e* 11 24 17.3
OBN pmax pmax
comp=Z,29nm,1.0s
OBN MLR MLR
comp=Z,134nm,17.0s
RAR Rarotonga 72.28 167 P **P** **11 21 41.9 -0.6**
comp=Z,9.7nm,0.5s,baz=30,slow=5.2,SNR=3.5
RAR Rarotonga 72.28 167 P **P** **11 21 41.9 -0.6**
MYLDM Lahad Datu 72.42 256 P **P** **11 21 43.3 -0.3**
IUG Iuzhnay 72.65 316 *e*P **P** **11 21 45.3 +0.5**
comp=Z,36nm,1.4s,baz=316
IUG Iuzhnay 72.65 316 *e*P **P** **11 21 45.3 +0.5**
IUG pmax pmax
comp=Z,36nm,1.4s
UBPT Khong Chiam 73.02 274 P **P** **11 21 46.9 -0.3**
UBPT lAmb lAmb 11 21 48.6
comp=Z,28nm,1.3s
ISAL Salakas 73.17 349 *e*P **P** **11 21 48.2 +0.8**

IDID Didziasalis 73.34 348 *e*P **P** **11 21 49.0 +0.6**
IIGN Ignalina 73.37 349 *e*P **P** **11 21 49.0 +0.4**
PABE Paberze 73.48 350 *e*P **P** **11 21 50.1 +0.8**
NACGM Naroch 73.73 348 *i* P **P** **11 21 50.3 -0.5**
NACGM *i* P **P** **11 21 50.3 -0.5**
NACGM *i* P **P** **11 21 50.3 -0.5**
NACGM *i* PcP **PcP** **11 22 05.8 -0.7**
NACGM *i* PP **PP** **11 24 39.2 +4.8**
NACGM *i* PPP PPP 11 26 15.3
NACGM *i* S **SKiKP** **11 31 18.8 -1.0**
NACGM *i* SS **SS** **11 35 55.0 -8.4**
NACGM *i* SSS SSS 11 39 15.4
NACGM *i* LQ LQ 11 48 59.6
NACGM *i* LR LR 11 53 16.2
SHL Shillong 73.84 291 P **P** **11 21 51.4 -0.8**
SHL pmax pmax
comp=Z,26nm,1.1s
SHL Shillong 73.84 291 P **P** **11 21 51.4 -0.8**
SHL lAmb lAmb 11 21 53.0
comp=Z,26nm,1.1s
LPSR Galich'ya Gora 73.85 340 *e*P **P** **11 21 52.1 +0.6**
LPSR *e* 11 22 03.8
LPSR pmax pmax
comp=Z,40nm,1.0s
MNK Minsk 73.98 348 *i* P **P** **11 21 51.0 -1.3**
comp=E,2.0nm,0.9s
MNK *i* P **P** **11 21 51.0 -1.3**
comp=N,24nm,1.1s
MNK *i* P **P** **11 21 51.0 -1.3**
comp=Z,30nm,0.8s
MNK *i* PcP **PcP** **11 22 06.5 -1.1**
MNK *i* PP **PP** **11 24 35.0 -1.6**
MNK *i* PPP PPP 11 26 19.8
MNK *i* S **SKiKP** **11 31 21.1 +0.8**
MNK *i* ScS **SKKSac** **11 32 00.2 +0.9**
MNK *i* SS **SS** **11 36 06.5 -0.7**
MNK *i* SSS SSS 11 39 27.7
MNK *i* LR LR 11 53 32.6
MNK *i* LRM MLR 11 56 38.6
comp=E,22nm,19.9s
MNK *i* LRM MLR 11 56 38.6
comp=N,127nm,18.1s
MNK *i* LRM MLR 11 56 46.2
comp=Z,101nm,17.2s
TOLI2 Tolitoli 74.19 252 P **P** **11 21 53.3 -0.7**
TOLI2 lAmb lAmb 11 21 54.4
comp=Z,28nm,1.2s
DZM Mont Dzumac 74.45 200 *e*LR LR 11 44 41.4
comp=Z,330nm,33.5s
DZM Mont Dzumac 74.45 200 P **P** **11 21 56.0 +0.7**
comp=Z,9.8nm,1.0s,baz=73,slow=11,SNR=2.8
DZM Mont Dzumac 74.45 200 P **P** **11 21 55.2 -0.2**
DZM lAmb lAmb 11 22 16.7
comp=Z,41nm,1.4s
VRH Novokhopyorsk 74.52 338 *e*P **P** **11 21 55.6 +0.1**
VRH *e* 11 22 07.1
VRH pmax pmax
comp=Z,20nm,1.0s
CHTO Chiang Mai 74.53 281 P **P** **11 21 56.3 +0.3**
CHTO pmax pmax
comp=Z,13nm,1.1s
CHTO Chiang Mai 74.53 281 P **P** **11 21 56.3 +0.3**
LUWI Luwuk 74.70 249 P **P** **11 21 55.7 -1.3**
CMAR Chiang Mai Arr 74.80 281 P **P** **11 21 57.9 +0.3**
comp=Z,9.1nm,0.9s,baz=27,slow=6.7,SNR=44
CMAR Chiang Mai Arr 74.80 281 P **P** **11 21 57.5 0.0**
MTO3 Montecristo 75.00 86 P **P** **11 21 58.1 -0.9**
SUW Suwalki 75.04 350 *e*P **P** **11 21 59.1 +0.7**
SUW Suwalki 75.04 350 *e*P **P** **11 21 59.3 +0.9**
SUW Suwalki 75.04 350 P **P** **11 21 57.9 -0.5**
SUW pmax pmax
comp=Z,75nm,1.0s
SUW Suwalki 75.04 350 P **P** **11 21 57.9 -0.5**
VSR Storozhevoye 75.10 340 *e*P **P** **11 21 59.4 +0.6**
VSR *e* 11 22 10.3
VSR pmax pmax
comp=Z,60nm,1.3s
VORD Divnogorie 75.30 340 *e*P **P** **11 21 59.9 -0.1**
VORD *e* 11 22 11.8
VORD pmax pmax
comp=Z,40nm,1.2s
BSEG Bad Segeberg 75.96 358 *e*P **P** **11 22 05.5 +1.8**
comp=Z,55nm,1.2s,baz=3.7,slow=5.5
TBI Tubuai 76.36 158 *e*S **S** **11 31 51.9 +1.0**
comp=Z,114nm,39.2s
TBI Tubuai 76.36 158 *e*LR LR 11 45 28.7
comp=Z,280nm,30.2s
TGUH Tegucigalpa,Un 76.58 84 P **P** **11 22 07.5 -0.5**
RUE Ruedersdorf 77.30 356 *e*P **P** **11 22 12.6 +1.3**
comp=Z,150nm,1.7s,baz=3.7,slow=5.5
NRDL Niedersach Rie 77.41 358 *e*P **P** **11 22 13.1 +1.3**
comp=Z,31nm,1.2s,baz=3.7,slow=5.5
BEL Belsk 77.43 351 *e*P **P** **11 22 14.1 +2.1**
AKASG Malin Array Be 77.47 346 P **P** **11 22 12.4 +0.2**
comp=Z,14nm,0.9s,baz=18,slow=5.9,SNR=36
AKASG LR LR 12 00 17.4
comp=Z,109nm,20.8s,baz=340,slow=39
AKASG Malin Array Be 77.47 346 P **P** **11 22 11.9 -0.4**
AKASG lAmb lAmb 11 22 25.3
comp=Z,13nm,1.1s
AKBB Malin Array Si 77.47 346*ce*P **P** **11 22 12.3 0.0**
AKBB Malin Array Si 77.47 346 P **P** **11 22 11.9 -0.4**
AKBB lAmb lAmb 11 22 13.8
comp=Z,32nm,1.1s
FLTG Flechtingen 77.54 357 *e*P **P** **11 22 13.6 +1.0**
comp=Z,63nm,1.4s,baz=3.7,slow=5.5
IBBN Ibbenburen 77.63 360 *e*P **P** **11 22 14.8 +1.6**
comp=Z,40nm,0.9s,baz=3.7,slow=5.5
ASSE Asse, Remlinge 77.76 358 *e*P **P** **11 22 15.3 +1.5**
comp=Z,40nm,1.2s,baz=3.7,slow=5.5
NIL Nilore 77.94 309 P **P** **11 22 16.3 +1.1**
NIL pmax pmax
comp=Z,63nm,1.2s
NIL Nilore 77.94 309 P **P** **11 22 16.3 +1.1**
CLZ Clausthal 78.06 358 *e*P **P** **11 22 17.3 +1.7**
comp=Z,77nm,1.3s,baz=3.7,slow=5.5
GTTG Gottingen 78.36 358 *e*P **P** **11 22 18.9 +1.6**
comp=Z,76nm,1.2s,baz=3.7,slow=5.5
SBUM Sibu 78.46 260 P **P** **11 22 18.6 +0.3**
BUG Bochum--Univer 78.50 360 *e*P **P** **11 22 19.2 +1.2**
comp=Z,66nm,1.5s,baz=3.7,slow=5.5
CLL Collm 78.50 356 ⇓*i*P **P** **11 22 19.1 +1.1**
comp=Z,85nm,1.9s
CLL *i* 11 22 30.4
CLL *e*PP **PP** **11 25 18.0 +3.4**
CLL *e*S **S** **11 32 12.0 -1.9**
CLL *e*PPS PPS 11 33 12.0
CLL *e*(SS) 11 37 00.0
CLL *e*(SSSS) 11 42 54.0
CLL LmV 11 52 00.0
comp=Z,100nm,21.7s
CLL Collm 78.50 356 ⇓*i*P **P** **11 22 19.1 +1.1**
CLL *i* 11 22 30.4
CLL pmax pmax
comp=Z,85nm,1.9s
CLL Collm 78.50 356 P **P** **11 22 18.8 +0.8**
CLL lAmb lAmb 11 22 20.2
comp=Z,23nm,1.0s
CLL Collm 78.50 356 *e*P **P** **11 22 18.9 +0.8**
comp=Z,27nm,1.1s,baz=3.7,slow=5.5
NEUB Neuenburg 78.65 357 *e*P **P** **11 22 20.2 +1.3**
comp=Z,57nm,1.0s,baz=3.7,slow=5.5
KASTN Kahler Asten 78.73 359 *e*P **P** **11 22 20.7 +1.4**
comp=Z,17nm,1.0s,baz=3.7,slow=5.5
KSP Ksiaz 78.79 354 *e*P **P** **11 22 21.1 +1.5**
FBE Freiberg 78.87 356 *e*P **P** **11 22 21.5 +1.4**
comp=Z,42nm,1.2s,baz=3.7,slow=5.5
BRG Berggiesshubel 78.89 356 *i* P **P** **11 22 21.2 +1.0**
BRG Amp 11 22 22.6
comp=Z,28nm,1.0s
BRG *i* x x 11 22 25.5
BRG Amp 11 22 26.4
comp=Z,17nm,1.0s
BRG Berggiesshubel 78.89 356 *e*P **P** **11 22 21.2 +1.0**
comp=Z,28nm,1.0s,baz=3.7,slow=5.5
BNSI Bone 78.97 249 P **P** **11 22 21.5 +0.5**
comp=Z,19nm,1.2s
CHVC Chvalec 79.06 354 *e*P **P** **11 22 21.9 +0.8**
LVV L'vov 79.07 349 *e*P **P** **11 22 21.6 +0.4**
OSTC Ostas 79.08 354 *e*P **P** **11 22 22.4 +1.2**
UBBA Unterbreizbach 79.09 358 *e*P **P** **11 22 22.6 +1.4**
comp=Z,25nm,1.5s,baz=3.7,slow=5.5
OJC Ojcow 79.13 352 *e*P **P** **11 22 22.7 +1.2**
OJC Ojcow 79.13 352 P **P** **11 22 22.5 +1.0**

OJC pmax pmax
comp=Z,39nm,1.5s
OJC Ojcow 79.13 352 P **P** **11 22 22.5 +1.0**
OJC lAmb lAmb 11 22 23.7
comp=Z,39nm,1.5s
PVCC Panska Ves 79.20 355 *e*P **P** **11 22 23.4 +1.5**
PVCC *e* 11 22 23.7
PVCC Panska Ves 79.20 355 *e*P **P** **11 22 23.4 +1.5**
MOX Moxa 79.22 357 *e*P **P** **11 22 23.3 +1.3**
comp=Z,24nm,1.1s,baz=3.7,slow=5.5
KBL Kabul 79.27 312 P **P** **11 22 22.0 -0.8**
KBL pmax pmax
comp=Z,39nm,1.1s
KBL Kabul 79.27 312 P **P** **11 22 22.0 -0.8**
KBL lAmb lAmb 11 22 23.5
comp=Z,39nm,1.1s
DPC Dobruska-Polom 79.28 354 *e*P **P** **11 22 23.8 +1.4**
DPC Dobruska-Polom 79.28 354 *e*P **P** **11 22 23.8 +1.4**
MEM Membach 79.33 1 *d*P **P** **11 22 23.5 +1.0**
BSTI Sart Tilman 79.35 1 *d*P **P** **11 22 24.3 +1.6**
BTNL Ternell 79.35 1 *d*P **P** **11 22 24.2 +1.5**
PLN Plauen 79.36 357 *e*P **P** **11 22 24.0 +1.3**
comp=Z,22nm,1.2s,baz=3.7,slow=5.5
WERD Werda 79.39 357 *e*P **P** **11 22 24.1 +1.1**
comp=Z,12nm,1.2s,baz=3.7,slow=5.5
AHRW Bad Neuenahr-A 79.40 360 *e*P **P** **11 22 24.5 +1.6**
comp=Z,30nm,1.0s,baz=3.7,slow=5.5
KWP Kalwaria Pacla 79.41 350 *e*P **P** **11 22 24.3 +1.3**
KWP Kalwaria Pacla 79.41 350 P **P** **11 22 23.9 +0.9**
KWP pmax pmax
comp=Z,45nm,1.1s
KWP Kalwaria Pacla 79.41 350 P **P** **11 22 23.9 +0.9**
TANN Tannenbergstha 79.42 356 *e*P **P** **11 22 24.5 +1.3**
comp=Z,32nm,1.5s,baz=3.7,slow=5.5
GUNZ Gunzen 79.47 357 *e*P **P** **11 22 24.8 +1.3**
comp=Z,28nm,1.3s,baz=3.7,slow=5.5
BCLA Clavier 79.51 1 *d*P **P** **11 22 22.7 -0.9**
BGES Gesves 79.54 1 *d*P **P** **11 22 25.4 +1.6**
WERN Wernitzgruen 79.55 357 *e*P **P** **11 22 25.2 +1.4**
comp=Z,35nm,1.2s,baz=3.7,slow=5.5
BHOU Houvegnez 79.58 1 *d*P **P** **11 22 26.0 +2.0**
NKC Novy Kostel 79.60 356 *e*P **P** **11 22 25.8 +1.7**
NKC Novy Kostel 79.60 356 *e*P **P** **11 22 25.8 +1.7**
BMRD Maredsous 79.62 1 *d*P **P** **11 22 25.3 +1.1**
comp=Z,40nm,1.4s
MTN Manton Dam 79.64 235 P **P** **11 22 24.5 -0.1**
MTN lAmb lAmb 11 22 29.8
comp=Z,50nm,1.4s
TNS Taunus Mts 79.71 359 *e*P **P** **11 22 26.1 +1.3**
comp=Z,27nm,1.0s,baz=3.7,slow=5.5
PRU Pruhonice 79.75 355 *e*P **P** **11 22 26.1 +1.3**
PRU Pruhonice 79.75 355 *e*P **P** **11 22 26.1 +1.3**
MORC Moravsky Berou 79.76 353 *e*P **P** **11 22 26.2 +1.2**
MORC Moravsky Berou 79.76 353 P **P** **11 22 24.0 -1.0**
MORC pmax pmax
comp=Z,16nm,1.3s
MORC Moravsky Berou 79.76 353 P **P** **11 22 24.0 -1.0**
GOPC GO Pecny, Ondr 79.81 355 *e*P **P** **11 22 26.5 +1.3**
GOPC *e* 11 22 30.4
GOPC GO Pecny, Ondr 79.81 355 *e*P **P** **11 22 26.5 +1.3**
GOPC *e*pP **PcP** **11 22 30.4 -2.5**
DOU Dourbes 79.82 2 *d*P **P** **11 22 26.7 +1.4**
MANZ Manzenberg 79.86 357 *e*P **P** **11 22 26.5 +1.0**
comp=Z,11nm,1.2s,baz=3.7,slow=5.5
ESPN Las Esperanzas 79.87 83 P **P** **11 22 25.4 -0.6**
NIE Niedzica 79.87 351 *e*P **P** **11 22 27.4 +1.8**
GOF Gofitskoye 79.88 335⇑*e*P **P** **11 22 26.9 +1.3**
GOF pmax pmax
comp=Z,79nm,1.3s
ROTZ Rotzenmuhle 80.08 357 *e*P **P** **11 22 28.0 +1.4**
comp=Z,9.9nm,1.1s,baz=3.7,slow=5.5
PBCC Pribram 80.08 355 *e*P **P** **11 22 28.0 +1.3**
MILB Miltenberg 80.09 359 *e*P **P** **11 22 28.1 +1.3**
comp=Z,32nm,1.0s,baz=3.7,slow=5.5
KOLS Kolonicke sedl 80.15 350 *e*P **P** **11 22 28.2 +1.1**
KOLS pmax pmax
comp=Z,13nm,1.3s
KOLS Kolonicke sedl 80.15 350 *e*P **P** **11 22 28.2 +1.1**
GRA1 Grafenberg Arr 80.18 357 P **P** **11 22 28.1 +0.9**
GRF Grafenberg Arr 80.18 357 P **P** **11 22 28.1 +0.9**
GRF pmax pmax
comp=Z,63nm,1.2s
GRF Grafenberg Arr 80.18 357 *e*P **P** **11 22 28.9 +1.7**
comp=Z,60nm,1.2s,baz=3.7,slow=5.5
GRFO Grafenberg 80.19 357 P **P** **11 22 28.0 +0.8**
GRFO pmax pmax
comp=Z,57nm,1.2s
GRFO Grafenberg 80.19 357 P **P** **11 22 28.0 +0.8**
LANS Liptovska Anna 80.22 352 *e*P **P** **11 22 29.7 +2.2**
LANS pmax pmax
comp=Z,16nm,1.3s
LANS Liptovska Anna 80.22 352 *e*P **P** **11 22 29.7 +2.2**
WLF Walferdange 80.27 1 P **P** **11 22 28.3 +0.6**
WLF pmax pmax
comp=Z,15nm,0.9s
WLF Walferdange 80.27 1 P **P** **11 22 28.3 +0.6**
WLF lAmb lAmb 11 22 30.7
comp=Z,15nm,0.9s
WLF Walferdange 80.27 1 *e*P **P** **11 22 29.7 +2.0**
comp=Z,15nm,0.9s,baz=3.7,slow=5.5
VRAC Vranov 80.29 354 ⇑P **P** **11 22 28.6 +0.7**
VRAC Vranov 80.29 354 *e*P **P** **11 22 29.1 +1.2**
KSM Kuching 80.42 261 P **P** **11 22 28.9 -0.1**
KSM lAmb lAmb 11 22 29.9
comp=Z,28nm,1.4s
UZH Uzhgorod 80.44 350 *e*P P 11 22 19.7 -8.9
UZH *e* 11 22 27.3
MAK Makhachkala 80.50 331 *e*P P 11 22 24.2 -4.8
MAK *e*S **S** **11 32 27.0 -8.3**
MAK pmax pmax
comp=Z,285nm,2.4s
KRUC Moravsky 80.55 354 *e*P **P** **11 22 30.4 +1.2**
KHC Kasperske Hory 80.65 356 *e*P **P** **11 22 31.1 +1.3**
KHC *e* 11 22 35.3
KHC Kasperske Hory 80.65 356 *e*P **P** **11 22 31.1 +1.3**
KHC *e*pP **PcP** **11 22 35.3 -1.3**
KHC Kasperske Hory 80.65 356 P **P** **11 22 30.2 +0.4**
KHC lAmb lAmb 11 22 32.7
comp=Z,33nm,1.3s
JAVC Velka Javorina 80.66 353 *e*P **P** **11 22 32.0 +2.1**
WET Wettzell 80.67 356 *e*P **P** **11 22 31.3 +1.4**
comp=Z,15nm,1.3s,baz=3.7,slow=5.5
KECS Kecovo 80.78 351 *e*P **P** **11 22 31.6 +1.1**
KECS Kecovo 80.78 351 *e*P **P** **11 22 31.6 +1.1**
CKRC Cesky Krumlov 80.92 355 *e*P **P** **11 22 32.4 +1.1**
VYHS Vyhne 80.92 352 *e*P **P** **11 22 32.7 +1.4**
VYHS pmax pmax
comp=Z,23nm,1.2s
VYHS Vyhne 80.92 352 *e*P **P** **11 22 32.6 +1.3**
GEC2 GERESS Array S 80.93 356 P **P** **11 22 31.9 +0.5**
GEC2 GERESS Array S 80.93 356 *e*P **P** **11 22 32.4 +0.9**
comp=Z,12nm,1.1s,baz=3.7,slow=5.5
GERES GERESS Array B 80.93 356 P **P** **11 22 32.5 +1.1**
comp=Z,3.8nm,0.8s,baz=345,slow=4.7,SNR=20
GERES LR LR 12 00 37.7
comp=Z,38nm,19.2s,baz=20,slow=37
GERES GERESS Array B 80.93 356 P **P** **11 22 32.3 +0.9**
GERES GERESS Array B 80.93 356 P **P** **11 22 32.2 +0.9**
KVAR Kislovodsk Arr 80.99 335 P **P** **11 22 33.0 +1.2**
comp=Z,1.8nm,0.3s,baz=42,slow=12,SNR=3.1
KIV Kislovodsk 80.99 335 *e*P **P** **11 22 32.9 +1.1**
KIV pmax pmax
comp=Z,26nm,1.1s
SMOL Smolenice 81.02 353 *e*P **P** **11 22 33.8 +2.0**
SMOL pmax pmax
comp=Z,10.0nm,1.1s
SMOL Smolenice 81.02 353 *e*P **P** **11 22 33.8 +2.0**
BUR08 Bucovina Ar. S 81.05 348 P **P** **11 22 32.8 +0.7**
BUR08 lAmb lAmb 11 22 34.4
comp=Z,20nm,1.1s
BURAR Bucovina Array 81.08 348 ⇑P **P** **11 22 33.1 +0.9**
BURAR Bucovina Array 81.08 348 P **P** **11 22 33.1 +0.9**
KBZ Khabaz 81.14 335 P **P** **11 22 33.2 +0.7**
comp=Z,4.7nm,1.0s,baz=263,slow=2.3,SNR=6.8
KBZ LR LR 12 04 14.2
comp=Z,84nm,19.5s,baz=11,slow=40
KBZ Khabaz 81.14 335*ce*P **P** **11 22 33.1 +0.7**
KBZ pmax pmax
comp=Z,6.0nm,1.1s
STU Stuttgart 81.15 359 P **P** **11 22 32.9 +0.5**
STU pmax pmax
comp=Z,33nm,1.1s
STU Stuttgart 81.15 359 P **P** **11 22 32.9 +0.5**
STU lAmb lAmb 11 22 35.0

	comp=Z,33nm,1.1s								
STU	**Stuttgart**	**81.15**	**359**	*e*P		**P**		**11 22 33.6**	**+1.2**
	comp=Z,26nm,1.1s,baz=3.7,slow=5.5								
MODS	**Modra-Piesok**	**81.17**	**353**	*e*P		**P**		**11 22 34.7**	**+2.1**
MODS				pmax		pmax			
	comp=Z,35nm,1.4s								
MODS	**Modra-Piesok**	**81.17**	**353**	*e*P		**P**		**11 22 34.7**	**+2.1**
GEYT	**Alibeck**	**81.20**	**321**	P		**P**		**11 22 34.0**	**+1.0**
	comp=Z,18nm,0.9s,baz=307,slow=3.2,SNR=25								
GEYT				PP		**PP**		**11 25 38.8**	**+1.3**
	comp=Z,2.7nm,0.7s,baz=14,slow=6.4,SNR=2.8								
GEYT				LR		LR		12 03 41.6	
	comp=Z,80nm,20.4s,baz=205,slow=39								
GEYT	**Alibeck**	**81.20**	**321**	P		**P**		**11 22 32.8**	**-0.1**
GEYT				IAmb		IAmb		11 22 35.1	
	comp=Z,19nm,0.9s								
GYA0B	**ALIBECK ARRAY**	**81.20**	**321**	P		**P**		**11 22 33.0**	**+0.1**
GYA0B				IAmb		IAmb		11 22 35.1	
	comp=Z,29nm,1.0s								
CAO2	**Cobano, Puntar**	**81.26**	**85**	P		**P**		**11 22 33.1**	**-0.4**
ZST	**Bratislava**	**81.36**	**353**	*e*P		**P**		**11 22 35.4**	**+1.8**
ZST				pmax		pmax			
	comp=Z,107nm,1.6s								
ZST	**Bratislava**	**81.36**	**353**	*e*P		**P**		**11 22 35.4**	**+1.8**
PSZ	**Piszkesteto**	**81.40**	**351**	⇑P		**P**		**11 22 34.6**	**+0.8**
PSZ	**Piszkesteto**	**81.40**	**351**	P		**P**		**11 22 35.2**	**+1.3**
PSZ				pmax		pmax			
	comp=Z,30nm,1.2s								
PSZ	**Piszkesteto**	**81.40**	**351**	P		**P**		**11 22 35.2**	**+1.3**
PSZ				IAmb		IAmb		11 22 36.8	
	comp=Z,30nm,1.2s								
BFO	**Black Forest**	**81.61**	**359**	P		**P**		**11 22 35.6**	**+0.7**
BFO				pmax		pmax			
	comp=Z,24nm,1.2s								
BFO	**Black Forest**	**81.61**	**359**	P		**P**		**11 22 35.6**	**+0.7**
BFO				IAmb		IAmb		11 22 37.4	
	comp=Z,24nm,1.2s								
BFO	**Black Forest**	**81.61**	**359**	*e*P		**P**		**11 22 36.1**	**+1.2**
	comp=Z,26nm,1.2s,baz=3.7,slow=5.5								
BIZ	**Bicaz**	**81.61**	**347**	⇓P		**P**		**11 22 35.9**	**+1.0**
NEY	**Neytrino**	**81.64**	**334**	*i* P		**P**		**11 22 37.4**	**+2.1**
NEY				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ARCR	**ARCALIA**	**81.71**	**348**	⇓P		**P**		**11 22 36.6**	**+1.2**
CONA	**Conrad Observa**	**81.72**	**354**	*e*P		**P**		**11 22 37.2**	**+1.6**
	comp=Z,29nm,1.2s,SNR=9.5								
ECH	**Echery**	**81.73**	**360**	P		**P**		**11 22 36.1**	**+0.6**
ECH				pmax		pmax			
	comp=Z,33nm,1.1s								
ECH	**Echery**	**81.73**	**360**	P		**P**		**11 22 36.1**	**+0.6**
ECH				IAmb		IAmb		11 22 38.6	
	comp=Z,33nm,1.1s								
ZEI	**Tsey**	**81.73**	**333**	*e*P		**P**		**11 22 35.5**	**-0.4**
ZEI				pmax		pmax			
	comp=Z,7.0nm,1.0s								
AKT	**Akhty**	**81.77**	**330**	*e*P		**P**		**11 22 36.6**	**+0.6**
AKT				*e*				11 22 42.5	
AKT				*e*				11 25 44.8	
AKT				pmax		pmax			
	comp=Z,30nm,0.9s								
CLF	**Chambon-Foret**	**81.83**	**3**	P		**P**		**11 22 36.6**	**+0.6**
MOA	**Molln**	**81.89**	**355**	*e*P		**P**		**11 22 37.6**	**+1.2**
	comp=Z,8.0nm,1.4s								
TESR	**Tescani**	**81.95**	**346**	⇓P		**P**		**11 22 37.4**	**+0.7**
RJOB	**Jochberg**	**82.08**	**356**	*e*P		**P**		**11 22 38.6**	**+1.2**
	comp=Z,47nm,1.2s,baz=3.7,slow=5.5								
SOC	**Sochi**	**82.12**	**337**	*e*P		**P**		**11 22 37.3**	**-0.3**
SOC				*e*S		**S**		**11 32 51.9**	**-0.2**
SOC				*e*SS		**SS**		**11 38 11.0**	**+1.0**
SOC				*e*SSS		SSS		11 41 40.4	
SOC				MLR		MLR			
	comp=Z,234nm,21.0s								
DRGR		**82.21**	**349**	⇑P		**P**		**11 22 38.9**	**+0.8**
UBR	**Ueberruh**	**82.22**	**358**	*e*P		**P**		**11 22 39.4**	**+1.2**
	comp=Z,19nm,1.4s,baz=3.7,slow=5.5								
RETA	**Reutte**	**82.40**	**357**	*i* P		**P**		**11 22 40.3**	**+1.1**
	comp=Z,9.7nm,1.1s								
ARSA	**Arzberg**	**82.42**	**354**	*e*P		**P**		**11 22 40.8**	**+1.6**
	comp=Z,13nm,1.2s								
HRA	**Herat**	**82.50**	**317**	P		**P**		**11 22 40.8**	**+0.7**
WATA	**Walderalm**	**82.53**	**357**	*i* P		**P**		**11 22 41.2**	**+1.3**
	comp=Z,18nm,1.1s,SNR=5.2								
MOTA	**Moosalm**	**82.53**	**357**	*i* P		**P**		**11 22 41.2**	**+1.3**
	comp=Z,23nm,1.0s,SNR=8.3								
VRI	**Vrincioaia**	**82.57**	**346**	⇓P		**P**		**11 22 40.4**	**+0.5**
PLOR	**Plostina**	**82.59**	**346**	⇓P		**P**		**11 22 40.9**	**+0.8**
WTTA	**Wattenberg**	**82.60**	**357**	*i* P		**P**		**11 22 41.7**	**+1.4**
	comp=Z,22nm,1.2s,SNR=7.7								
DAVA	**Damuels**	**82.62**	**358**	*i* P		**P**		**11 22 41.9**	**+1.5**
	comp=Z,14nm,1.0s								
SQTA	**Sankt Quirin**	**82.66**	**357**	*i* P		**P**		**11 22 42.0**	**+1.5**
	comp=Z,18nm,1.0s								
DOPR	**Dopca**	**82.67**	**347**	⇑P		**P**		**11 22 41.4**	**+0.9**
KBA	**Koelnbreinsper**	**82.71**	**356**	*i* P		**P**		**11 22 42.7**	**+1.8**
	comp=Z,31nm,1.0s,SNR=15								
SCHL	**Schela**	**82.75**	**345**	⇓P		**P**		**11 22 42.9**	**+2.0**
FETA	**Feichten**	**82.87**	**357**	*i* P		**P**		**11 22 43.1**	**+1.4**
	comp=Z,19nm,1.0s,SNR=8.8								
BISRR	**Bisoca**	**82.88**	**346**	⇓P		**P**		**11 22 42.7**	**+1.0**
TLCR		**82.89**	**345**	⇓P		**P**		**11 22 42.9**	**+1.3**
GRER		**83.00**	**346**	⇓P		**P**		**11 22 43.0**	**+0.8**
CFR	**Carcaliu**	**83.02**	**345**	⇓P		**P**		**11 22 43.8**	**+1.6**
SOKA	**Soboth**	**83.02**	**354**	*i* P		**P**		**11 22 43.6**	**+1.2**
	comp=Z,32nm,1.3s,SNR=18								
MLR	**Muntele Rosu**	**83.05**	**347**	⇑P		**P**		**11 22 43.8**	**+1.1**
MLR	**Muntele Rosu**	**83.05**	**347**	P		**P**		**11 22 43.4**	**+0.8**
MLR				pmax		pmax			
	comp=Z,43nm,1.1s								
MLR	**Muntele Rosu**	**83.05**	**347**	P		**P**		**11 22 43.4**	**+0.8**
PERS	**Pernice**	**83.05**	**354**	*i* P		**P**		**11 22 43.7**	**+1.2**
ABTA	**Abfaltersbach**	**83.08**	**356**	*i* P		**P**		**11 22 43.8**	**+1.1**
	comp=Z,12nm,1.0s,SNR=5.6								
MYKA	**Terra Mystica**	**83.14**	**355**	*i* P		**P**		**11 22 44.0**	**+1.0**
	comp=Z,8.6nm,1.2s								
OBKA	**Obir**	**83.21**	**355**	*e*P		**P**		**11 22 44.2**	**+0.8**
	comp=Z,9.0nm,0.9s								
VOIR		**83.23**	**347**	⇓P		**P**		**11 22 45.9**	**+2.4**
ZOU	**Zoufplan**	**83.25**	**356**	P		**P**		**11 22 43.1**	**-0.7**
ZOU				IAmb		IAmb		11 22 49.9	
	comp=Z,16nm,1.4s								
TPGR	**Topolog**	**83.28**	**345**	⇑P		**P**		**11 22 44.8**	**+1.1**
JURR	**Jurilovca**	**83.29**	**345**	⇓P		**P**		**11 22 45.0**	**+1.3**
ARR	**Arges**	**83.36**	**348**	⇑P		**P**		**11 22 45.8**	**+1.6**
BZS	**Buzias**	**83.49**	**350**	⇑P		**P**		**11 22 44.8**	**0.0**
HARR	**Harsova**	**83.52**	**345**	⇑P		**P**		**11 22 45.9**	**+1.0**
GZR	**Gura Zlata**	**83.58**	**349**	⇓P		**P**		**11 22 45.9**	**+0.6**
TLBR	**Topalu**	**83.65**	**345**	⇓P		**P**		**11 22 47.0**	**+1.4**
CTI	**Castel Tesino**	**83.81**	**357**	P		**P**		**11 22 46.1**	**-0.4**
CTI				pmax		pmax			
	comp=Z,11nm,1.1s								
CTI	**Castel Tesino**	**83.81**	**357**	P		**P**		**11 22 46.1**	**-0.4**
CTI				IAmb		IAmb		11 22 51.6	
	comp=Z,11nm,1.1s								
GNI	**Garni**	**83.91**	**332**	P		**P**		**11 22 48.3**	**+1.1**
	comp=Z,5.7nm,0.5s,baz=184,slow=3.8,SNR=5.4								
GNI	**Garni**	**83.91**	**332**	*ce*P		**P**		**11 22 48.8**	**+1.6**
GNI				pmax		pmax			
	comp=Z,27nm,1.8s								
GNI	**Garni**	**83.91**	**332**	P		**P**		**11 22 46.7**	**-0.5**
GNI				IAmb		IAmb		11 22 49.5	
	comp=Z,25nm,1.1s								
WRAB	**Tennant Creek**	**84.02**	**229**	*ce*P		**P**		**11 22 47.6**	**0.0**
WRAB				pmax		pmax			
	comp=Z,9.0nm,1.3s								
IPM	**Ipoh**	**84.02**	**270**	P		**P**		**11 22 47.1**	**-0.8**
IPM				IAmb		IAmb		11 22 48.6	
	comp=Z,15nm,1.2s								
WRA	**Warramunga Arr**	**84.03**	**229**	P		**P**		**11 22 46.0**	**-1.6**
	comp=Z,2.7nm,0.9s,baz=34,slow=5.9,SNR=10								
WRA				LR		LR		11 55 51.6	
	comp=Z,60nm,21.8s,baz=325,slow=33								
SKDS	**Skadanscina**	**84.20**	**355**	*i* P		**P**		**11 22 48.8**	**+0.4**
MDVR	**Moldovita**	**84.31**	**350**	⇑P		**P**		**11 22 50.2**	**+1.2**
TEOL	**Teolo**	**84.50**	**357**	P		**P**		**11 22 50.4**	**+0.6**
SSB	**Saint Sauveur**	**84.64**	**2**	P		**P**		**11 22 51.3**	**+0.6**
SSB				pmax		pmax			
	comp=Z,29nm,1.2s								
SSB	**Saint Sauveur**	**84.64**	**2**	P		**P**		**11 22 51.2**	**+0.6**
BNI	**Bardonecchia**	**84.89**	**0**	P		**P**		**11 22 54.4**	**+2.3**
BNI				pmax		pmax			
	comp=Z,80nm,1.0s								
BNI	**Bardonecchia**	**84.89**	**0**	P		**P**		**11 22 54.4**	**+2.3**
DIVS	**Divibare**	**85.17**	**351**	P		**P**		**11 22 54.0**	**+0.7**
DIVS				IAmb		IAmb		11 22 55.5	
	comp=Z,25nm,1.1s								
PLVB	**Pleven**	**85.30**	**347**	⇓P		**P**		**11 22 53.4**	**-0.5**
ZCCA	**Zocca**	**85.53**	**357**	P		**P**		**11 22 57.6**	**+2.5**
VTS	**Vitosha**	**86.25**	**348**	⇓P		**P**		**11 23 00.1**	**+1.2**
VTS	**Vitosha**	**86.25**	**348**	P		**P**		**11 22 59.0**	**+0.1**
VTS				pmax		pmax			
	comp=Z,18nm,1.0s								
VTS	**Vitosha**	**86.25**	**348**	P		**P**		**11 22 59.0**	**+0.1**
VTS				IAmb		IAmb		11 23 00.8	
	comp=Z,18nm,1.0s								
OSSC	**Osservatorio P**	**86.35**	**357**	P		**P**		**11 22 58.9**	**-0.2**
OSSC				IAmb		IAmb		11 23 00.7	
	comp=Z,23nm,1.1s								
MURB	**Monte Urbino**	**86.56**	**356**	P		**P**		**11 23 01.1**	**+0.8**
PSI	**Prapat**	**86.65**	**270**	P		**P**		**11 23 00.4**	**-0.8**
PSI				pmax		pmax			
	comp=Z,22nm,1.2s								
RPSI	**Rantau Prapat**	**86.73**	**270**	P		**P**		**11 23 00.4**	**-1.0**
RPSI				IAmb		IAmb		11 23 02.3	
	comp=Z,22nm,1.2s								
PDG	**Podgorica**	**86.90**	**351**	⇑P		**P**		**11 23 02.3**	**+0.5**
PDG	**Podgorica**	**86.90**	**351**	P		**P**		**11 23 02.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**86.91**	**237**	P		**P**		**11 23 01.6**	**-0.4**
FITZ				IAmb		IAmb		11 23 02.9	
	comp=Z,17nm,1.0s								
NRCA	**Norcia**	**86.96**	**356**	P		**P**		**11 23 02.5**	**+0.2**
NRCA				IAmb		IAmb		11 23 04.5	
	comp=Z,22nm,1.3s								
SKO	**Skopje**	**87.11**	**349**	*i* P		**P**		**11 23 04.4**	**+1.5**
BRTR	**Keskin Array B**	**87.22**	**340**	P		**P**		**11 23 03.3**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=41,slow=4.6,SNR=7.4								
BRTR				LR		LR		12 08 11.3	
	comp=Z,65nm,18.2s,baz=26,slow=40								
BRTR	**Keskin Array B**	**87.22**	**340**	*i* P		**P**		**11 23 04.0**	**+0.3**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
STIP	**Stip**	**87.29**	**349**	*i* P		**P**		**11 23 04.0**	**+0.2**
PBRG	**Braganca**	**87.35**	**10**	*e*P		**P**		**11 23 04.6**	**+0.5**
	comp=Z,35nm,1.9s								
AS31	**Alice Springs**	**87.42**	**227**	P		**P**		**11 23 03.8**	**-0.7**
ASAR	**Alice Springs**	**87.42**	**227**	P		**P**		**11 23 03.5**	**-0.9**
	comp=Z,4.5nm,1.0s,baz=36,slow=3.9,SNR=20								
ASAR				LR		LR		12 05 39.4	
	comp=Z,46nm,18.5s,baz=249,slow=38								
ASAR	**Alice Springs**	**87.42**	**227**	P		**P**		**11 23 02.9**	**-1.6**
VAY	**Valandovo**	**87.61**	**348**	*i* P		**P**		**11 23 06.3**	**+1.0**
MVO	**Moncorvo**	**87.95**	**11**	*e*P		**P**		**11 23 07.8**	**+0.8**
	comp=Z,19nm,1.4s								
HYB	**Hyderabad**	**87.98**	**295**	*i* P		**P**		**11 23 06.0**	**-1.5**
FNA	**Florina**	**88.29**	**349**	P		**P**		**11 23 07.9**	**-0.7**
FNA				pmax		pmax			
	comp=Z,15nm,1.0s								
FNA	**Florina**	**88.29**	**349**	P		**P**		**11 23 07.9**	**-0.7**
FNA				IAmb		IAmb		11 23 09.9	
	comp=Z,15nm,1.0s								
GSI	**Gunungsitoli**	**88.65**	**270**	P		**P**		**11 23 10.4**	**-0.2**
UREC	**San Jos de Ur**	**88.80**	**79**	*e*P		**P**		**11 23 10.4**	**-1.0**
DBBC	**Dabeiba**	**88.94**	**80**	*e*P		**P**		**11 23 10.7**	**-1.4**
ZARC	**Zaragoza, Cauc**	**89.42**	**79**	*e*P		**P**		**11 23 10.4**	**-3.9**
ESDC	**Sonseca Array**	**89.75**	**8**	P		**P**		**11 23 15.6**	**+0.1**
	comp=Z,5.9nm,0.9s,baz=343,slow=4.2,SNR=22								
ESDC				LR		LR		12 01 30.7	
	comp=Z,62nm,21.4s,baz=345,slow=34								
ESDC	**Sonseca Array**	**89.75**	**8**	P		**P**		**11 23 15.6**	**+0.1**
OCAC	**Ocana**	**89.81**	**77**	*e*P		**P**		**11 23 15.7**	**-0.6**
HELC	**Santa Helena**	**90.00**	**80**	*e*P		P		11 23 12.1	-5.4
PTBC	**PUERTO BERRIO,**	**90.41**	**79**	*e*P		**P**		**11 23 17.8**	**-1.1**
BRRC	**Barranca, Sant**	**90.44**	**78**	*e*P		**P**		**11 23 18.3**	**-0.7**
PLMC	**San Jos del P**	**90.51**	**82**	*e*P		**P**		**11 23 19.3**	**-0.1**
GUY2C	**Guyana, Caldas**	**90.85**	**81**	*e*P		**P**		**11 23 18.6**	**-2.8**
PAMC	**Pamplona, Colo**	**90.89**	**77**	*e*P		**P**		**11 23 21.3**	**-0.4**
NORC	**Norcasia**	**90.90**	**80**	*e*P		**P**		**11 23 20.3**	**-0.9**
SDV	**Santo Domingo**	**90.98**	**75**	P		**P**		**11 23 21.1**	**-0.6**
SDV				IAmb		IAmb		11 23 22.9	
	comp=Z,14nm,0.9s								
SDV	**Santo Domingo**	**90.98**	**75**	*e*P		**P**		**11 23 22.2**	**+0.4**
BARC	**Barichara**	**91.17**	**78**	*e*P		**P**		**11 23 23.0**	**+0.3**
YOTC	**Yotoco, Valle**	**91.18**	**82**	*e*P		**P**		**11 23 21.4**	**-1.3**
STKA	**Stephens Creek**	**91.28**	**217**	P		**P**		**11 23 22.4**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=347,slow=6.1,SNR=5.9								
STKA				LR		LR		11 57 07.4	
	comp=Z,123nm,21.3s,baz=38,slow=31								
STKA	**Stephens Creek**	**91.28**	**217**	P		**P**		**11 23 22.1**	**-0.3**
STKA				pmax		pmax			
	comp=Z,2.0nm,1.1s								
STKA	**Stephens Creek**	**91.28**	**217**	P		**P**		**11 23 22.1**	**-0.3**
PFVI	**Vila Bisbo**	**91.69**	**13**	*e*P		**P**		**11 23 23.5**	**-1.0**
	comp=Z,60nm,1.5s								
RUSC	**La Rusia**	**91.77**	**79**	*e*P		**P**		**11 23 25.7**	**-0.1**
ROSC	**El Rosal**	**91.80**	**80**	P		**P**		**11 23 26.4**	**+0.6**
	comp=Z,6.6nm,0.3s,baz=114,slow=20,SNR=1.8								
ROSC	**El Rosal**	**91.80**	**80**	P		**P**		**11 23 25.6**	**-0.2**
ROSC				pmax		pmax			
	comp=Z,9.0nm,0.5s								
ROSC	**El Rosal**	**91.80**	**80**	P		**P**		**11 23 25.6**	**-0.2**
BETC	**Betania**	**92.75**	**82**	*e*P		**P**		**11 23 30.2**	**+0.5**
PSA00	**Pilbara Seismi**	**92.88**	**239**	P		**P**		**11 23 28.5**	**-1.5**
PSA00				IAmb		IAmb		11 23 29.4	
	comp=Z,7.8nm,0.7s								
WSAR	**Wadi Sarin**	**93.65**	**314**	P		**P**		**11 23 33.8**	**0.0**
	comp=Z,10nm,1.0s,baz=28,slow=1.1,SNR=9.0								
RAYN	**Ar Rayn**	**98.88**	**325**	P		Pdif		11 23 57.9	+0.3
RAYN				pmax		pmax			
	comp=Z,12nm,1.1s								
RAYN	**Ar Rayn**	**98.88**	**325**			Pdif		11 23 57.9	+0.3
TORD	**Torodi Ar. Bea**	**116.52**	**6**	PKP		**PKPdf**		**11 29 00.4**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=347,slow=2.7,SNR=3.5								
TORD				PP		**PP**		**11 30 10.6**	**+3.6**
	comp=Z,1.4nm,0.9s,baz=0.5,slow=7.1,SNR=4.1								
TORD				PKKPbc		**PKKPbc**		**11 39 27.2**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=196,slow=1.6,SNR=4.1								
BDFB	**Brasilia**	**123.99**	**72**	PKP		**PKPdf**		**11 29 15.3**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=241,slow=10,SNR=2.5								
KMBO	**Kilima Mbogo**	**124.57**	**322**	PKP		**PKiKP**		**11 29 17.7**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=338,slow=3.2,SNR=4.2								
KMBO				PP		**PP**		**11 31 03.4**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=345,slow=6.2,SNR=3.8								
CPUP	**Villa Florida**	**125.98**	**89**	PKP		**PKPdf**		**11 29 18.2**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=315,slow=4.3,SNR=1.7								
PLCA	**Paso Flores**	**127.18**	**111**	PKP		**PKPdf**		**11 29 21.1**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=304,slow=4.4,SNR=6.1								
TSUM	**Tsumeb**	**147.72**	**341**			**PKPbc**		**11 30 02.5**	**+0.4**
MAW	**Mawson**	**147.96**	**217**	PKPbc		**PKPbc**		**11 30 01.2**	**+0.1**
	comp=Z,22nm,0.9s,baz=7.1,slow=4.4,SNR=8.1								
MAW	**Mawson**	**147.96**	**217**			**PKPbc**		**11 30 00.4**	**-0.7**
BELA	**Belgrano 2**	**148.48**	**164**			**PKPbc**		**11 30 00.7**	**-1.6**
LBTB	**Lobatse**	**150.84**	**324**	PKIKP		**PKPbc**		**11 30 10.0**	**+0.2**
LBTB				PKP		**pPKPab**		**11 30 18.2**	**-0.3**
LBTB	**Lobatse**	**150.84**	**324**			**PKPbc**		**11 30 09.9**	**+0.2**
LBTB				PKPab		**pPKPab**		**11 30 18.2**	**-0.3**
BOSA	**Boshof**	**154.19**	**321**	PKPbc		**PKPbc**		**11 30 17.0**	**-0.2**
	comp=Z,6.4nm,1.0s,baz=100,slow=10,SNR=4.7								
BOSA				PKPab		**PKPab**		**11 30 29.2**	**-1.8**
	comp=Z,7.1nm,0.9s,baz=32,slow=4.0,SNR=6.1								
SYO	**Syowa Base**	**155.69**	**208**	‖*e*PKPdf		pPKPdf		11 30 12.0	+0.8
SYO	**Syowa Base**	**155.69**	**208**	‖*e*PKPab		**PKPab**		**11 30 35.6**	**-0.5**

*SJA **21** 11:13:48.9±0.6,36˚.46S×74˚.79W,h11km,ML4.3,MW4.3*
*IDC **21** 11:14:02.4±0.6,36˚.22S×73˚.36W,h0km,mb4.5/14,*
mb1 4.6/16,mb1mx4.5/32,mbtmp4.5/16,ML4.0/2,MS3.7/3,
Ms1 3.7/3,ms1mx3.4/15,Error ellipse: s-maj=22.4km
s-min=13.0km az=78.0
*NEIC **21** 11:14:03.5±1.9,36˚.27S±0˚.05×73˚.6W±0˚.1,h40km±6km,*
mb4.7/53,ML4.9(GUC),Error ellipse: s-maj=12.8km
s-min=6.9km az=80.0
*GUC **21** 11:14:03.5±0.8,36˚.28S×73˚.72W,h43km±4km,ML4.8*
*VAO **21** 11:14:10.9±0.5,36˚.64S×73˚.64W,h110km,mb4.6*
ISC 21 11:14:02.2±1.4,**36˚.26S**±0˚.04×**73˚.80W**±0˚.04,**h18**km±6km,
n182,σ1s92/200,**mb4.8**/38,**2C,Near coast of central**
Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.85**	**133**	*e*P		**Pb**	**11 14 18.1**	**-0.3**
BI03				*i* S		**Sb**	**11 14 28.7**	**-0.9**
BI03				IAML			11 14 30.1	
	comp=N,102μm,0.4s							
BI03	**Tigo**	**0.85**	**133**			**Pb**	**11 14 18.2**	**-0.3**
BI03						**Sb**	**11 14 28.5**	**-1.1**
LAJA	**Laja**	**1.34**	**140**	*e*P		**Pn**	**11 14 25.4**	**-0.6**
LAJA				*i* S		**Sn**	**11 14 41.2**	**-2.2**
BI02	**San Fabin de**	**2.08**	**102**	*e*P		**Pn**	**11 14 35.6**	**-0.5**
BI02				*i* S		**Sn**	**11 14 59.8**	**-1.8**
BI02				IAML			11 15 06.4	
	comp=N,12μm,0.4s							
BI02	**San Fabin de**	**2.08**	**102**	Pn		**Pn**	**11 14 35.5**	**-0.7**
BI02				Sn		**Sn**	**11 14 59.2**	**-2.4**
BO03	**Pichilemu**	**2.31**	**41⇑**	*e*P		**Pn**	**11 14 38.5**	**-0.9**
BO03				*e*S		**Sn**	**11 15 05.9**	**-1.4**
BO03				IAML			11 15 24.9	
	comp=N,3μm,0.6s							
BO02	**Sierra Bellavi**	**2.86**	**60**	*e*P		**Pn**	**11 14 46.9**	**-0.1**
BO02	**Sierra Bellavi**	**2.86**	**60**	Pn		**Pn**	**11 14 46.8**	**-0.2**
VA05	**Santo Domingo**	**3.15**	**35⇑**	*e*P		**Pn**	**11 14 50.4**	**-0.6**
VA05				*e*S		**Sn**	**11 15 23.1**	**-5.0**
VA05				IAML			11 15 48.2	
	comp=N,2μm,0.7s							
MT09	**Talagante**	**3.38**	**44**	*e*P		**Pn**	**11 14 54.2**	**0.0**
EDS3	**Malargue**	**3.60**	**84**	*i* P		**Pn**	**11 14 59.6**	**+2.4**
EDS3				*i* S		**Sb**	**11 15 51.3**	**+2.5**
COIS	**El Sosneado**	**3.61**	**73**	*i* P		**Pn**	**11 14 57.9**	**+0.6**
COIS				*i* S		**Sb**	**11 15 52.1**	**+3.1**
MT02	**Curacav**	**3.71**	**37**			**Pn**	**11 14 57.6**	**-1.0**
LMEL	**Las Melosas**	**3.81**	**52**	*e*P		**Pn**	**11 15 00.7**	**+0.6**
MT05	**Renca**	**3.81**	**42**			**Pn**	**11 14 59.3**	**-0.7**
LAMA	**Las Malvinas**	**3.96**	**72**	*i* P		**Pn**	**11 15 04.5**	**+2.4**
ROC1	**El Roble**	**4.00**	**36**	*i* P		**Pn**	**11 15 02.7**	**-0.1**
ROC1				*i* S		**Sb**	**11 16 03.6**	**+3.3**
ROCH	**El Roble**	**4.00**	**36**	*e*P		**Pn**	**11 15 02.5**	**-0.4**
PEL	**Peldehue**	**4.03**	**40**	Pn		**Pn**	**11 15 03.5**	**+0.4**
PEL	**Peldehue**	**4.03**	**40**	*i* P		**Pn**	**11 15 03.4**	**+0.4**
VA03	**San Esteban**	**4.40**	**39**	*e*P		**Pn**	**11 15 08.4**	**+0.2**
VA03	**San Esteban**	**4.40**	**39**			**Pn**	**11 15 07.9**	**-0.2**
RFA	**San Rafael**	**4.60**	**73**	*i* P		**Pn**	**11 15 12.9**	**+2.1**
H03S1	**Juan Fernandez**	**4.83**	**298**	Pn		**Pn**	**11 15 17.0**	**+3.2**
H03S1				Sn		**Sn**	**11 16 09.1**	**-0.1**
H03S1				T		T	11 20 29.3	
	baz=118,slow=75,SNR=519							
H03S3	**Juan Fernandez**	**4.84**	**299**	Pn		**Pn**	**11 15 17.2**	**+3.3**
H03S3				Sn		**Sn**	**11 16 09.3**	**-0.1**
H03S3				T		T	11 20 30.8	
	baz=118,slow=75,SNR=558							
H03S2	**Juan Fernandez**	**4.85**	**298**	Pn		**Pn**	**11 15 16.6**	**+2.6**
H03S2				Sn		**Sn**	**11 16 09.0**	**-0.5**
H03S2				T		T	11 20 27.3	
	baz=118,slow=75,SNR=623							
H03N1	**Juan Fernandez**	**5.06**	**302**	Pn		**Pn**	**11 15 20.4**	**+3.6**
H03N1

NBPA	**Parau_RN**	**45.29**	**57**	*e*P		**P**	**11 22 20.4**	**+1.4**
BCIP	**Isla Barro Col**	**45.54**	**352**	P		**P**	**11 22 19.4**	**-1.4**
BATAN	**Batan**	**46.98**	**347**	P		**P**	**11 22 30.5**	**-1.7**
VNA3	**Neumayer Olymp**	**47.84**	**157**	P		**P**	**11 22 41.4**	**+3.0**
VNA1	**Neumayer--Stat**	**48.19**	**156**	P		**P**	**11 22 44.4**	**+3.5**
VNA2	**Neumayer--Watz**	**48.51**	**156**	P		**P**	**11 22 46.1**	**+2.6**
	baz=295,slow=9.1							
GRGR	**Grenville**	**49.48**	**16**	P		**P**	**11 22 49.7**	**-1.8**
SNAA	**Sanae**	**50.06**	**157**	P		**P**	**11 22 58.1**	**+2.7**
SNAA	**Sanae**	**50.06**	**157**	P		**P**	**11 22 58.1**	**+2.7**
	comp=Z,14nm,0.9s,baz=279,slow=6.8,SNR=18							
SNAA	**Sanae**	**50.06**	**157**	P		**P**	**11 22 53.6**	**-1.8**
QSPA	**South Pole Qui**	**53.98**	**180**	P		**P**	**11 23 28.5**	**+3.7**
	comp=Z,8.4nm,0.9s,baz=139,slow=2.9,SNR=5.9							
QSPA	**South Pole Qui**	**53.98**	**180**	P		**P**	**11 23 22.6**	**-2.2**
QSPA				IAmb		IAmb	11 23 29.4	
	comp=Z,9.5nm,0.9s							
MLPR	**Magueyes Islan**	**54.31**	**8**	P		**P**	**11 23 25.0**	**-2.4**
FSCY	**Frank Sound, G**	**55.71**	**352**	P		**P**	**11 23 35.2**	**-2.3**
Z47A	**Carrollton**	**70.38**	**347**	P		**P**	**11 25 13.7**	**-1.1**
JCT	**Junction City**	**70.73**	**336**	P		**P**	**11 25 15.9**	**-1.2**
JCT				IAmb		IAmb	11 25 21.8	
	comp=Z,6.3nm,0.8s							
237A	**Washetta, Mont**	**70.97**	**340**	P		**P**	**11 25 16.3**	**-2.1**
237A				IAmb		IAmb	11 25 23.4	
	comp=Z,13nm,1.1s							
TX32	**Lajitas Array**	**71.03**	**333**	P		**P**	**11 25 17.2**	**-1.8**
TXAR	**Lajitas Array**	**71.03**	**333**	P		**P**	**11 25 22.9**	**+3.9**
	comp=Z,2.6nm,0.9s,baz=151,slow=7.7,SNR=17							
TXAR	**Lajitas Array**	**71.03**	**333**	P		**P**	**11 25 16.9**	**-2.1**
TX31	**Lajitas Ar. Si**	**71.03**	**333**	P		**P**	**11 25 17.2**	**-1.8**
TX31				IAmb		IAmb	11 25 23.6	
	comp=Z,12nm,1.1s							
WHTX	**Lake Whitney,**	**71.42**	**339**	P		**P**	**11 25 19.8**	**-1.4**
WHTX				IAmb		IAmb	11 25 25.6	
	comp=Z,12nm,1.0s							
MAW	**Mawson**	**71.42**	**164**	LR		LR	11 56 01.1	
	comp=Z,92nm,18.9s,baz=238,slow=35							
Z35A	**Perchaven, San**	**72.62**	**340**	P		**P**	**11 25 26.3**	**-2.1**
V48A	**Smith Brothers**	**72.65**	**349**	P		**P**	**11 25 27.3**	**-1.1**
ABTX	**Abilene, Hawle**	**72.67**	**337**	P		**P**	**11 25 27.3**	**-1.4**
ABTX				IAmb		IAmb	11 25 33.1	
	comp=Z,11nm,1.1s							
WVT	**Waverly**	**73.19**	**348**	P		**P**	**11 25 30.3**	**-1.4**
WVT				IAmb		IAmb	11 25 35.3	
	comp=Z,12nm,1.1s							
WHAR	**Wooly Hollow**	**73.24**	**344**	P		**P**	**11 25 31.4**	**-0.6**
PBMO	**Poplar Bluff**	**74.29**	**346**	P		**P**	**11 25 35.6**	**-2.5**
PBMO				IAmb		IAmb	11 25 41.6	
	comp=Z,5.9nm,1.0s							
RAR	**Rarotonga**	**74.65**	**255**	P		P	11 25 45.5	+4.8
	comp=Z,14nm,0.6s,baz=129,slow=13,SNR=1.7							
T35A	**Sooner Cattle**	**75.80**	**341**	P		**P**	**11 25 45.4**	**-1.4**
T35A				IAmb		IAmb	11 25 51.2	
	comp=Z,11nm,1.0s							
P51A	**Williamsport**	**75.85**	**353**	P		**P**	**11 25 44.8**	**-2.2**
P51A				IAmb		IAmb	11 25 50.8	
	comp=Z,14nm,1.0s							
BLO	**Bloomington**	**75.97**	**350**	P		**P**	**11 25 44.9**	**-2.9**
BLO				IAmb		IAmb	11 25 50.2	
	comp=Z,23nm,1.4s							
LIC	**Lamto**	**76.85**	**72**	*e*P		**P**	**11 25 53.7**	**+0.4**
	comp=Z,25nm,1.2s							
LIC	**Lamto**	**76.85**	**72**	*e*P		**P**	**11 25 53.7**	**+0.4**
	comp=Z,24nm,1.2s							
ANMO	**Albuquerque**	**77.10**	**333**	P		**P**	**11 25 53.0**	**-1.5**
ANMO				IAmb		IAmb	11 25 59.8	
	comp=Z,5.9nm,1.1s							
TIC	**Toumodi**	**77.12**	**72**	*e*P		**P**	**11 25 55.8**	**+0.9**
TIC	**Toumodi**	**77.12**	**72**	*e*P		**P**	**11 25 55.8**	**+0.9**
KIC	**Kosan Boka**	**77.15**	**72**	*e*P		**P**	**11 25 56.2**	**+1.1**
	comp=Z,17nm,0.9s							
KIC	**Kosan Boka**	**77.15**	**72**	*e*P		**P**	**11 25 56.2**	**+1.1**
	comp=Z,16nm,0.9s							
DBIC	**Dimbokro**	**77.26**	**72**	P		**P**	**11 25 57.3**	**+1.7**
	comp=Z,7.9nm,1.0s,baz=191,slow=7.3,SNR=4.8							
T25A	**Trinidad**	**78.35**	**335**	P		**P**	**11 25 57.9**	**-3.6**
T25A				IAmb		IAmb	11 26 06.9	
	comp=Z,12nm,1.2s							
WUAZ	**Wupatki**	**79.51**	**330**	P		**P**	**11 26 04.5**	**-3.3**
MVCO	**Mesa Verde**	**79.87**	**333**	P		**P**	**11 26 08.5**	**-1.3**
BOSA	**Boshof**	**80.29**	**118**	P		**P**	**11 26 13.2**	**+0.9**
	comp=Z,5.0nm,1.0s,baz=91,slow=16,SNR=4.4							
TRQ	**Mont Tremblant**	**82.11**	**359**	P		**P**	**11 26 20.6**	**-0.6**
PRN	**Pahroc Range**	**82.66**	**328**	P		**P**	**11 26 23.1**	**-1.4**
PRN				IAmb		IAmb	11 26 30.8	
	comp=Z,6.5nm,1.0s							
DUG	**Dugway, Tooele**	**84.12**	**331**	P		**P**	**11 26 30.8**	**-1.1**
DUG				IAmb		IAmb	11 26 37.4	
	comp=Z,11nm,1.4s							
TPH	**Tonopah**	**84.17**	**327**	P		**P**	**11 26 30.9**	**-1.4**
HWUT	**Hardware Ranch**	**84.86**	**333**	P		**P**	**11 26 34.2**	**-1.5**
HWUT				IAmb		IAmb	11 26 40.5	
	comp=Z,10nm,1.1s							
NVAR	**Mina Array Bea**	**84.94**	**326**	P		P	11 26 41.1	+4.9
	comp=Z,1.0nm,0.8s,baz=151,slow=6.0,SNR=7.0							
NVAR	**Mina Array Bea**	**84.94**	**326**	P		**P**	**11 26 34.0**	**-2.2**
BW06	**Boulder Array**	**85.15**	**334**	P		**P**	**11 26 34.3**	**-2.9**
BW06				IAmb		IAmb	11 26 41.6	
	comp=Z,3.4nm,1.1s							
PD31	**Pinedale Array**	**85.15**	**334**	P		**P**	**11 26 34.3**	**-2.9**
PDAR	**Pinedale Array**	**85.15**	**334**	P		**P**	**11 26 40.5**	**+3.4**
	comp=Z,1.6nm,1.0s,baz=145,slow=5.4,SNR=8.8							
HVU	**Hansel Valley**	**85.46**	**332**	P		**P**	**11 26 35.6**	**-3.1**
ELK	**Elko**	**85.55**	**330**	P		**P**	**11 26 36.9**	**-2.4**
LOHW	**Long Hollow**	**86.25**	**334**	P		**P**	**11 26 40.8**	**-1.9**
TORD	**Torodi Ar. Bea**	**86.32**	**71**	P		**P**	**11 26 44.1**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=254,slow=4.6,SNR=8.4							
TORD				LR		LR	12 04 04.0	
	comp=Z,42nm,18.0s,baz=30,slow=35							
TORD	**Torodi Ar. Bea**	**86.32**	**71**	P		**P**	**11 26 40.9**	**-2.5**
TORD				IAmb		IAmb	11 26 45.7	
	comp=Z,5.1nm,1.2s							
YMR	**Madison River**	**87.30**	**334**	P		**P**	**11 26 46.4**	**-1.3**
YMR				IAmb		IAmb	11 26 52.9	
	comp=Z,5.9nm,1.0s							
YHH	**Holmes Hill**	**87.37**	**335**	P		**P**	**11 26 46.2**	**-2.0**
YHH				IAmb		IAmb	11 26 53.8	
	comp=Z,5.7nm,1.1s							
MFID	**Camas Ranch**	**88.04**	**331**	P		**P**	**11 26 47.4**	**-3.8**
MCMT	**McKenzie Canyo**	**88.11**	**333**	P		**P**	**11 26 50.4**	**-1.2**
ULM	**Lac du Bonnet**	**88.32**	**346**	P		**P**	**11 26 54.7**	**+2.5**
	comp=Z,4.3nm,0.9s,baz=155,slow=6.5,SNR=4.8							
DGMT	**Dagmar**	**88.60**	**340**	P		**P**	**11 26 51.9**	**-1.7**
WRA	**Warramunga Arr**	**118.09**	**210**	PKP		**PKiKP**	**11 32 53.1**	**+4.6**
	comp=Z,0.4nm,0.7s,baz=174,slow=1.7,SNR=1.4							
HYB	**Hyderabad**	**149.17**	**120**	*i* PKP		**PKiKP**	**11 33 51.0**	**-0.2**
BVAR	**Borovoye Array**	**149.91**	**45**	PKPbc		**PKiKP**	**11 33 53.2**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=212,slow=8.1,SNR=4.6							
AAK	**Ala-Archa**	**154.80**	**66**	PKPbc		**PKiKP**	**11 34 04.3**	**+2.0**
	comp=Z,1.2nm,0.8s,baz=278,slow=4.6,SNR=3.6							
AAK				PKPab		**PKPab**	**11 34 19.4**	**+1.9**
	comp=Z,2.5nm,0.9s,baz=214,slow=5.1,SNR=4.5							
ZALV	**Zalesovo Beam**	**156.90**	**33**	PKP		**PKPdf**	**11 33 57.9**	**+2.0**
	comp=Z,2.3nm,0.9s,baz=262,slow=3.0,SNR=5.2							
ZALV				PKPab		**PKPab**	**11 34 28.4**	**+2.5**
	comp=Z,3.9nm,0.9s,baz=288,slow=5.8,SNR=7.2							
ZALV	**Zalesovo Beam**	**156.90**	**33**			**PKPdf**	**11 33 54.3**	**-1.6**
MKAR	**Makanchi Array**	**159.31**	**52**	PKP		**PKPdf**	**11 34 00.4**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=297,slow=0.8,SNR=4.7							
MKAR				PKPab		**PKPab**	**11 34 37.9**	**+1.3**
	comp=Z,1.2nm,1.0s,baz=292,slow=4.5,SNR=4.5							
MKAR	**Makanchi Array**	**159.31**	**52**			**PKPdf**	**11 33 56.9**	**-2.2**
CMAR	**Chiang Mai Arr**	**161.15**	**158**	PKP		**PKPdf**	**11 34 05.0**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=226,slow=6.2,SNR=4.5							
CMAR				PKPab		**PKPab**	**11 34 46.8**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=207,slow=5.8,SNR=2.2							
SONM	**Songino Array**	**168.43**	**359**	PKP		**PKPdf**	**11 34 09.1**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=180,slow=1.0,SNR=2.4							
SONM				PKPab		**pPKPab**	**11 35 20.2**	**-1.8**
	comp=Z,0.9nm,0.9s,baz=358,slow=0.4,SNR=5.2							

*IDC **21** 11:22:24.2±2.0, 16°.26S×178°.32W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.8/29, mbtmp3.7/7, Error ellipse: s-maj=134.4km s-min=21.4km az=153.0*

ISC 21 11:22:29.3±1.9, 16°.3S±0°.8×178°.3W±0°.4, h35km, n7, σ1s06/7, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.03**	**258**	P	**P**	**11 30 42.2**	**+0.2**
	0.4nm,0.5s,baz=89,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**45.33**	**253**	P	**P**	**11 30 44.0**	**-0.2**
	1.4nm,0.4s,baz=90,slow=8.4,SNR=63						
FITZ	**Fitzroy Crossi**	**53.39**	**259**	P	**P**	**11 31 46.3**	**+0.4**
	1.6nm,0.9s,baz=98,slow=7.1,SNR=1.5						
NVAR	**Mina Array Bea**	**78.23**	**44**	P	**P**	**11 34 27.6**	**+1.8**
	0.4nm,0.7s,baz=225,slow=9.0,SNR=4.7						
ILAR	**Eielson Array**	**84.34**	**13**	P	**P**	**11 34 56.6**	**-0.7**
	0.1nm,0.4s,baz=225,slow=5.3,SNR=5.4						
TXAR	**Lajitas Array**	**85.08**	**58**	P	**P**	**11 35 01.4**	**-0.6**
	0.3nm,0.8s,baz=224,slow=5.2,SNR=5.3						
PDAR	**Pinedale Array**	**86.15**	**43**	P	**P**	**11 35 06.9**	**-0.3**
	0.1nm,0.3s,baz=210,slow=5.2,SNR=2.3						

*IDC **21** 11:23:33.9±1.2, 29°.00N×47°.51E, h0km, mb3.9/20, mb1 4.1/23, mb1mx4.0/51, mbtmp4.0/23, ML3.9/3, MS3.6/14, Ms1 3.6/14, ms1mx3.3/49, Error ellipse: s-maj=26.3km s-min=14.3km az=4.0*

*KISR **21** 11:23:34.1±0.6, 29°.04N×47°.52E, h2km±2km, ML4.5, Hypocentre not reviewed by the ISC*

*THR **21** 11:23:34.2±1.6, 29°.01N×47°.45E, h15km, ML4.9*

*SGS **21** 11:23:35.8, 29°.09N×47°.58E, h4km, Ml0.4*

*NEIC **21** 11:23:35.7±1.2, 29°.0N±0°.1×47°.48E±0°.05, h15km±5km, mb4.3/21, Error ellipse: s-maj=16.7km s-min=6.0km az=186.0*

*DSN **21** 11:23:41.0±2.7, 28°.65N×47°.91E, h10km, ML4.7/12, Error ellipse: s-maj=37.4km s-min=11.9km az=166.0*

*OMAN **21** 11:23:42.2, 28°.74N×47°.98E, h15km, mb6.2/15, ms3.1/2*

ISC 21 11:23:35.1±0.4, 28°.98N±0°.04×47°.57E±0°.04, h13km, n118, σ2s06/139, mb4.1/26, MS3.8/6, 1D, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDF	**Al-Radifah**	**0.06**	**195**	*e*P		11 23 37.9	
RDF				*e*S		11 23 40.2	
RDF				IAML		11 23 40.8	
	comp=Z,234μm,0.3s						
QRN	**Al-Qurain**	**0.39**	**128**	*e*P		11 23 44.8	
QRN				*e*S		11 23 53.3	
QRN				IAML		11 23 57.1	
	comp=Z,31μm,0.2s						
UMR	**Umm Al-Rimmam**	**0.58**	**13**	*e*P		11 23 46.5	
UMR				*e*S		11 23 56.1	
UMR				IAML		11 23 57.1	
	comp=Z,44μm,0.4s						
RST	**Umm Al-Ruwaisa**	**0.72**	**316**	*e*P		11 23 48.4	
RST				IAML		11 24 05.3	
	comp=Z,18μm,0.6s						
MIB	**Mutribah**	**0.84**	**346**	*e*P		11 23 51.3	
MIB				*e*S		11 24 03.5	
MIB				IAML		11 24 04.3	
	comp=Z,25μm,0.7s						
QYSM	**Um Kedad**	**1.28**	**209**	P	**Pn**	**11 23 58.6**	**-0.2**
QYSM	**Um Kedad**	**1.28**	**209**	S	**Sg**	**11 24 21.6**	**+5.1**
QYSM	**Um Kedad**	**1.28**	**209**	P	**Pg**	**11 23 60.0**	**+0.2**
QYSM				S	**Sg**	**11 24 19.4**	**+3.0**
RQBS	**RQBS**	**2.17**	**221**	P	**Pn**	**11 24 11.6**	**+0.7**
RQBS				S	**Sg**	**11 24 45.6**	**+0.7**
RQBS	**RQBS**	**2.17**	**221**	S	**Sb**	**11 24 41.3**	**+0.3**
RQBS	**RQBS**	**2.17**	**221**	P	**Pb**	**11 24 12.8**	**-1.5**
SMAN	**Sihmah**	**2.83**	**171**	P	**Pb**	**11 24 23.5**	**-2.1**
SMAN	**Sihmah**	**2.83**	**171**	P	**Pb**	**11 24 23.4**	**-2.1**
NHRD	**Haradh**	**4.44**	**163**	P	**Pn**	**11 24 44.4**	**+2.3**
NHRD	**Haradh**	**4.44**	**163**	P	**Pn**	**11 24 44.5**	**+2.3**
SLWS		**4.99**	**146**	P	**Pn**	**11 24 52.5**	**+2.6**
SLWS		**4.99**	**146**	P	**Pn**	**11 24 52.4**	**+2.6**
KHMZ	**Khomeyn**	**5.16**	**23**	*e*P	**Pn**	**11 24 54.7**	**+2.4**
KHMZ	**Khomeyn**	**5.16**	**23**	*e*Pn	**Pn**	**11 24 55.0**	**+2.7**
RAYN	**Ar Rayn**	**5.75**	**199**	*i* P	**Pn**	**11 25 00.7**	**+0.5**
	SNR=17						
RAYN	**Ar Rayn**	**5.75**	**199**		**Pn**	**11 25 00.8**	**+0.5**
ASAO	**Ashtian**	**5.93**	**20**	*e*P	**Pn**	**11 25 05.3**	**+2.4**
ASAO	**Ashtian**	**5.93**	**20**	*e*Pn	**Pn**	**11 25 05.8**	**+2.9**
ASAO				*e*Sg	**Sn**	**11 26 05.5**	**-5.3**
ASAO				IAML		11 26 16.8	
	comp=N,369nm,0.5s						
SNGE	**Sanandaj**	**6.09**	**358**	*e*P	**Pn**	**11 25 04.5**	**-0.7**
SNGE				IAML		11 26 15.5	
	comp=N,304nm,0.5s						
SNGE				IAML		11 26 15.9	
	comp=E,198nm,0.6s						
SNGE	**Sanandaj**	**6.09**	**358**	IAML		11 26 15.6	
	comp=N,302nm,0.5s						
SLWR	**Sila**	**6.13**	**142**	P	**Pn**	**11 25 05.0**	**-0.5**
SLWR				S	**Sn**	**11 26 12.9**	**-2.6**
GHVR	**GHOM**	**6.33**	**29**	*e*Pn	**Pn**	**11 25 06.8**	**-1.5**
GHVR				IAML		11 26 33.0	
	comp=N,277nm,0.6s						
YZKH	**Yazd**	**6.94**	**59**	*e*Pn	**Pn**	**11 25 17.7**	**+1.2**
THKV	**Tehran--Karaj**	**7.46**	**21**	*e*P	**Pn**	**11 25 25.3**	**+1.5**
CHTH	**Charan**	**7.53**	**23**	*e*P	**Pn**	**11 25 25.4**	**+0.5**
DAMN	**Damavand**	**7.60**	**28**	*e*P	**Pn**	**11 25 25.9**	**0.0**
MZWR	**Madinat Zayed**	**7.69**	**131**	P	**Pn**	**11 25 29.3**	**+2.5**
ZNJK	**Zanjan**	**7.72**	**7**	*e*P	**Pn**	**11 25 30.1**	**+2.6**
AJN	**Ajban**	**7.96**	**122**	S	**Sn**	**11 26 59.6**	**-0.9**
KRBR	**Kerman**	**8.07**	**81**	*e*Pn	**Pn**	**11 25 32.9**	**+0.4**
KRBR				*e*Sg	**Sn**	**11 27 05.1**	**+1.3**
KRBR				IAML		11 27 11.9	
	comp=E,82nm,0.6s						
SHME	**Shamm**	**8.15**	**109**	*i* P	**Pn**	**11 25 33.0**	**-0.3**
	SNR=34						
SHME				S	**Sn**	**11 27 01.3**	**-4.0**
SHME	**Shamm**	**8.15**	**109**	P	**Pn**	**11 25 33.6**	**+0.3**
	SNR=18						
SHME				S	**Sn**	**11 27 02.3**	**-3.0**
ASUD	**Al Ashush, Dub**	**8.18**	**120**	*i* P	**Pn**	**11 25 34.8**	**+1.2**
	SNR=24						
ASUD	**Al Ashush, Dub**	**8.18**	**120**	P	**Pn**	**11 25 36.0**	**+2.4**
	SNR=25						
NAZ	**Nazwa, Dubai**	**8.24**	**117**	*i* P	**Pn**	**11 25 35.7**	**+1.2**
	SNR=40						
NAZ	**Nazwa, Dubai**	**8.24**	**117**	P	**Pn**	**11 25 36.1**	**+1.6**
	SNR=40						
FAQ	**Al Faqa, Dubai**	**8.32**	**119**	*i* P	**Pn**	**11 25 36.6**	**+1.1**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**8.32**	**119**	P	**Pn**	**11 25 37.1**	**+1.6**
	SNR=11						
BANOM	**Banah**	**8.34**	**109**	*i* P	**Pn**	**11 25 35.6**	**-0.1**
	SNR=48						
BANOM	**Banah**	**8.34**	**109**	P	**Pn**	**11 25 35.7**	**-0.1**
	SNR=42						
BANOM				S	**Sn**	**11 27 06.9**	**-2.9**
MASF	**Masafi**	**8.46**	**113**	P	**Pn**	**11 25 38.2**	**+0.8**
	SNR=14						
MASF				S	**Sn**	**11 27 09.4**	**-3.4**
MSFE	**Esma-Masafi**	**8.46**	**113**	*i* P	**Pn**	**11 25 38.2**	**+0.8**
	SNR=14						
MDH	**Madha**	**8.60**	**113**	*i* P	**Pn**	**11 25 39.9**	**+0.6**
	SNR=16						
MDH	**Madha**	**8.60**	**113**	P	**Pn**	**11 25 40.0**	**+0.7**
	SNR=16						
MDH				⇓S	**Sn**	**11 27 14.7**	**-1.6**
UOSS	**Minazif**	**8.69**	**116**	*i* P	**Pn**	**11 25 40.7**	**+0.1**
	SNR=25						
UOSS	**Minazif**	**8.69**	**116**		**Pn**	**11 25 41.2**	**+0.5**
UOSS	**Minazif**	**8.69**	**116**	P	**Pn**	**11 25 41.3**	**+0.7**
UOSS				P	**Pn**	**11 25 41.3**	**+0.7**
UOSS				S	**Sn**	**11 27 15.5**	**-3.0**
UOSS				S	**Sn**	**11 27 15.5**	**-3.0**
HATD	**Hatta, Dubai**	**8.69**	**116**	*i* P	**Pn**	**11 25 41.2**	**+0.5**
	SNR=46						
HATD	**Hatta, Dubai**	**8.69**	**116**	P	**Pn**	**11 25 41.3**	**+0.6**
	SNR=16						
HATD				S	**Sn**	**11 27 16.5**	**-2.1**
ASHO	**Ashiyiah**	**8.71**	**117**	*i* P	**Pn**	**11 25 41.5**	**+0.6**
	SNR=30						
ASHO	**Ashiyiah**	**8.71**	**117**	P	**Pn**	**11 25 41.6**	**+0.7**
	SNR=24						
ASHO				S	**Sn**	**11 27 16.6**	**-2.4**
ALNE	**Al Ain**	**8.82**	**122**	*i* P	**Pn**	**11 25 43.4**	**+1.1**
	SNR=17						
ALNE	**Al Ain**	**8.82**	**122**	P	**Pn**	**11 25 43.5**	**+1.1**
	SNR=16						
ALNE				S	**Sn**	**11 27 18.3**	**-3.4**
UMZA	**Um Al Zommool**	**9.26**	**131**	P	**Pn**	**11 25 49.6**	**+1.2**
UMZA				S	**Sn**	**11 27 29.0**	**-3.5**
SOHO	**SOHO**	**9.37**	**119**	*i* P	**Pn**	**11 25 50.4**	**+0.5**
	SNR=41						
SOHO	**SOHO**	**9.37**	**119**	P	**Pn**	**11 25 50.9**	**+1.0**
ARQ	**Araqi**	**9.81**	**123**	P	**Pn**	**11 25 57.0**	**+0.9**
	SNR=11						
ARQ				S	**Sn**	**11 27 43.5**	**-2.6**
HOQ	**Hoqain**	**10.26**	**119**	P	**Pn**	**11 26 03.0**	**+0.8**
	SNR=16						
HOQ				P	**Pn**	**11 26 03.0**	**+0.8**
	SNR=16						
HOQ				S	**Sn**	**11 27 51.3**	**-5.9**
HOQ				S	**Sn**	**11 27 51.3**	**-5.9**
BSY	**Bisya**	**10.67**	**123**	P	**Pn**	**11 26 09.0**	**+1.2**
	SNR=13						
BSY				S	**Sn**	**11 28 01.8**	**-5.3**
EIL	**Elat**	**11.03**	**277**	Pn	**Pn**	**11 26 10.7**	**-2.0**
	comp=E,0.3nm,0.3s,baz=135,slow=8.6,SNR=2.3						
EIL				Sn	**Sn**	**11 28 09.5**	**-6.5**
	comp=E,1.1nm,0.3s,baz=105,slow=17,SNR=2.1						
EIL				Lg	Lg	11 29 23.7	
	baz=332,slow=16,SNR=1.7						
EIL				LR	LR	11 30 28.2	
	comp=E,90nm,18.2s,baz=106,slow=38						
MMAI	**Mount Meron Ar**	**11.18**	**294**	Pn	**Pn**	**11 26 14.4**	**-0.4**
	comp=E,1.0nm,0.3s,baz=98,slow=17,SNR=5.6						
MMAI				Sn	**Sn**	**11 28 15.6**	**-4.2**
	comp=E,2.0nm,0.3s,baz=104,slow=22,SNR=2.6						
MMAI				Lg	Lg	11 29 32.2	
	baz=98,slow=29,SNR=2.6						
MMAI				LR	LR	11 31 18.0	
	comp=E,326nm,18.5s,baz=130,slow=42						
GNI	**Garni**	**11.38**	**349**	LR	LR	11 31 12.8	
	comp=E,162nm,18.9s,baz=176,slow=40						
WSAR	**Wadi Sarin**	**11.47**	**117**	Pn	**Pn**	**11 26 18.4**	**-0.2**
	comp=E,2.8nm,0.3s,baz=322,slow=9.4,SNR=20						
WSAR				Sn	**Sn**	**11 28 19.7**	**-7.0**
	comp=E,2.4nm,0.3s,baz=209,slow=15,SNR=5.0						
WSAR				LR	LR	11 32 05.7	
	comp=E,147nm,20.5s,baz=340,slow=44						
GEYT	**Alibeck**	**12.53**	**42**	Pn	**Pn**	**11 26 37.1**	**+4.0**
	comp=E,0.1nm,0.3s,baz=221,slow=17,SNR=1.9						
GEYT				LR	LR	11 32 23.7	
	comp=E,404nm,19.1s,baz=215,slow=42						
KBZ	**Khabaz**	**15.18**	**347**	Pn	**P**	**11 27 15.9**	**+1.7**
	comp=E,0.4nm,0.3s,baz=178,slow=11,SNR=19						
KBZ				LR	LR	11 34 32.2	
	comp=E,183nm,18.7s,baz=156,slow=44						
KVAR	**Kislovodsk Arr**	**15.44**	**347**	Pn	**P**	**11 27 18.9**	**+1.7**
	baz=90,slow=20,SNR=2.0						
BRTR	**Keskin Array B**	**15.70**	**317**	Pn	**Pn**	**11 27 14.3**	**-1.8**
	comp=E,0.1nm,0.3s,baz=144,slow=13,SNR=5.4						
BRTR				LR	LR	11 34 18.3	
	comp=E,304nm,20.0s,baz=145,slow=41						
BR131	**Keskin Array S**	**15.70**	**317**		**Pn**	**11 27 16.2**	**+0.1**
BR131				IAmb	IAmb	11 27 22.1	
	comp=Z,13nm,1.2s						
SOCY	**Socotra**	**17.75**	**159**	P	**Pn**	**11 27 40.2**	**-2.0**
SOCY				IAmb	IAmb	11 27 41.1	
	comp=Z,15nm,1.0s						
ATD	**Arta Tunnel**	**17.92**	**195**	Lg	Lg	11 33 06.8	
	baz=190,slow=22,SNR=1.2						
ATD				LR	LR	11 35 00.1	
	comp=Z,152nm,19.3s,baz=34,slow=38						
KBL	**Kabul**	**19.07**	**68**	P	**P**	**11 27 57.9**	**+0.4**
IDI	**Anoyia**	**20.19**	**294**	P	**P**	**11 28 08.5**	**-1.1**
	comp=Z,3.8nm,0.4s,baz=240,slow=20,SNR=1.0						
IDI				LR	LR	11 38 23.4	
	comp=Z,68nm,21.3s,baz=102,slow=44						
IDI	**Anoyia**	**20.19**	**294**		**P**	**11 28 08.9**	**-0.7**
ALN	**Alexandroupoli**	**21.21**	**310**	P	**P**	**11 28 17.4**	**-3.2**
ALN				IAmb	IAmb	11 28 27.4	
	comp=Z,32nm,1.4s						
TIRR	**Tirgusor**	**21.70**	**321**	P	**P**	**11 28 25.1**	**-0.6**
ABKAR	**Akbulak array**	**22.35**	**22**	P	**P**	**11 28 33.8**	**+1.1**
ABKAR				IAmb	IAmb	11 28 37.7	
	comp=Z,5.1nm,0.6s						
AKTO	**Aktyubinsk**	**22.84**	**17**	P	**P**	**11 28 38.4**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=213,slow=9.6,SNR=7.5						
AKTO				S	**S**	**11 32 44.8**	**-2.1**
	comp=Z,1.8nm,

baz=280
H11S3 WAKE ISLAND Hy 19.35 94 T T 12 09 55.1
baz=283
H11N2 WAKE ISLAND Hy 19.35 90 T T 12 09 59.4
baz=280
H11S1 WAKE ISLAND Hy 19.36 94 T T 12 09 56.7
baz=283
H11N3 WAKE ISLAND Hy 19.36 90 T T 12 09 52.9
baz=280
H11S2 WAKE ISLAND Hy 19.36 94 T T 12 09 54.6
baz=283
KSRS Korea Array 22.88 320 P **P** **11 50 24.9 +0.1**
0.9nm,0.6s,baz=144,slow=8.8,SNR=8.8
SONM Songino Array 41.75 320 P **P** **11 53 10.2 0.0**
0.3nm,0.6s,baz=134,slow=4.2,SNR=1.9
WRA Warramunga Arr 42.33 197 P **P** **11 53 15.0 -0.1**
0.7nm,0.6s,baz=18,slow=8.4,SNR=9.7
ASAR Alice Springs 46.00 196 P **P** **11 53 44.5 +0.1**
0.3nm,0.6s,baz=20,slow=5.8,SNR=5.5
MKAR Makanchi Array 57.31 313 P **P** **11 55 08.9 +0.1**
0.1nm,0.4s,baz=85,slow=16,SNR=2.7
KURBB Kurchatov Arra 60.02 317 P **P** **11 55 27.3 -0.2**
0.7nm,0.5s,baz=90,slow=7.1,SNR=6.6
BVAR Borovoye Array 65.09 320 P **P** **11 56 01.4 +0.1**
0.8nm,0.5s,baz=194,slow=13,SNR=8.2
NVAR Mina Array Bea 81.29 52 P **P** **11 57 37.6 0.0**
0.1nm,0.4s,baz=270,slow=5.2,SNR=2.1
FINES FINESS Array B 85.05 335 P **P** **11 57 56.0 -0.1**
0.7nm,0.4s,baz=62,slow=3.3,SNR=6.5

JMA 21 12:14:38.0±0.7, **44°.18N**×**149°.41E, h30km, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.78**	**254**	P		P	Pn	12 15 19.3	-1.1
NEM2						*e*S	Sn	12 15 50.2	-2.7
JRA	**Rausu**	**3.10**	**267**	P		P	Pn	12 15 26.0	+1.2
JNK	**Nakash**	**3.44**	**262**	*e*S		S	Sn	12 16 07.5	-1.8
JAK	**Akkeshi**	**3.62**	**253**	P		P	Pn	12 15 31.5	-0.5
JAK				*e*S		S	Sn	12 16 10.8	-2.9
JAR	**Ashorobuto**	**4.18**	**260**	P		P	Pn	12 15 40.8	+1.1
JMP	**Maruseppu**	**4.36**	**270**	P		P	Pn	12 15 44.5	+2.3
JCH	**Churui**	**4.68**	**253**	P		P	Pn	12 15 46.4	-0.1
JCH				*e*S		S	Sn	12 16 37.5	-2.2
JFR	**Furan**	**5.05**	**261**	P		P	Pn	12 15 53.9	+2.3
JNBK	**Urakawa-nobuka**	**5.24**	**251**	P		P	Pn	12 15 53.6	-0.4
JBT2	**Biratori 2**	**5.32**	**257**	P		P	Pn	12 15 55.9	+0.6
JNB	**Noboribetsu**	**6.34**	**257**	P		P	Pn	12 16 09.9	+0.5
JKB	**Kayabe**	**6.55**	**252**	P		P	Pn	12 16 12.2	0.0
JKB				*e*S		S	Sn	12 17 20.4	-5.5
JANG	**Nango**	**6.98**	**240**	*e*S		S	Sn	12 17 25.2	-11
JTH	**Tanohata**	**7.03**	**236**	*e*S		S	Sn	12 17 26.9	-11
JTM	**Tenmabayashi**	**7.04**	**244**	*e*S		S	Sn	12 17 29.6	-8.2

IDC 21 12:15:16.8±1.7, **4°.55S**×**120°.40E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.1/32, mbtmp3.2/3, Error ellipse: s-maj=28.4km s-min=12.7km az=152.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**0.80**	**234**	Pg		Pg	Pg	12 15 32.3	+0.2
	57nm,0.3s,baz=258,slow=5.0,SNR=58								
KAPI				Lg		Lg	Lg	12 15 43.2	
	72nm,0.3s,baz=74,slow=22,SNR=9.5								
WRA	**Warramunga Arr**	**20.46**	**140**	P		P	P	12 19 56.6	+0.4
	0.7nm,0.7s,baz=314,slow=12,SNR=3.8								
ASAR	**Alice Springs**	**20.47**	**147**	P		P	P	12 20 23.4	-0.5
	0.3nm,0.6s,baz=321,slow=8.5,SNR=6.7								
MKAR	**Makanchi Array**	**61.20**	**331**	P		P	P	12 25 33.4	-0.1
	0.2nm,0.6s,baz=132,slow=6.0,SNR=2.5								

*IDC **21** 12:17:03.6±2.6, 49°.07N×155°.84E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.2/40, mbtmp3.3/4, ML2.4/1, Error ellipse: s-maj=65.9km s-min=35.4km az=169.0*
*KRSC **21** 12:17:16.2±2.5, 49°.91N×156°.98E, h62km±28km, ML4.1*
ISC 21 12:17:16.3±3.9, **49°.8N**±0°.1×**156°.81E**±0°.07, **h23km**±23km, **n42, σ1°.28/47, mb3.5/3, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.96**	**333**	*e*P			**Pn**	**12 17 34.3**	**-0.1**
SKR				*e*S			**Sb**	**12 17 46.9**	**+0.3**
ALID	**Alaid**	**1.32**	**323**	*e*P			**Pn**	**12 17 38.4**	**-1.0**
ALID				*e*S			**Sn**	**12 17 54.7**	**-1.7**
PAU	**Pauzhetka**	**1.64**	**0**	*e*P			**Pn**	**12 17 44.1**	**+0.4**
PAU				*e*S			**Sn**	**12 18 04.1**	**0.0**
KDTR	**Khodutka, Kamc**	**2.14**	**22**	*e*P			**Pn**	**12 17 51.0**	**+0.4**
KDTR				*e*S			**Sn**	**12 18 16.0**	**-0.4**
MIPR	**Malaya Ipel'ka**	**2.45**	**359**	*e*P			**Pn**	**12 17 55.9**	**+1.0**
ASAK	**Asacha**	**2.65**	**15**	*e*P			**Pn**	**12 17 58.8**	**+1.1**
MTVR	**Mutnovka**	**2.79**	**18**	*e*P			**Pn**	**12 18 00.6**	**+0.8**
MTVR				*e*S			**Sn**	**12 18 32.7**	**-0.1**
RUS	**Russkaya**	**2.82**	**22**	*e*P			**Pn**	**12 18 00.1**	**+0.2**
RUS				*e*S			**Sn**	**12 18 32.1**	**-1.1**
GRL	**Gorelyy**	**2.84**	**16**	*e*P			**Pn**	**12 18 01.6**	**+1.2**
GRL				*e*S			**Sn**	**12 18 34.3**	**+0.4**
APC	**Apacha**	**3.11**	**4**	*e*P			**Pn**	**12 18 04.9**	**+1.0**
KRMR	**Karymshinskiy**	**3.12**	**15**	*e*P			**Pn**	**12 18 05.9**	**+1.9**
KRMR				*e*S			**Sn**	**12 18 39.4**	**-1.1**
PETK	**Petropavlovsk-**	**3.33**	**9**	Pn			**Pn**	**12 18 07.7**	**+0.7**
	1.1nm,0.3s,baz=173,slow=12,SNR=66								
PETK					Sn		**Sb**	**12 18 53.5**	**-1.1**
	0.4nm,0.3s,baz=134,slow=19,SNR=1.2								
PET	**Petropavlovsk**	**3.40**	**19**	*e*P			**Pn**	**12 18 08.9**	**+1.0**
PET				*e*S			**Sn**	**12 18 47.2**	**-0.3**
DALK	**Dalny**	**3.43**	**20**	*e*P			**Pn**	**12 18 09.0**	**+0.7**
DALK				*e*S			**Sn**	**12 18 47.7**	**-0.5**
UGLR	**Uglovaya**	**3.61**	**20**	*e*P			**Pn**	**12 18 12.1**	**+1.2**
AVH	**Avacha**	**3.65**	**19**	*e*P			**Pn**	**12 18 12.8**	**+1.4**
KOK	**Koryaka**	**3.65**	**18**	*e*P			**Pn**	**12 18 13.3**	**+1.8**
SMAR	**Somma**	**3.66**	**19**	*e*P			**Pn**	**12 18 12.7**	**+1.0**
KRER	**Koryakskii**	**3.68**	**18**	*e*P			**Pn**	**12 18 13.3**	**+1.3**
KRER				*e*S			**Sn**	**12 18 55.1**	**+0.3**
SDLR	**Sedlovina**	**3.69**	**20**	*e*P			**Pn**	**12 18 12.5**	**+0.5**
NLC	**Nalytchevo**	**3.70**	**24**	*e*P			**Pn**	**12 18 11.0**	**-1.1**
NLC				*e*S			**Sn**	**12 18 52.2**	**-2.7**
KRX	**Arik**	**3.72**	**17**	*e*P			**Pn**	**12 18 13.6**	**+1.2**
KRX				*e*S			**Sn**	**12 18 55.7**	**+0.2**
SPN	**Mys Shipunski**	**3.84**	**30**	P			**Pn**	**12 18 14.4**	**+0.4**
SPN				*e*S			**Sn**	**12 18 56.9**	**-1.5**
GNL	**Ganaly**	**3.94**	**10**	*e*P			**Pn**	**12 18 15.7**	**+0.3**
MKZ	**Mys Kozlova**	**5.62**	**31**	*e*P			**Pn**	**12 18 37.6**	**-0.8**
MKZ				*e*S			**Sn**	**12 19 38.2**	**-3.9**
KZV	**Kizimen**	**5.70**	**21**	*e*P			**Pn**	**12 18 42.5**	**+2.8**
TUMD	**Tumrok D**	**5.81**	**21**	*e*S			**Sn**	**12 19 45.6**	**-1.3**
TUMR	**Tumrok**	**5.83**	**19**	P			**Pn**	**12 18 42.5**	**+1.1**
KBTR	**Krutoberegovo**	**7.34**	**27**	P			**Pn**	**12 19 02.8**	**+0.8**
BKI	**Bering**	**7.76**	**43**	*e*P			**Pn**	**12 19 07.0**	**-0.7**
BKI				*e*S			Sn	12 20 27.1	-7.6
H11N2	**WAKE ISLAND Hy**	**31.09**	**161**	T			T	12 56 36.3	
	baz=337								
H11N1	**WAKE ISLAND Hy**	**31.11**	**161**	T			T	12 56 40.6	
	baz=337								
H11N3	**WAKE ISLAND Hy**	**31.11**	**161**	T			T	12 56 44.7	
	baz=337								
H11S1	**WAKE ISLAND Hy**	**32.24**	**162**	T			T	12 58 04.4	
	baz=347,slow=76,SNR=34								
H11S3	**WAKE ISLAND Hy**	**32.25**	**162**	T			T	12 57 59.3	
	baz=347,slow=76,SNR=24								
H11S2	**WAKE ISLAND Hy**	**32.26**	**162**	T			T	12 57 59.6	
	baz=347,slow=76,SNR=11								
ILAR	**Eielson Array**	**32.60**	**41**	P			**P**	**12 23 46.9**	**+1.2**
	0.7nm,1.1s,baz=267,slow=9.9,SNR=2.6								
MKAR	**Makanchi Array**	**47.74**	**297**	P			P	12 25 40.5	-11
	0.2nm,0.4s,baz=49,slow=6.7,SNR=5.0								
TXAR	**Lajitas Array**	**73.87**	**64**	P			P	12 28 44.5	-5.0
	0.2nm,0.6s,baz=309,slow=5.7,SNR=2.6								
H03N2	**Juan Fernandez**	**136.28**	**90**	T			T	15 08 42.3	
	baz=313,slow=77,SNR=5.3								
H03N1	**Juan Fernandez**	**136.30**	**90**	T			T	15 08 44.6	
	baz=313,slow=77,SNR=6.9								
H03N3	**Juan Fernandez**	**136.30**	**90**	T			T	15 08 44.4	
	baz=313,slow=77,SNR=7.8								

*IDC **21** 12:24:44.7±2.3, 23°.46N×100°.45E, h0km, mb3.2/2, mb1 3.2/2, mb1mx3.0/48, mbtmp3.2/2, Error ellipse: s-maj=69.4km s-min=20.8km az=100.0*
ISC 21 12:24:44.7±1.6, **23°.42N**±0°.09×**101°.1E**±0°.3, **h10km, n25, σ3°.52/28, Yunnan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRAI	**Chiangrai**	**3.25**	**192**	Pg			**Pb**	**12 25 44.8**	**+2.2**
CRAI				Pn			**Pn**	**12 25 35.1**	**-0.7**
CRAI				Sg			**Sg**	**12 26 26.7**	**-2.5**
CM34	**Chiang Mai Arr**	**4.90**	**202**	P			**Pb**	**12 26 14.0**	**+3.3**
CM33	**Chiang Mai Arr**	**5.01**	**204**	P			**Pb**	**12 26 16.0**	**+3.5**
CMMT	**Chiang Mai**	**5.01**	**204**	P			**Pb**	**12 26 15.8**	**+3.2**
	140nm7.9nm,0.7s								
CMMT	**Chiang Mai**	**5.01**	**204**	Pg			**Pb**	**12 26 13.5**	**+0.9**
CMMT				Sg			**Sb**	**12 27 15.7**	**+2.8**
CM35	**Chiang Mai Arr**	**5.06**	**202**	P			**Pg**	**12 26 18.0**	**-3.7**
LAMP	**Lampang**	**5.07**	**196**	Sg			**Sb**	**12 27 18.6**	**+4.1**
CM32	**Chiang Mai Arr**	**5.20**	**205**	P			**Pg**	**12 26 20.0**	**-4.3**
CM36	**Chiang Mai Arr**	**5.23**	**202**	P			**Pg**	**12 26 22.0**	**-3.0**
CM09	**Chiang Mai Arr**	**5.33**	**202**	P			**Pg**	**12 26 23.0**	**-4.0**
	144nm14nm,0.6s								
CM09	**Chiang Mai Arr**	**5.33**	**202**	Pg			**Pg**	**12 26 22.4**	**-4.5**
CM31	**Chiang Mai Arr**	**5.34**	**203**	P			**Pg**	**12 26 23.4**	**-3.7**
	9µm520nm,0.6s								
CMAR	**Chiang Mai Arr**	**5.34**	**203**	Pg			**Pb**	**12 26 20.6**	**+2.5**
	1.4nm,0.3s,baz=9.8,slow=18,SNR=24								
CMAR				Lg			Lg	12 27 27.6	
	1.7nm,0.3s,baz=337,slow=16,SNR=15								
CM15	**Chiang Mai Arr**	**5.35**	**203**	P			**Pg**	**12 26 23.0**	**-4.3**
CM02	**Chiang Mai Arr**	**5.36**	**203**	P			**Pg**	**12 26 23.4**	**-4.0**
	168nm17nm,0.8s								
CM02	**Chiang Mai Arr**	**5.36**	**203**	Pg			**Pg**	**12 26 22.9**	**-4.5**
CM01	**Chiang Mai Arr**	**5.37**	**202**	P			**Pg**	**12 26 23.6**	**-3.9**
	148nm11nm,0.9s								
CM01	**Chiang Mai Arr**	**5.37**	**202**	Pg			**Pb**	**12 26 21.3**	**+2.6**
CM04	**Chiang Mai Arr**	**5.38**	**202**	P			**Pg**	**12 26 23.8**	**-4.0**
	145nm17nm,0.7s								
CM13	**Chiang Mai Arr**	**5.39**	**203**	P			Pg	12 26 23.0	-4.9
CM13	**Chiang Mai Arr**	**5.39**	**203**	Pg			**Pb**	**12 26 21.8**	**+2.8**
CM05	**Chiang Mai Arr**	**5.39**	**203**	P			**Pg**	**12 26 23.9**	**-4.1**
	107nm8.7nm,0.6s								
CM05	**Chiang Mai Arr**	**5.39**	**203**				**Pb**	**12 26 21.5**	**+2.5**
CM05				Sg			**Sb**	**12 27 27.7**	**+3.9**
SONM	**Songino Array**	**24.73**	**9**	P			**P**	**12 30 08.0**	**+1.7**
	0.2nm,0.5s,baz=184,slow=8.5,SNR=2.7								
MKAR	**Makanchi Array**	**27.81**	**332**	P			**P**	**12 30 32.9**	**-1.1**
	0.2nm,0.5s,baz=147,slow=9.9,SNR=3.0								

*CRAAG **21** 12:43:22.6, 36°.21N×1°.14E, Ml3.8*
*IDC **21** 12:43:22.8±1.4, 36°.19N×0°.95E, h0km, mb3.2/3, mb1 3.5/6, mb1mx3.2/49, mbtmp3.3/6, ML3.4/3, Error ellipse: s-maj=28.5km s-min=27.7km az=166.0*
*MDD **21** 12:43:23.8±0.5, 36°.18N×1°.18E, h17km±7km, mb4.2/27, Error ellipse: s-maj=12.0km s-min=4.3km az=154.0, PRXIMO*
*INMG **21** 12:43:24.3±1.2, 36°.12N×1°.12E, h28km±10km, ML2.6, Error ellipse: s-maj=8.7km s-min=4.0km az=138.0*
*IGIL **21** 12:43:25.2, 36°.13N×1°.23E, h29km*
*CNRM **21** 12:43:28.8, 36°.16N×0°.38E, h0km, ml3.0, Hypocentre not reviewed by the ISC*
ISC 21 12:43:22.8±1.4, **36°.25N**±0°.04×**1°.01E**±0°.04, **h8km**±11km, **n83, σ2°.21/131, mb3.3/3, 1C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ECHF	**Ech Chlef**	**0.28**	**110**	P			**Pg**	**12 43 27.3**	**-1.1**
ECHA	**Ech Chlef**	**0.30**	**109**	P			**Pg**	**12 43 27.3**	**-1.5**
EANR	**'Ain N'Sour**	**0.31**	**167**	P			**Pn**	**12 43 33.1**	**-0.6**
EANR	**'Ain N'Sour**	**0.31**	**167**	P			**Pn**	**12 43 33.1**	**-0.6**
OKGL	**Djebel Kef Gue**	**0.37**	**234**	↑P			**Pb**	**12 43 32.3**	**+0.6**
	258nm,0.1s,SNR=18								
OKGL					S		**Sb**	**12 43 38.9**	**+1.4**
	10µm,0.3s,SNR=7.9								
EBNR	**Beni Rached**	**0.42**	**85**	P			**Pg**	**12 43 30.4**	**-0.7**
OJGS	**Djebel Guires**	**0.78**	**196**	P			**Pg**	**12 43 38.0**	**+0.2**
OJGS	**Djebel Guires**	**0.78**	**196**	P			**Pg**	**12 43 38.0**	**+0.2**
CART	**Cartagena**	**2.09**	**310**	P			**Pn**	**12 43 57.3**	**-0.9**
CART				S			**Sn**	**12 44 19.7**	**-4.6**
CART	**Cartagena**	**2.09**	**310**	*e*P			**Pn**	**12 43 57.3**	**-0.9**
CART				*e*S			**Sn**	**12 44 19.7**	**-4.6**
CART				*e*Cod				12 45 32.5	
ETRV	**Los Montesinos**	**2.26**	**322**	S			**Sn**	**12 44 28.8**	**+0.2**
	23nm,0.1s,SNR=7.9								
EMUR	**La Murta**	**2.40**	**312**	P			**Pn**	**12 44 02.5**	**+0.1**
	20nm,0.4s,SNR=22								
EMUR				S			**Sn**	**12 44 32.3**	**+0.2**
	16nm,0.3s								
EBEN2	**Beniarda presa**	**2.60**	**339**	P			**Pn**	**12 44 05.7**	**+0.5**
	15nm,0.2s,SNR=7.9								
EBEN2				S			**Sn**	**12 44 34.5**	**-2.5**
	28nm,0.2s,SNR=7.9								
ENIJ	**Nijar**	**2.69**	**286**	P			**Pn**	**12 44 07.1**	**+0.7**
	6.4nm,0.2s,SNR=7.9								
ENIJ				S			**Sn**	**12 44 36.7**	**-2.4**
	37nm,0.3s,SNR=7.9								
AFON	**Font Roja**	**2.71**	**333**	P			**Pn**	**12 44 07.4**	**+0.7**
	7.4nm,0.3s,SNR=7.0								
AFON				S			**Sn**	**12 44 39.8**	**+0.1**
	5.8nm,0.2s								
EIBI	**Ibiza**	**2.78**	**5**	P			**Pn**	**12 44 07.5**	**-0.1**
	10nm,0.1s,SNR=289								
EIBI				S			**Sn**	**12 44 37.9**	**-3.5**
	31nm,0.2s								
ETOB	**Tobarra**	**3.14**	**320**	P			**Pn**	**12 44 13.5**	**+0.9**
	9.9nm,0.1s,SNR=41								
ETOB				S			**Sn**	**12 44 49.4**	**-0.9**
	0.8nm,0.3s								
EBER	**Berja**	**3.21**	**283**	P			**Pn**	**12 44 14.0**	**+0.4**
	8.9nm,0.1s,SNR=32								
EBER				S			**Sn**	**12 44 50.3**	**-1.8**
	10.0nm,0.2s,SNR=4.6								
SESP	**Santiago Espad**	**3.40**	**304**	P			**Pn**	**12 44 18.4**	**+2.1**
	35nm,0.2s,SNR=7.9								
SESP				S			**Sn**	**12 44 57.1**	**+0.3**
	25nm,0.1s,SNR=7.9								
SESP	**Santiago Espad**	**3.40**	**304**	P				12 44 18.2	
JBK	**JBK**	**3.50**	**238**	P				12 44 19.0	
EQES	**Quesada**	**3.62**	**297**	P			**Pn**	**12 44 21.1**	**+1.9**
	27nm,0.3s,SNR=49								
EQES				S			**Sn**	**12 45 02.7**	**+0.6**
	10nm,0.2s,SNR=10								
ECHE	**Chera**	**3.68**	**335**	P			**Pn**	**12 44 21.5**	**+1.5**
	2.7nm,0.2s,SNR=7.9								
ECHE				S			**Sn**	**12 45 02.9**	**-0.8**
	3.0nm,0.2s,SNR=7.9								
EQUE	**Quentar**	**3.70**	**286**	P			**Pn**	**12 44 22.1**	**+1.7**
	11nm,0.2s,SNR=39								
EQUE				S			**Sn**	**12 45 04.9**	**+0.7**
	0.9nm,0.1s								
ELGU	**Los Guajares,**	**3.78**	**281**	P			**Pn**	**12 44 21.7**	**+0.2**
	7.9nm,0.1s,SNR=7.9								
ELGU				S			**Sn**	**12 45 05.9**	**-0.4**
	28nm,0.2s,SNR=7.9								
ETOS	**Mallorca**	**3.79**	**22**	P			**Pn**	**12 44 20.2**	**-1.2**
	1.8nm,0.2s,SNR=4.8								
ETOS				S			**Sn**	**12 45 01.8**	**-4.4**
	1.7nm,0.2s,SNR=7.9								
EGOR	**Sierra Gorda,**	**4.21**	**283**	P			**Pn**	**12 44 29.3**	**+2.0**
	3.4nm,0.2s,SNR=7.9								
EGOR				S			**Sn**	**12 45 17.7**	**+1.0**
	3.1nm,0.3s,SNR=7.9								
EMOS	**Mosqueruela**	**4.27**	**345**	P			**Pn**	**12 44 29.7**	**+1.5**
	1.9nm,0.1s,SNR=19								
EMOS				S			**Sn**	**12 45 16.1**	**-2.2**
	3.4nm,0.3s								
EMAL	**Malaga-Limoner**	**4.41**	**278**	P			**Pn**	**12 44 30.1**	**+0.1**
EMAL				S			**Sn**	**12 45 17.3**	**-4.3**
EMAL	**Malaga-Limoner**	**4.41**	**278**	*e*P			**Pn**	**12 44 30.1**	**+0.1**
EMAL				*e*S			**Sn**	**12 45 17.3**	**-4.3**
ERTA	**Horta de San J**	**4.73**	**354**	P			**Pn**	**12 44 35.0**	**+0.6**
	0.8nm,0.1s,SNR=7.9								
ERTA				S			**Sn**	**12 45 26.4**	**-3.0**
	4.8nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**4.85**	**295**	P			**Pn**	**12 44 36.8**	**+0.7**
	0.9nm,0.2s,SNR=7.9								
EADA				S			**Sn**	**12 45 31.2**	**-1.4**
	0.8nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**5.21**	**312**	Pn			**Pn**	**12 44 41.7**	**+0.7**
	0.7nm,0.3s,baz=128,slow=13,SNR=34								
ESDC					Sn		**Sn**	**12 45 38.2**	**-3.0**
	0.5nm,0.3s,baz=147,slow=16,SNR=1.8								
UCM	**Universidad Co**	**5.25**	**322**	P			**Pn**	**12 44 45.5**	**+3.8**
UCM				S			**Sb**	**12 45 56.1**	**-2.1**
UCM	**Universidad Co**	**5.25**	**322**	*e*P			**Pn**	**12 44 45.5**	**+3.8**
UCM				*e*S			**Sb**	**12 45 56.1**	**-2.1**
PAB	**San Pablo**	**5.36**	**309**	P			**Pn**	**12 44 43.6**	**+0.3**
	3.5nm,0.3s,SNR=7.9								
PAB					S		**Sn**	**12 45 43.2**	**-1.9**
	1.3nm,0.2s,SNR=7.9								
PAB	**San Pablo**	**5.36**	**309**	P				12 44 45.8	
ECAB	**El Cabril**	**5.45**	**291**	P			**Pn**	**12 44 44.5**	**+0.2**
	2.2nm,0.2s,SNR=17								
ECAB					S		**Sn**	**12 45 45.1**	**-2.1**
	1.0nm,0.2s,SNR=5.7								
MDT	**Midelt**	**5.77**	**235**	Pn			**Pn**	**12 44 49.5**	**+0.7**
	0.8nm,0.3s,baz=57,slow=15,SNR=20								
MDT					Sn		**Sn**	**12 45 51.0**	**-4.1**
	0.6nm,0.3s,baz=253,slow=8.4,SNR=8.3								
MDT					Lg		Lg	12 46 34.5	
	0.3nm,0.3s,baz=160,slow=19,SNR=1.0								
MDT	**Midelt**	**5.77**	**235**	P				12 44 49.7	
GUD	**Guadarrama**	**5.97**	**319**	P			**Pn**	**12 44 53.7**	**+2.1**
	1.5nm,0.3s,SNR=7.9								
CSOR	**Sort**	**6.12**	**1**	P			**Pn**	**12 44 54.7**	**+1.1**
	3.3nm,0.3s,SNR=6.8								
CSOR					S		**Sn**	**12 45 59.1**	**-4.6**
	SNR=7.9								
CLLI	**Llivia**	**6.26**	**7**	P			**Pn**	**12 44 56.7**	**+1.1**
	0.3nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**6.33**	**286**	P			**Pn**	**12 44 56.5**	**0.0**
	0.6nm,0.1s,SNR=9.7								
EMIN					S		**Sn**	**12 46 04.7**	**-4.2**
	0.0nm,0.1s,SNR=7.9								
PBAR	**Barrancos**	**6.71**	**289**	P			**Pn**	**12 45 02.2**	**+0.7**
PBAR					S		**Sn**	**12 46 16.2**	**-1.9**
	2.2nm,0.5s								
PBAR	**Barrancos**	**6.71**	**289**	*e*Pn			**Pn**	**12 45 02.2**	**+0.7**
PBAR				*e*Sn			**Sn**	**12 46 16.2**	**-1.9**
PBAR				A			A	12 46 18.6	
	2.2nm,0.5s								
EPLA	**Plasencia**	**6.76**	**306**	P			**Pn**	**12 45 03.6**	**+1.3**
	1.1nm,0.2s,SNR=7.9								
KEST	**Kesra**	**6.78**	**92**	Pn			**Pn**	**12 45 02.6**	**0.0**
	0.7nm,0.3s,baz=287,slow=3.3,SNR=6.6								
KEST					Sn		**Sn**	**12 46 17.3**	**-2.7**
	0.2nm,0.3s,baz=242,slow=19,SNR=1.4								
EGRO	**El Granado**	**6.93**	**283**	P			**Pn**	**12 45 05.1**	**+0.5**
	1.1nm,0.2s,SNR=7.9								
EGRO					S		**Sn**	**12 46 20.9**	**-2.7**
	SNR=7.9								
PVAQ	**Vaqueiros**	**7.09**	**282**	P			**Pn**	**12 45 07.2**	**+0.3**
PVAQ					S		**Sn**	**12 46 23.7**	**-4.0**
PVAQ	**Vaqueiros**	**7.09**	**282**	*e*Pn			**Pn**	**12 45 07.2**	**+0.3**
PVAQ				*e*Sn			**Sn**	**12 46 23.7**	**-4.0**
PVAQ	**Vaqueiros**	**7.09**	**282**	P				12 45 08.9	
PBDV	**Barranco-do-Ve**	**7.25**	**280**	P			**Pn**	**12 45 10.0**	**+1.0**
PBDV					S		**Sn**	**12 46 29.4**	**-2.1**
PBDV	**Barranco-do-Ve**	**7.25**	**280**	*e*Pn			**Pn**	**12 45 10.0**	**+1.0**
PBDV				*e*Sn			**Sn**	**12 46 29.4**	**-2.1**
PESTR	**Estremoz**	**7.31**	**293**	*e*Pn			**Pn**	**12 45 11.5**	**+1.6**
PESTR				*e*Sn			**Sn**	**12 46 31.7**	**-1.4**
PMRV	**Marv??o**	**7.37**	**298**	P			**Pn**	**12 45 13.2**	**+2.6**
PMRV					S		**Sn**	**12 46 32.1**	**-2.3**
PMRV	**Marv??o**	**7.37**	**298**	*e*Pn			**Pn**	**12 45 13.2**	**+2.6**
PMRV				*e*Sn			**Sn**	**12 46 32.1**	**-2.3**
PCVE	**Castro Verde**	**7.38**	**283**	P			**Pn**	**12 45 11.3**	**+0.5**
PCVE	**Castro Verde**	**7.38**	**283**	*e*Pn			**Pn**	**12 45 11.3**	**+0.5**
EVO	**Evora**	**7.54**	**290**	P			**Pn**	**12 45 14.4**	**+1.4**
EVO	**Evora**	**7.54**	**290**	*e*Pn			**Pn**	**12 45 14.4**	**+1.4**
MESJ	**Messejana**	**7.55**	**285**	*e*P			**Pn**	**12 45 13.0**	**-0.1**
MESJ	**Messejana**	**7.55**	**285**	P			**Pn**	**12 45 13.6**	**+0.4**
MESJ	**Messejana**	**7.55**	**285**	*e*Pn			**Pn**	**12 45

GTA					pmax	pmax			
	comp=Z,3.0nm,1.2s								
BJT	**Baijiatuau**	**41.23**	**22**	P	**P**	**12 56 08.1**	**+0.4**		
WB0	**Warramunga Arr**	**42.26**	**123**	P	**P**	**12 56 15.4**	**-1.0**		
WB0				IAmb	IAmb	12 56 15.8			
	comp=Z,6.0nm,0.7s								
WRA	**Warramunga Arr**	**42.29**	**123**	P	**P**	**12 56 15.8**	**-0.9**		
	comp=Z,2.9nm,0.5s,baz=302,slow=9.1,SNR=32								
WRA	**Warramunga Arr**	**42.29**	**123**	P	**P**	**12 56 15.7**	**-0.9**		
WB2	**Warramunga Arr**	**42.30**	**123**	P	**P**	**12 56 16.2**	**-0.5**		
WB2				IAmb	IAmb	12 56 40.8			
	comp=Z,12nm,1.2s								
WR0	**Warramunga Arr**	**42.47**	**123**	P	**P**	**12 56 17.4**	**-0.7**		
ASAR	**Alice Springs**	**43.74**	**128**	P	**P**	**12 56 27.4**	**-1.0**		
	comp=Z,1.1nm,0.4s,baz=297,slow=7.6,SNR=49								
AS31	**Alice Springs**	**43.75**	**128**	P	**P**	**12 56 27.6**	**-0.9**		
KSRS	**Korea Array**	**44.80**	**35**	P	**P**	**12 56 35.9**	**-0.8**		
	comp=Z,0.7nm,0.8s,baz=223,slow=12,SNR=4.7								
KSRS				LR	LR	13 15 36.3			
	comp=Z,26nm,18.6s,baz=219,slow=36								
SONM	**Songino Array**	**46.06**	**8**	P	**P**	**12 56 45.9**	**-0.7**		
	comp=Z,1.4nm,0.5s,baz=191,slow=9.5,SNR=9.8								
SONM	**Songino Array**	**46.06**	**8**	P	**P**	**12 56 46.5**	**-0.1**		
SONM				IAmb	IAmb	12 56 47.9			
	comp=Z,1.1nm,0.6s								
MK31	**Makanchi Array**	**46.33**	**346**	P	**P**	**12 56 48.4**	**-0.2**		
MK31				IAmb	IAmb	12 56 50.0			
	comp=Z,1.6nm,0.9s								
MKAR	**Makanchi Array**	**46.33**	**346**	P	**P**	**12 56 48.2**	**-0.4**		
	comp=Z,1.8nm,0.7s,baz=160,slow=7.9,SNR=29								
MKAR	**Makanchi Array**	**46.33**	**346**	P	**P**	**12 56 48.1**	**-0.5**		
MAKZ	**Makanchi**	**46.42**	**345**	P	**P**	**12 56 49.0**	**-0.3**		
MAKZ				IAmb	IAmb	12 56 50.0			
	comp=Z,1.9nm,0.7s								
USRK	**Ussuriysk Ar.**	**51.71**	**31**	P	**P**	**12 57 29.1**	**-0.7**		
	comp=Z,0.9nm,0.4s,baz=238,slow=6.8,SNR=4.1								
USRK	**Ussuriysk Ar.**	**51.71**	**31**	P	**P**	**12 57 29.8**	**0.0**		
ZAA0	**Zalesovo Array**	**52.60**	**351**	P	**P**	**12 57 35.9**	**-0.4**		
ZALV	**Zalesovo Beam**	**52.60**	**351**	P	**P**	**12 57 35.6**	**-0.6**		
	comp=Z,3.9nm,0.4s,baz=168,slow=6.6,SNR=29								
ZALV	**Zalesovo Beam**	**52.60**	**351**	P	**P**	**12 57 35.5**	**-0.8**		
STKA	**Stephens Creek**	**53.79**	**133**	P	**P**	**12 57 44.9**	**-0.5**		
	comp=Z,0.7nm,0.5s,baz=333,slow=16,SNR=1.4								
BRVK	**Borovoye**	**55.46**	**340**	P	**P**	**12 57 57.2**	**+0.1**		
BRVK				IAmb	IAmb	12 58 17.6			
	comp=Z,3.5nm,1.2s								
ABKAR	**Akbulak array**	**56.78**	**331**	P	**P**	**12 58 06.0**	**-0.6**		
FINES	**FINESS Array B**	**79.25**	**332**	P	**P**	**13 00 26.7**	**-0.8**		
	comp=Z,3.1nm,0.8s,baz=114,slow=3.5,SNR=3.1								
ARCES	**ARCESS Array B**	**81.69**	**340**	P	**P**	**13 00 40.8**	**+0.2**		
	comp=Z,7.0nm,1.1s,baz=83,slow=7.4,SNR=3.7								

*BJI **21** 13:13:20.7±0.0,31.°05S×177.°35W,h10km,mB5.5/18, mb5.1/26,Ms5.0/9,Ms7 4.7/9*

*NEIC **21** 13:13:21.3±2.1,31.°75S±0.°07×177.°87W±0.°10,h10km±1km, mb5.4/23,Error ellipse: s-maj=17.7km s-min=4.4km az=127.0*

*NOU **21** 13:13:25.4,31.°83S×177.°64W,h47km,mb5.3,Kermadec Islands Region*

*MOS **21** 13:13:25.6±0.9,31.°49S×178.°35W,h32km,mb5.1/17, Error ellipse: s-maj=12.2km s-min=9.8km az=100.6*

*GCMT **21** 13:13:28.3±0.2,31.°63S±0.°02×177.°98W±0.°02,h37km, MW5.1/91,Moment Tensor Solution. s70,c92; s91,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.80±.17; $M_{\theta\theta}$-0.30±.11; $M_{\phi\phi}$-3.50±.10; $M_{r\theta}$0.82±.13; $M_{\theta\phi}$-1.00±.08; $M_{r\phi}$2.92±.12; Best double couple: $M_0$4.85700×10^{16} NP1:ϕs196.00000°,δ26.00000°,λ90.00000°. NP2: ϕs16.00000°,δ64.00000°,λ90.00000°. Principal axes: T 4.8630, Plg71.0000°, Azm285.0000°; N -0.0160, Plg0.0000°, Azm16.0000°; P -4.8500, Plg19.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **21** 13:13:29.6±1.8,31.°37S×178.°45W,h53km±15km,mb4.4/14, mb1 4.5/16,mb1mx4.5/21,mbtmp4.7/16,ML4.9/2,MS4.2/25, Ms1 4.2/25,ms1mx4.1/32 Error ellipse: s-maj=14.5km s-min=13.0km az=104.0*

ISC 21 13:13:26.8±0.3,31.°71S±0.°04×178.°21W±0.°06,h35km, n327,σ1§90/329,mb5.2/42,MS4.3/29,12C-4D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.45**	**6**	P	**Pn**	**13 14 01.3**	**-3.0**
GLKZ				S	**Sn**	**13 14 26.2**	**-6.8**
RAO	**Raoul Island**	**2.46**	**6**	P	**Pn**	**13 14 01.7**	**-2.7**
	648nm,0.3s,baz=141,slow=11,SNR=17						
RAO				S	**Sn**	**13 14 29.0**	**-4.3**
	1μm,0.3s,baz=278,slow=22,SNR=4.8						
RAO				LR	LR	13 14 59.9	
	comp=Z,3μm,21.4s,baz=160,slow=42						
RAO	**Raoul Island**	**2.46**	**6**	P	**Pn**	**13 14 01.7**	**-2.7**
RAO	**Raoul Island**	**2.46**	**6**	P	**Pn**	**13 14 03.6**	**-0.8**
RIZ	**Raoul Island**	**2.47**	**6**	P	**Pn**	**13 14 01.7**	**-2.8**
MXZ	**Matakaoa Point**	**6.50**	**205**	Pn	**Pn**	**13 14 59.3**	**-0.7**
MXZ	**Matakaoa Point**	**6.50**	**205**	P	**Pn**	**13 14 58.3**	**-1.7**
MXZ				S	**Sn**	**13 16 13.0**	**+0.1**
WMGZ	**Waiomatatini S**	**6.70**	**204**	P	**Pn**	**13 15 03.7**	**+1.2**
WMGZ				S	**Sn**	**13 16 19.3**	**+1.6**
PKGZ	**Pakihiroa**	**6.88**	**205**	P	**Pn**	**13 15 04.2**	**-1.0**
PKGZ				S	**Sn**	**13 16 20.5**	**-1.6**
KUZ	**Kuaotunu**	**7.10**	**223**	P	Pn	13 15 14.1	+6.0
URZ	**Urewera**	**7.58**	**209**	P	**Pn**	**13 15 12.4**	**-2.2**
	2.4nm,0.3s,baz=251,slow=2.9,SNR=31						
URZ				S	**Sn**	**13 16 38.5**	**-0.7**
	30nm,0.3s,baz=229,slow=22,SNR=12						
URZ	**Urewera**	**7.58**	**209**	Pn	**Pn**	**13 15 13.6**	**-1.1**
URZ	**Urewera**	**7.58**	**209**	P	**Pn**	**13 15 12.5**	**-2.2**
URZ				S	**Sn**	**13 16 37.9**	**-1.4**
OUZ	**Omahuta**	**7.69**	**241**	Pn	**Pn**	**13 15 19.8**	**+3.6**
ETAZ	**East Tamaki Re**	**7.72**	**225**	P	Pn	13 15 24.0	+7.4
RVAZ	**Riverhead Bore**	**7.82**	**228**	P	Pn	13 15 26.5	+8.6
MUGZ	**Murupara**	**7.90**	**210**	P	**Pn**	**13 15 16.7**	**-2.4**
MUGZ				S	**Sn**	**13 16 47.6**	**+0.2**
WTAZ	**Waiatarua**	**7.92**	**227**	P	Pn	13 15 30.5	+11
TOZ	**Tahuroa Road**	**7.93**	**219**	P	**Pn**	**13 15 23.7**	**+4.3**
BKZ	**Black Stump Fm**	**8.60**	**209**	Pn	**Pn**	**13 15 26.9**	**-1.9**
RATZ	**Rangitukua**	**8.67**	**213**	P	**Pn**	**13 15 32.0**	**+2.3**
HIZ	**Hauiti**	**8.85**	**218**	Pn	**Pn**	**13 15 33.2**	**+1.1**
HIZ	**Hauiti**	**8.85**	**218**	P	**Pn**	**13 15 35.1**	**+3.0**
TMVZ	**Te Maari**	**8.90**	**212**	P	**Pn**	**13 15 32.6**	**-0.4**
TMVZ				S	**Sn**	**13 17 11.9**	**-0.1**
KRVZ	**Karewarewa**	**8.91**	**213**	P	**Pn**	**13 15 35.0**	**+1.9**
ETVZ	**East Tongariro**	**8.91**	**212**	P	**Pn**	**13 15 32.9**	**-0.2**
ETVZ				S	**Sn**	**13 17 11.9**	**-0.4**
WTVZ	**West Tongariro**	**8.95**	**213**	P	**Pn**	**13 15 33.9**	**+0.2**
OTVZ	**Oturere**	**8.96**	**212**	P	**Pn**	**13 15 33.4**	**-0.3**
OTVZ				S	**Sn**	**13 17 13.5**	**+0.1**
TWVZ	**Taurewa**	**8.99**	**213**	P	**Pn**	**13 15 35.2**	**+1.1**
NGZ	**Ngauruhoe**	**8.99**	**212**	P	**Pn**	**13 15 34.4**	**+0.1**
TUVZ	**Tukino**	**9.05**	**212**	P	**Pn**	**13 15 35.7**	**+0.7**
BHHZ	**Black Hill Sta**	**9.05**	**209**	P	**Pn**	**13 15 35.0**	**0.0**
BHHZ				S	**Sn**	**13 17 12.3**	**-3.4**
FWVZ	**Far West T-bar**	**9.08**	**212**	P	**Pn**	**13 15 36.0**	**+0.5**
MOVZ	**Moawhango**	**9.12**	**211**	P	**Pn**	**13 15 35.6**	**-0.3**
MOVZ				S	**Sn**	**13 17 13.4**	**-3.9**
WNVZ	**Wahianoa**	**9.12**	**212**	P	**Pn**	**13 15 37.1**	**+1.2**
WPHZ	**Waipukurau**	**9.39**	**206**	P	**Pn**	**13 15 38.3**	**-1.3**
TSZ	**Takapari Road**	**9.57**	**208**	P	**Pn**	**13 15 39.6**	**-2.5**
TSZ				S	**Sn**	**13 17 23.1**	**-5.3**
ANWZ	**Angora Road**	**9.73**	**205**	P	**Pn**	**13 15 44.6**	**+0.5**
ANWZ				S	**Sn**	**13 17 26.7**	**-5.5**
WAZ	**Wanganui**	**9.74**	**213**	P	**Pn**	**13 15 44.1**	**-0.3**
POWZ	**Post Office Ro**	**9.94**	**208**	P	**Pn**	**13 15 47.4**	**+0.4**
PRWZ	**Pori Road**	**10.00**	**206**	P	**Pn**	**13 15 45.8**	**-2.0**
BFZ	**Birch Farm**	**10.01**	**205**	Pn	**Pn**	**13 15 46.2**	**-1.7**
BFZ	**Birch Farm**	**10.01**	**205**	P	**Pn**	**13 15 44.7**	**-3.3**
MRZ	**Mangatainoka R**	**10.24**	**208**	P	**Pn**	**13 15 46.4**	**-4.8**
HOWZ	**Holdsworth Sta**	**10.47**	**207**	P	**Pn**	**13 15 50.6**	**-3.7**
OGWZ	**Otaki Gorge**	**10.54**	**209**	P	**Pn**	**13 15 52.2**	**-3.0**
KIW	**Kapiti Island**	**10.68**	**209**	P	**Pn**	**13 15 53.8**	**-3.4**
CAW	**Cannon Point**	**10.82**	**208**	P	**Pn**	**13 15 54.5**	**-4.7**
MSWZ	**Moikau Station**	**11.02**	**207**	P	**Pn**	**13 15 58.8**	**-3.0**
DUWZ	**D'Urville Isla**	**11.07**	**213**	P	**Pn**	**13 15 60.0**	**-2.6**
TCW	**Tory Channel**	**11.24**	**210**	P	**Pn**	**13 16 00.7**	**-4.1**
TUWZ	**Tuamarina**	**11.56**	**211**		**Pn**	**13 16 07.7**	**-1.5**
TUWZ	**Tuamarina**	**11.56**	**211**	P	**Pn**	**13 16 05.4**	**-3.8**
NNZ	**Nelson**	**11.65**	**213**	P	Pn	13 16 05.4	-5.0
QRZ	**Quartz Range**	**11.76**	**217**	P	**Pn**	**13 16 08.4**	**-3.6**
BSWZ	**Blackbirch Sta**	**11.83**	**210**	P	**Pn**	**13 16 10.6**	**-2.2**
KHZ	**Kahutara**	**12.54**	**209**	Pn	**Pn**	**13 16 18.4**	**-4.2**
GVZ	**Greta Valley S**	**13.21**	**209**	P	**Pn**	**13 16 27.2**	**-4.6**
LTZ	**Lake Taylor**	**13.39**	**212**	P	**Pn**	**13 16 31.2**	**-3.0**
INZ	**Inchbonnie**	**13.73**	**214**	P	**Pn**	**13 16 35.8**	**-3.0**
OXZ	**Oxford**	**13.93**	**211**	P	Pn	13 16 36.2	-5.3
MQZ	**McQueen's Vall**	**13.98**	**208**	P	Pn	13 16 36.8	-5.4
MSVF	**Nonsavu**	**14.32**	**345**	P	**Pn**	**13 16 47.8**	**+0.6**
	0.3nm,0.3s,baz=160,slow=15,SNR=4.1						
MSVF				LR	LR	13 21 22.2	
	comp=Z,2μm,18.2s,baz=178,slow=34						
MSVF	**Nonsavu**	**14.32**	**345**	*i* P	**Pn**	**13 16 48.5**	**+1.3**
MSVF	**Nonsavu**	**14.32**	**345**	Pn	**Pn**	**13 16 45.8**	**-1.3**
MSVF	**Nonsavu**	**14.32**	**345**	P	**Pn**	**13 16 48.9**	**+1.7**
RPZ	**Rata Peaks**	**14.67**	**212**	P	**Pn**	**13 16 48.6**	**-3.1**
	1.6nm,0.3s,baz=353,slow=4.4,SNR=7.0						
RPZ				S	Sn	13 19 17.8	-15
	2.0nm,0.3s,baz=68,slow=21,SNR=3.0						
DZM	**Mont Dzumac**	**16.70**	**301**	*e*Pn	**P**	**13 17 22.2**	**+2.0**
	165nm,1.1s						
DZM				*e*LR	LR	13 21 14.8	
	comp=Z,3μm,24.6s						
DZM	**Mont Dzumac**	**16.70**	**301**	P	**P**	**13 17 21.0**	**+0.8**
	0.2nm,0.3s,baz=23,slow=22,SNR=7.6						
DZM	**Mont Dzumac**	**16.70**	**301**	P	**P**	**13 17 21.9**	**+1.7**
MLZ	**Mavora Lakes**	**17.29**	**214**		**Pn**	**13 17 25.1**	**-0.3**
AFI	**Afiamalu**	**18.68**	**20**	P	**P**	**13 17 41.2**	**-0.8**
	2.6nm,0.3s,baz=218,slow=19,SNR=2.8						
AFI	**Afiamalu**	**18.68**	**20**	P	**P**	**13 17 40.6**	**-1.4**
RAR	**Rarotonga**	**19.51**	**62**	LR	LR	13 22 50.0	
	comp=Z,754nm,21.0s,baz=246,slow=29						
ARMA	**Armidale**	**25.83**	**265**	P	**P**	**13 18 56.8**	**+1.8**
	baz=26,SNR=11						
MGCD	**Mangrove Creek**	**25.89**	**258**	P	**P**	**13 18 56.2**	**+0.8**
	baz=26,SNR=10						
TBI	**Tubuai**	**26.76**	**79**	*e*LQ	LQ	13 24 16.0	
	1μm,27.1s						
TBI				*e*LR	LR	13 25 49.7	
	comp=Z,1μm,28.0s,baz=246						
TBI	**Tubuai**	**26.76**	**79**	*e*T	T	13 46 51.8	
	28nm,0.3s						
CNB	**Canberra Magne**	**27.21**	**254**	P	**P**	**13 19 08.9**	**+1.6**
	baz=27,SNR=7.6						
CAN	**Canberra**	**27.50**	**254**	P	**P**	**13 19 11.4**	**+1.4**
CAN				pmax	pmax		
	comp=Z,45nm,1.3s						
CAN	**Canberra**	**27.50**	**254**	P	**P**	**13 19 11.4**	**+1.4**
CAN				IAmb	IAmb	13 19 13.4	
	comp=Z,45nm,1.3s						
EIDS	**Eidsvold**	**27.65**	**275**	P	**P**	**13 19 12.9**	**+1.6**
	baz=28,SNR=4.8						
EIDS	**Eidsvold**	**27.65**	**275**	P	**P**	**13 19 12.2**	**+0.9**
EIDS				IAmb	IAmb	13 19 13.9	
	comp=Z,28nm,1.2s						
YNG	**Young**	**28.05**	**256**	P	**P**	**13 19 17.5**	**+2.6**
	baz=28,SNR=9.8						
RMQ	**Roma**	**29.26**	**272**	P	**P**	**13 19 28.6**	**+2.9**
	baz=30,SNR=20						
PAE	**Paea**	**29.43**	**68**	*e*T	T	13 50 08.9	
	comp=Z,11nm,0.2s						
PPT2	**Papeete2**	**29.47**	**68**	*e*S	**S**	**13 24 26.3**	**+6.5**
	comp=Z,171nm,22.8s						
PPT2				*e*LR	LR	13 27 01.0	
	comp=Z,1μm,26.5s,baz=235						
PPT2	**Papeete2**	**29.47**	**68**	*e*T	T	13 50 12.6	
	comp=Z,8.1nm,0.3s						
PPT	**Papeete**	**29.48**	**68**	LR	LR	13 31 22.9	
	comp=Z,177nm,18.2s,baz=194,slow=36						
HNR	**Honiara**	**30.04**	**313**	P	**P**	**13 19 30.8**	**-1.8**
	comp=Z,41nm,0.9s,baz=207,slow=16,SNR=1.9						
HNR				LR	LR	13 30 05.2	
	comp=Z,452nm,19.5s,baz=190,slow=34						
TOO	**Toolangi**	**30.30**	**249**	P	**P**	**13 19 36.8**	**+2.0**
	baz=30,SNR=5.6						
TOO	**Toolangi**	**30.30**	**249**	P	**P**	**13 19 33.8**	**-1.0**
TOO				pmax	pmax		
	comp=Z,44nm,1.1s						
TOO	**Toolangi**	**30.30**	**249**	P	**P**	**13 19 33.8**	**-1.0**
TOO				IAmb	IAmb	13 19 38.3	
	comp=Z,44nm,1.1s						
CMSA	**Cobar Meteorol**	**30.65**	**261**	P	**P**	**13 19 39.8**	**+1.9**
	baz=31,SNR=37						
VAH	**Vaihoa**	**32.34**	**67**	*e*T	T	13 53 46.2	
	comp=Z,56nm,0.2s						
QLP	**Quilpie**	**33.09**	**269**	P	**P**	**13 20 00.5**	**+1.1**
	baz=33,SNR=21						
ARPS	**Mount Arapiles**	**33.24**	**250**	P	**P**	**13 20 02.0**	**+1.5**
	baz=33,SNR=10.0						
CTA	**Charters Tower**	**33.85**	**281**	LR	LR	13 31 45.3	
	comp=Z,868nm,21.5s,baz=129,slow=33						
CTAO	**Charters Tower**	**33.85**	**281**	P	**P**	**13 20 07.8**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,118nm,0.9s						
CTAO	**Charters Tower**	**33.85**	**281**	P	**P**	**13 20 07.8**	**+1.7**
STKA	**Stephens Creek**	**34.03**	**259**	P	**P**	**13 20 09.0**	**+1.5**
	comp=Z,52nm,0.9s,baz=100,slow=10,SNR=64						
STKA				LR	LR	13 32 44.1	
	comp=Z,480nm,18.7s,baz=80,slow=34						
STKA	**Stephens Creek**	**34.03**	**259**	P	**P**	**13 20 09.0**	**+1.5**
	baz=34,SNR=27						
STKA	**Stephens Creek**	**34.03**	**259**	*c* P	**P**	**13 20 08.4**	**+0.9**
STKA	**Stephens Creek**	**34.03**	**259**	P	**P**	**13 20 09.2**	**+1.7**
HTT	**Hallett**	**35.98**	**256**	P	**P**	**13 20 25.0**	**+0.6**
	baz=36,SNR=22						
MTSU	**Mount Surprise**	**36.38**	**283**	P	**P**	**13 20 29.6**	**+1.7**
	baz=37,SNR=27						
BBOO	**Buckleboo**	**38.46**	**256**	P	**P**	**13 20 45.2**	**-0.1**
	baz=39,SNR=19						
BBOO	**Buckleboo**	**38.46**	**256**	P	**P**	**13 20 45.0**	**-0.3**
BBOO				IAmb	IAmb	13 20 46.2	
	comp=Z,66nm,1.1s						
PMG	**Port Moresby**	**39.02**	**297**	*ce*P	**P**	**13 20 50.8**	**+0.6**
PMG				pmax	pmax		
	comp=Z,23nm,1.0s						
RKT	**Rikitea**	**39.12**	**88**	*e*LR	LR	13 31 27.7	
	comp=Z,1μm,28.5s						
QIS	**Mount Isa**	**39.25**	**276**	P	**P**	**13 20 52.5**	**+0.4**
	baz=40,SNR=15						
COEN	**Coen**	**39.48**	**288**	P	**P**	**13 20 55.0**	**+1.0**
COEN				IAmb	IAmb	13 20 56.0	
	comp=Z,52nm,0.8s						
TAOE	**Nuku Hiva Isla**	**42.00**	**66**	*e*LQ	LQ	13 30 56.5	
	comp=Z,512nm,31.3s						
TAOE				*e*LR	LR	13 32 46.3	
	comp=Z,639nm,27.3s						
AS31	**Alice Springs**	**42.88**	**268**	P	**P**	**13 21 22.0**	**0.0**
ASAR	**Alice Springs**	**42.88**	**268**	P	**P**	**13 21 21.7**	**-0.3**
	comp=Z,60nm,0.8s,baz=105,slow=7.5,SNR=506						
ASAR				ScP	**ScP**	**13 27 01.3**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=126,slow=3.5,SNR=4.8						
ASAR				S	**S**	**13 27 39.5**	**-4.9**
	comp=Z,0.6nm,1.0s,baz=139,slow=12,SNR=4.1						
ASAR				LR	LR	13 38 49.9	
	comp=Z,181nm,18.6s,baz=113,slow=36						
ASAR	**Alice Springs**	**42.88**	**268**	P	**P**	**13 21 21.9**	**0.0**
WR0	**Warramunga Arr**	**43.80**	**274**		**P**	**13 21 29.7**	**+0.3**
WR0				IAmb	IAmb	13 21 31.0	
	comp=Z,113nm,1.0s						
WB2	**Warramunga Arr**	**43.97**	**274**		**P**	**13 21 31.0**	**+0.2**
WRAB	**Tennant Creek**	**43.98**	**274**	*ce*P	**P**	**13 21 30.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,216nm,1.3s						
WRAB	**Tennant Creek**	**43.98**	**274**	P	**P**	**13 21 31.1**	**+0.2**
WRAB				IAmb	IAmb	13 21 31.8	
	comp=Z,129nm,0.8s						
WRA	**Warramunga Arr**	**43.98**	**274**	P	**P**	**13 21 31.0**	**+0.1**
	comp=Z,129nm,0.9s,baz=114,slow=7.6,SNR=311						
WRA				ScP	**ScP**	**13 27 03.3**	**-2.2**
	comp=Z,1.1nm,0.8s,baz=112,slow=3.9,SNR=3.2						
WRA				S	**S**	**13 27 57.0**	**-3.6**
	comp=Z,1.2nm,0.9s,baz=116,slow=13,SNR=2.5						
WRA				LR	LR	13 38 36.5	
	comp=Z,537nm,19.8s,baz=115,slow=34						
WRA	**Warramunga Arr**	**43.98**	**274**	P	**P**	**13 21 30.5**	**-0.4**
WB0	**Warramunga Arr**	**44.01**	**274**		**P**	**13 21 31.4**	**+0.2**
FORT	**Forrest**	**45.55**	**256**	P	**P**	**13 21 42.3**	**-0.9**
FORT				IAmb	IAmb	13 21 58.7	
	comp=Z,56nm,0.9s						
WRKA	**Warakurna**	**47.15**	**264**	P	**P**	**13 21 54.8**	**-1.1**
	baz=47,SNR=44						
KDU	**Kakadu**	**48.98**	**281**	P	**P**	**13 22 09.7**	**-0.4**
	baz=49,SNR=15						
FITZ	**Fitzroy Crossi**	**52.19**	**271**	LR	LR	13 43 55.1	
	comp=Z,598nm,19.3s,baz=123,slow=35						
FITZ	**Fitzroy Crossi**	**52.19**	**271**	P	**P**	**13 22 33.8**	**-0.5**
	baz=52,SNR=15						
FITZ	**Fitzroy Crossi**	**52.19**	**271**	P	**P**	**13 22 34.0**	**-0.3**
FITZ				IAmb	IAmb	13 22 36.0	
	comp=Z,42nm,1.1s						
KLBR	**Kellerberrin**	**53.76**	**252**	P	**P**	**13 22 45.1**	**-0.7**
	baz=54,SNR=5.1						
CASY	**Casey**	**53.90**	**208**	P	**P**	**13 22 46.1**	**-0.1**
CASY				IAmb	IAmb	13 22 47.5	
	comp=Z,47nm,0.8s						
MUN	**Mundaring**	**54.89**	**251**	P	**P**	**13 22 54.3**	**+0.3**
	baz=55,SNR=3.3						
SIJI	**Sorong**	**56.66**	**292**	LR	LR	13 45 43.5	
	comp=Z,135nm,18.7s,baz=312,slow=34						
BATI	**Baumata**	**57.65**	**278**	LR	LR	13 48 05.6	
	comp=Z,529nm,19.5s,baz=120,slow=36						
QSPA	**South Pole Qui**	**58.40**	**180**	P	**P**	**13 23 21.4**	**+2.8**
	comp=Z,13nm,0.7s,baz=19,slow=0.7,SNR=60						
QSPA	**South Pole Qui**	**58.40**	**180**	P	**P**	**13 23 21.4**	**+2.8**
MMRI	**Maumere**	**59.66**	**279**	P	**P**	**13 23 27.4**	**-0.5**
	comp=Z,32nm,1.2s						
BBKI	**Banjar Baru**	**68.62**	**279**	P	**P**	**13 24 25.8**	**-0.9**
	comp=Z,28nm,0.8s						
MAW	**Mawson**	**71.02**	**201**	P	**P**	**13 24 43.9**	**+3.3**
	comp=Z,12nm,1.0s,baz=126,slow=8.2,SNR=4.6						
MAW				LR	LR	13 55 51.2	
	comp=Z,184nm,18.0s,baz=78,slow=36						
MAW	**Mawson**	**71.02**	**201**	P	**P**	**13 24 38.7**	**-1.8**
PMSA	**Palmer Station**	**71.15**	**156**	P	P	13 24 29.2	-12
SYO	**Syowa Base**	**75.80**	**193**	*e*P	**P**	**13 25 07.2**	**-1.5**
SYO	**Syowa Base**	**75.80**	**193**	*ep*P	**P**	**13 25 11.0**	**+2.3**
SYO	**Syowa Base**	**75.80**	**193**	*e*PcP	**PcP**	**13 25 19.4**	**-1.8**
SNAA	**Sanae**	**76.85**	**178**	P	**P**	**13 25 15.8**	**+1.1**
SNAA	**Sanae**	**76.85**	**178**	PcP	**PcP**	**13 25 22.4**	**-3.4**
SNAA	**Sanae**	**76.85**	**178**	*ce*P	**P**	**13 25 16.0**	**+1.3**
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SNAA	**Sanae**	**76.85**	**178**	P	**P**	**13 25 15.8**	**+1.1**
SNAA				IAmb	IAmb	13 25 24.0	
	comp=Z,48nm,1.0s						
VNA3	**Neumayer Olymp**	**77.01**	**176**	P	**P**	**13 25 16.6**	**+1.0**
VNA3	**Neumayer Olymp**	**77.01**	**176**	PcP	**PcP**	**13 25 23.6**	**-2.8**
VNA2	**Neumayer--Watz**	**77.44**	**177**	P	**P**	**13 25 19.3**	**+1.3**
	baz=170,slow=4.3						
VNA2	**Neumayer--Watz**	**77.44**	**177**	PcP	**PcP**	**13 25 26.4**	**-1.9**
	baz=180,slow=4.4						
NVL	**N'lazarevskaya**	**77.56**	**183**	*e*P	P	13 25 23.8	+5.2
NVL				pmax	pmax		
	comp=Z,32nm,1.0s						
VNA1	**Neumayer--Stat**	**77.68**	**177**	P	**P**	**13 25 20.5**	**+1.3**
VNA1	**Neumayer--Stat**	**77.68**	**177**	PcP	**PcP**	**13 25 27.7**	**-1.5**
KSI	**Kapahiang**	**78.90**	**273**	P	P	13 25 36.1	+9.0
MJAR	**Matsushiro Arr**	**79.22**	**326**	P	**P**	**13 25 28.4**	**+0.3**
	comp=Z,4.8nm,1.1s,baz=159,slow=5.7,SNR=7.0						
MJAR				LR	LR	13 55 57.8	
	comp=Z,75nm,21.3s,baz=100,slow=32						
MAJO	**Matsushiro**	**79.22**	**326**	*i* P	**P**	**13 25 29.6**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MAT	**Matsushiro**	**79.22**	**326**	P	**P**	**13 25 27.9**	**-0.2**
H03S2	**Juan Fernandez**	**79.89**	**123**	T	T	14 54 39.2	
	baz=237,slow=74,SNR=21						
H03S1	**Juan Fernandez**	**79.91**	**123**	T	T	14 54 35.8	
	baz=237,slow=74,SNR=19						
H03S3	**Juan Fernandez**	**79.91**	**123**	T	T	14 54 45.4	
	baz=237,slow=74,SNR=22						
H03N3	**Juan

GYA pmax pmax
comp=Z,6.0nm,1.3s
GYA pmax pmax
comp=Z,110nm,6.3s
GYA LR LR
comp=Z,76nm,10.8s
KLR Kul'dur 92.07 330 *c*eP **P 13 26 31.5 -0.4**
KLR pmax pmax
comp=Z,6.0nm,0.9s
NNA Nana 93.23 106 LR LR 13 59 00.2
comp=Z,122nm,21.1s,baz=238,slow=29
TXAR Lajitas Array 93.25 57 P **P 13 26 39.6 +1.7**
comp=Z,0.6nm,0.9s,baz=212,slow=6.9,SNR=3.5
TXAR LR LR 14 03 23.0
comp=Z,120nm,18.4s,baz=0.0,slow=32
KMI Kunming 94.25 297 ⇓P **P 13 26 43.4 +0.6**
KMI pP PcP 13 26 47.3 +4.1
KMI pmax pmax
comp=Z,7.0nm,0.6s
MA2 Magadan 94.50 345 *c*eP **P 13 26 43.4 +0.6**
MA2 pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 94.53 52 *i* P **P 13 26 44.3 +0.5**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
ATAH Atahualpa 94.57 101 LR LR 13 59 15.0
comp=Z,70nm,21.8s,baz=246,slow=29
HLID Hailey 94.91 41 P 13 26 46.3
baz=230
CD2 Chengdu 96.63 302 *e*P **P 13 26 53.8 +0.5**
HHC Hu-ho-hao-te 97.01 314 *e*P **P 13 26 54.9 0.0**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,44nm,6.6s
PDAR Pinedale Array 97.20 44 P Pdif 13 26 55.8 -0.1
comp=Z,0.3nm,0.7s,baz=203,slow=3.9,SNR=2.5
PDAR PKKPbc **PKKPbc 13 43 35.1 -0.7**
comp=Z,0.5nm,0.7s,baz=90,slow=3.0,SNR=4.8
PDAR LR LR 14 06 53.1
comp=Z,104nm,18.2s,baz=276,slow=33
SEY Seymchan 97.21 347 *i* P **P 13 26 54.1 -0.9**
TRF Thorofare Moun 97.40 12 P 13 26 57.9
baz=204
LPAZ La Paz 97.77 114 LR LR 14 00 34.8
comp=Z,44nm,20.6s,baz=223,slow=29
COLA College 99.15 13 *i* P **Pdif 13 27 03.4 -0.3**
COLA pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 99.24 13 P **Pdif 13 27 03.2 -0.9**
comp=Z,0.7nm,0.8s,baz=226,slow=3.9,SNR=5.9
ILAR PKKPbc **PKKPdf 13 43 35.8 +0.5**
comp=Z,0.5nm,1.0s,baz=355,slow=1.1,SNR=4.6
ILAR Eielson Array 99.24 13 P **Pdif 13 27 03.9 -0.2**
ILAR Eielson Array 99.24 13 P **Pdif 13 27 03.9 -0.2**
HKT Hockley 99.31 61 *i* P **Pdif 13 27 04.5 -0.7**
HKT pmax pmax
comp=Z,6.0nm,2.3s
CPUP Villa Florida 99.31 129 LR LR 14 05 01.1
comp=Z,55nm,21.6s,baz=218,slow=31
BILL Bilibino 100.12 354⇑ *e*P **Pdif 13 27 06.2 -1.8**
BILL *e*PPP PPP 13 33 26.0
BILL pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 103.99 318 PP **PKiKP 13 31 39.0 -4.1**
comp=Z,0.2nm,0.5s,baz=111,slow=8.1,SNR=3.6
YKA Yellowknife Ar 106.70 26 PKiKP **PKiKP 13 31 46.1 -1.3**
comp=Z,0.2nm,0.7s,baz=215,slow=1.4,SNR=2.0
YKA PKKPbc **PKKPbc 13 43 06.5 -1.7**
comp=Z,1.0nm,1.0s,baz=54,slow=3.6,SNR=6.8
WMQ Urumqi 113.89 308 *e*PKP **PKiKP 13 32 02.3 +0.6**
ZSN Zaisan 116.99 311 *e*PKP **PKPdf 13 32 06.0 -1.5**
baz=311
ZSN Zaisan 116.99 311 *e*PKIKP **PKPdf 13 32 06.0 -1.5**
MK31 Makanchi Array 118.47 310 *i* PKIKP **PKPdf 13 32 09.2 -1.2**
MKAR Makanchi Array 118.47 310 PKP **PKPdf 13 32 09.1 -1.3**
comp=Z,3.5nm,0.8s,baz=64,slow=2.5,SNR=34
MKAR PKKPbc PKKPab 13 42 43.2 +14
comp=Z,0.6nm,0.9s,baz=322,slow=3.7,SNR=4.5
MKAR Makanchi Array 118.47 310 PKIKP **PKPdf 13 32 09.5 -0.9**
MKAR Makanchi Array 118.47 310 PKPdf **PKPdf 13 32 09.5 -0.9**
MAKZ Makanchi 118.68 310 PKIKP **PKPdf 13 32 09.7 -1.1**
MAKZ Makanchi 118.68 310 PKPdf **PKPdf 13 32 09.7 -1.1**
ZALV Zalesovo Beam 118.89 318 PKP **PKPdf 13 32 09.4 -1.5**
comp=Z,1.0nm,0.5s,baz=110,slow=1.5,SNR=8.8
KPKS Kokpek 119.95 305 *e*PKP **PKPdf 13 32 12.0 -1.5**
baz=305
KPKS Kokpek 119.95 305 *e*PKIKP **PKPdf 13 32 11.9 -1.5**
SATY Saty 120.03 305 *e*PKP **PKPdf 13 32 12.3 -1.3**
baz=305
SATY Saty 120.03 305 *e*PKIKP **PKPdf 13 32 12.3 -1.3**
KSH Kashi 120.74 300 PKP **PKiKP 13 32 15.8 +0.5**
KSH PP PP 13 33 53.4 +9.4
KSH AMB AMB
comp=Z,41nm,5.4s
MDOK Medeo 121.01 304 *e*PKP **PKPdf 13 32 13.7 -1.9**
baz=304
MDOK Medeo 121.01 304 *e*PKIKP **PKPdf 13 32 13.6 -1.9**
TNSS Tian-Shan 121.05 304 *e*PKP **PKPdf 13 32 14.8 -1.2**
baz=304
TNSS Tian-Shan 121.05 304 *e*PKIKP **PKPdf 13 32 14.8 -1.2**
AAA Alma-Ata 121.12 304 *e*PKP **PKPdf 13 32 14.6 -1.1**
baz=304
AAA Alma-Ata 121.12 304 *e*PKIKP **PKPdf 13 32 14.5 -1.1**
KUU Kurty 121.70 305 *e*PKP **PKPdf 13 32 14.8 -2.0**
baz=305
KUU Kurty 121.70 305 *e*PKIKP **PKPdf 13 32 14.7 -2.0**
TKM2 Tokmak 2 121.97 304 P **PKPdf 13 32 16.7 -0.8**
SNR=7.1
KBK Karagaybulak 122.36 303 P **PKPdf 13 32 17.8 -0.4**
SNR=5.4
UCH Uchtor 122.56 303 P **PKPdf 13 32 18.7 -0.3**
SNR=10
AAK Ala-Archa 122.68 303 *c i*PKIKP **PKPdf 13 32 18.3 -0.5**
AAK pmax pmax
comp=Z,17nm,1.3s
USP Ospenovka 122.84 304 P **PKPdf 13 32 18.4 -0.6**
SNR=5.4
AML Almayashu 123.13 302 P **PKPdf 13 32 19.8 -0.2**
SNR=8.3
EKS2 Erkin-Say 123.20 303 P **PKPdf 13 32 19.3 -0.5**
SNR=6.5
BTLS Baital 123.58 306 *e*PKP **PKPdf 13 32 19.0 -1.3**
baz=306
BTLS Baital 123.58 306 *e*PKIKP **PKPdf 13 32 18.9 -1.3**
DZA Taraz 125.01 303 *e*PKP **PKPdf 13 32 21.8 -1.3**
baz=303
DZA Taraz 125.01 303 *e*PKIKP **PKPdf 13 32 21.8 -1.3**
IUG Iuzhnay 125.78 302 *e*PKP **PKPdf 13 32 23.7 -1.1**
baz=302
IUG Iuzhnay 125.78 302 *e*PKIKP **PKPdf 13 32 23.6 -1.1**
BRVK Borovoye 127.28 315 PKIKP **PKiKP 13 32 27.6 0.0**
BRVK Borovoye 127.28 315 PKPdf **PKiKP 13 32 27.6 0.0**
DAG Danmarks Havn 133.86 6 *i* P **PKPdf 13 32 37.8 -1.1**
DAG Danmarks Havn 133.86 6 *i* PKIKP **PKPdf 13 32 37.8 -1.1**
DAG Danmarks Havn 133.86 6 *i* P **PKPdf 13 32 37.8 -1.1**
GEYT Alibeck 133.94 294 PKP **PKPdf 13 32 40.3 +0.1**
comp=Z,3.2nm,0.8s,baz=318,slow=2.0,SNR=5.6
ARU Arti 133.98 320 *i* PKIKP **PKPdf 13 32 39.1 -0.5**
SUMG Summit 134.01 16 *i* P **PKiKP 13 32 41.9 +0.8**
SUMG Summit 134.01 16 *i* PKIKP **PKiKP 13 32 41.9 +0.8**
SUMG Summit 134.01 16 *i* P **PKiKP 13 32 41.9 +0.8**
ARCES ARCESS Array B 139.83 347 PKhKP PKPpre 13 32 43.5
comp=Z,2.2nm,0.7s,baz=40,slow=2.0,SNR=16
BELG Belogornoye 141.01 316 *i* PKIKP **PKPdf 13 32 52.3 -0.4**
BELG pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 141.82 331 *e*PKIKP **PKPdf 13 32 51.6 -2.3**
KLMR pmax pmax
comp=Z,23nm,1.4s
KLMR Klimovskoe 141.82 331 *e*PKPdf **PKPdf 13 32 51.7 -2.2**
KLMR AMP 13 32 59.2
comp=Z,23nm,1.4s
VRH Novokhopyorsk 144.86 315 *e*PKIKP **PKPab 13 32 56.5 -2.2**
VRH pmax pmax
comp=Z,20nm,0.8s
ZEI Tsey 145.03 301 *i* PKIKP **PKPbc 13 32 58.4 -1.5**
ZEI pmax pmax
comp=Z,17nm,1.0s
MOS Moscow 145.30 324 *i* PKP2 **PKPbc 13 32 58.0 -2.0**
MOS pmax pmax
comp=Z,49nm,1.0s
GOF Gofitskoye 145.40 305⇑ *e*PKIKP **PKPbc 13 33 00.4 -0.3**
GOF pmax pmax
comp=Z,39nm,0.8s
KBZ Khabaz 145.67 302 PKPbc **PKPdf 13 33 01.0 -0.2**
comp=Z,11nm,1.0s,baz=90,slow=2.2,SNR=16
KIV Kislovodsk 145.80 303 *i* PKP2 **PKPdf 13 33 01.0 -0.6**
KIV pmax pmax
comp=Z,37nm,1.1s
LPSR Galich'ya Gora 145.99 319 *e*PKIKP **PKPdf 13 33 00.7 -0.8**
LPSR pmax pmax
comp=Z,50nm,0.8s
PUL Pulkovo 146.10 334 *c i*PKP2 **PKPbc 13 33 02.0 -0.4**
PUL pmax pmax
comp=Z,150nm,0.7s
OBN Obninsk 146.13 324 *d i*PKP2 **PKPdf 13 33 01.8 +0.2**
OBN *e* 13 36 26.6
OBN *e*PPP PPP 13 39 48.1
OBN pmax pmax
comp=Z,46nm,1.0s
FIA1 FINESS Array S 146.31 339 PKPdf **PKPdf 13 33 02.1 +0.3**
FINES FINESS Array B 146.31 339 PKPbc **PKPdf 13 33 01.7 0.0**
comp=Z,48nm,0.8s,baz=64,slow=4.4,SNR=86
FINES FINESS Array B 146.31 339 PKPdf **PKPbc 13 33 02.1 -0.8**
VSR Storozhevoye 146.37 316 *e*PKP2 **PKPdf 13 33 01.8 -0.4**
VSR pmax pmax
comp=Z,40nm,1.2s
VORD Divnogorie 146.38 316 *e*PKIKP **PKPdf 13 33 01.7 -0.5**
VORD pmax pmax
comp=Z,40nm,1.4s
AAL Aland 149.06 342 *e*P **PKPbc 13 33 09.2 -1.2**
MTSE Matsula 149.15 338 *e*P **PKPbc 13 33 10.4 -0.2**
ANN Anapa 149.36 305 *i* PKP2 **PKPbc 13 33 11.3 -0.4**
ANN pmax pmax
comp=Z,45nm,1.0s
UPP Uppsala 149.93 344 *e*P **PKPbc 13 33 10.3 -2.3**
NB2 NORSAR Subarra 150.01 351 PKP **PKPbc 13 33 12.3 -0.6**
comp=Z,241nm,3.3s,baz=17,slow=2.6
NB2 NORSAR Subarra 150.01 351 PKP **PKPbc 13 33 12.3 -0.6**
baz=17,slow=2.6
NOA NORSAR Array B 150.01 351 PKPbc **PKPbc 13 33 11.8 -1.0**
comp=Z,14nm,0.8s,baz=14,slow=4.2,SNR=32
IDID Didziasalis 150.57 331 *e*P **PKPbc 13 33 14.2 -0.1**
MNK Minsk 150.61 328 *i* PKP **PKPdf 13 33 09.2 +0.3**
comp=E,4.0nm,1.1s
MNK *i* PKP **PKPdf 13 33 09.2 +0.3**
comp=N,27nm,0.7s
MNK *i* PKP **PKPdf 13 33 09.2 +0.3**
comp=Z,66nm,1.0s
MNK *i* PP **PP 13 36 52.3 +1.4**
MNK *i* PPP PPP 13 40 25.6
MNK *i* SKS SKSdf 13 40 27.9 +14
MNK *i* SKKS **SKKSdf 13 49 07.8 +1.7**
MNK *i* SS **SS 13 56 13.9 +5.7**
MNK *i* SSS SSS 14 01 55.8
MNK *i* LR LR 14 36 58.0
MNK *i* LRM MLR 14 39 06.4
comp=Z,64nm,15.4s
MNK *i* LRM MLR 14 39 18.7
comp=N,85nm,13.8s
MNK *i* LRM MLR 14 39 28.7
comp=E,9.0nm,13.8s
ISAL Salakas 150.64 331 *e*P **PKPbc 13 33 13.8 -0.7**
IIGN Ignalina 150.76 331 *e*P **PKiKP 13 33 14.8 -0.6**
NACGM Naroch 150.83 330 *i* PKP **PKPbc 13 33 13.7 -1.2**
NACGM *i* PKP **PKPbc 13 33 13.7 -1.2**
NACGM *i* PKP **PKPbc 13 33 13.7 -1.2**
NACGM *i* PPP PPP 13 39 02.9
NACGM *i* SKS SKSdf 13 40 33.5 +19
NACGM *i* SKKS SKKSac 13 42 41.9 -58
NACGM *i* PS 13 46 05.9
NACGM *i* SS SS 13 56 44.9 +34
NACGM *i* SSS SSS 14 02 26.1
NACGM *i* LR LR 14 17 10.8
PABE Paberze 151.54 333 *e*P **PKPbc 13 33 16.4 -0.1**
KONO Kongsberg 151.57 352 PKIKP **PKiKP 13 33 16.5 -0.4**
KONO Kongsberg 151.57 352 **PKiKP 13 33 16.5 -0.4**
PBUR Paburge 151.90 336 *e*P **PKPbc 13 33 16.9 -0.4**
AKASG Malin Array Be 152.22 321 PKP **PKPdf 13 33 10.2 -1.3**
comp=E,0.3nm,0.2s,baz=64,slow=2.2,SNR=5.2
AKASG PKPbc **PKPbc 13 33 16.5 -1.7**
comp=E,20nm,0.9s,baz=44,slow=3.0,SNR=28
SUW Suwalki 152.95 332 *e*P **PKiKP 13 33 19.6 -0.3**
BRTR Keskin Array B 153.04 296 PKP **PKPdf 13 33 11.9 -1.4**
comp=E,1.0nm,0.9s,baz=324,slow=23,SNR=4.2
BRTR PKPbc **PKPbc 13 33 19.8 -0.9**
comp=E,5.1nm,0.7s,baz=130,slow=4.2,SNR=24
HOMB Homborsund 153.05 352 *i* P **PKiKP 13 33 20.7 +0.7**
SNART Snartemo 153.12 354 *e*P **PKPbc 13 33 19.6 -0.4**
LIC Lamto 153.85 164 *e*PKIKP **PKiKP 13 33 23.0 -0.1**
comp=E,30nm,1.2s
KIC Kosan Boka 154.05 165 *e*PKIKP **PKiKP 13 33 23.5 0.0**
comp=E,18nm,1.0s
TIC Toumodi 154.26 164 *e*PKIKP **PKPbc 13 33 23.7 -0.2**
DBIC Dimbokro 154.32 165 PKPbc **PKPbc 13 33 23.6 -0.4**
comp=E,3.6nm,0.7s,baz=174,slow=5.7,SNR=3.9
KOLS Kolonicke sedl 156.88 324 *e*PKP2 **PKPab 13 33 50.3 +2.2**
KOLS Kolonicke sedl 156.88 324 *e*PKP **PKPab 13 33 50.3 +2.2**
UZH Uzhgorod 157.07 323 *e*PKIKP PKPdf 13 33 29.7 +11
UZH *e* 13 33 40.9
UZH *e* 13 33 44.3
CRVS Cervenica-Dubn 157.31 325 *e*PKP2 **PKPab 13 33 49.1 -0.8**
CRVS Cervenica-Dubn 157.31 325 *e*PKP **PKPab 13 33 49.1 -0.8**
FLTG Flechtingen 158.27 344 *e*PKPab **PKPab 13 33 52.4 -1.4**
baz=25,slow=4.5
DPC Dobruska-Polom 158.46 334 *e*PKP2 **PKPab 13 33 53.6 -1.3**
DPC Dobruska-Polom 158.46 334 *e*PKPAB **PKPab 13 33 53.6 -1.3**
CLL Collm 158.74 340 *e*PKPdf **PKPdf 13 33 23.0 +2.7**
CLL *e*PKPdiff **sPKPdf 13 33 36.0 +2.3**
CLL *i* 13 33 46.2
CLL *i* PKPab **PKPab 13 33 54.4 -1.6**
comp=Z,25nm,1.6s
CLL *i* 13 34 03.0
CLL LmV 14 50 00.0
comp=Z,100nm,18.7s
CLL Collm 158.74 340 *e*PKIKP **PKPdf 13 33 23.0 +2.7**
CLL *e* 13 33 36.0
CLL *i* 13 33 54.4
CLL pmax pmax
comp=Z,25nm,1.6s
BRG Berggiesshubel 158.84 338 *ex* x 13 33 30.7
BRG Amp 13 33 37.8
comp=Z,3.9nm,1.0s
BRG *i* x x 13 34 01.0
BRG Amp 13 34 01.8
comp=Z,6.7nm,0.9s
BRG *ex* x 13 34 10.0
BRG Amp 13 34 11.4
comp=Z,12nm,1.1s
VYHS Vyhne 158.84 327 *e*PKP2 **PKPab 13 33 55.0 -1.6**
VYHS Vyhne 158.84 327 *e*PKP **PKPab 13 33 55.0 -1.6**
CLZ Clausthal 158.92 345 *e*PKPab **PKPab 13 33 55.4 -1.4**
baz=25,slow=4.5
IBBN Ibbenburen 158.96 350 *e*PKPab **PKPab 13 33 56.0 -0.8**
baz=25,slow=4.5
GTTG Gottingen 159.29 345 *e*PKPab **PKPab 13 33 57.6 -0.7**
baz=25,slow=4.5
MODS Modra-Piesok 159.63 329 *e*PKP2 **PKPab 13 33 59.5 -0.5**
MODS Modra-Piesok 159.63 329 *e*PKP **PKPab 13 33 59.5 -0.5**
TANN Tannenbergstha 159.69 340 *e*PKPab **PKPab 13 33 58.2 -2.0**
baz=25,slow=4.5
WERN Wernitzgruen 159.83 340 *e*PKPab **PKPab 13 33 59.9 -0.9**
baz=25,slow=4.5
KHC Kasperske Hory 160.46 336 *e*PKIKP **PKPdf 13 33 20.0 -2.4**
KHC *e* 13 34 02.5
KHC Kasperske Hory 160.46 336 *e*PKPDF **PKPdf 13 33 20.0 -2.4**
KHC *e*PKPAB **PKPab 13 34 02.5 -1.1**
GERES GERESS Array B 160.66 336 PKP **PKPdf 13 33 25.0 +2.3**
comp=Z,0.2nm,0.3s,baz=336,slow=2.2,SNR=2.0
GERES PKPab **PKPab 13 34 02.8 -1.8**
comp=Z,0.8nm,0.6s,baz=55,slow=5.1,SNR=4.9
TORD Torodi Ar. Bea 161.52 180 PKP **PKPdf 13 33 27.1 +2.5**
comp=Z,0.5nm,0.6s,baz=337,slow=1.0,SNR=2.1
TORD PKPab **PKPab 13 34 09.4 +0.5**
comp=Z,3.0nm,0.7s,baz=179,slow=3.3,SNR=8.8
TORD PP **PP 13 37 58.5 +7.5**
comp=Z,1.2nm,0.9s,baz=121,slow=6.9,SNR=3.6
RETA Reutte 162.81 339 *e*P **PKPab 13 34 13.4 -0.6**
comp=Z,8.2nm,1.2s
MOTA Moosalm 162.83 338 *e*P **PKPab 13 34 13.4 -0.8**
comp=Z,11nm,1.5s
SQTA Sankt Quirin 162.91 338 *i* P **PKPab 13 34 13.7 -0.8**
comp=Z,4.5nm,0.7s
FETA Feichten 163.24 338 *e*P **PKPab 13 34 15.0 -0.9**
comp=Z,3.7nm,0.9s
DAVA Damuels 163.25 341 *i* P **PKPab 13 34 15.2 -0.7**
comp=Z,12nm,1.3s
ESDC Sonseca Array 170.78 29 PKP **PKPdf 13 33 33.2 +2.0**
comp=Z,0.9nm,1.0s,baz=36,slow=2.1,SNR=2.5
ESDC PKPab **PKPab 13 34 50.6 +1.3**
comp=Z,1.0nm,0.8s,baz=317,slow=3.8,SNR=4.7

NEIC ***21*** *13:44:21.9±2.3, 13.7°N±0.1°×90.99°W±0.09, h85km±18km, mb4.3/8, Md4.4(SNET), Error ellipse: s-maj=17.0km s-min=10.6km az=205.0*
SNET ***21*** *13:44:22.6±1.0, 13.75°N×90.90°W, h19km±5km, ML4.4*
GCG ***21*** *13:44:22.0±0.7, 13.58°N×90.73°W, h10km±20km, MD4.2*
IDC ***21*** *13:44:22.6±2.2, 13.67°N×91.10°W, h52km±21km, mb3.2/3, mb1 3.8/7, mb1mx3.5/41, mbtmp3.8/7, ML4.2/4, MS3.0/3, Ms1 3.0/3, ms1mx2.8/18, Error ellipse: s-maj=16.4km s-min=13.5km az=38.0*
INET ***21*** *13:44:23.6, 13.96°N×90.84°W, h15km, MW3.7*
UCR ***21*** *13:44:43.5±2.9, 12.72°N×89.59°W, h0km±999km, MW4.1, mb4.3(NEIC)*

ISC 21 13:44:22.1±0.9, 13.71°N±0.07×91.04°W±0.06, h64km±9km, n67, σ1.964/80, mb3.6/4, 5C-1 D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.76**	**15**	*e*P	**Pn**	**13 44 37.2**	**-0.3**
FUG				*e*S	**Sn**	**13 44 51.6**	**+2.9**
PCG	**Pacaya**	**0.80**	**32**	*e*P	**Pn**	**13 44 37.7**	**-0.3**
PCG				*e*S	**Sn**	**13 44 50.8**	**+1.1**
NBG	**Las Nubes**	**1.10**	**38**	*e*P	**Pn**	**13 44 42.7**	**+0.8**
NBG				*e*S	**Sn**	**13 44 57.9**	**+1.3**
RTR	**El Retiro**	**1.37**	**82**	*e*P	**Pn**	**13 44 45.0**	**-0.3**
CEVE	**Cerro Verde**	**1.38**	**85**	*e*P	**Pn**	**13 44 44.9**	**-0.7**
CEVE				*e*S	**Sn**	**13 45 03.3**	**+0.2**
SBLS	**San Blas**	**1.38**	**85**⇑	*e*P	**Pn**	**13 44 44.9**	**-0.7**
SBLS				*e*S	**Sn**	**13 45 02.2**	**-0.9**
APG	**El Apazote**	**1.40**	**23**	P	**Pn**	**13 44 46.3**	**+0.5**
	48nm,0.3s,baz=180,slow=6.5,SNR=362						
APG				S	**Sn**	**13 45 05.1**	**+1.5**
	77nm,0.3s,baz=136,slow=20,SNR=31						
SNJE	**San Jose**	**1.40**	**83**	*e*P	**Pn**	**13 44 45.3**	**-0.5**
SNJE				*e*S	**Sn**	**13 45 03.9**	**+0.3**
JAYA	**Jayaque - finc**	**1.55**	**92**⇓	*e*P	**Pn**	**13 44 46.6**	**-1.1**
JAYA				IAML		13 45 08.7	
	comp=Z,10μm,0.3s						
TACO	**Tacachico**	**1.66**	**81**	*e*P	**Pn**	**13 44 48.7**	**-0.3**
LALI	**Alcalda de L**	**1.69**	**97**⇑	*i*P	**Pn**	**13 44 48.9**	**-0.5**
LALI				*e*S	**Sn**	**13 45 09.0**	**-1.0**
BOQS	**Boqueron**	**1.71**	**89**⇑	*e*P	**Pn**	**13 44 49.8**	**-0.2**
UEES	**Universidad Ev**	**1.75**	**90**	*e*P	**Pn**	**13 44 50.5**	**+0.2**
UEES				IAML		13 45 21.6	
	comp=Z,3μm,0.2s						
SNET	**Serv Nac Est T**	**1.76**	**91**	*e*P	**Pn**	**13 44 50.1**	**-0.3**
SNET				*e*S	**Sn**	**13 45 11.9**	**0.0**
SNET				IAML		13 45 17.1	
	comp=Z,4μm,0.3s						
SNET	**Serv Nac Est T**	**1.76**	**91**		**Pn**	**13 44 50.2**	**-0.3**
MTO3	**Montecristo**	**1.77**	**67**⇑	*i*P	**Pn**	**13 44 50.3**	**-0.4**
MTO3	**Montecristo**	**1.77**	**67**		**Pn**	**13 44 50.5**	**-0.3**
MRL	**Marmol**	**1.89**	**44**	*e*P	**Pn**	**13 44 53.6**	**+1.2**
LFRS	**El Faro**	**1.92**	**92**⇑	*i*P	**Pn**	**13 44 52.8**	**0.0**
LBRS	**Las Brisas**	**1.94**	**89**	*e*P	**Pn**	**13 44 53.4**	**+0.5**
COEG	**Centro de Oper**	**2.10**	**92**	*e*P	**Pn**	**13 44 55.5**	**+0.4**
COEG				IAML		13 45 30.2	
	comp=Z,2μm,0.6s						
PQSS	**Presa 15 de Se**	**2.41**	**92**	*e*P	**Pn**	**13 44 59.3**	**0.0**
COEB	**Comit de Eme**	**2.45**	**95**	*e*P	**Pn**	**13 45 00.1**	**+0.2**
COEB				IAML		13 45 37.3	
	comp=Z,2μm,0.3s						
TECA	**Tecapa**	**2.48**	**95**	*e*P	**Pn**	**13 45 00.7**	**+0.3**
CCIG	**Comitan**	**2.77**	**338**		**Pn**	**13 45 05.4**	**+1.1**
LCND	**La Caada**	**3.09**	**97**	*e*P	**Pn**	**13 45 08.7**	**+0.2**
CNCH	**Conchagua**	**3.15**	**98**	*e*P	**Pn**	**13 45 09.5**	**0.0**
TGUH	**Tegucigalpa,Un**	**3.67**	**84**		**Pn**	**13 45 15.6**	**-1.1**
CRIN	**San Cristobal**	**4.01**	**104**		**Pn**	**13 45 20.1**	**-1.1**
CMIG	**Matias Romero**	**5.00**	**313**	P	**Pn**	**13 45 35.1**	**+0.4**
	comp=Z,10.0nm,0.3s,baz=123,slow=8.8,SNR=30						
CMIG				S	**Sn**	**13 46 30.9**	**-0.4**
	comp=Z,10nm,0.3s,baz=74,slow=13,SNR=4.3						
CMIG				LR	LR	13 46 58.4	
	comp=Z,56nm,20.0s,baz=98,slow=31						
BOAB	**BOACO BROADBAN**	**6.38**	**103**		**Pn**	**13 45 39.1**	**-0.8**
ACON	**Acoyapa**	**5.98**	**106**	*e*P	**Pn**	**13 45 51.4**	**+3.3**
ACON	**Acoyapa**	**5.98**	**106**		**Pn**	**13 45 47.3**	**-0.8**
SAJU	**San Juanillo,**	**6.35**	**124**	*e*P	**Pn**	**13 45 54.4**	**+1.3**
ORTG	**Ortega, Santa**	**6.39**	**121**	*e*P	**Pn**	**13 45 55.6**	**+1.8**
ORTG	**Ortega, Santa**	**6.39**	**121**		**Pn**	**13 45 54.4**	**+0.6**
PLVR	**Palo Verde**	**6.49**	**120**	*e*P	**Pn**	**13 45 55.9**	**+0.6**
CUI	**Cuipilapa**	**6.50**	**117**	*e*P	**Pn**	**13 45 55.9**	**+0.6**
GRZA	**Playa Garza**	**6.50**	**125**	*e*P	**Pn**	**13 45 56.6**	**+1.4**
INDI	**Punta indio, G**	**6.63**	**125**	*e*P	**Pn**	**13 45 58.5**	**+1.4**
JTS	**Las Juntas de**	**6.86**	**119**	P	**Pn**	**13 46 02.1**	**+1.9**
	comp=Z,3.2nm,0.3s,baz=16,slow=20,SNR=6.2						
JTS				S	**Sn**	**13 47 18.1**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=1.9,slow=22,SNR=1.3						
JTS				LR	LR	13 48 42.6	
	comp=Z,90nm,21.6s,baz=356,slow=38						
JTS	**Las Juntas de**	**6.86**	**119**	*e*P	**Pn**	**13 46 02.3**	**+2.2**
JTS	**Las Juntas de**	**6.86**	**119**		**Pn**	**13 46 01.5**	**+1.4**
TEIG	**Tepich**	**7.00**	**22**	P	**Pn**	**13 46 03.5**	**+1.5**
	comp=Z,5.7nm,0.3s,baz=144,slow=0.6,SNR=24						
TEIG	**Tepich**	**7.00**	**22**	Pn	**Pn**	**13 46 03.1**	**+1.1**
LAFE	**Finca La Fe, P**	**7.14**	**122**	*e*P	**Pn**	**13 46 05.4**	**+1.3**
JACO	**JACO, Garabito**	**7.43**	**122**	*e*P	**Pn**	**13 46 11.4**	**+3.4**
LCR2	**La Lucha 2**	**7.94**	**119**	*e*P	**Pn**	**13 46 19.6**	**+4.5**
RIMA	**Rio Macho**	**8.04**	**118**	*e*P	**Pn**	**13 46 18.5**	**+1.9**
TLIG	**Tlapa**	**8.20**	**299**		**Pn**	**13 46 18.6**	**0.0**
CDM	**Cerro de Muert**	**8.24**	**119**	*e*P	**Pn**	**13 46 22.6**	**+3.2**
BCIP	**Isla Barro Col**	**11.87**	**111**	Pn	**Pn**	**13 47 07.7**	**-1.0**
MTDJ	**Mount Denham**	**13.74**	**69**	Pn	**Pn**	**13 47 33.3**	**-0.8**
061Z	**Ochoppi**	**15.39**	**37**		**Pn**	**13 47 55.6**	**+0.2**
WHTX	**Lake Whitney,**	**19.12**	**343**	P	**P**	**13 48 36.2**	**-3.8**
WHTX				IAmb	IAmb	13 48 54.6	
	comp=Z,7.9nm,0.5s						
TXAR	**Lajitas Array**	**19.46**	**325**	P	**P**	**13 48 45.9**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=151,slow=12,SNR=14						
TXAR	**Lajitas Array**	**19.46**	**325**	P	**P**	**13 48 39.8**	**-4.0**
TX31	**Lajitas Ar. Si**	**19.46**	**325**	P	**P**	**13 48 40.2**	**-3.7**
TX31				IAmb	IAmb	13 48 53.4	
	comp=Z,33nm,1.8s						
TX32	**Lajitas Array**	**19.46**	**325**	P	**P**	**13 48 41.1**	**-2.8**
Z47A	**Carrollton**	**19.59**	**7**	P	**P**	**13 48 42.5**	**-2.5**
Z47A				IAmb	IAmb	13 49 06.8	
	comp=Z,50nm,1.9s						
WLAR	**White Oak Lake**	**19.98**	**355**	P	**P**	**13 48 45.8**	**-3.5**
MNTX	**Cornudas Mount**	**22.22**	**326**	P	**P**	**13 49 14.3**	**+0.8**
ANMO	**Albuquerque**	**25.32**	**329**	P	**P**	**13 49 44.9**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=170,slow=10,SNR=3.6						
ANMO				LR	LR	14 02 27.3	
	comp=Z,141nm,19.7s,baz=216,slow=43						
MTPU	**Mount Pierson**	**30.66**	**326**	P	**P**	**13 50 32.4**	**+1.3**
MTPU				IAmb	IAmb	13 50 35.5	
	comp=Z,2.3nm,0.8s						
NVAR	**Mina Array Bea**	**34.48**	**321**	P	**P**	**13 51 07.2**	**+2.8**
	comp=Z,1.3nm,0.9s,baz=134,slow=8.4,SNR=8.6						
NVAR				pP	**pP**	**13 51 21.1**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=138,slow=9.5,SNR=6.0						
YKA	**Yellowknife Ar**	**51.52**	**346**	P	**P**	**13 53 21.2**	**0.0**
	comp=Z,0.1nm,0.5s,baz=141,slow=8.7,SNR=2.4						
YKA				pP	**pP**	**13 53 36.0**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=143,slow=8.7,SNR=5.7						
CMAR	**Chiang Mai Arr**	**146.56**	**343**	PKPbc	**PKPbc**	**14 03 58.3**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=348,slow=3.8,SNR=1.9						

IDC 21 13:49:32.5±2.9, 32.81°S×178.66°W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.6/24, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=70.3km s-min=36.5km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.43**	**211**

ellipse: s-maj=0.0km s-min=0.0km az=0.0

ISC 21 14:14:17.9±1.0, 63°06'N±0°05×58°15'E±0°08, h10km, n20, σ2s79/28, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVUR	Severouralsk	3.00	162	*i* P	Pn	14 15 07.0	+1.6
SVUR				*i* S	Sn	14 15 40.6	-0.9
	364nm,0.2s						
SVUR	Severouralsk	3.00	162	*e*Pn	Pn	14 15 06.8	+1.4
SVUR				*e*Sn	Sn	14 15 40.6	-0.9
PR1R	Pomanovo	3.95	191	*i* P	Pn	14 15 18.1	-0.3
PR1R				*i* S	Sn	14 15 42.1	-23
	68nm,0.2s						
PR1R	Pomanovo	3.95	191	*e*Pn	Pn	14 15 18.2	-0.3
PR1R				*e*Sn	Sn	14 16 00.4	-4.3
PR7R	Sarany	4.54	176	*i* P	Pb	14 15 38.0	+0.5
PR7R				*i* S	Sn	14 16 14.8	-4.5
	83nm,0.7s						
PR7R	Sarany	4.54	176	*e*Pn	Pn	14 15 28.5	+2.0
PR7R				*e*Sn	Sn	14 16 20.6	+1.4
PR0R	Verkhnechusovs	4.90	186	*i* P	Pn	14 15 30.2	-1.4
PR0R				*i* S	Sn	14 16 05.1	-23
	24nm,0.3s						
PR0R	Verkhnechusovs	4.90	186	*e*Pn	Pn	14 15 30.2	-1.3
PR0R				*e*Sn	Sn	14 16 24.4	-3.9
PR4R	Vlasy	5.31	194	*i* P	Pb	14 15 54.3	+3.7
PR4R				*i* S	Sn	14 16 29.7	-8.5
	64nm,0.2s						
PR4R	Vlasy	5.31	194	Pn	Pn	14 15 38.5	+1.4
PR4R				*e*Sn	Sn	14 16 39.7	+1.5
PR3R	Kungur	5.67	186	*i* P	Pb	14 16 00.2	+3.5
PR3R				*i* S	Sn	14 16 42.4	-4.7
	56nm,0.6s						
PR3R	Kungur	5.67	186	*i* Pn	Pn	14 15 43.6	+1.6
PR3R				*i* Sn	Sn	14 16 48.4	+1.4
LSH	Leshukonskoye	5.76	294	*e*Pn	Pn	14 15 45.5	+2.2
	19nm,2.8s						
LSH				*e*Sn	Sn	14 16 51.7	+2.4
SVE	Sverdlovsk	6.38	168	*i* P	Pn	14 16 02.9	+11
SVE				*i* S	Sn	14 17 01.4	-3.2
ARU	Arti	6.66	178	*i* P	Pn	14 15 56.5	+0.8
ARU				*i* S	Sn	14 16 52.5	-19
	20nm,3.0s						
ARU	Arti	6.66	178	Pn	Pn	14 15 55.7	+0.1
ARU				*e*Sn	Sn	14 17 05.3	-6.1
KAUR	Kamensk Uralsk	6.86	164	*i* P	Pn	14 16 06.1	+7.7
KAUR				*i* S	Sn	14 17 11.2	-5.3
	38nm,0.5s						
KAUR	Kamensk Uralsk	6.86	164	*e*Pn	Pn	14 15 56.2	-2.3
KAUR				*e*Sn	Sn	14 17 10.0	-6.4
AMDE	Amderma	6.88	10	*e*Pn	Pn	14 15 58.8	+0.2
	2.1nm,1.1s						
AMDE				*e*Sn	Sn	14 17 14.7	-2.0
	8.4nm,0.2s						
KLMR	Klimovskoe	9.04	264	*e*Pn	Pn	14 16 26.7	-1.6
	27nm,1.9s						
KLMR				*e*Sn	Sn	14 18 05.6	-4.4

IDC 21 14:19:42.7±1.5, 1°90'N×126°73'E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/47, mbtmp3.3/4, Error ellipse: s-maj=149.3km s-min=21.7km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.95	161	P	P	14 24 48.8	-0.1
	0.4nm,0.4s,baz=341,slow=11,SNR=11						
ASAR	Alice Springs	26.35	165	P	P	14 25 21.1	+0.3
	0.2nm,0.5s,baz=345,slow=12,SNR=5.7						
SONM	Songino Array	49.03	342	P	P	14 28 31.9	+0.3
	0.1nm,0.4s,baz=146,slow=8.7,SNR=1.6						
MKAR	Makanchi Array	59.06	326	P	P	14 29 44.4	-0.4
	0.2nm,0.3s,baz=119,slow=7.1,SNR=8.8						

IDC 21 14:25:09.5±0.9, 2°95S×129°73E, h0km, mb3.7/5, mb1 4.1/8, mb1mx3.7/41, mbtmp3.9/8, ML3.8/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/35, Error ellipse: s-maj=32.5km s-min=11.6km az=80.0

DJA 21 14:25:15.7±0.8, 3°S±6°×13°0E±°, h85km±28km, M4.0/7, mb4.3/1, mB4.6/1, MLv3.8/7, Mw(mB)3.8/1

ISC 21 14:25:14.3±0.8, 2°87S±0°06×129°66E±0°08, h28km, n15, σ1s02/17, mb3.9/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.66	171	P	Pb	14 25 45.6	+1.4
SIJI	Sorong	2.56	39	Pn	Pn	14 25 53.9	-0.1
	43nm,0.3s,baz=259,slow=23,SNR=328						
SIJI				Sn	Sn	14 26 24.6	+0.4
	19nm,0.3s,baz=312,slow=22,SNR=7.0						
SWI	Sorong	2.56	39	P	Pn	14 25 53.9	0.0
NLAI	Namlea	2.58	262	P	Pn	14 25 55.7	+1.5
FAKI	Fak Fak	2.59	91	P	Pn	14 25 55.5	+1.1
SANI	Sanana	3.75	282	P	Pn	14 26 10.0	-0.4
APSI	Ampana	8.24	284	P	Pn	14 27 12.2	+0.2
KAPI	Kappang	10.11	258	LR	LR	14 32 23.3	
	comp=Z,81nm,18.2s,baz=53,slow=43						
FITZ	Fitzroy Crossi	15.64	194	Pn	Pn	14 28 51.9	-1.0
	0.1nm,0.3s,baz=61,slow=7.7,SNR=2.0						
WRA	Warramunga Arr	17.57	165	P	Pn	14 29 15.3	-2.1
	0.5nm,0.3s,baz=347,slow=12,SNR=15						
WRA				S	Sn	14 32 30.6	-1.8
	0.1nm,0.3s,baz=346,slow=23,SNR=1.8						
ASAR	Alice Springs	21.08	169	P	P	14 29 56.4	-0.2
	5.5nm,0.7s,baz=348,slow=9.5,SNR=68						
ASAR				S	S	14 33 49.5	-0.4
	0.6nm,0.8s,baz=350,slow=20,SNR=4.2						
SONM	Songino Array	54.45	341	P	P	14 34 39.4	+0.1
	0.2nm,0.7s,baz=125,slow=5.6,SNR=1.7						
MKAR	Makanchi Array	64.62	326	P	P	14 35 49.1	-0.3
	0.3nm,0.4s,baz=112,slow=8.0,SNR=9.2						
ZALV	Zalesovo Beam	67.76	333	P	P	14 36 09.8	+0.5
	0.4nm,0.4s,baz=122,slow=5.2,SNR=3.8						
KURBB	Kurchatov Arra	68.84	328	P	P	14 36 16.4	+0.3
	1.0nm,0.6s,baz=127,slow=5.7,SNR=16						

IDC 21 14:41:11.3±2.9, 6°82S×155°57E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/29, mbtmp4.0/7, MS3.3/3, Ms1 3.3/3, ms1mx2.8/32, Error ellipse: s-maj=76.4km s-min=26.3km az=116.0

ISC 21 14:41:18.3±2.9, 6°9S±0°3×155°5E±0°5, h50km, n16, σ0s83/7, mb4.0/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.09	121	LR	LR	14 44 34.0	
	comp=Z,296nm,19.6s,baz=258,slow=40						
PMG	Port Moresby	8.65	252	LR	LR	14 46 24.1	
	comp=Z,154nm,20.5s,baz=66,slow=36						
WRA	Warramunga Arr	24.32	236	P	P	14 46 31.9	+0.4
	3.4nm,0.7s,baz=60,slow=9.8,SNR=20						
MSVF	Nonsavu	24.50	118	LR	LR	14 56 42.9	
	comp=Z,99nm,18.7s,baz=206,slow=38						
SIJI	Sorong	24.90	283	P	P	14 46 36.4	-0.5
	8.4nm,0.7s,baz=119,slow=13,SNR=3.3						
ASAR	Alice Springs	26.65	229	P	P	14 46 52.5	-0.2
	0.8nm,0.5s,baz=61,slow=9.2,SNR=7.1						
H11S3	WAKE ISLAND Hy	27.50	23	T	T	15 15 22.9	
	baz=203,slow=76,SNR=26						
H11S2	WAKE ISLAND Hy	27.50	24	T	T	15 15 17.0	
	baz=203,slow=76,SNR=24						
H11S1	WAKE ISLAND Hy	27.51	23	T	T	15 15 18.0	
	baz=203,slow=76,SNR=18						
H11N1	WAKE ISLAND Hy	28.68	23	T	T	15 16 50.9	
	baz=211,slow=74,SNR=3.9						
H11N3	WAKE ISLAND Hy	28.69	23	T	T	15 16 50.1	
	baz=211,slow=74,SNR=4.9						
H11N2	WAKE ISLAND Hy	28.70	23	T	T	15 17 10.4	
	baz=211						
PETK	Petropavlovsk-	59.76	2	P	P	14 51 18.3	+0.3
	1.8nm,0.8s,baz=186,slow=12,SNR=3.2						
CMAR	Chiang Mai Arr	61.19	295	P	P	14 51 29.3	+0.9
	1.9nm,0.8s,baz=118,slow=5.6,SNR=11						
SONM	Songino Array	69.49	327	P	P	14 52 22.0	+0.2
	0.9nm,0.8s,baz=133,slow=5.5,SNR=6.6						
MKAR	Makanchi Array	83.64	319	P	P	14 53 40.5	-1.2
	0.4nm,0.8s,baz=101,slow=6.5,SNR=4.6						

NEIC 21 14:53:57.5±2.2, 1°27N±0°07×98°13E±0°07, h25km±7km, mb4.7/23, Error ellipse: s-maj=12.0km s-min=8.1km az=224.0

IDC 21 14:53:57.7±0.5, 1°30N×98°13E, h27km±3km, mb4.1/31, mb1 4.2/33, mb1mx4.0/60, mbtmp4.3/33, ML4.1/2, MS3.7/4, Ms1 3.7/4, ms1mx3.2/36, Error ellipse: s-maj=15.0km s-min=10.8km az=55.0

DJA 21 14:53:58.9±0.5, 1°N±3°×9°8E±°, h27km±6km, M4.6/23, mb4.7/23, mB4.9/7, MLv4.8/15, Mw(mB)4.2/7, MwMwp5.6/1, Mwp5.8/1

KLM 21 14:54:00, 1°35N×97°95E, h40km, mb4.6

ISC 21 14:53:57.7±0.5, 1°32N±0°05×98°17E±0°04, h25km±3km, n161, σ1s64/157, mb4.5/62, MS3.9/4, 2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.59	269		Pb	14 54 08.2	-1.2
GSI	Gunungsitoli	0.59	269	P	Pb	14 54 09.1	-0.4
MNSI	Mandailing Nat	1.50	110	P	Pb	14 54 24.5	-0.4
RPSI	Rantau Prapat	1.56	29	Pn	Pn	14 54 25.2	+1.3
PSI	Prapat	1.66	27	Pn	Pn	14 54 25.8	+0.5
	18nm,0.3s,baz=180,slow=9.1,SNR=53						
PSI				LR	LR	14 54 57.2	
	comp=Z,875nm,21.5s,baz=91,slow=37						
TPTI		2.17	333	P	Pn	14 54 33.2	+1.0
TSI	Tuntungan	2.20	10	P	Pb	14 54 35.5	-1.4
BKNI	Bangkinang	3.04	109		Pn	14 54 46.0	+1.8
BKNI	Bangkinang	3.04	109	P	Pb	14 54 47.7	-3.3
SDSI	Sungai Dareh	3.95	124	P	Pn	14 55 00.5	+3.7
LHMI	Lhok Sumawe	4.07	343	Pn	Pn	14 55 01.2	+2.8
LHMI	Lhok Sumawe	4.07	343	P	Pn	14 55 01.2	+2.8
IPM	Ipoh	4.24	42	Pn	Pn	14 55 03.5	+2.7
IPM	Ipoh	4.24	42	P	Pn	14 55 05.0	+4.2
KULM	Kulim	4.66	32	Pn	Pn	14 55 08.2	+1.7
KULM	Kulim	4.66	32	P	Pn	14 55 10.0	+3.5
JRMM	Jerantut	5.00	59	P	Pn	14 55 14.0	+2.8
MYKOM	Kota Tinggi	5.70	85		Pn	14 55 23.3	+2.5
MYKOM	Kota Tinggi	5.70	85	P	Pn	14 55 27.0	+6.2
KSI	Kapahiang	6.63	138	P	Pn	14 55 33.5	-0.1
	0.4nm89nm,0.8s						
MNAI	Manna	7.40	140	Pn	Pn	14 55 46.4	+2.2
MNAI	Manna	7.40	140	P	Pn	14 55 45.9	+1.7
	0.8nm202nm,1.1s						
LHSI	Lahat	7.40	134	P	Pn	14 55 47.8	+3.6
	0.2nm1µm61nm,0.6s						
SURT	Suratani	7.62	5	P	Pb	14 56 21.6	+12
LWLI	Liwa	8.62	137	P	Pn	14 56 03.0	+2.0
	42nm,0.7s						
KLSI		8.87	132	P	Pn	14 56 07.1	+2.8
	10.0nm,0.8s						
KASI	Kota Agung	9.28	137	P	Pn	14 56 10.5	+0.5
	51nm,0.6s						
TPI	Tanjungpandan	10.31	113	P	Pn	14 56 29.2	+5.1
	12nm,0.8s						
SRAK	Srakaew	13.18	17	P	P	14 57 13.0	-0.2
	0.7nm2µm210nm,0.7s						
SBUM	Sibu	14.09	85	P	P	14 57 21.0	-2.3
CHAI	Chaiyaphum	14.97	14	P	P	14 57 35.3	+2.2
	14nm,0.9s						
UBPT	Khong Chiam	15.63	27	P	P	14 57 41.1	+0.6
	7.3nm,1.5s						
PHIT	Phitsanulok	15.93	8	P	P	14 57 53.2	+10
MTKI	Muara Teweh, K	16.88	98	P	P	14 57 56.0	+1.7
	44nm,1.0s						
CM04	Chiang Mai Arr	16.99	3	P	P	14 57 56.8	+1.2
	76nm7.0nm,0.9s						
CM05	Chiang Mai Arr	16.99	3	P	P	14 57 56.6	+1.0
	57nm4.4nm,0.9s						
CM13	Chiang Mai Arr	17.01	2	P	P	14 57 56.0	+0.2
	52nm5.7nm,0.9s						
CM01	Chiang Mai Arr	17.01	3	P	P	14 57 58.0	+2.2
	115nm5.6nm,0.8s						
CM02	Chiang Mai Arr	17.03	3	P	P	14 57 57.0	+1.1
	57nm6.9nm,0.9s						
CM09	Chiang Mai Arr	17.04	3	P	P	14 57 57.7	+1.6
	60nm4.1nm,0.7s						
CM15	Chiang Mai Arr	17.04	2	P	P	14 57 57.2	+1.1
	172nm7.2nm,0.8s						
CM31	Chiang Mai Arr	17.05	3	P	P	14 57 57.3	+1.1
	4µm236nm,0.6s						
CMAR	Chiang Mai Arr	17.05	3	P	Pn	14 57 55.0	+0.5
	0.3nm,0.3s,baz=195,slow=12,SNR=25						
CMAR				LR	LR	15 05 34.7	
	comp=Z,168nm,18.5s,baz=217,slow=41						
CMAR	Chiang Mai Arr	17.05	3	Pn	Pn	14 57 51.6	-2.9
CM36	Chiang Mai Arr	17.12	3	P	P	14 57 59.0	+2.1
CM32	Chiang Mai Arr	17.24	2	P	P	14 58 04.0	+5.7
CM35	Chiang Mai Arr	17.28	3	P	P	14 58 01.0	+2.3
BBKI	Banjar Baru	17.33	106	P	P	14 58 01.2	+1.9
	21nm,0.9s						
CMMT	Chiang Mai	17.40	2	P	P	14 58 03.4	+3.3
	2.7nm,0.8s						
CM33	Chiang Mai Arr	17.41	2	P	P	14 58 03.0	+2.8
CM34	Chiang Mai Arr	17.45	3	P	P	14 58 02.0	+1.4
KMMI	Kalianget	17.82	118	P	P	14 58 06.8	+2.0
	33nm,0.8s						
PALK	Pallekele	18.39	289	P	Pn	14 58 11.6	+0.4
	0.4nm,0.3s,baz=189,slow=8.8,SNR=2.3						
PALK				LR	LR	15 05 15.0	
	comp=Z,111nm,18.0s,baz=220,slow=37						
KBKI	Kotabaru	18.57	104	P	Pn	14 58 15.8	+2.5
	22nm,0.8s						
KKM	Kota Kinabalu	18.61	75	P	P	14 58 14.0	+0.5
SRBI	Singaraja	19.39	119	P	Pn	14 58 26.1	+2.8
	31nm,0.8s						
SLVN	Son La	20.67	15	P	P	14 58 35.7	-0.2
SAIH	SAIHA	21.64	347	*e*P	P	14 58 46.2	-0.3
SAIH				IAmb	IAmb	14 58 51.9	
	comp=Z,26nm,1.0s						
KAPI	Kappang	22.46	106	LR	LR	15 08 39.9	
	comp=Z,139nm,18.1s,baz=282,slow=39						
TOLI2	Tolitoli	22.61	90	P	P	14 58 57.6	+0.8
TOLI2				IAmb	IAmb	14 58 58.6	
	comp=Z,22nm,0.8s						
APSI	Ampana	23.58	95	P	P	14 59 09.0	+2.3
MRSI	Marisa	23.78	92	P	P	14 59 09.9	+1.2
	comp=Z,292nmcomp=Z,27nm,1.5s						
KOHI	KOHIMA	24.57	351	*e*P	P	14 59 15.7	-0.4
KOHI				IAmb	IAmb	14 59 25.8	
	comp=Z,66nm,1.6s						
GTOI	Gorontalo	24.85	91	P	P	14 59 18.8	+0.3
	comp=Z,10µmcomp=Z,17nm,0.9s						
SHL	Shillong	24.86	346	*e*P	P	14 59 18.7	+0.1
SHL				IAmb	IAmb	14 59 21.1	
	comp=Z,11nm,0.9s						
HYB	Hyderabad	25.06	311	*i* P	P	14 59 21.5	+1.1
MOKO	MOKOCHONG	25.11	352	*e*P	P	14 59 20.5	-0.3
MOKO				IAmb	IAmb	14 59 22.9	
	comp=Z,27nm,0.8s						
DHUB	DHUBRI	25.79	343	*e*P	P	14 59 28.1	+1.2
ZIRO	ZIRO	26.39	351	*e*P	P	14 59 32.1	-0.4
ZIRO				IAmb	IAmb	14 59 35.6	
	comp=Z,37nm,0.7s						
H08S2	Diego Garcia H	27.11	250	T	T	15 27 06.5	
	baz=73,slow=75,SNR=41						
H08S3	Diego Garcia H	27.12	250	T	T	15 27 07.7	
	baz=73,slow=75,SNR=887						
H08S1	Diego Carcia H	27.13	250	T	T	15 27 07.9	
	baz=73,slow=75,SNR=18						
ODAN	Odare	27.43	339	*e*P	P	14 59 43.8	+1.9
	comp=Z,15nm,0.7s						
TAPN	Taplejung	27.76	340	*e*P	P	14 59 46.7	+1.7
	comp=Z,31nm,0.9s						
RAMN	Ramite	27.80	337	*e*P	P	14 59 47.6	+2.3
	comp=Z,10nm,0.5s						
BATI	Baumata	27.84	115	P	P	14 59 45.8	+0.2
	comp=Z,8.1nm,0.5s,baz=227,slow=2.2,SNR=3.8						
SOEI	Soe	28.22	113	P	P	14 59 49.1	+0.1
SOEI				IAmb	IAmb	15 00 00.4	
	comp=Z,18nm,1.1s						
PKI	Pulchoki	28.83	336	*e*P	P	14 59 55.1	+0.6
	comp=Z,5.1nm,0.7s						
PKIN	Phulchoki	28.84	336	*e*P	P	14 59 55.5	+1.0
	comp=Z,3.1nm,0.4s						
GUN	Gumba	28.94	337	*e*P	P	14 59 56.0	+0.5
	comp=Z,13nm,0.5s						
DMN	Daman	28.98	336	*e*P	P	14 59 56.7	+0.9
	comp=Z,16nm,0.8s						
LSA	Lhasa	29.00	347	P	P	14 59 54.9	-1.3
LSA				IAmb	IAmb	15 00 06.9	
	comp=Z,8.2nm,0.8s						
CD2	Chengdu	29.90	10	*e*P	P	15 00 04.3	+0.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YULB	Yu-li	31.38	44	P	P	15 00 16.1	-0.6
YULB				IAmb	IAmb	15 00 30.6	
	comp=Z,23nm,1.4s						
FITZ	Fitzroy Crossi	33.22	127	P	P	15 00 31.1	-1.8
	comp=Z,2.6nm,0.9s,baz=293,slow=6.8,SNR=6.2						
FITZ	Fitzroy Crossi	33.22	127	P	P	15 00 31.6	-1.3
FITZ				IAmb	IAmb	15 00 37.2	
	comp=Z,6.9nm,1.1s						
XAN	Xi'an	34.07	16	P	P	15 00 39.3	-1.0
XAN				pP	pP	15 00 47.8	+0.1
XAN				sP	sP	15 00 52.4	+1.7
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,73nm,5.2s						
XAN				LR	LR		
	comp=N,150nm,16.0s						
XAN				LR	LR		
	comp=E,250nm,15.2s						
XAN				LR	LR		
	comp=Z,260nm,14.6s						
SMLA	Simla	35.70	328	*e*P	P	15 00 54.6	+0.4
SMLA				IAmb	IAmb	15 00 57.8	
	comp=Z,4.0nm,0.6s						
DHRM	DHARAMSHALA	37.03	328	*e*P	P	15 01 04.7	-1.2
GTA	Gaotai	37.94	2	⇓P	P	15 01 13.4	0.0
GTA				pP	pP	15 01 17.6	-3.3
GTA				sP	sP	15 01 20.6	-3.3
GTA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,81nm,4.0s						
GTA				LR	LR		
	comp=N,72nm,15.6s						
GTA				LR	LR		
	comp=E,94nm,15.3s						
GTA				LR	LR		
	comp=Z,95nm,15.3s						
H01W3	Cape Leeuwin H	39.00	159	T	T	15 43 04.4	
	baz=331						
H01W2	Cape Leeuwin H	39.01	159	T	T	15 43 03.5	
	baz=331						
H01W1	Cape Leeuwin H	39.01	159	T	T	15 43 08.6	
	baz=331						
WRKA	Warakurna	39.22	134	P	P	15 01 24.1	-0.2
	baz=39,SNR=6.0						
KMBL	Kambalda	39.54	147	P	P	15 01 28.7	+1.9
	baz=40,SNR=9.0						
WB0	Warramunga Arr	41.25	122	P	P	15 01 39.3	-1.8
WB0				IAmb	IAmb	15 01 46.0	
	comp=Z,11nm,0.9s						
WRA	Warramunga Arr	41.28	123	P	P	15 01 40.5	-0.9
	comp=Z,5.2nm,0.7s,baz=305,slow=8.7,SNR=31						
WRA				PcP	PcP	15 03 40.0	0.0
	comp=Z,0.9nm,0.8s,baz=314,slow=2.6,SNR=3.2						
WRA	Warramunga Arr	41.28	123	P	P	15 01 39.8	-1.6
WB2	Warramunga Arr	41.29	123	P	P	15 01 40.3	-1.2
WB2				IAmb	IAmb	15 01 42.3	
	comp=Z,9.1nm,1.0s						
WR0	Warramunga Arr	41.46	123	P	P	15 01 41.9	-0.9
WR0				IAmb	IAmb	15 01 48.1	
	comp=Z,15nm,0.8s						
BJI	Beijing	41.88	21	P	P	15 01 46.9	+1.0
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AS31	Alice Springs	42.70	128	P	P	15 01 51.5	-1.5
ASAR	Alice Springs	42.70	128	P	P	15 01 52.3	-0.7
	comp=Z,3.2nm,0.8s,baz=298,slow=7.9,SNR=24						
ASAR				PcP	PcP	15 03 44.7	+0.1
	comp=Z,1.1nm,0.8s,baz=320,slow=3.4,SNR=5.8						
ASAR				pPcP		15 03 55.3	
	comp=Z,1.2nm,0.8s,baz=298,slow=1.8,SNR=4.9						
ASAR				S	S	15 08 07.2	-8.1
	comp=Z,1.0nm,1.0s,baz=303,slow=15,SNR=5.9						
ASAR	Alice Springs	42.70	128	P	P	15 01 51.6	-1.3
KSAR	Wonju Array Be	45.18	34	P	P	15 02 13.2	+0.6
KSRS	Korea Array	45.21	34	P	P	15 02 12.8	0.0
	comp=Z,2.6nm,0.7s,baz=219,slow=9.4,SNR=18						
KSRS				LR	LR	15 22 36.6	
	comp=Z,272nm,18.4s,baz=156,slow=38						
KS19	Wonju Array Si	45.21	34	P	P	15 02 12.7	-0.2
KS19				IAmb	IAmb	15 02 30.8	
	comp=Z,22nm,1.4s						
AAK	Ala-Archa	46.29	336	P	P	15 02 21.0	-0.5
	comp=Z,0.3nm,0.3s,baz=242,slow=6.5,SNR=1.7						
JMN	Monobe	46.44	42	P	P	15 02 22.3	-0.4
JHS	Saijyo	46.70	40	P	P	15 02 23.6	-1.2
SONM	Songino Array	46.88	8	P	P	15 02 26.5	+0.4
	comp=Z,3.9nm,0.6s,baz=192,slow=9.5,SNR=40						
SONM				PcP	PcP	15 03 58.6	0.0
	comp=Z,0.5nm,0.6s,baz=194,slow=2.6,SNR=1.4						
SONM				pPcP		15 04 09.0	
	comp=Z,1.6nm,0.6s,baz=187,slow=4.2,SNR=5.3						
SONM	Songino Array	46.88	8	P	P	15 02 26.7	+0.7
MK31	Makanchi Array	47.37	345	P	P	15 02 30.0	+0.3
MK31				IAmb	IAmb	15 02 41.3	
	comp=Z,4.6nm,0.7s						
MKAR	Makanchi Array	47.37	345	P	P	15 02 29.9	+0.2
	comp=Z,5.3nm,0.6s,baz=158,slow=8.4,SNR=58						
MKAR	Makanchi Array	47.37	345	P	P	15 02 29.8	0.0
MAKZ	Makanchi	47.46	345	P	P	15 02 30.8	+0.3
MAKZ				IAmb	IAmb	15 02 40.6	
	comp=Z,5.6nm,0.7s						
JWT	Wachi	48.37	41	P	P	15 02 37.8	+0.2
JWT				IAmb	IAmb	15 02 39.0	
	comp=Z,8.7nm,0.8s						
JGF	Kuroka	49.86	42	P	P	15 02 47.7	-1.4
TLY	Talaya	50.40	4	P	P	15 02 53.5	+0.6
	comp=Z,1.6nm,0.7s,baz=243,slow=6.0,SNR=3.2						
MAT	Matsushiro	50.95	42	P	P	15 02 56.7	-0.7
MJAR	Matsushiro Arr	50.95	42	P	P	15 02 56.9	-0.5
	comp=Z,5.0nm,0.8s,baz=228,slow=6.1,SNR=25						
HTT	Hallett	51.63	136	P	P	15 03 03.6	+1.1
	baz=52,SNR=3.3						
GEYT	Aibeck	51.75	320	P	P	15 03 03.0	-0.3
	comp=Z,0.8nm,0.4s,baz=107,slow=19,SNR=1.8						
KURBB	Kurchatov Arra	51.88	344	P	P	15 03 03.6	-0.4
	comp=Z,1.9nm,0.6s,baz=166,slow=7.4,SNR=22						
KURBB				PcP	PcP	15 04 16.9	+0.3
	comp=Z,0.6nm,0.8s,baz=162,slow=2.8,SNR=4.8						
USA0B	Ussuriysk Arra	52.17	30	P	P

CRVS	**Cervenica-Dubn**	**80.28**	**319**	*e*P	P	15 06 15.4	+8.8
FINES	**FINESS Array B**	**80.34**	**332**	P	**P**	**15 06 06.3**	**-0.3**
	comp=Z,2,2nm,1.0s,baz=108,slow=6.2,SNR=7.0						
FINES				pP	**PcP**	**15 06 13.5**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=109,slow=5.6,SNR=4.2						
SYO	**Syowa Base**	**80.42**	**198**	*e*PcP	**PcP**	**15 06 15.4**	**+1.7**
VYHS	**Vyhne**	**81.94**	**319**	*e*P	pP	15 06 24.2	+0.9
ARCES	**ARCESS Array B**	**82.75**	**340**	P	**P**	**15 06 19.3**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=194,slow=2.5,SNR=3.6						
ARCES				pP	**pP**	**15 06 27.4**	**+0.3**
	comp=Z,10nm,1.1s,baz=68,slow=4.2,SNR=2.7						
MODS	**Modra-Piesok**	**82.96**	**318**	*e*P	pP	15 06 30.7	+2.0
ZST	**Bratislava**	**83.06**	**318**	*e*P	pP	15 06 31.5	+2.4
GERES	**GERESS Array B**	**85.36**	**319**	P	**P**	**15 06 33.1**	**0.0**
	comp=Z,0.2nm,0.2s,baz=241,slow=41,SNR=1.9						
GERES				pP	**sP**	**15 06 42.5**	**-1.4**
	comp=Z,1.7nm,0.9s,baz=96,slow=5.9,SNR=5.1						
NB2	**NORSAR Subarra**	**87.37**	**331**	P	**P**	**15 06 43.0**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=98,slow=4.6						
NOA	**NORSAR Array B**	**87.37**	**331**	P	**P**	**15 06 42.0**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=95,slow=5.2,SNR=3.9						
NOA				pP	**pP**	**15 06 51.0**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=94,slow=5.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**96.01**	**283**	P	**P**	**15 07 22.8**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=93,slow=6.1,SNR=2.4						
YKA	**Yellowknife Ar**	**111.72**	**16**	PP	**PP**	**15 13 13.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=319,slow=5.6,SNR=4.5						
TXAR	**Lajitas Array**	**143.05**	**33**	PKhKP	PKPpre	15 13 28.0	
	comp=Z,0.2nm,0.5s,baz=212,slow=3.2,SNR=3.6						
CPUP	**Villa Florida**	**145.74**	**221**	PKPbc	**PKPbc**	**15 13 35.0**	**-0.3**
	comp=Z,5.6nm,0.7s,baz=134,slow=3.0,SNR=14						
CPUP				pPKPbc	**sPKPdf**	**15 13 44.8**	**-1.1**
	comp=Z,4.6nm,0.8s,baz=113,slow=4.7,SNR=6.2						

*IDC **21** 15:01:42.3±0.5, 13°.19N×145°.68E, h0km, mb4.3/27, mb1 4.4/28, mb1mx4.2/47, mbtmp4.3/28, ML3.6/1, MS3.7/18, Ms1 3.7/18, ms1mx3.5/39, Error ellipse: s-maj=18.5km s-min=11.7km az=88.0*

*DJA **21** 15:01:43.5±0.7, 13°.N±11°×14°.6E±°, h10km, M4.9/10, mB5.5/3, mb5.0/10, MLv4.9/1, Mw(mB)4.9/3*

*NEIC **21** 15:01:43.6±1.5, 13°.13N±0°.07×145°.75E±0°.08, h13km±5km, mb4.7/33, Error ellipse: s-maj=11.8km s-min=9.6km az=129.0*

ISC 21 15:01:43.4±0.4, **13°.12N**±0°.06×**145°.77E**±0°.07, **h10**km, **n102**, σ1§**20**/100, **mb4.6**/50, **MS3.8**/19, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.00**	**298**		**Pg**	**15 02 02.6**	**0.0**
PATS	**Pohnpei**	**13.83**	**116**	Pn	**Pn**	**15 04 58.9**	**-0.8**
JAY	**Jayapura**	**16.33**	**198**	Pn	**P**	**15 05 37.1**	**+1.2**
	0.5nm,0.3s,baz=360,slow=9.3,SNR=4.6						
JAY				LR	LR	15 11 50.3	
	comp=Z,222nm,19.2s,baz=359,slow=37						
SIJI	**Sorong**	**20.00**	**227**	P	**P**	**15 06 17.7**	**+1.3**
	0.2nm,0.3s,baz=17,slow=20,SNR=2.3						
SIJI				LR	LR	15 14 08.9	
	comp=Z,266nm,18.5s,baz=108,slow=37						
H11S3	**WAKE ISLAND Hy**	**20.81**	**72**	T	T	15 28 09.1	
	baz=262,slow=18,SNR=11						
H11S1	**WAKE ISLAND Hy**	**20.83**	**72**	T	T	15 28 04.7	
	baz=262,slow=18,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**20.83**	**72**	T	T	15 28 11.2	
	baz=262,slow=18,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**21.28**	**69**	T	T	15 29 43.2	
	baz=257,slow=74,SNR=16						
H11N2	**WAKE ISLAND Hy**	**21.29**	**69**	T	T	15 29 43.9	
	baz=257,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**21.30**	**69**	T	T	15 29 44.6	
	baz=257,slow=74,SNR=23						
JOW	**Kunigami**	**21.33**	**312**	LR	LR	15 14 19.5	
	comp=Z,179nm,18.8s,baz=52,slow=36						
PMG	**Port Moresby**	**22.42**	**176**	P	**P**	**15 06 44.8**	**+2.3**
	14nm,0.8s,baz=348,slow=4.8,SNR=3.9						
PMG				LR	LR	15 16 22.7	
	comp=Z,122nm,18.2s,baz=350,slow=39						
PMG	**Port Moresby**	**22.42**	**176**	P	**P**	**15 06 40.9**	**-1.6**
PMG				IAmb	IAmb	15 07 05.4	
	comp=Z,20nm,0.8s						
JGF	**Kuroka**	**23.64**	**343**	P	**P**	**15 06 54.0**	**-0.9**
JGF				IAmb	IAmb	15 06 55.5	
	comp=Z,34nm,1.2s						
JNU	**Nakatsue**	**24.11**	**328**	P	**P**	**15 07 00.0**	**+0.6**
	comp=Z,5.6nm,0.8s,baz=66,slow=12,SNR=2.1						
JNU	**Nakatsue**	**24.11**	**328**	P	**P**	**15 06 58.5**	**-0.9**
JNU				IAmb	IAmb	15 07 19.9	
	comp=Z,21nm,1.0s						
TGY	**Tagaytay City**	**24.16**	**275**	LR	LR	15 14 37.4	
	comp=Z,147nm,21.4s,baz=76,slow=32						
MJAR	**Matsushiro Arr**	**24.29**	**345**	P	**P**	**15 06 59.2**	**-1.9**
	comp=Z,3.3nm,0.7s,baz=170,slow=10,SNR=12						
MJAR				LR	LR	15 15 32.4	
	comp=Z,304nm,19.3s,baz=160,slow=34						
MJAR	**Matsushiro Arr**	**24.29**	**345**	P	**P**	**15 06 59.7**	**-1.4**
MAJO	**Matsushiro**	**24.29**	**345**	P	**P**	**15 07 00.2**	**-0.8**
MAT	**Matsushiro**	**24.29**	**345**	P	**P**	**15 06 59.7**	**-1.4**
JHS	**Saijyo**	**24.61**	**334**	P	**P**	**15 07 04.3**	**+0.3**
JHS				IAmb	IAmb	15 07 36.8	
	comp=Z,20nm,1.2s						
JMM	**Marumori**	**25.04**	**351**	P	**P**	**15 07 07.2**	**-0.5**
JMM				IAmb	IAmb	15 07 09.3	
	comp=Z,17nm,0.9s						
JSD	**Sado**	**25.70**	**346**	P	**P**	**15 07 13.6**	**-0.1**
JSD				IAmb	IAmb	15 07 28.6	
	comp=Z,14nm,1.0s						
GTOI	**Gorontalo**	**25.74**	**243**	P	**P**	**15 07 15.5**	**+1.1**
	comp=Z,11nm,0.9s						
TPUB	**Ta-pu**	**25.90**	**297**	P	**P**	**15 07 15.5**	**-0.3**
HNR	**Honiara**	**26.46**	**147**	P	**P**	**15 07 20.6**	**-0.2**
	comp=Z,63nm,0.4s,baz=170,slow=3.0,SNR=5.0						
HNR				LR	LR	15 18 11.4	
	comp=Z,114nm,19.1s,baz=58,slow=37						
MRSI	**Marisa**	**26.75**	**244**	P	**P**	**15 07 23.6**	**+0.1**
	comp=Z,481nmcomp=Z,37nm,0.8s						
COEN	**Coen**	**27.03**	**186**	P	**P**	**15 07 23.0**	**-3.0**
COEN				IAmb	IAmb	15 07 52.6	
	comp=Z,31nm,1.4s						
TOLI2	**Tolitoli**	**27.48**	**246**	P	**P**	**15 07 27.9**	**-2.1**
TOLI2				IAmb	IAmb	15 07 35.6	
	comp=Z,12nm,0.9s						
KSRS	**Korea Array**	**29.01**	**330**	P	**P**	**15 07 43.1**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=144,slow=9.1,SNR=7.7						
KSRS				PcP	**PcP**	**15 10 53.4**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=186,slow=1.3,SNR=4.5						
MTN	**Manton Dam**	**29.60**	**210**	P	**P**	**15 07 46.9**	**-2.0**
NJ2	**Nanjing**	**31.04**	**312**	*e*P	**P**	**15 08 01.6**	**0.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
SOEI	**Soe**	**31.18**	**224**	P	**P**	**15 08 00.4**	**-2.7**
SOEI				IAmb	IAmb	15 08 13.4	
	comp=Z,14nm,0.8s						
SOEI	**Soe**	**31.18**	**224**	P	**P**	**15 08 03.1**	**0.0**
	comp=Z,17nm,0.7s						
USRK	**Ussuriysk Ar.**	**33.15**	**342**	P	**P**	**15 08 19.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=138,slow=8.9,SNR=3.0						
USRK				LR	LR	15 20 33.5	
	comp=Z,184nm,22.0s,baz=171,slow=34						
USRK	**Ussuriysk Ar.**	**33.15**	**342**	P	**P**	**15 08 18.1**	**-1.8**
MTKI	**Muara Teweh, K**	**33.66**	**248**	P	**P**	**15 08 23.7**	**-1.0**
MDJ	**Mudanjiang**	**34.30**	**339**	P	**P**	**15 08 30.8**	**+0.9**
MDJ				pP	sP	15 08 34.3	+3.3
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,110nm,5.3s						
WB0	**Warramunga Arr**	**34.55**	**199**	P	**P**	**15 08 31.9**	**-0.4**
WR0	**Warramunga Arr**	**34.68**	**199**	P	**P**	**15 08 33.9**	**+0.4**
WR0				IAmb	IAmb	15 08 38.3	
	comp=Z,9.2nm,0.9s						
WB2	**Warramunga Arr**	**34.73**	**199**	P	**P**	**15 08 34.3**	**+0.4**
WRA	**Warramunga Arr**	**34.73**	**199**	P	**P**	**15 08 34.2**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=23,slow=9.5,SNR=37						
WRA				LR	LR	15 21 58.0	
	comp=Z,195nm,21.8s,baz=10.0,slow=35						
WRA	**Warramunga Arr**	**34.73**	**199**	P	**P**	**15 08 33.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**36.84**	**213**	P	**P**	**15 08 51.9**	**0.0**
AS31	**Alice Springs**	**38.36**	**198**	P	**P**	**15 09 05.7**	**+0.8**
ASAR	**Alice Springs**	**38.36**	**198**	P	**P**	**15 09 05.5**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=25,slow=8.9,SNR=59						
ASAR				LR	LR	15 26 18.1	
	comp=Z,128nm,18.1s,baz=12,slow=38						
GYA	**Guiyang**	**38.96**	**296**	*e*P	**P**	**15 09 11.1**	**+1.0**
GYA				S	**S**	**15 15 10.8**	**+1.8**
GYA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
GYA				pmax	pmax		
	comp=Z,110nm,6.9s						
GYA				LR	LR		
	comp=N,99nm,10.6s						
GYA				LR	LR		
	comp=E,140nm,19.6s						
GYA				LR	LR		
	comp=Z,180nm,17.5s						
HHC	**Hu-ho-hao-te**	**40.70**	**319**	*e*P	**P**	**15 09 24.6**	**+0.3**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,47nm,6.6s						
TPI	**Tanjungpandan**	**40.99**	**250**	P	**P**	**15 09 28.8**	**+1.8**
PEA0B	**Petropavlovsk-**	**41.01**	**11**	P	**P**	**15 09 25.9**	**-0.7**
PEA0B				IAmb	IAmb	15 09 47.6	
	comp=Z,13nm,1.1s						
PETK	**Petropavlovsk-**	**41.01**	**11**	P	**P**	**15 09 27.4**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=185,slow=7.0,SNR=5.7						
PETK				LR	LR	15 24 40.1	
	comp=Z,78nm,21.5s,baz=194,slow=34						
STKA	**Stephens Creek**	**44.92**	**185**	P	**P**	**15 09 58.1**	**-0.4**
	comp=Z,2.8nm,1.0s,baz=14,slow=16,SNR=3.5						
STKA				LR	LR	15 29 23.3	
	comp=Z,87nm,18.3s,baz=9.7,slow=37						
STKA	**Stephens Creek**	**44.92**	**185**	P	**P**	**15 09 58.0**	**-0.4**
KULM	**Kulim**	**45.16**	**264**	P	**P**	**15 10 00.2**	**-0.5**
KULM				IAmb	IAmb	15 10 45.6	
	comp=Z,14nm,1.2s						
CMAR	**Chiang Mai Arr**	**45.28**	**283**	P	**P**	**15 10 00.9**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=84,slow=6.7,SNR=13						
CMAR				PcP	**PcP**	**15 11 43.0**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=80,slow=2.5,SNR=6.3						
CMAR				LR	LR	15 30 49.5	
	comp=Z,38nm,18.0s,baz=176,slow=39						
CMAR	**Chiang Mai Arr**	**45.28**	**283**	P	**P**	**15 10 01.2**	**-0.5**
MNAI	**Manna**	**45.93**	**251**	P	**P**	**15 10 05.2**	**-1.6**
MA2	**Magadan**	**46.52**	**4**	P	**P**	**15 10 10.3**	**-0.5**
	comp=Z,5.7nm,0.8s,baz=171,slow=6.1,SNR=16						
BBOO	**Buckleboo**	**46.61**	**191**	P	**P**	**15 10 12.0**	**+0.2**
PSI	**Prapat**	**47.43**	**262**	P	**P**	**15 10 17.1**	**-1.7**
	comp=Z,2.9nm,0.5s,baz=180,slow=10.0,SNR=2.1						
SONM	**Songino Array**	**47.62**	**325**	P	**P**	**15 10 20.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=138,slow=7.7,SNR=14						
SONM				PcP	**PcP**	**15 11 50.1**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=157,slow=4.5,SNR=4.3						
SONM				ScP	**ScP**	**15 15 45.8**	**+1.9**
	comp=Z,0.6nm,0.9s,baz=116,slow=3.4,SNR=3.4						
SONM	**Songino Array**	**47.62**	**325**	P	**P**	**15 10 20.1**	**+0.3**
GTA	**Gaotai**	**48.14**	**312**	*e*P	**P**	**15 10 24.4**	**+0.4**
GTA				pP	sP	15 10 28.8	+2.9
GTA				sP	pwP	15 10 31.6	-1.2
GTA				PcP	**PcP**	**15 11 55.3**	**+3.8**
GTA				S	**S**	**15 17 20.8**	**-2.3**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,61nm,5.1s						
GTA				LR	LR		
	comp=N,70nm,16.4s						
GTA				LR	LR		
	comp=E,78nm,16.4s						
GTA				LR	LR		
	comp=Z,67nm,17.4s						
YAK	**Yakutsk**	**50.19**	**350**	P	**P**	**15 10 38.5**	**-0.5**
	comp=Z,4.4nm,0.4s,baz=130,slow=0.1,SNR=1.4						
TLY	**Talaya**	**51.22**	**328**	P	**P**	**15 10 45.8**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=216,slow=13,SNR=2.0						
WMQ	**Urumqi**	**58.10**	**314**	*e*P	**P**	**15 11 38.6**	**+1.4**
ANM	**Nome**	**61.30**	**22**	P	**P**	**15 11 58.5**	**-0.3**
ANM				IAmb	IAmb	15 12 13.0	
	comp=Z,10.0nm,1.0s						
MK31	**Makanchi Array**	**62.44**	**316**	P	**P**	**15 12 06.9**	**0.0**
MKAR	**Makanchi Array**	**62.44**	**316**	P	**P**	**15 12 07.0**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=91,slow=9.0,SNR=18						
MKAR	**Makanchi Array**	**62.44**	**316**	P	**P**		
ZALV	**Zalesovo Beam**	**62.51**	**324**	P	**P**	**15 12 07.1**	**0.0**
	comp=Z,1.3nm,0.5s,baz=90,slow=6.9,SNR=5.6						
MAKZ	**Makanchi**	**62.65**	**316**	P	**P**	**15 12 08.1**	**-0.1**
MAKZ				IAmb	IAmb	15 12 21.1	
	comp=Z,4.2nm,0.8s						
BRLK	**Bradley Lake**	**65.43**	**30**	P	**P**	**15 12 25.4**	**-0.9**
KURBB	**Kurchatov Arra**	**65.55**	**320**	P	**P**	**15 12 27.1**	**-0.1**
	comp=Z,7.6nm,0.8s,baz=102,slow=6.5,SNR=43						
RND	**Reindeer**	**67.41**	**26**	P	**P**	**15 12 39.7**	**+0.8**
RND				IAmb	IAmb	15 12 52.9	
	comp=Z,8.3nm,1.0s						
COLD	**Coldfoot**	**68.05**	**22**	P	**P**	**15 12 44.7**	**+1.9**
COLD				IAmb	IAmb	15 12 47.3	
	comp=Z,7.5nm,0.8s						
ILAR	**Eielson Array**	**68.61**	**25**	P	**P**	**15 12 46.1**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=251,slow=5.7,SNR=44						
ILAR				LR	LR	15 40 24.5	
	comp=Z,61nm,21.3s,baz=290,slow=34						
ILAR	**Eielson Array**	**68.61**	**25**	P	**P**	**15 12 46.4**	**0.0**
KKAR	**Karatay Array**	**70.42**	**311**	P	**P**	**15 12 57.8**	**-0.2**
BRVK	**Borovoye**	**70.90**	**322**	P	**P**	**15 13 01.6**	**+0.9**
BRVK				IAmb	IAmb	15 13 03.0	
	comp=Z,5.1nm,0.6s						
ABKAR	**Akbulak array**	**77.48**	**318**	P	**P**	**15 13 39.1**	**0.0**
GEYT	**Alibeck**	**80.24**	**307**	P	**P**	**15 13 54.3**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=10,slow=9.0,SNR=3.6						
YKA	**Yellowknife Ar**	**82.87**	**27**	P	**P**	**15 14 08.9**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=287,slow=5.1,SNR=26						
NVAR	**Mina Array Bea**	**86.52**	**52**	P	**P**	**15 14 29.7**	**+2.5**
	comp=Z,1.9nm,0.8s,baz=266,slow=5.6,SNR=16						
ARCES	**ARCESS Array B**	**87.80**	**342**	P	**P**	**15 14 31.9**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=76,slow=6.7,SNR=5.9						
ARCES	**ARCESS Array B**	**87.80**	**342**	P	**P**	**15 14 29.4**	**-3.1**
KBZ	**Khabaz**	**90.11**	**315**	P	**P**	**15 14 42.6**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=135,slow=20,SNR=2.3						
PDAR	**Pinedale Array**	**91.67**	**45**	P	**P**	**15 14 51.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=272,slow=6.2,SNR=5.9						
PDAR				LR	LR	15 53 37.4	
	comp=Z,62nm,18.5s,baz=312,slow=34						
FINES	**FINESS Array B**	**91.95**	**335**	P	**P**	**15 14 51.0**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=57,slow=5.1,SNR=10						
ULM	**Lac du Bonnet**	**97.13**	**35**	LR	LR	15 54 47.1	
	comp=Z,56nm,19.9s,baz=331,slow=33						
NOA	**NORSAR Array B**	**97.80**	**340**	P	**P**	**15 15 17.4**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=44,slow=4.5,SNR=2.7						
NOA				LR	LR	16 02 06.8	
	comp=Z,34nm,19.1s,baz=15,slow=37						
MAW	**Mawson**	**99.34**	**203**	LR	LR	15 59 03.0	
	comp=Z,44nm,21.6s,baz=65,slow=35						
LSZ	**Lusaka**	**119.63**	**260**	PKP	**PKiKP**	**15 20 36.4**	**+1.6**
	comp=Z,1.4nm,0.6s,baz=74,slow=1.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**135.85**	**305**	PKP	**PKPdf**	**15 21 06.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=85,slow=4.8,SNR=2.1						
TORD				SKPbc	**SKPab**	**15 24 40.0**	**-2.2**
	comp=Z,1.3nm,0.9s,baz=36,slow=5.5,SNR=4.1						
KOWA	**Kowa**	**139.41**	**311**	PKP	**PKPdf**	**15 21 13.0**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=170,slow=4.7,SNR=1.9						
DBIC	**Dimbokro**	**144.82**	**302**	PKP	**PKPdf**	**15 21 21.7**	**0.0**
	comp=Z,12nm,0.7s,baz=38,slow=3.9,SNR=14						
DBIC	**Dimbokro**	**144.82**	**302**	PKPdf	**PKPdf**	**15 21 22.1**	**+0.3**
KIC	**Kosan Boka**	**144.89**	**302**	*e*PKP1	**PKPdf**	**15 21 21.6**	**-0.3**
	comp=Z,27nm,0.9s						
TIC	**Toumodi**	**144.97**	**302**	*e*PKP1	**PKPdf**	**15 21 21.8**	**-0.2**
LIC	**Lamto**	**145.20**	**302**	*e*PKP1	**PKPdf**	**15 21 22.7**	**+0.3**
	comp=Z,60nm,0.8s						
LPAZ	**La Paz**	**147.08**	**100**	PKPbc	**PKPbc**	**15 21 28.6**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=196,slow=8.3,SNR=2.9						

*IDC **21** 15:10:18.7±1.4, 0°.71N×125°.34E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.4/37, mbtmp3.7/5, ML4.2/1, Error ellipse: s-maj=53.0km s-min=21.2km az=96.0*

*DJA **21** 15:10:29.3±0.4, 0°.N±4°×12°.5E±°, h88km±12km, M4.1/15, mb4.2/4, mB4.6/2, MLv4.1/15, Mw(mB)3.9/2*

ISC 21 15:10:27.4±1.0, **0°.55N**±0°.09×**124°.78E**±0°.07, **h87**km, **n17**, σ1§**49**/17, **mb3.6**/4, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.80**	**272**	P	**Pn**	**15 10 45.9**	**+1.3**
GTOI	**Gorontalo**	**1.77**	**273**	P	**Pn**	**15 10 58.9**	**+2.4**
LUWI	**Luwuk**	**2.55**	**232**	P	**Pn**	**15 11 07.8**	**+0.9**
TNTI	**Ternate**	**2.60**	**85**	P	**Pn**	**15 11 10.9**	**+3.4**
MRSI	**Marisa**	**2.84**	**269**	P	**Pn**	**15 11 09.5**	**-1.2**
SANI	**Sanana**	**2.85**	**155**	P	**Pn**	**15 11 10.6**	**-0.3**
APSI	**Ampana**	**3.45**	**245**	P	**Pn**	**15 11 19.8**	**+0.9**
NLAI	**Namlea**	**4.42**	**148**	P	**Pn**	**15 11 33.3**	**+1.2**
TTSI	**Tana Toraja**	**6.11**	**234**	P	**Pn**	**15 11 54.7**	**-0.4**
	0.2nm641nm43nm,0.8s						
SPSI	**Sidrap Palu**	**6.72**	**228**	P	**Pn**	**15 12 04.0**	**+0.5**
	0.2nm664nm36nm,0.7s						
BNSI	**Bone**	**6.78**	**223**	P	**Pn**	**15 12 04.3**	**0.0**
	0.1nm13nm,0.9s						
BKSI	**Bulukumba**	**7.46**	**219**	P	**Pn**	**15 12 13.9**	**+0.3**
KAPI	**Kappang**	**7.46**	**222**	Pn	**Pn**	**15 12 15.5**	**+1.8**
	3.1nm,0.3s,baz=76,slow=4.2,SNR=8.1						
WRA	**Warramunga Arr**	**22.41**	**156**	P	**P**	**15 15 18.6**	**-0.5**
	0.6nm,0.4s,baz=337,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**25.65**	**160**	P	**P**	**15 15 49.9**	**+0.6**
	0.2nm,0.4s,baz=346,slow=14,SNR=5.2						
MJAR	**Matsushiro Arr**	**37.92**	**18**	P	**P**	**15 17 34.6**	**-1.8**
	0.9nm,0.7s,baz=193,slow=8.7,SNR=5.8						
PETK	**Petropavlovsk-**	**59.10**	**22**	P	**P**	**15 20 18.7**	**+0.1**
	2.1nm,1.0s,baz=191,slow=2.2,SNR=8.4						

*DDA **21** 15:17:55.0, 37°.82N×26°.79E, h7km±2km, ML2.5*

*ISK **21** 15:17:56.5, 37°.89N×26°.82E, h4km, ML2.8/14*

*ATH **21** 15:17:56.2, 37°.78N×26°.81E, h12km±1km, ML2.7/4, Error ellipse: s-maj=3.0km s-min=1.0km az=87.0*

ISC 21 15:17:56.1±0.9, **37°.84N**±0°.02×**26°.83E**±0°.03, **h9**km±7km, **n33**, σ0§**77**/53, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.13**	**176**	P	**Pg**	**15 17 58.7**	**-0.3**
SMG				S	**Sg**	**15 18 01.0**	**0.0**
SMG				AML	AML	15 18 01.1	
	comp=E,13644μm,0.4s						
SMG				AML	AML	15 18 01.2	
	comp=N,18759μm,0.3s						
DGB	**zmir**	**0.22**	**11**	*i* P	**Pg**	**15 18 00.2**	**-0.4**
DGB				*i* S	**Sg**	**15 18 03.9**	**+0.3**
DGB				IAML		15 18 05.0	
	comp=E,703nm,0.2s						
GMLD	**Gumuldur**	**0.25**	**16**	PG	**Pg**	**15 18 01.3**	**+0.1**
GCAM	**G?zelcaml?**	**0.35**	**113**	*i* P	**Pg**	**15 18 02.4**	**-0.6**
GCAM				*i* S	**Sg**	**15 18 08.0**	**+0.4**
GCAM				IAML		15 18 08.0	
	comp=E,451nm,0.5s						
ZEYE	**Izmir, Urla-Ze**	**0.48**	**328**	*i* P	**Pg**	**15 18 04.5**	**-0.9**
ZEYE				*i* S	**Sg**	**15 18 12.7**	**+1.0**
ZEYE				IAML		15 18 13.0	
	comp=N,718nm,0.2s						
DDIM	**Aydin, Didim**	**0.50**	**139**	*i* P	**Pg**	**15 18 04.2**	**-1.6**
DDIM				*i* S	**Sg**	**15 18 13.1**	**+0.7**
DDIM				IAML		15 18 14.0	
	comp=E,263nm,0.4s						
DDIM				IAML		15 18 14.0	
	comp=N,214nm,0.3s						
URLA	**Izmir**	**0.56**	**341**	PG	**Pg**	**15 18 06.4**	**-0.5**
URLA				SG	**Sg**	**15 18 14.2**	**0.0**
URLA	**Izmir**	**0.56**	**341**	*i* P	**Pg**	**15 18 05.5**	**-1.4**
URLA				*i* S	**Sg**	**15 18 14.3**	**0.0**
BLCB	**Balcova**	**0.57**	**17**	PG	**Pg**	**15 18 07.1**	**-0.2**
BLCB				SG	**Sg**	**15 18 15.4**	**+0.6**
KRBN	**Karaburun**	**0.79**	**344**	PG	**Pg**	**15 18 11.8**	**+0.5**
CHOS	**Chios island**	**0.82**	**312**	P	**Pg**	**15 18 12.5**	**+0.5**
CHOS				S	**Sb**	**15 18 23.9**	**+0.1**
CHOS				AML	AML	15 18 24.1	
	comp=N,715μm,0.4s						
CHOS				AML	AML	15 18 26.0	
	comp=E,971μm,0.3s						
CHOS	**Chios island**	**0.82**	**312**	PG	**Pg**	**15 18 12.4**	**+0.5**
CHOS				SG	**Sb**	**15 18 23.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.85**	**82**	PG	**Pg**	**15 18 12.3**	**-0.2**
AYDN	**Tasoluk**	**0.85**	**101**	*i* P	**Pg**	**15 18 12.0**	**-0.5**
FOCM	**Foa**	**0.88**	**355**	PG	**Pg**	**15 18 13.5**	**+0.5**
BDRM	**Kayabasi**	**0.91**	**147**	*i* P	**Pg**	**15 18 13.0**	**-0.7**
BDRM				*i* S	**Sg**	**15 18 25.9**

TNTI	Ternate	4.98 176	Pn	Pn	15 38 33.6	-0.3		
TNTI	Ternate	4.98 176	P	Pn	15 38 33.8	-0.1		
LLP	Lapu-Lapu	5.42 327	*e*P	Pn	15 38 40.1	+0.2		
LLP			*e*S	Sn	15 39 39.0	-2.3		
KMSI	Cibinong	5.98 210	P	Pn	15 38 47.9	+0.6		
	1.6nm5µm528nm,0.8s							
GTOI	Gorontalo	6.47 218	P	Pn	15 38 53.8	-0.1		
	0.7nm2µm226nm,0.9s							
GUIM	Jordan	6.50 318	*e*P	Pn	15 38 54.0	-0.3		
MRSI	Marisa	7.29 224	P	Pn	15 39 05.6	+0.6		
	1.2nm3µm388nm,0.9s							
TOLI2	Tolitoli	7.74 234	Pn	Pn	15 39 11.0	0.0		
SANI	Sanana	7.84 187	P	Pn	15 39 08.9	-3.4		
	0.6nm2µm102nm,0.8s							
SWI	Sorong	7.84 147	P	Pn	15 39 12.6	+0.2		
	0.6nm2µm108nm,0.5s							
SIJI	Sorong	7.85 147	P	Pn	15 39 12.8	+0.2		
	34nm,0.3s,baz=338,slow=13,SNR=104							
SIJI			S	Sn	15 40 36.0	-4.0		
	11nm,0.3s,baz=182,slow=22,SNR=16							
LUWI	Luwuk	7.98 212	Pn	Pn	15 39 14.4	+0.3		
LUWI	Luwuk	7.98 212	P	Pn	15 39 16.2	+2.0		
	1.3nm4µm481nm,1.0s							
APSI	Ampana	8.52 219	P	Pn	15 39 23.9	+2.4		
	2µm162nm,1.2s							
NLAI	Namlea	8.95 179	P	Pn	15 39 25.6	-1.7		
	3µm113nm,0.5s							
FAKI	Fak Fak	10.10 149	P	Pn	15 39 44.1	+1.4		
	56nm,1.4s							
TTSI	Tana Toraja	11.32 219	P	Pn	15 39 59.7	+0.7		
	620nm29nm,0.8s							
SRPI	Serui, Papua	11.95 129	P	P	15 40 13.0	-1.5		
	100nm,0.8s							
BNSI	Bone	12.23 214	P	Pn	15 40 11.7	+0.8		
	22nm,1.1s							
KAPI	Kappang	12.93 214	P	Pn	15 40 19.2	-0.7		
	0.7nm,0.3s,baz=28,slow=9.9,SNR=9.9							
KAPI			LR	LR	15 46 02.4			
	comp=Z,67nm,19.7s,baz=48,slow=40							
KAPI	Kappang	12.93 214		Pn	15 40 16.8	-3.2		
BKSI	Bulukumba	12.98 212	P	Pn	15 40 19.8	-0.9		
SAUI	Saumlaki	14.32 163	P	Pn	15 40 38.0	+0.2		
	7µm240nm,0.7s							
MMRI	Maumere	15.08 198	P	Pn	15 40 46.8	-0.5		
	47nm,0.9s							
SBUM	Sibu	15.11 258		Pn	15 40 48.2	+0.5		
SBUM	Sibu	15.11 258	P	P	15 40 52.0	+2.3		
EDFI	Ende, Flores	15.37 200	P	Pn	15 40 51.0	0.0		
	22nm,0.7s							
SOEI	Soe	15.66 190	P	Pn	15 40 53.1	-1.6		
SOEI			IAmb	IAmb	15 41 10.0			
	comp=Z,49nm,0.9s							
SOEI	Soe	15.66 190	P	P	15 40 56.2	+0.2		
	comp=Z,72nm,1.1s							
BATI	Baumata	16.22 192	P	P	15 41 03.7	+1.7		
	comp=Z,4.6nm,0.3s,baz=359,slow=2.0,SNR=16							
BATI	Baumata	16.22 192	P	P	15 41 03.9	+1.9		
	comp=Z,40nm,0.9s							
PLAI	Plampang	17.17 212	P	Pn	15 41 12.9	-0.1		
	comp=Z,33nm,0.9s							
KSM	Kuching	17.19 256	P	P	15 41 11.9	-0.9		
KSM			IAmb	IAmb	15 41 15.9			
	comp=Z,37nm,1.1s							
KSM	Kuching	17.19 256	P	Pn	15 41 15.0	+1.7		
MTN	Manton Dam	18.95 167		Pn	15 41 33.3	-0.7		
KDU	Kakadu	19.13 164	P	P	15 41 34.4	+0.5		
	baz=19,SNR=28							
DLV	T Lat	19.29 290	P	P	15 41 35.6	-0.3		
DLV			IAmb	IAmb	15 41 38.6			
	comp=Z,28nm,1.0s							
JOW	Kunigami	20.98 3	P	Pn	15 41 56.3	-1.6		
	comp=Z,23nm,0.7s,baz=174,slow=3.2,SNR=5.2							
TPI	Tanjungpandan	21.10 247	P	P	15 41 55.3	+0.1		
	comp=Z,21nm,0.9s							
QIZ	Qiongzhong	21.29 310	P	P	15 41 58.4	+1.2		
QIZ			IAmb	IAmb	15 41 59.6			
	comp=Z,16nm,0.8s							
PPBI	Pangkal Pinang	22.28 250	P	P	15 42 06.8	-0.8		
	comp=Z,17nm,0.8s							
LEM	Lembang	23.04 237	P	P	15 42 15.5	+0.4		
	comp=Z,15nm,0.6s,baz=130,slow=13,SNR=5.7							
MYKOM	Kota Tinggi	23.43 261	P	P	15 42 18.4	-0.1		
MYKOM			IAmb	IAmb	15 42 19.4			
	comp=Z,22nm,1.1s							
MYKOM	Kota Tinggi	23.43 261	P	P	15 42 19.0	+0.5		
FITZ	Fitzroy Crossi	23.76 183	P	P	15 42 22.4	+1.1		
	comp=Z,15nm,0.6s,baz=20,slow=7.0,SNR=44							
FITZ	Fitzroy Crossi	23.76 183	P	P	15 42 22.5	+1.1		
	baz=24,SNR=16							
FITZ	Fitzroy Crossi	23.76 183	P	P	15 42 21.6	+0.2		
FITZ			IAmb	IAmb	15 42 24.3			
	comp=Z,14nm,0.7s							
JRMM	Jerantut	24.51 267	P	P	15 42 30.0	+1.7		
KLSI		24.55 245	P	P	15 42 28.2	-0.4		
	comp=Z,5.4nm,1.3s							
KASI	Kota Agung	25.11 244	P	P	15 42 34.6	+0.8		
	comp=Z,49nm,0.9s							
COEN	Coen	25.34 141	P	P	15 42 35.9	+0.2		
IPM	Ipoh	25.90 268	P	P	15 42 40.5	-0.5		
IPM	Ipoh	25.90 268	P	P	15 42 41.0	+0.1		
WB0	Warramunga Arr	26.40 164	P	P	15 42 45.1	-0.2		
WRA	Warramunga Arr	26.55 164	P	P	15 42 46.3	-0.4		
	comp=Z,9.9nm,0.5s,baz=347,slow=10,SNR=58							
WRA			ScP	ScP	15 49 35.5	-0.4		
	comp=Z,1.7nm,0.7s,baz=345,slow=3.1,SNR=8.1							
WRA	Warramunga Arr	26.55 164	P	P	15 42 47.5	+0.8		
WB2	Warramunga Arr	26.56 164	P	P	15 42 45.9	-0.8		
WB2			IAmb	IAmb	15 42 53.3			
	comp=Z,16nm,0.8s							
WR0	Warramunga Arr	26.62 164	P	P	15 42 47.1	-0.2		
WR0			IAmb	IAmb	15 42 53.2			
	comp=Z,11nm,0.7s							
RABL	Rabaul	27.01 111	P	P	15 42 50.9	0.0		
JNU	Nakatsue	27.45 7	P	P	15 42 54.5	-0.1		
	comp=Z,7.7nm,0.8s,baz=173,slow=12,SNR=2.5							
PSI	Prapat	28.15 265	P	P	15 42 59.8	-1.3		
	comp=Z,6.9nm,0.7s,baz=180,slow=0.5,SNR=6.6							
QIS	Mount Isa	28.95 155	P	P	15 43 08.1	+0.1		
	baz=29,SNR=19							
MTSU	Mount Surprise	29.26 145	P	P	15 43 12.1	+1.3		
	baz=29,SNR=10							
GSI	Gunungsitoli	29.69 263	P	P	15 43 12.4	-2.3		
GSI	Gunungsitoli	29.69 263	P	P	15 43 12.8	-1.9		
	comp=Z,2µmcomp=Z,56nm,0.7s							
AS31	Alice Springs	30.02 167	P	P	15 43 17.4	-0.1		
ASAR	Alice Springs	30.03 167	P	P	15 43 17.2	-0.3		
	comp=Z,1.9nm,0.5s,baz=341,slow=6.9,SNR=58							
ASAR			PcP	PcP	15 46 17.1	+0.5		
	comp=Z,0.7nm,0.5s,baz=355,slow=2.0,SNR=4.5							
ASAR			ScP	ScP	15 49 46.5	-0.2		
	comp=Z,0.9nm,0.7s,baz=344,slow=2.9,SNR=7.8							
ASAR	Alice Springs	30.03 167	P	P	15 43 17.4	-0.1		
ASAR				PcP	15 46 15.9	-0.7		
CMAR	Chiang Mai Arr	30.13 297	P	P	15 43 19.4	+0.8		
	comp=Z,2.2nm,0.6s,baz=111,slow=7.3,SNR=16							
CMAR			PcP	PcP	15 46 17.8	+0.9		
	comp=Z,0.5nm,0.3s,baz=133,slow=2.4,SNR=4.2							
CMAR			ScP	ScP	15 49 47.5	+0.4		
	comp=Z,0.3nm,0.3s,baz=109,slow=1.2,SNR=5.9							
CMAR			LR	LR	15 57 14.5			
	comp=Z,26nm,18.8s,baz=150,slow=40							
CHTO	Chiang Mai	30.26 298	P	P	15 43 19.5	-0.1		
JWT	Wachi	30.37 14	P	P	15 43 21.7	+1.3		
JWT			IAmb	IAmb	15 43 22.9			
	comp=Z,10nm,0.6s							
WRKA	Warakurna	30.65 178	P	P	15 43 23.6	+0.6		
	baz=31,SNR=6.1							
INU	Inuyama	30.85 16	P	P	15 43 25.2	+0.6		
INU			IAmb	IAmb	15 43 26.6			
	comp=Z,9.1nm,0.6s							
JGF	Kuroka	31.18 16	P	P	15 43 27.4	-0.1		
JGF			IAmb	IAmb	15 43 29.9			
	comp=Z,6.0nm,0.7s							
KSRS	Korea Array	31.55 1	P	P	15 43 31.5	+0.8		
	comp=Z,1.7nm,0.6s,baz=178,slow=9.4,SNR=13							
KSRS			LR	LR	15 57 34.5			
	comp=Z,6.0nm,20.6s,baz=205,slow=38							
CTA	Charters Tower	31.92 144	P	P	15 43 36.0	+1.8		
	comp=Z,5.2nm,0.7s,baz=329,slow=11,SNR=7.4							
CTAO	Charters Tower	31.92 144	P	P	15 43 33.3	-0.9		
CTAO			IAmb	IAmb	15 43 40.0			
	comp=Z,9.6nm,1.1s							
MJAR	Matsushiro Arr	32.30 17	P	P	15 43 37.2	-0.2		
	comp=Z,1.5nm,0.6s,baz=180,slow=8.9,SNR=11							
MJAR			PcP	PcP	15 46 23.0	+0.6		
	comp=Z,0.3nm,0.5s,baz=179,slow=4.0,SNR=4.4							
MJAR	Matsushiro Arr	32.30 17	P	P	15 43 37.0	-0.4		
MAJO	Matsushiro	32.30 17	P	P	15 43 37.4	0.0		
XAN	Xi'an	32.74 332	P	P	15 43 42.1	+0.8		
XAN			pmax	pmax				
	comp=Z,16nm,0.6s							
XAN			pmax	pmax				
	comp=Z,59nm,4.9s							
XAN	Xi'an	32.74 332	P	P	15 43 41.6	+0.3		
XAN			IAmb	IAmb	15 43 43.6			
	comp=Z,12nm,0.8s							
CD2	Chengdu	33.19 322	*e*P	P	15 43 45.6	+0.4		
JSD	Sado	33.71 16	P	P	15 43 49.8	+0.3		
BJI	Beijing	35.48 346	P	P	15 44 06.0	+1.3		
BJI			pmax	pmax				
	comp=Z,9.0nm,0.8s							
MORW	Morawa	36.21 196	P	P	15 44 11.7	+0.6		
MORW			IAmb	IAmb	15 44 19.6			
	comp=Z,4.7nm,0.8s							
FORT	Forrest	36.36 178	P	P	15 44 12.9	+0.6		
	baz=37,SNR=17							
FORT	Forrest	36.36 178	P	P	15 44 12.7	+0.4		
BLDU	Ballidu	37.50 195	P	P	15 44 22.5	+0.5		
	baz=38,SNR=4.9							
USA0B	Ussuriysk Arra	38.52 6	P	P	15 44 31.1	+0.7		
USRK	Ussuriysk Ar.	38.52 6	P	P	15 44 32.1	+1.7		
	comp=Z,3.7nm,0.6s,baz=196,slow=9.0,SNR=12							
MUN	Mundaring	38.92 195	P	P	15 44 34.9	+1.0		
	baz=39,SNR=6.0							
BBOO	Buckleboo	39.32 168	P	P	15 44 37.5	+0.3		
	baz=40,SNR=13							
BBOO	Buckleboo	39.32 168	P	P	15 44 37.1	-0.1		
BBOO			IAmb	IAmb	15 44 38.3			
	comp=Z,13nm,0.8s							
NWAO	Narrogin (SRO)	39.59 193	P	P	15 44 39.3	-0.2		
	comp=Z,11nm,0.5s,baz=22,slow=7.1,SNR=16							
NWAO	Narrogin (SRO)	39.59 193	P	P	15 44 40.5	+1.1		
	baz=40,SNR=10							
NWAO	Narrogin (SRO)	39.59 193	P	P	15 44 40.2	+0.7		
STKA	Stephens Creek	39.94 160	P	P	15 44 42.9	+0.5		
	comp=Z,8.7nm,0.4s,baz=340,slow=8.9,SNR=18							
STKA			PP	PP	15 46 14.8	-2.2		
	comp=Z,7.3nm,0.7s,baz=333,slow=14,SNR=4.9							
STKA	Stephens Creek	39.94 160	P	P	15 44 42.9	+0.5		
	baz=40,SNR=11							
STKA	Stephens Creek	39.94 160	P	P	15 44 42.5	+0.1		
HTT	Hallett	40.59 165	P	P	15 44 48.7	+0.9		
	baz=41,SNR=4.2							
H11S3	WAKE ISLAND Hy	40.70 68	T	T	16 29 22.5			
	baz=251							
H11S1	WAKE ISLAND Hy	40.72 68	T	T	16 29 22.6			
	baz=251							
H11S2	WAKE ISLAND Hy	40.72 68	T	T	16 29 37.1			
	baz=251							
H11N1	WAKE ISLAND Hy	41.17 67	T	T	16 29 53.6			
	baz=257							
H11N2	WAKE ISLAND Hy	41.18 67	T	T	16 30 02.5			
	baz=257							
H11N3	WAKE ISLAND Hy	41.19 67	T	T	16 29 57.7			
	baz=257							
LSA	Lhasa	41.33 309	P	P	15 44 55.3	+0.9		
LSA			pmax	pmax				
	comp=Z,36nm,1.1s							
GTA	Gaotai	41.51 328	P	P	15 44 56.3	+1.0		
GTA			pmax	pmax				
	comp=Z,5.0nm,0.9s							
TAPN	Taplejung	43.06 304	*e*P	P	15 45 07.9	-0.4		
	comp=Z,16nm,0.5s							
ODAN	Odare	43.14 304	*e*P	P	15 45 09.0	+0.1		
	comp=Z,48nm,0.8s							
RAMN	Ramite	43.83 303	*e*P	P	15 45 14.9	+0.5		
	comp=Z,46nm,0.8s							
ARPS	Mount Arapiles	44.54 163	P	P	15 45 20.7	+1.1		
	baz=45,SNR=14							
GUN	Gumba	44.78 304	*e*P	P	15 45 22.0	-0.1		
	comp=Z,42nm,0.8s							
PKI	Pulchoki	45.04 304	*e*P	P	15 45 23.5	-0.6		
	comp=Z,34nm,1.2s							
PKIN	Phulchoki	45.05 304	*e*P	P	15 45 23.4	-0.8		
	comp=Z,21nm,1.0s							
KKN	Kakani	45.23 304	*e*P	P	15 45 25.1	-0.4		
	comp=Z,29nm,0.9s							
DMN	Daman	45.31 304	*e*P	P	15 45 25.9	-0.3		
	comp=Z,33nm,1.0s							
SONM	Songino Array	45.47 341	P	P	15 45 28.3	+1.4		
	comp=Z,3.3nm,0.6s,baz=156,slow=8.5,SNR=34							
SONM	Songino Array	45.47 341	P	P	15 45 27.5	+0.5		
GKN	Gorkha	45.83 304	*e*P	P	15 45 29.5	-0.7		
	comp=Z,13nm,0.7s							
HYB	Hyderabad	48.71 288	*i* P	P	15 45 52.0	-0.5		
PETK	Petropavlovsk-	53.45 23	P	P	15 46 29.0	+1.7		
	comp=Z,5.2nm,0.7s,baz=193,slow=5.8,SNR=12							
PETK	Petropavlovsk-	53.45 23	P	P	15 46 28.8	+1.5		
ZSN	Zaisan	54.96 326	*e*P	P	15 46 39.1	+0.8		
	baz=326							
SHLS	Shalkode	55.97 319	*e*P	P	15 46 44.8	-0.9		
	comp=Z,12nm,0.9s,baz=320							
MK31	Makanchi Array	56.05 324	P	P	15 46 47.1	+1.0		
MK31			IAmb	IAmb	15 46 48.0			
	comp=Z,8.9nm,0.8s							
MKAR	Makanchi Array	56.05 324	P	P	15 46 47.0	+0.9		
	comp=Z,13nm,0.6s,baz=122,slow=8.1,SNR=181							
MKAR	Makanchi Array	56.05 324	P	P	15 46 47.2	+1.1		
MAKZ	Makanchi	56.24 324	P	P	15 46 48.6	+1.1		
SATY	Saty	56.61 319⇑	*i*P	P	15 46 51.3	+1.0		
	comp=Z,8.1nm,0.7s,baz=319							
KPKS	Kokpek	56.62 319	*e*P	P	15 46 51.0	+0.7		
	comp=Z,11nm,0.6s,baz=319							
MDOK	Medeo	57.55 318	*e*P	P	15 46 58.0	+1.1		
	baz=318							
TNSS	Tian-Shan	57.56 318	*e*P	P	15 46 58.5	+1.2		
	baz=318							
AAA	Alma-Ata	57.66 318	*e*P	P	15 46 58.7	+1.1		
	comp=Z,6.7nm,0.6s,baz=318							
ULHL	Ulahol	57.70 317	P	P	15 46 59.1	+1.0		
	SNR=5.1							
CHKK	Chushkaly	57.89 319	*e*P	P	15 46 59.5	+0.4		
	baz=319							
KUU	Kurty	58.33 319	*e*P	P	15 47 02.9	+0.7		
	comp=Z,30nm,1.1s,baz=319							
TKM2	Tokmak 2	58.42 318	P	P	15 47 04.0	+0.9		
	SNR=9.0							
KBK	Karagaybulak	58.75 317	P	P	15 47 06.7	+1.3		
	SNR=7.8							
UCH	Uchtor	58.87 317	P	P	15 47 08.0	+1.5		
	SNR=20							
ZAA0	Zalesovo Array	58.91 332	P	P	15 47 06.2	+0.2		
ZAA0			IAmb	IAmb	15 47 07.0			
	comp=Z,4.5nm,0.6s							
ZALV	Zalesovo Beam	58.91 332	P	P	15 47 06.5	+0.6		
	comp=Z,3.9nm,0.4s,baz=128,slow=5.7,SNR=24							
ZALV	Zalesovo Beam	58.91 332	P	P	15 47 06.3	+0.3		
CHMS	Chumysh	59.02 317	P	P	15 47 07.7	+0.7		
	SNR=5.3							
AAK	Ala-Archa	59.05 317	P	P	15 47 08.3	+1.0		
	SNR=6.4							
AAK	Ala-Archa	59.05 317	P	P	15 47 08.3	+1.0		
AAK			IAmb	IAmb	15 47 09.7			
	comp=Z,3.7nm,0.8s							
SEM	Semipalatinsk	59.14 327	*e*P	P	15 47 07.5	-0.4		
	baz=327							
USP	Ospenovka	59.29 318	P	P	15 47 09.7	+0.8		
	SNR=12							
AML	Almayashu	59.40 316	P	P	15 47 11.3	+1.2		
	SNR=18							
EKS2	Erkin-Say	59.54 317	P	P	15 47 11.9	+1.2		
	SNR=12							
BTLS	Baital	60.30 319	*e*P	P	15 47 16.1	+0.4		
	comp=Z,4.1nm,0.7s,baz=319							
KBL	Kabul	60.52 307	P	P	15 47 16.0	-1.7		
DZA	Taraz	61.30 316	*e*P	P	15 47 23.3	+0.7		
	baz=316							
KK31	Karatay Array	61.94 316	P	P	15 47 27.5	+0.7		
KK31			IAmb	IAmb	15 47 28.2			
	comp=Z,11nm,0.8s							
KKAR	Karatay Array	61.94 316	P	P	15 47 26.7	-0.2		
KKAR	Karatay Array	61.94 316	P	P	15 47 27.6	+0.7		
KKAR			IAmb	IAmb	15 47 28.2			
	comp=Z,11nm,0.8s							
IUG	Iuzhnay	61.96 315	*e*P	P	15 47 27.8	+0.7		
	comp=Z,5.5nm,0.7s,baz=315							
BRZS	Berezniki	63.20 324	*e*P	P	15 47 35.7	+0.6		
	comp=Z,18nm,2.5s,baz=324							
TIXI	Tiksi	65.81 1	P	P	15 47 51.3	-0.2		
TIXI			IAmb	IAmb	15 47 52.7			
	comp=Z,4.9nm,0.8s							
BRVK	Borovoye	65.84 326	P	P	15 47 52.4	+0.3		
GEYT	Alibeck	69.84 308	P	P	15 48 18.6	+1.0		
	comp=Z,5.9nm,0.8s,baz=162,slow=5.9,SNR=14							
ABKAR	Akbulak array	70.75 320	P	P	15 48 23.6	+0.7		
ARU	Arti	73.37 327	LR	LR	16 21 24.7			
	comp=Z,21nm,18.0s,baz=36,slow=36							
ARU	Arti	73.37 327	P	P	15 48 38.3	0.0		
BELG	Belogornoye	78.97 322	LR	LR	16 26 55.1			
	comp=Z,20nm,18.6s,baz=143,slow=38							
RAYN	Ar Rayn	79.94 293	P	P	15 49 15.4	-0.6		
RAYN			IAmb	IAmb	15 49 16.9			
	comp=Z,11nm,0.8s							
IMAR	Indian Mountai	80.38 24	P	P	15 49 17.9	+0.5		
SUA	Susitna One	81.25 29	P	P	15 49 22.4	+0.2		
SUA			IAmb	IAmb	15 49 23.7			
	comp=Z,6.8nm,1.0s							
KBZ	Khabaz	81.78 313	P	P	15 49 25.9	+0.7		
	comp=Z,3.8nm,1.1s,baz=141,slow=23,SNR=6.6							
MCK	McKinley	82.23 27	P	P	15 49 27.9	+0.7		
MCK			IAmb	IAmb	15 49 28.1			
	comp=Z,12nm,1.1s							
TOLK	Toolik Lake Re	82.26 22	P	P	15 49 28.7	+1.4		
ILAR	Eielson Array	83.16 26	P	P	15 49 32.1	+0.2		
	comp=Z,0.9nm,0.7s,baz=251,slow=5.6,SNR=13							
KLMR	Klimovskoe	83.77 331	*e*P	P	15 49 34.0	-1.1		
KLMR			AMP		15 49 36.8			
	comp=Z,12nm,0.9s							
BMAR	Burnt Mountain	84.10 23	P	P	15 49 38.6	+1.8		
ARCES	ARCESS Array B	88.64 340	P	P	15 49 58.3	-0.5		
	comp=Z,2.8nm,0.7s,baz=58,slow=3.8,SNR=7.6							
BRTR	Keskin Array B	88.93 310	P	P	15 50 00.5	-0.5		
	comp=Z,1.9nm,0.9s,baz=104,slow=5.2,SNR=7.0							
BRTR	Keskin Array B	88.93 310	P	P	15 49 58.7	-2.4		
KMBO	Kilima Mbogo	89.86 269	P	P	15 50 06.2	+0.2		
	comp=Z,0.8nm,0.3s,baz=62,slow=10,SNR=5.7							
FINES	FINESS Array B	90.17 332	P	P	15 50 05.6	-0.5		
	comp=Z,5.1nm,1.1s,baz=48,slow=5.7,SNR=6.2							
AKASG	Malin Array Be	90.49 321	P	P	15 50 07.2	-0.6		
	comp=Z,0.5nm,0.4s,baz=67,slow=4.0,SNR=5.9							
MNK	Minsk	90.62 325	*i* P	P	15 50 03.8	-4.5		
	comp=E,2.0nm,0.8s							
MNK			*i* P	P	15 50 03.8	-4.5		
	comp=N,15nm,0.9s							
MNK			*i* P	P	15 50 03.8	-4.5		
	comp=Z,6.0nm,0.8s							
MNK			*i* PP	PP	15 53 39.4	-5.5		
MNK			*i* PPP	PPP	15 55 37.4			
MNK			*i* S	SKSac	16 00 22.3	-5.2		
MNK			*i* PS	PS	16 02 11.7	-5.7		
MNK			*i* SS	SS	16 06 51.3	-5.5		
MNK			*i* SSS	SSS	16 10 28.8			
MNK			*i* LRM	MLR	16 31 59.7			
	comp=E,4.0nm,14.5s							
MNK			*i* LRM	MLR	16 31 59.7			
	comp=N,213nm,25.3s							
MNK			*i* LRM	MLR	16 32 27.9			
	comp=Z,77nm,17.4s							
KOLS	Kolonicke sedl	95.26 320	*e*P	P	15 50 32.5	+2.6		
CRVS	Cervenica-Dubn	95.79 320	*e*P	P	15 50 34.3	+2.0		
YKA	Yellowknife Ar	97.54 24	P	P	15 50 39.8	0.0		
	comp=Z,0.2nm,0.3s,baz=304,slow=4.0,SNR=4.7							
GERES	GERESS Array B	100.66 322	P	Pdif	15 50 55.4	+1.1		
	comp=Z,0.2nm,0.2s,baz=30,slow=8.0,SNR=3.8							
PDAR	Pinedale Array	109.64 41	PKKPbc	PKKPbc	16 06 52.0	+10		
	comp=Z,0.4nm,0.8s,baz=93,slow=5.2,SNR=4.0							
TORD	Torodi Ar. Bea	122.52 289	PKP	PKPdf	15 56 01.4	-0.4		
	comp=Z,1.3nm,0.7s,baz=40,slow=2.2,SNR=8.6							

MEX 21 15:48:46.5±0.5, 13°.82N×93°.17W, h16km±161km, MD3.8, Off coast of Chiapas

*JMA **21** 16:01:17.5±0.1,24°.03N×122°.55E,h28km×3km,M2.2*
*TAP **21** 16:01:18.1,24°.08N×122°.61E,h38km,ML2.8,D*
ISC 21 16:01:17.7±1.0, 24°.04N±0°.03×122°.58E±0°.02, h30km±11km, n59, σ0°73/91, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	Yonagunijimaku	0.53	39	P	Pb	16 01 28.4	-0.3
JYNG				S	Sb	16 01 36.3	+0.2
YOJ	Yonaguni jima	0.58	43	*i* P	Pb	16 01 29.3	-0.1
	baz=49						
YOJ				*i* S	Sb	16 01 37.4	0.0
	baz=49						
YOJ	Yonaguni jima	0.58	43	P	Pb	16 01 29.1	-0.3
YOJ				S	Sn	16 01 37.6	-0.8
EWUT	Wuta	0.83	299	*e*P	Pb	16 01 33.5	-0.2
	baz=296						
EWUT				*e*S	Sb	16 01 45.6	+1.1
	baz=296						
ENA	Nanau	0.85	297	*e*P	Pn	16 01 33.6	-0.2
	baz=294						
ENA				*e*S	Sb	16 01 46.6	+1.4
	baz=294						
TWC	Suao	0.87	311	*i* P	Pb	16 01 34.8	+0.5
	baz=308						
TWC				S	Sn	16 01 45.0	-0.7
	baz=308						
NACB	Ninganchiao	0.91	279	*e*P	Pn	16 01 33.9	-0.5
	baz=263						
NACB				*e*S	Sb	16 01 46.6	-0.1
	baz=263						
NDS	Dongshan	0.98	307	P	Pb	16 01 36.4	+0.1
	baz=305						
NDS				*e*S	Sn	16 01 48.3	-0.1
	baz=305						
ETLH	Xiulin Townshi	1.01	280	*e*P	Pn	16 01 35.7	-0.3
	baz=277				

baz=285
CHGB Renai 1.28 271 *e*P Pn 16 01 39.9 0.0
baz=269
CHGB *e*S Sn 16 01 56.1 0.0
baz=269
TWA Mucha 1.30 316 *e*S Sb 16 01 57.4 -0.6
baz=315
JKRS Kuro-shima 1.32 81 P Pb 16 01 41.4 -0.6
JKRS S Sb 16 01 58.2 -0.4
NHDH Xindian Distri 1.33 314 *e*S Sb 16 01 57.7 -1.0
baz=327
YULB Yu-li 1.34 241 *e*P Pn 16 01 40.4 0.0
baz=230
YULB *e*S Sn 16 01 57.4 +0.2
baz=230
EYUL Yuli 1.34 239 *e*P Pn 16 01 40.8 +0.3
baz=238
EYUL *e*S Sn 16 01 57.9 +0.6
baz=238
VWDT VWDT 1.34 258 *e*P Pn 16 01 40.9 +0.5
baz=256
VWDT *e*S Sn 16 01 57.7 +0.4
baz=256
TWF1 Yuli 1.36 240 *e*P Pn 16 01 40.8 +0.1
baz=229
TATO Taipei 1.36 313 *e*P Pb 16 01 43.8 +1.2
baz=327
TATO *e*S Sb 16 01 58.7 -0.9
baz=327
FULB Fuli 1.44 235 *e*P Pn 16 01 41.7 -0.2
baz=224
FULB *e*S Sn 16 01 59.7 -0.1
baz=224
YM04 YM04 1.46 320 *e*P Pn 16 01 42.5 +0.4
baz=318
JIJ Ishigaki jima 1.47 77 P Pn 16 01 42.5 +0.4
JIJ *e*S Sn 16 02 01.0 +0.7
SSLB Suanglung 1.51 261 *e*P Pn 16 01 43.8 +1.0
baz=259
WHP Taichung City 1.51 279 *e*P Pb 16 01 45.4 +0.3
baz=268
WHP *e*S Sb 16 02 04.9 +1.0
baz=268
DPDB Guoxing 1.51 270 *e*P Pb 16 01 45.9 +0.8
baz=268
SMLT Sun Moon Lake 1.54 265 *e*P Pn 16 01 44.0 +0.7
baz=262
LIOB Emei 1.55 293 *e*P Pb 16 01 46.0 +0.2
baz=291
TYC Yuchr 1.58 265 *e*P Pb 16 01 45.8 -0.5
baz=263
JISG Ishigakijimahi 1.67 71 P Pn 16 01 45.2 +0.2
JISG *e*S Sn 16 02 05.4 0.0
ALS Alishan 1.71 252 *e*P Pn 16 01 46.9 +1.1
baz=250
CHN5 Tsauling 1.79 256 *e*P Pb 16 01 48.8 -1.3
baz=245
CHN5 *e*S Sb 16 02 13.8 +1.6
baz=245
TWGBT Beinan 1.84 229 *e*P Pn 16 01 47.1 -0.1
baz=220
TWGBT *e*S Sn 16 02 08.5 -0.9
baz=220
TWG Pinlang 1.84 229 *e*P Pn 16 01 47.8 +0.5
baz=221
STYH Taoyuan 1.86 243 *e*P Pn 16 01 49.3 +1.7
baz=231
STYT Tauyuan 1.88 243 *e*P Pn 16 01 49.5 +1.6
baz=231
TPUB Ta-pu 1.93 248 *e*P Pb 16 01 50.7 -1.6
baz=246
TPUB *e*S Sb 16 02 14.9 -1.1
baz=246
CHN4 Tsaushan 1.94 250 *e*P Pb 16 01 51.5 -1.0
baz=248
WTP Ta-pu 1.97 247 *e*P Pn 16 01 51.0 +1.9
baz=236
JTJ Tarama 2.03 72 *e*S Sn 16 02 15.6 +1.4
MASBT Mashibuluo 2.28 232 *e*P Pn 16 01 54.5 +1.1
baz=224

NEIC ***21*** *16:16:32.9±1.4, 22°.29S±0°.09×178°.0W±0°.1, h337km, mb5.2/183, Error ellipse: s-maj=13.8km s-min=12.9km az=86.0*
BJI ***21*** *16:16:32.5±0.0, 22°.06S×177°.26W, h358km, mB5.0/39, mb5.2/60*
MOS ***21*** *16:16:32.5±0.8, 22°.11S×178°.06W, h337km, mb5.2/14, Error ellipse: s-maj=8.5km s-min=7.8km az=41.3*
NOU ***21*** *16:16:35.3, 22°.32S×178°.07W, h351km, mb5.3, South of Fiji Islands*
IDC ***21*** *16:16:36.6±0.5, 22°.29S×178°.08W, h367km±4km, mb4.7/38, mb1 4.7/42, mb1mx4.6/49, mbtmp5.4/42, Error ellipse: s-maj=9.5km s-min=6.8km az=162.0*
GCMT ***21*** *16:16:38.9±0.3, 22°.31S±0°.03×178°.05W±0°.03, h371km±1km, MW5.3/99, Moment Tensor Solution. s99, c147; Duration: 1s1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.26±.02; Mθθ 0.45±.04; Mϕϕ-0.18±.03; Mrθ-0.33±.03; Mθϕ 0.25±.03; Mϕr-0.91±.03; Best double couple: M₀1.06600×10¹⁷ NP1:φs282.00000°, δ24.00000°, λ-17.00000°. NP2:φ27.00000°, δ83.00000°, λ-113.00000°. Principal axes: T 0.9950, Plg34.0000°, Azm137.0000°; N 0.1410, Plg23.0000°, Azm30.0000°; P -1.1370, Plg47.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
BGR ***21*** *16:16:38.7±0.0, 22°.28S×178°.23W, h386km*
ISC 21 16:16:35.3±0.3, 22°.37S±0°.04×177°.96W±0°.04, h362km±3km, h364km; pP-P, n851, σ1§43/883, mb5.3/228, 64C-61D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.94**	**320**	P	**Pn**	**16 18 06.8**	**+0.8**
	70nm,0.3s,baz=138,slow=14,SNR=484						
MSVF	**Nonsavu**	**5.94**	**320**	*c i*P	**Pn**	**16 18 06.7**	**+0.7**
RIZ	**Raoul Island**	**6.85**	**180**	P	**Pn**	**16 18 15.8**	**-0.3**
RIZ				S	**S**	**16 19 37.1**	**-1.1**
RAO	**Raoul Island**	**6.86**	**180**	P	**Pn**	**16 18 16.7**	**+0.6**
	78nm,0.3s,baz=128,slow=21,SNR=1.7						
RAO				S	**S**	**16 19 34.7**	**-3.6**
	279nm,0.3s,baz=83,slow=22,SNR=3.7						
GLKZ	**Green Lake**	**6.87**	**180**	P	**Pn**	**16 18 15.8**	**-0.5**
GLKZ				S	**S**	**16 19 37.1**	**-1.4**
NIUE	**Niue**	**8.20**	**68**	P	**Pn**	**16 18 29.8**	**-2.2**
	baz=7.9						
NIUE				S	**S**	**16 20 01.2**	**-6.2**
	baz=7.9						
NIUE	**Niue**	**8.20**	**68**		**Pn**	**16 18 30.3**	**-1.7**
AFI	**Afiamalu**	**10.26**	**36**	P	Pn	16 18 51.1	-5.4
	40nm,0.3s,baz=206,slow=2.5,SNR=50						
AFI				S	S	16 20 34.8	-18
	129nm,0.3s,baz=59,slow=20,SNR=14						
AFI	**Afiamalu**	**10.26**	**36**	P	Pn	16 18 50.8	-5.7
AFI	**Afiamalu**	**10.26**	**36**	Pn	Pn	16 18 50.8	-5.7
NFK	**Norfolk Island**	**14.34**	**239**	P	**Pn**	**16 19 46.2**	**+2.1**
	baz=15						
DZM	**Mont Dzumac**	**14.45**	**268**	*e*P	**Pn**	**16 19 45.9**	**+0.3**
	675nm,1.0s						
DZM	**Mont Dzumac**	**14.45**	**268**	P	**P**	**16 19 44.0**	**+0.6**
	5.6nm,0.3s,baz=86,slow=16,SNR=63						
DZM				S	**S**	**16 22 17.0**	**-2.4**
	baz=212,slow=14,SNR=1.2						
DZM	**Mont Dzumac**	**14.45**	**268**		**Pn**	**16 19 44.6**	**-0.9**
OUZ	**Omahuta**	**14.78**	**208**	P	**Pn**	**16 19 49.0**	**-0.1**
OUZ	**Omahuta**	**14.78**	**208**	P	**Pn**	**16 19 50.4**	**+1.3**
GRZ	**Great Barrier**	**14.97**	**201**	P	**Pn**	**16 19 52.8**	**+1.5**
WCZ	**Waipu Caves**	**15.09**	**205**	P	**Pn**	**16 19 54.0**	**+1.3**
MXZ	**Matakaoa Point**	**15.48**	**191**	P	**P**	**16 19 54.5**	**+0.1**
MXZ	**Matakaoa Point**	**15.48**	**191**	P	**P**	**16 19 54.8**	**+0.4**
MXZ				S	**S**	**16 22 35.2**	**-4.4**
SANVU	**Saraoutou**	**15.63**	**294**	P	**P**	**16 19 57.4**	**+1.1**
WMGZ	**Waiomatatini S**	**15.71**	**191**	P	**P**	**16 19 58.0**	**+1.1**
WMGZ				S	**S**	**16 22 41.5**	**-2.6**
HAZ	**Te Kaha**	**15.77**	**192**	P	**P**	**16 19 57.3**	**-0.3**
HAZ				S	**S**	**16 22 41.5**	**-3.7**
PKGZ	**Pakihiroa**	**15.84**	**192**	P	**P**	**16 19 59.6**	**+1.2**
PKGZ				S	**S**	**16 22 42.7**	**-4.1**
PUZ	**Puketiti**	**15.99**	**191**	P	**P**	**16 19 59.4**	**-0.5**
PUZ				S	**S**	**16 22 45.5**	**-4.1**
RUGZ	**Raukumara Rang**	**15.99**	**193**	P	**P**	**16 20 00.3**	**+0.2**
RUGZ				S	**S**	**16 22 45.9**	**-4.0**
OPRZ	**Ohinepanea**	**16.13**	**196**	P	**Pn**	**16 20 03.4**	**-1.3**
TWGZ	**Tauwhareparae**	**16.14**	**192**	P	**P**	**16 20 02.3**	**+0.7**
TWGZ				S	**S**	**16 22 48.9**	**-3.8**
MARZ	**Manawahe**	**16.24**	**195**	P	**Pn**	**16 20 05.3**	**-0.7**
KMRZ	**Kaimai**	**16.30**	**197**	P	**Pn**	**16 20 05.8**	**-0.9**
KARZ	**Kaharoa**	**16.38**	**196**	P	**Pn**	**16 20 06.5**	**-1.2**
MWZ	**Matawai**	**16.38**	**193**	P	**P**	**16 20 03.4**	**-0.8**
MWZ				S	**S**	**16 22 51.3**	**-6.1**
URZ	**Urewera**	**16.40**	**194**	P	**P**	**16 20 03.3**	**-1.0**
	7.8nm,0.3s,baz=38,slow=2.1,SNR=56						
URZ				S	**S**	**16 22 55.3**	**-2.3**
	5.1nm,0.3s,baz=96,slow=22,SNR=3.3						
URZ	**Urewera**	**16.40**	**194**	P	**P**	**16 20 02.7**	**-1.6**
URZ	**Urewera**	**16.40**	**194**	P	**P**	**16 20 03.2**	**-1.1**
URZ				S	**S**	**16 22 53.7**	**-4.0**
CNGZ	**Carnagh Statio**	**16.40**	**191**	P	**P**	**16 20 04.6**	**+0.3**
CNGZ				S	**S**	**16 22 53.5**	**-4.2**
TKGZ	**Te Karaka**	**16.42**	**192**	P	**P**	**16 20 03.7**	**-0.8**
TKGZ				S	**S**	**16 22 53.5**	**-4.6**
OMRZ	**Omania**	**16.43**	**196**	P	**Pn**	**16 20 08.1**	**-0.1**
RAGZ	**Rawiri**	**16.56**	**193**	P	**P**	**16 20 06.3**	**+0.1**
RAGZ				S	**S**	**16 22 58.0**	**-2.9**
MUGZ	**Murupara**	**16.68**	**195**	P	**P**	**16 20 06.9**	**-0.6**
RIGZ	**Rimuhau**	**16.69**	**192**	P	**P**	**16 20 07.4**	**-0.1**
RAR	**Rarotonga**	**16.93**	**90**	P	**P**	**16 20 11.2**	**+0.9**
	1.6nm,0.3s,baz=232,slow=7.8,SNR=9.8						
MTHZ	**Maungataniwha**	**17.02**	**194**	P	**P**	**16 20 11.2**	**+0.1**
MRHZ	**Matea Rd**	**17.11**	**195**	P	**P**	**16 20 12.0**	**0.0**
BKZ	**Black Stump Fm**	**17.40**	**195**	P	**P**	**16 20 14.5**	**-0.6**
BFZ	**Birch Farm**	**18.91**	**194**	P	**P**	**16 20 29.8**	**-1.3**
MSWZ	**Moikau Station**	**19.83**	**195**	P	**P**	**16 20 39.2**	**-1.5**
SNZO	**South Karori**	**19.87**	**196**	P	**P**	**16 20 41.0**	**0.0**
SNZO				IAmb	IAmb	16 20 42.5	
	comp=Z,63nm,0.6s						
BHW	**Baring Head**	**19.92**	**196**	P	**P**	**16 20 41.3**	**-0.2**
PLWZ	**Palliser**	**19.98**	**195**	P	**P**	**16 20 41.7**	**-0.4**
QRZ	**Quartz Range**	**20.08**	**201**	P	**P**	**16 20 43.8**	**+0.7**
QRZ				IAmb	IAmb	16 20 47.1	
	comp=Z,105nm,0.7s						
NNZ	**Nelson**	**20.16**	**199**	P	**P**	**16 20 43.5**	**-0.3**
TUWZ	**Tuamarina**	**20.19**	**198**	P	**P**	**16 20 43.0**	**-1.1**
THZ	**Tophouse**	**20.80**	**200**	P	**P**	**16 20 49.3**	**-0.4**
KHZ	**Kahutara**	**21.22**	**198**	P	**P**	**16 20 52.8**	**-0.4**
LTZ	**Lake Taylor**	**21.93**	**200**	P	**P**	**16 20 58.6**	**-1.2**
LTZ				IAmb	IAmb	16 21 02.3	
	comp=Z,74nm,0.7s						
LHI	**Lord Howe Isla**	**22.38**	**241**	P	**P**	**16 21 06.6**	**+2.5**
	baz=23,SNR=12						
LHI	**Lord Howe Isla**	**22.38**	**241**	P	**P**	**16 21 04.6**	**+0.5**
OXZ	**Oxford**	**22.49**	**199**	IAmb	IAmb	16 21 09.0	
	comp=Z,73nm,0.7s						
RPZ	**Rata Peaks**	**23.15**	**201**	P	**P**	**16 21 11.2**	**+0.3**
	comp=Z,18nm,0.6s,baz=352,slow=2.1,SNR=17						
RPZ	**Rata Peaks**	**23.15**	**201**	P	**P**	**16 21 10.4**	**-0.5**
HNR	**Honiara**	**24.79**	**298**	P	**P**	**16 21 24.5**	**-1.5**
	comp=Z,182nm,0.9s,baz=221,slow=6.0,SNR=14						
WHZ	**Wether Hill Ro**	**26.13**	**203**	P	**P**	**16 21 37.6**	**+0.1**
TBI	**Tubuai**	**26.27**	**98**	*e*P	**P**	**16 21 40.2**	**+1.2**
	comp=Z,110nm,0.9s						
PPT	**Papeete**	**27.08**	**85**	P	**P**	**16 21 48.3**	**+1.9**
	comp=Z,60nm,0.6s,baz=227,slow=23,SNR=3.7						
ARMA	**Armidale**	**28.33**	**247**	P	**P**	**16 21 59.2**	**+1.8**
	baz=29,SNR=60						
ARMA	**Armidale**	**28.33**	**247**	P	**P**	**16 21 59.1**	**+1.7**
ARMA				IAmb	IAmb	16 22 00.2	
	comp=Z,115nm,0.8s						
EIDS	**Eidsvold**	**28.44**	**258**	P	**P**	**16 21 58.9**	**+0.7**
	baz=29,SNR=50						
EIDS	**Eidsvold**	**28.44**	**258**	P	**P**	**16 21 59.0**	**+0.7**
EIDS				IAmb	IAmb	16 22 00.2	
	comp=Z,121nm,0.8s						
MGCD	**Mangrove Creek**	**29.32**	**242**	P	**P**	**16 22 07.8**	**+1.9**
	baz=30,SNR=29						
RIV	**Riverview**	**29.43**	**240**	P	**P**	**16 22 08.0**	**+1.2**
	baz=30,SNR=3.4						
RMQ	**Roma**	**30.53**	**256**	P	**P**	**16 22 18.6**	**+2.0**
	baz=31,SNR=77						
CNB	**Canberra Magne**	**31.25**	**238**	P	**P**	**16 22 24.4**	**+1.6**
	baz=32,SNR=33						
CAN	**Canberra**	**31.53**	**238**	P	**P**	**16 22 26.8**	**+1.5**
CAN				pmax	pmax		
	comp=Z,126nm,0.8s						
CAN	**Canberra**	**31.53**	**238**	P	**P**	**16 22 26.8**	**+1.5**
CAN				IAmb	IAmb	16 22 27.8	
	comp=Z,126nm,0.8s						
YNG	**Young**	**31.77**	**241**	P	**P**	**16 22 28.7**	**+1.4**
	baz=32,SNR=12						
CTA	**Charters Tower**	**33.39**	**267**	P	**P**	**16 22 41.9**	**+0.6**
	comp=Z,454nm,0.6s,baz=96,slow=11,SNR=577						
CTAO	**Charters Tower**	**33.39**	**267**	P	**P**	**16 22 42.5**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,547nm,0.7s						
CTAO	**Charters Tower**	**33.39**	**267**	P	**P**	**16 22 42.5**	**+1.1**
CMSA	**Coar Meteorol**	**33.53**	**246**	P	**P**	**16 22 43.2**	**+0.7**
	baz=34,SNR=101						
KWAJ	**Kwajalein Atol**	**34.05**	**334**	P	**P**	**16 22 46.8**	**-0.2**
KWAJ				pmax	pmax		
	comp=Z,573nm,0.9s						
KWAJ	**Kwajalein Atol**	**34.05**	**334**	P	**P**	**16 22 46.8**	**-0.2**
KWAJ	**Kwajalein Atol**	**34.05**	**334**	P	**P**	**16 22 47.3**	**+0.3**
RABL	**Rabaul**	**34.11**	**298**	P	**P**	**16 22 46.7**	**-0.9**
RABL				IAmb	IAmb	16 22 54.2	
	comp=Z,114nm,0.7s						
QLP	**Quilpie**	**34.58**	**255**	P	**P**	**16 22 52.0**	**+0.6**
	baz=35,SNR=29						
TOO	**Toolangi**	**34.85**	**236**	P	**P**	**16 22 54.7**	**+1.0**
	baz=35,SNR=37						
TOO	**Toolangi**	**34.85**	**236**	P	**P**	**16 22 55.0**	**+1.3**
TOO				pmax	pmax		
	comp=Z,73nm,0.9s						
TOO	**Toolangi**	**34.85**	**236**	P	**P**	**16 22 55.0**	**+1.3**
TOO				IAmb	IAmb	16 22 55.8	
	comp=Z,73nm,0.8s						
MTSU	**Mount Surprise**	**35.58**	**270**	P	**P**	**16 23 00.7**	**+0.7**
	baz=35,SNR=160						
PMG	**Port Moresby**	**35.83**	**285**	P	**P**	**16 23 02.3**	**+0.2**
	comp=Z,854nm,0.9s,baz=99,slow=5.0,SNR=153						
PMG	**Port Moresby**	**35.83**	**285**	*de*P	**P**	**16 23 02.4**	**+0.3**
PMG				pmax	pmax		
	comp=Z,1μm,1.0s						
PMG	**Port Moresby**	**35.83**	**285**	P	**P**	**16 23 02.7**	**+0.6**
STKA	**Stephens Creek**	**37.04**	**246**	P	**P**	**16 23 12.9**	**+0.8**
	comp=Z,54nm,0.7s,baz=92,slow=10,SNR=92						
STKA				PKiKP	**PKiKP**	**16 32 39.7**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=349,slow=3.6,SNR=4.0						
STKA	**Stephens Creek**	**37.04**	**246**	P	**P**	**16 23 12.9**	**+0.8**
	baz=37,SNR=76						
STKA	**Stephens Creek**	**37.04**	**246**	P	**P**	**16 23 13.0**	**+0.8**
PATS	**Pohnpei**	**37.18**	**319**	P	**P**	**16 23 14.1**	**+0.7**
	baz=37,SNR=17						
PATS	**Pohnpei**	**37.18**	**319**	P	**P**	**16 23 13.8**	**+0.4**
ARPS	**Mount Arapiles**	**37.51**	**238**	P	**P**	**16 23 16.5**	**+0.6**
	baz=38,SNR=69						
COEN	**Coen**	**37.77**	**276**	P	**P**	**16 23 18.9**	**+0.5**
	baz=38						
COEN	**Coen**	**37.77**	**276**	P	**P**	**16 23 19.0**	**+0.7**
TAOE	**Nuku Hiva Isla**	**38.69**	**76**	*e*P	**P**	**16 23 25.4**	**-0.6**
	comp=Z,169nm,1.0s						
TAOE	**Nuku Hiva Isla**	**38.69**	**76**	P	**P**	**16 23 28.0**	**+2.0**
MANU	**Manus Island**	**39.27**	**296**	P	**P**	**16 23 30.5**	**-0.1**
HTT	**Hallett**	**39.42**	**244**	P	**P**	**16 23 32.1**	**+0.3**
	baz=40,SNR=83						
QIS	**Mount Isa**	**39.44**	**264**	P	**P**	**16 23 31.7**	**-0.3**
	baz=40,SNR=26						
BBOO	**Buckleboo**	**41.78**	**245**	P	**P**	**16 23 50.6**	**-0.2**
	baz=42,SNR=31						
BBOO	**Buckleboo**	**41.78**	**245**	P	**P**	**16 23 50.5**	**-0.2**
BBOO				IAmb	IAmb	16 23 51.7	
	comp=Z,139nm,1.1s						
MMPI	**Merauke**	**42.31**	**282**	P	**P**	**16 23 55.2**	**0.0**
	comp=Z,940nm,0.7s						
WAKE	**Wake Island**	**44.04**	**339**	P	**P**	**16 24 07.4**	**-1.4**
AS31	**Alice Springs**	**44.16**	**259**	P	**P**	**16 24 10.2**	**+0.4**
ASAR	**Alice Springs**	**44.16**	**259**	P	**P**	**16 24 09.8**	**0.0**
	comp=Z,210nm,0.9s,baz=90,slow=8.2,SNR=830						
ASAR				PcP	**PcP**	**16 25 47.5**	**0.0**
	comp=Z,11nm,0.8s,baz=98,slow=4.2,SNR=4.2						
ASAR				ScP	**ScP**	**16 29 06.0**	**+1.7**
	comp=Z,6.1nm,1.0s,baz=103,slow=4.4,SNR=5.5						
ASAR				S	**S**	**16 30 13.2**	**-2.1**
	comp=Z,2.7nm,0.9s,baz=84,slow=18,SNR=5.7						
ASAR				PKiKP	**PKiKP**	**16 32 46.0**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=98,slow=1.5,SNR=7.5						
ASAR	**Alice Springs**	**44.16**	**259**	P	**P**	**16 24 09.8**	**0.0**
ASAR					**PcP**	**16 25 48.4**	**+0.8**
ASPA	**Alice Springs**	**44.16**	**259**	P	**P**	**16 24 09.5**	**-0.3**
	baz=44						
WR0	**Warramunga Arr**	**44.22**	**264**	P	**P**	**16 24 09.9**	**-0.4**
WR0				IAmb	IAmb	16 24 10.8	
	comp=Z,104nm,0.9s						
WC3	**Warramunga Arr**	**44.38**	**264**	P	**P**	**16 24 10.4**	**-1.1**
	baz=45						
WB0	**Warramunga Arr**	**44.40**	**264**	P	**P**	**16 24 11.3**	**-0.4**
WB2	**Warramunga Arr**	**44.40**	**264**	P	**P**	**16 24 11.3**	**-0.4**
WRAB	**Tennant Creek**	**44.40**	**264**	*de*P	**P**	**16 24 11.0**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,247nm,0.9s						
WRAB	**Tennant Creek**	**44.40**	**264**	P	**P**	**16 24 11.4**	**-0.4**
WRA	**Warramunga Arr**	**44.41**	**264**	P	**P**	**16 24 11.2**	**-0.6**
	comp=Z,191nm,0.9s,baz=100,slow=8.6,SNR=473						
WRA				PP	**PP**	**16 26 02.4**	**-0.4**
	comp=Z,21nm,1.1s,baz=98,slow=9.1,SNR=5.6						
WRA				ScP	**ScP**	**16 29 07.5**	**+2.1**
	comp=Z,12nm,1.0s,baz=103,slow=4.2,SNR=7.5						
WRA				S	**S**	**16 30 15.6**	**-3.3**
	comp=Z,1.4nm,0.8s,baz=287,slow=29,SNR=3.1						
WRA				PKiKP	**PKiKP**	**16 32 46.3**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=92,slow=0.5,SNR=4.9						
WRA	**Warramunga Arr**	**44.41**	**264**	P	**P**	**16 24 11.4**	**-0.4**
WRA				pmax	pmax		
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**44.41**	**264**	P	**P**	**16 24 11.4**	**-0.4**
JAY	**Jayapura**	**44.69**	**290**	P	**P**	**16 24 13.9**	**-0.2**
	comp=Z,310nm,0.8s,baz=138,slow=3.4,SNR=71						
JAY	**Jayapura**	**44.69**	**290**	P	**P**	**16 24 13.8**	**-0.3**
	comp=Z,2μmcomp=Z,262nm,0.9s						
GENI	**Genyem**	**45.12**	**290**	P	**P**	**16 24 17.1**	**-0.3**
	comp=Z,4μmcomp=Z,405nm,0.9s						
KDU	**Kakadu**	**48.05**	**273**	P	**P**	**16 24 39.4**	**-0.5**
	baz=48,SNR=91						
FORT	**Forrest**	**48.61**	**248**	P	**P**	**16 24 43.6**	**-0.3**
	baz=49,SNR=69						
FORT	**Forrest**	**48.61**	**248**	P	**P**	**16 24 43.5**	**-0.4**
SRPI	**Serui, Papua**	**48.91**	**288**	P	**P**	**16 24 46.4**	**0.0**
	comp=Z,3μmcomp=Z,332nm,0.8s						
WRKA	**Warakurna**	**49.02**	**256**	P	**P**	**16 24 46.9**	**-0.2**
	baz=49,SNR=80						
MTN	**Manton Dam**	**49.24**	**272**	P	**P**	**16 24 48.1**	**-0.8**
MTN				IAmb	IAmb	16 24 49.0	
	comp=Z,105nm,0.7s						
BAKI	**Biak**	**49.35**	**289**	P	**P**	**16 24 49.9**	**+0.3**
	comp=Z,4μmcomp=Z,432nm,1.1s						
SAUI	**Saumlaki**	**50.77**	**278**	P	**P**	**16 25 00.9**	**+0.7**
	comp=Z,7μmcomp=Z,706nm,1.0s						
GUMO	**Guam**	**51.03**	**311**	P	**P**	**16 25 02.6**	**+0.5**
FAKI	**Fak Fak**	**51.98**	**284**	P	**P**	**16 25 08.7**	**-0.4**
FAKI	**Fak Fak**	**51.98**	**284**	P	**P**	**16 25 08.8**	**-0.3**
	comp=Z,2μmcomp=Z,244nm,1.1s						
ANA2	**Anatahan**	**52.40**	**314**	P	**P**	**16 25 12.0**	**0.0**
SARN	**Sarigan**	**52.61**	**314**	P	**P**	**16 25 13.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.84**	**264**	P	**P**	**16 25 15.5**	**+0.2**
	comp=Z,122nm,0.9s,baz=115,slow=3.2,SNR=157						
FITZ				PP	**PP**	**16 27 23.0**	**+3.9**
	comp=Z,9.4nm,0.8s,baz=64,slow=3.0,SNR=3.3						
FITZ	**Fitzroy Crossi**	**52.84**	**264**	P	**P**	**16 25 15.5**	**+0.2**
	baz=53,SNR=145						
FITZ	**Fitzroy Crossi**	**52.84**	**264**	P	**P**	**16 25 15.8**	**+0.5**
BNDI	**Bandanaira**	**53.41**	**281**	P	**P**	**16 25 19.0**	**-0.5**
	comp=Z,8μmcomp=Z,954nm,0.9s						
SIJI	**Sorong**	**53.77**	**286**	P	**P**	**16 25 22.1**	**0.0**
	comp=Z,687nm,0.8s,baz=90,slow=4.8,SNR=292						
SWI	**Sorong**	**53.78**	**286**	P	**P**	**16 25 22.2**	**+0.1**
	comp=Z,9μmcomp=Z,1μm,0.8s						
KMBL	**Kambalda**	**53.84**	**247**	P	**P**	**16 25 22.2**	**-0.1**
	baz=54,SNR=9.1						
SBA	**Scott Base**	**56.02**	**184**	P	**P**	**16 25 41.0**	**+4.0**
SBA				pmax	pmax		
	comp=Z,25nm,1.0s						
SBA	**Scott Base**	**56.02**	**184**	P	**P**	**16 25 41.0**	**+4.0**
NLAI	**Namlea**	**56.49**	**281**	P	**P**	**16 25 41.0**	**-0.3**
	comp=Z,217nm,1.1s						
SOEI	**Soe**	**56.61**	**273**	P	**P**	**16 25 44.0**	**+1.7**
SOEI	**Soe**	**56.61**	**273**	P	**P**	**16 25 43.9**	**+1.6**
	comp=Z,7μmcomp=Z,819nm,1.1s						
BATI	**Baumata**	**57.02**	**272**	P	**P**	**16 25 46.5**	**+1.5**
	comp=Z,154nm,0.7s,baz=191,slow=1.5,SNR=53						
BATI				S	**S**	**16 33 10.0**	**-1.0**
	comp=Z,5.9nm,0.8s,baz=114,slow=23,SNR=1.7						
BATI	**Baumata**	**57.02**	**272**	P	**P**	**16 25 46.2**	**+1.2**
	comp=Z,1μmcomp=Z,137nm,0.9s						
PSA00	**Pilbara Seismi**	**57.30**	**258**	P	**P**	**16 25 46.0**	**-0.9**
PSA00				IAmb	IAmb	16 25 48.9	
	comp=Z,42nm,0.8s						
KLBR	**Kellerberrin**	**57.32**	**246**	P	**P**	**16 25 46.8**	**-0.1**
	baz=58,SNR=7.8						
MBWA	**Marble Bar**	**57.50**	**259**	P	**P**	**16 25 48.0**	**-0.3**
NWAO	**Narrogin (SRO)**	**57.58**	**244**	P	**P**	**16 25 48.4**	**-0.2**
	comp=Z,16nm,0.6s,baz=122,slow=6.0,SNR=12						
NWAO	**Narrogin (SRO)**	**57.58**	**244**	P	**P**	**16 25 48.7**	**+0.1**
	baz=58,SNR=8.2						
NWAO	**Narrogin (SRO)**	**57.58**	**244**	P	**P**	**16 25 48.6**	**-0.1**
TNTI	**Ternate**	**57.98**	**286**	P	**P**	**16 25 51.4**	**-0.2**
TNTI	**Ternate**	**57.98**	**286**	P	**P**	**16 25 51.4**	**-0.2**
	comp=Z,3μmcomp=Z,369nm,1.1s						
SANI	**Sanana**	**57.99**	**282**	P	**P**	**16 25 51.1**	**-0.6**
	comp=Z,2μmcomp=Z,306nm,1.0s						
BLDU	**Ballidu**	**58.34**	**247**	P	**P**	**16 25 53.6**	**-0.3**
	baz=59,SNR=32						
MUN	**Mundaring**	**58.57**	**245**	P	**P**	**16 25 55.7**	**+0.3**
	baz=59,SNR=13						
MMRI	**Maumere**	**58.88**	**273**	P	**P**	**16 25 57.6**	**-0.2**
MMRI	**Maumere**	**58.88**	**273**	P	**P**	**16 25 57.4**	**-0.4**
	comp=Z,2μmcomp=Z,149nm,0.9s						
MORW	**Morawa**	**59.17**	**249**	P	**P**	**16 25 59.4**	**-0.2**
	baz=59,SNR=17						
MORW	**Morawa**	**59.17**	**249**	P	**P**	**16 25 59.6**	**0.0**
MORW				IAmb	IAmb	16 26 00.3	
	comp=Z,37nm,0.8s						
EDFI	**Ende, Flores**	**59.34**	**273**	P	**P**	**16

PAGZ **Pagadian** 64.80 291 *e*P P **16 26 36.2 -0.7**
BESP **Borongan** 64.93 295 *e*P P **16 26 38.0 +0.3**
OCLP **Ormoc** 65.35 294 *e*P P **16 26 40.2 -0.1**
DNP **Denpasar** 65.37 271 P P **16 26 40.8 +0.3**
comp=Z,391nm,0.7s
SRBI **Singaraja** 65.57 271 P P **16 26 41.5 -0.3**
comp=Z,2µmcomp=Z,262nm,0.9s
JAGI **Jajag, Banyuwa** 66.42 270 P P **16 26 46.1 -1.0**
JAGI **Jajag, Banyuwa** 66.42 270 P P **16 26 45.8 -1.3**
comp=Z,228nm,0.9s
KBKI **Kotabaru** 66.46 276 P P **16 26 47.6 +0.2**
comp=Z,724nmcomp=Z,72nm,1.1s
ABJI **Asem Bagus** 66.58 271 P P **16 26 48.1 0.0**
comp=Z,194nm,0.9s
GUIM **Jordan** 66.84 293 *e*P P **16 26 47.8 -1.9**
KMMI **Kalianget** 67.09 272 P P **16 26 52.3 +1.0**
comp=Z,235nm,1.0s
BBKI **Banjar Baru** 67.62 276 P P **16 26 54.9 +0.3**
comp=Z,931nmcomp=Z,83nm,1.4s
MYLDM **Lahad Datu** 67.86 286 IAmb IAmb 16 27 16.4
comp=Z,43nm,0.8s
MTKI **Muara Teweh, K** 68.55 278 P P **16 27 00.5 +0.1**
comp=Z,60nm,0.9s
JCNP **Jose Panganiba** 68.61 296 *e*P P **16 26 59.1 -1.4**
SPMM **Sapulut** 69.47 284 P P **16 27 06.0 0.0**
LQP **Lukban** 69.48 296⇑ *i*P P **16 27 06.2 0.0**
BUSP **Coron** 69.56 293 *e*P P **16 27 06.0 -0.5**
ENPP **El Nido** 69.83 292 *e*P P **16 27 07.8 -0.3**
TGY **Tagaytay City** 69.98 295 P P **16 27 09.4 +0.4**
comp=Z,134nm,0.7s,baz=190,slow=21,SNR=5.7
BATP **Bataraza** 70.11 289 *e*P P **16 27 08.9 -0.9**
MACP **Maragondon, Ca** 70.24 295 *e*P P **16 27 10.8 +0.3**
SMRI **Semarang** 70.36 270 P P **16 27 11.6 +0.3**
comp=Z,128nm,0.7s
LUBP **Lubang** 70.37 295 *e*P P **16 27 09.7 -1.6**
JYT **Yasato** 70.43 325 P P **16 27 10.7 -0.5**
JYT IAmb IAmb 16 27 13.1
comp=Z,52nm,1.0s
CAUP **Cauayan** 70.70 298 *e*P P 16 27 18.8 +5.6
CVP **Callao Caves** 71.10 299⇑ *e*P P 16 27 10.0 -5.5
SGCP **Mt. Cagua** 71.20 300 *e*P P **16 27 17.4 +1.2**
JMM **Marumori** 71.36 327 P P **16 27 15.5 -1.2**
JMM IAmb IAmb 16 27 18.5
comp=Z,32nm,0.9s
JOW **Kunigami** 71.39 310 P P **16 27 17.9 +0.7**
comp=Z,61nm,1.1s,baz=82,slow=7.6,SNR=5.9
JGF **Kuroka** 71.51 323 IAmb IAmb 16 27 19.1
comp=Z,27nm,0.8s
INU **Inuyama** 71.52 322 IAmb IAmb 16 27 19.5
comp=Z,23nm,0.9s
APYP **Conner** 71.65 299 *e*P P **16 27 18.5 -0.4**
MJAR **Matsushiro Arr** 71.73 324 P P **16 27 18.9 -0.1**
comp=Z,29nm,0.7s,baz=157,slow=5.8,SNR=142
MJAR PP **PP** **16 30 00.7 -3.5**
comp=Z,4.6nm,1.1s,baz=156,slow=7.3,SNR=4.3
MJAR **Matsushiro Arr** 71.73 324 P P **16 27 18.5 -0.5**
MAJO **Matsushiro** 71.73 324 *d i*P P **16 27 18.7 -0.3**
MAJO pmax pmax
comp=Z,40nm,0.8s
MAJO **Matsushiro** 71.73 324 P P **16 27 18.8 -0.2**
MAJO IAmb IAmb 16 27 20.4
comp=Z,37nm,0.8s
MAT **Matsushiro** 71.73 324 P P **16 27 18.6 -0.4**
STKI **Sintang** 72.08 278 P P **16 27 22.5 +0.9**
comp=Z,26µmcomp=Z,42nm,0.6s
JMN **Monobe** 72.21 319 P P **16 27 21.0 -0.9**
JMN IAmb IAmb 16 27 24.4
comp=Z,36nm,0.9s
SBUM **Sibu** 72.36 280 P P **16 27 24.0 +0.8**
JWT **Wachi** 72.40 321 IAmb IAmb 16 27 24.8
comp=Z,40nm,0.8s
JCJI **Jatiwangi** 72.57 270 P P **16 27 23.8 -0.6**
comp=Z,218nm,0.8s
CISI **Cisompet, Garu** 72.61 269 P P **16 27 23.9 -0.8**
CISI **Cisompet, Garu** 72.61 269 P P **16 27 23.0 -1.7**
comp=Z,1µmcomp=Z,138nm,1.4s
JSU **Suzuyama** 72.87 316 IAmb IAmb 16 27 27.6
comp=Z,52nm,1.0s
LEM **Lembang** 73.05 269 P P **16 27 27.9 +0.4**
comp=Z,177nm,0.7s,baz=66,slow=3.0,SNR=36
LEM **Lembang** 73.05 269 P P **16 27 27.8 +0.4**
comp=Z,1µmcomp=Z,143nm,0.9s
JTM **Tenmabayashi** 73.47 329 IAmb IAmb 16 27 31.1
comp=Z,53nm,0.9s
JHS **Saijyo** 73.54 320 IAmb IAmb 16 27 31.8
comp=Z,60nm,0.9s
JNU **Nakatsue** 73.66 317 P P **16 27 30.1 -0.2**
comp=Z,29nm,0.9s,baz=106,slow=4.1,SNR=13
KSM **Kuching** 73.71 279 P P **16 27 32.0 +0.9**
CBJI **Citeko** 73.91 270 P P **16 27 30.8 -1.4**
comp=Z,195nm,0.6s
ADK **Adak** 73.94 1 P P **16 27 30.7 -0.7**
ADK pmax pmax
comp=Z,45nm,0.7s
ADK **Adak** 73.94 1 P P **16 27 30.7 -0.7**
ADK IAmb IAmb 16 27 31.2
comp=Z,45nm,0.7s
DBJI **Dramaga** 73.95 269 P P **16 27 32.5 +0.1**
comp=Z,11µmcomp=Z,107nm,1.3s
TNG **Tangerang** 74.19 270 P P **16 27 33.5 -0.3**
comp=Z,328nm,0.4s
TPI **Tanjungpandan** 74.52 273 P P **16 27 35.8 +0.1**
comp=Z,535nmcomp=Z,54nm,1.1s
YULB **Yu-li** 74.56 304 IAmb IAmb 16 27 36.1
comp=Z,26nm,0.7s
YHNB **Yeheng** 75.19 305 IAmb IAmb 16 27 41.2
comp=Z,72nm,1.0s
TATO **Taipei** 75.28 305 P P **16 27 40.0 +0.3**
JKA **Kamikawa-asahi** 75.38 332 P P **16 27 40.3 +0.5**
JKA IAmb IAmb 16 27 43.2
comp=Z,56nm,0.9s
ASAJ **Asahikawa** 75.38 332 P P **16 27 40.7 +0.9**
comp=Z,52nm,0.9s,baz=193,slow=8.5,SNR=29
NIKH **Nikolski High** 75.44 6 P 16 27 39.6
baz=188
BLSI **Bandar Lampung** 75.78 270 P P **16 27 41.6 -1.2**
comp=Z,98nm,0.9s
PPBI **Pangkal Pinang** 76.14 273 P P **16 27 45.5 +0.7**
comp=Z,4µmcomp=Z,80nm,1.3s
KASI **Kota Agung** 76.41 270 P P **16 27 45.1 -1.2**
comp=Z,99nm,1.0s
KLSI 76.50 270 P P **16 27 45.2 -1.6**
comp=Z,12nm,1.2s
LWLI **Liwa** 77.00 270 P P **16 27 49.1 -0.7**
comp=Z,2µmcomp=Z,87nm,0.8s
PMBI **Palembang** 77.12 272 P P **16 27 50.4 +0.2**
comp=Z,167nm,0.4s
QZH **Quanzhou** 77.47 304⇑ *i*P P **16 27 53.5 +1.6**
YSS **Yuzh-Sakhalins** 77.57 334 *e*P P **16 27 52.2 +0.3**
YSS *e* 16 30 58.0
YSS *e*S S **16 37 16.3 +3.7**
YSS *e* 16 37 26.8
YSS pmax pmax
comp=Z,200nm,2.4s
YSS pmax pmax
comp=Z,30nm,0.8s
YSS **Yuzh-Sakhalins** 77.57 334 P P **16 27 51.5 -0.4**
YSS IAmb IAmb 16 27 54.7
comp=Z,26nm,0.7s
BELA **Belgrano 2** 77.71 173 P P **16 27 53.1 +0.7**
BELA IAmb IAmb 16 27 55.0
comp=Z,27nm,0.8s
PET **Petropavlovsk** 77.78 346 *e*P P **16 27 52.1 -0.8**
PET *e*S S **16 37 14.2 -0.2**
PET MLR MLR
comp=Z,200nm,21.0s
LHSI **Lahat** 77.94 271 P P **16 27 53.6 -1.1**
comp=Z,35nm,1.5s
TJN **Taejon** 77.97 318 *i* P P **16 27 54.1 -0.2**
PEA0B **Petropavlovsk-** 78.08 345 *ce*P P **16 27 54.2 -0.4**
PEA0B **Petropavlovsk-** 78.08 345 IAmb IAmb 16 27 56.6
comp=Z,45nm,1.0s
PETK **Petropavlovsk-** 78.08 345 P P **16 27 54.2 -0.3**
comp=Z,28nm,0.9s,baz=102,slow=7.0,SNR=34
PETK pP **pP** **16 29 19.0 +2.6**
comp=Z,4.7nm,0.9s,baz=103,slow=6.7,SNR=3.1
KSRS **Korea Array** 78.31 319 P P **16 27 56.5 +0.4**
comp=Z,7.2nm,0.8s,baz=137,slow=6.2,SNR=36
KSRS PP **PP** **16 30 55.7 -3.6**
comp=Z,2.1nm,1.0s,baz=126,slow=7.5,SNR=4.6
KSAR **Wonju Array Be** 78.32 319 P P **16 27 55.8 -0.4**
KSAR **Wonju Array Be** 78.32 319 P P **16 27 55.8 -0.4**
JMBI **JAMBI** 78.65 273 P P **16 28 00.0 +1.4**
comp=Z,146nm,0.8s
TEY **Ternei** 78.83 329⇓ *e*P P **16 27 59.2 +0.4**
TEY pmax pmax
comp=Z,10.0nm,0.7s
SDPT **Sand Point** 78.83 10 P 16 27 58.0
baz=196
KSI **Kapahiang** 78.86 271 P P **16 27 58.8 -1.0**
comp=Z,5µmcomp=Z,129nm,0.9s
PMSA **Palmer Station** 79.57 157 P P **16 28 04.5 +1.9**
comp=Z,23nm,0.9s,baz=321,slow=12,SNR=4.2
PMSA **Palmer Station** 79.57 157 P P **16 28 02.7 +0.1**
PMSA IAmb IAmb 16 28 05.5
comp=Z,35nm,0.9s
DLV **T Lat** 79.71 287 IAmb IAmb 16 28 07.2
comp=Z,43nm,0.7s
MYKOM **Kota Tinggi** 79.77 276 IAmb IAmb 16 28 06.6
comp=Z,38nm,0.8s
MYKOM **Kota Tinggi** 79.77 276 P P **16 28 05.0 +0.4**
MAW **Mawson** 79.83 200 P P **16 28 05.7 +1.8**
comp=Z,19nm,0.7s,baz=128,slow=8.8,SNR=13
MAW pP **pP** **16 29 29.6 +3.8**
comp=Z,14nm,1.0s,baz=107,slow=7.6,SNR=3.8
MAW **Mawson** 79.83 200 P P **16 28 06.0 +2.1**
baz=80,SNR=8.4
MAW **Mawson** 79.83 200 P P **16 28 04.5 +0.6**
MSHR **Mys Shultsa** 79.85 324 *ce*P P **16 28 05.2 +0.9**
MSHR pmax pmax
comp=Z,23nm,0.4s
CHGN **Chignik** 80.09 11 P 16 28 05.4
baz=198
CHGN **Chignik** 80.09 11 IAmb IAmb 16 28 06.0
comp=Z,47nm,0.8s
BFSC **Mount Baldy Ra** 80.33 47 P 16 28 09.0
baz=234
RGRI **Rengat** 80.34 274 P P **16 28 09.1 +1.4**
comp=Z,16µmcomp=Z,113nm,1.0s
MONP2 **Monument Peak** 80.41 49 P 16 28 09.7
baz=235
EDW2 **Edwards Air Fo** 80.47 46 P 16 28 10.0
baz=234
IKP **In-Ko-Pah, Jac** 80.49 49 P 16 28 09.9
baz=236
USRK **Ussuriysk Ar.** 80.52 326 P P **16 28 09.1 +1.2**
comp=Z,60nm,0.9s,baz=130,slow=3.7,SNR=132
USRK **Ussuriysk Ar.** 80.52 326 P P **16 28 08.9 +1.1**
USRK **Ussuriysk Ar.** 80.52 326 P P **16 28 08.9 +1.1**
USA0B **Ussuriysk Arra** 80.52 326 *d i*P P **16 28 08.5 +0.7**
USA0B **Ussuriysk Arra** 80.52 326 P P **16 28 08.6 +0.8**
USA0B IAmb IAmb 16 28 10.8
comp=Z,53nm,0.8s
ISA **Isabella, Lake** 80.61 45 P 16 28 11.2
baz=234
O02D **Mt. Diablo Mer** 80.68 40 P 16 28 11.7
baz=230,SNR=10
TYV **Tymovskoe** 80.75 336 *e*P P **16 28 09.1 +0.2**
TYV pmax pmax
comp=Z,48nm,1.0s
TYV pmax pmax
comp=Z,100nm,3.0s
PFO **Pinyon Flats O** 80.79 48 pP pP 16 29 33.7 +1.9
comp=Z,4.1nm,0.9s,baz=274,slow=3.4,SNR=4.3
SDSI **Sungai Dareh** 80.96 273 P P **16 28 10.8 -0.1**
comp=Z,44nm,0.9s
NJ2 **Nanjing** 81.10 310 *e*P P **16 28 12.4 +1.3**
NJ2 pmax pmax
comp=Z,41nm,0.9s
SII **Sitkinak Islan** 81.14 13 P 16 28 11.5
baz=202
N02D **Trinity Center** 81.24 39 P 16 28 14.4
baz=230,SNR=8.8
BELC **Belle Mtn. Jos** 81.32 48 P 16 28 14.6
baz=236
CWC **Cottonwood Cre** 81.33 45 P 16 28 14.4
baz=234
O03E **Paynes Creek** 81.34 40 P 16 28 14.4
baz=231,SNR=7.5
M02C **Callahan** 81.42 39 P 16 28 15.6
baz=230,SNR=9.5
L02E **Cave Junction** 81.48 38 P 16 28 15.7
baz=229
HEC **Hector,Ludlow** 81.56 47 P 16 28 16.0
baz=235
YBH **Yreka Blue Hor** 81.72 38 P P **16 28 16.4 +2.1**
comp=Z,8.7nm,0.7s,baz=199,slow=1.3,SNR=27
YBH pP **pwP** **16 29 38.3 -0.7**
comp=Z,7.8nm,0.9s,baz=107,slow=4.7,SNR=2.8
YBH **Yreka Blue Hor** 81.72 38 P P **16 28 15.9 +1.6**
K02D **Willamette Mer** 81.80 37 P 16 28 17.3
baz=229
JRMM **Jerantut** 81.84 278 P P **16 28 16.0 +0.5**
OHAK **Old Harbor** 81.95 13 P 16 28 15.4
baz=203
J01E **Myrtle Point** 81.95 37 P 16 28 17.4
baz=229
GMRC **Granite Mounta** 81.99 47 P 16 28 18.3
baz=236
IRM **Iron Mountain** 82.00 48 P 16 28 18.4
baz=236
MDJ **Mudanjiang** 82.06 325 P P **16 28 16.6 +0.7**
MDJ S S **16 38 01.6 +2.3**
MDJ pmax pmax
comp=Z,42nm,0.9s
MDJ pmax pmax
comp=Z,180nm,3.1s
MDJ **Mudanjiang** 82.06 325 IAmb IAmb 16 28 18.8
comp=Z,41nm,0.8s
GRAC **Grapevine Rang** 82.12 45 P 16 28 18.9
baz=234
HUMO **Hull Mountain** 82.14 38 P P **16 28 18.1 +1.7**
M04C **Macdoel** 82.25 39 P 16 28 20.0
baz=231
L04D **Klamath Falls** 82.26 38 P 16 28 19.3
baz=230,SNR=6.2
NVAR **Mina Array Bea** 82.35 43 P P **16 28 19.7 +1.9**
comp=Z,3.3nm,0.6s,baz=225,slow=8.3,SNR=35
NVAR pP **pwP** **16 29 42.9 +0.4**
comp=Z,5.5nm,0.9s,baz=227,slow=7.6,SNR=7.9
NVAR PKKPbc **PKKPbc** **16 46 45.4 +1.6**
comp=Z,0.4nm,0.6s,baz=122,slow=1.9,SNR=4.3
NVAR PKPPKP **P'P'df** **16 54 53.4 +6.7**
comp=Z,1.5nm,1.0s,baz=94,slow=1.1,SNR=7.5
PAHR **Pah Rah Range** 82.44 42 P P **16 28 18.9 +0.8**
NV11 **Mina Array Sit** 82.45 43 P P **16 28 18.1 -0.1**
KDAK **Kodiak Island** 82.61 13 P 16 28 18.4
baz=203
KDAK **Kodiak Island** 82.61 13 P P **16 28 18.8 +0.4**
comp=Z,20nm,1.0s,baz=249,slow=3.0,SNR=9.3
KDAK **Kodiak Island** 82.61 13 P P **16 28 18.5 +0.1**
KDAK IAmb IAmb 16 28 23.5
comp=Z,24nm,1.1s
I03D **Drain, OR** 82.63 37 P 16 28 21.0
baz=229
TPNV **Topopah Spring** 82.82 45 P 16 28 21.9
baz=235
KVN **Kaiserville** 82.85 43 P P **16 28 21.8 +1.5**
KVN pmax pmax
comp=Z,6.0nm,0.7s
KVN **Kaiserville** 82.85 43 P P **16 28 21.8 +1.5**
J04D **Jmpqua Nationa** 83.02 38 P 16 28 23.4
baz=230,SNR=5.1
DL2 **Dalian** 83.11 317 P P **16 28 22.1 +0.8**
DL2 pmax pmax
comp=Z,23nm,0.9s
GRNR **Gornyy** 83.17 333⇓ *i*P P **16 28 22.3 +0.9**
GRNR pmax pmax
comp=E,3.0nm,1.0s
GRNR pmax pmax
comp=N,4.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,90nm,16.0s
I04A **Tendick Farm,** 83.21 37 P 16 28 23.7
baz=230
MOD **Modoc Plateau** 83.23 39 P P **16 28 22.8 +0.7**
MNSI **Mandailing Nat** 83.32 274 P P **16 28 21.7 -1.3**
comp=E,64nm,0.8s
K05A **Summer Lake** 83.39 39 P P **16 28 24.5 +1.6**
K05A IAmb IAmb 16 28 30.1
comp=Z,20nm,0.8s
IPM **Ipoh** 83.41 278 P P **16 28 24.0 +0.5**
H04D **Lebanon** 83.50 36 P 16 28 25.2
baz=230
J05D **Fort Rock, OR** 83.55 38 P 16 28 25.9
baz=231,SNR=8.6
WHN **Wuhan** 83.58 307 ⇑P P **16 28 25.0 +1.1**
G03D **McMinnville, O** 83.66 35 P 16 28 26.2
baz=229
UBPT **Khong Chiam** 83.78 289 IAmb IAmb 16 28 27.8
comp=Z,16nm,0.6s
CN2 **Changchun** 83.80 323 *e*P P **16 28 25.0 +0.3**
CN2 pmax pmax
comp=Z,40nm,1.0s
H04A **Detroit Lake** 83.90 36 IAmb IAmb 16 28 27.4
comp=Z,22nm,0.7s
R11A **Troy Canyon, C** 84.05 44 P 16 28 28.4
baz=235
KULM **Kulim** 84.07 278 IAmb IAmb 16 28 29.2
comp=Z,47nm,0.9s
KULM **Kulim** 84.07 278 P P **16 28 28.0 +1.2**
TUC **Tucson** 84.10 52 P 16 28 29.6
baz=239
KLR **Kul'dur** 84.15 330 P P **16 28 26.3 0.0**
comp=Z,13nm,0.9s,baz=103,slow=4.1,SNR=31
KLR **Kul'dur** 84.15 330 *de*P P **16 28 27.0 +0.7**
KLR pmax pmax
comp=Z,19nm,1.1s
I05D **Terrebonne, OR** 84.15 37 P 16 28 28.5
baz=231
CNPM **China Poot** 84.50 13 IAmb IAmb 16 28 29.1
comp=Z,33nm,0.7s
TIA **Tai'an** 84.56 313 P P **16 28 29.4 +0.7**
TIA pmax pmax
comp=Z,49nm,1.2s
RPSI **Rantau Prapat** 84.65 275 P P **16 28 29.1 -0.6**
RPSI IAmb IAmb 16 28 31.6
comp=Z,50nm,1.0s
PSI **Prapat** 84.69 275 P P **16 28 29.2 -0.8**
comp=Z,32nm,0.9s,baz=180,slow=1.1,SNR=28
BRLK **Bradley Lake** 84.79 13 IAmb IAmb 16 28 30.5
comp=Z,44nm,0.8s
BRSE **Bradley Lake S** 84.80 13 P 16 28 29.9
baz=205,SNR=15
LCMT **Little Creek M** 84.86 47 P P **16 28 30.5 +0.1**
SYO **Syowa Base** 84.92 193⇓ *e*P P **16 28 31.0 +1.1**
SYO **Syowa Base** 84.92 193⇑ *e*X P 16 28 38.8 +8.9
J08A **Circle Bar Ran** 85.18 39 P P **16 28 33.4 +1.6**
GSI **Gunungsitoli** 85.37 273 P P **16 28 34.1 +0.9**
comp=Z,113nm,0.8s
SEW **Seward** 85.41 14 P 16 28 32.8
baz=206
MA2 **Magadan** 85.59 345 P P **16 28 32.5 -0.7**
comp=Z,9.9nm,0.9s,baz=141,slow=5.9,SNR=21
MA2 **Magadan** 85.59 345 *de*P P **16 28 32.6 -0.6**
MA2 pmax pmax
comp=Z,16nm,1.1s
O22K **Cooper Landing** 85.69 14 P 16 28 33.5
baz=206,SNR=8.6
PKCU **Pink Cliffs** 85.72 47 P P **16 28 34.3 -0.5**
SPCR **Spurr Chakacha** 85.83 12 P 16 28 34.0
baz=204,SNR=7.5
TRTT **Trang** 85.94 280 P P **16 28 36.7 +0.7**
comp=Z,84nm,1.0s
SNAA **Sanae** 86.15 178 P P **16 28 36.8 +0.8**
SNAA **Sanae** 86.15 178 pP pP 16 30 00.4 +1.4
RC01 **Rabbit Creek A** 86.23 13 P 16 28 36.5
baz=206,SNR=18
RC01 **Rabbit Creek A** 86.24 13 IAmb IAmb 16 28 37.5
comp=Z,43nm,1.1s
B05A **Bryant** 86.24 34 P 16 28 38.6
baz=230
SRAK **Srakaew** 86.27 287 P P **16 28 37.1 -0.4**
comp=Z,3µmcomp=Z,236nm,0.7s
VNA3 **Neumayer Olymp** 86.28 176 P P **16 28 37.8 +1.2**
VNA3 **Neumayer Olymp** 86.28 176 pP pP 16 30 00.8 +1.2
PWL **Port Wells** 86.34 14 IAmb IAmb 16 28 37.9
comp=Z,39nm,0.9s
LTY **Liberty** 86.35 35 IAmb IAmb 16 28 39.8
comp=Z,16nm,0.9s
SUA **Susitna One** 86.36 13 P 16 28 37.0
baz=205,SNR=43
SUA **Susitna One** 86.36 13 IAmb IAmb 16 28 37.9
comp=Z,40nm,0.8s
TPTI 86.48 275 P P **16 28 38.5 -0.1**
comp=Z,21nm,1.2s
KRAB **Krabi** 86.54 280 P P **16 28 40.0 +1.2**
comp=Z,193µmcomp=Z,17µmcomp=Z,772nm,0.8s
GLI **Glacier Island** 86.64 15 P 16 28 38.6
baz=208,SNR=13
EYAK **Cordova Ski Ar** 86.67 15 P 16 28 39.0
baz=209,SNR=5.1
EYAK **Cordova Ski Ar** 86.67 15 IAmb IAmb 16 28 39.8
comp=Z,26nm,1.0s
SKT **Skwentna** 86.68 12 P 16 28 37.9
baz=204,SNR=6.9
VNA2 **Neumayer--Watz** 86.73 177 P P **16 28 39.9 +1.2**
baz=181,slow=4.2
VNA2 **Neumayer--Watz** 86.73 177 pP pP 16 30 02.0 +0.1
baz=168,slow=3.0
KNK **Knik Glacier** 86.80 14 P 16 28 39.4
baz=207,SNR=14
KNK **Knik Glacier** 86.80 14 IAmb IAmb 16 28 40.3
comp=Z,35nm,0.8s
PMR **Palmer** 86.82 13 P 16 28 39.0
baz=206
PMR **Palmer** 86.82 13 IAmb IAmb 16 28 40.9
comp=Z,20nm,0.8s
HMT **Hamilton** 86.86 16 IAmb IAmb 16 28 41.0
comp=Z,21nm,0.8s
PATY **Pattaya** 86.88 285 P P **16 28 43.1 +2.7**
comp=Z,9µmcomp=Z,143nm,0.9s
VNA1 **Neumayer--Stat** 86.95 177 P P **16 28 40.5 +0.8**
VNA1 **Neumayer--Stat** 86.95 177 pP pP 16 30 01.9 -1.1
CHAI **Chaiyaphum** 87.09 288 P P **16 28 43.0 +1.6**
SML **Sawmill** 87.18 14 P 16 28 40.8
baz=207,SNR=10
SML **Sawmill** 87.18 14 IAmb IAmb 16 28 57.2
comp=Z,22nm,1.0s
SURT **Suratani** 87.19 281 P P **16 28 44.0 +2.1**
comp=Z,3.4nm,1.1s
ANM **Nome** 87.20 5 P 16 28 41.2
baz=191
BJI **Beijing** 87.24 315 P P **16 28 42.0 +0.4**
BJI PcP **PcP** **16 28 43.6 +0.4**
BJI pmax pmax
comp=Z,9.0nm,0.9s
BJI pmax pmax
comp=Z,76nm,3.5s
BMRM **Bremner River** 87.31 16 P 16 28 41.9
baz=210,SNR=14
BMRM **Bremner River** 87.31 16 IAmb IAmb 16 28 43.0
comp=Z,42nm,0.8s
CUT **Chulitna** 87.31 13 P 16 28 41.4
baz=205,SNR=12
PPLA **Purkeypile** 87.39 11 P 16 28 40.8
baz=204
WRAK **Wrangell Islan** 87.41 23 P 16 28 43.1
baz=221
KLU **Klutina** 87.45 15 P 16 28 42.5
baz=209,SNR=9.5
KLU **Klutina** 87.45 15 IAmb IAmb 16 28 45.8
comp=Z,21nm,1.0s
CRQM **Cirque** 87.51 16 IAmb IAmb 16 28 44.3
comp=Z,37nm,1.0s
CRQE **Cirque** 87.51 16 P 16 28 43.5
baz=212,SNR=7.7
GYA **Guiyang** 87.60 300 ⇑P P **16 28 45.0 +1.2**
GYA sP sP 16 30 40.4 -4.3
GYA SKS **SKSac** **16 38 35.8 -1.0**
GYA S S **16 38 53.3 -1.1**
GYA pmax pmax
comp=Z,24nm,1.1s
GYA pmax pmax
comp=Z,150nm,9.5s
GYA LR LR
comp=Z,83nm,11.2s
HLID **Hailey** 87.71 41 P 16 28 45.8
baz=236
HLID **Hailey** 87.71 41 P P **16 28 43.7 -0.2**
B08A **Colville Reser** 87.74 35 IAmb IAmb 16 28 45.9
comp=Z,17nm,0.8s
MNTX **Cornudas Mount** 87.80 54 P 16 28 46.5
baz=242
VRDI **Verde Repeater** 87.83 16 IAmb IAmb 16 28 45.2
comp=Z,20nm,0.8s
GRNC **Granite Creek** 87.85 17 IAmb IAmb 16 28 46.1
comp=Z,39nm,1.0s
N25K **Chitina, Valde** 87.87 15 P 16 28 44.9
baz=210,SNR=22
N25K **Chitina, Valde** 87.87 15 IAmb IAmb 16 28 45.7
comp=Z,34nm,0.8s
GLB **Gilahina Butte** 87.92 16 IAmb IAmb 16 28 45.9
comp=Z,26nm,0.8s
M24K **Tolsona, Glenn** 87.93 14 P 16 28 45.6
baz=209,SNR=7.9
M24K **Tolsona, Glenn** 87.93 14 IAmb IAmb 16 28 46.4
comp=Z,37nm,0.8s

PLCA	**Paso Flores**	**87.97**	**133**	P		**P**		**16 28 47.3**	**+2.0**	
	comp=Z,5.8nm,1.1s,baz=224,slow=5.3,SNR=7.8									
PLCA	**Paso Flores**	**87.97**	**133**	P		**P**		**16 28 45.5**	**+0.2**	
PHET	**Kaeng Krachan**	**87.98**	**285**	P		**P**		**16 28 48.2**	**+2.5**	
	comp=Z,2µmcomp=Z,315nm,0.8s									
WAT6	**Susitna Watana**	**88.00**	**13**	P				16 28 45.0		
	baz=208,SNR=36									
TXAR	**Lajitas Array**	**88.03**	**57**	P		**P**		**16 28 46.3**	**+0.6**	
	comp=Z,3.2nm,0.9s,baz=216,slow=6.2,SNR=6.6									
TXAR				pP		**pwP**		**16 30 11.6**	**-0.5**	
	comp=Z,10.0nm,1.1s,baz=218,slow=7.6,SNR=6.8									
TXAR				PKKPbc		**PKKPbc**		**16 46 29.6**	**0.0**	
	comp=Z,0.5nm,0.7s,baz=104,slow=4.0,SNR=7.7									
MCARA	**McCarthy VSAT**	**88.07**	**16**	P				16 28 45.8		
	baz=212,SNR=10									
MCARA	**McCarthy VSAT**	**88.07**	**16**	IAmb		IAmb		16 28 47.4		
	comp=Z,33nm,1.0s									
LOGN	**Logan Glacier**	**88.13**	**17**	IAmb		IAmb		16 28 47.3		
	comp=Z,37nm,0.9s									
CTG	**Chitna Glacier**	**88.16**	**17**	P				16 28 46.4		
	baz=213,SNR=12									
CTGM	**Chitina Glacie**	**88.16**	**17**	IAmb		IAmb		16 28 47.4		
	comp=Z,39nm,0.8s									
WAT2	**Susitna Watana**	**88.16**	**13**	P				16 28 45.6		
	baz=207,SNR=26									
SEY	**Seymchan**	**88.19**	**347**	P		**P**		**16 28 45.5**	**0.0**	
	comp=Z,15nm,0.8s,baz=153,slow=5.0,SNR=110									
SEY	**Seymchan**	**88.19**	**347**	*i* P		**P**		**16 28 45.4**	**-0.1**	
KTH	**Kantishna Hill**	**88.23**	**12**	IAmb		IAmb		16 28 46.0		
	comp=Z,40nm,0.9s									
TRF	**Thorofare Moun**	**88.26**	**12**	P				16 28 45.7		
	baz=205,SNR=77									
CHUM	**Lake Minchumin**	**88.28**	**11**	P				16 28 45.2		
	baz=203,SNR=22									
ANMO	**Albuquerque**	**88.54**	**51**	P				16 28 50.1		
	baz=241									
TIY	**Taiyuan**	**88.55**	**312**	*e*P		**P**		**16 28 49.8**	**+1.9**	
TIY				pmax		pmax				
	comp=Z,29nm,0.9s									
SKAG	**Skagway**	**88.71**	**20**	P				16 28 50.3		
	baz=219									
BPAW	**Bear Paw Mtn.**	**88.72**	**11**	P				16 28 47.1		
	baz=205,SNR=5.3									
MCK	**McKinley**	**88.78**	**12**	P				16 28 48.2		
	baz=206,SNR=44									
MCK	**McKinley**	**88.78**	**12**	IAmb		IAmb		16 28 49.7		
	comp=Z,46nm,1.0s									
PAX	**Paxson**	**88.84**	**14**	P				16 28 48.5		
	baz=210,SNR=13									
NEW	**Newport**	**88.86**	**36**	P				16 28 50.5		
	baz=234,SNR=5.6									
PHIT	**Phitsanulok**	**88.98**	**289**	P		**P**		**16 28 52.7**	**+2.4**	
	comp=Z,2µmcomp=Z,258nm,0.9s									
SRDT	**SRDT**	**89.00**	**286**	P		**P**		**16 28 52.2**	**+1.9**	
	comp=Z,474nmcomp=Z,44nm,0.9s									
UTTA	**Uttaradit**	**89.08**	**290**	P		**P**		**16 28 52.6**	**+1.9**	
	comp=Z,416nmcomp=Z,59nm,0.9s									
UTHA	**Uthaitani**	**89.19**	**287**	P		**P**		**16 28 53.6**	**+2.3**	
	comp=Z,582nmcomp=Z,72nm,1.1s									
MENT	**Mentasta**	**89.22**	**15**	IAmb		IAmb		16 28 52.2		
	comp=Z,25nm,0.8s									
ZEA	**Zeya**	**89.27**	**331**	*e*P		**P**		**16 28 51.3**	**+0.6**	
ZEA				pmax		pmax				
	comp=N,10.0nm,1.0s									
ZEA				pmax		pmax				
	comp=Z,20nm,1.1s									
XAN	**Xi'an**	**89.29**	**307**	P		**P**		**16 28 52.3**	**+0.9**	
XAN				sP		sP		16 30 50.6	-2.0	
XAN				S		**S**		**16 39 07.1**	**-2.5**	
XAN				pmax		pmax				
	comp=Z,55nm,1.0s									
XAN				pmax		pmax				
	comp=Z,170nm,7.0s									
XAN	**Xi'an**	**89.29**	**307**	IAmb		IAmb		16 28 54.4		
	comp=Z,38nm,0.9s									
NANT	**Nan**	**89.38**	**291**	P		**P**		**16 28 54.5**	**+2.4**	
NEA2	**Nenana**	**89.52**	**12**	P				16 28 50.9		
	baz=206,SNR=21									
NEA2	**Nenana**	**89.53**	**12**	IAmb		IAmb		16 28 53.0		
	comp=Z,16nm,0.8s									
MLY	**Manley**	**89.61**	**11**	P				16 28 51.6		
	baz=205,SNR=34									
MLY	**Manley**	**89.61**	**11**	IAmb		IAmb		16 28 52.4		
	comp=Z,19nm,0.7s									
DLBC	**Dease Lake**	**89.75**	**23**	IAmb		IAmb		16 28 55.6		
	comp=Z,23nm,1.0s									
DOT	**Dot Lake**	**89.75**	**14**	IAmb		IAmb		16 28 54.2		
	comp=Z,26nm,0.8s									
HDA	**Harding Lake**	**89.78**	**13**	P				16 28 52.9		
	baz=208,SNR=38									
HDA				P				16 28 52.9		
	baz=208,SNR=38									
SUKH	**Sukhothai**	**89.78**	**289**	P		**P**		**16 28 56.0**	**+2.0**	
	comp=Z,603nmcomp=Z,94nm,0.9s									
L27K	**Beaver Creek,**	**89.79**	**16**	P				16 28 53.8		
	baz=213,SNR=15									
WHY	**Whitehorse**	**89.79**	**20**	IAmb		IAmb		16 28 56.0		
	comp=Z,17nm,0.9s									
L27K	**Beaver Creek,**	**89.79**	**16**	IAmb		IAmb		16 28 54.8		
	comp=Z,14nm,0.8s									
UMPA	**Umpang Tak**	**89.96**	**287**	P		**P**		**16 28 57.4**	**+2.6**	
	comp=Z,541nmcomp=Z,64nm,1.0s									
I23K	**Minto, Yukon-K**	**89.97**	**12**	P				16 28 53.3		
	baz=206,SNR=14									
IMAR	**Indian Mountai**	**89.98**	**10**	P		**P**		**16 28 53.8**	**0.0**	
TCOL	**CIGO, UAF Yank**	**90.01**	**12**	P				16 28 53.8		
	baz=207,SNR=16									
COLA	**College**	**90.01**	**12**	P				16 28 53.8		
	baz=207									
COLA	**College**	**90.02**	**12**	*d i* P		**P**		**16 28 53.4**	**-0.5**	
COLA				pmax		pmax				
	comp=Z,49nm,0.8s									
COLA	**College**	**90.02**	**12**	P		**P**		**16 28 54.0**	**+0.1**	
MDM	**Murphy Dome**	**90.02**	**12**	IAmb		IAmb		16 28 54.5		
	comp=Z,37nm,0.8s									
SCRK	**Sand Creek**	**90.05**	**14**	P				16 28 55.0		
	baz=211,SNR=24									
IL31		**90.12**	**13**	IAmb		IAmb		16 28 55.8		
	comp=Z,24nm,1.1s									
ILAR	**Eielson Array**	**90.12**	**13**	P		**P**		**16 28 54.1**	**-0.4**	
	comp=Z,17nm,0.9s,baz=220,slow=5.6,SNR=152									
ILAR				PKiKP		**PKiKP**		**16 33 47.8**	**0.0**	
	comp=Z,0.3nm,0.4s,baz=284,slow=3.1,SNR=5.7									
LAMP	**Lampang**	**90.19**	**290**	P		**P**		**16 28 58.0**	**+2.1**	
	comp=Z,2µmcomp=Z,220nm,0.9s									
KMI	**Kunming**	**90.23**	**297**	⇑P		**P**		**16 28 58.3**	**+2.1**	
KMI				pP		pP		16 30 20.3	+0.2	
KMI				pmax		pmax				
	comp=Z,17nm,0.9s									
KMI				LR		LR				
	comp=Z,91nm,8.0s									
KMI				LR		LR				
	comp=Z,85nm,9.8s									
KMI				LR		LR				
	comp=Z,110nm,9.3s									
BW06	**Boulder Array**	**90.29**	**43**	P				16 28 57.3		
	baz=239,SNR=10									
BW06	**Boulder Array**	**90.29**	**43**	P		**P**		**16 28 57.6**	**+1.5**	
PDAR	**Pinedale Array**	**90.29**	**43**	P		**P**		**16 28 57.2**	**+1.1**	
	comp=Z,3.0nm,0.7s,baz=202,slow=3.2,SNR=30									
PDAR				pP		**pwP**		**16 30 22.1**	**-0.6**	
	comp=Z,1.2nm,0.8s,baz=199,slow=4.1,SNR=3.2									
PDAR				PKPPKP		PKPPKPdf		16 54 35.1		
	comp=Z,0.1nm,0.3s,baz=94,slow=4.5,SNR=4.1									
PDAR	**Pinedale Array**	**90.29**	**43**	P		**P**		**16 28 57.1**	**+1.0**	
POKR	**Poker Plat Res**	**90.31**	**12**	P				16 28 55.1		
	baz=208,SNR=7.2									
POKR	**Poker Plat Res**	**90.31**	**12**	IAmb		IAmb		16 28 55.8		
	comp=Z,18nm,0.7s									
YHL	**Hebgen Lake**	**90.36**	**41**	IAmb		IAmb		16 28 60.0		
	comp=Z,14nm,0.8s									
BOZ	**Bozeman (W)**	**90.49**	**40**	P				16 28 58.6		
	baz=238									
K27K	**Chicken**	**90.54**	**15**	P				16 28 57.9		
	baz=213									
K27K	**Chicken**	**90.55**	**15**	IAmb		IAmb		16 28 58.6		
	comp=Z,27nm,0.9s									
HHC	**Hu-ho-hao-te**	**90.68**	**314**	*e*P		**P**		**16 28 58.6**	**+0.8**	
HHC				pmax		pmax				
	comp=Z,33nm,0.8s									
HHC				pmax		pmax				
	comp=Z,44nm,6.6s									
CM04	**Chiang Mai Arr**	**90.72**	**290**	P		**P**		**16 29 00.4**	**+2.1**	
	comp=Z,803nmcomp=Z,116nm,1.0s									
CM02	**Chiang Mai Arr**	**90.76**	**290**	P		**P**		**16 29 00.0**	**+1.5**	
	comp=Z,646nmcomp=Z,94nm,1.0s									
CMAR	**Chiang Mai Arr**	**90.77**	**290**	P		**P**		**16 29 00.3**	**+1.8**	
	comp=Z,66nm,0.9s,baz=129,slow=3.2,SNR=202									
CMAR				PP		**PP**		**16 32 40.4**	**+0.2**	
	comp=Z,5.1nm,0.9s,baz=126,slow=5.8,SNR=8.6									
RDOG	**Red Dog Mine**	**90.84**	**6**	P				16 28 58.6		
	baz=194									
BILL	**Bilibino**	**90.89**	**354**	*c i* P		**P**		**16 28 56.6**	**-1.3**	
BILL				*e*				16 32 45.7		
BILL				*e*S		**SKSac**		**16 39 01.1**	**+7.3**	
BILL				*e*SS		**SS**		**16 45 35.9**	**-0.1**	
BILL				pmax		pmax				
	comp=Z,13nm,1.0s									
CMMT	**Chiang Mai**	**90.91**	**290**	P		**P**		**16 28 59.0**	**-0.2**	
	comp=Z,446nmcomp=Z,52nm,0.9s									
CHTO	**Chiang Mai**	**90.91**	**290**	P		**P**		**16 29 00.8**	**+1.6**	
CHTO				pmax		pmax				
	comp=Z,68nm,0.8s									
CHTO	**Chiang Mai**	**90.91**	**290**	P		**P**		**16 29 00.8**	**+1.6**	
CHTO	**Chiang Mai**	**90.91**	**290**	P		**P**		**16 29 01.2**	**+2.0**	
PRP	**Porcupine Dome**	**91.05**	**13**	P				16 28 58.9		
	baz=210,SNR=27									
PRP	**Porcupine Dome**	**91.05**	**13**	IAmb		IAmb		16 29 01.7		
	comp=Z,18nm,1.0s									
DAWY	**Dawson**	**91.24**	**16**	IAmb		IAmb		16 29 01.5		
	comp=Z,25nm,0.8s									
EGAK	**Eagle**	**91.39**	**15**	P				16 29 00.9		
	baz=214,SNR=31									
EGAK	**Eagle**	**91.39**	**15**	IAmb		IAmb		16 29 01.9		
	comp=Z,28nm,0.8s									
MHMT	**Maesarieng**	**91.55**	**289**	P		**P**		**16 29 03.3**	**+1.2**	
	comp=Z,797nmcomp=Z,49nm,0.9s									
COLD	**Coldfoot**	**91.70**	**10**	P				16 29 02.6		
	baz=205,SNR=26									
COLD	**Coldfoot**	**91.70**	**10**	IAmb		IAmb		16 29 03.5		
	comp=Z,16nm,0.9s									
CD2	**Chengdu**	**91.82**	**303**	P		**P**		**16 29 05.8**	**+2.6**	
CD2				pmax		pmax				
	comp=Z,40nm,0.6s									
TOLK	**Toolik Lake Re**	**93.08**	**10**	P				16 29 08.3		
	baz=206									
EPYK	**Eagle Plains**	**93.77**	**15**	P				16 29 11.5		
	baz=218,SNR=11									
EPYK	**Eagle Plains**	**93.77**	**15**	IAmb		IAmb		16 29 12.7		
	comp=Z,13nm,0.8s									
YAK	**Yakutsk**	**93.85**	**338**	P		**P**		**16 29 10.8**	**-0.9**	
	comp=Z,7.4nm,0.5s,baz=240,slow=1.1,SNR=10									
YAK	**Yakutsk**	**93.85**	**338**	*e*P		**P**		**16 29 10.6**	**-1.1**	
YAK				pmax		pmax				
	comp=Z,17nm,0.8s									
YAK	**Yakutsk**	**93.85**	**338**	P		**P**		**16 29 08.9**	**-2.8**	
YAK				IAmb		IAmb		16 29 11.6		
	comp=Z,20nm,0.8s									
LZH	**Lanzhou**	**93.93**	**307**	*e*P		**P**		**16 29 14.4**	**+1.5**	
LZH				pmax		pmax				
	comp=Z,46nm,1.1s									
LZH				pmax		pmax				
	comp=Z,120nm,6.0s									
LAO	**LASA Array**	**94.29**	**41**	P				16 29 16.3		
	baz=242									
A21K	**Barrow**	**94.61**	**7**	P				16 29 14.7		
	baz=200									
A21K	**Barrow**	**94.61**	**7**	IAmb		IAmb		16 29 16.0		
	comp=Z,10nm,0.8s									
INK	**Inuvik**	**96.06**	**15**	P		**P**		**16 29 20.9**	**-0.7**	
	comp=Z,5.9nm,0.9s,baz=231,slow=4.1,SNR=20									
INK				pP		**pwP**		**16 30 48.0**	**-1.0**	
	comp=Z,1.9nm,1.0s,baz=186,slow=5.7,SNR=2.7									
INK	**Inuvik**	**96.06**	**15**	P		**P**		**16 29 21.2**	**-0.4**	
ULN	**Ulaanbaatar**	**96.79**	**319**	*ce*P		**P**		**16 29 25.7**	**+0.1**	
ULN				pmax		pmax				
	comp=Z,4.0nm,0.9s									
PB15	**IPOC Station P**	**97.00**	**118**	P		**P**		**16 29 30.9**	**+3.6**	
SONM	**Songino Array**	**97.18**	**319**	P		**P**		**16 29 25.3**	**-2.0**	
	comp=Z,1.3nm,0.8s,baz=110,slow=13,SNR=8.7									
SONM				PP		PP		16 33 16.8	-13	
	comp=Z,1.2nm,1.0s,baz=147,slow=5.8,SNR=3.8									
SONM				S		**SKSac**		**16 39 27.3**	**-1.5**	
	comp=Z,0.6nm,0.9s,baz=160,slow=4.7,SNR=4.1									
SONM				PKKPbc		**PKKPbc**		**16 46 07.0**	**+0.1**	
	comp=Z,0.4nm,1.0s,baz=64,slow=3.4,SNR=3.6									
SONM	**Songino Array**	**97.18**	**319**	P		**P**		**16 29 25.7**	**-1.6**	
SONM				pmax		pmax				
	comp=Z,2.0nm,0.9s									
SONM	**Songino Array**	**97.18**	**319**	P		**P**		**16 29 25.7**	**-1.6**	
GTA	**Gaotai**	**98.18**	**309**	⇑P		**P**		**16 29 32.6**	**+0.6**	
GTA				pP		pP		16 30 57.0	+0.5	
GTA				sP		sP		16 31 34.1	+0.4	
GTA				PP		**PP**		**16 33 40.5**	**+3.3**	
GTA				pmax		pmax				
	comp=Z,6.0nm,1.5s									
YKA	**Yellowknife Ar**	**98.19**	**25**	P		**P**		**16 29 31.6**	**+0.3**	
	comp=Z,1.3nm,0.7s,baz=236,slow=4.1,SNR=18									
YKA				pP		**pwP**		**16 31 01.0**	**+2.1**	
	comp=Z,1.5nm,0.8s,baz=231,slow=4.2,SNR=9.2									
YKA				PKiKP		**PKiKP**		**16 34 01.1**	**-0.7**	
	comp=Z,0.4nm,0.7s,baz=225,slow=0.9,SNR=3.8									
YKA				PKKPbc		**PKKPbc**		**16 46 02.4**	**-2.2**	
	comp=Z,0.9nm,0.6s,baz=51,slow=2.9,SNR=13									
SHL	**Shillong**	**99.48**	**294**	P		**Pdif**		**16 29 40.6**	**+2.4**	
TIXI	**Tiksi**	**100.55**	**345**	P		**Pdif**		**16 29 42.7**	**+1.1**	
	comp=Z,1.5nm,0.3s,baz=110,slow=2.2,SNR=4.6									
LPAZ	**La Paz**	**101.31**	**113**	P		**Pdif**		**16 29 49.1**	**+2.0**	
	comp=Z,1.0nm,0.7s,baz=226,slow=5.9,SNR=3.8									
ULM	**Lac du Bonnet**	**102.02**	**41**	P		**Pdif**		**16 29 50.5**	**+1.9**	
	comp=Z,1.8nm,0.6s,baz=21,slow=20,SNR=4.8									
TAPN	**Taplejung**	**103.59**	**294**	*e*P		**PKiKP**		**16 34 12.9**	**-0.2**	
	comp=Z,31nm,1.3s									
ODAN	**Odare**	**103.71**	**294**	*e*P		**PKiKP**		**16 34 13.0**	**-0.2**	
	comp=Z,64nm,1.6s									
RAMN	**Ramite**	**104.41**	**293**	*e*P		**PKiKP**		**16 34 14.5**	**0.0**	
	comp=Z,9.5nm,0.6s									
CPUP	**Villa Florida**	**104.85**	**127**	PKiKP		**PKiKP**		**16 34 14.4**	**-0.7**	
	comp=Z,1.9nm,0.4s,baz=247,slow=12,SNR=6.3									
GUN	**Gumba**	**105.31**	**294**	*e*P		**PKiKP**		**16 34 15.8**	**-0.5**	
	comp=Z,6.1nm,0.5s									
PKI	**Pulchoki**	**105.61**	**294**	*e*P		**PKiKP**		**16 34 15.8**	**-1.0**	
	comp=Z,8.9nm,0.7s									
PKIN	**Phulchoki**	**105.62**	**294**	*e*P		**PKiKP**		**16 34 15.9**	**-0.9**	
	comp=Z,7.5nm,0.6s									
ZSN	**Zaisan**	**110.87**	**314**	*e*PKiKP		**PKiKP**		**16 34 24.2**	**-1.5**	
	baz=314									
ZSN	**Zaisan**	**110.87**	**314**	*i* PKiKP		**PKiKP**		**16 34 24.2**	**-1.5**	
ZALV	**Zalesovo Beam**	**111.96**	**321**	PKiKP		**PKiKP**		**16 34 26.3**	**-1.2**	
	comp=Z,2.6nm,0.6s,baz=158,slow=0.5,SNR=13									
ZALV				PP		**PP**		**16 35 20.1**	**+2.4**	
	comp=Z,2.4nm,0.9s,baz=86,slow=6.1,SNR=4.4									
MKAR	**Makanchi Array**	**112.50**	**313**	Pdiff		**Pdif**		**16 30 37.1**	**+1.7**	
	comp=Z,0.9nm,0.8s,baz=92,slow=5.8,SNR=9.4									
MKAR				PKiKP		**PKiKP**		**16 34 28.1**	**-0.7**	
	comp=Z,2.8nm,0.9s,baz=140,slow=0.8,SNR=13									
MKAR				PP		**PP**		**16 35 17.4**	**-4.3**	
	comp=Z,1.0nm,0.8s,baz=99,slow=7.7,SNR=3.8									
MKAR				PKKPbc		**PKKPbc**		**16 45 20.3**	**0.0**	
	comp=Z,0.6nm,0.8s,baz=298,slow=3.6,SNR=5.2									
UZB	**Uzunbulak**	**114.23**	**309**	*e*PKiKP		PKPdf		16 34 31.9	-0.5	
	baz=308									
UZB	**Uzunbulak**	**114.23**	**309**	*i* PKiKP		PKPdf		16 34 31.8	-0.6	
SEM	**Semipalatinsk**	**114.32**	**317**	*e*PKP		PKPdf		16 34 30.2	-2.2	
	baz=316									
SEM	**Semipalatinsk**	**114.32**	**317**	*e*PKIKP		PKPdf		16 34 30.2	-2.2	
KPKS	**Kokpek**	**114.52**	**309**	*e*PKP		PKPdf		16 34 31.8	-1.1	
	baz=309									
KPKS	**Kokpek**	**114.52**	**309**	*e*PKIKP		PKPdf		16 34 31.7	-1.2	
SATY	**Saty**	**114.67**	**308**	*e*PKP		PKPdf		16 34 31.1	-2.1	
	baz=308									
SATY	**Saty**	**114.67**	**308**	*e*PKIKP		PKPdf		16 34 31.9	-1.3	
TDK	**Taldyqorghan**	**114.92**	**311**	*e*PKP		PKPdf		16 34 32.0	-1.5	
	baz=310									
TDK	**Taldyqorghan**	**114.92**	**311**	*e*PKIKP		PKPdf		16 34 32.0	-1.5	
PTGA	**Pitinga**	**115.45**	**102**	PKKPbc		PKKPbc		16 45 10.7	+1.4	
	comp=Z,1.5nm,0.2s,baz=145,slow=23,SNR=4.5									
MDOK	**Medeo**	**115.66**	**308**	*e*PKP		**PKPdf**		**16 34 34.1**	**-1.1**	
	baz=308									
MDOK	**Medeo**	**115.66**	**308**	*e*PKIKP		**PKPdf**		**16 34 34.1**	**-1.1**	
TNSS	**Tian-Shan**	**115.72**	**308**	*e*PKP		**PKPdf**		**16 34 34.4**	**-1.2**	
	baz=308									
TNSS	**Tian-Shan**	**115.72**	**308**	*e*PKIKP		**PKPdf**		**16 34 34.4**	**-1.2**	
CHKK	**Chushkaly**	**115.79**	**309**	*e*PKP		**PKPdf**		**16 34 33.4**	**-1.8**	
	baz=309									
CHKK	**Chushkaly**	**115.79**	**309**	*e*PKIKP		**PKPdf**		**16 34 33.4**	**-1.8**	
E58A	**La Victoria**	**115.81**	**48**	P				16 34 35.4		
	baz=264									
D58A	**Chemin du LacG**	**116.16**	**47**	P				16 34 35.6		
	baz=265									
KUU	**Kurty**	**116.26**	**309**	*e*PKP		**PKPdf**		**16 34 34.4**	**-1.8**	
	baz=309									
KUU	**Kurty**	**116.26**	**309**	*e*PKIKP		**PKPdf**		**16 34 34.3**	**-1.8**	
E60A	**Ste Agathe de**	**117.08**	**48**	P				16 34 37.7		
	baz=265									
AAK	**Ala-Archa**	**117.47**	**308**	*c i* PKIKP		**PKiKP**		**16 34 38.9**	**+0.2**	
AAK				pmax		pmax				
	comp=Z,33nm,2.5s									
AAK	**Ala-Archa**	**117.47**	**308**	P		**PKiKP**		**16 34 38.7**	**0.0**	
BTLS	**Baital**	**118.00**	**310**	*e*PKP		**PKPdf**		**16 34 38.3**	**-1.1**	
	baz=310									
BTLS	**Baital**	**118.00**	**310**	*e*PKIKP		**PKPdf**		**16 34 38.3**	**-1.1**	
VOI	**Vohitsoka**	**118.04**	**228**	P		**PKiKP**		**16 34 41.2**	**+0.8**	
BDFB	**Brasilia**	**118.11**	**123**	PKKPbc		PKKPbc		16 45 02.5	+2.0	
	comp=Z,7.7nm,0.7s,baz=183,slow=18,SNR=3.5									
PKME	**Peaks-Kenny Pk**	**118.50**	**50**	P				16 34 40.7		
	baz=266									
H64A	**Troy**	**118.51**	**50**	P				16 34 40.7		
	baz=266									
F63A	**Nahmakanta, Br**	**118.66**	**49**	P				16 34 41.1		
	baz=266									
D62A	**Allapoint, All**	**118.77**	**48**	P				16 34 40.5		
	baz=267									
G64A	**Maxfield**	**118.88**	**50**	P				16 34 41.6		
	baz=266									
BRZS	**Berezniki**	**119.15**	**316**	*e*PKP		**PKPdf**		**16 34 39.9**	**-1.6**	
	baz=316									
BRZS	**Berezniki**	**119.15**	**316**	*e*PKIKP		**PKPdf**		**16 34 39.8**	**-1.6**	
E63A	**Oxbow**	**119.17**	**48**	P				16 34 41.6		
	baz=267									
F64A	**Sherman**	**119.19**	**49**	P				16 34 41.9		
	baz=267									
D63A	**Stockholm**	**119.41**	**48**	P				16 34 41.9		
	baz=268									
E64A	**Bridgewater**	**119.58**	**48**	P				16 34 42.5		
	baz=268									
DZA	**Taraz**	**119.81**	**308**	*e*PKP		**PKPdf**		**16 34 41.9**	**-1.2**	
	baz=308									
DZA	**Taraz**	**119.81**	**308**	*e*PKIKP		**PKPdf**		**16 34 41.8**	**-1.2**	
NOR	**Nord**	**120.21**	**3**	*i* P		**PKPdf**		**16 34 42.0**	**-0.7**	
	comp=Z,84nm,2.8s									
NOR	**Nord**	**120.21**	**3**	*i* PKIKP		**PKPdf**		**16 34 42.0**	**-0.7**	
NOR	**Nord**	**120.21**	**3**	*i* P		**PKPdf**		**16 34 42.0**	**-0.7**	
NOR				IAmb		IAmb		16 34 44.1		
	comp=Z,84nm,2.8s									
KKAR	**Karatay Array**	**120.42**	**308**	PKIKP		**PKPdf**		**16 34 43.4**	**-0.7**	
KKAR	**Karatay Array**	**120.42**	**308**	PKPdf		**PKPdf**		**16 34 43.4**	**-0.7**	
UPNV	**Upernavik**	**120.44**	**17**	*i* P		**PKPdf**		**16 34 43.3**	**0.0**	
UPNV				IAmb		IAmb		16 34 43.7		
	comp=Z,20nm,0.7s									
BRVK	**Borovoye**	**120.58**	**319**	*c i* PKIKP		**PKPdf**		**16 34 43.7**	**-0.4**	
BRVK				pmax		pmax				
	comp=Z,13nm,1.3s									
BRVK	**Borovoye**	**120.58**	**319**	PKPdf		**PKPdf**		**16 34 44.0**	**-0.1**	
BRVK	**Borovoye**	**120.58**	**319**	P		**PKPdf**		**16 34 43.7**	**-0.4**	
IUG	**Iuzhnay**	**120.72**	**307**	*e*PKP		**PKPdf**		**16 34 44.3**	**-0.6**	
	baz=307									
IUG	**Iuzhnay**	**120.72**	**307**	*e*PKIKP		**PKPdf**		**16 34 44.2**	**-0.6**	
KBL	**Kabul**	**120.80**	**298**	PKIKP		**PKiKP**		**16 34 46.0**	**+0.4**	
KBL	**Kabul**	**120.80**	**298**	PKPdf		**PKiKP**		**16 34 46.0**	**+0.4**	
KBL	**Kabul**	**120.80**	**298**	P		**PKiKP**		**16 34 45.7**	**+0.2**	
	SNR=17									
LMN	**Caledonia Moun**	**121.67**	**49**			**PKiKP**		**16 34 46.6**	**+0.1**	
NUUG	**Nuugaatsiaq**	**121.79**	**18**	*i* P		**PKiKP**		**16 34 46.1**	**0.0**	
NUUG				IAmb		IAmb		16 34 46.3		
	comp=Z,19nm,0.7s									
SUR	**Sutherland**	**122.68**	**199**	PKPdf		**PKiKP**		**16 34 50.7**	**+1.3**	
SUR	**Sutherland**	**122.68**	**199**	P		**PKiKP**		**16 34 50.4**	**+1.0**	
SPAO	**Spits

comp=Z,5.0nm,0.8s,baz=291,slow=1.8,SNR=10.0
KMBO SKPbc **SKiKP** **16 38 21.4 -1.4**
comp=Z,5.0nm,1.0s,baz=8.7,slow=0.5,SNR=6.4
KMBO Kilima Mbogo 138.48 240 PKIKP **PKPdf** **16 35 20.0 +0.5**
ZEI Tsey 139.78 310 *i* PKIKP **PKPdf** **16 35 19.7 -1.2**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
GNI Garni 139.85 306*c i* PKIKP **PKPdf** **16 35 22.1 +1.0**
GNI pmax pmax
comp=Z,13nm,1.3s
DOMB Dombas 140.06 355 *e*PKPdf **PKPdf** **16 35 14.3 -6.3**
AKN Aaknes 140.07 356 *e*PKPdf **PKPdf** **16 35 20.1 -0.6**
KBZ Khabaz 140.19 312 PKhKP PKPpre 16 35 17.4
comp=Z,0.6nm,0.4s,baz=53,slow=12,SNR=1.7
KBZ SKPbc **SKPbc** **16 38 21.8 -0.8**
comp=Z,2.2nm,0.9s,baz=216,slow=3.4,SNR=2.8
KBZ Khabaz 140.19 312 *i* PKIKP **PKPdf** **16 35 21.8 +0.5**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 140.26 313 *e*PKIKP **PKPdf** **16 35 21.3 -0.3**
KIV pmax pmax
comp=Z,18nm,1.0s
NB2 NORSAR Subarra140.83 353 PKP **PKPdf** **16 35 15.3 -6.8**
comp=Z,5.1nm,0.6s,baz=13,slow=4.0
NOA NORSAR Array B140.83 353 PKhKP PKPpre 16 35 14.9
comp=Z,1.0nm,0.6s,baz=50,slow=1.7,SNR=14
NOA SKPbc **SKiKP** **16 38 25.1 -0.7**
comp=Z,3.6nm,0.9s,baz=14,slow=4.3,SNR=6.3
NC602 NORSAR Array S 141.09 353 *e*PKPdf **PKPdf** **16 35 16.5 -6.0**
BER Bergen 141.94 357 *e*PKPdf **PKPdf** **16 35 22.2 -1.8**
IDID Didziasalis 142.30 337 *e*P **PKPdf** **16 35 22.1 -2.7**
ISAL Salakas 142.31 338 *e*P **PKPdf** **16 35 20.9 -3.8**
ODD1 Odda 142.35 356 *e*PKPdf **PKPdf** **16 35 21.3 -3.5**
KONO Kongsberg 142.37 354 *e*PKPdf **PKPdf** **16 35 20.8 -4.0**
SOC Sochi 142.40 313 *e*PKIKP **PKPdf** **16 35 22.8 -2.5**
SOC *e* 16 38 34.6
SOC *e*PPP PPP 16 41 50.4
SOC *e*SS SS 16 56 46.9 +4.6
SOC *e*SSS SSS 17 02 08.1
IIGN Ignalina 142.45 337 *e*P **PKPdf** **16 35 20.6 -4.5**
MNK Minsk 142.49 335 *i* PKP **PKPdf** **16 35 20.0 -5.1**
comp=E,2.0nm,1.0s
MNK *i* PKP **PKPdf** **16 35 20.0 -5.1**
comp=N,12nm,0.8s
MNK *i* PKP **PKPdf** **16 35 20.0 -5.1**
comp=Z,14nm,0.8s
MNK *i* pPKP **pPKPdf** **16 36 45.0 -8.8**
MNK *i* PP **PP** **16 38 29.5 -7.1**
MNK *i* PPP PPP 16 41 40.0
MNK *i* SKS **SKSdf** **16 41 54.8 -4.9**
MNK *i* SKKS **SKKSdf** **16 51 19.2 -0.8**
MNK *i* SS **SS** **16 56 39.8 -2.2**
MNK *i* SSS SSS 17 01 56.6
MNK *i* LRM MLR 17 38 20.4
comp=N,80nm,18.1s
MNK *i* LRM MLR 17 38 22.6
comp=E,5.0nm,17.4s
MNK *i* LRM MLR 17 38 36.3
comp=Z,58nm,20.3s
NACGM Naroch 142.60 337 *i* PKP **PKPdf** **16 35 22.0 -3.3**
NACGM *i* PKP **PKPdf** **16 35 22.0 -3.3**
NACGM *i* PKP **PKPdf** **16 35 22.0 -3.3**
NACGM *i* pPKP **pPKPdf** **16 36 55.0 +1.0**
NACGM *i* sPKP 16 37 27.3
NACGM *i* PP PP 16 38 27.8 -9.5
NACGM *i* PPP PPP 16 41 43.5
NACGM *i* SKS **SKSdf** **16 41 50.8 -9.1**
NACGM *i* SS SS 16 55 54.1 -49
NACGM *i* SSS SSS 17 01 32.8
LODK Lodwar 142.61 245 P **PKPdf** **16 35 24.4 -2.3**
SNR=5.0
BLS5 Blasjo 142.84 356 *e*PKPdf **PKPdf** **16 35 22.9 -2.8**
PABE Paberze 143.10 339 *e*P PKPab 16 35 22.9 +0.2
KMY Karmoy 143.12 357 *e*PKPdf PKPbc 16 35 23.5 -0.5
PBUR Paburge 143.30 341 *e*P PKPab 16 35 23.2 -0.4
ANN Anapa 143.41 316 *i* PKIKP PKPab 16 35 24.6 +0.3
ANN *e* 16 38 43.3
ANN pmax pmax
comp=Z,34nm,0.8s
HOMB Homborsund 143.83 354 *e*PKPdf PKPbc 16 35 26.4 +0.4
HOMB Homborsund 143.83 354 *i* P PKPbc 16 35 26.0 -0.1
SNART Snartemo 143.87 355 *i* P PKPab 16 35 25.6 -0.1
MBAR Mbarara 143.90 235*c i* PKIKP **PKPdf** **16 35 29.0 -0.1**
MBAR pmax pmax
comp=Z,61nm,1.0s
MBAR Mbarara 143.90 235 PKPdf 16 35 29.8 +0.6
KAC Achnashellach 144.50 7 *e*P PKPbc 16 35 27.8 -0.4
SUW Suwalki 144.59 338 *e*PKP PKPbc 16 35 28.3 -0.2
SUW Suwalki 144.59 338 *e*P PKPbc 16 35 28.0 -0.5
MCD Coleburn Disti 144.61 5 *e*P PKPbc 16 35 27.7 -0.8
KPL Plockton 144.62 7 *e*P PKPbc 16 35 27.8 -0.6
AKASG Malin Array Be 144.65 330 PKP PKPbc 16 35 27.8 -1.0
comp=Z,43nm,0.6s,baz=42,slow=4.6,SNR=127
AKASG pPKP pPKPdf 16 37 01.5 +3.6
comp=Z,3.4nm,0.7s,baz=41,slow=4.1,SNR=2.5
AKASG SKPbc **SKiKP** **16 38 34.1 +0.2**
comp=Z,7.6nm,0.8s,baz=45,slow=2.9,SNR=7.2
AKASG Malin Array Be 144.65 330 PKPbc 16 35 28.1 -0.7
MDO Dochfour 144.66 6 *e*P PKPbc 16 35 28.2 -0.4
MUD Monsted U'grnd 145.55 353 *i* P **PKPbc** **16 35 31.2 -0.1**
comp=Z,135nm,1.3s
MUD Monsted U'grnd 145.55 353 *i* PKP2 **PKPbc** **16 35 31.2 -0.1**
MUD Monsted U'grnd 145.55 353 *i* P **PKPbc** **16 35 31.2 -0.1**
MUD IAmb IAmb 16 35 35.2
comp=Z,135nm,1.3s
INVG Invergeldie, C 145.69 6 *e*P **PKPbc** **16 35 31.5 -0.3**
LAWE Loch Awe, Argy 145.71 7 *e*P **PKPbc** **16 35 31.3 -0.5**
BSD Bornholm Skovb 145.91 347 *i* P **PKPdf** **16 35 30.0 -1.0**
BSD Bornholm Skovb 145.91 347 *e*P **PKPbc** **16 35 31.8 -0.6**
BSD Bornholm Skovb 145.91 347 *i* PKIKP **PKPdf** **16 35 30.0 -1.0**
BSD Bornholm Skovb 145.91 347 *i* P **PKPdf** **16 35 30.0 -1.0**
PGBU Glenifferbraes 146.25 7 *e*P **PKPdf** **16 35 32.2 +0.6**
ESY Stoneypath 146.31 5 *e*P **PKPbc** **16 35 33.5 -0.1**
EBL Broad Law 146.42 5 *e*P **PKPbc** **16 35 33.9 0.0**
ESK Eskdalemuir 146.86 5 *e*P **PKPbc** **16 35 34.7 -0.4**
ESK Eskdalemuir 146.86 5 PKP2 **PKPbc** **16 35 35.1 0.0**
ESK Eskdalemuir 146.86 5 **PKPbc** **16 35 35.1 0.0**
BZK Bozkurt 146.90 314 ⇓P **PKPbc** **16 35 35.8 +0.2**
NEWG New Galloway 146.96 7 *e*P **PKPbc** **16 35 35.0 -0.3**
GAL1 Galloway 147.15 7 *e*P **PKPbc** **16 35 35.3 -0.6**
BEL Belsk 147.20 338 *e*PKP **PKPbc** **16 35 37.1 +1.0**
SKMB Sankelmark Bun 147.22 352 *e*PKPbc **PKPbc** **16 35 36.9 +0.8**
baz=17,slow=2.4
EDMD Edmundbyers 147.44 4 *e*P **PKPbc** **16 35 36.8 0.0**
LNIZ Loecknitz 147.57 346 *e*PKPbc **PKPbc** **16 35 36.4 -0.6**
baz=17,slow=2.4
LVV L'vov 147.59 333 *e*PKP2 **PKPbc** **16 35 36.7 -0.5**
KESW Keswick, Cumbr 147.59 6 *e*P **PKPbc** **16 35 36.9 -0.2**
GMM Mts of Mourne 147.61 9 *e*P **PKPbc** **16 35 36.2 -0.9**
IOMK Kirk Michael 147.76 7 *e*P **PKPbc** **16 35 37.3 -0.2**
BSEG Bad Segeberg 147.86 351 *e*PKPbc **PKPbc** **16 35 38.2 +0.4**
baz=17,slow=2.4
WIM Isle of Man 147.86 7 *e*P **PKPbc** **16 35 38.2 +0.4**
BRTR Keskin Array B 148.09 310 PKP **PKPdf** **16 35 35.0 -0.4**
comp=Z,14nm,0.7s,baz=110,slow=3.1,SNR=36
BRTR PKPbc **PKPbc** **16 35 38.6 -0.4**
comp=Z,14nm,0.7s,baz=144,slow=4.8,SNR=52
BRTR PP **PP** **16 39 08.9 -1.8**
comp=Z,2.2nm,1.0s,baz=76,slow=5.2,SNR=3.6
BRTR Keskin Array B 148.09 310 PKPbc 16 35 39.0 -0.1
KWP Kalwaria Pacla 148.28 334 *e*PKP **PKPbc** **16 35 39.5 +0.5**
PRAR RASCA 148.38 328 ⇓P **PKPbc** **16 35 40.0 +0.7**
TLCR 148.42 323 ⇓P **PKPbc** **16 35 39.8 +0.3**
TLCR 148.42 323 ⇓PKP2 **PKPbc** **16 35 39.8 +0.3**
DSB Dublin 148.51 10 PKPbc 16 35 40.0 +0.5
RUE Ruedersdorf 148.61 346 *e*PKPbc **PKPbc** **16 35 40.1 +0.3**
baz=17,slow=2.4
WPS Cemaes, Angles 148.62 8 *e*P **PKPbc** **16 35 39.8 0.0**
JURR Jurilovca 148.64 322 ⇓P **PKPbc** **16 35 40.5 +0.4**
GHRR 148.64 325 ⇑P **PKiKP** **16 35 41.5 +0.2**
WME Myndd Eilian 148.64 7 *e*P **PKPbc** **16 35 39.4 -0.4**
BURAR Bucovina Array 148.69 329 ⇑P **PKPbc** **16 35 40.8 +0.5**
BURAR Bucovina Array 148.69 329 ⇑PKP2 **PKPbc** **16 35 40.8 +0.5**
BURAR Bucovina Array 148.69 329 PKiKP 16 35 41.0 -0.5
BIZ Bicaz 148.73 327 ⇑P **PKiKP** **16 35 41.1 -0.3**
WLF1 Llynfaes 148.74 7 *e*P **PKPbc** **16 35 38.9 -1.1**
TESR Tescani 148.74 326 ⇑P **PKPbc** **16 35 40.4 +0.1**
YRC Rhoscolyn 148.75 8 *e*P **PKPbc** **16 35 40.0 0.0**
CFR Carcaliu 148.81 323 ⇓P **PKPbc** **16 35 40.7 +0.2**
CFR Carcaliu 148.81 323 ⇓PKP2 **PKPbc** **16 35 40.7 +0.2**
TPGR Topolog 148.84 322 ⇑P **PKPbc** **16 35 40.9 +0.3**
OJC Ojcow 148.90 338 *e*PKP **PKPbc** **16 35 40.9 +0.3**
KOLS Kolonicke sedl 149.00 334 *e*PKP **PKPdf** **16 35 37.0 +0.6**
KOLS *e* 16 35 41.7
VRI Vrincioaia 149.13 325 ⇑P **PKPbc** **16 35 41.4 +0.1**
VRI Vrincioaia 149.13 325 ⇑PKP2 **PKPbc** **16 35 41.4 +0.1**
PLOR Plostina 149.18 325 ⇓P **PKPbc** **16 35 41.5 0.0**
PLOR Plostina 149.18 325 ⇓PKP2 **PKPbc** **16 35 41.5 0.0**
HARR Harsova 149.22 323 ⇓P **PKiKP** **16 35 42.2 -0.3**
HARR Harsova 149.22 323 ⇓PKP2 **PKiKP** **16 35 42.2 -0.3**
UZH Uzhgorod 149.23 333 *e*PKP2 **PKiKP** **16 35 42.0 -0.4**
MFTR Murfatlar 149.25 321 ⇓P **PKiKP** **16 35 42.2 -0.3**
FLTG Flechtingen 149.26 349 *e*PKPbc **PKPbc** **16 35 41.6 +0.2**
baz=17,slow=2.4
FOEL Foel Wylfa 149.26 6 *e*P **PKPbc** **16 35 40.6 -0.8**
NRDL Niedersach Rie 149.29 350 *e*PKPbc **PKiKP** **16 35 41.9 -0.4**
baz=17,slow=2.4
BISRR Bisoca 149.35 325 ⇑P **PKPbc** **16 35 42.3 +0.3**
CRVS Cervenica-Dubn 149.35 335 *e*PKP2 **PKiKP** **16 35 42.5 -0.2**
CRVS Cervenica-Dubn 149.35 335 *e*PKP **PKiKP** **16 35 42.5 -0.2**
MANR Mangalia 149.37 321 ⇓P **PKiKP** **16 35 42.6 -0.2**
NIE Niedzica 149.38 336 *e*PKP **PKiKP** **16 35 42.8 0.0**
OZUR 149.47 327 ⇑P **PKiKP** **16 35 42.8 -0.2**
KSP Ksiaz 149.47 342 *e*PKP **PKiKP** **16 35 42.8 -0.1**
ARCR ARCALIA 149.48 329 ⇓P **PKiKP** **16 35 42.7 -0.3**
ASSE Asse, Remlinge 149.55 349 *e*PKPbc **PKiKP** **16 35 42.6 -0.2**
baz=17,slow=2.4
NEHR Nehoiu 149.65 325 ⇓P **PKPbc** **16 35 42.9 +0.3**
OSTC Ostas 149.75 342⇑ *e*PKP **PKiKP** **16 35 43.3 -0.2**
DOPR Dopca 149.76 327 ⇓P **PKiKP** **16 35 43.4 -0.2**
CHVC Chvalec 149.77 342⇑ *e*PKP **PKiKP** **16 35 43.6 +0.1**
IBBN Ibbenburen 149.79 353 *e*PKPbc **PKiKP** **16 35 43.2 -0.2**
baz=17,slow=2.4
IBBN *e*PKPab **PKPab** **16 35 49.8 +0.4**
baz=16,slow=4.2
MLR Muntele Rosu 149.79 325 ⇑P **PKPbc** **16 35 42.9 -0.2**
MLR Muntele Rosu 149.79 325 PKiKP 16 35 43.7 -0.1
UPC Upice 149.85 342 *e*PKP2 **PKiKP** **16 35 43.6 -0.1**
UPC Upice 149.85 342⇑ *e*PKP **PKiKP** **16 35 43.6 -0.1**
CLZ Clausthal 149.88 350 *e*PKPbc **PKiKP** **16 35 43.6 -0.1**
baz=17,slow=2.4
CLL Collm 149.88 346 *e*PKPdf **PKPdf** **16 35 38.0 +0.3**
CLL ⇓*i*PKPbc **PKiKP** **16 35 43.4 -0.2**
comp=Z,90nm,0.9s
CLL *i* PKiKP **PKPbc** **16 35 46.1 +3.2**
CLL *i* PKPab **PKPab** **16 35 49.7 -0.1**
comp=Z,37nm,1.0s
CLL *e*pPKPab **pPKPab** **16 37 17.0 +1.9**
CLL Collm 149.88 346 *i* **PKPab** **16 35 49.7 -0.1**
CLL pmax pmax
comp=Z,90nm,0.9s
CLL pmax pmax
comp=Z,37nm,1.0s
CLL Collm 149.88 346 PKiKP 16 35 43.7 0.0
CLL Collm 149.88 346 *e*PKPbc **PKPbc** **16 35 43.2 +0.3**
baz=17,slow=2.4
CLL *e*pPKPbc **pPKPab** **16 37 16.7 +1.6**
DPC Dobruska-Polom 149.91 342 *e*PKP2 **PKiKP** **16 35 44.0 +0.2**
DPC Dobruska-Polom 149.91 342⇑ *e*PKP **PKiKP** **16 35 44.0 +0.2**
LANS Liptovska Anna 149.91 337 *e*PKP2 **PKiKP** **16 35 44.8 +0.9**
LANS Liptovska Anna 149.91 337 *e*PKP **PKiKP** **16 35 44.8 +0.9**
CSS Mathiatis 149.94 302 PKPbc 16 35 43.7 +0.1
LEHL Lehliu 149.98 323 ⇑P **PKPbc** **16 35 43.4 +0.1**
KRLC Kraliky 150.01 341 *e*PKP2 **PKiKP** **16 35 43.9 -0.2**
KRLC Kraliky 150.01 341⇑ *e*PKP **PKiKP** **16 35 43.9 -0.2**
SECR 150.03 325 ⇑P **PKiKP** **16 35 44.1 -0.1**
MORC Moravsky Berou 150.04 340 ⇑P **PKPbc** **16 35 43.0 -0.4**
MORC Moravsky Berou 150.04 340 *e*PKP **PKiKP** **16 35 44.0 -0.1**
BRG Berggiesshubel 150.07 345⇓ *e*PKPf 16 35 39.1
BRG Amp 16 35 39.7
comp=Z,4.9nm,0.9s
BRG ⇑*i*PKP **PKiKP** **16 35 44.0 0.0**
BRG Amp 16 35 45.1
comp=Z,65nm,0.9s
BRG pPKP pPKPab 16 37 18.0 +2.0
BRG Amp 16 37 23.3
comp=Z,11nm,1.1s
BRG Berggiesshubel 150.07 345 *e*PKPbc **PKiKP** **16 35 43.9 -0.2**
baz=17,slow=2.4
KECS Kecovo 150.08 335 *e*PKP2 **PKiKP** **16 35 44.7 +0.5**
KECS Kecovo 150.08 335 *e*PKP **PKiKP** **16 35 44.7 +0.5**
CJR Cluj-Napoca 150.10 330 ⇓P **PKPbc** **16 35 43.8 +0.1**
FBE Freiberg 150.16 346 *e*PKPbc **PKiKP** **16 35 44.4 +0.1**
baz=17,slow=2.4
MCH1 Michaelchurch 150.17 6 *e*P **PKPbc** **16 35 41.4 -2.1**
PVCC Panska Ves 150.23 344 *e*PKP2 **PKiKP** **16 35 44.7 +0.3**
PVCC Panska Ves 150.23 344⇑ *e*PKP **PKiKP** **16 35 44.7 +0.3**
NEUB Neuenburg 150.23 348 *e*PKPbc **PKiKP** **16 35 44.2 -0.2**
baz=17,slow=2.4
GTTG Gottingen 150.23 350 *e*PKPbc **PKiKP** **16 35 44.3 -0.1**
baz=17,slow=2.4
GTTG *e*PKPab **PKPab** **16 35 51.3 +0.1**
baz=16,slow=4.2
MONM Monmouth 150.34 6 *e*P **PKPbc** **16 35 43.2 -0.7**
DRGR 150.46 331 ⇓P **PKPbc** **16 35 44.7 +0.2**
DRGR 150.46 331 ⇓PKiKP **PKPbc** **16 35 44.7 +0.2**
ARR Arges 150.55 327 ⇓P **PKiKP** **16 35 46.0 +0.7**
PRA Prague 150.68 344 *e*PKiKP **PKiKP** **16 35 45.5 +0.2**
PRA Prague 150.68 344⇑ *e*PKP **PKiKP** **16 35 45.5 +0.2**
VYHS Vyhne 150.69 337 *e*PKiKP **PKiKP** **16 35 45.4 -0.1**
VYHS Vyhne 150.69 337 *e*PKP **PKiKP** **16 35 45.4 -0.1**
BUG Bochum--Univer 150.70 353 *e*PKPbc **PKiKP** **16 35 45.1 -0.2**
baz=17,slow=2.4
PRU Pruhonice 150.73 343 *e*PKiKP **PKPdf** **16 35 40.1 +1.1**
PRU Pruhonice 150.73 343 *e*PKPDF **PKPdf** **16 35 40.1 +1.1**
PRU ⇑*e*PKP **PKiKP** **16 35 45.4 -0.1**
GOPC GO Pecny, Ondr 150.73 343 *e*PKiKP **PKiKP** **16 35 45.6 +0.1**
GOPC *e* 16 35 53.8
GOPC GO Pecny, Ondr 150.73 343⇑ *e*PKP **PKiKP** **16 35 45.6 +0.1**
GOPC *e*PKPAB **PKPab** **16 35 53.8 +0.4**
VRAC Vranov 150.75 340 ⇑P **PKiKP** **16 35 45.7 +0.2**
VRAC Vranov 150.75 340 *e*PKP **PKiKP** **16 35 45.6 +0.1**
VRAC Vranov 150.75 340 ⇑PKiKP **PKiKP** **16 35 45.7 +0.2**
PSZ Piszkesteto 150.77 335 ⇓P **PKiKP** **16 35 45.6 -0.1**
PSZ Piszkesteto 150.77 335 ⇓PKiKP **PKiKP** **16 35 45.6 -0.1**
JAVC Velka Javorina 150.79 339 *e*PKP **PKiKP** **16 35 46.7 +1.0**
KASTN Kahler Asten 150.79 352 *e*PKPbc **PKiKP** **16 35 45.5 -0.1**
baz=17,slow=2.4
MOX Moxa 150.80 347 *e*PKPbc **PKiKP** **16 35 45.5 -0.1**
baz=17,slow=2.4
PLN Plauen 150.84 347 *e*PKPbc **PKiKP** **16 35 45.6 -0.1**
baz=17,slow=2.4
TANN Tannenbergstha 150.84 346 *e*PKPbc **PKiKP** **16 35 45.7 -0.1**
baz=17,slow=2.4
WERD Werda 150.84 346 *e*PKPbc **PKiKP** **16 35 45.5 -0.2**
baz=17,slow=2.4
GUNZ Gunzen 150.91 346 *e*PKPbc **PKiKP** **16 35 46.0 +0.1**
baz=17,slow=2.4
UBBA Unterbreizbach 150.93 350 *e*PKPbc **PKiKP** **16 35 45.9 +0.2**
baz=17,slow=2.4
LOT Lotru 150.93 328 ⇑P **PKPbc** **16 35 45.2 -0.6**
HUMR Humele 150.94 325 ⇑P **PKPbc** **16 35 45.5 -0.1**
WERN Wernitzgruen 150.97 346 *e*PKPbc **PKiKP** **16 35 46.3 +0.2**
baz=17,slow=2.4
WERN *e*PKPab **PKPab** **16 35 54.6 +0.1**
baz=16,slow=4.2
NKC Novy Kostel 151.01 346 *e*PKiKP **PKiKP** **16 35 46.5 +0.4**
NKC *e* 16 35 54.6
NKC Novy Kostel 151.01 346⇑ *e*PKP **PKiKP** **16 35 46.5 +0.4**
NKC *e*PKPAB **PKPab** **16 35 54.6 0.0**
KRUC Moravsky 151.03 340 *e*PKP **PKiKP** **16 35 45.9 -0.2**
DEV Deva 151.04 329 ⇑P **PKiKP** **16 35 46.0 -0.2**
DEV Deva 151.04 329 ⇑PKiKP **PKiKP** **16 35 46.0 -0.2**
TREC Trest 151.09 342 ⇑PKiKP **PKiKP** **16 35 46.4 +0.1**
TREC Trest 151.09 342⇑ *e*PKP **PKiKP** **16 35 46.4 +0.1**
SMOL Smolenice 151.17 339 *e*PKiKP **PKiKP** **16 35 47.3 +0.8**
SMOL Smolenice 151.17 339 *e*PKP **PKiKP** **16 35 47.2 +0.8**
MANZ Manzenberg 151.32 346 *e*PKPbc **PKiKP** **16 35 46.9 +0.1**
baz=17,slow=2.4
SIRR Siria 151.33 331 ⇓P **PKPbc** **16 35 46.6 +0.1**
MODS Modra-Piesok 151.34 339 *e*PKiKP **PKiKP** **16 35 47.5 +0.7**
MODS Modra-Piesok 151.34 339 *e*PKP **PKiKP** **16 35 47.5 +0.7**
SRO Srobarova 151.45 337 *e*PKiKP **PKiKP** **16 35 47.2 +0.2**
SRO Srobarova 151.45 337 *e*PKP **PKiKP** **16 35 47.2 +0.2**
SRO *e* 16 35 57.5
GZR Gura Zlata 151.46 329 ⇑P **PKPbc** **16 35 46.3 -0.6**
GZR Gura Zlata 151.46 329 ⇑PKiKP **PKPbc** **16 35 46.3 -0.6**
BEBN Eben Emael 151.48 355 *d*PKP **PKPbc** **16 35 46.0 -0.6**
BEBN *d*PKPab **PKPab** **16 35 56.5 0.0**
ROTZ Rotzenmuhle 151.50 346 *e*PKPbc **PKiKP** **16 35 47.1 0.0**
baz=17,slow=2.4
ZST Bratislava 151.55 339 *e*PKiKP **PKiKP** **16 35 47.8 +0.6**
ZST *e* 16 35 57.1
ZST Bratislava 151.55 339 *e*PKP **PKiKP** **16 35 47.8 +0.6**
ZST *e* 16 35 57.1
AHRW Bad Neuenahr-A 151.60 353 *e*PKPbc **PKiKP** **16 35 47.4 +0.1**
baz=17,slow=2.4
MEM Membach 151.64 355 *d*PKP **PKPbc** **16 35 47.1 +0.2**
MEM *d*PKPab **PKPab** **16 35 56.8 -0.4**
BTNL Ternell 151.65 355 *d*PKP **PKiKP** **16 35 47.5 +0.1**
BTNL *dx* x 16 35 50.5
TNS Taunus Mts 151.75 351 *e*PKPbc **PKiKP** **16 35 47.7 0.0**
baz=17,slow=2.4
KHC Kasperske Hory 151.76 344 *e*PKIKP **PKPdf** **16 35 40.5 -0.2**
KHC *e* 16 35 58.3
KHC Kasperske Hory 151.76 344 *e*PKPDF **PKPdf** **16 35 40.5 -0.2**
KHC ⇑*e*PKP **PKiKP** **16 35 48.0 +0.3**
KHC *e*PKPAB **PKPab** **16 35 58.3 +0.5**
SRE Strehaia 151.77 327 ⇑P **PKPbc** **16 35 47.0 -0.5**
SRE Strehaia 151.77 327 ⇑PKIKP **PKPbc** **16 35 47.0 -0.5**
GRF Grafenberg Arr 151.78 347 *e*PKPbc **PKiKP** **16 35 47.9 +0.3**
baz=17,slow=2.4
BZS Buzias 151.84 330 ⇑P **PKPbc** **16 35 47.6 0.0**
BZS Buzias 151.84 330 ⇑PKIKP **PKPbc** **16 35 47.6 0.0**
CKRC Cesky Krumlov 151.85 343 *e*PKPDF **PKPdf** **16 35 41.7 +0.9**
CKRC ⇑*e*PKP **PKiKP** **16 35 48.2 +0.3**
SNF Seneffe 151.86 357 *d*PKP **PKiKP** **16 35 48.1 +0.4**
BCLA Clavier 151.88 356 *d*PKPdf **PKPdf** **16 35 40.5 -0.2**
BCLA *d*PKP **PKPbc** **16 35 47.6 0.0**
BCLA *d*PKPab **PKPab** **16 35 57.5 -0.7**
BHOU Houvegnez 151.89 355 *d*PKP **PKiKP** **16 35 48.3 +0.4**
PLVB Pleven 151.89 324 ⇓P **PKiKP** **16 35 48.2 +0.1**
WET Wettzell 151.93 345 *e*PKPbc **PKiKP** **16 35 48.2 +0.2**
baz=17,slow=2.4
WET *e*PKPab **PKPab** **16 35 58.6 +0.1**
baz=16,slow=4.2
BGES Gesves 151.94 356 *d*PKP **PKPbc** **16 35 47.0 -0.7**
BGES *d*PKPab **PKPab** **16 35 57.8 -0.6**
GEC2 GERESS Array S 152.00 343 *e*PKPbc **PKiKP** **16 35 48.2 -0.1**
baz=17,slow=2.4
GERES GERESS Array B 152.00 343 PKP **PKPdf** **16 35 40.8 -0.3**
comp=Z,2.3nm,1.0s,baz=350,slow=1.5,SNR=11
GERES PKPbc **PKPbc** **16 35 48.0 0.0**
comp=Z,15nm,0.8s,baz=50,slow=2.1,SNR=54
MILB Miltenberg 152.00 350 *e*PKPbc **PKiKP** **16 35 48.2 +0.1**
baz=17,slow=2.4
HERR Herculane 152.00 328 ⇑P **PKPbc** **16 35 48.0 0.0**
BMRD Maredsous 152.04 356 *d*PKP **PKiKP** **16 35 48.3 +0.2**
BMRD *d*PKPab **PKPab** **16 35 58.4 -0.4**
RCHB Rochefort 152.15 356 *d*PKP **PKiKP** **16 35 48.5 +0.1**
RCHB *d*PKPab **PKPab** **16 35 58.7 -0.7**
CONA Conrad Observa 152.19 340 *e*P **PKPbc** **16 35 48.6 +0.1**
comp=Z,51nm,1.1s,SNR=18
DOU Dourbes 152.25 356 *d*PKP **PKiKP** **16 35 48.9 +0.3**
MDVR Moldovita 152.42 329 ⇓P **PKPbc** **16 35 49.0 0.0**
WLF Walferdange 152.56 354 *d*PKP **PKiKP** **16 35 50.0 +0.7**
WLF *d*PKPab **PKPab** **16 36 01.1 +0.1**
WLF Walferdange 152.56 354 *e*PKPbc **PKiKP** **16 35 50.0 +0.7**
baz=17,slow=2.4
WLF *e*PKPab **PKPab** **16 36 01.4 +0.3**
baz=16,slow=4.2
MORH Mrgy, Hungar 152.65 334 ⇓P **PKPbc** **16 35 49.3 -0.1**
MOA Molln 152.75 342 *i* P **PKiKP** **16 35 49.9 +0.2**
comp=Z,16nm,1.2s
ARSA Arzberg 152.90 340 *i* P **PKiKP** **16 35 50.1 +0.1**
comp=Z,10nm,1.1s
FRGS Fruska Gora 153.01 332 ⇑P **PKPbc** **16 35 49.8 -0.4**
STU Stuttgart 153.04 350 *e*PKPbc **PKPbc** **16 35 50.5 +0.2**
baz=17,slow=2.4
STU *e*PKPab **PKPab** **16 36 02.9 -0.3**
baz=16,slow=4.2
VTS Vitosha 153.16 324 ⇑P **PKPbc** **16 35 49.6 -1.2**
VTS Vitosha 153.16 324 ⇑PKIKP **PKPbc** **16 35 49.6 -1.2**
FUR Furstenfeldbru 153.22 346 *e*PKPbc **PKiKP** **16 35 50.7 0.0**
baz=17,slow=2.4
FUR *e*PKPab **PKPab** **16 36 04.1 +0.2**
baz=16,slow=4.2
RJOB Jochberg 153.25 344 *e*PKPab **PKPab** **16 36 04.7 +0.6**
baz=16,slow=4.2
SOKA Soboth 153.56 340 *e*P **PKPbc** **16 35 50.6 -0.9**
comp=Z,23nm,1.3s
SOKA *e*P **PKPab** **16 36 05.3 -0.2**
comp=Z,15nm,1.2s
BFO Black Forest 153.61 351 *e*PKPbc **PKiKP** **16 35 51.6 +0.1**
baz=17,slow=2.4
BFO *e*PKPab **PKPab** **16 36 05.5 -0.1**
baz=16,slow=4.2
KBA Koelnbreinsper 153.71 342 *e*P **PKPbc** **16 35 51.5 -0.4**
comp=Z,17nm,1.2s
OBKA Obir 153.87 340 *e*P **PKPbc** **16 35 51.6 -0.5**
comp=Z,15nm,1.2s
OBKA *e*P **PKPab** **16 36 06.4 -0.4**
comp=Z,13nm,1.2s
UBR Ueberruh 153.92 348 *e*PKPbc **PKPbc** **16 35 52.2 0.0**
baz=17,slow=2.4
WATA Walderalm 153.93 345 *i* P **PKPdf** **16 35 44.0 0.0**
comp=Z,3.7nm,0.7s
WATA *i* P **PKiKP** **16 35 52.5 +0.1**
comp=Z,20nm,1.2s
WATA *e*P **PKPab** **16 36 07.3 +0.2**
comp=Z,23nm,1.2s
RETA Reutte 153.97 346 *i* P **PKPdf** **16 35 44.0 0.0**
comp=Z,5.1nm,1.2s
RETA *i* P **PKiKP** **16 35 52.6 +0.3**
comp=Z,10.0nm,1.1s
RETA *i* P **PKPab** **16 36 07.5 +0.2**
comp=Z,16nm,1.1s
WTTA Wattenberg 153.98 345 *i* P **PKPdf** **16 35 44.1 -0.1**
comp=Z,11nm,0.9s
WTTA *i* P **PKiKP** **16 35 52.9 +0.4**
comp=Z,19nm,0.7s
WTTA *i* P **PKPab** **16 36 07.8 +0.3**
comp=Z,20nm,0.7s
MOTA Moosalm 154.03 346 *i* P **PKPdf** **16 35 44.1 -0.1**
comp=Z,6.0nm,0.8s
MOTA *i* P **PKiKP** **16 35 52.7 +0.1**
comp=Z,18nm,1.0s
MOTA *i* P **PKPab** **16 36 07.8 +0.1**
comp=Z,13nm,0.7s
MYKA Terra Mystica 154.03 342 *e*P **PKPbc** **16 35 52.1 -0.4**
comp=Z,15nm,0.9s
MYKA *i* P **PKPab** **16 36 07.0 -0.6**
comp=Z,20nm,1.6s
SQTA Sankt Quirin 154.12 346 *i* P **PKPdf** **16 35 44.4 +0.2**
comp=Z,10nm,0.9s,SNR=5.4
SQTA *i* P **PKiKP** **16 35 53.0 +0.3**
comp=Z,11nm,0.8s
SQTA *i* P **PKPab** **16 36 08.3 +0.3**
comp=Z,14nm,0.9s
ABTA Abfaltersbach 154.24 343 *e*P **PKPdf** **16 35 44.1 -0.3**
comp=Z,17nm,1.0s,SNR=5.8
ABTA *i* P **PKPbc** **16 35 52.7 -0.2**
comp=Z,14nm,0.7s
ABTA *i* P **PKPab** **16 36 08.4 -0.1**
comp=Z,9.1nm,0.7s
LJU Ljubljana 154.29 340 *i* PKPdf **PKPdf** **16 35 45.0 +0.6**
LJU *i* PKPbc **PKPbc** **16 35 52.8 -0.1**
DAVA Damuels 154.35 348 *i* P **PKPdf** **16 35 44.7 +0.1**
comp=Z,10nm,1.2s
DAVA *i* P **PKiKP** **16 35 53.6 +0.4**
comp=Z,20nm,1.4s
DAVA *i* P **PKPab** **16 36 09.0 +0.1**
comp=Z,12nm,0.9s
VAY Valandovo 154.40 322 *i* P **PKPab** **16 36 09.5 +0.3**
FETA Feichten 154.42 346 *e*P **PKPdf** **16 35 45.1 +0.4**
comp=Z,10nm,0.8s
FETA *i* P **PKiKP** **16 35 54.0 +0.6**
comp=Z,10nm,1.1s
BOJS Bojanci 154.52 338 *i* PKPbc **PKiKP** **16 35 53.7 +0.3**
PBRG Braganca 159.26 19 *e*PKPab **PKPab** **16 36 31.1 +0.9**
**POLO Lamas de Olo 159.32

comp=Z,44nm,1.1s
KIC Kosan Boka 162.79 157 *e*PKIKP **PKPdf 16 35 55.0 -0.4**
comp=Z,29nm,0.8s
PVAQ Vaqueiros 162.81 27 *e*PKPab **PKPab 16 36 47.0 +1.2**
PBDV Barranco-do-Ve 162.85 28 *e*PKPdf **PKPdf 16 35 57.3 +2.5**
PBDV Barranco-do-Ve 162.85 28 *e*PKPab **PKPab 16 36 53.5 +7.4**
TIC Toumodi 162.95 155 *e*PKIKP **PKPdf 16 35 55.2 -0.4**
DBIC Dimbokro 163.03 156 PKP **PKPdf 16 35 56.2 +0.6**
comp=Z,10nm,0.7s,baz=188,slow=0.7,SNR=14
KEST Kesra 165.24 336 PKPab **PKPab 16 36 56.3 -0.3**
comp=Z,18nm,0.9s,baz=262,slow=7.6,SNR=7.6
KOWA Kowa 170.29 143 PKPdf 16 36 01.4 +0.4
TORD Torodi Ar. Bea 170.82 178 PKP **PKPdf 16 36 01.3 0.0**
comp=Z,11nm,0.8s,baz=328,slow=0.8,SNR=44
TORD PKPab **PKPab 16 37 23.3 +1.7**
comp=Z,4.2nm,0.7s,baz=184,slow=3.5,SNR=10
TORD PP **PP 16 41 09.4 -1.8**
comp=Z,1.1nm,0.9s,baz=141,slow=8.2,SNR=3.6
TORD Torodi Ar. Bea 170.82 178 PKPdf 16 36 01.5 +0.2

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*IDC **21** 16:31:16.9±1.1,29.˝38S×69.˝44W,h0km,mb3.8/2, mb1 3.8/5,mb1mx3.7/33,mbtmp3.8/5,ML3.8/3,Error ellipse: s-maj=56.6km s-min=29.9km az=116.0*
*NEIC **21** 16:31:30.3±1.4,28.˝73S±0.˝05×69.˝87W±0.˝05,h118km±9km, Error ellipse: s-maj=7.5km s-min=6.7km az=199.0*
*GUC **21** 16:31:30.6±0.6,28.˝73S×69.˝84W,h116km±3km,ML4.2*
ISC 21 16:31:29.5±0.7,28.˝74S±0.˝04×69.˝73W±0.˝07,h107km±7km, n51,σ1s53/60,mb4.0/4,6C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AC05	**El Transito**	**0.48**	**258**	⇑ *e*P		**Pn**	**16 31 47.1**	**+1.0**
AC05				*e*S		**Sn**	**16 31 59.5**	**+0.9**
AC05				IAML			16 32 00.0	
	comp=N,21μm,0.2s							
AC05	**El Transito**	**0.48**	**258**			**Pn**	**16 31 47.1**	**+1.0**
LCO	**Las Campanas**	**0.89**	**252**			**Pn**	**16 31 50.7**	**+1.1**
GO03	**Copiap**	**1.22**	**339**	⇓ *i*P		**Pn**	**16 31 54.1**	**+1.2**
GO03				*i* S		**Sn**	**16 32 12.1**	**+1.4**
GO03				IAML			16 32 13.3	
	comp=N,2μm,0.2s							
GO03	**Copiap**	**1.22**	**339**			**Pn**	**16 31 54.2**	**+1.2**
CO01	**Juntas del Tor**	**1.27**	**194**	⇑ *i*P		**Pn**	**16 31 55.4**	**+1.6**
CO01				*i* S		**Sn**	**16 32 14.0**	**+1.9**
CO01	**Juntas del Tor**	**1.27**	**194**			**Pn**	**16 31 55.6**	**+1.8**
AC04	**Llanos de Chal**	**1.29**	**294**	⇑ *e*P		**Pn**	**16 31 54.6**	**+0.9**
AC04				*i* S		**Sn**	**16 32 12.6**	**+0.5**
AC04				IAML			16 32 13.5	
	comp=E,9μm,0.2s							
AC04	**Llanos de Chal**	**1.29**	**294**	Pn		**Pn**	**16 31 54.8**	**+1.1**
GO04	**Tololo Observa**	**1.71**	**213**	⇑ *i*P		**Pn**	**16 31 59.9**	**+1.0**
GO04				*i* S		**Sn**	**16 32 22.6**	**+1.3**
GO04				IAML			16 32 25.2	
	comp=E,5μm,0.3s							
GO04	**Tololo Observa**	**1.71**	**213**	Pn		**Pn**	**16 31 59.7**	**+0.8**
AC02	**Maricunga**	**1.97**	**16**	⇑ *e*P		**Pn**	**16 32 04.6**	**+2.1**
AC02				*i* S		**Sn**	**16 32 30.2**	**+2.7**
AC02				IAML			16 32 32.0	
	comp=E,1μm,0.3s							
AC02	**Maricunga**	**1.97**	**16**			**Pn**	**16 32 04.9**	**+2.4**
CO03	**El Pedregal**	**2.25**	**201**	⇑ *i*P		**Pn**	**16 32 06.8**	**+1.1**
CO03				*i* S		**Sn**	**16 32 34.8**	**+1.4**
CO03				IAML			16 32 36.4	
	comp=E,2μm,0.2s							
CO03	**El Pedregal**	**2.25**	**201**			**Pn**	**16 32 06.9**	**+1.2**
AC01	**Pan de Azucar**	**2.69**	**343**	⇓ *i*P		**Pn**	**16 32 12.7**	**+1.2**
AC01	**Pan de Azucar**	**2.69**	**343**	Pn		**Pn**	**16 32 12.6**	**+1.2**
CO02	**Combarbal**	**2.69**	**204**	*e*P		**Pn**	**16 32 11.9**	**+0.5**
CO02				*e*S		**Sn**	**16 32 43.7**	**-0.1**
CO02	**Combarbal**	**2.69**	**204**			**Pn**	**16 32 11.7**	**+0.2**
ZON	**Zonda**	**2.94**	**162**	Pn		**Pn**	**16 32 16.2**	**+1.5**
GO02	**Mina Guanaco**	**3.56**	**2**	⇓ *e*P		**Pn**	**16 32 24.5**	**+1.3**
GO02				*e*S		**Sn**	**16 33 06.7**	**+1.9**
GO02				IAML			16 33 16.3	
	comp=N,268nm,0.6s							
GO02	**Mina Guanaco**	**3.56**	**2**	Pn		**Pn**	**16 32 24.4**	**+1.2**
VA03	**San Esteban**	**4.07**	**190**			**Pn**	**16 32 30.8**	**+0.9**
PB14	**IPOC Station P**	**4.14**	**352**	Pn		**Pn**	**16 32 31.6**	**+0.6**
PEL	**Peldehue**	**4.47**	**190**	Pn		**Pn**	**16 32 35.6**	**+0.5**
MT02	**Curacav**	**4.67**	**195**			**Pn**	**16 32 36.8**	**-1.0**
PB15	**IPOC Station P**	**5.51**	**3**			**Pn**	**16 32 49.0**	**-0.5**
PB06	**IPOC Station P**	**6.01**	**1**			**Pn**	**16 32 55.1**	**-1.1**
BO02	**Sierra Bellavi**	**6.10**	**188**	Pn		**Pn**	**16 32 56.2**	**-1.1**
LVC	**Limon Verde**	**6.15**	**7**	Pn		**Pn**	**16 32 57.5**	**-0.7**
	comp=N,2.3nm,0.3s,baz=168,slow=9.9,SNR=7.5							
LVC				Sn		**Sn**	**16 34 05.2**	**-2.1**
	comp=N,1.8nm,0.3s,baz=183,slow=22,SNR=2.0							
LVC	**Limon Verde**	**6.15**	**7**			**Pn**	**16 32 57.7**	**-0.5**
PB01	**IPOC Station P**	**7.66**	**2**			**Pn**	**16 33 16.2**	**-2.4**
PB08	**IPOC Station P**	**8.57**	**4**	Pn		**Pn**	**16 33 28.0**	**-3.2**
MNMC	**Minye Minye**	**9.56**	**1**			**Pn**	**16 33 45.5**	**+1.0**
CPUP	**Villa Florida**	**11.27**	**81**	Pn		**Pn**	**16 34 04.4**	**-2.9**
	comp=N,0.3nm,0.3s,baz=247,slow=9.4,SNR=3.8							
CPUP	**Villa Florida**	**11.27**	**81**			**Pn**	**16 34 04.8**	**-2.5**
PLCA	**Paso Flores**	**11.99**	**183**	Pn		**Pn**	**16 34 12.8**	**-4.1**
LPAZ	**La Paz**	**12.48**	**7**	Pn		**Pn**	**16 34 25.6**	**+1.6**
	comp=N,0.2nm,0.3s,baz=148,slow=13,SNR=2.3							
LPAZ	**La Paz**	**12.48**	**7**			**Pn**	**16 34 24.0**	**0.0**
SIV	**San Ignacio**	**14.99**	**34**	Pn		**Pn**	**16 34 55.8**	**-0.2**
	comp=N,0.2nm,0.3s,baz=210,slow=14,SNR=4.2							
SAML	**Samuel**	**20.63**	**19**	P		**P**	**16 36 00.3**	**-0.2**
GO09	**Cerro Castillo**	**22.59**	**184**	P		**P**	**16 36 22.8**	**+1.8**
GO09				IAmb		IAmb	16 36 42.3	
	comp=Z,17nm,1.1s							
BDFB	**Brasilia**	**23.91**	**62**	P		**P**	**16 36 35.0**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=214,slow=11,SNR=3.2							
BDFB	**Brasilia**	**23.91**	**62**	P		**P**	**16 36 34.9**	**+1.1**
BDFB				IAmb		IAmb	16 36 35.7	
	comp=Z,3.1nm,0.7s							
EFI	**East Falkland**	**24.52**	**162**	P		**P**	**16 36 39.7**	**+0.9**
PTGA	**Pitinga**	**29.37**	**20**	P		P	16 37 29.6	+7.0
	comp=Z,1.3nm,0.3s,baz=115,slow=9.0,SNR=1.3							
TORD	**Torodi Ar. Bea**	**80.54**	**69**	P		**P**	**16 43 30.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=259,slow=4.2,SNR=1.1							
ASAR	**Alice Springs**	**123.14**	**206**	PKP		**PKiKP**	**16 50 15.3**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=145,slow=1.5,SNR=10							
WRA	**Warramunga Arr**	**126.31**	**208**	PKP		**PKiKP**	**16 50 21.9**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=157,slow=1.7,SNR=18							
ZALV	**Zalesovo Beam**	**148.71**	**29**	PKPbc		**PKiKP**	**16 51 06.1**	**+0.9**
	comp=Z,1.6nm,0.4s,baz=313,slow=3.7,SNR=7.5							
MKAR	**Makanchi Array**	**151.69**	**43**	PKPbc		**PKiKP**	**16 51 13.2**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=330,slow=1.5,SNR=17							

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*VAO **21** 16:58:10.6±0.5,9.˝49S×78.˝83W,h10km,mb5.0*
*ARE **21** 16:58:13±2.1,9.˝39S±0.˝08×79.˝1W±0.˝1,h36km±5km,Error ellipse: s-maj=18.5km s-min=9.6km az=69.0*
*BJI **21** 16:58:14.8±0.0,9.˝40S×78.˝90W,h51km,mb5.0/7,Ms5.2/2, Ms7 5.0/3*
*IDC **21** 16:58:14.9±0.5,9.˝48S×78.˝89W,h53km±3km,mb4.4/17, mb1 4.6/22,mb1mx4.5/36,mbtmp4.7/22,MS3.8/15, Ms1 3.8/15,ms1mx3.7/26,Error ellipse: s-maj=9.9km s-min=6.5km az=67.0*
*NEIC **21** 16:58:15.2±1.4,9.˝36S±0.˝07×78.˝72W±0.˝10,h55km±2km, mb5.1/92,ML5.0(ARE),Error ellipse: s-maj=14.1km s-min=10.2km az=74.0*
*GCMT **21** 16:58:20.2±0.4,9.˝24S±0.˝02×79.˝25W±0.˝03,h52km±2km, MW4.9/60,Moment Tensor Solution. s32,c34; s60,c70; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.74±.17; $M_{\theta\theta}$-0.19±.11; $M_{\phi\phi}$-2.55±.11; $M_{r\theta}$0.03±.08; $M_{r\phi}$0.48±.09; $M_{\theta\phi}$-1.41±.11; Best double couple: $M_0$3.03900×10^{16} NP1:ϕs345.00000°,δ31.00000°,λ83.00000°. NP2: ϕs173.00000°,δ59.00000°,λ94.00000°. Principal axes: T 3.0950, Plg76.0000°, Azm96.0000°; N -0.1100, Plg4.0000°, Azm351.0000°; P -2.9830, Plg14.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 16:58:15.5±0.3,9.˝44S±0.˝05×78.˝86W±0.˝06,h60km,n261, σ1s23/237,mb5.0/74,MS3.8/12,3C,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.33**	**11**	P		**Pn**	**16 58 53.7**	**+1.8**
	189nm,0.3s,baz=227,slow=4.3,SNR=620							
ATAH				S		**Sn**	**16 59 22.0**	**+2.3**
	437nm,0.3s,baz=62,slow=21,SNR=13							
ATAH				LR		LR	16 59 52.7	
	comp=Z,2μm,20.2s,baz=199,slow=41							
NNA	**Nana**	**3.22**	**142**	P		**Pn**	**16 59 04.5**	**+0.9**
	246nm,0.3s,baz=314,slow=12,SNR=384							
NNA				S		**Sn**	**16 59 42.2**	**+1.4**
	194nm,0.3s,baz=178,slow=18,SNR=1.9							
NNA				LR		LR	17 00 30.6	
	comp=Z,1μm,21.6s,baz=328,slow=42							
NNA	**Nana**	**3.22**	**142**	Pn		**Pn**	**16 59 04.8**	**+1.2**
OTAV	**Otavalo**	**9.62**	**2**	Pn		**Pn**	**17 00 32.4**	**+0.7**
OTAV	**Otavalo**	**9.62**	**2**	*e*P		**Pn**	**17 00 32.5**	**+0.7**
OTAV	**Otavalo**	**9.62**	**2**	*e*P		**Pn**	**17 00 31.1**	**-0.6**
BBAC	**Balboa, Cauca**	**11.50**	**8**	*e*P		**Pn**	**17 00 58.4**	**+1.3**
SOTA	**Rioblanco**	**11.71**	**11**	*e*P		**Pn**	**17 01 00.3**	**-0.1**
GARC	**Garzon, Huila**	**12.03**	**16**	*e*P		**Pn**	**17 01 02.0**	**-2.4**
POPC	**Popayan, Colom**	**12.10**	**10**	*e*P		**Pn**	**17 01 08.2**	**+2.8**
ETMB	**Extrema**	**12.47**	**93**	*e*P		**Pn**	**17 01 07.3**	**-3.0**
LPAZ	**La Paz**	**12.48**	**124**	P		**Pn**	**17 01 09.1**	**-1.8**
	0.3nm,0.3s,baz=322,slow=13,SNR=11							
LPAZ	**La Paz**	**12.48**	**124**	Pn		**Pn**	**17 01 08.9**	**-2.0**
BETC	**Betania**	**12.51**	**16**	*e*P		**Pn**	**17 01 12.2**	**+1.3**
MARP	**Paez Belalcaza**	**12.54**	**13**	*e*P		**Pn**	**17 01 14.3**	**+2.8**
MACC	**Macarena, Meta**	**12.54**	**24**	*e*P		**Pn**	**17 01 09.3**	**-2.0**
PB16	**IPOC Station P**	**12.67**	**135**			**Pn**	**17 01 12.3**	**-1.2**
MNMC	**Minye Minye**	**13.16**	**138**	Pn		**Pn**	**17 01 18.6**	**-1.4**
YOTC	**Yotoco, Valle**	**13.57**	**11**	*e*P		**Pn**	**17 01 28.0**	**+2.7**
ORTC	**Ortega, Tolima**	**13.74**	**15**	*e*P		**Pn**	**17 01 28.0**	**+0.5**
PB08	**IPOC Station P**	**14.18**	**140**			**Pn**	**17 01 32.0**	**-1.7**
PAYG	**Puerto Ayora**	**14.32**	**307**	Pn		**P**	**17 01 38.0**	**-2.7**
VILC	**Villavicencio,**	**14.41**	**21**	*e*P		**Pn**	**17 01 37.6**	**+1.0**
PLMC	**San Jos del P**	**14.48**	**10**	*e*P		**P**	**17 01 40.4**	**-2.1**
PB01	**IPOC Station P**	**14.65**	**143**			**Pn**	**17 01 39.1**	**-0.5**
ROSC	**El Rosal**	**14.89**	**18**	P		**P**	**17 01 47.6**	**+0.2**
	3.7nm,0.3s,baz=153,slow=4.9,SNR=13							
ROSC				LR		LR	17 08 43.6	
	comp=Z,733nm,18.2s,baz=264,slow=42							
PB07	**IPOC Station P**	**14.96**	**146**			**Pn**	**17 01 42.9**	**-0.7**
GUY2C	**Guyana, Caldas**	**14.97**	**14**	*e*P		**P**	**17 01 50.5**	**+2.0**
PB09	**IPOC Station P**	**15.38**	**144**			**Pn**	**17 01 50.0**	**+1.0**
NORC	**Norcasia**	**15.42**	**15**	*e*P		**Pn**	**17 01 50.9**	**+1.4**
CBOC	**Ciudad Bolivar**	**15.46**	**11**	*e*P		**Pn**	**17 01 51.5**	**+1.3**
SPBC	**San Pablo de B**	**15.73**	**18**	*e*P		**P**	**17 01 55.8**	**-0.7**
HELC	**Santa Helena**	**15.88**	**12**	*e*P		**P**	**17 02 00.4**	**+2.1**
LVC	**Limon Verde**	**16.20**	**145**	P		**Pn**	**17 01 59.7**	**-0.1**
	0.2nm,0.3s,baz=299,slow=13,SNR=2.8							
LVC				S		**S**	**17 05 05.0**	**-4.0**
	0.3nm,0.3s,baz=299,slow=20,SNR=1.4							
LVC	**Limon Verde**	**16.20**	**145**	Pn		**Pn**	**17 01 57.7**	**-2.1**
LVC	**Limon Verde**	**16.20**	**145**	*e*P		**Pn**	**17 01 59.1**	**-0.6**
RUSC	**La Rusia**	**16.28**	**21**	*e*P		**P**	**17 02 02.1**	**-0.9**
PTBC	**PUERTO BERRIO,**	**16.47**	**16**	*e*P		**Pn**	**17 02 01.7**	**-1.0**
DBBC	**Dabeiba**	**16.56**	**9**	*e*P		**P**	**17 02 05.6**	**0.0**
BARC	**Barichara**	**16.90**	**20**	*e*P		**P**	**17 02 12.9**	**+3.4**
ZARC	**Zaragoza, Cauc**	**17.28**	**13**	*e*P		**Pn**	**17 02 12.5**	**-0.4**
UREC	**San Jos de Ur**	**17.39**	**11**	*e*P		**P**	**17 02 15.0**	**+0.2**
PAMC	**Pamplona, Colo**	**17.76**	**20**	*e*P		**P**	**17 02 20.1**	**+0.8**
GO02	**Mina Guanaco**	**17.95**	**152**	P		**Pn**	**17 02 24.2**	**+2.9**
AC01	**Pan de Azucar**	**18.37**	**156**			**Pn**	**17 02 28.4**	**+2.3**
OCAC	**Ocana**	**18.41**	**18**	*e*P		**Pn**	**17 02 26.9**	**+0.2**
SIV	**San Ignacio**	**18.53**	**112**	P		**P**	**17 02 27.0**	**-0.3**
	0.7nm,0.3s,baz=296,slow=11,SNR=66							
SIV				S		**Sn**	**17 05 53.4**	**-1.2**
	0.4nm,0.3s,baz=246,slow=9.2,SNR=3.6							
VILB	**Vilhena**	**18.63**	**103**	*e*P		**P**	**17 02 29.0**	**+0.5**
SMLC	**San Matin de**	**18.73**	**15**	*e*P		**P**	**17 02 29.4**	**-0.1**
MACA	**Macapuru-AM**	**19.10**	**72**	*e*P		**P**	**17 02 33.1**	**-0.5**
SJCC	**San Jacinto, C**	**19.55**	**11**	*e*P		**Pn**	**17 02 40.5**	**+0.2**
SDV	**Santo Domingo**	**19.96**	**24**	P		**P**	**17 02 43.9**	**+0.8**
	12nm,0.7s,baz=198,slow=8.0,SNR=9.8							
SDV	**Santo Domingo**	**19.96**	**24**	P		**P**	**17 02 42.0**	**-1.1**
SDV	**Santo Domingo**	**19.96**	**24**	*e*P		**Pn**	**17 02 44.3**	**-1.0**
SDV	**Santo Domingo**	**19.96**	**24**	*e*P		**P**	**17 02 43.9**	**+0.8**
PTLB	**Pontes e Lacer**	**20.16**	**109**	*e*P		**P**	**17 02 46.1**	**+1.1**
JTS	**Las Juntas de**	**20.52**	**343**	P		**P**	**17 02 49.7**	**+0.8**
	9.3nm,0.9s,baz=265,slow=7.1,SNR=5.1							
PTGA	**Pitinga**	**20.70**	**66**	P		**P**	**17 02 51.6**	**+0.7**
	44nm,0.9s,baz=247,slow=12,SNR=66							
PTGA				sP		**sP**	**17 03 09.2**	**-2.5**
	53nm,0.7s,baz=248,slow=12,SNR=7.3							
PTGA				S		**S**	**17 06 39.4**	**+0.4**
	25nm,0.8s,baz=314,slow=23,SNR=3.7							
PTGA	**Pitinga**	**20.70**	**66**			**P**	**17 02 51.7**	**+0.8**
PTGA				IAmb		IAmb	17 02 53.2	
	comp=Z,94nm,1.4s							
PTGA	**Pitinga**	**20.70**	**66**	*e*P		**P**	**17 02 51.5**	**+0.5**
SMRC	**Santa Marta, M**	**20.98**	**13**	*e*P		**P**	**17 02 54.3**	**+0.4**
BOAV	**Boa Vista**	**21.73**	**58**	*e*P		**P**	**17 03 03.0**	**+1.0**
CLDB	**Colider**	**22.75**	**96**	*e*P		**P**	**17 03 12.3**	**-0.7**
NPGB	**Novo Progresso**	**23.38**	**86**	*e*P		**P**	**17 03 16.5**	**-0.7**
ITTB	**Itaituba**	**23.50**	**79**	*e*P		**P**	**17 03 20.2**	**-0.1**
H03N2	**Juan Fernandez**	**23.89**	**180**	T		T	17 28 10.3	
	baz=359,slow=76,SNR=423							
H03N1	**Juan Fernandez**	**23.89**	**180**	T		T	17 28 14.0	
	baz=359,slow=76,SNR=1046							
H03N3	**Juan Fernandez**	**23.90**	**180**	T		T	17 28 12.9	
	baz=359,slow=76,SNR=1354							
PCRV	**Puerto La Cruz**	**24.08**	**36**	P		**P**	**17 03 26.6**	**+1.0**
	comp=Z,10nm,0.6s,baz=90,slow=4.0,SNR=3.5							
AQDB	**Aquidauana**	**24.89**	**119**	*e*P		**P**	**17 03 33.5**	**+0.6**
MALB	**Monte Alegre**	**25.59**	**74**	*e*P		**P**	**17 03 39.8**	**+0.5**
MTO3	**Montecristo**	**25.87**	**336**	P		**P**	**17 03 43.1**	**+1.1**
CPUP	**Villa Florida**	**26.42**	**132**	P		**P**	**17 03 46.8**	**+0.1**
	comp=Z,6.1nm,0.9s,baz=297,slow=8.6,SNR=7.0							
CPUP				LR		LR	17 16 19.7	
	comp=Z,231nm,19.1s,baz=318,slow=41							
APG	**El Apazote**	**26.87**	**335**	P		**P**	**17 03 52.2**	**+1.1**
	comp=Z,3.5nm,0.3s,baz=261,slow=17,SNR=3.6							
ARAG	**Araguaiana, MT**	**27.11**	**106**	*e*P		**P**	**17 03 53.2**	**+0.2**
SNDB	**Serra Nova Dou**	**27.20**	**98**	*e*P		**P**	**17 03 54.6**	**+0.8**
MCPB	**Macapa, AP**	**28.16**	**73**	*e*P		**P**	**17 04 03.0**	**+0.5**
PRPB	**Parauapebas**	**28.95**	**86**	*e*P		**P**	**17 04 09.7**	**+0.2**
PCMB	**Pacaembu**	**29.15**	**118**	*e*P		**P**	**17 04 11.6**	**+0.4**
ITRB	**Iturama**	**29.36**	**114**	*e*P		**P**	**17 04 13.4**	**+0.3**
PTGB	**Pitanga**	**29.69**	**124**	*e*P		**P**	**17 04 16.9**	**+0.8**
PEXB	**Peixe**	**30.13**	**98**	*e*P		**P**	**17 04 20.8**	**+0.8**
BDFB	**Brasilia**	**30.71**	**105**	P		**P**	**17 04 25.4**	**+0.3**
	comp=Z,9.3nm,0.7s,baz=257,slow=9.6,SNR=14							
BDFB				PcP		**PcP**	**17 07 22.4**	**+0.4**
	comp=Z,4.0nm,0.6s,baz=166,slow=7.3,SNR=3.3							
BDFB				LR		LR	17 17 25.1	
	comp=Z,576nm,20.8s,baz=298,slow=37							
BDFB	**Brasilia**	**30.71**	**105**	P		**P**	**17 04 24.4**	**-0.8**
SMTB	**Santa Maria do**	**30.87**	**91**	*e*P		**P**	**17 04 27.4**	**+0.9**
IPMB	**Ipameri, GO**	**30.92**	**109**	*e*P		**P**	**17 04 26.5**	**-0.4**
TMAB	**Tom-Au,PA,Br**	**31.38**	**79**	*e*P		**P**	**17 04 32.4**	**+1.5**
CPSB	**Cacapava Do Su**	**31.58**	**135**	*e*P		**P**	**17 04 33.6**	**+1.1**
PLCA	**Paso Flores**	**32.03**	**168**	P		**P**	**17 04 37.5**	**+1.0**
	comp=Z,7.2nm,0.9s,baz=327,slow=12,SNR=11							
PLCA				pP		**pP**	**17 04 50.9**	**-0.4**
	comp=Z,10nm,1.0s,baz=346,slow=12,SNR=8.8							
PLCA				LR		LR	17 15 01.3	
	comp=Z,73nm,19.8s,baz=9.0,slow=32							
PLCA	**Paso Flores**	**32.03**	**168**	P		**P**	**17 04 37.2**	**+0.8**
PLCA	**Paso Flores**	**32.03**	**168**	*e*P		**P**	**17 04 37.2**	**+0.8**
PLTB	**Pedras Altas**	**32.28**	**137**	*e*P		**P**	**17 04 39.4**	**+0.7**
SDBA	**SAO DESIDERIO**	**33.46**	**98**	*e*P		**P**	**17 04 49.6**	**+0.4**
PET01	**Itanhaem-SP**	**33.53**	**120**	*e*P		**P**	**17 04 50.1**	**+0.5**
JANB	**Januaria**	**34.19**	**103**	*e*P		**P**	**17 04 55.5**	**-0.2**
BSCB	**Bom Sucesso**	**34.76**	**113**	*e*P		**P**	**17 05 00.1**	**-0.4**
ROSB	**Rosario**	**35.12**	**82**	*e*P		**P**	**17 05 03.9**	**+0.3**
GDU01	**Guandu, BA**	**38.69**	**100**	*e*P		**P**	**17 05 34.0**	**+0.1**
NBIT	**Itapeh - BA**	**38.88**	**102**	*e*P		**P**	**17 05 36.1**	**+0.6**
NBPB	**Pedra_Branca-C**	**39.12**	**87**	*e*P		**P**	**17 05 38.5**	**+1.0**
NBMA	**Muriti-CE**	**39.70**	**90**	*e*P		**P**	**17 05 43.0**	**+0.6**
NBTA	**Tacaratu-PE**	**40.25**	**93**	*e*P		**P**	**17 05 47.3**	**+0.3**
NBLA	**Lagarto - SE**	**40.43**	**96**	*e*P		**P**	**17 05 48.0**	**-0.3**
NBCL	**Cascavel-CE**	**40.59**	**85**	*e*P		**P**	**17 05 50.5**	**+0.8**
NBLI	**Livramento-PB**	**41.49**	**90**	*e*P		**P**	**17 05 58.0**	**+0.8**
NBPA	**Parau_RN**	**41.52**	**88**	*e*P		**P**	**17 05 57.9**	**+0.5**
NBAN	**Anadia - AL**	**41.98**	**94**	*e*P		**P**	**17 06 01.4**	**+0.3**
152A	**Waverly Hall**	**42.24**	**353**	P		**P**	**17 06 02.5**	**-0.4**
152A				IAmb		IAmb	17 06 03.1	
	comp=Z,15nm,0.6s							
GOGA	**Godfrey**	**42.83**	**354**	P			17 06 07.3	
	baz=173,SNR=5.5							
LRAL	**Lakeview Retre**	**42.94**	**350**	P			17 06 08.5	
	baz=168,SNR=8.3							
LRAL	**Lakeview Retre**	**42.94**	**350**	P		**P**	**17 06 08.4**	**-0.2**
LRAL				IAmb		IAmb	17 06 09.4	
	comp=Z,29nm,1.2s							
NATX	**Nacogdoches**	**43.66**	**340**	P			17 06 16.1	
	baz=157							
PAULI	**Pauline**	**44.10**	**357**	P		**P**	**17 06 17.5**	**-0.4**
FPAL	**Fort Paine**	**44.20**	**352**	IAmb		IAmb	17 06 18.9	
	comp=Z,22nm,0.7s							
W56A	**Indian Trail**	**44.36**	**358**	P			17 06 19.6	
	baz=177							
KMSC	**Kings Mountain**	**44.40**	**357**	P			17 06 20.2	
	baz=176,SNR=8.2							
KMSC	**Kings Mountain**	**44.40**	**357**	P		**P**	**17 06 20.3**	**0.0**
KMSC				IAmb		IAmb	17 06 20.6	
	comp=Z,17nm,0.8s							
Z41A	**Richland Creek**	**44.48**	**343**	P			17 06 22.2	
	baz=160							
SWET	**Sewanee**	**44.91**	**352**	P		**P**	**17 06 23.9**	**-0.5**
SWET				IAmb		IAmb	17 06 24.6	
	comp=Z,16nm,0.7s							
V56A	**Mocksville**	**45.03**	**358**	P			17 06 25.0	
	baz=178							
V57A	**Coltrane Farms**	**45.09**	**359**	P			17 06 25.4	
	baz=178							
V52A	**Sevierville**	**45.26**	**355**	IAmb		IAmb	17 06 27.5	
	comp=Z,24nm,0.9s							
V51A	**Loudon**	**45.29**	**354**	IAmb		IAmb	17 06 27.8	
	comp=Z,15nm,0.8s							
TXAR	**Lajitas Array**	**45.36**	**329**	P		**P**	**17 06 28.6**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=148,slow=9.0,SNR=22							
TXAR				PcP		**PcP**	**17 08 07.2**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=145,slow=4.6,SNR=3.6							
TXAR				LR		LR	17 23 48.2	
	comp=Z,73nm,18.0s,baz=0.0,slow=34							
TXAR	**Lajitas Array**	**45.36**	**329**	P		**P**	**17 06 28.2**	**+0.1**
V48A	**Smith Brothers**	**45.56**	**351**	P		**P**	**17 06 28.8**	**-0.7**
V48A				IAmb		IAmb	17 06 29.8	
	comp=Z,33nm,1.1s							
U56A	**King**	**45.56**	**358**	P			17 06 29.8	
	baz=178							
U57A	**Blanch**	**45.62**	**359**	P			17 06 29.7	
	baz=179							
X40A	**Basin Creek Fa**	**45.65**	**344**	P			17 06 31.0	
	baz=160							
U54A	**Nelsons Funny**	**45.80**	**357**	P			17 06 31.3	
	baz=176,SNR=5.2							
U54A	**Nelsons Funny**	**45.80**	**357**	P		**P**	**17 06 30.2**	**-1.3**
U54A				IAmb		IAmb	17 06 31.5	
	comp=Z,14nm,0.7s							
MIAR	**Mount Ida**

BINY	Binghamton	51.45	3	P		17 07 15.1	
	baz=183,SNR=5.6						
BINY	Binghamton	51.45	3	P	P	17 07 14.6	-0.1
BINY				IAmb	IAmb	17 07 15.5	
	comp=Z,16nm,0.7s						
L59A	Walton	51.49	4	P		17 07 15.8	
	baz=185,SNR=5.4						
CBKS	Cedar Bluff	51.79	339	P		17 07 17.9	
	baz=153						
K57A	Scipio Center	51.96	2	P		17 07 18.3	
	baz=183						
T25A	Trinidad	52.16	334	P		17 07 21.6	
	baz=147,SNR=6.7						
214A	Organ Pipe Nat	52.42	323	P		17 07 23.4	
	baz=136						
J60A	Lant Hill Farm	52.66	5	P		17 07 24.7	
	baz=186						
I58A	Old Forge	52.99	4	P		17 07 26.0	
	baz=185						
I59A	Olmsteadville	53.17	5	P		17 07 27.8	
	baz=186						
I60A	Shoreham	53.27	5	P		17 07 28.7	
	baz=187,SNR=6.3						
H57A	Richville	53.74	3	P		17 07 31.3	
	baz=184						
S22A	4UR Ranch, Cre	53.74	333	P		17 07 33.1	
	baz=145						
H58A	Gabriels	53.77	4	P		17 07 31.6	
	baz=186						
H59A	Cadyville	54.03	5	P		17 07 33.7	
	baz=186						
H61A	Lyndonville	54.08	6	P		17 07 35.0	
	baz=188						
MVCO	Mesa Verde	54.09	331	P		17 07 34.9	
	baz=143						
H62A	Milan	54.21	7	P		17 07 35.9	
	baz=189						
FRNY	Flat Rock	54.23	5	IAmb	IAmb	17 07 36.3	
	comp=Z,23nm,0.9s						
WUAZ	Wupatki	54.23	327	P		17 07 37.3	
	baz=139,SNR=7.7						
G57A	Newington	54.40	3	P		17 07 36.3	
	baz=184						
G58A	Ormstown	54.50	4	P		17 07 37.2	
	baz=186						
G54A	Lake Saint Pet	54.58	1	P		17 07 36.6	
	baz=181						
G61A	St-Isidore-de-	54.86	6	P		17 07 40.7	
	baz=189						
ISCO	Idaho Springs	54.91	335	P		17 07 41.4	
	baz=147,SNR=6.5						
G62A	West of Eustis	54.92	7	P		17 07 41.2	
	baz=190						
G62A	West of Eustis	54.92	7	IAmb	IAmb	17 07 42.2	
	comp=Z,13nm,0.9s						
G63A	Kingsbury	54.93	8	P		17 07 39.6	
	baz=191						
PV03	Paradox Valley	55.09	331	P	P	17 07 41.9	+0.2
ALGO	Algonquin Park	55.14	1	P		17 07 41.2	
	baz=181						
ECSD	EROS Data Cent	55.33	344	P		17 07 42.5	
	baz=158,SNR=8.0						
G65A	Princeton	55.33	10	P		17 07 44.3	
	baz=193						
IRM	Iron Mountain	55.36	323	P		17 07 44.9	
	baz=135						
F60A	Warwick	55.50	6	P		17 07 44.9	
	baz=188						
TRQ	Mont Tremblant	55.54	4	P	P	17 07 44.0	-0.6
E58A	La Victoria	55.78	5	P		17 07 46.2	
	baz=186						
E56A	St. Veronique	55.83	3	P		17 07 46.6	
	baz=184,SNR=7.4						
SPMN	Marine on St.	55.84	348	P		17 07 46.2	
	baz=163						
F64A	Sherman	55.85	9	P		17 07 48.0	
	baz=192						
D55A	Sainte-Anne-du	56.28	3	P		17 07 49.5	
	baz=184,SNR=5.6						
O20A	White River Ci	56.32	333	P		17 07 51.6	
	baz=144,SNR=7.8						
D56A	ZEC Mazanza, M	56.35	3	P		17 07 49.9	
	baz=185,SNR=5.6						
E63A	Oxbow	56.38	9	P		17 07 51.4	
	baz=192						
LMN	Caledonia Moun	56.47	12	IAmb	IAmb	17 07 52.7	
	comp=Z,28nm,1.1s						
E64A	Bridgewater	56.47	9	P		17 07 52.1	
	baz=193						
D58A	Chemin du LacG	56.53	5	P		17 07 51.8	
	baz=187,SNR=5.8						
LATQ	La Tuque	56.82	5	P		17 07 54.0	
	baz=187						
D61A	St Aubert, Com	56.91	7	P		17 07 55.4	
	baz=190						
D62A	Allapoint, All	56.94	8	P		17 07 55.6	
	baz=191						
D63A	Stockholm	57.03	9	P		17 07 56.3	
	baz=192						
F33A	5 Mile Ranch,	57.21	346	IAmb	IAmb	17 07 56.8	
	comp=Z,8.1nm,0.8s						
EDW2	Edwards Air Fo	57.56	322	P		17 08 00.2	
	baz=132						
K22A	Casper	57.67	336	P		17 08 00.6	
	baz=147						
TPNV	Topopah Spring	57.96	325	P		17 08 03.9	
	baz=135						
RSSD	Black Hills	57.99	339	P		17 08 03.1	
	baz=150						
MPMC	Manual Prospec	58.06	323	P		17 08 03.9	
	baz=133						
EYMN	Ely	58.22	350	P		17 08 03.0	
	baz=165						
DUG	Dugway, Tooele	58.52	330	P		17 08 07.4	
	baz=140,SNR=14						
R11A	Troy Canyon, C	58.59	327	P		17 08 08.0	
	baz=136,SNR=6.3						
MATQ	Matagami	58.95	1	P		17 08 07.6	
	baz=181,SNR=5.5						
B35A	Bob, Littlefor	59.03	348	IAmb	IAmb	17 08 09.5	
	comp=Z,12nm,0.8s						
BW06	Boulder Array	59.03	334	P	P	17 08 09.5	
	baz=144,SNR=6.8						
PDAR	Pinedale Array	59.03	334	P	P	17 08 09.4	-0.2
	comp=Z,4.7nm,1.0s,baz=140,slow=7.8,SNR=22						
PDAR				PcP	PcP	17 08 57.0	-0.9
	comp=Z,3.3nm,0.9s,baz=167,slow=7.3,SNR=3.9						
PDAR				LR	LR	17 32 54.1	
	comp=Z,55nm,21.4s,baz=183,slow=35						
AGMN	Agassiz Nation	59.42	347	P		17 08 11.8	
	baz=160,SNR=13						
AGMN	Agassiz Nation	59.42	347	IAmb	IAmb	17 08 12.7	
	comp=Z,21nm,1.1s						
MDND	Maddock	59.93	344	P		17 08 16.4	
	baz=156						
NVAR	Mina Array Bea	60.16	325	P	P	17 08 18.2	+0.8
	comp=Z,3.4nm,0.7s,baz=134,slow=6.9,SNR=39						
NVAR				pP	pP	17 08 30.9	-2.6
	comp=Z,6.0nm,0.8s,baz=142,slow=6.2,SNR=16						
NVAR				LR	LR	17 31 01.8	
	comp=Z,98nm,18.2s,baz=203,slow=33						
NVAR	Mina Array Bea	60.16	325	P	P	17 08 18.5	+1.1
RLMT	Red Lodge	60.83	336	P		17 08 22.3	
	baz=145,SNR=5.9						
LAO	LASA Array	60.98	339	P		17 08 22.9	
	baz=149						
ULM	Lac du Bonnet	61.26	348	P	P	17 08 23.9	-0.5
	comp=Z,14nm,0.8s,baz=166,slow=7.6,SNR=22						
ULM	Lac du Bonnet	61.26	348	IAmb	IAmb	17 08 24.9	
	comp=Z,25nm,1.1s						
DRLN	Deer Lake	61.38	16	P	P	17 08 25.7	+0.6
DGMT	Dagmar	61.84	341	P		17 08 29.3	
	baz=151						
HLID	Hailey	61.86	331	P		17 08 29.9	
	baz=139,SNR=9.9						
HLID	Hailey	61.86	331	P	P	17 08 29.1	+0.3
BOZ	Bozeman (W)	62.19	335	P		17 08 31.5	
	baz=143						
ORV	Oroville	62.76	324	IAmb	IAmb	17 08 52.1	
	comp=Z,13nm,0.9s						
EGMT	Eagleton	63.41	337	P		17 08 39.5	
	baz=145,SNR=8.1						
EGMT	Eagleton	63.41	337	IAmb	IAmb	17 08 41.2	
	comp=Z,24nm,1.4s						
O03E	Paynes Creek	63.42	324	P		17 08 39.2	
	baz=131						
MSO	Missoula	64.15	334	P		17 08 45.0	
	baz=141,SNR=5.6						
M04C	Macdoel	64.42	326	P		17 08 46.7	
	baz=132,SNR=5.2						
M02C	Callahan	64.74	325	P		17 08 48.1	
	baz=131						
YBH	Yreka Blue Hor	64.88	325	P	P	17 08 47.9	-0.8
L04D	Klamath Falls	64.97	326	P		17 08 49.9	
	baz=131						
J05D	Fort Rock, OR	65.10	327	P		17 08 51.2	
	baz=133						
J04D	Umpqua Nationa	65.55	327	P		17 08 54.7	
	baz=132						
K02D	Willamette Mer	66.04	325	P		17 08 57.4	
	baz=130						
NEW	Newport	66.64	333	P	P	17 08 59.9	+0.1
NEW	Newport	66.64	333	P		17 09 00.6	
	baz=138,SNR=7.4						
FFC	Flin Flon	66.82	346	P	P	17 09 01.1	+0.4
B05A	Bryant	68.95	331	P		17 09 15.2	
	baz=134						
FCC	Fort Churchill	69.08	352	IAmb	IAmb	17 09 15.8	
	comp=Z,32nm,1.2s						
BELA	Belgrano 2	72.02	171	P	P	17 09 32.4	-0.2
BELA				IAmb	IAmb	17 09 35.5	
	comp=Z,16nm,1.1s						
VNA3	Neumayer Olymp	74.48	162	P	P	17 09 48.7	+1.5
VNA3	Neumayer Olymp	74.48	162	PcP	PcP	17 10 00.5	-1.0
VNA1	Neumayer--Stat	74.76	161	P	P	17 09 50.0	+1.3
VNA1	Neumayer--Stat	74.76	161	PcP	PcP	17 10 03.0	+0.4
VNA2	Neumayer--Watz	75.11	161	P	P	17 09 52.2	+1.4
	baz=297,slow=6.1						
VNA2	Neumayer--Watz	75.11	161	PcP	PcP	17 10 06.1	+1.9
	baz=292,slow=6.2						
LIC	Lamto	75.19	81	*e*P	P	17 09 53.3	+1.0
	comp=Z,59nm,1.3s						
TIC	Toumodi	75.28	81	*e*P	P	17 09 53.7	+0.8
DBIC	Dimbokro	75.45	81	P	P	17 09 54.7	+1.0
	comp=Z,11nm,0.6s,baz=245,slow=4.9,SNR=20						
DBIC				LR	LR	17 41 20.6	
	comp=Z,76nm,20.6s,baz=238,slow=34						
DBIC	Dimbokro	75.45	81	P	P	17 09 54.0	+0.3
DBIC				IAmb	IAmb	17 09 56.1	
	comp=Z,44nm,1.4s						
KIC	Kosan Boka	75.50	81	*e*P	P	17 09 55.1	+1.0
	comp=Z,24nm,0.6s						
SNAA	Sanae	76.71	162	P	P	17 10 01.3	+1.4
SNAA	Sanae	76.71	162	PcP	PcP	17 10 16.7	+5.6
SNAA	Sanae	76.71	162	P	P	17 10 01.4	+1.4
SNAA				IAmb	IAmb	17 10 01.9	
	comp=Z,11nm,0.7s						
YKA	Yellowknife Ar	76.85	344	P	P	17 10 00.5	-0.2
	comp=Z,7.2nm,0.8s,baz=139,slow=6.3,SNR=79						
YKA				pP	pP	17 10 15.6	-1.7
	comp=Z,1.8nm,0.6s,baz=137,slow=6.1,SNR=6.0						
YKA				LR	LR	17 46 43.0	
	comp=Z,37nm,18.1s,baz=0.0,slow=38						
PFVI	Vila Bisbo	80.13	50	*e*P	P	17 10 20.3	+0.9
	comp=Z,90nm,1.6s						
PTEO	Sao Teotonio	80.35	49	*e*P	P	17 10 22.6	+2.1
	comp=Z,44nm,1.0s						
PNCL	Nicolau / Gran	80.69	49	*e*P	P	17 10 24.0	+1.7
MESJ	Messejana	80.83	49	*e*P	P	17 10 25.3	+2.3
	comp=Z,31nm,1.3s						
PCVE	Castro Verde	80.89	49	*e*P	P	17 10 25.6	+2.2
	comp=Z,23nm,1.5s						
PVAQ	Vaqueiros	81.06	50	*e*P	P	17 10 26.6	+2.3
	comp=Z,44nm,1.6s						
PBEJ	Beja	81.15	49	*e*P	P	17 10 27.4	+2.6
	comp=Z,9.1nm,1.4s						
PMTG	Montargil	81.23	48	*e*P	P	17 10 26.9	+1.7
	comp=Z,27nm,1.3s						
PCAS	Casmilo, Conde	81.37	47	*e*P	P	17 10 27.7	+1.8
	comp=Z,45nm,1.7s						
COI	Coimbra	81.48	47	*e*P	P	17 10 28.5	+2.0
	comp=Z,47nm,1.2s						
PTO	Porto	81.66	46	*e*P	P	17 10 28.9	+1.5
PBAR	Barrancos	81.82	49	*e*P	P	17 10 30.0	+1.7
	comp=Z,20nm,1.6s						
PVIS	Viseu	82.03	47	*e*P	P	17 10 30.0	+0.6
	comp=Z,36nm,2.2s						
PCBR	Castelo Branco	82.03	47	*e*P	P	17 10 31.2	+1.8
	comp=Z,23nm,1.7s						
MTE	Manteigas	82.17	47	*e*P	P	17 10 31.2	+1.0
	comp=Z,51nm,1.6s						
MVO	Moncorvo	82.79	46	*e*P	P	17 10 35.0	+1.6
	comp=Z,27nm,2.4s						
TORD	Torodi Ar. Bea	83.06	75	P	P	17 10 35.6	+0.3
	comp=Z,18nm,0.9s,baz=276,slow=4.7,SNR=41						
TORD				pP	pP	17 10 50.9	-1.2
	comp=Z,5.5nm,0.8s,baz=285,slow=5.3,SNR=6.3						
TORD				LR	LR	17 46 34.7	
	comp=Z,78nm,19.3s,baz=270,slow=35						
PBRG	Braganca	83.20	46	*e*P	P	17 10 37.6	+2.1
	comp=Z,37nm,1.4s						
PAB	San Pablo	84.24	48	P	P	17 10 40.9	0.0
PAB				IAmb	IAmb	17 10 43.3	
	comp=Z,17nm,1.0s						
ESDC	Sonseca Array	84.56	48	P	P	17 10 43.6	+1.1
	comp=Z,6.2nm,0.6s,baz=260,slow=5.2,SNR=48						
ESDC				pP	pP	17 10 58.1	-1.2
	comp=Z,2.3nm,0.9s,baz=262,slow=5.4,SNR=4.7						
ESDC				LR	LR	17 47 20.2	
	comp=Z,35nm,18.4s,baz=205,slow=35						
ESBB	Sonseca Array	84.56	48	P	P	17 10 43.1	+0.6
ESBB				IAmb	IAmb	17 10 45.0	
	comp=Z,16nm,1.1s						
SUMG	Summit	85.93	11	*i* P	P	17 10 49.8	+0.8
SUMG	Summit	85.93	11	P	P	17 10 49.0	0.0
SUMG	Summit	85.93	11	*i* P	P	17 10 49.9	+0.8
DAWY	Dawson	86.15	337	IAmb	IAmb	17 10 51.0	
	comp=Z,9.0nm,0.9s						
MCARA	McCarthy VSAT	86.32	334	P		17 10 51.7	
	baz=117,SNR=7.9						
EPYK	Eagle Plains	86.42	340	P		17 10 51.5	
	baz=123,SNR=5.3						
EPYK	Eagle Plains	86.42	340	IAmb	IAmb	17 10 52.0	
	comp=Z,8.4nm,0.9s						
INK	Inuvik	86.51	342	IAmb	IAmb	17 10 53.3	
	comp=Z,16nm,0.9s						
L27K	Beaver Creek,	86.61	336	P		17 10 52.8	
	baz=118,SNR=23						
BMRM	Bremner River	86.82	334	P		17 10 53.5	
	baz=116,SNR=5.3						
K27K	Chicken	87.16	337	P		17 10 55.7	
	baz=118						
EGAK	Eagle	87.17	338	P		17 10 55.2	
	baz=119,SNR=38						
KLU	Klutina	87.62	334	P		17 10 57.5	
	baz=114,SNR=13						
SCRK	Sand Creek	87.89	336	IAmb	IAmb	17 10 59.5	
	comp=Z,12nm,0.8s						
SCRK	Sand Creek	87.89	336	P		17 10 58.6	
	baz=116,SNR=18						
M24K	Tolsona, Glenn	87.98	334	P		17 10 59.7	
	baz=114,SNR=9.0						
PAX	Paxson	88.05	335	P		17 10 59.0	
	baz=115,SNR=22						
SCO	Scoresbysund	88.42	16	*i* P	P	17 11 01.1	+0.6
SCO	Scoresbysund	88.42	16	*i* P	P	17 11 01.1	+0.6
SML	Sawmill	88.80	334	P		17 11 02.9	
	baz=112,SNR=8.2						
WAT6	Susitna Watana	88.84	334	P		17 11 03.0	
	baz=113,SNR=23						
BRSE	Bradley Lake S	89.14	331	P		17 11 04.4	
	baz=110,SNR=5.0						
PRP	Porcupine Dome	89.15	338	P		17 11 04.6	
	baz=115,SNR=11						
RC01	Rabbit Creek A	89.16	333	P		17 11 04.4	
	baz=111						
HDA	Harding Lake	89.25	336	P		17 11 04.8	
	baz=114,SNR=10.0						
HDA				P		17 11 04.8	
	baz=114,SNR=10.0						
WAT2	Susitna Watana	89.35	335	P		17 11 05.4	
	baz=112,SNR=16						
ILAR	Eielson Array	89.37	337	P	P	17 11 04.4	-0.8
	comp=Z,7.2nm,0.8s,baz=146,slow=3.2,SNR=66						
ILAR				pP	pP	17 11 21.1	-1.0
	comp=Z,3.0nm,0.9s,baz=146,slow=3.6,SNR=6.3						
ILAR	Eielson Array	89.37	337	P	P	17 11 04.6	-0.6
KDAK	Kodiak Island	89.39	329	P		17 11 05.5	
	baz=109						
POKR	Poker Plat Res	89.72	337	P		17 11 07.5	
	baz=113,SNR=5.9						
SUA	Susitna One	89.75	333	P		17 11 07.6	
	baz=110,SNR=5.9						
MCK	McKinley	89.79	335	P		17 11 07.4	
	baz=112,SNR=7.1						
COLA	College	89.79	337	P		17 11 07.8	
	baz=113						
TCOL	CIGO, UAF Yank	89.79	337	P		17 11 07.8	
	baz=113,SNR=6.3						
CUT	Chulitna	89.87	334	P		17 11 07.9	
	baz=111						
NEA2	Nenana	90.16	336	P		17 11 09.4	
	baz=112,SNR=7.5						
TRF	Thorofare Moun	90.25	335	P		17 11 09.5	
	baz=111						
SKT	Skwentna	90.28	333	P		17 11 09.7	
	baz=110,SNR=14						
I23K	Minto, Yukon-K	90.48	337	P		17 11 10.6	
	baz=111,SNR=15						
KTH	Kantishna Hill	90.55	335	IAmb	IAmb	17 11 12.5	
	comp=Z,10nm,1.0s						
BPAW	Bear Paw Mtn.	90.77	335	P		17 11 11.7	
	baz=110,SNR=11						
PPLA	Purkeypile	90.87	334	P		17 11 12.5	
	baz=109						
MLY	Manley	90.99	336	P		17 11 12.8	
	baz=110,SNR=19						
CHUM	Lake Minchumin	91.24	335	P		17 11 13.8	
	baz=109,SNR=8.3						
COLD	Coldfoot	91.56	338	P		17 11 16.3	
	baz=111,SNR=8.3						
COLD	Coldfoot	91.56	338	IAmb	IAmb	17 11 17.2	
	comp=Z,4.7nm,0.8s						
TOLK	Toolik Lake Re	91.84	340	P		17 11 17.2	
	baz=111						
DAG	Danmarks Havn	92.61	12	⇑*i* P	P	17 11 20.0	0.0
DAG	Danmarks Havn	92.61	12	⇑*i* P	P	17 11 20.1	0.0
KEST	Kesra	93.99	55	LR	LR	17 53 39.2	
	comp=Z,40nm,19.1s,baz=326,slow=35						
ANM	Nome	96.95	334	P		17 11 40.9	
	baz=97						
BOSA	Boshof	97.70	121	LR	LR	17 52 27.9	
	comp=Z,66nm,20.2s,baz=168,slow=33						
BRTR	Keskin Array B	113.26	51	PKiKP	PKiKP	17 16 46.8	-0.2
	comp=Z,1.1nm,0.9s,baz=295,slow=7.6,SNR=4.7						
H11N3	WAKE ISLAND Hyl	15.86	287	T	T	19 22 41.6	
	baz=92,slow=74,SNR=23						
H11N2	WAKE ISLAND Hyl	15.87	287	T	T	19 22 43.8	
	baz=92,slow=74,SNR=19						
H11N1	WAKE ISLAND Hyl	15.87	287	T	T	19 22 44.1	
	baz=92,slow=74,SNR=24						
H11S2	WAKE ISLAND Hyl	16.02	286	T	T	19 22 54.4	
	baz=92,slow=75,SNR=34						
H11S1	WAKE ISLAND Hyl	16.03	286	T	T	19 22 51.9	
	baz=92,slow=75,SNR=18						
H11S3	WAKE ISLAND Hyl	16.04	286	T	T	19 22 55.1	
	baz=92,slow=75,SNR=22						
STKA	Stephens Creek	123.58	221	PKP	PKiKP	17 17 07.5	+0.4
	comp=Z,2.6nm,0.5s,baz=95,slow=3.8,SNR=8.8						
ABKAR	Akbulak array	127.55	33	PKPdf	PKiKP	17 17 14.7	+0.3
GEYT	Alibeck	132.07	47	PKP	PKPdf	17 17 22.9	0.0
	comp=Z,2.2nm,0.7s,baz=351,slow=6.8,SNR=3.7						
ZALV	Zalesovo Beam	133.72	13	PKP	PKPdf	17 17 25.4	0.0
	comp=Z,2.6nm,0.6s,baz=259,slow=1.5,SNR=11						
ZALV				pPKP	pPKPdf	17 17 40.2	-2.8
	comp=Z,1.2nm,0.4s,baz=218,slow=3.6,SNR=3.2						
ASAR	Alice Springs	134.08	224	PKhKP	PKPpre	17 17 15.8	
	comp=Z,0.2nm,0.5s,baz=141,slow=1.6,SNR=6.3						
ASAR				PKP	PKPdf	17 17 27.4	+0.3
	comp=Z,3.3nm,0.7s,baz=118,slow=2.1,SNR=33						
ASAR				pPKP	pPKPdf	17 17 42.4	-2.3
	comp=Z,2.9nm,0.8s,baz=117,slow=2.0,SNR=9.2						
ASAR	Alice Springs	134.08	224	PKPdf	PKPdf	17 17 27.6	+0.5
WB2	Warramunga Arr	136.17	228	PKPdf	PKPdf	17 17 31.8	+0.7
WRA	Warramunga Arr	136.18	228	PKP	PKPdf	17 17 30.7	-0.4
	comp=Z,5.4nm,0.5s,baz=124,slow=2.0,SNR=46						
WRA				pPKP	pPKPdf	17 17 46.6	-2.1
	comp=Z,3.4nm,0.5s,baz=123,slow=2.1,SNR=8.6						
WRA	Warramunga Arr	136.18	228		PKPdf	17 17 31.7	+0.6
MJAR	Matsushiro Arr	136.93	315	PKhKP	PKPpre	17 17 18.4	
	comp=Z,0.3nm,0.4s,baz=110,slow=0.7,SNR=1.9						
MJAR				PKP	PKPdf	17 17 31.4	-0.6
	comp=Z,0.9nm,0.7s,baz=158,slow=1.3,SNR=5.2						
MAKZ	Makanchi	139.34	20	PKPdf	PKPdf	17 17 36.3	+0.2
MKAR	Makanchi Array	139.46	20	PKhKP	PKPpre	17 17 27.0	
	comp=Z,0.7nm,0.6s,baz=325,slow=3.0,SNR=9.1						
MKAR				PKP	PKPdf	17 17 36.4	+0.1
	comp=Z,1.1nm,0.7s,baz=288,slow=1.2,SNR=6.3						
SONM	Songino Array	141.47	354	PKhKP	PKPpre	17 17 33.5	
	comp=Z,1.6nm,0.7s,baz=328,slow=2.5,SNR=15						
SONM				PP	PP	17 20 41.2	-1.2
	comp=Z,0.7nm,1.0s,baz=352,slow=8.2,SNR=4.5						
KSH	Kashi	142.56	33	PKP	PKiKP	17 17 44.9	-0.5
KSRS	Korea Array	143.09	323	PKhKP	PKPpre	17 17 39.8	
	comp=Z,5.6nm,1.0s,baz=55,slow=3.2,SNR=20						
WMQ	Urumqi	143.80	17	*e*PKP	PKPbc	17 17 42.6	+0.6
WMQ				pPKP	PKiKP	17 17 54.8	+7.1
WMQ				sPKP		17 18 07.4	
NIL	Nilore	144.81	43	PKPdf	PKPdf	17 17 46.6	+0.3
BJI	Beijing	146.71	339	PKPbc	PKPdf	17 17 49.9	+0.7
HHC	Hu-ho-hao-te	147.38	345	*e*PKPbc	PKPbc	17 17 53.1	+0.1
GTA	Gaotai	150.13	2	⇑PKPbc	PKPbc	17 17 59.0	-0.8
GTA				pPKP	pPKPbc	17 18 15.6	-2.0
GTA				sPKP		17 18 25.5	
GTA	Gaotai	150.13	2	*e*PKPbc	PKPdf	17 17 55.8	+0.7
NJ2	Nanjing	152.15	326	*e*PKPbc	PKPdf	17 17 57.0	-1.2
LZH	Lanzhou	153.36	355	*e*PKPbc	PKiKP	17 18 08.4	+0.6
LZH				pPKP	sPKPdf	17 18 21.9	-2.2
XAN	Xi'an	154.49	345	PKPbc	PKPdf	17 18 01.6	0.0
CD2	Chengdu	158.50	354	PKP	PKPdf	17 18 04.5	-2.4
CM33	Chiang Mai Arr	170.44	13	P	PKPab	17 19 33.0	-1.3
CMMT	Chiang Mai	170.44	13	P	PKPab	17 19 33.0	-1.3
CM34	Chiang Mai Arr	170.44	11	P	PKPab	17 19 34.0	-0.3
CM35	Chiang Mai Arr	170.61	12	P	PKPab	17 19 35.0	0.0
CM36	Chiang Mai Arr	170.76	12	P	PKPab	17 19 35.0	-0.7
CM31	Chiang Mai Arr	170.78	13	P	PKPab	17 19 36.1	+0.3
CMAR	Chiang Mai Arr	170.78	13	PKP	PKPdf	17 18 17.9	+0.1
	comp=Z,2.0nm,0.9s,baz=283,slow=1.6,SNR=14						
CMAR				pPKP	pPKPdf	17 18 33.7	-1.8
	comp=Z,1.4nm,0.9s,baz=326,slow=1.7,SNR=6.4						
CMAR				PKPab	PKPab	17 19 35.5	-0.4
	comp=Z,4.8nm,0.7s,baz=328,slow=5.5,SNR=28						
CMAR				PP	PP	17 23 24.6	-0.2
	comp=Z,0.2nm,0.4s,baz=333,slow=7.1,SNR=5.3						
CMAR	Chiang Mai Arr	170.78	13	PKPab	PKPab	17 19 35.0	-0.8
CM15	Chiang Mai Arr	170.78	13	P	PKPab	17 19 36.0	+0.2
CM02	Chiang Mai Arr	170.81	13	P	PKPab	17 19 35.0	-0.9
CM09	Chiang Mai Arr	170.81	13	P	PKPab	17 19 36.0	0.0
CM13	Chiang Mai Arr	170.81	13	P	PKPab	17 19 35.8	-0.1
CM01	Chiang Mai Arr	170.82	13	P	PKPab	17 19 36.0	0.0
CM05	Chiang Mai Arr	170.84	13	P	PKPab	17 19 36.0	-0.1
CM04	Chi

LACR					*e*S	**Sb**	**17 15 58.2**	**+0.4**
LACR	**Lac**	**0.85**	**66**	*e*Pg	**Pg**	**17 15 44.1**	**-1.2**
LACR					*e*Sg	**Sb**	**17 15 57.7**	**-0.1**
KORR	**Kora**	**0.85**	**45**	*e*PG	**Pb**	**17 15 45.4**	**-0.8**
KORR				pmax	pmax			
	comp=Z,150nm,0.4s							
KORR	**Kora**	**0.85**	**45**	*e*Pg	**Pb**	**17 15 45.3**	**-0.9**
KORR				*e*Sg	**Sb**	**17 15 57.5**	**-0.4**
NEY	**Neytrino**	**0.85**	**334**	*e*PG	**Pb**	**17 15 45.4**	**-0.9**
NEY				*e*S	**Sg**	**17 15 56.6**	**+0.1**
NEY	**Neytrino**	**0.85**	**334**	*e*Pg	**Pb**	**17 15 45.3**	**-0.9**
NEY				*e*Sg	**Sg**	**17 15 56.5**	**0.0**
CHVG	**Ch'k'valeri**	**0.89**	**286**	P	**Pb**	**17 15 46.6**	**-0.1**
CHVG				S	**Sn**	**17 16 00.1**	**-1.0**
CHVG	**Ch'k'valeri**	**0.89**	**286**	PG	**Pb**	**17 15 46.6**	**-0.1**
CHVG				S	**Sn**	**17 16 00.1**	**-1.0**
LSNR	**Lesken**	**0.90**	**28**	*i* PG	**Pb**	**17 15 46.3**	**-0.7**
LSNR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
LSNR	**Lesken**	**0.90**	**28**	*i* Pg	**Pb**	**17 15 46.1**	**-0.8**
LSNR				*e*Sg	**Sb**	**17 15 58.4**	**-0.8**
GUDG	**Gudauri**	**0.91**	**91**	P	**Pg**	**17 15 45.3**	**-1.1**
GUDG	**Gudauri**	**0.91**	**91**	PG	**Pg**	**17 15 45.3**	**-1.1**
BRNG	**Burnasheti**	**0.96**	**153**	P	**Pb**	**17 15 47.6**	**-0.5**
BRNG				S	**Sb**	**17 16 02.0**	**+0.9**
PNSH	**Pansheti**	**1.03**	**81**	P	**Pg**	**17 15 47.5**	**-1.1**
PNSH	**Pansheti**	**1.03**	**81**	PG	**Pg**	**17 15 47.5**	**-1.1**
ARNR	**Ardon**	**1.03**	**47**	*e*PG	**Pn**	**17 15 50.1**	**+0.3**
ARNR				*e*S	**Sn**	**17 16 05.0**	**+0.3**
ARNR	**Ardon**	**1.03**	**47**	*e*Pg	**Pb**	**17 15 49.3**	**+0.1**
ARNR				*e*Sg	**Sn**	**17 16 04.3**	**-0.4**
NCK	**Nalchik**	**1.04**	**14**	*e*PG	**Pn**	**17 15 49.6**	**-0.5**
NCK				*e*S	**Sn**	**17 16 05.5**	**+0.5**
NCK	**Nalchik**	**1.04**	**14**	*e*Pg	**Pb**	**17 15 49.4**	**0.0**
NCK				*e*Sg	**Sb**	**17 16 03.0**	**-0.4**
EPOS	**Posof**	**1.05**	**202**	*i* P	**Pg**	**17 15 48.2**	**-0.9**
EPOS				IAML		17 16 03.0		
	comp=N,123nm,0.4s							
EPOS				*i* S	**Sg**	**17 16 03.0**	**+0.3**
STDR	**Stavd-Durt**	**1.07**	**34**	*e*PG	**Pn**	**17 15 50.7**	**+0.3**
STDR				*e*S	**Sn**	**17 16 06.7**	**+1.1**
STDR	**Stavd-Durt**	**1.07**	**34**	*e*Pg	**Pn**	**17 15 50.4**	**0.0**
STDR				*e*Sg	**Sn**	**17 16 04.9**	**-0.7**
TRLG	**Trialeti**	**1.14**	**146**	P	**Pg**	**17 15 50.1**	**-0.7**
TRLG				S	**Sb**	**17 16 06.4**	**+0.2**
TRLG	**Trialeti**	**1.14**	**146**	PG	**Pg**	**17 15 50.1**	**-0.7**
TRLG				S	**Sb**	**17 16 06.4**	**+0.2**
VLKR	**Vladikavkaz**	**1.20**	**61**	*e*PG	**Pn**	**17 15 53.4**	**+1.2**
VLKR				*e*S	**Sn**	**17 16 12.1**	**+3.3**
VLKR	**Vladikavkaz**	**1.20**	**61**	*e*Pg	**Pn**	**17 15 52.7**	**+0.5**
VLKR				*e*Sg	**Sn**	**17 16 10.1**	**+1.3**
BGD	**Bogdanovka**	**1.25**	**168**	P	**Pg**	**17 15 52.2**	**-0.6**
BGD				S	**Sb**	**17 16 09.7**	**+0.4**
BGD	**Bogdanovka**	**1.25**	**168**	PG	**Pg**	**17 15 52.2**	**-0.6**
BGD				S	**Sb**	**17 16 09.7**	**+0.4**
KBZ	**Khabaz**	**1.27**	**349**	*d* iPG	**Pg**	**17 15 52.6**	**-0.6**
KBZ	**Khabaz**	**1.27**	**349**	*e*Pg	**Pg**	**17 15 52.6**	**-0.6**
KBZ				*e*Sg	**Sn**	**17 16 09.9**	**-0.5**
BTKR	**Batakoyurt**	**1.30**	**47**	*e*Pg	**Pn**	**17 15 55.0**	**+1.4**
BTKR				*e*Sg	**Sn**	**17 16 14.0**	**+2.6**
KMGR	**Komgaron**	**1.32**	**64**	*e*PG	**Pb**	**17 15 55.7**	**+1.5**
KMGR				*e*S	**Sn**	**17 16 15.4**	**+3.4**
KMGR	**Komgaron**	**1.32**	**64**	*e*Pg	**Pb**	**17 15 55.2**	**+1.0**
KMGR				*e*Sg	**Sn**	**17 16 13.7**	**+1.7**
SHA1	**Shidzhatmaz**	**1.32**	**341**	*e*PG	**Pn**	**17 15 54.1**	**0.0**
SHA1				*e*S	**Sn**	**17 16 12.5**	**+0.3**
SHA1				pmax	pmax			
	comp=Z,55nm,0.4s							
SHA1				smax	smax			
	comp=N,105nm,0.4s							
SHA1	**Shidzhatmaz**	**1.32**	**341**	*e*Pg	**Pn**	**17 15 54.2**	**0.0**
SHA1				*e*Sg	**Sn**	**17 16 13.0**	**+0.7**
KBTC	**Kuba-Taba**	**1.34**	**5**	*e*PG	**Pb**	**17 15 54.6**	**+0.2**
KBTC				*e*S	**Sn**	**17 16 14.5**	**+2.2**
KBTC	**Kuba-Taba**	**1.34**	**5**	*e*Pg	**Pb**	**17 15 54.6**	**+0.2**
KBTC				*e*Sg	**Sn**	**17 16 12.2**	**-0.1**
DMNI	**Dmanisi**	**1.35**	**148**	P	**Pg**	**17 15 53.2**	**-1.2**
DMNI				S	**Sg**	**17 16 11.8**	**-0.6**
DMNI	**Dmanisi**	**1.35**	**148**	PG	**Pn**	**17 15 53.2**	**-1.2**
DMNI				S	**Sg**	**17 16 11.8**	**-0.6**
KZRT	**Kazreti**	**1.40**	**141**	P	**Pn**	**17 15 53.9**	**-1.0**
KZRT	**Kazreti**	**1.40**	**141**	PG	**Pn**	**17 15 53.9**	**-1.0**
BTNK	**Botanikuri**	**1.41**	**124**	P	**Pn**	**17 15 54.1**	**-0.9**
BTNK	**Botanikuri**	**1.41**	**124**	*i* P	**Pn**	**17 15 53.8**	**-1.3**
BTNK	**Botanikuri**	**1.41**	**124**	PG	**Pn**	**17 15 54.2**	**-0.9**
PRTR	**Priterechnaya**	**1.48**	**31**	*e*PG	**Pg**	**17 15 58.0**	**+0.8**
PRTR				*e*S	**Sg**	**17 16 21.2**	**+4.8**
PRTR	**Priterechnaya**	**1.48**	**31**	*e*Pg	**Pg**	**17 15 58.0**	**+0.8**
PRTR				*e*Sg	**Sg**	**17 16 18.0**	**+1.6**
KIV	**Kislovodsk**	**1.53**	**345**	PN	**Pg**	**17 15 57.6**	**-0.6**
KIV				SN	**Sg**	**17 16 18.1**	**+0.1**
KIV	**Kislovodsk**	**1.53**	**345**	*i* PG	**Pg**	**17 15 57.6**	**-0.6**
KIV				pmax	pmax			
	comp=Z,69nm,1.2s							
KIV	**Kislovodsk**	**1.53**	**345**	*i* Pg	**Pg**	**17 15 57.6**	**-0.6**
KIV				*e*Sg	**Sg**	**17 16 17.8**	**-0.2**
BEYR	**Belyy Ugol+**	**1.56**	**349**	*e*Pg	**Pg**	**17 15 58.2**	**-0.6**
BEYR				*e*Sg	**Sg**	**17 16 18.7**	**-0.3**
PYA1	**Pyatigorsk**	**1.58**	**356**	*e*Pg	**Pb**	**17 15 58.3**	**-0.3**
PYA1				*e*Sg	**Sg**	**17 16 18.9**	**-0.9**
DBOC	**Borcka**	**1.64**	**226**	*i* P	**Pb**	**17 15 59.2**	**-0.3**
DBOC				*i* S	**Sb**	**17 16 20.7**	**+0.3**
DBOC				IAML		17 16 25.0		
	comp=E,152nm,0.5s							
TRKR	**Terskaya**	**1.65**	**41**	*e*PN	**Pg**	**17 16 00.2**	**-0.3**
TRKR	**Terskaya**	**1.65**	**41**	*e*Pg	**Pg**	**17 16 00.7**	**+0.2**
TRKR				*e*Sg	**Sg**	**17 16 25.6**	**+3.7**
ARXR	**Arkhyz**	**1.80**	**307**	*e*Pg	**Pg**	**17 16 04.1**	**+0.6**
ARXR				*e*Sg	**Sg**	**17 16 28.1**	**+1.3**
EAK	**Akyaka**	**1.82**	**171**	*i* P	**Pn**	**17 16 00.8**	**0.0**
EAK				*i* S	**Sn**	**17 16 24.3**	**+0.1**
EAK				IAML		17 16 28.0		
	comp=E,134nm,0.7s							
EAK				IAML		17 16 33.0		
	comp=N,148nm,0.8s							
KARS	**Kars**	**1.86**	**184**	PN	**Pg**	**17 16 03.8**	**-0.7**
DBAD	**Bademkaya**	**1.87**	**219**	*i* P	**Pb**	**17 16 03.8**	**+0.3**
DBAD				*i* S	**Sg**	**17 16 28.1**	**-0.8**
DBAD				IAML		17 16 34.0		
	comp=N,172nm,0.7s							
GROC	**Groznyy**	**2.01**	**68**	*e*PN	**Pn**	**17 16 02.9**	**-0.4**
GROC				*e*		17 16 05.3		
GROC				pmax	pmax			
	comp=Z,17nm,0.6s							
GROC				pmax	pmax			
	comp=Z,33nm,0.6s							
GROC	**Groznyy**	**2.01**	**68**	*e*Pg	**Pb**	**17 16 05.0**	**-0.8**
GROC				*e*Sg	**Sn**	**17 16 28.9**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.04**	**200**	PN	**Pb**	**17 16 05.8**	**-0.6**
DIGO	**Kars**	**2.07**	**177**	*i* P	**Pn**	**17 16 04.9**	**+0.5**
DIGO				*i* S	**Sb**	**17 16 33.1**	**+0.1**
DIGO				IAML		17 16 38.0		
	comp=E,65nm,0.5s							
DIGO				IAML		17 16 40.0		
	comp=N,88nm,0.7s							
DVE	**Vedeno**	**2.18**	**76**	*d* iPN	**Pg**	**17 16 09.4**	**-1.2**
DVE	**Vedeno**	**2.18**	**76**	*e*Pg	**Pb**	**17 16 08.7**	**0.0**
DVE				*e*Sg	**Sg**	**17 16 37.1**	**-1.7**
BTLR	**Botlikh**	**2.21**	**84**	*e*PN	**Pn**	**17 16 07.4**	**+1.3**
BTLR	**Botlikh**	**2.21**	**84**	*e*Pg	**Pb**	**17 16 09.8**	**+0.6**
BTLR				*e*Sg	**Sg**	**17 16 39.0**	**-0.8**
CHOM	**Cayeli-Rize**	**2.32**	**234**	PN	**Pn**	**17 16 08.9**	**+1.3**
CHOM				SN	**Sn**	**17 16 37.8**	**+1.5**
AHMR	**Akhmetovskaya**	**2.32**	**317**	*e*Pn	**Pb**	**17 16 10.8**	**-0.3**
AHMR				*e*Sn	**Sb**	**17 16 38.6**	**-1.4**
LGD	**Lagodekhi**	**2.32**	**105**	P	**Pb**	**17 16 10.0**	**-1.2**
LGD				S	**Sb**	**17 16 41.0**	**+0.9**
LGD	**Lagodekhi**	**2.32**	**105**	PN	**Pb**	**17 16 10.0**	**-1.2**
LGD				S	**Sb**	**17 16 41.0**	**+0.9**
DDFL	**Dedoflistskaro**	**2.38**	**115**	P	**Pb**	**17 16 12.7**	**+0.5**
DDFL				S	**Sg**	**17 16 48.6**	**+3.2**
DDFL	**Dedoflistskaro**	**2.38**	**115**	*i* P	**Pb**	**17 16 10.9**	**-1.3**
DDFL				*i* S	**Sg**	**17 16 47.2**	**+1.8**
DDFL	**Dedoflistskaro**	**2.38**	**115**	PN	**Pb**	**17 16 12.7**	**+0.5**
DDFL				S	**Sg**	**17 16 48.6**	**+3.2**
RPOR	**Krasnaya Polya**	**2.50**	**300**	*e*Pn	**Pn**	**17 16 11.3**	**+1.3**
RPOR				*e*Sn	**Sb**	**17 16 43.3**	**-1.9**
VSLR	**Vesyoloye**	**2.55**	**294**	*e*Pn	**Pb**	**17 16 15.4**	**+0.4**
VSLR				*e*Sn	**Sb**	**17 16 45.0**	**-1.6**
GOF	**Gofitskoye**	**2.58**	**357**	*e*PN	**Pb**	**17 16 15.2**	**-0.3**
GOF				*e*S	**Sg**	**17 16 52.8**	**+1.1**
GOF				pmax	pmax			
	comp=Z,10.0nm,0.5s							
GOF				smax	smax			
	comp=N,213nm,1.4s							
GOF				smax	smax			
	comp=E,99nm,0.9s							
GOF	**Gofitskoye**	**2.58**	**357**	*e*Pn	**Pn**	**17 16 12.8**	**+1.7**
GOF				*e*Sn	**Sn**	**17 16 44.3**	**+1.6**
GNI	**Garni**	**2.59**	**154**	PN	**Pb**	**17 16 14.9**	**-0.9**
GNI	**Garni**	**2.59**	**154**	*i* PN	**Pb**	**17 16 15.6**	**-0.2**
GNI	**Garni**	**2.59**	**154**	*e*Pn	**Pb**	**17 16 15.3**	**-0.5**
GNI				*e*Sn	**Sb**	**17 16 48.1**	**+0.2**
TASB	**TASBURUN-IGDIR**	**2.61**	**163**	PN	**Pb**	**17 16 14.7**	**-1.4**
KOTA	**Agri, Merkez-K**	**2.68**	**181**	*i* P	**Pg**	**17 16 19.9**	**-0.3**
DBC	**Dubki**	**2.69**	**77**	*e*Pn	**Pn**	**17 16 13.3**	**+0.5**
DBC				*e*Sn	**Sn**	**17 16 47.1**	**+1.3**
KOPR	**Koprukoy-ERZUR**	**2.70**	**203**	PN	**Pn**	**17 16 15.3**	**+2.3**
GUZR	**Guzeripl'**	**2.74**	**305**	*i* PN	**Pb**	**17 16 15.7**	**-2.6**
GUZR	**Guzeripl'**	**2.74**	**305**	*e*Pn	**Pn**	**17 16 15.0**	**+1.6**
GUZR				*e*Sn	**Sn**	**17 16 46.9**	**+0.1**
GNBR	**Gunib**	**2.76**	**91**	*e*Pn	**Pb**	**17 16 16.3**	**-2.3**
GNBR				*e*Sn	**Sn**	**17 16 48.8**	**+1.6**
KRIK	**Erzurum-spir**	**2.76**	**220**	*i* P	**Pg**	**17 16 20.2**	**-1.6**
SOC	**Sochi**	**2.81**	**294**	*e*Pn	**Pn**	**17 16 16.1**	**+1.8**
SOC				*e*Sn	**Sn**	**17 16 50.4**	**+1.9**
BUJR	**Buynaksk**	**2.87**	**82**	*e*Pn	**Pn**	**17 16 17.5**	**+2.3**
BUJR				*e*Sn	**Sn**	**17 16 50.8**	**+0.7**
AGRB	**Hanur-Agry**	**2.91**	**184**	PN	**Pb**	**17 16 18.8**	**-2.5**
LZRR	**Lazarevskoye**	**3.17**	**298**	*e*Pn	**Pn**	**17 16 21.5**	**+2.2**
LZRR				*e*Sn	**Sn**	**17 16 59.3**	**+1.8**
AKT	**Akhty**	**3.49**	**105**	*e*PN	**Pn**	**17 16 26.8**	**+3.0**
AKT				*e*		17 16 33.9		
AKT				*e*		17 16 36.9		
AKT				*e*S	**Sb**	**17 17 11.2**	**-2.6**
AKT				*e*		17 17 23.0		
AKT				pmax	pmax			
	comp=Z,8.0nm,0.4s							
AKT				smax	smax			
	comp=N,15nm,0.6s							
AKT				smax	smax			
	comp=N,15nm,0.5s							
AKT				smax	smax			
	comp=E,12nm,0.5s							
AKT	**Akhty**	**3.49**	**105**	*e*Pn	**Pn**	**17 16 26.4**	**+2.6**
AKT				*e*Sn	**Sn**	**17 17 06.6**	**+1.1**
MNK	**Minsk**	**15.71**	**325**	*i* P	**Pn**	**17 19 09.3**	**-1.3**
	comp=E,2.0nm,0.7s							
MNK				*i* P	**Pn**	**17 19 09.3**	**-1.3**
	comp=N,21nm,0.8s							
MNK				*i* P	**Pn**	**17 19 09.3**	**-1.3**
	comp=Z,13nm,0.7s							
MNK				*i* PP	**sP**	**17 19 17.7**	**-0.1**
MNK				*i* PPP	PPP	17 19 25.3		
MNK				*i* S	**Sn**	**17 22 03.6**	**-1.2**
MNK				*i* SS	**SnSn**	**17 22 16.1**	**-1.5**
MNK				*i* SSS	SSS	17 22 30.8		
MNK				*i* LQ	LQ	17 23 37.5		
MNK				*i* LR	LR	17 24 15.5		
MNK				*i* LRM	MLR	17 25 58.5		
	comp=N,128nm,20.6s							
MNK				*i* LRM	MLR	17 26 26.8		
	comp=E,12nm,19.6s							
MNK				*i* LRM	MLR	17 26 39.9		
	comp=Z,63nm,17.4s							
AAK	**Ala-Archa**	**22.96**	**79**	*i* P	**P**	**17 20 34.4**	**+0.4**
AAK				pmax	pmax			
	comp=Z,2.0nm,1.1s							

*NORS **21** 17:17:23.4±0.0,42.4°43N×43.24E,h12km, MPVA3.7*
*TIF **21** 17:17:23.7,42.51N×43.29E,h13km*
*DDA **21** 17:17:23.1,42.46N×43.27E,h7km±1km, ML2.4*

ISC 21 17:17:23.9±0.9,42°45N±0.02×43°27E±0.02,h12km±7km, n30,σ1s11/53, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.19**	**44**	P	**Pg**	**17 17 27.6**	**-0.6**
ONI				S	**Sg**	**17 17 30.6**	**-0.5**
TKB	**Tkibuli**	**0.23**	**244**	P	**Pb**	**17 17 29.8**	**-0.2**
TKB				S	**Sg**	**17 17 34.1**	**+2.1**
DIGR	**Digorskoe uzhe**	**0.50**	**27**	*i* Pg	**Pg**	**17 17 33.6**	**-0.2**
DIGR				*e*Sg	**Sb**	**17 17 40.8**	**-1.4**
ZEI	**Tsey**	**0.57**	**54**	*i* Pg	**Pb**	**17 17 35.1**	**-1.0**
ZEI				*e*Sg	**Sb**	**17 17 43.2**	**-1.1**
BKRG	**Bakuriani**	**0.72**	**165**	P	**Pn**	**17 17 39.1**	**-0.9**
BKRG				S	**Sn**	**17 17 50.1**	**-0.9**
ABS	**Abastumani**	**0.77**	**206**	P	**Pn**	**17 17 40.1**	**-0.7**
ABS				S	**Sn**	**17 17 52.0**	**-0.4**
LACR	**Lac**	**0.85**	**63**	*e*Pg	**Pb**	**17 17 40.5**	**-0.1**
LACR				*e*Sg	**Sb**	**17 17 52.1**	**+0.1**
KORR	**Kora**	**0.86**	**43**	*e*Pg	**Pn**	**17 17 41.3**	**-0.7**
KORR				*e*Sg	**Sn**	**17 17 53.0**	**-1.5**
NEY	**Neytrino**	**0.89**	**333**	*e*Pg	**Pb**	**17 17 41.0**	**-0.4**
NEY				*e*Sg	**Sg**	**17 17 52.3**	**-0.6**
GUDG	**Gudauri**	**0.89**	**89**	P	**Pn**	**17 17 42.0**	**-0.5**
CHVG	**Ch'k'valeri**	**0.92**	**287**	P	**Pn**	**17 17 42.4**	**-0.2**
CHVG				S	**Sn**	**17 17 55.5**	**-0.3**
LSNR	**Lesken**	**0.92**	**26**	*e*Pg	**Pn**	**17 17 42.0**	**-0.8**
LSNR				*e*Sg	**Sn**	**17 17 55.0**	**-1.0**
BRNG	**Burnasheti**	**0.93**	**153**	P	**Pg**	**17 17 41.1**	**-0.6**
PNSH	**Pansheti**	**1.01**	**79**	P	**Pn**	**17 17 43.4**	**-0.7**
EPOS	**Posof**	**1.03**	**203**	*i* P	**Pg**	**17 17 43.4**	**-0.3**
EPOS				*i* S	**Sn**	**17 17 58.2**	**-0.5**
EPOS				IAML		17 17 59.0		
	comp=N,55nm,0.4s							
AKH	**Akhalkalaki**	**1.05**	**171**	P	**Pn**	**17 17 45.3**	**+0.7**
AKH				S	**Sn**	**17 18 01.0**	**+1.6**
NCK	**Nalchik**	**1.07**	**13**	*e*Pg	**Pn**	**17 17 45.2**	**+0.4**
NCK				*e*Sg	**Sn**	**17 18 01.4**	**+1.8**
STDR	**Stavd-Durt**	**1.09**	**32**	*e*Pg	**Pn**	**17 17 46.3**	**+1.4**
STDR				*e*Sg	**Sn**	**17 18 03.5**	**+3.5**
TRLG	**Trialeti**	**1.10**	**145**	P	**Pn**	**17 17 45.8**	**+0.5**
TRLG				S	**Sn**	**17 18 02.0**	**+1.4**
BGD	**Bogdanovka**	**1.21**	**168**	P	**Pg**	**17 17 47.8**	**+0.6**
BGD				S	**Sn**	**17 18 05.4**	**+2.1**
DMNI	**Dmanisi**	**1.31**	**148**	P	**Pg**	**17 17 49.0**	**-0.2**
DMNI				S	**Sg**	**17 18 07.5**	**+1.2**
SHA1	**Shidzhatmaz**	**1.36**	**341**	*e*Pg	**Pg**	**17 17 50.0**	**0.0**
SHA1				*e*Sg	**Sg**	**17 18 07.8**	**0.0**
KBTC	**Kuba-Taba**	**1.37**	**4**	*e*Pg	**Pg**	**17 17 50.4**	**+0.2**
KBTC				*e*Sg	**Sg**	**17 18 11.3**	**+3.3**
BTNK	**Botanikuri**	**1.37**	**123**	P	**Pg**	**17 17 50.0**	**-0.3**
BTNK	**Botanikuri**	**1.37**	**123**	*i* P	**Pb**	**17 17 49.2**	**-0.3**
DBOC	**Borcka**	**1.63**	**228**	*i* P	**Pb**	**17 17 54.0**	**+0.1**
DBOC				*i* S	**Sg**	**17 18 16.2**	**0.0**
DBOC				IAML		17 18 17.0		
	comp=E,49nm,0.3s							
EAK	**Akyaka**	**1.78**	**172**	*i* P	**Pb**	**17 17 56.0**	**-0.5**
DBAD	**Bademkaya**	**1.85**	**220**	*i* P	**Pg**	**17 17 58.5**	**-1.0**
DBAD				*i* S	**Sg**	**17 18 24.0**	**+0.5**
DBAD				IAML		17 18 25.0		
	comp=E,89nm,0.7s							
DBAD				IAML		17 18 26.0		
	comp=N,79nm,0.3s							
DIGO	**Kars**	**2.04**	**178**	*i* P	**Pb**	**17 18 00.9**	**-0.1**
LGD	**Lagodekhi**	**2.29**	**105**	P	**Pb**	**17 18 05.8**	**+0.6**
LGD				S	**Sg**	**17 18 37.2**	**-0.4**

*MOS **21** 17:44:36.4±1.0,36.45N×71.69E,h96km, mb4.9/37, Error ellipse: s-maj=4.5km s-min=3.3km az=92.6*
*NEIC **21** 17:44:38.3,36.49N×71.60E,h95km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr2.23; Mθθ-0.14; Mφφ-2.08; Mrθ-0.85; Mθφ-1.03; Mrφ-1.01; Fault plane solution: M0 2.73000×10^16 NP1:φs212.24000°, δ59.67000°, λ.99.79000°. NP2:φs13.38000°, δ31.73000°, λ73.79000°. Principal axes: T 2.6014, Plg73.0000°, Azm147.0000°; N 0.2446, Plg8.0000°, Azm27.0000°; P -2.8459, Plg14.0000°, Azm295.0000°;*
*BJI **21** 17:44:38.7±0.0,36.53N×71.95E,h92km, mB4.9/43, mb5.0/68*
*IDC **21** 17:44:38.4±0.4,36.40N×71.59E,h106km±3km, mb4.4/36, mb1 4.4/40,mb1mx4.3/48,mbtmp4.8/40,MS3.7/24, Ms1 3.7/24,ms1mx3.5/45,Error ellipse: s-maj=8.5km s-min=7.1km az=9.0*
*NEIC **21** 17:44:38.3±1.8,36.49N±0.04×71.60E±0.06,h101km±4km, mb4.9/188,Mwr4.9/13,Error ellipse: s-maj=7.7km s-min=6.3km az=75.0*
*NNC **21** 17:44:38.3±2.5,36.60N×71.37E,h114km±32km,mb4.8, mpv5.5,Error ellipse: s-maj=21.8km s-min=12.2km az=163.0*
*BGR **21** 17:44:39.6±0.0,36.67N×71.68E,h100km,mb4.7*
*GCMT **21** 17:44:41.3±0.2,36.55N±0.02×71.36E±0.02,h97km±2km, MW4.9/109,Moment Tensor Solution. s46,c52; s109,c157; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.13±.08; Mθθ-0.48±.09; Mφφ-1.65±.10; Mrθ-0.33±.06; Mθφ-1.42±.09; Mrφ-1.40±.06; Best double couple: M0 2.78000×10^16 NP1:φs48.00000°, δ32.00000°, λ113.00000°. NP2:φs202.00000°, δ61.00000°, λ.76.00000°. Principal axes: T 2.5980, Plg71.0000°, Azm82.0000°; N 0.3670, Plg12.0000°, Azm208.0000°; P -2.9630, Plg15.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 17:44:37.8±0.2,36.42N±0.03×71.62E±0.03,h99km±1km, h99km:pP-P,n749,σ1s76/886,mb4.8/247,43C-39D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.60**	**175**	P	**Pn**	**17 45 19.8**	**+1.4**
CEP				S	**Sn**	**17 45 51.0**	**+1.5**
KBL	**Kabul**	**2.82**	**229**	PN	**Pn**	**17 45 22.1**	**+0.8**
KBL						17 45 54.7		
KBL	**Kabul**	**2.82**	**229**	Pn	**Pn**	**17 45 22.1**	**+0.8**
KBL				Sn	**Sn**	**17 45 54.7**	**0.0**
KBL	**Kabul**	**2.82**	**229**	P	**Pn**	**17 45 23.8**	**+2.5**
	SNR=164						
KBL				S	**Sn**	**17 45 56.7**	**+2.0**
NIL	**Nilore**	**3.07**	**154**	PN	**Pn**	**17 45 26.5**	**+1.9**
NIL						17 46 01.7		
NIL	**Nilore**	**3.07**	**154**		**Pn**	**17 45 26.5**	**+1.9**
NIL				Sn	**Sn**	**17 46 01.7**	**+1.1**
NIL	**Nilore**	**3.07**	**154**	P	**Pn**	**17 45 26.7**	**+2.1**
THW	**Thamme Wali**	**3.62**	**178**	P	**Pn**	**17 45 32.6**	**+0.7**
SARP	**Sargodha**	**4.57**	**169**	P	**Pn**	**17 45 44.3**	**-0.4**
KSH	**Kashi**	**4.62**	**47**	P	**Pn**	**17 45 41.8**	**-3.7**
KSH				S	Sn	17 46 28.9	-9.2
KSH				smax	smax		
	comp=N,14μm,0.6s						
KSH				smax	smax		
	comp=E,8μm,0.4s						
THN	**Thein Dam**	**5.23**	**138**	*ex*	**Pn**	**17 45 54.5**	**+0.9**
THN				*ex*	**Sn**	**17 46 50.5**	**-2.0**
DHRM	**DHARAMSHALA**	**5.69**	**136**	*e*P	**Pn**	**17 45 58.3**	**-1.7**
DHRM				IAmb	IAmb	17 46 00.8		
	comp=Z,483nm,0.5s							
IUG	**luzhnay**	**5.85**	**348**	⇓*e*P	**Pn**	**17 46 02.1**	**0.0**
	baz=347						
IUG				*e*S	**Sn**	**17 47 06.8**	**-0.9**
	baz=347						
IUG	**luzhnay**	**5.85**	**348**	*de*PN	**Pn**	**17 46 02.0**	**0.0**
AML	**Almayashu**	**5.92**	**15**	P	**Pn**	**17 46 03.6**	**+0.2**
	SNR=2190						
CHM	**Chimkent**	**6.09**	**346**	*i* P	**Pn**	**17 46 05.0**	**-0.3**
	baz=345						
CHM	**Chimkent**	**6.09**	**346**	*i* PN	**Pn**	**17 46 04.9**	**-0.3**
UCH	**Uchtor**	**6.22**	**20**	P	**Pn**	**17 46 07.4**	**0.0**
	SNR=737						
BHK	**Bhakra**	**6.39**	**140**	*e*P	**Pn**	**17 46 07.4**	**-2.0**
BHK				*e*S	**Sn**	**17 47 16.2**	**-4.8**
EKS2	**Erkin-Say**	**6.45**	**14**	P	**Pn**	**17 46 10.8**	**+0.5**
	SNR=411						
DZA	**Taraz**	**6.46**	**358**	*e*P	**Pn**	**17 46 10.9**	**+0.5**
	baz=357						
DZA	**Taraz**	**6.46**	**358**	*e*PN	**Pn**	**17 46 10.9**	**+0.5**
AAK	**Ala-Archa**	**6.59**	**19**	P	**Pn**	**17 46 12.9**	**+0.7**
	comp=Z,112nm,0.3s,baz=187,slow=6.0,SNR=1853						
AAK				S	**Sn**	**17 47 23.6**	**-2.3**
	comp=Z,72nm,0.3s,baz=320,slow=22,SNR=19						
AAK	**Ala-Archa**	**6.59**	**19**	P	**Pn**	**17 46 12.9**	**+0.7**
	SNR=587						
AAK	**Ala-Archa**	**6.59**	**19**	*i* P	**Pn**	**17 46 13.2**	**+1.0**
	SNR=229						
AAK	**Ala-Archa**	**6.59**	**19**	⇓P	**Pn**	**17 46 12.8**	**+0

baz=35
KPKS Kokpek 8.88 35 *i* PN **Pn 17 46 42.9 -0.4**
SHLS Shalkode 9.04 40 *eP* **Pn 17 46 47.5 +2.0**
comp=Z,7.8nm,0.4s,baz=41
SHLS Shalkode 9.04 40 *eP* **Pn 17 46 47.4 +2.0**
SHLS pmax pmax
comp=Z,8.0nm,0.4s
NDI New Delhi 9.05 147 *eP* **Pn 17 46 43.0 -2.6**
NDI *ex* x 17 48 17.0
PDGK Podgornoye 9.17 39 ⇓P **Pn 17 46 45.8 -1.5**
comp=Z,71nm,1.1s
PDGK ⇑S **Sn 17 48 25.6 -3.1**
comp=Z,57nm,0.9s
TDK Taldyqorghan 10.00 29 *eP* **Pn 17 46 57.1 -1.3**
baz=29
TDK Taldyqorghan 10.00 29 *eP* **Pn 17 46 57.1 -1.3**
LGTI Lohaghat 10.04 131 *ex* **Sn 17 48 53.9 +4.1**
LGTI *ex* x 17 50 37.2
AJM Ajmer 10.24 165 ⇑ *iP* **Pn 17 47 00.0 -1.9**
AJM *i* S **Sn 17 48 50.0 -4.8**
ASHT Ashkhabad 10.67 282 P **Pn 17 47 04.0 -3.5**
ASHT Ashkhabad 10.67 282 Pn **Pn 17 47 04.0 -3.5**
GEYT Alibeck 10.88 282 P **Pn 17 47 05.9 -4.5**
comp=Z,25nm,0.3s,baz=134,slow=10,SNR=232
GEYT S **Sn 17 49 02.0 -8.1**
comp=Z,41nm,0.3s,baz=103,slow=12,SNR=10
GEYT LR LR 17 52 40.6
comp=Z,571nm,18.7s,baz=75,slow=44
GEYT Alibeck 10.88 282 Pn 17 47 05.2 -5.2
GEYT **Sn 17 49 03.3 -6.8**
GYA0B ALIBECK ARRAY 10.88 282 ⇓P **Pn 17 47 05.7 -4.8**
GYA0B ⇑S **Sn 17 49 03.3 -6.8**
GYA0B ALIBECK ARRAY 10.88 282 Pn 17 47 05.4 -5.0
MAKZ Makanchi 12.94 33 ⇓P **Pn 17 47 35.8 -2.0**
comp=Z,68nm,0.8s
MAKZ Makanchi 12.94 33 P **Pn 17 47 35.6 -2.2**
MAKZ Makanchi 12.94 33 Pn **Pn 17 47 35.6 -2.2**
MK31 Makanchi Array 13.07 34 ⇓P **Pn 17 47 37.0 -2.5**
comp=Z,12nm,0.6s,baz=205,slow=13,SNR=269
MK31 Makanchi Array 13.07 34*c iP* **Pn 17 47 37.4 -2.1**
MK31 Makanchi Array 13.07 34 **Pn 17 47 37.1 -2.5**
MKAR Makanchi Array 13.07 34 P **Pn 17 47 37.5 -2.0**
comp=Z,1.1nm,0.3s,baz=223,slow=17,SNR=58
MKAR Makanchi Array 13.07 34 *i* P **Pn 17 47 37.5 -2.0**
MKAR pmax pmax
comp=Z,16nm,0.9s
MKAR Makanchi Array 13.07 34 Pn **Pn 17 47 36.8 -2.7**
GKN Gorkha 13.85 124 *eP* Pn 17 47 45.5 -4.4
comp=Z,189nm,0.5s
BHPL Bhopal 14.06 157 *eP* **Pn 17 47 49.1 -3.5**
BHPL IAmb IAmb 17 47 50.5
comp=Z,78nm,0.4s
BHPL *ex* x 17 50 14.1
WMQ Urumqi 14.34 54 *eP* **Pn 17 47 53.8 -2.3**
WMQ pP P 17 48 05.9 +5.7
WMQ S **Sn 17 50 31.5 -2.5**
WMQ sS S 17 50 47.3 -0.2
WMQ pmax pmax
comp=Z,41nm,0.9s
WMQ pmax pmax
comp=Z,300nm,3.6s
WMQ Urumqi 14.34 54 P **Pn 17 47 53.7 -2.3**
WMQ Urumqi 14.34 54 **Pn 17 47 53.7 -2.4**
DMN Daman 14.42 124 *eP* Pn 17 47 53.0 -4.4
comp=Z,68nm,0.4s
KKN Kakani 14.42 123 *eP* Pn 17 47 51.8 -5.5
comp=Z,91nm,0.5s
PKIN Phulchoki 14.63 123 *eP* Pn 17 47 55.4 -4.8
comp=Z,164nm,0.4s
PKI Pulchoki 14.64 123 *eP* Pn 17 47 55.5 -4.9
comp=Z,125nm,0.4s
GUN Gumba 14.75 121 *eP* Pn 17 47 56.0 -5.7
comp=Z,67nm,0.4s
KURBB Kurchatov Arra 15.04 17 P **Pn 17 48 01.0 -4.0**
comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=96
KURBB S **Sn 17 50 49.3 -1.5**
baz=234,slow=16,SNR=2.0
KURBB Kurchatov Arra 15.04 17 ⇓P **Pn 17 48 00.7 -4.2**
comp=Z,96nm,0.7s
KURK Kurchatov 15.15 17 P **Pn 17 48 01.0 -5.3**
KURK 17 50 49.3
KURK Kurchatov 15.15 17 P **Pn 17 48 01.0 -5.3**
KURK **Sn 17 50 49.3 -4.1**
AB31 Akbulak array 15.39 330 ⇓P **Pn 17 48 06.2 -3.2**
comp=Z,23nm,0.3s,baz=140,slow=11,SNR=1503
AB31 S **Sn 17 50 51.0 -8.3**
comp=Z,32nm,0.6s,baz=149,slow=24,SNR=4.8
ABKAR Akbulak array 15.39 330 **Pn 17 48 05.6 -3.8**
ABKAR Akbulak array 15.39 330 P **Pn 17 48 05.8 -3.6**
ABKAR IAmb IAmb 17 48 08.3
comp=Z,83nm,0.8s
RAMN Ramite 15.85 122 *eP* **Pn 17 48 10.4 -5.2**
comp=Z,94nm,0.5s
TAPN Taplejung 16.37 119 *eP* **Pn 17 48 16.4 -5.7**
comp=Z,40nm,0.4s
ODAN Odare 16.45 121 *eP* **Pn 17 48 18.3 -4.7**
comp=Z,73nm,0.5s
BVAR Borovoye Array 16.62 357 P **Pn 17 48 21.0 -3.6**
comp=Z,3.6nm,0.3s,baz=159,slow=18,SNR=75
BVAR S Sn 17 51 17.4 -12
baz=166,slow=15,SNR=3.6
BRVK Borovoye 16.66 357 ⇓P **Pn 17 48 22.9 -2.2**
comp=Z,76nm,0.8s
BRVK Borovoye 16.66 357*d iP* **Pn 17 48 22.7 -2.4**
BRVK Borovoye 16.66 357 P **Pn 17 48 22.7 -2.4**
BRVK IAmb IAmb 17 48 27.6
comp=Z,102nm,1.0s
BRVK Borovoye 16.66 357 P **Pn 17 48 22.8 -2.4**
BANOM Banah 16.75 236 *i* P **Pn 17 48 25.3 -1.2**
SNR=29
BANOM Banah 16.75 236 P **P 17 48 27.1 0.0**
SNR=18
SHME Shamm 16.77 236 *i* P **P 17 48 26.9 -0.4**
SNR=22
SHME Shamm 16.77 236 P **P 17 48 28.3 +1.0**
SNR=9.8
AKTO Aktyubinsk 17.10 329 P **Pn 17 48 28.8 -1.7**
comp=Z,20nm,0.3s,baz=138,slow=8.7,SNR=216
AKTO sP **sP 17 49 02.9 +0.1**
comp=Z,4.3nm,0.3s,baz=138,slow=10,SNR=5.1
AKTO S Sn 17 51 24.4 -16
comp=Z,0.8nm,0.3s,baz=17,slow=20,SNR=1.6
AKTO LR LR 17 55 18.3
comp=Z,340nm,20.8s,baz=143,slow=37
AKTO Aktyubinsk 17.10 329 ⇓P **Pn 17 48 28.9 -1.6**
comp=Z,157nm,0.8s
AKTO ⇑S **Sn 17 51 32.5 -7.8**
comp=Z,54nm,0.7s
MDH Madha 17.18 234 *i* P **Pn 17 48 29.8 -1.9**
SNR=6.4
MDH Madha 17.18 234 P **P 17 48 32.4 +0.7**
MASF Masafi 17.22 235 P **P 17 48 34.9 +2.7**
SNR=8.2
MSFE Esma-Masafi 17.23 235 P **P 17 48 32.2 -0.1**
WSAR Wadi Sarin 17.28 224 P **Pn 17 48 33.4 +0.5**
comp=Z,1.5nm,0.3s,baz=73,slow=8.5,SNR=23
BIDO Bidbid 17.35 226 P **Pn 17 48 34.0 +0.3**
SNR=5.7
UOSS Minazif 17.48 233 P **Pn 17 48 35.3 0.0**
UOSS Minazif 17.48 233 P **P 17 48 34.5 -0.6**
UOSS Minazif 17.48 233 P **Pn 17 48 35.4 0.0**
DGZ Jazzator, Alta 17.55 36 *i* P **P 17 48 34.1 -1.7**
DGZ pmax pmax
comp=Z,34nm,0.7s
WBK Wadi Bani Khal 17.60 222 P **Pn 17 48 41.2 +4.4**
SNR=6.1
BOK Bokaro 17.60 132 *eP* **P 17 48 32.8 -3.7**
BOK IAmb IAmb 17 48 37.8
comp=Z,58nm,0.4s
BOK *ex* x 17 51 30.9
HATD Hatta, Dubai 17.61 233 *i* P **Pn 17 48 38.5 +1.5**
SNR=11
HATD Hatta, Dubai 17.61 233 P **Pn 17 48 39.9 +3.0**
SNR=6.8
LSA Lhasa 17.68 107 P **P 17 48 35.9 -1.8**
LSA pmax pmax
comp=Z,72nm,1.0s
LSA Lhasa 17.68 107 P **P 17 48 35.6 -2.1**
LSA pmax pmax
comp=Z,24nm,0.7s
LSA Lhasa 17.68 107 P **P 17 48 35.6 -2.1**
JLN Jalan Bani Buh 17.74 220 P **Pn 17 48 40.6 +2.2**
SNR=6.9
SMDO Samad 17.75 225 P **Pn 17 48 40.4 +1.6**
ASHO Ashiyiah 17.76 233 *i* P **Pn 17 48 39.9 +1.1**
SNR=15
ASHO Ashiyiah 17.76 233 P **Pn 17 48 40.3 +1.5**
SNR=26
HOQ Hoqain 17.78 228 P **Pn 17 48 41.0 +1.9**
NAZ Nazwa, Dubai 17.81 235 P **Pn 17 48 39.8 +0.5**
NAZ Nazwa, Dubai 17.81 235 P **Pn 17 48 40.6 +1.3**
SOHO SOHO 17.85 231 P **Pn 17 48 40.8 +1.0**
POO Poona 17.93 173 *ex* P **17 48 38.0 -2.1**
POO *ex* x 17 48 40.5
POO *ex* x 17 52 11.0
FAQ Al Faqa, Dubai 18.02 234 P **Pn 17 48 42.1 +0.3**
FAQ Al Faqa, Dubai 18.02 234 P **Pn 17 48 42.6 +0.7**
SNR=5.8
JMDO Jabal Madar 18.27 224 P **Pn 17 48 46.4 +1.6**
SNR=5.7
ASUD Al Ashush, Dub 18.28 234 P **Pn 17 48 45.6 +0.7**
ASUD Al Ashush, Dub 18.28 234 P **Pn 17 48 45.4 +0.5**
ALNE Al Ain 18.40 232 *i* P **Pn 17 48 46.5 0.0**
SNR=8.8
ALNE Al Ain 18.40 232 P **Pn 17 48 46.6 +0.2**
SNR=8.8
ARQ Araqi 18.45 229 P **Pn 17 48 48.4 +1.4**
SNR=15
BSY Bisya 18.49 226 P **Pn 17 48 48.7 +1.2**
SNR=7.4
AKT Akhty 19.23 293 *eP* **Pn 17 48 55.3 -0.9**
AKT *eS* **S 17 52 25.2 -1.6**
AKT pmax pmax
comp=Z,41nm,1.3s
AKT smax smax
comp=E,43nm,0.4s
AKT smax smax
comp=N,34nm,0.7s
MAK Makhachkala 19.64 297 *eP* **P 17 48 58.9 +0.4**
MAK *eS* **S 17 52 35.7 +1.1**
MAK pmax pmax
comp=Z,90nm,0.7s
MAK MLR MLR
comp=Z,513nm,14.0s
ZAA0 Zalesovo Array 19.78 24 ⇑P **P 17 48 59.9 0.0**
comp=Z,28nm,0.9s
ZAA0 Zalesovo Array 19.78 24 P **P 17 48 59.5 -0.5**
ZALV Zalesovo Beam 19.78 24 P **P 17 48 59.6 -0.3**
comp=Z,31nm,0.3s,baz=207,slow=9.8,SNR=439
ZALV Zalesovo Beam 19.78 24 P **P 17 48 59.4 -0.6**
MZWR Madinat Zayed 19.83 235 P **P 17 49 01.1 +0.4**
HYB Hyderabad 19.90 160 *i* P **P 17 49 02.0 +0.4**
HYB *eS* **S 17 52 32.0 -8.3**
HYB Hyderabad 19.90 160 *eP* **P 17 49 02.2 +0.6**
HYB IAmb IAmb 17 49 03.4
comp=Z,32nm,0.6s
GUWA GUWAHATI 19.92 115 *eP* **P 17 48 59.6 -2.1**
GUWA IAmb IAmb 17 49 03.5
comp=Z,34nm,0.9s
SHL Shillong 20.43 116 P **P 17 49 06.7 -0.7**
SHL pmax pmax
comp=Z,54nm,1.0s
SHL Shillong 20.43 116 *eP* **P 17 49 06.4 -1.0**
SHL IAmb IAmb 17 49 10.0
comp=Z,40nm,1.2s
SHL Shillong 20.43 116 P **P 17 49 06.7 -0.7**
SHL IAmb IAmb 17 49 29.4
comp=Z,54nm,1.0s
DQM DQM 20.55 221 P Pn 17 49 11.1 -0.5
ZIRO ZIRO 20.81 109 *eP* **P 17 49 11.8 +0.3**
ZIRO IAmb IAmb 17 49 14.0
comp=Z,22nm,0.6s
GROC Groznyy 20.91 297 *eP* Pn 17 49 13.8 -1.9
GROC *e**SP sP 17 49 46.0 +1.3
GROC *eS* **S 17 53 04.5 +4.8**
GROC *e**SS sS 17 53 31.9 -1.5
GROC pmax pmax
comp=Z,318nm,1.4s
SLWR Sila 21.11 240 P **P 17 49 14.2 -0.3**
GNI Garni 21.39 288 P **P 17 49 19.4 +1.8**
comp=Z,200nm,1.0s,baz=97,slow=2.3,SNR=62
GNI Garni 21.39 288 P **P 17 49 19.6 +2.1**
GNI Garni 21.39 288*de* **P 17 49 20.2 +2.6**
GNI pmax pmax
comp=Z,390nm,1.3s
GNI Garni 21.39 288 P **P 17 49 20.0 +2.5**
SVE Sverdlovsk 21.71 344*c iP* **P 17 49 20.8 +0.2**
SVE *eS* **S 17 53 14.5 -0.4**
SVE pmax pmax
comp=Z,139nm,0.9s
ARU Arti 21.87 340 P **P 17 49 22.5 +0.2**
comp=Z,16nm,0.8s,baz=153,slow=6.4,SNR=53
ARU LR LR 17 58 55.3
comp=Z,148nm,19.6s,baz=140,slow=39
ARU Arti 21.87 340*d iP* **P 17 49 22.1 -0.2**
ARU 17 49 50.6
ARU S **S 17 53 18.1 +0.2**
ARU SS **SnSn 17 53 54.9 +2.6**
ARU pmax pmax
comp=Z,75nm,0.9s
ARU Arti 21.87 340 P **P 17 49 21.9 -0.4**
ARU IAmb IAmb 17 49 32.1
comp=Z,72nm,0.8s
MOKO MOKOCHONG 21.95 111 *eP* **P 17 49 23.8 +0.3**
MOKO IAmb IAmb 17 49 27.0
comp=Z,102nm,1.1s
KOHI KOHIMA 21.97 113 *eP* **P 17 49 23.9 0.0**
KOHI IAmb IAmb 17 49 27.3
comp=Z,180nm,1.6s
ZEI Tsey 22.22 295 *eP* **P 17 49 25.5 -0.9**
ZEI pmax pmax
comp=Z,57nm,1.1s
GTA Gaotai 22.41 74 ⇑P **P 17 49 29.0 +0.7**
GTA pP pP 17 49 52.0 +3.1
GTA sP sP 17 50 03.8 +2.1
GTA S **S 17 53 28.5 +0.7**
GTA pmax pmax
comp=Z,91nm,1.0s
GTA pmax pmax
comp=Z,230nm,4.5s
GEVA Gevas 22.74 283 P **P 17 49 31.1 -0.6**
KBZ Khabaz 23.08 297 P **P 17 49 34.8 0.0**
comp=Z,24nm,1.0s,baz=121,slow=7.4,SNR=30
KBZ LR LR 18 01 10.1
comp=Z,301nm,18.3s,baz=48,slow=43
KBZ Khabaz 23.08 297*ce* **P 17 49 35.0 +0.2**
KBZ pmax pmax
comp=Z,25nm,1.0s
NEY Neytrino 23.14 296 *i* P **P 17 49 37.7 +2.1**
NEY pmax pmax
comp=Z,13nm,1.2s
SAIH SAIHA 23.15 121 *eP* **P 17 49 37.3 +1.5**
SAIH IAmb IAmb 17 49 40.3
comp=Z,15nm,0.7s
GOF Gofitskoye 23.21 301 ⇑ *eP* **P 17 49 37.8 +1.7**
GOF pmax pmax
comp=Z,119nm,1.1s
SHA1 Shidzhatmaz 23.25 297 *i* P **P 17 49 38.1 +1.4**
KVAR Kislovodsk Arr 23.26 298 LR LR 18 01 01.2
comp=Z,304nm,18.3s,baz=238,slow=42
BELG Belogornoye 23.26 321 P **P 17 49 36.5 +0.1**
comp=Z,96nm,0.8s,baz=113,slow=1.0,SNR=41
BELG LR LR 18 00 53.9
comp=Z,72nm,21.5s,baz=145,slow=42
BELG Belogornoye 23.26 321 *i* P **P 17 49 36.7 +0.3**
BELG pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 23.26 298 *i* P **P 17 49 38.0 +1.3**
SNR=10.0
KIV Kislovodsk 23.26 298 *eP* **P 17 49 36.9 +0.2**
KIV *eS* **S 17 53 42.6 +1.4**
KIV pmax pmax
comp=Z,76nm,1.0s
KIV MLR MLR
comp=Z,726nm,14.0s
KIV Kislovodsk 23.26 298 P **P 17 49 37.4 +0.7**
KIV IAmb IAmb 17 50 14.2
comp=Z,72nm,1.0s
MARD Mardin 24.64 281 P **P 17 49 48.9 -0.3**
KOPT Kop Dagi 24.65 288 P **P 17 49 50.3 +0.8**
KOPT IAmb IAmb 17 50 30.8
comp=Z,56nm,1.4s
SOC Sochi 25.35 296 *eP* **P 17 49 56.2 +0.7**
SOC *e* 17 50 38.1
SOC *eS* **S 17 54 16.9 +2.4**
SOC pmax pmax
comp=Z,48nm,0.9s
SOC MLR MLR
comp=Z,196nm,20.0s
MOY Mondy 25.81 45 *eP* **P 17 50 01.4 +1.7**
MOY pmax pmax
comp=Z,19nm,1.4s
VRH Novokhopyorsk 25.92 314 *eP* **P 17 50 00.8 +0.3**
VRH *e**SP **sP 17 50 33.6 -1.4**
VRH pmax pmax
comp=Z,40nm,1.0s
RAYN Ar Rayn 25.93 248 *i* P **P 17 50 01.1 +0.2**
SNR=9.0
RAYN Ar Rayn 25.93 248 P **P 17 50 00.3 -0.6**
RAYN pmax pmax
comp=Z,16nm,0.9s
RAYN Ar Rayn 25.93 248 P **P 17 50 00.3 -0.6**
LZH Lanzhou 25.93 81 *eP* **P 17 50 02.9 +1.9**
LZH pP pP 17 50 24.5 +0.7
LZH pmax pmax
comp=Z,55nm,1.0s
KIRV Kirov 26.53 334 P **P 17 50 06.9 +1.0**
comp=Z,37nm,0.8s,baz=290,slow=2.5,SNR=12
KIRV LR LR 18 01 18.1
comp=Z,234nm,20.1s,baz=152,slow=38
KIRV Kirov 26.53 334*ce* **P 17 50 07.7 +1.8**
ZAK Zakamensk 26.67 48 *eP* **P 17 50 08.1 +0.7**
ZAK *e* 17 50 42.3
ZAK *e* 17 51 08.0
ZAK pmax pmax
comp=Z,30nm,1.3s
ZAK pmax pmax
comp=Z,2.0nm,1.1s
ZAK pmax pmax
comp=Z,16nm,1.2s
ANN Anapa 27.11 299 *eP* **P 17 50 11.3 +0.1**
ANN *e**PP **pP 17 50 33.9 0.0**
ANN *e* 17 50 56.7
ANN *eS* **S 17 54 43.0 +0.9**
ANN *eSS* **SnSn 17 56 06.3 +6.5**
ANN pmax pmax
comp=Z,36nm,1.1s
ANN MLR MLR
comp=Z,217nm,10.0s
CD2 Chengdu 27.23 92 P **P 17 50 14.6 +2.0**
CD2 pmax pmax
comp=Z,30nm,0.7s
VORD Divnogorie 27.26 312 *eP* **P 17 50 12.9 +0.4**
VORD *e**SP **sP 17 50 44.1 -3.0**
VORD pmax pmax
comp=Z,10.0nm,0.8s
TLY Talaya 27.34 46 P **P 17 50 14.3 +1.0**
comp=Z,4.2nm,0.6s,baz=241,slow=7.3,SNR=6.3
TLY LR LR 18 02 46.6
comp=Z,97nm,19.2s,baz=260,slow=40
TLY Talaya 27.34 46 *eP* **P 17 50 15.0 +1.7**
TLY *eS* **S 17 54 40.5 -5.2**
TLY pmax pmax
comp=Z,23nm,0.8s
TLY Talaya 27.34 46 P **P 17 50 14.5 +1.2**
VSR Storozhevoye 27.42 313 *eP* **P 17 50 14.5 +0.5**
VSR *e**SP **sP 17 50 46.9 -1.6**
VSR pmax pmax
comp=Z,50nm,1.1s
VORR Voronezh 27.55 314 *eP* **P 17 50 16.0 +0.8**
VORR pmax pmax
comp=Z,250nm,1.0s
IRK Irkutsk 27.90 45 *eP* **P 17 50 18.2 -0.1**
IRK pmax pmax
comp=Z,42nm,1.8s
SONM Songino Array 27.97 55 P **P 17 50 20.6 +1.5**
comp=Z,24nm,0.8s,baz=255,slow=9.6,SNR=210
SONM pP **pP 17 50 44.3 +1.6**
comp=Z,5.6nm,0.9s,baz=263,slow=7.3,SNR=2.8
SONM LR LR 18 03 19.9
comp=Z,209nm,18.0s,baz=278,slow=40
SONM Songino Array 27.97 55 P **P 17 50 19.4 +0.3**
SONM IAmb IAmb 17 50 21.8
comp=Z,24nm,0.9s
LPSR Galich'ya Gora 28.05 316 *eP* **P 17 50 20.0 +0.4**
LPSR *e**SP **sP 17 50 54.7 +0.4**
LPSR pmax pmax
comp=Z,30nm,0.9s
ULN Ulaanbaatar 28.41 55*ce* **P 17 50 24.2 +1.1**
ULN pmax pmax
comp=Z,55nm,1.7s
ULN Ulaanbaatar 28.41 55 P **P 17 50 23.5 +0.4**
ULN IAmb IAmb 17 50 25.4
comp=Z,25nm,0.8s
SOCY Socotra 28.89 218 P **P 17 50 25.1 -2.3**
SOCY IAmb IAmb 17 51 11.7
comp=Z,25nm,1.3s
KMI Kunming 28.90 104 ⇑P **P 17 50 29.6 +1.9**
KMI pmax pmax
comp=Z,11nm,0.6s
KMI LR LR
comp=Z,170nm,10.7s
KMI LR LR
comp=Z,140nm,9.2s
KMI LR LR
comp=Z,74nm,9.2s
CHTO Chiang Mai 29.75 119 P **P 17 50 34.4 -0.6**
CHTO pmax pmax
comp=Z,11nm,0.9s
CHTO Chiang Mai 29.75 119 P **P 17 50 34.4 -0.6**
CM33 Chiang Mai Arr 29.75 119 P **P 17 50 36.0 +1.0**
CMMT Chiang Mai 29.75 119 P **P 17 50 36.2 +1.2**
comp=Z,200nmcomp=Z,5.0nm,1.1s
CMMT Chiang Mai 29.75 119 P **P 17 50 36.2 +1.2**
CM32 Chiang Mai Arr 29.79 119 P **P 17 50 38.0 +2.7**
MMAI Mount Meron Ar 29.85 274 P **P 17 50 37.9 +2.0**
comp=Z,0.9nm,0.5s,baz=51,slow=11,SNR=1.4
CM34 Chiang Mai Arr 29.87 118 P **P 17 50 38.0 +2.0**
BR131 Keskin Array S 29.93 288 P **P 17 50 35.1 -1.5**
BR131 pmax pmax
comp=Z,9.0nm,0.8s
BR131 Keskin Array S 29.93 288 P **P 17 50 35.1 -1.5**
BRTR Keskin Array B 29.93 288 P **P 17 50 36.2 -0.3**
comp=Z,1.7nm,0.7s,baz=102,slow=9.8,SNR=8.6
BRTR pP **pP 17 51 01.2 +1.5**
comp=Z,3.3nm,0.7s,baz=104,slow=9.2,SNR=6.3
BRTR Keskin Array B 29.93 288 P **P 17 50 35.9 -0.7**
CM15 Chiang Mai Arr 29.97 119 P **P 17 50 39.8 +2.8**
CM15 Chiang Mai Arr 29.97 119 P **P 17 50 39.8 +2.8**
CM13 Chiang Mai Arr 29.98 119 P **P 17 50 39.0 +2.0**
comp=Z,74nmcomp=Z,7.6nm,1.2s
CM13 Chiang Mai Arr 29.98 119 P **P 17 50 39.0 +2.0**
comp=Z,74nmcomp=Z,7.6nm,1.2s
CM31 Chiang Mai Arr 29.98 119 P **P 17 50 39.6 +2.5**
CM31 Chiang Mai Arr 29.98 119 P **P 17 50 39.6 +2.5**
CM31 Chiang Mai Arr 29.98 119 P **P 17 50 37.6 +0.5**
CM31 IAmb IAmb 17 51 27.0
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 29.98 119 P **P 17 50 36.9 -0.1**
comp=Z,5.0nm,0.9s,baz=308,slow=8.9,SNR=33
CMAR ScP **ScP 17 57 09.2 -1.1**
comp=Z,0.5nm,0.8s,baz=291,slow=4.8,SNR=4.4
CMAR Chiang Mai Arr 29.98 119*ce* **P 17 50 39.0 +1.9**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 29.98 119 P **P 17 50 37.6 +0.5**
CM35 Chiang Mai Arr 29.98 119 P **P 17 50 40.0 +2.9**
CM35 Chiang Mai Arr 29.98 119 P **P 17 50 40.0 +2.9**
CM02 Chiang Mai Arr 30.00 119 P **P 17 50 39.0 +1.8**
comp=Z,122nmcomp=Z,13nm,1.1s
CM02 Chiang Mai Arr 30.00 119 P **P 17 50 39.0 +1.8**
comp=Z,122nmcomp=Z,13nm,1.1s
CM01 Chiang Mai Arr 30.02 119 P **P 17 50 40.0 +2.6**
comp=Z,117nmcomp=Z,9.3nm,1.1s
CM01 Chiang Mai Arr 30.02 119 P **P 17 50 40.0 +2.6**
comp=Z,117nmcomp=Z,9.3nm,1.1s
CM05 Chiang Mai Arr 30.02 119 P **P 17 50 39.0 +1.6**
comp=Z,73nmcomp=Z,6.9nm,1.1s
CM05 Chiang Mai Arr 30.02 119 P **P 17 50 39.0 +1.6**
comp=Z,73nmcomp=Z,6.9nm,1.1s
CM09 Chiang Mai Arr 30.02 119 P **P 17 50 40.0 +2.6**
comp=Z,116nmcomp=Z,11nm,1.0s
CM09 Chiang Mai Arr 30.02 119 P **P 17 50 40.0 +2.6**
comp=Z,116nmcomp=Z,11nm,1.0s
MOS Moscow 30.03 321 *eP* **P 17 50 37.0 -0.1**
MOS *e* 17 51 01.3
MOS *e* 17 51 12.7
MOS pmax pmax
comp=Z,41nm,1.0s
CM04 Chiang Mai Arr 30.05 119 P **P 17 50 40.5 +2.8**
comp=Z,104nmcomp=Z,8.1nm,1.0s
CM04 Chiang Mai Arr 30.05 119 P **P 17 50 40.5 +2.8**
comp=Z,104nmcomp=Z,8.1nm,1.0s
PRGR Permogore 30.05 335 P **P 17 50 36.4 -0.7**
PRGR pmax pmax
comp=Z,8.0nm,0.5s

BTO Baotou 30.18 70 *e*P **P** **17 50 38.5 -0.2**
BTO pmax pmax
comp=Z,82nm,0.8s
BTO LR LR
comp=Z,570nm,8.0s
BTO LR LR
comp=Z,490nm,7.1s
PALK Pallekele 30.18 162 P **P** **17 50 38.9 +0.1**
comp=Z,15nm,0.6s,baz=89,slow=9.6,SNR=30
PALK ScP **ScP** **17 57 10.9 -0.1**
comp=Z,6.3nm,0.9s,baz=350,slow=15,SNR=4.1
PALK Pallekele 30.18 162 P **P** **17 50 39.4 +0.6**
PALK 17 57 10.9
PALK pmax pmax
comp=Z,18nm,0.6s
PALK Pallekele 30.18 162 P **P** **17 50 39.4 +0.6**
PALK IAmb IAmb 17 50 41.2
comp=Z,18nm,0.6s
OBN Obninsk 30.32 319*d* iP **P** **17 50 40.6 +1.0**
OBN *i* *PP **pP** **17 51 03.6 +1.1**
OBN *i* 17 51 47.3
OBN *i* S **S** **17 55 37.4 +5.1**
OBN pmax pmax
comp=Z,55nm,1.3s
OBN MLR MLR
comp=Z,204nm,18.0s
OBN Obninsk 30.32 319 P **P** **17 50 39.8 +0.2**
OBN IAmb IAmb 17 50 41.8
comp=Z,50nm,1.1s
LAMP Lampang 30.43 118 P **P** **17 50 43.2 +2.3**
comp=Z,16nm,1.0s
LAMP Lampang 30.43 118 P **P** **17 50 43.2 +2.3**
XAN Xi'an 30.45 83 P **P** **17 50 41.8 +0.7**
XAN pP pP 17 51 01.9 -2.4
XAN sP sP 17 51 13.3 -2.9
XAN PP **PnPn** **17 51 46.0 +2.1**
XAN S **S** **17 55 37.0 +2.1**
XAN sS sS 17 56 13.3 -2.5
XAN pmax pmax
comp=Z,27nm,1.1s
XAN pmax pmax
comp=Z,120nm,4.3s
XAN LR LR
comp=Z,220nm,14.6s
XAN LR LR
comp=Z,170nm,12.5s
XAN LR LR
comp=Z,140nm,16.3s
XAN Xi'an 30.45 83 P **P** **17 50 41.1 0.0**
XAN pmax pmax
comp=Z,27nm,1.1s
XAN Xi'an 30.45 83 P **P** **17 50 41.1 0.0**
XAN IAmb IAmb 17 50 43.0
comp=Z,27nm,1.1s
ANTO Ankara 30.56 288 P **P** **17 50 41.8 -0.3**
ANTO Ankara 30.56 288 P **P** **17 50 41.8 -0.3**
SUKH Sukhothai 31.12 120 P **P** **17 50 48.9 +1.9**
comp=Z,229nmcomp=Z,29nm,1.0s
PBA Port Blair 31.16 137 P P 17 50 46.5 -0.9
PBA IAmb IAmb 17 51 45.4
comp=Z,48nm,0.9s
HHC Hu-ho-hao-te 31.32 70 *e*P **P** **17 50 50.4 +1.6**
HHC pmax pmax
comp=Z,26nm,0.7s
HHC pmax pmax
comp=Z,110nm,6.6s
EIL Elat 31.33 268 P **P** **17 50 49.9 +1.1**
comp=Z,6.2nm,1.0s,baz=9.3,slow=15,SNR=2.9
GYA Guiyang 31.36 98 ⇓P **P** **17 50 50.4 +1.1**
GYA sP sP 17 51 26.8 +2.5
GYA S **S** **17 55 49.3 -0.2**
GYA sS sS 17 56 31.1 +0.7
GYA pmax pmax
comp=Z,9.0nm,1.1s
GYA pmax pmax
comp=Z,72nm,7.7s
GYA LR LR
comp=Z,110nm,10.9s
KLMR Klimovskoe 31.79 330 *e*P **P** **17 50 51.7 -0.8**
KLMR pmax pmax
comp=Z,19nm,1.4s
KLMR Klimovskoe 31.79 330 *e*P **P** **17 50 51.8 -0.8**
KLMR AMP 17 50 56.3
comp=Z,19nm,1.4s
SLVN Son La 31.84 109 P **P** **17 50 54.2 +0.7**
PHIT Phitsanulok 31.87 119 P **P** **17 50 57.0 +3.4**
comp=Z,51nm,0.8s
ENH Enshi 32.08 90 P **P** **17 50 56.6 +1.2**
ENH IAmb IAmb 17 50 58.2
comp=Z,45nm,1.1s
UTHA Uthaitani 32.32 123 P **P** **17 51 00.7 +3.1**
comp=Z,187nmcomp=Z,14nm,1.1s
TIY Taiyuan 32.42 75 *e*P **P** **17 51 00.0 +1.6**
TIY pmax pmax
comp=Z,29nm,0.5s
SRDT SRDT 32.97 125 P **P** **17 51 04.9 +1.6**
comp=Z,236nmcomp=Z,11nm,1.4s
NONG Nongkai 33.26 115 P **P** **17 51 06.0 +0.2**
comp=Z,35nm,1.0s
AKASG Malin Array Be 33.38 309 P **P** **17 51 06.7 +0.2**
comp=Z,9.5nm,0.7s,baz=81,slow=6.9,SNR=47
AKASG pP **pP** **17 51 31.4 +1.7**
comp=Z,7.6nm,0.7s,baz=81,slow=7.5,SNR=3.1
AKASG LR LR 18 06 39.7
comp=Z,87nm,20.1s,baz=115,slow=40
AKASG Malin Array Be 33.38 309*ce*P **P** **17 51 07.4 +0.9**
AKASG pmax pmax
comp=Z,16nm,0.7s
AKASG Malin Array Be 33.38 309 P **P** **17 51 06.9 +0.4**
AKBB Malin Array Si 33.38 309*ce*P **P** **17 51 08.3 +1.8**
AKBB Malin Array Si 33.38 309 P **P** **17 51 06.3 -0.2**
AKBB IAmb IAmb 17 52 20.4
comp=Z,19nm,0.8s
TPGR Topolog 33.51 298 ⇓P **P** **17 51 09.5 +1.7**
CFR Carcaliu 33.71 299 ⇓P **P** **17 51 11.5 +2.1**
CHAI Chaiyaphum 33.84 119 P **P** **17 51 13.0 +2.1**
comp=Z,395nmcomp=Z,44nm,1.1s
MANT Manisa 34.02 287 P **P** **17 51 12.0 -0.5**
KHON Khomkaen 34.15 118 P **P** **17 51 15.0 +1.5**
VRI Vrincioaia 34.70 300 ⇑P **P** **17 51 20.7 +2.7**
PLOR Plostina 34.75 300 ⇓P **P** **17 51 21.3 +2.8**
TESR Tescani 34.75 301 ⇑P **P** **17 51 20.3 +1.8**
MNK Minsk 34.91 315 *i* P **P** **17 51 18.6 -1.1**
comp=E,3.0nm,1.1s
MNK *i* P **P** **17 51 18.6 -1.1**
comp=N,18nm,1.0s
MNK *i* P **P** **17 51 18.6 -1.1**
comp=Z,23nm,0.9s
MNK *i* pP **pP** **17 51 41.3 -1.6**
MNK *i* PP **PnPn** **17 52 38.1 -1.3**
MNK *i* PcP **PcP** **17 53 49.8 -0.4**
MNK *i* S **S** **17 56 42.9 -0.6**
MNK *i* sS **sS** **17 57 22.2 -2.6**
MNK *i* SS **SnSn** **17 59 07.2 -1.1**
MNK *i* LR LR 18 05 09.0
MNK *i* LRM MLR 18 06 53.2
comp=N,96nm,17.4s
MNK *i* LRM MLR 18 07 27.9
comp=Z,214nm,23.2s
MNK *i* LRM MLR 18 07 33.7
comp=E,34nm,21.0s
BJT Baijiatuau 34.91 70 P **P** **17 51 21.4 +1.5**
BJT pmax pmax
comp=Z,13nm,0.8s
BJT Baijiatuau 34.91 70 P **P** **17 51 21.4 +1.5**
BJT IAmb IAmb 17 51 22.7
comp=Z,13nm,0.8s
BJI Beijing 34.91 70 P **P** **17 51 21.8 +1.9**
BJI pmax pmax
comp=Z,16nm,0.9s
BOD Bodaibo 35.10 39 *e*P **P** **17 51 21.0 -0.2**
BOD pmax pmax
comp=Z,21nm,1.6s
BIZ Bicaz 35.13 302 ⇓P **P** **17 51 23.5 +1.8**
SRAK Srakaew 35.19 121 P P 17 51 28.9 +6.4
MLR Muntele Rosu 35.25 299 ⇑P **P** **17 51 25.5 +2.6**
MLR Muntele Rosu 35.25 299 P **P** **17 51 24.3 +1.4**
MLR pmax pmax
comp=Z,27nm,0.9s
MLR Muntele Rosu 35.25 299 P **P** **17 51 24.3 +1.4**
MLR IAmb IAmb 17 51 30.1
comp=Z,27nm,0.9s
NACGM Naroch 35.62 316 *i* P **P** **17 51 26.9 +1.2**
NACGM *i* P **P** **17 51 26.9 +1.2**
NACGM *i* P **P** **17 51 26.9 +1.2**
NACGM *i* pP **sP** **17 51 56.8 -4.0**
NACGM *i* PP **PP** **17 52 50.1 +1.8**
NACGM *i* S **S** **17 56 56.7 +2.3**
NACGM *i* sS **sS** **17 57 33.5 -2.2**
NACGM *i* SS **SS** **17 59 29.7 -3.5**
NACGM *i* LQ LQ 18 04 42.6
NACGM *i* LR LR 18 07 00.7
IDID Didziasalis 35.73 316 *e*P **P** **17 51 28.0 +1.3**
BURAR Bucovina Array 35.74 303 ⇓P **P** **17 51 28.6 +1.5**
BURAR Bucovina Array 35.74 303 P **P** **17 51 27.9 +0.9**
BUR08 Bucovina Ar. S 35.76 303 P **P** **17 51 27.9 +0.7**
VOIR 35.88 299 ⇑P **P** **17 51 30.7 +2.5**
WHN Wuhan 35.90 87 ⇓P **P** **17 51 30.4 +2.0**
WHN sP **sP** **17 52 05.6 +1.8**
WHN pmax pmax
comp=Z,82nm,1.1s
IIGN Ignalina 36.03 316 *e*P **P** **17 51 30.8 +1.6**
ISAL Salakas 36.13 317 *e*P **P** **17 51 31.6 +1.5**
ARR Arges 36.18 299 ⇑P **P** **17 51 33.3 +2.6**
RNTT Ranong 36.31 131 P P 17 51 26.9 -5.2
comp=Z,3.6nm,0.7s
ARCR ARCALIA 36.33 302 ⇓P **P** **17 51 33.7 +1.8**
TIA Tai'an 36.41 76 P **P** **17 51 34.4 +1.7**
TIA pmax pmax
comp=Z,27nm,1.5s
LVV L'vov 36.61 307 *e*P **P** **17 51 35.7 +1.5**
UBPT Khong Chiam 36.75 116 P **P** **17 51 36.3 +0.5**
comp=Z,6.1nm,1.1s
UBPT Khong Chiam 36.75 116 P **P** **17 51 35.1 -0.7**
UBPT **pP** **17 51 58.4 -1.4**
UBPT IAmb IAmb 17 52 00.1
comp=Z,22nm,1.2s
SURT Suratani 36.84 131 P **P** **17 51 41.0 +4.4**
comp=Z,0.8nm,1.2s
CJR Cluj-Napoca 36.85 301 ⇑P **P** **17 51 38.8 +2.3**
SANT Santorini 36.88 284 P **P** **17 51 36.0 -0.8**
HIA Hailar 36.93 54 P **P** **17 51 37.0 -0.1**
HIA pmax pmax
comp=Z,23nm,1.3s
HIA Hailar 36.93 54 P **P** **17 51 37.0 -0.1**
HIA IAmb IAmb 17 51 39.7
comp=Z,23nm,1.3s
PABE Paberze 37.32 316 *e*P **P** **17 51 41.9 +1.8**
DEV Deva 37.37 300 ⇑P **P** **17 51 44.1 +3.3**
VTS Vitosha 37.42 295 ⇑P **P** **17 51 42.5 +1.2**
VTS Vitosha 37.42 295 P **P** **17 51 41.8 +0.4**
VTS **pP** **17 52 07.0 +2.4**
KWP Kalwaria Pacla 37.46 306 P **P** **17 51 41.5 0.0**
KWP pmax pmax
comp=Z,92nm,1.8s
KWP Kalwaria Pacla 37.46 306 P **P** **17 51 41.5 0.0**
DRGR 37.46 302 ⇓P **P** **17 51 44.0 +2.4**
GZR Gura Zlata 37.48 299 ⇑P **P** **17 51 43.4 +1.6**
SUW Suwalki 37.53 314 P **P** **17 51 40.7 -1.3**
SUW pmax pmax
comp=Z,40nm,1.0s
SUW Suwalki 37.53 314 P **P** **17 51 40.7 -1.3**
IDI Anoyia 37.60 283 P **P** **17 51 41.8 -1.1**
UZH Uzhgorod 37.71 305 *e*P **P** **17 51 45.8 +2.2**
UZH *e* 17 52 05.8
LVZ Lovozero 37.72 338 P **P** **17 51 43.9 +0.5**
LVZ pmax pmax
comp=Z,156nm,1.6s
LVZ Lovozero 37.72 338 P **P** **17 51 43.9 +0.5**
KOLS Kolonicke sedl 37.73 305 *e*P **P** **17 51 45.7 +1.9**
KOLS *e* 17 53 12.8
KOLS Kolonicke sedl 37.73 305 *e*P **P** **17 51 45.7 +1.9**
KOLS *e*PP **PnPn** **17 53 12.8 -1.0**
FIA1 FINESS Array S 37.82 326 P **P** **17 51 45.0 +0.7**
FIA1 IAmb IAmb 17 52 23.3
comp=Z,53nm,1.4s
FINES FINESS Array B 37.83 326 P **P** **17 51 43.9 -0.5**
comp=Z,4.9nm,0.4s,baz=120,slow=9.8,SNR=77
FINES pP **pP** **17 52 08.5 +0.4**
comp=Z,7.8nm,0.7s,baz=101,slow=9.9,SNR=4.0
FINES PP **PP** **17 53 10.5 -1.9**
comp=Z,9.9nm,0.6s,baz=116,slow=13,SNR=5.4
FINES LR LR 18 07 50.5
comp=Z,182nm,21.2s,baz=104,slow=37
FINES FINESS Array B 37.83 326 P **P** **17 51 44.4 0.0**
FINES FINESS Array B 37.83 326 P **P** **17 51 44.4 0.0**
MTSE Matsula 38.09 321 *e*P **P** **17 51 47.2 +0.5**
CRVS Cervenica-Dubn 38.26 305 *e*P **P** **17 51 52.8 +4.5**
CRVS *e* 17 53 21.2
CRVS Cervenica-Dubn 38.26 305 *e*P **P** **17 51 52.8 +4.5**
CRVS *e*PP **PnPn** **17 53 21.2 +1.0**
TRTT Trang 38.26 131 P **P** **17 51 49.0 +0.4**
BZS Buzias 38.28 300 ⇑P **P** **17 51 49.8 +1.4**
MDVR Moldovita 38.28 298 ⇑P **P** **17 51 50.1 +1.6**
LIT Litokhoron 38.36 291 P **P** **17 51 48.7 -0.5**
LIT pmax pmax
comp=Z,7.0nm,1.0s
LIT Litokhoron 38.36 291 P **P** **17 51 48.7 -0.5**
AGG Agios Georgios 38.69 289 P **P** **17 51 51.3 -0.7**
AGG pmax pmax
comp=Z,20nm,1.4s
AGG Agios Georgios 38.69 289 P **P** **17 51 51.3 -0.7**
AGG IAmb IAmb 17 52 17.9
comp=Z,20nm,1.4s
LHMI Lhok Sumawe 38.78 137 P **P** **17 51 53.0 +0.1**
KECS Kecovo 38.91 304 *e*PP PP 17 53 27.2 +2.6
NJ2 Nanjing 38.99 82 *e*P **P** **17 51 54.3 -0.2**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NIE Niedzica 39.02 306 *e*P **P** **17 51 57.6 +3.0**
FNA Florina 39.07 292 P **P** **17 51 55.4 +0.2**
FNA pmax pmax
comp=Z,9.0nm,1.0s
FNA Florina 39.07 292 P **P** **17 51 55.4 +0.2**
DL2 Dalian 39.27 71 P **P** **17 51 58.4 +1.6**
DL2 pmax pmax
comp=Z,65nm,0.9s
PSZ Piszkesteto 39.33 304 P **P** **17 51 56.7 -0.5**
PSZ pmax pmax
comp=Z,12nm,1.2s
PSZ Piszkesteto 39.33 304 P **P** **17 51 56.7 -0.5**
OJC Ojcow 39.35 307 *e*P **P** **17 51 59.1 +1.8**
OJC Ojcow 39.35 307 P **P** **17 51 58.0 +0.7**
OJC pmax pmax
comp=Z,15nm,0.9s
OJC Ojcow 39.35 307 P **P** **17 51 58.0 +0.7**
OJC IAmb IAmb 17 51 59.7
comp=Z,15nm,0.9s
ITM Ithomi 39.42 286 P **P** **17 52 01.0 +2.9**
ITM IAmb IAmb 17 53 22.1
comp=Z,74nm,1.9s
DIVS Divibare 39.58 298 P **P** **17 52 00.5 +1.1**
DIVS IAmb IAmb 17 52 26.1
comp=Z,14nm,1.1s
VYHS Vyhne 40.01 305 *e*P **P** **17 52 04.8 +2.0**
VYHS *e* 17 53 40.9
VYHS Vyhne 40.01 305 *e*PP PP 17 53 40.9 +4.4
VYHS Vyhne 40.01 305 *e*P **P** **17 52 04.8 +2.0**
MORH Mrgy, Hungar 40.30 301 ⇓P **P** **17 52 07.3 +2.1**
SRO2 Moca 40.35 303 *e*P **P** **17 52 07.7 +2.1**
SRO2 Moca 40.35 303 *e*P **P** **17 52 07.7 +2.1**
SRO Srobarova 40.40 304 *e*P **P** **17 52 09.0 +3.0**
SRO Srobarova 40.40 304 *e*P **P** **17 52 09.0 +3.0**
TPTI 40.55 138 P **P** **17 52 06.5 -1.1**
comp=Z,277nmcomp=Z,21nm,1.1s
JAVC Velka Javorina 40.77 305 *e*P **P** **17 52 12.0 +2.9**
MORC Moravsky Berou 40.81 307 ⇓P **P** **17 52 11.4 +2.0**
MORC Moravsky Berou 40.81 307 *e*pP pP 17 52 33.8 +0.7
MORC Moravsky Berou 40.81 307 P **P** **17 52 11.0 +1.6**
MORC pmax pmax
comp=Z,10.0nm,1.0s
MORC Moravsky Berou 40.81 307 P **P** **17 52 11.0 +1.6**
MORC Moravsky Berou 40.81 307 *e*P **P** **17 52 11.4 +2.0**
KULM Kulim 40.85 132 P **P** **17 52 10.0 -0.1**
KULM IAmb IAmb 17 52 12.3
comp=Z,18nm,1.2s
KULM Kulim 40.85 132 P **P** **17 52 11.0 +0.9**
SMOL Smolenice 40.94 305 *e*P **P** **17 52 12.7 +2.2**
SMOL Smolenice 40.94 305 *e*P **P** **17 52 12.7 +2.2**
MODS Modra-Piesok 41.05 304 *e*PP PP 17 53 50.6 +2.8
DLV T Lat 41.15 117 P **P** **17 52 12.4 -0.3**
DLV IAmb IAmb 17 52 16.4
comp=Z,36nm,1.4s
CN2 Changchun 41.20 63 *e*P **P** **17 52 13.6 +0.9**
KRLC Kraliky 41.29 307 *e*P **P** **17 52 14.3 +0.9**
KRLC Kraliky 41.29 307 *e*P **P** **17 52 14.3 +0.9**
ARA0 ARCESS Array S 41.41 337 *e*P **P** **17 52 16.4 +2.4**
ARCES ARCESS Array B 41.41 337 P **P** **17 52 14.1 +0.1**
comp=Z,1.5nm,0.3s,baz=120,slow=9.1,SNR=54
ARCES pP **pP** **17 52 38.9 +0.8**
comp=Z,8.5nm,0.7s,baz=108,slow=7.8,SNR=2.9
ARCES sP **sP** **17 52 50.8 +1.0**
comp=Z,27nm,1.0s,baz=120,slow=7.2,SNR=6.1
ARCES LR LR 18 10 28.5
comp=Z,360nm,18.1s,baz=135,slow=37
ARCES ARCESS Array B 41.41 337 P **P** **17 52 13.3 -0.7**
ARCES IAmb IAmb 17 52 52.6
comp=Z,30nm,1.1s
UPP Uppsala 41.44 322 *e*P **P** **17 52 14.6 +0.2**
VRAC Vranov 41.45 306 ⇑P **P** **17 52 17.0 +2.4**
VRAC Vranov 41.45 306 *e*P **P** **17 52 17.0 +2.4**
VRAC *e*pP **pP** **17 52 39.8 +1.4**
VRAC *e*sP **sP** **17 52 52.3 +2.3**
VRAC *e*PP **PnPn** **17 53 58.2 +0.6**
DPC Dobruska-Polom 41.57 307 *e*P **P** **17 52 17.8 +2.1**
DPC *e* 17 52 41.2
DPC *e* 17 53 51.7
DPC Dobruska-Polom 41.57 307 *e*P **P** **17 52 17.8 +2.1**
DPC *e*pP **pP** **17 52 41.2 +1.7**
DPC *e*PP **PP** **17 53 51.7 -1.7**
KRUC Moravsky 41.59 306 *e*PP PP 17 53 59.4 +5.8
KRUC Moravsky 41.59 306 *e*P **P** **17 52 17.9 +2.1**
KRUC Moravsky 41.59 306 *e*pP pP 17 52 39.9 +0.3
KRUC Moravsky 41.59 306 *e*sP sP 17 52 53.4 +2.2
OSTC Ostas 41.63 308 *e*P **P** **17 52 17.8 +1.7**
IPM Ipoh 41.72 133 P **P** **17 52 17.1 -0.1**
IPM IAmb IAmb 17 52 19.0
comp=Z,18nm,0.7s
IPM Ipoh 41.72 133 P **P** **17 52 18.0 +0.8**
CHVC Chvalec 41.73 308 *e*P **P** **17 52 17.5 +0.5**
ZEA Zeya 41.75 47 *e*P **P** **17 52 18.7 +1.7**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,1.3s
UPC Upice 41.77 308 *e*P **P** **17 52 19.4 +2.2**
UPC Upice 41.77 308 *e*P **P** **17 52 19.4 +2.2**
PSI Prapat 41.88 137 P **P** **17 52 18.2 -0.4**
comp=Z,5.6nm,0.5s,baz=360,slow=8.6,SNR=7.2
KTK1 Kautokeino 41.89 336 *e*P **P** **17 52 19.0 +1.1**
RPSI Rantau Prapat 41.97 137 P **P** **17 52 17.8 -1.4**
RPSI IAmb IAmb 17 52 19.5
comp=Z,35nm,1.6s
CONA Conrad Observa 42.03 304 *e*P **P** **17 52 21.8 +2.3**
comp=Z,17nm,1.0s,SNR=13
CONA *e*P **pP** **17 52 45.3 +2.0**
comp=Z,15nm,1.3s
GSI Gunungsitoli 42.41 140 P **P** **17 52 23.8 +1.1**
GSI Gunungsitoli 42.41 140 P **P** **17 52 24.0 +1.3**
comp=Z,96nm,0.9s
HAMF Hammerfest 42.48 338 *e*P **P** **17 52 23.8 +1.1**
PERS Pernice 42.68 302 *i* P **P** **17 52 26.3 +1.6**
SOKA Soboth 42.73 302 *e*P **P** **17 52 27.5 +2.3**
comp=Z,14nm,1.0s,SNR=5.3
SOKA *i* P **PP** **17 54 06.9 +0.9**
comp=Z,6.7nm,1.3s
PRU Pruhonice 42.74 307 *e*P **P** **17 52 27.3 +2.3**
PRU Pruhonice 42.74 307 *e*P **P** **17 52 27.3 +2.3**
CKRC Cesky Krumlov 42.98 305 *e*P **P** **17 52 28.9 +1.8**
CKRC *ex* x 17 54 04.4
JETT Jettan, Norway 43.03 336 *e*P **P** **17 52 27.8 +0.6**
SGRT San Giovanni R 43.05 295 P **P** **17 52 28.6 +0.8**
BRG Berggiesshubel 43.06 308 *i* P **P** **17 52 29.4 +1.8**
BRG Amp 17 52 31.1
comp=Z,16nm,1.0s
BRG pP **pP** **17 52 53.5 +1.8**
BRG Amp 17 52 54.5
comp=Z,12nm,0.9s
BRG sP **sP** **17 53 06.2 +3.0**
BRG Amp 17 53 07.0
comp=Z,15nm,1.1s
BRG PP **PP** **17 54 11.6 +2.3**
BRG Berggiesshubel 43.06 308 *e*P **P** **17 52 29.4 +1.8**
comp=Z,16nm,1.0s,baz=84,slow=7.9
BRG *e*pP **pP** **17 52 52.9 +1.3**
baz=84,slow=7.9
OBKA Obir 43.08 302 *i* P **P** **17 52 30.4 +2.4**
comp=Z,8.6nm,1.1s
RUE Ruedersdorf 43.09 311 *e*pP pP 17 52 53.0 +1.2
baz=84,slow=7.9
MOA Molln 43.11 304 *e*P **P** **17 52 29.7 +1.6**
comp=Z,12nm,1.1s,SNR=7.9
PBCC Pribram 43.11 307 *e*P **P** **17 52 29.9 +1.8**
GEC2 GERESS Array S 43.38 305 P **P** **17 52 31.4 +1.1**
GEC2 PP **PP** **17 54 07.4 -5.4**
GEC2 GERESS Array S 43.38 305 *e*P **P** **17 52 32.2 +1.9**
baz=84,slow=7.9
GERES GERESS Array B 43.38 305 P **P** **17 52 30.7 +0.3**
comp=Z,1.9nm,0.8s,baz=81,slow=8.2,SNR=11
GERES pP **pP** **17 52 55.5 +1.2**
comp=Z,1.4nm,0.8s,baz=92,slow=7.3,SNR=3.5
GERES PP **PP** **17 54 12.8 0.0**
comp=Z,3.6nm,0.8s,baz=81,slow=11,SNR=7.7
GERES LR LR 18 14 42.7
comp=Z,59nm,18.5s,baz=78,slow=42
GERES GERESS Array B 43.38 305 P **P** **17 52 31.5 +1.1**
GERES GERESS Array B 43.38 305 P **P** **17 52 31.4 +1.1**
GERES PP **PP** **17 54 07.4 -5.4**
FBE Freiberg 43.43 308 *e*P **P** **17 52 32.7 +2.1**
comp=Z,14nm,0.8s,baz=84,slow=7.9
FBE *e*sP **sP** **17 53 08.2 +2.0**
baz=84,slow=8.2
KHC Kasperske Hory 43.43 306 *e*P **P** **17 52 32.4 +1.7**
KHC Kasperske Hory 43.43 306 *e*P **P** **17 52 32.4 +1.7**
KHC *e*PP **PP** **17 54 07.5 -5.9**
KHC Kasperske Hory 43.43 306 P **P** **17 52 31.0 +0.2**
KHC IAmb IAmb 17 53 31.2
comp=Z,37nm,2.0s
INCN Inchon 43.44 71 P **P** **17 52 30.8 -0.1**
INCN pmax pmax
comp=Z,164nm,2.0s
INCN Inchon 43.44 71 P **P** **17 52 30.8 -0.1**
TRO Tromso 43.54 336 *e*P **P** **17 52 31.9 +0.7**
CLL Collm 43.63 309 *e*P **P** **17 52 34.0 +1.8**
comp=Z,7.0nm,0.9s
CLL *e*pP **pP** **17 52 57.0 +0.8**
CLL *e*sP **sP** **17 53 08.0 +0.2**
CLL *i* PP **PP** **17 54 15.6 +0.3**
CLL *i* PcP **PcP** **17 54 17.1 -0.7**
comp=Z,15nm,1.0s
CLL *i* 17 54 22.7
CLL *e*PPP PPP 17 54 52.0
CLL *e*PcS PcS 17 58 02.0 -8.5
CLL *e*S **S** **17 59 00.0 +5.8**
CLL *e*SS **ScS** **18 02 24.0 +2.7**
CLL Lm MLR 18 13 00.0
comp=Z,200nm,19.0s
CLL Collm 43.63 309 *e*P **P** **17 52 34.0 +1.8**
CLL *e**PP **pP** **17 52 57.0 +0.8**
CLL *i* 17 54 15.6
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 43.63 309 P **P** **17 52 33.0 +0.8**
CLL **PP** **17 54 13.0 -2.3**
CLL Collm 43.63 309 *e*P **P** **17 52 33.8 +1.6**
comp=Z,5.8nm,0.9s,baz=84,slow=7.9
CLL *e*pP **pP** **17 52 57.2 +1.0**
baz=84,slow=7.9
CADS Cadrg 43.68 302 *i* P **P** **17 52 34.0 +1.2**
MYKA Terra Mystica 43.69 302 *e*P **P** **17 52 34.9 +2.0**
comp=Z,6.2nm,1.2s
YAK Yakutsk 43.74 35 P **P** **17 52 32.7 -0.2**
comp=Z,4.0nm,0.4s,baz=232,slow=2.5,SNR=7.4
YAK Yakutsk 43.74 35 *e*P **P** **17 52 32.4 -0.5**
YAK *e**PP **sP** **17 53 06.7 -2.1**
YAK *e*S **S** **17 58 53.6 -2.0**
YAK *e**SS **sS** **17 59 37.8 0.0**
YAK *e*SS **SS** **18 02 13.5 -0.8**
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=E,29nm,1.5s
YAK smax smax
comp=N,18nm,1.4s
YAK Yakutsk 43.74 35 P **P** **17 52 32.4 -0.5**
YAK IAmb IAmb 17 53 12.1
comp=Z,21nm,0.8s
KBA Koelnbreinsper 43.83 303 *e*P **P** **17 52 35.9 +1.8**

comp=Z,7,8nm,1.1s
MNSI Mandailing Nat 43.91 137 P **P** **17 52 34.8 0.0**
comp=Z,32nm,0.7s
YHNB Yeheng 43.99 91 P **P** **17 52 36.9 +1.4**
YHNB IAmb IAmb 17 52 39.4
comp=Z,46nm,1.1s
MDJ Mudanjiang 44.01 61 P **P** **17 52 34.8 -0.5**
MDJ pP pP 17 52 55.5 -4.6
MDJ pmax pmax
comp=Z,12nm,1.0s
MDJ pmax pmax
comp=Z,160nm,5.7s
MDJ Mudanjiang 44.01 61 P **P** **17 52 34.5 -0.9**
MDJ IAmb IAmb 17 52 38.7
comp=Z,19nm,1.0s
TANN Tannenbergstha 44.03 308 *eP* **P** **17 52 37.3 +1.7**
comp=Z,8.2nm,1.1s,baz=84,slow=7.9
SSLB Suanglung 44.07 92 P **P** **17 52 34.8 -1.4**
FAUS Fauske 44.10 332 *eP* **P** **17 52 37.9 +2.1**
RJOB Jochberg 44.11 304 *eP* **P** **17 52 37.8 +1.6**
comp=Z,33nm,1.0s,baz=84,slow=7.9
GUNZ Gunzen 44.12 308 *eP* **P** **17 52 38.1 +1.9**
comp=Z,7.6nm,1.0s,baz=84,slow=7.9
GUNZ *es*P **sP** **17 53 13.9 +2.1**
baz=84,slow=8.2
MOR8 Moi Rana 44.13 331 *eP* **P** **17 52 36.3 +0.3**
WERD Werda 44.13 308 *eP* **P** **17 52 38.0 +1.7**
comp=Z,5.3nm,1.0s,baz=84,slow=7.9
ZOU Zoufplan 44.15 302 P **P** **17 52 36.3 -0.4**
ZOU IAmb IAmb 17 53 15.2
comp=Z,20nm,1.4s
ROTZ Rotzenmuhle 44.26 307 *eP* **P** **17 52 39.8 +2.5**
comp=Z,9.5nm,1.1s,baz=84,slow=7.9
ROTZ *es*P **sP** **17 53 15.0 +2.1**
baz=84,slow=8.2
STEI Steigen 44.27 333 *eP* **P** **17 52 38.9 +1.8**
MANZ Manzenberg 44.30 307 *eP* **P** **17 52 40.0 +2.3**
comp=Z,9.5nm,1.1s,baz=84,slow=7.9
TJN Taejon 44.32 73*ceP* **P** **17 52 39.1 +1.2**
INTR Introdacqua 44.34 296 P **P** **17 52 39.1 +1.0**
INTR IAmb IAmb 17 53 11.6
comp=Z,24nm,1.4s
KS19 Wonju Array Si 44.38 71 P **P** **17 52 39.3 +0.9**
KS19 IAmb IAmb 17 52 40.7
comp=Z,31nm,1.1s
KS19 pP **pP** **17 53 03.1 +0.1**
NACB Ninganchiao 44.40 92 P **P** **17 52 41.0 +2.3**
NACB IAmb IAmb 17 52 43.5
comp=Z,26nm,1.0s
NEUB Neuenburg 44.40 309 *eP* **P** **17 52 40.1 +1.7**
comp=Z,15nm,1.0s,baz=84,slow=7.9
KSAR Wonju Array Be 44.41 71 P **P** **17 52 38.6 0.0**
KSAR *PP **pP** **17 53 03.5 +0.2**
KSAR 17 54 20.6
KSAR Wonju Array Be 44.41 71 P **P** **17 52 38.6 0.0**
KSAR **pP** **17 53 03.5 +0.2**
KSAR PcP **PcP** **17 54 20.6 -0.1**
KSRS Korea Array 44.44 71 P **P** **17 52 39.2 +0.4**
comp=Z,22nm,1.0s,baz=280,slow=6.9,SNR=69
KSRS pP **pP** **17 53 04.4 +0.9**
comp=Z,6.7nm,1.0s,baz=279,slow=7.0,SNR=3.8
ABTA Abfaltersbach 44.44 303 *eP* **P** **17 52 40.5 +1.6**
comp=Z,5.7nm,0.9s
ABTA *i* P **PP** **17 54 26.0 +1.9**
comp=Z,5.9nm,1.2s
NC405 NORSAR Array S 44.51 323 P **P** **17 52 39.2 +0.1**
YULB Yu-li 44.53 93 P **P** **17 52 41.8 +2.0**
YULB IAmb IAmb 17 52 43.5
comp=Z,53nm,1.2s
MOX Moxa 44.55 308 *eP* **P** **17 52 41.1 +1.5**
comp=Z,8.9nm,1.0s,baz=84,slow=7.9
NC602 NORSAR Array S 44.55 323 P **P** **17 52 39.8 +0.3**
NC602 NORSAR Array S 44.55 323 *eP* **P** **17 52 39.9 +0.4**
TWG Pinlang 44.63 94 P **P** **17 52 42.6 +2.1**
FLTG Flechtingen 44.65 311 *eP* **P** **17 52 41.7 +1.4**
comp=Z,18nm,0.9s,baz=84,slow=7.9
FLTG *ep*P **pP** **17 53 05.4 +0.9**
baz=84,slow=7.9
NC303 NORSAR Array S 44.68 323 P **P** **17 52 41.2 +0.7**
NB201 NORSAR Array S 44.70 323 P **P** **17 52 41.4 +0.7**
KONS Konsvik 44.72 331 *eP* **P** **17 52 41.6 +1.0**
STOK Stokkvaagen 44.73 331 *eP* **P** **17 52 41.9 +1.2**
NRCA Norcia 44.73 297 P **P** **17 52 44.2 +3.0**
NB2 NORSAR Subarra 44.74 323 P **P** **17 52 41.0 0.0**
comp=Z,5.2nm,0.5s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.74 323 P **P** **17 52 41.0 0.0**
baz=96,slow=7.9
NOA NORSAR Array B 44.74 323 P **P** **17 52 41.2 +0.2**
comp=Z,0.9nm,0.3s,baz=48,slow=9.6,SNR=73
NOA pP **pP** **17 53 05.6 +0.1**
comp=Z,7.9nm,0.8s,baz=96,slow=7.9,SNR=3.6
NOA LR LR 18 14 40.7
comp=Z,123nm,18.6s,baz=100,slow=40
KLR Kul'dur 44.79 54 P **P** **17 52 41.4 -0.1**
comp=Z,5.8nm,0.5s,baz=281,slow=8.9,SNR=42
KLR Kul'dur 44.79 54*ceP* **P** **17 52 42.2 +0.7**
KLR pmax pmax
comp=Z,18nm,1.2s
NSS Namsos 44.83 328 *eP* **P** **17 52 42.6 +1.1**
NAO01 NORSAR Array S 44.88 323 P **P** **17 52 42.3 +0.2**
GRF Grafenberg Arr 44.90 307 *eP* **P** **17 52 44.4 +1.9**
comp=Z,12nm,1.0s,baz=84,slow=7.9
OSL Oslo 44.90 321 *eP* **P** **17 52 43.3 +1.1**
LOF Lofoten 44.94 333 *eP* **P** **17 52 42.9 +0.6**
NBO00 NORSAR Array S 44.95 323 P **P** **17 52 42.5 -0.1**
WTTA Wattenberg 44.95 303 *i* P **P** **17 52 43.8 +0.7**
comp=Z,8.9nm,0.8s
WTTA *eP* **PP** **17 54 32.2 +2.5**
comp=Z,21nm,1.2s
NC204 NORSAR Array S 44.98 323 P **P** **17 52 43.2 +0.3**
WATA Walderalm 44.98 304 P **P** **17 52 44.1 +0.9**
comp=Z,15nm,1.4s
WATA *i* P **PP** **17 54 32.6 +2.6**
comp=Z,19nm,1.4s
MURB Monte Urbino 45.06 298 P **P** **17 52 45.6 +1.8**
BSEG Bad Segeberg 45.11 313 *eP* **P** **17 52 46.3 +2.4**
comp=Z,13nm,0.7s,baz=84,slow=7.9
CTI Castel Tesino 45.14 302 P **P** **17 52 45.1 +0.6**
CTI pmax pmax
comp=Z,34nm,1.8s
CTI Castel Tesino 45.14 302 P **P** **17 52 45.1 +0.6**
CTI IAmb IAmb 17 53 21.6
comp=Z,34nm,1.8s
HOPEN Hopen 45.19 346 *eP* **P** **17 52 46.0 +1.7**
CLZ Clausthal 45.22 310 *eP* **P** **17 52 47.2 +2.3**
comp=Z,11nm,0.9s,baz=84,slow=7.9
SQTA Sankt Quirin 45.25 303 *i* P **P** **17 52 46.3 +1.0**
comp=Z,8.4nm,0.9s
SQTA *eP* **pP** **17 53 10.4 +0.8**
comp=Z,9.1nm,1.0s
SQTA *i* P **PP** **17 54 34.7 +2.0**
comp=Z,11nm,1.3s
MOTA Moosalm 45.30 304 *eP* **P** **17 52 46.3 +0.6**
comp=Z,7.9nm,0.9s
MOTA *i* P **pP** **17 53 10.8 +0.8**
comp=Z,9.4nm,1.0s
MOTA *i* P **PP** **17 54 35.2 +1.9**
comp=Z,8.3nm,1.0s
NRDL Niedersach Rie 45.33 311 *eP* **P** **17 52 47.9 +2.2**
comp=Z,8.9nm,1.0s,baz=84,slow=7.9
YOJ Yonaguni jima 45.41 90 P **P** **17 52 47.3 +0.6**
YOJ pmax pmax
comp=Z,109nm,1.0s
YOJ Yonaguni jima 45.41 90 P **P** **17 52 47.3 +0.6**
KONO Kongsberg 45.46 321*ceP* **P** **17 52 48.7 +2.1**
KONO pmax pmax
comp=Z,40nm,2.5s
KONO Kongsberg 45.46 321 P **P** **17 52 47.4 +0.7**
KONO IAmb IAmb 17 53 28.5
comp=Z,81nm,1.8s
KONO Kongsberg 45.46 321 *eP* **P** **17 52 47.5 +0.9**
BJO1 Bjornoya 45.49 343 *eP* **P** **17 52 46.6 0.0**
GTTG Gottingen 45.50 310 *eP* **P** **17 52 49.2 +2.1**
comp=Z,16nm,0.9s,baz=84,slow=7.9
GTTG *ep*P **pP** **17 53 12.7 +1.4**
baz=84,slow=7.9
RETA Reutte 45.51 304 *i* P **P** **17 52 48.2 +0.9**
comp=Z,7.3nm,1.3s
RETA *i* P **pP** **17 53 12.8 +1.2**
comp=Z,4.4nm,0.8s
RETA *i* P **PP** **17 54 36.4 +1.0**
comp=Z,6.5nm,1.4s
MSHR Mys Shultsa 45.53 63*c i*P **P** **17 52 48.4 +1.0**
MYKOM Kota Tinggi 45.55 132 P **P** **17 52 49.0 +1.2**
MYKOM IAmb IAmb 17 52 50.3
comp=Z,34nm,1.4s
MYKOM Kota Tinggi 45.55 132 P **P** **17 52 50.0 +2.1**
FETA Feichten 45.60 303 *eP* **P** **17 52 49.1 +0.9**
comp=Z,8.4nm,1.2s,SNR=5.1
FETA *i* P **PP** **17 54 37.6 +1.0**
comp=Z,4.7nm,1.0s
TIXI Tiksi 45.66 22 P **P** **17 52 48.2 +0.1**
comp=Z,7.4nm,0.3s,baz=281,slow=4.8,SNR=9.6
TIXI Tiksi 45.66 22 P **P** **17 52 48.1 +0.1**
TIXI IAmb IAmb 17 53 15.8
comp=Z,12nm,0.8s
LATE Laterza 45.72 297 P **P** **17 52 50.4 +1.4**
LATE IAmb IAmb 17 53 15.8
comp=Z,25nm,1.5s
USA0B Ussuriysk Arra 45.77 61 P **P** **17 52 49.4 0.0**
USA0B pmax pmax
comp=Z,11nm,0.9s
USA0B Ussuriysk Arra 45.77 61 P **P** **17 52 49.4 0.0**
USA0B IAmb IAmb 17 52 50.8
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 45.77 61 P **P** **17 52 49.7 +0.3**
comp=Z,7.1nm,0.7s,baz=273,slow=6.9,SNR=25
USRK Ussuriysk Ar. 45.77 61 P **P** **17 52 49.4 0.0**
DOMB Dombas 45.84 324 *eP* **P** **17 52 50.2 +0.5**
UBR Ueberruh 45.91 304 *eP* **P** **17 52 51.9 +1.4**
comp=Z,7.0nm,0.8s,baz=84,slow=7.9
OSSC Osservatorio P 45.92 298 P **P** **17 52 52.5 +1.9**
OSSC IAmb IAmb 17 53 17.6
comp=Z,20nm,1.0s
SALO Salr 45.99 301 **P** **17 52 50.7 -0.4**
MILB Miltenberg 46.13 307 *eP* **P** **17 52 54.0 +1.9**
comp=Z,8.1nm,0.9s,baz=84,slow=7.9
DAVA Damuels 46.13 304 *i* P **P** **17 52 53.3 +1.0**
comp=Z,27nm,1.1s,SNR=12
DAVA *eP* **pP** **17 53 17.6 +1.0**
comp=Z,21nm,0.9s
SKAR Skarslia 46.14 322 *eP* **P** **17 52 52.9 +0.9**
STU Stuttgart 46.34 306 P **P** **17 52 54.9 +1.2**
STU pmax pmax
comp=Z,56nm,1.9s
STU Stuttgart 46.34 306 P **P** **17 52 54.9 +1.2**
STU IAmb IAmb 17 52 55.7
comp=Z,56nm,1.9s
JTU Tsushima 46.48 74 P **P** **17 52 55.7 +0.7**
TUE Stuetta 46.64 303 P **P** **17 52 56.7 +0.4**
MSSA Maissana 46.96 300 P **P** **17 52 58.8 +0.1**
ODD1 Odda 46.96 321 *eP* **P** **17 52 59.5 +1.0**
BFO Black Forest 46.98 305 P **P** **17 52 59.4 +0.6**
BFO pmax pmax
comp=Z,10.0nm,1.1s
BFO Black Forest 46.98 305 P **P** **17 52 59.4 +0.6**
BFO Black Forest 46.98 305 *eP* **P** **17 53 00.5 +1.7**
comp=Z,10nm,1.2s,baz=84,slow=7.9
HSPB Hornsund (broa 47.34 345 *eP* **P** **17 53 01.9 +0.8**
AHRW Bad Neuenahr-A 47.44 309 *eP* **P** **17 53 04.2 +2.0**
comp=Z,12nm,0.9s,baz=84,slow=7.9
GRNR Gornyy 47.57 51 *i*P **P** **17 53 04.2 +0.9**
GRNR pmax pmax
comp=E,5.0nm,0.8s
GRNR pmax pmax
comp=Z,9.0nm,1.0s
GRNR MLR MLR
comp=E,70nm,14.0s
GRNR MLR MLR
comp=N,50nm,14.0s
GRNR MLR MLR
comp=Z,100nm,15.0s
SPA0 Spitsbergen Ar 47.68 347 P **P** **17 53 06.0 +2.2**
SPA0 Spitsbergen Ar 47.68 347 *eP* **P** **17 53 04.8 +1.1**
ECH Echery 47.77 305 P **P** **17 53 06.2 +1.3**
ECH pmax pmax
comp=Z,8.0nm,1.1s
ECH Echery 47.77 305 P **P** **17 53 06.2 +1.3**
SENIN Lac Senin/Sane 48.05 303 P **P** **17 53 08.0 +0.8**
SENIN IAmb IAmb 17 53 33.5
comp=Z,13nm,0.9s
MEM Membach 48.10 309 *dP* **P** **17 53 09.4 +2.1**
JNU Nakatsue 48.13 76 P **P** **17 53 08.4 +0.5**
comp=Z,43nm,1.0s,baz=350,slow=4.5,SNR=9.4
JNU Nakatsue 48.13 76 P **P** **17 53 08.9 +1.0**
WLF Walferdange 48.16 307 *dP* **P** **17 53 10.6 +2.7**
WLF Walferdange 48.16 307 P **P** **17 53 10.2 +2.3**
WLF pmax pmax
comp=Z,27nm,1.1s
WLF Walferdange 48.16 307 P **P** **17 53 10.2 +2.3**
WLF IAmb IAmb 17 53 11.6
comp=Z,27nm,1.1s
WLF Walferdange 48.16 307 *eP* **P** **17 53 10.2 +2.3**
comp=Z,34nm,1.2s,baz=84,slow=7.9
BNI Bardonecchia 48.76 301 P **P** **17 53 12.5 -0.2**
BNI pmax pmax
comp=Z,22nm,1.3s
BNI Bardonecchia 48.76 301 P **P** **17 53 12.5 -0.2**
BNI IAmb IAmb 17 53 47.1
comp=Z,22nm,1.3s
KBS Kingsbay 48.80 347 P **P** **17 53 13.7 +1.4**
KBS pmax pmax
comp=Z,67nm,1.5s
KBS Kingsbay 48.80 347 P **P** **17 53 13.7 +1.4**
KBS Kingsbay 48.80 347 *eP* **P** **17 53 12.4 +0.1**
TEY Ternei 48.80 59 *i*P **P** **17 53 12.5 -0.3**
TEY pmax pmax
comp=Z,20nm,1.0s
KMBO Kilima Mbogo 49.15 228 P **P** **17 53 17.1 +1.1**
comp=Z,3.6nm,0.5s,baz=33,slow=12,SNR=15
JHS Saijyo 49.20 72 P **P** **17 53 16.4 +0.4**
JHS IAmb IAmb 17 53 17.4
comp=Z,35nm,1.0s
SNF Seneffe 49.20 309 *dP* **P** **17 53 18.0 +2.3**
KSI Kapahiang 49.25 137 P **P** **17 53 16.5 -0.1**
KEST Kesra 49.53 289 P **P** **17 53 22.1 +3.5**
KEST IAmb IAmb 17 54 05.7
comp=Z,32nm,1.3s
KSM Kuching 49.88 125 P **P** **17 53 23.0 +1.7**
PPBI Pangkal Pinang 50.06 132 P **P** **17 53 22.5 -0.2**
comp=Z,19nm,1.3s
SSB Saint Sauveur 50.17 302 P **P** **17 53 23.9 +0.6**
SSB pP **pP** **17 53 47.5 -0.4**
SSB IAmb IAmb 17 54 32.1
comp=Z,33nm,1.6s
JMN Monobe 50.24 74 P **P** **17 53 24.0 +0.1**
JMN IAmb IAmb 17 53 26.4
comp=Z,22nm,0.9s
SBUM Sibu 50.44 122 P **P** **17 53 26.7 +1.1**
SBUM IAmb IAmb 17 53 28.6
comp=Z,14nm,1.1s
SBUM Sibu 50.44 122 P **P** **17 53 28.0 +2.4**
KKM Kota Kinabalu 50.73 116 P **P** **17 53 28.0 +0.2**
KKM pP **pP** **17 53 53.0 +0.6**
JWT Wachi 50.84 71 P **P** **17 53 29.4 +1.0**
KLSI 51.30 136 P **P** **17 53 29.1 -2.8**
comp=Z,5.2nm,1.3s
TYV Tymovskoe 51.44 50 *eP* **P** **17 53 33.8 +1.2**
TYV pmax pmax
comp=Z,200nm,4.6s
TYV pmax pmax
comp=Z,10.0nm,1.3s
SPMM Sapulut 51.82 117 P **P** **17 53 38.0 +2.0**
JSD Sado 52.03 67 P **P** **17 53 36.5 -0.7**
INU Inuyama 52.05 70 P **P** **17 53 37.6 +0.2**
INU IAmb IAmb 17 53 39.2
comp=Z,28nm,1.0s
JGF Kuroka 52.22 70 P **P** **17 53 38.8 +0.1**
JGF IAmb IAmb 17 53 40.2
comp=Z,13nm,0.8s
YSS Yuzh-Sakhalins 52.46 55 *i*P **P** **17 53 41.2 +0.9**
YSS *e* 17 54 06.8
YSS pmax pmax
comp=Z,30nm,1.2s
YSS MLR MLR
comp=Z,100nm,16.0s
YSS Yuzh-Sakhalins 52.46 55 P **P** **17 53 40.6 +0.4**
MAT Matsushiro 52.52 69 P **P** **17 53 40.9 0.0**
MAJO Matsushiro 52.52 69 P **P** **17 53 40.4 -0.5**
MAJO pmax pmax
comp=Z,47nm,1.0s
MAJO Matsushiro 52.52 69 P **P** **17 53 40.4 -0.5**
MJAR Matsushiro Arr 52.52 69 P **P** **17 53 41.4 +0.5**
comp=Z,32nm,0.9s,baz=290,slow=9.5,SNR=108
MJAR pP **pP** **17 54 08.1 +1.7**
comp=Z,7.1nm,0.9s,baz=293,slow=8.7,SNR=3.8
MJAR LR LR 18 18 01.0
comp=Z,54nm,18.4s,baz=225,slow=38
MJAR Matsushiro Arr 52.52 69 P **P** **17 53 41.1 +0.2**
MJAR IAmb IAmb 17 53 43.4
comp=Z,14nm,0.9s
JEW Eniwo 52.77 60 P **P** **17 53 43.3 +0.7**
MBAR Mbarara 52.87 235 P **P** **17 53 44.6 +0.7**
MBAR pmax pmax
comp=Z,8.0nm,0.5s
MBAR Mbarara 52.87 235 P **P** **17 53 44.5 +0.7**
MBAR IAmb IAmb 17 53 45.7
comp=Z,7.6nm,0.5s
MYLDM Lahad Datu 52.98 114 P **P** **17 53 46.0 +1.5**
JTM Tenmabayashi 53.16 63 P **P** **17 53 45.1 -0.4**
ASAJ Asahikawa 53.17 58 P **P** **17 53 45.3 -0.3**
ASAJ pmax pmax
comp=Z,29nm,1.3s
JKA Kamikawa-asahi 53.17 58 P **P** **17 53 45.3 -0.3**
JKA IAmb IAmb 17 53 47.1
comp=Z,29nm,1.3s
JMM Marumori 53.97 66 P **P** **17 53 51.6 +0.1**
NOR Nord 53.97 350 *i*P **P** **17 53 52.1 +1.3**
NOR Nord 53.97 350 *i*P **P** **17 53 52.5 +1.7**
NOR Nord 53.97 350 *i*P **P** **17 53 52.6 +1.7**
NOR Nord 53.97 350 *i*P **P** **17 53 52.1 +1.3**
MA2 Magadan 54.12 38*ceP* **P** **17 53 52.6 +0.4**
MA2 pmax pmax
comp=Z,14nm,1.7s
MA2 Magadan 54.12 38 P **P** **17 53 51.6 -0.6**
MA2 IAmb IAmb 17 53 53.5
comp=Z,8.4nm,1.0s
JYT Yasato 54.12 68 P **P** **17 53 52.2 -0.4**
SEY Seymchan 54.20 34 *i*P **P** **17 53 53.8 +1.0**
ERM Erimo 54.23 61 P **P** **17 53 54.6 +1.3**
ERM pmax pmax
comp=Z,156nm,1.9s
ERM Erimo 54.23 61 P **P** **17 53 54.6 +1.3**
JEM Erimo 54.23 61 P **P** **17 53 48.4 -4.9**
MTKI Muara Teweh, K 54.73 123 P **P** **17 53 58.0 +0.8**
comp=Z,615nmcomp=Z,5.0nm,0.8s
DAG Danmarks Havn 54.94 344 *i*P **P** **17 53 58.6 +0.7**
DAG Danmarks Havn 54.94 344 *i*P **P** **17 53 58.8 +0.9**
DAG Danmarks Havn 54.94 344 *i*P **P** **17 53 58.8 +0.9**
DAG Danmarks Havn 54.94 344 *i*P **P** **17 53 58.6 +0.7**
DAG Danmarks Havn 54.94 344 *i*P **P** **17 53 58.9 +0.9**
DBG Daneborg 55.82 341 *i*P **P** **17 54 05.5 +1.3**
BBKI Banjar Baru 56.55 125 P **P** **17 54 11.2 +1.0**
comp=Z,18nm,1.6s
TOLI2 Tolitoli 57.41 116 P **P** **17 54 15.4 -0.9**
TOLI2 IAmb IAmb 17 54 20.0
comp=Z,18nm,1.3s
ESBB Sonseca Array 57.93 298 P **P** **17 54 19.6 -0.2**
ESBB IAmb IAmb 17 54 27.7
comp=Z,20nm,1.4s
ESDC Sonseca Array 57.93 298 P **P** **17 54 19.5 -0.3**
comp=Z,2.4nm,0.8s,baz=67,slow=6.7,SNR=12
ESDC pP **pP** **17 54 44.5 -0.6**
comp=Z,3.4nm,1.0s,baz=64,slow=6.8,SNR=4.9
ESDC LR LR 18 24 49.8
comp=Z,38nm,19.5s,baz=145,slow=42
ESDC Sonseca Array 57.93 298 P **P** **17 54 20.1 +0.4**
BILL Bilibino 58.46 26*d i*P **P** **17 54 23.2 +0.3**
BILL *i* *PP **pP** **17 54 51.4 +2.8**
BILL *e* 17 56 31.6
BILL pmax pmax
comp=Z,12nm,1.3s
BILL MLR MLR
comp=Z,34nm,17.0s
BILL Bilibino 58.46 26 P **P** **17 54 23.6 +0.7**
BILL IAmb IAmb 17 55 04.8
comp=Z,11nm,0.9s
MRSI Marisa 58.68 116 P **P** **17 54 26.4 +1.2**
comp=Z,606nmcomp=Z,52nm,1.4s
BORG Borgarnes 58.92 330 P **P** **17 54 26.3 +0.2**
BORG pmax pmax
comp=Z,374nm,1.8s
BORG Borgarnes 58.92 330 P **P** **17 54 26.3 +0.2**
APSI Ampana 59.42 117 P **P** **17 54 31.3 +1.0**
comp=Z,490nmcomp=Z,41nm,1.6s
JCJ Chichijima 59.53 77 P **P** **17 54 30.8 -0.2**
PETK Petropavlovsk- 59.68 44 P **P** **17 54 30.4 -1.2**
comp=Z,2.3nm,0.9s,baz=323,slow=4.0,SNR=6.7
PETK LR LR 18 21 30.1
comp=Z,52nm,18.3s,baz=155,slow=37
PETK Petropavlovsk- 59.68 44 P **P** **17 54 30.9 -0.7**
ABPO Ambohimpanom 59.77 207 P **P** **17 54 33.8 +1.1**
ABPO pmax pmax
comp=Z,14nm,1.2s
ABPO Ambohimpanom 59.77 207 P **P** **17 54 33.8 +1.1**
ABPO IAmb IAmb 17 54 35.0
comp=Z,14nm,1.2s
LUWI Luwuk 60.32 116 P **P** **17 54 36.3 -0.2**
LUWI IAmb IAmb 17 54 48.4
comp=Z,21nm,1.0s
KAPI Kappang 60.99 122 P **P** **17 54 40.5 -0.5**
KAPI pmax pmax
comp=Z,26nm,1.2s
KAPI Kappang 60.99 122 P **P** **17 54 40.5 -0.5**
KAPI IAmb IAmb 17 54 42.5
comp=Z,26nm,1.2s
SUMG Summit 61.30 341 *i*P **P** **17 54 44.1 +1.4**
SUMG Summit 61.30 341 *i*P **P** **17 54 44.3 +1.6**
SUMG Summit 61.30 341 P **P** **17 54 43.6 +0.8**
SUMG IAmb IAmb 17 55 23.9
comp=Z,15nm,0.9s
SUMG Summit 61.30 341 *i*P **P** **17 54 44.3 +1.6**
SUMG Summit 61.30 341 *i*P **P** **17 54 44.1 +1.4**
PFVI Vila Bisbo 62.46 297 P **P** **17 54 50.0 -0.7**
TNTI Ternate 62.50 111 P **P** **17 54 50.8 -0.4**
TNTI Ternate 62.50 111 P **P** **17 54 53.2 +2.1**
comp=Z,741nmcomp=Z,51nm,1.6s
EUNU Eureka 63.12 356 P **P** **17 54 55.0 +0.5**
SANI Sanana 63.35 115 P **P** **17 54 57.2 +0.4**
comp=Z,728nmcomp=Z,14nm,0.4s
MMRI Maumere 65.30 123 P **P** **17 55 08.4 -1.1**
LSZ Lusaka 65.76 227 P **P** **17 55 13.0 +0.5**
LSZ pmax pmax
comp=Z,7.0nm,0.8s
LSZ Lusaka 65.76 227 P **P** **17 55 13.0 +0.5**
TOA0 Torodi Ar. Sit 66.21 269 P **P** **17 55 13.7 -1.7**
TORD Torodi Ar. Bea 66.21 269 P **P** **17 55 13.5 -1.9**
comp=Z,3.3nm,0.5s,baz=50,slow=6.2,SNR=38
TORD pP **pP** **17 55 40.0 -1.5**
comp=Z,5.7nm,0.7s,baz=48,slow=5.9,SNR=5.7
TORD LR LR 18 28 36.7
comp=Z,37nm,18.7s,baz=265,slow=40
TORD Torodi Ar. Bea 66.21 269 P **P** **17 55 13.3 -2.2**
SWI Sorong 66.50 110 P **P** **17 55 16.8 -0.4**
comp=Z,731nmcomp=Z,65nm,1.2s
A21K Barrow 67.26 15 P **P** **17 55 21.5 +0.4**
A21K IAmb IAmb 17 57 25.6
comp=Z,9.5nm,0.5s
BATI Baumata 67.40 123 P **P** **17 55 23.0 +0.1**
comp=Z,38nm,1.2s
SOEI Soe 67.49 122 P **P** **17 55 23.1 -0.5**
SOEI Soe 67.49 122 P **P** **17 55 24.5 +0.9**
comp=Z,89nm,0.9s
ANA2 Anatahan 67.82 86 P **P** **17 55 25.9 +0.3**
ANM Nome 69.91 23 P **P** **17 55 38.6 +0.8**
ANM pmax pmax
comp=Z,5.0nm,1.0s
ANM Nome 69.91 23 P **P** **17 55 38.6 +0.8**
ANM Nome 69.92 23 P **P** **17 55 38.9**
baz=314
KOWA Kowa 70.07 274 P **P** **17 55 38.5 -1.0**
KOWA pP **pP** **17 56 04.1 -1.9**
KOWA IAmb IAmb 17 56 05.8
comp=Z,14nm,0.9s
TOLK Toolik Lake Re 70.87 15 P **P** **17 55 43.3 -0.3**
TOLK IAmb IAmb 17 55 45.0
comp=Z,19nm,1.1s
TOLK Toolik Lake Re 70.87 15 P **P** **17 55 44.2**
baz=326,SNR=9.2
SAUI Saumlaki 71.23 115 P **P** **17 55 48.3 +1.8**
comp=Z,4µmcomp=Z,394nm,1.1s
COLD Coldfoot 71.91 16 P **P** **17 55 49.6 -0.2**
COLD Coldfoot 71.91 16 P **P** **17 55 50.3**
baz=326,SNR=5.9
IMAR Indian Mountai 72.09 18 P **P** **17 55 50.1 -0.8**
BMAR Burnt Mountain 72.90 14 P **P** **17 55 56.3 +0.5**
FYU Fort Yukon 73.52 14 P **P** **17 56 00.1 +0.7**
FYU **sP** **17 56 39.0 +1.9**
FYU IAmb IAmb 17 56 43.2
comp=Z,48nm,1.6s
MLY Manley 73.61 17 P **P** **17 55 59.9 -0.1**
MLY Manley 73.61 17 P **P** **17 56 00.3**
baz=326,SNR=5.2
I23K Minto, Yukon-K 73.83 17 P **P** **17 56 01.5 +0.3**
I23K **sP** **17 56 40.5 +1.4**

I23K	**Minto, Yukon-K**	**73.83**	**17**	P		17 56 01.9	
	baz=327,SNR=8.4						
INK	**Inuvik**	**73.90**	**9**	P	**P**	**17 56 01.6**	**+0.1**
INK				*PP	**pP**	**17 56 28.3**	**+0.2**
INK				pmax	pmax		
	comp=Z,14nm,1.2s						
INK	**Inuvik**	**73.90**	**9**	P	**P**	**17 56 01.6**	**+0.1**
INK				IAmb	IAmb	17 56 03.1	
	comp=Z,14nm,1.1s						
INK				pP	**pP**	**17 56 28.3**	**+0.2**
C36M	**Paulatuk**	**73.91**	**6**	P	**P**	**17 56 01.3**	**-0.2**
C36M				IAmb	IAmb	17 56 02.5	
	comp=Z,19nm,1.1s						
C36M	**Paulatuk**	**73.91**	**6**	P		17 56 01.7	
	baz=347						
CHUM	**Lake Minchumin**	**74.16**	**19**	P		17 56 03.7	
	baz=324,SNR=5.5						
MDM	**Murphy Dome**	**74.25**	**16**	P	**P**	**17 56 03.7**	**0.0**
MDM				IAmb	IAmb	17 56 05.0	
	comp=Z,13nm,1.0s						
POKR	**Poker Plat Res**	**74.30**	**16**	P	**P**	**17 56 03.9**	**0.0**
POKR				IAmb	IAmb	17 56 05.6	
	comp=Z,13nm,0.8s						
POKR	**Poker Plat Res**	**74.30**	**16**	P		17 56 04.8	
	baz=328						
BPAW	**Bear Paw Mtn.**	**74.31**	**18**	P	**P**	**17 56 03.8**	**-0.3**
BPAW	**Bear Paw Mtn.**	**74.32**	**18**	P		17 56 03.9	
	baz=326						
NEA2	**Nenana**	**74.37**	**17**	P	**P**	**17 56 04.3**	**0.0**
NEA2					**sP**	**17 56 42.5**	**+0.2**
NEA2				IAmb	IAmb	17 56 45.2	
	comp=Z,19nm,1.2s						
NEA2	**Nenana**	**74.37**	**17**	P		17 56 04.6	
	baz=327,SNR=9.4						
PRP	**Porcupine Dome**	**74.37**	**15**	P	**P**	**17 56 05.0**	**+0.5**
PRP	**Porcupine Dome**	**74.37**	**15**	P		17 56 05.3	
	baz=330						
TCOL	**CIGO, UAF Yank**	**74.41**	**16**	P	**P**	**17 56 04.6**	**0.0**
TCOL				IAmb	IAmb	17 56 05.7	
	comp=Z,22nm,1.1s						
TCOL				sP	**sP**	**17 56 43.6**	**+1.3**
TCOL	**CIGO, UAF Yank**	**74.41**	**16**	P		17 56 05.0	
	baz=328						
COLA	**College**	**74.41**	**16**	P	**P**	**17 56 04.9**	**+0.3**
COLA				*SP	**sP**	**17 56 43.3**	**+1.0**
COLA				pmax	pmax		
	comp=Z,16nm,0.9s						
COLA	**College**	**74.41**	**16**	P	**P**	**17 56 04.8**	**+0.3**
COLA				IAmb	IAmb	17 56 05.8	
	comp=Z,16nm,0.8s						
COLA				sP	**sP**	**17 56 43.3**	**+1.0**
COLA	**College**	**74.41**	**16**	P		17 56 05.0	
	baz=328						
FITZ	**Fitzroy Crossi**	**74.45**	**127**	P	**P**	**17 56 05.8**	**+0.5**
IL31		**74.72**	**16**	P	**P**	**17 56 05.7**	**-0.6**
ILAR	**Eielson Array**	**74.72**	**16**	P	**P**	**17 56 05.3**	**-1.1**
	comp=Z,4.1nm,0.9s,baz=317,slow=4.8,SNR=40						
ILAR				pP	**pP**	**17 56 34.3**	**+1.4**
	comp=Z,1.3nm,0.9s,baz=321,slow=4.5,SNR=2.6						
ILAR	**Eielson Array**	**74.72**	**16**	P	**P**	**17 56 05.5**	**-0.8**
ILAR				*SP	**sP**	**17 56 44.6**	**+0.5**
ILAR	**Eielson Array**	**74.72**	**16**	P	**P**	**17 56 05.5**	**-0.8**
ILAR					**sP**	**17 56 44.6**	**+0.5**
KTH	**Kantishna Hill**	**74.78**	**18**	P	**P**	**17 56 06.7**	**-0.1**
KTH				IAmb	IAmb	17 56 07.7	
	comp=Z,14nm,1.0s						
KTH				pP	**pP**	**17 56 33.2**	**-0.4**
KTH				sP	**sP**	**17 56 45.5**	**+0.6**
LBTB	**Lobatse**	**74.96**	**223**	P	**P**	**17 56 08.6**	**+0.2**
LBTB					**pP**	**17 56 36.0**	**+1.0**
LBTB				IAmb	IAmb	17 56 49.2	
	comp=Z,12nm,0.9s						
PPLA	**Purkeypile**	**75.00**	**19**	P	**P**	**17 56 07.7**	**-0.5**
PPLA				IAmb	IAmb	17 57 02.3	
	comp=Z,24nm,1.4s						
PPLA	**Purkeypile**	**75.00**	**19**	P		17 56 08.2	
	baz=325						
HDA	**Harding Lake**	**75.02**	**16**	P		17 56 07.5	
	baz=329						
HDA				P		17 56 07.5	
	baz=329						
MCK	**McKinley**	**75.12**	**17**	P	**P**	**17 56 08.7**	**-0.1**
MCK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MCK	**McKinley**	**75.12**	**17**	P	**P**	**17 56 08.7**	**-0.1**
MCK	**McKinley**	**75.13**	**17**	P		17 56 08.8	
	baz=327,SNR=5.5						
DBIC	**Dimbokro**	**75.19**	**267**	P	**P**	**17 56 08.5**	**-1.4**
	comp=Z,1.8nm,0.5s,baz=7.1,slow=6.9,SNR=4.3						
DBIC				pP	**pP**	**17 56 34.8**	**-1.9**
	comp=Z,2.7nm,0.7s,baz=53,slow=8.0,SNR=2.2						
DBIC				LR	LR	18 31 53.9	
	comp=Z,43nm,18.1s,baz=72,slow=38						
DBIC	**Dimbokro**	**75.19**	**267**	P	**P**	**17 56 08.8**	**-1.1**
DBIC				pmax	pmax		
	comp=Z,55nm,2.0s						
DBIC	**Dimbokro**	**75.19**	**267**	P	**P**	**17 56 08.8**	**-1.1**
DBIC				IAmb	IAmb	17 58 25.4	
	comp=Z,55nm,1.9s						
EPYK	**Eagle Plains**	**75.24**	**11**	P		17 56 09.4	
	baz=337						
KIC	**Kosan Boka**	**75.28**	**267**	*eP*	**P**	**17 56 08.1**	**-2.3**
	comp=Z,83nm,2.1s						
TIC	**Toumodi**	**75.34**	**267**	*eP*	**P**	**17 56 08.7**	**-2.1**
RND	**Reindeer**	**75.42**	**18**	P	**P**	**17 56 09.3**	**-1.2**
RND				pmax	pmax		
	comp=Z,26nm,1.6s						
RND	**Reindeer**	**75.42**	**18**	P	**P**	**17 56 09.3**	**-1.2**
RND				IAmb	IAmb	17 57 09.9	
	comp=Z,26nm,1.6s						
LIC	**Lamto**	**75.59**	**267**	*eP*	**P**	**17 56 09.6**	**-2.6**
	comp=Z,78nm,2.0s						
WAT2	**Susitna Watana**	**75.86**	**18**	P		17 56 12.2	
	baz=328,SNR=6.5						
EGAK	**Eagle**	**75.90**	**14**	P	**P**	**17 56 13.1**	**0.0**
EGAK	**Eagle**	**75.91**	**14**	P		17 56 13.3	
	baz=333						
SKT	**Skwentna**	**75.92**	**19**	P	**P**	**17 56 12.7**	**-0.6**
SKT				IAmb	IAmb	17 56 13.7	
	comp=Z,18nm,1.0s						
SKT				pP	**pP**	**17 56 40.0**	**-0.2**
SKT				sP	**sP**	**17 56 51.8**	**+0.3**
SKT	**Skwentna**	**75.93**	**19**	P		17 56 12.9	
	baz=325,SNR=11						
SCRK	**Sand Creek**	**76.04**	**15**	P	**P**	**17 56 13.9**	**-0.2**
SCRK				sP	**sP**	**17 56 52.5**	**+0.6**
SCRK	**Sand Creek**	**76.04**	**15**	P		17 56 14.4	
	baz=331						
K27K	**Chicken**	**76.39**	**15**	P	**P**	**17 56 16.0**	**+0.1**
K27K	**Chicken**	**76.39**	**15**	P		17 56 16.7	
	baz=333						
WAT6	**Susitna Watana**	**76.39**	**18**	P		17 56 15.5	
	baz=328						
SUA	**Susitna One**	**76.56**	**19**	P	**P**	**17 56 16.6**	**-0.5**
SUA	**Susitna One**	**76.56**	**19**	P		17 56 16.8	
	baz=326,SNR=6.9						
PAX	**Paxson**	**76.59**	**16**	P	**P**	**17 56 16.8**	**-0.4**
PAX				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PAX	**Paxson**	**76.59**	**16**	P	**P**	**17 56 16.8**	**-0.4**
PAX	**Paxson**	**76.59**	**16**	P		17 56 17.0	
	baz=330,SNR=7.8						
GHO	**Glory Hole Cre**	**76.78**	**19**	P	**P**	**17 56 18.1**	**-0.1**
GHO				IAmb	IAmb	17 57 04.5	
	comp=Z,13nm,0.9s						
RSO	**Redoubt South**	**76.83**	**21**	P	**P**	**17 56 19.0**	**+0.2**
DAWY	**Dawson**	**76.88**	**13**	P	**P**	**17 56 18.9**	**+0.2**
PMR	**Palmer**	**76.88**	**19**	P		17 56 18.9	
	baz=327						
SML	**Sawmill**	**76.90**	**18**	P	**P**	**17 56 18.7**	**-0.2**
SML				IAmb	IAmb	17 56 19.6	
	comp=Z,25nm,1.0s						
SML	**Sawmill**	**76.91**	**18**	P		17 56 19.0	
	baz=328,SNR=9.8						
M24K	**Tolsona, Glenn**	**77.18**	**17**	P	**P**	**17 56 20.6**	**+0.2**
M24K				IAmb	IAmb	17 56 22.2	
	comp=Z,29nm,1.0s						
M24K	**Tolsona, Glenn**	**77.18**	**17**	P		17 56 21.4	
	baz=330,SNR=5.8						
KNK	**Knik Glacier**	**77.21**	**19**	P	**P**	**17 56 20.5**	**-0.1**
KNK				IAmb	IAmb	17 57 04.2	
	comp=Z,11nm,0.9s						
KNK	**Knik Glacier**	**77.21**	**19**	P		17 56 20.8	
	baz=328						
L27K	**Beaver Creek,**	**77.31**	**15**	P	**P**	**17 56 21.6**	**+0.5**
L27K	**Beaver Creek,**	**77.31**	**15**	P		17 56 22.0	
	baz=333						
BCAR	**Beaver Creek A**	**77.31**	**15**	P	**P**	**17 56 21.4**	**+0.2**
BCAR				pP	**pP**	**17 56 50.7**	**+2.7**
BCAR				sP	**sP**	**17 57 00.8**	**+1.7**
KLU	**Klutina**	**77.77**	**17**	P	**P**	**17 56 24.1**	**+0.3**
BOSA	**Boshof**	**78.01**	**221**	P	**P**	**17 56 25.8**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=8.9,slow=4.6,SNR=7.8						
BOSA				pP	**pP**	**17 56 50.9**	**-1.6**
	comp=Z,12nm,0.8s,baz=40,slow=7.0,SNR=9.0						
EYAK	**Cordova Ski Ar**	**78.63**	**18**	P		17 56 29.4	
	baz=330						
KDAK	**Kodiak Island**	**79.08**	**22**	P		17 56 31.1	
	baz=325						
CTG	**Chitna Glacier**	**79.29**	**16**	P		17 56 33.3	
	baz=334						
CTGM	**Chitina Glacie**	**79.29**	**16**	P	**P**	**17 56 32.7**	**+0.4**
CTGM				IAmb	IAmb	17 56 33.8	
	comp=Z,15nm,1.0s						
OHAK	**Old Harbor**	**79.32**	**23**	P		17 56 32.8	
	baz=325						
YKA	**Yellowknife Ar**	**81.30**	**3**	P	**P**	**17 56 42.9**	**+0.1**
	comp=Z,4.9nm,0.6s,baz=353,slow=4.9,SNR=99						
YKA				pP	**pP**	**17 57 09.8**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=352,slow=4.7,SNR=3.6						
WRA	**Warramunga Arr**	**81.53**	**122**	P	**P**	**17 56 44.2**	**-0.3**
	comp=Z,2.7nm,0.3s,baz=325,slow=4.9,SNR=93						
WRA				pP	**pP**	**17 57 10.5**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=323,slow=5.1,SNR=5.3						
WRA				LR	LR	18 37 49.3	
	comp=Z,37nm,18.6s,baz=200,slow=39						
WRA	**Warramunga Arr**	**81.53**	**122**	P	**P**	**17 56 44.4**	**-0.2**
WRAB	**Tennant Creek**	**81.53**	**122**	*ce*P	**P**	**17 56 45.2**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,36nm,2.5s						
WB2	**Warramunga Arr**	**81.54**	**122**	P	**P**	**17 56 44.0**	**-0.6**
WB2				IAmb	IAmb	17 57 13.6	
	comp=Z,66nm,1.9s						
AS31	**Alice Springs**	**83.80**	**125**	P	**P**	**17 56 55.8**	**-0.6**
ASAR	**Alice Springs**	**83.80**	**125**	P	**P**	**17 56 55.9**	**-0.5**
	comp=Z,4.0nm,0.7s,baz=308,slow=5.2,SNR=68						
ASAR				pP	**pP**	**17 57 22.9**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=301,slow=5.4,SNR=5.3						
ASAR	**Alice Springs**	**83.80**	**125**	P	**P**	**17 56 55.6**	**-0.7**
ASAR				pP	**pP**	**17 57 23.1**	**-0.2**
ASAR				sP	**sP**	**17 57 39.3**	**+5.0**
FCC	**Fort Churchill**	**84.42**	**353**	P	**P**	**17 56 59.4**	**+0.5**
FCC				pmax	pmax		
	comp=Z,12nm,1.1s						
FCC	**Fort Churchill**	**84.42**	**353**	P	**P**	**17 56 59.4**	**+0.5**
FCC				IAmb	IAmb	17 57 00.6	
	comp=Z,12nm,1.1s						
FFC	**Flin Flon**	**89.05**	**356**	P	**P**	**17 57 21.5**	**0.0**
FFC				IAmb	IAmb	17 57 22.9	
	comp=Z,9.3nm,0.9s						
FFC				pP	**pP**	**17 57 48.9**	**+0.3**
MATQ	**Matagami**	**89.98**	**341**	P		17 57 26.8	
	baz=24						
BBB	**Bella Bella**	**90.09**	**12**	LR	LR	18 42 14.2	
	comp=Z,28nm,20.1s,baz=320,slow=38						
ULM	**Lac du Bonnet**	**93.00**	**352**	P	**P**	**17 57 38.5**	**-1.5**
	comp=Z,3.9nm,0.9s,baz=357,slow=4.9,SNR=7.2						
ULM				LR	LR	18 44 22.3	
	comp=Z,57nm,18.1s,baz=64,slow=38						
STKA	**Stephens Creek**	**94.34**	**127**	P	**P**	**17 57 44.9**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=323,slow=15,SNR=3.7						
SADO	**Sadowa**	**94.96**	**340**	LR	LR	18 42 04.3	
	comp=Z,30nm,19.3s,baz=130,slow=36						
NEW	**Newport**	**95.33**	**6**	LR	LR	18 43 56.9	
	comp=Z,40nm,18.6s,baz=12,slow=37						
PLCA	**Paso Flores**	**150.27**	**250**	PKPbc	**PKPbc**	**18 04 16.9**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=45,slow=1.6,SNR=4.4						
PLCA	**Paso Flores**	**150.27**	**250**	PKIKP	**PKPdf**	**18 04 11.7**	**-0.3**
PLCA	**Paso Flores**	**150.27**	**250**		**PKPdf**	**18 04 11.7**	**-0.3**

DJA 21 17:45:43.7±0.3, 1°S±3°×12°7E±°, h10km, M3.7/12, mb4.1/2, mB4.5/1, MLv3.5/12, Mw(mB)3.7/1, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.31**	**216**	P	Pn	17 46 07.6	-0.4
TNTI	**Ternate**	**1.85**	**20**	P	Pn	17 46 14.3	-1.2
NLAI	**Namlea**	**2.27**	**171**	P	Pn	17 46 20.3	-1.0
MSAI	**Masohi**	**3.20**	**137**	P	Pn	17 46 32.7	-1.4
LUWI	**Luwuk**	**3.98**	**269**	P	Pn	17 46 45.5	+0.7
GTOI	**Gorontalo**	**4.07**	**293**	P	Pn	17 46 48.2	+2.1
SWI	**Sorong**	**4.51**	**89**	P	Pn	17 46 53.8	+1.7
BNDI	**Bandanaira**	**4.72**	**138**	P	Pn	17 46 56.8	+1.7
MRSI	**Marisa**	**5.02**	**287**	P	Pn	17 46 58.4	-0.8
	0.1nm6.6nm,0.6s						
APSI	**Ampana**	**5.10**	**271**	P	Pn	17 47 01.9	+1.6

ROM 21 17:50:22.8±0.1, 43°057N±0°004×12°800E±0°004, h9km, ML0.5/3, 1C, Error ellipse: s-maj=0.4km s-min=0.4km az=200.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.09**	**124**	P	Pg	17 50 25.6	+0.4
CESI				S	Sg	17 50 27.5	+0.6
CESI				AML	AML		
	comp=E,7μm,1.3s						
CESI				AML	AML		
	comp=N,20μm,1.4s						
CESI				AML	AML		
	comp=N,20μm,1.4s						
CESI				AML	AML		
	comp=E,7μm,1.3s						
ASSB	**Assisi San Ben**	**0.10**	**262**	P	Pg	17 50 25.8	+0.4
ASSB				S	Sg	17 50 27.8	+0.5
ASSB				AML	AML		
	comp=E,69μm,0.2s						
ASSB				AML	AML		
	comp=E,69μm,0.2s						
ASSB				AML	AML		
	comp=N,111μm,0.1s						
ATCC	**AVT- Casa Cast**	**0.17**	**318**	P	Pg	17 50 26.9	+0.5
ATCC				S	Sg	17 50 30.2	+1.2
FDMO	**Fiordimonte**	**0.21**	**95**	P	Pg	17 50 27.7	+0.6
FDMO				S	Sg	17 50 31.5	+1.4
FDMO				AML	AML		
	comp=E,21μm,1.6s						
FDMO				AML	AML		
	comp=N,20μm,0.2s						
PP3	**Marolino**	**0.67**	**61**	↑P	Pg	17 50 35.6	-0.1
VIVA	**Pratoni del Vi**	**1.31**	**181**	P	Pn	17 50 32.3	-15

IDC 21 18:03:20.7±4.1, 30°87N×141°19E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/33, mbtmp3.2/4, ML2.3/1, Error ellipse: s-maj=166.7km s-min=26.6km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.18**	**337**	Pn	Pn	18 04 52.7	-0.5
	0.1nm,0.3s,baz=155,slow=11,SNR=8.8						
MKAR	**Makanchi Array**	**47.45**	**307**	P	P	18 11 57.1	0.0
	0.2nm,0.8s,baz=82,slow=10,SNR=1.9						
WRA	**Warramunga Arr**	**50.95**	**188**	P	P	18 12 23.9	-0.2
	0.7nm,0.9s,baz=6.5,slow=7.7,SNR=9.1						
ASAR	**Alice Springs**	**54.67**	**188**	P	P	18 12 51.5	-0.1
	0.4nm,1.0s,baz=359,slow=4.4,SNR=5.0						

*IDC **21** 18:32:31.5±1.2, 35°69N×108°05W, h0km, mb1 2.9/3, mb1mx2.9/41, mbtmp2.4/3, ML3.1/3, Error ellipse: s-maj=27.8km s-min=10.5km az=43.0*

*NEIC **21** 18:32:35.4±1.6, 35°67N±0°02×107°87W±0°04, h0km±2km, ML2.8/83, Error ellipse: s-maj=6.1km s-min=3.1km az=62.0*

ISC 21 18:32:34.2±0.9, 35°65N±0°04×107°90W±0°05, h0km, n51, σ1§40/54, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANMO	**Albuquerque**	**1.38**	**120**	Pg	**Pg**	**18 32 59.2**	**-1.3**
	3.2nm,0.3s,baz=308,slow=14,SNR=49						
ANMO				Lg	Lg	18 33 17.3	
	3.3nm,0.3s,baz=209,slow=22,SNR=40						
ANMO	**Albuquerque**	**1.38**	**120**		**Pg**	**18 32 59.4**	**-1.2**
ANMO				Sn	**Sb**	**18 33 19.0**	**-0.1**
W18A	**Petrified Fore**	**1.59**	**251**		**Pn**	**18 33 03.4**	**-0.4**
W18A					**Sn**	**18 33 26.4**	**+1.2**
MVCO	**Mesa Verde**	**1.63**	**343**	Pn	**Pn**	**18 33 04.1**	**-0.2**
MVCO				Sn	**Sn**	**18 33 26.6**	**+0.4**
MVCO				IAML		18 33 27.4	
	87nm,0.6s						
LENM	**Lemitar**	**1.67**	**153**		**Pb**	**18 33 07.0**	**+1.1**
Y22D	**IRIS PASSCAL I**	**1.77**	**153**	Pn	**Pn**	**18 33 07.0**	**+0.8**
Y22D				IAML		18 33 41.3	
	comp=N,82nm,0.5s						
Y22D				IAML		18 33 45.4	
	comp=E,85nm,0.5s						
BNM	**Barren Site**	**1.83**	**145**		**Pn**	**18 33 07.6**	**+0.5**
X18A	**Snowflake**	**2.02**	**237**		**Pn**	**18 33 10.6**	**+0.9**
X18A				IAML		18 33 40.1	
	comp=N,58nm,0.6s						
X18A				IAML		18 33 40.9	
	comp=E,58nm,0.6s						
PV01	**Paradox Valley**	**2.53**	**348**		**Pn**	**18 33 17.8**	**+1.0**
PV01				IAML		18 33 56.2	
	comp=N,43nm,0.6s						
PV05	**Paradox Valley**	**2.60**	**339**		**Pn**	**18 33 18.9**	**+1.1**
PV13	**Radium Mtn., P**	**2.61**	**344**		**Pn**	**18 33 18.7**	**+0.9**
PV02	**Paradox Valley**	**2.64**	**346**		**Pn**	**18 33 19.7**	**+1.5**
PV03	**Paradox Valley**	**2.71**	**344**		**Pn**	**18 33 20.0**	**+0.8**
PV03				IAML		18 34 00.0	
	comp=E,50nm,0.5s						
PV18	**Skein Mesa, Pa**	**2.71**	**343**		**Pn**	**18 33 19.9**	**+0.6**
PV18				IAML		18 34 04.9	
	comp=E,30nm,0.6s						
PV18				IAML		18 34 08.8	
	comp=N,49nm,0.5s						
PV15	**Paradox Valley**	**2.72**	**350**		**Pn**	**18 33 20.5**	**+1.1**
PV11	**David Mesa, Pa**	**2.75**	**344**		**Pn**	**18 33 20.6**	**+0.8**
PV12	**Saucer Basin,**	**2.76**	**345**		**Pn**	**18 33 20.9**	**+1.1**
PV12				IAML		18 34 12.6	
	comp=E,54nm,0.5s						
PV17	**East Wray Mesa**	**2.76**	**342**		**Pn**	**18 33 20.5**	**+0.7**
PV17				IAML		18 34 11.7	
	comp=E,42nm,0.7s						
PV17				IAML		18 34 17.0	
	comp=N,38nm,0.7s						
PV16	**Nyswonger Mesa**	**2.77**	**343**		**Pn**	**18 33 20.8**	**+0.7**
PV16				IAML		18 34 02.2	
	comp=E,43nm,0.5s						
PV19	**Morning Glory**	**2.79**	**342**		**Pn**	**18 33 20.9**	**+0.6**
PV19				IAML		18 34 04.4	
	comp=N,31nm,0.5s						
PV19				IAML		18 34 12.3	
	comp=E,29nm,0.5s						
PV20	**West Nyswonger**	**2.82**	**343**		**Pn**	**18 33 22.1**	**+1.4**
WUAZ	**Wupatki**	**2.83**	**268**	Pn	**Pn**	**18 33 22.4**	**+1.5**
WUAZ				IAML		18 34 07.2	
	comp=E,48nm,0.5s						
WUAZ				IAML		18 34 08.1	
	comp=E,39nm,0.4s						
PV07	**Paradox Valley**	**2.84**	**348**		**Pn**	**18 33 22.3**	**+1.2**
PV07				IAML		18 34 04.3	
	comp=N,44nm,0.6s						
PV07				IAML		18 34 07.7	
	comp=E,28nm,0.7s						
PV04	**Paradox Valley**	**2.85**	**344**		**Pn**	**18 33 22.3**	**+1.1**
PV04				IAML		18 34 08.3	
	comp=N,50nm,0.5s						
PV14	**Lion Creek, Pa**	**2.86**	**342**		**Pn**	**18 33 22.2**	**+0.9**
PV14				IAML		18 34 06.0	
	comp=E,48nm,0.5s						
PV10	**Paradox Valley**	**2.87**	**342**		**Pn**	**18 33 21.4**	**0.0**
PV22	**Blue Mesa, Par**	**2.96**	**346**	Pn	**Pn**	**18 33 23.0**	**+0.3**
PV22				IAML		18 34 09.2	
	comp=E,30nm,0.6s						
121A	**Cookes Peak, D**	**3.11**	**178**		**Pn**	**18 33 25.4**	**+0.6**
T25A	**Trinidad**	**3.18**	**61**		**Pn**	**18 33 26.7**	**+1.0**
SMCO	**Snowmass**	**3.59**	**12**		**Pn**	**18 33 32.5**	**+1.0**
U15A	**North Rim**	**3.64**	**284**		**Pn**	**18 33 34.2**	**+2.1**
U15A				IAML		18 34 35.7	
	comp=E,20nm,0.7s						
U15A				IAML		18 34 39.0	
	comp=N,17nm,0.5s						
PKCU	**Pink Cliffs**	**3.98**	**298**		**Pn**	**18 33 39.0**	**+2.3**
PKCU				IAML		18 34 58.3	
	comp=N,18nm,3.4s						
SRU	**San Rafael Swe**	**4.03**	**330**		**Pn**	**18 33 38.0**	**+0.6**
SRU				IAML		18 34 43.8	
	comp=E,19nm,0.8s						
SRU				IAML		18 34 44.5	
	comp=N,11nm,0.6s						
TUC	**Tucson**	**4.11**	**217**	Pn	**Pn**	**18 33 40.2**	**+1.9**
Q16A	**Castle Valley**	**4.17**	**322**		**Pn**	**18 33 41.1**	**+1.8**
Q16A				IAML		18 34 53.1	
	comp=N,12nm,1.6s						
Q16A				IAML		18 34 55.6	
	comp=E,12nm,1.4s						
MTPU	**Mount Pierson**	**4.18**	**306**		**Pn**	**18 33 41.2**	**+1.6**
MTPU				IAML		18 34 49.1	
	comp=N,11nm,0.6s						
MTPU				IAML		18 34 50.5	
	comp=E,11nm,1.3s						
KNB	**Kanab**	**4.20**	**290**		**Pn**	**18 33 41.6**	**+1.9**
KNB				IAML		18 34 50.2	
	comp=N,14nm,0.8s						
KNB				IAML		18 34 56.7	
	comp=E,12nm,0.9s						
319A	**Douglas**	**4.42**	**196**		**Pb**	**18 33 50.1**	**-2.6**
319A				IAML		18 35 09.2	
	comp=E,11nm,3.9s						
319A				IAML		18 35 09.9	
	comp=N,7.1nm,0.9s						
P17A	**Butcher Ranch,**	**4.43**	**330**		**Pn**	**18 33 43.0**	**+0.2**
P17A				IAML		18 34 54.3	
	comp=E,13nm,1.0s						
P17A				IAML		18 34 56.3	
	comp=N,11nm,0.8s						
MSU	**Marysvale**	**4.45**	**311**		**Pn**	**18 33 45.6**	**+2.4**
MNTX	**Cornudas Mount**	**4.47**	**151**	Pn	**Pn**	**18 33 44.0**	**+0.8**
O20A	**White River Ci**	**4.48**	**357**		**Pn**	**18 33 45.6**	**+2.0**
O20A				IAML		18 35 12.8	
	comp=N,13nm,4.1s						
O20A				IAML		18 36 02.2	
	comp=E,14nm,3.2s						
TMUT	**Trail Mountain**	**4.49**	**325**		**Pn**	**18 33 45.5**	**+1.7**
ISCO	**Idaho Springs**	**4.52**	**23**	Pn	**Pn**	**18 33 45.6**	**+1.5**
LCMT	**Little Creek M**	**4.52**	**289**		**Pn**	**18 33 46.0**	**+2.0**
SZCU	**Shurtz Canyon**	**4.60**	**296**	Pn	**Pn**	**18 33 47.5**	**+2.3**
SZCU				IAML		18 35 00.6	
	comp=E,9.0nm,0.9s						
SZCU				IAML		18 35 03.9	
	comp=N,6.9nm,1.4s						
CCUT	**Cedar City**	**4.79**	**295**	Pn	**Pn**	**18 33 47.4**	**-0.3**
CCUT				IAML		18 35 12.2	
	comp=N,7.0nm,4.8s						
CCUT				IAML		18 36 10.6	
	comp=E,6.2nm,4.6s						
PSUT	**Pine Spring**	**5.56**	**303**	Pn	**Pn**	**18 34 00.5**	**+2.

JHO	**Hitachi**	**8.56**	**4**	P	**P**	**18 52 16.6**	**+1.4**
JHO				S	**S**	**18 53 53.6**	**-1.9**
MJAR	**Matsushiro Arr**	**8.56**	**351**	P	**P**	**18 52 15.6**	**+0.3**
	0.1nm,0.3s,baz=166,slow=11,SNR=11						
JMK	**Ichinoseki**	**10.93**	**6**	P	**P**	**18 52 42.7**	**+2.5**
USRK	**Ussuriysk Ar.**	**17.28**	**341**	P	**P**	**18 53 47.5**	**+0.9**
	baz=141,slow=9.3,SNR=5.1						
WRA	**Warramunga Arr**	**48.01**	**187**	P	**P**	**18 58 05.0**	**-1.3**
	0.2nm,0.3s,baz=0.8,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**48.22**	**309**	P	**P**	**18 58 07.3**	**-0.4**
	0.1nm,0.4s,baz=78,slow=9.7,SNR=1.8						
ASAR	**Alice Springs**	**51.73**	**187**	P	**P**	**18 58 32.9**	**-0.8**
	0.3nm,1.0s,baz=6.7,slow=7.3,SNR=5.7						
FINES	**FINESS Array B**	**76.14**	**333**	P	**P**	**19 01 08.8**	**-0.1**
	1.0nm,0.5s,baz=66,slow=4.6,SNR=9.7						

*MOS **21** 19:46:27.4±0.9,3˚.63N×127˚.34E,h32km,mb5.3/43, MS4.5/6,Error ellipse: s-maj=7.6km s-min=4.2km az=110.3*

*BJI **21** 19:46:28.9±0.0,3˚.54N×127˚.32E,h49km,mB5.1/63, mb5.0/83,Ms4.8/85,Ms7 4.6/81*

*IDC **21** 19:46:29.7±1.9,3˚.56N×127˚.38E,h36km±15km,mb4.6/30, mb1 4.7/31,mb1mx4.5/41,mbtmp4.8/31,ML4.3/1,MS4.3/22, Ms1 4.3/22,ms1mx4.2/32,Error ellipse: s-maj=15.0km s-min=7.8km az=81.0*

*NEIC **21** 19:46:30.1±1.6,3˚.59N±0˚.06×127˚.35E±0˚.05,h40km±5km, mb5.2/155,Error ellipse: s-maj=8.2km s-min=6.6km az=157.0*

*GCMT **21** 19:46:30.1±0.2,3˚.60N±0˚.01×127˚.45E±0˚.01,h27km, MW5.2/113,Moment Tensor Solution. s87,c121; s113,c189; Duration: 1!0 Moment tensor: Scale 10^16 Nm; Mrr=4.47±.14; Mθθ3.74±.09; Mφφ0.73±.12; Mrθ-6.50±.26; Mθφ-2.90±.08; Mφr-0.59±.21; Best double couple: Mo8.25400×10^16 NP1:φs326.00000°,δ26.00000°, λ-41.00000°. NP2:φs94.00000°,δ73.00000°, λ-110.00000°. Principal axes: T 8.0400, Plg25.0000°, Azm200.0000°; N 0.4280, Plg19.0000°, Azm100.0000°; P -8.4670, Plg57.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*KLM **21** 19:46:32,3˚.45N×127˚.52E,h46km,mb5.3*

*DJA **21** 19:46:32.8±0.3,4˚N±2˚×12˚7E±˚,h55km±3km,M5.0/69, mb5.3/69,mB5.5/53,MLv5.3/15,Mw(mB)5.0/53, MwMwp4.8/13,Mwp5.1/13*

ISC 21 19:46:31.5±0.4,3˚.58N±0˚.03×127˚.35E±0˚.04,h51km±2km, **h52**km**:pP-P,n556,**σ1s**59**/642**,mb5.2**/194**,MS4.5**/53, **29C-22D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.82**	**273**	P	**Pn**	**19 46 59.7**	**-0.7**
TNTI	**Ternate**	**2.79**	**180**	Pn	**Pn**	**19 47 14.0**	**+0.4**
TNTI	**Ternate**	**2.79**	**180**	P	**Pn**	**19 47 14.2**	**+0.5**
DDMP	**Don Marcelino,**	**2.99**	**327**	*e*P	**Pn**	**19 47 14.2**	**-2.2**
MATI	**Mati**	**3.52**	**342**	*e*P	**Pn**	**19 47 22.3**	**-1.3**
MATI				*e*S	Sn	19 48 15.2	+11
DAV	**Davao City (W)**	**3.89**	**333**	Pn	**Pn**	**19 47 29.9**	**+1.2**
	145nm,0.3s,baz=96,slow=3.2,SNR=38						
DAV				Sn	Sn	19 48 22.4	+9.2
	205nm,0.3s,baz=255,slow=23,SNR=3.6						
DAV				LR	LR	19 48 30.4	
	comp=Z,2μm,20.8s,baz=126,slow=31						
DAV	**Davao City (W)**	**3.89**	**333**		**Pn**	**19 47 29.4**	**+0.7**
SKMP	**Bagumbayan, Su**	**4.04**	**316**	*e*P	**Pn**	**19 47 29.9**	**-1.0**
SKMP				*e*S	**Sn**	**19 48 16.3**	**-0.6**
KCP	**Kidapawan**	**4.08**	**327**	⇑*e*P	**Pn**	**19 47 31.6**	**+0.1**
KCP				*i* S	Sn	19 48 37.2	+19
KMSI	**Cibinong**	**4.50**	**229**	P	**Pn**	**19 47 38.7**	**+1.6**
BUKP	**Musuan**	**4.84**	**332**	*e*P	**Pn**	**19 47 42.1**	**+0.3**
BUKP				*e*S	**Sn**	**19 48 44.7**	**+8.0**
GTOI	**Gorontalo**	**5.23**	**236**	P	**Pn**	**19 47 48.2**	**+1.0**
	1.0nm3μm304nm,1.0s						
CGP	**Cagayan de Oro**	**5.51**	**332**	⇓*e*P	**Pn**	**19 47 54.0**	**+2.9**
BUTP	**Butuan**	**5.62**	**342**	*e*P	**Pn**	**19 47 54.4**	**+1.8**
BUTP				*e*S	Sn	19 49 07.1	+11
SANI	**Sanana**	**5.76**	**194**	P	**Pn**	**19 47 52.9**	**-1.5**
	1.5nm5μm9μm379nm,0.8s						
PAGZ	**Pagadian**	**5.79**	**317**	*e*P	**Pn**	**19 47 53.1**	**-1.8**
SWI	**Sorong**	**5.89**	**138**	P	**Pn**	**19 47 57.7**	**+1.4**
	1.1nm4μm3μm262nm,0.8s						
SIJI	**Sorong**	**5.90**	**138**	Pn	**Pn**	**19 47 57.2**	**+0.8**
	12nm,0.3s,baz=287,slow=23,SNR=56						
SIJI				Sn	**Sn**	**19 49 01.8**	**-1.0**
	baz=144,slow=22,SNR=0.6						
ZCP	**Zamboanga City**	**6.22**	**303**	⇓*e*P	**Pn**	**19 48 00.4**	**-0.3**
ZCP				*e*S	**Sn**	**19 49 08.0**	**-2.6**
MRSI	**Marisa**	**6.22**	**240**	P	**Pn**	**19 48 02.0**	**+1.2**
	3.1nm4μm9μm915nm,0.9s						
GLSP	**General Luna,**	**6.28**	**349**	*e*P	**Pn**	**19 47 58.9**	**-2.7**
GLSP				*e*S	**Sn**	**19 49 11.5**	**-0.6**
LUWI	**Luwuk**	**6.48**	**225**	Pn	**Pn**	**19 48 04.0**	**-0.4**
LUWI	**Luwuk**	**6.48**	**225**	P	**Pn**	**19 48 05.0**	**+0.7**
	6.1nm5μm12μm2μm,0.9s						
NLAI	**Namlea**	**6.78**	**182**	P	**Pn**	**19 48 08.4**	**0.0**
	1.1nm4μm290nm,1.0s						
MSLP	**Maasin**	**6.96**	**339**	*e*P	**Pn**	**19 48 10.8**	**-0.2**
MSLP				*e*S	**Sn**	**19 49 29.2**	**+0.3**
TOLI2	**Tolitoli**	**7.01**	**250**	Pn	**Pn**	**19 48 10.9**	**-0.6**
APSI	**Ampana**	**7.24**	**232**	P	**Pn**	**19 48 17.2**	**+2.5**
	2.5nm9μm794nm,1.2s						
LLP	**Lapu-Lapu**	**7.49**	**334**	*e*P	**Pn**	**19 48 20.8**	**+2.6**
LLP				*e*S	**Sn**	**19 49 45.5**	**+3.8**
OCLP	**Ormoc**	**7.90**	**340**	*e*P	**Pn**	**19 48 24.1**	**+0.2**
FAKI	**Fak Fak**	**8.10**	**143**	Pn	**Pn**	**19 48 27.7**	**+1.1**
FAKI	**Fak Fak**	**8.10**	**143**	P	**Pn**	**19 48 27.6**	**+1.1**
	3μm2μm294nm,1.0s						
MYLDM	**Lahad Datu**	**8.97**	**281**		**Pn**	**19 48 39.1**	**+0.7**
BAKI	**Biak**	**9.95**	**118**	P	**Pn**	**19 48 55.1**	**+3.2**
	3μm168nm,1.0s						
TTSI	**Tana Toraja**	**10.00**	**229**	P	**Pn**	**19 48 53.1**	**+0.6**
	3μm3μm346nm,1.1s						
SPSI	**Sidrap Palu**	**10.66**	**225**	P	**Pn**	**19 49 03.1**	**+1.6**
	2μm2μm167nm,0.9s						
BNSI	**Bone**	**10.73**	**222**	P	**Pn**	**19 49 03.2**	**+0.6**
	2μm160nm,1.0s						
KKM	**Kota Kinabalu**	**11.36**	**283**	Pn	**Pn**	**19 49 11.6**	**+0.3**
KAPI	**Kappang**	**11.43**	**222**	Pn	**Pn**	**19 49 10.9**	**-1.1**
	2.2nm,0.3s,baz=24,slow=5.9,SNR=22						
KAPI				LR	LR	19 54 16.3	
	comp=Z,736nm,18.8s,baz=37,slow=41						
KAPI	**Kappang**	**11.43**	**222**	P	**Pn**	**19 49 11.1**	**-1.0**
KAPI	**Kappang**	**11.43**	**222**	Pn	**Pn**	**19 49 11.1**	**-1.0**
BKB	**Balikpapan**	**11.50**	**245**	Pn	**Pn**	**19 49 11.0**	**-2.1**
PGP	**Puerto Galera**	**11.71**	**328**	⇑*e*P	**Pn**	**19 49 19.3**	**+3.4**
LQP	**Lukban**	**11.93**	**332**	⇑*e*P	**Pn**	**19 49 21.6**	**+2.4**
SAUI	**Saumlaki**	**12.14**	**161**	Pn	**Pn**	**19 49 21.7**	**-0.1**
SAUI	**Saumlaki**	**12.14**	**161**	P	**Pn**	**19 49 22.5**	**+0.6**
	4μm330nm,1.1s						
KBKI	**Kotabaru**	**13.10**	**239**	P	**Pn**	**19 49 35.9**	**+0.9**
	1μm110nm,1.1s						
MMRI	**Maumere**	**13.16**	**203**	Pn	**Pn**	**19 49 35.1**	**-0.7**
MMRI	**Maumere**	**13.16**	**203**	P	**Pn**	**19 49 35.7**	**-0.1**
	2μm3μm234nm,1.1s						
MTKI	**Muara Teweh, K**	**13.23**	**250**	P	**Pn**	**19 49 38.5**	**+1.7**
	1μm60nm,1.2s						
EDFI	**Ende, Flores**	**13.49**	**205**	P	**Pn**	**19 49 40.0**	**-0.3**
	1μm88nm,0.8s						
SOEI	**Soe**	**13.60**	**193**	Pn	**Pn**	**19 49 42.2**	**+0.3**
SOEI	**Soe**	**13.60**	**193**	P	**Pn**	**19 49 43.8**	**+1.9**
	3μm3μm347nm,0.9s						
BATI	**Baumata**	**14.18**	**195**	P	**Pn**	**19 49 50.5**	**+0.9**
	1μm142nm,0.8s						
GENI	**Genyem**	**14.20**	**115**	P	**P**	**19 49 58.8**	**+2.8**
	4μm385nm,0.9s						
BBKI	**Banjar Baru**	**14.33**	**241**	P	**Pn**	**19 49 52.5**	**+0.9**
	3μm93nm,1.6s						
JAY	**Jayapura**	**14.66**	**114**	P	**P**	**19 50 00.5**	**-0.6**
	635nm46nm,0.9s						
WSI	**Waingapu**	**14.92**	**208**	P	**Pn**	**19 50 00.6**	**+1.3**
	1.8μm1μm,1.4s						
CVP	**Callao Caves**	**15.04**	**339**	⇓*e*P	**Pn**	**19 50 00.7**	**-0.2**
SBUM	**Sibu**	**15.15**	**266**	Pn	**Pn**	**19 50 02.3**	**0.0**
SBUM	**Sibu**	**15.15**	**266**	P	**Pn**	**19 50 04.0**	**+1.6**
BASI	**Baing, Sumba**	**15.28**	**206**	P	**Pn**	**19 50 03.6**	**-0.4**
	2μm4μm278nm,1.9s						
SZP	**Santa**	**15.44**	**335**	P	**P**	**19 50 08.2**	**-1.5**
SZP					IAmb IAmb	19 50 44.7	
	comp=Z,395nm,1.7s						
PLAI	**Plampang**	**15.59**	**218**	P	**Pn**	**19 50 09.1**	**+1.1**
	comp=Z,7μmcomp=Z,766nm,1.0s						
TWSI	**Taliwang, Sumb**	**16.08**	**220**	P	**Pn**	**19 50 15.3**	**+1.0**
	comp=Z,3μmcomp=Z,261nm,1.3s						
STKI	**Sintang**	**16.24**	**258**	P	**Pn**	**19 50 16.6**	**+0.3**
	comp=Z,16μmcomp=Z,55nm,0.7s						
MTN	**Manton Dam**	**16.74**	**167**		**Pn**	**19 50 21.3**	**-1.3**
SRBI	**Singaraja**	**16.76**	**226**	P	**Pn**	**19 50 22.5**	**-0.3**
	comp=Z,4μmcomp=Z,378nm,1.3s						
KDU	**Kakadu**	**16.94**	**163**	P	**Pn**	**19 50 22.8**	**-2.3**
	baz=17,SNR=17						
KMMI	**Kalianget**	**17.03**	**232**	P	**Pn**	**19 50 26.0**	**-0.2**
	comp=Z,109nm,0.9s						
KSM	**Kuching**	**17.15**	**263**	P	**Pn**	**19 50 28.1**	**+0.4**
KSM	**Kuching**	**17.15**	**263**	P	**P**	**19 50 30.0**	**+1.2**
DNP	**Denpasar**	**17.17**	**225**	P	P	19 50 36.9	+8.0
JAGI	**Jajag, Banyuwa**	**17.79**	**228**	P	**Pn**	**19 50 35.1**	**-0.5**
JAGI					IAmb IAmb	19 51 03.7	
	comp=Z,140nm,0.8s						
JAGI	**Jajag, Banyuwa**	**17.79**	**228**	P	**P**	**19 50 37.2**	**+1.4**
	comp=Z,2μmcomp=Z,182nm,1.0s						
KNRA	**Kununurra**	**19.18**	**176**	P	**P**	**19 50 50.6**	**-0.5**
KNRA					IAmb IAmb	19 50 53.3	
	comp=Z,107nm,0.8s						
SMRI	**Semarang**	**19.91**	**238**		**P**	**19 50 59.1**	**+0.1**
SMRI					IAmb IAmb	19 51 33.1	
	comp=Z,119nm,1.1s						
SMRI	**Semarang**	**19.91**	**238**	P	**Pn**	**19 51 05.7**	**+4.7**
GUMO	**Guam**	**19.95**	**59**	P	**P**	**19 50 58.6**	**-0.9**
GUMO				pmax	pmax		
	comp=Z,373nm,1.7s						
GUMO	**Guam**	**19.95**	**59**	P	**P**	**19 50 58.6**	**-0.9**
GUMO					IAmb IAmb	19 51 21.4	
	comp=Z,373nm,1.7s						
TWG	**Pinlang**	**20.07**	**343**	P	**P**	**19 50 57.9**	**-2.8**
DLV	**T Lat**	**20.44**	**295**	P	**P**	**19 51 04.8**	**-0.2**
DLV					IAmb IAmb	19 51 18.0	
	comp=Z,184nm,1.2s						
YULB	**Yu-li**	**20.55**	**344**	P	**P**	**19 51 03.5**	**-2.4**
TPUB	**Ta-pu**	**20.65**	**342**	P	**P**	**19 51 05.8**	**-1.3**
TPI	**Tanjungpandan**	**20.67**	**253**	P	Pn	19 51 09.8	-0.2
	comp=Z,849nmcomp=Z,108nm,1.1s						
SSLB	**Suanglung**	**21.02**	**343**	P	**P**	**19 51 08.6**	**-2.4**
NACB	**Ninganchiao**	**21.21**	**345**	P	**P**	**19 51 11.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**21.61**	**184**	P	**P**	**19 51 15.3**	**-1.9**
	comp=Z,22nm,0.7s,baz=8.7,slow=7.1,SNR=39						
FITZ				S	**S**	**19 55 09.5**	**-4.5**
	comp=Z,12nm,1.0s,baz=185,slow=18,SNR=3.1						
FITZ	**Fitzroy Crossi**	**21.61**	**184**	P	**P**	**19 51 16.0**	**-1.2**
	baz=22,SNR=60						
FITZ	**Fitzroy Crossi**	**21.61**	**184**	P	**P**	**19 51 15.7**	**-1.5**
FITZ					IAmb IAmb	19 51 43.6	
	comp=Z,121nm,1.3s						
YHNB	**Yeheng**	**21.74**	**345**	P	**P**	**19 51 17.7**	**-1.0**
PPBI	**Pangkal Pinang**	**21.96**	**255**	P	P	19 51 28.9	+7.8
TATO	**Taipei**	**22.01**	**346**	P	**P**	**19 51 20.2**	**-1.3**
TATO					IAmb IAmb	19 52 03.3	
	comp=Z,210nm,1.3s						
ANA2	**Anatahan**	**22.05**	**54**	P	**P**	**19 51 22.1**	**-0.1**
ANA2	**Anatahan**	**22.05**	**54**	P	**P**	**19 51 22.1**	**-0.1**
LEM	**Lembang**	**22.25**	**242**	P	**P**	**19 51 23.3**	**-1.1**
	comp=Z,15nm,0.6s,baz=33,slow=14,SNR=4.0						
LEM					LR LR	20 01 22.6	
	comp=Z,556nm,20.9s,baz=58,slow=40						
CISI	**Cisompet, Garu**	**22.41**	**240**	P	**P**	**19 51 24.8**	**-1.2**
CISI					IAmb IAmb	19 51 59.1	
	comp=Z,104nm,1.1s						
JMZ	**Minamidaito 2**	**22.42**	**9**	P	**P**	**19 51 24.3**	**-1.6**
JMZ					IAmb IAmb	19 51 26.4	
	comp=Z,86nm,0.8s						
KNMB	**Chin-men Tao**	**22.49**	**338**	P	**P**	**19 51 26.5**	**-0.2**
CBJI	**Citeko**	**22.75**	**244**	P	**P**	**19 51 32.1**	**+2.5**
	comp=Z,229nm,0.9s						
QZH	**Quanzhou**	**22.85**	**339**	⇓*i*P	**P**	**19 51 28.4**	**-2.1**
QZH				S	**S**	**19 55 36.3**	**0.0**
QZH				pmax	pmax		
	comp=Z,55nm,0.7s						
QZH				pmax	pmax		
	comp=Z,470nm,4.1s						
QZH				LR	LR		
	comp=Z,930nm,19.9s						
QZH				LR	LR		
	comp=Z,710nm,19.4s						
QZH				LR	LR		
	comp=Z,2μm,19.9s						
DBJI	**Dramaga**	**22.90**	**244**	P	P	19 51 41.9	+11
QIZ	**Qiongzhong**	**22.99**	**313**	P	**P**	**19 51 31.6**	**-0.4**
QIZ				sP	**pwP**	**19 51 46.6**	**+0.9**
QIZ				S	**S**	**19 55 38.9**	**+0.1**
QIZ				pmax	pmax		
	comp=Z,19nm,1.2s						
QIZ				LR	LR		
	comp=Z,780nm,17.5s						
QIZ				LR	LR		
	comp=Z,640nm,18.2s						
QIZ				LR	LR		
	comp=Z,880nm,18.2s						
QIZ	**Qiongzhong**	**22.99**	**313**	P	**P**	**19 51 31.3**	**-0.8**
JOW	**Kunigami**	**23.14**	**2**	P	**P**	**19 51 31.9**	**-1.4**
	comp=Z,43nm,0.7s,baz=198,slow=10,SNR=10						
JOW					LR LR	19 59 44.3	
	comp=Z,2μm,21.7s,baz=184,slow=34						
JOW	**Kunigami**	**23.14**	**2**	P	**P**	**19 51 33.0**	**-0.4**
COEN	**Coen**	**23.45**	**138**	P	**P**	**19 51 37.1**	**+0.6**
PMBI	**Palembang**	**23.47**	**254**	P	**P**	**19 51 36.1**	**-0.6**
PMBI					IAmb IAmb	19 52 06.3	
	comp=Z,148nm,1.0s						
MYKOM	**Kota Tinggi**	**23.54**	**266**	P	**P**	**19 51 35.1**	**-2.3**
MYKOM	**Kota Tinggi**	**23.54**	**266**	P	**P**	**19 51 40.0**	**+2.6**
PMG	**Port Moresby**	**23.58**	**123**	LR	LR	20 01 40.0	
	comp=Z,852nm,21.4s,baz=300,slow=39						
PMG	**Port Moresby**	**23.58**	**123**	P	**P**	**19 51 35.7**	**-2.1**
PMG				pmax	pmax		
	comp=Z,37nm,1.1s						
PMG	**Port Moresby**	**23.58**	**123**	P	**P**	**19 51 35.7**	**-2.1**
BLSI	**Bandar Lampung**	**23.80**	**248**	P	**P**	**19 51 41.4**	**+1.6**
	comp=Z,1μmcomp=Z,157nm,1.0s						
KLSI		**24.05**	**250**	P	**P**	**19 51 42.3**	**+0.2**
	comp=Z,368nmcomp=Z,50nm,1.0s						
WB0	**Warramunga Arr**	**24.21**	**164**	P	**P**	**19 51 42.2**	**-1.4**
WB0					IAmb IAmb	19 52 00.6	
	comp=Z,85nm,0.8s						
JMBI	**JAMBI**	**24.26**	**258**	P	P	19 51 58.7	+15
WRAB	**Tennant Creek**	**24.36**	**164**	*i* P	**P**	**19 51 44.3**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,117nm,1.2s						
WRAB	**Tennant Creek**	**24.36**	**164**	P	**P**	**19 51 43.8**	**-1.0**
WRAB					IAmb IAmb	19 52 02.3	
	comp=Z,104nm,0.9s						
WRA	**Warramunga Arr**	**24.36**	**164**	P	**P**	**19 51 43.9**	**-1.0**
	comp=Z,83nm,1.1s,baz=343,slow=11,SNR=79						
WRA				S	**S**	**19 56 00.4**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=328,slow=46,SNR=5.0						
WRA	**Warramunga Arr**	**24.36**	**164**	P	**P**	**19 51 43.3**	**-1.6**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**24.36**	**164**	P	**P**	**19 51 43.3**	**-1.6**
UBPT	**Khong Chiam**	**24.48**	**300**	P	**P**	**19 51 45.0**	**-1.0**
	comp=Z,1μmcomp=Z,66nm,1.2s						
UBPT	**Khong Chiam**	**24.48**	**300**	P	**P**	**19 51 44.4**	**-1.6**
KASI	**Kota Agung**	**24.55**	**248**	P	**P**	**19 51 48.0**	**+1.3**
	comp=Z,926nmcomp=Z,112nm,1.1s						
LWLI	**Liwa**	**24.79**	**250**	P	P	19 51 56.4	+7.4
JRMM	**Jerantut**	**24.82**	**272**	P	**P**	**19 51 53.0**	**+3.8**
LHSI	**Lahat**	**24.92**	**253**	P	P	19 52 03.9	+14
KSI	**Kapahiang**	**25.76**	**254**	P	P	19 52 14.8	+17
PSA00	**Pilbara Seismi**	**26.06**	**196**	P	**P**	**19 51 60.0**	**-0.3**
PSA00	**Pilbara Seismi**	**26.06**	**196**	P	**P**	**19 51 59.7**	**-0.5**
PSA00					IAmb IAmb	19 52 02.4	
	comp=Z,105nm,0.9s						
IPM	**Ipoh**	**26.27**	**273**	P	**P**	**19 52 01.9**	**-0.4**
IPM	**Ipoh**	**26.27**	**273**	P	**P**	**19 52 05.0**	**+2.6**
BKNI	**Bangkinang**	**26.49**	**264**	P	**P**	**19 52 03.4**	**-0.9**
BKNI					IAmb IAmb	19 52 51.3	
	comp=Z,63nm,1.1s						
KULM	**Kulim**	**26.67**	**275**	P	**P**	**19 52 06.2**	**+0.2**
KULM	**Kulim**	**26.67**	**275**	P	**P**	**19 52 09.0**	**+3.1**
QIS	**Mount Isa**	**26.83**	**154**	P	**P**	**19 52 07.0**	**-0.2**
	baz=27,SNR=16						
KHON	**Khomkaen**	**27.23**	**299**	P	**P**	**19 52 12.8**	**+1.9**
	comp=Z,3μmcomp=Z,129nm,1.2s						
MTSU	**Mount Surprise**	**27.30**	**143**	P	**P**	**19 52 11.5**	**0.0**
	baz=27,SNR=4.1						
JCJ	**Chichijima**	**27.35**	**30**	P	**P**	**19 52 10.2**	**-1.7**
	comp=Z,74nm,0.7s,baz=211,slow=3.1,SNR=4.5						
JCJ					LR LR	20 01 02.6	
	comp=Z,666nm,21.8s,baz=240,slow=32						
JCJ	**Chichijima**	**27.35**	**30**	P	**P**	**19 52 10.0**	**-1.8**
JCJ					IAmb IAmb	19 52 18.5	
	comp=Z,87nm,0.8s						
NONG	**Nongkai**	**27.73**	**303**	P	**P**	**19 52 14.7**	**-0.6**
	comp=Z,41nm,1.0s						
CHAI	**Chaiyaphum**	**27.79**	**298**	P	**P**	**19 52 15.9**	**0.0**
	comp=Z,582nmcomp=Z,58nm,0.7s						
AS31	**Alice Springs**	**27.82**	**167**	P	**P**	**19 52 15.5**	**-0.7**
ASAR	**Alice Springs**	**27.82**	**167**	P	**P**	**19 52 15.2**	**-1.0**
	comp=Z,2.4nm,0.5s,baz=350,slow=7.2,SNR=41						
ASAR				PcP	**PcP**	**19 55 33.0**	**+1.5**
	comp=Z,2.7nm,0.6s,baz=352,slow=3.0,SNR=5.0						
ASAR				S	**S**	**19 56 57.3**	**+1.5**
	comp=Z,1.8nm,1.1s,baz=348,slow=18,SNR=1.6						
ASAR				ScP	**ScP**	**19 59 11.6**	**+3.4**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=2.8,SNR=1.8						
ASAR				LR	LR	20 04 34.3	
	comp=Z,901nm,22.0s,baz=8.0,slow=39						
ASAR	**Alice Springs**	**27.82**	**167**	P	**P**	**19 52 15.5**	**-0.7**
ASAR	**Alice Springs**	**27.82**	**167**	P	**P**	**19 52 15.5**	**-0.7**
MNSI	**Mandailing Nat**	**27.89**	**265**	P	**P**	**19 52 17.1**	**+0.3**
	comp=Z,26nm,0.8s						
JSU	**Suzuyama**	**27.93**	**6**	P	**P**	**19 52 15.6**	**-1.4**
SSE	**Sheshan**	**27.98**	**349**	P	**P**	**19 52 17.8**	**+0.4**
SSE				pP	**pP**	**19 52 28.9**	**-0.8**
SSE				S	**S**	**19 56 56.4**	**-1.6**
SSE				pmax	pmax		
	comp=Z,13nm,0.6s						
SSE				pmax	pmax		
	comp=Z,200nm,5.7s						
SSE				LR	LR		
	comp=Z,370nm,18.6s						
PSI	**Prapat**	**28.39**	**269**	P	**P**	**19 52 21.3**	**-0.2**
PSI				pmax	pmax		
	comp=Z,16nm,1.1s						
RPSI	**Rantau Prapat**	**28.40**	**269**	P	**P**	**19 52 21.3**	**0.0**
WRKA	**Warakurna**	**28.46**	**178**	P	**P**	**19 52 21.4**	**-0.4**
	baz=29,SNR=11						
SLVN	**Son La**	**28.82**	**310**	P	**P**	**19 52 24.3**	**-0.8**
GIRL	**Giralia**	**29.04**	**206**	P	**P**	**19 52 29.1**	**+2.1**
	baz=29,SNR=6.4						
GIRL	**Giralia**	**29.04**	**206**	P	**P**	**19 52 27.5**	**+0.5**
RNTT	**Ranong**	**29.25**	**283**	P	**P**	**19 52 33.4**	**+4.4**
NJ2	**Nanjing**	**29.43**	**345**	*e*P	**P**	**19 52 31.0**	**+0.8**
NJ2				pP	**pP**	**19 52 42.4**	**-0.1**
NJ2				sP	**pwP**	**19 52 47.3**	**+1.0**
NJ2				S	**S**	**19 57 24.0**	**+3.2**
NJ2				sS	**sS**	**19 57 40.9**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,15nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,300nm,3.5s						
NJ2				LR	LR		
	comp=Z,520nm,17.1s						
NJ2				LR	LR		
	comp=Z,370nm,19.9s						
NJ2				LR	LR		
	comp=Z,660nm,20.6s						
WHN	**Wuhan**	**29.50**	**337**	P	**P**	**19 52 31.9**	**+1.0**
WHN				pP	**pP**	**19 52 42.0**	**-1.4**
WHN				S	**S**	**19 57 28.6**	**+6.6**
WHN				LR	LR		
	comp=Z,1μm,14.2s						
WHN				LR	LR		
	comp=Z,2μm,21.6s						
WHN				LR	LR		
	comp=Z,4μm,17.4s						
JNU	**Nakatsue**	**29.57**	**6**	P	**P**	**19 52 31.0**	**-0.6**
	comp=Z,26nm,0.7s,baz=110,slow=4.6,SNR=14						
JNU				LR	LR	20 03 25.3	
	comp=Z,926nm,21.6s,baz=169,slow=34						
JNU	**Nakatsue**	**29.57**	**6**	P	**P**	**19 52 30.8**	**-0.8**
JNU					IAmb IAmb	19 52 44.3	
	comp=Z,57nm,1.0s						
PHIT	**Phitsanulok**	**29.68**	**299**	P	**P**	**19 52 33.0**	**+0.3**
	comp=Z,171nm,1.1s						
UTTA	**Uttaradit**	**29.79**	**300**	P	**P**	**19 52 34.4**	**+0.7**
	comp=Z,374nmcomp=Z,39nm,1.3s						
SRDT	**SRDT**	**29.82**	**293**	P	P	19 52 46.5	+13
	comp=Z,11nm,0.8s						
GSI	**Gunungsitoli**	**29.83**	**266**	P	**P**	**19 52 33.7**	**-0.4**
GSI	**Gunungsitoli**	**29.83**	**266**	P	P	19 52 43.1	+9.0
UTHA	**Uthaitani**	**29.93**	**295**	P	P	19 52 43.4	+8.5
	comp=Z,26nm,0.8s						
CTA	**Charters Tower**	**29.97**	**142**	P	**P**	**19 52 34.6**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=318,slow=12,SNR=3.4			

KMI LR LR
comp=Z,600nm,19.0s
KMI LR LR
comp=Z,840nm,19.0s
KMI Kunming 31.92 314 P **P** **19 52 52.6 -0.1**
KMI pmax pmax
comp=Z,21nm,0.7s
KMI Kunming 31.92 314 P **P** **19 52 52.5 -0.1**
KMI IAmb IAmb 19 53 10.5
comp=Z,21nm,0.7s
MHMT Maesarieng 32.25 299 P **P** **19 52 55.0 -0.3**
JWT Wachi 32.41 12 P **P** **19 52 56.0 -0.6**
JWT IAmb IAmb 19 52 58.2
comp=Z,32nm,0.6s
TJN Taejon 32.64 0*ce*P **P** **19 52 58.5 0.0**
INU Inuyama 32.85 15 P **P** **19 52 59.4 -1.0**
INU IAmb IAmb 19 53 01.4
comp=Z,21nm,0.6s
JGF Kuroka 33.18 15 P **P** **19 53 02.2 -1.2**
KSAR Wonju Array Be 33.70 1 P **P** **19 53 06.0 -1.8**
KSAR Wonju Array Be 33.70 1 P **P** **19 53 06.0 -1.8**
KSRS Korea Array 33.72 1 P **P** **19 53 07.8 0.0**
comp=Z,12nm,0.8s,baz=179,slow=10,SNR=39
KSRS LR LR 20 05 55.8
comp=Z,643nm,21.9s,baz=188,slow=35
INCN Inchon 33.75 359 P **P** **19 53 08.0 -0.2**
INCN pmax pmax
comp=Z,17nm,0.9s
INCN Inchon 33.75 359 P **P** **19 53 08.0 -0.2**
KS19 Wonju Array Si 33.76 1 P **P** **19 53 07.5 -0.9**
KS19 IAmb IAmb 19 53 21.0
comp=Z,29nm,0.8s
TIA Tai'an 33.81 345 P **P** **19 53 09.3 +0.5**
TIA S **S** **19 58 27.6 -1.7**
TIA pmax pmax
comp=Z,55nm,0.9s
TIA pmax pmax
comp=Z,320nm,6.5s
TIA LR LR
comp=Z,310nm,15.3s
TIA LR LR
comp=Z,490nm,16.5s
TIA LR LR
comp=Z,830nm,19.1s
FORT Forrest 34.17 179 P **P** **19 53 11.1 -0.8**
MORW Morawa 34.23 198 P **P** **19 53 12.9 +0.4**
baz=34,SNR=5.8
MORW Morawa 34.23 198 P **P** **19 53 12.0 -0.5**
MAJO Matsushiro 34.29 16 *i* P **P** **19 53 11.1 -1.9**
MAJO pmax pmax
comp=Z,18nm,0.7s
MAJO Matsushiro 34.29 16 P **P** **19 53 11.0 -1.9**
MAJO IAmb IAmb 19 53 13.5
comp=Z,17nm,0.6s
MAT Matsushiro 34.29 16 P **P** **19 53 11.2 -1.8**
MAT S **S** **19 58 35.2 -1.5**
MJAR Matsushiro Arr 34.29 16 P **P** **19 53 11.2 -1.8**
comp=Z,5.9nm,0.6s,baz=183,slow=10,SNR=39
MJAR PcP **PcP** **19 55 50.0 +1.6**
comp=Z,2.1nm,0.7s,baz=172,slow=3.5,SNR=5.0
MJAR LR LR 20 05 24.3
comp=Z,1μm,21.3s,baz=190,slow=33
MJAR Matsushiro Arr 34.29 16 P **P** **19 53 11.0 -2.0**
MJAR pmax pmax
comp=Z,7.0nm,0.9s
MJAR Matsushiro Arr 34.29 16 P **P** **19 53 11.0 -2.0**
XAN Xi'an 34.83 333 P **P** **19 53 16.8 -0.9**
XAN pP pP 19 53 28.8 -1.5
XAN sP pwP 19 53 34.3 +1.0
XAN PP **PnPn** **19 54 36.1 +0.7**
XAN S **S** **19 58 45.4 +0.3**
XAN sS sS 19 59 05.5 -0.7
XAN SS **SnSn** **20 01 00.4 -2.7**
XAN ScS **ScS** **20 03 32.3 -2.6**
XAN pmax pmax
comp=Z,28nm,0.8s
XAN pmax pmax
comp=Z,240nm,4.3s
XAN LR LR
comp=Z,410nm,17.6s
XAN LR LR
comp=Z,680nm,16.3s
XAN LR LR
comp=Z,770nm,18.4s
XAN Xi'an 34.83 333 P **P** **19 53 16.6 -1.1**
XAN pmax pmax
comp=Z,52nm,0.8s
XAN Xi'an 34.83 333 P **P** **19 53 16.6 -1.1**
CD2 Chengdu 35.13 323 P **P** **19 53 19.4 -0.9**
CD2 sP sP 19 53 39.6 +0.9
CD2 PP **PP** **19 54 43.8 +3.0**
CD2 S **S** **19 58 50.6 +0.8**
CD2 pmax pmax
comp=Z,60nm,0.8s
CD2 pmax pmax
comp=Z,60nm,5.1s
CD2 LR LR
comp=Z,890nm,16.2s
CD2 LR LR
comp=Z,1μm,18.1s
CD2 LR LR
comp=Z,960nm,16.2s
KMBL Kambalda 35.14 188 P **P** **19 53 20.4 +0.1**
baz=35,SNR=13
BLDU Ballidu 35.49 196 P **P** **19 53 23.5 +0.2**
baz=36,SNR=17
DL2 Dalian 35.55 352 P **P** **19 53 24.9 +1.2**
DL2 pP **pwP** **19 53 38.8 -0.9**
DL2 S **S** **19 58 58.1 +2.3**
DL2 pmax pmax
comp=Z,53nm,0.6s
DL2 pmax pmax
comp=Z,340nm,5.7s
DL2 LR LR
comp=Z,1μm,16.8s
DL2 LR LR
comp=Z,680nm,15.9s
DL2 LR LR
comp=Z,630nm,14.4s
JSD Sado 35.72 15 P **P** **19 53 23.5 -1.6**
JSD IAmb IAmb 19 53 29.0
comp=Z,16nm,0.6s
KLBR Kellerberrin 36.15 194 P **P** **19 53 29.4 +0.4**
baz=36,SNR=19
JMM Marumori 36.27 18 P **P** **19 53 29.4 -0.5**
RMQ Roma 36.36 147 P **P** **19 53 31.5 +0.6**
baz=36,SNR=4.3
TIY Taiyuan 36.62 340 *e*P **P** **19 53 33.4 +0.4**
TIY pP **pP** **19 53 46.3 +0.9**
TIY S **S** **19 59 12.4 0.0**
TIY sS **sS** **19 59 34.0 +0.4**
TIY pmax pmax
comp=Z,52nm,0.6s
TIY LR LR
comp=Z,140nm,8.0s
TIY LR LR
comp=Z,350nm,12.7s
TIY LR LR
comp=Z,720nm,24.7s
EIDS Eidsvold 36.86 143 P **P** **19 53 34.5 -0.5**
baz=37,SNR=4.9
EIDS Eidsvold 36.86 143 P **P** **19 53 34.3 -0.7**
EIDS IAmb IAmb 19 53 41.1
comp=Z,53nm,1.5s
MUN Mundaring 36.92 196 P **P** **19 53 35.9 +0.4**
baz=37,SNR=11
BBOO Buckleboo 37.12 168 P **P** **19 53 36.8 -0.4**
baz=37,SNR=7.2
BBOO Buckleboo 37.12 168 P **P** **19 53 36.7 -0.4**
BBOO IAmb IAmb 19 53 51.5
comp=Z,29nm,0.7s
NWAO Narrogin (SRO) 37.55 194 P **P** **19 53 40.6 -0.2**
comp=Z,27nm,0.8s,baz=10,slow=9.7,SNR=26
NWAO Narrogin (SRO) 37.55 194 P **P** **19 53 41.6 +0.8**
baz=38,SNR=16
NWAO Narrogin (SRO) 37.55 194 P **P** **19 53 41.0 +0.2**
NWAO pmax pmax
comp=Z,166nm,1.8s
NWAO Narrogin (SRO) 37.55 194 P **P** **19 53 41.0 +0.2**
BJT Baijiatuau 37.66 346 P **P** **19 53 42.0 +0.3**
BJT pmax pmax
comp=Z,80nm,0.7s
BJT Baijiatuau 37.66 346 P **P** **19 53 42.0 +0.3**
BJI Beijing 37.68 346 P **P** **19 53 41.9 +0.1**
BJI pP **pP** **19 53 53.9 -0.5**
BJI PP **PnPn** **19 55 09.9 -0.2**
BJI S **S** **19 59 29.9 +1.6**
BJI pmax pmax
comp=Z,82nm,1.3s
BJI pmax pmax
comp=Z,380nm,3.7s
BJI LR LR
comp=Z,310nm,18.6s
BJI LR LR
comp=Z,240nm,23.2s
BJI LR LR
comp=Z,450nm,42.7s
STKA Stephens Creek 37.77 160 P **P** **19 53 42.7 -0.1**
comp=Z,28nm,0.8s,baz=336,slow=8.9,SNR=56
STKA LR LR 20 11 07.0
comp=Z,632nm,21.6s,baz=317,slow=39
STKA Stephens Creek 37.77 160 P **P** **19 53 42.6 -0.1**
baz=38,SNR=32
STKA Stephens Creek 37.77 160 P **P** **19 53 42.4 -0.4**
SNY Shenyang 38.23 355 ⇓P **P** **19 53 43.6 -2.8**
SNY S **S** **19 59 34.6 -2.0**
SNY pmax pmax
comp=Z,270nm,10.8s
SNY LR LR
comp=Z,400nm,19.6s
SNY LR LR
comp=Z,440nm,18.1s
SNY LR LR
comp=Z,870nm,18.0s
HTT Hallett 38.40 164 P **P** **19 53 48.2 +0.1**
baz=38,SNR=7.6
LZH Lanzhou 38.95 329 *e*P **P** **19 53 53.5 +0.7**
LZH pP pP 19 54 07.0 +1.5
LZH sP sP 19 54 13.8 +2.5
LZH S **S** **19 59 51.3 +3.3**
LZH sS sS 20 00 06.9 -2.4
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,150nm,5.4s
LZH LR LR
comp=Z,870nm,15.2s
LZH LR LR
comp=Z,1μm,15.7s
LZH LR LR
comp=Z,1μm,17.0s
MSHR Mys Shultsa 38.98 4*ce*P **P** **19 53 51.7 -1.0**
MSHR pmax pmax
comp=Z,66nm,1.7s
CMSA Cobar Meteorol 39.05 155 P **P** **19 53 53.3 -0.2**
baz=39,SNR=9.1
JTM Tenmabayashi 39.05 17 P **P** **19 53 52.8 -0.6**
JTM IAmb IAmb 19 53 55.4
comp=Z,43nm,0.7s
HHC Hu-ho-hao-te 39.73 341 *e*P **P** **19 54 00.3 +1.1**
HHC pP pP 19 54 11.4 -0.4
HHC pmax pmax
comp=Z,59nm,1.2s
HHC LR LR
comp=Z,760nm,18.6s
HHC LR LR
comp=Z,340nm,17.5s
HHC LR LR
comp=Z,680nm,23.1s
CN2 Changchun 40.09 358 *e*P **P** **19 54 02.0 +0.1**
CN2 *ep*P pP 19 54 14.3 -0.1
CN2 *e*S **S** **20 00 04.3 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,340nm,17.0s
CN2 LR LR
comp=Z,370nm,17.0s
CN2 LR LR
comp=Z,470nm,20.0s
SHL Shillong 40.46 306 P **P** **19 54 04.4 -1.2**
SHL pmax pmax
comp=Z,66nm,0.8s
SHL Shillong 40.46 306 P **P** **19 54 04.4 -1.2**
SHL IAmb IAmb 19 54 18.9
comp=Z,66nm,0.8s
USA0B Ussuriysk Arra 40.66 5 *i* P **P** **19 54 06.3 -0.3**
USA0B Ussuriysk Arra 40.66 5 P **P** **19 54 06.3 -0.3**
USA0B IAmb IAmb 19 54 08.4
comp=Z,50nm,1.4s
USRK Ussuriysk Ar. 40.66 5 P **P** **19 54 06.7 +0.1**
comp=Z,15nm,0.7s,baz=187,slow=7.5,SNR=35
USRK LR LR 20 12 36.5
comp=Z,491nm,20.5s,baz=173,slow=38
USRK Ussuriysk Ar. 40.66 5 P **P** **19 54 06.2 -0.4**
USRK Ussuriysk Ar. 40.66 5 P **P** **19 54 06.2 -0.4**
ERM Erimo 40.80 18 P **P** **19 54 07.6 -0.2**
ERM pmax pmax
comp=Z,30nm,1.0s
ERM Erimo 40.80 18 P **P** **19 54 07.6 -0.2**
MDJ Mudanjiang 40.91 2 P **P** **19 54 08.8 0.0**
MDJ pP pP 19 54 21.1 -0.2
MDJ S **S** **20 00 18.9 +2.1**
MDJ sS sS 20 00 41.8 +3.6
MDJ SS **SS** **20 03 17.3 -2.8**
MDJ ScS **ScS** **20 04 11.1 +2.0**
MDJ pmax pmax
comp=Z,42nm,1.1s
MDJ pmax pmax
comp=Z,280nm,5.0s
MDJ LR LR
comp=Z,320nm,19.6s
MDJ LR LR
comp=Z,510nm,20.8s
MDJ LR LR
comp=Z,1μm,22.8s
MDJ Mudanjiang 40.91 2 P **P** **19 54 08.9 +0.2**
MDJ IAmb IAmb 19 54 22.4
comp=Z,61nm,1.1s
ARMA Armidale 41.01 147 P **P** **19 54 10.7 +0.9**
baz=41,SNR=5.7
ARMA Armidale 41.01 147 P **P** **19 54 10.4 +0.6**
ARMA IAmb IAmb 19 54 11.2
comp=Z,60nm,1.3s
TEY Ternei 42.08 10⇑ *e*P **P** **19 54 19.2 +0.9**
TEY pmax pmax
comp=N,40nm,0.7s
TEY pmax pmax
comp=Z,80nm,0.7s
ARPS Mount Arapiles 42.36 163 P **P** **19 54 21.4 +0.8**
baz=42,SNR=8.3
ASAJ Asahikawa 42.56 16 P **P** **19 54 22.8 +0.6**
ASAJ Asahikawa 42.56 16 P **P** **19 54 22.4 +0.2**
ASAJ pmax pmax
comp=Z,45nm,0.7s
JKA Kamikawa-asahi 42.56 16 P **P** **19 54 22.4 +0.2**
JKA IAmb IAmb 19 54 25.0
comp=Z,45nm,0.7s
LSA Lhasa 43.00 311 P **P** **19 54 26.4 -0.2**
LSA pmax pmax
comp=Z,53nm,0.6s
LSA Lhasa 43.00 311 P **P** **19 54 26.6 0.0**
LSA pmax pmax
comp=Z,34nm,1.0s
LSA Lhasa 43.00 311 P **P** **19 54 26.6 0.0**
YUK Yuzh-Kuril'sk 43.48 19 *e*P **P** **19 54 25.9 -3.7**
YUK S **S** **20 00 50.5 -4.1**
YUK pmax pmax
comp=Z,147nm,0.9s
YUK pmax pmax
comp=N,65nm,0.8s
YUK pmax pmax
comp=E,68nm,0.5s
GTA Gaotai 43.54 329 ⇓P **P** **19 54 30.1 -0.3**
GTA pP pP 19 54 39.3 -4.0
GTA sP pwP 19 54 43.4 -3.0
GTA PP **PcP** **19 56 15.9 -1.6**
GTA S **S** **20 00 56.9 +0.9**
GTA sS sS 20 01 16.5 -1.1
GTA pmax pmax
comp=E,8.0nm,1.2s
GTA pmax pmax
comp=E,150nm,5.3s
GTA LR LR
comp=E,680nm,22.2s
GTA LR LR
comp=E,590nm,22.5s
GTA LR LR
comp=E,1μm,23.3s
CAN Canberra 43.71 154 P **P** **19 54 32.4 +0.7**
CAN pmax pmax
comp=Z,102nm,1.7s
CAN Canberra 43.71 154 P **P** **19 54 32.4 +0.7**
CAN IAmb IAmb 19 56 00.5
comp=Z,102nm,1.7s
TOO Toolangi 44.28 159 P **P** **19 54 37.0 +0.8**
TOO pmax pmax
comp=Z,87nm,1.9s
TOO Toolangi 44.28 159 P **P** **19 54 37.0 +0.8**
TOO IAmb IAmb 19 55 02.6
comp=Z,87nm,1.9s
TAPN Taplejung 44.60 306 *e*P **P** **19 54 37.7 -1.6**
comp=Z,26nm,0.7s
ODAN Odare 44.66 305 *e*P **P** **19 54 38.9 -0.8**
comp=Z,39nm,0.7s
YSS Yuzh-Sakhalins 45.22 15⇓ *e*P **P** **19 54 43.7 +0.2**
YSS *e**PP **pP** **19 54 56.0 -0.3**
YSS *e*S **S** **20 01 21.0 +1.1**
YSS pmax pmax
comp=Z,30nm,0.6s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS Yuzh-Sakhalins 45.22 15 P **P** **19 54 43.4 -0.2**
YSS IAmb IAmb 19 54 57.9
comp=Z,36nm,1.0s
RAMN Ramite 45.34 305 *e*P **P** **19 54 44.5 -0.6**
comp=Z,33nm,0.7s
KLR Kul'dur 45.64 4*ce*P **P** **19 54 45.6 -1.2**
KLR pmax pmax
comp=Z,17nm,0.9s
DZM Mont Dzumac 45.94 126 *e*P **P** **19 54 50.5 +0.7**
comp=Z,57nm,1.3s
DZM *e*S **S** **20 01 30.6 -0.6**
comp=Z,246nm,33.6s
DZM *e*LR LR 20 07 39.7
comp=Z,398nm,23.1s
HIA Hailar 45.98 353 P **P** **19 54 49.1 -0.4**
HIA pmax pmax
comp=Z,120nm,1.9s
HIA Hailar 45.98 353 P **P** **19 54 49.1 -0.4**
GUN Gumba 46.31 306 *e*P **P** **19 54 52.0 -0.9**
comp=Z,46nm,0.6s
PKI Pulchoki 46.56 305 *e*P **P** **19 54 53.6 -1.2**
comp=Z,10nm,0.5s
PALK Pallekele 46.57 277 P **P** **19 54 54.8 +0.1**
comp=Z,3.6nm,0.6s,baz=188,slow=7.2,SNR=7.8
PALK Pallekele 46.57 277 P **P** **19 54 54.2 -0.5**
PALK pmax pmax
comp=Z,27nm,1.2s
PALK Pallekele 46.57 277 P **P** **19 54 54.2 -0.5**
PALK IAmb IAmb 19 55 17.8
comp=Z,27nm,1.1s
PKIN Phulchoki 46.57 305 *e*P **P** **19 54 53.5 -1.4**
comp=Z,8.5nm,0.6s
DMN Daman 46.82 305 *e*P **P** **19 54 55.8 -1.0**
comp=Z,46nm,1.2s
GKN Gorkha 47.36 305 *e*P **P** **19 54 59.7 -1.2**
comp=Z,35nm,0.8s
ULN Ulaanbaatar 47.45 342*ce*P **P** **19 55 01.4 +0.1**
ULN pmax pmax
comp=Z,140nm,1.7s
ULN Ulaanbaatar 47.45 342 P **P** **19 55 01.9 +0.7**
SONM Songino Array 47.64 341 P **P** **19 55 03.2 +0.6**
comp=Z,20nm,0.6s,baz=156,slow=8.6,SNR=76
SONM LR LR 20 16 15.4
comp=Z,560nm,20.7s,baz=152,slow=38
SONM Songino Array 47.64 341 P **P** **19 55 03.0 +0.4**
SONM pmax pmax
comp=Z,17nm,0.7s
SONM Songino Array 47.64 341 P **P** **19 55 03.0 +0.4**
SONM IAmb IAmb 19 55 07.5
comp=Z,17nm,0.7s
GRNR Gornyy 47.64 8⇑ *i*P **P** **19 55 02.9 +0.4**
GRNR *e*S **S** **20 01 57.6 +3.2**
GRNR pmax pmax
comp=N,6.0nm,1.2s
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR smax smax
comp=N,1.0nm,0.9s
GRNR MLR MLR
comp=E,130nm,15.0s
GRNR MLR MLR
comp=N,230nm,18.0s
GRNR MLR MLR
comp=Z,360nm,19.0s
TYV Tymovskoe 48.85 13 *e*P **P** **19 55 12.9 +1.2**
TYV pmax pmax
comp=Z,200nm,3.3s
TYV pmax pmax
comp=Z,39nm,0.7s
CIT Chita 49.63 349 *e*P **P** **19 55 18.5 +0.7**
CIT *e* 19 55 27.8
CIT pmax pmax
comp=Z,93nm,1.2s
HYB Hyderabad 49.75 290 *i* P **P** **19 55 18.0 -1.2**
HYB *ep*P **pP** **19 55 31.0 -1.4**
HYB *e* 19 55 41.0
ZEA Zeya 50.00 360 *e*P **P** **19 55 20.6 +0.1**
ZEA *e**PP **pP** **19 55 35.1 +1.7**
ZEA *e* 19 57 20.0
ZEA *e*S **S** **20 02 29.9 +2.5**
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA pmax pmax
comp=N,100nm,6.1s
ZEA pmax pmax
comp=Z,100nm,6.4s
ZEA smax smax
comp=N,100nm,6.4s
ZAK Zakamensk 50.87 340 *e*P **P** **19 55 26.8 -0.5**
ZAK pmax pmax
comp=Z,16nm,1.4s
ZAK pmax pmax
comp=Z,13nm,1.3s
TLY Talaya 51.87 341*d i*P **P** **19 55 35.4 +0.8**
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY Talaya 51.87 341 P **P** **19 55 35.2 +0.6**
TLY IAmb IAmb 19 55 49.5
comp=Z,55nm,1.2s
IRK Irkutsk 52.16 342 *e*P **P** **19 55 36.6 -0.1**
IRK pmax pmax
comp=Z,104nm,2.2s
MOY Mondy 52.73 340 *e*P **P** **19 55 42.4 +1.3**
MOY pmax pmax
comp=Z,15nm,1.9s
SKR Severo-Kuril's 52.81 23 *e*P **P** **19 55 41.5 0.0**
SKR *e*S **S** **20 03 07.0 +0.7**
SKR pmax pmax
comp=Z,100nm,7.8s
SKR MLR MLR
comp=Z,200nm,14.0s
WMQ Urumqi 53.20 325 *e*P **P** **19 55 45.1 +0.4**
WMQ pP pP 19 55 54.9 -3.0
WMQ sP pwP 19 55 58.8 -2.2
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,140nm,4.5s
WMQ LR LR
comp=Z,1μm,20.1s
WMQ LR LR
comp=Z,620nm,22.9s
WMQ LR LR
comp=Z,1μm,25.1s
WMQ Urumqi 53.20 325 P **P** **19 55 44.8 +0.1**
WMQ pmax pmax
comp=Z,174nm,1.8s
WMQ Urumqi 53.20 325 P **P** **19 55 44.8 +0.1**
SNP Sonepat 53.99 303 *i* P **P** **19 55 55.1 +4.4**
MNCI Minicoy 54.17 278 P **P** **19 55 51.0 -1.2**
MSVF Nonsavu 54.29 115 P **P** **19 55 53.7 +0.6**
comp=Z,3.4nm,0.5s,baz=291,slow=4.2,SNR=4.2
MSVF Nonsavu 54.29 115 P **P** **19 55 53.2 +0.1**
MSVF pmax pmax
comp=Z,31nm,1.1s
MSVF Nonsavu 54.29 115 P **P** **19 55 53.2 +0.1**
MSVF IAmb IAmb 19 56 24.8
comp=Z,31nm,1.1s
BOD Bodaibo 55.10 351 *e*P **P** **19 55 58.3 +0.2**
BOD pmax pmax
comp=Z,45nm,1.2s
PEA0B Petropavlovsk- 55.34 22*ce*P **P** **19 56 00.1 +0.1**
PEA0B Petropavlovsk- 55.34 22 P **P** **19 56 00.1 +0.1**
PETK Petropavlovsk- 55.34 22 P **P** **19 56 00.2 +0.3**
comp=Z,45nm,0.8s,baz=191,slow=5.1,SNR=88

PETK LR LR 20 20 16.4
comp=Z,170nm,19.2s,baz=224,slow=37
PETK Petropavlovsk- 55.34 22 P **P** **19 55 59.6 -0.4**
PETK Petropavlovsk- 55.34 22 P **P** **19 55 59.6 -0.4**
PET Petropavlovsk 55.63 22*d* iP **P** **19 56 01.9 -0.1**
PET *e* 19 58 07.5
PET *e*S **S** **20 03 44.3 +0.1**
PET *e*SS **SS** **20 07 30.5 +0.5**
PET pmax pmax
comp=Z,300nm,7.5s
PET pmax pmax
comp=Z,51nm,1.3s
PET pmax pmax
comp=Z,200nm,13.3s
PET MLR MLR
comp=Z,400nm,22.0s
PET MLR MLR
comp=Z,500nm,17.0s
ZSN Zaisan 56.97 327 *e*P **P** **19 56 11.3 -0.5**
comp=Z,14nm,1.7s,baz=327
ZSN *e*S **S** **20 04 02.4 +0.1**
baz=327
ZSN Zaisan 56.97 327 *e*P **P** **19 56 11.2 -0.5**
ZSN *e*S **S** **20 04 02.4 +0.1**
ZSN pmax pmax
comp=Z,15nm,1.7s
DGZ Jazzator, Alta 57.03 330 *i* P **P** **19 56 12.1 -0.2**
DGZ pmax pmax
comp=Z,6.0nm,1.0s
SHLS Shalkode 57.86 320 *e*P **P** **19 56 15.9 -2.4**
baz=320
SHLS *e*S **S** **20 04 10.8 -3.6**
baz=320
SHLS Shalkode 57.86 320 *e*P **P** **19 56 15.8 -2.4**
SHLS *e*S **S** **20 04 10.7 -3.6**
MK31 Makanchi Array 58.03 325 *i* P **P** **19 56 19.5 +0.3**
MK31 Makanchi Array 58.03 325 P **P** **19 56 19.2 -0.1**
MK31 IAmb IAmb 19 56 34.3
comp=Z,24nm,1.0s
MKAR Makanchi Array 58.03 325 P **P** **19 56 19.6 +0.4**
comp=Z,14nm,0.5s,baz=119,slow=7.4,SNR=137
MKAR S **S** **20 04 16.0 -0.3**
comp=Z,0.4nm,0.8s,baz=134,slow=12,SNR=2.7
MKAR LR LR 20 22 21.4
comp=Z,429nm,21.9s,baz=106,slow=37
MKAR Makanchi Array 58.03 325 P **P** **19 56 19.4 +0.1**
MKAR Makanchi Array 58.03 325 P **P** **19 56 19.4 +0.1**
UZB Uzynbulak 58.13 320 *e*P **P** **19 56 19.0 -1.3**
comp=Z,2.8nm,0.6s,baz=320
UZB *e*S **S** **20 04 17.0 -1.0**
baz=320
UZB Uzynbulak 58.13 320 *e*P **P** **19 56 18.9 -1.3**
UZB *e*S **S** **20 04 17.0 -1.0**
UZB pmax pmax
comp=Z,3.0nm,0.6s
MAKZ Makanchi 58.22 325 P **P** **19 56 20.5 -0.1**
MAKZ pmax pmax
comp=Z,37nm,0.9s
MAKZ Makanchi 58.22 325 P **P** **19 56 20.4 -0.1**
YAK Yakutsk 58.34 1 *e*P **P** **19 56 20.9 -0.1**
YAK *e**PP **pP** **19 56 32.2 -2.0**
YAK *e*S **S** **20 04 19.7 +0.1**
YAK *e**SS **sS** **20 04 44.8 +2.9**
YAK *e* 20 06 01.4
YAK pmax pmax
comp=Z,98nm,0.8s
YAK pmax pmax
comp=N,29nm,0.8s
YAK pmax pmax
comp=E,6.0nm,0.6s
YAK smax smax
comp=N,30nm,2.2s
YAK smax smax
comp=E,21nm,2.2s
YAK Yakutsk 58.34 1 P **P** **19 56 20.9 -0.1**
SATY Saty 58.49 320 *e*P **P** **19 56 22.1 -0.5**
baz=320
SATY Saty 58.49 320 *e*P **P** **19 56 22.1 -0.5**
KPKS Kokpek 58.50 320 *e*P **P** **19 56 22.1 -0.6**
comp=E,8.4nm,0.7s,baz=320
KPKS Kokpek 58.50 320 *e*P **P** **19 56 22.1 -0.6**
KPKS pmax pmax
comp=Z,8.0nm,0.7s
NIL Nilore 58.51 308 P **P** **19 56 22.3 -0.5**
NIL pmax pmax
comp=Z,66nm,1.2s
NIL Nilore 58.51 308 P **P** **19 56 22.3 -0.5**
KSH Kashi 58.59 315 P **P** **19 56 24.8 +1.4**
KSH PcP **PcP** **19 57 17.9 +4.7**
KSH S **S** **20 04 21.9 -2.1**
KSH pmax pmax
comp=Z,3.0nm,1.0s
KSH pmax pmax
comp=Z,210nm,4.1s
KSH LR LR
comp=Z,660nm,14.9s
KSH LR LR
comp=Z,580nm,8.3s
KSH LR LR
comp=Z,2µm,18.5s
MA2 Magadan 58.70 14*ce*P **P** **19 56 24.1 +0.5**
MA2 pmax pmax
comp=Z,20nm,0.7s
MA2 Magadan 58.70 14 P **P** **19 56 23.6 0.0**
MA2 IAmb IAmb 19 56 26.3
comp=Z,23nm,0.7s
TDK Taldygorghan 59.42 322 *e*P **P** **19 56 29.1 +0.2**
comp=Z,8.9nm,0.9s,baz=322
TDK *e*S **S** **20 04 35.0 +0.6**
baz=322
TDK Taldyqorghan 59.42 322 *e*P **P** **19 56 29.1 +0.2**
TDK *e*S **S** **20 04 34.9 +0.6**
TDK pmax pmax
comp=Z,9.0nm,0.9s
MDOK Medeo 59.42 319 *e*P **P** **19 56 28.9 -0.2**
baz=319
MDOK Medeo 59.42 319 *e*P **P** **19 56 28.9 -0.2**
TNSS Tian-Shan 59.43 319 *e*P **P** **19 56 29.7 +0.2**
baz=319
TNSS Tian-Shan 59.43 319 *e*P **P** **19 56 29.7 +0.2**
CHKK Chushkaly 59.77 320 *e*P **P** **19 56 30.2 -1.2**
baz=320
CHKK Chushkaly 59.77 320 *e*P **P** **19 56 30.1 -1.2**
KUU Kurty 60.21 320 *e*P **P** **19 56 34.1 -0.2**
comp=Z,12nm,0.8s,baz=320
KUU Kurty 60.21 320 *e*P **P** **19 56 34.1 -0.2**
KUU pmax pmax
comp=Z,12nm,0.8s
TKM2 Tokmak 2 60.27 318 P **P** **19 56 35.7 +0.6**
SNR=8.9
UCH Uchtor 60.70 317 P **P** **19 56 39.5 +1.2**
SNR=11
AAK Ala-Archa 60.88 318*ce*P **P** **19 56 39.1 -0.1**
AAK pmax pmax
comp=Z,20nm,1.1s
AAK Ala-Archa 60.88 318 P **P** **19 56 38.9 -0.3**
AAK IAmb IAmb 19 57 06.5
comp=Z,61nm,1.9s
ZAA0 Zalesovo Array 61.00 333 P **P** **19 56 39.4 -0.1**
ZALV Zalesovo Beam 61.00 333 P **P** **19 56 39.4 -0.1**
comp=Z,12nm,0.5s,baz=122,slow=6.5,SNR=60
ZALV Zalesovo Beam 61.00 333 P **P** **19 56 39.1 -0.4**
ZALV Zalesovo Beam 61.00 333 P **P** **19 56 39.1 -0.4**
USP Ospenovka 61.14 318 P **P** **19 56 41.0 +0.3**
SNR=15
SEM Semipalatinsk 61.16 328 *e*P **P** **19 56 38.8 -2.1**
comp=Z,3.5nm,0.8s,baz=328
SEM *e*S **S** **20 04 55.3 -1.5**
baz=328
SEM Semipalatinsk 61.16 328 *e*P **P** **19 56 38.8 -2.1**
SEM *e*S **S** **20 04 55.3 -1.5**
SEM pmax pmax
comp=Z,3.0nm,0.8s
LBZ Lake Benmore 61.22 146 P **P** **19 56 42.0 +0.8**
AML Almayashu 61.22 317 P **P** **19 56 42.4 +0.6**
SNR=16
EKS2 Erkin-Say 61.38 317 P **P** **19 56 43.5 +1.0**
SNR=12
SEY Seymchan 62.04 13⇓ *i*P **P** **19 56 46.7 +0.4**
BKZ Black Stump Fm 62.06 138 P **P** **19 56 47.9 +0.9**
BKZ IAmb IAmb 19 56 53.1
comp=Z,42nm,1.2s
KBL Kabul 62.10 307 P **P** **19 56 46.9 -0.7**
KBL pmax pmax
comp=Z,15nm,0.9s
KBL Kabul 62.10 307 P **P** **19 56 46.9 -0.7**
KBL IAmb IAmb 19 57 04.9
comp=Z,15nm,0.9s
BTLS Baital 62.19 320 *e*P **P** **19 56 47.1 -0.6**
comp=Z,6.0nm,1.0s,baz=320
BTLS Baital 62.19 320 *e*P **P** **19 56 47.1 -0.6**
BTLS pmax pmax
comp=Z,6.0nm,1.0s
DZA Taraz 63.13 317 *e*P **P** **19 56 53.7 -0.4**
baz=317
DZA Taraz 63.13 317 *e*P **P** **19 56 53.7 -0.4**
IUG luzhnay 63.75 316 *e*P **P** **19 56 58.2 -0.2**
baz=316
IUG *e*S **S** **20 05 29.8 +0.3**
baz=316
IUG luzhnay 63.75 316 *e*P **P** **19 56 58.1 -0.2**
IUG *e*S **S** **20 05 29.8 +0.3**
KK31 Karatay Array 63.76 317 P **P** **19 56 58.0 -0.3**
KK31 pmax pmax
comp=Z,18nm,1.1s
KK31 Karatay Array 63.76 317 P **P** **19 56 58.0 -0.3**
KK31 IAmb IAmb 19 57 14.8
comp=Z,18nm,1.1s
KKAR Karatay Array 63.76 317 P **P** **19 56 58.0 -0.3**
KKAR Karatay Array 63.76 317 P **P** **19 56 57.8 -0.5**
KKAR IAmb IAmb 19 57 14.8
comp=Z,18nm,1.1s
KKAR Karatay Array 63.76 317 P **P** **19 56 58.0 -0.3**
AMKA Amchitka 64.29 33 P **P** **19 57 01.6 +0.1**
BRZS Berezniki 65.17 325 *e*P **P** **19 57 07.1 -0.2**
comp=Z,28nm,1.7s,baz=324
BRZS Berezniki 65.17 325 *e*P **P** **19 57 07.0 -0.2**
BRZS pmax pmax
comp=Z,28nm,1.7s
HRA Herat 67.52 306 P **P** **19 57 22.1 -0.8**
BRVK Borovoye 67.85 327*d* iP **P** **19 57 25.1 +0.8**
BRVK pmax pmax
comp=Z,82nm,1.1s
BRVK Borovoye 67.85 327 P **P** **19 57 24.9 +0.6**
TIXI Tiksi 67.98 1*d* iP **P** **19 57 23.9 -0.9**
TIXI Tiksi 67.98 1 P **P** **19 57 23.9 -0.9**
BILL Bilibino 69.54 15*c* iP **P** **19 57 33.7 -0.8**
BILL *e* 19 58 00.9
BILL *e* 20 00 11.2
BILL *i* S **S** **20 06 46.8 +8.5**
BILL *e*SS **SS** **20 11 00.8 -5.9**
BILL pmax pmax
comp=Z,13nm,1.7s
BILL Bilibino 69.54 15 P **P** **19 57 33.2 -1.3**
BILL IAmb IAmb 19 57 50.9
comp=Z,44nm,1.7s
CASY Casey 70.75 187 P **P** **19 57 41.6 -0.3**
CASY IAmb IAmb 19 57 56.9
comp=Z,20nm,0.8s
UOSS Minazif 71.41 295 P **P** **19 57 45.9 -0.9**
GEYT Alibeck 71.47 309 P **P** **19 57 47.2 +0.2**
comp=Z,3.3nm,0.8s,baz=127,slow=3.9,SNR=5.3
GEYT LR LR 20 34 12.6
comp=Z,154nm,20.4s,baz=195,slow=40
GEYT Alibeck 71.47 309 P **P** **19 57 46.3 -0.7**
GYA0B ALIBECK ARRAY 71.47 309 P **P** **19 57 47.1 +0.1**
GYA0B IAmb IAmb 19 58 04.9
comp=Z,27nm,1.2s
ABKAR Akbulak array 72.66 321 P **P** **19 57 54.0 +0.2**
ABKAR Akbulak array 72.66 321 P **P** **19 57 54.0 +0.2**
SOCY Socotra 73.00 282 P **P** **19 57 55.9 -0.7**
SOCY IAmb IAmb 19 58 10.2
comp=Z,26nm,0.9s
SVE Sverdlovsk 74.41 328*ce*P **P** **19 58 04.4 +0.5**
SVE pmax pmax
comp=Z,81nm,1.5s
ARU Arti 75.39 328*d* iP **P** **19 58 09.6 0.0**
ARU *PP **PcP** **19 58 22.9 +0.3**
ARU 20 00 53.9
ARU S **S** **20 07 48.3 +2.7**
ARU SS **SS** **20 12 39.3 +2.7**
ARU pmax pmax
comp=Z,79nm,1.8s
ARU Arti 75.39 328 P **P** **19 58 09.4 -0.2**
ARU IAmb IAmb 19 58 18.5
comp=Z,36nm,0.8s
RDOG Red Dog Mine 79.20 21 P **P** **19 58 31.2 +0.5**
RDOG Red Dog Mine 79.20 21 P 19 58 31.6
baz=252
AKT Akhty 79.86 311 *e*P **P** **19 58 35.7 +0.7**
AKT *e* 19 58 42.8
AKT *e**PP **pP** **19 58 49.0 0.0**
AKT pmax pmax
comp=Z,18nm,0.9s
MAK Makhachkala 80.14 313 *e*P **P** **19 58 37.9 +1.6**
MAK *e* 20 01 34.5
MAK *e*S **S** **20 08 41.2 +3.9**
MAK *e*SS **SS** **20 13 50.0 +1.4**
MAK pmax pmax
comp=Z,52nm,1.3s
SVW2 Sparrevohn 80.63 29 P **P** **19 58 39.6 +1.0**
BELG Belogornoye 80.90 322 *i* P **P** **19 58 39.8 -0.4**
BELG pmax pmax
comp=Z,12nm,1.3s
RAYN Ar Rayn 81.11 293 P **P** **19 58 41.4 -0.6**
RAYN pmax pmax
comp=Z,15nm,1.0s
RAYN Ar Rayn 81.11 293 P **P** **19 58 41.4 -0.6**
OHAK Old Harbor 81.24 33 P 19 58 43.0
baz=263
GROC Groznyy 81.40 313 P **P** **19 58 40.4 -2.7**
GROC *e**PP **PcP** **19 58 53.1 +4.1**
GROC *e* 20 01 46.5
GROC *e*S **S** **20 08 49.1 -1.4**
GROC pmax pmax
comp=Z,62nm,1.2s
KDAK Kodiak Island 81.68 32 P **P** **19 58 44.8 +0.6**
KDAK pmax pmax
comp=Z,12nm,0.9s
KDAK Kodiak Island 81.68 32 P **P** **19 58 44.8 +0.6**
KDAK Kodiak Island 81.68 32 P 19 58 44.9
baz=264
ABPO Ambohimpanom 81.84 250 P **P** **19 58 46.7 +0.6**
ABPO pmax pmax
comp=Z,21nm,0.9s
ABPO Ambohimpanom 81.84 250 P **P** **19 58 46.7 +0.6**
ABPO IAmb IAmb 19 59 00.4
comp=Z,20nm,0.8s
GNI Garni 82.05 310*ce*P **P** **19 58 47.1 +0.3**
GNI pmax pmax
comp=Z,27nm,1.7s
GNI Garni 82.05 310 P **P** **19 58 47.5 +0.7**
GNI IAmb IAmb 19 59 04.6
comp=Z,44nm,1.4s
A21K Barrow 82.16 18 P **P** **19 58 47.1 +0.6**
A21K IAmb IAmb 19 58 48.8
comp=Z,32nm,1.0s
A21K Barrow 82.16 18 P 19 58 47.7
baz=258,SNR=13
IMAR Indian Mountai 82.23 24 P **P** **19 58 47.7 +0.7**
PPLA Purkeypile 82.48 27 P **P** **19 58 48.6 +0.2**
PPLA IAmb IAmb 19 58 58.0
comp=Z,34nm,1.4s
PPLA Purkeypile 82.48 27 P 19 58 49.4
baz=263,SNR=5.9
CHUM Lake Minchumin 82.54 26 P 19 58 50.0
baz=263,SNR=10.0
SKT Skwentna 82.68 28 P **P** **19 58 49.4 0.0**
SKT IAmb IAmb 19 58 51.1
comp=Z,22nm,1.2s
SKT Skwentna 82.68 28 P 19 58 49.7
baz=264,SNR=9.0
ZEI Tsey 82.77 313 *e*P **P** **19 58 49.9 -0.6**
ZEI pmax pmax
comp=Z,21nm,1.0s
BRSE Bradley Lake S 82.84 30 P 19 58 50.7
baz=265
PRGR Permogore 82.93 332 *e*P **P** **19 58 49.6 -1.0**
PRGR pmax pmax
comp=Z,39nm,0.9s
SUA Susitna One 83.00 29 P **P** **19 58 50.8 -0.4**
SUA IAmb IAmb 19 59 06.8
comp=Z,20nm,0.8s
SUA Susitna One 83.00 29 P 19 58 51.2
baz=265,SNR=17
AKH Akhalkalaki 83.04 311 ⇑P **P** **19 58 54.1 +2.2**
BPAW Bear Paw Mtn. 83.15 26 P **P** **19 58 51.7 -0.1**
BPAW IAmb IAmb 19 58 53.8
comp=Z,31nm,1.3s
BPAW Bear Paw Mtn. 83.15 26 P 19 58 52.0
baz=264,SNR=16
CUT Chulitna 83.31 28 P 19 58 52.8
baz=265
GEVA Gevas 83.32 308 P **P** **19 58 53.8 +0.4**
GEVA IAmb IAmb 19 58 56.1
comp=Z,25nm,1.0s
MLY Manley 83.35 25 P **P** **19 58 52.9 0.0**
MLY IAmb IAmb 19 58 55.0
comp=Z,31nm,1.3s
MLY Manley 83.35 25 P 19 58 53.7
baz=264,SNR=23
TRF Thorofare Moun 83.39 27 P **P** **19 58 53.4 +0.1**
TRF IAmb IAmb 19 59 25.8
comp=Z,24nm,1.2s
TRF Thorofare Moun 83.39 27 P 19 58 53.4
baz=265,SNR=8.7
RC01 Rabbit Creek A 83.45 29 P **P** **19 58 53.0 -0.3**
RC01 IAmb IAmb 19 58 54.8
comp=Z,17nm,0.8s
RC01 Rabbit Creek A 83.45 29 P 19 58 53.5
baz=266,SNR=9.9
SEW Seward 83.52 30 P **P** **19 58 53.8 +0.2**
SEW IAmb IAmb 19 59 09.7
comp=Z,29nm,1.0s
SEW Seward 83.52 30 P 19 58 53.8
baz=266
KBZ Khabaz 83.53 313 P **P** **19 58 54.3 +0.2**
comp=Z,3.3nm,0.8s,baz=76,slow=5.8,SNR=11
KBZ LR LR 20 42 41.0
comp=Z,129nm,18.9s,baz=64,slow=40
KBZ Khabaz 83.53 313*d* iP **P** **19 58 53.5 -0.6**
KBZ pmax pmax
comp=Z,9.0nm,1.3s
NEY Neytrino 83.65 313 *i* P **P** **19 58 54.4 -0.6**
NEY pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 83.69 314 *e*P **P** **19 58 54.8 -0.3**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,327nm,19.0s
KIV Kislovodsk 83.69 314 P **P** **19 58 55.7 +0.6**
PMR Palmer 83.78 29 P 19 58 55.0
baz=266,SNR=8.9
COLD Coldfoot 83.79 23 P **P** **19 58 56.0 +1.0**
COLD IAmb IAmb 19 58 57.7
comp=Z,27nm,1.0s
COLD Coldfoot 83.79 23 P 19 58 56.6
baz=264,SNR=30
MAW Mawson 83.83 200 P **P** **19 58 53.9 -1.2**
comp=Z,3.7nm,0.7s,baz=105,slow=5.7,SNR=2.1
I23K Minto, Yukon-K 83.94 25 P **P** **19 58 56.8 +1.0**
I23K Minto, Yukon-K 83.94 25 P 19 58 56.8
baz=265,SNR=33
MCK McKinley 84.02 26 P 19 58 56.4
baz=266,SNR=15
NEA2 Nenana 84.02 26 P 19 58 56.9
baz=266,SNR=10
KNK Knik Glacier 84.09 29 P **P** **19 58 57.0 +0.4**
KNK IAmb IAmb 19 59 24.3
comp=Z,35nm,1.0s
KNK Knik Glacier 84.09 29 P 19 58 57.2
baz=267,SNR=11
SBA Scott Base 84.10 172 P **P** **19 58 57.2 +0.8**
SBA pmax pmax
comp=Z,70nm,1.9s
SBA Scott Base 84.10 172 P **P** **19 58 57.2 +0.8**
SBA IAmb IAmb 19 59 12.8
comp=Z,70nm,1.9s
PWL Port Wells 84.12 29 P **P** **19 58 56.8 -0.1**
WAT2 Susitna Watana 84.12 27 P 19 58 56.3
baz=266,SNR=11
TOLK Toolik Lake Re 84.16 21 P 19 58 58.3
baz=265,SNR=20
SML Sawmill 84.17 28 P **P** **19 58 57.1 0.0**
SML Sawmill 84.17 28 P 19 58 57.3
baz=267,SNR=14
PPT2 Papeete2 84.48 108 *e*LR LR 20 25 46.0
comp=Z,348nm,28.2s
VRH Novokhopyorsk 84.49 321 *e*P **P** **19 58 58.4 -0.4**
VRH pmax pmax
comp=Z,40nm,1.2s
WAT6 Susitna Watana 84.49 28 P 19 58 59.1
baz=267,SNR=15
COLA College 84.56 25 *i* P **P** **19 58 57.8 -1.1**
COLA pmax pmax
comp=Z,10.0nm,1.6s
CCB Clear Creek Bu 84.57 26 P **P** **19 58 58.3 -0.6**
CCB IAmb IAmb 19 58 59.8
comp=Z,23nm,1.3s
GLI Glacier Island 84.72 29 P 19 59 00.3
baz=268,SNR=7.5
HDA Harding Lake 84.93 26 P 19 59 00.1
baz=268,SNR=6.2
HDA P 19 59 00.1
baz=268,SNR=6.2
IL31 84.97 25 P **P** **19 59 00.3 -0.6**
ILAR Eielson Array 84.97 25 P **P** **19 59 00.1 -0.9**
comp=Z,9.9nm,1.0s,baz=251,slow=4.3,SNR=18
ILAR Eielson Array 84.97 25 P **P** **19 58 59.9 -1.1**
ILAR Eielson Array 84.97 25 P **P** **19 58 59.9 -1.1**
FID Port Fidalgo 85.02 29 P **P** **19 59 01.9 +0.5**
FID IAmb IAmb 19 59 03.3
comp=Z,16nm,0.8s
TBI Tubuai 85.16 114 *e*LR LR 20 25 59.0
comp=Z,292nm,26.0s
M24K Tolsona, Glenn 85.20 28 P 19 59 03.6
baz=269,SNR=7.0
KOPT Kop Dagi 85.31 310 P **P** **19 59 04.5 +0.9**
KLU Klutina 85.31 29 P 19 59 04.0
baz=269,SNR=5.7
EYAK Cordova Ski Ar 85.38 30 P 19 59 04.2
baz=269
PAX Paxson 85.55 27 P 19 59 04.9
baz=269,SNR=9.6
PRP Porcupine Dome 85.57 25 P 19 59 03.9
baz=269
FYU Fort Yukon 85.71 24 P **P** **19 59 05.7 +1.0**
FYU IAmb IAmb 19 59 10.7
comp=Z,13nm,0.9s
KLMR Klimovskoe 85.84 331 *e*P **P** **19 59 06.8 +1.4**
KLMR *e*S **S** **20 09 27.7 -6.7**
KLMR pmax pmax
comp=Z,28nm,0.6s
KLMR Klimovskoe 85.84 331 *e*P **P** **19 59 06.8 +1.4**
KLMR AMP 19 59 19.9
comp=Z,28nm,0.6s
KLMR *e*S **S** **20 09 27.8 -6.7**
KLMR *e*S **S** **20 09 27.8 -6.7**
KLMR LQ LQ 20 31 47.9
KLMR LQ LQ 20 31 47.9
KLMR LR LR 20 35 03.6
SOC Sochi 85.84 313 *e*P **P** **19 59 04.7 -1.1**
SOC *e* 20 02 26.2
SOC *e*PPP PPP 20 04 20.5
SOC *e*S S 20 09 25.4 -10
SOC *e*SS **SS** **20 15 14.9 +1.8**
SOC MLR MLR
comp=Z,168nm,16.0s
N25K Chitina, Valde 85.94 29 P 19 59 07.5
baz=270
BMAR Burnt Mountain 85.97 23 P **P** **19 59 07.1 +1.1**
VSR Storozhevoye 86.09 321 *e*P **P** **19 59 06.8 -0.1**
VSR pmax pmax
comp=Z,60nm,1.6s
DOT Dot Lake 86.19 27 P **P** **19 59 07.4 +0.3**
SCRK Sand Creek 86.22 26 P **P** **19 59 07.3 -0.1**
SCRK Sand Creek 86.22 26 P 19 59 07.4
baz=270
LPSR Galich'ya Gora 86.22 322 *e*P **P** **19 59 07.6 +0.2**
LPSR pmax pmax
comp=Z,30nm,0.8s
MOS Moscow 86.91 326 *e*P **P** **19 59 10.7 -0.1**
MOS *i* 19 59 20.0
MOS *e* 20 09 45.5
K27K Chicken 87.06 26 P 19 59 12.6
baz=272
L27K Beaver Creek, 87.21 27 P 19 59 12.9
baz=272
BCAR Beaver Creek A 87.23 27 P **P** **19 59 12.9 +0.7**
EGAK Eagle 87.42 25 P **P** **19 59 12.1 -1.0**
EGAK IAmb IAmb 20 01 46.1
comp=Z,24nm,1.9s
EGAK Eagle 87.42 25 P 19 59 13.4
baz=273

ANN Anapa 87.44 315 eP P 19 59 19.3 +5.7
ANN e*PP sP 19 59 33.0 -0.2
ANN e 20 09 52.3
ANN pmax pmax
comp=Z,48nm,0.9s
OBN Obninsk 87.54 325c iP P 19 59 13.6 -0.2
OBN e 20 02 37.8
OBN i S S 20 09 40.1 -11
OBN pmax pmax
comp=Z,12nm,0.8s
OBN Obninsk 87.54 325 P P 19 59 13.2 -0.6
APA Apatity 88.23 337⇑iP P 19 59 20.2 +3.4
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,1μm,22.0s
DAWY Dawson 88.24 26 P P 19 59 17.1 +0.1
EPYK Eagle Plains 89.13 24 P 19 59 21.7
baz=277
INK Inuvik 90.07 22 P P 19 59 24.7 -0.7
INK pmax pmax
comp=Z,18nm,1.6s
INK Inuvik 90.07 22 P P 19 59 24.7 -0.7
INK IAmb IAmb 19 59 27.0
comp=Z,18nm,1.6s
KMBO Kilima Mbogo 90.17 269 P P 19 59 28.6 +1.2
comp=Z,2.2nm,0.8s,baz=41,slow=8.1,SNR=5.9
BRTR Keskin Array B 90.59 310 P P 19 59 29.7 +0.9
comp=Z,1.4nm,0.8s,baz=92,slow=4.2,SNR=7.2
BRTR LR LR 20 49 28.5
comp=Z,67nm,18.1s,baz=66,slow=42
BRTR Keskin Array B 90.59 310 P P 19 59 28.7 -0.1
BRTR Keskin Array B 90.59 310 P P 19 59 28.7 -0.1
ARCES ARCESS Array B 90.80 340 P P 19 59 28.6 -0.3
comp=Z,5.6nm,0.7s,baz=76,slow=6.2,SNR=25
ARCES LR LR 20 44 16.4
comp=Z,170nm,20.2s,baz=40,slow=38
ARCES ARCESS Array B 90.80 340 P P 19 59 28.5 -0.3
ARCES pmax pmax
comp=Z,38nm,1.6s
ARCES ARCESS Array B 90.80 340 P P 19 59 28.5 -0.3
FINES FINESS Array B 92.25 332 P P 19 59 36.0 +0.2
comp=Z,2.4nm,0.6s,baz=66,slow=6.0,SNR=12
AKASG Malin Array Be 92.40 321 P P 19 59 35.8 -0.8
comp=Z,2.6nm,0.7s,baz=65,slow=4.8,SNR=9.8
AKASG Malin Array Be 92.40 321 P P 19 59 35.5 -1.2
AKASG pmax pmax
comp=Z,4.0nm,1.1s
AKASG Malin Array Be 92.40 321 P P 19 59 35.5 -1.2
AKBB Malin Array Si 92.40 321ceP P 19 59 37.5 +0.9
SYO Syowa Base 92.51 201⇓eP P 19 59 36.6 -0.1
MNK Minsk 92.60 325 iP P 19 59 35.0 -2.4
comp=E,2.0nm,0.9s
MNK iP P 19 59 35.0 -2.4
comp=N,9.0nm,0.8s
MNK iP P 19 59 35.0 -2.4
comp=Z,8.0nm,0.8s
MNK i PP PP 20 03 16.7 -2.6
MNK i PPP PPP 20 05 16.2
MNK i SKS SKSac 20 10 06.0 -0.8
MNK i S S 20 10 34.6 -3.3
MNK i PS PnS 20 11 57.9 +0.8
MNK i SS SS 20 16 49.4 -1.1
MNK i SSS SSS 20 20 29.0
MNK i LQ LQ 20 35 48.1
MNK i LR LR 20 39 18.6
MNK i LRM MLR 20 42 43.4
comp=E,11nm,15.9s
MNK i LRM MLR 20 43 05.0
comp=N,508nm,24.2s
MNK i LRM MLR 20 43 09.5
comp=Z,182nm,22.3s
TAOE Nuku Hiva Isla 93.01 99 eLR LR 20 29 32.2
comp=Z,589nm,23.6s
C36M Paulatuk 93.14 20 P P 19 59 39.4 -0.3
C36M IAmb IAmb 19 59 40.6
comp=Z,7.7nm,0.8s
C36M Paulatuk 93.14 20 P 19 59 39.9
baz=289
NACGM Naroch 93.16 325 iP P 19 59 37.0 -3.1
NACGM iP P 19 59 37.0 -3.1
NACGM iP P 19 59 37.0 -3.1
NACGM i PP PP 20 03 15.6 -8.1
NACGM i PPP PPP 20 05 14.2
NACGM i S S 20 10 39.2 -3.6
NACGM i SS SS 20 16 21.9 -36
NACGM i SSS SSS 20 21 31.0
NACGM i LQ LQ 20 35 10.2
NACGM i LR LR 20 41 10.5
TESR Tescani 94.77 317 ⇑P P 19 59 48.0 +0.3
VRI Vrincioaia 94.83 316 ⇓P P 19 59 46.3 -1.7
VRI Vrincioaia 94.83 316 ⇓P P 19 59 46.3 -1.7
PLOR Plostina 94.89 316 ⇑P P 19 59 45.9 -2.4
PLOR Plostina 94.89 316 ⇑P P 19 59 45.9 -2.4
BISRR Bisoca 94.90 316 ⇓P P 19 59 46.9 -1.5
BIZ Bicaz 95.06 318 ⇓P P 19 59 48.9 -0.1
ISR Istrita 95.09 316 ⇑P P 19 59 53.6 +4.4
ISR Istrita 95.09 316 ⇑P P 19 59 53.6 +4.4
MLR Muntele Rosu 95.44 316 ⇓P P 19 59 51.6 +0.7
MLR Muntele Rosu 95.44 316 ⇓P P 19 59 51.6 +0.7
MLR Muntele Rosu 95.44 316 P P 19 59 51.5 +0.6
MLR IAmb IAmb 20 00 30.2
comp=Z,12nm,1.0s
BURAR Bucovina Array 95.52 318 ⇑P P 19 59 48.7 -2.6
BURAR Bucovina Array 95.52 318 ⇑P P 19 59 48.7 -2.6
BURAR Bucovina Array 95.52 318 P P 19 59 50.5 -0.7
BUR08 Bucovina Ar. S 95.53 318 P P 19 59 51.2 -0.1
BUR08 IAmb IAmb 20 00 12.8
comp=Z,9.7nm,1.1s
HUMR Humele 96.29 315 ⇑P P 19 59 55.4 +0.8
UZH Uzhgorod 97.22 320 eP P 19 59 58.0 -0.7
DRGR 97.37 318 ⇑P Pdif 19 59 59.9 +0.2
DAG Danmarks Havn 97.48 353 iP P 19 59 57.4 -1.9
DAG Danmarks Havn 97.48 353 iP P 19 59 57.4 -1.9
DAG Danmarks Havn 97.48 353 iP P 19 59 57.5 -1.9
CRVS Cervenica-Dubn 97.68 320 eP Pdif 20 00 01.8 +0.9
CRVS e 20 00 18.8
CRVS Cervenica-Dubn 97.68 320 ePDIFF Pdif 20 00 01.8 +0.9
CRVS e 20 00 18.8
RES Resolute Bay 97.85 10 P P 20 00 00.6 -0.4
RES pmax pmax
comp=Z,6.0nm,0.9s
RES Resolute Bay 97.85 10 P P 20 00 00.6 -0.4
RES IAmb IAmb 20 00 02.4
comp=Z,5.6nm,0.8s
NB2 NORSAR Subarra 99.19 334 P Pdif 20 00 05.8 -1.6
comp=Z,5.3nm,1.2s,baz=69,slow=4.6
NB2 NORSAR Subarra 99.19 334 P Pdif 20 00 05.8 -1.6
baz=69,slow=4.6
NOA NORSAR Array B 99.19 334 P Pdif 20 00 05.1 -2.3
comp=Z,1.1nm,0.7s,baz=66,slow=4.6,SNR=4.4
YKA Yellowknife Ar 99.38 25 P Pdif 20 00 07.6 -0.5
comp=Z,1.3nm,0.7s,baz=304,slow=4.1,SNR=21
YKA PKKPbc PKKPdf 20 16 41.1 +3.7
comp=Z,0.3nm,0.7s,baz=107,slow=3.0,SNR=4.3
YKA LR LR 20 43 39.2
comp=Z,69nm,21.9s,baz=0.0,slow=34
YKA Yellowknife Ar 99.38 25 iP Pdif 20 00 08.5 +0.4
YKA pmax pmax
comp=Z,1.0nm,0.7s
DBG Daneborg 99.76 351 iP Pdif 20 00 08.8 -0.8
CLL Collm 102.12 324 eSKSac SKSac 20 11 02.0 +6.1
CLL eSdif Sdif 20 12 08.0 +8.5
CLL ePS PS 20 13 36.0 -3.1
CLL e(SS) 20 18 48.0
CLL e 20 23 36.0
CLL e 20 27 06.0
CLL LmH 20 53 00.0
comp=N,200nm,22.0s
CLL LmH 20 53 00.0
comp=E,200nm,18.4s
CLL LmV 21 00 00.0
comp=Z,200nm,19.7s
GERES GERESS Array B 102.59 322 P Pdif 20 00 24.0 +1.1
comp=Z,0.1nm,0.3s,baz=51,slow=4.3,SNR=3.6
TORD Torodi Ar. Bea 123.55 288 PKP PKiKP 20 05 25.0 +0.5
comp=Z,2.2nm,0.6s,baz=44,slow=2.5,SNR=12
TORD Torodi Ar. Bea 123.55 288 PKiKP 20 05 25.0 +0.5
KIC Kosan Boka 131.16 282 eP PKiKP 20 05 40.1 +0.3
comp=Z,7.7nm,0.7s
DBIC Dimbokro 131.21 282 PKP PKPdf 20 05 38.7 -0.2
comp=Z,2.0nm,0.7s,baz=255,slow=3.9,SNR=3.7
TIC Toumodi 131.38 282 eP PKPdf 20 05 36.1 -3.2
LIC Lamto 131.46 281 eP PKPdf 20 05 38.3 -1.1

comp=Z,57nm,2.0s
PLCA Paso Flores 139.65 159 PKP PKPdf 20 05 52.4 -1.7
comp=Z,1.3nm,0.7s,baz=260,slow=3.8,SNR=5.1
PLCA Paso Flores 139.65 159 PKPdf 20 05 52.9 -1.2
PLCA Paso Flores 139.65 159 PKPdf 20 05 52.9 -1.2
ACON Acoyapa 144.16 64 PKPdf 20 06 02.6 -0.1
BO02 Sierra Bellavi 144.67 154 PKPdf PKPdf 20 06 04.3 +1.1
ESPN Las Esperanzas 144.85 63 PKPdf 20 06 04.1 +0.2
JTS Las Juntas de 145.00 66 PKP PKPdf 20 06 04.0 -0.2
comp=Z,16nm,0.8s,baz=330,slow=2.5,SNR=11
JTS Las Juntas de 145.00 66 PKIKP PKPab 20 06 03.6 0.0
JTS Las Juntas de 145.00 66 PKPab 20 06 03.6 0.0
CO03 El Pedregal 147.99 150 PKPbc 20 06 12.2 +0.2
SDV Santo Domingo 158.21 55 PKP PKPdf 20 06 24.6 +0.3
comp=Z,1.4nm,0.3s,baz=31,slow=8.8,SNR=3.6
LPAZ La Paz 160.23 131 PKP PKPdf 20 06 28.6 +1.6
comp=Z,0.8nm,0.6s,baz=276,slow=5.8,SNR=3.5
LPAZ La Paz 160.23 131 PKIKP PKPdf 20 06 27.8 +0.7
LPAZ La Paz 160.23 131 PKPdf 20 06 27.8 +0.7

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*IDC **21** 19:58:29.2±0.6, 37.28N×142.45E, h0km, mb4.2/26, mb1 4.3/35, mb1mx4.2/56, mbtmp4.2/35, ML3.7/9, MS4.1/4, Ms1 4.2/4, ms1mx3.3/43, Error ellipse: s-maj=14.9km s-min=11.6km az=124.0*

*BJI **21** 19:58:29.8±0.0, 37.22N×142.24E, h13km, mB4.7/33, mb4.7/61, Ms4.4/19, Ms7 4.2/19*

*NIED **21** 19:58:31.5, 37.30N×142.36E, h28km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr-1.93; Mθθ0.09; Mφφ1.84; Mrθ0.10; Mrφ-0.25; Mθφ2.93; Fault plane solution: M0 3.50000×10^15 NP1: φs180.00000°, δ74.00000°, λ-86.00000°. NP2: φs345.00000°, δ17.00000°, λ-105.00000°.*

*JMA **21** 19:58:31.4±0.2, 37.30N×142.36E, h28km±4km, M4.6*

JMA Felt I J1.

*NEIC **21** 19:58:33.0±1.6, 37.29N±0.06×142.35E±0.07, h22km±2km, mb4.7/62, Error ellipse: s-maj=8.2km s-min=7.6km az=165.0*

*MOS **21** 19:58:32.1±1.1, 37.37N×142.45E, h29km, mb4.8/19, Error ellipse: s-maj=6.8km s-min=4.6km az=113.8*

ISC 21 19:58:31.0±0.6, 37.30N±0.04×142.47E±0.04, h11km±3km, n302, σ1§56/318, mb4.7/96, MS4.5/9, 11C-5D, Off east coast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JFK Kawauchi 1.27 274 P Pn 19 58 52.4 -2.2
JFK eS Sb 19 59 07.4 -3.8
JIKH Ishinomakikobu 1.28 322 P Pn 19 58 53.0 -1.8
JIKH eS Sb 19 59 08.3 -3.3
JMST Minamisoumatoc 1.32 289 P Pn 19 58 53.1 -2.2
JMST eS Sb 19 59 08.7 -4.0
ONAJ Iwakimizuishiy 1.34 262 P Pn 19 58 53.2 -2.5
JMM Marumori 1.44 294 P Pn 19 58 55.1 -1.9
JMM eS Sn 19 59 12.4 -3.5
JMM Marumori 1.44 294 Pn 19 58 55.1 -1.9
JMM Sn Sn 19 59 14.2 -1.7
JIO Ouri 1.45 323 P Pn 19 58 55.7 -1.4
JIO eS Sn 19 59 13.0 -3.1
JFT Otama 1.71 278 P Pn 19 58 59.8 -0.8
JFT eS Sn 19 59 19.5 -3.0
JOU Okura 1.78 307 P Pn 19 59 00.7 -0.9
JOU eS Sn 19 59 21.7 -2.5
JMK Ichinoseki 1.92 330 P Pn 19 59 02.8 -0.7
JMK eS Sn 19 59 25.4 -2.3
JYS Shirataka 2.11 297 P Pn 19 59 06.0 -0.2
JYT Yasato 2.11 240 Pn 19 59 04.3 -1.9
JFY Yanaizu 2.20 274 P Pn 19 59 06.9 -0.5
JYK Kaneyama 2.32 315 P Pn 19 59 08.4 -0.6
JOM Ohasama 2.36 337 P Pn 19 59 09.7 +0.1
JOM eS Sn 19 59 37.6 -0.9
JYA Atsumi 2.53 302 P Pn 19 59 11.6 -0.3
JAG Ashikaga 2.57 251 P Pn 19 59 11.3 -1.1
JSD Sado 3.42 284 Pn Pn 19 59 23.5 -0.6
MJAR Matsushiro Arr 3.49 259 Pn Pn 19 59 25.3 +0.1
4.9nm,0.3s,baz=89,slow=15,SNR=219
MJAR Matsushiro Arr 3.49 259 P Pn 19 59 23.9 -1.3
MJAR Matsushiro Arr 3.49 259 Pn 19 59 23.9 -1.3
MAJO Matsushiro 3.49 259ceP Pn 19 59 25.6 +0.4
MAJO pmax pmax
comp=Z,144nm,0.8s
MAJO Matsushiro 3.49 259 Pn 19 59 24.8 -0.4
MAT Matsushiro 3.49 259 P Pn 19 59 25.2 0.0
MAT S Sn 20 00 06.7 +0.2
MJB9 Matsu-Tunnel 3.50 259 Pn 19 59 25.7 +0.5
JTM Tenmabayashi 3.65 343 Pn 19 59 28.7 +1.4
JSG Sagara 4.35 234 Pn 19 59 38.2 +1.3
JGF Kuroka 4.45 249 Pn Pn 19 59 39.6 +1.2
JHJ2 Mitsune 4.71 208 Pn 19 59 42.0 +0.2
JHJ Hachijo jima 2 4.71 209 Pn Pn 19 59 41.9 -0.1
comp=Z,62nm,0.3s,baz=99,slow=23,SNR=16
JHJ Sn Sn 20 00 31.8 -4.7
comp=Z,69nm,0.3s,baz=241,slow=23,SNR=5.8
ERM Erimo 4.74 6 iP Pn 19 59 41.2 -1.1
ERM Erimo 4.74 6 Pn 19 59 41.8 -0.5
JEM Erimo 4.74 6 Pn Pg 20 00 13.1 +11
INU Inuyama 4.81 248 Pn Pn 19 59 44.3 +1.1
JEW Eniwo 5.59 352 Pn Pn 19 59 55.4 +1.4
JWT Wachi 6.05 253 Pn 20 00 01.6 +1.3
NMR Nemuro--Hokkai 6.56 21 eP Pn 20 00 05.7 -1.5
NMR i S Sn 20 01 15.9 -6.0
JKA Kamikawa-asahi 6.81 1 Pn Pn 20 00 11.4 +0.7
ASAJ Asahikawa 6.81 1 Pn Pn 20 00 11.6 +0.8
comp=Z,1.4nm,0.3s,baz=210,slow=17,SNR=22
ASAJ Sn Sn 20 01 27.6 -0.7
comp=Z,0.9nm,0.3s,baz=256,slow=26,SNR=1.7
ASAJ Asahikawa 6.81 1 P Pn 20 00 11.4 +0.7
RUSJ Misakicho 7.12 16 P Pn 20 00 14.3 -0.7
RUSJ i S Sn 20 01 31.0 -4.8
GRPR Tuman 7.14 20 eP Pn 20 00 15.1 -0.2
GRPR i S Sn 20 01 31.2 -5.2
GRPR pmax pmax
comp=Z,73nm,0.3s
GRPR pmax pmax
comp=E,63nm,0.1s
YUK Yuzh-Kuril'sk 7.21 20 P Pn 20 00 15.2 -0.9
YUK eS Sn 20 01 31.6 -6.3
YUK pmax pmax
comp=N,48nm,0.3s
YUK pmax pmax
comp=Z,96nm,0.3s
YUK pmax pmax
comp=E,10.0nm,0.2s
JMN Monobe 7.85 246 Pn Pn 20 00 25.8 +0.7
JHS Saijyo 7.90 256 Pn Pn 20 00 27.3 +1.5
KUR Kuril'sk 8.91 25 eP Pn 20 00 38.5 -1.0
KUR eS Sn 20 02 14.4 -5.3
KUR pmax pmax
comp=Z,32nm,1.5s
KUR pmax pmax
comp=E,22nm,0.8s
KUR smax smax
comp=N,14nm,0.6s
KUR smax smax
comp=E,38nm,0.6s
YSS Yuzh-Sakhalins 9.65 1 eP Pn 20 00 50.0 +0.3
YSS Yuzh-Sakhalins 9.65 1 Pn Pn 20 00 50.4 +0.8
MSHR Mys Shultsa 10.16 305 iP Pn 20 00 57.2 +0.6
MSHR pmax pmax
comp=Z,33nm,1.0s
JCJ Chichijima 10.18 181 Pn Pn 20 00 57.5 +0.5
comp=Z,3.7nm,0.3s,baz=316,slow=10,SNR=2.7
JCJ Sn Sn 20 02 41.0 -10
comp=Z,3.5nm,0.3s,baz=273,slow=19,SNR=1.1
JCJ Chichijima 10.18 181 Pn Pn 20 00 57.8 +0.8
JNU Nakatsue 10.35 250 Pn Pn 20 01 00.9 +1.5
comp=Z,0.5nm,0.3s,baz=41,slow=9.6,SNR=7.4
JNU Nakatsue 10.35 250 Pn 20 00 59.7 +0.3
USA0B Ussuriysk Arra 10.52 314 P Pn 20 01 03.1 +1.6
USA0B Ussuriysk Arra 10.52 314 Pn Pn 20 01 03.1 +1.6
USRK Ussuriysk Ar. 10.52 314 Pn Pn 20 01 03.1 +1.6
baz=118,slow=14,SNR=6.0
USRK Ussuriysk Ar. 10.52 314 Pn 20 01 03.4 +1.9
KSRS Korea Array 11.57 275 Pn Pn 20 01 17.8 +1.8
comp=Z,0.4nm,0.3s,baz=90,slow=13,SNR=28
KSAR Wonju Array Be 11.61 275 P Pn 20 01 18.0 +1.6
KSAR Wonju Array Be 11.61 275 Pn 20 01 18.0 +1.6
KS19 Wonju Array Si 11.62 275 Pn 20 01 17.6 +1.0
MDJ Mudanjiang 12.16 311 P Pn 20 01 28.3 +4.3
MDJ pP P 20 01 31.8 -4.9

MDJ sP 20 01 33.4
MDJ PP PnPn 20 01 36.3 +4.5
MDJ S Sn 20 03 41.3 +1.7
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ pmax pmax
comp=Z,150nm,9.6s
MDJ LR LR
comp=Z,600nm,21.0s
MDJ LR LR
comp=Z,290nm,12.9s
MDJ LR LR
comp=Z,1μm,22.7s
MDJ Mudanjiang 12.16 311 Pn Pn 20 01 26.6 +2.6
TYV Tymovskoe 13.56 1 eP P 20 01 49.7 -2.5
TYV pmax pmax
comp=Z,4.0nm,0.9s
TYV pmax pmax
comp=Z,200nm,5.4s
KLR Kul'dur 14.23 330 Pn Pn 20 01 51.8 -0.6
comp=Z,0.3nm,0.3s,baz=126,slow=15,SNR=3.7
KLR Kul'dur 14.23 330 iP Pn 20 01 54.8 +2.5
KLR pmax pmax
comp=Z,4.0nm,1.0s
JOW Kunigami 15.90 233 Pn 20 02 13.6 -1.1
PETK Petropavlovsk- 19.04 29 P P 20 02 52.8 -0.1
comp=Z,0.5nm,0.3s,baz=198,slow=13,SNR=2.9
PETK Petropavlovsk- 19.04 29 P P 20 02 50.9 -2.0
PETK Petropavlovsk- 19.04 29 P P 20 02 50.9 -2.0
ZEA Zeya 19.52 332 eP P 20 02 58.1 0.0
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.9s
NJ2 Nanjing 20.09 262 eP P 20 03 04.6 +0.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
TIA Tai'an 20.32 275 P P 20 03 04.8 -2.2
TIA pmax pmax
comp=Z,26nm,1.1s
BJI Beijing 20.69 286 P P 20 03 08.3 -2.6
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJT Baijiatuau 20.69 286 P P 20 03 08.4 -2.5
BJT pmax pmax
comp=Z,13nm,0.9s
BJT Baijiatuau 20.69 286 P P 20 03 08.4 -2.5
SSLB Suanglung 22.84 240 IAmb IAmb 20 03 44.8
comp=Z,48nm,1.4s
MA2 Magadan 22.93 11 P P 20 03 35.1 +0.4
comp=Z,4.7nm,0.8s,baz=212,slow=7.8,SNR=12
MA2 Magadan 22.93 11 iP P 20 03 35.9 +1.2
MA2 pmax pmax
comp=Z,4.0nm,0.9s
MA2 Magadan 22.93 11 P P 20 03 34.6 -0.2
TPUB Ta-pu 23.38 240 P P 20 03 37.0 -2.6
TPUB IAmb IAmb 20 03 52.2
comp=Z,25nm,0.8s
TIY Taiyuan 23.78 280 eP P 20 03 44.8 +1.2
TIY pmax pmax
comp=Z,20nm,0.8s
HHC Hu-ho-hao-te 24.19 288 eP P 20 03 47.9 +0.5
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,88nm,6.6s
WHN Wuhan 24.23 262 ⇑P P 20 03 47.3 -0.4
WHN pP sP 20 03 54.3 +2.2
CIT Chita 25.08 315 eP P 20 03 55.6 +0.3
CIT e 20 04 02.2
CIT e 20 04 10.4
CIT pmax pmax
comp=Z,87nm,1.1s
YAK Yakutsk 26.00 346 P P 20 04 04.0 +0.5
comp=Z,7.8nm,0.7s,baz=5.5,slow=1.9,SNR=8.7
YAK Yakutsk 26.00 346 eP P 20 04 05.6 +2.1
YAK e 20 04 39.4
YAK eS S 20 08 35.5 +1.7
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,21nm,2.0s
YAK pmax pmax
comp=N,31nm,2.0s
YAK pmax pmax
comp=E,24nm,2.5s
YAK smax smax
comp=N,32nm,2.3s
YAK smax smax
comp=E,25nm,2.1s
YAK Yakutsk 26.00 346 P P 20 04 03.3 -0.2
SEY Seymchan 26.38 10 P P 20 04 07.8 +1.0
comp=E,4.1nm,0.6s,baz=188,slow=8.2,SNR=40
XAN Xi'an 27.36 273 P P 20 04 15.9 -0.2
XAN pP sP 20 04 20.3 -0.2
XAN sP pP 20 04 23.1 +3.8
XAN pmax pmax
comp=E,11nm,0.8s
XAN Xi'an 27.36 273 P P 20 04 15.2 -1.0
XAN pmax pmax
comp=Z,24nm,1.2s
XAN Xi'an 27.36 273 P P 20 04 15.2 -1.0
XAN IAmb IAmb 20 04 23.7
comp=Z,24nm,1.2s
H11N2 WAKE ISLAND Hy 27.57 123 T T 20 33 09.8
baz=315,slow=75,SNR=1151
H11N1 WAKE ISLAND Hy 27.58 123 T T 20 33 11.6
baz=315,slow=75,SNR=562
H11N3 WAKE ISLAND Hy 27.59 123 T T 20 33 07.0
baz=315,slow=75,SNR=648
BOD Bodaibo 27.76 327 eP P 20 04 19.0 -0.4
BOD pmax pmax
comp=Z,10.0nm,1.6s
ULN Ulaanbaatar 27.91 304 iP P 20 04 21.4 +0.4
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 27.91 304 P P 20 04 20.7 -0.3
ULN IAmb IAmb 20 04 22.1
comp=Z,8.6nm,0.8s
ENH Enshi 28.19 265 P P 20 04 22.5 -1.0
H11S1 WAKE ISLAND Hy 28.31 125 T T 20 34 05.7
baz=317,slow=76,SNR=508
H11S3 WAKE ISLAND Hy 28.31 125 T T 20 34 04.4
baz=317,slow=76,SNR=448
H11S2 WAKE ISLAND Hy 28.32 125 T T 20 34 06.1
baz=317,slow=76,SNR=352
SONM Songino Array 28.34 303 P P 20 04 25.0 +0.2
comp=Z,19nm,0.8s,baz=98,slow=8.4,SNR=125
SONM Songino Array 28.34 303 P P 20 04 24.5 -0.3
SONM pmax pmax
comp=Z,15nm,0.9s
SONM Songino Array 28.34 303 P P 20 04 24.5 -0.3
SONM IAmb IAmb 20 04 26.5
comp=Z,15nm,0.9s
ZAK Zakamensk 30.77 308 eP P 20 04 46.0 -0.3
ZAK pmax pmax
comp=Z,11nm,1.0s
TLY Talaya 30.80 310ceP P 20 04 47.5 +1.1
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY Talaya 30.80 310 P P 20 04 46.6 +0.1
TLY IAmb IAmb 20 04 49.3
comp=Z,7.5nm,1.0s
LZH Lanzhou 30.85 280 eP P 20 04 55.0 +7.7
LZH sP sP 20 04 57.6 +6.0
LZH pmax pmax
comp=Z,32nm,1.0s
GYA Guiyang 32.09 261 ⇓P P 20 04 58.8 +0.6
GYA pmax pmax
comp=Z,12nm,1.0s
MOY Mondy 32.41 310 eP P 20 05 00.6 -0.2
CD2 Chengdu 32.51 270 eP P 20 05 00.6 -1.2
GTA Gaotai 33.29 287 P P 20 05 09.6 +1.0
GTA pP sP 20 05 17.3 +4.3
GTA sP pP 20 05 20.5 +8.7
GTA pmax pmax
comp=Z,4.0nm,1.2s
BILL Bilibino 33.54 16 / eP P 20 05 10.7 +0.4
BILL e 20 06 22.8
BILL MLR MLR
comp=Z,44nm,20.0s

BILL	Bilibino	33.54	16	P		P		20 05 11.0	+0.7
TIXI	Tiksi	35.13	353	P		P		20 05 23.0	-1.0
	comp=Z,1.3nm,0.4s,baz=40,slow=0.0,SNR=5.3								
TIXI	Tiksi	35.13	353	*i* P		P		20 05 25.5	+1.5
TIXI	Tiksi	35.13	353	P		P		20 05 24.0	0.0
KMI	Kunming	35.83	262	⇑P		P		20 05 31.8	+1.0
KMI				pP		pP		20 05 34.3	+0.3
KMI				sP		sP		20 05 39.0	+3.8
KMI				pmax	pmax				
	comp=Z,9.0nm,0.7s								
KMI				LR	LR				
	comp=Z,170nm,13.7s								
KMI				LR	LR				
	comp=Z,250nm,18.5s								
KMI				LR	LR				
	comp=Z,330nm,17.0s								
KMI	Kunming	35.83	262	P		P		20 05 30.9	+0.1
KMI				pmax	pmax				
	comp=Z,19nm,1.0s								
KMI	Kunming	35.83	262	P		P		20 05 30.9	+0.1
SLVN	Son La	36.91	255	P		P		20 05 39.5	-0.3
MYLDM	Lahad Datu	38.75	220	P		P		20 05 56.4	+1.0
UBPT	Khong Chiam	39.40	246	P		P		20 06 01.0	+0.2
UBPT				IAmb	IAmb			20 06 11.8	
	comp=Z,6.7nm,0.7s								
DLV	T Lat	39.54	239	P		P		20 06 01.2	-0.9
DLV				IAmb	IAmb			20 06 12.2	
	comp=Z,11nm,0.8s								
DGZ	Jazzator, Alta	40.92	306	*d i* P		P		20 06 14.5	+1.2
DGZ				pmax	pmax				
	comp=Z,40nm,0.7s								
WMQ	Urumqi	41.47	297	*e*P		P		20 06 18.9	+1.1
WMQ				S		S		20 12 28.8	-4.2
WMQ				pmax	pmax				
	comp=Z,28nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,190nm,3.8s								
WMQ				LR	LR				
	comp=Z,710nm,18.9s								
WMQ				LR	LR				
	comp=Z,800nm,18.9s								
WMQ				LR	LR				
	comp=Z,740nm,17.3s								
WMQ	Urumqi	41.47	297	P		P		20 06 18.7	+0.9
WMQ				pmax	pmax				
	comp=Z,17nm,0.9s								
WMQ	Urumqi	41.47	297	P		P		20 06 18.7	+0.9
WMQ				IAmb	IAmb			20 06 21.4	
	comp=Z,16nm,0.9s								
CHTO	Chiang Mai	42.17	256	P		P		20 06 26.4	+2.7
CHTO				pmax	pmax				
	comp=Z,5.0nm,1.1s								
CHTO	Chiang Mai	42.17	256	P		P		20 06 26.4	+2.7
LUWI	Luwuk	42.29	210	P		P		20 06 26.0	+1.5
LUWI				IAmb	IAmb			20 06 33.8	
	comp=Z,18nm,0.9s								
ZAA0	Zalesovo Array	42.36	312	P		P		20 06 25.1	+0.2
ZAA0				IAmb	IAmb			20 06 26.1	
	comp=Z,7.9nm,0.8s								
ZALV	Zalesovo Beam	42.36	312	P		P		20 06 24.4	-0.4
	comp=Z,5.4nm,0.6s,baz=90,slow=6.8,SNR=23								
ZALV	Zalesovo Beam	42.36	312	P		P		20 06 24.6	-0.2
CMAR	Chiang Mai Arr	42.38	256	P		P		20 06 24.6	-0.8
	comp=Z,1.4nm,0.9s,baz=46,slow=5.4,SNR=7.9								
CMAR				LR		LR		20 25 37.1	
	comp=Z,86nm,18.9s,baz=115,slow=38								
ZSN	Zaisan	42.85	303	*e*P		P		20 06 29.0	0.0
	comp=Z,11nm,0.8s,baz=303								
ZSN	Zaisan	42.85	303	*e*P		P		20 06 28.9	0.0
ZSN				pmax	pmax				
	comp=Z,11nm,0.8s								
RDOG	Red Dog Mine	42.89	27	P		P		20 06 30.5	+1.5
LSA	Lhasa	43.02	275	P		P		20 06 31.3	+0.2
LSA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
LSA	Lhasa	43.02	275	P		P		20 06 31.3	+0.2
LSA				IAmb	IAmb			20 06 40.8	
	comp=Z,8.0nm,1.0s								
SHL	Shillong	44.25	270	P		P		20 06 39.6	-1.1
SHL				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SHL	Shillong	44.25	270	P		P		20 06 39.6	-1.1
SHL				IAmb	IAmb			20 06 47.8	
	comp=Z,9.2nm,0.8s								
MK31	Makanchi Array	44.69	302	*d i* P		P		20 06 43.9	+0.1
MK31	Makanchi Array	44.69	302	P		P		20 06 43.4	-0.4
MK31				IAmb	IAmb			20 06 47.0	
	comp=Z,12nm,1.0s								
MKAR	Makanchi Array	44.69	302	P		P		20 06 44.0	+0.2
	comp=Z,11nm,0.8s,baz=88,slow=9.9,SNR=48								
MKAR	Makanchi Array	44.69	302	P		P		20 06 43.7	-0.1
MKAR	Makanchi Array	44.69	302	P		P		20 06 43.6	-0.1
MAKZ	Makanchi	44.90	302	P		P		20 06 45.3	-0.1
MAKZ				pmax	pmax				
	comp=Z,13nm,1.0s								
MAKZ	Makanchi	44.90	302	P		P		20 06 45.3	-0.1
MAKZ				IAmb	IAmb			20 06 48.3	
	comp=Z,13nm,1.0s								
SEM	Semipalatinsk	45.45	307	*e*P		P		20 06 48.3	-1.7
	baz=307								
SEM	Semipalatinsk	45.45	307	*e*P		P		20 06 48.3	-1.7
A21K	Barrow	45.89	23	P		P		20 06 54.2	+1.4
A21K				IAmb	IAmb			20 06 54.8	
	comp=Z,7.4nm,0.9s								
KDAK	Kodiak Island	46.34	42	P		P		20 06 56.3	-0.3
	comp=Z,7.5nm,1.0s,baz=291,slow=6.1,SNR=5.1								
KDAK	Kodiak Island	46.34	42	P		P		20 06 57.3	+0.7
KDAK				IAmb	IAmb			20 06 58.3	
	comp=Z,5.0nm,0.8s								
TAPN	Taplejung	46.76	274	*e*P		P		20 07 00.5	-0.2
	comp=Z,11nm,0.5s								
MLY	Manley	47.18	32	P		P		20 07 05.0	+1.8
ODAN	Odare	47.23	274	*e*P		P		20 07 04.1	-0.2
	comp=Z,44nm,1.0s								
TDK	Taldyqorghan	47.72	300	*e*P		P		20 07 07.8	+0.2
	baz=300								
TDK	Taldyqorghan	47.72	300	*e*P		P		20 07 07.8	+0.2
RAMN	Ramite	47.82	274	*e*P		P		20 07 08.5	-0.4
	comp=Z,71nm,1.1s								
KPKS	Kokpek	47.92	298	*e*P		P		20 07 08.7	-0.6
	baz=298								
KPKS	Kokpek	47.92	298	*e*P		P		20 07 08.7	-0.6
GUN	Gumba	47.96	276	*e*P		P		20 07 10.3	+0.2
	comp=Z,61nm,1.0s								
SATY	Saty	48.23	298	*e*P		P		20 07 11.2	-0.6
	baz=298								
SATY	Saty	48.23	298	*e*P		P		20 07 11.1	-0.6
MDM	Murphy Dome	48.24	32	P		P		20 07 13.3	+1.9
PKI	Pulchoki	48.49	276	*e*P		P		20 07 13.8	-0.4
	comp=Z,12nm,0.7s								
PKIN	Phulchoki	48.49	276	*e*P		P		20 07 13.8	-0.3
	comp=Z,9.3nm,0.7s								
DMN	Daman	48.71	276	*e*P		P		20 07 16.0	+0.2
IL31		48.82	32	P		P		20 07 16.4	+0.7
ILAR	Eielson Array	48.82	32	P		P		20 07 16.6	+0.8
	comp=Z,1.2nm,0.7s,baz=264,slow=6.2,SNR=15								
ILAR	Eielson Array	48.82	32	P		P		20 07 16.4	+0.6
ILAR	Eielson Array	48.82	32	P		P		20 07 16.4	+0.6
GKN	Gorkha	48.91	277	*e*P		P		20 07 16.8	-0.4
	comp=Z,80nm,1.1s								
CHKK	Chushkaly	49.00	299	*e*P		P		20 07 17.1	-0.4
	baz=299								
CHKK	Chushkaly	49.00	299	*e*P		P		20 07 17.1	-0.4
MDOK	Medeo	49.15	298	*e*P		P		20 07 18.8	-0.1
	baz=298								
MDOK	Medeo	49.15	298	*e*P		P		20 07 18.7	-0.1
AAA	Alma-Ata	49.23	299	*e*P		P		20 07 19.4	0.0
	baz=298								
AAA	Alma-Ata	49.23	299	*e*P		P		20 07 19.4	0.0
TNSS	Tian-Shan	49.26	298	*e*P		P		20 07 20.1	0.0
	baz=298								
TNSS	Tian-Shan	49.26	298	*e*P		P		20 07 20.0	0.0
KUU	Kurty	49.44	300	*e*P		P		20 07 20.1	-0.8
	comp=Z,11nm,1.0s,baz=300								
KUU	Kurty	49.44	300	*e*P		P		20 07 20.1	-0.8
KUU				pmax	pmax				
	comp=Z,11nm,1.0s								
SOEI	Soe	49.82	204	P		P		20 07 22.6	-1.5
SOEI				IAmb	IAmb			20 07 29.3	
	comp=Z,7.6nm,0.8s								
IPM	Ipoh	50.00	239	P		P		20 07 25.1	-0.3
IPM				IAmb	IAmb			20 07 25.6	
	comp=Z,8.0nm,1.0s								
TKM2	Tokmak 2	50.24	299	P		P		20 07 27.4	+0.1
	SNR=10								

BRZS	Berezniki	50.31	308	*e*P		P		20 07 26.7	-0.7
	baz=308								
BRZS	Berezniki	50.31	308	*e*P		P		20 07 26.6	-0.7
SGDS	Sogindy	50.76	299	*e*P		P		20 07 30.2	-0.8
	comp=Z,5.2nm,0.9s,baz=299								
SGDS	Sogindy	50.76	299	*e*P		P		20 07 30.1	-0.8
SGDS				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KBK	Karagaybulak	50.78	298	P		P		20 07 31.9	+0.7
	SNR=24								
USP	Ospenovka	50.90	299	P		P		20 07 32.0	0.0
	SNR=7.7								
MTN	Manton Dam	51.00	194	P		P		20 07 32.7	-0.1
KSH	Kashi	51.06	294	P		P		20 07 37.4	+4.0
KSH				pmax	pmax				
	comp=Z,6.0nm,0.7s								
KSH				pmax	pmax				
	comp=Z,160nm,6.5s								
BRVK	Borovoye	51.07	312	*ce*P		P		20 07 34.4	+1.3
BRVK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
BRVK	Borovoye	51.07	312	P		P		20 07 33.3	+0.2
AAK	Ala-Archa	51.10	298	P		P		20 07 37.4	+3.7
	SNR=9.0								
AAK	Ala-Archa	51.10	298	*ce*P		P		20 07 34.6	+0.9
AAK				pmax	pmax				
	comp=Z,20nm,0.8s								
AAK	Ala-Archa	51.10	298	P		P		20 07 33.4	-0.3
AAK				IAmb	IAmb			20 07 38.8	
	comp=Z,8.3nm,1.0s								
BCAR	Beaver Creek A	51.20	34	P		P		20 07 35.7	+1.7
UCH	Uchtor	51.22	298	P		P		20 07 39.5	+4.7
	SNR=7.3								
EKS2	Erkin-Say	51.60	299	P		P		20 07 41.2	+3.8
	SNR=8.1								
AML	Almayashu	51.83	298	P		P		20 07 40.3	+0.9
	SNR=19								
PSI	Prapat	52.65	240	P		P		20 07 45.1	-0.3
PSI				pmax	pmax				
	comp=Z,6.0nm,0.7s								
RPSI	Rantau Prapat	52.73	240	P		P		20 07 45.1	-0.8
RPSI				IAmb	IAmb			20 07 54.1	
	comp=Z,5.8nm,0.7s								
EPYK	Eagle Plains	52.88	30	P		P		20 07 48.2	+1.9
EPYK				IAmb	IAmb			20 07 49.2	
	comp=Z,4.9nm,0.8s								
BKNI	Bangkinang	53.03	236	P		P		20 07 48.3	+0.2
DZA	Taraz	53.22	300	*e*P		P		20 07 49.8	+0.4
	comp=Z,5.5nm,0.7s,baz=300								
DZA	Taraz	53.22	300	*e*P		P		20 07 49.7	+0.4
DZA				pmax	pmax				
	comp=Z,6.0nm,0.7s								
KK31	Karatay Array	53.72	300	P		P		20 07 52.6	-0.3
KK31				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KK31	Karatay Array	53.72	300	P		P		20 07 52.6	-0.3
KK31				IAmb	IAmb			20 07 57.8	
	comp=Z,7.2nm,0.8s								
KKAR	Karatay Array	53.72	300	P		P		20 07 52.6	-0.3
KKAR				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KKAR	Karatay Array	53.72	300	P		P		20 07 52.6	-0.3
KKAR				IAmb	IAmb			20 07 57.8	
	comp=Z,7.2nm,0.8s								
KKAR	Karatay Array	53.72	300	P		P		20 07 52.7	-0.3
INK	Inuvik	53.77	27	P		P		20 07 54.2	+1.4
	comp=Z,1.2nm,0.6s,baz=263,slow=8.9,SNR=5.5								
IUG	Iuzhnay	54.38	299	*e*P		P		20 07 58.9	+1.0
	baz=299								
IUG	Iuzhnay	54.38	299	*e*P		P		20 07 58.8	+1.0
GSI	Gunungsitoli	54.66	240	P		P		20 08 00.2	+0.2
NIL	Nilore	55.33	289	P		P		20 08 04.4	-0.3
NIL				pmax	pmax				
	comp=Z,8.0nm,0.7s								
NIL	Nilore	55.33	289	P		P		20 08 04.4	-0.3
SVE	Sverdlovsk	55.51	319	*e*P		P		20 08 06.9	+1.3
SVE				pmax	pmax				
	comp=Z,19nm,0.8s								
SVE				MLR	MLR				
	comp=Z,424nm,20.0s								
ARU	Arti	56.72	319	*d i* P		P		20 08 14.6	+0.3
ARU								20 10 17.9	
ARU				S		S		20 16 08.5	+2.0
ARU				SS		SS		20 19 54.5	+0.7
ARU				pmax	pmax				
	comp=Z,9.0nm,1.0s								
ARU	Arti	56.72	319	P		P		20 08 14.2	-0.1
WB0	Warramunga Arr	57.27	189	P		P		20 08 17.8	-0.7
FITZ	Fitzroy Crossi	57.34	199	P		P		20 08 19.5	+0.5
FITZ				IAmb	IAmb			20 08 33.3	
	comp=Z,11nm,1.4s								
WRA	Warramunga Arr	57.45	189	P		P		20 08 19.1	-0.6
	comp=Z,2.3nm,0.5s,baz=7.2,slow=7.2,SNR=32								
WRA	Warramunga Arr	57.45	189	P		P		20 08 19.5	-0.3
KBL	Kabul	58.10	291	P		P		20 08 23.8	-0.9
KBL				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KBL	Kabul	58.10	291	P		P		20 08 23.8	-0.9
KBL				IAmb	IAmb			20 08 25.4	
	comp=Z,7.3nm,0.9s								
ABKAR	Akbulak array	58.41	310	P		P		20 08 25.9	-0.5
ABKAR				IAmb	IAmb			20 08 34.5	
	comp=Z,7.1nm,0.8s								
ABKAR	Akbulak array	58.41	310	P		P		20 08 25.8	-0.5
HYB	Hyderabad	59.05	269	*i* P		P		20 08 30.0	-1.2
EUNU	Eureka	59.80	9	P		P		20 08 35.9	+0.3
EUNU				IAmb	IAmb			20 08 51.9	
	comp=Z,11nm,1.4s								
AS31	Alice Springs	61.17	189	P		P		20 08 45.4	-0.1
ASAR	Alice Springs	61.17	189	P		P		20 08 45.9	+0.3
	comp=Z,1.3nm,0.7s,baz=0.2,slow=5.8,SNR=20								
ASAR	Alice Springs	61.17	189	P		P		20 08 45.6	+0.1
ASAR	Alice Springs	61.17	189	P		P		20 08 45.6	+0.1
RES	Resolute Bay	62.13	15	P		P		20 08 50.8	-0.6
	comp=Z,1.2nm,0.6s,baz=306,slow=10,SNR=3.9								
YKA	Yellowknife Ar	63.16	30	P		P		20 08 59.2	+0.8
	comp=Z,0.6nm,0.7s,baz=304,slow=6.1,SNR=10								
ARCES	ARCESS Array B	64.04	340	P		P		20 09 05.8	+1.6
	comp=Z,2.2nm,0.9s,baz=71,slow=8.7,SNR=1.3								
GEYT	Alibeck	64.44	299	P		P		20 09 06.3	-1.1
	comp=Z,2.2nm,0.7s,baz=298,slow=3.1,SNR=4.5								
GEYT	Alibeck	64.44	299	P		P		20 09 07.4	+0.1
GEYT				IAmb	IAmb			20 09 15.9	
	comp=Z,2.4nm,0.7s								
OBN	Obninsk	68.39	324	⇑*e*P		P		20 09 32.7	+0.5
OBN				*e*				20 09 56.9	
OBN				*e*				20 12 11.2	
OBN				*e*SS		SS		20 22 56.7	+1.0
OBN				pmax	pmax				
	comp=Z,7.0nm,1.1s								
LPSR	Galich'ya Gora	68.64	320	*e*P		P		20 09 33.6	-0.2
LPSR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
FIA1	FINESS Array S	68.97	333	P		P		20 09 36.2	+0.4
FINES	FINESS Array B	68.97	333	P		P		20 09 35.2	-0.6
	comp=Z,3.4nm,0.7s,baz=42,slow=8.8,SNR=8.7								
FINES	FINESS Array B	68.97	333	P		P		20 09 35.9	+0.2
FORT	Forrest	69.05	193	P		P		20 09 36.9	+0.4
VSR	Storozhevoye	69.28	319	*e*P		P		20 09 36.6	-1.3
VSR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
AKT	Akhty	69.59	307	*e*P		P		20 09 40.0	-0.2
AKT				*e*				20 10 03.3	
AKT				pmax	pmax				
	comp=Z,8.0nm,0.9s								
SUMG	Summit	70.42	0	P		P		20 09 46.2	+1.2
SUMG				pmax	pmax				
	comp=Z,12nm,1.3s								
SUMG	Summit	70.42	0	P		P		20 09 46.2	+1.2
KBZ	Khabaz	71.36	311	P		P		20 09 50.8	0.0
	comp=Z,3.6nm,0.9s,baz=358,slow=3.6,SNR=9.2								
KIV	Kislovodsk	71.37	311	*e*P		P		20 09 52.6	+1.7
KIV				pmax	pmax				
	comp=Z,52nm,1.1s								
KIV	Kislovodsk	71.37	311	P		P		20 09 52.0	+1.1
NEY	Neytrino	71.74	311	*i* P		P		20 09 54.3	+1.0
NEY				pmax	pmax				
	comp=Z,1.0nm,0.9s								
GNI	Garni	72.22	307	*ce*P		P		20 09 58.1	+1.9
GNI				pmax	pmax				
	comp=Z,10.0nm,2.5s								
MNK	Minsk	72.75	326	*i* P		P		20 09 58.9	0.0
	comp=E,1.0nm,0.8s								
MNK				*i* P		P		20 09 58.9	0.0
	comp=N,10.0nm,0.9s								
MNK				*i* P		P		20 09 58.9	0.0
	comp=Z,6.0nm,0.8s								
MNK				*i* PcP		PcP		20 10 12.2	-3.9
MNK				*i* PP		PP		20 12 40.4	+0.3
MNK				*i* PPP		PPP		20 14 24.7	
MNK				*i* S		S		20 19 23.1	-1.0
MNK				*i* ScS		ScS		20 20 06.1	+0.2
MNK				*i* SS		SS		20 24 14.8	+12
MNK				*i* SSS		SSS		20 27 32.9	
MNK				*i* LQ		LQ		20 37 00.6	
MNK				*i* LR		LR		20 42 32.7	
MNK				*i* LRM		MLR		20 44 36.0	
	comp=N,336nm,20.8s								
MNK				*i* LRM		MLR		20 44 36.9	
	comp=Z,209nm,19.9s								
MNK				*i* LRM		MLR		20 44 46.9	
	comp=E,23nm,21.7s								
LHV	Little Huntoon	74.13	54	P		P		20 10 09.1	+1.8
LHV				IAmb	IAmb			20 10 11.3	
	comp=Z,8.8nm,1.3s								
NVAR	Mina Array Bea	74.16	54	P		P		20 10 07.5	-0.3
	comp=Z,0.6nm,0.7s,baz=285,slow=6.3,SNR=7.2								
NVAR	Mina Array Bea	74.16	54	P		P		20 10 08.7	+0.9
NC204	NORSAR Array S	74.22	338	P		P		20 10 08.4	+1.0
NB2	NORSAR Subarra	74.27	338	P		P		20 10 10.5	+2.8
	comp=Z,6.2nm,0.8s,baz=31,slow=6.5								
NOA	NORSAR Array B	74.27	338	P		P		20 10 07.6	-0.1
	comp=Z,0.9nm,0.8s,baz=38,slow=5.9,SNR=3.1								
AKASG	Malin Array Be	74.60	323	P		P		20 10 09.7	-0.1
	comp=Z,2.7nm,0.7s,baz=46,slow=6.0,SNR=13								
AKASG	Malin Array Be	74.60	323	*i* P		P		20 10 09.8	0.0
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.7s								
AKASG	Malin Array Be	74.60	323	P		P		20 10 10.0	+0.2
SFJD	Kangerlussuaq	75.55	5	*e*		P		20 10 16.3	+1.3
	baz=201,slow=16								
SFJD				*i* P		pP		20 10 17.0	-1.3
SFJD				*i* P		sP		20 10 17.5	-2.0
PDAR	Pinedale Array	76.88	46	P		P		20 10 23.8	+0.4
	comp=Z,0.5nm,0.7s,baz=222,slow=2.0,SNR=4.0								
PDAR	Pinedale Array	76.88	46	P		P		20 10 24.4	+1.1
PFO	Pinyon Flats O	78.19	57	*ce*P		P		20 10 29.9	-0.8
BUR08	Bucovina Ar. S	78.61	322	P		P		20 10 33.2	+0.5
BUR08				IAmb	IAmb			20 10 35.2	
	comp=Z,13nm,1.5s								
BURAR	Bucovina Array	78.62	322	P		P		20 10 33.5	+0.8
KOLS	Kolonicke sedl	79.10	325	*e*P		P		20 10 40.4	+5.2
KOLS	Kolonicke sedl	79.10	325	*e*P		P		20 10 40.4	+5.2
BRTR	Keskin Array B	79.30	312	P		P		20 10 37.5	+0.8
	comp=Z,1.2nm,0.9s,baz=46,slow=3.6,SNR=5.2								
BRTR	Keskin Array B	79.30	312	*i* P		P		20 10 38.2	+1.5
BRTR				pmax	pmax				
	comp=Z,2.0nm,1.0s								
BRTR	Keskin Array B	79.30	312	P		P		20 10 37.0	+0.3
LANS	Liptovska Anna	80.22	326	*e*P		P		20 10 44.3	+2.9
LANS	Liptovska Anna	80.22	326	*e*P		P		20 10 44.3	+2.9
KRLC	Kraliky	80.69	328	*e*P		P		20 10 45.5	+1.6
KRLC	Kraliky	80.69	328	*e*P		P		20 10 45.5	+1.6
CLL	Collm	81.28	331	*e*P		P		20 10 48.0	+1.1
CLL				*e*(PcP)		sP		20 10 52.0	+0.4
CLL				*es*P		PcP		20 10 56.0	+2.9
CONA	Conrad Observa	82.72	327	*i* P		P		20 11 04.5	+10
	comp=Z,7.1nm,1.1s								
KHC	Kasperske Hory	82.75	329	*e*P		P		20 10 55.6	+0.8
KHC				*e*				20 11 03.5	
KHC	Kasperske Hory	82.75	329	*e*P		P		20 10 55.6	+0.8
KHC				*ep*P		PcP		20 11 03.5	+3.8
GERES	GERESS Array B	82.93	329	P		P		20 10 55.8	0.0
	comp=Z,0.5nm,0.4s,baz=51,slow=6.3,SNR=7.7								
GERES	GERESS Array B	82.93	329	P		P		20 10 56.0	+0.2
MOA	Molln	83.46	328	*e*P		P		20 11 07.7	+9.2
	comp=Z,7.9nm,1.4s								
ANMO	Albuquerque	83.77	50	*ce*P		P		20 11 03.4	+2.9
ANMO				pmax	pmax				
	comp=Z,6.0nm,2.5s								
SOKA	Soboth	84.04	327	*i* P		P		20 11 07.4	+5.9
	comp=Z,6.9nm,1.3s								
OBKA	Obir	84.38	327	*e*P		P		20 11 10.2	+7.0
	comp=Z,10nm,1.4s								
RETA	Reutte	85.20	329	*e*P		P		20 11 16.6	+9.3
	comp=Z,3.9nm,0.8s								
FETA	Feichten	85.59	329	*e*P		P		20 11 17.9	+8.4
	comp=Z,7.2nm,1.1s								
DAVA	Damuels	85.72	330	*i* P		P		20 11 15.9	+5.8
	comp=Z,5.2nm,1.0s								
TXAR	Lajitas Array	89.29	53	P		P		20 11 27.6	0.0
	comp=Z,0.9nm,1.0s,baz=183,slow=2.1,SNR=4.6								
TXAR				LR		LR		20 48 26.9	
	comp=Z,93nm,22.0s,baz=0.0,slow=34								
TXAR	Lajitas Array	89.29	53	P		P		20 11 28.3	+0.8
KEST	Kesra	95.32	323	LR		LR		20 59 39.7	
	comp=Z,142nm,18.1s,baz=342,slow=38								
ESDC	Sonseca Array	97.42	335	LR		LR		21 02 02.0	
	comp=Z,140nm,18.7s,baz=50,slow=39								
LPAZ	La Paz	145.83	61	PKPbc		PKPdf		20 18 10.8	-0.1
	comp=Z,1.3nm,0.7s,baz=15,slow=2.7,SNR=5.0								

TUL ***21*** *19:58:36*$_{\pm}$*1.1,36.26N*$_{\pm}$*0.02×97.26W*$_{\pm}$*0.03, h5*$^{km}_{\pm}$*7km, ML3.4, mb_Lg3.5/137(NEIC), Mwr3.4/23(NEIC), Error ellipse: s-maj=3.9km s-min=1.9km az=223.0*

*

comp=Z,100nm,0.7s
Z38A **Mt. Pleasant** **3.54 147** Pn Pn 19 59 31.9 -0.1
Z38A IAmb_Lg 20 00 38.1
comp=Z,104nm,0.8s
U40A **Yellville** **3.56 87** IAmb_Lg 20 00 28.3
comp=Z,131nm,0.7s
AMTX **Amarillo** **3.86 250** Pn Pn 19 59 36.4 -0.1
AMTX IAmb_Lg 20 00 45.0
comp=Z,111nm,1.0s
X40A **Basin Creek Fa** **4.03 115** Pn Pn 19 59 39.5 +0.8
X40A IAmb_Lg 20 00 44.8
comp=Z,164nm,0.9s
MGMO **Mountain Grove** **4.11 76** IAmb_Lg 20 00 51.9
comp=Z,78nm,0.8s
ABTX **Abilene, Hawle** **4.13 209** Pn Pn 19 59 40.2 0.0
ABTX IAmb_Lg 20 00 49.1
comp=Z,85nm,0.7s
FCAR **Ozark Folk Cen** **4.18 94** IAmb_Lg 20 00 54.4
comp=Z,152nm,0.7s
WLAR **White Oak Lake** **4.27 126** Pn 19 59 41.9 -0.1
WLAR IAmb_Lg 20 00 56.3
comp=Z,95nm,0.8s
WHTX **Lake Whitney,** **4.27 182** Pn 19 59 42.7 +0.7
237A **Washetta, Mont** **4.42 164** Pn Pn 19 59 43.6 -0.5
P38A **Dawn** **4.46 40** Pn Pn 19 59 44.4 -0.2
P38A IAmb_Lg 20 01 01.4
comp=Z,74nm,0.7s
N33A **J Bar K, Exete** **4.46 358** Pn Pn 19 59 44.5 -0.2
N33A IAmb_Lg 20 01 06.2
comp=Z,152nm,1.1s
N35A **Tabor** **4.76 15** Pn 19 59 49.0 +0.3
LCAR **Lake Charles** **4.94 91** Pn Pn 19 59 50.4 -0.8
NATX **Nacogdoches** **4.99 154** Pn Pn 19 59 52.7 +0.8
T42A **Van Buren** **5.02 79** Pn Pn 19 59 51.4 -0.9
T42A IAmb_Lg 20 01 15.9
comp=Z,108nm,0.9s
KSCO **Kaye Shedlock'** **5.06 304** Pn Pn 19 59 54.4 +1.3
KSCO IAmb_Lg 20 01 22.4
comp=Z,77nm,1.0s
MSTX **Muleshoe** **5.07 245** Pn Pn 19 59 52.6 -0.5
CCAR **Cane Creek** **5.07 116** Pn Pn 19 59 52.6 -0.5
CCAR IAmb_Lg 20 01 24.5
comp=Z,77nm,0.7s
CCM **Cathedral Cave** **5.12 68** Pn Pn 19 59 53.4 -0.4
CCM IAmb_Lg 20 01 26.0
comp=Z,90nm,0.7s
BGNE **Belgrade** **5.18 353** Pn Pn 19 59 54.0 -0.6
P40A **Paris** **5.25 50** Pn Pn 19 59 55.3 -0.2
P40A IAmb_Lg 20 01 30.2
comp=Z,72nm,0.8s
435B **Jarrell** **5.48 183** Pn Pn 19 59 56.4 -2.2
435B IAmb_Lg 20 01 40.3
comp=Z,112nm,0.7s
PBMO **Poplar Bluff** **5.52 83** Pn 19 59 58.1 -1.1
LPAR **Lepanto** **5.69 95** Pn Pn 20 00 02.2 +0.8
FVM **French Village** **5.72 71** Pn Pn 20 00 02.9 +0.9
FVM IAmb_Lg 20 01 40.5
comp=Z,78nm,0.8s
T25A **Trinidad** **5.81 281** Pn Pn 20 00 03.8 +0.3
OGNE **Ogallala** **5.98 323** IAmb_Lg 20 01 49.5
comp=Z,57nm,0.8s
143A **Socs Landing,** **6.00 125** IAmb_Lg 20 02 02.0
comp=Z,70nm,0.9s
SLM **Saint Louis** **6.07 65** IAmb_Lg 20 01 48.0
comp=Z,90nm,0.9s
SCIA **State Center** **6.45 28** Pn 20 00 11.6 -0.3
S44A **Carbondale** **6.56 75** Pn 20 00 14.2 +0.7
SIUC **Southern Illin** **6.60 75** IAmb_Lg 20 02 06.5
comp=Z,91nm,0.9s
N41A **Harden Midland** **6.70 47** Pn 20 00 17.2 +1.9
Y45A **Yeager Farm, C** **6.76 109** IAmb_Lg 20 02 14.4
comp=Z,75nm,1.0s
P43A **Skaggs, Pawnee** **6.98 59** Pn 20 00 18.8 -0.5
P43A IAmb_Lg 20 02 19.0
comp=Z,75nm,0.8s
Q44A **Meyer Farm, Va** **7.05 66** Pn 20 00 19.8 -0.5
Q44A IAmb_Lg 20 02 27.3
comp=Z,63nm,0.9s
L40A **Anamosa** **7.45 37** Pn 20 00 25.7 +0.1
L40A IAmb_Lg 20 02 38.1
comp=Z,64nm,0.8s
ECSD **EROS Data Cent** **7.47 4** Pn Pn 20 00 24.6 -1.4
ECSD IAmb_Lg 20 02 42.7
comp=Z,31nm,0.9s
ISCO **Idaho Springs** **7.47 301** Pn 20 00 26.2 -0.1
ISCO IAmb_Lg 20 02 42.4
comp=Z,33nm,1.0s
HDIL **Hopedale** **7.58 53** IAmb_Lg 20 02 47.3
comp=Z,70nm,0.8s
PLAL **Pickwick Lake** **7.59 97** IAmb_Lg 20 02 40.7
comp=Z,51nm,0.9s
146A **Union** **7.68 116** IAmb_Lg 20 02 59.0
comp=Z,29nm,0.8s
O44A **Mansfield** **7.93 58** IAmb_Lg 20 02 50.9
comp=Z,68nm,0.7s
PHWY **Pilot Hill** **8.14 311** IAmb_Lg 20 02 56.7
comp=Z,27nm,0.9s
MNTX **Cornudas Mount** **8.14 238** IAmb_Lg 20 02 55.8
comp=Z,29nm,1.2s
Z47A **Carrollton** **8.16 109** IAmb_Lg 20 03 10.4
comp=Z,32nm,0.8s
T47A **Sharon Grove** **8.20 82** IAmb_Lg 20 03 09.9
comp=Z,70nm,0.9s
Y22D **IRIS PASSCAL I** **8.21 257** IAmb_Lg 20 03 06.3
comp=Z,64nm,1.0s
L42A **Oliver, Polo** **8.22 44** IAmb_Lg 20 03 05.0
comp=Z,57nm,0.8s
SUSD **Miller** **8.27 352** IAmb_Lg 20 03 00.3
comp=Z,56nm,1.0s
I37A **Lemond, Waseca** **8.28 20** IAmb_Lg 20 03 04.9
comp=Z,54nm,0.8s
V48A **Smith Brothers** **8.47 90** IAmb_Lg 20 03 12.6
comp=Z,41nm,0.9s
X48A **Hartselle** **8.54 99** IAmb_Lg 20 03 12.3
comp=Z,42nm,0.8s
JFWS **Jewell Farm** **8.56 37** IAmb_Lg 20 03 21.8
comp=Z,49nm,0.7s
P46A **Rosedale** **8.62 64** IAmb_Lg 20 03 18.7
comp=Z,50nm,0.8s
M44A **Midewin, Midew** **8.82 52** IAmb_Lg 20 03 16.7
comp=Z,37nm,0.9s
CLTN **Cedars of Leba** **8.84 88** IAmb_Lg 20 03 16.7
comp=Z,48nm,1.1s
SFIN **Lafayette** **8.98 60** IAmb_Lg 20 03 36.4
comp=Z,34nm,0.7s
I40A **Norwalk** **9.15 32** IAmb_Lg 20 03 29.7
comp=Z,22nm,0.8s
HQIL **Hanson Quary C** **9.16 50** IAmb_Lg 20 03 38.5
comp=Z,49nm,0.8s
Y49A **Blount Mountai** **9.21 102** IAmb_Lg 20 03 36.8
comp=Z,30nm,0.8s
U49A **Red Boiling Sp** **9.26 85** IAmb_Lg 20 03 46.9
comp=Z,28nm,1.1s
K43A **Burlington** **9.43 44** IAmb_Lg 20 03 40.9
comp=Z,52nm,0.9s
RWWY **Rawlins** **9.45 308** IAmb_Lg 20 03 44.6
comp=Z,24nm,1.0s
PV11 **David Mesa, Pa** **9.47 286** IAmb_Lg 20 03 45.4
comp=Z,26nm,1.0s
SPMN **Marine on St.** **9.56 19** IAmb_Lg 20 03 47.9
comp=Z,23nm,0.8s
K22A **Casper** **9.59 314** IAmb_Lg 20 04 00.8
comp=Z,33nm,0.8s
F33A **5 Mile Ranch,** **9.59 4** IAmb_Lg 20 03 49.7
comp=Z,29nm,0.9s
PV05 **Paradox Valley** **9.62 284** IAmb_Lg 20 03 43.3
comp=Z,24nm,1.2s
FPAL **Fort Paine** **9.66 97** IAmb_Lg 20 03 42.0
comp=Z,28nm,0.7s
W50A **Signal Mountai** **9.77 93** IAmb_Lg 20 03 50.5
comp=Z,52nm,1.0s
R49A **Shelbyville** **9.84 75** IAmb_Lg 20 03 55.7
comp=Z,20nm,0.9s
P48A **Milroy** **9.88 68** IAmb_Lg 20 04 04.0
comp=Z,32nm,0.7s
I42A **Draeger Farm,** **9.94 37** IAmb_Lg 20 03 52.0
comp=Z,53nm,1.3s

TAP 21 20:03:16.0,24.16N×121.80E,h20km,ML1.3,1D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao** baz=268	**0.19**	**275**	⇓*i*P	Pb	20 03 20.6	+0.2
NACB				S	Sg	20 03 24.4	+0.1
ENA	**Nanau** baz=344	**0.27**	**349**	*e*P	Pg	20 03 22.4	+0.1
ENA				*e*S	Sg	20 03 27.4	+0.8
ETLH	**Xiulin Townshi** baz=279	**0.29**	**280**	*e*S	Sg	20 03 27.2	-0.1
NNSB	**Datong** baz=303	**0.47**	**305**	*e*P	Pg	20 03 24.4	-1.3
NNSB				*e*S	Sb	20 03 32.6	+0.4
ESL	**Shilin** baz=226	**0.48**	**224**	*e*P	Pb	20 03 25.3	-0.5
ESL				*e*S	Sg	20 03 31.2	-1.2
CHGB	**Renai** baz=250	**0.58**	**260**	*e*P	Pg	20 03 28.4	+0.6
CHGB				*e*S	Sg	20 03 36.5	+0.8
VWDT	**VWDT** baz=226	**0.72**	**236**	*e*P	Pg	20 03 30.7	+0.4
VWDT				*e*S	Sg	20 03 40.2	+0.2
HGSD	**Ruisui** baz=200	**0.75**	**207**	*e*P	Pn	20 03 31.2	-0.3
HGSD				*e*S	Sb	20 03 40.3	+0.2
SSLB	**Suanglung** baz=244	**0.86**	**245**	*e*P	Pb	20 03 31.5	-0.8
SSLB				*e*S	Sb	20 03 42.9	-0.5
SSLB	**Suanglung** baz=244	**0.86**	**245**	P	Pb	20 03 31.5	-0.8

IDC 21 20:17:14.7±1.9,6.65S×130.38E,h0km,mb3.4/1, mb1 3.6/5,mb1mx3.4/32,mbtmp3.4/5,ML3.1/4,Error ellipse: s-maj=71.8km s-min=25.5km az=88.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 1.1nm,0.3s,baz=270,slow=20,SNR=10.0	**5.81**	**9**	Pn	Pn	20 18 43.0	+0.8
SIJI	1.3nm,0.3s,baz=140,slow=23,SNR=8.3			Sn	Sn	20 19 43.7	-5.8
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=29,slow=13,SNR=17	**12.28**	**202**	Pn	Pn	20 20 11.8	+0.8
FITZ	0.2nm,0.3s,baz=281,slow=19,SNR=2.7			Sn	Sn	20 22 21.2	-7.5
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=347,slow=13,SNR=1.6	**13.76**	**164**	Pn	Pn	20 20 31.0	-0.2
WRA	0.3nm,0.3s,baz=335,slow=24,SNR=2.5			Sn	Sn	20 22 53.2	-12
ASAR	**Alice Springs** 0.1nm,0.3s,baz=351,slow=9.7,SNR=5.6	**17.26**	**169**	P	Pn	20 21 17.1	-0.2
ASAR	0.1nm,0.3s,baz=358,slow=28,SNR=1.7			S	Sn	20 24 17.4	-13
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=121,slow=7.6,SNR=2.8	**68.14**	**327**	P	P	20 28 16.3	-0.4

*NEIC **21** 20:26:10.0±3.0,20.1S±0.1×177.6W±0.1,h391km±8km, mb4.0/13,Error ellipse: s-maj=19.1km s-min=15.7km az=191.0*
*IDC **21** 20:26:11.6±2.3,20.24S×177.78W,h397km±22km,mb3.2/6, mb1 3.5/8,mb1mx3.2/24,mbtmp4.1/8,Error ellipse: s-maj=24.6km s-min=14.9km az=105.0*
ISC 21 20:26:11.4±0.6,20.16S±0.10×177.64W±0.10,h400km, n33,σ1s06/32,mb3.8/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 8.5nm,0.3s,baz=137,slow=8.7,SNR=36	**4.74**	**300**	P	Pn	**20 27 30.6**	**-0.3**
MSVF	**Nonsavu**	**4.74**	**300**		Pn	**20 27 30.4**	**-0.5**
NIUE	**Niue**	**7.35**	**83**	Pn	Pn	**20 27 57.4**	**-1.7**
AFI	**Afiamalu** 3.3nm,0.3s,baz=225,slow=10.0,SNR=1.6	**8.37**	**43**	P	Pn	20 28 06.7	-4.1
AFI	7.6nm,0.3s,baz=248,slow=19,SNR=7.1			S	S	20 29 37.1	-12
AFI	**Afiamalu**	**8.37**	**43**		Pn	20 28 06.3	-4.6
DZM	**Mont Dzumac** 0.9nm,0.3s,baz=94,slow=21,SNR=8.6	**14.97**	**260**	P	P	**20 29 25.3**	**+1.6**
DZM	**Mont Dzumac**	**14.97**	**260**	P	P	**20 29 24.6**	**+0.9**
URZ	**Urewera** 2.4nm,0.3s,baz=299,slow=2.2,SNR=15	**18.60**	**193**	P	P	**20 30 00.5**	**-1.6**
URZ	0.6nm,0.3s,baz=333,slow=11,SNR=2.9			S	S	**20 33 12.3**	**+0.2**
URZ	**Urewera**	**18.60**	**193**	P	P	**20 30 00.1**	**-2.1**
BKZ	**Black Stump Fm**	**19.60**	**194**	P	P	**20 30 11.2**	**-0.9**
BKZ	comp=Z,12nm,1.4s			IAmb	IAmb	20 30 21.3	
CTA	**Charters Tower** comp=Z,2.2nm,0.5s,baz=97,slow=8.1,SNR=2.9	**33.86**	**264**	P	P	**20 32 17.8**	**-0.8**
CTAO	**Charters Tower**	**33.86**	**264**	P	P	**20 32 18.3**	**-0.2**
CTAO	comp=Z,7.5nm,1.2s			IAmb	IAmb	20 32 33.0	
WR0	**Warramunga Arr**	**44.79**	**262**	P	P	**20 33 47.1**	**-0.6**
WR0	comp=Z,8.6nm,1.4s			IAmb	IAmb	20 33 58.2	
AS31	**Alice Springs**	**44.92**	**256**	P	P	**20 33 48.0**	**-0.8**
ASAR	**Alice Springs** comp=Z,1.9nm,0.6s,baz=96,slow=8.5,SNR=33	**44.92**	**256**	P	P	**20 33 48.1**	**-0.6**
ASAR	**Alice Springs**	**44.92**	**256**	P	P	**20 33 47.5**	**-1.2**
WB0	**Warramunga Arr**	**44.96**	**262**	P	P	**20 33 48.4**	**-0.6**
WB0	comp=Z,17nm,1.5s			IAmb	IAmb	20 33 49.1	
WRA	**Warramunga Arr** comp=Z,0.7nm,0.5s,baz=97,slow=7.6,SNR=11	**44.98**	**262**	P	P	**20 33 48.7**	**-0.5**
SBA	**Scott Base**	**58.23**	**184**	P	P	**20 35 27.1**	**+2.2**
CASY	**Casey**	**64.41**	**205**	P	P	**20 36 04.7**	**-1.4**
QSPA	**South Pole Qui**	**69.90**	**180**	P	P	**20 36 41.8**	**+1.5**
QSPA	comp=Z,8.4nm,1.4s			IAmb	IAmb	20 36 43.3	
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.7s,baz=165,slow=5.6,SNR=7.0	**70.14**	**323**	P	P	**20 36 41.7**	**-0.3**
MJAR	**Matsushiro Arr**	**70.14**	**323**	P	P	**20 36 41.4**	**-0.6**
MAJO	**Matsushiro**	**70.14**	**323**	P	P	**20 36 41.2**	**-0.8**
MAJO	comp=Z,2.6nm,0.9s			IAmb	IAmb	20 36 53.2	
TXAR	**Lajitas Array** comp=Z,0.6nm,0.8s,baz=206,slow=5.4,SNR=7.9	**86.59**	**57**	P	P	**20 38 13.0**	**+1.9**
CCB	**Clear Creek Bu**	**87.61**	**12**	P	P	**20 38 14.8**	**-0.2**
CCB	comp=Z,3.5nm,1.3s			IAmb	IAmb	20 38 16.1	
IMAR	**Indian Mountai**	**87.77**	**10**	P	P	**20 38 16.3**	**+0.6**
ILAR	**Eielson Array** comp=Z,0.4nm,0.7s,baz=222,slow=4.9,SNR=8.4	**87.91**	**13**	P	P	**20 38 17.2**	**+0.8**
CLL	**Collm**	**147.81**	**347**	*e*PKPbc	**PKPbc**	**20 45 10.0**	**+0.2**
KHC	**Kasperske Hory**	**149.73**	**345**	*e*PKP	**PKiKP**	**20 45 15.2**	**-0.2**
CKRC	**Cesky Krumlov**	**149.84**	**344**	*e*PKP	**PKiKP**	**20 45 15.6**	**-0.1**
GERES	**GERESS Array B**	**149.97**	**345**	PKPbc	**PKPbc**	**20 45 15.6**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=33,slow=3.2,SNR=9.8						
GERES	**GERESS Array B**	**149.97**	**345**	PKPbc	**PKPbc**	**20 45 15.1**	**-0.2**

*JMA **21** 20:26:50.4±0.2,24.51N×122.90E,h101km±2km,M2.3*
*TAP **21** 20:26:51.3,24.54N×122.89E,h95km,ML3.1,B*
ISC 21 20:26:50.9±1.3,24.52N±0.04×122.91E±0.02,h96km±7km, n96,σ0s91/185,21C-30D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.08**	**155**	P	**Pn**	**20 27 04.7**	**+0.3**
JYNG				S	**Sn**	**20 27 15.0**	**+0.7**
YOJ	**Yonaguni jima** baz=133	**0.11**	**122**	⇓*i*P	**Pn**	**20 27 05.0**	**+0.6**
YOJ	baz=133			S	**Sn**	**20 27 14.7**	**+0.2**
YOJ	**Yonaguni jima**	**0.11**	**122**	P	**Pn**	**20 27 04.7**	**+0.3**
YOJ				S	**Sn**	**20 27 14.7**	**+0.2**
IRIF	**Iriomote-Funau**	**0.77**	**104**	P	**Pn**	**20 27 08.7**	**+0.1**
IRIF				S	**Sn**	**20 27 21.9**	**0.0**
HATJ	**Hateruma jima**	**0.94**	**119**	P	**Pn**	**20 27 11.0**	**+0.6**
HATJ				S	**Sn**	**20 27 25.3**	**+0.3**
TWB1	**Santiao Chiao** baz=293	**0.97**	**300**	⇓P	**Pn**	**20 27 11.0**	**+0.3**
TWB1	baz=293			*e*S	**Sn**	**20 27 25.2**	**-0.4**
TWC	**Suao** baz=278	**0.97**	**275**	⇑P	**Pn**	**20 27 10.0**	**-0.7**
TWC	baz=278			*e*S	**Sn**	**20 27 24.5**	**-1.1**
EWUT	**Wuta** baz=264	**1.03**	**266**	⇑P	**Pn**	**20 27 11.5**	**+0.1**
EWUT	baz=264			*e*S	**Sn**	**20 27 26.2**	**-0.7**
JKRS	**Kuro-shima**	**1.04**	**105**	P	**Pn**	**20 27 12.0**	**+0.5**
JKRS				S	**Sn**	**20 27 27.3**	**+0.3**
ENA	**Nanau** baz=257	**1.07**	**265**	⇓P	**Pn**	**20 27 12.0**	**+0.2**
ENA	baz=257			*e*S	**Sn**	**20 27 27.0**	**-0.5**
TIPB	**Shuangxi** baz=288	**1.08**	**295**	⇓*e*P	**Pn**	**20 27 12.2**	**+0.2**
TIPB	baz=288			*e*S	**Sn**	**20 27 27.2**	**-0.7**
NDS	**Dongshan** baz=274	**1.09**	**276**	⇑P	**Pn**	**20 27 12.6**	**+0.5**
NDS	baz=274			*e*S	**Sn**	**20 27 27.4**	**-0.6**
JIJ	**Ishigaki jima**	**1.14**	**98**	P	**Pn**	**20 27 12.4**	**-0.2**
JIJ				S	**Sn**	**20 27 27.9**	**-1.0**
TWE	**Neicheng** baz=273	**1.15**	**280**	⇑P	**Pn**	**20 27 12.9**	**+0.2**
TWE	baz=273			*e*S	**Sn**	**20 27 28.5**	**-0.7**
NWF	**Wu-fen Shan** baz=289	**1.16**	**298**	⇓P	**Pn**	**20 27 13.6**	**+0.6**
NWF	baz=289			*e*S	**Sn**	**20 27 29.0**	**-0.6**
WFSB	**Wu-fen Shan** baz=290	**1.16**	**298**	⇓P	**Pn**	**20 27 13.6**	**+0.7**
WFSB	baz=290			*e*S	**Sn**	**20 27 29.0**	**-0.5**
ENTT	**Nioudou** baz=274	**1.23**	**276**	⇓P	**Pn**	**20 27 14.5**	**+0.8**
ENTT	baz=274			*e*S	**Sn**	**20 27 30.1**	**-0.7**
NACB	**Ninganchiao** baz=245	**1.25**	**254**	⇑P	**Pn**	**20 27 13.5**	**-0.4**
NACB	baz=245			*e*S	**Sn**	**20 27 30.5**	**-0.7**
NDT	**Datong Townshi** baz=272	**1.27**	**274**	⇓P	**Pn**	**20 27 14.9**	**+0.7**
NDT	baz=272			*e*S	**Sn**	**20 27 31.9**	**+0.1**
TWD	**Chiawan** baz=248	**1.28**	**250**	⇓P	**Pn**	**20 27 14.0**	**-0.2**
TWD	baz=248			*e*S	**Sn**	**20 27 31.0**	**-0.8**
JISG	**Ishigakijimahi**	**1.28**	**87**	P	**Pn**	**20 27 14.0**	**-0.2**
JISG				S	**Sn**	**20 27 30.8**	**-1.1**
TWA	**Mucha** baz=281	**1.29**	**291**	⇓P	**Pn**	**20 27 14.8**	**+0.4**
TWA	baz=281			*e*S	**Sn**	**20 27 32.0**	**-0.1**
NWLT	**Wulai** baz=280	**1.31**	**282**	*e*P	**Pn**	**20 27 15.0**	**+0.4**
NWLT	baz=280			*e*S	**Sn**	**20 27 32.4**	**-0.2**
HWA	**Hwalien** baz=244	**1.31**	**246**	*e*P	**Pn**	**20 27 14.7**	**+0.1**
HWA	baz=244			*e*S	**Sn**	**20 27 32.9**	**+0.4**
ETLH	**Xiulin Townshi** baz=250	**1.34**	**257**	⇓P	**Pn**	**20 27 15.0**	**-0.1**
ETLH	baz=250			*e*S	**Sn**	**20 27 31.8**	**-1.6**
PCYT	**Pengchaiyu** baz=319	**1.34**	**326**	⇓*e*P	**Pn**	**20 27 15.9**	**+0.9**
YM01	**YM01** baz=289	**1.37**	**297**	*e*P	**Pn**	**20 27 14.9**	**-0.5**
YM01	baz=289			*e*S	**Sn**	**20 27 33.6**	**-0.3**
TATO	**Taipei** baz=279	**1.37**	**290**	*e*P	**Pn**	**20 27 15.7**	**+0.3**
TATO	baz=279			*e*S	**Sn**	**20 27 32.9**	**-0.9**
YM08	**YM08** baz=298	**1.37**	**299**	*e*P	**Pn**	**20 27 16.3**	**+0.9**
YM08	baz=298			*e*S	**Sn**	**20 27 33.6**	**-0.4**
YM11	**YM11** baz=289	**1.37**	**298**	*e*P	**Pn**	**20 27 16.1**	**+0.6**
YM11	baz=289			*e*S	**Sn**	**20 27 34.7**	**+0.6**
YM05	**YM05** baz=290	**1.38**	**298**	*e*P	**Pn**	**20 27 16.0**	**+0.4**
YM10	**YM10** baz=289	**1.38**	**298**	⇑*e*P	**Pn**	**20 27 16.0**	**+0.4**
YM10	baz=289			*e*S	**Sn**	**20 27 33.8**	**-0.4**
NNSB	**Datong** baz=257	**1.39**	**267**	⇓P	**Pn**	**20 27 15.9**	**+0.1**
NNSB	baz=257			*e*S	**Sn**	**20 27 34.4**	**-0.2**
YM04	**YM04** baz=286	**1.40**	**297**	*e*P	**Pn**	**20 27 16.0**	**+0.3**
YM04	baz=286			*e*S	**Sn**	**20 27 34.2**	**-0.3**
NNS	**Nan Shan** baz=257	**1.40**	**267**	⇑P	**Pn**	**20 27 15.9**	**0.0**
NNS	baz=257			*e*S	**Sn**	**20 27 34.4**	**-0.4**
YHNB	**Yeheng** baz=274	**1.40**	**276**	⇑P	**Pn**	**20 27 16.3**	**+0.5**
YHNB	baz=274			S	**Sn**	**20 27 34.7**	**0.0**
NSK	**Sanguang** baz=275	**1.42**	**277**	⇓P	**Pn**	**20 27 16.5**	**+0.4**
NSK	baz=275			*e*S	**Sn**	**20 27 34.9**	**-0.2**
ESL	**Shilin** baz=246	**1.52**	**243**	⇓P	**Pn**	**20 27 16.9**	**-0.4**
ESL	baz=246			*e*S	**Sn**	**20 27 33.9**	**-3.3**
FUSS	**Fushou** baz=258	**1.54**	**260**	⇑*e*P	**Pn**	**20 27 18.5**	**+0.7**
FUSS	baz=258			*e*S	**Sn**	**20 27 38.1**	**+0.1**
WHF	**Hehuan Shan** baz=261	**1.55**	**256**	⇓P	**Pn**	**20 27 18.0**	**0.0**
WHF	baz=261			*e*S	**Sn**	**20 27 37.9**	**-0.6**
EGFH	**Guangfu** baz=232	**1.60**	**238**	⇑*e*P	**Pn**	**20 27 18.1**	**-0.1**
EGFH	baz=232			*e*S	**Sn**	**20 27 38.1**	**-0.8**
TWT	**Tachien** baz=259	**1.60**	**261**	⇓*e*P	**Pn**	**20 27 19.6**	**+1.1**
TWT	baz=259			*e*S	**Sn**	**20 27 39.2**	**-0.1**
TDCB	**Techi** baz=259	**1.62**	**261**	⇑*e*P	**Pn**	**20 27 19.4**	**+0.8**
TDCB	baz=259			*e*S	**Sn**	**20 27 38.7**	**-1.0**
JTJ	**Tarama**	**1.64**	**85**	P	**Pn**	**20 27 18.6**	**-0.1**
JTJ				S	**Sn**	**20 27 38.9**	**-0.9**
CHGB	**Renai** baz=246	**1.65**	**254**	⇑*e*P	**Pn**	**20 27 19.3**	**+0.3**
CHGB	baz=246			*e*S	**Sn**	**20 27 39.1**	**-1.3**
NJD	**Zhudong** baz=268	**1.67**	**278**	*e*P	**Pn**	**20 27 19.3**	**+0.1**
NJD	baz=268			*e*S	**Sn**	**20 27 41.9**	**+1.3**
HGSD	**Ruisui** baz=228	**1.70**	**233**	⇓*e*P	**Pn**	**20 27 19.2**	**-0.3**
HGSD	baz=228			*e*S	**Sn**	**20 27 40.2**	**-1.0**
LIOB	**Emei** baz=273	**1.73**	**275**	⇓P	**Pn**	**20 27 20.5**	**+0.6**
LIOB	baz=273			*e*S	**Sn**	**20 27 41.9**	**0.0**
NSTT	**Nanjuang** baz=272	**1.74**	**274**	*e*P	**Pn**	**20 27 20.0**	**0.0**
NSTT	baz=272			*e*S	**Sn**	**20 27 42.0**	**-0.2**
EHY	**Hungye** baz=234	**1.77**	**235**	*e*P	**Pn**	**20 27 19.9**	**-0.5**
EHY	baz=234			*e*S	**Sn**	**20 27 41.4**	**-1.4**
SBCB	**Hsinchu** baz=278	**1.77**	**279**	*e*P	**Pn**	**20 27 20.4**	**0.0**
VWDT	**VWDT** baz=237	**1.79**	**245**	⇑*e*P	**Pn**	**20 27 21.0**	**+0.4**
VWDT	baz=237			*e*S	**Sn**	**20 27 42.6**	**-0.6**
WHP	**Taichung City** baz=257	**1.81**	**263**	⇑P	**Pn**	**20 27 22.4**	**+1.4**
WHP	baz=257			*e*S	**Sn**	**20 27 43.8**	**0.0**

WPL	**Puli Township**	**1.85 255**⇓	*eP*	**Pn**	**20 27 22.2**	**+0.7**
	baz=249					
WPL			*eS*	**Sn**	**20 27 45.7**	**+1.0**
	baz=249					
YULB	**Yu-li**	**1.85 233**⇑	*eP*	**Pn**	**20 27 21.1**	**-0.4**
	baz=240					
YULB			*eS*	**Sn**	**20 27 43.6**	**-1.1**
	baz=240					
EYUL	**Yuli**	**1.87 232**⇓	*eP*	**Pn**	**20 27 21.9**	**+0.2**
	baz=226					
EYUL			*eS*	**Sn**	**20 27 45.7**	**+0.7**
	baz=226					
DPDB	**Guoxing**	**1.87 255**	*eP*	**Pn**	**20 27 22.7**	**+0.9**
	baz=250					
DPDB			*eS*	**Sn**	**20 27 46.4**	**+1.1**
	baz=250					
TWF1	**Yuli**	**1.88 232**⇓	*eP*	**Pn**	**20 27 21.7**	**-0.1**
	baz=227					
TWF1			*eS*	**Sn**	**20 27 44.5**	**-0.8**
	baz=227					
WCS	**Beigang Elemen**	**1.88 256**⇑	*eP*	**Pn**	**20 27 22.9**	**+1.1**
	baz=251					
WCS			*eS*	**Sn**	**20 27 46.0**	**+0.6**
	baz=251					
NMLH	**Miaoli**	**1.93 271**	*eP*	**Pn**	**20 27 23.4**	**+0.9**
	baz=261					
NMLH			*eS*	**Sn**	**20 27 46.4**	**-0.1**
	baz=261					
SSLB	**Suanglung**	**1.93 248**⇓	*eP*	**Pn**	**20 27 22.8**	**+0.3**
	baz=246					
SSLB			*eS*	**Sn**	**20 27 45.6**	**-0.9**
	baz=246					
SMLT	**Sun Moon Lake**	**1.94 251**⇑	*eP*	**Pn**	**20 27 23.5**	**+0.8**
	baz=246					
SMLT			*eS*	**Sn**	**20 27 47.7**	**+0.8**
	baz=246					
TYC	**Yuchr**	**1.97 252**⇓	*eP*	**Pn**	**20 27 23.9**	**+1.0**
	baz=247					
TYC			*eS*	**Sn**	**20 27 48.5**	**+1.1**
	baz=247					
FULB	**Fuli**	**1.98 229**⇓	*eP*	**Pn**	**20 27 22.9**	**-0.2**
	baz=222					
FULB			*eS*	**Sn**	**20 27 46.8**	**-0.8**
	baz=222					
WHYT	**Xinyi Township**	**2.05 247**	*eP*	**Pn**	**20 27 25.3**	**+1.3**
	baz=247					
WHYT			*eS*	**Sn**	**20 27 51.2**	**+1.8**
	baz=247					
YUS	**Yu-Shan**	**2.06 241**⇓	*eP*	**Pn**	**20 27 25.3**	**+0.6**
	baz=233					
YUS			*eS*	**Sn**	**20 27 49.8**	**-0.6**
	baz=233					
JIRB	**Irabujima**	**2.08 81** P		**Pn**	**20 27 24.4**	**0.0**
JIRB			*eS*	**Sn**	**20 27 48.6**	**-1.4**
EDH	**Donghe**	**2.13 224**	*eP*	**Pn**	**20 27 24.6**	**-0.4**
	baz=220					
EDH			*eS*	**Sn**	**20 27 49.9**	**-1.2**
	baz=220					
WNT	**Mingjian**	**2.13 253**	*eP*	**Pn**	**20 27 26.4**	**+1.4**
	baz=251					
WNT			*eS*	**Sn**	**20 27 53.1**	**+2.0**
	baz=251					
JIKM	**Ikemajima**	**2.16 79** *eS*		**Sn**	**20 27 51.2**	**-0.7**
ALS	**Alishan**	**2.17 243**⇓	*eP*	**Pn**	**20 27 25.7**	**-0.2**
	baz=235					
ALS			*eS*	**Sn**	**20 27 51.4**	**-1.1**
	baz=235					
ELDTW	**Lidau**	**2.18 233**⇑	*eP*	**Pn**	**20 27 25.5**	**-0.3**
	baz=227					
ELDTW			*eS*	**Sn**	**20 27 51.2**	**-1.3**
	baz=227					
JMJ	**Miyako jima 2**	**2.19 82** *eP*		**Pn**	**20 27 26.4**	**+1.8**
	baz=83					
JMJ			*eS*	**Sn**	**20 27 52.2**	**-0.2**
	baz=83					
JMJ2	**Miyako jima3**	**2.21 84** P		**Pn**	**20 27 26.7**	**+0.6**
JMJ2			*eS*	**Sn**	**20 27 52.2**	**-0.8**
CHN5	**Tsauling**	**2.24 246**⇓	*eP*	**Pn**	**20 27 27.8**	**+1.3**
	baz=238					
CHN5			*eS*	**Sn**	**20 27 54.6**	**+0.8**
	baz=238					
JOGS	**Gusukube**	**2.29 83** S		**Sn**	**20 27 55.3**	**+0.6**
WGK	**Gukeng**	**2.30 249**	*eP*	**Pn**	**20 27 27.6**	**+0.4**
	baz=247					
WGK			*eS*	**Sn**	**20 27 57.2**	**+2.1**
	baz=247					
STYH	**Taoyuan**	**2.37 236**	*eP*	**Pn**	**20 27 29.1**	**+0.9**
	baz=231					
STYH			*eS*	**Sn**	**20 27 57.0**	**+0.2**
	baz=231					
TWGBT	**Beinan**	**2.38 225**⇑	*eP*	**Pn**	**20 27 27.9**	**-0.5**
	baz=231					
TWGBT			*eS*	**Sn**	**20 27 56.4**	**-0.8**
	baz=231					
TWG	**Pinlang**	**2.39 225**⇑	*eP*	**Pn**	**20 27 27.9**	**-0.5**
	baz=231					
TWG			*eS*	**Sn**	**20 27 56.3**	**-1.0**
	baz=231					
STYT	**Tauyuan**	**2.39 236**	*eP*	**Pn**	**20 27 29.3**	**+0.8**
	baz=231					
STYT			*eS*	**Sn**	**20 27 57.3**	**0.0**
	baz=231					
WRL	**Guolierlin Hig**	**2.39 256**	*eS*	**Sn**	**20 27 56.4**	**-1.0**
	baz=253					
TPUB	**Ta-pu**	**2.41 240**	*eP*	**Pn**	**20 27 30.0**	**+1.2**
	baz=232					
TPUB			*eS*	**Sn**	**20 27 60.0**	**+2.1**
	baz=232					
CHN4	**Tsaushan**	**2.42 242**⇓	*eP*	**Pn**	**20 27 30.5**	**+1.7**
	baz=234					
CHN4			*eS*	**Sn**	**20 27 58.6**	**+0.7**
	baz=234					
WTP	**Ta-pu**	**2.45 239**	*eP*	**Pn**	**20 27 29.8**	**+0.4**
	baz=238					
WTP			*eS*	**Sn**	**20 28 01.2**	**+2.3**
	baz=238					
TWK	**Hsinying**	**2.54 241**	*eP*	**Pn**	**20 27 32.1**	**+1.5**
	baz=239					
TWK			*eS*	**Sn**	**20 28 00.2**	**-0.8**
	baz=239					
CHN1	**Nanshi**	**2.55 239**	*eP*	**Pn**	**20 27 30.3**	**-0.4**
	baz=238					
CHN1			*eS*	**Sn**	**20 28 03.1**	**+2.0**
	baz=238					
SGST	**Jiashian**	**2.57 237**	*eP*	**Pn**	**20 27 31.2**	**+0.3**
	baz=235					
SGST			*eS*	**Sn**	**20 28 02.3**	**+0.9**
	baz=235					
ECL	**Taimali**	**2.62 224**	*eP*	**Pn**	**20 27 30.7**	**-0.9**
	baz=228					
ECL			*eS*	**Sn**	**20 28 01.3**	**-1.5**
	baz=228					
SSD	**Sandimen**	**2.73 230**⇓	*eP*	**Pn**	**20 27 34.7**	**+1.6**
	baz=228					
SSD			*eS*	**Sn**	**20 28 05.0**	**-0.4**
	baz=228					
MASBT	**Mashibuluo**	**2.82 228**⇑	*eP*	**Pn**	**20 27 35.3**	**+1.1**
	baz=224					
MASBT			*eS*	**Sn**	**20 28 07.6**	**0.0**
	baz=224					
EAST	**Anshuo**	**2.85 222**	*eP*	**Pn**	**20 27 34.7**	**+0.1**
	baz=226					
EAST			*eS*	**Sn**	**20 28 07.2**	**-1.0**
	baz=226					
SCZT	**Fangliau**	**3.00 225**	*eP*	**Pn**	**20 27 38.0**	**+1.4**
	baz=224					
SCZT			*eS*	**Sn**	**20 28 14.1**	**+2.3**
	baz=224					
VWUC	**VWUC**	**3.18 279**	*eP*	**Pn**	**20 27 38.6**	**-0.3**
	baz=276					
VWUC			*eS*	**Sn**	**20 28 13.1**	**-3.0**
	baz=276					
PHUB	**P'eng-hu**	**3.21 252**	*eS*	**Sn**	**20 28 14.8**	**-2.1**
	baz=250					
PTMZ	**Houxiangcun**	**3.48 279**	*eP*	**Pn**	**20 27 42.6**	**-0.4**
	baz=276					
PTMZ			*eS*	**Sn**	**20 28 21.4**	**-2.0**
	baz=276					

VAO 21 21:00:21.7±0.7,0°22′S×60°15′W,**h0**km,**mbR3.6,Brazil**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACA	**Manacapuru-AM**	**2.97**	**190**	*eP*	Pn	21 01 10.2	0.0
MACA				*eS*	Sn	21 01 47.3	+0.7
ITTB	**Itaituba**	**6.04**	**133**	*eP*	Pn	21 01 51.8	-0.6
MALB	**Monte Alegre**	**6.11**	**105**	*eP*	Pn	21 01 53.9	+0.6
NPGB	**Novo Progresso**	**8.30**	**145**	*eP*	Pn	21 02 23.6	+0.1
NPGB				*eS*	Sn	21 03 58.8	+0.7
SAML	**Samuel**	**9.19**	**199**	*eP*	Pn	21 02 35.5	-0.1
SAML				*eS*	Sn	21 04 21.0	+1.2
ETMB	**Extrema**	**11.28**	**212**	*eP*	Pn	21 03 04.4	+0.1
CLDB	**Colider**	**11.44**	**158**	*eS*	Sn	21 05 15.1	0.0

*ISN **21** 21:15:27.6±0.5,32°.84N×46°.53E,h10km±3km, ML2.9*
*TEH **21** 21:15:31.6,33°.00N×46°.62E,h14km, ML3.1*
ISC 21 21:15:29.4±1.0,**32°.85N**±0°.06×**46°.50E**±0°.04,**h13**km,**n16,**
σ1§70/19,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.55**	**299**	*eP*g	**Pg**	**21 15 39.0**	**-1.1**
IBDR				*eS*g	**Sg**	**21 15 47.0**	**-0.4**
IBDR				AML	AML	21 15 54.9	
	comp=N,364nm,0.3s						
IBDR				AML	AML	21 16 10.0	
	comp=E,982nm,0.6s						
DHL1	**Dehloran**	**0.68**	**104**	*eP*g	**Pn**	**21 15 44.1**	**-0.6**
IKFM	**Kafar-mosalman**	**1.32**	**59**	*eP*g	**Pg**	**21 15 53.6**	**-1.1**
IKFM				*e*		21 16 15.1	
	comp=Z,99nm,0.4s						
IGHG	**Ghaleghazi**	**1.48**	**2**	*eP*g	**Pg**	**21 15 57.0**	**-0.9**
IGHG				*e*		21 16 21.9	
	comp=Z,99nm,0.7s						
KCHF	**Cheshme Sefid,**	**1.50**	**17**	*eP*g	**Pb**	**21 15 56.4**	**-0.8**
KCHF				*e*		21 16 19.7	
	comp=Z,99nm,0.3s						
KER	**Kermanshah**	**1.62**	**19**	*eP*g	**Pg**	**21 15 59.2**	**-1.4**
IDOB	**Doab**	**1.69**	**56**	*eP*g	**Pb**	**21 15 59.8**	**-0.7**
IKMR	**Kamar-syah**	**1.71**	**66**	*eP*g	**Pg**	**21 16 00.7**	**-1.6**
IKMR				*e*		21 16 28.8	
	comp=Z,99nm,0.5s						
BHD	**Baghdad**	**1.83**	**284**	*eP*n	**Pn**	**21 16 01.0**	**+0.5**
BHD				*eS*n	**Sn**	**21 16 26.0**	**+2.5**
IDHR	**Dehrash**	**1.85**	**357**	*eP*n	**Pb**	**21 16 02.7**	**-0.5**
IDHR				*e*		21 16 28.5	
	comp=Z,99nm,0.5s						
NSR	**Nassriya**	**1.86**	**190**	*eP*n	**Pn**	**21 16 01.0**	**+0.1**
NSR				*eS*n	**Sn**	**21 16 25.0**	**+0.8**
HSAM	**Samen**	**2.22**	**52**	*e*		21 16 44.1	
	comp=Z,99nm,0.9s						
HSAM				*eP*n	**Pb**	**21 16 07.5**	**-2.1**
IPIR	**Pirpir**	**3.70**	**91**	*eP*n	**Pn**	**21 16 29.6**	**+3.0**
IKLH	**Kolahrood**	**4.29**	**82**	*eP*n	**Pn**	**21 16 37.2**	**+2.6**
IKLH				*e*		21 16 39.7	
	comp=Z,99nm,0.4s						
ISFB	**Sefidab**	**5.02**	**71**	*eP*n	**Pn**	**21 16 46.3**	**+1.8**
IRAM	**Ramesheh**	**5.08**	**100**	*eP*n	**Pn**	**21 16 48.1**	**+2.6**

*IDC **21** 21:15:51.1±1.2,3°.47N×123°.61E,h0km, mb3.8/4,*
mb1 3.9/4,mb1mx3.5/38,mbtmp3.8/4, Error ellipse:
s-maj=167.8km s-min=20.4km az=66.0
*DJA **21** 21:16:23.9±3.9,5°.1N±28°.×12°.5E±1°.4,h363km±28km,*
M4.1/7,mb3.9/3,mB4.8/2,MLv4.2/7,Mw(mB)4.1/2
ISC 21 21:16:30.4±1.0,**3°.7N**±0°.1×**124°.5E**±0°.2,**h400**km,**n8,**
σ2§14/8,mb3.3/4,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**3.39**	**205**	P	**Pn**	**21 17 36.1**	**-0.9**
TNTI	**Ternate**	**4.12**	**135**	P	**Pn**	**21 17 42.8**	**-0.9**
SANI	**Sanana**	**5.93**	**165**	P	**Pn**	**21 18 02.8**	**+0.4**
	0.1nm971nm22nm,0.6s						
NLAI	**Namlea**	**7.40**	**159**	P	**P**	**21 18 22.1**	**+2.9**
WRA	**Warramunga Arr**	**25.44**	**158**	P	**P**	**21 21 21.9**	**-2.2**
	0.4nm,0.4s,baz=333,slow=9.9,SNR=10						
ASAR	**Alice Springs**	**28.73**	**162**	P	**P**	**21 21 50.6**	**-2.6**
	0.9nm,0.4s,baz=335,slow=6.8,SNR=40						
SONM	**Songino Array**	**46.62**	**343**	P	**P**	**21 24 20.6**	**0.0**
	0.4nm,0.6s,baz=148,slow=7.4,SNR=4.3						
MKAR	**Makanchi Array**	**56.29**	**326**	P	**P**	**21 25 32.1**	**+0.8**
	0.5nm,0.3s,baz=121,slow=7.7,SNR=18						

IDC 21 21:19:58.9±50.0,**16°.66S×177°.21W,h0km,mb4.1/3,**
mb1 4.3/3,mb1mx3.6/30,mbtmp4.1/3,Error ellipse:
s-maj=925.5km s-min=169.7km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.24**	**240**	P	P	21 27 38.1	+0.6
	0.6nm,0.3s,baz=58,slow=9.5,SNR=1.3						
WRA	**Warramunga Arr**	**46.00**	**258**	P	P	21 28 24.1	-0.3
	0.5nm,0.5s,baz=95,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**46.24**	**253**	P	P	21 28 25.9	-0.4
	5.3nm,0.6s,baz=88,slow=8.2,SNR=81						

*NEIC **21** 21:45:27.6±1.4,23°.7S±0°.1×179°.8W±0°.2, h526km±9km, mb4.4/21, Error ellipse: s-maj=21.2km s-min=18.0km az=48.0*
*IDC **21** 21:45:30.2±2.8,23°.83S×179°.47E,h487km±25km, mb3.4/4, mb1 3.5/6,mb1mx3.2/25,mbtmp4.2/6, Error ellipse: s-maj=47.8km s-min=29.3km az=118.0*
ISC 21 21:45:29.4±0.9,**23°.84S**±0°.09×**179°.8W**±0°.1,**h550**km,**n32,**
σ1§22/33,mb4.2/14,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.40**	**341**	P	**P**	**21 47 08.5**	**-3.5**
	2.5nm,0.3s,baz=172,slow=15,SNR=10						
OUZ	**Omahuta**	**12.71**	**205**	P	**P**	**21 48 15.1**	**+0.1**
URZ	**Urewera**	**14.61**	**190**	P	**P**	**21 48 34.3**	**-0.3**
	1.0nm,0.3s,baz=282,slow=4.9,SNR=6.1						
URZ				S	**S**	**21 51 04.4**	**-2.9**
	0.5nm,0.3s,baz=62,slow=20,SNR=5.7						
URZ	**Urewera**	**14.61**	**190**	P	**P**	**21 48 34.2**	**-0.5**
BKZ	**Black Stump Fm**	**15.60**	**191**	P	**P**	**21 48 43.5**	**-1.3**
BKZ				IAmb	IAmb	21 48 52.7	
	comp=Z,17nm,1.3s						
ARMA	**Armidale**	**26.21**	**249**	P	**P**	**21 50 21.4**	**+0.4**
ARMA				IAmb	IAmb	21 50 26.6	
	comp=Z,21nm,1.4s						
EIDS	**Eidsvold**	**26.49**	**261**	P	**P**	**21 50 23.1**	**-0.3**
EIDS				IAmb	IAmb	21 50 24.4	
	comp=Z,4.9nm,0.7s						
CAN	**Canberra**	**29.32**	**240**	P	**P**	**21 50 48.3**	**+0.3**
CTAO	**Charters Tower**	**31.66**	**270**	P	**P**	**21 51 08.0**	**-0.2**
STKA	**Stephens Creek**	**34.91**	**248**	P	**P**	**21 51 35.7**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=88,slow=7.0,SNR=3.3						
STKA	**Stephens Creek**	**34.91**	**248**	P	**P**	**21 51 35.4**	**-0.1**
COEN	**Coen**	**36.28**	**279**	P	**P**	**21 51 47.0**	**0.0**
BBOO	**Buckleboo**	**39.63**	**247**	P	**P**	**21 52 13.1**	**-1.0**
BBOO				IAmb	IAmb	21 52 30.4	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**42.22**	**261**	P	**P**	**21 52 34.6**	**-0.2**
ASAR	**Alice Springs**	**42.22**	**261**	P	**P**	**21 52 34.8**	**0.0**
	comp=Z,4.5nm,0.7s,baz=96,slow=7.3,SNR=54						
ASAR	**Alice Springs**	**42.22**	**261**	P	**P**	**21 52 34.3**	**-0.5**
WR0	**Warramunga Arr**	**42.40**	**266**	P	**P**	**21 52 35.6**	**-0.6**
WR0				IAmb	IAmb	21 52 54.3	
	comp=Z,9.2nm,1.2s						
WB2	**Warramunga Arr**	**42.58**	**266**	P	**P**	**21 52 37.0**	**-0.6**
WB2				IAmb	IAmb	21 52 38.5	
	comp=Z,27nm,1.4s						
WRA	**Warramunga Arr**	**42.59**	**266**	P	**P**	**21 52 37.2**	**-0.5**
	comp=Z,6.4nm,0.5s,baz=97,slow=8.4,SNR=132						
WRA	**Warramunga Arr**	**42.59**	**266**	P	**P**	**21 52 36.8**	**-0.9**
FORT	**Forrest**	**46.50**	**250**	P	**P**	**21 53 07.1**	**-0.5**
MTN	**Manton Dam**	**47.63**	**274**	P	**P**	**21 53 15.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**51.01**	**265**	P	**P**	**21 53 41.7**	**+0.5**
FITZ				IAmb	IAmb	21 53 55.5	
	comp=Z,8.6nm,1.3s						
MORW	**Morawa**	**57.06**	**250**	P	**P**	**21 54 23.5**	**-0.2**
MORW				IAmb	IAmb	21 54 25.6	
	comp=Z,49nm,1.4s						
TOLI2	**Tolitoli**	**62.74**	**284**	P	**P**	**21 55 03.0**	**+1.5**
TOLI2				IAmb	IAmb	21 55 03.2	
	comp=Z,4.8nm,0.8s						
QSPA	**South Pole Qui**	**66.24**	**180**	P	**P**	**21 55 24.9**	**+1.9**
UGM	**Wanagama**	**68.28**	**271**	P	**P**	**21 55 36.2**	**0.0**
KKM	**Kota Kinabalu**	**69.06**	**287**	P	**P**	**21 55 41.8**	**+0.8**
KKM				IAmb	IAmb	21 55 42.7	
	comp=Z,5.1nm,0.6s						
KVN	**Kaiserville**	**85.08**	**43**	P	**P**	**21 57 07.0**	**-0.6**
DUG	**Dugway, Tooele**	**89.10**	**45**	P	**P**	**21 57 26.8**	**+0.3**
DUG				IAmb	IAmb	21 57 29.8	
	comp=Z,3.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.67**	**290**	P	**P**	**21 57 32.6**	**+3.1**
	comp=Z,0.5nm,0.7s,baz=132,slow=3.8,SNR=4.1						
BRTR	**Keskin Array B**	**147.69**	**307**	PKPbc	**PKPab**	**22 04 18.1**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=94,slow=2.8,SNR=5.4						

*DJA **21** 22:04:00.5±0.6,2°.N±4°.×12°.7E±°, h87km±12km,M4.0/11,*
mb4.0/4,mB4.4/1,MLv3.9/11,Mw(mB)3.5/1
*IDC **21** 22:04:01.9±3.0,1°.85N×127°.38E,h124km±30km,mb3.7/4,*
mb1 3.7/7,mb1mx3.3/39,mbtmp4.0/7, Error ellipse:
s-maj=26.7km s-min=17.6km az=68.0
ISC 21 22:04:00.8±1.1,**1°.95N**±0°.08×**127°.34E**±0°.09,**h112**km,**n14,**
σ1§14/15,mb4.1/4,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**179**	P	**Pn**	**22 04 23.9**	**-0.1**
SGSI	**Sangihe**	**2.50**	**314**	P	**Pn**	**22 04 38.9**	**-1.4**
SANI	**Sanana**	**4.19**	**199**	P	**Pn**	**22 05 01.9**	**-0.9**
GTOI	**Gorontalo**	**4.52**	**253**	P	**Pn**	**22 05 09.2**	**+2.0**
SIJI	**Sorong**	**4.82**	**125**	P	**Pn**	**22 05 11.3**	**0.0**
	2.3nm,0.3s,baz=338,slow=18,SNR=5.7						
NLAI	**Namlea**	**5.16**	**183**	P	**Pn**	**22 05 16.1**	**+0.3**
	0.1nm10nm,0.9s						
APSI	**Ampana**	**6.36**	**244**	P	**Pn**	**22 05 33.5**	**+1.5**
	0.1nm348nm14nm,0.8s						
SPSI	**Sidrap Palu**	**9.58**	**232**	P	**Pn**	**22 06 16.3**	**+0.6**
KAPI	**Kappang**	**10.26**	**228**	P	**Pn**	**22 06 26.3**	**+1.3**
	1.2nm,0.3s,baz=29,slow=9.1,SNR=6.8						
KAPI				S	**Sn**	**22 08 17.0**	**-1.1**
	1.6nm,0.3s,baz=122,slow=18,SNR=5.0						
FITZ	**Fitzroy Crossi**	**19.99**	**185**	P	**P**	**22 08 23.8**	**-0.8**
	0.5nm,0.3s,baz=7,2,slow=9.4,SNR=8.4						
WRA	**Warramunga Arr**	**22.82**	**163**	P	**P**	**22 08 53.4**	**-1.0**
	6.3nm,0.6s,baz=344,slow=11,SNR=41						
ASAR	**Alice Springs**	**26.25**	**166**	P	**P**	**22 09 24.8**	**-0.9**
	2.4nm,0.5s,baz=348,slow=7.2,SNR=37						
SONM	**Songino Array**	**49.17**	**341**	P	**P**	**22 12 38.0**	**+0.4**
	0.3nm,0.5s,baz=156,slow=7.3,SNR=4.3						
MKAR	**Makanchi Array**	**59.35**	**326**	P	**P**	**22 13 51.9**	**+0.6**
	1.0nm,0.4s,baz=118,slow=8.1,SNR=31						

IDC 21 22:37:59.3±1.3,**35°.27N×106°.99E,h0km,mb3.4/4,**
mb1 3.5/5,mb1mx3.2/43,mbtmp3.3/5,ML2.7/1,MS2.9/1,
Ms1 2.9/1,ms1mx2.3/45,Error ellipse: s-maj=59.4km
s-min=20.5km az=61.0,Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.56**	**358**	Pn	Pn	22 41 00.2	+0.8
	0.0nm,0.3s,baz=180,slow=14,SNR=2.5						
SONM				Lg	Lg	22 44 37.7	
	0.0nm,0.3s,baz=174,slow=30,SNR=2.5						
TLY	**Talaya**	**16.58**	**353**	Lg	Lg	22 46 46.7	
	0.0nm,0.3s,baz=225,slow=5.7,SNR=2.0						
JNU	**Nakatsue**	**19.47**	**89**	LR	LR	22 51 51.4	
	comp=Z,38nm,20.6s,baz=64,slow=42						
MKAR	**Makanchi Array**	**21.81**	**309**	P	P	22 42 52.9	-0.1
	0.7nm,0.6s,baz=105,slow=12,SNR=13						
KURBB	**Kurchatov Arra**	**25.66**	**315**	P	P	22 43 30.6	-0.1
	0.7nm,0.8s,baz=120,slow=8.7,SNR=4.8						
WRA	**Warramunga Arr**	**60.73**	**150**	P	P	22 48 14.1	+1.3
	0.5nm,0.7s,baz=342,slow=7.6,SNR=2.6						
ASAR	**Alice Springs**	**63.93**	**152**	P	P	22 48 33.1	-1.1
	0.3nm,0.7s,baz=333,slow=5.7,SNR=4.8						

*DJA **21** 22:47:44.0±1.2,6°.S±10°.×12°.9E±1°.1,h353km±22km,*
M3.8/7,mb3.5/3,mB4.5/3,MLv4.0/7,Mw(mB)3.7/3
*IDC **21** 22:47:44.5±1.2,6°.14S×128°.55E,h302km±18km,mb2.5/1,*
mb1 2.7/5,mb1mx2.5/38,mbtmp3.4/5, Error ellipse:
s-maj=28.2km s-min=12.7km az=117.0
ISC 21 22:47:45.1±0.8,**6°.15S**±0°.08×**128°.6E**±0°.1,**h322**km,**n11,**
σ1§53/14,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.11**	**40**	P	**Pn**	**22 48 37.0**	**+2.3**
FAKI	**Fak Fak**	**4.89**	**49**	P	**Pn**	**22 49 02.9**	**+0.6**
SOEI	**Soe**	**5.55**	**230**	P	**Pn**	**22 49 09.6**	**-0.4**
	0.2nm1μm42nm,0.6s						
SIJI	**Sorong**	**5.90**	**27**	P	**Pn**	**22 49 14.4**	**+0.4**
	0.9nm,0.3s,baz=180,slow=20,SNR=1.5						
SIJI				S	**S**	**22 50 23.2**	**-2.7**
	6.3nm,0.3s,baz=113,slow=24,SNR=17						
BATI	**Baumata**	**6.29**	**230**	P	**Pn**	**22 49 18.4**	**-0.2**
	27nm,0.3s,baz=56,slow=6.2,SNR=24						
BATI				S	**S**	**22 50 31.9**	**-2.3**
	4.2nm,0.3s,baz=78,slow=21,SNR=8.0						
BATI	**Baumata**	**6.29**	**230**	P	**Pn**	**22 49 18.4**	**-0.2**
EDFI	**Ende, Flores**	**7.27**	**249**	P	**Pn**	**22 49 31.8**	**+1.5**
FITZ	**Fitzroy Crossi**	**12.21**	**193**	P	**P**	**22 50 30.3**	**0.0**
	0.1nm,0.3s,baz=25,slow=12,SNR=1.8						
FITZ				S	**S**	**22 52 47.0**	**+1.3**
	0.1nm,0.3s,baz=306,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**14.82**	**158**	P	**Pn**	**22 50 59.4**	**-1.4**
	0.1nm,0.3s,baz=338,slow=12,SNR=2.1						
ASAR	**Alice Springs**	**18.16**	**164**	P	**P**	**22 51 35.7**	**+0.3**
	0.1nm,0.3s,baz=340,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**66.73**	**327**	P	**P**	**22 58 03.5**	**+1.2**
	0.1nm,0.4s,baz=120,slow=7.1,SNR=2.0						

*SJA **21** 22:49:27.0±0.7,37°.74S×76°.26W,h10km, ML4.9,MW4.3*
*GUC **21** 22:49:51.1±0.8,37°.04S×74°.41W,h23km±6km, ML4.5*
*IDC **21** 22:49:53.4±1.4,36°.91S×74°.02W,h0km, mb4.1/6,*
mb1 4.2/9,mb1mx4.1/26,mbtmp4.0/9,ML3.8/3,MS3.7/7,
Ms1 3.6/7,ms1mx3.4/35, Error ellipse: s-maj=38.6km
s-min=17.1km az=66.0
*NEIC **21** 22:49:54.2±1.4,36°.87S±0°.07×74°.05W±0°.06,h11km±6km,*
mb4.2/12,ML4.5(GUC),Error ellipse: s-maj=9.7km
s-min=7.0km az=184.0
*VAO **21** 22:49:56.0±3.1,37°.06S×73°.75W,h10km,mb4.5*
ISC 21 22:49:54.8±0.6,**36°.88S**±0°.05×**74°.00W**±0°.05,**h10**km,**n79,**
σ1§28/80,mb4.1/10,MS3.7/5,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.78**	**88**	*eP*	**Pb**	**22 50 10.4**	**-0.2**
BI03				*i* S	**Sn**	**

	baz=126,slow=74,SNR=846							
VA04	**Juan Fernndez**	**5.10**	**308**	Pn		**Pn**	**22 51 09.6**	**-1.8**
LL01	**San Ignacio de**	**5.63**	**168**	Pn		**Pn**	**22 51 17.2**	**-1.3**
AAGR	**Agrelo**	**5.69**	**50**	*eP*		**Pn**	**22 51 21.7**	**+2.2**
AAGR				IAML			22 53 34.0	
	comp=Z,140nm,1.8s							
ARCO	**CERRO ARCO**	**5.79**	**47**	*eP*		**Pn**	**22 51 23.0**	**+2.0**
ARCO				IAML			22 53 18.5	
	comp=Z,100nm,1.5s							
AUSP	**Uspallata**	**6.00**	**41**	*eP*		**Pn**	**22 51 24.9**	**+0.9**
CO02	**Combarbal**	**6.18**	**25**			**Pn**	**22 51 24.3**	**-2.1**
RTLS	**Leoncito**	**6.39**	**39**	*eP*		**Pn**	**22 51 30.1**	**+0.8**
RTLS				IAML			22 53 35.9	
	comp=Z,148nm,1.6s							
CO03	**El Pedregal**	**6.62**	**25**			**Pn**	**22 51 31.5**	**-0.8**
RTCV	**Cerro Valdivia**	**6.74**	**44**	*eP*		**Pn**	**22 51 33.8**	**-0.1**
RTCV				*eS*		**Sn**	**22 52 51.7**	**+1.0**
RTCV				IAML			22 53 47.7	
	comp=Z,130nm,1.8s							
ZON	**Zonda**	**6.91**	**41**	Pn		**Pn**	**22 51 35.6**	**-0.6**
GO04	**Tololo Observa**	**7.20**	**23**	Pn		**Pn**	**22 51 38.7**	**-1.8**
CO01	**Juntas del Tor**	**7.62**	**26**			**Pn**	**22 51 45.4**	**-0.7**
AC05	**El Transito**	**8.61**	**22**	Pn		**Pn**	**22 51 57.9**	**-1.8**
AC04	**Llanos de Chal**	**9.00**	**17**	Pn		**Pn**	**22 52 04.6**	**-0.3**
PB15	**IPOC Station P**	**14.18**	**17**			**Pn**	**22 53 15.1**	**-0.8**
PB04	**IPOC Station P**	**14.88**	**14**	Pn		**Pn**	**22 53 24.9**	**-0.6**
LVC	**Limon Verde**	**14.89**	**19**	Pn		**Pn**	**22 53 25.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=219,slow=11,SNR=1.8							
LVC				Lg	Lg		22 57 27.7	
	comp=Z,0.1nm,0.3s,baz=171,slow=11,SNR=2.9							
LVC	**Limon Verde**	**14.89**	**19**			**Pn**	**22 53 25.0**	**-0.8**
PB07	**IPOC Station P**	**15.52**	**14**	Pn		**Pn**	**22 53 33.6**	**-0.4**
PB07				IAmb	IAmb		22 53 41.0	
	comp=Z,20nm,1.3s							
PB09	**IPOC Station P**	**15.59**	**17**	Pn		**Pn**	**22 53 35.3**	**+0.4**
PB09				IAmb	IAmb		22 53 52.7	
	comp=Z,14nm,1.0s							
PB01	**IPOC Station P**	**16.26**	**15**			**Pn**	**22 53 43.2**	**-0.3**
CPUP	**Villa Florida**	**17.64**	**58**	P		**P**	**22 54 01.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=242,slow=16,SNR=2.5							
CPUP				LR	LR		23 00 08.1	
	comp=Z,121nm,20.6s,baz=234,slow=35							
CPUP	**Villa Florida**	**17.64**	**58**	P		**Pn**	**22 54 00.9**	**+0.2**
MNMC	**Minye Minye**	**18.10**	**14**	P		**P**	**22 54 06.5**	**-0.6**
MNMC				IAmb	IAmb		22 54 25.4	
	comp=Z,15nm,1.0s							
EFI	**East Falkland**	**18.62**	**148**			**Pn**	**22 54 12.2**	**-0.3**
PB16	**IPOC Station P**	**18.89**	**13**	P		**Pn**	**22 54 16.0**	**-0.7**
PB16				IAmb	IAmb		22 54 33.5	
	comp=Z,14nm,1.1s							
ITAB	**Concordia**	**20.84**	**69**	*eP*		**P**	**22 54 36.3**	**-0.4**
LPAZ	**La Paz**	**21.16**	**16**	P		**P**	**22 54 41.8**	**+0.9**
	comp=Z,3.6nm,0.9s,baz=177,slow=9.3,SNR=7.1							
LPAZ	**La Paz**	**21.16**	**16**	P		**P**	**22 54 41.4**	**+0.5**
LPAZ	**La Paz**	**21.16**	**16**	*eP*		**P**	**22 54 42.8**	**+1.9**
PTGB	**Pitanga**	**22.35**	**63**	*eP*		**P**	**22 54 53.6**	**+0.5**
SIV	**San Ignacio**	**23.76**	**32**	P		**P**	**22 55 07.9**	**+0.3**
	comp=Z,6.5nm,1.0s,baz=228,slow=8.7,SNR=16							
SIV				LR	LR		23 06 18.2	
	comp=Z,475nm,20.2s,baz=222,slow=41							
PCMB	**Pacaembu**	**24.91**	**59**	*eP*		**P**	**22 55 17.8**	**-0.3**
NNA	**Nana**	**24.92**	**353**	LR	LR		23 03 18.0	
	comp=Z,101nm,18.4s,baz=182,slow=32							
PTLB	**Pontes e Lacer**	**25.11**	**36**	*eP*		**P**	**22 55 21.3**	**+1.4**
PP1B	**Ponte de Pedra**	**25.56**	**46**	*eP*		**P**	**22 55 25.2**	**+1.3**
ITRB	**Iturama**	**26.83**	**57**	*eP*		**P**	**22 55 36.6**	**+1.1**
RCLB	**Rio Claro- Sao**	**27.03**	**65**	*eP*		**P**	**22 55 38.1**	**+0.8**
VAO	**Valinhos**	**27.09**	**67**	*eP*		**P**	**22 55 38.5**	**+0.6**
PMSA	**Palmer Station**	**28.55**	**171**	LR	LR		23 07 02.7	
	comp=Z,109nm,18.2s,baz=120,slow=36							
ATAH	**Atahualpa**	**29.88**	**351**	LR	LR		23 05 49.1	
	comp=Z,150nm,18.2s,baz=191,slow=32							
BDFB	**Brasilia**	**31.29**	**54**	LR	LR		23 08 54.1	
	comp=Z,216nm,18.4s,baz=242,slow=36							
JANB	**Januaria**	**34.18**	**58**	*eP*		**P**	**22 56 40.1**	**-0.5**
SDBA	**SAO DESIDERIO**	**35.70**	**54**	*eP*		**P**	**22 56 53.3**	**-0.4**
SMTB	**Santa Maria do**	**36.76**	**47**	*eP*		**P**	**22 57 03.0**	**+0.3**
OTAV	**Otavalo**	**37.16**	**353**	P		**P**	**22 57 05.8**	**-0.7**
OTAV				IAmb	IAmb		22 57 15.6	
	comp=Z,5.0nm,1.4s							
NBMA	**Muriti-CE**	**43.47**	**56**	*eP*		**P**	**22 57 59.3**	**+0.9**
SNAA	**Sanae**	**49.55**	**157**	P		**P**	**22 58 44.9**	**-0.6**
QSPA	**South Pole Qui**	**53.36**	**180**	P		**P**	**22 59 14.3**	**+0.1**
QSPA				IAmb	IAmb		22 59 24.1	
	comp=Z,3.1nm,0.9s							
TX32	**Lajitas Array**	**71.51**	**333**	P		**P**	**23 01 15.6**	**-0.3**
TXAR	**Lajitas Array**	**71.51**	**333**	P		**P**	**23 01 16.4**	**+0.5**
	comp=Z,1.1nm,1.0s,baz=144,slow=6.8,SNR=5.5							
TXAR	**Lajitas Array**	**71.51**	**333**	P		**P**	**23 01 15.8**	**-0.1**
LIC	**Lamto**	**77.19**	**72**	*eP*		**P**	**23 01 49.0**	**-0.2**
	comp=Z,25nm,1.1s							
TIC	**Toumodi**	**77.47**	**72**	*eP*		**P**	**23 01 49.8**	**-1.0**
KIC	**Kosan Boka**	**77.50**	**72**	*eP*		**P**	**23 01 50.8**	**-0.2**
	comp=Z,6.7nm,0.7s							
DBIC	**Dimbokro**	**77.61**	**72**	P		**P**	**23 01 51.6**	**0.0**
	comp=Z,3.3nm,0.8s,baz=199,slow=6.5,SNR=5.2							
BOSA	**Boshof**	**80.14**	**118**	P		**P**	**23 02 05.2**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=256,slow=4.2,SNR=1.7							
PDAR	**Pinedale Array**	**85.64**	**335**	P		**P**	**23 02 34.2**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=177,slow=5.4,SNR=2.6							

*IDC **21** 22:50:56.5±1.6, 7°.59S×128°.29E, h152km±22km, mb2.9/1, mb1 3.6/6, mb1mx3.2/37, mbtmp4.0/6, Error ellipse: s-maj=24.7km s-min=14.1km az=123.0*

ISC 21 22:50:56.0±0.9, **7.73S**±0.06×**128.42E**±0.09, **h151**km, **n6**, σ**2**§**41**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.30**	**242**	P	**Pn**	**22 52 14.7**	**+1.2**
	11nm,0.3s,baz=113,slow=3.4,SNR=11						
BATI				S	**Sn**	**22 53 13.1**	**-0.9**
	11nm,0.3s,baz=2.0,slow=23,SNR=11						
SIJI	**Sorong**	**7.38**	**23**	P	**Pn**	**22 52 41.5**	**+0.2**
	2.6nm,0.3s,baz=240,slow=20,SNR=6.2						
SIJI				S	**Sn**	**22 54 02.5**	**-1.4**
	0.8nm,0.3s,baz=72,slow=20,SNR=1.7						
FITZ	**Fitzroy Crossi**	**10.65**	**194**	P	**Pn**	**22 53 26.1**	**+1.4**
	0.6nm,0.3s,baz=24,slow=10,SNR=8.1						
FITZ				S	**Sn**	**22 55 18.1**	**-4.5**
	1.2nm,0.3s,baz=119,slow=19,SNR=4.9						
WRA	**Warramunga Arr**	**13.43**	**155**	P	**Pn**	**22 54 02.4**	**+1.7**
	1.6nm,0.3s,baz=340,slow=12,SNR=31						
WRA				S	**Sn**	**22 56 27.1**	**-2.4**
	1.5nm,0.3s,baz=330,slow=22,SNR=7.4						
ASAR	**Alice Springs**	**16.70**	**162**	P	**Pn**	**22 54 44.6**	**+3.3**
	0.5nm,0.3s,baz=340,slow=11,SNR=40						
ASAR				S	**S**	**22 57 47.3**	**+0.4**
	0.4nm,0.3s,baz=313,slow=15,SNR=5.2						
MKAR	**Makanchi Array**	**67.99**	**328**	P	**P**	**23 01 37.9**	**-0.9**
	0.1nm,0.5s,baz=126,slow=7.2,SNR=4.5						

*NNC **21** 22:52:00.9±8.2, 38°.04N×72°.46E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=63.5km s-min=46.3km az=167.0*

ISC 21 22:52:00.1±4.8, **37.7N**±0.3×**72.3E**±0.2, **h100**km, **n9**, σ0§**47**/12, **4C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.53**	**13**	P	**Pn**	**22 53 07.4**	**+0.6**
	SNR=71						
UCH	**Uchtor**	**4.81**	**20**	P	**Pn**	**22 53 10.7**	**+0.1**
	SNR=18						
EKS2	**Erkin-Say**	**5.06**	**12**	P	**Pn**	**22 53 14.1**	**+0.4**
	SNR=16						
AAK	**Ala-Archa**	**5.19**	**18**	P	**Pn**	**22 53 15.9**	**+0.5**
	SNR=12						
AAK	**Ala-Archa**	**5.19**	**18**	⇑P	**Pn**	**22 53 15.0**	**-0.4**
	2.6nm,0.3s						
AAK				⇓S	**Sn**	**22 54 14.4**	**+0.3**
	3.1nm,0.6s						
KK31	**Karatay Array**	**5.56**	**346**	⇑P	**Pn**	**22 53 20.6**	**+0.2**
	1.2nm,0.3s,baz=152,slow=12,SNR=82						
KK31				⇑S	**Sn**	**22 54 22.2**	**-0.7**
	0.8nm,0.3s,baz=160,slow=25,SNR=5.3						
CHMS	**Chumysh**	**5.59**	**19**	P	**Pn**	**22 53 20.6**	**-0.2**
	SNR=5.5						
TKM2	**Tokmak 2**	**5.77**	**25**	P	**Pn**	**22 53 23.1**	**-0.3**
	SNR=5.0						
TKM2	**Tokmak 2**	**5.77**	**25**	⇓P	**Pn**	**22 53 22.8**	**-0.5**
	2.5nm,0.5s						
TKM2				⇑S	**Sn**	**22 54 28.3**	**+0.1**
	2.0nm,0.6s						

*CRAAG **21** 22:55:55.2, 35°.78N×5°.63E, Ml4.8*
*LDG **21** 22:55:55.9±0.2, 35°.61N×5°.41E, h2km, Ml4.3/32, Error ellipse: s-maj=4.8km s-min=3.4km az=17.0*
*IDC **21** 22:55:56.5±0.5, 35°.81N×5°.63E, h0km, mb4.4/32, mb1 4.5/37, mb1mx4.5/47, mbtmp4.4/37, ML4.3/4, MS4.4/57, Ms1 4.4/57, ms1mx4.4/66, Error ellipse: s-maj=11.4km s-min=10.5km az=151.0*
*GCMT **21** 22:55:56.7±0.2, 35°.70N±0°.01×5°.57E±0°.01, h13km±1km, MW5.0/121, Moment Tensor Solution. s53,c68; s121,c209; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.24±.08; Mθθ-2.00±.08; Mϕϕ2.23±.09; Mrθ-0.43±.18; Mθϕ-3.22±.07; Mϕr-1.25±.21; Best double couple: M₀4.07500×10¹⁶ NP1:ϕs107.00000°, δ71.00000°, λ-178.00000°. NP2:ϕs16.00000°, δ88.00000°, λ-19.00000°. Principal axes: T 4.1560, Plg12.0000°, Azm63.0000°; N -0.1670, Plg71.0000°, Azm190.0000°; P -3.9950, Plg15.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **21** 22:55:57.7±1.4, 35°.68N±0°.06×5°.68E±0°.07, h10km±1km, mb4.8/133, ML4.8(ALG) Error ellipse: s-maj=11.0km s-min=8.8km az=189.0*
*BJI **21** 22:55:57.7±0.0, 36°.27N×5°.87E, h9km, mB4.9/32, mb4.6/40, Ms5.0/25, Ms7 4.6/16*
*MDD **21** 22:55:58.6±0.6, 35°.86N×5°.68E, h0km, mb5.2/40, Error ellipse: s-maj=7.5km s-min=3.9km az=173.0, PRXIMO*
*MED_RC **21** 22:55:58.0±0.3, 35°.76N×5°.61E, h10km±1km, MW5.0/28, Moment Tensor Solution. Body waves: s10,c13;Mantle waves: s28,c51; Duration: 1§1 Moment tensor: Scale 1016Nm; Mrr-0.18±.10; Mθθ-1.57±.09; Mϕϕ1.75±.12; Mrθ-0.45±.28; Mθϕ-2.87±.08; Mϕr0.42±.28; Best double couple: M₀3.37000×10¹⁶ NP1:ϕs15.00000°, δ81.00000°, λ4.00000°. NP2:ϕs285.00000°, δ86.00000°, λ171.00000°. Principal axes: T 3.5000, Plg9.0000°, Azm240.0000°; N -0.2600, Plg80.0000°, Azm81.0000°; P -3.2400, Plg4.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*IGIL **21** 22:55:58.3, 35°.68N×5°.59E, h10km, MS4.4*
*MOS **21** 22:55:58.9±1.3, 35°.69N×5°.66E, h34km, mb5.0/31, MS4.5/14, Error ellipse: s-maj=6.1km s-min=3.1km az=56.4*
*BGR **21** 22:56:10.4±6.0, 36°.31N×5°.42E, h10km, mb4.4, Ms3.9, Error ellipse: s-maj=136.8km s-min=76.7km az=3.0*
*CNRM **21** 22:56:10.4, 35°.85N×4°.87E, h101km, Hypocentre not reviewed by the ISC*

ISC 21 22:55:59.2±0.9, **35°.89N**±0°.04×**5°.68E**±0°.02, **h14**km±5km, **n857**, σ**2**§**06**/909, **mb4.8**/151, **MS4.5**/62, **47C-37D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHR	**Kef el Ahmar**	**0.18**	**313**	P	**Pg**	**22 56 01.4**	**-2.3**
CKHR	**Kef el Ahmar**	**0.18**	**313**	P	**Pg**	**22 56 01.4**	**-2.3**
SET	**Setif**	**0.38**	**324**	P	**Pg**	**22 56 05.0**	**-2.0**
SET	**Setif**	**0.38**	**324**	P	**Pg**	**22 56 05.0**	**-2.0**
CTEI	**Djebel Teioual**	**0.62**	**74**	P	**Pg**	**22 56 09.8**	**-1.5**
CTEI	**Djebel Teioual**	**0.62**	**74**	P	**Pg**	**22 56 09.8**	**-1.5**
DFRA	**Djebel Bou Aff**	**0.67**	**14**	P	**Pn**	**22 56 15.0**	**+0.6**
DFRA	**Djebel Bou Aff**	**0.67**	**14**	P	**Pn**	**22 56 15.0**	**+0.6**
CASM	**Ain Smara**	**0.76**	**60**	P	**Pg**	**22 56 12.5**	**-1.4**
CASM	**Ain Smara**	**0.76**	**60**	P	**Pg**	**22 56 12.5**	**-1.4**
CKFL	**Kef-Lekhel**	**0.99**	**59**	P	**Pb**	**22 56 18.0**	**-0.1**
CKFL	**Kef-Lekhel**	**0.99**	**59**	P	**Pb**	**22 56 18.0**	**-0.1**
CAEH	**'Ain El Ouahch**	**1.30**	**46**	P	**Pn**	**22 56 18.5**	**-4.4**
CAEH	**'Ain El Ouahch**	**1.30**	**46**	P	**Pn**	**22 56 18.5**	**-4.4**
ABSA	**Djebel Ababsia**	**1.51**	**75**	P	Pn	22 56 19.0	-6.9
CABS	**Djebel Ababsia**	**1.51**	**75**	P	Pn	22 56 19.0	-6.9
CMAH	**Djebel Manchou**	**1.59**	**62**	P	**Pn**	**22 56 26.0**	**-1.0**
CMAH	**Djebel Manchou**	**1.59**	**62**	P	**Pn**	**22 56 26.0**	**-1.0**
I48TN	**KESRA INFRASON**	**2.96**	**91**	*i*		23 12 40.0	
	baz=271,slow=297,SNR=0.7						
KEST	**Kesra**	**2.99**	**92**	Pn	**Pn**	**22 56 45.6**	**-0.5**
	46nm,0.3s,baz=225,slow=4.6,SNR=142						
KEST				Sn	**Sn**	**22 57 23.9**	**+2.1**
	41nm,0.3s,baz=327,slow=14,SNR=4.3						
KEST				LR	LR	22 57 27.5	
	comp=Z,3μm,19.1s,baz=226,slow=30						
KEST	**Kesra**	**2.99**	**92**	Pn	**Pn**	**22 56 45.5**	**-0.7**
EBNR	**Beni Rached**	**3.38**	**278**	P	**Pn**	**22 56 52.1**	**+0.5**
ECHA	**Ech Chlef**	**3.50**	**276**	P	**Pn**	**22 56 53.6**	**+0.4**
ECHF	**Ech Chlef**	**3.52**	**276**	P	**Pn**	**22 56 53.6**	**+0.1**
ETRT	**Tiaret**	**3.60**	**263**	P	**Pn**	**22 56 53.2**	**-1.5**
ETRT	**Tiaret**	**3.60**	**263**	P	**Pn**	**22 56 53.2**	**-1.5**
EANR	**'Ain N'Sour**	**3.71**	**272**	P	**Pn**	**22 56 56.4**	**+0.2**
EANR	**'Ain N'Sour**	**3.71**	**272**	P	**Pn**	**22 56 56.4**	**+0.2**
OKGL	**Djebel Kef Gue**	**4.09**	**274**	⇑P	**Pn**	**22 57 01.1**	**-0.2**
	534nm,0.3s,SNR=18						
OKGL				S	**Sn**	**22 57 51.0**	**+2.1**
	2μm,0.5s,SNR=4.0						
OKGL	**Djebel Kef Gue**	**4.09**	**274**		**Pn**	**22 57 01.1**	**-0.2**
OKGL					**Sn**	**22 57 51.0**	**+2.1**
MAHO	**Mahon**	**4.15**	**345**	P	**Pn**	**22 57 02.2**	**+0.1**
MAHO				S	**Sn**	**22 57 50.7**	**+0.3**
MAHO	**Mahon**	**4.15**	**345**	*eP*	**Pn**	**22 57 02.2**	**+0.1**
MAHO				*eS*	**Sn**	**22 57 50.7**	**+0.3**
ETOS	**Mallorca**	**4.49**	**331**	⇓P	**Pn**	**22 57 07.3**	**+0.6**
	53nm,0.3s,SNR=18						
ETOS				S	**Sn**	**22 57 56.4**	**-2.3**
	68nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**4.49**	**331**		**Pn**	**22 57 07.3**	**+0.6**
VSL	**Villasalto**	**4.64**	**38**	Pn	**Pn**	**22 57 10.6**	**+1.7**
EIBI	**Ibiza**	**4.66**	**314**	⇓P	**Pn**	**22 57 09.8**	**+0.7**
	216nm,0.5s,SNR=18						
EIBI				S	**Sn**	**22 58 01.6**	**-1.2**
	27nm,0.2s						
EIBI	**Ibiza**	**4.66**	**314**		**Pn**	**22 57 09.8**	**+0.7**
ODJA	**Bouhanifia**	**4.78**	**265**	P	**Pn**	**22 57 14.0**	**+3.2**
ODJA	**Bouhanifia**	**4.78**	**265**	P	**Pn**	**22 57 14.0**	**+3.2**
USTO	**Oran**	**5.06**	**270**	P	**Pb**	**22 57 27.0**	**-0.5**
USTO	**Oran**	**5.06**	**270**	P	**Pb**	**22 57 27.0**	**-0.5**
OTSS	**Djebel Tessala**	**5.31**	**265**	P	Pb	22 57 25.0	-6.8
OTSS	**Djebel Tessala**	**5.31**	**265**	P	Pb	22 57 25.0	-6.8
EBEN2	**Beniarda presa**	**5.44**	**302**	P	**Pn**	**22 57 20.3**	**+0.4**
	98nm,0.3s,SNR=7.9						
EBEN2				S	**Sn**	**22 58 20.8**	**-1.5**
	94nm,0.4s,SNR=7.9						
EBEN2	**Beniarda presa**	**5.44**	**302**		**Pn**	**22 57 20.3**	**+0.4**
ETRV	**Los Montesinos**	**5.58**	**294**	P	**Pn**	**22 57 21.9**	**+0.1**
	56nm,0.3s,SNR=7.9						
ETRV				S	**Sn**	**22 58 22.9**	**-2.6**
	134nm,0.3s,SNR=7.9						
ETRV	**Los Montesinos**	**5.58**	**294**		**Pn**	**22 57 21.9**	**+0.1**
CART	**Cartagena**	**5.62**	**289**	P	**Pn**	**22 57 21.8**	**-0.6**
CART				S	**Sn**	**22 58 25.4**	**-1.3**
CART	**Cartagena**	**5.62**	**289**	*eP*	**Pn**	**22 57 21.8**	**-0.6**
CART				*eS*	**Sn**	**22 58 25.4**	**-1.3**
CART	**Cartagena**	**5.62**	**289**	Pn	**Pn**	**22 57 21.7**	**-0.6**
AFON	**Font Roja**	**5.68**	**301**	P	**Pn**	**22 57 23.3**	**+0.1**
	69nm,0.5s,SNR=51						
AFON				S	**Sn**	**22 58 26.2**	**-2.0**
	39nm,0.3s						
AFON	**Font Roja**	**5.68**	**301**		**Pn**	**22 57 23.3**	**+0.1**
EMUR	**La Murta**	**5.88**	**291**	P	**Pn**	**22 57 25.3**	**-0.6**
	65nm,0.4s,SNR=162						
EMUR				S	**Sn**	**22 58 32.8**	**-0.3**
	36nm,0.4s						
EMUR	**La Murta**	**5.88**	**291**		**Pn**	**22 57 25.3**	**-0.6**
EMUR					**Sn**	**22 58 32.8**	**-0.3**
TLOR	**Lorca, Murcia**	**6.17**	**289**	P	**Pn**	**22 57 30.3**	**+0.4**
	305nm,0.2s,SNR=7.9						
TLOR				S	**Sn**	**22 58 40.0**	**-0.2**
	126nm,0.3s,SNR=4.0						
TLOR	**Lorca, Murcia**	**6.17**	**289**		**Pn**	**22 57 30.3**	**+0.4**
TLOR					**Sn**	**22 58 40.0**	**-0.2**
ETOB	**Tobarra**	**6.38**	**298**	P	**Pn**	**22 57 33.5**	**+0.6**
	62nm,0.4s,SNR=147						
ETOB				S	**Sn**	**22 58 43.8**	**-1.8**
	20nm,0.4s						
ETOB	**Tobarra**	**6.38**	**298**		**Pn**	**22 57 33.5**	**+0.6**
CORL	**Corleone**	**6.43**	**70**		**Pn**	**22 57 33.7**	**-0.2**
ECHE	**Chera**	**6.43**	**307**	P	**Pn**	**22 57 33.9**	**+0.4**
	21nm,0.3s,SNR=7.9						
ECHE				S	**Sn**	**22 58 44.5**	**-2.2**
	15nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**6.45**	**282**	P	**Pn**	**22 57 32.2**	**-1.5**
	62nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**22 58 45.0**	**-2.0**
	35nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**6.57**	**322**	P	**Pn**	**22 57 35.6**	**+0.2**
	3.9nm,0.3s,SNR=9.8						
ERTA				S	**Sn**	**22 58 44.0**	**-6.0**
	5.0nm,0.3s						
EMIR	**Miracle**	**6.83**	**333**	P	**Pn**	**22 57 41.0**	**+2.0**
	60nm,0.3s,SNR=26						
EMIR				S	**Sn**	**22 58 55.1**	**-1.4**
	44nm,0.4s						
EJON	**La Jonquera**	**6.90**	**343**	P	**Pn**	**22 57 39.8**	**-0.1**
	22nm,0.3s,SNR=34						
EJON				S	**Sn**	**22 58 57.2**	**-0.9**
	7.1nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**6.93**	**343**	P	**Pn**	**22 57 40.4**	**0.0**
	7.0nm,0.3s,SNR=7.9						
SJAF				S	**Sn**	**22 58 58.2**	**-0.8**
	4.6nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**6.95**	**291**	P	**Pn**	**22 57 41.1**	**+0.5**
	358nm,0.5s,SNR=7.9						
SESP				S	**Sn**	**22 59 01.5**	**+2.0**
	111nm,0.6s,SNR=7.9						
SESP	**Santiago Espad**	**6.95**	**291**	P		22 57 41.6	
EBER	**Berja**	**6.98**	**281**	P	**Pn**	**22 57 40.2**	**-0.9**
	134nm,0.5s,SNR=131						
EBER				S	**Sn**	**22 58 58.9**	**-1.6**
	48nm,0.4s						
GOG	**Mont Gurugu**	**7.10**	**267**	P		22 57 43.0	
RAFF	**Raffo Rosso**	**7.12**	**77**		**Pn**	**22 57 43.8**	**+0.9**
PGF	**Pioggiola**	**7.13**	**20**	P	**Pn**	**22 57 44.1**	**+1.0**
PGF				S	**Sn**	**22 59 03.4**	**-0.6**
	31nm,0.5s						
PGF	**Pioggiola**	**7.13**	**20**	*ePn*	**Pn**	**22 57 44.1**	**+1.0**
PGF	**Pioggiola**	**7.13**	**20**	*eP*	Pn	22 57 49.0	+5.9
PGF				*eSn*	**Sn**	**22 59 03.4**	**-0.6**
	61nm,0.5s						
CLLI	**Llivia**	**7.18**	**338**	P	**Pn**	**22 57 44.8**	**+0.9**
	48nm,0.5s,SNR=47						
CLLI				S	**Sn**	**22 59 03.4**	**-1.8**
	5.8nm,0.3s,SNR=5.8						
GORA	**Gorafe**	**7.18**	**285**	P	**Pn**	**22 57 45.2**	**+1.4**
	42nm,0.3s,SNR=7.9						
GORA				S	**Sn**	**22 59 06.6**	**+1.4**
	41nm,0.4s,SNR=7.9						
VAE	**Valguarnera**	**7.20**	**75**	Pn	**Pn**	**22 57 43.8**	**-0.2**
	1.1nm,0.3s,baz=298,slow=17,SNR=1.8						
EQES	**Quesada**	**7.27**	**288**	P	**Pn**	**22 57 46.0**	**+1.0**
	56nm,0.3s,SNR=138						
EQES				S	**Sn**	**22 59 09.1**	**+1.7**
	50nm,0.4s						
CSOR	**Sort**	**7.38**	**333**	P	**Pn**	**22 57 48.7**	**+2.2**
	29nm,0.3s,SNR=34						
CSOR				S	**Sn**	**22 59 07.9**	**-2.1**
	24nm,0.4s						
EQUE	**Quentar**	**7.46**	**283**	P	**Pn**	**22 57 47.7**	**+0.1**
	92nm,0.5s,SNR=116						
EQUE				S	**Sn**	**22 59 08.4**	**-3.6**
	11nm,0.4s						
LMR	**La Mourre**	**7.46**	**5**	P	**Pn**	**22 57 46.9**	**-0.7**
LMR				S	**Sn**	**22 59 10.0**	**-1.9**
	44nm,0.9s						
LMR	**La Mourre**	**7.46**	**5**	*ePn*	**Pn**	**22 57 46.9**	**-0.7**
LMR				*eSn*	**Sn**	**22 59 10.0**	**-1.9**
	88nm,0.9s						
ELGU	**Los Guajares,**	**7.57**	**280**	P	**Pn**	**22 57 48.3**	**-0.9**
	58nm,0.4s,SNR=7.9						
ELGU				S	**Sn**	**22 59 12.2**	**-2.5**
	21nm,0.5s,SNR=7.9						
FRF	**La Foret Royal**	**7.70**	**5**	P	**Pn**	**22 57 50.7**	**-0.1**
FRF				S	**Sn**	**22 59 16.5**	**-1.3**
	28nm,0.7s						
FRF	**La Foret Royal**	**7.70**	**5**	*ePn*	**Pn**	**22 57 50.7**	**-0.1**
FRF	**La Foret Royal**	**7.70**	**5**	*eP*	Pn	22 57 56.0	+5.2
FRF				*eSn*	**Sn**	**22 59 16.5**	**-1.3**
	55nm,0.7s						
ETOR	**Torete**	**7.82**	**311**	P	**Pn**	**22 57 54.2**	**+1.7**
	40nm,0.5s,SNR=34						
ETOR				S	**Sn**	**22 59 21.3**	**+0.5**
	25nm,0.6s,SNR=5.2						
**MT

12nm,0.3s,SNR=7.9
INTR Introdacqua 8.85 44 Pn 22 58 09.8 +3.1
MBDF Montbardon 8.87 5 P **Pn 22 58 06.6 -0.4**
MBDF S **Sn 22 59 44.0 -2.7**
27nm,0.9s
MBDF Montbardon 8.87 5 *e*Pn **Pn 22 58 06.6 -0.4**
MBDF Montbardon 8.87 5 *e*P Pn 22 58 12.5 +5.5
MBDF *e*Sn **Sn 22 59 44.0 -2.7**
54nm,0.9s
EARA Aranguren 8.88 323 P **Pn 22 58 09.1 +2.1**
19nm,0.4s,SNR=9.6
EARA S **Sn 22 59 47.6 +0.9**
9.8nm,0.4s,SNR=7.9
MSSA Maissana 8.91 18 Pn **Pn 22 58 10.4 +2.9**
CEU Ceuta 8.97 273 P **Pn 22 58 07.2 -1.0**
CEU Ceuta 8.97 273 *e*P **Pn 22 58 07.2 -1.0**
CEU *e*S Sg 23 00 59.9 +13
SJPF Ste Jean 8.97 326 P **Pn 22 58 11.1 +2.8**
SJPF S **Sn 22 59 41.8 -7.2**
33nm,0.9s
SJPF Ste Jean 8.97 326 *e*P **Pn 22 58 11.1 +2.8**
SJPF *e*Sn **Sn 22 59 41.8 -7.2**
66nm,0.9s
ECEU Ceuta 8.97 273 P **Pn 22 58 11.1 +2.8**
1.8nm,0.1s,SNR=6.6
HORN Hornachuelos 8.98 286 P 22 58 07.9
VIVF Saint-Julien-l 8.99 355 P **Pn 22 58 07.8 -0.8**
VIVF S **Sn 22 59 45.8 -3.8**
15nm,0.5s
VIVF Saint-Julien-l 8.99 355 *e*Pn **Pn 22 58 07.8 -0.8**
VIVF *e*Sn **Sn 22 59 45.8 -3.8**
30nm,0.5s
NRCA Norcia 9.01 37 Pn 22 58 11.2 +2.4
ORIF Oris-en-Rattie 9.02 1 P **Pn 22 58 08.5 -0.5**
ORIF S **Sn 22 59 47.3 -3.1**
50nm,1.3s
ORIF Oris-en-Rattie 9.02 1 *e*Pn **Pn 22 58 08.5 -0.5**
ORIF Oris-en-Rattie 9.02 1 *e*P Pn 22 58 13.0 +4.0
ORIF *e*Sn **Sn 22 59 47.3 -3.1**
101nm,1.3s
EJIF Jimena Fronter 9.03 277 P **Pn 22 58 09.2 +0.1**
201µm,0.6s,SNR=7.9
MDT Midelt 9.04 253 Pn **Pn 22 58 07.8 -1.6**
1.4nm,0.3s,baz=84,slow=16,SNR=50
MDT Sn **Sn 22 59 50.8 -0.2**
1.2nm,0.3s,baz=94,slow=7.6,SNR=3.7
MDT Lg Lg 23 00 42.6
2.0nm,0.3s,baz=270,slow=20,SNR=2.2
MDT LR LR 23 01 35.9
comp=Z,2µm,19.7s,baz=83,slow=38
MDT Midelt 9.04 253 P 22 58 08.7
MURB Monte Urbino 9.06 34 Pn **Pn 22 58 12.0 +2.4**
GUD Guadarrama 9.07 304 P **Pn 22 58 10.7 +1.0**
1.8nm,0.3s,SNR=15
GUD S **Sn 22 59 52.2 +0.5**
4.0nm,0.4s,SNR=7.9
ECAB El Cabril 9.14 287 P **Pn 22 58 09.8 -0.9**
38nm,0.5s,SNR=63
ECAB S **Sn 22 59 50.5 -2.9**
2.7nm,0.4s,SNR=7.9
BNI Bardonecchia 9.18 4 P **Pn 22 58 12.9 +1.6**
BNI Bardonecchia 9.18 4 Pn **Pn 22 58 12.9 +1.6**
IFR Ifrane 9.21 258 *e*P **Pn 22 58 12.4 +0.7**
IFR *e*S Sn 23 00 17.3 +22
ESPR Espera 9.35 279 P **Pn 22 58 15.2 +1.7**
12nm,0.3s,SNR=12
TIP Timpagrande 9.39 66 Pn **Pn 22 58 15.3 +1.2**
SSB Saint Sauveur 9.42 355 P **Pn 22 58 15.5 +1.0**
SSB Saint Sauveur 9.42 355 Pn 22 58 15.5 +1.0
CAF Calviac 9.44 344 P **Pn 22 58 17.3 +2.6**
CAF S **Sn 22 59 55.6 -4.9**
17nm,0.9s
CAF Calviac 9.44 344 *e*P **Pn 22 58 17.3 +2.6**
CAF *e*Sn **Sn 22 59 55.6 -4.9**
34nm,0.9s
LPG La Plagne 9.63 5 P **Pn 22 58 17.5 -0.1**
LPG S **Sn 23 00 02.5 -3.2**
11nm,0.7s
LPG La Plagne 9.63 5 *e*Pn **Pn 22 58 17.5 -0.1**
LPG La Plagne 9.63 5 *e*P Pn 22 58 23.2 +5.6
LPG *e*Sn **Sn 23 00 02.5 -3.2**
23nm,0.7s
LPL La Plagne 9.65 4 P **Pn 22 58 17.6 -0.2**
LPL S **Sn 23 00 02.9 -3.1**
12nm,0.6s
LPL La Plagne 9.65 4 *e*Pn **Pn 22 58 17.6 -0.2**
LPL La Plagne 9.65 4 *e*P Pn 22 58 23.5 +5.7
LPL *e*Sn **Sn 23 00 02.9 -3.1**
25nm,0.6s
LFF La Frestale 9.79 339 P Pn 22 58 23.2 +3.7
LFF S **Sn 23 00 02.9 -6.2**
59nm,1.1s
LFF La Frestale 9.79 339 *e*P Pn 22 58 23.2 +3.7
LFF *e*Sn **Sn 23 00 02.9 -6.2**
118nm,1.1s
SGRT San Giovanni R 9.79 50 Pn 22 58 20.4 +0.8
RJF Les Rejaudoux 9.92 343 P **Pn 22 58 23.6 +2.3**
RJF S **Sn 23 00 06.4 -6.0**
4.3nm,0.5s
RJF Les Rejaudoux 9.92 343 *e*P **Pn 22 58 23.6 +2.3**
RJF *e*Sn **Sn 23 00 06.4 -6.0**
8.7nm,0.5s
EMIN Mina Concepcio 10.08 284 P **Pn 22 58 22.3 -1.2**
7.6nm,0.4s,SNR=35
EMIN S **Sn 23 00 13.3 -2.9**
2.3nm,0.5s,SNR=7.9
ELAN Lanestosa 10.15 319 P **Pn 22 58 26.4 +1.8**
7.4nm,0.3s,SNR=17
ELAN S **Sn 23 00 13.9 -4.3**
4.1nm,0.5s,SNR=7.9
EPLA Plasencia 10.17 298 P **Pn 22 58 25.1 +0.3**
3.2nm,0.3s,SNR=7.9
PBAR Barrancos 10.42 286 P **Pn 22 58 27.7 -0.4**
46nm,1.7s
PBAR Barrancos 10.42 286 *e*P **Pn 22 58 27.7 -0.4**
46nm,1.7s
TEOL Teolo 10.49 24 Pn **Pn 22 58 31.7 +2.5**
SENIN Lac Senin/Sane 10.54 6 Pn 22 58 31.8 +1.9
EGRO El Granado 10.69 283 P **Pn 22 58 30.6 -1.3**
7.7nm,0.3s,SNR=28
EGRO S **Sn 23 00 27.9 -3.4**
3.1nm,0.4s,SNR=7.9
TZRR Tazzarine 10.69 245 P 22 58 32.0
TCF Toulx Ste Croi 10.71 347 P **Pn 22 58 30.4 -1.7**
TCF S **Sn 23 00 25.7 -6.1**
4.1nm,0.7s
TCF Toulx Ste Croi 10.71 347 *e*Pn **Pn 22 58 30.4 -1.7**
TCF Toulx Ste Croi 10.71 347 *e*P **Pn 22 58 34.2 +2.1**
TCF *e*Sn **Sn 23 00 25.7 -6.1**
8.2nm,0.7s
CABF La Chapelle 10.72 2 P **Pn 22 58 31.0 -1.3**
CABF La Chapelle 10.72 2 *e*Pn **Pn 22 58 31.0 -1.3**
CABF La Chapelle 10.72 2 *e*P Pn 22 58 36.9 +4.6
SMF Signal de Mont 10.83 353 P **Pn 22 58 33.4 -0.4**
SMF S **Sn 23 00 29.7 -5.1**
19nm,1.1s
SMF Signal de Mont 10.83 353 *e*Pn **Pn 22 58 33.4 -0.4**
SMF Signal de Mont 10.83 353 *e*P Pn 22 58 38.7 +4.9
SMF *e*Sn **Sn 23 00 29.7 -5.1**
38nm,1.1s
BGF Bois d'Agland 10.87 350 P Pn 22 58 38.6 +4.3
BGF Bois d'Agland 10.87 350 *e*P Pn 22 58 38.6 +4.3
PVAQ Vaqueiros 10.87 282 P **Pn 22 58 33.1 -1.2**
72nm,1.4s
PVAQ Vaqueiros 10.87 282 *e*P **Pn 22 58 33.1 -1.2**
72nm,1.4s
PVAQ *e*LR LR 23 01 42.1
2µm,18.0s
PVAQ Vaqueiros 10.87 282 Pn 22 58 33.6 -0.7
PVAQ Vaqueiros 10.87 282 P 22 58 33.7
TUE Stuetta 10.93 13 Pn Pn 22 58 39.9 +4.6
PMRV Marv??o 10.95 293 P **Pn 22 58 36.5 +1.1**
69nm,1.8s
PMRV Marv??o 10.95 293 *e*P **Pn 22 58 36.5 +1.1**
69nm,1.8s
PMRV *e*LR LR 23 02 00.5
875nm,14.0s
PESTR Estremoz 10.97 290 Pn **Pn 22 58 36.1 +0.4**
PESTR Estremoz 10.97 290 P 22 58 36.0
AVF Avril sur Loir 11.03 352 P **Pn 22 58 36.6 +0.2**
AVF S **Sn 23 00 33.9 -5.6**
4.5nm,0.7s
AVF Avril sur Loir 11.03 352 *e*Pn **Pn 22 58 36.6 +0.2**
AVF Avril sur Loir 11.03 352 *e*P Pn 22 58 41.3 +4.9
AVF *e*Sn **Sn 23 00 33.9 -5.6**
9.0nm,0.7s
PBDV Barranco-do-Ve 11.03 281 P **Pn 22 58 36.4 -0.1**
66nm,1.3s
PBDV Barranco-do-Ve 11.03 281 *e*P **Pn 22 58 36.4 -0.1**
66nm,1.3s
PBEJ Beja 11.04 285 P **Pn 22 58 36.5 -0.2**
7.9nm,1.3s
PBEJ Beja 11.04 285 *e*P **Pn 22 58 36.5 -0.2**
16nm,1.3s
AVE Averroes 11.10 260 *e*P Pn 22 58 43.0 +5.6
AVE *e*S Sn 23 01 03.4 +22
CTI Castel Tesino 11.10 22 P **Pn 22 58 41.4 +3.9**
CTI Castel Tesino 11.10 22 Pn 22 58 41.4 +3.9
PCBR Castelo Branco 11.12 295 P **Pn 22 58 39.3 +1.6**
36nm,1.6s
PCBR Castelo Branco 11.12 295 *e*P **Pn 22 58 39.3 +1.6**
72nm,1.6s
PCVE Castro Verde 11.14 283 P **Pn 22 58 37.3 -0.7**
53nm,1.9s
PCVE Castro Verde 11.14 283 *e*P **Pn 22 58 37.3 -0.7**
53nm,1.9s
EARI Arriondas 11.19 315 P **Pn 22 58 40.5 +1.8**
14nm,0.4s,SNR=20
EVO Evora 11.23 288 P **Pn 22 58 39.1 -0.2**
36nm,1.7s
EVO Evora 11.23 288 *e*P **Pn 22 58 39.1 -0.2**
36nm,1.7s
MVO Moncorvo 11.26 302 P **Pn 22 58 40.6 +0.9**
2.8nm,0.2s,SNR=9.8
MVO Moncorvo 11.26 302 *e*P **Pn 22 58 41.2 +1.5**
78nm,1.0s
MVO *e*LR LR 23 02 08.9
2µm,16.0s
SSF Saint Saulge 11.28 352 P **Pn 22 58 39.5 -0.4**
SSF S **Sn 23 00 39.9 -5.8**
2.9nm,0.7s
SSF Saint Saulge 11.28 352 *e*Pn **Pn 22 58 39.5 -0.4**
SSF Saint Saulge 11.28 352 *e*P Pn 22 58 44.7 +4.8
SSF *e*Sn **Sn 23 00 39.9 -5.8**
5.8nm,0.7s
MESJ Messejana 11.30 284 *e*P **Pn 22 58 39.5 -0.7**
MESJ AMS AMS 23 02 46.2
comp=N,4µm,19.3s
MESJ Messejana 11.30 284 P **Pn 22 58 39.6 -0.7**
comp=N,57nm,1.6s
MESJ Messejana 11.30 284 *e*P **Pn 22 58 39.5 -0.7**
MESJ Messejana 11.30 284 *e*P **Pn 22 58 39.6 -0.7**
comp=N,57nm,1.6s
DAVOX Davos/Dischmat 11.33 15 Pn **Pn 22 58 43.0 +2.3**
comp=N,0.1nm,0.3s,baz=218,slow=19,SNR=1.7
DAVOX LR LR 23 03 18.4
comp=N,2µm,18.1s,baz=212,slow=39
PBRG Braganca 11.34 305 P **Pn 22 58 42.3 +1.6**
comp=N,47nm,1.3s
PBRG Braganca 11.34 305 *e*P **Pn 22 58 42.3 +1.6**
comp=N,95nm,1.3s
MTE Manteigas 11.34 297 P **Pn 22 58 42.7 +1.9**
comp=N,26nm,1.2s
MTE Manteigas 11.34 297 *e*P **Pn 22 58 42.7 +1.9**
comp=N,51nm,1.2s
MTE *e*LR LR 23 02 26.6
comp=N,1µm,16.0s
MTE Manteigas 11.34 297 Pn 22 58 42.2 +1.4
ECAL Calabor 11.40 306 P **Pn 22 58 42.5 +0.9**
comp=N,53nm,0.5s,SNR=18
LOR Lormes 11.45 354 P **Pn 22 58 40.9 -1.3**
LOR S **Sn 23 00 45.3 -4.6**
comp=N,20nm,1.2s
LOR Lormes 11.45 354 *e*Pn **Pn 22 58 40.9 -1.3**
baz=175
LOR Lormes 11.45 354 *e*P Pn 22 58 47.6 +5.4
baz=168
LOR *e*Sn **Sn 23 00 45.3 -4.6**
comp=N,39nm,1.2s,baz=168
PMTG Montargil 11.49 290 P **Pn 22 58 43.9 +1.1**
comp=N,52nm,1.4s
PMTG Montargil 11.49 290 *e*P **Pn 22 58 43.9 +1.1**
comp=N,52nm,1.4s
MFF Saint Martin d 11.56 340 P **Pn 22 58 41.4 -2.3**
MFF S **Sn 23 00 46.1 -6.4**
comp=N,24nm,1.2s
MFF Saint Martin d 11.56 340 *e*Pn **Pn 22 58 41.4 -2.3**
MFF Saint Martin d 11.56 340 *e*P **Pn 22 58 47.1 +3.4**
MFF *e*Sn **Sn 23 00 46.1 -6.4**
comp=N,48nm,1.2s
PNCL Nicolau / Gran 11.57 285 P **Pn 22 58 44.0 +0.1**
comp=N,40nm,1.9s
PNCL Nicolau / Gran 11.57 285 *e*P **Pn 22 58 44.0 +0.1**
comp=N,40nm,1.9s
PTEO Sao Teotonio 11.68 282 P **Pn 22 58 45.2 -0.1**
comp=N,32nm,1.7s
PTEO Sao Teotonio 11.68 282 *e*P **Pn 22 58 45.2 -0.1**
comp=N,65nm,1.7s
PVIS Viseu 11.70 298 P **Pn 22 58 46.7 +1.0**
comp=N,32nm,1.3s
PVIS Viseu 11.70 298 *e*P **Pn 22 58 46.7 +1.0**
comp=N,63nm,1.3s
PFVI Vila Bisbo 11.74 280 P **Pn 22 58 45.4 -0.8**
comp=N,9.3nm,0.4s,SNR=23
PFVI Vila Bisbo 11.74 280 *e*P **Pn 22 58 46.4 +0.2**
comp=N,182nm,1.6s
PFVI Vila Bisbo 11.74 280 Pn **Pn 22 58 45.9 -0.3**
PFVI Vila Bisbo 11.74 280 P 22 58 45.8
FETA Feichten 11.74 17 *e*P Pn 22 58 54.9 +8.5
comp=N,17nm,1.3s
PVRL Vila Real 11.78 301 P **Pn 22 58 47.5 +0.8**
comp=N,32nm,1.2s
PVRL Vila Real 11.78 301 *e*P **Pn 22 58 47.5 +0.8**
comp=N,64nm,1.2s
DAVA Damuels 11.81 14 *e*P Pn 22 58 56.1 +8.8
comp=N,31nm,1.0s
POLO Lamas de Olo 11.87 302 P **Pn 22 58 49.0 +0.9**
comp=N,39nm,1.3s
POLO Lamas de Olo 11.87 302 *e*P **Pn 22 58 49.0 +0.9**
comp=N,39nm,1.3s
COI Coimbra 11.91 295 P **Pn 22 58 50.1 +1.5**
comp=N,31nm,1.0s
COI Coimbra 11.91 295 P **Pn 22 58 48.0 -0.6**
COI Coimbra 11.91 295 *e*P **Pn 22 58 50.1 +1.5**
comp=N,63nm,1.0s
COI Coimbra 11.91 295 Pn 22 58 48.0 -0.6
PCAS Casmilo, Conde 11.93 295 P **Pn 22 58 50.1 +1.2**
comp=N,70nm,1.2s
PCAS Casmilo, Conde 11.93 295 *e*P **Pn 22 58 50.1 +1.2**
comp=N,70nm,1.2s
HINF Hinteralfeld 11.95 4 P **Pn 22 58 48.2 -0.9**
HINF S **Sn 23 00 59.0 -3.1**
comp=N,4.8nm,1.0s
HINF Hinteralfeld 11.95 4 *e*Pn **Pn 22 58 48.2 -0.9**
HINF *e*Sn **Sn 23 00 59.0 -3.1**
comp=N,9.5nm,1.0s
ZOU Zoufplan 11.98 25 Pn 22 58 53.0 +3.3
ABTA Abfaltersbach 12.00 23 *e*P Pn 22 58 56.1 +6.4
comp=N,24nm,1.2s
SQTA Sankt Quirin 12.05 18 *e*P Pn 22 58 57.9 +7.4
comp=N,23nm,1.2s
HAU Haudompre 12.12 2 P **Pn 22 58 50.6 -0.8**
HAU S **Sn 23 01 01.4 -4.8**
comp=N,5.2nm,0.7s
HAU Haudompre 12.12 2 *e*Pn **Pn 22 58 50.6 -0.8**
HAU *e*Sn **Sn 23 01 01.4 -4.8**
comp=N,10nm,0.7s
MOTA Moosalm 12.14 18 *e*P Pn 22 58 58.4 +6.6
comp=N,13nm,0.8s
PCAB Cabril 12.16 303 P **Pn 22 58 53.3 +1.3**
comp=N,49nm,1.6s
PCAB Cabril 12.16 303 *e*P **Pn 22 58 53.3 +1.3**
comp=N,98nm,1.6s
RETA Reutte 12.19 17 *e*P Pn 22 58 59.7 +7.3
comp=N,18nm,1.0s
WTTA Wattenberg 12.20 20 *e*P Pn 22 59 01.9 +9.2
comp=N,22nm,1.1s
UBR Ueberruh 12.23 14 *e*P Pn 22 58 58.6 +5.6
ELOB Lobios 12.25 303 P **Pn 22 58 54.4 +1.2**
comp=N,9.8nm,0.4s,SNR=10.0
WATA Walderalm 12.25 19 *e*P Pn 22 59 02.6 +9.2
comp=N,11nm,1.0s
MYKA Terra Mystica 12.28 27 *e*P Pn 22 59 04.0 +10
comp=N,11nm,0.9s
PMAFR Mafra 12.28 289 P **Pn 22 58 53.6 -0.1**
comp=N,8.1nm,0.4s,SNR=7.9
PMAFR Mafra 12.28 289 *e*P **Pn 22 58 54.2 +0.6**
comp=N,111nm,1.3s
SFTF Sexfontaines 12.31 358 P **Pn 22 58 52.6 -1.4**
SFTF Sexfontaines 12.31 358 *e*Pn **Pn 22 58 52.6 -1.4**
baz=164
SFTF Sexfontaines 12.31 358 *e*P Pn 22 58 58.6 +4.6
TIR Tirane 12.36 60 P **Pn 22 58 56.2 +1.6**
TIR Tirane 12.36 60 Pn **Pn 22 58 56.2 +1.6**
EPON Pontenova 12.36 311 P **Pn 22 58 56.3 +1.6**
comp=N,11nm,0.3s,SNR=7.8
ECH Echery 12.37 5 P **Pn 22 58 57.1 +2.4**
ECH Echery 12.37 5 Pn 22 58 57.1 +2.4
CLF Chambon-Foret 12.39 349 Pn 22 58 58.5 +3.4
PGAV Gavieira, Arco 12.43 303 P **Pn 22 58 56.9 +1.1**
comp=N,70nm,1.5s
PGAV Gavieira, Arco 12.43 303 *e*P **Pn 22 58 56.9 +1.1**
comp=N,70nm,1.5s
PGAV *e*LR LR 23 02 48.8
comp=N,2µm,18.0s
OBKA Obir 12.53 29 *e*P Pn 22 59 07.7 +11
comp=N,21nm,0.8s
KBA Koelnbreinsper 12.56 25 *e*P Pn 22 59 08.2 +11
comp=N,27nm,1.3s
CDF Champ du Feu 12.57 5 P **Pn 22 58 57.1 -0.5**
CDF S **Sn 23 01 12.0 -5.3**
comp=N,7.1nm,0.9s
CDF Champ du Feu 12.57 5 *e*Pn **Pn 22 58 57.1 -0.5**
CDF *e*Sn **Sn 23 01 12.0 -5.3**
comp=N,14nm,0.9s
BFO Black Forest 12.59 8 P Pn 22 59 01.8 +4.1
BFO Black Forest 12.59 8 Pn 22 59 01.8 +4.1
BFO Black Forest 12.59 8 *e*P Pn 22 59 03.1 +5.4
MEZF Maizieres J'vi 12.61 358 P **Pn 22 58 57.6 -0.5**
MEZF Maizieres J'vi 12.61 358 *e*Pn **Pn 22 58 57.6 -0.5**
MEZF Maizieres J'vi 12.61 358 *e*P Pn 22 59 02.6 +4.5
PAGF Fort de Pagny 12.66 0 *e*Pn **Pn 22 58 58.4 -0.3**
PAGF Fort de Pagny 12.66 0 *e*P Pn 22 59 03.4 +4.7
baz=173
PAGF *e*Sn **Sn 23 01 13.8 -5.5**
comp=N,100nm,1.5s,baz=179
EAGO Agolada(Pontev 12.69 307 P **Pn 22 58 59.9 +0.8**
comp=N,0.7nm,0.2s,SNR=4.0
SAVF Savonnieres en 12.72 358 *e*Pn **Pn 22 58 58.7 -0.9**
baz=179
SAVF Savonnieres en 12.72 358 *e*P Pn 22 59 03.7 +4.1
SOKA Soboth 12.86 30 *e*P Pn 22 59 12.7 +11
comp=N,11nm,1.3s
OHR Ohrid 12.94 62 *i* P **Pn 22 59 06.1 +3.5**
TAM Tamanrasset 13.05 181 P Pn 22 58 59.4 -5.0
TAM Tamanrasset 13.05 181 Pn Pn 22 58 59.4 -5.0
ITM Ithomi 13.13 80 Pn 22 59 06.9 +1.6
FNA Florina 13.25 64 P **Pn 22 59 08.3 +1.3**
FNA Florina 13.25 64 Pn 22 59 08.3 +1.3
GRR Gorron 13.39 341 P **Pn 22 59 10.8 +2.1**
GRR Gorron 13.39 341 *e*P **Pn 22 59 10.8 +2.1**
LDF La Druitiere 13.40 343 *e*P **Pn 22 59 10.2 +1.4**
ARSA Arzberg 13.52 30 *e*P **P 22 59 20.2 +0.6**
comp=N,10nm,0.9s
MOA Molln 13.54 25 *e*P **P 22 59 21.0 +1.1**
comp=N,51nm,1.0s,SNR=24
AGG Agios Georgios 13.60 72 P **Pn 22 59 12.9 +1.3**
AGG Agios Georgios 13.60 72 Pn 22 59 12.8 +1.3
FLN La Foliniere 13.64 342 P **Pn 22 59 14.0 +1.9**
FLN La Foliniere 13.64 342 *e*P **Pn 22 59 14.0 +1.9**
baz=163
SKO Skopje 13.68 59 *i* P **Pn 22 59 14.4 +1.7**
QUIF Quistinic 13.69 334 *e*P **Pn 22 59 15.8 +3.0**
SGMF Saint Gilles 13.77 336 *e*P **Pn 22 59 17.1 +3.2**
LIT Litokhoron 13.91 67 P **Pn 22 59 16.5 +0.7**
LIT Litokhoron 13.91 67 Pn 22 59 16.5 +0.7
ROSF Rostrenen 14.09 335 *e*P **Pn 22 59 20.9 +2.7**
MORH Mrgy, Hungar 14.20 39 ⇑P **Pn 22 59 22.6 +2.9**
BAIF Baives 14.20 356 P **Pn 22 59 18.2 -1.6**
BAIF Baives 14.20 356 *e*Pn **Pn 22 59 18.2 -1.6**
BAIF Baives 14.20 356 *e*P **P 22 59 23.6 -3.6**
CONA Conrad Observa 14.20 29 *e*P **P 22 59 25.4 -1.9**
comp=N,18nm,1.5s
GIVF Givet 14.22 358 P **Pn 22 59 18.7 -1.3**
GIVF Givet 14.22 358 *e*Pn **Pn 22 59 18.7 -1.3**
DOU Dourbes 14.22 357 *d*Pn **Pn 22 59 22.1 +2.1**
DOU *dp*Pn **P 22 59 24.4 -3.0**
DOU *d*PbPb **PbPb 23 00 10.1 +3.5**
GEC2 GERESS Array S 14.23 22 P 22 59 24.0 -3.6
GEC2 GERESS Array S 14.23 22 *e*P **P 22 59 24.9 -2.8**
GERES GERESS Array B 14.23 22 Pn **Pn 22 59 23.1 +2.8**
comp=N,0.6nm,0.3s,baz=204,slow=11,SNR=30
GERES LR LR 23 05 07.1
comp=N,2µm,18.2s,baz=206,slow=38
GERES GERESS Array B 14.23 22 P **Pn 22 59 23.3 +3.1**
GERES GERESS Array B 14.23 22 Pn 22 59 23.3 +3.1
WET Wettzell 14.26 20 *e*P **P 22 59 26.5 -1.4**
GRF Grafenberg Arr 14.38 15 *e*L L 23 05 42.9
comp=N,967nm,18.4s
CKRC Cesky Krumlov 14.40 24 *e*P **P 22 59 28.4 -1.0**
CKRC AMS AMS 23 05 40.0
comp=N,3µm,14.1s
BMRD Maredsous 14.42 358 *d*PnPn **P 22 59 33.6 +4.0**
BMRD *d*PbPb **PbPb 23 00 15.8 +5.7**
BMRD *d*PgPg **PgPg 23 00 45.6 +10**
KHC Kasperske Hory 14.45 21 *e*P **P 22 59 26.8 -3.2**
KHC MLR MLR
comp=Z,3µm,13.1s
KHC Kasperske Hory 14.45 21 *e*P **P 22 59 26.8 -3.2**
KHC *ex* x 22 59 31.6
KHC *ex* x 22 59 47.0
KHC AMS AMS 23 06 00.0
comp=Z,3µm,13.1s
KHC Kasperske Hory 14.45 21 P 22 59 26.7 -3.3
SNF Seneffe 14.65 356 *d*PnPn **P 22 59 35.4 +3.2**
ROTZ Rotzenmuhle 14.66 17 *e*P **P 22 59 30.7 -1.7**
MANZ Manzenberg 14.85 16 *e*P **P 22 59 32.7 -1.7**
ZST Bratislava 14.92 31 *e*P **P 22 59 38.2 +3.0**
ZST pmax pmax
comp=Z,104nm,1.7s
ZST Bratislava 14.92 31 *e*P **P 22 59 38.2 +3.0**
PBCC Pribram 15.06 21 *e*P **P 22 59 38.6 +1.8**
MDVR Moldovita 15.09 49 ⇑P **P 22 59 35.0 -2.2**
MODS Modra-Piesok 15.13 31 *e*P **P 22 59 41.1 +3.5**
MODS pmax pmax
comp=Z,39nm,1.4s
MODS Modra-Piesok 15.13 31 *e*P **P 22 59 41.1 +3.5**
NKC Novy Kostel 15.15 17 AMS AMS 23 07 40.0
comp=Z,1µm,9.8s
VTS Vitosha 15.16 58 ⇑P **Pn 22 59 34.8 +1.8**
VTS Vitosha 15.16 58 P **Pn 22 59 33.9 +1.0**
VTS pmax pmax
comp=Z,24nm,1.1s
VTS Vitosha 15.16 58 Pn 22 59 33.9 +1.0
SRO Srobarova 15.16 34 *e*P **P 22 59 37.8 0.0**
SRO Srobarova 15.16 34 *e*P **P 22 59 37.8 0.0**
SRO2 Moca 15.16 35 *e*P **P 22 59 39.8 +2.0**
SRO2 Moca 15.16 35 *e*P **P 22 59 39.8 +2.0**
WERN Wernitzgruen 15.19 17 *e*P **P 22 59 38.8 +0.6**
TREC Trest 15.20 25 AMS AMS 23 06 00.0
comp=Z,3µm,15.0s
GUNZ Gunzen 15.25 16 *e*P **P 22 59 41.5 +2.6**
SMOL Smolenice 15.30 31 *e*P **P 22 59 42.6 +3.2**
SMOL pmax pmax
comp=Z,45nm,2.5s
SMOL Smolenice 15.30 31 *e*P **P 22 59 42.6 +3.2**
PLN Plauen 15.32 16 *e*P **P 22 59 41.8 +2.1**
TANN Tannenbergstha 15.33 17 *e*P **P 22 59 41.7 +2.0**
KRUC Moravsky 15.33 28 *e*P **P 22 59 41.7 +1.9**
MOX Moxa 15.36 14 *e*P **P 22 59 42.2 +2.1**
comp=Z,27nm,1.3s
MOX *e*L L 23 04 43.6
comp=Z,702nm,20.9s
BZS Buzias 15.48 46 ⇑P **P 22 59 39.1 -2.3**
BZS Buzias 15.48 46 ⇑P **P 22 59 39.1 -2.3**
PRU Pruhonice 15.50 22 *e*P **P 22 59 43.3 +1.7**
PRU MLR MLR
comp=Z,2µm,13.9s
PRU Pruhonice 15.50 22 *e*P **P 22 59 43.3 +1.7**
PRU AMS AMS 23 06 40.0
comp=Z,2µm,13.9s
GOPC GO Pecny, Ondr 15.51 23 *e*P **P 22 59 43.6 +1.9**
GOPC MLR MLR
comp=Z,2µm,15.4s
GOPC GO Pecny, Ondr 15.51 23 *e*P **P 22 59 43.6 +1.9**
GOPC AMS AMS 23 06 30.0
comp=Z,2µm,15.4s
PRA Prague 15.54 21 AMS AMS 23 06 40.0
comp=Z,2µm,14.7s
HERR Herculane 15.57 50 ⇓P **Pn 22 59 39.8 +1.6**
VRAC Vranov 15.61 27 Pn **P 22 59 43.4 +0.6**
comp=Z,0.5nm,0.3s,baz=218,slow=13,SNR=30
VRAC LR LR 23 06 13.9
comp=Z,1µm,18.7s,baz=210,slow=39
VRAC Vranov 15.61 27 ⇑P **P 22 59 43.5 +0.6**

VRAC Vranov 15.61 27 *e*P **P 22 59 44.6 +1.7**
IDI Anoyia 15.65 87 Pn **P 22 59 44.6 +1.2**
comp=Z,2.5nm,0.3s,baz=314,slow=15,SNR=20
IDI Anoyia 15.65 87 ⇓P **Pn 22 59 39.1 -0.2**
IDI Anoyia 15.65 87 P **P 22 59 43.0 -0.4**
IDI IAmb IAmb 22 59 51.1
comp=Z,60nm,1.1s
JAVC Velka Javorina 15.67 31 *e*P **P 22 59 44.7 +1.1**
SIRR Siria 15.87 44 ⇓P **P 22 59 43.9 -1.8**
VYHS Vyhne 15.90 34 *e*P **P 22 59 50.7 +4.6**
VYHS Vyhne 15.90 34 *e*P **P 22 59 50.7 +4.6**
PSZ Piszkesteto 15.98 37 ⇑P **P 22 59 47.0 -0.1**
PSZ Piszkesteto 15.98 37 ⇑P **P 22 59 47.0 -0.1**
PSZ Piszkesteto 15.98 37 **P 22 59 45.1 -2.0**
PVCC Panska Ves 15.98 21 AMS AMS 23 05 50.0
comp=Z,2µm,17.1s
SANT Santorini 15.99 82 **Pn 22 59 43.9 +0.2**
SANT IAmb IAmb 22 59 51.2
comp=Z,103nm,1.3s
APE Apeiranthos 16.02 80 ⇓P **Pn 22 59 44.5 +0.5**
APE Apeiranthos 16.02 80 ⇓P **Pn 22 59 44.5 +0.5**
GZR Gura Zlata 16.05 49 ⇑P **P 22 59 46.1 -1.7**
BRG Berggiesshubel 16.12 19 *e*P **P 22 59 50.4 +1.9**
BRG Amp 22 59 53.5
comp=Z,29nm,1.6s
BRG *ex* x 23 00 09.4
BRG Amp 23 00 10.8
comp=Z,10nm,0.9s
BRG Amp 23 06 13.0
comp=Z,2.1nm,18.2s
BRG Amp 23 06 16.0
comp=E,1.7nm,16.2s
BRG Amp 23 06 17.0
comp=N,2.6nm,16.4s
CLL Collm 16.29 17 *i* P **P 22 59 51.6 +1.3**
comp=Z,21nm,1.5s
CLL *e*PP **PnPn 23 00 02.0 +5.7**
comp=Z,21nm,1.2s
CLL *e* 23 00 19.0
CLL *e*S **S 23 02 55.0 -5.3**
CLL Lmax 23 08 00.0
CLL Collm 16.29 17 P **P 22 59 49.6 -0.7**
CLL pmax pmax
comp=Z,14nm,1.0s
CLL Collm 16.29 17 **P 22 59 49.6 -0.7**
CLZ Clausthal 16.30 10 *e*P **P 22 59 51.1 +0.6**
comp=Z,39nm,1.5s
KRLC Kraliky 16.31 26 *e*P **P 22 59 53.1 +2.4**
KRLC MLR MLR
comp=Z,2µm,16.1s
KRLC Kraliky 16.31 26 *e*P **P 22 59 53.1 +2.4**
KRLC AMS AMS 23 06 40.0
comp=Z,2µm,16.1s
MORC Moravsky Berou 16.35 28 ⇑P **P 22 59 52.1 +1.0**
MORC Moravsky Berou 16.35 28 *e*P **P 22 59 52.5 +1.4**
MORC Moravsky Berou 16.35 28 P **P 22 59 50.9 -0.2**
MORC pmax pmax
comp=Z,28nm,1.0s
MORC Moravsky Berou 16.35 28 P **P 22 59 50.9 -0.2**
PLVB Pleven 16.38 57 ⇑P **P 22 59 50.7 -0.7**
DPC Dobruska-Polom 16.38 25 *e*P **P 22 59 51.9 +0.4**
DPC MLR MLR
comp=Z,3µm,13.3s
DPC Dobruska-Polom 16.38 25 *e*P **P 22 59 51.9 +0.4**
DPC AMS AMS 23 06 50.0
comp=Z,3µm,13.3s
UPC Upice 16.41 24 *e*P **P 22 59 55.7 +4.0**
UPC MLR MLR
comp=Z,3µm,15.0s
UPC Upice 16.41 24 *e*P **P 22 59 55.7 +4.0**
UPC AMS AMS 23 06 40.0
comp=Z,3µm,15.0s
CHVC Chvalec 16.50 24 *e*P **P 22 59 55.6 +2.9**
CHVC *ex* x 22 59 58.8
CHVC AMS AMS 23 06 40.0
comp=Z,2µm,15.7s
OSTC Ostas 16.52 24 *e*P **P 22 59 55.8 +2.8**
OSTC AMS AMS 23 06 40.0
comp=Z,3µm,14.3s
OKC Ostrava-Krasne 16.64 29 AMS AMS 23 06 20.0
comp=Z,1µm,16.2s
KECS Kecovo 16.66 36 *e*P **P 22 59 57.5 +3.0**
KECS Kecovo 16.66 36 *e*P **P 22 59 57.5 +3.0**
LANS Liptovska Anna 16.66 33 *e*P **P 22 59 57.1 +2.5**
LANS Liptovska Anna 16.66 33 *e*P **P 22 59 57.1 +2.5**
LOT Lotru 16.69 50 ⇓P **P 22 59 55.0 +0.1**
ALN Alexandroupoli 16.72 66 P **Pn 22 59 53.4 +0.4**
ALN pmax pmax
comp=Z,28nm,1.0s
ALN Alexandroupoli 16.72 66 **Pn 22 59 53.4 +0.4**
DRGR 16.76 44 ⇓P **P 22 59 56.2 +0.5**
DRGR 16.76 44 ⇓P **P 22 59 56.2 +0.5**
NRDL Niedersach Rie 16.90 9 *e*P **P 22 59 59.8 +2.8**
comp=Z,50nm,1.2s
HUMR Humele 17.05 54 ⇑P **P 22 59 59.4 +0.5**
ARR Arges 17.19 51 ⇓P **P 23 00 01.5 +1.1**
CJR Cluj-Napoca 17.23 46 ⇓P **P 23 00 01.8 +0.9**
CJR Cluj-Napoca 17.23 46 ⇓P **P 23 00 01.8 +0.9**
CRVS Cervenica-Dubn 17.42 37 *e*P **P 23 00 05.1 +2.2**
CRVS Cervenica-Dubn 17.42 37 *e*P **P 23 00 05.0 +2.2**
KARP Karpathos 17.45 85 P **Pn 23 00 02.2 0.0**
KARP IAmb IAmb 23 00 09.9
comp=Z,76nm,0.8s
VOIR 17.48 51 ⇓P **P 23 00 04.6 +0.9**
VOIR 17.48 51 ⇓P **P 23 00 04.6 +0.9**
UZH Uzhgorod 17.65 39 *e*P **P 23 00 08.3 +2.9**
UZH *e*S **S 23 03 25.3 -2.9**
UZH MLR MLR
comp=N,750nm,17.0s
UZH MLR MLR
comp=E,400nm,17.0s
UZH MLR MLR
comp=Z,200nm,17.0s
RAZG Razgrad 17.73 58 ⇑P **P 23 00 07.6 +1.2**
KOLS Kolonicke sedl 17.84 38 *e*P **P 23 00 10.1 +2.6**
KOLS pmax pmax
comp=Z,135nm,2.4s
KOLS Kolonicke sedl 17.84 38 *e*P **P 23 00 10.1 +2.6**
KOLS *e*PP 23 22 47.0
ARCR ARCALIA 17.86 46 ⇓P **P 23 00 09.3 +1.5**
DOPR Dopca 17.93 50 ⇑P **P 23 00 10.1 +1.5**
SECR 17.97 53 ⇑P **P 23 00 11.3 +2.3**
MLR Muntele Rosu 18.07 52 P **P 23 00 11.8 +1.5**
comp=Z,0.1nm,0.3s,baz=234,slow=8.8,SNR=3.2
MLR LR LR 23 08 07.5
comp=Z,2µm,18.8s,baz=250,slow=40
MLR Muntele Rosu 18.07 52 ⇓P **P 23 00 12.9 +2.6**
MLR Muntele Rosu 18.07 52 P **Pn 23 00 09.6 -0.3**
MLR pmax pmax
comp=Z,49nm,1.1s
MLR Muntele Rosu 18.07 52 P **Pn 23 00 09.6 -0.3**
OZUR 18.24 50 ⇑P **P 23 00 13.8 +1.8**
LEHL Lehliu 18.25 56 ⇑P **P 23 00 14.5 +2.5**
NEHR Nehoiu 18.27 52 ⇓P **P 23 00 13.8 +1.5**
ISR Istrita 18.31 53 ⇑P **P 23 00 15.0 +2.2**
ISR Istrita 18.31 53 ⇑P **P 23 00 15.0 +2.2**
BSEG Bad Segeberg 18.33 9 *e*P **P 23 00 18.4 +5.6**
comp=Z,47nm,1.2s
RASA Rasa 18.38 57 ⇓P **P 23 00 15.3 +1.8**
MANT Manisa 18.41 75 P **P 23 00 13.1 -1.1**
MANT IAmb IAmb 23 00 20.5
comp=Z,117nm,1.1s
BISRR Bisoca 18.59 52 ⇓P **Pn 23 00 18.7 +2.6**
BURAR Bucovina Array 18.64 45 ⇑P **Pn 23 00 20.0 +3.2**
BURAR Bucovina Array 18.64 45 ⇑P **Pn 23 00 20.0 +3.2**
BURAR Bucovina Array 18.64 45 P **Pn 23 00 17.2 +0.4**
BUR08 Bucovina Ar. S 18.65 45 P **Pn 23 00 17.3 +0.4**
PLOR Plostina 18.67 51 ⇓P **Pn 23 00 18.6 +1.5**
PLOR Plostina 18.67 51 ⇓P **Pn 23 00 18.6 +1.5**
VRI Vrincioaia 18.73 51 ⇑P **Pn 23 00 19.8 +2.0**
VRI Vrincioaia 18.73 51 ⇑P **Pn 23 00 19.8 +2.0**
ICOR Ion Corvin 18.80 57 ⇑P **Pn 23 00 20.0 +1.5**
BIZ Bicaz 18.82 48 ⇓P **Pn 23 00 20.7 +1.8**
HARR Harsova 19.07 56 ⇓P **Pn 23 00 22.9 +1.0**
HARR Harsova 19.07 56 ⇓P **Pn 23 00 22.9 +1.0**
TLBR Topalu 19.10 56 ⇓P **Pn 23 00 22.9 +0.7**
PRAR RASCA 19.10 47 ⇓P **Pn 23 00 23.7 +1.4**
MFTR Murfatlar 19.24 58 ⇑P **Pn 23 00 24.4 +0.5**
GHRR 19.24 51 ⇑P **Pn 23 00 24.8 +0.8**
LVV L'vov 19.29 38 *e*P **Pn 23 00 24.5 0.0**
LVV *e*S **Sn 23 03 57.4 -3.0**
LVV MLR MLR
comp=E,2µm,13.0s
LVV MLR MLR
comp=N,2µm,14.0s
LVV MLR MLR
comp=Z,1µm,14.0s
DSB Dublin 19.31 338 P **Pn 23 00 24.6 -0.1**
TIRR Tirgusor 19.32 57 P **P 23 00 24.3 +0.5**
TIRR pmax pmax
comp=Z,107nm,1.1s
TIRR Tirgusor 19.32 57 P **P 23 00 24.3 +0.5**
AKAS Kas 19.34 82 P **P 23 00 22.7 -1.6**
CFR Carcaliu 19.38 55 ⇑P **Pn 23 00 25.3 -0.3**
CFR Carcaliu 19.38 55 ⇑P **Pn 23 00 25.3 -0.3**
TPGR Topolog 19.45 56 ⇑P **Pn 23 00 27.0 +0.5**
ELL Elmali 19.54 80 P **P 23 00 26.2 -0.2**
ELL pmax pmax
comp=Z,34nm,0.8s
ELL Elmali 19.54 80 P **P 23 00 26.2 -0.2**
ELL IAmb IAmb 23 00 43.7
comp=Z,34nm,0.8s
JURR Jurilovca 19.73 56 ⇑P **Pn 23 00 29.5 -0.3**
ISP Isparta 19.96 77 P **P 23 00 30.0 -1.0**
ISP pmax pmax
comp=Z,35nm,0.9s
ISP Isparta 19.96 77 P **P 23 00 30.0 -1.0**
ISP IAmb IAmb 23 00 37.0
comp=Z,35nm,0.9s
ESK Eskdalemuir 20.37 345 P Pn 23 00 35.8 -1.4
ESK pmax pmax
comp=Z,59nm,1.3s
ESK Eskdalemuir 20.37 345 P Pn 23 00 35.8 -1.4
ESK IAmb IAmb 23 00 41.8
comp=Z,59nm,1.2s
EKA Eskdalemuir Ar 20.37 345 P Pn 23 00 36.5 -0.8
comp=Z,16nm,1.0s,baz=144,slow=9.9,SNR=23
EKA LR LR 23 08 30.7
comp=Z,834nm,18.0s,baz=165,slow=37
KIS Kishinev 20.52 50 ⇑*i*P **P 23 00 34.7 -2.1**
comp=Z,150nm,3.6s
KIS Kishinev 20.52 50 *e*PP Pn 23 00 54.0 +15
KIS Kishinev 20.52 50*c i*P **P 23 00 34.7 -2.1**
KIS *e* 23 00 54.0
KIS *e*PPP PPP 23 01 11.0
KIS pmax pmax
comp=Z,150nm,3.6s
KIS MLR MLR
comp=Z,400nm,14.0s
MDUB Mudurnu 20.55 69 P **P 23 00 36.9 -0.5**
MUD Monsted U'grnd 20.71 5 *i* P Pn 23 00 44.3 +3.2
MUD Monsted U'grnd 20.71 5 *e*P Pn 23 00 44.3 +3.2
MUD Monsted U'grnd 20.71 5 IAmb IAmb 23 00 44.1
comp=Z,93nm,1.3s
MUD *e*P Pn 23 00 44.4 +3.2
BR231 Keskin MP Arra 21.72 71 P **P 23 00 50.3 +0.3**
BR231 IAmb IAmb 23 00 59.7
comp=Z,39nm,1.0s
BR131 Keskin Array S 22.38 72 *i* P **P 23 00 57.5 +0.3**
BR131 Keskin Array S 22.38 72 P **P 23 00 56.9 -0.3**
BR131 IAmb IAmb 23 01 11.8
comp=Z,34nm,1.0s
BRTR Keskin Array B 22.38 72 P **P 23 00 58.0 +0.8**
comp=Z,16nm,1.0s,baz=268,slow=8.7,SNR=31
BRTR LR LR 23 10 26.7
comp=Z,656nm,20.7s,baz=248,slow=39
BRTR Keskin Array B 22.38 72 P **P 23 00 57.5 +0.3**
BRTR Keskin Array B 22.38 72 P **P 23 00 57.5 +0.3**
SNART Snartemo 22.48 2 *e*P **P 23 01 00.6 +2.8**
ILGA Ilgaz 22.50 68 P **P 23 00 57.3 -1.2**
AKASG Malin Array Be 22.51 42 P **P 23 00 56.8 -1.5**
comp=Z,29nm,0.7s,baz=237,slow=10,SNR=58
AKASG LR LR 23 10 35.4
comp=Z,2µm,18.4s,baz=240,slow=39
AKASG Malin Array Be 22.51 42*ce*P **P 23 00 56.5 -1.7**
AKASG pmax pmax
comp=Z,29nm,0.6s
AKASG Malin Array Be 22.51 42 P **P 23 00 55.8 -2.4**
AKBB Malin Array Si 22.51 42*ce*P **P 23 00 56.3 -1.9**
AKBB Malin Array Si 22.51 42 P **P 23 00 56.8 -1.5**
CSS Mathiatis 22.53 84 P **P 23 00 58.1 -0.5**
CSS IAmb IAmb 23 01 16.3
comp=Z,29nm,1.0s
TOA0 Torodi Ar. Sit 22.93 190 P **P 23 00 59.6 -3.2**
TOA0 IAmb IAmb 23 01 08.3
comp=Z,39nm,0.8s
TORD Torodi Ar. Bea 22.93 190 P **P 23 01 00.4 -2.5**
comp=Z,13nm,0.6s,baz=4.2,slow=11,SNR=28
TORD LR LR 23 10 26.5
comp=Z,2µm,19.6s,baz=345,slow=38
TORD Torodi Ar. Bea 22.93 190 P **P 23 00 59.2 -3.7**
TORD IAmb IAmb 23 01 07.0
comp=Z,29nm,1.1s
KOWA Kowa 23.01 205 P **P 23 01 01.9 -1.9**
comp=Z,13nm,0.7s,baz=22,slow=15,SNR=10
KOWA Kowa 23.01 205 P **P 23 01 00.5 -3.3**
KOWA IAmb IAmb 23 01 19.7
comp=Z,26nm,1.1s
PABE Paberze 23.28 27 *e*P **P 23 01 06.5 +0.4**
KONO Kongsberg 23.91 5 P **P 23 01 13.6 +1.3**
KONO pmax pmax
comp=Z,17nm,1.3s
KONO Kongsberg 23.91 5 P **P 23 01 13.6 +1.3**
NACGM Naroch 23.94 31 *i* P **P 23 01 13.6 +1.0**
NACGM *i* P **P 23 01 13.6 +1.0**
NACGM *i* P **P 23 01 13.6 +1.0**
NACGM *i* PP **PnPn 23 01 40.1 -0.9**
NACGM *i* S **S 23 05 29.8 +1.3**
NACGM *i* SS **SnSn 23 06 05.0 -3.3**
NACGM *i* SSS SSS 23 06 17.3
NACGM *i* LQ LQ 23 08 27.3
NACGM *i* LR LR 23 10 16.8
IIGN Ignalina 24.03 29 *e*P **P 23 01 14.9 +1.5**
MNK Minsk 24.14 33‖ *e*P **P 23 01 13.0 -1.5**
MNK pmax pmax
comp=Z,230nm,1.0s
MNK MLR MLR
comp=Z,6µm,14.0s
MNK Minsk 24.14 33 *i* P **P 23 01 12.5 -2.0**
comp=E,6.0nm,0.9s
MNK *i* P **P 23 01 12.5 -2.0**
comp=N,33nm,1.1s
MNK *i* P **P 23 01 12.5 -2.0**
comp=Z,64nm,1.1s
MNK *i* PP **PnPn 23 01 42.7 -1.0**
MNK *i* PPP PPP 23 01 50.6
MNK *i* PcP **PcP 23 04 51.5 -3.6**
MNK *i* S **S 23 05 31.7 0.0**
MNK *i* SS **SnSn 23 06 17.5 +4.3**
MNK *i* SSS SSS 23 06 31.0
MNK *i* LQ LQ 23 08 48.3
MNK *i* LR LR 23 10 32.4
MNK *i* LRM MLR 23 11 32.7
comp=N,692nm,16.3s
MNK *i* LRM MLR 23 11 46.6
comp=Z,826nm,19.9s
MNK *i* LRM MLR 23 11 52.0
comp=E,80nm,16.3s
ISAL Salakas 24.15 29 *e*P **P 23 01 16.1 +1.5**
IDID Didziasalis 24.21 30 *e*P **P 23 01 16.6 +1.4**
TOKA Tokat 24.57 70 P **P 23 01 19.0 +0.3**
MMAI Mount Meron Ar 24.64 88 P **P 23 01 20.5 +1.1**
comp=E,11nm,0.8s,baz=299,slow=10,SNR=6.2
HFS Hagfors 24.81 10 P **P 23 01 20.5 0.0**
comp=E,2.9nm,0.5s,baz=183,slow=10,SNR=13
HFS LR LR 23 11 34.5
comp=E,820nm,18.7s,baz=201,slow=38
NC602 NORSAR Array S 25.15 7 P **P 23 01 24.6 +1.1**
NAO01 NORSAR Array S 25.20 6 P **P 23 01 24.8 +0.8**
GAZ Gaziantep 25.32 78 P **P 23 01 26.2 +0.8**
EIL Elat 25.32 96 P **P 23 01 26.0 +0.5**
comp=E,6.1nm,0.8s,baz=282,slow=7.2,SNR=1.9
EIL LR LR 23 12 58.4
comp=E,684nm,20.0s,baz=288,slow=40
NBO00 NORSAR Array S 25.37 6 P **P 23 01 26.6 +1.0**
NB2 NORSAR Subarra 25.42 6 P **P 23 01 26.4 +0.3**
comp=Z,18nm,1.1s,baz=191,slow=9.3
NOA NORSAR Array B 25.42 6 P **P 23 01 26.5 +0.4**
comp=Z,7.6nm,0.9s,baz=192,slow=8.7,SNR=16
NOA LR LR 23 11 32.8
comp=Z,438nm,19.1s,baz=195,slow=37
ANN Anapa 25.66 60 *e*P **P 23 01 27.1 -1.2**
ANN *e* 23 02 09.7
ANN *e*S **S 23 05 56.2 0.0**
ANN *e*SSS SSS 23 07 03.4
ANN pmax pmax
comp=Z,81nm,1.0s
VSR Storozhevoye 28.40 47 *e*P **P 23 01 50.9 -2.0**
VSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 28.59 38 P **P 23 01 54.0 -0.6**
comp=Z,7.1nm,0.6s,baz=237,slow=18,SNR=5.6
OBN LR LR 23 14 02.9
comp=Z,170nm,18.1s,baz=248,slow=38
OBN Obninsk 28.59 38*d i*P **P 23 01 53.9 -0.7**
OBN *e* 23 02 43.0
OBN *i* S **S 23 06 47.0 +4.8**
OBN pmax pmax
comp=Z,68nm,1.4s
OBN MLR MLR
comp=Z,939nm,16.0s
OBN Obninsk 28.59 38 P **P 23 01 53.5 -1.1**
FINES FINESS Array B 28.65 20 P **P 23 01 54.6 -0.5**
comp=Z,6.2nm,0.9s,baz=225,slow=7.8,SNR=7.8
FINES PcP **PcP 23 05 04.6 -0.9**
comp=Z,0.8nm,0.6s,baz=170,slow=4.2,SNR=4.0
FINES LR LR 23 14 18.9
comp=Z,719nm,18.8s,baz=214,slow=38
FINES FINESS Array B 28.65 20 P **P 23 01 54.4 -0.7**
LPSR Galich'ya Gora 28.75 44 *e*P **P 23 01 54.7 -1.4**
LPSR pmax pmax
comp=Z,50nm,0.8s
SHA1 Shidzhatmaz 29.28 63 *i* P **P 23 02 01.2 0.0**
NEY Neytrino 29.30 64 *i* P **P 23 02 03.7 +2.4**
NEY pmax pmax
comp=Z,2.0nm,1.0s
KIV Kislovodsk 29.31 63 *e*P **P 23 02 01.7 +0.4**
KIV *e*SS **S 23 06 56.6 +2.6**
KIV *e*SSS SSS 23 08 39.8
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,638nm,15.0s
KVAR Kislovodsk Arr 29.32 63 LR LR 23 16 38.5
comp=Z,679nm,18.4s,baz=162,slow=42
MOS Moscow 29.42 38 *e*P **P 23 02 00.5 -1.5**
MOS *e* 23 02 19.0
MOS pmax pmax
comp=Z,103nm,1.3s
MOS MLR MLR
comp=E,900nm,14.0s
MOS MLR MLR
comp=Z,1µm,14.0s
KBZ Khabaz 29.45 63 P **P 23 02 03.1 +0.8**
comp=Z,1.5nm,0.5s,baz=215,slow=5.0,SNR=7.8
KBZ LR LR 23 16 55.9
comp=Z,346nm,18.7s,baz=286,slow=43
GOF Gofitskoye 29.64 60‖ *e*P **P 23 02 04.4 +0.3**
GOF pmax pmax
comp=Z,51nm,0.9s
VRH Novokhopyorsk 29.92 48 *e*P **P 23 02 04.5 -1.9**
VRH pmax pmax
comp=Z,20nm,0.7s
NCK Nalchik 29.95 64 *i* P **P 23 02 05.8 -1.1**
NCK pmax pmax
comp=Z,8.0nm,1.0s
ZEI Tsey 30.16 65 *e*P **P 23 02 08.6 -0.4**
ZEI pmax pmax
comp=Z,19nm,1.3s
DBIC Dimbokro 30.65 201 P **P 23 02 12.1 -1.1**
comp=Z,5.5nm,0.9s,baz=348,slow=9.7,SNR=5.0
DBIC LR LR 23 15 31.6
comp=Z,2µm,19.1s,baz=1.5,slow=38
TIC Toumodi 30.72 201 *e*PKP2 **P 23 02 15.6 +1.8**
GNI Garni 30.90 70 P **P 23 02 15.6 +0.2**
comp=Z,1.9nm,0.6s,baz=277,slow=8.1,SNR=2.9
GNI LR LR 23 17 59.4
comp=Z,235nm,18.5s,baz=268,slow=43
GNI Garni 30.90 70 *i* P **P 23 02 15.0 -0.4**
GNI pmax pmax
comp=Z,10.0nm,1.1s
GNI Garni 30.90 70 P **P 23 02 15.9 +0.5**
GNI IAmb IAmb 23 02 23.4
comp=Z,26nm,1.3s
KIC Kosan Boka 30.91 200 *e*PKP2 **P 23 02 14.7 -0.8**
comp=Z,25nm,0.8s
LIC Lamto 31.12 201 *e*PKP2 **P 23 02 15.9 -1.4**
comp=Z,66nm,1.5s
GROC Groznyy 31.55 64 P **P 23 02 19.7 -1.3**
GROC *e* 23 03 24.6
GROC pmax pmax
comp=Z,481nm,14.4s
MAK Makhachkala 32.81 65 *e*P P 23 02 26.5 -5.5
MAK *e* 23 03 38.1
MAK *e*S **S 23 07 42.4 -6.1**
MAK *e*SS **SnSn 23 09 44.0 -0.7**
MAK pmax pmax
comp=Z,125nm,1.6s
KLMR Klimovskoe 32.96 30 *e*P **P 23 02 31.4 -1.6**
KLMR pmax pmax
comp=Z,32nm,0.8s
KLMR Klimovskoe 32.96 30 *e*P **P 23 02 31.5 -1.6**
KLMR AMP 23 02 36.7
comp=Z,32nm,0.8s
KLMR LQ LQ 23 12 13.8
KLMR LQ LQ 23 12 13.8
KLMR LR LR 23 14 37.7
AKT Akhty 33.05 67 *e*P **P 23 02 34.7 +0.4**
AKT *e* 23 03 44.6
AKT pmax pmax
comp=Z,66nm,1.0s
BORG Borgarnes 33.12 339 LR LR 23 14 55.2
comp=Z,523nm,19.9s,baz=150,slow=34
BELG Belogornoye 33.77 47 LR LR 23 17 44.6
comp=Z,286nm,18.8s,baz=285,slow=39
BELG Belogornoye 33.77 47 *i* P **P 23 02 38.7 -1.5**
BELG pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 35.41 12 P **P 23 02 54.1 -0.2**
comp=Z,6.7nm,0.9s,baz=193,slow=5.0,SNR=10
ARCES PcP **PcP 23 05 22.7 -1.1**
comp=Z,2.1nm,0.5s,baz=201,slow=2.1,SNR=9.2
ARCES LR LR 23 17 40.1
comp=Z,405nm,18.2s,baz=220,slow=37
ARCES ARCESS Array B 35.41 12 P **P 23 02 55.2 +0.9**
ARCES IAmb IAmb 23 02 58.9
comp=Z,25nm,1.3s
KEV Kevo 35.86 12 P **P 23 02 59.8 +1.7**
KEV pmax pmax
comp=Z,99nm,1.5s
KEV Kevo 35.86 12 P **P 23 02 59.8 +1.7**
JMIC Jan Mayen 35.96 352 LR LR 23 17 24.1
comp=Z,489nm,19.6s,baz=109,slow=36
KIRV Kirov 36.44 38 LR LR 23 19 47.4
comp=Z,396nm,19.6s,baz=251,slow=39
KIRV Kirov 36.44 38*ce*P **P 23 03 02.6 -0.6**
RAYN Ar Rayn 36.48 99 P **P 23 03 03.2 -0.9**
RAYN pmax pmax
comp=Z,3.0nm,0.7s
RAYN Ar Rayn 36.48 99 P **P 23 03 03.2 -0.9**
SCO Scoresbysund 37.68 345 *i* P **P 23 03 16.0 +2.5**
SCO Scoresbysund 37.68 345 P **P 23 03 14.4 +0.9**
SCO pmax pmax
comp=Z,6.0nm,1.0s
SCO Scoresbysund 37.68 345 P **P 23 03 14.4 +0.9**
SCO Scoresbysund 37.68 345 *i* P **P 23 03 16.0 +2.5**
AKTO Aktyubinsk 40.01 52 LR LR 23 21 18.4
comp=Z,381nm,20.4s,baz=277,slow=38
ARU Arti 40.76 43 LR LR 23 20 48.4
comp=Z,515nm,20.1s,baz=256,slow=36
ARU Arti 40.76 43*c i*P **P 23 03 38.5 -1.0**
ARU 23 05 35.4
ARU S **S 23 09 52.6 +3.2**
ARU SS **SS 23 12 52.8 +2.9**
ARU pmax pmax
comp=Z,21nm,0.9s
ARU MLR MLR
comp=Z,602nm,16.0s
ARU Arti 40.76 43 P **P 23 03 38.5 -1.0**
ARU IAmb IAmb 23 03 40.4
comp=Z,20nm,1.0s
ABKAR Akbulak array 41.27 54 P **P 23 03 42.3 -1.5**
ABKAR Akbulak array 41.27 54 P **P 23 03 42.0 -1.8**
ABKAR IAmb IAmb 23 03 47.7
comp=Z,9.4nm,0.9s
GEYT Alibeck 41.52 71 P **P 23 03 46.7 +0.6**
comp=Z,2.2nm,0.4s,baz=284,slow=5.8,SNR=3.9
GEYT LR LR 23 25 49.7
comp=Z,106nm,18.5s,baz=225,slow=43
GEYT Alibeck 41.52 71 **P 23 03 45.6 -0.4**
GYA0B ALIBECK ARRAY 41.52 71 P **P 23 03 45.6 -0.5**
GYA0B IAmb IAmb 23 03 54.4

comp=Z,29nm,1.4s
SVE Sverdlovsk 41.94 42 *e*P **P 23 03 49.3 +0.1**
SVE pmax pmax
comp=Z,35nm,1.1s
SVE MLR MLR
comp=Z,680nm,14.0s
SPITS Spitsbergen Ar 42.64 3 LR LR 23 23 09.3
comp=Z,295nm,18.8s,baz=165,slow=38
SUMG Summit 42.94 342 *i* P **P 23 03 58.0 +0.4**
comp=Z,10.0nm,0.7s
SUMG Summit 42.94 342 *i* P **P 23 03 58.0 +0.4**
SUMG Summit 42.94 342 P **P 23 03 58.4 +0.9**
SUMG IAmb IAmb 23 04 03.9
comp=Z,11nm,0.7s
SUMG Summit 42.94 342 *i* P **P 23 03 58.0 +0.4**
SUMG IAmb IAmb 23 04 03.6
comp=Z,10.0nm,0.7s
MBAR Mbarara 43.16 142 P **P 23 03 58.8 -0.9**
comp=Z,3.5nm,0.7s,baz=331,slow=15,SNR=5.2
MBAR Mbarara 43.16 142 P **P 23 03 57.5 -2.3**
SFJD Kangerlussuaq 44.46 332 LR LR 23 20 28.8
comp=Z,665nm,21.7s,baz=86,slow=33
SFJD Kangerlussuaq 44.46 332 *i* P **P 23 04 09.0 -0.4**
SFJD Kangerlussuaq 44.46 332 P **P 23 04 09.5 +0.1**
SFJD pmax pmax
comp=Z,36nm,1.0s
SFJD Kangerlussuaq 44.46 332 P **P 23 04 09.5 +0.1**
SFJD Kangerlussuaq 44.46 332 *i* P **P 23 04 09.0 -0.4**
UOSS Minazif 44.49 90 P **P 23 04 08.2 -2.0**
UOSS IAmb IAmb 23 04 23.7
comp=Z,13nm,0.8s
HRA Herat 45.72 75 P **P 23 04 19.1 -1.1**
HRA IAmb IAmb 23 04 25.4
comp=Z,17nm,1.2s
DRLN Deer Lake 47.08 307 P **P 23 04 30.2 -0.2**
KMBO Kilima Mbogo 47.14 134 P **P 23 04 31.3 -0.1**
comp=Z,4.4nm,1.1s,baz=338,slow=7.9,SNR=7.0
KMBO LR LR 23 24 22.9
comp=Z,483nm,19.6s,baz=284,slow=36
WSAR Wadi Sarin 47.24 90 LR LR 23 27 29.2
comp=Z,436nm,20.4s,baz=312,slow=40
BRVK Borovoye 47.51 48 *ce*P **P 23 04 33.4 -0.2**
BRVK pmax pmax
comp=Z,27nm,1.3s
BRVK Borovoye 47.51 48 P **P 23 04 33.0 -0.6**
IUG Iuzhnay 49.34 62 *e*P **P 23 04 46.3 -1.8**
comp=Z,4.7nm,1.1s,baz=62
IUG Iuzhnay 49.34 62 *e*P **P 23 04 46.2 -1.8**
IUG pmax pmax
comp=Z,5.0nm,1.1s
BRZS Berezniki 49.42 51 *e*P **P 23 04 46.9 -1.5**
comp=Z,3.6nm,0.7s,baz=51
BRZS Berezniki 49.42 51 *e*P **P 23 04 46.9 -1.5**
BRZS pmax pmax
comp=Z,4.0nm,0.7s
SOCY Socotra 49.42 106 P **P 23 04 45.9 -3.1**
SOCY IAmb IAmb 23 05 03.3
comp=Z,18nm,1.2s
KK31 Karatay Array 49.44 61 P **P 23 04 47.8 -0.9**
KK31 pmax pmax
comp=Z,10.0nm,0.8s
KK31 Karatay Array 49.44 61 P **P 23 04 47.8 -0.9**
KK31 IAmb IAmb 23 04 53.9
comp=Z,10nm,0.8s
KKAR Karatay Array 49.44 61 P **P 23 04 47.8 -0.9**
KKAR pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 49.44 61 P **P 23 04 47.5 -1.1**
KKAR Karatay Array 49.44 61 P **P 23 04 47.8 -0.9**
KKAR IAmb IAmb 23 04 53.9
comp=Z,10nm,0.8s
DZA Taraz 50.07 61 *e*P **P 23 04 52.3 -1.2**
baz=61
DZA Taraz 50.07 61 *e*P **P 23 04 52.3 -1.2**
KBL Kabul 50.96 72 P **P 23 04 59.7 -0.9**
KBL pmax pmax
comp=Z,3.0nm,0.8s
KBL Kabul 50.96 72 P **P 23 04 59.7 -0.9**
BTLS Baital 51.40 57 *e*P **P 23 05 01.5 -2.0**
baz=57
BTLS Baital 51.40 57 *e*P **P 23 05 01.5 -2.0**
FRB Frobisher Bay 51.62 327 LR LR 23 24 54.1
comp=Z,796nm,21.1s,baz=74,slow=34
EKS2 Erkin-Say 51.87 60 P **P 23 05 06.8 -0.4**
SNR=23
AML Almayashu 51.96 61 P **P 23 05 08.5 +0.3**
SNR=7.4
USP Ospenovka 52.20 60 P **P 23 05 08.5 -1.1**
SNR=12
SGDS Sogindy 52.24 59 *e*P **P 23 05 08.3 -1.6**
baz=59
SGDS Sogindy 52.24 59 *e*P **P 23 05 08.3 -1.6**
AAK Ala-Archa 52.38 60 P **P 23 05 11.0 0.0**
SNR=9.5
AAK Ala-Archa 52.38 60 *ce*P **P 23 05 10.9 -0.1**
AAK pmax pmax
comp=Z,26nm,1.0s
AAK Ala-Archa 52.38 60 P **P 23 05 10.3 -0.7**
CHMS Chumysh 52.46 60 P **P 23 05 11.0 -0.4**
SNR=13
UCH Uchtor 52.52 61 P **P 23 05 12.0 -0.4**
SNR=19
KBK Karagaybulak 52.70 60 P **P 23 05 13.4 0.0**
SNR=3.3
TKM2 Tokmak 2 53.07 60 P **P 23 05 16.6 +0.4**
SNR=6.4
TKM2 Tokmak 2 53.07 60 *i* P **P 23 05 15.6 -0.6**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s
BATG Bathurst New B 53.08 306 P **P 23 05 15.5 -0.5**
KUU Kurty 53.30 58 *e*P **P 23 05 15.6 -2.0**
comp=Z,17nm,1.0s,baz=58
KUU Kurty 53.30 58 *e*P **P 23 05 15.6 -2.0**
KUU pmax pmax
comp=Z,17nm,1.0s
ULHL Ulahol 53.73 60 P **P 23 05 21.0 0.0**
SNR=11
CHKK Chushkaly 53.76 58 *e*P **P 23 05 19.8 -1.2**
baz=58
CHKK Chushkaly 53.76 58 *e*P **P 23 05 19.8 -1.2**
AAA Alma-Ata 53.91 59 *e*P **P 23 05 21.1 -1.0**
baz=59
AAA Alma-Ata 53.91 59 *e*P **P 23 05 21.1 -1.0**
TNSS Tian-Shan 53.98 59 *e*P **P 23 05 21.4 -1.7**
baz=59
TNSS Tian-Shan 53.98 59 *e*P **P 23 05 21.4 -1.7**
MDOK Medeo 54.01 59 *e*P **P 23 05 21.2 -1.9**
baz=59
MDOK Medeo 54.01 59 *e*P **P 23 05 21.1 -1.9**
SEM Semipalatinsk 54.07 50 *e*P **P 23 05 21.1 -2.3**
baz=50
SEM Semipalatinsk 54.07 50 *e*P **P 23 05 21.1 -2.3**
TDK Taldyqorghan 54.38 56 *e*P **P 23 05 23.4 -2.2**
comp=Z,7.3nm,1.0s,baz=56
TDK Taldyqorghan 54.38 56 *e*P **P 23 05 23.3 -2.2**
TDK pmax pmax
comp=Z,7.0nm,1.0s
KSH Kashi 54.43 64 P **P 23 05 25.1 -1.0**
KSH sP sP 23 05 31.9 -1.0
KSH S **S 23 13 02.3 -2.0**
KSH pmax pmax
comp=Z,30nm,1.3s
KSH pmax pmax
comp=Z,260nm,5.0s
KSH LR LR
comp=Z,290nm,10.0s
KSH LR LR
comp=Z,230nm,6.4s
KSH LR LR
comp=Z,250nm,7.3s
E64A Bridgewater 54.48 305 P 23 05 26.3
baz=73
NIL Nilore 54.53 71 P **P 23 05 26.5 -0.3**
NIL pmax pmax
comp=Z,10.0nm,0.8s
NIL Nilore 54.53 71 P **P 23 05 26.5 -0.3**
NIL IAmb IAmb 23 05 36.9
comp=Z,10nm,0.8s
SATY Saty 54.99 59 *e*P **P 23 05 27.9 -2.2**
comp=Z,14nm,1.7s,baz=59
SATY Saty 54.99 59 *e*P **P 23 05 27.9 -2.2**
SATY pmax pmax
comp=Z,14nm,1.7s
KPKS Kokpek 55.05 58 *e*P **P 23 05 28.4 -2.2**
comp=Z,6.7nm,1.5s,baz=58
KPKS Kokpek 55.05 58 *e*P **P 23 05 28.3 -2.2**
KPKS pmax pmax
comp=Z,7.0nm,1.5s
D62A Allapoint, All 55.09 306 P **P 23 05 30.3 -0.2**
D62A Allapoint, All 55.09 306 P 23 05 30.5
baz=73
LSZ Lusaka 55.17 153 P **P 23 05 29.4 -2.2**
LSZ pmax pmax
comp=Z,7.0nm,1.1s
LSZ Lusaka 55.17 153 P **P 23 05 29.4 -2.2**
EUNU Eureka 55.28 348 P **P 23 05 31.9 +0.4**
EUNU IAmb IAmb 23 05 35.5
comp=Z,7.4nm,0.7s
UZB Uzynbulak 55.39 58 *e*P **P 23 05 31.1 -1.9**
comp=Z,4.3nm,1.1s,baz=58
UZB Uzynbulak 55.39 58 *e*P **P 23 05 31.1 -1.9**
UZB pmax pmax
comp=Z,4.0nm,1.1s
G64A Maxfield 55.45 304 P 23 05 33.8
baz=72
SHLS Shalkode 55.69 58 *e*P **P 23 05 35.1 0.0**
comp=Z,8.3nm,1.0s,baz=58
SHLS Shalkode 55.69 58 *e*P **P 23 05 35.1 0.0**
SHLS pmax pmax
comp=Z,8.0nm,1.0s
D61A St Aubert, Com 55.80 307 P 23 05 36.0
baz=72
ZAA0 Zalesovo Array 55.86 45 P **P 23 05 35.6 -0.4**
ZAA0 IAmb IAmb 23 05 39.8
comp=Z,5.3nm,0.7s
ZALV Zalesovo Beam 55.86 45 P **P 23 05 35.6 -0.4**
comp=Z,5.6nm,0.7s,baz=288,slow=8.4,SNR=16
ZALV PP **PP 23 07 41.8 +1.5**
comp=Z,1.7nm,0.7s,baz=307,slow=10,SNR=3.6
ZALV LR LR 23 31 08.3
comp=Z,326nm,19.5s,baz=288,slow=38
MAKZ Makanchi 56.20 53 P **P 23 05 37.7 -0.9**
MAKZ pmax pmax
comp=Z,12nm,1.2s
MAKZ Makanchi 56.20 53 P **P 23 05 37.7 -0.9**
MAKZ IAmb IAmb 23 05 43.1
comp=Z,12nm,1.2s
MK31 Makanchi Array 56.41 53 P **P 23 05 39.3 -0.8**
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 56.41 53 P **P 23 05 39.3 -0.8**
MK31 IAmb IAmb 23 05 44.0
comp=Z,8.3nm,0.8s
MKAR Makanchi Array 56.41 53 P **P 23 05 39.4 -0.7**
comp=Z,11nm,0.7s,baz=284,slow=5.8,SNR=63
MKAR LR LR 23 31 46.4
comp=Z,242nm,18.0s,baz=292,slow=38
MKAR Makanchi Array 56.41 53 *ce*P **P 23 05 39.2 -0.9**
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR Makanchi Array 56.41 53 P **P 23 05 39.0 -1.1**
G61A St-Isidore-de- 57.30 305 P 23 05 48.7
baz=70
NBCL Cascavel-CE 57.31 235 *e*P **P 23 05 49.1 +2.4**
F60A Warwick 57.34 306 P 23 05 48.8
baz=70
D58A Chemin du LacG 57.57 307 P 23 05 50.1
baz=71
NBPA Parau_RN 57.67 233 *e*P **P 23 05 51.0 +1.7**
ZSN Zaisan 57.86 52 *e*P **P 23 05 48.9 -1.5**
comp=Z,8.8nm,1.2s,baz=52
ZSN Zaisan 57.86 52 *e*P **P 23 05 48.8 -1.5**
ZSN pmax pmax
comp=Z,9.0nm,1.2s
E58A La Victoria 58.07 307 P 23 05 51.7
baz=70
RES Resolute Bay 58.46 342 P **P 23 05 55.5 +1.4**
RES pmax pmax
comp=Z,6.0nm,1.0s
RES Resolute Bay 58.46 342 P **P 23 05 55.5 +1.4**
RES IAmb IAmb 23 05 57.6
comp=Z,6.4nm,1.0s
NBRF Rio Formoso - 58.65 229 *e*P **P 23 05 58.3 +2.1**
DGZ Jazzator, Alta 58.70 49 *i* P **P 23 05 55.7 -0.7**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
NBLI Livramento-PB 58.78 232 *e*P **P 23 05 59.1 +2.0**
D56A ZEC Mazanza, M 58.79 308 P 23 05 57.0
baz=70
H59A Cadyville 58.96 305 P 23 05 58.7
baz=69
NBPB Pedra_Branca-C 59.14 235 *e*P **P 23 06 01.6 +2.0**
E56A St. Veronique 59.15 307 P 23 05 59.0
baz=69
D55A Sainte-Anne-du 59.26 308 P 23 05 59.6
baz=69
NBPS Pedro II - PI 59.57 238 *e*P **P 23 06 04.2 +1.5**
MATQ Matagami 59.63 312 P 23 06 02.9
baz=69
VLDQ Val d'Or 60.11 310 P **P 23 06 08.2 +2.3**
NBAN Anadia - AL 60.13 229 *e*P **P 23 06 07.0 +0.6**
ROSB Rosrio 60.39 241 *e*P **P 23 06 10.2 +2.0**
WMQ Urumqi 61.03 55 *e*P **P 23 06 15.3 +2.9**
WMQ Urumqi 61.03 55 P **P 23 06 12.4 0.0**
WMQ pmax pmax
comp=Z,8.0nm,1.1s
WMQ Urumqi 61.03 55 P **P 23 06 12.4 0.0**
WMQ IAmb IAmb 23 06 18.1
comp=Z,7.7nm,1.1s
G54A Lake Saint Pet 61.56 307 P 23 06 17.0
baz=67
SADO Sadowa 62.49 307 LR LR 23 31 28.9
comp=Z,492nm,19.2s,baz=84,slow=34
M57A Sunshine Farm, 62.57 303 P 23 06 26.2
baz=65
LBTB Lobatse 63.44 160 P **P 23 06 26.8 -1.8**
LBTB Lobatse 63.44 160 P **P 23 06 26.8 -1.8**
FCC Fort Churchill 64.76 325 P **P 23 06 36.6 -0.2**
FCC pmax pmax
comp=Z,11nm,0.8s
FCC Fort Churchill 64.76 325 P **P 23 06 36.6 -0.2**
TIXI Tiksi 65.62 17 *e*P **P 23 06 42.8 +0.6**
TIXI Tiksi 65.62 17 P **P 23 06 42.8 +0.6**
TIXI IAmb IAmb 23 06 45.7
comp=Z,9.5nm,1.4s
GKN Gorkha 65.79 72 *e*P **P 23 06 43.1 -1.1**
comp=Z,30nm,0.9s
Q54A Coxs Mills 66.16 302 P **P 23 06 46.3 +0.1**
DMN Daman 66.34 72 *e*P **P 23 06 47.2 -0.7**
KKN Kakani 66.39 72 *e*P **P 23 06 47.1 -1.1**
comp=Z,9.7nm,0.4s
PKIN Phulchoki 66.58 72 *e*P **P 23 06 47.9 -1.6**
comp=Z,18nm,0.9s
PKI Pulchoki 66.60 72 *e*P **P 23 06 47.8 -1.8**
comp=Z,27nm,1.0s
R54A Victor 66.64 301 P 23 06 49.6
baz=62
Q53A Leroy 66.69 302 P 23 06 50.2
baz=62
PRPB Parauapebas 66.73 243 *e*P **P 23 06 54.2 +4.0**
E43A Lone Tree Farm 66.74 311 P **P 23 06 49.5 -0.3**
P52A Corning 66.75 303 P 23 06 51.3
baz=62
BOSA Boshof 66.76 161 P **P 23 06 48.5 -1.7**
comp=Z,1.9nm,0.6s,baz=356,slow=5.5,SNR=8.0
BOSA LR LR 23 37 01.8
comp=Z,742nm,18.1s,baz=337,slow=37
BOSA Boshof 66.76 161 P **P 23 06 48.4 -1.7**
BOSA IAmb IAmb 23 06 57.4
comp=Z,14nm,1.3s
GUN Gumba 66.79 72 *e*P **P 23 06 50.3 -0.6**
comp=Z,21nm,0.8s
ACSO Alum Creek Sta 67.04 304 P **P 23 06 51.4 -0.5**
ACSO Alum Creek Sta 67.04 304 P 23 06 51.9
baz=62
MALB Monte Alegre 67.19 250 *e*P **P 23 06 54.9 +1.8**
TLY Talaya 67.25 42 P **P 23 06 52.8 -0.2**
RAMN Ramite 67.82 72 *e*P **P 23 06 54.5 -2.8**
comp=Z,7.9nm,0.7s
COWI Conover 68.17 312 P **P 23 07 00.1 +1.2**
ODAN Odare 68.48 72 *e*P **P 23 06 59.0 -2.4**
comp=Z,3.0nm,0.5s
TAPN Taplejung 68.48 71 *e*P **P 23 07 01.2 -0.3**
comp=Z,5.3nm,0.7s
C36M Paulatuk 68.81 343 P **P 23 07 03.3 +0.9**
C36M IAmb IAmb 23 07 05.8
comp=Z,15nm,1.4s
C36M Paulatuk 68.81 343 P 23 07 04.2
baz=42
BOD Bodaibo 69.12 33 *e*P **P 23 07 03.6 -1.0**
BOD pmax pmax
comp=Z,9.0nm,1.2s
V53A Saluda 69.13 299 P **P 23 07 05.1 0.0**
V53A IAmb IAmb 23 07 19.8
comp=Z,7.8nm,1.1s
SUR Sutherland 69.38 166 P **P 23 07 05.1 -1.5**
BOAV Boa Vista 69.41 258 *e*P **P 23 07 10.3 +3.2**
TKL Tuckaleechee C 69.81 300 LR LR 23 36 37.6
comp=Z,279nm,20.0s,baz=68,slow=35
LSA Lhasa 69.91 67 P **P 23 07 10.0 -0.6**
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 69.91 67 P **P 23 07 10.0 -0.6**
LSA IAmb IAmb 23 07 18.8
comp=Z,5.1nm,0.7s
ITTB Itaituba 69.92 249 *e*P **P 23 07 12.8 +2.6**
ULM Lac du Bonnet 69.93 318 P **P 23 07 09.1 -0.6**
comp=Z,7.2nm,0.6s,baz=72,slow=5.8,SNR=14
ULM LR LR 23 35 02.6
comp=Z,290nm,19.7s,baz=93,slow=34
ULM Lac du Bonnet 69.93 318 P **P 23 07 09.7 -0.1**
ULM pmax pmax
comp=Z,15nm,1.0s
ULM Lac du Bonnet 69.93 318 P **P 23 07 09.7 -0.1**
FFC Flin Flon 70.58 324 P **P 23 07 14.2 +0.6**
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 70.58 324 P **P 23 07 14.2 +0.6**
FFC IAmb IAmb 23 07 17.9
comp=Z,5.6nm,0.9s
SONM Songino Array 70.76 45 P **P 23 07 14.9 -0.2**
comp=Z,1.3nm,0.8s,baz=289,slow=4.5,SNR=10
SONM LR LR 23 39 13.6
comp=Z,355nm,19.9s,baz=306,slow=37
SONM Songino Array 70.76 45 P **P 23 07 14.8 -0.2**
SPMN Marine on St. 70.83 312 P **P 23 07 15.6 +0.2**
SPMN IAmb IAmb 23 07 17.9
comp=Z,13nm,1.1s
SPMN Marine on St. 70.83 312 P 23 07 15.7
baz=58
YKA Yellowknife Ar 70.92 335 P **P 23 07 15.6 0.0**
comp=Z,4.3nm,0.8s,baz=54,slow=6.3,SNR=40
YKA LR LR 23 37 47.5
comp=Z,520nm,18.3s,baz=0.0,slow=35
YKA Yellowknife Ar 70.92 335 *ce*P **P 23 07 15.8 +0.2**
YKA pmax pmax
comp=Z,4.0nm,0.8s
AGMN Agassiz Nation 70.97 316 P **P 23 07 16.6 +0.4**
AGMN IAmb IAmb 23 07 19.0
comp=Z,10nm,1.1s
AGMN Agassiz Nation 70.97 316 P 23 07 18.4
baz=57
GTA Gaotai 71.11 55 P **P 23 07 17.9 +0.6**
GTA pP sP 23 07 25.3 +1.1
GTA sP pP 23 07 28.1 +5.7
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,46nm,4.9s
GTA LR LR
comp=Z,450nm,17.4s
GTA LR LR
comp=Z,310nm,17.4s
GTA LR LR
comp=Z,240nm,18.5s
ULN Ulaanbaatar 71.12 44 *ce*P **P 23 07 17.5 +0.3**
ULN pmax pmax
comp=Z,1.0nm,0.8s
DIAM Diamantina, MG 71.31 230 *e*P **P 23 07 19.4 +0.7**
NPGB Novo Progresso 71.39 246 *e*P **P 23 07 23.3 +4.2**
T47A Sharon Grove 71.45 302 P **P 23 07 18.2 -1.0**
INK Inuvik 71.74 345 LR LR 23 40 09.8
comp=Z,516nm,18.1s,baz=351,slow=37
INK Inuvik 71.74 345 P **P 23 07 20.6 +0.2**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 71.74 345 P **P 23 07 20.6 +0.2**
INK IAmb IAmb 23 07 22.8
comp=Z,7.1nm,1.1s
BDFB Brasilia 72.13 235 LR LR 23 39 19.5
comp=Z,571nm,18.1s,baz=68,slow=36
A21K Barrow 72.34 354 P **P 23 07 24.9 +1.0**
A21K IAmb IAmb 23 07 28.6
comp=Z,12nm,0.9s
A21K Barrow 72.34 354 P 23 07 25.1
baz=15
YAK Yakutsk 72.50 24 *e*P **P 23 07 24.6 -0.4**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK MLR MLR
comp=Z,493nm,15.0s
YAK MLR MLR
comp=N,269nm,15.0s
YAK Yakutsk 72.50 24 P **P 23 07 24.7 -0.4**
SHL Shillong 72.60 71 P **P 23 07 25.7 -0.8**
SHL pmax pmax
comp=Z,18nm,1.4s
SHL Shillong 72.60 71 P **P 23 07 25.7 -0.8**
SHL IAmb IAmb 23 07 29.5
comp=Z,18nm,1.4s
X48A Hartselle 72.73 300 P **P 23 07 26.7 -0.3**
X48A IAmb IAmb 23 07 30.8
comp=Z,15nm,1.4s
MACA Manacapuru-AM 72.95 253 *e*P **P 23 07 32.2 +3.7**
PLAL Pickwick Lake 73.17 301 P **P 23 07 28.9 -0.6**
PLAL IAmb IAmb 23 07 32.8
comp=Z,9.0nm,0.9s
LRAL Lakeview Retre 73.45 299 P **P 23 07 30.6 -0.6**
LRAL Lakeview Retre 73.45 299 P 23 07 30.2
baz=58
CCM Cathedral Cave 73.68 305 P **P 23 07 32.0 -0.5**
CCM pmax pmax
comp=Z,13nm,1.3s
CCM Cathedral Cave 73.68 305 P **P 23 07 32.0 -0.5**
CCM IAmb IAmb 23 07 35.9
comp=Z,13nm,1.3s
CCM Cathedral Cave 73.68 305 P 23 07 32.2
baz=57
SDV Santo Domingo 73.77 269 P **P 23 07 32.4 -1.2**
SDV IAmb IAmb 23 07 36.9
comp=Z,11nm,0.8s
SDV Santo Domingo 73.77 269 *e*P **P 23 07 32.9 -0.6**
SDV Santo Domingo 73.77 269 *e*P **P 23 07 36.4 +2.8**
PBMO Poplar Bluff 73.82 304 P **P 23 07 32.5 -0.8**
PBMO IAmb IAmb 23 07 36.6
comp=Z,18nm,1.2s
IPMB Ipameri, GO 73.96 233 *e*P **P 23 07 36.0 +1.7**
EPYK Eagle Plains 74.05 345 P 23 07 35.3
baz=31
T42A Van Buren 74.13 304 P **P 23 07 34.3 -0.9**
T42A IAmb IAmb 23 07 38.4
comp=Z,7.8nm,1.1s
TOLK Toolik Lake Re 74.16 351 P **P 23 07 36.3 +1.5**
TOLK IAmb IAmb 23 07 43.6
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 74.16 351 P 23 07 37.0
baz=21,SNR=16
OXF Oxford 74.35 301 P **P 23 07 35.4 -1.0**
OXF pmax pmax
comp=Z,18nm,0.8s
OXF Oxford 74.35 301 P **P 23 07 35.4 -1.0**
OXF Oxford 74.35 301 P 23 07 34.8
baz=57
LCAR Lake Charles 74.70 303 P **P 23 07 38.6 +0.2**
LCAR IAmb IAmb 23 07 42.0
comp=Z,13nm,1.4s
MGMO Mountain Grove 74.85 305 P **P 23 07 39.0 -0.4**
MGMO IAmb IAmb 23 07 43.3
comp=Z,7.9nm,0.8s
S39A Bolivar 75.25 306 P **P 23 07 41.5 -0.1**
S39A IAmb IAmb 23 07 48.3
comp=Z,10nm,0.8s
BILL Bilibino 75.36 7 *e*P **P 23 07 40.4 -1.3**
BILL 23 07 56.2
BILL pmax pmax
comp=Z,11nm,1.7s
BILL MLR MLR
comp=Z,153nm,18.0s
BILL Bilibino 75.36 7 P **P 23 07 42.7 +1.0**
FCAR Ozark Folk Cen 75.45 304 P **P 23 07 42.5 -0.3**
COLD Coldfoot 75.58 351 P **P 23 07 44.3 +1.4**
COLD IAmb IAmb 23 07 47.1
comp=Z,9.0nm,1.0s

COLD	**Coldfoot**	**75.58**	**351**	P			23 07 45.0	
	baz=20,SNR=10							
LZH	**Lanzhou**	**75.59**	**56**	*e*P		**P**	**23 07 44.4**	**+0.6**
LZH				sP		sP	23 07 52.0	+1.2
LZH				pmax		pmax		
	comp=Z,15nm,1.0s							
U40A	**Yellville**	**75.69**	**305**	P			23 07 43.6	
	baz=56							
WHAR	**Wooly Hollow**	**75.90**	**303**	P		**P**	**23 07 44.8**	**-0.6**
WHAR				IAmb		IAmb	23 07 48.5	
	comp=Z,9.2nm,1.0s							
EGAK	**Eagle**	**76.34**	**346**	P		**P**	**23 07 47.8**	**+0.5**
EGAK	**Eagle**	**76.34**	**346**	P			23 07 48.7	
	baz=27							
PRP	**Porcupine Dome**	**76.47**	**348**	P		**P**	**23 07 48.9**	**+0.6**
PRP				IAmb		IAmb	23 07 52.8	
	comp=Z,13nm,1.1s							
PRP	**Porcupine Dome**	**76.47**	**348**	P			23 07 50.2	
	baz=24,SNR=12							
SMLC	**San Martin de**	**76.61**	**271**	*e*P		**P**	**23 07 48.4**	**-1.3**
DAWY	**Dawson**	**76.62**	**345**	P		**P**	**23 07 49.2**	**+0.2**
W39A	**Magazine**	**76.96**	**304**	P		**P**	**23 07 50.8**	**-0.7**
W39A				IAmb		IAmb	23 07 54.9	
	comp=Z,7.4nm,0.8s							
W39A	**Magazine**	**76.96**	**304**	P			23 07 51.1	
	baz=55							
HIA	**Hailar**	**77.05**	**38**	P		**P**	**23 07 51.7**	**0.0**
HIA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
HIA	**Hailar**	**77.05**	**38**	P		**P**	**23 07 51.7**	**0.0**
POKR	**Poker Plat Res**	**77.15**	**349**	P			23 07 53.7	
	baz=22,SNR=8.0							
MIAR	**Mount Ida**	**77.19**	**303**	P		**P**	**23 07 52.2**	**-0.5**
MIAR				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MIAR	**Mount Ida**	**77.19**	**303**	P		**P**	**23 07 52.2**	**-0.5**
MIAR				IAmb		IAmb	23 07 58.1	
	comp=Z,5.3nm,0.8s							
K27K	**Chicken**	**77.19**	**346**	P		**P**	**23 07 52.9**	**+0.7**
K27K				IAmb		IAmb	23 08 05.0	
	comp=Z,6.8nm,0.9s							
MIAR	**Mount Ida**	**77.19**	**303**	P			23 07 53.1	
	baz=55							
K27K	**Chicken**	**77.19**	**346**	P			23 07 54.6	
	baz=26							
IMAR	**Indian Mountai**	**77.21**	**352**	P		**P**	**23 07 53.1**	**+0.9**
IL31		**77.38**	**348**	P		**P**	**23 07 53.6**	**+0.4**
IL31				IAmb		IAmb	23 08 01.9	
	comp=Z,5.8nm,0.9s							
ILAR	**Eielson Array**	**77.38**	**348**	P		**P**	**23 07 53.7**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=3.8,slow=3.2,SNR=23							
ILAR				PKKPbc		**PKKPbc**	**23 26 59.5**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=213,slow=4.8,SNR=5.2							
ILAR				PKPPKP		**P'P'df**	**23 35 05.2**	**-2.4**
	comp=Z,0.4nm,0.8s,baz=249,slow=1.9,SNR=4.7							
I23K	**Minto, Yukon-K**	**77.42**	**349**	P			23 07 55.0	
	baz=21							
SCRK	**Sand Creek**	**77.61**	**347**	P		**P**	**23 07 54.9**	**+0.3**
SCRK				IAmb		IAmb	23 07 59.2	
	comp=Z,8.9nm,1.0s							
SCRK	**Sand Creek**	**77.61**	**347**	P			23 07 56.1	
	baz=25,SNR=11							
MLY	**Manley**	**77.73**	**350**	P		**P**	**23 07 56.1**	**+0.9**
MLY				IAmb		IAmb	23 07 59.5	
	comp=Z,6.3nm,1.0s							
MLY	**Manley**	**77.73**	**350**	P			23 07 57.0	
	baz=19,SNR=10							
HDA	**Harding Lake**	**77.73**	**348**	P			23 07 55.8	
	baz=22,SNR=12							
HDA				P			23 07 55.8	
	baz=22,SNR=12							
HHC	**Hu-ho-hao-te**	**77.78**	**48**	*e*P		**P**	**23 07 56.5**	**+0.5**
HHC				pmax		pmax		
	comp=Z,3.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,71nm,8.5s							
T35A	**Sooner Cattle**	**77.78**	**307**	P		**P**	**23 07 55.6**	**-0.4**
WRH	**Wood River Hil**	**77.86**	**349**	P		**P**	**23 07 56.2**	**+0.3**
WRH				IAmb		IAmb	23 08 03.3	
	comp=Z,8.5nm,0.9s							
NEA2	**Nenana**	**77.90**	**349**	P			23 07 56.8	
	baz=21							
ZARC	**Zaragoza, Cauc**	**77.99**	**271**	*e*P		**P**	**23 07 57.0**	**-0.5**
BCAR	**Beaver Creek A**	**78.00**	**345**	P		**P**	**23 07 58.1**	**+1.3**
L27K	**Beaver Creek,**	**78.02**	**346**	P			23 07 59.3	
	baz=26							
PTBC	**PUERTO BERRIO,**	**78.21**	**270**	*e*P		**P**	**23 07 56.1**	**-2.6**
SAML	**Samuel**	**78.51**	**250**	*e*P		**P**	**23 08 03.6**	**+3.4**
OK031	**S. Brethren Rd**	**78.56**	**306**	P		**P**	**23 07 60.0**	**-0.3**
BPAW	**Bear Paw Mtn.**	**78.65**	**350**	P			23 08 01.8	
	baz=19							
MCK	**McKinley**	**78.68**	**349**	P			23 08 01.5	
	baz=21							
PAX	**Paxson**	**78.80**	**347**	P			23 08 03.3	
	baz=24							
VILB	**Vilhena**	**78.84**	**245**	*e*P		**P**	**23 08 03.6**	**+1.6**
DLBC	**Dease Lake**	**79.01**	**338**	LR		LR	23 41 27.5	
	comp=Z,241nm,20.8s,baz=94,slow=34							
CHUM	**Lake Minchumin**	**79.04**	**350**	P			23 08 03.5	
	baz=18,SNR=7.8							
ROSC	**El Rosal**	**79.08**	**268**	LR		LR	23 42 13.5	
	comp=Z,321nm,18.6s,baz=50,slow=35							
NORC	**Norcasia**	**79.11**	**269**	*e*P		**P**	**23 08 02.5**	**-1.2**
TRF	**Thorofare Moun**	**79.16**	**349**	P		**P**	**23 08 03.4**	**+0.1**
TRF				IAmb		IAmb	23 08 09.6	
	comp=Z,9.8nm,0.8s							
TRF	**Thorofare Moun**	**79.16**	**349**	P			23 08 04.1	
	baz=20,SNR=6.6							
WAT2	**Susitna Watana**	**79.35**	**348**	P			23 08 05.0	
	baz=21,SNR=11							
WAT6	**Susitna Watana**	**79.56**	**348**	P			23 08 07.0	
	baz=22,SNR=19							
ANM	**Nome**	**79.63**	**356**	P		**P**	**23 08 07.0**	**+1.4**
ANM				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ANM	**Nome**	**79.63**	**356**	P		**P**	**23 08 07.0**	**+1.4**
ANM	**Nome**	**79.63**	**356**	P			23 08 07.4	
	baz=7.4							
PTLB	**Pontes e Lacer**	**79.70**	**242**	*e*P		**P**	**23 08 09.2**	**+2.5**
GUY2C	**Guyana, Caldas**	**79.71**	**269**	*e*P		**P**	**23 08 07.7**	**+0.2**
TIJ01	**Guaruva-PR**	**79.83**	**229**	*e*P		**P**	**23 08 09.8**	**+2.5**
PPLA	**Purkeypile**	**79.96**	**350**	P		**P**	**23 08 07.5**	**-0.1**
PPLA				IAmb		IAmb	23 08 10.8	
	comp=Z,12nm,1.1s							
PPLA	**Purkeypile**	**79.96**	**350**	P			23 08 08.1	
	baz=18							
TOLC	**Tolima**	**80.04**	**268**	*e*P		**P**	**23 08 08.8**	**-0.3**
XAN	**Xi'an**	**80.17**	**55**	P		**P**	**23 08 09.3**	**+0.1**
XAN				pP		PcP	23 08 18.3	+1.8
XAN				pmax		pmax		
	comp=Z,8.0nm,1.1s							
XAN				pmax		pmax		
	comp=Z,86nm,6.0s							
XAN				LR		LR		
	comp=Z,270nm,17.6s							
XAN				LR		LR		
	comp=Z,220nm,17.6s							
XAN				LR		LR		
	comp=Z,210nm,19.8s							
XAN	**Xi'an**	**80.17**	**55**	P		**P**	**23 08 08.9**	**-0.3**
XAN				pmax		pmax		
	comp=Z,9.0nm,1.1s							
XAN	**Xi'an**	**80.17**	**55**	P		**P**	**23 08 08.9**	**-0.3**
XAN				IAmb		IAmb	23 08 15.8	
	comp=Z,8.9nm,1.1s							
KLU	**Klutina**	**80.25**	**347**	P			23 08 10.6	
	baz=23,SNR=8.0							
SML	**Sawmill**	**80.39**	**348**	P			23 08 10.9	
	baz=21							
BMRM	**Bremner River**	**80.47**	**346**	P		**P**	**23 08 11.4**	**+1.0**
BMRM	**Bremner River**	**80.47**	**346**	P			23 08 13.7	
	baz=24,SNR=5.8							
MA2	**Magadan**	**80.59**	**17**	*ce*P		**P**	**23 08 11.0**	**+0.1**
MA2				pmax		pmax		
	comp=Z,7.0nm,1.0s							
MA2	**Magadan**	**80.59**	**17**	P		**P**	**23 08 11.6**	**+0.7**
PLMC	**San Jos del P**	**80.63**	**269**	*e*P		**P**	**23 08 10.5**	**-1.5**
SKT	**Skwentna**	**80.74**	**349**	P		**P**	**23 08 12.4**	**+0.7**
SKT	**Skwentna**	**80.74**	**349**	P			23 08 12.5	
	baz=19							
KNK	**Knik Glacier**	**80.78**	**348**	P			23 08 13.4	
	baz=21							
KMI	**Kunming**	**81.03**	**66**	⇓P		**P**	**23 08 15.0**	**+0.8**
KMI				pP		pP	23 08 17.8	-1.5
KMI				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KMI				LR		LR		
	comp=Z,110nm,12.8s							
KMI				LR		LR		
	comp=Z,140nm,18.4s							
SUA	**Susitna One**	**81.11**	**349**	P			23 08 14.8	
	baz=19							
BOZ	**Bozeman (W)**	**81.14**	**321**	P			23 08 16.1	
	baz=47							
YOTC	**Yotoco, Valle**	**81.22**	**269**	*e*P		**P**	**23 08 16.3**	**+1.1**
PTGB	**Pitanga**	**81.29**	**231**	*e*P		**P**	**23 08 18.2**	**+3.0**
RC01	**Rabbit Creek A**	**81.30**	**348**	P			23 08 18.1	
	baz=20							
ETMB	**Extrema**	**81.38**	**251**	*e*P		**P**	**23 08 17.1**	**+1.3**
ISCO	**Idaho Springs**	**81.66**	**313**	P		**P**	**23 08 17.6**	**+0.2**
ISCO				pmax		pmax		
	comp=Z,5.0nm,1.1s							
ISCO	**Idaho Springs**	**81.66**	**313**	P		**P**	**23 08 17.6**	**+0.2**
ISCO	**Idaho Springs**	**81.67**	**313**	P			23 08 18.9	
	baz=50							
CM33	**Chiang Mai Arr**	**81.76**	**73**	P		**P**	**23 08 22.0**	**+4.1**
CMMT	**Chiang Mai**	**81.77**	**73**	P		**P**	**23 08 21.8**	**+3.9**
	comp=Z,1.9nm,1.0s							
CM34	**Chiang Mai Arr**	**81.90**	**73**	P		**P**	**23 08 23.0**	**+4.4**
PD31	**Pinedale Array**	**81.96**	**318**	P		**P**	**23 08 18.8**	**0.0**
PDAR	**Pinedale Array**	**81.96**	**318**	P		**P**	**23 08 19.0**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=58,slow=6.3,SNR=7.9							
PDAR				LR		LR	23 42 19.4	
	comp=Z,198nm,19.9s,baz=50,slow=34							
BW06	**Boulder Array**	**81.96**	**318**	P			23 08 19.8	
	baz=48							
CM13	**Chiang Mai Arr**	**81.96**	**73**	P		P	23 08 24.0	+5.1
	comp=Z,3.5nm,1.2s							
CMAR	**Chiang Mai Arr**	**81.97**	**73**	P		**P**	**23 08 18.7**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=300,slow=7.5,SNR=9.1							
CMAR	**Chiang Mai Arr**	**81.97**	**73**	P		**P**	**23 08 18.0**	**-1.0**
CM02	**Chiang Mai Arr**	**81.98**	**73**	P		P	23 08 24.0	+5.0
	comp=Z,4.7nm,0.8s							
CM05	**Chiang Mai Arr**	**82.00**	**73**	P		P	23 08 26.9	+7.8
	comp=Z,3.1nm,1.2s							
CM35	**Chiang Mai Arr**	**82.00**	**73**	P		**P**	**23 08 22.0**	**+2.9**
CM36	**Chiang Mai Arr**	**82.05**	**73**	P		**P**	**23 08 24.0**	**+4.6**
PCON	**Cinco Dias**	**82.22**	**267**	*e*P		**P**	**23 08 21.2**	**+0.3**
POPC	**Popayan, Colom**	**82.32**	**268**	*e*P		**P**	**23 08 17.2**	**-3.9**
SOTA	**Rioblanco**	**82.50**	**267**	*e*P		**P**	**23 08 23.8**	**+1.4**
KLR	**Kul'dur**	**82.69**	**32**	*i* P		**P**	**23 08 21.6**	**-0.6**
KLR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BBB	**Bella Bella**	**83.46**	**333**	LR		LR	23 45 13.9	
	comp=Z,219nm,18.2s,baz=32,slow=35							
F10A	**Beach Ranch, E**	**83.65**	**324**	P		**P**	**23 08 28.5**	**+1.2**
S22A	**4UR Ranch, Cre**	**83.72**	**313**	P			23 08 30.2	
	baz=49							
HLID	**Hailey**	**83.98**	**321**	P			23 08 32.1	
	baz=45							
BMO	**Blue Mountains**	**84.50**	**323**	P		**P**	**23 08 32.8**	**+1.1**
BMO				pmax		pmax		
	comp=Z,10.0nm,1.1s							
BMO	**Blue Mountains**	**84.50**	**323**	P		**P**	**23 08 32.8**	**+1.1**
BMO				IAmb		IAmb	23 08 35.0	
	comp=Z,10nm,1.1s							
MFID	**Camas Ranch**	**84.81**	**321**	P		**P**	**23 08 34.6**	**+1.3**
MFID				IAmb		IAmb	23 08 40.1	
	comp=Z,7.7nm,1.1s							
KDAK	**Kodiak Island**	**84.91**	**349**	LR		LR	23 48 33.6	
	comp=Z,204nm,21.1s,baz=58,slow=37							
MVCO	**Mesa Verde**	**85.07**	**313**	P			23 08 36.5	
	baz=48							
ANMO	**Albuquerque**	**85.33**	**310**	*ce*P		**P**	**23 08 35.0**	**-1.2**
ANMO				pmax		pmax		
	comp=Z,9.0nm,2.5s							
ANMO	**Albuquerque**	**85.33**	**310**	P		**P**	**23 08 36.6**	**+0.4**
DUG	**Dugway, Tooele**	**85.50**	**318**	P			23 08 39.4	
	baz=46							
CPUP	**Villa Florida**	**85.80**	**233**	LR		LR	23 45 02.0	
	comp=Z,682nm,21.6s,baz=46,slow=34							
BNM	**Barren Site**	**85.95**	**310**	P		**P**	**23 08 39.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**86.58**	**35**	P		**P**	**23 08 41.6**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=256,slow=3.9,SNR=4.8							
USRK				LR		LR	23 50 55.2	
	comp=Z,222nm,19.3s,baz=313,slow=38							
MNTX	**Cornudas Mount**	**86.76**	**307**	P			23 08 45.5	
	baz=49							
LPAZ	**La Paz**	**86.86**	**247**	LR		LR	23 47 56.2	
	comp=Z,233nm,18.6s,baz=52,slow=36							
TXAR	**Lajitas Array**	**87.16**	**304**	P		**P**	**23 08 46.3**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=86,slow=3.5,SNR=12							
TXAR				LR		LR	23 45 50.8	
	comp=Z,270nm,20.8s,baz=0.0,slow=34							
TXAR	**Lajitas Array**	**87.16**	**304**	P		**P**	**23 08 46.0**	**+0.8**
TXAR	**Lajitas Array**	**87.16**	**304**	P		**P**	**23 08 46.0**	**+0.8**
NJ2	**Nanjing**	**87.89**	**51**	*e*P		**P**	**23 08 47.6**	**-0.9**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.6s							
PETK	**Petropavlovsk-**	**88.09**	**16**	LR		LR	23 53 45.1	
	comp=Z,226nm,18.3s,baz=330,slow=39							
CMIG	**Matias Romero**	**88.39**	**290**	LR		LR	23 45 20.5	
	comp=Z,187nm,21.4s,baz=42,slow=34							
KSRS	**Korea Array**	**89.50**	**42**	P		**P**	**23 08 56.4**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=294,slow=3.7,SNR=4.2							
KSRS				LR		LR	23 54 18.2	
	comp=Z,133nm,18.3s,baz=330,slow=39							
NVAR	**Mina Array Bea**	**89.72**	**319**	P		**P**	**23 08 57.4**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=86,slow=3.9,SNR=5.7							
NVAR				LR		LR	23 47 09.0	
	comp=Z,173nm,20.4s,baz=55,slow=34							
PDMCI	**Parker Dam,Lak**	**90.39**	**314**	P			23 09 02.6	
	baz=45							
LVC	**Limon Verde**	**91.36**	**243**	*e*P		**P**	**23 09 08.5**	**+3.3**
MJAR	**Matsushiro Arr**	**95.51**	**37**	P		**P**	**23 09 23.0**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=326,slow=4.5,SNR=4.1							
MJAR				LR		LR	23 56 24.6	
	comp=Z,270nm,18.2s,baz=330,slow=38							
MJAR	**Matsushiro Arr**	**95.51**	**37**	P		**P**	**23 09 23.0**	**-0.9**
WRA	**Warramunga Arr**	**132.46**	**85**	PKP		**PKPdf**	**23 15 12.6**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=315,slow=2.5,SNR=2.6							
ASAR	**Alice Springs**	**133.92**	**89**	PKP		**PKPdf**	**23 15 16.3**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=295,slow=1.6,SNR=2.5							

*MAN **21** 23:11:56.0,20°.16N×122°.28E,h1km,MS3.9*
MAN INTENSITY IV - BASCO.
*JMA **21** 23:12:03.0±0.5,20°.88N×122°.17E,h0km,M4.0*
*IDC **21** 23:12:15.2±8.5,20°.70N×122°.11E,h136km±84km,mb3.2/9,*
mb1 3.3/10,mb1mx3.1/75,mbtmp3.6/10,MS2.8/2,
Ms1 3.0/2,ms1mx2.6/20,Error ellipse: s-maj=33.2km
s-min=18.0km az=74.0

ISC 21 23:12:04.8±0.8,20°.55N±0°.06×122°.3E±0°.1,h40km,n20,
σ1s27/27,mb3.5/9,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.86**	**188**	*e*P	Pn	23 12 44.4	-3.6
CVP				*i* S	**Sn**	**23 13 18.3**	**-2.9**
HATJ	**Hateruma jima**	**3.78**	**22**	P	**Pn**	**23 13 00.2**	**-0.3**
HATJ				S	**Sn**	**23 13 43.1**	**-0.6**
JYNG	**Yonagunijimaku**	**3.94**	**9**	P	**Pn**	**23 13 02.5**	**-0.2**
JYNG				S	**Sn**	**23 13 47.4**	**-0.3**
YOJ	**Yonaguni jima**	**3.96**	**10**	P	**Pn**	**23 13 03.9**	**+0.9**
YOJ				S	**Sn**	**23 13 47.2**	**-1.0**
IRIF	**Iriomote-Funau**	**4.01**	**20**	P	**Pn**	**23 13 03.1**	**-0.6**
IRIF				S	**Sn**	**23 13 48.9**	**-0.6**
JKRS	**Kuro-shima**	**4.02**	**24**	P	**Pn**	**23 13 03.9**	**+0.1**
JKRS				*e*S	**Sn**	**23 13 49.1**	**-0.5**
JIJ	**Ishigaki jima**	**4.18**	**24**	P	**Pn**	**23 13 05.9**	**-0.2**
JIJ				*e*S	**Sn**	**23 13 51.9**	**-1.8**
JISG	**Ishigakijimahi**	**4.45**	**25**	P	**Pn**	**23 13 09.7**	**-0.1**
JISG				S	**Sn**	**23 13 58.9**	**-1.4**
JTJ	**Tarama**	**4.66**	**29**	P	**Pn**	**23 13 13.0**	**+0.3**
JTJ				S	**Sn**	**23 14 04.6**	**-0.9**
JOW	**Kunigami**	**8.34**	**40**	LR	LR	23 17 12.3	
	comp=Z,82nm,21.5s,baz=230,slow=36						
KSRS	**Korea Array**	**17.55**	**15**	P	**P**	**23 16 09.2**	**+2.0**
	0.2nm,0.3s,baz=201,slow=13,SNR=7.8						
CMAR	**Chiang Mai Arr**	**22.07**	**269**	P	**P**	**23 16 57.9**	**+1.5**
	0.7nm,0.3s,baz=81,slow=8.1,SNR=5.4						
CMAR				LR	LR	23 25 25.6	
	comp=Z,24nm,18.2s,baz=285,slow=36						
SONM	**Songino Array**	**30.09**	**338**	P	**P**	**23 18 10.4**	**-0.2**
	0.7nm,0.7s,baz=152,slow=9.2,SNR=5.7						
MKAR	**Makanchi Array**	**41.66**	**318**	P	**P**	**23 19 48.8**	**-0.6**
	0.7nm,0.7s,baz=116,slow=8.9,SNR=3.8						
WRA	**Warramunga Arr**	**41.95**	**163**	P	**P**	**23 19 53.9**	**+2.0**
	0.7nm,0.7s,baz=344,slow=8.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**43.84**	**329**	P	**P**	**23 20 05.9**	**-1.0**
	1.2nm,0.5s,baz=114,slow=9.9,SNR=2.1						
ASAR	**Alice Springs**	**45.39**	**165**	P	**P**	**23 20 22.1**	**+2.4**
	0.2nm,0.4s,baz=7.4,slow=7.9,SNR=2.0						
KURBB	**Kurchatov Arra**	**45.54**	**322**	P	**P**	**23 20 19.3**	**-1.2**
	0.5nm,0.4s,baz=118,slow=7.2,SNR=4.4						
ILAR	**Eielson Array**	**71.99**	**27**	P	**P**	**23 23 23.2**	**-0.9**
	0.2nm,0.6s,baz=275,slow=5.8,SNR=4.5						
YKA	**Yellowknife Ar**	**85.92**	**23**	P	**P**	**23 24 39.4**	**-1.0**
	0.3nm,0.7s,baz=306,slow=3.9,SNR=3.1						

*IDC **21** 23:14:16.6±2.6,36°.12N×70°.89E,h106km±23km,mb3.7/21,*
mb1 3.8/27,mb1mx3.5/76,mbtmp4.1/27,MS4.0/1,
Ms1 4.0/1,ms1mx2.6/46,Error ellipse: s-maj=17.4km
s-min=12.6km az=174.0
*NEIC **21** 23:14:18.8±1.8,36°.28N±0°.06×70°.90E±0°.09,h126km±4km,*
mb4.2/21,Error ellipse: s-maj=10.5km s-min=8.5km
az=90.0
*NNC **21** 23:14:20.5±3.3,36°.57N×70°.66E,h123km±40km,mb3.8,*
mpv4.6,Error ellipse: s-maj=30.4km s-min=15.3km
az=163.0

ISC 21 23:14:19.8±0.4,36°.26N±0°.04×71°.08E±0°.05,h150km,n105,
σ2s29/115,mb3.9/24,10C-12D,Afghanistan-Tajikistan
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.39**	**225**	Pn	**Pn**	**23 14 56.9**	**-2.9**
KBL				Sn	**Sn**	**23 15 24.7**	**-5.8**
CEP	**Cherat**	**2.52**	**164**	P	**Pn**	**23 15 00.1**	**-1.2**
CEP				S	**Sn**	**23 15 31.0**	**-2.3**
NIL	**Nilore**	**3.15**	**145**	Pn	**Pn**	**23 15 08.8**	**-0.4**
THW	**Thamme Wali**	**3.50**	**171**	P	**Pn**	**23 15 12.0**	**-1.6**
SARP	**Sargodha**	**4.52**	**163**	P	**Pn**	**23 15 25.1**	**-1.8**
THN	**Thein Dam**	**5.41**	**134**	*e*P	**Pn**	**23 15 39.0**	**+0.4**
THN				*e*S	**Sn**	**23 16 38.0**	**-2.1**
AML	**Almayashu**	**6.21**	**18**	P	**Pn**	**23 15 48.3**	**-1.2**
	SNR=783						
UCH	**Uchtor**	**6.53**	**23**	P	**Pn**	**23 15 52.8**	**-1.1**
	SNR=75						
BHK	**Bhakra**	**6.56**	**136**	*e*P	**Pn**	**23 15 52.0**	**-1.9**
BHK				*e*S	**Sn**	**23 17 02.4**	**-5.3**
EKS2	**Erkin-Say**	**6.73**	**17**	P	**Pn**	**23 15 55.3**	**-1.0**
	SNR=47						
KK31	**Karatay Array**	**6.85**	**356**	⇓P	**Pn**	**23 15 56.0**	**-1.8**
	27nm,0.4s,baz=179,slow=12,SNR=1098						
KK31				⇑S	**Sn**	**23 17 10.2**	**-4.5**
	46nm,0.8s,baz=187,slow=24,SNR=7.3						
KK31	**Karatay Array**	**6.85**	**356**		**Pn**	**23 15 55.8**	**-2.0**
KKAR	**Karatay Array**	**6.85**	**356**		**Pn**	**23 15 55.7**	**-2.1**
KKAR	**Karatay Array**	**6.85**	**356**	Pn	**Pn**	**23 15 55.4**	**-2.4**
AAK	**Ala-Archa**	**6.90**	**21**	P	**Pn**	**23 15 57.8**	**-0.7**
	20nm,0.3s,baz=162,slow=5.9,SNR=296						
AAK				S	**Sn**	**23 17 12.1**	**-3.8**
	5.2nm,0.3s,baz=34,slow=19,SNR=11						
AAK	**Ala-Archa**	**6.90**	**21**	P	**Pn**	**23 15 57.7**	**-0.8**
	SNR=68						
AAK	**Ala-Archa**	**6.90**	**21**	⇑P	**Pn**	**23 15 58.0**	**-0.5**
	12nm,0.3s						
AAK				⇓S	**Sn**	**23 17 11.4**	**-4.6**
	84nm,0.8s						
KBK	**Karagaybulak**	**7.05**	**24**	P	**Pn**	**23 16 00.1**	**-0.5**
	SNR=27						
ULHL	**Ulahol**	**7.20**	**32**	P	**Pn**	**23 16 01.8**	**-0.8**
	SNR=19						
CHMS	**Chumysh**	**7.30**	**22**	P	**Pn**	**23 16 02.9**	**-0.9**
	SNR=33						
HRA	**Herat**	**7.46**	**258**	Pn	**Pn**	**23 16 03.4**	**-2.8**
TKM2	**Tokmak 2**	**7.51**	**26**	P	**Pn**	**23 16 06.0**	**-0.8**
	SNR=11						
TKM2	**Tokmak 2**	**7.51**	**26**	⇑P	**Pn**	**23 16 06.0**	**-0.8**
	9.5nm,0.5s						
TKM2				⇓S	**Sn**	**23 17 26.6**	**-4.2**
	33nm,0.8s						
MDOK	**Medeo**	**8.29**	**32**	⇓P	**Pn**	**23 16 16.8**	**-0.3**
	11nm,0.6s						
MDOK				S	**Sn**	**23 17 50.1**	**+0.8**
	5.2nm,0.6s						
KNDC	**Almaty**	**8.30**	**31**	⇓P	**Pn**	**23 16 17.7**	**+0.6**
	27nm,0.5s						
KNDC				⇑S	**Sn**	**23 17 50.1**	**+0.7**
	36nm,0.8s						
NDI	**New Delhi**	**9.15**	**144**	*e*P	**Pn**	**23 16 27.0**	**-1.6**
NDI				*e*S	**Sn**	**23 18 02.5**	**-7.7**
PDGK	**Podgornoye**	**9.57**	**40**	⇑P	**Pn**	**23 16 32.7**	**-1.5**
	9.9nm,0.8s						
PDGK				⇓S	**Sn**	**23 18 18.4**	**-1.9**
	11nm,1.0s						
GEYT	**Alibeck**	**10.49**	**283**	P	Pn	23 16 42.1	-4.2
	2.1nm,0.3s,baz=110,slow=8.5,SNR=21						
GEYT				S	Sn	23 18 34.0	-8.4
	4.0nm,0.3s,baz=124,slow=12,SNR=4.9						
GYA0B	**ALIBECK ARRAY**	**10.49**	**283**	⇓P	Pn	23 16 42.1	-4.2
GYA0B

GNI	**Garni**	**21.03**	**289**	P	**P**	**23 18 51.6**	**-0.3**
GNI				IAmb	IAmb	23 18 59.5	
	comp=Z,10nm,0.9s						
ARU	**Arti**	**21.88**	**341**	P	**P**	**23 19 01.8**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=292,slow=7.5,SNR=5.7						
ARU	**Arti**	**21.88**	**341**	P	**P**	**23 19 00.7**	**+0.2**
ARU				IAmb	IAmb	23 19 06.9	
	comp=Z,7.3nm,1.0s						
KBZ	**Khabaz**	**22.77**	**298**	P	**P**	**23 19 10.0**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=121,slow=12,SNR=1.5						
KVAR	**Kislovodsk Arr**	**22.95**	**298**	P	**P**	**23 19 15.9**	**+4.8**
	comp=Z,1.7nm,0.5s,baz=94,slow=19,SNR=2.3						
KIV	**Kislovodsk**	**22.96**	**298**	P	**P**	**23 19 11.2**	**+0.1**
RAYN	**Ar Rayn**	**25.46**	**247**	P	**P**	**23 19 34.2**	**+0.2**
SONM	**Songino Array**	**28.42**	**55**	P	**P**	**23 20 02.9**	**+2.6**
	comp=Z,0.1nm,0.4s,baz=263,slow=10.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**30.28**	**118**	P	**P**	**23 20 19.7**	**+2.9**
	comp=Z,2.0nm,0.3s,baz=311,slow=8.2,SNR=1.9						
ELL	**Elmali**	**32.92**	**283**	P	**P**	**23 20 41.2**	**+1.3**
AKASG	**Malin Array Be**	**33.15**	**309**	P	**P**	**23 20 42.9**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=82,slow=7.6,SNR=1.7						
BURAR	**Bucovina Array**	**35.47**	**303**	P	**P**	**23 21 02.8**	**+1.0**
BUR08	**Bucovina Ar. S**	**35.48**	**303**	P	**P**	**23 21 03.0**	**+1.1**
IDI	**Anoyia**	**37.22**	**283**	P	**P**	**23 21 17.0**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=86,slow=16,SNR=1.2						
IDI	**Anoyia**	**37.22**	**283**	P	**P**	**23 21 16.6**	**-0.1**
FIA1	**FINESS Array S**	**37.72**	**326**	P	**P**	**23 21 22.1**	**+1.6**
FINES	**FINESS Array B**	**37.72**	**326**	P	**P**	**23 21 22.1**	**+1.6**
	comp=Z,2.7nm,0.9s,baz=134,slow=8.9,SNR=8.4						
FINES	**FINESS Array B**	**37.72**	**326**	P	**P**	**23 21 21.9**	**+1.4**
ARCES	**ARCESS Array B**	**41.40**	**338**	P	**P**	**23 21 52.8**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=105,slow=7.8,SNR=9.4						
HFS	**Hagfors**	**43.30**	**322**	P	**P**	**23 22 07.7**	**+1.4**
	comp=Z,8.0nm,0.9s,baz=97,slow=9.7,SNR=11						
NC303	**NORSAR Array S**	**44.56**	**323**	P	**P**	**23 22 17.7**	**+1.3**
NB2	**NORSAR Subarra**	**44.62**	**323**	P	**P**	**23 22 18.2**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.62**	**323**	P	**P**	**23 22 18.0**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=104,slow=7.3,SNR=6.5						
SPITS	**Spitsbergen Ar**	**47.74**	**347**	P	**P**	**23 22 43.7**	**+2.7**
	comp=Z,2.6nm,1.3s,baz=134,slow=10,SNR=5.3						
MA2	**Magadan**	**54.51**	**38**	LR	LR	23 45 55.1	
	comp=Z,135nm,20.0s,baz=329,slow=35						
TOA0	**Torodi Ar. Sit**	**65.78**	**269**	P	**P**	**23 24 48.0**	**-1.0**
TOA0				IAmb	IAmb	23 24 49.5	
	comp=Z,3.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	**P**	**23 24 48.5**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=50,slow=6.1,SNR=22						
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	**P**	**23 24 48.4**	**-0.6**
TORD				IAmb	IAmb	23 24 49.1	
	comp=Z,2.2nm,0.6s						
KOWA	**Kowa**	**69.65**	**273**	P	**P**	**23 25 13.8**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=37,slow=7.0,SNR=9.0						
KOWA	**Kowa**	**69.65**	**273**	P	**P**	**23 25 13.5**	**+0.2**
KOWA				IAmb	IAmb	23 25 23.3	
	comp=Z,6.1nm,1.4s						
C36M	**Paulatuk**	**74.11**	**6**	P	**P**	**23 25 40.6**	**+1.6**
C36M				IAmb	IAmb	23 25 48.0	
	comp=Z,2.7nm,0.8s						
INK	**Inuvik**	**74.13**	**9**	P	**P**	**23 25 41.5**	**+2.4**
	comp=Z,0.9nm,0.6s,baz=301,slow=6.3,SNR=4.5						
INK	**Inuvik**	**74.13**	**9**	P	**P**	**23 25 41.1**	**+2.0**
INK				IAmb	IAmb	23 25 43.3	
	comp=Z,4.4nm,1.5s						
LBTB	**Lobatse**	**74.54**	**222**	P	**P**	**23 25 44.0**	**+1.8**
DBIC	**Dimbokro**	**74.75**	**267**	P	**P**	**23 25 43.6**	**0.0**
DBIC				IAmb	IAmb	23 25 53.3	
	comp=Z,4.8nm,1.1s						
ILAR	**Eielson Array**	**75.00**	**16**	P	**P**	**23 25 46.2**	**+2.1**
	comp=Z,0.5nm,1.0s,baz=314,slow=5.4,SNR=4.9						
BOSA	**Boshof**	**77.60**	**220**	P	**P**	**23 26 01.3**	**+1.8**
	comp=Z,3.3nm,1.0s,baz=30,slow=8.1,SNR=3.8						
BOSA	**Boshof**	**77.60**	**220**	P	**P**	**23 26 01.0**	**+1.5**
YKA	**Yellowknife Ar**	**81.48**	**3**	P	**P**	**23 26 21.9**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=1.4,slow=5.6,SNR=5.7						
WRA	**Warramunga Ar**	**81.81**	**122**	P	**P**	**23 26 23.5**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=324,slow=5.4,SNR=1.5						
ASAR	**Alice Springs**	**84.06**	**125**	P	**P**	**23 26 35.3**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=310,slow=4.5,SNR=3.1						

CRAAG ***21*** *23:18:20.4,35˙77N×5˙67E,Ml3.9*
IDC ***21*** *23:18:21.8±1.6,35˙74N×5˙68E,h0km,mb3.3/4,mb1 3.4/7, mb1mx3.1/73,mbtmp3.3/7,ML3.4/3,Error ellipse: s-maj=29.8km s-min=24.5km az=150.0*
MDD ***21*** *23:18:24.7±0.9,35˙88N×5˙67E,h0km,mb4.0/20,Error ellipse: s-maj=11.4km s-min=4.5km az=2.0,PRXIMO*
LDG ***21*** *23:18:25.2±0.7,35˙71N×5˙47E,h30km,Ml3.3/11,Error ellipse: s-maj=15.2km s-min=6.8km az=144.0*

ISC 21 23:18:24.1±1.2,35˙91N±0˙06×5˙68E±0˙03,h15km±7km, n73,σ2s20/92,mb3.3/4,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CKHR	**Kef el Ahmar**	**0.17**	**307**	P	**Pg**	**23 18 28.0**	**-0.5**
CKHR	**Kef el Ahmar**	**0.17**	**307**	P	**Pg**	**23 18 28.0**	**-0.5**
SET	**Setif**	**0.36**	**322**	P	**Pg**	**23 18 31.0**	**-0.6**
SET	**Setif**	**0.36**	**322**	P	**Pg**	**23 18 31.0**	**-0.6**
CTEI	**Djebel Teioual**	**0.61**	**76**	P	**Pg**	**23 18 34.8**	**-1.4**
CTEI	**Djebel Teioual**	**0.61**	**76**	P	**Pg**	**23 18 34.8**	**-1.4**
DFRA	**Djebel Bou Aff**	**0.65**	**14**	P	**Pn**	**23 18 40.5**	**+1.6**
DFRA	**Djebel Bou Aff**	**0.65**	**14**	P	**Pn**	**23 18 40.5**	**+1.6**
CASM	**Ain Smara**	**0.74**	**62**	P	**Pb**	**23 18 39.2**	**+0.4**
CASM	**Ain Smara**	**0.74**	**62**	P	**Pb**	**23 18 39.2**	**+0.4**
CKFL	**Kef-Lekhel**	**0.97**	**60**	P	**Pn**	**23 18 44.0**	**+0.7**
CKFL	**Kef-Lekhel**	**0.97**	**60**	P	**Pn**	**23 18 44.0**	**+0.7**
CAEH	**'Ain El Ouahch**	**1.28**	**47**	P	**Pn**	**23 18 45.5**	**-2.0**
CAEH	**'Ain El Ouahch**	**1.28**	**47**	P	**Pn**	**23 18 45.5**	**-2.0**
CMAH	**Djebel Manchou**	**1.58**	**63**	P	**Pg**	**23 18 56.0**	**+1.6**
CMAH	**Djebel Manchou**	**1.58**	**63**	P	**Pg**	**23 18 56.0**	**+1.6**
KEST	**Kesra**	**2.99**	**92**	Pn	**Pn**	**23 19 11.5**	**+0.5**
	0.7nm,0.3s,baz=277,slow=3.5,SNR=42						
KEST				Sn	**Sn**	**23 19 48.6**	**+2.1**
	1.8nm,0.3s,baz=127,slow=20,SNR=1.2						
EBNR	**Beni Rached**	**3.38**	**278**	P	**Pn**	**23 19 16.4**	**+0.1**
ECHA	**Ech Chlef**	**3.50**	**275**	P	**Pn**	**23 19 19.7**	**+1.7**
ECHF	**Ech Chlef**	**3.52**	**275**	P	**Pn**	**23 19 19.7**	**+1.4**
ETRT	**Tiaret**	**3.60**	**263**	P	**Pn**	**23 19 17.1**	**-2.4**
ETRT	**Tiaret**	**3.60**	**263**	P	**Pn**	**23 19 17.1**	**-2.4**
OKGL	**Djebel Kef Gue**	**4.08**	**273**	P	**Pn**	**23 19 26.8**	**+0.7**
	9.5nm,0.2s,SNR=7.9						
MAHO	**Mahon**	**4.13**	**345**	P	**Pn**	**23 19 27.3**	**+0.7**
MAHO	**Mahon**	**4.13**	**345**	*e*P	**Pn**	**23 19 27.3**	**+0.7**
ETOS	**Mallorca**	**4.46**	**330**	P	**Pn**	**23 19 33.5**	**+2.3**
	3.1nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.64**	**313**	P	**Pn**	**23 19 35.8**	**+2.1**
	7.0nm,0.3s,SNR=19						
EIBI				S	**Sn**	**23 20 26.3**	**-0.9**
	2.6nm,0.4s,SNR=7.9						
EBEN2	**Beniarda presa**	**5.43**	**302**	P	**Pn**	**23 19 46.3**	**+1.8**
	5.0nm,0.3s,SNR=7.9						
EBEN2				S	**Sn**	**23 20 46.3**	**-0.4**
	2.3nm,0.4s,SNR=7.9						
AFON	**Font Roja**	**5.67**	**301**	P	**Pn**	**23 19 51.3**	**+3.4**
	2.0nm,0.3s,SNR=5.6						
AFON				S	**Sn**	**23 20 51.3**	**-1.4**
	2.8nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**5.87**	**291**	P	**Pn**	**23 19 51.4**	**+0.8**
	1.5nm,0.2s,SNR=10						
EMUR				S	**Sn**	**23 20 57.2**	**-0.3**
	1.9nm,0.4s						
ETOB	**Tobarra**	**6.37**	**297**	P	**Pn**	**23 19 59.6**	**+2.1**
	2.2nm,0.3s,SNR=15						
ECHE	**Chera**	**6.42**	**307**	P	**Pn**	**23 20 00.1**	**+2.0**
	0.9nm,0.3s,SNR=7.9						
ECHE				S	**Sn**	**23 21 11.3**	**+0.3**
	1.1nm,0.5s,SNR=7.9						
ENIJ	**Nijar**	**6.44**	**282**	P	**Pn**	**23 19 58.2**	**-0.2**
	3.6nm,0.4s,SNR=7.9						
ENIJ				S	**Sn**	**23 21 12.3**	**+0.7**
	5.1nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**6.91**	**343**	P	**Pn**	**23 20 06.1**	**+1.2**
	0.3nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**6.94**	**291**	P	**Pn**	**23 20 07.5**	**+2.2**
	4.1nm,0.4s,SNR=7.9						
SESP				S	**Sn**	**23 21 26.9**	**+2.9**
	4.8nm,0.6s,SNR=7.9						
EBER	**Berja**	**6.98**	**281**	P	**Pn**	**23 20 06.1**	**+0.2**
	3.5nm,0.3s,SNR=13						
EBER				S	**Sn**	**23 21 21.5**	**-3.6**
	0.5nm,0.3s						
PGF	**Pioggiola**	**7.11**	**20**	P	**Pn**	**23 20 08.1**	**+0.5**
PGF				S	**Sn**	**23 21 25.2**	**-2.9**
	0.9nm,0.4s						
PGF	**Pioggiola**	**7.11**	**20**	*e*Pn	**Pn**	**23 20 08.1**	**+0.5**
PGF				*e*Sn	**Sn**	**23 21 25.2**	**-2.9**
	1.7nm,0.4s						
CLLI	**Llivia**	**7.16**	**337**	P	**Pn**	**23 20 11.0**	**+2.7**
	0.5nm,0.2s,SNR=6.7						
EQES	**Quesada**	**7.26**	**288**	P	**Pn**	**23 20 12.0**	**+2.2**
	2.8nm,0.4s,SNR=17						
EQES				S	**Sn**	**23 21 34.9**	**+2.9**
	2.0nm,0.3s,SNR=7.9						
CSOR	**Sort**	**7.35**	**333**	P	**Pn**	**23 20 14.6**	**+3.6**
	0.6nm,0.2s,SNR=8.2						
LMR	**La Mourre**	**7.44**	**5**	P	Pn	23 20 17.6	+5.6
LMR				S	**Sn**	**23 21 33.0**	**-3.1**
	0.4nm,0.3s						
LMR	**La Mourre**	**7.44**	**5**	*e*P	Pn	23 20 17.6	+5.6
LMR				*e*Sn	**Sn**	**23 21 33.0**	**-3.1**
	0.8nm,0.3s						
EQUE	**Quentar**	**7.45**	**283**	P	**Pn**	**23 20 13.9**	**+1.6**
	0.7nm,0.1s,SNR=7.9						
ELGU	**Los Guajares,**	**7.56**	**280**	P	**Pn**	**23 20 14.7**	**+0.8**
	2.8nm,0.3s,SNR=7.9						
FRF	**La Foret Royal**	**7.67**	**5**	P	Pn	23 20 21.2	+5.9
FRF				S	**Sn**	**23 21 38.8**	**-3.1**
	0.8nm,0.4s						
FRF	**La Foret Royal**	**7.67**	**5**	*e*P	Pn	23 20 21.2	+5.9
FRF				*e*Sn	**Sn**	**23 21 38.8**	**-3.1**
	1.5nm,0.4s						
MTLF	**Montolieu**	**7.88**	**341**	P	**Pn**	**23 20 20.9**	**+2.8**
MTLF				S	**Sn**	**23 21 47.5**	**+0.5**
	4.7nm,0.9s						
MTLF	**Montolieu**	**7.88**	**341**	*e*P	**Pn**	**23 20 20.9**	**+2.8**
MTLF				*e*Sn	**Sn**	**23 21 47.5**	**+0.5**
	9.3nm,0.9s						
EGOR	**Sierra Gorda,**	**7.97**	**281**	P	**Pn**	**23 20 22.5**	**+3.0**
	0.8nm,0.3s,SNR=7.9						
SBF	**Sospel**	**8.05**	**9**	S	**Sn**	**23 21 48.0**	**-3.3**
	5.8nm,0.5s						
SBF	**Sospel**	**8.05**	**9**	*e*Sn	**Sn**	**23 21 48.0**	**-3.3**
	12nm,0.5s						
EPF	**Esparros**	**8.22**	**331**	P	Pn	23 20 27.8	+5.0
EPF				S	**Sn**	**23 21 51.2**	**-4.1**
	7.2nm,1.1s						
EPF	**Esparros**	**8.22**	**331**	*e*P	Pn	23 20 27.8	+5.0
EPF				*e*Sn	**Sn**	**23 21 51.2**	**-4.1**
	14nm,1.1s						
LASF	**Ste Croix**	**8.27**	**351**	P	**Pn**	**23 20 23.8**	**+0.3**
LASF				S	**Sn**	**23 21 54.6**	**-2.0**
	10nm,1.1s						
LASF	**Ste Croix**	**8.27**	**351**	*e*Pn	**Pn**	**23 20 23.8**	**+0.3**
LASF				*e*Sn	**Sn**	**23 21 54.6**	**-2.0**
	21nm,1.1s						
ETSF	**Etsaut**	**8.48**	**327**	P	Pn	23 20 31.8	+5.4
ETSF				S	**Sn**	**23 21 57.7**	**-4.1**
	11nm,1.1s						
ETSF	**Etsaut**	**8.48**	**327**	*e*P	Pn	23 20 31.8	+5.4
ETSF				*e*Sn	**Sn**	**23 21 57.7**	**-4.1**
	21nm,1.1s						
ESDC	**Sonseca Array**	**8.50**	**299**	Pn	**Pn**	**23 20 28.2**	**+1.5**
	0.1nm,0.3s,baz=114,slow=13,SNR=9.6						
ATE	**Arette**	**8.69**	**327**	P	Pn	23 20 34.4	+5.2
	0.3nm,0.2s,SNR=7.9						
ATE				S	**Sn**	**23 22 05.9**	**-1.0**
	0.6nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**8.73**	**298**	P	**Pn**	**23 20 31.2**	**+1.3**
	0.3nm,0.3s,SNR=7.9						
MBDF	**Montbardon**	**8.84**	**5**	P	**Pn**	**23 20 33.9**	**+2.5**
MBDF				S	**Sn**	**23 22 06.9**	**-3.9**
	0.2nm,0.3s						
MBDF	**Montbardon**	**8.84**	**5**	*e*Pn	**Pn**	**23 20 33.9**	**+2.5**
MBDF				*e*Sn	**Sn**	**23 22 06.9**	**-3.9**
	0.3nm,0.3s						
SJPF	**Ste Jean**	**8.95**	**326**	P	Pn	23 20 38.1	+5.3
SJPF				S	**Sn**	**23 22 08.8**	**-4.5**
	9.4nm,1.1s						
SJPF	**Ste Jean**	**8.95**	**326**	*e*P	Pn	23 20 38.1	+5.3
SJPF				*e*Sn	**Sn**	**23 22 08.8**	**-4.5**
	19nm,1.1s						
ORIF	**Oris-en-Rattie**	**9.00**	**1**	Pn	**Pn**	**23 20 35.0**	**+1.5**
ORIF	**Oris-en-Rattie**	**9.00**	**1**	*e*Pn	**Pn**	**23 20 35.0**	**+1.5**
ECAB	**El Cabril**	**9.14**	**287**	P	**Pn**	**23 20 35.8**	**+0.4**
	0.7nm,0.3s,SNR=8.7						
ECAB				S	**Sn**	**23 22 18.5**	**+0.6**
	0.4nm,0.4s						
GERES	**GERESS Array B**	**14.21**	**22**	Pn	**Pn**	**23 21 45.9**	**+1.2**
	0.2nm,0.3s,baz=200,slow=16,SNR=2.1						
BRTR	**Keskin Array B**	**22.38**	**72**	P	**P**	**23 22.0**	**+0.1**
	0.4nm,0.6s,baz=276,slow=10,SNR=1.8						
AKASG	**Malin Array Be**	**22.49**	**42**	P	**P**	**23 23 23.9**	**+1.1**
	0.8nm,0.5s,baz=236,slow=10,SNR=4.2						
TORD	**Torodi Ar. Bea**	**22.95**	**190**	P	**P**	**23 23 25.9**	**-1.9**
	0.7nm,0.8s,baz=7.5,slow=9.7,SNR=3.5						
MKAR	**Makanchi Array**	**56.40**	**53**	P	**P**	**23 28 04.9**	**+0.1**
	0.3nm,0.7s,baz=287,slow=6.6,SNR=6.5						

BJI ***21*** *23:50:44.9±0.0,1˙85N×65˙72E,h10km,mB5.0/27, mb4.5/33,Ms4.5/24,Ms7 4.3/24*
IDC ***21*** *23:50:52.7±0.6,2˙58N×66˙36E,h0km,mb4.2/19, mb1 4.3/20,mb1mx4.1/38,mbtmp4.2/20,ML4.1/1,MS4.1/34, Ms1 4.1/34,ms1mx4.0/49,Error ellipse: s-maj=20.0km s-min=14.7km az=42.0*
NEIC ***21*** *23:50:53.6±1.5,2˙6N±0˙1×66˙34E±0˙10,h10km±1km, mb4.7/54,Error ellipse: s-maj=19.0km s-min=15.5km az=156.0*
GCMT ***21*** *23:50:55.6±0.2,2˙61N±0˙02×66˙36E±0˙02,h12km, MW4.9/124,Moment Tensor Solution. s35,c40; s124,c192; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-2.81±.06; Mθθ1.95±.06; Mϕϕ0.86±.06; Mrθ0.93±.22; Mθϕ-1.25±.05; Mϕr0.54±.24; Best double couple: M02.97600×1016 NP1:ϕs139.00000°,δ42.00000°, λ-65.00000°. NP2:ϕs287.00000°,δ52.00000°, λ-111.00000°. Principal axes: T 2.8130, Plg5.0000°, Azm31.0000°; N 0.3270, Plg17.0000°, Azm300.0000°; P -3.1390, Plg73.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 23:50:55.1±0.5,2˙51N±0˙09×66˙37E±0˙06,h20km,n158, σ1s42/159,mb4.6/51,MS4.1/36,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNCI	**Minicoy**	**8.79**	**49**	Pn	**Pn**	**23 52 59.8**	**-1.3**
PALK	**Pallekele**	**15.04**	**71**	Pn	**Pn**	**23 54 26.3**	**-0.5**
	0.8nm,0.3s,baz=30,slow=12,SNR=6.0						
PALK				LR	LR	23 59 00.7	
	comp=Z,1μm,19.9s,baz=4.2,slow=32						
PALK	**Pallekele**	**15.04**	**71**	Pn	**Pn**	**23 54 25.9**	**-0.9**
PALK	**Pallekele**	**15.04**	**71**	P	**Pn**	**23 54 22.4**	**-4.3**
PALK				P	Pn	**23 54 22.4**	**-4.3**
SOCY	**Socotra**	**15.59**	**309**	P	**P**	**23 54 37.7**	**-0.4**
DMTO	**DMTO**	**18.82**	**324**	P	**Pn**	**23 55 16.8**	**+2.5**
HYB	**Hyderabad**	**19.05**	**38**	*i* P	**Pn**	**23 55 17.0**	**-0.1**
RBK	**Rabkut**	**19.10**	**322**	P	**Pn**	**23 55 20.1**	**+2.3**
RBK				P	**Pn**	**23 55 20.1**	**+2.3**
DQM	**DQM**	**19.34**	**334**	P	**Pn**	**23 55 22.6**	**+2.0**
ABTO	**Aybut**	**19.56**	**320**	P	**Pn**	**23 55 24.7**	**+1.5**
ABTO				P	**Pn**	**23 55 24.7**	**+1.5**
WHFO	**Wadi Hawf**	**19.68**	**322**	P	**Pn**	**23 55 27.1**	**+2.4**
WHFO				P	**Pn**	**23 55 27.1**	**+2.4**
DOK	**Doka**	**20.00**	**324**	P	Pn	23 55 29.0	+0.5
DOK				P	Pn	23 55 29.0	+0.5
MHTO	**MHTO**	**20.11**	**337**	P	Pn	23 55 29.8	+0.1
	SNR=6.3						
MHTO				P	Pn	23 55 29.8	+0.1
	SNR=6.3						
WBK	**Wadi Bani Khal**	**21.23**	**341**	P	**P**	**23 55 42.1**	**+2.0**
WBK				P	**P**	**23 55 42.1**	**+2.0**
JMDO	**Jabal Madar**	**21.31**	**339**	P	**P**	**23 55 43.2**	**+2.3**
	SNR=5.3						
JMDO				P	**P**	**23 55 43.2**	**+2.3**
	SNR=5.3						
WSAR	**Wadi Sarin**	**21.93**	**341**	P	**P**	**23 55 48.9**	**+1.4**
	5.5nm,0.9s,baz=184,slow=8.2,SNR=8.3						
WSAR				LR	LR	00 02 27.1	
	comp=Z,434nm,20.8s,baz=166,slow=32						
SMDO	**Samad**	**21.96**	**339**	P	**P**	**23 55 49.4**	**+1.4**
	SNR=10						
SMDO				P	**P**	**23 55 49.4**	**+1.4**
	SNR=10						
BSY	**Bisya**	**22.00**	**337**	P	**P**	**23 55 49.8**	**+1.5**
	SNR=12						
BSY				P	**P**	**23 55 49.8**	**+1.5**
	SNR=12						
BIDO	**Bidbid**	**22.36**	**340**	P	**P**	**23 55 54.0**	**+1.9**
	SNR=11						
BIDO				P	**P**	**23 55 54.0**	**+1.9**
	SNR=11						
HOQ	**Hoqain**	**22.71**	**338**	P	**P**	**23 55 58.9**	**+3.0**
	SNR=7.0						
HOQ				P	**P**	**23 55 58.9**	**+3.0**
	SNR=7.0						
ARQ	**Araqi**	**22.80**	**336**	P	**P**	**23 55 58.4**	**+1.6**
	SNR=7.5						
ARQ				P	**P**	**23 55 58.4**	**+1.6**
	SNR=7.5						
SOHO	**SOHO**	**23.51**	**337**	P	**P**	**23 56 05.6**	**+1.7**
SOHO				P	**P**	**23 56 05.6**	**+1.7**
ALNE	**Al Ain**	**23.75**	**335**	P	**P**	**23 56 07.1**	**+0.7**
	SNR=7.8						
ALNE				P	**P**	**23 56 07.1**	**+0.7**
	SNR=7.8						
ASHO	**Ashiyiah**	**24.19**	**337**	P	**P**	**23 56 12.5**	**+2.0**
ASHO				P	**P**	**23 56 12.5**	**+2.0**
HATD	**Hatta, Dubai**	**24.29**	**337**	P	**P**	**23 56 13.7**	**+2.3**
	SNR=8.0						
HATD				P	**P**	**23 56 13.7**	**+2.3**
	SNR=8.0						
UOSS	**Minazif**	**24.37**	**337**	P	**P**	**23 56 10.8**	**-1.3**
FAQ	**Al Faqa, Dubai**	**24.43**	**336**	P	**P**	**23 56 14.1**	**+1.4**
FAQ				P	**P**	**23 56 14.1**	**+1.4**
ASUD	**Al Ashush, Dub**	**24.44**	**335**	P	**P**	**23 56 15.0**	**+2.3**
AJN	**Ajban**	**24.53**	**334**	P	**P**	**23 56 15.3**	**+1.8**
NAZ	**Nazwa, Dubai**	**24.62**	**336**	P	**P**	**23 56 15.8**	**+1.4**
NAZ				P	**P**	**23 56 15.8**	**+1.4**
MASF	**Masafi**	**24.77**	**337**	P	**P**	**23 56 17.6**	**+1.8**
	SNR=5.2						
MASF				P	**P**	**23 56 17.6**	**+1.8**
	SNR=5.2						
ATD	**Arta Tunnel**	**24.98**	**292**	LR	LR	00 04 37.9	
	comp=Z,193nm,21.0s,baz=87,slow=33						
BANOM	**Banah**	**25.21**	**338**	P	**P**	**23 56 21.5**	**+1.8**
SLWR	**Sila**	**25.71**	**328**	P	**P**	**23 56 26.8**	**+2.6**
OPO	**Ambohidratompo**	**28.20**	**221**	LR	LR	00 05 31.0	
	comp=Z,549nm,19.5s,baz=188,slow=31						
RAYN	**Ar Rayn**	**29.06**	**318**	P	**P**	**23 56 53.2**	**-1.2**
RAYN				IAmb	IAmb	23 57 02.0	
	comp=Z,14nm,1.8s						
KMBO	**Kilima Mbogo**	**29.33**	**263**	LR	LR	00 08 26.9	
	comp=Z,278nm,18.8s,baz=92,slow=36						
NIL	**Nilore**	**31.64**	**11**	P	**P**	**23 57 15.9**	**-1.2**
HRA	**Herat**	**31.95**	**354**	P	**P**	**23 57 19.9**	**-0.1**
HRA				IAmb	IAmb	23 57 28.5	
	comp=Z,20nm,1.8s						
KBL	**Kabul**	**31.97**	**4**	P	**P**	**23 57 20.2**	**+0.1**
KBL				IAmb	IAmb	23 57 29.6	
	comp=Z,19nm,1.7s						
PSI	**Prapat**	**32.52**	**89**	LR	LR	00 08 44.3	
	comp=Z,412nm,19.5s,baz=269,slow=33						
RPSI	**Rantau Prapat**	**32.52**	**89**	P	**P**	**23 57 25.8**	**+0.8**
RPSI				IAmb	IAmb	23 57 40.3	
	comp=Z,12nm,1.2s						
SHL	**Shillong**	**33.59**	**45**	P	**P**	**23 57 34.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**35.63**	**61**	P	**P**	**23 57 53.6**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=267,slow=9.6,SNR=2.1						
CMAR				PcP	**PcP**	**00 00 21.6**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=242,slow=4.8,SNR=6.0						
CMAR				LR	LR	00 11 58.6	
	comp=Z,297nm,19.0s,baz=250,slow=36						
CMAR	**Chiang Mai Arr**	**35.63**	**61**	P	**P**	**23 57 52.6**	**+0.7**
CHTO	**Chiang Mai**	**35.77**	**61**	P	**P**	**23 57 52.9**	**-0.3**
CHTO				IAmb	IAmb	23 58 03.2	
	comp=Z,25nm,1.8s						
LSA	**Lhasa**	**35.84**	**39**	P	**P**	**23 57 54.3**	**+0.1**
LSA				IAmb	IAmb	23 57 57.3	
	comp=Z,11nm,1.1s						
GEYT	**Alibeck**	**36.06**	**349**	P	**P**	**23 57 56.5**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=134,slow=6.4,SNR=5.1						
GEYT				LR	LR	00 12 05.5	
	comp=Z,323nm,21.9s,baz=50,slow=35						
GEYT	**Alibeck**	**36.06**	**349**	P	**P**	**23 57 55.3**	**-0

comp=Z,2.7nm,0.8s,baz=59,slow=17,SNR=4.3
BOSA LR LR 00 19 27.5
comp=Z,408nm,18.2s,baz=61,slow=34
BOSA Boshof 50.13 229 P **P** **23 59 50.4 +0.9**
BOSA IAmb IAmb 23 59 57.9
comp=Z,12nm,1.1s
BRVK Borovoye 50.49 3 P **P** **23 59 51.0 -0.6**
XAN Xi'an 50.55 47 P **P** **23 59 52.3 -0.3**
XAN pmax pmax
comp=Z,19nm,1.0s
XAN pmax pmax
comp=Z,130nm,5.2s
XAN Xi'an 50.55 47 P **P** **23 59 51.8 -0.8**
XAN IAmb IAmb 23 59 53.6
comp=Z,14nm,0.9s
BELG Belogornoye 52.11 346 LR LR 00 24 30.3
comp=Z,126nm,19.2s,baz=152,slow=39
ZAA0 Zalesovo Array 53.47 13 P **P** **00 00 12.6 -1.2**
ZAA0 IAmb IAmb 00 00 13.8
comp=Z,7.5nm,0.9s
ZALV Zalesovo Beam 53.47 13 P **P** **00 00 13.1 -0.7**
comp=Z,8.0nm,0.9s,baz=215,slow=7.3,SNR=24
ZALV LR LR 00 22 37.4
comp=Z,243nm,21.1s,baz=228,slow=36
ZALV Zalesovo Beam 53.47 13 P **P** **00 00 12.4 -1.5**
AGG Agios Georgios 54.08 318 P **P** **00 00 17.2 -1.4**
AGG IAmb IAmb 00 00 18.2
comp=Z,14nm,1.3s
ARU Arti 54.13 355 LR LR 00 25 44.0
comp=Z,97nm,18.6s,baz=160,slow=39
ARU Arti 54.13 355 P **P** **00 00 17.0 -1.6**
ARU IAmb IAmb 00 00 19.2
comp=Z,18nm,1.5s
VTS Vitosha 55.42 322 P **P** **00 00 27.8 -0.7**
VTS IAmb IAmb 00 00 31.3
comp=Z,18nm,1.5s
MLR Muntele Rosu 55.54 326 P **P** **00 00 28.9 -0.4**
MLR IAmb IAmb 00 00 31.4
comp=Z,19nm,1.6s
SONM Songino Array 56.80 31 P **P** **00 00 38.9 +0.7**
comp=Z,2.2nm,0.9s,baz=226,slow=7.3,SNR=18
SONM LR LR 00 25 05.7
comp=Z,491nm,20.5s,baz=238,slow=36
SONM Songino Array 56.80 31 P **P** **00 00 38.4 +0.2**
SONM IAmb IAmb 00 00 46.0
comp=Z,6.4nm,1.3s
ULN Ulaanbaatar 57.16 31 P **P** **00 00 40.3 -0.5**
ULN IAmb IAmb 00 00 41.7
comp=Z,10.0nm,1.6s
BURAR Bucovina Array 57.25 328 P **P** **00 00 40.6 -0.8**
AKASG Malin Array Be 57.32 333 P **P** **00 00 40.2 -1.4**
comp=Z,0.4nm,0.5s,baz=120,slow=6.5,SNR=6.9
AKASG PP **PP** **00 02 48.6 -0.4**
comp=Z,0.3nm,0.4s,baz=138,slow=8.2,SNR=4.4
AKASG LR LR 00 27 31.8
comp=Z,70nm,20.8s,baz=125,slow=38
AKBB Malin Array Si 57.32 333 P **P** **00 00 40.3 -1.3**
AKBB IAmb IAmb 00 00 48.4
comp=Z,20nm,1.8s
KIRV Kirov 57.48 350 LR LR 00 27 15.6
comp=Z,104nm,20.1s,baz=152,slow=38
TLY Talaya 58.06 26 P **P** **00 00 46.8 -0.1**
TLY IAmb IAmb 00 00 49.0
comp=Z,19nm,1.7s
H01W3 Cape Leeuwin H 58.18 134 T T 01 03 48.3
baz=300,slow=75,SNR=26
H01W2 Cape Leeuwin H 58.18 134 T T 01 03 46.3
baz=300,slow=75,SNR=24
H01W1 Cape Leeuwin H 58.19 134 T T 01 03 48.0
baz=300,slow=75,SNR=34
TNTI Ternate 60.99 91 P **P** **00 01 07.4 -0.4**
KLMR Klimovskoe 61.69 345 *e* **P** **00 01 10.0 -1.6**
KLMR AMP 00 01 11.5
comp=Z,42nm,1.3s
NRCA Norcia 62.02 318 P **P** **00 01 14.3 0.0**
JAVC Velka Javorina 62.09 326 *eP* **P** **00 01 14.8 +0.2**
KEST Kesra 62.11 309 LR LR 00 27 47.3
comp=Z,55nm,19.1s,baz=307,slow=36
CONA Conrad Observa 62.65 324 *eP* **P** **00 01 17.6 -0.9**
comp=Z,6.3nm,1.0s
MORC Moravsky Berou 62.65 327 *eP* **P** **00 01 17.2 -1.1**
KRUC Moravsky 62.91 326 *eP* **P** **00 01 19.2 -0.8**
VRAC Vranov 62.93 326 *eP* **P** **00 01 19.2 -1.0**
MOA Molln 63.55 324 *eP* **P** **00 01 23.5 -0.8**
comp=Z,7.3nm,1.1s
DPC Dobruska-Polom 63.62 327 *eP* **P** **00 01 23.6 -1.2**
KBA Koelnbreinsper 63.74 322 *eP* **P** **00 01 25.8 0.0**
comp=Z,3.9nm,0.8s
CHVC Chvalec 63.89 327 *eP* **P** **00 01 25.7 -0.8**
CHVC *ex* x 00 01 45.4
CKRC Cesky Krumlov 63.98 325 *eP* **P** **00 01 24.4 -2.8**
ABTA Abfaltersbach 64.10 322 *eP* **P** **00 01 27.2 -0.9**
comp=Z,4.6nm,1.0s
GERES GERESS Array B 64.35 324 LR LR 00 30 00.1
comp=Z,32nm,18.5s,baz=96,slow=36
KHC Kasperske Hory 64.56 325 *eP* **P** **00 01 27.0 -4.0**
TORD Torodi Ar. Bea 64.78 283 P **P** **00 01 33.9 +1.0**
comp=Z,0.6nm,0.7s,baz=107,slow=5.2,SNR=2.8
TORD PcP **PcP** **00 02 07.7 +1.2**
comp=Z,0.7nm,0.9s,baz=86,slow=4.2,SNR=3.6
TORD LR LR 00 30 02.2
comp=Z,181nm,18.7s,baz=85,slow=36
HIA Hailar 64.96 35 P **P** **00 01 34.1 +0.5**
HIA IAmb IAmb 00 01 35.4
comp=Z,6.9nm,1.1s
NKC Novy Kostel 65.72 325 *eP* **P** **00 01 37.7 -0.8**
CLL Collm 65.92 327 *eP* **P** **00 01 38.0 -1.7**
comp=Z,11nm,1.3s
CLL *i* sP **pP** **00 01 44.6 -0.6**
CLL *i* 00 01 50.3
CLL Collm 65.92 327 P **P** **00 01 39.0 -0.6**
KSRS Korea Array 66.11 50 LR LR 00 33 01.4
comp=Z,191nm,19.4s,baz=256,slow=38
FINES FINESS Array B 66.15 340 P **P** **00 01 40.2 -0.7**
comp=Z,5.1nm,0.9s,baz=60,slow=7.5,SNR=6.4
FINES LR LR 00 32 31.4
comp=Z,75nm,19.2s,baz=118,slow=38
FINES FINESS Array B 66.15 340 P **P** **00 01 39.8 -1.2**
SENIN Lac Senin/Sane 67.23 320 P **P** **00 01 47.6 -0.9**
BFO Black Forest 67.34 322 P **P** **00 01 47.8 -1.0**
BFO IAmb IAmb 00 01 48.5
comp=Z,11nm,1.1s
MDJ Mudanjiang 69.40 43 P **P** **00 02 02.1 +0.3**
MAW Mawson 70.00 181 LR LR 00 25 10.4
comp=Z,168nm,19.7s,baz=44,slow=29
WRA Warramunga Arr 70.26 112 P **P** **00 02 08.5 +1.0**
comp=Z,4.9nm,0.9s,baz=287,slow=5.8,SNR=17
WRA Warramunga Arr 70.26 112 P **P** **00 02 08.1 +0.5**
WB2 Warramunga Arr 70.27 112 P **P** **00 02 08.2 +0.5**
KOWA Kowa 70.39 284 P **P** **00 02 07.9 -0.5**
KOWA IAmb IAmb 00 02 16.1
comp=Z,7.4nm,1.4s
WR0 Warramunga Arr 70.45 112 P **P** **00 02 09.1 +0.4**
ASAR Alice Springs 70.57 116 P **P** **00 02 10.3 +0.9**
comp=Z,2.7nm,0.9s,baz=283,slow=6.0,SNR=20
ASAR Alice Springs 70.57 116 P **P** **00 02 10.1 +0.6**
USRK Ussuriysk Ar. 70.92 44 LR LR 00 35 18.3
comp=Z,113nm,18.1s,baz=233,slow=38
DBIC Dimbokro 71.07 276 LR LR 00 32 48.1
comp=Z,90nm,19.0s,baz=67,slow=35
DBIC Dimbokro 71.07 276 P **P** **00 02 12.0 -0.6**
NB2 NORSAR Subarra 71.59 335 P **P** **00 02 14.1 -0.8**
comp=Z,1.6nm,0.8s,baz=110,slow=6.5
NOA NORSAR Array B 71.59 335 P **P** **00 02 14.1 -0.8**
comp=Z,4.1nm,0.9s,baz=113,slow=6.5,SNR=6.3
ARCES ARCESS Array B 72.16 346 LR LR 00 35 27.8
comp=Z,86nm,21.2s,baz=130,slow=37
ESDC Sonseca Array 73.31 311 P **P** **00 02 25.8 +0.2**
comp=Z,5.4nm,1.0s,baz=84,slow=5.1,SNR=19
ESDC Sonseca Array 73.31 311 P **P** **00 02 25.1 -0.6**
PAB San Pablo 73.58 310 P **P** **00 02 26.9 -0.3**
PAB IAmb IAmb 00 02 34.6
comp=Z,22nm,1.6s
MJAR Matsushiro Arr 73.95 53 P **P** **00 02 30.1 +0.7**
comp=Z,1.7nm,0.9s,baz=266,slow=5.5,SNR=5.5
MJAR LR LR 00 36 16.3
comp=Z,75nm,20.8s,baz=225,slow=37
STKA Stephens Creek 78.82 123 P **P** **00 02 58.0 +0.8**
comp=Z,3.7nm,0.8s,baz=305,slow=4.0,SNR=5.6
STKA Stephens Creek 78.82 123 P **P** **00 02 57.1 0.0**
YSS Yuzh-Sakhalins 78.89 43 P **P** **00 02 56.2 -0.9**
TIXI Tiksi 79.20 17 P **P** **00 02 57.5 -0.9**
TIXI IAmb IAmb 00 02 58.6
comp=Z,9.2nm,1.2s
MA2 Magadan 85.01 31 P **P** **00 03 28.4 -0.7**
MA2 IAmb IAmb 00 03 29.4
comp=Z,6.3nm,1.1s
SEY Seymchan 85.96 27 LR LR 00 43 21.7
comp=Z,293nm,21.5s,baz=297,slow=37
PETK Petropavlovsk- 88.81 37 LR LR 00 45 55.9
comp=Z,282nm,19.1s,baz=270,slow=37
PDAR Pinedale Array 134.78 356 PKP **PKPdf** **00 10 12.3 -0.9**
comp=Z,1.0nm,0.9s,baz=346,slow=0.6,SNR=5.7
NVAR Mina Array Bea 139.04 6 PKP **PKPdf** **00 10 21.3 +0.1**
comp=Z,0.4nm,0.5s,baz=20,slow=1.3,SNR=3.5
NVAR Mina Array Bea 139.04 6 PKP **PKPdf** **00 10 21.6 +0.4**
TXAR Lajitas Array 146.93 344 PKPbc **PKPbc** **00 10 38.3 +1.2**
comp=Z,10nm,0.8s,baz=61,slow=2.6,SNR=99
TXAR Lajitas Array 146.93 344 **PKPbc** **00 10 37.0 -0.1**

IDC 22 00:02:22.1±2.1, 2°.76N×66°.70E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.5/47, mbtmp3.8/8, MS3.6/4, Ms1 3.6/4, ms1mx3.1/38, Error ellipse: s-maj=70.8km s-min=26.4km az=65.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.65**	**72**	LR	LR	LR	00 10 18.9	
	comp=Z,200nm,20.7s,baz=19,slow=32							
CMAR	**Chiang Mai Arr**	**35.22**	**61**	LR	LR	LR	00 24 38.1	
	comp=Z,40nm,18.2s,baz=130,slow=38							
LEM	**Lembang**	**41.94**	**103**	LR	LR	LR	00 26 24.0	
	comp=Z,160nm,18.7s,baz=100,slow=34							
MKAR	**Makanchi Array**	**45.31**	**15**	P	P	P	00 10 46.9	+0.3
	0.4nm,0.9s,baz=199,slow=7.6,SNR=4.4							
AKTO	**Aktyubinsk**	**48.07**	**353**	P	P	P	00 11 02.9	-0.5
	2.3nm,0.9s,baz=183,slow=8.3,SNR=6.8							
KURBB	**Kurchatov Arra**	**48.73**	**10**	P	P	P	00 11 07.8	-0.7
	0.6nm,0.9s,baz=204,slow=8.4,SNR=4.0							
BOSA	**Boshof**	**50.54**	**229**	LR	LR	LR	00 30 10.0	
	comp=Z,55nm,19.3s,baz=34,slow=33							
ZALV	**Zalesovo Beam**	**53.15**	**13**	P	P	P	00 11 41.4	-0.3
	1.2nm,0.7s,baz=224,slow=6.2,SNR=6.2							
SONM	**Songino Array**	**56.42**	**31**	P	P	P	00 12 06.1	+0.4
	0.7nm,0.9s,baz=231,slow=9.1,SNR=3.9							
H01W3	**Cape Leeuwin H**	**58.11**	**135**	T	T	T	01 15 16.0	
	baz=300,slow=75,SNR=5.8							
H01W2	**Cape Leeuwin H**	**58.12**	**135**	T	T	T	01 15 13.9	
	baz=300,slow=75,SNR=5.0							
H01W1	**Cape Leeuwin H**	**58.13**	**135**	T	T	T	01 15 11.0	
	baz=300,slow=75,SNR=5.5							
WRA	**Warramunga Arr**	**70.05**	**112**	P	P	P	00 13 36.4	-0.2
	1.3nm,0.9s,baz=283,slow=6.3,SNR=5.2							
ASAR	**Alice Springs**	**70.38**	**116**	P	P	P	00 13 38.5	0.0
	0.6nm,0.9s,baz=294,slow=6.9,SNR=3.9							
KLR	**Kul'dur**	**71.81**	**39**	P	P	P	00 13 46.8	+0.1
	0.6nm,0.3s,baz=282,slow=7.2,SNR=4.2							
TXAR	**Lajitas Array**	**146.78**	**345**	PKPbc	PKPbc	PKPbc	00 22 06.7	-0.4
	2.1nm,0.9s,baz=49,slow=3.0,SNR=18							

IDC 22 00:17:59.7±2.8, 18°.96S×177°.72W, h581km±18km, mb2.8/4, mb1 3.2/6, mb1mx2.9/35, mbtmp3.9/6, Error ellipse: s-maj=105.0km s-min=21.0km az=155.0

ISC 22 00:17:58.2±1.6, 19°.1S±0°.4×177°.5W±0°.2, h570km, n10, σ1§40/11, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.44**	**287**	P	P	P	00 19 26.7	+1.8
	2.2nm,0.3s,baz=127,slow=15,SNR=11							
AFI	**Afiamalu**	**7.55**	**48**	P	P	P	00 19 53.3	+1.0
	4.3nm,0.3s,baz=246,slow=12,SNR=5.1							
AFI				S		S	00 21 24.0	-1.8
	0.8nm,0.3s,baz=170,slow=22,SNR=2.0							
WRA	**Warramunga Arr**	**45.27**	**261**	P	P	P	00 25 24.4	-1.5
	0.6nm,0.5s,baz=98,slow=6.8,SNR=1.5							
ASAR	**Alice Springs**	**45.30**	**255**	P	P	P	00 25 25.4	-0.7
	0.9nm,0.8s,baz=86,slow=8.0,SNR=4.0							
TXAR	**Lajitas Array**	**85.92**	**57**	P	P	P	00 29 40.5	+1.7
	0.5nm,0.7s,baz=231,slow=5.7,SNR=7.8							
ILAR	**Eielson Array**	**86.87**	**13**	P	P	P	00 29 41.7	-0.7
	0.1nm,0.5s,baz=224,slow=5.4,SNR=4.1							
MKAR	**Makanchi Array**	**110.58**	**314**	PKiKP	**PKiKP**		00 35 25.0	-1.4
	0.2nm,0.7s,baz=70,slow=3.1,SNR=2.4							
ARCES	**ARCESS Array B**	**127.65**	**350**	PKP	**PKPdf**		00 35 58.3	-0.2
	5.2nm,1.1s,baz=56,slow=3.4,SNR=5.5							
BRTR	**Keskin Array B**	**146.23**	**314**	PKPbc	**PKPbc**		00 36 35.3	-0.4
	0.3nm,0.4s,baz=141,slow=4.1,SNR=2.1							
GERES	**GERESS Array B**	**148.99**	**346**	PKPbc	**PKPbc**		00 36 42.4	-0.1
	0.7nm,0.7s,baz=34,slow=3.7,SNR=5.5							

DJA 22 00:19:13.3±0.4, 10°S±2°×114°E±°, h34km±5km, M4.6/31, mB5.1/12, mb4.7/31, MLv4.9/18, Mw(mB)4.5/12

IDC 22 00:19:14.8±1.7, 9°.65S×114°.28E, h46km±16km, mb4.0/15, mb1 4.2/19, mb1mx4.0/38, mbtmp4.3/19, ML4.5/4, MS3.7/21, Ms1 3.7/21, ms1mx3.5/36, Error ellipse: s-maj=18.1km s-min=11.1km az=35.0

NEIC 22 00:19:14.9±1.5, 9°.69S±0°.07×114°.24E±0°.07, h54km±2km, mb4.5/29, Error ellipse: s-maj=11.0km s-min=9.6km az=59.0

ISC 22 00:19:13.7±0.9, 9°.85S±0°.05×114°.22E±0°.04, h44km±8km, n129, σ1§93/131, mb4.4/36, MS3.6/19, 1D, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.37**	**357**	Pn	**Pn**		00 19 35.6	-0.9
JAGI				Sn	**Sn**		00 19 52.1	-1.2
JAGI	**Jajag, Banyuwa**	**1.37**	**357**	P	**Pn**		00 19 35.9	-0.5
JAGI				S	**Sn**		00 19 52.3	-1.1
DNP	**Denpasar**	**1.52**	**40**	P	**Pn**		00 19 40.0	+1.6
DNP				S	**Sn**		00 20 00.0	+3.0
SRBI	**Singaraja**	**2.00**	**29**	P	**Pn**		00 19 46.6	+1.5
SRBI				S	**Sn**		00 20 13.7	+4.7
ABJI	**Asem Bagus**	**2.04**	**0**	P	**Pn**		00 19 47.6	+2.0
ABJI				S	**Sn**		00 20 14.6	+4.8
KMMI	**Kalianget**	**2.79**	**355**	P	**Pn**		00 19 58.0	+2.1
KMMI				S	**Sn**		00 20 32.6	+4.3
TWSI	**Taliwang, Sumb**	**2.85**	**67**	P	**Pn**		00 19 58.9	+2.2
TWSI				S	**Sn**		00 20 33.2	+3.4
PLAI	**Plampang**	**3.65**	**74**	P	**Pn**		00 20 10.5	+2.7
PLAI				S	**Sn**		00 20 53.3	+3.7
UGM	**Wanagama**	**4.13**	**297**		**Pn**		00 20 14.4	+0.1
UGM	**Wanagama**	**4.13**	**297**	P	**Pn**		00 20 14.1	-0.3
UGM				S	**Sn**		00 21 02.3	+0.8
SMRI	**Semarang**	**4.66**	**306**		**Pn**		00 20 22.3	+0.7
SMRI	**Semarang**	**4.66**	**306**	P	**Pn**		00 20 22.9	+1.3
BASI	**Baing, Sumba**	**6.27**	**94**	P	**Pn**		00 20 45.3	+1.6
	0.8nm67nm,0.7s							
BBKI	**Banjar Baru**	**6.37**	**6**	P	**Pn**		00 20 47.3	+2.2
	0.3nm2µm38nm,0.9s							
CISI	**Cisompet, Garu**	**6.73**	**289**		**Pn**		00 20 50.3	+0.2
CISI	**Cisompet, Garu**	**6.73**	**289**	P	**Pn**		00 20 50.6	+0.5
	1.8nm165nm,0.7s							
KBKI	**Kotabaru**	**6.78**	**17**	P	**Pn**		00 20 54.6	+3.8
	0.2nm912nm46nm,1.0s							
LEM	**Lembang**	**7.19**	**294**	P	**Pn**		00 20 56.1	-0.4
	3.6nm,0.3s,baz=2.6,slow=22,SNR=1.3							
LEM				S	**Sn**		00 22 19.9	+2.8
	13nm,0.3s,baz=9.0,slow=17,SNR=2.0							
KAPI	**Kappang**	**7.29**	**49**	P	**Pn**		00 20 57.5	-0.2
	8.9nm,0.3s,baz=266,slow=4.8,SNR=21							
KAPI				S	**Sn**		00 22 17.1	-2.1
	2.3nm,0.3s,baz=88,slow=23,SNR=1.4							
KAPI				LR	LR	LR	00 24 15.9	
	comp=Z,1µm,19.6s,baz=254,slow=42							
KAPI	**Kappang**	**7.29**	**49**	Pn	**Pn**		00 20 56.8	-0.9
BKSI	**Bulukumba**	**7.38**	**53**	P	**Pn**		00 21 01.1	+2.2
	0.2nm1µm45nm,0.7s							
EDFI	**Edifice Peres**	**7.45**	**82**	P	**Pn**		00 21 01.0	+0.9
	0.2nm696nm24nm,1.1s							
BNSI	**Bone**	**7.96**	**48**	P	**Pn**		00 21 09.6	+2.7
	802nm46nm,1.6s							
MMRI	**Maumere**	**8.00**	**82**		**Pn**		00 21 08.7	+1.2
MMRI	**Maumere**	**8.00**	**82**	P	**Pn**		00 21 09.8	+2.3
	66nm,0.8s							
SPSI	**Sidrap Palu**	**8.03**	**44**	P	**Pn**		00 21 08.3	+0.4
	14nm,1.0s							
TTSI	**Tana Toraja**	**8.75**	**40**	P	**Pn**		00 21 19.7	+1.9
	1µm43nm,1.2s							
MTKI	**Muara Teweh, K**	**8.87**	**4**	P	**Pn**		00 21 21.5	+2.1
	29nm,0.5s							
BATI	**Baumata**	**9.30**	**93**	P	**Pn**		00 21 25.4	-0.1
	6.5nm,0.3s,baz=310,slow=5.1,SNR=3.5							
BATI				S	**Sn**		00 23 05.0	-3.9
	20nm,0.3s,baz=312,slow=22,SNR=11							
BATI	**Baumata**	**9.30**	**93**	P	**Pn**		00 21 25.9	+0.5
	14nm,0.4s							
TPI	**Tanjungpandan**	**9.60**	**317**	P	**Pn**		00 21 29.7	+0.2
	15nm,0.9s							
SOEI	**Soe**	**9.90**	**90**		**Pn**		00 21 34.3	+0.6
SOEI	**Soe**	**9.90**	**90**	P	**Pn**		00 21 34.8	+1.1
	47nm,1.0s							
KASI	**Kota Agung**	**10.55**	**293**	P	**Pn**		00 21 43.7	+1.2
	35nm,0.9s							
PPBI	**Pangkal Pinang**	**11.08**	**313**	P	**Pn**		00 21 49.8	0.0
KSM	**Kuching**	**11.90**	**341**	Pn	**Pn**		00 22 00.8	-0.2
SBUM	**Sibu**	**12.38**	**351**	Pn	**Pn**		00 22 06.3	-1.1
TOLI2	**Tolitoli**	**12.69**	**31**	Pn	**Pn**		00 22 12.1	+0.4
GIRL	**Giralia**	**12.73**	**180**	Pn	**Pn**		00 22 09.5	-2.7
KSI	**Kapahiang**	**13.08**	**297**	P	**Pn**		00 22 15.3	-1.8
	106nm,0.7s							
GTOI	**Gorontalo**	**13.60**	**41**	P	**Pn**		00 22 26.7	+2.6
	214nm21nm,1.1s							
FITZ	**Fitzroy Crossi**	**13.78**	**128**	P	**Pn**		00 22 24.1	-2.5
	0.6nm,0.3s,baz=302,slow=10,SNR=16							
FITZ				S	Sn		00 24 46.5	-12
	0.7nm,0.3s,baz=283,slow=19,SNR=1.8							
FITZ				LR	LR		00 28 08.8	
	comp=Z,310nm,20.1s,baz=310,slow=38							
FITZ	**Fitzroy Crossi**	**13.78**	**128**	Pn	**Pn**		00 22 24.3	-2.3
SANI	**Sanana**	**14.03**	**57**	P	**Pn**		00 22 32.7	+2.7
	31nm,0.9s							
TNTI	**Ternate**	**16.81**	**52**		**Pn**		00 23 06.1	0.0
TNTI				IAmb	IAmb		00 23 18.1	
	comp=Z,25nm,1.1s							
SWI	**Sorong**	**19.15**	**63**	P	**Pn**		00 23 34.3	-0.5
	comp=Z,2µmcomp=Z,81nm,1.1s							
SIJI	**Sorong**	**19.15**	**63**	P	**P**		00 23 32.5	-1.1
	comp=Z,2.1nm,0.3s,baz=270,slow=8.3,SNR=7.4							
SIJI				S	**S**		00 27 01.4	-7.2
	comp=Z,0.5nm,0.3s,baz=270,slow=22,SNR=2.0							
SIJI				LR	LR		00 31 15.0	
	comp=Z,179nm,21.1s,baz=112,slow=38							
FAKI	**Fak Fak**	**19.18**	**70**		**P**		00 23 33.1	-0.8
FAKI				IAmb	IAmb		00 23 44.0	
	comp=Z,34nm,1.0s							
WB0	**Warramunga Arr**	**21.83**	**119**	P	**P**		00 24 03.6	+1.0
WB0				IAmb	IAmb		00 24 19.9	
	comp=Z,20nm,1.3s							
WRA	**Warramunga Arr**	**21.85**	**120**	P	**P**		00 24 03.7	+0.9
	comp=Z,1.1nm,0.4s,baz=292,slow=13,SNR=17							
WRA				S	**S**		00 27 59.5	-2.6
	comp=Z,0.6nm,0.7s,baz=103,slow=25,SNR=2.7							
WRA				LR	LR		00 33 06.5	
	comp=Z,269nm,20.2s,baz=295,slow=38							
WRA	**Warramunga Arr**	**21.85**	**120**	P	**P**		00 24 03.9	+1.0
WB2	**Warramunga Arr**	**21.86**	**120**	P	**P**		00 24 04.8	+1.8
WB2				IAmb	IAmb		00 24 16.9	
	comp=Z,22nm,1.4s							
AS31	**Alice Springs**	**23.28**	**129**	P	**P**		00 24 19.9	+2.1
ASAR	**Alice Springs**	**23.28**	**129**	P	**P**		00 24 19.6	+1.8
	comp=Z,3.6nm,0.8s,baz=302,slow=8.1,SNR=70							
ASAR				S	**S**		00 28 32.8	+5.6
	comp=Z,0.6nm,0.9s,baz=302,slow=22,SNR=2.7							
ASAR				ScP	**ScP**		00 31 40.5	+1.5
	comp=Z,1.6nm,1.0s,baz=242,slow=2.0,SNR=5.8							
ASAR				LR	LR		00 33 24.4	
	comp=Z,170nm,20.2s,baz=274,slow=36							
ASAR	**Alice Springs**	**23.28**	**129**	P	**P**		00 24 19.4	+1.6
FORT	**Forrest**	**24.49**	**150**	P	**P**		00 24 30.2	+1.3
CM31	**Chiang Mai Arr**	**31.91**	**332**	P	**P**		00 25 33.7	-1.6
CM31				IAmb	IAmb		00 25 42.1	
	comp=Z,6.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**31.91**	**332**	P	**P**		00 25 35.6	+0.3
	comp=Z,3.6nm,0.8s,baz=163,slow=8.6,SNR=19							
CMAR				LR	LR		00 40 30.9	
	comp=Z,64nm,19.3s,baz=190,slow=40							
CMAR	**Chiang Mai Arr**	**31.91**	**332**	P	**P**		00 25 35.3	0.0
CTA	**Charters Tower**	**32.52**	**112**	P	**P**		00 25 43.0	+2.3
	comp=Z,3.4nm,0.9s,baz=281,slow=13,SNR=1.8							
STKA	**Stephens Creek**	**33.51**	**135**	P	**P**		00 25 51.6	+2.4
	comp=Z,1.9nm,0.3s,baz=325,slow=9.5,SNR=15							
STKA				LR	LR		00 41 03.0	
	comp=Z,256nm,18.6s,baz=262,slow=39							
STKA	**Stephens Creek**	**33.51**	**135**	P	**P**		00 25 51.3	+2.1
JOW	**Kunigami**	**38.93**	**20**	LR	LR		00 43 15.9	
	comp=Z,81nm,21.6s,baz=104,slow=37							
WHN	**Wuhan**	**40.16**	**0**	||P	P	00 26 50.6	+5.0
H08S2	**Diego Garcia H**	**41.28**	**270**	T	T		01 10 36.6	
	baz=98							
H08S3	**Diego Garcia H**	**41.30**	**270**	T	T		01 10 43.4	
	baz=98							
H08S1	**Diego Garcia H**	**41.30**	**270**	T	T		01 10 39.8	
	baz=98							
SHL	**Shillong**	**41.38**	**329**	P	**P**		00 26 55.3	-0.8
SHL				IAmb	IAmb		00 26 57.2	
	comp=Z,12nm,1.0s							
NJ2	**Nanjing**	**41.89**	**6**	*eP*	**P**		00 27 01.8	+1.9
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
HYB	**Hyderabad**	**44.45**	**307**	*i* P	**P**		00 27 23.0	+2.1
ODAN	**Odare**	**44.83**	**325**	*eP*	**P**		00 27 23.2	-0.8
	comp=Z,9.6nm,0.5s							
TAPN	**Taplejung**	**45.03**	**326**	*eP*	**P**		00 27 25.3	-0.4
	comp=Z,16nm,0.6s							
LSA	**Lhasa**	**45.16**	**331**	P	**P**		00 27 25.3	-1.6
LSA				IAmb	IAmb		00 27 31.5	
	comp=Z,6.1nm,0.6s							
RAMN	**Ramite**	**45.35**	**324**	*eP*	**P**		00 27 27.8	-0.3
	comp=Z,3.0nm,0.4s							
JCJ	**Chichijima**	**45.65**	**36**	LR	LR		00 48 06.9	
	comp=Z,28nm,20.9s,baz=262,slow=38							
GUN	**Gumba**	**46.49**	**325**	*eP*	**P**		00 27 36.6	-0.7
	comp=Z,22nm,0.5s							
PKI	**Pulchoki**	**46.51**	**324**	*eP*	**P**		00 27 36.1	-1.3
	comp=Z,3.8nm,0.4s							
PKIN	**Phulchoki**	**46.52**	**324**	*eP*	**P**		00 27 36.3	-1.1
	comp=Z,4.1nm,0.4s							
GKN	**Gorkha**	**47.28**	**324**	*eP*	**P**		00 27 42.0	-1.2
	comp=Z,11nm,0.3s							
KSRS	**Korea Array**	**48.77**	**15**	LR	LR		00 50 57.3	
	comp=Z,32nm,20.0s,baz=210,slow=39							
HHC	**Hu-ho-hao-te**	**50.50**	**357**	*eP*	**P**		00 28 06.9	-0.7
HHC				pmax	pmax			
	comp=Z,13nm,1.0s							
HHC				pmax	pmax			
	comp=Z,80nm,5.5s							
GTA	**G

	comp=Z,38nm,20.3s,baz=125,slow=38						
MK31	**Makanchi Array**	**63.18**	**336**	P	**P**	**00 29 36.9**	**-0.4**
MK31				IAmb	IAmb	00 29 44.0	
	comp=Z,5.0nm,1.4s						
MKAR	**Makanchi Array**	**63.18**	**336**	P	**P**	**00 29 36.7**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=148,slow=6.4,SNR=19						
MKAR	**Makanchi Array**	**63.18**	**336**	P	**P**	**00 29 36.2**	**-1.1**
WSAR	**Wadi Sarin**	**63.54**	**302**	P	**P**	**00 29 39.9**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=172,slow=4.8,SNR=7.3						
AAK	**Ala-Archa**	**63.60**	**328**	P	**P**	**00 29 40.2**	**-0.1**
AAK				IAmb	IAmb	00 29 53.7	
	comp=Z,5.8nm,0.9s						
KK31	**Karatay Array**	**66.04**	**326**	P	**P**	**00 29 55.9**	**-0.2**
KKAR	**Karatay Array**	**66.04**	**326**	P	**P**	**00 29 55.8**	**-0.2**
MAW	**Mawson**	**66.88**	**199**	LR	LR	00 54 29.2	
	comp=Z,101nm,20.6s,baz=64,slow=32						
ZAA0	**Zalesovo Array**	**68.26**	**342**	P	**P**	**00 30 08.0**	**-1.9**
ZALV	**Zalesovo Beam**	**68.26**	**342**	P	**P**	**00 30 08.9**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=135,slow=3.5,SNR=9.0						
ZALV				LR	LR	01 02 34.4	
	comp=Z,32nm,21.9s,baz=118,slow=38						
ZALV	**Zalesovo Beam**	**68.26**	**342**	P	**P**	**00 30 08.2**	**-1.6**
GEYT	**Alibeck**	**70.69**	**316**	P	**P**	**00 30 26.3**	**+1.0**
	comp=Z,5.0nm,0.8s,baz=145,slow=5.4,SNR=9.8						
GEYT	**Alibeck**	**70.69**	**316**	P	**P**	**00 30 25.6**	**+0.3**
GEYT				IAmb	IAmb	00 30 40.1	
	comp=Z,6.5nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**70.69**	**316**	P	**P**	**00 30 25.3**	**0.0**
YAK	**Yakutsk**	**72.66**	**8**	P	**P**	**00 30 34.9**	**-1.6**
PETK	**Petropavlovsk-**	**72.81**	**26**	P	**P**	**00 30 36.7**	**-0.9**
	comp=Z,3.3nm,1.0s,baz=131,slow=8.1,SNR=3.7						
PETK	**Petropavlovsk-**	**72.81**	**26**	P	**P**	**00 30 36.4**	**-1.3**
RAYN	**Ar Rayn**	**74.88**	**298**	P	**P**	**00 30 50.2**	**-0.2**
ABKAR	**Akbulak array**	**75.60**	**327**	P	**P**	**00 30 53.2**	**-0.8**
ABKAR	**Akbulak array**	**75.60**	**327**	P	**P**	**00 30 53.0**	**-0.9**
QSPA	**South Pole Qui**	**80.16**	**180**	P	**P**	**00 31 19.6**	**+0.4**
	comp=Z,2.3nm,1.0s,baz=105,slow=0.5,SNR=7.5						
QSPA	**South Pole Qui**	**80.16**	**180**	P	**P**	**00 31 19.6**	**+0.4**
QSPA				IAmb	IAmb	00 31 34.4	
	comp=Z,11nm,1.4s						
ARU	**Arti**	**80.35**	**332**	P	**P**	**00 31 20.0**	**-0.2**
ARU				IAmb	IAmb	00 31 27.6	
	comp=Z,8.9nm,1.2s						
TIXI	**Tiksi**	**81.90**	**5**	P	**P**	**00 31 26.7**	**-1.4**
LSZ	**Lusaka**	**83.67**	**256**	P	**P**	**00 31 38.2**	**-0.5**
BOSA	**Boshof**	**84.46**	**242**	LR	LR	01 01 35.7	
	comp=Z,88nm,21.8s,baz=134,slow=30						
SNAA	**Sanae**	**88.89**	**196**	LR	LR	01 07 08.2	
	comp=Z,112nm,20.6s,baz=120,slow=32						
SNAA	**Sanae**	**88.89**	**196**	P	**P**	**00 32 05.1**	**+1.9**
BRTR	**Keskin Array B**	**89.07**	**310**	P	**P**	**00 32 06.2**	**+1.5**
	comp=Z,1.5nm,0.9s,baz=120,slow=7.3,SNR=6.9						
BRTR	**Keskin Array B**	**89.07**	**310**	P	**P**	**00 32 05.6**	**+0.9**
AKASG	**Malin Array Be**	**94.39**	**321**	LR	LR	01 23 42.0	
	comp=Z,19nm,18.2s,baz=310,slow=41						
FINES	**FINESS Array B**	**97.68**	**331**	P	Pdif	00 32 45.0	+1.4
	comp=Z,1.9nm,0.7s,baz=156,slow=9.8,SNR=3.3						
FINES				LR	LR	01 24 14.6	
	comp=Z,59nm,18.2s,baz=90,slow=40						
YKA	**Yellowknife Ar**	**116.85**	**23**	PKP	**PKiKP**	**00 37 53.6**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=320,slow=1.0,SNR=1.8						

IDC ***22*** *00:39:07.6±2.3, 36°13.N×141°.98E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.2/56, mbtmp3.3/5, ML2.7/2, Error ellipse: s-maj=50.0km s-min=31.6km az=73.0*
JMA ***22*** *00:39:13.2±0.2, 36°.33N×141°.69E, h41km, M2.8*
ISC 22 00:39:13.2±1.3, 36°28N±0°.05×141°.9E±0°.1, h35km, n20, σ1s04/21, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.99**	**235**	P	**Pn**	**00 39 30.1**	**-0.4**
JHYU	**Hitachinakayam**	**1.02**	**274**	P	**Pn**	**00 39 29.6**	**-1.4**
JHO	**Hitachi**	**1.08**	**288**	P	**Pn**	**00 39 30.1**	**-1.8**
ONAJ	**Iwakimizuishiy**	**1.18**	**315**	P	**Pn**	**00 39 31.5**	**-1.7**
JFK	**Kawauchi**	**1.34**	**325**	P	**Pn**	**00 39 35.0**	**-0.4**
JFT	**Otama**	**1.73**	**316**	P	**Pn**	**00 39 40.7**	**-0.1**
JFT				eS	**Sn**	**00 40 02.3**	**+0.6**
BSO1	**Boso 1**	**1.77**	**204**	P	**Pn**	**00 39 40.9**	**+0.1**
BSO1				eS	**Sn**	**00 40 02.1**	**+0.3**
JMM	**Marumori**	**1.79**	**332**	P	**Pn**	**00 39 41.4**	**-0.2**
BSO3	**Boso 3**	**1.83**	**217**	P	**Pn**	**00 39 42.1**	**+0.2**
JAG	**Ashikaga**	**1.94**	**275**	P	**Pn**	**00 39 42.9**	**-0.7**
JKT	**Katashina**	**2.15**	**284**	P	**Pn**	**00 39 46.2**	**-0.4**
JKT				S	**Sn**	**00 40 10.7**	**-1.4**
MJAR	**Matsushiro Arr**	**2.95**	**276**	Pn	**Pn**	**00 39 56.7**	**-0.8**
	0.6nm,0.3s,baz=101,slow=9.3,SNR=37						
MAT	**Matsushiro**	**2.95**	**276**	P	**Pn**	**00 39 58.1**	**+0.6**
MAT				eS	**Sn**	**00 40 33.0**	**+1.3**
ASAJ	**Asahikawa**	**7.85**	**4**	Pn	**Pn**	**00 41 04.1**	**-0.7**
	0.1nm,0.3s,baz=96,slow=31,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**27.46**	**120**	T	T	01 13 39.9	
	baz=312,slow=75,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**27.47**	**120**	T	T	01 13 40.5	
	baz=312,slow=75,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**27.48**	**120**	T	T	01 13 44.0	
	baz=312,slow=75,SNR=3.9						
SONM	**Songino Array**	**28.50**	**305**	P	**P**	**00 45 06.6**	**+1.4**
	0.2nm,0.4s,baz=99,slow=8.9,SNR=2.0						
MKAR	**Makanchi Array**	**44.82**	**303**	P	**P**	**00 47 24.6**	**+0.9**
	0.4nm,0.8s,baz=88,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**56.37**	**188**	P	**P**	**00 48 49.4**	**-1.5**
	0.6nm,1.0s,baz=5.2,slow=7.6,SNR=1.3						

IDC ***22*** *01:08:56.6±1.4, 3°.79N×127°.07E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/30, mbtmp3.5/6, Error ellipse: s-maj=107.4km s-min=19.6km az=71.0*
ISC 22 01:08:58.0±1.3, 3°.9N±0°.2×127°.2E±0°.5, h10km, n7, σ1s62/7, mb3.6/6, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**3.71**	**326**	↑eP	**Pb**	**01 10 02.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**21.92**	**184**	P	**P**	**01 13 51.6**	**-0.1**
	2.2nm,1.0s,baz=349,slow=8.8,SNR=1.2						
WRA	**Warramunga Arr**	**24.73**	**164**	P	**P**	**01 14 17.2**	**-2.6**
	1.1nm,0.7s,baz=342,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**28.18**	**167**	P	**P**	**01 14 51.6**	**+0.7**
	0.3nm,0.8s,baz=341,slow=8.2,SNR=2.2						
STKA	**Stephens Creek**	**38.15**	**160**	P	**P**	**01 16 17.0**	**-0.6**
	2.0nm,1.0s,baz=343,slow=11,SNR=1.9						
SONM	**Songino Array**	**47.27**	**341**	P	**P**	**01 17 33.2**	**+1.5**
	0.3nm,0.6s,baz=160,slow=9.5,SNR=3.1						
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**01 18 48.5**	**-0.1**
	0.6nm,0.6s,baz=119,slow=7.8,SNR=12						

BJI ***22*** *01:22:59.9±0.0, 1°.47N×126°.13E, h51km, mB4.8/32, mb4.7/43, Ms4.2/8, Ms7 3.9/10*
IDC ***22*** *01:23:00.7±2.5, 1°.77N×126°.19E, h33km±18km, mb4.2/20, mb1 4.3/26, mb1mx4.2/33, mbtmp4.4/26, ML3.9/6, MS3.3/4, Ms1 3.3/4, ms1mx2.9/33, Error ellipse: s-maj=18.2km s-min=8.6km az=78.0*
DJA ***22*** *01:23:02.8±0.3, 2°.N±3°×12°.6E±°, h46km±5km, M4.7/22, mb4.8/22, mB5.2/10, MLv4.7/15, Mw(mB)4.6/10*
NEIC ***22*** *01:23:02.4±1.9, 1°.80N±0°.07×126°.31E±0°.06, h47km±7km, mb4.7/47, Error ellipse: s-maj=10.9km s-min=8.0km az=218.0*
ISC 22 01:23:02.5±0.3, 1°.83N±0°.04×126°.27E±0°.06, h47km, n138, σ1s55/141, mb4.7/52, MS3.6/5, 2C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.52**	**134**		**Pn**	**01 23 25.6**	**-1.6**
TNTI	**Ternate**	**1.52**	**134**	P	**Pn**	**01 23 25.7**	**-1.5**
SGSI	**Sangihe**	**1.99**	**338**	P	**Pn**	**01 23 33.4**	**-0.3**
KMSI	**Cibinong**	**2.61**	**241**	P	**Pn**	**01 23 43.9**	**+1.8**
GTOI	**Gorontalo**	**3.47**	**250**	P	**Pn**	**01 23 56.0**	**+2.0**
SANI	**Sanana**	**3.86**	**184**	P	**Pn**	**01 23 58.6**	**-0.8**
DDMP	**Don Marcelino,**	**4.28**	**353**	eP	**Pn**	**01 24 04.8**	**-0.4**
DDMP				eS	**Sn**	**01 24 54.4**	**+0.5**
LUWI	**Luwuk**	**4.51**	**231**	Pn	**Pn**	**01 24 09.8**	**+1.4**
LUWI	**Luwuk**	**4.51**	**231**	P	**Pn**	**01 24 10.0**	**+1.7**
MRSI	**Marisa**	**4.53**	**253**	P	**Pn**	**01 24 11.5**	**+2.9**
SKMP	**Bagumbayan, Su**	**4.97**	**340**	eP	**Pn**	**01 24 14.0**	**-0.6**
SKMP				eS	**Sn**	**01 25 09.0**	**-1.8**
NLAI	**Namlea**	**5.10**	**171**	P	**Pn**	**01 24 17.1**	**+0.7**
	0.7nm78nm,0.7s						
DAV	**Davao City (W)**	**5.25**	**352**	Pn	**Pn**	**01 24 16.7**	**-1.8**
	28nm,0.3s,baz=104,slow=8.3,SNR=1.7						
DAV				Sn	**Sn**	**01 25 17.0**	**-0.8**
	53nm,0.3s,baz=252,slow=18,SNR=2.0						
KCP	**Kidapawan**	**5.28**	**347**	eP	**Pn**	**01 24 19.6**	**+0.7**
KCP				*i* S	**Sn**	**01 25 20.9**	**+2.3**
APSI	**Ampana**	**5.36**	**240**	P	**Pn**	**01 24 22.9**	**+2.9**
	1.5nm4µm289nm,0.7s						
TOLI2	**Tolitoli**	**5.53**	**263**	Pn	**Pn**	**01 24 22.0**	**-0.4**
SWI	**Sorong**	**5.66**	**118**	P	**Pn**	**01 24 23.3**	**-0.8**
	0.1nm32nm,0.9s						
SIJI	**Sorong**	**5.67**	**118**	Pn	**Pn**	**01 24 23.2**	**-1.0**
	1.2nm,0.3s,baz=24,slow=1.7,SNR=5.1						
SIJI				LR	LR	01 26 59.5	
	comp=Z,473nm,21.5s,baz=262,slow=42						
BUKP	**Musuan**	**6.13**	**349**	eP	**Pn**	**01 24 32.0**	**+1.4**
BUKP				eS	**Sn**	**01 25 32.9**	**-6.5**
PAGZ	**Pagadian**	**6.63**	**334**	eP	**Pn**	**01 24 36.3**	**-1.2**
PAGZ				eS	**Sn**	**01 25 46.2**	**-5.6**
FAKI	**Fak Fak**	**7.61**	**128**		**Pn**	**01 24 51.8**	**+0.9**
TTSI	**Tana Toraja**	**8.06**	**233**	P	**Pn**	**01 24 57.4**	**+0.3**
	2µm78nm,0.6s						
MYLDM	**Lahad Datu**	**8.44**	**293**	Pn	**Pn**	**01 25 04.2**	**+2.0**
SPSI	**Sidrap Palu**	**8.68**	**228**	P	**Pn**	**01 25 07.2**	**+1.7**
	908nm78nm,0.8s						
BNSI	**Bone**	**8.73**	**225**	P	**Pn**	**01 25 06.8**	**+0.6**
	774nm68nm,0.5s						
BKSI	**Bulukumba**	**9.39**	**221**	P	**Pn**	**01 25 15.9**	**+0.6**
	705nm49nm,0.5s						
KAPI	**Kappang**	**9.41**	**224**	Pn	**Pn**	**01 25 13.3**	**-2.3**
	0.2nm,0.3s,baz=50,slow=20,SNR=4.1						
KAPI				Sn	**Sn**	**01 26 58.3**	**-1.9**
	0.4nm,0.3s,baz=63,slow=19,SNR=1.0						
KAPI	**Kappang**	**9.41**	**224**	Pn	**Pn**	**01 25 15.8**	**+0.2**
BKB	**Balikpapan**	**9.86**	**252**	Pn	**Pn**	**01 25 22.5**	**+0.7**
KKM	**Kota Kinabalu**	**10.87**	**293**	Pn	**Pn**	**01 25 37.7**	**+2.1**
MMRI	**Maumere**	**11.15**	**201**	Pn	**Pn**	**01 25 39.5**	**+0.2**
EDFI	**Ende, Flores**	**11.46**	**203**	P	**Pn**	**01 25 45.8**	**+2.1**
	10nm,0.7s						
SOEI	**Soe**	**11.68**	**190**		**Pn**	**01 25 46.3**	**-0.4**
SOEI	**Soe**	**11.68**	**190**	P	**Pn**	**01 25 48.8**	**+2.1**
	45nm,0.8s						
BATI	**Baumata**	**12.23**	**192**	Pn	**Pn**	**01 25 52.6**	**-1.6**
	0.9nm,0.3s,baz=42,slow=16,SNR=1.5						
BATI	**Baumata**	**12.23**	**192**	P	**Pn**	**01 25 56.3**	**+2.1**
PLAI	**Plampang**	**13.56**	**219**	P	**Pn**	**01 26 15.1**	**+2.8**
	66nm,1.3s						
SBUM	**Sibu**	**14.05**	**273**	Pn	**Pn**	**01 26 18.4**	**-0.7**
TWSI	**Taliwang, Sumb**	**14.06**	**222**	P	**Pn**	**01 26 22.0**	**+2.8**
	37nm,1.0s						
GENI	**Genyem**	**14.57**	**108**	P	**Pn**	**01 26 25.7**	**-0.2**
	65nm,0.8s						
JAY	**Jayapura**	**15.06**	**107**	Pn	**Pn**	**01 26 31.0**	**-1.4**
	0.2nm,0.3s,baz=268,slow=8.5,SNR=2.0						
SMRI	**Semarang**	**18.09**	**241**	P	**P**	**01 27 10.1**	**-0.4**
SMRI				IAmb	IAmb	01 27 12.8	
	comp=Z,48nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.81**	**182**	P	**P**	**01 27 28.1**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=12,slow=9.5,SNR=24						
FITZ	**Fitzroy Crossi**	**19.81**	**182**		**P**	**01 27 29.1**	**-0.1**
SSLB	**Suanglung**	**22.43**	**347**	P	**P**	**01 27 56.8**	**-0.6**
SSLB				IAmb	IAmb	01 28 05.6	
	comp=Z,29nm,1.1s						
WB0	**Warramunga Arr**	**22.89**	**160**	P	**P**	**01 28 01.1**	**-1.3**
WB0				IAmb	IAmb	01 28 11.9	
	comp=Z,28nm,0.5s						
COEN	**Coen**	**22.95**	**134**	P	**P**	**01 28 02.2**	**-0.8**
WRA	**Warramunga Arr**	**23.04**	**160**	P	**P**	**01 28 02.1**	**-1.8**
	comp=Z,15nm,0.5s,baz=339,slow=11,SNR=108						
WRA				PcP	**PcP**	**01 31 52.9**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=319,slow=2.4,SNR=1.7						
WRA				S	**S**	**01 32 12.8**	**+1.4**
	comp=Z,2.6nm,0.8s,baz=334,slow=19,SNR=4.8						
WB2	**Warramunga Arr**	**23.04**	**160**	P	**P**	**01 28 02.6**	**-1.3**
WB2				IAmb	IAmb	01 28 09.2	
	comp=Z,22nm,0.8s						
WR0	**Warramunga Arr**	**23.12**	**160**	P	**P**	**01 28 03.0**	**-1.7**
WR0				IAmb	IAmb	01 28 24.7	
	comp=Z,56nm,1.4s						
JOW	**Kunigami**	**24.93**	**4**	P	**P**	**01 28 20.9**	**-0.5**
	comp=Z,25nm,0.7s,baz=264,slow=5.1,SNR=4.2						
JOW				LR	LR	01 36 55.2	
	comp=Z,92nm,20.0s,baz=337,slow=33						
JOW	**Kunigami**	**24.93**	**4**	P	**P**	**01 28 22.8**	**+1.4**
JOW				IAmb	IAmb	01 28 49.5	
	comp=Z,51nm,1.2s						
AS31	**Alice Springs**	**26.41**	**164**	P	**P**	**01 28 34.7**	**-0.2**
AS31				IAmb	IAmb	01 28 39.8	
	comp=Z,8.2nm,0.4s						
ASAR	**Alice Springs**	**26.41**	**164**	P	**P**	**01 28 33.6**	**-1.3**
	comp=Z,5.7nm,0.4s,baz=345,slow=7.4,SNR=92						
ASAR				PcP	**PcP**	**01 31 59.0**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=355,slow=2.3,SNR=4.0						
ASAR				S	**S**	**01 33 05.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=343,slow=21,SNR=4.1						
ASAR	**Alice Springs**	**26.41**	**164**	P	**P**	**01 28 34.5**	**-0.3**
PSI	**Prapat**	**27.34**	**273**	P	**P**	**01 28 44.0**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=180,slow=16,SNR=2.3						
CTA	**Charters Tower**	**29.30**	**139**	P	**P**	**01 29 00.9**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=326,slow=13,SNR=1.7						
JCJ	**Chichijima**	**29.39**	**30**	P	**P**	**01 29 01.2**	**-0.3**
	comp=Z,38nm,0.7s,baz=288,slow=21,SNR=1.6						
NJ2	**Nanjing**	**30.86**	**348**	eP	**P**	**01 29 16.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GYA	**Guiyang**	**30.90**	**324**	eP	**P**	**01 29 18.3**	**+3.4**
GYA				pP	pP	01 29 28.6	+1.7
GYA				S	**S**	**01 34 16.8**	**+0.8**
GYA				sS	sS	01 34 33.8	-2.3
GYA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GYA				pmax	pmax		
	comp=Z,100nm,6.7s						
GYA				LR	LR		
	comp=Z,64nm,8.0s						
JNU	**Nakatsue**	**31.43**	**7**	P	**P**	**01 29 19.3**	**-0.1**
	baz=129,slow=6.5						
KMI	**Kunming**	**32.43**	**318**	↑P	P	01 29 33.5	+5.0
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
JWT	**Wachi**	**34.35**	**13**	P	**P**	**01 29 45.9**	**+1.0**
INU	**Inuyama**	**34.81**	**15**	P	**P**	**01 29 49.5**	**+0.7**
JGF	**Kuroka**	**35.14**	**16**	IAmb	IAmb	01 29 53.9	
	comp=Z,13nm,0.7s						
KSRS	**Korea Array**	**35.48**	**2**	P	**P**	**01 29 56.1**	**+1.5**
	comp=Z,2.6nm,0.5s,baz=181,slow=10.0,SNR=9.3						
KS19	**Wonju Array Si**	**35.53**	**2**	P	**P**	**01 29 56.5**	**+1.5**
KS19				IAmb	IAmb	01 30 20.6	
	comp=Z,19nm,1.3s						
BBOO	**Buckleboo**	**35.67**	**166**	P	**P**	**01 29 56.3**	**0.0**
XAN	**Xi'an**	**35.92**	**335**	P	**P**	**01 29 55.3**	**-3.1**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,94nm,6.0s						
CD2	**Chengdu**	**35.92**	**326**	P	**P**	**01 29 58.0**	**-0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**36.26**	**16**	P	**P**	**01 30 01.2**	**-0.1**
	comp=Z,12nm,0.9s,baz=185,slow=9.8,SNR=38						
MJAR				LR	LR	01 45 34.6	
	comp=Z,13nm,21.1s,baz=180,slow=37						
MJAR	**Matsushiro Arr**	**36.26**	**16**	P	**P**	**01 30 00.5**	**-0.8**
MJAR				IAmb	IAmb	01 30 03.0	
	comp=Z,5.3nm,0.7s						
MAJO	**Matsushiro**	**36.26**	**16**	P	**P**	**01 30 01.5**	**+0.2**
MAJO				IAmb	IAmb	01 30 04.0	
	comp=Z,8.8nm,0.7s						
MAT	**Matsushiro**	**36.26**	**16**	P	**P**	**01 30 00.9**	**-0.4**
STKA	**Stephens Creek**	**36.54**	**158**	P	**P**	**01 30 03.0**	**-0.8**
	comp=Z,4.8nm,0.6s,baz=331,slow=8.3,SNR=9.9						
STKA	**Stephens Creek**	**36.54**	**158**	P	**P**	**01 30 03.1**	**-0.6**
JYT	**Yasato**	**36.58**	**19**	P	**P**	**01 30 03.2**	**-0.7**
LZH	**Lanzhou**	**39.92**	**331**	eP	**P**	**01 30 33.0**	**+0.7**
LZH				pP	pP	01 30 46.9	+2.4
LZH				sP	sP	01 30 52.3	+2.4
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,76nm,5.6s						
ARMA	**Armidale**	**40.16**	**145**	P	**P**	**01 30 33.8**	**-0.5**
ARMA				IAmb	IAmb	01 30 41.1	
	comp=Z,19nm,1.1s						
SHL	**Shillong**	**40.66**	**308**	P	**P**	**01 30 38.2**	**-0.4**
SHL				IAmb	IAmb	01 30 45.9	
	comp=Z,6.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**41.06**	**343**	eP	**P**	**01 30 40.8**	**-0.8**
HHC				sP	sP	01 30 56.8	-2.4
HHC				PP	**PP**	**01 32 19.6**	**+2.5**
HHC				S	**S**	**01 36 55.3**	**+4.2**
HHC				SS	**SS**	**01 39 49.8**	**-5.1**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,43nm,4.5s						
HHC				LR	LR		
	comp=Z,110nm,15.3s						
HHC				LR	LR		
	comp=Z,130nm,15.2s						
HHC				LR	LR		
	comp=Z,130nm,14.3s						
USA0B	**Ussuriysk Arra**	**42.49**	**6**	P	**P**	**01 30 54.5**	**+1.4**
USRK	**Ussuriysk Ar.**	**42.49**	**6**	P	**P**	**01 30 53.8**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=198,slow=8.4,SNR=5.9						
H11S3	**WAKE ISLAND Hy**	**42.93**	**65**	T	T	02 18 01.4	
	baz=252,slow=74,SNR=46						
H11S1	**WAKE ISLAND Hy**	**42.95**	**65**	T	T	02 17 59.6	
	baz=252,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**42.95**	**65**	T	T	02 18 03.1	
	baz=252,slow=74,SNR=26						
H11N1	**WAKE ISLAND Hy**	**43.50**	**63**	T	T	02 19 02.1	
	baz=251						
H11N2	**WAKE ISLAND Hy**	**43.51**	**63**	T	T	02 19 00.8	
	baz=251						
H11N3	**WAKE ISLAND Hy**	**43.52**	**63**	T	T	02 18 47.4	
	baz=251						
GTA	**Gaotai**	**44.50**	**330**	↑P	**P**	**01 31 09.4**	**-0.1**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,36nm,4.6s						
GTA				LR	LR		
	comp=Z,67nm,18.5s						
GTA				LR	LR		
	comp=Z,78nm,17.4s						
GTA				LR	LR		
	comp=Z,84nm,18.9s						
ULN	**Ulaanbaatar**	**48.78**	**343**	P	**P**	**01 31 43.5**	**+0.5**
ULN				IAmb	IAmb	01 32 01.7	
	comp=Z,3.8nm,0.8s						
SONM	**Songino Array**	**48.95**	**342**	P	**P**	**01 31 43.9**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=153,slow=8.0,SNR=14						
SONM				PcP	**PcP**	**01 33 09.8**	**+2.0**
	comp=Z,0.9nm,0.9s,baz=145,slow=5.3,SNR=1.9						
SONM	**Songino Array**	**48.95**	**342**	P	**P**	**01 31 44.4**	**+0.2**
WMQ	**Urumqi**	**54.02**	**326**	eP	**P**	**01 32 24.8**	**+2.6**
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.9s						
PEA0B	**Petropavlovsk-**	**57.35**	**22**	P	**P**	**01 32 47.8**	**+2.0**
PEA0B				IAmb	IAmb	01 33 12.1	
	comp=Z,16nm,1.1s						
PETK	**Petropavlovsk-**	**57.35**	**22**	P	**P**	**01 32 47.4**	**+1.6**
	comp=Z,2.8nm,0.6s,baz=176,slow=4.7,SNR=11						
PETK	**Petropavlovsk-**	**57.35**	**22**	P	**P**	**01 32 47.1**	**+1.3**
MK31	**Makanchi Array**	**58.86**	**326**	P	**P**	**01 32 56.3**	**-0.2**
MK31				IAmb	IAmb	01 32 57.7	
	comp=Z,4.8nm,0.6s						
MKAR	**Makanchi Array**	**58.86**	**326**	P	**P**	**01 32 56.0**	**-0.5**
	comp=Z,6.3nm,0.5s,baz=121,slow=8.2,SNR=108						
MKAR				LR	LR	01 58 57.1	
	comp=Z,46nm,21.2s,baz=100,slow=37						
MKAR	**Makanchi Array**	**58.86**	**326**	P	**P**	**01 32 56.3**	**-0.2**
MAKZ	**Makanchi**	**59.04**	**326**	P	**P**	**01 32 58.4**	**+0.6**
KSH	**Kashi**	**59.07**	**316**	P	**P**	**01 32 58.8**	**+0.6**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,100nm,4.9s						
MA2	**Magadan**	**60.65**	**14**	P	**P**	**01 33 09.8**	**+1.3**
TUWZ	**Tuamarina**	**60.97**	**141**	P	**P**	**01 33 10.1**	**-0.9**
AAK	**Ala-Archa**	**61.46**	**319**	P	**P**	**01 33 14.8**	**+0.3**
ZAA0	**Zalesovo Array**	**62.07**	**334**	P	**P**	**01 33 17.7**	**-0.5**
ZALV	**Zalesovo Beam**	**62.07**	**334**	P	**P**	**01 33 16.8**	**-1.4**
	comp=Z,1.6nm,0.4s,baz=133,slow=5.2,SNR=8.1						
ZALV	**Zalesovo Beam**	**62.07**	**334**	P	**P**	**01 33 17.3**	**

baz=292
WFSB eS Sb 01 42 38.9 -0.6
baz=292
TNOU National Taiwa 0.61 300 eP Pg 01 42 31.3 +0.4
baz=299
TNOU eS Sb 01 42 40.0 -0.7
baz=299
NDS Dongshan 0.61 250 eP Pb 01 42 31.7 -0.4
baz=246
NDS eS Sb 01 42 41.5 +0.6
baz=246
TWE Neicheng 0.63 259 eP Pb 01 42 32.0 -0.4
baz=255
TWE eS Sb 01 42 40.6 -0.9
baz=255
EWUT Wuta 0.66 233 eP Pb 01 42 32.6 -0.2
baz=229
EWUT eS Sb 01 42 42.1 +0.1
baz=229
JYNG Yonagunijimaku 0.67 126 P Pg 01 42 31.8 -0.3
JYNG S Sg 01 42 40.8 0.0
ENA Nanau 0.69 233 eP Pg 01 42 32.6 +0.1
baz=229
ENA eS Sb 01 42 43.0 -0.1
baz=229
YOJ Yonaguni jima 0.71 122 eP Pg 01 42 32.7 -0.2
baz=122
YOJ Yonaguni jima 0.71 122 P Pg 01 42 32.3 -0.6
YOJ eS Sg 01 42 42.0 -0.2
ENTT Nioudou 0.74 254 eP Pb 01 42 34.2 -0.1
baz=251
ENTT eS Sb 01 42 44.4 -0.2
baz=251
YM01 YM01 0.77 293 eP Pg 01 42 33.4 -0.6
baz=292
YM01 eS Sg 01 42 44.2 +0.2
baz=292
YM08 YM08 0.77 296 eP Pg 01 42 33.8 -0.2
baz=295
YM08 eS Sg 01 42 44.3 +0.2
baz=295
NWLT Wulai 0.78 265 eP Pb 01 42 34.6 -0.2
baz=262
NWLT eS Sb 01 42 45.8 +0.3
baz=262
YM11 YM11 0.78 295 eP Pg 01 42 34.3 +0.2
baz=293
YM11 eS Sb 01 42 46.0 +0.4
baz=293
YM10 YM10 0.78 294 eP Pg 01 42 34.4 +0.1
baz=292
YM10 eS Sb 01 42 45.9 +0.2
baz=292
TATO Taipei 0.80 280 eP Pg 01 42 34.4 -0.1
baz=277
TATO eS Sb 01 42 45.6 -0.5
baz=277
NDT Datong Townshi 0.80 253 eP Pb 01 42 35.5 +0.3
baz=250
NDT eS Sb 01 42 47.2 +0.9
baz=250
YM04 YM04 0.80 293 eP Pb 01 42 35.3 0.0
baz=291
YM04 eS Sg 01 42 45.3 +0.2
baz=291
TWY Chenhua 0.81 302 eP Pb 01 42 35.1 -0.2
baz=301
TWY eS Sb 01 42 46.1 -0.3
baz=301
YM03 YM03 0.81 295 eP Pg 01 42 34.4 -0.4
baz=293
YM03 eS Sb 01 42 46.6 0.0
baz=293
PCYT Pengchaiyu 0.82 342 eP Pg 01 42 35.0 0.0
baz=344
PCYT eS Sg 01 42 46.1 +0.4
baz=344
YHNB Yeheng 0.90 259 eP Pb 01 42 36.9 -0.2
baz=256
YHNB eS Sb 01 42 49.8 +0.4
baz=256
NSK Sanguang 0.92 260 eP Pb 01 42 37.2 -0.1
baz=257
NSK eS Sb 01 42 50.4 +0.6
baz=257
NACB Ninganchiao 0.96 226 eP Pb 01 42 37.9 -0.1
baz=223
NACB eS Sb 01 42 50.8 0.0
baz=223
NNSB Datong 0.97 245 eP Pb 01 42 38.4 +0.1
baz=242
NNSB eS Sb 01 42 51.2 -0.2
baz=242
NNSH Datong 0.97 245 eP Pb 01 42 38.1 -0.2
baz=242
NNSH eS Sn 01 42 52.4 -0.8
baz=242
NNS Nan Shan 0.98 246 eP Pb 01 42 38.3 -0.1
baz=243
NNS eS Sb 01 42 51.5 0.0
baz=243
ETLH Xiulin Townshi 1.01 231 eP Pg 01 42 38.5 -0.2
baz=229
ETLH eS Sb 01 42 52.8 +0.3
baz=229
TWD Chiawan 1.03 222 eP Pn 01 42 39.7 -0.1
baz=219
TWD eS Sb 01 42 53.3 +0.6
baz=219
FUSS Fushou 1.17 240 eP Pg 01 42 41.2 -0.5
baz=237
FUSS eS Sb 01 42 57.7 +0.6
baz=237
WHF Hehuan Shan 1.21 235 eP Pb 01 42 42.7 +0.1
baz=232
WHF eS Sb 01 42 59.0 +0.6
baz=232
LIOB Emei 1.23 261 eP Pg 01 42 42.3 -0.5
baz=259
TDCB Techi 1.24 242 eP Pg 01 42 42.4 -0.5
baz=239
TDCB eS Sb 01 42 59.1 +0.2
baz=239
ESL Shilin 1.32 219 eP Pn 01 42 43.9 0.0
baz=217
ESL eS Sb 01 43 01.0 -0.3
baz=217
CHGB Renai 1.33 234 eP Pb 01 42 44.5 0.0
baz=232
CHGB eS Sb 01 43 01.6 0.0
baz=232
IRIF Iriomote-Funau 1.35 112 P Pn 01 42 44.5 +0.2
WHP Taichung City 1.40 247 eP Pn 01 42 45.0 0.0
baz=244
WHP eS Sb 01 43 03.4 -0.2
baz=244
HATJ Hateruma jima 1.54 120 P Pb 01 42 47.9 0.0
HATJ eS Sn 01 43 07.4 +0.4
VWDT VWDT 1.55 226 eP Pn 01 42 47.5 +0.5
baz=224
VWDT eS Sn 01 43 07.6 +0.4
baz=224
HGSD Ruisui 1.59 212 eP Pn 01 42 48.0 +0.5
baz=210
HGSD eS Sn 01 43 08.5 +0.2
baz=210
JKRS Kuro-shima 1.63 111 P Pn 01 42 48.1 +0.1
JKRS eS Sn 01 43 09.1 0.0
EHY Hungye 1.63 215 eP Pn 01 42 47.5 -0.6
baz=213
EHY eS Sn 01 43 07.0 -2.3
baz=213
SMLT Sun Moon Lake 1.63 234 eP Pn 01 42 48.6 +0.3
baz=232
SMLT eS Sb 01 43 10.2 -0.1
baz=232
SSLB Suanglung 1.65 231 eP Pn 01 42 48.9 +0.4
baz=229
SSLB eS Sn 01 43 10.2 +0.4
baz=229
TYC Yuchr 1.65 236 eP Pn 01 42 48.7 +0.3
baz=234
TYC eS Sn 01 43 09.9 +0.1
baz=234
JIJ Ishigaki jima 1.70 106 P Pn 01 42 49.9 +0.9
JIJ S Sn 01 43 10.6 -0.3
YULB Yu-li 1.74 214 eP Pn 01 42 49.0 -0.6
baz=212
YULB eS Sn 01 43 11.4 -0.5
baz=212
EYUL Yuli 1.76 213 eP Pn 01 42 50.6 +0.7
baz=211
TWF1 Yuli 1.77 213 eP Pn 01 42 49.3 -0.7
baz=211
TWF1 eS Sn 01 43 12.8 +0.1
baz=211
JISG Ishigakijimahi 1.80 98 P Pn 01 42 50.6 +0.2
JISG eS Sn 01 43 13.6 +0.2
YUS Yu-Shan 1.86 224 eP Pn 01 42 51.3 -0.4
baz=222
YUS eS Sn 01 43 15.7 +0.1
baz=222
ALS Alishan 1.94 227 eP Pn 01 42 53.2 +0.6
baz=225
ALS eS Sn 01 43 18.2 +0.9
baz=225
CHN5 Tsauling 1.97 231 eP Pn 01 42 53.7 +0.8
baz=229
CHN5 eS Sn 01 43 18.4 +0.6
baz=229
CHN4 Tsaushan 2.19 228 eP Pn 01 42 56.5 +0.7
baz=226
CHN4 eS Sn 01 43 23.6 +0.6
baz=226
STYT Tauyuan 2.22 221 eP Pn 01 42 57.0 +0.7
baz=219
STYT eS Sn 01 43 24.4 +0.5
baz=219

IDC ***22*** *01:47:35.5±0.7,3˚.63S×131˚.51E,h0km,mb4.2/10, mb1 4.3/14,mb1mx4.2/29,mbtmp4.3/14,ML3.4/4,MS3.4/3, Ms1 3.4/3,ms1mx2.8/46,Error ellipse: s-maj=22.1km s-min=14.6km az=71.0*
NEIC ***22*** *01:47:39.5±2.1,3˚.66S±0˚.06×131˚.41E±0˚.06,h31km±1km, mb4.3/25,Error ellipse: s-maj=9.3km s-min=8.5km az=139.0*
DJA ***22*** *01:47:41.6±0.3,3˚.5S±4˚×13˚.1E±˚,h41km±15km,M4.7/11, mB5.3/7,mb4.9/11,MLv4.5/9,Mw(mB)4.7/7*
ISC 22 01:47:39.8±0.4,**3˚.67S**±0˚.05×**131˚.53E**±0˚.06,**h35**km,**n74,** σ1°**74**/75,**mb4.2**/17,**MS3.3**/3,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.04**	**44**	Pn	**Pn**	**01 47 58.5**	**+0.6**
FAKI	**Fak Fak**	**1.04**	**44**	P	**Pn**	**01 47 58.5**	**+0.6**
BNDI	**Bandanaira**	**1.83**	**243**	P	**Pn**	**01 48 09.6**	**+0.8**
SIJI	**Sorong**	**2.80**	**355**	Pn	**Pn**	**01 48 20.1**	**-2.1**
	12nm,0.3s,baz=220,slow=16,SNR=36						
SIJI				Sn	**Sn**	**01 48 51.4**	**-3.4**
	100nm,0.3s,baz=270,slow=20,SNR=21						
SWI	**Sorong**	**2.81**	**354**	P	**Pn**	**01 48 20.9**	**-1.3**
RKPI	**Ransiki, Papua**	**3.41**	**51**	P	**Pn**	**01 48 31.7**	**+1.2**
NLAI	**Namlea**	**4.45**	**275**	P	**Pn**	**01 48 46.3**	**+1.5**
BAKI	**Biak**	**5.19**	**62**	P	**Pn**	**01 48 56.3**	**+1.2**
	1.3nm5µm319nm,0.7s						
SANI	**Sanana**	**5.77**	**286**	P	**Pn**	**01 49 01.0**	**-2.0**
	0.4nm1µm108nm,0.5s						
MTN	**Manton Dam**	**9.12**	**182**		**Pn**	**01 49 48.6**	**-0.4**
LUWI	**Luwuk**	**9.13**	**286**	Pn	**Pn**	**01 49 48.4**	**-0.8**
JAY	**Jayapura**	**9.23**	**83**	Pn	**Pn**	**01 49 49.7**	**-0.9**
	0.6nm,0.3s,baz=319,slow=17,SNR=1.6						
SOEI	**Soe**	**9.41**	**230**	Pn	**Pn**	**01 49 51.6**	**-1.5**
SOEI	**Soe**	**9.41**	**230**	P	**Pn**	**01 49 56.2**	**+3.1**
	122nm,0.9s						
GTOI	**Gorontalo**	**9.53**	**297**	P	**Pn**	**01 49 56.1**	**+1.4**
	270nm19nm,0.5s						
BATI	**Baumata**	**10.15**	**230**	Pn	**Pn**	**01 50 05.0**	**+1.7**
	13nm,0.3s,baz=139,slow=1.5,SNR=44						
BATI				Sn	**Sn**	**01 51 55.2**	**-0.7**
	2.1nm,0.3s,baz=78,slow=18,SNR=1.4						
BATI	**Baumata**	**10.15**	**230**	P	**Pn**	**01 50 05.3**	**+2.1**
	951nm109nm,0.8s						
MRSI	**Marisa**	**10.44**	**293**	P	**Pn**	**01 50 06.7**	**-0.4**
	944nm52nm,0.6s						
MMRI	**Maumere**	**10.47**	**241**	Pn	**Pn**	**01 50 07.1**	**-0.5**
MMRI	**Maumere**	**10.47**	**241**	P	**Pn**	**01 50 09.9**	**+2.3**
	4µm33nm,0.7s						
EDFI	**Ende, Flores**	**11.01**	**242**	P	**Pn**	**01 50 17.2**	**+2.2**
	13nm,0.9s						
TOLI2	**Tolitoli**	**11.75**	**294**	Pn	**Pn**	**01 50 24.4**	**-0.7**
KAPI	**Kappang**	**11.82**	**263**	Pn	**Pn**	**01 50 25.8**	**-0.3**
	0.7nm,0.3s,baz=91,slow=10,SNR=1.2						
KAPI	**Kappang**	**11.82**	**263**	Pn	**Pn**	**01 50 25.3**	**-0.8**
KNRA	**Kununurra**	**12.23**	**193**	Pn	**Pn**	**01 50 28.5**	**-3.2**
FITZ	**Fitzroy Crossi**	**15.45**	**201**	Pn	**Pn**	**01 51 10.3**	**-5.0**
	1.8nm,0.3s,baz=38,slow=10,SNR=53						
FITZ				Sn	Sn	01 53 51.2	-14
	0.9nm,0.3s,baz=3.9,slow=20,SNR=3.5						
FITZ	**Fitzroy Crossi**	**15.45**	**201**		**Pn**	**01 51 11.7**	**-3.6**
FITZ				lAmb	lAmb	01 51 19.5	
	comp=Z,18nm,0.8s						
MANU	**Manus Island**	**15.90**	**85**	Pn	**Pn**	**01 51 20.6**	**-0.5**
WB0	**Warramunga Arr**	**16.24**	**170**		**Pn**	**01 51 23.5**	**-1.9**
WB0				lAmb	lAmb	01 51 39.0	
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**16.40**	**171**	Pn	**Pn**	**01 51 22.6**	**-4.9**
	comp=Z,0.9nm,0.3s,baz=351,slow=13,SNR=33						
WRA				Sn	Sn	01 54 13.3	-15
	comp=Z,0.4nm,0.3s,baz=354,slow=18,SNR=2.8						
WRA	**Warramunga Arr**	**16.40**	**171**		**Pn**	**01 51 25.5**	**-2.0**
WB2	**Warramunga Arr**	**16.40**	**171**		**Pn**	**01 51 24.4**	**-3.1**
WR0	**Warramunga Arr**	**16.45**	**170**	Pn	**Pn**	**01 51 24.5**	**-3.7**
WR0				lAmb	lAmb	01 51 41.9	
	comp=Z,20nm,1.1s						
PMG	**Port Moresby**	**16.53**	**111**	Pn	**P**	**01 51 29.9**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=333,slow=7.4,SNR=4.0						
KMMI	**Kalianget**	**17.80**	**258**	P	**P**	**01 51 46.7**	**+1.2**
AS31	**Alice Springs**	**20.01**	**174**	P	**P**	**01 52 09.8**	**+0.1**
AS31				lAmb	lAmb	01 52 38.7	
	comp=Z,6.5nm,0.6s						
ASAR	**Alice Springs**	**20.01**	**174**	P	**P**	**01 52 09.8**	**+0.1**
	comp=Z,12nm,0.6s,baz=352,slow=9.8,SNR=191						
ASAR				S	S	01 55 41.4	-11
	comp=Z,0.9nm,0.7s,baz=356,slow=22,SNR=4.3						
ASAR	**Alice Springs**	**20.01**	**174**	P	**Pn**	**01 52 10.6**	**-1.0**
SBUM	**Sibu**	**20.24**	**287**	P	**P**	**01 52 12.6**	**+0.3**
SBUM				lAmb	lAmb	01 52 15.1	
	comp=Z,9.4nm,1.0s						
PSA00	**Pilbara Seismi**	**21.11**	**212**	P	**P**	**01 52 19.6**	**-2.0**
CTA	**Charters Tower**	**21.73**	**140**	P	**P**	**01 52 30.3**	**+2.0**
	comp=Z,6.4nm,0.5s,baz=316,slow=10,SNR=22						
CTAO	**Charters Tower**	**21.73**	**140**	P	**P**	**01 52 29.6**	**+1.3**
CTAO				lAmb	lAmb	01 52 38.6	
	comp=Z,11nm,0.8s						
FORT	**Forrest**	**27.16**	**187**	P	**P**	**01 53 19.9**	**-0.1**
BBOO	**Buckleboo**	**29.29**	**172**	P	**P**	**01 53 38.7**	**-0.3**
BBOO				lAmb	lAmb	01 53 54.5	
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**29.61**	**162**	P	**P**	**01 53 42.8**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=330,slow=10,SNR=5.4						
STKA				LR	LR	02 06 50.8	
	comp=Z,198nm,20.3s,baz=206,slow=39						
STKA	**Stephens Creek**	**29.61**	**162**	P	**P**	**01 53 41.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**32.03**	**203**	P	**P**	**01 54 02.9**	**-0.4**
	comp=Z,35nm,1.3s,baz=48,slow=8.8,SNR=5.7						
NWAO	**Narrogin (SRO)**	**32.03**	**203**	P	**P**	**01 54 02.7**	**-0.5**
GSI	**Gunungsitoli**	**34.30**	**278**	P	**P**	**01 54 22.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**38.91**	**306**	P	**P**	**01 55 03.1**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=134,slow=7.0,SNR=7.2						
CMAR	**Chiang Mai Arr**	**38.91**	**306**	P	**P**	**01 55 02.2**	**-0.4**
CHTO	**Chiang Mai**	**39.10**	**306**	P	**P**	**01 55 03.5**	**-0.5**
CHTO				lAmb	lAmb	01 55 05.7	
	comp=Z,3.4nm,0.7s						
HHC	**Hu-ho-hao-te**	**47.93**	**340**	*e*P	**P**	**01 56 15.8**	**+0.8**
HHC				pmax	pmax		
	comp=Z,23nm,1.0s						
HHC				pmax	pmax		
	comp=Z,72nm,5.1s						
SHL	**Shillong**	**48.19**	**309**	P	**P**	**01 56 17.1**	**-0.2**
ULN	**Ulaanbaatar**	**55.63**	**340**	P	**P**	**01 57 12.6**	**+0.1**
ULN				lAmb	lAmb	01 57 23.7	
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**55.83**	**340**	P	**P**	**01 57 15.3**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=160,slow=8.4,SNR=6.0						
SONM				PcP	**PcP**	**01 58 14.2**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=152,slow=4.9,SNR=1.5						
SONM	**Songino Array**	**55.83**	**340**	P	**P**	**01 57 15.4**	**+1.6**
TLY	**Talaya**	**60.04**	**340**	LR	LR	02 28 39.9	
	comp=Z,15nm,18.7s,baz=126,slow=41						
PETK	**Petropavlovsk-**	**60.71**	**18**	P	**P**	**01 57 49.2**	**+1.6**
	comp=Z,1.8nm,0.7s,baz=182,slow=5.5,SNR=2.0						
WMQ	**Urumqi**	**61.50**	**325**	*e*P	**P**	**01 57 56.1**	**+2.8**
YAK	**Yakutsk**	**65.54**	**359**	LR	LR	02 26 58.5	
	comp=Z,20nm,18.6s,baz=304,slow=36						
MK31	**Makanchi Array**	**66.33**	**325**	P	**P**	**01 58 26.0**	**+1.0**
MK31				lAmb	lAmb	01 58 33.9	
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**66.33**	**325**	P	**P**	**01 58 25.6**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=123,slow=8.8,SNR=14						
ZAA0	**Zalesovo Array**	**69.32**	**333**	P	**P**	**01 58 44.0**	**+0.4**
ZAA0				lAmb	lAmb	01 58 54.1	
	comp=Z,3.0nm,1.0s						
ZALV	**Zalesovo Beam**	**69.32**	**333**	P	**P**	**01 58 44.4**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=104,slow=6.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**69.32**	**333**	P	**P**	**01 58 43.9**	**+0.3**
KBL	**Kabul**	**69.84**	**309**	P	**P**	**01 58 45.6**	**-1.9**
KBL				lAmb	lAmb	01 59 08.9	
	comp=Z,1.9nm,0.6s						
KK31	**Karatay Array**	**71.89**	**318**	P	**P**	**01 58 59.6**	**0.0**
KKAR	**Karatay Array**	**71.89**	**318**	P	**P**	**01 58 59.3**	**-0.3**
TIXI	**Tiksi**	**75.20**	**359**	P	**P**	**01 59 19.9**	**+1.5**
TIXI				lAmb	lAmb	01 59 27.3	
	comp=Z,2.1nm,0.8s						
ILAR	**Eielson Array**	**89.71**	**25**	P	**P**	**02 00 33.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=252,slow=3.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**129.58**	**284**	PKP	**PKPdf**	**02 06 45.8**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=53,slow=1.9,SNR=2.3						
CPUP	**Villa Florida**	**148.96**	**164**	PKPbc	**PKiKP**	**02 07 26.2**	**0.0**
	comp=Z,1.5nm,0.8s,baz=211,slow=5.9,SNR=2.0						
LPAZ	**La Paz**	**152.23**	**136**	PKPbc	**PKiKP**	**02 07 36.3**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=300,slow=8.9,SNR=2.4						

IDC ***22*** *02:02:44.5±1.8,5˚.48S×147˚.28E,h207km±19km,mb3.3/4, mb1 3.5/6,mb1mx3.2/41,mbtmp3.9/6,MS3.5/1,Ms1 3.5/1, ms1mx2.5/35,Error ellipse: s-maj=38.0km s-min=12.0km az=118.0*
ISC 22 02:02:43.8±0.9,**5˚.41S**±0˚.09×**147˚.2E**±0˚.2,**h200**km,**n10,** σ1°**19**/12,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.97**	**181**	P	**Pn**	**02 03 45.9**	**+0.7**
	3.1nm,0.3s,baz=4.4,slow=13,SNR=2.9						
PMG				S	**Sn**	**02 04 33.2**	**-0.4**
	15nm,0.3s,baz=2.4,slow=12,SNR=13						
WRA	**Warramunga Arr**	**19.12**	**220**	P	**P**	**02 06 52.6**	**+0.7**
	1.6nm,0.3s,baz=44,slow=11,SNR=63						
WRA				S	**S**	**02 10 15.5**	**-2.6**
	0.0nm,0.3s,baz=42,slow=20,SNR=1.8						
ASAR	**Alice Springs**	**22.23**	**214**	P	**P**	**02 07 25.2**	**+0.9**
	6.7nm,0.6s,baz=45,slow=7.8,SNR=95						
ASAR				S	**S**	**02 11 15.3**	**+1.1**
	0.7nm,0.8s,baz=32,slow=20,SNR=3.3						
FITZ	**Fitzroy Crossi**	**24.56**	**237**	P	**P**	**02 07 45.5**	**0.0**
	14nm,0.4s,baz=56,slow=10,SNR=126						
RAR	**Rarotonga**	**53.66**	**112**	LR	LR	02 31 06.9	
	comp=Z,39nm,19.2s,baz=312,slow=32						
PETK	**Petropavlovsk-**	**58.97**	**7**	P	**P**	**02 12 21.5**	**-0.6**
	2.5nm,0.9s,baz=164,slow=5.7,SNR=2.6						
MKAR	**Makanchi Array**	**77.18**	**320**	P	**P**	**02 14 16.6**	**+1.0**
	0.2nm,0.6s,baz=121,slow=6.0,SNR=3.1						
ILAR	**Eielson Array**	**84.86**	**23**	P	**P**	**02 14 55.5**	**-0.1**
	0.4nm,0.7s,baz=250,slow=5.1,SNR=8.2						
SIV	**San Ignacio**	**144.84**	**128**	PKP	**PKPab**	**02 21 56.9**	**-0.6**
	1.2nm,0.5s,baz=232,slow=5.2,SNR=7.3						
TORD	**Torodi Ar. Bea**	**145.15**	**285**	PKPbc	**PKPdf**	**02 21 57.5**	**-1.0**
	0.4nm,0.5s,baz=53,slow=3.3,SNR=4.8						

IDC ***22*** *02:03:09.2±1.0,17˚.15S×172˚.62W,h0km,mb4.2/9, mb1 4.3/10,mb1mx4.0/45,mbtmp4.2/10,ML3.4/1,Error ellipse: s-maj=41.2km s-min=18.3km az=133.0*
NEIC ***22*** *02:03:11.1±1.8,17˚.1S±0˚.1×172˚.5W±0˚.1,h10km±1km, mb4.7/17,Error ellipse: s-maj=24.0km s-min=12.2km az=127.0*
ISC 22 02:03:11.5±0.8,**17˚.2S**±0˚.1×**172˚.4W**±0˚.1,**h17**km,**n47,** σ1°**31**/38,**mb4.6**/18,**MS3.5**/4,**1C-1D,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.32**	**11**	Pn	**Pn**	**02 04 01.6**	**-1.1**
	3.9nm,0.3s,baz=309,slow=20,SNR=3.0						
AFI				Sn	**Sn**	**02 04 40.7**	**-1.0**
	26nm,0.3s,baz=120,slow=20,SNR=8.8						
AFI	**Afiamalu**	**3.32**	**11**	Pn	**Pn**	**02 04 04.6**	**+1.9**
MSVF	**Nonsavu**	**9.12**	**265**	Pn	**Pn**	**02 05 25.0**	**+2.5**
	0.4nm,0.3s,baz=184,slow=21,SNR=1.9						
DZM	**Mont Dzumac**	**20.50**	**253**	*e*LR	LR	02 13 10.6	
	comp=Z,255nm,25.2s						
DZM	**Mont Dzumac**	**20.50**	**253**	P	Pn	02 07 50.3	-0.8
	13nm,1.2s,baz=95,slow=16,SNR=3.4						
PPT2	**Papeete2**	**21.79**	**94**	*e*LR	LR	02 12 57.7	
	comp=Z,233nm,25.0s,baz=249						
TBI	**Tubuai**	**22.37**	**110**	*e*LR	LR	02 13 16.2	
	comp=Z,227nm,26.0s						
URZ	**Urewera**	**22.92**	**202**	P	**P**	**02 08 14.6**	**0.0**
	7.8nm,0.5s,baz=331,slow=3.7,SNR=21						
URZ	**Urewera**	**22.92**	**202**	P	**P**	**02 08 15.4**	**+0.8**
TUWZ	**Tuamarina**	**26.86**	**203**	P	**P**	**02 08 54.2**	**+3.0**
RPZ	**Rata Peaks**	**29.92**	**204**	P	P	02 09 24.1	+5.5
	12nm,0.7s,baz=79,slow=13,SNR=2.6						
RPZ	**Rata Peaks**	**29.92**	**204**	P	**P**	**02 09 19.7**	**+1.1**
TAOE	**Nuku Hiva Isla**	**32.46**	**79**	*e*LR	LR	02 17 52.1	
	comp=Z,126nm,25.6s						
STKA	**Stephens Creek**	**44.00**	**242**	P	**P**	**02 11 17.4**	**-0.8**
	2.2nm,0.8s,baz=49,slow=8.6,SNR=3.7						
STKA	**Stephens Creek**	**44.00**	**242**	lAmb	lAmb	02 11 20.8	
	comp=Z,1.5nm,1.1s						
BBOO	**Buckleboo**	**48.77**	**241**	P	**P**	**02 11 54.0**	**-1.7**
WB0	**Warramunga Arr**	**50.36**	**258**	P	**P**	**02 12 06.1**	**-2.0**
WRA	**Warramunga Arr**	**50.39**	**258**	P	**P**	**02 12 06.2**	**-2.0**
	comp=Z,1.9nm,0.5s,baz=98,slow=7.1,SNR=31						
AS31	**Alice Springs**	**50.49**	**253**	P	**P**	**02 12 07.8**	**-1.2**
AS31				lAmb	lAmb	02 12 08.8	
	comp=Z,3.4nm,0.6s						
ASAR	**Alice Springs**	**50.49**	**253**	P	**P**	**02 12 07.2**	**-1.8**
	comp=Z,9.0nm,0.6s,baz=88,slow=8.8,SNR=122						
SIJI	**Sorong**	**57.70**	**280**	P	**P**	**02 13 01.3**	**-0.5**
	comp=Z,6.8nm,0.6s,baz=109,slow=7.6,SNR=4.8						
FITZ	**Fitzroy Crossi**	**58.79**	**259**	P	**P**	**02 13 08.8**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=172,slow=8.3,SNR=5.5						
FITZ	**Fitzroy Crossi**	**58.79**	**259**	lAmb	lAmb	02 13 19.3	
	comp=Z,8.0nm,1.4s						
AFDM	**Forest Hills D**	**73.69**	**39**	P	**P**	**02 14 44.5**	**0.0**
NVAR	**Mina Array Bea**	**75.03**	**41**	P	**P**	**02 14 53.3**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=249,slow=7.6,SNR=4.2						
NVAR	**Mina Array Bea**	**75.03**	**41**	P	**P**	**02 14 52.8**	**+0.2**
RND	**Reindeer**	**82.41**	**10**	P	**P**	**02 15 33.1**	**+0.7**
RND				lAmb	lAmb	02 15 35.2	
	comp=Z,5.3nm,1.1s						
WRH	**Wood River Hil**	**83.53**	**10**	P	**P**	**02 15 38.5**	**+0.5**
WRH				lAmb	lAmb	02 16 04.6	
	comp=Z,9.6nm,1.3s						
DOT	**Dot Lake**	**83.53**	**12**	P	**P**	**02 15 38.0**	**-0.2**
CCB	**Clear Creek Bu**	**83.73**	**10**	P	**P**	**02 15 40.1**	**+1.0**
CCB				lAmb	lAmb	02 15 41.7	
	comp=Z,11nm,1.4s						
COLA	**College**	**83.94**	**10**	P	**P**	**02 15 40.5**	**+0.4**
MDM	**Murphy Dome**	**83.95**	**10**	P	**P**	**02 15 41.0**	**+0.8**
MDM				lAmb	lAmb	02 15 42.2	
	comp=Z,8.2nm,1.3s						
IL31		**84.01**	**11**	P	**P**	**02 15 41.7**	**+1.2**
IL31				lAmb	lAmb	02 15 51.6	
	comp=Z,6.0nm,1.4s						
ILAR	**Eielson Array**	**84.01**	**11**	P	**P**	**02 15 41.6**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=232,slow=5.5,SNR=8.2						
ILAR	**Eielson Array**	**84.01**	**11**	P	**P**	**02 15 41.0**	**+0.5**
IMAR	**Indian Mountai**	**84.11**	**8**	P	**P**	**02 15 41.6**	**+0.7**
POKR	**Poker Plat Res**	**84.23**	**10**	P	**P**	**02 15 42.2**	**+0.5**
POKR				lAmb	lAmb	02 16 08.9	
	comp=Z,5.0nm,0.8s						
PRP	**Porcupine Dome**	**84.93**	**11**	P	**P**	**02 15 46.4**	**+1.0**
PRP				lAmb	lAmb	02 15 47.9	
	comp=Z,9.3nm,1.2s						
BMAR	**Burnt Mountain**	**86.82**	**10**	P	**P**	**02 15 56.8**	**+2.3**
SYO	**Syowa Base**	**91.04**	**191**	⇑*e*pP	pP	02 16 17.0	-0.4
SYO	**Syowa Base**	**91.04**	**191**	⇓*e*sP	sP	02 16 21.6	+3.1
YKA	**Yellowknife Ar**	**91.35**	**23**	P	**P**	**02 16 16.9**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=238,slow=3.5,SNR=4.0						
KMBO	**Kilima Mbogo**	**145.56**	**241**	PKPbc	**PKPab**	**02 22 50.2**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=52,slow=10,SNR=5.2						
CLL	**Collm**	**145.69**	**354**	*i* PKPbc	**PKPab**	**02 22 50.5**	**+0.9**
	comp=Z,25nm,1.7s						
GERES	**GERESS Array B**	**148.03**	**352**	PKPbc	**PKiKP**	**02 22 57.1**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=29,slow=2.2,SNR=3.5						

BRTR	**Keskin Array B**	**148.14**	**320**	PKPbc	**PKPbc**	**02 22 55.5**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=96,slow=2.9,SNR=2.1						
TORD	**Torodi Ar. Bea**	**173.03**	**124**	PKP	**PKPdf**	**02 23 19.2**	**-1.5**
	comp=Z,1.4nm,1.1s,baz=301,slow=1.1,SNR=3.8						

*IDC **22** 02:03:34.3±1.2, 17.08S×172.52W, h0km, mb4.2/7, mb1 4.5/7, mb1mx4.0/47, mbtmp4.2/7, Error ellipse: s-maj=50.8km s-min=23.3km az=141.0*
ISC 22 02:03:37.2±1.1, 17.0S±0.2×172.6W±0.2, h17km, n10, σ1§16/10, mb4.3/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.16**	**14**	Sn	**Sn**	**02 05 02.9**	**-0.6**
	27nm,0.3s,baz=209,slow=22,SNR=4.4						
URZ	**Urewera**	**23.05**	**201**	P	**P**	**02 08 41.7**	**+0.1**
	12nm,1.0s,baz=16,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**50.29**	**258**	P	**P**	**02 12 31.6**	**-1.7**
	3.2nm,0.8s,baz=95,slow=8.0,SNR=5.5						
ASAR	**Alice Springs**	**50.41**	**253**	P	**P**	**02 12 32.9**	**-1.3**
	9.5nm,0.7s,baz=88,slow=8.5,SNR=8.1						
SIJI	**Sorong**	**57.53**	**280**	P	**P**	**02 13 27.8**	**+1.6**
	13nm,0.8s,baz=60,slow=10,SNR=5.5						
NVAR	**Mina Array Bea**	**74.97**	**41**	P	**P**	**02 15 17.1**	**-0.8**
	0.7nm,0.8s,baz=226,slow=9.5,SNR=3.5						
PDAR	**Pinedale Array**	**82.91**	**41**	P	**P**	**02 16 01.3**	**-0.1**
	0.2nm,0.3s,baz=242,slow=1.9,SNR=1.5						
ILAR	**Eielson Array**	**83.85**	**11**	P	**P**	**02 16 06.5**	**+1.1**
	0.8nm,0.9s,baz=234,slow=5.2,SNR=4.0						
GERES	**GERESS Array B**	**147.82**	**352**	PKPbc	**PKPbc**	**02 23 21.8**	**+0.5**
	0.5nm,0.7s,baz=0.0,slow=1.0,SNR=2.9						
BRTR	**Keskin Array B**	**147.90**	**320**	PKPbc	**PKPbc**	**02 23 21.8**	**-0.2**
	0.3nm,0.5s,baz=243,slow=38,SNR=1.9						

*IDC **22** 02:08:56.4±1.0, 21.98N×146.94E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.7/56, mbtmp3.9/14, ML3.8/2, Error ellipse: s-maj=32.9km s-min=18.4km az=84.0*
ISC 22 02:08:58.7±0.9, 22.1N±0.1×146.7E±0.2, h10km, n14, σ1§60/16, mb3.8/12, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.47**	**322**	Pn	**Pn**	**02 10 34.3**	**+0.3**
	14nm,0.3s,baz=285,slow=23,SNR=8.8						
JCJ				Sn	**Sn**	**02 11 44.0**	**-3.9**
	5.0nm,0.3s,baz=276,slow=23,SNR=2.5						
MJAR	**Matsushiro Arr**	**16.19**	**335**	Pn	**Pn**	**02 12 46.6**	**+0.2**
	0.0nm,0.3s,baz=167,slow=12,SNR=2.4						
KSRS	**Korea Array**	**22.31**	**318**	P	**P**	**02 13 59.2**	**+2.8**
	1.4nm,0.6s,baz=134,slow=8.8,SNR=2.8						
SONM	**Songino Array**	**41.17**	**319**	P	**P**	**02 16 45.1**	**+1.7**
	0.8nm,0.7s,baz=134,slow=9.0,SNR=6.9						
WRA	**Warramunga Arr**	**43.47**	**197**	P	**P**	**02 17 01.4**	**-0.9**
	0.9nm,0.8s,baz=15,slow=8.4,SNR=5.3						
FITZ	**Fitzroy Crossi**	**44.93**	**209**	P	**P**	**02 17 13.2**	**-0.7**
	1.6nm,0.9s,baz=24,slow=11,SNR=1.2						
ASAR	**Alice Springs**	**47.14**	**196**	P	**P**	**02 17 30.2**	**-1.2**
	0.4nm,0.7s,baz=9.4,slow=6.4,SNR=2.0						
ZALV	**Zalesovo Beam**	**55.96**	**321**	P	**P**	**02 18 37.6**	**+0.6**
	0.8nm,0.4s,baz=104,slow=6.6,SNR=3.9						
ZALV				PcP	**PcP**	**02 19 35.0**	**-0.4**
	0.4nm,0.6s,baz=86,slow=6.1,SNR=1.5						
MKAR	**Makanchi Array**	**56.85**	**312**	P	**P**	**02 18 44.9**	**+1.3**
	0.9nm,0.4s,baz=88,slow=8.5,SNR=20						
KURBB	**Kurchatov Arra**	**59.48**	**317**	P	**P**	**02 19 03.0**	**+1.1**
	2.0nm,0.5s,baz=93,slow=7.8,SNR=8.5						
ILAR	**Eielson Array**	**60.22**	**2**	P	**P**	**02 19 05.7**	**-1.1**
	0.4nm,0.8s,baz=276,slow=6.0,SNR=4.3						
BVAR	**Borovoye Array**	**64.51**	**319**	P	**P**	**02 19 35.9**	**+0.2**
	1.8nm,0.7s,baz=62,slow=8.2,SNR=14						
YKA	**Yellowknife Ar**	**74.59**	**28**	P	**P**	**02 20 37.6**	**-0.1**
	0.2nm,0.6s,baz=292,slow=5.0,SNR=3.5						
FINES	**FINESS Array B**	**84.22**	**335**	P	**P**	**02 21 29.8**	**-0.4**
	5.4nm,1.1s,baz=83,slow=6.0,SNR=7.3						

*IDC **22** 02:10:28.9±0.7, 17.55S×172.32W, h0km, mb4.1/14, mb1 4.4/15, mb1mx4.2/48, mbtmp4.1/15, ML5.9/1, MS3.6/13, Ms1 3.6/13, ms1mx3.4/30, Error ellipse: s-maj=27.0km s-min=15.8km az=137.0*
*NEIC **22** 02:10:29.9±1.9, 17.66S±0.05×172.17W±0.07, h10km±1km, mb4.8/33, Error ellipse: s-maj=13.4km s-min=6.2km az=238.0*
ISC 22 02:10:30.1±0.5, 17.65S±0.09×172.26W±0.10, h10km, n97, σ1§92/77, mb4.8/27, MS3.7/13, 4C-8D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**2.63**	**123**		Pn	02 11 08.7	-4.0
AFI	**Afiamalu**	**3.75**	**7**	Pn	Pn	02 11 22.6	-5.5
	7.3nm,0.3s,baz=198,slow=15,SNR=7.1						
AFI				Sn	Sn	02 12 01.1	-11
	83nm,0.3s,baz=257,slow=12,SNR=12						
AFI				LR	LR	02 12 34.1	
	comp=Z,168nm,21.9s,baz=172,slow=34						
AFI	**Afiamalu**	**3.75**	**7**		**Pn**	**02 11 24.8**	**-3.3**
MSVF	**Nonsavu**	**9.24**	**268**	Pn	**Pn**	**02 12 43.2**	**-0.4**
	4.0nm,0.3s,baz=108,slow=20,SNR=17						
MSVF				LR	LR	02 15 57.2	
	comp=Z,866nm,20.1s,baz=64,slow=36						
RAR	**Rarotonga**	**12.30**	**109**	Pn	Pn	02 13 20.1	-5.3
	4.2nm,0.3s,baz=124,slow=19,SNR=2.6						
RAR				LR	LR	02 17 08.0	
	comp=Z,132nm,18.6s,baz=294,slow=32						
SANVU	**Saraoutou**	**19.81**	**273**	P	**Pn**	**02 15 01.5**	**-1.0**
DZM	**Mont Dzumac**	**20.50**	**254**	eLR	LR	02 20 19.7	
	comp=Z,454nm,25.1s						
DZM	**Mont Dzumac**	**20.50**	**254**	P	**P**	**02 15 08.3**	**-0.3**
	4.7nm,0.6s,baz=34,slow=19,SNR=2.2						
DZM				LR	LR	02 22 04.1	
	comp=Z,272nm,18.7s,baz=178,slow=34						
PPT2	**Papeete2**	**21.62**	**93**	eLR	LR	02 20 17.3	
	comp=Z,380nm,25.5s						
PPT	**Papeete**	**21.62**	**93**	LR	LR	02 21 43.3	
	comp=Z,86nm,18.7s,baz=194,slow=31						
TBI	**Tubuai**	**22.08**	**109**	eLR	LR	02 20 25.0	
	comp=Z,394nm,28.8s						
URZ	**Urewera**	**22.54**	**202**	P	**P**	**02 15 31.1**	**+0.8**
	13nm,0.4s,baz=296,slow=1.9,SNR=32						
URZ				S	**S**	**02 19 31.9**	**-5.6**
	3.1nm,0.8s,baz=318,slow=16,SNR=2.0						
URZ	**Urewera**	**22.54**	**202**	IAmb	IAmb	02 15 38.0	
	comp=Z,17nm,0.5s						
HNR	**Honiara**	**28.20**	**283**	LR	LR	02 25 59.6	
	comp=Z,196nm,19.8s,baz=135,slow=33						
RPZ	**Rata Peaks**	**29.56**	**205**	P	**P**	**02 16 35.6**	**+0.6**
	comp=Z,9.0nm,0.8s,baz=344,slow=7.4,SNR=1.6						
RPZ	**Rata Peaks**	**29.56**	**205**	IAmb	IAmb	02 16 38.7	
	comp=Z,16nm,1.1s						
TAOE	**Nuku Hiva Isla**	**32.41**	**79**	eLR	LR	02 25 10.1	
	comp=Z,188nm,26.9s						
RABL	**Rabaul**	**37.31**	**287**	P	**P**	**02 17 43.1**	**+0.2**
TOO	**Toolangi**	**41.94**	**233**	P	**P**	**02 18 21.3**	**+0.1**
COEN	**Coen**	**42.97**	**268**	P	**P**	**02 18 29.1**	**-0.7**
STKA	**Stephens Creek**	**43.91**	**242**	P	**P**	**02 18 37.0**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=79,slow=12,SNR=4.7						
STKA				LR	LR	02 36 09.1	
	comp=Z,148nm,18.5s,baz=200,slow=35						
STKA	**Stephens Creek**	**43.91**	**242**	IAmb	IAmb	02 18 43.5	
	comp=Z,2.1nm,1.2s						
BBOO	**Buckleboo**	**48.67**	**242**	P	**P**	**02 19 14.5**	**-0.2**
WB0	**Warramunga Arr**	**50.40**	**259**	P	**P**	**02 19 27.6**	**-0.6**
WB0				IAmb	IAmb	02 19 28.8	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**50.42**	**258**	P	**P**	**02 19 27.2**	**-1.0**
WB2				IAmb	IAmb	02 19 28.3	
	comp=Z,22nm,1.4s						
WRA	**Warramunga Arr**	**50.43**	**258**	P	**P**	**02 19 27.2**	**-1.1**
	comp=Z,6.9nm,0.7s,baz=97,slow=7.8,SNR=36						
WRA				LR	LR	02 39 34.2	
	comp=Z,100nm,18.3s,baz=120,slow=35						
AS31	**Alice Springs**	**50.49**	**254**	P	**P**	**02 19 28.6**	**-0.2**
ASAR	**Alice Springs**	**50.49**	**254**	P	**P**	**02 19 28.6**	**-0.1**
	comp=Z,18nm,0.6s,baz=88,slow=8.8,SNR=216						
ASAR				PcP	**PcP**	**02 20 48.5**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=95,slow=4.8,SNR=1.0						
ASAR				LR	LR	02 39 56.7	
	comp=Z,122nm,18.2s,baz=150,slow=35						
ASAR	**Alice Springs**	**50.49**	**254**	P	**P**	**02 19 27.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**58.84**	**259**	P	**P**	**02 20 29.2**	**-0.2**
FITZ				IAmb	IAmb	02 20 37.7	
	comp=Z,11nm,1.5s						
SOEI	**Soe**	**61.93**	**268**	P	**P**	**02 20 51.1**	**+0.4**

MMRI	**Maumere**	**64.16**	**269**	P	**P**	**02 21 05.9**	**+0.5**
LUWI	**Luwuk**	**65.87**	**277**	P	**P**	**02 21 16.9**	**+0.3**
MJAR	**Matsushiro Arr**	**71.36**	**320**	P	**P**	**02 21 50.1**	**-0.3**
	comp=Z,2.9nm,1.0s,baz=156,slow=4.5,SNR=5.9						
MJAR	**Matsushiro Arr**	**71.36**	**320**	IAmb	IAmb	02 21 52.2	
	comp=Z,2.4nm,1.1s						
QSPA	**South Pole Qui**	**72.41**	**180**	P	**P**	**02 21 56.8**	**+0.4**
QSPA				IAmb	IAmb	02 22 00.7	
	comp=Z,6.2nm,1.1s						
NVAR	**Mina Array Bea**	**75.28**	**41**	P	**P**	**02 22 14.7**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=229,slow=6.8,SNR=5.2						
KSM	**Kuching**	**78.48**	**275**	P	**P**	**02 22 33.2**	**+1.1**
KSRS	**Korea Array**	**78.52**	**315**	P	**P**	**02 22 33.1**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=135,slow=6.5,SNR=6.9						
TXAR	**Lajitas Array**	**80.97**	**55**	P	**P**	**02 22 45.0**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=219,slow=9.7,SNR=3.9						
TXAR				LR	LR	02 52 14.0	
	comp=Z,18nm,19.9s,baz=0.0,slow=31						
PMR	**Palmer**	**81.10**	**11**	IAmb	IAmb	02 22 46.3	
	comp=Z,13nm,1.4s						
MCK	**McKinley**	**83.13**	**10**	IAmb	IAmb	02 22 56.7	
	comp=Z,7.5nm,1.0s						
QLMT	**Earthquake Lak**	**83.17**	**39**	P	**P**	**02 22 56.6**	**-0.2**
PDAR	**Pinedale Array**	**83.22**	**41**	P	**P**	**02 22 57.0**	**0.0**
	comp=Z,0.2nm,0.4s,baz=218,slow=4.2,SNR=1.8						
WRH	**Wood River Hil**	**83.95**	**10**	IAmb	IAmb	02 23 01.1	
	comp=Z,13nm,1.2s						
DOT	**Dot Lake**	**83.95**	**12**	IAmb	IAmb	02 23 01.4	
	comp=Z,8.2nm,1.4s						
CCB	**Clear Creek Bu**	**84.16**	**10**	IAmb	IAmb	02 23 02.0	
	comp=Z,9.2nm,1.3s						
I23K	**Minto, Yukon-K**	**84.37**	**10**	IAmb	IAmb	02 23 03.1	
	comp=Z,10nm,1.3s						
MDM	**Murphy Dome**	**84.38**	**10**	IAmb	IAmb	02 23 03.2	
	comp=Z,9.8nm,1.2s						
IL31		**84.44**	**11**	P	**P**	**02 23 02.2**	**-0.2**
IL31				IAmb	IAmb	02 23 11.0	
	comp=Z,6.8nm,1.4s						
ILAR	**Eielson Array**	**84.44**	**11**	P	**P**	**02 23 02.0**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=239,slow=4.9,SNR=12						
ILAR	**Eielson Array**	**84.44**	**11**	P	**P**	**02 23 01.9**	**-0.5**
IMAR	**Indian Mountai**	**84.54**	**8**	P	**P**	**02 23 03.3**	**+0.4**
SEY	**Seymchan**	**84.97**	**345**	P	**P**	**02 23 04.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=124,slow=7.3,SNR=4.6						
DAWY	**Dawson**	**85.33**	**14**	IAmb	IAmb	02 23 10.8	
	comp=Z,8.6nm,1.4s						
BILL	**Bilibino**	**86.88**	**352**	P	**P**	**02 23 14.5**	**0.0**
BILL				IAmb	IAmb	02 23 15.7	
	comp=Z,6.4nm,1.1s						
BMAR	**Burnt Mountain**	**87.25**	**10**	P	**P**	**02 23 17.0**	**+0.5**
IPM	**Ipoh**	**88.22**	**275**	P	**P**	**02 23 23.1**	**+0.8**
ENH	**Enshi**	**89.04**	**302**	P	**P**	**02 23 27.8**	**+2.0**
SYO	**Syowa Base**	**90.61**	**191**	eP	**P**	**02 23 31.0**	**-1.4**
YKA	**Yellowknife Ar**	**91.72**	**23**	P	**P**	**02 23 36.8**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=226,slow=4.0,SNR=5.1						
CMAR	**Chiang Mai Arr**	**94.35**	**288**	LR	LR	03 02 13.2	
	comp=Z,15nm,21.1s,baz=140,slow=33						
CMAR	**Chiang Mai Arr**	**94.35**	**288**	P	**P**	**02 23 51.7**	**+1.0**
ULM	**Lac du Bonnet**	**94.99**	**39**	LR	LR	03 01 23.1	
	comp=Z,33nm,18.3s,baz=323,slow=32						
LPAZ	**La Paz**	**98.02**	**110**	LR	LR	03 00 17.8	
	comp=Z,52nm,18.6s,baz=236,slow=30						
MKAR	**Makanchi Array**	**113.17**	**314**	PKiKP	**PKiKP**	**02 29 07.2**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=110,slow=0.6,SNR=4.0						
KMBO	**Kilima Mbogo**	**145.46**	**240**	PKPbc	**PKPab**	**02 30 11.6**	**+1.6**
	comp=Z,5.7nm,1.0s,baz=56,slow=4.0,SNR=12						
CLL	**Collm**	**146.16**	**354**	*e*PKPdf	**PKPdf**	**02 30 10.0**	**+0.4**
CLL				*i* PKPbc	**PKPab**	**02 30 11.4**	**+0.3**
	comp=Z,23nm,1.6s						
CHVC	**Chivalec**	**146.47**	**350**	*e*PKP	**PKPbc**	**02 30 11.8**	**+0.3**
OSTC	**Ostas**	**146.48**	**350**	*e*PKP	**PKPbc**	**02 30 12.2**	**+0.7**
DPC	**Dobruska-Polom**	**146.66**	**350**	*e*PKP	**PKPab**	**02 30 13.3**	**+0.1**
KRLC	**Kraliky**	**146.85**	**349**	*e*PKP	**PKPbc**	**02 30 13.5**	**+0.9**
BIZ	**Bicaz**	**147.10**	**337**	⇓P	**PKPab**	**02 30 15.0**	**0.0**
TESR	**Tescani**	**147.24**	**336**	⇓P	**PKPbc**	**02 30 13.9**	**+0.1**
CFR	**Carcaliu**	**147.69**	**333**	⇑P	**PKPbc**	**02 30 15.5**	**+0.5**
VRI	**Vrincioaia**	**147.74**	**335**	⇓P	**PKPbc**	**02 30 14.7**	**-0.5**
TPGR	**Topolog**	**147.81**	**332**	⇓P	**PKPbc**	**02 30 15.8**	**+0.3**
KHC	**Kasperske Hory**	**148.25**	**353**	*e*PKP	**PKPbc**	**02 30 17.5**	**+1.0**
MLR	**Muntele Rosu**	**148.36**	**335**	⇓P	**PKPbc**	**02 30 17.6**	**+0.6**
DRGR		**148.42**	**340**	⇓P	**PKPbc**	**02 30 17.6**	**+0.5**
CKRC	**Cesky Krumlov**	**148.46**	**352**	*e*PKP	**PKPbc**	**02 30 17.6**	**+0.6**
GERES	**GERESS Array B**	**148.51**	**352**	PKPbc	**PKPbc**	**02 30 16.0**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=347,slow=1.8,SNR=6.2						
BR131	**Keskin Array S**	**148.58**	**320**	PKPbc	**PKPbc**	**02 30 18.7**	**+0.9**
BRTR	**Keskin Array B**	**148.58**	**320**	PKPbc	**PKPbc**	**02 30 17.6**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=109,slow=3.0,SNR=6.8						
BRTR	**Keskin Array B**	**148.58**	**320**		**PKPbc**	**02 30 18.5**	**+0.7**
VOIR		**148.75**	**336**	⇑P	**PKPbc**	**02 30 18.9**	**+0.9**
ARR	**Arges**	**148.97**	**337**	⇑P	**PKiKP**	**02 30 20.2**	**+0.4**
CONA	**Conrad Observa**	**149.08**	**349**	*i* P	**PKiKP**	**02 30 20.0**	**-0.1**
	comp=Z,8.9nm,1.4s						
BZS	**Buzias**	**149.81**	**340**	⇑P	**PKPbc**	**02 30 20.5**	**0.0**
HERR	**Herculane**	**150.19**	**339**	⇓P	**PKPbc**	**02 30 21.6**	**+0.1**
WATA	**Walderalm**	**150.23**	**355**	*i* P	**PKiKP**	**02 30 22.6**	**+0.1**
	comp=Z,3.1nm,0.7s						
MOTA	**Moosalm**	**150.26**	**355**	*i* P	**PKPbc**	**02 30 22.0**	**+0.3**
	comp=Z,4.5nm,1.1s						
WTTA	**Wattenberg**	**150.29**	**355**	*e*P	**PKPbc**	**02 30 22.5**	**+0.6**
	comp=Z,2.0nm,0.5s						
SQTA	**Sankt Quirin**	**150.37**	**355**	*e*P	**PKiKP**	**02 30 23.2**	**+0.4**
	comp=Z,3.3nm,0.8s						
DAVA	**Damuels**	**150.39**	**357**	*e*P	**PKiKP**	**02 30 23.2**	**+0.4**
	comp=Z,0.4nm,0.2s						
ABTA	**Abfaltersbach**	**150.72**	**353**	*e*P	**PKPbc**	**02 30 23.0**	**+0.2**
	comp=Z,3.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**172.65**	**127**	PKP	**PKPdf**	**02 30 40.2**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=191,slow=1.5,SNR=2.5						
TORD				PKPab	**pPKPab**	**02 32 07.2**	**+0.3**
	comp=Z,1.3nm,1.0s,baz=225,slow=6.1,SNR=3.6						

*IDC **22** 02:14:46.5±4.2, 26.74N×126.23E, h54km±48km, mb3.4/6, mb1 3.6/7, mb1mx3.2/56, mbtmp3.7/7, ML3.1/1, Error ellipse: s-maj=45.6km s-min=18.9km az=59.0*
*JMA **22** 02:14:52.5±0.2, 27.11N×126.99E, h110km±3km, M3.6*
ISC 22 02:14:51.2±0.8, 27.08N±0.07×126.97E±0.07, h120km±8km, n20, σ1§43/33, mb3.5/6, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.54**	**154**	P	**Pn**	**02 15 09.9**	**+0.4**
JAGN				S	**Sn**	**02 15 23.3**	**+0.1**
JKE	**Kume jima 2**	**0.77**	**193**	P	**Pn**	**02 15 11.6**	**+0.4**
JKE				S	**Sn**	**02 15 26.5**	**+0.3**
JIH	**Iheya**	**0.89**	**93**	P	**Pn**	**02 15 12.9**	**+0.7**
JIH				S	**Sn**	**02 15 27.9**	**-0.1**
JNTH	**Nagotoyohara**	**1.09**	**121**	P	**Pn**	**02 15 14.9**	**+0.7**
JNTH				S	**Sn**	**02 15 31.7**	**+0.2**
JJT3	**Tamagusuku3**	**1.18**	**142**	P	**Pn**	**02 15 16.6**	**+1.5**
JJT3				*e*S	**Sn**	**02 15 34.5**	**+1.3**
JOW	**Kunigami**	**1.19**	**102**	P	**Pn**	**02 15 15.7**	**+0.5**
	89nm,0.3s,baz=254,slow=7.4,SNR=51						
JOW				S	**Sn**	**02 15 32.5**	**-0.8**
	111nm,0.3s,baz=135,slow=19,SNR=18						
JOW	**Kunigami**	**1.19**	**102**	P	**Pn**	**02 15 15.7**	**+0.5**
JOW				S	**Sn**	**02 15 32.5**	**-0.8**
JYRO	**Yoronjima**	**1.32**	**92**	P	**Pn**	**02 15 17.1**	**+0.5**
JYRO				S	**Sn**	**02 15 34.5**	**-1.3**
JOKE	**Okinoerabujima**	**1.45**	**78**	P	**Pn**	**02 15 18.5**	**+0.4**
JOKE				S	**Sn**	**02 15 37.6**	**-0.9**
JTK	**Tokunoshima**	**1.89**	**68**	P	**Pn**	**02 15 24.4**	**+1.0**
JTK				S	**Sn**	**02 15 46.8**	**-1.1**
JAMN	**Amaminishikomi**	**2.27**	**59**	P	**Pn**	**02 15 28.8**	**+0.7**
JAMN				*e*S	**Sn**	**02 15 55.0**	**-1.3**
JIKM	**Ikemajima**	**2.65**	**216**	S	**Sn**	**02 16 04.9**	**-0.1**
JAM	**Amami Oshima**	**2.68**	**60**	P	**Pn**	**02 15 33.7**	**+0.3**
JAM				*e*S	**Sn**	**02 16 05.0**	**-0.8**
JNU	**Nakatsue**	**6.91**	**28**	P	**Pn**	**02 16 32.8**	**+2.9**
	0.3nm,0.3s,baz=158,slow=24,SNR=1.1						
SONM	**Songino Array**	**26.23**	**328**	P	**P**	**02 20 16.3**	**+1.2**
	0.5nm,0.3s,baz=138,slow=10,SNR=7.3						
CMAR	**Chiang Mai Arr**	**27.19**	**258**	P	**P**	**02 20 18.2**	**-5.5**
	1.1nm,0.3s,baz=39,slow=7.4,SNR=4.2						
MKAR	**Makanchi Array**	**40.13**	**311**	P	**P**	**02 22 15.3**	**0.0**
	0.4nm,0.5s,baz=92,slow=11,SNR=7.8						
ZALV	**Zalesovo Beam**	**40.89**	**323**	P	**P**	**02 22 21.8**	**+0.5**
	0.5nm,0.3s,baz=110,slow=9.1,SNR=2.9						
WRA	**Warramunga Arr**	**47.28**	**171**	P	**P**	**02 23 12.6**	**-0.1**
	0.4nm,0.6s,baz=351,slow=8.5,SNR=1.9						
ASAR	**Alice Springs**	**50.89**	**172**	P	**P**	**02 23 41.5**	**+1.4**
	0.3nm,0.5s,baz=0.1,slow=15,SNR=1.7						
ASAR				PcP	**PcP**	**02 24 55.8**	**+0.8**
	0.2nm,0.6s,baz=319,slow=5.5,SNR=1.9						

*IDC **22** 02:20:32.4±1.1, 27.89S×71.21W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/39, mbtmp3.7/7, ML3.9/2, MS3.3/8, Ms1 3.3/8, ms1mx3.1/25, Error ellipse: s-maj=41.1km s-min=30.5km az=175.0*
*SJA **22** 02:20:34.3±0.5, 27.59S×71.41W, h9km, ML4.4, MW4.2*
*NEIC **22** 02:20:34.3±1.8, 27.55S±0.04×71.51W±0.08, h17km±5km, mb4.6/2, ML4.5(GUC), Error ellipse: s-maj=10.3km s-min=5.5km az=69.0*
*GUC **22** 02:20:37.5±0.8, 27.68S×71.18W, h39km±3km, ML4.5*
ISC 22 02:20:34.5±1.3, 27.55S±0.02×71.26W±0.06, h12km±8km, n77, σ1§85/82, mb4.0/5, 6C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.67**	**166**	⇑*i* P	**Pn**	**02 20 49.1**	**-0.8**
AC04				*i* S	**Sg**	**02 20 57.7**	**+1.3**
AC04				IAML		02 20 58.7	
	comp=E,47μm,0.3s						
AC04	**Llanos de Chal**	**0.67**	**166**		**Pg**	**02 20 48.8**	**+1.3**
GO03	**Copiap**	**0.91**	**93**	⇓*i* P	**Pn**	**02 20 54.1**	**+1.0**
GO03				*i* S	**Sn**	**02 21 06.4**	**+0.2**
GO03				IAML		02 21 10.9	
	comp=N,7μm,0.5s						
GO03	**Copiap**	**0.91**	**93**		**Pn**	**02 20 53.6**	**+0.5**
GO03	**Copiap**	**0.91**	**93**	*e*P	**Pn**	**02 20 54.2**	**+1.1**
GO03				*e*S	**Sn**	**02 21 09.3**	**+3.1**
AC01	**Pan de Azucar**	**1.51**	**23**	⇑*e*P	**Pb**	**02 21 02.4**	**-0.1**
AC01				*e*S	**Sg**	**02 21 23.6**	**+0.4**
AC01				IAML		02 21 33.7	
	comp=E,2μm,0.4s						
AC01	**Pan de Azucar**	**1.51**	**23**	Pn	**Pb**	**02 21 02.4**	**-0.1**
LCO	**Las Campanas**	**1.54**	**162**	Pn	**Pb**	**02 21 03.2**	**+0.1**
AC05	**El Transito**	**1.55**	**146**	*e*P	**Pg**	**02 21 03.9**	**-0.3**
AC05				*e*S	**Sb**	**02 21 22.8**	**0.0**
AC05				IAML		02 21 26.2	
	comp=N,10μm,0.5s						
AC05	**El Transito**	**1.55**	**146**	Pn	**Pg**	**02 21 03.7**	**-0.5**
AC02	**Maricunga**	**2.02**	**70**	*e*P	**Pg**	**02 21 12.8**	**-0.5**
AC02				*i* S	**Sg**	**02 21 39.9**	**+0.3**
AC02				IAML		02 21 43.1	
	comp=N,4μm,0.3s						
AC02	**Maricunga**	**2.02**	**70**	Pn	**Pg**	**02 21 12.0**	**-1.3**
CO01	**Juntas del Tor**	**2.62**	**157**	⇑*i* P	**Pb**	**02 21 19.5**	**-2.1**
CO01				*i* S	**Sb**	**02 21 50.8**	**-3.1**
CO01				IAML		02 22 02.6	
	comp=N,2μm,0.4s						
CO01	**Juntas del Tor**	**2.62**	**157**	Pn	**Pn**	**02 21 18.4**	**+1.5**
GO04	**Tololo Observa**	**2.65**	**171**	⇑*e*P	**Pn**	**02 21 18.3**	**+1.1**
GO04				*i* S	**Sn**	**02 21 50.9**	**+1.6**
GO04				IAML		02 22 04.5	
	comp=N,11μm,0.4s						
GO04	**Tololo Observa**	**2.65**	**171**	Pn	**Pn**	**02 21 17.7**	**+0.5**
GO04	**Tololo Observa**	**2.65**	**171**	*e*P	**Pn**	**02 21 18.5**	**+1.3**
GO02	**Mina Guanaco**	**2.81**	**33**	IAML		02

comp=Z,30nm,18.1s,baz=130,slow=36
YKA **Yellowknife Ar** 96.18 341 P P 02 34 04.2 +2.4
comp=Z,0.0nm,0.4s,baz=135,slow=5.7,SNR=1.4
ASAR **Alice Springs** 123.59 208 PKP PKPdf 02 39 31.1 -1.5
comp=Z,0.4nm,0.9s,baz=154,slow=1.3,SNR=2.0
WRA **Warramunga Arr** 126.68 210 PKP PKPdf 02 39 36.8 -1.8
comp=Z,0.7nm,0.9s,baz=156,slow=1.3,SNR=2.6
ZALV **Zalesovo Beam** 148.30 27 PKPbc PKiKP 02 40 21.5 -0.4
comp=Z,1.1nm,0.7s,baz=290,slow=4.3,SNR=5.5
ZALV **Zalesovo Beam** 148.30 27 PKPab 02 40 24.8 +1.5
MKAR **Makanchi Array** 151.69 40 PKPbc PKiKP 02 40 29.6 +0.5
comp=Z,0.5nm,0.7s,baz=305,slow=1.5,SNR=5.0
MKAR **Makanchi Array** 151.69 40 PKiKP 02 40 31.8 +2.6

NEIC ***22*** *02:26:31.2±2.5, 56.32N±0.06×157.16W±0.08, h68km±9km, Error ellipse: s-maj=8.9km s-min=5.3km az=154.0*
AEIC ***22*** *02:26:32.9±2.6, 56.31N±0.05×157.08W±0.05, h46km±7km, ML3.7/132, ML3.7/18(NEIC), Error ellipse: s-maj=7.6km s-min=3.8km az=174.0*
IDC ***22*** *02:26:33.9±1.2, 56.74N×157.12W, h70km±8km, mb3.2/10, mb1 3.5/13, mb1mx3.3/45, mbtmp3.5/13, Error ellipse: s-maj=24.2km s-min=10.2km az=174.0*

ISC 22 02:26:32.1±0.7, 56.37N±0.06×157.18W±0.04, h71km±6km, n167, σ1°17/170, mb3.4/12, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGN	**Chignik**	**0.69**	**264**		**Pn**	**02 26 46.1**	**-0.8**
CHGN					**Sn**	**02 26 56.9**	**-1.0**
VNSG	**Veniaminof 6**	**1.09**	**258**		**Pn**	**02 26 51.7**	**-0.1**
VNSG					**Sn**	**02 27 06.2**	**-0.4**
VNHG	**Veniaminof 1**	**1.12**	**263**		**Pn**	**02 26 52.4**	**+0.2**
VNFG	**Fog Glacier, M**	**1.33**	**267**		**Pn**	**02 26 55.1**	**+0.3**
PLBL	**Peulik Blue Cr**	**1.34**	**8**		**Pn**	**02 26 55.5**	**+0.5**
PLK3	**Peulik 3**	**1.41**	**20**		**Pn**	**02 26 56.6**	**+0.7**
PLK3					**Sn**	**02 27 14.4**	**+0.6**
PLK1	**Peulik 1**	**1.47**	**12**		**Pn**	**02 26 57.1**	**+0.5**
PLK5	**Peulik 5**	**1.64**	**6**		**Pn**	**02 26 59.3**	**+0.5**
SII	**Sitkinak Islan**	**1.67**	**82**		**Pn**	**02 26 58.8**	**-0.5**
SII					**Sn**	**02 27 19.7**	**-0.3**
SII	**Sitkinak Islan** comp=E,2μm,0.6s	**1.67**	**82**	IAML		02 27 28.0	
KJL	**Kejulik**	**1.90**	**27**		**Pn**	**02 27 02.6**	**+0.3**
CAHL	**Cahill**	**1.97**	**30**		**Pn**	**02 27 03.6**	**+0.3**
ACHA	**Angle Creek He**	**2.10**	**28**		**Pn**	**02 27 05.6**	**+0.5**
SDPT	**Sand Point**	**2.12**	**242**		**Pn**	**02 27 05.5**	**+0.2**
SDPT					**Sn**	**02 27 30.7**	**-0.1**
SDPT	**Sand Point** comp=E,482nm,0.7s	**2.12**	**242**	IAML		02 27 38.6	
SDPT	comp=N,597nm,0.8s			IAML		02 27 40.7	
KABR	**Katmai Barrier**	**2.13**	**33**		**Pn**	**02 27 05.7**	**+0.2**
KCE	**Katmai Mt Cerb**	**2.16**	**29**		**Pn**	**02 27 06.7**	**+0.8**
KBM	**Katmai Bkd Mtn**	**2.19**	**29**		**Pn**	**02 27 07.2**	**+1.0**
KELA	**Mount Kelaz**	**2.21**	**20**		**Pn**	**02 27 06.7**	**0.0**
KVTA	**Katmai Vly 10**	**2.26**	**26**		**Pn**	**02 27 07.6**	**-0.5**
OHAK	**Old Harbor**	**2.30**	**67**		**Pn**	**02 27 07.0**	**-0.7**
OHAK					**Sn**	**02 27 34.0**	**-1.0**
OHAK	**Old Harbor** comp=N,379nm,0.9s	**2.30**	**67**	IAML		02 27 47.8	
OHAK	comp=E,285nm,1.1s			IAML		02 27 53.4	
KARR	**Katmai Rainbow**	**2.51**	**31**		**Pn**	**02 27 11.0**	**+0.3**
KAHC	**Katmai Hardscr**	**2.56**	**26**		**Pn**	**02 27 11.8**	**+0.4**
PVV	**Pavlof Volcano**	**2.79**	**251**		**Pn**	**02 27 15.2**	**+0.9**
PS4A	**Pavlof South-4**	**2.83**	**251**		**Pn**	**02 27 15.4**	**+0.5**
HAG	**Hague Volcano**	**2.87**	**250**		**Pn**	**02 27 16.1**	**+0.6**
KDAK	**Kodiak Island** comp=E,41nm,0.3s,baz=242,slow=5.2,SNR=409	**2.88**	**59**	P	**Pn**	**02 27 14.9**	**-0.6**
KDAK	comp=E,22nm,0.3s,baz=273,slow=3.9,SNR=15			S	**Sn**	**02 27 46.1**	**-2.9**
KDAK	**Kodiak Island** comp=E,269nm,0.6s	**2.88**	**59**	IAML		02 27 47.8	
DT1	**Dutton Round H**	**3.15**	**248**		**Pn**	**02 27 19.4**	**+0.1**
AUCH	**Augustine Cone**	**3.60**	**32**		**Pn**	**02 27 26.4**	**+1.0**
AUL	**Augustine Lava**	**3.62**	**32**		**Pn**	**02 27 26.7**	**+1.0**
AU22	**Augustine Moun**	**3.63**	**33**		**Pn**	**02 27 26.8**	**+1.1**
FALS	**False Pass**	**3.85**	**249**		**Pn**	**02 27 29.5**	**+0.7**
OPT	**Oil Point**	**3.90**	**31**		**Pn**	**02 27 30.4**	**+1.0**
BRPK	**Brown Peak**	**4.11**	**248**		**Pn**	**02 27 33.1**	**+0.7**
ILS	**Iliamna Low So**	**4.21**	**29**		**Pn**	**02 27 34.6**	**+1.0**
SSLW	**Shishaldin Wes**	**4.26**	**251**		**Pn**	**02 27 34.8**	**+0.4**
IVE	**Iliamna Volcan**	**4.26**	**29**		**Pn**	**02 27 35.3**	**+0.8**
HOM	**Homer**	**4.42**	**39**		**Sn**	**02 28 25.5**	**-1.0**
HOM	**Homer**	**4.42**	**39**	Pn	**Pn**	**02 27 37.7**	**+1.2**
HOM	comp=N,136nm,1.0s			IAML		02 28 37.7	
CNPM	**China Poot**	**4.47**	**43**		**Pn**	**02 27 37.1**	**-0.1**
CNPM	**China Poot** comp=N,63nm,0.9s	**4.47**	**43**	IAML		02 28 40.3	
WEBT	**Westdahl Beart**	**4.67**	**251**		**Pn**	**02 27 40.5**	**+0.6**
RED	**Redoubt Volcan**	**4.67**	**28**		**Pn**	**02 27 40.9**	**+0.9**
RDSO	**Redoubt South**	**4.71**	**28**		**Pn**	**02 27 41.2**	**+0.5**
RSO	**Redoubt South**	**4.71**	**28**		**Pn**	**02 27 41.7**	**+1.0**
NCT	**North Crescent**	**4.75**	**26**		**Pn**	**02 27 42.0**	**+0.8**
BRLK	**Bradley Lake**	**4.76**	**42**		**Pn**	**02 27 40.5**	**-0.7**
BRLK	**Bradley Lake** comp=N,42nm,0.6s	**4.76**	**42**	IAML		02 28 31.4	
BRSE	**Bradley Lake S**	**4.80**	**43**		**Pn**	**02 27 41.2**	**-0.6**
SVW2	**Sparrevohn**	**4.81**	**9**		**Pn**	**02 27 42.3**	**+0.4**
SVW2	**Sparrevohn** comp=N,47nm,0.7s	**4.81**	**9**	IAML		02 29 24.3	
AKSA	**Akutan Strait**	**5.36**	**249**		**Pn**	**02 27 50.2**	**+0.8**
CAPN	**Captain Cook N**	**5.42**	**33**		**Pn**	**02 27 51.1**	**+1.0**
CKL	**Chakachamna La**	**5.45**	**25**		**Pn**	**02 27 51.8**	**+1.1**
AKLV	**Akutan Long Va**	**5.49**	**250**		**Pn**	**02 27 51.5**	**+0.3**
SLKM	**Skilak Lake**	**5.52**	**39**		**Pn**	**02 27 50.9**	**-0.7**
SEW	**Seward**	**5.53**	**44**		**Pn**	**02 27 50.2**	**-1.5**
SPCP	**Crater Peak Br**	**5.56**	**26**		**Pn**	**02 27 52.9**	**+0.7**
O22K	**Cooper Landing**	**5.68**	**40**		**Pn**	**02 27 52.9**	**-0.8**
STLK	**Strandline Lak**	**5.83**	**26**		**Pn**	**02 27 56.7**	**+0.8**
FIS	**Fire Island**	**6.00**	**34**		**Pn**	**02 27 58.1**	**+0.1**
MNAT	**Makushin Natee**	**6.00**	**249**		**Pn**	**02 27 58.8**	**+0.7**
MSW	**Makushin Switc**	**6.03**	**250**		**Pn**	**02 27 58.4**	**-0.2**
MREP	**Makushin Rep't**	**6.07**	**249**		**Pn**	**02 27 59.3**	**+0.2**
SUA	**Susitna One**	**6.09**	**30**		**Pn**	**02 27 59.6**	**+0.2**
RC01	**Rabbit Creek A**	**6.11**	**36**		**Pn**	**02 27 58.9**	**-0.7**
MGOD	**Makushin Gods**	**6.14**	**249**		**Pn**	**02 27 59.9**	**-0.1**
MAPS	**Pakushin South**	**6.17**	**249**		**Pn**	**02 28 00.5**	**+0.1**
SKT	**Skwentna**	**6.33**	**25**		**Pn**	**02 28 02.9**	**+0.3**
PWL	**Port Wells**	**6.44**	**42**		**Pn**	**02 28 02.8**	**-1.4**
TT01	**Tatalina**	**6.58**	**5**		**Pn**	**02 28 06.3**	**+0.3**
PMR	**Palmer**	**6.68**	**35**		**Pn**	**02 28 07.3**	**-0.1**
KNK	**Knik Glacier**	**6.77**	**38**		**Pn**	**02 28 07.5**	**-1.2**
OKFG	**Magazine Ridge**	**6.87**	**249**		**Pn**	**02 28 08.9**	**-1.0**
GHO	**Glory Hole Cre**	**6.88**	**35**		**Pn**	**02 28 09.1**	**-1.1**
HIN	**Hinchinbrook I**	**6.91**	**50**		**Pn**	**02 28 09.5**	**-1.0**
GLI	**Glacier Island**	**6.93**	**45**		**Pn**	**02 28 09.0**	**-1.8**
PPLA	**Purkeypile**	**7.01**	**19**		**Pn**	**02 28 14.0**	**+2.0**
SML	**Sawmill**	**7.10**	**36**		**Pn**	**02 28 11.8**	**-1.3**
FID	**Port Fidalgo**	**7.11**	**47**		**Pn**	**02 28 11.0**	**-2.2**
OKSP	**Okmok Steeple**	**7.14**	**249**		**Pn**	**02 28 13.5**	**-0.2**
SPIA	**Saint Paul Isl**	**7.23**	**282**		**Pn**	**02 28 15.7**	**+0.8**
EYAK	**Cordova Ski Ar**	**7.31**	**50**		**Pn**	**02 28 14.5**	**-1.4**
SCM	**Sheep Creek Mo**	**7.46**	**39**		**Pn**	**02 28 16.8**	**-1.2**
DIV	**Divide**	**7.60**	**46**		**Pn**	**02 28 18.6**	**-1.5**
KAIM	**Kayak Island**	**7.63**	**57**		**Pn**	**02 28 19.9**	**-0.5**
RAGM	**Ragged Mountai**	**7.70**	**53**		**Pn**	**02 28 20.3**	**-1.1**
WAT7	**Susitna Watana**	**7.73**	**30**		**Pn**	**02 28 20.4**	**-1.4**
KLU	**Klutina**	**7.75**	**44**		**Pn**	**02 28 21.3**	**-0.8**
WAT1	**Susitna Watana**	**7.81**	**30**		**Pn**	**02 28 21.1**	**-1.7**
KTH	**Kantishna Hill**	**7.85**	**21**		**Pn**	**02 28 23.2**	**-0.2**
WAT6	**Susitna Watana**	**7.86**	**34**		**Pn**	**02 28 22.0**	**-1.6**
HMT	**Hamilton**	**7.87**	**54**		**Pn**	**02 28 22.8**	**-0.8**
TRF	**Thorofare Moun**	**7.89**	**23**		**Pn**	**02 28 23.4**	**-0.7**
WAT2	**Susitna Watana**	**7.90**	**30**		**Pn**	**02 28 22.5**	**-1.7**
NICHA	**Nichawak Mount**	**7.96**	**55**		**Pn**	**02 28 23.4**	**-1.4**
BMRM	**Bremner River**	**8.00**	**50**		**Pn**	**02 28 24.1**	**-1.4**
M24K	**Tolsona, Glenn**	**8.04**	**40**		**Pn**	**02 28 25.2**	**-0.9**
BERG	**Berg Lake**	**8.14**	**55**		**Pn**	**02 28 26.0**	**-1.4**
RND	**Reindeer**	**8.19**	**27**		**Pn**	**02 28 26.6**	**-1.6**
GRIN	**Grindle Hills**	**8.27**	**56**		**Pn**	**02 28 28.1**	**-1.1**
PS11	**TAPS Pump St11**	**8.28**	**42**		**Pn**	**02 28 29.5**	**+0.2**
BPAW	**Bear Paw Mtn.**	**8.34**	**19**	Pn	**Pn**	**02 28 28.8**	**-1.2**
N25K	**Chitina, Valde**	**8.34**	**46**		**Pn**	**02 28 28.9**	**-1.2**
KHIT	**Khitrov Hills**	**8.37**	**55**		**Pn**	**02 28 29.4**	**-1.1**
MCK	**McKinley**	**8.45**	**26**		**Pn**	**02 28 30.1**	**-1.5**
CRQM	**Cirque**	**8.54**	**53**		**Pn**	**02 28 31.8**	**-1.2**
GLB	**Gilahina Butte**	**8.57**	**48**		**Pn**	**02 28 32.0**	**-1.3**
VRDI	**Verde Repeater**	**8.62**	**50**		**Pn**	**02 28 33.4**	**-0.7**
TGL	**Tana Glacier**	**8.68**	**54**		**Pn**	**02 28 33.7**	**-1.1**
PAX	**Paxson**	**8.87**	**37**		**Pn**	**02 28 36.5**	**-0.8**
MCARA	**McCarthy VSAT**	**8.88**	**50**	Pn	**Pn**	**02 28 36.7**	**-0.6**
KIAG	**Kiagna River**	**8.96**	**53**		**Pn**	**02 28 37.5**	**-1.1**
PTPK	**Patty Peak**	**9.03**	**52**		**Pn**	**02 28 38.7**	**-0.9**
YAH	**Yahtse**	**9.03**	**57**		**Pn**	**02 28 38.7**	**-1.0**
ANM	**Nome**	**9.15**	**337**		**Pn**	**02 28 41.8**	**+0.7**
NEA2	**Nenana**	**9.15**	**22**		**Pn**	**02 28 39.4**	**-1.8**
GRNC	**Granite Creek**	**9.16**	**55**		**Pn**	**02 28 40.9**	**-0.6**
MLY	**Manley**	**9.23**	**17**		**Pn**	**02 28 41.3**	**-1.0**
WRH	**Wood River Hil**	**9.27**	**25**		**Pn**	**02 28 40.5**	**-2.2**
BARN	**Barnard Glacie**	**9.33**	**53**		**Pn**	**02 28 42.4**	**-1.3**
TABL	**Table Mountain**	**9.34**	**58**	Pn	**Pn**	**02 28 43.9**	**0.0**
CTGM	**Chitina Glacie**	**9.44**	**54**		**Pn**	**02 28 44.8**	**-0.4**
MENT	**Mentasta**	**9.46**	**40**		**Pn**	**02 28 45.4**	**+0.1**
CCB	**Clear Creek Bu**	**9.49**	**25**		**Pn**	**02 28 42.9**	**-2.8**
HDA	**Harding Lake**	**9.50**	**28**		**Pn**	**02 28 43.9**	**-2.0**
LOGN	**Logan Glacier**	**9.54**	**55**	Pn	**Pn**	**02 28 46.0**	**-0.5**
I23K	**Minto, Yukon-K**	**9.59**	**20**		**Pn**	**02 28 45.4**	**-1.6**
PS08	**TAPS Pump Stn8**	**9.64**	**28**		**Pn**	**02 28 45.8**	**-2.0**
MDM	**Murphy Dome**	**9.65**	**23**		**Pn**	**02 28 45.9**	**-2.1**
PCA	**Pinnacle**	**9.66**	**60**		**Pn**	**02 28 46.9**	**-1.3**
TCOL	**CIGO, UAF Yank**	**9.66**	**24**		**Pn**	**02 28 46.9**	**-1.2**
COLA	**College**	**9.67**	**24**		**Pn**	**02 28 46.4**	**-1.7**
IM03		**9.78**	**8**		**Pn**	**02 28 48.9**	**-0.8**
IMAR	**Indian Mountai**	**9.78**	**8**		**Pn**	**02 28 50.2**	**+0.5**
DOT	**Dot Lake**	**9.79**	**37**	Pn	**Pn**	**02 28 48.8**	**-1.1**
IL31		**9.81**	**27**		**Pn**	**02 28 47.5**	**-2.5**
ILAR	**Eielson Array** comp=N,1.2nm,0.3s,baz=225,slow=12,SNR=57	**9.81**	**27**	P	**Pn**	**02 28 47.4**	**-2.7**
ILAR				S	**Sn**	02 30 28.8	-10
	comp=N,0.2nm,0.3s,baz=52,slow=38,SNR=1.3						
ILAR	**Eielson Array**	**9.81**	**27**	Pn	**Pn**	**02 28 48.9**	**-1.2**
BCPM	**Bancas Point**	**9.93**	**62**		**Pn**	**02 28 49.0**	**-2.7**
POKR	**Poker Plat Res**	**9.97**	**24**		**Pn**	**02 28 50.6**	**-1.7**
YUK2	**White River**	**9.99**	**50**		**Pn**	**02 28 52.2**	**-0.4**
SCRK	**Sand Creek**	**10.04**	**35**	Pn	**Pn**	**02 28 52.4**	**-1.0**
L27K	**Beaver Creek,**	**10.23**	**43**		**Pn**	**02 28 55.2**	**-0.6**
BCAR	**Beaver Creek A**	**10.24**	**43**		**Pn**	**02 28 55.3**	**-0.7**
K27K	**Chicken**	**10.71**	**38**	Pn	**Pn**	**02 29 02.3**	**-0.1**
PRP	**Porcupine Dome**	**10.76**	**27**		**Pn**	**02 29 00.9**	**-2.2**
DAWY	**Dawson**	**11.69**	**42**	Pn	**Pn**	**02 29 15.1**	**-0.6**
ADK	**Adak**	**12.28**	**257**	Pn	**Pn**	**02 29 22.6**	**-1.2**
DLBC	**Dease Lake** comp=N,0.3nm,0.3s,baz=230,slow=11,SNR=6.6	**14.74**	**71**	P	**P**	**02 30 00.4**	**-0.3**
A21K	**Barrow**	**15.01**	**1**	Pn	**P**	**02 30 01.2**	**-2.3**
INK	**Inuvik** comp=N,0.2nm,0.3s,baz=215,slow=10,SNR=7.8	**16.08**	**33**	P	**Pn**	**02 30 11.1**	**-2.3**
INK	comp=N,0.1nm,0.3s,baz=219,slow=15,SNR=6.3			S	**Sn**	**02 33 13.8**	**+3.1**
INK	**Inuvik**	**16.08**	**33**		**P**	**02 30 14.7**	**-0.8**
YKA	**Yellowknife Ar** comp=N,0.2nm,0.5s,baz=274,slow=9.2,SNR=8.6	**22.15**	**56**	P	**P**	**02 31 22.0**	**+0.5**
SEY	**Seymchan** comp=N,0.3nm,0.3s,baz=76,slow=9.3,SNR=1.7	**25.71**	**306**	P	**P**	**02 31 54.0**	**-1.2**
SEY	comp=N,0.4nm,0.3s,baz=79,slow=16,SNR=1.5			pP	**pP**	**02 32 13.2**	**+1.3**
NVAR	**Mina Array Bea** comp=N,0.4nm,0.6s,baz=312,slow=7.6,SNR=0.8	**31.29**	**108**	P	**P**	**02 32 46.9**	**+1.6**
TXAR	**Lajitas Array** comp=N,0.2nm,0.6s,baz=294,slow=7.3,SNR=2.6	**46.06**	**103**	P	**P**	**02 34 51.2**	**+2.5**
TXAR	comp=N,0.2nm,0.6s,baz=316,slow=6.0,SNR=3.6			pP	**pP**	**02 35 09.0**	**+2.6**
ARCES	**ARCESS Array B** comp=N,9.0nm,1.2s,baz=38,slow=8.1,SNR=4.1	**54.38**	**359**	P	**P**	**02 35 50.3**	**-0.6**
SONM	**Songino Array** comp=N,0.9nm,0.6s,baz=49,slow=6.3,SNR=9.8	**55.10**	**305**	P	**P**	**02 35 57.1**	**+0.5**
FINES	**FINESS Array B** comp=N,1.2nm,0.8s,baz=3.0,slow=14,SNR=3.7	**62.49**	**358**	P	**P**	**02 36 47.1**	**-0.2**
NOA	**NORSAR Array B** comp=N,0.4nm,0.6s,baz=5.4,slow=4.3,SNR=1.4	**62.57**	**6**	P	**P**	**02 36 47.4**	**-0.5**
BVAR	**Borovoye Array** comp=N,0.3nm,0.5s,baz=66,slow=11,SNR=4.0	**64.19**	**330**	P	**P**	**02 36 58.5**	**-0.1**
BVAR	comp=N,0.1nm,0.3s,baz=336,slow=44,SNR=2.6			pP	**pP**	**02 37 15.8**	**-1.5**
MKAR	**Makanchi Array** comp=N,0.1nm,0.4s,baz=36,slow=5.1,SNR=2.6	**65.82**	**320**	P	**P**	**02 37 09.2**	**-0.2**
GERES	**GERESS Array B** comp=N,0.2nm,0.5s,baz=17,slow=4.3,SNR=2.2	**74.87**	**6**	P	**P**	**02 38 05.3**	**+0.7**
ESDC	**Sonseca Array** comp=N,0.3nm,0.7s,baz=345,slow=4.6,SNR=1.9	**81.66**	**21**	pP	pP	02 39 01.6	+0.1

JMA ***22*** *02:38:46.5±0.2, 24.81N×122.36E, h0km±2km, M2.4*
TAP ***22*** *02:38:47.1, 24.85N×122.39E, h12km, ML2.7, C*

ISC 22 02:38:46.8±1.0, 24.85N±0.03×122.37E±0.02, h13km±9km, n44, σ0°40/80, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao** baz=293	**0.38**	**295**	P	**Pg**	**02 38 54.5**	**+0.1**
TWB1	baz=293			S	**Sb**	**02 39 00.6**	**-0.6**
EGS	baz=268	**0.40**	**269**	*eP*	**Pb**	**02 38 55.4**	**-0.2**
TIPB	**Shuangxi** baz=283	**0.51**	**284**	P	**Pg**	**02 38 57.2**	**+0.5**
TIPB	baz=283			S	**Sb**	**02 39 04.8**	**-0.1**
TWC	**Suao** baz=243	**0.53**	**243**	P	**Pg**	**02 38 57.3**	**+0.2**
TWC	baz=243			S	**Sb**	**02 39 05.1**	**-0.4**
NWF	**Wu-fen Shan** baz=291	**0.58**	**293**	*eP*	**Pb**	**02 38 58.7**	**-0.1**
NWF	baz=291			*eS*	**Sb**	**02 39 07.0**	**0.0**
WFSB	**Wu-fen Shan** baz=291	**0.58**	**293**	*eP*	**Pb**	**02 38 58.7**	**0.0**
WFSB	baz=291			*eS*	**Sb**	**02 39 07.0**	**+0.1**
NDS	**Dongshan** baz=250	**0.63**	**250**	P	**Pb**	**02 38 59.5**	**-0.1**
NDS	baz=250			S	**Sb**	**02 39 09.0**	**+0.6**
TWE	**Neicheng** baz=258	**0.65**	**259**	*eP*	**Pg**	**02 38 59.6**	**+0.2**
TWE	baz=258			*eS*	**Sb**	**02 39 09.4**	**+0.4**
JYNG	**Yonagunijimaku**	**0.66**	**127**	P	**Pg**	**02 38 59.4**	**-0.2**
JYNG				S	**Sg**	**02 39 08.4**	**+0.1**
EWUT	**Wuta** baz=234	**0.67**	**233**	*eP*	**Pb**	**02 38 60.0**	**+0.2**
EWUT	baz=234			*eS*	**Sb**	**02 39 09.7**	**+0.1**
YOJ	**Yonaguni jima** baz=124	**0.70**	**123**	P	**Pg**	**02 39 00.4**	**0.0**
YOJ	baz=124			S	**Sg**	**02 39 09.2**	**-0.4**
YOJ	**Yonaguni jima**	**0.70**	**123**	P	**Pg**	**02 39 00.2**	**-0.2**
YOJ				*eS*	**Sg**	**02 39 09.5**	**-0.1**
ENA	**Nanau** baz=234	**0.71**	**234**	*eP*	**Pg**	**02 39 00.4**	**-0.1**
ENA	baz=234			*eS*	**Sb**	**02 39 10.5**	**-0.2**
ENTT	**Nioudou** baz=254	**0.76**	**254**	*eP*	**Pb**	**02 39 02.0**	**+0.1**
ENTT	baz=254			*eS*	**Sb**	**02 39 12.7**	**+0.5**
YM01	**YM01** baz=291	**0.78**	**292**	*eP*	**Pg**	**02 39 01.4**	**-0.6**
YM01	baz=291			*eS*	**Sg**	**02 39 11.9**	**-0.2**
YM08	**YM08** baz=294	**0.78**	**296**	*eP*	**Pg**	**02 39 01.7**	**-0.2**
YM08	baz=294			*eS*	**Sg**	**02 39 12.3**	**+0.1**
YM11	**YM11** baz=292	**0.79**	**294**	*eP*	**Pb**	**02 39 02.6**	**+0.2**
YM11	baz=292			*eS*	**Sb**	**02 39 13.5**	**+0.5**
NWLT	**Wulai** baz=264	**0.79**	**265**	*eP*	**Pb**	**02 39 02.3**	**-0.1**
NWLT	baz=264			S	**Sg**	**02 39 12.7**	**+0.3**
YM10	**YM10** baz=291	**0.79**	**293**	*eP*	**Pb**	**02 39 02.8**	**+0.3**
YM10	baz=291			*eS*	**Sb**	**02 39 13.6**	**+0.4**
YM04	**YM04** baz=291	**0.81**	**292**	*eP*	**Pb**	**02 39 03.3**	**+0.5**
YM04	baz=291			*eS*	**Sb**	**02 39 13.7**	**0.0**
NDT	**Datong Townshi** baz=252	**0.81**	**253**	P	**Pb**	**02 39 03.3**	**+0.5**
NDT	baz=252			S	**Sb**	**02 39 14.3**	**+0.6**
TWY	**Chenhua** baz=300	**0.81**	**301**	*eP*	**Pb**	**02 39 02.9**	**+0.1**
TWY	baz=300			*eS*	**Sb**	**02 39 13.6**	**-0.2**
PCYT	**Pengchaiyu** baz=339	**0.82**	**341**	*eP*	**Pg**	**02 39 02.2**	**-0.5**
BACT	**New Taipei Cit** baz=279	**0.85**	**280**	*eP*	**Pn**	**02 39 04.1**	**-0.4**
YHNB	**Yeheng** baz=258	**0.92**	**259**	*eP*	**Pg**	**02 39 04.3**	**-0.2**
YHNB	baz=258			*eS*	**Sg**	**02 39 16.6**	**0.0**
NSK	**Sanguang** baz=259	**0.93**	**259**	*eP*	**Pb**	**02 39 04.7**	**-0.2**
NSK	baz=259			*eS*	**Sg**	**02 39 16.9**	**-0.1**
NACB	**Ninganchiao** baz=227	**0.97**	**226**	*eP*	**Pb**	**02 39 05.4**	**-0.2**
NACB	baz=227			*eS*	**Sg**	**02 39 18.4**	**+0.1**
NNSB	**Datong** baz=245	**0.99**	**245**	*eP*	**Pb**	**02 39 05.5**	**-0.3**
NNSB	baz=245			*eS*	**Sb**	**02 39 18.2**	**-0.7**
NNSH	**Datong** baz=245	**0.99**	**245**	*eP*	**Pb**	**02 39 05.7**	**-0.1**
NNSH	baz=245			*eS*	**Sg**	**02 39 18.9**	**+0.1**
NNS	**Nan Shan** baz=245	**0.99**	**246**	*eP*	**Pg**	**02 39 06.1**	**+0.1**
NNS	baz=245			*eS*	**Sb**	**02 39 18.3**	**-0.7**
ETLH	**Xiulin Townshi** baz=232	**1.03**	**232**	*eP*	**Pb**	**02 39 06.4**	**-0.2**
ETLH	baz=232			*eS*	**Sg**	**02 39 20.1**	**0.0**
WHF	**Hehuan Shan** baz=235	**1.23**	**235**	*eP*	**Pn**	**02 39 10.1**	**0.0**
WHF	baz=235			*eS*	**Sb**	**02 39 25.9**	**-0.1**
TWT	**Tachien** baz=241	**1.24**	**242**	*eP*	**Pg**	**02 39 11.0**	**+0.4**
TWT	baz=241			*eS*	**Sg**	**02 39 27.0**	**+0.3**
TDCB	**Techi** baz=241	**1.25**	**242**	*eP*	**Pb**	**02 39 10.5**	**+0.1**
TDCB	baz=241			*eS*	**Sn**	**02 39 26.7**	**-0.2**
CHGB	**Renai** baz=234	**1.34**	**234**	*eP*	**Pn**	**02 39 11.6**	**+0.2**
CHGB	baz=234			*eS*	**Sn**	**02 39 29.2**	**-0.1**
IRIF	**Iriomote-Funau**	**1.34**	**112**	P	**Pb**	**02 39 11.7**	**-0.1**
IRIF				*eS*	**Sb**	**02 39 29.5**	**+0.6**
WHP	**Taichung City** baz=246	**1.41**	**247**	*eP*	**Pb**	**02 39 13.3**	**+0.2**
HATJ	**Hateruma jima**	**1.53**	**121**	P	**Pb**	**02 39 15.3**	**+0.3**
VWDT	**VWDT** baz=226	**1.56**	**226**	*eP*	**Pn**	**02 39 14.2**	**-0.1**
VWDT	baz=226			*eS*	**Sn**	**02 39 34.0**	**-0.5**
SSLB	**Suanglung** baz=231	**1.67**	**231**	*eP*	**Pn**	**02 39 16.5**	**+0.7**
SSLB	baz=231			*eS*	**Sb**	**02 39 37.7**	**-0.7**
JIJ	**Ishigaki jima**	**1.69**	**106**	P	**Pb**	**02 39 18.2**	**+0.5**
YULB	**Yu-li** baz=214	**1.75**	**214**	*eP*	**Pn**	**02 39 15.7**	**-1.2**
CHN5	**Tsauling** baz=231	**1.98**	**231**	*eP*	**Pb**	**02 39 21.8**	**-1.1**
CHN5	baz=231			*eS*	**Sn**	**02 39 45.8**	**+0.8**
WTP	**Ta-pu** baz=225	**2.26**	**225**	*eP*	**Pn**	**02 39 25.1**	**+1.1**

TAP 22 02:39:34.0, 23.27N×120.28E, h11km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ICHU	**Yijhu** baz=1.0	**0.09**	**360**	P	Pg	02 39 37.3	+0.8
ICHU	baz=1.0			*eS*	Sg	02 39 39.4	+1.0
CHN8	**Yiju** baz=326	**0.10**	**319**	P	Pg	02 39 37.2	+0.5
CHN8	baz=326			S	Sg	02 39 40.3	+1.7
SCLT	**Jiali** baz=216	**0.13**	**219**	*eP*	Pb	02 39 38.1	-0.3
SCLT	baz=216			*eS*	Sg	02 39 41.3	+2.1
TWK	**Hsinying** baz=92	**0.19**	**92**	*eP*	Pb	02 39 39.3	-0.3
TWK	baz=92			S	Sg	02 39 43.8	+2.8
SNST	**Tainan City** baz=105	**0.21**	**105**	*eP*	Pb	02 39 39.4	-0.4
SNST	baz=105			*eS*	Sg	02 39 43.6	+2.2
CHN1	**Nanshi** baz=101	**0.24**	**111**	*eP*	Pb	02 39 40.3	-0.2
CHN1	baz=101			*eS

MKAR	**Makanchi Array**	**73.05**	**320**	P		P	03 31 46.9	0.0
	0.1nm,0.3s,baz=103,slow=5.6,SNR=1.7							

*KRNET **22** 03:56:02.7±0.1, 43.00N×78.87E, h10km, mb2.0*
*NNC **22** 03:56:04.0±0.2, 43.21N×78.73E, h0km, mb2.5, mpv2.5, Error ellipse: s-maj=3.9km s-min=1.2km az=173.0*
*SOME **22** 03:56:04.2, 43.13N×78.73E, h10km*
ISC 22 03:56:04.0±0.8, **43.17N**±0.03×**78.73E**±0.02, **h15**km±6km, **n25**, σ1§**32**/48, **13C-7D**, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ZHN	**Zhinishke**	**0.21**	**269**	*e*P		**Pg**		**03 56 08.9**	**-0.1**
	4.7nm,0.1s								
ZHN				*e*S		**Sg**		**03 56 11.5**	**-0.8**
	12nm,0.1s								
ZHN	**Zhinishke**	**0.21**	**269**	P		**Pg**		**03 56 08.9**	**-0.1**
	4.4nm,0.1s								
ZHN				S		**Sg**		**03 56 11.6**	**-0.8**
UZB	**Uzynbulak**	**0.22**	**96**	*e*P		**Pg**		**03 56 09.5**	**+0.4**
	8.0nm,0.0s								
UZB				*e*S		**Sg**		**03 56 12.9**	**+0.4**
	65nm,0.1s								
UZB	**Uzynbulak**	**0.22**	**96**	P		**Pg**		**03 56 09.5**	**+0.4**
	8.0nm,0.0s								
UZB				S		**Sg**		**03 56 12.9**	**+0.4**
	65nm,0.1s								
SATY	**Saty**	**0.26**	**245**	*e*P		**Pb**		**03 56 10.4**	**-0.1**
	4.4nm,0.1s								
SATY				*e*S		**Sg**		**03 56 13.8**	**+0.2**
	38nm,0.1s								
SATY	**Saty**	**0.26**	**245**	P		**Pb**		**03 56 10.4**	**-0.1**
	4.4nm,0.1s								
SATY				S		**Sg**		**03 56 13.9**	**+0.2**
	38nm,0.1s								
KPKS	**Kokpek**	**0.30**	**354**	*e*P		**Pg**		**03 56 08.9**	**-1.5**
	10nm,0.1s								
KPKS				*e*S		**Sg**		**03 56 11.8**	**-2.9**
	42nm,0.1s								
PDGK	**Podgornoye**	**0.58**	**74**	P		**Pg**		**03 56 15.3**	**-0.2**
	0.5nm,0.1s								
PDGK				S		**Sg**		**03 56 22.7**	**-0.5**
	4.3nm,0.1s								
PDGK	**Podgornoye**	**0.58**	**74**	⇓P		**Pg**		**03 56 15.0**	**-0.5**
	0.7nm,0.6s								
PDGK				⇓S		**Sg**		**03 56 22.8**	**-0.5**
	3.0nm,0.3s								
PRZ	**Przheval'sk**	**0.73**	**199**	⇑*i*P		**Pg**		**03 56 14.5**	**-3.8**
	baz=15								
PRZ				⇑*i*S		**Sg**		**03 56 23.4**	**-4.5**
	baz=15								
ANVS	**Anan'yevo**	**0.87**	**244**	⇑*i*P		**Pg**		**03 56 20.3**	**-0.6**
	baz=57								
ANVS				⇑*i*S		**Sb**		**03 56 32.9**	**+0.5**
	baz=57								
MNBS	**Baschi**	**0.94**	**346**	*e*P		**Pg**		**03 56 21.0**	**-1.2**
	0.4nm,0.1s								
MNBS				*e*S		**Sg**		**03 56 32.3**	**-2.2**
	3.1nm,0.2s								
MNBS	**Baschi**	**0.94**	**346**	P		**Pg**		**03 56 21.1**	**-1.2**
	0.4nm,0.1s								
MNBS				S		**Sg**		**03 56 32.3**	**-2.2**
	3.1nm,0.2s								
KTMS	**Ketmen**	**1.22**	**76**	*e*P		**Pn**		**03 56 27.0**	**+0.4**
	1.4nm,0.2s								
KTMS				*e*S		**Sb**		**03 56 42.6**	**+0.1**
	3.0nm,0.2s								
KTMS	**Ketmen**	**1.22**	**76**	P		**Pn**		**03 56 27.0**	**+0.4**
	2.0nm,0.2s								
KTMS				S		**Sb**		**03 56 42.6**	**+0.1**
	3.3nm,0.3s								
MDOK	**Medeo**	**1.23**	**270**	⇑P		**Pn**		**03 56 27.3**	**+0.5**
	0.4nm,0.4s								
MDOK				⇑S		**Sg**		**03 56 44.0**	**+0.2**
	2.2nm,0.7s								
KNDC	**Almaty**	**1.29**	**273**	⇓P		**Pb**		**03 56 28.4**	**+0.3**
	15nm,0.6s								
KNDC				⇑S		**Sg**		**03 56 46.0**	**+0.4**
	12nm,0.5s								
KDJ	**Kajisay**	**1.54**	**228**	⇓*i*P		**Pn**		**03 56 31.1**	**-0.1**
	baz=35								
KDJ				⇓*i*S		**Sg**		**03 56 52.4**	**-1.4**
	baz=35								
IZV	**Izvestkoviy**	**1.55**	**266**	P		**Pg**		**03 56 33.4**	**-0.5**
	1.3nm,0.2s								
IZV				S		**Sg**		**03 56 53.5**	**-0.7**
	2.3nm,0.1s								
KTBS	**Karatobe**	**1.58**	**291**	P		**Pb**		**03 56 33.2**	**+0.1**
	1.2nm,0.2s								
KTBS				S		**Sn**		**03 56 53.4**	**+1.5**
	2.8nm,0.2s								
ULHL	**Ulahol**	**2.05**	**244**	⇑*e*P		**Pb**		**03 56 41.9**	**+0.8**
	baz=50								
ULHL				⇑*i*S		**Sg**		**03 57 10.8**	**+0.7**
	baz=50								
BOOM	**Boomskoye usch**	**2.16**	**253**	⇑*i*P		**Pb**		**03 56 42.9**	**0.0**
	baz=58								
BOOM				⇑*i*S		**Sb**		**03 57 11.4**	**+1.8**
	baz=58								
DGS	**Degeres**	**2.16**	**273**	Pg		**Pb**		**03 56 43.2**	**+0.3**
	2.2nm,0.4s								
DGS				Lg		Lg		03 57 10.0	
	2.0nm,0.5s								
TKM2	**Tokmak 2**	**2.31**	**265**	⇑*i*P		**Pb**		**03 56 47.0**	**+1.5**
	baz=69								
TKM2				⇑*i*S		**Sg**		**03 57 19.7**	**+1.4**
	baz=69								
TKM2	**Tokmak 2**	**2.31**	**265**	⇓Pg		**Pb**		**03 56 45.9**	**+0.4**
	1.1nm,0.8s								
TKM2				⇓Lg		Lg		03 57 16.8	
	1.2nm,0.8s								

*IDC **22** 04:05:10.0±2.4, 20.23S×177.81W, h572km±23km, mb3.0/6, mb1 3.2/9, mb1mx3.0/28, mbtmp4.0/9, Error ellipse: s-maj=35.7km s-min=22.6km az=112.0*
ISC 22 04:05:07.9±1.5, **20.3S**±0.2×**177.6W**±0.2, **h550**km, **n9**, σ1§**35**/9, **mb3.4/6**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MSVF	**Nonsavu**	**4.83**	**300**	P			**P**	**04 06 38.2**	**+1.7**
	4.4nm,0.3s,baz=66,slow=24,SNR=16								
DZM	**Mont Dzumac**	**15.01**	**260**	P			**P**	**04 08 18.9**	**+1.2**
	0.1nm,0.3s,baz=97,slow=16,SNR=2.2								
URZ	**Urewera**	**18.53**	**193**	P			**P**	**04 08 50.6**	**+0.2**
	0.9nm,0.3s,baz=262,slow=4.8,SNR=7.4								
JAY	**Jayapura**	**44.34**	**288**	P			**P**	**04 12 28.6**	**-1.3**
	16nm,1.0s,baz=131,slow=20,SNR=2.5								
ASAR	**Alice Springs**	**44.96**	**256**	P			**P**	**04 12 33.8**	**-0.8**
	0.6nm,0.5s,baz=96,slow=7.5,SNR=11								
WRA	**Warramunga Arr**	**45.02**	**262**	P			**P**	**04 12 33.8**	**-1.3**
	0.5nm,0.3s,baz=96,slow=7.7,SNR=21								
MJAR	**Matsushiro Arr**	**70.24**	**323**	P			**P**	**04 15 24.8**	**-1.3**
	0.6nm,0.5s,baz=118,slow=6.4,SNR=2.5								
PETK	**Petropavlovsk-**	**76.13**	**345**	P			**P**	**04 15 59.2**	**-0.1**
	0.9nm,0.6s,baz=116,slow=9.8,SNR=4.4								
ILAR	**Eielson Array**	**87.98**	**13**	P			**P**	**04 16 60.0**	**+0.9**
	0.2nm,0.4s,baz=208,slow=7.1,SNR=1.7								

TAP 22 04:49:46.7, 23.72N×121.47E, h8km±1km, **ML1.1, D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
EGFH	**Guangfu**	**0.06**	**214**	*i* P			Pg	04 49 49.2	+0.6
	baz=214								
EGFH				S			Sg	04 49 50.7	+0.8
	baz=214								
ESL	**Shilin**	**0.10**	**342**	*i* P			Pg	04 49 49.8	+0.6
	baz=345								
ESL				*i* S			Sg	04 49 51.8	+1.0
	baz=345								
NNSB	**Datong**	**0.71**	**354**	*e*P			Pg	04 49 58.3	-2.1
	baz=353								
NNSB				*e*S			Sg	04 50 10.0	+0.3
	baz=353								

*DJA **22** 05:05:47.7±0.3, 1.3S±3.2×122.31E±1.2, Mw(mB)4.9/2*
*IDC **22** 05:05:51.3±3.4, 0.73S×122.31E, h40km±35km, mb3.9/7, mb1 4.1/10, mb1mx3.7/36, mbtmp4.1/10, ML4.0/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/37, Error ellipse: s-maj=27.7km s-min=16.7km az=68.0*
ISC 22 05:05:46.8±0.6, **0.66S**±0.05×**122.30E**±0.05, **h10**km, **n23**, σ1§**33**/27, **mb4.1/8**, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
LUWI	**Luwuk**	**0.61**	**129**	P			**Pb**	**05 05 59.4**	**-0.2**
LUWI				S			**Sb**	**05 06 08.5**	**+0.3**
APSI	**Ampana**	**0.70**	**249**	P			**Pg**	**05 06 00.6**	**+0.2**
APSI				S			**Sg**	**05 06 10.2**	**+0.7**
MRSI	**Marisa**	**1.18**	**342**	P			**Pb**	**05 06 08.9**	**-0.5**
GTOI	**Gorontalo**	**1.47**	**29**	P			**Pn**	**05 06 13.6**	**+0.2**
KMSI	**Cibinong**	**2.08**	**54**	P			**Pb**	**05 06 24.1**	**-0.6**
TTSI	**Tana Toraja**	**3.43**	**226**	P			**Pn**	**05 06 41.8**	**+1.4**
SANI	**Sanana**	**3.94**	**111**	P			**Pn**	**05 06 48.1**	**+0.7**
SPSI	**Sidrap Palu**	**4.15**	**218**	P			**Pn**	**05 06 51.0**	**+0.7**
BNSI	**Bone**	**4.32**	**210**	P			**Pn**	**05 06 53.9**	**+1.3**
KAPI	**Kappang**	**5.02**	**210**	Pn			**Pn**	**05 07 03.0**	**+0.7**
	19nm,0.3s,baz=29,slow=5.6,SNR=60								
KAPI				Sn			**Sn**	**05 07 58.6**	**-1.8**
	6.5nm,0.3s,baz=229,slow=22,SNR=23								
KAPI				LR			LR	05 09 14.8	
	comp=Z,172nm,19.7s,baz=4.0,slow=41								
BKSI	**Bulukumba**	**5.12**	**205**	P			**Pn**	**05 07 04.5**	**+0.9**
	0.2nm7μm22nm,0.6s								
NLAI	**Namlea**	**5.44**	**118**	P			**Pn**	**05 07 09.8**	**+1.7**
	0.1nm2μm33nm,0.8s								
EDFI	**Ende, Flores**	**8.06**	**184**	P			**Pn**	**05 07 44.1**	**-0.1**
	12nm,0.6s								
SIJI	**Sorong**	**8.97**	**91**	Pn			**Pn**	**05 07 59.0**	**+2.4**
	2.8nm,0.3s,baz=256,slow=8.2,SNR=7.9								
FITZ	**Fitzroy Crossi**	**17.64**	**169**	P			**Pn**	**05 09 52.1**	**-0.8**
	0.1nm,0.3s,baz=335,slow=8.6,SNR=1.8								
WRA	**Warramunga Arr**	**22.50**	**149**	P			**P**	**05 10 47.4**	**+0.5**
	17nm,0.9s,baz=327,slow=10,SNR=53								
ASAR	**Alice Springs**	**25.50**	**155**	P			**P**	**05 11 15.8**	**+0.2**
	4.6nm,0.6s,baz=333,slow=8.0,SNR=46								
ASAR				PcP			**PcP**	**05 14 46.1**	**-1.3**
	0.2nm,0.4s,baz=337,slow=2.1,SNR=2.2								
CMAR	**Chiang Mai Arr**	**29.80**	**311**	P			**P**	**05 11 55.0**	**+0.8**
	1.1nm,0.3s,baz=118,slow=7.5,SNR=1.5								
STKA	**Stephens Creek**	**36.01**	**151**	P			**P**	**05 12 48.1**	**-0.2**
	1.7nm,0.4s,baz=322,slow=12,SNR=4.4								
MJAR	**Matsushiro Arr**	**39.85**	**20**	P			**P**	**05 13 19.8**	**-0.9**
	1.1nm,0.6s,baz=183,slow=10,SNR=5.0								
SONM	**Songino Array**	**50.24**	**346**	P			**P**	**05 14 46.0**	**+2.7**
	0.6nm,0.6s,baz=169,slow=8.6,SNR=5.6								
MKAR	**Makanchi Array**	**58.80**	**329**	P			**P**	**05 15 46.0**	**+0.5**
	0.5nm,0.7s,baz=129,slow=7.8,SNR=7.8								
PETK	**Petropavlovsk-**	**61.16**	**23**	P			**P**	**05 15 58.1**	**-3.4**
	1.6nm,1.0s,baz=198,slow=4.2,SNR=1.1								

*TIF **22** 05:31:18.5, 42.37N×41.00E, h21km±1km*
*MOS **22** 05:31:19.1±0.0, 42.43N×41.03E, h3km, ML2.7/8, MPVA3.3*
*NORS **22** 05:31:20.6±0.0, 42.52N×41.37E, h2km, MPVA3.3*
*DDA **22** 05:31:20.3, 42.20N×41.08E, h7km±5km, ML2.4*
ISC 22 05:31:18.0±1.3, **42.38N**±0.02×**40.99E**±0.03, **h1**km±11km, **n30**, σ0§**66**/60, **Black Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CHVG	**Ch'k'valeri**	**0.88**	**67**	P			**Pg**	**05 31 35.2**	**+0.3**
CHVG				S			**Sb**	**05 31 48.1**	**-0.2**
DBOC	**Borcka**	**1.15**	**154**	*i* P			**Pg**	**05 31 40.1**	**+0.1**
DBOC				*i* S			**Sg**	**05 31 54.9**	**0.0**
DBOC				IAML				05 31 57.0	
	comp=E,192nm,0.1s								
ARXR	**Arkhyz**	**1.20**	**10**	*e*Pg			**Pg**	**05 31 40.9**	**-0.2**
ARXR				*e*Sg			**Sg**	**05 31 56.4**	**-0.3**
ARXR				*i* AML			AML	05 32 04.0	
	comp=E,174nm,0.3s								
VSLR	**Vesyoloye**	**1.29**	**327**	*i* Pg			**Pg**	**05 31 42.6**	**-0.2**
VSLR				*i* Sg			**Sn**	**05 32 01.9**	**+0.8**
RPOR	**Krasnaya Polya**	**1.43**	**338**	*e*Pg			**Pn**	**05 31 44.9**	**-0.2**
	comp=E,28nm,0.4s								
RPOR				*i* Sg			**Sn**	**05 32 04.4**	**-0.1**
RPOR				*i* AML			AML	05 32 05.8	
	comp=E,98nm,0.3s								
DBAD	**Bademkaya**	**1.46**	**158**	*i* P			**Pn**	**05 31 45.0**	**-0.6**
DBAD				*i* S			**Sb**	**05 32 03.0**	**-2.0**
DBAD				IAML				05 32 06.0	
	comp=E,57nm,0.3s								
DBAD				IAML				05 32 06.0	
	comp=N,72nm,0.6s								
TKB	**Tkibuli**	**1.49**	**90**	P			**Pn**	**05 31 45.5**	**-0.4**
TKB				S			**Sb**	**05 32 05.3**	**-0.6**
ABS	**Abastumani**	**1.49**	**114**	P			**Pn**	**05 31 45.9**	**-0.2**
ABS				S			**Sb**	**05 32 06.5**	**+0.4**
SOC	**Sochi**	**1.52**	**323**	*i* Pg			**Pn**	**05 31 46.7**	**+0.3**
SOC				*i* Sg			**Sg**	**05 32 07.5**	**+0.4**
SOC				*i* AML			AML	05 32 10.5	
	comp=N,190nm,0.2s								
NEY	**Neytrino**	**1.55**	**55**	*e*Pg			**Pn**	**05 31 46.9**	**0.0**
NEY				*i* AML			AML	05 32 05.9	
	comp=N,46nm,0.4s								
NEY				*e*Sg			**Sb**	**05 32 06.5**	**-1.2**
EPOS	**Posof**	**1.56**	**123**	*i* P			**Pn**	**05 31 46.7**	**-0.4**
EPOS				*i* S			**Sn**	**05 32 06.9**	**-1.1**
GUZR	**Guzeripl'**	**1.74**	**339**	*e*Pg			**Pn**	**05 31 50.0**	**+0.6**
GUZR				*e*Sg			**Sb**	**05 32 13.2**	**0.0**
GUZR				*i* AML			AML	05 32 16.1	
	comp=N,33nm,0.4s								
AHMR	**Akhmetovskaya**	**1.78**	**1**	*e*Pg			**Pb**	**05 31 51.0**	**-0.5**
AHMR				*e*Sg			**Sg**	**05 32 15.1**	**-0.2**
SHA1	**Shidzhatmaz**	**1.83**	**41**	*i* Pg			**Pb**	**05 31 51.9**	**-0.6**
SHA1				*i* Sg			**Sb**	**05 32 15.3**	**-0.6**
ONI	**Oni**	**1.83**	**82**	P			**Pn**	**05 31 51.8**	**+1.1**
ONI				S			**Sb**	**05 32 15.1**	**-0.8**
ONI	**Oni**	**1.83**	**82**	*i* Pg			**Pn**	**05 31 51.3**	**+0.6**
ONI				*e*Sg			**Sb**	**05 32 15.6**	**-0.3**
KBZ	**Khabaz**	**1.95**	**45**	*i* Pg			**Pb**	**05 31 53.9**	**-0.4**
KBZ				*e*Sg			**Sb**	**05 32 18.8**	**-0.2**
LZRR	**Lazarevskoye**	**1.95**	**323**	*e*Pg			**Pn**	**05 31 53.1**	**+0.8**
LZRR				*e*Sg			**Sn**	**05 32 18.1**	**+0.7**
LZRR				*i* AML			AML	05 32 25.0	
	comp=N,115nm,0.4s								
DIGR	**Digorskoe uzhe**	**1.98**	**74**	*e*Pg			**Pb**	**05 31 54.8**	**-0.3**
DIGR				*e*Sg			**Sb**	**05 32 19.6**	**-0.7**
BKRG	**Bakuriani**	**1.98**	**107**	P			**Pn**	**05 31 53.9**	**+1.0**
BKRG				S			**Sb**	**05 32 21.2**	**+0.9**
KIV	**Kislovodsk**	**2.01**	**38**	*e*Pg			**Pb**	**05 31 54.9**	**-0.5**
KIV				*e*Sg			**Sb**	**05 32 20.4**	**-0.5**
KIV0	**Kislovodsk Arr**	**2.01**	**38**	*e*Pg			**Pb**	**05 31 55.0**	**-0.5**
KIV0				*e*Sg			**Sb**	**05 32 20.7**	**-0.4**
KRIK	**Erzurum-spir**	**2.04**	**181**	*i* P			**Pn**	**05 31 54.7**	**+1.1**
KRIK				*i* S			**Sn**	**05 32 19.9**	**0.0**
BEYR	**Belyy Ugol+**	**2.11**	**39**	*e*Pg			**Pb**	**05 31 56.4**	**-0.7**
BEYR				*e*Sg			**Sb**	**05 32 23.3**	**-0.5**
ZEI	**Tsey**	**2.19**	**78**	*e*Pg			**Pb**	**05 31 58.7**	**+0.1**
ZEI				*e*Sg			**Sb**	**05 32 26.5**	**+0.2**
TPSR	**Tuapse**	**2.19**	**322**	*e*Pg			**Pb**	**05 31 58.1**	**-0.3**
TPSR				*e*Sg			**Sb**	**05 32 25.7**	**-0.4**
TPSR				*i* AML			AML	05 32 33.5	
	comp=N,64nm,0.5s								
BRNG	**Burnasheti**	**2.25**	**109**	P			**Pb**	**05 31 60.0**	**+0.5**
BRNG				S			**Sg**	**05 32 29.9**	**-0.3**
LSNR	**Lesken**	**2.27**	**66**	*e*Pg			**Pg**	**05 32 02.3**	**+0.7**
LSNR				*e*Sg			**Sg**	**05 32 31.2**	**+0.1**
PYA1	**Pyatigorsk**	**2.28**	**42**	*e*Pg			**Pn**	**05 31 58.3**	**+1.4**
PYA1				*e*Sg			**Sb**	**05 32 27.8**	**-1.0**
TRLG	**Trialeti**	**2.47**	**109**	P			**Pb**	**05 32 03.5**	**+0.2**
TRLG				S			**Sb**	**05 32 35.3**	**+1.0**

*IDC **22** 05:34:33.4±9.8, 26.29S×179.98W, h473km±58km, mb3.0/3, mb1 3.3/6, mb1mx3.1/20, mbtmp4.2/6, Error ellipse: s-maj=160.4km s-min=33.1km az=65.0*
ISC 22 05:34:32.6±5.7, **26.4S**±0.3×**180.0W**±0.6, **h450**km, **n6**, σ1§**31**/7, **mb3.5/3**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
URZ	**Urewera**	**12.12**	**191**	P			**P**	**05 37 12.8**	**+0.2**
	2.9nm,0.3s,baz=24,slow=2.3,SNR=21								
URZ				S			**S**	**05 39 24.8**	**+0.2**
	0.2nm,0.3s,baz=67,slow=10.0,SNR=3.2								
DZM	**Mont Dzumac**	**13.09**	**286**	P			**P**	**05 37 24.9**	**+1.4**
	0.1nm,0.3s,baz=120,slow=20,SNR=1.6								
RPZ	**Rata Peaks**	**18.78**	**201**	P			**P**	**05 38 24.0**	**+1.3**
	1.5nm,0.3s,baz=82,slow=13,SNR=2.1								
STKA	**Stephens Creek**	**33.88**	**251**	P			**P**	**05 40 35.6**	**-0.8**
	2.0nm,0.9s,baz=105,slow=16,SNR=2.9								
ASAR	**Alice Springs**	**41.70**	**263**	P			**P**	**05 41 39.5**	**-1.3**
	1.5nm,1.0s,baz=94,slow=7.6,SNR=7.7								
WRA	**Warramunga Arr**	**42.31**	**269**	P			**P**	**05 41 44.8**	**-0.8**
	1.5nm,0.8s,baz=102,slow=8.0,SNR=7.1								

*SOME **22** 05:45:33.2, 44.70N×82.07E, h5km*
*NNC **22** 05:45:36.4±1.3, 44.74N×81.96E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=15.3km s-min=4.2km az=122.0*
ISC 22 05:45:33.6±1.9, **44.70N**±0.05×**82.10E**±0.06, **h0**km±15km, **n30**, σ1§**86**/48, **4C-2D**, **Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
DJR	**Jarkent**	**1.70**	**258**	*e*P			**Pg**	**05 46 07.1**	**+1.0**
	2.4nm,0.1s								
DJR				*e*S			**Sg**	**05 46 31.4**	**+3.3**
	6.8nm,0.4s								
KTMS	**Ketmen**	**1.78**	**226**	*e*P			**Pb**	**05 46 07.8**	**+0.6**
	13nm,0.2s								
KTMS				*e*S			**Sg**	**05 46 32.8**	**+2.0**
	23nm,0.3s								
MK31	**Makanchi Array**	**2.10**	**4**	⇑Pn			**Pb**	**05 46 12.1**	**-0.4**
	3.3nm,0.2s,baz=182,slow=13,SNR=151								
MK31				⇓Sn			**Sb**	**05 46 40.0**	**+1.0**
	2.3nm,0.3s,baz=185,slow=26,SNR=16								
MAKZ	**Makanchi**	**2.11**	**358**	⇑Pn			**Pb**	**05 46 12.2**	**-0.5**
	1.0nm,0.3s								
MAKZ				⇓Sn			**Sb**	**05 46 40.3**	**+1.0**
	7.2nm,0.6s								
PDGK	**Podgornoye**	**2.33**	**235**	Pg			**Pb**	**05 46 15.8**	**-0.8**
	1.5nm,0.3s								
PDGK				Lg			Lg	05 46 46.6	
	8.8nm,0.7s								
PDGK	**Podgornoye**	**2.33**	**235**	⇑Pn			**Pb**	**05 46 15.8**	**-0.8**
	1.0nm,0.3s								
PDGK				⇑Sn			**Sg**	**05 46 48.2**	**-0.3**
	7.5nm,0.5s								
SHLS	**Shalkode**	**2.46**	**232**	*e*P			**Pn**	**05 46 14.5**	**-0.4**
	7.5nm,0.2s								
SHLS				*e*S			**Sn**	**05 46 44.2**	**-1.5**
	19nm,0.4s								
SHLS	**Shalkode**	**2.46**	**232**	Pg			**Pn**	**05 46 14.3**	**-0.7**
	7.5nm,0.2s								
SHLS				Lg			Lg	05 46 43.9	
	19nm,0.4s								
TDK	**Taldyqorghan**	**2.65**	**278**	*e*P			**Pb**	**05 46 22.7**	**+0.8**
	21nm,0.2s								
TDK				*e*S			**Sg**	**05 46 58.3**	**-0.3**
	41nm,0.4s								
TDK	**Taldyqorghan**	**2.65**	**278**	Pg			**Pb**	**05 46 22.7**	**+0.8**
	28nm,0.5s								
TDK				Lg			Lg	05 46 58.2	
	51nm,0.4s								
UZB	**Uzynbulak**	**2.72**	**236**	*e*P			**Pb**	**05 46 23.1**	**0.0**
	5.4nm,0.2s								
UZB				*e*S			**Sg**	**05 46 59.1**	**-1.7**
	5.4nm,0.3s								
UZB	**Uzynbulak**	**2.72**	**236**	Pg			**Pb**	**05 46 23.1**	**0.0**
	5.4nm,0.2s								
UZB				Lg			Lg	05 46 59.1	
	5.4nm,0.3s								
MNBS	**Baschi**	**2.73**	**258**	*e*P			**Pb**	**05 46 23.7**	**+0.5**
	2.9nm,0.3s								
MNBS				*e*S			**Sg**	**05 47 00.0**	**-1.1**
	9.0nm,0.4s								
MNBS	**Baschi**	**2.73**	**258**	Pg			**Pb**	**05 46 23.0**	**-0.2**
	6.6nm,0.2s								
MNBS				Lg			Lg	05 46 59.5	
	9.0nm,0.4s								
KPKS	**Kokpek**	**2.76**	**245**	*e*P			**Pb**	**05 46 24.1**	**+0.3**
	6.9nm,0.1s								
KPKS				*e*S			**Sg**	**05 47 00.8**	**-1.4**
	22nm,0.3s								
ARXS	**Arharly**	**3.10**	**262**	*e*P			**Pb**	**05 46 30.6**	**+0.9**
	3.9nm,0.3s								
ARXS				*e*S			**Sg**	**05 47 12.2**	**-1.0**
	7.2nm,0.4s								
ARXS	**Arharly**	**3.10**	**262**	Pg			**Pb**	**05 46 30.5**	**+0.9**
	3.9nm,0.3s								
ARXS				Lg			Lg	05 47 12.2	
	7.2nm,0.4s								
SATY	**Saty**	**3.14**	**240**	*e*P			**Pb**	**05 46 30.6**	**+0.3**
	2.0nm,0.2s								
SATY				*e*S			**Sg**	**05 47 11.8**	**-2.6**
	13nm,0.3s								
SATY	**Saty**	**3.14**	**240**	Pg			**Pb**	**05 46 30.6**	**+0.3**
	2.0nm,0.2s								
SATY				Lg			Lg	05 47 11.8	
	13nm,0.3s								
ZSN	**Zaisan**	**3.35**	**34**	*e*P			**Pb**	**05 46 33.6**	**-0.3**
	2.2nm,0.2s								
ZSN				*e*S			**Sb**	**05 47 17.5**	**+2.3**
	4.2nm,0.4s								
KOTS	**Kotyrbulak**	**3.89**	**250**	*e*P			**Pb**	**05 46 44.3**	**+1.1**
	6.1nm,0.3s								
KOTS				*e*S			**Sg**	**05 47 35.5**	**-3.1**
	4.4nm,0.3s								
KOTS	**Kotyrbulak**	**3.89**	**250**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.39**	**272**	P	**P**	**05 47 46.4**	**+1.2**
	400nm,0.3s,baz=128,slow=5.1,SNR=1275						
MSVF				S	**S**	**05 48 56.2**	**+3.5**
	baz=26,slow=21,SNR=24						
MSVF	**Nonsavu**	**3.39**	**272**	P	**P**	**05 47 46.6**	**+1.4**
AFI	**Afiamalu**	**7.51**	**59**	P	**P**	**05 48 16.1**	**-1.7**
	83nm,0.3s,baz=303,slow=4.3,SNR=82						
AFI				S	**S**	**05 49 45.5**	**-6.8**
	31nm,0.3s,baz=4.1,slow=22,SNR=4.7						
AFI	**Afiamalu**	**7.51**	**59**	P	**P**	**05 48 15.7**	**-2.1**
AFI				S	**S**	**05 49 46.8**	**-5.5**
AFI	**Afiamalu**	**7.51**	**59**	P	**P**	**05 48 15.7**	**-2.1**
AFI				S	**S**	**05 49 46.8**	**-5.5**
AFI	**Afiamalu**	**7.51**	**59**	P	**P**	**05 48 16.3**	**-1.5**
NIUE	**Niue**	**8.12**	**100**	P	**P**	**05 48 23.7**	**+0.4**
	baz=8.1,SNR=26						
NIUE	**Niue**	**8.12**	**100**	P	**P**	**05 48 23.3**	**+0.1**
NIUE	**Niue**	**8.12**	**100**	P	**P**	**05 48 23.7**	**+0.4**
FUNA	**Funafuti**	**9.62**	**346**	P	**P**	**05 48 36.4**	**-1.5**
RAO	**Raoul Island**	**11.29**	**178**	P	**P**	**05 48 52.5**	**-1.5**
	373nm,0.3s,baz=82,slow=9.3,SNR=12						
RAO				S	**S**	**05 50 54.5**	**-4.0**
	123nm,0.3s,baz=72,slow=23,SNR=1.7						
RAO	**Raoul Island**	**11.29**	**178**	P	**P**	**05 48 52.7**	**-1.3**
RAO	**Raoul Island**	**11.29**	**178**	P	**P**	**05 48 52.7**	**-1.3**
RAO	**Raoul Island**	**11.29**	**178**	P	**P**	**05 48 54.3**	**+0.3**
MARNC	**Mare, Loyalty**	**13.27**	**252**	P	**P**	**05 49 13.4**	**-0.1**
LIFNC	**LIFOU**	**13.86**	**256**	P	**P**	**05 49 19.5**	**+0.2**
SANVU	**Saraoutou**	**14.02**	**278**	P	**P**	**05 49 19.3**	**-1.6**
PINNC	**Pines Island,**	**14.09**	**248**	P	**P**	**05 49 22.7**	**+1.2**
YATNC	**Mamie plateau,**	**14.44**	**251**	P	**P**	**05 49 25.1**	**+0.3**
OUENC	**Ouen Island, N**	**14.57**	**250**	P	**P**	**05 49 27.3**	**+1.3**
DZM	**Mont Dzumac**	**14.84**	**251** *eP*		**P**	**05 49 28.9**	**+0.3**
	1μm,1.4s						
DZM	**Mont Dzumac**	**14.84**	**251**	P	**P**	**05 49 28.8**	**+0.3**
	14nm,0.3s,baz=79,slow=16,SNR=74						
DZM				S	**S**	**05 52 00.8**	**+0.5**
	baz=42,slow=23,SNR=6.7						
DZM	**Mont Dzumac**	**14.84**	**251**	P	**P**	**05 49 29.0**	**+0.5**
DZM	**Mont Dzumac**	**14.84**	**251**	P	**P**	**05 49 29.6**	**+1.1**
ONTNC	**Ouen Toro**	**14.89**	**250**	P	**P**	**05 49 30.4**	**+1.6**
KNTN	**Kanton**	**16.41**	**24**	P	**P**	**05 49 41.8**	**-1.0**
KNTN	**Kanton**	**16.41**	**24**	P	**P**	**05 49 42.3**	**-0.5**
NFK	**Norfolk Island**	**16.71**	**226**	P	**P**	**05 49 48.1**	**+2.6**
	baz=17,SNR=24						
NFK	**Norfolk Island**	**16.71**	**226**	P	**P**	**05 49 49.6**	**+4.2**
RAR	**Rarotonga**	**17.85**	**104**	P	**P**	**05 49 56.7**	**+0.8**
	1.2nm,0.3s,baz=262,slow=4.9,SNR=9.4						
RAR	**Rarotonga**	**17.85**	**104**	P	**P**	**05 49 58.4**	**+2.5**
RAR				pmax	pmax		
	comp=Z,94nm,0.9s						
RAR	**Rarotonga**	**17.85**	**104**	P	**P**	**05 49 58.4**	**+2.5**
RAR				IAmb	IAmb	05 49 59.5	
	comp=Z,94nm,0.9s						
RAR	**Rarotonga**	**17.85**	**104**	P	**P**	**05 49 59.1**	**+3.2**
	comp=Z,252nm,2.2s						
OUZ	**Omahuta**	**18.65**	**201**	P	**P**	**05 50 05.6**	**+2.6**
MXZ	**Matakaoa Point**	**19.79**	**188**	P	**P**	**05 50 12.2**	**-1.1**
WHRZ	**Whale Island**	**20.28**	**191**	P	**P**	**05 50 19.0**	**+1.3**
TGRZ	**Tauranga**	**20.29**	**192**	P	**P**	**05 50 20.0**	**+2.3**
PUZ	**Puketiti**	**20.30**	**188**	P	**P**	**05 50 16.9**	**-0.9**
OPRZ	**Ohinepanea**	**20.34**	**192**	P	**P**	**05 50 19.1**	**+0.9**
TWGZ	**Tauwhareparae**	**20.44**	**188**	P	**P**	**05 50 19.7**	**+0.5**
TOZ	**Tahuroa Road**	**20.46**	**194**	P	**P**	**05 50 21.4**	**+2.2**
MARZ	**Manawahe**	**20.46**	**191**	P	**P**	**05 50 19.6**	**+0.3**
KMRZ	**Kaimai**	**20.47**	**193**	P	**P**	**05 50 21.4**	**+2.0**
EDRZ	**Edgecumbe**	**20.57**	**191**	P	**P**	**05 50 19.8**	**-0.5**
KARZ	**Kaharoa**	**20.58**	**192**	P	**P**	**05 50 21.0**	**+0.7**
OMRZ	**Omania**	**20.63**	**192**	P	**P**	**05 50 21.6**	**+0.8**
MKRZ	**Makatiti**	**20.65**	**192**	P	**P**	**05 50 23.8**	**+2.7**
URZ	**Urewera**	**20.65**	**190**	P	**P**	**05 50 18.3**	**-2.6**
	comp=Z,104nm,0.4s,baz=275,slow=2.0,SNR=126						
URZ				S	**S**	**05 53 26.2**	**-7.1**
	comp=Z,20nm,0.6s,baz=198,slow=18,SNR=1.3						
URZ	**Urewera**	**20.65**	**190**	P	**P**	**05 50 18.6**	**-2.3**
URZ	**Urewera**	**20.65**	**190**	P	**P**	**05 50 18.5**	**-2.4**
MWZ	**Matawai**	**20.66**	**189**	P	**P**	**05 50 19.5**	**-1.6**
NGRZ	**Ngongotaha**	**20.67**	**192**	P	**P**	**05 50 24.3**	**+3.2**
CNGZ	**Carnagh Statio**	**20.71**	**188**	P	**P**	**05 50 22.6**	**+1.1**
TKGZ	**Te Karaka**	**20.71**	**188**	P	**P**	**05 50 21.0**	**-0.5**
TARZ	**Mount Tarawera**	**20.73**	**191**	P	**P**	**05 50 22.1**	**+0.3**
UTU	**Utuhina**	**20.74**	**192**	P	**P**	**05 50 23.0**	**+1.2**
HLRZ	**Highlands Stat**	**20.78**	**192**	P	**P**	**05 50 23.3**	**+1.1**
RAGZ	**Rawiri**	**20.83**	**189**	P	**P**	**05 50 22.3**	**-0.4**
RRRZ	**Republican Roa**	**20.83**	**191**	P	**P**	**05 50 22.7**	**0.0**
HSRZ	**Hossack Road**	**20.86**	**192**	P	**P**	**05 50 25.3**	**+2.5**
MUGZ	**Murupara**	**20.92**	**191**	P	**P**	**05 50 22.5**	**-1.6**
GRRZ	**Galatos Road**	**20.92**	**192**	P	**P**	**05 50 25.7**	**+2.3**
HRRZ	**Handcock Road**	**20.93**	**192**	P	**P**	**05 50 24.0**	**+0.5**
RIGZ	**Rimuhau**	**20.99**	**188**	P	**P**	**05 50 23.5**	**-0.5**
PRRZ	**Plateau Road**	**21.01**	**191**	P	**P**	**05 50 24.0**	**-0.2**
RTZ	**Ruatahuna**	**21.02**	**190**	P	**P**	**05 50 22.2**	**-2.2**
WPRZ	**Whakapapataprin**	**21.07**	**192**	P	**P**	**05 50 25.2**	**+0.5**
ALRZ	**Allen Road**	**21.08**	**192**	P	**P**	**05 50 24.6**	**-0.2**
KUTZ	**Kaahu Road**	**21.11**	**193**	P	**P**	**05 50 25.9**	**+0.8**
SNGZ	**Shannon Statio**	**21.12**	**189**	P	**P**	**05 50 23.4**	**-1.9**
PRGZ	**Paritu Road**	**21.18**	**188**	P	**P**	**05 50 27.6**	**+1.9**
WHTZ	**Whakaora**	**21.26**	**192**	P	**P**	**05 50 27.5**	**+1.0**
MTHZ	**Maungataniwha**	**21.27**	**190**	P	**P**	**05 50 25.3**	**-1.3**
RAHZ	**Arahi**	**21.30**	**190**	P	**P**	**05 50 25.5**	**-1.2**
KNZ	**Kokohu**	**21.31**	**188**	P	**P**	**05 50 26.5**	**-0.3**
MRHZ	**Matea Rd**	**21.33**	**191**	P	**P**	**05 50 25.7**	**-1.4**
WATZ	**Wairara**	**21.34**	**193**	P	**P**	**05 50 27.5**	**+0.3**
HIZ	**Hauiti**	**21.36**	**195**	P	**P**	**05 50 29.3**	**+2.0**
HIZ	**Hauiti**	**21.36**	**195**	P	**P**	**05 50 30.0**	**+2.8**
MHGZ	**Mahia Peninsul**	**21.41**	**188**	P	**P**	**05 50 27.7**	**0.0**
WHHZ	**Waihua**	**21.43**	**189**	P	**P**	**05 50 27.9**	**-0.1**
HATZ	**Hinemaiaia**	**21.45**	**192**	P	**P**	**05 50 27.8**	**-0.3**
RATZ	**Rangitukua**	**21.49**	**193**	P	**P**	**05 50 27.9**	**-0.6**
RITZ	**Rihia Road**	**21.58**	**192**	P	**P**	**05 50 29.1**	**-0.2**
KATZ	**Kakaramea**	**21.61**	**193**	P	**P**	**05 50 29.6**	**-0.1**
BKZ	**Black Stump Fm**	**21.64**	**191**	P	**P**	**05 50 28.2**	**-1.7**
ARHZ	**Aropaoanui**	**21.65**	**190**	P	**P**	**05 50 29.7**	**-0.2**
KRVZ	**Karewarewa**	**21.73**	**193**	P	**P**	**05 50 30.2**	**-0.6**
TMVZ	**Te Maari**	**21.74**	**192**	P	**P**	**05 50 29.2**	**-1.7**
TWVZ	**Taurewa**	**21.75**	**193**	P	**P**	**05 50 30.2**	**-0.7**
ETVZ	**East Tongariro**	**21.76**	**192**	P	**P**	**05 50 29.3**	**-1.8**
WTVZ	**West Tongariro**	**21.77**	**193**	P	**P**	**05 50 30.3**	**-0.7**
OTVZ	**Oturere**	**21.80**	**193**	P	**P**	**05 50 29.5**	**-1.9**
NGZ	**Ngauruhoe**	**21.82**	**193**	P	**P**	**05 50 30.8**	**-0.8**
MCHZ	**McNeill Hill**	**21.87**	**190**	P	**P**	**05 50 30.7**	**-1.1**
TUVZ	**Tukino**	**21.90**	**192**	P	**P**	**05 50 30.6**	**-1.7**
KWHZ	**Kaweka Forest**	**21.90**	**191**	P	**P**	**05 50 30.3**	**-2.0**
FWVZ	**Far West T-bar**	**21.91**	**193**	P	**P**	**05 50 32.1**	**-0.3**
WHVZ	**Whangaehu Hut**	**21.93**	**193**	P	**P**	**05 50 31.5**	**-1.1**
TRVZ	**Turoa**	**21.95**	**193**	P	**P**	**05 50 31.3**	**-1.5**
VRZ	**Vera Road**	**21.96**	**194**	P	**P**	**05 50 33.4**	**+0.8**
WNVZ	**Wahianoa**	**21.97**	**193**	P	**P**	**05 50 31.1**	**-1.8**
MOVZ	**Moawhango**	**22.01**	**192**	P	**P**	**05 50 31.9**	**-1.3**
CKHZ	**Cape Kidnapper**	**22.02**	**189**	P	**P**	**05 50 32.7**	**-0.5**
BHHZ	**Black Hill Sta**	**22.03**	**191**	P	**P**	**05 50 30.7**	**-2.7**
MTVZ	**Mangateitei**	**22.05**	**193**	P	**P**	**05 50 32.9**	**-0.6**
KRHZ	**Kereru**	**22.12**	**191**	P	**P**	**05 50 32.2**	**-1.9**
KAHZ	**Kahuranaki**	**22.19**	**190**	P	**P**	**05 50 34.0**	**-0.8**
PKE	**Pukeiti**	**22.22**	**196**	P	**P**	**05 50 39.0**	**+4.0**
NEZ	**North Egmont**	**22.26**	**196**	P	**P**	**05 50 38.5**	**+3.0**
KHEZ	**Kahui Hut**	**22.30**	**196**	P	**P**	**05 50 39.2**	**+3.4**
NBEZ	**Newall Road No**	**22.32**	**196**	P	**P**	**05 50 39.6**	**+3.8**
PNHZ	**Pukenui**	**22.42**	**191**	P	**P**	**05 50 35.5**	**-1.3**
PXZ	**Pawanui**	**22.42**	**190**	P	**P**	**05 50 35.5**	**-1.2**
NMEZ	**Namu Road**	**22.45**	**196**	P	**P**	**05 50 40.1**	**+3.1**
WAZ	**Wanganui**	**22.51**	**193**	P	**P**	**05 50 37.1**	**-0.5**
WPHZ	**Waipukurau**	**22.52**	**190**	P	**P**	**05 50 37.0**	**-0.7**
TSZ	**Takapari Road**	**22.60**	**191**	P	**P**	**05 50 38.0**	**-0.4**
HNR	**Honiara**	**22.65**	**289**	P	**P**	**05 50 38.9**	**-0.2**
	comp=Z,340nm,0.8s,baz=196,slow=5.4,SNR=16						
HNR	**Honiara**	**22.65**	**289**	P	**P**	**05 50 37.5**	**-1.7**
HNR	**Honiara**	**22.65**	**289**	P	**P**	**05 50 39.1**	**-0.1**
PRHZ	**Porangahau**	**22.69**	**190**	P	**P**	**05 50 38.9**	**-0.2**
DVHZ	**Dannevirke**	**22.80**	**191**	P	**P**	**05 50 38.9**	**-1.3**
ANWZ	**Angora Road**	**22.90**	**190**	P	**P**	**05 50 40.6**	**-0.4**
POWZ	**Post Office Ro**	**22.96**	**191**	P	**P**	**05 50 41.1**	**-0.4**
PRWZ	**Pori Road**	**23.08**	**191**	P	**P**	**05 50 42.3**	**-0.3**
BFZ	**Birch Farm**	**23.16**	**190**	P	**P**	**05 50 41.6**	**-1.6**
MRZ	**Mangatainoka R**	**23.26**	**192**	P	**P**	**05 50 41.8**	**-2.4**
TIWZ	**Tintock**	**23.31**	**191**	P	**P**	**05 50 43.5**	**-1.2**
CPWZ	**Castlepoint**	**23.39**	**190**	P	**P**	**05 50 46.2**	**+0.9**
OGWZ	**Otaki Gorge**	**23.49**	**192**	P	**P**	**05 50 45.1**	**-1.1**
HOWZ	**Holdsworth Sta**	**23.50**	**192**	P	**P**	**05 50 44.4**	**-1.9**
KIW	**Kapiti Island**	**23.59**	**193**	P	**P**	**05 50 45.5**	**-1.5**
TMWZ	**Te Maipa**	**23.63**	**191**	P	**P**	**05 50 46.4**	**-1.1**
MTW	**Mount Morrison**	**23.75**	**192**	P	**P**	**05 50 47.0**	**-1.6**
CAW	**Cannon Point**	**23.79**	**192**	P	**P**	**05 50 47.5**	**-1.3**
TRWZ	**Traveller**	**23.95**	**191**	P	**P**	**05 50 49.3**	**-1.0**
PAWZ	**Paruwai Farm**	**23.98**	**191**	P	**P**	**05 50 49.4**	**-1.2**
SNZO	**South Karori**	**24.06**	**193**	P	**P**	**05 50 49.7**	**-1.5**
BHW	**Baring Head**	**24.12**	**192**	P	**P**	**05 50 50.8**	**-1.0**
BHW	**Baring Head**	**24.12**	**192**	P	**P**	**05 50 51.0**	**-0.7**
QRZ	**Quartz Range**	**24.14**	**197**	P	**P**	**05 50 52.1**	**+0.2**
PLWZ	**Palliser**	**24.20**	**192**	P	**P**	**05 50 51.1**	**-1.4**
LHI	**Lord Howe Isla**	**24.49**	**232**	P	**P**	**05 50 56.1**	**+1.0**
	baz=25,SNR=4.5						
RPZ	**Rata Peaks**	**27.22**	**197**	P	**P**	**05 51 17.7**	**-1.3**
	comp=Z,20nm,0.3s,baz=355,slow=1.8,SNR=20						
RPZ				S	**S**	**05 55 11.4**	**-4.9**
	comp=Z,30nm,0.9s,baz=191,slow=18,SNR=2.2						
PAE	**Paea**	**27.43**	**94** *eP*		**P**	**05 51 23.0**	**+1.9**
	comp=Z,60nm,1.2s						
PPT2	**Papeete2**	**27.43**	**94** *eP*		**P**	**05 51 23.0**	**+1.7**
	comp=Z,137nm,1.0s						
PPT	**Papeete**	**27.44**	**94**	P	**P**	**05 51 22.3**	**+1.1**
	comp=Z,106nm,0.5s,baz=68,slow=0.9,SNR=15						
TBI	**Tubuai**	**27.58**	**106** *eP*		**P**	**05 51 25.0**	**+2.6**
	comp=Z,133nm,0.8s						
TBI				*ep*P	**pP**	**05 52 53.8**	**-2.7**
	comp=Z,1μm,1.5s						
XMAS	**Kiritimati**	**28.62**	**48**	P	**P**	**05 51 31.7**	**+0.2**
XMAS	**Kiritimati**	**28.62**	**48**	P	**P**	**05 51 32.5**	**+1.0**
EIDS	**Eidsvold**	**29.28**	**250**	P	**P**	**05 51 37.1**	**0.0**
	baz=29,SNR=136						
EIDS	**Eidsvold**	**29.28**	**250**	P	**P**	**05 51 37.3**	**+0.2**
VAH	**Vaihoa**	**29.59**	**89** *eP*		**P**	**05 51 41.2**	**+1.4**
	comp=Z,192nm,1.0s						
VAH				*ep*P	**pP**	**05 53 14.0**	**-1.1**
	comp=Z,152nm,1.3s						
MLZ	**Mavora Lakes**	**29.60**	**199**	P	**P**	**05 51 40.2**	**+0.7**
KWAJ	**Kwajalein Atol**	**29.93**	**331**	P	**P**	**05 51 43.3**	**+0.6**
KWAJ				pmax	pmax		
	comp=Z,344nm,0.7s						
KWAJ	**Kwajalein Atol**	**29.93**	**331**	P	**P**	**05 51 43.3**	**+0.6**
KWAJ	**Kwajalein Atol**	**29.93**	**331**	P	**P**	**05 51 44.5**	**+1.8**
	comp=Z,477nm,0.7s						
ARMA	**Armidale**	**29.95**	**240**	P	**P**	**05 51 44.3**	**+1.3**
	baz=30,SNR=107						
ARMA	**Armidale**	**29.95**	**240**	P	**P**	**05 51 44.4**	**+1.5**
MGCD	**Mangrove Creek**	**31.30**	**235**	P	**P**	**05 51 56.3**	**+2.1**
	baz=31,SNR=40						
RIV	**Riverview**	**31.50**	**234**	P	**P**	**05 51 57.2**	**+1.3**
	baz=32,SNR=3.9						
RMQ	**Roma**	**31.52**	**248**	P	**P**	**05 51 57.3**	**+1.1**
	baz=32,SNR=53						
RABL	**Rabaul**	**31.88**	**292**	P	**P**	**05 51 58.2**	**-1.3**
RABL	**Rabaul**	**31.88**	**292**	P	**P**	**05 51 59.2**	**-0.2**
CNB	**Canberra Magne**	**33.44**	**232**	P	**P**	**05 52 13.8**	**+1.5**
	baz=34,SNR=270						
CTA	**Charters Tower**	**33.46**	**261**	P	**P**	**05 52 13.4**	**+0.7**
	comp=Z,429nm,0.6s,baz=94,slow=10,SNR=720						
CTA				S	**S**	**05 56 50.5**	**-2.0**
	comp=Z,12nm,0.8s,baz=308,slow=18,SNR=2.1						
CTAO	**Charters Tower**	**33.46**	**261**	P	**P**	**05 52 12.6**	**0.0**
CTAO				pmax	pmax		
	comp=Z,539nm,0.7s						
CTAO	**Charters Tower**	**33.46**	**261**	P	**P**	**05 52 12.6**	**0.0**
PATS	**Pohnpei**	**33.67**	**315**	P	**P**	**05 52 15.1**	**+0.6**
	baz=34,SNR=32						
PATS	**Pohnpei**	**33.67**	**315**	P	**P**	**05 52 15.2**	**+0.8**
CAN	**Canberra**	**33.71**	**233**	P	**P**	**05 52 15.0**	**+0.4**
CAN				pmax	pmax		
	comp=Z,171nm,0.8s						
CAN	**Canberra**	**33.71**	**233**	P	**P**	**05 52 15.0**	**+0.4**
YNG	**Young**	**33.80**	**235**	P	**P**	**05 52 16.7**	**+1.4**
	baz=34,SNR=22						
PMG	**Port Moresby**	**34.48**	**280**	P	**P**	**05 52 22.6**	**+1.5**
	comp=Z,2μm,0.8s,baz=76,slow=5.6,SNR=380						
PMG				S	**S**	**05 57 09.8**	**+2.0**
	comp=Z,33nm,0.9s,baz=324,slow=22,SNR=7.8						
PMG	**Port Moresby**	**34.48**	**280**	P	**P**	**05 52 22.1**	**+1.0**
PMG	**Port Moresby**	**34.48**	**280**	P	**P**	**05 52 22.6**	**+1.5**
CMSA	**Cobar Meteorol**	**35.16**	**240**	P	**P**	**05 52 27.5**	**+0.9**
	baz=35,SNR=200						
MTSU	**Mount Surprise**	**35.42**	**264**	P	**P**	**05 52 29.3**	**+0.3**
	baz=35,SNR=368						
JOHN	**Johnston Islan**	**35.52**	**15**	P	**P**	**05 52 28.1**	**-1.5**
QLP	**Quilpie**	**35.55**	**249**	P	**P**	**05 52 30.3**	**+0.4**
	baz=36,SNR=160						
MANU	**Manus Island**	**37.12**	**291**	P	**P**	**05 52 43.8**	**+0.9**
COEN	**Coen**	**37.12**	**270**	P	**P**	**05 52 43.9**	**+1.0**
TOO	**Toolangi**	**37.18**	**231**	P	**P**	**05 52 44.4**	**+1.3**
	baz=37,SNR=108						
TOO	**Toolangi**	**37.18**	**231**	P	**P**	**05 52 44.1**	**+1.0**
TOO				pmax	pmax		
	comp=Z,288nm,1.0s						
TOO	**Toolangi**	**37.18**	**231**	P	**P**	**05 52 44.1**	**+1.0**
TAOE	**Nuku Hiva Isla**	**38.21**	**81** *eP*		**P**	**05 52 53.4**	**+1.6**
	comp=Z,650nm,1.0s						
TAOE	**Nuku Hiva Isla**	**38.21**	**81**	P	**P**	**05 52 52.7**	**+0.8**
TAOE	**Nuku Hiva Isla**	**38.21**	**81**	P	**P**	**05 52 53.4**	**+1.6**
TAU	**Tasmania Unive**	**38.25**	**222**	P	**P**	**05 52 52.9**	**+1.3**
TAU				pmax	pmax		
	comp=Z,32nm,0.7s						
TAU	**Tasmania Unive**	**38.25**	**222**	P	**P**	**05 52 52.9**	**+1.3**
TAU				IAmb	IAmb	05 52 53.9	
	comp=Z,32nm,0.7s						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**05 52 56.6**	**+1.7**
	comp=Z,262nm,0.6s,baz=86,slow=9.6,SNR=540						
STKA				PcP	**PcP**	**05 54 50.4**	**-0.3**
	comp=Z,35nm,0.6s,baz=80,slow=3.1,SNR=2.7						
STKA				S	**S**	**05 58 08.9**	**-0.1**
	comp=Z,23nm,0.9s,baz=170,slow=22,SNR=7.5						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**05 52 56.2**	**+1.3**
	baz=39,SNR=465						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**05 52 56.2**	**+1.3**
STKA				IAmb	IAmb	05 52 57.6	
	comp=Z,135nm,1.1s						
ARPS	**Mount Arapiles**	**39.66**	**234**	P	**P**	**05 53 03.9**	**+0.8**
	baz=40,SNR=30						
QIS	**Mutitjulu**	**39.67**	**259**	P	**P**	**05 53 03.1**	**-0.3**
	baz=40,SNR=84						
WAKE	**Wake Island**	**39.78**	**338**	P	**P**	**05 53 04.0**	**0.0**
H11N3	**WAKE ISLAND Hy**	**40.09**	**338**	P	**P**	**05 53 05.5**	**-0.8**
H11N1	**WAKE ISLAND Hy**	**40.09**	**338**	P	**P**	**05 53 05.5**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**40.10**	**338**	P	**P**	**05 53 05.1**	**-1.4**
MMPI	**Merauke**	**41.14**	**278**	P	**P**	**05 53 16.1**	**+1.1**
	comp=Z,27μmcomp=Z,2μm,1.0s						
HTT	**Hallett**	**41.16**	**239**	P	**P**	**05 53 15.9**	**+0.9**
	baz=41,SNR=186						
JAY	**Jayapura**	**42.92**	**286**	P	**P**	**05 53 30.1**	**+1.1**
	comp=Z,1μm,0.7s,baz=111,slow=2.4,SNR=381						
JAY	**Jayapura**	**42.92**	**286**	P	**P**	**05 53 30.1**	**+1.1**
	comp=Z,11μmcomp=Z,968nm,1.1s						
KHU	**Kahuku**	**43.18**	**32**	P	**P**	**05 53 31.4**	**+0.3**
KHU				pmax	pmax		
	comp=Z,255nm,1.0s						
KHU	**Kahuku**	**43.18**	**32**	P	**P**	**05 53 31.4**	**+0.3**
KHLU	**Kahalu`u**	**43.33**	**32**	P	**P**	**05 53 32.8**	**+0.7**
AIN	**Ainahou**	**43.36**	**32**	P	**P**	**05 53 32.1**	**-0.4**
GENI	**Genyem**	**43.38**	**286**	P	**P**	**05 53 33.6**	**+1.0**
	comp=Z,13μmcomp=Z,26μmcomp=Z,2μm,1.1s						
MWH	**Moku'awcowe**	**43.39**	**32**	P	**P**	**05 53 32.3**	**-0.8**
BBOO	**Buckleboo**	**43.42**	**241**	P	**P**	**05 53 33.1**	**+0.5**
	baz=44,SNR=621						
BBOO	**Buckleboo**	**43.42**	**241**	P	**P**	**05 53 33.1**	**+0.5**
HUH	**Hualalai**	**43.43**	**32**	P	**P**	**05 53 33.3**	**+0.2**
MLOA	**Mauna Loa Obse**	**43.44**	**32**	P	**P**	**05 53 33.5**	**+0.1**
SDHHI	**Sand Hill**	**43.46**	**33**	P	**P**	**05 53 33.5**	**+0.4**
WRMHI	**West Rim**	**43.47**	**33**	P	**P**	**05 53 33.6**	**+0.3**
RIM	**Rim**	**43.48**	**33**	P	**P**	**05 53 33.6**	**+0.4**
KKO	**Keanakako`i**	**43.48**	**33**	P	**P**	**05 53 33.8**	**+0.5**
NPH	**North Pit**	**43.49**	**33**	P	**P**	**05 53 33.7**	**+0.4**
NPH				IAmb	IAmb	05 53 34.5	
	comp=Z,264nm,1.4s						
PUH	**Pauahi**	**43.49**	**33**	P	**P**	**05 53 33.7**	**+0.4**
UWE	**Uwekahuna**	**43.49**	**33**	P	**P**	**05 53 33.9**	**+0.5**
OBL	**Observatory Le**	**43.49**	**33**	P	**P**	**05 53 33.7**	**+0.4**
BYL	**Byron's Ledge**	**43.50**	**33**	P	**P**	**05 53 34.2**	**+0.8**
UWB	**Uwekahuna B**	**43.50**	**33**	P	**P**	**05 53 33.5**	**+0.1**
MLH	**Mauna Loa**	**43.50**	**32**	P	**P**	**05 53 34.0**	**+0.4**
HATHI	**Halema'uma'u T**	**43.51**	**33**	P	**P**	**05 53 33.9**	**+0.4**
SBLHI	**Steaming Bluff**	**43.51**	**33**	P	**P**	**05 53 33.6**	**+0.1**
RSD	**Rainshed**	**43.53**	**33**	P	**P**	**05 53 33.9**	**+0.2**
HMH	**Humu'ula Sheep**	**43.54**	**32**	P	**P**	**05 53 34.8**	**+0.8**
STCH	**Steam Cracks**	**43.54**	**33**	P	**P**	**05 53 34.9**	**+1.1**
POHA	**Pohakuloa**	**43.65**	**32**	P	**P**	**05 53 35.0**	**+0.2**
HON	**Honolulu**	**43.82**	**28**	P	**P**	**05 53 36.4**	**+0.7**
HON				pmax	pmax		
	comp=Z,399nm,1.0s						
HON	**Honolulu**	**43.82**	**28**	P	**P**	**05 53 36.4**	**+0.7**
KIP	**Kipapa**	**43.90**	**28** *ce*	P	**P**	**05 53 37.0**	**+0.7**
KIP				pmax	pmax		
	comp=Z,843nm,2.5s						
KIP	**Kipapa**	**43.90**	**28**	P	**P**	**05 53 36.7**	**+0.4**
HLK	**Haleakala**	**44.14**	**30**	P	**P**	**05 53 39.3**	**+0.8**
WR0	**Warramunga Arr**	**44.46**	**260**	P	**P**	**05 53 40.2**	**-0.5**
WB0	**Warramunga Arr**	**44.61**	**260**	P	**P**	**05 53 41.5**	**-0.4**
WB2	**Warramunga Arr**	**44.63**	**260**	P	**P**	**05 53 41.2**	**-0.9**
WRAB	**Tennant Creek**	**44.64**	**260** *de*	P	**P**	**05 53 41.8**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,531nm,0.8s						
WRAB	**Tennant Creek**	**44.64**	**260**	P	**P**	**05 53 41.7**	**-0.5**
WRA	**Warramunga Arr**	**44.65**	**260**	P	**P**	**05 53 41.9**	**-0.3**
	comp=Z,459nm,0.7s,baz=95,slow=7.3,SNR=1369						
WRA				PcP	**PcP**	**05 55 12.2**	**+1.0**
	comp=Z,61nm,0.8s,baz=86,slow=4.0,SNR=6.3						
WRA				S	**S**	**05 59 29.1**	**-6.2**
	comp=Z,31nm,0.8s,baz=100,slow=13,SNR=8.8						
WRA				PKiKP	**PKiKP**	**06 02 07.6**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=76,slow=0.4,SNR=4.6						
WRA				PKP2bc		06 25 30.2	
	comp=Z,3.1nm,1.3s,baz=353,slow=11,SNR=5.8						
WRA				P4KPbc		06 31 25.8	
	comp=Z,1.6nm,0.9s,baz=88,slow=4.2,SNR=8.7						
WRA	**Warramunga Arr**	**44.65**	**260**	P	**P**	**05 53 40.1**	**-2.2**
WRA				IAmb	IAmb	05 53 43.2	
	comp=Z,42nm,0.7s						
AS31	**Alice Springs**	**44.80**	**254**	P	**P**	**05 53 44.1**	**+0.7**
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**05 53 44.1**	**+0.7**
	comp=Z,2μm,0.7s,baz=87,slow=8.7						
ASAR				PcP	**PcP**	**05 55

BUTP Butuan 61.39 291 *e*P **P** **05 55 41.1 +0.4**
BUKP Musuan 61.42 290 *e*P **P** **05 55 41.0 +0.1**
MRSI Marisa 61.43 281 P **P** **05 55 40.3 -0.6**
comp=Z,5µmcomp=Z,382nm,0.8s
BNSI Bone 61.56 275 P **P** **05 55 42.0 +0.3**
comp=Z,6µmcomp=Z,519nm,1.0s
H01W1 Cape Leeuwin H 61.69 240 P **P** **05 55 44.0 +2.0**
baz=113,slow=6.1,SNR=5.8
H01W3 Cape Leeuwin H 61.71 240 P **P** **05 55 44.2 +2.0**
baz=113,slow=6.1,SNR=7.2
KAPI Kappang 61.71 274 P **P** **05 55 43.1 +0.4**
comp=Z,146nm,0.8s,baz=127,slow=3.5,SNR=5.9
KAPI Kappang 61.71 274 P **P** **05 55 42.8 +0.1**
KAPI IAmb IAmb 05 55 43.8
comp=Z,148nm,0.8s
H01W2 Cape Leeuwin H 61.71 240 P **P** **05 55 44.2 +2.1**
baz=113,slow=6.1,SNR=8.2
SPSI Sidrap Palu 62.01 275 P **P** **05 55 44.1 -0.6**
comp=Z,4µmcomp=Z,559nm,0.9s
TTSI Tana Toraja 62.25 276 P **P** **05 55 46.2 0.0**
comp=Z,5µmcomp=Z,3µmcomp=Z,151nm,1.1s
PLAI Plampang 62.51 269 P **P** **05 55 48.0 +0.1**
comp=Z,5µmcomp=Z,12µmcomp=Z,1µm,1.1s
MSLP Maasin 62.58 292 *e*P **P** **05 55 48.7 +0.5**
BESP Borongan 62.72 294 *e*P **P** **05 55 50.2 +1.1**
TOLI2 Tolitoli 62.73 281 P **P** **05 55 49.0 -0.3**
GIRL Giralia 62.91 253 P **P** **05 55 51.7 +1.4**
baz=63,SNR=70
GIRL Giralia 62.91 253 P **P** **05 55 51.6 +1.3**
PAGZ Pagadian 62.92 289 *e*P **P** **05 55 50.2 -0.3**
OCLP Ormoc 63.20 293 *e*P **P** **05 55 52.3 0.0**
TWSI Taliwang, Sumb 63.38 269 P **P** **05 55 53.5 0.0**
comp=Z,3µmcomp=Z,8µmcomp=Z,814nm,1.1s
LLP Lapu-Lapu 63.45 292‖ *e*P **P** **05 55 56.7 +2.8**
CNOP Candoni, Negro 64.41 291 *e*P **P** **05 55 58.7 -1.2**
JHJ2 Mitsune 64.56 322 P **P** **05 56 00.7 +0.3**
JHJ Hachijo jima 2 64.58 322 P **P** **05 56 01.0 +0.3**
comp=Z,615nm,0.6s,baz=76,slow=18,SNR=22
GUIM Jordan 64.80 291 *e*P **P** **05 56 00.5 -1.9**
DNP Denpasar 64.99 269 P **P** **05 56 04.3 +0.7**
comp=Z,1µm,0.9s
SRBI Singaraja 65.15 269 P **P** **05 56 04.6 0.0**
JMZ Minamidaito 2 65.50 310 P **P** **05 56 06.7 +0.2**
JMZ IAmb IAmb 05 56 09.6
comp=Z,257nm,1.1s
SMKI Samarinda 65.56 278 P **P** **05 56 09.5 +2.3**
comp=Z,7µmcomp=Z,9µmcomp=Z,654nm,1.1s
BKB Balikpapan 65.59 277 P **P** **05 56 09.4 +2.1**
BKB Balikpapan 65.59 277 P **P** **05 56 09.7 +2.4**
comp=Z,7µmcomp=Z,7µmcomp=Z,443nm,1.0s
KBKI Kotabaru 65.63 275 P **P** **05 56 08.6 +1.0**
comp=Z,3µmcomp=Z,223nm,1.1s
AUQP San Andres 65.90 294 *e*P **P** **05 56 11.6 +2.4**
JAGI Jajag, Banyuwa 66.06 269 P **P** **05 56 09.2 -1.1**
CASY Casey 66.14 205 P **P** **05 56 10.9 +1.1**
CASY IAmb IAmb 05 56 12.1
comp=Z,107nm,1.1s
ABJI Asem Bagus 66.16 269 P **P** **05 56 11.1 +0.2**
comp=Z,9µmcomp=Z,638nm,1.4s
CUYO Cuyo Island 66.29 291 *e*P **P** **05 56 11.9 +0.2**
JCNP Jose Panganiba 66.32 295 *e*P **P** **05 56 11.7 -0.1**
MYLDM Lahad Datu 66.33 284 P **P** **05 56 13.9 +2.0**
JYT Yasato 66.58 324 P **P** **05 56 13.2 +0.3**
JSG Sagara 66.62 322 P **P** **05 56 14.7 +1.4**
KMMI Kalianget 66.62 270 P **P** **05 56 14.7 +1.0**
comp=Z,8µmcomp=Z,8µmcomp=Z,495nm,1.1s
BOAC Boac 66.69 294 *e*P **P** **05 56 15.0 +0.9**
BBKI Banjar Baru 66.84 274 P **P** **05 56 16.2 +1.1**
comp=Z,472nm,1.2s
SJMP San Jose 66.89 292 *e*P **P** **05 56 16.0 +0.7**
LQP Lukban 67.24 294 *e*P **P** **05 56 17.2 -0.5**
JMM Marumori 67.45 326 P **P** **05 56 18.5 +0.3**
JMM IAmb IAmb 05 56 19.7
comp=Z,100nm,0.8s
PGP Puerto Galera 67.48 293‖ *e*P **P** **05 56 17.6 -1.3**
BUSP Coron 67.50 292 *e*P **P** **05 56 19.5 +0.5**
MTKI Muara Teweh, K 67.58 277 P **P** **05 56 20.3 +0.7**
comp=Z,155nm,1.0s
JGF Kuroka 67.75 322 P **P** **05 56 20.0 -0.2**
JGF IAmb IAmb 05 56 21.5
comp=Z,78nm,0.8s
INU Inuyama 67.78 322 P **P** **05 56 20.8 +0.5**
INU IAmb IAmb 05 56 21.9
comp=Z,66nm,1.0s
MJAR Matsushiro Arr 67.92 323 P **P** **05 56 21.4 +0.2**
comp=Z,100nm,0.7s,baz=158,slow=6.0,SNR=337
MJAR PKP2bc 06 24 32.6
comp=Z,1.0nm,0.9s,baz=297,slow=3.3,SNR=4.2
MJAR Matsushiro Arr 67.92 323 P **P** **05 56 20.6 -0.6**
MJAR IAmb IAmb 05 56 22.8
comp=Z,35nm,0.6s
MAJO Matsushiro 67.92 323*d i*P **P** **05 56 21.1 -0.1**
MAJO pmax pmax
comp=Z,170nm,1.0s
MAJO Matsushiro 67.92 323 P **P** **05 56 21.2 -0.1**
MAJO IAmb IAmb 05 56 22.5
comp=Z,170nm,1.0s
MAT Matsushiro 67.92 323 P **P** **05 56 20.9 -0.3**
MAT S **S** **06 04 34.6 +1.9**
MJB9 Matsu-Tunnel 67.93 323 P **P** **05 56 20.9 -0.3**
QVP Quezon City--P 67.93 294 *e*P **P** **05 56 21.3 -0.3**
MACP Maragondon, Ca 68.02 294 *e*P **P** **05 56 21.5 -0.6**
LUBP Lubang 68.20 293 *e*P **P** **05 56 22.4 -0.9**
JOW Kunigami 68.24 309 P **P** **05 56 24.3 +1.1**
comp=Z,181nm,0.8s,baz=137,slow=6.8,SNR=19
JOW S **S** **06 04 36.5 -0.1**
comp=Z,15nm,0.6s,baz=106,slow=20,SNR=1.9
JOW Kunigami 68.24 309 P **P** **05 56 24.1 +0.9**
JOW IAmb IAmb 05 56 25.8
comp=Z,157nm,0.8s
BATP Bataraza 68.35 287 *e*P **P** **05 56 24.3 +0.1**
JMN Monobe 68.61 319 P **P** **05 56 26.2 +0.8**
CVP Callao Caves 68.63 298‖ *e*P **P** **05 56 26.4 +0.6**
JWT Wachi 68.70 321 P **P** **05 56 25.2 -0.6**
JWT IAmb IAmb 05 56 27.7
comp=Z,107nm,0.8s
SGCP Mt. Cagua 68.70 298 *e*P **P** **05 56 26.3 +0.1**
KKM Kota Kinabalu 68.76 284 P **P** **05 56 27.2 +0.3**
SMPP San Manuel, Pa 68.89 296 *e*P **P** **05 56 28.0 +0.6**
JSD Sado 68.95 324 P **P** **05 56 28.0 +0.7**
APYP Conner 69.19 298 *e*P **P** **05 56 29.6 +0.5**
ERM Erimo 69.40 330*de*P **P** **05 56 30.9 +1.0**
ERM pmax pmax
comp=Z,15nm,1.0s
ERM Erimo 69.40 330 P **P** **05 56 29.9 0.0**
ERM IAmb IAmb 05 56 34.6
comp=Z,50nm,0.9s
JSU Suzuyama 69.44 315 P **P** **05 56 30.7 +0.3**
JSU IAmb IAmb 05 56 31.8
comp=Z,96nm,0.8s
JTM Tenmabayashi 69.48 328 P **P** **05 56 31.1 +0.7**
JTM IAmb IAmb 05 56 32.1
comp=Z,116nm,0.9s
ADK Adak 69.51 1 P **P** **05 56 30.4 +0.1**
ADK pmax pmax
comp=Z,60nm,0.6s
ADK Adak 69.51 1 P **P** **05 56 30.4 +0.1**
ADK IAmb IAmb 05 56 32.2
comp=Z,60nm,0.6s
BOLP Bolinao 69.66 296 *e*P **P** **05 56 31.4 -0.5**
UGM Wanagama 69.66 268 P **P** **05 56 32.3 +0.1**
UGM Wanagama 69.66 268 P **P** **05 56 32.6 +0.5**
comp=Z,17µmcomp=Z,1µm,0.8s
SZP Santa 69.72 297 P **P** **05 56 33.1 +0.8**
YUK Yuzh-Kuril'sk 69.78 333 *e*P **P** **05 56 28.2 -3.9**
YUK *i* *SP **sP** **05 59 33.4 -4.8**
YUK *i* S **S** **06 04 49.2 -4.3**
YUK pmax pmax
comp=N,336nm,1.0s
YUK pmax pmax
comp=E,336nm,1.0s
YUK pmax pmax
comp=Z,376nm,1.0s
JHS Saijyo 69.91 319 P **P** **05 56 34.0 +0.9**
ATKA Atka Island 69.91 3 P **P** **05 56 32.7 0.0**
ATKA IAmb IAmb 05 56 35.2
comp=Z,69nm,0.7s
KUR Kuril'sk 69.93 335*d i*P **P** **05 56 34.0 +1.1**
KUR *e* 05 59 44.2
KUR *i* S **S** **06 04 57.5 +2.3**
KUR *i* 06 05 22.1
KUR *e*SS **SS** **06 09 40.1 -2.1**
KUR pmax pmax
comp=Z,276nm,1.1s

SMRI Semarang 69.98 269 P **P** **05 56 34.7 +0.7**
SMRI Semarang 69.98 269 P **P** **05 56 34.8 +0.7**
comp=Z,10µmcomp=Z,927nm,0.9s
PBKI Pangkalan Bun 70.09 274 P **P** **05 56 36.2 +1.6**
comp=Z,11µmcomp=Z,1µm,1.0s
JNU Nakatsue 70.15 316 P **P** **05 56 35.0 +0.3**
comp=Z,74nm,0.9s,baz=105,slow=3.5,SNR=25
JNU S **S** **06 04 56.6 -1.8**
comp=Z,13nm,1.0s,baz=194,slow=22,SNR=2.0
JNU Nakatsue 70.15 316 P **P** **05 56 35.1 +0.5**
JNU IAmb IAmb 05 56 36.2
comp=Z,97nm,0.9s
JEW Eniwo 70.85 330 P **P** **05 56 39.2 +0.8**
YOJ Yonaguni jima 70.96 305 P **P** **05 56 39.7 +0.2**
YOJ pmax pmax
comp=Z,227nm,0.9s
YOJ Yonaguni jima 70.96 305 P **P** **05 56 39.7 +0.2**
NIKH Nikolski High 71.07 6 P 05 56 40.6
baz=190
NIKH Nikolski High 71.07 6 P **P** **05 56 39.6 +0.1**
NIKH IAmb IAmb 05 56 41.5
comp=Z,204nm,1.2s
STKI Sintang 71.14 276 P **P** **05 56 42.4 +1.6**
comp=Z,37µmcomp=Z,269nm,0.8s
SBUM Sibu 71.22 279 P **P** **05 56 42.2 +0.9**
SBUM Sibu 71.22 279 P **P** **05 56 43.0 +1.7**
JKA Kamikawa-asahi 71.29 331 P **P** **05 56 41.8 +0.8**
JKA IAmb IAmb 05 56 43.5
comp=Z,94nm,0.9s
ASAJ Asahikawa 71.29 331 P **P** **05 56 42.9 +1.9**
comp=Z,66nm,0.7s,baz=212,slow=5.8,SNR=66
ASAJ S **S** **06 05 12.3 +1.7**
comp=Z,4.3nm,0.9s,baz=211,slow=23,SNR=1.1
TWG Pinlang 71.69 302 P **P** **05 56 42.7 -1.0**
YULB Yu-li 71.78 303 P **P** **05 56 43.4 -1.0**
YULB IAmb IAmb 05 56 47.7
comp=Z,106nm,0.8s
SKR Severo-Kuril's 71.89 343 *e*P **P** **05 56 43.8 -0.4**
SKR *e*PPP PPP 05 59 49.9
SKR *e*S **S** **06 05 18.1 +1.2**
SKR pmax pmax
comp=Z,41nm,0.8s
SKR pmax pmax
comp=Z,300nm,10.0s
SKR MLR MLR
comp=Z,900nm,16.0s
SKR MLR MLR
comp=Z,800nm,16.0s
NACB Ninganchiao 71.93 304 P **P** **05 56 44.9 -0.3**
QSPA South Pole Qui 72.14 180 P **P** **05 56 47.4 +1.6**
comp=Z,84nm,0.9s,baz=61,slow=3.3,SNR=3.0
QSPA S **S** **06 05 20.8 +1.0**
comp=Z,4.1nm,1.1s,baz=63,slow=20,SNR=15
QSPA South Pole Qui 72.14 180 P **P** **05 56 47.2 +1.5**
QSPA IAmb IAmb 05 56 48.7
comp=Z,88nm,0.9s
JCJI Jatiwangi 72.21 269 P **P** **05 56 47.3 +0.3**
comp=Z,16µmcomp=Z,1µm,1.0s
SSLB Suanglung 72.25 303 P **P** **05 56 46.4 -0.6**
TPUB Ta-pu 72.28 302 P **P** **05 56 46.4 -0.8**
CISI Cisompet, Garu 72.34 268 P **P** **05 56 46.9 -0.9**
CISI Cisompet, Garu 72.34 268 P **P** **05 56 47.2 -0.6**
comp=Z,11µmcomp=Z,808nm,0.9s
YHNB Yeheng 72.35 304 P **P** **05 56 47.0 -0.7**
TATO Taipei 72.42 304 P **P** **05 56 47.5 -0.4**
KSM Kuching 72.70 277 P **P** **05 56 50.5 +0.7**
KSM Kuching 72.70 277 P **P** **05 56 51.0 +1.2**
PET Petropavlovsk 73.38 346 *e*P **P** **05 56 52.7 0.0**
PET *e**PP **pwP** **05 58 59.5 -1.0**
PET *e**SP **sP** **06 00 00.2 0.0**
PET *e*S **S** **06 05 33.5 +0.2**
PET *e*SP **SPn** **06 06 09.4 -1.6**
PET *e*SS **SS** **06 10 35.6 +1.6**
PET pmax pmax
comp=Z,67nm,0.6s
PET pmax pmax
comp=Z,400nm,12.8s
PET MLR MLR
comp=Z,1µm,19.0s
PET MLR MLR
comp=Z,1µm,19.0s
PET Petropavlovsk 73.38 346 P **P** **05 56 52.2 -0.5**
PET IAmb IAmb 05 56 54.4
comp=Z,38nm,0.5s
YSS Yuzh-Sakhalins 73.43 333k *i*P **P** **05 56 54.2 +1.1**
YSS *e* 05 57 01.6
YSS *e**PP **pP** **05 58 59.4 +1.6**
YSS *e* 05 59 57.0
YSS *e**SP **sP** **06 00 02.5 +2.0**
YSS *i* S **S** **06 05 37.9 +3.9**
YSS *e* 06 06 10.2
YSS pmax pmax
comp=Z,120nm,0.9s
YSS pmax pmax
comp=Z,1µm,3.4s
YSS pmax pmax
comp=E,400nm,3.7s
YSS pmax pmax
comp=E,200nm,3.3s
YSS smax smax
comp=N,1µm,10.1s
YSS smax smax
comp=E,3µm,8.5s
YSS Yuzh-Sakhalins 73.43 333 P **P** **05 56 54.6 +1.4**
YSS IAmb IAmb 05 56 55.7
comp=Z,115nm,0.9s
XMI Christmas Isla 73.56 264 P **P** **05 56 56.0 +1.3**
comp=Z,377nm,1.0s
XMIS Christmas Isla 73.59 264 P **P** **05 56 54.6 -0.3**
XMIS Christmas Isla 73.59 264 P **P** **05 56 55.8 +0.9**
comp=Z,336nm,1.1s
DBJI Dramaga 73.64 268 P **P** **05 56 55.7 +0.6**
comp=Z,18µmcomp=Z,956nm,1.1s
PEA0B Petropavlovsk- 73.69 345*de*P **P** **05 56 54.8 +0.3**
PEA0B Petropavlovsk- 73.69 345 P **P** **05 56 55.0 +0.4**
PEA0B IAmb IAmb 05 56 56.1
comp=Z,95nm,1.0s
PETK Petropavlovsk- 73.69 345 P **P** **05 56 54.8 +0.3**
comp=Z,52nm,0.6s,baz=124,slow=7.8,SNR=100
PETK PKiKP **PKiKP** **06 02 42.5 -0.5**
comp=Z,3.5nm,0.8s,baz=108,slow=4.0,SNR=8.4
PETK Petropavlovsk- 73.69 345 P **P** **05 56 55.0 +0.5**
SKJI Sukabumi 73.69 268 P **P** **05 56 55.5 +0.1**
comp=Z,11µmcomp=Z,2µm,1.0s
TNG Tangerang 73.84 269 P **P** **05 56 56.7 +0.4**
comp=Z,14µmcomp=Z,1µm,0.5s
TPI Tanjungpandan 73.89 272 P **P** **05 56 57.0 +0.4**
comp=Z,4µmcomp=Z,252nm,1.1s
TJN Taejon 74.43 317*ce*P **P** **05 56 59.3 +0.3**
SDPT Sand Point 74.54 11 P 05 56 59.0
baz=198
SDPT Sand Point 74.54 11 P **P** **05 56 59.1 -0.1**
SDPT IAmb IAmb 05 56 59.3
comp=Z,65nm,0.9s
KNMB Chin-men Tao 74.63 302 P **P** **05 57 00.7 +0.3**
QZH Quanzhou 74.69 303‖ *i*P **P** **05 57 01.6 +0.8**
QZH sP **sP** **06 00 09.9 +1.1**
QZH S **S** **06 05 50.4 +1.7**
QZH pmax pmax
comp=Z,230nm,0.8s
QZH pmax pmax
comp=Z,1µm,4.7s
KSRS Korea Array 74.72 318 P **P** **05 57 01.8 +1.1**
comp=Z,31nm,0.7s,baz=131,slow=6.5,SNR=84
KSAR Wonju Array Be 74.73 318 P **P** **05 57 01.8 +1.1**
KSAR Wonju Array Be 74.73 318 P **P** **05 57 01.8 +1.1**
KS19 Wonju Array Si 74.78 318 P **P** **05 57 01.5 +0.5**
KS19 IAmb IAmb 05 57 02.7
comp=Z,64nm,1.0s
TEY Ternei 74.83 329‖ *i*P **P** **05 57 01.8 +0.8**
TEY pmax pmax
comp=Z,40nm,1.2s
TEY pmax pmax
comp=N,10.0nm,1.8s
TEY pmax pmax
comp=E,10.0nm,1.8s
BLSI Bandar Lampung 75.41 269 P **P** **05 57 04.5 -0.6**
comp=E,8µmcomp=E,623nm,0.9s
INCN Inchon 75.56 318 P **P** **05 57 05.5 +0.2**
INCN pmax pmax
comp=Z,71nm,0.8s
INCN Inchon 75.56 318 P **P** **05 57 05.5 +0.2**
INCN IAmb IAmb 05 57 08.8
comp=Z,71nm,0.8s
H06S1 SOCORRO T 75.60 65 P **P** **05 57 08.0 +2.0**

H06E1 SOCORRO T-PHAS 75.65 65 P **P** **05 57 06.7 +0.5**
SSE Sheshan 75.76 310 P **P** **05 57 06.9 +0.4**
SSE IAmb IAmb 05 57 08.1
comp=Z,82nm,0.9s
CHGN Chignik 75.82 11 P 05 57 06.5
baz=200,SNR=6.5
CHGN Chignik 75.82 11 P **P** **05 57 06.4 +0.1**
CHGN IAmb IAmb 05 57 10.8
comp=Z,49nm,0.7s
MSHR Mys Shultsa 76.02 324*ce*P **P** **05 57 09.2 +1.5**
MSHR pmax pmax
comp=Z,183nm,0.9s
KASI Kota Agung 76.08 269 P **P** **05 57 08.1 -0.6**
comp=Z,9µmcomp=Z,1µm,1.0s
KLSI 76.10 270 P **P** **05 57 07.7 -1.1**
comp=Z,958nmcomp=Z,39nm,1.4s
SCZ2 Santa Cruz Isl 76.10 47 P 05 57 10.7
baz=237,SNR=6.1
MCCM Marconi Confer 76.29 42 P **P** **05 57 10.4 +1.1**
MCCM IAmb IAmb 05 57 12.0
comp=Z,101nm,1.3s
SCI2 San Clemente I 76.33 48 P 05 57 12.0
baz=238
SAO San Andreas Ge 76.42 44 P **P** **05 57 12.4 +2.3**
SAO pmax pmax
comp=Z,91nm,1.0s
SAO San Andreas Ge 76.42 44 P **P** **05 57 12.4 +2.3**
SAO IAmb IAmb 05 57 14.1
comp=Z,92nm,0.9s
PKM Mcpherson Peak 76.47 46 P 05 57 13.0
baz=237,SNR=21
PMPB Monarch Peak 76.54 45 P **P** **05 57 13.1 +2.3**
PMPB IAmb IAmb 05 57 14.1
comp=Z,177nm,1.3s
TYV Tymovskoe 76.54 336 *e*P **P** **05 57 11.4 +1.0**
TYV *e*S **S** **06 06 02.9 -4.5**
TYV pmax pmax
comp=Z,103nm,0.9s
TYV pmax pmax
comp=Z,1µm,3.8s
TYV smax smax
comp=E,23nm,2.1s
TYV smax smax
comp=E,4µm,7.7s
SMMC Simmler 76.58 46 P 05 57 13.4
baz=236,SNR=22
PMBI Palembang 76.58 271 P **P** **05 57 13.1 +1.6**
PMBI Palembang 76.58 271 P **P** **05 57 12.9 +1.4**
comp=E,10µmcomp=E,890nm,1.1s
USA0B Ussuriysk Arra 76.63 326*d i*P **P** **05 57 11.4 +0.4**
USA0B Ussuriysk Arra 76.63 326 P **P** **05 57 12.4 +1.4**
USA0B IAmb IAmb 05 57 15.7
comp=Z,87nm,1.1s
USRK Ussuriysk Ar. 76.63 326 P **P** **05 57 12.3 +1.3**
comp=Z,48nm,0.8s,baz=126,slow=3.3,SNR=44
PAGB Antelope Grade 76.64 45 P **P** **05 57 13.0 +1.7**
PAGB IAmb IAmb 05 57 14.6
comp=Z,76nm,1.3s
LWLI Liwa 76.64 269 P **P** **05 57 11.6 -0.3**
comp=Z,7µmcomp=Z,461nm,0.6s
CIS Catalina Islan 76.64 48 P 05 57 13.1
baz=238,SNR=5.8
HOPS Hopland Field 76.67 41 P **P** **05 57 13.5 +2.1**
HOPS IAmb IAmb 05 57 15.5
comp=Z,97nm,1.2s
GDXM Geysers 76.73 41 P **P** **05 57 14.3 +2.5**
KCPM Cahto Peak 76.76 40 P **P** **05 57 14.3 +2.3**
KCPM IAmb IAmb 05 57 16.3
comp=Z,104nm,1.3s
FMP Fort Macarthur 76.89 48 P 05 57 14.2
baz=238
SII Sitkinak Islan 76.92 13 P 05 57 13.1
baz=204,SNR=8.6
SII Sitkinak Islan 76.93 13 P **P** **05 57 12.0 -0.4**
SII IAmb IAmb 05 57 15.0
comp=Z,109nm,0.6s
KMRM Mail Ridge 77.01 40 P **P** **05 57 15.9 +2.6**
OSI Osito Audit: C 77.07 47 P 05 57 15.3
baz=237
OSI Osito Audit: C 77.07 47 P **P** **05 57 15.8 +2.0**
OSI IAmb IAmb 05 57 16.8
comp=Z,71nm,1.2s
CCX Cicese 77.11 50 P **P** **05 57 16.3 +2.4**
CCX IAmb IAmb 05 57 17.6
comp=Z,54nm,1.0s
HKC Hong Kong Obse 77.11 299 ⇑P **P** **05 57 16.0 +1.9**
DECC Green Verdugo 77.15 47 P 05 57 15.5
baz=238,SNR=10
JCC Jacoby Creek, 77.17 39 P **P** **05 57 16.3 +2.2**
JCC IAmb IAmb 05 57 17.2
comp=Z,93nm,1.2s
PASC Pasadena Art C 77.21 48 P **P** **05 57 16.0 +1.6**
PASC IAmb IAmb 05 57 18.0
comp=Z,46nm,0.9s
ARVC Arvin 77.28 46 P 05 57 16.0
baz=237,SNR=21
109C Camp Elliot, M 77.31 49 P 05 57 16.7
baz=239,SNR=13
109C Camp Elliot, M 77.31 49 P **P** **05 57 16.3 +1.3**
109C IAmb IAmb 05 57 17.8
comp=Z,87nm,1.4s
MWC Mount Wilson 77.33 48 P **P** **05 57 16.4 +1.1**
MWC pmax pmax
comp=Z,139nm,1.4s
MWC Mount Wilson 77.33 48 P **P** **05 57 16.4 +1.1**
MWC IAmb IAmb 05 57 17.9
comp=Z,138nm,1.4s
CBX Cerro Bola 77.34 50 P **P** **05 57 16.8 +1.4**
KHMM Horse Mountain 77.39 39 P **P** **05 57 17.9 +2.5**
KHMM IAmb IAmb 05 57 19.8
comp=Z,87nm,1.1s
VES Vestal, Richgr 77.49 46 P 05 57 17.1
baz=237,SNR=31
LHSI Lahat 77.50 270 P **P** **05 57 15.9 -0.6**
comp=Z,4µmcomp=Z,210nm,1.4s
TKX Tecate 77.51 50 P **P** **05 57 16.4 +0.3**
BAR Barrett 77.52 50 P **P** **05 57 17.6 +1.5**
O02D Mt. Diablo Mer 77.55 40 P 05 57 18.4
baz=234,SNR=46
VOG Valley Oaks Go 77.55 45 P 05 57 17.4
baz=237
SPX San Pedro Mart 77.58 52 P **P** **05 57 19.1 +2.2**
MURC Murrieta 77.61 48 P 05 57 18.3
baz=239,SNR=21
BFSC Mount Baldy Ra 77.62 48 P 05 57 18.1
baz=238,SNR=28
KRMB Red Mountain 77.68 39 P **P** **05 57 19.4 +2.5**
KRMB IAmb IAmb 05 57 20.4
comp=Z,108nm,1.3s
ESJX Sierra Juarez 77.70 50 P **P** **05 57 19.1 +1.8**
EDW2 Edwards Air Fo 77.72 47 P 05 57 19.0
baz=238,SNR=56
OHAK Old Harbor 77.73 14 P 05 57 17.3
baz=204,SNR=11
OHAK Old Harbor 77.73 14 P **P** **05 57 17.2 +0.6**
OHAK IAmb IAmb 05 57 19.0
comp=Z,50nm,0.8s
MONP2 Monument Peak 77.81 49 P 05 57 19.6
baz=239,SNR=48
ISA Isabella, Lake 77.81 46 P 05 57 19.5
baz=237,SNR=87
ISA Isabella, Lake 77.81 46 P **P** **05 57 19.0 +1.3**
ISA pmax pmax
comp=Z,99nm,1.1s
ISA Isabella, Lake 77.81 46 P **P** **05 57 19.0 +1.3**
ISA IAmb IAmb 05 57 21.2
comp=Z,99nm,1.1s
CMB Columbia Colle 77.83 43 P **P** **05 57 18.7 +0.9**
CMB pmax pmax
comp=Z,62nm,1.0s
CMB Columbia Colle 77.83 43 P **P** **05 57 18.7 +0.9**
CMB IAmb IAmb 05 57 21.5
comp=Z,62nm,0.9s
MNAI Manna 77.88 269 P **P** **05 57 18.4 -0.2**
MNAI Manna 77.88 269 P **P** **05 57 18.5 0.0**
comp=Z,12µmcomp=Z,909nm,1.2s
IKP In-Ko-Pah, Jac 77.91 50 P 05 57 20.0
baz=240,SNR=38
WDC Whiskeytown Da 77.94 40 P **P** **05 57 19.9 +1.7**
WDC pmax pmax
comp=Z,71nm,1.3s
WDC Whiskeytown Da 77.94 40 P **P** **05 57 19.9 +1.7**
WDC IAmb IAmb 05 57 21.2
comp=Z,71nm,1.2s
NJ2 Nanjing 77.95 309‖ *i*P **P** **05 57 19.8 +1.4**
NJ2 PP **PP** **06 00 24.8 -1.7**

NJ2 S **S** **06 06 24.0 +1.0**
NJ2 pmax pmax
comp=Z,160nm,0.8s
NJ2 pmax pmax
comp=Z,2µm,4.5s
AFDM Forest Hills D 77.97 42 P **P** **05 57 19.9 +1.5**
AFDM IAmb IAmb 05 57 21.6
comp=Z,60nm,1.0s
ORV Oroville 77.98 41 P **P** **05 57 19.9 +1.4**
ORV pmax pmax
comp=Z,44nm,1.0s
ORV Oroville 77.98 41 P **P** **05 57 19.9 +1.4**
DLV T Lat 78.01 287 P **P** **05 57 20.6 +1.2**
DLV IAmb IAmb 05 57 22.0
comp=Z,170nm,1.0s
SFX San Felipe 78.04 52 P **P** **05 57 20.3 +1.4**
N02D Trinity Center 78.07 40 P 05 57 20.9
baz=234,SNR=40
GZH Guangzhou 78.14 299 P **P** **05 57 20.8 +1.2**
GZH sP **PP** **06 00 26.6 -1.6**
GZH S **S** **06 06 28.3 +3.0**
GZH pmax pmax
comp=Z,2µm,5.6s
PFO Pinyon Flats O 78.15 49 P 05 57 21.2
baz=239,SNR=18
PFO Pinyon Flats O 78.15 49 P **P** **05 57 20.9 +1.3**
PFO pmax pmax
comp=Z,35nm,1.2s
PFO Pinyon Flats O 78.15 49 P **P** **05 57 20.9 +1.3**
XPFO Pion Flat 78.15 49 P **P** **05 57 20.8 +1.1**
BBRC Big Bear Solar 78.15 48 P 05 57 21.2
baz=239
MDJ Mudanjiang 78.20 325 P **P** **05 57 20.8 +1.3**
MDJ S **S** **06 06 30.0 +4.9**
MDJ pmax pmax
comp=Z,210nm,1.4s
MDJ pmax pmax
comp=Z,2µm,9.9s
MDJ Mudanjiang 78.20 325 P **P** **05 57 20.8 +1.3**
O03E Paynes Creek 78.22 41 P 05 57 21.1
baz=234,SNR=40
M02C Callahan 78.23 39 P 05 57 22.0
baz=233,SNR=42
L02E Cave Junction 78.24 38 P 05 57 21.9
baz=233,SNR=11
LRMC Laurel Mtn Rad 78.26 47 P 05 57 22.2
baz=238
SWSC Sam W. Stewart 78.28 50 P 05 57 22.1
baz=240,SNR=17
SRIG Santa Rosalia 78.29 56 P **P** **05 57 21.9 +1.6**
SRIG IAmb IAmb 05 57 24.2
comp=Z,54nm,1.0s
CPBX Cerro Prieto 78.38 50 P **P** **05 57 22.2 +1.5**
KDAK Kodiak Island 78.40 14 P 05 57 20.8
baz=205
KDAK Kodiak Island 78.40 14 P **P** **05 57 21.0 +0.8**
comp=Z,36nm,0.8s,baz=229,slow=3.8,SNR=36
KDAK pP **pwP** **05 59 29.5 -0.2**
comp=Z,26nm,1.1s,baz=217,slow=5.6,SNR=5.4
KDAK Kodiak Island 78.40 14*d i* P **P** **05 57 21.2 +1.0**
KDAK pmax pmax
comp=Z,64nm,1.0s
KDAK Kodiak Island 78.40 14 P **P** **05 57 21.2 +1.0**
KSI Kapahiang 78.44 270 P **P** **05 57 20.8 -0.8**
comp=Z,14µmcomp=Z,444nm,0.9s
MDPB Devils Postpil 78.47 44 P **P** **05 57 22.8 +1.4**
MDPB IAmb IAmb 05 57 25.4
comp=Z,105nm,1.0s
CWC Cottonwood Cre 78.49 46 P 05 57 23.0
baz=238
YBH Yreka Blue Hor 78.52 39 P **P** **05 57 22.9 +1.5**
comp=Z,43nm,0.9s,baz=219,slow=1.3,SNR=143
YBH pP **pwP** **05 59 30.6 -0.3**
comp=Z,13nm,1.0s,baz=160,slow=4.2,SNR=6.1
YBH Yreka Blue Hor 78.52 39 P **P** **05 57 22.9 +1.5**
YBH IAmb IAmb 05 57 25.6
comp=Z,49nm,0.9s
K02D Willamette Mer 78.53 38 P 05 57 23.1
baz=232,SNR=14
SLBS Sierra La Lagu 78.55 60 P **P** **05 57 23.4 +1.5**
SLBS IAmb IAmb 05 57 25.8
comp=Z,133nm,1.4s
RUBR Rubicon Trail 78.56 42 P **P** **05 57 22.5 +0.7**
RUBR IAmb IAmb 05 57 24.7
comp=Z,122nm,1.4s
MLAC Mammoth, Mammo 78.63 44 P 05 57 24.2
baz=237,SNR=44
J01E Myrtle Point 78.66 37 P 05 57 23.8
baz=232,SNR=7.6
BELC Belle Mtn. Jos 78.67 49 P 05 57 24.2
baz=239,SNR=8.7
MPMC Manual Prospec 78.69 46 P 05 57 24.1
baz=238,SNR=54
WAKR Walker 78.71 43 P **P** **05 57 24.3 +1.7**
WAKR IAmb IAmb 05 57 26.4
comp=Z,96nm,1.1s
TIN Tinemaha, Big 78.72 45 P 05 57 24.6
baz=237,SNR=24
GSC Goldstone, Bar 78.77 47 P 05 57 24.4
baz=239,SNR=11
GSC Goldstone, Bar 78.77 47 P **P** **05 57 24.8 +1.9**
GSC pmax pmax
comp=Z,51nm,1.3s
GSC Goldstone, Bar 78.77 47 P **P** **05 57 24.8 +1.9**
HEC Hector,Ludlow 78.86 48 P 05 57 24.7
baz=239,SNR=7.4
BEKR Beckworth 78.89 42 P **P** **05 57 24.7 +1.2**
BEKR IAmb IAmb 05 57 26.3
comp=Z,133nm,1.5s
BC3 Big Chuckawall 78.89 49 P 05 57 25.5
baz=240,SNR=20
HUMO Hull Mountain 78.90 38 P **P** **05 57 24.9 +1.6**
HUMO IAmb IAmb 05 57 27.0
comp=Z,59nm,1.0s
MYKOM Kota Tinggi 78.91 276 P **P** **05 57 24.3 +0.3**
MYKOM IAmb IAmb 05 57 25.7
comp=Z,150nm,0.8s
MYKOM Kota Tinggi 78.91 276 P **P** **05 57 24.0 0.0**
PNTR Pine Nut 78.93 43 P **P** **05 57 25.6 +1.8**
PNTR IAmb IAmb 05 57 27.9
comp=Z,127nm,0.9s
VCNR Virginia City 79.02 43 P **P** **05 57 26.4 +2.1**
VCNR IAmb IAmb 05 57 27.1
comp=Z,81nm,1.3s
GLA Glamis 79.04 50 P 05 57 26.4
baz=240,SNR=14
GLA Glamis 79.05 50 P **P** **05 57 27.0 +2.7**
GLA pmax pmax
comp=Z,73nm,1.1s
GLA Glamis 79.05 50 P **P** **05 57 27.0 +2.7**
GLA IAmb IAmb 05 57 28.3
comp=Z,73nm,1.1s
GRNR Gornyy 79.05 333⇓*i* P **P** **05 57 25.3 +1.4**
GRNR pmax pmax
comp=E,20nm,0.7s
GRNR pmax pmax
comp=N,30nm,1.0s
GRNR pmax pmax
comp=Z,100nm,0.9s
GRNR MLR MLR
comp=N,200nm,17.0s
GRNR MLR MLR
comp=E,130nm,17.0s
GRNR MLR MLR
comp=Z,550nm,15.0s
L04D Klamath Falls 79.05 39 P 05 57 25.9
baz=234,SNR=31
M04C Macdoel 79.07 39 P 05 57 26.1
baz=234,SNR=36
YERR Yerington 79.11 43 P **P** **05 57 25.8 +1.1**
YERR IAmb IAmb 05 57 28.1
comp=Z,79nm,0.9s
LHV Little Huntoon 79.19 44 P **P** **05 57 26.9 +2.0**
LHV IAmb IAmb 05 57 28.8
comp=Z,104nm,1.1s
GRAC Grapevine Rang 79.28 45 P 05 57 27.5
baz=238,SNR=53
I02D Swisshome 79.29 37 P 05 57 27.3
baz=232
GMRC Granite Mounta 79.31 48 P 05 57 27.3
baz=239,SNR=20
I03D Drain, OR 79.33 37 P 05 57 26.8
baz=233,SNR=14
PIX Pinacate 79.33 52 P **P** **05 57 28.0 +2.2**
FURC Furnace Creek, 79.34 46 P 05 57 27.1
baz=238,SNR=36

IRM Iron Mountain 79.36 49 P 05 57 27.8
baz=240,SNR=40
RYN Ryan 79.38 44 P **P** **05 57 27.4 +1.3**
RYN IAmb IAmb 05 57 29.0
comp=Z,85nm,1.3s
PAHR Pah Rah Range 79.42 42 P **P** **05 57 28.1 +1.8**
PAHR IAmb IAmb 05 57 29.7
comp=Z,56nm,1.0s
NVAR Mina Array Bea 79.42 44 P **P** **05 57 27.6 +1.2**
comp=Z,79nm,1.1s,baz=226,slow=7.7,SNR=164
NVAR pP **pwP** **05 59 35.8 -1.0**
comp=Z,19nm,1.0s,baz=230,slow=10,SNR=9.8
NVAR S **S** **06 06 42.4 +4.0**
comp=Z,0.1nm,0.3s,baz=322,slow=15,SNR=1.1
NVAR PKKPbc **PKKPbc** **06 16 11.6 +0.3**
comp=Z,0.6nm,0.5s,baz=69,slow=4.4,SNR=5.8
NVAR PKPPKP **P'P'df** **06 24 09.6 -3.2**
comp=Z,0.9nm,0.9s,baz=87,slow=1.5,SNR=4.0
NVAR Mina Array Bea 79.42 44 P **P** **05 57 26.8 +0.4**
SHOC Shoshone, Teco 79.45 47 P 05 57 28.1
baz=239,SNR=18
QIZ Qiongzhong 79.47 294 P **P** **05 57 27.0 +0.2**
QIZ pP **pP** **05 59 34.8 -0.2**
QIZ sP **sP** **06 00 36.9 -0.4**
QIZ S **S** **06 06 40.3 +1.1**
QIZ sS **sS** **06 10 25.1 -2.3**
QIZ pmax pmax
comp=Z,52nm,1.5s
QIZ pmax pmax
comp=Z,1µm,11.8s
QIZ Qiongzhong 79.47 294 P **P** **05 57 27.3 +0.5**
QIZ IAmb IAmb 05 57 28.6
comp=Z,50nm,1.0s
NV11 Mina Array Sit 79.52 44 P **P** **05 57 28.0 +1.2**
NV11 IAmb IAmb 05 57 29.7
comp=Z,113nm,1.3s
DL2 Dalian 79.61 317 P **P** **05 57 28.3 +1.3**
DL2 S **S** **06 06 44.0 +4.2**
DL2 pmax pmax
comp=Z,120nm,0.8s
DL2 pmax pmax
comp=Z,2µm,4.7s
K04D Chiloquin, OR 79.62 39 P 05 57 28.7
baz=234,SNR=7.0
RGRI Rengat 79.69 273 P **P** **05 57 30.0 +2.0**
comp=Z,575nm,0.8s
J04D Umpqua Nationa 79.77 38 P 05 57 29.9
baz=234,SNR=19
KVN Kaiserville 79.89 43 P **P** **05 57 30.0 +1.2**
KVN pmax pmax
comp=Z,91nm,1.3s
KVN Kaiserville 79.89 43 P **P** **05 57 30.0 +1.2**
KVN IAmb IAmb 05 57 31.5
comp=Z,91nm,1.3s
I04A Tendick Farm, 79.93 38 P 05 57 30.0
baz=233,SNR=15
TPH Tonopah 79.94 45 P **P** **05 57 30.8 +1.7**
TPH pmax pmax
comp=Z,369nm,1.2s
TPH Tonopah 79.94 45 P **P** **05 57 30.8 +1.7**
SNY Shenyang 80.00 320⇓P **P** **05 57 31.0 +2.0**
SNY pmax pmax
comp=Z,80nm,2.8s
SNY pmax pmax
comp=Z,1µm,7.0s
214A Organ Pipe Nat 80.00 52 P **P** **05 57 31.6 +2.2**
214A IAmb IAmb 05 57 32.9
comp=Z,63nm,1.1s
214A Organ Pipe Nat 80.00 52 P 05 57 31.4
baz=242,SNR=42
TPNV Topopah Spring 80.01 46 P **P** **05 57 30.8 +1.4**
TPNV pmax pmax
comp=Z,41nm,1.0s
TPNV Topopah Spring 80.01 46 P **P** **05 57 30.8 +1.4**
TPNV Topopah Spring 80.01 46 P 05 57 31.0
baz=239,SNR=53
CN2 Changchun 80.03 322*e* P **P** **05 57 29.6 +0.4**
CN2 PP **sP** **06 00 40.8 +2.0**
CN2 *e*S **S** **06 06 48.0 +4.0**
CN2 pmax pmax
comp=Z,200nm,1.6s
CN2 pmax pmax
comp=Z,2µm,3.0s
HSIG 80.08 55 P **P** **05 57 30.5 +0.8**
MOD Modoc Plateau 80.08 40 P **P** **05 57 30.9 +1.2**
MOD IAmb IAmb 05 57 33.0
comp=Z,76nm,0.9s
KLR Kul'dur 80.12 329 P **P** **05 57 30.6 +1.2**
comp=Z,31nm,1.0s,baz=113,slow=4.0,SNR=49
KLR S **S** **06 06 49.1 +4.4**
comp=Z,4.3nm,0.9s,baz=202,slow=8.2,SNR=1.6
KLR PKKPbc **PKKPbc** **06 16 07.8 -2.2**
comp=Z,1.5nm,0.6s,baz=354,slow=1.5,SNR=7.2
KLR Kul'dur 80.12 329*de* P **P** **05 57 30.4 +0.9**
KLR pmax pmax
comp=Z,53nm,1.0s
PDMCI Parker Dam,Lak 80.16 49 P 05 57 32.0
baz=240,SNR=34
H04D Lebanon 80.18 37 P 05 57 31.6
baz=233,SNR=10
K05A Summer Lake 80.19 39 P **P** **05 57 31.9 +1.6**
K05A IAmb IAmb 05 57 34.0
comp=Z,135nm,1.0s
CNPM China Poot 80.28 14 P **P** **05 57 30.8 +0.7**
G03D McMinnville, O 80.30 36 P 05 57 32.6
baz=232,SNR=10
HOM Homer 80.31 13 P 05 57 31.9
baz=206,SNR=7.0
HOM Homer 80.31 13 P **P** **05 57 31.4 +1.2**
HOM IAmb IAmb 05 57 33.2
comp=Z,101nm,0.7s
J05D Fort Rock, OR 80.31 38 P 05 57 32.8
baz=234,SNR=175
SDSI Sungai Dareh 80.37 272 P **P** **05 57 30.6 -1.0**
comp=Z,4µmcomp=Z,196nm,0.9s
SHPR Sheep Range 80.54 47 P **P** **05 57 33.8 +1.6**
BRLK Bradley Lake 80.58 14 P **P** **05 57 32.3 +0.6**
BRLK IAmb IAmb 05 57 33.7
comp=Z,40nm,0.7s
H04A Detroit Lake 80.59 37 P **P** **05 57 32.9 +0.9**
H04A IAmb IAmb 05 57 34.9
comp=Z,52nm,0.8s
BRSE Bradley Lake S 80.59 14 P 05 57 32.1
baz=207,SNR=24
WHN Wuhan 80.62 306⇓P **P** **05 57 33.8 +1.3**
WHN sP **sP** **06 00 43.1 0.0**
WHN S **S** **06 06 49.9 -0.5**
WHN pmax pmax
comp=Z,280nm,1.0s
WHN pmax pmax
comp=Z,4µm,3.9s
W13A Hualapai Mount 80.73 49 P **P** **05 57 35.5 +2.2**
PINE Pine Mountain 80.78 38 P **P** **05 57 34.9 +1.5**
PINE IAmb IAmb 05 57 37.0
comp=Z,132nm,1.0s
RSO Redoubt South 80.81 13 P **P** **05 57 33.0 0.0**
SVW2 Sparrevohn 80.84 11 P **P** **05 57 33.5 +0.5**
I05D Terrebonne, OR 80.87 38 P 05 57 35.1
baz=234,SNR=25
JRMM Jerantut 80.88 277 P **P** **05 57 35.0 +0.8**
E03A Lebam 80.95 35 P **P** **05 57 35.9 +2.1**
E03A IAmb IAmb 05 57 37.2
comp=Z,99nm,1.0s
F04D Rainier, OR 80.97 35 P 05 57 36.2
baz=232
PRN Pahroc Range 81.07 46 P **P** **05 57 36.7 +1.9**
PRN IAmb IAmb 05 57 39.3
comp=Z,85nm,1.0s
BKNI Bangkinang 81.12 273 P **P** **05 57 36.0 +0.5**
BKNI Bangkinang 81.12 273 P **P** **05 57 35.9 +0.4**
comp=Z,5µmcomp=Z,500nm,1.1s
DIB Dawson Inlet, 81.12 26 P **P** **05 57 34.7 +0.2**
DIB IAmb IAmb 05 57 37.7
comp=Z,38nm,0.9s
H02S1 DAWSON INLET T 81.12 26 P **P** **05 57 34.1 -0.4**
H02N1 VAN INLET T-PH 81.13 26 P **P** **05 57 35.0 +0.3**
SNR=3.7
R11A Troy Canyon, C 81.19 45 P **P** **05 57 36.6 +1.1**
R11A Troy Canyon, C 81.19 45 P 05 57 37.2
baz=239,SNR=30
MA2 Magadan 81.21 345 P **P** **05 57 34.6 -0.3**
comp=Z,33nm,0.8s,baz=141,slow=6.3,SNR=75
MA2 S **S** **06 06 53.5 -1.6**
comp=Z,3.7nm,0.7s,baz=146,slow=16,SNR=1.0
MA2 Magadan 81.21 345*de* P **P** **05 57 34.5 -0.3**
MA2 pmax pmax
comp=Z,48nm,0.9s
MA2 Magadan 81.21 345 P **P** **05 57 34.4 -0.4**
MA2 IAmb IAmb 05 57 35.8
comp=Z,58nm,1.0s
SEW Seward 81.21 14 P 05 57 35.1
baz=208,SNR=9.1
SEW Seward 81.21 14 P **P** **05 57 35.1 +0.3**
TIA Tai'an 81.27 312 P **P** **05 57 36.3 +0.6**
TIA S **S** **06 06 58.8 +2.1**
TIA pmax pmax
comp=Z,70nm,1.0s
NLWA Neilton Lookou 81.31 34 P **P** **05 57 36.8 +1.1**
NLWA IAmb IAmb 05 57 38.6
comp=Z,102nm,1.4s
WVOR Wild Horse Val 81.40 40 P **P** **05 57 37.7 +1.3**
WVOR pmax pmax
comp=Z,102nm,1.1s
WVOR Wild Horse Val 81.40 40 P **P** **05 57 37.7 +1.3**
WVOR IAmb IAmb 05 57 40.4
comp=Z,102nm,1.1s
G05D Wamic, OR 81.42 37 P 05 57 37.9
baz=234,SNR=12
CAPN Captain Cook N 81.42 13 P 05 57 37.6
baz=206,SNR=13
CAPN Captain Cook N 81.42 13 P **P** **05 57 36.9 +1.0**
CAPN IAmb IAmb 05 57 39.0
comp=Z,64nm,0.7s
COCO West Island 81.43 260 P **P** **05 57 37.4 +0.4**
COCO pmax pmax
comp=Z,200nm,1.0s
COCO West Island 81.43 260 P **P** **05 57 37.4 +0.4**
O22K Cooper Landing 81.48 14 P 05 57 37.0
baz=208,SNR=8.5
O22K Cooper Landing 81.48 14 P **P** **05 57 37.0 +0.8**
O22K IAmb IAmb 05 57 38.3
comp=Z,64nm,0.6s
E04D Cinebar 81.50 35 P 05 57 38.7
baz=233,SNR=13
TUC Tucson 81.69 52 P 05 57 40.8
baz=243
TUC Tucson 81.69 52 P **P** **05 57 40.6 +2.5**
TUC pmax pmax
comp=Z,83nm,1.2s
TUC Tucson 81.69 52 P **P** **05 57 40.6 +2.5**
TUC IAmb IAmb 05 57 43.0
comp=Z,83nm,1.1s
F05D White Salmon 81.71 36 P 05 57 39.5
baz=234,SNR=16
D04E Lakebay 81.77 35 P 05 57 40.5
baz=233,SNR=5.9
I07A Izee 81.80 39 P **P** **05 57 39.8 +1.4**
I07A IAmb IAmb 05 57 42.4
comp=Z,63nm,0.9s
D03D Eldon 81.81 34 P 05 57 40.1
baz=232,SNR=11
UBPT Khong Chiam 81.95 289 P **P** **05 57 40.5 +1.0**
UBPT IAmb IAmb 05 57 41.9
comp=Z,136nm,1.0s
FIS Fire Island 81.96 13 P **P** **05 57 39.1 +0.5**
FIS IAmb IAmb 05 57 41.2
comp=Z,73nm,0.6s
J08A Circle Bar Ran 82.01 40 P **P** **05 57 40.8 +1.3**
J08A IAmb IAmb 05 57 43.4
comp=Z,80nm,1.0s
RC01 Rabbit Creek A 82.02 14 P 05 57 39.4
baz=208,SNR=14
RC01 Rabbit Creek A 82.02 14 P **P** **05 57 39.4 +0.5**
LON Longmire 82.03 35 P **P** **05 57 40.7 +1.3**
LON pmax pmax
comp=Z,24nm,1.1s
LON Longmire 82.03 35 P **P** **05 57 40.7 +1.3**
LCMT Little Creek M 82.12 47 P **P** **05 57 41.8 +1.6**
LCMT IAmb IAmb 05 57 43.8
comp=Z,48nm,1.0s
SUA Susitna One 82.13 13 P 05 57 39.8
baz=206,SNR=82
SUA Susitna One 82.14 13 P **P** **05 57 39.4 -0.3**
SUA IAmb IAmb 05 57 41.8
comp=Z,52nm,0.7s
PWL Port Wells 82.14 14 P **P** **05 57 39.3 -0.3**
PWL IAmb IAmb 05 57 41.4
comp=Z,42nm,0.7s
BELA Belgrano 2 82.16 173 P **P** **05 57 40.0 +0.5**
BELA IAmb IAmb 05 57 41.5
comp=Z,104nm,0.8s
HIN Hinchinbrook I 82.18 15 P **P** **05 57 40.2 +0.4**
D05A Enumclaw 82.20 35 P **P** **05 57 41.8 +1.6**
D05A IAmb IAmb 05 57 43.9
comp=Z,130nm,1.1s
CCUT Cedar City 82.30 47 P **P** **05 57 43.0 +1.7**
CCUT IAmb IAmb 05 57 45.1
comp=Z,47nm,1.0s
PGC Sidney 82.31 33 P **P** **05 57 41.9 +1.3**
PGC IAmb IAmb 05 57 43.7
comp=Z,39nm,1.0s
BBB Bella Bella 82.32 29 P **P** **05 57 41.6 +1.0**
BBB IAmb IAmb 05 57 43.1
comp=Z,94nm,1.5s
KAIM Kayak Island 82.32 16 P 05 57 42.4
baz=212
SPR3 Spring Creek 3 82.36 45 P **P** **05 57 43.0 +1.4**
SPR3 IAmb IAmb 05 57 44.6
comp=Z,37nm,0.9s
319A Douglas 82.42 54 P **P** **05 57 43.9 +2.2**
319A IAmb IAmb 05 57 46.2
comp=Z,81nm,1.1s
KNB Kanab 82.42 47 P **P** **05 57 43.9 +2.1**
KNB pmax pmax
comp=Z,119nm,1.5s
KNB Kanab 82.42 47 P **P** **05 57 43.9 +2.1**
KNB IAmb IAmb 05 57 45.1
comp=Z,119nm,1.5s
SKT Skwentna 82.44 12 P 05 57 40.6
baz=206,SNR=9.6
SKT Skwentna 82.44 12 P **P** **05 57 40.3 -0.8**
IPM Ipoh 82.44 277 P **P** **05 57 43.1 +0.9**
IPM Ipoh 82.44 277 P **P** **05 57 43.0 +0.9**
PSUT Pine Spring 82.45 46 P **P** **05 57 43.3 +1.4**
GLI Glacier Island 82.45 15 P 05 57 41.5
baz=210,SNR=53
GLI Glacier Island 82.45 15 P **P** **05 57 41.4 +0.3**
GLI IAmb IAmb 05 57 43.3
comp=Z,91nm,0.7s
SISI Saibi 82.47 271 P **P** **05 57 43.1 +0.8**
comp=Z,3µmcomp=Z,131nm,0.8s
FID Port Fidalgo 82.49 15 P **P** **05 57 41.6 +0.2**
EYAK Cordova Ski Ar 82.50 16 P 05 57 41.9
baz=211,SNR=6.3
EYAK Cordova Ski Ar 82.50 16 P **P** **05 57 41.9 +0.6**
U15A North Rim 82.51 48 P **P** **05 57 44.1 +1.8**
U15A IAmb IAmb 05 57 46.9
comp=Z,96nm,0.9s
CRAG Craig 82.51 24 P 05 57 43.1
baz=223
CRAG Craig 82.52 24 P **P** **05 57 42.9 +1.4**
CRAG IAmb IAmb 05 57 44.3
comp=Z,79nm,1.5s
SZCU Shurtz Canyon 82.52 47 P **P** **05 57 44.6 +2.3**
SZCU IAmb IAmb 05 57 46.1
comp=Z,46nm,1.0s
F07A Phinny Hill Vi 82.59 37 P **P** **05 57 44.0 +1.9**
F07A IAmb IAmb 05 57 45.3
comp=Z,35nm,0.9s
KNK Knik Glacier 82.60 14 P 05 57 42.4
baz=209,SNR=31
KNK Knik Glacier 82.60 14 P **P** **05 57 42.4 +0.5**
KNK IAmb IAmb 05 57 44.3
comp=Z,40nm,0.7s
PMR Palmer 82.60 14 P 05 57 42.3
baz=208,SNR=24
PMR Palmer 82.60 14 P **P** **05 57 42.3 +0.5**
PMR pmax pmax
comp=Z,22nm,0.8s
PMR Palmer 82.60 14 P **P** **05 57 42.2 +0.5**
RAGM Ragged Mountai 82.65 16 P **P** **05 57 43.7 +1.6**
RAGM IAmb IAmb 05 57 45.0
comp=Z,44nm,1.2s
ELK Elko 82.65 43 P **P** **05 57 44.0 +1.1**
ELK pmax pmax
comp=Z,38nm,1.0s
ELK Elko 82.65 43 P **P** **05 57 44.0 +1.1**
ELK IAmb IAmb 05 57 46.2
comp=Z,38nm,0.9s
MNSI Mandailing Nat 82.66 273 P **P** **05 57 42.5 -0.7**
comp=Z,3µmcomp=Z,169nm,1.1s
HMT Hamilton 82.71 16 P **P** **05 57 42.6 +0.1**

WUAZ	**Wupatki**	**82.73**	**49**	P	**P**	**05 57 45.7**	**+2.4**	
WUAZ				IAmb	IAmb	05 57 47.8		
	comp=Z,78nm,1.1s							
WUAZ	**Wupatki**	**82.73**	**49**	P		05 57 45.7		
	baz=242,SNR=39							
A04D	**Lummi Island**	**82.74**	**33**	P		05 57 44.9		
	baz=232,SNR=11							
B05A	**Bryant**	**82.78**	**34**	P		05 57 44.4		
	baz=233,SNR=36							
G08A	**Pilot Rock**	**82.81**	**38**	P	**P**	**05 57 44.4**	**+1.0**	
G08A				IAmb	IAmb	05 57 46.7		
	comp=Z,51nm,1.0s							
GHO	**Glory Hole Cre**	**82.81**	**14**	P	**P**	**05 57 43.4**	**+0.4**	
GHO				IAmb	IAmb	05 57 45.4		
	comp=Z,102nm,0.6s							
ANM	**Nome**	**82.83**	**6**	P		05 57 44.4		
	baz=193,SNR=8.5							
ANM	**Nome**	**82.83**	**6**	P	**P**	**05 57 43.2**	**+0.3**	
ANM				pmax	pmax			
	comp=Z,7.0nm,0.6s							
ANM	**Nome**	**82.83**	**6**	P	**P**	**05 57 43.2**	**+0.3**	
BERG	**Berg Lake**	**82.91**	**17**	P	**P**	**05 57 44.5**	**+1.0**	
LTY	**Liberty**	**82.96**	**35**	P	**P**	**05 57 45.5**	**+1.4**	
SML	**Sawmill**	**82.97**	**14**	P		05 57 44.2		
	baz=209,SNR=14							
SML	**Sawmill**	**82.97**	**14**	P	**P**	**05 57 44.2**	**+0.4**	
PKCU	**Pink Cliffs**	**82.98**	**47**	P	**P**	**05 57 47.8**	**+3.1**	
PKCU				IAmb	IAmb	05 57 49.3		
	comp=Z,90nm,1.1s							
E07A	**Sunnyside**	**83.01**	**36**	P	**P**	**05 57 46.1**	**+1.8**	
E07A				IAmb	IAmb	05 57 47.6		
	comp=Z,68nm,1.0s							
KULM	**Kulim**	**83.05**	**278**	P	**P**	**05 57 46.2**	**+1.0**	
KULM				IAmb	IAmb	05 57 47.1		
	comp=Z,130nm,0.9s							
KULM	**Kulim**	**83.05**	**278**	P	**P**	**05 57 46.0**	**+0.8**	
CUT	**Chulitna**	**83.08**	**13**	P		05 57 44.3		
	baz=207,SNR=24							
CUT	**Chulitna**	**83.08**	**13**	P	**P**	**05 57 44.4**	**+0.2**	
CUT				IAmb	IAmb	05 57 46.0		
	comp=Z,61nm,0.6s							
HAWA	**Hanford**	**83.10**	**37**	P	**P**	**05 57 46.0**	**+1.3**	
HAWA				IAmb	IAmb	05 57 48.0		
	comp=Z,72nm,1.0s							
PPLA	**Purkeypile**	**83.13**	**12**	P		05 57 44.3		
	baz=205,SNR=8.8							
PPLA	**Purkeypile**	**83.14**	**12**	P	**P**	**05 57 44.7**	**+0.1**	
BMRM	**Bremner River**	**83.16**	**16**	P		05 57 45.4		
	baz=212,SNR=12							
BMRM	**Bremner River**	**83.16**	**16**	P	**P**	**05 57 45.5**	**+0.8**	
BMRM				IAmb	IAmb	05 57 46.9		
	comp=Z,42nm,0.7s							
MESA	**MESA**	**83.22**	**17**	P		05 57 46.5		
	baz=215							
MESA	**MESA**	**83.22**	**17**	P	**P**	**05 57 45.8**	**+0.6**	
MESA				IAmb	IAmb	05 57 47.9		
	comp=Z,81nm,0.7s							
SCM	**Sheep Creek Mo**	**83.23**	**14**	P	**P**	**05 57 45.6**	**+0.5**	
SCM				pmax	pmax			
	comp=Z,98nm,0.6s							
SCM	**Sheep Creek Mo**	**83.23**	**14**	P	**P**	**05 57 45.6**	**+0.5**	
SCM				IAmb	IAmb	05 57 47.5		
	comp=Z,98nm,0.6s							
A05A	**Maple Falls**	**83.23**	**33**	P	**P**	**05 57 46.5**	**+1.2**	
B06A	**Marblemount**	**83.27**	**34**	P	**P**	**05 57 46.7**	**+1.3**	
KLU	**Klutina**	**83.27**	**15**	P		05 57 45.9		
	baz=211,SNR=9.9							
KLU	**Klutina**	**83.27**	**15**	P	**P**	**05 57 45.9**	**+0.6**	
X18A	**Snowflake**	**83.32**	**51**	P	**P**	**05 57 48.4**	**+2.1**	
MTPU	**Mount Pierson**	**83.36**	**47**	P	**P**	**05 57 48.5**	**+1.9**	
MTPU				IAmb	IAmb	05 57 51.0		
	comp=Z,38nm,1.0s							
CRQM	**Cirque**	**83.37**	**17**	P	**P**	**05 57 46.7**	**+0.8**	
CRQM				IAmb	IAmb	05 57 49.7		
	comp=Z,35nm,0.8s							
CRQE	**Cirque**	**83.38**	**17**	P		05 57 46.7		
	baz=214,SNR=11							
HPIG		**83.42**	**59**	P	**P**	**05 57 49.2**	**+2.3**	
E08A	**Dider Farm, El**	**83.42**	**37**	P	**P**	**05 57 48.3**	**+2.0**	
E08A				IAmb	IAmb	05 57 49.6		
	comp=Z,39nm,0.8s							
YAH	**Yahtse**	**83.43**	**17**	P	**P**	**05 57 47.4**	**+1.1**	
YAH				IAmb	IAmb	05 57 49.4		
	comp=Z,51nm,0.7s							
TCRU	**Three Creeks R**	**83.45**	**46**	P	**P**	**05 57 49.5**	**+2.5**	
TGL	**Tana Glacier**	**83.45**	**17**	P	**P**	**05 57 47.2**	**+0.9**	
TGL				IAmb	IAmb	05 57 48.6		
	comp=Z,29nm,0.8s							
WRAK	**Wrangell Islan**	**83.51**	**24**	P		05 57 48.2		
	baz=224,SNR=10							
WRAK	**Wrangell Islan**	**83.51**	**24**	P	**P**	**05 57 47.2**	**+0.8**	
WRAK				IAmb	IAmb	05 57 50.0		
	comp=Z,39nm,0.8s							
BMO	**Blue Mountains**	**83.54**	**39**	P	**P**	**05 57 48.2**	**+1.2**	
BMO				pmax	pmax			
	comp=Z,36nm,1.3s							
BMO	**Blue Mountains**	**83.54**	**39**	P	**P**	**05 57 48.2**	**+1.2**	
MSU	**Marysvale**	**83.59**	**46**	P	**P**	**05 57 49.7**	**+2.1**	
MSU	**Marysvale**	**83.59**	**46**	P	**P**	**05 57 49.7**	**+2.1**	
PINM	**Pinnacle**	**83.65**	**18**	P		05 57 48.3		
	baz=216							
MFID	**Camas Ranch**	**83.67**	**41**	P	**P**	**05 57 49.0**	**+1.2**	
MFID				IAmb	IAmb	05 57 51.6		
	comp=Z,60nm,1.1s							
TABL	**Table Mountain**	**83.67**	**18**	P	**P**	**05 57 48.5**	**+1.0**	
TABL				IAmb	IAmb	05 57 50.3		
	comp=Z,66nm,0.7s							
VRDI	**Verde Repeater**	**83.68**	**16**	P	**P**	**05 57 48.2**	**+0.7**	
VRDI				IAmb	IAmb	05 57 49.7		
	comp=Z,29nm,0.8s							
N25K	**Chitina, Valde**	**83.70**	**16**	P		05 57 48.3		
	baz=212,SNR=35							
N25K	**Chitina, Valde**	**83.70**	**16**	P	**P**	**05 57 47.8**	**+0.4**	
N25K				IAmb	IAmb	05 57 49.8		
	comp=Z,56nm,0.7s							
GRNC	**Granite Creek**	**83.73**	**17**	P	**P**	**05 57 48.7**	**+1.0**	
GRNC				IAmb	IAmb	05 57 50.6		
	comp=Z,39nm,1.1s							
M24K	**Tolsona, Glenn**	**83.74**	**15**	P		05 57 48.7		
	baz=211,SNR=32							
M24K	**Tolsona, Glenn**	**83.74**	**15**	P	**P**	**05 57 48.2**	**+0.7**	
M24K				IAmb	IAmb	05 57 50.7		
	comp=Z,68nm,0.7s							
GLB	**Gilahina Butte**	**83.77**	**16**	P	**P**	**05 57 48.3**	**+0.6**	
GLB				IAmb	IAmb	05 57 49.9		
	comp=Z,39nm,0.7s							
SEY	**Seymchan**	**83.78**	**347**	P	**P**	**05 57 47.7**	**0.0**	
	comp=Z,71nm,0.8s,baz=147,slow=5.5,SNR=376							
SEY				pP	**pP**	**05 59 57.7**	**+0.5**	
	comp=Z,19nm,1.1s,baz=147,slow=5.1,SNR=4.0							
SEY				S	**SKSac**	**06 07 13.2**	**+1.1**	
	comp=Z,7.6nm,1.1s,baz=177,slow=17,SNR=1.6							
SEY				PKKPbc	**PKKPbc**	**06 16 00.0**	**-2.1**	
	comp=Z,1.0nm,0.5s,baz=351,slow=3.6,SNR=6.3							
SEY				PKPPKP		06 24 04.8		
	comp=Z,0.3nm,0.4s,baz=251,slow=3.3,SNR=3.8							
WAT6	**Susitna Watana**	**83.79**	**14**	P		05 57 48.4		
	baz=209,SNR=31							
BJT	**Baijiatuau**	**83.79**	**315**	P	**P**	**05 57 49.0**	**+0.8**	
BJT				pmax	pmax			
	comp=Z,95nm,0.9s							
BJT	**Baijiatuau**	**83.79**	**315**	P	**P**	**05 57 49.0**	**+0.8**	
BJT				IAmb	IAmb	05 57 50.1		
	comp=Z,95nm,0.9s							
PMSA	**Palmer Station**	**83.80**	**157**	PKKPbc	PKKPbc	06 15 58.8	-2.8	
	comp=Z,14nm,0.4s,baz=159,slow=21,SNR=8.4							
BJI	**Beijing**	**83.80**	**315**	P	**P**	**05 57 49.1**	**+0.8**	
BJI				sP	**sP**	**06 01 03.0**	**+3.6**	
BJI				PP	**PP**	**06 01 13.0**	**-0.7**	
BJI				S	**S**	**06 07 26.1**	**+4.6**	
BJI				SS	**SS**	**06 13 08.3**	**-0.3**	
BJI				pmax	pmax			
	comp=Z,120nm,1.3s							
BJI				pmax	pmax			
	comp=Z,2μm,3.5s							
D08A	**Wollman Farm,**	**83.82**	**36**	P	**P**	**05 57 50.0**	**+1.7**	
D08A				IAmb	IAmb	05 57 51.0		
	comp=Z,86nm,1.4s							
MAW	**Mawson**	**83.86**	**200**	P	**P**	**05 57 49.5**	**+1.4**	
	comp=Z,55nm,0.7s,baz=138,slow=5.1,SNR=53							
MAW				pP	**pP**	**05 59 58.5**	**+0.8**	
	comp=Z,8.8nm,0.9s,baz=119,slow=10,SNR=2.5							
MAW	**Mawson**	**83.86**	**200**	P	**P**	**05 57 49.2**	**+1.1**	
	baz=84,SNR=46							
MAW	**Mawson**	**83.86**	**200**	P	**P**	**05 57 49.3**	**+1.1**	
RPSI	**Rantau Prapat**	**83.87**	**275**	P	**P**	**05 57 49.3**	**+0.1**	
PSI	**Prapat**	**83.90**	**275**	P	**P**	**05 57 49.6**	**+0.1**	
	comp=Z,53nm,0.8s,baz=180,slow=1.5,SNR=14							
PSI				PP	**PP**	**06 01 11.6**	**-3.5**	
	comp=Z,36nm,0.9s,baz=180,slow=3.3,SNR=7.1							
MCARA	**McCarthy VSAT**	**83.92**	**16**	P		05 57 49.6		
	baz=214,SNR=6.2							
MCARA	**McCarthy VSAT**	**83.92**	**16**	P	**P**	**05 57 49.7**	**+1.3**	
WAT2	**Susitna Watana**	**83.94**	**13**	P		05 57 48.9		
	baz=208,SNR=22							
E09A	**Wood Farm, Sta**	**83.96**	**37**	P	**P**	**05 57 50.4**	**+1.4**	
E09A				IAmb	IAmb	05 57 51.9		
	comp=Z,34nm,1.1s							
DUG	**Dugway, Tooele**	**83.97**	**45**	P		05 57 50.8		
	baz=241,SNR=9.2							
DUG	**Dugway, Tooele**	**83.97**	**45**	P	**P**	**05 57 51.0**	**+1.6**	
DUG				pmax	pmax			
	comp=Z,8.0nm,1.0s							
DUG	**Dugway, Tooele**	**83.97**	**45**	P	**P**	**05 57 51.0**	**+1.6**	
KTH	**Kantishna Hill**	**83.98**	**12**	P	**P**	**05 57 48.1**	**-0.6**	
KTH				IAmb	IAmb	05 57 51.0		
	comp=Z,40nm,0.8s							
CHUM	**Lake Minchumin**	**84.01**	**11**	P		05 57 48.4		
	baz=205,SNR=21							
TRF	**Thorofare Moun**	**84.01**	**12**	P		05 57 48.9		
	baz=207,SNR=156							
TRF	**Thorofare Moun**	**84.01**	**12**	P	**P**	**05 57 48.1**	**-0.9**	
TRF				IAmb	IAmb	05 57 51.2		
	comp=Z,94nm,0.7s							
LOGN	**Logan Glacier**	**84.02**	**17**	P	**P**	**05 57 50.1**	**+1.0**	
LOGN				IAmb	IAmb	05 57 51.9		
	comp=Z,28nm,0.8s							
BARN	**Barnard Glacie**	**84.03**	**17**	P	**P**	**05 57 50.2**	**+1.0**	
BARN				IAmb	IAmb	05 57 51.6		
	comp=Z,40nm,0.8s							
CTG	**Chitna Glacier**	**84.04**	**17**	P		05 57 50.1		
	baz=215,SNR=10							
CTGM	**Chitina Glacie**	**84.04**	**17**	P	**P**	**05 57 50.2**	**+1.0**	
CTGM				IAmb	IAmb	05 57 51.6		
	comp=Z,28nm,0.8s							
121A	**Cookes Peak, D**	**84.06**	**53**	P		05 57 52.6		
	baz=244,SNR=8.8							
121A	**Cookes Peak, D**	**84.06**	**53**	P	**P**	**05 57 52.7**	**+2.7**	
JIS	**Juneau Island**	**84.13**	**22**	P	**P**	**05 57 50.2**	**+0.8**	
BGU	**Big Grassy Mou**	**84.19**	**44**	P	**P**	**05 57 51.5**	**+1.1**	
BESE	**Bessie Mountai**	**84.19**	**21**	P	**P**	**05 57 51.4**	**+1.5**	
BESE				IAmb	IAmb	05 57 53.4		
	comp=Z,30nm,0.9s							
F10A	**Beach Ranch, E**	**84.19**	**38**	P	**P**	**05 57 50.9**	**+0.6**	
F10A				IAmb	IAmb	05 57 54.0		
	comp=Z,69nm,0.9s							
RND	**Reindeer**	**84.27**	**13**	P	**P**	**05 57 50.1**	**-0.1**	
RND				pmax	pmax			
	comp=Z,70nm,0.7s							
RND	**Reindeer**	**84.27**	**13**	P	**P**	**05 57 50.1**	**-0.1**	
RND				IAmb	IAmb	05 57 52.6		
	comp=Z,70nm,0.7s							
ENH	**Enshi**	**84.29**	**304**	P	**P**	**05 57 52.1**	**+1.1**	
B08A	**Colville Reser**	**84.33**	**35**	P	**P**	**05 57 51.2**	**+0.4**	
B08A				IAmb	IAmb	05 57 53.7		
	comp=Z,40nm,0.9s							
NLU	**North Lily Min**	**84.35**	**45**	P	**P**	**05 57 53.1**	**+1.8**	
ZAIG	**Zacatecas**	**84.40**	**64**	P	**P**	**05 57 55.1**	**+3.1**	
BPAW	**Bear Paw Mtn.**	**84.46**	**12**	P		05 57 50.6		
	baz=206,SNR=17							
BPAW	**Bear Paw Mtn.**	**84.46**	**12**	P	**P**	**05 57 50.9**	**-0.1**	
TSI	**Tuntungan**	**84.46**	**275**	P	**P**	**05 57 51.7**	**-0.4**	
	comp=Z,4μmcomp=Z,583nm,0.9s							
Q16A	**Castle Valley**	**84.47**	**46**	P	**P**	**05 57 52.9**	**+1.0**	
MCK	**McKinley**	**84.54**	**13**	P		05 57 51.5		
	baz=208,SNR=37							
MCK	**McKinley**	**84.54**	**13**	P	**P**	**05 57 51.1**	**-0.3**	
MCK				pmax	pmax			
	comp=Z,41nm,0.8s							
MCK	**McKinley**	**84.54**	**13**	P	**P**	**05 57 51.1**	**-0.3**	
MCK				IAmb	IAmb	05 57 54.5		
	comp=Z,41nm,0.8s							
C09A	**Chrisman Ranch**	**84.61**	**36**	P	**P**	**05 57 52.8**	**+0.7**	
C09A				IAmb	IAmb	05 57 55.0		
	comp=Z,34nm,0.9s							
HLID	**Hailey**	**84.62**	**41**	P		05 57 54.5		
	baz=239,SNR=66							
HLID	**Hailey**	**84.62**	**41**	P	**P**	**05 57 53.9**	**+1.4**	
HLID				IAmb	IAmb	05 57 56.6		
	comp=Z,30nm,0.9s							
TMUT	**Trail Mountain**	**84.63**	**46**	P	**P**	**05 57 54.5**	**+1.7**	
PAX	**Paxson**	**84.65**	**14**	P		05 57 51.8		
	baz=211,SNR=15							
PAX	**Paxson**	**84.65**	**14**	P	**P**	**05 57 51.7**	**-0.3**	
PAX				pmax	pmax			
	comp=Z,12nm,0.8s							
PAX	**Paxson**	**84.65**	**14**	P	**P**	**05 57 51.7**	**-0.3**	
MPU	**Maple Canyon**	**84.68**	**45**	P	**P**	**05 57 54.8**	**+1.9**	
SKAG	**Skagway**	**84.70**	**20**	P		05 57 54.3		
	baz=221							
SKAG	**Skagway**	**84.70**	**20**	P	**P**	**05 57 53.1**	**+0.9**	
GSI	**Gunungsitoli**	**84.72**	**273**	P	**P**	**05 57 54.7**	**+1.3**	
GSI	**Gunungsitoli**	**84.72**	**273**	P	**P**	**05 57 54.6**	**+1.2**	
	comp=Z,6μmcomp=Z,10μmcomp=Z,755nm,1.0s							
SPUT	**South Promonto**	**84.76**	**44**	P	**P**	**05 57 54.0**	**+0.8**	
HVU	**Hansel Valley**	**84.78**	**43**	P	**P**	**05 57 54.9**	**+1.6**	
HVU				pmax	pmax			
	comp=Z,12nm,0.9s							
HVU	**Hansel Valley**	**84.78**	**43**	P	**P**	**05 57 54.9**	**+1.6**	
CTU	**Camp Tracy**	**84.92**	**44**	P	**P**	**05 57 55.9**	**+1.9**	
SRU	**San Rafael Swe**	**85.01**	**46**	P	**P**	**05 57 56.4**	**+1.9**	
SRU				pmax	pmax			
	comp=Z,23nm,0.8s							
SRU	**San Rafael Swe**	**85.01**	**46**	P	**P**	**05 57 56.4**	**+1.9**	
P17A	**Butcher Ranch,**	**85.03**	**46**	P	**P**	**05 57 56.4**	**+1.9**	
MENT	**Mentasta**	**85.05**	**15**	P	**P**	**05 57 54.3**	**+0.4**	
GYA	**Guiyang**	**85.05**	**300**	‖P	**P**	**05 57 55.8**	**+0.9**	
GYA				SKS	**SKSac**	**06 07 22.3**	**+0.3**	
GYA				S	**S**	**06 07 35.3**	**+0.8**	
GYA				pmax	pmax			
	comp=Z,110nm,0.9s							
GYA				pmax	pmax			
	comp=Z,1μm,6.3s							
JLU	**Jordanelle**	**85.08**	**45**	P	**P**	**05 57 56.6**	**+1.7**	
ZEA	**Zeya**	**85.20**	**331**	*d* iP	**P**	**05 57 55.9**	**+1.1**	
ZEA				*e**PP	**pwP**	**06 00 07.3**	**-1.1**	
ZEA				*e*		06 01 10.3		
ZEA				*e*S	**S**	**06 07 38.6**	**+4.2**	
ZEA				pmax	pmax			
	comp=E,20nm,0.9s							
ZEA				pmax	pmax			
	comp=N,60nm,0.7s							
ZEA				pmax	pmax			
	comp=Z,110nm,0.8s							
ZEA				pmax	pmax			
	comp=E,100nm,3.3s							
ZEA				pmax	pmax			
	comp=N,200nm,4.4s							
ZEA				pmax	pmax			
	comp=Z,200nm,6.2s							
ZEA				pmax	pmax			
	comp=N,100nm,6.5s							
ZEA				pmax	pmax			
	comp=Z,300nm,9.9s							
ZEA				smax	smax			
	comp=E,900nm,7.9s							
ZEA				smax	smax			
	comp=N,1μm,11.3s							
NEA2	**Nenana**	**85.28**	**12**	P		05 57 54.6		
	baz=208,SNR=14							
NEA2	**Nenana**	**85.28**	**12**	P	**P**	**05 57 54.3**	**-0.6**	
TIY	**Taiyuan**	**85.28**	**312**	*e*P	**P**	**05 57 57.3**	**+1.6**	
TIY				SKS	**SKSac**	**06 07 22.4**	**-0.4**	
TIY				S	**S**	**06 07 36.8**	**+0.7**	
TIY				pmax	pmax			
	comp=N,210nm,0.9s							
TIY				pmax	pmax			
	comp=N,1μm,4.0s							
MLY	**Manley**	**85.34**	**11**	P		05 57 55.2		
	baz=206,SNR=17							
MLY	**Manley**	**85.34**	**11**	P	**P**	**05 57 54.8**	**-0.5**	
TCUT	**Toone Canyon**	**85.35**	**44**	P	**P**	**05 57 58.1**	**+2.0**	
TCUT				IAmb	IAmb	05 57 59.6		
	comp=Z,28nm,0.8s							
WRH	**Wood River Hil**	**85.37**	**13**	P	**P**	**05 57 55.3**	**0.0**	
WRH				IAmb	IAmb	05 57 58.6		
	comp=Z,27nm,0.8s							
LENM	**Lemitar**	**85.37**	**52**	P	**P**	**05 57 58.9**	**+2.6**	
Y22D	**IRIS PASSCAL I**	**85.37**	**52**	P	**P**	**05 57 57.3**	**+1.0**	
Y22D				IAmb	IAmb	05 58 07.9		
	comp=Z,41nm,0.6s							
HWUT	**Hardware Ranch**	**85.48**	**44**	P	**P**	**05 57 57.9**	**+1.2**	
SLVN	**Son La**	**85.50**	**294**	P	**P**	**05 57 58.1**	**+1.0**	
SLVN				IAmb	IAmb	05 58 00.9		
	comp=Z,92nm,1.1s							
NEW	**Newport**	**85.50**	**36**	P		05 57 57.4		
	baz=237,SNR=28							
NEW	**Newport**	**85.51**	**36**	P	**P**	**05 57 57.4**	**+1.0**	
NEW				pmax	pmax			
	comp=Z,22nm,0.9s							
NEW	**Newport**	**85.51**	**36**	P	**P**	**05 57 57.4**	**+1.0**	
PV05	**Paradox Valley**	**85.53**	**48**	P	**P**	**05 57 59.3**	**+2.3**	
PV05				IAmb	IAmb	05 58 01.2		
	comp=Z,37nm,1.1s							
HDA	**Harding Lake**	**85.56**	**13**	P		05 57 56.3		
	baz=210,SNR=43							
HDA				P		05 57 56.3		
	baz=210,SNR=43							
MNTX	**Cornudas Mount**	**85.57**	**55**	P		05 57 59.2		
	baz=246,SNR=51							
DOT	**Dot Lake**	**85.57**	**15**	P	**P**	**05 57 56.8**	**+0.5**	
DOT				IAmb	IAmb	05 57 58.9		
	comp=Z,23nm,0.7s							
MNTX	**Cornudas Mount**	**85.57**	**55**	P	**P**	**05 57 58.4**	**+1.3**	
MVCO	**Mesa Verde**	**85.57**	**49**	P		05 57 58.7		
	baz=244,SNR=6.8							
MVCO	**Mesa Verde**	**85.57**	**49**	P	**P**	**05 57 57.7**	**+0.4**	
CCB	**Clear Creek Bu**	**85.59**	**13**	P	**P**	**05 57 56.0**	**-0.3**	
CCB				IAmb	IAmb	05 57 58.7		
	comp=Z,19nm,0.7s							
BNM	**Barren Site**	**85.63**	**52**	P	**P**	**05 57 59.3**	**+1.7**	
BCYI	**Bear Canyon**	**85.63**	**41**	P	**P**	**05 57 58.9**	**+1.5**	
L27K	**Beaver Creek,**	**85.63**	**16**	P		05 57 57.2		
	baz=215							
L27K	**Beaver Creek,**	**85.63**	**16**	P	**P**	**05 57 57.5**	**+0.8**	
BCAR	**Beaver Creek A**	**85.65**	**16**	P	**P**	**05 57 56.9**	**+0.2**	
IMAR	**Indian Mountai**	**85.68**	**10**	P	**P**	**05 57 57.2**	**+0.4**	
TPTI		**85.70**	**275**	P	**P**	**05 57 59.0**	**+0.9**	
	comp=Z,27μmcomp=Z,3μmcomp=Z,243nm,1.4s							
PV10	**Paradox Valley**	**85.71**	**48**	P	**P**	**05 57 59.9**	**+1.9**	
PV10				IAmb	IAmb	05 58 03.0		
	comp=Z,36nm,1.0s							
I23K	**Minto, Yukon-K**	**85.71**	**12**	P		05 57 57.2		
	baz=208,SNR=9.4							
I23K	**Minto, Yukon-K**	**85.71**	**12**	P	**P**	**05 57 57.3**	**+0.4**	
PV19	**Morning Glory**	**85.72**	**48**	P	**P**	**05 58 00.1**	**+2.2**	
PV19				IAmb	IAmb	05 58 02.2		
	comp=Z,48nm,1.3s							
PV14	**Lion Creek, Pa**	**85.72**	**48**	P	**P**	**05 57 59.8**	**+1.8**	
PV14				IAmb	IAmb	05 58 01.5		
	comp=Z,35nm,1.0s							
PV17	**East Wray Mesa**	**85.72**	**48**	P	**P**	**05 57 59.6**	**+1.6**	
PV18	**Skein Mesa, Pa**	**85.74**	**48**	P	**P**	**05 57 59.8**	**+1.8**	
PV20	**West Nyswonger**	**85.74**	**48**	P	**P**	**05 57 59.8**	**+1.8**	
PV20				IAmb	IAmb	05 58 01.6		
	comp=Z,32nm,1.0s							
WHY	**Whitehorse**	**85.76**	**20**	P	**P**	**05 57 58.8**	**+1.4**	
PV13	**Radium Mtn., P**	**85.76**	**48**	P	**P**	**05 57 59.8**	**+1.6**	
PV16	**Nyswonger Mesa**	**85.76**	**48**	P	**P**	**05 57 59.8**	**+1.7**	
MDM	**Murphy Dome**	**85.77**	**12**	P	**P**	**05 57 56.8**	**-0.5**	
TCOL	**CIGO, UAF Yank**	**85.77**	**13**	P		05 57 57.1		
	baz=209,SNR=13							
TCOL	**CIGO, UAF Yank**	**85.77**	**13**	P	**P**	**05 57 57.0**	**-0.2**	
TCOL				IAmb	IAmb	05 57 59.0		
	comp=Z,26nm,0.7s							
COLA	**College**	**85.78**	**13**	P		05 57 57.1		
	baz=209							
COLA	**College**	**85.78**	**13**	*d* iP	**P**	**05 57 57.1**	**-0.1**	
COLA				pmax	pmax			
	comp=Z,20nm,0.8s							
COLA	**College**	**85.78**	**13**	P	**P**	**05 57 57.3**	**+0.1**	
COLA				IAmb	IAmb	05 57 59.0		
	comp=Z,26nm,0.7s							
PV03	**Paradox Valley**	**85.79**	**48**	P	**P**	**05 57 59.5**	**+1.2**	
PV11	**David Mesa, Pa**	**85.79**	**48**	P	**P**	**05 57 60.0**	**+1.7**	
PV11				IAmb	IAmb	05 58 02.6		
	comp=Z,39nm,1.2s							
PV04	**Paradox Valley**	**85.81**	**48**	P	**P**	**05 58 00.1**	**+1.8**	
DLBC	**Dease Lake**	**85.83**	**23**	P	**P**	**05 57 59.4**	**+1.6**	
	comp=Z,12nm,0.8s,baz=222,slow=5.6,SNR=24							
DLBC				pP	**pwP**	**06 00 10.1**	**-1.2**	
	comp=Z,13nm,1.2s,baz=220,slow=5.5,SNR=4.1							
DLBC	**Dease Lake**	**85.83**	**23**	P	**P**	**05 57 59.3**	**+1.6**	
PV02	**Paradox Valley**	**85.84**	**48**	P	**P**	**05 58 00.4**	**+1.8**	
PV12	**Saucer Basin,**	**85.85**	**48**	P	**P**	**05 57 59.8**	**+1.2**	
PV12				IAmb	IAmb	05 58 03.0		
	comp=Z,33nm,1.1s							
SCRK	**Sand Creek**	**85.86**	**14**	P		05 57 58.6		
	baz=213,SNR=8.6							
IL31		**85.89**	**13**	P	**P**	**05 57 57.6**	**-0.1**	
ILAR	**Eielson Array**	**85.89**	**13**	P	**P**	**05 57 58.0**	**+0.1**	
	comp=Z,16nm,0.8s,baz=220,slow=5.0,SNR=129							
ILAR				pP	**pP**	**06 00 09.2**	**+0.8**	
	comp=Z,42nm,1.2s,baz=228,slow=5.4,SNR=11							
ILAR				PKKPbc	**PKKPbc**	**06 15 54.2**	**-3.0**	
	comp=Z,0.8nm,0.6s,baz=345,slow=2.3,SNR=9.6							
ILAR				PKPPKP	**P'P'df**	**06 23 55.4**	**-3.5**	
	comp=Z,0.8nm,1.1s,baz=4.5,slow=2.8,SNR=4.9							
ILAR	**Eielson Array**	**85.89**	**13**	P	**

BILL pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 86.44 354 P P 05 58 00.7 +0.3
BILL IAmb IAmb 05 58 03.0
comp=Z,24nm,0.7s
RDOG Red Dog Mine 86.47 6 P 05 58 01.9
baz=195,SNR=5.6
RDOG Red Dog Mine 86.47 6 P P 05 58 01.9 +1.5
USHA Ushuaia 86.48 147 PKKPbc PKKPbc 06 15 54.9 -0.1
comp=Z,57nm,0.4s,baz=233,slow=2.9,SNR=4.4
LHMI Lhok Sumawe 86.53 277 P P 05 58 03.4 +1.4
LHMI Lhok Sumawe 86.53 277 P P 05 58 03.4 +1.4
comp=Z,5μmcomp=Z,8μmcomp=Z,476nm,1.2s
GDL2 Guadalupe Moun 86.56 55 P P 05 58 04.0 +2.1
MSO Missoula 86.58 38 P P 05 58 02.5 +0.8
MSO Missoula 86.58 38 P 05 58 02.3
baz=239,SNR=20
DLMT Dillon 86.65 40 P P 05 58 04.0 +1.9
DLMT IAmb IAmb 05 58 05.5
comp=Z,28nm,0.8s
MLSI Meulaboh, Aceh 86.74 276 P P 05 58 03.6 +0.6
REDW Red Top Meadow 86.78 42 P P 05 58 03.9 +1.1
REDW IAmb IAmb 05 58 06.8
comp=Z,62nm,1.1s
PRP Porcupine Dome 86.83 13 P 05 58 02.5
baz=211,SNR=19
PRP Porcupine Dome 86.83 13 P P 05 58 02.3 -0.1
JTMT Jette 86.85 37 P P 05 58 03.5 +0.6
SNOW Snow King Moun 86.89 42 P P 05 58 04.8 +1.4
SNOW IAmb IAmb 05 58 07.4
comp=Z,54nm,1.0s
LRM Limekiln Ridge 86.97 40 P P 05 58 05.2 +1.6
S22A 4UR Ranch, Cre 87.00 49 P 05 58 06.0
baz=245,SNR=43
O20A White River Ci 87.04 46 P 05 58 05.8
baz=244,SNR=25
O20A White River Ci 87.04 46 P P 05 58 05.3 +1.2
O20A IAmb IAmb 05 58 06.8
comp=Z,33nm,1.1s
LOHW Long Hollow 87.06 42 P P 05 58 05.3 +1.2
DAWY Dawson 87.09 16 P P 05 58 04.5 +0.9
QLMT Earthquake Lak 87.11 41 P P 05 58 06.4 +2.0
EGAK Eagle 87.21 15 P 05 58 05.1
baz=215,SNR=6.8
EGAK Eagle 87.22 15 P P 05 58 04.9 +0.8
FLWY Flagg Ranch 87.22 42 P P 05 58 07.3 +2.5
FLWY IAmb IAmb 05 58 08.7
comp=Z,48nm,0.9s
YHB Horse Butte 87.22 41 P P 05 58 06.1 +1.2
YHB IAmb IAmb 05 58 09.4
comp=Z,61nm,1.0s
YPP Pitchstone Pla 87.24 42 P P 05 58 07.5 +2.5
YHL Hebgen Lake 87.28 41 P P 05 58 07.2 +2.0
YHL IAmb IAmb 05 58 09.9
comp=Z,82nm,1.1s
HHC Hu-ho-hao-te 87.29 314 *e*P **P 05 58 06.6 +1.5**
HHC sP sP 06 01 12.3 -5.4
HHC SKS **SKSac 06 07 33.5 -1.3**
HHC S **ScS 06 07 59.6 +0.4**
HHC SS **SS 06 14 02.8 +3.5**
HHC pmax pmax
comp=Z,110nm,1.2s
HHC pmax pmax
comp=Z,1μm,6.9s
HHC Hu-ho-hao-te 87.29 314 ScS **SS 06 14 02.8 +3.5**
YMR Madison River 87.33 41 P P 05 58 08.1 +2.7
YMR IAmb IAmb 05 58 09.5
comp=Z,40nm,1.0s
BW06 Boulder Array 87.34 43 P 05 58 06.8
baz=243,SNR=33
BW06 Boulder Array 87.34 43 P P 05 58 06.2 +0.8
BW06 IAmb IAmb 05 58 08.3
comp=Z,27nm,0.8s
PD31 Pinedale Array 87.34 43 P P 05 58 06.6 +1.1
PD31 IAmb IAmb 05 58 08.3
comp=Z,24nm,0.8s
PDAR Pinedale Array 87.34 43 P P 05 58 06.5 +1.1
comp=Z,20nm,0.7s,baz=217,slow=3.3,SNR=100
PDAR pP **pP 06 00 16.2 -0.2**
comp=Z,9.4nm,1.1s,baz=220,slow=3.9,SNR=6.3
PDAR PP **PP 06 01 39.9 -2.2**
comp=Z,14nm,1.1s,baz=254,slow=5.5,SNR=9.7
PDAR PKKPbc **PKKPbc 06 15 50.5 -2.6**
comp=Z,2.8nm,0.9s,baz=101,slow=4.2,SNR=11
PDAR PKPPKP **P'P'df 06 23 59.6 +1.4**
comp=Z,0.7nm,0.8s,baz=101,slow=4.7,SNR=4.9
PDAR Pinedale Array 87.34 43 P P 05 58 05.5 +0.1
BOZ Bozeman (W) 87.36 40 P 05 58 07.2
baz=241,SNR=38
BOZ Bozeman (W) 87.36 40 P P 05 58 06.8 +1.4
BOZ pmax pmax
comp=Z,31nm,1.2s
BOZ Bozeman (W) 87.36 40 P P 05 58 06.8 +1.4
BOZ IAmb IAmb 05 58 08.9
comp=Z,31nm,1.1s
COLD Coldfoot 87.42 11 P 05 58 05.7
baz=207,SNR=32
COLD Coldfoot 87.42 11 P P 05 58 05.7 +0.7
COLD IAmb IAmb 05 58 07.6
comp=Z,15nm,0.6s
H17A Grant Village 87.44 42 P 05 58 09.2
baz=242,SNR=47
H17A Grant Village 87.44 42 P P 05 58 08.2 +2.2
H17A IAmb IAmb 05 58 11.0
comp=Z,41nm,0.9s
YHH Holmes Hill 87.46 41 P P 05 58 08.4 +2.4
SMCO Snowmass 87.51 48 P P 05 58 08.1 +1.5
YNR Norris Junctio 87.53 41 P P 05 58 09.2 +2.9
LKWY Lake 87.64 42 P P 05 58 09.6 +2.8
LKWY pmax pmax
comp=Z,38nm,1.0s
LKWY Lake 87.64 42 P P 05 58 09.6 +2.8
LKWY IAmb IAmb 05 58 11.6
comp=Z,38nm,1.0s
WALA Waterton Lakes 87.73 36 P P 05 58 08.5 +1.5
HRY Holter Researc 87.78 39 P P 05 58 08.8 +1.5
FYU Fort Yukon 87.79 13 P P 05 58 06.7 0.0
FYU IAmb IAmb 05 58 08.8
comp=Z,14nm,0.6s
KMI Kunming 87.85 297 ⇓P **P 05 58 10.3 +2.1**
KMI sP sP 06 01 22.9 +1.4
KMI PP **PP 06 01 44.3 -2.1**
KMI SKS **SKSac 06 07 39.6 +0.5**
KMI S **S 06 08 00.1 -0.9**
KMI sS sS 06 11 58.5 +4.2
KMI pmax pmax
comp=Z,120nm,1.1s
KMI pmax pmax
comp=Z,1μm,5.7s
YMP Mirror Lake Pl 87.87 41 P P 05 58 11.1 +3.1
YMP IAmb IAmb 05 58 25.6
comp=Z,40nm,1.4s
YNE Yellowstone No 88.09 41 P P 05 58 10.6 +1.6
YNE IAmb IAmb 05 58 12.8
comp=Z,30nm,1.0s
BTO Baotou 88.24 314 P P 05 58 11.3 +1.8
BTO pmax pmax
comp=Z,150nm,1.4s
RWWY Rawlins 88.43 45 P P 05 58 12.1 +1.5
RWWY IAmb IAmb 05 58 13.6
comp=Z,41nm,1.1s
MSTX Muleshoe 88.48 54 P P 05 58 12.3 +1.5
MSTX IAmb IAmb 05 58 13.9
comp=Z,38nm,1.0s
MSTX Muleshoe 88.48 54 P 05 58 12.3
baz=247
T25A Trinidad 88.50 50 P P 05 58 12.3 +1.4
T25A Trinidad 88.50 50 P 05 58 12.3
baz=246,SNR=7.4
RLMT Red Lodge 88.61 41 P P 05 58 13.4 +2.1
RLMT IAmb IAmb 05 58 15.4
comp=Z,26nm,0.9s
RLMT Red Lodge 88.61 41 P 05 58 13.4
baz=243,SNR=34
BMAR Burnt Mountain 88.66 12 P P 05 58 11.6 +0.8
GCMT Greycliff 88.67 41 P P 05 58 13.5 +2.1
Q24A Divide 88.71 48 P 05 58 14.3
baz=246,SNR=9.2
ISCO Idaho Springs 88.72 47 P 05 58 14.0
baz=245,SNR=9.4
ISCO Idaho Springs 88.72 47 P P 05 58 14.0 +1.9
ISCO pmax pmax
comp=Z,18nm,1.5s
ISCO Idaho Springs 88.72 47 P P 05 58 14.0 +1.9
TOLK Toolik Lake Re 88.79 10 P 05 58 12.0
baz=207,SNR=12
TOLK Toolik Lake Re 88.79 10 P P 05 58 12.0 +0.7
CM31 Chiang Mai Arr 88.90 290 P P 05 58 14.8 +1.8
CMAR Chiang Mai Arr 88.90 290 P P 05 58 14.9 +2.0
comp=Z,96nm,0.9s,baz=110,slow=2.8,SNR=335
CMAR pP **pP 06 00 26.9 +1.8**
comp=Z,2.0nm,0.3s,baz=106,slow=3.2,SNR=3.7
CMAR PP **PP 06 01 57.5 +3.1**
comp=Z,11nm,0.9s,baz=128,slow=6.3,SNR=5.7
CMAR PKKPbc **PKKPbc 06 15 48.9 +0.9**
comp=Z,1.2nm,0.3s,baz=290,slow=4.1,SNR=8.3
CMAR Chiang Mai Arr 88.90 290 P P 05 58 13.7 +0.8
N23A Red Feather La 88.95 46 P 05 58 15.0
baz=245,SNR=37
CHTO Chiang Mai 89.02 290 P P 05 58 14.8 +1.3
CHTO pmax pmax
comp=Z,117nm,0.9s
CHTO Chiang Mai 89.02 290 P P 05 58 14.8 +1.3
CD2 Chengdu 89.08 303 P P 05 58 15.1 +1.5
CD2 S **S 06 08 11.3 -0.3**
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,1μm,5.7s
833A Chaparral WMA, 89.09 60 P 05 58 17.0
baz=249,SNR=5.7
SYO Syowa Base 89.15 193 ⇓*i*P **P 05 58 13.6 +0.5**
SYO Syowa Base 89.15 193 ⇓*i*PcP **PcP 05 58 15.9 +1.9**
K22A Casper 89.30 45 P P 05 58 15.3 +0.8
K22A IAmb IAmb 05 58 17.6
comp=Z,19nm,0.9s
K22A Casper 89.30 45 P 05 58 16.0
baz=245,SNR=12
LL01 San Ignacio de 89.36 135 P P 05 58 17.6 +2.9
PHWY Pilot Hill 89.45 46 P P 05 58 16.2 +0.8
PHWY IAmb IAmb 05 58 18.8
comp=Z,17nm,0.9s
JCT Junction City 89.52 58 P 05 58 17.3
baz=249,SNR=13
JCT Junction City 89.52 58 P P 05 58 17.2 +1.5
JCT pmax pmax
comp=Z,15nm,0.8s
JCT Junction City 89.52 58 P P 05 58 17.2 +1.5
JCT IAmb IAmb 05 58 19.1
comp=Z,15nm,0.8s
YAK Yakutsk 89.59 338 P P 05 58 14.5 -0.7
comp=Z,27nm,0.7s,baz=190,slow=0.5,SNR=9.8
YAK Yakutsk 89.59 338 *e*P **P 05 58 13.9 -1.2**
YAK *e*S **SKSac 06 07 44.5 -2.4**
YAK pmax pmax
comp=E,3.0nm,0.6s
YAK pmax pmax
comp=Z,38nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=Z,17nm,0.7s
YAK smax smax
comp=N,105nm,11.5s
YAK smax smax
comp=E,719nm,15.4s
YAK Yakutsk 89.59 338 P P 05 58 14.4 -0.7
EPYK Eagle Plains 89.60 16 P 05 58 16.0
baz=219,SNR=6.0
EGMT Eagleton 89.64 39 P 05 58 17.3
baz=242,SNR=7.4
EGMT Eagleton 89.64 39 P P 05 58 17.3 +1.5
AMTX Amarillo 89.66 53 P 05 58 17.7
baz=248
AMTX Amarillo 89.66 53 P P 05 58 17.0 +0.7
AMTX IAmb IAmb 05 58 19.6
comp=Z,23nm,0.9s
A21K Barrow 90.26 7 P P 05 58 18.2 +0.2
A21K Barrow 90.26 7 P 05 58 18.7
baz=201
ABTX Abilene, Hawle 90.42 56 P 05 58 21.5
baz=249,SNR=47
ABTX Abilene, Hawle 90.42 56 P P 05 58 21.5 +1.8
KSCO Kaye Shedlock' 90.53 49 P 05 58 23.6
baz=247
KSCO Kaye Shedlock' 90.53 49 P P 05 58 22.6 +2.4
KSCO IAmb IAmb 05 58 25.1
comp=Z,39nm,1.1s
SNAA Sanae 90.59 179 P P 05 58 20.2 +0.3
SNAA Sanae 90.59 179 PKiKP **PKiKP 06 03 10.2 +0.7**
SNAA Sanae 90.59 179 pP pP 06 00 31.6 -0.4
SNAA Sanae 90.59 179 *ce*P **P 05 58 20.3 +0.4**
SNAA pmax pmax
comp=Z,54nm,1.0s
SNAA Sanae 90.59 179 P P 05 58 20.0 +0.1
SNAA IAmb IAmb 05 58 21.6
comp=Z,71nm,1.2s
VNA3 Neumayer Olymp 90.73 176 P P 05 58 21.3 +0.8
VNA3 Neumayer Olymp 90.73 176 PKiKP **PKiKP 06 03 09.8 +0.1**
VNA3 Neumayer Olymp 90.73 176 PP PP 06 02 07.3 +0.6
VNA3 Neumayer Olymp 90.73 176 pP pP 06 00 34.1 +1.6
VNA3 Neumayer Olymp 90.73 176 sP sP 06 01 33.7 +0.2
LZH Lanzhou 90.91 308 ⇓P **P 05 58 24.0 +1.9**
LZH pP pP 06 00 37.8 +3.0
LZH sP sP 06 01 36.8 +1.0
LZH PP **PP 06 02 09.6 -0.4**
LZH SKS **SKSac 06 07 55.0 -1.0**
LZH S **ScS 06 08 30.8 +1.2**
LZH sS sS 06 12 23.8 +0.7
LZH pmax pmax
comp=Z,200nm,1.2s
LZH pmax pmax
comp=Z,820nm,4.6s
VNA2 Neumayer--Watz 91.17 177 P P 05 58 23.8 +1.3
baz=179,slow=4.0
VNA2 Neumayer--Watz 91.17 177 PKiKP **PKiKP 06 03 10.5 +0.1**
VNA2 Neumayer--Watz 91.17 177 PP PP 06 02 10.1 +0.1
VNA2 Neumayer--Watz 91.17 177 pP pP 06 00 35.8 +1.2
VNA2 Neumayer--Watz 91.17 177 sP sP 06 01 36.6 +0.9
LAO LASA Array 91.20 41 P 05 58 25.5
baz=245
LAO LASA Array 91.21 41 P P 05 58 25.5 +2.5
LAO IAmb IAmb 05 58 27.4
comp=Z,48nm,1.0s
PLCA Paso Flores 91.31 134 P P 05 58 25.5 +1.6
comp=Z,4.8nm,0.9s,baz=256,slow=7.0,SNR=8.7
PLCA pP **pwP 06 00 37.6 -0.8**
comp=Z,11nm,1.0s,baz=247,slow=8.0,SNR=8.4
PLCA PKKPbc **PKKPbc 06 15 42.1 -0.8**
comp=Z,4.9nm,0.9s,baz=156,slow=1.2,SNR=7.7
PLCA PKPPKP **P'P'df 06 23 53.0 +0.6**
comp=Z,3.8nm,1.1s,baz=342,slow=3.9,SNR=3.7
VNA1 Neumayer--Stat 91.40 177 P P 05 58 24.9 +1.4
VNA1 Neumayer--Stat 91.40 177 PKiKP **PKiKP 06 03 11.3 +0.6**
VNA1 Neumayer--Stat 91.40 177 PP PP **06 02 11.6 +0.1**
VNA1 Neumayer--Stat 91.40 177 pP pP 06 00 36.9 +1.5
435B Jarrell 91.42 58 P P 05 58 26.0 +1.6
435B IAmb IAmb 05 58 27.7
comp=Z,16nm,0.9s
CCIG Comitan 91.46 73 P P 05 58 27.9 +2.8
CCIG IAmb IAmb 05 58 29.4
comp=Z,17nm,1.2s
RSSD Black Hills 91.56 44 P 05 58 26.3
baz=246
RSSD Black Hills 91.56 44 P P 05 58 26.1 +1.1
RSSD pmax pmax
comp=Z,19nm,1.0s
RSSD Black Hills 91.56 44 P P 05 58 26.1 +1.1
RSSD IAmb IAmb 05 58 28.0
comp=Z,19nm,0.9s
OGNE Ogallala 91.69 47 P 05 58 26.8
baz=248
WMOK Wichita Mounta 91.83 54 P 05 58 27.5
baz=250,SNR=9.0
WMOK Wichita Mounta 91.83 54 P P 05 58 27.0 +0.8
WMOK pmax pmax
comp=Z,7.0nm,1.1s
WMOK Wichita Mounta 91.83 54 P P 05 58 27.0 +0.8
INK Inuvik 91.89 15 P P 05 58 25.4 -0.1
comp=Z,15nm,0.8s,baz=225,slow=4.6,SNR=60
INK pP **pP 06 00 38.2 +0.5**
comp=Z,6.6nm,1.2s,baz=248,slow=4.8,SNR=3.6
INK PP **PP 06 02 10.3 -6.2**
comp=Z,8.9nm,1.1s,baz=204,slow=10,SNR=3.6
INK PKKPbc **PKKPdf 06 15 40.2 +0.8**
comp=Z,0.9nm,0.6s,baz=35,slow=3.6,SNR=6.0
INK PKPPKP 06 23 47.4
comp=Z,1.6nm,1.0s,baz=26,slow=1.7,SNR=3.8
INK Inuvik 91.89 15 P P 05 58 25.4 -0.1
INK IAmb IAmb 05 58 28.7
comp=Z,15nm,0.8s
WHTX Lake Whitney, 91.93 57 P 05 58 28.5
baz=250
WHTX Lake Whitney, 91.93 57 P P 05 58 28.3 +1.6
U32A Winter Ranch, 92.24 53 P P 05 58 29.0 +0.9
U32A IAmb IAmb 05 58 31.7
comp=Z,49nm,1.1s
Z35A Perchaven, San 92.55 56 P P 05 58 31.4 +1.9
Z35A IAmb IAmb 05 58 32.4
comp=Z,19nm,0.9s
CBKS Cedar Bluff 92.55 50 P P 05 58 31.6 +2.2
CBKS pmax pmax
comp=Z,31nm,1.0s
CBKS Cedar Bluff 92.55 50 P P 05 58 31.6 +2.2
CBKS IAmb IAmb 05 58 33.0
comp=Z,31nm,1.0s
CBKS Cedar Bluff 92.55 50 P 05 58 31.9
baz=249,SNR=5.4
HKT Hockley 92.57 59 P P 05 58 31.9 +2.3
HKT pmax pmax
comp=Z,13nm,1.5s
HKT Hockley 92.57 59 P P 05 58 31.9 +2.3
OK032 Salt Plains WL 92.98 52 P P 05 58 33.2 +1.8
OK032 IAmb IAmb 05 58 34.9
comp=Z,41nm,0.9s
BCOK Bluff Creek, N 93.05 54 P P 05 58 33.2 +1.5
BCOK IAmb IAmb 05 58 35.1
comp=Z,35nm,1.1s
CROK Carrier 93.05 53 P P 05 58 33.0 +1.2
CROK IAmb IAmb 05 58 35.6
comp=Z,36nm,0.9s
FNO Franklin 93.08 54 P P 05 58 33.4 +1.5
FNO IAmb IAmb 05 58 35.5
comp=Z,25nm,0.9s
OKCFA Oklahoma City 93.09 54 P P 05 58 33.2 +1.3
OKCFA IAmb IAmb 05 58 34.8
comp=Z,18nm,0.7s
R32A Long Quarter, 93.17 51 P P 05 58 34.1 +1.9
ULN Ulaanbaatar 93.17 319 *ce*P **P 05 58 32.1 -0.1**
ULN pmax pmax
comp=Z,43nm,1.0s
ULN Ulaanbaatar 93.17 319 P P 05 58 32.7 +0.5
ULN IAmb IAmb 05 58 33.8
comp=Z,41nm,0.9s
KAN10 Anthony SW Sta 93.18 52 P P 05 58 33.7 +1.4
KAN10 IAmb IAmb 05 58 35.8
comp=Z,27nm,1.0s
DGMT Dagmar 93.19 40 P P 05 58 33.2 +1.1
DGMT Dagmar 93.19 40 P 05 58 34.0
baz=247
237A Washetta, Mont 93.26 58 P P 05 58 35.7 +2.9
237A IAmb IAmb 05 58 36.9
comp=Z,25nm,0.9s
MTO3 Montecristo 93.44 76 P P 05 58 37.1 +2.9
KAN01 Argonia South 93.44 52 P P 05 58 34.4 +0.9
KAN01 IAmb IAmb 05 58 36.6
comp=Z,25nm,0.9s
KAN09 Caldwell North 93.54 52 P P 05 58 35.8 +1.9
KAN09 IAmb IAmb 05 58 37.6
comp=Z,35nm,1.0s
SONM Songino Array 93.57 319 P P 05 58 34.0 0.0
comp=Z,12nm,0.9s,baz=111,slow=3.7,SNR=75
SONM PP **PP 06 02 25.1 -5.1**
comp=Z,3.5nm,1.0s,baz=123,slow=7.8,SNR=4.1
SONM PKiKP **PKiKP 06 03 15.3 +0.1**
comp=Z,1.0nm,0.5s,baz=51,slow=0.8,SNR=6.5
SONM PKKPbc **PKKPdf 06 15 36.7 +0.8**
comp=Z,0.6nm,0.4s,baz=250,slow=3.1,SNR=3.1
SONM Songino Array 93.57 319 P P 05 58 34.0 0.0
SONM Songino Array 93.57 319 P P 05 58 34.0 0.0
SONM IAmb IAmb 05 58 35.4
comp=Z,20nm,1.1s
KAN13 South Haven SW 93.61 52 P P 05 58 35.0 +0.8
KAN13 IAmb IAmb 05 58 38.0
comp=Z,37nm,1.0s
BOD Bodaibo 93.68 330 *e*P **P 05 58 33.4 -0.6**
BOD pmax pmax
comp=Z,20nm,1.4s
OK031 S. Brethren Rd 93.74 54 P P 05 58 35.6 +0.7
OK031 IAmb IAmb 05 58 49.5
comp=Z,10.0nm,1.0s
OK030 Cody Creek RV 93.77 54 P P 05 58 35.8 +0.7
OK030 IAmb IAmb 05 58 38.3
comp=Z,16nm,1.2s
T35A Sooner Cattle 94.30 53 P P 05 58 39.2 +1.8
T35A IAmb IAmb 05 58 41.6
comp=Z,17nm,1.0s
YKA Yellowknife Ar 94.33 25 P P 05 58 37.4 +0.5
comp=Z,7.3nm,0.9s,baz=238,slow=4.1,SNR=74
YKA pP **pP 06 00 50.6 +1.6**
comp=Z,6.3nm,1.1s,baz=240,slow=3.8,SNR=4.5
YKA PP **PP 06 02 29.9 -5.5**
comp=Z,4.5nm,1.1s,baz=236,slow=6.9,SNR=5.2
YKA PKiKP **PKiKP 06 03 15.8 -0.1**
comp=Z,0.9nm,0.8s,baz=244,slow=1.0,SNR=5.7
YKA PKKPbc **PKKPdf 06 15 32.6 -2.2**
comp=Z,0.6nm,0.5s,baz=50,slow=2.7,SNR=16
YKA PKPPKP 06 23 41.7
comp=Z,0.3nm,0.8s,baz=61,slow=2.1,SNR=4.1
LKP Lekhapani 94.42 297 *e*P **P 05 58 38.3 +0.1**
LKP *i* PP **PP 06 02 33.7 -3.2**
K31A O'Neill 94.58 47 P P 05 58 40.1 +1.5
BGNE Belgrade 94.59 48 P P 05 58 40.5 +1.9
KSU1 Kansas State U 94.94 51 P 05 58 42.4
baz=251,SNR=16
KSU1 Kansas State U 94.94 51 P P 05 58 42.0 +1.8
KSU1 IAmb IAmb 05 58 44.1
comp=Z,26nm,0.8s
GTA Gaotai 95.05 310 ⇓P **P 05 58 41.3 +0.4**
GTA pP pP 06 00 58.8 +4.8
GTA sP sP 06 01 51.3 -3.6
GTA PP **PP 06 02 44.3 +2.6**
GTA SKS **SKSac 06 08 17.8 -0.4**
GTA S **ScS 06 09 06.8 +2.9**
GTA sS sS 06 12 54.4 -7.4
GTA pmax pmax
comp=Z,29nm,1.1s
GTA pmax pmax
comp=Z,350nm,6.4s
C36M Paulatuk 95.09 17 P 05 58 40.9
baz=231
C36M Paulatuk 95.10 17 P P 05 58 40.5 +0.4
C36M IAmb IAmb 05 58 42.8
comp=Z,8.1nm,0.7s
MOKO MOKOCHONG 95.25 296 *e*P **P 05 58 42.7 +0.6**
IMP Imphal 95.30 294 *e*P **P 05 58 40.2 -2.1**
IMP *i* PP **PP 06 02 43.2 -0.6**
KOHI KOHIMA 95.42 295 *e*P **P 05 58 40.8 -2.1**
KOHI *i* PP **PP 06 02 42.0 -2.8**
SAIH SAIHA 95.46 292 *e*P **P 05 58 41.4 -1.7**
SAIH *i* PP **PP 06 02 42.0 -3.0**
U38A Gravette 95.78 54 P **P 05 58 47.6 +3.6**
TIXI Tiksi 96.17 345 ⇓*i*P **P 05 58 44.4 -0.5**
ITAN ITANAGAR 96.17 296 *e*P **P 05 58 45.2 -0.8**
ITAN *i* PP **PP 06 02 48.0 -2.2**
ZIRO ZIRO 96.17 297 *e*P **P 05 58 45.9 -0.4**
ZIRO *i* PP **PP 06 02 48.0 -2.5**
SILR SILCHAR 96.28 294 *i* PP **PP 06 02 52.8 +1.7**
ZAK Zakamensk 96.40 321 *e*P **P 05 58 46.4 -0.3**
ZAK pmax pmax
comp=Z,12nm,1.1s
ECSD EROS Data Cent 96.42 46 P 05 58 47.7
baz=252
ECSD EROS Data Cent 96.42 46 P P 05 58 47.8 +1.0
TLY Talaya 96.64 322 P P 05 58 47.1 -0.5
comp=Z,4.6nm,0.7s,baz=230,slow=1.6,SNR=9.8
TLY Talaya 96.64 322 *e*P **P 05 58 47.3 -0.3**
TLY pmax pmax
comp=Z,23nm,1.1s
TLY Talaya 96.64 322 P P 05 58 47.0 -0.6
TLY IAmb IAmb 05 58 48.7
comp=Z,12nm,1.1s
U40A Yellville 96.93 54 P 05 58 51.3
baz=253
U40A Yellville 96.93 54 P P 05 58 51.5 +2.3
S39A Bolivar 96.96 53 P P 05 58 51.5 +2.2
S39A IAmb IAmb 05 58 53.2
comp=Z,5.2nm,0.8s
BELO BELONIA 97.03 292 *e*P **P 05 58 49.0 -0.9**
344A Westbrook Farm 97.21 59 IAmb IAmb 05 58 58.0
comp=Z,11nm,0.8s
SHL Shillong 97.30 294 P Pdif 05 58 51.1 -0.3
SHL pmax pmax
comp=Z,26nm,0.9s
SHL Shillong 97.30 294 P Pdif 05 58 51.1 -0.3

SHL IAmb IAmb 05 58 54.8
comp=Z,26nm,0.9s
F33A 5 Mile Ranch, 97.30 44 P **P** **05 58 52.0 +1.4**
F33A IAmb IAmb 05 58 54.5
comp=Z,16nm,1.3s
AGT Agartala 97.39 293 *e*P Pdif 05 58 50.3 -1.2
AGT *i* PP **PP** **06 02 55.2 -4.3**
GUWA GUWAHATI 97.64 295 *e*P Pdif 05 58 50.9 -1.7
GUWA *i* PP **PP** **06 02 58.8 -2.6**
ULM Lac du Bonnet 98.91 40 pP **pP** **06 01 10.4 -0.1**
comp=Z,6.2nm,1.1s,baz=254,slow=5.9,SNR=3.5
ULM PP **PP** **06 03 06.0 -4.2**
comp=Z,9.5nm,1.1s,baz=256,slow=6.5,SNR=5.8
ULM PKKPbc **PKKPbc** **06 15 23.0 -0.1**
comp=Z,2.3nm,0.9s,baz=32,slow=9.3,SNR=3.2
LSA Lhasa 99.05 298 Pdiff **Pdif** **05 59 00.9 +1.5**
DHUB DHUBRI 99.06 294 *e*P **Pdif** **05 58 58.5 -0.4**
GTK Tadong 100.60 295 *e*P **Pdif** **05 59 06.7 +0.8**
GTK *i* PP **PP** **06 03 20.2 -3.4**
LPAZ La Paz 103.38 112 Pdiff **Pdif** **05 59 23.8 +4.6**
comp=Z,1.4nm,0.9s,baz=155,slow=4.9,SNR=4.3
LPAZ PKKPbc **PKKPbc** **06 15 10.8 +0.5**
comp=Z,1.5nm,0.3s,baz=30,slow=2.8,SNR=9.0
ROSC El Rosal 104.85 90 PKKPbc PKKPbc 06 15 06.4 +0.9
comp=Z,3.4nm,0.4s,baz=117,slow=23,SNR=4.7
RES Resolute Bay 105.43 16 Pdiff **Pdif** **05 59 27.6 +1.5**
comp=Z,0.8nm,0.8s,baz=209,slow=14,SNR=2.4
RES PKiKP **PKiKP** **06 03 35.4 -0.2**
comp=Z,1.5nm,0.7s,baz=224,slow=4.4,SNR=6.3
RES PKKPbc **PKKPbc** **06 15 02.9 -1.9**
comp=Z,2.7nm,0.8s,baz=62,slow=3.8,SNR=5.2
ZSN Zaisan 107.48 315 *e*PKiKP **PKiKP** **06 03 39.5 -0.7**
baz=315
CPUP Villa Florida 107.82 126 PKKP **PKKPdf** **06 15 05.8 -2.2**
comp=Z,2.0nm,0.8s,baz=344,slow=16,SNR=2.0
ZALV Zalesovo Beam 108.25 322 Pdiff **Pdif** **05 59 39.2 +0.1**
comp=Z,3.4nm,0.9s,baz=124,slow=7.4,SNR=8.7
ZALV PKiKP **PKiKP** **06 03 40.8 -0.5**
comp=Z,13nm,0.8s,baz=117,slow=1.0,SNR=24
ZALV Zalesovo Beam 108.25 322 PKiKP **PKiKP** **06 03 40.2 -1.1**
MKAR Makanchi Array 109.15 314 Pdiff **Pdif** **05 59 44.2 +0.8**
comp=Z,2.2nm,0.9s,baz=84,slow=5.7,SNR=15
MKAR PKiKP **PKiKP** **06 03 42.9 -0.4**
comp=Z,11nm,0.5s,baz=150,slow=0.5,SNR=128
MKAR PKKPbc **PKKPbc** **06 14 52.4 -0.3**
comp=Z,1.4nm,0.7s,baz=262,slow=4.7,SNR=6.7
MKAR Makanchi Array 109.15 314 PKiKP **PKiKP** **06 03 41.9 -1.4**
SDV Santo Domingo 109.50 87 PKiKP **PKiKP** **06 03 43.3 -1.9**
comp=Z,2.1nm,0.4s,baz=241,slow=6.3,SNR=5.9
SDV S **SKSac** **06 09 28.2 +1.7**
comp=Z,1.4nm,0.3s,baz=311,slow=22,SNR=14
SDV PKKP **PKKPdf** **06 15 05.8 +0.3**
comp=Z,7.8nm,0.9s,baz=98,slow=3.9,SNR=7.0
SIV San Ignacio 109.67 115 PKiKP **PKiKP** **06 03 44.8 -0.4**
comp=Z,0.4nm,0.5s,baz=341,slow=1.9,SNR=4.1
SIV PKKPbc **PKKPbc** **06 14 49.5 -1.1**
comp=Z,7.5nm,0.8s,baz=90,slow=5.4,SNR=22
SIV PKKP **PKKPdf** **06 15 04.6 0.0**
comp=Z,5.9nm,0.8s,baz=89,slow=6.9,SNR=11
SEM Semipalatinsk 110.79 318 *e*PKiKP **PKiKP** **06 03 45.3 -1.4**
baz=318
SEM Semipalatinsk 110.79 318 *i* PKIKP **PKiKP** **06 03 45.2 -1.4**
SHLS Shalkode 110.79 310 *e*PKiKP **PKiKP** **06 03 45.7 -1.0**
baz=310
SHLS *e*PP **PP** **06 04 33.1 -3.8**
baz=310
SHLS Shalkode 110.79 310 *i* PKIKP **PKiKP** **06 03 45.7 -1.0**
SHLS *e* 06 04 33.1
UZB Uzynbulak 111.11 310 *e*PKiKP **PKiKP** **06 03 46.7 -0.7**
baz=310
UZB Uzynbulak 111.11 310 *i* PKIKP **PKiKP** **06 03 46.7 -0.7**
KPKS Kokpek 111.38 310 *e*PKiKP **PKiKP** **06 03 46.8 -1.0**
baz=310
KPKS Kokpek 111.38 310 *i* PKIKP **PKiKP** **06 03 46.7 -1.0**
SATY Saty 111.55 310 *e*PKiKP **PKiKP** **06 03 47.9 -0.3**
baz=310
SATY *e*PP **PP** **06 04 40.9 -1.4**
baz=310
SATY Saty 111.55 310 *i* PKIKP **PKiKP** **06 03 47.8 -0.3**
SATY *e* 06 04 40.9
TDK Taldyqorghan 111.70 312 *e*PKiKP **PKiKP** **06 03 47.6 -0.7**
baz=312
TDK *e*PP **PP** **06 04 41.3 -1.8**
baz=312
TDK Taldyqorghan 111.70 312 *i* PKIKP **PKiKP** **06 03 47.5 -0.7**
TDK *e* 06 04 41.2
KURBB Kurchatov Arra 111.89 318 PKKPbc PKKPbc 06 14 43.9 -0.1
comp=Z,1.8nm,0.7s,baz=268,slow=3.8,SNR=9.0
MDOK Medeo 112.55 310 *e*PKiKP **PKiKP** **06 03 49.3 -0.8**
baz=310
MDOK *e*PP **PP** **06 04 47.4 -1.9**
baz=310
MDOK Medeo 112.55 310 *i* PKIKP **PKiKP** **06 03 49.3 -0.8**
MDOK *e* 06 04 47.4
TNSS Tian-Shan 112.62 310 *e*PKiKP **PKiKP** **06 03 50.3 -0.3**
baz=310
TNSS Tian-Shan 112.62 310 *i* PKIKP **PKiKP** **06 03 50.3 -0.3**
CHKK Chushkaly 112.64 311 *e*PKiKP **PKiKP** **06 03 49.5 -0.6**
baz=311
CHKK Chushkaly 112.64 311 *i* PKIKP **PKiKP** **06 03 49.5 -0.6**
AAA Alma-Ata 112.65 310 *e*PKiKP **PKiKP** **06 03 50.1 -0.1**
baz=310
AAA Alma-Ata 112.65 310 *i* PKIKP **PKiKP** **06 03 50.1 -0.1**
ULHL Ulahol 113.09 309 P **PKiKP** **06 03 51.5 +0.3**
SNR=23
KSH Kashi 113.09 306 PKP **PKiKP** **06 03 52.6 +1.4**
KSH PP **PP** **06 04 57.1 +3.9**
KSH sPKP 06 07 09.8
KSH AMB AMB
comp=Z,1μm,7.0s
KUU Kurty 113.11 311 *e*PKiKP **PKiKP** **06 03 49.8 -1.2**
baz=311
KUU Kurty 113.11 311 *i* PKIKP **PKiKP** **06 03 49.8 -1.2**
TKM2 Tokmak 2 113.60 310 P **PKiKP** **06 03 51.7 -0.5**
SNR=23
CHMS Chumysh 114.22 310 P **PKiKP** **06 03 53.2 0.0**
SNR=13
SGDS Sogindy 114.33 310 *e*PKP PKPdf 06 03 52.7 -0.7
baz=310
SGDS Sogindy 114.33 310 *e*PKIKP PKPdf 06 03 52.7 -0.7
UCH Uchtor 114.37 309 P **PKiKP** **06 03 54.2 +0.2**
SNR=24
AAK Ala-Archa 114.40 309 PKKPab PKKPab 06 14 43.4 +0.7
comp=Z,2.7nm,0.7s,baz=229,slow=4.8,SNR=6.1
AAK Ala-Archa 114.40 309 P **PKiKP** **06 03 53.8 +0.2**
SNR=13
AAK Ala-Archa 114.40 309 *i* PKPdf PKPdf 06 03 53.5 -0.2
SNR=16
USP Ospenovka 114.42 310 P **PKiKP** **06 03 53.6 +0.1**
SNR=30
BTLS Baital 114.79 312 *e*PKP PKPdf 06 03 53.7 -0.5
baz=312
BTLS Baital 114.79 312 *e*PKIKP PKPdf 06 03 53.6 -0.5
EKS2 Erkin-Say 114.93 309 P **PKiKP** **06 03 55.0 +0.4**
SNR=20
AML Almayashu 114.97 309 P **PKiKP** **06 03 55.3 +0.2**
SNR=33
BRZS Berezniki 115.65 317 *e*PKP **PKPdf** **06 03 54.6 -1.0**
baz=317
BRZS Berezniki 115.65 317 *e*PKIKP **PKPdf** **06 03 54.6 -1.0**
PDPR Patillas Dam, 116.03 78 PKPdf **PKPdf** **06 03 57.1 -0.1**
PTGA Pitinga 116.70 100 PKP **PKiKP** **06 03 58.8 +0.1**
comp=Z,3.8nm,0.5s,baz=214,slow=2.0,SNR=14
PTGA PKKPbc **PKKPbc** **06 14 26.6 -0.6**
comp=Z,15nm,0.8s,baz=64,slow=3.8,SNR=27
PTGA PKKPab **PKKPab** **06 14 34.3 +0.5**
comp=Z,16nm,0.8s,baz=53,slow=5.8,SNR=14
PTGA Pitinga 116.70 100 PKPdf **PKPdf** **06 03 58.6 -0.1**
DZA Taraz 116.73 309 *e*PKP **PKPdf** **06 03 57.7 -0.3**
baz=310
DZA Taraz 116.73 309 *e*PKIKP **PKPdf** **06 03 57.7 -0.3**
BRVK Borovoye 116.92 321 PKIKP **PKPdf** **06 03 57.8 -0.2**
BRVK Borovoye 116.92 321 PKPdf **PKPdf** **06 03 57.8 -0.2**
KK31 Karatay Array 117.33 310 PKIKP **PKPdf** **06 03 59.0 -0.1**
KK31 Karatay Array 117.33 310 PKPdf **PKPdf** **06 03 59.0 -0.1**
KKAR Karatay Array 117.33 310 PKIKP **PKPdf** **06 03 59.0 -0.1**
KKAR Karatay Array 117.33 310 **PKPdf** **06 03 59.0 -0.1**
KKAR Karatay Array 117.33 310 PKPdf **PKPdf** **06 03 59.1 -0.1**
NUUG Nuugaatsiaq 117.69 17 *i* P **PKiKP** **06 03 59.1 +0.2**
NUUG IAmb IAmb 06 04 00.2
comp=Z,11nm,0.7s
IUG luzhnay 117.70 309 *e*PKP **PKPdf** **06 03 60.0 0.0**
baz=309
IUG *e*PP **PP** **06 05 23.8 -0.9**
baz=309
IUG luzhnay 117.70 309 *e*PKIKP **PKPdf** **06 03 59.9 0.0**
IUG *e* 06 05 23.8
BRLS Boroldaу 117.83 310 *e*PKP **PKPdf** **06 03 59.8 -0.3**
baz=309
BRLS Boroldaу 117.83 310 *e*PKIKP **PKPdf** **06 03 59.8 -0.3**
KBL Kabul 118.30 300 PKIKP **PKiKP** **06 04 02.3 +0.7**
KBL Kabul 118.30 300 PKPdf **PKiKP** **06 04 02.3 +0.7**
KBS Kingsbay 118.75 358 *e*PKPdf **PKiKP** **06 04 01.9 +0.9**
LMN Caledonia Moun 119.01 47 **PKiKP** **06 04 02.5 +0.1**
SPA0 Spitsbergen Ar 119.28 357 *e*PKPdf **PKiKP** **06 04 02.3 +0.3**
ILULI Ilulissat 119.44 19 *i* P **PKiKP** **06 04 02.4 0.0**
ILULI Ilulissat 119.44 19 *i* PKIKP **PKiKP** **06 04 02.4 0.0**
ILULI Ilulissat 119.44 19 **PKPdf** **06 04 02.2 -0.2**
ILULI Ilulissat 119.44 19 *i* P **PKiKP** **06 04 02.4 0.0**
HOPEN Hopen 120.15 354 *e*PKPdf **PKiKP** **06 04 03.7 0.0**
DAG Danmarks Havn 120.21 5 *i* P **PKPdf** **06 04 02.6 -1.0**
comp=Z,19nm,1.2s
DAG Danmarks Havn 120.21 5 *i* PKIKP **PKPdf** **06 04 02.6 -1.0**
DAG Danmarks Havn 120.21 5 *i* P **PKPdf** **06 04 02.7 -1.0**
DAG IAmb IAmb 06 04 03.5
comp=Z,19nm,1.2s
SFJD Kangerlussuaq 120.69 21 *i* P **PKPdf** **06 04 04.4 -0.4**
comp=Z,5.1nm,0.7s
SFJD Kangerlussuaq 120.69 21 *i* PKIKP **PKPdf** **06 04 04.4 -0.4**
SFJD Kangerlussuaq 120.69 21 *i* P **PKPdf** **06 04 04.4 -0.4**
SFJD IAmb IAmb 06 04 05.1
comp=Z,5.1nm,0.7s
SUMG Summit 120.73 13 *i* P **PKiKP** **06 04 06.2 +0.8**
comp=Z,11nm,0.9s
SUMG Summit 120.73 13 PKIKP **PKiKP** **06 04 06.0 +0.5**
SUMG Summit 120.73 13 PKPdf **PKiKP** **06 04 06.0 +0.5**
SUMG Summit 120.73 13 *i* P **PKiKP** **06 04 06.2 +0.8**
SUMG IAmb IAmb 06 04 07.2
comp=Z,11nm,0.9s
BDFB Brasilia 120.82 121 PKP **PKPdf** **06 04 06.7 -0.1**
comp=Z,3.2nm,0.6s,baz=200,slow=5.9,SNR=6.1
BDFB PKKPbc **PKKPbc** **06 14 14.1 +0.9**
comp=Z,8.1nm,0.7s,baz=87,slow=2.7,SNR=12
BDFB Brasilia 120.82 121 PKIKP **PKiKP** **06 04 07.1 +0.2**
BDFB Brasilia 120.82 121 **PKiKP** **06 04 07.1 +0.2**
NUUK Nuuk 121.59 24 *i* P **PKiKP** **06 04 07.0 +0.2**
NUUK IAmb IAmb 06 04 08.2
comp=Z,16nm,0.8s
SVE Sverdlovsk 121.65 326 *e*PKIKP **PKiKP** **06 04 07.6 +0.5**
SVE pmax pmax
comp=Z,68nm,0.9s
ABPO Ambohimpanom 122.07 233 PKIKP **PKiKP** **06 04 10.5 +1.1**
ABPO Ambohimpanom 122.07 233 PKPdf **PKiKP** **06 04 10.5 +1.1**
DBG Daneborg 122.10 7 *i* P **PKPdf** **06 04 07.7 -0.1**
DBG IAmb IAmb 06 04 08.9
comp=Z,13nm,0.8s
OPO Ambohidratompo 122.37 233 PKP **PKiKP** **06 04 10.4 +0.5**
comp=Z,26nm,0.8s,baz=150,slow=0.6,SNR=24
ARU Arti 122.86 326 *i* PKIKP **PKPdf** **06 04 09.4 +0.1**
ARU 06 06 01.7
ARU 06 10 23.4
ARU SP SP 06 14 54.8 +0.9
ARU SS **SS** **06 21 49.3 -6.4**
ARU Arti 122.86 326 PKPdf **PKiKP** **06 04 09.5 0.0**
HRA Herat 123.92 300 PKPdf **PKiKP** **06 04 12.6 -0.1**
ABKAR Akbulak array 123.95 318 PKPdf **PKiKP** **06 04 12.2 +0.3**
MDP Montagnes des 125.53 97 PKP **PKiKP** **06 04 16.1 0.0**
comp=Z,13nm,0.8s,baz=252,slow=3.6,SNR=8.0
MDP PKKPbc **PKKPab** **06 13 55.3 0.0**
comp=Z,7.0nm,0.6s,baz=66,slow=3.8,SNR=9.7
SCO Scoresbysund 125.54 10 PKIKP **PKiKP** **06 04 15.3 +0.8**
SCO Scoresbysund 125.54 10 **PKiKP** **06 04 15.3 +0.8**
HAMF Hammerfest 125.62 351 *e*PKPdf **PKiKP** **06 04 14.4 -0.2**
ARA0 ARCESS Array S 126.32 350 *e*PKPdf **PKiKP** **06 04 16.4 +0.3**
ARCES ARCESS Array B 126.32 350 PKhKP PKPpre 06 04 01.8
comp=Z,2.9nm,0.8s,baz=0.0,slow=1.3,SNR=6.5
ARCES PKP **PKPdf** **06 04 15.7 +0.1**
comp=Z,34nm,0.8s,baz=21,slow=0.4,SNR=17
ARCES PKKPbc **PKKPab** **06 13 50.1 +0.2**
comp=Z,2.7nm,0.7s,baz=332,slow=4.1,SNR=4.5
ARCES PKKP **PKKPdf** **06 14 32.3 -2.2**
comp=Z,5.1nm,0.9s,baz=90,slow=1.2,SNR=4.1
KIRV Kirov 126.54 331*c* *i* PKIKP **PKiKP** **06 04 17.0 +0.3**
PRGR Permogore 126.55 336 *e*PKIKP **PKPdf** **06 04 15.6 -0.6**
PRGR pmax pmax
comp=Z,25nm,0.6s
SUR Sutherland 126.72 200 PKP **PKiKP** **06 04 18.9 +0.5**
comp=Z,33nm,0.8s,baz=109,slow=1.7,SNR=34
SUR Sutherland 126.72 200 PKPdf **PKiKP** **06 04 19.1 +0.7**
GEYT Alibeck 127.06 304 PKhKP PKPpre 06 04 04.7
comp=Z,4.4nm,0.7s,baz=165,slow=6.0,SNR=6.6
GEYT PKP **PKiKP** **06 04 18.3 -0.3**
comp=Z,40nm,0.9s,baz=225,slow=1.9,SNR=47
GEYT PP **PP** **06 06 22.9 -4.1**
comp=Z,14nm,1.1s,baz=172,slow=4.5,SNR=5.9
GEYT Alibeck 127.06 304 PKPdf **PKiKP** **06 04 18.8 +0.2**
GYA0B ALIBECK ARRAY 127.06 304 PKPdf **PKiKP** **06 04 18.9 +0.3**
JETT Jettan, Norway 127.08 352 *e*PKPdf **PKiKP** **06 04 17.7 0.0**
KTK1 Kautokeino 127.16 350 *e*PKPdf **PKiKP** **06 04 18.0 +0.2**
TRO Tromso 127.20 352 *e*PKPdf **PKiKP** **06 04 17.6 -0.2**
BOSA Boshof 128.40 207 PKhKP PKPpre 06 04 12.8
comp=Z,1.1nm,0.5s,baz=176,slow=1.9,SNR=4.0
BOSA PKP **PKiKP** **06 04 21.9 +0.1**
comp=Z,18nm,0.8s,baz=150,slow=2.1,SNR=24
BOSA SKPbc SKPbc 06 06 45.6
comp=Z,9.9nm,1.0s,baz=144,slow=2.7,SNR=6.2
BOSA Boshof 128.40 207 PKPdf **PKiKP** **06 04 22.1 +0.4**
SOHO SOHO 128.62 287 *i* PKPdf **PKPdf** **06 04 21.5 +0.2**
SNR=39
SHAO Shalim 128.78 279 PKPdf **PKPdf** **06 04 22.0 +0.2**
MDH Madha 128.91 288 *i* PKPdf **PKPdf** **06 04 21.9 +0.1**
SNR=9.3
BANOM Banah 128.94 289 PKiKP **PKiKP** **06 04 23.1 +0.4**
UOSS Minazif 128.97 288 *i* PKPdf **PKPdf** **06 04 21.6 -0.4**
SNR=13
UOSS Minazif 128.97 288 PKPdf **PKPdf** **06 04 21.5 -0.4**
HATD Hatta, Dubai 129.03 288 *i* PKPdf **PKPdf** **06 04 22.0 -0.1**
SNR=10
MSFE Esma-Masafi 129.04 288 *i* PKPdf **PKPdf** **06 04 22.1 0.0**
SNR=13
SHME Shamm 129.09 289 *i* PKPdf **PKPdf** **06 04 22.6 -0.3**
SNR=6.0
ASHO Ashiyiah 129.09 288 *i* PKPdf **PKPdf** **06 04 21.8 -0.4**
SNR=8.6
SOCY Socotra 129.23 271 PKPdf **PKiKP** **06 04 23.3 -0.3**
STEI Steigen 129.25 353 *e*PKPdf **PKiKP** **06 04 22.4 +0.4**
ALNE Al Ain 129.33 287 *i* PKiKP **PKiKP** **06 04 23.3 -0.2**
SNR=7.8
KLMR Klimovskoe 129.37 337 *e*PKIKP **PKPdf** **06 04 19.7 -1.8**
KLMR *e* 06 06 40.6
KLMR pmax pmax
comp=Z,85nm,1.2s
KLMR Klimovskoe 129.37 337 *e*PKPdf **PKPdf** **06 04 19.8 -1.8**
KLMR AMP 06 04 23.4
comp=Z,85nm,1.2s
KLMR *e*PP **PP** **06 06 40.6 0.0**
NAZ Nazwa, Dubai 129.47 288 *i* PKPdf **PKPdf** **06 04 22.9 0.0**
SNR=6.8
FAQ Al Faqa, Dubai 129.52 288 *i* PKPdf **PKPdf** **06 04 23.1 +0.1**
SNR=6.2
ASUD Al Ashush, Dub 129.75 287 PKiKP **PKiKP** **06 04 24.5 +0.3**
N2ST Straumen 129.77 353 *e*Pdif **Pdif** **06 01 14.0 -0.5**
FAUS Fauske 129.77 353 *e*PKPdf **PKPdf** **06 04 22.4 +0.2**
NBB28 Valnes 130.05 353 *e*Pdif **Pdif** **06 01 14.8 -1.0**
BELG Belogornoye 130.30 325*c* *i*PKIKP **PKPdf** **06 04 23.9 +0.3**
MOR8 Moi Rana 131.03 353 *e*PKPdf **PKPdf** **06 04 25.0 +0.4**
LBTB Lobatse 131.35 209 PKP **PKiKP** **06 04 27.4 -0.3**
comp=Z,14nm,0.8s,baz=146,slow=3.8,SNR=15
LBTB Lobatse 131.35 209 PKPdf **PKiKP** **06 04 27.7 -0.1**
NSS Namsos 132.89 354 *e*PKPdf **PKiKP** **06 04 29.1 -0.3**
FINES FINESS Array B 133.20 344 PKhKP PKPpre 06 04 13.8
comp=Z,1.7nm,0.5s,baz=66,slow=3.3,SNR=17
FINES PKP **PKPdf** **06 04 28.2 -0.6**
comp=Z,17nm,0.6s,baz=85,slow=2.9,SNR=16
FINES SKPbc **SKPab** **06 07 02.2 -0.9**
comp=Z,5.1nm,0.7s,baz=67,slow=3.1,SNR=8.2
FINES FINESS Array B 133.20 344 PKPdf **PKiKP** **06 04 29.7 -0.4**
MOS Moscow 133.45 333 *i* PKIKP **PKPdf** **06 04 27.4 -2.0**
MOS *e* 06 07 46.9
MOS pmax pmax
comp=Z,64nm,0.8s
MATP Matopo 133.66 216 PKhKP PKPpre 06 04 15.5
comp=Z,3.0nm,0.7s,baz=167,slow=4.1,SNR=8.4
MATP PKP **PKPdf** **06 04 31.7 +0.6**
comp=Z,20nm,0.8s,baz=170,slow=1.4,SNR=22
MAK Makhachkala 133.95 313 *e*P **Pdif** **06 01 28.4 -5.2**
MAK *i* 06 04 33.2
MAK *e* 06 06 51.8
MAK *e* 06 07 07.6
MAK pmax pmax
comp=Z,70nm,0.8s
VRH Novokhopyorsk 134.09 326 *e*PKIKP **PKPdf** **06 04 30.5 -0.2**
VRH pmax pmax
comp=Z,50nm,0.7s
AKT Akhty 134.24 311 *e*PKIKP **PKiKP** **06 04 32.5 -0.5**
AKT *e* 06 06 50.2
AKT *e* 06 07 12.9
AKT pmax pmax
comp=Z,69nm,1.0s
OBN Obninsk 134.31 333 *i* PKIKP **PKPdf** **06 04 31.2 +0.2**
OBN pmax pmax
comp=Z,60nm,0.9s
OBN Obninsk 134.31 333 PKPdf **PKPdf** **06 04 31.6 +0.5**
LPSR Galich'ya Gora 134.76 329 *e*PKIKP **PKPdf** **06 04 31.5 -0.5**
LPSR pmax pmax
comp=Z,50nm,1.0s
GROC Groznyy 135.05 314 *e*PKIKP **PKPdf** **06 04 33.6 +0.8**
GROC *e* 06 06 51.4
GROC *e* 06 07 18.6
GROC *e* 06 07 50.3
GROC pmax pmax
comp=Z,93nm,1.2s
VSR Storozhevoye 135.43 327 *e*PKIKP **PKPdf** **06 04 33.4 +0.1**
VSR pmax pmax
comp=Z,60nm,0.9s
VORD Divnogorie 135.50 327 *e*PKIKP **PKPdf** **06 04 33.6 +0.2**
VORD pmax pmax
comp=Z,70nm,1.1s
DOMB Dombas 135.61 355 *e* PKPpre 06 04 26.7
AAL Aland 135.76 347 *e*P PKPpre 06 04 21.7
MTSE Matsula 136.12 343 *e*P PKPpre 06 04 24.7
GOF Gofitskoye 136.19 317‖ *e*PKIKP **PKPdf** **06 04 35.2 +0.3**
GOF pmax pmax
comp=Z,58nm,1.3s
NB2 NORSAR Subarra 136.38 353 PKP PKPpre 06 04 23.9
comp=Z,16nm,0.9s,baz=20,slow=3.8
NOA NORSAR Array B 136.38 353 PKhKP PKPpre 06 04 22.2
comp=Z,1.7nm,0.8s,baz=36,slow=1.7,SNR=14
NOA PKP **PKiKP** **06 04 36.0 -0.7**
comp=Z,5.3nm,0.8s,baz=14,slow=4.1,SNR=11
NOA SKPbc **SKPbc** **06 07 11.8 +1.5**
comp=Z,7.2nm,1.0s,baz=15,slow=4.4,SNR=5.0
NCK Nalchik 136.44 315 *i* PKIKP **PKPdf** **06 04 35.4 0.0**
ZEI Tsey 136.50 314 *i* PKIKP **PKiKP** **06 04 37.8 +0.1**
ZEI pmax pmax
comp=Z,20nm,0.9s
UPP Uppsala 136.53 348 *e*P PKPpre 06 04 23.4
GNI Garni 136.80 310 PKPdf **PKiKP** **06 04 37.5 -0.8**
GNI Garni 136.80 310*d* *i*PKIKP **PKiKP** **06 04 37.4 -1.0**
GNI Garni 136.80 310 PKPdf **PKPdf** **06 04 37.3 +0.9**
KBZ Khabaz 136.82 316 PKhKP **PKPdf** 06 04 25.4
comp=Z,6.4nm,0.9s,baz=158,slow=2.0,SNR=7.9
KBZ PKP **PKiKP** **06 04 37.4 -0.6**
comp=Z,13nm,0.8s,baz=109,slow=1.8,SNR=14
KBZ Khabaz 136.82 316*d* *i*PKIKP **PKPdf** **06 04 36.0 -0.1**
KIV Kislovodsk 136.87 316 PKPdf **PKPdf** **06 04 37.3 +0.9**
KIV Kislovodsk 136.87 316 *i* PKIKP **PKPdf** **06 04 35.6 -0.7**
KIV pmax pmax
comp=Z,68nm,1.0s
SHA1 Shidzhatmaz 136.98 316*d* *i*PKIKP **PKPdf** **06 04 36.7 0.0**
SKAR Skarslia 137.02 355 *e*PKPdf **PKiKP** **06 04 37.2 -0.8**
TASB TASBURUN-IGDIR 137.22 310 P **PKPdf** **06 04 36.8 -0.2**
AKH Akhalkalaki 137.28 312 ⇓P **PKiKP** **06 04 39.0 -0.3**
LSZ Lusaka 137.88 220 PKhKP PKPpre 06 04 29.6
comp=Z,3.6nm,0.5s,baz=131,slow=3.1,SNR=9.1
KONO Kongsberg 137.92 354 *e* PKPpre 06 04 29.2
IDID Didziasalis 138.04 339 *e*P **PKPdf** **06 04 31.5 -6.4**
ISAL Salakas 138.04 339 *e*P **PKPdf** **06 04 31.6 -6.3**
IGN Ignalina 138.19 339 *e*P **PKPdf** **06 04 31.8 -6.5**
AGRB Hanur-Agry 138.25 310 P **PKiKP** **06 04 40.4 -1.0**
MNK Minsk 138.27 337 *i* PKP **PKPdf** **06 04 35.3 -3.1**
comp=E,3.0nm,0.9s
MNK *i* PKP **PKPdf** **06 04 35.3 -3.1**
comp=N,10.0nm,0.9s
MNK *i* PKP **PKPdf** **06 04 35.3 -3.1**
comp=Z,34nm,0.9s
MNK *i* pPKP **pPKPdf** **06 06 55.8 -4.4**
MNK *i* PP PP 06 07 27.9 -8.2
MNK *i* PPP PPP 06 10 34.2
MNK *i* SKS **SKSdf** **06 10 48.6 -2.6**
MNK *i* SKKS **SKKSdf** **06 20 26.4 -0.4**
MNK *i* SS SS 06 24 46.6 -14
MNK *i* SSS SSS 06 30 04.5
MNK *i* LRM MLR 07 04 48.0
comp=N,501nm,18.5s
MNK *i* LRM MLR 07 05 23.7
comp=E,57nm,18.2s
MNK *i* LRM MLR 07 05 23.7
comp=Z,283nm,18.2s
RAYN Ar Rayn 138.69 285 *i* PKPdf **PKPdf** **06 04 33.6 -6.5**
SNR=15
PABE Paberze 138.80 341 *e*P **PKPdf** **06 04 34.0 -5.3**
PBUR Paburge 138.96 343 *e*P **PKPdf** **06 04 33.5 -6.1**
GURO Guroymak-BITLI 139.29 309 P **PKPdf** **06 04 34.7 -6.3**
TSUM Tsumeb 139.92 204 PKhKP **PKPdf** **06 04 35.5 -7.1**
comp=Z,5.8nm,0.6s,baz=151,slow=5.5,SNR=11
SVAN Silvan-Diyarba 140.04 309 P **PKPdf** **06 04 36.8 -5.4**
KMBO Kilima Mbogo 140.14 245 PKhKP **PKPdf** **06 04 38.7 -4.7**
comp=Z,10nm,0.8s,baz=88,slow=4.0,SNR=25
KMBO pPKP **pPKPdf** **06 07 06.5 +1.4**
comp=Z,1.5nm,0.8s,baz=62,slow=23,SNR=1.4
KMBO SKPbc **SKiKP** **06 07 24.5 -0.2**
comp=Z,13nm,1.1s,baz=91,slow=3.7,SNR=4.5
BNGB Bingl 140.14 310 P **PKPdf** **06 04 35.8 -6.7**
SUW Suwalki 140.30 340 *e*P **PKPdf** **06 04 38.0 -4.0**
AKASG Malin Array Be 140.57 332 PKhKP **PKPdf** **06 04 36.5 -6.2**
comp=Z,5.5nm,0.3s,baz=44,slow=4.2,SNR=61
AKASG PKP **PKiKP** **06 04 44.9 -0.5**
comp=Z,25nm,0.7s,baz=46,slow=2.9,SNR=18
AKASG pPKP **pPKPdf** **06 07 05.0 +0.4**
comp=Z,5.3nm,0.9s,baz=44,slow=2.6,SNR=3.6
MUD Monsted U'grnd 141.10 353 *i* P **PKPdf** **06 04 38.6 -4.8**
comp=Z,17nm,0.9s
MUD Monsted U'grnd 141.10 353 *i* P **PKPdf** **06 04 38.6 -4.8**
MUD IAmb IAmb 06 04 41.7
comp=Z,17nm,0.9s
LAWE Loch Awe, Argy 141.35 6 *e*P **PKPdf** **06 04 39.2 -4.7**
ILIC ilic-Erzincan 141.49 312 P **PKPdf** **06 04 40.7 -4.2**
SIM Simferopol' 141.76 322*c* *i*PKHKP **PKPdf** **06 04 41.5 -3.5**
SIM pmax pmax
comp=Z,118nm,1.0s
PGBU Glenifferbraes 141.89 6 *e*P **PKPdf** **06 04 41.2 -3.7**
RSDY Resadiye-TOKAT 141.97 314 P **PKPdf** **06 04 43.2 -2.4**
MALT Malatya 142.03 310 P **PKPdf** **06 04 42.3 -3.6**
URFA Urfa 142.06 308 P **PKPdf** **06 04 42.3 -3.6**
SVSK Karacayir 142.41 313 P **PKPdf** **06 04 45.4 -0.9**
KVT Kavak 142.54 315 P **PKPdf** **06 04 44.3 -2.3**
TOKT Tokat 142.54 314 P **PKPdf** **06 04 44.9 -1.7**
TOKA Tokat 142.59 314 **PKPdf** **06 04 45.7 -1.0**
NEWG New Galloway 142.60 6 *e*P **PKPdf** **06 04 42.6 -3.5**
DARE Darende-Malaty 142.62 311 P **PKPdf** **06 04 45.7 -1.2**
SNOP Sinop 142.64 317 P **PKPdf** **06 04 45.3 -1.3**
GKP Gorka Klasztor 142.67 345 *e*PKP **PKPdf** **06 04 44.8 -1.6**
SKMB Sankelmark Bun 142.78 352 *e*PKPbc **PKPdf** **06 04 45.4 -1.0**
baz=15,slow=2.8
DIKM Dikmen 142.79 317 ⇑P **PKPdf** **06 04 46.4 -0.5**
GAL1 Galloway 142.80 6 *e*P **PKPdf** **06 04 43.8 -2.7**
BEL Belsk 142.91 340 *e*PKP **PKPdf** **06 04 45.9 -0.9**
EDMD Edmundbyers 143.05 3 *e*P PKPab 06 04 44.8 -0.1
KESW Keswick, Cumbr 143.22 5 *e*P PKPbc 06 04 46.3 +0.4
GAZ Gaziantep 143.35 309 PKPbc 06 04 47.5 +0.6
KIS Kishinev 143.37 328‖ *i*PKP PKPab 06 04 45.9 -0.5
comp=Z,670nm,8.0s
KIS *e*pPKP pPKPdf 06 07 07.0 -2.8
KIS Kishinev 143.37 328*d* *i*PKIKP PKPab 06 04 45.9 -0.5
KIS *e* 06 07 07.0
KIS pmax pmax
comp=Z,670nm,8.0s
IOMK Kirk Michael 143.41 6 *e*P PKPab 06 04 46.1 -0.2
LVV L'vov 143.42 336 *e*PKIKP PKPbc 06 04 47.0 +0.4
BSEG Bad Segeberg 143.42 351 *e*PKPbc **PKPdf** **06 04 47.1 -0.5**
baz=15,slow=2.8
BZK Bozkurt 143.44 318 ⇑P **PKPdf** **06 04 48.6 +0.5**
BZK Bozkurt 143.44 318 P **PKPdf** **06 04 47.9 -0.1**
SARI SarD1z-Kayseri 143.45 311 P PKPbc 06 04 47.4 +0.1
KMRS Kahramanmaras 143.45 310 P **PKPdf** **06 04 47.9 -0.4**
WIM Isle of Man 143.51 6⇑ *e*P PKPab 06 04 46.5 -0.2
BNN Bunyan 143.67 312 P PKPbc 06 04 47.8 -0.1
IAS Iasi 143.85 330 ⇑P **PKPdf** **06 04 48.6 0.0**
IAS Iasi 143.85 330 ⇑PKIKP **PKPdf** **06 04 48.6 0.0**
HPK Haverah Park 143.94 3 *e*P PKPab 06 04 48.3 0.0
KWP Kalwaria Pacla 144.08 336 *e*P

VASR	Vaslui	144.12 329	⇓P		PKPab	06 04 49.8	+0.5
DSB	Dublin	144.19 8			PKPab	06 04 49.6	+0.2
RUE	Ruedersdorf	144.20 347	ePKPbc		PKPab	06 04 49.6	+0.2
	baz=15,slow=2.8						
KOZT	Kozan	144.25 310	P		PKPab	06 04 50.3	+0.2
WPS	Cemaes, Angles	144.27 6	eP		PKPbc	06 04 47.9	-1.1
WME	Myndd Eilian	144.29 6⇑	eP		PKPbc	06 04 49.2	+0.1
KURC	Kurucasile-Bar	144.30 319	P		PKPdf	06 04 47.0	-2.5
PRAR	RASCA	144.35 331	⇓P		PKPbc	06 04 49.9	+0.3
CANT	Cankiri	144.38 316	P		PKPab	06 04 50.5	-0.1
WLF1	Llynfaes	144.39 6	eP		PKPdf	06 04 48.1	-1.2
YRC	Rhoscolyn	144.41 6⇑	eP		PKPbc	06 04 49.5	0.0
TAHT	Tahtakopru-Hat	144.41 308	P		PKPab	06 04 51.0	+0.2
H07S1	FLORES T-PHASB	144.43 46	PKP		PKPbc	06 04 50.4	+0.3
BIR	Birlad	144.47 328	⇑P		PKPab	06 04 51.3	+0.7
BIR	Birlad	144.47 328	⇑PKIKP		PKPab	06 04 51.3	+0.7
LBWR	Ladybower, Pea	144.49 3	eP		PKPdf	06 04 49.5	0.0
CEYT	Ceyhan	144.49 309	P		PKPab	06 04 51.7	+0.7
YLL	Llanberis	144.56 6⇑	eP		PKPab	06 04 50.6	-0.1
TLCR		144.59 326	⇓P		PKPab	06 04 50.8	-0.3
TLCR		144.59 326	⇓PKIKP		PKPab	06 04 50.8	-0.3
VARL	Varlezi	144.61 328	⇑P		PKPab	06 04 51.5	+0.4
BUR08	Bucovina Ar. S	144.61 332	PKPdf		PKPab	06 04 51.4	+0.1
OJC	Ojcow	144.62 340	ePKP		PKPab	06 04 50.8	-0.3
BURAR	Bucovina Array	144.63 332	⇑P		PKPab	06 04 51.6	+0.3
BURAR	Bucovina Array	144.63 332	⇑PKIKP		PKPab	06 04 51.6	+0.3
BURAR	Bucovina Array	144.63 332	PKPdf		PKPab	06 04 51.7	+0.3
GHRR		144.72 328	⇑P		PKPab	06 04 52.4	+0.8
BIZ	Bicaz	144.72 331	⇑P		PKPab	06 04 51.7	+0.1
STNC	Stoke	144.77 4	eP		PKPbc	06 04 51.0	+0.4
TESR	Tescani	144.77 330	⇓P		PKPbc	06 04 51.0	+0.1
BR131	Keskin Array S	144.80 315	PKIKP		PKPbc	06 04 51.2	-0.2
BR131	Keskin Array S	144.80 315			PKPbc	06 04 51.2	-0.2
BRTR	Keskin Array B	144.80 315	PKP		PKPbc	06 04 51.8	+0.4
	comp=Z,134nm,0.8s,baz=139,slow=4.4,SNR=345						
BRTR			pPKP		pPKPdf	06 07 13.7	+1.0
	comp=Z,20nm,1.1s,baz=82,slow=1.9,SNR=5.4						
BRTR	Keskin Array B	144.80 315	PKPdf		PKPbc	06 04 51.0	-0.3
KOLS	Kolonicke sedl	144.81 336	ePKIKP		PKPab	06 04 51.7	-0.2
KOLS	Kolonicke sedl	144.81 336	ePKP		PKPab	06 04 51.7	-0.2
JURR	Jurilovca	144.83 325	⇑P		PKPbc	06 04 51.4	+0.3
FLTG	Flechtingen	144.83 350	ePKPbc		PKPbc	06 04 51.3	+0.4
	baz=15,slow=2.8						
NRDL	Niedersach Rie	144.85 351	ePKPdf		PKPbc	06 04 50.9	+0.1
	baz=19,slow=1.6						
NRDL			ePKPbc		PKPab	06 04 51.8	0.0
	baz=15,slow=2.8						
SCHL	Schela	144.89 327	⇑P		PKPab	06 04 52.9	+0.6
FOEL	Foel Wylfa	144.89 5	eP		PKPdf	06 04 49.8	-0.4
KARA	Karaisali	144.90 310	P		PKPbc	06 04 51.8	+0.2
TUDR		144.91 328	⇑P		PKPab	06 04 52.9	+0.6
KAMT	Kaman	144.92 314	P		PKPab	06 04 52.4	-0.4
CFR	Carcaliu	144.95 327	⇑P		PKPbc	06 04 51.1	-0.3
CFR	Carcaliu	144.95 327	⇑PKIKP		PKPbc	06 04 51.1	-0.3
TPGR	Topolog	145.01 326	⇓P		PKPab	06 04 53.2	+0.3
UZH	Uzhgorod	145.05 336	ePKIKP		PKPdf	06 04 49.2	-1.4
ODBI	Odobesti	145.10 328	⇑P		PKPab	06 04 53.0	+0.9
ASSE	Asse, Remlinge	145.12 350	ePKPdf		PKPbc	06 04 51.4	-0.2
	baz=19,slow=1.6						
ASSE			ePKPbc		PKPab	06 04 52.5	-0.3
	baz=15,slow=2.8						
NIE	Niedzica	145.14 339	ePKP		PKPab	06 04 53.4	+0.2
CRVS	Cervenica-Dubn	145.15 337	ePKIKP		PKPbc	06 04 52.3	+0.4
CRVS	Cervenica-Dubn	145.15 337	ePKP		PKPbc	06 04 52.3	+0.4
CWF	Charnwood Fore	145.17 3	eP		PKPdf	06 04 50.8	+0.1
VRI	Vrincioaia	145.19 329	⇑P		PKPdf	06 04 51.3	+0.3
VRI	Vrincioaia	145.19 329	⇑PKIKP		PKPdf	06 04 51.3	+0.3
SERE	Sereflikochisa	145.22 314	P		PKPab	06 04 53.3	-0.7
PLOR	Plostina	145.24 329	⇑P		PKPbc	06 04 52.0	-0.3
PLOR	Plostina	145.24 329	⇑PKIKP		PKPbc	06 04 52.0	-0.3
TIRR	Tirgusor	145.28 325	PKIKP		PKPbc	06 04 52.0	-0.4
TIRR	Tirgusor	145.28 325			PKPbc	06 04 52.0	-0.4
HLM1	Long Mynd	145.29 5	eP		PKPbc	06 04 52.1	-0.1
LOD	Lodumlu	145.30 316	P		PKPdf	06 04 51.0	-0.5
AFSR	Afar-Bala (An	145.32 315	P		PKPdf	06 04 51.1	-0.4
BR231	Keskin MP Arra	145.32 316			PKPbc	06 04 52.7	-0.1
BMR	Baia Mare	145.33 334	⇑P		PKPbc	06 04 52.9	+0.4
BMR	Baia Mare	145.33 334	⇑PKP2		PKPbc	06 04 52.9	+0.4
HWQ	Hawqa	145.33 305	eP		PKPbc	06 04 53.4	+0.3
IBBN	Ibbenburen	145.34 353	ePKPdf		PKPbc	06 04 52.1	-0.2
	baz=19,slow=1.6						
IBBN			ePKPbc		PKPab	06 04 53.3	-0.5
	baz=15,slow=2.8						
IBBN			epPKPbc		pPKPdf	06 07 14.4	+2.0
	baz=12,slow=2.4						
HARR	Harsova	145.38 326	⇓P		PKPbc	06 04 52.3	-0.4
HARR	Harsova	145.38 326	⇓PKIKP		PKPbc	06 04 52.3	-0.4
OSTC	Ostas	145.40 344	ePKP		PKPbc	06 04 52.3	-0.3
OSTC			eSS		SS	06 26 20.5	-1.2
ARCR	ARCALIA	145.41 332	⇓P		PKPab	06 04 54.3	0.0
CHVC	Chvalec	145.41 344	ePKP		PKPbc	06 04 52.2	-0.5
TLBR	Topalu	145.42 326	⇑P		PKPbc	06 04 53.0	+0.2
BISRR	Bisoca	145.43 328	⇑P		PKPab	06 04 54.7	+0.2
CLZ	Clausthal	145.44 350	ePKPdf		PKPbc	06 04 52.2	-0.5
	baz=19,slow=1.6						
CLZ			ePKPbc		PKPab	06 04 53.9	-0.4
	baz=15,slow=2.8						
MERS	Mersin	145.45 310	P		PKPbc	06 04 52.8	-0.5
MFTR	Murfatlar	145.46 325	⇓P		PKPbc	06 04 52.6	-0.3
CLL	Collm	145.47 347	ePKPdf		PKPbc	06 04 52.0	-0.7
CLL		⇓	/PKPbc		PKPab	06 04 53.7	-0.7
	comp=Z,281nm,1.0s						
CLL			e			06 05 36.0	
CLL			epPKPdf	pPKPbc		06 07 12.0	+0.9
CLL			e(pPKiKP)			06 07 21.0	
CLL			esPKPdf	sPKPab		06 08 07.0	-3.0
CLL			esPP			06 11 26.0	
CLL			ePPPP			06 13 53.0	
CLL			eSKKSac	SKKSac		06 14 05.0	-4.8
CLL			eSKSP			06 17 36.0	
CLL			esSdiff	SKKSdf		06 20 01.0	-12
CLL			ePPS	PPS		06 21 07.0	
CLL			e			06 25 13.0	
CLL			eSS	SS		06 26 18.0	-4.3
CLL			esSS			06 30 00.0	
CLL			e			06 31 18.0	
CLL			esSSS			06 35 18.0	
CLL			eSSSS			06 35 54.0	
CLL			esSSSS			06 39 12.0	
CLL			e			06 40 42.0	
CLL			LmV			07 04 00.0	
	comp=Z,900nm,20.0s						
CLL	Collm	145.47 347	⇓ePKIKP		PKPbc	06 04 52.0	-0.7
CLL			i			06 04 53.7	
CLL			pmax	pmax			
	comp=Z,281nm,1.0s						
CLL	Collm	145.47 347	PKPdf		PKPbc	06 04 52.6	-0.1
CLL	Collm	145.47 347	ePKPdf		PKPbc	06 04 52.1	-0.6
	baz=19,slow=1.6						
CLL			ePKPbc		PKPab	06 04 53.5	-0.8
	baz=15,slow=2.8						
OKC	Ostrava-Krasne	145.48 341	ePKP2		PKPbc	06 04 53.5	+0.7
OKC			eSS		SS	06 26 19.7	-3.0
OKC	Ostrava-Krasne	145.48 341	ePKP		PKPbc	06 04 53.5	+0.7
OKC			eSS		SS	06 26 19.7	-3.0
OZUR		145.49 330	⇑P		PKPab	06 04 54.6	0.0
UPC	Upice	145.50 344	ePKIKP		PKPdf	06 04 52.0	+0.7
UPC	Upice	145.50 344	ePKP		PKPdf	06 04 52.0	+0.7
UPC			eSS		SS	06 26 13.8	-9.0
DPC	Dobruska-Polom	145.56 343	ePKIKP		PKPbc	06 04 52.7	-0.4
DPC	Dobruska-Polom	145.56 343	ePKP		PKPbc	06 04 52.7	-0.4
DPC			eSS		SS	06 26 09.2	-14
KULU	Kulu	145.56 314	P		PKPdf	06 04 52.2	+0.2
CVDA	Cernavoda	145.56 326	⇓P		PKPab	06 04 54.4	-0.5
MANR	Mangalia	145.60 324	⇑P		PKPbc	06 04 52.8	-0.6
TSMN	Mangalia Port-	145.61 324	⇑P		PKPab	06 04 54.9	-0.2
LANS	Liptovska Anna	145.65 339	ePKIKP		PKPbc	06 04 53.3	-0.1
LANS			e			06 04 55.1	
LANS	Liptovska Anna	145.65 339	ePKP		PKPbc	06 04 53.3	-0.1
LANS			e			06 04 55.1	
RCY	Rachaya	145.66 304	eP		PKPbc	06 04 54.9	+0.8
RSBS	Rosebush, Pemb	145.67 7	eP		PKPbc	06 04 53.2	-0.1
BRG	Berggiesshubel	145.68 346	⇑i/PKP		PKPbc	06 04 52.9	-0.5
BRG			Amp			06 04 53.7	
	comp=Z,35nm,1.1s						
BRG			i x	x		06 04 54.4	
BRG			Amp			06 04 55.5	
	comp=Z,165nm,1.1s						
BRG			i x	x		06 05 01.0	
BRG			Amp			06 05 02.1	
	comp=Z,40nm,0.8s						
BRG			pPKP		pPKPdf	06 07 14.8	+1.2
BRG	Berggiesshubel	145.68 346	ePKPdf		PKPbc	06 04 52.5	-0.9
	baz=19,slow=1.6						
BRG			ePKPbc		PKPab	06 04 54.4	-0.8
	baz=15,slow=2.8						
BRG			epPKPbc		pPKPdf	06 07 14.3	+0.6
	baz=12,slow=2.4						
BHL	Bhannes	145.68 304	eP		PKPbc	06 04 54.5	+0.4
KRLC	Kraliky	145.68 343	ePKIKP		PKPbc	06 04 52.7	-0.8
KRLC			eSS		SS	06 26 20.2	-4.7
KRLC	Kraliky	145.68 343	ePKP		PKPbc	06 04 52.7	-0.8
KRLC			eSS		SS	06 26 20.2	-4.7
NEHR	Nehoiu	145.72 329	⇑P		PKPab	06 04 54.7	-0.9
MORC	Moravsky Berou	145.72 342	⇑P		PKPbc	06 04 52.9	-0.7
MORC	Moravsky Berou	145.72 342	ePKP		PKPbc	06 04 52.9	-0.7
MORC			e			06 04 54.5	
MORC			e			06 07 13.8	
MORC	Moravsky Berou	145.72 342	PKIKP		PKPbc	06 04 52.7	-0.9
MORC	Moravsky Berou	145.72 342	PKPdf		PKPbc	06 04 52.7	-0.9
AMRR	Amara	145.75 327	⇑P		PKPab	06 04 55.5	-0.2
AMRR	Amara	145.75 327	⇑PKP2		PKPab	06 04 55.5	-0.2
FBE	Freiberg	145.76 347	ePKPdf		PKPdf	06 04 52.5	+0.8
	baz=19,slow=1.6						
FBE			ePKPbc		PKPab	06 04 55.0	-0.5
	baz=15,slow=2.8						
DOPR	Dopca	145.77 330	⇓P		PKPbc	06 04 53.6	-0.2
GTTG	Gottingen	145.79 351	ePKPdf		PKPdf	06 04 52.5	+0.7
	baz=19,slow=1.6						
GTTG			ePKPbc		PKPab	06 04 54.7	-0.9
	baz=15,slow=2.8						
GTTG			ePKPab		PKiKP	06 04 56.4	+0.2
	baz=15,slow=4.1						
MCH1	Michaelchurch	145.80 5	eP		PKPbc	06 04 52.8	-0.8
ISR	Istrita	145.81 328	⇓P		PKPab	06 04 55.3	-0.7
ISR	Istrita	145.81 328	⇓PKP2		PKPab	06 04 55.3	-0.7
NEUB	Neuenburg	145.81 349	ePKPdf		PKPdf	06 04 52.1	+0.3
	baz=19,slow=1.6						
NEUB			ePKPbc		PKPab	06 04 54.7	-1.0
	baz=15,slow=2.8						
NEUB			ePKPab		PKiKP	06 04 56.6	+0.4
	baz=15,slow=4.1						
NEUB			epPKPbc		pPKPdf	06 07 14.4	+0.8
	baz=12,slow=2.4						
MLR	Muntele Rosu	145.84 329	⇑P		PKPdf	06 04 52.6	+0.4
MLR	Muntele Rosu	145.84 329	PKIKP		PKPdf	06 04 52.8	+0.5
MLR	Muntele Rosu	145.84 329	PKPdf		PKPdf	06 04 52.8	+0.5
PVCC	Panska Ves	145.85 345	ePKIKP		PKPbc	06 04 53.3	-0.5
PVCC	Panska Ves	145.85 345	ePKP		PKPbc	06 04 53.3	-0.5
KECS	Kecovo	145.86 337	ePKP2		PKPab	06 04 55.1	-0.9
KECS	Kecovo	145.86 337	ePKP		PKPab	06 04 55.1	-0.9
MBAR	Mbarara	145.94 240	PKPbc		PKPab	06 04 56.9	-0.6
	comp=Z,150nm,0.9s,baz=122,slow=9.2,SNR=104						
MBAR			pPKPbc		pPKPdf	06 07 16.6	+1.4
	comp=Z,7.4nm,0.8s,baz=280,slow=23,SNR=1.7						
MBAR	Mbarara	145.94 240			PKPdf	06 04 54.2	+0.8
MBAR			PKPbc		PKPab	06 04 57.2	-0.4
MONM	Monmouth	145.97 5	eP		PKPdf	06 04 53.1	+1.0
MDUB	Mudurnu	146.03 318	P		PKPdf	06 04 51.8	-0.9
MDUB	Mudurnu	146.03 318	PKPdf		PKPdf	06 04 52.0	-0.6
MDUB			PKPbc		PKPbc	06 04 55.2	+0.3
CJR	Cluj-Napoca	146.03 333	⇑P		PKPbc	06 04 55.5	+0.9
CJR	Cluj-Napoca	146.03 333	⇑PKP2		PKPbc	06 04 55.5	+0.9
STRD	Stroud	146.08 4	eP		PKPbc	06 04 54.3	-0.1
SILI	Silifke-Mersin	146.09 309	P		PKPbc	06 04 55.6	+0.6
SECR		146.11 328	⇑P		PKPbc	06 04 55.6	+0.8
MDB	Medias	146.11 331	⇓P		PKiKP	06 04 56.4	-0.6
MDB	Medias	146.11 331	⇓PKP2		PKiKP	06 04 56.4	-0.6
LEHL	Lehliu	146.12 327	⇑P		PKiKP	06 04 56.2	-0.9
MMAI	Mount Meron Ar	146.16 303	pPKPbc		pPKPbc	06 07 15.8	+1.3
	comp=Z,47nm,1.1s,baz=90,slow=4.3,SNR=3.3						
LTVH	Ltavrtes, Hu	146.22 335	⇓P		PKiKP	06 04 56.2	-1.0
BUG	Bochum--Univer	146.25 354	ePKPdf		PKPdf	06 04 53.3	+0.8
	baz=19,slow=1.6						
BUG			ePKPbc		PKPbc	06 04 55.6	+0.7
	baz=15,slow=2.8						
BUG			ePKPab		PKPab	06 04 57.9	+0.5
	baz=15,slow=4.1						
SULR		146.26 328	⇓P		PKPbc	06 04 55.9	+0.8
PRA	Prague	146.31 345	ePKP2		PKPbc	06 04 55.7	+0.6
PRA	Prague	146.31 345	ePKP		PKPbc	06 04 55.7	+0.6
VOIR		146.32 330	⇑P		PKPbc	06 04 54.3	-1.1
VOIR		146.32 330	⇑PKIKP		PKPbc	06 04 54.3	-1.1
IKL	Isikli	146.32 309	P		PKPbc	06 04 55.9	+0.3
KASTN	Kahler Asten	146.35 352	ePKPdf		PKPdf	06 04 53.8	+1.0
	baz=19,slow=1.6						
KASTN			ePKPbc		PKPbc	06 04 55.9	+0.6
	baz=15,slow=2.8						
DRGR		146.35 333	⇑P		PKiKP	06 04 56.8	-0.8
DRGR		146.35 333	⇑PKP2		PKiKP	06 04 56.8	-0.8
SVRH	Sivrihisar-ESK	146.35 316	P		PKPdf	06 04 51.9	-1.4
PRU	Pruhonice	146.35 345	ePKIKP		PKPdf	06 04 53.2	+0.4
PRU			e			06 04 56.0	
PRU	Pruhonice	146.35 345	ePKP		PKPdf	06 04 53.2	+0.4
PRU			ex	x		06 04 56.0	
PRU			eSS	SS		06 26 16.0	-16
GOPC	GO Pecny, Ondr	146.36 345	ePKIKP		PKPdf	06 04 53.5	+0.7
GOPC			e			06 04 55.7	
GOPC	GO Pecny, Ondr	146.36 345	ePKP		PKPdf	06 04 53.5	+0.7
GOPC			ex	x		06 04 55.7	
GOPC			eSS	SS		06 26 22.7	-10
SWN1	Swindon	146.37 4	eP		PKPbc	06 04 54.8	-0.4
MOX	Moxa	146.38 348	ePKPdf		PKPdf	06 04 53.7	+0.9
	baz=19,slow=1.6						
MOX			ePKPbc		PKPbc	06 04 56.3	+0.9
	baz=15,slow=2.8						
LADK	Ladik-KONYA	146.40 313	P		PKPdf	06 04 51.9	-1.5
VRAC	Vranov	146.42 342	pPKPbc		pPKPbc	06 07 16.2	+1.7
	comp=Z,19nm,1.0s,baz=40,slow=2.9,SNR=4.4						
VRAC	Vranov	146.42 342	⇑P		PKPdf	06 04 54.0	+1.1
VRAC	Vranov	146.42 342	ePKP		PKPdf	06 04 53.9	+1.0
VRAC			e			06 04 56.5	
VRAC			e			06 07 14.7	
VRAC	Vranov	146.42 342	⇑PKIKP		PKPdf	06 04 54.0	+1.1
PLN	Plauen	146.43 348	ePKPdf		PKPdf	06 04 53.3	+0.4
	baz=19,slow=1.6						
PLN			ePKPbc		PKPbc	06 04 56.4	+0.9
	baz=15,slow=2.8						
PLN			epPKPbc		pPKPdf	06 07 16.3	+1.5
	baz=12,slow=2.4						
TANN	Tannenbergstha	146.43 347	ePKPdf		PKPdf	06 04 53.8	+0.8
	baz=19,slow=1.6						
TANN			ePKPbc		PKiKP	06 04 56.6	-1.0
	baz=15,slow=2.8						
TANN			epPKPbc		pPKPdf	06 07 16.6	+1.8
	baz=12,slow=2.4						
VYHS	Vyhne	146.43 339	ePKIKP		PKPdf	06 04 53.7	+0.7
VYHS			e			06 04 56.7	
VYHS	Vyhne	146.43 339	ePKP		PKPdf	06 04 53.7	+0.7
VYHS			e			06 04 56.7	
SAUV	Serdivan-Sakar	146.43 319	P		PKPbc	06 04 56.4	+0.6
WERD	Werda	146.43 348	ePKPdf		PKPdf	06 04 53.7	+0.8
	baz=19,slow=1.6						
WERD			ePKPbc		PKiKP	06 04 56.6	-1.0
	baz=15,slow=2.8						
WERD			epPKPbc		pPKPdf	06 07 16.4	+1.7
	baz=12,slow=2.4						
AKKU	Akkuyu-Mersin	146.45 309	P		PKPbc	06 04 56.3	+0.3
MTUR	Matau	146.47 329	⇓P		PKPbc	06 04 56.6	+0.8
MTUR	Matau	146.47 329	⇓PKP2		PKPbc	06 04 56.6	+0.8
SPNC	Sapanca-Adapaz	146.47 319	P		PKPdf	06 04 54.4	+1.1
GULT	Gulveren	146.48 318	P		PKPdf	06 04 53.9	+0.5
JAVC	Velka Javorina	146.49 341	ePKP		PKPbc	06 04 55.1	-0.7
JAVC			e			06 04 57.9	
JAVC			e			06 07 15.5	
UBBA	Unterbreizbach	146.49 350	ePKPdf		PKPdf	06 04 53.7	+0.9
	baz=19,slow=1.6						
UBBA			ePKPbc		PKPbc	06 04 56.4	+1.0
	baz=15,slow=2.8						
UBBA			ePKPab		PKPab	06 04 59.0	+0.7
	baz=15,slow=4.1						
UBBA			epPKPbc		pPKPdf	06 07 16.2	+1.5
	baz=12,slow=2.4						
GUNZ	Gunzen	146.50 348	ePKPdf		PKPdf	06 04 54.0	+0.9
	baz=19,slow=1.6						
GUNZ			ePKPbc		PKiKP	06 04 56.8	-1.0
	baz=15,slow=2.8						
GUNZ			epPKPbc		pPKPdf	06 07 16.7	+1.8
	baz=12,slow=2.4						
KONT	Konya--Tatoy	146.52 313	P		PKPbc	06 04 56.3	+0.1
PSZ	Piszkesteto	146.55 337	⇓P		PKiKP	06 04 57.2	-0.8
PSZ	Piszkesteto	146.55 337	⇓PKP2		PKiKP	06 04 57.2	-0.8
PSZ	Piszkesteto	146.55 337	PKPdf		PKPdf	06 04 53.4	+0.1
PSZ			PKPbc		PKPbc	06 04 56.9	+0.9
WERN	Wernitzgruen	146.57 347	ePKPdf		PKPdf	06 04 54.1	+0.9
	baz=19,slow=1.6						
WERN			ePKPbc		PKiKP	06 04 57.2	-0.7
	baz=15,slow=2.8						
WERN			ePKPab		PKPab	06 04 59.3	+0.5
	baz=15,slow=4.1						
WERN			epPKPbc		pPKPdf	06 07 17.3	+2.2
	baz=12,slow=2.4						
ARR	Arges	146.57 330	⇑P		PKiKP	06 04 58.1	0.0
NKC	Novy Kostel	146.60 347	ePKIKP		PKPdf	06 04 54.4	+1.2
NKC			e			06 04 56.4	
NKC	Novy Kostel	146.60 347	ePKP		PKPdf	06 04 54.4	+1.2
NKC			ex	x		06 04 56.4	
NKC			eSS	SS		06 26 11.6	-23
BERE	Bereket-Mersin	146.62 310	P		PKPbc	06 04 57.4	+0.8
SILT	Sile	146.62 320	P		PKPbc	06 04 56.7	+0.5
SRCK	Saricakaya, Es	146.63 317	P		PKPdf	06 04 53.5	-0.1
KRUC	Moravsky	146.70 342	ePKP		PKPdf	06 04 54.1	+0.7
KRUC			e			06 04 57.2	
KRUC			e			06 07 14.9	
CIFT	Cifteler, Eski	146.70 316	P		PKPdf	06 04 53.8	0.0
TREC	Trest	146.74 343	ePKP2		PKPbc	06 04 56.9	+0.5
TREC	Trest	146.74 343	ePKP		PKPbc	06 04 56.9	+0.5
TREC			ex	x		06 05 05.4	
TREC			eSS	SS		06 26 53.2	+16
PBCC	Pribram	146.77 345	ePKP		PKPdf	06 04 54.4	+0.9
PBCC			ex	x		06 04 56.7	
TEKE	Tekeli-Mersin	146.78 309	P		PKPbc	06 04 57.1	+0.2
HRT	Hereke	146.80 319	P		PKPbc	06 04 57.3	+0.5
ELSH	Elham, Standar	146.84 1	eP		PKPbc	06 04 57.1	+0.6
SMOL	Smolenice	146.87 341	ePKP2		PKiKP	06 04 58.6	+0.1
SMOL	Smolenice	146.87 341	ePKP		PKiKP	06 04 58.6	+0.1
RAZG	Razgrad	146.90 326	⇑P		PKPbc	06 04 57.8	+0.8
MANZ	Manzenberg	146.91 348	ePKPdf		PKPdf	06 04 54.4	+0.7
	baz=19,slow=1.6						
MANZ			ePKPbc		PKiKP	06 04 57.7	-0.9
	baz=15,slow=2.8						
LOT	Lotru	146.91 331	⇑P		PKPdf	06 04 54.3	+0.2
BSZH	Besenyszg	146.93 336	⇑P		PKiKP	06 04 58.6	0.0
ADVT	Abdulvahap	146.97 319	P		PKPdf	06 04 54.1	0.0
DEV	Deva	146.98 332	⇑P		PKiKP	06 04 58.4	-0.4
DEV	Deva	146.98 332	⇑PKP2		PKiKP	06 04 58.4	-0.4
ISK	Istanbul-Kandi	147.03 320	P		PKPdf	06 04 55.3	+1.1
KAVV	Kandilli-Istan	147.03 320	P		PKPbc	06 04 56.5	-0.8
BEBN	Eben Emael	147.03 355	dPKPbc		PKPbc	06 04 57.6	+0.6
BEBN			dPKPab		PKPab	06 05 00.5	0.0
MODS	Modra-Piesok	147.04 341	ePKIKP		PKPdf	06 04 55.3	+1.3
MODS			e			06 04 58.6	
MODS	Modra-Piesok	147.04 341	ePKP		PKPdf	06 04 55.3	+1.3
MODS			e			06 04 58.6	
CSS	Mathiatis	147.09 307	PKPdf		PKPdf	06 04 54.8	+0.3
CSS			PKPbc		PKPbc	06 04 58.3	+0.6
ROTZ	Rotzenmuhle	147.10 347	ePKPdf		PKPdf	06 04 54.8	+0.7
	baz=19,slow=1.6						
ROTZ			ePKPbc		PKiKP	06 04 58.2	-0.7
	baz=15,slow=2.8						
HMNX	Herstmonceux	147.11 1	eP		PKPbc	06 04 56.5	-0.6
UCC	Uccle	147.12 357	dPKPbc		PKPbc	06 04 58.0	+0.7
UCC	Uccle	147.12 357	PKP2		PKiKP	06 04 58.3	-0.6
UCC	Uccle	147.12 357			PKPdf	06 04 54.4	+0.4
UCC			PKPbc		PKiKP	06 04 58.3	-0.6
YLV	Yalova	147.13 319	P		PKPdf	06 04 53.9	-0.6
BGKT	Bogazkoy	147.13 321	P		PKPdf	06 04 52.9	-1.4
AHRW	Bad Neuenahr-A	147.16 354	ePKPdf		PKPdf	06 04 55.4	+1.3
	baz=19,slow=1.6						
AHRW			ePKPbc		PKiKP	06 04 58.5	-0.5
	baz=15,slow=2.8						
AHRW			ePKPab		PKPab	06 05 02.6	+1.4
	baz=15,slow=4.1						
AHRW			epPKPbc		pPKPab	06 07 17.6	+1.3
	baz=12,slow=2.4						
COPA	Copacean

comp=Z,6.2nm,0.9s,baz=48,slow=2.0,SNR=3.6
GERES GERESS Array B 147.62 345 PKIKP **PKPdf** 06 04 55.7 +0.6
GERES 06 04 59.9
GERES GERESS Array B 147.62 345 PKPdf **PKPdf** 06 04 55.6 +0.6
GERES PKPbc **PKiKP** 06 04 59.9 -0.3
VLAD Vladila 147.68 328 ⇓P **PKiKP** 06 05 00.2 -0.2
TVSB Tavsanli 147.70 317 P **PKPdf** 06 04 54.6 -0.9
RCHB Rochefort 147.70 356 *d*PKPbc **PKPbc** 06 04 59.1 +0.4
BZS Buzias 147.75 333 ⇑P **PKPdf** 06 04 55.9 +0.7
BZS Buzias 147.75 333 ⇑PKIKP **PKPdf** 06 04 55.9 +0.7
SRE Strehaia 147.77 330 ⇑P **PKiKP** 06 05 00.3 -0.2
SRE Strehaia 147.77 330 ⇑PKP2 **PKiKP** 06 05 00.3 -0.2
DOU Dourbes 147.81 356 *d*PKPbc **PKPbc** 06 04 59.5 +0.5
ISP Isparta 147.85 314 PKIKP **PKPbc** 06 04 59.5 -0.2
ISP Isparta 147.85 314 **PKPbc** 06 04 59.5 -0.2
CONA Conrad Observa 147.87 342 *e*P **PKPdf** 06 04 55.8 +0.3
comp=Z,14nm,1.0s,SNR=86
CONA *i* P **PKiKP** 06 05 00.6 -0.1
comp=Z,186nm,1.1s
CONA *e*P **pPKPab** 06 07 21.9 +2.4
comp=Z,67nm,1.3s,SNR=12
EDRB Edirne 147.91 323 P **PKPdf** 06 04 55.5 -0.1
KCTX Karacabey (Bur 147.93 320 P **PKPbc** 06 05 00.2 +0.5
GEDZ Gediz 147.96 317 P **PKiKP** 06 05 00.7 -0.5
HERR Herculane 147.97 332 ⇓P **PKPbc** 06 05 00.1 +0.4
BCK Bucak 147.99 313 P **PKPbc** 06 04 59.6 -0.4
PLVB Pleven 148.01 327 ⇑P **PKPdf** 06 04 57.6 +1.9
WLF Walferdange 148.12 354 *d*PKPdf **PKPdf** 06 04 56.9 +1.2
WLF *d*PKPbc **PKiKP** 06 05 00.8 -0.3
WLF Walferdange 148.12 354 PKP2 **PKiKP** 06 05 01.5 +0.5
WLF 07 04 56.6
WLF Walferdange 148.12 354 PKPdf **PKPdf** 06 04 56.6 +0.9
WLF PKPbc **PKiKP** 06 05 01.5 +0.5
WLF Walferdange 148.12 354 *e*PKPdf **PKPdf** 06 04 56.9 +1.2
baz=19,slow=1.6
WLF *e*PKPbc **PKiKP** 06 05 01.5 +0.5
baz=15,slow=2.8
WLF *e*pPKPbc **pPKPbc** 06 07 19.2 -0.2
baz=12,slow=2.4
BANR Banloc 148.14 333 ⇓P **PKiKP** 06 05 01.6 +0.4
EDC Edincik 148.19 320 P **PKPbc** 06 04 59.9 -0.4
MRMT Marmara Adasi 148.19 321 P **PKPdf** 06 04 56.7 +0.5
ANTB Antalya 148.21 312 P **PKPbc** 06 04 59.5 -1.0
SIMA Simav-Kutahya 148.21 317 P **PKPbc** 06 04 58.9 -1.7
MDVR Moldovita 148.36 332 ⇑P **PKPdf** 06 04 56.9 +0.5
KORT Korkueli 148.38 313 P **PKPdf** 06 04 56.0 -0.7
RKY Sarkoy-Tekirda 148.39 321 P **PKPbc** 06 04 59.5 -1.4
MOA Molln 148.40 344 *e*P **PKPdf** 06 04 56.1 -0.1
comp=Z,9.1nm,1.4s
MOA *e*P **PKiKP** 06 05 01.2 -0.5
comp=Z,102nm,1.2s,SNR=17
MOA *e*P **pPKPab** 06 07 22.8 +1.6
comp=Z,34nm,1.2s
MORH Mrgy, Hungar 148.44 337 ⇑P **PKPdf** 06 04 56.9 +0.6
MORH Mrgy, Hungar 148.44 337 ⇓*i*P **PKPbc** 06 05 00.8 +0.1
KRBG Karabiga-Canak 148.50 321 P **PKPdf** 06 04 57.5 +0.9
ARSA Arzberg 148.58 342 *i* P **PKPdf** 06 04 56.3 -0.2
comp=Z,5.5nm,1.0s
ARSA *i* P **PKPbc** 06 05 01.6 +0.5
comp=Z,81nm,1.2s,SNR=20
ARSA *e*P **pPKPab** 06 07 23.3 +1.1
comp=Z,30nm,1.4s
STU Stuttgart 148.61 350 **PKPdf** 06 04 57.1 +0.6
STU PKPbc **PKiKP** 06 05 02.6 +0.5
STU PKPab **PKPab** 06 05 07.7 +0.5
STU Stuttgart 148.61 350 *e*PKPdf **PKPdf** 06 04 57.1 +0.6
baz=19,slow=1.6
STU *e*PKPbc **PKiKP** 06 05 02.2 +0.1
baz=15,slow=2.8
STU *e*PKPab **PKPab** 06 05 07.8 +0.6
baz=15,slow=4.1
STU *e*pPKPbc **pPKPbc** 06 07 20.3 -0.7
baz=12,slow=2.4
JSA Saint Aubin 148.65 5 *e*P **PKPbc** 06 04 59.9 -1.3
KULA Kula-Manisa 148.74 317 P **PKPdf** 06 04 56.5 -0.7
ERIK Erikli-Kesan 148.80 322 P **PKPbc** 06 05 01.9 +0.1
ELL Elmali 148.81 313 P **PKPbc** 06 05 02.6 +0.5
ELL Elmali 148.81 313 **PKPbc** 06 05 02.5 +0.3
FUR Furstenfeldbru 148.81 347 *e*PKPdf **PKPdf** 06 04 57.1 +0.2
baz=19,slow=1.6
FUR *e*PKPbc **PKiKP** 06 05 02.6 0.0
baz=15,slow=2.8
FUR *e*PKPab **PKPab** 06 05 08.8 +0.7
baz=15,slow=4.1
MANT Manisa 148.82 317 PKPdf **PKPdf** 06 04 58.2 +0.8
MANT PKPbc **PKiKP** 06 05 02.9 -0.3
MANT PKPab **PKPab** 06 05 09.3 +0.6
LPK Lapseki 148.84 321 P **PKPbc** 06 05 01.6 -0.3
FRGS Fruska Gora 148.87 335 ⇓P **PKPdf** 06 04 58.1 +1.0
FRGS Fruska Gora 148.87 335 ⇓*i*P **PKPbc** 06 05 02.1 +0.2
RJOB Jochberg 148.87 345 *e*PKPdf **PKPdf** 06 04 57.3 +0.2
baz=19,slow=1.6
RJOB *e*PKPbc **PKiKP** 06 05 02.4 -0.3
baz=15,slow=2.8
RJOB *e*PKPab **PKPab** 06 05 09.7 +1.3
baz=15,slow=4.1
RJOB *e*pPKPbc **pPKPab** 06 07 23.1 0.0
baz=12,slow=2.4
BEHE Becsehely 148.88 340 ⇓*i*P **PKiKP** 06 05 03.9 +1.2
ALN Alexandroupoli 148.92 323 PKP2 **PKPab** 06 05 09.8 +1.1
ALN 07 04 58.1
ALN Alexandroupoli 148.92 323 PKPdf **PKPdf** 06 04 58.1 +0.9
ALN PKPbc **PKPbc** 06 05 02.2 +0.2
ALN PKPab **PKPab** 06 05 09.8 +1.1
GELI Tayfur-Gelibol 148.99 321 P **PKPbc** 06 05 02.6 +0.3
KOGS Kog 149.07 340 *e*PKPbc **PKPbc** 06 05 02.4 +0.1
BFO Black Forest 149.17 351 PKPdf **PKPdf** 06 04 58.2 +0.7
BFO PKPbc **PKiKP** 06 05 03.4 0.0
BFO Black Forest 149.17 351 *e*PKPdf **PKPdf** 06 04 57.6 +0.1
baz=19,slow=1.6
BFO *e*PKPbc **PKiKP** 06 05 03.4 0.0
baz=15,slow=2.8
BFO *e*PKPab **PKPab** 06 05 10.3 +0.8
baz=15,slow=4.1
BFO *e*pPKPbc **pPKPbc** 06 07 23.1 +0.4
baz=12,slow=2.4
SOKA Soboth 149.25 342 *e*P **PKPdf** 06 04 57.3 -0.5
comp=Z,10nm,1.0s
SOKA *e*P **PKPbc** 06 05 03.0 +0.2
comp=Z,138nm,1.1s,SNR=20
SOKA *e*P **pPKPab** 06 07 24.4 -0.2
comp=Z,25nm,1.2s
BOVS Bovan 149.25 331 ⇑P **PKPbc** 06 05 02.9 +0.1
PERS Pernice 149.26 342 *e*PKPdf **PKPdf** 06 04 57.1 -0.6
PERS *e*PKPbc **PKPbc** 06 05 02.9 +0.1
VTS Vitosha 149.27 328 ⇑P **PKPdf** 06 04 59.4 +1.4
VTS Vitosha 149.27 328 PKPdf **PKPdf** 06 04 59.4 +1.4
VTS PKPbc **PKiKP** 06 05 03.9 0.0
AKAS Kas 149.27 312 P **PKPbc** 06 05 02.0 -1.3
KALN Kalnik 149.28 340 *i* P **PKPbc** 06 05 02.8 -0.1
KBA Koelnbreinsper 149.35 344 *e*P **PKPdf** 06 04 57.3 -0.7
comp=Z,12nm,1.2s
KBA *e*P **PKPbc** 06 05 03.0 -0.2
comp=Z,62nm,0.6s,SNR=18
KBA *e*P **pPKPbc** 06 07 23.5 +0.2
comp=Z,28nm,1.2s
EZN Ezine 149.44 321 P **PKPbc** 06 05 03.6 +0.3
ECH Echery 149.44 353 PKPdf **PKPdf** 06 04 58.6 +0.7
ECH PKPbc **PKiKP** 06 05 04.2 +0.3
FETY Fethiye 149.44 313 P **PKPbc** 06 05 03.1 -0.4
GADA Gvkgeada 149.46 322 P **PKPbc** 06 05 03.6 +0.2
TEKS Tekeris 149.48 334 ⇓*i*P **PKiKP** 06 05 03.8 -0.3
UBR Ueberruh 149.50 349 *e*PKPdf **PKPdf** 06 04 58.2 +0.1
baz=19,slow=1.6
UBR *e*PKPbc **PKiKP** 06 05 04.1 0.0
baz=15,slow=2.8
UBR *e*PKPab **PKPab** 06 05 11.3 +0.3
baz=15,slow=4.1
UBR *e*pPKPbc **pPKPbc** 06 07 23.7 +0.2
baz=12,slow=2.4
WATA Walderalm 149.53 347 *e*P **PKPdf** 06 04 58.3 0.0
comp=Z,20nm,1.2s,SNR=39
WATA *i* P **PKiKP** 06 05 04.0 -0.3
comp=Z,101nm,0.7s
WATA *e*P **pPKPab** 06 07 25.1 -0.6
comp=Z,44nm,1.3s,SNR=7.0
OBKA Obir 149.54 342 *e*P **PKPbc** 06 05 03.5 0.0
comp=Z,47nm,1.0s,SNR=10
DKL Dikili 149.54 319 P **PKPbc** 06 05 02.8 -0.8
AYDB Zeytinkoy-Aydi 149.56 316 P **PKPdf** 06 04 58.8 +0.3
RETA Reutte 149.56 348 *e*P **PKPdf** 06 04 58.2 0.0
comp=Z,11nm,1.0s
RETA *i* P **PKiKP** 06 05 04.1 -0.1
comp=Z,98nm,1.2s,SNR=13
RETA *e*P **pPKPab** 06 07 25.2 -0.4
comp=Z,30nm,1.4s
WTTA Wattenberg 149.59 346 *e*P **PKPdf** 06 04 58.5 +0.1
comp=Z,26nm,1.1s,SNR=58
WTTA *e*P **PKiKP** 06 05 04.4 0.0
comp=Z,90nm,0.6s
WTTA *e*P **pPKPab** 06 07 25.5 -0.4
comp=Z,57nm,1.2s,SNR=5.4
BOZC Bozcaada 149.59 321 P **PKPdf** 06 04 58.1 -0.3
MOTA Moosalm 149.63 347 *i* P **PKPdf** 06 04 58.3 -0.1
comp=Z,26nm,1.0s,SNR=25
MOTA *i* P **PKiKP** 06 05 04.2 -0.2
comp=Z,111nm,0.9s
MOTA *e*P **pPKPab** 06 07 25.7 -0.3
comp=Z,31nm,1.1s
PTJ Puntijarka 149.64 340 *i* P **PKPbc** 06 05 03.9 +0.1
DALY Dalyan (Mula) 149.65 314 P **PKPdf** 06 04 58.5 0.0
DIVS Divibare 149.65 333 ⇓*i*P **PKPbc** 06 05 03.6 -0.3
DIVS Divibare 149.65 333 PKPdf **PKPdf** 06 04 57.5 -0.9
DIVS PKPbc **PKiKP** 06 05 04.8 +0.2
MYKA Terra Mystica 149.69 343 *e*P **PKPdf** 06 04 57.4 -1.0
comp=Z,11nm,1.2s
MYKA *i* P **PKPbc** 06 05 03.7 -0.1
comp=Z,84nm,0.8s,SNR=19
MYKA *e*P **pPKPbc** 06 07 25.2 +1.1
comp=Z,35nm,1.3s,SNR=6.1
ZAG Zagreb 149.71 340 *i* P **PKiKP** 06 05 04.8 +0.4
SQTA Sankt Quirin 149.72 347 *e*P **PKPdf** 06 04 58.7 +0.2
comp=Z,21nm,0.9s,SNR=34
SQTA *i* P **PKiKP** 06 05 04.6 0.0
comp=Z,137nm,0.9s
SQTA *e*P **pPKPab** 06 07 26.0 -0.4
comp=Z,23nm,1.0s
YER Yerkesik 149.73 315 P **PKiKP** 06 05 04.9 0.0
ASCN Ascension 149.86 147 **PKiKP** 06 05 07.0 +1.3
H10N3 ASCENSION HYDR 149.87 147 PKPbc **PKiKP** 06 05 05.6 +0.3
ABTA Abfaltersbach 149.87 345 *i* P **PKPdf** 06 04 58.1 -0.6
comp=Z,41nm,1.2s,SNR=39
ABTA *i* P **PKPbc** 06 05 04.3 +0.1
comp=Z,159nm,0.7s
ABTA *e*P **pPKPbc** 06 07 25.5 +0.8
comp=Z,52nm,1.1s
H10N1 ASCENSION HYDR 149.87 147 PKPbc **PKiKP** 06 05 05.7 +0.3
SNR=2.7
CRES Cresnjev 149.88 341 ⇓*i*P **PKPbc** 06 05 04.4 +0.2
H10N2 ASCENSION HYDR 149.88 147 PKPbc **PKiKP** 06 05 05.7 +0.3
DAVA Damuels 149.93 349 *i* P **PKPdf** 06 04 59.0 +0.1
comp=Z,17nm,0.9s,SNR=42
DAVA *i* P **PKiKP** 06 05 05.1 0.0
comp=Z,94nm,0.8s
DAVA *e*P **pPKPab** 06 07 27.0 -0.2
comp=Z,45nm,1.1s
ZOU Zoufplan 149.93 344 PKPdf **PKPdf** 06 04 59.0 0.0
ZOU PKPbc **PKPbc** 06 05 04.8 +0.2
TURN Turunc 149.95 314 P **PKPbc** 06 05 04.6 0.0
CLF Chambon-Foret 149.96 359 PKPdf **PKPdf** 06 04 59.4 +0.8
CLF PKPbc **PKiKP** 06 05 06.0 +1.1
CLF PKPab **PKPab** 06 05 13.9 +1.1
LJU Ljubljana 149.97 342 *i* PKPdf **PKPdf** 06 04 59.1 +0.3
LJU *i* PKPbc **PKiKP** 06 05 05.1 +0.1
LJU *i* PKPab **PKPab** 06 05 12.3 -0.6
LJU Ljubljana 149.97 342 ⇓*i*P **PKPbc** 06 05 04.4 0.0
MLSB Milas 149.99 315 P **PKPbc** 06 05 03.2 -1.6
FETA Feichten 150.01 347 *e*P **PKPdf** 06 04 59.2 +0.2
comp=Z,37nm,0.9s,SNR=18
FETA *e*P **PKiKP** 06 05 05.5 +0.2
comp=Z,130nm,1.0s
FETA *e*P **pPKPab** 06 07 28.3 +0.7
comp=Z,58nm,1.2s
BBLS Lazići 150.09 334 ⇓*i*P **PKPbc** 06 05 05.1 +0.2
HAPS Han Pijesak,BI 150.10 334 ⇓*i*P **PKPbc** 06 05 04.5 -0.4
MRAK Mrakovica 150.10 338 *e*P **PKPab** 06 05 09.8 -3.8
GCAM G?zelcaml? 150.12 316 P **PKPdf** 06 04 57.7 -1.5
VOJS Vojsko 150.17 343 *i* PKPbc **PKPbc** 06 05 05.1 +0.1
BLY Banja Luka 150.23 337 ⇓*i*P **PKiKP** 06 05 05.4 -0.2
CEY Cerknica 150.27 342 ⇓*i*P **PKPbc** 06 05 05.1 -0.1
BODT Bodrum 150.43 315 P **PKPdf** 06 04 58.9 -0.9
STIP Stip 150.48 328 *i* P **PKPbc** 06 05 05.3 -0.5
TRI Trieste 150.50 343 *i* PKIKP **PKPdf** 06 04 59.7 +0.2
TRI 06 05 06.0
TRI Trieste 150.50 343 **PKPdf** 06 04 59.7 +0.2
TRI PKPbc **PKiKP** 06 05 06.0 -0.1
PLE Pljevlja 150.53 333 ⇓*i*PKP **PKiKP** 06 05 06.7 +0.3
VAY Valandovo 150.55 327 *i* P **PKPbc** 06 05 05.7 -0.2
MGRS Mrkonjic Grad 150.55 337 *e*P **PKiKP** 06 05 06.8 +0.5
RIY Rijeka 150.63 341 *i* P **PKiKP** 06 05 06.2 -0.2
SKO Skopje 150.64 329 *i* P **PKiKP** 06 05 06.7 +0.2
IVA Berane 150.68 332 ⇓*i*PKP **PKiKP** 06 05 06.8 +0.1
CTI Castel Tesino 150.73 346 PKIKP **PKPdf** 06 05 00.3 +0.2
CTI 06 05 06.9
CTI Castel Tesino 150.73 346 PKPdf **PKPdf** 06 05 00.3 +0.2
CTI PKPbc **PKiKP** 06 05 06.9 +0.1
TUE Stuetta 150.81 349 PKPdf **PKPdf** 06 05 01.1 +0.8
TUE PKPbc **PKiKP** 06 05 08.1 +1.1
UPM Unac-Piva 150.84 333 *e*P **PKPbc** 06 05 06.8 -1.0
UPM Unac-Piva 150.84 333 ⇓*i*PKP **PKPbc** 06 05 06.7 -0.1
KOME Kolasin 150.86 332 ⇓*i*PKP **PKiKP** 06 05 07.2 +0.1
PVY Plav 150.87 331 ⇓*i*PKP **PKPbc** 06 05 06.9 +0.1
UDBI Udbina 150.93 339 *i* P **PKPbc** 06 05 06.9 +0.1
NKY Niksic 151.12 333 ⇓*i*PKP **PKiKP** 06 05 07.7 +0.1
KIJV Kijevo 151.15 338 *i* P **PKiKP** 06 05 07.4 -0.1
NKME Niksic 151.17 333 ⇓*i*PKP **PKiKP** 06 05 07.6 -0.1
NVLJ Novalja 151.19 340 *i* P **PKPbc** 06 05 07.1 -0.1
SENIN Lac Senin/Sane 151.24 352 PKPdf **PKPdf** 06 05 02.1 +1.1
SENIN PKPbc **PKiKP** 06 05 08.7 +0.8
SENIN PKPab **PKPab** 06 05 19.5 +1.0
BRY Bratogost 151.24 334 ⇓*i*P **PKPbc** 06 05 07.5 -0.1
BRY Bratogost 151.24 334 ⇓*i*PKP **PKPbc** 06 05 07.6 -0.1
PDG Podgorica 151.31 332 ⇓P **PKiKP** 06 05 08.1 +0.2
PDG Podgorica 151.31 332 ⇓*i*P **PKPbc** 06 05 06.8 -0.8
PDG Podgorica 151.31 332 PKPdf **PKPdf** 06 04 59.7 -1.1
PDG PKPbc **PKiKP** 06 05 08.3 +0.4
TTG Podgorica 151.31 332 ⇓*i*PKP **PKiKP** 06 05 07.9 0.0
RICI Ricice 151.32 336 *i* P **PKPbc** 06 05 07.5 -0.1
KARP Karpathos 151.33 313 **PKiKP** 06 05 08.7 +0.5
CEME Cevo 151.37 333 ⇓*i*PKP **PKiKP** 06 05 08.0 -0.1
TEOL Teolo 151.37 345 PKPdf **PKPdf** 06 05 01.6 +0.7
TEOL PKPbc **PKiKP** 06 05 08.5 +0.6
TEOL PKPab **PKPab** 06 05 19.7 +0.9
SALO Salr 151.39 347 PKPdf **PKPdf** 06 05 01.2 +0.2
SALO PKPbc **PKiKP** 06 05 08.4 +0.4
LIT Litokhoron 151.46 325 PKIKP **PKPbc** 06 05 07.8 -0.2
LIT 06 05 20.1
LIT Litokhoron 151.46 325 **PKPbc** 06 05 07.8 -0.2
LIT PKPab **PKPab** 06 05 20.1 +0.7
TREB Trebinje 151.47 334 *e*P **PKPbc** 06 05 07.6 -0.4
MORI Morici 151.53 338 *i* P **PKPbc** 06 05 07.9 -0.1
MAKA Makarska 151.54 336 *i* P **PKPbc** 06 05 07.8 -0.3
DRME Dracevica, Mon 151.54 332 ⇓*i*P **PKPbc** 06 05 06.8 -1.3
DRME Dracevica, Mon 151.54 332 ⇓*i*PKP **PKiKP** 06 05 08.6 +0.2
FNA Florina 151.56 327 PKIKP **PKPbc** 06 05 08.3 0.0
FNA Florina 151.56 327 **PKiKP** 06 05 08.3 0.0
BUM Brajici-Budva 151.58 332 ⇓*i*PKP **PKPbc** 06 05 08.4 +0.1
APE Apeiranthos 151.60 317 ⇓P **PKPbc** 06 05 07.8 -0.7
APE Apeiranthos 151.60 317 ⇓PKIKP **PKPbc** 06 05 07.8 -0.7
OHR Ohrid 151.61 329 *i* P **PKiKP** 06 05 08.6 0.0
STON Ston 151.62 335 *i* P **PKPbc** 06 05 06.0 -2.2
HCY Herceg Novi 151.63 333 *e*P **PKPbc** 06 05 07.5 -0.8
HCY Herceg Novi 151.63 333 ⇓*i*PKP **PKPbc** 06 05 08.3 0.0
ULC Ulcinj 151.69 332 ⇓*i*PKP **PKiKP** 06 05 08.7 0.0
ZIRJ Zirje 151.73 338 *i* P **PKPbc** 06 05 08.0 -0.5
HVAR Hvar 151.85 337 *i* P **PKPbc** 06 05 08.4 -0.4
TIR Tirane 151.88 330 PKIKP **PKiKP** 06 05 09.4 +0.3
TIR Tirane 151.88 330 **PKiKP** 06 05 09.4 +0.3
SANT Santorini 152.05 316 ⇓P **PKPbc** 06 05 08.8 -0.6
SANT Santorini 152.05 316 PKPdf **PKPdf** 06 05 01.9 -0.3
SANT PKPbc **PKPbc** 06 05 08.9 -0.5
SANT PKPab **PKPab** 06 05 21.6 -0.3
PRMA PARMA 152.25 347 **PKPdf** 06 05 03.2 +1.1
PRMA PKPbc **PKiKP** 06 05 10.9 +1.2
AGG Agios Georgios 152.30 324 PKIKP **PKPdf** 06 05 01.9 -0.6
AGG 06 05 09.6
AGG Agios Georgios 152.30 324 PKPdf **PKPdf** 06 05 01.9 -0.6
AGG PKPbc **PKPbc** 06 05 09.6 -0.4
ZCCA Zocca 152.49 345 **PKPdf** 06 05 04.3 +1.6
ZCCA PKPbc **PKiKP** 06 05 12.2 +1.9
SSB Saint Sauveur 152.60 355 PKIKP **PKPdf** 06 05 04.0 +1.2
SSB 06 05 11.7
SSB Saint Sauveur 152.60 355 PKPdf **PKPdf** 06 05 04.0 +1.2
SSB PKPbc **PKiKP** 06 05 11.7 +1.2
BNI Bardonecchia 152.61 352 PKIKP **PKiKP** 06 05 11.9 +1.2
BNI Bardonecchia 152.61 352 **PKPdf** 06 05 04.6 +1.6
BNI PKPbc **PKiKP** 06 05 11.9 +1.2
IDI Anoyia 153.04 315 ⇑P **PKPdf** 06 05 04.7 +0.9
IDI Anoyia 153.04 315 PKPdf **PKPdf** 06 05 04.5 +0.7
IDI PKPbc **PKiKP** 06 05 11.9 +0.1
MURB Monte Urbino 153.09 342 **PKPdf** 06 05 03.5 -0.1
MURB PKPbc **PKiKP** 06 05 12.3 +0.6
OSSC Osservatorio P 153.20 344 PKPdf **PKPdf** 06 05 03.1 -0.6
OSSC PKPbc **PKPbc** 06 05 11.2 -0.5
OSSC PKPab **PKPab** 06 05 26.8 +0.1
NRCA Norcia 153.30 341 **PKPdf** 06 05 04.1 +0.2
NRCA **PKiKP** 06 05 12.6 +0.5
NRCA PKPab **PKPab** 06 05 28.3 +1.1
SGRT San Giovanni R 153.34 336 PKPdf **PKPdf** 06 05 04.3 +0.3
SGRT PKPbc **PKiKP** 06 05 12.5 +0.2
SGRT PKPab **PKPab** 06 05 27.7 +0.3
AQU L'Aquila 153.65 340 PKIKP **PKPbc** 06 05 11.8 -1.0
AQU 06 05 30.1
AQU L'Aquila 153.65 340 ⇓*i*P **PKPdf** 06 05 03.1 -1.3
AQU L'Aquila 153.65 340 PKPdf **PKPdf** 06 05 05.1 +0.7
AQU **PKPbc** 06 05 11.8 -1.0
AQU PKPab **PKPab** 06 05 30.1 +1.5
ITM Ithomi 153.78 321 **PKiKP** 06 05 13.2 0.0
ITM PKPab **PKPab** 06 05 30.2 +0.8
INTR Introdacqua 153.78 339 PKPdf **PKPdf** 06 05 04.7 +0.1
INTR PKPab **PKPab** 06 05 29.5 +0.2
PGAV Gavieira, Arco 154.58 17 *e*PKPdf **PKPdf** 06 05 05.7 0.0
PTO Porto 155.25 19 *e*PKPdf **PKPdf** 06 05 08.2 +1.7
POLO Lamas de Olo 155.26 17 *e*PKPdf **PKPdf** 06 05 08.3 +1.6
POLO Lamas de Olo 155.26 17 *e*PKPab **PKPab** 06 05 36.8 +1.1
MVO Moncorvo 155.67 16 *e*PKPdf **PKPdf** 06 05 08.6 +1.4
MVO Moncorvo 155.67 16 *e*PKPab **PKPab** 06 05 38.6 +1.2
PVIS Viseu 155.84 18 *e*PKPdf **PKPdf** 06 05 08.7 +1.3
COI Coimbra 156.15 19 *e*PKPdf **PKPdf** 06 05 09.1 +1.4
COI Coimbra 156.15 19 *e*PKPab **PKPab** 06 05 38.0 -1.4
MTE Manteigas 156.24 18 *e*PKPdf **PKPdf** 06 05 09.4 +1.5
MTE Manteigas 156.24 18 **PKPdf** 06 05 09.2 +1.3
PCAS Casmilo, Conde 156.27 20 *e*PKPdf **PKPdf** 06 05 09.5 +1.6
PCAS Casmilo, Conde 156.27 20 *e*PKPab **PKPab** 06 05 41.4 +1.4
PCBR Castelo Branco 156.78 18 *e*PKPdf **PKPdf** 06 05 09.9 +1.4
PCBR Castelo Branco 156.78 18 *e*PKPab **PKPab** 06 05 43.1 +1.0
PMRV Marv??o 157.18 18 *e*PKPdf **PKPdf** 06 05 10.2 +1.1
PMRV Marv??o 157.18 18 *e*PKPab **PKPab** 06 05 41.6 -2.3
PMTG Montargil 157.25 20 *e*PKPdf **PKPdf** 06 05 10.1 +1.0
ESDC Sonseca Array 157.78 11 PKP **PKPdf** 06 05 10.5 +0.7
comp=Z,5.3nm,1.0s,baz=346,slow=3.1,SNR=21
ESDC PKPab **PKPab** 06 05 47.5 +1.0
comp=Z,4.0nm,0.8s,baz=338,slow=3.7,SNR=14
ESDC Sonseca Array 157.78 11 **PKPdf** 06 05 10.6 +0.7
ESDC PKPab **PKPab** 06 05 46.8 +0.2
EVO Evora 157.81 20 *e*PKPdf **PKPdf** 06 05 10.9 +1.0
EVO Evora 157.81 20 *e*PKPab **PKPab** 06 05 49.0 +2.3
PAB San Pablo 157.83 12 PKIKP **PKPdf** 06 05 11.5 +1.5
PAB San Pablo 157.83 12 PKPdf **PKPdf** 06 05 11.5 +1.5
PNCL Nicolau / Gran 158.01 22 *e*PKPdf **PKPdf** 06 05 11.6 +1.5
PNCL Nicolau / Gran 158.01 22 *e*PKPab **PKPab** 06 05 48.7 +1.2
MESJ Messejana 158.36 21 *e*PKPdf **PKPdf** 06 05 11.8 +1.3
MESJ Messejana 158.36 21 *e*PKPdf **PKPdf** 06 05 12.3 +1.8
PTEO Sao Teotonio 158.44 23 *e*PKPdf **PKPdf** 06 05 12.7 +2.1
PTEO Sao Teotonio 158.44 23 *e*PKPab **PKPab** 06 05 50.5 +1.1
PBAR Barrancos 158.44 19 *e*PKPdf **PKPdf** 06 05 12.0 +1.4
PBAR Barrancos 158.44 19 *e*PKPab **PKPab** 06 05 46.1 -3.3
PCVE Castro Verde 158.61 21 *e*PKPdf **PKPdf** 06 05 12.6 +1.8
PCVE Castro Verde 158.61 21 *e*PKPab **PKPab** 06 05 51.7 +1.5
PFVI Vila Bisbo 158.76 24 *e*PKPdf **PKPdf** 06 05 13.2 +2.2
PVAQ Vaqueiros 158.92 21 *e*PKPdf **PKPdf** 06 05 12.8 +1.6
PVAQ Vaqueiros 158.92 21 *e*PKPab **PKPab** 06 05 48.6 -3.0
PBDV Barranco-do-Ve 158.99 22 *e*PKPdf **PKPdf** 06 05 13.2 +1.9
PBDV Barranco-do-Ve 158.99 22 *e*PKPab PKPab 06 05 43.8 -8.1
KEST Kesra 160.97 340 PKP **PKPdf** 06 05 14.0 +0.4
comp=Z,11nm,0.9s,baz=315,slow=3.5,SNR=6.8
KEST PKPab **PKPab** 06 06 01.1 +0.5
comp=Z,22nm,0.8s,baz=290,slow=2.7,SNR=9.3
MDT Midelt 164.14 19 PKP **PKPdf** 06 05 18.4 +1.6
comp=Z,22nm,0.9s,baz=37,slow=1.7,SNR=42
MDT PKPab **PKPab** 06 06 15.5 +0.8
comp=Z,9.0nm,0.8s,baz=347,slow=2.9,SNR=7.9
MDT pPKP **pPKPdf** 06 07 42.0 +2.9
comp=Z,15nm,1.1s,baz=1.6,slow=3.5,SNR=7.6
LIC Lamto 166.70 150 *e*PKIKP **PKPdf** 06 05 18.4 -0.9
comp=Z,78nm,1.0s
LIC Lamto 166.70 150 *e*PKP1 **PKPab** 06 06 27.6 +1.3
comp=Z,66nm,1.6s
KIC Kosan Boka 166.95 151 *e*PKIKP **PKPdf** 06 05 18.7 -0.8
comp=Z,56nm,1.0s
KIC Kosan Boka 166.95 151 *e*PKP1 **PKPab** 06 06 27.5 +0.1
comp=Z,26nm,1.1s
TIC Toumodi 167.07 149 *e*PKIKP **PKPdf** 06 05 18.6 -1.0
TIC Toumodi 167.07 149 *e*PKP1 **PKPab** 06 06 28.4 +0.4
DBIC Dimbokro 167.17 150 PKP **PKPdf** 06 05 19.6 0.0
comp=Z,18nm,0.9s,baz=136,slow=2.4,SNR=17
DBIC PKPab **PKPab** 06 06 28.5 +0.1
comp=Z,5.1nm,0.8s,baz=172,slow=9.7,SNR=4.0
DBIC pPKP **pPKPdf** 06 07 43.7 +1.0
comp=Z,7.4nm,1.1s,baz=231,slow=4.9,SNR=3.2
DBIC Dimbokro 167.17 150 **PKPdf** 06 05 19.3 -0.3
KOWA Kowa 173.62 121 PKP **PKPdf** 06 05 22.5 -0.5
comp=Z,19nm,0.8s,baz=142,slow=0.7,SNR=41
KOWA PKPab **PKPab** 06 06 56.5 -0.7
comp=Z,5.6nm,0.8s,baz=239,slow=9.8,SNR=5.2
KOWA Kowa 173.62 121 **PKPdf** 06 05 22.8 -0.2
TAM Tamanrasset 173.91 324 PKIKP **PKPdf** 06 05 24.4 +1.3
TAM 06 06 59.8
TAM Tamanrasset 173.91 324 **PKPdf** 06 05 24.4 +1.3
TAM PKPab **PKPab** 06 06 59.8 +1.4
TOA0 Torodi Ar. Sit 175.26 181 **PKPdf** 06 05 23.4 -0.1
TORD Torodi Ar. Bea 175.26 181 PKP **PKPdf** 06 05 23.1 -0.5
comp=Z,20nm,0.9s,baz=336,slow=1.5,SNR=64
TORD PKPab **PKPab** 06 07 03.5 -0.7
comp=Z,2.7nm,0.7s,baz=194,slow=4.4,SNR=9.4
TORD pPKP **pPKPdf** 06 07 47.0 0.0
comp=Z,11nm,1.1s,baz=269,slow=1.0,SNR=6.3
TORD pPKPab **pPKPab** 06 09 17.8 +0.5
comp=Z,9.9nm,1.0s,baz=192,slow=3.7,SNR=3.3
TORD PP **PP** 06 10 55.8 0.0
comp=Z,4.3nm,1.0s,baz=170,slow=1.4,SNR=4.3
TORD Torodi Ar. Bea 175.26 181 **PKPdf** 06 05 22.7 -0.9
TORD **PKPab** 06 07 04.9 +0.8

IDC ***22*** *05:56:20.6±0.3, 13°.27N×145°.72E, h0km, mb5.1/49, mb1 5.1/50, mb1mx5.1/63, mbtmp5.1/50, ML3.1/1, MS5.0/25, Ms1 5.0/25, ms1mx4.7/45, Error ellipse: s-maj=12.0km s-min=8.6km az=88.0*

NEIC ***22*** *05:56:22.4± 1.7, 13°.23N±0°.06×145°.72E±0°.05, h10km±1km, mb5.5/350, Ms_20 5.3/472, Mwc5.5(GCMT), Error ellipse: s-maj=10.6km s-min=8.8km az=170.0*

MOS ***22*** *05:56:22.9±0.8, 13°.25N×145°.77E, h33km, mb5.7/113, MS5.1/28, Error ellipse: s-maj=15.1km s-min=7.0km az=102.4*

DJA ***22*** *05:56:23.5±0.6, 13°N±4′×14′6E±′, h43km±5km, M5.5/46, mb5.4/46, mB6.0/30, MLv5.4/1, Mw(mB)5.6/30*

BJI ***22*** *05:56:24.0±0.0, 13°.39N×145°.70E, h30km, mB5.5/58, mb5.2/71, Ms5.3/74, Ms7 5.1/72*

NEIC ***22*** *05:56:26, 13°.06N×145°.87E, h17km, Moment Tensor Solution. Moment tensor: Scale 10*^{17}*Nm; M*$_{rr}$*1.62; M*$_{\theta\theta}$*0.07; M*$_{\phi\phi}$*-1.69; M*$_{r\theta}$*0.32; M*$_{\phi\theta}$*-0.64; M*$_{r\phi}$*1.26; Fault plane solution: M*$_{o}$*2.20000×10*^{17} *NP1:*$\

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.96**	**293**		**Pn**	**05 56 41.6**	**-0.3**
GUMO				Sn	**Sb**	**05 56 53.3**	**-0.9**
ANA2	**Anatahan**	**3.11**	**359**		**Pn**	**05 57 14.5**	**+2.9**
PATS	**Pohnpei**	**13.88**	**116**	Pn	Pn	05 59 33.4	-5.9
JCJ	**Chichijima**	**14.21**	**347**	Pn	**Pn**	**05 59 45.4**	**+1.5**
	3.1nm,0.3s,baz=266,slow=22,SNR=1.4						
JCJ				Sn	**Sn**	**06 02 20.4**	**-0.5**
	3.1nm,0.3s,baz=291,slow=19,SNR=1.3						
MANU	**Manus Island**	**15.24**	**174**		**Pn**	**05 59 54.8**	**-3.0**
JAY	**Jayapura**	**16.42**	**198**	Pn	**Pn**	**06 00 12.4**	**-0.6**
	0.1nm,0.3s,baz=328,slow=6.5,SNR=2.7						
JAY	**Jayapura**	**16.42**	**198**	P	**P**	**06 00 16.7**	**+1.1**
	1µm41nm,1.3s						
SMPI	**Sarmi**	**16.65**	**205**	P	**P**	**06 00 19.7**	**+1.5**
	2µm55nm,1.0s						
GENI	**Genyem**	**16.66**	**200**	P	**P**	**06 00 20.5**	**+2.2**
	7µm98nm,2.3s						
SRPI	**Serui, Papua**	**17.72**	**213**	P	**P**	**06 00 32.1**	**+2.1**
	206nm,1.1s						
RABL	**Rabaul**	**18.42**	**159**	P	**P**	**06 00 34.5**	**-3.3**
JMZ	**Minamidaito 2**	**18.56**	**315**		**P**	**06 00 38.0**	**-1.2**
GLSP	**General Luna,**	**19.55**	**262**	*e*P	**P**	**06 00 49.8**	**-0.4**
SIJI	**Sorong**	**20.07**	**227**	P	Pn	06 00 57.5	-0.2
	135nm,1.1s,baz=36,slow=11,SNR=11						
SWI	**Sorong**	**20.07**	**227**	P	Pn	06 00 58.7	+1.0
	3µm200nm,1.0s						
JHJ2	**Mitsune**	**20.54**	**346**	P	**P**	**06 00 59.0**	**-1.8**
JHJ	**Hachijo jima 2**	**20.56**	**346**	P	**P**	**06 01 02.0**	**+1.0**
	72nm,0.4s,baz=298,slow=3.4,SNR=3.6						
JHJ				LR	LR	06 07 36.2	
	comp=Z,3µm,18.9s,baz=190,slow=33						
MSLP	**Maasin**	**20.71**	**264**	*e*P	Pn	06 01 04.2	-1.0
H11S3	**WAKE ISLAND Hy**	**20.79**	**73**	T	T	06 22 41.9	
	baz=244,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**20.80**	**73**	T	T	06 22 42.8	
	baz=244,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**20.80**	**73**	T	T	06 22 39.9	
	baz=244,slow=76,SNR=7.8						
FAKI	**Fak Fak**	**20.91**	**221**	P	**P**	**06 01 03.8**	**-1.1**
FAKI				IAmb	IAmb	06 01 07.8	
	comp=Z,289nm,1.2s						
FAKI	**Fak Fak**	**20.91**	**221**	P	**P**	**06 01 06.3**	**+1.4**
	comp=Z,6µmcomp=Z,221nm,1.5s						
WAKE	**Wake Island**	**20.93**	**70**	P	**P**	**06 01 05.0**	**-0.1**
DDMP	**Don Marcelino,**	**20.99**	**252**	*e*P	**P**	**06 01 05.0**	**-0.8**
BUKP	**Musuan**	**21.03**	**257**	*e*P	**P**	**06 01 06.8**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**21.25**	**69**	T	T	06 23 18.3	
	baz=255,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**21.26**	**69**	T	T	06 23 17.8	
	baz=255,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**21.27**	**69**	T	T	06 23 16.8	
	baz=255,slow=75,SNR=11						
JOW	**Kunigami**	**21.27**	**312**	P	**P**	**06 01 09.7**	**+1.0**
	comp=Z,129nm,0.9s,baz=139,slow=8.4,SNR=14						
JOW				LR	LR	06 08 25.0	
	comp=Z,7µm,19.2s,baz=133,slow=34						
JOW	**Kunigami**	**21.27**	**312**	P	**P**	**06 01 09.4**	**+0.7**
JOW				IAmb	IAmb	06 01 17.9	
	comp=Z,197nm,1.0s						
LLP	**Lapu-Lapu**	**21.54**	**265**⇑	*e*P	**P**	**06 01 11.5**	**-0.2**
KWAJ	**Kwajalein Atol**	**21.88**	**99**	IAMs_20	IAMs_20	06 08 47.5	
	comp=Z,8µm,20.0s						
SKMP	**Bagumbayan, Su**	**21.94**	**254**	*e*P	**P**	**06 01 20.2**	**+4.2**
TNTI	**Ternate**	**22.03**	**237**	P	**P**	**06 01 15.8**	**-1.2**
TNTI	**Ternate**	**22.03**	**237**	P	**P**	**06 01 18.6**	**+1.6**
	comp=Z,7µmcomp=Z,100nm,1.5s						
SGSI	**Sangihe**	**22.13**	**246**	P	**P**	**06 01 21.2**	**+3.1**
	comp=Z,3µmcomp=Z,289nm,1.1s						
JCNP	**Jose Panganiba**	**22.44**	**275**	*e*P	**P**	**06 01 21.1**	**-0.3**
JSG	**Sagara**	**22.45**	**343**	P	**P**	**06 01 21.8**	**+0.5**
PMG	**Port Moresby**	**22.52**	**176**	P	**P**	**06 01 23.6**	**+1.4**
	comp=Z,26nm,0.8s,baz=20,slow=13,SNR=4.2						
PMG	**Port Moresby**	**22.52**	**176**	*i* P	**P**	**06 01 22.0**	**-0.1**
PMG				pmax	pmax		
	comp=Z,27nm,1.1s						
PMG	**Port Moresby**	**22.52**	**176**	P	**P**	**06 01 21.2**	**-0.9**
PAGZ	**Pagadian**	**22.64**	**259**	*e*P	**P**	**06 01 23.1**	**-0.5**
GUIM	**Jordan**	**22.83**	**266**	*e*P	**P**	**06 01 25.9**	**+0.4**
CNOP	**Candoni, Negro**	**22.91**	**264**	*e*P	**P**	**06 01 25.3**	**-1.1**
JMN	**Monobe**	**23.11**	**334**	P	**P**	**06 01 28.2**	**-0.2**
INU	**Inuyama**	**23.41**	**342**	P	**P**	**06 01 30.4**	**-0.9**
JYT	**Yasato**	**23.46**	**349**	P	**P**	**06 01 30.2**	**-1.5**
JYT				IAmb	IAmb	06 01 42.2	
	comp=Z,82nm,0.7s						
JGF	**Kuroka**	**23.55**	**343**	P	**P**	**06 01 31.9**	**-0.7**
LQP	**Lukban**	**23.56**	**275**	*e*P	**P**	**06 01 30.6**	**-2.6**
JWT	**Wachi**	**23.89**	**339**	P	**P**	**06 01 35.0**	**-0.8**
JWT				IAmb	IAmb	06 01 37.3	
	comp=Z,168nm,1.2s						
JNU	**Nakatsue**	**24.03**	**328**	P	**P**	**06 01 36.9**	**-0.3**
	comp=Z,99nm,1.0s,baz=133,slow=5.4,SNR=14						
JNU	**Nakatsue**	**24.03**	**328**	P	**P**	**06 01 37.2**	**-0.1**
JNU				IAmb	IAmb	06 01 40.2	
	comp=Z,113nm,1.0s						
SJMP	**San Jose**	**24.05**	**271**	*e*P	**P**	**06 01 37.5**	**0.0**
APYP	**Conner**	**24.07**	**284**	*e*P	**P**	**06 01 36.4**	**-1.3**
TGY	**Tagaytay City**	**24.15**	**275**	P	**P**	**06 01 38.6**	**0.0**
	comp=Z,341nm,0.4s,baz=178,slow=4.4,SNR=3.5						
TGY				LR	LR	06 09 59.4	
	comp=Z,4µm,18.7s,baz=64,slow=34						
PGP	**Puerto Galera**	**24.15**	**274**⇑	*e*P	**P**	**06 01 36.2**	**-2.3**
MJAR	**Matsushiro Arr**	**24.20**	**345**	P	**P**	**06 01 36.9**	**-1.8**
	comp=Z,39nm,0.9s,baz=195,slow=6.2,SNR=40						
MJAR	**Matsushiro Arr**	**24.20**	**345**	P	**P**	**06 01 36.3**	**-2.5**
MJAR				pmax	pmax		
	comp=Z,29nm,0.9s						
MJAR	**Matsushiro Arr**	**24.20**	**345**	P	**P**	**06 01 36.3**	**-2.5**
MAJO	**Matsushiro**	**24.20**	**345***c*	*i* P	**P**	**06 01 36.3**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,222nm,1.4s						
MAJO	**Matsushiro**	**24.20**	**345**	P	**P**	**06 01 36.8**	**-2.0**
MAJO				IAmb	IAmb	06 01 40.4	
	comp=Z,154nm,1.1s						
MAT	**Matsushiro**	**24.20**	**345**	P	**P**	**06 01 36.6**	**-2.2**
MAT				S	**S**	**06 05 51.6**	**-4.2**
MJB9	**Matsu-Tunnel**	**24.21**	**345**	P	**P**	**06 01 37.3**	**-1.6**
MJB9				IAmb	IAmb	06 01 40.4	
	comp=Z,129nm,0.9s						
CUYO	**Cuyo Island**	**24.32**	**267**	*e*P	**P**	**06 01 39.4**	**-0.7**
SMPP	**San Manuel, Pa**	**24.44**	**280**	*e*P	**P**	**06 01 40.0**	**-1.2**
JHS	**Saijyo**	**24.53**	**334**	P	**P**	**06 01 41.4**	**-0.4**
JHS				IAmb	IAmb	06 01 59.6	
	comp=Z,164nm,1.0s						
SANI	**Sanana**	**24.81**	**234**	P	**P**	**06 01 43.2**	**-1.3**
	comp=Z,2µmcomp=Z,41nm,0.9s						
LUBP	**Lubang**	**24.83**	**274**	*e*P	**P**	**06 01 41.9**	**-2.7**
JMM	**Marumori**	**24.95**	**351**	P	**P**	**06 01 45.5**	**0.0**
JMM				IAmb	IAmb	06 02 01.6	
	comp=Z,86nm,1.0s						
KMSI	**Cibinong**	**24.98**	**242**	P	**P**	**06 01 49.2**	**+3.2**
	comp=Z,6µmcomp=Z,392nm,1.1s						
BUSP	**Coron**	**24.98**	**270**	*e*P	**P**	**06 01 45.0**	**-1.1**
YULB	**Yu-li**	**25.31**	**297**	P	**P**	**06 01 47.6**	**-1.3**
YULB				IAmb	IAmb	06 02 06.0	
	comp=Z,131nm,1.4s						
NACB	**Ninganchiao**	**25.32**	**299**	P	**P**	**06 01 48.9**	**-0.2**
TWG	**Pinlang**	**25.32**	**296**	P	**P**	**06 01 48.5**	**-0.6**
TWG				IAmb	IAmb	06 02 07.8	
	comp=Z,66nm,1.0s						
JSD	**Sado**	**25.61**	**346**	P	**P**	**06 01 50.8**	**-0.7**
JSD				IAmb	IAmb	06 01 55.8	
	comp=Z,144nm,1.0s						
YHNB	**Yeheng**	**25.69**	**300**	IAMs_20	IAMs_20	06 10 45.8	
	comp=Z,9µm,20.0s						
TATO	**Taipei**	**25.71**	**301**	IAMs_20	IAMs_20	06 10 57.2	
	comp=Z,7µm,20.0s						
SSLB	**Suanglung**	**25.74**	**298**	P	**P**	**06 01 51.8**	**-1.1**
SSLB				IAmb	IAmb	06 02 06.5	
	comp=Z,194nm,1.3s						
SSLB				IAMs_20	IAMs_20	06 10 49.0	
	comp=Z,6µm,20.0s						
GTOI	**Gorontalo**	**25.78**	**243**	P	**P**	**06 01 54.3**	**+1.0**
	comp=Z,2µmcomp=Z,91nm,1.4s						
HNR	**Honiara**	**26.54**	**147**	LR	LR	06 12 44.7	
	comp=Z,11µm,19.3s,baz=311,slow=37						
MRSI	**Marisa**	**26.79**	**244**	P	**P**	**06 02 03.1**	**+0.7**
	comp=Z,3µmcomp=Z,263nm,1.1s						
LUWI	**Luwuk**	**26.85**	**240**	P	**P**	**06 02 02.3**	**-0.6**
LUWI	**Luwuk**	**26.85**	**240**	P	**P**	**06 02 02.6**	**-0.4**
	comp=Z,4µmcomp=Z,438nm,1.1s						
COEN	**Coen**	**27.12**	**186**	P	**P**	**06 02 04.8**	**-0.5**
TOLI2	**Tolitoli**	**27.51**	**246**	P	**P**	**06 02 08.7**	**-0.2**
TOLI2				IAmb	IAmb	06 02 15.8	
	comp=Z,90nm,1.0s						
APSI	**Ampana**	**27.73**	**241**	P	**P**	**06 02 11.2**	**+0.3**
	comp=Z,1µmcomp=Z,111nm,1.2s						
BATP	**Bataraza**	**27.80**	**264**	*e*P	**P**	**06 02 12.1**	**+0.6**
MYLDM	**Lahad Datu**	**28.06**	**256**	P	**P**	**06 02 15.6**	**+1.7**
QZH	**Quanzhou**	**28.15**	**298**	*e*P	**P**	**06 02 12.4**	**-2.1**
QZH				*e*S	**S**	**06 06 58.6**	**0.0**
QZH				LR	LR		
	comp=Z,2µm,17.1s						
QZH				LR	LR		
	comp=Z,2µm,17.1s						
QZH				LR	LR		
	comp=Z,3µm,18.5s						
SSE	**Sheshan**	**28.79**	**312**	P	**P**	**06 02 18.8**	**-1.4**
SSE				sP	**pwP**	**06 02 36.8**	**+4.8**
SSE				PP	**PnPn**	**06 03 10.5**	**-0.9**
SSE				S	**S**	**06 07 08.3**	**-0.2**
SSE				pmax	pmax		
	comp=Z,17nm,1.0s						
SSE				pmax	pmax		
	comp=Z,230nm,5.4s						
SSE				LR	LR		
	comp=Z,910nm,18.0s						
KSRS	**Korea Array**	**28.93**	**330**	P	**P**	**06 02 20.6**	**-0.7**
	comp=Z,18nm,0.9s,baz=140,slow=9.6,SNR=16						
KSRS				PcP	**PcP**	**06 05 31.9**	**+1.9**
	comp=Z,4.4nm,0.8s,baz=158,slow=2.7,SNR=3.8						
KSRS				LR	LR	06 12 37.8	
	comp=Z,2µm,19.6s,baz=135,slow=34						
KSAR	**Wonju Array Be**	**28.94**	**330**	P	**P**	**06 02 21.8**	**+0.4**
KSAR	**Wonju Array Be**	**28.94**	**330**	P	**P**	**06 02 21.8**	**+0.4**
KS19	**Wonju Array Si**	**28.99**	**330**	P	**P**	**06 02 21.8**	**-0.1**
MTN	**Manton Dam**	**29.68**	**210**	P	**P**	**06 02 28.3**	**+0.1**
MTN				IAmb	IAmb	06 02 29.1	
	comp=Z,78nm,1.1s						
KKM	**Kota Kinabalu**	**29.98**	**259**	P	**P**	**06 02 31.0**	**0.0**
TTSI	**Tana Toraja**	**30.41**	**240**	P	**P**	**06 02 35.7**	**+1.0**
	comp=Z,1µmcomp=Z,42nm,1.3s						
JKA	**Kamikawa-asahi**	**30.91**	**356**	P	**P**	**06 02 38.4**	**-0.4**
ASAJ	**Asahikawa**	**30.92**	**356**	P	**P**	**06 02 38.4**	**-0.4**
	comp=Z,17nm,0.7s,baz=201,slow=12,SNR=13						
ASAJ	**Asahikawa**	**30.92**	**356**	P	**P**	**06 02 38.4**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,29nm,0.9s						
BNSI	**Bone**	**30.92**	**237**	P	**P**	**06 02 40.6**	**+1.4**
	comp=Z,2µmcomp=Z,68nm,1.9s						
SPSI	**Sidrap Palu**	**30.95**	**238**	P	**P**	**06 02 38.9**	**-0.6**
	comp=Z,29nm,1.1s						
NJ2	**Nanjing**	**30.98**	**312**	*e*P	**P**	**06 02 39.3**	**-0.3**
NJ2				S	**S**	**06 07 35.9**	**-7.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,360nm,3.9s						
NJ2				LR	LR		
	comp=Z,1µm,13.7s						
NJ2				LR	LR		
	comp=Z,1µm,14.0s						
NJ2				LR	LR		
	comp=Z,2µm,20.4s						
SMKI	**Samarinda**	**31.40**	**247**	P	**P**	**06 02 46.0**	**+2.5**
	comp=Z,12µmcomp=Z,339nm,1.1s						
BKSI	**Bulukumba**	**31.43**	**236**	P	**P**	**06 02 43.8**	**+0.1**
	comp=Z,21nm,1.0s						
KAPI	**Kappang**	**31.56**	**237**	P	**P**	**06 02 45.0**	**+0.1**
	comp=Z,11nm,0.7s,baz=352,slow=0.7,SNR=5.2						
KAPI	**Kappang**	**31.56**	**237**	P	**P**	**06 02 44.9**	**+0.1**
KAPI				pmax	pmax		
	comp=Z,46nm,1.4s						
KAPI	**Kappang**	**31.56**	**237**	P	**P**	**06 02 44.9**	**0.0**
MSHR	**Mys Shultsa**	**31.88**	**339***de*	P	**P**	**06 02 47.9**	**+0.6**
MSHR				pmax	pmax		
	comp=Z,120nm,0.8s						
MSHR				MLR	MLR		
	comp=Z,3µm,18.0s						
MMRI	**Maumere**	**31.90**	**228**	P	**P**	**06 02 45.8**	**-2.0**
MMRI				IAmb	IAmb	06 03 02.0	
	comp=Z,62nm,1.0s						
BKB	**Balikpapan**	**32.05**	**245**	P	**P**	**06 02 49.0**	**-0.1**
BKB	**Balikpapan**	**32.05**	**245**	P	**P**	**06 02 50.6**	**+1.5**
	comp=Z,263nm,1.3s						
GZH	**Guangzhou**	**32.27**	**292**	*e*P	**P**	**06 02 51.0**	**-0.1**
GZH				PP	**PnPn**	**06 03 54.6**	**-3.1**
GZH				S	**S**	**06 08 01.3**	**-2.1**
GZH				LR	LR		
	comp=Z,2µm,13.1s						
GZH				LR	LR		
	comp=Z,4µm,19.5s						
EDFI	**Ende, Flores**	**32.38**	**229**	P	**P**	**06 02 52.6**	**+0.5**
	comp=Z,20nm,1.2s						
TEY	**Ternei**	**32.66**	**348**	*e*P	**P**	**06 02 53.1**	**-1.1**
USA0B	**Ussuriysk Arra**	**33.06**	**342***c*	*i* P	**P**	**06 02 57.1**	**-0.6**
USA0B	**Ussuriysk Arra**	**33.06**	**342**	P	**P**	**06 02 57.4**	**-0.3**
USA0B				IAmb	IAmb	06 03 00.3	
	comp=Z,38nm,0.9s						
USRK	**Ussuriysk Ar.**	**33.06**	**342**	P	**P**	**06 02 57.7**	**0.0**
	comp=Z,33nm,0.8s,baz=164,slow=9.6,SNR=23						
USRK				LR	LR	06 15 27.6	
	comp=Z,2µm,19.3s,baz=139,slow=35						
USRK	**Ussuriysk Ar.**	**33.06**	**342**	P	**P**	**06 02 57.3**	**-0.4**
USRK	**Ussuriysk Ar.**	**33.06**	**342**	P	**P**	**06 02 57.2**	**-0.4**
CTAO	**Charters Tower**	**33.10**	**179**	P	**P**	**06 02 58.3**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,38nm,1.5s						
CTAO	**Charters Tower**	**33.10**	**179**	P	**P**	**06 02 58.3**	**+0.1**
KNRA	**Kununurra**	**33.27**	**211**	P	**P**	**06 02 58.7**	**-1.1**
KNRA				IAmb	IAmb	06 03 01.3	
	comp=Z,96nm,1.2s						
DL2	**Dalian**	**33.34**	**324**	P	**P**	**06 03 00.3**	**+0.1**
DL2				S	**S**	**06 08 21.8**	**+2.2**
DL2				pmax	pmax		
	comp=Z,78nm,1.0s						
DL2				pmax	pmax		
	comp=Z,380nm,4.3s						
DL2				LR	LR		
	comp=Z,1µm,17.2s						
DL2				LR	LR		
	comp=Z,2µm,16.2s						
DL2				LR	LR		
	comp=Z,3µm,17.5s						
KBKI	**Kotabaru**	**33.66**	**243**	P	**P**	**06 03 03.3**	**+0.1**
	comp=Z,726nmcomp=Z,63nm,1.1s						
MTKI	**Muara Teweh, K**	**33.69**	**248**	*i* P	**P**	**06 03 03.8**	**+0.2**
WHN	**Wuhan**	**33.71**	**306**	⇑P	**P**	**06 03 04.6**	**+1.0**
WHN				LR	LR		
	comp=Z,9µm,22.2s						
WHN				LR	LR		
	comp=Z,5µm,14.8s						
WHN				LR	LR		
	comp=Z,8µm,21.0s						
YSS	**Yuzh-Sakhalins**	**33.73**	**356**	*e*P	**P**	**06 03 01.3**	**-2.1**
YSS				*e*		06 04 10.6	
YSS				*e*S	**S**	**06 08 20.4**	**-5.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,2µm,15.0s						
YSS				MLR	MLR		
	comp=N,2µm,16.0s						
YSS	**Yuzh-Sakhalins**	**33.73**	**356**	P	**P**	**06 03 02.0**	**-1.4**
MDJ	**Mudanjiang**	**34.21**	**339**	P	**P**	**06 03 07.5**	**-0.2**
MDJ				pmax	pmax		
	comp=N,63nm,1.3s						
MDJ				pmax	pmax		
	comp=N,430nm,5.7s						
MDJ				LR	LR		
	comp=N,2µm,20.7s						
MDJ				LR	LR		
	comp=N,3µm,16.9s						
MDJ				LR	LR		
	comp=N,700nm,16.3s						
MDJ	**Mudanjiang**	**34.21**	**339**	P	**P**	**06 03 07.4**	**-0.3**
WB0	**Warramunga Arr**	**34.63**	**199**	P	**P**	**06 03 10.0**	**-1.6**
WRAB	**Tennant Creek**	**34.80**	**199**	*i* P	**P**	**06 03 11.9**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,132nm,2.3s						
WRAB	**Tennant Creek**	**34.80**	**199**	P	**P**	**06 03 12.6**	**-0.5**
WRAB				IAmb	IAmb	06 03 28.0	
	comp=Z,31nm,0.8s						
WB2	**Warramunga Arr**	**34.81**	**199**	P	**P**	**06 03 12.8**	**-0.3**
WB2				IAmb	IAmb	06 03 19.7	
	comp=Z,49nm,1.0s						
WRA	**Warramunga Arr**	**34.82**	**199**	P	**P**	**06 03 12.8**	**-0.3**
	comp=Z,26nm,0.9s,baz=19,slow=9.5,SNR=13						
WRA				LR	LR	06 16 57.9	
	comp=Z,2µm,21.8s,baz=30,slow=36						
WRA	**Warramunga Arr**	**34.82**	**199**	P	**P**	**06 03 12.7**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**34.82**	**199**	P	**P**	**06 03 12.7**	**-0.5**
SBUM	**Sibu**	**34.87**	**255**	P	**P**	**06 03 13.8**	**+0.1**
SBUM				IAmb	IAmb	06 03 15.7	
	comp=Z,126nm,1.3s						
SBUM	**Sibu**	**34.87**	**255**	P	**P**	**06 03 14.0**	**+0.3**
BBKI	**Banjar Baru**	**34.89**	**244**	P	**P**	**06 03 14.3**	**+0.3**
	comp=Z,31nm,0.8s						
QIZ	**Qiongzhong**	**34.95**	**284**	P	**P**	**06 03 12.4**	**-2.1**
QIZ				PP	**PnPn**	**06 04 32.3**	**+0.7**
QIZ				S	**S**	**06 08 43.9**	**-1.1**
QIZ				LR	LR		
	comp=Z,1µm,16.1s						
QIZ				LR	LR		
	comp=Z,2µm,18.4s						
QIZ				LR	LR		
	comp=Z,3µm,18.6s						
CN2	**Changchun**	**35.12**	**334**	*e*P	**P**	**06 03 16.8**	**+1.2**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
SANVU	**Saraoutou**	**35.50**	**143**	P	**P**	**06 03 19.1**	**0.0**
SANVU				IAmb	IAmb	06 03 34.0	
	comp=Z,54nm,1.1s						
DLV	**T Lat**	**36.39**	**272**	P	**P**	**06 03 25.9**	**-1.1**
DLV				IAmb	IAmb	06 03 28.4	
	comp=Z,87nm,1.2s						
FITZ	**Fitzroy Crossi**	**36.91**	**213**	P	**P**	**06 03 31.5**	**+0.4**
	comp=Z,46nm,1.0s,baz=50,slow=7.9,SNR=6.1						
KSM	**Kuching**	**36.99**	**255**	P	**P**	**06 03 31.5**	**-0.5**
KSM				IAmb	IAmb	06 03 32.9	
	comp=Z,113nm,1.1s						
KSM	**Kuching**	**36.99**	**255**	P	**P**	**06 03 32.0**	**0.0**
BJT	**Baijiatuan**	**37.28**	**321**	P	**P**	**06 03 33.2**	**-0.8**
BJT				pmax	pmax		
	comp=Z,22nm,0.8s						
BJT	**Baijiatuan**	**37.28**	**321**	P	**P**	**06 03 33.2**	**-0.8**
BJI	**Beijing**	**37.28**	**321**	P	**P**	**06 03 34.0**	**-0.1**
BJI				PP	**PP**	**06 04 59.6**	**+0.2**
BJI				S	**S**	**06 09 19.8**	**-0.4**
BJI				pmax	pmax		
	comp=Z,28nm,0.9s						
BJI				pmax	pmax		
	comp=Z,460nm,4.6s						
BJI				LR	LR		
	comp=Z,1µm,19.0s						
BJI				LR	LR		
	comp=Z,650nm,15.8s						
BJI				LR	LR		
	comp=Z,980nm,36.5s						
PBKI	**Pangkalan Bun**	**37.36**	**247**	P	**P**	**06 03 35.7**	**+0.6**
	comp=Z,6µmcomp=Z,557nm,1.2s						
KMMI	**Kalianget**	**37.46**	**239**	P	**P**	**06 03 36.5**	**+0.6**
	comp=Z,106nm,1.2s						
ENH	**Enshi**	**37.53**	**303**	P	**P**	**06 03 36.4**	**0.0**
ENH				IAmb	IAmb	06 03 43.6	
	comp=Z,68nm,1.2s						
ENH				IAMs_20	IAMs_20	06 18 04.4	
	comp=Z,4µm,20.0s						
TYV	**Tymovskoe**	**37.63**	**357**	*e*P	**P**	**06 03 35.7**	**-1.2**
TYV				*e*S	**S**	**06 09 25.9**	**+0.8**
TYV				pmax	pmax		
	comp=Z,200nm,5.0s						
TYV				pmax	pmax		
	comp=Z,35nm,1.0s						
TYV				smax	smax		
	comp=N,600nm,7.2s						
ABJI	**Asem Bagus**	**37.64**	**238**	P	**P**	**06 03 39.0**	**+1.6**
	comp=N,5µmcomp=N,177nm,1.9s						
KLR	**Kul'dur**	**37.73**	**345**	P	**P**	**06 03 36.8**	**-1.0**
	comp=N,19nm,0.8s,baz=140,slow=6.8,SNR=18						
KLR				PcP	**PcP**	**06 05 54.5**	**-0.1**
	comp=N,2.7nm,0.8s,baz=106,slow=6.1,SNR=1.5						
KLR				LR	LR	06 18 04.6	
	comp=N,1µm,18.3s,baz=156,slow=35						
KLR	**Kul'dur**	**37.73**	**345***ce*	P	**P**	**06 03 35.2**	**-2.6**
KLR				pmax	pmax		
	comp=Z,35nm,1.0s						
KLR				MLR	MLR		
	comp=Z,1µm,17.0s						
JAGI	**Jajag, Banyuwa**	**38.08**	**237**	P	**P**	**06 03 40.6**	**-0.6**
JAGI	**Jajag, Banyuwa**	**38.08**	**237**	P	**P**	**06 03 41.7**	**+0.5**
	comp=Z,84nm,2.0s						
GRNR	**Gornyy**	**38.22**	**350**⇑	*i* P	**P**	**06 03 41.0**	**-0.9**
GRNR				pmax	pmax		
	comp=N,4.0nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,880nm,14.0s						
GRNR				MLR	MLR		
	comp=N,860nm,18.0s						
GRNR				MLR	MLR		
	comp=Z,1µm,17.0s						
SKR	**Severo-Kuril's**	**38.31**	**11**	*e*P	P	06 03 54.0	+11
SKR				pmax	pmax		
	comp=Z,32nm,1.0s						
SKR				MLR	MLR		
	comp=Z,500nm,19.0s						
TIY	**Taiyuan**	**38.41**	**315**	*e*P	**P**	**06 03 44.3**	**+0.5**
TIY				S	**S**	**06 09 41.1**	**+3.6**
TIY				pmax	pmax		
	comp=Z,21nm,0.6s						
TIY				LR	LR		
	comp=Z,1µm,14.6s						
TIY				LR	LR		
	comp=Z,2µm,14.1s						
TIY				LR	LR		
	comp=Z,4µm,19.2s						
AS31	**Alice Springs**	**38.45**	**198**	P	**P**	**06 03 43.2**	**-1.0**
ASAR	**Alice Springs**	**38.45**	**198**	P	**P**	**06 03 43.9**	**-0.3**
	comp=Z,12nm,1.0s,baz=22,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**38.45**	**198**	P	**P**	**06 03 43.7**	**-0.4**

DZM Mont Dzumac 40.51 150 P **P** **06 04 03.0 +1.7**
comp=Z,21nm,1.0s,baz=21,slow=8.9,SNR=5.9
DZM Mont Dzumac 40.51 150 P **P** **06 04 01.1 -0.3**
DZM IAmb IAmb 06 04 18.8
comp=Z,94nm,1.4s
HHC Hu-ho-hao-te 40.63 319 *e*P **P** **06 04 02.4 +0.1**
HHC S **S** **06 10 10.5 -0.3**
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,450nm,5.1s
HHC LR LR
comp=Z,3µm,16.5s
HHC LR LR
comp=Z,3µm,14.6s
HHC LR LR
comp=Z,3µm,15.6s
SLVN Son La 40.69 287 P **P** **06 04 02.4 -0.6**
SLVN IAMs_20 IAMs_20 06 20 29.9
comp=Z,3µm,19.0s
UGM Wanagama 40.82 241 P **P** **06 04 03.9 -0.1**
UGM Wanagama 40.82 241 P **P** **06 04 04.6 +0.5**
comp=Z,6µmcomp=Z,464nm,1.3s
PEA0B Petropavlovsk- 40.92 11*ce*P **P** **06 04 03.8 -0.5**
PEA0B Petropavlovsk- 40.92 11 P **P** **06 04 04.4 +0.1**
PETK Petropavlovsk- 40.92 11 P **P** **06 04 04.8 +0.4**
comp=Z,6.5nm,0.7s,baz=150,slow=5.9,SNR=12
PETK PcP **PcP** **06 06 03.9 -0.7**
comp=Z,5.9nm,0.8s,baz=176,slow=3.9,SNR=3.0
PETK Petropavlovsk- 40.92 11 P **P** **06 04 04.5 +0.2**
PETK Petropavlovsk- 40.92 11 P **P** **06 04 04.5 +0.2**
PET Petropavlovsk 41.02 12 *e*P **P** **06 04 04.9 -0.2**
PET *e*S **S** **06 10 16.5 +0.5**
PET *e*SS **SS** **06 13 14.4 -4.1**
PET pmax pmax
comp=Z,49nm,1.1s
PET Petropavlovsk 41.02 12 P **P** **06 04 05.0 -0.1**
TPI Tanjungpandan 41.02 250 P **P** **06 04 05.7 0.0**
comp=Z,2µmcomp=Z,141nm,1.2s
NONG Nongkai 41.27 282 P **P** **06 04 09.5 +1.8**
comp=Z,42nm,1.4s
KHON Khonkaen 41.59 280 P **P** **06 04 12.3 +1.9**
comp=Z,42nm,0.4s
HIA Hailar 41.85 334 P **P** **06 04 12.6 +0.5**
HIA pmax pmax
comp=Z,51nm,0.9s
HIA MLR MLR
comp=Z,2µm,20.0s
HIA Hailar 41.85 334 P **P** **06 04 12.6 +0.5**
KMI Kunming 42.17 293 ⇑P **P** **06 04 17.3 +2.0**
KMI pP sP 06 04 25.0 +1.2
KMI S **S** **06 10 37.3 +3.0**
KMI sS sS 06 10 53.3 +8.9
KMI pmax pmax
comp=Z,17nm,1.0s
KMI pmax pmax
comp=Z,350nm,7.6s
KMI LR LR
comp=Z,900nm,19.8s
KMI LR LR
comp=Z,2µm,19.4s
KMI LR LR
comp=Z,2µm,19.3s
CHAI Chaiyaphum 42.41 279 P **P** **06 04 18.3 +1.2**
comp=Z,728nmcomp=Z,67nm,1.1s
CD2 Chengdu 42.44 302 P **P** **06 04 17.1 -0.1**
CD2 PP **PP** **06 05 56.8 +1.0**
CD2 S **S** **06 10 39.5 +1.7**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,630nm,8.0s
CD2 LR LR
comp=Z,2µm,15.7s
CD2 LR LR
comp=Z,3µm,20.6s
CD2 LR LR
comp=Z,3µm,15.3s
SRAK Srakaew 42.47 276 P **P** **06 04 14.0 -3.5**
comp=Z,4µmcomp=Z,498nm,1.1s
PSA00 Pilbara Seismi 42.93 217 P **P** **06 04 21.5 +0.4**
CISI Cisompet, Garu 42.98 243 P **P** **06 04 19.8 -2.0**
CISI IAmb IAmb 06 04 23.5
comp=Z,77nm,0.7s
MYKOM Kota Tinggi 43.01 258 P **P** **06 04 21.9 -0.1**
MYKOM IAmb IAmb 06 04 23.3
comp=Z,148nm,1.1s
MYKOM Kota Tinggi 43.01 258 P **P** **06 04 22.0 +0.1**
ZEA Zeya 43.01 344 *e*P **P** **06 04 20.5 -0.9**
ZEA pmax pmax
comp=N,200nm,1.5s
ZEA pmax pmax
comp=Z,300nm,1.5s
ZEA MLR MLR
comp=E,500nm,14.0s
ZEA MLR MLR
comp=N,600nm,19.0s
ZEA MLR MLR
comp=Z,900nm,17.0s
PATY Pattaya 43.70 275 P **P** **06 04 30.1 +2.6**
comp=Z,67nm,1.1s
UTTA Uttaradit 43.73 282 P **P** **06 04 28.4 +0.7**
comp=Z,354nmcomp=Z,34nm,1.1s
JRMM Jerantut 43.74 262 P **P** **06 04 28.0 +0.1**
ARMA Armidale 43.74 173 IAMs_20 IAMs_20 06 23 17.0
comp=Z,4µm,19.0s
PHIT Phitsanulok 43.88 281 P **P** **06 04 30.4 +1.5**
comp=Z,3µmcomp=Z,149nm,1.0s
LZH Lanzhou 43.94 309 ⇓P **P** **06 04 30.4 +1.0**
LZH pP pP 06 04 35.4 -0.1
LZH S **S** **06 11 01.6 +1.7**
LZH sS sS 06 11 13.3 +2.8
LZH pmax pmax
comp=Z,76nm,1.3s
LZH pmax pmax
comp=Z,550nm,5.7s
LZH LR LR
comp=Z,2µm,14.6s
LZH LR LR
comp=Z,2µm,14.1s
LZH LR LR
comp=Z,2µm,16.8s
MSVF Nonsavu 44.28 133 P **P** **06 04 32.6 +0.4**
comp=Z,26nm,1.1s,baz=131,slow=3.0,SNR=4.4
MSVF Nonsavu 44.28 133 P **P** **06 04 32.6 +0.4**
MSVF pmax pmax
comp=Z,40nm,1.2s
MSVF Nonsavu 44.28 133 P **P** **06 04 32.6 +0.4**
SUKH Sukhothai 44.62 282 P **P** **06 04 36.1 +1.2**
comp=Z,354nmcomp=Z,44nm,1.1s
UTHA Uthaitani 44.87 279 P **P** **06 04 38.0 +1.1**
comp=Z,790nmcomp=Z,92nm,1.1s
IPM Ipoh 44.99 263 P **P** **06 04 37.3 -0.7**
IPM Ipoh 44.99 263 P **P** **06 04 38.0 +0.1**
STKA Stephens Creek 45.01 185 P **P** **06 04 38.5 +0.8**
comp=Z,3.9nm,0.7s,baz=13,slow=11,SNR=4.4
STKA LR LR 06 23 48.6
comp=Z,2µm,19.7s,baz=3.7,slow=37
CM35 Chiang Mai Arr 45.06 283 P **P** **06 04 39.0 +0.6**
CM36 Chiang Mai Arr 45.11 283 P **P** **06 04 39.0 +0.2**
KULM Kulim 45.17 264 P **P** **06 04 39.7 +0.4**
KULM IAmb IAmb 06 04 41.0
comp=Z,101nm,1.2s
KULM IAMs_20 IAMs_20 06 22 14.0
comp=Z,3µm,20.0s
KULM Kulim 45.17 264 P **P** **06 04 40.0 +0.7**
CM09 Chiang Mai Arr 45.21 283 P **P** **06 04 40.0 +0.4**
comp=Z,272nmcomp=Z,40nm,0.9s
CM04 Chiang Mai Arr 45.23 283 P **P** **06 04 40.0 +0.3**
comp=Z,319nmcomp=Z,46nm,0.8s
CM01 Chiang Mai Arr 45.24 283 P **P** **06 04 41.0 +1.2**
comp=Z,312nmcomp=Z,37nm,1.0s
CMMT Chiang Mai 45.25 283 P **P** **06 04 41.3 +1.4**
comp=Z,7.3nm,1.0s
CM33 Chiang Mai Arr 45.25 283 P **P** **06 04 41.0 +1.1**
CM02 Chiang Mai Arr 45.26 283 P **P** **06 04 41.0 +1.0**
comp=Z,252nmcomp=Z,35nm,0.9s
CHTO Chiang Mai 45.26 283 P **P** **06 04 38.8 -1.2**
CHTO pmax pmax
comp=Z,15nm,1.1s
CHTO MLR MLR
comp=Z,2µm,19.0s
CHTO Chiang Mai 45.26 283 P **P** **06 04 38.8 -1.2**
CM05 Chiang Mai Arr 45.26 283 P **P** **06 04 41.0 +1.1**
comp=Z,226nmcomp=Z,28nm,0.9s
CM31 Chiang Mai Arr 45.26 283 P **P** **06 04 41.0 +1.0**
comp=Z,959nm,0.9s
CM31 Chiang Mai Arr 45.26 283 P **P** **06 04 40.6 +0.6**
CM31 IAmb IAmb 06 04 41.5
comp=Z,38nm,0.9s
CMAR Chiang Mai Arr 45.26 283 P **P** **06 04 40.7 +0.7**
comp=Z,25nm,0.9s,baz=84,slow=6.1,SNR=36
CMAR PcP **PcP** **06 06 21.8 +1.9**
comp=Z,9.1nm,0.7s,baz=79,slow=2.1,SNR=6.4
CMAR ScP **ScP** **06 10 12.9 +1.8**
comp=Z,1.1nm,0.3s,baz=112,slow=2.1,SNR=2.1
CMAR LR LR 06 23 52.2
comp=Z,1µm,19.7s,baz=128,slow=36
CMAR Chiang Mai Arr 45.26 283 P **P** **06 04 39.8 -0.2**
SRDT SRDT 45.26 277 P **P** **06 04 40.6 +0.6**
comp=Z,22nm,1.2s
CM15 Chiang Mai Arr 45.28 283 P **P** **06 04 41.1 +1.0**
comp=Z,42nm,1.0s
CM13 Chiang Mai Arr 45.29 283 P **P** **06 04 41.2 +1.0**
comp=Z,251nmcomp=Z,36nm,0.9s
CM32 Chiang Mai Arr 45.35 283 P **P** **06 04 42.0 +1.3**
UMPA Umpang Tak 45.40 280 P **P** **06 04 42.9 +1.7**
comp=Z,5µmcomp=Z,78nm,1.1s
SMY Shemya 45.44 24 IAMs_20 IAMs_20 06 25 45.4
comp=Z,3µm,20.0s
MNAI Manna 45.96 251 P **P** **06 04 44.1 -1.5**
BKNI Bangkinang 46.12 258 P **P** **06 04 45.8 -1.1**
MHMT Maesarieng 46.22 283 P **P** **06 04 47.0 -0.6**
comp=Z,961nmcomp=Z,64nm,1.3s
SURT Suratani 46.24 270 P **P** **06 04 50.1 +2.3**
XMIS Christmas Isla 46.26 241 P **P** **06 04 47.0 -0.9**
MA2 Magadan 46.43 4 P **P** **06 04 48.1 -0.5**
comp=Z,33nm,0.8s,baz=179,slow=7.1,SNR=52
MA2 Magadan 46.43 4*ce*P **P** **06 04 47.7 -0.9**
MA2 pmax pmax
comp=Z,93nm,1.7s
MA2 MLR MLR
comp=Z,1µm,19.0s
MA2 Magadan 46.43 4 P **P** **06 04 47.6 -1.0**
MA2 IAmb IAmb 06 04 49.1
comp=Z,50nm,0.9s
AMKA Amchitka 46.70 28 P **P** **06 04 51.2 +0.4**
ULN Ulaanbaatar 47.19 325*ce*P **P** **06 04 54.6 -0.4**
ULN pmax pmax
comp=Z,41nm,1.0s
ULN Ulaanbaatar 47.19 325 P **P** **06 04 55.0 +0.1**
ULN **P** **06 04 55.3 +0.3**
ULN IAmb IAmb 06 04 57.8
comp=Z,39nm,1.1s
PSI Prapat 47.45 262 P **P** **06 04 57.0 -0.4**
comp=Z,20nm,0.6s,baz=5.8,slow=0.2,SNR=14
PSI Prapat 47.45 262 P **P** **06 04 57.0 -0.4**
PSI pmax pmax
comp=Z,30nm,0.9s
RPSI Rantau Prapat 47.47 261 P **P** **06 04 56.9 -0.6**
RPSI IAmb IAmb 06 04 58.1
comp=Z,30nm,0.9s
RPSI Rantau Prapat 47.47 261 P **P** **06 04 57.0 -0.5**
SONM Songino Array 47.54 325 P **P** **06 04 57.9 +0.2**
comp=Z,23nm,1.0s,baz=133,slow=8.6,SNR=19
SONM PcP **PcP** **06 06 27.7 +0.2**
comp=Z,5.0nm,0.7s,baz=145,slow=3.1,SNR=4.2
SONM ScP **ScP** **06 10 23.8 +3.5**
comp=Z,0.9nm,0.7s,baz=122,slow=3.7,SNR=4.5
SONM Songino Array 47.54 325 P **P** **06 04 57.7 0.0**
SONM pmax pmax
comp=Z,24nm,1.0s
SONM Songino Array 47.54 325 P **P** **06 04 57.7 0.0**
GTA Gaotai 48.08 312 ⇑P **P** **06 05 02.3 +0.3**
GTA pP pP 06 05 07.8 -0.3
GTA sP sP 06 05 10.3 -0.2
GTA PcP **PcP** **06 06 32.4 +2.9**
GTA ScP **ScP** **06 10 23.9 +1.2**
GTA S **S** **06 11 59.5 +0.2**
GTA ScS **ScS** **06 14 54.6 +0.6**
GTA pmax pmax
comp=Z,52nm,1.2s
GTA pmax pmax
comp=Z,380nm,6.2s
GTA LR LR
comp=Z,1µm,19.6s
GTA LR LR
comp=Z,980nm,20.7s
GTA LR LR
comp=Z,2µm,22.5s
ADK Adak 48.94 30 P **P** **06 05 09.6 +1.4**
ADK pmax pmax
comp=Z,53nm,1.0s
ADK Adak 48.94 30 P **P** **06 05 09.6 +1.4**
ADK IAmb IAmb 06 05 26.9
comp=Z,52nm,0.9s
GSI Gunungsitoli 49.15 260 P **P** **06 05 09.0 -1.4**
SEY Seymchan 49.87 4 P **P** **06 05 15.0 -0.1**
comp=Z,16nm,0.9s,baz=182,slow=6.4,SNR=25
SEY Seymchan 49.87 4 ⇑P **P** **06 05 14.5 -0.6**
YAK Yakutsk 50.10 350 P **P** **06 05 15.2 -1.7**
comp=Z,9.5nm,0.4s,baz=50,slow=1.1,SNR=8.0
YAK Yakutsk 50.10 350 *e*P **P** **06 05 15.3 -1.5**
YAK *e**PP **sP** **06 05 24.2 -0.8**
YAK *e* 06 06 41.0
YAK *e*S **S** **06 12 19.6 -7.0**
YAK *e**SS **sS** **06 12 37.9 +0.8**
YAK *e* 06 15 03.1
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=N,23nm,1.1s
YAK smax smax
comp=E,79nm,1.8s
YAK smax smax
comp=N,56nm,1.5s
YAK Yakutsk 50.10 350 P **P** **06 05 15.7 -1.1**
ATKA Atka Island 50.36 31 P **P** **06 05 20.2 +1.2**
TOO Toolangi 50.52 180 P **P** **06 05 21.1 +0.8**
TOO pmax pmax
comp=Z,45nm,1.2s
TOO Toolangi 50.52 180 P **P** **06 05 21.1 +0.8**
TOO IAmb IAmb 06 05 36.6
comp=Z,45nm,1.2s
BOD Bodaibo 50.58 339 *e*P **P** **06 05 20.1 -0.5**
BOD pmax pmax
comp=Z,54nm,1.6s
ZAK Zakamensk 50.64 326 *e*P **P** **06 05 20.6 -0.7**
ZAK pmax pmax
comp=Z,29nm,1.1s
MORW Morawa 50.91 214 P **P** **06 05 23.8 +0.3**
IRK Irkutsk 51.13 328 *e*P **P** **06 05 23.6 -1.2**
IRK pmax pmax
comp=Z,46nm,1.7s
TLY Talaya 51.14 328 P **P** **06 05 24.2 -0.7**
comp=Z,10nm,0.7s,baz=167,slow=6.9,SNR=10.0
TLY LR LR 06 26 10.1
comp=Z,934nm,19.2s,baz=122,slow=35
TLY Talaya 51.14 328 *e*P **P** **06 05 24.3 -0.7**
TLY *e*S **S** **06 12 43.7 +2.2**
TLY pmax pmax
comp=Z,50nm,1.4s
TLY Talaya 51.14 328 P **P** **06 05 25.1 +0.2**
SHL Shillong 51.98 292 P **P** **06 05 31.4 -0.5**
SHL pmax pmax
comp=Z,15nm,0.7s
SHL MLR MLR
comp=Z,1µm,21.0s
SHL Shillong 51.98 292 P **P** **06 05 31.4 -0.5**
MOY Mondy 52.54 326 *e*P **P** **06 05 36.0 +0.5**
MOY pmax pmax
comp=Z,52nm,2.3s
LSA Lhasa 52.95 297 P **P** **06 05 39.6 +0.3**
LSA pmax pmax
comp=Z,14nm,0.8s
LSA MLR MLR
comp=Z,1µm,19.0s
LSA Lhasa 52.95 297 P **P** **06 05 39.6 +0.3**
NWAO Narrogin (SRO) 53.37 210 P **P** **06 05 41.1 -0.6**
NWAO pmax pmax
comp=Z,60nm,1.2s
NWAO Narrogin (SRO) 53.37 210 P **P** **06 05 41.1 -0.6**
NWAO IAmb IAmb 06 05 43.3
comp=Z,60nm,1.2s
RAO Raoul Island 54.87 141 LR LR 06 27 30.5
comp=Z,2µm,20.0s,baz=340,slow=34
TAPN Taplejung 55.80 294 *e*P **P** **06 06 00.2 +0.2**
comp=Z,25nm,0.7s
ODAN Odare 56.07 294 *e*P **P** **06 06 01.5 -0.3**
comp=Z,71nm,1.3s
BILL Bilibino 56.39 9*d i*P **P** **06 06 02.6 -0.4**
BILL *i* 06 06 08.6
BILL *i* 06 06 59.2
BILL pmax pmax
comp=Z,41nm,0.8s
BILL MLR MLR
comp=Z,514nm,17.0s
BILL Bilibino 56.39 9 P **P** **06 06 02.7 -0.3**
BILL IAmb IAmb 06 06 15.9
comp=Z,51nm,1.0s
RAMN Ramite 56.78 294 *e*P **P** **06 06 05.8 -1.1**
comp=Z,24nm,0.9s
GUN Gumba 57.45 295 *e*P **P** **06 06 11.7 0.0**
comp=Z,66nm,0.9s
PKI Pulchoki 57.85 294 *e*P **P** **06 06 13.4 -1.1**
comp=Z,37nm,1.0s
PKIN Phulchoki 57.87 294 *e*P **P** **06 06 13.6 -1.0**
comp=Z,18nm,0.6s
WMQ Urumqi 58.03 314 *e*P **P** **06 06 16.3 +1.1**
WMQ pP sP 06 06 23.3 -0.6
WMQ sP pwP 06 06 28.0 +0.9
WMQ PcP **PcP** **06 07 12.5 +5.5**
WMQ S **S** **06 14 17.0 +2.4**
WMQ pmax pmax
comp=Z,160nm,1.1s
WMQ pmax pmax
comp=Z,630nm,7.1s
WMQ LR LR
comp=Z,2µm,16.1s
WMQ LR LR
comp=Z,2µm,20.1s
WMQ LR LR
comp=Z,3µm,19.5s
WMQ Urumqi 58.03 314 P **P** **06 06 16.0 +0.8**
WMQ pmax pmax
comp=Z,134nm,1.1s
WMQ MLR MLR
comp=Z,2µm,19.0s
WMQ Urumqi 58.03 314 P **P** **06 06 16.0 +0.8**
WMQ Urumqi 58.03 314 IAMs_20 IAMs_20 06 31 15.2
comp=Z,2µm,19.0s
DMN Daman 58.12 294 *e*P **P** **06 06 15.1 -1.3**
HIZ Hauiti 58.21 153 IAMs_20 IAMs_20 06 30 49.6
comp=Z,2µm,19.0s
GKN Gorkha 58.55 295 *e*P **P** **06 06 17.7 -1.5**
comp=Z,57nm,0.9s
SDPT Sand Point 58.98 33 P **P** **06 06 22.0 +0.5**
SDPT IAMs_20 IAMs_20 06 34 46.6
comp=Z,2µm,19.0s
SDPT Sand Point 58.98 33 P 06 06 22.9
baz=246
SDPT S 06 14 27.4
baz=246
URZ Urewera 59.02 151 P **P** **06 06 21.5 -0.4**
comp=Z,11nm,1.1s,baz=338,slow=9.2,SNR=3.7
TIXI Tiksi 59.30 354 P **P** **06 06 22.9 -0.5**
comp=Z,3.2nm,0.6s,baz=145,slow=2.2,SNR=6.1
TIXI Tiksi 59.30 354 *e*P **P** **06 06 21.5 -1.9**
TIXI Tiksi 59.30 354 P **P** **06 06 23.3 0.0**
BKZ Black Stump Fm 59.47 153 P **P** **06 06 25.4 +0.3**
BKZ IAmb IAmb 06 06 39.8
comp=Z,24nm,0.9s
BKZ IAMs_20 IAMs_20 06 30 17.1
comp=Z,3µm,20.0s
DGZ Jazzator, Alta 59.69 320*c i*P **P** **06 06 27.1 +0.4**
DGZ pmax pmax
comp=Z,33nm,0.9s
NNZ Nelson 59.87 156 IAMs_20 IAMs_20 06 32 57.5
comp=Z,2µm,20.0s
CHGN Chignik 60.42 32 P **P** **06 06 32.2 +0.8**
CHGN IAmb IAmb 06 06 49.5
comp=Z,72nm,1.3s
CHGN IAMs_20 IAMs_20 06 35 22.7
comp=Z,2µm,20.0s
CHGN Chignik 60.42 32 P 06 06 32.3
baz=248
ZSN Zaisan 60.78 317 *e*P **P** **06 06 33.3 -0.7**
comp=Z,16nm,1.0s,baz=317
ZSN *e*S **S** **06 14 50.5 +0.6**
baz=317
ZSN Zaisan 60.78 317 *e*P **P** **06 06 33.3 -0.7**
ZSN *e*S **S** **06 14 50.5 +0.6**
ZSN pmax pmax
comp=Z,16nm,1.0s
LTZ Lake Taylor 60.79 158 IAMs_20 IAMs_20 06 34 24.9
comp=Z,2µm,19.0s
RPZ Rata Peaks 61.18 159 P **P** **06 06 36.0 -0.6**
comp=Z,19nm,1.0s,baz=81,slow=4.0,SNR=3.7
RPZ Rata Peaks 61.18 159 P **P** **06 06 37.2 +0.6**
ANM Nome 61.21 22 P **P** **06 06 37.9 +1.3**
ANM pmax pmax
comp=Z,40nm,1.0s
ANM Nome 61.21 22 P **P** **06 06 37.9 +1.3**
ANM IAmb IAmb 06 06 40.7
comp=Z,40nm,1.0s
ANM Nome 61.21 22 P 06 06 38.1
baz=237,SNR=33
ANM S 06 14 57.9
baz=237
LBZ Lake Benmore 61.48 160 P **P** **06 06 39.4 +0.7**
LBZ IAmb IAmb 06 06 50.4
comp=Z,28nm,1.0s
MK31 Makanchi Array 62.37 316 P **P** **06 06 45.4 +0.6**
MK31 pmax pmax
comp=Z,58nm,1.1s
MK31 Makanchi Array 62.37 316 P **P** **06 06 45.4 +0.6**
MKAR Makanchi Array 62.37 316 P **P** **06 06 45.1 +0.2**
comp=Z,42nm,0.7s,baz=92,slow=9.0,SNR=55
MKAR PcP **PcP** **06 07 23.9 -0.4**
comp=Z,18nm,0.9s,baz=91,slow=7.4,SNR=5.4
MKAR LR LR 06 34 35.3
comp=Z,758nm,18.2s,baz=88,slow=37
MKAR Makanchi Array 62.37 316*ce*P **P** **06 06 45.0 +0.2**
MKAR pmax pmax
comp=Z,42nm,0.7s
MKAR Makanchi Array 62.37 316 P **P** **06 06 45.3 +0.5**
ZAA0 Zalesovo Array 62.44 324 P **P** **06 06 45.0 -0.1**
ZAA0 IAMs_20 IAMs_20 06 34 06.2
comp=Z,2µm,20.0s
ZALV Zalesovo Beam 62.44 324 P **P** **06 06 44.4 -0.7**
comp=Z,5.5nm,0.7s,baz=105,slow=6.7,SNR=7.2
ZALV PcP **PcP** **06 07 23.5 -0.8**
comp=Z,6.8nm,0.6s,baz=106,slow=6.1,SNR=3.8
ZALV LR LR 06 34 26.9
comp=Z,2µm,20.8s,baz=104,slow=37
ZALV PKP2bc 06 35 55.2
comp=Z,0.5nm,0.5s,baz=276,slow=4.2,SNR=3.9
ZALV Zalesovo Beam 62.44 324 P **P** **06 06 45.1 +0.1**
MAKZ Makanchi 62.58 316 P **P** **06 06 46.9 +0.7**
MAKZ pmax pmax
comp=Z,62nm,0.8s
MAKZ MLR MLR
comp=Z,1µm,18.0s
MAKZ Makanchi 62.58 316 P **P** **06 06 46.9 +0.7**
SII Sitkinak Islan 62.72 33 P **P** **06 06 49.6 +2.7**
SII Sitkinak Islan 62.72 33 P 06 06 49.0
baz=252
OHAK Old Harbor 63.39 32 P **P** **06 06 53.4 +2.1**
OHAK IAMs_20 IAMs_20 06 34 23.2
comp=Z,2µm,20.0s
OHAK Old Harbor 63.39 32 P 06 06 53.1
baz=252
OHAK S 06 15 25.0
baz=252
SVW2 Sparrevohn 63.60 28 P **P** **06 06 52.9 +0.2**
SVW2 IAmb IAmb 06 07 10.1
comp=Z,49nm,1.2s
SHLS Shalkode 63.82 312 *e*P **P** **06 06 51.6 -3.0**
comp=Z,42nm,1.3s,baz=312
SHLS Shalkode 63.82 312 *e*P **P** **06 06 51.6 -3.0**
SHLS pmax pmax
comp=Z,42nm,1.3s
KDAK Kodiak Island 63.92 32 P **P** **06 06 55.8 +1.0**
comp=Z,15nm,0.8s,baz=322,slow=8.3,SNR=12
KDAK Kodiak Island 63.92 32 *i* P **P** **06 06 56.5 +1.7**
KDAK pmax pmax
comp=Z,43nm,0.9s
KDAK Kodiak Island 63.92 32 P **P** **06 06 55.1 +0.3**
KDAK Kodiak Island 63.92 32 IAMs_20 IAMs_20 06 37 27.3
comp=Z,2µm,19.0s
KDAK Kodiak Island 63.92 32 P 06 06 56.7
baz=253
RDOG Red Dog Mine 63.94 19 P **P** **06 06 55.5 +0.7**
RDOG Red Dog Mine 63.94 19 P 06 06 56.1
baz=238,SNR=18

UZB Uzynbulak 64.14 312 *e*P **P 06 06 56.1 -0.7**
comp=Z,33nm,1.3s,baz=312
UZB Uzynbulak 64.14 312 *e*P **P 06 06 56.1 -0.7**
UZB pmax pmax
comp=Z,33nm,1.3s
PALK Pallekele 64.17 272 *c i*P **P 06 06 56.6 -0.6**
PALK pmax pmax
comp=Z,63nm,1.1s
PALK Pallekele 64.17 272 P P **06 06 56.6 -0.6**
SEM Semipalatinsk 64.36 320 LR LR 06 34 31.9
comp=Z,685nm,17.0s,baz=320
KPKS Kokpek 64.42 312 *e*P **P 06 06 57.5 -1.1**
comp=Z,44nm,1.3s,baz=312
KPKS Kokpek 64.42 312 *e*P **P 06 06 57.4 -1.1**
KPKS pmax pmax
comp=Z,44nm,1.3s
SATY Saty 64.58 311 *e*P **P 06 06 58.5 -1.1**
comp=Z,27nm,1.0s,baz=312
SATY Saty 64.58 311 *e*P **P 06 06 58.5 -1.1**
SATY pmax pmax
comp=Z,27nm,1.0s
HYB Hyderabad 64.69 283 *i* P **P 06 07 01.0 +0.4**
TDK Taldyqorghan 64.79 314 *e*P **P 06 07 00.3 -0.6**
baz=314
TDK *e*S **S 06 15 41.1 +0.8**
baz=314
TDK LR LR 06 34 27.7
comp=Z,1μm,17.9s,baz=314
TDK Taldyqorghan 64.79 314 *e*P **P 06 07 00.2 -0.6**
TDK *e*S **S 06 15 41.1 +0.8**
TDK MLR MLR
comp=Z,1μm,18.0s
HOM Homer 64.95 30 P **P 06 07 05.8 +4.3**
HOM Homer 64.95 30 P 06 07 04.9
baz=253
CNPM China Poot 65.11 30 P **P 06 07 03.4 +0.8**
CNPM IAMs_20 IAMs_20 06 34 11.2
comp=Z,1μm,19.0s
BRSE Bradley Lake S 65.42 30 P 06 07 04.6
baz=254
CAPN Captain Cook N 65.52 29 P **P 06 07 04.2 -1.0**
MDOK Medeo 65.58 312 *e*P **P 06 07 05.3 -0.9**
baz=312
MDOK LR LR 06 36 16.8
comp=Z,541nm,15.3s,baz=312
MDOK Medeo 65.58 312 *e*P **P 06 07 05.3 -0.9**
MDOK MLR MLR
comp=Z,541nm,15.0s
TNSS Tian-Shan 65.65 311 *e*P **P 06 07 06.2 -0.7**
baz=311
TNSS Tian-Shan 65.65 311 *e*P **P 06 07 06.2 -0.7**
AAA Alma-Ata 65.68 312 *e*P **P 06 07 06.5 -0.3**
comp=Z,58nm,1.1s,baz=312
AAA LR LR 06 36 31.4
comp=Z,569nm,17.7s,baz=312
AAA Alma-Ata 65.68 312 *e*P **P 06 07 06.4 -0.3**
AAA pmax pmax
comp=Z,58nm,1.1s
AAA MLR MLR
comp=Z,569nm,18.0s
SKT Skwentna 65.72 27 IAMs_20 IAMs_20 06 34 16.1
comp=Z,2μm,20.0s
SKT Skwentna 65.72 27 P 06 07 07.4
baz=252,SNR=17
PPLA Purkeypile 65.73 26 P **P 06 07 07.7 +1.0**
PPLA Purkeypile 65.73 26 P 06 07 07.7
baz=251,SNR=18
PPLA S 06 15 53.4
baz=251
SUA Susitna One 65.92 28 P 06 07 08.0
baz=253
CHUM Lake Minchumin 66.01 25 P 06 07 10.1
baz=250,SNR=19
CHUM S 06 15 58.3
baz=250
FIS Fire Island 66.07 28 P **P 06 07 10.5 +1.8**
ULHL Ulahol 66.11 310 P **P 06 07 10.2 +0.5**
SNR=13
O22K Cooper Landing 66.11 29 P **P 06 07 08.1 -0.9**
O22K Cooper Landing 66.11 29 P 06 07 08.2
baz=254
SEW Seward 66.14 30 P **P 06 07 10.1 +0.9**
SEW Seward 66.14 30 P 06 07 10.2
baz=254
SEW S 06 15 59.5
baz=254
KUU Kurty 66.16 312 *e*P **P 06 07 08.7 -1.0**
comp=Z,80nm,1.0s,baz=312
KUU Kurty 66.16 312 *e*P **P 06 07 08.7 -1.0**
KUU pmax pmax
comp=Z,80nm,1.0s
KSH Kashi 66.17 307 P **P 06 07 13.3 +3.3**
KSH sP pwP 06 07 21.6 -0.3
KSH PcP **PcP 06 07 42.9 +2.7**
KSH S **S 06 16 02.3 +4.7**
KSH pmax pmax
comp=Z,55nm,1.1s
KSH pmax pmax
comp=Z,890nm,4.8s
KSH LR LR
comp=Z,1μm,13.3s
KSH LR LR
comp=Z,3μm,16.3s
KSH LR LR
comp=Z,2μm,17.2s
IMAR Indian Mountai 66.19 23 P **P 06 07 09.4 -0.1**
RC01 Rabbit Creek A 66.28 29 P 06 07 10.6
baz=254,SNR=9.0
RC01 S 06 15 58.5
baz=254
CUT Chulitna 66.42 27 IAMs_20 IAMs_20 06 35 27.6
comp=Z,2μm,20.0s
CUT Chulitna 66.42 27 P 06 07 12.9
baz=253,SNR=5.3
KTH Kantishna Hill 66.48 26 P **P 06 07 12.0 +0.5**
KTH IAMs_20 IAMs_20 06 38 54.2
comp=Z,1μm,19.0s
TKM2 Tokmak 2 66.63 311 P **P 06 07 13.8 +0.9**
SNR=14
TKM2 Tokmak 2 66.63 311 *i* P **P 06 07 13.2 +0.2**
TKM2 pmax pmax
comp=Z,33nm,1.0s
BPAW Bear Paw Mtn. 66.63 25 P **P 06 07 13.5 +1.2**
BPAW IAMs_20 IAMs_20 06 37 44.3
comp=Z,2μm,19.0s
BPAW Bear Paw Mtn. 66.63 25 P 06 07 13.4
baz=251,SNR=35
BPAW S 06 16 02.6
baz=251
PMR Palmer 66.70 28 P 06 07 12.8
baz=254,SNR=11
TRF Thorofare Moun 66.72 26 P **P 06 07 12.4 -0.8**
TRF IAMs_20 IAMs_20 06 35 07.5
comp=Z,1μm,20.0s
TRF Thorofare Moun 66.72 26 P 06 07 13.9
baz=252,SNR=18
KNK Knik Glacier 66.96 28 P 06 07 13.9
baz=255,SNR=14
MLY Manley 67.03 24 P **P 06 07 16.3 +1.4**
MLY IAMs_20 IAMs_20 06 35 23.8
comp=Z,2μm,20.0s
MLY Manley 67.03 24 P 06 07 16.1
baz=251,SNR=35
MLY S 06 16 07.5
baz=251
SML Sawmill 67.12 28 P 06 07 16.4
baz=255,SNR=14
SML S 06 16 08.1
baz=255
CHMS Chumysh 67.25 311 P **P 06 07 17.3 +0.6**
SNR=12
WAT2 Susitna Watana 67.32 27 P 06 07 17.3
baz=254,SNR=31
WAT2 S 06 16 08.8
baz=254
RND Reindeer 67.33 26 P **P 06 07 16.9 0.0**
RND pmax pmax
comp=Z,81nm,1.2s
RND Reindeer 67.33 26 P **P 06 07 16.9 0.0**
RND IAMs_20 IAMs_20 06 35 36.4
comp=Z,1μm,20.0s
SGDS Sogindy 67.36 312 *e*P **P 06 07 16.8 -0.7**
baz=312
SGDS Sogindy 67.36 312 *e*P **P 06 07 16.7 -0.7**
MCK McKinley 67.39 26 P **P 06 07 17.3 +0.1**
MCK pmax pmax
comp=Z,56nm,1.2s

MCK McKinley 67.39 26 P **P 06 07 17.3 +0.1**
MCK IAmb IAmb 06 07 22.6
comp=Z,56nm,1.2s
MCK McKinley 67.39 26 P 06 07 18.8
baz=254,SNR=11
UCH Uchtor 67.39 310 P **P 06 07 19.1 +1.0**
SNR=19
AAK Ala-Archa 67.42 311 P **P 06 07 18.2 +0.2**
SNR=7.5
AAK Ala-Archa 67.42 311 *ce*P **P 06 07 18.0 0.0**
AAK pmax pmax
comp=Z,111nm,1.7s
AAK Ala-Archa 67.42 311 P **P 06 07 18.2 +0.2**
AAK IAmb IAmb 06 07 19.4
comp=Z,28nm,1.2s
AAK Ala-Archa 67.42 311 IAMs_20 IAMs_20 06 38 17.9
comp=Z,2μm,20.0s
USP Ospenovka 67.45 311 P **P 06 07 18.5 +0.5**
SNR=11
A21K Barrow 67.47 17 P **P 06 07 18.4 +0.9**
A21K Barrow 67.47 17 P 06 07 18.5
baz=243,SNR=30
A21K S 06 16 12.1
baz=243
NEA2 Nenana 67.58 25 P **P 06 07 19.2 +0.9**
NEA2 IAmb IAmb 06 07 35.7
comp=Z,19nm,0.9s
NEA2 IAMs_20 IAMs_20 06 35 22.3
comp=Z,2μm,20.0s
NEA2 Nenana 67.58 25 P 06 07 19.0
baz=253
WAT6 Susitna Watana 67.59 27 P 06 07 19.4
baz=255,SNR=14
WAT6 S 06 16 13.4
baz=255
I23K Minto, Yukon-K 67.63 24 P **P 06 07 19.6 +1.1**
I23K IAMs_20 IAMs_20 06 35 01.5
comp=Z,2μm,20.0s
I23K Minto, Yukon-K 67.63 24 P 06 07 19.8
baz=252,SNR=33
I23K S 06 16 13.1
baz=252
HIN Hinchinbrook I 67.64 30 IAMs_20 IAMs_20 06 32 09.0
comp=Z,1μm,22.0s
FID Port Fidalgo 67.73 29 IAMs_20 IAMs_20 06 34 37.7
comp=Z,2μm,20.0s
BTLS Baital 67.87 313 *e*P **P 06 07 19.6 -1.0**
comp=Z,33nm,1.2s,baz=313
BTLS Baital 67.87 313 *e*P **P 06 07 19.5 -1.0**
BTLS pmax pmax
comp=Z,33nm,1.2s
WRH Wood River Hil 67.95 25 P **P 06 07 20.9 +0.3**
WRH IAMs_20 IAMs_20 06 39 31.1
comp=Z,1μm,19.0s
EKS2 Erkin-Say 67.95 311 P **P 06 07 22.1 +0.8**
SNR=8.8
COLD Coldfoot 67.96 22 P **P 06 07 22.4 +1.7**
COLD Coldfoot 67.96 22 P 06 07 22.2
baz=251,SNR=32
COLD S 06 16 17.8
baz=251
AML Almayashu 67.99 310 P **P 06 07 23.1 +1.2**
SNR=13
MDM Murphy Dome 68.03 25 P **P 06 07 22.0 +0.8**
MDM IAmb IAmb 06 07 38.6
comp=Z,67nm,1.4s
MDM IAMs_20 IAMs_20 06 36 05.2
comp=Z,2μm,20.0s
EYAK Cordova Ski Ar 68.04 30 P 06 07 22.8
baz=258
CCB Clear Creek Bu 68.12 25 P **P 06 07 21.7 0.0**
CCB IAmb IAmb 06 07 26.8
comp=Z,42nm,1.3s
CCB IAMs_20 IAMs_20 06 36 19.5
comp=Z,1μm,20.0s
TCOL CIGO, UAF Yank 68.16 25 P **P 06 07 23.0 +1.1**
TCOL IAmb IAmb 06 07 38.6
comp=Z,38nm,0.9s
TCOL IAMs_20 IAMs_20 06 35 59.5
comp=Z,2μm,19.0s
TCOL CIGO, UAF Yank 68.16 25 P 06 07 23.6
baz=254,SNR=7.6
COLA College 68.16 25 *i* P **P 06 07 23.1 +1.2**
COLA pmax pmax
comp=Z,43nm,1.9s
COLA College 68.16 25 P **P 06 07 23.0 +1.0**
COLA IAmb IAmb 06 07 38.6
comp=Z,38nm,0.9s
COLA College 68.16 25 IAMs_20 IAMs_20 06 36 00.6
comp=Z,2μm,19.0s
COLA College 68.16 25 P 06 07 23.6
baz=254
KLU Klutina 68.16 29 P 06 07 17.4
baz=257,SNR=6.2
M24K Tolsona, Glenn 68.18 28 P **P 06 07 22.6 +0.3**
M24K Tolsona, Glenn 68.18 28 S 06 16 25.9
baz=257
NIL Nilore 68.33 301 P **P 06 07 23.3 -0.4**
NIL pmax pmax
comp=Z,33nm,0.8s
NIL MLR MLR
comp=Z,900nm,20.0s
NIL Nilore 68.33 301 P **P 06 07 23.3 -0.4**
NIL IAmb IAmb 06 07 25.3
comp=Z,33nm,0.8s
POKR Poker Plat Res 68.40 25 P **P 06 07 23.9 +0.4**
POKR IAmb IAmb 06 07 39.3
comp=Z,45nm,1.2s
POKR IAMs_20 IAMs_20 06 36 06.9
comp=Z,2μm,20.0s
POKR Poker Plat Res 68.40 25 P 06 07 23.1
baz=254
POKR S 06 16 23.8
baz=254
HDA Harding Lake 68.41 26 P 06 07 23.8
baz=255,SNR=29
HDA P 06 07 23.8
baz=255,SNR=29
RAGM Ragged Mountai 68.52 30 P **P 06 07 25.7 +1.3**
RAGM IAMs_20 IAMs_20 06 33 48.4
comp=Z,1μm,21.0s
IL31 68.53 25 P **P 06 07 23.8 -0.4**
ILAR Eielson Array 68.53 25 P **P 06 07 23.7 -0.6**
comp=Z,14nm,0.8s,baz=248,slow=6.3,SNR=56
ILAR PKP2bc 06 35 43.8
comp=Z,0.5nm,1.0s,baz=175,slow=0.9,SNR=5.3
ILAR Eielson Array 68.53 25 P **P 06 07 23.9 -0.4**
ILAR Eielson Array 68.53 25 P **P 06 07 23.9 -0.4**
TOLK Toolik Lake Re 68.65 21 P **P 06 07 25.7 +0.7**
TOLK IAmb IAmb 06 07 44.0
comp=Z,27nm,0.9s
TOLK IAMs_20 IAMs_20 06 40 42.3
comp=Z,1μm,19.0s
TOLK Toolik Lake Re 68.65 21 P 06 07 26.6
baz=251,SNR=19
BMRM Bremner River 68.67 29 P **P 06 07 25.9 +0.6**
BMRM IAMs_20 IAMs_20 06 41 03.3
comp=Z,1μm,19.0s
BMRM Bremner River 68.67 29 P 06 07 26.3
baz=259,SNR=5.6
BMRM S 06 16 28.5
baz=259
PAX Paxson 68.70 27 P **P 06 07 26.1 +0.6**
PAX pmax pmax
comp=Z,47nm,1.2s
PAX Paxson 68.70 27 P **P 06 07 26.1 +0.6**
PAX IAmb IAmb 06 07 42.9
comp=Z,47nm,1.2s
PAX Paxson 68.70 27 P 06 07 26.5
baz=257,SNR=21
HMT Hamilton 68.72 30 P **P 06 07 25.2 -0.3**
HMT IAmb IAmb 06 07 43.5
comp=Z,44nm,1.0s
N25K Chitina, Valde 68.81 29 IAMs_20 IAMs_20 06 33 28.7
comp=Z,1μm,21.0s
N25K Chitina, Valde 68.81 29 P 06 07 21.2
baz=258
N25K S 06 16 31.8
baz=258
BERG Berg Lake 69.00 30 P **P 06 07 29.0 +1.7**
BRZS Berezniki 69.13 319 *e*P **P 06 07 27.1 -1.2**
comp=Z,41nm,1.8s,baz=319
BRZS Berezniki 69.13 319 *e*P **P 06 07 27.1 -1.2**
BRZS pmax pmax
comp=Z,41nm,1.8s
PRP Porcupine Dome 69.28 25 P **P 06 07 29.0 -0.1**
PRP IAMs_20 IAMs_20 06 39 52.1
comp=Z,2μm,20.0s
PRP Porcupine Dome 69.28 25 P 06 07 27.8
baz=256
CRQM Cirque 69.34 30 P **P 06 07 31.2 +1.6**
DOT Dot Lake 69.47 27 P **P 06 07 30.7 +0.5**
MENT Mentasta 69.47 27 P **P 06 07 31.7 +1.4**
TGL Tana Glacier 69.49 30 P **P 06 07 31.3 +0.8**
MCARA McCarthy VSAT 69.50 29 P 06 07 31.8
baz=260
SCRK Sand Creek 69.57 26 P **P 06 07 31.8 +0.8**
SCRK IAmb IAmb 06 07 48.1
comp=Z,55nm,1.2s
SCRK IAMs_20 IAMs_20 06 36 56.7
comp=Z,2μm,20.0s
SCRK Sand Creek 69.57 26 P 06 07 31.6
baz=258,SNR=22
SCRK S 06 16 36.7
baz=258
FYU Fort Yukon 69.65 23 P **P 06 07 32.9 +1.7**
DZA Taraz 69.76 311 *e*P **P 06 07 31.5 -0.9**
comp=Z,9.4nm,0.8s,baz=311
DZA Taraz 69.76 311 *e*P **P 06 07 31.4 -0.9**
DZA pmax pmax
comp=Z,9.0nm,0.8s
YAH Yahtse 69.95 30 P **P 06 07 34.7 +1.2**
YAH IAMs_20 IAMs_20 06 42 00.5
comp=Z,2μm,19.0s
GRNC Granite Creek 70.00 30 P **P 06 07 35.3 +1.5**
GRNC IAmb IAmb 06 07 46.0
comp=Z,37nm,0.8s
BMAR Burnt Mountain 70.11 23 P **P 06 07 35.0 +1.0**
CTG Chitna Glacier 70.24 30 P 06 07 36.7
baz=262
TABL Table Mountain 70.26 30 P **P 06 07 36.0 +0.7**
TABL IAMs_20 IAMs_20 06 42 09.7
comp=Z,2μm,19.0s
L27K Beaver Creek, 70.35 27 P **P 06 07 36.5 +0.9**
L27K IAmb IAmb 06 07 52.6
comp=Z,36nm,1.1s
L27K Beaver Creek, 70.35 27 P 06 07 36.9
baz=260
KK31 Karatay Array 70.36 311 P **P 06 07 35.8 -0.3**
KK31 pmax pmax
comp=Z,51nm,1.0s
KK31 Karatay Array 70.36 311 P **P 06 07 35.8 -0.3**
KK31 IAmb IAmb 06 07 37.4
comp=Z,51nm,1.0s
KKAR Karatay Array 70.36 311 P **P 06 07 35.6 -0.4**
KKAR pmax pmax
comp=Z,51nm,1.0s
KKAR Karatay Array 70.36 311 P **P 06 07 35.6 -0.4**
KKAR Karatay Array 70.36 311 P **P 06 07 35.6 -0.4**
KKAR IAmb IAmb 06 07 37.4
comp=Z,51nm,1.0s
BCAR Beaver Creek A 70.37 27 P **P 06 07 36.5 +0.8**
K27K Chicken 70.41 26 P **P 06 07 37.2 +1.3**
K27K IAmb IAmb 06 07 53.3
comp=Z,56nm,1.3s
K27K IAMs_20 IAMs_20 06 41 46.9
comp=Z,2μm,19.0s
K27K Chicken 70.41 26 P 06 07 38.1
baz=260
K27K S 06 16 48.8
baz=260
PCA Pinnacle 70.65 31 IAMs_20 IAMs_20 06 38 59.2
comp=Z,1μm,20.0s
IUG Iuzhnay 70.72 310 *e*P **P 06 07 37.6 -0.8**
baz=310
IUG Iuzhnay 70.72 310 *e*P **P 06 07 37.6 -0.8**
PPT Papeete 70.76 114 LR LR 06 32 34.1
comp=Z,2μm,20.9s,baz=265,slow=31
PPT2 Papeete2 70.76 114 *e*S **S 06 16 52.4 -0.3**
comp=Z,540nm,23.5s
PPT2 Papeete2 70.76 114 *e*LR LR 06 29 12.9
comp=Z,3μm,21.5s,baz=297
BRVK Borovoye 70.83 322 *ce*P **P 06 07 38.4 -0.3**
BRVK pmax pmax
comp=Z,43nm,1.0s
BRVK Borovoye 70.83 322 P **P 06 07 38.9 +0.3**
BRVK IAmb IAmb 06 07 40.6
comp=Z,35nm,0.9s
EGAK Eagle 70.93 26 P **P 06 07 40.1 +1.1**
EGAK IAmb IAmb 06 07 56.6
comp=Z,55nm,1.1s
EGAK IAMs_20 IAMs_20 06 37 47.7
comp=Z,1μm,20.0s
EGAK Eagle 70.93 26 P 06 07 39.9
baz=260,SNR=17
EGAK S 06 16 52.9
baz=260
BCPM Bancas Point 70.94 31 IAMs_20 IAMs_20 06 38 45.8
comp=Z,1μm,20.0s
MNCI Minicoy 71.40 274 P **P 06 07 43.2 +0.4**
DAWY Dawson 71.58 27 P **P 06 07 44.4 +1.3**
DAWY IAmb IAmb 06 08 01.1
comp=Z,79nm,1.4s
KBL Kabul 71.78 302 P **P 06 07 45.3 +0.3**
KBL pmax pmax
comp=Z,33nm,1.1s
KBL MLR MLR
comp=Z,900nm,22.0s
KBL Kabul 71.78 302 P **P 06 07 45.3 +0.3**
KBL IAmb IAmb 06 07 53.1
comp=Z,33nm,1.1s
EPYK Eagle Plains 72.98 24 P **P 06 07 52.6 +1.3**
EPYK IAMs_20 IAMs_20 06 38 49.9
comp=Z,2μm,21.0s
EPYK Eagle Plains 72.98 24 P 06 07 52.6
baz=264,SNR=14
TBI Tubuai 73.02 120 *e*S **S 06 17 18.5 +0.2**
comp=Z,689nm,27.2s
TBI Tubuai 73.02 120 *e*LR LR 06 29 50.6
comp=Z,2μm,32.5s,baz=303
WHY Whitehorse 73.36 30 P **P 06 07 54.3 +0.5**
WHY IAmb IAmb 06 08 08.1
comp=Z,78nm,1.5s
WHY IAMs_20 IAMs_20 06 39 56.7
comp=Z,2μm,20.0s
JIS Juneau Island 73.53 33 P **P 06 07 56.2 +1.5**
JIS IAmb IAmb 06 08 12.3
comp=Z,79nm,1.4s
INK Inuvik 74.37 22 P **P 06 07 59.9 +0.4**
comp=Z,21nm,0.9s,baz=274,slow=5.4,SNR=35
INK Inuvik 74.37 22 P **P 06 07 59.8 +0.4**
INK pmax pmax
comp=Z,73nm,1.2s
INK Inuvik 74.37 22 P **P 06 07 59.8 +0.4**
INK IAmb IAmb 06 08 16.5
comp=Z,72nm,1.1s
DIB Dawson Inlet, 74.60 38 P **P 06 08 02.5 +1.5**
DIB IAmb IAmb 06 08 15.1
comp=Z,38nm,1.0s
WRAK Wrangell Islan 74.62 35 P **P 06 08 02.9 +1.8**
WRAK IAmb IAmb 06 08 18.8
comp=Z,50nm,1.1s
WRAK Wrangell Islan 74.62 35 IAMs_20 IAMs_20 06 41 41.2
comp=Z,1μm,18.0s
WRAK Wrangell Islan 74.62 35 P 06 08 03.1
baz=271,SNR=8.2
DGAR Diego Garcia 75.64 259 *ce*P **P 06 08 08.2 +0.5**
DGAR pmax pmax
comp=Z,169nm,2.5s
DLBC Dease Lake 75.82 33 P **P 06 08 09.9 +1.8**
comp=Z,20nm,0.8s,baz=273,slow=5.1,SNR=20
DLBC Dease Lake 75.82 33 P **P 06 08 09.9 +1.8**
DLBC IAMs_20 IAMs_20 06 41 45.9
comp=Z,1μm,19.0s
SVE Sverdlovsk 76.40 326 *e*P **P 06 08 11.9 +0.6**
SVE *e*S **S 06 17 54.3 -0.8**
SVE pmax pmax
comp=Z,47nm,1.4s
SVE MLR MLR
comp=Z,2μm,20.0s
TAOE Nuku Hiva Isla 76.75 102 *e*S **S 06 17 58.8 -1.7**
comp=Z,388nm,28.0s
TAOE Nuku Hiva Isla 76.75 102 *e*LR LR 06 31 51.5
comp=Z,2μm,21.2s,baz=288
BBB Bella Bella 77.31 39 IAMs_20 IAMs_20 06 36 23.8
comp=Z,1μm,20.0s
HRA Herat 77.38 303 P **P 06 08 18.5 +0.9**
HRA IAmb IAmb 06 08 19.6
comp=Z,54nm,1.1s
ABKAR Akbulak array 77.41 318 P **P 06 08 17.0 -0.1**
ABKAR IAmb IAmb 06 08 18.1
comp=Z,45nm,0.9s
ABKAR Akbulak array 77.41 318 P **P 06 08 17.2 0.0**

ARU	**Arti**	**77.57**	**325**	*c*	*i*	P	**P**	**06 08 17.6**	**-0.3**
ARU						S	**S**	**06 18 09.8**	**+1.9**
ARU						SS	**SS**	**06 23 07.6**	**+0.6**
ARU	comp=Z,27nm,1.0s					pmax	pmax		
ARU	**Arti**	**77.57**	**325**			P	**P**	**06 08 18.0**	**+0.1**
ARU	comp=Z,34nm,1.0s					IAmb	IAmb	06 08 23.3	
ARU	comp=Z,1µm,18.0s					IAMs_20	IAMs_20	06 47 59.4	
C36M	**Paulatuk**	**77.80**	**21**			P	**P**	**06 08 19.3**	**+0.4**
C36M	comp=Z,78nm,1.3s					IAmb	IAmb	06 08 35.9	
C36M	**Paulatuk**	**77.80**	**21**			P		06 08 19.4	
C36M	baz=275					S		06 18 06.5	
GEYT	**Alibeck**	**80.18**	**307**			P	**P**	**06 08 33.5**	**+0.8**
GEYT	comp=Z,33nm,1.0s,baz=112,slow=1.6,SNR=20					LR	LR	06 46 44.1	
GEYT	comp=Z,822nm,21.3s,baz=70,slow=38 **Alibeck**	**80.18**	**307**			P	**P**	**06 08 33.1**	**+0.4**
GEYT	comp=Z,37nm,1.1s					IAmb	IAmb	06 08 37.1	
GYA0B	**ALIBECK ARRAY**	**80.18**	**307**			P	**P**	**06 08 32.9**	**+0.2**
GYA0B	comp=Z,68nm,1.1s					IAmb	IAmb	06 08 37.8	
GYA0B	comp=Z,1µm,21.0s					IAMs_20	IAMs_20	06 46 10.7	
NLWA	**Neilton Lookou**	**80.65**	**44**			P	**P**	**06 08 35.7**	**+0.7**
NLWA	comp=Z,35nm,1.1s					IAmb	IAmb	06 08 53.9	
PGC	**Sidney**	**80.72**	**42**			P	**P**	**06 08 35.8**	**+0.6**
PGC	comp=Z,42nm,1.2s					IAmb	IAmb	06 08 53.5	
E03A	**Lebam**	**80.99**	**44**			P	**P**	**06 08 38.1**	**+1.3**
E03A	comp=Z,68nm,1.1s					IAmb	IAmb	06 08 45.8	
D03D	**Eldon**	**81.14**	**43**			P		06 08 40.2	
	baz=280,SNR=11								
G03D	**McMinnville, O**	**81.43**	**46**			P		06 08 39.9	
	baz=280								
COR	**Corvallis**	**81.51**	**46**			IAMs_20	IAMs_20	06 39 24.2	
K02D	comp=Z,2µm,20.0s **Willamette Mer**	**81.58**	**48**			P		06 08 41.9	
	baz=280								
I03D	**Drain, OR**	**81.63**	**47**			P		06 08 41.9	
	baz=280								
E04D	**Cinebar**	**81.67**	**44**			P		06 08 44.0	
	baz=280								
B05A	**Bryant**	**81.67**	**42**			P		06 08 42.9	
	baz=280,SNR=7.7								
L02E	**Cave Junction**	**81.72**	**49**			P		06 08 43.3	
	baz=280								
KHMM	**Horse Mountain**	**81.86**	**50**			P	**P**	**06 08 42.6**	**+0.9**
KHMM	comp=Z,33nm,1.0s					IAmb	IAmb	06 08 54.2	
H04D	**Lebanon**	**81.92**	**46**			P		06 08 44.4	
	baz=281								
D05A	**Enumclaw**	**81.94**	**43**			P	**P**	**06 08 42.5**	**+0.6**
D05A	comp=Z,45nm,1.1s					IAmb	IAmb	06 08 59.8	
B06A	**Marblemount**	**82.03**	**42**			P	**P**	**06 08 42.9**	**+0.7**
B06A	comp=Z,42nm,1.1s					IAmb	IAmb	06 09 00.1	
HUMO	**Hull Mountain**	**82.11**	**48**			P	**P**	**06 08 43.0**	**+0.1**
HUMO	comp=Z,1µm,20.0s					IAMs_20	IAMs_20	06 37 56.3	
KIRV	**Kirov**	**82.13**	**328**	*c*	*e*	P	**P**	**06 08 42.3**	**-0.2**
LON	**Longmire**	**82.14**	**44**			P	**P**	**06 08 43.5**	**+0.5**
LON	comp=Z,21nm,1.4s					pmax	pmax		
LON	**Longmire**	**82.14**	**44**			P	**P**	**06 08 43.5**	**+0.5**
KCPM	**Cahto Peak**	**82.18**	**51**			P	**P**	**06 08 44.6**	**+1.1**
H04A	**Detroit Lake**	**82.27**	**46**			P	**P**	**06 08 44.2**	**+0.5**
H04A	comp=Z,1µm,22.0s					IAMs_20	IAMs_20	06 39 48.5	
I04A	**Tendick Farm,**	**82.28**	**47**			P		06 08 45.5	
	baz=281								
WSAR	**Wadi Sarin**	**82.31**	**292**			P	**P**	**06 08 44.6**	**+0.4**
	comp=Z,25nm,0.9s,baz=129,slow=4.0,SNR=16								
M02C	**Callahan**	**82.41**	**49**			P		06 08 47.0	
	baz=281,SNR=9.6								
YBH	**Yreka Blue Hor**	**82.45**	**49**			P	**P**	**06 08 45.6**	**+0.8**
YBH	comp=Z,30nm,1.1s					pmax	pmax		
YBH	**Yreka Blue Hor**	**82.45**	**49**			P	**P**	**06 08 45.6**	**+0.8**
YBH	comp=Z,30nm,1.1s					IAmb	IAmb	06 09 00.1	
YBH	comp=Z,1µm,19.0s					IAMs_20	IAMs_20	06 39 20.5	
F05D	**White Salmon**	**82.55**	**45**			P		06 08 48.1	
	baz=281								
N02D	**Trinity Center**	**82.60**	**50**			P		06 08 47.8	
	baz=281,SNR=12								
L04D	**Klamath Falls**	**82.66**	**48**			P		06 08 47.7	
	baz=281,SNR=7.6								
O02D	**Mt. Diablo Mer**	**82.69**	**51**			P		06 08 48.3	
	baz=281,SNR=17								
G05D	**Wamic, OR**	**82.77**	**45**			P		06 08 48.1	
	baz=282								
YKA	**Yellowknife Ar**	**82.78**	**27**			P	**P**	**06 08 46.3**	**+0.4**
	comp=Z,8.0nm,0.8s,baz=288,slow=4.9,SNR=37								
YKA	comp=Z,992nm,20.8s,baz=0.0,slow=34					LR	LR	06 43 59.3	
WDC	**Whiskeytown Da**	**82.80**	**50**			P	**P**	**06 08 47.0**	**+0.5**
WDC	comp=Z,28nm,1.1s					pmax	pmax		
WDC	**Whiskeytown Da**	**82.80**	**50**			P	**P**	**06 08 47.0**	**+0.5**
WDC	comp=Z,28nm,1.1s					IAmb	IAmb	06 09 04.9	
WDC	comp=Z,1µm,22.0s					IAMs_20	IAMs_20	06 37 31.7	
LTY	**Liberty**	**82.81**	**43**			P	**P**	**06 08 47.7**	**+1.2**
LTY	comp=Z,39nm,1.2s					IAmb	IAmb	06 09 01.0	
LTY	comp=Z,1µm,20.0s					IAMs_20	IAMs_20	06 47 33.6	
I05D	**Terrebonne, OR**	**82.94**	**46**			P		06 08 49.3	
	baz=282								
GDXM	**Geysers**	**82.95**	**52**			P	**P**	**06 08 49.5**	**+2.1**
GDXM	comp=Z,50nm,1.3s					IAmb	IAmb	06 08 54.1	
K04D	**Chiloquin, OR**	**82.98**	**48**			P		06 08 49.6	
	baz=282,SNR=6.5								
M04C	**Macdoel**	**83.08**	**49**			P		06 08 50.4	
	baz=282,SNR=7.7								
EUNU	**Eureka**	**83.11**	**8**			P	**P**	**06 08 47.8**	**+0.4**
EUNU	comp=Z,26nm,1.0s					IAmb	IAmb	06 08 57.5	
J05D	**Fort Rock, OR**	**83.22**	**47**			P		06 08 50.6	
	baz=282,SNR=19								
PRGR	**Permogore**	**83.24**	**332**		*e*	P	**P**	**06 08 46.9**	**-1.4**
PRGR	comp=Z,58nm,0.9s					pmax	pmax		
PINE	**Pine Mountain**	**83.33**	**47**			P	**P**	**06 08 50.6**	**+1.2**
PINE	comp=Z,42nm,0.9s					IAmb	IAmb	06 08 54.8	
PINE	comp=Z,1µm,20.0s					IAMs_20	IAMs_20	06 40 11.4	
O03E	**Paynes Creek**	**83.41**	**50**			P		06 08 51.2	
	baz=282,SNR=14								
B08A	**Colville Reser**	**83.46**	**42**			P	**P**	**06 08 51.0**	**+1.2**
B08A	comp=Z,26nm,0.9s					IAmb	IAmb	06 08 55.4	
E07A	**Sunnyside**	**83.50**	**44**			P	**P**	**06 08 51.3**	**+1.2**
E07A	comp=Z,26nm,1.0s					IAmb	IAmb	06 08 56.1	
E07A	comp=Z,1µm,19.0s					IAMs_20	IAMs_20	06 46 07.8	
K05A	**Summer Lake**	**83.58**	**48**			P	**P**	**06 08 51.7**	**+1.0**
K05A	comp=Z,44nm,1.1s					IAmb	IAmb	06 09 05.9	
K05A	comp=Z,1µm,21.0s					IAMs_20	IAMs_20	06 38 56.2	
F07A	**Phinny Hill Vi**	**83.59**	**44**			P	**P**	**06 08 51.2**	**+0.7**
F07A	comp=Z,911nm,20.0s					IAMs_20	IAMs_20	06 41 06.3	
HAWA	**Hanford**	**83.75**	**44**			P	**P**	**06 08 53.1**	**+1.9**
HAWA	comp=Z,23nm,1.1s					IAmb	IAmb	06 08 57.3	
HAWA	comp=Z,1µm,20.0s					IAMs_20	IAMs_20	06 45 57.5	
ORV	**Oroville**	**83.79**	**51**			P	**P**	**06 08 52.7**	**+1.1**
ORV	comp=Z,47nm,1.5s					pmax	pmax		
ORV	**Oroville**	**83.79**	**51**			P	**P**	**06 08 52.7**	**+1.1**
ORV	comp=Z,47nm,1.4s					IAmb	IAmb	06 08 57.3	
D08A	**Wollman Farm,**	**84.02**	**43**			P	**P**	**06 08 53.6**	**+1.0**
D08A	comp=Z,20nm,1.1s					IAmb	IAmb	06 08 58.5	
HOPEN	**Hopen**	**84.04**	**348**		*e*	P	**P**	**06 08 53.0**	**+0.9**
E08A	**Dider Farm, El**	**84.05**	**44**			P	**P**	**06 08 53.7**	**+0.9**
E08A	comp=Z,26nm,1.2s					IAmb	IAmb	06 08 58.8	
E08A	comp=Z,1µm,20.0s					IAMs_20	IAMs_20	06 48 30.4	
UOSS	**Minazif**	**84.15**	**294**			P	**P**	**06 08 53.6**	**-0.1**
MOD	**Modoc Plateau**	**84.18**	**48**			P	**P**	**06 08 55.6**	**+1.8**
MOD	comp=Z,20nm,1.0s					IAmb	IAmb	06 09 11.8	
I07A	**Izee**	**84.28**	**46**			P	**P**	**06 08 55.2**	**+1.1**
I07A	comp=Z,1µm,21.0s					IAMs_20	IAMs_20	06 41 55.6	
C09A	**Chrisman Ranch**	**84.28**	**42**			P	**P**	**06 08 55.2**	**+1.3**
C09A	comp=Z,36nm,1.2s					IAmb	IAmb	06 09 08.4	
C09A	comp=Z,1µm,20.0s					IAMs_20	IAMs_20	06 47 02.3	
AFDM	**Forest Hills D**	**84.31**	**51**			P	**P**	**06 08 55.2**	**+0.8**
AFDM	comp=Z,37nm,1.3s					IAmb	IAmb	06 09 00.3	
G08A	**Pilot Rock**	**84.39**	**45**			P	**P**	**06 08 55.2**	**+0.5**
G08A	comp=Z,841nm,19.0s					IAMs_20	IAMs_20	06 39 26.4	
SAO	**San Andreas Ge**	**84.41**	**54**			P	**P**	**06 08 55.9**	**+1.1**
SAO	comp=Z,23nm,1.3s					pmax	pmax		
SAO	**San Andreas Ge**	**84.41**	**54**			P	**P**	**06 08 55.9**	**+1.1**
BELG	**Belogornoye**	**84.56**	**322**		*i*	P	**P**	**06 08 54.8**	**-0.4**
BELG	comp=Z,17nm,0.9s					pmax	pmax		
BELG	comp=Z,196nm,18.0s					MLR	MLR		
SPA0	**Spitsbergen Ar**	**84.56**	**351**		*e*	P	**P**	**06 08 55.3**	**+0.5**
SPITS	**Spitsbergen Ar**	**84.56**	**351**			P	**P**	**06 08 54.4**	**-0.4**
	comp=Z,17nm,1.0s,baz=140,slow=9.6,SNR=7.2								
BEKR	**Beckworth**	**84.58**	**50**			P	**P**	**06 08 57.2**	**+1.4**
BEKR	comp=Z,40nm,1.3s					IAmb	IAmb	06 09 01.6	
E09A	**Wood Farm, Sta**	**84.66**	**44**			P	**P**	**06 08 57.3**	**+1.4**
E09A	comp=Z,48nm,1.4s					IAmb	IAmb	06 09 10.6	
E09A	comp=Z,1µm,20.0s					IAMs_20	IAMs_20	06 47 01.5	
KBS	**Kingsbay**	**84.69**	**352**		*e*	P	**P**	**06 08 56.0**	**+0.6**
RES	**Resolute Bay**	**84.71**	**13**			P	**P**	**06 08 56.2**	**+0.7**
	comp=Z,11nm,0.9s,baz=324,slow=5.5,SNR=18								
RES	**Resolute Bay**	**84.71**	**13**			P	**P**	**06 08 56.3**	**+0.7**
RES	comp=Z,32nm,1.0s					pmax	pmax		
RES	**Resolute Bay**	**84.71**	**13**			P	**P**	**06 08 56.2**	**+0.7**
RES	comp=Z,32nm,1.0s					IAmb	IAmb	06 09 13.7	
NEW	**Newport**	**84.92**	**42**			P	**P**	**06 08 58.4**	**+1.2**
	comp=Z,17nm,1.0s,baz=269,slow=3.3,SNR=17								
NEW	**Newport**	**84.92**	**42**			P	**P**	**06 08 58.5**	**+1.2**
NEW	comp=Z,42nm,1.2s					pmax	pmax		
NEW	comp=Z,1µm,18.0s					MLR	MLR		
NEW	**Newport**	**84.92**	**42**			P	**P**	**06 08 58.5**	**+1.2**
NEW	comp=Z,42nm,1.1s					IAmb	IAmb	06 09 15.0	
NEW	**Newport**	**84.92**	**42**			IAMs_20	IAMs_20	06 45 39.2	
NEW	comp=Z,974nm,18.0s **Newport**	**84.92**	**42**			P		06 08 58.6	
	baz=284,SNR=17								
NEW	baz=284					S		06 19 22.1	
CMB	**Columbia Colle**	**84.96**	**52**			P	**P**	**06 08 59.1**	**+1.5**
CMB	comp=Z,32nm,1.3s					pmax	pmax		
CMB	**Columbia Colle**	**84.96**	**52**			P	**P**	**06 08 59.1**	**+1.5**
CMB	comp=Z,32nm,1.3s					IAmb	IAmb	06 09 03.6	
PMPB	**Monarch Peak**	**85.03**	**54**			P	**P**	**06 09 00.2**	**+2.1**
PMPB	comp=Z,50nm,1.3s					IAmb	IAmb	06 09 04.5	
J08A	**Circle Bar Ran**	**85.17**	**47**			P	**P**	**06 08 59.7**	**+1.1**
J08A	comp=Z,30nm,1.2s					IAmb	IAmb	06 09 16.1	
J08A	comp=Z,830nm,19.0s					IAMs_20	IAMs_20	06 42 13.2	
VCNR	**Virginia City**	**85.24**	**51**			P	**P**	**06 09 00.7**	**+1.4**
WVOR	**Wild Horse Val**	**85.27**	**48**			P	**P**	**06 09 00.2**	**+1.0**
WVOR	comp=Z,35nm,1.4s					pmax	pmax		
WVOR	comp=Z,1µm,18.0s					MLR	MLR		
WVOR	**Wild Horse Val**	**85.27**	**48**			P	**P**	**06 09 00.2**	**+1.0**
WVOR	comp=Z,35nm,1.4s					IAmb	IAmb	06 09 16.6	
WVOR	comp=Z,1µm,18.0s					IAMs_20	IAMs_20	06 46 55.9	
PNTR	**Pine Nut**	**85.33**	**51**			P	**P**	**06 09 01.1**	**+1.4**
PNTR	comp=Z,21nm,0.9s					IAmb	IAmb	06 09 07.6	
PAHR	**Pah Rah Range**	**85.35**	**50**			P	**P**	**06 09 00.8**	**+1.1**
F10A	**Beach Ranch, E**	**85.41**	**44**			P	**P**	**06 09 00.9**	**+1.1**
F10A	comp=Z,1µm,19.0s					IAMs_20	IAMs_20	06 47 15.3	
HSPB	**Hornsund (broa**	**85.48**	**350**		*e*	P	**P**	**06 09 00.4**	**+1.0**
RKT	**Rikitea**	**85.50**	**115**		*e*	S	**S**	**06 19 30.2**	**-0.7**
RKT	comp=Z,880nm,27.2s **Rikitea**	**85.50**	**115**		*e*	LR	LR	06 35 59.4	
	comp=Z,2µm,21.8s								
LVZ	**Lovozero**	**85.56**	**339**		*c*	P	**P**	**06 09 00.7**	**+0.7**
LVZ	comp=Z,130nm,1.7s					pmax	pmax		
PAGB	**Antelope Grade**	**85.58**	**54**			P	**P**	**06 09 03.2**	**+2.4**
PAGB	comp=Z,51nm,1.2s					IAmb	IAmb	06 09 07.2	
WAKR	**Walker**	**85.58**	**52**			P	**P**	**06 09 03.2**	**+2.3**
YERR	**Yerington**	**85.62**	**51**			P	**P**	**06 09 03.5**	**+2.4**
YERR	comp=Z,46nm,1.5s					IAmb	IAmb	06 09 07.3	
BMO	**Blue Mountains**	**85.63**	**45**			P	**P**	**06 09 02.1**	**+1.2**
BMO	comp=Z,49nm,1.2s					pmax	pmax		
BMO	**Blue Mountains**	**85.63**	**45**			P	**P**	**06 09 02.1**	**+1.2**
BMO	comp=Z,49nm,1.1s					IAmb	IAmb	06 09 07.5	
BMO	comp=Z,971nm,20.0s					IAMs_20	IAMs_20	06 41 39.2	
SMMC	**Simmler**	**85.88**	**55**			P		06 09 04.1	
	baz=283								
MDPB	**Devils Postpil**	**86.06**	**52**			P	**P**	**06 09 04.2**	**+0.8**
PKM	**Mcpherson Peak**	**86.12**	**55**			P		06 09 05.8	
	baz=283,SNR=5.7								
APA	**Apatity**	**86.13**	**339**	↓	*i*	P	**P**	**06 09 00.9**	**-1.8**
APA						*i* S	**S**	**06 19 29.0**	**-6.6**
APA						*i* PS	PnS	06 20 55.0	+20
APA	comp=Z,34nm,1.1s					pmax	pmax		
APA	comp=Z,1µm,12.0s					MLR	MLR		
MLAC	**Mammoth, Mammc**	**86.25**	**52**			P		06 09 07.0	
	baz=284								
RYN	**Ryan**	**86.25**	**51**			P	**P**	**06 09 05.5**	**+1.3**
KLMR	**Klimovskoe**	**86.30**	**332**		*e*	P	**P**	**06 09 00.6**	**-3.1**
KLMR						*e*		06 12 20.3	
KLMR	comp=Z,60nm,1.2s					pmax	pmax		
KLMR	**Klimovskoe**	**86.30**	**332**		*e*	P	**P**	**06 09 00.7**	**-3.0**
KLMR	comp=Z,60nm,1.2s					AMP		06 09 04.2	
KLMR						*e* PP	**PP**	**06 12 20.3**	**-4.0**
KLMR						LQ	LQ	06 38 48.1	
KLMR						LQ	LQ	06 38 48.1	
KLMR						LR	LR	06 49 15.4	
LHV	**Little Huntoon**	**86.36**	**52**			P	**P**	**06 09 06.0**	**+1.6**
LHV	comp=Z,958nm,19.0s					IAMs_20	IAMs_20	06 45 10.9	
NVAR	**Mina Array Bea**	**86.47**	**52**			P	**P**	**06 09 06.7**	**+1.3**
	comp=Z,6.5nm,0.8s,baz=267,slow=5.3,SNR=28								
NVAR	comp=Z,1.5nm,1.1s,baz=126,slow=1.7,SNR=5.4					PKKP	**PKKPdf**	**06 26 48.0**	**-7.5**
NVAR	comp=Z,248nm,18.2s,baz=280,slow=34					LR	LR	06 45 58.7	
KVN	**Kaiserville**	**86.47**	**51**			P	**P**	**06 09 06.3**	**+1.0**
KVN	comp=Z,25nm,1.2s					pmax	pmax		
KVN	**Kaiserville**	**86.47**	**51**			P	**P**	**06 09 06.3**	**+1.0**
KVN	comp=Z,25nm,1.2s					IAmb	IAmb	06 09 10.6	
VES	**Vestal, Richgr**	**86.47**	**54**			P		06 09 06.5	
	baz=284,SNR=16								
NV11	**Mina Array Sit**	**86.58**	**51**			P	**P**	**06 09 07.2**	**+1.4**
NV11	comp=Z,28nm,1.3s					IAmb	IAmb	06 09 11.9	
WALA	**Waterton Lakes**	**86.77**	**40**			P	**P**	**06 09 07.6**	**+1.1**
WALA	comp=Z,32nm,1.0s					IAmb	IAmb	06 09 21.6	
ARVC	**Arvin**	**86.85**	**55**			P		06 09 08.9	
	baz=284								
TIN	**Tinemaha, Big**	**86.85**	**53**			P		06 09 09.3	
	baz=284,SNR=8.4								
JTMT	**Jette**	**86.90**	**42**			P	**P**	**06 09 08.5**	**+1.4**
JTMT	comp=Z,41nm,1.5s					IAmb	IAmb	06 09 26.6	
JTMT	comp=Z,891nm,19.0s					IAMs_20	IAMs_20	06 47 27.5	
ISA	**Isabella, Lake**	**87.00**	**54**			P	**P**	**06 09 08.1**	**+0.3**
ISA	comp=Z,15nm,1.2s					pmax	pmax		
ISA	**Isabella, Lake**	**87.00**	**54**			P	**P**	**06 09 08.1**	**+0.3**
ISA	**Isabella, Lake**	**87.00**	**54**			P		06 09 09.0	
	baz=284,SNR=8.6								
MFID	**Camas Ranch**	**87.03**	**46**			P	**P**	**06 09 09.2**	**+1.4**
MFID	comp=Z,988nm,19.0s					IAMs_20	IAMs_20	06 46 25.2	
MAK	**Makhachkala**	**87.05**	**313**		*e*	P	P	06 09 02.2	-5.6
MAK					*e*			06 19 25.5	
MAK					*e*	SSS	SSS	06 28 56.3	
MAK	comp=Z,18nm,0.3s					pmax	pmax		
CWC	**Cottonwood Cre**	**87.12**	**53**			P		06 09 09.8	
	baz=284								
KEV	**Kevo**	**87.15**	**342**			P	**P**	**06 09 08.0**	**+0.3**
KEV	comp=Z,83nm,1.1s					pmax	pmax		
KEV	**Kevo**	**87.15**	**342**			P	**P**	**06 09 08.0**	**+0.3**
AKT	**Akhty**	**87.28**	**312**		*e*	P	**P**	**06 09 08.4**	**-0.7**
AKT	comp=Z,66nm,1.1s					pmax	pmax		
TPH	**Tonopah**	**87.38**	**52**			P	**P**	**06 09 10.8**	**+1.0**
TPH	comp=Z,106nm,1.1s					pmax	pmax		
TPH	**Tonopah**	**87.38**	**52**			P	**P**	**06 09 10.8**	**+1.0**
MSO	**Missoula**	**87.38**	**43**			P	**P**	**06 09 10.6**	**+1.1**
MSO	**Missoula**	**87.38**	**43**			P		06 09 11.2	
	baz=287								
GRAC	**Grapevine Rang**	**87.54**	**53**			P		06 09 12.2	
	baz=285,SNR=9.1								
EDW2	**Edwards Air Fo**	**87.57**	**55**			P		06 09 12.5	
	baz=284,SNR=7.9								
PASC	**Pasadena Art C**	**87.59**	**56**			P	**P**	**06 09 11.2**	**+0.6**
PASC	comp=Z,35nm,1.2s					IAmb	IAmb	06 09 16.3	
PASC	**Pasadena Art C**	**87.59**	**56**			IAMs_20	IAMs_20	06 42 07.5	
	comp=Z,1µm,20.0s								
CIS	**Catalina Islan**	**87.60**	**56**			P		06 09 12.0	
	baz=284								
HAMF	**Hammerfest**	**87.61**	**344**		*e*	P	**P**	**06 09 09.9**	**0.0**
LRMC	**Laurel Mtn Rad**	**87.67**	**54**			P		06 09 13.1	
	baz=285								
MPMC	**Manual Prospec**	**87.68**	**54**			P		06 09 12.8	
	baz=285,SNR=36								
MPMC	baz=285					S		06 19 54.4	
MWC	**Mount Wilson**	**87.68**	**56**			P	**P**	**06 09 11.8**	**+0.5**
MWC	comp=Z,66nm,1.5s					pmax	pmax		
MWC	**Mount Wilson**	**87.68**	**56**			P	**P**	**06 09 11.8**	**+0.5**
MWC	comp=Z,1µm,19.0s					IAMs_20	IAMs_20	06 42 52.3	
ARA0	**ARCESS Array S**	**87.71**	**342**		*e*	P	**P**	**06 09 10.8**	**+0.3**
ARCES	**ARCESS Array B**	**87.71**	**342**			P	**P**	**06 09 10.5**	**0.0**
	comp=Z,50nm,0.9s,baz=61,slow=6.1,SNR=26								
ARCES	comp=Z,785nm,20.5s,baz=45,slow=38					LR	LR	06 51 24.8	
ARCES	**ARCESS Array B**	**87.71**	**342**			P	**P**	**06 09 10.2**	**-0.3**
ARCES	comp=Z,68nm,1.1s					pmax	pmax		
ARCES	**ARCESS Array B**	**87.71**	**342**			P	**P**	**06 09 10.2**	**-0.3**
HLID	**Hailey**	**87.98**	**46**			P	**P**	**06 09 13.9**	**+1.5**
HLID	comp=Z,31nm,1.2s					IAmb	IAmb	06 09 19.3	
HLID	comp=Z,1µm,19.0s					IAMs_20	IAMs_20	06 48 35.4	
HLID	**Hailey**	**87.98**	**46**			P		06 09 13.9	
	baz=286,SNR=36								
BFSC	**Mount Baldy Ra**	**88.00**	**55**			P		06 09 13.8	
	baz=285								
FURC	**Furnace Creek,**	**88.06**	**53**			P		06 09 14.6	
	baz=285,SNR=16								
TULEG	**Thule**	**88.11**	**8**			P	**P**	**06 09 11.7**	**-0.5**
ELK	**Elko**	**88.16**	**49**			P	**P**	**06 09 15.1**	**+1.6**
ELK	comp=Z,41nm,1.1s					pmax	pmax		
ELK	**Elko**	**88.16**	**49**			P	**P**	**06 09 15.1**	**+1.6**
ELK	comp=Z,1µm,20.0s					IAMs_20	IAMs_20	06 41 53.5	
GROC	**Groznyy**	**88.19**	**314**		*e*	P	P	06 09 08.0	-5.3
GROC	comp=Z,70nm,1.2s					pmax	pmax		
VRH	**Novokhopyorsk**	**88.41**	**322**		*e*	P	**P**	**06 09 12.2**	**-1.9**
VRH	comp=Z,60nm,1.5s					pmax	pmax		
GSC	**Goldstone, Bar**	**88.41**	**54**			P	**P**	**06 09 16.1**	**+1.5**
GSC	comp=Z,27nm,1.1s					pmax	pmax		
GSC	**Goldstone, Bar**	**88.41**	**54**			P	**P**	**06 09 16.1**	**+1.5**
GSC	comp=Z,27nm,1.1s					IAmb	IAmb	06 09 20.7	
GSC	**Goldstone, Bar**	**88.41**	**54**			P		06 09 16.0	
	baz=285,SNR=12								
TPNV	**Topopah Spring**	**88.41**	**53**			P	**P**	**06 09 16.1**	**+1.4**
TPNV	comp=Z,56nm,1.4s					pmax	pmax		
TPNV	**Topopah Spring**	**88.41**	**53**			P	**P**	**06 09 16.1**	**+1.4**
TPNV	**Topopah Spring**	**88.42**	**53**			P		06 09 16.0	
	baz=285,SNR=22								
TPNV	baz=285					S		06 20 01.3	
BCYI	**Bear Canyon**	**88.46**	**45**			P	**P**	**06 09 16.3**	**+1.4**
MURC	**Murrieta**	**88.53**	**56**			P		06 09 16.5	
	baz=285								
R11A	**Troy Canyon, C**	**88.55**	**51**			P	**P**	**06 09 17.0**	**+1.6**
R11A	comp=Z,39nm,1.4s					IAmb	IAmb	06 09 21.6	
R11A	**Troy Canyon, C**	**88.55**	**51**			P		06 09 16.8	
	baz=286,SNR=30								
R11A	baz=286					S		06 20 02.3	
LRM	**Limekiln Ridge**	**88.66**	**43**			P	**P**	**06 09 16.8**	**+1.0**
SHOC	**Shoshone, Teco**	**88.67**	**54**			P		06 09 17.4	
	baz=285,SNR=10								
KTK1	**Kautokeino**	**88.67**	**342**		*e*	P	**P**	**06 09 15.3**	**+0.3**
MCMT	**McKenzie Canyo**	**88.69**	**44**			P	**P**	**06 09 16.9**	**+1.0**
DLMT	**Dillon**	**88.70**	**44**			P	**P**	**06 09 17.3**	**+1.5**
DLMT	comp=Z,18nm,1.1s					IAmb	IAmb	06 09 30.4	
109C	**Camp Elliot, M**	**88.79**	**57**			P	**P**	**06 09 17.7**	**+1.4**
109C	comp=Z,29nm,0.9s					IAmb	IAmb	06 09 26.1	
109C	comp=Z,1µm,20.0s					IAMs_20	IAMs_20	06 42 27.2	
109C	**Camp Elliot, M**	**88.79**	**57**			P		06 09 17.8	
	baz=285,SNR=7.4								
HRY	**Holter Researc**	**88.80**	**42**			P	**P**	**06 09 17.7**	**+1.5

XPFO Pion Flat 89.13 56 P P 06 09 19.2 +1.1
XPFO IAmb IAmb 06 09 24.0
comp=Z,26nm,1.2s
TPFO Pinon Flats 89.13 56 P 06 09 19.5
baz=285,SNR=8.2
JETT Jettan, Norway 89.16 343 *e*P **P 06 09 17.6 +0.2**
BAR Barrett 89.19 57 P P 06 09 19.4 +1.1
BAR IAmb IAmb 06 09 23.9
comp=Z,29nm,1.3s
PRN Pahroc Range 89.21 52 P P 06 09 19.8 +1.4
PRN IAmb IAmb 06 09 24.8
comp=Z,32nm,1.3s
TKX Tecate 89.28 57 P P 06 09 19.2 +0.6
TKX IAmb IAmb 06 09 26.2
comp=Z,24nm,1.0s
BOZ Bozeman (W) 89.28 43 P P 06 09 20.1 +1.5
BOZ pmax pmax
comp=Z,14nm,1.1s
BOZ MLR MLR
comp=Z,500nm,20.0s
BOZ Bozeman (W) 89.28 43 P P 06 09 20.1 +1.5
BOZ Bozeman (W) 89.28 43 P 06 09 20.4
baz=288,SNR=16
CBX Cerro Bola 89.30 57 P P 06 09 20.0 +1.1
SPR3 Spring Creek 3 89.32 50 P P 06 09 21.0 +1.9
SPR3 IAmb IAmb 06 09 24.6
comp=Z,44nm,1.4s
SPR3 IAMs_20 IAMs_20 06 47 17.2
comp=Z,780nm,19.0s
MONP2 Monument Peak 89.34 56 P 06 09 20.8
baz=285,SNR=10
SHPR Sheep Range 89.38 53 P P 06 09 21.2 +2.0
SHPR IAmb IAmb 06 09 37.2
comp=Z,57nm,1.5s
CCX Cicese 89.41 58 IAMs_20 IAMs_20 06 44 26.3
comp=Z,1µm,20.0s
GMRC Granite Mounta 89.45 54 P 06 09 21.2
baz=286,SNR=16
TRO Tromso 89.52 344 *e*P **P 06 09 18.6 -0.3**
LPSR Galich'ya Gora 89.55 324 *e*P **P 06 09 18.3 -1.1**
LPSR pmax pmax
comp=Z,40nm,0.7s
ZEI Tsey 89.64 314 *e*P **P 06 09 19.0 -1.4**
ZEI pmax pmax
comp=Z,26nm,0.9s
HVU Hansel Valley 89.65 47 P P 06 09 21.5 +1.1
HVU pmax pmax
comp=Z,62nm,1.5s
HVU Hansel Valley 89.65 47 P P 06 09 21.5 +1.1
HVU IAmb IAmb 06 09 27.5
comp=Z,62nm,1.5s
QLMT Earthquake Lak 89.65 44 P P 06 09 22.4 +2.0
IKP In-Ko-Pah, Jac 89.66 57 P 06 09 22.2
baz=286
EGMT Eagleton 89.72 41 P P 06 09 21.6 +1.2
EGMT Eagleton 89.72 41 P 06 09 22.9
baz=290
BGU Big Grassy Mou 89.72 48 P P 06 09 22.3 +1.6
PSUT Pine Spring 89.81 50 P P 06 09 23.3 +2.0
PSUT IAmb IAmb 06 09 38.7
comp=Z,38nm,1.4s
YHL Hebgen Lake 89.81 44 P P 06 09 22.7 +1.5
YHL IAmb IAmb 06 09 37.5
comp=Z,46nm,1.2s
GNI Garni 89.83 311 *ce*P **P 06 09 20.6 -0.6**
GNI pmax pmax
comp=Z,54nm,1.7s
GNI Garni 89.83 311 P P 06 09 21.4 +0.1
GNI IAmb IAmb 06 09 22.5
comp=Z,38nm,1.2s
SWSC Sam W. Stewart 89.83 56 P 06 09 22.8
baz=286
YHB Horse Butte 89.83 44 P P 06 09 21.5 +0.2
YHB IAmb IAmb 06 09 27.9
comp=Z,31nm,1.1s
OBN Obninsk 89.89 327 *i* P **P 06 09 20.5 -0.4**
OBN *i* 06 09 35.7
OBN *i* S **SKSac 06 19 59.8 +10**
OBN pmax pmax
comp=Z,38nm,1.3s
OBN Obninsk 89.89 327 P P 06 09 20.3 -0.7
OBN Obninsk 89.89 327 IAMs_20 IAMs_20 06 50 25.2
comp=Z,1µm,22.0s
VSR Storozhevoye 89.91 323 *e*P **P 06 09 19.2 -2.0**
VSR pmax pmax
comp=Z,90nm,1.7s
BC3 Big Chuckawall 89.92 56 P 06 09 23.1
baz=286,SNR=15
ESJX Sierra Juarez 89.96 57 P P 06 09 23.5 +1.4
ESJX IAmb IAmb 06 09 29.0
comp=Z,31nm,1.4s
YMR Madison River 90.02 44 P P 06 09 22.8 +0.6
YMR IAmb IAmb 06 09 28.9
comp=Z,30nm,1.0s
IRM Iron Mountain 90.03 55 P 06 09 23.8
baz=286,SNR=16
KBZ Khabaz 90.05 315 P P 06 09 21.3 -0.7
comp=Z,23nm,1.0s,baz=91,slow=3.3,SNR=12
KBZ LR LR 06 53 14.5
comp=Z,610nm,19.6s,baz=65,slow=38
KBZ Khabaz 90.05 315 *i* P **P 06 09 21.2 -0.7**
KBZ pmax pmax
comp=Z,44nm,1.1s
YHH Holmes Hill 90.06 44 P P 06 09 23.7 +1.3
YHH IAmb IAmb 06 09 37.9
comp=Z,27nm,1.3s
DUG Dugway, Tooele 90.09 49 P P 06 09 23.5 +1.0
DUG pmax pmax
comp=Z,38nm,1.3s
DUG MLR MLR
comp=Z,900nm,18.0s
DUG Dugway, Tooele 90.09 49 P P 06 09 23.5 +1.0
DUG IAmb IAmb 06 09 39.7
comp=Z,38nm,1.3s
DUG IAMs_20 IAMs_20 06 50 53.6
comp=Z,940nm,18.0s
DUG Dugway, Tooele 90.09 49 P 06 09 24.1
baz=288,SNR=20
KIV Kislovodsk 90.12 315 *e*P **P 06 09 21.2 -1.3**
KIV *e* 06 19 51.5
KIV *e*SSS SSS 06 29 48.7
KIV pmax pmax
comp=Z,156nm,1.1s
KIV pmax pmax
comp=Z,90nm,3.6s
KIV Kislovodsk 90.12 315 P P 06 09 21.9 -0.5
YNR Norris Junctio 90.19 44 P P 06 09 26.3 +3.3
YNR IAmb IAmb 06 09 31.0
comp=Z,58nm,1.4s
SHA1 Shidzhatmaz 90.21 315 *i* P **P 06 09 22.0 -1.1**
ECR Eagle Creek 90.25 46 P P 06 09 26.2 +3.0
NEE2 Needles Airpor 90.28 54 P 06 09 25.8
baz=286
NEY Neytrino 90.32 315 *i* P **P 06 09 23.1 -0.4**
NEY pmax pmax
comp=Z,6.0nm,1.0s
H17A Grant Village 90.37 44 IAmb IAmb 06 09 32.3
comp=Z,27nm,1.1s
H17A Grant Village 90.37 44 P 06 09 27.7
baz=289,SNR=18
FLWY Flagg Ranch 90.38 44 P P 06 09 26.3 +2.5
FLWY IAmb IAmb 06 09 30.6
comp=Z,18nm,0.9s
FLWY IAMs_20 IAMs_20 06 44 26.0
comp=Z,960nm,20.0s
LKWY Lake 90.43 44 P P 06 09 25.5 +1.4
LKWY pmax pmax
comp=Z,22nm,1.1s
LKWY Lake 90.43 44 P P 06 09 25.5 +1.4
LKWY IAmb IAmb 06 09 32.1
comp=Z,22nm,1.1s
CCUT Cedar City 90.46 51 P P 06 09 26.2 +1.9
CCUT IAmb IAmb 06 09 31.0
comp=Z,35nm,1.5s
REDW Red Top Meadow 90.51 45 P P 06 09 27.1 +2.6
REDW IAMs_20 IAMs_20 06 45 58.4
comp=Z,853nm,20.0s
GCMT Greycliff 90.52 43 P P 06 09 25.3 +1.0
AHID Auburn Hatcher 90.53 46 P P 06 09 26.4 +1.9
AHID IAmb IAmb 06 09 31.2
comp=Z,44nm,1.4s
AHID IAMs_20 IAMs_20 06 44 03.9
comp=Z,905nm,20.0s
YMP Mirror Lake Pl 90.54 44 P P 06 09 27.2 +2.6
SNOW Snow King Moun 90.55 45 P P 06 09 27.3 +2.6
SNOW IAMs_20 IAMs_20 06 49 56.3
comp=Z,916nm,19.0s
YNE Yellowstone No 90.55 43 P P 06 09 25.9 +1.3
HWUT Hardware Ranch 90.56 47 P P 06 09 26.3 +1.6
HWUT IAmb IAmb 06 09 31.3
comp=Z,30nm,1.2s
HWUT IAMs_20 IAMs_20 06 48 31.2
comp=Z,807nm,19.0s
GLA Glamis 90.59 56 P P 06 09 26.2 +1.4
GLA pmax pmax
comp=Z,20nm,0.9s
GLA Glamis 90.59 56 P P 06 09 26.1 +1.4
GLA IAmb IAmb 06 09 40.6
comp=Z,20nm,0.8s
GLA Glamis 90.59 56 P 06 09 26.8
baz=286
LOHW Long Hollow 90.60 45 P P 06 09 25.5 +0.6
LOHW IAMs_20 IAMs_20 06 50 06.7
comp=Z,1µm,19.0s
SZCU Shurtz Canyon 90.66 51 P P 06 09 25.4 +0.1
NLU North Lily Min 90.70 49 P P 06 09 26.6 +1.2
NLU IAmb IAmb 06 09 40.2
comp=Z,19nm,1.2s
LCMT Little Creek M 90.71 52 P P 06 09 27.1 +1.7
LCMT IAmb IAmb 06 09 31.9
comp=Z,31nm,1.5s
CTU Camp Tracy 90.71 48 P P 06 09 27.0 +1.6
CTU IAmb IAmb 06 09 40.0
comp=Z,22nm,1.2s
W13A Hualapai Mount 90.76 54 P P 06 09 26.4 +0.6
W13A IAmb IAmb 06 09 32.1
comp=Z,25nm,1.2s
PDMCI Parker Dam,Lak 90.79 55 P 06 09 27.7
baz=287,SNR=14
TCUT Toone Canyon 90.83 47 P P 06 09 27.4 +1.3
JLU Jordanelle 90.96 48 P P 06 09 28.1 +1.5
JLU IAmb IAmb 06 09 33.4
comp=Z,26nm,1.1s
RLMT Red Lodge 91.01 43 P P 06 09 29.0 +2.3
RLMT Red Lodge 91.01 43 P 06 09 29.9
baz=290,SNR=11
MPU Maple Canyon 91.01 49 P P 06 09 28.1 +1.2
KNB Kanab 91.03 52 P P 06 09 29.2 +2.2
KNB pmax pmax
comp=Z,84nm,1.5s
KNB Kanab 91.03 52 P P 06 09 29.1 +2.2
MSU Marysvale 91.07 50 P P 06 09 28.8 +1.6
MSU Marysvale 91.07 50 P P 06 09 28.8 +1.6
MTPU Mount Pierson 91.21 51 P P 06 09 29.7 +1.7
PKCU Pink Cliffs 91.29 51 P P 06 09 30.1 +1.7
TMUT Trail Mountain 91.55 49 P P 06 09 30.3 +0.8
TMUT IAmb IAmb 06 09 44.5
comp=Z,23nm,1.3s
BW06 Boulder Array 91.60 45 P P 06 09 30.1 +0.6
BW06 IAMs_20 IAMs_20 06 45 33.3
comp=Z,956nm,20.0s
BW06 Boulder Array 91.60 45 P 06 09 30.4
baz=290
PD31 Pinedale Array 91.60 45 P P 06 09 30.1 +0.6
PDAR Pinedale Array 91.60 45 P P 06 09 30.2 +0.7
comp=Z,1.8nm,0.6s,baz=262,slow=3.0,SNR=9.4
PDAR LR LR 06 47 34.8
comp=Z,620nm,19.6s,baz=311,slow=34
PDAR Pinedale Array 91.60 45 P P 06 09 29.8 +0.3
U15A North Rim 91.61 52 P P 06 09 30.5 +0.7
U15A IAmb IAmb 06 09 35.5
comp=Z,31nm,1.4s
U15A IAMs_20 IAMs_20 06 48 39.1
comp=Z,805nm,19.0s
FFC Flin Flon 91.66 32 P P 06 09 30.0 +0.8
FFC pmax pmax
comp=Z,12nm,1.0s
FFC MLR MLR
comp=Z,900nm,19.0s
FFC Flin Flon 91.66 32 P P 06 09 30.0 +0.8
FFC Flin Flon 91.66 32 IAMs_20 IAMs_20 06 52 00.6
comp=Z,943nm,19.0s
STEI Steigen 91.66 343 *e*P **P 06 09 28.9 0.0**
SBA Scott Base 91.68 176 P **P 06 09 29.6 +0.9**
SBA pmax pmax
comp=Z,25nm,1.5s
SBA Scott Base 91.68 176 P P 06 09 29.6 +0.9
SBA IAmb IAmb 06 09 32.1
comp=Z,25nm,1.4s
Q16A Castle Valley 91.69 49 P P 06 09 32.1 +2.1
Q16A IAmb IAmb 06 09 36.3
comp=Z,30nm,1.4s
P17A Butcher Ranch, 91.83 49 P P 06 09 31.5 +0.9
FIA1 FINESS Array S 91.87 335 P P 06 09 29.1 -0.9
FINES FINESS Array B 91.87 335 P P 06 09 28.9 -1.0
comp=Z,26nm,0.8s,baz=68,slow=4.6,SNR=29
FINES LR LR 06 51 54.1
comp=Z,487nm,21.0s,baz=76,slow=36
FINES FINESS Array B 91.87 335 *ce*P **P 06 09 29.0 -1.0**
FINES pmax pmax
comp=Z,26nm,0.8s
FINES FINESS Array B 91.87 335 P P 06 09 28.7 -1.3
FAUS Fauske 92.01 343 *e*P **P 06 09 30.8 +0.2**
SRU San Rafael Swe 92.11 49 P P 06 09 31.9 0.0
SRU pmax pmax
comp=Z,12nm,1.0s
SRU San Rafael Swe 92.11 49 P P 06 09 31.9 0.0
SOC Sochi 92.28 316 *e*P **P 06 09 29.7 -2.6**
SOC *e* 06 13 16.5
SOC *e*S **SKSac 06 20 02.4 -1.9**
SOC *e*SS **SS 06 26 48.3 +4.3**
SOC *e*SSS SSS 06 30 17.9
SOC MLR MLR
comp=Z,957nm,21.0s
RDMU Red Mountain 92.33 48 P P 06 09 34.8 +1.9
RDMU IAmb IAmb 06 09 50.1
comp=Z,40nm,1.4s
LAO LASA Array 92.43 41 P P 06 09 34.2 +1.1
LAO IAMs_20 IAMs_20 06 52 39.9
comp=Z,851nm,19.0s
LAO LASA Array 92.43 41 P 06 09 34.7
baz=292,SNR=14
214A Organ Pipe Nat 92.53 57 P P 06 09 35.0 +1.2
214A IAmb IAmb 06 09 40.9
comp=Z,18nm,1.2s
214A Organ Pipe Nat 92.53 57 P 06 09 35.8
baz=287,SNR=7.4
WUAZ Wupatki 92.60 53 P P 06 09 36.1 +1.9
WUAZ IAmb IAmb 06 09 40.9
comp=Z,26nm,1.2s
WUAZ Wupatki 92.60 53 P 06 09 36.6
baz=288,SNR=7.1
KOPT Kop Dagi 92.96 312 P P 06 09 36.3 +0.4
DGMT Dagmar 93.01 39 IAMs_20 IAMs_20 06 45 03.9
comp=Z,865nm,20.0s
MOR8 Moi Rana 93.08 342 *e*P **P 06 09 34.4 -1.1**
KONS Konsvik 93.24 343 *e*P **P 06 09 36.8 +0.5**
ANN Anapa 93.36 317 *e*P **P 06 09 34.6 -2.7**
ANN *e*S **SKSac 06 20 08.7 -1.6**
ANN pmax pmax
comp=Z,66nm,0.9s
O20A White River Ci 93.43 48 P P 06 09 38.3 +0.3
O20A IAmb IAmb 06 09 52.2
comp=Z,16nm,1.1s
O20A IAMs_20 IAMs_20 06 46 17.8
comp=Z,1µm,21.0s
O20A White River Ci 93.43 48 P 06 09 40.1
baz=290
PV14 Lion Creek, Pa 93.46 49 P P 06 09 39.4 +1.2
PV14 IAmb IAmb 06 09 52.6
comp=Z,14nm,0.8s
FCC Fort Churchill 93.50 27 P P 06 09 36.9 -0.6
FCC pmax pmax
comp=Z,8.0nm,1.1s
FCC Fort Churchill 93.50 27 P P 06 09 36.9 -0.6
PV05 Paradox Valley 93.50 50 P P 06 09 40.2 +1.8
PV05 IAmb IAmb 06 09 54.7
comp=Z,17nm,1.3s
PV19 Morning Glory 93.51 50 P P 06 09 39.6 +1.2
PV19 IAmb IAmb 06 09 44.0
comp=Z,27nm,1.3s
PV20 West Nyswonger 93.51 49 P P 06 09 39.8 +1.4
PV20 IAmb IAmb 06 09 52.8
comp=Z,18nm,1.1s
PV17 East Wray Mesa 93.54 50 P P 06 09 39.8 +1.2
PV17 IAmb IAmb 06 09 55.4
comp=Z,13nm,1.0s
PV04 Paradox Valley 93.54 49 P P 06 09 39.8 +1.2
PV04 IAmb IAmb 06 09 53.0
comp=Z,13nm,0.9s
PV16 Nyswonger Mesa 93.56 49 P P 06 09 39.4 +0.8
PV16 IAmb IAmb 06 09 55.6
comp=Z,21nm,1.3s
PV22 Blue Mesa, Par 93.58 49 P P 06 09 40.2 +1.5
PV18 Skein Mesa, Pa 93.59 50 P P 06 09 39.6 +0.8
PV11 David Mesa, Pa 93.59 49 P P 06 09 39.6 +0.8
PV11 IAmb IAmb 06 09 41.6
comp=Z,18nm,1.1s
RWWY Rawlins 93.61 46 P P 06 09 40.3 +1.5
RWWY IAmb IAmb 06 09 45.1
comp=Z,39nm,1.4s
PV03 Paradox Valley 93.63 50 P P 06 09 40.0 +1.1
PV12 Saucer Basin, 93.64 49 P P 06 09 40.0 +0.9
PV12 IAmb IAmb 06 09 44.7
comp=Z,20nm,1.0s
PV12 IAMs_20 IAMs_20 06 45 41.6
comp=Z,1µm,21.0s
MARD Mardin 93.66 309 P P 06 09 37.7 -1.3
PV13 Radium Mtn., P 93.68 50 P P 06 09 39.6 +0.3
PV07 Paradox Valley 93.72 49 P P 06 09 39.8 +0.4
PV02 Paradox Valley 93.73 50 P P 06 09 40.8 +1.3
K22A Casper 93.73 45 P P 06 09 39.9 +0.6
K22A IAmb IAmb 06 09 53.7
comp=Z,25nm,1.2s
K22A IAMs_20 IAMs_20 06 45 31.7
comp=Z,842nm,20.0s
K22A Casper 93.74 45 P 06 09 41.8
baz=292
PV15 Paradox Valley 93.87 49 P P 06 09 40.4 +0.2
PV01 Paradox Valley 93.88 50 P P 06 09 39.2 -0.9
RAYN Ar Rayn 93.97 295 P P 06 09 39.9 -0.7
RAYN pmax pmax
comp=Z,32nm,1.1s
RAYN Ar Rayn 93.97 295 P P 06 09 39.9 -0.7
RAYN IAmb IAmb 06 09 41.1
comp=Z,32nm,1.1s
X18A Snowflake 94.02 53 P P 06 09 42.8 +2.0
X18A IAMs_20 IAMs_20 06 47 31.9
comp=Z,785nm,20.0s
TUC Tucson 94.06 56 P P 06 09 43.1 +2.2
TUC pmax pmax
comp=Z,19nm,1.5s
TUC Tucson 94.06 56 P P 06 09 43.1 +2.2
TUC Tucson 94.06 56 IAMs_20 IAMs_20 06 45 23.4
comp=Z,1µm,20.0s
TUC Tucson 94.06 56 P 06 09 43.0
baz=288
MVCO Mesa Verde 94.24 50 P P 06 09 44.2 +2.3
MVCO IAMs_20 IAMs_20 06 50 10.6
comp=Z,815nm,19.0s
MVCO Mesa Verde 94.24 50 P 06 09 43.8
baz=290,SNR=5.9
MVCO S 06 21 01.6
baz=290
MNK Minsk 94.66 329 *i* P **P 06 09 44.8 +1.8**
comp=E,2.0nm,0.9s
MNK *i* P **P 06 09 44.8 +1.8**
comp=N,9.0nm,0.9s
MNK *i* P **P 06 09 44.8 +1.8**
comp=Z,12nm,0.9s
MNK *i* PP **PP 06 13 32.4 +1.6**
MNK *i* PPP PPP 06 15 33.6
MNK *i* S **SKSac 06 20 20.2 +3.3**
MNK *i* ScS ScS 06 21 21.8 +26
MNK *i* PS PS 06 22 41.9 +28
MNK *i* SS **SS 06 27 21.6 +4.3**
MNK *i* SKKS SKKPbc 06 30 58.7 +40
MNK *i* SSS SSS 06 34 51.9
MNK *i* LQ LQ 06 45 21.8
MNK *i* LR LR 06 48 32.8
MNK *i* LRM MLR 06 55 26.5
comp=E,128nm,19.8s
MNK *i* LRM MLR 06 55 32.3
comp=N,518nm,19.8s
MNK *i* LRM MLR 06 55 34.2
comp=Z,1µm,19.8s
SMCO Snowmass 94.68 48 P P 06 09 45.0 +1.0
N23A Red Feather La 94.79 46 P 06 09 47.1
baz=292
RSSD Black Hills 94.85 43 P P 06 09 45.7 +1.2
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD Black Hills 94.85 43 P P 06 09 45.7 +1.2
NACGM Naroch 95.00 330 *i* P P 06 09 35.4 -9.2
NACGM *i* P P 06 09 35.4 -9.2
NACGM *i* P P 06 09 35.4 -9.2
NACGM *i* PP **PP 06 13 33.7 +0.3**
NACGM *i* PPP PPP 06 15 22.7
NACGM *i* SKS SKSac 06 20 02.5 -16
NACGM *i* SKKS **ScS 06 21 06.5 +7.8**
NACGM *i* PS PS 06 22 20.6 +3.7
NACGM *i* SS SS 06 27 06.9 -15
NACGM *i* SSS SSS 06 31 05.2
NACGM *i* LQ LQ 06 42 11.6
NACGM *i* LR LR 06 45 30.7
S22A 4UR Ranch, Cre 95.30 49 P 06 09 48.2
baz=291,SNR=7.0
ISCO Idaho Springs 95.43 47 IAMs_20 IAMs_20 06 50 53.8
comp=Z,1µm,20.0s
AKASG Malin Array Be 95.83 325 P P 06 09 47.2 -1.2
comp=Z,2.5nm,0.8s,baz=52,slow=4.5,SNR=2.5
AKASG LR LR 06 56 51.5
comp=Z,2µm,18.1s,baz=60,slow=38
MDND Maddock 96.05 38 IAMs_20 IAMs_20 06 51 53.3
comp=Z,1µm,19.0s
121A Cookes Peak, D 96.39 55 P P 06 09 53.1 +1.4
121A IAmb IAmb 06 09 58.4
comp=Z,18nm,1.4s
121A IAMs_20 IAMs_20 06 48 13.7
comp=Z,972nm,20.0s
121A Cookes Peak, D 96.39 55 P 06 09 54.5
baz=290
Y22D IRIS PASSCAL I 96.53 53 IAMs_20 IAMs_20 06 57 12.4
comp=Z,980nm,19.0s
ANMO Albuquerque 96.58 52 *ce*P **P 06 09 54.4 +1.9**
ANMO pmax pmax
comp=Z,8.0nm,1.5s
ANMO Albuquerque 96.58 52 P P 06 09 54.1 +1.6
ANMO Albuquerque 96.58 52 IAMs_20 IAMs_20 06 52 28.6
comp=Z,687nm,19.0s
ANMO Albuquerque 96.58 52 P 06 09 55.4
baz=291
ULM Lac du Bonnet 97.05 35 P P 06 09 52.8 -1.3
comp=Z,5.6nm,1.1s,baz=323,slow=2.3,SNR=3.1
ULM Lac du Bonnet 97.05 35 P P 06 09 53.5 -0.5
ULM pmax pmax
comp=Z,14nm,1.2s
ULM MLR MLR
comp=Z,1µm,18.0s
ULM Lac du Bonnet 97.05 35 P P 06 09 53.5 -0.5
ULM IAmb IAmb 06 10 10.0
comp=Z,14nm,1.1s
T25A Trinidad 97.31 49 IAMs_20 IAMs_20 06 56 32.7
comp=Z,690nm,18.0s
NC405 NORSAR Array S 97.49 339 P P 06 09 54.5 -1.3
OGNE Ogallala 97.49 45 IAMs_20 IAMs_20 06 54 36.1
comp=Z,820nm,19.0s
EPT El Paso 97.67 55 IAMs_20 IAMs_20 06 48 52.4
comp=Z,886nm,21.0s
DOMB Dombas 97.69 341 *e*P **P 06 09 56.2 -0.5**
NC204 NORSAR Array S 97.69 340 P P 06 09 56.1 -0.7
NB2 NORSAR Subarra 97.71 340 P P 06 09 55.2 -1.6
comp=Z,20nm,1.0s,baz=46,slow=5.1
NB2 NORSAR Subarra 97.71 340 P P 06 09 55.2 -1.6
baz=46,slow=5.1
NOA NORSAR Array B 97.71 340 P P 06 09 55.6 -1.2
comp=Z,8.5nm,0.9s,baz=52,slow=4.3,SNR=16
NOA LR LR 06 56 34.5
comp=Z,504nm,21.9s,baz=25,slow=37
NC602 NORSAR Array S 97.81 339 *e*P **P 06 09 55.3 -2.0**
KSCO Kaye Shedlock' 97.87 47 IAMs_20 IAMs_20 06 48 55.2
comp=Z,910nm,20.0s
D32A Dogwood Acres, 97.94 38 IAMs_20 IAMs_20 06 48 21.1
comp=Z,1µm,21.0s
BR131 Keskin Array S 97.95 314 P P 06 09 57.6 -1.0
BR131 pmax pmax
comp=Z,29nm,1.0s
BR131 Keskin Array S 97.95 314 P P 06 09 57.6 -1.0
BRTR Keskin Array B 97.95 314 P P 06 09 57.5 -1.0
comp=Z,13nm,0.9s,baz=60,slow=2.7,SNR=8.2
BRTR LR LR 07 00 12.4
comp=Z,273nm,18.5s,baz=54,slow=39
MNTX Cornudas Mount 98.59 55 P Pdif 06 10 02.9 +1.5
MNTX IAmb IAmb 06 10 07.5
comp=Z,8.9nm,1.1s

MNTX					IAMs_20	IAMs_20	06 49 12.0		
	comp=Z,856nm,19.0s								
MNTX	**Cornudas Mount**	**98.59**	**55**	P			06 10 03.4		
	baz=291,SNR=12								
F33A	**5 Mile Ranch,**	**99.00**	**39**	IAMs_20	IAMs_20		06 55 29.5		
	comp=Z,822nm,19.0s								
MDUB	**Mudurnu**	**99.33**	**315**	P	**Pdif**		**06 10 02.9**	**-1.7**	
CBKS	**Cedar Bluff**	**100.00**	**46**	IAMs_20	IAMs_20		06 50 54.5		
	comp=Z,787nm,20.0s								
ASK	**Askoy**	**100.09**	**341**	*e*Pdif	**Pdif**		**06 10 07.8**	**+0.4**	
AMTX	**Amarillo**	**100.23**	**50**	IAMs_20	IAMs_20		06 54 53.2		
	comp=Z,947nm,19.0s								
N33A	**J Bar K, Exete**	**100.70**	**44**	IAMs_20	IAMs_20		06 52 50.9		
	comp=Z,772nm,20.0s								
TXAR	**Lajitas Array**	**100.83**	**56**	P	**Pdif**		**06 10 13.1**	**+1.6**	
	comp=Z,3.0nm,1.3s,baz=248,slow=1.3,SNR=5.3								
TXAR				PKKPbc	**PKKPdf**		**06 26 27.8**	**-2.1**	
	comp=Z,0.7nm,1.0s,baz=113,slow=3.3,SNR=3.7								
R32A	**Long Quarter,**	**100.89**	**46**	IAMs_20	IAMs_20		06 54 10.1		
	comp=Z,765nm,18.0s								
EIL	**Elat**	**100.92**	**304**	P	**Pdif**		**06 10 11.0**	**-0.8**	
	comp=Z,20nm,1.0s,baz=71,slow=4.1,SNR=4.8								
CRVS	**Cervenica-Dubn**	**101.04**	**326**	*e*P	**Pdif**		**06 10 11.3**	**-0.7**	
CRVS	**Cervenica-Dubn**	**101.04**	**326**	*e*PDIFF	**Pdif**		**06 10 11.3**	**-0.7**	
SPMN	**Marine on St.**	**101.43**	**38**	IAMs_20	IAMs_20		06 50 39.5		
	comp=Z,957nm,21.0s								
U32A	**Winter Ranch,**	**101.58**	**48**	IAMs_20	IAMs_20		06 55 23.7		
	comp=Z,706nm,20.0s								
OK032	**Salt Plains WL**	**101.97**	**48**	IAMs_20	IAMs_20		06 50 13.8		
	comp=Z,748nm,21.0s								
KSU1	**Kansas State U**	**102.04**	**45**	IAMs_20	IAMs_20		06 59 37.4		
	comp=Z,970nm,20.0s								
OKC	**Ostrava-Krasne**	**102.23**	**328**	AMS	AMS		07 00 30.0		
	comp=Z,1μm,25.1s								
WMOK	**Wichita Mounta**	**102.46**	**50**	IAMs_20	IAMs_20		06 58 51.0		
	comp=Z,583nm,18.0s								
MORC	**Moravsky Berou**	**102.58**	**329**	IAMs_20	IAMs_20		07 01 11.6		
	comp=Z,1μm,20.0s								
OSTC	**Ostas**	**102.75**	**330**	AMS	AMS		07 00 50.0		
	comp=Z,900nm,15.7s								
KRLC	**Kraliky**	**102.77**	**329**	AMS	AMS		07 00 40.0		
	comp=Z,2μm,16.6s								
DPC	**Dobruska-Polom**	**102.83**	**330**	AMS	AMS		07 01 00.0		
	comp=Z,1μm,17.6s								
UPC	**Upice**	**102.88**	**330**	AMS	AMS		07 01 20.0		
	comp=Z,1μm,16.9s								
OK029	**Liberty Lake**	**102.97**	**48**	IAMs_20	IAMs_20		06 56 15.2		
	comp=Z,861nm,20.0s								
OK031	**S. Brethren Rd**	**103.34**	**48**	IAMs_20	IAMs_20		07 01 56.1		
	comp=Z,638nm,19.0s								
OK030	**Cody Creek RV**	**103.39**	**48**	IAMs_20	IAMs_20		06 58 59.5		
	comp=Z,645nm,19.0s								
I40A	**Norwalk**	**103.46**	**38**	IAMs_20	IAMs_20		06 51 20.4		
	comp=Z,869nm,22.0s								
JCT	**Junction City**	**103.47**	**54**	IAMs_20	IAMs_20		06 53 31.3		
	comp=Z,736nm,20.0s								
VTS	**Vitosha**	**103.50**	**320**	IAMs_20	IAMs_20		07 02 14.3		
	comp=Z,612nm,20.0s								
PVCC	**Panska Ves**	**103.57**	**330**	AMS	AMS		07 01 10.0		
	comp=Z,1μm,16.6s								
CLL	**Collm**	**103.79**	**332**	*e*PP	**PP**		**06 14 36.0**	**-4.3**	
GOPC	**GO Pecny, Ondr**	**103.86**	**330**	AMS	AMS		07 03 00.0		
	comp=Z,900nm,17.6s								
P38A	**Dawn**	**103.87**	**43**	IAMs_20	IAMs_20		06 52 54.6		
	comp=Z,675nm,20.0s								
TREC	**Trest**	**103.92**	**329**	AMS	AMS		07 01 30.0		
	comp=Z,2μm,18.5s								
PRA	**Prague**	**103.94**	**330**	AMS	AMS		07 01 00.0		
	comp=Z,1μm,18.8s								
PRU	**Pruhonice**	**103.94**	**330**	AMS	AMS		07 03 00.0		
	comp=Z,900nm,17.7s								
L40A	**Anamosa**	**104.09**	**40**	IAMs_20	IAMs_20		07 01 07.2		
	comp=Z,659nm,18.0s								
JFWS	**Jewell Farm**	**104.23**	**39**	IAMs_20	IAMs_20		06 58 49.7		
	comp=Z,994nm,20.0s								
WHTX	**Lake Whitney,**	**104.65**	**52**	IAMs_20	IAMs_20		06 53 31.3		
	comp=Z,767nm,20.0s								
NKC	**Novy Kostel**	**104.78**	**331**	AMS	AMS		07 03 20.0		
	comp=Z,800nm,15.5s								
U38A	**Gravette**	**104.86**	**46**	IAMs_20	IAMs_20		06 57 30.2		
	comp=Z,970nm,20.0s								
KHC	**Kasperske Hory**	**104.97**	**330**	AMS	AMS		07 00 30.0		
	comp=Z,2μm,22.1s								
K43A	**Burlington**	**105.51**	**38**	IAMs_20	IAMs_20		06 54 21.6		
	comp=Z,933nm,21.0s								
FNA	**Florina**	**105.66**	**319**	IAMs_20	IAMs_20		07 07 45.5		
	comp=Z,744nm,20.0s								
U40A	**Yellville**	**105.97**	**46**	IAMs_20	IAMs_20		07 00 30.7		
	comp=Z,936nm,19.0s								
L44A	**Lake County Fo**	**106.07**	**39**	IAMs_20	IAMs_20		06 53 34.4		
	comp=Z,874nm,22.0s								
HDIL	**Hopedale**	**106.13**	**41**	IAMs_20	IAMs_20		07 03 30.2		
	comp=Z,767nm,19.0s								
TIR	**Tirane**	**106.29**	**321**	IAMs_20	IAMs_20		07 04 45.3		
	comp=Z,734nm,20.0s								
HQIL	**Hanson Quary C**	**106.32**	**39**	IAMs_20	IAMs_20		06 57 09.1		
	comp=Z,770nm,20.0s								
FCAR	**Ozark Folk Cen**	**106.72**	**46**	IAMs_20	IAMs_20		06 57 32.4		
	comp=Z,932nm,20.0s								
HKT	**Hockley**	**106.80**	**53**	IAMs_20	IAMs_20		07 04 06.1		
	comp=Z,665nm,18.0s								
T42A	**Van Buren**	**106.84**	**44**	IAMs_20	IAMs_20		06 54 05.6		
	comp=Z,666nm,20.0s								
NATX	**Nacogdoches**	**106.88**	**51**	IAMs_20	IAMs_20		07 01 25.1		
	comp=Z,803nm,19.0s								
WHAR	**Wooly Hollow**	**106.91**	**47**	IAMs_20	IAMs_20		07 00 23.4		
	comp=Z,974nm,20.0s								
X40A	**Basin Creek Fa**	**106.92**	**47**	IAMs_20	IAMs_20		07 01 24.8		
	comp=Z,906nm,20.0s								
L46A	**Eue Claire**	**107.14**	**38**	IAMs_20	IAMs_20		06 53 54.7		
	comp=Z,1μm,22.0s								
PBMO	**Poplar Bluff**	**107.43**	**44**	IAMs_20	IAMs_20		07 02 34.0		
	comp=Z,633nm,19.0s								
S44A	**Carbondale**	**107.73**	**43**	IAMs_20	IAMs_20		07 02 17.8		
	comp=Z,791nm,18.0s								
SIUC	**Southern Illin**	**107.74**	**43**	IAMs_20	IAMs_20		07 02 17.9		
	comp=Z,731nm,18.0s								
SCTE	**Santa Cesarea**	**107.89**	**320**	IAMs_20	IAMs_20		07 05 13.7		
	comp=Z,738nm,20.0s								
PARMO	**Parma**	**107.95**	**44**	IAMs_20	IAMs_20		07 04 01.8		
	comp=Z,585nm,18.0s								
P46A	**Rosedale**	**107.98**	**40**	IAMs_20	IAMs_20		07 04 42.1		
	comp=Z,850nm,20.0s								
SYO	**Syowa Base**	**108.04**	**201**	*e*X	**Pdif**		**06 10 41.2**	**-1.2**	
SYO	**Syowa Base**	**108.04**	**201**	*e*PDiff	**Pdif**		**06 10 45.4**	**+3.0**	
HENM	**Henderson Moun**	**108.11**	**44**	IAMs_20	IAMs_20		06 57 09.1		
	comp=Z,511nm,18.0s								
LPAR	**Lepanto**	**108.14**	**45**	IAMs_20	IAMs_20		06 55 47.9		
	comp=Z,832nm,21.0s								
N47A	**Urbana**	**108.18**	**39**	IAMs_20	IAMs_20		07 01 10.1		
	comp=Z,835nm,20.0s								
HICK	**Hickman**	**108.37**	**44**	IAMs_20	IAMs_20		07 04 23.0		
	comp=Z,668nm,19.0s								
441A	**DeRidder**	**108.47**	**51**	IAMs_20	IAMs_20		07 03 53.1		
	comp=Z,864nm,19.0s								
T45A	**Paducah**	**108.50**	**43**	IAMs_20	IAMs_20		06 59 51.2		
	comp=Z,656nm,19.0s								
MET	**Memphis--Engin**	**108.64**	**46**	IAMs_20	IAMs_20		06 54 51.3		
	comp=Z,797nm,21.0s								
342A	**Flagon Creek P**	**108.82**	**50**	IAMs_20	IAMs_20		07 08 42.3		
	comp=Z,712nm,19.0s								
143A	**Socs Landing,**	**108.84**	**48**	IAMs_20	IAMs_20		07 00 08.7		
	comp=Z,852nm,19.0s								
W45A	**Hickory Valley**	**109.15**	**45**	IAMs_20	IAMs_20		06 55 38.4		
	comp=Z,723nm,20.0s								
P48A	**Milroy**	**109.19**	**40**	IAMs_20	IAMs_20		07 00 41.9		
	comp=Z,782nm,20.0s								
OXF	**Oxford**	**109.33**	**46**	IAMs_20	IAMs_20		07 00 25.6		
	comp=Z,916nm,19.0s								
T47A	**Sharon Grove**	**109.54**	**43**	IAMs_20	IAMs_20		06 57 43.7		
	comp=Z,706nm,20.0s								
Y45A	**Yeager Farm, C**	**109.58**	**47**	IAMs_20	IAMs_20		06 58 16.0		
	comp=Z,728nm,21.0s								
P49A	**Miami Univ. Ec**	**109.58**	**39**	IAMs_20	IAMs_20		07 02 25.3		
	comp=Z,772nm,19.0s								
PLAL	**Pickwick Lake**	**110.00**	**45**	IAMs_20	IAMs_20		06 59 04.1		
	comp=Z,616nm,19.0s								
146A	**Union**	**110.57**	**47**	IAMs_20	IAMs_20		07 03 07.4		
	comp=Z,832nm,19.0s								
R50A	**Paris**	**110.58**	**40**	IAMs_20	IAMs_20		07 03 25.8		
	comp=Z,842nm,19.0s								
P51A	**Williamsport**	**110.63**	**38**	IAMs_20	IAMs_20		07 02 34.9		
	comp=Z,940nm,19.0s								
346A	**Big Creek Wild**	**110.93**	**49**	IAMs_20	IAMs_20		06 57 38.9		
	comp=Z,893nm,20.0s								
Z47A	**Carrollton**	**110.98**	**46**	IAMs_20	IAMs_20		06 54 56.0		
	comp=Z,700nm,21.0s								
T50A	**Nancy**	**111.00**	**41**	IAMs_20	IAMs_20		07 05 26.2		
	comp=Z,618nm,20.0s								
X48A	**Hartselle**	**111.00**	**45**	IAMs_20	IAMs_20		06 57 25.6		
	comp=Z,676nm,19.0s								
P52A	**Corning**	**111.09**	**38**	IAMs_20	IAMs_20		06 56 38.1		
	comp=Z,949nm,21.0s								
J55A	**Hilton**	**111.11**	**33**	IAMs_20	IAMs_20		07 01 15.0		
	comp=Z,805nm,20.0s								
SWET	**Sewanee**	**111.33**	**44**	IAMs_20	IAMs_20		07 01 28.1		
	comp=Z,671nm,20.0s								
S51A	**Beattyville**	**111.43**	**40**	IAMs_20	IAMs_20		07 03 33.3		
	comp=Z,559nm,20.0s								
Q52A	**Bidwell**	**111.43**	**39**	IAMs_20	IAMs_20		06 56 49.2		
	comp=Z,861nm,20.0s								
J56A	**Wolcott**	**111.60**	**32**	IAMs_20	IAMs_20		07 02 37.0		
	comp=Z,954nm,21.0s								
W50A	**Signal Mountai**	**111.76**	**43**	IAMs_20	IAMs_20		07 01 22.3		
	comp=Z,685nm,20.0s								
Y49A	**Blount Mountai**	**111.77**	**45**	IAMs_20	IAMs_20		06 58 38.9		
	comp=Z,917nm,20.0s								
LONY	**Lake Ozonia**	**111.78**	**30**	IAMs_20	IAMs_20		07 03 37.4		
	comp=Z,913nm,20.0s								
LRAL	**Lakeview Retre**	**111.82**	**46**	IAMs_20	IAMs_20		07 04 09.3		
	comp=Z,794nm,20.0s								
V51A	**Loudon**	**112.04**	**42**	IAMs_20	IAMs_20		07 04 41.7		
	comp=Z,909nm,21.0s								
CPCT	**Cooper Cave**	**112.14**	**43**	IAMs_20	IAMs_20		07 03 36.3		
	comp=Z,748nm,20.0s								
MCWV	**Mont Chateau**	**112.42**	**37**	IAMs_20	IAMs_20		07 03 17.2		
	comp=Z,934nm,20.0s								
TKL	**Tuckaleechee C**	**112.50**	**42**	IAMs_20	IAMs_20		07 06 13.0		
	comp=Z,694nm,20.0s								
J59A	**Piesco**	**112.66**	**31**	IAMs_20	IAMs_20		07 03 53.9		
	comp=Z,842nm,20.0s								
W52A	**Murphy**	**112.74**	**43**	IAMs_20	IAMs_20		07 08 05.2		
	comp=Z,847nm,18.0s								
S54A	**Dingess, Beckl**	**112.75**	**39**	IAMs_20	IAMs_20		07 04 22.1		
	comp=Z,948nm,20.0s								
250A	**Grady**	**112.92**	**47**	IAMs_20	IAMs_20		07 07 06.4		
	comp=Z,596nm,18.0s								
Z51A	**Franklin**	**112.93**	**45**	IAMs_20	IAMs_20		07 01 33.5		
	comp=Z,881nm,20.0s								
R55A	**Marlinton**	**113.16**	**38**	IAMs_20	IAMs_20		06 57 53.9		
	comp=Z,1μm,22.0s								
U54A	**Nelsons Funny**	**113.23**	**40**	IAMs_20	IAMs_20		07 08 09.1		
	comp=Z,812nm,20.0s								
Y52A	**Lilburn**	**113.37**	**44**	IAMs_20	IAMs_20		07 05 05.1		
	comp=Z,662nm,20.0s								
152A	**Waverly Hall**	**113.61**	**45**	IAMs_20	IAMs_20		06 59 16.7		
	comp=Z,863nm,20.0s								
BLA	**Blacksburg**	**113.67**	**39**	IAMs_20	IAMs_20		06 57 58.4		
	comp=Z,741nm,20.0s								
GOGA	**Godfrey**	**114.04**	**44**	IAMs_20	IAMs_20		07 07 00.8		
	comp=Z,573nm,18.0s								
352A	**Blakely**	**114.14**	**46**	IAMs_20	IAMs_20		06 58 30.8		
	comp=Z,617nm,22.0s								
SDMD	**Soldier's Deli**	**114.31**	**35**	IAMs_20	IAMs_20		07 04 17.9		
	comp=Z,862nm,20.0s								
HODGE	**Hodges**	**114.36**	**43**	IAMs_20	IAMs_20		07 09 21.0		
	comp=Z,688nm,18.0s								
KMSC	**Kings Mountain**	**114.40**	**41**	IAMs_20	IAMs_20		07 07 23.0		
	comp=Z,683nm,19.0s								
154A	**Montrose**	**114.75**	**44**	IAMs_20	IAMs_20		06 59 53.7		
	comp=Z,884nm,20.0s								
553A	**Crawfordville**	**115.22**	**47**	IAMs_20	IAMs_20		06 53 15.4		
	comp=Z,538nm,21.0s								
W57A	**Gilead**	**115.25**	**40**	IAMs_20	IAMs_20		07 05 16.4		
	comp=Z,828nm,20.0s								
255A	**Hazlehurst**	**115.59**	**45**	IAMs_20	IAMs_20		07 00 18.9		
	comp=Z,911nm,20.0s								
Y57A	**Sumter**	**115.71**	**42**	IAMs_20	IAMs_20		07 00 55.7		
	comp=Z,672nm,21.0s								
Y58A	**Scranton**	**116.24**	**41**	IAMs_20	IAMs_20		07 10 04.9		
	comp=Z,630nm,20.0s								
CNNC	**Cliffs of the**	**116.50**	**39**	IAMs_20	IAMs_20		06 59 15.5		
	comp=Z,941nm,22.0s								
257A	**Skidaway Islan**	**116.54**	**44**	IAMs_20	IAMs_20		07 07 06.1		
	comp=Z,781nm,20.0s								
Y59A	**Loris**	**116.70**	**41**	IAMs_20	IAMs_20		07 10 35.9		
	comp=Z,721nm,19.0s								
656A	**Willston**	**117.04**	**47**		**PKiKP**		**06 15 07.5**	**0.0**	
656A				IAMs_20	IAMs_20		07 07 07.6		
	comp=Z,793nm,18.0s								
TEIG	**Tepich**	**117.31**	**59**	IAMs_20	IAMs_20		07 02 33.0		
	comp=Z,574nm,20.0s								
DWPF	**Disney Wildern**	**118.55**	**48**	IAMs_20	IAMs_20		07 01 44.8		
	comp=Z,775nm,21.0s								
SNAA	**Sanae**	**118.59**	**191**	IAMs_20	IAMs_20		07 07 17.8		
	comp=Z,869nm,20.0s								
LSZ	**Lusaka**	**119.65**	**260**	PKP	**PKiKP**		**06 15 14.0**	**+0.9**	
	comp=Z,5.6nm,0.7s,baz=108,slow=2.5,SNR=7.7								
LSZ	**Lusaka**	**119.65**	**260**	PKiKP	**PKPdf**		**06 15 11.5**	**-1.5**	
LSZ	**Lusaka**	**119.65**	**260**		**PKPdf**		**06 15 11.5**	**-1.5**	
MATP	**Matopo**	**119.83**	**254**	PKP	**PKiKP**		**06 15 13.9**	**+0.6**	
	comp=Z,3.9nm,1.0s,baz=278,slow=1.9,SNR=4.5								
061Z	**Ochoppi**	**120.23**	**49**	IAMs_20	IAMs_20		07 07 36.3		
	comp=Z,792nm,20.0s								
ES17	**SONSECA Array**	**120.30**	**333**	IAMs_20	IAMs_20		07 10 33.3		
	comp=Z,736nm,20.0s								
ESDC	**Sonseca Array**	**120.31**	**333**	PKP	**PKiKP**		**06 15 14.1**	**+0.3**	
	comp=Z,1.1nm,0.8s,baz=349,slow=2.8,SNR=3.5								
ESDC				PP	**PP**		**06 16 36.5**	**-2.2**	
	comp=Z,3.2nm,1.0s,baz=21,slow=6.0,SNR=6.3								
MVO	**Moncorvo**	**120.33**	**336**	*e*PKPdf	**PKPdf**		**06 15 11.1**	**-2.6**	
ES12	**SONSECA Array**	**120.33**	**333**	IAMs_20	IAMs_20		07 14 35.3		
	comp=Z,819nm,20.0s								
ES13	**SONSECA Array**	**120.34**	**333**	IAMs_20	IAMs_20		07 10 42.3		
	comp=Z,833nm,20.0s								
PVRL	**Vila Real**	**120.50**	**337**	*e*PKPdf	**PKiKP**		**06 15 14.4**	**+0.3**	
CART	**Cartagena**	**120.61**	**330**	IAMs_20	IAMs_20		07 13 59.7		
	comp=Z,788nm,20.0s								
TGUH	**Tegucigalpa,Un**	**120.89**	**65**	IAMs_20	IAMs_20		06 58 42.4		
	comp=Z,515nm,21.0s								
MTE	**Manteigas**	**121.19**	**336**	*e*PKPdf	**PKiKP**		**06 15 16.8**	**+1.3**	
PCAS	**Casmilo, Conde**	**121.86**	**337**	*e*PKPdf	**PKPdf**		**06 15 14.1**	**-2.5**	
PMRV	**Marv??o**	**121.96**	**336**	*e*PKPdf	**PKPdf**		**06 15 16.8**	**0.0**	
PMTG	**Montargil**	**122.60**	**336**	*e*PKPdf	**PKiKP**		**06 15 18.6**	**+0.4**	
LBTB	**Lobatse**	**122.66**	**249**	PKP	**PKiKP**		**06 15 19.4**	**+0.6**	
	comp=Z,5.2nm,0.8s,baz=354,slow=6.2,SNR=2.8								
PBAR	**Barrancos**	**122.88**	**335**	*e*PKPdf	**PKPdf**		**06 15 18.2**	**-0.4**	
BOSA	**Boshof**	**122.89**	**244**	PKP	**PKiKP**		**06 15 19.6**	**+0.4**	
	comp=Z,3.3nm,0.9s,baz=95,slow=12,SNR=3.2								
BOSA	**Boshof**	**122.89**	**244**	PKiKP	**PKPdf**		**06 15 18.6**	**-0.4**	
BOSA	**Boshof**	**122.89**	**244**		**PKPdf**		**06 15 18.6**	**-0.4**	
PNCL	**Nicolau / Gran**	**123.55**	**336**	*e*PKPdf	**PKPdf**		**06 15 15.7**	**-4.1**	
PVAQ	**Vaqueiros**	**123.82**	**335**	*e*PKPdf	**PKiKP**		**06 15 21.5**	**+0.8**	
MDT	**Midelt**	**126.19**	**329**	PKP	**PKiKP**		**06 15 26.4**	**+0.8**	
	comp=Z,5.0nm,1.0s,baz=23,slow=4.0,SNR=5.6								
TAM	**Tamanrasset**	**127.12**	**312**	PKiKP	**PKiKP**		**06 15 27.9**	**+0.1**	
TAM	**Tamanrasset**	**127.12**	**312**		**PKiKP**		**06 15 27.9**	**+0.1**	
SJG	**San Juan**	**135.72**	**46**	IAMs_20	IAMs_20		07 19 11.9		
	comp=Z,603nm,20.0s								
TOA0	**Torodi Ar. Sit**	**135.80**	**305**	PKPdf	**PKiKP**		**06 15 44.9**	**-0.4**	
TORD	**Torodi Ar. Bea**	**135.80**	**305**	PKP	**PKPdf**		**06 15 43.5**	**-0.1**	
	comp=Z,5.2nm,0.8s,baz=20,slow=2.1,SNR=9.7								
TORD				SKPbc	**SKPbc**		**06 19 14.3**	**+0.4**	
	comp=Z,3.2nm,1.0s,baz=38,slow=6.2,SNR=3.5								
TORD				SKKPbc	**SKKPbc**		**06 28 08.6**	**-4.4**	
	comp=Z,0.9nm,1.1s,baz=208,slow=2.9,SNR=5.5								
SDV	**Santo Domingo**	**137.70**	**61**	PKP	**PKPdf**		**06 15 46.7**	**-0.8**	
	comp=Z,6.5nm,0.8s,baz=309,slow=1.0,SNR=5.1								
SDV	**Santo Domingo**	**137.70**	**61**		**PKPdf**		**06 15 47.2**	**-0.2**	
KOWA	**Kowa**	**139.34**	**312**	PKhKP	PKPpre		06 15 41.7		
	comp=Z,4.5nm,0.9s,baz=54,slow=4.0,SNR=4.5								
KOWA				PP	**PP**		**06 18 40.8**	**-2.6**	
	comp=Z,6.6nm,0.9s,baz=46,slow=4.6,SNR=4.8								
LCO	**Las Campanas**	**142.70**	**121**	PKiKP	**PKPdf**		**06 15 56.2**	**-0.1**	
LCO	**Las Campanas**	**142.70**	**121**		**PKPdf**		**06 15 56.2**	**-0.1**	
PB10	**IPOC Station P**	**144.13**	**112**	PKPdf	**PKPdf**		**06 15 58.1**	**-0.4**	
DBIC	**Dimbokro**	**144.77**	**302**	PKP	**PKPdf**		**06 15 59.5**	**-0.4**	
	comp=Z,123nm,0.8s,baz=39,slow=3.8,SNR=133								
KIC	**Kosan Boka**	**144.84**	**302**	*e*PKP1	PKPbc		06 15 59.6	+0.5	
	comp=Z,254nm,0.9s								
TIC	**Toumodi**	**144.92**	**303**	*e*PKP1	PKPbc		06 15 59.8	+0.4	
LIC	**Lamto**	**145.16**	**302**	*e*PKP1	**PKPdf**		**06 16 00.7**	**+0.1**	
	comp=Z,652nm,0.9s								
MNMC	**Minye Minye**	**145.57**	**105**		**PKPab**		**06 16 03.1**	**+1.1**	
PB16	**IPOC Station P**	**145.71**	**103**		**PKPdf**		**06 16 01.1**	**-1.0**	
LVC	**Limon Verde**	**145.77**	**111**	PKPbc	**PKPab**		**06 16 03.6**	**+0.9**	
	comp=Z,28nm,1.0s,baz=269,slow=4.8,SNR=9.0								
LVC	**Limon Verde**	**145.77**	**111**	PKP2	**PKPdf**		**06 16 01.5**	**-0.4**	
LVC	**Limon Verde**	**145.77**	**111**		**PKPdf**		**06 16 01.5**	**-0.4**	
PB08	**IPOC Station P**	**145.89**	**106**		**PKPdf**		**06 16 01.3**	**-0.9**	
PB08				PKPbc	**PKiKP**		**06 16 05.0**	**-1.3**	
LPAZ	**La Paz**	**147.09**	**100**	PKPbc	**PKPbc**		**06 16 06.9**	**+0.2**	
	comp=Z,3.6nm,0.4s,baz=278,slow=3.4,SNR=11								
LPAZ	**La Paz**	**147.09**	**100**	PKP2	**PKPdf**		**06 16 04.2**	**-0.4**	
LPAZ	**La Paz**	**147.09**	**100**		**PKPdf**		**06 16 04.2**	**-0.4**	
SAML	**Samuel**	**151.28**	**85**	PKiKP	**PKiKP**		**06 16 17.0**	**-0.1**	
SAML	**Samuel**	**151.28**	**85**		**PKPdf**		**06 16 08.8**	**-1.8**	
SAML				PKPbc	**PKiKP**		**06 16 17.0**	**-0.1**	
SAML	**Samuel**	**151.28**	**85**	IAMs_20	IAMs_20		07 16 04.9		
	comp=Z,572nm,20.0s								
PTGA	**Pitinga**	**151.65**	**66**	PKP	**PKPdf**		**06 16 12.3**	**+1.1**	
	comp=Z,1.6nm,0.2s,baz=27,slow=2.3,SNR=1.8								
PTGA				PKPbc	**sPKPdf**		**06 16 18.9**	**-0.6**	
	baz=307,slow=4.2								
PTGA	**Pitinga**	**151.65**	**66**		**PKPdf**		**06 16 11.9**	**+0.7**	
SIV	**San Ignacio**	**153.88**	**99**	PKPbc	**PKiKP**		**06 16 22.6**	**+0.2**	
	comp=Z,1.5nm,0.8s,baz=192,slow=3.3,SNR=3.6								
CPUP	**Villa Florida**	**154.70**	**125**	PKPab	**PKPab**		**06 16 36.6**	**-2.0**	
	comp=Z,5.1nm,0.9s,baz=218,slow=4.6,SNR=3.9								

IDC ***22*** *06:00:16.8±0.9, 13°.21N×145°.86E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.0/65, mbtmp4.1/11, Error ellipse: s-maj=34.5km s-min=22.8km az=101.0*

ISC 22 06:00:22.0±0.9, 13°.2N±0°.2×145°.8E±0°.2, h35km, n13, σ0s91/13, mb4.1/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
KSRS	**Korea Array**	**28.96**	**330**	P		**P**	**06 06 18.0**		**-0.2**
	1.1nm,0.6s,baz=132,slow=9.6,SNR=1.3								
WRA	**Warramunga Arr**	**34.81**	**199**	P		**P**	**06 07 09.7**		**0.0**
	2.4nm,0.8s,baz=17,slow=9.5,SNR=3.0								
ASAR	**Alice Springs**	**38.44**	**198**	P		**P**	**06 07 40.5**		**-0.2**
	1.0nm,0.6s,baz=22,slow=10.0,SNR=1.3								
SONM	**Songino

comp=E,2μm,0.3s
YUK Yuzh-Kuril'sk 2.08 266 *i* P **Pn 06 08 23.5 -0.3**
YUK AMB AMB 06 08 27.0
comp=E,640nm,0.3s
YUK *i* S **Sn 06 08 47.5 -0.9**
YUK A A 06 08 51.7
comp=E,1μm,0.3s
YUK A A 06 08 51.7
comp=E,2μm,0.3s
GRPR Tuman 2.15 265 *e*PN **Pn 06 08 24.5 -0.2**
GRPR *i* S **Sn 06 08 49.3 -0.9**
GRPR pmax pmax
comp=Z,389nm,0.3s
GRPR pmax pmax
comp=N,110nm,0.2s
GRPR pmax pmax
comp=E,106nm,0.2s
GRPR smax smax
comp=N,1μm,0.3s
GRPR smax smax
comp=E,930nm,0.3s
GRPR Tuman 2.15 265 *e*P **Pn 06 08 24.5 -0.2**
GRPR AMB AMB 06 08 27.0
comp=E,390nm,0.3s
GRPR *i* S **Sn 06 08 49.3 -0.9**
GRPR A A 06 08 51.0
comp=E,1μm,0.3s
GRPR A A 06 08 51.0
comp=E,930nm,0.3s
NEM2 Nemuro 2 2.33 250 P **Pn 06 08 26.7 -0.5**
NEM2 *e*S **Sn 06 08 53.7 -0.9**
NMR Nemuro--Hokkai 2.34 250 *e*PN **Pn 06 08 26.8 -0.5**
NMR *i* S **Sn 06 08 53.8 -1.0**
NMR Nemuro--Hokkai 2.34 250 *e*P **Pn 06 08 26.9 -0.4**
NMR *i* S **Sn 06 08 53.8 -1.0**
RUSJ Misakicho 2.52 269 *e*PN **Pn 06 08 30.9 +1.2**
RUSJ *i* S **Sn 06 09 00.8 +1.6**
JRA Rausu 2.63 265 P **Pn 06 08 32.0 +0.8**
JRA *e*S **Sn 06 09 02.4 +0.6**
JNSB Nemuroshibetsu 2.73 262 P **Pn 06 08 33.4 +0.7**
JNSB *e*S **Sn 06 09 04.6 +0.1**
JKHN Kushirohamanak 2.84 248 P **Pn 06 08 34.2 +0.1**
JNK Nakash 2.98 259 P **Pn 06 08 36.6 +0.5**
JNK *e*S **Sn 06 09 09.4 -1.1**
JAK Akkeshi 3.18 249 P **Pn 06 08 39.2 +0.3**
JTKR Abashiri--Toko 3.49 268 P **Pn 06 08 44.3 +1.2**
JAR Ashorobuto 3.72 257 P **Pn 06 08 47.8 +1.5**
JKK2 Kamakawa 2 4.34 268 P **Pn 06 08 57.4 +2.6**
JKA Kamikawa-asahi 4.42 271 **Pn 06 08 57.9 +2.0**
JKA Kamikawa-asahi 4.42 271 *e*P **Pn 06 08 59.0 +3.1**
ASAJ Asahikawa 4.42 271 P **Pn 06 08 59.0 +3.0**
comp=E,1.1nm,0.3s,baz=51,slow=14,SNR=12
ASAJ S Sn 06 09 54.5 +8.3
comp=E,0.3nm,0.3s,baz=137,slow=26,SNR=1.4
ASAJ Asahikawa 4.42 271 PN **Pn 06 08 59.0 +3.0**
JSE Soyaes 4.46 282 P **Pn 06 08 58.9 +2.5**
ERM Erimo 4.64 244 PN **Pn 06 09 01.5 +2.6**
ERM Erimo 4.64 244 **Pn 06 09 01.5 +2.6**
JEM Erimo 4.64 244 **Pn 06 09 00.4 +1.4**
JNBK Urakawa-nobuka 4.79 248 P **Pn 06 09 01.4 +0.5**
YSS Yuzh-Sakhalins 5.02 305 *i*PN **Pn 06 09 05.6 +1.5**
YSS *e*S **Sn 06 09 59.3 -1.4**
YSS pmax pmax
comp=Z,30nm,0.5s
YSS smax smax
comp=N,50nm,0.3s
YSS smax smax
comp=E,30μm,0.4s
YSS Yuzh-Sakhalins 5.02 305 **Pn 06 09 05.8 +1.7**
YSS Yuzh-Sakhalins 5.02 305 *i* P **Pn 06 09 05.5 +1.5**
YSS AMB AMB 06 09 05.8
comp=E,30nm,0.5s
YSS *e*S **Sn 06 10 01.0 +0.3**
YSS A A 06 10 04.1
comp=E,50nm,0.3s
YSS A A 06 10 04.1
comp=E,30nm,0.3s
JEW Eniwo 5.48 258 Pn **Pn 06 09 12.6 +2.2**
JKB Kayabe 6.11 250 P **Pn 06 09 19.4 +0.3**
JTM Tenmabayashi 6.63 242 Pn **Pn 06 09 28.2 +2.1**
SKR Severo-Kuril's 8.17 35 *e*PN **Pn 06 09 48.5 +1.2**
SKR pmax pmax
comp=Z,118nm,0.9s
SKR MLR MLR
comp=Z,900nm,17.0s
SKR MLR MLR
comp=Z,700nm,18.0s
SKR Severo-Kuril's 8.17 35 *e*P **Pn 06 09 48.5 +1.2**
SKR AMB AMB 06 09 49.7
comp=Z,120nm,0.9s
SKR *e*S **Sn 06 11 15.7 -2.5**
SKR A A 06 11 22.9
comp=Z,100nm,0.8s
SKR A A 06 11 22.9
comp=Z,60nm,0.8s
SKR AMS AMS 06 12 10.7
comp=Z,900nm,18.0s
JMM Marumori 8.73 226 Pn **Pn 06 09 54.4 -0.7**
PAU Pauzhetka 9.05 34 *e*P **Pn 06 10 01.1 +1.7**
PAU AMB AMB 06 10 01.9
comp=Z,20nm,0.3s
PAU *e*S **Sn 06 11 38.8 -1.1**
PAU A A 06 11 41.8
comp=Z,20nm,0.3s
PAU A A 06 11 41.8
comp=Z,10.0nm,0.3s
PEA0B Petropavlovsk- 10.68 30 *i* PN **Pn 06 10 23.4 +1.7**
PEA0B Petropavlovsk- 10.68 30 Pn **Pn 06 10 22.8 +1.1**
PETK Petropavlovsk- 10.68 30 P **Pn 06 10 23.8 +2.1**
comp=Z,0.9nm,0.3s,baz=207,slow=13,SNR=14
PETK Petropavlovsk- 10.68 30 **Pn 06 10 22.2 +0.6**
MA2 Magadan 15.43 4 P **P 06 11 26.5 -3.7**
comp=Z,0.5nm,0.3s,baz=144,slow=7.1,SNR=6.2
MA2 Magadan 15.43 4 P **P 06 11 26.6 -3.5**
MA2 pmax pmax
comp=Z,15nm,1.4s
MA2 Magadan 15.43 4 Pn **P 06 11 26.6 -3.5**
MA2 IAmb IAmb 06 11 36.1
comp=Z,15nm,1.4s
SEY Seymchan 18.87 5 P **Pn 06 12 07.0 -1.8**
comp=Z,0.3nm,0.3s,baz=177,slow=11,SNR=6.7
SEY Seymchan 18.87 5 *i*P **Pn 06 12 06.9 -1.9**
JOW Kunigami 23.94 230 P **P 06 13 03.3 +1.4**
H11N2 WAKE ISLAND Hy 28.73 142 T T 06 44 28.6
baz=333,slow=76,SNR=178
H11N1 WAKE ISLAND Hy 28.75 142 T T 06 44 31.1
baz=333,slow=76,SNR=172
H11N3 WAKE ISLAND Hy 28.75 142 T T 06 44 31.7
baz=333,slow=76,SNR=159
H11S1 WAKE ISLAND Hy 29.73 144 T T 06 45 49.5
baz=333,slow=76,SNR=512
H11S3 WAKE ISLAND Hy 29.74 144 T T 06 45 46.6
baz=333,slow=76,SNR=171
H11S2 WAKE ISLAND Hy 29.75 144 T T 06 45 46.6
baz=333,slow=76,SNR=129
SVW2 Sparrevohn 36.45 42 P **P 06 14 54.5 +2.4**
SVW2 IAmb IAmb 06 14 58.9
comp=Z,5.4nm,1.3s
IMAR Indian Mountai 37.61 34 P **P 06 15 02.9 +1.0**
A21K Barrow 37.63 25 P **P 06 15 02.4 +0.4**
OHAK Old Harbor 37.76 49 P **P 06 15 03.9 +0.7**
KDAK Kodiak Island 38.08 48 P **P 06 15 06.9 +0.9**
comp=Z,3.0nm,0.8s,baz=24,slow=4.4,SNR=6.2
KDAK Kodiak Island 38.08 48 P **P 06 15 06.9 +0.9**
CNPM China Poot 38.64 45 P **P 06 15 11.5 +0.8**
BPAW Bear Paw Mtn. 38.65 38 P **P 06 15 12.3 +1.5**
MLY Manley 38.79 36 P **P 06 15 14.2 +2.3**
MLY IAmb IAmb 06 15 25.3
comp=Z,4.3nm,1.4s
TRF Thorofare Moun 38.95 39 P **P 06 15 15.0 +1.5**
TRF IAmb IAmb 06 15 29.4
comp=Z,6.0nm,1.2s
COLD Coldfoot 39.14 33 P **P 06 15 16.3 +1.5**
COLD IAmb IAmb 06 15 17.4
comp=Z,4.8nm,1.3s
RC01 Rabbit Creek A 39.28 42 P **P 06 15 17.8 +1.7**
I23K Minto, Yukon-K 39.38 36 P **P 06 15 18.6 +1.8**
I23K IAmb IAmb 06 15 34.2
comp=Z,5.9nm,1.4s
NEA2 Nenana 39.49 37 P **P 06 15 19.6 +1.8**
NEA2 IAmb IAmb 06 15 20.9
comp=Z,4.9nm,1.3s
SEW Seward 39.50 44 P **P 06 15 18.6 +0.8**
GHO Glory Hole Cre 39.63 41 P **P 06 15 19.4 +0.4**
GHO IAmb IAmb 06 15 34.3
comp=Z,6.5nm,1.2s
MDM Murphy Dome 39.85 36 P **P 06 15 22.8 +2.0**
SML Sawmill 39.91 41 P **P 06 15 23.4 +2.1**
WRH Wood River Hil 39.92 37 P **P 06 15 22.9 +1.7**
PWL Port Wells 39.98 43 P **P 06 15 23.5 +1.6**
PWL IAmb IAmb 06 15 32.2
comp=Z,7.3nm,1.4s
COLA College 40.02 36‖ *e*P **P 06 15 23.0 +0.9**
COLA pmax pmax
comp=Z,4.0nm,1.4s
CCB Clear Creek Bu 40.04 37 P **P 06 15 23.7 +1.4**
IL31 40.43 37 P **P 06 15 26.9 +1.4**
ILAR Eielson Array 40.43 37 P **P 06 15 26.7 +1.2**
comp=Z,0.4nm,0.4s,baz=265,slow=7.9,SNR=9.8
ZALV Zalesovo Beam 41.64 307 PcP **PcP 06 17 32.3 +0.5**
comp=Z,0.9nm,0.6s,baz=116,slow=3.4,SNR=2.6
K27K Chicken 42.57 37 P **P 06 15 45.2 +2.2**
K27K IAmb IAmb 06 15 54.4
comp=Z,9.3nm,1.5s
L27K Beaver Creek, 42.80 39 P **P 06 15 48.1 +3.1**
BCAR Beaver Creek A 42.82 39 P **P 06 15 47.7 +2.6**
INK Inuvik 45.42 31 P **P 06 16 07.5 +1.7**
comp=Z,1.5nm,0.3s,baz=288,slow=7.6,SNR=15
INK Inuvik 45.42 31 P **P 06 16 08.1 +2.3**
INK IAmb IAmb 06 16 08.2
comp=Z,4.3nm,0.9s
C36M Paulatuk 48.53 28 P **P 06 16 31.4 +1.4**
AAK Ala-Archa 52.19 296 P **P 06 16 58.0 -0.3**
comp=Z,1.7nm,0.7s,baz=221,slow=5.0,SNR=3.9
AAK Ala-Archa 52.19 296 P **P 06 16 58.0 -0.3**
AAK Ala-Archa 52.19 296 IAmb IAmb 06 16 58.8
comp=Z,4.4nm,1.1s
AAK Ala-Archa 52.19 296 *e*P **P 06 16 58.0 -0.3**
KKAR Karatay Array 54.51 298 P **P 06 17 15.2 0.0**
KKAR Karatay Array 54.51 298 P **P 06 17 15.2 0.0**
YKA Yellowknife Ar 54.77 34 P **P 06 17 17.8 +1.0**
comp=Z,0.7nm,0.7s,baz=300,slow=6.4,SNR=6.2
YKA Yellowknife Ar 54.77 34 *e*P **P 06 17 17.9 +1.2**
YKA pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 57.67 309 P **P 06 17 37.4 -0.2**
ABKAR Akbulak array 57.67 309 P **P 06 17 37.5 -0.1**
ABKAR IAmb IAmb 06 17 42.0
comp=Z,3.7nm,1.4s
FINES FINESS Array B 64.98 333 P **P 06 18 25.6 -1.2**
comp=Z,1.1nm,0.5s,baz=21,slow=7.5,SNR=9.3
FINES FINESS Array B 64.98 333 *e*P **P 06 18 25.2 -1.6**
FINES pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 69.58 339 P **P 06 18 55.7 -0.3**
comp=Z,0.6nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 69.58 339 P **P 06 18 54.9 -1.1**
comp=Z,1.2nm,0.6s,baz=32,slow=6.6,SNR=8.5
NOA NORSAR Array B 69.58 339 *e*P **P 06 18 55.8 -0.3**
NOA pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 69.70 338 P **P 06 18 56.2 -0.6**
comp=Z,1.0nm,0.4s,baz=46,slow=6.4,SNR=10
TXAR Lajitas Array 81.43 57 P **P 06 20 05.8 +1.2**
comp=Z,0.4nm,0.5s,baz=288,slow=3.6,SNR=8.9
H03N2 Juan Fernandez 141.81 90 T T 09 05 51.2
baz=304,slow=77,SNR=9.8
H03N3 Juan Fernandez 141.83 90 T T 09 05 52.8
baz=304,slow=77,SNR=12
H03N1 Juan Fernandez 141.83 90 T T 09 05 54.5
baz=304,slow=77,SNR=13
PLCA Paso Flores 151.00 97 PKPbc **PKPab 06 27 44.3 -3.1**
comp=Z,1.7nm,0.9s,baz=60,slow=6.7,SNR=2.9

*IDC **22** 06:25:21.7±0.9, 13°.19N×145°.88E, h0km, mb3.4/6, mb1 3.8/6, mb1mx3.5/39, mbtmp3.4/6, Error ellipse: s-maj=45.4km s-min=23.7km az=105.0*
ISC 22 06:25:27.2±0.9, 13°.2N±0°.2×145°.8E±0°.3, h35km, n9, σ0§61/9, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.78**	**199**	P	**P**	**06 32 14.5**	**-0.1**
	0.6nm,0.8s,baz=8.1,slow=9.6,SNR=5.5						
ASAR	**Alice Springs**	**38.42**	**198**	P	**P**	**06 32 46.1**	**+0.5**
	0.3nm,0.5s,baz=15,slow=12,SNR=4.5						
MKAR	**Makanchi Array**	**62.37**	**316**	P	**P**	**06 35 47.0**	**+0.6**
	0.3nm,0.5s,baz=95,slow=8.3,SNR=5.3						
ILAR	**Eielson Array**	**68.56**	**25**	P	**P**	**06 36 26.2**	**+0.1**
	0.2nm,0.5s,baz=246,slow=5.6,SNR=1.6						
YKA	**Yellowknife Ar**	**82.82**	**27**	P	**P**	**06 37 47.6**	**0.0**
	0.1nm,0.5s,baz=282,slow=4.2,SNR=2.8						
NVAR	**Mina Array Bea**	**86.50**	**52**	P	**P**	**06 38 07.6**	**+0.5**
	0.2nm,0.5s,baz=262,slow=6.3,SNR=2.3						
FINES	**FINESS Array B**	**91.89**	**335**	P	**P**	**06 38 30.9**	**-0.7**
	7.4nm,1.2s,baz=46,slow=5.5,SNR=3.7						
DBIC	**Dimbokro**	**144.76**	**302**	PKP	**PKPdf**	**06 45 01.1**	**-0.3**
	2.5nm,0.9s,baz=32,slow=11,SNR=2.0						
LPAZ	**La Paz**	**147.11**	**100**	PKPbc	**PKPdf**	**06 45 05.2**	**-0.9**
	0.5nm,0.5s,baz=216,slow=7.3,SNR=1.6						

*ISK **22** 06:49:57.4, 40°.11N×31°.81E, h17km, ML2.1/5*
*DDA **22** 06:49:58.1, 40°.11N×31°.75E, h7km±4km, ML1.8*
ISC 22 06:49:57.6±1.2, 40°.11N±0°.04×31°.78E±0°.05, h14km±9km, n12, σ0§59/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUVA	**Yuva-Kibriscik**	**0.29**	**345**	PG	**Pg**	**06 50 04.2**	**+0.4**
YUVA				SG	**Sb**	**06 50 09.1**	**-0.5**
KIBS	**BOLU**	**0.32**	**9**	*i* P	**Pb**	**06 50 05.2**	**0.0**
KIBS				*i* S	**Sg**	**06 50 08.9**	**+0.3**
KIBS				IAML		06 50 13.0	
KIBS	comp=E,128nm,0.7s			IAML		06 50 20.0	
	comp=N,106nm,0.7s						
AUMIH	**MIHALICIK**	**0.33**	**224**	PG	**Pb**	**06 50 05.3**	**-0.2**
AUMIH				SG	**Sb**	**06 50 10.4**	**-0.3**
AUMIH	**MIHALICIK**	**0.33**	**224**	*i* P	**Pb**	**06 50 05.6**	**+0.1**
AUMIH				*i* S	**Sg**	**06 50 09.0**	**-0.1**
MDUB	**Mudurnu**	**0.58**	**309**	PG	**Pg**	**06 50 08.8**	**-0.2**
MDUB				SG	**Sb**	**06 50 18.4**	**+0.6**
CMDR	**Camlidere-ANKA**	**0.65**	**54**	*i* P	**Pb**	**06 50 11.0**	**0.0**
CMDR				*i* S	**Sb**	**06 50 20.7**	**+0.7**
CMDR				IAML		06 50 32.0	
	comp=N,37nm,1.1s						
CMDR				IAML		06 50 34.0	
	comp=E,47nm,0.8s						
BCAM	**Yenicaga**	**0.74**	**17**	*i* P	**Pb**	**06 50 12.9**	**+0.5**
BCAM				*i* S	**Sg**	**06 50 19.9**	**-1.9**
SRCK	**Saricakaya, Es**	**0.89**	**266**	PG	**Pb**	**06 50 15.4**	**+0.5**
GULT	**Gulveren**	**1.02**	**289**	PG	**Pn**	**06 50 17.8**	**+0.1**
SAHE	**Sakarya_HENDEK**	**1.03**	**317**	*i* P	**Pn**	**06 50 17.9**	**+0.2**
SAHE				*i* S	**Sn**	**06 50 31.7**	**-0.3**
SAHE				IAML		06 51 02.0	
	comp=N,30nm,1.3s						
SAHE				IAML		06 51 02.0	
	comp=E,32nm,2.0s						
BORA	**Eskisehir**	**1.05**	**258**	PG	**Pg**	**06 50 18.0**	**+0.2**
BORA	**Eskisehir**	**1.05**	**258**	*i* P	**Pg**	**06 50 18.0**	**+0.2**
BORA				*i* S	**Sg**	**06 50 31.2**	**-0.4**

ATH 22 06:51:55.9, 38°.64N×23°.40E, h17km±2km, ML1.7/2, Error ellipse: s-maj=2.8km s-min=1.1km az=354.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.31**	**273**	P	Pg	06 52 02.3	-0.2
LKR				S	Sg	06 52 07.2	+0.1
LKR				AML	AML	06 52 08.6	
	comp=N,410μm,0.1s						
LKR				AML	AML	06 52 08.9	
	comp=E,360μm,0.1s						
KYMI	**Kymi, Euboea I**	**0.55**	**90**	P	Pg	06 52 06.4	-0.3
KYMI				S	Sg	06 52 14.4	+0.2
KYMI				AML	AML	06 52 16.8	
	comp=N,180μm,0.5s						
KYMI				AML	AML	06 52 19.2	
	comp=E,245μm,0.3s						
NEO	**Neokhori**	**0.68**	**349**	P	Pg	06 52 08.8	-0.4
PTL	**Penteli**	**0.69**	**148**	P	Pg	06 52 08.8	-0.6
DION	**Dionisos Attik**	**0.70**	**143**	P	Pg	06 52 09.2	-0.4
LTK	**Loutraki**	**0.70**	**209**	P	Pg	06 52 09.2	-0.3

*IDC **22** 07:00:15.8±1.8, 6°.10S×146°.79E, h89km±16km, mb4.0/10, mb1 4.2/13, mb1mx3.8/45, mbtmp4.3/13, MS3.0/1, Ms1 3.0/1, ms1mx2.7/29, Error ellipse: s-maj=24.0km s-min=12.8km az=78.0*
*DJA **22** 07:00:18.7±0.3, 6°.S±3°×14°.6E±°, h89km±5km, M4.8/22, mb5.0/22, mB5.4/7, MLv4.8/5, Mw(mB)4.8/7, MwMwp5.7/1, Mwp5.8/1*
*NEIC **22** 07:00:18.4±1.5, 6°.23S±0°.03×146°.63E±0°.09, h111km±8km, mb4.4/35, Error ellipse: s-maj=13.3km s-min=4.6km az=88.0*
ISC 22 07:00:17.5±0.5, 6°.25S±0°.05×146°.63E±0°.07, h100km, n85, σ1§47/85, mb4.4/30, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.17**	**171**	P	**Pn**	**07 01 07.3**	**+1.7**
	52nm,0.3s,baz=349,slow=4.8,SNR=84						
PMG				S	**Sn**	**07 01 44.3**	**+1.6**
	81nm,0.3s,baz=349,slow=14,SNR=3.8						
PMG				LR	LR	07 02 13.0	
	comp=Z,229nm,20.3s,baz=99,slow=35						
PMG	**Port Moresby**	**3.17**	**171**	Pn	**Pn**	**07 01 07.2**	**+1.6**
MANU	**Manus Island**	**4.25**	**10**		**Pn**	**07 01 21.1**	**+1.1**
RABL	**Rabaul**	**5.88**	**70**	Pn	**Pn**	**07 01 43.5**	**+1.3**
JAY	**Jayapura**	**6.98**	**302**	P	**Pn**	**07 01 56.2**	**-1.0**
	5.2nm,0.3s,baz=137,slow=5.0,SNR=13						
JAY				S	**Sn**	**07 03 20.7**	**+5.5**
	1.0nm,0.3s,baz=270,slow=15,SNR=1.4						
JAY	**Jayapura**	**6.98**	**302**	P	**Pn**	**07 01 56.5**	**-0.7**
	0.1nm20nm,1.2s						
GENI	**Genyem**	**7.40**	**299**	P	**Pn**	**07 01 59.0**	**-3.9**
	0.6nm5μm64nm,0.7s						
COEN	**Coen**	**8.38**	**204**	Pn	**Pn**	**07 02 17.4**	**+1.3**
COEN				Sn	**Sn**	**07 03 49.7**	**+0.6**
CTA	**Charters Tower**	**13.76**	**181**	P	**P**	**07 03 33.6**	**0.0**
	3.0nm,0.3s,baz=0.3,slow=14,SNR=25						
CTAO	**Charters Tower**	**13.76**	**181**		**P**	**07 03 33.5**	**0.0**
FAKI	**Fak Fak**	**14.71**	**282**	Pn	**Pn**	**07 03 41.6**	**+0.8**
SAUI	**Saumlaki**	**15.31**	**263**	P	**Pn**	**07 03 47.6**	**-0.7**
	407nm,1.1s						
SIJI	**Sorong**	**16.24**	**289**	P	**Pn**	**07 03 59.2**	**-0.6**
	9.9nm,0.3s,baz=90,slow=8.8,SNR=18						
SWI	**Sorong**	**16.25**	**289**	P	**Pn**	**07 03 59.2**	**-0.8**
	286nm,0.8s						
MTN	**Manton Dam**	**16.62**	**246**	P	**Pn**	**07 04 04.8**	**+0.2**
MTN				IAmb	IAmb	07 04 06.5	
	comp=Z,25nm,0.7s						
WB0	**Warramunga Arr**	**17.94**	**220**	P	**P**	**07 04 20.5**	**+0.6**
WB0				IAmb	IAmb	07 04 30.1	
	comp=Z,12nm,1.0s						
WR0	**Warramunga Arr**	**17.99**	**220**	P	**P**	**07 04 21.0**	**+0.6**
WR0				IAmb	IAmb	07 04 31.0	
	comp=Z,25nm,0.8s						
WB2	**Warramunga Arr**	**18.10**	**220**	P	**P**	**07 04 22.2**	**+0.6**
WB2				IAmb	IAmb	07 04 31.5	
	comp=Z,48nm,1.5s						
WRA	**Warramunga Arr**	**18.11**	**220**	P	**P**	**07 04 22.4**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=44,slow=11,SNR=70						
WRA				S	**S**	**07 07 38.7**	**-5.4**
	comp=Z,0.3nm,0.3s,baz=41,slow=24,SNR=3.1						
WRA				ScP	**ScP**	**07 12 19.9**	**+2.0**
	comp=Z,0.0nm,0.3s,baz=42,slow=2.7,SNR=4.9						
WRA	**Warramunga Arr**	**18.11**	**220**	P	**P**	**07 04 21.6**	**-0.1**
EIDS	**Eidsvold**	**19.48**	**168**	P	**Pn**	**07 04 38.9**	**+0.1**
SANI	**Sanana**	**21.01**	**281**	P	**P**	**07 04 52.7**	**-0.5**
	comp=Z,31nm,1.0s						
AS31	**Alice Springs**	**21.20**	**214**	P	**P**	**07 04 56.5**	**+1.2**
ASAR	**Alice Springs**	**21.20**	**214**	P	**P**	**07 04 56.5**	**+1.2**
	comp=Z,3.0nm,0.4s,baz=50,slow=9.4,SNR=141						
ASAR				S	**S**	**07 08 41.6**	**-4.0**
	comp=Z,0.9nm,0.7s,baz=35,slow=21,SNR=3.7						
ASAR	**Alice Springs**	**21.20**	**214**	P	**P**	**07 04 56.0**	**+0.8**
KMSI	**Cibinong**	**23.61**	**286**	P	**P**	**07 05 20.4**	**+0.8**
	comp=Z,172nm,0.4s						
FITZ	**Fitzroy Crossi**	**23.62**	**238**	P	**P**	**07 05 20.0**	**+0.3**
	comp=Z,23nm,0.6s,baz=53,slow=12,SNR=60						
FITZ	**Fitzroy Crossi**	**23.62**	**238**	P	**P**	**07 05 19.7**	**0.0**
FITZ				IAmb	IAmb	07 05 21.7	
	comp=Z,20nm,0.7s						
LUWI	**Luwuk**	**24.36**	**281**	P	**P**	**07 05 25.3**	**-1.1**
LUWI	**Luwuk**	**24.36**	**281**	P	**P**	**07 05 28.2**	**+1.8**
	comp=Z,1μmcomp=Z,132nm,1.0s						
ARMA	**Armidale**	**24.49**	**170**	P	**P**	**07 05 26.3**	**-1.3**
ARMA				IAmb	IAmb	07 05 39.3	
	comp=Z,10nm,1.2s						
GTOI	**Gorontalo**	**24.55**	**285**	P	**P**	**07 05 29.9**	**+1.7**
	comp=Z,890nmcomp=Z,76nm,0.6s						
EDFI	**Ende, Flores**	**24.85**	**263**	P	**P**	**07 05 30.0**	**-1.0**
	comp=Z,13nm,0.8s						
MRSI	**Marisa**	**25.54**	**284**	P	**P**	**07 05 36.5**	**-0.6**
	comp=Z,24nm,0.7s						
KWAJ	**Kwajalein Atol**	**25.71**	**55**	P	**P**	**07 05 37.3**	**-1.4**
STKA	**Stephens Creek**	**25.92**	**190**	P	**P**	**07 05 41.3**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=342,slow=10,SNR=6.8						
STKA	**Stephens Creek**	**25.92**	**190**	P	**P**	**07 05 39.3**	**-1.1**
TOLI2	**Tolitoli**	**26.82**	**285**	P	**P**	**07 05 47.5**	**-1.3**
TOLI2				IAmb	IAmb	07 05 53.8	
	comp=Z,11nm,0.6s						
BBOO	**Buckleboo**	**28.20**	**199**	P	**P**	**07 06 00.8**	**0.0**
BBOO				IAmb	IAmb	07 06 02.3	
	comp=Z,24nm,1.4s						
PSA00	**Pilbara Seismi**	**30.05**	**237**	P	**P**	**07 06 16.6**	**-0.8**
PSA00				IAmb	IAmb	07 06 32.0	
	comp=Z,9.7nm,1.1s						
MYLDM	**Lahad Datu**	**30.30**	**291**	P	**P**	**07 06 19.0**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**31.56**	**38**	T	T	07 39 40.8	
	baz=222,slow=75						
H11S2	**WAKE ISLAND Hy**	**31.57**	**38**	T	T	07 39 39.6	
	baz=222						
H11S1	**WAKE ISLAND Hy**	**31.58**	**38**	T	T	07 39 41.8	
	baz=222,slow=75						
H11N1	**WAKE ISLAND Hy**	**32.61**	**37**	T	T	07 40 53.3	
	baz=220						
H11N3	**WAKE ISLAND Hy**	**32.62**	**37**	T	T	07 40 49.8	
	baz=220						
H11N2	**WAKE ISLAND Hy**	**32.63**	**37**	T	T	07 40 49.0	
	baz=220						
KKM	**Kota Kinabalu**	**32.73**	**291**	P	**P**	**07 06 38.9**	**-2.2**
SBUM	**Sibu**	**35.43**	**283**	P	**P**	**07 07 04.6**	**+0.2**
SBUM				IAmb	IAmb	07 07 06.3	
	comp=Z,6.9nm,0.8s						
TPI	**Tanjungpandan**	**39.01**	**273**	P	**P**	**07 07 35.9**	**+1.3**
	comp=Z,23nm,1.0s						
KSRS	**Korea Array**	**46.86**	**340**	P	**P**	**07 08 36.8**	**-0.8**
	comp=Z,5.5nm,0.8s,baz=157,slow=9.3,SNR=14						
KULM	**Kulim**	**47.31**	**283**	P	**P**	**07 08 42.0**	**+0.4**
GSI	**Gunungsitoli**	**49.55**	**277**	P	**P**	**07 08 58.4**	**-0.3**
MLSI	**Meulaboh, Aceh**	**51.23**	**281**	P	**P**	**07 09 13.0**	**+1.6**
USA0B	**Ussuriysk Arra**	**51.93**	**347**	P	**P**	**07 09 16.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**51.93**	**347**	P	**P**	**07 09 14.7**	**-1.3**
	comp=Z,2.1nm,0.6s,baz=172,slow=9.5,SNR=6.8						
USRK	**Ussuriysk Ar.**	**51.93**	**347**	P	**P**	**07 09 16.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**53.05**	**299**	P	**P**	**07 09 26.2**	**+1.4**
	comp=Z,8.8nm,0.5s,baz=121,slow=5.9,SNR=13						
HHC	**Hu-ho-hao-te**	**56.86**	**329**	*e*P	**P**	**07 09 51.3**	**-0.7**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,5.9s						
WMQ	**Urumqi**	**72.75**	**320**	*e*P	**P**	**07 11 36.6**	**+1.5**
MK31	**Makanchi Array**	**77.46**	**321**	P	**P**	**07 12 01.3**	**-0.8**
MKAR	**Makanchi Array**	**77.46**	**321**	P	**P**	**07 12 01.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=97,slow=9.1,SNR=4.4						
MAKZ	**Makanchi**	**77.66**	**321**	P	**P**	**07 12 02.5**	**-0.6**
MAKZ				IAmb	IAmb	07 12 02.8	
	comp=Z,2.5nm,0.6s						
ZAA0	**Zalesovo Array**	**79.03**	**328**	P	**P**	**07 12 08.5**	**-1.9**
ZALV	**Zalesovo Beam**	**79.03**	**328**	P	**P**	**07 12 08.3**	**-2.2**
	comp=Z,1.5nm,0.4s,baz=114,slow=6.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**79.03**	**328**	P	**P**	**07 12 08.6**	**-1.9**
PPLA	**Purkeypile**	**82.92**	**24**	P	**P**	**07 12 31.0**	**-0.1**
PPLA				IAmb	IAmb	07 12 46.4	
	comp=Z,6.1nm,1.4s						
RC01	**Rabbit Creek A**	**83.11**	**26**	P	**P**	**07 12 30.9**	**-1.1**
RC01				IAmb	IAmb	07 12 32.3	
	comp=Z,6.1nm,1.4s						
QSPA	**South Pole Qui**	**83.72**	**180**

	comp=Z,3.8nm,1.4s							
ILAR	**Eielson Array**	**85.86**	**23**	P	**P**	**07 12 43.8**	**-1.9**
	comp=Z,0.8nm,0.5s,baz=250,slow=4.8,SNR=23							
ILAR	**Eielson Array**	**85.86**	**23**	P	**P**	**07 12 44.0**	**-1.8**
GLB	**Gilahina Butte**	**85.87**	**27**	P	**P**	**07 12 45.7**	**-0.3**
GLB				IAmb	IAmb	07 13 14.4	
	comp=Z,10nm,1.3s							
EGAK	**Eagle**	**88.14**	**24**	P	**P**	**07 12 57.0**	**+0.3**
EGAK				IAmb	IAmb	07 13 01.3	
	comp=Z,3.9nm,1.4s							
DAWY	**Dawson**	**88.66**	**25**	P	**P**	**07 12 59.7**	**+0.4**
YKA	**Yellowknife Ar**	**99.56**	**28**	P	**Pdif**	**07 13 47.8**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=277,slow=5.5,SNR=1.9							
TORD	**Torodi Ar. Bea**	**144.80**	**284**	PKP	**PKPdf**	**07 19 43.7**	**-0.1**
	comp=Z,26nm,0.8s,baz=73,slow=3.6,SNR=100							
KIC	**Kosan Boka**	**151.55**	**272**	*e*PKIKP	**PKiKP**	**07 20 02.0**	**+0.4**
	comp=Z,18nm,0.6s							
DBIC	**Dimbokro**	**151.67**	**272**	PKPbc	**PKiKP**	**07 20 02.2**	**+0.4**
	comp=Z,12nm,0.7s,baz=80,slow=2.3,SNR=20							
LIC	**Lamto**	**151.83**	**272**	*e*PKIKP	**PKiKP**	**07 20 02.5**	**+0.4**
	comp=Z,37nm,0.7s							
TIC	**Toumodi**	**151.83**	**272**	*e*PKIKP	**PKiKP**	**07 20 02.5**	**+0.3**
BDFB	**Brasilia**	**153.85**	**146**	PKPbc	**PKPbc**	**07 20 05.3**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=182,slow=8.5,SNR=3.0							

NNC ***22*** *07:07:23.3±0.8, 50.03N×78.69E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=7.8km s-min=3.2km az=62.0, Suspected Mining explosion.*

IDC ***22*** *07:07:24.2±0.9, 50.08N×78.81E, h0km, mb1 2.8/3, mb1mx2.7/42, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=15.7km s-min=6.5km az=63.0*

ISC 22 07:07:23.7±0.8, 49.99N±0.04×78.83E±0.05, h0km, n19, σ1s34/29, 12C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.62**	**341**	↑P	**Pg**	**07 07 34.3**	**-1.4**
KUR07				↓S	**Sg**	**07 07 43.1**	**-0.7**
KUR14	**Kurchatov Arra**	**0.64**	**346**	↑P	**Pg**	**07 07 34.7**	**-1.3**
KUR14				↓S	**Sg**	**07 07 43.4**	**-0.9**
KUR06	**Kurchatov Arra**	**0.64**	**342**	↑P	**Pg**	**07 07 34.7**	**-1.3**
KUR06				↓S	**Sg**	**07 07 43.5**	**-0.8**
KUR15	**Kurchatov Arra**	**0.65**	**345**	↑P	**Pg**	**07 07 34.8**	**-1.3**
KUR15				↑S	**Sg**	**07 07 44.1**	**-0.5**
KURBB	**Kurchatov Arra**	**0.66**	**343**	Pg	**Pg**	**07 07 35.0**	**-1.3**
	2.6nm,0.3s,baz=166,slow=19,SNR=31						
KURBB				Lg	Lg	07 07 43.4	
	3.0nm,0.3s,baz=165,slow=33,SNR=15						
KURBB	**Kurchatov Arra**	**0.66**	**343**	↑P	**Pg**	**07 07 34.6**	**-1.8**
	14nm,0.3s						
KURBB				↓S	**Sg**	**07 07 43.8**	**-1.1**
	39nm,0.5s						
KUR16	**Kurchatov Arra**	**0.67**	**341**	↓P	**Pg**	**07 07 35.4**	**-1.2**
KUR16				↑S	**Sg**	**07 07 44.5**	**-0.7**
KUR05	**Kurchatov Arra**	**0.68**	**344**	↑P	**Pg**	**07 07 35.1**	**-1.6**
KUR05				↑S	**Sg**	**07 07 44.2**	**-1.3**
KUR17	**Kurchatov Arra**	**0.68**	**340**	↓P	**Pg**	**07 07 35.5**	**-1.3**
KUR17				↓S	**Sg**	**07 07 44.9**	**-0.7**
SEM	**Semipalatinsk**	**1.00**	**65**	P	**Pb**	**07 07 44.2**	**+0.2**
	6.3nm,0.2s						
SEM				S	**Sb**	**07 07 58.5**	**+0.6**
	24nm,0.3s						
MAKZ	**Makanchi**	**3.81**	**146**	↓Pg	**Pb**	**07 08 33.0**	**+1.1**
	2.4nm,0.6s						
MAKZ				↑Lg	Lg	07 09 28.3	
	5.8nm,0.6s						
MK31	**Makanchi Array**	**3.94**	**143**	↑Pn	**Pn**	**07 08 27.0**	**+1.5**
	0.1nm,0.2s,baz=322,slow=10.0,SNR=18						
MK31				Pg	**Pb**	**07 08 34.8**	**+0.7**
	0.3nm,0.2s,baz=323,slow=13,SNR=8.6						
MK31				Lg	Lg	07 09 31.7	
	4.8nm,0.5s,baz=329,slow=26,SNR=17						
MKAR	**Makanchi Array**	**3.94**	**143**	Pn	**Pn**	**07 08 27.1**	**+1.6**
	0.3nm,0.3s,baz=333,slow=12,SNR=19						
MKAR				Pg	**Pb**	**07 08 34.5**	**+0.4**
	0.5nm,0.3s,baz=326,slow=16,SNR=14						
MKAR				Lg	Lg	07 09 26.4	
	0.7nm,0.3s,baz=328,slow=29,SNR=5.2						
ZSN	**Zaisan**	**4.74**	**120**	Pg	**Pg**	**07 08 52.2**	**-2.3**
	3.8nm,0.3s						
ZSN				Lg	Lg	07 09 54.4	
	3.9nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.42**	**41**	*i*		07 40 00.0	
	baz=222,slow=296,SNR=0.8						
ZALV	**Zalesovo Beam**	**5.42**	**41**	Pn	**Pn**	**07 08 47.3**	**+1.6**
	0.8nm,0.3s,baz=231,slow=14,SNR=8.9						
ZALV				Lg	Lg	07 10 13.1	
	0.3nm,0.3s,baz=230,slow=26,SNR=2.4						
DJR	**Jarkent**	**5.70**	**173**	Pg	**Pg**	**07 09 10.8**	**-2.1**
	1.2nm,0.2s						
DJR				Lg	Lg	07 10 26.9	
	3.2nm,0.5s						
BVAR	**Borovoye Array**	**6.08**	**303**	Pn	**Pn**	**07 08 54.9**	**0.0**
	0.1nm,0.3s,baz=100,slow=17,SNR=1.9						
BRVK	**Borovoye**	**6.16**	**303**	↑Sn	**Sn**	**07 10 08.7**	**+1.8**
	1.0nm,0.5s						
BRVK				↓Lg	Lg	07 10 33.9	
	1.4nm,0.7s						

IDC 22 07:52:57.0±2.5, 3.62N×126.69E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=207.8km s-min=28.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.59**	**162**	P	P	07 58 18.4	-0.7
	0.6nm,0.7s,baz=341,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**28.02**	**166**	P	P	07 58 51.0	+1.0
	0.1nm,0.5s,baz=345,slow=9.1,SNR=1.3						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	08 02 48.9	-0.2
	0.2nm,0.5s,baz=117,slow=8.7,SNR=4.1						

DJA 22 07:54:58.6±1.5, 8°S±15'×11°9E±°, h18km±8km, M2.7/4, MLv2.7/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.28**	**232**	P	Pb	07 55 21.9	-0.3
PLAI				S	Sn	07 55 38.8	+0.5
TWSI	**Taliwang, Sumb**	**2.02**	**250**	P	Pn	07 55 32.2	+0.4
TWSI				S	Sn	07 55 56.8	+0.2
EDFI	**Ende, Flores**	**2.94**	**104**	P	Pn	07 55 44.3	-0.3

IDC ***22*** *08:18:45.8±2.7, 5.48S×129.77E, h216km±36km, mb2.9/2, mb1 3.1/6, mb1mx3.0/29, mbtmp3.6/6, Error ellipse: s-maj=73.4km s-min=16.6km az=84.0*

ISC 22 08:18:43.0±0.9, 5.64S±0.06×129.8E±0.2, h200km, n6, σ2s79/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.97**	**18**	P	**Pn**	**08 19 58.2**	**+1.2**
	5.4nm,0.3s,baz=158,slow=23,SNR=31						
SIJI				S	**Sn**	**08 20 51.5**	**-4.0**
	5.4nm,0.3s,baz=270,slow=23,SNR=9.5						
FITZ	**Fitzroy Crossi**	**13.02**	**198**	P	**P**	**08 21 46.0**	**+2.0**
	0.1nm,0.3s,baz=23,slow=9.9,SNR=2.3						
FITZ				S	**S**	**08 24 01.6**	**-4.5**
	0.3nm,0.3s,baz=89,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**14.90**	**163**	P	**P**	**08 22 06.5**	**+1.6**
	0.2nm,0.3s,baz=345,slow=13,SNR=15						
WRA				S	**S**	**08 24 47.3**	**-2.4**
	0.1nm,0.3s,baz=344,slow=23,SNR=2.2						
ASAR	**Alice Springs**	**18.36**	**168**	P	**Pn**	**08 22 46.9**	**+1.5**
	0.2nm,0.3s,baz=348,slow=11,SNR=15						
ASAR				S	**S**	**08 26 03.8**	**+1.5**
	0.0nm,0.3s,baz=345,slow=24,SNR=1.7						
SONM	**Songino Array**	**57.08**	**341**	P	**P**	**08 28 09.0**	**+0.5**
	0.2nm,0.3s,baz=142,slow=7.3,SNR=2.3						
MKAR	**Makanchi Array**	**66.96**	**327**	P	**P**	**08 29 14.0**	**-0.2**
	0.3nm,0.5s,baz=123,slow=8.9,SNR=6.1						

IDC ***22*** *08:42:02.8±1.7, 23.73S×179.97W, h517km±18km, mb3.4/12, mb1 3.6/14, mb1mx3.4/40, mbtmp4.2/14, Error ellipse: s-maj=24.2km s-min=13.5km az=148.0*

NEIC ***22*** *08:42:05.2±2.0, 23.65S±0.2×179.9E±0.1, h542km±8km, mb4.5/23, Error ellipse: s-maj=27.0km s-min=9.4km az=152.0*

ISC 22 08:42:01.4±0.6, 23.71S±0.09×179.9W±0.1, h500km, n44, σ1s08/46, mb4.4/24, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.26**	**342**	P	**P**	**08 43 42.6**	**+2.1**
	2.0nm,0.3s,baz=295,slow=23,SNR=10						
MSVF	**Nonsavu**	**6.26**	**342**	P	**P**	**08 43 42.7**	**+2.3**
URZ	**Urewera**	**14.73**	**189**	P	**P**	**08 45 09.9**	**+1.4**
	2.5nm,0.3s,baz=311,slow=3.8,SNR=19						
URZ				S	**S**	**08 47 41.6**	**-1.2**
	0.4nm,0.3s,baz=251,slow=22,SNR=2.1						
URZ	**Urewera**	**14.73**	**189**	P	**P**	**08 45 09.5**	**+1.0**
RPZ	**Raoul Peaks**	**21.30**	**198**	P	**P**	**08 46 11.2**	**-0.5**
	11nm,0.9s,baz=146,slow=3.6,SNR=3.0						
ARMA	**Armidale**	**26.19**	**249**	P	**P**	**08 46 57.3**	**+1.7**
EIDS	**Eidsvold**	**26.45**	**260**	P	**P**	**08 46 58.5**	**+0.8**
EIDS				IAmb	IAmb	08 47 36.5	
	comp=Z,32nm,1.9s						
CAN	**Canberra**	**29.33**	**240**	P	**P**	**08 47 24.3**	**+1.3**
CTA	**Charters Tower**	**31.58**	**270**	P	**P**	**08 47 42.6**	**+0.1**
	comp=Z,10nm,0.4s,baz=95,slow=11,SNR=26						
CTAO	**Charters Tower**	**31.58**	**270**	P	**P**	**08 47 43.0**	**+0.4**
TOO	**Toolangi**	**32.64**	**237**	P	**P**	**08 47 52.5**	**+1.0**
TOO				IAmb	IAmb	08 49 07.3	
	comp=Z,32nm,1.7s						
STKA	**Stephens Creek**	**34.89**	**248**	P	**P**	**08 48 10.6**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=100,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**34.89**	**248**	P	**P**	**08 48 10.9**	**+0.5**
BBOO	**Buckleboo**	**39.62**	**247**	P	**P**	**08 48 48.6**	**-0.7**
AS31	**Alice Springs**	**42.17**	**260**	P	**P**	**08 49 09.5**	**-0.3**
ASAR	**Alice Springs**	**42.17**	**260**	P	**P**	**08 49 09.2**	**-0.7**
	comp=Z,4.4nm,0.7s,baz=96,slow=7.2,SNR=53						
ASAR				ScP	**ScP**	**08 53 53.8**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=105,slow=4.3,SNR=11						
WR0	**Warramunga Arr**	**42.34**	**266**	P	**P**	**08 49 10.0**	**-1.2**
WR0				IAmb	IAmb	08 49 30.6	
	comp=Z,37nm,1.8s						
WB2	**Warramunga Arr**	**42.52**	**266**	P	**P**	**08 49 11.5**	**-1.0**
WB2				IAmb	IAmb	08 50 38.4	
	comp=Z,29nm,1.6s						
WB0	**Warramunga Arr**	**42.52**	**266**	P	**P**	**08 49 11.4**	**-1.2**
WB0				IAmb	IAmb	08 50 34.0	
	comp=Z,39nm,1.8s						
WRAB	**Tennant Creek**	**42.52**	**266**	P	**P**	**08 49 11.5**	**-1.1**
WRAB				IAmb	IAmb	08 49 50.6	
	comp=Z,52nm,2.0s						
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**08 49 11.4**	**-1.2**
	comp=Z,4.7nm,0.5s,baz=102,slow=8.6,SNR=76						
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**08 49 11.2**	**-1.4**
FORT	**Forrest**	**46.48**	**249**	P	**P**	**08 49 42.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.95**	**265**	P	**P**	**08 50 16.2**	**-0.3**
FITZ				IAmb	IAmb	08 50 36.2	
	comp=Z,26nm,1.7s						
QSPA	**South Pole Qui**	**66.37**	**180**	P	**P**	**08 52 01.7**	**+1.8**
QSPA				IAmb	IAmb	08 53 50.4	
	comp=Z,27nm,1.8s						
PETK	**Petropavlovsk-**	**78.94**	**346**	P	**P**	**08 53 11.9**	**-0.4**
CMB	**Columbia Colle**	**82.99**	**43**	P	**P**	**08 53 34.1**	**+0.4**
YBH	**Yreka Blue Hor**	**83.87**	**39**	P	**P**	**08 53 38.9**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=101,slow=5.2,SNR=4.2						
NVAR	**Mina Array Bea**	**84.54**	**44**	P	**P**	**08 53 41.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=220,slow=7.0,SNR=5.4						
ELK	**Elko**	**87.81**	**43**	P	**P**	**08 53 56.3**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=208,slow=17,SNR=2.2						
G08A	**Pilot Rock**	**88.21**	**38**	P	**P**	**08 53 59.8**	**+1.0**
G08A				IAmb	IAmb	08 56 23.5	
	comp=Z,14nm,1.7s						
TMUT	**Trail Mountain**	**89.63**	**46**	P	**P**	**08 54 06.7**	**+0.9**
TMUT				IAmb	IAmb	08 54 07.5	
	comp=Z,3.7nm,0.7s						
SRU	**San Rafael Swe**	**89.99**	**47**	P	**P**	**08 54 07.8**	**+0.4**
SRU				IAmb	IAmb	08 54 08.8	
	comp=Z,4.0nm,1.0s						
TX31	**Lajitas Ar. Si**	**90.24**	**58**	P	**P**	**08 54 08.2**	**-0.5**
TX31				IAmb	IAmb	08 54 09.9	
	comp=Z,5.2nm,0.9s						
TX32	**Lajitas Array**	**90.24**	**58**	P	**P**	**08 54 08.0**	**-0.6**
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**08 54 09.4**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=216,slow=6.5,SNR=18						
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**08 54 08.2**	**-0.5**
ANMO	**Albuquerque**	**90.76**	**52**	P	**P**	**08 54 11.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=330,slow=4.8,SNR=3.4						
ANMO	**Albuquerque**	**90.76**	**52**	P	**P**	**08 54 11.0**	**0.0**
ANMO				IAmb	IAmb	08 55 29.7	
	comp=Z,4.8nm,1.7s						
ILAR	**Eielson Array**	**91.83**	**14**	P	**P**	**08 54 13.3**	**-1.7**
	comp=Z,0.1nm,0.5s,baz=218,slow=5.3,SNR=1.3						
PDAR	**Pinedale Array**	**92.48**	**44**	P	**P**	**08 54 18.3**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=230,slow=2.2,SNR=5.5						
AKASG	**Malin Array Be**	**144.87**	**327**	PKP	**PKPdf**	**09 00 39.3**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=40,slow=4.4,SNR=6.2						
BRTR	**Keskin Array B**	**147.55**	**307**	PKPbc	**PKPbc**	**09 00 48.3**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=113,slow=3.7,SNR=2.2						
CLL	**Collm**	**150.71**	**343**	*i* PKPbc	**PKPbc**	**09 00 55.5**	**-0.9**

IDC 22 08:50:54.6±14.0, 5.60S×104.04W, h0km, mb3.3/4, mb1 3.8/4, mb1mx3.4/40, mbtmp3.3/4, Error ellipse: s-maj=517.9km s-min=128.6km az=115.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**34.74**	**1**	P	P	08 57 47.6	+0.9
	0.1nm,0.5s,baz=181,slow=11,SNR=1.6						
H03N2	**Juan Fernandez**	**36.22**	**143**	T	T	09 38 26.1	
	baz=317,slow=77,SNR=13						
H03N1	**Juan Fernandez**	**36.23**	**143**	T	T	09 38 25.2	
	baz=317,slow=77,SNR=16						
H03N3	**Juan Fernandez**	**36.23**	**143**	T	T	09 38 27.7	
	baz=317,slow=77,SNR=16						
PDAR	**Pinedale Array**	**48.40**	**355**	P	P	08 59 38.1	-0.6
	0.5nm,0.6s,baz=172,slow=7.3,SNR=6.2						
YKA	**Yellowknife Ar**	**68.38**	**355**	P	P	09 01 57.7	0.0
	0.3nm,0.8s,baz=157,slow=6.8,SNR=3.6						
ILAR	**Eielson Array**	**76.99**	**343**	P	P	09 02 48.9	-0.1
	0.4nm,0.7s,baz=154,slow=6.1,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**90.97**	**290**	T	T	10 43 25.4	
	baz=96,slow=75,SNR=44						
H11N2	**WAKE ISLAND Hy**	**90.99**	**290**	T	T	10 43 20.4	
	baz=96,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy**	**90.99**	**290**	T	T	10 43 07.6	
	baz=96,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**91.05**	**288**	T	T	10 43 27.6	
	baz=94,slow=74,SNR=35						
H11S1	**WAKE ISLAND Hy**	**91.05**	**288**	T	T	10 43 13.8	
	baz=94,slow=74,SNR=33						
H11S3	**WAKE ISLAND Hy**	**91.06**	**288**	T	T	10 43 13.9	
	baz=94,slow=74,SNR=30						

TAP ***22*** *08:54:34.4, 24.48N×122.85E, h66km, ML3.4, C*

JMA ***22*** *08:54:34.0±0.1, 24.48N×122.86E, h69km±1km, M2.6*

ISC 22 08:54:34.6±1.2, 24.43N±0.03×122.86E±0.02, h64km±7km, n94, σ0s97/184, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.08**	**77**	P	**Pn**	**08 54 44.1**	**0.0**
JYNG				S	**Sn**	**08 54 51.5**	**+0.6**
YOJ	**Yonaguni jima**	**0.14**	**79**	*i* P	**Pn**	**08 54 44.5**	**+0.2**
	baz=94						
YOJ				*i* S	**Sn**	**08 54 51.8**	**+0.5**
	baz=94						
YOJ	**Yonaguni jima**	**0.14**	**79**	P	**Pn**	**08 54 44.3**	**0.0**
YOJ				S	**Sn**	**08 54 51.6**	**+0.3**
IRIF	**Iriomote-Funau**	**0.80**	**97**	P	**Pn**	**08 54 50.0**	**-0.3**
IRIF				S	**Sn**	**08 55 02.5**	**+0.6**
TWC	**Suao**	**0.93**	**281**	*i* P	**Pn**	**08 54 51.6**	**-0.4**
	baz=286						
TWC				*i* S	**Sn**	**08 55 03.6**	**-1.2**
	baz=286						
HATJ	**Hateruma jima**	**0.94**	**113**	P	**Pn**	**08 54 52.5**	**+0.4**
TWB1	**Santiao Chiao**	**0.97**	**306**	*e*S	**Sn**	**08 55 05.6**	**-0.2**
	baz=304						
EWUT	**Wuta**	**0.98**	**271**	P	**Pn**	**08 54 52.5**	**-0.1**
	baz=273						
EWUT				S	**Sn**	**08 55 05.8**	**-0.1**
	baz=273						
ENA	**Nanau**	**1.02**	**270**	*e*P	**Pn**	**08 54 52.7**	**-0.3**
	baz=271						
ENA				*e*S	**Sn**	**08 55 07.1**	**+0.4**
	baz=271						
NTC	**Toucheng**	**1.02**	**294**	P	**Pn**	**08 54 53.3**	**+0.1**
	baz=285						
NTC				S	**Sn**	**08 55 06.1**	**-0.7**
	baz=285						
NDS	**Dongshan**	**1.06**	**281**	P	**Pn**	**08 54 53.4**	**-0.2**
	baz=282						
NDS				S	**Sn**	**08 55 07.0**	**-0.6**
	baz=282						
JKRS	**Kuro-shima**	**1.07**	**100**	P	**Pn**	**08 54 53.8**	**+0.1**
JKRS				S	**Sn**	**08 55 08.4**	**+0.5**
TIPB	**Shuangxi**	**1.08**	**300**	P	**Pn**	**08 54 53.6**	**-0.3**
	baz=297						
TIPB				S	**Sn**	**08 55 07.5**	**-0.7**
	baz=297						
TWE	**Neicheng**	**1.12**	**285**	P	**Pn**	**08 54 54.1**	**-0.3**
	baz=286						
TWE				S	**Sn**	**08 55 08.8**	**-0.3**
	baz=286						
NWF	**Wu-fen Shan**	**1.17**	**303**	*e*P	**Pn**	**08 54 55.1**	**+0.1**
	baz=293						
NWF				*e*S	**Sn**	**08 55 10.2**	**-0.1**
	baz=293						
WFSB	**Wu-fen Shan**	**1.17**	**303**	*e*P	**Pn**	**08 54 55.3**	**+0.3**
	baz=293						
WFSB				*e*S	**Sn**	**08 55 10.8**	**+0.7**
	baz=293						
JIJ	**Ishigaki jima**	**1.18**	**93**	P	**Pn**	**08 54 54.7**	**-0.4**
JIJ				S	**Sn**	**08 55 09.6**	**-0.8**
NACB	**Ninganchiao**	**1.18**	**258**	*i* P	**Pn**	**08 54 54.9**	**-0.3**
	baz=255						
NACB				*i* S	**Sn**	**08 55 10.1**	**-0.4**
	baz=255						
ENTT	**Nioudou**	**1.19**	**280**	P	**Pn**	**08 54 55.7**	**+0.4**
	baz=284						
ENTT				S	**Sn**	**08 55 10.9**	**0.0**
	baz=284						
TWD	**Chiawan**	**1.20**	**253**	*e*P	**Pn**	**08 54 54.7**	**-0.7**
	baz=250						
TWD				S	**Sn**	**08 55 10.6**	**-0.4**
	baz=250						
NDT	**Datong Townshi**	**1.24**	**278**	P	**Pn**	**08 54 56.7**	**+0.8**
	baz=281						
NDT				S	**Sn**	**08 55 11.8**	**0.0**
	baz=281						
ETLH	**Xiulin Townshi**	**1.27**	**260**	P	**Pn**	**08 54 56.3**	**-0.1**
	baz=249						
ETLH				S	**Sn**	**08 55 12.0**	**-0.9**
	baz=249						
NWLT	**Wulai**	**1.28**	**286**	P	**Pn**	**08 54 56.7**	**+0.2**
	baz=283						
NWLT				S	**Sn**	**08 55 12.6**	**-0.3**
	baz=283						
JISG	**Ishigakijimahi**	**1.33**	**83**	P	**Pn**	**08 54 56.5**	**-0.7**
JISG				S	**Sn**	**08 55 13.4**	**-0.7**
NNSB	**Datong**	**1.34**	**270**	P	**Pn**	**08 54 57.5**	**+0.1**
	baz=257						
NNSB				S	**Sn**	**08 55 14.4**	**-0.1**
	baz=257						
NNSH	**Datong**	**1.34**	**270**	P	**Pn**	**08 54 57.5**	**+0.1**
	baz=258						
NNSH				S	**Sn**	**08 55 14.1**	**-0.4**
	baz=258						
NNS	**Nan Shan**	**1.35**	**271**	*e*P	**Pn**	**08 54 57.8**	**+0.2**
	baz=258						
NNS				*e*S	**Sn**	**08 55 15.2**	**+0.5**
	baz=258						
TATO	**Taipei**	**1.36**	**294**	*e*P	**Pn**	**08 54 57.6**	**+0.1**
	baz=291						
TATO				*e*S	**Sn**	**08 55 13.5**	**-1.1**
	baz=291						
YM01	**YM01**	**1.37**	**302**	*e*P	**Pn**	**08 54 56.7**	**-1.0**
	baz=291						
YM01				*e*S	**Sn**	**08 55 13.8**	**-1.2**
	baz=291						
YHNB	**Yeheng**	**1.37**	**280**	*e*P	**Pn**	**08 54 57.0**	**-0.7**
	baz=278						
YHNB				*e*S	**Sn**	**08 55 15.3**	**+0.2**
	baz=278						
YM08	**YM08**	**1.38**	**303**	*e*P	**Pn**	**08 54 58.5**	**+0.7**
	baz=293						
YM08				*e*S	**Sn**	**08 55 14.8**	**-0.4**
	baz=293						
YM11	**YM11**	**1.38**	**302**	*e*P	**Pn**	**08 54 59.9**	**+2.1**
	baz=292						
YM11				*e*S	**Sn**	**08 55 15.1**	**-0.1**
	baz=292						
YM10	**YM10**	**1.38**	**302**	*e*P	**Pn**	**08 54 58.7**	**+0.8**
	baz=291						
YM10				*e*S	**Sn**	**08 55 15.9**	**+0.6**
	baz=291						
YM05	**YM05**	**1.38**	**302**	*e*P	**Pn**	**08 54 56.6**	**-1.3**
	baz=292						
YM05				*e*S	**Sn**	**08 55 15.7**	**+0.3**
	baz=292						
NSK	**Sanguang**	**1.39**	**280**	P	**Pn**	**08 54 58.6**	**+0.6**
	baz=278						
NSK				S	**Sn**	**08 55 15.7**	**+0.3**
	baz=278						
YM04	**YM04**	**1.40**	**301**	*e*P	**Pn**	**08 54 58.2**	**+0.2**
	baz=299						
YM04				*e*S	**Sn**	**08 55 15.3**	**-0.3**
	baz=299						
ESL	**Shilin**	**1.44**	**245**	P	**Pn**	**08 54 58.0**	**-0.6**
	baz=235						
ESL				*e*S	**Sn**	**08 55 15.2**	**-1.4**
	baz=235						
NTST	**Danshui**	**1.47**	**300**	*e*P	**Pn**	**08 54 59.4**	**+0.4**
	baz=298						
WHF	**Hehuan Shan**	**1.48**	**259**	P	**Pn**	**08 54 59.4**	**-0.2**
	baz=247						
WHF				*e*S	**Sn**	**08 55 17.2**	**-1.1**
	baz=247						
FUSS	**Fushou**	**1.48**	**263**	*e*P	**Pn**	**08 54 59.4**	**0.0**
	baz=261						
FUSS				*e*S	**Sn**	**08 55 17.7**	**-0.3**
	baz=261						
EGFH	**Guangfu**	**1.51**	**240**	*e*P	**Pn**	**08 54 59.2**	**-0.4**
	baz=231						

baz=250
SSLB Suanglung 1.85 250 P **Pn** 08 55 04.4 +0.2
SSLB baz=248 S **Sn** 08 55 26.3 -0.4
SMLT Sun Moon Lake 1.87 253 P **Pn** 08 55 05.2 +0.8
SMLT baz=244 S **Sn** 08 55 27.0 -0.1
FULB Fuli 1.89 230 *eP* **Pn** 08 55 04.4 -0.2
FULB baz=244 *eS* **Sn** 08 55 26.2 -1.2
TYC Yuchr 1.90 254 P **Pn** 08 55 05.7 +0.9
TYC baz=228 S **Sn** 08 55 27.6 -0.1
TWQ1 Liyutan 1.90 268 *eP* **Pn** 08 55 07.5 +2.6
TWQ1 baz=245 *eS* **Sn** 08 55 28.7 +0.9
YUS Yu-Shan 1.98 242 P **Pn** 08 55 07.0 +0.6
YUS baz=265 S **Sn** 08 55 29.8 -0.6
EDH Donghe 2.04 225 P **Pn** 08 55 05.6 -1.0
EDH baz=240 S **Sn** 08 55 28.9 -2.1
WJS Zhushan 2.04 253 *eP* **Pn** 08 55 08.3 +1.7
WJS baz=223 *eS* **Sn** 08 55 31.9 +0.8
WNT Mingjian 2.06 255 P **Pn** 08 55 08.9 +1.9
WNT baz=246 *eS* **Sn** 08 55 33.9 +2.3
ALS Alishan 2.09 244 P **Pn** 08 55 08.7 +1.0
ALS baz=252 S **Sn** 08 55 32.2 -0.6
ELDTW Lidau 2.09 234 P **Pn** 08 55 07.1 -0.4
ELDTW baz=235 S **Sn** 08 55 31.3 -1.3
CHN5 Tsauling 2.16 248 *eP* **Pn** 08 55 09.7 +1.3
CHN5 baz=232 *eS* **Sn** 08 55 36.2 +2.1
LDUT Ludao 2.17 216 *eP* **Pn** 08 55 08.9 +0.6
LDUT baz=237 *eS* **Sn** 08 55 31.9 -2.3
LONT Longtian 2.19 227 *eP* **Pn** 08 55 09.9 +1.1
LONT baz=209 *eS* **Sn** 08 55 33.7 -1.2
JMJ Miyako jima 2 2.25 80 *eP* **Pn** 08 55 09.2 -0.3
JMJ baz=234 *eS* **Sn** 08 55 37.8 +1.5
STYH Taoyuan 2.28 237 *eP* **Pn** 08 55 11.0 +1.0
STYH baz=82 *eS* **Sn** 08 55 37.5 +0.5
TWGBT Beinan 2.29 226 *eP* **Pn** 08 55 09.4 -0.7
TWGBT baz=235 *eS* **Sn** 08 55 36.3 -0.9
TWG Pinlang 2.29 226 *eP* **Pn** 08 55 09.5 -0.7
TWG baz=233 *eS* **Sn** 08 55 35.8 -1.5
STYT Tauyuan 2.30 237 *eP* **Pn** 08 55 11.6 +1.2
STYT baz=233 *eS* **Sn** 08 55 38.5 +1.0
WRL Guolierlin Hig 2.33 257 *eP* **Pn** 08 55 10.8 +0.3
WRL baz=235 *eS* **Sn** 08 55 37.8 -0.2
TPUB Ta-pu 2.33 242 *eP* **Pn** 08 55 12.3 +1.6
TPUB baz=255 *eS* **Sn** 08 55 39.9 +1.7
CHN4 Tsaushan 2.33 243 *eP* **Pn** 08 55 12.6 +1.9
CHN4 baz=240 *eS* **Sn** 08 55 40.7 +2.3
WTP Ta-pu 2.37 241 *eP* **Pn** 08 55 12.8 +1.5
WTP baz=235 *eS* **Sn** 08 55 39.1 -0.1
WTK Tuku 2.38 252 *eP* **Pn** 08 55 12.7 +1.4
WTK baz=239 *eS* **Sn** 08 55 41.5 +2.2
TWK Hsinying 2.46 242 *eP* **Pn** 08 55 14.3 +1.8
TWK baz=250 *eS* **Sn** 08 55 43.0 +1.5
CHN1 Nanshi 2.47 240 *eP* **Pn** 08 55 14.6 +2.1
CHN1 baz=240 *eS* **Sn** 08 55 44.6 +3.0
SLGT Liugui 2.48 235 *eP* **Pn** 08 55 14.6 +1.9
SLGT baz=238 *eS* **Sn** 08 55 43.5 +1.6
ECL Taimali 2.53 224 *eP* **Pn** 08 55 14.7 +1.4
ECL baz=229 *eS* **Sn** 08 55 41.3 -1.7
SSD Sandimen 2.64 231 *eP* **Pn** 08 55 16.0 +1.1
SSD baz=230 *eS* **Sn** 08 55 45.9 +0.1
TSMG Majia 2.66 230 *eP* **Pn** 08 55 16.2 +1.1
TSMG baz=227 *eS* **Sn** 08 55 46.4 +0.1
MASBT Mashibuluo 2.73 229 *eP* **Pn** 08 55 16.9 +0.9
MASBT baz=227 *eS* **Sn** 08 55 47.7 -0.2
EAST Anshuo 2.75 223 *eP* **Pn** 08 55 17.2 +0.8
EAST baz=227 *eS* **Sn** 08 55 47.3 -1.3
SSPT Xinbi 2.86 228 *eP* **Pn** 08 55 19.1 +1.2
SSPT baz=227 *eS* **Sn** 08 55 52.1 +1.0
SLIU Shizi 2.91 221 *eP* **Pn** 08 55 19.0 +0.5
SLIU baz=226 *eS* **Sn** 08 55 52.6 +0.3
PHUB P'eng-hu 3.14 254 *eP* **Pn** 08 55 20.8 -0.8
PHUB baz=251 *eS* **Sn** 08 55 56.2 -1.8
MATB Ma-tsu 3.14 304 *eP* **Pn** 08 55 21.3 -0.4
MATB baz=301 *eS* **Sn** 08 55 58.4 +0.4
VWUC VWUC 3.15 281 *eP* **Pn** 08 55 20.9 -0.8
VWUC baz=270 *eS* **Sn** 08 56 56.5 -1.7
PTMZ Houxiangcun 3.45 281 *eP* **Pn** 08 55 25.3 -0.6
PTMZ baz=269 *eS* **Sn** 08 56 05.6 0.0
AXDP Jialang 4.47 277 *eP* **Pn** 08 55 39.2 -0.7
AXDP baz=273 *eS* **Sn** 08 56 29.8 -0.8
baz=273

*IDC **22** 09:00:47.3±0.7,11°.19N×86°.92W,h0km,mb4.3/15, mb1 4.5/18,mb1mx4.2/37,mbtmp4.3/18,ML3.5/4,MS3.9/14, Ms1 3.9/14,ms1mx3.7/27,Error ellipse: s-maj=27.2km s-min=11.7km az=43.0*
*UCR **22** 09:00:48.2±2.1,11°.03N×87°.13W,h15km±999km,MW4.7, mb4.7(NEIC)*
*INET **22** 09:00:49.6,11°.09N×87°.05W,h2km,MW4.3*
*NEIC **22** 09:00:51.0±1.9,11°.14N±0°.02×86°.98W±0°.06,h35km±1km, mb4.7/200,Error ellipse: s-maj=10.6km s-min=4.3km az=258.0*
*SNET **22** 09:00:52.6±0.8,11°.28N×87°.20W,h14km±202km,ML3.7*
*GCMT **22** 09:00:53.0±0.5,10°.80N±0°.03×87°.24W±0°.03,h15km, MW4.9/72,Moment Tensor Solution. s13,c14; s72,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.21±.06; Mθθ-0.58±.05; Mφφ-0.63±.05; Mre1.94±.21; Mθφ0.56±.04; Mθr-1.21±.23; Best double couple: Mo2.57500×10¹⁶ NP1:φs326.00000°,δ15.00000°,λ112.00000°. NP2: φs124.00000°,δ77.00000°,λ84.00000°. Principal axes: T 2.6250, Plg58.0000°, Azm26.0000°; N -0.1040, Plg5.0000°, Azm125.0000°; P -2.5250, Plg31.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 09:00:48.2±0.4,11°.17N±0°.05×87°.01W±0°.04,h10km,n359, σ1s25/349,mb4.7/103,MS4.0/16,2C,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
					Op	ISC		
CNGN	**Cerro Negro**	**1.36**	**13**	*eP*		**Pg**	**09 01 15.0**	**+0.7**
HZTE	**Horizontes, Gu**	**1.46**	**108**	*eP*		**Pn**	**09 01 14.5**	**-0.2**
CRIN	**San Cristobal**	**1.52**	**359**			**Pg**	**09 01 17.5**	**+0.1**
GBS3	**Finca Las Img**	**1.58**	**104**	*i*	P	**Pn**	**09 01 16.0**	**-0.3**
BUEV	**Buena Vista**	**1.62**	**103**	*i*	P	**Pn**	**09 01 16.8**	**-0.1**
GB1A	**Boringuen Arri**	**1.62**	**102**	*i*	P	**Pn**	**09 01 17.2**	**+0.2**
GPS2	**Hotel Rincn d**	**1.68**	**104**	*eP*		**Pn**	**09 01 17.9**	**+0.1**
SAJU	**San Juanillo,**	**1.69**	**130**	*eP*		**Pn**	**09 01 15.4**	**-2.4**
ORTG	**Ortega, Santa**	**1.73**	**118**	*eP*		**Pn**	**09 01 17.3**	**-1.1**
ORTG	**Ortega, Santa**	**1.73**	**118**			**Pn**	**09 01 17.7**	**-0.7**
GUAI	**GUAI**	**1.73**	**121**	*i*	P	**Pn**	**09 01 17.0**	**-1.3**
PLVR	**Palo Verde**	**1.83**	**116**	*eP*		**Pn**	**09 01 17.9**	**-2.0**
BOAB	**BOACO BROADBAN**	**1.83**	**46**			**Pb**	**09 01 21.0**	**-0.8**
GRZA	**Playa Garza**	**1.84**	**133**	*eP*		**Pn**	**09 01 17.6**	**-2.3**
COLC	**Colonia**	**1.85**	**106**	*i*	P	**Pn**	**09 01 20.0**	**0.0**
HORNC	**Hornillas**	**1.86**	**104**	*i*	P	**Pn**	**09 01 20.4**	**+0.2**
CSGN	**Cosiguina Volc**	**1.87**	**343**			**Pb**	**09 01 22.1**	**-0.5**
CUI	**Cuipilapa**	**1.89**	**106**	*eP*		**Pn**	**09 01 20.5**	**-0.1**
ACON	**Acoyapa**	**1.97**	**66**	*eP*		**Pn**	**09 01 22.0**	**+0.4**
ACON	**Acoyapa**	**1.97**	**66**			**Pb**	**09 01 22.4**	**-1.7**
INDI	**Punta indio, G**	**1.97**	**131**	*eP*		**Pn**	**09 01 19.7**	**-2.0**
ACAL	**Aguas Claras**	**2.01**	**105**	*i*	P	**Pn**	**09 01 22.7**	**+0.3**
PTEN	**Parque Tenorio**	**2.04**	**103**	*i*	P	**Pn**	**09 01 23.1**	**+0.4**
MATN	**Matagalpa**	**2.04**	**31**			**Pb**	**09 01 24.4**	**-1.2**
JTS	**Las Juntas de**	**2.21**	**113**	Pn		**Pn**	**09 01 25.2**	**+0.2**
	3.6nm,0.3s,baz=170,slow=22,SNR=52							
JTS				LR		LR	09 01 48.2	
	comp=Z,439nm,19.6s,baz=346,slow=29							
JTS				Sn		**Sn**	**09 01 52.9**	**+0.6**
	24nm,0.3s,baz=263,slow=16,SNR=8.5							
JTS	**Las Juntas de**	**2.21**	**113**	*eP*		**Pn**	**09 01 24.4**	**-0.6**
JTS	**Las Juntas de**	**2.21**	**113**	Pn		**Pn**	**09 01 24.6**	**-0.4**
JTS	**Las Juntas de**	**2.21**	**113**	*eP*		**Pn**	**09 01 24.5**	**-0.4**
CNCH	**Conchagua**	**2.24**	**339**	*eP*		**Pb**	**09 01 27.0**	**-1.9**
CNCH				*eS*		**Sb**	**09 01 54.2**	**-2.6**
LCND	**La Caada**	**2.29**	**338**	*eP*		**Pb**	**09 01 27.4**	**-2.3**
LCND				*eS*		**Sn**	**09 01 54.8**	**+0.4**
LCND				IAML			09 02 04.0	
	comp=Z,579nm,0.5s							
ARE1	**Arenal 1**	**2.36**	**107**	*eP*		**Pn**	**09 01 28.3**	**+1.2**
CEDE	**Laguna Cedeo**	**2.37**	**106**	*eP*		**Pn**	**09 01 27.6**	**+0.4**
CAO2	**Cobano, Puntar**	**2.38**	**128**			**Pn**	**09 01 27.2**	**-0.2**
LAFE	**Finca La Fe, P**	**2.47**	**123**	*eP*		**Pn**	**09 01 27.1**	**-1.5**
COVE	**Coope Vega, Sa**	**2.60**	**100**	*eP*		**Pn**	**09 01 30.2**	**-0.2**
COVE	**Coope Vega, Sa**	**2.60**	**100**			**Pn**	**09 01 29.8**	**-0.6**
ALJI	**Alcalda de J**	**2.63**	**325**	IAML			09 02 17.9	
	comp=Z,465nm,0.6s							
TECA	**Tecapa**	**2.73**	**328**	*eP*		**Pn**	**09 01 34.3**	**+2.0**
COEB	**Comit de Eme**	**2.75**	**327**	*eP*		**Pn**	**09 01 33.2**	**+0.7**
COEB				IAML			09 02 16.4	
	comp=Z,296nm,0.5s							
JACO	**JACO, Garabito**	**2.76**	**123**	*eP*		**Pn**	**09 01 33.1**	**+0.6**
ESPN	**Las Esperanzas**	**2.84**	**69**			**Pn**	**09 01 34.2**	**+0.5**
PQSS	**Presa 15 de Se**	**2.87**	**328**	*eP*		**Pn**	**09 01 35.8**	**+1.7**
PQSS				*eS*		**Sn**	**09 02 08.4**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.88**	**355**	Pn		**Pb**	**09 01 36.9**	**-2.9**
TGUH	**Tegucigalpa,Un**	**2.88**	**355**	*iP*		**Pb**	**09 01 37.1**	**-2.7**
CRPO	**Crater poas**	**2.91**	**109**	*eP*		**Pn**	**09 01 35.8**	**+0.9**
UESV	**Universidad de**	**3.00**	**325**	*eP*		**Pn**	**09 01 37.2**	**+1.3**
UESV				IAML			09 01 38.7	
	comp=Z,255nm,0.3s							
COEG	**Centro de Oper**	**3.04**	**323**	*eP*		**Pn**	**09 01 37.3**	**+0.7**
COEG				IAML			09 02 20.9	
	comp=Z,353nm,0.3s							
HDC	**Heredia**	**3.08**	**112**			**Pn**	**09 01 37.7**	**+0.6**
LFRS	**El Faro**	**3.15**	**321**	*eP*		**Pn**	**09 01 39.2**	**+1.2**
LCR2	**La Lucha 2**	**3.28**	**115**	*eP*		**Pn**	**09 01 41.0**	**+1.0**
OPAM	**Oficina de Pla**	**3.31**	**320**	*eP*		**Pn**	**09 01 41.6**	**+1.5**
SNET	**Serv Nac Est T**	**3.31**	**319**	*eP*		**Pn**	**09 01 41.5**	**+1.3**
SNET				*eS*		**Sn**	**09 02 19.0**	**-0.7**
SNET	**Serv Nac Est T**	**3.31**	**319**			**Pn**	**09 01 41.1**	**+0.9**
UESS	**Universidad de**	**3.31**	**320**	*eP*		**Pn**	**09 01 41.1**	**+0.8**
UEES	**Universidad Ev**	**3.34**	**320**	*eP*		**Pn**	**09 01 42.0**	**+1.4**
PMON	**Piamonte**	**3.38**	**319**	*eP*		**Pn**	**09 01 42.4**	**+1.2**
RIMA	**Rio Macho**	**3.40**	**114**	*eP*		**Pn**	**09 01 43.5**	**+1.9**
JAYA	**Jayaque - finc**	**3.43**	**316**	*eP*		**Pn**	**09 01 42.9**	**+0.9**
JAYA				*eS*		**Sn**	**09 02 21.8**	**-0.9**
CDM	**Cerro de Muert**	**3.58**	**116**	*eP*		**Pn**	**09 01 45.0**	**+0.7**
TACO	**Tacachico**	**3.60**	**321**	*eP*		**Pn**	**09 01 45.6**	**+1.5**
TACO				IAML			09 02 35.1	
	comp=Z,83nm,0.6s							
CEVE	**Cerro Verde**	**3.67**	**316**	*eP*		**Pn**	**09 01 47.2**	**+1.9**
BATAN	**Batan**	**3.73**	**106**			**Pn**	**09 01 47.2**	**+1.3**
PEZE	**Perez Zeledon,**	**3.73**	**118**	*eP*		**Pn**	**09 01 46.5**	**+0.5**
PEZE	**Perez Zeledon,**	**3.73**	**118**			**Pn**	**09 01 46.4**	**+0.4**
MTO3	**Montecristo**	**3.94**	**325**			**Pn**	**09 01 51.2**	**+2.1**
EDPN	**Palmar Norte**	**4.13**	**122**	*eP*		**Pn**	**09 01 51.8**	**+0.3**
DRK0	**Durika**	**4.16**	**117**	*eP*		**Pn**	**09 01 52.7**	**+0.6**
EDBA	**Buenos Aires**	**4.18**	**118**	*eP*		**Pn**	**09 01 52.1**	**-0.2**
RIOS	**Rincon, Osa**	**4.23**	**125**	*eP*		**Pn**	**09 01 53.6**	**+0.8**
RIOS	**Rincon, Osa**	**4.23**	**125**			**Pn**	**09 01 52.8**	**0.0**
LPLA	**Las Palmas La**	**4.48**	**118**	*eP*		**Pn**	**09 01 57.6**	**+1.2**
APG	**El Apazote**	**5.08**	**319**	Pn		**Pn**	**09 02 07.5**	**+2.8**
	comp=Z,1.2nm,0.3s,baz=117,slow=8.7,SNR=7.6							
APG				Sn		**Sn**	**09 03 02.5**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=67,slow=22,SNR=2.4							
TEIG	**Tepich**	**9.09**	**352**	Pn		**Pn**	**09 03 01.8**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=158,slow=19,SNR=2.2							
TEIG				LR		LR	09 07 21.0	
	comp=Z,611nm,18.7s,baz=168,slow=43							
TEIG	**Tepich**	**9.09**	**352**			**Pn**	**09 03 00.1**	**+0.6**
CMIG	**Matias Romero**	**9.64**	**309**	Pn		**Pn**	**09 03 09.8**	**+2.7**
	comp=Z,2.7nm,0.3s,baz=143,slow=9.5,SNR=25							
CMIG				Sn		**Sn**	**09 04 56.8**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=75,slow=22,SNR=1.9							
MOTC	**Monteria, Cord**	**11.43**	**101**	*eP*		Pn	09 03 44.8	+13
DBBC	**Dabeiba**	**11.44**	**110**	*eP*		Pn	09 03 39.9	+8.0
TLIG	**Tlapa**	**12.87**	**301**	Pn		**Pn**	**09 03 55.0**	**+3.5**
GUY2C	**Guyana, Caldas**	**12.95**	**116**	*eP*		**Pn**	**09 03 55.6**	**+2.7**
SMLC	**San Martn de**	**12.96**	**99**	*eP*		Pn	09 04 04.4	+12
PTBC	**PUERTO BERRIO,**	**13.23**	**109**	*eP*		**P**	**09 04 05.4**	**-0.9**
TOLC	**Tolima**	**13.30**	**119**	*eP*		**Pn**	**09 04 01.5**	**+4.0**
POPC	**Popayan, Colom**	**13.37**	**129**	*eP*		**Pn**	**09 03 55.6**	**-2.8**
SOTA	**Rioblanco**	**13.68**	**130**	*eP*		**Pn**	**09 04 05.4**	**+2.5**
ORTC	**Ortega, Tolima**	**13.71**	**121**	*eP*		**P**	**09 04 12.9**	**+1.2**
OCAC	**Ocana**	**13.81**	**101**	*eP*		**P**	**09 04 08.7**	**-4.1**
SPBC	**San Pablo de B**	**13.92**	**112**	*eP*		**P**	**09 04 16.2**	**+2.2**
ROSC	**El Rosal**	**14.05**	**116**	Pn		**Pn**	**09 04 09.8**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=321,slow=23,SNR=1.2							
ROSC	**El Rosal**	**14.05**	**116**			**Pn**	**09 04 07.3**	**-0.5**
BETC	**Betania**	**14.24**	**125**	*eP*		**Pn**	**09 04 13.3**	**+3.1**
BARC	**Barichara**	**14.40**	**107**	*eP*		**P**	**09 04 17.2**	**-2.3**
PAMC	**Pamplona, Colo**	**14.63**	**104**	*eP*		**P**	**09 04 23.6**	**+1.2**
URIC	**Uribia, Colomb**	**14.73**	**86**	*eP*		**P**	**09 04 23.1**	**+0.1**
RUSC	**La Rusia**	**14.74**	**110**	*eP*		**P**	**09 04 23.1**	**-0.4**
VILC	**Villavicencio,**	**14.94**	**117**	*eP*		**P**	**09 04 24.1**	**-1.3**
MACC	**Macarena, Meta**	**15.84**	**124**	*eP*		**P**	**09 04 36.9**	**+1.5**
MOIG	**Morelia**	**16.06**	**303**	P		**P**	**09 04 37.6**	**-0.3**
PTGC	**Puerto Gaitan,**	**16.28**	**114**	*eP*		**Pn**	**09 04 34.9**	**-2.3**
SDV	**Santo Domingo**	**16.29**	**97**	Pn		**P**	**09 04 41.6**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=265,slow=4.4,SNR=18							
SDV	**Santo Domingo**	**16.29**	**97**	P		**P**	**09 04 39.9**	**-0.6**
SDV	**Santo Domingo**	**16.29**	**97**	*eP*		**P**	**09 04 39.8**	**-0.6**
SDV	**Santo Domingo**	**16.29**	**97**	*eP*		**P**	**09 04 40.5**	**+0.1**
GUVC	**San Jose del G**	**16.64**	**120**	*eP*		**Pn**	**09 04 42.8**	**+1.0**
656A	**Willston**	**18.58**	**12**	P		**Pn**	**09 05 05.3**	**-0.4**
ZAIG	**Zacatecas**	**18.80**	**310**	P		**Pn**	**09 05 09.9**	**+1.1**
451A	**Vernon**	**19.39**	**3**	P		**Pn**	**09 05 16.5**	**+1.1**
451A				IAmb		IAmb	09 05 18.7	
	comp=Z,60nm,1.0s							
BRAL	**Brewton**	**19.90**	**360**	P		**Pn**	**09 05 21.2**	**-0.4**
BRAL	**Brewton**	**19.90**	**360**	P			09 05 22.8	
	baz=180,SNR=7.9							
346A	**Big Creek Wild**	**20.25**	**354**	P		Pn	09 05 25.1	-0.6
346A				IAmb		IAmb	09 05 43.2	
	comp=Z,33nm,0.9s							
352A	**Blakely**	**20.30**	**5**	P		**P**	**09 05 24.1**	**-0.3**
441A	**DeRidder**	**20.31**	**345**	P		Pn	09 05 25.7	-0.7
HKT	**Hockley**	**20.41**	**338**	P		Pn	09 05 27.2	-0.4
HKT				IAmb		IAmb	09 05 45.0	
	comp=Z,55nm,1.4s							
TIGA	**Tifton**	**20.42**	**8**	P		**P**	**09 05 25.8**	**+0.2**
TIGA	**Tifton**	**20.42**	**8**	P			09 05 28.3	
	baz=190,SNR=7.9							
344A	**Westbrook Farm**	**20.48**	**351**	P		Pn	09 05 27.6	-0.7
344A				IAmb		IAmb	09 05 56.2	
	comp=Z,36nm,1.0s							
833A	**Chaparral WMA,**	**20.63**	**328**	P			09 05 29.5	
	baz=143,SNR=8.5							
342A	**Flagon Creek P**	**20.70**	**347**	P		Pn	09 05 29.8	-1.2
342A				IAmb		IAmb	09 05 35.8	
	comp=Z,50nm,1.1s							
250A	**Grady**	**20.72**	**2**	P		**P**	**09 05 28.4**	**-0.4**
ICMP	**Isla Caja de M**	**20.91**	**69**			**P**	**09 05 28.6**	**-2.5**
255A	**Hazlehurst**	**21.08**	**11**	P		**P**	**09 05 32.6**	**-0.1**
255A				IAmb		IAmb	09 05 49.9	
	comp=Z,33nm,1.2s							
VBMS	**Vicksburg**	**21.20**	**352**	P		**P**	**09 05 35.4**	**+1.4**
VBMS				IAmb		IAmb	09 05 42.0	
	comp=Z,35nm,1.0s							
SJG	**San Juan**	**21.32**	**69**	P		**P**	**09 05 35.6**	**+0.2**
	comp=Z,14nm,1.1s,baz=331,slow=3.5,SNR=3.1							
146A	**Union**	**21.45**	**355**	P		**P**	**09 05 38.1**	**+1.4**
146A				IAmb		IAmb	09 05 50.7	
	comp=Z,41nm,1.1s							
152A	**Waverly Hall**	**21.50**	**5**	P		**P**	**09 05 38.7**	**+1.4**
154A	**Montrose**	**21.64**	**9**	P		**P**	**09 05 40.3**	**+1.6**
NATX	**Nacogdoches**	**21.67**	**342**	P		**P**	**09 05 39.7**	**+0.6**
NATX				IAmb		IAmb	09 05 54.3	
	comp=Z,36nm,0.9s							
NATX	**Nacogdoches**	**21.67**	**342**	P			09 05 41.2	
	baz=159							
LRAL	**Lakeview Retre**	**21.76**	**0**	P			09 05 41.9	
	baz=180,SNR=11							
LRAL	**Lakeview Retre**	**21.76**	**0**	P		**P**	**09 05 40.9**	**+0.8**
143A	**Socs Landing,**	**21.81**	**350**	P		**P**	**09 05 40.0**	**-0.5**
435B	**Jarrell**	**21.84**	**335**	P		**P**	**09 05 42.4**	**+1.4**
435B				IAmb		IAmb	09 05 56.5	
	comp=Z,38nm,1.3s							
Z47A	**Carrollton**	**21.95**	**358**	P		**P**	**09 05 42.6**	**+0.6**
Z47A				IAmb		IAmb	09 05 54.7	
	comp=Z,34nm,1.1s							
PCRV	**Puerto La Cruz**	**22.01**	**90**	P		**P**	**09 05 43.6**	**+0.6**
	comp=Z,8.9nm,0.6s,baz=244,slow=4.7,SNR=9.6							
Z51A	**Franklin**	**22.11**	**4**	P		**P**	**09 05 44.2**	**+0.4**
Z51A				IAmb		IAmb	09 05 47.9	
	comp=Z,33nm,1.0s							
237A	**Washetta, Mont**	**22.26**	**340**	P		**P**	**09 05 44.8**	**-0.7**
GOGA	**Godfrey**	**22.37**	**8**	P			09 05 48.4	
	baz=189,SNR=20							
GOGA	**Godfrey**	**22.37**	**8**	P		**P**	**09 05 47.8**	**+1.2**
GOGA				IAmb		IAmb	09 05 50.1	
	comp=Z,34nm,0.9s							
Y49A	**Blount Mountai**	**22.59**	**1**	P		**P**	**09 05 48.4**	**-0.5**
Y49A				IAmb		IAmb	09 05 52.0	
	comp=Z,27nm,1.1s							
JCT	**Junction City**	**22.59**	**330**	P		**P**	**09 05 48.2**	**-0.9**
JCT				IAmb		IAmb	09 06 05.4	
	comp=Z,22nm,1.2s							
JCT	**Junction City**	**22.59**	**330**	P			09 05 50.5	
	baz=146							
Y45A	**Yeager Farm, C**	**22.71**	**355**	P		**P**	**09 05 49.8**	**-0.4**
Y45A				IAmb		IAmb	09 05 52.9	
	comp=Z,42nm,1.1s							
NHSC	**New Hope**	**22.72**	**15**	P			09 05 52.0	
	baz=197							
Y52A	**Lilburn**	**22.75**	**6**	P		**P**	**09 05 51.0**	**+0.3**
Y52A				IAmb		IAmb	09 05 53.8	
	comp=Z,31nm,1.1s							
WHTX	**Lake Whitney,**	**22.85**	**337**	P		**P**	**09 05 51.6**	**-0.1**
WHTX				IAmb		IAmb	09 06 03.7	
	comp=Z,25nm,1.1s							
WHTX	**Lake Whitney,**	**22.85**	**337**	P			09 05 52.5	
	baz=153							
WLAR	**White Oak Lake**	**23.10**	**347**	P		**P**	**09 05 56.1**	**+1.8**
WLAR				IAmb		IAmb	09 06 19.0	
	comp=Z,26nm,1.1s							
Z38A	**Mt. Pleasant**	**23.17**	**343**	P		**P**	**09 05 55.9**	**+0.8**
Z38A				IAmb		IAmb	09 05 57.5	
	comp=Z,37nm,1.1s							
X48A	**Hartselle**	**23.17**	**360**	P		**P**	**09 05 54.0**	**-1.0**
FPAL	**Fort Paine**	**23.30**	**3**	P		**P**	**09 05 56.6**	**+0.3**
FPAL				IAmb		IAmb	09 06 06.7	
	comp=Z,23nm,1.2s							
OXF	**Oxford**	**23.34**	**355**	P			09 05 56.7	
	baz=174							
OXF	**Oxford**	**23.34**	**355**	P		**P**	**09 05 54.7**	**-2.0**
OXF				IAmb		IAmb	09 05 58.2	
	comp=Z,36nm,1.1s							
HODGE	**Hodges**	**23.36**	**10**	P		**P**	**09 05 57.2**	**+0.2**
HODGE				IAmb		IAmb	09 05 59.2	
	comp=Z,15nm,1.0s							
X51A	**Calhoun**	**23.37**	**4**	P		**P**	**09 05 57.1**	**+0.1**
X51A				IAmb		IAmb	09 06 00.1	
	comp=Z,17nm,0.9s							
Y57A	**Sumter**	**23.53**	**14**	P		**P**	**09 05 57.7**	**-0.9**
Y57A				IAmb		IAmb	09 06 00.9	
	comp=Z,27nm,1.1s							
CZSB	**Cruzeiro do Su**	**23.56**	**142**	*eP*		**P**	**09 06 00.4**	**+1.3**
JSC	**Jenkinsville**	**23.60**	**12**	P		**P**	**09 05 59.4**	**+0.1**
PLAL	**Pickwick Lake**	**23.72**	**358**	P		**P**	**09 06 00.3**	**-0.2**
PLAL				IAmb		IAmb	09 06 01.9	
	comp=Z,22nm,1.1s							
X40A	**Basin Creek Fa**	**23.81**	**348**	P		**P**	**09 06 00.8**	**-0.6**
X40A	**Basin Creek Fa**	**23.81**	**348**	P			09 06 02.0	
	baz=166							
TXAR	**Lajitas Array**	**23.83**	**322**	P		**P**	**09 06 03.1**	**+1.3**
	comp=Z,8.3nm,0.9s,baz=141,slow=9.1,SNR=80							
TXAR				PcP		**PcP**	**09 09 46.4**	**+1.2**
	comp=Z,2.1nm,0.9s,baz=141,slow=4.2,SNR=7.1							
TXAR	**Lajitas Array**	**23.83**	**322**	P		**P**	**09 06 02.9**	**+1.1**
TX31	**Lajitas Ar. Si**	**23.83**	**322**	P		**P**	**09 06 01.9**	**+0.1**
TX32	**Lajitas Array**	**23.83**	**322**	P		**P**	**09 06 02.4**	**+0.6**
SWET	**Sewanee**	**23.96**	**2**	P		**P**	**09 06 02.3**	**-0.6**
SWET				IAmb		IAmb	09 06 04.7	
	comp=Z,30nm,1.0s							
W45A	**Hickory Valley**	**23.96**	**356**	P		**P**	**09 06 01.2**	**-1.6**
W45A				IAmb		IAmb	09 06 11.5	
	comp=Z,17nm,0.8s							
W50A	**Signal Mountai**	**23.97**	**3**	P		**P**	**09 06 02.5**	**-0.5**
W50A				IAmb		IAmb	09 06 05.0	
	comp=Z,32nm,1.0s							
Z35A	**Perchaven, San**	**23.97**	**339**	P		**P**	**09 06 02.1**	**-0.8**
Z35A				IAmb		IAmb	09 06 23.8	
	comp=Z,26nm,1.1s							
W52A	**Murphy**	**23.98**	**6**	P		**P**	**09 06 03.1**	**+0.

comp=Z,20nm,0.9s
KMSC Kings Mountain 24.41 11 P 09 06 08.2
baz=193,SNR=9.7
V48A Smith Brothers 24.46 0 P **P** **09 06 06.6 -0.8**
WHAR Wooly Hollow 24.48 350 P **P** **09 06 06.2 -1.4**
WHAR IAmb IAmb 09 06 17.5
comp=Z,16nm,1.1s
X37A Clayton 24.53 343 P **P** **09 06 07.5 -0.5**
TKL Tuckaleechee C 24.55 6 P **P** **09 06 08.9 +0.7**
comp=Z,26nm,1.0s,baz=178,slow=12,SNR=20
TKL Tuckaleechee C 24.55 6 P **P** **09 06 08.4 +0.1**
TKL IAmb IAmb 09 06 11.5
comp=Z,31nm,1.0s
W56A Indian Trail 24.56 13 P 09 06 09.2
baz=195,SNR=9.7
V51A Loudon 24.64 5 P **P** **09 06 08.7 -0.3**
V51A IAmb IAmb 09 06 12.5
comp=Z,26nm,1.1s
V53A Saluda 24.68 8 P **P** **09 06 09.5 0.0**
V53A IAmb IAmb 09 06 13.1
comp=Z,32nm,1.1s
W39A Magazine 24.70 347 P **P** **09 06 10.0 +0.4**
W39A Magazine 24.70 347 P 09 06 09.9
baz=164
W57A Gilead 24.71 14 P **P** **09 06 09.7 0.0**
W57A IAmb IAmb 09 06 11.8
comp=Z,35nm,1.4s
V52A Sevierville 24.75 7 P **P** **09 06 08.5 -1.6**
V52A IAmb IAmb 09 06 12.9
comp=Z,11nm,0.8s
CLTN Cedars of Leba 24.82 1 P **P** **09 06 10.7 +0.1**
CLTN IAmb IAmb 09 06 13.3
comp=Z,21nm,0.9s
WVT Waverly 24.86 358 P **P** **09 06 11.2 +0.2**
WVT Waverly 24.86 358 P 09 06 10.5
baz=178
FCAR Ozark Folk Cen 25.04 350 P **P** **09 06 12.1 -0.6**
LCAR Lake Charles 25.07 352 P **P** **09 06 11.8 -1.1**
V55A Taylorsville 25.13 11 P **P** **09 06 13.4 -0.1**
V55A IAmb IAmb 09 06 17.2
comp=Z,19nm,0.9s
V56A Mocksville 25.23 12 P 09 06 15.3
baz=195,SNR=7.4
U49A Red Boiling Sp 25.25 2 P **P** **09 06 13.1 -1.5**
U49A IAmb IAmb 09 06 17.9
comp=Z,19nm,1.1s
V57A Coltrane Farms 25.46 14 P 09 06 17.4
baz=196,SNR=8.1
V58A Windy Hill, Pi 25.54 15 P **P** **09 06 16.6 -0.6**
U40A Yellville 25.62 349 P 09 06 18.3
baz=167,SNR=7.0
U40A Yellville 25.62 349 P **P** **09 06 16.8 -1.2**
U54A Nelsons Funny 25.67 10 P 09 06 19.4
baz=192,SNR=9.4
U54A Nelsons Funny 25.67 10 P **P** **09 06 17.8 -0.6**
PBMO Poplar Bluff 25.68 354 P **P** **09 06 17.7 -0.8**
T47A Sharon Grove 25.70 360 P **P** **09 06 17.8 -0.9**
T47A IAmb IAmb 09 06 26.8
comp=Z,13nm,0.9s
V59A Middlesex 25.74 17 P 09 06 19.7
baz=200,SNR=5.6
FNO Franklin 25.77 340 P **P** **09 06 19.2 -0.1**
U56A King 25.77 12 P **P** **09 06 18.7 -0.6**
U56A IAmb IAmb 09 06 23.9
comp=Z,20nm,0.9s
U56A King 25.77 12 P 09 06 20.5
baz=195
WMOK Wichita Mounta 25.80 337 P 09 06 20.3
baz=153,SNR=19
WMOK Wichita Mounta 25.80 337 P **P** **09 06 19.2 -0.4**
WMOK IAmb IAmb 09 06 36.4
comp=Z,28nm,1.2s
TUL1 Leonard 25.88 344 P 09 06 20.1
baz=160,SNR=7.9
T42A Van Buren 26.01 353 P **P** **09 06 20.2 -1.2**
U38A Gravette 26.02 346 P **P** **09 06 21.4 -0.2**
OK025 Westminster Rd 26.05 341 P **P** **09 06 22.1 +0.3**
OK025 IAmb IAmb 09 06 26.2
comp=Z,15nm,0.8s
U57A Blanch 26.09 14 P 09 06 22.7
baz=197,SNR=9.7
OK030 Cody Creek RV 26.19 342 P **P** **09 06 22.0 -1.1**
OK030 IAmb IAmb 09 06 41.0
comp=Z,25nm,1.1s
BCOK Bluff Creek, N 26.20 340 P **P** **09 06 21.1 -2.1**
OK031 S. Brethren Rd 26.23 342 P **P** **09 06 22.5 -1.0**
OK031 IAmb IAmb 09 06 25.0
comp=Z,20nm,0.9s
U58A Oxford 26.25 16 P 09 06 23.9
baz=199,SNR=5.9
MGMO Mountain Grove 26.30 350 P **P** **09 06 23.8 -0.3**
QUOK Quay 26.39 342 P **P** **09 06 24.5 -0.4**
QUOK IAmb IAmb 09 06 44.9
comp=Z,23nm,0.9s
S44A Carbondale 26.49 356 P **P** **09 06 24.9 -0.8**
S44A IAmb IAmb 09 06 26.4
comp=Z,20nm,1.2s
T56A Rocky Mt 26.50 13 P 09 06 27.0
baz=195
MNTX Cornudas Mount 26.56 323 P **P** **09 06 27.4 +0.9**
MNTX IAmb IAmb 09 06 51.3
comp=Z,25nm,1.5s
MNTX Cornudas Mount 26.56 323 P 09 06 27.8
baz=136,SNR=5.1
BLA Blacksburg 26.60 12 P **P** **09 06 25.9 -1.0**
BLA IAmb IAmb 09 06 28.8
comp=Z,25nm,1.1s
BLA Blacksburg 26.60 12 P 09 06 27.5
baz=194,SNR=5.6
T58A Grand View Acr 26.78 15 P 09 06 28.1
baz=199
MSTX Muleshoe 26.88 330 P 09 06 30.1
baz=144,SNR=14
MSTX Muleshoe 26.88 330 P **P** **09 06 29.3 -0.2**
MSTX IAmb IAmb 09 06 42.4
comp=Z,27nm,1.0s
WCI Wyandotte Cave 26.95 1 P 09 06 29.8
baz=182
S54A Dingess, Beckl 27.00 10 P 09 06 30.9
baz=192
S39A Bolivar 27.01 349 P **P** **09 06 29.2 -1.2**
CCM Cathedral Cave 27.04 353 P **P** **09 06 30.1 -0.6**
CCM IAmb IAmb 09 06 31.6
comp=Z,15nm,1.1s
CCM Cathedral Cave 27.04 353 P 09 06 30.5
baz=171
AMTX Amarillo 27.12 333 P **P** **09 06 32.9 +1.2**
AMTX IAmb IAmb 09 06 55.4
comp=Z,14nm,1.0s
S56A Natural Bridge 27.23 13 P 09 06 33.8
baz=196
U32A Winter Ranch, 27.34 339 P **P** **09 06 33.3 -0.2**
R54A Victor 27.43 10 P 09 06 34.9
baz=193
S58A Poland Farm, P 27.53 16 P 09 06 35.7
baz=199
KAN05 Bluff City Nor 27.62 341 P **P** **09 06 37.1 +1.1**
KAN05 IAmb IAmb 09 06 42.6
comp=Z,23nm,1.4s
R55A Marlinton 27.69 12 P **P** **09 06 36.2 -0.5**
R55A IAmb IAmb 09 06 39.5
comp=Z,18nm,0.9s
R55A Marlinton 27.69 12 P 09 06 37.5
baz=194,SNR=5.5
R58B Mineral 27.91 16 P **P** **09 06 37.0 -1.5**
R58B IAmb IAmb 09 06 40.3
comp=Z,13nm,1.1s
R58B Mineral 27.91 16 P 09 06 39.4
baz=199
Q51A Peebles 27.93 6 P **P** **09 06 37.5 -1.3**
R56A Bull Pasture M 27.96 13 P 09 06 40.4
baz=196
Q52A Bidwell 28.00 8 P **P** **09 06 38.5 -0.8**
Q53A Leroy 28.00 9 P 09 06 40.3
baz=191
S60A Water View 28.01 18 P 09 06 40.6
baz=202
R57A Stanardsville 28.06 14 P 09 06 40.7
baz=198,SNR=6.3
R58A Rapidan 28.19 15 P 09 06 41.9
baz=199
P49A Miami Univ. Ec 28.32 4 P 09 06 41.6
baz=185,SNR=5.2
R59A King George, V 28.34 17 P 09 06 43.6
baz=201
121A Cookes Peak, D 28.59 321 P **P** **09 06 45.0 +0.1**
121A IAmb IAmb 09 07 11.6
comp=Z,18nm,1.2s
Q56A Snyder Ridge, 28.62 13 P **P** **09 06 43.0 -1.9**
Q56A Snyder Ridge, 28.62 13 P 09 06 46.4
baz=196,SNR=6.7
P53A Whipple 28.64 9 P **P** **09 06 44.5 -0.5**
P52A Corning 28.68 8 P 09 06 45.6
baz=190,SNR=8.4
P52A Corning 28.68 8 P **P** **09 06 45.0 -0.3**
Q57A Stresburg 28.79 14 P 09 06 47.3
baz=198
Q58A Fox Den Farm, 28.88 15 P 09 06 48.0
baz=199
P38A Dawn 28.92 350 P **P** **09 06 45.9 -1.6**
P38A IAmb IAmb 09 06 56.6
comp=Z,11nm,0.9s
BNM Barren Site 29.06 325 P **P** **09 06 47.2 -1.9**
MCWV Mont Chateau 29.08 11 P 09 06 49.6
baz=194
KSU1 Kansas State U 29.10 345 P **P** **09 06 48.1 -1.0**
KSU1 IAmb IAmb 09 06 50.5
comp=Z,18nm,1.1s
KSU1 Kansas State U 29.10 345 P 09 06 49.7
baz=160
P56A Dayton Farm, R 29.14 13 P 09 06 50.8
baz=196,SNR=8.2
ACSO Alum Creek Sta 29.16 6 P 09 06 49.7
baz=188,SNR=5.5
P57A Homestead Farm 29.31 14 P 09 06 52.5
baz=198,SNR=5.7
P57A Homestead Farm 29.31 14 P **P** **09 06 50.1 -0.8**
ETMB Extrema 29.37 134 *eP* **P** **09 06 51.9 +0.1**
PTGA Pitinga 29.37 112 P **P** **09 06 51.7 -0.1**
comp=Z,2.0nm,0.3s,baz=318,slow=20,SNR=1.5
O53A New Philadelph 29.41 9 P 09 06 52.4
baz=192,SNR=10.0
O53A New Philadelph 29.41 9 P **P** **09 06 51.1 -0.8**
O54A Avella 29.48 10 P **P** **09 06 51.7 -0.8**
O54A IAmb IAmb 09 06 54.0
comp=Z,14nm,1.1s
SDMD Soldier's Deli 29.54 16 P **P** **09 06 52.6 -0.5**
SDMD IAmb IAmb 09 06 54.7
comp=Z,12nm,1.0s
ANMO Albuquerque 29.55 326 P 09 06 55.7
baz=139
ANMO Albuquerque 29.55 326 P **P** **09 06 55.2 +1.7**
comp=Z,1.7nm,0.9s,baz=148,slow=8.9,SNR=6.1
N49A Columbus Grove 29.74 4 P **P** **09 06 53.4 -1.4**
MACA Manacapuru-AM 29.81 117 *eP* **P** **09 06 56.2 +0.5**
P59A Jarrettsville 29.84 17 P 09 06 56.2
baz=201
O56A Blue Knob Stat 29.93 13 P 09 06 57.2
baz=197
N53A Lisbon 30.02 9 P **P** **09 06 54.4 -2.9**
O57A Amberson 30.09 14 P 09 06 58.5
baz=198,SNR=6.4
O58A Lewisberry 30.19 15 P 09 06 59.5
baz=200
MVL Millersville 30.23 16 P **P** **09 06 59.1 +0.1**
T25A Trinidad 30.23 332 P **P** **09 06 58.6 -0.9**
T25A IAmb IAmb 09 07 18.3
comp=Z,13nm,1.4s
N54A Moraine State 30.31 11 P 09 07 00.0
baz=194
PAGS Pennsylvania G 30.34 16 P **P** **09 06 58.2 -1.9**
N35A Tabor 30.54 347 P **P** **09 07 00.7 -1.1**
N35A IAmb IAmb 09 07 03.0
comp=Z,16nm,0.9s
O59A Robesonia 30.56 16 P 09 07 03.3
baz=201,SNR=8.0
N56A West Decatur 30.61 13 P 09 07 03.2
baz=197,SNR=12
N57A Milroy 30.63 14 P 09 07 03.5
baz=198
M53A WI Miller and 30.66 9 P **P** **09 07 00.9 -2.0**
M53A WI Miller and 30.66 9 P 09 07 03.2
baz=192,SNR=9.3
N33A J Bar K, Exete 30.86 344 P **P** **09 07 03.7 -1.0**
M54A Oil Creek Stat 30.90 11 P **P** **09 07 02.7 -2.4**
M54A Oil Creek Stat 30.90 11 P 09 07 05.2
baz=194
N58A Sunbury 30.91 15 P **P** **09 07 04.4 -0.8**
N58A Sunbury 30.91 15 P 09 07 06.0
baz=200
L40A Anamosa 30.99 354 P **P** **09 07 05.7 -0.2**
L40A IAmb IAmb 09 07 05.9
comp=Z,27nm,1.5s
SAML Samuel 31.00 129 P **P** **09 07 04.5 -1.7**
M56A Emporium 31.18 13 P **P** **09 07 06.6 -0.9**
M56A Emporium 31.18 13 P 09 07 07.8
baz=197,SNR=6.3
L53A Girard 31.23 10 P 09 07 08.1
baz=193,SNR=8.4
N59A State Game Lan 31.24 17 P 09 07 08.7
baz=202,SNR=5.7
N59A State Game Lan 31.24 17 P **P** **09 07 08.1 0.0**
M57A Sunshine Farm, 31.28 14 P **P** **09 07 06.3 -2.0**
M57A Sunshine Farm, 31.28 14 P 09 07 09.3
baz=199,SNR=7.2
ERPA Erie 31.43 10 P 09 07 09.9
baz=193,SNR=8.4
ERPA Erie 31.43 10 P **P** **09 07 08.2 -1.5**
L34A Svendsen Farm, 31.75 347 P **P** **09 07 11.4 -1.2**
S22A 4UU Ranch, Cre 31.88 329 P 09 07 15.6
baz=141
M59A Waymart 31.91 17 P 09 07 14.8
baz=202
L56A Greenwood 31.94 13 P 09 07 14.2
baz=198
L56A Greenwood 31.94 13 P **P** **09 07 13.6 -0.6**
M60A Port Jervis 31.95 18 P 09 07 15.2
baz=203
L57A Andrews Acres 31.97 14 P 09 07 15.0
baz=199
L58A Harry Jones Me 32.27 16 P 09 07 17.8
baz=201,SNR=5.8
MVCO Mesa Verde 32.34 327 P **P** **09 07 17.6 -0.5**
MVCO IAmb IAmb 09 07 34.1
comp=Z,9.3nm,1.2s
MVCO Mesa Verde 32.34 327 P 09 07 19.5
baz=138
BINY Binghamton 32.38 15 P **P** **09 07 17.4 -0.6**
BINY Binghamton 32.38 15 P 09 07 18.7
baz=200,SNR=5.6
K56A Middlesex 32.52 13 P 09 07 19.8
baz=198
L59A Walton 32.63 17 P 09 07 21.0
baz=202
WUAZ Wupatki 32.80 322 P **P** **09 07 21.6 -0.4**
I51A Listowel 32.92 8 P 09 07 22.7
baz=191
K31A O'Neill 32.97 344 P **P** **09 07 22.5 -0.8**
K58A Earlville 32.99 15 P 09 07 23.7
baz=201
LPAZ La Paz 33.07 145 LR LR 09 21 09.8
comp=Z,193nm,18.5s,baz=326,slow=37
SMCO Snowmass 33.07 331 P **P** **09 07 25.2 +0.6**
SMCO IAmb IAmb 09 07 47.1
comp=Z,7.4nm,1.1s
J56A Wolcott 33.18 14 P 09 07 25.3
baz=198
J56A Wolcott 33.18 14 P **P** **09 07 23.4 -1.6**
I37A Lemond, Waseca 33.19 352 P **P** **09 07 22.4 -2.7**
K59A Cooperstown 33.22 16 P 09 07 25.8
baz=202
PV03 Paradox Valley 33.30 328 P **P** **09 07 26.3 -0.1**
PV12 Saucer Basin, 33.32 328 P **P** **09 07 26.6 0.0**
PV12 IAmb IAmb 09 07 38.1
comp=Z,13nm,0.9s
ECSD EROS Data Cent 33.49 347 P **P** **09 07 25.7 -2.1**
ECSD IAmb IAmb 09 07 36.6
comp=Z,12nm,1.0s
ECSD EROS Data Cent 33.49 347 P 09 07 27.5
baz=163,SNR=12
G45A Suttons Bay 33.77 2 P **P** **09 07 27.8 -2.3**
ESJX Sierra Juarez 33.78 312 P **P** **09 07 31.9 +1.2**
ESJX IAmb IAmb 09 07 35.0
comp=Z,8.5nm,1.3s
H53A Bobcaygeon 34.06 11 P 09 07 32.4
baz=195,SNR=5.4
W13A Hualapai Mount 34.11 319 P **P** **09 07 32.6 -0.9**
W13A IAmb IAmb 09 07 49.1
comp=Z,11nm,1.4s
SPMN Marine on St. 34.30 353 P **P** **09 07 33.6 -1.1**
SPMN Marine on St. 34.30 353 P 09 07 33.9
baz=170,SNR=6.4
BC3 Big Chuckawall 34.32 315 P 09 07 38.7
baz=124,SNR=5.7
O20A White River Ci 34.43 331 P **P** **09 07 34.5 -1.7**
O20A IAmb IAmb 09 07 39.5
comp=Z,9.6nm,0.9s
O20A White River Ci 34.43 331 P 09 07 38.1
baz=141,SNR=9.3
I59A Olmsteadville 34.44 17 P 09 07 36.0
baz=203
PKCU Pink Cliffs 34.65 323 P **P** **09 07 38.3 0.0**
KNB Kanab 34.67 322 P **P** **09 07 38.3 0.0**
KNB IAmb IAmb 09 07 53.8
comp=Z,7.3nm,1.2s
SUSD Miller 34.71 345 P **P** **09 07 36.9 -1.5**
ITTB Itaituba 34.74 115 *eP* **P** **09 07 38.3 -0.7**
SRU San Rafael Swe 34.81 327 P **P** **09 07 39.3 -0.2**
SRU IAmb IAmb 09 07 58.2
comp=Z,16nm,1.4s
H58A Gabriels 34.92 16 P 09 07 39.8
baz=202
G54A Lake Saint Pet 34.95 11 P 09 07 39.9
baz=195,SNR=5.9
MTPU Mount Pierson 34.98 324 P **P** **09 07 42.9 +1.7**
LONY Lake Ozonia 35.00 16 P 09 07 40.7
baz=202
F36A Milaca 35.02 352 P **P** **09 07 38.2 -2.7**
F36A IAmb IAmb 09 07 41.9
comp=Z,9.3nm,0.9s
Q16A Castle Valley 35.02 326 P **P** **09 07 41.0 -0.4**
Q16A IAmb IAmb 09 08 00.8
comp=Z,11nm,1.4s
E43A Lone Tree Farm 35.09 0 P **P** **09 07 39.4 -2.1**
E43A IAmb IAmb 09 07 41.7
comp=Z,16nm,1.1s
P17A Butcher Ranch, 35.19 327 P **P** **09 07 42.6 -0.2**
P17A IAmb IAmb 09 08 00.9
comp=Z,13nm,1.2s
MSU Marysvale 35.30 325 P **P** **09 07 44.6 +0.8**
RDMU Red Mountain 35.41 330 P **P** **09 07 43.1 -1.6**
F33A 5 Mile Ranch, 35.45 349 P **P** **09 07 43.2 -1.4**
ALGO Algonquin Park 35.50 11 P 09 07 44.3
baz=195
TCRU Three Creeks R 35.52 325 P **P** **09 07 46.1 +0.4**
TCRU IAmb IAmb 09 08 01.2
comp=Z,11nm,1.2s
E38A The Farm, Brul 35.52 355 P **P** **09 07 44.3 -1.0**
K22A Casper 35.68 335 P **P** **09 07 47.8 +0.9**
K22A IAmb IAmb 09 08 01.0
comp=Z,14nm,1.3s
MPU Maple Canyon 36.06 327 P **P** **09 07 50.6 +0.4**
MPU IAmb IAmb 09 08 04.5
comp=Z,8.2nm,1.1s
BFSC Mount Baldy Ra 36.17 314 P 09 07 54.2
baz=122
PSUT Pine Spring 36.28 323 P **P** **09 07 52.0 -0.2**
NPGB Novo Progresso 36.33 118 *eP* **P** **09 07 52.2 -0.5**
TPNV Topopah Spring 36.76 319 P 09 07 59.0
baz=127
DUG Dugway, Tooele 36.83 326 P **P** **09 07 53.8 -2.9**
DUG Dugway, Tooele 36.83 326 P 09 07 58.4
baz=135
EYMN Ely 36.85 355 P 09 07 55.2
baz=173
SPR3 Spring Creek 3 36.87 323 P **P** **09 07 56.7 -0.6**
FURC Furnace Creek, 36.87 318 P 09 07 59.4
baz=126
D55A Sainte-Anne-du 37.04 13 P 09 07 57.6
baz=199
MPMC Manual Prospec 37.05 317 P 09 08 00.7
baz=124
BW06 Boulder Array 37.10 332 P 09 07 59.3
baz=142
PD31 Pinedale Array 37.10 332 P **P** **09 07 57.0 -2.1**
PDAR Pinedale Array 37.10 332 P **P** **09 07 59.2 +0.1**
comp=Z,2.2nm,0.9s,baz=132,slow=8.9,SNR=16
PDAR PcP **PcP** **09 10 20.6 +1.0**
comp=Z,0.9nm,0.9s,baz=112,slow=5.9,SNR=3.0
PDAR ScP **ScP** **09 14 11.0 +4.1**
comp=Z,0.8nm,1.0s,baz=131,slow=2.5,SNR=4.1
PDAR Pinedale Array 37.10 332 P **P** **09 07 58.4 -0.8**
HWUT Hardware Ranch 37.18 329 P **P** **09 07 57.9 -1.9**
AGMN Agassiz Nation 37.74 350 P **P** **09 08 02.5 -1.7**
AGMN IAmb IAmb 09 08 04.8
comp=Z,13nm,1.1s
AGMN Agassiz Nation 37.74 350 P 09 08 04.3
baz=166,SNR=8.1
AHID Auburn Hatcher 37.82 331 P **P** **09 08 04.5 -0.7**
MDND Maddock 38.06 346 P 09 08 07.6
baz=160
MDND Maddock 38.06 346 P **P** **09 08 06.3 -0.6**
REDW Red Top Meadow 38.16 332 P **P** **09 08 08.2 +0.1**
SNOW Snow King Moun 38.19 332 P **P** **09 08 07.8 -0.5**
SNOW IAmb IAmb 09 08 22.2
comp=Z,15nm,1.1s
PTLB Pontes e Lacer 38.23 133 *eP* **P** **09 08 08.6 -0.1**
LOHW Long Hollow 38.23 332 P **P** **09 08 08.8 +0.1**
LOHW IAmb IAmb 09 08 22.4
comp=Z,9.5nm,1.3s
ELK Elko 38.55 325 P **P** **09 08 11.1 -0.3**
FLWY Flagg Ranch 38.64 332 P **P** **09 08 12.4 +0.2**
FLWY IAmb IAmb 09 08 32.2
comp=Z,12nm,1.2s
NV11 Mina Array Sit 38.85 320 P **P** **09 08 15.9 +2.0**
NVAR Mina Array Bea 38.95 320 P **P** **09 08 17.1 +2.4**
comp=Z,2.5nm,1.0s,baz=136,slow=7.6,SNR=16
NVAR PcP **PcP** **09 10 27.0 +1.6**
comp=Z,1.4nm,0.9s,baz=140,slow=3.6,SNR=5.6
NVAR LR LR 09 27 57.8
comp=Z,180nm,18.6s,baz=146,slow=42
NVAR Mina Array Bea 38.95 320 P **P** **09 08 15.1 +0.3**
LAO LASA Array 38.97 339 P **P** **09 08 15.1 +0.4**
LHV Little Huntoon 38.97 319 P **P** **09 08 13.8 -0.9**
MDPB Devils Postpil 38.99 318 P **P** **09 08 16.2 +0.9**
KVN Kaiserville 39.18 320 P **P** **09 08 15.9 -0.8**
RYN Ryan 39.20 320 P **P** **09 08 16.6 -0.2**
YMR Madison River 39.22 333 P **P** **09 08 17.0 +0.1**
MATQ Matagami 39.25 10 P 09 08 16.0
baz=194
YHH Holmes Hill 39.26 333 P **P** **09 08 16.9 -0.5**
YHL Hebgen Lake 39.46 333 P **P** **09 08 19.4 +0.4**
ULM Lac du Bonnet 39.64 351 P **P** **09 08 19.2 -0.9**
comp=Z,9.3nm,0.9s,baz=174,slow=7.9,SNR=12
ULM PcP **PcP** **09 10 27.8 +0.7**
comp=Z,2.9nm,0.7s,baz=180,slow=3.9,SNR=4.5
ULM LR LR 09 25 00.4
comp=Z,53nm,21.0s,baz=148,slow=37
ULM Lac du Bonnet 39.64 351 P **P** **09 08 18.6 -1.5**
ULM IAmb IAmb 09 08 20.0
comp=Z,9.7nm,0.9s
DGMT Dagmar 39.86 342 P 09 08 22.2
baz=153
DGMT Dagmar 39.86 342 P **P** **09 08 21.8 -0.3**
YERR Yerington 39.86 320 P **P** **09 08 23.4 +1.0**
YERR IAmb IAmb 09 08 37.6
comp=Z,11nm,1.4s
HLID Hailey 40.05 329 P 09 08 24.8
baz=136
HLID Hailey 40.05 329 P **P** **09 08 24.5 +0.7**
BCYI Bear Canyon 40.09 330 P **P** **09 08 24.8 +0.6**
MCMT McKenzie Canyo 40.21 331 P **P** **09 08 24.2 -1.1**
BOZ Bozeman (W) 40.23 333 P 09 08 25.7
baz=141
DLMT Dillon 40.49 332 P **P** **09 08 27.1 -0.3**
WVOR Wild Horse Val 41.58 324 P **P** **09 08 37.0 +0.5**
ORV Oroville 41.63 319 P **P** **09 08 37.8 +1.0**
SNDB Serra Nova Dou 42.27 122 *eP* **P** **09 08 42.6 +0.3**
BMO Blue Mountains 42.44 328 P **P** **09 08 42.8 -0.6**
ARAG Araguaiana, MT 43.90 127 *eP* **P** **09 08 55.5 0.0**
SMTB Santa Maria do 43.98 115 *eP* **P** **09 08 55.7 -0.4**
AQDB Aquidauana 44.02 135 *eP* **P** **09 08 56.1 -0.2**
PEXB Peixe 44.86 120 *eP* **P** **09 09 02.8 -0.4**
H03N2 Juan Fernandez 45.02 170 T T 09 57 11.3
baz=357
H03N1 Juan Fernandez 45.03 170 T T 09 57 16.7
baz=357
H03N3 Juan Fernandez 45.04 170 T T 09 57 15.2
baz=357
BDFB Brasilia 46.91 124 P **P** **09 09 19.3 -0.2**
comp=Z,8.5nm,1.0s,baz=274,slow=7.8,SNR=8.1
BDFB LR LR 09 29 42.1
comp=Z,205nm,18.5s,baz=292,slow=37
BDFB Brasilia 46.91 124 P **P** **09 09 18.4 -1.1**
CPUP Villa Florida 47.14 143 LR LR 09 29 48.3
comp=Z,79nm,18.2s,baz=313,slow=37
SDBA SAO DESIDERIO 47.92 118 *eP* **P** **09 09 26.9 -0.4**

IPMB	Ipameri, GO	48.03 127	*e*P		P	09 09 28.0	-0.1
JANB	Januaria	49.68 121	*e*P		P	09 09 40.1	-0.7
PLCA	Paso Flores	53.84 165	P		P	09 10 11.4	-0.1
	comp=Z,2.2nm,0.9s,baz=344,slow=6.7,SNR=7.1						
PLCA	Paso Flores	53.84 165	P		P	09 10 10.2	-1.3
PLCA			IAmb		IAmb	09 10 18.3	
	comp=Z,6.2nm,1.3s						
YKA	Yellowknife Ar	54.95 345	P		P	09 10 18.1	-1.0
	comp=Z,1.8nm,0.9s,baz=136,slow=8.1,SNR=29						
YKA			PcP		PcP	09 11 21.4	+0.4
	comp=Z,0.9nm,0.8s,baz=144,slow=4.6,SNR=7.1						
YKA			LR		LR	09 36 09.9	
	comp=Z,100nm,18.3s,baz=0.0,slow=39						
TAOE	Nuku Hiva Isla	56.47 252	*e*LR		LR	09 26 47.2	
	comp=Z,184nm,25.3s						
TAOE	Nuku Hiva Isla	56.47 252	*e*T		T	10 11 09.0	
	comp=Z,12nm,0.2s						
BCAR	Beaver Creek A	64.59 336	P		P	09 11 24.5	-1.1
L27K	Beaver Creek,	64.60 336	P			09 11 26.1	
	baz=117						
HDA	Harding Lake	67.24 336	P			09 11 41.7	
	baz=113						
HDA			P			09 11 41.7	
	baz=113						
ILAR	Eielson Array	67.36 336	P		P	09 11 43.3	-0.1
	comp=Z,0.9nm,0.6s,baz=127,slow=4.7,SNR=12						
ILAR	Eielson Array	67.36 336	P		P	09 11 42.5	-0.9
WAT2	Susitna Watana	67.38 334	P			09 11 43.6	
	baz=111						
BMAR	Burnt Mountain	67.62 339	P		P	09 11 44.3	-0.8
RND	Reindeer	67.65 335	P		P	09 11 44.6	-0.7
RND			IAmb		IAmb	09 11 48.7	
	comp=Z,7.3nm,1.0s						
PPT2	Papeete2	68.07 246	*e*LR		LR	09 32 17.9	
	comp=Z,188nm,25.0s						
I23K	Minto, Yukon-K	68.47 336	P		P	09 11 49.0	-1.3
I23K			IAmb		IAmb	09 11 59.3	
	comp=Z,10nm,1.4s						
I23K	Minto, Yukon-K	68.47 336	P			09 11 50.5	
	baz=111						
BPAW	Bear Paw Mtn.	68.78 335	P		P	09 11 50.6	-1.7
BPAW			IAmb		IAmb	09 12 18.1	
	comp=Z,7.8nm,1.3s						
BPAW	Bear Paw Mtn.	68.78 335	P			09 11 51.7	
	baz=109						
PPLA	Purkeypile	68.91 334	P			09 11 53.5	
	baz=107						
MLY	Manley	68.98 336	P		P	09 11 53.1	-0.5
MLY	Manley	68.98 336	P			09 11 53.1	
	baz=110						
COLD	Coldfoot	69.54 338	P		P	09 11 55.5	-1.4
COLD	Coldfoot	69.54 338	P			09 11 59.5	
	baz=111,SNR=5.1						
TBI	Tubuai	70.04 240	*e*LR		LR	09 33 18.0	
	comp=Z,158nm,26.0s						
ESDC	Sonseca Array	77.64 52	LR		LR	09 44 24.9	
	comp=Z,172nm,18.7s,baz=245,slow=34						
DBIC	Dimbokro	81.07 85	LR		LR	09 48 04.6	
	comp=Z,49nm,18.1s,baz=278,slow=35						
NOA	NORSAR Array B	84.27 29	LR		LR	09 47 49.2	
	comp=Z,69nm,20.8s,baz=285,slow=34						
ARCES	ARCESS Array B	87.25 19	P		P	09 13 35.8	+1.1
	comp=Z,3.7nm,0.9s,baz=354,slow=3.7,SNR=1.8						
ARCES			LR		LR	09 52 59.1	
	comp=Z,55nm,18.9s,baz=205,slow=36						
FINES	FINESS Array B	90.92 26	LR		LR	09 51 18.3	
	comp=Z,107nm,21.7s,baz=285,slow=33						
SEY	Seymchan	93.29 337	P		P	09 14 02.7	-0.4
	comp=Z,0.4nm,0.4s,baz=354,slow=5.3,SNR=4.2						
AKASG	Malin Array Be	97.31 35	LR		LR	09 55 33.1	
	comp=Z,131nm,20.6s,baz=300,slow=34						
MKAR	Makanchi Array	121.51 9	PKP		PKPdf	09 19 41.9	-0.4
	comp=Z,0.3nm,0.6s,baz=52,slow=2.2,SNR=4.1						
HHC	Hu-ho-hao-te	125.47 343	*e*PKP		PKPdf	09 19 47.9	-2.3
HHC			PP		PP	09 21 44.1	+4.4
HHC	Hu-ho-hao-te	125.47 343	SS		SS	09 38 38.9	+1.2
HHC			AMB		AMB		
	comp=Z,83nm,8.6s						
HHC			LR		LR		
	comp=N,98nm,19.4s						
HHC			LR		LR		
	comp=E,120nm,20.4s						
HHC			LR		LR		
	comp=Z,94nm,20.7s						
ASAR	Alice Springs	139.18 247	PKP		PKPdf	09 20 15.2	-1.1
	comp=Z,0.4nm,0.7s,baz=123,slow=2.9,SNR=4.4						
WRA	Warramunga Arr	139.31 252	PKP		PKPdf	09 20 15.4	-1.2
	comp=Z,0.9nm,0.8s,baz=94,slow=2.5,SNR=8.4						
CMAR	Chiang Mai Arr	149.98 349	PKPbc		PKiKP	09 20 41.0	+0.1
	comp=Z,3.7nm,0.7s,baz=341,slow=2.7,SNR=26						
CMAR	Chiang Mai Arr	149.98 349			PKiKP	09 20 40.9	0.0

*IDC **22** 09:30:30.1±6.6,20.2°84S×178.2°58W,h481km±45km, mb3.1/4, mb1 3.3/5,mb1mx3.0/23,mbtmp4.0/5,Error ellipse: s-maj=131.9km s-min=23.6km az=139.0*

ISC 22 09:30:24.9±1.4,21.4°S×0.3°×178.0°W×0.2°,h450km±9km,n10, σ0°79/11,mb3.6/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.16	313	P	P	09 31 51.2	+0.2
	4.8nm,0.3s,baz=139,slow=8.0,SNR=18						
STKA	Stephens Creek	37.41	245	P	P	09 36 58.5	+0.3
	2.6nm,0.8s,baz=56,slow=9.3,SNR=3.9						
ASAR	Alice Springs	44.31	258	P	P	09 37 53.4	-0.2
	1.8nm,0.6s,baz=85,slow=8.4,SNR=24						
ASAR				PcP	PcP	09 39 29.8	+1.2
	0.3nm,0.9s,baz=93,slow=4.6,SNR=4.2						
WRA	Warramunga Arr	44.47	263	P	P	09 37 54.3	-0.6
	2.0nm,0.8s,baz=92,slow=8.0,SNR=30						
ILAR	Eielson Array	89.14	13	P	P	09 42 31.2	+0.4
	0.1nm,0.4s,baz=211,slow=5.5,SNR=4.7						
ARCES	ARCESS Array B	129.75	349	PKP	PKiKP	09 48 42.2	+0.1
	3.3nm,1.0s,baz=355,slow=3.1,SNR=4.4						
FINES	FINESS Array B	136.57	343	PKP	PKiKP	09 48 56.4	+0.2
	3.1nm,1.0s,baz=24,slow=7.6,SNR=4.1						
AKASG	Malin Array Be	143.74	331	PKP	PKPdf	09 49 07.0	-0.6
	1.3nm,0.4s,baz=39,slow=4.1,SNR=7.3						
BRTR	Keskin Array B	147.38	311	PKPbc	PKPbc	09 49 16.0	-1.5
	0.3nm,0.4s,baz=12,slow=3.6,SNR=1.7						
GERES	GERESS Array B	151.00	344	PKPbc	PKiKP	09 49 26.3	-0.1
	0.3nm,0.5s,baz=225,slow=1.7,SNR=3.6						

*IDC **22** 10:20:17.6±0.7,25.4°43N×92.5°57E,h34km±4km, mb3.5/13, mb1 3.6/14,mb1mx3.4/53,mbtmp3.7/14,ML4.0/1, Error ellipse: s-maj=27.6km s-min=12.2km az=54.0*

*NDI **22** 10:20:19.0±2.5,25.6°61N×92.6°67E,h41km±857km, ML3.8*

ISC 22 10:20:18.0±0.6,25.6°56N±0.0°06×92.7°56E±0.0°05,h34km±2km, n21,σ1°67/32,mb3.8/14,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SILR	SILCHAR	0.78	177	*e*P	Pb	10 20 34.0	+0.8
SILR				IAML		10 21 14.1	
	comp=E,2μm,0.5s						
SILR				IAML		10 21 17.3	
	comp=N,2μm,0.4s						
SILR				IAML		10 21 19.4	
	comp=Z,850nm,0.7s						
GUWA	GUWAHATI	1.15	304	*e*P	Pn	10 20 38.0	+0.2
GUWA				*e*S	Sn	10 20 50.6	-1.7
KOHI	KOHIMA	1.23	82	*e*P	Pb	10 20 40.4	-0.4
KOHI				*i* x	Sn	10 20 48.5	-5.9
KOHI				IAML		10 21 12.4	
	comp=N,942nm,0.5s						
KOHI				IAML		10 21 15.2	
	comp=E,1μm,0.4s						
IMP	Imphal	1.29	124	*e*P	Pb	10 20 41.9	-0.1
IMP				*e*S	Sb	10 20 59.6	+1.3
IMP				IAML		10 21 00.9	
	comp=E,280nm,0.4s						
IMP				IAML		10 21 01.1	
	comp=N,461nm,0.6s						
ITAN	ITANAGAR	1.80	28	*e*P	Pn	10 20 48.4	+1.7
ITAN				*e*S	Sn	10 21 09.8	+1.5
ITAN				IAML		10 21 11.8	
	comp=E,5μm,0.2s						
ITAN				IAML		10 21 11.9	
	comp=N,5μm,0.4s						
ZIRO	ZIRO	2.19	26	*e*P	Pn	10 20 53.6	+1.5
ZIRO				*e*S	Sn	10 21 15.3	-2.9
ZIRO				IAML		10 21 21.3	
	comp=E,6μm,0.5s						
ZIRO				IAML		10 21 22.5	
	comp=N,6μm,0.3s						
CMAR	Chiang Mai Arr	9.10	140	Pn	Pn	10 22 28.1	+1.1
	comp=N,0.5nm,0.3s,baz=311,slow=14,SNR=2.1						
AAK	Ala-Archa	22.70	323	P	P	10 25 15.8	-1.1
	comp=N,0.5nm,0.4s,baz=184,slow=19,SNR=1.5						
MKAR	Makanchi Array	22.77	341	P	P	10 25 16.8	-0.7
	comp=N,1.3nm,0.7s,baz=148,slow=12,SNR=14						
MKAR				pP	pP	10 25 27.8	+1.0
	comp=N,1.2nm,0.6s,baz=155,slow=9.5,SNR=6.1						
SONM	Songino Array	24.70	22	P	P	10 25 36.7	+0.7
	comp=N,0.3nm,0.5s,baz=196,slow=10.0,SNR=5.3						
SONM				pP	pP	10 25 47.3	+1.3
	comp=N,0.4nm,0.5s,baz=207,slow=12,SNR=3.5						
KURBB	Kurchatov Arra	27.32	340	P	P	10 25 59.6	+0.2
	comp=N,0.2nm,0.3s,baz=152,slow=10,SNR=1.8						
ZALV	Zalesovo Beam	28.97	350	P	P	10 26 15.3	+1.2
	comp=N,0.5nm,0.4s,baz=168,slow=7.4,SNR=2.6						
MJAR	Matsushiro Arr	40.12	63	pP	pP	10 28 00.6	-0.1
	comp=N,0.8nm,0.5s,baz=279,slow=7.7,SNR=3.0						
AKASG	Malin Array Be	54.05	315	P	P	10 29 38.3	-0.7
	comp=N,0.2nm,0.3s,baz=80,slow=6.2,SNR=2.0						
AKASG				pP	pP	10 29 47.6	-2.0
	comp=N,0.5nm,0.4s,baz=83,slow=6.5,SNR=3.0						
PETK	Petropavlovsk-	55.04	42	P	P	10 29 48.2	+2.1
	comp=N,0.9nm,0.7s,baz=231,slow=15,SNR=2.3						
WRA	Warramunga Arr	60.65	134	P	P	10 30 25.2	-0.7
	comp=N,1.1nm,0.8s,baz=323,slow=7.9,SNR=8.2						
WRA				pP	pP	10 30 35.7	-0.9
	comp=N,1.3nm,0.6s,baz=323,slow=7.4,SNR=6.0						
HFS	Hagfors	62.79	326	P	P	10 30 39.7	-0.2
	comp=N,5.3nm,1.1s,baz=101,slow=4.7,SNR=2.1						
HFS				pP	pP	10 30 48.4	-2.1
	comp=N,3.6nm,0.9s,baz=91,slow=5.9,SNR=2.4						
ASAR	Alice Springs	63.10	137	P	P	10 30 42.0	-0.4
	comp=N,0.4nm,0.5s,baz=318,slow=6.9,SNR=9.8						
ASAR				pP	pP	10 30 53.0	-0.1
	comp=N,1.0nm,0.7s,baz=322,slow=6.8,SNR=5.8						
NOA	NORSAR Array B	63.93	328	P	P	10 30 47.7	+0.3
	comp=N,0.5nm,0.8s,baz=87,slow=6.3,SNR=1.4						
GERES	GERESS Array B	64.19	314	P	P	10 30 49.1	-0.3
	comp=N,0.3nm,0.4s,baz=60,slow=7.9,SNR=4.2						
GERES				pP	pP	10 31 00.3	+0.1
	comp=N,1.0nm,0.7s,baz=72,slow=5.7,SNR=4.9						
TORD	Torodi Ar. Bea	85.38	282	P	P	10 32 51.9	-0.6
	comp=N,1.1nm,0.5s,baz=66,slow=3.9,SNR=8.1						

*GCG **22** 10:23:52.0±0.7, 16.2°25N×92.2°19W,h38km±999km, MD4.4*
*MEX **22** 10:23:57.3±0.8, 15.2°15N×92.2°11W,h159km±5km, MD3.9*

ISC 22 10:23:57.0±1.8,15.2°27N±0.0°08×92.2°14W±0.2°06, h158km±13km,n9,σ1°92/17,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.38	198	*e*P	Pn	10 24 17.6	-1.2
THIG				*e*S	Sn	10 24 33.7	-1.7
CCIG	Comitan	1.00	0	*i* P	Pn	10 24 23.5	+0.7
CCIG				*i* S	Sn	10 24 42.2	-0.3
PCIG		1.12	293	*e*P	Pn	10 24 23.6	+0.1
PCIG				*e*S	Sn	10 24 43.5	-0.4
FUG	Fuego 3	1.50	123	*e*P	Pn	10 24 27.0	-0.4
FUG				*e*S	Sn	10 24 53.9	+3.2
PCG	Pacaya	1.72	120	*e*P	Pn	10 24 29.6	-0.3
PCG				*e*S	Sn	10 24 59.7	+4.7
TGIG		1.77	328	*e*P	Pn	10 24 30.4	+0.4
TGIG				*i* S	Sn	10 24 56.5	+0.9
NBG	Las Nubes	1.86	111	*e*P	Pn	10 24 30.5	-0.9
MRL	Marmol	2.38	94	*e*P	Pn	10 24 35.7	-1.6
MRL				*e*S	Sn	10 25 06.0	-2.4
PEIG	Puerto Escondi	4.88	279	*e*P	Pn	10 25 08.6	-0.4
PEIG				*i* S	Sn	10 26 05.5	+0.4

*NEIC **22** 10:34:59.4±1.3, 18.2°84N±0.0°09×145.2°2E±0.0°1, h551km±6km, mb4.5/236, Error ellipse: s-maj=15.6km s-min=13.5km az=88.0*

*IDC **22** 10:35:02.3±0.8, 18.2°99N×145.2°08E,h580km±9km, mb3.9/42, mb1 4.0/47,mb1mx3.9/55,mbtmp4.8/47, Error ellipse: s-maj=9.2km s-min=6.4km az=80.0*

ISC 22 10:35:00.3±0.5,18.2°95N±0.0°04×145.2°18E±0.0°06,h563km±5km, n438,σ1°09/464,mb4.5/171,1C-1D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	2.31	166	P	P	10 36 10.9	-1.8
ANA2	Anatahan	2.64	169	P	P	10 36 12.4	-2.0
ANA2	Anatahan	2.64	169	P	P	10 36 12.9	-1.5
GUMO	Guam	5.34	183	P	P	10 36 24.2	-10
JCJ	Chichijima	8.56	342	P	P	10 37 04.1	+0.3
	14nm,0.3s,baz=283,slow=23,SNR=12						
JCJ				S	S	10 38 43.5	-1.8
	5.1nm,0.3s,baz=270,slow=20,SNR=1.3						
JCJ	Chichijima	8.56	342	P	P	10 37 03.7	-0.1
JHJ	Hachijo jima 2	14.92	342	P	P	10 38 08.9	+0.5
	31nm,0.3s,baz=72,slow=21,SNR=12						
JHJ				S	S	10 40 35.8	-7.4
	15nm,0.3s,baz=241,slow=22,SNR=1.9						
JOW	Kunigami	17.43	300	P	P	10 38 33.2	+0.9
	21nm,0.3s,baz=132,slow=9.8,SNR=29						
JOW	Kunigami	17.43	300	P	P	10 38 32.7	+0.4
JYT	Yasato	17.76	347	P	P	10 38 35.3	+0.1
INU	Inuyama	17.86	338	P	P	10 38 36.5	+0.3
JGF	Kuroka	17.97	339	P	P	10 38 37.3	+0.1
JWT	Wachi	18.43	334	P	P	10 38 41.4	+0.1
MJAR	Matsushiro Arr	18.57	342	P	P	10 38 41.9	-0.7
	0.8nm,0.3s,baz=166,slow=9.0,SNR=101						
MJAR				S	S	10 41 41.0	-2.3
	0.1nm,0.3s,baz=144,slow=16,SNR=3.6						
MJAR				ScP	ScP	10 45 23.1	-2.4
	0.0nm,0.3s,baz=163,slow=4.4,SNR=5.2						
MJAR	Matsushiro Arr	18.57	342	P	P	10 38 41.3	-1.3
MJAR				IAmb	IAmb	10 38 43.7	
	comp=Z,14nm,0.8s						
MAJO	Matsushiro	18.57	342	P	P	10 38 42.1	-0.5
MAT	Matsushiro	18.57	342	P	P	10 38 41.9	-0.7
MAT				S	S	10 41 43.8	+0.5
JNU	Nakatsue	19.06	321	P	P	10 38 46.9	-0.3
	comp=Z,1.0nm,0.3s,baz=105,slow=3.7,SNR=8.4						
JNU	Nakatsue	19.06	321	P	P	10 38 47.1	0.0
JMM	Marumori	19.23	349	P	P	10 38 48.8	+0.3
JAY	Jayapura	21.78	192	P	P	10 39 11.6	-0.4
	comp=Z,12nm,1.0s						
YULB	Yu-li	22.70	285	P	P	10 39 20.4	+0.3
YHNB	Yeheng	22.81	289	P	P	10 39 21.6	+0.5
SSLB	Suanglung	23.06	286	P	P	10 39 23.6	+0.3
TGY	Tagaytay City	23.73	262	P	P	10 39 29.6	+0.2
	comp=Z,121nm,0.5s,baz=180,slow=10,SNR=1.7						
KSRS	Korea Array	23.83	324	P	P	10 39 29.9	+0.1
	comp=Z,6.7nm,0.4s,baz=139,slow=9.1,SNR=33						
KSAR	Wonju Array Be	23.84	324	P	P	10 39 29.6	-0.3
SIJI	Sorong	23.98	216	P	P	10 39 31.7	+0.2
	comp=Z,12nm,0.5s,baz=32,slow=14,SNR=7.9						
JKA	Kamikawa-asahi	25.18	356	P	P	10 39 41.7	0.0
ASAJ	Asahikawa	25.18	356	P	P	10 39 43.1	+1.4
	comp=Z,19nm,0.6s,baz=224,slow=9.3,SNR=30						
ASAJ				PcP	PcP	10 42 56.7	+0.7
	comp=Z,4.7nm,0.8s,baz=119,slow=10,SNR=3.7						
NJ2	Nanjing	27.02	304	*e*P	P	10 39 58.6	+0.5
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USA0B	Ussuriysk Arra	27.50	339	P	P	10 40 02.5	+0.5
USA0B				IAmb	IAmb	10 40 04.2	
	comp=Z,9.3nm,0.8s						
USRK	Ussuriysk Ar.	27.50	339	P	P	10 40 02.9	+0.8
	comp=Z,9.0nm,0.6s,baz=149,slow=8.7,SNR=27						
USRK	Ussuriysk Ar.	27.50	339	P	P	10 40 02.6	+0.6
YSS	Yuzh-Sakhalins	28.00	356	P	P	10 40 05.8	-0.6
PMG	Port Moresby	28.24	176	P	P	10 40 10.4	+1.4
	comp=Z,7.5nm,0.5s,baz=7.1,slow=8.1,SNR=2.4						
MRSI	Marisa	29.27	234	P	P	10 40 18.3	+0.4
	comp=Z,638nmcomp=Z,75nm,1.0s						
LUWI	Luwuk	29.66	230	P	P	10 40 20.4	-0.8
LUWI	Luwuk	29.66	230	P	P	10 40 20.1	-1.1
	comp=Z,3μmcomp=Z,146nm,0.4s						
TOLI2	Tolitoli	29.77	236	P	P	10 40 22.4	+0.1
APSI	Ampana	30.40	232	P	P	10 40 27.4	-0.2
	comp=Z,812nmcomp=Z,90nm,0.6s						
KKM	Kota Kinabalu	30.99	249	P	P	10 40 32.8	0.0
KLR	Kul'dur	32.09	343	P	P	10 40 41.9	+0.3
	comp=Z,11nm,0.4s,baz=164,slow=8.2,SNR=67						
KLR				PcP	sP	10 43 14.4	-2.3
	comp=Z,5.2nm,0.5s,baz=207,slow=2.3,SNR=8.1						
BJI	Beijing	32.61	316	P	P	10 40 46.4	+0.2
BJI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TTSI	Tana Toraja	33.17	231	P	P	10 40 53.0	+1.8
	comp=Z,659nmcomp=Z,81nm,0.8s						
SPSI	Sidrap Palu	33.83	230	P	P	10 40 57.3	+0.5
	comp=Z,819nmcomp=Z,70nm,0.7s						
BNSI	Bone	33.88	229	P	P	10 40 58.3	+1.1
	comp=Z,40nm,0.8s						
PETK	Petropavlovsk-	35.45	13	P	P	10 41 11.2	+1.5
	comp=Z,3.2nm,0.5s,baz=148,slow=7.3,SNR=65						
PETK				PcP	PcP	10 43 23.6	+0.2
	comp=Z,4.3nm,0.8s,baz=173,slow=3.7,SNR=5.2						
PETK	Petropavlovsk-	35.45	13	P	P	10 41 10.0	+0.3
XAN	Xi'an	35.55	302	P	P	10 41 11.4	+0.5
XAN				pmax	pmax		
	comp=Z,13nm,0.5s						
XAN				pmax	pmax		
	comp=Z,69nm,5.1s						
XAN	Xi'an	35.55	302	P	P	10 41 10.9	0.0
XAN				IAmb	IAmb	10 41 12.0	
	comp=Z,8.7nm,0.5s						
HHC	Hu-ho-hao-te	36.08	315	*e*P	P	10 41 16.0	+0.8
HHC				S	S	10 46 25.6	+11
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,94nm,5.9s						
SBUM	Sibu	36.19	247	P	P	10 41 16.8	+0.5
GYA	Guiyang	36.21	289	⇓P	P	10 41 18.0	+1.5
GYA				sP	sP	10 43 40.8	-14
GYA				S	S	10 46 19.8	+2.4
GYA				SS	SS	10 49 37.1	+6.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	Hailar	36.51	332	P	P	10 41 18.1	-0.5
KSM	Kuching	38.33	247	P	P	10 41 33.7	-0.2
KSM				IAmb	IAmb	10 41 34.6	
	comp=Z,8.2nm,0.6s						
CTAO	Charters Tower	38.81	178	P	P	10 41 34.7	-2.9
CTAO				IAmb	IAmb	10 42 22.3	
	comp=Z,25nm,1.6s						
NONG	Nongkai	39.80	276	P	P	10 41 47.1	+1.4
WRA	Warramunga Arr	40.09	196	P	P	10 41 48.7	+0.8
	comp=Z,1.9nm,0.3s,baz=12,slow=8.0,SNR=63						
WRA				PcP	PcP	10 43 38.9	+0.4
	comp=Z,1.3nm,0.4s,baz=13,slow=3.4,SNR=5.8						
WRA				ScP	ScP	10 46 33.5	-1.0
	comp=Z,2.9nm,1.0s,baz=15,slow=3.8,SNR=7.8						
WRA				S	S	10 47 11.4	-2.9
	comp=Z,0.8nm,0.8s,baz=12,slow=13,SNR=2.5						
WRA	Warramunga Arr	40.09	196	P	P	10 41 47.9	0.0
LZH	Lanzhou	40.10	304	⇑P	P	10 41 49.9	+1.9
LZH				pP	PP	10 43 33.1	-3.7
LZH				pmax	pmax		
	comp=Z,34nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,5.4s						
KHON	Khomkaen	40.38	273	P	P	10 41 51.5	+1.2
SANVU	Saraoutou	40.48	146	P	P	10 41 52.2	+1.2
	comp=Z,39nm,0.4s						
MA2	Magadan	40.77	4	P	P	10 41 53.8	+1.0
	comp=Z,26nm,0.6s,baz=182,slow=7.4,SNR=70						
MA2				PcP	PcP	10 43 40.8	+0.6
	comp=Z,2.5nm,0.5s,baz=148,slow=5.2,SNR=5.4						
MA2	Magadan	40.77	4	P	P	10 41 53.4	+0.6
CHAI	Chaiyaphum	41.25	273	P	P	10 41 58.3	+1.0
FITZ	Fitzroy Crossi	41.52	209	P	P	10 42 00.0	+0.8
SONM	Songino Array	42.64	321	P	P	10 42 08.7	+0.8
	comp=Z,4.4nm,0.6s,baz=135,slow=6.8,SNR=37						
SONM				PcP	pP	10 43 46.1	-0.8
	comp=Z,3.2nm,0.7s,baz=129,slow=5.5,SNR=7.7						
SONM				ScP	ScP	10 46 41.0	-3.6
	comp=Z,0.5nm,0.4s,baz=139,slow=4.6,SNR=4.4						
SONM	Songino Array	42.64	321	P	P	10 42 08.9	+1.0
SUKH	Sukhothai	43.20	276	P	P	10 42 13.9	+1.4
CMMT	Chiang Mai	43.65	278	P	P	10 42 16.9	+0.9
CHTO	Chiang Mai	43.65	278	P	P	10 42 16.0	0.0
CM31	Chiang Mai Arr	43.70	277	P	P	10 42 16.5	+0.1
CM31				IAmb	IAmb	10 42 18.4	
	comp=Z,13nm,0.9s						
CMAR	Chiang Mai Arr	43.70	277	P	P	10 42 17.6	+1.2
	comp=Z,9.3nm,0.6s,baz=71,slow=6.7,SNR=48						
CMAR	Chiang Mai Arr	43.70	277	P	P	10 42 17.5	+1.1
UTHA	Uthaitani	43.72	273	P	P	10 42 18.6	+2.1
AS31	Alice Springs	43.76	195	P	P	10 42 16.5	-0.2
ASAR	Alice Springs	43.76	195	P	P	10 42 17.1	+0.3
	comp=Z,2.0nm,0.6s,baz=12,slow=6.6,SNR=43						
ASAR				PcP	PcP	10 43 51.8	+0.9
	comp=Z,1.5nm,0.5s,baz=24,slow=4.2,SNR=8.1						
ASAR				ScP	ScP	10 46 46.4	-2.9
	comp=Z,1.1nm,0.8s,baz=15,slow=4.9,SNR=4.5						
ASAR				S	S	10 48 05.0	-2.0
	comp=Z,2.1nm,0.8s,baz=22,slow=19,SNR=10						
ASAR	Alice Springs	43.76	195	P	P	10 42 16.5	-0.3
GTA	Gaotai	44.01	307	*e*P	P	10 42 17.8	-0.8
GTA				pP	pP	10 43 58.6	+0.8
GTA				sP	sP	10 44 54.8	-5.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
UMPA	Umpang Tak	44.15	274	P	P	10 42 22.7	+2.8
SEY	Seymchan	44.23	5	P	P	10 42 21.0	+1.3
	comp=Z,7.9nm,0.6s,baz=182,slow=7.1,SNR=79						
SEY				PcP	PcP	10 43 52.6	+0.8
	comp=Z,3.7nm,0.8s,baz=195,sl

comp=Z,1.5nm,0.5s,baz=90,slow=7.3,SNR=4.5
MKAR ScP **ScP** **10 47 49.2 -0.9**

comp=Z,0.7nm,0.7s,baz=90,slow=5.8,SNR=3.9
MKAR Makanchi Array 57.94 314 P **P** **10 44 00.2 +1.0**
SII Sitkinak Islan 58.28 35 P 10 44 03.0
baz=256
RDOG Red Dog Mine 58.76 20 P **P** **10 44 05.5 +1.1**
RDOG IAmb IAmb 10 44 06.7

comp=Z,19nm,0.8s
RDOG Red Dog Mine 58.76 20 P 10 44 06.0
baz=240,SNR=8.9
SVW2 Sparrevohn 58.85 29 P **P** **10 44 06.4 +1.3**
SVW2 IAmb IAmb 10 44 07.1

comp=Z,10nm,0.5s
OHAK Old Harbor 58.92 34 P 10 44 06.6
baz=256
KDAK Kodiak Island 59.42 33 P **P** **10 44 09.9 +1.0**

comp=Z,9.0nm,0.4s,baz=242,slow=2.3,SNR=67
KDAK Kodiak Island 59.42 33 P **P** **10 44 09.5 +0.6**
KDAK IAmb IAmb 10 44 13.0

comp=Z,46nm,1.6s
KDAK Kodiak Island 59.42 33 P 10 44 09.8
baz=256
SHLS Shalkode 59.68 309 *e*P **P** **10 44 09.4 -1.7**
baz=310
UZB Uzynbulak 60.00 309 *e*P **P** **10 44 13.5 +0.2**
baz=309
KPKS Kokpek 60.26 310 *e*P **P** **10 44 15.3 +0.3**
baz=310
SATY Saty 60.45 309 *e*P **P** **10 44 16.8 +0.5**
baz=309
CNPM China Poot 60.51 32 P **P** **10 44 16.7 +0.5**
CNPM IAmb IAmb 10 44 17.4

comp=Z,28nm,0.9s
TDK Taldygorghan 60.51 311 *e*P **P** **10 44 17.5 +1.0**
comp=Z,9.1nm,0.6s,baz=312
BRLK Bradley Lake 60.73 31 P **P** **10 44 17.8 +0.1**
BRLK IAmb IAmb 10 44 18.5

comp=Z,17nm,0.8s
BRSE Bradley Lake S 60.80 31 P 10 44 18.3
baz=257
KURBB Kurchatov Arra 60.80 318 P **P** **10 44 18.8 +0.5**
comp=Z,77nm,0.7s,baz=96,slow=7.0,SNR=484
CAPN Captain Cook N 60.83 30 P **P** **10 44 19.3 +1.1**
CAPN Captain Cook N 60.83 30 P 10 44 19.7
baz=256
PPLA Purkeypile 60.91 28 P **P** **10 44 20.0 +1.1**
PPLA IAmb IAmb 10 45 18.3

comp=Z,20nm,0.8s
PPLA Purkeypile 60.91 28 P 10 44 20.0
baz=254,SNR=12
SKT Skwentna 60.96 29 P **P** **10 44 19.2 +0.1**
SKT IAmb IAmb 10 44 20.0

comp=Z,24nm,1.1s
SKT Skwentna 60.96 29 P 10 44 19.3
baz=255,SNR=24
CHUM Lake Minchumin 61.13 27 P 10 44 21.7
baz=253,SNR=14
IMAR Indian Mountai 61.19 24 P **P** **10 44 20.9 +0.3**
SUA Susitna One 61.19 30 P **P** **10 44 21.1 +0.4**
SUA IAmb IAmb 10 44 22.2

comp=Z,17nm,0.6s
SUA Susitna One 61.19 30 P 10 44 21.2
baz=256,SNR=18
MDOK Medeo 61.45 309 *e*P **P** **10 44 23.3 +0.4**
baz=309
O22K Cooper Landing 61.46 31 P **P** **10 44 22.8 +0.5**
O22K Cooper Landing 61.46 31 P 10 44 22.9
baz=258,SNR=14
SEW Seward 61.51 31 P **P** **10 44 23.3 +0.7**
SEW IAmb IAmb 10 44 24.2

comp=Z,22nm,1.0s
SEW Seward 61.51 31 P 10 44 23.2
baz=258,SNR=5.5
AAA Alma-Ata 61.55 309 *e*P **P** **10 44 24.6 +1.2**
comp=Z,9.7nm,0.7s,baz=310
RC01 Rabbit Creek A 61.58 30 P **P** **10 44 23.6 +0.5**
RC01 Rabbit Creek A 61.58 30 P 10 44 23.6
baz=257,SNR=24
KTH Kantishna Hill 61.63 27 P **P** **10 44 24.3 +0.7**
KTH IAmb IAmb 10 44 25.7

comp=Z,25nm,1.1s
CUT Chulitna 61.64 29 P **P** **10 44 23.6 +0.1**
CUT Chulitna 61.64 29 P 10 44 23.5
baz=256,SNR=11
BPAW Bear Paw Mtn. 61.75 27 P **P** **10 44 25.5 +1.3**
BPAW IAmb IAmb 10 44 26.1

comp=Z,38nm,1.1s
BPAW Bear Paw Mtn. 61.75 27 P 10 44 25.2
baz=254,SNR=42
TRF Thorofare Moun 61.88 27 P **P** **10 44 25.5 +0.2**
TRF IAmb IAmb 10 44 26.4

comp=Z,21nm,1.0s
TRF Thorofare Moun 61.88 27 P 10 44 25.5
baz=256,SNR=18
KUU Kurty 61.97 310 *e*P **P** **10 44 26.4 +0.3**
comp=Z,16nm,0.6s,baz=310
PMR Palmer 61.98 30 P **P** **10 44 26.1 +0.5**
PMR IAmb IAmb 10 44 26.6

comp=Z,20nm,0.6s
PMR Palmer 61.98 30 P 10 44 25.8
baz=258,SNR=20
MLY Manley 62.10 26 P **P** **10 44 27.7 +1.2**
MLY IAmb IAmb 10 44 28.5

comp=Z,17nm,0.7s
MLY Manley 62.10 26 P 10 44 27.7
baz=254,SNR=32
GHO Glory Hole Cre 62.11 29 P **P** **10 44 27.2 +0.5**
GHO IAmb IAmb 10 44 27.8

comp=Z,26nm,0.7s
PWL Port Wells 62.20 30 P **P** **10 44 28.1 +0.9**
A21K Barrow 62.21 18 P **P** **10 44 28.4 +1.4**
A21K IAmb IAmb 10 44 29.2

comp=Z,32nm,0.9s
A21K Barrow 62.21 18 P 10 44 28.3
baz=245
KNK Knik Glacier 62.25 30 P **P** **10 44 27.6 +0.1**
KNK IAmb IAmb 10 44 29.0

comp=Z,29nm,0.8s
KNK Knik Glacier 62.25 30 P 10 44 28.3
baz=258,SNR=18
KSH Kashi 62.33 305 P **P** **10 44 32.4 +3.8**
KSH pmax pmax

comp=Z,19nm,0.8s
KSH pmax pmax

comp=Z,180nm,5.7s
SML Sawmill 62.39 29 P **P** **10 44 28.4 -0.1**
SML Sawmill 62.39 29 P 10 44 29.1
baz=258,SNR=18
RND Reindeer 62.50 28 P **P** **10 44 28.2 -0.9**
RND IAmb IAmb 10 44 30.7

comp=Z,13nm,0.8s
TKM2 Tokmak 2 62.51 309 P **P** **10 44 31.0 +1.1**
SNR=7.0
WAT2 Susitna Watana 62.52 28 P 10 44 29.3
baz=257,SNR=17
MCK McKinley 62.54 27 P **P** **10 44 29.4 +0.1**
MCK McKinley 62.54 27 P 10 44 29.7
baz=257,SNR=13
NEA2 Nenana 62.68 26 P **P** **10 44 30.3 +0.1**
NEA2 IAmb IAmb 10 44 32.1

comp=Z,10nm,0.7s
NEA2 Nenana 62.68 26 P 10 44 30.6
baz=256,SNR=18
I23K Minto, Yukon-K 62.70 26 P **P** **10 44 30.8 +0.5**
I23K IAmb IAmb 10 44 32.6

comp=Z,21nm,0.6s
I23K Minto, Yukon-K 62.70 26 P 10 44 31.4
baz=256,SNR=28
GLI Glacier Island 62.80 31 P **P** **10 44 31.3 +0.3**
GLI IAmb IAmb 10 44 32.2

comp=Z,16nm,0.6s
GLI Glacier Island 62.80 31 P 10 44 31.7
baz=260,SNR=6.7
WAT6 Susitna Watana 62.82 29 P 10 44 31.9
baz=258,SNR=22
SCM Sheep Creek Mo 62.87 30 P **P** **10 44 31.7 +0.1**
COLD Coldfoot 62.92 23 P **P** **10 44 32.9 +1.2**
COLD Coldfoot 62.92 23 P 10 44 33.3
baz=254,SNR=25
KBK Karagaybulak 63.00 309 P **P** **10 44 34.0 +1.1**
SNR=6.0
WRH Wood River Hil 63.07 27 P **P** **10 44 31.9 -0.8**
WRH IAmb IAmb 10 44 33.6

comp=Z,12nm,0.7s
FID Port Fidalgo 63.08 31 P **P** **10 44 33.3 +0.4**

MDM Murphy Dome 63.12 26 P **P** **10 44 33.1 0.0**
MDM IAmb IAmb 10 44 35.1

comp=Z,16nm,0.6s
CCB Clear Creek Bu 63.23 26 P **P** **10 44 33.4 -0.3**
TCOL CIGO, UAF Yank 63.25 26 P **P** **10 44 34.2 +0.3**
TCOL CIGO, UAF Yank 63.25 26 P 10 44 34.4
baz=257,SNR=6.8
COLA College 63.26 26 P **P** **10 44 34.5 +0.6**
COLA College 63.26 26 P 10 44 34.4
baz=257
USP Ospenovka 63.31 310 P **P** **10 44 35.5 +0.8**
SNR=5.7
UCH Uchtor 63.33 308 P **P** **10 44 36.9 +1.5**
SNR=9.7
AAK Ala-Archa 63.33 309 P **P** **10 44 35.4 +0.4**
comp=Z,2.0nm,0.4s,baz=132,slow=6.4,SNR=7.6
AAK Ala-Archa 63.33 309 P **P** **10 44 35.4 +0.4**
EYAK Cordova Ski Ar 63.40 31 P **P** **10 44 36.1 +1.2**
EYAK IAmb IAmb 10 44 36.9

comp=Z,15nm,0.8s
EYAK Cordova Ski Ar 63.40 31 P 10 44 36.1
baz=261,SNR=5.6
M24K Tolsona, Glenn 63.45 29 P **P** **10 44 36.4 +1.1**
M24K Tolsona, Glenn 63.45 29 P 10 44 36.6
baz=260
KLU Klutina 63.47 30 P **P** **10 44 35.9 +0.5**
KLU IAmb IAmb 10 44 37.3

comp=Z,17nm,0.7s
KLU Klutina 63.47 30 P 10 44 36.6
baz=261,SNR=17
POKR Poker Plat Res 63.48 26 P 10 44 35.6
baz=257
HDA Harding Lake 63.54 27 P 10 44 35.4
baz=258,SNR=16
HDA P 10 44 35.4
baz=258,SNR=16
TOLK Toolik Lake Re 63.54 22 P **P** **10 44 35.6 -0.1**
TOLK Toolik Lake Re 63.54 22 P 10 44 37.5
baz=254,SNR=45
BTLS Baital 63.60 311 *e*P **P** **10 44 36.7 +0.2**
baz=312
IL31 63.64 26 P **P** **10 44 35.2 -1.0**
IL31 IAmb IAmb 10 44 36.6

comp=Z,12nm,0.7s
ILAR Eielson Array 63.64 26 P **P** **10 44 35.8 -0.6**
comp=Z,12nm,0.7s,baz=247,slow=6.1,SNR=204
RAGM Ragged Mountai 63.91 31 P **P** **10 44 39.6 +1.4**
PAX Paxson 63.92 28 P **P** **10 44 38.9 +0.6**
PAX Paxson 63.92 28 P 10 44 39.2
baz=260,SNR=28
AML Almayashu 63.94 308 P **P** **10 44 40.6 +1.3**
SNR=16
KAIM Kayak Island 63.97 32 P 10 44 40.6
baz=263
BMRM Bremner River 64.02 31 P **P** **10 44 40.1 +1.2**
BMRM Bremner River 64.02 31 P 10 44 40.1
baz=262,SNR=14
N25K Chitina, Valde 64.11 30 P **P** **10 44 40.4 +0.9**
N25K IAmb IAmb 10 44 41.6

comp=Z,10.0nm,0.6s
N25K Chitina, Valde 64.11 30 P 10 44 40.8
baz=262,SNR=8.8
TWVZ Taurewa 64.29 154 P P 10 45 02.9 +22
PRP Porcupine Dome 64.35 26 P **P** **10 44 40.0 -1.0**
BERG Berg Lake 64.39 31 P **P** **10 44 42.4 +1.2**
GLB Gilahina Butte 64.46 30 P **P** **10 44 42.5 +0.8**
GLB IAmb IAmb 10 44 43.8

comp=Z,28nm,1.2s
VRDI Verde Repeater 64.61 30 P **P** **10 44 43.0 +0.2**
VRDI IAmb IAmb 10 44 44.5

comp=Z,14nm,0.9s
DOT Dot Lake 64.65 28 P **P** **10 44 43.2 +0.4**
FYU Fort Yukon 64.67 25 P **P** **10 44 43.6 +0.8**
CRQM Cirque 64.70 31 P **P** **10 44 43.7 +0.3**
MENT Mentasta 64.70 29 P **P** **10 44 43.8 +0.6**
CRQE Cirque 64.73 31 P 10 44 44.7
baz=264,SNR=8.3
SCRK Sand Creek 64.74 27 P **P** **10 44 43.5 0.0**
SCRK IAmb IAmb 10 44 45.0

comp=Z,22nm,1.1s
SCRK Sand Creek 64.74 27 P 10 44 44.2
baz=261
MCARA McCarthy VSAT 64.83 30 P **P** **10 44 44.6 +0.7**
MCARA IAmb IAmb 10 44 46.0

comp=Z,20nm,0.8s
MCARA McCarthy VSAT 64.83 30 P 10 44 45.2
baz=263,SNR=7.0
TGL Tana Glacier 64.86 31 P **P** **10 44 44.7 +0.5**
TGL IAmb IAmb 10 44 46.2

comp=Z,16nm,0.9s
NIL Nilore 64.98 299 P **P** **10 44 46.4 +0.9**
KWHZ Kaweka Forest 65.00 154 P P 10 45 05.5 +20
BMAR Burnt Mountain 65.08 24 P **P** **10 44 46.7 +1.2**
DUWZ D'Urville Isla 65.17 156 P **P** **10 44 47.3 +0.9**
NNZ Nelson 65.33 157 P **P** **10 44 48.0 +0.7**
GRNC Granite Creek 65.38 31 P **P** **10 44 47.1 -0.6**
GRNC IAmb IAmb 10 44 49.6

comp=Z,18nm,0.7s
BARN Barnard Glacie 65.45 31 P **P** **10 44 49.1 +1.0**
L27K Beaver Creek, 65.58 29 P **P** **10 44 49.2 +0.6**
L27K IAmb IAmb 10 44 50.6

comp=Z,11nm,0.7s
L27K Beaver Creek, 65.58 29 P 10 44 49.9
baz=264,SNR=16
K27K Chicken 65.58 28 P **P** **10 44 49.7 +1.1**
K27K Chicken 65.58 28 P 10 44 50.0
baz=263
BCAR Beaver Creek A 65.60 29 P **P** **10 44 49.0 +0.2**
CTG Chitna Glacier 65.60 31 P 10 44 50.6
baz=265,SNR=7.1
CTGM Chitina Glacie 65.60 31 P **P** **10 44 49.6 +0.6**
CTGM IAmb IAmb 10 44 51.6

comp=Z,16nm,0.7s
DVHZ Dannevirke 65.63 154 P **P** **10 44 48.6 -0.6**
THZ Tophouse 65.63 158 P **P** **10 44 50.7 +1.4**
TABL Table Mountain 65.66 31 P **P** **10 44 50.4 +1.0**
MRZ Mangatainoka R 65.70 155 P **P** **10 44 49.9 +0.2**
LOGN Logan Glacier 65.75 31 P **P** **10 44 50.0 0.0**
LOGN IAmb IAmb 10 44 52.1

comp=Z,15nm,0.7s
HOWZ Holdsworth Sta 65.88 155 P **P** **10 44 51.4 +0.6**
CAW Cannon Point 65.88 156 P **P** **10 44 51.2 +0.4**
BVAR Borovoye Array 65.97 320 P **P** **10 44 51.0 -0.2**
comp=Z,11nm,0.5s,baz=195,slow=9.1,SNR=148
BVAR S **S** **10 52 52.8 -2.2**

comp=Z,0.7nm,0.7s,baz=112,slow=11,SNR=6.6
BFZ Birch Farm 65.99 155 P **P** **10 44 50.9 -0.6**
BRVK Borovoye 66.03 320 P **P** **10 44 52.1 +0.5**
EGAK Eagle 66.06 27 P **P** **10 44 52.2 +0.7**
EGAK IAmb IAmb 10 44 54.0

comp=Z,6.6nm,0.6s
EGAK Eagle 66.06 27 P 10 44 52.5
baz=264,SNR=10
PINM Pinnacle 66.07 32 P 10 44 53.2
baz=266
TMWZ Te Maipa 66.20 155 P **P** **10 44 52.8 0.0**
MSWZ Moikau Station 66.21 156 P **P** **10 44 53.2 +0.4**
KK31 Karatay Array 66.23 309 P **P** **10 44 53.4 +0.3**
KK31 IAmb IAmb 10 44 54.5

comp=Z,13nm,0.8s
KKAR Karatay Array 66.23 309 P **P** **10 44 53.7 +0.6**
KKAR Karatay Array 66.23 309 P **P** **10 44 54.0 +0.9**
KKAR IAmb IAmb 10 44 54.5

comp=Z,13nm,0.8s
PLWZ Palliser 66.35 156 P **P** **10 44 54.0 +0.3**
KHZ Kahutara 66.43 157 P **P** **10 44 53.8 -0.3**
IUG Iuzhnay 66.66 308 *e*P **P** **10 44 55.9 +0.1**
baz=308
DAWY Dawson 66.76 28 P **P** **10 44 57.1 +1.2**
DAWY IAmb IAmb 10 44 57.7

comp=Z,9.4nm,0.7s
EPYK Eagle Plains 68.03 25 P **P** **10 45 04.6 +0.9**
EPYK Eagle Plains 68.03 25 P 10 45 05.0
baz=267
KBL Kabul 68.32 300 P **P** **10 45 06.8 +0.5**
KBL IAmb IAmb 10 45 07.5

comp=Z,10nm,0.8s
WHY Whitehorse 68.75 31 P **P** **10 45 09.2 +0.9**
INK Inuvik 69.33 23 P **P** **10 45 12.1 +0.7**
comp=Z,14nm,0.7s,baz=278,slow=5.3,SNR=64
INK Inuvik 69.33 23 P **P** **10 45 11.9 +0.5**
INK IAmb IAmb 10 45 13.0

comp=Z,16nm,0.8s
WRAK Wrangell Islan 70.29 36 P **P** **10 45 17.9 +0.6**
WRAK IAmb IAmb 10 45 19.8

comp=Z,14nm,0.8s
WRAK Wrangell Islan 70.29 36 P 10 45 19.1
baz=275
DIB Dawson Inlet, 70.50 39 P **P** **10 45 19.0 +0.4**
DLBC Dease Lake 71.35 34 P **P** **10 45 24.6 +1.0**
DLBC IAmb IAmb 10 45 26.4

comp=Z,13nm,0.7s
ARU Arti 72.58 324 P **P** **10 45 31.0 +0.4**
comp=Z,9.0nm,0.4s,baz=92,slow=3.5,SNR=36
ARU Arti 72.58 324 P **P** **10 45 30.5 -0.2**
C36M Paulatuk 72.70 22 P **P** **10 45 31.1 0.0**
C36M IAmb IAmb 10 45 32.5

comp=Z,29nm,1.1s
C36M Paulatuk 72.70 22 P 10 45 31.6
baz=278
ABKAR Akbulak array 72.82 317 P **P** **10 45 32.3 0.0**
ABKAR IAmb IAmb 10 45 32.9

comp=Z,13nm,0.8s
ABKAR Akbulak array 72.82 317 P **P** **10 45 32.2 0.0**
AKTO Aktyubinsk 73.85 318 P **P** **10 45 37.9 -0.2**
comp=Z,4.6nm,0.5s,baz=101,slow=9.4,SNR=13
GEYT Alibeck 76.35 306 P **P** **10 45 52.4 0.0**
comp=Z,4.0nm,0.8s,baz=48,slow=4.8,SNR=5.3
GEYT Alibeck 76.35 306 P **P** **10 45 52.6 +0.3**
KIRV Kirov 76.99 328 P **P** **10 45 55.8 +0.5**
comp=Z,21nm,0.5s,baz=47,slow=2.4,SNR=9.5
D03D Eldon 77.41 44 P 10 46 00.1
baz=284
EUNU Eureka 77.55 8 P **P** **10 45 58.6 +0.5**
EUNU IAmb IAmb 10 45 59.5

comp=Z,14nm,0.6s
B05A Bryant 77.87 43 P 10 46 02.0
baz=285
J01E Myrtle Point 77.92 48 P 10 46 02.7
baz=284
YKA Yellowknife Ar 78.00 28 P **P** **10 46 01.3 +0.6**
comp=Z,14nm,0.6s,baz=290,slow=4.6,SNR=130
E04D Cinebar 78.00 45 P 10 46 02.8
baz=285
I03D Drain, OR 78.19 48 P 10 46 03.8
baz=285
D05A Enumclaw 78.22 44 P **P** **10 46 02.4 +0.2**
K02D Willamette Mer 78.23 49 P 10 46 04.1
baz=285
HOPEN Hopen 78.34 348 *e*P **P** **10 46 02.9 +0.6**
L02E Cave Junction 78.41 49 P 10 46 04.8
baz=285
LON Longmire 78.45 44 P **P** **10 46 04.2 +0.6**
H04A Detroit Lake 78.74 47 P **P** **10 46 06.0 +0.8**
H04A IAmb IAmb 10 46 07.8

comp=Z,48nm,1.9s
HUMO Hull Mountain 78.75 49 P **P** **10 46 06.5 +1.2**
HUMO IAmb IAmb 10 46 09.2

comp=Z,8.7nm,0.6s
I04A Tendick Farm, 78.82 48 P 10 46 06.8
baz=285
SPA0 Spitsbergen Ar 78.84 351 *e*P **P** **10 46 05.7 +0.7**
KBS Kingsbay 78.97 352 *e*P **P** **10 46 06.3 +0.7**
LTY Liberty 79.06 44 P **P** **10 46 07.0 +0.2**
LTY IAmb IAmb 10 46 08.3

comp=Z,9.7nm,0.6s
M02C Callahan 79.15 50 P 10 46 09.5
baz=286,SNR=5.5
YBH Yreka Blue Hor 79.16 50 P **P** **10 46 08.8 +1.3**
G05D Wamic, OR 79.19 46 P 10 46 08.8
baz=286
RES Resolute Bay 79.30 14 P **P** **10 46 08.3 +0.9**
L04D Klamath Falls 79.32 49 P 10 46 09.9
baz=286,SNR=9.3
N02D Trinity Center 79.37 50 P 10 46 10.4
baz=286,SNR=6.4
O02D Mt. Diablo Mer 79.53 51 P 10 46 11.4
baz=286
WDC Whiskeytown Da 79.60 51 P **P** **10 46 11.0 +1.3**
WDC IAmb IAmb 10 46 28.3

comp=Z,31nm,1.9s
K04D Chiloquin, OR 79.60 49 P 10 46 11.6
baz=286
B08A Colville Reser 79.62 42 P **P** **10 46 09.9 +0.3**
B08A IAmb IAmb 10 46 11.6

comp=Z,13nm,0.8s
BELG Belogornoye 79.70 322 P **P** **10 46 10.4 +0.5**
comp=Z,52nm,0.8s,baz=346,slow=0.9,SNR=24
HSPB Hornsund (broa 79.76 350 *e*P **P** **10 46 10.6 +0.8**
M04C Macdoel 79.78 49 P 10 46 12.3
baz=286
J05D Fort Rock, OR 79.79 48 P 10 46 12.6
baz=286,SNR=16
E07A Sunnyside 79.80 44 P **P** **10 46 11.7 +1.1**
PINE Pine Mountain 79.85 47 P **P** **10 46 12.0 +0.8**
PINE IAmb IAmb 10 46 13.8

comp=Z,24nm,0.8s
F07A Phinny Hill Vi 79.94 45 P **P** **10 46 10.7 -0.7**
HAWA Hanford 80.06 44 P **P** **10 46 12.7 +0.8**
K05A Summer Lake 80.18 48 P **P** **10 46 14.5 +1.5**
K05A IAmb IAmb 10 46 15.5

comp=Z,17nm,0.8s
O03E Paynes Creek 80.22 51 P 10 46 13.9
baz=286
D08A Wollman Farm, 80.27 44 P **P** **10 46 13.1 0.0**
E08A Dider Farm, El 80.34 44 P **P** **10 46 14.0 +0.6**
C09A Chrisman Ranch 80.46 43 P **P** **10 46 14.4 +0.3**
ORV Oroville 80.65 51 P **P** **10 46 15.8 +0.6**
G08A Pilot Rock 80.77 45 P **P** **10 46 15.9 +0.1**
MOD Modoc Plateau 80.84 49 P **P** **10 46 16.6 +0.3**
E09A Wood Farm, Sta 80.94 44 P **P** **10 46 17.1 +0.6**
KLMR Klimovskoe 81.00 331 *e*P **P** **10 46 15.5 -1.0**
KLMR AMP 10 46 16.8

comp=Z,21nm,0.9s
NEW Newport 81.06 42 P **P** **10 46 17.9 +0.7**
NEW IAmb IAmb 10 46 19.1

comp=Z,9.1nm,0.7s
NEW Newport 81.06 42 P 10 46 18.3
baz=288
AFDM Forest Hills D 81.22 52 P **P** **10 46 19.0 +0.8**
BEKR Beckworth 81.40 51 P **P** **10 46 19.9 +0.6**
BEKR IAmb IAmb 10 46 21.2

comp=Z,10nm,0.8s
J08A Circle Bar Ran 81.69 47 P **P** **10 46 22.0 +1.4**
J08A IAmb IAmb 10 46 22.7

comp=Z,11nm,0.7s
F10A Beach Ranch, E 81.71 44 P **P** **10 46 21.0 +0.4**
WVOR Wild Horse Val 81.86 48 P **P** **10 46 22.5 +1.0**
CMB Columbia Colle 81.93 53 P **P** **10 46 22.6 +0.8**
CMB IAmb IAmb 10 46 23.9

comp=Z,11nm,0.7s
HAMF Hammerfest 81.98 343 *e*P **P** **10 46 21.8 +0.4**
BMO Blue Mountains 82.02 45 P **P** **10 46 22.8 +0.6**
BMO IAmb IAmb 10 46 24.2

comp=Z,14nm,1.1s
VCNR Virginia City 82.10 51 P **P** **10 46 23.7 +0.8**
ARA0 ARCESS Array S 82.10 342 *e*P **P** **10 46 22.2 +0.2**
ARCES ARCESS Array B 82.10 342 P **P** **10 46 22.1 +0.1**
comp=Z,8.6nm,0.6s,baz=83,slow=8.3,SNR=58
ARCES ARCESS Array B 82.10 342 P **P** **10 46 21.9 -0.1**
ARCES IAmb IAmb 10 46 22.5

comp=Z,12nm,0.8s
PAHR Pah Rah Range 82.17 51 P **P** **10 46 23.9 +0.7**
PNTR Pine Nut 82.20 51 P **P** **10 46 24.3 +0.9**
PNTR IAmb IAmb 10 46 25.8

comp=Z,15nm,1.0s
WAKR Walker 82.50 52 P **P** **10 46 25.6 +0.7**
WAKR IAmb IAmb 10 46 27.3

comp=Z,9.1nm,0.6s
PAGB Antelope Grade 82.74 55 P **P** **10 46 26.3 +0.4**
WALA Waterton Lakes 82.80 41 P **P** **10 46 26.9 +0.8**
WALA IAmb IAmb 10 46 28.6

comp=Z,20nm,1.5s
JTMT Jette 83.03 42 P **P** **10 46 27.2 -0.1**
JTMT IAmb IAmb 10 46 29.1

comp=Z,11nm,0.8s
MDPB Devils Postpil 83.04 53 P **P** **10 46 28.1 +0.3**
KTK1 Kautokeino 83.07 342 *e*P **P** **10 46 26.6 -0.3**
RYN Ryan 83.14 52 P **P** **10 46 29.0 +0.9**
RYN IAmb IAmb 10 46 30.4

comp=Z,14nm,1.2s
MLAC Mammoth, Mammo 83.23 53 P 10 46 30.6
baz=288
LHV Little Huntoon 83.28 52 P **P** **10 46 29.7 +1.2**
KVN Kaiserville 83.32 51 P **P** **10 46 29.2 +0.3**
KVN IAmb IAmb 10 46 30.7

comp=Z,8.4nm,0.5s
PKM Mcpherson Peak 83.34 56 P 10 46 31.0
baz=288,SNR=7.2
NVAR Mina Array Bea 83.37 52 P **P** **10 46 30.7 +1.4**

comp=Z,11nm,0.7s,baz=274,slow=5.7,SNR=68
NVAR Mina Array Bea 83.37 52 P P 10 46 29.7 +0.4
NV11 Mina Array Sit 83.48 52 P P 10 46 30.7 +0.9
NV11 IAmb IAmb 10 46 32.0
comp=Z,15nm,1.4s
MFID Camas Ranch 83.50 46 P P 10 46 30.4 +0.7
JETT Jettan, Norway 83.54 343 *eP* **P 10 46 29.4 +0.2**
MSO Missoula 83.57 43 P P 10 46 30.1 +0.2
MSO Missoula 83.57 43 P 10 46 30.4
baz=291
VES Vestal, Richgr 83.61 54 P 10 46 30.9
baz=289
TIN Tinemaha, Big 83.87 53 P 10 46 33.7
baz=289
TRO Tromso 83.89 344 *eP* **P 10 46 30.1 -0.7**
CWC Cottonwood Cre 84.18 54 P 10 46 34.5
baz=289
TPH Tonopah 84.29 52 P P 10 46 34.7 +0.9
HLID Hailey 84.41 46 P P 10 46 35.3 +1.0
HLID IAmb IAmb 10 46 36.4
comp=Z,13nm,1.1s
HLID Hailey 84.41 46 P 10 46 35.7
baz=291
MPMC Manual Prospec 84.76 54 P 10 46 37.5
baz=290
BCYI Bear Canyon 84.82 45 P P 10 46 37.5 +1.1
ELK Elko 84.82 49 P P 10 46 37.7 +1.3
ELK IAmb IAmb 10 46 38.6
comp=Z,16nm,0.8s
LRM Limekiln Ridge 84.89 43 P P 10 46 36.8 +0.2
HRY Holter Researc 84.96 42 P P 10 46 37.5 +0.7
DLMT Dillon 84.97 44 P P 10 46 37.4 +0.5
DLMT IAmb IAmb 10 46 38.6
comp=Z,18nm,1.6s
FURC Furnace Creek, 85.10 53 P 10 46 38.9
baz=290
BFSC Mount Baldy Ra 85.24 56 P 10 46 39.0
baz=290
TPNV Topopah Spring 85.40 53 P P 10 46 39.6 +0.4
TPNV Topopah Spring 85.40 53 P 10 46 40.6
baz=290
R11A Troy Canyon, C 85.41 51 P P 10 46 39.3 0.0
R11A Troy Canyon, C 85.41 51 P 10 46 40.6
baz=290
BOZ Bozeman (W) 85.51 43 P P 10 46 40.3 +0.8
BOZ Bozeman (W) 85.51 43 P 10 46 40.4
baz=292,SNR=6.8
GSC Goldstone, Bar 85.54 54 P P 10 46 40.1 +0.3
GSC IAmb IAmb 10 46 42.0
comp=Z,9.7nm,1.0s
GSC Goldstone, Bar 85.54 54 P 10 46 40.8
baz=290
KBZ Khabaz 85.62 315 P P 10 46 38.5 -1.3
comp=Z,5.4nm,0.8s,baz=145,slow=3.8,SNR=8.5
SHOC Shoshone, Teco 85.74 54 P 10 46 42.2
baz=290
EGMT Eagleton 85.75 41 P P 10 46 41.0 +0.4
EGMT Eagleton 85.75 41 P 10 46 41.3
baz=294
MURC Murrieta 85.81 56 P 10 46 41.8
baz=290
QLMT Earthquake Lak 85.94 44 P P 10 46 42.5 +0.8
STEI Steigen 86.03 343 *eP* **P 10 46 41.2 -0.1**
HEC Hector,Ludlow 86.06 55 P 10 46 43.4
baz=290
YHL Hebgen Lake 86.09 44 P P 10 46 43.6 +1.1
YHL IAmb IAmb 10 46 45.3
comp=Z,13nm,1.3s
SPR3 Spring Creek 3 86.10 50 P P 10 46 43.4 +0.7
YHB Horse Butte 86.12 44 P P 10 46 43.5 +1.0
109C Camp Elliot, M 86.13 57 P 10 46 43.8
baz=290
PRN Pahroc Range 86.14 52 P P 10 46 43.3 +0.7
PRN IAmb IAmb 10 46 45.2
comp=Z,13nm,1.0s
HVU Hansel Valley 86.18 47 P P 10 46 44.2 +1.4
HVU IAmb IAmb 10 46 45.8
comp=Z,6.7nm,0.8s
YMR Madison River 86.30 44 P P 10 46 45.0 +1.6
YMR IAmb IAmb 10 46 46.3
comp=Z,13nm,1.3s
YHH Holmes Hill 86.33 44 P P 10 46 45.0 +1.3
LOF Lofoten 86.35 344 *eP* **P 10 46 44.5 +1.7**
SHPR Sheep Range 86.37 53 P P 10 46 45.1 +1.3
SHPR IAmb IAmb 10 46 46.4
comp=Z,8.2nm,0.8s
PFO Pinyon Flats O 86.39 56 P P 10 46 44.9 +1.0
PFO IAmb IAmb 10 46 45.8
comp=Z,8.4nm,1.1s
PFO Pinyon Flats O 86.39 56 P 10 46 44.8
baz=290,SNR=5.1
XPFO Pion Flat 86.39 56 P P 10 46 44.5 +0.6
XPFO IAmb IAmb 10 46 45.9
comp=Z,8.6nm,1.1s
TPFO Pinon Flats 86.39 56 P 10 46 45.1
baz=290,SNR=6.5
FAUS Fauske 86.39 343 *eP* **P 10 46 42.6 -0.4**
FINES FINESS Array B 86.45 335 P P 10 46 42.1 -1.3
comp=Z,9.5nm,0.6s,baz=64,slow=4.5,SNR=73
YNR Norris Junctio 86.47 44 P P 10 46 40.6 -3.6
BAR Barrett 86.54 57 P P 10 46 45.4 +0.9
GMRC Granite Mounta 86.60 54 P 10 46 46.3
baz=291
BELC Belle Mtn. Jos 86.61 55 P 10 46 46.0
baz=290,SNR=13
PSUT Pine Spring 86.61 50 P P 10 46 45.2 +0.2
PSUT IAmb IAmb 10 46 47.0
comp=Z,12nm,0.9s
MONP2 Monument Peak 86.66 56 P 10 46 46.3
baz=290
H17A Grant Village 86.67 44 P 10 46 48.8
baz=293
FLWY Flagg Ranch 86.71 44 P P 10 46 46.3 +1.0
FLWY IAmb IAmb 10 46 49.9
comp=Z,9.9nm,1.1s
LKWY Lake 86.72 44 P P 10 46 42.5 -2.9
DUG Dugway, Tooele 86.75 49 P P 10 46 46.5 +1.0
DUG IAmb IAmb 10 47.6
comp=Z,9.2nm,0.7s
DUG Dugway, Tooele 86.75 49 P 10 46 46.8
baz=292
YMP Mirror Lake Pl 86.81 44 P P 10 46 46.0 +0.1
SNOW Snow King Moun 86.92 45 P P 10 46 47.3 +0.9
IKP In-Ko-Pah, Jac 87.00 57 P 10 46 48.1
baz=290
HWUT Hardware Ranch 87.09 47 P P 10 46 47.9 +0.8
HWUT IAmb IAmb 10 46 49.7
comp=Z,15nm,1.4s
FFC Flin Flon 87.14 32 P P 10 46 47.4 +0.6
FFC IAmb IAmb 10 46 48.5
comp=Z,12nm,0.9s
BC3 Big Chuckawall 87.16 55 P 10 46 48.9
baz=291,SNR=9.1
IRM Iron Mountain 87.22 55 P 10 46 49.1
baz=291,SNR=11
RLMT Red Lodge 87.23 43 P P 10 46 49.2 +1.4
RLMT IAmb IAmb 10 46 50.5
comp=Z,4.3nm,0.5s
RLMT Red Lodge 87.23 43 P 10 46 49.4
baz=294,SNR=8.5
CCUT Cedar City 87.33 51 P P 10 46 50.1 +1.7
CCUT IAmb IAmb 10 46 50.6
comp=Z,4.9nm,0.7s
ESJX Sierra Juarez 87.35 57 P P 10 46 49.3 +0.8
NLU North Lily Min 87.36 49 P P 10 46 48.4 -0.1
MOR8 Moi Rana 87.48 342 *eP* **P 10 46 47.5 -0.6**
JLU Jordanelle 87.56 48 P P 10 46 50.3 +0.9
JLU IAmb IAmb 10 46 51.5
comp=Z,7.8nm,1.1s
TCRU Three Creeks R 87.61 50 P P 10 46 50.5 +0.8
TCRU IAmb IAmb 10 46 52.1
comp=Z,5.7nm,0.9s
LCMT Little Creek M 87.62 52 P P 10 46 50.5 +0.9
LCMT IAmb IAmb 10 46 52.5
comp=Z,18nm,1.5s
KONS Konsvik 87.62 343 *eP* **P 10 46 49.3 +0.6**
MPU Maple Canyon 87.65 48 P P 10 46 50.7 +0.9
MPU IAmb IAmb 10 46 51.8
comp=Z,9.6nm,1.4s
STOK Stokkvaagen 87.77 343 *eP* **P 10 46 50.3 +0.9**
MSU Marysvale 87.84 50 P P 10 46 51.6 +0.8
W13A Hualapai Mount 87.85 54 P P 10 46 51.7 +0.8
W13A IAmb IAmb 10 46 53.2
comp=Z,6.0nm,0.8s
GLA Glamis 87.86 56 P 10 46 52.4
baz=291
KNB Kanab 87.93 52 P P 10 46 52.0 +0.8
KNB IAmb IAmb 10 46 54.0
comp=Z,12nm,0.9s
PDMCI Parker Dam,Lak 87.94 54 P 10 46 52.9
baz=291,SNR=9.7
PD31 Pinedale Array 88.00 45 P P 10 46 52.1 +0.7
PDAR Pinedale Array 88.00 45 P P 10 46 52.0 +0.5
comp=Z,1.0nm,0.4s,baz=295,slow=0.4,SNR=13
PDAR Pinedale Array 88.00 45 P P 10 46 50.8 -0.6
MTPU Mount Pierson 88.02 50 P P 10 46 52.4 +0.6
MTPU IAmb IAmb 10 46 54.4
comp=Z,4.8nm,0.8s
TMUT Trail Mountain 88.23 49 P P 10 46 53.2 +0.5
TMUT IAmb IAmb 10 50 03.4
comp=Z,5.0nm,0.7s
Q16A Castle Valley 88.41 49 P P 10 46 54.1 +0.8
LAO LASA Array 88.49 41 P P 10 46 54.0 +0.6
LAO IAmb IAmb 10 46 55.4
comp=Z,10nm,0.8s
LAO LASA Array 88.49 41 P 10 46 54.5
baz=296
P17A Butcher Ranch, 88.50 49 P P 10 46 54.7 +0.9
P17A IAmb IAmb 10 46 55.9
comp=Z,6.5nm,0.8s
U15A North Rim 88.55 52 P P 10 46 54.5 +0.3
U15A IAmb IAmb 10 46 56.8
comp=Z,4.8nm,0.8s
SRU San Rafael Swe 88.80 49 P P 10 46 55.3 +0.2
MTSE Matsula 88.95 334 *eP* **P 10 46 52.8 -2.3**
NSS Namsos 89.38 342 *eP* **P 10 46 57.1 +0.2**
WUAZ Wupatki 89.59 53 P P 10 47 00.1 +1.2
WUAZ IAmb IAmb 10 47 01.5
comp=Z,6.3nm,0.9s
WUAZ Wupatki 89.59 53 P 10 47 00.6
baz=293
AAL Aland 89.60 336 *eP* **P 10 46 56.3 -1.8**
ISAL Salakas 89.74 330 *eP* **P 10 46 58.6 -0.2**
NACGM Naroch 89.80 329 *i* P **P 10 46 57.8 -1.4**
NACGM *i* P **P 10 46 57.8 -1.4**
NACGM *i* P **P 10 46 57.8 -1.4**
NACGM *i* pP pP 10 48 47.1 -14
NACGM *i* sP sP 10 49 40.9 -16
NACGM *i* PP PP 10 50 21.6 -20
NACGM *i* PPP PPP 10 52 00.6
NACGM *i* SKS SKSac 10 56 23.5 -13
NACGM *i* SP ScS 10 57 39.8 +34
NACGM *i* sS sS 11 00 00.7 -41
NACGM *i* SS SS 11 02 02.8 -74
NACGM *i* SSS SSS 11 06 04.1
IIGN Ignalina 89.81 330 *eP* **P 10 46 59.1 -0.1**
214A Organ Pipe Nat 89.85 56 P P 10 47 01.3 +1.3
214A IAmb IAmb 10 47 02.6
comp=Z,9.2nm,1.0s
214A Organ Pipe Nat 89.85 56 P 10 47 01.7
baz=292
O20A White River Ci 89.99 47 P P 10 47 00.5 -0.2
O20A IAmb IAmb 10 47 02.3
comp=Z,9.2nm,1.0s
O20A White River Ci 89.99 47 P 10 47 01.5
baz=295
K22A Casper 90.07 44 P P 10 47 01.1 +0.2
K22A IAmb IAmb 10 47 03.7
comp=Z,5.9nm,0.9s
K22A Casper 90.07 44 P 10 47 01.9
baz=296
PV10 Paradox Valley 90.16 49 P P 10 47 02.0 +0.4
PV14 Lion Creek, Pa 90.17 49 P P 10 47 02.4 +0.8
PV19 Morning Glory 90.22 49 P P 10 47 02.4 +0.6
PABE Paberze 90.78 331 *eP* **P 10 47 03.1 -0.5**
AKASG Malin Array Be 90.82 325 P P 10 47 02.1 -1.8
comp=Z,0.9nm,0.5s,baz=48,slow=5.6,SNR=7.0
RSSD Black Hills 91.03 42 P P 10 47 05.7 +0.3
RSSD Black Hills 91.03 42 P 10 47 05.7
baz=298
MVCO Mesa Verde 91.03 50 P P 10 47 06.1 +0.5
MVCO IAmb IAmb 10 47 07.8
comp=Z,9.2nm,1.2s
MVCO Mesa Verde 91.03 50 P 10 47 06.8
baz=295
N23A Red Feather La 91.24 46 P 10 47 08.3
baz=296,SNR=8.5
SMCO Snowmass 91.28 48 P P 10 47 08.1 +1.2
SMCO IAmb IAmb 10 47 09.0
comp=Z,7.3nm,0.8s
TUC Tucson 91.30 55 P P 10 47 08.1 +1.4
TUC Tucson 91.30 55 P 10 47 08.5
baz=293
ISCO Idaho Springs 91.95 47 P P 10 47 09.7 -0.1
ISCO IAmb IAmb 10 47 12.0
comp=Z,3.2nm,0.8s
ISCO Idaho Springs 91.95 47 P 10 47 11.1
baz=297,SNR=6.6
S22A 4UR Ranch, Cre 92.00 49 P 10 47 11.4
baz=296,SNR=5.3
DOMB Dombas 92.11 341 *eP* **P 10 47 09.6 -0.2**
NB2 NORSAR Subarra 92.17 339 P P 10 47 08.6 -1.4
comp=Z,0.9nm,0.5s,baz=53,slow=5.1
NB2 NORSAR Subarra 92.17 339 P P 10 47 08.6 -1.4
baz=53,slow=5.1
NOA NORSAR Array B 92.17 339 P P 10 47 08.8 -1.2
comp=Z,0.9nm,0.5s,baz=45,slow=4.4,SNR=5.9
NC602 NORSAR Array S 92.28 339 *eP* **P 10 47 10.3 -0.2**
ULM Lac du Bonnet 92.67 34 P P 10 47 12.2 -0.3
comp=Z,0.9nm,0.4s,baz=288,slow=4.5,SNR=3.0
SKAR Skarslia 93.38 340 *eP* **P 10 47 13.6 -2.0**
ANMO Albuquerque 93.49 51 P 10 47 18.1
baz=296
BRTR Keskin Array B 93.59 314 P P 10 47 16.1 -1.0
comp=Z,2.3nm,0.7s,baz=93,slow=3.1,SNR=12
KONO Kongsberg 93.74 339 *eP* **P 10 47 16.9 -0.2**
MNTX Cornudas Mount 95.72 54 P 10 47 27.9
baz=296
TXAR Lajitas Array 98.10 55 P P 10 47 38.2 +0.6
comp=Z,0.2nm,0.6s,baz=294,slow=3.3,SNR=8.4
TXAR PKKPbc **PKKPbc 11 04 07.6 -0.4**
comp=Z,0.3nm,0.7s,baz=131,slow=3.6,SNR=3.6
GERES GERESS Array B 99.89 330 P Pdif 10 47 44.2 -0.9
comp=Z,0.2nm,0.4s,baz=29,slow=6.7,SNR=2.5
ESDC Sonseca Array 114.95 334 PKP PKPdf 10 52 38.3 +0.2
comp=Z,0.3nm,0.3s,baz=353,slow=2.1,SNR=4.1
ESDC PP **PP 10 53 46.2 -0.2**
comp=Z,0.6nm,0.8s,baz=21,slow=6.4,SNR=4.1
ESDC Sonseca Array 114.95 334 PKPdf 10 52 38.0 0.0
LSZ Lusaka 119.94 263 PKiKP 10 52 48.9 +0.5
SNAA Sanae 124.07 192 PKPdf PKPdf 10 52 53.9 -0.6
BOSA Boshof 124.68 248 PKP PKPdf 10 52 57.2 +0.2
comp=Z,2.3nm,1.1s,baz=56,slow=3.6,SNR=1.5
VNA2 Neumayer--Watz 125.53 191 PKPdf PKiKP 10 52 57.8 +0.1
VNA3 Neumayer Olymp 125.63 190 PKPdf PKPdf 10 52 57.7 +0.3
UREC San Jos de Ur 131.89 60 *eP* **PKPdf 10 53 10.0 -1.0**
TORD Torodi Ar. Bea 131.92 309 PKP PKPdf 10 53 11.5 +0.5
comp=Z,1.0nm,0.6s,baz=32,slow=1.6,SNR=7.2
TORD SKPbc **SKPbc 10 55 42.9 -2.1**
comp=Z,0.9nm,0.5s,baz=20,slow=2.1,SNR=5.5
TORD Torodi Ar. Bea 131.92 309 PKPdf 10 53 11.2 +0.2
ZARC Zaragoza, Cauc 132.59 60 *eP* **PKPdf 10 53 12.4 0.0**
PLMC San Jos del P 132.79 64 *eP* **PKPdf 10 53 09.0 -3.8**
YOTC Yotoco, Valle 133.21 65 *eP* **PKPdf 10 53 13.6 -0.1**
TOLC Tolima 133.77 64 *eP* **PKPdf 10 53 15.8 +0.8**
SOTA Rioblanco 133.89 68 *eP* **PKPdf 10 53 16.1 +0.7**
ORTC Ortega, Tolima 134.18 64 *eP* PKPdf 10 53 06.1 -9.3
SPBC San Pablo de B 134.25 62 *eP* **PKPdf 10 53 15.8 +0.2**
RUSC La Rusia 134.94 60 *eP* PKPdf 10 53 07.0 -10
DBIC Dimbokro 141.01 308 PKhKP **PKPdf 10 53 22.0 -5.8**
comp=Z,2.8nm,0.3s,baz=90,slow=3.1,SNR=14
DBIC Dimbokro 141.01 308 PKPdf 10 53 27.3 -0.5
PLCA Paso Flores 142.53 133 PKP **PKPdf 10 53 28.3 -1.5**
comp=Z,9.2nm,0.7s,baz=229,slow=4.2,SNR=35
PLCA Paso Flores 142.53 133 PKPdf **PKPdf 10 53 28.5 -1.3**
BI02 San Fabin de 143.52 127 PKPdf **PKPdf 10 53 31.6 -0.1**
BO02 Sierra Bellavi 144.47 124 PKPab 10 53 34.5 +0.4
MT02 Curacav 144.60 121 PKPab 10 53 34.5 0.0
PEL Peldehue 145.00 121 PKPab 10 53 35.9 -0.3
CO02 Combarbal 145.19 118 PKPbc 10 53 35.8 -0.1
VA03 San Esteban 145.21 120 PKPab 10 53 36.6 -0.4
CO03 El Pedregal 145.52 117 PKPdf 10 53 36.1 +0.7
GO04 Tololo Observa 145.56 116 PKPbc 10 53 36.6 -0.5
AC04 Llanos de Chal 145.63 112 PKPbc 10 53 36.9 -0.1
LCO Las Campanas 145.84 114 PKPbc 10 53 37.9 0.0
CO01 Juntas del Tor 146.19 116 PKPbc 10 53 39.8 +0.9
AC05 El Transito 146.23 114 PKPbc 10 53 38.8 -0.1
GO03 Copiap 146.44 112 PKPbc 10 53 40.2 +0.8
PB14 IPOC Station P 146.54 106 PKPbc 10 53 40.8 +0.7
PB04 IPOC Station P 146.81 102 PKPbc 10 53 41.1 +0.4
PB07 IPOC Station P 147.04 101 PKPdf 10 53 37.2 -1.1
MNMC Minye Minye 147.16 96 PKPdf **PKPdf 10 53 38.7 +0.1**
GO02 Mina Guanaco 147.25 107 PKPbc 10 53 42.2 +0.3
PB01 IPOC Station P 147.39 100 PKPdf 10 53 39.5 +0.8
PB15 IPOC Station P 147.44 104 PKiKP 10 53 43.4 -0.5
AC02 Maricunga 147.51 110 PKiKP 10 53 43.9 -0.4
PB09 IPOC Station P 147.64 101 PKPbc 10 53 43.8 +0.9
PB08 IPOC Station P 147.65 98 PKPdf 10 53 40.1 +0.6
LVC Limon Verde 147.96 102 PKPbc 10 53 44.3 +0.4
LPAZ La Paz 148.17 91 PKP **PKPdf 10 53 42.0 +1.2**
comp=Z,2.1nm,0.7s,baz=15,slow=3.6,SNR=9.9
LPAZ PKPbc **PKiKP 10 53 46.4 +0.2**
comp=Z,9.9nm,0.6s,baz=260,slow=2.1,SNR=27
LPAZ La Paz 148.17 91 PKPbc 10 53 44.8 0.0
PTGA Pitinga 149.40 57 PKPbc 10 53 47.3 +0.1
SAML Samuel 150.78 74 PKPdf **PKPdf 10 53 44.5 +0.3**
SAML PKPbc **10 53 50.7 +0.3**
SAML PKPab **10 53 59.7 -0.5**
CPUP Villa Florida 157.98 114 PKPab **PKPab 10 54 31.2 +0.5**
comp=Z,2.2nm,0.8s,baz=236,slow=5.3,SNR=4.6

IDC 22 11:01:06.5±2.0, 4.78S×154.00E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.5/42, mbtmpg3.7/4, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/31, Error ellipse: s-maj=116.8km s-min=28.1km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**16.98**	**206**	Pn	P	11 05 07.2	-0.5
	0.3nm,0.3s,baz=31,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**24.36**	**230**	P	P	11 06 27.6	+1.1
	1.6nm,0.5s,baz=57,slow=10.0,SNR=45						
ASAR	**Alice Springs**	**26.98**	**224**	P	P	11 06 49.2	-1.0
	1.0nm,0.7s,baz=56,slow=9.3,SNR=25						
RAR	**Rarotonga**	**47.70**	**114**	LR	LR	11 26 36.3	
	comp=Z,44nm,21.6s,baz=263,slow=32						
ILAR	**Eielson Array**	**81.69**	**22**	P	P	11 13 26.2	-0.3
	0.1nm,0.6s,baz=241,slow=5.4,SNR=4.8						

*NNC **22** 11:05:08.0±4.7, 36.75N×70.63E, h0km, mb4.8, mpv4.7, Error ellipse: s-maj=38.9km s-min=32.8km az=3.0*
*IDC **22** 11:05:09.4±2.0, 36.49N×70.37E, h195km±19km, mb3.4/14, mb1 3.5/21, mb1mx3.2/69, mbtmp4.0/21, Error ellipse: s-maj=14.9km s-min=11.7km az=165.0*
*NEIC **22** 11:05:10.1±1.1, 36.53N±0.08×70.35E±0.07, h219km±12km, mb4.1/5, Error ellipse: s-maj=13.7km s-min=2.2km az=143.0*

ISC 22 11:05:10.3±0.5, 36.50N±0.05×70.42E±0.05, h204km, n73, σ1881/84, mb3.7/13, 8C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.25**	**210**	Pn	**Pn**	**11 05 52.9**	**+0.8**
CEP	**Cherat**	**2.94**	**155**	P	**Pn**	**11 06 00.6**	**+1.0**
CEP				S	**S**	**11 06 38.0**	**+0.5**
NIL	**Nilore**	**3.67**	**140**	Pn	**Pn**	**11 06 09.6**	**+1.4**
THW	**Thamme Wali**	**3.85**	**163**	P	**Pn**	**11 06 11.1**	**+0.6**
SARP	**Sargodha**	**4.93**	**157**	P	**Pn**	**11 06 23.5**	**-0.5**
AML	**Almayashu**	**6.17**	**23**	P	**Pn**	**11 06 40.0**	**-0.1**
	SNR=572						
DHRM	**DHARAMSHALA**	**6.45**	**129**	*eP*	**Pn**	**11 06 42.2**	**-1.4**
DHRM				*eS*	**S**	**11 07 53.8**	**-3.6**
DHRM				IAML		11 07 56.9	
	comp=N,375nm,0.3s						
DHRM				IAML		11 07 58.3	
	comp=E,224nm,0.5s						
UCH	**Uchtor**	**6.54**	**28**	P	**Pn**	**11 06 44.8**	**-0.2**
	SNR=393						
KK31	**Karatay Array**	**6.60**	**1**	⇓P	**Pn**	**11 06 43.7**	**-1.5**
	comp=E,3.3nm,0.2s,baz=167,slow=12,SNR=491						
KK31				⇓S	**S**	**11 07 55.8**	**-4.7**
	comp=E,46nm,0.5s,baz=174,slow=24						
KK31	**Karatay Array**	**6.60**	**1**	Pn	**Pn**	**11 06 45.2**	**0.0**
KKAR	**Karatay Array**	**6.60**	**1**		**Pn**	**11 06 45.2**	**-0.1**
EKS2	**Erkin-Say**	**6.68**	**22**	P	**Pn**	**11 06 46.6**	**+0.2**
	SNR=59						
AAK	**Ala-Archa**	**6.89**	**26**	P	**Pn**	**11 06 49.3**	**+0.1**
	comp=E,16nm,0.3s,baz=200,slow=5.9,SNR=171						
AAK				S	**S**	**11 08 06.0**	**-1.5**
	comp=E,11nm,0.3s,baz=326,slow=22,SNR=18						
AAK	**Ala-Archa**	**6.89**	**26**	P	**Pn**	**11 06 49.0**	**-0.1**
	SNR=88						
AAK	**Ala-Archa**	**6.89**	**26**	⇑P	**Pn**	**11 06 47.2**	**-2.0**
	comp=E,41nm,0.6s						
AAK				⇓S	**S**	**11 08 05.4**	**-2.2**
	comp=E,52nm,0.6s						
AAK	**Ala-Archa**	**6.89**	**26**	Pn	**Pn**	**11 06 49.1**	**-0.1**
HRA	**Herat**	**7.00**	**255**	Pn	**Pn**	**11 06 51.1**	**+0.3**
KBK	**Karagaybulak**	**7.07**	**28**	P	**Pn**	**11 06 52.0**	**+0.4**
	SNR=58						
ULHL	**Ulahol**	**7.30**	**36**	P	**Pn**	**11 06 54.0**	**-0.5**
	SNR=114						
CHMS	**Chumysh**	**7.30**	**26**	P	**Pn**	**11 06 54.2**	**-0.2**
	SNR=16						
USP	**Ospenovka**	**7.45**	**24**	P	**Pn**	**11 06 56.2**	**-0.1**
	SNR=8.5						
TKM2	**Tokmak 2**	**7.55**	**30**	P	**Pn**	**11 06 57.7**	**-0.1**
	SNR=58						
TKM2	**Tokmak 2**	**7.55**	**30**	⇓P	**Pn**	**11 06 55.6**	**-2.3**
	comp=E,105nm,0.8s						
TKM2				⇑S	**S**	**11 08 20.0**	**-3.3**
	comp=E,39nm,0.8s						
MDOK	**Medeo**	**8.38**	**35**	P	**Pn**	**11 07 08.3**	**-0.2**
	comp=E,38nm,0.5s						
PDGK	**Podgornoye**	**9.75**	**43**	⇓P	**Pn**	**11 07 25.5**	**-0.7**
	comp=E,20nm,0.9s						
GEYT	**Alibeck**	**9.92**	**282**	P	**Pn**	**11 07 26.9**	**-1.5**
	comp=E,1.1nm,0.3s,baz=122,slow=9.2,SNR=8.9						
GEYT				S	**S**	**11 09 17.6**	**-1.8**
	comp=E,1.2nm,0.3s,baz=309,slow=30,SNR=5.1						
GEYT	**Alibeck**	**9.92**	**282**		**Pn**	**11 07 26.3**	**-2.1**
GYA0B	**ALIBECK ARRAY**	**9.92**	**282**	Pn	**Pn**	**11 07 26.5**	**-1.8**
MAKZ	**Makanchi**	**13.43**	**36**	⇑P	**Pn**	**11 08 14.8**	**+1.9**
	comp=E,24nm,0.6s						
MAKZ	**Makanchi**	**13.43**	**36**		**Pn**	**11 08 11.9**	**-1.0**
MK31	**Makanchi Array**	**13.57**	**37**	⇑P	**Pn**	**11 08 16.2**	**+1.6**
	comp=E,4.0nm,0.6s						
MK31	**Makanchi Array**	**13.57**	**37**		**Pn**	**11 08 14.0**	**-0.7**
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**11 08 13.9**	**-0.7**
	comp=E,0.9nm,0.3s,baz=225,slow=14,SNR=55						
MKAR	**Makanchi Array**	**13.57**	**37**	Pn	**Pn**	**11 08 13.5**	**-1.2**
GKN	**Gorkha**	**14.70**	**121**	*eP*	**Pn**	**11 08 29.2**	**+0.3**
	comp=E,77nm,0.3s						
AB31	**Akbulak array**	**14.86**	**332**	⇑P	**P**	**11 08 34.4**	**+3.2**
	comp=E,2.8nm,0.3s						
AB31				⇑S	**S**	**11 11 21.4**	**+6.3**
	comp=E,1.0nm,0.4s						
ABKAR	**Akbulak array**	**14.86**	**332**		**Pn**	**11 08 29.1**	**-1.3**
ABKAR	**Akbulak array**	**14.86**	**332**	P	**Pn**	**11 08 28.4**	**-2.0**
WMQ	**Urumqi**	**15.08**	**56**	P	**Pn**	**11 08 32.6**	**-0.7**
DMN	**Daman**	**15.27**	**121**	*eP*	**Pn**	**11 08 36.1**	**+0.2**
	comp=E,35nm,0.3s						
KKN	**Kakani**	**15.28**	**120**	*eP*	**Pn**	**11 08 36.7**	**+0.7**
	comp=E,0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**15.28**	**20**	P	**Pn**	**11 08 34.0**	**-1.4**
	comp=E,0.3nm,0.3s,baz=210,slow=11,SNR=27						
KURBB	**Kurchatov Arra**	**15.28**	**20**	⇑P	**P**	**11 08 39.5**	**+3.7**
	comp=E,6.7nm,0.6s						
PKIN	**Phulchoki**	**15.49**	**121**	*eP*	**P**	**11 08 39.2**	**+0.5**
	comp=E,113nm,0.5s						
PKI	**Pulchoki**	**15.50**	**121**	*eP*	**P**	**11 08 39.7**	**+0.8**
	comp=E,122nm,0.6s						
GUN	**Gumba**	**15.62**	**119**	*eP*	**P**	**11 08 40.6**	**+0.4**
	comp=E,44nm,0.3s						
BVAR	**Borovoye Array**	**16.52**	**360**	P	**P**	**11 08 50.4**	**+1.0**
	comp=E,0.9nm,0.3s,baz=207,slow=18,SNR=16						
BVAR				S	**S**	**11 11 50.8**	**-1.0**
	comp=E,0.1nm,0.3s,baz=156,slow=23,SNR=3.7						
AKTO	**Aktyubinsk**	**16.55**	**331**	P	**Pn**	**11 08 50.6**	**-0.2**
	comp=E,2.6nm,0.3s,baz=141,slow=10,SNR=57						
AKTO	**Aktyubinsk**	**16.55**	**331**	⇑P	**Pn**	**11 08 57.7**	**+6.8**
	comp=E,11nm,0.6s						
BRVK	**Borovoye**	**16.56**	**360**		**P**	**11 08 48.7**	**-1.2**
WSAR	**Wadi Sarin**	**16.69**	**221**	P	**P**	**11 08 51.7**	**+0.1**
	comp=E,0.8nm,0.3s,baz=64,slow=6.5,SNR=5.4						
RAMN	**Ramite**	**16.72**	**120**	*eP*	**P**	**11 08 52.5**	**+0.4**
	comp=E,93nm,0.6s						
TAPN	**Taplejung**	**17.26**	**117**	*eP*	**P**	**11 08 58.3**	**+0.2**
	comp=E,42nm,0.6s						
ODAN	**Odare**	**17.33**	**119**	*eP*	**P**	**11 08 59.5**	**+0.7**
	comp=E,46nm,0.4s						
ZAA0	**Zalesovo Array**	**20.11**	**25**	P	**P**	**11 09 27.6**	**-0.7**

ZAA0				IAmb	IAmb	11 09 29.1		
	comp=Z,5.1nm,0.8s							
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**11 09 28.1**	**-0.2**	
	comp=Z,5.1nm,0.4s,baz=218,slow=11,SNR=26							
ZALV				S	**S**	**11 13 03.2**	**+0.5**	
	comp=Z,0.5nm,0.5s,baz=344,slow=42,SNR=2.9							
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**11 09 27.8**	**-0.6**	
SHL	**Shillong**	**21.33**	**115**	P	**P**	**11 09 40.6**	**-1.1**	
ARU	**Arti**	**21.48**	**342**	P	**P**	**11 09 42.8**	**+0.1**	
	comp=Z,1.3nm,0.5s,baz=149,slow=9.5,SNR=6.0							
ARU	**Arti**	**21.48**	**342**	P	**P**	**11 09 41.5**	**-1.3**	
ARU				IAmb	IAmb	11 09 45.4		
	comp=Z,6.8nm,1.0s							
BELG	**Belogornoye**	**22.60**	**322**	P	**P**	**11 09 54.0**	**+0.7**	
	comp=Z,10nm,0.6s,baz=282,slow=1.4,SNR=5.3							
KIRV	**Kirov**	**26.04**	**335**	P	**P**	**11 10 23.6**	**-0.8**	
	comp=Z,7.1nm,0.5s,baz=326,slow=3.6,SNR=2.2							
SONM	**Songino Array**	**28.72**	**55**	P	**P**	**11 10 49.5**	**+0.9**	
	comp=Z,1.2nm,0.7s,baz=264,slow=9.6,SNR=12							
SONM				pP	**pP**	**11 11 37.1**	**+6.0**	
	comp=Z,0.4nm,0.7s,baz=264,slow=5.8,SNR=2.9							
CMAR	**Chiang Mai Arr**	**30.87**	**118**	P	**P**	**11 11 08.3**	**+0.7**	
	comp=Z,0.3nm,0.3s,baz=305,slow=8.3,SNR=4.8							
FINES	**FINESS Array B**	**37.22**	**326**	P	**P**	**11 12 01.6**	**-0.1**	
	comp=Z,1.8nm,0.7s,baz=111,slow=10,SNR=6.2							
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**	**11 12 33.0**	**+0.4**	
	comp=Z,1.7nm,0.6s,baz=101,slow=6.3,SNR=10							
NB2	**NORSAR Subarra**	**44.10**	**323**	P	**P**	**11 12 57.2**	**-0.8**	
	comp=Z,0.3nm,0.4s,baz=99,slow=7.9							
NOA	**NORSAR Array B**	**44.10**	**323**	P	**P**	**11 12 57.8**	**-0.2**	
	comp=Z,0.3nm,0.4s,baz=98,slow=7.8,SNR=2.0							
KLR	**Kul'dur**	**45.52**	**54**	P	**P**	**11 13 09.8**	**+0.5**	
	comp=Z,0.7nm,0.4s,baz=346,slow=22,SNR=2.7							
KMBO	**Kilima Mbogo**	**48.49**	**227**	P	**P**	**11 13 33.4**	**+0.5**	
	comp=Z,1.0nm,0.5s,baz=45,slow=19,SNR=1.8							
TORD	**Torodi Ar. Bea**	**65.25**	**268**	P	**P**	**11 15 29.3**	**-1.1**	
	comp=Z,0.6nm,0.4s,baz=48,slow=6.1,SNR=9.3							
YKA	**Yellowknife Ar**	**81.27**	**2**	P	**P**	**11 17 03.4**	**+0.3**	
	comp=Z,0.1nm,0.6s,baz=359,slow=5.6,SNR=1.8							
ASAR	**Alice Springs**	**84.64**	**125**	P	**P**	**11 17 19.4**	**-1.6**	
	comp=Z,0.3nm,0.8s,baz=309,slow=5.9,SNR=1.7							

TUL ***22*** *11:12:09.9±1.1,36.33N±0.01×97.20W±0.02, h5km±7km, ML3.3, mb_Lg3.4/111(NEIC), Error ellipse: s-maj=2.8km s-min=1.7km az=66.0*

NEIC ***22*** *11:12:10.0±1.1,36.33N±0.01×97.21W±0.02, h4km±8km, Error ellipse: s-maj=2.4km s-min=1.2km az=57.0*

ANF ***22*** *11:12:10.1±0.2,36.33N×97.21W, h5km, ML4.2/19, Error ellipse: s-maj=2.5km s-min=2.4km az=163.0*

IDC ***22*** *11:12:11.9±1.0,36.38N×97.61W, h0km, mb3.6/1, mb1 3.6/6, mb1mx3.3/59, mbtmp3.3/6, ML3.2/5, Error ellipse: s-maj=13.9km s-min=10.9km az=137.0*

ISC 22 11:12:09.3±1.1, 36.34N±0.02×97.24W±0.02, h6km±8km, n137, σ1s32/140, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.47**	**111**	Pg		**Pg**	**11 12 18.6**	**+0.3**
QUOK				Sg		**Sg**	**11 12 24.3**	**-0.1**
OK031	**S. Brethren Rd**	**0.51**	**140**			**Pg**	**11 12 19.5**	**+0.3**
OK031				Sg		**Sg**	**11 12 26.0**	**+0.2**
OK030	**Cody Creek RV**	**0.56**	**138**			**Pg**	**11 12 20.3**	**+0.3**
OK030				Sg		**Sg**	**11 12 27.5**	**+0.2**
OK029	**Liberty Lake**	**0.57**	**197**			**Pb**	**11 12 21.1**	**-0.7**
OK029				Sg		**Sg**	**11 12 28.6**	**+0.9**
CROK	**Carrier**	**0.62**	**285**	Pg		**Pb**	**11 12 22.6**	**+0.1**
CROK				Sg		**Sb**	**11 12 31.2**	**-0.2**
KAN13	**South Haven SW**	**0.69**	**344**			**Pb**	**11 12 23.9**	**0.0**
KAN13				Sg		**Sb**	**11 12 33.4**	**-0.3**
GC02	**Grant County #**	**0.71**	**316**			**Pb**	**11 12 24.3**	**+0.2**
GC02				Sg		**Sb**	**11 12 34.3**	**+0.2**
BCOK	**Bluff Creek, N**	**0.75**	**203**			**Pg**	**11 12 24.2**	**+0.5**
BCOK				Sg		**Sb**	**11 12 34.7**	**-0.5**
OK025	**Westminster Rd**	**0.76**	**186**			**Pb**	**11 12 24.6**	**-0.5**
OK025				Sg		**Sg**	**11 12 34.3**	**+0.3**
T35A	**Sooner Cattle**	**0.82**	**46**			**Pg**	**11 12 25.5**	**+0.3**
T35A				Sg		**Sg**	**11 12 35.6**	**-0.1**
T35B	**Sooner Cattle** baz=224	**0.82**	**46**	P		**Pg**	**11 12 25.3**	**+0.2**
T35B				S		**Sg**	**11 12 36.0**	**+0.2**
T35B	**Sooner Cattle** baz=224	**0.82**	**46**	P			11 12 25.3	
T35B				S			11 12 36.0	
KAN09	**Caldwell North**	**0.85**	**339**			**Pb**	**11 12 26.6**	**+0.2**
KAN09				Sg		**Sb**	**11 12 38.3**	**+0.2**
OK032	**Salt Plains WL**	**0.90**	**301**			**Pb**	**11 12 27.8**	**+0.3**
OK032				Sg		**Sb**	**11 12 40.2**	**+0.4**
KAN01	**Argonia South**	**0.91**	**333**			**Pb**	**11 12 27.8**	**+0.3**
KAN01				Sg		**Sb**	**11 12 40.4**	**+0.5**
KAN05	**Bluff City Nor**	**0.92**	**327**			**Pb**	**11 12 28.0**	**+0.3**
KAN05				Sg		**Sb**	**11 12 40.6**	**+0.5**
OKCFA	**Oklahoma City**	**0.94**	**190**	Pg		**Pb**	**11 12 27.7**	**-0.3**
OKCFA				Sg		**Sb**	**11 12 40.3**	**-0.5**
OKCFA	**Oklahoma City** baz=13,SNR=191	**0.94**	**190**	P		**Pb**	**11 12 27.7**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**0.95**	**190**			**Pb**	**11 12 27.9**	**-0.3**
OKCSW				Sg		**Sb**	**11 12 41.0**	**0.0**
OK011	**Prague**	**0.97**	**152**	Pg		**Pg**	**11 12 27.4**	**-0.5**
OK011				Sg		**Sb**	**11 12 40.6**	**-1.0**
KAN10	**Anthony SW Sta**	**1.04**	**319**			**Pb**	**11 12 30.2**	**+0.5**
KAN10				Sg		**Sb**	**11 12 44.3**	**+0.7**
KAN08	**Anthony NE Sta**	**1.06**	**327**			**Pn**	**11 12 30.5**	**-0.2**
KAN08				Sg		**Sb**	**11 12 45.0**	**+0.8**
FNO	**Franklin**	**1.09**	**187**			**Pn**	**11 12 30.7**	**-0.5**
FNO				Sg		**Sn**	**11 12 45.6**	**-0.9**
KAN12	**Harper NE Stat**	**1.13**	**328**			**Pn**	**11 12 31.7**	**0.0**
KAN12				Sg		**Sn**	**11 12 47.2**	**-0.3**
TUL1	**Leonard** baz=291	**1.25**	**110**	P		**Pn**	**11 12 32.3**	**-1.0**
TUL1				S		**Sg**	**11 12 49.1**	**-0.5**
TUL1	**Leonard** baz=291,SNR=179	**1.25**	**110**	P			11 12 32.3	
TUL1				S			11 12 48.9	
TUL1	**Leonard** baz=291	**1.25**	**110**	P			11 12 32.3	
TUL1				S			11 12 49.1	
U32A	**Winter Ranch,**	**1.42**	**272**			**Pb**	**11 12 36.5**	**+0.3**
U32A	**Winter Ranch,** baz=91,SNR=152	**1.42**	**272**	P		**Pb**	**11 12 36.6**	**+0.4**
U32A				S		**Sg**	**11 12 56.6**	**+1.6**
U32A	**Winter Ranch,** baz=91,SNR=152	**1.42**	**272**	P			11 12 36.6	
U32A				S			11 12 56.6	
WMOK	**Wichita Mounta**	**2.03**	**218**	Pn		**Pb**	**11 12 45.4**	**-1.3**
WMOK	**Wichita Mounta** baz=38	**2.03**	**218**	P		**Pb**	**11 12 45.5**	**-1.2**
WMOK				S		**Sb**	**11 13 12.5**	**+0.3**
WMOK	**Wichita Mounta** baz=38,SNR=234	**2.03**	**218**	P			11 12 45.5	
WMOK				S			11 13 12.7	
WMOK	**Wichita Mounta** baz=38	**2.03**	**218**	P			11 12 45.5	
WMOK				S			11 13 12.5	
U38A	**Gravette**	**2.31**	**87**			**Pb**	**11 12 49.4**	**-1.9**
X37A	**Clayton**	**2.32**	**138**			**Pn**	**11 12 49.1**	**+1.0**
X37A				IAmb_Lg			11 13 25.0	
	comp=Z,197nm,0.8s							
X37A	**Clayton** baz=320,SNR=125	**2.32**	**138**	P		**Pn**	**11 12 49.0**	**+1.0**
X37A	**Clayton** baz=320,SNR=125	**2.32**	**138**	P			11 12 49.0	
R32A	**Long Quarter,**	**2.38**	**331**			**Pn**	**11 12 50.6**	**+1.7**
R32A	**Long Quarter,** baz=150,SNR=27	**2.38**	**331**	P		**Pn**	**11 12 50.6**	**+1.7**
R32A				S		**Sb**	**11 13 20.9**	**-1.4**
R32A	**Long Quarter,** baz=150,SNR=27	**2.38**	**331**	P			11 12 50.6	
R32A				S			11 13 20.9	
HHAR	**Hobbs**	**2.67**	**90**			**Pn**	**11 12 53.7**	**+0.8**
HHAR	**Hobbs** baz=272,SNR=24	**2.67**	**90**	P		**Pn**	**11 12 53.5**	**+0.6**
HHAR	**Hobbs** baz=272,SNR=24	**2.67**	**90**	P			11 12 53.5	
KSU1	**Kansas State U**	**2.80**	**10**	Pn		**Pn**	**11 12 56.6**	**+2.0**
KSU1				IAmb_Lg			11 13 44.8	
	comp=Z,87nm,0.7s							
KSU1	**Kansas State U** baz=190	**2.80**	**10**	P		**Pb**	**11 12 57.2**	**-2.5**
KSU1	**Kansas State U** baz=190,SNR=103	**2.80**	**10**	P			11 12 57.3	
KSU1	**Kansas State U** baz=190	**2.80**	**10**	P			11 12 57.2	
Z35A	**Perchaven, San**	**3.00**	**180**			**Pn**	**11 12 58.6**	**+1.1**
Z35A	**Perchaven, San** baz=0.9,SNR=91	**3.00**	**180**	P		**Pn**	**11 12 58.4**	**+0.9**
Z35A	**Perchaven, San** baz=0.9,SNR=91	**3.00**	**180**	P			11 12 58.4	
W39A	**Magazine**	**3.04**	**111**			**Pn**	**11 12 59.5**	**+1.6**
W39A				IAmb_Lg			11 13 49.7	
	comp=Z,78nm,0.7s							
W39A	**Magazine** baz=293,SNR=22	**3.04**	**111**	P		**Pn**	**11 12 59.0**	**+1.1**
W39A	**Magazine** baz=293,SNR=16	**3.04**	**111**	P			11 12 59.0	
W39A				S			11 13 36.1	
	baz=293							
W39A	**Magazine** baz=293,SNR=22	**3.04**	**111**	P			11 12 59.0	
CBKS	**Cedar Bluff**	**3.16**	**322**			**Pn**	**11 13 01.3**	**+1.6**
CBKS				IAmb_Lg			11 13 59.6	
	comp=Z,106nm,0.7s							
CBKS	**Cedar Bluff** baz=140,SNR=20	**3.16**	**322**	P		**Pn**	**11 13 00.9**	**+1.2**
CBKS	**Cedar Bluff** baz=140	**3.16**	**322**	P			11 13 01.2	
CBKS	**Cedar Bluff** baz=140,SNR=20	**3.16**	**322**	P			11 13 00.9	
S39A	**Bolivar**	**3.41**	**66**			**Pn**	**11 13 04.6**	**+1.5**
S39A				IAmb_Lg			11 14 02.5	
	comp=Z,88nm,0.9s							
MIAR	**Mount Ida**	**3.49**	**120**	Pn		**Pn**	**11 13 04.3**	**+0.1**
MIAR	**Mount Ida** baz=302,SNR=58	**3.49**	**120**	P		**Pn**	**11 13 05.4**	**+1.3**
MIAR	**Mount Ida** baz=302,SNR=8.6	**3.49**	**120**	P			11 13 05.4	
MIAR				S			11 13 46.8	
	baz=302							
MIAR	**Mount Ida** baz=302,SNR=58	**3.49**	**120**	P			11 13 05.4	
U40A	**Yellville**	**3.54**	**88**	Pn		**Pn**	**11 13 05.3**	**+0.4**
U40A				IAmb_Lg			11 13 59.3	
	comp=Z,61nm,0.7s							
U40A	**Yellville** baz=271,SNR=30	**3.54**	**88**	P		**Pn**	**11 13 06.3**	**+1.4**
U40A	**Yellville** baz=271,SNR=19	**3.54**	**88**	P			11 13 06.3	
U40A	**Yellville** baz=271,SNR=30	**3.54**	**88**	P			11 13 06.3	
U40A				P			11 13 06.3	
	baz=271,SNR=30							
Z38A	**Mt. Pleasant**	**3.59**	**148**			**Pn**	**11 13 05.2**	**-0.3**
Z38A	**Mt. Pleasant** baz=330	**3.59**	**148**	P		**Pn**	**11 13 06.3**	**+0.8**
Z38A	**Mt. Pleasant** baz=330	**3.59**	**148**	P			11 13 06.3	
AMTX	**Amarillo**	**3.90**	**249**	Pn		**Pn**	**11 13 11.6**	**+1.8**
AMTX				IAmb_Lg			11 14 21.0	
	comp=Z,82nm,0.7s							
AMTX	**Amarillo** baz=67	**3.90**	**249**	P			11 13 12.3	
X40A	**Basin Creek Fa**	**4.05**	**116**			**Pn**	**11 13 13.0**	**+1.2**
X40A				IAmb_Lg			11 14 18.7	
	comp=Z,67nm,0.8s							
X40A	**Basin Creek Fa** baz=299	**4.05**	**116**	P			11 13 12.9	
MGMO	**Mountain Grove**	**4.08**	**77**	Pn		**Pn**	**11 13 13.4**	**+1.2**
MGMO				IAmb_Lg			11 14 23.7	
	comp=Z,59nm,0.7s							
WHAR	**Wooly Hollow**	**4.16**	**103**			**Pn**	**11 13 14.4**	**+1.0**
WHAR				IAmb_Lg			11 14 21.4	
	comp=Z,99nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.17**	**95**			**Pn**	**11 13 14.2**	**+0.7**
FCAR				IAmb_Lg			11 14 25.8	
	comp=Z,53nm,0.8s							
ABTX	**Abilene, Hawle**	**4.21**	**209**			**Pn**	**11 13 14.8**	**+0.8**
ABTX	**Abilene, Hawle** baz=28,SNR=10.0	**4.21**	**209**	P		**Pn**	**11 13 14.5**	**+0.5**
ABTX	**Abilene, Hawle** baz=28,SNR=23	**4.21**	**209**	P			11 13 14.5	
ABTX				Sb			11 14 19.8	
	baz=28							
ABTX	**Abilene, Hawle** baz=28,SNR=10.0	**4.21**	**209**	P			11 13 14.5	
W41B	**Gary Mavity, V** baz=288,SNR=24	**4.23**	**105**	P		**Pn**	**11 13 15.1**	**+0.8**
W41B	**Gary Mavity, V** baz=288,SNR=22	**4.23**	**105**	Pn			11 13 15.3	
W41B				Pb			11 13 24.7	
	baz=288							
W41B	**Gary Mavity, V** baz=288,SNR=24	**4.23**	**105**	P			11 13 15.1	
WLAR	**White Oak Lake**	**4.30**	**127**			**Pn**	**11 13 16.0**	**+0.7**
WLAR				IAmb_Lg			11 14 34.1	
	comp=Z,62nm,0.8s							
WHTX	**Lake Whitney,**	**4.34**	**182**			**Pn**	**11 13 16.0**	**+0.1**
WHTX	**Lake Whitney,** baz=2.8,SNR=41	**4.34**	**182**	P		**Pn**	**11 13 16.4**	**+0.5**
WHTX	**Lake Whitney,** baz=2.8,SNR=6.6	**4.34**	**182**	P			11 13 16.4	
WHTX	**Lake Whitney,** baz=2.8,SNR=41	**4.34**	**182**	P			11 13 16.4	
N33A	**J Bar K, Exete**	**4.39**	**358**			**Pn**	**11 13 17.8**	**+1.2**
N33A				IAmb_Lg			11 14 42.5	
	comp=Z,50nm,0.7s							
P38A	**Dawn**	**4.40**	**41**			**Pn**	**11 13 16.1**	**-0.5**
Z37A	**Washetta, Mont**	**4.49**	**164**			**Pn**	**11 13 18.4**	**+0.5**
Z37A	**Washetta, Mont** baz=346,SNR=62	**4.49**	**164**	P		**Pn**	**11 13 18.3**	**+0.4**
Z37A	**Washetta, Mont** baz=346,SNR=62	**4.49**	**164**	P			11 13 18.3	
N35A	**Tabor**	**4.68**	**15**			**Pn**	**11 13 21.6**	**+1.1**
Z41A	**Richland Creek** baz=312	**4.78**	**129**	P		**Pn**	**11 13 22.2**	**+0.3**
Z41A	**Richland Creek** baz=312,SNR=5.5	**4.78**	**129**	P			11 13 22.2	
Z41A				S			11 14 16.0	
	baz=312							
Z41A	**Richland Creek** baz=312	**4.78**	**129**	P			11 13 22.2	
Z41A				P			11 13 22.2	
	baz=312							
T42A	**Van Buren**	**4.99**	**80**	IAmb_Lg			11 14 43.7	
	comp=Z,53nm,0.8s							
T42A	**Van Buren** baz=264,SNR=9.2	**4.99**	**80**	P		**Pn**	**11 13 26.1**	**+1.3**
T42A	**Van Buren** baz=264,SNR=9.2	**4.99**	**80**	P			11 13 26.1	
KSCO	**Kaye Shedlock'**	**5.03**	**304**			**Pn**	**11 13 25.9**	**+0.4**
KSCO				IAmb_Lg			11 15 02.5	
	comp=Z,38nm,0.8s							
KSCO	**Kaye Shedlock'** baz=120	**5.03**	**304**	P			11 13 27.3	
NATX	**Nacogdoches**	**5.05**	**154**	IAmb_Lg			11 15 03.7	
	comp=Z,48nm,0.7s							
CCM	**Cathedral Cave**	**5.08**	**69**			**Pn**	**11 13 26.8**	**+0.7**
CCM				IAmb_Lg			11 14 58.6	
	comp=Z,89nm,0.8s							
BGNE	**Belgrade**	**5.11**	**352**	Pn		**Pn**	**11 13 27.1**	**+0.7**
BGNE				IAmb_Lg			11 15 03.4	
	comp=Z,108nm,0.8s							
BGNE	**Belgrade** baz=171	**5.11**	**352**	P			11 13 27.1	
BGNE				S			11 14 25.2	
	baz=171							
MSTX	**Muleshoe**	**5.11**	**244**			**Pn**	**11 13 26.7**	**+0.1**
MSTX	**Muleshoe** baz=61	**5.11**	**244**	Sb			11 14 47.9	
P40A	**Paris**	**5.19**	**51**			**Pn**	**11 13 27.7**	**+0.2**
HBAR	**Harrisburg**	**5.40**	**96**	Pn		**Pn**	**11 13 30.6**	**+0.2**
N38A	**Joes South For**	**5.44**	**34**			**Pn**	**11 13 30.7**	**-0.2**
N38A				IAmb_Lg			11 15 14.1	
	comp=Z,87nm,0.8s							
PBMO	**Poplar Bluff**	**5.50**	**83**	IAmb_Lg			11 15 09.5	
	comp=Z,72nm,0.8s							
X43A	**Marvell** baz=291	**5.50**	**107**	Sb			11 14 58.3	
435B	**Jarrell**	**5.55**	**183**			**Pn**	**11 13 32.4**	**-0.1**
435B				IAmb_Lg			11 15 15.5	
	comp=Z,44nm,0.9s							
435B	**Jarrell** baz=3.2,SNR=5.4	**5.55**	**183**	P			11 13 33.1	
L34A	**Svendsen Farm,**	**5.66**	**7**			**Pn**	**11 13 35.3**	**+1.4**
L34A				IAmb_Lg			11 15 23.2	
	comp=Z,98nm,1.0s							
LPAR	**Lepanto**	**5.68**	**95**	IAmb_Lg			11 15 13.8	
	comp=Z,86nm,0.8s							
FVM	**French Village**	**5.69**	**71**	IAmb_Lg			11 15 08.2	
	comp=Z,73nm,0.9s							
T25A	**Trinidad**	**5.81**	**280**			**Pn**	**11 13 37.6**	**+1.3**
T25A	**Trinidad** baz=96,SNR=7.9	**5.81**	**280**	P			11 13 37.8	
OGNE	**Ogallala**	**5.93**	**322**			**Pn**	**11 13 39.3**	**+1.6**
OGNE				IAmb_Lg			11 15 29.8	
	comp=Z,71nm,0.8s							
OGNE	**Ogallala** baz=139,SNR=7.0	**5.93**	**322**	P			11 13 39.4	
143A	**Socs Landing,**	**6.03**	**125**	IAmb_Lg			11 15 33.3	
	comp=Z,41nm,1.0s							
MET	**Memphis--Engin**	**6.07**	**99**	IAmb_Lg			11 15 37.7	
	comp=Z,89nm,0.7s							
JCT	**Junction City**	**6.23**	**201**			**Pn**	**11 13 41.6**	**-0.2**
JCT				IAmb_Lg			11 15 35.0	
	comp=Z,63nm,1.1s							
JCT	**Junction City** baz=20	**6.23**	**201**	P			11 13 42.2	
SCIA	**State Center**	**6.38**	**28**			**Pn**	**11 13 44.6**	**+0.8**
SCIA				IAmb_Lg			11 15 46.5	
	comp=Z,49nm,0.7s							
K31A	**O'Neill**	**6.38**	**350**			**Pn**	**11 13 42.9**	**-1.0**
HALT	**Halls**	**6.41**	**92**	IAmb_Lg			11 15 49.4	
	comp=Z,66nm,0.7s							
HKT	**Hockley**	**6.49**	**169**	Pn		**Pn**	**11 13 44.5**	**-0.8**
N41A	**Harden Midland**	**6.64**	**47**			**Pn**	**11 13 46.7**	**-0.7**
OXF	**Oxford**	**6.65**	**104**	IAmb_Lg			11 15 43.2	
	comp=Z,71nm,1.2s							
OXF	**Oxford** baz=288	**6.65**	**104**	P			11 13 49.1	
W45A	**Hickory Valley**	**6.66**	**98**			**Pn**	**11 13 47.9**	**+0.2**
W45A				IAmb_Lg			11 15 44.0	
	comp=Z,46nm,0.7s							
Y45A	**Yeager Farm, C**	**6.78**	**109**	IAmb_Lg			11 16 00.2	
	comp=Z,38nm,0.9s							
Q24A	**Divide** baz=110	**6.79**	**295**	P			11 13 51.4	
K38A	**Parkersburg**	**7.18**	**27**			**Pn**	**11 13 54.5**	**-0.3**
K38A				IAmb_Lg			11 16 05.4	
	comp=Z,66nm,0.9s							
L40A	**Anamosa**	**7.38**	**37**			**Pn**	**11 13 58.8**	**+1.2**
L40A				IAmb_Lg			11 16 04.6	
	comp=Z,36nm,0.8s							
ECSD	**EROS Data Cent** baz=184,SNR=5.8	**7.40**	**4**	P			11 13 59.2	
ECSD	**EROS Data Cent** baz=184,SNR=11	**7.40**	**4**	P			11 13 58.4	
ECSD	**EROS Data Cent**	**7.40**	**4**			**Pn**	**11 13 58.1**	**+0.2**
ECSD	**EROS Data Cent** baz=184,SNR=11	**7.40**	**4**	P		**Pn**	**11 13 58.4**	**+0.6**
ISCO	**Idaho Springs**	**7.45**	**300**			**Pn**	**11 13 59.0**	**+0.2**
ISCO	**Idaho Springs** baz=115	**7.45**	**300**	P			11 14 00.2	
HDIL	**Hopedale**	**7.52**	**54**	IAmb_Lg			11 16 22.0	
	comp=Z,59nm,0.7s							
PLAL	**Pickwick Lake**	**7.58**	**98**			**Pn**	**11 14 01.1**	**+0.7**
ANMO	**Albuquerque**	**7.63**	**262**	Pn		**Pn**	**11 14 02.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=136,slow=14,SNR=2.6							
ANMO				Pg		**Pg**	**11 14 31.6**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=82,slow=15,SNR=10.0							
ANMO				Lg	Lg		11 16 07.5	
	comp=Z,2.0nm,0.3s,baz=137,slow=14,SNR=8.2							
ANMO	**Albuquerque**	**7.63**	**262**			**Pn**	**11 14 01.9**	**+0.7**
USIN	**University of**	**7.82**	**75**	IAmb_Lg			11 16 37.1	
	comp=Z,49nm,0.8s							
O44A	**Mansfield**	**7.88**	**59**	IAmb_Lg			11 16 18.1	
	comp=Z,55nm,0.7s							
PHWY	**Pilot Hill**	**8.10**	**310**			**Pn**	**11 14 09.0**	**+1.3**
PHWY				IAmb_Lg			11 16 33.1	
	comp=Z,23nm,0.8s							
Z47A	**Carrollton**	**8.17**	**110**			**Pn**	**11 14 08.7**	**+0.3**
N23A	**Red Feather La** baz=121	**8.19**	**306**	P			11 14 11.2	
SUSD	**Miller**	**8.20**	**351**	IAmb_Lg			11 16 36.2	
	comp=Z,30nm,0.8s							
I37A	**Lemond, Waseca**	**8.21**	**20**			**Pn**	**11 14 09.5**	**+0.6**
I37A				IAmb_Lg			11 16 43.7	
	comp=Z,40nm,1.2s							
SMCO	**Snowmass**	**8.21**	**293**			**Pn**	**11 14 10.1**	**+0.8**
JFWS	**Jewell Farm**	**8.49**	**37**			**Pn**	**11 14 13.2**	**+0.3**
JFWS				IAmb_Lg			11 16 53.4	
	comp=Z,39nm,0.7s							
X48A	**Hartselle**	**8.54**	**100**	IAmb_Lg			11 16 36.1	
	comp=Z,19nm,0.9s							
P46A	**Rosedale**	**8.57**	**65**	IAmb_Lg			11 16 50.6	
	comp=Z,58nm,0.8s							
CLTN	**Cedars of Leba**	**8.82**	**88**	IAmb_Lg			11 16 50.2	
	comp=Z,24nm,0.8s							
TX31	**Lajitas Ar. Si**	**8.83**	**220**			**Pn**	**11 14 18.4**	**+0.7**
TXAR	**Lajitas Array**	**8.83**	**220**	Pn		**Pn**	**11 14 16.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=41,slow=12,SNR=11							
TXAR				Pg		Pg	11 14 50.2	-8.3
	comp=Z,0.9nm,0.3s,baz=43,slow=14,SNR=11							
TXAR				Lg	Lg		11 16 40.6	
	comp=Z,0.8nm,0.3s,baz=60,slow=30,SNR=5.2							
TXAR	**Lajitas Array**	**8.83**	**220**			**Pn**	**11 14 17.5**	**-0.1**
WCI	**Wyandotte Cave**	**8.93**	**75**	IAmb_Lg			11 16 52.5	
	comp=Z,33nm,0.8s							
SFIN	**Lafayette**	**8.93**	**60**	IAmb_Lg			11 16 50.2	
	comp=Z,52nm,0.7s							
U49A	**Red Boiling Sp**	**9.24**	**86**	IAmb_Lg			11 16 59.3	
	comp=Z,22nm,1.0s							
RSSD	**Black Hills**	**9.34**	**328**	Pn		**Pn**	**11 14 25.4**	**+0.7**
RSSD				IAmb_Lg			11 17 23.9	
	comp=Z,20nm,0.9s							
RSSD	**Black Hills** baz=144	**9.34**	**328**	P			11 14 26.0	
RWWY	**Rawlins**	**9.41**	**308**	IAmb_Lg			11 17 33.0	
	comp=Z,22nm,1.0s							
SPMN	**Marine on St.**	**9.49**	**19**	Pn		**Pn**	**11 14 26.3**	**-0.2**
K22A	**Casper**	**9.54**	**314**	Pn		**Pn**	**11 14 28.0**	**+0.6**
K22A				IAmb_Lg			11 17 27.7	
	comp=Z,46nm,1.2s							
FPAL	**Fort Paine**	**9.66**	**97**	Pn		**

σ1⚲88/32, **mb4.0**/15, **1D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIRO	**ZIRO**	**5.49**	**187**	*ex*	**Pn**	**11 15 40.9**	**+4.6**
ZIRO				*ex*	**Sn**	**11 16 41.6**	**+2.0**
ZIRO				IAML		11 16 49.1	
	comp=N,132nm,0.7s						
ZIRO				IAML		11 16 49.5	
	comp=E,177nm,0.5s						
KOHI	**KOHIMA**	**7.26**	**184**	*ex*	**Pn**	**11 16 02.0**	**+1.4**
KOHI				*ex*	x	11 17 09.7	
KOHI				IAML		11 17 30.8	
	comp=N,34nm,1.2s						
KOHI				IAML		11 17 31.5	
	comp=E,38nm,0.7s						
SHL	**Shillong**	**7.77**	**199**	*ex*	**Pn**	**11 16 09.0**	**+1.3**
SHL				*ex*	**Sn**	**11 17 30.0**	**-6.0**
SHL				IAML		11 17 36.6	
	comp=E,73nm,0.3s						
TAPN	**Taplejung**	**8.20**	**228**	*eP*	**Pn**	**11 16 15.1**	**+1.4**
	comp=E,17nm,0.4s						
ODAN	**Odare**	**8.75**	**228**	*eP*	**Pn**	**11 16 22.7**	**+1.5**
	comp=E,15nm,0.6s						
GUN	**Gumba**	**9.08**	**238**	*eP*	**Pn**	**11 16 26.0**	**+0.2**
	comp=E,16nm,0.3s						
RAMN	**Ramite**	**9.19**	**231**	*eP*	**Pn**	**11 16 27.6**	**+0.4**
	comp=E,9.8nm,0.3s						
PKIN	**Phulchoki**	**9.62**	**238**	*eP*	**Pn**	**11 16 33.0**	**-0.1**
	comp=E,24nm,0.4s						
SAIH	**SAIHA**	**10.56**	**188**	*ex*	**Pn**	**11 16 48.1**	**+2.1**
SAIH				*ex*	Sn	11 18 35.7	-8.7
CMAR	**Chiang Mai Arr**	**14.99**	**164**	Pn	**Pn**	**11 17 46.2**	**-0.2**
	comp=E,0.3nm,0.3s,baz=353,slow=12,SNR=1.7						
CMAR				LR	LR	11 24 04.9	
	comp=E,49nm,18.6s,baz=150,slow=40						
MKAR	**Makanchi Array**	**16.68**	**329**	Pn	**Pn**	**11 18 09.0**	**+0.8**
	comp=E,0.1nm,0.3s,baz=181,slow=17,SNR=3.1						
SONM	**Songino Array**	**17.30**	**28**	P	**P**	**11 18 15.6**	**-1.8**
	comp=E,0.1nm,0.3s,baz=220,slow=13,SNR=7.2						
AAK	**Ala-Archa**	**18.54**	**307**	P	**Pn**	**11 18 33.9**	**+2.5**
	comp=E,0.3nm,0.3s,baz=117,slow=11,SNR=9.5						
AAK				LR	LR	11 26 59.2	
	comp=E,105nm,18.6s,baz=101,slow=41						
AAK	**Ala-Archa**	**18.54**	**307**	||Pn	**Pn**	**11 18 34.2**	**+2.7**
	comp=E,4.9nm,0.9s						
KURBB	**Kurchatov Arra**	**21.22**	**331**	P	**P**	**11 19 01.4**	**+1.2**
	comp=E,7.9nm,0.7s,baz=138,slow=11,SNR=81						
ZALV	**Zalesovo Beam**	**22.08**	**344**	P	**P**	**11 19 09.6**	**+0.3**
	comp=E,1.9nm,0.8s,baz=156,slow=11,SNR=7.3						
BVAR	**Borovoye Array**	**26.51**	**326**	P	**P**	**11 19 52.9**	**+1.1**
	comp=E,0.9nm,0.8s,baz=153,slow=17,SNR=5.6						
MJAR	**Matsushiro Arr**	**35.77**	**72**	LR	LR	11 34 28.2	
	comp=E,8.1nm,21.9s,baz=215,slow=34						
BRTR	**Keskin Array B**	**48.74**	**296**	P	**P**	**11 22 59.5**	**+0.1**
	comp=E,0.6nm,0.6s,baz=64,slow=5.6,SNR=3.7						
AKASG	**Malin Array Be**	**50.14**	**311**	P	**P**	**11 23 09.8**	**+0.1**
	comp=E,1.3nm,0.5s,baz=72,slow=6.7,SNR=4.8						
FINES	**FINESS Array B**	**51.46**	**325**	P	**P**	**11 23 19.3**	**-0.2**
	comp=E,2.3nm,0.9s,baz=112,slow=8.8,SNR=5.0						
NB2	**NORSAR Subarra**	**58.63**	**326**	P	**P**	**11 24 11.2**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=77,slow=7.4						
NOA	**NORSAR Array B**	**58.63**	**326**	P	**P**	**11 24 11.6**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=78,slow=8.7,SNR=4.8						
NOA				LR	LR	11 49 47.7	
	comp=Z,25nm,19.2s,baz=220,slow=36						
GERES	**GERESS Array B**	**60.35**	**311**	P	**P**	**11 24 24.4**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=64,slow=3.1,SNR=6.1						
WRA	**Warramunga Arr**	**64.90**	**138**	P	**P**	**11 24 52.1**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=33,slow=6.1,SNR=1.2						
ASAR	**Alice Springs**	**67.67**	**141**	P	**P**	**11 25 10.3**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=328,slow=6.5,SNR=8.9						
KEST	**Kesra**	**68.19**	**299**	P	**P**	**11 25 15.2**	**0.0**
	comp=Z,2.5nm,0.7s,baz=298,slow=15,SNR=1.1						
ILAR	**Eielson Array**	**71.47**	**23**	P	**P**	**11 25 33.5**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=288,slow=5.4,SNR=6.5						
ESDC	**Sonseca Array**	**75.64**	**308**	P	**P**	**11 26 00.7**	**+0.8**
	comp=Z,0.5nm,1.0s,baz=167,slow=10.0,SNR=3.7						
YKA	**Yellowknife Ar**	**81.38**	**13**	P	**P**	**11 26 33.5**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=330,slow=4.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**85.36**	**283**	P	**P**	**11 26 52.1**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=46,slow=4.0,SNR=3.5						

WEL 22 11:34:15.8, 37°S ±4°, 177°E ±°, h273 km ±5 km, M3.0/41, MLv3.0/41, Error ellipse: s-maj=0.0km s-min=0.0km az=175.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGRZ	**Tauranga**	**0.62**	**214**	P	Pn	11 34 51.9	+0.3
OPRZ	**Ohinepanea**	**0.64**	**190**	P	Pn	11 34 50.5	-1.2
MARZ	**Manawahe**	**0.77**	**181**	P	Pn	11 34 50.8	-1.5
KUZ	**Kuaotunu**	**0.91**	**301**	P	Pn	11 34 52.7	-0.3
HAZ	**Te Kaha**	**1.02**	**122**	P	Pn	11 34 52.5	-0.8
HAZ				S	S	11 35 20.7	-2.4
TOZ	**Tahuroa Road**	**1.08**	**241**	P	Pn	11 34 54.5	+0.8
RUGZ	**Raukumara Rang**	**1.08**	**134**	P	Pn	11 34 52.7	-1.2
RUGZ				S	S	11 35 20.7	-3.3
URZ	**Urewera**	**1.09**	**162**	P	Pn	11 34 53.2	-0.6
URZ				S	S	11 35 21.4	-2.4
MKAZ	**Moumakai**	**1.23**	**275**	P	Pn	11 34 55.1	+0.5
MUGZ	**Murupara**	**1.26**	**177**	P	Pn	11 34 54.6	-0.1
MUGZ				S	S	11 35 23.3	-2.4
PKGZ	**Pakihiroa**	**1.29**	**122**	P	Pn	11 34 55.0	-0.1
MWZ	**Matawai**	**1.30**	**150**	P	Pn	11 34 54.7	-0.3
MWZ				S	S	11 35 23.8	-2.3
PRRZ	**Plateau Road**	**1.30**	**190**	P	Pn	11 34 55.3	+0.3
MXZ	**Matakaoa Point**	**1.33**	**106**	P	Pn	11 34 54.7	-0.5
ALRZ	**Allen Road**	**1.37**	**192**	P	Pn	11 34 55.6	+0.1
RAGZ	**Rawiri**	**1.40**	**156**	P	Pn	11 34 55.9	+0.1
RAGZ				S	S	11 35 25.9	-1.4
TWGZ	**Tauwhareparae**	**1.40**	**134**	P	Pn	11 34 56.1	+0.4
TWGZ				S	S	11 35 26.5	-0.8
RTZ	**Ruatahuna**	**1.42**	**171**	P	Pn	11 34 55.8	-0.1
RTZ				S	S	11 35 25.8	-1.8
WMGZ	**Waiomatatini S**	**1.50**	**114**	P	Pn	11 34 56.4	+0.1
WMGZ				S	S	11 35 26.5	-1.8
MBAZ	**Motutapu North**	**1.50**	**287**	P	Pn	11 34 56.9	+0.5
PUZ	**Puketiti**	**1.51**	**125**	P	Pn	11 34 56.2	-0.2
PUZ				S	S	11 35 25.9	-2.7
TKGZ	**Te Karaka**	**1.53**	**143**	P	Pn	11 34 56.6	+0.1
MRHZ	**Matea Rd**	**1.63**	**188**	P	Pn	11 34 57.5	+0.1
MTHZ	**Maungataniwha**	**1.64**	**176**	P	Pn	11 34 57.4	0.0
SNGZ	**Shannon Statio**	**1.64**	**162**	P	Pn	11 34 57.7	+0.3
SNGZ				S	S	11 35 28.6	-1.8
AWAZ	**Awhitu Peninsu**	**1.65**	**275**	P	Pn	11 34 58.0	+0.5
RIGZ	**Rimuhau**	**1.71**	**151**	P	Pn	11 34 58.2	+0.3
RIGZ				S	S	11 35 30.5	-0.8
RAHZ	**Arahi**	**1.73**	**170**	P	Pn	11 34 58.5	+0.5
RAHZ				S	S	11 35 30.2	-1.3
RAHZ	**Arahi**	**1.73**	**170**	P	S	11 35 30.4	-1.1
HATZ	**Hinemaiaia**	**1.74**	**196**	P	Pn	11 34 58.2	+0.1
CNGZ	**Carnagh Statio**	**1.74**	**137**	P	Pn	11 34 58.6	+0.5
RATZ	**Rangitukua**	**1.80**	**204**	P	Pn	11 34 59.1	+0.5
NMHZ	**Naumai**	**1.88**	**177**	P	Pn	11 35 00.0	+0.7
NMHZ				S	S	11 35 33.2	-0.6
WHHZ	**Waihua**	**1.91**	**167**	P	Pn	11 34 59.8	+0.4
WHHZ	**Waihua**	**1.91**	**167**	P	S	11 35 32.7	-1.4
PRGZ	**Paritu Road**	**1.94**	**151**	P	Pn	11 35 00.1	+0.4
BKZ	**Black Stump Fm**	**1.95**	**185**	P	Pn	11 34 59.7	-0.2
BKZ				S	S	11 35 32.5	-2.3
KNZ	**Kokohu**	**1.96**	**157**	P	Pn	11 34 59.8	-0.1
TMVZ	**Te Maari**	**2.05**	**202**	P	Pn	11 35 01.2	+0.5
ARHZ	**Aropaoanui**	**2.06**	**173**	P	Pn	11 35 01.1	+0.4
ETVZ	**East Tongariro**	**2.07**	**202**	P	Pn	11 35 01.4	+0.5
OTVZ	**Oturere**	**2.10**	**202**	P	Pn	11 35 01.9	+0.6
OTVZ				S	S	11 35 37.1	-0.3
MHGZ	**Mahia Peninsul**	**2.16**	**154**	P	Pn	11 35 01.8	+0.2
TUVZ	**Tukino**	**2.21**	**201**	P	Pn	11 35 02.5	+0.3
KWHZ	**Kaweka Forest**	**2.21**	**185**	P	Pn	11 35 02.2	+0.1
MCHZ	**McNeill Hill**	**2.22**	**180**	P	Pn	11 35 02.5	+0.4
MCHZ	**McNeill Hill**	**2.22**	**180**	P	S	11 35 34.1	-4.9
WNVZ	**Wahianoa**	**2.28**	**202**	P	Pn	11 35 03.0	+0.2
WCZ	**Waipu Caves**	**2.28**	**303**	P	Pn	11 35 02.9	+0.2
MOVZ	**Moawhango**	**2.31**	**198**	P	Pn	11 35 02.7	-0.3
MOVZ				S	S	11 35 38.0	-2.5
BHHZ	**Black Hill Sta**	**2.32**	**192**	P	Pn	11 35 03.0	-0.1
PKVZ	**Pokaka**	**2.33**	**207**	P	Pn	11 35 03.7	+0.5
KRHZ	**Kereru**	**2.44**	**186**	P	Pn	11 35 03.8	-0.3
KRHZ				S	S	11 35 40.4	-2.2
VRZ	**Vera Road**	**2.44**	**218**	P	Pn	11 35 05.2	+1.1
CKHZ	**Cape Kidnapper**	**2.46**	**173**	P	Pn	11 35 04.4	+0.1
KAHZ	**Kahuranaki**	**2.58**	**177**	P	Pn	11 35 05.6	+0.1
PNHZ	**Pukenui**	**2.72**	**188**	P	Pn	11 35 06.4	-0.5
PNHZ	**Pukenui**	**2.72**	**188**	P	S	11 35 41.9	-5.6
PXZ	**Pawanui**	**2.81**	**177**	P	Pn	11 35 07.1	-0.6
PXZ	**Pawanui**	**2.81**	**177**	P	S	11 35 43.4	-5.7
WPHZ	**Waipukurau**	**2.85**	**184**	P	Pn	11 35 08.6	+0.4
WPHZ	**Waipukurau**	**2.85**	**184**	P	S	11 35 43.7	-6.1
WAZ	**Wanganui**	**2.87**	**207**	P	Pn	11 35 08.6	+0.3
NEZ	**North Egmont**	**2.90**	**224**	P	Pn	11 35 10.2	+1.5
TSZ	**Takapari Road**	**2.90**	**191**	P	Pn	11 35 08.2	-0.4
KHEZ	**Kahui Hut**	**2.96**	**225**	P	Pn	11 35 11.0	+1.6
PRHZ	**Porangahau**	**3.04**	**181**	P	Pn	11 35 10.1	-0.1
DVHZ	**Dannevirke**	**3.10**	**187**	P	Pn	11 35 10.5	-0.3
DVHZ	**Dannevirke**	**3.10**	**187**	P	S	11 35 48.2	-6.5
OHWZ	**Ohakea**	**3.17**	**199**	P	Pn	11 35 11.6	+0.1
OUZ	**Omahuta**	**3.20**	**308**	P	Pn	11 35 11.8	-0.1
ANWZ	**Angora Road**	**3.24**	**183**	P	Pn	11 35 11.8	-0.4
ANWZ	**Angora Road**	**3.24**	**183**	P	S	11 35 52.5	-4.7
POWZ	**Post Office Ro**	**3.25**	**193**	P	Pn	11 35 12.1	-0.3
POWZ	**Post Office Ro**	**3.25**	**193**	P	S	11 35 55.0	-2.4
PRWZ	**Pori Road**	**3.38**	**189**	P	Pn	11 35 13.7	0.0
PRWZ	**Pori Road**	**3.38**	**189**	P	S	11 35 54.3	-5.6
BFZ	**Birch Farm**	**3.48**	**186**	P	Pn	11 35 13.9	-0.8
BFZ	**Birch Farm**	**3.48**	**186**	P	S	11 35 55.2	-6.6
MRZ	**Mangatainoka R**	**3.55**	**194**	P	Pn	11 35 14.3	-1.2
TIWZ	**Tintock**	**3.61**	**190**	P	Pn	11 35 15.8	-0.5
TIWZ	**Tintock**	**3.61**	**190**	P	S	11 35 57.8	-6.7
OGWZ	**Otaki Gorge**	**3.79**	**198**	P	Pn	11 35 17.1	-1.1
HOWZ	**Holdsworth Sta**	**3.79**	**194**	P	Pn	11 35 16.9	-1.3
KIW	**Kapiti Island**	**3.90**	**200**	P	Pn	11 35 18.0	-1.4
TMWZ	**Te Maipa**	**3.93**	**189**	P	Pn	11 35 19.3	-0.6
MTW	**Mount Morrison**	**4.04**	**193**	P	Pn	11 35 19.9	-1.2
CAW	**Cannon Point**	**4.08**	**198**	P	Pn	11 35 20.1	-1.5
DUWZ	**D'Urville Isla**	**4.18**	**210**	P	Pn	11 35 21.2	-1.5
TRWZ	**Traveller**	**4.25**	**190**	P	Pn	11 35 22.5	-0.9
WEL	**Wellington**	**4.33**	**200**	P	Pn	11 35 23.2	-1.2
MSWZ	**Moikau Station**	**4.34**	**194**	P	Pn	11 35 22.9	-1.6
TCW	**Tory Channel**	**4.41**	**204**	P	Pn	11 35 23.9	-1.4
BHW	**Baring Head**	**4.42**	**198**	P	Pn	11 35 23.8	-1.6
PLWZ	**Palliser**	**4.49**	**194**	P	Pn	11 35 24.4	-1.8
TUWZ	**Tuamarina**	**4.72**	**206**	P	Pn	11 35 27.1	-1.7
NNZ	**Nelson**	**4.75**	**212**	P	Pn	11 35 27.2	-2.1
QRZ	**Quartz Range**	**4.85**	**221**	P	Pn	11 35 27.9	-2.6
BSWZ	**Blackbirch Sta**	**4.99**	**205**	P	Pn	11 35 30.8	-1.4
THZ	**Tophouse**	**5.40**	**212**	P	Pn	11 35 35.3	-1.9
KHZ	**Kahutara**	**5.73**	**204**	P	Pn	11 35 39.5	-1.5
DSZ	**Denniston Nort**	**5.89**	**218**	P	Pn	11 35 40.3	-2.8
GVZ	**Greta Valley S**	**6.39**	**205**	P	Pn	11 35 47.3	-1.8
LTZ	**Lake Taylor**	**6.51**	**210**	P	Pn	11 35 48.3	-2.4
AMCZ	**Amberley**	**6.71**	**206**	P	Pn	11 35 51.0	-2.1
INZ	**Inchbonnie**	**6.82**	**215**	P	Pn	11 35 51.8	-2.6
OXZ	**Oxford**	**7.06**	**209**	P	Pn	11 35 54.3	-3.1
OKCZ	**Okains Bay**	**7.06**	**202**	P	Pn	11 35 55.7	-1.8
MQZ	**McQueen's Vall**	**7.17**	**204**	P	Pn	11 35 55.9	-2.9
AKCZ	**Akaroa Harbour**	**7.24**	**202**	P	Pn	11 35 57.6	-2.1
RACZ	**Rakaia**	**7.37**	**207**	P	Pn	11 35 58.6	-2.7
WACZ	**Wakanui South**	**7.67**	**207**	P	Pn	11 36 02.1	-2.8
RPZ	**Rata Peaks**	**7.78**	**212**	P	Pn	11 36 03.1	-3.3
ARCZ	**Arundel**	**7.92**	**210**	P	Pn	11 36 05.2	-2.9
TMZ	**Timaru**	**8.36**	**209**	P	Pn	11 36 11.0	-2.5
ODZ	**Otahua Downs**	**9.05**	**208**	P	Pn	11 36 20.2	-2.0
JCZ	**Jackson Bay**	**9.11**	**219**	P	Pn	11 36 20.2	-2.9
WKZ	**Wanaka**	**9.56**	**215**	P	Pn	11 36 25.3	-3.2

*SNET **22** 11:56:10.0±1.1, 13°.88N×90°.58W, h73 km ±15 km, ML2.9*
*GCG **22** 11:56:11.1±0.5, 13°.70N×90°.54W, h26 km ±5 km, MD3.7*
ISC 22 11:56:11.8±2.0, 13°.8N±0°.1×90°.54W±0°.06, h72 km ±22 km, n18, σ0°91/32, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.59**	**353**	*eP*	**Pn**	**11 56 25.3**	**-0.6**
PCG				*eS*	**Sn**	**11 56 36.0**	**-0.3**
FUG	**Fuego 3**	**0.70**	**335**	*eP*	**Pn**	**11 56 26.2**	**-0.9**
FUG				*eS*	**Sn**	**11 56 38.3**	**-0.1**
NBG	**Las Nubes**	**0.80**	**13**	*eP*	**Pn**	**11 56 28.5**	**+0.2**
NBG				*eS*	**Sn**	**11 56 41.9**	**+1.4**
RTR	**El Retiro**	**0.87**	**84**	*eP*	**Pn**	**11 56 28.4**	**-0.6**
RTR				*eS*	**Sn**	**11 56 42.8**	**+1.1**
CEVE	**Cerro Verde**	**0.89**	**88**	||*eP*	**Pn**	**11 56 28.5**	**-0.7**
CEVE				*eS*	**Sn**	**11 56 43.1**	**+0.8**
CEVE				IAML		11 56 50.7	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**0.89**	**88**	*eP*	**Pn**	**11 56 28.5**	**-0.8**
SBLS				*eS*	**Sn**	**11 56 43.0**	**+0.8**
SNJE	**San Jose**	**0.91**	**86**	*eP*	**Pn**	**11 56 28.6**	**-0.9**
SNJE				*eS*	**Sn**	**11 56 43.5**	**+1.0**
UNIC	**Universidad Ca**	**0.98**	**80**	*eP*	**Pn**	**11 56 29.6**	**-0.5**
UNIC				*eS*	**Sn**	**11 56 44.7**	**+0.8**
JAYA	**Jayaque - finc**	**1.07**	**98**	||*eP*	**Pn**	**11 56 30.4**	**-1.1**
JAYA				*eS*	**Sn**	**11 56 46.2**	**+0.2**
JAYA				IAML		11 56 48.3	
	comp=Z,856nm,0.2s						
TACO	**Tacachico**	**1.16**	**82**	*eP*	**Pn**	**11 56 31.0**	**-1.5**
TACO				IAML		11 56 49.2	
	comp=Z,33nm,0.2s						
ERG	**Entre ros, C**	**1.18**	**302**	*eP*	**Pn**	**11 56 32.4**	**-0.3**
ERG				*eS*	**Sn**	**11 56 49.5**	**+1.1**
PMON	**Piamonte**	**1.19**	**94**	||*eP*	**Pn**	**11 56 32.0**	**-0.9**
PMON				*eS*	**Sn**	**11 56 49.0**	**+0.3**
BOQS	**Boqueron**	**1.22**	**93**	*eP*	**Pn**	**11 56 33.4**	**0.0**
BOQS				*eS*	**Sn**	**11 56 51.5**	**+1.8**
LALI	**Alcalda de L**	**1.22**	**105**	*eP*	**Pn**	**11 56 32.3**	**-0.9**
MTO3	**Montecristo**	**1.29**	**63**	*eP*	**Pn**	**11 56 33.0**	**-1.3**
MTO3				IAML		11 56 33.3	
	comp=Z,37nm,0.2s						
MTO3				*eS*	**Sn**	**11 56 51.1**	**0.0**
LFRS	**El Faro**	**1.45**	**97**	*eP*	**Pn**	**11 56 35.7**	**-0.5**
LFRS				*eS*	**Sn**	**11 56 55.5**	**+0.9**
COEG	**Centro de Oper**	**1.62**	**96**	*eP*	**Pn**	**11 56 38.7**	**+0.2**
COEG				IAML		11 57 05.3	
	comp=Z,191nm,0.2s						
CNCH	**Conchagua**	**2.68**	**101**	*eP*	**Pn**	**11 56 52.1**	**-0.7**

*BJI **22** 12:01:09.8±0.0, 20°.72S×177°.49W, h592 km, mB4.7/6, mb4.7/12*
*NEIC **22** 12:01:10.6±1.3, 20°.9S±0°.1×178°.3W±0°.1, h569 km ±7 km, mb4.5/45, Error ellipse: s-maj=18.5km s-min=14.7km az=75.0*
*IDC **22** 12:01:11.9±1.2, 20°.86S×178°.41W, h570 km ±12 km, mb3.6/20, mb1 3.8/24, mb1mx3.7/41, mbtmp4.6/24, Error ellipse: s-maj=16.4km s-min=11.2km az=129.0*
ISC 22 12:01:12.0±0.4, 20°.81S±0°.06×178°.40W±0°.07, h579 km, n215, σ1⚲48/230, mb4.5/48, 19C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.54**	**312**	P	**P**	**12 02 41.5**	**+1.3**
	5.3nm,0.3s,baz=166,slow=11,SNR=28						
MSVF	**Nonsavu**	**4.54**	**312**	P	**P**	**12 02 39.8**	**-0.4**
GLKZ	**Green Lake**	**8.43**	**177**	P	**P**	**12 03 18.5**	**+3.9**
GLKZ				S	**S**	**12 04 47.9**	**-7.3**
AFI	**Afiamalu**	**9.33**	**44**	P	**P**	**12 03 22.6**	**-1.3**
	6.4nm,0.3s,baz=198,slow=9.6,SNR=12						
AFI				S	**S**	**12 05 05.7**	**-6.3**
	3.4nm,0.3s,baz=198,slow=19,SNR=2.3						
AFI	**Afiamalu**	**9.33**	**44**	P	**P**	**12 03 22.1**	**-1.8**
DZM	**Mont Dzumac**	**14.17**	**262**	P	**P**	**12 04 12.6**	**-0.4**
	1.5nm,0.3s,baz=55,slow=12,SNR=18						
DZM	**Mont Dzumac**	**14.17**	**262**	P	**P**	**12 04 11.8**	**-1.1**
SANVU	**Saraoutou**	**14.69**	**289**	P	**P**	**12 04 17.9**	**0.0**
NFK	**Norfolk Island**	**14.85**	**234**	P	**P**	**12 04 21.0**	**+1.7**
	baz=15,SNR=3.4						
OUZ	**Omahuta**	**15.99**	**204**	P	**P**	**12 04 29.3**	**-0.8**
OUZ	**Omahuta**	**15.99**	**204**	P	**P**	**12 04 31.8**	**+1.7**
GRZ	**Great Barrier**	**16.30**	**198**	P	**P**	**12 04 34.1**	**+1.3**
WCZ	**Waipu Caves**	**16.36**	**201**	P	**P**	**12 04 35.3**	**+1.8**
KUZ	**Kuaotunu**	**16.69**	**197**	P	**P**	**12 04 38.0**	**+1.5**
WMGZ	**Waiomatatini S**	**17.17**	**189**	P	**P**	**12 04 41.8**	**+0.9**
HAZ	**Te Kaha**	**17.21**	**190**	P	**P**	**12 04 41.1**	**-0.1**
HAZ				S	**S**	**12 07 27.7**	**-3.6**
PKGZ	**Pakihiroa**	**17.29**	**189**	P	**P**	**12 04 41.3**	**-0.7**
PKGZ				S	**S**	**12 07 38.2**	**+5.5**
RUGZ	**Raukumara Rang**	**17.43**	**190**	P	**P**	**12 04 43.2**	**-0.2**
RUGZ				S	S	12 07 49.5	+14
PUZ	**Puketiti**	**17.44**	**189**	P	**P**	**12 04 44.0**	**+0.7**
PUZ				S	**S**	**12 07 43.3**	**+8.0**
OPRZ	**Ohinepanea**	**17.53**	**193**	P	**P**	**12 04 44.9**	**+0.8**
TWGZ	**Tauwhareparae**	**17.59**	**189**	P	**P**	**12 04 45.5**	**+0.8**
KMRZ	**Kaimai**	**17.67**	**195**	P	**P**	**12 04 47.4**	**+2.0**
KARZ	**Kaharoa**	**17.77**	**194**	P	**P**	**12 04 49.5**	**+3.3**
MWZ	**Matawai**	**17.82**	**191**	P	**P**	**12 04 45.5**	**-1.2**
MWZ				S	**S**	**12 07 38.0**	**-3.3**
URZ	**Urewera**	**17.82**	**192**	P	**P**	**12 04 45.1**	**-1.6**
	4.6nm,0.3s,baz=340,slow=5.7,SNR=40						
URZ				S	**S**	**12 07 36.0**	**-5.3**
	0.2nm,0.3s,baz=47,slow=19,SNR=1.3						
URZ	**Urewera**	**17.82**	**192**	P	**P**	**12 04 44.8**	**-1.9**
URZ	**Urewera**	**17.82**	**192**	P	**P**	**12 04 45.4**	**-1.3**
CNGZ	**Carnagh Statio**	**17.86**	**189**	P	**P**	**12 04 48.4**	**+1.3**
TKGZ	**Te Karaka**	**17.86**	**190**	P	**P**	**12 04 47.5**	**+0.3**
RAGZ	**Rawiri**	**17.99**	**191**	P	**P**	**12 04 48.1**	**-0.3**
MUGZ	**Murupara**	**18.09**	**192**	P	**P**	**12 04 48.4**	**-0.9**
HRRZ	**Handcock Road**	**18.11**	**194**	P	**P**	**12 04 49.6**	**+0.2**
RIGZ	**Rimuhau**	**18.14**	**190**	P	**P**	**12 04 50.5**	**+0.8**
RTZ	**Ruatahuna**	**18.19**	**192**	P	**P**	**12 04 50.1**	**-0.1**
PRRZ	**Plateau Road**	**18.19**	**193**	P	**P**	**12 04 49.4**	**-0.7**
TLZ	**Tolley Road**	**18.23**	**195**	P	**P**	**12 04 53.6**	**+3.1**
RAHZ	**Arahi**	**18.46**	**191**	P	**P**	**12 04 52.2**	**-0.4**
HIZ	**Hauiti**	**18.58**	**197**	P	**P**	**12 04 52.0**	**-1.6**
HIZ	**Hauiti**	**18.58**	**197**	P	**P**	**12 04 57.2**	**+3.5**
HATZ	**Hinemaiaia**	**18.63**	**194**	P	**P**	**12 04 54.1**	**-0.1**
RATZ	**Rangitukua**	**18.68**	**194**	P	**P**	**12 04 56.3**	**+1.7**
NMHZ	**Naumai**	**18.69**	**192**	P	**P**	**12 04 55.0**	**+0.2**
BKZ	**Black Stump Fm**	**18.81**	**192**	P	**P**	**12 04 54.5**	**-1.3**
BKZ				IAmb	IAmb	12 05 05.7	
	comp=Z,9.1nm,0.7s						
BKZ	**Black Stump Fm**	**18.81**	**192**	P	**P**	**12 04 54.1**	**-1.8**
TMVZ	**Te Maari**	**18.94**	**194**	P	**P**	**12 04 56.5**	**-0.6**
ETVZ	**East Tongariro**	**18.95**	**194**	P	**P**	**12 04 57.0**	**-0.2**
OTVZ	**Oturere**	**18.99**	**194**	P	**P**	**12 04 56.5**	**-1.1**
NGZ	**Ngauruhoe**	**19.02**	**194**	P	**P**	**12 04 58.4**	**+0.6**
MCHZ	**McNeill Hill**	**19.04**	**192**	P	**P**	**12 04 57.6**	**-0.3**
KWHZ	**Kaweka Forest**	**19.08**	**192**	P	**P**	**12 04 57.9**	**-0.3**
TUVZ	**Tukino**	**19.09**	**194**	P	**P**	**12 04 57.5**	**-1.0**
WNVZ	**Wahianoa**	**19.16**	**194**	P	**P**	**12 04 58.4**	**-0.8**
VRZ	**Vera Road**	**19.18**	**196**	P	**P**	**12 05 00.8**	**+1.7**
PKVZ	**Pokaka**	**19.19**	**195**	P	**P**	**12 04 59.9**	**+0.7**
MOVZ	**Moawhango**	**19.20**	**194**	P	**P**	**12 04 57.8**	**-1.6**
BHHZ	**Black Hill Sta**	**19.21**	**193**	P	**P**	**12 04 58.1**	**-1.4**
**KRHZ

EDFI Ende, Flores 58.87 272 P **P** **12 10 15.4 -1.3**
comp=Z,12nm,0.7s
LUWI Luwuk 60.63 281 P **P** **12 10 27.6 -0.6**
comp=Z,728nmcomp=Z,28nm,0.9s
GTOI Gorontalo 61.08 283 P **P** **12 10 32.1 +0.9**
comp=Z,24nm,0.7s
APSI Ampana 61.71 281 P **P** **12 10 35.6 +0.3**
comp=Z,18nm,0.7s
PLAI Plampang 62.50 271 P **P** **12 10 40.0 -0.4**
TOLI2 Tolitoli 63.31 282 P **P** **12 10 44.7 -0.9**
TOLI2 IAmb IAmb 12 10 47.8
comp=Z,11nm,0.5s
QSPA South Pole Qui 69.26 180 P **P** **12 11 21.4 -0.3**
KKM Kota Kinabalu 69.48 285 P **P** **12 11 23.5 -0.3**
KKM IAmb IAmb 12 11 24.7
comp=Z,11nm,0.6s
MJAR Matsushiro Arr 70.24 324 P **P** **12 11 27.9 +0.1**
comp=Z,5.1nm,0.7s,baz=161,slow=6.0,SNR=14
MJAR Matsushiro Arr 70.24 324 P **P** **12 11 27.2 -0.6**
MAT Matsushiro 70.24 324 P **P** **12 11 27.6 -0.1**
JNU Nakatsue 72.25 317 P **P** **12 11 39.5 -0.1**
comp=Z,10nm,0.9s,baz=117,slow=5.5,SNR=3.8
KSM Kuching 73.09 278 P **P** **12 11 44.3 -0.5**
KSM IAmb IAmb 12 11 46.3
comp=Z,14nm,0.7s
ASAJ Asahikawa 73.82 332 P **P** **12 11 50.4 +2.1**
comp=Z,3.1nm,0.6s,baz=221,slow=6.1,SNR=13
PETK Petropavlovsk- 76.48 345 P **P** **12 12 03.2 +0.4**
comp=Z,3.8nm,0.6s,baz=116,slow=6.8,SNR=18
KSRS Korea Array 76.87 319 P **P** **12 12 06.7 +1.4**
comp=Z,1.9nm,0.6s,baz=127,slow=5.8,SNR=7.2
USRK Ussuriysk Ar. 79.01 326 P **P** **12 12 18.2 +1.6**
comp=Z,4.9nm,0.7s,baz=101,slow=3.9,SNR=8.9
USRK Ussuriysk Ar. 79.01 326 P **P** **12 12 17.4 +0.7**
NVAR Mina Array Bea 81.51 44 P **P** **12 12 32.0 +1.9**
comp=Z,1.0nm,0.8s,baz=226,slow=8.3,SNR=7.8
KLR Kul'dur 82.61 330 P **P** **12 12 36.3 +1.2**
comp=Z,2.3nm,0.9s,baz=214,slow=3.6,SNR=6.9
IPM Ipoh 82.80 278 P **P** **12 12 37.4 +0.5**
IPM IAmb IAmb 12 12 38.5
comp=Z,9.9nm,0.7s
MA2 Magadan 83.98 345 P **P** **12 12 41.3 -0.3**
comp=Z,0.8nm,0.3s,baz=168,slow=9.3,SNR=5.5
SEY Seymchan 86.59 347 P **P** **12 12 54.7 +0.6**
comp=Z,3.6nm,0.5s,baz=171,slow=5.4,SNR=28
TRF Thorofare Moun 86.83 12 P **P** **12 12 55.3 -0.1**
RND Reindeer 87.08 13 P **P** **12 12 56.9 +0.4**
RND IAmb IAmb 12 12 57.8
comp=Z,6.2nm,0.8s
MCK McKinley 87.36 13 P **P** **12 12 57.8 +0.1**
MCK IAmb IAmb 12 12 58.7
comp=Z,11nm,1.4s
TXAR Lajitas Array 87.54 57 P **P** **12 13 01.7 +2.2**
comp=Z,0.8nm,0.8s,baz=208,slow=6.0,SNR=12
XAN Xi'an 88.03 308 P **P** **12 13 01.3 -0.3**
XAN pmax pmax
comp=Z,11nm,0.8s
XAN pmax pmax
comp=Z,110nm,5.2s
XAN Xi'an 88.03 308 P **P** **12 13 01.8 +0.1**
XAN IAmb IAmb 12 13 03.7
comp=Z,7.1nm,0.8s
WRH Wood River Hil 88.19 13 P **P** **12 13 00.9 -0.6**
WRH IAmb IAmb 12 13 02.5
comp=Z,5.1nm,0.9s
CCB Clear Creek Bu 88.40 13 P **P** **12 13 02.5 0.0**
IMAR Indian Mountai 88.53 10 P **P** **12 13 03.0 0.0**
ILAR Eielson Array 88.70 13 P **P** **12 13 03.9 -0.1**
comp=Z,0.9nm,0.6s,baz=224,slow=5.5,SNR=14
ILAR Eielson Array 88.70 13 P **P** **12 13 02.8 -1.1**
PDAR Pinedale Array 89.44 43 P **P** **12 13 09.6 +1.3**
comp=Z,0.6nm,0.7s,baz=206,slow=3.6,SNR=5.8
CMAR Chiang Mai Arr 89.87 290 P **P** **12 13 12.2 +1.8**
comp=Z,5.3nm,0.9s,baz=127,slow=3.2,SNR=23
CMAR Chiang Mai Arr 89.87 290 P **P** **12 13 10.9 +0.5**
CHTO Chiang Mai 90.00 290 P **P** **12 13 11.4 +0.3**
CHTO IAmb IAmb 12 13 13.4
comp=Z,6.8nm,0.7s
SONM Songino Array 95.74 319 P **P** **12 13 36.7 -0.1**
comp=Z,0.2nm,0.5s,baz=134,slow=4.2,SNR=1.9
ZALV Zalesovo Beam 110.50 321 PKiKP **PKiKP** **12 18 38.2 -0.7**
comp=Z,0.8nm,0.5s,baz=96,slow=1.9,SNR=5.2
MKAR Makanchi Array 111.14 313 PKiKP **PKiKP** **12 18 39.7 -0.7**
comp=Z,0.4nm,0.4s,baz=54,slow=2.1,SNR=8.3
KURBB Kurchatov Arra 114.02 317 PKP PKPdf 12 18 44.7 -1.1
comp=Z,0.8nm,0.7s,baz=89,slow=1.8,SNR=9.2
BRVK Borovoye 119.14 320 PKPdf 12 18 55.0 -0.5
ARCES ARCESS Array B 129.16 349 PKP **PKPdf** **12 19 13.5 -0.8**
comp=Z,1.8nm,0.7s,baz=48,slow=3.6,SNR=8.3
FINES FINESS Array B 135.96 343 PKP **PKiKP** **12 19 29.2 +0.2**
comp=Z,2.3nm,0.8s,baz=63,slow=3.4,SNR=7.4
FINES SKPbc **SKPbc** **12 22 06.6 +1.4**
comp=Z,2.2nm,0.8s,baz=354,slow=1.9,SNR=4.6
NOA NORSAR Array B 139.24 353 PKhKP PKPpre 12 19 26.8
comp=Z,1.0nm,0.9s,baz=319,slow=4.2,SNR=3.5
AKASG Malin Array Be 143.10 331 PKhKP PKPab 12 19 38.0 -0.4
comp=Z,9.9nm,0.4s,baz=43,slow=4.4,SNR=86
BR131 Keskin Array S 146.77 312 PKPbc 12 19 49.4 -0.8
BRTR Keskin Array B 146.77 312 PKPbc **PKPbc** **12 19 49.9 -0.3**
comp=Z,2.8nm,0.6s,baz=133,slow=3.8,SNR=16
BRTR Keskin Array B 146.77 312 PKPbc 12 19 49.1 -1.1
BUR08 Bucovina Ar. S 147.13 330 PKPbc 12 19 50.4 -0.4
BURAR Bucovina Array 147.15 330 ↑P **PKPbc** **12 19 51.8 +0.9**
BURAR Bucovina Array 147.15 330 PKPbc 12 19 51.3 +0.4
BIZ Bicaz 147.20 328 ↑P **PKPbc** **12 19 50.6 -0.3**
CFR Carcaliu 147.32 324 ↓P **PKPbc** **12 19 51.5 +0.3**
TPGR Topolog 147.37 323 ↑P **PKPbc** **12 19 52.2 +0.8**
KOLS Kolonicke sedl 147.43 334 *e*PKP **PKPbc** **12 19 52.0 +0.6**
VRI Vrincioaia 147.62 326 ↓P **PKPdf** **12 19 50.1 +1.7**
HARR Harsova 147.74 324 ↓P **PKPbc** **12 19 52.1 -0.2**
MDUB Mudurnu 148.10 315 PKPbc 12 19 52.0 -1.5
OSTC Ostas 148.15 342↑ *e*PKP **PKiKP** **12 19 54.1 -0.4**
CHVC Chvalec 148.17 342↑ *e*PKP **PKiKP** **12 19 56.2 +1.7**
DOPR Dopca 148.23 328 ↑P **PKiKP** **12 19 54.9 +0.1**
CLL Collm 148.28 346 *i* PKPbc **PKPbc** **12 19 53.8 +0.4**
comp=Z,10.0nm,0.9s
CLL *i* PKPab **PKPab** **12 19 58.9 +0.1**
comp=Z,6.0nm,0.8s
CLL Collm 148.28 346 PKPbc 12 19 53.0 -0.4
MLR Muntele Rosu 148.28 327 ↑P **PKPbc** **12 19 54.1 +0.3**
MLR Muntele Rosu 148.28 327 PKPbc 12 19 53.9 +0.1
DPC Dobruska-Polom 148.31 342↑ *e*PKP **PKPbc** **12 19 54.1 +0.5**
DPC *e*PKPAB **PKPab** **12 19 59.0 0.0**
MORC Moravsky Berou 148.44 340 *e*PKP **PKPbc** **12 19 54.3 +0.3**
VOIR 148.77 327 ↓P **PKPbc** **12 19 54.8 -0.2**
DRGR 148.90 331 ↑P **PKPbc** **12 19 54.1 -1.1**
ARR Arges 149.03 328 ↑P **PKPdf** **12 19 49.9 -0.8**
PRU Pruhonice 149.13 344↑ *e*PKP **PKPbc** **12 19 55.7 +0.1**
PRU *e*PKPAB **PKPab** **12 20 02.9 +0.6**
VRAC Vranov 149.15 341 *e*PKP **PKPbc** **12 19 56.2 +0.5**
KRUC Moravsky 149.43 341 *e*PKP **PKiKP** **12 19 56.9 -0.2**
MODS Modra-Piesok 149.75 339 *e*PKP **PKPbc** **12 19 55.9 -1.3**
SIRR Siria 149.77 332 ↑P **PKiKP** **12 19 57.8 -0.1**
GZR Gura Zlata 149.92 329 ↑P **PKPbc** **12 19 57.9 +0.2**
KHC Kasperske Hory 150.16 344↑ *e*PKP **PKPbc** **12 19 58.1 0.0**
KHC *e*PKPAB **PKPab** **12 20 07.5 +0.7**
KHC Kasperske Hory 150.16 344 PKiKP 12 19 58.5 -0.1
KHC **PKPab** **12 20 07.7 +1.0**
CKRC Cesky Krumlov 150.26 343↑ *e*PKP **PKiKP** **12 19 58.9 +0.1**
CKRC *ex* x 12 20 06.1
GERES GERESS Array B 150.40 344 PKPbc **PKPbc** **12 19 59.0 +0.3**
comp=Z,1.8nm,0.6s,baz=45,slow=2.1,SNR=13
GERES PKPab **PKPab** **12 20 08.5 +0.7**
comp=Z,0.6nm,0.7s,baz=46,slow=5.8,SNR=3.7
HERR Herculane 150.47 329 ↑P **PKiKP** **12 19 59.3 -0.1**
CONA Conrad Observa 150.60 340 *i* P **PKiKP** **12 19 59.9 +0.2**
comp=Z,2.8nm,0.6s
MDVR Moldovita 150.88 330 ↑P **PKiKP** **12 20 00.2 -0.1**
MORH Mrgy, Hungar 151.08 335 ↑P **PKiKP** **12 20 00.6 +0.1**
MOA Molln 151.15 342 *i* P **PKPbc** **12 20 00.5 +0.1**
comp=Z,1.1nm,0.4s
FRGS Fruska Gora 151.45 332 ↑P **PKiKP** **12 20 01.6 +0.2**
WTTA Wattenberg 152.38 345 *e*P **PKPbc** **12 20 03.5 +0.2**
comp=Z,2.6nm,0.4s
ABTA Abfaltersbach 152.64 344 *i* P **PKPbc** **12 20 03.4 -0.4**
comp=Z,2.9nm,0.6s
ESDC Sonseca Array 160.60 13 PKPab **PKPab** **12 20 52.4 +0.4**
comp=Z,0.2nm,0.7s,baz=298,slow=5.4,SNR=4.1
TORD Torodi Ar. Bea 172.38 181 PKPab **PKPab** **12 21 45.6 +1.3**
comp=Z,0.7nm,0.8s,baz=236,slow=1.6,SNR=3.3

*IDC **22** 12:06:36.7±1.6,22.°36N×92.°58E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.4/54,mbtmp3.6/5,ML4.1/1,MS2.8/2,*

Ms1 2.8/2,ms1mx2.4/49,Error ellipse: s-maj=55.6km s-min=21.7km az=67.0
*NDI **22** 12:06:44.8±2.7,22.°73N×92.°69E,h10km,ML3.5*
ISC 22 12:06:43.9±1.0,**22.°52N**±0.°07×**92.°77E**±0.°06,**h47**km±10km, **n27**,σ1§**43**/30,**mb3.6**/4,**India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAIH	**SAIHA**	**0.20**	**98**	*e*P	**Pn**	**12 06 51.4**	**-0.7**
SAIH				*e*S	**Sn**	**12 06 58.0**	**0.0**
SAIH				IAML		12 07 00.1	
	comp=E,8μm,0.6s						
SAIH				IAML		12 07 01.1	
	comp=N,4μm,0.5s						
BELO	**BELONIA**	**1.42**	**301**	*e*P	**Pn**	**12 07 08.0**	**+0.7**
BELO				*e*S	**Sn**	**12 07 27.9**	**+3.0**
AGT	**Agartala**	**1.95**	**314**	*e*S	**Sn**	**12 07 39.9**	**+2.0**
AGT				IAML		12 07 47.4	
	comp=E,862nm,0.4s						
AGT				IAML		12 07 47.8	
	comp=N,927nm,0.4s						
KOHI	**KOHIMA**	**3.41**	**21**	*e*S	**Sn**	**12 08 13.9**	**-0.2**
KOHI				IAML		12 08 15.1	
	comp=E,157nm,0.5s						
KOHI				IAML		12 08 15.2	
	comp=N,143nm,0.2s						
GUWA	**GUWAHATI**	**3.79**	**345**	*e*P	**Pn**	**12 07 39.2**	**-0.6**
MOKO	**MOKOCHONG**	**4.11**	**22**	*e*P	**Pn**	**12 07 46.5**	**+2.2**
MOKO				*e*S	**Sn**	**12 08 31.2**	**0.0**
MOKO				IAML		12 08 32.7	
	comp=E,96nm,0.5s						
MOKO				IAML		12 08 32.9	
	comp=N,96nm,0.2s						
DHUB	**DHUBRI**	**4.31**	**325**	*e*P	**Pn**	**12 07 46.5**	**-0.4**
DHUB				*e*S	**Sn**	**12 08 31.2**	**-4.7**
CM33	**Chiang Mai Arr**	**6.85**	**121**	P	**Pn**	**12 08 22.0**	**+0.1**
CMMT	**Chiang Mai**	**6.86**	**121**	P	**Pn**	**12 08 22.0**	**+0.1**
	comp=N,3.4nm,0.7s						
CM32	**Chiang Mai Arr**	**6.87**	**123**	P	**Pn**	**12 08 23.0**	**+0.9**
CM34	**Chiang Mai Arr**	**7.00**	**120**	P	**Pn**	**12 08 25.0**	**+1.1**
CM15	**Chiang Mai Arr**	**7.04**	**124**	P	**Pn**	**12 08 25.6**	**+1.0**
	comp=N,3.9nm,0.9s						
CM13	**Chiang Mai Arr**	**7.05**	**124**	P	**Pn**	**12 08 25.0**	**+0.4**
	comp=N,93nmcomp=N,9.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**7.05**	**124**	Pn	**Pn**	**12 08 24.4**	**-0.3**
	comp=N,0.9nm,0.3s,baz=300,slow=13,SNR=37						
CMAR				LR	LR	12 11 37.1	
	comp=N,18nm,21.1s,baz=190,slow=42						
CM02	**Chiang Mai Arr**	**7.07**	**124**	P	**Pn**	**12 08 25.6**	**+0.7**
	comp=N,71nmcomp=N,10nm,0.8s						
CM01	**Chiang Mai Arr**	**7.09**	**124**	P	**Pn**	**12 08 26.1**	**+1.0**
	comp=N,139nmcomp=N,9.5nm,0.8s						
CM05	**Chiang Mai Arr**	**7.09**	**124**	P	**Pn**	**12 08 25.6**	**+0.5**
	comp=N,55nmcomp=N,7.7nm,0.8s						
CM35	**Chiang Mai Arr**	**7.09**	**121**	P	**Pn**	**12 08 25.7**	**+0.5**
CM09	**Chiang Mai Arr**	**7.10**	**124**	P	**Pn**	**12 08 26.0**	**+0.7**
	comp=N,88nmcomp=N,11nm,0.8s						
CM04	**Chiang Mai Arr**	**7.12**	**124**	P	**Pn**	**12 08 26.4**	**+0.8**
	comp=N,71nmcomp=N,9.4nm,0.8s						
CM36	**Chiang Mai Arr**	**7.14**	**123**	P	**Pn**	**12 08 27.0**	**+1.2**
SUKH	**Sukhothai**	**8.16**	**127**	P	**Pn**	**12 08 40.1**	**+0.2**
	comp=N,229nmcomp=N,20nm,0.8s						
MKAR	**Makanchi Array**	**25.66**	**343**	P	**P**	**12 12 09.5**	**+0.3**
	comp=N,0.8nm,0.5s,baz=155,slow=11,SNR=11						
SONM	**Songino Array**	**27.52**	**20**	P	**P**	**12 12 27.0**	**+0.9**
	comp=N,0.3nm,0.6s,baz=198,slow=9.1,SNR=2.8						
PETK	**Petropavlovsk-**	**57.31**	**40**	LR	LR	12 43 13.6	
	comp=N,32nm,18.5s,baz=217,slow=38						
WRA	**Warramunga Arr**	**58.55**	**133**	P	**P**	**12 16 34.9**	**-1.1**
	comp=N,0.5nm,0.7s,baz=320,slow=7.5,SNR=5.8						
ASAR	**Alice Springs**	**60.88**	**136**	P	**P**	**12 16 51.4**	**-0.6**
	comp=N,0.7nm,0.7s,baz=313,slow=6.7,SNR=13						

ATH 22 12:17:55.4,38.°64N×23.°46E,h12km±5km,ML1.6/4,Error ellipse: s-maj=5.5km s-min=1.0km az=266.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.30**	**321**	P	Pg	12 18 01.8	+0.1
SMIA				S	Sg	12 18 06.3	+0.5
ATAL	**Atalanti**	**0.34**	**278**	P	Pg	12 18 01.9	-0.4
ATAL				S	Sg	12 18 07.4	+0.5
ATAL				AML	AML	12 18 09.5	
	comp=N,281μm,0.1s						
ATAL				AML	AML	12 18 09.6	
	comp=E,212μm,0.1s						
LKR	**Lokris**	**0.36**	**271**	P	Pg	12 18 02.1	-0.5
LKR				S	Sg	12 18 06.9	-0.5
LKR				AML	AML	12 18 08.3	
	comp=E,298μm,0.1s						
LKR				AML	AML	12 18 11.2	
	comp=N,341μm,0.1s						
VIL2	**Platees**	**0.46**	**199**	P	Pg	12 18 04.6	+0.2
VIL2				S	Sb	12 18 12.0	-0.1
KYMI	**Kymi, Euboea I**	**0.51**	**91**	P	Pg	12 18 04.8	-0.5
KYMI				S	Sb	12 18 12.9	-0.6
KYMI				AML	AML	12 18 14.4	
	comp=E,142μm,0.4s						
KYMI				AML	AML	12 18 15.3	
	comp=N,89μm,0.2s						
AXAR	**Agios Charalam**	**0.64**	**281**	P	Pb	12 18 08.3	-0.1
PTL	**Penteli**	**0.68**	**151**	P	Pg	12 18 08.1	-0.5
DION	**Dionisos Attik**	**0.68**	**146**	P	Pg	12 18 08.3	-0.3
NEO	**Neokhori**	**0.69**	**345**	P	Pg	12 18 08.8	0.0
NEO				S	Sg	12 18 17.3	-0.5
NEO				AML	AML	12 18 21.2	
	comp=E,213μm,0.2s						
NEO				AML	AML	12 18 21.2	
	comp=N,368μm,0.4s						
XOR	**Xorichti**	**0.75**	**344**	P	Pg	12 18 09.5	-0.4
XOR				S	Sg	12 18 19.4	-0.5
AGG	**Agios Georgios**	**0.96**	**294**	P	Pg	12 18 13.6	-0.3

*IDC **22** 12:18:23.5±1.0, 12.°81N×87.°01W,h0km,mb3.7/6, mb1 4.0/8,mb1mx3.8/36,mbtmp3.7/8,ML3.0/3,MS3.0/4, Ms1 3.0/4,ms1mx2.6/39,Error ellipse: s-maj=52.5km s-min=14.9km az=48.0*
*INET **22** 12:18:26.1,12.°07N×87.°80W,h15km,MW4.0*
*SNET **22** 12:18:27.2±1.0, 12.°14N×87.°80W,h24km±8km,ML3.4*
ISC 22 12:18:23.6±0.7,**12.°09N**±0.°09×**87.°4W**±0.°1,**h21**km±3km,**n32**, σ1§**59**/43,**mb3.7**/7,**MS3.0**/3,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.25**	**340**	*e*P	**Pb**	**12 18 47.2**	**+0.6**
CNCH				*e*S	**Sb**	**12 19 03.7**	**+1.3**
LCND	**La Caada**	**1.30**	**338**	*e*P	**Pb**	**12 18 47.7**	**+0.4**
LCND				*e*S	**Sb**	**12 19 04.1**	**+0.5**
LCND				IAML		12 19 09.6	
	comp=Z,2μm,0.3s						
LCY	**Lacayo**	**1.59**	**327**	*e*P	**Pn**	**12 18 50.5**	**-0.1**
RANC	**El Ranchito**	**1.59**	**327**	*e*P	**Pn**	**12 18 50.9**	**+0.2**
PACA	**Pacayal**	**1.64**	**327**	*e*P	**Pn**	**12 18 51.7**	**+0.4**
PACA				*e*S	**Sn**	**12 19 11.1**	**-0.8**
PACA				IAML		12 19 14.1	
	comp=Z,314nm,0.2s						
ALJI	**Alcalda de J**	**1.68**	**317**	*e*P	**Pn**	**12 18 51.2**	**-0.6**
ALJI				*e*S	**Sn**	**12 19 09.9**	**-2.8**
TECA	**Tecapa**	**1.76**	**322**	*e*P	**Pn**	**12 18 53.0**	**-0.1**
TECA				*e*S	**Sn**	**12 19 13.6**	**-1.4**
PQSS	**Presa 15 de Se**	**1.90**	**324**	*e*P	**Pn**	**12 18 55.1**	**+0.3**
PQSS				*e*S	**Sn**	**12 19 16.3**	**-1.9**
PQSS				IAML		12 19 21.6	
	comp=Z,150nm,0.2s						
UESV	**Universidad de**	**2.05**	**319**	*e*P	**Pn**	**12 18 56.5**	**-0.4**
UESV				IAML		12 19 31.1	
	comp=Z,761nm,0.5s						
COEG	**Centro de Oper**	**2.10**	**317**	*e*P	**Pn**	**12 18 57.0**	**-0.6**
COEG				IAML		12 19 29.2	
	comp=Z,539nm,0.3s						
LFRS	**El Faro**	**2.23**	**313**	*e*P	**Pn**	**12 18 58.2**	**-1.2**
LFRS				*e*S	**Sn**	**12 19 22.6**	**-3.7**
LBRS	**Las Brisas**	**2.29**	**316**	*e*P	**Pn**	**12 19 00.1**	**-0.2**
PMON	**Piamonte**	**2.47**	**311**	*e*P	**Pn**	**12 19 02.0**	**-0.8**
JAYA	**Jayaque - finc**	**2.53**	**308**	*e*P	**Pn**	**12 19 02.4**	**-1.2**
JAYA				*e*S	**Sn**	**12 19 29.3**	**-4.7**
JAYA				IAML		12 19 37.1	
	comp=Z,326nm,0.2s						
TACO	**Tacachico**	**2.67**	**315**	*e*P	**Pn**	**12 19 05.0**	**-0.4**
TACO				IAML		12 19 41.7	
	comp=Z,134nm,0.5s						
MTO3	**Montecristo**	**2.99**	**320**	*e*P	**Pn**	**12 19 09.8**	**-0.2**

JTS Las Juntas de 2.99 126 Pn **Pb** **12 19 16.3 +0.1**
comp=Z,2.2nm,0.3s,baz=14,slow=17,SNR=11
JTS Sn **Sb** **12 19 51.6 -0.7**
comp=Z,4.7nm,0.3s,baz=41,slow=21,SNR=6.0
JTS Lg Lg 12 20 06.6
comp=Z,10nm,0.3s,baz=329,slow=23,SNR=6.8
JTS LR LR 12 20 26.3
comp=Z,39nm,20.8s,baz=12,slow=38
APG El Apazote 4.16 315 Pn **Pn** **12 19 26.6 +0.6**
comp=Z,0.4nm,0.3s,baz=92,slow=21,SNR=4.9
APG Pg **Pb** **12 19 35.9 -0.3**
comp=Z,1.2nm,0.3s,baz=91,slow=11,SNR=16
CMIG Matias Romero 8.79 305 Pn **Pn** **12 20 30.7 +1.2**
comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=2.6
CMIG Sn **Sn** **12 22 12.5 +4.6**
comp=Z,0.1nm,0.3s,baz=109,slow=20,SNR=2.4
ATAH Atahualpa 21.09 154 LR LR 12 30 17.4
comp=Z,57nm,18.6s,baz=22,slow=33
SJG San Juan 21.36 71 LR LR 12 32 09.7
comp=Z,29nm,18.4s,baz=274,slow=40
TXAR Lajitas Array 22.88 321 P **P** **12 23 26.2 +0.1**
comp=Z,6.3nm,0.7s,baz=135,slow=9.9,SNR=69
TXAR PcP **PcP** **12 27 18.1 +1.5**
comp=Z,0.5nm,1.1s,baz=139,slow=4.3,SNR=2.7
TKL Tuckaleechee C 23.69 7 P **P** **12 23 34.4 +0.4**
comp=Z,3.9nm,0.8s,baz=176,slow=10,SNR=5.6
PDAR Pinedale Array 36.11 332 P **P** **12 25 24.2 -0.3**
comp=Z,0.7nm,0.7s,baz=120,slow=8.7,SNR=5.4
NVAR Mina Array Bea 38.01 319 P **P** **12 25 42.9 +2.4**
comp=Z,0.4nm,0.8s,baz=135,slow=9.0,SNR=3.0
NVAR PcP **PcP** **12 27 58.1 +2.1**
comp=Z,0.1nm,0.5s,baz=116,slow=4.1,SNR=2.6
ULM Lac du Bonnet 38.68 351 P **P** **12 25 44.0 -1.8**
comp=Z,2.3nm,0.5s,baz=175,slow=11,SNR=3.7
YKA Yellowknife Ar 53.97 345 P **P** **12 27 44.8 -0.9**
comp=Z,0.6nm,0.7s,baz=135,slow=8.4,SNR=12
YKA PcP **PcP** **12 28 50.5 -0.3**
comp=Z,0.1nm,0.4s,baz=138,slow=4.6,SNR=2.2
ILAR Eielson Array 66.37 336 P **P** **12 29 09.8 -0.9**
comp=Z,0.6nm,1.1s,baz=149,slow=5.5,SNR=5.0
RAR Rarotonga 78.38 245 LR LR 12 56 13.4
comp=Z,80nm,21.5s,baz=178,slow=29
ASAR Alice Springs 139.18 248 PKhKP **PKPdf** **12 37 50.7 +0.9**
comp=Z,1.3nm,1.2s,baz=98,slow=2.8,SNR=2.5
WRA Warramunga Arr 139.22 253 PKhKP **PKPdf** **12 37 50.5 +0.5**
comp=Z,0.4nm,0.9s,baz=96,slow=2.5,SNR=2.0
CMAR Chiang Mai Arr 149.01 348 PKPbc **PKPbc** **12 38 11.3 +0.3**
comp=Z,1.2nm,0.9s,baz=320,slow=2.0,SNR=6.4

*NEIC **22** 12:22:25.1±1.4,20.°6S±0.°1×178.°6W±0.°1,h594km±7km, mb4.3/69,Error ellipse: s-maj=21.9km s-min=16.8km az=128.0*
*IDC **22** 12:22:25.2±1.2,20.°72S×178.°48W,h593km±14km, mb3.7/26,mb1 3.8/30,mb1mx3.7/46,mbtmp4.6/30,Error ellipse: s-maj=16.3km s-min=10.2km az=146.0*
ISC 22 12:22:24.2±0.4,**20.°67S**±0.°09×**178.°43W**±0.°08,**h587**km, **n208**,σ1§**27**/223,**mb4.2**/62,**11C-1D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu 4.43 311**			P	**P**	**12 23 54.4**	**+2.4**
	9.8nm,0.3s,baz=148,slow=4.8,SNR=45						
MSVF	**Nonsavu 4.43 311**			P	**P**	**12 23 51.3**	**-0.7**
AFI	**Afiamalu 9.25 44**			P	**P**	**12 24 36.6**	**+1.2**
	3.0nm,0.3s,baz=243,slow=11,SNR=4.9						
AFI				S	**S**	**12 26 16.8**	**-6.2**
	2.6nm,0.3s,baz=204,slow=19,SNR=2.9						
AFI	**Afiamalu 9.25 44**			P	**P**	**12 24 36.2**	**+0.8**
DZM	**Mont Dzumac 14.16 262**			P	**P**	**12 25 25.3**	**+0.3**
	0.5nm,0.3s,baz=75,slow=16,SNR=5.9						
OUZ	**Onmuta 16.11 204**			P	**P**	**12 25 42.6**	**-0.3**
KUZ	**Kuaotunu 16.81 196**			P	**P**	**12 25 52.9**	**+3.6**
WIAZ	**Waiheke Island 17.02 198**			P	**P**	**12 25 54.7**	**+3.5**
ETAZ	**East Tamaki Re 17.23 198**			P	**P**	**12 25 56.8**	**+3.7**
MKAZ	**Moumakai 17.30 197**			P	**P**	**12 25 56.7**	**+3.0**
HAZ	**Te Kaha 17.34 190**			P	**P**	**12 25 55.3**	**+1.2**
PKGZ	**Pakihiroa 17.42 189**			P	**P**	**12 25 57.1**	**+2.1**
RUGZ	**Raukumara Rang 17.56 190**			P	**P**	**12 25 57.9**	**+1.6**
TWGZ	**Tauwhareparae 17.72 189**			P	**P**	**12 25 59.3**	**+1.7**
MARZ	**Manawahe 17.77 193**			P	**P**	**12 25 51.9**	**-6.2**
TOZ	**Tahuroa Road 17.80 196**			P	**P**	**12 26 01.7**	**+3.4**
MWZ	**Matawai 17.95 190**			P	**P**	**12 25 59.2**	**-0.6**
URZ	**Urewera 17.95 191**			P	**P**	**12 25 59.0**	**-0.7**
	1.9nm,0.3s,baz=352,slow=4.8,SNR=19						
URZ				S	**S**	**12 28 51.2**	**-3.6**
	0.2nm,0.3s,baz=308,slow=19,SNR=1.6						
URZ	**Urewera 17.95 191**			P	**P**	**12 25 59.1**	**-0.6**
URZ	**Urewera 17.95 191**			P	**P**	**12 25 59.4**	**-0.3**
RIGZ	**Rimuhau 18.27 190**			P	**P**	**12 26 03.9**	**+1.3**
RAHZ	**Arahi 18.59 191**			P	**P**	**12 26 03.9**	**-1.6**
BKZ	**Black Stump Fm 18.94 192**			P	**P**	**12 26 07.9**	**-0.9**
BKZ				IAmb	IAmb	12 26 17.0	
	comp=Z,17nm,1.2s						
BKZ	**Black Stump Fm 18.94 192**			P	**P**	**12 26 08.2**	**-0.7**
TMVZ	**Te Maari 19.06 194**			P	**P**	**12 26 11.3**	**+1.3**
ETVZ	**East Tongariro 19.08 194**			P	**P**	**12 26 11.3**	**+1.2**
OTVZ	**Oturere 19.12 194**			P	**P**	**12 26 10.9**	**+0.3**
KWHZ	**Kaweka Forest 19.21 192**			P	**P**	**12 26 11.7**	**+0.5**
TUVZ	**Tukino 19.22 194**			P	**P**	**12 26 11.5**	**+0.1**
WNVZ	**Wahinoa 19.29 194**			P	**P**	**12 26 08.0**	**-4.1**
BHHZ	**Black Hill Sta 19.34 193**			P	**P**	**12 26 11.9**	**-0.5**
TSZ	**Takapari Road 19.91 193**			P	**P**	**12 26 18.0**	**+0.5**
BFZ	**Birch Farm 20.46 192**			P	**P**	**12 26 23.1**	**+0.7**
RPZ	**Rata Peaks 24.60 199**			P	**P**	**12 26 58.9**	**-0.4**
	comp=Z,9.7nm,1.0s,baz=333,slow=11,SNR=2.2						
WHZ	**Wether Hill Ro 27.53 201**			P	**P**	**12 27 26.6**	**+1.5**
WHZ				IAmb	IAmb	12 27 29.3	
	comp=Z,8.9nm,0.8s						
CTA	**Charters Tower 33.08

PETK	**Petropavlovsk-**	**76.34**	**345**	P		**P**		**12 33 13.5**	**0.0**
	comp=Z,4.3nm,0.6s,baz=120,slow=7.4,SNR=17								
PETK	**Petropavlovsk-**	**76.34**	**345**	P		**P**		**12 33 13.1**	**-0.4**
KSRS	**Korea Array**	**76.75**	**319**	P		**P**		**12 33 17.1**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=125,slow=6.0,SNR=6.6								
USRK	**Ussuriysk Ar.**	**78.88**	**326**	P		**P**		**12 33 28.8**	**+1.4**
	comp=Z,4.0nm,0.7s,baz=131,slow=5.9,SNR=8.4								
CMB	**Columbia Colle**	**79.86**	**43**	P		**P**		**12 33 33.6**	**+0.8**
YBH	**Yreka Blue Hor**	**80.67**	**39**	P		**P**		**12 33 38.5**	**+1.5**
WAKR	**Walker**	**80.74**	**43**	P		**P**		**12 33 38.8**	**+1.2**
WAKR				IAmb	IAmb			12 33 40.5	
	comp=Z,9.4nm,1.3s								
BEKR	**Beckworth**	**80.96**	**41**	P		**P**		**12 33 39.6**	**+0.9**
PNTR	**Pine Nut**	**80.98**	**42**	P		**P**		**12 33 39.5**	**+0.7**
PNTR				IAmb	IAmb			12 33 41.5	
	comp=Z,10nm,0.9s								
NVAR	**Mina Array Bea**	**81.42**	**44**	P		**P**		**12 33 43.0**	**+1.9**
	comp=Z,1.9nm,0.7s,baz=224,slow=8.0,SNR=16								
NVAR	**Mina Array Bea**	**81.42**	**44**	P		**P**		**12 33 42.3**	**+1.2**
NV11	**Mina Array Sit**	**81.52**	**44**	P		**P**		**12 33 42.3**	**+0.8**
KVN	**Kaiserville**	**81.91**	**43**	P		**P**		**12 33 44.6**	**+1.1**
KVN				IAmb	IAmb			12 33 45.8	
	comp=Z,7.5nm,1.3s								
TPH	**Tonopah**	**81.92**	**44**	P		**P**		**12 33 45.2**	**+1.6**
TPNV	**Topopah Spring**	**81.95**	**46**	P		**P**		**12 33 45.0**	**+1.3**
MOD	**Modoc Plateau**	**82.20**	**40**	P		**P**		**12 33 45.0**	**+0.1**
MOD				IAmb	IAmb			12 33 47.4	
	comp=Z,4.5nm,0.7s								
KLR	**Kul'dur**	**82.47**	**330**	P		**P**		**12 33 46.6**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=61,slow=6.0,SNR=4.4								
PINE	**Pine Mountain**	**82.97**	**38**	P		**P**		**12 33 49.8**	**+1.1**
PINE				IAmb	IAmb			12 33 51.7	
	comp=Z,7.5nm,0.8s								
TUC	**Tucson**	**83.40**	**52**	P		**P**		**12 33 51.9**	**+0.9**
WVOR	**Wild Horse Val**	**83.52**	**40**	P		**P**		**12 33 52.4**	**+1.0**
MA2	**Magadan**	**83.84**	**345**	P		**P**		**12 33 51.7**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=170,slow=5.2,SNR=6.8								
I07A	**Izee**	**83.97**	**38**	P		**P**		**12 33 54.6**	**+1.0**
319A	**Douglas**	**84.07**	**53**	P		**P**		**12 33 55.4**	**+1.1**
319A				IAmb	IAmb			12 33 57.9	
	comp=Z,10nm,1.2s								
U15A	**North Rim**	**84.37**	**48**	P		**P**		**12 33 56.8**	**+0.9**
U15A				IAmb	IAmb			12 33 58.9	
	comp=Z,3.9nm,0.7s								
SUA	**Susitna One**	**84.82**	**13**	P		**P**		**12 33 57.0**	**-0.2**
SUA				IAmb	IAmb			12 33 57.9	
	comp=Z,6.2nm,0.7s								
G08A	**Pilot Rock**	**85.00**	**38**	P		**P**		**12 34 00.2**	**+1.7**
G08A				IAmb	IAmb			12 34 00.9	
	comp=Z,4.4nm,0.9s								
GHO	**Glory Hole Cre**	**85.48**	**14**	P		**P**		**12 34 00.6**	**+0.2**
BMO	**Blue Mountains**	**85.70**	**39**	P		**P**		**12 34 02.9**	**+1.0**
CUT	**Chulitna**	**85.76**	**13**	P		**P**		**12 34 01.7**	**+0.1**
CUT				IAmb	IAmb			12 34 02.2	
	comp=Z,10nm,1.0s								
D08A	**Wollman Farm,**	**86.06**	**36**	P		**P**		**12 34 03.0**	**-0.4**
D08A				IAmb	IAmb			12 34 06.0	
	comp=Z,6.3nm,1.0s								
F10A	**Beach Ranch, E**	**86.38**	**38**	P		**P**		**12 34 04.8**	**-0.3**
SEY	**Seymchan**	**86.45**	**347**	P		**P**		**12 34 04.9**	**0.0**
	comp=Z,1.4nm,0.6s,baz=147,slow=5.4,SNR=36								
B08A	**Colville Reser**	**86.60**	**35**	P		**P**		**12 34 07.0**	**+1.0**
B08A				IAmb	IAmb			12 34 07.6	
	comp=Z,3.7nm,0.7s								
KTH	**Kantishna Hill**	**86.67**	**12**	P		**P**		**12 34 05.6**	**-0.4**
KTH				IAmb	IAmb			12 34 05.9	
	comp=Z,4.9nm,1.0s								
TRF	**Thorofare Moun**	**86.70**	**12**	P		**P**		**12 34 05.9**	**-0.4**
TRF				IAmb	IAmb			12 34 06.9	
	comp=Z,8.1nm,0.8s								
HLID	**Hailey**	**86.72**	**41**	P		**P**		**12 34 07.5**	**+0.7**
RND	**Reindeer**	**86.95**	**13**	P		**P**		**12 34 07.5**	**+0.1**
MNTX	**Cornudas Mount**	**87.17**	**55**	P		**P**		**12 34 10.4**	**+1.3**
MCK	**McKinley**	**87.23**	**13**	P		**P**		**12 34 08.4**	**-0.2**
MCK				IAmb	IAmb			12 34 10.1	
	comp=Z,4.7nm,0.7s								
TX31	**Lajitas Ar. Si**	**87.48**	**57**	P		**P**		**12 34 12.9**	**+2.2**
TX31				IAmb	IAmb			12 34 14.0	
	comp=Z,6.8nm,0.9s								
TX32	**Lajitas Array**	**87.48**	**57**	P		**P**		**12 34 12.0**	**+1.3**
TXAR	**Lajitas Array**	**87.48**	**57**	P		**P**		**12 34 12.8**	**+2.1**
	comp=Z,1.9nm,0.8s,baz=222,slow=6.3,SNR=23								
TXAR	**Lajitas Array**	**87.48**	**57**	P		**P**		**12 34 12.2**	**+1.6**
ANMO	**Albuquerque**	**87.82**	**51**	P		**P**		**12 34 13.6**	**+1.3**
	comp=Z,1.9nm,1.1s,baz=199,slow=4.4,SNR=4.3								
NEA2	**Nenana**	**87.97**	**12**	P		**P**		**12 34 11.2**	**-0.8**
NEA2				IAmb	IAmb			12 34 12.6	
	comp=Z,3.1nm,0.8s								
MLY	**Manley**	**88.04**	**11**	P		**P**		**12 34 11.8**	**-0.6**
MLY				IAmb	IAmb			12 34 12.3	
	comp=Z,3.4nm,0.6s								
WRH	**Wood River Hil**	**88.06**	**13**	P		**P**		**12 34 11.9**	**-0.4**
CCB	**Clear Creek Bu**	**88.27**	**13**	P		**P**		**12 34 12.8**	**-0.6**
MCMT	**McKenzie Canyo**	**88.34**	**40**	P		**P**		**12 34 15.7**	**+1.2**
IMAR	**Indian Mountai**	**88.39**	**10**	P		**P**		**12 34 14.1**	**+0.1**
I23K	**Minto, Yukon-K**	**88.41**	**12**	P		**P**		**12 34 13.4**	**-0.6**
TCOL	**CIGO, UAF Yank**	**88.46**	**13**	P		**P**		**12 34 13.3**	**-0.9**
MDM	**Murphy Dome**	**88.46**	**12**	P		**P**		**12 34 13.3**	**-1.0**
COLA	**College**	**88.46**	**13**	P		**P**		**12 34 13.6**	**-0.7**
SCRK	**Sand Creek**	**88.53**	**14**	P		**P**		**12 34 14.8**	**+0.1**
SCRK				IAmb	IAmb			12 34 17.2	
	comp=Z,2.1nm,0.8s								
IL31		**88.57**	**13**	P		**P**		**12 34 14.2**	**-0.5**
IL31				IAmb	IAmb			12 34 15.9	
	comp=Z,1.9nm,0.8s								
ILAR	**Eielson Array**	**88.57**	**13**	P		**P**		**12 34 14.2**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=221,slow=5.5,SNR=38								
ILAR	**Eielson Array**	**88.57**	**13**	P		**P**		**12 34 13.7**	**-1.1**
REDW	**Red Top Meadow**	**88.83**	**42**	P		**P**		**12 34 17.5**	**+0.7**
REDW				IAmb	IAmb			12 34 19.1	
	comp=Z,5.1nm,1.1s								
SNOW	**Snow King Moun**	**88.94**	**42**	P		**P**		**12 34 18.6**	**+1.2**
SNOW				IAmb	IAmb			12 34 20.4	
	comp=Z,4.0nm,0.8s								
K27K	**Chicken**	**89.03**	**15**	P		**P**		**12 34 17.1**	**+0.2**
K27K				IAmb	IAmb			12 34 18.7	
	comp=Z,4.3nm,0.9s								
LOHW	**Long Hollow**	**89.11**	**42**	P		**P**		**12 34 19.6**	**+1.5**
PDAR	**Pinedale Array**	**89.36**	**43**	P		**P**		**12 34 20.3**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=212,slow=3.6,SNR=21								
BOZ	**Bozeman (W)**	**89.48**	**40**	P		**P**		**12 34 20.9**	**+1.3**
CM36	**Chiang Mai Arr**	**89.69**	**290**	P		**P**		**12 34 22.0**	**+1.0**
CM35	**Chiang Mai Arr**	**89.69**	**290**	P		**P**		**12 34 22.0**	**+0.9**
DAWY	**Dawson**	**89.73**	**16**	P		**P**		**12 34 19.4**	**-0.8**
DAWY				IAmb	IAmb			12 34 21.7	
	comp=Z,5.9nm,1.1s								
CM04	**Chiang Mai Arr**	**89.74**	**290**	P		**P**		**12 34 23.0**	**+1.7**
	comp=Z,51nmcomp=Z,5.9nm,0.9s								
CM09	**Chiang Mai Arr**	**89.75**	**290**	P		**P**		**12 34 24.0**	**+2.7**
	comp=Z,44nmcomp=Z,5.5nm,1.0s								
CM34	**Chiang Mai Arr**	**89.76**	**290**	P		**P**		**12 34 23.4**	**+2.1**
CM05	**Chiang Mai Arr**	**89.77**	**290**	P		**P**		**12 34 23.9**	**+2.5**
	comp=Z,33nmcomp=Z,4.7nm,0.9s								
CMAR	**Chiang Mai Arr**	**89.80**	**290**	P		**P**		**12 34 22.9**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=124,slow=3.0,SNR=19								
EGAK	**Eagle**	**89.87**	**15**	P		**P**		**12 34 21.2**	**+0.4**
EGAK				IAmb	IAmb			12 34 22.1	
	comp=Z,4.2nm,0.8s								
CMMT	**Chiang Mai**	**89.92**	**290**	P		**P**		**12 34 22.0**	**-0.1**
	comp=Z,221nmcomp=Z,4.2nm,0.8s								
CM33	**Chiang Mai Arr**	**89.93**	**290**	P		**P**		**12 34 23.0**	**+0.8**
COLD	**Coldfoot**	**90.12**	**11**	P		**P**		**12 34 22.6**	**+0.7**
COLD				IAmb	IAmb			12 34 23.5	
	comp=Z,2.7nm,0.9s								
INK	**Inuvik**	**94.54**	**15**	P		**P**		**12 34 41.9**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=209,slow=5.5,SNR=4.1								
YKA	**Yellowknife Ar**	**96.83**	**25**	P		**P**		**12 34 52.7**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=236,slow=4.0,SNR=6.6								
ZALV	**Zalesovo Beam**	**110.38**	**321**	PKiKP		**PKiKP**		**12 39 48.8**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=100,slow=1.3,SNR=4.7								
MKAR	**Makanchi Array**	**111.03**	**313**	PKiKP		**PKiKP**		**12 39 50.5**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=128,slow=1.1,SNR=12								
BRVK	**Borovoye**	**119.02**	**320**			**PKPdf**		**12 40 05.8**	**-0.8**
BOSA	**Boshof**	**125.93**	**206**			**PKiKP**		**12 40 22.0**	**+0.6**
ARCES	**ARCESS Array B**	**129.02**	**349**	PKP		**PKPdf**		**12 40 24.9**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=37,slow=1.1,SNR=15								
ARCES	**ARCESS Array B**	**129.02**	**349**			**PKPdf**		**12 40 24.4**	**-1.0**
FINES	**FINESS Array B**	**135.82**	**343**	PKhKP		PKPpre		12 40 25.8	
	comp=Z,7.3nm,1.1s,baz=14,slow=7.1,SNR=2.9								
FINES				PKP		**PKPdf**		**12 40 38.5**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=42,slow=3.7,SNR=9.3								
FINES	**FINESS Array B**	**135.82**	**343**			**PKPdf**		**12 40 38.1**	**-0.3**
NOA	**NORSAR Array B**	**139.10**	**353**	PKhKP		PKPpre		12 40 38.0	
	comp=Z,0.7nm,0.7s,baz=49,slow=1.8,SNR=4.3								
NOA				PKP		**PKiKP**		**12 40 46.1**	**-0.9**
	comp=Z,0.9nm,1.0s,baz=20,slow=3.8,SNR=1.9								
AKASG	**Malin Array Be**	**142.97**	**331**	PKhKP		**PKPdf**		**12 40 48.7**	**-2.9**
	comp=Z,9.3nm,0.4s,baz=42,slow=4.4,SNR=64								
BR131	**Keskin Array S**	**146.66**	**312**			**PKPdf**		**12 40 59.4**	**+0.9**
BRTR	**Keskin Array B**	**146.66**	**312**	PKPbc		**PKPbc**		**12 41 00.8**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=139,slow=4.7,SNR=16								
BRTR	**Keskin Array B**	**146.66**	**312**			**PKPbc**		**12 41 00.6**	**-0.7**
RUE	**Ruedersdorf**	**146.87**	**346**	*e*PKPbc		**PKPbc**		**12 41 01.3**	**+0.2**
	baz=15,slow=2.5								
BUR08	**Bucovina Ar. S**	**147.00**	**330**			**PKPbc**		**12 41 02.5**	**+0.6**
BURAR	**Bucovina Array**	**147.01**	**330**			**PKPbc**		**12 41 02.0**	**+0.1**
FLTG	**Flechtingen**	**147.52**	**349**	*e*PKPbc		**PKPbc**		**12 41 02.8**	**-0.1**
	baz=15,slow=2.5								
NRDL	**Niedersach Rie**	**147.55**	**350**	*e*PKPbc		**PKPbc**		**12 41 03.0**	**+0.2**
	baz=15,slow=2.5								
MDUB	**Mudurnu**	**147.98**	**315**			**PKPbc**		**12 41 03.4**	**-1.2**
OSTC	**Ostas**	**148.01**	**342**	*e*PKP		**PKPbc**		**12 41 04.6**	**+0.4**
CHVC	**Chvalec**	**148.03**	**342**	*e*PKP		**PKPbc**		**12 41 04.1**	**-0.2**
UPC	**Upice**	**148.12**	**342**	*e*PKP		**PKPbc**		**12 41 05.0**	**+0.5**
CLL	**Collm**	**148.14**	**346**	*i*PKPbc		**PKPbc**		**12 41 04.5**	**0.0**
	comp=Z,15nm,0.8s								
CLL					*i*PKPab	**PKPab**		**12 41 09.3**	**-0.3**
	comp=Z,8.0nm,0.8s								
CLL	**Collm**	**148.14**	**346**			**PKPbc**		**12 41 03.9**	**-0.5**
CLL	**Collm**	**148.14**	**346**	*e*PKPbc		**PKPbc**		**12 41 04.7**	**+0.2**
	baz=15,slow=2.5								
CLZ	**Clausthal**	**148.14**	**350**	*e*PKPbc		**PKPbc**		**12 41 04.8**	**+0.3**
	baz=15,slow=2.5								
MLR	**Muntele Rosu**	**148.15**	**327**			**PKPbc**		**12 41 03.6**	**-1.3**
DPC	**Dobruska-Polom**	**148.17**	**342**	*e*PKP		**PKPbc**		**12 41 04.9**	**+0.2**
KRLC	**Kraliky**	**148.28**	**341**	*e*PKP		**PKPbc**		**12 41 04.4**	**-0.6**
BRG	**Berggiesshubel**	**148.32**	**345**	*e*PKPbc		**PKPbc**		**12 41 05.4**	**+0.4**
	baz=15,slow=2.5								
FBE	**Freiberg**	**148.42**	**346**	*e*PKPbc		**PKiKP**		**12 41 05.8**	**-0.5**
	baz=15,slow=2.5								
FBE				*e*PKPab		**PKPab**		**12 41 11.0**	**+0.2**
	baz=14,slow=4.4								
NEUB	**Neuenburg**	**148.49**	**348**	*e*PKPbc		**PKPbc**		**12 41 05.6**	**+0.3**
	baz=15,slow=2.5								
GTTG	**Gottingen**	**148.50**	**350**	*e*PKPbc		**PKPbc**		**12 41 05.5**	**+0.1**
	baz=15,slow=2.5								
BUG	**Bochum--Univer**	**148.97**	**353**	*e*PKPbc		**PKPbc**		**12 41 06.5**	**+0.1**
	baz=15,slow=2.5								
PRU	**Pruhonice**	**148.99**	**344**	*e*PKP		**PKPbc**		**12 41 06.0**	**-0.6**
PRU				*e*PKPAB		**PKPab**		**12 41 13.5**	**+0.3**
GOPC	**GO Pecny, Ondr**	**148.99**	**343**	*e*PKP		**PKPbc**		**12 41 06.7**	**0.0**
VRAC	**Vranov**	**149.01**	**341**	*e*PKP		**PKPbc**		**12 41 07.1**	**+0.4**
MOX	**Moxa**	**149.06**	**348**	*e*PKPbc		**PKPbc**		**12 41 07.1**	**+0.3**
	baz=15,slow=2.5								
JAVC	**Velka Javorina**	**149.06**	**339**	*e*PKP		**PKiKP**		**12 41 08.4**	**+0.6**
PLN	**Plauen**	**149.09**	**347**	*e*PKPbc		**PKPbc**		**12 41 07.2**	**+0.4**
	baz=15,slow=2.5								
TANN	**Tannenbergstha**	**149.09**	**346**	*e*PKPbc		**PKPbc**		**12 41 07.1**	**+0.2**
	baz=15,slow=2.5								
WERD	**Werda**	**149.10**	**347**	*e*PKPbc		**PKPbc**		**12 41 07.2**	**+0.3**
	baz=15,slow=2.5								
GUNZ	**Gunzen**	**149.17**	**347**	*e*PKPbc		**PKPbc**		**12 41 07.5**	**+0.4**
	baz=15,slow=2.5								
GUNZ				*e*PKPab		**PKPab**		**12 41 14.1**	**+0.1**
	baz=14,slow=4.4								
NKC	**Novy Kostel**	**149.27**	**346**	*e*PKP		**PKPbc**		**12 41 07.6**	**+0.3**
NKC				*e*PKPAB		**PKPab**		**12 41 14.0**	**-0.4**
KRUC	**Moravsky**	**149.29**	**341**	*e*PKP		**PKPbc**		**12 41 07.5**	**+0.1**
MANZ	**Manzenberg**	**149.58**	**347**	*e*PKPbc		**PKiKP**		**12 41 08.4**	**-0.3**
	baz=15,slow=2.5								
KHC	**Kasperske Hory**	**150.03**	**344**	*e*PKP		**PKPbc**		**12 41 08.5**	**-0.7**
KHC				*e*PKPAB		**PKPab**		**12 41 17.1**	**-0.5**
KHC	**Kasperske Hory**	**150.03**	**344**			**PKPbc**		**12 41 08.6**	**-0.6**
GRF	**Grafenberg Arr**	**150.04**	**347**	*e*PKPab		**PKPab**		**12 41 18.1**	**+0.5**
	baz=14,slow=4.4								
CKRC	**Cesky Krumlov**	**150.12**	**343**	*e*PKP		**PKPbc**		**12 41 08.6**	**-0.8**
GEC2	**GERESS Array S**	**150.26**	**344**	*e*PKPbc		**PKPbc**		**12 41 09.8**	**0.0**
	baz=15,slow=2.5								
GERES	**GERESS Array B**	**150.26**	**344**	PKPbc		**PKPbc**		**12 41 09.8**	**0.0**
	comp=Z,2.3nm,0.6s,baz=40,slow=2.6,SNR=16								
GERES				PKPab		**PKPab**		**12 41 18.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=35,slow=5.1,SNR=3.6								
GERES	**GERESS Array B**	**150.26**	**344**			**PKPbc**		**12 41 09.4**	**-0.4**
GERES						**PKPab**		**12 41 18.7**	**0.0**
CONA	**Conrad Observa**	**150.46**	**340**	*e*P		**PKPbc**		**12 41 10.5**	**+0.2**
	comp=Z,3.3nm,0.5s								
MANT	**Manisa**	**150.73**	**313**			**PKPbc**		**12 41 10.8**	**-0.6**
MOA	**Molln**	**151.01**	**342**	*i* P		**PKPbc**		**12 41 11.2**	**-0.2**
	comp=Z,1.8nm,0.5s								
STU	**Stutgart**	**151.30**	**349**	*e*PKPbc		**PKiKP**		**12 41 12.4**	**+0.1**
	baz=15,slow=2.5								
FUR	**Furstenfeldbru**	**151.48**	**346**	*e*PKPbc		**PKiKP**		**12 41 12.7**	**0.0**
	baz=15,slow=2.5								
FUR				*e*PKPab		**PKPab**		**12 41 24.2**	**+0.5**
	baz=14,slow=4.4								
RJOB	**Jochberg**	**151.51**	**344**	*e*PKPab		**PKPab**		**12 41 25.2**	**+1.3**
	baz=14,slow=4.4								
SOKA	**Soboth**	**151.83**	**340**	*e*P		**PKPbc**		**12 41 12.6**	**-0.8**
	comp=Z,0.9nm,0.4s								
OBKA	**Obir**	**152.13**	**341**	*i* P		**PKiKP**		**12 41 15.0**	**+0.7**
	comp=Z,2.1nm,0.6s								
UBR	**Ueberruh**	**152.18**	**348**	*e*PKPbc		**PKPbc**		**12 41 14.0**	**-0.1**
	baz=15,slow=2.5								
WATA	**Walderalm**	**152.19**	**345**	*i* P		**PKPbc**		**12 41 13.8**	**-0.5**
	comp=Z,1.9nm,0.4s								
RETA	**Reutte**	**152.23**	**347**	*i* P		**PKPbc**		**12 41 14.1**	**-0.1**
	comp=Z,1.1nm,0.5s								
WTTA	**Wattenberg**	**152.24**	**345**	*i* P		**PKPbc**		**12 41 14.3**	**-0.2**
	comp=Z,2.8nm,0.3s								
MOTA	**Moosalm**	**152.29**	**346**	*e*P		**PKPbc**		**12 41 14.1**	**-0.4**
	comp=Z,1.5nm,0.4s								
SQTA	**Sankt Quirin**	**152.38**	**346**	*i* P		**PKPbc**		**12 41 14.4**	**-0.2**
	comp=Z,2.3nm,0.5s								
ABTA	**Abfaltersbach**	**152.50**	**344**	*e*P		**PKPbc**		**12 41 14.1**	**-0.8**
	comp=Z,4.3nm,0.6s								
FETA	**Feichten**	**152.68**	**346**	*e*P		**PKPbc**		**12 41 15.3**	**0.0**
	comp=Z,1.6nm,0.6s								
ESDC	**Sonseca Array**	**160.47**	**13**	PKPab		**PKPab**		**12 42 03.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=343,slow=5.7,SNR=3.3								

IDC ***22*** *12:26:27.8±3.0,37.°82N×141.°97E, h62km±25km, mb3.3/3, mb1 3.5/6, mb1mx3.2/50, mbtmp3.7/6, ML3.3/3, Error ellipse: s-maj=45.8km s-min=22.2km az=91.0*
JMA ***22*** *12:26:28.8±0.1, 37.°78N×141.°75E, h61km±1km, M3.8*
ISC 22 12:26:28.1±1.4, 37.°79N±0.°1×141.°8E±0.°1, h56km±11km, n23, σ1§31/35, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
JIKH	**Ishinomakikobu**	**0.59**	**332**	P		**Pn**	**12 26 41.7**		**+0.8**
JIKH				S		**Sn**	**12 26 50.9**		**+0.8**
JMST	**Minamisoumatoc**	**0.74**	**265**	P		**Pn**	**12 26 43.1**		**+0.4**
JMST				S		**Sn**	**12 26 53.1**		**-0.3**
JIO	**Ouri**	**0.76**	**331**	P		**Pn**	**12 26 43.7**		**+0.7**
JIO				S		**Sn**	**12 26 54.1**		**+0.3**
JMM	**Marumori**	**0.82**	**276**	P		**Pn**	**12 26 44.0**		**+0.3**
JMM				S		**Sn**	**12 26 55.0**		**-0.1**
JFK	**Kawauchi**	**0.86**	**241**	P		**Pn**	**12 26 44.5**		**+0.2**
JFK				S		**Sn**	**12 26 55.7**		**-0.5**
JOU	**Okura**	**1.08**	**303**	P		**Pn**	**12 26 47.5**		**+0.4**
JOU				S		**Sn**	**12 27 01.2**		**-0.1**
JFT	**Otama**	**1.21**	**258**	P		**Pn**	**12 26 49.1**		**+0.3**
JFT				S		**Sn**	**12 27 04.9**		**+0.6**
JMK	**Ichinoseki**	**1.26**	**338**	P		**Pn**	**12 26 50.4**		**+1.0**
JMK				*e*S		**Sn**	**12 27 05.8**		**+0.5**
JYS	**Shirataka**	**1.46**	**288**	P		**Pn**	**12 26 52.8**		**+0.7**
JYS				*e*S		**Sn**	**12 27 10.7**		**+0.5**
JYK	**Kaneyama**	**1.61**	**315**	P		**Pn**	**12 26 55.1**		**+0.8**
JYK				S		**Sn**	**12 27 14.4**		**+0.4**
JFY	**Yanaizu**	**1.73**	**258**	P		**Pn**	**12 26 56.4**		**+0.6**
JOM	**Ohasama**	**1.73**	**346**	P		**Pn**	**12 26 56.9**		**+1.0**
JOM				*e*S		**Sn**	**12 27 17.7**		**+0.8**
JYA	**Atsumi**	**1.85**	**296**	P		**Pn**	**12 26 58.2**		**+0.8**
JYA				*e*S		**Sn**	**12 27 20.3**		**+0.6**
MJAR	**Matsushiro Arr**	**3.14**	**248**	P		**Pn**	**12 27 16.6**		**+1.4**
	1.0nm,0.3s,baz=57,slow=13,SNR=62								
MAT	**Matsushiro**	**3.15**	**248**	P		**Pn**	**12 27 16.7**		**+1.5**
MAT				S		**Sn**	**12 27 55.0**		**+3.5**
JHJ	**Hachijo jima 2**	**4.95**	**200**	P		**Pn**	**12 27 39.7**		**-0.2**
	11nm,0.3s,baz=55,slow=17,SNR=8.6								
JHJ				S		**Sn**	**12 28 32.1**		**-3.7**
	18nm,0.3s,baz=312,slow=23,SNR=6.3								
ASAJ	**Asahikawa**	**6.35**	**5**	P		**Pn**	**12 27 58.3**		**-0.7**
	0.6nm,0.3s,baz=202,slow=13,SNR=15								
ASAJ				S		**Sn**	**12 29 06.5**		**-3.6**
	0.3nm,0.3s,baz=216,slow=18,SNR=1.3								
SONM	**Songino Array**	**27.64**	**303**	P		**P**	**12 32 10.5**		**0.0**
	0.4nm,0.7s,baz=96,slow=8.5,SNR=4.6								
H11N2	**WAKE ISLAND Hy**	**28.26**	**123**	T		T	13 02 40.0		
	baz=316,slow=75,SNR=52								
H11N1	**WAKE ISLAND Hy**	**28.27**	**123**	T		T	13 02 40.8		
	baz=316,slow=75,SNR=59								
H11N3	**WAKE ISLAND Hy**	**28.28**	**123**	T		T	13 02 41.4		
	baz=316,slow=75,SNR=43								
WRA	**Warramunga Arr**	**57.85**	**188**	P		**P**	**12 36 13.4**		**-0.6**
	0.5nm,0.6s,baz=6.2,slow=7.7,SNR=5.3								
AKASG	**Malin Array Be**	**73.90**	**322**	P		**P**	**12 37 56.1**		**-0.8**
	0.3nm,0.4s,baz=44,slow=5.6,SNR=1.7								

MOS ***22*** *12:36:44.7±1.0, 46.°77N×152.°81E, h61km, mb4.2/8, Error ellipse: s-maj=8.9km s-min=6.4km az=65.8*
NIED ***22*** *12:36:44.1, 47.°01N×152.°69E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.17; Mθθ=0.96; Mφφ=-0.79; Mrθ=-0.31; Mθφ=0.28; Mφr=0.31; Fault plane solution: M₀1.02000×10¹⁵ NP1: φs124.00000°, δ82.00000°, λ-27.00000°. NP2: φs218.00000°, δ64.00000°, λ-171.00000°.*
SKHL ***22*** *12:36:45.0±0.3, 46.°70N×152.°90E, h74km±6km, mb4.4/8*
NEIC ***22*** *12:36:48.3±0.7, 46.°9N±0.°2×152.°6E±0.°2, h74km±11km, mb4.1/8, Error ellipse: s-maj=29.0km s-min=4.7km az=138.0*
IDC ***22*** *12:36:48.2±2.3, 46.°86N×152.°72E, h72km±20km, mb3.6/19, mb1 3.8/25, mb1mx3.7/47, mbtmp3.9/25, MS3.1/10, Ms1 3.1/10, ms1mx2.8/50, Error ellipse: s-maj=18.1km s-min=12.0km az=140.0*
**ISC 22 12:36:43.8±0.6, 46.°74N±0.°06×152.°

JWK2	**Keihoku**	**7.78**	**263**	P	Pn	12 38 40.7	+6.4	
TYV	**Tymovskoe**	**7.91**	**305**	*e*PN	**Pn**	**12 38 37.4**	**+1.2**	
TYV				pmax	pmax			
	comp=Z,100nm,3.5s							
TYV				pmax	pmax			
	comp=Z,12nm,0.9s							
TYV	**Tymovskoe**	**7.91**	**305**	*e*P	**Pn**	**12 38 37.6**	**+1.4**	
TYV				AMB	AMB	12 38 38.5		
	comp=Z,100nm,4.0s							
TYV				AMB	AMB	12 38 40.3		
	comp=Z,10.0nm,0.9s							
TYV				*e*S	**Sn**	**12 40 03.6**	**-0.8**	
TYV				A	A	12 40 03.9		
	comp=Z,5.0nm,1.0s							
JCH	**Churui**	**7.94**	**242**	P	**Pn**	**12 38 37.3**	**+0.7**	
JCH				*e*S	**Sn**	**12 40 01.1**	**-4.0**	
JEM	**Erimo**	**8.41**	**239**	Pn	Pn	12 38 36.0	-7.0	
ERM	**Erimo**	**8.41**	**239**	*ce*PN	**Pn**	**12 38 44.6**	**+1.5**	
ERM	**Erimo**	**8.41**	**239**	Pn	**Pn**	**12 38 45.5**	**+2.4**	
JNB	**Noboribetsu**	**9.46**	**247**	P	**Pn**	**12 38 58.7**	**+1.2**	
JKB	**Kayabe**	**9.78**	**245**	*e*S	**Sn**	**12 40 44.2**	**-6.0**	
JANG	**Nango**	**10.41**	**236**	P	**Pn**	**12 39 07.9**	**-2.6**	
JOSM	**Okushiri--Mats**	**10.66**	**249**	P	**Pn**	**12 39 14.4**	**+0.6**	
MA2	**Magadan**	**12.92**	**355**	P	**Pn**	**12 39 46.7**	**+2.1**	
	comp=Z,2.0nm,0.3s,baz=165,slow=13,SNR=25							
MA2				LR	LR	12 44 12.6		
	comp=Z,57nm,19.1s,baz=154,slow=35							
MA2	**Magadan**	**12.92**	**355**	PN	**Pn**	**12 39 46.1**	**+1.4**	
MA2	**Magadan**	**12.92**	**355**	Pn	**Pn**	**12 39 46.1**	**+1.4**	
EKMR	**Ekimchan**	**14.30**	**304**	*e*P	**Pn**	**12 40 02.5**	**-1.0**	
EKMR				AMB	AMB	12 40 11.0		
	comp=Z,6.0nm,0.8s							
KLR	**Kul'dur**	**14.37**	**288**	P	**Pn**	**12 40 05.4**	**+1.0**	
	comp=Z,0.1nm,0.3s,baz=142,slow=12,SNR=2.1							
KLR				LR	LR	12 45 48.4		
	comp=Z,70nm,18.1s,baz=104,slow=38							
KLR	**Kul'dur**	**14.37**	**288**	*e*P	**Pn**	**12 40 04.7**	**+0.3**	
USRK	**Ussuriysk Ar.**	**14.87**	**268**	P	**Pn**	**12 40 13.3**	**+2.0**	
	baz=66,slow=12,SNR=5.6							
MJAR	**Matsushiro Arr**	**14.95**	**232**	P	**Pn**	**12 40 13.9**	**+1.6**	
	comp=Z,0.0nm,0.3s,baz=42,slow=9.4,SNR=2.6							
MJAR				LR	LR	12 45 16.9		
	comp=Z,56nm,19.7s,baz=80,slow=34							
MAJO	**Matsushiro**	**14.95**	**232**⇑	*e*P	**Pn**	**12 40 12.9**	**+0.6**	
SEY	**Seymchan**	**16.23**	**359**⇑	*e*P	**P**	**12 40 31.8**	**+0.2**	
KROS	**Kirovskiy**	**18.09**	**305**	*e*P	**P**	**12 40 53.8**	**+1.6**	
KROS				AMB	AMB	12 40 55.8		
	comp=Z,4.0nm,0.8s							
YAK	**Yakutsk**	**20.25**	**328**⇓	*e*P	**P**	**12 41 16.5**	**+0.9**	
YAK				pmax	pmax			
	comp=Z,6.0nm,0.6s							
YAK	**Yakutsk**	**20.25**	**328**	*e*P	**P**	**12 41 16.5**	**+0.9**	
KSRS	**Korea Array**	**20.64**	**252**	P	**P**	**12 41 22.3**	**+2.2**	
	comp=Z,1.6nm,0.7s,baz=60,slow=9.3,SNR=6.2							
KSRS				LR	LR	12 48 48.8		
	comp=Z,17nm,18.5s,baz=0.0,slow=35							
BILL	**Bilibino**	**22.44**	**13**	*i* P	**P**	**12 41 38.9**	**-0.3**	
BILL				*i*		12 42 07.3		
BILL				*i*		12 45 32.6		
BILL				pmax	pmax			
	comp=Z,1.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,21nm,14.0s							
BILL	**Bilibino**	**22.44**	**13**	*e*P	**P**	**12 41 38.9**	**-0.3**	
H11N2	**WAKE ISLAND Hy**	**29.28**	**152**	T	T	13 14 06.3		
	baz=345,slow=75							
H11N1	**WAKE ISLAND Hy**	**29.30**	**152**	T	T	13 14 01.2		
	baz=345,slow=75							
H11N3	**WAKE ISLAND Hy**	**29.30**	**152**	T	T	13 14 07.3		
	baz=345,slow=75							
H11S1	**WAKE ISLAND Hy**	**30.37**	**153**	T	T	13 15 30.4		
	baz=341,slow=76,SNR=913							
H11S3	**WAKE ISLAND Hy**	**30.38**	**153**	T	T	13 15 26.6		
	baz=341,slow=76,SNR=957							
H11S2	**WAKE ISLAND Hy**	**30.39**	**153**	T	T	13 15 16.3		
	baz=341,slow=76,SNR=728							
ULN	**Ulaanbaatar**	**30.75**	**289**⇓	*e*P	**P**	**12 42 54.6**	**-1.1**	
ULN				pmax	pmax			
	comp=Z,3.0nm,1.7s							
ULN	**Ulaanbaatar**	**30.75**	**289**	*e*P	**P**	**12 42 54.6**	**-1.1**	
SONM	**Songino Array**	**31.19**	**289**	P	**P**	**12 43 00.9**	**+1.4**	
	comp=Z,0.5nm,0.6s,baz=156,slow=7.6,SNR=4.0							
SONM				PcP	**PcP**	**12 45 53.5**	**-0.1**	
	comp=Z,0.2nm,0.5s,baz=114,slow=3.5,SNR=2.1							
SONM				LR	LR	12 56 41.7		
	comp=Z,39nm,18.3s,baz=87,slow=38							
SONM	**Songino Array**	**31.19**	**289**	P	**P**	**12 42 58.6**	**-0.8**	
KTH	**Kantishna Hill**	**34.87**	**41**	P	**P**	**12 43 32.1**	**+0.7**	
KTH				IAmb	IAmb	12 43 33.0		
	comp=Z,6.1nm,1.2s							
COLD	**Coldfoot**	**35.43**	**34**	P	**P**	**12 43 36.1**	**+0.1**	
COLD				IAmb	IAmb	12 43 37.6		
	comp=Z,4.3nm,1.3s							
TOLK	**Toolik Lake Re**	**35.84**	**32**	P	**P**	**12 43 39.7**	**+0.1**	
TOLK				IAmb	IAmb	12 43 41.5		
	comp=Z,3.8nm,1.3s							
COLA	**College**	**36.24**	**38**⇓	*e*P	**P**	**12 43 44.2**	**+1.2**	
COLA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ILAR	**Eielson Array**	**36.66**	**39**	P	**P**	**12 43 46.9**	**+0.3**	
	comp=Z,0.8nm,0.9s,baz=278,slow=7.8,SNR=8.9							
L27K	**Beaver Creek,**	**38.99**	**41**	P	**P**	**12 44 06.8**	**+0.5**	
L27K				IAmb	IAmb	12 44 19.0		
	comp=Z,3.2nm,1.2s							
EGAK	**Eagle**	**39.11**	**38**	P	**P**	**12 44 07.6**	**+0.4**	
INK	**Inuvik**	**41.74**	**32**	P	**P**	**12 44 30.1**	**+1.2**	
	comp=Z,1.2nm,0.5s,baz=290,slow=6.4,SNR=10							
ZALV	**Zelesovo Beam**	**42.49**	**306**	P	**P**	**12 44 33.6**	**-1.6**	
	comp=Z,0.4nm,0.3s,baz=57,slow=9.0,SNR=2.4							
ZALV				PcP	**PcP**	**12 46 27.2**	**-0.2**	
	comp=Z,0.5nm,0.6s,baz=90,slow=4.3,SNR=3.7							
ZALV				LR	LR	13 03 56.2		
	comp=Z,20nm,20.3s,baz=64,slow=38							
MK31	**Makanchi Array**	**46.80**	**297**	*ce*P	**P**	**12 45 09.3**	**-0.5**	
MK31	**Makanchi Array**	**46.80**	**297**	P	**P**	**12 45 08.3**	**-1.5**	
MK31				IAmb	IAmb	12 45 09.4		
	comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**	**46.80**	**297**	P	**P**	**12 45 08.1**	**-1.6**	
	comp=Z,0.5nm,0.6s,baz=63,slow=8.4,SNR=7.3							
MKAR				PcP	**PcP**	**12 46 41.8**	**-0.6**	
	comp=Z,0.5nm,0.6s,baz=59,slow=2.2,SNR=5.0							
MKAR				LR	LR	13 05 35.0		
	comp=Z,62nm,18.1s,baz=28,slow=37							
MKAR	**Makanchi Array**	**46.80**	**297**	*e*P	**P**	**12 45 08.3**	**-1.5**	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**46.80**	**297**	P	**P**	**12 45 08.3**	**-1.5**	
EUNU	**Eureka**	**49.17**	**11**	P	**P**	**12 45 27.5**	**-0.1**	
BRVK	**Borovoye**	**50.78**	**309**	*i* P	**P**	**12 45 38.1**	**-2.0**	
BRVK				pmax	pmax			
	comp=Z,8.0nm,4.0s							
YKA	**Yellowknife Ar**	**51.03**	**37**	P	**P**	**12 45 42.5**	**+0.7**	
	comp=Z,0.4nm,0.7s,baz=297,slow=6.5,SNR=7.1							
YKA				PcP	**PcP**	**12 46 57.2**	**-0.2**	
	comp=Z,0.3nm,0.4s,baz=305,slow=3.1,SNR=1.7							
CMAR	**Chiang Mai Arr**	**52.21**	**256**	P	**P**	**12 45 52.1**	**+0.8**	
	comp=Z,0.9nm,0.6s,baz=30,slow=7.7,SNR=6.5							
CMAR	**Chiang Mai Arr**	**52.21**	**256**	*e*P	**P**	**12 45 51.9**	**+0.7**	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AAK	**Ala-Archa**	**53.70**	**296**	LR	LR	13 09 14.1		
	comp=Z,43nm,18.8s,baz=56,slow=36							
AAK	**Ala-Archa**	**53.70**	**296**⇑	*e*P	**P**	**12 46 02.6**	**+0.5**	
AAK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
AAK	**Ala-Archa**	**53.70**	**296**	*e*P	**P**	**12 46 02.6**	**+0.5**	
ARU	**Arti**	**54.91**	**317**	*d i* P	**P**	**12 46 10.1**	**-0.4**	
ARU						12 48 11.5		
ARU				S	**S**	**12 53 49.1**	**-0.2**	
ARU				SS	**SS**	**12 57 28.7**	**-3.6**	
ARU				pmax	pmax			
	comp=Z,29nm,4.0s							
ARU	**Arti**	**54.91**	**317**	*e*P	**P**	**12 46 10.1**	**-0.4**	
ARCES	**ARCESS Array B**	**57.81**	**341**	P	**P**	**12 46 30.4**	**-0.6**	
	comp=Z,5.3nm,1.0s,baz=35,slow=8.0,SNR=1.6							
NVAR	**Mina Array Bea**	**62.58**	**62**	P	**P**	**12 47 05.3**	**+0.9**	
	comp=Z,0.7nm,0.8s,baz=306,slow=7.7,SNR=5.6							
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**12 47 11.8**	**-1.2**	
	comp=Z,2.5nm,0.4s,baz=35,slow=8.0,SNR=37							
PDAR	**Pinedale Array**	**64.88**	**54**	P	**P**	**12 47 20.1**	**+0.6**	
	comp=Z,0.1nm,0.3s,baz=284,slow=3.6,SNR=2.2							
NB2	**NORSAR Subarra**	**68.19**	**341**	P	**P**	**12 47 39.3**	**-0.8**	
	comp=Z,4.2nm,0.8s,baz=30,slow=6.2							
NOA	**NORSAR Array B**	**68.19**	**341**	P	**P**	**12 47 39.3**	**-0.8**	
	comp=Z,2.0nm,0.7s,baz=29,slow=6.5,SNR=10							
NOA				LR	LR	13 22 08.4		
	comp=Z,18nm,18.0s,baz=330,slow=40							
WRA	**Warramunga Arr**	**68.45**	**199**	P	**P**	**12 47 41.5**	**-0.6**	
	comp=Z,0.8nm,0.9s,baz=19,slow=6.9,SNR=5.3							
KBZ	**Khabaz**	**70.75**	**314**	P	**P**	**12 47 56.4**	**+0.3**	
	comp=Z,1.0nm,0.8s,baz=53,slow=5.5,SNR=3.6							
AKASG	**Malin Array Be**	**71.47**	**326**	P	**P**	**12 47 59.0**	**-1.3**	
	comp=Z,3.0nm,0.5s,baz=34,slow=6.1,SNR=11							
ASAR	**Alice Springs**	**72.15**	**198**	P	**P**	**12 48 05.3**	**+0.7**	
	comp=Z,0.9nm,0.7s,baz=11,slow=5.9,SNR=23							
CLL	**Collm**	**76.41**	**335**	*i* P	**P**	**12 48 28.6**	**-0.6**	
CLL	**Collm**	**76.41**	**335**	*i* P	**P**	**12 48 28.6**	**-0.6**	
TXAR	**Lajitas Array**	**77.64**	**60**	P	**P**	**12 48 34.0**	**-2.6**	
	comp=Z,0.7nm,0.7s,baz=282,slow=4.5,SNR=4.4							
BRTR	**Keskin Array B**	**78.29**	**317**	P	**P**	**12 48 40.3**	**+0.1**	
	comp=Z,0.5nm,0.6s,baz=71,slow=4.5,SNR=4.1							
GERES	**GERESS Array B**	**78.40**	**334**	P	**P**	**12 48 39.0**	**-1.5**	
	comp=Z,0.3nm,0.5s,baz=31,slow=5.9,SNR=3.5							
GERES	**GERESS Array B**	**78.40**	**334**	P	**P**	**12 48 39.0**	**-1.5**	
H03N2	**Juan Fernandez**	**138.91**	**90**	T	T	15 31 31.8		
	baz=308,slow=77,SNR=18							
H03N1	**Juan Fernandez**	**138.93**	**90**	T	T	15 31 33.1		
	baz=308,slow=77,SNR=30							
H03N3	**Juan Fernandez**	**138.93**	**90**	T	T	15 31 27.3		
	baz=308,slow=77,SNR=19							
PLCA	**Paso Flores**	**148.36**	**95**	PKPbc	**PKPbc**	**12 56 26.6**	**+0.7**	
	comp=Z,1.1nm,0.8s,baz=283,slow=5.6,SNR=3.6							
PLCA	**Paso Flores**	**148.36**	**95**	PKP2	**PKPbc**	**12 56 26.4**	**+0.4**	
PLCA	**Paso Flores**	**148.36**	**95**		**PKPbc**	**12 56 26.4**	**+0.4**	

*IDC **22** 13:00:11.4±1.7,22.°01N×122.°18E,h0km,mb3.5/6,*
mb1 3.7/6,mb1mx3.3/50,mbtmp3.5/6,MS3.0/2,Ms1 3.0/2,
ms1mx2.5/31,Error ellipse: s-maj=158.1km s-min=18.9km
az=64.0
*JMA **22** 13:00:15.7±0.2,22.°07N×121.°62E,h7km,M3.9*
*TAP **22** 13:00:16.4,21.°97N×121.°38E,h14km,ML3.6,D*
ISC 22 13:00:15.7±0.9,21.°91N±0.°04×121.°50E±0.°03,h27km±6km,
n116,σ1°41/195,mb3.4/6,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.14**	**211**	*i* P		**Pb**		**13 00 21.2**	**+0.2**
LAY	baz=66			*e*S		**Sb**		**13 00 25.4**	**+0.8**
TSEB	**Hengchuen, Pin**	**0.56**	**269**	*i* P		**Pn**		**13 00 27.4**	**-0.3**
TSEB	baz=263			*i* S		**Sn**		**13 00 35.9**	**-0.2**
TWKBT	**Hengchun**	**0.64**	**273**	P		**Pb**		**13 00 27.9**	**-0.4**
TWKBT	baz=283			S		**Sb**		**13 00 35.6**	**-1.2**
TWK1	**Hengchun**	**0.64**	**273**	*i* P		**Pb**		**13 00 27.8**	**-0.5**
TWK1	baz=283			S		**Sb**		**13 00 35.5**	**-1.5**
SNW	**Nanwan**	**0.70**	**274**	*e*P		**Pn**		**13 00 29.2**	**-0.5**
SNW	baz=270			*e*S		**Sb**		**13 00 37.9**	**-0.6**
HEN	**Hengchun**	**0.71**	**278**	*i* P		**Pb**		**13 00 29.1**	**-0.4**
HEN	baz=274			*e*S		**Sb**		**13 00 37.9**	**-1.1**
TAW	**Tawu**	**0.72**	**309**	*i* P		**Pb**		**13 00 28.3**	**-1.2**
TAW	baz=313			*i* S		**Sb**		**13 00 37.2**	**-1.8**
SLIU	**Shizi**	**0.72**	**296**	*i* P		**Pb**		**13 00 28.8**	**-0.8**
SLIU	baz=296			S		**Sb**		**13 00 37.2**	**-1.9**
LDUT	**Ludao**	**0.76**	**358**	P		**Pb**		**13 00 29.6**	**-0.8**
LDUT	baz=21			S		**Sb**		**13 00 39.8**	**-0.6**
EAST	**Anshuo**	**0.77**	**308**	*i* P		**Pb**		**13 00 29.3**	**-1.1**
EAST	baz=311			*i* S		**Sb**		**13 00 37.5**	**-3.0**
ECL	**Taimali**	**0.85**	**324**	*i* P		**Pb**		**13 00 30.3**	**-1.6**
ECL	baz=330			S		**Sb**		**13 00 41.1**	**-1.8**
TTN	**Taitung**	**0.90**	**339**	*i* P		**Pn**		**13 00 33.3**	**+0.7**
SCZT	**Fangliau**	**0.94**	**300**	*i* P		**Pb**		**13 00 32.2**	**-1.0**
SCZT	baz=313			S		**Sb**		**13 00 43.6**	**-1.7**
TWGBT	**Beinan**	**0.98**	**337**	P		**Pb**		**13 00 32.5**	**-1.6**
TWG	**Pinlang**	**0.99**	**337**	*i* P		**Pb**		**13 00 32.7**	**-1.5**
SSPT	**Xinbi**	**1.03**	**304**	*i* P		**Pn**		**13 00 34.5**	**+0.2**
SSPT	baz=306			*e*S		**Sb**		**13 00 46.9**	**-1.2**
LONT	**Longtian**	**1.05**	**341**	*i* P		**Pb**		**13 00 33.8**	**-1.5**
LONT	baz=333			*e*S		**Sb**		**13 00 47.3**	**-1.4**
MASBT	**Mashibuluo**	**1.06**	**311**	P		**Pn**		**13 00 34.2**	**-0.7**
EDH	**Donghe**	**1.08**	**350**	*i* P		**Pn**		**13 00 34.5**	**-0.5**
EDH	baz=9.0			*i* S		**Sb**		**13 00 48.3**	**-1.1**
TSMG	**Majia**	**1.12**	**315**	P		**Pb**		**13 00 35.8**	**-0.6**
TSMG	baz=328			*e*S		**Sb**		**13 00 47.7**	**-2.9**
WLCH	**Liuqiu**	**1.13**	**293**	P		**Pb**		**13 00 37.5**	**+1.0**
WLCH	baz=294			*e*S		**Sn**		**13 00 52.2**	**+1.9**
TWP	**Hsiaoliuchiu**	**1.14**	**293**	P		**Pb**		**13 00 38.3**	**+1.6**
SSD	**Sandimen**	**1.16**	**316**	*i* P		**Pb**		**13 00 36.5**	**-0.5**
SSD	baz=329			*e*S		**Sb**		**13 00 49.2**	**-2.4**
CHKT	**Chengkung**	**1.19**	**354**	P		**Pn**		**13 00 36.4**	**-0.2**
CHKT	baz=12			S		**Sb**		**13 00 51.4**	**-1.3**
SGLT	**Jiouru**	**1.24**	**311**	*e*P		**Pb**		**13 00 39.0**	**+0.6**
FULB	**Fuli**	**1.30**	**352**	*i* P		**Pn**		**13 00 38.2**	**+0.2**
FULB	baz=341			S		**Sb**		**13 00 55.1**	**-0.7**
SLGT	**Liugui**	**1.34**	**324**	P		**Pb**		**13 00 40.1**	**0.0**
SCST	**Cishan**	**1.35**	**317**	P		**Pb**		**13 00 40.4**	**+0.2**
TWM1	**Shoushan**	**1.35**	**313**	*i* P		**Pb**		**13 00 41.5**	**+1.2**
ELDTW	**Lidau**	**1.35**	**341**	*i* P		**Pn**		**13 00 38.0**	**-0.9**
SNJT	**Kaohsiung City**	**1.37**	**308**	*e*P		**Pb**		**13 00 41.0**	**+0.4**
STYH	**Taoyuan**	**1.42**	**332**	*i* P		**Pn**		**13 00 40.1**	**+0.3**
STYH	baz=348			*e*S		**Sb**		**13 00 58.3**	**-1.0**
STYT	**Tauyuan**	**1.43**	**331**	*i* P		**Pn**		**13 00 40.3**	**+0.4**
EYUL	**Yuli**	**1.44**	**353**	*i* P		**Pb**		**13 00 40.9**	**-1.0**
EYUL	baz=346			S		**Sb**		**13 00 58.9**	**-1.0**
SGST	**Jiashian**	**1.44**	**324**	*i* P		**Pb**		**13 00 41.1**	**-0.9**
TWF1	**Yuli**	**1.45**	**353**	*i* P		**Pn**		**13 00 40.0**	**-0.1**
YULB	**Yu-li**	**1.49**	**353**	P		**Pn**		**13 00 40.7**	**0.0**
YULB	baz=346			*e*S		**Sn**		**13 00 59.2**	**0.0**
CHN1	**Nanshi**	**1.56**	**325**	*i* P		**Pb**		**13 00 43.8**	**-0.1**
CHN1	baz=330			*i* S		**Sb**		**13 01 04.0**	**+0.8**
WTP	**Ta-pu**	**1.56**	**329**	*i* P		**Pb**		**13 00 43.4**	**-0.6**
	baz=334								
WTP				S		**Sb**		**13 01 03.8**	**+0.4**
	baz=334								
CHN3	**Shinhua**	**1.57**	**318**	*e*P		**Pb**		**13 00 43.9**	**-0.1**
	baz=322								
CHN3				*e*S		**Sb**		**13 01 05.6**	**+2.2**
	baz=322								
HGSD	**Ruisui**	**1.58**	**358**	P		**Pn**		**13 00 41.9**	**0.0**
	baz=13								
HGSD				*e*S		**Sn**		**13 01 01.9**	**+0.5**
	baz=13								
EHY	**Hungye**	**1.60**	**354**	*i* P		**Pn**		**13 00 42.2**	**0.0**
	baz=348								
EHY				*e*S		**Sb**		**13 01 04.2**	**-0.2**
	baz=348								
SNST	**Tainan City**	**1.60**	**325**	*e*P		**Pb**		**13 00 45.2**	**+0.6**
	baz=327								
TPUB	**Ta-pu**	**1.60**	**330**	P		**Pb**		**13 00 43.7**	**-0.9**
	baz=335								
TPUB				*e*S		**Sb**		**13 01 04.1**	**-0.3**
	baz=335								
TWK	**Hsinying**	**1.64**	**326**	*i* P		**Pb**		**13 00 44.7**	**-0.7**
	baz=331								
TWK				*e*S		**Sb**		**13 01 05.6**	**-0.1**
	baz=331								
CHN4	**Tsaushan**	**1.66**	**330**	*i* P		**Pb**		**13 00 45.2**	**-0.5**
	baz=335								
CHN4				*e*S		**Sb**		**13 01 06.5**	**+0.3**
	baz=335								
ALS	**Alishan**	**1.72**	**338**	*i* P		**Pb**		**13 00 46.7**	**-0.1**
	baz=344								
ALS				S		**Sb**		**13 01 08.2**	**+0.1**
	baz=344								
SCLT	**Jiali**	**1.75**	**317**	S		**Sb**		**13 01 07.8**	**-0.7**
	baz=321								
EGFH	**Guangfu**	**1.75**	**358**	*e*P		**Pn**		**13 00 45.3**	**+1.0**
	baz=350								
ICHU	**Yijhu**	**1.83**	**322**	*e*P		**Pn**		**13 00 45.9**	**+0.5**
	baz=324								
CHN5	**Tsauling**	**1.84**	**336**	*i* P		**Pb**		**13 00 47.9**	**-0.9**
	baz=339								
CHN8	**Yiju**	**1.86**	**321**	*e*P		**Pn**		**13 00 46.2**	**+0.5**
	baz=322								
CHY	**Chiayi**	**1.87**	**328**	*e*P		**Pn**		**13 00 46.7**	**+0.8**
	baz=333								
CHY				*e*S		**Sb**		**13 01 10.1**	**-1.9**
	baz=333								
VWDT	**VWDT**	**1.87**	**350**	P		**Pn**		**13 00 46.8**	**+0.9**
	baz=8.0								
VWDT				*e*S		**Sb**		**13 01 12.2**	**+0.2**
	baz=8.0								
CHN2	**Minshiung**	**1.87**	**330**	*e*P		**Pb**		**13 00 48.8**	**-0.5**
	baz=334								
CHN2				*e*S		**Sb**		**13 01 11.1**	**-1.1**
	baz=334								
WHYT	**Xinyi Township**	**1.88**	**342**	P		**Pn**		**13 00 46.6**	**+0.6**
	baz=347								
WHYT				S		**Sn**		**13 01 10.1**	**+1.2**
	baz=347								
ESL	**Shilin**	**1.90**	**358**	*i* P		**Pn**		**13 00 46.8**	**+0.5**
	baz=353								
ESL				S		**Sn**		**13 01 08.9**	**-0.4**
	baz=353								
SSLB	**Suanglung**	**1.94**	**345**	P		**Pb**		**13 00 49.0**	**-1.4**
	baz=350								
SSLB				S		**Sb**		**13 01 13.4**	**-0.7**
	baz=350								
WGK	**Gukeng**	**1.97**	**334**	*e*P		**Pb**		**13 00 49.3**	**-1.6**
	baz=339								
WGK				*e*S		**Sb**		**13 01 13.9**	**-1.1**
	baz=339								
WDLH	**Douliu**	**1.98**	**334**	*e*P		**Pb**		**13 00 50.5**	**-0.6**
	baz=338								
WDLH				*e*S		**Sb**		**13 01 13.7**	**-1.7**
	baz=338								
WJS	**Zhushan**	**2.03**	**340**	*i* P		**Pb**		**13 00 50.4**	**-1.6**
	baz=345								
WJS				*e*S		**Sb**		**13 01 15.9**	**-0.9**
	baz=345								
SMLT	**Sun Moon Lake**	**2.04**	**344**	*i* P		**Pb**		**13 00 51.0**	**-1.2**
	baz=350								
SMLT				*e*S		**Sb**		**13 01 16.3**	**-0.9**
	baz=350								
WTK	**Tuku**	**2.05**	**330**	*e*P		**Pn**		**13 00 49.8**	**+1.5**
	baz=332								
TYC	**Yuchr**	**2.07**	**344**	*i* P		**Pb**		**13 00 51.6**	**-1.0**
	baz=349								
TYC				*e*S		**Sb**		**13 01 16.8**	**-1.2**
	baz=349								
WSF	**Szhu**	**2.09**	**326**	*e*P		**Pn**		**13 00 50.1**	**+1.2**
	baz=330								
WSF				*e*S		**Sb**		**13 01 16.3**	**-2.0**
	baz=330								
WNT	**Mingjian**	**2.10**	**339**	*i* P		**Pb**		**13 00 52.1**	**-1.0**
	baz=344								
WNT				S		**Sb**		**13 01 18.5**	**-0.3**
	baz=344								
WNT1	**Nantou City**	**2.13**	**339**	*e*P		**Pb**		**13 00 53.3**	**-0.3**
	baz=344								
WNT1				*e*S		**Sb**		**13 01 17.9**	**-1.6**
	baz=344								
WPL	**Puli Township**	**2.15**	**347**	P		**Pb**		**13 00 52.3**	**-1.7**
	baz=352								
WPL				*e*S		**Sb**		**13 01 19.3**	**-1.0**
	baz=352								
CHGB	**Renai**	**2.16**	**352**	P		**Pb**		**13 00 52.0**	**-2.4**
	baz=9.0								
CHGB				*e*S		**Sb**		**13 01 20.1**	**-0.7**
	baz=9.0								
TWD	**Chiawan**	**2.17**	**2**	*e*P		**Pn**		**13 00 50.5**	**+0.5**
	baz=17								
WDGT	**Dungji**	**2.17**	**309**	P		**Pn**		**13 00 50.3**	**+0.4**
	baz=312								
WDGT				S		**Sn**		**13 01 14.9**	**-1.1**
	baz=312								
DPDB	**Guoxing**	**2.18**	**346**	P		**Pb**		**13 00 53.3**	**-1.3**
	baz=351								
DPDB				*e*S		**Sb**		**13 01 19.7**	**-1.4**
	baz=351								
WCS	**Beigang Elemen**	**2.21**	**346**	*i* P		**Pb**		**13 00 52.9**	**-2.0**
	baz=351								
WCS				*e*S		**Sn**		**13 01 18.4**	**+1.4**
	baz=351								
WHF	**Hehuan Shan**	**2.24**	**355**	*i* P		**Pn**		**13 00 53.2**	**+1.8**
WHF						S		**Sb**	**13 01 20.8**	**-2.4**
WRL	**Guolierlin Hig**	**2.24**	**333**	*e*S		**Sb**		**13 01 21.0**	**-1.7**
	baz=337								
NACB	**Ninganchiao**	**2.26**	**2**	P		**Pn**		**13 00 51.5**	**+0.3**
	baz=356

NNSH	**Datong** baz=10.0	**2.51**	**358**	P		**Pn**	13 00 56.6	**+1.7**
ENA	**Nanau** baz=357	**2.52**	**5**	P		**Pn**	13 00 54.9	**+0.1**
ENA	baz=357			*e*S		**Sn**	13 01 27.3	**+2.6**
TWQ1	**Liyutan** baz=349	**2.52**	**345**	P		**Pb**	13 00 57.9	**-2.3**
TWQ1	baz=349			*e*S		**Sb**	13 01 28.2	**-2.6**
NNS	**Nan Shan** baz=3.0	**2.52**	**357**	*i* P		**Pn**	13 00 57.0	**+2.0**
NNS	baz=3.0			S		**Sb**	13 01 28.8	**-2.3**
EWUT	**Wuta** baz=20	**2.54**	**6**	*e*P		**Pb**	13 00 57.6	**-2.9**
EWUT	baz=20			*e*S		**Sn**	13 01 27.5	**+2.4**
WDJ	**Dajia District** baz=346	**2.56**	**342**	P		**Pb**	13 00 58.1	**-2.7**
WDJ	baz=346			*e*S		**Sb**	13 01 28.7	**-3.1**
NSY	**Sanyi** baz=349	**2.59**	**345**	P		**Pb**	13 00 59.1	**-2.3**
NSY	baz=349			S		**Sb**	13 01 31.4	**-1.4**
NDT	**Datong Townshi** baz=5.0	**2.68**	**0**	P		**Pn**	13 00 58.7	**+1.6**
NDT	baz=5.0			S		**Sn**	13 01 31.0	**+2.2**
TWC	**Suao** baz=22	**2.71**	**7**	P		**Pn**	13 00 58.9	**+1.5**
TWC	baz=22			S		**Sn**	13 01 30.9	**+1.6**
ENTT	**Nioudou** baz=6.0	**2.72**	**1**	*i* P		**Pn**	13 00 58.7	**+1.1**
ENTT	baz=6.0			*e*S		**Sn**	13 01 31.6	**+1.9**
NDS	**Dongshan** baz=359	**2.72**	**4**	P		**Pn**	13 01 00.0	**+2.4**
NDS	baz=359			S		**Sn**	13 01 30.7	**+1.1**
NSTT	**Nanjuang** baz=339	**2.75**	**351**	*i* P		**Pb**	13 01 01.6	**-2.5**
NSTT	baz=339			S		**Sb**	13 01 34.9	**-2.5**
LIOB	**Emei** baz=340	**2.76**	**351**	*i* P		**Pn**	13 01 00.8	**+2.6**
LIOB	baz=340			*e*S		**Sn**	13 01 33.5	**+2.9**
JYNG	**Yonagunijimaku**	**2.86**	**27**	P		**Pn**	13 00 59.7	**+0.2**
JYNG				S		**Sn**	13 01 33.1	**0.0**
HATJ	**Hateruma jima**	**3.02**	**44**	P		**Pn**	13 01 02.3	**+0.6**
HATJ				*e*S		**Sn**	13 01 36.7	**-0.2**
IRIF	**Iriomote-Funau**	**3.17**	**40**	P		**Pn**	13 01 05.2	**+1.4**
IRIF				*e*S		**Sn**	13 01 41.7	**+0.9**
JKRS	**Kuro-shima**	**3.28**	**44**	P		**Pn**	13 01 06.6	**+1.4**
JKRS				S		**Sn**	13 01 43.2	**-0.1**
JIJ	**Ishigaki jima**	**3.45**	**44**	P		**Pn**	13 01 08.6	**+1.0**
JIJ				S		**Sn**	13 01 46.5	**-1.1**
JISG	**Ishigakijimahi**	**3.72**	**44**	P		**Pn**	13 01 12.0	**+0.7**
JISG				S		**Sn**	13 01 53.4	**-0.8**
JTJ	**Tarama**	**4.01**	**47**	P		**Pn**	13 01 16.8	**+1.5**
JTJ				S		**Sn**	13 02 00.8	**-0.7**
JIRB	**Irabujima**	**4.46**	**49**	*e*S		**Sn**	13 02 12.1	**-0.3**
JMJ2	**Miyako jima3**	**4.51**	**51**	S		**Sn**	13 02 14.2	**+0.4**
JNU	**Nakatsue** comp=Z,188nm,18.1s,baz=310,slow=38	**13.92**	**35**	LR		LR	13 08 47.6	
KSRS	**Korea Array** comp=Z,14nm,19.9s,baz=25,slow=38	**16.46**	**18**	LR		LR	13 10 28.3	
SONM	**Songjino Array** 0.2nm,0.6s,baz=149,slow=5.9,SNR=2.2	**28.58**	**338**	P		**P**	13 06 10.5	**+1.0**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=113,slow=9.2,SNR=5.1	**40.19**	**318**	P		**P**	13 07 52.6	**+3.0**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=343,slow=9.2,SNR=8.1	**43.45**	**162**	P		**P**	13 08 14.8	**-1.7**
KURBB	**Kurchatov Arra** 0.3nm,0.6s,baz=115,slow=7.4,SNR=4.1	**44.04**	**321**	P		**P**	13 08 22.8	**+1.8**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=353,slow=12,SNR=8.6	**46.88**	**164**	P		**P**	13 08 43.6	**-0.1**
STKA	**Stephens Creek** 3.0nm,0.8s,baz=326,slow=5.3,SNR=3.6	**56.84**	**160**	P		**P**	13 09 56.7	**-1.1**

*NOU **22** 13:06:48.0,39°.655×174°.14E,h206km,MLv3.7,North Island, New Zealand*
WEL 22 13:06:48.1,40°.5±2°×17°.4E±°,h211km±3km,M3.3/61, MLv3.3/61,Error ellipse: s-maj=0.0km s-min=0.0km az=62.6,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.26**	**39**	P	Pn	13 07 16.2	+0.3
LREZ				S	S	13 07 36.8	-0.7
PREZ	**Palmer Road**	**0.32**	**356**	P	Pn	13 07 16.1	0.0
PREZ				S	S	13 07 37.0	-0.8
NMEZ	**Namu Road**	**0.35**	**316**	P	Pn	13 07 16.1	0.0
NMEZ				S	S	13 07 37.0	-0.8
KHEZ	**Kahui Hut**	**0.39**	**340**	P	Pn	13 07 16.2	-0.2
NEZ	**North Egmont**	**0.40**	**350**	P	Pn	13 07 16.3	-0.1
NEZ				S	S	13 07 37.2	-1.1
NBEZ	**Newall Road No**	**0.47**	**328**	P	Pn	13 07 16.4	0.0
MHEZ	**Mangahewa**	**0.60**	**10**	P	Pn	13 07 17.0	0.0
MHEZ				S	S	13 07 38.1	-1.2
WAZ	**Wanganui**	**0.62**	**99**	P	Pn	13 07 18.0	+1.0
WAZ				S	S	13 07 39.2	-0.2
VRZ	**Vera Road**	**0.70**	**39**	P	Pn	13 07 16.8	-0.6
VRZ				S	S	13 07 38.0	-2.0
PKVZ	**Pokaka**	**0.97**	**68**	P	Pn	13 07 18.7	-0.2
PKVZ				S	S	13 07 41.0	-1.7
OHWZ	**Ohakea**	**1.02**	**122**	P	Pn	13 07 20.1	+1.0
OHWZ				S	S	13 07 42.9	-0.3
MTVZ	**Mangateitei**	**1.03**	**75**	P	Pn	13 07 19.4	0.0
TRVZ	**Turoa**	**1.11**	**71**	P	Pn	13 07 20.1	0.0
FWVZ	**Far West T-bar**	**1.13**	**69**	P	Pn	13 07 20.2	-0.1
FWVZ				S	S	13 07 42.7	-2.2
TWVZ	**Taurewa**	**1.14**	**59**	P	Pn	13 07 19.7	-0.4
WNVZ	**Wahianoa**	**1.14**	**73**	P	Pn	13 07 20.3	+0.1
WNVZ				S	S	13 07 42.9	-2.0
WHVZ	**Whangaehu Hut**	**1.15**	**71**	P	Pn	13 07 20.4	0.0
DUWZ	**D'Urville Isla**	**1.15**	**190**	P	Pn	13 07 20.3	+0.2
NGZ	**Ngauruhoe**	**1.20**	**66**	P	Pn	13 07 20.6	0.0
TUVZ	**Tukino**	**1.20**	**71**	P	Pn	13 07 21.0	+0.3
WTVZ	**West Tongariro**	**1.22**	**64**	P	Pn	13 07 20.5	-0.2
MOVZ	**Moawhango**	**1.24**	**78**	P	Pn	13 07 20.6	-0.2
MOVZ				S	S	13 07 42.9	-3.0
OTVZ	**Oturere**	**1.25**	**67**	P	Pn	13 07 21.0	0.0
HIZ	**Hauiti**	**1.26**	**25**	P	Pn	13 07 20.1	-0.8
KRVZ	**Karewarewa**	**1.26**	**64**	P	Pn	13 07 21.0	-0.1
ETVZ	**East Tongariro**	**1.29**	**66**	P	Pn	13 07 21.4	+0.1
TMVZ	**Te Maari**	**1.30**	**65**	P	Pn	13 07 21.4	+0.1
KIW	**Kapiti Island**	**1.32**	**155**	P	Pn	13 07 21.5	+0.3
KIW				S	S	13 07 44.9	-2.2
KATZ	**Kakaramea**	**1.36**	**60**	P	Pn	13 07 21.8	0.0
OGWZ	**Otaki Gorge**	**1.38**	**147**	P	Pn	13 07 22.2	+0.5
OGWZ				S	S	13 07 46.1	-1.7
POWZ	**Post Office Ro**	**1.41**	**121**	P	Pn	13 07 22.4	+0.4
POWZ				S	S	13 07 46.4	-1.9
TSZ	**Takapari Road**	**1.42**	**107**	P	Pn	13 07 22.6	+0.5
TSZ				S	S	13 07 46.9	-1.5
MRZ	**Mangatainoka R**	**1.46**	**134**	P	Pn	13 07 22.7	+0.3
BHHZ	**Black Hill Sta**	**1.46**	**84**	P	Pn	13 07 22.2	-0.3
RATZ	**Rangitukua**	**1.47**	**58**	P	Pn	13 07 22.4	-0.1
RITZ	**Ribia Road**	**1.47**	**63**	P	Pn	13 07 22.9	+0.3
WATZ	**Wairara**	**1.53**	**52**	P	Pn	13 07 23.0	-0.2
TCW	**Tory Channel**	**1.55**	**178**	P	Pn	13 07 23.6	+0.5
TCW				S	S	13 07 48.5	-1.8
PNHZ	**Pukenui**	**1.57**	**100**	P	Pn	13 07 23.8	+0.4
CAW	**Cannon Point**	**1.59**	**155**	P	Pn	13 07 23.8	+0.3
HOWZ	**Holdsworth Sta**	**1.60**	**141**	P	Pn	13 07 23.8	+0.1
HOWZ				S	S	13 07 49.3	-1.9
PRWZ	**Pori Road**	**1.63**	**124**	P	Pn	13 07 24.6	+0.7
DVHZ	**Dannevirke**	**1.65**	**113**	P	Pn	13 07 24.5	+0.4
DVHZ				S	S	13 07 50.1	-1.7
HATZ	**Hinemaiaia**	**1.67**	**63**	P	Pn	13 07 23.8	-0.5
NNZ	**Nelson**	**1.67**	**201**	P	Pn	13 07 24.2	0.0
NNZ				S	S	13 07 50.2	-2.1
WEL	**Wellington**	**1.68**	**165**	P	Pn	13 07 24.5	+0.2
KRHZ	**Kereru**	**1.68**	**90**	P	Pn	13 07 24.7	+0.3
TLZ	**Tolley Road**	**1.70**	**39**	P	Pn	13 07 23.8	-0.9
WHTZ	**Whakaora**	**1.70**	**55**	P	Pn	13 07 25.4	+0.7
TIWZ	**Tintock**	**1.71**	**131**	P	Pn	13 07 25.0	+0.4
QRZ	**Quartz Range**	**1.72**	**227**	P	Pn	13 07 23.9	-0.8
KUTZ	**Kaahu Road**	**1.73**	**48**	P	Pn	13 07 24.8	-0.1
KWHZ	**Kaweka Forest**	**1.74**	**83**	P	Pn	13 07 25.6	+0.5
TUWZ	**Tuamarina**	**1.77**	**186**	P	Pn	13 07 25.4	+0.2
WPHZ	**Waipukurau**	**1.78**	**104**	P	Pn	13 07 25.9	+0.6
WPHZ				S	S	13 07 52.9	-1.1
MTW	**Mount Morrison**	**1.80**	**147**	P	Pn	13 07 25.5	+0.1
BHW	**Baring Head**	**1.82**	**164**	P	Pn	13 07 25.5	-0.1
BKZ	**Black Stump Fm**	**1.85**	**75**	P	Pn	13 07 25.9	-0.2
BFZ	**Birch Farm**	**1.88**	**123**	P	Pn	13 07 26.5	+0.3
WPRZ	**Whakapapatarin**	**1.91**	**54**	P	Pn	13 07 26.3	-0.4
MRHZ	**Matea Rd**	**1.92**	**65**	P	Pn	13 07 26.0	-0.8
ANWZ	**Angora Road**	**1.93**	**115**	P	Pn	13 07 27.5	+0.8
MSWZ	**Moikau Station**	**1.93**	**156**	P	Pn	13 07 26.6	-0.1
TMWZ	**Te Maipa**	**1.94**	**138**	P	Pn	13 07 27.1	+0.3
MCHZ	**McNeill Hill**	**1.95**	**84**	P	Pn	13 07 27.9	+0.9
PAWZ	**Paruwai Farm**	**1.96**	**152**	P	Pn	13 07 27.0	0.0
PRHZ	**Porangahau**	**1.97**	**109**	P	Pn	13 07 27.9	+0.8
CPWZ	**Castlepoint**	**1.98**	**130**	P	Pn	13 07 28.1	+0.9
GRRZ	**Galatos Road**	**1.99**	**49**	P	Pn	13 07 27.6	+0.2
ALRZ	**Allen Road**	**2.00**	**57**	P	Pn	13 07 27.0	-0.6
BSWZ	**Blackbirch Sta**	**2.06**	**187**	P	Pn	13 07 28.2	+0.2
HRRZ	**Handcock Road**	**2.07**	**53**	P	Pn	13 07 27.8	-0.4
PLWZ	**Palliser**	**2.07**	**157**	P	Pn	13 07 27.9	-0.2
PRRZ	**Plateau Road**	**2.07**	**57**	P	Pn	13 07 27.6	-0.6
TRWZ	**Traveller**	**2.08**	**147**	P	Pn	13 07 28.3	+0.1
KAHZ	**Kahuranaki**	**2.08**	**94**	P	Pn	13 07 29.1	+0.8
CMWZ	**Cape Campbell**	**2.08**	**179**	P	Pn	13 07 29.5	+1.3
PXZ	**Pawanui**	**2.09**	**101**	P	Pn	13 07 28.9	+0.6
HSRZ	**Hossack Road**	**2.10**	**51**	P	Pn	13 07 28.3	-0.2
NMHZ	**Naumai**	**2.11**	**75**	P	Pn	13 07 29.4	+0.7
TOZ	**Tahuroa Road**	**2.19**	**28**	P	Pn	13 07 28.6	-0.8
ARHZ	**Arapaoanui**	**2.21**	**80**	P	Pn	13 07 30.2	+0.6
MTHZ	**Maungataniwha**	**2.21**	**69**	P	Pn	13 07 29.3	-0.4
CKHZ	**Cape Kidnapper**	**2.23**	**91**	P	Pn	13 07 30.7	+0.9
RRRZ	**Republican Roa**	**2.24**	**55**	P	Pn	13 07 29.4	-0.6
KMRZ	**Kaimai**	**2.27**	**38**	P	Pn	13 07 30.1	-0.3
TARZ	**Mount Tarawera**	**2.30**	**52**	P	Pn	13 07 30.2	-0.5
OMRZ	**Omania**	**2.31**	**48**	P	Pn	13 07 30.2	-0.5
THZ	**Tophouse**	**2.31**	**205**	P	Pn	13 07 30.3	-0.4
MUGZ	**Murupara**	**2.33**	**60**	P	Pn	13 07 29.9	-1.0
RAHZ	**Arahi**	**2.37**	**73**	P	Pn	13 07 31.4	+0.1
RTZ	**Ruatahuna**	**2.41**	**65**	P	Pn	13 07 31.0	-0.8
WHHZ	**Waihua**	**2.43**	**77**	P	Pn	13 07 32.3	+0.3
TGRZ	**Tauranga**	**2.52**	**41**	P	Pn	13 07 32.6	-0.3
MARZ	**Manawahe**	**2.56**	**50**	P	Pn	13 07 32.8	-0.6
OPRZ	**Ohinepanea**	**2.59**	**46**	P	Pn	13 07 32.9	-0.8
SNGZ	**Shannon Statio**	**2.60**	**71**	P	Pn	13 07 33.6	-0.2
AWAZ	**Awhitu Peninsu**	**2.62**	**8**	P	Pn	13 07 34.0	-0.1
MKAZ	**Moumakai**	**2.67**	**17**	P	Pn	13 07 34.4	-0.2
URZ	**Urewera**	**2.67**	**59**	P	Pn	13 07 33.2	-1.4
WTAZ	**Waiatarua**	**2.74**	**6**	P	Pn	13 07 35.5	0.0
DSZ	**Denniston Nort**	**2.76**	**220**	P	Pn	13 07 34.8	-0.7
ETAZ	**East Tamaki Re**	**2.77**	**12**	P	Pn	13 07 35.7	-0.1
RAGZ	**Rawiri**	**2.77**	**66**	P	Pn	13 07 35.1	-0.7
KNZ	**Kokohu**	**2.78**	**78**	P	Pn	13 07 35.6	-0.2
KHZ	**Kahutara**	**2.79**	**190**	P	Pn	13 07 35.6	-0.3
RVAZ	**Riverhead Bore**	**2.91**	**6**	P	Pn	13 07 36.7	-0.6
MWZ	**Matawai**	**2.92**	**64**	P	Pn	13 07 36.4	-1.0
MHGZ	**Mahia Peninsul**	**2.92**	**81**	P	Pn	13 07 37.7	+0.2
RIGZ	**Rimuhau**	**2.94**	**72**	P	Pn	13 07 37.3	-0.4
MBAZ	**Motutapu North**	**2.94**	**11**	P	Pn	13 07 37.6	-0.1
PRGZ	**Paritu Road**	**2.96**	**77**	P	Pn	13 07 37.8	-0.1
WIAZ	**Waiheke Island**	**2.96**	**15**	P	Pn	13 07 38.0	+0.1
TKGZ	**Te Karaka**	**3.10**	**68**	P	Pn	13 07 39.1	-0.4
KUZ	**Kuaotunu**	**3.15**	**23**	P	Pn	13 07 39.8	-0.4
RUGZ	**Raukumara Rang**	**3.21**	**59**	P	Pn	13 07 39.0	-1.9
TWAZ	**Tauwhareparae**	**3.31**	**65**	P	Pn	13 07 41.4	-0.6
CNGZ	**Canagh Statio**	**3.34**	**71**	P	Pn	13 07 42.3	+0.9
HAZ	**Te Kaha**	**3.40**	**57**	P	Pn	13 07 41.1	-1.9
GVZ	**Greta Valley S**	**3.41**	**194**	P	Pn	13 07 42.2	-0.9
LTZ	**Lake Taylor**	**3.43**	**204**	P	Pn	13 07 42.5	-0.9
PKGZ	**Pakihiroa**	**3.52**	**61**	P	Pn	13 07 43.4	-1.2
PUZ	**Puketiti**	**3.55**	**65**	P	Pn	13 07 43.7	-1.2
GRZ	**Great Barrier**	**3.55**	**17**	P	Pn	13 07 44.7	-0.2
INZ	**Inchbonnie**	**3.69**	**213**	P	Pn	13 07 45.2	-1.3
AMCZ	**Amberley**	**3.69**	**198**	P	Pn	13 07 46.0	-0.5
WMGZ	**Waiomatatini S**	**3.78**	**62**	P	Pn	13 07 46.3	-1.4
MXZ	**Matakaoa Point**	**3.85**	**58**	P	Pn	13 07 47.1	-1.3
OXZ	**Oxford**	**4.00**	**203**	P	Pn	13 07 48.7	-1.5
OKCZ	**Okains Bay**	**4.14**	**191**	P	Pn	13 07 50.7	-1.3
MQZ	**McQueen's Vall**	**4.20**	**195**	P	Pn	13 07 50.6	-2.0
WVZ	**Waitaha Valley**	**4.28**	**216**	P	Pn	13 07 53.0	-0.7
AKCZ	**Akaroa Harbour**	**4.31**	**192**	P	Pn	13 07 52.9	-1.2
RACZ	**Rakaia**	**4.34**	**200**	P	Pn	13 07 52.9	-1.5
OUZ	**Omahuta**	**4.46**	**354**	P	Pn	13 07 53.7	-2.3
WACZ	**Wakanui South**	**4.62**	**202**	P	Pn	13 07 56.6	-1.3
GCSZ	**Gaunt Creek Bo**	**4.66**	**217**	P	Pn	13 07 56.7	-1.7
RPZ	**Rata Peaks**	**4.68**	**209**	P	Pn	13 07 57.2	-1.5
ARCZ	**Arundel**	**4.83**	**207**	P	Pn	13 07 59.1	-1.6
FOZ	**Fox Glacier**	**5.07**	**219**	P	Pn	13 08 01.9	-1.6
TMZ	**Timaru**	**5.28**	**206**	P	Pn	13 08 05.1	-1.1
LBZ	**Lake Benmore**	**5.58**	**211**	P	Pn	13 08 08.4	-1.7
JCZ	**Jackson Bay**	**5.97**	**221**	P	Pn	13 08 13.1	-2.1
ODZ	**Otahua Downs**	**5.98**	**205**	P	Pn	13 08 13.9	-1.3
WKZ	**Wanaka**	**6.43**	**215**	P	Pn	13 08 18.4	-2.6
EAZ	**Earnscleugh**	**6.63**	**211**	P	Pn	13 08 20.8	-2.8
WHZ	**Wether Hill Ro**	**7.73**	**214**	P	Pn	13 08 35.1	-2.7

*NEIC **22** 13:09:39.5±1.9,10°.61N±0°.04×62°.61W±0°.05,h107km±7km, mb4.0/4,Md4.1/44(TRN),Error ellipse: s-maj=8.3km s-min=5.5km az=62.0*
*FUNV **22** 13:09:40.3,10°.55N×62°.62W,h85km,MW4.3*
*IDC **22** 13:09:40.3±2.1,10°.70N×62°.79W,h117km±22km,mb3.6/10, mb1 3.7/11,mb1mx3.5/34,mbtmp3.9/11,Error ellipse: s-maj=28.8km s-min=17.7km az=35.0*
*TRN **22** 13:09:41.3,10°.65N×62°.48W,h102km,MD4.2*
ISC 22 13:09:38.0±0.7,10°.59N±0°.04×62°.68W±0°.03,h97km±7km, n107,σ1§86/150,mb3.8/11,2C-1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.55**	**279**	*e*P	**Pn**	**13 09 55.6**	**+1.8**
CRUV				*e*S	**Sn**	**13 10 05.2**	**-0.5**
TPP	**Pointe-a-Pierr**	**1.24**	**102**	*e*P	**Pn**	**13 10 03.4**	**+2.4**
TPP				*e*S	**Sn**	**13 10 18.7**	**+0.4**
TPP	**Pointe-a-Pierr**	**1.24**	**102**		**Pn**	**13 10 03.4**	**+2.4**
TPP					**Sn**	**13 10 18.7**	**+0.4**
TRN	**Trinidad (W)**	**1.26**	**87**	*i* P	**Pn**	**13 10 02.7**	**+1.6**
TRN				*e*S	**Sn**	**13 10 18.3**	**-0.4**
TRN	**Trinidad (W)**	**1.26**	**87**		**Pn**	**13 10 02.7**	**+1.6**
TRN					**Sn**	**13 10 18.3**	**-0.4**
TBH	**Brigand Hill**	**1.59**	**94**	*e*P	**Pn**	**13 10 07.0**	**+1.7**
TBH				*e*S	**Sn**	**13 10 24.1**	**-1.9**
TBH	**Brigand Hill**	**1.59**	**94**		**Pn**	**13 10 07.0**	**+1.7**
TBH					**Sn**	**13 10 24.1**	**-1.9**
GRGR	**Grenville**	**1.84**	**33**	*e*P	**Pn**	**13 10 09.5**	**+1.1**
GRGR				*e*S	**Sn**	**13 10 31.2**	**-0.3**
GRGR	**Grenville**	**1.84**	**33**		**Pn**	**13 10 09.1**	**+0.7**
GRGR	**Grenville**	**1.84**	**33**		**Sn**	**13 10 31.2**	**-0.3**
GRGR	**Grenville**	**1.84**	**33**	*e*P	**Pn**	**13 10 09.3**	**+1.0**
GRGR				*e*S	**Sn**	**13 10 31.0**	**-0.5**
PLCV	**Puerto La Cruz**	**1.92**	**258**		**Pn**	**13 10 12.2**	**+2.7**
TPR	**Prospect**	**1.96**	**72**	*e*P	**Pn**	**13 10 11.1**	**+1.1**
TPR				*e*S	**Sn**	**13 10 32.5**	**-1.9**
TPR	**Prospect**	**1.96**	**72**		**Pn**	**13 10 11.1**	**+1.1**
TPR					**Sn**	**13 10 32.5**	**-1.9**
PCRV	**Puerto La Cruz** 61nm,0.3s,baz=67,slow=2.9,SNR=248	**1.96**	**258**	P	**Pn**	**13 10 12.2**	**+2.2**
PCRV	86nm,0.3s,baz=286,slow=18,SNR=30			S	**Sn**	**13 10 36.0**	**+1.5**
PCRV	**Puerto La Cruz**	**1.96**	**258**	*e*P	**Pn**	**13 10 12.1**	**+2.1**
PCRV				*e*S	**Sn**	**13 10 34.7**	**+0.2**
BOT	**Bacolet**	**2.01**	**73**	*e*P	**Pn**	**13 10 11.6**	**+1.0**
BOT				*e*S	**Sn**	**13 10 33.2**	**-2.3**
BOT	**Bacolet**	**2.01**	**73**		**Pn**	**13 10 11.6**	**+1.0**
BOT					**Sn**	**13 10 33.2**	**-2.3**
GCMP	**Grenada, Carri**	**2.25**	**33**	*e*P	**Pn**	**13 10 14.6**	**+0.8**
GCMP				*e*S	**Sn**	**13 10 40.7**	**-0.5**
GCMP	**Grenada, Carri**	**2.25**	**33**		**Pn**	**13 10 14.6**	**+0.8**
GCMP					**Sn**	**13 10 40.7**	**-0.5**
RIOV	**Rio Grande**	**2.65**	**161**	*e*P	**Pn**	**13 10 20.7**	**+1.7**
RIOV				*e*S	**Sn**	**13 10 48.1**	**-2.4**
SVOC	**Richmond Hill,**	**2.92**	**29**	*e*	**Pn**	**13 10 26.6**	**+4.0**
SVOC				*e*S	**Sn**	**13 10 56.1**	**-0.9**
SVOC	**Richmond Hill,**	**2.92**	**29**		**Sn**	**13 10 56.1**	**-0.9**
SVB	**Belmont**	**3.01**	**28**	*e*P	**Pn**	**13 10 25.7**	**+1.8**
SVB				*e*S	**Sn**	**13 10 57.0**	**-2.2**
SVB	**Belmont**	**3.01**	**28**		**Pn**	**13 10 25.0**	**+1.1**
SVB	**Belmont**	**3.01**	**28**		**Sn**	**13 10 57.0**	**-2.2**
SVV	**Soufriere Volc**	**3.07**	**28**	*e*P	**Pn**	**13 10 27.0**	**+2.4**
SVV	**Soufriere Volc**	**3.07**	**28**		**Pn**	**13 10 27.0**	**+2.4**
BIRV	**Birongo**	**3.53**	**269**	*e*P	**Pn**	**13 10 33.4**	**+2.6**
BIRV				*e*S	**Sn**	**13 11 11.2**	**-0.4**
MCLT	**Moule a Chique**	**3.54**	**29**	*e*P	**Pn**	**13 10 32.0**	**+1.0**
MCLT				*e*S	**Sn**	**13 11 10.6**	**-1.3**
MCLT	**Moule a Chique**	**3.54**	**29**	Pn	**Pn**	**13 10 31.9**	**+1.0**
MCLT	**Moule a Chique**	**3.54**	**29**		**Sn**	**13 11 10.6**	**-1.3**
SLB	**Belfond**	**3.60**	**26**	*e*P	**Pn**	**13 10 33.7**	**+1.9**
SLB				*e*S	**Sn**	**13 11 11.2**	**-2.1**
SLB	**Belfond**	**3.60**	**26**		**Pn**	**13 10 33.7**	**+1.9**
SLB					**Sn**	**13 11 11.2**	**-2.1**
MERV	**Las Mercedes**	**3.80**	**250**	*e*P	**Pn**	**13 10 35.8**	**+1.4**
MERV				*e*S	**Sn**	**13 11 17.5**	**-0.7**
SLBI	**Saint Lucia, B**	**3.80**	**26**	*e*P	**Pn**	**13 10 35.3**	**+0.8**
SLBI				*e*S	**Sn**	**13 11 16.1**	**-2.1**
SLBI	**Saint Lucia, B**	**3.80**	**26**		**Pn**	**13 10 35.3**	**+0.8**
SLBI					**Sn**	**13 11 16.1**	**-2.1**
BBGH	**Gun Hill**	**3.98**	**50**	*e*	Pn	13 10 24.9	-12
BBGH	**Gun Hill**	**3.98**	**50**	*e*S	**Sn**	**13 11 20.1**	**-2.3**
BBGH	**Gun Hill**	**3.98**	**50**		**Sn**	**13 11 20.1**	**-2.3**
BBSP	**Saint Philip**	**4.03**	**51**	*e*	**Pn**	**13 10 40.2**	**+2.7**
BBSP				*e*S	**Sn**	**13 11 20.3**	**-3.4**
BBSP	**Saint Philip**	**4.03**	**51**		**Sn**	**13 11 23.6**	**-0.1**
FUNV	**FUNVISIS**	**4.06**	**269**	*e*P	**Pn**	**13 10 39.7**	**+1.6**
FUNV				*e*S	**Sn**	**13 11 24.3**	**-0.3**
BIM	**Bigot**	**4.21**	**22**	*e*P	**Pn**	**13 10 41.3**	**+1.3**
BIM				*e*S	**Sn**	**13 11 26.3**	**-1.9**
BIM	**Bigot**	**4.21**	**22**		**Sn**	**13 10 41.3**	**+1.3**
BIM					**Sn**	**13 11 26.3**	**-1.9**
H05S1	**Guadeloupe/Mar**	**4.22**	**25**	P	**Pn**	**13 10 41.6**	**+1.5**
H05S1	SNR=35			S	**Sn**	**13 11 28.3**	**0.0**
MPOM	**Morne Pois Mar**	**4.23**	**25**	*e*P	**Pn**	**13 10 41.4**	**+1.2**
MPOM	**Morne Pois Mar**	**4.23**	**25**	*e*S	**Sn**	**13 11 27.0**	**-1.5**
MPOM	**Morne Pois Mar**	**4.23**	**25**		**Pn**	**13 10 41.4**	**+1.2**
MPOM					**Sn**	**13 11 27.6**	**-0.9**
TACV	**Tcata**	**4.30**	**264**	*e*P	**Pn**	**13 10 43.0**	**+1.7**
TACV				*e*S	**Sn**	**13 11 29.5**	**-0.8**
FDF	**Fort de France**	**4.38**	**20**	*e*P	**Pn**	**13 10 43.4**	**+1.0**
FDF	**Fort de France**	**4.38**	**20**	*e*S	**Sn**	**13 11 29.5**	**-2.8**
FDF	**Fort de France**	**4.38**	**20**	Pn	**Pn**	**13 10 43.0**	**+0.6**
FDF	**Fort de France**	**4.38**	**20**		**Sn**	**13 11 29.5**	**-2.8**
ILAM	**Ilet Lapin Mar**	**4.52**	**23**	*e*P	**Pn**	**13 10 43.1**	**-1.1**
LUEV	**Luepa**	**4.87**	**166**	*e*P	**Pn**	**13 10 49.3**	**+0.3**
LUEV				*e*S	**Sn**	**13 11 40.2**	**-4.1**
DSLB	**Salisbury**	**4.98**	**14**	*e*P	**Pn**	**13 10 52.2**	**+1.8**
DSLB	**Salisbury**	**4.98**	**14**		**Pn**	**13 10 52.2**	**+1.8**
TURV	**Turiamo**	**5.07**	**269**	*e*P	**Pn

DUWZ	D'Urville Isla	1.37	28	P		Pb	13 16 39.8	+0.3
INZ	Inchbonnie	1.41	239	P		Pb	13 16 40.7	+0.6
INZ				S		Sb	13 17 00.3	+2.7
WEL	Wellington	1.46	60	P		Pb	13 16 41.6	+0.7
BHW	Baring Head	1.47	66	P		Pb	13 16 41.6	+0.5
OXZ	Oxford	1.52	210	P		Pn	13 16 40.9	+0.5
OXZ				S		Sb	13 17 01.7	+0.8
PLWZ	Palliser	1.68	75	P		Pn	13 16 43.7	+1.0
OKCZ	Okains Bay	1.71	181	P		Pn	13 16 43.7	+0.7
OKCZ				S		Sb	13 17 05.8	-0.4
MQZ	McQueen's Vall	1.72	191	P		Pn	13 16 43.0	-0.2
MQZ				S		Sn	13 17 04.0	-0.4
MSWZ	Moikau Station	1.73	70	P		Pb	13 16 44.5	-1.0
CAW	Cannon Point	1.74	59	P		Pb	13 16 45.4	-0.4
KIW	Kapiti Island	1.79	50	P		Pb	13 16 46.4	-0.2
RACZ	Rakaia	1.85	202	P		Pn	13 16 45.3	+0.4
AKCZ	Akaroa Harbour	1.86	184	P		Pn	13 16 45.4	+0.3
AKCZ				S		Sn	13 17 07.4	-0.6
PAWZ	Paruwai Farm	1.86	71	P		Pn	13 16 46.4	+1.2
OGWZ	Otaki Gorge	1.97	53	P		Pb	13 16 48.8	-0.9
MTW	Mount Morrison	2.00	65	P		Pn	13 16 48.2	+1.1
WVZ	Waitaha Valley	2.03	238	P		Pb	13 16 50.0	-0.7
TRWZ	Traveller	2.04	73	P		Pb	13 16 49.8	-1.1
WACZ	Wakanui South	2.13	205	P		Pn	13 16 49.0	+0.2
HOWZ	Holdsworth Sta	2.14	59	P		Pn	13 16 50.3	+1.3
RPZ	Rata Peaks	2.26	221	P		Pn	13 16 51.5	+0.8
TMWZ	Te Maipa	2.29	68	P		Pn	13 16 52.3	+1.2
MRZ	Mangatainoka R	2.31	55	P		Pn	13 16 52.9	+1.5
ARCZ	Arundel	2.38	215	P		Pn	13 16 53.0	+0.6
GCSZ	Gaunt Creek Bo	2.42	237	P		Pb	13 16 55.2	-2.1
TIWZ	Tintock	2.44	60	P		Pn	13 16 54.2	+1.0
OHWZ	Ohakea	2.47	44	P		Pn	13 16 57.3	-0.9
POWZ	Post Office Ro	2.59	52	P		Pn	13 16 56.9	+1.7
PRWZ	Pori Road	2.62	57	P		Pn	13 16 56.8	+1.2
NMEZ	Namu Road	2.67	13	P		Pb	13 17 01.4	-0.2
WAZ	Wanganui	2.68	33	P		Pb	13 17 01.0	-0.8
BFZ	Birch Farm	2.73	62	P		Pn	13 16 57.4	+0.3
PREZ	Palmer Road	2.79	17	P		Pb	13 17 03.1	-0.6
KHEZ	Kahui Hut	2.81	15	P		Pb	13 17 03.5	-0.6
NBEZ	Newall Road No	2.81	12	P		Pb	13 17 03.0	-1.0
TMZ	Timaru	2.81	212	P		Pn	13 16 58.2	0.0
FOZ	Fox Glacier	2.84	237	P		Pn	13 17 01.3	+2.6
NEZ	North Egmont	2.85	16	P		Pb	13 17 03.5	-1.2
DVHZ	Dannevirke	2.89	55	P		Pn	13 17 00.0	+0.7
PKE	Pukeiti	2.90	14	P		Pb	13 17 04.7	-0.9
TSZ	Takapari Road	2.92	49	P		Pn	13 17 01.1	+1.3
ANWZ	Angora Road	2.99	60	P		Pn	13 17 01.4	+0.7
MHEZ	Mangahewa	3.08	18	P		Pb	13 17 06.8	-1.9
PNHZ	Pukenui	3.16	49	P		Pn	13 17 04.0	+1.0
VRZ	Vera Road	3.16	224	P		Pn	13 17 07.9	-2.0
LBZ	Lake Benmore	3.18	221	P		Pn	13 17 04.3	+1.0
MTVZ	Mangateitei	3.19	35	P		Pb	13 17 07.4	-3.2
WPHZ	Waipukurau	3.20	54	P		Pn	13 17 04.7	+1.1
PKVZ	Pokaka	3.22	33	P		Pb	13 17 08.2	-2.9
WNVZ	Wahianoa	3.30	36	P		Pn	13 17 08.6	+3.6
TRVZ	Turoa	3.30	35	P		Pn	13 17 08.7	+3.6
MOVZ	Moawhango	3.30	39	P		Pb	13 17 08.8	-3.7
WHVZ	Whangaehu Hut	3.33	36	P		Pn	13 17 09.1	+3.5
FWVZ	Far West T-bar	3.34	35	P		Pn	13 17 09.0	+3.3
TUVZ	Tukino	3.37	36	P		Pn	13 17 09.6	+3.6
BHHZ	Black Hill Sta	3.39	43	P		Pn	13 17 08.4	+2.2
NGZ	Ngauruhoe	3.42	35	P		Pn	13 17 10.3	+3.5
KRHZ	Kereru	3.44	47	P		Pn	13 17 07.8	+1.0
TWVZ	Taurewa	3.44	32	P		Pb	13 17 14.0	-0.9
OTVZ	Oturere	3.46	35	P		Pn	13 17 10.6	+3.3
WTVZ	West Tongariro	3.47	34	P		Pn	13 17 10.9	+3.5
ETVZ	East Tongariro	3.50	36	P		Pn	13 17 11.1	+3.3
KRVZ	Karewarewa	3.51	35	P		Pb	13 17 15.4	-0.6
ODZ	Otahua Downs	3.51	210	P		Pn	13 17 07.7	-0.1
TMVZ	Te Maari	3.52	35	P		Pn	13 17 11.4	+3.3
KATZ	Kakaramea	3.63	34	P		Pb	13 17 17.2	-0.9
HIZ	Hauiti	3.75	22	P		Pn	13 17 15.2	+4.0
JCZ	Jackson Bay	3.76	235	P		Pn	13 17 12.7	+1.3
BKZ	Black Stump Fm	3.85	43	P		Pn	13 17 13.6	+1.1
WATZ	Wairara	3.87	32	P		Pb	13 17 20.6	-1.6
NMHZ	Naumai	4.07	45	P		Pn	13 17 20.1	+4.5
MRHZ	Matea Rd	4.07	40	P		Pn	13 17 16.5	+1.0
WKZ	Wanaka	4.08	225	P		Pn	13 17 15.7	0.0
TLZ	Tolley Road	4.13	28	P		Pb	13 17 21.7	-4.9
EAZ	Earnscleugh	4.22	219	P		Pn	13 17 17.5	-0.2
TUZ	Tuapeka	4.66	211	P		Pn	13 17 24.0	+0.4
TOZ	Tahuroa Road	4.67	24	P		Pn	13 17 27.3	+3.6
URZ	Urewera	4.86	41	P		Pn	13 17 26.2	-0.1
MLZ	Mavora Lakes	4.92	225	P		Pn	13 17 27.8	+0.6
AWAZ	Awhitu Peninsu	5.09	14	P		Pn	13 17 34.1	+4.6
MKAZ	Moumakai	5.16	19	P		Pn	13 17 34.3	+5.8
WTAZ	Waiatarua	5.21	13	P		Pn	13 17 35.6	+4.4
ETAZ	East Tamaki Re	5.25	16	P		Pn	13 17 36.2	+4.4
SYZ	Scrubby Hill	5.33	211	P		Pn	13 17 33.2	+0.3
RUGZ	Raukumara Rang	5.37	43	P		Pn	13 17 33.8	+0.4
RVAZ	Riverhead Bore	5.37	13	P		Pn	13 17 37.5	+4.2
MBAZ	Motutapu North	5.43	16	P		Pn	13 17 38.6	+4.5
WIAZ	Waiheke Island	5.45	18	P		Pn	13 17 38.6	+4.1
PKGZ	Pakihiroa	5.63	45	P		Pn	13 17 37.9	+0.9
KUZ	Kuaotunu	5.65	22	P		Pn	13 17 40.9	+3.7
APZ	The Paps	6.04	215	P		Pn	13 17 42.7	+0.1
WCZ	Waipu Caves	6.15	10	P		Pn	13 17 48.2	+4.1
OUZ	Omahuta	6.80	4	P		Pn	13 17 57.1	+4.1
CTZ	Chatham Island	7.75	106	P		Pn	13 18 05.1	-1.0

IDC 22 13:18:17.5±25.0, 18°08.8N×144°47.6E, h380km±290km, mb2.7/6, mb1 3.1/6, mb1mx2.7/39, mbtmp3.5/6, Error ellipse: s-maj=125.9km s-min=45.1km az=105.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.08	195	P	P	13 25 08.9	-0.9
	0.6nm,0.8s,baz=11,slow=8.4,SNR=7.6						
FITZ	Fitzroy Crossi	40.44	208	P	P	13 25 21.8	+0.9
	3.5nm,1.1s,baz=25,slow=5.3,SNR=8.6						
ASAR	Alice Springs	42.76	194	P	P	13 25 38.5	-0.9
	0.2nm,0.8s,baz=15,slow=7.7,SNR=1.0						
ILAR	Eielson Array	64.71	26	P	P	13 28 15.4	-0.6
	0.2nm,0.4s,baz=250,slow=6.1,SNR=6.5						
YKA	Yellowknife Ar	79.07	28	P	P	13 29 41.2	+0.7
	0.3nm,0.6s,baz=288,slow=4.8,SNR=5.4						
NVAR	Mina Array Bea	84.44	52	P	P	13 30 09.1	+0.1
	0.1nm,0.5s,baz=271,slow=6.2,SNR=1.8						

*BJI **22** 13:26:52.2±0.0, 37°06N×71°78E, h195km, mB4.6/6, mb4.5/7*
*NEIC **22** 13:26:53.6±1.4, 37°18N±0°08×71°9E±0°1, h180km±4km, mb4.3/12, Error ellipse: s-maj=13.6km s-min=11.3km az=105.0*
*NNC **22** 13:26:57.2±2.9, 37°69N×71°66E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=22.3km s-min=18.0km az=168.0*
*IDC **22** 13:26:57.4±8.4, 37°36N×71°92E, h209km±157km, mb3.3/5, mb1 3.4/6, mb1mx3.0/41, mbtmp3.9/6, Error ellipse: s-maj=251.1km s-min=39.7km az=145.0*

ISC 22 13:26:57.1±0.9, 37°42N±0°09×71°85E±0°08, h200km, n38, σ1§20/37, mb4.2/12, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	3.66	219	Pn	Pn	13 27 49.2	-5.7
KSH	Kashi	3.86	56	P	Pn	13 27 50.4	-6.8
KSH				S	Sn	13 28 32.1	-12
KSH	comp=N,120nm,0.5s			smax	smax		
	comp=E,100nm,0.6s			smax	smax		
NIL	Nilore	3.93	163	Pn	Pn	13 27 50.9	-7.2
AAK	Ala-Archa	5.60	20	⇓Pn	Pn	13 28 18.9	-0.4
AAK	2.7nm,0.7s			⇑Sn	Sn	13 29 22.8	-1.4
	3.3nm,0.4s						
AAK	Ala-Archa	5.60	20	Pn	Pn	13 28 18.8	-0.4
KK31	Karatay Array	5.77	350	Pn	Pn	13 28 20.9	-0.5
KK31	1.6nm,0.4s,baz=159,slow=11,SNR=39			⇑Sn	Sn	13 29 25.3	-2.8
	28nm,0.5s,baz=185,slow=19,SNR=30						
KK31	Karatay Array	5.77	350	Pn	Pn	13 28 20.7	-0.7
KKAR	Karatay Array	5.77	350		Pn	13 28 20.7	-0.7
KKAR	Karatay Array	5.77	350	Pn	Pn	13 28 20.7	-0.7
DHRM	DHARAMSHALA	6.32	143	eP	Pn	13 28 20.0	-8.8
DHRM				eS	Sn	13 29 25.1	-16

MKAR	Makanchi Array	12.15	36	P		Pn	13 29 44.2	+0.4
	0.1nm,0.3s,baz=216,slow=11,SNR=2.3								
WMQ	Urumqi	13.62	57	eP		Pn	13 30 03.0	+0.7
WMQ				pmax	pmax				
	comp=Z,12nm,0.9s								
WMQ				pmax	pmax				
	comp=Z,180nm,5.3s								
AB31	Akbulak array	14.64	328	⇓Pn		P	13 30 19.9	+4.1
	0.9nm,0.5s,baz=143,slow=12,SNR=34								
AB31				⇑Sn		Sn	13 33 00.1	+1.7	
	0.7nm,0.4s,baz=143,slow=22,SNR=3.5								
ABKAR	Akbulak array	14.64	328	P		P	13 30 15.9	+0.1	
BRVK	Borovoye	15.68	356			Pn	13 30 28.4	+1.0	
ZAA0	Zalesovo Array	18.80	24			P	13 31 00.9	-0.4	
ZALV	Zalesovo Beam	18.80	24	P		P	13 31 01.1	-0.2	
	1.6nm,0.3s,baz=209,slow=10,SNR=31								
ZALV	Zalesovo Beam	18.80	24			P	13 31 00.5	-0.8	
KIV	Kislovodsk	22.98	296	P		P	13 31 41.6	-2.7	
KIV				IAmb	IAmb		13 31 42.1		
	comp=Z,6.4nm,1.0s								
KMI	Kunming	28.97	106	⇑P		P	13 32 37.0	-1.3	
KMI				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BRTR	Keskin Array B	29.82	286	P		P	13 32 45.7	+0.1	
	comp=Z,0.4nm,0.6s,baz=100,slow=16,SNR=2.9								
ANTO	Ankara	30.44	287	P		P	13 32 50.0	-0.9	
HHC	Hu-ho-hao-te	30.82	71	eP		P	13 32 55.6	+1.3	
HHC				pmax	pmax				
	comp=Z,12nm,0.9s								
HHC				pmax	pmax				
	comp=Z,160nm,4.9s								
AKASG	Malin Array Be	32.91	308	P		P	13 33 12.0	-0.3	
	comp=Z,0.6nm,0.3s,baz=106,slow=9.7,SNR=3.5								
BURAR	Bucovina Array	35.37	302	P		P	13 33 33.9	+0.3	
BUR08	Bucovina Ar. S	35.38	302	P		P	13 33 33.6	-0.1	
BUR08				IAmb	IAmb		13 33 38.7		
	comp=Z,3.7nm,1.4s								
FIA1	FINESS Array S	37.11	325	P		P	13 33 48.7	+0.7	
FIA1				IAmb	IAmb		13 33 53.6		
	comp=Z,11nm,1.2s								
FINES	FINESS Array B	37.11	325	P		P	13 33 48.2	+0.2	
	comp=Z,2.1nm,1.0s,baz=119,slow=11,SNR=4.3								
FINES	FINESS Array B	37.11	325	P		P	13 33 47.8	-0.1	
ARCES	ARCESS Array B	40.56	337	P		P	13 34 16.6	0.0	
	comp=Z,7.1nm,1.2s,baz=106,slow=9.5,SNR=7.9								
ARCES	ARCESS Array B	40.56	337	P		P	13 34 16.9	+0.4	
ARCES				IAmb	IAmb		13 34 18.8		
	comp=Z,16nm,1.3s								
NC405	NORSAR Array S	43.83	323	P		P	13 34 42.5	-0.5	
NC303	NORSAR Array S	44.00	323	P		P	13 34 44.0	-0.3	
NB201	NORSAR Array S	44.03	322	P		P	13 34 43.9	-0.7	
NOA	NORSAR Array B	44.07	322	P		P	13 34 44.5	-0.4	
	comp=Z,0.9nm,0.8s,baz=97,slow=7.2,SNR=1.8								
NBO00	NORSAR Array S	44.28	322	P		P	13 34 45.3	-1.3	
NBO00				IAmb	IAmb		13 35 06.3		
	comp=Z,6.4nm,0.8s								
NC204	NORSAR Array S	44.30	323	P		P	13 34 46.1	-0.7	
KEST	Kesra	49.39	288	P		P	13 35 26.3	-0.3	
KEST				IAmb	IAmb		13 35 33.9		
	comp=Z,21nm,1.4s								

*KRSC **22** 13:28:28.0±2.0, 51°55N×154°28E, h472km±27km, ML3.7*
*IDC **22** 13:28:27.1±2.3, 51°84N×152°99E, h448km±19km, mb2.5/3, mb1 2.7/7, mb1mx2.5/44, mbtmp3.4/7, Error ellipse: s-maj=47.5km s-min=20.4km az=168.0*

ISC 22 13:28:27.2±1.1, 51°9N±0°1×153°26E±0°08, h450km, n30, σ1§98/34, mb2.9/3, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	Malaya Ipel'ka	2.18	80	eP	P	13 29 29.5	+0.8
PAU	Pauzhetka	2.26	101	eP	P	13 29 30.3	+1.1
APC	Apacha	2.58	66	eP	P	13 29 31.8	+0.6
ASAK	Asacha	2.89	79	eP	P	13 29 33.7	+0.2
PETK	Petropavlovsk-1.1nm,0.3s,baz=235,slow=3.5,SNR=60	2.96	65	P	P	13 29 34.5	+0.7
KDTR	Khodutka, Kamc	2.99	90	eP	P	13 29 34.2	+0.1
KDTR				eS	S	13 30 25.1	-3.4
GRL	Goreliy	3.02	76	eP	P	13 29 35.9	+1.4
MTVR	Mutnovka	3.08	78	eP	P	13 29 36.2	+1.3
KRMR	Karymshinskiy	3.12	71	eP	P	13 29 37.1	+2.1
RUS	Russkaya	3.27	79	eP	P	13 29 36.9	+0.7
RUS				eS	S	13 30 31.5	-0.9
GNL	Ganaly	3.34	56	eP	P	13 29 37.8	+0.9
PET	Petropavlovsk	3.47	70	eP	P	13 29 39.0	+1.2
DALK	Dalny	3.53	70	eP	P	13 29 39.3	+1.0
KOK	Koryaka	3.55	65	eP	P	13 29 40.3	+1.8
KRX	Arik	3.58	64	eP	P	13 29 40.3	+1.5
AVH	Avacha	3.60	66	eP	P	13 29 41.2	+2.3
UGLR	Uglovaya	3.63	67	eP	P	13 29 41.1	+1.9
SMAR	Somma	3.63	66	eP	P	13 29 41.0	+1.6
SDLR	Sedlovina	3.68	66	eP	P	13 29 40.9	+1.2
SPN	Mys Shipunski	4.29	72	eP	P	13 29 44.8	0.0
SPN				eS	S	13 30 44.1	-4.0
KZV	Kizimen	5.27	50	eP	P	13 29 57.3	+3.1
TUMR	Tumrok	5.30	48	eP	P	13 29 58.1	+3.7
MKZ	Mys Kozlova	5.72	59	eP	P	13 29 58.7	+0.2
MKZ				eS	S	13 31 08.1	-5.1
KBTR	Krutoberegovo	7.07	49	eP	P	13 30 13.9	+1.5
MA2	Magadan	7.79	351	P	P	13 30 20.2	+0.1
	0.4nm,0.3s,baz=157,slow=7.3,SNR=7.6						
SEY	Seymchan	11.04	358	P	P	13 30 56.9	+1.6
	0.3nm,0.3s,baz=184,slow=14,SNR=20						
KLR	Kul'dur	13.92	267	P	P	13 31 26.5	-0.2
	0.1nm,0.3s,baz=96,slow=10,SNR=2.1						
ILAR	Eielson Array	32.57	44	P	P	13 34 20.6	+1.4
	0.5nm,1.0s,baz=283,slow=12,SNR=4.8						
MKAR	Makanchi Array	44.82	293	P	P	13 35 57.9	-1.5
	0.2nm,0.4s,baz=60,slow=6.8,SNR=7.2						
YKA	Yellowknife Ar	46.78	40	P	P	13 36 15.4	+1.3
	0.4nm,0.5s,baz=306,slow=6.6,SNR=8.9						

TAP 22 13:43:34.9, 23°21N×120°47E, h9km, ML0.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNST	Tainan City	0.03	59	eS	Sg	13 43 38.6	+1.0
	baz=59						
CHN1	Nanshi	0.06	112	iP	Pg	13 43 37.1	+0.4
	baz=111						
CHN1				S	Sg	13 43 39.4	+1.3
	baz=111						
TWK	Hsinying	0.06	14	eP	Pg	13 43 36.7	-0.2
	baz=26						
TWK				S	Sg	13 43 39.4	+1.1
	baz=26						
WTP	Ta-pu	0.14	73	eP	Pg	13 43 38.9	+1.0
	baz=75						
TPUB	Ta-pu	0.17	57	P	Pg	13 43 39.1	+0.6
	baz=57						
TPUB				S	Sg	13 43 43.0	+2.0
	baz=57						
CHN4	Tsaushan	0.18	38	eP	Pg	13 43 39.8	+1.2
	baz=45						
CHN4				eS	Sg	13 43 44.2	+2.9
	baz=45						

IDC 22 13:43:46.7±2.4, 9°92S×113°51E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.4/3, Error ellipse: s-maj=116.7km s-min=26.3km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.43	119	P	P	13 48 47.7	+0.4
	0.7nm,0.5s,baz=293,slow=12,SNR=7.2						
ASAR	Alice Springs	23.79	128	P	P	13 49 00.9	-0.4
	0.8nm,0.7s,baz=304,slow=9.3,SNR=16						
MKAR	Makanchi Array	62.97	336	P	P	13 54 15.3	+0.1
	0.1nm,0.4s,baz=151,slow=9.2,SNR=4.6						

*TRN **22** 14:04:28.2, 10°87N×62°22W, h78km, MD4.1*
*FUNV **22** 14:04:28.4, 10°81N×62°17W, h31km, MW4.2*

ISC 22 14:04:26.0±1.3, 10°82N±0°04×62°25W±0°04, h100km±15km, n39, σ1§69/64, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.85	102	iP	Pn	14 04 46.3	+1.4
TRN				eS	Sn	14 04 58.3	-0.7
TPP	Pointe-a-Pierr	0.93	123	eS	Sn	14 05 02.1	+1.5

CRUV	Carupano	0.98	261	⇓eP		Pn	14 04 47.7	+1.4	
CRUV				eS		Sn	14 05 00.1	-1.4	
TBH	Brigand Hill	1.21	106	eP		Pn	14 04 49.9	+1.1	
GRGR	Grenville	1.43	24	eP		Pn	14 04 51.4	0.0	
GRGR				eS		Sn	14 05 09.6	-1.1	
GRGR	Grenville	1.43	24	eP		Pn	14 04 51.4	0.0	
GRGR				eS		Sn	14 05 08.8	-1.9	
TPR	Prospect	1.49	76	eP		Pn	14 04 53.1	+0.9	
TPR				eS		Sn	14 05 11.9	-0.1	
BOT	Bacolet	1.54	77	eS		Sn	14 05 11.9	-1.2	
GCMP	Grenada, Carri	1.84	26	eP		Pn	14 04 56.6	+0.1	
GCMP				eS		Sn	14 05 18.4	-1.4	
PCRV	Puerto La Cruz	2.44	255	eP		Pn	14 05 06.1	+1.7	
PCRV				eS		Sn	14 05 33.4	-0.4	
SVOC	Richmond Hill,	2.52	23	eS		Sn	14 05 35.3	-0.5	
SVB	Belmont	2.62	22	eP		Pn	14 05 07.7	+0.8	
SVB				eS		Sn	14 05 37.4	-0.7	
SVV	Soufriere Volc	2.68	22	eP		Pn	14 05 08.6	+1.1	
SVV				eS		Sn	14 05 38.7	-0.7	
SFAN	Fancy Village	2.75	22	eS		Sn	14 05 40.3	-1.0	
RIOV	Rio Grande	2.77	171	eS		Sn	14 05 40.1	-1.6	
MCLT	Moule a Chique	3.14	24	eP		Pn	14 05 14.1	+0.4	
MCLT				eS		Sn	14 05 49.4	-1.1	
SLB	Belfond	3.21	21	eP		Pn	14 05 16.6	+1.9	
SLB				eS		Sn	14 05 51.6	-0.6	
SLBI	Saint Lucia, B	3.42	21	eP		Pn	14 05 18.0	+0.6	
SLBI				eS		Sn	14 05 55.9	-1.2	
BBSP	Saint Philip	3.55	50	eP		Pn	14 05 20.6	+1.4	
BBSP				eS		Sn	14 05 59.4	-0.9	
MPOM	Morne Pois Mar	3.85	20	eP		Pn	14 05 24.4	+1.2	
MPOM				eS		Sn	14 06 06.3	-1.1	
BIM	Bigot	3.85	17	eP		Pn	14 05 27.9	+0.6	
BIM				eS		Sn	14 06 06.8	-0.7	
BIRV	Birongo	3.97	265	eP		Pn	14 05 27.6	+2.8	
BIRV				eS		Sn	14 06 10.4	-0.1	
FDF	Fort de France	4.03	15	eP		Pn	14 05 26.1	+0.4	
FDF				eS		Sn	14 06 09.9	-2.1	
MERV	Las Mercedes	4.29	249	eP		Pn	14 05 30.6	+1.5	
MERV				eS		Sn	14 06 17.2	-0.9	
DSLB	Salisbury	4.66	10	eP		Pn	14 05 36.2	+2.0	
TACV	Tcata	4.75	262	eP		Pn	14 05 36.8	+1.3	
TACV				eS		Sn	14 06 29.0	-0.5	
LUEV	Luepa	5.01	171	eP		Pn	14 05 39.7	+0.6	
LUEV				eS		Sn	14 06 32.2	-3.7	
MAGL	Barre de l'ile	5.18	10	eP		Pn	14 05 43.8	+2.5	
CBE	Ff, Capester	5.25	7	eP		Pn	14 05 44.7	+2.5	
CBE	Ff, Capester	5.25	7	eS		Sn	14 06 40.4	-1.2	
TURV	Turiamo	5.51	267	eP		Pn	14 05 46.9	+1.2	
TURV				eS		Sn	14 06 45.5	-2.4	
BAUV	El Baul	6.01	252	eP		Pn	14 05 53.7	+0.7	
BAUV				eS		Sn	14 06 57.7	-2.3	
MAPV	Macapo	6.19	261	eP		Pn	14 05 56.6	+1.6	
MAPV				eS		Sn	14 07 01.9	-2.6	
BPA	Boggy Peak	6.20	3	eP		Pn	14 05 56.9	+1.8	
BPA	Boggy Peak	6.20	3	eS		Sn	14 07 02.5	-2.1	
ANBD	Bethesda, Anti	6.21	4	eP		Pn	14 05 57.3	+2.1	
SKI	Saint Kitts	6.49	356	eP		Pn	14 06 01.1	+2.0	
PAYV	Puerto Ayacuch	7.58	225	eP		Pn	14 06 15.1	+1.1	
PAYV				eS		Sn	14 07 33.8	-4.5	
CURV	Curarigua	7.63	265	eP		Pn	14 06 16.5	+1.9	
CURV				eS		Sn	14 07 35.6	-4.0	

*IDC **22** 14:12:33.9±1.9, 17°54S×168°12E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/29, mbtmp4.0/8, ML3.5/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/33, Error ellipse: s-maj=52.6km s-min=27.4km az=130.0*
*NEIC **22** 14:12:39.7±1.7, 17°57S±0°06×168°07E±0°10, h41km±9km, mb4.5/11, Error ellipse: s-maj=13.5km s-min=8.6km az=84.0*
*NOU **22** 14:13:21.5, 20°91S×167°58E, h0km, MLv2.6, Loyalty Islands*

ISC 22 14:12:38.3±0.7, 17°63S±0°05×168°06E±0°09, h27km, n33, σ1§20/31, mb4.4/11, MS3.5/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	2.32	339	Pn	Pn	14 13 14.2	-0.5
LIFNC	LIFOU	3.23	194	P	Pn	14 13 28.4	+1.2
MARNC	Mare, Loyalty	3.83	180	P	Pn	14 13 34.5	-1.1
YATNC	Mamie plateau,	4.54	194	P	Pn	14 13 45.9	+0.5
DZM	Mont Dzumac	4.67	199	ePn	Pn	14 13 47.7	+0.5
	16nm,0.3s						
DZM				eLR	LR	14 14 36.4	
	comp=Z,252nm,23.9s						
DZM				eSn	Sn	14 14 36.7	-4.0
	51nm,0.2s						
DZM	Mont Dzumac	4.67

JWY	**Kouya**	**1.05**	**249**	P		**Pn**	**14 34 50.4**	**+0.5**
JNY	**Yasuok**	**1.17**	**49**	P		**Pn**	**14 34 51.3**	**+1.0**
JWT	**Wachi**	**1.33**	**302**	P		**Pn**	**14 34 51.4**	**+0.5**
JYN	**Shimob**	**1.70**	**58**	P		**Pn**	**14 34 54.2**	**+1.1**
JOD2	**Odawara 2**	**2.01**	**70**	P		**Pn**	**14 34 56.5**	**+1.4**
JRY	**Ryogami san**	**2.24**	**50**	P		**Pn**	**14 34 57.8**	**+1.0**
JRY				*e*S		**S**	**14 35 39.3**	**-0.1**
MAT	**Matsushiro**	**2.26**	**30**	P		**Pn**	**14 34 58.0**	**+1.1**
MAT				S		**S**	**14 35 38.3**	**-1.4**
MAT	**Matsushiro**	**2.26**	**30**	P		**Pn**	**14 34 57.8**	**+0.9**
MJAR	**Matsushiro Arr**	**2.26**	**30**	P		**Pn**	**14 34 58.1**	**+1.2**
	0.3nm,0.3s,baz=202,slow=7.7,SNR=4.1							
BSO4	**Boso 4**	**2.95**	**81**	P		**Pn**	**14 35 03.3**	**+0.8**
JYT	**Yasato**	**3.23**	**59**	P		**Pn**	**14 35 05.0**	**-0.1**
JHO	**Hitachi**	**3.68**	**56**	P		**Pn**	**14 35 09.5**	**0.0**
MKAR	**Makanchi Array**	**42.28**	**304**	P		**P**	**14 41 24.1**	**0.0**
	0.2nm,0.5s,baz=87,slow=9.9,SNR=2.6							
WRA	**Warramunga Arr**	**54.28**	**183**	P		**P**	**14 42 54.2**	**-0.8**
	0.2nm,0.3s,baz=359,slow=7.2,SNR=8.1							
ASAR	**Alice Springs**	**58.01**	**183**	P		**P**	**14 43 20.8**	**-0.3**
	0.2nm,0.6s,baz=21,slow=11,SNR=5.6							

IDC 22 14:41:29.8±683.0, 58°47.N×61°67.E, h0km, Error ellipse: s-maj=348.4km s-min=218.2km az=65.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**13.63**	**99**	*i*		16 05 44.8	
	baz=299,slow=332,SNR=1.7						
I18DK	**QAANAAQ INFRAS**	**90.96**	**345**	*i*		18 51 00.0	
	baz=36,slow=343,SNR=1.8						
I53US	**FAIRBANKS INFR**	**54.96**	**15**	*i*		20 19 50.0	
	baz=343,slow=329,SNR=1.6						

IDC 22 14:48:39.1±2.3, 1°87N×126°92E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=175.5km s-min=27.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.87**	**162**	P		14 53 44.0	-0.3
	1.8nm,0.8s,baz=341,slow=11,SNR=12						
ASAR	**Alice Springs**	**26.28**	**165**	P		14 54 16.8	+0.3
	0.2nm,0.4s,baz=341,slow=8.9,SNR=13						
MKAR	**Makanchi Array**	**59.19**	**326**	P		14 58 41.9	-0.1
	0.2nm,0.4s,baz=117,slow=8.8,SNR=2.2						

IDC 22 14:56:54.8±1.1, 1°58N×126°58E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.5/28, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=65.1km s-min=18.3km az=76.0
DJA 22 14:57:01.3±2.3, 2°N±4°×12°7E±°, h34km±43km, M3.5/6, MLv3.5/6
ISC 22 14:57:01.2±0.9, 1°59N±0°08×126°6E±0°1, h47km, n11, σ0°86/10, mb3.5/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.11**	**137**	P	**Pn**	**14 57 20.4**	**+0.1**
TNTI				S	**Sn**	**14 57 34.9**	**+0.5**
SGSI	**Sangihe**	**2.35**	**333**	P	**Pn**	**14 57 37.4**	**+0.1**
SANI	**Sanana**	**3.67**	**190**	P	**Pn**	**14 57 55.7**	**+0.3**
GTOI	**Gorontalo**	**3.72**	**255**	P	Pn	14 58 00.3	+4.1
FAKI	**Fak Fak**	**7.20**	**128**	P	Pn	14 58 51.0	+7.1
FITZ	**Fitzroy Crossi**	**19.58**	**183**	P	**P**	**15 01 24.9**	**-0.5**
	0.1nm,0.3s,baz=0.0,slow=7.1,SNR=1.8						
WRA	**Warramunga Arr**	**22.70**	**161**	P	**P**	**15 01 58.3**	**-0.7**
	0.9nm,0.4s,baz=342,slow=12,SNR=19						
ASAR	**Alice Springs**	**26.08**	**165**	P	**P**	**15 02 30.5**	**-0.1**
	0.4nm,0.4s,baz=348,slow=13,SNR=28						
MJAR	**Matsushiro Arr**	**36.40**	**16**	P	**P**	**15 04 00.5**	**-0.7**
	0.5nm,0.7s,baz=186,slow=9.7,SNR=1.6						
SONM	**Songino Array**	**49.28**	**342**	P	**P**	**15 05 47.2**	**+1.7**
	0.2nm,0.6s,baz=159,slow=4.3,SNR=1.8						
MKAR	**Makanchi Array**	**59.25**	**326**	P	**P**	**15 06 57.0**	**-0.8**
	0.3nm,0.4s,baz=118,slow=7.9,SNR=11						

NEIC 22 15:25:10.4±1.6, 18°2S±0°2×178°1W±0°2, h547km±13km, mb4.1/10, Error ellipse: s-maj=32.4km s-min=24.0km az=77.0
IDC 22 15:25:10.6±2.5, 18°26S×178°09W, h545km±19km, mb3.2/3, mb1 3.3/4, mb1mx2.9/28, mbtmp4.1/4, Error ellipse: s-maj=40.7km s-min=39.5km az=112.0
ISC 22 15:25:10.5±1.4, 18°2S±0°2×178°0W±0°2, h550km, n20, σ0°72/19, mb4.2/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.75**	**277**	P	**P**	**15 26 30.3**	**-0.4**
	2.0nm,0.3s,baz=105,slow=6.9,SNR=22						
MSVF	**Nonsavu**	**3.75**	**277**	P	**P**	**15 26 30.8**	**+0.2**
RAO	**Raoul Island**	**10.98**	**179**	P	**P**	**15 27 37.6**	**-0.7**
	204nm,0.3s,baz=214,slow=22,SNR=4.5						
RAO	**Raoul Island**	**10.98**	**179**	P	**P**	**15 27 37.8**	**-0.6**
COEN	**Coen**	**37.46**	**271**	P	**P**	**15 31 37.7**	**-0.1**
COEN				IAmb	IAmb	15 31 55.2	
	comp=Z,6.4nm,1.1s						
STKA	**Stephens Creek**	**38.79**	**242**	P	**P**	**15 31 49.3**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=96,slow=8.7,SNR=5.0						
STKA	**Stephens Creek**	**38.79**	**242**	IAmb	IAmb	15 31 50.1	
	comp=Z,3.1nm,1.5s						
BBOO	**Buckleboo**	**43.56**	**241**	P	**P**	**15 32 26.9**	**+0.7**
WR0	**Warramunga Arr**	**44.73**	**260**	P	**P**	**15 32 34.6**	**-0.8**
WR0				IAmb	IAmb	15 32 38.2	
	comp=Z,9.8nm,1.3s						
WB0	**Warramunga Arr**	**44.89**	**260**	P	**P**	**15 32 35.6**	**-1.0**
WB0				IAmb	IAmb	15 32 35.9	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**44.91**	**260**	P	**P**	**15 32 35.9**	**-0.9**
WB2				IAmb	IAmb	15 32 48.6	
	comp=Z,3.8nm,1.1s						
WRAB	**Tennant Creek**	**44.91**	**260**	P	**P**	**15 32 35.8**	**-1.0**
WRAB				IAmb	IAmb	15 33 00.5	
	comp=Z,5.4nm,1.4s						
WRA	**Warramunga Arr**	**44.92**	**260**	P	**P**	**15 32 35.9**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=98,slow=6.7,SNR=28						
AS31	**Alice Springs**	**45.04**	**255**	P	**P**	**15 32 37.4**	**-0.4**
ASAR	**Alice Springs**	**45.04**	**255**	P	**P**	**15 32 37.9**	**0.0**
	comp=Z,5.9nm,0.6s,baz=88,slow=8.4,SNR=120						
ASAR	**Alice Springs**	**45.04**	**255**	P	**P**	**15 32 37.3**	**-0.5**
CASY	**Casey**	**66.00**	**205**	P	**P**	**15 35 03.3**	**+1.0**
MAJO	**Matsushiro**	**68.36**	**323**	P	**P**	**15 35 17.4**	**0.0**
MAJO				IAmb	IAmb	15 35 30.7	
	comp=Z,9.9nm,1.4s						
CLL	**Collm**	**145.84**	**348**	*e*PKPbc	**PKPab**	**15 43 50.0**	**-0.1**
GERES	**GERESS Array B**	**148.00**	**345**	PKPbc	**PKPbc**	**15 43 54.6**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=353,slow=4.1,SNR=2.2						

IDC 22 15:32:26.0±8.0, 15°63S×172°86W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/33, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=344.2km s-min=25.0km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.00**	**32**	Pn	Pn	15 32 59.2	-2.0
	4.6nm,0.3s,baz=27,slow=4.3,SNR=11						
AFI					Sn	15 33 20.9	-6.1
	28nm,0.3s,baz=63,slow=22,SNR=10						
WRA	**Warramunga Arr**	**50.30**	**257**	P	P	15 41 23.9	-0.9
	0.7nm,1.0s,baz=96,slow=8.1,SNR=1.8						
ASAR	**Alice Springs**	**50.54**	**252**	P	P	15 41 26.4	-0.2
	0.5nm,0.5s,baz=87,slow=7.6,SNR=24						
ILAR	**Eielson Array**	**82.57**	**11**	P	P	15 44 51.9	+1.4
	0.2nm,0.7s,baz=222,slow=6.4,SNR=6.7						

IDC 22 15:41:01.8±1.0, 3°38S×129°90E, h0km, mb3.7/7, mb1 3.9/10, mb1mx3.7/39, mbtmp3.7/10, ML3.5/3, MS3.2/3, Ms1 3.2/3, ms1mx2.6/48, Error ellipse: s-maj=33.2km s-min=17.2km az=87.0
DJA 22 15:41:03.3±0.3, 3°S±4°×13°0E±°, h10km, M3.9/9, mb4.4/2, mB5.1/1, MLv3.6/9, Mw(mB)4.4/1
ISC 22 15:41:02.9±0.7, 3°38S±0°06×129°83E±0°08, h10km, n19, σ1°10/17, mb3.6/6, Seram

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

BNDI	**Bandanaira**	**1.13**	**176**	P		**Pb**	**15 41 23.8**	**-0.9**
FAKI	**Fak Fak**	**2.46**	**79**	P		**Pb**	**15 41 46.0**	**-1.3**
NLAI	**Namlea**	**2.73**	**273**	P		**Pn**	**15 41 45.8**	**-1.1**
SIJI	**Sorong**	**2.88**	**30**	Pn		**Pn**	**15 41 49.9**	**+1.0**
	12nm,0.3s,baz=41,slow=4.0,SNR=106							
SIJI					Sn	**Sn**	**15 42 23.5**	**-0.2**
	8.2nm,0.3s,baz=28,slow=17,SNR=9.1							
SWI	**Sorong**	**2.88**	**30**	P		**Pn**	**15 41 49.9**	**+0.9**
SANI	**Sanana**	**4.06**	**289**	P		**Pn**	**15 42 03.8**	**-1.4**
APSI	**Ampana**	**8.54**	**287**	P		**Pn**	**15 43 06.0**	**-0.7**
MRSI	**Marisa**	**8.77**	**296**	P		Pn	15 43 22.7	+13
DAV	**Davao City (W)**	**11.22**	**338**	LR		LR	15 48 58.7	
	comp=Z,53nm,20.7s,baz=146,slow=42							
FITZ	**Fitzroy Crossi**	**15.19**	**195**	Pn		**Pn**	**15 44 38.5**	**+0.8**
	0.1nm,0.3s,baz=7.3,slow=13,SNR=1.3							
WRA	**Warramunga Arr**	**17.04**	**165**	P		**Pn**	**15 45 02.2**	**+0.7**
	0.2nm,0.3s,baz=349,slow=11,SNR=7.6							
WRA					LR	LR	15 52 07.3	
	comp=Z,54nm,20.6s,baz=210,slow=39							
ASAR	**Alice Springs**	**20.55**	**169**	P		**P**	**15 45 41.4**	**-0.4**
	1.5nm,0.4s,baz=351,slow=11,SNR=51							
STKA	**Stephens Creek**	**30.43**	**160**	P		**P**	**15 47 16.1**	**+0.4**
	1.2nm,0.5s,baz=349,slow=16,SNR=2.5							
CMAR	**Chiang Mai Arr**	**37.37**	**307**	P		**P**	**15 48 16.9**	**+0.7**
	0.5nm,0.8s,baz=137,slow=7.3,SNR=5.3							
MJAR	**Matsushiro Arr**	**40.48**	**10**	P		**P**	**15 48 40.1**	**-1.9**
	0.5nm,0.4s,baz=189,slow=7.4,SNR=4.1							
SONM	**Songino Array**	**54.99**	**341**	P		**P**	**15 50 36.2**	**+1.7**
	0.3nm,0.7s,baz=123,slow=5.3,SNR=2.3							
URZ	**Urewera**	**55.30**	**135**	LR		LR	16 17 03.3	
	comp=Z,58nm,18.7s,baz=211,slow=39							
PETK	**Petropavlovsk-**	**60.97**	**19**	P		**P**	**15 51 17.1**	**+0.8**
	1.5nm,0.8s,baz=216,slow=4.4,SNR=3.0							
MKAR	**Makanchi Array**	**65.14**	**326**	P		**P**	**15 51 44.5**	**+0.4**
	0.2nm,0.5s,baz=118,slow=7.9,SNR=4.2							

ECX 22 15:49:41.9±0.5, 30°37N×113°89W, h12km±12km, MD3.4, ML3.2
MEX 22 15:49:45.9±0.4, 30°61N×113°95W, h4km, MD4.2
ISC 22 15:49:40.4±1.7, 30°44N±0°06×113°91W±0°04, h7km±13km, n11, σ1°15/16, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**1.00**	**307**	*e*P	**Pg**	**15 50 00.1**	**+0.5**
SFX				*e*S	**Sb**	**15 50 14.8**	**+1.3**
PIX	**Pinacate**	**1.18**	**19**	⇓*e*P	**Pb**	**15 50 03.5**	**+0.3**
PIX				*e*S	**Sn**	**15 50 20.7**	**+0.9**
SPX	**San Pedro Mart**	**1.46**	**294**	*e*P	**Pn**	**15 50 07.7**	**+0.2**
SPX				*e*S	**Sg**	**15 50 26.9**	**-0.6**
SPIG	**San Pedro Mart**	**1.47**	**295**	*e*P	**Pn**	**15 50 07.9**	**+0.3**
SPIG				*e*S	**Sb**	**15 50 26.0**	**-1.2**
SQX	**San Quintin**	**1.70**	**275**	⇑*e*P	**Pn**	**15 50 11.5**	**+1.0**
SQX				*e*S	**Sn**	**15 50 32.8**	**+0.4**
214A	**Organ Pipe Nat**	**1.78**	**32**	*i* P	**Pn**	**15 50 12.2**	**+0.6**
214A				*i* S	**Sn**	**15 50 32.7**	**-1.9**
SVX	**San Vicente**	**2.20**	**294**	*e*P	**Pn**	**15 50 18.8**	**+1.5**
CPBX	**Cerro Prieto**	**2.31**	**329**	IAML		15 51 21.1	
	comp=E,369nm,0.9s						
CPBX				*e*		15 51 21.1	
CPBX				⇓*e*		15 51 28.1	
CPBX				IAML		15 51 28.1	
	comp=N,382nm,0.6s						
HSIG		**2.94**	**118**	*i* P	**Pb**	**15 50 32.9**	**-0.2**
HSIG				*i* S	**Sb**	**15 51 08.6**	**-0.7**
CBX	**Cerro Bola**	**3.00**	**309**	⇑*e*		15 51 42.6	
CBX				IAML		15 51 42.6	
	comp=E,97nm,0.8s						
TJIG	**Tijuana**	**3.09**	**311**	*i* P	**Pb**	**15 50 33.8**	**-1.8**

IDC 22 16:05:08.0±4.6, 9°37S×127°38E, h146km±51km, mb2.8/1, mb1 2.9/5, mb1mx2.8/40, mbtmp3.3/5, Error ellipse: s-maj=55.1km s-min=16.2km az=42.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.75**	**257**	P	Pn	16 06 03.3	-1.7
	1.4nm,0.3s,baz=334,slow=13,SNR=2.0						
BATI					Sn	16 06 50.3	+1.1
	3.5nm,0.3s,baz=77,slow=23,SNR=7.0						
FITZ	**Fitzroy Crossi**	**8.84**	**191**	P	Pn	16 07 12.7	+0.1
	0.1nm,0.3s,baz=38,slow=17,SNR=1.7						
FITZ					Sn	16 08 51.8	+1.0
	0.2nm,0.3s,baz=268,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**12.48**	**148**	P	Pn	16 07 59.3	-1.4
	0.1nm,0.3s,baz=327,slow=14,SNR=7.4						
WRA					Sn	16 10 19.2	+0.6
	0.2nm,0.3s,baz=323,slow=24,SNR=6.5						
ASAR	**Alice Springs**	**15.52**	**157**	P	P	16 08 40.4	0.0
	0.1nm,0.3s,baz=330,slow=11,SNR=13						
ASAR					Sn	16 11 33.1	+1.2
	0.1nm,0.3s,baz=320,slow=20,SNR=2.3						
MKAR	**Makanchi Array**	**68.83**	**329**	P	P	16 15 56.8	+0.2
	0.2nm,0.9s,baz=118,slow=5.2,SNR=2.0						

JMA 22 16:51:21.6±0.2, 25°01N×123°52E, h22km±5km, M2.8
IDC 22 16:51:22.2±4.1, 24°68N×123°03E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.3/53, mbtmp3.5/4, MS2.8/2, Ms1 2.8/2, ms1mx2.4/33, Error ellipse: s-maj=235.0km s-min=29.1km az=61.0
ISC 22 16:51:21.7±1.8, 24°98N±0°08×123°54E±0°04, h8km±11km, n14, σ0°54/20, mb3.6/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.67**	**165**	P	**Pg**	**16 51 34.9**	**+0.4**
IRIF				S	**Sg**	**16 51 44.3**	**+1.1**
YOJ	**Yonaguni jima**	**0.71**	**223**	P	**Pg**	**16 51 35.2**	**-0.1**
YOJ				S	**Sg**	**16 51 44.5**	**0.0**
JYNG	**Yonagunijimaku**	**0.76**	**226**	P	**Pg**	**16 51 35.6**	**-0.6**
JYNG				S	**Sg**	**16 51 46.6**	**+0.6**
JISG	**Ishigakijimahi**	**0.80**	**119**	P	**Pg**	**16 51 37.3**	**+0.2**
JISG				S	**Sg**	**16 51 47.6**	**+0.1**
JIJ	**Ishigaki jima**	**0.82**	**138**	P	**Pg**	**16 51 37.3**	**-0.2**
JIJ				S	**Sg**	**16 51 48.1**	**-0.1**
JKRS	**Kuro-shima**	**0.85**	**150**	P	**Pg**	**16 51 38.1**	**0.0**
JKRS				S	**Sg**	**16 51 49.6**	**+0.4**
HATJ	**Hateruma jima**	**0.95**	**165**	P	**Pb**	**16 51 39.7**	**-0.7**
HATJ				S	**Sb**	**16 51 52.5**	**-0.6**
JTJ	**Tarama**	**1.11**	**107**	P	**Pb**	**16 51 42.5**	**-0.6**
JTJ				*e*S	**Sb**	**16 51 57.1**	**-0.6**
KSRS	**Korea Array**	**12.98**	**16**	LR	LR	17 00 13.1	
	comp=Z,15nm,20.1s,baz=195,slow=40						
JCJ	**Chichijima**	**16.89**	**79**	LR	LR	17 00 38.9	
	comp=Z,87nm,21.1s,baz=144,slow=32						
MKAR	**Makanchi Array**	**39.29**	**314**	P	**P**	**16 58 51.5**	**+0.5**
	0.2nm,0.6s,baz=120,slow=8.5,SNR=2.8						
FITZ	**Fitzroy Crossi**	**42.87**	**177**	P	**P**	**16 59 20.7**	**+0.1**
	3.3nm,1.2s,baz=0.0,slow=16,SNR=1.3						
WRA	**Warramunga Arr**	**45.87**	**166**	P	**P**	**16 59 44.2**	**-0.5**
	0.7nm,0.7s,baz=347,slow=9.1,SNR=7.0						
ASAR	**Alice Springs**	**49.39**	**167**	P	**P**	**17 00 12.6**	**+0.5**
	0.3nm,0.7s,baz=351,slow=7.1,SNR=8.7						

TAP 22 17:12:06.2, 23°12N×120°96E, h3km±1km, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.09**	**40**	*i* P	Pg	17 12 09.2	+1.1
	baz=44						
ELDTW				*i* S	Sg	17 12 10.4	+1.1
	baz=44						
STYH	**Taoyuan**	**0.17**	**286**	*e*P	Pg	17 12 10.7	+1.0
	baz=285						
STYH				S	Sg	17 12 13.7	+1.8
	baz=285						
STYT	**Tauyuan**	**0.19**	**282**	P	Pg	17 12 10.9	+1.0
	baz=282						
STYT				*i* S	Sg	17 12 14.2	+1.7
	baz=282						
WTP	**Ta-pu**	**0.34**	**291**	*e*P	Pb	17 12 14.1	-0.9
	baz=291						
WTP				*e*S	Sb	17 12 19.9	-0.9
	baz=291						
TPUB	**Ta-pu**	**0.35**	**300**	*e*P	Pb	17 12 14.3	-0.8
	baz=300						
TPUB				*e*S	Sb	17 12 20.4	-0.7
	baz=300						
EDH	**Donghe**	**0.35**	**115**	P	Pb	17 12 14.6	-0.5
	baz=115						
EDH				*e*S	Sb	17 12 20.4	-0.7
	baz=115						
YUS	**Yu-Shan**	**0.36**	**359**	*e*S	Sb	17 12 21.0	-1.0
	baz=358						

IDC 22 17:44:59.8±16.0, 20°09S×177°42W, h598km±55km, mb2.9/3, mb1 3.0/4, mb1mx2.7/40, mbtmp3.8/4, Error ellipse: s-maj=300.4km s-min=116.4km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.89**	**298**	P	P	17 46 31.9	0.0
	1.0nm,0.3s,baz=97,slow=16,SNR=5.6						
CTA	**Charters Tower**	**34.08**	**264**	P	P	17 50 56.3	-0.1
	baz=110,slow=8.5						
STKA	**Stephens Creek**	**38.46**	**244**	P	P	17 51 31.2	-0.9
	1.4nm,0.7s,baz=75,slow=12,SNR=1.4						
ASAR	**Alice Springs**	**45.15**	**256**	P	P	17 52 25.1	+0.3
	0.7nm,0.5s,baz=88,slow=8.2,SNR=36						
WRA	**Warramunga Arr**	**45.20**	**262**	P	P	17 52 25.0	-0.2
	0.7nm,0.3s,baz=97,slow=7.0,SNR=30						

NEIC 22 18:05:12.7±2.5, 6°99S±0°06×109°06E±0°04, h10km±1km, mb4.7/28, Error ellipse: s-maj=10.5km s-min=6.8km az=350.0
DJA 22 18:05:13.1±0.2, 7°S±2°×10°9E±°, h10km, M4.8/21, mb4.8/12, mB5.2/5, MLv4.8/21, Mw(mB)4.6/5
IDC 22 18:05:13.1±2.6, 6°87S×109°08E, h17km±17km, mb4.2/15, mb1 4.3/17, mb1mx4.1/39, mbtmp4.3/17, ML4.6/2, MS3.8/6, Ms1 3.8/6, ms1mx3.3/35, Error ellipse: s-maj=15.3km s-min=12.1km az=45.0
KLM 22 18:05:15, 7°15S×109°02E, h10km, mb4.6
ISC 22 18:05:12.2±1.1, 6°96S±0°04×109°03E±0°03, h9km±7km, n158, σ1°62/161, mb4.5/42, MS4.3/7, 1C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJI	**Jatiwangi**	**0.89**	**302**	P	**Pg**	**18 05 28.8**	**-0.5**
JCJI				S	**Sg**	**18 05 40.3**	**-0.6**
CISI	**Cisompet, Garu**	**1.34**	**244**		**Pg**	**18 05 38.0**	**0.0**
CISI				Sn	**Sg**	**18 05 56.3**	**+0.9**
CISI	**Cisompet, Garu**	**1.34**	**244**	P	**Pg**	**18 05 37.9**	**0.0**
CISI				S	**Sg**	**18 05 56.5**	**+1.1**
SMRI	**Semarang**	**1.40**	**94**		**Pb**	**18 05 38.5**	**-0.1**
SMRI	**Semarang**	**1.40**	**94**	P	**Pb**	**18 05 38.5**	**-0.1**
SMRI				S	**Sg**	**18 05 59.5**	**+2.1**
LEM	**Lembang**	**1.41**	**275**	Pg	**Pg**	**18 05 39.4**	**+0.1**
	281nm,0.3s,baz=37,slow=12,SNR=123						
LEM				Lg	Lg	18 05 59.6	
	822nm,0.3s,baz=331,slow=23,SNR=19						
LEM				LR	LR	18 06 03.0	
	comp=Z,276nm,21.8s,baz=77,slow=34						
LEM	**Lembang**	**1.41**	**275**	P	**Pg**	**18 05 39.3**	**0.0**
UGM	**Wanagama**	**1.76**	**123**		**Pb**	**18 05 43.9**	**-0.7**
UGM	**Wanagama**	**1.76**	**123**	P	**Pb**	**18 05 43.9**	**-0.7**
CBJI	**Citeko**	**2.23**	**284**	P	**Pn**	**18 05 48.6**	**-0.7**
DBJI	**Dramaga**	**2.30**	**280**	P	**Pn**	**18 05 51.4**	**+1.1**
TNG	**Tangerang**	**2.50**	**288**	P	**Pn**	**18 05 53.9**	**+0.9**
BLSI	**Bandar Lampung**	**4.08**	**293**	P	**Pn**	**18 06 14.3**	**-0.6**
TPI	**Tanjungpandan**	**4.40**	**342**	P	**Pn**	**18 06 19.7**	**+0.5**
KASI	**Kota Agung**	**4.73**	**287**	P	**Pn**	**18 06 24.2**	**+0.5**
XMIS	**Christmas Isla**	**4.83**	**223**	Pn	**Pn**	**18 06 25.1**	**-0.1**
KLSI		**4.84**	**298**	P	**Pn**	**18 06 25.7**	**+0.5**
KMMI	**Kalianget**	**4.90**	**91**	P	**Pn**	**18 06 26.0**	**-0.1**
PBKI	**Pangkalan Bun**	**4.98**	**32**	P	**Pn**	**18 06 27.5**	**+0.3**
ABJI	**Asem Bagus**	**5.23**	**99**	P	**Pn**	**18 06 31.2**	**+0.6**
	0.7nm126nm,0.6s						
JAGI	**Jajag, Banyuwa**	**5.29**	**107**	Pn	**Pn**	**18 06 32.5**	**+1.0**
JAGI	**Jajag, Banyuwa**	**5.29**	**107**	P	**Pn**	**18 06 31.2**	**-0.3**
	0.6nm103nm,0.7s						
LWLI	**Liwa**	**5.31**	**291**	P	**Pn**	**18 06 32.7**	**+0.9**
	1.6nm3μm194nm,0.8s						
MDSI	**Maura Dua**	**5.42**	**297**	P	**Pn**	**18 06 34.3**	**+1.1**
	0.6nm954nm68nm,0.7s						
PPBI	**Pangkal Pinang**	**5.57**	**329**	P	**Pn**	**18 06 35.5**	**+0.1**
	2.1nm3μm156nm,0.7s						
SRBI	**Singaraja**	**6.23**	**101**	P	**Pn**	**18 06 45.3**	**+0.9**
	0.3nm51nm,0.6s						
BBKI	**Banjar Baru**	**6.75**	**59**	P	**Pn**	**18 06 51.1**	**-0.5**
	1.6nm1μm44nm,0.4s						
KSI	**Kapahiang**	**7.20**	**297**	P	**Pn**	**18 07 01.2**	**+3.4**
	0.5nm89nm,0.8s						
MTKI	**Muara Teweh, K**	**8.37**	**45**	P	Pn	18 07 06.1	-7.6
KSM	**Kuching**	**8.48**	**9**	Pn	Pn	18 07 20.3	+5.0
KSM	**Kuching**	**8.48**	**9**	P	Pn	18 07 23.0	+7.7
PLAI	**Plampang**	**8.86**	**103**	P	**Pn**	**18 07 19.7**	**-0.8**
	38nm,0.7s						
SBUM	**Sibu**	**9.88**	**19**	P	**Pn**	**18 07 32.0**	**-2.5**
MYKOM	**Kota Tinggi**	**10.12**	**329**		**Pn**	**18 07 40.7**	**+3.0**
MYKOM	**Kota Tinggi**	**10.12**	**329**	P	**Pn**	**18 07 41.0**	**+3.3**
JRMM	**Jerantut**	**12.61**	**329**	P	**Pn**	**18 08 13.0**	**+1.1**
EDFI	**Ende, Flores**	**12.67**	**99**	P	**Pn**	**18 08 11.7**	**-1.1**
MMRI	**Maumere**	**13.19**	**98**		**Pn**	**18 08 21.0**	**+1.1

WB2					IAmb	IAmb	18 11 08.6		
	comp=Z,15nm,1.2s								
WR0	**Warramunga Arr**	**27.91**	**120**		P	**P**	**18 11 03.0**	**+0.1**	
WR0					IAmb	IAmb	18 11 03.7		
	comp=Z,17nm,1.1s								
ASAR	**Alice Springs**	**29.09**	**128**		P	**P**	**18 11 13.2**	**-0.2**	
	comp=Z,4.7nm,0.7s,baz=300,slow=8.0,SNR=116								
ASAR					PcP	**PcP**	**18 14 20.6**	**-0.9**	
	comp=Z,1.9nm,0.9s,baz=308,slow=2.0,SNR=7.0								
ASAR	**Alice Springs**	**29.09**	**128**		P	**P**	**18 11 13.0**	**-0.4**	
AS31	**Alice Springs**	**29.09**	**128**		P	**P**	**18 11 13.3**	**-0.1**	
FORT	**Forrest**	**29.65**	**145**		P	**P**	**18 11 18.8**	**+0.5**	
QIS	**Mount Isa**	**32.55**	**118**		P	**P**	**18 11 44.0**	**+0.1**	
	baz=33,SNR=5.6								
GYA	**Guiyang**	**33.30**	**356**	⇓	P	**P**	**18 11 54.3**	**+3.8**	
GYA					sP	sP	18 12 07.1	+13	
GYA					S	**S**	**18 17 16.3**	**+5.0**	
GYA					pmax	pmax			
	comp=Z,4.0nm,0.9s								
GYA					LR	LR			
	comp=Z,110nm,7.1s								
COEN	**Coen**	**34.26**	**105**		P	**P**	**18 11 58.1**	**-0.8**	
COEN					IAmb	IAmb	18 11 59.2		
	comp=Z,22nm,1.4s								
BBOO	**Buckleboo**	**35.94**	**139**		P	**P**	**18 12 13.9**	**+0.7**	
MTSU	**Mount Surprise**	**36.12**	**111**		P	**P**	**18 12 15.2**	**+0.3**	
	baz=36,SNR=36								
HTT	**Hallett**	**38.21**	**138**		P	**P**	**18 12 33.6**	**+1.1**	
	baz=38,SNR=4.2								
CTAO	**Charters Tower**	**38.36**	**114**		P	**P**	**18 12 32.2**	**-1.8**	
CTAO					IAmb	IAmb	18 12 35.3		
	comp=Z,7.2nm,0.8s								
QLP	**Quilpie**	**38.74**	**124**		P	**P**	**18 12 38.2**	**+1.1**	
	baz=39,SNR=7.7								
STKA	**Stephens Creek**	**39.19**	**134**		P	**P**	**18 12 41.4**	**+0.7**	
	comp=Z,29nm,0.5s,baz=312,slow=8.6,SNR=111								
STKA					PcP	**PcP**	**18 14 49.1**	**-1.0**	
	comp=Z,3.3nm,0.7s,baz=329,slow=5.5,SNR=3.0								
STKA	**Stephens Creek**	**39.19**	**134**		P	**P**	**18 12 41.4**	**+0.7**	
	baz=39,SNR=88								
STKA	**Stephens Creek**	**39.19**	**134**		P	**P**	**18 12 41.5**	**+0.8**	
STKA					IAmb	IAmb	18 12 42.6		
	comp=Z,7.7nm,0.7s								
STKA					PcP	**PcP**	**18 14 49.5**	**-0.6**	
ODAN	**Odare**	**39.63**	**329**	*eP*	P	**P**	**18 12 44.5**	**-0.2**	
	comp=Z,15nm,0.8s								
TAPN	**Taplejung**	**39.87**	**330**	*eP*	P	**P**	**18 12 46.6**	**-0.1**	
	comp=Z,20nm,0.8s								
NJ2	**Nanjing**	**39.91**	**13**	*eP*	P	**P**	**18 12 49.8**	**+3.1**	
NJ2					pmax	pmax			
	comp=Z,8.0nm,0.5s								
RAMN	**Ramite**	**40.11**	**328**	*eP*	P	**P**	**18 12 48.0**	**-0.7**	
	comp=Z,7.6nm,0.7s								
XAN	**Xi'an**	**40.78**	**360**		P	**P**	**18 12 55.1**	**+1.2**	
XAN					pP	sP	18 13 02.3	+4.4	
XAN					pmax	pmax			
	comp=Z,4.0nm,0.6s								
PKI	**Pulchoki**	**41.24**	**327**	*eP*	P	**P**	**18 12 56.6**	**-1.5**	
	comp=Z,11nm,1.0s								
PKIN	**Phulchoki**	**41.25**	**327**	*eP*	P	**P**	**18 12 56.9**	**-1.3**	
	comp=Z,1.4nm,0.3s								
GUN	**Gumba**	**41.26**	**328**	*eP*	P	**P**	**18 12 57.3**	**-1.0**	
	comp=Z,37nm,1.0s								
KKN	**Kakani**	**41.48**	**327**	*eP*	P	**P**	**18 12 59.0**	**-1.0**	
	comp=Z,3.4nm,0.5s								
GKN	**Gorkha**	**42.00**	**327**	*eP*	P	**P**	**18 13 02.9**	**-1.2**	
	comp=Z,13nm,0.8s								
CMSA	**Cobar Meteorol**	**42.04**	**130**		P	**P**	**18 13 05.6**	**+1.3**	
	baz=42,SNR=15								
RMQ	**Roma**	**42.47**	**122**		P	**P**	**18 13 08.8**	**+0.9**	
	baz=42,SNR=5.3								
LZH	**Lanzhou**	**43.10**	**354**	*eP*	P	**P**	**18 13 14.4**	**+1.4**	
LZH					pP	sP	18 13 24.8	+7.8	
LZH					sP	pP	18 13 29.5	+14	
LZH					PP	**PP**	**18 14 54.1**	**+0.9**	
LZH					pmax	pmax			
	comp=Z,17nm,1.3s								
LZH					pmax	pmax			
	comp=Z,88nm,5.7s								
LZH					LR	LR			
	comp=N,710nm,14.1s								
LZH					LR	LR			
	comp=E,760nm,13.0s								
LZH					LR	LR			
	comp=Z,560nm,15.7s								
YNG	**Young**	**45.34**	**132**		P	**P**	**18 13 32.6**	**+1.7**	
	baz=45,SNR=6.1								
ARMA	**Armidale**	**46.22**	**126**		P	**P**	**18 13 40.0**	**+2.0**	
ARMA					IAmb	IAmb	18 13 41.7		
	comp=Z,8.9nm,0.9s								
GTA	**Gaotai**	**46.92**	**350**		P	**P**	**18 13 45.6**	**+2.3**	
GTA					pP	sP	18 13 56.6	+9.2	
GTA					sP	pP	18 14 00.3	+14	
GTA					pmax	pmax			
	comp=Z,7.0nm,1.4s								
KSRS	**Korea Array**	**47.58**	**20**		P	**P**	**18 13 47.1**	**-1.2**	
	comp=Z,1.1nm,0.8s,baz=196,slow=9.4,SNR=4.9								
HHC	**Hu-ho-hao-te**	**47.63**	**3**	*eP*	P	**P**	**18 13 49.8**	**+1.0**	
HHC					PcS	PcS	18 19 26.5	+13	
HHC					pmax	pmax			
	comp=Z,13nm,0.9s								
HHC					pmax	pmax			
	comp=Z,130nm,4.5s								
MJAR	**Matsushiro Arr**	**51.20**	**30**		P	**P**	**18 14 14.2**	**-1.9**	
	comp=Z,2.5nm,0.9s,baz=200,slow=7.9,SNR=4.9								
WMQ	**Urumqi**	**54.11**	**341**	*eP*		**P**	**18 14 40.5**	**+3.0**	
WMQ					pP	sP	18 14 52.3	+11	
WMQ					sP	pP	18 15 00.0	+20	
WMQ					pmax	pmax			
	comp=Z,12nm,0.7s								
WMQ					pmax	pmax			
	comp=Z,160nm,4.9s								
WMQ					LR	LR			
	comp=N,260nm,16.3s								
WMQ					LR	LR			
	comp=E,370nm,20.1s								
WMQ					LR	LR			
	comp=Z,420nm,23.5s								
SONM	**Songino Array**	**54.61**	**358**		P	**P**	**18 14 41.6**	**+0.4**	
	comp=Z,9.0nm,0.7s,baz=176,slow=8.3,SNR=103								
SONM					PcP	**PcP**	**18 15 42.1**	**-2.0**	
	comp=Z,0.7nm,0.6s,baz=180,slow=4.6,SNR=4.3								
SONM	**Songino Array**	**54.61**	**358**		P	**P**	**18 14 42.0**	**+0.8**	
SONM					IAmb	IAmb	18 14 43.0		
	comp=Z,7.2nm,0.7s								
ULN	**Ulaanbaatar**	**54.62**	**358**		P	**P**	**18 14 42.2**	**+0.9**	
USRK	**Ussuriysk Ar.**	**54.99**	**20**		P	**P**	**18 14 43.5**	**-0.3**	
	comp=Z,1.7nm,0.6s,baz=200,slow=7.7,SNR=4.5								
KSH	**Kashi**	**55.44**	**329**		P	**P**	**18 14 50.4**	**+3.1**	
KSH					pmax	pmax			
	comp=Z,4.0nm,0.6s								
KSH					pmax	pmax			
	comp=Z,340nm,4.9s								
MK31	**Makanchi Array**	**58.56**	**339**		P	**P**	**18 15 07.4**	**-1.8**	
MKAR	**Makanchi Array**	**58.56**	**339**		P	**P**	**18 15 07.8**	**-1.4**	
	comp=Z,1.6nm,0.5s,baz=152,slow=8.1,SNR=28								
MKAR					LR	LR	18 43 25.5		
	comp=Z,204nm,19.7s,baz=161,slow=39								
MKAR	**Makanchi Array**	**58.56**	**339**		P	**P**	**18 15 08.1**	**-1.1**	
OPO	**Ambohidratompo**	**61.15**	**253**		P	**P**	**18 15 28.0**	**+0.2**	
	comp=Z,3.9nm,0.8s,baz=314,slow=2.6,SNR=5.1								
YSS	**Yuzh-Sakhalins**	**61.45**	**26**		P	**P**	**18 15 28.4**	**-0.6**	
ZAA0	**Zalesovo Array**	**64.02**	**344**		P	**P**	**18 15 44.6**	**-1.4**	
ZAA0					IAmb	IAmb	18 15 45.3		
	comp=Z,2.5nm,0.6s								
ZALV	**Zalesovo Beam**	**64.02**	**344**		P	**P**	**18 15 44.7**	**-1.3**	
	comp=Z,1.7nm,0.3s,baz=145,slow=4.6,SNR=13								
ZALV					LR	LR	18 46 20.1		
	comp=Z,136nm,18.8s,baz=242,slow=39								
MAW	**Mawson**	**67.99**	**197**		P	**P**	**18 16 11.6**	**+0.3**	
	comp=Z,3.9nm,0.6s,baz=87,slow=5.8,SNR=6.4								
ABKAR	**Akbulak array**	**70.43**	**328**		P	**P**	**18 16 24.4**	**-2.4**	
PETK	**Petropavlovsk-**	**72.59**	**28**		P	**P**	**18 16 38.0**	**-1.8**	
	comp=Z,1.1nm,0.5s,baz=149,slow=12,SNR=1.7								
PETK	**Petropavlovsk-**	**72.59**	**28**		P	**P**	**18 16 38.2**	**-1.5**	
SYO	**Syowa Base**	**76.23**	**200**	⇑	*eP*	**P**	**18 17 03.4**	**+2.7**	
SBA	**Scott Base**	**76.70**	**169**		P	**P**	**18 17 04.8**	**+1.6**	
LSZ	**Lusaka**	**79.39**	**256**		P	**P**	**18 17 19.6**	**0.0**	
LSZ					IAmb	IAmb	18 17 19.9		
	comp=Z,3.1nm,0.6s								
TIXI	**Tiksi**	**79.54**	**6**		P	**P**	**18 17 17.5**	**-1.5**	
BOSA	**Boshof**	**81.25**	**242**		P	**P**	**18 17 28.9**	**-0.4**	
	comp=Z,1.8nm,0.6s,baz=121,slow=3.9,SNR=4.0								
BOSA	**Boshof**	**81.25**	**242**		P	**P**	**18 17 29.1**	**-0.2**	
BOSA					IAmb	IAmb	18 17 35.3		
	comp=Z,10nm,1.4s								
QSPA	**South Pole Qui**	**83.02**	**180**		P	**P**	**18 17 38.2**	**+0.4**	
QSPA					IAmb	IAmb	18 17 38.7		
	comp=Z,4.7nm,0.7s								
BRTR	**Keskin Array B**	**83.31**	**311**		P	**P**	**18 17 37.9**	**-2.0**	
	comp=Z,0.5nm,0.7s,baz=140,slow=4.4,SNR=3.6								
AKASG	**Malin Array Be**	**88.92**	**321**		LR	LR	19 03 35.4		
	comp=Z,100nm,18.5s,baz=250,slow=39								
SNAA	**Sanae**	**90.16**	**197**		P	**P**	**18 18 13.7**	**+1.1**	
SNAA	**Sanae**	**90.16**	**197**		P	**P**	**18 18 13.5**	**+0.9**	
VNA2	**Neumayer--Watz**	**91.80**	**197**		P	**P**	**18 18 21.2**	**+1.0**	
VNA1	**Neumayer--Stat**	**92.19**	**197**		P	**P**	**18 18 22.2**	**+0.3**	
VNA3	**Neumayer Olymp**	**92.31**	**196**		P	**P**	**18 18 22.4**	**-0.1**	
FINES	**FINESS Array B**	**92.70**	**331**		LR	LR	19 03 09.2		
	comp=Z,119nm,20.3s,baz=154,slow=38								
YKA	**Yellowknife Ar**	**116.12**	**21**		PKP	**PKiKP**	**18 23 53.5**	**-2.0**	
	comp=Z,0.3nm,0.6s,baz=342,slow=1.2,SNR=8.0								
TXAR	**Lajitas Array**	**142.01**	**50**		PKhKP	**PKPdf**	**18 24 41.1**	**-4.5**	
	comp=Z,0.2nm,0.6s,baz=343,slow=2.8,SNR=2.4								
CPUP	**Villa Florida**	**144.35**	**201**		PKP	**PKPab**	**18 24 47.6**	**0.0**	
	comp=Z,4.3nm,0.6s,baz=155,slow=1.7,SNR=12								
CPUP	**Villa Florida**	**144.35**	**201**		PKPbc		18 24 48.0	+0.1	
BDFB	**Brasilia**	**148.04**	**225**		PKPbc	**PKPbc**	**18 24 59.0**	**-0.3**	
	comp=Z,6.4nm,0.8s,baz=169,slow=4.5,SNR=8.3								
BDFB	**Brasilia**	**148.04**	**225**			**PKPbc**	**18 24 59.5**	**+0.1**	
LPAZ	**La Paz**	**156.73**	**187**		PKPab	**PKPab**	**18 25 39.6**	**+0.8**	
	comp=Z,1.5nm,0.6s,baz=150,slow=6.2,SNR=7.4								

WEL ***22*** *18:06:00.41˝90S×173˝36E, h7km, ML4.2, Mw3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴ Nm; Mrr-0.41; Mθθ2.76; Mϕϕ-2.34; Mrθ2.80; Mθϕ-7.39; Mϕr0.05; Fault plane solution: M₀8.30000×10¹⁴ NP1: ϕs171.00000°,δ71.00000°,λ1.00000°. NP2:ϕs81.00000°, δ89.00000°,λ161.00000°. Principal axes: T 86.0000, Plg14.0000°, Azm34.0000°; N -80.0000, Plg71.0000°, Azm258.0000°; P -6.0100, Plg13.0000°, Azm128.0000°;*

NOU ***22*** *18:06:31.6,41˝99S×173˝41E, h16km, MLv4.3, South Island, New Zealand*

WEL 22 18:06:30.5,42˝S±1˝×17°3E±˚, h24km±2km, M4.0/25, ML4.3/25, MLv4.0/25, Error ellipse: s-maj=0.0km s-min=0.0km az=94.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.37**	**293**	P	Pb	18 06 39.1	+0.5
THZ				S	Sb	18 06 44.6	+0.5
BSWZ	**Blackbirch Sta**	**0.43**	**63**	P	Pb	18 06 39.0	-0.5
BSWZ				S	Sb	18 06 45.5	-0.2
KHZ	**Kahutara**	**0.52**	**166**	P	Pb	18 06 41.4	+0.4
KHZ				S	Sb	18 06 49.0	+0.8
TUWZ	**Tuamarina**	**0.65**	**42**	P	Pb	18 06 43.5	+0.3
TUWZ				S	Sn	18 06 52.9	-0.8
CMWZ	**Cape Campbell**	**0.66**	**76**	P	Pn	18 06 44.5	+0.1
NNZ	**Nelson**	**0.69**	**1**	P	Pb	18 06 44.3	+0.4
NNZ				S	Sn	18 06 54.6	-0.2
TCW	**Tory Channel**	**0.98**	**45**	P	Pn	18 06 48.8	0.0
GVZ	**Greta Valley S**	**1.08**	**193**	P	Pb	18 06 51.9	+1.3
DSZ	**Denniston Nort**	**1.18**	**278**	P	Pb	18 06 54.3	+2.1
DSZ				S	Sb	18 07 09.5	+2.4
DUWZ	**D'Urville Isla**	**1.19**	**21**	P	Pb	18 06 52.6	+0.2
DUWZ				S	Sb	18 07 09.9	+2.7
LTZ	**Lake Taylor**	**1.19**	**223**	P	Pb	18 06 52.3	+0.1
WEL	**Wellington**	**1.23**	**60**	P	Pb	18 06 53.5	+0.5
WEL				S	Sb	18 07 11.0	+2.6
BHW	**Baring Head**	**1.24**	**67**	P	Pb	18 06 53.9	+0.7
QRZ	**Quartz Range**	**1.25**	**330**	P	Pb	18 06 54.5	+1.0
AMCZ	**Amberley**	**1.37**	**202**	P	Pb	18 06 55.9	+0.4
PLWZ	**Palliser**	**1.46**	**77**	P	Pb	18 06 56.3	-0.7
MSWZ	**Moikau Station**	**1.50**	**71**	P	Pb	18 06 56.9	-0.8
CAW	**Cannon Point**	**1.51**	**58**	P	Pb	18 06 57.8	0.0
KIW	**Kapiti Island**	**1.57**	**48**	P	Pb	18 06 58.4	-0.4
KIW				S	Sb	18 07 20.1	+1.9
PAWZ	**Paruwai Farm**	**1.64**	**72**	P	Pn	18 06 58.6	+0.7
INZ	**Inchbonnie**	**1.64**	**240**	P	Pb	18 06 59.8	-0.2
INZ				S	Sb	18 07 23.4	+3.1
OXZ	**Oxford**	**1.72**	**214**	P	Pn	18 07 00.1	+1.2
OGWZ	**Otaki Gorge**	**1.75**	**52**	P	Pb	18 07 01.2	-0.7
MTW	**Mount Morrison**	**1.77**	**66**	P	Pn	18 07 00.3	+0.6
TRVZ	**Traveller**	**1.82**	**74**	P	Pn	18 07 00.7	+0.4
OKCZ	**Okains Bay**	**1.82**	**187**	P	Pn	18 07 01.3	+0.9
MQZ	**McQueen's Vall**	**1.87**	**196**	P	Pn	18 07 01.1	+0.1
MQZ				S	Sn	18 07 25.0	+1.2
HOWZ	**Holdsworth Sta**	**1.91**	**59**	P	Pn	18 07 02.5	+0.9
AKCZ	**Akaroa Harbour**	**1.99**	**189**	P	Pn	18 07 03.1	+0.5
AKCZ				S	Sn	18 07 27.7	+0.9
RACZ	**Rakaia**	**2.03**	**206**	P	Pn	18 07 03.7	+0.5
TMWZ	**Te Maipa**	**2.06**	**68**	P	Pn	18 07 04.0	+0.3
MRZ	**Mangatainoka R**	**2.08**	**54**	P	Pn	18 07 05.2	+1.2
TIWZ	**Tintock**	**2.21**	**60**	P	Pn	18 07 06.4	+0.6
OHWZ	**Ohakea**	**2.25**	**42**	P	Pb	18 07 10.0	-0.5
WVZ	**Waitaha Valley**	**2.26**	**238**	P	Pb	18 07 09.1	-1.5
WACZ	**Wakanui South**	**2.32**	**208**	P	Pn	18 07 07.7	+0.5
POWZ	**Post Office Ro**	**2.37**	**51**	P	Pn	18 07 09.3	+1.4
PRWZ	**Pori Road**	**2.39**	**56**	P	Pn	18 07 09.2	+1.0
RPZ	**Rata Peaks**	**2.48**	**223**	P	Pn	18 07 10.6	+1.1
WAZ	**Wanganui**	**2.48**	**30**	P	Pb	18 07 13.2	-1.2
BIZ	**Birch Farm**	**2.50**	**61**	P	Pn	18 07 09.4	-0.2
NMEZ	**Namu Road**	**2.53**	**9**	P	Pb	18 07 15.4	+0.3
LREZ	**Lake Rotokare**	**2.57**	**18**	P	Pb	18 07 17.1	+1.1
ARCZ	**Arundel**	**2.59**	**218**	P	Pn	18 07 12.0	+1.0
PREZ	**Palmer Road**	**2.64**	**14**	P	Pb	18 07 16.6	-0.5
GCSZ	**Gaunt Creek Bo**	**2.65**	**237**	P	Pn	18 07 14.1	+2.4
DVHZ	**Dannevirke**	**2.66**	**54**	P	Pn	18 07 12.3	+0.3
KHEZ	**Kahui Hut**	**2.66**	**11**	P	Pb	18 07 16.9	-0.6
NBEZ	**Newall Road No**	**2.67**	**8**	P	Pb	18 07 16.3	-1.3
NEZ	**North Egmont**	**2.70**	**12**	P	Pb	18 07 17.4	-0.7
TSZ	**Takapari Road**	**2.70**	**48**	P	Pn	18 07 13.7	+1.2
PKE	**Pukeiti**	**2.76**	**10**	P	Pb	18 07 17.7	-1.4
ANWZ	**Angora Road**	**2.76**	**59**	P	Pn	18 07 14.3	+1.0
MHEZ	**Mangahewa**	**2.92**	**15**	P	Pb	18 07 21.1	-0.8
PNHZ	**Pukenui**	**2.93**	**48**	P	Pn	18 07 16.4	+0.7
PRHZ	**Porangahau**	**2.97**	**57**	P	Pn	18 07 15.7	-0.5
WPHZ	**Waipukurau**	**2.97**	**53**	P	Pn	18 07 17.0	+0.8
VRZ	**Vera Road**	**2.98**	**21**	P	Pb	18 07 21.1	-1.8
MTVZ	**Mangateitei**	**2.99**	**33**	P	Pn	18 07 18.2	-2.8
TMZ	**Timaru**	**3.01**	**214**	P	Pn	18 07 17.5	+0.7
PKVZ	**Pokaka**	**3.02**	**31**	P	Pn	18 07 20.2	+3.2
FOZ	**Fox Glacier**	**3.08**	**237**	P	Pn	18 07 19.8	+2.2
WNVZ	**Wahianoa**	**3.09**	**34**	P	Pb	18 07 21.5	-3.4
MOVZ	**Moawhango**	**3.09**	**37**	P	Pn	18 07 20.5	+2.6
TRVZ	**Turoa**	**3.09**	**33**	P	Pn	18 07 21.5	+3.4
DRZ	**Dome Shelter**	**3.12**	**33**	P	Pb	18 07 26.4	+1.0
WHVZ	**Whangaehu Hut**	**3.12**	**34**	P	Pn	18 07 21.9	+3.3
FWVZ	**Far West T-bar**	**3.13**	**33**	P	Pn	18 07 21.8	+3.2
TUVZ	**Tukino**	**3.17**	**34**	P	Pn	18 07 22.4	+3.4
BHHZ	**Black Hill Sta**	**3.17**	**41**	P	Pn	18 07 21.3	+2.3
KRHZ	**Kereru**	**3.22**	**46**	P	Pn	18 07 20.3	+0.7
NGZ	**Ngauruhoe**	**3.22**	**33**	P	Pn	18 07 23.1	+3.4
PXZ	**Pawanui**	**3.25**	**56**	P	Pn	18 07 19.9	-0.1
TWVZ	**Taurewa**	**3.25**	**30**	P	Pn	18 07 23.5	+3.4
OTVZ	**Oturere**	**3.26**	**33**	P	Pn	18 07 23.4	+3.2
WTVZ	**West Tongariro**	**3.27**	**32**	P	Pn	18 07 23.5	+3.1
ETVZ	**East Tongariro**	**3.30**	**34**	P	Pn	18 07 23.8	+2.9
KRVZ	**Karewarewa**	**3.31**	**32**	P	Pn	18 07 24.3	+3.4
TMVZ	**Te Maari**	**3.31**	**33**	P	Pn	18 07 24.1	+3.0
LBZ	**Lake Benmore**	**3.40**	**222**	P	Pn	18 07 23.2	+1.2
KAHZ	**Kahuranaki**	**3.40**	**53**	P	Pn	18 07 22.3	+0.1
KWHZ	**Kaweka Forest**	**3.40**	**44**	P	Pn	18 07 23.3	+1.1
KATZ	**Kakaramea**	**3.43**	**32**	P	Pn	18 07 26.2	+3.6
RITZ	**Rihia Road**	**3.50**	**34**	P	Pb	18 07 31.1	-0.5
MCHZ	**McNeill Hill**	**3.54**	**47**	P	Pn	18 07 25.1	+1.1
RATZ	**Rangitukua**	**3.55**	**32**	P	Pb	18 07 29.8	-2.9
HIZ	**Hauiti**	**3.58**	**19**	P	Pn	18 07 28.1	+3.6
BKZ	**Black Stump Fm**	**3.63**	**42**	P	Pn	18 07 26.2	+0.9
HATZ	**Hinemaiaia**	**3.67**	**36**	P	Pb	18 07 31.7	-3.0
WATZ	**Wairara**	**3.68**	**30**	P	Pb	18 07 31.6	-3.2
ODZ	**Otahua Downs**	**3.70**	**211**	P	Pn	18 07 26.5	+0.3
WHTZ	**Whakaora**	**3.80**	**32**	P	Pb	18 07 34.5	-2.4
NMHZ	**Naumai**	**3.85**	**44**	P	Pn	18 07 29.5	+1.2
TLZ	**Tolley Road**	**3.95**	**26**	P	Pn	18 07 33.7	+4.1
JCZ	**Jackson Bay**	**3.99**	**236**	P	Pn	18 07 31.5	+1.1
MTHZ	**Maungataniwha**	**4.05**	**42**	P	Pn	18 07 32.0	+0.9
PRRZ	**Plateau Road**	**4.12**	**35**	P	Pn	18 07 35.3	+3.3
RTZ	**Ruatahuna**	**4.30**	**41**	P	Pb	18 07 43.2	-2.3
WKZ	**Wanaka**	**4.30**	**226**	P	Pn	18 07 34.7	+0.2
MUGZ	**Murupara**	**4.31**	**38**	P	Pn	18 07 37.5	+2.9
EAZ	**Earnscleugh**	**4.44**	**220**	P	Pn	18 07 36.8	+0.4
HHSZ	**Highcliff Hill**	**4.45**	**206**	P	Pn	18 07 37.7	+1.2
OMRZ	**Omania**	**4.45**	**32**	P	Pb	18 07 44.6	-3.3
TOZ	**Tahuroa Road**	**4.49**	**22**	P	Pn	18 07 40.7	+3.7
RAGZ	**Rawiri**	**4.61**	**44**	P	Pb	18 07 45.9	-4.8
URZ	**Urewera**	**4.64**	**39**	P	Pn	18 07 39.0	-0.2
MARZ	**Manawahe**	**4.67**	**34**	P	Pb	18 07 46.3	-5.5
TGRZ	**Tauranga**	**4.74**	**29**	P	Pn	18 07 42.3	+1.8
MSZ	**Milford Sound**	**4.83**	**233**	P	Pn	18 07 42.3	+0.6
TUZ	**Tuapeka**	**4.86**	**212**	P	Pn	18 07 43.1	+1.0
AWAZ	**Awhitu Peninsu**	**4.94**	**12**	P	Pn	18 07 48.0	+4.8
MKAZ	**Moumakai**	**5.00**	**17**	P	Pn	18 07 47.6	+3.5
WTAZ	**Waiatarua**	**5.06**	**11**	P	Pn	18 07 49.4	+4.5
ETAZ	**East Tamaki Re**	**5.10**	**14**	P	Pn	18 07 50.4	+5.0
MLZ	**Mavora Lakes**	**5.14**	**226**	P	Pn	18 07 46.2	+0.2
TWGZ	**Tauwhareparae**	**5.14**	**45**	P	Pn	18 07 49.9	+3.8
RVAZ	**Riverhead Bore**	**5.22**	**11**	P	Pn	18 07 51.6	+4.5
MBAZ	**Motutapu North**	**5.27**	**14**	P	Pn	18 07 52.4	+4.6
WIAZ	**Waiheke Island**	**5.29**	**16**	P	Pn	18 07 52.6	+4.5
HAZ	**Te Kaha**	**5.37**	**41**	P	Pn	18 07 49.0	-0.1
PKGZ	**Pakihiroa**	**5.41**	**44**	P	Pn	18 07 49.9	+0.1
ABAZ	**Army Bay**	**5.42**	**13**	P	Pn	18 07 54.7	+4.8
KUZ	**Kuaotunu**	**5.47**	**20**	P	Pn	18 07 53.4	+2.8
SYZ	**Scrubby Hill**	**5.53**	**212**	P	Pn	18 07 52.5	+1.1
WHZ	**Wether Hill Ro**	**5.58**	**223**	P	Pn	18 07 51.7	-0.4
MXZ	**Matakaoa Point**	**5.78**	**43**	P	Pn	18 07 56.7	+2.0
GRZ	**Great Barrier**	**5.88**	**17**	P	Pn	18 08 00.3	+4.1
WCZ	**Waipu Caves**	**6.01**	**8**	P	Pn	18 08 01.8	+3.8
APZ	**The Paps**	**6.25**	**216**	P	Pn	18 08 01.0	-0.3
OUZ	**Omahuta**	**6.68**	**2**	P	Pn	18 08 11.8	+4.6
CTZ	**Chatham Island**	**7.59**	**107**	P	Pn	18 08 18.5	-1.1

MOS ***22*** *18:12:24.9±0.9, 1˝97N×89˝70E, h12km, mb5.1/43, MS4.3/7, Error ellipse: s-maj=8.2km s-min=4.9km az=105.8*

BGR ***22*** *18:12:24.5±0.0, 1˝16N×90˝25E, h33km, mb5.2*

IDC ***22*** *18:12:25.1±0.5, 1˝91N×89˝62E, h0km, mb4.5/26, mb1 4.6/30, mb1mx4.5/40, mbtmp4.5/30, ML4.4/4, MS4.0/19, Ms1 4.0/19, ms1mx3.8/36, Error ellipse: s-maj=14.9km s-min=10.4km az=36.0*

NEIC ***22*** *18:12:27.4±1.3, 1˝95N±0˝07×89˝62E±0˝07, h15km±4km, mb5.1/51, Error ellipse: s-maj=10.6km s-min=9.2km az=135.0*

GCMT ***22*** *18:12:29.4±0.2, 1˝96N±0˝01×89˝65E±0˝01, h21km±1km, MW5.0/116, Moment Tensor Solution. s56,c73; s116,c170; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.42±.11; Mθθ-2.31±.09; Mϕϕ1.89±.09; Mrθ0.06±.15; Mθϕ-3.60±.09; Mϕr-1.18±.18; Best double couple: M₀4.34400×10¹⁶ NP1:ϕs104.00000°,δ74.00000°, λ174.00000°. NP2:ϕs196.00000°,δ84.00000°,λ16.00000°. Principal axes: T 4.2480, Plg15.0000°, Azm61.0000°; N 0.1890, Plg73.0000°, Azm217.0000°; P -4.4400,

CM31	**Chiang Mai Arr**	**18.81**	**29**	P	**P**	**18 16 46.0**	**-0.6**	LSA			LR	LR		
CMAR	**Chiang Mai Arr**	**18.81**	**29**	P	**Pn**	**18 16 47.0**	**-0.1**		comp=Z,2µm,20.6s					
	comp=Z,0.5nm,0.3s,baz=220,slow=12,SNR=67							LSA			LR	LR		
CMAR	**Chiang Mai Arr**	**18.81**	**29**	P	**P**	**18 16 45.9**	**-0.7**		comp=Z,1µm,19.2s					
CMAR	**Chiang Mai Arr**	**18.81**	**29**	P	**P**	**18 16 45.9**	**-0.7**	LSA			LR	LR		
CM09	**Chiang Mai Arr**	**18.82**	**29**	P	**Pn**	**18 16 48.0**	**+0.8**		comp=Z,2µm,18.5s					
	comp=Z,261nmcomp=Z,39nm,0.9s							**BATP**	**Bataraza**	**28.88**	**75**	*e*P	**P**	**18 18 26.5**	**+0.6**
HYB	**Hyderabad**	**18.83**	**325**	*i* P	**P**	**18 16 47.0**	**+0.1**	**MYLDM**	**Lahad Datu**	**29.02**	**83**	P	**P**	**18 18 27.4**	**+0.2**
	comp=Z,100nm,1.0s							MYLDM				IAmb	IAmb	18 18 48.8	
HYB				*e*S	Sn	18 20 01.0	-17		comp=Z,30nm,1.0s						
HYB	**Hyderabad**	**18.83**	**325**	*e*P	**P**	**18 16 46.7**	**-0.2**	**GYA**	**Guiyang**	**29.39**	**32**	⇓P	**P**	**18 18 31.3**	**+0.8**
HYB				IAmb	IAmb	18 16 53.1		GYA				S	**S**	**18 23 24.8**	**+0.3**
	comp=Z,77nm,1.3s							GYA				pmax	pmax		
CM32	**Chiang Mai Arr**	**18.93**	**28**	P	**Pn**	**18 16 50.0**	**+1.4**		comp=Z,14nm,1.0s						
CM36	**Chiang Mai Arr**	**18.93**	**29**	P	**Pn**	**18 16 49.0**	**+0.4**	GYA				pmax	pmax		
UTTA	**Uttaradit**	**19.05**	**34**	P	**Pn**	**18 16 50.4**	**+0.5**		comp=Z,27nm,3.5s						
	comp=Z,416nmcomp=Z,32nm,0.7s							GYA				LR	LR		
DBJI	**Dramaga**	**19.09**	**116**	P	**Pn**	**18 16 51.3**	**+0.8**		comp=Z,590nm,15.8s						
	comp=Z,7µmcomp=Z,107nm,1.0s							GYA				LR	LR		
CM35	**Chiang Mai Arr**	**19.10**	**29**	P	**Pn**	**18 16 51.0**	**+0.4**		comp=Z,580nm,14.1s						
CHTO	**Chiang Mai**	**19.11**	**28**	P	**P**	**18 16 49.6**	**-0.4**	GYA				LR	LR		
CHTO				pmax	pmax				comp=Z,670nm,19.3s						
	comp=Z,26nm,1.0s							**BNSI**	**Bone**	**31.13**	**102**	P	**P**	**18 18 45.8**	**-0.1**
CHTO	**Chiang Mai**	**19.11**	**28**	P	**P**	**18 16 49.6**	**-0.4**		comp=Z,19nm,0.8s						
CMMT	**Chiang Mai**	**19.12**	**28**	P	**P**	**18 16 50.0**	**0.0**	**SMLA**	**Simla**	**31.33**	**339**	*e*P	**P**	**18 18 49.1**	**+1.7**
	comp=Z,230nmcomp=Z,21nm,1.2s							**CD2**	**Chengdu**	**31.79**	**24**	P	**P**	**18 18 51.4**	**-0.1**
CM33	**Chiang Mai Arr**	**19.12**	**28**	P	**Pn**	**18 16 51.0**	**+0.1**	CD2				S	**S**	**18 24 03.0**	**+1.1**
LAMP	**Lampang**	**19.20**	**30**	P	**Pn**	**18 16 52.8**	**+1.0**	CD2				pmax	pmax		
	comp=Z,562nmcomp=Z,80nm,0.8s								comp=Z,60nm,0.9s						
CM34	**Chiang Mai Arr**	**19.25**	**28**	P	**Pn**	**18 16 52.0**	**-0.4**	CD2				LR	LR		
KHON	**Khomkaen**	**19.35**	**42**	P	**Pn**	**18 16 54.2**	**+0.6**		comp=Z,590nm,20.1s						
	comp=Z,2µmcomp=Z,214nm,1.0s							CD2				LR	LR		
DGAR	**Diego Garcia**	**19.46**	**241**⇑	*e*P	**Pn**	**18 16 54.9**	**-0.1**		comp=Z,820nm,15.2s						
DGAR				pmax	pmax			CD2				LR	LR		
	comp=Z,107nm,1.3s								comp=Z,580nm,11.8s						
DGAR	**Diego Garcia**	**19.46**	**241**	P	**P**	**18 16 54.1**	**+0.3**	**BUSP**	**Coron**	**31.94**	**70**	*e*P	**P**	**18 18 53.0**	**-0.1**
DGAR				IAmb	IAmb	18 17 17.3		**MRSI**	**Marisa**	**32.37**	**92**	P	**P**	**18 18 56.2**	**-0.6**
	comp=Z,128nm,1.1s								comp=Z,25nm,0.7s						
H08S2	**Diego Garcia H**	**19.54**	**241**	T	T	18 36 56.8		**CUYO**	**Cuyo Island**	**32.42**	**73**	*e*P	**P**	**18 18 57.0**	**-0.2**
	baz=61,slow=75,SNR=127							**DHRM**	**DHARAMSHALA**	**32.66**	**339**	*e*P	**P**	**18 18 59.3**	**-0.1**
H08S3	**Diego Garcia H**	**19.54**	**241**	T	T	18 37 15.5		DHRM				IAmb	IAmb	18 19 01.5	
	baz=61,slow=75,SNR=1709								comp=Z,42nm,0.8s						
H08S1	**Diego Garcia H**	**19.55**	**241**	T	T	18 36 55.5		DHRM				*i* x	x	18 19 09.1	
	baz=61,slow=75,SNR=36							**SJMP**	**San Jose**	**32.93**	**70**	*e*P	**P**	**18 19 02.7**	**+1.0**
LEM	**Lembang**	**19.98**	**116**	P	**P**	**18 17 00.3**	**+0.7**	**TGY**	**Tagaytay City**	**33.24**	**67**	P	**P**	**18 19 05.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=266,slow=8.6,SNR=4.7								comp=Z,65nm,0.3s,baz=174,slow=3.3,SNR=5.6						
LEM				LR	LR	18 24 02.1		**GTOI**	**Gorontalo**	**33.43**	**92**	P	**P**	**18 19 05.6**	**-0.5**
	comp=Z,437nm,19.4s,baz=298,slow=35								comp=Z,25nm,0.9s						
LEM	**Lembang**	**19.98**	**116**	P	**P**	**18 16 58.5**	**-1.2**	**EDFI**	**Ende, Flores**	**33.70**	**109**	P	P	18 19 03.7	-4.9
	comp=Z,86nm,1.2s								comp=Z,12nm,0.9s						
JCJI	**Jatiwangi**	**20.43**	**114**	P	Pn	18 17 18.1	+12	**SMPP**	**San Manuel, Pa**	**33.71**	**63**	*e*P	**P**	**18 19 07.4**	**-1.1**
CISI	**Cisompet, Garu**	**20.47**	**118**	P	**P**	**18 17 05.3**	**+0.4**	**CNOP**	**Candoni, Negro**	**33.76**	**75**	*e*P	**P**	**18 19 09.7**	**+0.7**
CISI	**Cisompet, Garu**	**20.47**	**118**	P	**P**	**18 17 03.7**	**-1.2**	**ENH**	**Enshi**	**33.92**	**32**	P	**P**	**18 19 08.8**	**-1.3**
	comp=Z,145nm,0.8s							ENH				IAmb	IAmb	18 19 32.3	
UBPT	**Khong Chiam**	**20.52**	**49**	P	**P**	**18 17 05.9**	**+0.6**		comp=Z,28nm,0.8s						
	comp=Z,947nmcomp=Z,84nm,1.7s							**PAGZ**	**Pagadian**	**34.15**	**79**	*e*P	**P**	**18 19 12.5**	**+0.1**
UBPT	**Khong Chiam**	**20.52**	**49**	P	**P**	**18 17 04.9**	**-0.4**	**JCNP**	**Jose Panganiba**	**34.93**	**68**	*e*P	**P**	**18 19 17.5**	**-1.6**
UBPT				IAmb	IAmb	18 17 16.9		**NIL**	**Nilore**	**35.07**	**336**	P	**P**	**18 19 20.3**	**+0.2**
	comp=Z,105nm,0.9s							NIL				pmax	pmax		
GOA	**Goa**	**20.58**	**312**	*e*P	Pn	18 17 07.1	-1.1		comp=Z,101nm,0.9s						
GOA				IAmb	IAmb	18 17 08.8		**NIL**	**Nilore**	**35.07**	**336**	P	**P**	**18 19 20.3**	**+0.2**
	comp=Z,42nm,0.7s							**SKMP**	**Bagumbayan, Su**	**35.14**	**81**	*e*P	**P**	**18 19 20.6**	**-0.4**
SAIH	**SAIHA**	**20.70**	**9**	*e*P	Pn	18 17 09.9	+0.2	**KCP**	**Kidapawan**	**35.73**	**81**⇓	*e*P	P	18 19 33.8	+7.7
SAIH				*i* x	x	18 21 04.3		**BATI**	**Baumata**	**35.99**	**110**	P	**P**	**18 19 26.3**	**-2.0**
KSM	**Kuching**	**20.71**	**91**	P	**P**	**18 17 07.2**	**-0.2**		comp=Z,20nm,0.7s,baz=126,slow=0.7,SNR=9.6						
NONG	**Nongkai**	**20.83**	**39**	P	**P**	**18 17 08.9**	**+0.3**	**BATI**	**Baumata**	**35.99**	**110**	P	**P**	**18 19 26.0**	**-2.3**
DLV	**T Lat**	**21.20**	**61**	P	**P**	**18 17 12.8**	**-0.2**		comp=Z,30nm,0.9s						
BELO	**BELONIA**	**21.27**	**5**	*ex*	P	18 17 25.2	+12	**DDMP**	**Don Marcelino,**	**36.25**	**82**	*e*P	**P**	**18 19 30.4**	**-0.1**
KAD	**Karad**	**21.52**	**316**⇓	*i* P	**P**	**18 17 17.7**	**+1.5**	**SOEI**	**Soe**	**36.43**	**109**	P	P	18 19 40.2	+8.1
KAD				*i* x	x	18 21 04.2		**LZH**	**Lanzhou**	**36.46**	**20**	*e*P	**P**	**18 19 32.0**	**-0.2**
AGT	**Agartala**	**21.88**	**4**	*ex*	P	18 17 32.1	+12	LZH				pP	pwP	18 19 36.8	-1.3
AGT				*i* x	S	18 21 49.9	+28	LZH				sP	sP	18 19 40.0	+5.0
BOK	**Bokaro**	**22.03**	**351**	*e*P	**P**	**18 17 23.4**	**+1.9**	LZH				pmax	pmax		
BOK				*i* x	x	18 21 24.8			comp=Z,35nm,1.1s						
PBKI	**Pangkalan Bun**	**22.54**	**102**	P	**P**	**18 17 24.8**	**-2.4**	LZH				pmax	pmax		
	comp=Z,2µmcomp=Z,134nm,1.1s								comp=Z,150nm,6.0s						
POO	**Poona**	**22.59**	**318**	*e*P	**P**	**18 17 26.0**	**-1.7**	LZH				LR	LR		
	comp=Z,70nm,1.2s								comp=Z,710nm,13.2s						
POO				*e*P	**P**	**18 17 27.2**	**-0.5**	LZH				LR	LR		
POO				*e*S	**S**	**18 21 31.0**	**-4.6**		comp=Z,760nm,14.1s						
SBUM	**Sibu**	**22.61**	**88**	P	**P**	**18 17 27.6**	**-0.3**	LZH				LR	LR		
SMRI	**Semarang**	**22.63**	**113**	P	**P**	**18 17 28.1**	**0.0**		comp=Z,560nm,16.3s						
SILR	**SILCHAR**	**22.93**	**7**	*i* x	Sn	18 21 52.8	-3.9	**SANI**	**Sanana**	**36.60**	**96**	P	**P**	**18 19 31.5**	**-2.0**
SHL	**Shillong**	**23.60**	**5**	P	**P**	**18 17 37.2**	**-0.9**		comp=Z,22nm,1.1s						
SHL				pmax	pmax			**XAN**	**Xi'an**	**36.70**	**27**	P	**P**	**18 19 32.8**	**-1.3**
	comp=Z,96nm,0.8s							XAN				pP	sP	18 19 37.3	+0.4
SHL	**Shillong**	**23.60**	**5**	*e*P	**P**	**18 17 38.0**	**-0.2**	XAN				sP	pwP	18 19 39.8	-0.2
SHL				IAmb	IAmb	18 17 49.1		XAN				S	**S**	**18 25 13.6**	**-4.1**
	comp=Z,54nm,0.6s							XAN				ScS	**ScS**	**18 29 47.3**	**-3.4**
SHL	**Shillong**	**23.60**	**5**	P	**P**	**18 17 37.2**	**-0.9**	XAN				pmax	pmax		
SLVN	**Son La**	**23.80**	**35**	P	**P**	**18 17 39.9**	**0.0**		comp=Z,19nm,1.0s						
SLVN				IAmb	IAmb	18 17 42.2		XAN				pmax	pmax		
	comp=Z,50nm,0.9s								comp=Z,70nm,3.5s						
KOHI	**KOHIMA**	**24.05**	**10**	*e*P	**P**	**18 17 42.1**	**-0.2**	XAN				LR	LR		
KOHI				IAmb	IAmb	18 18 00.0			comp=Z,750nm,16.8s						
	comp=Z,69nm,1.3s							XAN				LR	LR		
GUWA	**GUWAHATI**	**24.21**	**5**	*e*P	**P**	**18 17 48.8**	**+5.1**		comp=Z,480nm,16.0s						
GUWA				IAmb	IAmb	18 17 58.4		XAN				LR	LR		
	comp=Z,38nm,0.4s								comp=Z,660nm,19.0s						
GUWA				*i* x	x	18 22 19.3		**XAN**	**Xi'an**	**36.70**	**27**	P	**P**	**18 19 32.4**	**-1.7**
BHPL	**Bhopal**	**24.25**	**332**	*e*P	**P**	**18 17 45.4**	**+1.2**	XAN				pmax	pmax		
BHPL				IAmb	IAmb	18 18 02.7			comp=Z,15nm,0.8s						
	comp=Z,18nm,0.8s							**XAN**	**Xi'an**	**36.70**	**27**	P	**P**	**18 19 32.4**	**-1.7**
MOKO	**MOKOCHONG**	**24.71**	**11**	*ex*	**P**	**18 17 48.5**	**+0.2**	**MATI**	**Mati**	**36.87**	**81**	*e*P	**P**	**18 19 33.6**	**-2.2**
MOKO				IAmb	IAmb	18 18 00.3		**WHN**	**Wuhan**	**36.87**	**37**	⇓P	**P**	**18 19 36.5**	**+0.9**
	comp=Z,58nm,1.5s							WHN				pmax	pmax		
ODAN	**Odare**	**24.88**	**355**	*e*P	**P**	**18 17 51.3**	**+1.3**		comp=Z,72nm,1.1s						
	comp=Z,216nm,1.3s							**GLSP**	**General Luna,**	**37.13**	**76**	*e*P	P	18 19 32.6	-5.5
RAMN	**Ramite**	**25.04**	**354**	*e*P	**P**	**18 17 53.5**	**+2.0**	**YULB**	**Yu-li**	**37.39**	**53**	P	**P**	**18 19 40.4**	**+0.3**
	comp=Z,159nm,0.9s							YULB				IAmb	IAmb	18 19 52.9	
GTK	**Tadong**	**25.26**	**358**	*e*P	**P**	**18 17 54.7**	**+1.3**		comp=Z,37nm,0.9s						
GTK				IAmb	IAmb	18 18 05.9		**KBL**	**Kabul**	**37.68**	**332**	P	**P**	**18 19 42.0**	**-0.6**
	comp=Z,75nm,1.5s							KBL				pmax	pmax		
TAPN	**Taplejung**	**25.34**	**356**	*e*P	**P**	**18 17 55.4**	**+1.1**		comp=Z,22nm,1.0s						
	comp=Z,146nm,1.1s							**KBL**	**Kabul**	**37.68**	**332**	P	**P**	**18 19 42.0**	**-0.6**
ZIRO	**ZIRO**	**25.77**	**9**	*e*P	**P**	**18 18 00.5**	**+2.4**	KBL				IAmb	IAmb	18 19 57.8	
ZIRO				IAmb	IAmb	18 18 11.6			comp=Z,22nm,1.0s						
	comp=Z,48nm,0.7s							**PSA00**	**Pilbara Seismi**	**37.69**	**130**	P	**P**	**18 19 42.3**	**-0.3**
BBKI	**Banjar Baru**	**25.80**	**102**	P	P	18 18 10.3	+12	PSA00				IAmb	IAmb	18 19 43.5	
PKI	**Pulchoki**	**25.81**	**351**	*e*P	**P**	**18 17 59.8**	**+1.2**		comp=Z,21nm,0.8s						
	comp=Z,23nm,0.6s							**PSA00**	**Pilbara Seismi**	**37.69**	**130**	P	**P**	**18 19 42.8**	**+0.2**
PKIN	**Phulchoki**	**25.82**	**351**	*e*P	**P**	**18 17 59.7**	**+1.1**	PSA00				IAmb	IAmb	18 20 08.4	
	comp=Z,63nm,0.8s								comp=Z,13nm,0.8s						
DMN	**Daman**	**25.89**	**351**	*e*P	**P**	**18 18 00.9**	**+1.6**	**GTA**	**Gaotai**	**38.45**	**13**	⇑P	**P**	**18 19 50.1**	**+1.2**
	comp=Z,137nm,0.9s							GTA				pP	pwP	18 19 54.4	-0.5
KMMI	**Kalianget**	**25.91**	**110**	P	P	18 18 10.7	+11	GTA				sP	sP	18 19 57.0	+5.2
KKN	**Kakani**	**26.04**	**351**	*e*P	**P**	**18 18 02.0**	**+1.4**	GTA				S	**S**	**18 25 44.6**	**+0.2**
	comp=Z,64nm,1.1s							GTA				pmax	pmax		
GUN	**Gumba**	**26.08**	**352**	*e*P	**P**	**18 18 02.5**	**+1.5**		comp=Z,12nm,1.2s						
	comp=Z,69nm,0.7s							GTA				pmax	pmax		
QIZ	**Qiongzhong**	**26.11**	**48**	P	**P**	**18 18 01.3**	**+0.2**		comp=Z,110nm,5.3s						
QIZ				S	**S**	**18 22 33.9**	**+1.1**	GTA				LR	LR		
QIZ				pmax	pmax				comp=Z,210nm,17.8s						
	comp=Z,21nm,0.9s							GTA				LR	LR		
QIZ				LR	LR				comp=Z,190nm,19.3s						
	comp=Z,810nm,17.1s							GTA				LR	LR		
QIZ				LR	LR				comp=Z,230nm,19.3s						
	comp=Z,470nm,15.3s							**KSH**	**Kashi**	**39.42**	**343**	P	**P**	**18 19 56.0**	**-1.0**
QIZ				LR	LR			KSH				PP	**PnPn**	**18 21 31.1**	**+0.7**
	comp=Z,510nm,13.5s							KSH				pmax	pmax		
KMI	**Kunming**	**26.31**	**28**	⇓P	**P**	**18 18 05.1**	**+2.0**		comp=Z,24nm,0.6s						
KMI				pP	pwP	18 18 11.0	+2.0	KSH				pmax	pmax		
KMI				sP	sP	18 18 14.3	+8.5		comp=Z,240nm,4.1s						
KMI				PP	**PnPn**	**18 18 48.6**	**+6.3**	KSH				LR	LR		
KMI				S	**S**	**18 22 35.8**	**-0.5**		comp=Z,400nm,6.0s						
KMI				pmax	pmax			KSH				LR	LR		
	comp=Z,23nm,0.7s								comp=Z,190nm,7.7s						
KMI				pmax	pmax			KSH				LR	LR		
	comp=Z,54nm,3.5s								comp=Z,580nm,21.5s						
KMI				LR	LR			**FITZ**	**Fitzroy Crossi**	**40.69**	**121**	P	**P**	**18 20 06.8**	**-0.9**
	comp=Z,580nm,24.7s								comp=Z,8.1nm,0.8s,baz=272,slow=4.0,SNR=12						
KMI				LR	LR			**NJ2**	**Nanjing**	**40.70**	**40**	*e*P	**P**	**18 20 09.1**	**+1.4**
	comp=Z,670nm,21.2s							NJ2				pmax	pmax		
GKN	**Gorkha**	**26.36**	**350**	*e*P	**P**	**18 18 04.6**	**+1.3**		comp=Z,8.0nm,0.5s						
	comp=Z,157nm,0.9s							**SSE**	**Sheshan**	**41.62**	**43**	P	**P**	**18 20 13.5**	**-1.8**
JAGI	**Jajag, Banyuwa**	**26.57**	**113**	P	**P**	**18 18 03.2**	**-2.1**	SSE				S	**S**	**18 26 36.8**	**+5.0**
JAGI				IAmb	IAmb	18 18 18.0		SSE				pmax	pmax		
	comp=Z,35nm,1.1s								comp=Z,17nm,0.7s						
KKM	**Kota Kinabalu**	**26.86**	**80**	P	**P**	**18 18 08.0**	**-0.1**	SSE				pmax	pmax		
KKM				IAmb	IAmb	18 18 34.0			comp=Z,100nm,3.5s						
	comp=Z,30nm,0.9s							SSE				LR	LR		
SRBI	**Singaraja**	**27.41**	**112**	P	**P**	**18 18 12.0**	**-0.9**		comp=Z,250nm,14.5s						
	comp=Z,38nm,0.8s							SSE				LR	LR		
LSA	**Lhasa**	**27.66**	**3**	P	**P**	**18 18 17.1**	**+1.7**		comp=Z,240nm,13.1s						
LSA				S	**S**	**18 22 58.8**	**+1.0**	**WMQ**	**Urumqi**	**41.74**	**358**	P	**P**	**18 20 17.1**	**+0.9**

WMQ				pP	pwP	18 20 21.5	-0.6	
WMQ				sP	sP	18 20 27.4	+8.4	
WMQ				pmax	pmax			
	comp=Z,53nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,170nm,4.5s							
WMQ				LR	LR			
	comp=Z,420nm,20.1s							
WMQ				LR	LR			
	comp=Z,670nm,24.3s							
WMQ				LR	LR			
	comp=Z,520nm,24.9s							
ULHL	**Ulahol**	**41.89**	**345**	P	**P**	**18 20 18.5**	**+1.0**	
	SNR=18							
SHLS	**Shalkode**	**42.03**	**349**	*e*P	**P**	**18 20 17.3**	**-1.3**	
	comp=Z,16nm,1.0s,baz=349							
SHLS	**Shalkode**	**42.03**	**349**	*e*P	**P**	**18 20 17.3**	**-1.3**	
SHLS				pmax	pmax			
	comp=Z,16nm,1.0s							
UZB	**Uzynbulak**	**42.11**	**348**	*e*P	**P**	**18 20 18.6**	**-0.7**	
	comp=Z,8.0nm,0.8s,baz=348							
UZB	**Uzynbulak**	**42.11**	**348**	*e*P	**P**	**18 20 18.5**	**-0.7**	
UZB				pmax	pmax			
	comp=Z,8.0nm,0.8s							
SATY	**Saty**	**42.15**	**348**	*e*P	**P**	**18 20 19.0**	**-0.6**	
	comp=Z,8.6nm,0.7s,baz=348							
SATY	**Saty**	**42.15**	**348**	*e*P	**P**	**18 20 19.0**	**-0.6**	
SATY				pmax	pmax			
	comp=Z,9.0nm,0.7s							
UCH	**Uchtor**	**42.34**	**343**	P	**P**	**18 20 22.8**	**+1.2**	
	SNR=21							
KPKS	**Kokpek**	**42.48**	**348**	*e*P	**P**	**18 20 21.3**	**-1.0**	
	comp=Z,13nm,0.9s,baz=348							
KPKS	**Kokpek**	**42.48**	**348**	*e*P	**P**	**18 20 21.2**	**-1.0**	
KPKS				pmax	pmax			
	comp=Z,13nm,0.9s							
AML	**Almayashu**	**42.49**	**342**	P	**P**	**18 20 24.2**	**+1.5**	
	SNR=29							
MDOK	**Medeo**	**42.55**	**346**	*e*P	**P**	**18 20 21.9**	**-1.0**	
	baz=346							
MDOK	**Medeo**	**42.55**	**346**	*e*P	**P**	**18 20 21.9**	**-1.0**	
TIA	**Tai'an**	**42.57**	**34**	P	**P**	**18 20 22.8**	**-0.1**	
TIA				pmax	pmax			
	comp=Z,10.0nm,1.1s							
TIA				LR	LR			
	comp=Z,370nm,15.1s							
TIA				LR	LR			
	comp=Z,320nm,15.7s							
TIA				LR	LR			
	comp=Z,500nm,18.1s							
KBK	**Karagaybulak**	**42.62**	**344**	P	**P**	**18 20 25.2**	**+1.7**	
	SNR=19							
AAA	**Alma-Ata**	**42.63**	**346**	*e*P	**P**	**18 20 22.5**	**-0.9**	
	comp=Z,9.0nm,0.7s,baz=346							
AAA	**Alma-Ata**	**42.63**	**346**	*e*P	**P**	**18 20 22.5**	**-0.9**	
AAA				pmax	pmax			
	comp=Z,9.0nm,0.7s							
TKM2	**Tokmak 2**	**42.69**	**345**	P	**P**	**18 20 25.1**	**+1.1**	
	SNR=16							
TKM2	**Tokmak 2**	**42.69**	**345**	*i* P	**P**	**18 20 24.8**	**+0.8**	
TKM2				pmax	pmax			
	comp=Z,26nm,1.2s							
AAK	**Ala-Archa**	**42.73**	**344**	P	**P**	**18 20 25.0**	**+0.7**	
	comp=Z,15nm,1.2s,baz=176,slow=6.1,SNR=22							
AAK	**Ala-Archa**	**42.73**	**344**	P	**P**	**18 20 25.7**	**+1.4**	
	SNR=12							
AAK	**Ala-Archa**	**42.73**	**344**	*i* P	**P**	**18 20 24.7**	**+0.4**	
AAK				pmax	pmax			
	comp=Z,19nm,1.2s							
AAK	**Ala-Archa**	**42.73**	**344**	P	**P**	**18 20 24.9**	**+0.7**	
EKS2	**Erkin-Say**	**42.95**	**343**	P	**P**	**18 20 27.8**	**+1.7**	
	SNR=23							
CHKK	**Chushkaly**	**43.22**	**347**	*e*P	**P**	**18 20 27.4**	**-0.7**	
	baz=347							
CHKK	**Chushkaly**	**43.22**	**347**	*e*P	**P**	**18 20 27.4**	**-0.7**	
H01W3	**Cape Leeuwin H**	**43.25**	**150**	T	T	19 06 25.8		
	baz=324,slow=75,SNR=46							
H01W2	**Cape Leeuwin H**	**43.26**	**150**	T	T	19 06 25.6		
	baz=324,slow=75,SNR=43							
H01W1	**Cape Leeuwin H**	**43.27**	**150**	T	T	19 06 26.0		
	baz=324,slow=75,SNR=38							
USP	**Ospenovka**	**43.30**	**344**	P	**P**	**18 20 29.8**	**+1.0**	
	SNR=19							
NWAO	**Narrogin (SRO)**	**43.40**	**145**	P	**P**	**18 20 29.6**	**-0.2**	
	comp=Z,23nm,1.0s,baz=300,slow=9.1,SNR=6.6							
KUU	**Kurty**	**43.41**	**346**	*e*P	**P**	**18 20 28.7**	**-1.0**	
	comp=Z,26nm,0.9s,baz=346							
KUU	**Kurty**	**43.41**	**346**	*e*P	**P**	**18 20 28.7**	**-1.0**	
KUU				pmax	pmax			
	comp=Z,26nm,0.9s							
SGDS	**Sogindy**	**43.44**	**344**	*e*P	**P**	**18 20 28.8**	**-1.2**	
	baz=344							
SGDS	**Sogindy**	**43.44**	**344**	*e*P	**P**	**18 20 28.7**	**-1.2**	
HHC	**Hu-ho-hao-te**	**43.54**	**24**	*e*P	**P**	**18 20 31.3**	**+0.5**	
HHC				sP	pwP	18 20 43.8	+7.0	
HHC				S	**S**	**18 26 57.4**	**-2.6**	
HHC				pmax	pmax			
	comp=Z,20nm,1.1s							
HHC				pmax	pmax			
	comp=Z,140nm,5.2s							
HHC				LR	LR			
	comp=Z,250nm,17.0s							
HHC				LR	LR			
	comp=Z,420nm,16.5s							
HHC				LR	LR			
	comp=Z,240nm,15.5s							
IUG	**Iuzhnay**	**43.72**	**339**	*e*P	**P**	**18 20 31.3**	**-1.1**	
	comp=Z,14nm,0.9s,baz=339							
IUG	**Iuzhnay**	**43.72**	**339**	*e*P	**P**	**18 20 31.2**	**-1.1**	
IUG				pmax	pmax			
	comp=Z,14nm,0.9s							
TDK	**Taldyqorghan**	**44.01**	**349**	*e*P	**P**	**18 20 33.9**	**-0.6**	
	comp=Z,15nm,1.2s,baz=348							
TDK	**Taldyqorghan**	**44.01**	**349**	*e*P	**P**	**18 20 33.9**	**-0.6**	
TDK				pmax	pmax			
	comp=Z,15nm,1.2s							
KK31	**Karatay Array**	**44.39**	**340**	IAmb	IAmb	18 20 49.9		
	comp=Z,30nm,1.1s							
KKAR	**Karatay Array**	**44.39**	**340**	P	**P**	**18 20 37.5**	**-0.1**	
KKAR	**Karatay Array**	**44.39**	**340**	P	**P**	**18 20 37.5**	**-0.1**	
KKAR	**Karatay Array**	**44.39**	**340**	P	**P**	**18 20 37.5**	**-0.1**	
KKAR				IAmb	IAmb	18 20 49.9		
	comp=Z,30nm,1.1s							
BJI	**Beijing**	**44.95**	**29**	P	**P**	**18 20 43.1**	**+1.1**	
BJI				S	**S**	**18 27 21.5**	**+1.1**	
BJI				pmax	pmax			
	comp=Z,13nm,1.3s							
BJI				LR	LR			
	comp=Z,310nm,20.2s							
BJI				LR	LR			
	comp=Z,370nm,20.7s							
BJI				LR	LR			
	comp=Z,220nm,24.4s							
MK31	**Makanchi Array**	**45.14**	**353**	*i* P	**P**	**18 20 43.6**	**+0.2**	
MK31				pmax	pmax			
	comp=Z,22nm,0.9s							
MK31	**Makanchi Array**	**45.14**	**353**	IAmb	IAmb	18 20 54.9		
	comp=Z,15nm,0.9s							
MKAR	**Makanchi Array**	**45.14**	**353**	P	**P**	**18 20 43.5**	**0.0**	
	comp=Z,4.4nm,0.7s,baz=170,slow=9.5,SNR=60							
MKAR	**Makanchi Array**	**45.14**	**353**	P	**P**

SONM Songino Array 47.98 15 P **P** 18 21 06.4 +0.5
SONM Songino Array 47.98 15 P **P** 18 21 06.4 +0.5
ULN Ulaanbaatar 48.18 16*de*P **P** 18 21 08.1 +0.6
ULN pmax pmax
comp=Z,11nm,1.7s
SEM Semipalatinsk 48.95 352 *e*P **P** 18 21 12.0 -1.4
baz=352
SEM Semipalatinsk 48.95 352 *e*P **P** 18 21 12.0 -1.4
WB0 Warramunga Arr 48.95 118 P **P** 18 21 13.7 0.0
WB0 IAmb IAmb 18 21 27.0
comp=Z,24nm,0.9s
WRA Warramunga Arr 48.97 119 P **P** 18 21 13.9 +0.1
comp=Z,9.9nm,0.7s,baz=296,slow=8.5,SNR=71
WRA LR LR 18 43 57.6
comp=Z,135nm,18.8s,baz=175,slow=39
WRA Warramunga Arr 48.97 119 P **P** 18 21 13.2 -0.6
WRA pmax pmax
comp=Z,3.0nm,1.1s
WRA Warramunga Arr 48.97 119 P **P** 18 21 13.2 -0.6
WRAB Tennant Creek 48.97 119*ce*P **P** 18 21 14.4 +0.5
WRAB pmax pmax
comp=Z,29nm,1.3s
WRAB Tennant Creek 48.97 119 P **P** 18 21 13.0 -0.8
WB2 Warramunga Arr 48.98 119 P **P** 18 21 13.7 -0.2
WR0 Warramunga Arr 49.15 119 P **P** 18 21 15.0 -0.2
ZAK Zakamensk 49.65 11 *e*P P 18 21 25.8 +7.1
ZAK pmax pmax
comp=Z,9.0nm,1.2s
KSAR Wonju Array Be 49.86 40 P **P** 18 21 20.2 -0.1
KSAR Wonju Array Be 49.86 40 P **P** 18 21 20.2 -0.1
KSRS Korea Array 49.89 40 P **P** 18 21 20.1 -0.4
comp=Z,3.9nm,1.0s,baz=243,slow=8.2,SNR=7.4
KSRS LR LR 18 44 16.3
comp=Z,160nm,18.1s,baz=235,slow=38
AS31 Alice Springs 50.03 123 P **P** 18 21 21.4 -0.5
ASAR Alice Springs 50.03 123 P **P** 18 21 22.1 +0.1
comp=Z,7.2nm,0.7s,baz=293,slow=7.8,SNR=83
ASAR Alice Springs 50.03 123 P **P** 18 21 21.7 -0.2
ASAR Alice Springs 50.03 123 P **P** 18 21 21.7 -0.2
MOY Mondy 50.48 9 *e*P P 18 21 35.8 +11
MOY pmax pmax
comp=Z,19nm,1.8s
TLY Talaya 50.96 11 *e*P **P** 18 21 30.5 +2.1
TLY pmax pmax
comp=Z,20nm,1.0s
TLY MLR MLR
comp=Z,359nm,16.0s
IRK Irkutsk 51.62 11 *e*P P 18 21 44.2 +11
IRK pmax pmax
comp=Z,21nm,2.5s
ZAA0 Zalesovo Array 52.00 356 IAmb IAmb 18 21 47.5
comp=Z,36nm,1.3s
ZALV Zalesovo Beam 52.00 356 P **P** 18 21 35.8 -0.3
comp=Z,4.8nm,0.6s,baz=188,slow=7.9,SNR=29
ZALV Zalesovo Beam 52.00 356 P **P** 18 21 35.3 -0.8
ZALV Zalesovo Beam 52.00 356 P **P** 18 21 35.2 -0.8
KMBO Kilima Mbogo 52.43 267 P **P** 18 21 40.0 -0.3
comp=Z,2.5nm,0.6s,baz=66,slow=8.9,SNR=8.8
CN2 Changchun 52.44 32 *e*P **P** 18 21 39.6 0.0
CN2 *e*S **S** 18 29 06.8 +1.0
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,100nm,8.3s
CN2 LR LR
comp=Z,300nm,24.0s
CN2 LR LR
comp=Z,200nm,24.0s
CN2 LR LR
comp=Z,100nm,15.0s
BRVK Borovoye 53.42 346 P **P** 18 21 45.5 -1.1
BRVK IAmb IAmb 18 21 57.8
comp=Z,16nm,1.1s
ABKAR Akbulak array 53.53 336 P **P** 18 21 47.7 +0.1
ABKAR IAmb IAmb 18 21 59.2
comp=Z,26nm,0.8s
AKT Akhty 54.46 322 *e*P **P** 18 21 55.3 +0.7
AKT *e* 18 22 57.7
AKT pmax pmax
comp=Z,35nm,1.0s
MDJ Mudanjiang 55.23 34 P **P** 18 22 00.8 +0.8
MDJ S **S** 18 29 47.5 +3.8
MDJ pmax pmax
comp=Z,17nm,1.4s
MDJ pmax pmax
comp=Z,100nm,4.3s
MDJ LR LR
comp=Z,440nm,16.4s
MDJ LR LR
comp=Z,560nm,17.1s
USRK Ussuriysk Ar. 56.35 36 P **P** 18 22 07.0 -1.0
comp=Z,2.3nm,0.6s,baz=218,slow=6.6,SNR=5.2
USRK LR LR 18 49 47.0
comp=Z,120nm,18.3s,baz=214,slow=40
MAT Matsushiro 56.49 46 P **P** 18 22 08.1 -1.2
MAT *e*S **S** 18 29 59.6 -1.3
MJAR Matsushiro Arr 56.50 46 P **P** 18 22 08.4 -0.9
comp=Z,7.2nm,1.1s,baz=237,slow=7.7,SNR=10.0
MJAR LR LR 18 46 36.1
comp=Z,138nm,22.0s,baz=255,slow=36
MJAR Matsushiro Arr 56.50 46 P **P** 18 22 08.8 -0.5
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MJAR Matsushiro Arr 56.50 46 P **P** 18 22 08.8 -0.5
GROC Groznyy 56.61 323 *e*P **P** 18 22 09.5 -0.5
GROC *e* 18 23 04.7
GROC *e* 18 24 14.1
GROC pmax pmax
comp=Z,24nm,0.7s
ZEI Tsey 57.55 321 *e*P **P** 18 22 17.2 +0.3
ZEI pmax pmax
comp=Z,7.0nm,1.0s
NCK Nalchik 58.12 322⇓ *e*P **P** 18 22 21.2 +0.6
NCK pmax pmax
comp=Z,14nm,0.8s
NEY Neytrino 58.53 321⇑ *e*P **P** 18 22 24.8 +1.1
NEY pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 58.67 322 P **P** 18 22 24.5 +0.1
comp=Z,14nm,0.8s,baz=122,slow=5.8,SNR=26
KBZ LR LR 18 49 41.6
comp=Z,73nm,20.8s,baz=133,slow=38
KBZ Khabaz 58.67 322*d i*P **P** 18 22 25.0 +0.6
KBZ pmax pmax
comp=Z,22nm,0.9s
MBAR Mbarara 58.90 268*ae*P **P** 18 22 27.6 +0.8
MBAR pmax pmax
comp=Z,7.0nm,1.2s
KIV Kislovodsk 58.92 322 *e*P **P** 18 22 27.0 +0.7
KIV pmax pmax
comp=Z,95nm,1.0s
KIV Kislovodsk 58.92 322 P **P** 18 22 26.6 +0.3
BOD Bodaibo 58.98 15 *e*P **P** 18 22 26.1 -0.2
BOD pmax pmax
comp=Z,14nm,1.0s
KLR Kul'dur 59.27 31*de*P **P** 18 22 28.5 0.0
KLR pmax pmax
comp=Z,14nm,1.0s
GOF Gofitskoye 59.29 323⇑ *e*P **P** 18 22 29.2 +0.5
SVE Sverdlovsk 59.42 342*de*P **P** 18 22 30.0 +0.6
SVE pmax pmax
comp=Z,33nm,1.3s
STKA Stephens Creek 59.61 129 P **P** 18 22 30.9 -0.3
comp=Z,3.8nm,0.7s,baz=274,slow=5.0,SNR=9.8
STKA LR LR 18 46 28.8
comp=Z,200nm,20.1s,baz=278,slow=34
STKA Stephens Creek 59.61 129⇓ *e*P **P** 18 22 31.2 0.0
ARU Arti 59.76 341*c i*P **P** 18 22 31.6 -0.1
ARU 18 23 17.8
ARU 18 24 39.2
ARU S **S** 18 30 42.3 -0.5
ARU SS **SS** 18 34 34.8 -4.1
ARU pmax pmax
comp=Z,20nm,1.3s
ARU Arti 59.76 341 P **P** 18 22 30.4 -1.3
ZEA Zeya 60.20 25 *e*P **P** 18 22 35.2 +0.4
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=N,400nm,18.0s
ZEA MLR MLR
comp=Z,200nm,18.0s
BELG Belogornoye 61.20 332⇑ *e*P **P** 18 22 41.3 -0.3
BELG pmax pmax
comp=Z,5.0nm,1.5s

GRNR Gornyy 62.61 31⇑ *i*P **P** 18 22 50.8 -0.4
GRNR pmax pmax
comp=E,1.0nm,0.9s
GRNR pmax pmax
comp=N,3.0nm,1.2s
GRNR pmax pmax
comp=Z,5.0nm,1.2s
GRNR MLR MLR
comp=E,60nm,13.0s
GRNR MLR MLR
comp=N,100nm,17.0s
GRNR MLR MLR
comp=Z,160nm,20.0s
BR131 Keskin Array S 63.08 314*d i*P **P** 18 22 54.3 -0.4
BR131 Keskin Array S 63.08 314 P **P** 18 22 54.3 -0.4
BR131 IAmb IAmb 18 23 11.1
comp=Z,8.5nm,0.8s
BRTR Keskin Array B 63.08 314 P **P** 18 22 54.6 -0.1
comp=Z,4.2nm,0.7s,baz=130,slow=7.1,SNR=34
BRTR LR LR 18 52 03.4
comp=Z,272nm,18.6s,baz=126,slow=38
BRTR Keskin Array B 63.08 314 P **P** 18 22 53.9 -0.8
BRTR Keskin Array B 63.08 314 P **P** 18 22 53.9 -0.8
YSS Yuzh-Sakhalins 64.22 38 *e*P **P** 18 23 00.1 -1.8
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,200nm,13.0s
VORD Divnogorie 64.56 327 *e*P **P** 18 23 06.0 +2.0
VORD pmax pmax
comp=Z,8.0nm,0.3s
KIRV Kirov 64.63 338⇑ *e*P **P** 18 23 04.6 +0.3
VSR Storozhevoye 64.76 328 *e*P **P** 18 23 04.8 -0.5
VSR pmax pmax
comp=Z,10.0nm,1.3s
LPSR Galich'ya Gora 65.61 329 *e*P **P** 18 23 09.8 -1.1
LPSR pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 67.04 19 *e*P **P** 18 23 18.1 -1.7
YAK pmax pmax
comp=Z,16nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK MLR MLR
comp=Z,157nm,21.0s
YAK MLR MLR
comp=N,120nm,14.0s
YAK MLR MLR
comp=E,80nm,15.0s
LBTB Lobatse 67.45 242 P **P** 18 23 21.7 -1.7
LBTB pmax pmax
comp=Z,24nm,1.0s
LBTB Lobatse 67.45 242 P **P** 18 23 21.7 -1.7
MOS Moscow 67.92 331 *e*P **P** 18 23 23.8 -1.7
MOS pmax pmax
comp=Z,33nm,0.9s
PRGR Permogore 68.11 339 *e*P **P** 18 23 25.8 -0.7
PRGR pmax pmax
comp=Z,49nm,0.8s
OBN Obninsk 68.11 330 *i* P **P** 18 23 25.3 -1.4
OBN *i* 18 23 35.4
OBN *i* 18 23 48.4
OBN pmax pmax
comp=Z,7.0nm,1.1s
OBN MLR MLR
comp=Z,119nm,20.0s
BOSA Boshof 68.62 238 P **P** 18 23 30.6 -0.1
comp=Z,9.5nm,1.0s,baz=91,slow=6.6,SNR=10
BOSA Boshof 68.62 238 P **P** 18 23 29.5 -1.1
BOSA pmax pmax
comp=Z,18nm,1.1s
BOSA Boshof 68.62 238 P **P** 18 23 29.5 -1.1
BOSA IAmb IAmb 18 23 46.8
comp=Z,18nm,1.1s
CFR Carcaliu 68.81 318⇑ P **P** 18 23 32.0 +0.6
CFR Carcaliu 68.81 318⇑ P **P** 18 23 32.0 +0.6
RAZG Razgrad 69.40 316⇑ P **P** 18 23 35.9 +0.8
KLMR Klimovskoe 69.93 336 *e*P **P** 18 23 36.8 -1.1
KLMR pmax pmax
comp=Z,29nm,1.1s
KLMR Klimovskoe 69.93 336 *e*P **P** 18 23 36.8 -1.1
KLMR AMP 18 23 49.5
comp=Z,29nm,1.1s
VRI Vrincioaia 69.98 319⇑ P **P** 18 23 40.2 +1.6
VRI Vrincioaia 69.98 319⇑ P **P** 18 23 40.2 +1.6
PLOR Plostina 70.02 319⇓ P **P** 18 23 40.7 +1.8
PLOR Plostina 70.02 319⇓ P **P** 18 23 40.7 +1.8
AKASG Malin Array Be 70.12 324 P **P** 18 23 38.9 -0.4
comp=Z,4.5nm,0.7s,baz=94,slow=4.6,SNR=13
TESR Tescani 70.24 319⇓ P **P** 18 23 40.9 +0.7
MLR Muntele Rosu 70.38 318⇑ P **P** 18 23 42.9 +1.7
MLR Muntele Rosu 70.38 318⇑ P **P** 18 23 42.9 +1.7
PLVB Pleven 70.66 316⇑ P **P** 18 23 43.1 +0.3
BIZ Bicaz 70.73 319⇑ P **P** 18 23 44.2 +1.1
DOPR Dopca 70.90 318⇑ P **P** 18 23 44.3 +0.1
VOIR 70.96 318⇓ P **P** 18 23 44.7 0.0
VOIR 70.96 318⇓ P **P** 18 23 44.7 0.0
HNR Honiara 70.96 101 LR LR 18 55 41.5
comp=Z,46nm,21.7s,baz=201,slow=37
VTS Vitosha 71.44 314⇑ P **P** 18 23 47.6 -0.1
VTS Vitosha 71.44 314⇑ P **P** 18 23 47.6 -0.1
BURAR Bucovina Array 71.52 320⇓ P **P** 18 23 49.4 +1.4
BURAR Bucovina Array 71.52 320⇓ P **P** 18 23 49.4 +1.4
BURAR Bucovina Array 71.52 320 P **P** 18 23 48.5 +0.5
BURAR IAmb IAmb 18 24 01.4
comp=Z,12nm,0.8s
BUR08 Bucovina Ar. S 71.54 320 P **P** 18 23 48.4 +0.2
BUR08 IAmb IAmb 18 24 00.8
comp=Z,16nm,1.1s
MNK Minsk 72.34 327 *i* P **P** 18 23 52.5 -0.1
comp=E,1.0nm,0.9s
MNK *i* P **P** 18 23 52.5 -0.1
comp=N,14nm,0.9s
MNK *i* P **P** 18 23 52.5 -0.1
comp=Z,13nm,0.9s
MNK *i* PcP **PcP** 18 24 10.3 -0.3
MNK *i* PP PP 18 26 10.2 -23
MNK *i* PPP PPP 18 27 16.6
MNK *i* S S **18 33 16.5 +0.4**
MNK *i* ScS ScS 18 34 15.1 +16
MNK *i* SS **SS** **18 37 55.1 +0.9**
MNK *i* SSS SSS 18 40 37.1
MNK *i* LQ LQ 18 50 13.0
MNK *i* LR LR 18 52 24.4
MNK *i* LRM MLR 18 57 35.4
comp=Z,67nm,18.4s
MNK *i* LRM MLR 18 58 07.8
comp=E,10.0nm,18.5s
MNK *i* LRM MLR 18 58 07.8
comp=N,122nm,18.5s
GZR Gura Zlata 72.49 317⇑ P **P** 18 23 55.0 +1.1
GZR Gura Zlata 72.49 317⇑ P **P** 18 23 55.0 +1.1
DEV Deva 72.53 318⇑ P **P** 18 23 54.5 +0.5
DEV Deva 72.53 318⇑ P **P** 18 23 54.5 +0.5
HERR Herculane 72.60 317⇑ P **P** 18 23 55.3 +0.9
DRGR 72.91 319⇓ P **P** 18 23 57.4 +1.0
DRGR 72.91 319⇓ P **P** 18 23 57.4 +1.0
LVV L'vov 72.95 322 *e*P **P** 18 23 57.2 +0.8
MDVR Moldovita 73.06 316⇑ P **P** 18 23 57.7 +0.5
NACGM Naroch 73.08 328 *i* P P 18 24 02.9 +5.8
NACGM *i* P P 18 24 02.9 +5.8
NACGM *i* P P 18 24 02.9 +5.8
NACGM *i* PP **PP** **18 26 38.1 -1.7**
NACGM *i* PPP PPP 18 28 27.5
NACGM *i* S **SKiKP** **18 33 31.1 +1.0**
NACGM *i* PS PnS 18 34 39.8 +44
NACGM *i* SS **SS** **18 38 08.7 +3.2**
NACGM *i* SSS SSS 18 41 49.8
NACGM *i* LR LR 18 57 55.5
SUR Sutherland 73.25 235 LR LR 18 53 52.8
comp=N,44nm,18.2s,baz=61,slow=34
IDID Didziasalis 73.26 328 *e*P P 18 23 46.4 -12
BZS Buzias 73.33 317⇓ P **P** **18 23 59.1 +0.3**
BZS Buzias 73.33 317⇓ P **P** **18 23 59.1 +0.3**
IIGN Ignalina 73.54 328 *e*P P 18 23 48.7 -11
ISAL Salakas 73.67 328 *e*P P 18 23 49.6 -11
UZH Uzhgorod 73.69 320 *e*P **P** **18 24 05.2 +4.4**
UZH *e* 18 24 11.1
KOLS Kolonicke sedl 73.78 321 *e*P **P** **18 24 02.5 +1.1**
KOLS *e* 18 24 12.9
KOLS pmax pmax
comp=Z,20nm,1.5s

KOLS Kolonicke sedl 73.78 321 *e*P **P** **18 24 02.5 +1.1**
KOLS *e* 18 24 12.9
SKR Severo-Kuril's 73.79 37 *e*P **P** **18 23 58.2 -3.1**
SKR pmax pmax
comp=Z,200nm,4.3s
SKR pmax pmax
comp=Z,36nm,1.0s
SKR pmax pmax
comp=Z,100nm,3.2s
SKR MLR MLR
comp=Z,200nm,18.0s
SKR MLR MLR
comp=Z,100nm,20.0s
TIXI Tiksi 73.93 12⇑ *e*P **P** **18 24 00.1 -1.6**
TIXI Tiksi 73.93 12 P **P** **18 23 59.5 -2.3**
MA2 Magadan 74.09 28⇓ *e*P **P** **18 24 02.1 -0.8**
MA2 pmax pmax
comp=Z,7.0nm,1.7s
SUW Suwalki 74.75 326 *e*P **P** **18 24 06.7 -0.2**
SUW Suwalki 74.75 326 *e*P P 18 23 55.4 -11
PABE Paberze 74.80 328 *e*P P 18 23 57.0 -10
NIE Niedzica 75.16 321 *e*P **PcP** **18 24 21.0 -1.9**
PETK Petropavlovsk- 75.44 35 LR LR 18 59 11.6
comp=Z,139nm,19.2s,baz=258,slow=37
OJC Ojcow 75.68 322 *e*P **PcP** **18 24 23.2 -1.9**
FINES FINESS Array B 75.91 334 P **P** **18 24 13.3 0.0**
comp=Z,3.2nm,0.7s,baz=126,slow=3.3,SNR=9.9
PBUR Paburge 76.06 328 *e*P P 18 24 04.1 -10
SEY Seymchan 76.18 25⇑ *i*P **P** **18 24 14.4 -0.5**
JAVC Velka Javorina 76.71 320 *e*P **P** **18 24 19.8 +1.5**
JAVC *e* 18 24 29.4
MODS Modra-Piesok 76.86 319 *e*P **P** **18 24 20.0 +0.9**
MODS *e* 18 24 30.4
MODS pmax pmax
comp=Z,6.0nm,0.9s
MODS Modra-Piesok 76.86 319 *e*P **P** **18 24 20.0 +0.9**
MODS *e* 18 24 30.4
MORC Moravsky Berou 76.99 321⇑ P **P** **18 24 19.4 -0.4**
MORC Moravsky Berou 76.99 321 *e*P **P** **18 24 20.2 +0.3**
MORC *e* 18 24 31.0
MORC Moravsky Berou 76.99 321⇑ P **P** **18 24 19.4 -0.4**
VRAC Vranov 77.50 320 *e*P **P** **18 24 23.1 +0.4**
VRAC *e* 18 24 33.3
KRLC Kraliky 77.53 321 *e*P **P** **18 24 23.1 +0.2**
KRLC *e* 18 24 33.5
KRLC Kraliky 77.53 321 *e*P **P** **18 24 23.1 +0.2**
KRLC *e*PCP **PcP** **18 24 33.5 +0.3**
KRUC Moravsky 77.57 320 *e*P **P** **18 24 23.3 +0.2**
KRUC *e* 18 24 33.0
CONA Conrad Observa 77.70 319 *e*P **P** **18 24 27.7 +3.7**
comp=Z,5.0nm,1.3s
ARSA Arzberg 77.80 318 *e*P **PcP** **18 24 35.9 +1.5**
comp=Z,9.0nm,1.2s
DPC Dobruska-Polom 77.88 321 *e*P **P** **18 24 26.3 +1.5**
DPC *e* 18 24 36.2
DPC Dobruska-Polom 77.88 321 *e*P **P** **18 24 26.3 +1.5**
DPC *e*PCP **PcP** **18 24 36.2 +1.5**
OSTC Ostas 77.99 321 *e*P **P** **18 24 26.8 +1.4**
OSTC *e*PCP **PcP** **18 24 37.2 +2.1**
KSP Ksiaz 78.00 322 *e*P **P** **18 24 25.9 +0.5**
CHVC Chvalec 78.10 321 *e*P **P** **18 24 27.2 +1.2**
CHVC *e*PCP **PcP** **18 24 37.8 +2.2**
UPC Upice 78.11 321 *e*PCP **PcP** **18 24 37.7 +2.1**
OBKA Obir 78.33 317 *e*P **PcP** **18 24 39.9 +3.1**
comp=Z,10nm,1.4s
SYO Syowa Base 78.45 196⇓ *e*P **P** **18 24 30.4 +2.9**
CKRC Cesky Krumlov 78.88 319 *e*P **P** **18 24 30.7 +0.3**
CKRC *e*PCP **PcP** **18 24 40.8 +1.8**
PRU Pruhonice 78.94 321 *e*PCP **PcP** **18 24 41.6 +2.4**
PVCC Panska Ves 79.01 321 *e*PCP **PcP** **18 24 42.4 +2.9**
PBCC Pribram 79.23 320 *e*P **P** **18 24 33.0 +0.8**
PBCC *e*PCP **PcP** **18 24 43.7 +3.2**
KBA Koelnbreinsper 79.24 317 *e*P **PcP** **18 24 46.3 +5.5**
comp=Z,11nm,1.1s
GEC2 GERESS Array S 79.28 319 *e*P **P** **18 24 32.6 -0.1**
comp=Z,30nm,1.1s,baz=98,slow=5.2
GERES GERESS Array B 79.28 319 P **P** **18 24 33.5 +0.8**
comp=Z,4.5nm,0.8s,baz=104,slow=5.7,SNR=22
GERES LR LR 19 07 20.5
comp=Z,44nm,18.1s,baz=96,slow=42
GERES GERESS Array B 79.28 319 P **P** **18 24 32.4 -0.2**
GERES GERESS Array B 79.28 319 P **P** **18 24 32.4 -0.2**
ARCES ARCESS Array B 79.34 341 P **P** **18 24 31.4 -1.1**
comp=Z,3.9nm,0.9s,baz=59,slow=7.4,SNR=2.0
KHC Kasperske Hory 79.41 320*de*P **P** **18 24 33.9 +0.6**
KHC pmax pmax
comp=Z,13nm,1.5s
KHC Kasperske Hory 79.41 320 *e*P **P** **18 24 33.5 +0.2**
KHC *ex* x 18 24 44.2
BRG Berggiesshubel 79.47 321 *e*P **P** **18 24 34.6 +1.1**
BRG Amp 18 24 36.5
comp=Z,20nm,1.7s
BRG *ex* x 18 24 44.6
BRG Amp 18 24 46.6
comp=Z,21nm,1.4s
BRG Berggiesshubel 79.47 321 *e*P **P** **18 24 33.8 +0.3**
comp=Z,20nm,1.4s,baz=98,slow=5.2
RJOB Jochberg 79.70 318 *e*P **P** **18 24 35.8 +0.9**
comp=Z,35nm,1.0s,baz=98,slow=5.2
ABTA Abfaltersbach 79.75 317 *e*P **PcP** **18 24 45.0 +2.1**
comp=Z,6.2nm,1.1s
LNIZ Loecknitz 79.78 324 *e*P **P** **18 24 35.1 +0.1**
comp=Z,70nm,1.4s,baz=98,slow=5.2
FBE Freiberg 79.84 321 *e*P **P** **18 24 36.0 +0.5**
comp=Z,31nm,1.1s,baz=98,slow=5.2
RUE Ruedersdorf 79.85 323 *e*P **P** **18 24 35.5 +0.1**
comp=Z,54nm,0.8s,baz=98,slow=5.2
WET Wettzell 79.86 320 *e*P **P** **18 24 35.8 +0.1**
comp=Z,25nm,1.1s,baz=98,slow=5.2
CLL Collm 80.12 322 *e*P **P** **18 24 37.0 0.0**
comp=Z,14nm,1.4s
CLL *i* P(2) 18 24 48.1
comp=Z,26nm,1.2s
CLL *e*SS SS 18 40 00.0 +7.8
CLL LmH 19 01 00.0
comp=N,100nm,18.7s
CLL LmH 19 01 00.0
comp=E,100nm,18.4s
CLL Collm 80.12 322 P **P** **18 24 36.4 -0.6**
CLL pmax pmax
comp=Z,22nm,1.1s
CLL Collm 80.12 322 P **P** **18 24 36.4 -0.6**
CLL IAmb IAmb 18 24 49.5
comp=Z,22nm,1.1s
CLL Collm 80.12 322 *e*P **P** **18 24 36.9 -0.1**
comp=Z,26nm,1.2s,baz=98,slow=5.2
WERN Wernitzgruen 80.36 321 *e*P **P** **18 24 38.7 +0.3**
comp=Z,11nm,1.1s,baz=98,slow=5.2
ROTZ Rotzenmuhle 80.39 320 *e*P **P** **18 24 39.0 +0.5**
comp=Z,11nm,1.0s,baz=98,slow=5.2
GUNZ Gunzen 80.40 321 *e*P **P** **18 24 38.4 -0.2**
comp=Z,12nm,1.1s,baz=98,slow=5.2
WTTA Wattenberg 80.42 318 *e*P **PcP** **18 24 49.8 +3.8**
comp=Z,12nm,1.1s
WERD Werda 80.43 321 *e*P **P** **18 24 38.8 +0.1**
comp=Z,13nm,1.3s,baz=98,slow=5.2
WATA Walderalm 80.47 318 *i* P **PcP** **18 24 49.5 +3.4**
comp=Z,8.5nm,1.0s
MANZ Manzenberg 80.48 320 *e*P **P** **18 24 39.7 +0.6**
comp=Z,24nm,1.1s,baz=98,slow=5.2
PLN Plauen 80.53 321 *e*P **P** **18 24 39.3 +0.1**
comp=Z,15nm,1.3s,baz=98,slow=5.2
SQTA Sankt Quirin 80.70 317 *e*P **PcP** **18 24 51.1 +4.0**
comp=Z,10nm,1.3s
FUR Furstenfeldbru 80.78 318 *e*P **P** **18 24 40.0 -0.7**
comp=Z,6nm,0.7s,baz=98,slow=5.2
MOTA Moosalm 80.79 318 *e*P **PcP** **18 24 51.3 +3.8**
comp=Z,8.2nm,0.8s
NEUB Neuenburg 80.87 321 *e*P **P** **18 24 41.0 0.0**
comp=Z,29nm,1.1s,baz=98,slow=5.2
MOX Moxa 80.89 321 *e*P **P** **18 24 41.5 +0.3**
comp=Z,15nm,1.0s,baz=98,slow=5.2
FETA Feichten 81.00 317 *i* P **PcP** **18 24 53.3 +4.8**
comp=Z,8.4nm,1.1s
GRF Grafenberg Arr 81.01 320 *e*P **P** **18 24 42.4 +0.6**
comp=Z,19nm,0.9s,baz=98,slow=5.2
RETA Reutte 81.03 318 *i* P **PcP** **18 24 53.7 +5.2**
comp=Z,12nm,1.2s
FLTG Flechtingen 81.36 323 *e*P **P** **18 24 42.9 -0.7**
comp=Z,37nm,2.1s,baz=98,slow=5.2
UBR Ueberruh 81.50 318 *e*P **P** **18 24 44.0 -0.5**
comp=Z,17nm,0.9s,baz=98,slow=5.2
DAVA Damuels 81.61 317 *e*P **PcP** **18 24 55.6 +4.5**
comp=Z,20nm,1.1s
ASSE Asse, Remlinge 81.68 322 *e*P **P** **18 24 45.2 0.0**

	comp=Z,21nm,1.2s,baz=98,slow=5.2						
CLZ	**Clausthal**	**81.83**	**322**	*e*P	**P**	**18 24 46.2**	**+0.1**
	comp=Z,28nm,1.1s,baz=98,slow=5.2						
GTTG	**Gottingen**	**82.04**	**322**	*e*P	**P**	**18 24 47.3**	**+0.1**
	comp=Z,20nm,1.0s,baz=98,slow=5.2						
NRDL	**Niedersach Rie**	**82.07**	**323**	*e*P	**P**	**18 24 47.7**	**+0.5**
	comp=Z,18nm,1.1s,baz=98,slow=5.2						
BSEG	**Bad Segeberg**	**82.13**	**324**	*e*P	**P**	**18 24 47.6**	**0.0**
	comp=Z,14nm,1.2s,baz=98,slow=5.2						
STU	**Stuttgart**	**82.22**	**319**	*e*P	**P**	**18 24 48.0**	**-0.3**
	comp=Z,14nm,0.9s,baz=98,slow=5.2						
NOA	**NORSAR Array B**	**82.69**	**331**	P	**P**	**18 24 50.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=118,slow=4.8,SNR=1.7						
NOA				LR	LR	19 03 53.1	
	comp=Z,93nm,20.2s,baz=120,slow=37						
BFO	**Black Forest**	**82.75**	**318**	P	**P**	**18 24 51.0**	**-0.1**
BFO				pmax	pmax		
	comp=Z,15nm,0.8s						
BFO	**Black Forest**	**82.75**	**318**	P	**P**	**18 24 51.0**	**-0.1**
BFO				IAmb	IAmb	18 25 04.3	
	comp=Z,15nm,0.8s						
BFO	**Black Forest**	**82.75**	**318**	*e*P	**P**	**18 24 50.8**	**-0.2**
	comp=Z,20nm,0.9s,baz=98,slow=5.2						
TNS	**Taunus Mts**	**82.85**	**320**	*e*P	**P**	**18 24 51.8**	**+0.2**
	comp=Z,16nm,1.0s,baz=98,slow=5.2						
KASTN	**Kahler Asten**	**82.97**	**321**	*e*P	**P**	**18 24 52.2**	**+0.1**
	comp=Z,8.2nm,1.0s,baz=98,slow=5.2						
BILL	**Bilibino**	**83.24**	**22**	*i* P	**P**	**18 24 52.0**	**-1.2**
BILL				*i*		18 24 58.8	
BILL				*i*		18 28 03.7	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
IBBN	**Ibbenburen**	**83.48**	**322**	*e*P	**P**	**18 24 54.8**	**+0.1**
	comp=Z,15nm,1.1s,baz=98,slow=5.2						
BUG	**Bochum--Univer**	**83.71**	**321**	*e*P	**P**	**18 24 55.9**	**+0.1**
	comp=Z,29nm,1.3s,baz=98,slow=5.2						
AHRW	**Bad Neuenahr-A**	**83.75**	**320**	*e*P	**P**	**18 24 55.5**	**-0.7**
	comp=Z,9nm,1.2s,baz=98,slow=5.2						
WLF	**Walferdange**	**84.28**	**320**	*e*P	**P**	**18 24 59.3**	**+0.4**
	comp=Z,28nm,1.5s,baz=98,slow=5.2						
TORD	**Torodi Ar. Bea**	**87.52**	**283**	P	**P**	**18 25 15.8**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=82,slow=2.6,SNR=5.0						
TORD				LR	LR	19 02 49.5	
	comp=Z,115nm,18.4s,baz=95,slow=34						
TORD	**Torodi Ar. Bea**	**87.52**	**283**	P	**P**	**18 25 15.3**	**-0.4**
ESDC	**Sonseca Array**	**91.53**	**310**	P	**P**	**18 25 34.2**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=42,slow=4.4,SNR=2.3						
ESDC				LR	LR	19 13 11.4	
	comp=Z,71nm,18.0s,baz=250,slow=40						
DAG	**Danmarks Havn**	**92.26**	**347**	*i* P	sP	18 25 46.9	+7.4
DAG	**Danmarks Havn**	**92.26**	**347**	*i* P	sP	18 25 46.9	+7.4
SNAA	**Sanae**	**92.59**	**198**⇑	*e*P	**P**	**18 25 38.9**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,9.0nm,2.4s						
KOWA	**Kowa**	**93.02**	**285**	P	**P**	**18 25 40.6**	**-0.7**
KOWA				IAmb	IAmb	18 25 58.0	
	comp=Z,8.8nm,0.8s						
DBIC	**Dimbokro**	**94.20**	**277**	LR	LR	19 06 52.2	
	comp=Z,53nm,19.2s,baz=67,slow=35						
ILAR	**Eielson Array**	**101.90**	**21**	PP	**PP**	**18 30 30.8**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=287,slow=6.3,SNR=5.2						
YKA	**Yellowknife Ar**	**113.18**	**12**	PP	**PP**	**18 31 58.2**	**+4.9**
	comp=Z,0.6nm,0.8s,baz=337,slow=6.7,SNR=5.2						
PDAR	**Pinedale Array**	**132.27**	**19**	PKP	**PKPdf**	**18 31 41.3**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=333,slow=3.3,SNR=2.6						
NVAR	**Mina Array Bea**	**132.30**	**30**	PKP	**PKPdf**	**18 31 41.8**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=274,slow=1.4,SNR=3.1						
CO03	**El Pedregal**	**145.72**	**14**		**PKPbc**	**18 32 06.9**	**+0.1**
CO01	**Juntas del Tor**	**146.09**	**213**		**PKPab**	**18 32 08.5**	**-0.2**
TXAR	**Lajitas Array**	**146.42**	**21**	PKPbc	**PKPbc**	**18 32 09.1**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=279,slow=2.1,SNR=37						
LPAZ	**La Paz**	**153.84**	**236**	PKPbc	**PKiKP**	**18 32 29.2**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=90,slow=1.0,SNR=2.1						

IDC 22 18:44:56.5±1.0, 26.71S×67.63E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.7/36, mbtmp4.0/7, MS3.7/4, Ms1 3.7/4, ms1mx3.1/39, Error ellipse: s-maj=48.0km s-min=22.6km az=9.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**19.51**	**15**	T	T	19 09 34.5	
	baz=194						
H08S2	**Diego Garcia H**	**19.52**	**15**	T	T	19 09 34.9	
	baz=194,slow=74,SNR=7.7						
H08S3	**Diego Garcia H**	**19.53**	**15**	T	T	19 09 36.8	
	baz=194,slow=74,SNR=37						
BOSA	**Boshof**	**37.44**	**257**	P	P	18 52 11.8	-0.1
	2.2nm,0.7s,baz=115,slow=9.5,SNR=5.7						
H01W2	**Cape Leeuwin H**	**40.48**	**113**	T	T	19 35 29.0	
	baz=268,slow=75,SNR=18						
H01W3	**Cape Leeuwin H**	**40.48**	**113**	T	T	19 35 29.2	
	baz=268,slow=75,SNR=22						
H01W1	**Cape Leeuwin H**	**40.49**	**113**	T	T	19 35 30.3	
	baz=268,slow=75,SNR=21						
MAW	**Mawson**	**41.02**	**183**	LR	LR	19 07 03.6	
	comp=Z,69nm,19.0s,baz=67,slow=32						
MBAR	**Mbarara**	**43.94**	**300**	LR	LR	19 08 10.0	
	comp=Z,24nm,18.6s,baz=62,slow=32						
ASAR	**Alice Springs**	**59.44**	**103**	P	P	18 55 01.7	+0.2
	0.9nm,0.8s,baz=247,slow=6.4,SNR=11						
WRA	**Warramunga Arr**	**61.03**	**99**	P	P	18 55 12.2	-0.3
	0.4nm,0.3s,baz=237,slow=12,SNR=2.8						
BRTR	**Keskin Array B**	**73.30**	**333**	P	P	18 56 30.6	+0.6
	0.8nm,0.9s,baz=134,slow=3.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**75.27**	**293**	P	P	18 56 41.9	+0.1
	1.0nm,0.6s,baz=105,slow=5.4,SNR=5.0						
DBIC	**Dimbokro**	**77.54**	**284**	P	P	18 56 54.6	-0.1
	4.4nm,0.9s,baz=108,slow=6.4,SNR=3.1						
ZALV	**Zalesovo Beam**	**81.69**	**10**	P	P	18 57 15.9	-0.5
	0.3nm,0.2s,baz=204,slow=3.3,SNR=3.8						
ZALV				LR	LR	19 30 15.1	
	comp=Z,29nm,19.4s,baz=22,slow=33						
JHJ	**Hachijo jima 2**	**90.75**	**53**	LR	LR	19 35 29.6	
	comp=Z,197nm,18.0s,baz=241,slow=33						

NEIC 22 18:55:45.5±1.5, 17.97S±0.09×72.1W±0.1, h30km±10km, mb4.4/6, Error ellipse: s-maj=18.7km s-min=10.4km az=119.0
VAO 22 18:55:50.5±2.3, 17.97S×71.69W, h30km±15km, mb4.4
IDC 22 18:55:50.2±2.8, 17.96S×71.61W, h39km±25km, mb3.8/11, mb1 4.0/14, mb1mx3.9/33, mbtmp4.1/14, ML3.8/3, MS3.6/7, Ms1 3.6/7, ms1mx3.3/22, Error ellipse: s-maj=23.0km s-min=17.0km az=57.0

ISC 22 18:55:48.4±0.5, 18.10S±0.06×71.92W±0.07, h35km, n91, σ1^{9}77/78, mb4.3/11, MS3.9/3, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.52**	**101**		**Pn**	**18 56 11.8**	**-1.4**
PSGCX	**Pisagua**	**2.26**	**132**		**Pn**	**18 56 23.4**	**0.0**
PB16	**IPOC Station P**	**2.30**	**96**		**Pn**	**18 56 25.4**	**+1.0**
MNMC	**Minye Minye**	**2.43**	**115**		**Pn**	**18 56 26.7**	**+0.8**
TA01	**Diego Aracena**	**2.95**	**147**		**Pn**	**18 56 33.8**	**+1.0**
PB08	**IPOC Station P**	**3.31**	**128**		**Pn**	**18 56 39.4**	**+1.3**
PB01	**IPOC Station P**	**3.72**	**142**		**Pn**	**18 56 44.6**	**+1.1**
LPAZ	**La Paz**	**4.04**	**64**	Pn	**Pn**	**18 56 51.2**	**+2.9**
	8.1nm,0.3s,baz=256,slow=10,SNR=54						
LPAZ				LR	LR	18 58 52.8	
	comp=Z,649nm,19.8s,baz=267,slow=49						
LPAZ	**La Paz**	**4.04**	**64**		**Pn**	**18 56 51.9**	**+3.6**
PB07	**IPOC Station P**	**4.08**	**152**		**Pn**	**18 56 49.3**	**+0.7**
PB09	**IPOC Station P**	**4.46**	**146**		**Pn**	**18 56 55.0**	**+1.4**
PB04	**IPOC Station P**	**4.53**	**159**		**Pn**	**18 56 55.4**	**+0.7**
PB06	**IPOC Station P**	**5.08**	**155**		**Pn**	**18 57 02.5**	**+0.2**
LVC	**Limon Verde**	**5.30**	**148**	Pn	**Pn**	**18 57 06.9**	**+1.5**
	4.8nm,0.3s,baz=328,slow=7.5,SNR=52						
LVC				Sn	**Sn**	**18 58 06.1**	**+0.6**
	11nm,0.3s,baz=12,slow=14,SNR=7.0						
LVC	**Limon Verde**	**5.30**	**148**		**Pn**	**18 57 07.5**	**+2.1**
LVC	**Limon Verde**	**5.30**	**148**	*e*P	**Pn**	**18 57 07.4**	**+1.9**
PB10	**IPOC Station P**	**5.54**	**167**	Pn	**Pn**	**18 57 08.7**	**+0.4**
PB15	**IPOC Station P**	**5.58**	**156**		**Pn**	**18 57 09.8**	**+0.7**
PB14	**IPOC Station P**	**6.65**	**168**		**Pn**	**18 57 23.6**	**-0.3**
GO02	**Mina Guanaco**	**7.36**	**163**		**Pn**	**18 57 32.7**	**-0.9**
NNA	**Nana**	**7.71**	**321**	Pn	**Pn**	**18 57 41.9**	**+3.6**
	1.5nm,0.3s,baz=153,slow=6.8,SNR=2.0						
NNA				Sn	**Sn**	**18 58 59.1**	**-5.4**
	1.7nm,0.3s,baz=198,slow=16,SNR=1.3						
AC01	**Pan de Azucar**	**8.10**	**172**	Pn	**Pn**	**18 57 43.3**	**-0.3**
ETMB	**Extrema**	**9.92**	**35**	*e*P	**Pn**	**18 58 09.0**	**+0.5**
SIV	**San Ignacio**	**10.58**	**80**	Pn	**Pn**	**18 58 16.9**	**-0.8**
	0.8nm,0.3s,baz=270,slow=15,SNR=19						
SIV				LR	LR	19 02 59.7	
	comp=Z,414nm,18.8s,baz=246,slow=42						
VILB	**Vilhena**	**12.39**	**67**	*e*P	**Pn**	**18 58 41.8**	**-0.7**
SAML	**Samuel**	**12.44**	**44**		**Pn**	**18 58 41.0**	**-2.0**
SAML	**Samuel**	**12.44**	**44**	*e*P	**Pn**	**18 58 42.2**	**-0.8**
PTLB	**Pontes e Lacer**	**12.52**	**80**	*e*P	**Pn**	**18 58 43.4**	**-0.8**
ATAH	**Atahualpa**	**12.59**	**329**	LR	LR	19 03 23.5	
	comp=Z,63nm,18.4s,baz=122,slow=36						
AQDB	**Aquidauana**	**15.49**	**101**	*e*P	**Pn**	**18 59 23.8**	**-0.6**
CPUP	**Villa Florida**	**15.79**	**124**	LR	LR	19 06 37.7	
	comp=Z,134nm,18.4s,baz=245,slow=41						
CPUP	**Villa Florida**	**15.79**	**124**	Pn	**Pn**	**18 59 26.0**	**-2.1**
PP1B	**Ponte de Pedra**	**16.23**	**91**	*e*P	**Pn**	**18 59 33.0**	**-0.9**
H03N1	**Juan Fernandez**	**16.52**	**201**	T	T	19 16 49.6	
	baz=23,SNR=402						
H03N2	**Juan Fernandez**	**16.52**	**201**	T	T	19 16 49.4	
	baz=23,slow=74,SNR=216						
H03N3	**Juan Fernandez**	**16.54**	**201**	T	T	19 16 50.5	
	baz=23,slow=74,SNR=183						
CLDB	**Colider**	**17.17**	**67**	*e*P	**P**	**18 59 46.6**	**-0.5**
ITQB	**Itaqui**	**18.10**	**132**	*e*P	**P**	**18 59 58.7**	**+1.5**
MACA	**Manacapuru-AM**	**18.48**	**38**	*e*P	**P**	**19 00 00.4**	**-1.1**
ARAG	**Araguaiana, MT**	**19.39**	**86**	*e*P	**Pn**	**19 00 12.2**	**-0.5**
PTGB	**Pitanga**	**19.61**	**113**	*e*P	**Pn**	**19 00 15.1**	**-0.4**
PCMB	**Pacaembu**	**19.74**	**104**	*e*P	**Pn**	**19 00 16.1**	**-0.8**
ITAB	**Concordia**	**20.38**	**120**	*e*P	Pn	19 00 24.8	+0.4
ITRB	**Iturama**	**20.46**	**98**	*e*P	Pn	19 00 25.0	-0.5
SOTA	**Rioblanco**	**20.63**	**347**	*e*P	**P**	**19 00 26.9**	**+1.4**
PCON	**Cinco Dias**	**20.77**	**347**	*e*P	Pn	19 00 34.4	+4.7
SNDB	**Serra Nova Dou**	**20.82**	**76**	*e*P	**P**	**19 00 26.3**	**-0.8**
PTGA	**Pitinga**	**20.88**	**36**	P	**P**	**19 00 25.0**	**-2.6**
	9.9nm,0.7s,baz=206,slow=18,SNR=9.6						
PTGA	**Pitinga**	**20.88**	**36**	P	**P**	**19 00 25.4**	**-2.2**
PTGA				IAmb	IAmb	19 00 29.3	
	comp=Z,13nm,0.8s						
ORTC	**Ortega, Tolima**	**22.11**	**351**	*e*P	**P**	**19 00 41.9**	**+0.9**
BB19B	**Bebedouro**	**22.23**	**101**	*e*P	**P**	**19 00 43.0**	**+0.8**
IPMB	**Ipameri, GO**	**22.54**	**93**	*e*P	**P**	**19 00 44.2**	**-1.4**
PLCA	**Paso Flores**	**22.59**	**177**	P	**P**	**19 00 48.0**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=346,slow=10.0,SNR=6.1						
PLCA	**Paso Flores**	**22.59**	**177**	P	**P**	**19 00 47.6**	**+1.7**
PLCA				IAmb	IAmb	19 00 57.3	
	comp=Z,9.0nm,1.4s						
BDFB	**Brasilia**	**23.00**	**87**	P	**P**	**19 00 48.9**	**-1.6**
	comp=Z,4.3nm,0.5s,baz=264,slow=7.1,SNR=9.4						
BDFB	**Brasilia**	**23.00**	**87**	P	**P**	**19 00 48.1**	**-2.4**
BDFB				IAmb	IAmb	19 00 57.3	
	comp=Z,16nm,1.2s						
RREF	**El Recreo**	**23.10**	**351**	*e*P	**P**	**19 00 56.1**	**+4.1**
PLMC	**San Jos del P**	**23.26**	**349**	*e*P	**P**	**19 00 54.7**	**+1.7**
GUY2C	**Guyana, Caldas**	**23.42**	**351**	*e*P	**P**	**19 00 55.8**	**+0.8**
PEXB	**Peixe**	**23.55**	**79**	*e*P	**P**	**19 00 55.1**	**-0.8**
MALB	**Monte Alegre**	**23.68**	**49**	*e*P	**P**	**19 00 56.6**	**-0.4**
NORC	**Norcasia**	**23.69**	**353**	*e*P	**P**	**19 00 57.0**	**-0.2**
PTBC	**PUERTO BERRIO,**	**24.61**	**354**	*e*P	**P**	**19 01 03.4**	**-2.2**
GO07	**Milladeo Hill,**	**24.98**	**183**	P	**P**	**19 01 03.5**	**-5.3**
DBBC	**Dabeiba**	**25.31**	**350**	*e*P	**P**	**19 01 14.2**	**+2.1**
SMTB	**Santa Maria do**	**25.35**	**72**	*e*P	**P**	**19 01 13.6**	**+1.2**
MCPB	**Macapa, AP**	**26.30**	**50**	*e*P	**P**	**19 01 21.4**	**+0.4**
JANB	**Januaria**	**26.62**	**88**	*e*P	**P**	**19 01 24.4**	**+0.4**
SDBA	**SAO DESIDERIO**	**26.65**	**82**	*e*P	**P**	**19 01 26.2**	**+1.9**
SMLC	**San Martn de**	**26.81**	**355**	*e*P	**P**	**19 01 23.0**	**-2.5**
SDV	**Santo Domingo**	**26.84**	**3**	P	**P**	**19 01 27.0**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=300,slow=16,SNR=2.8						
GO09	**Cerro Castillo**	**33.10**	**180**	P	**P**	**19 02 17.9**	**-3.0**
GO09				IAmb	IAmb	19 02 20.6	
	comp=Z,12nm,1.1s						
TXAR	**Lajitas Array**	**56.24**	**326**	P	**P**	**19 05 25.6**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=143,slow=8.9,SNR=3.9						
PDAR	**Pinedale Array**	**69.77**	**331**	P	**P**	**19 06 56.0**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=110,slow=4.9,SNR=2.0						
DBIC	**Dimbokro**	**70.57**	**76**	P	**P**	**19 06 59.9**	**-0.7**
	comp=Z,4.1nm,0.9s,baz=262,slow=9.5,SNR=3.2						
DBIC				LR	LR	19 36 42.3	
	comp=Z,60nm,18.1s,baz=301,slow=35						
NVAR	**Mina Array Bea**	**71.08**	**323**	P	**P**	**19 07 05.2**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=153,slow=8.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**78.95**	**72**	P	**P**	**19 07 48.2**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=254,slow=5.2,SNR=11						
TORD				LR	LR	19 41 49.1	
	comp=Z,94nm,18.1s,baz=275,slow=35						
YKA	**Yellowknife Ar**	**87.07**	**342**	P	**P**	**19 08 30.5**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=137,slow=5.3,SNR=20						
BOSA	**Boshof**	**87.56**	**119**	LR	LR	19 47 37.8	
	comp=Z,45nm,18.2s,baz=142,slow=36						
MAW	**Mawson**	**88.37**	**164**	P	**P**	**19 08 38.3**	**+2.0**
	comp=Z,3.0nm,0.7s,baz=229,slow=9.3,SNR=2.5						
H11S2	**WAKE ISLAND Hyd**	**124.56**	**280**	T	T	21 31 36.2	
	baz=99,slow=74,SNR=42						
H11N3	**WAKE ISLAND Hyd**	**124.57**	**282**	T	T	21 31 42.2	
	baz=99,slow=74,SNR=7.4						
H11S1	**WAKE ISLAND Hyd**	**124.57**	**280**	T	T	21 31 44.6	
	baz=99,slow=74,SNR=15						
H11N2	**WAKE ISLAND Hyd**	**124.58**	**282**	T	T	21 31 47.7	
	baz=99,slow=74,SNR=9.2						
H11S3	**WAKE ISLAND Hyd**	**124.58**	**280**	T	T	21 31 38.2	
	baz=99,slow=74,SNR=14						
H11N1	**WAKE ISLAND Hyd**	**124.58**	**282**	T	T	21 31 37.6	
	baz=99,slow=74,SNR=5.7						
ZALV	**Zalesovo Beam**	**139.96**	**21**	PKP	**PKPdf**	**19 15 13.9**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=261,slow=2.6,SNR=4.7						
MKAR	**Makanchi Array**	**144.37**	**31**	PKP	**PKPab**	**19 15 18.9**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=314,slow=4.5,SNR=11						
USRK	**Ussuriysk Ar.**	**147.13**	**328**	PKPbc	**PKPbc**	**19 15 29.7**	**+1.9**
	comp=Z,3.6nm,0.7s,baz=262,slow=3.0,SNR=5.6						
MJAR	**Matsushiro Arr**	**147.73**	**311**	PKPbc	**PKPbc**	**19 15 31.7**	**+1.9**
	comp=Z,3.7nm,0.7s,baz=91,slow=1.9,SNR=11						
SONM	**Songino Array**	**150.31**	**2**	PKPbc	**PKiKP**	**19 15 37.6**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=314,slow=1.2,SNR=14						

NORS 22 18:58:49.8±0.0, 42.71N×45.05E, h15km, MPVA3.3
MOS 22 18:58:50.1±0.0, 42.74N×45.05E, h16km, MPVA3.3
TIF 22 18:58:50.3, 42.91N×45.01E, h5km±2km
DRS 22 18:58:52.5±0.0, 42.96N×44.98E, h18km, ML1.9/5

ISC 22 18:58:51.5±1.1, 42.88N±0.04×45.05E±0.02, h11km±9km, n21, σ2^{9}13/39, 2C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNSH	**Pansheti**	**0.40**	**233**	P	**Pg**	**18 58 58.8**	**-0.8**
PNSH				S	**Sg**	**18 59 05.0**	**+0.1**
MTEO	**Meteo**	**0.43**	**243**	P	**Pg**	**18 58 59.4**	**-0.8**
MTEO				S	**Sb**	**18 59 06.2**	**-1.8**
LACR	**Lac**	**0.56**	**265**	*i* Pg	**Pb**	**18 59 01.7**	**-1.6**
LACR				*e*Sg	**Sb**	**18 59 10.5**	**-0.9**
GROC	**Groznyy**	**0.63**	**59**	*e*Pg	**Pn**	**18 59 06.8**	**+0.4**
GROC				*e*Sg	**Sn**	**18 59 17.4**	**+0.9**
ARNR	**Ardon**	**0.64**	**298**	*e*Pg	**Pn**	**18 59 06.5**	**0.0**
ARNR				*e*Sg	**Sn**	**18 59 17.9**	**+1.3**
DVE	**Vedeno**	**0.79**	**84**	*e*Pg	**Pn**	**18 59 06.8**	**-1.9**
DVE				*e*Sg	**Sn**	**18 59 20.2**	**-0.3**
ZEI	**Tsey**	**0.85**	**264**	*e*Pg	**Pn**	**18 59 08.0**	**-1.5**
ZEI				*e*Sg	**Sn**	**18 59 22.6**	**+0.5**
STDR	**Stavd-Durt**	**0.87**	**304**	*e*Pg	Pn	18 59 13.1	+3.4
STDR				*e*Sg	**Sn**	**18 59 28.1**	**+5.7**
BTLR	**Botlikh**	**0.89**	**104**	*e*Pg	**Pn**	**18 59 08.9**	**-1.0**
	10nm,0.2s						
BTLR				*e*Sg	**Sn**	**18 59 21.8**	**-1.1**
	17nm,0.5s						
LSNR	**Lesken**	**0.98**	**294**	*e*Pg	**Pn**	**18 59 12.5**	**+1.3**
LSNR				*e*Sg	**Sn**	**18 59 28.3**	**+3.2**
DIGR	**Digorskoe uzhe**	**1.08**	**272**	*e*Pg	**Pg**	**18 59 11.8**	**-0.5**
DIGR				*e*Sg	**Sn**	**18 59 27.8**	**0.0**
BTNK	**Botanikuri**	**1.21**	**189**	P	**Pg**	**18 59 14.9**	**+0.2**
ONI	**Oni**	**1.21**	**257**	P	**Pb**	**18 59 13.4**	**-1.0**
DBC	**Dubki**	**1.31**	**83**⇑	*i* Pg	**Pg**	**18 59 16.0**	**-0.7**
	14nm,0.2s						
DBC				*e*Sg	**Sg**	**18 59 35.4**	**+1.6**
	17nm,0.4s						
KRNR	**Karanay**	**1.37**	**92**⇑	*i* Pg	**Pg**	**18 59 16.9**	**-0.8**
	14nm,0.2s						
KRNR				*e*Sg	**Sg**	**18 59 36.8**	**+1.3**
	12nm,0.4s						
ARKR	**Arakani**	**1.46**	**100**	*e*Pg	**Pg**	**18 59 18.3**	**-1.2**
	7.8nm,0.2s						
ARKR				*e*Sg	**Sg**	**18 59 39.5**	**+1.1**
	21nm,0.4s						
GNBR	**Gunib**	**1.49**	**109**	*e*Pg	**Pg**	**18 59 19.4**	**-0.8**
	7.4nm,0.4s						
GNBR				*e*Sg	**Sg**	**18 59 39.9**	**+0.3**
	19nm,0.5s						
KBTC	**Kuba-Taba**	**1.52**	**309**	*e*Pg	**Pg**	**18 59 20.5**	**-0.2**
KBTC				*e*Sg	**Sg**	**18 59 43.2**	**+2.7**
BKRG	**Bakuriani**	**1.59**	**226**	P	**Pg**	**18 59 20.7**	**-1.4**
BKRG				S	**Sg**	**18 59 43.2**	**+0.4**
DDFL	**Dedoflistskaro**	**1.64**	**151**	P	**Pg**	**18 59 24.3**	**+1.4**
DDFL				S	**Sg**	**18 59 52.7**	**+8.5**
NEY	**Neytrino**	**1.75**	**283**	*e*Pg	**Pg**	**18 59 23.7**	**-1.3**
NEY				*e*Sg	**Sg**	**18 59 48.0**	**+0.3**

NNC 22 19:02:41.1±2.0, 38.54N×72.76E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=17.5km s-min=10.2km az=158.0
IDC 22 19:02:42.3±3.5, 38.28N×73.05E, h92km±26km, mb3.4/10, mb1 3.5/15, mb1mx3.2/64, mbtmp3.9/15, Error ellipse: s-maj=30.3km s-min=16.4km az=157.0

ISC 22 19:02:41.4±0.7, 38.16N±0.07×73.01E±0.05, h100km, n43, σ1^{9}98/50, mb3.6/9, 10C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.00**	**7**	P	**Pn**	**19 03 41.5**	**+0.6**
	SNR=660						
UCH	**Uchtor**	**4.22**	**15**	P	**Pn**	**19 03 44.4**	**+0.5**
	SNR=110						
CEP	**Cherat**	**4.42**	**192**	P	Pn	19 03 53.2	+6.8
EKS2	**Erkin-Say**	**4.53**	**7**	P	**Pn**	**19 03 49.0**	**+1.2**
	SNR=72						
AAK	**Ala-Archa**	**4.61**	**14**	P	**Pn**	**19 03 50.1**	**+1.2**
	12nm,0.3s,baz=174,slow=6.7,SNR=168						
AAK				S	**Sn**	**19 04 39.6**	**-1.9**
	12nm,0.3s,baz=139,slow=23,SNR=18						
AAK	**Ala-Archa**	**4.61**	**14**	P	**Pn**	**19 03 50.1**	**+1.2**
	SNR=60						
AAK	**Ala-Archa**	**4.61**	**14**	⇑P	**Pn**	**19 03 50.2**	**+1.2**
	14nm,0.4s						
AAK				⇓S	**Sn**	**19 04 39.6**	**-1.9**
	52nm,0.6s						
KBK	**Karagaybulak**	**4.73**	**18**	P	**Pn**	**19 03 51.9**	**+1.4**
	SNR=17						
ULHL	**Ulahol**	**4.77**	**30**	P	**Pn**	**19 03 52.0**	**+0.8**
	SNR=9.8						
CHMS	**Chumysh**	**5.01**	**15**	P	**Pn**	**19 03 55.5**	**+1.2**
	SNR=11						
TKM2	**Tokmak 2**	**5.15**	**22**	P	**Pn**	**19 03 57.2**	**+1.0**
	SNR=7.6						
TKM2	**Tokmak 2**	**5.15**	**22**	⇓P	**Pn**	**19 03 57.0**	**+0.7**
	3.8nm,0.5s						
TKM2				⇑S	**Sn**	**19 04 53.7**	**-0.8**
	16nm,0.5s						
USP	**Ospenovka**	**5.22**	**12**	P	**Pn**	**19 03 57.9**	**+0.7**
	SNR=43						
KK31	**Karatay Array**	**5.29**	**340**	⇑P	**Pn**	**19 03 56.6**	**-1.3**
	8.8nm,0.3s,baz=150,slow=12,SNR=661						
KK31				⇑S	**Sn**	**19 04 54.0**	**-3.6**
	19nm,0.3s,baz=178,slow=26,SNR=11						
THW	**Thamme Wali**	**5.45**	**191**	P	Pn	19 04 05.7	+5.4
PDGK	**Podgornoye**	**7.13**	**42**	⇑P	**Pn**	**19 04 23.0**	**-0.1**
	1.7nm,0.6s						
PDGK		

TK02				S	Sn	19 06 02.3	+1.4	
TK04	**Tokai 4**	**2.75**	**292**	P	Pn	19 05 31.6	+2.0	
JYT	**Yasato**	**2.89**	**347**		Pn	19 05 32.7	+1.1	
JGF	**Kuroka**	**3.70**	**307**		Pn	19 05 44.1	+1.4	
INU	**Inuyama**	**3.80**	**302**		Pn	19 05 45.5	+1.5	
MJAR	**Matsushiro Arr**	**3.87**	**325**	P	Pn	19 05 46.5	+1.5	
	2.6nm,0.3s,baz=173,slow=2.1,SNR=115							
MJAR				S	Sn	19 06 28.9	-0.2	
	2.8nm,0.3s,baz=16,slow=14,SNR=12							
MJAR				LR	LR	19 07 25.3		
	comp=Z,96nm,19.3s,baz=170,slow=41							
MJAR	**Matsushiro Arr**	**3.87**	**325**		Pn	19 05 45.2	+0.3	
MAJO	**Matsushiro**	**3.87**	**325**		Pn	19 05 47.3	+2.3	
MAT	**Matsushiro**	**3.87**	**325**	P	Pn	19 05 47.0	+2.0	
MAT				S	Sn	19 06 29.3	+0.1	
JMM	**Marumori**	**4.46**	**358**		Pn	19 05 54.0	+1.0	
JWT	**Wachi**	**4.97**	**294**		Pn	19 06 02.5	+2.4	
JCJ	**Chichijima**	**6.37**	**170**	P	Pn	19 06 19.1	-0.3	
	36nm,0.3s,baz=92,slow=17,SNR=17							
JCJ				S	Sn	19 07 26.2	-4.5	
	22nm,0.3s,baz=290,slow=23,SNR=7.6							
JCJ	**Chichijima**	**6.37**	**170**	Pn	Pn	19 06 19.4	0.0	
JTM	**Tenmabayashi**	**7.37**	**1**	Pn	Pn	19 06 33.5	+0.5	
JNU	**Nakatsue**	**8.46**	**271**	P	Pn	19 06 49.9	+2.0	
	1.7nm,0.3s,baz=90,slow=2.4,SNR=10							
JNU	**Nakatsue**	**8.46**	**271**	Pn	Pn	19 06 50.3	+2.4	
ERM	**Erimo**	**8.77**	**11**	Pn	Pn	19 06 52.9	+0.8	
JEW	**Eniwo**	**9.43**	**2**	Pn	Pn	19 07 01.1	-0.1	
ASAJ	**Asahikawa**	**10.78**	**6**	P	Pn	19 07 18.6	-0.9	
	2.2nm,0.3s,baz=219,slow=10,SNR=29							
ASAJ				S	Sn	19 09 14.7	-3.9	
	0.6nm,0.3s,baz=119,slow=19,SNR=2.0							
ASAJ				LR	LR	19 12 34.8		
	comp=Z,28nm,18.5s,baz=178,slow=43							
JKA	**Kamikawa-asahi**	**10.78**	**6**		Pn	19 07 18.4	-1.1	
KSRS	**Korea Array**	**11.38**	**294**	P	Pn	19 07 29.9	+2.0	
	0.2nm,0.3s,baz=106,slow=13,SNR=6.1							
KSRS				LR	LR	19 12 09.6		
	comp=Z,34nm,19.6s,baz=156,slow=39							
KSAR	**Wonju Array Be**	**11.41**	**294**	Pn	Pn	19 07 27.1	-1.1	
USRK	**Ussuriysk Ar.**	**12.85**	**330**	LR	LR	19 12 07.4		
	comp=Z,50nm,20.7s,baz=246,slow=34							
KLR	**Kul'dur**	**17.24**	**339**	P	Pn	19 08 43.6	-1.5	
	0.3nm,0.3s,baz=196,slow=5.8,SNR=6.7							
YHNB	**Yeheng**	**19.19**	**248**	P	P	19 09 07.0	-0.7	
YHNB				IAmb	IAmb	19 09 12.4		
	comp=Z,83nm,1.4s							
SSLB	**Suanglung**	**19.99**	**247**	P	P	19 09 14.6	-1.7	
SSLB				IAmb	IAmb	19 09 24.6		
	comp=Z,33nm,1.5s							
TPUB	**Ta-pu**	**20.50**	**246**	P	P	19 09 19.6	-2.3	
TPUB				IAmb	IAmb	19 09 24.1		
	comp=Z,72nm,1.4s							
H11N2	**WAKE ISLAND Hy**	**26.80**	**114**	T	T	19 39 27.1		
	baz=306,slow=75							
H11N1	**WAKE ISLAND Hy**	**26.81**	**114**	T	T	19 39 24.4		
	baz=306,slow=75							
H11N3	**WAKE ISLAND Hy**	**26.82**	**114**	T	T	19 39 24.1		
	baz=306,slow=75							
H11S3	**WAKE ISLAND Hy**	**27.38**	**116**	T	T	19 40 08.8		
	baz=307,slow=75							
H11S1	**WAKE ISLAND Hy**	**27.38**	**116**	T	T	19 40 03.4		
	baz=307,slow=75							
H11S2	**WAKE ISLAND Hy**	**27.40**	**116**	T	T	19 40 08.6		
	baz=307,slow=75							
SONM	**Songino Array**	**29.66**	**309**	P	P	19 10 49.4	+0.6	
	comp=Z,2.8nm,0.8s,baz=120,slow=8.8,SNR=20							
SONM				LR	LR	19 23 05.5		
	comp=Z,74nm,18.0s,baz=104,slow=37							
SONM	**Songino Array**	**29.66**	**309**	P	P	19 10 49.3	+0.5	
DLV	**T Lat**	**36.56**	**242**	P	P	19 11 47.0	-2.2	
TIXI	**Tiksi**	**38.85**	**354**	P	P	19 12 08.1	+0.3	
	comp=Z,1.0nm,0.3s,baz=122,slow=2.4,SNR=6.2							
TIXI	**Tiksi**	**38.85**	**354**	P	P	19 12 08.0	+0.3	
CMAR	**Chiang Mai Arr**	**40.34**	**259**	P	P	19 12 20.0	-0.7	
	comp=Z,0.5nm,0.3s,baz=53,slow=8.0,SNR=1.1							
CMAR				LR	LR	19 30 15.6		
	comp=Z,9.4nm,18.1s,baz=190,slow=38							
ZALV	**Zalesovo Beam**	**44.16**	**315**	P	P	19 12 51.4	-0.1	
	comp=Z,1.0nm,0.4s,baz=91,slow=6.5,SNR=4.9							
ZALV				PcP	PcP	19 14 35.5	0.0	
	comp=Z,0.5nm,0.3s,baz=112,slow=4.4,SNR=2.3							
MK31	**Makanchi Array**	**45.82**	**305**	P	P	19 13 04.8	0.0	
MKAR	**Makanchi Array**	**45.82**	**305**	P	P	19 13 04.7	-0.1	
	comp=Z,1.4nm,0.7s,baz=86,slow=9.2,SNR=15							
MKAR				ScP	ScP	19 18 28.3	-1.9	
	comp=Z,0.4nm,0.6s,baz=74,slow=5.2,SNR=4.5							
MKAR	**Makanchi Array**	**45.82**	**305**	P	P	19 13 04.5	-0.3	
MAKZ	**Makanchi**	**46.03**	**305**	P	P	19 13 06.1	-0.4	
COEN	**Coen**	**47.14**	**177**	P	P	19 13 16.3	+1.0	
GSI	**Gunungsitoli**	**51.68**	**241**	P	P	19 13 48.5	-1.5	
GSI				IAmb	IAmb	19 13 49.3		
	comp=Z,7.7nm,0.7s							
ILAR	**Eielson Array**	**52.77**	**31**	P	P	19 13 59.2	+1.7	
	comp=Z,0.3nm,0.6s,baz=276,slow=6.7,SNR=7.1							
BRVK	**Borovoye**	**52.85**	**314**	P	P	19 13 57.2	-1.1	
BRVK				IAmb	IAmb	19 14 10.8		
	comp=Z,2.9nm,1.4s							
FITZ	**Fitzroy Crossi**	**53.26**	**198**	P	P	19 14 02.2	+0.7	
FITZ				IAmb	IAmb	19 14 14.5		
	comp=Z,14nm,1.5s							
WRAB	**Tennant Creek**	**53.41**	**188**	P	P	19 14 03.4	+0.7	
WR0	**Warramunga Arr**	**53.41**	**188**	P	P	19 14 03.3	+0.6	
WB2	**Warramunga Arr**	**53.42**	**188**	P	P	19 14 03.2	+0.5	
WRA	**Warramunga Arr**	**53.42**	**188**	P	P	19 14 03.1	+0.4	
	comp=Z,15nm,0.3s,baz=4.8,slow=7.5,SNR=503							
WRA	**Warramunga Arr**	**53.42**	**188**	P	P	19 14 02.4	-0.3	
WRA				IAmb	IAmb	19 14 04.0		
	comp=Z,1.2nm,0.5s							
CTA	**Charters Tower**	**53.43**	**174**	P	P	19 14 03.7	+0.9	
	comp=Z,2.1nm,0.7s,baz=6.5,slow=5.8,SNR=2.0							
KK31	**Karatay Array**	**54.69**	**302**	P	P	19 14 12.1	+0.2	
KK31				IAmb	IAmb	19 14 13.5		
	comp=Z,2.1nm,1.1s							
KKAR	**Karatay Array**	**54.69**	**302**	P	P	19 14 11.9	0.0	
KKAR				IAmb	IAmb	19 14 13.5		
	comp=Z,2.1nm,1.1s							
KKAR	**Karatay Array**	**54.69**	**302**	P	P	19 14 12.1	+0.2	
AS31	**Alice Springs**	**57.15**	**188**	P	P	19 14 30.4	+0.8	
AS31				IAmb	IAmb	19 14 32.8		
	comp=Z,3.0nm,0.5s							
ASAR	**Alice Springs**	**57.15**	**188**	P	P	19 14 30.1	+0.5	
	comp=Z,2.8nm,0.4s,baz=4.9,slow=6.8,SNR=78							
ABKAR	**Akbulak array**	**60.04**	**312**	P	P	19 14 49.1	-0.3	
ABKAR				IAmb	IAmb	19 14 59.3		
	comp=Z,1.4nm,0.7s							
ABKAR	**Akbulak array**	**60.04**	**312**	P	P	19 14 49.0	-0.5	
FINES	**FINESS Array B**	**71.86**	**333**	P	P	19 16 06.5	+1.3	
	comp=Z,1.9nm,0.9s,baz=76,slow=7.3,SNR=1.5							
FINES	**FINESS Array B**	**71.86**	**333**	P	P	19 16 04.0	-1.1	
AKASG	**Malin Array Be**	**76.95**	**323**	P	P	19 16 34.6	-0.3	
	comp=Z,0.8nm,0.4s,baz=46,slow=6.3,SNR=6.2							
NOA	**NORSAR Array B**	**77.39**	**337**	P	P	19 16 38.0	+0.8	
	comp=Z,0.5nm,0.8s,baz=43,slow=5.6,SNR=0.9							
NVAR	**Mina Array Bea**	**77.48**	**52**	P	P	19 16 40.6	+2.2	
	comp=Z,0.1nm,0.5s,baz=284,slow=3.6,SNR=3.9							
URZ	**Urewera**	**78.82**	**152**	P	P	19 16 46.6	+1.4	
	comp=Z,3.4nm,0.4s,baz=240,slow=5.9,SNR=6.2							
TXAR	**Lajitas Array**	**92.63**	**52**	P	P	19 17 56.0	+1.4	
	comp=Z,0.4nm,0.8s,baz=302,slow=4.1,SNR=6.5							
LPAZ	**La Paz**	**148.73**	**64**	PKPbc	PKiKP	19 24 32.6	+0.2	
	comp=Z,0.7nm,0.5s,baz=344,slow=6.7,SNR=4.5							

*SOME **22** 19:25:32.3,41°.08N×76°.57E,h10km*
*KRNET **22** 19:25:33.9±0.1,41°.13N×76°.59E,h17km,mb3.0*
*NNC **22** 19:25:34.6±1.0,41°.07N×76°.74E,h0km,mb3.8,mpv3.3,*
Error ellipse: s-maj=7.4km s-min=5.7km az=175.0
ISC 22 19:25:32.6±1.4,41°.07N±0°.04×76°.59E±0°.02,h3km±12km,
n74,σ1s39/113,37C-14D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.15**	**22**	⇑*e*P	**Pn**	**19 25 54.6**	**-1.1**
	baz=24						
KDJ				⇑*i*S	**Sn**	**19 26 09.6**	**-2.5**
	baz=24						
ULHL	**Ulahol**	**1.20**	**348**	⇑*i*P	**Pb**	**19 25 55.6**	**-0.6**
	baz=47						
ULHL				⇑*i*S	**Sg**	**19 26 11.3**	**0.0**
	baz=47						
ULHL	**Ulahol**	**1.20**	**348**	P	**Pg**	**19 25 55.8**	**+0.1**
	SNR=14						
BOOM	**Boomskoye usch**	**1.50**	**341**	⇑*e*P	**Pg**	**19 26 01.1**	**-0.3**
	baz=41						
BOOM				⇑*i*S	**Sg**	**19 26 20.7**	**-0.1**
	baz=41						
ARLS	**Aral**	**1.88**	**296**	⇑*i*P	**Pb**	**19 26 07.9**	**+0.3**
	baz=94						
ARLS				⇑*i*S	**Sg**	**19 26 32.8**	**-0.1**
	baz=94						
ANVS	**Anan'yevo**	**1.89**	**25**	⇓*i*P	**Pg**	**19 26 08.2**	**-0.7**
	baz=26						
ANVS				⇓*i*S	**Sg**	**19 26 32.6**	**-0.8**
	baz=26						
UCH	**Uchtor**	**1.94**	**307**	⇑*i*P	**Pb**	**19 26 09.2**	**+0.4**
	baz=6.0						
UCH				⇑*i*S	**Sg**	**19 26 34.9**	**0.0**
	baz=6.0						
UCH	**Uchtor**	**1.94**	**307**	P	**Pb**	**19 26 08.9**	**+0.1**
	SNR=49						
PRZ	**Przheval'sk**	**1.96**	**43**	⇓*i*P	**Pg**	**19 26 09.6**	**-0.5**
	baz=44						
PRZ				⇓*i*S	**Sg**	**19 26 35.5**	**0.0**
	baz=44						
IZV	**Izvestkoviy**	**1.96**	**0**	*e*P	**Pg**	**19 26 10.0**	**-0.2**
	7.0nm,0.6s						
IZV				*e*S	**Sg**	**19 26 37.7**	**+2.0**
	44nm,0.7s						
IZV	**Izvestkoviy**	**1.96**	**0**	Pg	**Pg**	**19 26 10.0**	**-0.2**
	7.0nm,0.6s						
IZV				Lg	Lg	19 26 37.7	
	44nm,0.7s						
TNSS	**Tian-Shan**	**1.98**	**8**	*e*P	**Pg**	**19 26 10.7**	**0.0**
	12nm,0.4s						
TNSS				*e*S	**Sg**	**19 26 38.8**	**+2.5**
	10nm,0.3s						
TNSS	**Tian-Shan**	**1.98**	**8**	Pg	**Pg**	**19 26 10.7**	**0.0**
	12nm,0.4s						
TNSS				Lg	Lg	19 26 38.8	
	10nm,0.3s						
TKM2	**Tokmak 2**	**1.99**	**339**	⇑*i*P	**Pb**	**19 26 09.8**	**+0.2**
	baz=38						
TKM2				⇑*i*S	**Sg**	**19 26 35.8**	**-0.8**
	baz=38						
TKM2	**Tokmak 2**	**1.99**	**339**	P	**Pg**	**19 26 10.6**	**-0.2**
	SNR=24						
TKM2	**Tokmak 2**	**1.99**	**339**	⇓Pn	**Pg**	**19 26 10.6**	**-0.2**
	4.5nm,0.2s						
TKM2				⇑Lg	Lg	19 26 39.2	
	14nm,0.6s						
KBK	**Karagaybulak**	**2.00**	**323**	⇑*e*P	**Pb**	**19 26 10.3**	**+0.5**
	baz=22						
KBK				⇑*i*S	**Sg**	**19 26 36.2**	**-0.8**
	baz=22						
KBK	**Karagaybulak**	**2.00**	**323**	P	**Pg**	**19 26 10.5**	**-0.6**
	SNR=15						
KST	**Kastek**	**2.02**	**347**	⇓*i*P	**Pg**	**19 26 11.4**	**-0.1**
	3.5nm,0.2s						
KST				⇑*i*S	**Sg**	**19 26 40.0**	**+2.4**
	21nm,0.7s						
KST	**Kastek**	**2.02**	**347**	Pg	**Pg**	**19 26 11.4**	**-0.1**
	11nm,0.3s						
KST				Lg	Lg	19 26 40.0	
	21nm,0.7s						
MTBS	**Maitube**	**2.06**	**357**	*e*P	**Pg**	**19 26 12.5**	**+0.3**
	4.2nm,0.3s						
MTBS				*e*S	**Sg**	**19 26 41.7**	**+2.9**
	36nm,0.4s						
MTBS	**Maitube**	**2.06**	**357**	Pg	**Pg**	**19 26 12.5**	**+0.3**
	4.2nm,0.3s						
MTBS				Lg	Lg	19 26 41.7	
	36nm,0.4s						
MDOK	**Medeo**	**2.12**	**9**	*e*P	**Pg**	**19 26 12.8**	**-0.5**
	14nm,0.5s						
MDOK				*e*S	**Sg**	**19 26 42.3**	**+1.6**
	25nm,0.9s						
MDOK	**Medeo**	**2.12**	**9**	⇑Pn	**Pg**	**19 26 13.8**	**+0.6**
	8.4nm,0.4s						
MDOK				⇓Lg	Lg	19 26 42.7	
	28nm,0.9s						
MDOK	**Medeo**	**2.12**	**9**	Pg	**Pg**	**19 26 12.8**	**-0.5**
	14nm,0.5s						
MDOK				Lg	Lg	19 26 42.3	
	25nm,0.9s						
KNDC	**Almaty**	**2.16**	**7**	⇑Pg	**Pg**	**19 26 15.9**	**+1.8**
	12nm,0.4s						
KNDC				⇑Lg	Lg	19 26 44.9	
	49nm,0.5s						
KOTS	**Kotyrbulak**	**2.20**	**10**	*e*P	**Pg**	**19 26 14.3**	**-0.4**
	23nm,0.3s						
KOTS				*e*S	**Sg**	**19 26 45.0**	**+1.8**
	39nm,0.3s						
KOTS	**Kotyrbulak**	**2.20**	**10**	Pg	**Pg**	**19 26 14.3**	**-0.4**
	23nm,0.3s						
KOTS				Lg	Lg	19 26 45.0	
	39nm,0.3s						
AAK	**Ala-Archa**	**2.21**	**316**	⇑*i*P	**Pb**	**19 26 13.6**	**+0.2**
	baz=15						
AAK				⇑*i*S	**Sg**	**19 26 41.7**	**-2.0**
	baz=15						
AAK	**Ala-Archa**	**2.21**	**316**	P	**Pb**	**19 26 13.9**	**+0.6**
	SNR=47						
AAK	**Ala-Archa**	**2.21**	**316**	⇓Pn	**Pb**	**19 26 14.0**	**+0.6**
	14nm,0.6s						
AAK				⇑Lg	Lg	19 26 46.2	
	18nm,0.5s						
DGS	**Degeres**	**2.25**	**345**	*e*P	**Pg**	**19 26 15.4**	**-0.4**
	9.4nm,0.4s						
DGS				*e*S	**Sg**	**19 26 46.8**	**+1.7**
	21nm,0.3s						
DGS	**Degeres**	**2.25**	**345**	Pg	**Pg**	**19 26 15.4**	**-0.4**
	9.4nm,0.4s						
DGS				Lg	Lg	19 26 46.8	
	21nm,0.3s						
FRU1	**Bishkek**	**2.27**	**321**	⇑*i*P	**Pb**	**19 26 14.2**	**-0.1**
	baz=20						
FRU1				⇑*e*S	**Sb**	**19 26 42.9**	**+0.1**
	baz=20						
CHMS	**Chumysh**	**2.36**	**325**	⇑*i*P	**Pb**	**19 26 15.5**	**-0.3**
	baz=24						
CHMS				⇑*i*S	**Sb**	**19 26 45.1**	**-0.3**
	baz=24						
CHMS	**Chumysh**	**2.36**	**325**	P	**Pg**	**19 26 17.0**	**-0.9**
	SNR=6.8						
SATY	**Saty**	**2.40**	**34**	*e*P	**Pb**	**19 26 17.1**	**+0.5**
	8.1nm,0.4s						
SATY				*e*S	**Sg**	**19 26 49.6**	**-0.2**
	26nm,0.5s						
SATY	**Saty**	**2.40**	**34**	Pg	**Pb**	**19 26 17.1**	**+0.5**
	8.1nm,0.4s						
SATY				Lg	Lg	19 26 49.6	
	26nm,0.5s						
AML	**Almayashu**	**2.42**	**297**	⇓*e*P	**Pb**	**19 26 16.4**	**-0.6**
	baz=96						
AML				⇓*i*S	**Sb**	**19 26 47.7**	**+0.4**
	baz=96						
AML	**Almayashu**	**2.42**	**297**	P	**Pb**	**19 26 17.2**	**+0.3**
	SNR=24						
ZHN	**Zhinishke**	**2.50**	**33**	*e*P	**Pb**	**19 26 19.0**	**+0.7**
	224nm,0.5s						
ZHN				*e*S	**Sg**	**19 26 53.0**	**-0.1**
	6.3nm,0.3s						
ZHN	**Zhinishke**	**2.50**	**33**	Pg	**Pb**	**19 26 19.0**	**+0.7**
	224nm,0.5s						
ZHN				Lg	Lg	19 26 53.0	
	6.3nm,0.3s						
SFK	**Sufi-Kurgan**	**2.58**	**247**	⇓*i*P	**Pb**	**19 26 18.9**	**-0.7**
	baz=46						
SFK				⇓*i*S	**Sb**	**19 26 51.8**	**0.0**
	baz=46						
EKS2	**Erkin-Say**	**2.63**	**308**	⇑*i*P	**Pb**	**19 26 19.4**	**-1.1**
	baz=7.0						
EKS2				⇑*i*S	**Sb**	**19 26 52.2**	**-1.1**
	baz=7.0						
KTBS	**Karatobe**	**2.64**	**1**	*e*P	**Pg**	**19 26 21.8**	**-1.4**
	8.7nm,0.3s						
KTBS				*e*S	**Sg**	**19 26 57.9**	**+0.5**
	36nm,0.4s						
KTBS	**Karatobe**	**2.64**	**1**	Pg	**Pg**	**19 26 21.8**	**-1.4**
	8.7nm,0.3s						
KTBS				Lg	Lg	19 26 57.9	
	36nm,0.4s						
USP	**Ospenovka**	**2.69**	**325**	⇑*e*P	**Pb**	**19 26 19.8**	**-1.6**
	baz=25						
USP				⇑*i*S	**Sb**	**19 26 52.9**	**-1.9**
	baz=25						
USP	**Ospenovka**	**2.69**	**325**	P	**Pb**	**19 26 22.6**	**+1.2**
	SNR=22						
KRBS	**Karabastau**	**2.71**	**346**	*e*P	**Pg**	**19 26 23.7**	**-0.8**
	12nm,0.4s						
KRBS				*e*S	**Sg**	**19 27 01.5**	**+1.8**
	26nm,0.5s						
KRBS	**Karabastau**	**2.71**	**346**	Pg	**Pg**	**19 26 23.7**	**-0.8**
	12nm,0.4s						
KRBS				Lg	Lg	19 27 01.5	
	26nm,0.5s						
ARSB	**Arslanbob**	**2.73**	**276**	⇓*i*P	**Pb**	**19 26 21.2**	**-1.0**
	baz=75						
ARSB				⇓*i*S	**Sb**	**19 26 54.9**	**-1.3**
	baz=75						
UZB	**Uzynbulak**	**2.75**	**40**	*e*P	**Pb**	**19 26 21.1**	**-1.4**
	6.2nm,0.3s						
UZB				*e*S	**Sb**	**19 26 56.8**	**+0.1**
	25nm,0.8s						
UZB	**Uzynbulak**	**2.75**	**40**	Pg	**Pb**	**19 26 21.1**	**-1.4**
	6.2nm,0.3s						
UZB				Lg	Lg	19 26 56.8	
	25nm,0.8s						
SGDS	**Sogindy**	**2.79**	**329**	Pg	**Pb**	**19 26 24.4**	**+1.2**
	12nm,0.5s						
SGDS				Lg	Lg	19 27 02.4	
	10nm,0.8s						
CHKK	**Chushkaly**	**2.80**	**6**	*e*P	**Pg**	**19 26 24.7**	**-1.5**
	2.0nm,0.2s						
CHKK				*e*S	**Sg**	**19 27 02.8**	**+0.3**
	17nm,0.7s						
CHKK	**Chushkaly**	**2.80**	**6**	Pg	**Pg**	**19 26 24.7**	**-1.5**
	2.0nm,0.2s						
CHKK				Lg	Lg	19 27 02.8	
	17nm,0.7s						
KUU	**Kurty**	**2.83**	**356**	*e*P	**Pb**	**19 26 24.9**	**+1.2**
	3.9nm,0.5s						
KUU				*e*S	**Sg**	**19 27 03.4**	**0.0**
	19nm,0.5s						
KUU	**Kurty**	**2.83**	**356**	Pg	**Pb**	**19 26 24.9**	**+1.2**
	3.9nm,0.5s						
KUU				Lg	Lg	19 27 03.4	
	19nm,0.5s						
KPKS	**Kokpek**	**2.85**	**32**	*e*P	**Pb**	**19 26 24.4**	**+0.1**
	16nm,0.3s						
KPKS				*e*S	**Sg**	**19 27 02.7**	**-1.6**
	54nm,0.5s						
SHLS	**Shalkode**	**2.98**	**45**	*e*P	**Pg**	**19 26 30.4**	**+0.5**
	14nm,0.4s						
SHLS				*e*S	**Sg**	**19 27 12.7**	**+4.2**
	24nm,0.5s						
SHLS	**Shalkode**	**2.98**	**45**	Pg	**Pg**	**19 26 30.4**	**+0.5**
	14nm,0.4s						
SHLS				Lg	Lg	19 27 12.7	
	24nm,0.5s						
PDGK	**Podgornoye**	**3.12**	**43**	Pg	**Pb**	**19 26 29.4**	**+0.6**
	3.3nm,0.6s						
PDGK				Lg	Lg	19 27 11.1	
	6.7nm,0.6s						
PDGK	**Podgornoye**	**3.12**	**43**	⇑Pn	**Pn**	**19 26 24.8**	**+2.0**
	4.2nm,0.5s						
PDGK				⇑Lg	Lg	19 27 11.3	
	27nm,0.9s						
ARXS	**Arharly**	**3.27**	**16**	*e*P	**Pg**	**19 26 33.1**	**-2.2**
	4.9nm,0.5s						
ARXS				*e*S	**Sg**	**19 27 17.4**	**-0.2**
	11nm,0.4s						
ARXS	**Arharly**	**3.27**	**16**	Pg	**Pg**	**19 26 33.1**	**-2.2**
	4.9nm,0.5s						
ARXS				Lg	Lg	19 27 17.4	
	11nm,0.4s						
MNBS	**Baschi**	**3.29**	**23**	*e*P	**Pg**	**19 26 33.5**	**-2.1**
	3.1nm,0.3s						
MNBS				*e*S	**Sg**	**19 27 18.1**	**-0.3**
	13nm,0.3s						
MNBS	**Baschi**	**3.29**	**23**	Pg	**Pg**	**19 26 33.5**	**-2.1**
	3.1nm,0.3s						
MNBS				Lg	Lg	19 27 18.1	
	13nm,0.3s						
MNAS	**Manas**	**3.37**	**296**	⇑*i*P	**Pb**	**19 26 30.0**	**-3.0**
	baz=95						
MNAS				⇑*i*S	**Sb**	**19 27 09.5**	**-4.9**
	baz=95						
KTMS	**Ketmen**	**3.67**	**48**	*e*P	**Pb**	**19 26 39.0**	**+0.9**
	0.2nm,0.1s						
KTMS				*e*S	**Sg**	**19 27 27.3**	**-3.0**
	6.0nm,0.6s						
KTMS	**Ketmen**	**3.67**	**48**	Pg	**Pb**	**19 26 39.0**	**+0.9**
	0.2nm,0.1s						
KTMS				Lg	Lg	19 27 27.3	
	6.0nm,0.6s						
DJR	**Jarkent**	**4.02**	**35**	*e*P	**Pb**	**19 26 45.6**	**+1.4**
	3.9nm,0.4s						
DJR				*e*S	**Sg**	**19 27 38.6**	**-3.2**
	3.9nm,0.5s						
DJR	**Jarkent**	**4.02**	**35**	Pg	**Pb**	**19 26 45.6**	**+1.4**
	3.9nm,0.4s						
DJR				Lg	Lg	19 27 38.6	
	3.9nm,0.5s						
TRKS	**Terek-Say**	**4.13**	**278**	⇑*i*P	**Pn**	**19 26 40.2**	**+3.5**
	baz=76						
TRKS				⇑*i*S	**Sn**	**19 27 27.3**	**+1.7**
	baz=76						
KK31	**Karatay Array**	**4.96**	**296**	⇑Pg	**Pg**	**19 27 08.5**	**+0.9**
	0.3nm,0.3s,baz=118,slow=15,SNR=12						
KK31				Lg	Lg	19 28 12.8	
	1.0nm,0.5s,baz=119,slow=27,SNR=5.9						

*IDC **22** 19:35:24.5±1.1,39°.77N×143°.49E,h0km,mb3.6/8,*
mb1 3.7/11,mb1mx3.5/42,mbtmp3.6/11,ML2.8/3,MS3.1/3,
Ms1 3.1/3,ms1mx2.5/43,Error ellipse: s-maj=28.2km
s-min=18.2km az=101.0
*JMA **22** 19:35:28.6±0.2,39°.90N×143°.27E,h33km±5km,M3.6*
ISC 22 19:35:27.2±3.6,39°.82N±0°.05×143°.32E±0°.08,h16km±22km,
n33,σ1s57/31,mb3.6/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.13**	**276**	P	**Pb**	**19 35 47.7**	**-0.6**
MIYJ	**Miyakonagasawa**	**1.18**	**259**	P	**Pn**	**19 35 49.2**	**+0.1**
JKEN	**Kujiedanarisaw**	**1.29**	**288**	P	**Pn**	**19 35 49.7**	**-1.0**

0.3nm,0.8s,baz=271,slow=7.1,SNR=3.1
WRA Warramunga Arr 60.04 190 P **P** **19 45 32.4 -0.9**
0.6nm,0.9s,baz=6.6,slow=7.1,SNR=2.0
ASAR Alice Springs 63.77 190 P **P** **19 45 58.5 +0.1**
0.5nm,0.9s,baz=10,slow=5.8,SNR=2.4
BRTR Keskin Array B 78.11 312 LR LR 20 27 54.4
comp=Z,22nm,18.8s,baz=312,slow=40

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*IDC **22** 19:43:58.6±2.4, 6°.44S×131°.22E, h46km±29km, mb3.4/1, mb1 3.9/6, mb1mx3.5/24, mbtmp3.9/6, ML3.8/5, Error ellipse: s-maj=33.5km s-min=23.2km az=104.0*
ISC 22 19:43:56.8±1.0, 6°.46S±0°.06×131°.3E±0°.1, h35km, n6, σ2§81/10, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.55**	**359**	P		**Pn**		**19 45 18.8**	**+1.8**
	2.7nm,0.3s,baz=200,slow=15,SNR=37								
SIJI				S		**Sn**		**19 46 15.2**	**-4.4**
	1.4nm,0.3s,baz=239,slow=19,SNR=1.7								
BATI	**Baumata**	**8.46**	**243**	P		**Pn**		**19 45 58.1**	**+1.1**
	1.0nm,0.3s,baz=86,slow=13,SNR=2.1								
BATI				S		**Sn**		**19 47 30.1**	**-1.3**
	1.0nm,0.3s,baz=96,slow=19,SNR=1.7								
FITZ	**Fitzroy Crossi**	**12.84**	**205**	P		**Pn**		**19 46 57.1**	**+0.2**
	0.4nm,0.3s,baz=39,slow=14,SNR=14								
FITZ				S		Sn		19 49 09.2	-9.5
	1.1nm,0.3s,baz=308,slow=22,SNR=8.2								
WRA	**Warramunga Arr**	**13.72**	**168**	P		**Pn**		**19 47 10.4**	**+1.5**
	0.5nm,0.3s,baz=359,slow=15,SNR=24								
WRA				S		**Sn**		**19 49 37.0**	**-3.1**
	1.3nm,0.3s,baz=331,slow=22,SNR=12								
ASAR	**Alice Springs**	**17.29**	**172**	P		**P**		**19 47 58.8**	**+2.0**
	0.4nm,0.3s,baz=351,slow=10,SNR=27								
ASAR				S		**Sn**		**19 51 03.3**	**-3.7**
	0.3nm,0.3s,baz=350,slow=27,SNR=6.7								
MKAR	**Makanchi Array**	**68.51**	**326**	P		**P**		**19 54 55.6**	**-0.1**
	0.3nm,0.4s,baz=115,slow=6.8,SNR=9.0								

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*BER **22** 20:15:18.8±2.2, 77°.71N×3°.55E, h10km, ML2.3, ML2.5(DNK), Confirmed Earthquake*
*IDC **22** 20:15:21.1±1.3, 77°.20N×4°.22E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.2/57, mbtmp3.5/5, Error ellipse: s-maj=40.0km s-min=24.7km az=37.0*
*DNK **22** 20:15:25.4±0.7, 78°.05N×0°.82E, h22km±45km, ML2.5*
ISC 22 20:15:17.8±0.8, 77°.79N±0°.08×3°.27E±0°.04, h10km, n24, σ2§99/32, mb3.4/5, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.09**	**53**	*e*P		**Pn**		**20 15 52.5**	**-0.3**
KBS				*e*S		**Sn**		**20 16 16.0**	**-2.8**
KBS				IAML				20 16 19.1	
	comp=Z,48nm,0.4s								
BRBB	**Barentsburg B**	**2.32**	**77**	*e*P		**Pn**		**20 15 55.2**	**-0.7**
BRBB				*e*S		**Sn**		**20 16 19.7**	**-4.6**
BRBA	**Barentsburg A**	**2.32**	**78**	*e*P		**Pn**		**20 15 55.2**	**-0.7**
BRBA				IAML				20 16 17.9	
	comp=Z,35nm,0.2s								
BRBA				*e*S		**Sn**		**20 16 19.6**	**-4.7**
SPA0	**Spitsbergen Ar**	**2.77**	**76**	*e*P		**Pn**		**20 16 02.5**	**+0.5**
SPA0				*e*S		**Sn**		**20 16 32.1**	**-3.4**
SPA0				IAML				20 16 38.0	
	comp=Z,23nm,0.6s								
HSPB	**Hornsund (broa**	**2.80**	**100**	*e*P		**Pn**		**20 16 01.2**	**-1.3**
HSPB				IAML				20 16 30.6	
	comp=Z,10nm,0.8s								
HSPB				*e*S		**Sn**		**20 16 31.0**	**-5.3**
DAG	**Danmarks Havn**	**4.93**	**269**	*i* P		**Pn**		**20 16 31.2**	**-0.5**
DAG				*i* S		**Sn**		**20 17 23.7**	**-5.1**
DAG	**Danmarks Havn**	**4.93**	**269**	*e*P		**Pn**		**20 16 31.3**	**-0.5**
DAG				*e*S		**Sn**		**20 17 24.1**	**-4.7**
DAG				IAML				20 17 25.8	
	comp=Z,21nm,1.5s								
DAG	**Danmarks Havn**	**4.93**	**269**	*e*P		**Pn**		**20 16 31.3**	**-0.5**
DAG				*i* S		**Sn**		**20 17 23.7**	**-5.1**
DAG				IAML				20 17 25.8	
	comp=Z,21nm,1.5s								
HOPEN	**Hopen**	**5.00**	**94**	*e*P		**Pn**		**20 16 32.1**	**-0.6**
HOPEN				*e*S		**Sn**		**20 17 24.1**	**-6.4**
HOPEN				IAML				20 17 26.6	
	comp=Z,12nm,0.2s								
NOR	**Nord**	**5.20**	**326**	*i* P		**Pn**		**20 16 35.0**	**-0.4**
NOR	**Nord**	**5.20**	**326**	*e*P		**Pn**		**20 16 35.7**	**+0.3**
NOR				*e*S		**Sn**		**20 17 33.2**	**-2.0**
NOR	**Nord**	**5.20**	**326**	*i* P		**Pn**		**20 16 35.0**	**-0.4**
DBG	**Daneborg**	**6.62**	**250**	*e*P		**Pn**		**20 16 54.7**	**-0.3**
DBG				*e*S		Sn		20 18 03.3	-7.0
SCO	**Scoresbysund**	**9.95**	**236**	*i* P		**Pn**		**20 17 43.3**	**+2.8**
SCO	**Scoresbysund**	**9.95**	**236**	*i* P		**Pn**		**20 17 43.4**	**+2.8**
SCO	**Scoresbysund**	**9.95**	**236**	*i* P		**Pn**		**20 17 43.4**	**+2.8**
SUMG	**Summit**	**11.61**	**265**	*i* P		**Pn**		**20 18 03.9**	**+0.4**
SUMG	**Summit**	**11.61**	**265**	*i* P		**Pn**		**20 18 03.9**	**+0.4**
SUMG	**Summit**	**11.61**	**265**	*i* P		**Pn**		**20 18 03.9**	**+0.4**
YKA	**Yellowknife Ar**	**34.99**	**314**	P		P		20 22 18.4	+8.8
	comp=Z,0.3nm,0.7s,baz=19,slow=8.6,SNR=2.3								
ILAR	**Eielson Array**	**36.51**	**339**	P		P		20 22 33.4	+11
	comp=Z,0.5nm,0.8s,baz=4.5,slow=6.9,SNR=7.2								
KURBB	**Kurchatov Arra**	**38.03**	**89**	P		**P**		**20 22 38.7**	**+3.1**
	comp=Z,0.7nm,0.8s,baz=338,slow=8.0,SNR=6.2								
MKAR	**Makanchi Array**	**42.46**	**88**	P		**P**		**20 23 15.2**	**+2.9**
	comp=Z,0.5nm,0.8s,baz=343,slow=6.3,SNR=5.5								
TORD	**Torodi Ar. Bea**	**64.66**	**182**	P		**P**		**20 25 56.7**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=5.8,slow=6.2,SNR=2.5								

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*IDC **22** 20:23:38.0±4.7, 36°.37N×71°.00E, h178km±40km, mb3.3/7, mb1 3.3/11, mb1mx2.9/68, mbtmp3.8/11, MS4.1/1, Ms1 4.1/1, ms1mx2.5/30, Error ellipse: s-maj=34.7km s-min=25.5km az=20.0*
*NEIC **22** 20:23:42.4±0.8, 36°.66N±0°.05×71°.1E±0°.1, h217km±9km, mb4.1/1, Error ellipse: s-maj=15.3km s-min=3.6km az=114.0*
*NNC **22** 20:23:45.7±3.3, 37°.15N×70°.97E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=25.8km s-min=24.3km az=104.0*
ISC 22 20:23:41.4±0.7, 36°.63N±0°.06×71°.06E±0°.08, h200km, n38, σ1§70/42, mb3.5/7, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.65**	**219**	Pn			**Pn**	**20 24 29.4**	**+2.2**
NIL	**Nilore**	**3.47**	**148**				**Pn**	**20 24 39.6**	**+2.9**
AML	**Almayashu**	**5.87**	**20**	P			**Pn**	**20 25 08.7**	**+1.5**
	SNR=181								
DHRM	**DHARAMSHALA**	**6.15**	**134**	*e*P			**Pn**	**20 25 13.7**	**+2.9**
UCH	**Uchtor**	**6.20**	**24**	P			**Pn**	**20 25 13.3**	**+1.8**
	SNR=68								
EKS2	**Erkin-Say**	**6.38**	**18**	P			**Pn**	**20 25 15.4**	**+1.8**
	SNR=19								
KK31	**Karatay Array**	**6.48**	**356**	⇓Pn			**Pn**	**20 25 15.9**	**+1.1**
	1.3nm,0.3s,baz=179,slow=12,SNR=93								
KK31				⇑Sn			**Sn**	**20 26 24.8**	**-4.1**
	11nm,0.6s,baz=186,slow=23,SNR=10								
KK31	**Karatay Array**	**6.48**	**356**	Pn			**Pn**	**20 25 16.0**	**+1.2**
KKAR	**Karatay Array**	**6.48**	**356**				**Pn**	**20 25 16.0**	**+1.2**
KKAR	**Karatay Array**	**6.48**	**356**	Pn			**Pn**	**20 25 15.8**	**+0.9**
AAK	**Ala-Archa**	**6.56**	**23**	P			**Pn**	**20 25 17.8**	**+1.8**
	3.7nm,0.3s,baz=185,slow=5.9,SNR=94								
AAK				S			**Sn**	**20 26 31.0**	**0.0**
	0.9nm,0.3s,baz=152,slow=23,SNR=11								
AAK	**Ala-Archa**	**6.56**	**23**	P			**Pn**	**20 25 17.8**	**+1.8**
	SNR=28								
AAK	**Ala-Archa**	**6.56**	**23**	⇓Pn			**Pn**	**20 25 17.6**	**+1.6**
	6.4nm,0.5s								
AAK				⇑Sn			**Sn**	**20 26 30.1**	**-0.9**
	17nm,1.1s								
AAK	**Ala-Archa**	**6.56**	**23**	Pn			**Pn**	**20 25 17.6**	**+1.6**
KBK	**Karagaybulak**	**6.73**	**25**	P			**Pn**	**20 25 20.2**	**+2.1**
	SNR=16								
ULHL	**Ulahol**	**6.90**	**34**	P			**Pn**	**20 25 21.9**	**+1.5**
	SNR=15								
CHMS	**Chumysh**	**6.97**	**23**	P			**Pn**	**20 25 23.4**	**+2.2**
	SNR=7.8								
USP	**Ospenovka**	**7.14**	**21**	P			**Pn**	**20 25 24.1**	**+0.7**
	SNR=13								
TKM2	**Tokmak 2**	**7.19**	**28**	P			**Pn**	**20 25 25.8**	**+1.5**
	SNR=28								
TKM2	**Tokmak 2**	**7.19**	**28**	⇑Pn			**Pn**	**20 25 25.5**	**+1.3**
	15nm,0.6s								
TKM2				⇑Sn			**Sn**	**20 26 45.0**	**-0.8**
	5.5nm,0.8s								

SMLA	**Simla**	**7.47**	**135**	*e*P			**Pn**	**20 25 28.8**	**+1.0**
SMLA				*e*S			**Sn**	**20 26 48.5**	**-3.8**
SMLA				IAML				20 26 51.1	
	comp=N,21nm,0.4s								
SMLA				IAML				20 26 51.3	
	comp=E,24nm,0.2s								
HRA	**Herat**	**7.53**	**255**	Pn			**Pn**	**20 25 29.7**	**+1.0**
MAKZ	**Makanchi**	**13.03**	**35**	Pn			**Pn**	**20 26 39.3**	**+0.2**
MK31	**Makanchi Array**	**13.16**	**36**	P			**Pn**	**20 26 41.7**	**+0.9**
MKAR	**Makanchi Array**	**13.16**	**36**	P			**Pn**	**20 26 41.7**	**+0.9**
	comp=E,0.2nm,0.3s,baz=209,slow=12,SNR=17								
MKAR	**Makanchi Array**	**13.16**	**36**	P			**Pn**	**20 26 41.9**	**+1.2**
KURBB	**Kurchatov Arra**	**14.99**	**19**	P			**Pn**	**20 27 03.0**	**-0.2**
	comp=E,0.1nm,0.3s,baz=206,slow=11,SNR=8.9								
AKTO	**Aktyubinsk**	**16.70**	**330**	P			**P**	**20 27 23.4**	**+0.7**
	comp=E,0.2nm,0.3s,baz=166,slow=11,SNR=3.7								
ZALV	**Zalesovo Beam**	**19.78**	**25**	P			**P**	**20 27 56.9**	**+0.8**
	comp=E,1.4nm,0.5s,baz=210,slow=11,SNR=6.5								
ZALV	**Zalesovo Beam**	**19.78**	**25**	P			**P**	**20 27 55.2**	**-0.9**
FINES	**FINESS Array B**	**37.41**	**326**	P			**P**	**20 30 35.5**	**+0.8**
	comp=E,7.2nm,1.1s,baz=139,slow=9.6,SNR=8.0								
ARCES	**ARCESS Array B**	**41.05**	**338**	P			**P**	**20 31 05.7**	**+0.9**
	comp=E,2.4nm,0.9s,baz=112,slow=7.1,SNR=4.9								
NOA	**NORSAR Array B**	**44.31**	**323**	P			**P**	**20 31 30.8**	**-0.4**
	comp=E,1.2nm,0.9s,baz=95,slow=7.8,SNR=3.6								
SEY	**Seymchan**	**54.29**	**34**	LR		LR		20 59 11.7	
	comp=E,176nm,21.7s,baz=134,slow=39								
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P			**P**	**20 34 03.0**	**-2.2**
	comp=E,0.3nm,0.3s,baz=44,slow=6.3,SNR=5.6								
YKA	**Yellowknife Ar**	**81.12**	**3**	P			**P**	**20 35 34.4**	**+0.5**
	comp=E,0.1nm,0.5s,baz=0.5,slow=5.2,SNR=4.3								
WRA	**Warramunga Arr**	**82.02**	**122**	P			**P**	**20 35 38.0**	**-1.3**
	comp=E,0.3nm,0.8s,baz=327,slow=4.6,SNR=1.3								
WB2	**Warramunga Arr**	**82.03**	**122**	P			**P**	**20 35 38.2**	**-1.1**
WB2				IAmb		IAmb		20 35 48.9	
	comp=Z,4.3nm,1.1s								

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*IDC **22** 20:27:08.6±0.8, 33°.22N×115°.79E, h0km, mb3.7/14, mb1 3.8/16, mb1mx3.6/75, mbtmp3.6/16, ML3.2/2, MS3.1/7, Ms1 3.1/7, ms1mx2.8/47, Error ellipse: s-maj=23.3km s-min=17.6km az=61.0*
*BJI **22** 20:27:09.4±0.0, 33°.05N×115°.83E, h6km, mB4.3/2, mb3.9/10, ML4.1/19*
ISC 22 20:27:10.0±0.5, 33°.21N±0°.05×115°.90E±0°.04, h10km, n30, σ1§81/37, mb3.8/14, MS3.0/4, 1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NJ2	**Nanjing**	**2.75**	**114**	*e*Pn			**Pn**	**20 27 54.1**	**-0.1**
NJ2				Pg			**Pb**	**20 28 00.1**	**+0.8**
NJ2				Sg			**Sb**	**20 28 35.5**	**+2.5**
NJ2				smax		smax			
	comp=N,930nm,0.5s								
NJ2				smax		smax			
	comp=E,610nm,0.5s								
TIA	**Tai'an**	**3.16**	**18**	Pn			**Pn**	**20 28 02.1**	**+2.3**
TIA				Pg			**Pg**	**20 28 09.3**	**-1.3**
TIA				Sg			**Sg**	**20 28 50.8**	**-0.8**
TIA				smax		smax			
	comp=N,400nm,0.8s								
TIA				smax		smax			
	comp=E,740nm,0.8s								
TIY	**Taiyuan**	**5.31**	**329**	Pg		Pg	**Pg**	**20 28 48.8**	**-2.9**
TIY				Sg		Sg		20 30 08.3	+7.9
TIY				smax		smax			
	comp=N,160nm,1.3s								
TIY				smax		smax			
	comp=E,190nm,1.1s								
XAN	**Xi'an**	**5.88**	**280**	Pn			**Pn**	**20 28 36.1**	**-1.1**
XAN				Pg			**Pb**	**20 28 55.9**	**+3.3**
XAN				Sn			**Sn**	**20 29 48.6**	**+3.9**
XAN				Sg			**Sg**	**20 30 15.4**	**-3.3**
XAN				smax		smax			
	comp=N,210nm,0.7s								
XAN				smax		smax			
	comp=E,140nm,0.8s								
DL2	**Dalian**	**7.34**	**38**	*e*Pg			**Pg**	**20 29 27.6**	**-2.9**
DL2				Sg			**Sg**	**20 31 02.8**	**-2.7**
DL2				smax		smax			
	comp=N,99nm,0.8s								
DL2				smax		smax			
	comp=E,76nm,0.6s								
DL2				LR		LR			
	comp=N,380nm,4.0s								
DL2				LR		LR			
	comp=E,400nm,5.2s								
DL2				LR		LR			
	comp=Z,150nm,4.5s								
LZH	**Lanzhou**	**10.33**	**289**	*e*P			**Pn**	**20 29 38.6**	**+0.1**
LZH				pP				20 29 41.3	
LZH				pmax		pmax			
	comp=Z,16nm,1.0s								
GYA	**Guiyang**	**10.46**	**232**	⇓P			**Pn**	**20 29 40.9**	**+0.7**
GYA				S			**Sn**	**20 31 37.8**	**+0.2**
GYA				pmax		pmax			
	comp=Z,5.0nm,1.5s								
KSRS	**Korea Array**	**10.70**	**63**	Pn			**Pn**	**20 29 44.4**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=245,slow=13,SNR=4.7								
KSRS				Lg			Lg	20 32 49.7	
	comp=Z,0.3nm,0.3s,baz=241,slow=32,SNR=1.9								
KSRS				LR			LR	20 34 14.2	
	comp=Z,54nm,19.3s,baz=256,slow=40								
GTA	**Gaotai**	**14.36**	**300**	*e*P			**Pn**	**20 30 32.9**	**-0.6**
GTA				pP			P	20 30 39.3	-1.3
GTA				sP				20 30 42.6	
GTA				pmax		pmax			
	comp=Z,2.0nm,1.1s								
QIZ	**Qiongzhong**	**15.13**	**202**	P			**Pn**	**20 30 40.1**	**-3.7**
QIZ				S			**Sn**	**20 33 29.5**	**-2.0**
SONM	**Songino Array**	**16.28**	**337**	Pn			**Pn**	**20 30 59.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=5.4								
SONM				Lg			Lg	20 35 45.9	
	comp=Z,0.0nm,0.3s,baz=140,slow=27,SNR=3.2								
SONM				LR			LR	20 37 45.7	
	comp=Z,80nm,19.4s,baz=170,slow=39								
MJAR	**Matsushiro Arr**	**18.60**	**73**	LR			LR	20 38 41.2	
	comp=Z,28nm,19.1s,baz=240,slow=37								
KLR	**Kul'dur**	**19.89**	**32**	P			**Pn**	**20 31 46.2**	**+3.1**
	comp=Z,0.0nm,0.3s,baz=222,slow=7.7,SNR=4.1								
TLY	**Talaya**	**20.50**	**338**	LR			LR	20 40 31.6	
	comp=Z,76nm,18.4s,baz=146,slow=39								
CMAR	**Chng Mai Arr**	**21.14**	**230**	P			**P**	**20 31 55.2**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=32,slow=9.6,SNR=5.5								
CMAR				LR			LR	20 40 52.9	
	comp=Z,46nm,18.1s,baz=155,slow=39								
WMQ	**Urumqi**	**24.37**	**304**	*e*P			**P**	**20 32 29.0**	**+0.7**
DAV	**Davao City (W)**	**27.52**	**159**	LR			LR	20 43 23.1	
	comp=Z,26nm,21.4s,baz=267,slow=35								
MKAR	**Makanchi Array**	**28.86**	**308**	P			**P**	**20 33 08.2**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=86,slow=8.5,SNR=2.8								
ZALV	**Zalesovo Beam**	**30.22**	**323**	P			**P**	**20 33 20.7**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=95,slow=7.9,SNR=3.8								
ZALV				LR			LR	20 46 26.2	
	comp=Z,58nm,18.3s,baz=65,slow=38								
KURBB	**Kurchatov Arra**	**32.37**	**314**	P			**P**	**20 33 38.8**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=113,slow=9.0,SNR=2.6								
WRA	**Warramunga Arr**	**55.71**	**159**	P			**P**	**20 36 47.5**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=350,slow=8.4,SNR=5.7								
ASAR	**Alice Springs**	**59.11**	**161**	P			**P**	**20 37 11.0**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=324,slow=5.7,SNR=2.8								
ARCES	**ARCESS Array B**	**59.45**	**336**	P			**P**	**20 37 13.1**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=79,slow=5.6,SNR=5.4								
FINES	**FINESS Array B**	**61.36**	**327**	P			**P**	**20 37 25.9**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=46,slow=8.1,SNR=7.7								
AKASG	**Malin Array Be**	**63.15**	**315**	P			**P**	**20 37 37.1**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=61,slow=7.6,SNR=2.1								
BRTR	**Keskin Array B**	**64.27**	**302**	P			**P**	**20 37 45.2**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=79,slow=7.5,SNR=3.5								
MLR	**Muntele Rosu**	**67.17**	**310**	P			**P**	**20 38 02.8**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=294,slow=1.9,SNR=4.4								
HFS	**Hagfors**	**67.46**	**328**	P			**P**	**20 38 05.4**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=76,slow=6.3,SNR=8.5								
NOA	**NORSAR Array B**	**68.11**	**330**	P			**P**	**20 38 09.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=83,slow=6.2,SNR=4.3								
YKA	**Yellowknife Ar**	**76.39**	**22**	P			**P**	**20 38 59.3**	**0.0**
	comp=Z,0.3nm,0.5s,baz=326,slow=4.6,SNR=5.7								

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*IDC **22** 20:41:42.9±2.3, 5°.73S×150°.43E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.7/37, mbtmp4.0/6, ML2.4/1, MS2.6/2, Ms1 2.6/2, ms1mx2.4/33, Error ellipse: s-maj=64.1km s-min=26.8km az=106.0*
ISC 22 20:41:45.0±2.0, 5°.8S±0°.2×150°.3E±0°.4, h10km, n7, σ1§28/8, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.79**	**221**	Pn			**Pn**	**20 42 59.0**	**+1.8**
	9.9nm,0.3s,baz=22,slow=5.6,SNR=17								
PMG				S			**Sn**	**20 43 51.0**	**-1.8**
	1.8nm,0.3s,baz=108,slow=20,SNR=1.7								
PMG				LR			LR	20 44 04.9	
	comp=Z,68nm,20.8s,baz=316,slow=29								
WRA	**Warramunga Arr**	**20.98**	**226**	P			**P**	**20 46 28.9**	**+0.2**
	4.3nm,0.5s,baz=50,slow=10,SNR=62								
ASAR	**Alice Springs**	**23.80**	**220**	P			**P**	**20 46 58.5**	**+0.2**
	1.7nm,0.3s,baz=55,slow=9.2,SNR=70								
FITZ	**Fitzroy Crossi**	**27.04**	**241**	P			**P**	**20 47 28.1**	**+0.4**
	3.3nm,0.4s,baz=47,slow=8.3,SNR=30								
FITZ				LR			LR	20 56 56.6	
	comp=Z,11nm,21.6s,baz=49,slow=34								
STKA	**Stephens Creek**	**27.23**	**196**	P			**P**	**20 47 28.2**	**-1.0**
	0.9nm,0.4s,baz=42,slow=16,SNR=4.3								
SONM	**Songino Array**	**65.87**	**329**	P			**P**	**20 52 30.4**	**-0.6**
	0.1nm,0.5s,baz=112,slow=6.4,SNR=1.6								
TORD	**Torodi Ar. Bea**	**148.24**	**286**	PKPbc			**PKPbc**	**21 01 32.6**	**+0.1**
	0.2nm,0.3s,baz=90,slow=2.8,SNR=5.7								

IDC 22 20:43:32.7±491.0, 43°.01N×104°.10W, h0km, Error ellipse: s-maj=212.1km s-min=143.8km az=27.0, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I10CA	**LAC DU BONNET**	**9.09**	**35**	*i*				21 38 16.3	
	baz=222,slow=330,SNR=6.4								
I56US	**NEWPORT INFRAS**	**10.52**	**304**	*i*				21 52 30.0	
	baz=117,slow=312,SNR=7.4								
I51GB	**BERMUDA INFRAS**	**32.68**	**96**	*i*				00 03 20.0	
	baz=303,slow=303,SNR=0.4								

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*IDC **22** 20:45:54.3±2.1, 43°.32N×105°.17W, h0km, mb4.2/2, mb1 3.8/5, mb1mx3.4/46, mbtmp3.6/5, ML3.3/3, MS3.1/11, Ms1 3.1/11, ms1mx2.8/53, Error ellipse: s-maj=48.6km s-min=9.1km az=155.0*
*NEIC **22** 20:45:58.5±2.0, 43°.58N±0°.06×105°.27W±0°.03, h0km±2km, ML3.4/40, Error ellipse: s-maj=9.8km s-min=4.0km az=345.0*
ISC 22 20:45:56.6±0.9, 43°.60N±0°.05×105°.25W±0°.05, h0km, n49, σ1§69/40, MS3.5/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.02**	**59**	Pg			**Pg**	**20 46 16.1**	**-0.2**
K22A	**Casper**	**1.33**	**225**	Pg			**Pg**	**20 46 21.0**	**-1.2**
K22A				IAML				20 46 45.5	
	comp=N,377nm,0.3s								
PHWY	**Pilot Hill**	**2.30**	**184**				**Pn**	**20 46 36.8**	**+0.7**
RWWY	**Rawlins**	**2.39**	**218**				**Pn**	**20 46 39.1**	**+1.8**
RWWY				IAML				20 47 14.7	
	comp=N,217nm,1.1s								
RWWY				IAML				20 47 15.2	
	comp=N,165nm,0.6s								
LAO	**LASA Array**	**3.17**	**348**				**Pn**	**20 46 49.2**	**+1.4**
LAO				IAML				20 47 47.5	
	comp=N,162nm,0.7s								
LAO				IAML				20 47 54.8	
	comp=N,173nm,0.8s								
BW06	**Boulder Array**	**3.26**	**257**				**Pn**	**20 46 51.5**	**+2.3**
PD31	**Pinedale Array**	**3.26**	**257**				**Pn**	**20 46 49.7**	**+0.5**
PDAR	**Pinedale Array**	**3.26**	**257**	Pn			**Pn**	**20 46 49.5**	**+0.3**
	comp=N,2.1nm,0.3s,baz=78,slow=17,SNR=33								
PDAR				Lg			Lg	20 47 37.4	
	comp=N,12nm,0.3s,baz=78,slow=33,SNR=6.0								
RLMT	**Red Lodge**	**3.26**	**299**				**Pn**	**20 46 49.9**	**+0.6**
RLMT				IAML				20 47 46.0	
	comp=N,55nm,0.9s								
RLMT				IAML				20 48 46.4	
	comp=N,57nm,4.2s								
OGNE	**Ogallala**	**3.56**	**137**				**Pn**	**20 46 54.8**	**+1.5**
YNE	**Yellowstone No**	**3.70**	**294**	Pn			**Pn**	**20 46 55.8**	**+0.6**
YNE				IAML				20 48 03.0	
	comp=E,60nm,1.0s								
YNE				IAML				20 48 05.8	
	comp=N,71nm,0.7s								
ISCO	**Idaho Springs**	**3.80**	**184**				**Pn**	**20 46 58.5**	**+1.7**
H17A	**Grant Village**	**3.93**	**284**				**Pn**	**20 46 59.2**	**+0.7**
H17A				IAML	

mb1 4.3/9,mb1mx3.9/34,mbtmp4.2/9,ML2.3/1,MS3.5/3, Ms1 3.5/3,ms1mx2.8/31,Error ellipse: s-maj=27.8km s-min=20.2km az=122.0

NEIC ***22*** *20:46:52.2±0.9,6°.48S±0°.10×149°.8E±0°.1,h62km±16km, mb4.0/11,Error ellipse: s-maj=21.8km s-min=11.7km az=61.0*

ISC 22 20:46:49.7±0.8,6°.39S±0°.09×150°.0E±0°.1,h43km,n34, σ1§10/33,mb4.1/13,MS3.5/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PMG	**Port Moresby**	**4.12**	**223**	Pn		**Pn**	**20 47 50.3**	**+0.2**
	13nm,0.3s,baz=50,slow=4.9,SNR=19							
PMG				Sn		**Sn**	**20 48 37.3**	**+0.3**
	26nm,0.3s,baz=257,slow=21,SNR=18							
PMG	**Port Moresby**	**4.12**	**223**			**Pn**	**20 47 50.4**	**+0.3**
COEN	**Coen**	**10.09**	**221**	Pn		**Pn**	**20 49 12.3**	**+0.2**
CTAO	**Charters Tower**	**14.09**	**195**	Pn		**Pn**	**20 50 06.7**	**-0.2**
SAUI	**Saumlaki**	**18.63**	**264**	P		**P**	**20 51 03.1**	**-0.8**
EIDS	**Eidsvold**	**18.90**	**177**	P		**P**	**20 51 06.7**	**0.0**
EIDS				IAmb		IAmb	20 51 09.7	
	comp=Z,7.1nm,0.9s							
MTN	**Manton Dam**	**19.68**	**250**	P		**P**	**20 51 14.8**	**-0.5**
WB0	**Warramunga Arr**	**20.17**	**227**	P		**P**	**20 51 20.5**	**-0.3**
WB0				IAmb		IAmb	20 51 20.9	
	comp=Z,6.7nm,0.7s							
WR0	**Warramunga Arr**	**20.19**	**227**	P		**P**	**20 51 20.0**	**-0.9**
WR0				IAmb		IAmb	20 51 33.9	
	comp=Z,8.4nm,0.9s							
WRAB	**Tennant Creek**	**20.31**	**227**	P		**P**	**20 51 21.1**	**-1.1**
WRAB				IAmb		IAmb	20 51 37.9	
	comp=Z,14nm,0.9s							
WB2	**Warramunga Arr**	**20.32**	**227**	P		**P**	**20 51 20.0**	**-2.3**
WB2				IAmb		IAmb	20 51 30.4	
	comp=Z,13nm,1.1s							
WRA	**Warramunga Arr**	**20.32**	**227**	P		**P**	**20 51 21.8**	**-0.6**
	comp=Z,7.5nm,0.5s,baz=52,slow=11,SNR=85							
WRA	**Warramunga Arr**	**20.32**	**227**	P		**P**	**20 51 20.6**	**-1.8**
DZM	**Mont Dzumac**	**22.25**	**136**	P		**P**	**20 51 44.1**	**+0.9**
	comp=Z,4.3nm,0.5s,baz=252,slow=9.2,SNR=7.3							
AS31	**Alice Springs**	**23.12**	**220**			**P**	**20 51 52.4**	**+0.1**
ASAR	**Alice Springs**	**23.13**	**220**	P		**P**	**20 51 51.5**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=55,slow=9.0,SNR=22							
ARMA	**Armidale**	**23.95**	**177**	P		**P**	**20 52 00.1**	**-0.1**
BATI	**Baumata**	**26.34**	**260**	P		**P**	**20 52 21.3**	**-0.7**
	comp=Z,12nm,0.6s,baz=136,slow=0.4,SNR=5.5							
FITZ	**Fitzroy Crossi**	**26.46**	**242**	P		**P**	**20 52 22.1**	**-0.9**
	comp=Z,5.6nm,0.9s,baz=60,slow=11,SNR=14							
FITZ	**Fitzroy Crossi**	**26.46**	**242**	P		**P**	**20 52 22.2**	**-0.8**
STKA	**Stephens Creek**	**26.55**	**196**	P		**P**	**20 52 24.2**	**+0.6**
	comp=Z,7.2nm,1.0s,baz=354,slow=9.8,SNR=5.3							
STKA				LR		LR	21 03 34.7	
	comp=Z,190nm,18.1s,baz=204,slow=38							
STKA	**Stephens Creek**	**26.55**	**196**	P		**P**	**20 52 24.3**	**+0.6**
STKA				IAmb		IAmb	20 52 26.7	
	comp=Z,3.5nm,1.3s							
PETK	**Petropavlovsk-**	**59.63**	**5**	LR		LR	21 17 13.6	
	comp=Z,20nm,21.6s,baz=231,slow=31							
SONM	**Songino Array**	**66.23**	**329**	P		**P**	**20 57 33.8**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=155,slow=4.0,SNR=3.0							
TAPN	**Taplejung**	**68.88**	**302**	*e*P		**P**	**20 57 50.8**	**0.0**
	comp=Z,2.3nm,0.6s							
ODAN	**Odare**	**68.99**	**302**	*e*P		**P**	**20 57 53.0**	**+1.6**
	comp=Z,3.9nm,0.5s							
RAMN	**Ramite**	**69.68**	**302**	*e*P		**P**	**20 57 57.6**	**+1.9**
	comp=Z,2.9nm,0.5s							
GUN	**Gumba**	**70.59**	**302**	*e*P		**P**	**20 58 03.3**	**+1.9**
	comp=Z,8.7nm,0.6s							
PKI	**Pulchoki**	**70.88**	**302**	*e*P		**P**	**20 58 04.5**	**+1.4**
	comp=Z,1.5nm,0.5s							
GKN	**Gorkha**	**71.67**	**302**	*e*P		**P**	**20 58 09.9**	**+2.2**
	comp=Z,4.7nm,0.6s							
ILAR	**Eielson Array**	**84.68**	**23**	P		**P**	**20 59 17.6**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=260,slow=5.3,SNR=2.3							
YBH	**Yreka Blue Hor**	**92.18**	**48**	LR		LR	21 38 49.6	
	comp=Z,17nm,18.4s,baz=344,slow=34							
GERES	**GERESS Array B**	**123.90**	**327**	PKP		**PKPdf**	**21 05 42.5**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=79,slow=2.1,SNR=4.4							
TORD	**Torodi Ar. Bea**	**148.09**	**285**	PKPbc		**PKPbc**	**21 06 30.8**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=85,slow=2.5,SNR=16							

IDC ***22*** *20:59:02.3±2.8,37°.41N×142°.57E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.2/32,mbtmp3.2/3,ML2.4/1,Error ellipse: s-maj=54.0km s-min=39.8km az=35.0*

JMA ***22*** *20:59:08.8±0.2,37°.26N×142°.17E,h32km±5km,M3.3*

ISC 22 20:59:05.2±2.1,37°.18N±0°.05×142°.22E±0°.08,h14km±10km, n21,σ1§20/29,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JFK	**Kawauchi**	**1.09**	**280**	P		**Pg**	**20 59 27.4**	**+1.2**
JFK				S		**Sb**	**20 59 40.3**	**+0.4**
ONAJ	**Iwakimizuishiy**	**1.14**	**266**	P		**Pg**	**20 59 28.2**	**+1.0**
ONAJ				*e*S		**Sg**	**20 59 42.6**	**+0.5**
JMST	**Minamisoumatoc**	**1.19**	**297**	P		**Pg**	**20 59 28.5**	**+0.3**
JMST				*e*S		**Sb**	**20 59 42.7**	**-0.1**
JIKH	**Ishinomakikobu**	**1.28**	**332**	P		**Pg**	**20 59 29.3**	**-0.4**
JIKH				S		**Sn**	**20 59 43.9**	**-1.5**
JMM	**Marumori**	**1.33**	**301**	P		**Pg**	**20 59 30.6**	**-0.1**
JIO	**Ouri**	**1.45**	**332**	P		**Pb**	**20 59 32.0**	**+0.2**
JIO				*e*S		**Sn**	**20 59 48.4**	**-1.2**
JFT	**Otama**	**1.54**	**283**	P		**Pg**	**20 59 34.8**	**0.0**
JFT				S		**Sb**	**20 59 53.0**	**+0.2**
JOU	**Okura**	**1.71**	**314**	P		**Pb**	**20 59 36.8**	**+0.5**
JOU				*e*S		**Sn**	**20 59 57.4**	**+1.2**
JMK	**Ichinoseki**	**1.94**	**336**	P		**Pb**	**20 59 40.3**	**+0.1**
JYS	**Shirataka**	**2.00**	**302**	P		**Pb**	**20 59 41.9**	**+0.6**
JYS				S		**Sb**	**21 00 05.4**	**-0.7**
JFY	**Yanaizu**	**2.02**	**277**	S		**Sb**	**21 00 06.4**	**-0.3**
JYK	**Kaneyama**	**2.27**	**320**	P		**Pb**	**20 59 44.6**	**-1.3**
JAG	**Ashikaga**	**2.35**	**252**	P		**Pb**	**20 59 46.1**	**-1.1**
JAG				*e*S		**Sn**	**21 00 13.5**	**+1.6**
JOM	**Ohasama**	**2.40**	**343**	P		**Pb**	**20 59 46.9**	**-1.2**
MJAR	**Matsushiro Arr**	**3.28**	**260**	Pn		**Pb**	**20 59 59.7**	**-3.5**
	0.3nm,0.3s,baz=75,slow=8.4,SNR=15							
MJAR				Sn		**Sb**	**21 00 41.9**	**-1.0**
	0.2nm,0.3s,baz=18,slow=16,SNR=1.8							
MAT	**Matsushiro**	**3.28**	**260**	P		**Pb**	**21 00 01.2**	**-2.0**
MAT				S		**Sb**	**21 00 42.0**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**27.67**	**122**	T		T	21 33 59.8	
	baz=313							
H11N1	**WAKE ISLAND Hy**	**27.68**	**122**	T		T	21 34 26.7	
	baz=313							
H11N3	**WAKE ISLAND Hy**	**27.69**	**122**	T		T	21 34 17.4	
	baz=313							
MKAR	**Makanchi Array**	**44.59**	**302**	P		**P**	**21 07 16.8**	**+0.1**
	0.1nm,0.5s,baz=78,slow=8.3,SNR=2.2							
WRA	**Warramunga Arr**	**57.30**	**189**	P		**P**	**21 08 53.7**	**+1.2**
	0.9nm,1.0s,baz=6.7,slow=7.4,SNR=2.5							

INET ***22*** *21:05:19.6,12°.91N×88°.85W,h26km,MW3.1*

SNET ***22*** *21:05:20.4±1.6,12°.98N×88°.84W,h52km±14km,ML3.7*

IDC ***22*** *21:05:22.0±2.5,13°.15N×88°.82W,h77km±22km,mb3.0/3, mb1 3.4/7,mb1mx3.2/34,mbtmp3.4/7,MS2.6/2,Ms1 2.6/2, ms1mx2.4/18,Error ellipse: s-maj=54.1km s-min=21.1km az=34.0*

ISC 22 21:05:20.1±1.3,13°.0N±0°.1×88°.80W±0°.05,h61km±9km,n30, σ1§27/46,mb3.3/3,1C,El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.40**	**35**	*e*P		**Pn**	**21 05 31.1**	**-0.1**
ALJI				*e*S		**Sn**	**21 05 40.0**	**+0.8**
ALJI				IAML			21 05 50.0	
	comp=Z,2µm,0.6s							
COEB	**Comit de Eme**	**0.56**	**28**	*e*P		**Pn**	**21 05 33.0**	**0.0**
COEB				*e*S		**Sn**	**21 05 43.0**	**+0.6**
COEB				IAML			21 05 50.5	
	comp=Z,2µm,0.4s							
TECA	**Tecapa**	**0.57**	**31**	*i* P		**Pn**	**21 05 33.3**	**+0.1**
COEG	**Centro de Oper**	**0.62**	**353**	*e*P		**Pn**	**21 05 33.4**	**-0.3**
COEG				*e*S		**Sn**	**21 05 43.7**	**+0.2**
COEG				IAML			21 05 47.8	
	comp=Z,7µm,0.4s							
LCY	**Lacayo**	**0.65**	**50**	*e*P		**Pn**	**21 05 34.5**	**+0.4**
PQSS	**Presa 15 de Se**	**0.66**	**21**	*e*P		**Pn**	**21 05 34.5**	**+0.5**
PQSS				*e*S		**Sn**	**21 05 45.9**	**+1.7**
VSM	**San Miguel**	**0.67**	**50**	*e*P		**Pn**	**21 05 34.6**	**+0.2**
LFRS	**El Faro**	**0.67**	**338**	⇑*i*P		**Pn**	**21 05 33.9**	**-0.3**
LALI	**Alcalda de L**	**0.70**	**314**	*e*P		**Pn**	**21 05 34.1**	**-0.4**
LALI				IAML			21 05 44.3	
	comp=Z,1µm,0.4s							
LALI				*e*S		**Sn**	**21 05 44.7**	**-0.3**
LBRS	**Las Brisas**	**0.77**	**342**	*e*P		**Pn**	**21 05 35.8**	**+0.3**
SNET	**Serv Nac Est T**	**0.80**	**329**	*e*P		**Pn**	**21 05 35.6**	**-0.2**
SNET				*e*S		**Sn**	**21 05 47.3**	**0.0**
SNET				IAML			21 05 48.9	
	comp=Z,5µm,0.2s							
LFU	**La Fuente**	**0.80**	**338**	*e*P		**Pn**	**21 05 36.1**	**+0.2**
LFU				*e*S		**Sn**	**21 05 48.4**	**+1.1**
OPAM	**Oficina de Pla**	**0.81**	**331**	*e*P		**Pn**	**21 05 36.2**	**+0.3**
OPAM				*e*S		**Sn**	**21 05 47.8**	**+0.4**
OPAM				IAML			21 05 50.1	
	comp=Z,3µm,0.3s							
UEES	**Universidad Ev**	**0.83**	**329**	*e*P		**Pn**	**21 05 36.0**	**-0.1**
UEES				*e*S		**Sn**	**21 05 48.1**	**+0.2**
BOQS	**Boqueron**	**0.87**	**328**	*e*P		**Pn**	**21 05 36.8**	**+0.1**
BOQS				*e*S		**Sn**	**21 05 50.0**	**+1.0**
JAYA	**Jayaque - finc**	**0.91**	**316**	*e*P		**Pn**	**21 05 36.5**	**-0.7**
JAYA				*e*S		**Sn**	**21 05 50.0**	**+0.3**
JAYA				IAML			21 05 50.4	
	comp=Z,5µm,0.2s							
LCND	**La Caada**	**0.94**	**71**	*e*P		**Pn**	**21 05 37.7**	**+0.3**
LCND				*e*S		**Sn**	**21 05 51.3**	**+1.1**
LCND				IAML			21 05 55.0	
	comp=Z,895nm,0.4s							
TACO	**Tacachico**	**1.10**	**331**	*e*P		**Pn**	**21 05 39.6**	**0.0**
CEVE	**Cerro Verde**	**1.15**	**316**	*e*P		**Pn**	**21 05 41.0**	**+0.6**
CEVE				*e*S		**Sn**	**21 05 56.5**	**+1.0**
CEVE				IAML			21 06 03.6	
	comp=Z,5µm,0.3s							
SBLS	**San Blas**	**1.16**	**316**	*e*P		**Pn**	**21 05 41.0**	**+0.5**
RTR	**El Retiro**	**1.21**	**317**	*e*P		**Pn**	**21 05 44.1**	**+2.9**
MTO3	**Montecristo**	**1.49**	**339**	*i* P		**Pn**	**21 05 45.3**	**+0.3**
MTO3				IAML			21 06 05.8	
	comp=Z,167nm,0.6s							
MTO3				*e*S		**Sn**	**21 06 06.0**	**+2.4**
APG	**El Apazote**	**2.56**	**321**	P		**Pn**	**21 05 58.2**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=129,slow=4.6,SNR=6.1							
APG				S		**Sn**	**21 06 34.3**	**+4.6**
	comp=Z,2.9nm,0.3s,baz=65,slow=21,SNR=3.9							
JTS	**Las Juntas de**	**4.63**	**125**	P		**Pn**	**21 06 31.1**	**+3.4**
	comp=Z,0.5nm,0.3s,baz=340,slow=18,SNR=2.0							
JTS				S		**Sn**	**21 07 19.3**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=21,slow=21,SNR=1.9							
JTS				LR		LR	21 07 43.2	
	comp=Z,28nm,21.1s,baz=354,slow=90							
CMIG	**Matias Romero**	**7.14**	**305**	P		**Pn**	**21 07 03.7**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=128,slow=11,SNR=4.8							
CMIG				S		**Sn**	**21 08 21.5**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=154,slow=11,SNR=2.0							
TEIG	**Tepich**	**7.20**	**4**	P		**Pn**	**21 07 03.6**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=193,slow=14,SNR=11							
TXAR	**Lajitas Array**	**21.32**	**322**	P		**P**	**21 10 03.0**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=150,slow=12,SNR=8.1							
SJG	**San Juan**	**22.40**	**74**	LR		LR	21 19 57.7	
	comp=Z,41nm,18.1s,baz=232,slow=39							
PDAR	**Pinedale Array**	**34.67**	**333**	P		**P**	**21 12 02.9**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=125,slow=9.3,SNR=2.1							
YKA	**Yellowknife Ar**	**52.74**	**345**	P		**P**	**21 14 27.1**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=136,slow=8.3,SNR=13							

IDC 22 21:13:51.1±5.8,22°.61S×171°.24E,h0km,mb3.5/2, mb1 3.7/2,mb1mx3.4/36,mbtmp3.5/2,Error ellipse: s-maj=270.9km s-min=53.6km az=154.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.47**	**276**	*e*Pn		Pn	21 15 02.3	+2.1
	16nm,0.2s							
DZM				*e*Sn		Sn	21 15 51.1	-2.0
	27nm,0.2s							
DZM				*e*LR		LR	21 16 07.4	
	comp=Z,183nm,23.6s							
ASAR	**Alice Springs**	**34.29**	**261**	P		P	21 20 39.2	-0.1
	1.2nm,1.0s,baz=100,slow=6.9,SNR=5.5							
WRA	**Warramunga Arr**	**34.43**	**267**	P		P	21 20 40.6	-0.1
	0.3nm,0.7s,baz=100,slow=8.0,SNR=1.4							
GERES	**GERESS Array B**	**148.33**	**331**	PKPbc		PKPbc	21 33 38.8	-0.6
	0.8nm,0.6s,baz=49,slow=3.0,SNR=9.4							

IDC 22 21:17:21.6±9.1,4°.51S×144°.90E,h75km±64km,mb3.0/3, mb1 3.3/5,mb1mx3.1/39,mbtmp3.4/5,ML3.2/2,MS3.1/1, Ms1 3.1/1,ms1mx2.6/13,Error ellipse: s-maj=82.3km s-min=24.3km az=74.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JAY	**Jayapura**	**4.63**	**295**	P		Pn	21 18 27.5	-1.7
	0.6nm,0.3s,baz=108,slow=20,SNR=1.2							
JAY				S		Sn	21 19 23.3	+1.5
	0.5nm,0.3s,baz=158,slow=23,SNR=1.5							
WRA	**Warramunga Arr**	**18.47**	**213**	P		P	21 21 31.6	0.0
	0.1nm,0.3s,baz=38,slow=12,SNR=11							
ASAR	**Alice Springs**	**21.80**	**208**	P		P	21 22 08.1	+0.5
	0.3nm,0.6s,baz=32,slow=8.5,SNR=5.0							
KAPI	**Kappang**	**25.07**	**268**	LR		LR	21 33 49.3	
	comp=Z,41nm,18.6s,baz=192,slow=39							
CMAR	**Chiang Mai Arr**	**50.71**	**298**	P		P	21 26 13.1	-1.1
	0.6nm,0.5s,baz=122,slow=4.3,SNR=6.6							
MKAR	**Makanchi Array**	**75.03**	**321**	P		P	21 28 56.2	+1.0
	0.1nm,0.6s,baz=101,slow=7.5,SNR=1.6							

SOME ***22*** *21:17:58.4,42°.00N×87°.48E,h20km*

NNC ***22*** *21:18:34.3±1.2,42°.63N×86°.47E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=11.0km s-min=7.2km az=97.0*

ISC 22 21:18:13.9±2.8,42°.6N±0°.1×87°.1E±0°.1,h10km,n24, σ2§74/39,6C-7D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KTMS	**Ketmen**	**5.01**	**282**	*e*P		**Pb**	**21 19 41.9**	**0.0**
	1.2nm,0.1s							
KTMS				*e*S		**Sg**	**21 20 55.9**	**+1.0**
	38nm,0.6s							
ZSN	**Zaisan**	**5.09**	**343**	*e*P		**Pg**	**21 19 49.8**	**-1.6**
	3.9nm,0.2s							
ZSN				*e*S		Sg	21 21 09.9	+13
	27nm,0.9s							
MK31	**Makanchi Array**	**5.41**	**322**	⇑Pn		**Pb**	**21 19 52.0**	**+3.5**
	2.0nm,0.3s,baz=140,slow=14,SNR=142							
MK31				Lg		Lg	21 21 16.2	
	1.9nm,0.3s,baz=141,slow=30,SNR=11							
MAKZ	**Makanchi**	**5.56**	**321**	⇓Pn		**Pb**	**21 19 54.4**	**+3.3**
	4.9nm,0.5s							
MAKZ				⇓Sn		**Sb**	**21 20 57.0**	**-0.7**
	1.4nm,0.3s							
MAKZ				⇓Lg		Lg	21 21 19.2	
	4.9nm,0.6s							
DJR	**Jarkent**	**5.59**	**290**	*e*P		**Pb**	**21 19 52.8**	**+1.2**
	5.0nm,0.3s							
DJR				*e*S		**Sg**	**21 21 15.2**	**+1.9**
	12nm,0.5s							
PDGK	**Podgornoye**	**5.63**	**280**	⇑Pn		**Pb**	**21 19 52.8**	**+0.6**
	5.2nm,0.5s							
PDGK				⇑Pg		Pg	21 20 09.4	+7.8
	4.0nm,0.6s							
PDGK				⇑Lg		Lg	21 21 17.9	
	31nm,0.7s							
SHLS	**Shalkode**	**5.64**	**278**	*e*P		Pb	21 19 49.5	-2.9
	10nm,0.4s							
SHLS				*e*S		**Sg**	**21 21 09.4**	**-5.5**
	77nm,0.5s							
UZB	**Uzynbulak**	**5.96**	**278**	*e*P		**Pb**	**21 19 59.7**	**+1.8**
	6.7nm,0.3s							
UZB				*e*S		**Sg**	**21 21 27.1**	**+2.0**
	18nm,0.8s							
KPKS	**Kokpek**	**6.22**	**281**	*e*P		**Pb**	**21 20 05.1**	**+2.7**
	4.1nm,0.2s							
KPKS				*e*S		**Sg**	**21 21 36.4**	**+2.7**
	41nm,0.5s							
ZHN	**Zhinishke**	**6.39**	**278**	*e*P		**Pb**	**21 20 08.2**	**+3.0**
	143nm,0.3s							
ZHN				*e*S		**Sg**	**21 21 41.3**	**+2.4**
	2.4nm,0.3s							
SATY	**Saty**	**6.41**	**277**	*e*P		**Pb**	**21 20 04.6**	**-0.9**
	5.8nm,0.1s							
SATY				*e*S		**Sg**	**21 21 35.5**	**-4.0**
	16nm,0.4s							
MNBS	**Baschi**	**6.51**	**286**	*e*P		**Pb**	**21 20 07.5**	**+0.2**
	5.5nm,0.1s							
MNBS				*e*S		**Sg**	**21 21 40.0**	**-2.7**
	12nm,0.4s							
ARXS	**Arharly**	**6.94**	**286**	*e*P		**Pb**	**21 20 16.8**	**+2.2**
	2.6nm,0.2s							
ARXS				*e*S		**Sg**	**21 21 56.4**	**-0.2**
	6.2nm,0.4s							
KOTS	**Kotyrbulak**	**7.36**	**278**	*e*P		**Pb**	**21 20 24.2**	**+2.4**
	5.1nm,0.4s							
KOTS				*e*S		**Sg**	**21 22 09.0**	**-1.0**
	12nm,0.5s							
MDOK	**Medeo**	**7.40**	**278**	*e*P		**Pb**	**21 20 26.2**	**+3.7**
	1.8nm,0.3s							
MDOK				*e*S		**Sg**	**21 22 12.4**	**+1.0**
	10nm,1.4s							
MDOK	**Medeo**	**7.40**	**278**	⇓Pn		Pb	21 20 16.6	-5.9
	1.6nm,0.4s							
MDOK				⇑Lg		Lg	21 22 13.9	
	10nm,0.8s							
TNSS	**Tian-Shan**	**7.47**	**277**	*e*P		**Pb**	**21 20 28.5**	**+4.6**
	2.7nm,0.4s							
TNSS				*e*S		**Sg**	**21 22 16.6**	**+2.8**
	5.0nm,0.6s							
CHKK	**Chushkaly**	**7.49**	**283**	*e*P		**Pb**	**21 20 27.6**	**+3.7**
	0.8nm,0.1s							
CHKK				*e*S		**Sg**	**21 22 14.7**	**+0.6**
	5.0nm,0.3s							
KTBS	**Karatobe**	**7.69**	**282**	*e*P		**Pb**	**21 20 28.6**	**+1.2**
	1.0nm,0.2s							
KTBS				*e*S		**Sg**	**21 22 16.6**	**-4.2**
	16nm,0.7s							
IZV	**Izvestkoviy**	**7.72**	**277**	*e*P		**Pb**	**21 20 32.0**	**+4.1**
	4.4nm,0.4s							
IZV				*e*S		**Sg**	**21 22 22.5**	**+0.9**
	9.7nm,0.5s							
KUU	**Kurty**	**7.96**	**283**	*e*P		**Pb**	**21 20 36.2**	**+4.3**
	1.2nm,0.4s							
KUU				*e*S		**Sg**	**21 22 29.5**	**+0.3**
	7.3nm,0.6s							
KST	**Kastek**	**8.20**	**277**	*e*P		**Pb**	**21 20 39.4**	**+3.4**
	2.0nm,0.2s							
KST				*e*S		**Sg**	**21 22 35.2**	**-1.7**
	5.2nm,0.7s							
TKM2	**Tokmak 2**	**8.47**	**276**	⇓Pn		Pb	21 20 32.2	-8.5
	1.5nm,0.5s							
TKM2				⇓Lg		Lg	21 22 50.3	
	2.8nm,0.6s							
AB31	**Akbulak array**	**19.95**	**299**	⇑Pn		**P**	**21 22 43.0**	**-3.0**
	0.1nm,0.3s,baz=339,slow=15,SNR=5.6							
AB31				⇓Lg		Lg	21 23 15.2	
	0.5nm,0.5s,baz=348,slow=29							

IDC ***22*** *21:24:06.5±0.7,36°.96N×23°.11E,h0km,mb3.8/13, mb1 3.8/22,mb1mx3.6/66,mbtmp3.7/22,ML3.3/8,MS3.1/2, Ms1 3.1/2,ms1mx2.5/35,Error ellipse: s-maj=14.8km s-min=13.7km az=46.0*

ISK ***22*** *21:24:07.4,36°.99N×22°.97E,h8km,ML3.4/31*

ATH ***22*** *21:24:09.1,36°.93N×22°.94E,h17km±1km,ML3.5/22,Error ellipse: s-maj=1.8km s-min=0.7km az=126.0*

THE ***22*** *21:24:09.3,36°.94N×22°.93E,h7km,ML3.4/14,Error ellipse: s-maj=1.1km s-min=0.4km az=245.0*

DDA ***22*** *21:24:13.0,37°.31N×23°.16E,h7km±5km,MW3.6*

ISC 22 21:24:08.9±0.8,36°.95N±0°.02×22°.95E±0°.02,h15km±6km, n166,σ1§29/204,mb3.9/13,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
VLI	**Veliai**	**0.23**	**182**	P		**Pg**	**21 24 13.6**	**-0.5**
VLI				S		**Sg**	**21 24 17.6**	**+0.1**
VLI				AML		AML	21 24 19.1	
	comp=N,74063µm,0.8s							
VLI				AML		AML	21 24 20.3	
	comp=E,59892µm,0.6s							
VLI	**Veliai**	**0.23**	**182**	P		**Pg**	**21 24 13.6**	**-0.5**
VLI				S		**Sg**	**21 24 17.4**	**-0.1**
	comp=E,30µm,0.5s							
MNVA	**Monemvasia**	**0.27**	**165**	P		**Pg**	**21 24 14.4**	**-0.3**
MNVA				S		**Sg**	**21 24 18.7**	**0.0**
MNVA				AML		AML	21 24 20.3	
	comp=E,52413µm,0.6s							
MNVA				AML		AML	21 24 20.5	
	comp=N,42212µm,0.4s							
KRND	**KRANIDI**	**0.46**	**20**	P		**Pg**	**21 24 18.4**	**+0.3**
KRND				S		**Sb**	**21 24 25.9**	**+0.5**
KRND				AML		AML	21 24 33.4	
	comp=E,6704µm,0.6s							
KRND				AML		AML	21 24 36.5	
	comp=N,7621µm,0.8s							
KRND	**KRANIDI**	**0.46**	**20**	P		**Pg**	**21 24 18.5**	**+0.4**
KRND				S		**Sb**	**21 24 25.9**	**+0.5**
	comp=N,4µm,0.8s							
YDRA	**Hydra**	**0.57**	**46**	P		**Pg**	**21 24 20.0**	**-0.2**
YDRA				S		**Sb**	**21 24 29.7**	**+1.0**
YDRA				AML		AML	21 24 33.9	
	comp=N,10803µm,0.7s							
YDRA				AML		AML	21 24 35.0	
	comp=E,13178µm,0.

ATHU	**Athens Univers**	**1.21**	**33**	P		**Pg**	**21 24 31.8**	**-0.5**
ATHU				S		**Sn**	**21 24 49.9**	**+2.3**
	comp=N,448nm,0.8s							
VILL	**Villia**	**1.24**	**13**	P		**Pb**	**21 24 32.6**	**+0.4**
VILL				S		**Sn**	**21 24 50.3**	**+1.8**
	comp=N,3μm,0.7s							
KLV	**Kalavryta, Ach**	**1.26**	**330**	P		**Pn**	**21 24 32.3**	**+0.1**
KLV				S		**Sg**	**21 24 49.1**	**-0.6**
KLV				AML	AML		21 25 02.6	
	comp=E,2133μm,1.0s							
KLV				AML	AML		21 25 03.6	
	comp=N,2281μm,0.7s							
KLV	**Kalavryta, Ach**	**1.26**	**330**	P		**Pn**	**21 24 32.1**	**-0.1**
KLV				S		**Sn**	**21 24 50.5**	**+1.6**
	comp=N,1μm,0.8s							
VIL2	**Platees**	**1.28**	**11**	P		**Pn**	**21 24 32.5**	**+0.1**
VIL2				S		**Sb**	**21 24 49.6**	**+0.4**
VIL2				AML	AML		21 24 56.6	
	comp=E,6982μm,0.9s							
VIL2				AML	AML		21 24 59.9	
	comp=N,3188μm,0.9s							
PTL	**Penteli**	**1.31**	**33**	P		**Pn**	**21 24 33.5**	**+0.6**
PTL				S		**Sg**	**21 24 51.0**	**-0.4**
PTL				AML	AML		21 24 56.3	
	comp=E,3207μm,1.1s							
PTL				AML	AML		21 25 06.3	
	comp=N,1646μm,0.9s							
PTL	**Penteli**	**1.31**	**33**	P		**Pn**	**21 24 33.4**	**+0.6**
PTL				S		**Sg**	**21 24 50.9**	**-0.5**
	comp=N,1μm,0.7s							
DION	**Dionisos Attik**	**1.37**	**35**	P		**Pn**	**21 24 34.4**	**+0.8**
DION	**Dionisos Attik**	**1.37**	**35**	P		**Pn**	**21 24 34.2**	**+0.6**
LAKA	**Lakka**	**1.50**	**329**	P		**Pn**	**21 24 36.5**	**+1.1**
LAKA				AML	AML		21 25 03.3	
	comp=N,7947μm,0.7s							
LAKA				AML	AML		21 25 13.6	
	comp=E,5577μm,1.4s							
LAKA	**Lakka**	**1.50**	**329**	P		**Pn**	**21 24 36.5**	**+1.1**
KALE	**Kalithea**	**1.57**	**336**	P		**Pn**	**21 24 37.3**	**+0.9**
KALE				S		**Sb**	**21 24 58.7**	**+1.1**
KALE				AML	AML		21 25 05.0	
	comp=E,1178μm,0.6s							
KALE				AML	AML		21 25 06.8	
	comp=N,1740μm,0.6s							
KALE	**Kalithea**	**1.57**	**336**	P		**Pn**	**21 24 37.0**	**+0.5**
TRIZ	**Trizonia**	**1.57**	**334**	P		**Pn**	**21 24 37.3**	**+0.9**
TRIZ	**Trizonia**	**1.57**	**334**	P		**Pn**	**21 24 37.2**	**+0.9**
KARY	**Karystos**	**1.60**	**47**	P		**Pn**	**21 24 37.4**	**+0.7**
KARY				AML	AML		21 25 04.7	
	comp=E,1857μm,0.5s							
KARY				AML	AML		21 25 05.0	
	comp=N,2085μm,0.6s							
KARY	**Karystos**	**1.60**	**47**	P		**Pn**	**21 24 37.4**	**+0.7**
RLS	**Riolos of Patr**	**1.62**	**314**	P		**Pn**	**21 24 38.2**	**+1.3**
RLS	**Riolos of Patr**	**1.62**	**314**	P		**Pn**	**21 24 38.3**	**+1.3**
EREA	**Eretria**	**1.66**	**28**	P		**Pn**	**21 24 38.4**	**+0.8**
EREA				S		**Sb**	**21 25 00.3**	**+0.3**
EREA				AML	AML		21 25 09.0	
	comp=N,839μm,0.3s							
EREA				AML	AML		21 25 10.7	
	comp=E,1150μm,0.6s							
EREA	**Eretria**	**1.66**	**28**	P		**Pn**	**21 24 38.1**	**+0.5**
EREA				S		**Sn**	**21 25 00.1**	**+1.4**
	comp=E,520nm,0.6s							
LKR	**Lokris**	**1.70**	**1**	P		**Pn**	**21 24 39.2**	**+1.1**
LKR	**Lokris**	**1.70**	**1**	P		**Pn**	**21 24 39.0**	**+0.9**
IMMV	**Iera Moni Meta**	**1.71**	**150**	P		**Pn**	**21 24 38.1**	**0.0**
IMMV	**Iera Moni Meta**	**1.71**	**150**	P		**Pn**	**21 24 38.2**	**0.0**
IMMV	**Iera Moni Meta**	**1.71**	**150**	PN		**Pn**	**21 24 38.4**	**+0.2**
ATAL	**Atalanti**	**1.74**	**2**	P		**Pn**	**21 24 39.5**	**+0.8**
ATAL				AML	AML		21 25 10.2	
	comp=E,1314μm,1.0s							
ATAL				AML	AML		21 25 19.1	
	comp=N,981μm,0.7s							
ATAL	**Atalanti**	**1.74**	**2**	P		**Pn**	**21 24 39.3**	**+0.6**
AXAR	**Agios Charalam**	**1.83**	**353**	P		**Pn**	**21 24 41.2**	**+1.4**
AXAR				AML	AML		21 25 16.4	
	comp=N,3324μm,1.0s							
AXAR				AML	AML		21 25 19.1	
	comp=E,3186μm,0.5s							
AXAR	**Agios Charalam**	**1.83**	**353**	P		**Pn**	**21 24 41.1**	**+1.2**
VAM	**Vamos**	**1.84**	**146**	P		**Pn**	**21 24 40.1**	**0.0**
TNSA	**Tinos**	**1.86**	**71**	P		**Pn**	**21 24 40.8**	**+0.5**
KYMI	**Kymi, Euboea I**	**1.91**	**28**	P		**Pn**	**21 24 42.2**	**+1.2**
KYMI	**Kymi, Euboea I**	**1.91**	**28**	P		**Pn**	**21 24 41.8**	**+0.8**
SMIA	**Símia**	**1.94**	**6**	P		**Pn**	**21 24 42.6**	**+1.2**
THR5	**Thira Island,**	**2.00**	**105**	P		**Pn**	**21 24 43.1**	**+0.9**
SNT5	**Nea Kammeni, S**	**2.04**	**105**	P		**Pn**	**21 24 44.7**	**+1.9**
SNT5	**Nea Kammeni, S**	**2.04**	**105**	P		**Pn**	**21 24 44.3**	**+1.5**
THR3	**Thira Island,**	**2.04**	**105**	P		**Pn**	**21 24 44.2**	**+1.4**
THT2	**Imerovigli**	**2.05**	**104**	PN		**Pn**	**21 24 43.4**	**+0.4**
SNT1	**Gialos, Santor**	**2.06**	**104**	P		**Pn**	**21 24 45.2**	**+2.1**
APE	**Apeiranthos**	**2.07**	**86**	P		**Pn**	**21 24 43.2**	**0.0**
APE	**Apeiranthos**	**2.07**	**86**	PN		**Pn**	**21 24 43.1**	**-0.1**
SANT	**Santorini**	**2.10**	**105**	PN		**Pn**	**21 24 44.0**	**+0.4**
AGG	**Agios Georgios**	**2.12**	**347**	P		**Pn**	**21 24 43.3**	**+1.3**
AGG	**Agios Georgios**	**2.12**	**347**	PN		**Pn**	**21 24 44.5**	**+0.5**
MAKR	**Makrakomi, Fth**	**2.16**	**343**	P		**Pn**	**21 24 46.1**	**+1.7**
MAKR				S		**Sb**	**21 25 15.3**	**+0.9**
MAKR				AML	AML		21 25 30.7	
	comp=E,779μm,1.6s							
MAKR				AML	AML		21 25 42.1	
	comp=N,824μm,1.3s							
EVR	**Evrytania**	**2.16**	**336**	P		**Pn**	**21 24 46.3**	**+1.8**
EVR	**Evrytania**	**2.16**	**336**	P		**Pn**	**21 24 46.0**	**+1.5**
IDI	**Anoyia**	**2.29**	**136**	Pn		**Pn**	**21 24 45.5**	**-0.8**
	comp=N,7.1nm,0.3s,baz=297,slow=16,SNR=28							
IDI				Sn		**Sn**	**21 25 12.3**	**-1.9**
	comp=N,9.3nm,0.3s,baz=244,slow=4.0,SNR=6.1							
IDI				LR	LR		21 26 02.3	
	comp=N,51nm,21.3s,baz=306,slow=52							
IDI	**Anoyia**	**2.29**	**136**	P		**Pn**	**21 24 48.1**	**+1.8**
IDI	**Anoyia**	**2.29**	**136**	P		**Pn**	**21 24 46.1**	**-0.1**
IDI	**Anoyia**	**2.29**	**136**	PN		**Pn**	**21 24 45.9**	**-0.3**
GVDS	**Gavdos**	**2.30**	**156**	PN		**Pn**	**21 24 47.4**	**+1.1**
GVD	**Gavdhos**	**2.30**	**156**	P		**Pb**	**21 24 49.5**	**-0.7**
GVD	**Gavdhos**	**2.30**	**156**	PN		**Pn**	**21 24 47.6**	**+1.2**
NEO	**Neokhori**	**2.36**	**5**	P		**Pn**	**21 24 48.2**	**+1.0**
HRKL	**Herakleio**	**2.39**	**133**	PN		**Pn**	**21 24 48.7**	**+1.1**
XOR	**Xorichti**	**2.42**	**4**	P		**Pn**	**21 24 49.0**	**+1.0**
LAST	**Lasithi**	**2.72**	**130**	P		**Pn**	**21 24 53.2**	**+1.0**
CHOS	**Chios Island**	**2.85**	**59**	PN		**Pn**	**21 24 54.7**	**+0.7**
PAIG	**Paliouri**	**3.03**	**11**	P		**Pn**	**21 24 57.0**	**+0.7**
ZEYE	**Izmir, Urla-Ze**	**3.10**	**64**	*i* P		**Pn**	**21 24 57.7**	**+0.4**
ZEYE				*i* S		**Sn**	**21 25 30.8**	**-3.3**
SIGR	**SIGRI**	**3.22**	**45**	P		**Pn**	**21 24 59.3**	**+0.4**
SIGR	**SIGRI**	**3.22**	**45**	PN		**Pn**	**21 24 59.4**	**+0.5**
URLA	**Izmir**	**3.22**	**63**	PN		**Pn**	**21 24 58.6**	**-0.4**
URLA	**Izmir**	**3.22**	**63**	*i* P		**Pn**	**21 24 59.2**	**+0.2**
URLA				*i* S		**Sn**	**21 25 36.1**	**-1.0**
ZKR	**Zakros**	**3.22**	**124**	PN		**Pn**	**21 25 00.3**	**+1.3**
KOSK	**Kos Island**	**3.24**	**92**	PN		**Pn**	**21 24 59.5**	**+0.3**
NIS1	**Nisyros Isl.**	**3.41**	**95**	PN		**Pn**	**21 25 02.5**	**+0.8**
DDIM	**Aydin, Didim**	**3.46**	**80**	*i* P		**Pg**	**21 25 14.3**	**-1.0**
OUR	**Ouranopolis**	**3.47**	**13**	P		**Pn**	**21 25 03.1**	**+0.6**
OUR	**Ouranopolis**	**3.47**	**13**	PN		**Pn**	**21 25 02.9**	**+0.4**
BODT	**Bodrum**	**3.49**	**87**	PN		**Pn**	**21 25 03.7**	**+0.9**
GCAM	**G?zelcaml?**	**3.50**	**76**	PN		**Pn**	**21 25 03.1**	**+0.3**
BLCB	**Balcova**	**3.55**	**65**	PN		**Pn**	**21 25 04.3**	**+0.8**
KOCA	**Canakkale, Ayv**	**3.58**	**44**	*i* P		**Pn**	**21 25 00.8**	**-3.2**
BDRM	**Kayabasi**	**3.60**	**87**	*i* P		**Pn**	**21 25 05.5**	**+1.3**
HORT	**Hortiatis**	**3.64**	**2**	PN		**Pn**	**21 25 05.2**	**+0.3**
KARP	**Karpathos**	**3.68**	**111**	PN		**Pn**	**21 25 06.1**	**+0.7**
AYVA	**Ayvalik**	**3.77**	**50**	*i* P		**Pn**	**21 25 07.7**	**+1.1**
DKL	**Díkili**	**3.77**	**55**	PN		**Pn**	**21 25 06.9**	**+0.3**
BOZC	**Bozcaada**	**3.78**	**39**	PN		**Pn**	**21 25 06.8**	**+0.1**
BOZC	**Bozcaada**	**3.78**	**39**	*i* P		**Pn**	**21 25 06.6**	**0.0**
ZEDA	**zmir-Bergama**	**3.83**	**57**	*i* P		**Pg**	**21 25 21.8**	**-0.5**
ZEDA				*i* S		**Sb**	**21 26 05.6**	**+3.1**
MLSB	**Milas**	**3.87**	**83**	PN		**Pn**	**21 25 08.9**	**+0.9**
EZN	**Ezine**	**3.91**	**42**	PN		**Pn**	**21 25 09.2**	**+0.8**
BAYC	**CANAKKALE_Bayr**	**3.97**	**44**	*i* P		**Pn**	**21 25 09.4**	**0.0**
GADA	**Gvkgeada**	**3.98**	**35**	PN		**Pn**	**21 25 10.1**	**+0.7**
AYDN	**Tasoluk**	**3.99**	**78**	*i* P		**Pn**	**21 25 11.3**	**+1.6**
FNA	**Florina**	**4.02**	**343**	PN		**Pn**	**21 25 10.8**	**+0.7**
GRG	**Griva**	**4.02**	**354**	PN		**Pn**	**21 25 10.8**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**4.05**	**74**	PN		**Pn**	**21 25 11.3**	**+0.7**
BUHA	**Balikesir, Bur**	**4.13**	**51**	*i* P		**Pn**	**21 25 11.3**	**-0.2**
KNT	**Kendrikon**	**4.21**	**359**	PN		**Pn**	**21 25 13.4**	**+0.8**
ARG	**Arkhangelos**	**4.23**	**98**	PN		**Pn**	**21 25 14.2**	**+1.3**
TURN	**Turunc**	**4.25**	**91**	PN		**Pn**	**21 25 14.4**	**+1.3**
TURN	**Turunc**	**4.25**	**91**	*i* P		**Pn**	**21 25 17.5**	**+4.3**
TURN				*i* S		**Sn**	**21 26 04.1**	**+1.6**
YER	**Yerkesik**	**4.27**	**86**	PN		**Pn**	**21 25 14.6**	**+1.1**
MULA	**Mugla, Merkez-**	**4.30**	**84**	*i* P		Pn	21 25 19.7	+5.7
VAY	**Valandovo**	**4.37**	**356**	*i* Pn		**Pn**	**21 25 18.5**	**+3.6**
GELI	**Tayfur-Gelibol**	**4.41**	**38**	PN		**Pn**	**21 25 15.9**	**+0.5**
STEP	**BALIKESIR_Sava**	**4.47**	**56**	*i* P		**Pn**	**21 25 14.8**	**-1.4**
LPK	**Lapseki**	**4.53**	**40**	PN		**Pn**	**21 25 17.2**	**+0.1**
DALY	**Dalyan (Mula)**	**4.58**	**90**	PN		**Pn**	**21 25 19.3**	**+1.7**
DALY	**Dalyan (Mula)**	**4.58**	**90**	*i* P		**Pn**	**21 25 21.4**	**+3.8**
BALY	**Balya**	**4.61**	**51**	*i* P		**Pn**	**21 25 18.4**	**+0.3**
BALY				*i* S		**Sn**	**21 26 15.8**	**+4.4**
ALN	**Alexandroupoli**	**4.62**	**31**	PN		**Pn**	**21 25 18.2**	**0.0**
RDO	**Rodhopi**	**4.65**	**25**	PN		**Pn**	**21 25 19.4**	**+0.8**
STIP	**Stip**	**4.77**	**353**	*i* Pn		**Pn**	**21 25 22.7**	**+2.3**
KRBG	**Karabiga-Canak**	**4.84**	**43**	PN		**Pn**	**21 25 22.5**	**+1.3**
FETY	**Fethiye**	**4.93**	**92**	PN		**Pn**	**21 25 23.6**	**+1.0**
GOLH	**Golhisar**	**5.29**	**85**	*i* P		Pn	21 25 34.9	+7.3
AKAS	**Kas**	**5.40**	**96**	PN		**Pn**	**21 25 30.7**	**+1.5**
VAE	**Valguarnera**	**6.83**	**277**	Pn		**Pn**	**21 25 51.2**	**+2.5**
	comp=N,0.8nm,0.3s,baz=191,slow=3.2,SNR=7.1							
VAE				Sn		**Sn**	**21 27 08.6**	**+2.2**
	comp=N,0.6nm,0.3s,baz=182,slow=19,SNR=0.9							
STON	**Ston**	**7.16**	**327**	*e*Pn		**Pn**	**21 25 51.4**	**-1.7**
STON				Sn		**Sn**	**21 27 09.6**	**-4.5**
RICI	**Ricice**	**7.90**	**328**	*i* Pn		**Pn**	**21 26 02.8**	**-0.6**
RICI				Sn		**Sn**	**21 27 28.9**	**-3.7**
KIJV	**Kijevo**	**8.63**	**327**	*i* Pn		**Pn**	**21 26 12.7**	**-0.6**
KIJV				Sn		**Sn**	**21 27 46.9**	**-3.5**
MLR	**Muntele Rosu**	**8.82**	**14**	Pn		**Pn**	**21 26 15.5**	**-0.6**
	baz=150,slow=17							
MORI	**Morici**	**8.84**	**324**	*e*Pn		**Pn**	**21 26 16.4**	**+0.2**
BRTR	**Keskin Array B**	**8.84**	**69**	Pn		**Pn**	**21 26 16.8**	**+0.4**
	comp=N,0.1nm,0.3s,baz=259,slow=12,SNR=5.2							
UDBI	**Udbina**	**9.32**	**326**	*e*Pn		**Pn**	**21 26 23.3**	**+0.4**
NVLJ	**Novalja**	**9.76**	**324**	*e*Pn		**Pn**	**21 26 28.2**	**-0.5**
MMAI	**Mount Meron Ar**	**10.94**	**107**	Pn		**Pn**	**21 26 42.2**	**-2.9**
	comp=N,1.4nm,0.3s,baz=306,slow=14,SNR=8.4							
EIL	**Elat**	**12.38**	**122**	Pn		**Pn**	**21 27 03.3**	**-1.5**
	comp=N,0.2nm,0.3s,baz=346,slow=19,SNR=1.3							
EIL				Sn		Sn	21 29 11.3	-11
	comp=N,0.2nm,0.3s,baz=7.0,slow=18,SNR=1.6							
GERES	**GERESS Array B**	**13.67**	**333**	Pn		**Pn**	**21 27 25.7**	**+3.4**
	comp=N,0.1nm,0.3s,baz=143,slow=9.9,SNR=1.4							
AKASG	**Malin Array Be**	**14.46**	**16**	Pn		**Pn**	**21 27 31.5**	**-1.6**
	comp=N,0.4nm,0.3s,baz=204,slow=9.4,SNR=1.7							
KBZ	**Khabaz**	**16.63**	**60**	Pn		**Pn**	**21 28 02.7**	**+1.3**
	comp=N,0.0nm,0.3s,baz=191,slow=3.3,SNR=1.1							
ESDC	**Sonseca Array**	**21.27**	**286**	P		**P**	**21 28 55.5**	**+0.8**
	comp=N,0.8nm,0.8s,baz=82,slow=9.6,SNR=2.9							
HFS	**Hagfors**	**23.95**	**349**	P		**P**	**21 29 21.9**	**-0.4**
	comp=N,1.4nm,0.5s,baz=163,slow=11,SNR=6.8							
FINES	**FINESS Array B**	**24.59**	**4**	P		**P**	**21 29 28.0**	**-0.3**
	comp=N,2.9nm,0.9s,baz=205,slow=35,SNR=1.6							
FINES				PcP		**PcP**	**21 33 04.5**	**-1.1**
	comp=N,2.7nm,0.9s,baz=191,slow=1.4,SNR=1.5							
NOA	**NORSAR Array B**	**25.23**	**347**	P		**P**	**21 29 33.7**	**-0.4**
	comp=N,0.8nm,0.9s,baz=151,slow=9.7,SNR=4.2							
EKA	**Eskdalemuir Ar**	**25.55**	**324**	P		**P**	**21 29 37.5**	**+0.5**
	comp=N,3.1nm,0.7s,baz=122,slow=10,SNR=5.2							
TORD	**Torodi Ar. Bea**	**30.40**	**224**	P		**P**	**21 30 21.6**	**+0.9**
	comp=N,1.9nm,0.9s,baz=34,slow=9.3,SNR=6.5							
ARCES	**ARCESS Array B**	**32.67**	**2**	P		**P**	**21 30 40.0**	**-0.2**
	comp=N,2.7nm,1.0s,baz=184,slow=11,SNR=1.8							
DBIC	**Dimbokro**	**39.38**	**227**	P		**P**	**21 31 38.5**	**+0.3**
	comp=N,5.2nm,0.9s,baz=31,slow=7.8,SNR=5.0							
MKAR	**Makanchi Array**	**44.31**	**58**	P		**P**	**21 32 17.4**	**-0.8**
	comp=N,0.5nm,0.5s,baz=270,slow=7.7,SNR=11							
ZALV	**Zalesovo Beam**	**45.09**	**47**	P		**P**	**21 32 22.8**	**-1.4**
	comp=N,0.8nm,0.3s,baz=287,slow=8.1,SNR=5.4							
SONM	**Songino Array**	**59.74**	**51**	P		**P**	**21 34 11.9**	**-1.4**
	comp=N,0.4nm,0.9s,baz=281,slow=8.7,SNR=3.5							
CMAR	**Chiang Mai Arr**	**68.14**	**83**	P		**P**	**21 35 08.1**	**-0.7**
	comp=N,0.6nm,0.4s,baz=293,slow=7.5,SNR=1.7							
YKA	**Yellowknife Ar**	**75.19**	**341**	P		**P**	**21 35 50.5**	**0.0**
	comp=N,0.5nm,0.8s,baz=40,slow=6.3,SNR=5.4							
KAPI	**Kappang**	**98.42**	**90**	LR	LR		22 29 58.8	
	comp=N,57nm,18.1s,baz=269,slow=40							

*IDC **22** 21:33:38.0±1.9, 51.90°N×176.29°W, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.4/48, mbtmp3.6/6, ML3.7/2, MS3.4/2, Ms1 3.4/2, ms1mx2.5/39, Error ellipse: s-maj=79.2km s-min=29.2km az=144.0*

*AEIC **22** 21:33:47.7±4.6, 51.8N±0.1°×176.07W±0.07, h33km±6km, Error ellipse: s-maj=19.9km s-min=5.2km az=169.0*

*NEIC **22** 21:33:48.0±2.0, 51.8N±0.1°×176.02W±0.08, h64km±6km, mb3.6/12, ML3.8/24(AEIC), Error ellipse: s-maj=21.9km s-min=5.5km az=169.0*

ISC 22 21:33:47.7±1.0, 51.8N±0.1°×176.01W±0.04, h67km±9km, n48, σ1§27/46, mb3.5/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADK	**Adak**	**0.43**	**285**		**Pn**	**21 33 59.0**	**-0.6**
ADK				Sn	**Sn**	**21 34 08.1**	**-0.2**
ATKA	**Atka Island**	**1.20**	**69**		**Pn**	**21 34 08.5**	**-0.1**
ATKA					**Sn**	**21 34 24.2**	**0.0**
KOWE	**Korovin West**	**1.24**	**61**		**Pn**	**21 34 09.3**	**+0.2**
KOKL	**Mount Kliuchef**	**1.25**	**63**		**Pn**	**21 34 09.6**	**+0.3**
KOKL					**Sn**	**21 34 26.4**	**+1.0**
KOFP	**Korovin Flat P**	**1.28**	**66**		**Pn**	**21 34 10.1**	**+0.3**
CERAA	**Semis' Rag'd T**	**2.67**	**274**		**Pn**	**21 34 29.1**	**+0.7**
CERAA					**Sn**	**21 34 59.7**	**+0.1**
CERB	**Semis' Cerberu**	**2.71**	**275**		**Sn**	**21 35 01.6**	**+1.2**
CEAP	**Semis' Anvil P**	**2.74**	**276**		**Pn**	**21 34 29.8**	**+0.5**
CESW	**Semis' Southwe**	**2.75**	**274**		**Pn**	**21 34 29.8**	**+0.4**
CESW					**Sn**	**21 35 02.7**	**+1.2**
AMKA	**Amchitka**	**2.95**	**264**		**Pn**	**21 34 32.8**	**+0.6**
LSPA	**Little Sitkin**	**3.36**	**275**		**Pn**	**21 34 39.0**	**+1.2**
LSPA					**Sn**	**21 35 18.2**	**+1.7**
LSNW	**Little Sitkin**	**3.40**	**275**		**Pn**	**21 34 39.2**	**+1.0**
NIKH	**Nikolski High**	**4.55**	**72**		**Pn**	**21 34 55.9**	**+2.0**
MAPS	**Pakushin South**	**5.87**	**66**		**Pn**	**21 35 14.5**	**+2.5**
MREP	**Makushin Rep't**	**5.98**	**66**		**Pn**	**21 35 16.1**	**+2.5**
MSW	**Makushin Switc**	**5.99**	**65**		**Pn**	**21 35 15.6**	**+2.0**
MNAT	**Makushin Natee**	**6.04**	**66**		**Pn**	**21 35 16.3**	**+2.0**
SPIA	**Saint Paul Isl**	**6.37**	**30**		**Pn**	**21 35 19.9**	**+1.1**
CHGN	**Chignik**	**11.29**	**59**		**Pn**	**21 36 27.5**	**+1.6**
KDAK	**Kodiak Island**	**14.75**	**57**	Pn	**Pn**	**21 37 08.9**	**-3.4**
	1.3nm,0.3s,baz=277,slow=17,SNR=23						
KDAK	**Kodiak Island**	**14.75**	**57**		**Pn**	**21 37 13.0**	**+0.7**
SUA	**Susitna One**	**16.84**	**45**		**Sn**	**21 40 45.4**	**+0.4**
KTH	**Kantishna Hill**	**17.71**	**39**	P	**Pn**	**21 37 50.4**	**+0.8**
BPAW	**Bear Paw Mtn.**	**17.97**	**37**	P	**Pn**	**21 37 53.3**	**+0.7**
RND	**Reindeer**	**18.46**	**40**	P	**P**	**21 37 57.1**	**-0.7**
MLY	**Manley**	**18.57**	**35**	P	**Pn**	**21 37 59.7**	**-0.1**
MLY				IAmb	IAmb	21 38 02.1	
	comp=Z,4.0nm,1.1s						
NEA2	**Nenana**	**18.94**	**37**	P	**Pn**	**21 38 03.9**	**-0.4**
I23K	**Minto, Yukon-K**	**19.12**	**35**	P	**Pn**	**21 38 05.2**	**-1.1**
I23K				IAmb	IAmb	21 38 08.2	
	comp=Z,4.7nm,1.1s						
MDM	**Murphy Dome**	**19.44**	**37**	P	**Pn**	**21 38 08.8**	**-1.3**
CCB	**Clear Creek Bu**	**19.45**	**38**	P	**P**	**21 38 08.4**	**0.0**
CCB				IAmb	IAmb	21 38 12.0	
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**19.85**	**38**	P	**P**	**21 38 10.0**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=229,slow=10,SNR=4.5						
ILAR	**Eielson Array**	**19.85**	**38**	P	**P**	**21 38 12.4**	**-0.4**
DOT	**Dot Lake**	**20.53**	**42**	P	**P**	**21 38 19.8**	**-0.4**
SCRK	**Sand Creek**	**20.68**	**41**	P	**P**	**21 38 20.9**	**-1.1**
SCRK				IAmb	IAmb	21 38 23.8	
	comp=Z,3.9nm,0.8s						
TIXI	**Tiksi**	**31.16**	**330**	LR	LR	21 51 45.5	
	comp=Z,24nm,21.6s,baz=314,slow=35						
H11N2	**WAKE ISLAND Hy**	**34.68**	**209**	T	T	22 17 01.1	
	baz=18,slow=76,SNR=78						
H11N3	**WAKE ISLAND Hy**	**34.68**	**209**	T	T	22 17 19.6	
	baz=18,slow=76,SNR=99						
H11N1	**WAKE ISLAND Hy**	**34.69**	**209**	T	T	22 17 16.0	
	baz=18,slow=76,SNR=91						
H11S1	**WAKE ISLAND Hy**	**35.89**	**209**	T	T	22 18 38.9	
	baz=18,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**35.90**	**209**	T	T	22 18 41.3	
	baz=18,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**35.91**	**209**	T	T	22 18 46.2	
	baz=18,slow=76,SNR=26						
NVAR	**Mina Array Bea**	**41.78**	**85**	P	**P**	**21 41 30.8**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=298,slow=6.8,SNR=2.4						
NVAR	**Mina Array Bea**	**41.78**	**85**	P	**P**	**21 41 30.4**	**-0.1**
PDAR	**Pinedale Array**	**44.53**	**74**	P	**P**	**21 41 52.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=318,slow=3.2,SNR=7.0						
PDAR	**Pinedale Array**	**44.53**	**74**	P	**P**	**21 41 52.7**	**0.0**
TXAR	**Lajitas Array**	**56.88**	**83**	P	**P**	**21 43 25.1**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=316,slow=6.3,SNR=2.6						
CTA	**Charters Tower**	**78.80**	**216**	LR	LR	22 20 15.2	
	comp=Z,78nm,18.9s,baz=334,slow=36						
ASAR	**Alice Springs**	**86.98**	**225**	P	**P**	**21 46 24.7**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=27,slow=4.3,SNR=4.2						

*IDC **22** 22:05:20.4±1.1, 6.3S±0.1°×155.01E±0.08, h56km, n13, σ1§16/9, mb3.3/4, Bougainville-Solomon Islands region*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.80**	**123**	P	**Pn**	**22 06 42.8**	**-1.2**
	5.7nm,0.3s,baz=203,slow=8.7,SNR=1.3						
HNR				S	**Sn**	**22 07 51.4**	**+2.2**
	8.8nm,0.3s,baz=198,slow=3.4,SNR=1.2						
HNR				LR	LR	22 09 25.8	
	comp=Z,60nm,19.0s,baz=256,slow=43						
PMG	**Port Moresby**	**8.37**	**248**	P	**Pn**	**22 07 19.8**	**+0.7**
	2.0nm,0.3s,baz=62,slow=8.7,SNR=5.3						
PMG				S	**Sn**	**22 08 52.0**	**-0.2**
	0.1nm,0.3s,baz=183,slow=23,SNR=2.3						
DZM	**Mont Dzumac**	**19.19**	**146**	P	**P**	**22 09 38.8**	**-0.9**
	0.1nm,0.3s,baz=318,slow=16,SNR=1.0						
WRA	**Warramunga Arr**	**24.23**	**234**	P	**P**	**22 10 32.3**	**0.0**
	0.9nm,0.6s,baz=61,slow=9.6,SNR=8.7						
ASAR	**Alice Springs**	**26.65**	**227**	P	**P**	**22 10 53.7**	**-0.5**
	0.5nm,0.6s,baz=59,slow=8.9,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**27.19**	**25**	T	T	22 39 32.4	
	baz=202,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**27.20**	**25**	T	T	22 39 30.7	
	baz=202,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**27.21**	**25**	T	T	22 39 29.1	
	baz=202,slow=75,SNR=

comp=Z,38µm,0.5s
SPBC San Pablo de B 1.53 221⇑iP Pn 22 28 06.9 +0.4
SPBC eS Sn **22 28 29.2 -1.0**
SPBC i 22 28 34.2
comp=Z,35µm,0.3s
ZARC Zaragoza, Cauc 1.90 291⇓iP Pn 22 28 10.1 -0.2
ZARC eS Sn **22 28 36.3 -0.8**
ZARC i 22 28 42.0
comp=Z,27µm,0.6s
NORC Norcasia 2.19 235⇑iP Pn 22 28 13.7 +0.1
NORC eS Sn **22 28 42.5 -0.4**
NORC i 22 28 46.5
comp=Z,18µm,0.2s
SMLC San Martn de 2.21 333⇑eP Pn 22 28 13.8 0.0
SMLC eS Sn **22 28 43.1 -0.3**
SMLC i 22 28 44.3
comp=Z,11µm,0.6s
ROSC El Rosal 2.33 213 P Pn 22 28 17.4 +1.7
comp=Z,5µm,0.3s,baz=268,slow=3.4,SNR=2773
ROSC S Sn **22 28 47.0 +0.4**
comp=Z,3µm,0.3s,baz=203,slow=20,SNR=6.3
ROSC El Rosal 2.33 213 Pn 22 28 17.2 +1.5
ROSC Sn Sn **22 28 46.1 -0.5**
ROSC El Rosal 2.33 213⇑iP Pn 22 28 17.5 +1.8
ROSC eS Sn **22 28 48.4 +1.9**
ROSC i 22 28 53.9
comp=Z,26µm,0.5s
HELC Santa Helena 2.53 256 eP Pn 22 28 19.6 +1.7
HELC eS Sn **22 28 50.9 +0.2**
HELC Santa Helena 2.53 256⇓eP Pn 22 28 17.5 -0.5
HELC eS Sn **22 28 48.8 -1.9**
HELC i 22 28 56.5
comp=Z,11µm,0.3s
UREC San Jos de Ur 2.62 291⇓iP Pn 22 28 17.6 -1.1
UREC eS Sn **22 28 49.5 -2.6**
UREC i 22 29 03.3
comp=Z,10µm,0.3s
VILC Villavicencio, 2.76 193⇑iP Pn 22 28 21.1 +0.4
VILC eS Sn **22 28 55.5 0.0**
VILC i 22 29 05.1
comp=Z,12µm,0.4s
PTGC Puerto Gaitan, 2.76 160⇑iP Pn 22 28 21.0 +0.5
PTGC eS Sn **22 28 54.2 -1.2**
PTGC i 22 28 57.8
comp=Z,8µm,0.2s
GUY2C Guyana, Caldas 2.78 235⇑eP Pn 22 28 21.7 +0.5
GUY2C eS Sn **22 28 58.8 +2.3**
GUY2C i 22 29 06.7
comp=Z,14µm,0.5s
RREF El Recreo 2.96 230 eP Pn 22 28 23.8 +0.2
RREF eS Sn **22 29 02.8 +2.1**
RREF i 22 29 08.9
comp=Z,12µm,0.3s
CBOC Ciudad Bolivar 3.08 252⇓eP Pn 22 28 25.3 +0.7
CBOC eS Sn **22 29 02.4 -0.2**
CBOC i 22 29 08.7
comp=Z,5µm,0.5s
DBBC Dabeiba 3.13 274⇓iP Pn 22 28 25.5 +0.4
DBBC eS Sn **22 29 02.2 -1.3**
TOLC Tolima 3.16 225 eP Pn 22 28 26.2 +0.5
TOLC eS Sn **22 29 05.3 +0.7**
TOLC i 22 29 09.7
comp=Z,7µm,0.5s
SDV Santo Domingo 3.17 49 P Pn 22 28 27.2 +1.5
comp=Z,1µm,0.3s,baz=221,slow=4.9,SNR=3475
SDV S Sn **22 29 03.8 -0.7**
comp=Z,1µm,0.3s,baz=285,slow=23,SNR=8.5
SDV Santo Domingo 3.17 49 Pn 22 28 26.8 +1.1
SDV Sn Sn **22 29 02.8 -1.7**
SDV Santo Domingo 3.17 49⇓iP Pn 22 28 27.2 +1.5
SDV eS Sn **22 29 04.0 -0.6**
SDV i 22 29 09.3
comp=Z,4µm,0.5s
SDV Santo Domingo 3.17 49 eP Pn 22 28 27.1 +1.5
ARGC Ariguani, Magd 3.24 339⇓iP Pn 22 28 28.1 +1.6
ARGC eS Sn **22 29 06.1 +0.2**
ARGC i 22 29 13.9
comp=Z,5µm,0.3s
ANIL Santa Ana 3.28 225⇑eP Pn 22 28 27.8 +0.6
ANIL eS Sn **22 29 08.4 +1.1**
ANIL i 22 29 14.6
comp=Z,2µm,0.5s
ORTC Ortega, Tolima 3.62 217⇑iP Pn 22 28 31.6 +0.3
ORTC eS Sn **22 29 15.2 +0.6**
ORTC i 22 29 22.0
comp=Z,8µm,0.5s
CVALL Valledupar, Ce 3.67 357⇓eP Pn 22 28 31.8 -0.2
CVALL ⇓eP Pn **22 28 31.8 -0.2**
CVALL eS Sn **22 29 13.3 -2.6**
CVALL eS Sn **22 29 13.3 -2.6**
CVALL i 22 29 20.2
comp=Z,4µm,0.3s
CVALL i 22 29 20.2
comp=Z,4µm,0.3s
SJCC San Jacinto, C 3.71 326⇓iP Pn 22 28 31.7 -0.8
SJCC ⇓iP Pn **22 28 31.7 -0.8**
SJCC eS Sn **22 29 12.4 -4.3**
SJCC eS Sn **22 29 12.4 -4.3**
SJCC i 22 29 17.9
comp=Z,5µm,0.4s
SJCC i 22 29 17.9
comp=Z,5µm,0.4s
PLMC San Jos del P 3.72 239 eP Pn 22 28 33.2 +0.5
PLMC eP Pn **22 28 33.2 +0.5**
PLMC eS Sn **22 29 16.1 -1.0**
PLMC eS Sn **22 29 16.1 -1.0**
PLMC i 22 29 25.2
comp=Z,5µm,0.6s
PLMC i 22 29 25.2
comp=Z,5µm,0.6s
LCBC Los crdobas, 3.85 302 eP Pn 22 28 32.9 -1.3
LCBC eP Pn **22 28 32.9 -1.3**
LCBC eS Sn **22 29 20.1 +0.2**
LCBC eS Sn **22 29 20.1 +0.2**
LCBC i 22 29 35.9
comp=Z,3µm,0.5s
LCBC i 22 29 35.9
comp=Z,3µm,0.5s
CRJC Cerrejon, Guaj 4.18 2⇑iP Pn 22 28 38.1 -0.5
CRJC ⇑iP Pn **22 28 38.1 -0.5**
CRJC eS Sn **22 29 23.8 -3.9**
CRJC eS Sn **22 29 23.8 -3.9**
CRJC i 22 29 30.9
comp=Z,5µm,0.7s
CRJC i 22 29 30.9
comp=Z,5µm,0.7s
GUVC San Jose del G 4.27 174 eP Pn 22 28 38.7 -1.0
GUVC eP Pn **22 28 38.7 -1.0**
GUVC eS Sn **22 29 28.9 -0.8**
GUVC eS Sn **22 29 28.9 -0.8**
GUVC i 22 29 33.1
comp=Z,8µm,0.8s
GUVC i 22 29 33.1
comp=Z,8µm,0.8s
YOTC Yotoco, Valle 4.31 229⇑eP Pn 22 28 40.2 -0.2
YOTC ⇑eP Pn **22 28 40.2 -0.2**
YOTC eS Sn **22 29 29.6 -1.3**
YOTC eS Sn **22 29 29.6 -1.3**
SOLC Bahia Solano 4.36 262⇓eP Pn 22 28 40.7 -0.1
SOLC ⇓eP Pn **22 28 40.7 -0.1**
SOLC i 22 29 28.8
comp=Z,1µm,0.5s
SOLC i 22 29 28.8
comp=Z,1µm,0.5s
SOLC eS Sn **22 29 31.0 -0.7**
SOLC eS Sn **22 29 31.0 -0.7**
SMRC Santa Marta, M 4.47 345 eP Pn 22 28 41.7 -0.5
SMRC eP Pn **22 28 41.7 -0.5**
SMRC eS Sn **22 29 30.7 -3.6**
SMRC eS Sn **22 29 30.7 -3.6**
SMRC i 22 29 34.7
comp=Z,3µm,0.3s
SMRC i 22 29 34.7
comp=Z,3µm,0.3s
CAPC Capurgana 4.62 293 eP Pn 22 28 41.6 -2.6
CAPC eP Pn **22 28 41.6 -2.6**
CAPC eS Sn **22 29 33.3 -4.5**
CAPC eS Sn **22 29 33.3 -4.5**
CAPC i 22 29 43.0
comp=Z,2µm,0.7s
CAPC i 22 29 43.0
comp=Z,2µm,0.7s
PIZC Pizarro, Choco 4.65 247 eP Pn 22 28 46.0 +1.2
PIZC eP Pn **22 28 46.0 +1.2**
PIZC eS Sn **22 29 39.7 +1.1**
PIZC eS Sn **22 29 39.7 +1.1**
PIZC i 22 29 53.0
comp=Z,3µm,0.6s
PIZC i 22 29 53.0
comp=Z,3µm,0.6s
MACC Macarena, Meta 4.71 190⇑iP Pn 22 28 44.6 -0.9
MACC ⇑iP Pn **22 28 44.6 -0.9**
MACC eS Sn **22 29 35.9 -4.2**
MACC eS Sn **22 29 35.9 -4.2**
MACC i 22 29 40.8
comp=Z,2µm,0.5s
MACC i 22 29 40.8
comp=Z,2µm,0.5s
PTAC Punta Ardita, 4.72 274 eP Pn 22 28 44.6 -1.0
PTAC eP Pn **22 28 44.6 -1.0**
PTAC eS Sn **22 29 38.6 -1.7**
PTAC eS Sn **22 29 38.6 -1.7**
PTAC i 22 29 40.9
comp=Z,3µm,0.3s
PTAC i 22 29 40.9
comp=Z,3µm,0.3s
BETC Betania 4.74 210⇑eP Pn 22 28 45.1 -0.9
BETC ⇑eP Pn **22 28 45.1 -0.9**
BETC eS Sn **22 29 36.2 -4.7**
BETC eS Sn **22 29 36.2 -4.7**
MARP Paez Belalcaza 4.89 216 eP Pn 22 28 47.5 -0.6
MARP eP Pn **22 28 47.5 -0.6**
MARP eS Sn **22 29 37.9 -6.7**
MARP eS Sn **22 29 37.9 -6.7**
URIC Uribia, Colomb 4.97 12⇑iP Pn 22 28 48.2 -0.6
URIC ⇑iP Pn **22 28 48.2 -0.6**
URIC eS Sn **22 29 42.3 -3.8**
URIC eS Sn **22 29 42.3 -3.8**
URIC i 22 30 04.1
comp=Z,939nm,0.5s
URIC i 22 30 04.1
comp=Z,939nm,0.5s
MALC Bahia Malaga 5.08 237 eP Pn 22 28 52.2 +1.8
MALC eP Pn **22 28 52.2 +1.8**
MALC eS Sn **22 29 45.6 -3.2**
MALC eS Sn **22 29 45.6 -3.2**
MALC i 22 30 05.1
comp=Z,1µm,0.6s
MALC i 22 30 05.1
comp=Z,1µm,0.6s
UPD2 Meteti 5.20 290 iP Pn 22 28 50.7 -1.2
UPD2 eS Sn **22 29 49.1 -2.4**
UPD2 Meteti 5.20 290⇓eP Pn 22 28 50.6 -1.2
UPD2 ⇓eP Pn **22 28 50.6 -1.2**
UPD2 eS Sn **22 29 47.6 -3.9**
UPD2 eS Sn **22 29 47.6 -3.9**
UPD2 i 22 29 54.7
comp=Z,2µm,0.5s
UPD2 i 22 29 54.7
comp=Z,2µm,0.5s
GARC Garzon, Huila 5.20 208⇑eP Pn 22 28 51.6 -0.6
GARC ⇑eP Pn **22 28 51.6 -0.6**
GARC eS Sn **22 29 44.3 -7.7**
GARC eS Sn **22 29 44.3 -7.7**
GARC i 22 29 57.0
comp=Z,1µm,0.3s
GARC i 22 29 57.0
comp=Z,1µm,0.3s
PCON Cinco Dias 5.56 217⇑eP Pn 22 28 57.8 +0.6
PCON ⇑eP Pn **22 28 57.8 +0.6**
POPC Popayan, Colom 5.57 220⇑iP Pn 22 28 57.4 +0.4
POPC ⇑iP Pn **22 28 57.4 +0.4**
POPC eS Sn **22 29 54.6 -6.1**
POPC eS Sn **22 29 54.6 -6.1**
SOTA Rioblanco 5.84 217⇑iP Pn 22 29 01.9 +1.0
SOTA ⇑iP Pn **22 29 01.9 +1.0**
SOTA eS Sn **22 30 07.0 -0.6**
SOTA eS Sn **22 30 07.0 -0.6**
SOTA i 22 30 20.0
comp=Z,904nm,0.7s
SOTA i 22 30 20.0
comp=Z,904nm,0.7s
CNTA3 Canitas, Panam 6.24 293 eP Pn 22 29 05.0 -0.7
BBAC Balboa, Cauca 6.33 221 eP Pn 22 29 06.9 -0.2
BBAC eP Pn **22 29 06.9 -0.2**
BBAC eS Sn **22 30 16.8 -2.0**
BBAC eS Sn **22 30 16.8 -2.0**
BBAC i 22 30 22.5
comp=Z,556nm,0.4s
BBAC i 22 30 22.5
comp=Z,556nm,0.4s
CHPO Chepo, Panama 6.43 292 eP Pn 22 29 06.5 -1.7
CHPO eS Sn **22 30 17.6 -3.3**
TABO3 Taboga, Panama 6.72 287 eP Pn 22 29 10.2 -1.9
UPA Univ. de Panam 6.76 289 eP Pn 22 29 10.8 -1.8
UPA eS Sn **22 30 24.4 -4.2**
UPA Univ. de Panam 6.76 289 eP Pn 22 29 10.6 -1.9
UPA eP Pn **22 29 10.6 -1.9**
UPA eS Sn **22 30 24.3 -4.4**
UPA eS Sn **22 30 24.3 -4.4**
MIRA3 Miramar, Colon 6.78 294 eP Pn 22 29 11.9 -0.9
ARRA3 Arraijan, Pana 6.87 289 eP Pn 22 29 12.7 -1.4
GCUF Volcan Galeras 7.01 218 eP Pn 22 29 17.4 +1.0
GCUF eP Pn **22 29 17.4 +1.0**
GCUF eS Sn **22 30 33.6 -1.8**
GCUF eS Sn **22 30 33.6 -1.8**
GCUF i 22 30 41.0
comp=Z,294nm,0.5s
GCUF i 22 30 41.0
comp=Z,294nm,0.5s
FRIJ El Hiral 7.02 290 eP Pn 22 29 14.2 -1.7
PCRI3 Pocri, Los San 7.05 277 eP Pn 22 29 16.3 -0.1
BCIP Isla Barro Col 7.10 290 eP Pn 22 29 15.4 -1.8
BCIP eS Sn **22 30 33.7 -3.2**
BCIP Isla Barro Col 7.10 290 Pn Pn 22 29 15.3 -1.8
BCIP Sn Sn **22 30 35.9 -1.0**
BCIP Isla Barro Col 7.10 290⇓eP Pn 22 29 15.3 -1.8
BCIP ⇓eP Pn **22 29 15.3 -1.8**
BCIP eS Sn **22 30 33.4 -3.5**
BCIP eS Sn **22 30 33.4 -3.5**
BCIP i 22 30 50.4
comp=Z,167nm,0.4s
BCIP i 22 30 50.4
comp=Z,167nm,0.4s
MLIR Monte Lirio 7.14 290 eP Pn 22 29 16.0 -1.6
VTON El Valle, Cocl 7.21 285 eP Pn 22 29 19.0 +0.4
AZU Azuero 7.22 278⇓iP Pn 22 29 18.1 -0.6
AZU eS Sn **22 30 33.9 -5.7**
AZU Azuero 7.22 278 iP Pn 22 29 18.1 -0.6
AZU iP Pn **22 29 18.1 -0.6**
AZU eS Sn **22 30 32.4 -7.2**
AZU eS Sn **22 30 32.4 -7.2**
AZU i 22 30 55.2
comp=Z,318nm,0.5s
AZU i 22 30 55.2
comp=Z,318nm,0.5s
PNME Penonome 7.39 283 eP Pn 22 29 20.2 -0.7
TUMC Tumaco 7.52 229 eP Pn 22 29 20.5 -2.1
TUMC eP Pn **22 29 20.5 -2.1**
TUMC eS Sn **22 30 42.7 -4.2**
TUMC eS Sn **22 30 42.7 -4.2**
TUMC i 22 30 55.9
comp=Z,338nm,0.6s
TUMC i 22 30 55.9
comp=Z,338nm,0.6s
PESE3 Pese, Herrera 7.57 279 eP Pn 22 29 24.4 +1.1
OCU3 Ocu, Herrera 7.73 279 eP Pn 22 29 26.2 +0.7
CACAO El Cacao, Vera 7.76 274 eP Pn 22 29 25.3 -0.5
CALO3 Calobre, Verag 7.85 281 eP Pn 22 29 27.8 +0.7
MARI3 Mariato, Verag 7.91 276 eP Pn 22 29 29.1 +1.2
SFRA3 San Francisco, 7.97 281 eP Pn 22 29 29.3 +0.7
RSUS3 Rio de Jesus, 8.11 279 eP Pn 22 29 33.5 +3.0
GMAL Guarumal, Vera 8.16 277 eP Pn 22 29 32.4 +1.2
MESA3 La Mesa, Verag 8.16 280 eP Pn 22 29 42.0 +11
OTAV Otavalo 8.46 220 Pn Pn 22 29 35.4 -0.3
OTAV Sn Sn **22 31 08.9 -1.3**
OTAV Otavalo 8.46 220 eP Pn 22 29 35.2 -0.4
OTAV eP Pn **22 29 35.2 -0.4**
OTAV eS Sn **22 31 04.8 -5.5**
OTAV eS Sn **22 31 04.8 -5.5**
OTAV Otavalo 8.46 220 eP Pn 22 29 35.6 -0.1
NANC3 Nancito, Chiri 8.71 280 eP Pn 22 29 38.7 +0.2
PCRV Puerto La Cruz 8.98 68 P Pn 22 29 42.3 +0.3
comp=Z,22nm,0.3s,baz=219,slow=9.0,SNR=49
PCRV S Sn **22 31 16.8 -5.2**
comp=Z,14nm,0.3s,baz=28,slow=4.0,SNR=1.7
PLCV Puerto La Cruz 9.02 68 Pn 22 29 42.3 -0.2
PLCV Sn **22 31 16.8 -6.1**
CHIR3 Chiriqui UPA, 9.32 280 eP Pn 22 29 48.6 +2.0
BCO2 Palmira 9.57 282 eP Pn 22 29 52.1 +2.1
BRU2 Volcan 9.74 282 eP Pn 22 29 53.2 +1.0
MLIR3 Monte Lirio, C 9.87 282 eP Pn 22 29 56.5 +2.5
CDITO Canoas 9.88 281 eP Pn 22 30 01.1 +7.2
PRVC Isla de Provid 10.45 309 eP Pn 22 29 59.1 -2.3
PRVC eP Pn **22 29 59.1 -2.3**
PRVC eS Sn **22 31 50.1 -7.2**
PRVC eS Sn **22 31 50.1 -7.2**
PRVC i 22 31 60.0
comp=Z,196nm,0.4s
PRVC i 22 31 60.0
comp=Z,196nm,0.4s
RIOS Rincon, Osa 10.52 281 Pn 22 30 02.4 0.0
BATAN Batan 10.71 288 eP Pn 22 30 05.6 +0.8
BATAN Batan 10.71 288 Pn 22 30 05.0 +0.1
PEZE Perez Zeledon, 10.81 284 Pn 22 30 06.4 +0.1
JAKH Jacmel 11.36 3 Pn 22 30 14.7 +1.3
HDC Heredia 11.38 287 Pn 22 30 13.8 +0.1
HOJ Hope 11.69 342 iP P 22 30 22.5 -1.9
CMJ Castle Mountai 11.70 344 iP Pn 22 30 20.1 +2.3
GWJ Greenwich 11.74 343 iP Pn 22 30 20.8 +2.4
STH Stony Hill 11.77 342⇓iP P 22 30 21.6 -3.7
MCJ Malvern 11.92 338 iP Pn 22 30 23.4 +2.7
MCJ iS Sn **22 32 23.9 -9.0**
TPP Pointe-a-Pierr 12.00 72 e P 22 30 32.0 +4.1
BNJ Bonny Gate 12.04 342 iP P 22 30 24.9 -3.5
TRN Trinidad (W) 12.14 71 e Pn 22 30 24.8 +1.4
TRN Trinidad (W) 12.14 71 e P 22 30 30.9 +1.5
BBJ Bamboo Saint A 12.20 341 iP P 22 30 27.1 -3.0
JTS Las Juntas de 12.25 287 P Pn 22 30 27.4 +2.5
comp=Z,9.3nm,0.3s,baz=149,slow=6.7,SNR=30
JTS S Sn **22 32 41.6 +0.9**
comp=Z,1.2nm,0.3s,baz=186,slow=12,SNR=1.4
JTS LR LR 22 35 28.3
comp=Z,184nm,19.7s,baz=150,slow=38
JTS Las Juntas de 12.25 287 Pn Pn 22 30 25.7 +0.7
CAO2 Cobano, Puntar 12.26 284 Pn 22 30 24.7 -0.3
ESPN Las Esperanzas 12.30 297 Pn 22 30 25.3 -0.3
TBH Brigand Hill 12.41 72 e P 22 30 33.3 +0.9
GRGR Grenville 12.43 64 eP P 22 30 29.2 -3.4
GRGR Grenville 12.43 64 Pn P 22 30 29.1 -3.6
MLPR Magueyes Islan 12.54 27 Pn Pn 22 30 26.1 -2.5
MPR Mayaguez 12.71 26 Pn 22 30 28.7 -2.1
ICMP Isla Caja de M 12.71 30 Pn Pn 22 30 30.1 -0.8
SC01 Santiago de lo 12.74 10 P Pn 22 30 32.7 +1.5
ORTG Ortega, Santa 12.75 287 P Pn 22 30 31.6 +0.1
GCMP Grenada, Carri 12.78 63 eP P 22 30 34.8 -1.7
OBIP Obispado Ponce 12.81 29 Pn 22 30 30.4 -1.7
AGPR Aguadilla, PR 12.95 26 Pn Pn 22 30 33.8 -0.1
ACON Acoyapa 12.99 294 Pn 22 30 34.6 +0.1
AOPR Arecibo Observ 13.00 28 Pn 22 30 32.6 -2.0
PDPR Patillas Dam, 13.08 31 Pn Pn 22 30 33.5 -2.0
SJG San Juan 13.09 30 P Pn 22 30 34.8 -0.9
comp=Z,60nm,0.3s,baz=207,slow=12,SNR=166
SJG S Sn 22 32 47.7 -13
comp=Z,5.1nm,0.3s,baz=21,slow=22,SNR=6.5
SJG San Juan 13.09 30 Pn 22 30 34.2 -1.5
GTBY Guantanamo Bay 13.18 352 Pn Pn 22 30 37.9 +1.1
EMPR Esperanza - Ma 13.22 28 Pn 22 30 37.6 +0.3
BOAV Boa Vista 13.25 109 eP Pn 22 30 35.3 -2.5
SVB Belmont 13.28 60 eP Pn 22 30 37.3 -0.8
SVB Belmont 13.28 60 P 22 30 38.8 -3.3
GCPR Guaynabo City 13.29 30 Pn 22 30 37.1 -1.2
SVV Soufriere Volc 13.33 60 eP P 22 30 42.5 -0.1
CBYP Canovanas 13.38 31 Pn 22 30 37.8 -1.6
SFAN Fancy Village 13.40 60 eP P 22 30 43.3 -0.2
CDVI St. Croix 13.55 36 Pn Pn 22 30 40.5 -1.0
BOAB BOACO BROADBAN 13.62 295 Pn 22 30 42.7 +0.3
CUPR Culebra, Puert 13.71 33 Pn Pn 22 30 43.3 -0.2
SLB Belfond 13.72 59 eP P 22 30 47.2 +0.1
MCLT Moule a Chique 13.75 59 eP P 22 30 47.1 -0.2
MCLT Moule a Chique 13.75 59 Pn P 22 30 47.0 -0.4
SLBI Saint Lucia, B 13.87 58 eP P 22 30 47.7 -1.0
BIM Bigot 14.04 56 eP P 22 30 47.9 -2.7
FDF Fort de France 14.09 55 eP Pn 22 30 48.2 -0.2
FDF Fort de France 14.09 55 Pn Pn 22 30 47.6 -0.8
MPOM Morne Pois Mar 14.18 57 eP P 22 30 49.6 -2.5
DSLB Salisbury 14.27 52 eP P 22 30 50.8 -2.3
ILAM Ilet Lapin Mar 14.34 56 eP P 22 30 55.9 +2.0
TDBA Terre de Bas, 14.35 50 eP P 22 30 56.1 +2.2
CBCY The Bluff, Cay 14.39 334 Pn Pn 22 30 52.4 +0.3
CZSB Cruzeiro do Su 14.46 179 eP P 22 30 54.3 -0.9
LCCY Blossom Villag 14.48 333 Pn Pn 22 30 53.8 +0.7
MLYT Lee's Yard 14.49 46 eP Pn 22 30 52.0 -1.3
CBE Ff, Capester 14.50 50 eP P 22 30 54.5 -1.2
SKI Saint Kitts 14.52 43 eP P 22 30 54.1 -1.8
SKI Saint Kitts 14.52 43 P 22 30 53.7 -2.2
MAGL Barre de l'Ile 14.68 51 eP P 22 30 55.4 -2.2
BBGH Gun Hill 14.71 64 eP P 22 31 00.5 +2.5
FSCY Frank Sound, G 14.72 328 Pn P 22 30 57.0 -1.1
GRTK Grand Turk 14.73 7 Pn P 22 30 56.7 -1.4
BBSP Saint Philip 14.78 64 eP P 22 31 00.3 +1.6
ABD La Joyeuse, An 14.84 49 eP P 22 30 58.2 -1.2
ATAH Atahualpa 14.85 201 P Pn 22 30 59.6 -0.3
comp=Z,0.6nm,0.3s,baz=26,slow=5.4,SNR=6.4
WBCY West Bay, Gran 14.88 328 Pn Pn 22 30 58.7 +0.5
BPA Boggy Peak 14.94 46 eP P 22 30 59.9 -0.7
CRIN San Cristobal 14.97 294 Pn Pn 22 30 59.8 +0.4
ANBD Bethesda, Anti 15.01 46 eP P 22 31 01.0 -0.3
PTGA Pitinga 15.07 119 P Pn 22 31 00.2 -1.8
comp=Z,5.3nm,0.3s,baz=296,slow=14,SNR=69
PTGA S S **22 33 51.7 -0.9**
comp=Z,3.7nm,0.3s,baz=332,slow=22,SNR=1.8
PTGA Pitinga 15.07 119 Pn P 22 31 00.7 -1.3
PTGA IAmb IAmb 22 31 14.7
comp=Z,51nm,0.6s
PTGA Pitinga 15.07 119 eP P 22 31 00.3 -1.7
ANWB Willy Bob 15.41 45 eP Pn 22 31 03.8 -0.9
ANWB Willy Bob 15.41 45 Pn P 22 31 04.2 -1.5
TGUH Tegucigalpa,Un 15.71 298 Pn Pn 22 31 08.7 +0.1
MACA Manacapuru-AM 15.84 128 eP P 22 31 10.7 +0.1
MTO3 Montecristo 17.69 297 P P 22 31 31.3 +0.1
ETMB Extrema 17.88 157 eP Pn 22 31 33.2 -1.4
PAYG Puerto Ayora 18.73 247 P P 22 31 42.7 +0.4
APG El Apazote 18.91 297 P P 22 31 45.3 +0.9
comp=Z,4.6nm,0.3s,baz=134,slow=6.7,SNR=62
NNA Nana 19.06 191 P P 22 31 44.2 -1.6
comp=Z,1.6nm,0.3s,baz=345,slow=9.1,SNR=8.5
NNA Nana 19.06 191 P P 22 31 44.8 -1.1
TEIG Tepich 19.88 314 P Pn 22 31 56.9 -1.1
comp=Z,130nm,0.5s,baz=76,slow=2.1,SNR=98
TEIG Tepich 19.88 314 P P 22 31 54.9 +0.2
ITTB Itaituba 20.56 122 eP Pn 22 32 03.2 -3.0
MALB Monte Alegre 20.65 114 eP Pn 22 32 04.2 -3.1
CCIG Comitan 20.90 298 P P 22 32 05.6 -0.2
MCPB Macapa, AP 22.14 108 eP P 22 32 19.8 +1.2
NPGB Novo Progresso 22.40 128 eP P 22 32 21.5 +0.4
DWPF Disney Wildern 22.61 340 P 22 32 26.3
baz=158
VILB Vilhena 23.43 147 eP P 22 32 31.6 +1.0
LPAZ La Paz 23.47 168 P P 22 32 31.6 0.0
comp=Z,4.7nm,0.3s,baz=352,slow=7.1,SNR=37
LPAZ La Paz 23.47 168 P P 22 32 30.9 -0.7
LPAZ La Paz 23.47 168 eP P 22 32 31.8 +0.2
CMIG Matias Romero 23.63 298 P P 22 32 30.0 -2.4
comp=Z,8.1nm,0.5s,baz=89,slow=6.6,SNR=25
CLDB Colider 24.58 136 eP P 22 32 41.3 +0.3
PB16 IPOC Station P 25.24 172 P P 22 32 45.7 -1.8
SIV San Ignacio 25.59 152 P P 22 32 49.9 -0.3
comp=Z,4.6nm,0.7s,baz=338,slow=8.2,SNR=26
PTLB Pontes e Lacer 26.07 148 eP P 22 32 54.6 +0.1
TIGA Tifton 26.40 339 P 22 32 59.8
baz=156
PRPB Parauapebas 26.55 119 eP P 22 32 59.9 +1.0
352A Blakely 26.93 337 P P 22 33 02.2 +0.3
352A IAmb IAmb 22 33 05.9
comp=Z,18nm,0.5s
NHSC New Hope 26.98 347 P 22 33 05.7
baz=164
TLIG Tlapa 27.08 296 P P 22 33 04.7 +1.0
TLIG IAmb IAmb 22 33 13.7
comp=Z,39nm,1.0s
Y60A Bolivia 27.47 351 P P 22 33 07.0 +0.2
Y59A Loris 27.57 350 P P 22 33 07.8 +0.2
250A Grady 27.90 335 P P 22 33 11.0 +0.4
250A IAmb IAmb 22 33 14.6
comp=Z,18nm,0.6s
PB01 IPOC Station P 27.91 173 P P 22 33 10.2 -0.8
PB01 IAmb IAmb 22 33 12.7

comp=Z,7.5nm,0.6s
PB01 S 22 37 42.8 -0.1
152A Waverly Hall 27.91 339 P P 22 33 11.1 +0.3
152A IAmb IAmb 22 33 14.6
comp=Z,16nm,0.6s
GOGA Godfrey 28.16 341 P 22 33 16.1
baz=158,SNR=5.3
GOGA Godfrey 28.17 341 P P 22 33 13.4 +0.4
GOGA IAmb IAmb 22 33 16.6
comp=Z,9.0nm,0.6s
JSC Jenkinsville 28.36 346 P P 22 33 14.8 +0.1
JSC IAmb IAmb 22 33 18.1
comp=Z,8.4nm,0.7s
BIRD Birdtown, Kers 28.52 347 P P 22 33 15.8 -0.2
BIRD IAmb IAmb 22 33 18.8
comp=Z,8.6nm,0.7s
HODGE Hodges 28.57 344 P P 22 33 16.8 +0.2
HODGE IAmb IAmb 22 33 20.1
comp=Z,19nm,0.6s
SNDB Serra Nova Dou 28.59 131 eP P 22 33 18.5 +1.6
Z51A Franklin 28.66 339 P P 22 33 17.2 -0.1
Z51A IAmb IAmb 22 33 22.3
comp=Z,21nm,0.8s
Y52A Lilburn 28.77 341 P P 22 33 18.6 +0.2
Y52A IAmb IAmb 22 33 22.1
comp=Z,14nm,0.5s
346A Big Creek Wild 28.86 330 P P 22 33 19.1 0.0
PAULI Pauline 29.01 345 P P 22 33 20.5 0.0
PAULI IAmb IAmb 22 33 23.9
comp=Z,13nm,0.7s
W56A Indian Trail 29.02 347 P 22 33 22.7
baz=165
V60A Jim Taylor Roa 29.07 353 P 22 33 23.5
baz=172,SNR=5.7
V60A Jim Taylor Roa 29.07 353 P P 22 33 21.1 +0.2
LRAL Lakeview Retre 29.12 335 P P 22 33 21.8 +0.3
LRAL Lakeview Retre 29.12 335 P 22 33 24.8
baz=151,SNR=7.2
KMSC Kings Mountain 29.20 346 P P 22 33 22.4 +0.3
KMSC IAmb IAmb 22 33 25.1
comp=Z,10nm,0.6s
KMSC Kings Mountain 29.20 346 P 22 33 24.7
baz=163
V59A Middlesex 29.20 351 P 22 33 24.3
baz=170,SNR=8.6
V58A Windy Hill, Pi 29.37 350 P P 22 33 23.7 +0.1
BG3 Lake Jocassee 29.48 343 P P 22 33 24.7 +0.1
LVC Limon Verde 29.53 172 P P 22 33 24.8 -0.8
comp=Z,5.5nm,0.7s,baz=29,slow=8.4,SNR=7.4
LVC ScP ScP 22 39 52.1 -1.8
comp=Z,3.4nm,0.9s,baz=237,slow=3.6,SNR=4.1
LVC Limon Verde 29.53 172 P P 22 33 25.6 +0.1
LVC ScP 22 39 52.8 -1.1
LVC Limon Verde 29.53 172 eP P 22 33 25.7 +0.1
U61A Possum Corner 29.54 354 P 22 33 27.3
baz=173
344A Westbrook Farm 29.56 328 P P 22 33 25.4 +0.1
V57A Coltrane Farms 29.58 349 P 22 33 27.5
baz=167,SNR=6.4
Y49A Blount Mountai 29.61 337 P P 22 33 25.8 0.0
Y49A IAmb IAmb 22 33 29.4
comp=Z,14nm,0.6s
V56A Mocksville 29.65 348 P 22 33 28.8
baz=165,SNR=6.5
Z47A Carrollton 29.72 334 P P 22 33 26.9 +0.2
Z47A IAmb IAmb 22 33 35.5
comp=Z,23nm,0.6s
U60A Pendleton 29.75 353 P 22 33 29.2
baz=172
SMTB Santa Maria do 29.79 121 eP P 22 33 28.8 +1.2
V55A Taylorsville 29.85 347 P P 22 33 28.0 +0.2
V55A IAmb IAmb 22 33 31.6
comp=Z,16nm,0.8s
U58A Oxford 29.86 351 P 22 33 30.3
baz=169,SNR=16
W52A Murphy 29.86 342 P P 22 33 28.1 0.0
W52A IAmb IAmb 22 33 32.4
comp=Z,39nm,1.1s
FPAL Fort Paine 29.92 339 P P 22 33 28.8 +0.3
FPAL IAmb IAmb 22 33 32.6
comp=Z,9.2nm,0.6s
U57A Blanch 30.03 350 P 22 33 31.5
baz=168,SNR=12
VBMS Vicksburg 30.05 329 P 22 33 32.8
baz=144
V53A Saluda 30.08 344 P P 22 33 30.1 +0.1
V53A IAmb IAmb 22 33 33.7
comp=Z,12nm,0.8s
U56A King 30.14 348 P 22 33 33.3
baz=166
U56A King 30.14 348 P P 22 33 30.7 +0.2
T59A Double "B" Far 30.29 353 P P 22 33 31.9 +0.2
T59A IAmb IAmb 22 33 34.7
comp=Z,31nm,0.8s
T60A Surry 30.36 354 P 22 33 34.9
baz=173
CPCT Cooper Cave 30.38 341 P P 22 33 32.6 +0.1
CPCT IAmb IAmb 22 33 36.4
comp=Z,13nm,0.7s
X48A Hartselle 30.38 337 P P 22 33 32.6 +0.1
X48A IAmb IAmb 22 33 36.1
comp=Z,18nm,0.8s
T58A Grand View Acr 30.40 351 P 22 33 35.0
baz=169,SNR=18
W50A Signal Mountai 30.41 340 P P 22 33 32.9 0.0
W50A IAmb IAmb 22 33 36.6
comp=Z,17nm,0.6s
ROSB Rosrio 30.46 108 eP P 22 33 34.4 +0.9
V52A Sevierville 30.46 343 P P 22 33 33.3 +0.1
V52A IAmb IAmb 22 33 37.4
comp=Z,17nm,1.1s
U54A Nelsons Funny 30.63 346 P 22 33 37.8
baz=163,SNR=19
U54A Nelsons Funny 30.63 346 P P 22 33 34.8 0.0
SWET Sewanee 30.64 339 P P 22 33 34.9 0.0
V51A Loudon 30.65 342 P P 22 33 35.0 +0.1
V51A IAmb IAmb 22 33 38.7
comp=Z,25nm,0.6s
ARAG Araguaiana, MT 30.72 137 eP P 22 33 35.7 -0.1
T56A Rocky Mt 30.73 349 P 22 33 38.3
baz=167,SNR=5.1
S60A Water View 30.92 354 P 22 33 40.2
baz=173
Y45A Yeager Farm, C 30.94 333 P P 22 33 37.5 +0.1
Y45A IAmb IAmb 22 33 42.6
comp=Z,26nm,0.6s
PEXB Peixe 30.98 127 eP P 22 33 38.7 +0.6
BLA Blacksburg 30.99 349 P 22 33 40.8
baz=166
S58A Poland Farm, P 30.99 352 P 22 33 40.1
baz=171,SNR=6.0
BLA Blacksburg 30.99 349 P P 22 33 37.9 0.0
BLA IAmb IAmb 22 33 41.6
comp=Z,25nm,1.1s
S58A Poland Farm, P 30.99 352 P P 22 33 37.9 0.0
S58A IAmb IAmb 22 33 40.3
comp=Z,12nm,0.5s
S59A Mechanicsville 31.04 353 P 22 33 40.9
baz=172,SNR=7.1
JSRW J. Sargeant Re 31.04 353 P P 22 33 38.4 +0.1
PLAL Pickwick Lake 31.25 336 P P 22 33 40.4 +0.1
PLAL IAmb IAmb 22 33 44.1
comp=Z,16nm,0.7s
S57A Dark Hollow, R 31.26 351 P P 22 33 40.4 +0.1
S57A IAmb IAmb 22 33 43.5
comp=Z,26nm,0.8s
S57A Dark Hollow, R 31.26 351 P 22 33 42.7
baz=169,SNR=12
S56A Natural Bridge 31.28 350 P 22 33 42.9
baz=168
R58B Mineral 31.31 353 P P 22 33 40.7 0.0
R58B IAmb IAmb 22 33 45.1
comp=Z,12nm,0.6s
R58B Mineral 31.31 353 P 22 33 43.0
baz=171,SNR=5.8
HKT Hockley 31.43 320 P P 22 33 41.8 0.0
V48A Smith Brothers 31.43 338 P P 22 33 41.6 -0.2
R59A King George, V 31.45 354 P 22 33 44.8
baz=172,SNR=11
R60A Leonardtown, M 31.47 355 P 22 33 45.1
baz=174
CBN Corbin Frederi 31.49 353 P P 22 33 42.2 0.0
CBN Corbin Frederi 31.49 353 P 22 33 45.3
baz=172,SNR=6.8
CLTN Cedars of Leba 31.57 339 P P 22 33 43.0 0.0
CLTN IAmb IAmb 22 33 47.1
comp=Z,11nm,0.5s
R58A Rapidan 31.66 353 P 22 33 46.3
baz=171,SNR=12
R57A Stanardsville 31.72 352 P 22 33 47.2
baz=170
S54A Dingess, Beckl 31.74 348 P P 22 33 44.4 0.0
S54A IAmb IAmb 22 33 48.2
comp=Z,24nm,0.8s
S54A Dingess, Beckl 31.74 348 P 22 33 47.4
baz=164,SNR=9.6
U49A Red Boiling Sp 31.76 340 P P 22 33 44.7 0.0
U49A IAmb IAmb 22 33 48.0
comp=Z,6.8nm,0.7s
W45A Hickory Valley 31.87 334 P P 22 33 45.6 0.0
T50A Nancy 31.92 342 P P 22 33 46.1 0.0
T50A IAmb IAmb 22 33 50.3
comp=Z,14nm,0.9s
R56A Bull Pasture M 31.97 351 P 22 33 49.7
baz=168,SNR=8.0
GO02 Mina Guanaco 31.97 174 P P 22 33 45.9 -1.0
GO02 IAmb IAmb 22 33 47.9
comp=Z,10nm,1.0s
R55A Marlinton 31.97 349 P P 22 33 46.5 0.0
R55A IAmb IAmb 22 33 50.4
comp=Z,24nm,0.8s
R55A Marlinton 31.97 349 P 22 33 49.6
baz=167,SNR=7.9
R54A Victor 32.04 348 P 22 33 49.9
baz=165,SNR=6.2
AQDB Aquidauana 32.05 148 eP P 22 33 47.5 +0.2
S51A Beattyville 32.14 344 P P 22 33 48.0 +0.1
S51A IAmb IAmb 22 33 51.9
comp=Z,17nm,0.8s
WVT Waverly 32.16 337 P P 22 33 48.1 0.0
WVT IAmb IAmb 22 33 52.2
comp=Z,39nm,1.1s
WVT Waverly 32.16 337 P 22 33 50.5
baz=152
Q58A Fox Den Farm, 32.25 353 P 22 33 51.5
baz=172,SNR=8.1
R53A Hurricane 32.39 347 P P 22 33 50.0 -0.1
R53A IAmb IAmb 22 33 54.1
comp=Z,14nm,0.8s
Q57A Strasburg 32.43 352 P 22 33 53.5
baz=170
ZAIG Zacatecas 32.53 302 P P 22 33 51.4 -0.5
ZAIG IAmb IAmb 22 33 55.8
comp=Z,12nm,0.9s
Q56A Snyder Ridge, 32.55 351 P 22 33 54.4
baz=169,SNR=7.0
Q56A Snyder Ridge, 32.55 351 P P 22 33 51.4 -0.1
Q56A IAmb IAmb 22 33 55.8
comp=Z,24nm,1.1s
SDMD Soldier's Deli 32.63 355 P P 22 33 52.0 -0.1
SDMD IAmb IAmb 22 33 55.8
comp=Z,10nm,0.8s
T47A Sharon Grove 32.65 339 P P 22 33 52.2 -0.2
Q54A Coxs Mills 32.78 349 P P 22 33 53.4 -0.2
Q54A IAmb IAmb 22 33 57.3
comp=Z,24nm,0.9s
P59A Jamestsville 32.79 355 P 22 33 57.2
baz=174,SNR=5.6
Q53A Leroy 32.80 348 P 22 33 56.7
baz=165,SNR=8.7
P57A Homestead Farm 32.83 353 P P 22 33 53.8 -0.1
P57A IAmb IAmb 22 33 57.6
comp=Z,14nm,0.8s
P57A Homestead Farm 32.83 353 P 22 33 57.2
baz=171
833A Chaparral WMA, 32.83 314 P 22 33 54.9
baz=126
237A Washetta, Mont 32.83 323 P P 22 33 54.0 -0.1
237A IAmb IAmb 22 33 57.1
comp=Z,26nm,0.8s
P60A Greenville 32.93 356 P 22 33 58.0
baz=176,SNR=5.4
P60A Greenville 32.93 356 P P 22 33 54.6 -0.2
P60A IAmb IAmb 22 33 58.9
comp=Z,24nm,0.7s
R50A Paris 32.94 344 P P 22 33 54.8 -0.1
R50A IAmb IAmb 22 33 58.9
comp=Z,30nm,0.8s
P56A Dayton Farm, R 32.95 352 P 22 33 58.5
baz=170,SNR=14
X40A Basin Creek Fa 33.03 329 P P 22 33 55.6 -0.1
X40A Basin Creek Fa 33.03 329 P 22 33 57.6
baz=142,SNR=8.5
WUPA West Chester U 33.05 356 P P 22 33 55.7 -0.1
WUPA IAmb IAmb 22 33 59.4
comp=Z,12nm,0.7s
Q52A Bidwell 33.06 347 P P 22 33 55.9 -0.1
Q52A IAmb IAmb 22 33 59.6
comp=Z,31nm,0.8s
HICK Hickman 33.07 336 P P 22 33 56.0 0.0
435B Jarrell 33.11 319 P 22 33 58.5
baz=131,SNR=5.9
435B Jarrell 33.11 319 P P 22 33 56.5 -0.1
435B IAmb IAmb 22 33 59.1
comp=Z,35nm,0.8s
O61A Allentown 33.16 358 P 22 33 59.2
baz=178,SNR=5.6
MVL Millersville 33.17 355 P P 22 33 56.8 -0.1
R49A Shelbyville 33.20 342 P P 22 33 57.1 0.0
R49A IAmb IAmb 22 34 00.3
comp=Z,11nm,0.7s
MCWV Mont Chateau 33.26 350 P 22 34 01.0
baz=168
MCWV Mont Chateau 33.26 350 P P 22 33 57.6 -0.1
MCWV IAmb IAmb 22 34 01.8
comp=Z,11nm,0.8s
W41B Gary Mavity, V 33.28 331 P 22 33 60.0
baz=144,SNR=8.0
O58A Lewisberry 33.34 355 P 22 34 01.5
baz=173,SNR=15
BDFB Brasilia 33.37 132 P P 22 33 58.0 -1.0
comp=Z,7.2nm,0.4s,baz=298,slow=10,SNR=17
BDFB Brasilia 33.37 132 P P 22 33 58.4 -0.7
BDFB IAmb IAmb 22 34 00.9
comp=Z,20nm,1.2s
P53A Whipple 33.38 348 P P 22 33 58.7 0.0
P53A IAmb IAmb 22 34 03.4
comp=Z,29nm,1.1s
Q51A Peebles 33.38 345 P P 22 33 58.7 -0.1
Q51A IAmb IAmb 22 34 02.5
comp=Z,28nm,0.7s
WHAR Wooly Hollow 33.40 331 P P 22 33 58.8 -0.1
WHAR IAmb IAmb 22 34 03.0
comp=Z,22nm,0.6s
O60A Telford 33.42 357 P 22 34 01.9
baz=176,SNR=6.9
PAGS Pennsylvania G 33.43 355 P P 22 33 59.0 -0.1
PAGS IAmb IAmb 22 34 03.1
comp=Z,24nm,0.6s
MIAR Mount Ida 33.46 328 P 22 34 00.8
baz=141
MIAR Mount Ida 33.46 328 P P 22 33 59.3 -0.2
O59A Robesonia 33.47 356 P 22 34 02.4
baz=174
NBPS Pedro II - PI 33.47 109 eP P 22 34 01.0 +1.1
WCI Wyandotte Cave 33.49 341 P P 22 33 59.6 -0.1
WCI IAmb IAmb 22 34 02.9
comp=Z,24nm,0.8s
WCI Wyandotte Cave 33.49 341 P 22 34 02.3
baz=156
O57A Amberson 33.50 354 P 22 34 03.1
baz=172,SNR=12
LCAR Lake Charles 33.50 333 P P 22 33 59.8 0.0
LCAR IAmb IAmb 22 34 04.2
comp=Z,13nm,0.8s
O56A Blue Knob Stat 33.67 352 P 22 34 04.5
baz=170,SNR=9.6
O56A Blue Knob Stat 33.67 352 P P 22 34 01.1 -0.1
O56A IAmb IAmb 22 34 05.4
comp=Z,33nm,0.8s
P52A Corning 33.67 347 P 22 34 04.1
baz=164,SNR=24
P52A Corning 33.67 347 P P 22 34 01.2 0.0
LUPA Lehigh Univers 33.70 357 P P 22 34 01.4 -0.1
USIN University of 33.72 339 P P 22 34 01.6 -0.1
P51A Williamsport 33.74 346 P P 22 34 01.7 -0.2
BRNJ Basking Ridge 33.75 358 P P 22 34 01.6 -0.2
PBMO Poplar Bluff 33.77 334 P P 22 34 02.0 -0.2
PBMO IAmb IAmb 22 34 05.5
comp=Z,29nm,0.8s
FCAR Ozark Folk Cen 33.80 332 P P 22 34 02.2 -0.2
FCAR IAmb IAmb 22 34 05.2
comp=Z,18nm,0.5s
N61A South Mountain 33.80 358 P 22 34 05.3
baz=178,SNR=6.6
WHTX Lake Whitney, 33.83 321 P 22 34 04.6
baz=133,SNR=9.8
WHTX Lake Whitney, 33.83 321 P P 22 34 02.3 -0.4
WHTX IAmb IAmb 22 34 05.4
comp=Z,16nm,0.8s
O54A Avella 33.86 350 P P 22 34 02.4 -0.4
SDBA SAO DESIDERIO 33.89 124 eP P 22 34 03.8 +0.3
N60A Cedar Hill Far 33.95 357 P 22 34 06.4
baz=176,SNR=17
N57A Milroy 34.03 354 P 22 34 06.9
baz=172,SNR=9.3
N58A Sunbury 34.03 355 P 22 34 07.0
baz=174
N58A Sunbury 34.03 355 P P 22 34 03.6 -0.7
N58A IAmb IAmb 22 34 07.9
comp=Z,15nm,0.7s
N59A State Game Lan 34.04 356 P 22 34 07.5
baz=175,SNR=16
N59A State Game Lan 34.04 356 P P 22 34 04.2 -0.2
PAL Palisades 34.05 359 P 22 34 06.9
baz=179,SNR=5.6
PAL Palisades 34.05 359 P P 22 34 04.2 -0.3
W39A Magazine 34.07 329 P 22 34 06.9
baz=141,SNR=15
W39A Magazine 34.07 329 P P 22 34 04.5 -0.2
W39A IAmb IAmb 22 34 07.7
comp=Z,22nm,0.7s
O52A Adamsville 34.08 348 P P 22 34 04.5 -0.2
S44A Carbondale 34.08 337 P P 22 34 04.6 -0.1
S44A IAmb IAmb 22 34 07.5
comp=Z,22nm,0.7s
O53A New Philadelph 34.08 349 P 22 34 07.6
baz=166,SNR=11
O53A New Philadelph 34.08 349 P P 22 34 04.6 -0.2
O53A IAmb IAmb 22 34 08.4
comp=Z,30nm,0.7s
SIUC Southern Illin 34.08 337 P P 22 34 04.6 -0.2
SIUC IAmb IAmb 22 34 08.0
comp=Z,42nm,1.0s
ODNJ Ogdensburg 34.15 358 P P 22 34 05.1 -0.2
ODNJ IAmb IAmb 22 34 09.4
comp=Z,16nm,0.8s
TRNY Table Rock, Ra 34.20 358 P P 22 34 05.5 -0.2
WSPT Westport, CT 34.21 360 P P 22 34 05.6 -0.2
WSPT IAmb IAmb 22 34 09.0
comp=Z,50nm,1.0s
T42A Van Buren 34.27 334 P P 22 34 06.3 -0.1
T42A IAmb IAmb 22 34 09.2
comp=Z,14nm,0.6s
N56A West Decatur 34.27 353 P 22 34 09.5
baz=171,SNR=16
M61A Granite Spring 34.35 359 P 22 34 09.3
baz=179
M60A Port Jervis 34.39 358 P 22 34 10.1
baz=177,SNR=9.5
JCT Junction City 34.40 317 P 22 34 08.6
baz=128
JCT Junction City 34.40 317 P P 22 34 07.3 -0.4
JCT IAmb IAmb 22 34 09.0
comp=Z,8.2nm,0.6s
BLO Bloomington 34.42 341 P P 22 34 07.4 -0.3
ACSO Alum Creek Sta 34.44 347 P P 22 34 07.6 -0.2
ACSO IAmb IAmb 22 34 11.5
comp=Z,28nm,0.8s
ACSO Alum Creek Sta 34.44 347 P 22 34 10.7
baz=163,SNR=11
M63A Gales Ferry 34.45 1 P P 22 34 07.7 -0.2
M63A Gales Ferry 34.45 1 P 22 34 10.8
baz=182,SNR=7.5
X37A Clayton 34.45 326 P P 22 34 07.8 -0.2
X37A IAmb IAmb 22 34 17.3
comp=Z,8.5nm,0.7s
M62A Hamden 34.48 0 P 22 34 10.8
baz=180
U40A Yellville 34.52 331 P P 22 34 08.3 -0.3
U40A Yellville 34.52 331 P 22 34 10.7
baz=144,SNR=58
N53A Lisbon 34.55 350 P P 22 34 08.6 -0.2
N53A IAmb IAmb 22 34 12.4
comp=Z,24nm,1.1s
N54A Moraine State 34.55 351 P 22 34 11.9
baz=168,SNR=9.5
N54A Moraine State 34.56 351 P P 22 34 08.6 -0.2
N54A IAmb IAmb 22 34 12.7
comp=Z,41nm,0.9s
ITRB Iturama 34.56 140 eP P 22 34 10.1 +1.0
M57A Sunshine Farm, 34.56 355 P 22 34 12.1
baz=173,SNR=13
M57A Sunshine Farm, 34.56 355 P P 22 34 08.7 -0.2
M64A Tiverton 34.62 2 P 22 34 12.5
baz=180
M64A Tiverton 34.63 2 P P 22 34 09.2 -0.2
Z35A Perchaven, San 34.63 323 P P 22 34 09.3 -0.2
M59A Waymart 34.64 357 P 22 34 12.3
baz=176,SNR=7.3
KSPA Keystone Colle 34.68 356 P P 22 34 09.6 -0.2
O49A Covington 34.73 345 P P 22 34 10.2 -0.2
KSCT Kent School, K 34.76 359 P P 22 34 10.4 -0.2
KSCT IAmb IAmb 22 34 14.1
comp=Z,35nm,0.8s
IPMB Ipameri, GO 34.77 135 eP P 22 34 10.7 -0.4
FVM French Village 34.80 336 P P 22 34 10.8 -0.2
M56A Emporium 34.82 353 P 22 34 14.0
baz=171,SNR=28
M56A Emporium 34.82 353 P P 22 34 10.9 -0.2
UCCT U. Connecticut 34.84 1 P P 22 34 11.0 -0.2
M55A Ridgway 34.88 352 P P 22 34 11.5 -0.1
MGMO Mountain Grove 34.90 333 P P 22 34 11.6 -0.3
L63A North Scituate 34.92 2 P 22 34 14.7
baz=183
L63A North Scituate 34.92 2 P P 22 34 11.7 -0.3
BRYW Bryant College 34.98 2 P P 22 34 12.1 -0.3
L60A Shokan 35.04 358 P 22 34 15.9
baz=178,SNR=6.5
M54A Oil Creek Stat 35.04 351 P 22 34 16.0
baz=169,SNR=11
M54A Oil Creek Stat 35.04 351 P P 22 34 12.8 -0.2
Q44A Meyer Farm, Va 35.04 338 P P 22 34 12.8 -0.2
Q44A IAmb IAmb 22 34 16.0
comp=Z,22nm,0.6s
P46A Rosedale 35.05 341 P P 22 34 12.8 -0.2
L62A Suffield 35.07 1 P 22 34 15.9
baz=181
L62A Suffield 35.07 1 P P 22 34 12.8 -0.4
M53A WI Miller and 35.13 350 P 22 34 16.6
baz=167
M53A WI Miller and 35.13 350 P P 22 34 13.5 -0.3
M53A IAmb IAmb 22 34 17.4
comp=Z,15nm,0.8s
L58A Harry Jones Me 35.17 356 P 22 34 17.0
baz=175,SNR=18
L57A Andrews Acres 35.20 355 P 22 34 17.1
baz=174,SNR=8.8
CCM Cathedral Cave 35.20 335 P P 22 34 14.1 -0.3
CCM Cathedral Cave 35.20 335 P 22 34 16.4
baz=148
L61A Hillsdale 1, H 35.23 359 P 22 34 17.3
baz=179,SNR=9.9
ALLY Alegheny Colle 35.25 351 P P 22 34 14.4 -0.4
ALLY IAmb IAmb 22 34 18.4
comp=Z,35nm,0.8s
L59A Walton 35.27 357 P 22 34 17.8
baz=177,SNR=5.7
L59A Walton 35.27 357 P P 22 34 14.6 -0.4
L59A IAmb IAmb 22 34 19.2
comp=Z,24nm,0.7s
M51A Elyria 35.31 348 P 22 34 17.8
baz=164,SNR=6.3
QUA2 Belchertown 35.32 1 P P 22 34 15.2 -0.2
QUA2 IAmb IAmb 22 34 18.5
comp=Z,30nm,0.7s
BINY Binghamton 35.33 356 P P 22 34 15.1 -0.4
BINY Binghamton 35.33 356 P 22 34 18.3
baz=175,SNR=14
U38A Gravette 35.34 330 P P 22 34 15.4 -0.3
U38A IAmb IAmb 22 34 22.1
comp=Z,8.7nm,0.6s
U38A PcP 22 36 42.0 -0.4
M52A Chesterland 35.35 349 P P 22 34 15.4 -0.3
M52A IAmb IAmb 22 34 19.2
comp=Z,28nm,0.9s
N49A Columbus Grove 35.38 345 P P 22 34 15.7 -0.2

N49A IAmb IAmb 22 34 19.5
comp=Z,16nm,0.8s
L56A Greenwood 35.40 354 P 22 34 18.8
baz=172,SNR=9.0
L56A Greenwood 35.40 354 P **P** **22 34 15.7 -0.4**
L56A IAmb IAmb 22 34 19.6
comp=Z,36nm,0.8s
L56A ScP **ScP** **22 40 13.3 -0.1**
BCX Boston College 35.41 2 P **P** **22 34 15.8 -0.3**
PCMB Pacaembu 35.43 143 *eP* **P** **22 34 16.6 0.0**
WES Weston 35.45 2 P **P** **22 34 16.1 -0.4**
L61B Northampton 35.48 0 P 22 34 19.3
baz=181,SNR=5.4
AC05 El Transito 35.55 176 P **P** **22 34 17.0 -0.6**
AC05 IAmb IAmb 22 34 19.2
comp=Z,9.7nm,0.7s
HRV Adam Dziewonsk 35.56 2 P 22 34 20.0
baz=183
HRV Adam Dziewonsk 35.57 2 P **P** **22 34 17.2 -0.3**
L53A Girard 35.57 351 P 22 34 20.2
baz=168,SNR=9.9
M50A Fremont 35.57 347 P **P** **22 34 17.3 -0.2**
NBPB Pedra_Branca-C 35.60 109 *eP* **P** **22 34 18.8 +0.6**
ABTX Abilene, Hawle 35.64 320 P **P** **22 34 17.9 -0.4**
ABTX IAmb IAmb 22 34 20.8
comp=Z,25nm,0.8s
ABTX ScP **ScP** **22 40 14.3 -0.1**
ABTX Abilene, Hawle 35.64 320 P 22 34 20.0
baz=131,SNR=17
K60A Five Rivers En 35.66 359 P 22 34 21.4
baz=179
ERPA Erie 35.69 351 P **P** **22 34 18.2 -0.3**
ERPA Erie 35.69 351 P 22 34 21.4
baz=168,SNR=6.5
LCO Las Campanas 35.70 176 P **P** **22 34 18.2 -0.8**
LCO ScP **ScP** **22 40 14.4 -0.5**
SFIN Lafayette 35.70 341 P **P** **22 34 18.3 -0.3**
SFIN Lafayette 35.70 341 P 22 34 20.8
baz=156,SNR=20
K61A Williamstown 35.70 360 P 22 34 21.4
baz=180
K62A Royalston 35.71 1 P **P** **22 34 18.3 -0.3**
K62A Royalston 35.71 1 P 22 34 21.4
baz=182,SNR=6.7
N47A Urbana 35.74 344 P **P** **22 34 18.6 -0.4**
N47A IAmb IAmb 22 34 21.8
comp=Z,24nm,0.8s
K63A Dunstable 35.75 2 P 22 34 21.9
baz=183,SNR=5.6
K63A Dunstable 35.75 2 P **P** **22 34 18.7 -0.3**
TRY Troy 35.77 359 P **P** **22 34 18.9 -0.3**
TRY IAmb IAmb 22 34 23.6
comp=Z,26nm,0.8s
WVNY West Valley, N 35.78 353 P **P** **22 34 18.9 -0.4**
S39A Bolivar 35.82 332 P **P** **22 34 19.4 -0.3**
S39A IAmb IAmb 22 34 23.6
comp=Z,8.7nm,0.7s
JANB Januaria 35.84 127 *eP* **P** **22 34 20.5 +0.3**
K59A Cooperstown 35.84 358 P 22 34 22.4
baz=177
K58A Earlville 35.87 357 P 22 34 22.7
baz=176,SNR=10
K58A Earlville 35.87 357 P **P** **22 34 19.7 -0.4**
P43A Skaggs, Pawnee 35.88 338 P **P** **22 34 19.9 -0.3**
K57A Scipio Center 35.90 356 P 22 34 22.8
baz=174,SNR=14
K56A Middlesex 35.93 355 P 22 34 23.2
baz=173,SNR=7.1
FNO Franklin 36.08 325 P **P** **22 34 21.6 -0.4**
OK030 Cody Creek RV 36.22 326 P **P** **22 34 22.7 -0.4**
OK030 IAmb IAmb 22 34 29.9
comp=Z,19nm,0.6s
OK031 S. Brethren Rd 36.27 326 P **P** **22 34 23.3 -0.3**
J62A Henniker 36.28 2 P 22 34 26.2
baz=182
J60A Lant Hill Farm 36.28 360 P 22 34 26.6
baz=180,SNR=8.1
CPUP Villa Florida 36.32 156 P **P** **22 34 22.7 -1.3**
comp=Z,0.8nm,0.4s,baz=336,slow=12,SNR=4.5
CPUP PcP **PcP** **22 36 45.5 +0.1**
comp=Z,1.1nm,0.3s,baz=212,slow=1.3,SNR=3.2
CPUP Villa Florida 36.32 156 P **P** **22 34 23.3 -0.7**
CPUP Villa Florida 36.32 156 *eP* **P** **22 34 24.6 +0.6**
J63A Strafford 36.35 2 P 22 34 26.2
baz=183
QUOK Quay 36.36 327 P **P** **22 34 23.9 -0.4**
J61A Chester 36.38 1 P 22 34 27.3
baz=181,SNR=6.0
NBCL Cascavel-CE 36.40 107 *eP* **P** **22 34 25.5 +0.5**
L48A N Adams 36.41 346 IAmb IAmb 22 34 28.1
comp=Z,16nm,1.1s
ACCN Adirondack Com 36.42 359 IAmb IAmb 22 34 29.4
comp=Z,24nm,1.1s
J56A Wolcott 36.46 355 P 22 34 27.0
baz=174
OK029 Liberty Lake 36.49 326 IAmb IAmb 22 34 28.7
comp=Z,18nm,0.5s
TXAR Lajitas Array 36.51 312 P **P** **22 34 27.4 +1.6**
comp=Z,15nm,0.6s,baz=127,slow=9.3,SNR=214
TXAR PcP **PcP** **22 36 48.3 +2.1**
comp=Z,1.7nm,0.5s,baz=141,slow=4.9,SNR=5.9
TXAR ScP **ScP** **22 40 17.8 0.0**
comp=Z,1.3nm,0.8s,baz=141,slow=5.8,SNR=3.9
TXAR LR LR 22 53 16.4
comp=Z,25nm,18.3s,baz=0.0,slow=42
TXAR Lajitas Array 36.51 312 P **P** **22 34 26.8 +1.0**
TXAR **ScP** **22 40 17.1 -0.7**
WMOK Wichita Mounta 36.52 323 IAmb IAmb 22 34 27.1
comp=Z,12nm,0.6s
WMOK Wichita Mounta 36.52 323 P 22 34 26.6
baz=134,SNR=20
J59A Piesco 36.52 358 P 22 34 28.1
baz=178
J59A Piesco 36.52 358 IAmb IAmb 22 34 30.8
comp=Z,27nm,1.1s
J57A Williamstown 36.53 356 P 22 34 28.1
baz=175,SNR=20
AAM Ann Arbor 36.56 347 P 22 34 29.2
baz=162,SNR=6.1
HDIL Hopedale 36.60 339 P 22 34 27.2
baz=152,SNR=6.9
BB19B Bebedouro 36.72 140 *eP* **P** **22 34 27.9 +0.3**
I58A Old Forge 36.76 358 P 22 34 30.3
baz=177,SNR=20
P40A Paris 36.78 335 IAmb IAmb 22 34 30.3
comp=Z,26nm,0.8s
T35A Sooner Cattle 36.81 328 IAmb IAmb 22 34 29.8
comp=Z,12nm,0.6s
I59A Olmsteadville 36.84 359 P 22 34 31.0
baz=179,SNR=6.2
I60A Shoreham 36.88 360 P 22 34 31.3
baz=180
NBMA Muriti-CE 37.00 112 *eP* **P** **22 34 30.6 +0.5**
NCB Newcomb 37.02 359 IAmb IAmb 22 34 34.4
comp=Z,34nm,1.1s
I57A Carthage 37.04 357 P 22 34 32.5
baz=176
I64A Boothbay 37.08 4 P 22 34 33.3
baz=186
NBPN Ponto Novo - B 37.12 118 *eP* **P** **22 34 31.0 -0.1**
PECO Prince Edward 37.13 355 IAmb IAmb 22 34 33.5
comp=Z,32nm,0.7s
I63A Otisfield 37.15 3 P 22 34 33.8
baz=184,SNR=5.7
LBNH Lisbon 37.29 1 P 22 34 34.9
baz=182,SNR=7.2
CROK Carrier 37.30 326 IAmb IAmb 22 34 39.0
comp=Z,22nm,0.6s
N41A Harden Midland 37.30 337 IAmb IAmb 22 34 34.3
comp=Z,46nm,1.1s
VT1 Waterbury 37.37 0 IAmb IAmb 22 34 36.2
comp=Z,39nm,0.9s
KAN13 South Haven SW 37.39 327 IAmb IAmb 22 34 35.4
comp=Z,17nm,0.6s
H58A Gabriels 37.46 359 P 22 34 35.9
baz=178
I51A Listowel 37.49 351 P 22 34 36.3
baz=167,SNR=14
H57A Richville 37.55 357 P 22 34 36.6
baz=176,SNR=12
KAN09 Caldwell North 37.56 327 IAmb IAmb 22 34 36.2
comp=Z,20nm,0.5s
H61A Lyndonville 37.58 1 P 22 34 36.7
baz=182
H60A Morristown 37.59 0 P 22 34 37.3
baz=181,SNR=8.2

KAN14 Manchester OK 37.62 326 IAmb IAmb 22 34 36.4
comp=Z,16nm,0.6s
OK032 Salt Plains WL 37.64 326 IAmb IAmb 22 34 37.0
comp=Z,24nm,0.6s
H62A Milan 37.64 2 P 22 34 37.5
baz=183
H62A Milan 37.65 2 IAmb IAmb 22 34 39.2
comp=Z,42nm,0.9s
LONY Lake Ozonia 37.68 358 P 22 34 37.7
baz=178
H59A Cadyville 37.68 359 P 22 34 37.8
baz=179,SNR=6.8
FRTB Fartura 37.77 143 *eP* **P** **22 34 36.8 +0.4**
H63A New Sharon 37.79 4 P 22 34 39.5
baz=185
H64A Troy 37.82 4 P 22 34 39.3
baz=186,SNR=7.0
H53A Bobcaygeon 37.91 354 P 22 34 39.5
baz=171
H65A Eastbrook 37.96 6 P 22 34 40.1
baz=188
L42A Oliver, Polo 38.01 340 IAmb IAmb 22 34 39.7
comp=Z,19nm,0.5s
G60A Masonville 38.14 1 P 22 34 42.0
baz=181,SNR=7.4
H66A Whiting 38.15 7 P 22 34 41.9
baz=189
SADO Sadowa 38.17 353 IAmb IAmb 22 34 42.4
comp=Z,32nm,0.8s
G57A Newington 38.17 358 P 22 34 41.9
baz=177,SNR=18
G58A Ormstown 38.19 359 P 22 34 42.1
baz=179,SNR=7.6
K43A Burlington 38.20 342 IAmb IAmb 22 34 42.5
comp=Z,29nm,0.8s
DIAM Diamantina, MG 38.26 131 *eP* **P** **22 34 40.8 +0.1**
G63A Kingsbury 38.27 4 P 22 34 42.5
baz=186
NBTA Tacaratu-PE 38.31 114 *eP* **P** **22 34 41.6 +0.5**
G62A West of Eustis 38.31 3 P 22 34 43.8
baz=184,SNR=14
G61A St-Isidore-de- 38.34 2 P 22 34 44.2
baz=183,SNR=5.2
AMTX Amarillo 38.39 321 P 22 34 43.6
baz=130
AMTX Amarillo 38.39 321 IAmb IAmb 22 34 44.1
comp=Z,33nm,1.0s
PKME Peaks-Kenny Pk 38.44 4 P 22 34 44.1
baz=186
G64A Maxfield 38.47 5 P 22 34 44.5
baz=187,SNR=6.5
KSU1 Kansas State U 38.52 330 P 22 34 43.2
baz=141,SNR=8.7
KSU1 Kansas State U 38.52 330 IAmb IAmb 22 34 44.4
comp=Z,26nm,0.6s
MSTX Muleshoe 38.52 319 IAmb IAmb 22 34 47.4
comp=Z,19nm,0.5s
MSTX Muleshoe 38.52 319 P 22 34 43.9
baz=128,SNR=16
G65A Princeton 38.53 6 P 22 34 45.1
baz=189,SNR=12
L40A Anamosa 38.62 338 IAmb IAmb 22 34 44.8
comp=Z,17nm,0.5s
G54A Lake Saint Pet 38.68 354 P 22 34 46.0
baz=172,SNR=23
NBLI Livramento-PB 38.68 111 *eP* **P** **22 34 44.9 +0.7**
F59A Saint Guilaume 38.88 0 P 22 34 48.1
baz=181
F63A Nahmakanta, Br 38.89 4 P 22 34 47.5
baz=186
GDU01 Guandu, BA 39.01 122 *eP* **P** **22 34 47.0 +0.1**
MNTX Cornudas Mount 39.01 314 P 22 34 48.5
baz=123,SNR=79
F60A Warwick 39.01 1 P 22 34 48.6
baz=182,SNR=9.3
MNTX Cornudas Mount 39.01 314 IAmb IAmb 22 34 50.0
comp=Z,31nm,0.8s
MNTX ScP **ScP** **22 40 26.6 -0.6**
JFWS Jewell Farm 39.02 340 P 22 34 47.9
baz=152,SNR=15
F61A St Evariste 39.05 2 P 22 34 48.8
baz=183,SNR=5.6
F64A Sherman 39.11 5 P 22 34 49.5
baz=188,SNR=9.5
VAO Vaninhos 39.12 140 *eP* **P** **22 34 48.3 +0.6**
RCBR Riachuelo 39.16 108 *eP* **P** **22 34 48.6 +0.5**
BSCB Bom Sucesso 39.19 136 *eP* **P** **22 34 49.2 +0.8**
ALGO Algonquin Park 39.23 354 P 22 34 50.5
baz=172,SNR=28
NBLA Lagarto - SE 39.32 116 *eP* **P** **22 34 48.8 -0.7**
E58A La Victoria 39.41 360 P 22 34 52.1
baz=180,SNR=7.5
E60A Ste Agathe de 39.43 2 P 22 34 52.1
baz=183
N35A Tabor 39.44 333 IAmb IAmb 22 34 56.5
comp=Z,19nm,0.6s
I42A Draeger Farm, 39.45 342 IAmb IAmb 22 34 52.4
comp=Z,25nm,0.7s
E61A Lac Etchemin 39.53 3 P 22 34 53.5
baz=184,SNR=9.5
E55A Montcerf-Lytto 39.57 357 P 22 34 53.5
baz=176,SNR=18
E56A St. Veronique 39.61 358 P 22 34 53.5
baz=177,SNR=9.4
H43A Windswept, Lux 39.64 343 IAmb IAmb 22 34 54.0
comp=Z,31nm,0.7s
E63A Oxbow 39.66 5 P 22 34 54.2
baz=187,SNR=16
E64A Bridgewater 39.71 6 P 22 34 54.5
baz=188,SNR=13
NBIT Itapeh - BA 39.73 123 *eP* **P** **22 34 53.6 +0.8**
NBPV Pedro Velho 39.92 108 *eP* **P** **22 34 54.7 +0.3**
D60A Saint Jean D'O 39.99 2 P 22 34 56.8
baz=183,SNR=10
D55A Sainte-Anne-du 40.11 357 P 22 34 57.6
baz=176,SNR=11
D56A ZEC Mazanza, M 40.11 358 P 22 34 57.6
baz=178,SNR=9.3
D58A Chemin du LacG 40.13 0 P 22 34 58.0
baz=180,SNR=9.4
NBAN Anadia - AL 40.14 114 *eP* **P** **22 34 56.5 +0.2**
D63A Stockholm 40.30 5 P 22 34 59.7
baz=188,SNR=19
D61A St Aubert, Com 40.31 3 P 22 35 00.4
baz=184,SNR=11
SJMB Sao Joao De Ma 40.39 129 *eP* **P** **22 34 58.4 +0.2**
LATQ La Tuque 40.42 0 P 22 35 00.7
baz=181,SNR=14
LATQ La Tuque 40.42 0 P **P** **22 34 59.4 +1.4**
LATQ IAmb IAmb 22 35 01.4
comp=Z,50nm,1.0s
BATG Bathurst New B 40.76 7 P **P** **22 35 02.6 +1.8**
NBRF Rio Formoso - 40.83 112 *eP* **P** **22 35 02.7 +0.8**
F42A Maple Grove Fa 40.93 344 IAmb IAmb 22 35 04.5
comp=Z,31nm,0.6s
G40A Rib Lake 41.09 342 IAmb IAmb 22 35 06.6
comp=Z,21nm,1.1s
121A Cookes Peak, D 41.19 313 P 22 35 07.7
baz=121,SNR=11
121A Cookes Peak, D 41.19 313 IAmb IAmb 22 35 08.5
comp=Z,19nm,0.9s
E43A Lone Tree Farm 41.20 345 P **P** **22 35 06.1 +1.6**
E43A IAmb IAmb 22 35 06.7
comp=Z,20nm,0.7s
VLDQ Val d'Or 41.32 356 IAmb IAmb 22 35 10.0
comp=Z,29nm,0.5s
VLDQ ScP **ScP** **22 40 36.0 +0.2**
RIB01 Linhares ES 41.35 130 *eP* **P** **22 35 06.4 +0.4**
BO02 Sierra Bellavi 41.44 177 P **P** **22 35 06.2 -0.5**
COWI Conover 41.53 343 IAmb IAmb 22 35 10.2
comp=Z,27nm,0.8s
T25A Trinidad 41.53 321 P 22 35 10.2
baz=129
ANMO Albuquerque 41.55 317 P **P** **22 35 08.6 +0.8**
ANMO Albuquerque 41.55 317 P 22 35 09.8
baz=125
KSCO Kaye Shedlock' 41.68 325 P 22 35 10.9
baz=133
319A Douglas 41.73 311 IAmb IAmb 22 35 12.6
comp=Z,30nm,0.8s
ALF01 Guarapari-ES 41.87 131 *eP* **P** **22 35 10.7 +0.4**
SPMN Marine on St. 41.93 339 P 22 35 11.5
baz=150,SNR=8.9
SPMN Marine on St. 41.93 339 IAmb IAmb 22 35 14.1
comp=Z,17nm,0.3s
ECSD EROS Data Cent 42.17 334 P 22 35 13.4
baz=144,SNR=7.0

ECSD EROS Data Cent 42.17 334 IAmb IAmb 22 35 14.3
comp=Z,17nm,1.1s
D41A Chassel 42.24 344 IAmb IAmb 22 35 15.0
comp=Z,23nm,0.6s
SRIG Santa Rosalia 42.38 303 IAmb IAmb 22 35 17.3
comp=Z,17nm,0.8s
E38A The Farm, Brul 42.72 341 IAmb IAmb 22 35 21.0
comp=Z,12nm,0.8s
MATQ Matagami 42.97 356 P 22 35 20.8
baz=174,SNR=18
Q24A Divide 43.13 323 P 22 35 22.5
baz=130
TUC Tucson 43.29 311 P 22 35 23.8
baz=118
S22A 4UR Ranch, Cre 43.42 320 P 22 35 25.5
baz=127,SNR=9.5
X18A Snowflake 43.76 314 IAmb IAmb 22 35 29.1
comp=Z,14nm,0.7s
F33A 5 Mile Ranch, 43.76 337 IAmb IAmb 22 35 27.0
comp=Z,11nm,0.7s
SUSD Miller 43.76 333 P 22 35 26.5
baz=141,SNR=11
EYMN Ely 43.89 342 P **P** **22 35 27.5 +1.4**
EYMN Ely 43.89 342 P 22 35 27.4
baz=153,SNR=45
ISCO Idaho Springs 43.94 323 P 22 35 29.3
baz=130,SNR=12
MVCO Mesa Verde 44.19 318 P 22 35 31.4
baz=124,SNR=8.8
MVCO Mesa Verde 44.20 318 IAmb IAmb 22 35 31.9
comp=Z,12nm,0.5s
DRLN Deer Lake 44.28 15 P **P** **22 35 30.3 +1.1**
DRLN IAmb IAmb 22 35 31.2
comp=Z,43nm,0.8s
SMCO Snowmass 44.38 322 ScP **ScP** **22 40 47.9 -1.1**
PV15 Paradox Valley 44.83 320 IAmb IAmb 22 35 37.5
comp=Z,30nm,0.6s
N23A Red Feather La 44.84 324 P 22 35 36.6
baz=130
PV02 Paradox Valley 44.92 319 IAmb IAmb 22 35 38.0
comp=Z,24nm,0.6s
PV13 Radium Mtn., P 44.94 319 IAmb IAmb 22 35 38.1
comp=Z,30nm,0.6s
B35A Bob, Littlefor 44.96 341 IAmb IAmb 22 35 36.4
comp=Z,27nm,0.7s
PV07 Paradox Valley 44.99 320 IAmb IAmb 22 35 38.5
comp=Z,9.8nm,0.6s
PV03 Paradox Valley 45.01 319 IAmb IAmb 22 35 39.1
comp=Z,13nm,0.7s
PV12 Saucer Basin, 45.02 319 IAmb IAmb 22 35 39.4
comp=Z,25nm,0.6s
PV18 Skein Mesa, Pa 45.05 319 P **P** **22 35 36.8 +1.1**
PV18 IAmb IAmb 22 35 41.1
comp=Z,16nm,0.6s
PV11 David Mesa, Pa 45.06 319 IAmb IAmb 22 35 39.8
comp=Z,14nm,0.7s
PV05 Paradox Valley 45.08 319 IAmb IAmb 22 35 38.8
comp=Z,22nm,0.6s
PV17 East Wray Mesa 45.10 319 IAmb IAmb 22 35 40.7
comp=Z,18nm,0.6s
PV22 Blue Mesa, Par 45.14 320 IAmb IAmb 22 35 39.4
comp=Z,14nm,0.6s
WUAZ Wupatki 45.26 315 IAmb IAmb 22 35 41.3
comp=Z,33nm,0.8s
WUAZ Wupatki 45.26 315 P 22 35 39.8
baz=120,SNR=15
AGMN Agassiz Nation 45.65 339 P 22 35 41.3
baz=148,SNR=11
AGMN Agassiz Nation 45.65 339 IAmb IAmb 22 35 42.0
comp=Z,21nm,0.6s
O20A White River Ci 45.73 322 P 22 35 43.7
baz=127,SNR=7.6
RSSD Black Hills 45.97 329 P **P** **22 35 44.2 +1.3**
RSSD Black Hills 45.97 329 P 22 35 45.1
baz=135
E28A Huff 46.19 334 IAmb IAmb 22 35 47.0
comp=Z,39nm,0.9s
K22A Casper 46.30 326 P 22 35 47.8
baz=131
U15A North Rim 46.36 315 IAmb IAmb 22 35 49.7
comp=Z,20nm,1.0s
GLA Glamis 46.68 310 P 22 35 51.0
baz=115
MDND Maddock 46.72 336 P 22 35 50.1
baz=143,SNR=5.7
P17A Butcher Ranch, 46.92 320 IAmb IAmb 22 35 54.2
comp=Z,13nm,0.7s
KNB Kanab 47.02 316 IAmb IAmb 22 35 54.7
comp=Z,21nm,0.7s
ULM Lac du Bonnet 47.31 340 P **P** **22 35 53.4 +0.4**
comp=Z,37nm,0.6s,baz=149,slow=7.3,SNR=61
ULM ScP **ScP** **22 41 00.1 -0.2**
comp=Z,3.0nm,0.8s,baz=117,slow=6.8,SNR=2.5
ULM LR LR 22 55 54.0
comp=Z,61nm,19.4s,baz=86,slow=36
LCMT Little Creek M 47.31 315 IAmb IAmb 22 35 56.8
comp=Z,17nm,0.9s
PLCA Paso Flores 47.37 177 P **P** **22 35 52.3 -1.3**
comp=Z,2.6nm,0.7s,baz=0.5,slow=8.8,SNR=7.6
PLCA ScP **ScP** **22 40 59.1 -1.7**
comp=Z,4.1nm,0.9s,baz=302,slow=1.4,SNR=7.0
PLCA Paso Flores 47.37 177 P **P** **22 35 52.4 -1.2**
PLCA Paso Flores 47.37 177 *eP* **P** **22 35 53.1 -0.5**
SZCU Shurtz Canyon 47.49 316 P **P** **22 35 55.7 +0.8**
SZCU IAmb IAmb 22 35 57.5
comp=Z,15nm,0.6s
TCRU Three Creeks R 47.58 318 IAmb IAmb 22 35 58.8
comp=Z,21nm,0.7s
CCUT Cedar City 47.66 316 P **P** **22 35 56.3 +0.1**
MPU Maple Canyon 47.79 320 P **P** **22 35 57.8 +0.7**
MPU IAmb IAmb 22 35 59.9
comp=Z,9.3nm,0.6s
BELC Belle Mtn. Jos 47.96 310 P 22 36 00.7
baz=115
BW06 Boulder Array 48.11 324 P 22 36 01.2
baz=128,SNR=7.2
PDAR Pinedale Array 48.11 324 P **P** **22 36 00.9 +1.3**
comp=Z,2.9nm,0.5s,baz=126,slow=9.1,SNR=24
PDAR pP **pP** **22 36 36.2 +0.5**
comp=Z,1.3nm,0.6s,baz=121,slow=6.7,SNR=2.4
PDAR PcP **PcP** **22 37 27.9 +3.2**
comp=Z,2.8nm,0.4s,baz=109,slow=7.8,SNR=8.6
PDAR ScP **ScP** **22 41 04.6 +0.4**
comp=Z,1.6nm,0.8s,baz=117,slow=6.3,SNR=6.1
PDAR Pinedale Array 48.11 324 P **P** **22 36 00.5 +0.9**
PSUT Pine Spring 48.49 317 IAmb IAmb 22 36 09.1
comp=Z,10nm,0.6s
HEC Hector,Ludlow 48.56 311 P 22 36 05.3
baz=115
HWUT Hardware Ranch 48.64 322 IAmb IAmb 22 36 06.7
comp=Z,10.0nm,0.6s
DUG Dugway, Tooele 48.65 319 P 22 36 06.0
baz=122,SNR=19
DUG Dugway, Tooele 48.65 319 IAmb IAmb 22 36 07.6
comp=Z,11nm,0.7s
SHOC Shoshone, Teco 48.97 313 P 22 36 08.6
baz=116
AHID Auburn Hatcher 49.02 323 IAmb IAmb 22 36 13.6
comp=Z,21nm,0.6s
SPR3 Spring Creek 3 49.04 317 IAmb IAmb 22 36 09.2
comp=Z,8.4nm,0.6s
GSC Goldstone, Bar 49.11 312 IAmb IAmb 22 36 10.0
comp=Z,16nm,0.7s
GSC Goldstone, Bar 49.11 312 P 22 36 09.4
baz=115,SNR=7.2
DGMT Dagmar 49.18 333 P 22 36 09.7
baz=138,SNR=14
BGU Big Grassy Mou 49.18 320 IAmb IAmb 22 36 10.2
comp=Z,19nm,0.6s
REDW Red Top Meadow 49.23 324 IAmb IAmb 22 36 12.6
comp=Z,10nm,0.8s
SNOW Snow King Moun 49.23 324 IAmb IAmb 22 36 13.1
comp=Z,9.2nm,0.6s
LOHW Long Hollow 49.23 324 IAmb IAmb 22 36 11.7
comp=Z,8.8nm,0.6s
TPNV Topopah Spring 49.41 314 P 22 36 12.1
baz=117,SNR=9.7
RLMT Red Lodge 49.41 327 P 22 36 11.3
baz=130,SNR=6.1
R11A Troy Canyon, C 49.58 316 P 22 36 13.0
baz=118,SNR=12
FURC Furnace Creek, 49.64 313 P 22 36 13.6
baz=116
H17A Grant Village 49.69 325 P 22 36 14.3
baz=128
EDW2 Edwards Air Fo 49.82 311 P 22 36 14.5
baz=114
LRMC Laurel Mtn Rad 49.83 311 P 22 36 14.6

baz=114
MPMC Manual Prospec 49.93 312 P 22 36 15.1
baz=115,SNR=6.2
CWC Cottonwood Cre 50.52 312 P 22 36 19.8
baz=115
TPH Tonopah 50.60 315 IAmb IAmb 22 36 20.9
comp=Z,22nm,0.7s
TIN Tinemaha, Big 50.88 313 P 22 36 23.4
baz=115
BOZ Bozeman (W) 51.02 326 P 22 36 23.6
baz=127,SNR=7.3
VES Vestal, Richgr 51.02 311 P 22 36 23.7
baz=113,SNR=9.6
PKM Mcpherson Peak 51.21 310 P 22 36 25.1
baz=112
HLID Hailey 51.47 322 P 22 36 26.8
baz=123,SNR=10
SMMC Simmler 51.51 310 P 22 36 27.7
baz=112,SNR=5.4
NVAR Mina Array Bea 51.52 315 P **P** **22 36 27.1 +1.7**
comp=Z,5.0nm,0.6s,baz=119,slow=6.9,SNR=42
NVAR pP **pP** **22 37 04.0 +2.0**
comp=Z,2.0nm,0.8s,baz=118,slow=7.6,SNR=2.0
NVAR ScP **ScP** **22 41 20.8 +1.8**
comp=Z,0.6nm,0.7s,baz=138,slow=4.2,SNR=3.0
NVAR Mina Array Bea 51.52 315 P **P** **22 36 26.3 +0.9**
NVAR ScP **ScP** **22 41 17.9 -1.1**
EGMT Eagleton 51.54 329 P 22 36 27.5
baz=131
PAGB Antelope Grade 51.85 311 IAmb IAmb 22 36 30.4
comp=Z,15nm,0.7s
MFID Camas Ranch 52.27 321 IAmb IAmb 22 36 35.3
comp=Z,8.3nm,0.7s
PNTR Pine Nut 52.72 315 IAmb IAmb 22 36 41.6
comp=Z,15nm,0.7s
MSO Missoula 53.04 326 P 22 36 38.1
baz=126
J08A Circle Bar Ran 53.90 320 IAmb IAmb 22 36 48.3
comp=Z,5.5nm,0.5s
FCC Fort Churchill 54.29 347 IAmb IAmb 22 36 46.6
comp=Z,37nm,1.1s
F10A Beach Ranch, E 54.46 323 IAmb IAmb 22 36 49.0
comp=Z,9.5nm,0.6s
O03E Paynes Creek 54.77 315 P 22 36 49.8
baz=114
I07A Izee 54.91 320 IAmb IAmb 22 36 52.5
comp=Z,5.7nm,0.5s
G08A Pilot Rock 55.15 322 IAmb IAmb 22 36 55.0
comp=Z,10.0nm,0.6s
M04C Macdoel 55.41 317 P 22 36 55.1
baz=115,SNR=5.9
O02D Mt. Diablo Mer 55.41 315 P 22 36 53.8
baz=113,SNR=5.4
NEW Newport 55.63 326 P 22 36 56.2
baz=123
J05D Fort Rock, OR 55.65 319 P 22 36 57.3
baz=116,SNR=8.7
N02D Trinity Center 55.67 316 P 22 36 55.1
baz=114
PINE Pine Mountain 55.69 319 IAmb IAmb 22 37 00.8
comp=Z,13nm,0.8s
L04D Klamath Falls 55.91 317 P 22 36 58.3
baz=115
M02C Callahan 55.94 316 P 22 36 57.6
baz=114
YBH Yreka Blue Hor 55.98 317 IAmb IAmb 22 36 59.2
comp=Z,5.9nm,0.7s
C09A Chrisman Ranch 56.03 325 IAmb IAmb 22 37 06.8
comp=Z,12nm,0.8s
F07A Phinny Hill Vi 56.04 322 IAmb IAmb 22 37 02.7
comp=Z,12nm,0.6s
J04D Umpqua Nationa 56.21 318 P 22 37 01.2
baz=116,SNR=8.4
I04A Tendick Farm, 56.65 319 P 22 37 03.1
baz=116
L02E Cave Junction 56.76 317 P 22 37 04.2
baz=114
H04A Detroit Lake 56.89 320 IAmb IAmb 22 37 13.3
comp=Z,18nm,1.1s
K02D Willamette Mer 57.02 317 P 22 37 06.5
baz=114
LTY Liberty 57.15 323 IAmb IAmb 22 37 09.2
comp=Z,5.3nm,0.6s
I03D Drain, OR 57.22 318 P 22 37 07.7
baz=115
J01E Myrtle Point 57.39 318 P 22 37 09.3
baz=114
D03D Eldon 58.73 323 P 22 37 18.2
baz=117
SFJD Kangerlussuaq 62.02 10 *i* P **P** **22 37 38.8 +0.3**
comp=Z,11nm,0.7s
SFJD Kangerlussuaq 62.02 10 P **P** **22 37 39.0 +0.6**
SFJD IAmb IAmb 22 37 39.8
comp=Z,17nm,0.7s
SFJD Kangerlussuaq 62.02 10 *i* P **P** **22 37 38.8 +0.3**
SFJD IAmb IAmb 22 37 39.2
comp=Z,11nm,0.7s
YKA Yellowknife Ar 63.28 340 P **P** **22 37 47.9 +0.9**
comp=Z,18nm,0.6s,baz=129,slow=7.6,SNR=328
ILULI Ilulissat 63.96 9 P **P** **22 37 52.1 +0.9**
NUUG Nuugaatsiaq 65.84 7 *i* P **P** **22 38 04.4 +1.0**
NUUG IAmb IAmb 22 38 05.0
comp=Z,27nm,0.8s
DBIC Dimbokro 67.68 86 P **P** **22 38 15.6 -0.5**
comp=Z,45nm,0.6s,baz=266,slow=5.7,SNR=80
DBIC pP **pP** **22 38 56.9 +1.7**
comp=Z,13nm,0.8s,baz=276,slow=8.3,SNR=3.0
DBIC Dimbokro 67.68 86 P **P** **22 38 15.9 -0.2**
KOWA Kowa 68.08 77 P **P** **22 38 18.9 +0.3**
SUMG Summit 68.98 11⇑ *i*P **P** **22 38 24.9 +1.3**
comp=Z,154nm,0.7s
SUMG Summit 68.98 11 P **P** **22 38 25.0 +1.3**
SUMG Summit 68.98 11⇑ *i*P **P** **22 38 25.0 +1.3**
SUMG IAmb IAmb 22 38 25.6
comp=Z,154nm,0.7s
ESDC Sonseca Array 69.61 50 P **P** **22 38 26.8 -1.0**
comp=Z,1.6nm,0.6s,baz=268,slow=6.2,SNR=27
TULEG Thule 69.72 1 IAmb IAmb 22 38 30.0
comp=Z,18nm,0.6s
TULEG Thule 69.72 1 *i* P **P** **22 38 27.9 +0.3**
TULEG IAmb IAmb 22 38 30.1
comp=Z,69nm,1.5s
C36M Paulatuk 70.61 343 P 22 38 33.0
baz=125
INK Inuvik 73.05 340 IAmb IAmb 22 38 49.9
comp=Z,12nm,0.9s
EPYK Eagle Plains 73.41 338 P 22 38 51.6
baz=112
EUNU Eureka 73.49 358 IAmb IAmb 22 38 53.0
comp=Z,11nm,0.8s
CTG Chitna Glacier 73.61 332 P 22 38 54.0
baz=106,SNR=5.1
DAWY Dawson 73.67 335 P **P** **22 38 53.2 +1.7**
TOA0 Torodi Ar. Sit 73.68 78 IAmb IAmb 22 38 52.2
comp=Z,8.0nm,0.4s
TORD Torodi Ar. Bea 73.68 78 P **P** **22 38 51.0 -1.4**
comp=Z,6.2nm,0.4s,baz=285,slow=6.4,SNR=71
TORD pP **pP** **22 39 33.5 +1.5**
comp=Z,2.9nm,0.6s,baz=294,slow=6.4,SNR=4.3
GRNC Granite Creek 73.74 332 IAmb IAmb 22 38 55.4
comp=Z,11nm,0.9s
BARN Barnard Glacie 73.78 332 IAmb IAmb 22 38 59.8
comp=Z,8.4nm,0.7s
DBG Daneborg 73.94 13 *i* P **P** **22 38 54.0 +1.2**
DBG IAmb IAmb 22 38 54.8
comp=Z,22nm,1.0s
MCARA McCarthy VSAT 74.50 332 P 22 38 59.1
baz=105
EGAK Eagle 74.61 336 P 22 38 58.7
baz=107,SNR=11
K27K Chicken 74.78 335 P 22 39 00.2
baz=106
BMRM Bremner River 75.15 331 IAmb IAmb 22 39 03.8
comp=Z,14nm,0.7s
BMRM Bremner River 75.15 331 P 22 39 02.4
baz=103,SNR=6.8
N25K Chitina, Valde 75.29 332 P 22 39 03.4
baz=103
DOT Dot Lake 75.53 334 IAmb IAmb 22 39 05.2
comp=Z,19nm,0.8s
SCRK Sand Creek 75.58 335 P 22 39 04.6
baz=104,SNR=14
EYAK Cordova Ski Ar 75.61 331 P 22 39 04.4
baz=102
DAG Danmarks Havn 75.65 11⇑ *i*P **P** **22 39 03.1 +0.6**
comp=Z,37nm,0.8s
DAG Danmarks Havn 75.65 11⇑ *i*P **P** **22 39 03.2 +0.6**
DAG IAmb IAmb 22 39 03.7
comp=Z,37nm,0.8s
KLU Klutina 75.88 332 P 22 39 06.1
baz=102
PAX Paxson 75.99 333 P 22 39 06.4
baz=103,SNR=11
M24K Tolsona, Glenn 76.13 332 IAmb IAmb 22 39 08.7
comp=Z,28nm,1.0s
M24K Tolsona, Glenn 76.13 332 P 22 39 08.0
baz=102,SNR=7.4
PRP Porcupine Dome 76.59 336 IAmb IAmb 22 39 10.6
comp=Z,11nm,0.8s
PRP Porcupine Dome 76.59 336 P 22 39 09.9
baz=103,SNR=14
SCM Sheep Creek Mo 76.61 332 IAmb IAmb 22 39 11.6
comp=Z,25nm,0.9s
TAM Tamanrasset 76.89 68 P **P** **22 39 11.9 +1.1**
PWL Port Wells 76.91 331 IAmb IAmb 22 39 12.2
comp=Z,13nm,0.8s
WAT6 Susitna Watana 76.94 333 P 22 39 12.1
baz=101,SNR=8.4
HDA Harding Lake 76.94 335 P 22 39 11.5
baz=102,SNR=16
HDA P 22 39 11.5
baz=102,SNR=16
ILAR Eielson Array 76.99 335 P **P** **22 39 11.1 +0.7**
comp=Z,3.3nm,0.5s,baz=111,slow=4.3,SNR=41
ILAR pP **pP** **22 39 51.8 +1.9**
comp=Z,1.6nm,0.6s,baz=101,slow=4.0,SNR=2.8
ILAR Eielson Array 76.99 335 P **P** **22 39 11.4 +1.1**
KNK Knik Glacier 77.06 331 P 22 39 12.8
baz=100,SNR=8.3
SML Sawmill 77.07 332 IAmb IAmb 22 39 14.1
comp=Z,13nm,0.9s
SML Sawmill 77.07 332 P 22 39 12.7
baz=100,SNR=6.0
POKR Poker Plat Res 77.29 335 P 22 39 14.2
baz=102
GHO Glory Hole Cre 77.34 332 IAmb IAmb 22 39 15.4
comp=Z,28nm,0.9s
WAT2 Susitna Watana 77.39 333 P 22 39 14.5
baz=100,SNR=12
PMR Palmer 77.41 332 P 22 39 14.4
baz=99,SNR=5.6
RND Reindeer 77.58 333 IAmb IAmb 22 39 16.8
comp=Z,26nm,0.8s
MDM Muhly Dome 77.59 335 IAmb IAmb 22 39 16.2
comp=Z,15nm,1.2s
RC01 Rabbit Creek A 77.62 331 P 22 39 15.4
baz=98
MCK McKinley 77.67 334 P 22 39 16.0
baz=100,SNR=5.4
WLF Walferdange 77.86 41 IAmb IAmb 22 39 18.0
comp=Z,15nm,1.1s
NEA2 Nenana 77.88 335 P 22 39 17.0
baz=100,SNR=14
BRSE Bradley Lake S 77.94 330 P 22 39 17.0
baz=97
I23K Minto, Yukon-K 78.09 335 P 22 39 18.1
baz=100,SNR=10
SUA Susitna One 78.16 331 P 22 39 18.8
baz=98,SNR=13
TRF Thorofare Moun 78.23 333 IAmb IAmb 22 39 23.4
comp=Z,12nm,0.9s
TRF Thorofare Moun 78.23 333 P 22 39 19.3
baz=98,SNR=8.6
SKT Skwentna 78.60 332 P 22 39 20.7
baz=97,SNR=8.9
NOR Nord 78.61 7 *i* P **P** **22 39 19.7 +0.7**
comp=Z,24nm,1.2s
NOR Nord 78.61 7 *i* P **P** **22 39 19.8 +0.7**
NOR IAmb IAmb 22 39 20.7
comp=Z,24nm,1.2s
BPAW Bear Paw Mtn. 78.63 334 IAmb IAmb 22 39 21.8
comp=Z,10nm,0.8s
BPAW Bear Paw Mtn. 78.63 334 P 22 39 20.8
baz=98,SNR=15
MLY Manley 78.65 335 P 22 39 21.0
baz=98,SNR=13
COLD Coldfoot 78.77 337 P 22 39 22.5
baz=99,SNR=9.8
TOLK Toolik Lake Re 78.78 339 P 22 39 21.9
baz=100
PPLA Purkepile 79.01 333 IAmb IAmb 22 39 23.8
comp=Z,17nm,0.6s
PPLA Purkeypile 79.01 333 P 22 39 23.1
baz=97,SNR=11
IBBN Ibbenburen 79.03 38 *e*P **P** **22 39 22.6 +0.8**
comp=Z,13nm,0.8s,baz=270,slow=5.2
AKN Aaknes 79.36 28 *e*P **P** **22 39 24.1 +0.7**
TNS Taunus Mts 79.36 40 *e*P **P** **22 39 25.1 +1.3**
comp=Z,12nm,1.0s,baz=270,slow=5.2
SKAR Skarsla 79.86 30 *e*P **P** **22 39 27.6 +1.3**
TUE Stadtta 79.87 44 P **P** **22 39 26.8 0.0**
DAVA Damuels 80.25 43 *e*P **P** **22 39 29.1 +0.4**
comp=Z,6.1nm,0.6s
DOMB Dombas 80.32 28 *e*P **P** **22 39 29.8 +1.2**
GTTG Gottingen 80.36 39 *e*P **P** **22 39 30.1 +1.1**
comp=Z,9.2nm,0.7s,baz=270,slow=5.2
KONO Kongsberg 80.44 31 *e*P **P** **22 39 29.8 +0.5**
SVW2 Sparrevohn 80.45 331 IAmb IAmb 22 39 31.2
comp=Z,16nm,1.2s
NRDL Niedersach Rie 80.47 38 *e*P **P** **22 39 30.6 +1.1**
comp=Z,5.6nm,0.7s,baz=270,slow=5.2
CLZ Clausthal 80.62 39 *e*P **P** **22 39 31.5 +1.0**
comp=Z,11nm,0.8s,baz=270,slow=5.2
BSEG Bad Segeberg 80.63 37 *e*P **P** **22 39 31.1 +0.8**
comp=Z,10nm,0.8s,baz=270,slow=5.2
FETA Feichten 80.82 44 *e*P **P** **22 39 32.1 +0.3**
comp=Z,5.9nm,0.8s
RETA Reutte 80.84 43 *i* P **P** **22 39 31.9 +0.1**
comp=Z,2.5nm,0.6s
OSL Oslo 81.02 30 *e*P **P** **22 39 33.6 +1.2**
MOTA Moosalm 81.08 43 *e*P **P** **22 39 33.0 -0.2**
comp=Z,4.2nm,0.7s,SNR=4.7
SQTA Sankt Quirin 81.15 43 *e*P **P** **22 39 33.0 -0.5**
comp=Z,2.1nm,0.5s,SNR=4.0
FLTG Flechtingen 81.16 38 *e*P **P** **22 39 33.8 +0.6**
comp=Z,12nm,0.8s,baz=270,slow=5.2
NB2 NORSAR Subarra 81.30 29 P **P** **22 39 34.7 +0.8**
comp=Z,9.1nm,0.6s,baz=268,slow=5.3
NB2 NORSAR Subarra 81.30 29 P **P** **22 39 34.7 +0.8**
baz=268,slow=5.3
NOA NORSAR Array B 81.30 29 P **P** **22 39 34.6 +0.7**
comp=Z,8.6nm,0.6s,baz=268,slow=5.3,SNR=33
MOX Moxa 81.40 40 *e*P **P** **22 39 35.2 +0.6**
comp=Z,5.1nm,1.1s,baz=270,slow=5.2
WTTA Wattenberg 81.44 43 *i* P **P** **22 39 34.6 -0.5**
comp=Z,3.1nm,0.7s
NC602 NORSAR Array S 81.45 30 *e*P **P** **22 39 35.8 +1.1**
NEUB Neuenburg 81.50 39 *e*P **P** **22 39 36.2 +1.1**
comp=Z,11nm,0.8s,baz=270,slow=5.2
A21K Barrow 81.51 341 IAmb IAmb 22 39 37.6
comp=Z,23nm,0.9s
PLN Plauen 81.74 40 *e*P **P** **22 39 37.2 +0.8**
comp=Z,6.4nm,0.8s,baz=270,slow=5.2
NSS Namsos 81.75 26 *e*P **P** **22 39 36.9 +0.8**
WERD Werda 81.84 40 *e*P **P** **22 39 37.7 +0.8**
comp=Z,6.9nm,0.9s,baz=270,slow=5.2
WERN Wernitzgruen 81.89 40 *e*P **P** **22 39 39.0 +1.8**
comp=Z,9.9nm,1.1s,baz=270,slow=5.2
NKC Novy Kostel 81.93 40 *e*P **P** **22 39 37.8 +0.4**
TANN Tannenbergstha 81.94 40 *e*P **P** **22 39 38.5 +1.0**
comp=Z,7.7nm,0.9s,baz=270,slow=5.2
ABTA Abfaltersbach 82.05 44 *e*P **P** **22 39 38.1 0.0**
comp=Z,3.7nm,0.5s,SNR=6.8
RJOB Jochberg 82.22 43 *e*P **P** **22 39 39.7 +0.7**
comp=Z,24nm,0.7s,baz=270,slow=5.2
WET Wettzell 82.23 41 *e*P **P** **22 39 40.0 +0.9**
comp=Z,9.3nm,1.4s,baz=270,slow=5.2
CLL Collm 82.27 39⇓ *i*P **P** **22 39 39.9 +0.8**
comp=Z,8.0nm,0.7s
CLL Collm 82.27 39 *e*P **P** **22 39 39.8 +0.8**
comp=Z,8.1nm,0.7s,baz=270,slow=5.2
KONS Konsvik 82.27 24 *e*P **P** **22 39 40.2 +1.5**
LOF Lofoten 82.45 22 *e*P **P** **22 39 40.8 +1.1**
FBE Freiberg 82.50 40 *e*P **P** **22 39 41.6 +1.3**
comp=Z,7.7nm,0.7s,baz=270,slow=5.2
KBA Koelnbreinsper 82.61 43 *i* P **P** **22 39 41.0 -0.2**
comp=Z,3.0nm,0.6s
KHC Kasperske Hory 82.69 41 *e*P **P** **22 39 40.9 -0.5**
GEC2 GERESS Array S 82.79 42 *e*P **P** **22 39 42.4 +0.5**
comp=Z,8.0nm,0.9s,baz=270,slow=5.2
GERES GERESS Array B 82.79 42 P **P** **22 39 41.4 -0.6**
comp=Z,4.6nm,0.6s,baz=261,slow=3.1,SNR=45
GERES GERESS Array B 82.79 42 P **P** **22 39 41.7 -0.3**
MYKA Terra Mystica 82.83 44 *e*P **P** **22 39 41.7 -0.5**
comp=Z,5.0nm,0.6s,SNR=5.3
BRG Berggiesshubel 82.87 40 *e*P **P** **22 39 43.1 +0.9**
BRG Amp 22 39 44.2
comp=Z,4.4nm,0.8s
BRG Berggiesshubel 82.87 40 *e*P **P** **22 39 43.0 +0.8**
comp=Z,4.4nm,0.8s,baz=270,slow=5.2
STEI Steigen 83.09 22 *e*P **P** **22 39 43.5 +0.6**
FAUS Fauske 83.12 23 *e*P **P** **22 39 44.7 +1.6**
CKRC Cesky Krumlov 83.19 42 *e*P **P** **22 39 44.2 +0.3**
MOA Molln 83.20 43 *e*P **P** **22 39 43.5 -0.5**
comp=Z,2.9nm,0.5s
SPA0 Spitsbergen Ar 83.26 12 *e*P **P** **22 39 45.4 +1.6**
PVCC Panska Ves 83.28 40 *e*P **P** **22 39 45.3 +1.0**
PRU Pruhonice 83.29 40 *e*P **P** **22 39 44.5 +0.1**
OBKA Obir 83.46 44 *i* P **P** **22 39 45.9 +0.4**
comp=Z,1.9nm,0.5s
RDOG Red Dog Mine 83.67 338 P 22 39 47.6
baz=88
SOKA Soboth 83.79 44 *i* P **P** **22 39 46.2 -0.9**
comp=Z,1.4nm,0.5s
TREC Trest 83.94 41 *e*P **P** **22 39 48.4 +0.6**
ARSA Arzberg 84.09 43 *e*P **P** **22 39 48.4 -0.2**
comp=Z,3.1nm,0.6s
UPC Upice 84.20 40 *e*P **P** **22 39 49.8 +0.8**
CHVC Chvalec 84.22 40 *e*P **P** **22 39 49.9 +0.7**
CONA Conrad Observa 84.27 43 *e*P **P** **22 39 49.9 +0.3**
comp=Z,6.3nm,0.7s
OSTC Ostas 84.33 40 *e*P **P** **22 39 50.0 +0.3**
TRO Tromso 84.35 21 *e*P **P** **22 39 51.2 +1.8**
DPC Dobruska-Polom 84.41 40 *e*P **P** **22 39 50.4 +0.2**
KRUC Moravsky 84.55 41 *e*P **P** **22 39 51.4 +0.6**
VRAC Vranov 84.66 41 *e*P **P** **22 39 52.2 +0.8**
KRLC Kraliky 84.72 40 *e*P **P** **22 39 51.8 +0.1**
GKP Gorka Klasztor 84.77 37 *e*P **P** **22 39 52.6 +0.8**
JETT Jettan, Norway 84.88 21 *e*P **P** **22 39 53.8 +1.7**
ANM Nome 84.89 334 P 22 39 54.0
baz=85
MODS Modra-Piesok 85.18 42 *e*P **P** **22 39 53.9 -0.1**
MORC Moravsky Berou 85.24 41 *e*P **P** **22 39 55.4 +1.1**
HAMF Hammerfest 85.85 19 *e*P **P** **22 39 57.5 +0.7**
KTK1 Kautokeino 85.94 21 *e*P **P** **22 39 58.6 +1.2**
ARA0 ARCESS Array S 86.65 20 *e*P **P** **22 40 02.0 +1.3**
ARCES ARCESS Array B 86.65 20 P **P** **22 40 01.2 +0.4**
comp=Z,10nm,0.6s,baz=275,slow=3.9,SNR=70
ARCES ARCESS Array B 86.65 20 P **P** **22 40 01.8 +1.0**
ARCES IAmb IAmb 22 40 03.1
comp=Z,11nm,0.8s
VNA3 Neumayer Olymp 88.15 163 P **P** **22 40 07.8 0.0**
VNA1 Neumayer--Stat 88.30 162 P **P** **22 40 07.3 -1.2**
PABE Paberze 88.41 34 *e*P **P** **22 40 10.0 +0.7**
FINES FINESS Array B 88.42 28 P **P** **22 40 09.9 +0.6**
comp=Z,4.0nm,0.6s,baz=284,slow=4.4,SNR=22
VNA2 Neumayer--Watz 88.68 163 P **P** **22 40 10.1 -0.2**
baz=321,slow=4.3
ISAL Salakas 89.60 34 *e*P **P** **22 40 15.9 +0.9**
IIGN Ignalina 89.70 34 *e*P **P** **22 40 16.4 +1.0**
IDID Didziasalis 89.99 34 *e*P **P** **22 40 17.8 +0.9**
SNAA Sanae 90.32 163 P **P** **22 40 18.0 0.0**
BURAR Bucovina Array 90.57 42 P **P** **22 40 21.4 +1.5**
AKASG Malin Array Be 92.48 38 P **P** **22 40 28.3 -0.2**
comp=Z,0.5nm,0.5s,baz=286,slow=4.2,SNR=3.3
BILL Bilibino 94.66 341 P **P** **22 40 39.4 +1.3**
BILL IAmb IAmb 22 40 40.6
comp=Z,6.7nm,1.1s
KLMR Klimovskoe 94.81 27 *e*P **P** **22 40 37.9 -1.0**
KLMR AMP 22 40 40.1
comp=Z,9.0nm,1.1s
GEYT Alibeck 116.41 42 PKP **PKiKP** **22 46 01.2 +0.4**
comp=Z,2.2nm,0.4s,baz=275,slow=3.0,SNR=9.2
GEYT Alibeck 116.41 42 **PKiKP** **22 46 01.6 +0.8**
ZALV Zalesovo Beam 116.66 14 PKP **PKiKP** **22 46 01.1 +0.4**
comp=Z,8.7nm,0.4s,baz=262,slow=2.0,SNR=47
ZALV SKP 22 49 21.7
comp=Z,1.3nm,0.6s,baz=335,slow=6.4,SNR=5.0
ZALV Zalesovo Beam 116.66 14 PKPdf **PKiKP** **22 46 01.4 +0.7**
KURBB Kurchatov Arra 117.74 20 PKP **PKiKP** **22 46 03.6 +0.8**
comp=Z,5.7nm,0.7s,baz=320,slow=2.2,SNR=34
KURBB SKP 22 49 24.4
comp=Z,0.2nm,0.4s,baz=317,slow=2.2,SNR=5.2
MKAR Makanchi Array 122.30 20 PKP **PKiKP** **22 46 12.1 +0.1**
comp=Z,6.5nm,0.4s,baz=297,slow=2.7,SNR=206
MKAR SKP 22 49 32.0
comp=Z,1.0nm,0.7s,baz=321,slow=1.2,SNR=4.8
MKAR Makanchi Array 122.30 20 PKPdf **PKPdf** **22 46 11.4 -0.5**
AAK Ala-Archa 122.60 28 PKP **PKiKP** **22 46 13.5 +0.6**
comp=Z,3.5nm,0.6s,baz=193,slow=1.2,SNR=17
AAK Ala-Archa 122.60 28 PKPdf **PKiKP** **22 46 13.9 +0.9**
WSAR Wadi Sarin 124.14 56 PKP **PKPdf** **22 46 16.1 +0.2**
comp=Z,7.0nm,1.0s,baz=289,slow=3.2,SNR=5.3
USRK Ussuriysk Ar. 124.41 338 PKP **PKPdf** **22 46 16.0 +0.1**
comp=Z,3.9nm,0.7s,baz=280,slow=3.0,SNR=10
KBL Kabul 125.47 39 PKPdf **PKPdf** **22 46 18.8 +0.3**
SONM Songino Array 125.58 0 PKP **PKiKP** **22 46 19.1 +0.5**
comp=Z,6.8nm,0.6s,baz=321,slow=1.1,SNR=61
KSH Kashi 125.73 29 PKP **PKiKP** **22 46 19.6 +0.4**
KSH sPKP 22 47 14.9
WMQ Urumqi 126.67 17 ePKP **PKiKP** **22 46 20.8 0.0**
MJAR Matsushiro Arr 127.85 328 PKP **PKPdf** **22 46 21.7 -1.0**
comp=Z,4.2nm,1.0s,baz=50,slow=0.8,SNR=6.3
KSRS Korea Array 131.79 338 PKP **PKPdf** **22 46 30.4 +0.3**
comp=Z,2.4nm,0.5s,baz=25,slow=0.8,SNR=6.3
HHC Hu-ho-hao-te 132.38 355 *e*PKP **PKiKP** **22 46 33.8 +1.4**
HHC sPKP 22 47 26.0
HHC PP **PP** **22 48 57.8 +3.2**
HHC AMB AMB
comp=Z,100nm,9.1s
GTA Gaotai 133.53 8⇑PKP **PKiKP** **22 46 35.0 +0.1**
GTA LR LR
comp=Z,67nm,18.9s
GTA LR LR
comp=Z,83nm,18.5s
GTA LR LR
comp=Z,68nm,19.3s
LZH Lanzhou 137.22 4⇓PKP **PKiKP** **22 46 43.0 +0.5**
LZH sPKP 22 47 41.3
NJ2 Nanjing 139.71 344 *e*PKP **PKPdf** **22 46 45.3 +0.3**
CD2 Chengdu 142.36 4 PKP **PKPdf** **22 46 48.0 -1.9**
HYB Hyderabad 143.03 49 *i* PKP **PKPdf** **22 46 52.0 +0.6**
SSLB Suanglung 146.64 336 PKPdf **PKPdf** **22 46 58.0 +0.5**
GYA Guiyang 146.92 0⇓PKPbc **PKPbc** **22 46 59.9 -0.2**
KMI Kunming 147.99 7⇓PKPbc **PKPbc** **22 47 01.8 -1.4**
AS31 Alice Springs 149.16 234 PKPdf **PKPdf** **22 47 02.2 +0.6**
ASAR Alice Springs 149.16 234 PKP **PKPdf** **22 47 01.9 +0.3**
comp=Z,11nm,0.8s,baz=117,slow=3.5,SNR=53
ASAR PKPbc **PKPbc** **22 47 05.7 -0.3**
comp=Z,11nm,0.8s,baz=119,slow=3.6,SNR=35
ASAR pPKP **pPKPbc** **22 47 45.2 -3.4**
comp=Z,9.8nm,0.7s,baz=122,slow=3.1,SNR=4.7
ASAR Alice Springs 149.16 234 PKPdf **PKPdf** **22 47 02.3 +0.7**
PALK Pallekele 150.32 62 PKPbc **PKiKP** **22 47 09.8 0.0**
WB2 Warramunga Arr 150.38 241 PKPdf **PKPdf** **22 47 04.1 +0.5**
WRA Warramunga Arr 150.38 241 PKP **PKPdf** **22 47 04.0 +0.4**
comp=Z,7.4nm,0.5s,baz=108,slow=3.0,SNR=47
WRA PKPbc **PKPbc** **22 47 09.2 +0.2**
comp=Z,11nm,0.6s,baz=111,slow=2.1,SNR=30
WRA pPKP **pPKPbc** **22 47 47.1 -4.5**
comp=Z,8.3nm,0.6s,baz=112,slow=2.2,SNR=2.3
WB0 Warramunga Arr 150.40 242 PKPbc **PKPbc** **22 47 09.5 +0.4**
SLVN Son La 151.87 6 PKPbc **PKiKP** **22 47 13.9 +1.1**
CHTO Chiang Mai 153.34 17 PKPdf **PKPdf** **22 47 08.6 +0.5**
CMAR Chiang Mai Arr 153.68 17 PKP **PKPdf** **22 47 09.5 +1.0**
comp=Z,4.9nm,0.6s,baz=308,slow=2.1,SNR=41
CMAR PKPbc **PKiKP** **22 47 16.8 +0.3**
comp=Z,18nm,0.6s,baz=324,slow=3.4,SNR=49
CMAR Chiang Mai Arr 153.68 17 PKPdf **PKPdf** **22 47 09.7 +1.1**

NEIC ***22*** *22:33:43.0±1.5, 31.80N±0.02×114.98W±0.03, h22km±8km*
Error ellipse: s-maj=3.2km s-min=2.8km az=50.0
PAS ***22*** *22:33:43.2±3.0, 31.83N±0.01×114.987W±0.007,*
h1km±6km, Error ellipse: s-maj=1.9km s-min=0.7km
az=198.0
ECX ***22*** *22:33:43.3±0.8, 31.87N×114.95W, h20km±4km, MD3.0,*
ML3.3
MEX ***22*** *22:33:43.4±0.8, 31.82N×114.86W, h1km±15km, MD3.7*

ISC 22 22:33:42.4±1.2, 31.83N±0.02×115.02W±0.03,
h15km±10km, n46, s0896/60, 2C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUVIX	**Guadalupe Vict**	**0.48**	**354**			**Pb**	**22 33 53.3**	**+0.7**
GUVIX						**Sb**	**22 34 00.9**	**+1.5**
MBIG	**Mexicali**	**0.60**	**345**	*i* P		**Pn**	**22 33 56.3**	**-0.1**
MBIG				*i* S		**Sn**	**22 34 04.9**	**-1.0**
CPBX	**Cerro Prieto**	**0.64**	**338**			**Pb**	**22 33 55.3**	**0.0**

CPBX					Sb	22 34 05.0	+0.9	
CPBX	**Cerro Prieto**	**0.64**	**338**	IAML		22 34 07.6		
	comp=N,4μm,0.3s							
CPBX				IAML		22 34 07.8		
	comp=E,4μm,0.4s							
CPBX	**Cerro Prieto**	**0.64**	**338**	‖ *e*P	Pb	22 33 55.3	0.0	
CPBX				IAML		22 34 07.7		
	comp=N,5μm,0.4s							
CPBX				‖ *e*		22 34 07.7		
VTX	**Valle De La Tr**	**0.79**	**237**	*e*P	Pn	22 33 58.5	-0.5	
VTX				*e*S	Sn	22 34 09.7	-0.9	
SFX	**San Felipe**	**0.80**	**170**		Pb	22 33 58.4	+0.3	
SFX					Sb	22 34 09.6	+1.0	
SFX	**San Felipe**	**0.80**	**170**	IAML		22 34 10.5		
	comp=N,599nm,0.2s							
SFX				IAML		22 34 10.6		
	comp=E,440nm,0.5s							
SFX	**San Felipe**	**0.80**	**170**	*e*P	Pb	22 33 58.0	0.0	
SFX				*e*S	Sb	22 34 09.2	+0.6	
SJX	**San Joaquin**	**0.80**	**266**	*e*P	Pb	22 33 58.4	+0.3	
SJX				*e*S	Sn	22 34 10.2	-0.7	
ESJX	**Sierra Juarez**	**0.81**	**283**		Pb	22 33 58.3	0.0	
ESJX					Sb	22 34 10.1	+0.9	
YMD	**Yuma Desert**	**0.83**	**29**		Pg	22 33 57.9	-0.6	
SPIG	**San Pedro Mart**	**0.87**	**206**	*e*P	Pb	22 33 59.8	+0.4	
SPIG				*i* S	Sn	22 34 12.4	-0.6	
SPIG	**San Pedro Mart**	**0.87**	**206**	*e*P	Pb	22 33 59.7	+0.4	
SPIG				*e*S	Sn	22 34 12.6	-0.4	
SPX	**San Pedro Mart**	**0.88**	**206**		Pn	22 34 00.3	-0.3	
SPX					Sn	22 34 12.3	-0.9	
SPX	**San Pedro Mart**	**0.88**	**206**	IAML		22 34 13.2		
	comp=N,370nm,0.2s							
SPX				IAML		22 34 13.3		
	comp=E,332nm,0.2s							
SPX	**San Pedro Mart**	**0.88**	**206**	*e*P	Pb	22 33 59.8	+0.3	
SPX				IAML		22 34 13.2		
	comp=N,568nm,0.3s							
SPX				⇑ *e*		22 34 13.2		
UABX	**UABC, Campus M**	**0.88**	**336**		Sn	22 34 14.1	+1.3	
EMSC	**East Mesa**	**0.91**	**2**		Pn	22 34 00.5	-0.2	
SGL	**Mount Signal**	**1.02**	**324**		Pn	22 34 02.4	+0.2	
SGL					Sn	22 34 15.9	-0.2	
DREC	**Desert Rsrch C**	**1.04**	**340**		Pn	22 34 03.2	+0.8	
WESC	**Westside Schoo**	**1.11**	**327**		Sn	22 34 19.9	+1.4	
YUH	**Yuha Desert**	**1.12**	**317**		Pg	22 34 04.0	-0.1	
RUN	**Ruthven**	**1.14**	**2**		Pb	22 34 03.0	-0.9	
RUN					Sb	22 34 16.1	-2.4	
COK2	**Cook Ranch 2**	**1.19**	**330**		Pg	22 34 05.7	+0.5	
RMX	**La Rumorosa**	**1.19**	**311**		Pn	22 34 03.8	-0.8	
RMX					Sb	22 34 18.7	-1.3	
RMX	**La Rumorosa**	**1.19**	**311**	IAML		22 34 19.4		
	comp=N,388nm,0.2s							
RMX				IAML		22 34 19.4		
	comp=E,485nm,0.2s							
RMX	**La Rumorosa**	**1.19**	**311**	*e*P	Pn	22 34 02.6	-2.0	
RMX				*e*S	Sb	22 34 18.6	-1.3	
GLA	**Glamis**	**1.23**	**7**		Pb	22 34 05.4	-0.1	
GLA	**Glamis**	**1.23**	**7**	IAML		22 34 30.0		
	comp=N,113nm,0.4s							
GLA				IAML		22 34 30.8		
	comp=E,163nm,0.4s							
IKP	**In-Ko-Pah, Jac**	**1.24**	**312**		Sn	22 34 22.0	+0.3	
SWSC	**Sam W. Stewart**	**1.30**	**330**		Pg	22 34 08.7	+1.3	
CRR	**Carrizo Plain**	**1.33**	**323**		Pg	22 34 07.9	-0.1	
CRR					Sg	22 34 26.0	+0.7	
PIX	**Pinacate**	**1.35**	**101**		Pn	22 34 05.0	-1.7	
PIX	**Pinacate**	**1.35**	**101**	‖ *i*P	Pn	22 34 05.1	-1.7	
CCX	**Cicese**	**1.40**	**272**		Pn	22 34 07.6	+0.2	
CCX				IAML		22 34 28.7		
	comp=N,467nm,0.2s							
CCX				IAML		22 34 28.8		
	comp=E,397nm,0.3s							
CBX	**Cerro Bola**	**1.48**	**290**		Pn	22 34 08.6	-0.1	
CBX				IAML		22 34 31.3		
	comp=N,264nm,0.4s							
CBX				IAML		22 34 32.5		
	comp=E,253nm,0.3s							
CBX	**Cerro Bola**	**1.48**	**290**	‖ *i*P	Pn	22 34 08.5	-0.1	
CBX				⇑ *e*		22 34 31.4		
CBX				IAML		22 34 31.4		
	comp=N,502nm,0.4s							
TJIG	**Tijuana**	**1.53**	**294**	*e*P	Pn	22 34 08.8	-0.5	
TJIG				*i* S	Sg	22 34 30.9	-0.8	
TKX	**Tecate**	**1.54**	**299**		Pb	22 34 10.1	-0.5	
BAR	**Barrett**	**1.64**	**302**		Pn	22 34 10.4	-0.4	
BAR				IAML		22 34 37.1		
	comp=E,330nm,0.2s							
214A	**Organ Pipe Nat**	**1.88**	**85**		Pn	22 34 13.2	-0.9	
214A				IAML		22 34 43.5		
	comp=E,75nm,0.4s							
214A				IAML		22 34 52.1		
	comp=N,51nm,0.5s							
109C	**Camp Elliot, M**	**2.06**	**301**	Pn	Pn	22 34 16.8	+0.3	
109C				Sn	Sb	22 34 46.4	+1.5	
109C				IAML		22 34 46.7		
	comp=E,224nm,0.3s							
XPFO	**Pion Flat**	**2.15**	**326**	Pn	Pn	22 34 16.8	-1.2	
PFO	**Pinyon Flats O**	**2.15**	**326**	Pn	Pn	22 34 17.0	-0.9	
TUC	**Tucson**	**3.63**	**81**	Pn	Pn	22 34 39.2	+1.1	
TUC				Sn	Sn	22 35 23.1	+2.4	

NNC **22** *22:45:16.0±0.8, 40.˚10N×51.˚58E, h0km, mb5.5, Error ellipse: s-maj=7.5km s-min=6.9km az=36.0*

IDC **22** *22:45:18.8±0.4, 40.˚18N×52.˚06E, h0km, mb4.9/33, mb1 5.0/46, mb1mx5.0/50, mbtmp4.9/46, ML4.2/8, MS4.1/41, Ms1 4.1/41, ms1mx4.0/51, Error ellipse: s-maj=9.5km s-min=6.3km az=173.0*

BJI **22** *22:45:19.6±0.0, 40.˚44N×51.˚61E, h30km, mB5.1/42, mb5.3/70, Ms5.0/63, Ms7 4.6/47*

MOS **22** *22:45:22.1±1.0, 40.˚32N×52.˚14E, h32km, mb5.4/35, MS4.0/12, Error ellipse: s-maj=4.1km s-min=3.1km az=38.9*

NEIC **22** *22:45:23.8±1.1, 40.˚27N±0.˚06×52.˚07E±0.˚07, h32km±4km, mb5.1/244, Error ellipse: s-maj=9.5km s-min=7.3km az=191.0*

TEH **22** *22:45:23.8, 40.˚13N×52.˚10E, h30km, ML5.2*

AZER **22** *22:45:25.1±0.1, 40.˚03N×51.˚89E, h42km, ml5.4/34, ms3.5/1, Error ellipse: s-maj=1.5km s-min=1.2km az=317.0*

GCMT **22** *22:45:26.8±0.2, 40.˚34N±0.˚01×52.˚13E±0.˚01, h39km±1km, MW5.1/121, Moment Tensor Solution. s63,c68; s121,c181; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.75±.17; Mθθ1.81±.15; Mϕϕ-2.56±.12; Mrθ2.27±.16; Mθϕ-4.14±.10; Mϕr-1.19±.12; Best double couple: Ms5.35200×10^16^ NP1:ϕs170.00000°,δ70.00000°, λ19.00000°. NP2:ϕs73.00000°,δ72.00000°,λ159.00000°. Principal axes: T 5.6430, Plg28.0000°, Azm31.0000°; N -0.5870, Plg62.0000°, Azm215.0000°; P -5.0610, Plg2.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC **22 22:45:23.6**±0.5,**40˚27N**±0.˚03×**52˚02E**±0.˚02,**h31**km±3km, **h31**km:**pP-P, n997,**σ1s**77**/1053,**mb5.1**/299,**MS4.3**/51, **110C-104D, Fault plane solution: NP1:**ϕs165.61803°, δ89.25999°,λ13.83226°. **NP2:**ϕs75.43582°,δ76.16892°, λ179.23789°. **Principal axes:** T Plg10.2634°, Azm31.3700°; N Plg76.1483°, Azm168.6207°; P Plg9.2016°, Azm299.6892°; **Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALA	**Gala**	**1.43**	**276**	P	Pb	**22 45 52.6**	**+3.0**
	SNR=38						
GALA				S	Sb	**22 46 07.6**	**+0.2**
GALA	**Gala**	**1.43**	**276**	*e*Pg	Pb	**22 45 51.6**	**+2.0**
NDR	**Nardaran**	**1.58**	**282**	P	Pb	**22 45 53.9**	**+1.8**
	SNR=28						
NDR				Sg	Sb	**22 46 14.9**	**+3.2**
NDR	**Nardaran**	**1.58**	**282**	*e*Pn	Pb	**22 45 53.0**	**+0.9**
GOBA	**Gobu**	**1.75**	**275**	Pn	Pb	**22 45 56.2**	**+1.2**
	SNR=124						
GOBA				Sg	Sb	**22 46 21.4**	**+4.7**
GOBA	**Gobu**	**1.75**	**275**	*e*Pn	Pb	**22 45 56.2**	**+1.2**
ALIB	**Äli-Bayra**	**2.33**	**263**	Pg	Pb	**22 46 04.9**	**0.0**
	SNR=20						
ALIB				Sg	Sb	**22 46 36.1**	**+2.9**
GBS	**Qobustan**	**2.36**	**277**	Pn	Pb	**22 46 04.3**	**-1.3**
GBS				Sn	Sn	**22 46 29.8**	**+1.4**
GBS	**Qobustan**	**2.36**	**277**	*e*Pn	Pb	**22 46 04.2**	**-1.3**
ATGJ	**Altiaghaj**	**2.42**	**285**	Pn	Pb	**22 46 04.2**	**-2.3**
	SNR=76						
ATGJ				Sn	Sn	**22 46 32.6**	**+2.9**
ATGJ	**Altiaghaj**	**2.42**	**285**	*e*Pn	Pb	**22 46 04.2**	**-2.3**
SIZA	**Siyzn**	**2.50**	**290**	Pn	Pb	**22 46 05.4**	**-2.5**
SIZA				Sg	Sb	**22 46 43.8**	**+5.4**
SIZA	**Siyzn**	**2.50**	**290**	*e*Pn	Pb	**22 46 05.4**	**-2.5**
PQL	**Pirkuli**	**2.66**	**282**	Pn	Pb	**22 46 08.0**	**-2.6**
	SNR=404						
PQL				Sn	Sb	**22 46 40.2**	**-2.7**
PQL	**Pirkuli**	**2.66**	**282**	*e*Pn	Pn	**22 46 07.2**	**+2.7**
SAAT	**Saatly**	**2.79**	**263**	Pn	Pb	**22 46 09.9**	**-2.8**
	SNR=96						
SAAT				Sn	Sn	**22 46 41.7**	**+3.1**
SAAT	**Saatly**	**2.79**	**263**	*e*Pn	Pb	**22 46 09.8**	**-2.8**
QUBA	**Quba, Azerbaij**	**2.89**	**293**	Pn	Pn	**22 46 10.9**	**+3.5**
	SNR=518						
QUBA				Sn	Sb	**22 46 46.6**	**-2.6**
KDMR	**Kurdemir**	**2.93**	**273**	Pn	Pn	**22 46 10.3**	**+2.3**
	SNR=30						
KDMR				Sn	Sn	**22 46 45.3**	**+3.1**
KDMR	**Kurdemir**	**2.93**	**273**	*e*Pn	Pn	**22 46 10.3**	**+2.3**
LKRN	**Lenkeran, Azer**	**2.95**	**239**	Pn	Pn	**22 46 09.2**	**+0.8**
	SNR=39						
LKRN				Sn	Sn	**22 46 41.8**	**-0.9**
LKRN	**Lenkeran, Azer**	**2.95**	**239**	*e*Pn	Pn	**22 46 09.1**	**+0.8**
IML	**Ismayilli**	**2.97**	**281**	Pn	Pn	**22 46 10.9**	**+2.3**
	SNR=466						
IML				Sn	Sn	**22 46 45.7**	**+2.5**
IML	**Ismayilli**	**2.97**	**281**	*e*Pn	Pn	**22 46 10.9**	**+2.3**
GLBA	**Clilabad**	**2.98**	**251**	Pn	Pn	**22 46 09.7**	**+1.0**
	SNR=103						
GLBA				Sn	Sn	**22 46 43.8**	**+0.5**
GLBA	**Clilabad**	**2.98**	**251**	*e*Pn	Pn	**22 46 09.7**	**+1.0**
QUB	**Quba**	**2.99**	**293**	*e*Pn	Pn	**22 46 10.9**	**+2.0**
ASTR	**Astara**	**3.03**	**237**	Pn	Pn	**22 46 09.7**	**+0.3**
	SNR=300						
ASTR				Sn	Sn	**22 46 43.5**	**-1.1**
ASTR	**Astara**	**3.03**	**237**	*e*Pn	Pn	**22 46 09.7**	**+0.3**
XNQ	**Khinaliq**	**3.08**	**288**	Pn	Pn	**22 46 12.9**	**+2.6**
XNQ				Sg	Sb	**22 47 03.8**	**+8.8**
XNQ	**Khinaliq**	**3.08**	**288**	*e*Pn	Pn	**22 46 12.9**	**+2.6**
QSAR	**Qusar**	**3.11**	**295**	Pn	Pn	**22 46 13.9**	**+3.4**
	SNR=868						
QSAR				Sn	Sn	**22 46 50.8**	**+4.2**
YRD	**Yardimli**	**3.22**	**246**	Pn	Pn	**22 46 12.6**	**+0.4**
	SNR=136						
YRD				Sn	Sn	**22 46 48.0**	**-1.5**
QBL	**Gabala**	**3.25**	**283**	Pn	Pn	**22 46 14.4**	**+1.8**
QBL				Sn	Sn	**22 46 52.5**	**+2.2**
LRK	**Lerik**	**3.28**	**241**	Pn	Pn	**22 46 13.3**	**+0.3**
	SNR=184						
LRK				Sn	Sn	**22 46 49.6**	**-1.5**
ZRD	**Zardab**	**3.32**	**272**	Pn	Pn	**22 46 15.6**	**+2.3**
	SNR=302						
ZRD				Sn	Sn	**22 46 54.6**	**+3.0**
AKT	**Akhty**	**3.47**	**292**	‖ *i*P	Pn	**22 46 17.8**	**+2.3**
AKT				*e*S	Sn	**22 47 00.0**	**+4.4**
AKT				pmax	pmax		
	comp=Z,2μm,0.5s						
AKT				smax	smax		
	comp=N,10μm,0.5s						
AKT				smax	smax		
	comp=E,7μm,0.4s						
AKT				smax	smax		
	comp=N,10μm,0.8s						
AKT				MLR	MLR		
	comp=Z,5μm,2.0s						
BLQ	**Beylaqan**	**3.47**	**262**	Pn	Pn	**22 46 16.6**	**+1.2**
	SNR=55						
BLQ				Sn	Sn	**22 46 55.7**	**+0.2**
BRDA	**Brd**	**3.70**	**271**	Pn	Pn	**22 46 20.9**	**+2.3**
	SNR=85						
BRDA				Sn	Sn	**22 47 04.2**	**+3.0**
QRD	**Qoradiz**	**3.71**	**259**	Pn	Pn	**22 46 19.7**	**+1.0**
	SNR=55						
QRD				Sn	Sn	**22 47 00.7**	**-0.6**
AGDM	**Agdam**	**3.76**	**269**	Pn	Pn	**22 46 21.0**	**+1.5**
	SNR=261						
AGDM				Sn	Sn	**22 47 03.7**	**+0.9**
SEKA	**Sheki**	**3.78**	**286**	Pn	Pn	**22 46 21.9**	**+2.1**
	SNR=505						
SEKA				Sn	Sn	**22 47 05.6**	**+2.4**
MNGR	**Mingechevir, A**	**3.79**	**279**	Pn	Pn	**22 46 22.0**	**+2.2**
	SNR=35						
MNGR				Sn	Sn	**22 47 05.2**	**+1.8**
IMND	**Minoodasht**	**4.01**	**138**	*e*Pn	Pn	**22 46 22.9**	**0.0**
IGLO	**Ghalooghah**	**4.02**	**159**	*e*Pn	Pn	**22 46 22.6**	**-0.7**
IPRN	**Peran**	**4.03**	**176**	*e*Pn	Pn	**22 46 22.7**	**-0.6**
IGZV	**Ghazvin**	**4.13**	**201**	*e*Pn	Pn	**22 46 24.3**	**-0.4**
ISRB	**Sarab**	**4.18**	**236**	*e*Pn	Pn	**22 46 26.7**	**+1.3**
ISRB				*e*		22 47 19.7	
	comp=Z,99nm,0.4s						
ZKTA	**Zakatala**	**4.31**	**290**	Pn	Pn	**22 46 29.3**	**+2.3**
	SNR=179						
ZKTA				Sn	Sn	**22 47 19.5**	**+3.3**
MAK	**Makhachkala**	**4.32**	**310**	*c i*P	Pn	**22 46 30.5**	**+3.4**
MAK				*e*S	Sb	**22 47 23.8**	**-6.6**
MAK				pmax	pmax		
	comp=Z,1μm,0.7s						
MAK				MLR	MLR		
	comp=Z,2μm,6.0s						
IHRS	**Heris**	**4.33**	**245**	*e*Pn	Pn	**22 46 28.9**	**+1.5**
IHRS				*e*		22 47 20.5	
	comp=Z,99nm,0.4s						
GANJ	**Ganja**	**4.36**	**277**	Pn	Pn	**22 46 28.5**	**+0.8**
	SNR=659						
GANJ				Sn	Sn	**22 47 16.3**	**-1.3**
TEH	**Tehran**	**4.55**	**187**	*e*Pn	Pn	**22 46 31.4**	**+0.9**
IFIR	**Firoozkooh**	**4.66**	**173**	*e*Pn	Pn	**22 46 33.0**	**+0.9**
IMHD	**Mahdasht**	**4.70**	**194**	*e*Pn	Pn	**22 46 33.5**	**+1.0**
IHSH	**Hashtrud**	**4.75**	**233**	*e*Pn	Pn	**22 46 34.5**	**+1.1**
GDB	**GEDABAY**	**4.80**	**277**	Pn	Pn	**22 46 34.4**	**+0.5**
	SNR=60						
GDB				Sn	Sn	**22 47 28.3**	**-0.2**
ORD	**Ordubad**	**4.84**	**256**	Pn	Pn	**22 46 35.8**	**+1.4**
	SNR=133						
ORD				Sn	Sn	**22 47 28.6**	**-0.8**
IHSB	**Hasanabad**	**4.86**	**187**	*e*Pn	Pn	**22 46 35.9**	**+1.2**
ILAS	**Lasjerd**	**4.94**	**171**	*e*Pn	Pn	**22 46 36.9**	**+1.0**
BTLR	**Botlikh**	**4.97**	**301**	*c i*P	Pn	**22 46 39.5**	**+3.4**
ITBZ	**Tabriz**	**4.99**	**248**	*e*Pn	Pn	**22 46 37.5**	**+1.0**
ITBZ				*e*		22 47 46.0	
	comp=Z,99nm,0.5s						
IANJ	**Anjilo**	**5.02**	**162**	*e*Pn	Pn	**22 46 38.3**	**+1.2**
IANJ				*e*		22 47 38.3	
	comp=Z,99nm,0.3s						
SBZ	**Shahbuz**	**5.05**	**262**	Pn	Pn	**22 46 39.4**	**+2.1**
	SNR=146						
SBZ				Sn	Sn	**22 47 35.9**	**+1.1**
QZX	**Qazax, Azerbai**	**5.12**	**281**	Pn	Pn	**22 46 39.3**	**+1.2**
	SNR=27						
QZX				Sn	Sn	**22 47 36.4**	**+0.3**
IMRD	**Marand**	**5.13**	**254**	*e*Pn	Pn	**22 46 40.4**	**+2.0**
IRAZ	**Razeghan**	**5.13**	**199**	*e*Pn	Pn	**22 46 38.7**	**+0.2**
NAX	**Nakhchivan**	**5.15**	**260**	Pn	Pn	**22 46 40.9**	**+2.3**
	SNR=19						
NAX				Sn	Sn	**22 47 38.3**	**+1.3**
GEYT	**Alibeck**	**5.29**	**114**	Pn	Pn	**22 46 39.4**	**-1.1**
	comp=Z,17nm,0.3s,baz=280,slow=17,SNR=192						
GEYT				Sn	Sn	**22 47 35.0**	**-5.4**
	comp=Z,49nm,0.3s,baz=274,slow=22,SNR=4.8						
GEYT				Lg	Lg	22 48 12.6	
	comp=Z,92nm,0.3s,baz=296,slow=27,SNR=4.0						
GEYT				LR	LR	22 49 13.8	
	comp=Z,3μm,21.3s,baz=65,slow=45						
GEYT	**Alibeck**	**5.29**	**114**		Pn	**22 46 40.2**	**-0.3**
GEYT				Sn	Sn	**22 47 38.7**	**-1.7**
GYA0B	**ALIBECK ARRAY**	**5.29**	**114**	‖ P	Pn	**22 46 39.8**	**-0.7**
GYA0B				⇑ S	Sn	**22 47 45.1**	**+4.7**
GYA0B	**ALIBECK ARRAY**	**5.29**	**114**		Pn	**22 46 40.1**	**-0.4**
GYA0B					Sn	**22 47 38.8**	**-1.6**
ASHT	**Ashkhabad**	**5.47**	**113**	P	Pn	**22 46 42.7**	**-0.2**
ASHT	**Ashkhabad**	**5.47**	**113**	Pn	Pn	**22 46 42.7**	**-0.2**
GROC	**Groznyy**	**5.50**	**304**	*e*P	Pn	**22 46 46.2**	**+2.9**
GROC				*e*		22 47 52.4	
GROC				pmax	pmax		
	comp=Z,441nm,0.5s						
GROC				pmax	pmax		
	comp=Z,260nm,0.5s						
GROC				smax	smax		
	comp=N,970nm,0.7s						
GROC				smax	smax		
	comp=E,4μm,0.8s						
GROC				smax	smax		
	comp=E,5μm,0.9s						
GROC				MLR	MLR		
	comp=Z,79nm,2.0s						
HYR	**Heyderabad**	**5.53**	**267**	Pn	Pn	**22 46 46.4**	**+2.5**
	SNR=37						
HYR				Sn	Sn	**22 47 47.9**	**+1.5**
GNI	**Garni**	**5.57**	**271**	Pn	Pn	**22 46 47.1**	**+2.5**
	comp=Z,19nm,0.3s,baz=53,slow=1.2,SNR=162						
GNI				Sn	Sn	**22 47 48.2**	**+0.7**
	comp=Z,34nm,0.3s,baz=136,slow=8.9,SNR=4.6						
GNI				LR	LR	22 49 09.7	
	comp=Z,1μm,19.0s,baz=96,slow=41						
GNI	**Garni**	**5.57**	**271**	P	Pn	**22 46 46.8**	**+2.3**
GNI	**Garni**	**5.57**	**271**	*e*P	Pn	**22 46 45.5**	**+1.0**
GNI	**Garni**	**5.57**	**271**	*d i*P	Pn	**22 46 47.0**	**+2.5**
GNI				pmax	pmax		
	comp=Z,265nm,0.7s						
GNI	**Garni**	**5.57**	**271**	Pn	Pn	**22 46 45.5**	**+1.0**
GNI	**Garni**	**5.57**	**271**	P	Pn	**22 46 47.3**	**+2.8**
SBZV	**Sabzevar**	**5.86**	**130**	*e*Pn	Pn	**22 46 48.8**	**+0.3**
HAGD	**Aghdareh**	**5.90**	**204**	*e*Pn	Pn	**22 46 49.5**	**+0.4**
ISFB	**Sefidab**	**5.91**	**178**	*e*Pn	Pn	**22 46 49.8**	**+0.7**
TASB	**TASBURUN-IGDIR**	**5.97**	**270**	*e*P	Pn	**22 46 50.2**	**+0.3**
MAHB	**Mahabad**	**6.06**	**237**	*e*Pn	Pn	**22 46 53.4**	**+2.2**
IALM	**Almabolaq**	**6.21**	**211**	*e*Pn	Pn	**22 46 54.7**	**+1.4**
KRSH	**Karshahi**	**6.29**	**179**	*e*Pn	Pn	**22 46 55.3**	**+0.9**
CLDR	**Caldiran**	**6.35**	**262**	*e*P	Pn	**22 46 55.4**	**+0.2**
IAKL	**Akhelmad**	**6.43**	**123**	*e*	Sb	**22 48 30.4**	**-1.0**
	comp=E,99nm,0.4s						
QAM	**Ghamsar**	**6.51**	**184**	*e*Pn	Pn	**22 46 58.6**	**+1.1**
AKH	**Akhalkalaki**	**6.56**	**283**	⇑P	Pn	**22 47 00.2**	**+2.1**
AKH	**Akhalkalaki**	**6.56**	**283**	*e*P	Pn	**22 46 57.9**	**-0.2**
ZEI	**Tsey**	**6.59**	**295**	*e*P	Pn	**22 46 59.4**	**+0.9**
ZEI				pmax	pmax		
	comp=Z,94nm,0.6s						
HSAM	**Samen**	**6.63**	**205**	*e*Pn	Pn	**22 47 00.4**	**+1.2**
IBZA	**Bozab**	**6.67**	**211**	*e*Pn	Pn	**22 47 02.0**	**+2.3**
IPAY	**Payeh**	**6.68**	**123**	*e*Pn	Pn	**22 47 00.2**	**+0.4**
KARS	**Kars**	**6.83**	**276**	*e*P	Pn	**22 47 01.7**	**0.0**
IKRD	**Kardeh**	**6.83**	**118**	*e*Pn	Pn	**22 47 01.8**	**-0.1**
VANB	**Van**	**6.89**	**259**	*e*P	Pn	**22 47 02.5**	**0.0**
IKLH	**Kolahrood**	**6.95**	**183**	*e*Pn	Pn	**22 47 04.8**	**+1.3**
AGRB	**Hanur-Agry**	**6.97**	**267**	*e*P	Pn	**22 47 04.1**	**+0.3**
KER	**Kermanshah**	**7.05**	**215**	*e*Pn	Pn	**22 47 05.9**	**+1.2**
NCK	**Nalchik**	**7.06**	**300**	*de*P	Pn	**22 47 06.8**	**+2.0**
NCK				pmax	pmax		
	comp=Z,75nm,0.9s						
IDHR	**Dehrash**	**7.14**	**221**	*e*Pn	Pn	**22 47 07.9**	**+1.8**
IDOB	**Doab**	**7.16**	**207**	*e*Pn	Pn	**22 47 08.6**	**+2.2**
KCHF	**Cheshme Sefid,**	**7.18**	**215**	*e*Pn	Pn	**22 47 08.0**	**+1.4**
ANAR	**Anarak**	**7.20**	**168**	*e*Pn	Pn	**22 47 07.9**	**+1.1**
GEVA	**Gevas**	**7.22**	**257**		Pn	**22 47 08.9**	**+1.7**
CUKT	**Cukurca**	**7.23**	**248**	*e*P	Pn	**22 47 07.4**	**+0.1**
AKDM	**Akdamar-Van**	**7.27**	**257**	*e*P	Pn	**22 47 08.1**	**+0.2**
TNSJ	**Nastanj**	**7.28**	**148**	*e*Pn	Pn	**22 47 08.7**	**+0.7**
IKMR	**Kamar-syah**	**7.34**	**205**	*e*Pn	Pn	**22 47 10.9**	**+2.3**
IGHG	**Ghaleghazi**	**7.35**	**218**	*e*Pn	Pn	**22 47 10.8**	**+1.8**
IZEF	**Zefreh**	**7.37**	**178**	*e*Pn	Pn	**22 47 10.1**	**+0.9**
SENK	**Senkaya-Erzuru**	**7.38**	**275**	*e*P	Pn	**22 47 09.3**	**-0.1**
IKFM	**Kafar-mosalman**	**7.52**	**208**	*e*Pn	Pn	**22 47 12.8**	**+1.8**
NEY	**Neytrino**	**7.56**	**296**	‖ *e*P	Pn	**22 47 15.1**	**+3.3**
KBZ	**Khabaz**	**7.62**	**300**	Pn	Pn	**22 47 13.1**	**+0.7**
	comp=Z,3.2nm,0.3s,baz=108,slow=4.5,SNR=75						
KBZ				Sn	Sn	**22 48 35.4**	**-2.3**
	comp=Z,8.8nm,0.3s,baz=58,slow=14,SNR=1.9						
KBZ				LR	LR	22 50 35.8	
	comp=Z,818nm,21.4s,baz=130,slow=41						
PYA1	**Pyatigorsk**	**7.63**	**303**	*ce*P	Pn	**22 47 12.9**	**+0.2**
SHA1	**Shidzhatmaz**	**7.78**	**299**	*ce*P	Pn	**22 47 14.9**	**0.0**
KOPR	**Koprukoy-ERZUR**	**7.79**	**271**	*e*P	Pn	**22 47 14.7**	**-0.3**
KVAR	**Kislovodsk Arr**	**7.85**	**301**	Pn	Pn	**22 47 17.0**	**+1.3**
	baz=120,slow=20,SNR=18						
KVAR				Sn	Sn	**22 48 43.6**	**+0.2**
	baz=219,slow=10.0,SNR=6.1						
KVAR				LR	LR	22 50 46.4	
	comp=Z,2μm,19.1s,baz=78,slow=41						
CHVG	**Ch'k'valeri**	**7.85**	**291**	*e*P	Pn	22 47 08.8	-6.8
KIV	**Kislovodsk**	**7.85**	**301**	*i* P	Pn	**22 47 16.7**	**+1.0**
	SNR=85						
KIV	**Kislovodsk**	**7.85**	**301**	*e*P	Pn	**22 47 14.8**	**-0.9**
KIV	**Kislovodsk**	**7.85**	**301**	*e*P	Pn	**22 47 15.9**	**+0.2**
KIV				*e*S	Sn	**22 48 45.1**	**+1.5**
KIV				pmax	pmax		
	comp=Z,410nm,0.9s						
KIV				MLR	MLR		
	comp=Z,558nm,10.0s						
KIV	**Kislovodsk**	**7.85**	**301**	Pn	Pn	**22 47 16.8**	**+1.0**
KIV				Sn	Sn	**22 48 44.7**	**+1.1**
KIV	**Kislovodsk**	**7.85**	**301**	P	Pn	**22 47 16.8**	**+1.0**
GURO	**Guroymak-BITLI**	**7.92**	**261**	*e*P	Pn	**22 47 16.6**	**-0.1**
**

comp=Z,872nm,20.3s,baz=169,slow=44
BELG Belogornoye 12.50 347 *de*P **Pn 22 48 18.5 -0.6**
BELG pmax pmax
comp=Z,97nm,1.0s
BELG MLR MLR
comp=Z,57nm,10.0s
DIKM Dikmen 12.75 282 ⇑P **Pn 22 48 25.1 +2.5**
VRH Novokhopyorsk 13.07 330 *e*P **Pn 22 48 27.8 +0.8**
VRH *e*S **Sn 22 50 44.3 -6.8**
VRH pmax pmax
comp=Z,150nm,0.5s
VRH smax smax
comp=E,10μm,2.0s
CHM Chimkent 13.38 75 *e*P **Pn 22 48 29.8 -1.6**
comp=E,10nm,0.9s,baz=76
CHM Chimkent 13.38 75 *e*P **Pn 22 48 29.7 -1.6**
CHM pmax pmax
comp=Z,10.0nm,0.9s
BRLS Boroldday 13.61 72 *e*P **Pn 22 48 31.4 -3.1**
baz=74
BRLS Boroldday 13.61 72 *e*P **Pn 22 48 31.3 -3.1**
BZK Bozkurt 13.69 283 ⇓P **Pn 22 48 38.9 +3.4**
IUG luzhnay 13.69 76 *e*P **Pn 22 48 34.0 -1.6**
baz=76
IUG luzhnay 13.69 76 *e*P **Pn 22 48 34.0 -1.6**
VORD Divnogorie 13.89 325 *e*P **Pn 22 48 37.2 -1.0**
VORD *e*S **Sn 22 51 09.1 -2.2**
VORD pmax pmax
comp=Z,80nm,0.7s
VORD smax smax
comp=N,2μm,0.8s
VORD MLR MLR
comp=Z,170nm,4.0s
ILGA Ilgaz 13.92 279 Pn **Pn 22 48 39.5 +0.6**
SIM Simferopol' 13.98 295 *c i*P **Pn 22 48 40.1 +0.6**
SIM *e*S **Sn 22 51 20.1 +6.6**
SIM pmax pmax
comp=Z,151nm,0.7s
BR131 Keskin Array S 14.10 274 *d i*P **Pn 22 48 43.1 +1.8**
BR131 Keskin Array S 14.10 274 **Pn 22 48 42.4 +1.1**
BRTR Keskin Array B 14.10 274 Pn **Pn 22 48 43.2 +1.9**
comp=Z,0.5nm,0.3s,baz=94,slow=12,SNR=80
BRTR LR LR 22 55 28.1
comp=Z,1μm,21.7s,baz=100,slow=43
BRTR Keskin Array B 14.10 274 P **Pn 22 48 42.1 +0.8**
BRTR Keskin Array B 14.10 274 Pn **Pn 22 48 42.1 +0.8**
KK31 Karatay Array 14.11 72 P **Pn 22 48 40.3 -0.9**
comp=Z,156nm,0.7s,baz=258,slow=17,SNR=1110
KK31 ⇑S **Sn 22 51 24.9 +8.3**
comp=Z,270nm,0.7s,baz=269,slow=25,SNR=8.0
KK31 Karatay Array 14.11 72 P **Pn 22 48 39.7 -1.5**
KK31 Karatay Array 14.11 72 Pn **Pn 22 48 39.7 -1.5**
KKAR Karatay Array 14.11 72 P **Pn 22 48 40.2 -1.0**
KKAR Karatay Array 14.11 72 Pn **Pn 22 48 40.2 -1.0**
KKAR Karatay Array 14.11 72 **Pn 22 48 40.1 -1.0**
VSR Storozhevoye 14.13 325 *e*P **Pn 22 48 40.5 -0.9**
VSR pmax pmax
comp=Z,300nm,0.7s
VSR MLR MLR
comp=Z,320nm,4.0s
VORR Voronezh 14.44 326 *e*P **Pn 22 48 46.0 +0.3**
VORR *e*S **Sn 22 51 22.0 -2.6**
VORR pmax pmax
comp=Z,350nm,0.6s
SHME Shamm 14.59 165 P **Pn 22 48 48.1 +0.2**
SHME Shamm 14.59 165 P **Pn 22 48 48.6 +0.7**
SHME P **Pn 22 48 48.6 +0.7**
KBL Kabul 14.68 108 P **Pn 22 48 48.4 -0.9**
KBL Kabul 14.68 108 Pn **Pn 22 48 48.4 -0.9**
DZA Taraz 14.69 73 *e*P **Pn 22 48 47.5 -1.7**
comp=Z,128nm,0.7s,baz=74
DZA Taraz 14.69 73 *e*P **Pn 22 48 47.4 -1.7**
DZA pmax pmax
comp=Z,128nm,0.7s
BR231 Keskin MP Arra 14.75 275 **Pn 22 48 50.4 +0.4**
BANOM Banah 14.75 165 *i* P **Pn 22 48 50.1 +0.1**
SNR=7.6
BANOM Banah 14.75 165 P **Pn 22 48 49.0 -1.1**
SNR=7.2
BANOM P **Pn 22 48 49.0 -1.1**
SNR=7.2
MMAI Mount Meron Ar 15.16 247 Pn **Pn 22 48 56.0 +0.4**
comp=Z,0.2nm,0.3s,baz=79,slow=14,SNR=7.4
MMAI LR LR 22 55 48.6
comp=Z,992nm,21.8s,baz=60,slow=42
LPSR Galich'ya Gora 15.25 328 *e*P **Pn 22 48 55.3 -1.2**
LPSR pmax pmax
comp=Z,230nm,0.7s
MASF Masafi 15.26 166 P **Pn 22 48 56.3 -0.5**
MASF P **Pn 22 48 56.3 -0.5**
MSFE Esma-Masafi 15.27 166 *i* P **Pn 22 48 56.1 -0.9**
SNR=9.8
MDH Madha 15.35 165 P **Pn 22 48 56.7 -1.4**
MDH Madha 15.35 165 P **Pn 22 48 57.0 -1.0**
MDH P **Pn 22 48 57.0 -1.0**
NAZ Nazwa, Dubai 15.54 168 P **Pn 22 48 59.8 -0.7**
KDZE Karadeniz Ereo 15.62 281 ⇓P **P 22 49 03.9 -1.4**
UOSS Minazif 15.68 166 *i* P **Pn 22 49 00.5 -1.8**
SNR=9.4
UOSS Minazif 15.68 166 Pn **Pn 22 48 59.8 -2.5**
UOSS Minazif 15.68 166 P **Pn 22 49 00.8 -1.5**
UOSS P **Pn 22 49 00.8 -1.5**
CSS Mathiatis 15.72 256 P **Pn 22 49 03.1 +0.4**
FAQ Al Faqa, Dubai 15.77 168 P **Pn 22 49 02.1 -1.3**
FAQ Al Faqa, Dubai 15.77 168 P **Pn 22 49 02.5 -0.9**
FAQ P **Pn 22 49 02.5 -0.9**
HATD Hatta, Dubai 15.78 166 *i* P **Pn 22 49 02.4 -1.2**
SNR=6.9
HATD Hatta, Dubai 15.78 166 P **Pn 22 49 03.0 -0.7**
SNR=7.0
HATD P **Pn 22 49 03.0 -0.7**
SNR=7.0
ASUD Al Ashush, Dub 15.85 169 *i* P **Pn 22 49 04.0 -0.4**
SNR=6.9
ASUD Al Ashush, Dub 15.85 169 P **Pn 22 49 04.9 +0.5**
MDUB Mudurnu 15.87 277 Pn **Pn 22 49 03.9 -0.8**
ASHO Ashiyiah 15.91 166 *i* P **Pn 22 49 03.7 -1.5**
SNR=19
ASHO Ashiyiah 15.91 166 P **Pn 22 49 04.1 -1.2**
ASHO P **Pn 22 49 04.1 -1.2**
AML Almayashu 16.42 76 P **Pn 22 49 11.6 -0.4**
SNR=52
ALNE Al Ain 16.47 168 *i* P **Pn 22 49 11.0 -1.4**
SNR=11
ALNE Al Ain 16.47 168 P **Pn 22 49 11.4 -1.0**
SNR=8.4
ALNE P **Pn 22 49 11.4 -1.0**
SNR=8.4
EKS2 Erkin-Say 16.48 75 P **Pn 22 49 11.9 -0.6**
SNR=47
SOHO SOHO 16.53 165 P **Pn 22 49 13.8 +0.7**
SOHO SOHO 16.53 165 P **Pn 22 49 14.0 +0.9**
ARU Arti 16.73 13 Pn **Pn 22 49 12.1 -3.4**
comp=Z,0.1nm,0.3s,baz=202,slow=7.3,SNR=84
ARU Sn Sn 22 52 04.1 -16
comp=Z,0.0nm,0.3s,baz=209,slow=21,SNR=2.1
ARU LR LR 22 57 16.4
comp=Z,1μm,19.4s,baz=194,slow=43
ARU Arti 16.73 13 *c i*P **Pn 22 49 12.5 -2.9**
ARU S **Sn 22 52 15.0 -5.2**
ARU pmax pmax
comp=Z,277nm,0.7s
ARU MLR MLR
comp=Z,1μm,16.0s
ARU Arti 16.73 13 Pn **Pn 22 49 12.2 -3.3**
ISP Isparta 16.87 269 P **Pn 22 49 17.5 0.0**
ISP pmax pmax
comp=Z,38nm,0.9s
ISP Isparta 16.87 269 Pn **Pn 22 49 17.5 0.0**
AAK Ala-Archa 17.01 75 Pn **Pn 22 49 19.1 -0.1**
comp=Z,4.5nm,0.3s,baz=252,slow=7.7,SNR=49
AAK Sn Sn 22 52 15.4 -12
comp=Z,2.2nm,0.3s,baz=243,slow=13,SNR=1.5
AAK LR LR 22 56 50.6
comp=Z,1μm,19.0s,baz=282,slow=41
AAK Ala-Archa 17.01 75 P **Pn 22 49 19.4 +0.2**
SNR=38
AAK Ala-Archa 17.01 75 *i* P **P 22 49 20.3 -0.6**
SNR=17
AAK Ala-Archa 17.01 75 ⇓P **Pn 22 49 19.1 -0.1**
comp=Z,70nm,0.8s
AAK ⇓S **S 22 52 33.3 -3.3**
comp=Z,145nm,1.2s
AAK Ala-Archa 17.01 75 *de*P **Pn 22 49 19.6 +0.4**
AAK pmax pmax
comp=Z,204nm,0.8s
AAK Ala-Archa 17.01 75 P **Pn 22 49 18.1 -1.1**
UCH Uchtor 17.02 76 P **Pn 22 49 19.9 +0.2**
SNR=50
CEP Cherat 17.12 106 P **Pn 22 49 20.8 +0.2**
CEP S **S 22 52 38.0 -0.9**
SGDS Sogindy 17.13 72 *e*P **Pn 22 49 19.2 -1.5**
baz=72
SGDS Sogindy 17.13 72 *e*P **Pn 22 49 19.2 -1.5**
CHMS Chumysh 17.20 73 P **Pn 22 49 21.7 +0.2**
SNR=51
ARQ Araqi 17.31 166 P **Pn 22 49 22.1 -0.9**
SNR=11
ARQ P **Pn 22 49 22.1 -0.9**
SNR=11
KBK Karagaybulak 17.34 75 P **P 22 49 26.3 +1.7**
SNR=108
SVE Sverdlovsk 17.50 16 *ce*P **Pn 22 49 23.2 -1.8**
SVE *e*S **Sn 22 52 29.8 -9.0**
SVE pmax pmax
comp=Z,531nm,1.1s
THW Thamme Wali 17.50 109 P **Pn 22 49 25.0 -0.3**
EIL Elat 17.51 238 P **P 22 49 28.0 +1.8**
comp=Z,0.5nm,0.3s,baz=39,slow=7.9,SNR=7.9
RAYN Ar Rayn 17.58 200 *i* P **Pn 22 49 24.0 -2.3**
SNR=42
RAYN Ar Rayn 17.58 200 P **Pn 22 49 24.3 -2.0**
RAYN pmax pmax
comp=Z,73nm,1.1s
RAYN Ar Rayn 17.58 200 Pn **Pn 22 49 24.3 -2.0**
ELL Elmali 17.65 266 P **P 22 49 27.8 -0.1**
ELL pmax pmax
comp=Z,310nm,0.7s
ELL Elmali 17.65 266 **P 22 49 27.8 -0.1**
TLCR 17.72 294 ⇑P **Pn 22 49 27.7 -0.1**
MANR Mangalia 17.75 289 ⇑P **P 22 49 29.0 +0.3**
TKM2 Tokmak 2 17.82 74 P **P 22 49 29.7 -0.2**
SNR=171
TKM2 Tokmak 2 17.82 74 ⇑P **Pn 22 49 29.2 -0.1**
comp=Z,205nm,1.0s
TKM2 ⇓S **S 22 52 54.7 +1.4**
comp=Z,139nm,1.2s
BRVK Borovoye 17.84 38 ⇑P **Pn 22 49 27.3 -1.9**
comp=Z,280nm,0.7s
BRVK ⇓S **S 22 52 54.3 +1.2**
comp=Z,202nm,1.2s
BRVK Borovoye 17.84 38 *c i*P **Pn 22 49 27.5 -1.8**
BRVK pmax pmax
comp=Z,521nm,1.3s
BRVK Borovoye 17.84 38 Pn **Pn 22 49 27.4 -1.9**
KALB Balgarevo 17.85 288 ⇑P **P 22 49 29.8 -0.1**
BVAR Borovoye Array 17.87 38 P **Pn 22 49 27.4 -2.3**
comp=Z,8.4nm,0.3s,baz=225,slow=6.1,SNR=158
BVAR S Sn 22 52 36.0 -12
comp=Z,5.9nm,0.3s,baz=215,slow=30,SNR=5.6
WSAR Wadi Sarin 17.88 160 P **Pn 22 49 28.4 -1.6**
comp=Z,1.0nm,0.3s,baz=354,slow=8.1,SNR=11
WSAR LR LR 22 58 09.0
comp=Z,243nm,19.1s,baz=10,slow=43
MFTR Murfatlar 17.89 290 ⇓P **P 22 49 30.4 0.0**
SMDO Samad 17.90 162 P **P 22 49 30.9 +0.1**
TIRR Tirgusor 17.92 291 P **Pn 22 49 29.1 -1.2**
TIRR pmax pmax
comp=Z,121nm,0.8s
TIRR Tirgusor 17.92 291 Pn **Pn 22 49 29.1 -1.2**
TIRR IAmb IAmb 22 49 33.4
comp=Z,121nm,0.8s
TPGR Topolog 17.96 293 ⇑P **P 22 49 31.1 -0.1**
BSY Bisya 18.02 164 P **P 22 49 31.7 -0.2**
BSY P **P 22 49 31.7 -0.2**
AKAS Kas 18.05 264 **P 22 49 32.5 +0.2**
KIS Kishinev 18.05 300 ⇓ *i*P **Pn 22 49 30.2 -1.7**
comp=Z,390nm,0.7s
KIS *e*S **Sn 22 52 49.0 -3.3**
comp=Z,370nm,1.6s
KIS Kishinev 18.05 300 ⇑P **Pn 22 49 31.0 -1.0**
KIS Kishinev 18.05 300 *d i*P **Pn 22 49 30.2 -1.7**
KIS *e*S **Sn 22 52 49.0 -3.3**
KIS pmax pmax
comp=Z,390nm,0.7s
KIS smax smax
comp=N,370nm,1.6s
KIS smax smax
comp=E,350nm,1.8s
OBN Obninsk 18.07 330 P **Pn 22 49 30.5 -1.5**
comp=E,2.9nm,0.3s,baz=98,slow=7.1,SNR=16
OBN S Sn 22 52 41.6 -11
comp=E,1.9nm,0.3s,baz=193,slow=22,SNR=2.3
OBN LR LR 22 57 36.5
comp=E,203nm,18.9s,baz=146,slow=41
OBN Obninsk 18.07 330 ⇓P **Pn 22 49 30.2 -1.8**
OBN Obninsk 18.07 330 *i* P **Pn 22 49 30.5 -1.5**
OBN *i* S **Sn 22 52 49.4 -3.0**
OBN pmax pmax
comp=Z,62nm,1.6s
OBN MLR MLR
comp=Z,722nm,18.0s
OBN Obninsk 18.07 330 **Pn 22 49 32.1 +0.1**
OBN IAmb IAmb 22 49 46.0
comp=Z,131nm,1.0s
MOS Moscow 18.17 333 *e*P **Pn 22 49 31.5 -1.7**
MOS *e*S Sn 22 52 42.0 -13
MOS pmax pmax
comp=Z,234nm,0.8s
MOS MLR MLR
comp=Z,400nm,15.0s
CVDA Cernavoda 18.18 291 ⇓P **Pn 22 49 33.5 0.0**
TLBR Topalu 18.19 291 ⇑P **Pn 22 49 33.4 -0.2**
NIL Nilore 18.19 105 P **Pn 22 49 32.8 -0.9**
NIL pmax pmax
comp=Z,117nm,0.9s
NIL Nilore 18.19 105 **Pn 22 49 32.8 -0.9**
NIL IAmb IAmb 22 49 37.6
comp=Z,117nm,0.8s
CFR Carcaliu 18.19 293 ⇓P **Pn 22 49 33.3 -0.4**
MANT Manisa 18.22 272 **P 22 49 34.4 +0.2**
MANT IAmb IAmb 22 49 36.2
comp=Z,158nm,1.1s
HARR Harsova 18.29 292 ⇑P **Pn 22 49 35.1 +0.4**
ULHL Ulahol 18.31 76 P **Pn 22 49 36.4 +1.1**
SNR=134
ICOR Ion Corvin 18.33 290 ⇑P **Pn 22 49 36.0 +0.7**
KSH Kashi 18.39 85 P **P 22 49 33.6 -2.5**
KSH PP **PnPn 22 49 51.8 +3.9**
KSH S **Sn 22 52 50.5 -10**
KSH pmax pmax
comp=Z,59nm,0.7s
KSH LR LR
comp=Z,1μm,4.4s
KSH LR LR
comp=Z,4μm,21.0s
KUU Kurty 18.39 71 *e*P **P 22 49 35.0 -0.9**
baz=71
KUU Kurty 18.39 71 *e*P **P 22 49 35.0 -0.9**
KIRV Kirov 18.41 356 P **P 22 49 35.8 -0.2**
comp=Z,113nm,0.3s,baz=170,slow=3.1,SNR=57
KIRV S Sn 22 52 49.0 -12
comp=Z,4.2nm,0.3s,baz=176,slow=20,SNR=1.2
KIRV LR LR 22 58 05.8
comp=Z,791nm,20.3s,baz=179,slow=42
KIRV Kirov 18.41 356 *de*P **P 22 49 34.2 -1.7**
VARL Varlezi 18.50 296 ⇑P **P 22 49 37.3 +0.3**
WBK Wadi Bani Khal 18.57 159 P **Pn 22 49 38.8 +0.4**
JMDO Jabal Madar 18.58 162 P **Pn 22 49 38.9 +0.4**
JMDO P **Pn 22 49 38.9 +0.4**
VASR Vaslui 18.67 298 ⇓P **Pn 22 49 39.7 +0.3**
BIR Birlad 18.71 297 ⇓P **Pn 22 49 41.4 +1.5**
BIR Birlad 18.71 297 ⇓P **Pn 22 49 41.4 +1.5**
AAA Alma-Ata 18.79 73 *e*P **P 22 49 40.3 -0.1**
baz=73
AAA Alma-Ata 18.79 73 *e*P **P 22 49 40.3 -0.1**
GHRR 18.82 296 ⇓P **Pn 22 49 42.3 +1.0**
KNDC Almaty 18.83 73 ⇓P **Pn 22 49 42.1 +0.7**
comp=Z,128nm,0.8s
MDOK Medeo 18.89 73 *e*P **P 22 49 40.8 -0.8**
baz=73
MDOK Medeo 18.89 73 ⇑P **Pn 22 49 41.8 -0.5**
comp=Z,105nm,1.3s
MDOK ⇓S **S 22 53 20.2 +5.7**
comp=Z,156nm,0.9s
MDOK Medeo 18.89 73 *e*P **P 22 49 40.8 -0.8**
IAS Iasi 18.93 300 ⇑P **P 22 49 41.6 -0.2**
AKASG Malin Array Be 19.01 311 P **P 22 49 41.6 -1.0**
comp=Z,34nm,0.3s,baz=101,slow=10.0,SNR=115
AKASG S **Sn 22 53 06.6 -8.7**
baz=100,slow=24,SNR=1.7
AKASG LR LR 22 59 00.4
comp=Z,450nm,18.2s,baz=105,slow=43
AKASG Malin Array Be 19.01 311 *ce*P **P 22 49 41.5 -1.1**
AKASG pmax pmax
comp=Z,40nm,0.5s
AKASG Malin Array Be 19.01 311 P **P 22 49 41.1 -1.5**
AKBB Malin Array Si 19.01 311 *de*P **P 22 49 41.2 -1.4**
AKBB Malin Array Si 19.01 311 P **P 22 49 42.0 -0.6**
AKBB IAmb IAmb 22 49 55.9
comp=Z,183nm,0.9s
JLN Jalan Bani Buh 19.12 159 P **Pn 22 49 44.8 -0.2**
JLN P **Pn 22 49 44.8 -0.2**
RAZG Razgrad 19.24 288 ⇓P **Pn 22 49 47.3 +0.8**
VRI Vrincioaia 19.27 295 ⇑P **Pn 22 49 46.7 0.0**
ISR Istrita 19.31 293 ⇑P **Pn 22 49 47.6 +0.4**
PLOR Plostina 19.32 295 ⇑P **Pn 22 49 47.5 +0.2**
TESR Tescani 19.42 297 ⇑P **P 22 49 47.8 +0.7**
NEHR Nehoiu 19.51 294 ⇓P **Pn 22 49 49.6 -0.1**
SECR 19.64 293 ⇓P **Pn 22 49 51.5 +0.4**
ALN Alexandroupoli 19.72 280 P **P 22 49 51.0 +0.5**
ALN pmax pmax
comp=Z,55nm,0.9s
ALN Alexandroupoli 19.72 280 P **P 22 49 51.0 +0.5**
MLR Muntele Rosu 19.77 294 P **Pn 22 49 52.7 0.0**
comp=Z,2.7nm,0.3s,baz=133,slow=3.0,SNR=90
MLR S **S 22 53 31.6 -0.6**
baz=144,slow=18,SNR=1.0
MLR Muntele Rosu 19.77 294 ⇓P **Pn 22 49 53.0 +0.3**
MLR Muntele Rosu 19.77 294 P **P 22 49 51.6 +0.5**
MLR pmax pmax
comp=Z,129nm,1.0s
MLR Muntele Rosu 19.77 294 P **P 22 49 51.6 +0.5**
MLR IAmb IAmb 22 49 56.0
comp=Z,129nm,1.0s
PRAR RASCA 19.86 299 ⇓P **P 22 49 52.1 +0.1**
BIZ Bicaz 19.86 298 ⇑P **P 22 49 52.5 +0.5**
MHTO MHTO 19.88 163 P **P 22 49 52.6 +0.3**
MHTO P **P 22 49 52.6 +0.3**
SATY Saty 19.88 73 *e*P **P 22 49 51.9 -0.5**
baz=74
SATY Saty 19.88 73 *e*P **P 22 49 51.9 -0.5**
TDK Taldyqorghan 19.94 68 *e*P **P 22 49 52.4 -0.5**
comp=Z,120nm,0.8s,baz=68
TDK Taldyqorghan 19.94 68 *e*P **P 22 49 52.4 -0.5**
TDK pmax pmax
comp=Z,121nm,0.8s
ZIMR 20.07 288 ⇑P Pn 22 49 55.8 -0.4
KPKS Kokpek 20.08 72 *e*P **P 22 49 53.8 -0.7**
baz=72
KPKS Kokpek 20.08 72 *e*P **P 22 49 53.8 -0.7**
KARP Karpathos 20.15 264 P Pn 22 49 56.3 -0.9
COPA Copaceanca 20.19 290 ⇑P Pn 22 49 57.2 -0.4
DOPR Dopca 20.21 295 ⇑P Pn 22 49 57.2 -0.6
UZB Uzynbulak 20.33 73 *e*P **P 22 49 57.7 +0.4**
baz=73
UZB Uzynbulak 20.33 73 *e*P **P 22 49 57.7 +0.4**
MTUR Matau 20.36 293 ⇑P Pn 22 49 59.6 -0.1
VOIR 20.39 294 P Pn 22 49 59.4 -0.6
STFAR Stefanesti-Arg 20.41 292 P Pn 22 50 00.1 -0.1
BURAR Bucovina Array 20.58 300 P **P 22 50 00.5 +0.6**
BUR08 Bucovina Ar. S 20.60 300 P **P 22 50 00.5 +0.4**
BUR08 IAmb IAmb 22 50 01.5
comp=Z,105nm,0.7s
PLVB Pleven 20.62 288 ⇓P Pn 22 50 02.1 -0.5
SHLS Shalkode 20.65 73 *e*P Pn 22 50 03.6 +0.4
comp=Z,48nm,0.7s,baz=73
SHLS Shalkode 20.65 73 *e*P Pn 22 50 03.5 +0.3
SHLS pmax pmax
comp=Z,48nm,0.7s
PDGK Podgornoye 20.67 72 ⇑P **P 22 50 01.1 +0.2**
comp=Z,87nm,0.8s
PDGK ⇑S Sn 22 53 58.3 +2.6
comp=Z,70nm,0.8s
ARR Arges 20.67 293 P Pn 22 50 02.7 -0.7
VLAD Vladila 20.77 289 ⇑P Pn 22 50 03.4 -1.0
APE Apeiranthos 20.90 270 ⇓P Pn 22 50 05.0 -1.0
APE Apeiranthos 20.90 270 *de*P **P 22 50 04.3 +0.9**
APE pmax pmax
comp=Z,89nm,0.9s
MDB Medias 20.92 295 ⇑P Pn 22 50 05.0 -1.1
ARCR ARCALIA 21.07 298 ⇑P **P 22 50 06.1 +1.1**
SANT Santorini 21.17 268 ⇑P **P 22 50 06.9 +0.6**
SANT Santorini 21.17 268 P **P 22 50 05.7 -0.6**
SANT IAmb IAmb 22 50 11.2
comp=Z,95nm,1.1s
KURBB Kurchatov Arra 21.18 52 P **P 22 50 07.2 +1.0**
comp=Z,172nm,0.9s,baz=257,slow=11,SNR=247
KURBB S **S 22 53 52.5 -7.4**
comp=Z,6.2nm,0.8s,baz=245,slow=31,SNR=2.4
KURBB Kurchatov Arra 21.18 52 ⇑P **P 22 50 07.4 +1.2**
comp=Z,398nm,0.9s
KURK Kurchatov 21.26 52 P **P 22 50 07.2 +0.1**
LOT Lotru 21.29 293 ⇑P **P 22 50 08.4 +0.9**
MNK Minsk 21.52 319 ⇑ *e*P **P 22 50 09.0 -0.8**
MNK *e* 22 50 50.0
MNK *e*S **S 22 53 59.0 -7.7**
MNK *e* 22 54 11.0
MNK pmax pmax
comp=Z,390nm,1.0s
MNK Minsk 21.52 319 *i* P **P 22 50 08.3 -1.5**
comp=E,19nm,0.9s
MNK *i* P **P 22 50 08.3 -1.5**
comp=N,58nm,0.9s
MNK *i* P **P 22 50 08.3 -1.5**
comp=Z,147nm,0.9s
MNK *i* PP **PnPn 22 50 28.6 -2.0**
MNK *i* S **S 22 54 06.1 -0.6**
MNK *i* PcP **PcP 22 54 10.4 -1.0**
MNK *i* SS **SnSn 22 54 32.7 +1.8**
MNK *i* LQ LQ 22 57 02.1
MNK *i* LR LR 22 57 37.9
MNK *i* LRM MLR 22 59 35.9
comp=Z,167nm,15.9s
MNK *i* LRM MLR 22 59 39.3
comp=N,275nm,15.9s
MNK *i* LRM MLR 22 59 42.5
comp=E,17nm,15.9s
CJR Cluj-Napoca 21.53 297 ⇓P **P 22 50 10.8 +0.8**
BHK Bhakra 21.61 106 *e*P **P 22 50 11.2 +0.2**
VTS Vitosha 21.66 286 ⇑P **P 22 50 13.4 +1.8**
VTS Vitosha 21.66 286 P **P 22 50 11.7 +0.1**
VTS pmax pmax
comp=Z,38nm,0.7s
VTS Vitosha 21.66 286 P **P 22 50 11.7 +0.1**
BMR Baia Mare 21.73 299 ⇓P **P 22 50 13.2 +1.0**
BMR Baia Mare 21.73 299 ⇓P **P 22 50 13.2 +1.0**
PRGR Permogore 21.75 352 *d i*P **P 22 50 12.4 +0.2**
PRGR S **S 22 54 11.9 +1.0**
PRGR pmax pmax
comp=Z,129nm,0.6s
PUNG Punghina 21.84 290 ⇑P **P 22 50 14.7 +1.4**
LVV L'vov 21.85 305 *e*P **P 22 50 12.4 -1.0**
LVV *e*PPP PPP 22 50 42.6
LVV *e*S **S 22 54 07.4 -5.7**
LVV *e*SS **SnSn 22 54 45.6 +6.7**
LVV *e*SSS SSS 22 54 56.8
LVV pmax pmax
comp=Z,230nm,1.4s
LVV MLR MLR
comp=E,130nm,12.0s
LVV MLR MLR
comp=N,200nm,11.0s
LVV MLR MLR
comp=Z,180nm,12.0s
DEV Deva 21.92 294 ⇑P **P 22 50 15.6 +1.4**
DEV Deva 21.92 294 ⇑P **P 22 50 15.6 +1.4**
IDI Anoyia 21.97 266 P **P 22 50 14.6 -0.3**
comp=Z,43nm,0.6s,baz=44,slow=10,SNR=50
IDI S **S 22 54 08.4 -7.4**
comp=Z,7.4nm,0.8s,baz=234,slow=19,SNR=1.6
IDI LR LR 23 01 09.6
comp=Z,324nm,20.7s,baz=72,slow=43
IDI Anoyia 21.97 266 ⇑P **P 22 50 15.4 +0.5**
IDI Anoyia 21.97 266 P **P 22 50 14.6 -0.3**
IDI IAmb IAmb 22 50 25.2
comp=Z,63nm,0.7s
GZR Gura Zlata 21.98 293 ⇑P **P 22 50 15.2 +0.2**
GZR Gura Zlata 21.98 293 ⇑P **P 22 50 15.2 +0.2**
KLMR Klimovskoe 22.01 344 *e*P **P 22 50 13.3 -1.7**
KLMR *e*S **S 22 54 15.2 -0.7**
KLMR pmax pmax
comp=Z,334nm,1.1s
KLMR Klimovskoe 22.01 344 *e*P **P 22 50 13.3 -1.7**

KLMR AMP 22 50 20.7
comp=Z,334nm,1.1s
KLMR eS S 22 54 15.3 -0.7
KLMR eS S 22 54 15.3 -0.7
KLMR LQ LQ 22 57 27.5
KLMR LQ LQ 22 57 27.5
KLMR LR LR 22 58 42.3
DRGR 22.14 297 ⇑P P **22 50 17.7 +1.0**
DRGR 22.14 297 ⇑P P **22 50 17.7 +1.0**
SEM Semipalatinsk 22.16 53 eP P **22 50 15.8 -1.2**
baz=54
SEM Semipalatinsk 22.16 53 eP P **22 50 15.8 -1.2**
HERR Herculane 22.22 292 ⇑P P **22 50 17.2 -0.2**
NACGM Naroch 22.28 319 iP P **22 50 17.6 -0.4**
NACGM iP P **22 50 17.6 -0.4**
NACGM iP P **22 50 17.6 -0.4**
NACGM iPP PnPn **22 50 36.7 -4.2**
NACGM iPPP PPP 22 50 44.5
NACGM iS S **22 54 14.2 -6.9**
NACGM iSS Sn 22 54 38.0 +4.2
NACGM iSSS SSS 22 54 50.2
NACGM iLQ LQ 22 56 41.3
NACGM iLR LR 22 58 27.8
SHAO Shalim 22.39 171 iP P **22 50 18.1 -1.3**
SNR=6.4
CEI Carei 22.43 299 ⇑P P **22 50 20.7 +1.1**
CEI Carei 22.43 299 ⇑P P **22 50 20.7 +1.1**
IDID Didziasalis 22.51 320 eP P **22 50 20.2 -0.3**
IDID IAmb IAmb 22 50 41.9
comp=Z,57nm,1.1s
IDID eS S **22 54 24.7 -0.7**
LIT Litokhoron 22.52 279 P P **22 50 21.3 +0.6**
LIT pmax pmax
comp=Z,21nm,0.8s
LIT Litokhoron 22.52 279 P P **22 50 21.3 +0.6**
STIP Stip 22.52 283 iP P **22 50 19.8 -0.9**
MAKZ Makanchi 22.59 63 ⇑P P **22 50 21.9 +0.5**
comp=Z,188nm,0.8s
MAKZ Makanchi 22.59 63 P P **22 50 20.5 -0.9**
MAKZ pmax pmax
comp=Z,204nm,0.9s
MAKZ Makanchi 22.59 63 P P **22 50 20.5 -0.9**
KWP Kalwaria Pacla 22.63 304 eP P **22 50 22.4 +0.6**
KWP Kalwaria Pacla 22.63 304 P P **22 50 21.1 -0.7**
KWP pmax pmax
comp=Z,129nm,0.7s
KWP Kalwaria Pacla 22.63 304 P P **22 50 21.1 -0.7**
UZH Uzhgorod 22.69 302 eP P **22 50 23.3 +0.9**
UZH i 22 50 27.7
UZH i 22 50 37.2
UZH eS S **22 54 23.7 -5.0**
UZH e 22 55 24.8
UZH MLR MLR
comp=N,70nm,14.0s
UZH MLR MLR
comp=E,80nm,14.0s
UZH MLR MLR
comp=Z,60nm,14.0s
MDVR Moldovita 22.71 291 ⇑P P **22 50 22.8 0.0**
BOVS Bovan 22.73 288 ⇑P P **22 50 23.6 +0.7**
KOLS Kolonicke sedl 22.76 302 eP P **22 50 25.1 +1.9**
KOLS pmax pmax
comp=Z,80nm,0.8s
KOLS Kolonicke sedl 22.76 302 eP P **22 50 25.1 +1.9**
IIGN Ignalina 22.78 320 eP P **22 50 23.0 -0.4**
IIGN IAmb IAmb 22 50 36.3
comp=Z,56nm,0.7s
IIGN eS S **22 54 33.7 +3.5**
MK31 Makanchi Array 22.80 63 ⇑P P **22 50 24.1 +0.4**
comp=Z,163nm,0.8s,baz=256,slow=8.8,SNR=962
MK31 ⇓S Sn 22 54 38.9 -7.7
comp=Z,116nm,1.1s
MK31 Makanchi Array 22.80 63*c* iP P **22 50 24.0 +0.4**
MK31 Makanchi Array 22.80 63 P P **22 50 22.7 -1.0**
MKAR Makanchi Array 22.80 63 P P **22 50 24.1 +0.4**
comp=Z,155nm,0.9s,baz=257,slow=9.7,SNR=245
MKAR S S **22 54 34.6 +3.9**
comp=Z,15nm,0.9s,baz=251,slow=23,SNR=2.8
MKAR LR LR 23 00 22.1
comp=Z,419nm,19.9s,baz=254,slow=40
MKAR Makanchi Array 22.80 63 P P **22 50 23.0 -0.7**
MKAR Makanchi Array 22.80 63 P P **22 50 23.0 -0.7**
BZS Buzias 22.81 294 ⇓P P **22 50 23.7 0.0**
BZS Buzias 22.81 294 ⇓P P **22 50 23.7 0.0**
AGG Agios Georgios 22.85 277 P P **22 50 24.2 0.0**
AGG pmax pmax
comp=Z,75nm,1.0s
AGG Agios Georgios 22.85 277 P P **22 50 24.2 0.0**
AGG IAmb IAmb 22 50 43.0
comp=Z,75nm,1.0s
ISAL Salakas 22.94 320 eP P **22 50 24.6 -0.4**
ISAL IAmb IAmb 22 50 38.1
comp=Z,50nm,0.8s
SKO Skopje 23.04 284 iP P **22 50 27.8 +1.7**
BANR Banloc 23.14 293 ⇑P P **22 50 28.7 +1.7**
FNA Florina 23.24 281 P P **22 50 27.7 -0.5**
FNA pmax pmax
comp=Z,37nm,1.2s
FNA Florina 23.24 281 P P **22 50 27.7 -0.5**
CRVS Cervenica-Dubn 23.28 302 eP P **22 50 29.2 +0.7**
CRVS Cervenica-Dubn 23.28 302 eP P **22 50 29.2 +0.7**
ITM Ithomi 23.62 272 P P **22 50 31.5 -0.5**
ITM IAmb IAmb 22 50 50.5
comp=Z,47nm,0.8s
OHR Ohrid 23.63 282 iP P **22 50 33.4 +1.4**
NDI New Delhi 23.69 111 eP P 22 50 42.0 +9.4
SUW Suwalki 23.75 315 eP P **22 50 33.1 +0.3**
SUW Suwalki 23.75 315 eP P **22 50 33.5 +0.6**
SUW eS S **22 54 47.0 +1.0**
SUW Suwalki 23.75 315 P P **22 50 33.2 +0.3**
SUW pmax pmax
comp=Z,271nm,1.0s
SUW Suwalki 23.75 315 P P **22 50 33.2 +0.3**
PUL Pulkovo 23.78 332*ce* P P **22 50 33.5 +0.3**
PUL pmax pmax
comp=Z,41nm,0.7s
KECS Kecovo 23.85 301 eP P **22 50 35.1 +1.1**
KECS pmax pmax
comp=Z,22nm,0.8s
KECS Kecovo 23.85 301 eP P **22 50 35.1 +1.1**
DIVS Divibare 23.95 290 ⇓iP P **22 50 35.2 +0.1**
DIVS Divibare 23.95 290 P P **22 50 35.0 -0.1**
DIVS IAmb IAmb 22 50 51.0
comp=Z,61nm,0.9s
PABE Paberze 23.98 319 eP P **22 50 36.0 +0.9**
PABE eS S **22 54 48.6 -1.1**
FRGS Fruska Gora 24.07 292 ⇑P P **22 50 37.7 +1.6**
FRGS Fruska Gora 24.07 292 ⇓iP P **22 50 36.9 +0.8**
PVY Plav 24.07 286 ⇓iP P **22 50 37.4 +1.1**
IVA Berane 24.10 287 ⇓iP P **22 50 37.8 +1.4**
NIE Niedzica 24.13 303 eP P **22 50 37.8 +1.2**
PSZ Piszkesteto 24.17 299 ⇑P P **22 50 38.7 +1.7**
PSZ Piszkesteto 24.17 299 ⇑P P **22 50 38.7 +1.7**
PSZ Piszkesteto 24.17 299 P P **22 50 37.0 -0.1**
PSZ IAmb IAmb 22 50 49.6
comp=Z,48nm,0.8s
TEKS Tekeris 24.27 291 eP P **22 50 39.8 +1.8**
VSU Vasula 24.30 327 eP P **22 50 38.3 +0.3**
BEL Belsk 24.37 309 eP P **22 50 40.6 +1.9**
KOME Kolasin 24.38 287 ⇓iP P **22 50 40.5 +1.5**
BBLS Lazići 24.39 289 ⇓iP P **22 50 38.9 -0.2**
PLE Pljevlja 24.43 288 ⇓iP P **22 50 41.0 +1.5**
OJC Ojcow 24.59 305 eP P **22 50 42.1 +1.3**
OJC Ojcow 24.59 305 P P **22 50 40.6 -0.2**
OJC pmax pmax
comp=Z,50nm,0.6s
OJC Ojcow 24.59 305 P P **22 50 40.6 -0.2**
OJC IAmb IAmb 22 50 54.3
comp=Z,50nm,0.6s
PDG Podgorica 24.61 286 ⇑P P **22 50 41.6 +0.7**
PDG Podgorica 24.61 286 ⇓iP P **22 50 42.0 +1.0**
PDG Podgorica 24.61 286 P P **22 50 40.8 -0.2**
TTG Podgorica 24.61 286 ⇓iP P **22 50 42.2 +1.2**
ZSN Zaisan 24.61 62 eP P **22 50 40.7 -0.3**
baz=62
ZSN Zaisan 24.61 62 eP P **22 50 40.7 -0.3**
LANS Liptovska Anna 24.62 302 eP P **22 50 42.8 +1.7**
LANS Liptovska Anna 24.62 302 eP P **22 50 42.8 +1.7**
ULC Ulcinj 24.67 285 ⇓iP P **22 50 42.1 +0.5**
DRME Dracevica, Mon 24.69 285 ⇓iP P **22 50 42.6 +0.9**
DRME Dracevica, Mon 24.69 285 ⇓iP P **22 50 42.9 +1.2**
HAPS Han Pijesak,BI 24.70 290 eP P **22 50 41.8 -0.2**
NKY Niksic 24.76 287 ⇓iP P **22 50 43.6 +1.1**

UPM Unac-Piva 24.79 288 eP P **22 50 44.1 +1.2**
UPM Unac-Piva 24.79 288 ⇓iP P **22 50 44.1 +1.2**
NKME Niksic 24.80 287 ⇓iP P **22 50 43.7 +0.9**
CEME Cevo 24.84 286 ⇓iP P **22 50 43.8 +0.6**
BUM Brajici-Budva 24.89 286 ⇓iP P **22 50 44.6 +1.0**
MORH Mrgy, Hungar 24.90 295 ⇑P P **22 50 44.6 +1.0**
MORH Mrgy, Hungar 24.90 295 ⇓iP P **22 50 44.4 +0.8**
VYHS Vyhne 24.94 300 eP P **22 50 45.5 +1.5**
VYHS pmax pmax
comp=Z,20nm,0.7s
VYHS Vyhne 24.94 300 eP P **22 50 45.5 +1.5**
BRY Bratogost 25.09 287 eP P **22 50 46.4 +0.9**
BRY Bratogost 25.09 287 ⇓iP P **22 50 46.4 +0.9**
SRO2 Moca 25.16 299 eP P **22 50 47.1 +1.2**
SRO2 pmax pmax
comp=Z,66nm,0.7s
SRO2 Moca 25.16 299 eP P **22 50 47.1 +1.2**
HCY Herceg Novi 25.17 286 eP P **22 50 45.7 -0.3**
HCY Herceg Novi 25.17 286 ⇓iP P **22 50 47.8 +1.8**
SRO Srobarova 25.22 299 eP P **22 50 48.8 +2.3**
SRO pmax pmax
comp=Z,86nm,0.9s
SRO Srobarova 25.22 299 eP P **22 50 48.8 +2.3**
PBUR Paburge 25.24 319 eP P **22 50 46.8 +0.2**
TREB Trebinje 25.24 287 eP P **22 50 47.1 +0.4**
MTSE Matsula 25.69 325 eP P **22 50 51.6 +1.0**
STON Ston 25.70 287 iP P **22 50 49.6 -1.2**
JAVC Velka Javorina 25.75 301 eP P **22 50 53.6 +2.2**
SLIT Slitere, Latvi 25.82 322 eP P **22 50 53.5 +1.8**
SMOL Smolenice 25.88 300 eP P **22 50 54.3 +1.9**
SMOL pmax pmax
comp=Z,14nm,1.0s
SMOL Smolenice 25.88 300 eP P **22 50 54.3 +1.9**
ZAA0 Zalesovo Array 25.91 47 ⇑P P **22 50 52.7 +0.1**
comp=Z,17nm,0.7s
ZAA0 Zalesovo Array 25.91 47 P P **22 50 52.2 -0.4**
ZALV Zalesovo Beam 25.91 47 P P **22 50 52.8 +0.1**
comp=Z,82nm,0.6s,baz=265,slow=11,SNR=212
ZALV S S 22 55 32.0 +11
comp=Z,12nm,0.8s,baz=251,slow=23,SNR=3.3
ZALV LR LR 23 02 30.5
comp=Z,1μm,18.4s,baz=251,slow=40
ZALV Zalesovo Beam 25.91 47 iP P **22 50 53.0 +0.4**
ZALV pmax pmax
comp=Z,85nm,0.6s
ZALV Zalesovo Beam 25.91 47 P P **22 50 52.4 -0.2**
BLY Banja Luka 25.94 291 ⇓iP P **22 50 55.5 +2.5**
MORC Moravsky Berou 25.95 303 ⇑P P **22 50 54.9 +1.7**
MORC Moravsky Berou 25.95 303 eP P **22 50 54.6 +1.4**
MORC Moravsky Berou 25.95 303 ⇑P P **22 50 54.9 +1.7**
MORC Moravsky Berou 25.95 303 P P **22 50 53.9 +0.7**
MORC IAmb IAmb 22 51 08.7
comp=Z,78nm,1.1s
MODS Modra-Piesok 25.96 300 eP P **22 50 55.0 +1.8**
MODS pmax pmax
comp=Z,62nm,1.0s
MODS Modra-Piesok 25.96 300 eP P **22 50 55.0 +1.8**
MGRS Mrkonjic Grad 26.03 291 eP P **22 50 57.1 +3.2**
RICI Ricice 26.06 289 P P **22 50 54.7 +0.6**
ZST Bratislava 26.06 299 eP P **22 50 56.1 +2.0**
ZST pmax pmax
comp=Z,111nm,1.0s
ZST Bratislava 26.06 299 eP P **22 50 56.1 +2.0**
MAKA Makarska 26.16 288 iP P **22 50 55.2 +0.2**
FIA1 FINESS Array S 26.46 332 P P **22 50 57.6 +0.2**
FIA1 IAmb IAmb 22 51 03.2
comp=Z,44nm,0.7s
FINES FINESS Array B 26.46 332 P P **22 50 57.7 +0.2**
comp=Z,15nm,0.5s,baz=142,slow=11,SNR=57
FINES S S **22 55 26.3 -2.8**
comp=Z,33nm,0.8s,baz=124,slow=22,SNR=4.3
FINES LR LR 23 02 49.0
comp=Z,697nm,18.6s,baz=132,slow=40
FINES FINESS Array B 26.46 332 P P **22 50 57.6 +0.1**
KRLC Kraliky 26.48 304 eP P **22 50 58.9 +0.9**
KRLC Kraliky 26.48 304 eP P **22 50 58.9 +0.9**
VRAC Vranov 26.51 302 P P **22 50 59.3 +1.1**
comp=Z,11nm,0.9s,baz=103,slow=9.4,SNR=13
VRAC LR LR 23 04 04.7
comp=Z,254nm,19.9s,baz=91,slow=42
VRAC Vranov 26.51 302 ⇑P P **22 50 59.7 +1.6**
VRAC Vranov 26.51 302 eP P **22 50 59.2 +1.1**
KIJV Kijevo 26.54 290 iP P **22 51 00.1 +1.6**
DGZ Jazzator, Alta 26.55 57*c* iP P **22 50 59.2 +0.5**
DGZ pmax pmax
comp=Z,44nm,0.9s
KOGS Kog 26.57 295 iP P **22 50 59.8 +1.2**
HVAR Hvar 26.58 288 iP P **22 50 59.9 +1.1**
WMQ Urumqi 26.60 71 P P **22 51 00.8 +1.7**
WMQ pP pP 22 51 07.8 -0.2
WMQ sP sP 22 51 11.8 +0.1
WMQ S S **22 55 31.3 -0.6**
WMQ sS sS 22 55 44.3 -2.3
WMQ pmax pmax
comp=Z,170nm,1.1s
WMQ pmax pmax
comp=Z,320nm,3.7s
WMQ LR LR
comp=Z,2μm,7.5s
WMQ LR LR
comp=Z,2μm,9.7s
WMQ Urumqi 26.60 71 P P **22 50 58.4 -0.7**
WMQ pmax pmax
comp=Z,106nm,0.7s
WMQ Urumqi 26.60 71 P P **22 50 58.4 -0.7**
KRUC Moravsky 26.61 301 eP P **22 51 00.4 +1.4**
DPC Dobruska-Polom 26.81 304 eP P **22 51 02.0 +1.1**
DPC Dobruska-Polom 26.81 304 eP P **22 51 02.0 +1.1**
GKP Gorka Klasztor 26.84 311 eP P **22 51 02.7 +1.6**
GKP Gorka Klasztor 26.84 311 eP P **22 51 02.6 +1.5**
CONA Conrad Observa 26.88 299 iP P **22 51 03.1 +1.5**
comp=Z,9.7nm,0.9s,SNR=10.0
KSP Ksiaz 26.91 305 eP P **22 51 03.6 +1.9**
OSTC Ostas 26.91 304 eP P **22 51 03.7 +1.9**
UDBI Udbina 26.96 291 iP P **22 51 03.5 +1.1**
CHVC Chvalec 27.02 305 eP P **22 51 04.3 +1.6**
UPC Upice 27.03 304 eP P **22 51 04.2 +1.3**
UPC Upice 27.03 304 eP P **22 51 04.2 +1.3**
TIP Timpagrande 27.04 279 P P **22 51 04.0 +0.9**
TIP IAmb IAmb 22 51 09.6
comp=Z,21nm,0.6s
MORI Morici 27.05 290 iP P **22 51 02.7 -0.4**
ARSA Arzberg 27.08 297 eP P **22 51 04.9 +1.6**
comp=Z,22nm,0.9s,SNR=13
ZIRJ Zirje 27.12 289 iP P **22 51 03.8 +0.2**
CRES Cresnjev 27.12 294 eP P **22 51 05.4 +1.7**
TREC Trest 27.23 302 eP P **22 51 05.5 +0.9**
TREC Trest 27.23 302 eP P **22 51 05.5 +0.9**
PERS Pernice 27.35 296 eP P **22 51 06.9 +1.1**
SOKA Soboth 27.41 296 eP P **22 51 07.6 +1.2**
comp=Z,44nm,1.1s,SNR=12
DUGI Dugi Otok 27.51 290 iP P **22 51 07.3 +0.1**
NVLJ Novalja 27.60 291 iP P **22 51 08.1 +0.1**
GOPC GO Pecny, Ondr 27.74 303 eP P **22 51 10.2 +1.0**
GOPC GO Pecny, Ondr 27.74 303 eP P **22 51 10.2 +1.0**
OBKA Obir 27.74 295 eP P **22 51 10.5 +1.1**
comp=Z,24nm,1.4s
LJU Ljubljana 27.77 294 eP P **22 51 10.7 +1.2**
CEY Cerknica 27.85 294 eP P **22 51 11.4 +1.2**
PRU Pruhonice 27.91 303 eP P **22 51 11.7 +1.0**
PRU Pruhonice 27.91 303 eP P **22 51 11.7 +1.0**
MOA Molln 27.95 298 eP P **22 51 12.2 +1.1**
comp=Z,8.2nm,1.0s
PVCC Panska Ves 27.95 304 eP P **22 51 12.6 +1.6**
PVCC Panska Ves 27.95 304 eP P **22 51 12.6 +1.6**
CRNS Crni Vrh 27.95 295 eP P **22 51 12.3 +1.1**
CKRC Cesky Krumlov 27.96 300 eP P **22 51 12.1 +0.9**
PRA Prague 27.98 303 eP P **22 51 13.6 +2.3**
PRA Prague 27.98 303 eP P **22 51 13.6 +2.3**
GEC2 GERESS Array S 28.36 300 P P **22 51 15.0 +0.1**
GEC2 GERESS Array S 28.36 300 eP P **22 51 15.6 +0.7**
comp=Z,13nm,0.9s,baz=92,slow=9.0
GERES GERESS Array B 28.36 300 P P **22 51 15.9 +1.0**
comp=Z,8.3nm,0.8s,baz=97,slow=8.6,SNR=54
GERES LR LR 23 05 12.8
comp=Z,188nm,21.7s,baz=84,slow=42
GERES GERESS Array B 28.36 300 P P **22 51 15.8 +0.9**
GERES GERESS Array B 28.36 300 P P **22 51 15.8 +0.9**
MYKA Terra Mystica 28.37 296 eP P **22 51 15.9 +1.0**
comp=Z,9.6nm,1.0s
BRG Berggiesshubel 28.39 305 eP P **22 51 17.0 +2.1**
BRG Amp 22 51 18.5
comp=Z,24nm,1.0s
BRG ex x 22 51 23.9
BRG Amp 22 51 25.0
comp=Z,17nm,1.1s
BRG ex x 22 51 33.4
BRG Amp 22 51 34.3
comp=Z,75nm,1.7s
BRG PP PnPn **22 51 59.4 -5.0**
BRG Amp 22 52 01.4
comp=Z,19nm,0.9s
BRG Berggiesshubel 28.39 305 eP P **22 51 16.5 +1.6**
comp=Z,24nm,1.0s,baz=92,slow=9.0
KHC Kasperske Hory 28.46 301 eP P **22 51 16.0 +0.3**
KHC e 22 51 31.5
KHC Kasperske Hory 28.46 301 eP P **22 51 16.0 +0.3**
KHC esP sP **22 51 31.5 +3.2**
KHC ex x 22 52 40.5
KHC Kasperske Hory 28.46 301 P P **22 51 16.4 +0.8**
KBA Koelnbreinsper 28.56 297 eP P **22 51 17.5 +0.8**
comp=Z,19nm,0.9s,SNR=7.8
BSD Bornholm Skovb 28.65 314 iP P **22 51 16.0 -1.2**
BSD Bornholm Skovb 28.65 314 iP P **22 51 16.0 -1.2**
BSD Bornholm Skovb 28.65 314 iP P **22 51 16.0 -1.2**
LNIZ Loecknitz 28.66 310 eP P **22 51 17.5 +0.2**
comp=Z,32nm,0.8s,baz=92,slow=9.0
RUE Ruedersdorf 28.72 308 eP P **22 51 19.0 +1.2**
comp=Z,33nm,0.8s,baz=92,slow=9.0
FBE Freiberg 28.76 305 eP P **22 51 20.5 +2.3**
comp=Z,60nm,1.5s,baz=92,slow=9.0
ZOU Zoufplan 28.83 296 P P **22 51 19.1 0.0**
ZOU IAmb IAmb 22 51 37.4
comp=Z,21nm,0.6s
AQU L'Aquila 28.92 287 eP P **22 51 21.1 +1.3**
AQU L'Aquila 28.92 287 IAmb IAmb 22 51 30.3
comp=Z,37nm,1.0s
RJOB Jochberg 28.94 298 eP P **22 51 21.1 +1.2**
comp=Z,50nm,0.8s,baz=92,slow=9.0
UPP Uppsala 29.01 324 eP P **22 51 19.3 -1.0**
CLL Collm 29.03 305 eP P **22 51 21.0 +0.4**
comp=Z,16nm,1.0s
CLL epP **sP** **22 51 31.0 -2.2**
CLL e 22 51 56.0
CLL e 22 52 00.0
CLL epPP 22 52 20.0
CLL ePPPP 22 52 29.0
CLL eS S **22 56 11.0 +1.2**
CLL e 22 56 48.0
CLL eSSS SSS 22 57 54.0
CLL Collm 29.03 305 eP P **22 51 21.0 +0.4**
CLL e*SP **sP** **22 51 31.0 -2.2**
CLL eS S **22 56 11.0 +1.2**
CLL pmax pmax
comp=Z,16nm,1.0s
CLL Collm 29.03 305 eP P **22 51 22.0 +1.4**
comp=Z,16nm,1.1s,baz=92,slow=9.0
NRCA Norcia 29.05 288 IAmb IAmb 22 51 37.3
comp=Z,21nm,0.7s
ABTA Abfaltersbach 29.14 296 eP P **22 51 22.2 +0.4**
comp=Z,25nm,1.3s
APA Apatity 29.21 345 ⇓iP P **22 51 22.2 +0.2**
APA pmax pmax
comp=Z,17nm,0.9s
VAE Valguarnera 29.27 277 P P **22 51 23.1 +0.2**
comp=Z,7.4nm,0.7s,baz=114,slow=12,SNR=1.7
LVZ Lovozero 29.27 347*de* P **22 51 23.4 +0.8**
LVZ pmax pmax
comp=Z,44nm,0.9s
LVZ Lovozero 29.27 347 P P **22 51 23.0 +0.4**
LVZ IAmb IAmb 22 51 26.9
comp=Z,46nm,0.9s
NKC Novy Kostel 29.27 303 eP P **22 51 24.1 +1.3**
NKC Novy Kostel 29.27 303 eP P **22 51 24.1 +1.3**
TANN Tannenbergstha 29.28 304 eP P **22 51 23.7 +0.8**
comp=Z,9.8nm,1.0s,baz=92,slow=9.0
WERN Wernitzgruen 29.32 303 eP P **22 51 24.2 +1.0**
comp=Z,18nm,1.4s,baz=92,slow=9.0
GUNZ Gunzen 29.36 303 eP P **22 51 24.9 +1.3**
comp=Z,6.5nm,1.0s,baz=92,slow=9.0
WERD Werda 29.38 304 eP P **22 51 24.8 +1.1**
comp=Z,8.2nm,0.9s,baz=92,slow=9.0
ROTZ Rotzenmuhle 29.39 302 eP P **22 51 25.2 +1.3**
comp=Z,7.8nm,1.1s,baz=92,slow=9.0
MURB Monte Urbino 29.42 289 IAmb IAmb 22 51 28.2
comp=Z,40nm,0.9s
GKN Gorkha 29.48 104 eP P **22 51 26.1 +1.1**
comp=Z,32nm,0.5s
PLN Plauen 29.48 304 eP P **22 51 26.4 +1.8**
comp=Z,11nm,0.9s,baz=92,slow=9.0
WTTA Wattenberg 29.73 297 eP P **22 51 27.6 +0.5**
comp=Z,25nm,0.9s,SNR=11
ATD Arta Tunnel 29.75 198 LR LR 23 05 41.9
comp=Z,88nm,19.7s,baz=0.5,slow=41
WATA Walderalm 29.77 297 eP P **22 51 27.5 +0.1**
comp=Z,11nm,0.9s,SNR=9.6
CTI Castel Tesino 29.77 295 P P **22 51 28.0 +0.6**
CTI pmax pmax
comp=Z,25nm,1.2s
CTI Castel Tesino 29.77 295 P P **22 51 28.0 +0.6**
NEUB Neuenburg 29.78 305 eP P **22 51 29.0 +1.7**
comp=Z,22nm,0.8s,baz=92,slow=9.0
TEOL Teolo 29.80 293 IAmb IAmb 22 51 44.0
comp=Z,42nm,0.7s
MOX Moxa 29.83 304 eP P **22 51 29.3 +1.5**
comp=Z,24nm,0.9s,baz=92,slow=9.0
MOX eL L 23 06 23.9
comp=Z,182nm,18.6s
SQTA Sankt Quirin 30.02 297 eP P **22 51 29.9 +0.3**
comp=Z,11nm,1.0s,SNR=6.8
GRF Grafenberg Arr 30.03 302 eP P **22 51 31.6 +2.1**
comp=Z,17nm,1.2s,baz=92,slow=9.0
GRF eL L 23 04 58.6
comp=Z,370nm,21.3s
DMN Daman 30.04 105 eP P **22 51 31.9 +1.8**
comp=Z,14nm,0.7s
KKN Kakani 30.07 104 eP P **22 51 31.6 +1.3**
comp=Z,9.5nm,0.6s
MOTA Moosalm 30.09 297 eP P **22 51 29.9 -0.3**
comp=Z,12nm,1.0s
FLTG Flechtingen 30.24 307 eP P **22 51 32.5 +1.2**
comp=Z,24nm,0.7s,baz=92,slow=9.0
PKIN Phulchoki 30.27 104 eP P **22 51 33.8 +1.6**
comp=Z,21nm,0.6s
PKI Pulchoki 30.28 104 eP P **22 51 34.2 +1.8**
comp=Z,17nm,0.6s
OSSC Osservatorio P 30.31 290 IAmb IAmb 22 51 35.0
comp=Z,26nm,0.8s
RETA Reutte 30.31 298 eP P **22 51 32.3 +0.1**
comp=Z,5.0nm,0.6s
FETA Feichten 30.35 297 eP P **22 51 32.7 +0.1**
comp=Z,13nm,1.1s,SNR=7.2
ZCCA Zocca 30.39 291 IAmb IAmb 22 51 50.8
comp=Z,43nm,1.1s
GUN Gumba 30.45 103 eP P **22 51 35.3 +1.5**
comp=Z,48nm,1.0s
ASSE Asse, Remlinge 30.56 307 eP P **22 51 36.0 +1.9**
comp=Z,11nm,1.0s,baz=92,slow=9.0
CLZ Clausthal 30.72 306 eP P **22 51 36.8 +1.2**
comp=Z,16nm,0.6s,baz=92,slow=9.0
DAVA Damuels 30.92 297 eP P **22 51 37.8 +0.1**
comp=Z,8.4nm,0.6s,SNR=7.5
HFS Hagfors 30.92 323 P P **22 51 38.0 +0.7**
comp=Z,21nm,0.6s,baz=109,slow=8.8,SNR=84
HFS Hagfors 30.92 323 P P **22 51 38.0 +0.7**
GTTG Gottingen 30.94 306 eP P **22 51 39.3 +1.7**
comp=Z,18nm,1.0s,baz=92,slow=9.0
DAVOX Davos/Dischmat 30.95 296 P P **22 51 38.5 +0.6**
comp=Z,6.0nm,0.4s,baz=117,slow=6.3,SNR=33
DAVOX S S **22 56 37.0 -3.3**
comp=Z,5.9nm,0.9s,baz=197,slow=21,SNR=5.5
DAVOX LR LR 23 06 36.3
comp=Z,379nm,21.4s,baz=82,slow=41
BSEG Bad Segeberg 31.01 310 eP P **22 51 39.8 +1.7**
comp=Z,37nm,0.9s,baz=92,slow=9.0
TUE Stuetta 31.33 296 P P **22 51 42.0 +0.7**
TUE IAmb IAmb 22 51 59.0
comp=Z,23nm,0.7s
STU Stuttgart 31.34 300 IAmb IAmb 22 51 43.7
comp=Z,51nm,1.1s
STU Stuttgart 31.34 300 eP P **22 51 42.2 +1.1**
comp=Z,45nm,1.0s,baz=92,slow=9.0
RAMN Ramite 31.51 104 eP P **22 51 46.0 +2.9**
comp=Z,16nm,0.5s
SKMB Sankelmark Bun 31.65 312 eP P **22 51 43.7 0.0**
comp=Z,41nm,0.7s,baz=92,slow=9.0
TNS Taunus Mts 31.84 303 eP P **22 51 47.5 +1.9**
comp=Z,18nm,0.9s,baz=92,slow=9.0
KASTN Kahler Asten 31.89 305 eP P **22 51 48.0 +2.1**

comp=Z,6.5nm,1.1s,baz=92,slow=9.0
BFO Black Forest 31.93 299 *e*P **P 22 51 48.2 +1.9**
comp=Z,3.5nm,0.7s,baz=92,slow=9.0
TAPN Taplejung 32.12 103 *e*P **P 22 51 51.2 +2.7**
comp=Z,14nm,0.8s
NC602 NORSAR Array S 32.14 323 IAmb IAmb 22 51 49.3
comp=Z,46nm,1.1s
NC602 NORSAR Array S 32.14 323 *e*P **P 22 51 48.5 +0.5**
ODAN Odare 32.15 104 *e*P **P 22 51 51.4 +2.7**
comp=Z,24nm,0.7s
NC405 NORSAR Array S 32.20 324 P **P 22 51 49.1 +0.6**
OSL Oslo 32.25 321 *e*P **P 22 51 49.7 +0.8**
HYB Hyderabad 32.32 127 *i* P **P 22 51 50.0 0.0**
KEV Kevo 32.33 344 P **P 22 51 50.0 +0.5**
KEV pmax pmax
comp=Z,26nm,0.8s
KEV Kevo 32.33 344 P **P 22 51 50.0 +0.5**
KEV IAmb IAmb 22 51 53.3
comp=Z,26nm,0.8s
IBBN Ibbenburen 32.37 307 *e*P **P 22 51 51.5 +1.5**
comp=Z,33nm,0.8s,baz=92,slow=9.0
NB201 NORSAR Array S 32.37 324 P **P 22 51 50.5 +0.5**
NB201 IAmb IAmb 22 51 50.7
comp=Z,22nm,0.8s
NC303 NORSAR Array S 32.40 324 IAmb IAmb 22 52 04.3
comp=Z,21nm,0.9s
NB2 NORSAR Subarra 32.40 324 P **P 22 51 50.2 -0.1**
comp=Z,9.4nm,0.6s,baz=115,slow=8.6
NB2 NORSAR Subarra 32.40 324 P **P 22 51 50.2 -0.1**
baz=115,slow=8.6
NOA NORSAR Array B 32.40 324 P **P 22 51 50.3 -0.1**
comp=Z,12nm,0.8s,baz=112,slow=8.3,SNR=37
NOA LR LR 23 06 48.5
comp=Z,304nm,19.3s,baz=115,slow=40
NAO01 NORSAR Array S 32.48 323 IAmb IAmb 22 52 04.7
comp=Z,37nm,1.1s
ARA0 ARCESS Array S 32.48 343 *e*P **P 22 51 51.6 +0.7**
ARCES ARCESS Array B 32.48 343 P **P 22 51 51.4 +0.5**
comp=Z,9.5nm,0.8s,baz=125,slow=6.7,SNR=20
ARCES LR LR 23 07 23.6
comp=Z,455nm,18.7s,baz=140,slow=41
ARCES ARCESS Array B 32.48 343 P **P 22 51 51.1 +0.2**
ARCES pmax pmax
comp=Z,12nm,0.9s
ARCES ARCESS Array B 32.48 343 P **P 22 51 51.1 +0.2**
NBO00 NORSAR Array S 32.59 323 IAmb IAmb 22 51 52.8
comp=Z,19nm,0.9s
BUG Bochum--Univer 32.62 305 *e*P **P 22 51 54.1 +1.9**
comp=Z,14nm,0.8s,baz=92,slow=9.0
KTK1 Kautokeino 32.62 341 *e*P **P 22 51 52.5 +0.4**
NC204 NORSAR Array S 32.69 324 P **P 22 51 53.5 +0.6**
NC204 IAmb IAmb 22 51 54.4
comp=Z,56nm,1.1s
KONO Kongsberg 32.70 321 *e*P **P 22 51 53.5 +0.6**
SENIN Lac Senin/Sane 32.76 296 IAmb IAmb 22 52 11.1
comp=Z,22nm,0.6s
HOMB Homborsund 32.88 318 *e*P **P 22 51 55.7 +1.3**
HOMB Homborsund 32.88 318 *i* P **P 22 51 54.0 -0.4**
WLF Walferdange 33.32 302 *d*P **P 22 52 00.2 +1.8**
WLF Walferdange 33.32 302 IAmb IAmb 22 52 15.4
comp=Z,14nm,0.8s
WLF Walferdange 33.32 302 *e*P **P 22 52 00.1 +1.8**
comp=Z,31nm,1.6s,baz=92,slow=9.0
BTNL Ternell 33.32 304 *b*P **P 22 52 00.9 +2.4**
BTNL *d*sP **sP 22 52 11.8 +0.6**
BNI Bardonecchia 33.34 293 IAmb IAmb 22 52 16.9
comp=Z,17nm,0.8s
MEM Membach 33.40 304 *d*P **P 22 52 01.4 +2.3**
MEM *dx* x 22 52 18.5
MEM *dx* x 22 52 24.1
MEM *d*PnPn **PnPn 22 53 10.5 +0.2**
MOR8 Moi Rana 33.41 333 *e*P **P 22 51 59.5 +0.4**
NSS Namsos 33.51 330 *e*P **P 22 52 00.7 +0.8**
LSA Lhasa 33.51 96 P **P 22 52 02.3 +1.5**
LSA LR LR
comp=Z,590nm,12.8s
LSA LR LR
comp=Z,2μm,20.6s
LSA LR LR
comp=Z,3μm,22.1s
LSA Lhasa 33.51 96 P **P 22 51 59.5 -1.4**
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 33.51 96 P **P 22 51 59.5 -1.4**
SNART Snartemo 33.56 318 *e*P **P 22 52 01.2 +0.9**
SKAR Skarslia 33.62 322 *e*P **P 22 52 02.1 +1.1**
N2ST Straumen 33.69 336 *e*P **P 22 52 02.0 +0.7**
KEST Kesra 33.69 276 P **P 22 52 03.0 +1.1**
comp=Z,14nm,0.9s,baz=334,slow=1.1,SNR=25
KEST Kesra 33.69 276 P **P 22 52 02.7 +0.8**
KEST IAmb IAmb 22 52 04.6
comp=Z,18nm,0.9s
DOMB Dombas 33.72 325 *e*P **P 22 52 01.9 +0.2**
JETT Jettan, Norway 33.72 341 *e*P **P 22 52 02.5 +0.8**
HAMF Hammerfest 33.74 343 *e*P **P 22 52 01.7 -0.1**
FAUS Fauske 33.80 335 *e*P **P 22 52 03.3 +0.9**
NBB17 Glomfjord B¥r 33.92 334 *e*P **P 22 52 04.5 +1.0**
N2IH Innhavet 33.94 337 *e*P **P 22 52 04.0 +0.5**
N2TV TVrnvik 33.96 336 *e*P **P 22 52 04.4 +0.7**
STOK Stokkvaagen 33.99 333 *e*P **P 22 52 04.5 +0.4**
NBB08 Skaug oppvekst 34.02 335 *e*P **P 22 52 04.4 +0.2**
NBB05 Inndyr 34.02 334 *e*P **P 22 52 05.5 +1.2**
KONS Konsvik 34.04 333 *e*P **P 22 52 05.2 +0.8**
NBB30 Finnes 34.08 334 *e*P **P 22 52 05.6 +0.8**
NBB40 Tonnes 34.09 333 *e*P **P 22 52 06.0 +1.1**
STEI Steigen 34.13 336 *e*P **P 22 52 06.2 +0.9**
TRO Tromso 34.15 340 *e*P **P 22 52 06.4 +1.0**
BLS5 Blasjo 34.18 319 *e*P **P 22 52 05.8 -0.1**
BMRD Maredsous 34.20 303 *d*P **P 22 52 07.5 +1.5**
ODD1 Odda 34.22 320 *e*P **P 22 52 07.8 +1.6**
DOU Dourbes 34.31 303 *d*P **P 22 52 08.9 +1.8**
DOU *dx* x 22 52 36.5
SNF Seneffe 34.50 303 *d*P **P 22 52 08.1 -0.6**
SNF *d*sP **sP 22 52 20.6 -0.8**
MOL Molde 34.56 325 *e*P **P 22 52 09.5 +0.5**
AKN Aaknes 34.68 324 *e*P **P 22 52 10.9 +0.8**
HYA Hoyanger 34.73 322 *e*P **P 22 52 11.7 +1.0**
LOF Lofoten 34.78 336 *e*P **P 22 52 11.6 +0.7**
SSB Saint Sauveur 34.80 294 P **P 22 52 12.2 +0.8**
SSB pmax pmax
comp=Z,27nm,0.6s
SSB Saint Sauveur 34.80 294 P **P 22 52 12.2 +0.8**
SSB IAmb IAmb 22 52 29.4
comp=Z,27nm,0.6s
N2SV S¸rvÿgen 34.81 335 *e*P **P 22 52 11.4 +0.2**
N2RO R¸st 34.91 334 *e*P **P 22 52 11.8 -0.1**
ASK Askoy 35.05 321 *e*P **P 22 52 14.2 +1.0**
MOY Mondy 35.26 54 *e*P **P 22 52 17.1 +1.7**
MOY *e* 22 53 32.7
MOY pmax pmax
comp=Z,36nm,1.6s
SUE Sulen 35.40 322 *e*P **P 22 52 17.4 +1.1**
SHL Shillong 36.22 102 P **P 22 52 23.1 -0.8**
SHL pmax pmax
comp=Z,23nm,0.7s
SHL Shillong 36.22 102 P **P 22 52 23.1 -0.8**
SHL IAmb IAmb 22 52 37.0
comp=Z,23nm,0.7s
GTA Gaotai 36.36 75 ⇑P **P 22 52 25.9 +1.0**
GTA pP sP 22 52 35.8 -1.8
GTA sP pP 22 52 39.4 +5.5
GTA S **S 22 58 05.6 +1.4**
GTA sS sS 22 58 17.3 -1.7
GTA SS **SnSn 23 00 28.8 -4.0**
GTA pmax pmax
comp=Z,72nm,0.7s
GTA pmax pmax
comp=Z,110nm,4.9s
GTA LR LR
comp=Z,460nm,15.3s
GTA LR LR
comp=Z,420nm,16.0s
ZAK Zakamensk 36.76 57 *e*P **P 22 52 29.5 +1.3**
ZAK *e* 22 53 53.5
ZAK pmax pmax
comp=Z,22nm,0.9s
ZAK pmax pmax
comp=Z,17nm,1.2s
TLY Talaya 36.91 54 *e*P **P 22 52 31.5 +2.1**
TLY *e*S **S 22 58 18.1 +6.0**
TLY *e*SS **SnSn 23 00 37.4 -8.2**
TLY *e*SSS SSS 23 01 04.2
TLY pmax pmax
comp=Z,46nm,1.3s
TLY MLR MLR
comp=Z,2μm,18.0s
TLY Talaya 36.91 54 P **P 22 52 29.2 -0.2**
IRK Irkutsk 37.27 53 *e*P **P 22 52 32.7 +0.3**
IRK *e* 22 53 58.3
IRK pmax pmax
comp=Z,64nm,1.6s
BJO1 Bjornoya 37.56 346 *e*P **P 22 52 35.2 +0.6**
HOPEN Hopen 38.20 350 *e*P **P 22 52 40.9 +1.0**
EKA Eskdalemuir Ar 38.92 312 P **P 22 52 46.9 +0.7**
comp=Z,6.7nm,0.4s,baz=96,slow=8.4,SNR=81
ESK Eskdalemuir 38.94 312 P **P 22 52 47.2 +0.8**
ESK pmax pmax
comp=Z,20nm,0.7s
ESK Eskdalemuir 38.94 312 P **P 22 52 47.2 +0.8**
ESK IAmb IAmb 22 53 05.4
comp=Z,20nm,0.7s
SONM Songino Array 39.10 60 P **P 22 52 48.1 +0.1**
comp=Z,11nm,0.7s,baz=270,slow=8.9,SNR=40
SONM PP **PP 22 54 17.6 -0.1**
comp=Z,2.2nm,0.8s,baz=270,slow=10,SNR=1.5
SONM PcP **PcP 22 54 56.9 -0.4**
comp=Z,2.7nm,0.7s,baz=272,slow=3.6,SNR=2.3
SONM LR LR 23 10 09.0
comp=Z,351nm,20.6s,baz=283,slow=38
SONM Songino Array 39.10 60 P **P 22 52 47.5 -0.5**
SONM pmax pmax
comp=Z,7.0nm,0.7s
SONM Songino Array 39.10 60 P **P 22 52 47.5 -0.5**
ULN Ulaanbaatar 39.53 60 *c i*P **P 22 52 52.2 +0.6**
ULN pmax pmax
comp=Z,81nm,1.0s
ULN Ulaanbaatar 39.53 60 P **P 22 52 51.2 -0.4**
LZH Lanzhou 40.48 79 ⇑P **P 22 53 00.8 +1.1**
LZH pP pP 22 53 08.6 -0.1
LZH sP sP 22 53 11.8 -0.6
LZH S **S 22 59 06.4 -0.2**
LZH sS sS 22 59 19.3 -2.2
LZH pmax pmax
comp=Z,110nm,1.3s
LZH pmax pmax
comp=Z,170nm,5.4s
LZH LR LR
comp=Z,1μm,13.0s
LZH LR LR
comp=Z,560nm,13.4s
LZH LR LR
comp=Z,690nm,16.5s
SPA0 Spitsbergen Ar 40.69 349 P **P 22 53 01.3 +0.6**
SPA0 IAmb IAmb 22 53 05.6
comp=Z,60nm,1.0s
SPA0 Spitsbergen Ar 40.69 349 *e*P **P 22 53 01.0 +0.3**
SPITS Spitsbergen Ar 40.69 349 P **P 22 53 02.4 +1.7**
comp=Z,26nm,0.6s,baz=152,slow=18,SNR=73
PALK Pallekele 41.68 134 *c i*P **P 22 53 10.0 +0.5**
PALK pmax pmax
comp=Z,22nm,1.6s
PALK Pallekele 41.68 134 P **P 22 53 09.4 -0.1**
SESP Santiago Espad 41.78 285 P 22 53 11.2
KBS Kingsbay 41.85 349 *e*P **P 22 53 10.8 +0.7**
ESBB Sonseca Array 42.28 288 P **P 22 53 14.4 +0.1**
ESDC Sonseca Array 42.29 288 P **P 22 53 14.4 +0.1**
comp=Z,12nm,0.8s,baz=61,slow=8.3,SNR=90
ESDC ScP **ScP 22 58 55.4 -0.6**
comp=Z,2.7nm,1.1s,baz=61,slow=5.1,SNR=6.5
ESDC LR LR 23 14 41.3
comp=Z,156nm,18.1s,baz=35,slow=42
ESDC Sonseca Array 42.29 288 P **P 22 53 14.4 +0.1**
CD2 Chengdu 42.58 86 P **P 22 53 17.0 +0.2**
CD2 S **S 22 59 37.3 -0.2**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 LR LR
comp=Z,760nm,15.2s
CD2 LR LR
comp=Z,650nm,16.2s
CD2 LR LR
comp=Z,520nm,14.2s
BOD Bodaibo 42.59 44 *e*P **P 22 53 16.2 -0.2**
BOD pmax pmax
comp=Z,87nm,0.8s
TAM Tamanrasset 42.77 260 P **P 22 53 19.2 +0.7**
TAM pmax pmax
comp=Z,11nm,0.9s
TAM Tamanrasset 42.77 260 P **P 22 53 19.1 +0.7**
KMBO Kilima Mbogo 43.35 202 P **P 22 53 23.1 -0.2**
comp=Z,0.8nm,0.6s,baz=20,slow=12,SNR=1.8
KMBO LR LR 23 15 01.9
comp=Z,133nm,18.6s,baz=90,slow=41
BTO Baotou 43.44 70 P **P 22 53 22.8 -0.9**
HORN Hornachuelos 43.88 286 P 22 53 27.3
MVO Moncorvo 44.00 291 *e*P **P 22 53 29.1 +0.9**
comp=Z,26nm,1.7s
AKLM AKL 44.15 281 P 22 53 30.0
PVRL Vila Real 44.45 292 *e*P **P 22 53 32.9 +1.1**
comp=Z,30nm,1.4s
HHC Hu-ho-hao-te 44.46 69 *e*P **P 22 53 33.0 +1.1**
HHC sP sP 22 53 50.5 +5.8
HHC PcS **PcS 22 59 01.9 -6.6**
HHC S **S 23 00 05.8 +0.8**
HHC pmax pmax
comp=Z,42nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.1s
HHC LR LR
comp=Z,620nm,14.1s
HHC LR LR
comp=Z,360nm,15.2s
POLO Lamas de Olo 44.48 292 *e*P **P 22 53 33.1 +1.1**
comp=Z,14nm,2.2s
PGAV Gavieira, Arco 44.62 293 *e*P **P 22 53 34.5 +1.4**
comp=Z,44nm,1.4s
MTE Manteigas 44.63 290 *e*P **P 22 53 33.3 +0.1**
comp=Z,52nm,1.4s
KMI Kunming 44.69 94 ⇑P **P 22 53 34.3 +0.3**
KMI pP sP 22 53 44.5 -2.3
KMI sP pP 22 53 47.1 +4.0
KMI S **S 23 00 08.5 -0.3**
KMI SS **SS 23 03 23.1 -6.5**
KMI pmax pmax
comp=Z,35nm,0.8s
KMI pmax pmax
comp=Z,100nm,4.6s
KMI LR LR
comp=Z,370nm,20.4s
KMI LR LR
comp=Z,260nm,26.6s
KMI Kunming 44.69 94 IAmb IAmb 22 53 35.2
comp=Z,26nm,0.6s
PVIS Viseu 44.77 291 *e*P **P 22 53 35.4 +1.1**
comp=Z,37nm,1.7s
PCBR Castelo Branco 44.77 290 *e*P **P 22 53 35.0 +0.8**
comp=Z,24nm,1.5s
PMRV Marv??o 44.86 289 *e*P **P 22 53 36.0 +1.0**
comp=Z,31nm,1.7s
PBAR Barrancos 45.06 287 *e*P **P 22 53 37.1 +0.5**
comp=Z,17nm,2.1s
MBAR Mbarara 45.07 211 P **P 22 53 36.6 -0.4**
comp=Z,1.3nm,0.5s,baz=37,slow=23,SNR=4.1
MBAR Mbarara 45.07 211 P **P 22 53 37.6 +0.6**
MHMT Maesarieng 45.11 105 P P 22 53 41.8 +4.7
comp=Z,720nmcomp=Z,19nm,0.9s
XAN Xi'an 45.11 79 P **P 22 53 37.3 +0.2**
XAN pP pP 22 53 44.3 -2.0
XAN sP sP 22 53 48.1 -1.8
XAN PP **PP 22 55 25.0 +2.3**
XAN S **S 23 00 15.9 +1.4**
XAN sS sS 23 00 28.3 -1.2
XAN ScS **ScS 23 03 28.3 -3.6**
XAN pmax pmax
comp=Z,38nm,0.9s
XAN pmax pmax
comp=Z,170nm,4.8s
XAN LR LR
comp=Z,860nm,15.2s
XAN LR LR
comp=Z,570nm,16.8s
XAN LR LR
comp=Z,520nm,19.3s
PESTR Estremoz 45.20 288 P **P 22 53 38.5 +0.7**
PESTR IAmb IAmb 22 53 39.1
comp=Z,17nm,0.7s
PESTR Estremoz 45.20 288 P 22 53 38.4
COI Coimbra 45.32 290 *e*P **P 22 53 40.2 +1.7**
comp=Z,45nm,1.8s
MDT Midelt 45.44 279 P 22 53 40.8
RSA Sarsar 45.46 282 P 22 53 40.0
CHTO Chiang Mai 45.46 104 P **P 22 53 39.5 -0.4**
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CHTO Chiang Mai 45.46 104 P **P 22 53 39.5 -0.4**
CMMT Chiang Mai 45.47 104 P **P 22 53 40.0 0.0**
comp=Z,4.0nm,0.7s
PMTG Montargil 45.59 289 *e*P **P 22 53 40.3 -0.4**
comp=Z,26nm,1.6s
EVO Evora 45.64 288 *e*P **P 22 53 41.7 +0.6**
comp=Z,23nm,1.7s
CM15 Chiang Mai Arr 45.67 104 P **P 22 53 44.0 +2.4**
comp=Z,118nmcomp=Z,9.6nm,0.9s
CM13 Chiang Mai Arr 45.68 104 P **P 22 53 43.0 +1.3**
comp=Z,69nmcomp=Z,11nm,1.0s
CMAR Chiang Mai Arr 45.68 104 P **P 22 53 41.1 -0.6**
comp=Z,4.7nm,0.7s,baz=303,slow=8.2,SNR=21
CMAR LR LR 23 18 01.7
comp=Z,105nm,18.5s,baz=334,slow=43
CMAR Chiang Mai Arr 45.68 104 P **P 22 53 41.4 -0.3**
CM02 Chiang Mai Arr 45.70 104 P **P 22 53 43.5 +1.7**
comp=Z,72nmcomp=Z,9.6nm,0.9s
CM01 Chiang Mai Arr 45.72 104 P **P 22 53 44.1 +2.1**
comp=Z,81nmcomp=Z,10nm,1.0s
CM05 Chiang Mai Arr 45.72 104 P **P 22 53 42.0 0.0**
comp=Z,60nmcomp=Z,7.8nm,0.8s
PBEJ Beja 45.72 287 *e*P **P 22 53 42.2 +0.4**
comp=Z,6.4nm,1.2s
CM09 Chiang Mai Arr 45.73 104 P **P 22 53 44.8 +2.7**
comp=Z,5.7nm,0.7s
CM04 Chiang Mai Arr 45.74 104 P **P 22 53 43.0 +0.8**
comp=Z,74nmcomp=Z,9.3nm,0.8s
PSBE So Bento 45.84 290 *e*P **P 22 53 44.0 +1.2**
comp=Z,36nm,1.3s
PVAQ Vaqueiros 45.85 287 *e*P **P 22 53 43.2 +0.4**
comp=Z,24nm,2.3s
PCVE Castro Verde 46.00 287 *e*P **P 22 53 42.5 -1.5**
comp=Z,30nm,1.5s
MESJ Messejana 46.05 287 *e*P **P 22 53 45.2 +0.8**
comp=Z,25nm,1.5s
PBDV Barranco-do-Ve 46.07 286 *e*P **P 22 53 45.1 +0.5**
comp=Z,37nm,1.8s
LAMP Lampang 46.15 104 P **P 22 53 47.2 +1.7**
comp=Z,250nmcomp=Z,29nm,0.8s
PNCL Nicolau / Gran 46.17 288 *e*P **P 22 53 46.3 +1.0**
comp=Z,28nm,1.7s
GOLM Goulmima 46.20 278 P 22 53 48.0
TIY Taiyuan 46.23 73 *e*P **P 22 53 47.1 +1.2**
TIY S **S 23 00 30.3 -0.2**
TIY pmax pmax
comp=Z,25nm,0.8s
TIY LR LR
comp=Z,220nm,8.1s
TIY LR LR
comp=Z,200nm,8.0s
TIY LR LR
comp=Z,640nm,22.0s
PTEO Sao Teotonio 46.53 287 *e*P **P 22 53 48.6 +0.4**
comp=Z,61nm,1.7s
ZHG ZHG 46.69 281 P 22 53 51.0
PFVI Vila Bisbo 46.77 287 *e*P **P 22 53 47.6 -2.5**
comp=Z,85nm,1.6s
DAG Danmarks Havn 46.77 343 *i* P **P 22 53 49.5 0.0**
comp=Z,16nm,0.7s
DAG Danmarks Havn 46.77 343 *i* P **P 22 53 49.5 0.0**
DAG Danmarks Havn 46.77 343 *i* P **P 22 53 49.5 0.0**
DAG IAmb IAmb 22 53 52.9
comp=Z,16nm,0.7s
SUKH Sukhothai 46.80 105 P P 22 53 58.0 +7.5
comp=Z,14nm,0.9s
DBG Daneborg 46.91 339 *i* P **P 22 53 52.8 +2.1**
DBG IAmb IAmb 22 53 55.7
comp=Z,19nm,1.0s
GYA Guiyang 46.98 90 ⇓P **P 22 53 52.1 +0.1**
GYA S **S 23 00 38.0 -3.6**
GYA pmax pmax
comp=Z,11nm,0.7s
GYA LR LR
comp=Z,190nm,14.0s
GYA LR LR
comp=Z,200nm,22.5s
TZRR Tazzarine 47.09 277 P 22 53 54.0
ENH Enshi 47.24 83 IAmb IAmb 22 53 58.0
comp=Z,21nm,0.9s
UTTA Uttaradit 47.32 104 P **P 22 53 55.6 +1.1**
comp=Z,187nmcomp=Z,18nm,0.7s
NOR Nord 47.33 349 *i* P **P 22 53 53.9 0.0**
comp=Z,8.3nm,0.8s
NOR Nord 47.33 349 *i* P **P 22 53 53.9 0.0**
NOR Nord 47.33 349 *i* P **P 22 53 53.9 0.0**
NOR IAmb IAmb 22 53 55.0
comp=Z,8.3nm,0.8s
HIA Hailar 47.43 55 *c i*P **P 22 53 55.9 +0.8**
HIA *i* *PP **pP 22 54 05.0 +0.7**
HIA pmax pmax
comp=Z,35nm,0.9s
ZGR Zagora 47.44 277 P 22 53 57.0
SLVN Son La 47.69 97 P **P 22 53 57.0 -0.4**
OUZM OUZ 47.93 278 P 22 54 01.0
BJI Beijing 48.04 68 P **P 22 54 00.1 +0.3**
BJI S **S 23 00 54.8 -1.2**
BJI pmax pmax
comp=Z,4.0nm,0.6s
BJI LR LR
comp=Z,770nm,15.9s
BJI LR LR
comp=Z,360nm,18.8s
BJT Baijiatuau 48.04 68 P **P 22 53 59.6 -0.3**
BJT pmax pmax
comp=Z,13nm,0.9s
BJT Baijiatuau 48.04 68 P **P 22 53 59.6 -0.3**
BJT IAmb IAmb 22 54 03.8
comp=Z,13nm,0.9s
TIXI Tiksi 48.25 24 P **P 22 54 01.7 +0.6**
comp=Z,36nm,0.7s,baz=292,slow=6.2,SNR=97
TIXI PP **PP 22 55 54.0 +0.7**
comp=Z,8.4nm,0.8s,baz=280,slow=7.7,SNR=3.1
TIXI Tiksi 48.25 24 *c i*P **P 22 54 01.4 +0.3**
TIXI pmax pmax
comp=Z,289nm,1.3s
TIXI Tiksi 48.25 24 P **P 22 54 01.4 +0.3**
SRDT SRDT 48.44 108 P P 22 54 17.0 +14
OUK Oukaimeden 48.63 279 P 22 54 06.2
NONG Nongkai 49.06 101 P **P 22 54 08.0 0.0**
comp=Z,38nm,0.7s
TTIG Tnine Tigouga, 49.38 279 P 22 54 12.0
CHAI Chaiyaphum 49.54 104 P **P 22 54 15.0 +3.3**
comp=Z,16nm,1.0s
YAK Yakutsk 49.84 37 P **P 22 54 13.0 -0.3**
comp=Z,12nm,0.5s,baz=219,slow=0.8,SNR=6.5
YAK Yakutsk 49.84 37 *e*P **P 22 54 12.8 -0.5**
YAK *e*S **S 23 01 27.0 +6.2**
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,15nm,1.4s
YAK smax smax
comp=E,20nm,1.8s
YAK MLR MLR
comp=Z,769nm,15.0s
YAK MLR MLR
comp=E,456nm,13.0s
YAK MLR MLR
comp=N,154nm,11.0s
YAK Yakutsk 49.84 37 P **P 22 54 13.4 +0.1**
KHON Khomkaen 49.89 103 P **P 22 54 17.8 +3.5**
TIA Tai'an 50.27 73 P **P 22 54 16.8 -0.2**
TIA pmax pmax
comp=N,21nm,1.2s
TIA LR LR
comp=N,240nm,17.5s
TIA LR LR
comp=N,360nm,22.4s
TIA LR LR
comp=N,520nm,23.0s
ZEA Zeya 50.67 48 *e*P **P 22 54 21.6 +1.9**
ZEA pmax pmax
comp=Z,20nm,1.3s
ZEA MLR MLR
comp=E,400nm,20.0s
ZEA MLR MLR
comp=Z,400nm,22.0s
WHN Wuhan 50.79 80 ⇓P **P 22 54 21.8 +0.8**

WHN S **S** **23 01 43.5 +8.7**
WHN pmax pmax
comp=Z,60nm,0.7s
WHN LR LR
comp=Z,860nm,8.7s
WHN LR LR
comp=Z,970nm,9.6s
WHN LR LR
comp=Z,950nm,14.0s
SRAK Srakaew 50.80 106 P **P** **22 54 25.5 +4.3**
TOA0 Torodi Ar. Sit 51.58 253 P **P** **22 54 27.1 0.0**
TORD Torodi Ar. Bea 51.58 253 P **P** **22 54 26.6 -0.5**
comp=Z,3.0nm,0.6s,baz=55,slow=6.1,SNR=19
TORD Torodi Ar. Bea 51.58 253 P **P** **22 54 26.5 -0.6**
SUMG Summit 52.26 338 *i* P **P** **22 54 33.1 +1.3**
comp=Z,34nm,0.7s
SUMG Summit 52.26 338 P **P** **22 54 32.2 +0.3**
SUMG pmax pmax
comp=Z,37nm,0.8s
SUMG Summit 52.26 338 P **P** **22 54 32.2 +0.3**
SUMG Summit 52.26 338 *i* P **P** **22 54 33.2 +1.3**
SUMG IAmb IAmb 22 54 37.4
comp=Z,34nm,0.7s
NJ2 Nanjing 53.44 76 ⇓P **P** **22 54 41.3 +0.6**
NJ2 pmax pmax
comp=Z,25nm,0.6s
QIZ Qiongzhong 53.55 95 P **P** **22 54 42.8 +1.2**
QIZ S **S** **23 02 12.6 -0.3**
QIZ LR LR
comp=Z,180nm,12.0s
QIZ LR LR
comp=Z,190nm,13.3s
QIZ LR LR
comp=Z,200nm,11.4s
KLR Kulʲdur 54.86 52*c i* P **P** **22 54 51.0 +0.2**
KLR pmax pmax
comp=Z,29nm,0.8s
KLR MLR MLR
comp=Z,244nm,21.0s
SSE Sheshan 55.65 76 P **P** **22 54 57.3 +0.6**
SSE S **S** **23 02 43.8 +3.0**
SSE pmax pmax
comp=Z,22nm,0.6s
SSE LR LR
comp=Z,130nm,9.3s
SSE LR LR
comp=Z,190nm,10.1s
SSE LR LR
comp=Z,160nm,9.8s
PSI Prapat 56.40 119 P **P** **22 55 01.2 -1.2**
PSI pmax pmax
comp=Z,10.0nm,0.8s
RPSI Rantau Prapat 56.48 119 P **P** **22 55 01.2 -1.6**
GRNR Gornyy 56.99 49⇑ *i* P **P** **22 55 06.3 +0.3**
GRNR pmax pmax
comp=Z,7.0nm,1.2s
GRNR MLR MLR
comp=E,210nm,20.0s
GRNR MLR MLR
comp=N,220nm,20.0s
GRNR MLR MLR
comp=Z,260nm,18.0s
USA0B Ussuriysk Arra 57.10 58*d i* P **P** **22 55 06.7 -0.2**
USA0B Ussuriysk Arra 57.10 58 P **P** **22 55 06.7 -0.2**
USRK Ussuriysk Ar. 57.10 58 P **P** **22 55 06.5 -0.4**
comp=Z,31nm,0.7s,baz=283,slow=6.9,SNR=54
USRK LR LR 23 22 03.1
comp=Z,757nm,18.1s,baz=291,slow=39
USRK Ussuriysk Ar. 57.10 58 P **P** **22 55 06.7 -0.2**
MSHR Mys Shultsa 57.28 60⇓ *eP* **P** **22 55 10.4 +2.2**
MSHR pmax pmax
comp=Z,73nm,1.1s
ILULI Ilulissat 57.36 336 IAmb IAmb 22 55 13.1
comp=Z,19nm,0.6s
KSAR Wonju Array Be 57.42 66 P **P** **22 55 08.9 -0.3**
KSAR Wonju Array Be 57.42 66 P **P** **22 55 08.9 -0.3**
KSRS Korea Array 57.44 66 P **P** **22 55 09.4 +0.1**
comp=Z,27nm,0.6s,baz=293,slow=6.7,SNR=70
KSRS LR LR 23 22 33.7
comp=Z,187nm,18.2s,baz=298,slow=39
TJN Taejon 57.56 68⇑ *eP* **P** **22 55 09.5 -0.7**
EUNU Eureka 57.69 352 IAmb IAmb 22 55 13.0
comp=Z,19nm,0.9s
TULEG Thule 57.72 346 P **P** **22 55 11.2 +0.4**
SFJD Kangerlussuaq 58.25 333 P **P** **22 55 15.4 +0.8**
SFJD pmax pmax
comp=Z,9.0nm,0.7s
SFJD Kangerlussuaq 58.25 333 P **P** **22 55 15.3 +0.8**
SFJD IAmb IAmb 22 55 30.4
comp=Z,9.4nm,0.7s
SEY Seymchan 59.36 32⇑ *eP* **P** **22 55 23.5 +1.1**
SEY *i* *PP **pP** **22 55 30.8 -1.0**
LSZ Lusaka 59.54 207 P **P** **22 55 25.0 +0.7**
LSZ pmax pmax
comp=Z,4.0nm,0.8s
LSZ Lusaka 59.54 207 P **P** **22 55 25.0 +0.7**
MA2 Magadan 60.33 35*c i* P **P** **22 55 29.4 +0.3**
MA2 pmax pmax
comp=Z,40nm,1.0s
MA2 Magadan 60.33 35 P **P** **22 55 29.1 0.0**
TYV Tymovskoe 60.48 47 *eP* **P** **22 55 28.4 -1.9**
TYV pmax pmax
comp=Z,100nm,5.1s
TYV pmax pmax
comp=Z,43nm,0.8s
DBIC Dimbokro 60.68 253 P **P** **22 55 31.9 -0.2**
comp=Z,17nm,0.7s,baz=23,slow=7.7,SNR=30
DBIC Dimbokro 60.68 253 P **P** **22 55 32.6 +0.5**
DBIC IAmb IAmb 22 55 32.9
comp=Z,15nm,0.7s
KIC Kosan Boka 60.81 252 *eP* **P** **22 55 33.3 +0.3**
comp=Z,44nm,0.7s
TIC Toumodi 60.82 253 *eP* **P** **22 55 33.3 +0.2**
LIC Lamto 61.11 252 *eP* **P** **22 55 35.3 +0.3**
comp=Z,94nm,0.6s
BILL Bilibino 61.42 23*d i* P **P** **22 55 37.2 +0.8**
BILL *i* 22 56 15.0
BILL *i* 22 57 53.9
BILL pmax pmax
comp=Z,43nm,1.0s
BILL MLR MLR
comp=Z,445nm,18.0s
BILL Bilibino 61.42 23 P **P** **22 55 37.0 +0.6**
JNU Nakatsue 61.69 69 P **P** **22 55 38.3 -0.5**
YSS Yuzh-Sakhalins 62.46 51 *eP* **P** **22 55 43.6 -0.1**
YSS *e* 22 56 20.3
YSS pmax pmax
comp=Z,40nm,0.7s
YSS MLR MLR
comp=Z,500nm,14.0s
YSS Yuzh-Sakhalins 62.46 51 P **P** **22 55 43.7 -0.1**
RES Resolute Bay 63.23 351 P **P** **22 55 49.1 +0.7**
RES pmax pmax
comp=Z,7.0nm,1.0s
RES Resolute Bay 63.23 351 P **P** **22 55 49.1 +0.7**
JWT Wachi 63.74 65 P **P** **22 55 52.1 -0.3**
MAJO Matsushiro 65.00 62*ce* P **P** **22 55 59.5 -1.1**
MAJO pmax pmax
comp=Z,18nm,0.8s
MAT Matsushiro 65.00 62 P **P** **22 55 59.7 -0.9**
MJAR Matsushiro Arr 65.00 62 P **P** **22 55 59.7 -0.9**
comp=Z,11nm,0.9s,baz=304,slow=8.8,SNR=13
MJAR LR LR 23 26 43.8
comp=Z,250nm,18.5s,baz=320,slow=38
MJAR Matsushiro Arr 65.00 62 P **P** **22 56 00.4 -0.3**
SBUM Sibu 65.97 108 P **P** **22 56 06.8 -0.3**
KKM Kota Kinabalu 66.51 103 P **P** **22 56 10.2 -0.5**
A21K Barrow 66.85 10 P **P** **22 56 12.5 +0.6**
A21K Barrow 66.85 10 P 22 56 12.7
baz=336
PEA0B Petropavlovsk- 67.11 39 P **P** **22 56 13.5 -0.4**
PEA0B pmax pmax
comp=Z,33nm,1.2s
PEA0B Petropavlovsk- 67.11 39 P **P** **22 56 13.5 -0.4**
PEA0B IAmb IAmb 22 56 16.9
comp=Z,33nm,1.1s
PETK Petropavlovsk- 67.11 39 P **P** **22 56 13.2 -0.7**
comp=Z,16nm,1.0s,baz=291,slow=4.1,SNR=11
PETK LR LR 23 28 00.5
comp=Z,381nm,20.5s,baz=302,slow=38
PETK Petropavlovsk- 67.11 39 P **P** **22 56 13.3 -0.6**
RDOG Red Dog Mine 68.85 13 P 22 56 25.0
baz=332
LBTB Lobatse 69.46 206 P **P** **22 56 29.6 +0.7**
LBTB pmax pmax
comp=Z,22nm,1.0s
LBTB Lobatse 69.46 206 P **P** **22 56 29.6 +0.7**
LBTB IAmb IAmb 22 56 44.5
comp=Z,22nm,1.0s
TOLK Toolik Lake Re 70.22 8 P 22 56 34.1
baz=343,SNR=101
C36M Paulatuk 70.66 359 IAmb IAmb 22 56 39.2
comp=Z,20nm,0.8s
C36M Paulatuk 70.66 359 P 22 56 35.4
baz=3.1
ANM Nome 71.44 16 P **P** **22 56 41.0 +0.5**
ANM pmax pmax
comp=Z,24nm,0.9s
ANM Nome 71.44 16 P **P** **22 56 41.0 +0.5**
ANM IAmb IAmb 22 56 44.7
comp=Z,24nm,0.9s
ANM Nome 71.45 16 P 22 56 41.2
baz=331
COLD Coldfoot 71.50 9 P 22 56 41.7
baz=342,SNR=57
INK Inuvik 71.67 2 IAmb IAmb 22 56 45.0
comp=Z,18nm,1.0s
BMAR Burnt Mountain 71.89 7 P **P** **22 56 43.7 +0.5**
IMAR Indian Mountai 72.22 11 P **P** **22 56 45.7 +0.6**
FYU Fort Yukon 72.67 7 IAmb IAmb 22 56 53.0
comp=Z,29nm,1.2s
BOSA Boshof 72.91 204 P **P** **22 56 50.5 +0.7**
comp=Z,0.8nm,0.5s,baz=359,slow=3.8,SNR=5.2
BOSA LR LR 23 33 35.4
comp=Z,172nm,18.7s,baz=30,slow=40
BOSA Boshof 72.91 204 P **P** **22 56 50.5 +0.7**
DAV Davao City (W) 72.92 95 LR LR 23 33 21.4
comp=Z,90nm,19.0s,baz=351,slow=40
EPYK Eagle Plains 73.48 4 P **P** **22 56 53.1 +0.4**
EPYK IAmb IAmb 22 56 56.5
comp=Z,35nm,0.9s
EPYK Eagle Plains 73.48 4 P 22 56 52.5
baz=353
MLY Manley 73.53 10 IAmb IAmb 22 56 57.9
comp=Z,38nm,1.0s
MLY Manley 73.53 10 P 22 56 54.0
baz=342,SNR=50
I23K Minto, Yukon-K 73.59 9 IAmb IAmb 22 56 59.1
comp=Z,30nm,1.1s
I23K Minto, Yukon-K 73.59 9 P 22 56 54.5
baz=343,SNR=26
PRP Porcupine Dome 73.67 8 P 22 56 54.9
baz=346,SNR=5.6
POKR Poker Plat Res 73.85 8 IAmb IAmb 22 57 00.0
comp=Z,40nm,1.0s
POKR Poker Plat Res 73.85 8 P 22 56 56.1
baz=345,SNR=12
MDM Murphy Dome 73.91 9 IAmb IAmb 22 57 00.1
comp=Z,20nm,1.0s
COLA College 74.04 9*c i* P **P** **22 56 56.6 +0.7**
COLA pmax pmax
comp=Z,44nm,1.0s
NEA2 Nenana 74.17 9 P 22 56 57.3
baz=343,SNR=48
IL31 74.25 8 P **P** **22 56 57.5 +0.5**
ILAR Eielson Array 74.25 8 P **P** **22 56 57.1 0.0**
comp=Z,9.0nm,0.9s,baz=335,slow=4.4,SNR=42
ILAR PP **PP** **22 59 45.0 +2.7**
comp=Z,2.1nm,1.0s,baz=353,slow=6.3,SNR=4.5
ILAR LR LR 23 31 46.0
comp=Z,114nm,22.0s,baz=340,slow=38
ILAR Eielson Array 74.25 8 P **P** **22 56 57.7 +0.5**
CCB Clear Creek Bu 74.26 9 IAmb IAmb 22 57 01.4
comp=Z,21nm,1.1s
BPAW Bear Paw Mtn. 74.39 10 IAmb IAmb 22 57 03.4
comp=Z,28nm,0.9s
BPAW Bear Paw Mtn. 74.39 10 P 22 56 58.4
baz=342,SNR=37
CHUM Lake Minchumin 74.41 11 P 22 56 59.2
baz=341,SNR=17
HDA Harding Lake 74.59 8 P 22 56 59.1
baz=345,SNR=27
HDA P 22 56 59.1
baz=345,SNR=27
EGAK Eagle 74.78 6 IAmb IAmb 22 57 05.0
comp=Z,28nm,0.9s
EGAK Eagle 74.78 6 P 22 57 00.9
baz=350
KTH Kantishna Hill 74.92 10 IAmb IAmb 22 57 05.6
comp=Z,28nm,0.8s
MCK McKinley 75.01 9 P **P** **22 57 02.0 +0.4**
MCK pmax pmax
comp=Z,24nm,0.8s
MCK McKinley 75.01 9 P **P** **22 57 02.0 +0.4**
MCK IAmb IAmb 22 57 05.8
comp=Z,24nm,0.8s
MCK McKinley 75.01 9 P 22 57 01.8
baz=344,SNR=24
TRF Thorofare Moun 75.10 10 IAmb IAmb 22 57 07.8
comp=Z,15nm,0.9s
TRF Thorofare Moun 75.10 10 P 22 57 02.3
baz=342,SNR=12
SCRK Sand Creek 75.32 7 IAmb IAmb 22 57 08.3
comp=Z,25nm,1.0s
SCRK Sand Creek 75.32 7 P 22 57 04.5
baz=347,SNR=31
PPLA Purkeypile 75.36 11 IAmb IAmb 22 57 07.9
comp=Z,25nm,1.0s
PPLA Purkeypile 75.36 11 P 22 57 04.0
baz=341,SNR=11
K27K Chicken 75.44 6 IAmb IAmb 22 57 08.8
comp=Z,22nm,0.9s
K27K Chicken 75.44 6 P 22 57 05.0
baz=349
DOT Dot Lake 75.64 7 P **P** **22 57 05.6 +0.4**
DOT IAmb IAmb 22 57 10.0
comp=Z,31nm,0.9s
WAT2 Susitna Watana 75.80 10 P 22 57 05.5
baz=344,SNR=20
CUT Chulitna 76.11 10 P 22 57 08.1
baz=343
PAX Paxson 76.15 8 IAmb IAmb 22 57 12.3
comp=Z,19nm,1.0s
PAX Paxson 76.16 8 P 22 57 08.4
baz=346,SNR=16
WAT6 Susitna Watana 76.27 9 P 22 57 08.7
baz=344,SNR=19
SKT Skwentna 76.33 11 P 22 57 09.2
baz=342,SNR=40
MENT Mentasta 76.36 7 P **P** **22 57 09.8 +0.4**
MENT IAmb IAmb 22 57 14.2
comp=Z,26nm,0.8s
BCAR Beaver Creek A 76.42 6 P **P** **22 57 10.1 +0.4**
SVW2 Sparrevohn 76.50 13 IAmb IAmb 22 57 15.1
comp=Z,16nm,1.0s
GHO Glory Hole Cre 76.90 10 IAmb IAmb 22 57 16.9
comp=Z,23nm,0.8s
M24K Tolsona, Glenn 76.92 9 P 22 57 13.9
baz=346,SNR=17
SUA Susitna One 76.94 11 P 22 57 13.2
baz=342,SNR=54
SML Sawmill 76.94 10 P 22 57 13.0
baz=344,SNR=22
YKA Yellowknife Ar 77.02 354 P **P** **22 57 12.2 -0.8**
comp=Z,8.1nm,0.9s,baz=11,slow=6.1,SNR=68
YKA LR LR 23 34 56.5
comp=Z,91nm,20.6s,baz=0.0,slow=39
YKA Yellowknife Ar 77.02 354*ce* P **P** **22 57 12.8 -0.2**
YKA pmax pmax
comp=Z,8.0nm,0.9s
PMR Palmer 77.04 10 P **P** **22 57 13.7 +0.6**
PMR pmax pmax
comp=Z,33nm,0.8s
PMR Palmer 77.04 10 P **P** **22 57 13.7 +0.6**
SCM Sheep Creek Mo 77.04 9 IAmb IAmb 22 57 17.6
comp=Z,41nm,1.2s
PMR Palmer 77.05 10 P 22 57 13.4
baz=344,SNR=13
KNK Knik Glacier 77.31 10 P 22 57 15.5
baz=344,SNR=23
FCC Fort Churchill 77.38 343 IAmb IAmb 22 57 16.9
comp=Z,15nm,0.8s
RC01 Rabbit Creek A 77.44 11 P 22 57 16.0
baz=343,SNR=28
CAPN Captain Cook N 77.54 11 P 22 57 17.6
baz=342
KLU Klutina 77.55 9 P 22 57 17.2
baz=346,SNR=25
N25K Chitina, Valde 77.58 8 P 22 57 16.8
baz=347
RSO Redoubt South 77.58 12 P **P** **22 57 16.6 +0.2**
PWL Port Wells 77.86 10 IAmb IAmb 22 57 22.1
comp=Z,29nm,1.0s
MCARA McCarthy VSAT 77.96 7 IAmb IAmb 22 57 23.0
comp=Z,18nm,1.1s
MCARA McCarthy VSAT 77.96 7 P 22 57 19.0
baz=348
GLI Glacier Island 78.00 9 IAmb IAmb 22 57 22.9
comp=Z,19nm,0.9s
GLI Glacier Island 78.00 9 P 22 57 19.0
baz=345
O22K Cooper Landing 78.03 11 P 22 57 19.4
baz=343
FID Port Fidalgo 78.20 9 IAmb IAmb 22 57 24.4
comp=Z,26nm,0.9s
BMRM Bremner River 78.20 8 P **P** **22 57 19.9 +0.2**
BMRM Bremner River 78.20 8 P 22 57 20.5
baz=347
BARN Barnard Glacie 78.41 7 IAmb IAmb 22 57 25.9
comp=Z,18nm,0.9s
SEW Seward 78.43 11 P 22 57 21.8
baz=343,SNR=16
EYAK Cordova Ski Ar 78.48 9 IAmb IAmb 22 57 26.3
comp=Z,12nm,0.8s
EYAK Cordova Ski Ar 78.48 9 P 22 57 22.8
baz=346
CTGM Chitina Glacie 78.53 7 IAmb IAmb 22 57 26.5
comp=Z,28nm,0.8s
CTG Chitna Glacier 78.53 7 P 22 57 22.9
baz=350
CRQM Cirque 78.56 8 IAmb IAmb 22 57 29.0
comp=Z,20nm,1.2s
CRQE Cirque 78.57 8 P 22 57 23.8
baz=348
TGL Tana Glacier 78.59 7 IAmb IAmb 22 57 26.5
comp=Z,18nm,1.1s
CNPM China Poot 78.72 12 IAmb IAmb 22 57 26.1
comp=Z,22nm,0.8s
TABL Table Mountain 79.06 7 IAmb IAmb 22 57 40.8
comp=Z,26nm,0.8s
YAH Yahtse 79.08 7 IAmb IAmb 22 57 29.8
comp=Z,28nm,0.8s
PINM Pinnacle 79.48 6 P 22 57 28.0
baz=350
MATQ Matagami 80.01 330 P 22 57 31.0
baz=37
KDAK Kodiak Island 80.15 13 P **P** **22 57 30.7 +0.4**
KDAK pmax pmax
comp=Z,43nm,1.0s
KDAK Kodiak Island 80.15 13 P **P** **22 57 30.7 +0.4**
OHAK Old Harbor 80.56 14 P 22 57 33.3
baz=341
E58A La Victoria 80.88 325 P 22 57 35.9
baz=39
G61A St-Isidore-de- 80.94 323 P 22 57 36.7
baz=40
D56A ZEC Mazanza, M 80.99 326 P 22 57 36.3
baz=38
F59A Saint Guilaume 81.07 324 P 22 57 36.7
baz=39
VLDQ Val d'Or 81.26 328 IAmb IAmb 22 57 38.9
comp=Z,10nm,0.8s
D55A Sainte-Anne-du 81.32 327 P 22 57 38.4
baz=38
E56A St. Veronique 81.51 326 P 22 57 39.3
baz=38
DLBC Dease Lake 81.64 1 IAmb IAmb 22 57 43.3
comp=Z,14nm,0.9s
E55A Montcerf-Lytto 82.01 327 P 22 57 42.2
baz=37
G58A Ormstown 82.18 325 P 22 57 42.8
baz=38
FFC Flin Flon 82.79 345 P **P** **22 57 44.3 0.0**
FFC pmax pmax
comp=Z,8.0nm,0.6s
FFC Flin Flon 82.79 345 P **P** **22 57 44.3 0.0**
FFC IAmb IAmb 22 57 48.3
comp=Z,7.6nm,0.6s
ALGO Algonquin Park 83.24 327 P 22 57 48.2
baz=36
H57A Richville 83.31 325 P 22 57 49.0
baz=38
J59A Piesco 83.70 324 P 22 57 50.9
baz=38
G54A Lake Saint Pet 83.71 327 P 22 57 50.8
baz=36
I58A Old Forge 83.73 324 P 22 57 50.7
baz=38
E46A Sault Ste Mari 85.34 331 P **P** **22 57 57.9 +0.4**
E46A IAmb IAmb 22 57 59.6
comp=Z,16nm,0.8s
ULM Lac du Bonnet 85.55 340 P **P** **22 57 58.0 -0.4**
comp=Z,5.1nm,0.7s,baz=32,slow=4.9,SNR=9.5
ULM LR LR 23 37 49.3
comp=Z,164nm,20.2s,baz=28,slow=37
D41A Chassel 86.23 334 IAmb IAmb 22 58 21.4
comp=Z,8.3nm,0.8s
E43A Lone Tree Farm 86.29 333 IAmb IAmb 22 58 07.3
comp=Z,12nm,0.9s
EYMN Ely 86.39 336 IAmb IAmb 22 58 03.6
comp=Z,9.5nm,1.1s
EYMN Ely 86.39 336 P 22 58 02.8
baz=27
COWI Conover 87.26 334 IAmb IAmb 22 58 24.2
comp=Z,10.0nm,1.0s
AGMN Agassiz Nation 87.33 339 P **P** **22 58 07.6 +0.3**
AGMN IAmb IAmb 22 58 11.2
comp=Z,7.7nm,0.8s
AGMN Agassiz Nation 87.33 339 P 22 58 07.4
baz=24
E38A The Farm, Brul 87.60 336 IAmb IAmb 22 58 09.2
comp=Z,8.4nm,0.8s
G40A Rib Lake 88.35 334 IAmb IAmb 22 58 13.6
comp=Z,13nm,0.8s
F36A Milaca 88.87 337 IAmb IAmb 22 58 19.2
comp=Z,8.4nm,0.8s
I42A Draeger Farm, 89.12 333 IAmb IAmb 22 58 20.4
comp=Z,9.8nm,0.9s
DGMT Dagmar 89.16 344 IAmb IAmb 22 58 19.2
comp=Z,15nm,1.1s
SPMN Marine on St. 89.22 336 P **P** **22 58 16.6 +0.3**
SPMN Marine on St. 89.22 336 P 22 58 16.8
baz=26
F33A 5 Mile Ranch, 89.70 338 IAmb IAmb 22 58 22.8
comp=Z,12nm,0.8s
P53A Whipple 89.95 326 IAmb IAmb 22 58 24.8
comp=Z,11nm,0.9s
P52A Corning 90.14 326 IAmb IAmb 22 58 25.0
comp=Z,20nm,1.1s
P52A Corning 90.14 326 P 22 58 21.1
baz=33
I37A Lemond, Waseca 90.50 336 IAmb IAmb 22 58 27.4
comp=Z,12nm,0.9s
JAY Jayapura 90.60 93 LR LR 23 43 28.8
comp=Z,48nm,18.7s,baz=202,slow=38
EGMT Eagleton 90.61 348 IAmb IAmb 22 58 29.4
comp=Z,9.0nm,0.8s
T58A Grand View Acr 90.76 322 P 22 58 24.8
baz=35
Q51A Peebles 91.16 327 P **P** **22 58 25.7 +0.2**
Q51A IAmb IAmb 22 58 30.4
comp=Z,18nm,1.1s
NEW Newport 91.32 353 IAmb IAmb 22 58 30.8
comp=Z,5.8nm,0.8s
NEW Newport 91.32 353 P 22 58 27.3
baz=8.2
B08A Colville Reser 91.42 354 P **P** **22 58 26.7 +0.2**
SUSD Miller 91.72 340 P 22 58 29.2
baz=22
ECSD EROS Data Cent 91.72 338 IAmb IAmb 22 58 33.0
comp=Z,11nm,0.8s
ECSD EROS Data Cent 91.72 338 P 22 58 28.5
baz=23
NBPV Pedro Velho 92.05 263 *eP* **P** **22 58 30.7 +0.8**
RCBR Riachuelo 92.14 264 *eP* **P** **22 58 32.4 +2.1**
MSO Missoula 92.38 350 P 22 58 31.7
baz=11
D03D Eldon 92.47 357 P 22 58 33.1
baz=3.7
N41A Harden Midland 92.61 333 P **P** **22 58 32.4 +0.3**
E09A Wood Farm, Sta 93.15 353 IAmb IAmb 22 58 36.3
comp=Z,5.5nm,0.8s
LON Longmire 93.19 356 IAmb IAmb 22 58 39.7
comp=Z,6.0nm,0.8s
RSSD Black Hills 93.26 343 P **P** **22 58 35.3 -0.1**
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 93.26 343 P **P** **22 58 35.3 -0.1**
RSSD IAmb IAmb 22 58 37.9
comp=Z,4.8nm,0.8s

BOZ	**Bozeman (W)** baz=12	**93.27 349**	P		22 58 36.0		
RLMT	**Red Lodge** baz=14	**93.35 347**	P		22 58 36.7		
F10A	**Beach Ranch, E**	**93.60 353**	P	**P**	**22 58 36.8**	**+0.1**
F10A	comp=Z,7.9nm,0.8s		IAmb	IAmb	22 58 41.6		
NBLI	**Livramento-PB**	**93.92 264**	*e*P	**P**	**22 58 42.5**	**+3.9**
YHH	**Holmes Hill** comp=Z,4.0nm,0.7s	**93.93 348**	IAmb	IAmb	22 58 43.5		
H17A	**Grant Village** baz=13	**94.27 348**	P		22 58 43.0		
FLWY	**Flagg Ranch** comp=Z,5.9nm,0.8s	**94.60 348**	IAmb	IAmb	22 58 48.3		
NBPB	**Pedra_Branca-C**	**94.77 267**	*e*P	**P**	**22 58 46.2**	**+3.8**
HLID	**Hailey** baz=10	**95.66 350**	P		22 58 46.7		
PDAR	**Pinedale Array** comp=Z,0.4nm,0.6s,baz=56,slow=5.6,SNR=5.9	**95.68 346**	P	**P**	**22 58 45.9**	**-0.6**
PDAR	comp=Z,0.8nm,0.9s,baz=46,slow=6.4,SNR=4.1		PP	**PP**	**23 02 39.0**	**+2.1**
PDAR	comp=Z,118nm,18.6s,baz=14,slow=38		LR	LR	23 46 24.8		
MFID	**Camas Ranch** comp=Z,6.7nm,0.8s	**95.98 351**	IAmb	IAmb	22 58 53.0		
I04A	**Tendick Farm,** baz=4.2	**96.17 356**	P		22 58 48.9		
MGMO	**Mountain Grove**	**96.27 332**	P	**P**	**22 58 49.1**	**+0.1**
MGMO	comp=Z,5.3nm,0.8s		IAmb	IAmb	22 58 53.7		
J05D	**Fort Rock, OR** baz=5.1	**96.61 355**	P		22 58 52.2		
WRA	**Warramunga Arr** comp=Z,1.8nm,0.6s,baz=320,slow=4.0,SNR=14	**97.02 110**	P	**P**	**22 58 51.1**	**-1.4**
WRA	comp=Z,0.5nm,0.9s,baz=129,slow=2.8,SNR=1.6		PKKP	**PKKPdf**	**23 15 33.4**	**-0.8**
WRA	comp=Z,31nm,18.0s,baz=280,slow=41		LR	LR	23 52 04.0		
WRA	**Warramunga Arr**	**97.02 110**	P	**P**	**22 58 52.1**	**-0.4**
ASAR	**Alice Springs** comp=Z,0.1nm,0.5s,baz=302,slow=4.5,SNR=1.2	**99.09 113**	P	**Pdif**	**22 58 59.8**	**-2.0**
ASAR	comp=Z,57nm,18.1s,baz=200,slow=40		LR	LR	23 52 13.2		
ASAR	**Alice Springs**	**99.09 113**	P	**Pdif**	**22 59 01.5**	**-0.3**
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.7s,baz=9.8,slow=5.9,SNR=3.6	**101.18 352**	P	**Pdif**	**22 59 11.4**	**+0.2**
NVAR	comp=Z,0.9nm,1.0s,baz=26,slow=7.1,SNR=3.7		PP	**PP**	**23 03 20.6**	**+1.7**
NVAR	**Mina Array Bea**	**101.18 352**	Pdif	**Pdif**	**22 59 11.1**	**-0.2**
TXAR	**Lajitas Array** comp=Z,1.0nm,1.0s,baz=23,slow=4.2,SNR=4.8	**107.16 338**	PP	**PP**	**23 04 04.6**	**+1.0**
LPAZ	**La Paz** comp=Z,0.6nm,0.6s,baz=37,slow=5.1,SNR=2.5	**123.27 277**	PKP	**PKPdf**	**23 04 18.2**	**-0.3**
LPAZ	**La Paz**	**123.27 277**	PKIKP	**PKPdf**	**23 04 17.6**	**-0.9**
LPAZ	**La Paz**	**123.27 277**	PKPdf	**PKPdf**	**23 04 17.6**	**-0.9**
PPT	**Papeete** comp=Z,32nm,0.8s,baz=15,slow=12,SNR=2.6	**150.67 46**	PKPbc	**PKPbc**	**23 05 13.1**	**+0.2**

*ANF **22** 22:45:22.3±0.5, 36˚.34N×97˚.52W, h2km±4km, ML3.7/14*
Error ellipse: s-maj=3.7km s-min=2.5km az=155.0
*TUL **22** 22:45:22.9±0.9, 36˚.33N±0˚.01×97˚.52W±0˚.02, h7km±6km, ML3.4, mb_Lg3.2/82(NEIC), Error ellipse: s-maj=2.0km s-min=1.5km az=76.0*
*NEIC **22** 22:45:22.9±1.0, 36˚.329N±0˚.006×97˚.52W±0˚.02, h6km±7km, Error ellipse: s-maj=2.1km s-min=0.8km az=72.0*

ISC 22 22:45:23.0±1.1, 36˚.33N±0˚.02×97˚.52W±0˚.02, h7km±10km, n87, σ0s53/70, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.41**	**295**			**Pg**	**22 45 31.1**	**+0.1**
CROK				Sg		**Sg**	**22 45 37.0**	**+0.5**
OK029	**Liberty Lake**	**0.54**	**174**			**Pg**	**22 45 33.4**	**0.0**
OK029				Sg		**Sg**	**22 45 40.8**	**+0.4**
GC02	**Grant County #**	**0.58**	**332**			**Pg**	**22 45 34.3**	**0.0**
GC02				Sg		**Sg**	**22 45 42.3**	**+0.3**
OK031	**S. Brethren Rd**	**0.67**	**124**			**Pg**	**22 45 35.8**	**0.0**
OK031				Sg		**Sg**	**22 45 44.8**	**+0.2**
QUOK	**Quay**	**0.68**	**104**	Pg		**Pg**	**22 45 36.0**	**0.0**
QUOK				Sg		**Sg**	**22 45 44.7**	**-0.1**
BCOK	**Bluff Creek, N**	**0.68**	**186**			**Pg**	**22 45 36.0**	**-0.1**
BCOK				Sg		**Sg**	**22 45 45.1**	**+0.2**
KAN13	**South Haven SW**	**0.68**	**3**			**Pg**	**22 45 36.1**	**0.0**
KAN13				Sg		**Sb**	**22 45 46.1**	**-0.7**
KAN14	**Manchester OK**	**0.72**	**330**			**Pg**	**22 45 36.7**	**-0.2**
KAN14				Sg		**Sg**	**22 45 46.4**	**+0.2**
OK030	**Cody Creek RV**	**0.72**	**124**			**Pg**	**22 45 36.8**	**-0.1**
OK030				Sg		**Sg**	**22 45 46.4**	**+0.2**
OK032	**Salt Plains WL**	**0.73**	**310**			**Pg**	**22 45 36.8**	**-0.2**
OK032				Sg		**Sg**	**22 45 46.7**	**+0.2**
OK025	**Westminster Rd**	**0.77**	**169**			**Pg**	**22 45 37.5**	**-0.2**
OK025				Sg		**Sg**	**22 45 48.0**	**+0.3**
KAN09	**Caldwell North**	**0.81**	**354**			**Pg**	**22 45 38.4**	**-0.2**
KAN09				Sg		**Sg**	**22 45 49.3**	**+0.3**
KAN05	**Bluff City Nor**	**0.82**	**340**			**Pg**	**22 45 38.6**	**-0.3**
KAN01	**Argonia South**	**0.84**	**347**			**Pg**	**22 45 39.0**	**-0.2**
KAN10	**Anthony SW Sta**	**0.92**	**330**			**Pg**	**22 45 40.3**	**-0.3**
OKCFA	**Oklahoma City**	**0.92**	**177**	Pg		**Pg**	**22 45 40.2**	**-0.4**
OKCFA				Sg		**Sg**	**22 45 52.8**	**+0.2**
OKCFA	**Oklahoma City** baz=357,SNR=7.9	**0.92**	**177**	P		**Pg**	**22 45 40.2**	**-0.4**
OKCFA	**Oklahoma City** baz=357,SNR=7.9	**0.92**	**177**	P			22 45 40.2	
OKCSW	**OKLAHOMA CITY**	**0.93**	**176**			**Pg**	**22 45 40.4**	**-0.4**
OKCSW				Sg		**Sb**	**22 45 53.3**	**-0.6**
KAN08	**Anthony NE Sta**	**0.96**	**338**			**Pg**	**22 45 41.1**	**-0.4**
T35A	**Sooner Cattle**	**1.00**	**54**			**Pg**	**22 45 41.9**	**-0.3**
T35B	**Sooner Cattle** baz=234,SNR=95	**1.00**	**54**	P		**Pg**	**22 45 41.7**	**-0.4**
T35B	baz=234			S		**Sg**	**22 45 54.8**	**-0.3**
T35B	**Sooner Cattle** baz=234,SNR=95	**1.00**	**54**	P			22 45 41.7	
T35B	baz=234			S			22 45 54.8	
KAN12	**Harper NE Stat**	**1.04**	**338**			**Pg**	**22 45 42.5**	**-0.4**
FNO	**Franklin**	**1.08**	**175**			**Pg**	**22 45 43.5**	**-0.1**
U32A	**Winter Ranch,**	**1.20**	**273**			**Pg**	**22 45 44.9**	**-1.1**
U32A	**Winter Ranch,** baz=92,SNR=90	**1.20**	**273**	P		**Pg**	**22 45 45.1**	**-0.9**
U32A	baz=92			S		**Sg**	**22 46 01.5**	**-0.1**
U32A	**Winter Ranch,** baz=92,SNR=90	**1.20**	**273**	P			22 45 45.1	
U32A	baz=92			S			22 46 01.5	
TUL1	**Leonard** baz=287	**1.46**	**106**	S		**Sb**	**22 46 09.3**	**0.0**
TUL1	**Leonard** baz=287	**1.46**	**106**	S			22 46 09.3	
WMOK	**Wichita Mounta**	**1.90**	**213**	Pn		**Pn**	**22 45 56.2**	**+0.4**
WMOK	**Wichita Mounta** baz=32,SNR=63	**1.90**	**213**	P		**Pn**	**22 45 56.1**	**+0.4**
WMOK	baz=32			S		**Sb**	**22 46 21.9**	**+0.1**
WMOK	**Wichita Mounta** baz=32,SNR=63	**1.90**	**213**	P			22 45 56.1	
WMOK	baz=32			S			22 46 21.9	
R32A	**Long Quarter,**	**2.29**	**336**			**Pn**	**22 46 01.6**	**+0.4**
R32A	**Long Quarter,** baz=155	**2.29**	**336**	P		**Pn**	**22 46 01.6**	**+0.4**
R32A	**Long Quarter,** baz=155	**2.29**	**336**	P			22 46 01.6	
X37A	**Clayton**	**2.47**	**134**			**Pn**	**22 46 03.2**	**-0.4**
X37A	comp=Z,142nm,0.8s			IAmb_Lg			22 46 46.0	
X37A	**Clayton** baz=316,SNR=27	**2.47**	**134**	P		**Pn**	**22 46 04.4**	**+0.8**
X37A	**Clayton** baz=316,SNR=27	**2.47**	**134**	P			22 46 04.4	
U38A	**Gravette**	**2.53**	**87**			**Pn**	**22 46 05.1**	**+0.5**
U38A	**Gravette** baz=268,SNR=24	**2.53**	**87**	P		**Pn**	**22 46 05.0**	**+0.5**
U38A	**Gravette** baz=268,SNR=24	**2.53**	**87**	P			22 46 05.0	
KSU1	**Kansas State U**	**2.86**	**14**	Pn		**Pn**	**22 46 10.1**	**+1.1**
Z35A	**Perchaven, San** baz=356	**3.00**	**176**	S		**Sn**	**22 46 49.1**	**+1.9**
Z35A	**Perchaven, San** baz=356	**3.00**	**176**	S			22 46 49.1	
W39A	**Magazine**	**3.24**	**109**	Pn		**Pn**	**22 46 13.9**	**-0.4**
W39A				IAmb_Lg			22 47 11.1	
	comp=Z,41nm,0.8s							
S39A	**Bolivar**	**3.62**	**67**			**Pn**	**22 46 19.7**	**+0.2**
S39A	comp=Z,74nm,0.8s			IAmb_Lg			22 47 18.1	
S39A	**Bolivar** baz=249,SNR=18	**3.62**	**67**	P		**Pn**	**22 46 20.1**	**+0.6**
S39A	**Bolivar** baz=249,SNR=18	**3.62**	**67**	P			22 46 20.1	
MIAR	**Mount Ida**	**3.68**	**118**	Pn		**Pn**	**22 46 21.1**	**+0.7**
MIAR	comp=Z,46nm,0.8s			IAmb_Lg			22 47 23.0	
MIAR	**Mount Ida** baz=300,SNR=26	**3.68**	**118**	P		**Pn**	**22 46 21.0**	**+0.7**
MIAR	**Mount Ida** baz=300,SNR=26	**3.68**	**118**	P			22 46 21.0	
AMTX	**Amarillo** comp=Z,83nm,0.8s	**3.69**	**248**	IAmb_Lg			22 47 23.9	
U40A	**Yellville**	**3.77**	**88**	Pn		**Pn**	**22 46 21.0**	**-0.5**
U40A	comp=Z,48nm,0.8s			IAmb_Lg			22 47 25.9	
X40A	**Basin Creek Fa**	**4.25**	**114**	Pn		**Pn**	**22 46 29.0**	**+0.9**
X40A	comp=Z,51nm,0.8s			IAmb_Lg			22 47 47.2	
MGMO	**Mountain Grove** comp=Z,31nm,0.9s	**4.30**	**77**	IAmb_Lg			22 47 42.4	
WHTX	**Lake Whitney,**	**4.33**	**179**	Pn		**Pn**	**22 46 29.6**	**+0.3**
WHTX	**Lake Whitney,** baz=359,SNR=8.1	**4.33**	**179**	P		**Pn**	**22 46 29.5**	**+0.3**
WHTX	**Lake Whitney,** baz=359,SNR=8.1	**4.33**	**179**	P			22 46 29.5	
WHAR	**Wooly Hollow** comp=Z,45nm,0.7s	**4.38**	**102**	IAmb_Lg			22 47 43.5	
N33A	**J Bar K, Exete** comp=Z,42nm,0.8s	**4.40**	**1**	IAmb_Lg			22 47 54.1	
WLAR	**White Oak Lake** comp=Z,47nm,0.9s	**4.48**	**125**	IAmb_Lg			22 47 55.8	
237A	**Washetta, Mont** comp=Z,28nm,1.0s	**4.55**	**161**	IAmb_Lg			22 47 57.4	
237A	**Washetta, Mont** baz=342	**4.55**	**161**	S		**Sn**	**22 47 24.6**	**-0.7**
237A	**Washetta, Mont** baz=342	**4.55**	**161**	S			22 47 24.6	
P38A	**Dawn** comp=Z,41nm,0.8s	**4.55**	**43**	IAmb_Lg			22 47 55.5	
N35A	**Tabor**	**4.75**	**17**	Pn		**Pn**	**22 46 35.5**	**+0.5**
N35A	**Tabor** baz=198	**4.75**	**17**	P		**Pn**	**22 46 35.5**	**+0.5**
N35A	**Tabor** baz=198	**4.75**	**17**	P			22 46 35.5	
KSCO	**Kaye Shedlock'** comp=Z,29nm,0.7s	**4.85**	**305**	IAmb_Lg			22 47 57.1	
BGNE	**Belgrade** comp=Z,58nm,0.7s	**5.09**	**355**	IAmb_Lg			22 48 12.5	
NATX	**Nacogdoches** comp=Z,38nm,0.7s	**5.14**	**152**	IAmb_Lg			22 48 18.8	
LCAR	**Lake Charles**	**5.15**	**91**	Pn		**Pn**	**22 46 39.5**	**-1.0**
T42A	**Van Buren**	**5.21**	**80**	Pn		**Pn**	**22 46 41.1**	**-0.2**
T42A	comp=Z,51nm,1.2s			IAmb_Lg			22 48 12.6	
T42A	**Van Buren** baz=264,SNR=9.2	**5.21**	**80**	P		**Pn**	**22 46 41.0**	**-0.3**
T42A	**Van Buren** baz=264,SNR=9.2	**5.21**	**80**	P			22 46 41.0	
P40A	**Paris** comp=Z,55nm,0.7s	**5.38**	**52**	IAmb_Lg			22 48 17.1	
N38A	**Joes South For** comp=Z,61nm,0.8s	**5.58**	**36**	IAmb_Lg			22 48 32.2	
T25A	**Trinidad** comp=Z,23nm,0.8s	**5.59**	**280**	IAmb_Lg			22 48 21.5	
PBMO	**Poplar Bluff** comp=Z,24nm,0.7s	**5.72**	**83**	IAmb_Lg			22 48 28.5	
OGNE	**Ogallala** comp=Z,36nm,0.7s	**5.80**	**324**	IAmb_Lg			22 48 36.6	
FVM	**French Village**	**5.90**	**72**	Pn		**Pn**	**22 46 50.5**	**-0.3**
FVM	comp=Z,32nm,0.8s			IAmb_Lg			22 48 28.1	
JCT	**Junction City** comp=Z,53nm,1.1s	**6.14**	**199**	IAmb_Lg			22 48 44.8	
143A	**Socs Landing,** comp=Z,26nm,0.7s	**6.21**	**124**	IAmb_Lg			22 48 54.0	
LNXT	**Lenox** comp=Z,47nm,0.8s	**6.49**	**90**	IAmb_Lg			22 49 03.6	
SCIA	**State Center** comp=Z,36nm,0.8s	**6.49**	**30**	IAmb_Lg			22 48 50.4	
S44A	**Carbondale** comp=Z,49nm,0.8s	**6.75**	**76**	IAmb_Lg			22 49 06.4	
SIUC	**Southern Illin** comp=Z,44nm,0.9s	**6.78**	**76**	IAmb_Lg			22 48 56.1	
W45A	**Hickory Valley** comp=Z,24nm,0.8s	**6.88**	**97**	IAmb_Lg			22 49 09.7	
ISCO	**Idaho Springs** comp=Z,16nm,0.9s	**7.26**	**301**	IAmb_Lg			22 49 27.8	
ECSD	**EROS Data Cent** baz=186,SNR=9.1	**7.42**	**5**	P		**Pn**	**22 47 10.7**	**-1.0**
ECSD	**EROS Data Cent** baz=186,SNR=9.1	**7.42**	**5**	P			22 47 10.7	
L40A	**Anamosa** comp=Z,34nm,0.9s	**7.53**	**39**	IAmb_Lg			22 49 40.4	
USIN	**University of** comp=Z,21nm,0.7s	**8.04**	**75**	IAmb_Lg			22 49 46.1	
O44A	**Mansfield** comp=Z,37nm,0.8s	**8.08**	**59**	IAmb_Lg			22 49 45.9	
SUSD	**Miller** comp=Z,24nm,0.8s	**8.18**	**353**	IAmb_Lg			22 49 49.2	
L42A	**Oliver, Polo** comp=Z,26nm,0.8s	**8.32**	**45**	IAmb_Lg			22 49 46.9	
JFWS	**Jewell Farm** comp=Z,26nm,0.7s	**8.64**	**38**	IAmb_Lg			22 50 11.3	
P46A	**Rosedale** comp=Z,34nm,0.8s	**8.78**	**65**	IAmb_Lg			22 50 10.2	
SFIN	**Lafayette** comp=Z,29nm,0.8s	**9.13**	**61**	IAmb_Lg			22 50 09.6	
I40A	**Newalk** comp=Z,14nm,0.8s	**9.21**	**33**	IAmb_Lg			22 50 19.1	
K22A	**Casper** comp=Z,19nm,0.9s	**9.39**	**315**	IAmb_Lg			22 50 28.0	
SPMN	**Marine on St.** comp=Z,18nm,1.1s	**9.57**	**20**	IAmb_Lg			22 50 37.6	

*MOS **22** 23:27:06.4±0.8, 26˚.63N×108˚.97E, h15km, mb3.9/4, Error ellipse: s-maj=11.4km s-min=7.6km az=106.2*
*IDC **22** 23:27:06.5±0.9, 26˚.63N×108˚.91E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/45, mbtmp3.9/14, ML3.6/1, Error ellipse: s-maj=30.0km s-min=18.2km az=53.0*
*NEIC **22** 23:27:07.5±1.5, 26˚.58N±0˚.08×109˚.06E±0˚.04, h12km±5km, mb4.2/22, Error ellipse: s-maj=11.1km s-min=4.2km az=168.0*
*BJI **22** 23:27:08.1±0.0, 26˚.66N×108˚.81E, h5km, mb4.2/22, ML3.8/14*

ISC 22 23:27:07.6±0.5, 26˚.60N±0˚.06×109˚.02E±0˚.05, h10km, n82, σ1s54/86, mb4.1/35, 5C-6D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.11**	**267**	⇓Pg		**Pn**	**23 27 42.8**	**-0.3**
GYA				Sg		**Sn**	**23 28 07.6**	**-1.9**
GYA	comp=N,1μm,0.7s			smax	smax			
GYA	comp=E,530nm,0.8s			smax	smax			
ENH	**Enshi**	**3.68**	**6**			**Pn**	**23 28 05.5**	**+0.9**
KMI	**Kunming**	**5.84**	**257**	⇑Pn		**Pn**	**23 28 34.4**	**-0.1**
KMI				Sn		**Sn**	**23 29 37.6**	**-4.1**
KMI	comp=N,29nm,1.1s			smax	smax			
KMI	comp=E,24nm,0.9s			smax	smax			
KMI	**Kunming**	**5.84**	**257**	P		**Pn**	**23 28 34.2**	**-0.4**
KMI	**Kunming**	**5.84**	**257**	Pn		**Pn**	**23 28 34.2**	**-0.4**
SLVN	**Son La**	**7.03**	**223**			**Pn**	**23 28 52.4**	**+1.7**
SLVN						LR	23 30 49.5	
XAN	**Xi'an**	**7.41**	**359**	Pn		**Pn**	**23 29 00.3**	**+4.4**
XAN				Sn		**Sn**	**23 30 15.3**	**-4.8**
XAN	comp=N,60nm,0.7s			smax	smax			
XAN	comp=E,37nm,0.6s			smax	smax			
XAN	**Xi'an**	**7.41**	**359**	P		**Pn**	**23 28 54.9**	**-1.0**
XAN	**Xi'an**	**7.41**	**359**	Pn		**Pn**	**23 28 54.9**	**-1.0**
LZH	**Lanzhou**	**10.43**	**336**	*e*P		**Pn**	**23 29 40.3**	**+2.9**
LZH				sP			23 29 45.8	
LZH	comp=Z,23nm,1.3s			pmax	pmax			
HHC	**Hu-ho-hao-te**	**14.37**	**8**	*e*P		**Pn**	**23 30 30.1**	**-1.0**
HHC	comp=Z,12nm,0.7s			pmax	pmax			
BJT	**Baijiatuan**	**14.64**	**22**	P		**Pn**	**23 30 34.8**	**-0.1**
BJT	**Baijiatuan**	**14.64**	**22**	Pn		**Pn**	**23 30 34.8**	**-0.1**
GTA	**Gaotai**	**14.91**	**331**	*e*P		**Pn**	**23 30 40.0**	**+1.4**
GTA				pP		P	23 30 44.9	+0.6
GTA				sP			23 30 47.3	
GTA	comp=Z,3.0nm,1.0s			pmax	pmax			
LSA	**Lhasa**	**16.06**	**285**	P		**Pn**	**23 30 53.3**	**-0.7**
LSA	comp=Z,12nm,0.6s			pmax	pmax			
LSA	**Lhasa**	**16.06**	**285**			**Pn**	**23 30 53.3**	**-0.7**
LSA				IAmb	IAmb		23 31 01.5	
JOW	**Kunigami** comp=Z,6.3nm,0.6s	**17.21**	**85**	Pn		**Pn**	**23 31 04.9**	**-3.3**
TAPN	**Taplejung** comp=Z,0.2nm,0.3s,baz=241,slow=11,SNR=4.7	**19.00**	**277**	*e*P		**Pn**	**23 31 36.9**	**+6.3**
KSRS	**Korea Array** comp=Z,12nm,0.6s	**19.30**	**51**	P		**Pn**	**23 31 33.7**	**-0.1**
PKI	**Pulchoki** comp=Z,5.1nm,0.5s	**21.04**	**278**	*e*P		**P**	**23 31 50.8**	**-1.3**
PKIN	**Phulchoki** comp=Z,6.1nm,0.5s	**21.05**	**278**	*e*P		**P**	**23 31 51.0**	**-1.1**
KKN	**Kakani** comp=Z,10.0nm,0.5s	**21.14**	**279**	*e*P		**P**	**23 31 53.6**	**+0.5**
ULN	**Ulaanbaatar** comp=Z,6.0nm,1.3s	**21.28**	**356**	⇓*e*P		**P**	**23 31 55.5**	**+1.2**
ULN	comp=Z,3.6nm,0.7s			pmax	pmax			
ULN	**Ulaanbaatar**	**21.28**	**356**	P		**P**	**23 31 54.3**	**0.0**
ULN				IAmb	IAmb		23 31 56.7	
SONM	**Songino Array** comp=Z,3.8nm,0.7s,baz=166,slow=10,SNR=34	**21.29**	**355**	P		**P**	**23 31 54.9**	**+0.5**
SONM	**Songino Array**	**21.29**	**355**	P		**P**	**23 31 54.7**	**+0.3**
SONM	comp=Z,3.0nm,0.8s			pmax	pmax			
SONM	**Songino Array**	**21.29**	**355**	P		**P**	**23 31 54.7**	**+0.3**
KKM	**Kota Kinabalu**	**21.57**	**160**	P		**P**	**23 31 55.9**	**-1.7**
KKM	comp=Z,6.4nm,1.1s			IAmb	IAmb		23 32 04.4	
GKN	**Gorkha** comp=Z,12nm,0.8s	**21.70**	**279**	*e*P		**P**	**23 31 59.4**	**+0.4**
HIA	**Hailar** comp=Z,2.0nm,0.9s	**24.11**	**17**	⇑*e*P		**P**	**23 32 26.3**	**+2.9**
HIA				pmax	pmax			
ZAK	**Zakamensk** comp=Z,3.0nm,1.0s	**24.15**	**351**	*e*P		**P**	**23 32 22.0**	**-1.9**
ZAK				pmax	pmax			
WMQ	**Urumqi** comp=Z,11nm,0.7s	**24.35**	**320**	*e*P		**P**	**23 32 27.1**	**+1.3**
WMQ				pmax	pmax			
MDJ	**Mudanjiang**	**24.44**	**37**	P		**P**	**23 32 25.2**	**-1.2**
USRK	**Ussuriysk Ar.**	**25.53**	**41**	P		**P**	**23 32 35.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**25.53**	**41**	P		**P**	**23 32 35.6**	**-0.8**
MK31	**Makanchi Array** comp=Z,1.0nm,1.4s	**29.18**	**321**	P		**P**	**23 33 09.0**	**-0.2**
MK31				pmax	pmax			
MK31	**Makanchi Array**	**29.18**	**321**	P		**P**	**23 33 09.0**	**-0.2**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.5s,baz=122,slow=10,SNR=9.7	**29.18**	**321**	P		**P**	**23 33 09.6**	**+0.4**
MKAR	**Makanchi Array**	**29.18**	**321**	*ce*P		**P**	**23 33 10.1**	**+0.9**
MKAR	**Makanchi Array**	**29.18**	**321**	P		**P**	**23 33 09.0**	**-0.2**
MAKZ	**Makanchi** comp=Z,3.0nm,0.7s	**29.37**	**320**	P		**P**	**23 33 09.5**	**-1.3**
MAKZ				pmax	pmax			
MAKZ	**Makanchi**	**29.37**	**320**	P		**P**	**23 33 09.5**	**-1.3**
MAKZ	comp=Z,2.6nm,0.7s			IAmb	IAmb		23 33 22.8	
NIL	**Nilore** comp=Z,4.0nm,1.0s	**31.61**	**292**	P		**P**	**23 33 30.7**	**-0.1**
NIL				pmax	pmax			
NIL	**Nilore**	**31.61**	**292**	P		**P**	**23 33 30.7**	**-0.1**
NIL	comp=Z,4.1nm,1.0s			IAmb	IAmb		23 33 32.1	
ZAA0	**Zalesovo Array** comp=Z,3.0nm,0.8s	**32.65**	**333**	P		**P**	**23 33 39.2**	**-0.4**
ZAA0				IAmb	IAmb		23 33 40.7	
ZALV	**Zalesovo Beam** comp=Z,2.9nm,0.7s,baz=133,slow=8.9,SNR=13	**32.65**	**333**	P		**P**	**23 33 39.5**	**-0.1**
ZALV	**Zalesovo Beam**	**32.65**	**333**	P		**P**	**23 33 39.1**	**-0.5**
ZALV	**Zalesovo Beam**	**32.65**	**333**	P		**P**	**23 33 39.1**	**-0.5**
KBL	**Kabul** comp=Z,5.0nm,1.0s	**35.13**	**293**	P		**P**	**23 34 02.1**	**+0.4**
KBL				pmax	pmax			
KBL	**Kabul** comp=Z,4.9nm,0.9s	**35.13**	**293**	P		**P**	**23 34 02.1**	**+0.4**
KBL				IAmb	IAmb		23 34 03.3	
KK31	**Karatay Array** comp=Z,2.0nm,1.1s	**35.27**	**308**	P		**P**	**23 34 02.5**	**-0.1**
KK31				pmax	pmax			
KK31	**Karatay Array**	**35.27**	**308**	P		**P**	**23 34 02.5**	**-0.1**
KKAR	**Karatay Array** comp=Z,2.0nm,1.1s	**35.27**	**308**	P		**P**	**23 34 02.3**	**-0.3**
KKAR				pmax	pmax			
KKAR	**Karatay Array**	**35.27**	**308**	P		**P**	**23 34 03.1**	**+0.5**
KKAR	**Karatay Array** comp=Z,1.8nm,1.1s	**35.27**	**308**	P		**P**	**23 34 02.2**	**-0.3**
KKAR				IAmb	IAmb		23 34 04.7	
YAK	**Yakutsk** comp=Z,2.9nm,0.8s	**38.02**	**16**	*ce*P		**P**	**23 34 26.4**	**+0.7**
YAK				pmax	pmax			
SOEI	**Soe**	**39.06**	**156**	P		**P**	**23 34 35.1**	**0.0**
HRA	**Herat**	**40.75**	**293**	P		**P**	**23 34 48.8**	**-0.3**
MA2	**Magadan** comp=Z,2.0nm,0.9s	**43.67**	**29**	⇓*e*P		**P**	**23 35 12.7**	**+0.4**
MA2				pmax	pmax			
ABKAR	**Akbulak array** comp=Z,2.0nm,0.8s	**43.88**	**314**	P		**P**	**23 35 15.0**	**+0.8**
ABKAR				IAmb	IAmb		23 35 16.5	
ABKAR	**Akbulak array**	**43.88**	**314**	P		**P**	**23 35 14.9**	**+0.7**
GEYT	**Alibeck** comp=Z,5.2nm,0.8s,baz=103,slow=6.5,SNR=13	**44.01**	**298**	P		**P**	**23 35 15.7**	**+0.3**
GEYT	**Alibeck** comp=Z,4.8nm,0.8s	**44.01**	**298**	P		**P**	**23 35 16.4**	**+0.9**
GEYT				IAmb	IAmb		23 35 18.1	
GYA0B	**ALIBECK ARRAY** comp=Z,4.8nm,0.8s	**44.01**	**298**	P		**P**	**23 35 16.4**	**+0.9**
GYA0B				IAmb	IAmb		23 35 18.1	
TIXI	**Tiksi** comp=Z,7.0nm,0.6s	**46.43**	**9**	⇓*e*P		**P**	**23 35 34.3**	**+0.2**
TIXI				pmax	pmax			
TIXI	**Tiksi**	**46.43**	**9**	P		**P**	**23 35 34.2**	**+0.2**
ARU	**Arti** comp=Z,4.0nm,0.9s	**46.60**	**324**	*d* iP		**P**	**23 35 36.5**	**+0.8**
ARU							23 37 21.5	
ARU				S		**S**	**23 42 29.0**	**+4.5**
ARU				pmax	pmax			
PMG	**Port Moresby** comp=Z,12nm,0.9s	**51.50**	**129**	P		**P**	**23 36 12.8**	**-0.9**
PMG				pmax	pmax			
PMG	**Port Moresby**	**51.50**	**129**	P		**P**	**23 36 12.8**	**-0.9**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.6s,baz=331,slow=8.6,SNR=6.1	**52.39**	**149**	P		**P**	**23 36 21.0**	**+0.8**
ASAR	**Alice Springs** comp=Z,0.4nm,0.5s,baz=326,slow=6.8,SNR=4.2	**55.47**	**152**	P		**P**	**23 36 44.1**	**+1.3**
ARCES	**ARCESS Array B** comp=Z,0.9nm,0.6s,baz=64,slow=5.5,SNR=7.2	**63.09**	**337**

ISC 22 23:33:41.9±0.8, 12°3'N±0'2×144°0E±0'2, h27km, n19, σ0°73/11, mb3.9/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
DAV	**Davao City (W)**	**18.84**	**256**	LR		LR		23 44 54.9	
	comp=Z,35nm,19.6s,baz=11,slow=36								
H11S3	**WAKE ISLAND Hy**	**22.75**	**71**	T		T		00 02 24.9	
	baz=252,slow=74								
H11S1	**WAKE ISLAND Hy**	**22.77**	**71**	T		T		00 02 24.1	
	baz=252,slow=74								
H11S2	**WAKE ISLAND Hy**	**22.77**	**71**	T		T		00 02 28.4	
	baz=252,slow=74								
H11N1	**WAKE ISLAND Hy**	**23.23**	**69**	T		T		00 03 02.7	
	baz=255,slow=75,SNR=8.1								
H11N2	**WAKE ISLAND Hy**	**23.24**	**69**	T		T		00 02 57.3	
	baz=255,slow=75,SNR=6.2								
H11N3	**WAKE ISLAND Hy**	**23.25**	**69**	T		T		00 03 04.3	
	baz=255,slow=75,SNR=7.3								
WRA	**Warramunga Arr**	**33.40**	**197**	P		**P**		**23 40 18.2**	**-0.2**
	1.4nm,0.9s,baz=19,slow=9.5,SNR=6.3								
ASAR	**Alice Springs**	**37.06**	**195**	P		**P**		**23 40 50.4**	**+0.5**
	0.8nm,0.7s,baz=22,slow=10,SNR=6.9								
CMAR	**Chiang Mai Arr**	**43.75**	**284**	LR		LR		23 59 48.2	
	comp=Z,14nm,20.1s,baz=205,slow=36								
SONM	**Songino Array**	**47.29**	**326**	P		**P**		**23 42 13.5**	**+0.3**
	0.3nm,0.8s,baz=137,slow=6.9,SNR=1.4								
MKAR	**Makanchi Array**	**61.81**	**317**	P		**P**		**23 43 58.7**	**+0.1**
	0.6nm,0.9s,baz=90,slow=8.5,SNR=5.3								
ZALV	**Zalesovo Beam**	**62.16**	**325**	P		**P**		**23 44 01.5**	**+0.8**
	0.6nm,0.5s,baz=95,slow=7.3,SNR=1.9								
ILAR	**Eielson Array**	**70.11**	**25**	P		**P**		**23 44 51.1**	**-0.5**
	0.5nm,0.6s,baz=253,slow=6.2,SNR=11								
YKA	**Yellowknife Ar**	**84.42**	**27**	P		**P**		**23 46 12.2**	**+0.4**
	1.2nm,0.9s,baz=288,slow=4.8,SNR=15								
NVAR	**Mina Array Bea**	**88.42**	**51**	P		**P**		**23 46 33.3**	**+1.1**
	1.0nm,0.7s,baz=274,slow=5.1,SNR=10.0								
FINES	**FINESS Array B**	**91.96**	**335**	P		**P**		**23 46 46.7**	**-1.2**
	7.8nm,1.2s,baz=79,slow=3.3,SNR=13								
PDAR	**Pinedale Array**	**93.50**	**45**	P		**P**		**23 46 55.5**	**-0.3**
	0.1nm,0.4s,baz=316,slow=2.5,SNR=2.0								
PDAR				LR		LR		00 25 48.6	
	comp=Z,24nm,19.1s,baz=356,slow=34								
LPAZ	**La Paz**	**148.67**	**101**	PKPbc		**PKPbc**		**23 53 27.8**	**-0.6**
	0.8nm,0.6s,baz=266,slow=6.4,SNR=3.8								

*IDC **22** 23:44:30.1±1.6, 17°.68N×26°.52W, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.7/39, mbtmp3.9/9, MS3.3/4, Ms1 3.4/4, ms1mx2.9/33, Error ellipse: s-maj=60.2km s-min=19.3km az=24.0*

ISC 22 23:44:31.6±1.3, 17°.6N±0°.3×26°.3W±0°.2, h10km, n17, σ2°70/14, mb4.0/11, MS3.2/4, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KOWA	**Kowa**	**21.66**	**95**	P		**P**		**23 49 23.1**	**+0.5**
	10nm,0.7s,baz=285,slow=10,SNR=37								
KOWA				S		**S**		**23 53 19.9**	**-2.7**
	1.4nm,0.7s,baz=315,slow=12,SNR=1.5								
KOWA				LR		LR		23 57 37.1	
	comp=Z,94nm,18.4s,baz=17,slow=36								
TIC	**Toumodi**	**23.49**	**115**	*e*P		**P**		**23 49 46.9**	**+5.1**
DBIC	**Dimbokro**	**23.62**	**115**	P		**P**		**23 49 44.8**	**+1.8**
	4.9nm,0.9s,baz=311,slow=13,SNR=3.5								
DBIC				S		**S**		**23 53 52.2**	**-5.6**
	1.7nm,0.7s,baz=84,slow=21,SNR=1.3								
LIC	**Lamto**	**23.69**	**116**	*e*P		**P**		**23 49 43.5**	**-0.3**
	41nm,1.3s								
KIC	**Kosan Boka**	**23.87**	**115**	*e*P		**P**		**23 49 45.4**	**-0.1**
	16nm,0.9s								
MDT	**Midelt**	**24.71**	**48**	LR		LR		23 59 33.8	
	comp=Z,76nm,19.6s,baz=87,slow=36								
TORD	**Torodi Ar. Bea**	**27.36**	**95**	P		**P**		**23 50 20.4**	**+3.1**
	3.9nm,0.7s,baz=286,slow=10,SNR=15								
TORD				LR		LR		00 00 12.0	
	comp=Z,49nm,18.7s,baz=285,slow=34								
H10N2	**ASCENSION HYDR**	**27.88**	**154**	T		T		00 19 08.5	
	baz=335								
H10N3	**ASCENSION HYDR**	**27.89**	**154**	T		T		00 19 03.7	
	baz=335								
H10N1	**ASCENSION HYDR**	**27.90**	**154**	T		T		00 19 07.9	
	baz=335								
NOA	**NORSAR Array B**	**50.86**	**22**	LR		LR		00 14 20.1	
	comp=Z,32nm,18.6s,baz=285,slow=35								
BRTR	**Keskin Array B**	**55.95**	**54**	P		**P**		**23 54 10.6**	**+0.2**
	0.3nm,0.7s,baz=264,slow=8.5,SNR=2.0								
ARCES	**ARCESS Array B**	**60.71**	**18**	P		**P**		**23 54 43.5**	**+0.5**
	2.6nm,0.9s,baz=243,slow=5.9,SNR=3.8								
PDAR	**Pinedale Array**	**73.35**	**310**	P		**P**		**23 56 02.9**	**-1.2**
	0.4nm,0.8s,baz=66,slow=3.6,SNR=4.0								
YKA	**Yellowknife Ar**	**73.74**	**331**	P		**P**		**23 56 05.4**	**-0.2**
	1.2nm,0.8s,baz=82,slow=7.2,SNR=20								
NVAR	**Mina Array Bea**	**80.76**	**307**	P		**P**		**23 56 44.9**	**-1.0**
	0.3nm,0.7s,baz=65,slow=7.1,SNR=3.5								
ILAR	**Eielson Array**	**86.31**	**338**	P		**P**		**23 57 13.4**	**-0.2**
	0.7nm,0.9s,baz=38,slow=4.1,SNR=5.0								

*IDC **22** 23:58:18.4±1.3, 31°.56N×131°.00E, h175km±23km, mb3.1/4, mb1 3.3/4, mb1mx2.9/30, mbtmp3.6/4, Error ellipse: s-maj=95.7km s-min=20.6km az=68.0*
*JMA **22** 23:58:18.8±0.1, 31°.39N×130°.50E, h147km±1km, M3.2*

ISC 22 23:58:17.5±0.9, 31°37N±0°.05×130°5E±0°.1, h155km±7km, n13, σ0°60/21, mb3.4, Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JSU	**Suzuyama**	**0.13**	**351**	P		**Pn**		**23 58 38.7**	**+0.5**
JTSR	**Tashiro 2**	**0.43**	**119**	P		**Pn**		**23 58 39.4**	**+0.3**
JTSR				*e*S		**Sn**		**23 58 54.8**	**-0.7**
JSJ	**Shimokoshiki**	**0.72**	**295**	P		**Pn**		**23 58 40.7**	**+0.1**
JSJ				*e*S		**Sn**		**23 58 58.1**	**-0.2**
JTZ	**Takazaki**	**0.74**	**45**	P		**Pn**		**23 58 41.1**	**+0.4**
JTZ				S		**Sn**		**23 58 58.1**	**-0.4**
JTN	**Tanegashima 3**	**0.84**	**149**	P		**Pn**		**23 58 42.0**	**+0.6**
JTN				S		**Sn**		**23 58 59.4**	**-0.3**
JMTN	**Minamitane**	**1.04**	**159**	P		**Pn**		**23 58 43.9**	**+0.9**
JMTN				S		**Sn**		**23 59 02.6**	**0.0**
JYAK	**Yakushimahirau**	**1.13**	**179**	P		**Pn**		**23 58 44.3**	**+0.4**
JYAK				S		**Sn**		**23 59 03.3**	**-0.7**
JIU3	**Izumi3**	**1.21**	**14**	P		**Pn**		**23 58 45.1**	**+0.6**
JIU3				*e*S		**Sn**		**23 59 05.1**	**-0.2**
JNU	**Nakatsue**	**1.77**	**11**	P		**Pn**		**23 58 50.8**	**+0.4**
	4.8nm,0.3s,baz=200,slow=15,SNR=22								
JNU				S		**Sn**		**23 59 15.5**	**-0.3**
	4.0nm,0.3s,baz=323,slow=10,SNR=7.1								
MKAR	**Makanchi Array**	**39.81**	**307**	P		**P**		**00 05 36.4**	**+1.1**
	0.1nm,0.3s,baz=100,slow=8.6,SNR=4.1								
WRA	**Warramunga Arr**	**51.16**	**175**	P		**P**		**00 07 04.4**	**-0.3**
	0.2nm,0.4s,baz=354,slow=8.0,SNR=1.7								
ASAR	**Alice Springs**	**54.83**	**176**	P		**P**		**00 07 31.5**	**-0.1**
	0.3nm,0.4s,baz=356,slow=5.7,SNR=6.9								
FINES	**FINESS Array B**	**69.38**	**330**	P		**P**		**00 09 07.0**	**-1.1**
	2.6nm,0.8s,baz=64,slow=6.3,SNR=5.3								

IDC 23 00:50:24.6±18.0, 13°.00N×143°.51E, h117km±174km, mb3.6/11, mb1 3.8/11, mb1mx3.5/43, mbtmp4.0/11, Error ellipse: s-maj=40.4km s-min=26.2km az=47.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
H11S3	**WAKE ISLAND Hy**	**22.96**	**73**	T		T		01 19 14.8	
	baz=250,slow=74,SNR=3.3								
H11S1	**WAKE ISLAND Hy**	**22.97**	**73**	T		T		01 19 08.1	
	baz=250								
H11S2	**WAKE ISLAND Hy**	**22.97**	**73**	T		T		01 19 08.8	
	baz=250,slow=74,SNR=2.6								
H11N1	**WAKE ISLAND Hy**	**23.39**	**70**	T		T		01 19 34.8	
	baz=255,slow=75,SNR=3.7								
H11N2	**WAKE ISLAND Hy**	**23.40**	**70**	T		T		01 19 34.6	
	baz=255,slow=75,SNR=3.1								
H11N3	**WAKE ISLAND Hy**	**23.41**	**70**	T		T		01 19 35.3	
	baz=255,slow=75,SNR=2.7								
WRA	**Warramunga Arr**	**33.95**	**196**	P		P		00 56 56.8	-0.2
	0.5nm,0.8s,baz=13,slow=9.5,SNR=2.1								
CMAR	**Chiang Mai Arr**	**43.16**	**283**	P		P		00 58 13.7	-0.3
	1.0nm,0.3s,baz=84,slow=6.8,SNR=6.8								
SONM	**Songino Array**	**46.46**	**326**	P		P		00 58 40.8	+0.9
	0.9nm,0.5s,baz=147,slow=7.4,SNR=5.0								
MKAR	**Makanchi Array**	**61.00**	**316**	P		P		01 00 26.1	+0.4
	1.0nm,0.6s,baz=82,slow=8.8,SNR=13								
ZALV	**Zalesovo Beam**	**61.34**	**325**	P		P		01 00 27.3	-0.5
	0.4nm,0.4s,baz=111,slow=7.9,SNR=2.1								
KURBB	**Kurchatov Arra**	**64.22**	**320**	P		P		01 00 46.9	0.0
	3.2nm,0.8s,baz=103,slow=6.5,SNR=21								
ILAR	**Eielson Array**	**69.67**	**25**	P		P		01 01 20.2	-1.0
	0.7nm,0.7s,baz=249,slow=5.7,SNR=11								
INK	**Inuvik**	**75.41**	**22**	P		P		01 01 55.5	+0.4
	0.4nm,0.4s,baz=304,slow=5.2,SNR=3.7								
YKA	**Yellowknife Ar**	**83.99**	**27**	P		P		01 02 41.8	+0.3
	0.5nm,0.3s,baz=289,slow=4.2,SNR=8.8								
NVAR	**Mina Array Bea**	**88.32**	**51**	P		P		01 03 04.6	+1.0
	1.4nm,0.7s,baz=265,slow=5.6,SNR=16								
FINES	**FINESS Array B**	**91.13**	**335**	P		P		01 03 14.0	-1.9
	1.4nm,0.8s,baz=87,slow=7.1,SNR=5.3								

*MOS **23** 00:55:36.8±1.4, 56°.09N×111°.54E, h7km, mb3.8/4, Error ellipse: s-maj=10.0km s-min=6.2km az=68.6*
MOS Felt (II) at Novyy Uoyan.
*BYKL **23** 00:55:39.2±0.2, 56°.08N×111°.62E, h13km±2km, FELT I=III MSK at Novyy Uoyan*
*IDC **23** 00:55:41.1±1.8, 56°.20N×110°.93E, h0km, mb3.5/5, mb1 3.6/8, mb1mx3.3/42, mbtmp3.4/8, ML3.0/3, Error ellipse: s-maj=36.6km s-min=14.3km az=125.0*

ISC 23 00:55:38.6±0.8, 56°.05N±0°.03×111°.59E±0°.02, h9km±5km, n74, σ2°77/120, mb3.6/7, 17C-7D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
YOA	**Uoyan**	**0.11**	**42**	⇓*i*Pg		**Pg**		**00 55 41.7**	**+0.4**
YOA				*e*Sg		**Sg**		**00 55 43.5**	**+0.4**
YOA	**Uoyan**	**0.11**	**42**	⇓*i*PG		**Pg**		**00 55 41.7**	**+0.4**
YOA				*e*S		**Sg**		**00 55 44.3**	**+1.2**
KMO	**Kumora**	**0.27**	**233**	⇓*i*Pg		**Pg**		**00 55 45.1**	**+1.0**
KMO				*e*Sg		**Sg**		**00 55 49.4**	**+1.6**
KMO				Pmax					
	304nm,0.1s								
KMO				Smax					
	5µm,0.9s								
KMO	**Kumora**	**0.27**	**233**	⇓*i*PG		**Pg**		**00 55 45.1**	**+1.0**
KMO				*e*				00 55 49.2	
KMO				pmax	pmax				
	comp=Z,302nm,0.1s								
KMO				smax	smax				
	comp=E,5µm,0.5s								
SVKR	**Severomuysk**	**1.10**	**86**	*e*Pg		**Pb**		**00 55 59.3**	**-0.6**
SVKR				*e*Pb		**Pn**		**00 56 01.3**	**+1.0**
SVKR				*e*Sg		**Sg**		**00 56 13.6**	**-0.5**
SVKR				*e*Sb		**Sn**		**00 56 17.5**	**+1.8**
SVKR				max					
	comp=E,546nm,0.2s								
SVKR				max					
	comp=E,3µm,0.3s								
SVKR	**Severomuysk**	**1.10**	**86**	⇑*i*PG		**Pb**		**00 55 59.3**	**-0.6**
SVKR				*e*				00 56 13.7	
SVKR				pmax	pmax				
	comp=Z,176nm,0.2s								
SVKR				smax	smax				
	comp=E,2µm,0.3s								
NIZ	**Nizh Angarsk**	**1.19**	**257**	*e*Pg		**Pb**		**00 56 01.3**	**0.0**
NIZ				*e*Pb		**Pg**		**00 56 02.9**	**+1.6**
NIZ				*e*Sg		**Sn**		**00 56 17.4**	**-0.2**
NIZ				*e*Sb		**Sg**		**00 56 20.2**	**+3.5**
NIZ				max					
	comp=E,135nm,0.2s								
NIZ				max					
	comp=E,2µm,0.5s								
NIZ	**Nizh Angarsk**	**1.19**	**257**	⇑*i*PG		**Pb**		**00 56 01.2**	**0.0**
NIZ				*e*				00 56 18.0	
NIZ				pmax	pmax				
	comp=Z,84nm,0.1s								
NIZ				smax	smax				
	comp=N,2µm,0.5s								
YLYR	**Ulyunkhan**	**1.20**	**192**	⇓*i*Pg		**Pn**		**00 56 01.6**	**0.0**
YLYR				*e*Pb		**Pg**		**00 56 03.2**	**+1.6**
YLYR				*e*Sg		**Sg**		**00 56 18.0**	**+0.8**
YLYR				max					
	comp=N,695nm,0.3s								
YLYR				Smax					
	comp=N,2µm,0.2s								
YLYR	**Ulyunkhan**	**1.20**	**192**	⇓*i*PG		**Pn**		**00 56 01.6**	**0.0**
YLYR				*e*				00 56 18.5	
YLYR				pmax	pmax				
	comp=Z,692nm,0.3s								
YLYR				smax	smax				
	comp=E,2µm,0.3s								
UKT	**Uakit**	**1.28**	**115**	⇑*i*Pg		**Pn**		**00 56 02.3**	**-0.5**
UKT				*e*Sg		**Sb**		**00 56 18.8**	**-0.7**
UKT				*e*Sb		**Sg**		**00 56 21.8**	**+2.0**
UKT				Pmax					
	comp=E,245nm,0.4s								
UKT				max					
	comp=E,1µm,0.5s								
UKT	**Uakit**	**1.28**	**115**	⇑*i*PG		**Pn**		**00 56 02.2**	**-0.5**
UKT				*e*				00 56 19.2	
UKT				pmax	pmax				
	comp=Z,110nm,0.2s								
UKT				smax	smax				
	comp=E,545nm,0.2s								
BOD	**Bodaibo**	**2.21**	**36**	*e*Pn		**Pn**		**00 56 15.9**	**+0.5**
BOD				*e*Pg		**Pb**		**00 56 17.7**	**-1.0**
BOD				*e*				00 56 44.4	
BOD				*e*Sg		**Sb**		**00 56 46.0**	**-0.2**
BOD				Pmax					
	comp=E,139nm,0.3s								
BOD				Smax					
	comp=E,948nm,0.3s								
BOD	**Bodaibo**	**2.21**	**36**	*e*PN		**Pn**		**00 56 15.9**	**+0.5**
BOD				*e*				00 56 19.1	
BOD				*e*				00 56 45.4	
BOD				pmax	pmax				
	comp=Z,137nm,0.3s								
BOD				smax	smax				
	comp=N,747nm,0.3s								
NLYR	**Nelyaty**	**2.34**	**77**	*e*Pn		**Pn**		**00 56 17.9**	**+0.8**
NLYR				*e*Pg		**Pb**		**00 56 20.7**	**-0.1**
NLYR				*e*				00 56 26.2	
NLYR				*e*Sn		**Sn**		**00 56 45.7**	**-0.3**
NLYR				*e*Sg		**Sb**		**00 56 51.5**	**+1.7**
NLYR				max					
	comp=N,154nm,0.9s								
NLYR				Smax					
	comp=N,477nm,1.0s								
NLYR	**Nelyaty**	**2.34**	**77**	⇑*i*PN		**Pn**		**00 56 18.0**	**+0.8**
NLYR				*e*				00 56 20.9	
NLYR				*e*				00 56 50.2	
NLYR				pmax	pmax				
	comp=Z,153nm,0.6s								
NLYR				smax	smax				
	comp=N,463nm,1.1s								
SYVR	**Suvo**	**2.57**	**202**	*e*Pn		**Pn**		**00 56 21.5**	**+1.1**
SYVR				*e*Pg		**Pb**		**00 56 25.1**	**+0.3**
SYVR				*e*				00 56 56.3	
SYVR				*e*Sg		**Sg**		**00 56 59.7**	**-1.3**
SYVR				Pmax					
	comp=N,125nm,0.6s								
SYVR				Smax					
	comp=N,358nm,0.9s								
SYVR	**Suvo**	**2.57**	**202**	*e*PN		**Pn**		**00 56 21.9**	**+1.5**
SYVR				*e*				00 56 24.9	
SYVR				*e*				00 56 59.4	
SYVR				pmax	pmax				
	comp=Z,127nm,0.6s								
SYVR				smax	smax				
	comp=E,327nm,0.8s								
MXMB	**Maximikha**	**3.25**	**212**	*e*Pn		**Pn**		**00 56 31.8**	**+2.1**
MXMB				*e*Pg		**Pb**		**00 56 38.7**	**+2.4**
MXMB				*e*Sg		**Sg**		**00 57 21.4**	**-1.4**
OGRR	**Ongureny**	**3.34**	**225**	*e*Pn		**Pn**		**00 56 33.6**	**+2.6**
OGRR				*e*Pg		**Pb**		**00 56 40.3**	**+2.4**
OGRR				*e*Sg		**Sg**		**00 57 24.0**	**-1.8**
OGRR				Pmax					
	comp=E,47nm,0.5s								
OGRR				Smax					
	comp=E,218nm,0.8s								
OGRR	**Ongureny**	**3.34**	**225**	⇑*i*PN		**Pn**		**00 56 34.1**	**+3.1**
OGRR				*e*				00 56 41.3	
OGRR				*e*				00 57 24.2	
OGRR				pmax	pmax				
	comp=Z,43nm,0.5s								
OGRR				smax	smax				
	comp=E,217nm,0.9s								
VTMR	**Vitim**	**3.44**	**8**	*e*Pg		**Pb**		**00 56 40.0**	**+0.4**
VTMR				*e*Sg		**Sb**		**00 57 24.1**	**+2.7**
CRS	**Chara**	**3.80**	**74**	*e*Pn		**Pn**		**00 56 38.5**	**+1.2**
CRS				*e*Pg		**Pb**		**00 56 47.1**	**+1.3**
CRS				*e*Sg		**Sb**		**00 57 35.4**	**+3.5**
CRS				Pmax					
	comp=E,58nm,0.9s								
CRS				Smax					
	comp=E,217nm,1.4s								
CRS	**Chara**	**3.80**	**74**	*e*PN		**Pn**		**00 56 39.7**	**+2.4**
CRS				*e*				00 56 47.5	
CRS				*e*				00 57 36.3	
CRS				pmax	pmax				
	comp=Z,58nm,0.8s								
CRS				smax	smax				
	comp=E,211nm,0.9s								
KELR	**Kotokel**	**3.88**	**213**	*e*Pg		**Pb**		**00 56 49.6**	**+2.4**
KELR				*e*Sg		**Sg**		**00 57 40.9**	**-2.3**
CIT	**Chita**	**4.20**	**163**	*e*		**Sb**		**00 57 47.5**	**+4.1**
CIT				*e*Sg		**Sg**		**00 57 51.5**	**-1.8**
CIT				Smax					
	comp=E,366nm,0.3s								
CIT	**Chita**	**4.20**	**163**	*e*PN		**Pn**		**00 56 45.2**	**+2.4**
CIT				*e*				00 56 53.9	
CIT				*e*S		**Sn**		**00 57 33.6**	**+1.6**
CIT				*e*				00 57 49.6	
CIT				pmax	pmax				
	comp=Z,45nm,1.2s								
CIT				smax	smax				
	comp=E,254nm,1.2s								
ZRHB	**Zarechye**	**4.36**	**218**	*e*Pg		**Pg**		**00 56 59.3**	**-2.8**
ZRHB				*e*Sg		**Sg**		**00 57 56.5**	**-2.1**
ZRHB				Pmax					
	comp=E,188nm,0.3s								
ZRHB				Smax					
	comp=E,404nm,0.9s								
TRG	**Tyrgan**	**4.50**	**225**	*e*Pn		**Pn**		**00 56 48.3**	**+1.4**
TRG				*e*Pg		**Pb**		**00 57 00.5**	**+2.8**
TRG				*e*Sg		**Sg**		**00 57 59.5**	**-3.5**
TRG				Pmax					
	comp=E,16nm,0.3s								
TRG				Smax					
	comp=E,88nm,0.2s								
UUDB	**Ulan-Yde**	**4.79**	**211**	*e*Pg		**Pb**		**00 57 05.4**	**+2.7**
UUDB				*e*Sg		**Sg**		**00 58 07.6**	**-4.7**
UUDB				Pmax					
	comp=E,57nm,0.9s								
UUDB				Smax					
	comp=E,114nm,1.1s								
STDB	**Stepnoy Dvoret**	**4.96**	**220**	*e*Pg		**Pb**		**00 57 08.2**	**+2.7**
STDB				*e*Sg		**Sg**		**00 58 13.3**	**-4.3**
TUP	**Tupik**	**5.06**	**105**	*e*Pn		**Pn**		**00 56 54.9**	**+0.4**
TUP				*e*Pg		**Pb**		**00 57 10.5**	**+3.3**
TUP				*e*Sg		**Sg**		**00 58 16.0**	**-4.8**
TUP				Pmax					
	comp=E,16nm,0.6s								
TUP				Smax					
	comp=E,175nm,1.0s								
TUP	**Tupik**	**5.06**	**105**	*e*PN		**Pn**		**00 56 54.7**	**+0.2**
TUP				*e*				00 57 09.2	
TUP				*e*S		**Sn**		**00 57 50.3**	**-2.7**
TUP				*e*				00 58 14.8	
TUP				pmax	pmax				
	comp=Z,14nm,0.3s								
TUP				smax	smax				
	comp=N,174nm,0.8s								
HRMR	**Khuramsha**	**5.21**	**214**	*e*Pn		**Pn**		**00 56 58.1**	**+1.4**
HRMR				*e*Pg		**Pb**		**00 57 12.8**	**+3.0**
HRMR				*e*Sg		**Sg**		**00 58 20.4**	**-5.4**
HRMR				Pmax					
	comp=N,75nm,0.6s								
HRMR				Smax					
	comp=N,308nm,1.2s								
BGT	**Bolshoye Golou**	**5.42**	**225**	Pg		**Pb**		**00 57 16.9**	**+3.5**
BGT				*e*Sg		**Sg**		**00 58 27.6**	**-4.8**
BGT				Smax					
	comp=N,95nm,0.6s								
YKLR	**Yuktali**	**5.63**	**80**	*e*Pg		**Pb**		**00 57 19.2**	**+2.3**
YKLR				*e*Sg		**Sb**		**00 58 31.6**	**+7.2**
IRK	**Irkutsk**	**5.75**	**231**	*e*Sg		**Sg**		**00 58 38.4**	**-4.6**
IRK				Smax					
	comp=N,252nm,0.4s								
LSTR	**Listvyanka**	**5.79**	**226**	*e*Sg		**Sg**		**00 58 38.1**	**-6.0**
LSTR				Smax					
	comp=N,53nm,1.2s								
KPC	**Khapcheranga**	**6.38**	**175**	*e*Pn		**Pn**		**00 57 12.7**	**0.0**
KPC				*e*Pg		**Pb**		**00 57 34.2**	**+4.5**
KPC				*e*Sg		**Sg**		**00 58 57.2**	**-5.9**
KPC				Pmax					
	comp=N,10.0nm,0.5s								
KPC				Smax					
	comp=N,135nm,1.0s								
KPC	**Khapcheranga**	**6.38**	**175**	*e*PN		**Pn**		**00 57 12.9**	**+0.2**
KPC				*e*				00 57 33.2	
KPC				*e*				00 58 56.1	
KPC				pmax	pmax				
	comp=Z,8.0nm,0.5s								
KPC				smax	smax				
	comp=E,134nm,1.2s								
TLY	**Talaya**	**6.42**	**230**	Pg		**Pb**		**00 57 30.4**	**0.0**
	comp=E,0.0nm,0.3s,baz=49,slow=10,SNR=2.0								
TLY				Sn		**Sn**		**00 58 25.0**	**-1.6**
	comp=E,0.0nm,0.3s,baz=41,slow=13,SNR=1.6								
TLY				Lg	Lg			00 58 55.2	
	comp=E,0.1nm,0.3s,baz=251,slow=22,SNR=2.7								
TLY	**Talaya**	**6.42**	**230**	*e*Pn		**Pn**		**00 57 15.0**	**+1.7**
TLY				*e*Pg		Pb		00 57 35.3	+4.9
TLY				*e*				00 58 24.4	
TLY				*e*Sg		**Sg**		**00 58 58.8**	**-5.8**
TLY				Pmax					
	comp=E,16nm,0.7s								
TLY				Smax					
	comp=E,72nm,1.3s								
TLY	**Talaya**	**6.42**	**230**	⇑*e*PN		**Pn**		**00 57 13.4**	**+0.1**
ARS	**Arshan**	**6.81**	**236**	*e*		**Pn**		**00 57 21.6**	**+3.0**
ARS				*e*				00 58 36.0	
ARS				*e*Sg		**Sg**		**00 59 12.0**	**-4.9**
ARS				Smax					
	comp=E,150nm,0.6s								
CLNS	**Chul'man**	**7.42**	**78**	*e*Sg		**Sg**		**00 59 29.4**	**-7.0**
ZAK	**Zakamensk**	**7.55**	**225**	*e*Sg		**Sg**		**00 59 34.2**	**-6.7**
ZAK				Smax					
	comp=E,21nm,0.5s								
MOY	**Mondy**	**7.65**	**239**	*e*Pn		**Pn**		**00

KLR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ZALV	**Zalesovo Beam**	**15.47**	**273**	Pn	**Pn**	**00 59 15.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=96,slow=15,SNR=1.5						
DGZ	**Jazzator, Alta**	**15.86**	**257**⇑	*eP*	**Pn**	**00 59 19.7**	**-2.3**
TIXI	**Tiksi**	**17.28**	**18**⇑	*eP*	**Pn**	**00 59 38.5**	**-1.2**
KURK	**Kurchatov**	**20.25**	**269**	P	Pn	01 00 16.3	+0.5
KURBB	**Kurchatov Arra**	**20.34**	**268**	P	Pn	01 00 16.3	-0.7
	comp=Z,0.1nm,0.3s,baz=68,slow=12,SNR=3.1						
MK31	**Makanchi Array**	**20.34**	**255**⇑	*eP*	**P**	**01 00 14.6**	**-0.4**
MKAR	**Makanchi Array**	**20.34**	**255**	P	**P**	**01 00 15.6**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=56,slow=9.3,SNR=8.4						
MA2	**Magadan**	**20.95**	**64**⇑	*eP*	Pn	01 00 23.0	-0.9
MA2				pmax	pmax		
	comp=Z,2.0nm,1.2s						
YSS	**Yuzh-Sakhalins**	**21.26**	**102**⇑	*eP*	**P**	**01 00 24.8**	**-0.1**
YSS				pmax	pmax		
	comp=Z,17nm,1.1s						
BVAR	**Borovoye Array**	**23.84**	**280**	P	**P**	**01 00 51.0**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=55,slow=5.5,SNR=2.6						
BRVK	**Borovoye**	**23.88**	**280**⇑	*eP*	**P**	**01 00 50.8**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AAK	**Ala-Archa**	**27.27**	**256**⇑	*eP*	**P**	**01 01 20.8**	**-2.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.8s						
ARCES	**ARCESS Array B**	**37.97**	**325**	P	**P**	**01 02 56.8**	**+0.7**
	comp=Z,2.8nm,0.9s,baz=80,slow=10,SNR=5.0						
FINES	**FINESS Array B**	**41.66**	**314**	P	**P**	**01 03 27.1**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=52,slow=9.2,SNR=2.1						
ILAR	**Eielson Array**	**45.58**	**36**	P	**P**	**01 04 03.0**	**+4.6**
	comp=Z,0.8nm,1.1s,baz=253,slow=4.9,SNR=4.9						
ILAR	**Eielson Array**	**45.58**	**36**	P	**P**	**01 04 03.0**	**+4.6**

*NNC **23** 01:07:14.4±0.9,44.1°N×79.7°E,h8km±7km,mb2.8, mpv2.6,Error ellipse: s-maj=8.8km s-min=4.8km az=99.0*
*SOME **23** 01:07:15.0,44.58°N×79.38°E,h0km*
ISC 23 01:07:15.0±1.3,44.02N±0.04×79.68E±0.04,h12km±12km, n18,σ1§45/31,3C-1D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**0.32**	**15**	*eP*	**Pb**	**01 07 22.5**	**-0.2**
	4.8nm,0.2s						
DJR				*eS*	**Sb**	**01 07 28.2**	**+0.3**
	12nm,0.2s						
DJR	**Jarkent**	**0.32**	**15**	P	**Pb**	**01 07 22.5**	**-0.2**
	4.8nm,0.2s						
DJR				S	**Sb**	**01 07 28.2**	**+0.3**
	12nm,0.2s						
PDGK	**Podgornoye**	**0.71**	**191**	P	**Pg**	**01 07 27.3**	**-1.4**
	0.7nm,0.2s						
PDGK	**Podgornoye**	**0.71**	**191**	⇓P	**Pg**	**01 07 27.8**	**-0.9**
	0.6nm,0.3s						
PDGK				⇑S	**Sb**	**01 07 39.2**	**+0.2**
	0.6nm,0.1s						
KTMS	**Ketmen**	**0.76**	**139**	*eP*	Pn	01 07 39.8	+8.3
	0.3nm,0.1s						
KTMS				*eS*	Sn	01 07 57.5	+15
	6.2nm,0.1s						
MNBS	**Baschi**	**0.92**	**274**	*eP*	**Pg**	**01 07 32.6**	**-0.2**
	1.7nm,0.1s						
MNBS				*eS*	**Sg**	**01 07 44.7**	**-0.1**
	7.6nm,0.2s						
MNBS	**Baschi**	**0.92**	**274**	P	**Pg**	**01 07 31.9**	**-0.9**
	1.7nm,0.1s						
MNBS				S	**Sg**	**01 07 44.3**	**-0.5**
	7.6nm,0.2s						
ARXS	**Arharly**	**1.35**	**279**	*eP*	**Pn**	**01 07 37.9**	**-1.7**
	3.6nm,0.2s						
ARXS				*eS*	**Sb**	**01 07 54.3**	**-3.1**
	5.0nm,0.1s						
ARXS	**Arharly**	**1.35**	**279**	P	**Pn**	**01 07 39.7**	**0.0**
	1.9nm,0.1s						
ARXS				S	**Sb**	**01 07 57.5**	**+0.1**
	5.0nm,0.1s						
CHKK	**Chushkaly**	**1.95**	**266**	*eP*	**Pb**	**01 07 50.2**	**-0.2**
	1.3nm,0.1s						
CHKK				*eS*	**Sb**	**01 08 15.5**	**+0.8**
	6.8nm,0.2s						
CHKK	**Chushkaly**	**1.95**	**266**	P	**Pb**	**01 07 50.2**	**-0.2**
	1.3nm,0.1s						
CHKK				S	**Sb**	**01 08 15.5**	**+0.8**
	6.8nm,0.2s						
KOTS	**Kotyrbulak**	**2.02**	**248**	*eP*	**Pg**	**01 07 55.7**	**+1.9**
	0.9nm,0.2s						
KOTS				*eS*	**Sg**	**01 08 24.6**	**+4.6**
	2.6nm,0.2s						
KOTS	**Kotyrbulak**	**2.02**	**248**	P	**Pb**	**01 07 51.0**	**-0.7**
	0.9nm,0.2s						
KOTS				S	**Sb**	**01 08 17.0**	**+0.1**
	2.6nm,0.2s						
KTBS	**Karatobe**	**2.19**	**263**	*eP*	**Pb**	**01 07 54.9**	**+0.4**
	1.4nm,0.3s						
KTBS				*eS*	**Sg**	**01 08 23.6**	**-1.7**
	4.5nm,0.2s						
KTBS	**Karatobe**	**2.19**	**263**	Pg	**Pb**	**01 07 54.9**	**+0.4**
	1.4nm,0.3s						
KTBS				Lg	Lg	01 08 23.6	
	4.5nm,0.2s						
KUU	**Kurty**	**2.42**	**268**	*eP*	**Pb**	**01 07 58.7**	**+0.3**
	1.1nm,0.4s						
KUU				*eS*	**Sb**	**01 08 29.8**	**+1.8**
	2.6nm,0.2s						
KUU	**Kurty**	**2.42**	**268**	Pg	**Pb**	**01 07 58.7**	**+0.3**
	1.1nm,0.4s						
KUU				Lg	Lg	01 08 29.8	
	2.6nm,0.2s						
MK31	**Makanchi Array**	**3.33**	**33**	⇑Pn	**Pn**	**01 08 08.8**	**+2.0**
	0.2nm,0.6s,baz=220,slow=30,SNR=10						
MK31				⇑Sn	**Sn**	**01 08 44.6**	**-1.7**
	0.1nm,0.2s,baz=216,slow=25,SNR=3.7						

IDC 23 01:13:49.0±4.8,9.34S×127.55E,h65km±54km,mb2.7/1, mb1 4.0/4,mb1mx3.5/25,mbtmp3.9/4,ML3.5/4,Error ellipse: s-maj=44.5km s-min=17.0km az=32.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.93**	**257**	P	Pn	01 14 46.2	-0.7
	4.1nm,0.3s,baz=28,slow=6.7,SNR=1.5						
BATI				S	Sn	01 15 32.3	+0.5
	4.6nm,0.3s,baz=70,slow=22,SNR=1.7						
FITZ	**Fitzroy Crossi**	**8.91**	**192**	P	Pn	01 15 56.5	+1.5
	0.2nm,0.3s,baz=16,slow=15,SNR=1.6						
FITZ				S	Sn	01 17 36.8	+2.9
	0.5nm,0.3s,baz=143,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**12.42**	**149**	P	Pn	01 16 42.6	-0.5
	0.3nm,0.3s,baz=322,slow=13,SNR=7.6						
WRA				S	Sn	01 18 56.7	-3.0
	0.1nm,0.3s,baz=324,slow=25,SNR=2.9						
ASAR	**Alice Springs**	**15.49**	**158**	P	Pn	01 17 24.1	+0.4
	0.2nm,0.3s,baz=333,slow=12,SNR=5.9						
ASAR				S	Sn	01 20 13.0	-1.5
	0.1nm,0.3s,baz=321,slow=17,SNR=3.4						
MKAR	**Makanchi Array**	**68.89**	**328**	P	P	01 24 47.0	0.0
	0.1nm,0.4s,baz=133,slow=8.1,SNR=1.9						

*IDC **23** 01:29:11.3±1.5,6.59S×155.33E,h36km±6km,mb3.4/7, mb1 3.7/7,mb1mx3.5/28,mbtmp3.6/7,MS2.6/1,Ms1 2.6/1, ms1mx2.4/15,Error ellipse: s-maj=51.4km s-min=22.5km az=122.0*
ISC 23 01:29:11.1±1.4,6.6S±0.2×155.4E±0.3,h35km,n15, σ0§57/13,mb3.6/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.36**	**122**	LR	LR	01 32 26.4	
	comp=Z,56nm,18.2s,baz=321,slow=36						
WRA	**Warramunga Arr**	**24.35**	**235**	P	**P**	**01 34 25.6**	**-0.4**
	1.3nm,0.9s,baz=57,slow=9.5,SNR=9.4						
WRA				pP	**pP**	**01 34 35.6**	**-0.4**
	0.7nm,0.5s,baz=61,slow=9.6,SNR=3.2						
WRA				sP	**sP**	**01 34 40.9**	**+0.7**
	1.0nm,0.5s,baz=58,slow=10,SNR=4.9						
WRA				PcP	**PcP**	**01 38 05.6**	**+0.4**
	0.4nm,0.5s,baz=55,slow=2.5,SNR=5.1						
ASAR	**Alice Springs**	**26.72**	**228**	P	**P**	**01 34 47.0**	**-0.5**
	0.3nm,0.4s,baz=58,slow=8.9,SNR=4.9						
ASAR				pP	**pP**	**01 34 58.0**	**+0.5**
	0.5nm,0.4s,baz=56,slow=9.6,SNR=4.7						
H11S3	**WAKE ISLAND Hy**	**27.30**	**24**	T	T	02 03 12.9	
	baz=204,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**27.31**	**24**	T	T	02 03 05.7	
	baz=204,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hy**	**27.32**	**24**	T	T	02 03 06.9	
	baz=204,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**28.48**	**23**	T	T	02 04 42.0	
	baz=197						
H11N3	**WAKE ISLAND Hy**	**28.50**	**23**	T	T	02 04 35.3	
	baz=197,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.50**	**23**	T	T	02 04 44.1	
	baz=197						
CMAR	**Chiang Mai Arr**	**60.93**	**295**	P	**P**	**01 39 21.7**	**+0.6**
	1.7nm,0.7s,baz=118,slow=5.3,SNR=5.7						
SONM	**Songino Array**	**69.18**	**327**	P	**P**	**01 40 14.3**	**0.0**
	0.3nm,0.6s,baz=132,slow=2.1,SNR=2.8						
ILAR	**Eielson Array**	**82.85**	**21**	P	**P**	**01 41 32.1**	**+0.4**
	0.4nm,1.0s,baz=251,slow=5.5,SNR=4.6						
MKAR	**Makanchi Array**	**83.33**	**319**	P	**P**	**01 41 33.8**	**-0.7**
	0.3nm,0.6s,baz=111,slow=6.3,SNR=2.7						
MKAR				pP	**pP**	**01 41 45.7**	**+0.1**
	0.3nm,0.7s,baz=105,slow=6.9,SNR=3.2						
YKA	**Yellowknife Ar**	**95.80**	**28**	P	**P**	**01 42 33.4**	**-0.1**
	0.2nm,0.6s,baz=265,slow=4.0,SNR=6.8						
TORD	**Torodi Ar. Bea**	**153.25**	**286**	PKPbc	**PKPbc**	**01 49 05.7**	**-0.9**
	0.4nm,0.5s,baz=90,slow=2.9,SNR=2.9						

*CRAAG **23** 01:58:21.4,36.48N×3.05E,Ml3.3*
*MDD **23** 01:58:24.0±0.4,36.52N×2.98E,h0km,mb4.0/15,Error ellipse: s-maj=5.0km s-min=4.0km az=115.0,PRXIMO*
*LDG **23** 01:58:26.2±0.2,36.72N×2.81E,h24km,Ml2.8/10,Error ellipse: s-maj=5.0km s-min=2.9km az=152.0*
ISC 23 01:58:23.1±0.9,36.51N±0.04×3.07E±0.03,h18km,n81, σ2§46/99,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.29**	**355**	P	**Pg**	**01 58 29.2**	**-0.3**
ABA	**Alger-Bouzarea**	**0.29**	**355**	P	**Pg**	**01 58 29.2**	**-0.3**
EMHD	**Djebel Mahouad**	**0.32**	**196**	P	**Pg**	**01 58 28.9**	**-1.2**
EMHD	**Djebel Mahouad**	**0.32**	**196**	P	**Pg**	**01 58 28.9**	**-1.2**
ABMS	**Boumerdes**	**0.41**	**54**	P	**Pg**	**01 58 31.7**	**+0.1**
ABMS	**Boumerdes**	**0.41**	**54**	P	**Pg**	**01 58 31.7**	**+0.1**
EBNR	**Beni Rached**	**1.26**	**260**	P	**Pg**	**01 58 47.8**	**+0.4**
ECHA	**Ech Chlef**	**1.42**	**256**	P	**Pn**	**01 58 48.5**	**+0.5**
ECHF	**Ech Chlef**	**1.44**	**256**	P	**Pn**	**01 58 48.5**	**+0.3**
EANR	**'Ain N'Sour**	**1.68**	**251**	P	**Pb**	**01 58 54.3**	**+0.7**
EANR	**'Ain N'Sour**	**1.68**	**251**	P	**Pb**	**01 58 54.3**	**+0.7**
ETRT	**Tiaret**	**1.82**	**233**	P	**Pb**	**01 58 55.8**	**-0.1**
ETRT	**Tiaret**	**1.82**	**233**	P	**Pb**	**01 58 55.8**	**-0.1**
SET	**Setif**	**1.91**	**99**	P	**Pb**	**01 58 59.0**	**+1.5**
SET	**Setif**	**1.91**	**99**	P	**Pb**	**01 58 59.0**	**+1.5**
OKGL	**Djebel Kef Gue**	**2.01**	**257**	P	**Pn**	**01 58 56.7**	**+0.5**
	20nm,0.3s,SNR=7.9						
OKGL				S	**Sn**	**01 59 19.8**	**-1.1**
	96nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**2.86**	**332**	P	**Pn**	**01 59 09.2**	**+1.4**
	12nm,0.3s,SNR=8.1						
EIBI				S	**Sn**	**01 59 40.5**	**-1.2**
	17nm,0.3s						
ETOS	**Mallorca**	**3.26**	**357**	P	**Pn**	**01 59 14.6**	**+1.2**
	1.9nm,0.1s,SNR=15						
ETOS				S	**Sn**	**01 59 50.6**	**-1.0**
	5.4nm,0.3s						
EBEN2	**Beniarda presa**	**3.37**	**311**	P	**Pn**	**01 59 15.9**	**+1.1**
	3.7nm,0.3s,SNR=4.0						
EBEN2				S	**Sn**	**01 59 53.0**	**-1.4**
	8.3nm,0.3s,SNR=7.9						
ETRV	**Los Montesinos**	**3.41**	**297**	P	**Pn**	**01 59 16.3**	**+1.0**
	2.5nm,0.1s,SNR=7.9						
ETRV				S	**Sn**	**01 59 53.2**	**-2.0**
	8.1nm,0.2s,SNR=7.9						
CART	**Cartagena**	**3.43**	**289**	P	**Pn**	**01 59 19.4**	**+3.9**
CART				S	**Sn**	**01 59 54.6**	**-1.1**
CART	**Cartagena**	**3.43**	**289**	*eP*	**Pn**	**01 59 19.4**	**+3.9**
CART				*eS*	**Sn**	**01 59 54.6**	**-1.1**
MAHO	**Mahon**	**3.51**	**15**	P	**Pn**	**01 59 19.7**	**+3.0**
MAHO				S	**Sn**	**01 59 54.0**	**-3.8**
MAHO	**Mahon**	**3.51**	**15**	*eP*	**Pn**	**01 59 19.7**	**+3.0**
MAHO				*eS*	**Sn**	**01 59 54.0**	**-3.8**
EMUR	**La Murta**	**3.69**	**292**	P	**Pn**	**01 59 20.0**	**+0.8**
	2.3nm,0.4s,SNR=5.6						
EMUR				S	**Sn**	**01 59 60.0**	**-2.2**
	0.1nm,0.2s						
ETOB	**Tobarra**	**4.24**	**302**	P	**Pn**	**01 59 28.7**	**+1.8**
	2.5nm,0.2s,SNR=37						
ETOB				S	**Sn**	**02 00 14.8**	**-1.1**
	0.0nm,0.2s,SNR=7.9						
ECHE	**Chera**	**4.42**	**315**	P	**Pn**	**01 59 31.7**	**+2.3**
	2.0nm,0.2s,SNR=7.9						
ECHE				S	**Sn**	**02 00 18.0**	**-2.4**
	0.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.74**	**325**	P	**Pn**	**01 59 35.3**	**+1.5**
	1.6nm,0.2s,SNR=16						
EMOS				S	**Sn**	**02 00 26.6**	**-1.9**
	0.3nm,0.2s						
SESP	**Santiago Espad**	**4.75**	**291**	P	**Pn**	**01 59 35.7**	**+1.7**
	3.2nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**02 00 26.4**	**-2.3**
	0.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.80**	**276**	P	**Pn**	**01 59 35.9**	**+1.2**
	0.6nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**02 00 27.1**	**-2.9**
	0.4nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**4.93**	**335**	S	**Sn**	**02 00 30.2**	**-2.6**
	0.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.07**	**287**	P	**Pn**	**01 59 41.1**	**+2.8**
	1.7nm,0.3s,SNR=8.1						
EQES				S	**Sn**	**02 00 36.2**	**-0.2**
	0.3nm,0.2s						
EMIR	**Miracle**	**5.53**	**348**	P	**Pn**	**01 59 47.4**	**+2.8**
	10.0nm,0.2s,SNR=6.1						
EMIR				S	**Sn**	**02 00 45.6**	**-2.0**
	5.3nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**5.93**	**359**	P	**Pn**	**01 59 51.6**	**+1.5**
	2.3nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**5.97**	**359**	P	**Pn**	**01 59 52.0**	**+1.5**
	1.1nm,0.2s,SNR=7.9						
SJAF				S	**Sn**	**02 00 54.7**	**-3.7**
	0.3nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**6.02**	**352**	P	**Pn**	**01 59 52.7**	**+1.4**
	0.4nm,0.2s,SNR=7.9						
CLLI				S	**Sn**	**02 00 57.8**	**-2.1**
	0.0nm,0.1s,SNR=7.9						
CSOR	**Sort**	**6.04**	**346**	P	**Pn**	**01 59 53.2**	**+1.5**
	1.1nm,0.3s,SNR=6.6						
CSOR				S	**Sn**	**02 00 58.0**	**-2.5**
	0.3nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**6.59**	**300**	P	**Pn**	**02 00 00.2**	**+1.1**
	0.3nm,0.2s,SNR=7.9						
EPF	**Esparros**	**6.84**	**343**	P	**Pn**	**01 59 59.0**	**-3.6**
EPF				S	Sn	02 01 09.3	-11
	0.6nm,0.3s						
EPF	**Esparros**	**6.84**	**343**	*eP*	**Pn**	**01 59 59.0**	**-3.6**
EPF				*eSn*	Sn	02 01 09.3	-11
	1.1nm,0.3s						
ATE	**Arette**	**7.18**	**337**	S	**Sn**	**02 01 24.6**	**-3.6**
	1.2nm,0.2s,SNR=7.9						
LMR	**La Mourre**	**7.31**	**20**	P	**Pn**	**02 00 07.8**	**-1.1**
LMR				S	Sn	02 01 23.3	-8.1
	0.7nm,0.2s						
LMR	**La Mourre**	**7.31**	**20**	*eP*	**Pn**	**02 00 07.8**	**-1.1**
LMR				*eSn*	Sn	02 01 23.3	-8.1
	1.4nm,0.2s						
SJPF	**Ste Jean**	**7.37**	**335**	S	Sn	02 01 22.6	-10
	0.6nm,0.4s						
SJPF	**Ste Jean**	**7.37**	**335**	*eSn*	Sn	02 01 22.6	-10
	1.3nm,0.4s						
FRF	**La Foret Royal**	**7.56**	**20**	P	**Pn**	**02 00 12.8**	**+0.5**
FRF				S	Sn	02 01 29.6	-7.9
	1.1nm,0.3s						
FRF	**La Foret Royal**	**7.56**	**20**	*eP*	**Pn**	**02 00 12.8**	**+0.5**
FRF				*eSn*	Sn	02 01 29.6	-7.9
	2.2nm,0.3s						
PGF	**Pioggiola**	**7.57**	**35**	P	**Pn**	**02 00 12.7**	**0.0**
PGF				S	**Sn**	**02 01 31.6**	**-6.5**
	0.4nm,0.3s						
PGF	**Pioggiola**	**7.57**	**35**	*eP*	**Pn**	**02 00 12.7**	**0.0**
PGF				*eSn*	**Sn**	**02 01 31.6**	**-6.5**
	0.8nm,0.3s						
LASF	**Ste Croix**	**7.58**	**4**	P	**Pn**	**02 00 14.3**	**+1.6**
LASF				S	Sn	02 01 28.4	-10
	0.3nm,0.4s						
LASF	**Ste Croix**	**7.58**	**4**	*eP*	**Pn**	**02 00 14.3**	**+1.6**
LASF				*eSn*	Sn	02 01 28.4	-10
	0.7nm,0.4s						
SMRF	**Simiane la Rot**	**7.70**	**14**	P	**Pn**	**02 00 13.0**	**-1.3**
SMRF				S	Sn	02 01 32.3	-8.8
	0.2nm,0.2s						
SMRF	**Simiane la Rot**	**7.70**	**14**	*eP*	**Pn**	**02 00 13.0**	**-1.3**
SMRF				*eSn*	Sn	02 01 32.3	-8.8
	0.2nm,0.2s						
SBF	**Sospel**	**8.07**	**23**	S	Sn	02 01 42.0	-8.2
	0.6nm,0.2s						
SBF	**Sospel**	**8.07**	**23**	*eSn*	Sn	02 01 42.0	-8.2
	1.2nm,0.2s						
VIVF	**Saint-Julien-l**	**8.43**	**8**	P	**Pn**	**02 00 27.2**	**+2.9**
VIVF				S	Sn	02 01 49.0	-10
VIVF	**Saint-Julien-l**	**8.43**	**8**	*eP*	**Pn**	**02 00 27.2**	**+2.9**
VIVF				*eSn*	Sn	02 01 49.0	-10
LFF	**La Frestale**	**8.60**	**349**	P	**Pn**	**02 00 29.1**	**+2.5**
LFF				S	Sn	02 01 51.3	-12
	0.6nm,0.4s						
LFF	**La Frestale**	**8.60**	**349**	*eP*	**Pn**	**02 00 29.1**	**+2.5**
LFF				*eSn*	Sn	02 01 51.3	-12
	1.3nm,0.4s						
ORIF	**Oris-en-Rattie**	**8.67**	**13**	P	**Pn**	**02 00 31.2**	**+3.6**
ORIF	**Oris-en-Rattie**	**8.67**	**13**	*eP*	**Pn**	**02 00 31.2**	**+3.6**
MBDF	**Montbardon**	**8.68**	**18**	P	**Pn**	**02 00 31.6**	**+3.8**
MBDF	**Montbardon**	**8.68**	**18**	*eP*	**Pn**	**02 00 31.6**	**+3.8**
RJF	**Les Rejaudoux**	**8.86**	**353**	P	**Pn**	**02 00 33.2**	**+3.0**
RJF				S	Sn	02 01 58.0	-12
	0.4nm,0.5s						
RJF	**Les Rejaudoux**	**8.86**	**353**	*eP*	**Pn**	**02 00 33.2**	**+3.0**
RJF				*eSn*	Sn	02 01 58.0	-12
	0.9nm,0.5s						
EARI	**Arriondas**	**9.29**	**319**	P	**Pn**	**02 00 38.5**	**+2.3**
	0.5nm,0.2s,SNR=7.9						
LPG	**La Plagne**	**9.40**	**16**	P	**Pn**	**02 00 36.8**	**-1.0**
LPG	**La Plagne**	**9.40**	**16**	*ePn*	**Pn**	**02 00 36.8**	**-1.0**
LPG	**La Plagne**	**9.40**	**16**	*eP*	**Pn**	**02 00 41.4**	**+3.6**
LPL	**La Plagne**	**9.41**	**16**	*eP*	**Pn**	**02 00 42.2**	**+4.2**
SMF	**Signal de Mont**	**10.14**	**3**	P	**Pn**	**02 00 50.8**	**+3.0**
SMF	**Signal de Mont**	**10.14**	**3**	*eP*	**Pn**	**02 00 50.8**	**+3.0**
AVF	**Avril sur Loir**	**10.27**	**1**	P	**Pn**	**02 00 52.2**	**+2.7**
AVF	**Avril sur Loir**	**10.27**	**1**	*eP*	**Pn**	**02 00 52.2**	**+2.7**
CABF	**La Chapelle**	**10.34**	**12**	P	**Pn**	**02 00 53.5**	**+2.9**
CABF	**La Chapelle**	**10.34**	**12**	*eP*	**Pn**	**02 00 53.5**	**+2.9**
SSF	**Saint Saulge**	**10.55**	**2**	P	**Pn**	**02 00 56.0**	**+2.7**
SSF	**Saint Saulge**	**10.55**	**2**	*eP*	**Pn**	**02 00 56.0**	**+2.7**
LOR	**Lormes**	**10.77**	**3**	P	**Pn**	**02 00 59.7**	**+3.4**
LOR	**Lormes**	**10.77**	**3**	*eP*	**Pn**	**02 00 59.7**	**+3.4**

*THR **23** 02:20:34.6±0.4,28.23N×57.39E,h14km±7km,ML3.7*
*TEH **23** 02:20:36.0,28.33N×57.46E,h16km,ML3.9*
*IDC **23** 02:20:39.4±2.9,28.11N×57.52E,h61km±36km,mb3.4/7, mb1 3.6/11,mb1mx3.3/55,mbtmp3.8/11,ML3.8/3,MS3.1/1, Ms1 3.1/1,ms1mx2.2/29,Error ellipse: s-maj=21.2km s-min=19.3km az=76.0*
*OMAN **23** 02:20:40.5,28.03N×57.71E,h20km,mb4.8/4,ml3.7/14*
ISC 23 02:20:35.0±0.6,28.27N±0.03×57.48E±0.04,h10km,n79, σ1§94/99,mb3.8/7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.38**	**148**	*ePg*	**Pb**	**02 20 45.5**	**+1.7**
KHNJ				*eSg*	**Sb**	**02 20 52.3**	**+2.6**
KBAM	**BAM**	**1.22**	**44**	*ePg*	**Pb**	**02 20 58.1**	**-0.1**
GENO	**Geno**	**1.44**	**234**	*e*		02 21 26.1	
	comp=Z,99nm,0.3s						
GENO				*ePg*	**Pg**	**02 21 03.9**	**+1.2**
NGRK	**Negar Kerman**	**1.52**	**335**	*ePg*	**Pn**	**02 21 02.9**	**+0.3**
NGRK				*e*		02 21 33.0	
	comp=Z,99nm,0.2s						
CHMN	**Cheshme madani**	**1.59**	**2**	*ePg*	**Pn**	**02 21 04.4**	**+0.8**
KRBR	**Kerman**	**1.82**	**340**	*ePn*	**Pn**	**02 21 08.0**	**+1.3**
KRBR				*eSg*	**Sb**	**02 21 32.5**	**+0.8**
KRBR				IAML		02 21 41.6	
	comp=E,633nm,0.4s						
KRBR				IAML		02 21 41.8	
	comp=N,621nm,0.4s						
KRBR	**Kerman**	**1.82**	**340**	*ePn*	**Pn**	**02 21 08.0**	**+1.3**
TVBK	**TV Kerman**	**1.82**	**340**	*ePg*	**Pn**	**02 21 08.1**	**+1.3**
KHGB	**Koh Gabri**	**2.28**	**338**	*ePn*	**Pn**	**02 21 13.9**	**+1.0**
KHGB				*e*		02 21 19.9	
	comp=Z,99nm,0.4s						
SHME	**Shamm**	**2.51**	**209**	*ePn*	**Pn**	**02 21 17.2**	**+1.3**
SHME	**Shamm**	**2.51**	**209**	P	**Pb**	**02 21 19.2**	**-0.9**
	SNR=12						
SHME				S	**Sb**	**02 21 50.0**	**-1.1**
BANOM	**Banah**	**2.56**	**204**	*ePn*	**Pn**	**02 21 18.0**	**+1.4**
BANOM	**Banah**	**2.56**	**204**	P	**Pb**	**02 21 19.9**	**-1.1**
	SNR=50						
BANOM				S	**Sn**	**02 21 50.9**	**+3.1**
JSK1	**Jask**	**2.63**	**174**	*ePn*	**Pb**	**02 21 21.1**	**-1.1**
LAR1	**LAR**	**2.81**	**259**	*ePn*	**Pn**	**02 21 21.3**	**+1.2**
LAR1				*e*		02 22 25.7

JMDO				S	Sn	02 23 09.3	-0.9
JLN	**Jalan Bani Buh**	**6.34**	**164**	P	Pn	**02 22 09.0**	**+0.5**
	SNR=13						
JLN				S	Sn	02 23 16.7	-4.3
IZEF	**Zefreh**	**6.40**	**317**	*e*Pn	Pn	**02 22 11.1**	**+1.5**
SHK1	**Shahrekord**	**6.99**	**307**	*e*Pn	Pn	**02 22 18.7**	**+1.0**
IPIR	**Pirpir**	**7.19**	**309**	*e*Pn	Pn	**02 22 22.1**	**+1.6**
MHTO	**MHTO**	**7.26**	**176**	P	Pn	**02 22 23.8**	**+2.6**
	SNR=8.2						
MHTO				S	Sn	02 23 41.7	-2.1
ISFB	**Sefidab**	**7.54**	**325**	*e*Pn	Pn	**02 22 27.4**	**+2.3**
QRN	**Al-Qurain**	**8.43**	**276**	*e*P		02 22 36.3	
UMR	**Umm Al-Rimmam**	**8.65**	**281**	*e*P		02 22 39.8	
RDF	**Al-Radifah**	**8.75**	**277**	*e*P		02 22 41.2	
MIB	**Mutribah**	**9.01**	**282**	*e*P		02 22 45.0	
RST	**Umm Al-Ruwaisa**	**9.27**	**280**	*e*P		02 22 47.8	
HSAM	**Samen**	**9.63**	**310**	*e*Pn	Pn	**02 22 54.2**	**+0.2**
WHFO	**Wadi Hawf**	**10.85**	**199**	P	Pn	**02 23 11.0**	**+0.5**
	SNR=9.9						
GNI	**Garni**	**15.84**	**322**	P	Pn	**02 24 20.7**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=66,slow=11,SNR=3.6						
MMAI	**Mount Meron Ar**	**19.57**	**289**	P	P	**02 25 04.1**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=97,slow=13,SNR=2.0						
EIL	**Elat**	**19.76**	**279**	P	P	**02 25 05.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=121,slow=5.9,SNR=4.1						
AKTO	**Aktyubinsk**	**22.14**	**1**	P	P	**02 25 31.5**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=168,slow=9.4,SNR=8.8						
BRTR	**Keskin Array B**	**22.76**	**306**	P	P	**02 25 37.2**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=110,slow=11,SNR=18						
BRTR				LR	LR	02 35 29.0	
	comp=Z,46nm,18.2s,baz=114,slow=39						
MKAR	**Makanchi Array**	**26.82**	**40**	P	P	**02 26 15.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=215,slow=7.0,SNR=2.7						
ZALV	**Zalesovo Beam**	**32.53**	**30**	P	P	**02 27 03.9**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=232,slow=9.0,SNR=2.8						
ESDC	**Sonseca Array**	**51.32**	**300**	P	P	**02 29 38.2**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=69,slow=7.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**53.87**	**266**	P	P	**02 29 56.5**	**-2.2**
	comp=Z,0.9nm,0.6s,baz=62,slow=7.0,SNR=6.0						
YKA	**Yellowknife Ar**	**89.33**	**356**	P	P	**02 33 30.4**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=19,slow=4.0,SNR=2.2						

IDC 23 02:23:55.4±1.9, 3°61S×144°51E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/30, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=89.1km s-min=27.8km az=109.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.03**	**211**	P	P	02 28 18.7	-0.4
	0.1nm,0.3s,baz=37,slow=9.7,SNR=8.1						
ASAR	**Alice Springs**	**22.42**	**206**	P	P	02 28 56.1	+0.2
	0.6nm,0.6s,baz=30,slow=12,SNR=7.3						
MKAR	**Makanchi Array**	**74.08**	**321**	P	P	02 35 33.9	+0.4
	0.2nm,0.5s,baz=107,slow=7.3,SNR=3.2						
ILAR	**Eielson Array**	**84.28**	**24**	P	P	02 36 28.6	-0.3
	0.3nm,0.8s,baz=266,slow=4.8,SNR=4.5						

IDC 23 02:30:19.3±21.0, 19°30N×145°22E, h170km±203km, mb3.2/8, mb1 3.5/8, mb1mx3.3/32, mbtmp3.7/8, Error ellipse: s-maj=38.2km s-min=33.5km az=100.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.43**	**196**	P	P	02 37 40.9	-0.3
	0.5nm,0.6s,baz=20,slow=8.6,SNR=6.1						
ASAR	**Alice Springs**	**44.11**	**195**	P	P	02 38 10.9	0.0
	0.4nm,0.8s,baz=17,slow=6.8,SNR=3.1						
MKAR	**Makanchi Array**	**57.72**	**314**	P	P	02 39 53.1	+0.8
	0.3nm,0.8s,baz=78,slow=9.0,SNR=2.3						
ILAR	**Eielson Array**	**63.31**	**26**	P	P	02 40 29.4	-0.5
	0.2nm,0.4s,baz=256,slow=5.7,SNR=6.2						
YKA	**Yellowknife Ar**	**77.67**	**28**	P	P	02 41 57.0	+0.2
	0.2nm,0.5s,baz=288,slow=4.9,SNR=4.3						
ARCES	**ARCESS Array B**	**81.78**	**342**	P	P	02 42 19.2	+0.4
	4.7nm,1.1s,baz=64,slow=4.1,SNR=2.0						
NVAR	**Mina Array Bea**	**83.13**	**52**	P	P	02 42 27.4	+0.7
	0.6nm,0.8s,baz=267,slow=5.4,SNR=4.4						
FINES	**FINESS Array B**	**86.15**	**335**	P	P	02 42 39.9	-1.1
	0.5nm,0.3s,baz=72,slow=4.5,SNR=7.0						

ROM 23 02:43:41.9±0.1, 43°349N×0°004×12°533E±0°005, h9km, ML1.3/1, 3C-1D, Error ellipse: s-maj=0.5km s-min=0.1km az=235.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.03**	**59**	⇑P	Pg	02 43 43.2	-0.5
ATFO				S	Sg	02 43 44.7	-0.3
MURB	**Monte Urbino**	**0.09**	**184**	P	Pg	02 43 44.5	+0.3
MURB				S	Sg	02 43 46.3	+0.4
MURB				AML	AML		
	comp=N,252μm,0.5s						
MURB				AML	AML		
	comp=E,245μm,0.2s						
ATVO	**AVT- Monte Val**	**0.10**	**290**	⇓P	Pg	02 43 44.7	+0.3
ATVO				S	Sg	02 43 46.7	+0.5
ATPI	**Pietralunga -**	**0.14**	**317**	P	Pg	02 43 45.6	+0.6
ATPI				S	Sg	02 43 48.3	+1.1
FOSV	**Fossato di Vic**	**0.18**	**108**	P	Pg	02 43 46.4	+0.8
FOSV				S	Sg	02 43 49.7	+1.5
ATCC	**AVT- Casa Cast**	**0.18**	**154**	P	Pg	02 43 46.5	+0.7
ATCC				S	Sg	02 43 50.2	+1.9
FRON	**Frontone**	**0.22**	**40**	⇑P	Pg	02 43 47.0	+0.6
FRON				S	Sg	02 43 51.1	+1.6
BADI	**Badiali**	**0.26**	**307**	⇑P	Pb	02 43 48.2	-0.7
BADI				S	Sb	02 43 52.8	-0.8
NARO	**Abbazia di Nar**	**0.26**	**8**	P	Pg	02 43 48.0	+0.8
NARO				S	Sb	02 43 52.5	-1.0
ASSB	**Assisi San Ben**	**0.32**	**163**	P	Pg	02 43 48.7	+0.4
ASSB				S	Sb	02 43 54.0	-1.1

*BEO **23** 02:45:33.9±0.2, 43°77N×21°39E, h3km±2km, ML2.4/16*
*RHSSO **23** 02:45:35.2±0.8, 43°79N×21°29E, h12km±3km, ML2.4/10*
KRSZO 23 02:45:33.6±1.2, 43°77N×21°34E, h4km±9km, ML2.7/9, 12C-10D, Error ellipse: s-maj=3.5km s-min=2.6km az=164.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOVS	**Bovan**	**0.30**	**117**	*e*Pg	Pg	02 45 38.9	-0.5
BOVS				*e*Sg	Sg	02 45 41.5	-1.8
BOVS	**Bovan**	**0.30**	**117**	⇑P	Pg	02 45 39.1	-0.3
BOVS				⇓S	Sg	02 45 42.8	-0.6
BOVS	**Bovan**	**0.30**	**117**	Pg	Pg	02 45 38.9	-0.5
BOVS				Pg	Pb	02 45 39.1	-2.4
BOVS				Sg	Sg	02 45 41.5	-1.8
BOVS				x	x	02 45 42.8	
GRUS	**Gruza**	**0.47**	**284**	*e*Pg	Pg	02 45 43.2	+0.7
GRUS				*e*Sg	Sg	02 45 49.6	+1.0
GRUS	**Gruza**	**0.47**	**284**	Pg	Pg	02 45 43.2	+0.7
GRUS				Sg	Sg	02 45 49.6	+1.0
SVIS	**Svilajnac**	**0.50**	**350**	*e*Pg	Pg	02 45 43.7	+0.5
SVIS				*e*Sg	Sg	02 45 50.0	+0.3
SVIS	**Svilajnac**	**0.50**	**350**	Pg	Pg	02 45 43.7	+0.5
SVIS				Sg	Sg	02 45 50.0	+0.3
SELS	**Selova**	**0.58**	**196**	*e*Pg	Pg	02 45 44.2	-0.5
SELS				*e*Sg	Sg	02 45 52.1	-0.1
SELS	**Selova**	**0.58**	**196**	Pg	Pg	02 45 44.2	-0.5
SELS				Sg	Sg	02 45 52.1	-0.1
ZAGS	**Zajecar**	**0.65**	**86**	*e*Pg	Pg	02 45 45.4	-0.6
ZAGS				*e*Sg	Sg	02 45 54.0	-0.5
ZAGS	**Zajecar**	**0.65**	**86**	Pg	Pg	02 45 45.4	-0.6
ZAGS				Lg	Lg	02 45 54.0	
KUBS	**Kucevo**	**0.68**	**21**	*e*Pg	Pg	02 45 45.5	-1.2
KUBS				*e*Sg	Sg	02 45 54.9	-0.7
KUBS	**Kucevo**	**0.68**	**21**	Pg	Pg	02 45 45.5	-1.2
KUBS				Lg	Lg	02 45 54.9	
TRUS	**Trudelj**	**0.81**	**304**	*e*Pg	Pg	02 45 49.6	+0.5
TRUS				*e*Sg	Sb	02 46 01.9	+0.4
TRUS	**Trudelj**	**0.81**	**304**	Pg	Pg	02 45 49.6	+0.5
TRUS				Lg	Lg	02 46 01.9	
IVAS	**Ivanjica**	**0.88**	**257**	*e*Pg	Pg	02 45 49.9	-0.6
IVAS				*e*Sg	Sb	02 46 02.9	-0.7
IVAS	**Ivanjica**	**0.88**	**257**	Pg	Pg	02 45 49.9	-0.6
IVAS				Lg	Lg	02 46 02.9	
BLKB	**Belogradchik**	**0.98**	**98**	⇑S	Sg	02 46 05.2	+0.1
BLKB	**Belogradchik**	**0.98**	**98**	Lg	Lg	02 46 05.2	
BARS	**Barje**	**1.02**	**160**	*e*Pg	Pg	02 45 43.1	-10
BARS				*e*Sg	Sg	02 45 51.4	-15
BARS	**Barje**	**1.02**	**160**	*e*Pg	Pg	02 45 51.8	-1.3
BARS				*e*Sg	Sg	02 46 04.9	-1.4
BARS	**Barje**	**1.02**	**160**	Pg	Pg	02 45 43.1	-10
BARS				Lg	Lg	02 45 51.4	
BARS				Pg	Pb	02 45 51.8	-2.0
BARS				Sg	Sg	02 46 04.9	-1.4
DIVS	**Divibare**	**1.02**	**289**	*e*Pg	Pb	02 45 53.6	-0.3
DIVS				*e*Sg	Sb	02 46 07.7	-0.1
DIVS	**Divibare**	**1.02**	**289**	⇑*i*Pg	Pb	02 45 53.8	-0.1
DIVS				*e*Sg	Sg	02 46 07.1	+0.5
DIVS	**Divibare**	**1.02**	**289**	Pg	Pb	02 45 53.6	-0.3
DIVS				Pg	Pg	02 45 53.8	+0.5
DIVS				Pg	Pn	02 45 54.4	-0.4
	comp=Z,0.3nm,SNR=4.5						
DIVS				Sg	Sg	02 46 07.1	+0.5
DIVS				Lg	Lg	02 46 07.7	
MDVR	**Moldovita**	**1.04**	**15**	⇑P	Pg	02 45 53.4	-0.1
MDVR				⇓S	Sb	02 46 08.1	-0.2
MDVR	**Moldovita**	**1.04**	**15**	Pn	Pg	02 45 53.4	-0.1
MDVR				Sn	Sb	02 46 08.1	-0.2
ZAPS	**Zavoj**	**1.07**	**118**	*e*Pg	Pg	02 45 54.1	+0.1
ZAPS				*e*Sg	Sg	02 46 08.1	+0.2
ZAPS	**Zavoj**	**1.07**	**118**	Pn	Pg	02 45 54.1	+0.1
ZAPS				Lg	Lg	02 46 08.1	
SJES	**Sjenica**	**1.12**	**243**	*e*Pg	Pb	02 45 55.6	+0.1
SJES				*e*Sg	Sb	02 46 10.5	+0.1
SJES	**Sjenica**	**1.12**	**243**	Pg	Pb	02 45 55.6	+0.1
SJES				Sn	Sb	02 46 10.5	+0.1
BEO	**Beograd**	**1.21**	**329**	Pn	Pg	02 45 56.0	-0.7
	comp=Z,0.3nm,SNR=3.5						
BEO				Sn	Sb	02 46 13.1	+0.2
DJES	**Djerdap**	**1.23**	**43**	*e*Pg	Pg	02 45 55.9	-1.3
DJES				*e*Sg	Sb	02 46 13.7	+0.1
DJES	**Djerdap**	**1.23**	**43**	Pg	Pg	02 45 55.9	-1.3
DJES				Pg	Pn	02 45 57.5	0.0
	comp=Z,0.3nm,SNR=5.6						
DJES				Sg	Sb	02 46 13.7	+0.1
DJES				Lg	Lg	02 46 14.7	
PUNG	**Punghina**	**1.25**	**66**	⇑P	Pg	02 45 57.5	-0.2
PUNG				⇓S	Sn	02 46 15.3	+0.2
PUNG	**Punghina**	**1.25**	**66**	Pg	Pg	02 45 57.5	-0.2
PUNG				Lg	Lg	02 46 15.3	
HERR	**Herculane**	**1.35**	**35**	⇑P	Pn	02 45 59.7	-0.1
HERR				⇑S	Sn	02 46 17.8	+0.3
HERR	**Herculane**	**1.35**	**35**	Pn	Pn	02 45 59.1	-0.1
HERR				Lg	Lg	02 46 17.8	
BBLS	**Lazići**	**1.40**	**274**	*e*Pg	Pn	02 46 00.0	0.0
BBLS				*e*Sg	Sn	02 46 19.7	+0.8
BBLS	**Lazići**	**1.40**	**274**	*e*Pg	Pn	02 45 59.8	-0.2
BBLS				*e*Sg	Sb	02 46 18.1	-0.5
BBLS	**Lazići**	**1.40**	**274**	Pg	Pn	02 45 59.8	-0.2
BBLS				Pg	Pb	02 46 00.0	-0.3
BBLS				Pg	Pg	02 46 01.3	+0.8
BBLS				Sg	Sb	02 46 18.1	-0.5
BBLS				Lg	Lg	02 46 19.4	
BBLS				Sg	Sn	02 46 19.7	+0.8
RUDO	**Rudo**	**1.44**	**264**	*e*Pg	Pn	02 46 00.1	-0.3
RUDO				*e*Sg	Sg	02 46 20.3	+0.6
RUDO	**Rudo**	**1.44**	**264**	Pn	Pn	02 46 00.1	-0.3
RUDO				Lg	Lg	02 46 20.3	
TEKS	**Tekeris**	**1.52**	**301**	*e*Pg	Pb	02 46 02.4	+0.2
TEKS				*e*Sg	Sg	02 46 23.5	+1.2
TEKS	**Tekeris**	**1.52**	**301**	*e*Pg	Pb	02 46 02.0	-0.2
TEKS				*e*Sg	Sg	02 46 22.2	-0.1
TEKS	**Tekeris**	**1.52**	**301**	Pn	Pb	02 46 02.0	-0.2
TEKS				Pg	Pg	02 46 02.4	-0.2
TEKS				Sn	Sg	02 46 22.2	-0.1
TEKS				Sg	Sb	02 46 23.5	+1.7
BOSS	**Bosilegrad**	**1.53**	**146**	*e*Pg	Pn	02 46 01.1	-0.5
BOSS				*e*Sg	Sn	02 46 20.0	-1.9
BOSS	**Bosilegrad**	**1.53**	**146**	Pn	Pn	02 46 01.1	-0.5
BOSS				Sn	Sn	02 46 20.0	-1.9
BANR	**Banloc**	**1.61**	**355**	Pg	Pg	02 46 04.3	-0.2
	comp=Z,0.2nm,SNR=1.7						
BANR				Sn	Sn	02 46 21.6	-2.5
HAPS	**Han Pijesak,Bl**	**1.75**	**281**	*e*Pn	Pn	02 46 03.7	-1.1
HAPS				*e*Sn	Sb	02 46 28.8	+0.1
HAPS	**Han Pijesak,Bl**	**1.75**	**281**	*e*Pn	Pn	02 46 03.9	-0.9
HAPS				*e*Sn	Sn	02 46 26.7	-0.9
HAPS	**Han Pijesak,Bl**	**1.75**	**281**	Pn	Pn	02 46 03.7	-1.1
HAPS				Pn	Pb	02 46 03.9	-2.4
HAPS				Sn	Sn	02 46 26.7	-0.9
HAPS				Sn	Sb	02 46 28.8	+0.1
FRGS	**Fruska Gora**	**1.76**	**322**	*e*Pn	Pn	02 46 05.0	+0.1
FRGS				*e*Sn	Sb	02 46 28.6	-0.3
FRGS	**Fruska Gora**	**1.76**	**322**	⇑P	Pg	02 46 07.0	-0.4
FRGS				⇓S	Sg	02 46 31.7	+1.4
FRGS	**Fruska Gora**	**1.76**	**322**	⇑*i*Pn	Pb	02 46 05.9	-0.6
FRGS				*e*Sn	Sn	02 46 27.5	-0.3
FRGS	**Fruska Gora**	**1.76**	**322**	Pn	Pn	02 46 02.0	-2.9
	comp=Z,0.1nm,SNR=2.4						
FRGS				Pn	Pb	02 46 05.0	-1.5
FRGS				Pn	Pg	02 46 05.9	-1.5
FRGS				Pb	Pb	02 46 07.0	+0.5
FRGS				Sn	Sn	02 46 27.5	-0.3
FRGS				Sn	Sb	02 46 28.6	-0.3
FRGS				x	x	02 46 31.7	
VTS	**Vitosha**	**1.81**	**129**	⇓P	Pn	02 46 06.4	+0.8
VTS				⇑S	Sg	02 46 31.5	-0.1
VTS	**Vitosha**	**1.81**	**129**	x	x	02 46 06.0	
	SNR=2.2						
VTS				Pn	Pn	02 46 06.4	+0.8
VTS				x	x	02 46 29.1	
VTS				Lg	Lg	02 46 31.5	
BZS	**Buzias**	**1.85**	**6**	*e*Pn	Pn	02 46 05.0	-1.1
BZS				*e*Sn	Sn	02 46 30.5	+0.6
BZS	**Buzias**	**1.85**	**6**	Pn	Pn	02 46 05.0	-1.0
	comp=Z,0.1nm,SNR=4.4						
BZS				Sn	Sn	02 46 28.1	-1.8
BZS				Sn	Sb	02 46 30.5	-1.0
GZR	**Gura Zlata**	**1.92**	**32**	⇓P	Pn	02 46 07.9	+0.9
GZR				⇓S	Sb	02 46 34.3	+0.8
GZR	**Gura Zlata**	**1.92**	**32**	Pn	Pn	02 46 07.9	+0.9
	comp=Z,0.1nm,SNR=4.6						
GZR				Sn	Sb	02 46 32.9	-0.5
PDG	**Podgorica**	**2.03**	**229**	*e*Pn	Pn	02 46 08.5	0.0
PDG				*e*Sn	Sn	02 46 33.6	-0.7
PDG	**Podgorica**	**2.03**	**229**	Pn	Pn	02 46 08.5	0.0
PDG				Sn	Sn	02 46 33.6	-0.7
STIP	**Stip**	**2.17**	**163**	*i* Pn	Pb	02 46 13.0	-0.4
DRME	**Dracevica, Mon**	**2.24**	**226**	*e*Pn	Pn	02 46 12.3	+0.9
DRME				*e*Sn	Sn	02 46 39.8	+0.3
DRME	**Dracevica, Mon**	**2.24**	**226**	Pn	Pn	02 46 12.3	+0.9
DRME				Sn	Sn	02 46 39.8	+0.3
DEV	**Deva**	**2.38**	**27**	⇑P	Pb	02 46 15.7	-1.4
DEV	**Deva**	**2.38**	**27**	Pn	Pb	02 46 15.7	-1.4
DEV				x	x	02 46 16.0	
DEV				Sn	Sn	02 46 43.8	+0.8
LOT	**Lotru**	**2.41**	**45**	⇓P	Pb	02 46 15.8	-1.8
LOT				⇓S	Sb	02 46 46.6	-1.0
LOT	**Lotru**	**2.41**	**45**	Pn	Pn	02 46 14.8	+0.9
	comp=Z,0.1nm,SNR=2.9						
LOT				Pn	Pb	02 46 15.8	-1.8
LOT				Sn	Sb	02 46 46.3	-1.3
LOT				x	x	02 46 46.6	
TREB	**Trebinje**	**2.43**	**245**	*e*Pn	Pn	02 46 14.5	+0.5
TREB				*e*Sn	Sn	02 46 44.2	+0.1
TREB	**Trebinje**	**2.43**	**245**	Pn	Pn	02 46 14.5	+0.5
TREB				Sn	Sn	02 46 44.2	+0.1
SIRR	**Siria**	**2.50**	**5**	Pn	Pn	02 46 15.5	+0.4
	comp=Z,0.1nm,SNR=2.5						
SIRR				Sn	Sn	02 46 44.9	-1.2
ARR	**Arges**	**2.84**	**55**	⇓P	Pn	02 46 21.0	+1.2
ARR	**Arges**	**2.84**	**55**	Pn	Pn	02 46 21.0	+1.2
MORH	**Mrgy, Hungar**	**3.10**	**323**	*e*Pn	Pn	02 46 22.7	-0.5
MORH				*e*Sn	Sn	02 47 00.1	-0.6
MORH	**Mrgy, Hungar**	**3.10**	**323**	Pn	Pn	02 46 22.7	-0.5
MORH				x	x	02 46 23.0	
	comp=Z,0.1nm,SNR=1.6						
MORH				Sn	Sn	02 47 00.1	-0.6
BLY	**Banja Luka**	**3.14**	**290**	Pn	Pn	02 46 21.1	-2.7
DRGR		**3.17**	**17**	⇑P	Pn	02 46 24.9	+0.6
DRGR		**3.17**	**17**	x	x	02 46 24.0	
	comp=Z,0.1nm,SNR=1.9						
DRGR				Pn	Pn	02 46 24.9	+0.6
DRGR				Sn	Sn	02 46 59.6	-2.9
KOVH	**Kovagototos**	**3.26**	**316**	Pn	Pn	02 46 24.9	-0.6
	comp=Z,0.1nm,SNR=1.4						
KOVH				Sn	Sn	02 47 01.5	-3.2

IDC 23 03:06:31.8±3.9, 24°00S×69°60E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/48, mbtmp3.6/4, MS3.7/10, Ms1 3.7/10, ms1mx3.3/37, Error ellipse: s-maj=151.6km s-min=32.5km az=40.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**16.50**	**10**	T	T	03 27 23.9	
	baz=190,slow=76,SNR=4.6						
H08S2	**Diego Garcia H**	**16.50**	**10**	T	T	03 27 25.2	
	baz=190,slow=76,SNR=2.9						
H08S3	**Diego Garcia H**	**16.52**	**10**	T	T	03 27 20.7	
	baz=190,slow=76,SNR=4.8						
KMBO	**Kilima Mbogo**	**38.71**	**301**	LR	LR	03 26 32.3	
	comp=Z,55nm,21.1s,baz=91,slow=31						
BOSA	**Boshof**	**39.85**	**254**	LR	LR	03 28 06.5	
	comp=Z,152nm,19.6s,baz=168,slow=32						
CMAR	**Chiang Mai Arr**	**50.99**	**37**	LR	LR	03 34 02.8	
	comp=Z,44nm,21.2s,baz=216,slow=32						
ASAR	**Alice Springs**	**58.33**	**104**	P	P	03 16 28.9	-0.1
	0.4nm,0.7s,baz=249,slow=6.4,SNR=5.2						
ASAR				LR	LR	03 38 34.6	
	comp=Z,67nm,19.7s,baz=344,slow=33						
WRA	**Warramunga Arr**	**59.71**	**100**	P	P	03 16 38.5	-0.1
	0.8nm,1.0s,baz=264,slow=6.4,SNR=1.8						
WRA				LR	LR	03 40 29.3	
	comp=Z,48nm,20.0s,baz=200,slow=34						
STKA	**Stephens Creek**	**63.06**	**115**	LR	LR	03 40 53.5	
	comp=Z,97nm,19.3s,baz=207,slow=33						
AAK	**Ala-Archa**	**66.46**	**4**	LR	LR	03 44 05.4	
	comp=Z,37nm,18.6s,baz=179,slow=34						
MKAR	**Makanchi Array**	**71.39**	**9**	P	P	03 17 53.8	+0.2
	0.3nm,0.7s,baz=205,slow=5.4,SNR=4.3						
BRTR	**Keskin Array B**	**71.74**	**332**	P	P	03 17 55.9	-0.1
	0.8nm,1.0s,baz=141,slow=8.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**75.90**	**291**	LR	LR	03 51 19.4	
	comp=Z,56nm,18.1s,baz=150,slow=35						
DBIC	**Dimbokro**	**78.65**	**283**	LR	LR	03 51 54.0	
	comp=Z,94nm,18.1s,baz=144,slow=35						
SONM	**Songino Array**	**78.78**	**24**	LR	LR	03 52 13.3	
	comp=Z,82nm,20.9s,baz=135,slow=35						

*IDC **23** 03:10:17.8±4.7, 36°31N×70°87E, h198km±41km, mb3.1/6, mb1 3.1/9, mb1mx2.8/55, mbtmp3.5/9, Error ellipse: s-maj=37.9km s-min=26.0km az=39.0*
*NNC **23** 03:10:24.2±7.0, 36°94N×70°83E, h187km±154km, mb2.7, mpv3.6, Error ellipse: s-maj=80.8km s-min=35.6km az=17.0*
ISC 23 03:10:17.6±1.1, 36°5N±0°1×70°9E±0°1, h188km, n19, σ1°70/22, mb3.3/5, 6C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.05**	**20**	P	Pn	**03 11 46.7**	**+1.0**
	SNR=54						
UCH	**Uchtor**	**6.39**	**25**	P	Pn	**03 11 51.3**	**+1.1**
	SNR=13						
EKS2	**Erkin-Say**	**6.57**	**19**	P	Pn	**03 11 53.8**	**+1.6**
	SNR=7.1						
KK31	**Karatay Array**	**6.63**	**358**	⇑P	Pn	**03 11 54.4**	**+1.5**
	0.4nm,0.2s,baz=194,slow=16,SNR=26						
KK31				⇑S	Sn	**03 13 03.5**	**-4.8**
	6.6nm,0.6s,baz=184,slow=22,SNR=14						
AAK	**Ala-Archa**	**6.76**	**23**	P	Pn	**03 11 56.1**	**+1.5**
	2.7nm,0.3s,baz=193,slow=6.0,SNR=24						
AAK				S	Sn	**03 13 10.5**	**-0.9**
	0.6nm,0.3s,baz=338,slow=22,SNR=13						
AAK	**Ala-Archa**	**6.76**	**23**	P	Pn	**03 11 55.7**	**+1.1**
	SNR=11						
AAK	**Ala-Archa**	**6.76**	**23**	⇑P	Pn	**03 11 56.0**	**+1.4**
	2.9nm,0.6s						
AAK				⇑S	Sn	**03 13 09.7**	**-1.7**
	8.3nm,0.8s						
TKM2	**Tokmak 2**	**7.39**	**28**	P	Pn	**03 12 04.4**	**+1.4**
	SNR=7.1						
TKM2	**Tokmak 2**	**7.39**	**28**	⇑P	Pn	**03 12 04.1**	**+1.1**
	8.3nm,0.8s						
MDOK	**Medeo**	**8.19**	**33**	⇑P	Pn	**03 12 14.4**	**+1.1**
	3.7nm,0.6s						
MKAR	**Makanchi Array**	**13.36**	**36**	P	P	**03 13 23.2**	**+0.2**
	0.1nm,0.3s,baz=218,slow=11,SNR=4.0						
AB31	**Akbulak array**	**15.07**	**331**	P	P	**03 13 43.2**	**+1.4**
	0.3nm,0.2s,baz=2.4,slow=26,SNR=7.7						
KURBB	**Kurchatov Arra**	**15.18**	**19**	P	P	**03 13 45.3**	**+2.3**
	0.0nm,0.3s,baz=205,slow=12,SNR=2.1						

AKHS					IAML		03 17 42.0		
	comp=E,11nm,0.2s								
AYDN	**Tasoluk**	**0.82**	**139**	*i* P		Pb	03 17 32.1	-0.4	
AYDN				*i* S		Sg	03 17 42.0	-0.2	
AYDN					IAML		03 17 46.0		
	comp=N,43nm,0.4s								
DDIM	**Aydin, Didim**	**0.82**	**178**	*i* P		Pb	03 17 32.2	-0.2	
DDIM				*i* S		Sb	03 17 44.3	+0.6	
DDIM					IAML		03 17 47.0		
	comp=E,46nm,0.5s								
DDIM					IAML		03 17 47.0		
	comp=N,55nm,1.0s								
DKL	**Dikili**	**0.82**	**344**	PG		Pb	03 17 32.3	-0.3	
CHOS	**Chios island**	**0.91**	**277**	P		Pb	03 17 34.4	+0.4	
CHOS				S		Sb	03 17 47.0	+0.7	
CHOS					AML	AML	03 17 50.1		
	comp=E,240µm,0.2s								
CHOS					AML	AML	03 17 51.4		
	comp=N,166µm,0.4s								
CHOS	**Chios island**	**0.91**	**277**	PG		Pb	03 17 34.4	+0.4	
MANT	**Manisa**	**1.09**	**78**	*i* P		Pg	03 17 36.3	-0.5	
MANT				*i* S		Sg	03 17 49.1	-1.9	
MANT					IAML		03 17 53.0		
	comp=N,45nm,0.4s								
MANT					IAML		03 17 53.0		
	comp=E,35nm,0.2s								
STEP	**BALIKESIR_Sava**	**1.17**	**20**	*i* P		Pg	03 17 37.3	-1.0	
STEP				*i* S		Sg	03 17 53.3	-0.3	
STEP					IAML		03 17 55.0		
	comp=E,56nm,0.3s								
STEP					IAML		03 17 55.0		
	comp=N,74nm,0.6s								
KULA	**Kula-Manisa**	**1.17**	**78**	PN		Pg	03 17 37.9	-0.5	
PRK	**Paraskevi**	**1.21**	**323**	P		Pg	03 17 38.5	-0.6	
BODT	**Bodrum**	**1.22**	**176**	PN		Pg	03 17 39.1	-0.1	
BDRM	**Kayabasi**	**1.23**	**171**	*i* P		Pb	03 17 38.6	-0.8	
BDRM				*i* S		Sg	03 17 53.5	-1.8	
BDRM					IAML		03 18 00.0		
	comp=E,22nm,0.5s								
SIGR	**SIGRI**	**1.41**	**312**	P		Pn	03 17 42.0	+0.1	
SIGR	**SIGRI**	**1.41**	**312**	PN		Pn	03 17 42.1	+0.2	
YER	**Yerkesik**	**1.43**	**143**	PN		Pn	03 17 42.3	0.0	
SIMA	**Simav-Kutahya**	**1.61**	**60**	PN		Pn	03 17 44.5	-0.3	
EZN	**Ezine**	**1.69**	**337**	PN		Pn	03 17 45.8	0.0	
TURN	**Turunc**	**1.71**	**151**	PN		Pn	03 17 46.3	+0.1	
APE	**Apeiranthos**	**1.79**	**228**	PN		Pn	03 17 47.8	+0.5	
BOZC	**Bozcaada**	**1.80**	**331**	PN		Pn	03 17 47.3	0.0	

NEIC ***23*** *03:20:03.6±2.3, 18°.4S±0°.2×178°.3W±0°.1, h581km±10km, mb4.2/18, Error ellipse: s-maj=23.3km s-min=17.8km az=161.0*

IDC ***23*** *03:20:04.2±1.4, 18°.31S×178°.41W, h589km±17km, mb3.0/6, mb1 3.3/8, mb1mx3.1/30, mbtmp3.9/8, Error ellipse: s-maj=26.9km s-min=14.6km az=151.0*

ISC 23 03:20:04.6±0.6, 18°.3S±0°.1×178°.33W±0°.09, h600km, n36, σ1ˢ33/37, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.50**	**279**	P	**P**	**03 21 24.4**	**-2.5**
	3.3nm,0.3s,baz=172,slow=23,SNR=16						
MSVF	**Nonsavu**	**3.50**	**279**	P	**P**	**03 21 24.6**	**-2.2**
NIUE	**Niue**	**8.00**	**97**	P	**P**	**03 22 01.6**	**-2.3**
SANVU	**Saraoutou**	**14.14**	**280**	P	**P**	**03 23 04.7**	**-0.2**
DZM	**Mont Dzumac**	**14.77**	**253**	P	**P**	**03 23 10.4**	**-0.4**
	0.6nm,0.3s,baz=82,slow=20,SNR=2.8						
DZM	**Mont Dzumac**	**14.77**	**253**	P	**P**	**03 23 12.9**	**+2.1**
OUZ	**Omahuta**	**18.29**	**202**	P	**P**	**03 23 46.5**	**+3.8**
OUZ				IAmb	IAmb	03 23 47.5	
	comp=Z,8.4nm,0.8s						
URZ	**Urewera**	**20.25**	**190**	P	**P**	**03 24 00.1**	**-0.3**
	comp=Z,4.9nm,0.5s,baz=285,slow=2.7,SNR=9.6						
URZ	**Urewera**	**20.25**	**190**	P	**P**	**03 24 00.4**	**-0.1**
URZ				IAmb	IAmb	03 24 10.1	
	comp=Z,10.0nm,1.1s						
BKZ	**Black Stump Fm**	**21.25**	**191**	P	**P**	**03 24 08.2**	**-1.2**
BKZ				IAmb	IAmb	03 24 21.5	
	comp=Z,14nm,1.5s						
PLWZ	**Palliser**	**23.81**	**192**	P	**P**	**03 24 31.7**	**-0.4**
KHZ	**Kahutara**	**24.99**	**194**	P	**P**	**03 24 42.6**	**+0.1**
FOZ	**Fox Glacier**	**27.05**	**199**	P	**P**	**03 25 01.3**	**+0.7**
FOZ				IAmb	IAmb	03 25 15.8	
	comp=Z,3.3nm,0.8s						
EIDS	**Eidsvold**	**29.20**	**251**	P	**P**	**03 25 20.1**	**+0.5**
MLZ	**Mavora Lakes**	**29.23**	**200**	P	**P**	**03 25 21.2**	**+1.7**
CTAO	**Charters Tower**	**33.46**	**261**	P	**P**	**03 25 55.7**	**-0.1**
CTAO				IAmb	IAmb	03 25 56.6	
	comp=Z,5.5nm,0.8s						
COEN	**Coen**	**37.19**	**271**	P	**P**	**03 26 27.1**	**+0.4**
COEN				IAmb	IAmb	03 26 28.0	
	comp=Z,5.9nm,1.0s						
WR0	**Warramunga Arr**	**44.44**	**260**	P	**P**	**03 27 23.7**	**-0.3**
WR0				IAmb	IAmb	03 27 25.2	
	comp=Z,8.2nm,1.2s						
WB0	**Warramunga Arr**	**44.60**	**260**	P	**P**	**03 27 24.8**	**-0.4**
WB2	**Warramunga Arr**	**44.62**	**260**	P	**P**	**03 27 25.0**	**-0.4**
WB2				IAmb	IAmb	03 27 26.2	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**03 27 25.3**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=97,slow=6.9,SNR=74						
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**03 27 24.2**	**-1.3**
AS31	**Alice Springs**	**44.75**	**255**	P	**P**	**03 27 27.1**	**+0.7**
ASAR	**Alice Springs**	**44.75**	**255**	P	**P**	**03 27 26.9**	**+0.5**
	comp=Z,19nm,0.5s,baz=88,slow=8.7,SNR=331						
ASAR				S	**S**	**03 33 20.1**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=90,slow=16,SNR=4.9						
ASAR	**Alice Springs**	**44.75**	**255**	P	**P**	**03 27 26.4**	**0.0**
YBH	**Yreka Blue Hor**	**78.80**	**39**	P	**P**	**03 31 08.6**	**+2.0**
NVAR	**Mina Array Bea**	**79.67**	**44**	P	**P**	**03 31 12.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=214,slow=7.2,SNR=4.7						
MOD	**Modoc Plateau**	**80.36**	**40**	P	**P**	**03 31 17.1**	**+2.4**
LOGN	**Logan Glacier**	**84.40**	**17**	P	**P**	**03 31 34.3**	**-0.3**
LOGN				IAmb	IAmb	03 31 37.4	
	comp=Z,7.1nm,1.4s						
TRF	**Thorofare Moun**	**84.40**	**12**	P	**P**	**03 31 35.0**	**+0.4**
TRF				IAmb	IAmb	03 31 50.4	
	comp=Z,8.6nm,1.4s						
TXAR	**Lajitas Array**	**86.15**	**58**	P	**P**	**03 31 45.5**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=224,slow=5.2,SNR=6.3						
ILAR	**Eielson Array**	**86.28**	**13**	P	**P**	**03 31 42.5**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=225,slow=4.6,SNR=6.3						
ILAR	**Eielson Array**	**86.28**	**13**	P	**P**	**03 31 43.4**	**+0.1**
PDAR	**Pinedale Array**	**87.60**	**43**	P	**P**	**03 31 50.7**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=256,slow=4.1,SNR=3.4						
DIVS	**Divibare**	**150.05**	**333**	PKPbc	**PKPbc**	**03 38 47.9**	**-0.8**
MSSA	**Maissana**	**153.26**	**347**	PKPbc	**PKPbc**	**03 38 55.2**	**-0.6**

IDC ***23*** *03:33:21.3±0.8, 23°.47N×125°.98E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.8/40, mbtmp3.9/10, ML3.7/1, MS3.2/7, Ms1 3.2/7, ms1mx2.8/53, Error ellipse: s-maj=26.8km s-min=18.2km az=79.0*

NEIC ***23*** *03:33:22.2±1.9, 23°.46N±0°.10×125°.96E±0°.09, h10km±1km, mb4.5/8, Error ellipse: s-maj=17.3km s-min=13.0km az=160.0*

JMA ***23*** *03:33:23.7±0.2, 23°.56N×125°.85E, h95km, M3.4*

ISC 23 03:33:22.8±2.7, 23°.51N±0°.05×125°.93E±0°.04, h12km±16km, n52, σ1ˢ74/64, mb4.0/13, MS3.4/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.33**	**339**	eS	**Sg**	**03 34 05.2**	**-0.7**
JMJ2	**Miyako jima3**	**1.34**	**336**	P	**Pn**	**03 33 47.0**	**-0.4**
JMJ2				eS	**Sb**	**03 34 05.1**	**0.0**
JIRB	**Irabujima**	**1.49**	**332**	P	**Pn**	**03 33 48.7**	**-0.6**
JIRB				eS	**Sn**	**03 34 08.2**	**-0.5**
JIKM	**Ikemajima**	**1.54**	**336**	P	**Pn**	**03 33 49.8**	**-0.3**
JIKM				eS	**Sn**	**03 34 08.6**	**-1.4**
JTJ	**Tarama**	**1.59**	**315**	P	**Pn**	**03 33 50.1**	**-0.7**
JTJ				S	**Sn**	**03 34 08.8**	**-2.5**
JISG	**Ishigakijimahi**	**1.83**	**306**	P	**Pn**	**03 33 53.2**	**-0.9**
JISG				eS	**Sn**	**03 34 15.0**	**-2.1**
JIJ	**Ishigaki jima**	**1.84**	**298**	P	**Pn**	**03 33 53.2**	**-1.1**
JIJ				eS	**Sn**	**03 34 15.6**	**-1.9**
JKRS	**Kuro-shima**	**1.90**	**293**	P	**Pn**	**03 33 54.5**	**-0.6**
JKRS				eS	**Sn**	**03 34 16.9**	**-2.1**
HATJ	**Hateruma jima**	**2.02**	**286**	P	**Pn**	**03 33 55.7**	**-1.0**
HATJ				S	**Sn**	**03 34 18.8**	**-3.1**
IRIF	**Iriomote-Funau**	**2.18**	**293**	P	**Pn**	**03 33 58.0**	**-0.8**
IRIF				eS	**Sn**	**03 34 22.6**	**-3.1**
YOJ	**Yonaguni jima**	**2.83**	**290**	P	**Pn**	**03 34 07.5**	**-0.4**
YOJ				eS	**Sn**	**03 34 39.4**	**-2.6**
YOJ	**Yonaguni jima**	**2.83**	**290**	Pn	**Pn**	**03 34 09.3**	**+1.4**
JYNG	**Yonagunijimaku**	**2.89**	**290**	P	**Pn**	**03 34 07.8**	**-0.8**
JYNG				eS	**Sn**	**03 34 40.8**	**-2.5**
JKE	**Kume jima 2**	**2.91**	**15**	P	**Pn**	**03 34 08.3**	**-0.6**
JKE				eS	**Sn**	**03 34 41.9**	**-2.0**
JJT3	**Tamagusuku3**	**3.12**	**32**	P	**Pn**	**03 34 11.1**	**-0.7**
JJT3				S	**Sn**	**03 34 47.8**	**-1.2**
JAGN	**Aguni-jima**	**3.29**	**21**	P	**Pn**	**03 34 13.8**	**-0.3**
JOW	**Kunigami**	**3.93**	**32**	Pn	**Pn**	**03 34 22.6**	**-0.3**
	11nm,0.3s,baz=150,slow=25,SNR=14						
JOW				Sn	**Sn**	**03 35 06.1**	**-3.0**
	15nm,0.3s,baz=107,slow=26,SNR=8.0						
JOW	**Kunigami**	**3.93**	**32**	P	**Pn**	**03 34 22.7**	**-0.3**
JOW				S	**Sn**	**03 35 05.6**	**-3.5**
JIH	**Iheya**	**3.97**	**27**	P	**Pn**	**03 34 23.1**	**-0.3**
JIH				eS	**Sn**	**03 35 05.7**	**-4.2**
NACB	**Ninganchiao**	**4.03**	**280**	Pn	**Pn**	**03 34 22.2**	**-2.1**
JYRO	**Yoronjima**	**4.18**	**33**	P	**Pn**	**03 34 25.9**	**-0.5**
JYRO				eS	**Sn**	**03 35 11.0**	**-4.1**
YULB	**Yu-li**	**4.26**	**269**	Pn	**Pn**	**03 34 24.7**	**-2.8**
YHNB	**Yeheng**	**4.32**	**286**	Pn	**Pn**	**03 34 28.3**	**-0.1**
SSLB	**Suanglung**	**4.57**	**274**	Pn	**Pn**	**03 34 31.3**	**-0.5**
TPUB	**Ta-pu**	**4.88**	**269**	Pn	**Pn**	**03 34 35.3**	**-0.7**
KSRS	**Korea Array**	**14.01**	**7**	LR	LR	03 43 08.8	
	comp=Z,42nm,18.2s,baz=186,slow=42						
CMAR	**Chiang Mai Arr**	**25.68**	**264**	P	**P**	**03 38 53.9**	**+1.1**
	0.9nm,0.3s,baz=66,slow=9.0,SNR=4.3						
KLR	**Kul'dur**	**26.08**	**9**	P	**P**	**03 38 57.3**	**+1.1**
	1.5nm,0.8s,baz=197,slow=16,SNR=5.0						
KLR				LR	LR	03 48 48.0	
	comp=Z,15nm,19.0s,baz=271,slow=36						
MA2	**Magadan**	**40.06**	**19**	P	**P**	**03 40 57.4**	**-0.2**
MA2				IAmb	IAmb	03 41 04.1	
	comp=Z,8.8nm,1.4s						
COEN	**Coen**	**40.88**	**154**	P	**P**	**03 41 06.4**	**+1.5**
COEN				IAmb	IAmb	03 41 17.1	
	comp=Z,11nm,1.4s						
FITZ	**Fitzroy Crossi**	**41.35**	**180**	LR	LR	03 59 59.8	
	comp=Z,54nm,19.8s,baz=70,slow=39						
MK31	**Makanchi Array**	**41.87**	**315**	P	**P**	**03 41 12.5**	**-0.4**
MKAR	**Makanchi Array**	**41.87**	**315**	P	**P**	**03 41 13.5**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=105,slow=9.3,SNR=11						
MKAR				LR	LR	03 59 41.6	
	comp=Z,38nm,18.5s,baz=152,slow=38						
MKAR	**Makanchi Array**	**41.87**	**315**	P	**P**	**03 41 13.1**	**+0.2**
ZALV	**Zalesovo Beam**	**43.22**	**325**	LR	LR	03 59 52.9	
	comp=Z,27nm,18.0s,baz=44,slow=37						
WB0	**Warramunga Arr**	**43.80**	**168**	P	**P**	**03 41 28.4**	**-0.2**
WB0				IAmb	IAmb	03 41 29.0	
	comp=Z,11nm,1.0s						
WRA	**Warramunga Arr**	**43.96**	**169**	P	**P**	**03 41 29.5**	**-0.4**
	comp=Z,6.5nm,0.7s,baz=347,slow=8.9,SNR=49						
WRA	**Warramunga Arr**	**43.96**	**169**	P	**P**	**03 41 28.7**	**-1.2**
WB2	**Warramunga Arr**	**43.96**	**169**	P	**P**	**03 41 29.6**	**-0.3**
WR0	**Warramunga Arr**	**44.01**	**168**	P	**P**	**03 41 30.2**	**-0.1**
WR0				IAmb	IAmb	03 41 30.8	
	comp=Z,9.6nm,0.8s						
KURK	**Kurchatov**	**45.42**	**319**	P	**P**	**03 41 42.1**	**+0.7**
KURBB	**Kurchatov Arra**	**45.45**	**319**	P	**P**	**03 41 42.1**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=108,slow=8.1,SNR=15						
ASAR	**Alice Springs**	**47.53**	**170**	P	**P**	**03 41 58.3**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=353,slow=11,SNR=14						
ASAR	**Alice Springs**	**47.53**	**170**	P	**P**	**03 41 59.1**	**+1.0**
ABKAR	**Akbulak array**	**57.02**	**314**	P	**P**	**03 43 11.8**	**+3.4**
ARU	**Arti**	**58.26**	**323**	LR	LR	04 10 03.4	
	comp=Z,46nm,18.5s,baz=316,slow=38						
KIRV	**Kirov**	**59.26**	**325**	LR	LR	04 11 07.6	
	comp=Z,44nm,20.3s,baz=108,slow=36						
BRTR	**Keskin Array B**	**77.05**	**308**	P	**P**	**03 45 16.8**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=78,slow=7.7,SNR=5.2						
BRTR	**Keskin Array B**	**77.05**	**308**	P	**P**	**03 45 18.7**	**+2.5**
BFZ	**Birch Farm**	**79.15**	**143**	P	**P**	**03 45 23.2**	**-4.2**
YKA	**Yellowknife Ar**	**81.86**	**24**	P	**P**	**03 45 42.2**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=306,slow=4.9,SNR=5.8						
NVAR	**Mina Array Bea**	**93.89**	**45**	P	**P**	**03 46 41.8**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=265,slow=4.3,SNR=2.9						

KRSC 23 03:55:48.9±2.9, 49°.57N×156°.91E, h14km±39km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.22**	**336**	*e*P	Pn	03 56 11.0	-0.6
SKR				eS	Sb	03 56 26.9	-0.5
ALID	**Alaid**	**1.57**	**327**	*e*P	Pn	03 56 15.2	-1.2
PAU	**Pauzhetka**	**1.90**	**358**	*e*P	Pb	03 56 23.1	-0.2
PAU				eS	Sg	03 56 48.5	-1.5
KDTR	**Khodutka, Kamc**	**2.36**	**18**	*e*P	Pn	03 56 28.8	+1.6
ASAK	**Asacha**	**2.88**	**12**	*e*P	Pb	03 56 37.5	-2.6
MTVR	**Mutnovka**	**3.02**	**15**	*e*P	Pn	03 56 39.5	+3.1
RUS	**Russkaya**	**3.04**	**19**	*e*P	Pn	03 56 38.9	+2.4
RUS				eS	Sn	03 57 15.8	+3.2
GRL	**Gorelyy**	**3.07**	**13**	*e*P	Pb	03 56 40.4	-3.0
KRMR	**Karymshinskiy**	**3.35**	**13**	*e*P	Pn	03 56 44.3	+3.5
DALK	**Dalny**	**3.65**	**18**	*e*P	Pn	03 56 48.9	+4.0
DALK				eS	Sb	03 57 33.4	-3.9
UGLR	**Uglovaya**	**3.83**	**17**	*e*P	Pb	03 56 52.1	-4.2
AVH	**Avacha**	**3.87**	**16**	*e*P	Pb	03 56 52.8	-4.2
KOK	**Koryaka**	**3.88**	**15**	*e*P	Pn	03 56 52.6	+4.5
SMAR	**Somma**	**3.88**	**17**	*e*P	Pb	03 56 53.1	-4.1
KRER	**Koryakskii**	**3.91**	**16**	*e*P	Pb	03 56 53.5	-4.2
SDLR	**Sedlovina**	**3.91**	**18**	*e*P	Pn	03 56 51.7	+3.1
KRX	**Arik**	**3.95**	**15**	*e*P	Pn	03 56 53.6	+4.5
SPN	**Mys Shipunski**	**4.03**	**28**	*e*P	Pn	03 56 53.8	+3.6
GNL	**Ganaly**	**4.18**	**8**	*e*P	Pn	03 56 58.1	-4.1
MKZ	**Mys Kozlova**	**5.81**	**29**	*e*P	Pn	03 57 16.8	+2.3
KBTR	**Krutoberegovo**	**7.54**	**26**	*e*P	Pn	03 57 41.1	+2.8

TRN 23 04:29:12.2, 11°.30N×59°.03W, h111km, MD3.7, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**2.42**	**255**	*e*P	Pn	04 29 51.1	+0.5
TRN				eS	Sn	04 30 20.5	+0.4
GCMP	**Grenada, Carri**	**2.62**	**297**	*e*P	Pn	04 29 54.4	+1.2
GCMP				eS	Sn	04 30 25.7	+0.8
GRGR	**Grenville**	**2.70**	**288**	*e*P	Pn	04 29 56.1	+1.8
GRGR				eS	Sn	04 30 26.9	+0.2
SVB	**Belmont**	**2.92**	**312**	*e*P	Pn	04 29 58.4	+1.2
SVB				eS	Sn	04 30 33.2	+1.3
SFAN	**Fancy Village**	**2.94**	**315**	*e*P	Pn	04 29 59.1	+1.6
MCLT	**Moule a Chique**	**3.03**	**322**	*e*	Pn	04 29 59.3	+0.6
MCLT				eS	Sn	04 30 34.5	0.0
SLB	**Belfond**	**3.19**	**322**	*e*	Pn	04 30 03.0	+2.2
SLB				eS	Sn	04 30 38.2	0.0
SLBI	**Saint Lucia, B**	**3.30**	**325**	*e*P	Pn	04 30 03.5	+1.2
MPOM	**Morne Pois Mar**	**3.59**	**330**	*e*P	Pn	04 30 07.4	+1.2
BIM	**Bigot**	**3.76**	**328**	*e*P	Pn	04 30 10.0	+1.5
BIM				eS	Sn	04 30 51.6	-0.4
FDF	**Fort de France**	**3.99**	**329**	*e*	Pn	04 30 17.3	+5.8
FDF				eS	Sn	04 30 56.8	-0.5
DSLB	**Salisbury**	**4.72**	**331**	*e*	Pn	04 30 23.9	+2.5
DSLB	**Salisbury**	**4.72**	**331**	eS	Sn	04 31 13.6	-1.4
MAGL	**Barre de l'ile**	**5.11**	**335**	eS	Sn	04 31 22.2	-2.3
MAGL	**Barre de l'ile**	**5.11**	**335**	eS	Sn	04 31 22.4	-2.1
CBE	**Ff, Capester**	**5.36**	**332**	eS	Sn	04 31 29.5	-1.0

SJA ***23*** *04:51:35.9±0.9, 18°.45S×69°.47W, h144km±5km, ML6.2, MW6.0*

BJI ***23*** *04:51:36.3±0.0, 18°.36S×69°.16W, h120km, mB6.2/64*

NEIC ***23*** *04:51:37.2, 18°.38S×69°.15W, h132km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.07; Mθθ=0.86; Mφφ=0.93; Mrθ=-0.40; Mθφ=1.46; Mφr=-4.87; Fault plane solution: M₀5.18000×10¹⁸ NP1:φ₁=0.65000°, δ=87.33000°, λ=-106.22000°. NP2:φ₂=261.57000°, δ=16.43000°, λ=-9.46000°. Principal axes: T 5.6122, Plg40.0000°, Azm106.0000°; N -1.0134, Plg16.0000°, Azm1.0000°; P -4.5989, Plg45.0000°, Azm254.0000°;*

ARE ***23*** *04:51:37.5±5.3, 18°.76S±0°.05×69°.75W±0°.09, h125km±1km Error ellipse: s-maj=13.8km s-min=9.2km az=267.0*

VAO ***23*** *04:51:37.1±0.5, 18°.38S×69°.04W, h116km±4km, mb6.3*

GUC ***23*** *04:51:38.2±0.6, 18°.42S×69°.28W, h122km±3km, ML6.3*

NEIC ***23*** *04:51:38.0±2.6, 18°.35S±0°.05×69°.17W±0°.07, h130km±1km, mb6.2/671, Mwb6.4/77, Mww6.4, ML6.2(ARE), ML6.3(GUC), Mwc6.4(GCMT), Error ellipse: s-maj=11.7km s-min=8.8km az=276.0*

IDC ***23*** *04:51:39.3±0.2, 18°.26S×69°.03W, h132km±1km, mb5.5/53, mb1 5.6/56, mb1mx5.6/58, mbtmp5.9/56, MS5.6/25, Ms1 5.6/25, ms1mx5.4/40, Error ellipse: s-maj=6.7km s-min=5.7km az=80.0*

MOS ***23*** *04:51:39.2±1.4, 18°.22S×69°.14W, h138km, mb6.2/15, MS5.6/6, Error ellipse: s-maj=8.9km s-min=5.9km az=81.9*

NEIC ***23*** *04:51:42, 18°.52S×69°.43W, h142km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=1.51; Mθθ=0.77; Mφφ=2.28; Mrθ=1.06; Mθφ=1.25; Mφr=-5.17; Fault plane solution: M₀5.78000×10¹⁸ NP1:φ₁=234.00000°, δ=19.00000°, λ=-27.00000°. NP2:φ₂=350.00000°, δ=81.00000°, λ=-107.00000°. Principal axes: T 5.9171, Plg34.0000°, Azm94.0000°; N -0.2773, Plg17.0000°, Azm352.0000°; P -5.6398, Plg51.0000°, Azm241.0000°;*

GCMT ***23*** *04:51:42.0±0.1, 18°.47S×69°.44W, h141km, MW6.4/168, Moment Tensor Solution. s168,c432; s166,c631; Duration: 4ˢ0 Moment tensor: Scale 10¹⁸Nm; Mrr=1.52±.02; Mθθ=0.78±.03; Mφφ=2.30±.03; Mrθ=1.04±.02; Mφφ=0.91±.03; Mφr=-5.04±.02; Best double couple: M₀5.59500×10¹⁸ NP1:φ₁=228.00000°, δ=17.00000°, λ=-32.00000°. NP2:φ₂=349.00000°, δ=81.00000°, λ=-105.00000°. Principal axes: T 5.7840, Plg34.0000°, Azm92.0000°; N -0.3770, Plg14.0000°, Azm352.0000°; P -5.4060, Plg52.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***23*** *04:51:43, 18°.54S×69°.15W, h140km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=1.85; Mθθ=0.82; Mφφ=2.67; Mrθ=0.61; Mθφ=0.60; Mφr=-4.67; Fault plane solution: M₀5.31000×10¹⁸ NP1:φ₁=215.00000°, δ=16.00000°, λ=-49.00000°. NP2:φ₂=353.00000°, δ=78.00000°, λ=-100.00000°. Principal axes: T 5.6076, Plg32.0000°, Azm92.0000°; N -0.6560, Plg11.0000°, Azm355.0000°; P -4.9516, Plg56.0000°, Azm249.0000°;*

ISC 23 04:51:37.8±0.2, 18°.35S±0°.02×69°.19W±0°.03, h127km±1km, h128km:pP-P, n1474, σ1ˢ82/1678, mb6.2/477, 202C-475D, Fault plane solution: NP1:φ₁=1.64277°, δ=86.52969°, λ=-88.27188°. NP2:φ₂=155.14975°, δ=3.87631°, λ=-116.44067°. Principal axes: T Plg41.5051°, Azm90.0111°; N Plg1.7250°, Azm181.5381°; P Plg48.4426°, Azm273.4849°; Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.30**	**274**	⇑*i*P	**Pn**	**04 51 56.0**	**-0.4**
PB16				*i* S	**Sn**	**04 52 09.9**	**-0.4**
PB16	**IPOC Station P**	**0.30**	**274**		**Pn**	**04 51 55.9**	**-0.4**
PB16				Sn	**Sn**	**04 52 09.9**	**-0.4**
PB16	**IPOC Station P**	**0.30**	**274**	*i* P	**Pn**	**04 51 56.2**	**-0.2**
PB16				*i* S	**Sn**	**04 52 10.6**	**+0.3**
PB16				IAML		04 52 13.7	
	comp=Z,423µm,0.6s						
MNMCX	**Minye Minye**	**0.86**	**206**	*i* P	**Pn**	**04 51 58.7**	**-0.9**
MNMCX				*i* S	**Sn**	**04 52 15.4**	**-0.6**
MNMCX				IAML		04 52 17.8	
	comp=Z,714µm,0.8s						
MNMC	**Minye Minye**	**0.86**	**206**	⇑*i*P	**Pn**	**04 51 58.5**	**-1.1**
MNMC				eS	**Sn**	**04 52 14.1**	**-1.9**
MNMC				IAML		04 52 16.7	
	comp=E,854µm,0.4s						
MNMC	**Minye Minye**	**0.86**	**206**		**Pn**	**04 51 58.6**	**-1.1**
MNMC				Sn	**Sn**	**04 52 14.3**	**-1.7**
MNMC	**Minye Minye**	**0.86**	**206**	⇓P	**Pn**	**04 51 57.5**	**-2.1**
AP01	**Chacalluta**	**1.10**	**269**	⇑*i*P	**Pn**	**04 51 59.8**	**-1.5**
AP01				eS	**Sn**	**04 52 17.0**	**-2.3**
AP01				IAML		04 52 19.8	
	comp=N,829µm,0.5s						
AP01	**Chacalluta**	**1.10**	**269**		**Pn**	**04 51 59.9**	**-1.5**
PSGC	**Pisagua**	**1.52**	**215**	⇑*i*P	**Pn**	**04 52 03.8**	**-2.2**
PSGC				*i* S	**Sn**	**04 52 23.9**	**-3.7**
PSGC				IAML		04 52 26.1	
	comp=N,414µm,0.7s						
PSGCX	**Pisagua**	**1.52**	**215**	Pn	**Pn**	**04 52 04.0**	**-2.1**
PSGCX	**Pisagua**	**1.52**	**215**	*i* P	**Pn**	**04 52 04.0**	**-2.1**
PSGCX				eS	**Sn**	**04 52 24.1**	**

LVC	Limon Verde	4.24	177	*e*	P	Pn	04 52 40.6	-0.5	
LVC	Limon Verde	4.24	177	*i*	P	Pn	04 52 40.9	-0.2	
LVC				*i*	S	Sn	04 53 26.5	-3.6	
LVC					IAML		04 53 54.0		
	comp=Z,14µm,0.7s								
PB06	IPOC Station P	4.34	185	⇓ *i*	P	Pn	04 52 40.1	-2.1	
PB06	IPOC Station P	4.34	185			Pn	04 52 40.2	-2.1	
PB06	IPOC Station P	4.34	185	*i*	P	Pn	04 52 40.6	-1.6	
PB06					IAML		04 53 54.7		
	comp=Z,52µm,0.9s								
PB05	IPOC Station P	4.58	192	*e*	P	Pn	04 52 42.4	-2.9	
PB05	IPOC Station P	4.58	192	*i*	P	Pn	04 52 42.5	-2.9	
PB05					IAML		04 53 58.8		
	comp=Z,24µm,0.7s								
PB15	IPOC Station P	4.84	183	⇓ *i*	P	Pn	04 52 46.9	-2.0	
PB15	IPOC Station P	4.84	183			Pn	04 52 47.1	-1.7	
PB15	IPOC Station P	4.84	183	*i*	P	Pn	04 52 47.2	-1.7	
PB15					IAML		04 53 49.8		
	comp=Z,33µm,0.7s								
PB10	IPOC Station P	5.29	194		Pn	Pn	04 52 51.8	-3.0	
PB10	IPOC Station P	5.29	194	*i*	P	Pn	04 52 51.3	-3.5	
PB10					IAML		04 54 32.8		
	comp=Z,10µm,0.9s								
PB14	IPOC Station P	6.34	190		Pn	Pn	04 53 06.1	-3.2	
SIV	San Ignacio	8.11	74		P	Pn	04 53 31.2	-1.6	
	comp=Z,160nm,0.3s,baz=265,slow=11,SNR=1756								
SIV					S	Sn	04 55 02.3	-0.6	
	comp=Z,20nm,0.3s,baz=344,slow=22,SNR=6.8								
FSA	Cafayete	8.27	160	*i*	P	Pn	04 53 33.7	-1.4	
ETMB	Extrema	8.96	19	*e*	P	Pn	04 53 43.3	-1.0	
AHML	Horco Molle	9.11	158	*i*	P	Pn	04 53 45.0	-1.4	
GO03	Copiap	9.25	186	⇑	P	Pn	04 53 42.5	-5.6	
NNA	Nana	9.73	310		P	Pn	04 53 52.4	-2.3	
	comp=Z,190nm,0.3s,baz=140,slow=11,SNR=278								
NNA					S	Sn	04 55 34.9	-7.3	
	comp=Z,87nm,0.3s,baz=231,slow=19,SNR=2.3								
NNA	Nana	9.73	310	*c*	*i* P	Pn	04 53 51.8	-2.9	
NNA					pmax	pmax			
	comp=Z,470nm,0.8s								
NNA	Nana	9.73	310	⇓	P	Pn	04 53 52.3	-2.3	
PTLB	Pontes e Lacer	10.04	75	*e*	P	Pn	04 53 57.3	-1.6	
VILB	Vilhena	10.19	59	*e*	P	Pn	04 53 59.4	-1.4	
LCO	Las Campanas	10.70	187	⇑	P	Pn	04 54 00.9	-6.9	
SAML	Samuel	11.02	33		P	Pn	04 54 09.3	-2.6	
SAML	Samuel	11.02	33			Pn	04 54 09.3	-2.6	
SAML	Samuel	11.02	33	*e*	P	Pn	04 54 10.2	-1.7	
AQDB	Aquidauana	12.90	102	*e*	P	Pn	04 54 34.4	-2.2	
CPUP	Villa Florida	13.54	128		P	Pn	04 54 42.1	-2.6	
	comp=Z,17nm,0.3s,baz=304,slow=12,SNR=313								
CPUP					LR	LR	05 01 04.1		
	comp=Z,39µm,19.8s,baz=312,slow=42								
CPUP	Villa Florida	13.54	128		P	Pn	04 54 42.4	-2.3	
CPUP	Villa Florida	13.54	128		Pn	Pn	04 54 42.4	-2.3	
CPUP	Villa Florida	13.54	128	⇑	P	Pn	04 54 42.0	-2.7	
CPUP	Villa Florida	13.54	128	*e*	P	Pn	04 54 42.6	-2.1	
PP1B	Ponte de Pedra	13.64	89	*e*	P	Pn	04 54 43.3	-2.8	
AUSP	Uspallata	13.81	181	*i*	P	Pn	04 54 44.5	-4.1	
ATAH	Atahualpa	14.31	320		P	Pn	04 54 54.2	-0.9	
	comp=Z,2.7nm,0.3s,baz=135,slow=10,SNR=29								
PEL	Peldehue	14.79	185	⇑	P	Pn	04 54 58.1	-2.6	
CLDB	Colider	14.94	62	*e*	P	Pn	04 54 60.0	-2.6	
MT05	Renca	15.04	185		P	Pn	04 55 03.0	-0.9	
ITQB	Itaqui	16.07	137	*e*	P	Pn	04 55 13.8	-2.7	
BO02	Sierra Bellavi	16.43	185			Pn	04 55 19.6	-1.5	
ARAG	Araguaiana, MT	16.82	84	*e*	P	Pn	04 55 25.2	-0.7	
PTGB	Pitanga	17.14	115	*e*	P	P	04 55 29.1	-0.4	
PCMB	Pacaembu	17.16	104	*e*	P	P	04 55 29.2	-0.4	
MACA	Manacapuru-AM	17.25	30	*e*	P	P	04 55 30.3	-0.3	
H03N1	Juan Fernandez	17.37	208		P	Pn	04 55 39.6	+7.5	
	baz=285,slow=74								
H03N2	Juan Fernandez	17.38	208		P	Pn	04 55 39.8	+7.7	
H03N3	Juan Fernandez	17.39	208		P	Pn	04 55 42.2	+10	
	baz=104,slow=74								
VA04	Juan Fernndez	17.50	208		P	P	04 55 32.3	-0.9	
NPGB	Novo Progresso	17.54	52	*e*	P	P	04 55 33.1	-0.8	
H03S3	Juan Fernandez	17.69	208		P	Pn	04 55 40.0	+4.0	
	baz=17,slow=18,SNR=119								
H03S3					S	S	04 58 46.7	-5.5	
H03S1	Juan Fernandez	17.71	208		P	Pn	04 55 39.3	+3.2	
	baz=17,slow=18,SNR=148								
H03S1					S	S	04 58 46.5	-6.0	
H03S2	Juan Fernandez	17.71	208		P	Pn	04 55 40.1	+3.9	
	baz=17,slow=18,SNR=136								
H03S2					S	S	04 58 46.9	-5.7	
ITRB	Iturama	17.85	97	*e*	P	P	04 55 37.4	+0.1	
ITAB	Concordia	18.02	122	*e*	P	P	04 55 37.9	-1.1	
BI02	San Fabin de	18.33	185			P	04 55 42.5	+0.1	
BI02					IAmb	IAmb	04 56 28.2		
	comp=Z,1µm,1.3s								
SNDB	Serra Nova Dou	18.39	72	*e*	P	P	04 55 42.9	-0.3	
CPSB	Cacapava Do Su	18.68	133	*e*	P	P	04 55 44.6	-1.5	
BI03	Tigo	18.73	190		IAmb	IAmb	04 55 55.9		
	comp=Z,2µm,1.2s								
FRTB	Fartura	19.00	108	*e*	P	P	04 55 48.9	-0.9	
ITTB	Itaituba	19.14	45	*e*	P	P	04 55 50.7	-0.7	
LPA	La Plata	19.29	151	*i*	P	P	04 55 43.9	-8.8	
LPA					pP	pP	04 56 15.2	-1.5	
LPA					sP	sP	04 56 35.0	+1.7	
LPA					SS	S	04 59 23.5	-0.8	
LPA					S	Sn	04 59 32.5	+0.3	
LPA					sS	sS	05 00 11.8	+7.5	
PLTB	Pedras Altas	19.40	136	*e*	P	P	04 55 52.8	-1.3	
BB19B	Bebedouro	19.64	101	*e*	P	P	04 55 56.1	-0.6	
PTGA	Pitinga	19.72	28		P	P	04 55 56.7	-0.8	
	comp=Z,626nm,0.3s,baz=209,slow=11,SNR=1166								
PTGA					S	S	04 59 30.4	-2.7	
	baz=277,slow=23,SNR=4.1								
PTGA					LR	LR	05 04 00.5		
	comp=Z,15µm,19.0s,baz=204,slow=38								
PTGA	Pitinga	19.72	28	*e*	P	P	04 55 56.8	-0.8	
PTGA	Pitinga	19.72	28	*e*	P	P	04 55 56.7	-0.8	
IPMB	Ipameri, GO	19.94	92	*e*	P	P	04 55 59.1	-0.9	
TUJ01	Guaruva-PR	19.96	114	*e*	P	P	04 55 59.7	-0.6	
I09BR	BRASILIA INFRA	20.43	86		P	Pn	04 56 07.9	-0.8	
	baz=276,slow=8.2,SNR=5.2								
BDFB	Brasilia	20.43	86		P	P	04 56 04.6	-0.7	
	comp=Z,1µm,0.7s,baz=262,slow=12,SNR=192								
BDFB	Brasilia	20.43	86		P	P	04 56 05.2	-0.2	
BDFB					pmax	pmax			
	comp=Z,3µm,1.1s								
BDFB	Brasilia	20.43	86		P	P	04 56 05.2	-0.2	
OTAV	Otavalo	20.60	333		P	P	04 56 08.2	+0.7	
OTAV					pmax	pmax			
	comp=Z,1µm,1.4s								
OTAV	Otavalo	20.60	333		P	P	04 56 08.2	+0.7	
OTAV					IAmb	IAmb	04 56 44.7		
	comp=Z,1µm,1.4s								
OTAV					ScP	ScP	05 03 41.3	+2.9	
OTAV	Otavalo	20.60	333	⇓	*e* P	P	04 56 08.8	+1.3	
OTAV	Otavalo	20.60	333	⇓	P	P	04 56 08.6	+1.1	
OTAV				⇓	S	ScP	05 03 42.1	+3.7	
OTAV	Otavalo	20.60	333	*e*	P	P	04 56 08.8	+1.3	
MACC	Macarena, Meta	20.88	347	*e*	P	P	04 56 08.7	-1.3	
SPB	Sao Paulo	20.96	108		P	P	04 56 08.8	-2.1	
SPB	Sao Paulo	20.96	108	⇑	P	P	04 56 08.8	-2.1	
SPB	Sao Paulo	20.96	108	*e*	P	P	04 56 09.2	-1.7	
CMBC	Cumbal	20.97	335	*e*	P	Pn	04 56 15.7	+0.3	
TER01	Tubaro-SC	20.98	123	*e*	P	P	04 56 08.2	-2.8	
CPAS1	Pasto	21.00	337	*e*	P	P	04 56 13.0	+1.2	
GUVC	San Jose del G	21.04	350	*e*	P	P	04 56 09.4	-2.4	
GCUF	Volcan Galeras	21.05	337	⇓	*e* P	P	04 56 14.2	+1.8	
PEXB	Peixe	21.08	76	*e*	P	P	04 56 11.9	-0.4	
PET01	Itanhaem-SP	21.24	110	*e*	P	P	04 56 10.7	-3.2	
VAO	Valinhos	21.29	106	*e*	P	P	04 56 11.9	-2.7	
GARC	Garzon, Huila	21.34	342	⇓	*e* P	P	04 56 13.0	-2.2	
SOTA	Rioblanco	21.63	340	*e*	P	P	04 56 18.2	-0.5	
PCON	Cinco Dias	21.74	340	*e*	P	P	04 56 18.8	-1.0	
BBAC	Balboa, Cauca	21.75	338	⇓	*e* P	P	04 56 19.4	-0.1	
BETC	Betania	21.79	343	*e*	P	P	04 56 18.4	-1.5	
MALB	Monte Alegre	21.98	43	*e*	P	P	04 56 20.4	-1.4	
POPC	Popayan, Colom	22.03	340	⇓	*e* P	P	04 56 21.9	-0.6	
MARP	Paez Belalcaza	22.09	342	*e*	P	P	04 56 23.2	0.0	
TUMC	Tumaco	22.14	334	⇓	*i* P	P	04 56 23.5	+0.1	
PLCA	Paso Flores	22.33	183		P	P	04 56 25.6	+0.4	
	comp=Z,1µm,1.1s,baz=4.9,slow=12,SNR=352								
PLCA					S	S	05 00 20.9	-0.9	
	comp=Z,18nm,0.9s,baz=204,slow=21,SNR=0.9								
PLCA					LR	LR	05 07 02.2		
	comp=Z,14µm,19.0s,baz=348,slow=41								
PLCA					ScS	ScS	05 07 27.1	0.0	
	comp=Z,2.6nm,1.0s,baz=68,slow=23,SNR=1.2								
PLCA	Paso Flores	22.33	183		P	P	04 56 23.9	-1.3	
PLCA	Paso Flores	22.33	183	⇓	P	P	04 56 24.4	-0.9	
PLCA	Paso Flores	22.33	183		P	P	04 56 24.9	-0.3	
PRPB	Parauapebas	22.44	60	*e*	P	P	04 56 24.7	-1.7	
PARB	Paraibuna	22.56	107	*e*	P	P	04 56 24.9	-2.8	
PTGC	Puerto Gaitan,	22.60	352	*e*	P	P	04 56 26.4	-1.6	
VILC	Villavicencio,	22.76	348	*e*	P	P	04 56 27.5	-2.2	
ORTC	Ortega, Tolima	22.91	344	*e*	P	P	04 56 27.9	-3.2	
SMTB	Santa Maria do	22.99	69	*e*	P	P	04 56 31.3	-0.5	
BSCB	Bom Sucesso	23.13	101	*e*	P	P	04 56 31.7	-1.5	
YOTC	Yotoco, Valle	23.29	342	⇓	*e* P	P	04 56 32.2	-2.4	
ANIL	Santa Ana	23.51	344	*e*	P	P	04 56 34.6	-2.3	
ROSC	El Rosal	23.60	347		P	P	04 56 36.8	-0.9	
	comp=Z,61nm,0.5s,baz=329,slow=18,SNR=27								
ROSC	El Rosal	23.60	347		P	P	04 56 36.6	-1.1	
ROSC	El Rosal	23.60	347	*e*	P	P	04 56 37.1	-0.6	
ESAR	Angra dos Reis	23.60	106	*e*	P	P	04 56 36.0	-1.3	
MALC	Bahia Malaga	23.63	339	*e*	P	P	04 56 38.6	+1.0	
RREF	El Recreo	23.89	345	*e*	P	P	04 56 39.7	-0.9	
MAN01	Angra dos Reis	24.02	105	*e*	P	P	04 56 40.0	-1.2	
JANB	Januaria	24.05	86	*e*	P	P	04 56 40.2	-1.3	
LL01	San Ignacio de	24.10	186		P	P	04 56 40.8	-0.8	
LL01					PcP	PcP	05 00 21.4	+1.9	
SDBA	SAO DESIDERIO	24.14	79	*e*	P	P	04 56 41.0	-1.3	
PLMC	San Jos del P	24.15	342	⇓	*e* P	P	04 56 41.1	-1.2	
GUY2C	Guyana, Caldas	24.21	345	⇓	*e* P	P	04 56 43.0	-0.3	
SPBC	San Pablo de B	24.34	348	*e*	P	P	04 56 41.3	-2.8	
RUSC	La Rusia	24.40	351	*e*	P	P	04 56 44.3	-0.8	
NORC	Norcasia	24.42	346	⇓	*e* P	P	04 56 43.2	-1.6	
VAS01	Vassouras-RJ	24.45	104	*e*	P	P	04 56 43.9	-1.1	
PIZC	Pizarro, Choco	24.53	340	*e*	P	P	04 56 47.0	+1.3	
MCPB	Macapa, AP	24.56	45	*e*	P	P	04 56 45.1	-0.9	
TAMC	Tame, Arauca	24.77	354	⇓	*i* P	P	04 56 47.4	-0.6	
GO07	Milladeo Hill,	24.97	188		P	P	04 56 48.5	-1.0	
GO07					IAmb	IAmb	04 56 50.4		
	comp=Z,2µm,1.4s								
CBOC	Ciudad Bolivar	24.99	344	⇓	*e* P	P	04 56 49.3	-0.8	
BARC	Barichara	25.10	351	*e*	P	P	04 56 49.1	-2.0	
HELC	Santa Helena	25.18	345	*e*	P	P	04 56 50.5	-1.6	
PTBC	PUERTO BERRIO,	25.28	348	*e*	P	P	04 56 49.2	-3.4	
DUB01	Friburgo-RJ	25.42	103	*e*	P	P	04 56 53.0	-0.8	
BRRC	Barranca, Sant	25.69	350	⇓	*e* P	P	04 56 54.1	-2.1	
SOLC	Bahia Solano	25.74	341	*e*	P	P	04 56 57.3	+0.7	
PAMC	Pamplona, Colo	25.77	352	*e*	P	P	04 56 56.1	-1.4	
CAM01	Campos-RJ	26.07	102	*e*	P	P	04 56 59.2	-0.5	
TMAB	Tom-Au,PA,Br	26.07	55	*e*	P	P	04 56 59.2	-0.6	
DBBC	Dabeiba	26.15	344	*e*	P	P	04 56 59.9	-0.6	
ZARC	Zaragoza, Cauc	26.29	347	*e*	P	P	04 56 58.9	-2.8	
SJMB	Sao Joao De Ma	26.55	95	*e*	P	P	04 57 02.5	-1.5	
UREC	San Jos de Ur	26.68	346	*e*	P	P	04 57 03.7	-1.5	
PTAC	Punta Ardita,	26.73	341	*e*	P	P	04 57 06.2	+0.6	
OCAC	Ocana	26.74	351	*e*	P	P	04 57 01.7	-4.1	
BSFB	Barra de Sao F	26.86	96	*e*	P	P	04 57 05.1	-1.7	
ALF01	Guarapari-ES	26.91	100	*e*	P	P	04 57 07.5	+0.3	
SDV	Santo Domingo	27.11	357		P	P	04 57 07.7	-1.5	
	comp=Z,296nm,1.0s,baz=172,slow=8.7,SNR=139								
SDV					S	S	05 01 34.3	-4.0	
	comp=Z,30nm,0.8s,baz=66,slow=22,SNR=2.1								
SDV					LR	LR	05 07 51.7		
	comp=Z,11µm,20.0s,baz=188,slow=36								
SDV	Santo Domingo	27.11	357		P	P	04 57 07.4	-1.8	
SDV	Santo Domingo	27.11	357	*e*	P	P	04 57 07.7	-1.5	
SDV	Santo Domingo	27.11	357	*e*	P	P	04 57 07.9	-1.3	
PAYG	Puerto Ayora	27.17	308		P	P	04 57 10.9	+1.4	
PAYG						PcP	05 00 28.4	+1.4	
PAYG	Puerto Ayora	27.17	308	⇓	*e* P	P	04 57 10.7	+1.2	
PAYG	Puerto Ayora	27.17	308	⇓	P	P	04 57 10.8	+1.2	
RIB01	Linhares ES	27.26	97	*e*	P	P	04 57 10.2	-0.2	
SMLC	San Martn de	27.41	349	*e*	P	P	04 57 09.1	-2.6	
NAN01	Guarapari, ES	27.62	94	*e*	P	P	04 57 12.4	-1.1	
MOTC	Monteria, Cord	27.71	346	⇓	*e* P	P	04 57 13.6	-0.8	
LCBC	Los crdobas,	27.95	345	*e*	P	P	04 57 16.4	-0.1	
CAPC	Capurgana	28.00	343	⇓	*e* P	P	04 57 17.7	+0.7	
UPD2	Meteti	28.11	341	⇓	*e* P	P	04 57 19.1	+1.2	
AZU	Azuero	28.19	336	⇓	*i* P	P	04 57 19.6	+1.0	
MDP	Montagnes des	28.45	37		P	P	04 57 20.1	-0.8	
	comp=Z,148nm,0.8s,baz=211,slow=9.4,SNR=85								
ARGC	Arrigani, Magd	28.47	350	*e*	P	P	04 57 19.6	-1.5	
SJCC	San Jacinto, C	28.69	348	*e*	P	P	04 57 21.3	-1.8	
NBIT	Itapeh - BA	28.69	88	*e*	P	P	04 57 22.3	-0.8	
PLCV	Puerto La Cruz	28.70	9		P	P	04 57 22.9	-0.2	
PCRV	Puerto La Cruz	28.70	9		P	P	04 57 22.9	-0.3	
	comp=Z,46nm,0.4s,baz=120,slow=0.6,SNR=33								
PCRV					LR	LR	05 10 37.1		
	comp=Z,21µm,20.6s,slow=40								
GDU01	Guandu, BA	28.81	85	*e*	P	P	04 57 22.9	-1.3	
PNME	Penonome	28.85	337	⇓	*e* P	P	04 57 26.8	+2.3	
ROSB	Rosrio	28.96	61	*e*	P	P	04 57 24.9	-0.6	
UPA	Univ. de Panam	29.02	339	⇓	*e* P	P	04 57 27.9	+1.9	
BCIP	Isla Barro Col	29.30	338		P	P	04 57 30.1	+1.6	
BCIP					IAmb	IAmb	04 58 03.4		
	comp=Z,338nm,1.1s								
BCIP					PcP	PcP	05 00 33.1	+0.9	
BCIP	Isla Barro Col	29.30	338	⇓	*i* P	P	04 57 30.2	+1.8	
BCIP	Isla Barro Col	29.30	338	⇑	P	P	04 57 30.0	+1.6	
CRJC	Cerrejon, Guaj	29.41	353	*e*	P	P	04 57 25.5	-4.1	
SMRC	Santa Marta, M	29.75	350	*e*	P	P	04 57 29.5	-2.9	
TRN	Trinidad (W)	29.82	16	*e*	P	P	04 57 25.2	-7.8	
URIC	Uribia, Colomb	29.99	354	⇓	*e* P	P	04 57 30.9	-3.6	
RIOS	Rincon, Osa	30.38	331		P	P	04 57 39.8	+1.9	
RIOS					IAmb	IAmb	04 57 44.1		
	comp=Z,430nm,1.0s								
PEZE	Perez Zeledon,	31.05	331	*i*	P	P	04 57 46.2	+2.2	
PEZE	Perez Zeledon,	31.05	331		P	P	04 57 46.2	+2.2	
GRGR	Grenville	31.19	14		P	P	04 57 44.4	-0.8	
GRGR	Grenville	31.19	14	⇑	P	P	04 57 43.0	-2.1	
GRGR				⇑	S	S	05 02 43.3	+1.2	
NBLA	Lagarto - SE	31.21	81	*e*	P	P	04 57 43.7	-1.7	
CDM	Cerro de Muert	31.24	331	⇓	*i* P	P	04 57 48.6	+2.5	
MRVA	Moravia de Chi	31.34	332	*i*	P	P	04 57 49.2	+2.6	
RIMA	Rio Macho	31.47	331	⇓	*e* P	P	04 57 49.9	+2.0	
LCR2	La Lucha 2	31.52	331	⇓	*i* P	P	04 57 50.5	+2.2	
BATAN	Batan	31.55	333		IAmb	IAmb	04 58 37.6		
	comp=Z,967nm,1.5s								
NBTA	Tacaratu-PE	31.55	77	*e*	P	P	04 57 47.1	-1.3	
NBMA	Muriti-CE	31.55	74	*e*	P	P	04 57 47.9	-0.6	
NBPB	Pedra_Branca-C	31.57	70	*e*	P	P	04 57 47.1	-1.5	
OCM	Ochomogo	31.63	331	⇓	*e* P	P	04 57 51.2	+1.9	
CVTR	Volcan Turrial	31.65	332	⇓	*i* P	P	04 57 52.5	+2.8	
HDC3	Heredia 3	31.79	331	⇓	*i* P	P	04 57 53.3	+2.7	
HDC	Heredia	31.80	331	⇓	*i* P	P	04 57 52.9	+2.3	
HDC	Heredia	31.80	331		IAmb	IAmb	04 58 38.6		
	comp=Z,534nm,1.2s								
HDC	Heredia	31.80	331	⇓	P	P	04 57 53.2	+2.6	
LAFE	Finca La Fe, P	32.00	330	⇓	*i* P	P	04 57 54.8	+2.6	
SRA1	San Ramn	32.04	331	⇓	*e* P	P	04 57 54.6	+1.9	
INDI	Punta indio, G	32.34	329	⇓	*i* P	P	04 57 56.8	+1.6	
SVB	Belmont	32.39	15	*e*	P	P	04 57 53.5	-2.1	
SVB	Belmont	32.39	15		P	P	04 57 53.8	-1.8	
SVB					IAmb	IAmb	04 57 57.7		
	comp=Z,405nm,0.8s								
JTS	Las Juntas de	32.44	330		P	P	04 57 58.3	+2.2	
	comp=Z,68nm,0.8s,baz=191,slow=3.4,SNR=56								
JTS					pP	pP	04 58 27.0	+1.9	
	comp=Z,51nm,0.8s,baz=197,slow=8.0,SNR=3.0								
JTS					ScP	ScP	05 04 15.3	+2.5	
	comp=Z,40nm,1.2s,baz=151,slow=3.1,SNR=8.0								
JTS	Las Juntas de	32.44	330	*d*	*i* P	P	04 57 57.5	+1.4	
JTS					pmax	pmax			
	comp=Z,86nm,1.0s								
JTS	Las Juntas de	32.44	330	⇓	*i* P	P	04 57 58.7	+2.6	
JTS	Las Juntas de	32.44	330		P	P	04 57 57.6	+1.5	
JTS					IAmb	IAmb	04 58 30.5		
	comp=Z,568nm,1.8s								
JTS	Las Juntas de	32.44	330	⇓	*e* P	P	04 57 58.0	+1.9	
JTS	Las Juntas de	32.44	330	⇓	P	P	04 57 58.2	+2.1	
SVV	Soufriere Volc	32.44	15	*e*	P	P	04 57 55.0	-1.1	
GRZA	Playa Garza	32.44	329	⇓	*i* P	P	04 57 57.9	+1.7	
ARE1	Arenal 1	32.48	331	⇓	*i* P	P	04 57 59.4	+2.9	
CEDE	Laguna Cedeo	32.49	331	*e*	P	P	04 57 59.7	+3.1	
DUNO	Dulce Nombre,	32.52	329	⇓	*i* P	P	04 57 58.6	+1.8	
COVE	Coope Vega, Sa	32.56	331	⇓	*i* P	P	04 57 58.8	+1.7	
COVE	Coope Vega, Sa	32.56	331		IAmb	IAmb	04 58 32.1		
	comp=Z,644nm,1.2s								
SAJU	San Juanillo,	32.61	329	⇓	*i* P	P	04 57 59.4	+1.8	
PLVR	Palo Verde	32.68	330	*i*	P	P	04 57 59.7	+1.3	
BBSP	Saint Philip	32.70	18	*e*	P	P	04 58 00.4	+2.0	
BBGH	Gun Hill	32.71	18	*e*	P	P	04 58 00.4	+2.0	
ORTG	Ortega, Santa	32.74	329	⇓	*i* P	P	04 58 00.8	+2.0	
ORTG	Ortega, Santa	32.74	329		P	P	04 58 00.4	+1.5	
ORTG					PcP	PcP	05 00 43.5	+2.0	
CUI	Cuipilapa	32.86	330	⇓	*i* P	P	04 58 01.7	+1.9	
MCLT	Moule a Chique	32.88	15	*e*	P	P	04 57 56.8	-3.1	
MCLT	Moule a Chique	32.88	15		P	P	04 57 59.6	-0.4	
GO09	Cerro Castillo	32.94	184		IAmb	IAmb	04 58 02.6		
	comp=Z,514nm,1.5s								
SLB	Belfond	32.97	15	*e*	P	P	04 57 58.8	-1.9	
GPS2	Hotel Rincn d	33.03	330	*e*	P	P	04 58 03.6	+2.3	
NBAN	Anadia - AL	33.03	79	*e*	P	P	04 57 59.9	-1.4	
VRLE	La Escondida,	33.07	330	⇓	*i* P	P	04 58 03.8	+2.2	
HZTE	Horizontes, Gu	33.11	329	⇓	*i* P	P	04 58 04.4	+2.5	
SLBI	Saint Lucia, B	33.18	15	*e*	P	P	04 57 57.9	-4.6	
NBLI	Livramento-PB	33.21	75	*e*	P	P	04 58 01.7	-1.3	
NBCL	Cascavel-CE	33.31	69	*e*	P	P	04 58 03.3	-0.5	
MPOM	Morne Pois Mar	33.61	15	*e*	P	P	04 58 03.2	-3.0	
NBPA	Parau_RN	33.70	72	*e*	P	P	04 58 05.5	-1.7	
PRVC	Isla de Provid	33.74	338	*e*	P	P	04 58 07.8	+0.4	
ESPN	Las Esperanzas	33.82	333	⇓	*i* P	P	04 58 09.4	+1.3	
FDF	Fort de France	33.82	14		P	P	04 58 05.5	-2.5	
FDF					IAmb	IAmb	04 58 09.1		
	comp=Z,305nm,0.7s								
FDF					PcP	PcP	05 00 45.9	+1.4	
FDF	Fort de France	33.82	14	⇑	P	P	04 58 05.6	-2.5	
ACON	Acoyapa	34.01	331	⇓	*i* P	P	04 58 10.7	+0.9	
DLPL	La Plaine	34.38	14		P	P	04 58 10.9	-2.0	
DLPL					IAmb	IAmb	04 58 12.6		
	comp=Z,370nm,1.0s								
EFI	East Falkland	34.39	168	*d*	*i* P	P	04 58 12.6	-0.1	
EFI					*i* *PP	pP	04 58 41.8	0.0	
EFI					pmax	pmax			
	comp=Z,290nm,1.0s								
EFI	East Falkland	34.39	168		P	P	04 58 12.5	-0.1	
EFI			

TEIG Tepich 42.67 333 P **P** 04 59 21.5 -0.6
TEIG IAmb IAmb 04 59 55.3
comp=Z,501nm,1.2s
TEIG Tepich 42.67 333 ⇓*i*P **P** 04 59 22.2 +0.2
TEIG Tepich 42.67 333 ⇓P **P** 04 59 21.3 -0.8
SOR Soroa 43.07 341 IAmb IAmb 04 59 29.8
comp=Z,268nm,0.9s
CMIG Matias Romero 43.36 323 P **P** 04 59 28.6 +0.9
comp=Z,94nm,0.7s,baz=119,slow=5.5,SNR=224
CMIG pP **pP** 04 59 58.5 +0.6
comp=Z,46nm,0.7s,baz=154,slow=3.4,SNR=2.7
CMIG ScP **ScP** 05 04 56.0 +2.1
comp=Z,5.3nm,0.9s,baz=178,slow=4.3,SNR=5.3
CMIG S **S** 05 05 49.3 +3.1
comp=Z,3.4nm,0.9s,baz=340,slow=18,SNR=5.5
HOPE Hope Point 43.77 153 P **P** 04 59 31.5 +1.0
HOPE pmax pmax
comp=Z,337nm,1.1s
HOPE Hope Point 43.77 153 P **P** 04 59 31.5 +1.0
HOPE IAmb IAmb 05 00 22.0
comp=Z,336nm,1.1s
HOPE Hope Point 43.77 153 ⇑P **P** 04 59 31.9 +1.4
061Z Ochoppi 45.41 345 IAmb IAmb 05 00 20.5
comp=Z,387nm,0.9s
TLIG Tlapa 45.92 319 P **P** 04 59 49.3 +1.1
TLIG IAmb IAmb 04 59 52.1
comp=Z,990nm,1.8s
TLIG PcP **PcP** 05 01 24.6 +1.4
PMSA Palmer Station 46.52 177 P **P** 04 59 53.8 +1.8
comp=Z,92nm,0.9s,baz=6.2,slow=6.2,SNR=12
PMSA pP **pP** 05 00 23.3 +0.7
comp=Z,149nm,1.1s,baz=45,slow=7.0,SNR=5.8
PMSA S **S** 05 06 33.1 +2.5
comp=Z,11nm,0.7s,baz=270,slow=18,SNR=0.8
PMSA LR LR 05 21 39.8
comp=Z,5µm,18.9s,baz=353,slow=39
PMSA Palmer Station 46.52 177 P **P** 04 59 53.8 +1.8
PMSA IAmb IAmb 05 00 25.4
comp=Z,893nm,1.5s
PMSA Palmer Station 46.52 177 *e*P **P** 04 59 49.2 -2.8
DWPF Disney Wildern 47.69 345 P 05 00 01.7
baz=164
DWPF S 05 06 44.6
baz=164
DWPF Disney Wildern 47.69 345 P **P** 05 00 01.5 -0.1
DWPF IAmb IAmb 05 00 04.9
comp=Z,206nm,0.7s
DWPF Disney Wildern 47.69 345 ⇑P **P** 05 00 01.9 +0.3
MOIG Morelia 49.14 319 P **P** 05 00 14.5 +1.3
656A Willston 49.16 345 IAmb IAmb 05 00 16.5
comp=Z,293nm,0.8s
BBSR BB Station 50.62 5 P **P** 05 00 22.5 -1.3
BBSR IAmb IAmb 05 00 23.8
comp=Z,189nm,0.8s
BBSR BB Station 50.62 5 ⇑P **P** 05 00 22.4 -1.5
451A Vernon 51.23 342 P **P** 05 00 28.6 +0.2
451A pP **pP** 05 00 59.5 -0.1
TIGA Tifton 51.40 344 P 05 00 29.3
baz=162,SNR=53
TIGA S 05 07 36.9
baz=162
TIGA Tifton 51.40 344 IAmb IAmb 05 00 33.4
comp=Z,361nm,0.9s
255A Hazlehurst 51.59 346 IAmb IAmb 05 01 08.8
comp=Z,641nm,1.2s
BRAL Brewton 52.14 341 P 05 00 34.5
baz=158,SNR=25
BRAL S 05 07 47.3
baz=158
BRAL Brewton 52.14 341 ⇓P **P** 05 00 35.5 +0.3
NHSC New Hope 52.24 348 P 05 00 35.4
baz=167,SNR=32
NHSC S 05 07 48.3
baz=167
NHSC New Hope 52.24 348 P **P** 05 00 35.6 -0.2
NHSC IAmb IAmb 05 00 40.1
comp=Z,624nm,1.1s
ZAIG Zacatecas 52.30 320 IAmb IAmb 05 00 39.8
comp=Z,215nm,0.9s
250A Grady 52.66 342 P **P** 05 00 39.2 +0.2
250A pP **pP** 05 01 09.7 -0.4
Y60A Bolivia 52.77 351 P **P** 05 00 39.0 -0.8
Y60A IAmb IAmb 05 00 41.8
comp=Z,214nm,0.8s
Y60A **pP** 05 01 09.9 -1.0
152A Waverly Hall 52.87 344 IAmb IAmb 05 01 16.9
comp=Z,327nm,0.9s
Y58A Scranton 52.92 349 IAmb IAmb 05 00 44.7
comp=Z,212nm,1.0s
346A Big Creek Wild 53.15 338 P **P** 05 00 42.2 -0.4
346A pP **pP** 05 01 13.8 -0.1
Y57A Sumter 53.16 348 IAmb IAmb 05 01 20.6
comp=Z,347nm,1.1s
GOGA Godfrey 53.25 345 P 05 00 42.7
baz=163,SNR=53
GOGA S 05 07 59.4
baz=163
X60A Albert Glenn T 53.30 351 P 05 00 42.6
baz=170,SNR=10
X60A S 05 07 60.0
baz=170
KVTX Kingsville 53.44 328 P **P** 05 00 46.4 +1.6
KVTX **pP** 05 01 14.9 -1.3
KVTX Kingsville 53.44 328 ⇓P **P** 05 00 46.4 +1.6
344A Westbrook Farm 53.67 337 P **P** 05 00 46.4 0.0
344A pP **pP** 05 01 17.4 -0.3
BIRD Birdtown, Kers 53.78 348 IAmb IAmb 05 01 25.1
comp=Z,404nm,1.2s
Y52A Lilburn 53.83 345 IAmb IAmb 05 01 24.5
comp=Z,275nm,1.1s
LRAL Lakeview Retre 53.86 341 P 05 00 46.5
baz=159,SNR=105
LRAL S 05 08 08.0
baz=159
LRAL Lakeview Retre 53.86 341 IAmb IAmb 05 01 19.8
comp=Z,655nm,1.4s
CNNC Cliffs of the 53.93 351 P 05 00 47.2
baz=170,SNR=8.8
CNNC S 05 08 08.4
baz=170
CNNC Cliffs of the 53.94 351 ⇑P **P** 05 00 47.7 -0.6
V62A Hyde County Ai 54.00 353 P 05 00 48.1
baz=172
V62A S 05 08 10.0
baz=172
441A DeRidder 54.01 334 IAmb IAmb 05 00 51.6
comp=Z,296nm,0.8s
146A Union 54.15 339 P **P** 05 00 49.4 -0.5
ASCN Ascension 54.21 87 P **P** 05 00 50.6 -0.1
PAULI Pauline 54.23 347 IAmb IAmb 05 00 54.0
comp=Z,181nm,0.7s
VBMS Vicksburg 54.28 338 P 05 00 50.4
baz=155,SNR=15
VBMS S 05 08 16.2
baz=155
W56A Indian Trail 54.28 348 P 05 00 50.3
baz=167,SNR=38
W56A S 05 08 13.2
baz=167
V61A Roper 54.30 353 IAmb IAmb 05 00 59.9
comp=Z,451nm,1.6s
V60A Jim Taylor Roa 54.36 352 P 05 00 50.4
baz=171,SNR=15
V60A S 05 08 13.1
baz=171
KMSC Kings Mountain 54.44 348 P 05 00 51.6
baz=166,SNR=93
KMSC S 05 08 13.8
baz=166
KMSC Kings Mountain 54.44 348 IAmb IAmb 05 01 29.9
comp=Z,251nm,0.9s
Y49A Blount Mountai 54.46 342 IAmb IAmb 05 00 55.5
comp=Z,167nm,0.8s
HKT Hockley 54.46 331 *d*iP **P** 05 00 52.6 +0.5
HKT *i* *PP **pP** 05 01 23.4 -0.1
HKT pmax pmax
comp=Z,184nm,1.8s
HKT Hockley 54.46 331 P **P** 05 00 52.1 -0.1
HKT pP **pP** 05 01 23.6 0.0
HKT IAmb IAmb 05 01 29.4
comp=Z,308nm,1.2s
HKT Hockley 54.46 331 ⇑P **P** 05 00 52.8 +0.6
V59A Middlesex 54.50 351 P 05 00 51.3
baz=169,SNR=24
V59A S 05 08 15.1
baz=169

X51A Calhoun 54.70 344 IAmb IAmb 05 01 27.7
comp=Z,409nm,1.2s
U61A Possum Corner 54.82 353 P 05 00 54.1
baz=172,SNR=21
U61A S 05 08 20.7
baz=172
U61A Possum Corner 54.82 353 IAmb IAmb 05 00 57.6
comp=Z,257nm,0.8s
833A Chaparral WMA, 54.84 327 P 05 00 55.5
baz=144,SNR=154
833A S 05 08 25.5
baz=144
V57A Coltrane Farms 54.87 349 P 05 00 54.6
baz=168,SNR=20
V57A S 05 08 21.9
baz=168
FPAL Fort Paine 54.87 343 IAmb IAmb 05 01 27.9
comp=Z,449nm,1.5s
V56A Mocksville 54.92 349 P 05 00 55.4
baz=167,SNR=84
V56A S 05 08 23.2
baz=167
W52A Murphy 54.97 345 IAmb IAmb 05 01 33.2
comp=Z,235nm,1.1s
143A Socs Landing, 55.04 337 P **P** **05 00 55.7 -0.6**
143A pP **pP** **05 01 27.1 -0.7**
U60A Pendleton 55.05 352 P 05 00 55.2
baz=171,SNR=19
U60A S 05 08 23.9
baz=171
V55A Taylorsville 55.10 348 IAmb IAmb 05 01 01.0
comp=Z,336nm,0.9s
U58A Oxford 55.16 351 P 05 00 56.1
baz=169,SNR=31
U58A S 05 08 26.0
baz=169
U57A Blanch 55.33 350 P 05 00 56.8
baz=168,SNR=46
U57A S 05 08 28.4
baz=168
W50A Signal Mountai 55.42 344 IAmb IAmb 05 01 35.5
comp=Z,340nm,0.9s
U56A King 55.42 349 P 05 00 59.0
baz=167,SNR=60
U56A S 05 08 30.6
baz=167
U56A King 55.42 349 IAmb IAmb 05 01 38.4
comp=Z,315nm,1.2s
CPCT Cooper Cave 55.45 345 IAmb IAmb 05 01 36.4
comp=Z,221nm,1.1s
TKL Tuckaleechee C 55.47 346 P **P** **05 00 59.0 -0.4**
comp=Z,155nm,0.9s,baz=170,slow=9.2,SNR=98
TKL pP **pP** **05 01 30.5 -0.3**
comp=Z,278nm,1.2s,baz=164,slow=6.4,SNR=6.0
TKL LR LR 05 26 24.7
comp=Z,4µm,21.8s,baz=162,slow=38
TKL Tuckaleechee C 55.47 346 P **P** **05 00 58.8 -0.6**
TKL IAmb IAmb 05 01 02.9
comp=Z,255nm,1.1s
NATX Nacogdoches 55.50 334 P 05 01 00.4
baz=150,SNR=61
NATX S 05 08 35.6
baz=150
NATX Nacogdoches 55.50 334 IAmb IAmb 05 01 05.0
comp=Z,396nm,0.8s
SWET Sewanee 55.60 343 IAmb IAmb 05 01 36.0
comp=Z,266nm,0.8s
V52A Sevierville 55.60 346 IAmb IAmb 05 01 37.6
comp=Z,356nm,1.1s
T60A Surry 55.65 353 P 05 00 60.0
baz=171,SNR=18
T60A S 05 08 33.0
baz=171
T60A Surry 55.65 353 IAmb IAmb 05 01 04.1
comp=Z,198nm,0.8s
T58A Grand View Acr 55.70 351 P 05 01 00.1
baz=169,SNR=54
T58A S 05 08 31.7
baz=169
V51A Loudon 55.74 345 IAmb IAmb 05 01 04.5
comp=Z,154nm,0.7s
SACV Santiago Islan 55.80 57 P **P** **05 01 01.5 -0.6**
SACV IAmb IAmb 05 01 06.4
comp=Z,288nm,0.8s
SACV Santiago Islan 55.80 57 ⇑P **P** **05 01 01.5 -0.6**
U54A Nelsons Funny 55.87 348 P 05 01 02.3
baz=166,SNR=86
U54A S 05 08 36.9
baz=166
U54A Nelsons Funny 55.87 348 IAmb IAmb 05 01 40.7
comp=Z,367nm,0.8s
435B Jarrell 55.97 330 P 05 01 02.6
baz=147,SNR=48
435B S 05 08 40.7
baz=147
435B Jarrell 55.97 330 IAmb IAmb 05 01 04.8
comp=Z,204nm,0.8s
OXF Oxford 55.98 340 P 05 01 01.4
baz=157,SNR=150
OXF S 05 08 37.1
baz=157
PLAL Pickwick Lake 56.00 341 IAmb IAmb 05 01 34.7
comp=Z,526nm,1.3s
T56A Rocky Mt 56.02 350 P 05 01 03.3
baz=168,SNR=63
T56A S 05 08 38.4
baz=168
Z41A Richland Creek 56.06 336 P 05 01 03.3
baz=153,SNR=22
Z41A S 05 08 41.6
baz=153
S61A Accomac 56.07 354 IAmb IAmb 05 01 07.0
comp=Z,219nm,0.8s
237A Washetta, Mont 56.20 333 P **P** **05 01 05.0 +0.4**
S60A Water View 56.20 353 P 05 01 03.8
baz=172,SNR=16
S60A S 05 08 40.1
baz=172
BLA Blacksburg 56.27 349 P 05 01 05.1
baz=167,SNR=46
BLA S 05 08 43.0
baz=167
BLA Blacksburg 56.27 349 IAmb IAmb 05 01 08.9
comp=Z,130nm,0.8s
S58A Poland Farm, P 56.29 352 P 05 01 04.3
baz=170,SNR=17
S58A S 05 08 40.7
baz=170
S58A Poland Farm, P 56.29 352 IAmb IAmb 05 02 41.1
comp=Z,404nm,1.9s
S59A Mechanicsville 56.33 352 P 05 01 04.6
baz=171,SNR=26
S59A S 05 08 42.0
baz=171
X43A Marvell 56.48 339 P 05 01 05.8
baz=155,SNR=41
X43A S 05 08 45.1
baz=155
CLTN Cedars of Leba 56.53 343 IAmb IAmb 05 01 10.5
comp=Z,363nm,0.9s
S57A Dark Hollow, R 56.56 351 P 05 01 05.7
baz=169,SNR=38
S57A S 05 08 45.5
baz=169
S57A Dark Hollow, R 56.57 351 IAmb IAmb 05 01 11.1
comp=Z,242nm,1.4s
S56A Natural Bridge 56.58 350 P 05 01 07.3
baz=168,SNR=26
S56A S 05 08 45.5
baz=168
R58B Mineral 56.61 352 P 05 01 06.9
baz=170,SNR=37
R58B S 05 08 45.8
baz=170
R58B Mineral 56.61 352 IAmb IAmb 05 01 10.7
comp=Z,466nm,1.9s
MET Memphis--Engin 56.71 340 P **P** **05 01 07.2 -1.0**
MET **pP** **05 01 38.4 -1.4**
R59A King George, V 56.74 353 P 05 01 08.0
baz=171,SNR=47
R59A S 05 08 47.4
baz=171
R60A Leonardtown, M 56.75 353 P 05 01 07.8
baz=172,SNR=11
R60A S 05 08 48.7
baz=172
U49A Red Boiling Sp 56.78 344 IAmb IAmb 05 01 11.5
comp=Z,173nm,0.8s

CBN Corbin Frederi 56.78 352 P 05 01 07.8
baz=171,SNR=22
CBN S 05 08 47.3
baz=171
JCT Junction City 56.79 328 P 05 01 08.8
baz=145,SNR=141
JCT S 05 08 50.9
baz=145
JCT Junction City 56.79 328 IAmb IAmb 05 01 44.4
comp=Z,340nm,1.1s
JCT Junction City 56.79 328 ⇓P **P** **05 01 08.8 -0.2**
WHTX Lake Whitney, 56.92 331 P 05 01 10.1
baz=148,SNR=86
WHTX S 05 08 53.5
baz=148
WHTX Lake Whitney, 56.92 331 IAmb IAmb 05 01 45.6
comp=Z,336nm,0.9s
R58A Rapidan 56.96 352 P 05 01 09.7
baz=170,SNR=39
R58A S 05 08 50.8
baz=170
WVT Waverly 56.99 342 P 05 01 08.7
baz=159
WVT S 05 08 49.1
baz=159
WVT Waverly 56.99 342 P **P** **05 01 08.6 -1.5**
WVT IAmb IAmb 05 01 13.2
comp=Z,384nm,0.9s
WVT **pP** **05 01 40.2 -1.4**
WVT Waverly 56.99 342 ⇓P **P** **05 01 09.0 -1.2**
S54A Dingess, Beckl 57.01 349 P 05 01 10.0
baz=166,SNR=150
S54A S 05 08 52.0
baz=166
T50A Nancy 57.02 345 IAmb IAmb 05 01 13.2
comp=Z,162nm,0.8s
R57A Stanardsville 57.03 351 P 05 01 10.1
baz=169,SNR=51
R57A S 05 08 51.6
baz=169
X40A Basin Creek Fa 57.16 337 P 05 01 10.4
baz=153,SNR=19
X40A S 05 08 52.3
baz=153
Q61A Milford 57.22 354 P 05 01 12.7
baz=173
Q61A S 05 08 54.9
baz=173
R55A Marlinton 57.26 350 P 05 01 12.5
baz=168,SNR=55
R55A S 05 08 56.7
baz=168
R55A Marlinton 57.26 350 IAmb IAmb 05 01 22.6
comp=Z,260nm,1.1s
HPIG 57.27 321 IAmb IAmb 05 01 14.4
comp=Z,164nm,0.9s
R56A Bull Pasture M 57.27 350 P 05 01 12.6
baz=168,SNR=13
R56A S 05 08 56.7
baz=168
R54A Victor 57.32 349 P 05 01 12.4
baz=167,SNR=166
R54A S 05 08 54.9
baz=167
Q59A Harwood 57.34 353 P 05 01 11.9
baz=172,SNR=8.9
Q59A S 05 08 55.8
baz=172
HBAR Harrisburg 57.35 339 P **P** **05 01 12.5 -0.2**
HBAR pP **pP** **05 01 43.3 -1.0**
MIAR Mount Ida 57.50 336 P 05 01 13.3
baz=152,SNR=106
MIAR S 05 08 57.5
baz=152
MIAR Mount Ida 57.50 336 IAmb IAmb 05 01 46.4
comp=Z,501nm,1.4s
MIAR Mount Ida 57.50 336 ⇑P **P** **05 01 12.3 -1.4**
Q58A Fox Den Farm, 57.55 352 P 05 01 13.3
baz=170,SNR=38
Q58A S 05 08 58.7
baz=170
W41B Gary Mavity, V 57.56 338 P 05 01 13.6
baz=154,SNR=63
W41B S 05 08 58.3
baz=154
R53A Hurricane 57.64 348 IAmb IAmb 05 01 18.6
comp=Z,205nm,0.8s
SLBS Sierra La Lagu 57.69 315 P **P** **05 01 16.6 +1.2**
SLBS Sierra La Lagu 57.69 315 ⇓P **P** **05 01 16.8 +1.3**
Q57A Strasburg 57.74 352 P 05 01 15.5
baz=170,SNR=100
Q57A S 05 09 01.3
baz=170
PENMO Penman 57.83 341 P **P** **05 01 15.9 -0.1**
PENMO **pP** **05 01 47.1 -0.6**
Q56A Snyder Ridge, 57.85 351 P 05 01 16.7
baz=169,SNR=65
Q56A S 05 09 04.0
baz=169
Q56A Snyder Ridge, 57.86 351 IAmb IAmb 05 01 20.3
comp=Z,211nm,0.7s
TX32 Lajitas Array 57.92 324 IAmb IAmb 05 01 19.4
comp=Z,500nm,1.9s
TXAR Lajitas Array 57.92 324 P **P** **05 01 17.0 0.0**
comp=Z,28nm,0.7s,baz=149,slow=8.5,SNR=368
TXAR pP **pP** **05 01 48.8 0.0**
comp=Z,11nm,0.8s,baz=99,slow=15,SNR=2.3
TXAR PKPPKP **P'P'df** **05 30 60.0 +2.1**
comp=Z,1.4nm,1.0s,baz=318,slow=1.6,SNR=5.6
TXAR P4KPbc 05 38 26.8
comp=Z,0.5nm,0.8s,baz=157,slow=7.4,SNR=4.5
TXAR Lajitas Array 57.92 324 P **P** **05 01 16.3 -0.7**
TX31 Lajitas Ar. Si 57.92 324 ⇓P **P** **05 01 17.0 0.0**
P61A Hammonton 57.96 355 P **P** **05 01 16.1 -0.8**
P61A pP **pP** **05 01 47.9 -0.7**
P61A IAmb IAmb 05 01 50.0
comp=Z,340nm,1.4s
P59A Jarrettsville 58.06 353 P 05 01 18.0
baz=172,SNR=17
P59A S 05 09 04.8
baz=172
PARMO Parma 58.07 341 P **P** **05 01 17.5 -0.2**
Q54A Coxs Mills 58.07 349 IAmb IAmb 05 01 51.7
comp=Z,227nm,1.1s
Q53A Leroy 58.07 349 P 05 01 17.4
baz=166,SNR=160
Q53A S 05 09 05.1
baz=166
R50A Paris 58.10 346 IAmb IAmb 05 01 52.0
comp=Z,309nm,1.2s
P57A Homestead Farm 58.12 352 P 05 01 18.2
baz=170,SNR=34
P57A S 05 09 06.8
baz=170
W39A Magazine 58.15 336 P 05 01 18.5
baz=152,SNR=80
W39A S 05 09 08.4
baz=152
W39A Magazine 58.15 336 IAmb IAmb 05 01 51.6
comp=Z,705nm,1.4s
FCAR Ozark Folk Cen 58.16 338 P **P** **05 01 16.7 -1.7**
FCAR pP **pP** **05 01 48.8 -1.4**
FCAR IAmb IAmb 05 01 51.1
comp=Z,469nm,1.1s
P60A Greenville 58.17 354 P 05 01 17.6
baz=173,SNR=38
P60A S 05 09 05.4
baz=173
LPIG La Paz 58.22 315 P **P** **05 01 19.9 +1.0**
comp=Z,108nm,0.8s,baz=30,slow=18,SNR=26
P56A Dayton Farm, R 58.26 351 P 05 01 19.0
baz=169,SNR=30
P56A S 05 09 08.7
baz=169
R49A Shelbyville 58.31 345 P **P** **05 01 17.9 -1.4**
R49A IAmb IAmb 05 01 53.1
comp=Z,371nm,1.3s
Q52A Bidwell 58.32 348 IAmb IAmb 05 01 23.2
comp=Z,170nm,0.9s
O61A Allentown 58.36 355 P 05 01 19.2
baz=174,SNR=46
O61A S 05 09 06.7
baz=174
MVL Millersville 58.43 354 IAmb IAmb 05 01 23.6
comp=Z,136nm,0.7s
ABTX Abilene, Hawle 58.47 330 P 05 01 20.6
baz=146,SNR=132

ABTX S 05 09 12.5
baz=146
WCI Wyandotte Cave 58.53 344 P 05 01 19.7
baz=161
WCI S 05 09 08.8
baz=161
WCI Wyandotte Cave 58.53 344 P **P** **05 01 20.1 -0.8**
WCI *PP **pP** **05 01 51.4 -1.2**
WCI pmax pmax
comp=Z,983nm,1.6s
WCI Wyandotte Cave 58.53 344 P **P** **05 01 20.1 -0.8**
WCI pP **pP** **05 01 51.4 -1.2**
MCWV Mont Chateau 58.56 350 P 05 01 21.0
baz=168,SNR=69
MCWV S 05 09 13.6
baz=168
O58A Lewisberry 58.62 353 P 05 01 21.7
baz=171,SNR=17
O58A S 05 09 12.2
baz=171
O60A Telford 58.65 354 P 05 01 21.2
baz=173,SNR=20
O60A S 05 09 13.4
baz=173
P53A Whipple 58.66 349 IAmb IAmb 05 01 25.9
comp=Z,370nm,0.9s
O59A Robesonia 58.72 354 P 05 01 21.6
baz=172,SNR=15
O59A S 05 09 14.5
baz=172
O57A Amberson 58.79 352 P 05 01 22.6
baz=171,SNR=26
O57A S 05 09 15.6
baz=171
T42A Van Buren 58.84 340 IAmb IAmb 05 01 55.6
comp=Z,370nm,1.0s
U40A Yellville 58.84 338 P 05 01 22.4
baz=154,SNR=161
U40A S 05 09 16.3
baz=154
U40A Yellville 58.84 338 IAmb IAmb 05 01 55.5
comp=Z,507nm,1.3s
SIUC Southern Illin 58.87 341 P **P** **05 01 23.1 -0.1**
SIUC pP **pP** **05 01 53.9 -1.2**
P52A Corning 58.94 348 P 05 01 23.4
baz=166,SNR=64
P52A S 05 09 15.2
baz=166
P52A Corning 58.94 348 IAmb IAmb 05 01 58.0
comp=Z,646nm,1.6s
BRNJ Basking Ridge 58.95 355 IAmb IAmb 05 01 27.1
comp=Z,144nm,0.8s
O56A Blue Knob Stat 58.97 352 P 05 01 23.7
baz=170,SNR=44
O56A S 05 09 17.1
baz=170
O56A Blue Knob Stat 58.97 352 IAmb IAmb 05 01 28.3
comp=Z,158nm,0.9s
P51A Williamsport 58.98 347 IAmb IAmb 05 02 01.3
comp=Z,130nm,0.8s
N61A South Mountain 58.99 355 P 05 01 23.9
baz=174,SNR=12
N61A S 05 09 16.4
baz=174
N62A Caumsett State 59.11 356 P 05 01 25.1
baz=175
N62A S 05 09 17.0
baz=175
N60A Cedar Hill Far 59.17 355 P 05 01 24.9
baz=174,SNR=10
N60A S 05 09 18.0
baz=174
PAL Palisades 59.22 356 P 05 01 25.5
baz=175,SNR=11
PAL S 05 09 18.0
baz=175
N59A State Game Lan 59.28 354 P 05 01 26.0
baz=173,SNR=22
N59A S 05 09 20.3
baz=173
N58A Sunbury 59.30 353 P 05 01 25.6
baz=172,SNR=28
N58A S 05 09 20.4
baz=172
N57A Milroy 59.32 353 P 05 01 26.0
baz=171,SNR=48
N57A S 05 09 21.4
baz=171
WSPT Westport, CT 59.34 356 P **P** **05 01 26.2 -0.2**
WSPT IAmb IAmb 05 01 30.1
comp=Z,148nm,0.9s
WSPT pP **pP** **05 01 57.9 -0.3**
O52A Adamsville 59.35 349 IAmb IAmb 05 01 29.7
comp=Z,153nm,0.7s
O53A New Philadelph 59.37 349 P 05 01 26.3
baz=167,SNR=68
O53A S 05 09 22.6
baz=167
O53A New Philadelph 59.37 349 IAmb IAmb 05 02 00.7
comp=Z,247nm,1.0s
P49A Miami Univ. Ec 59.39 346 P 05 01 25.9
baz=163,SNR=21
P49A S 05 09 19.5
baz=163
P49A Miami Univ. Ec 59.39 346 IAmb IAmb 05 02 00.3
comp=Z,542nm,1.4s
YLE Yale 59.47 357 P **P** **05 01 27.4 +0.2**
YLE IAmb IAmb 05 01 31.4
comp=Z,217nm,1.0s
YLE **pP** **05 01 59.4 +0.3**
U38A Gravette 59.48 337 IAmb IAmb 05 02 00.1
comp=Z,574nm,1.8s
P48A Milroy 59.48 345 IAmb IAmb 05 01 30.2
comp=Z,196nm,1.1s
OLIL Olney 59.49 343 IAmb IAmb 05 02 01.0
comp=Z,385nm,1.1s
M61A Granite Spring 59.51 356 P 05 01 27.6
baz=175
M61A S 05 09 21.6
baz=175
M63A Gales Ferry 59.51 358 P 05 01 28.1
baz=177,SNR=6.6
M63A S 05 09 22.9
baz=177
M63A Gales Ferry 59.51 358 IAmb IAmb 05 02 01.2
comp=Z,222nm,1.4s
TUL1 Leonard 59.56 335 S 05 09 26.9
baz=150
N56A West Decatur 59.57 352 P 05 01 27.4
baz=170,SNR=42
N56A S 05 09 24.7
baz=170
M60A Port Jervis 59.59 355 P 05 01 27.7
baz=174,SNR=11
M60A S 05 09 24.3
baz=174
M62A Hamden 59.59 357 P 05 01 27.4
baz=176,SNR=6.1
M62A S 05 09 24.4
baz=176
M65A Busby, Falmout 59.62 359 P 05 01 27.4
baz=178
M65A S 05 09 24.0
baz=178
M64A Tiverton 59.63 358 P 05 01 27.5
baz=178
M64A S 05 09 23.1
baz=178
ACSO Alum Creek Sta 59.68 348 P 05 01 28.2
baz=165,SNR=68
ACSO S 05 09 23.2
baz=165
ACSO Alum Creek Sta 59.68 348 IAmb IAmb 05 02 03.0
comp=Z,417nm,1.2s
M58A Price's Panora 59.80 354 S 05 09 27.3
baz=172
CCM Cathedral Cave 59.82 340 P 05 01 29.8
baz=156
CCM S 05 09 27.3
baz=156
CCM Cathedral Cave 59.82 340 P **P** **05 01 29.1 -0.7**
CCM pP **pP** **05 02 00.6 -1.0**
CCM Cathedral Cave 59.82 340 ⇑P **P** **05 01 29.1 -0.7**
OKCFA Oklahoma City 59.82 333 IAmb IAmb 05 02 05.9
comp=Z,231nm,0.8s
WMOK Wichita Mounta 59.83 332 P 05 01 29.4
baz=147,SNR=42
WMOK S 05 09 30.8
baz=147
WMOK Wichita Mounta 59.83 332 ⇓P **P** **05 01 27.6 -2.4**
M57A Sunshine Farm, 59.84 353 P 05 01 29.8
baz=171,SNR=38
M57A S 05 09 28.5
baz=171
M57A Sunshine Farm, 59.84 353 IAmb IAmb 05 01 35.0
comp=Z,102nm,0.7s
N53A Lisbon 59.84 350 IAmb IAmb 05 01 38.8
comp=Z,339nm,1.2s
N54A Moraine State 59.86 351 P 05 01 30.2
baz=168,SNR=33
N54A S 05 09 28.9
baz=168
M59A Waymart 59.87 355 P 05 01 30.2
baz=173,SNR=18
M59A S 05 09 28.1
baz=173
KSCT Kent School, K 59.91 356 P **P** **05 01 30.1 -0.1**
OK025 Westminster Rd 59.91 334 IAmb IAmb 05 01 31.4
comp=Z,274nm,0.8s
O49A Covington 59.93 347 IAmb IAmb 05 02 04.3
comp=Z,319nm,1.2s
L63A North Scituate 59.95 358 P 05 01 30.5
baz=177,SNR=36
L63A S 05 09 28.5
baz=177
L64A Middleborough 60.00 359 P 05 01 30.9
baz=178,SNR=8.7
L64A S 05 09 27.9
baz=178
L65A Cape Cod Natio 60.08 359 P 05 01 31.3
baz=179
BCOK Bluff Creek, N 60.09 333 P **P** **05 01 31.4 -0.4**
M56A Emporium 60.11 352 P 05 01 31.5
baz=170,SNR=50
M56A S 05 09 31.6
baz=170
M56A Emporium 60.11 352 P **P** **05 01 31.4 -0.4**
M56A IAmb IAmb 05 01 35.2
comp=Z,172nm,0.6s
L62A Suffield 60.17 357 P 05 01 31.8
baz=176
L62A S 05 09 31.2
baz=176
M55A Ridgway 60.18 352 IAmb IAmb 05 01 35.7
comp=Z,144nm,0.8s
S39A Bolivar 60.20 338 IAmb IAmb 05 02 05.6
comp=Z,377nm,1.0s
L60A Shokan 60.22 356 P 05 01 32.8
baz=174,SNR=13
L60A S 05 09 31.8
baz=174
N51A Ashland 60.23 349 IAmb IAmb 05 01 35.5
comp=Z,150nm,0.7s
M54A Oil Creek Stat 60.34 351 P 05 01 33.2
baz=169,SNR=49
M54A S 05 09 35.4
baz=169
M54A Oil Creek Stat 60.34 351 IAmb IAmb 05 02 09.7
comp=Z,814nm,1.8s
L61A Hillsdale 1, H 60.38 356 P 05 01 33.7
baz=175
L61A S 05 09 35.1
baz=175
SHEL Horse Pasture 60.40 98 P **P** **05 01 35.1 +0.8**
SHEL pmax pmax
comp=Z,835nm,0.9s
SHEL Horse Pasture 60.40 98 P **P** **05 01 35.1 +0.8**
SHEL Horse Pasture 60.40 98 ⇑P **P** **05 01 35.7 +1.4**
QUA2 Belchertown 60.40 357 P **P** **05 01 32.5 -1.1**
L58A Harry Jones Me 60.41 354 P 05 01 33.7
baz=173,SNR=25
L58A S 05 09 35.6
baz=173
BCX Boston College 60.41 358 IAmb IAmb 05 01 37.0
comp=Z,384nm,1.8s
M53A WI Miller and 60.43 350 P 05 01 33.9
baz=168,SNR=91
M53A S 05 09 35.6
baz=168
M53A WI Miller and 60.44 350 IAmb IAmb 05 02 08.1
comp=Z,243nm,0.8s
L57A Andrews Acres 60.47 353 P 05 01 34.1
baz=172,SNR=29
L57A S 05 09 36.6
baz=172
L59A Walton 60.48 355 P 05 01 34.3
baz=174,SNR=21
L59A S 05 09 36.4
baz=174
ALLY Alegheny Colle 60.55 351 IAmb IAmb 05 01 37.4
comp=Z,253nm,0.6s
BINY Binghamton 60.57 354 P 05 01 34.9
baz=173,SNR=34
BINY S 05 09 37.6
baz=173
BINY Binghamton 60.57 354 IAmb IAmb 05 01 39.1
comp=Z,151nm,0.8s
L61B Northampton 60.58 357 P 05 01 34.3
baz=176,SNR=17
L61B S 05 09 37.8
baz=176
M51A Elyria 60.59 349 P 05 01 34.4
baz=166,SNR=54
M51A S 05 09 36.0
baz=166
HRV Adam Dziewonsk 60.59 358 P 05 01 34.7
baz=177
HRV S 05 09 36.9
baz=177
HRV Adam Dziewonsk 60.59 358 P **P** **05 01 34.6 -0.4**
HRV pmax pmax
comp=Z,243nm,1.0s
HRV Adam Dziewonsk 60.59 358 P **P** **05 01 34.6 -0.4**
HRV IAmb IAmb 05 01 39.0
comp=Z,243nm,0.9s
HRV Adam Dziewonsk 60.59 358 ⇑P **P** **05 01 34.9 0.0**
M52A Chesterland 60.65 350 IAmb IAmb 05 02 09.4
comp=Z,192nm,1.0s
L56A Greenwood 60.68 353 P 05 01 35.3
baz=171,SNR=29
L56A S 05 09 39.0
baz=171
MNTX Cornudas Mount 60.68 325 P 05 01 35.2
baz=140,SNR=218
MNTX S 05 09 41.6
baz=140
L56A Greenwood 60.68 353 IAmb IAmb 05 01 39.0
comp=Z,126nm,0.7s
MNTX Cornudas Mount 60.68 325 IAmb IAmb 05 01 37.4
comp=Z,341nm,1.4s
T35A Soner Cattle 60.72 335 IAmb IAmb 05 02 09.7
comp=Z,355nm,1.1s
SFIN Lafayette 60.76 344 P 05 01 34.5
baz=160,SNR=88
SFIN S 05 09 36.1
baz=160
K63A Dunstable 60.77 358 P 05 01 36.1
baz=177
K63A S 05 09 39.4
baz=177
K63A Dunstable 60.77 358 P **P** **05 01 35.4 -0.7**
K63A **pP** **05 02 07.7 -0.4**
K62A Royalston 60.78 357 P 05 01 36.3
baz=177,SNR=11
K62A S 05 09 38.1
baz=177
K60A Five Rivers En 60.82 356 P 05 01 35.7
baz=175
K60A S 05 09 41.2
baz=175
M50A Fremont 60.83 348 IAmb IAmb 05 01 40.0
comp=Z,187nm,0.8s
K61A Williamstown 60.83 357 P 05 01 36.7
baz=176,SNR=12
K61A S 05 09 40.4
baz=176
L53A Girard 60.87 351 P 05 01 36.6
baz=168,SNR=92
L53A S 05 09 41.4
baz=168
MBO M'Bour 60.90 61 P **P** **05 01 37.8 +0.3**
TRY Troy 60.92 356 IAmb IAmb 05 01 41.0
comp=Z,184nm,0.9s
ERPA Erie 60.99 351 P 05 01 37.4
baz=168,SNR=150
ERPA S 05 09 42.9
baz=168
K59A Cooperstown 61.05 355 P 05 01 37.8
baz=174,SNR=24
K59A S 05 09 45.3
baz=174
WVNY West Valley, N 61.08 352 IAmb IAmb 05 01 41.9
comp=Z,192nm,0.7s
MSTX Muleshoe 61.09 328 P 05 01 38.2
baz=143,SNR=175
MSTX S 05 09 46.5
baz=143
K58A Earlville 61.10 355 P 05 01 38.2
baz=173,SNR=22
K58A S 05 09 43.4
baz=173
K58A Earlville 61.10 355 IAmb IAmb 05 02 11.6
comp=Z,202nm,1.2s
K57A Scipio Center 61.15 354 P 05 01 38.1
baz=172,SNR=23
K57A S 05 09 44.1
baz=172
K56A Middlesex 61.21 353 P 05 01 38.8
baz=171,SNR=24
K56A S 05 09 45.1
baz=171
GC02 Grant County # 61.22 334 P **P** **05 01 39.2 -0.1**
GC02 **pP** **05 02 11.5 +0.1**
RKT Rikitea 61.26 253 *e*S **S** **05 09 51.0 +0.6**
comp=Z,11μm,28.5s
RKT *e*LQ LQ 05 17 17.5
comp=Z,10μm,27.0s
RKT *e*LR LR 05 19 50.9
comp=Z,16μm,40.8s
AMTX Amarillo 61.29 330 P 05 01 39.5
baz=144
AMTX S 05 09 47.9
baz=144
AMTX Amarillo 61.29 330 IAmb IAmb 05 02 19.0
comp=Z,715nm,1.8s
U32A Winter Ranch, 61.30 333 IAmb IAmb 05 02 15.9
comp=Z,331nm,0.9s
MMNY Mt. Morris Dam 61.31 353 IAmb IAmb 05 01 43.1
comp=Z,174nm,0.6s
J62A Henniker 61.32 358 P 05 01 39.8
baz=177,SNR=7.3
J62A S 05 09 47.8
baz=177
KAN14 Manchester OK 61.35 334 IAmb IAmb 05 02 14.5
comp=Z,589nm,1.3s
J63A Strafford 61.35 358 P 05 01 40.1
baz=178
J63A S 05 09 48.7
baz=178
J60A Lant Hill Farm 61.41 356 P 05 01 40.2
baz=175,SNR=15
J60A S 05 09 49.4
baz=175
KAN01 Argonia South 61.43 334 P **P** **05 01 40.7 0.0**
KAN01 pP **pP** **05 02 11.9 -1.0**
J61A Chester 61.47 357 P 05 01 41.2
baz=176,SNR=9.8
J61A S 05 09 50.7
baz=176
HDIL Hopedale 61.52 343 P 05 01 39.9
baz=158,SNR=75
HDIL S 05 09 46.2
baz=158
KAN10 Anthony SW Sta 61.55 334 IAmb IAmb 05 02 14.6
comp=Z,426nm,1.3s
ACCN Adirondack Com 61.57 356 P **P** **05 01 41.5 0.0**
L48A N Adams 61.63 347 IAmb IAmb 05 01 44.7
comp=Z,330nm,0.7s
J59A Piesco 61.70 356 P 05 01 42.5
baz=174,SNR=32
J59A S 05 09 52.6
baz=174
J56A Wolcott 61.73 354 P 05 01 42.4
baz=172,SNR=8.4
J56A S 05 09 51.4
baz=172
J57A Williamstown 61.77 354 P 05 01 42.4
baz=173,SNR=16
J57A S 05 09 51.7
baz=173
MEDO Medina 61.80 352 P **P** **05 01 42.3 -0.8**
AAM Ann Arbor 61.81 348 P 05 01 42.7
baz=164,SNR=17
AAM S 05 09 51.8
baz=164
HNH Hanover 61.82 357 IAmb IAmb 05 02 44.8
comp=Z,247nm,1.5s
J55A Hilton 61.83 353 IAmb IAmb 05 01 51.7
comp=Z,228nm,1.4s
J54A Appleton 61.93 352 IAmb IAmb 05 02 44.1
comp=Z,380nm,1.6s
I62A Tamworth 61.95 358 P 05 01 43.6
baz=178,SNR=7.1
I62A S 05 09 56.2
baz=178
I58A Old Forge 61.96 355 P 05 01 44.1
baz=174,SNR=30
I58A S 05 09 55.2
baz=174
I64A Boothbay 61.97 360 P 05 01 44.0
baz=180
I64A S 05 09 56.6
baz=180
HSIG 62.00 319 P **P** **05 01 45.2 +0.5**
HSIG IAmb IAmb 05 01 47.8
comp=Z,844nm,1.7s
I60A Shoreham 62.01 357 P 05 01 44.6
baz=176,SNR=24
I60A S 05 09 55.9
baz=176
K50A Casco 62.07 349 IAmb IAmb 05 01 48.1
comp=Z,343nm,0.9s
I63A Otisfield 62.11 359 P 05 01 45.5
baz=178,SNR=9.0
I63A S 05 09 57.9
baz=178
N41A Harden Midland 62.12 341 P **P** **05 01 44.3 -0.9**
N41A **pP** **05 02 16.2 -1.2**
I57A Carthage 62.27 355 P 05 01 46.5
baz=173,SNR=9.3
I57A S 05 09 57.9
baz=173
HQIL Hanson Quary C 62.29 344 P **P** **05 01 45.1 -1.2**
HQIL IAmb IAmb 05 01 49.1
comp=Z,330nm,1.0s
HQIL **pP** **05 02 17.1 -1.5**
LBNH Lisbon 62.34 358 P 05 01 47.3
baz=177,SNR=13
LBNH S 05 10 02.8
baz=177
LBNH Lisbon 62.34 358 P **P** **05 01 46.5 -0.2**
LBNH pmax pmax
comp=Z,130nm,0.9s
LBNH Lisbon 62.34 358 P **P** **05 01 46.5 -0.2**
H58A Gabriels 62.63 356 P 05 01 48.5
baz=175,SNR=29
H58A S 05 10 04.1
baz=175
H61A Lyndonville 62.63 358 P 05 01 48.8
baz=177,SNR=28
H61A S 05 10 05.7
baz=177
KGNO Kingston 62.63 354 ⇓P **P** **05 01 48.9 +0.3**
121A Cookes Peak, D 62.64 324 P 05 01 50.2
baz=138,SNR=189
121A S 05 10 07.4
baz=138
H62A Milan 62.65 358 P 05 01 49.1
baz=178,SNR=5.5
H62A S 05 10 05.5
baz=178
KSU1 Kansas State U 62.65 336 P 05 01 48.3
baz=151,SNR=131
KSU1 S 05 10 04.9
baz=151
KSU1 Kansas State U 62.65 336 IAmb IAmb 05 02 24.2
comp=Z,449nm,0.8s
KSU1 Kansas State U 62.65 336 ⇑P **P** **05 01 48.4 -0.4**
319A Douglas 62.66 322 IAmb IAmb 05 01 51.6
comp=Z,312nm,0.8s
L44A Lake County Fo 62.66 344 P 05 01 47.5
baz=160,SNR=8.0
L44A S 05 09 59.2
baz=160

L44A Lake County Fo 62.66 344 P P 05 01 47.5 -1.3
L44A pP 05 02 19.1 -1.9
H64A Troy 62.69 360 P 05 01 49.0
baz=180,SNR=8.5
H64A S 05 10 04.3
baz=180
H60A Morristown 62.69 357 P 05 01 49.4
baz=176,SNR=10.0
H60A S 05 10 06.4
baz=176
H63A New Sharon 62.71 359 P 05 01 48.8
baz=179,SNR=18
H63A S 05 10 06.0
baz=179
H65A Eastbrook 62.75 1 P 05 01 48.9
baz=181,SNR=12
H65A S 05 10 03.7
baz=181
H57A Richville 62.77 355 P 05 01 49.4
baz=173,SNR=56
H57A S 05 10 04.0
baz=173
EMMW East Machias 62.78 1 P P 05 01 49.7 +0.2
I51A Listowel 62.80 350 P 05 01 49.6
baz=167,SNR=30
I51A S 05 10 04.1
baz=167
H59A Cadyville 62.83 356 P 05 01 50.0
baz=175,SNR=22
H59A S 05 10 06.7
baz=175
H66A Whiting 62.85 2 P 05 01 50.3
baz=182,SNR=13
H66A S 05 10 06.0
baz=182
LONY Lake Ozonia 62.86 356 P 05 01 50.5
baz=174,SNR=30
HAL Halifax 62.89 4 IAmb IAmb 05 01 52.8
comp=Z,253nm,0.7s
J47A Sunmer 62.95 347 IAmb IAmb 05 01 54.1
comp=Z,468nm,0.9s
DELO Deloro Mine 63.04 353 P P 05 01 50.7 -0.5
VNA3 Neumayer Olymp 63.13 162 P P 05 01 52.5 +0.8
VNA3 Neumayer Olymp 63.13 162 PP PP 05 04 13.4 +1.7
VNA3 Neumayer Olymp 63.13 162 PcP PcP 05 02 26.1 -2.0
G63A Kingsbury 63.16 360 P 05 01 52.4
baz=180,SNR=9.6
G63A S 05 10 09.6
baz=180
H53A Bobcaygeon 63.21 352 P 05 01 52.3
baz=170,SNR=26
H53A S 05 10 10.0
baz=170
G60A Masonville 63.21 358 P 05 01 53.3
baz=177,SNR=12
G60A S 05 10 14.0
baz=177
G65A Princeton 63.26 1 P 05 01 52.6
baz=182,SNR=20
G65A S 05 10 11.9
baz=182
G65A Princeton 63.27 1 IAmb IAmb 05 01 55.4
comp=Z,193nm,0.8s
G62A West of Eustis 63.28 359 P 05 01 53.4
baz=179,SNR=32
G62A S 05 10 14.1
baz=179
G62A West of Eustis 63.28 359 IAmb IAmb 05 02 27.8
comp=Z,319nm,1.1s
G64A Maxfield 63.30 0 P 05 01 52.4
baz=180,SNR=15
G64A S 05 10 13.1
baz=180
PKME Peaks-Kenny Pk 63.31 360 P 05 01 53.1
baz=180,SNR=10
PKME S 05 10 13.4
baz=180
Y22D IRIS PASSCAL I 63.32 325 P 05 01 54.7
baz=140
Y22D S 05 10 16.4
baz=140
VNA1 Neumayer--Stat 63.33 161 P P 05 01 54.1 +1.3
VNA1 Neumayer--Stat 63.33 161 PP PP 05 04 12.8 -0.6
VNA1 Neumayer--Stat 63.33 161 PcP PcP 05 02 27.8 -1.0
G58A Ormstown 63.35 356 P 05 01 53.5
baz=175,SNR=32
G58A S 05 10 14.2
baz=175
G61A St-Isidore-de- 63.36 358 P 05 01 54.0
baz=178,SNR=21
G61A S 05 10 15.0
baz=178
G57A Newington 63.37 355 P 05 01 53.3
baz=174,SNR=29
G57A S 05 10 13.1
baz=174
SADO Sadowa 63.47 352 P P 05 01 53.9 -0.2
comp=Z,64nm,0.7s,baz=184,slow=6.4,SNR=42
SADO pP pP 05 02 26.3 0.0
comp=Z,91nm,0.9s,baz=183,slow=6.3,SNR=5.4
SADO Sadowa 63.47 352 IAmb IAmb 05 02 30.2
comp=Z,479nm,1.8s
SADO Sadowa 63.47 352 ⇓P P 05 01 53.9 -0.2
CBKS Cedar Bluff 63.66 334 P 05 01 55.8
baz=148,SNR=81
CBKS S 05 10 20.0
baz=148
CBKS Cedar Bluff 63.67 334 IAmb IAmb 05 02 35.3
comp=Z,609nm,1.2s
CBKS Cedar Bluff 63.67 334 ⇓P P 05 01 56.0 +0.4
MNTQ Montreal, Queb 63.67 357 ⇓P P 05 01 55.9 +0.5
VNA2 Neumayer--Watz 63.69 161 P P 05 01 56.2 +0.8
baz=290,slow=7.8
VNA2 Neumayer--Watz 63.69 161 PKiKP PKiKP 05 08 39.3 +1.0
VNA2 Neumayer--Watz 63.69 161 PP PP 05 04 15.9 -0.8
VNA2 Neumayer--Watz 63.69 161 PcP PcP 05 02 29.5 -0.8
ANMO Albuquerque 63.74 326 P 05 01 56.9
baz=140
ANMO S 05 10 20.5
baz=140
ANMO Albuquerque 63.74 326 P P 05 01 57.0 +0.6
comp=Z,58nm,0.7s,baz=128,slow=6.5,SNR=301
ANMO pP pP 05 02 28.8 +0.2
comp=Z,77nm,0.9s,baz=143,slow=8.2,SNR=5.1
ANMO PKPPKP P'P'df 05 30 47.6 -1.0
comp=Z,1.0nm,0.7s,baz=227,slow=2.7,SNR=3.6
ANMO Albuquerque 63.74 326 P P 05 01 56.2 -0.2
ANMO Albuquerque 63.74 326 ⇓P P 05 01 57.0 +0.6
F63A Nahmakanta, Br 63.75 0 P 05 01 56.1
baz=180,SNR=6.6
F63A S 05 10 19.2
baz=180
F63A Nahmakanta, Br 63.75 0 P P 05 01 55.9 0.0
F64A Sherman 63.91 1 P 05 01 56.6
baz=181,SNR=25
F64A S 05 10 20.2
baz=181
F64A Sherman 63.91 1 IAmb IAmb 05 01 59.3
comp=Z,143nm,0.8s
SCIA State Center 63.94 340 P 05 01 56.3
baz=155,SNR=24
SCIA S 05 10 18.3
baz=155
G54A Lake Saint Pet 63.96 353 P 05 01 57.2
baz=171,SNR=23
G54A S 05 10 20.0
baz=171
JFWS Jewell Farm 63.97 343 P 05 01 56.9
baz=158,SNR=124
JFWS S 05 10 19.2
baz=158
F59A Saint Guilaume 63.98 357 P 05 01 57.9
baz=176
F59A S 05 10 20.0
baz=176
GAC Glen Almond 64.01 355 ⇑P P 05 01 57.5 -0.1
I45A Fountain 64.02 346 IAmb IAmb 05 02 30.8
comp=Z,878nm,1.7s
LMN Caledonia Moun 64.02 3 P P 05 01 56.8 -0.9
LMN IAmb IAmb 05 01 59.9
comp=Z,226nm,0.8s
F61A St Evariste 64.04 359 P 05 01 57.6
baz=178,SNR=14
F61A S 05 10 21.3
baz=178
F58A St-Lin Laurent 64.05 356 P 05 01 57.5
baz=175
F58A S 05 10 21.0
baz=175
F57A Harrington 64.05 356 P 05 01 57.5
baz=174
F57A S 05 10 20.4
baz=174
F60A Warwick 64.06 358 P 05 01 57.8
baz=177,SNR=17
F60A S 05 10 22.4
baz=177
TUC Tucson 64.22 321 P 05 02 00.2
baz=136
TUC S 05 10 26.8
baz=136
TUC Tucson 64.22 321 P P 05 01 59.8 +0.4
TUC pmax pmax
comp=Z,178nm,1.2s
TUC Tucson 64.22 321 P P 05 01 59.8 +0.4
TUC Tucson 64.22 321 ⇓P P 05 02 00.1 +0.7
T25A Trinidad 64.41 329 P 05 02 01.4
baz=143,SNR=104
T25A S 05 10 31.0
baz=143
T25A Trinidad 64.42 329 IAmb IAmb 05 02 37.6
comp=Z,321nm,1.2s
GLMI Grayling 64.43 348 P 05 02 00.2
baz=164,SNR=31
GLMI S 05 10 23.3
baz=164
E60A Ste Agathe de 64.45 358 P 05 02 00.9
baz=178
E60A S 05 10 27.1
baz=178
E63A Oxbow 64.47 1 P 05 02 00.6
baz=181,SNR=11
E63A S 05 10 28.6
baz=181
E63A Oxbow 64.47 1 P P 05 02 01.0 +0.4
E64A Bridgewater 64.48 1 P 05 02 00.6
baz=181,SNR=11
E64A S 05 10 26.4
baz=181
E61A Lac Etchemin 64.49 359 P 05 02 01.6
baz=179,SNR=8.0
E61A S 05 10 27.1
baz=179
ALGO Algonquin Park 64.50 353 P 05 02 00.4
baz=171,SNR=33
ALGO S 05 10 27.4
baz=171
E58A La Victoria 64.53 357 P 05 02 00.9
baz=176,SNR=45
E58A S 05 10 27.0
baz=176
E59A St. Maurice 64.60 357 P 05 02 01.9
baz=176,SNR=6.3
E59A S 05 10 28.4
baz=176
E55A Montcerf-Lytto 64.80 355 P 05 02 02.7
baz=173,SNR=19
E55A S 05 10 30.3
baz=173
E56A St. Veronique 64.81 356 P 05 02 02.6
baz=174,SNR=40
E56A S 05 10 31.0
baz=174
D60A Saint Jean D'O 64.98 359 P 05 02 04.1
baz=178,SNR=8.1
D60A S 05 10 34.4
baz=178
I40A Norwalk 64.98 343 IAmb IAmb 05 02 38.7
comp=Z,406nm,0.8s
KSCO Kaye Shedlock' 65.09 332 P 05 02 05.5
baz=145,SNR=62
KSCO S 05 10 37.7
baz=145
KSCO Kaye Shedlock' 65.09 332 IAmb IAmb 05 02 42.5
comp=Z,528nm,1.1s
D63A Stockholm 65.09 1 P 05 02 05.0
baz=181,SNR=20
D63A S 05 10 35.8
baz=181
D59A Saint-Raymond 65.10 358 P 05 02 05.1
baz=177
D59A S 05 10 35.1
baz=177
214A Organ Pipe Nat 65.19 320 P 05 02 06.9
baz=134,SNR=289
214A S 05 10 41.6
baz=134
D58A Chemin du LacG 65.23 357 P 05 02 05.5
baz=176,SNR=77
D58A S 05 10 35.9
baz=176
BGNE Belgrade 65.24 336 P 05 02 06.0
baz=150,SNR=141
BGNE S 05 10 37.6
baz=150
D61A St Aubert, Com 65.25 359 P 05 02 05.7
baz=179,SNR=7.6
D61A S 05 10 37.4
baz=179
D56A ZEC Mazanza, M 65.29 356 P 05 02 05.7
baz=174,SNR=41
D56A S 05 10 37.6
baz=174
D55A Sainte-Anne-du 65.31 355 P 05 02 05.9
baz=173,SNR=58
D55A S 05 10 36.1
baz=173
PIX Pinacate 65.32 319 IAmb IAmb 05 02 09.5
comp=Z,454nm,1.7s
SNAA Sanae 65.33 161 P P 05 02 06.7 +0.7
SNAA Sanae 65.33 161 PP PP 05 04 30.2 -0.8
SNAA Sanae 65.33 161 PcP PcP 05 02 38.3 +1.1
SNAA Sanae 65.33 161 S S 05 10 41.1 +1.6
comp=Z,6.9nm,1.2s,baz=43,slow=21,SNR=16
SNAA Sanae 65.33 161 *d* iP P 05 02 06.3 +0.3
SNAA *i* *PP PcP 05 02 38.3 +1.1
SNAA Sanae 65.33 161 P P 05 02 06.9 +0.9
SNAA Sanae 65.33 161 ⇓P P 05 02 06.4 +0.3
BATG Bathurst New B 65.39 2 IAmb IAmb 05 02 43.8
comp=Z,808nm,1.9s
SDCO Great Sand Dun 65.42 329 S 05 10 42.6
baz=142
LATQ La Tuque 65.51 357 P 05 02 07.3
baz=176,SNR=18
LATQ S 05 10 39.3
baz=176
W18A Petrified Fore 65.64 324 P 05 02 09.7
baz=137,SNR=65
W18A S 05 10 45.7
baz=137
W18A Petrified Fore 65.64 324 IAmb IAmb 05 02 11.9
comp=Z,609nm,1.5s
SFX San Felipe 65.85 318 P P 05 02 11.2 +1.3
SFX IAmb IAmb 05 02 13.2
comp=Z,168nm,0.9s
S22A 4UR Ranch, Cre 66.08 328 P 05 02 12.3
baz=141,SNR=164
S22A S 05 10 50.9
baz=141
F42A Maple Grove Fa 66.08 346 IAmb IAmb 05 02 45.0
comp=Z,808nm,1.5s
Q24A Divide 66.22 330 P 05 02 13.1
baz=142,SNR=179
Q24A S 05 10 53.7
baz=142
SPX San Pedro Mart 66.24 317 IAmb IAmb 05 02 16.1
comp=Z,373nm,1.6s
E43A Lone Tree Farm 66.41 347 IAmb IAmb 05 02 46.2
comp=Z,839nm,1.5s
OGNE Ogallala 66.41 333 P 05 02 13.8
baz=146,SNR=19
OGNE S 05 10 55.1
baz=146
OGNE Ogallala 66.42 333 P P 05 02 13.8 +0.4
OGNE IAmb IAmb 05 02 49.8
comp=Z,689nm,1.4s
MVCO Mesa Verde 66.53 327 P 05 02 15.5
baz=139,SNR=213
MVCO S 05 10 56.8
baz=139
VLDQ Val d'Or 66.57 354 IAmb IAmb 05 02 51.1
comp=Z,343nm,1.4s
COWI Conover 66.65 345 IAmb IAmb 05 02 48.1
comp=Z,840nm,1.4s
ECSD EROS Data Cent 66.70 339 P 05 02 15.0
baz=152,SNR=190
ECSD S 05 10 55.9
baz=152
ECSD EROS Data Cent 66.70 339 IAmb IAmb 05 02 48.6
comp=Z,774nm,1.4s
SPMN Marine on St. 66.82 342 P 05 02 15.2
baz=156,SNR=189
SPMN S 05 10 54.9
baz=156
WUAZ Wupatki 66.85 323 P 05 02 17.7
baz=136,SNR=130
WUAZ S 05 11 02.8
baz=136
WUAZ Wupatki 66.85 323 IAmb IAmb 05 02 19.9
comp=Z,273nm,1.0s
WUAZ Wupatki 66.85 323 ⇓P P 05 02 17.8 +1.4
ISCO Idaho Springs 67.09 330 P 05 02 18.7
baz=142,SNR=211
ISCO S 05 11 04.0
baz=142
ISCO Idaho Springs 67.10 330 IAmb IAmb 05 02 20.9
comp=Z,532nm,1.6s
GLA Glamis 67.18 319 P 05 02 19.6
baz=133,SNR=13
GLA S 05 11 06.6
baz=133
GLA Glamis 67.18 319 IAmb IAmb 05 02 22.0
comp=Z,742nm,1.8s
ESJX Sierra Juarez 67.19 318 IAmb IAmb 05 02 22.4
comp=Z,438nm,1.6s
SMCO Snowmass 67.26 329 IAmb IAmb 05 02 21.7
comp=Z,173nm,0.8s
SMCO Snowmass 67.26 329 ⇓P P 05 02 20.2 +1.0
PV01 Paradox Valley 67.27 327 IAmb IAmb 05 02 21.6
comp=Z,207nm,0.8s
PV15 Paradox Valley 67.38 327 IAmb IAmb 05 02 58.7
comp=Z,429nm,1.0s
PV03 Paradox Valley 67.50 327 P P 05 02 20.6 +0.1
H07S1 FLORES T-PHASE 67.52 31 *eP* P 05 02 20.7 +0.4
PV12 Saucer Basin, 67.53 327 IAmb IAmb 05 02 23.9
comp=Z,202nm,0.9s
PV18 Skein Mesa, Pa 67.53 327 IAmb IAmb 05 02 22.7
comp=Z,435nm,1.7s
PV11 David Mesa, Pa 67.55 327 IAmb IAmb 05 02 23.8
comp=Z,844nm,1.9s
ICQ Pointe Anglais 67.59 1 ⇓P P 05 02 21.3 +0.8
PV19 Morning Glory 67.61 327 IAmb IAmb 05 02 24.1
comp=Z,383nm,1.6s
PDMCI Parker Dam,Lak 67.61 321 P 05 02 22.0
baz=134,SNR=69
PDMCI S 05 11 10.7
baz=134
PV04 Paradox Valley 67.64 327 IAmb IAmb 05 02 24.5
comp=Z,578nm,1.8s
PV14 Lion Creek, Pa 67.68 327 IAmb IAmb 05 02 24.6
comp=Z,359nm,1.5s
PV22 Blue Mesa, Par 67.68 327 IAmb IAmb 05 02 24.7
comp=Z,557nm,1.6s
PV10 Paradox Valley 67.69 327 IAmb IAmb 05 02 24.2
comp=Z,742nm,2.0s
IKP In-Ko-Pah, Jac 67.72 318 P 05 02 23.3
baz=132,SNR=60
IKP S 05 11 14.0
baz=132
SWSC Sam W. Stewart 67.72 319 P 05 02 23.0
baz=132,SNR=34
SWSC S 05 11 15.0
baz=132
LIC Lamto 67.80 75 *eP* P 05 02 21.9 -0.7
comp=Z,3μm,1.1s
TIC Toumodi 67.97 75 *eP* P 05 02 22.8 -0.9
BC3 Big Chuckawall 67.97 319 P 05 02 24.8
baz=132,SNR=91
BC3 S 05 11 17.0
baz=132
TKX Tecate 67.98 318 P P 05 02 24.6 +1.2
TKX IAmb IAmb 05 02 25.9
comp=Z,921nm,1.7s
W13A Hualapai Mount 68.01 322 IAmb IAmb 05 02 27.6
comp=Z,795nm,1.8s
U15A North Rim 68.02 324 IAmb IAmb 05 02 27.8
comp=Z,960nm,1.6s
MONP2 Monument Peak 68.07 318 P 05 02 25.6
baz=131,SNR=76
MONP2 S 05 11 16.9
baz=131
BAR Barrett 68.09 318 IAmb IAmb 05 02 27.5
comp=Z,733nm,1.6s
DRLN Deer Lake 68.10 8 IAmb IAmb 05 02 25.3
comp=Z,287nm,0.8s
DRLN Deer Lake 68.10 8 ⇓P P 05 02 23.4 -0.3
N23A Red Feather La 68.11 331 P 05 02 25.3
baz=142,SNR=91
N23A S 05 11 14.9
baz=142
KIC Kosan Boka 68.12 75 *eP* P 05 02 24.1 -0.5
comp=Z,2μm,1.0s
IRM Iron Mountain 68.12 320 P 05 02 25.6
baz=133,SNR=221
IRM S 05 11 17.3
baz=133
DBIC Dimbokro 68.13 75 P P 05 02 24.2 -0.4
comp=Z,1μm,0.9s,baz=226,slow=6.4,SNR=480
DBIC S S 05 11 13.8 -1.0
comp=Z,57nm,1.1s,baz=342,slow=19,SNR=8.9
DBIC PKPPKP 05 30 42.7
comp=Z,6.8nm,1.1s,baz=106,slow=6.1,SNR=2.2
DBIC LR LR 05 32 30.9
comp=Z,8μm,18.1s,baz=220,slow=36
DBIC Dimbokro 68.13 75 P P 05 02 24.2 -0.4
DBIC Dimbokro 68.13 75 ⇑P P 05 02 24.2 -0.4
SUSD Miller 68.15 337 P 05 02 24.0
baz=150,SNR=17
SUSD S 05 11 14.1
baz=150
SUSD Miller 68.15 337 IAmb IAmb 05 02 58.2
comp=Z,557nm,1.1s
PCAN Candelaria 68.20 33 *eP* P 05 02 25.2 +0.6
comp=Z,422nm,1.2s
PHWY Pilot Hill 68.21 331 IAmb IAmb 05 02 29.5
comp=Z,392nm,1.5s
NEE2 Needles Airpor 68.22 321 P 05 02 26.0
baz=133
NEE2 S 05 11 18.2
baz=133
MATQ Matagami 68.22 354 P 05 02 24.8
baz=171,SNR=33
MATQ S 05 11 10.9
baz=171
PICO Pico 68.26 33 *eP* P 05 02 25.9 +0.8
comp=Z,677nm,1.4s
PID Ribeirinha 68.38 34 *eP* P 05 02 27.4 +1.7
comp=Z,510nm,1.1s
F33A 5 Mile Ranch, 68.46 340 IAmb IAmb 05 03 01.8
comp=Z,315nm,0.8s
109C Camp Elliot, M 68.50 318 P 05 02 27.8
baz=131,SNR=20
109C S 05 11 21.8
baz=131
109C Camp Elliot, M 68.50 318 IAmb IAmb 05 03 00.9
comp=Z,363nm,1.6s
ROSA Rosais 68.52 33 *eP* P 05 02 27.7 +1.1
comp=Z,551nm,1.2s
ROSA Rosais 68.52 33 IAmb IAmb 05 02 28.9
comp=Z,474nm,1.3s
KAPO Kapuskasing 68.53 351 ⇑P P 05 02 26.0 -0.3
KAPO ⇑P P 05 02 28.4 +2.0
PMAN Manadas 68.53 34 *eP* P 05 02 27.7 +1.0
comp=Z,490nm,0.9s
BELC Belle Mtn. Jos 68.54 319 P 05 02 28.4
baz=132,SNR=26
BELC S 05 11 23.7
baz=132
TPFO Pinon Flats 68.56 319 P 05 02 28.4
baz=132,SNR=97
TPFO S 05 11 25.4
baz=132
XPFO Pion Flat 68.57 319 P P 05 02 28.2 +1.1
XPFO Pion Flat 68.57 319 ⇓P P 05 02 28.6 +1.5
XPFO ⇓P P 05 02 28.6 +1.5
PFO Pinyon Flats O 68.57 319 P P 05 02 28.7 +1.5
comp=Z,116nm,0.8s,baz=123,slow=5.3,SNR=153
PFO Pinyon Flats O 68.57 319 *d* iP P 05 02 28.2 +1.1
PFO pmax pmax
comp=Z,224nm,0.9s
PFO Pinyon Flats O 68.57 319 P P 05 02 28.3 +1.1
PFO Pinyon Flats O 68.57 319 P 05 02 28.5
baz=132,SNR=108

PFO S 05 11 24.1
baz=132
O20A White River Ci 68.62 329 P 05 02 28.4
baz=140,SNR=165
O20A S 05 11 21.7
baz=140
O20A White River Ci 68.62 329 IAmb IAmb 05 02 32.8
comp=Z,357nm,1.1s
PKCU Pink Cliffs 68.76 324 IAmb IAmb 05 03 04.6
comp=Z,415nm,1.4s
GMRC Granite Mounta 68.86 320 P 05 02 30.6
baz=132,SNR=179
GMRC S 05 11 26.6
baz=132
EYMN Ely 68.96 344 P 05 02 28.6
baz=157,SNR=120
EYMN S 05 11 19.3
baz=157
ADH Angra Heroismo 69.00 34 *e*P **P 05 02 30.4 +0.9**
comp=Z,461nm,1.2s
SRU San Rafael Swe 69.01 327 IAmb IAmb 05 02 32.1
comp=Z,184nm,0.8s
MURC Murrieta 69.03 318 P 05 02 31.3
baz=131,SNR=39
MURC S 05 11 30.1
baz=131
PSCM Serra do Cume 69.10 34 *e*P **P 05 02 31.3 +1.1**
comp=Z,331nm,1.0s
PAGU Agualva, Azore 69.11 34 *e*P **P 05 02 32.8 +2.6**
comp=Z,388nm,1.1s
MTPU Mount Pierson 69.12 325 IAmb IAmb 05 02 34.3
comp=Z,990nm,2.0s
PDA Ponta Delgada 69.20 36 *e*P **P 05 02 31.6 +0.8**
comp=Z,543nm,1.3s
Q16A Castle Valley 69.21 326 P **P 05 02 32.0 +0.9**
PSET Sete Cidades 69.22 36 *e*P **P 05 02 31.8 +0.8**
comp=Z,702nm,1.2s
TAOE Nuku Hiva Isla 69.26 267 *e*P **P 05 02 33.3 +1.4**
comp=Z,564nm,1.3s
TAOE Nuku Hiva Isla 69.26 267 *e*T T 06 16 45.2
comp=Z,65nm,0.2s
BBRC Big Bear Solar 69.29 319 P 05 02 33.8
baz=131,SNR=9.8
BBRC S 05 11 33.0
baz=131
GRON Grota Negra 69.29 36 *e*P **P 05 02 32.2 +0.8**
comp=Z,625nm,1.3s
CMLA Cha da Macela 69.29 36 *e*P **P 05 02 31.9 +0.5**
comp=Z,496nm,1.3s
HEC Hector,Ludlow 69.30 320 P 05 02 33.4
baz=132,SNR=149
HEC S 05 11 32.2
baz=132
SCI2 San Clemente I 69.49 317 P 05 02 34.2
baz=130,SNR=5.4
SCI2 S 05 11 33.2
baz=130
BART Pico Bartolome 69.50 36 *e*P **P 05 02 33.8 +1.1**
comp=Z,476nm,1.0s
TMUT Trail Mountain 69.51 326 IAmb IAmb 05 02 36.3
comp=Z,580nm,1.7s
TCRU Three Creeks R 69.67 325 IAmb IAmb 05 02 36.9
comp=Z,202nm,0.8s
CIS Catalina Islan 69.67 318 P 05 02 35.4
baz=130,SNR=8.2
CIS S 05 11 37.5
baz=130
SHPR Sheep Range 69.73 322 IAmb IAmb 05 02 37.3
comp=Z,189nm,0.8s
BFSC Mount Baldy Ra 69.73 319 P 05 02 35.6
baz=131,SNR=71
BFSC S 05 11 38.2
baz=131
RRX Edison Barstow 69.74 320 P 05 02 36.0
baz=132,SNR=7.4
RRX S 05 11 36.7
baz=132
K22A Casper 69.77 332 P 05 02 35.1
baz=142,SNR=107
K22A S 05 11 34.6
baz=142
FMP Fort Macarthur 69.80 318 P 05 02 36.0
baz=130
FMP S 05 11 37.3
baz=130
D32A Dogwood Acres, 69.83 340 IAmb IAmb 05 03 10.5
comp=Z,473nm,0.8s
NVL N'lazarevskaya 69.85 160 *e*P **P 05 02 34.7 +0.3**
NVL *e* 05 03 05.3
RSSD Black Hills 69.86 334 P 05 02 35.8
baz=145
RSSD S 05 11 36.5
baz=145
RSSD Black Hills 69.87 334 P **P 05 02 35.3 +0.2**
RSSD pmax pmax
comp=Z,583nm,1.7s
RSSD Black Hills 69.87 334 P **P 05 02 35.3 +0.2**
RSSD IAmb IAmb 05 03 11.2
comp=Z,583nm,1.7s
RSSD Black Hills 69.87 334 ⇓P **P 05 02 35.7 +0.6**
GSC Goldstone, Bar 69.90 320 P 05 02 36.8
baz=132,SNR=128
GSC S 05 11 39.3
baz=132
GSC Goldstone, Bar 69.90 320 IAmb IAmb 05 02 39.1
comp=Z,748nm,1.6s
B35A Bob, Littlefor 69.94 343 IAmb IAmb 05 03 09.5
comp=Z,856nm,1.3s
MWC Mount Wilson 69.98 318 IAmb IAmb 05 02 39.5
comp=Z,967nm,1.8s
SHOC Shoshone, Teco 69.98 321 P 05 02 36.5
baz=132,SNR=9.6
SHOC S 05 11 40.2
baz=132
PASC Pasadena Art C 70.02 318 IAmb IAmb 05 02 39.6
comp=Z,565nm,1.4s
DECC Green Verdugo 70.17 318 P 05 02 38.4
baz=130,SNR=30
DECC S 05 11 42.5
baz=130
PRN Pahroc Range 70.28 323 IAmb IAmb 05 02 41.7
comp=Z,692nm,1.7s
PRN Pahroc Range 70.28 323 ⇑P **P 05 02 39.5 +1.9**
SNCC San Nicolas Is 70.29 317 P 05 02 38.6
baz=129,SNR=6.6
SNCC S 05 11 43.5
baz=129
EDW2 Edwards Air Fo 70.36 319 P 05 02 39.1
baz=131,SNR=72
EDW2 S 05 11 43.3
baz=131
PSUT Pine Spring 70.39 324 IAmb IAmb 05 02 41.3
comp=Z,207nm,0.8s
NLU North Lily Min 70.45 326 IAmb IAmb 05 02 42.1
comp=Z,787nm,1.9s
AGMN Agassiz Nation 70.50 341 P 05 02 38.4
baz=153,SNR=168
AGMN S 05 11 39.1
baz=153
AGMN Agassiz Nation 70.50 341 IAmb IAmb 05 03 14.6
comp=Z,296nm,0.8s
LRMC Laurel Mtn Rad 70.56 320 P 05 02 40.7
baz=131,SNR=57
LRMC S 05 11 46.5
baz=131
JLU Jordanelle 70.59 327 P **P 05 02 39.9 +0.3**
JLU IAmb IAmb 05 02 42.9
comp=Z,898nm,1.7s
OSI Osito Audit: C 70.65 318 P 05 02 41.1
baz=130,SNR=9.7
OSI S 05 11 47.3
baz=130
TPNV Topopah Spring 70.67 322 P 05 02 42.1
baz=133,SNR=244
TPNV S 05 11 47.9
baz=133
TPNV Topopah Spring 70.67 322 IAmb IAmb 05 02 43.3
comp=Z,265nm,0.8s
TPNV Topopah Spring 70.67 322 ⇓P **P 05 02 42.0 +1.9**
FURC Furnace Creek, 70.71 321 P 05 02 41.8
baz=132,SNR=196
FURC S 05 11 49.7
baz=132
MPMC Manual Prospec 70.82 320 P 05 02 42.1
baz=131,SNR=147
MPMC S 05 11 50.6
baz=131
SCZ2 Santa Cruz Isl 70.83 317 P 05 02 42.1
baz=129,SNR=6.3
SCZ2 S 05 11 49.9
baz=129
TCUT Toone Canyon 70.95 328 IAmb IAmb 05 02 47.0
comp=Z,210nm,0.8s
SPR3 Spring Creek 3 70.98 324 IAmb IAmb 05 02 45.4
comp=Z,891nm,1.8s
DUG Dugway, Tooele 71.01 326 P 05 02 43.5
baz=136,SNR=241
DUG S 05 11 50.4
baz=136
DUG Dugway, Tooele 71.01 326 IAmb IAmb 05 02 45.5
comp=Z,574nm,1.5s
ARVC Arvin 71.04 319 P 05 02 43.7
baz=130,SNR=24
ARVC S 05 11 52.2
baz=130
PMOZ Porto Moniz, M 71.12 45 *e*P **P 05 02 44.1 +1.3**
comp=Z,361nm,0.9s
PMOZ *e*S **S 05 11 54.3 +4.9**
ISA Isabella, Lake 71.17 319 P 05 02 44.5
baz=131,SNR=157
ISA S 05 11 53.9
baz=131
SBC Santa Barbara 71.17 318 P 05 02 44.0
baz=129
SBC S 05 11 53.9
baz=129
ISA Isabella, Lake 71.17 319 IAmb IAmb 05 02 46.7
comp=Z,907nm,1.8s
FUL Funchal 71.22 45 *e*PP PP 05 05 24.5 +1.4
R11A Troy Canyon, C 71.24 323 P 05 02 45.2
baz=134,SNR=162
R11A S 05 11 54.8
baz=134
R11A Troy Canyon, C 71.24 323 IAmb IAmb 05 02 47.5
comp=Z,693nm,1.8s
BW06 Boulder Array 71.27 330 P 05 02 43.9
baz=140,SNR=126
BW06 S 05 11 51.2
baz=140
PDAR Pinedale Array 71.27 330 P **P 05 02 43.8 +0.2**
comp=Z,22nm,0.5s,baz=128,slow=7.3,SNR=153
PDAR pP **pP 05 03 16.8 +0.2**
comp=Z,35nm,0.8s,baz=147,slow=8.3,SNR=5.1
PDAR LR LR 05 37 44.6
comp=Z,2µm,18.9s,baz=143,slow=39
PDAR P4KPbc 05 39 22.2
comp=Z,0.4nm,0.7s,baz=128,slow=6.0,SNR=4.3
PDAR Pinedale Array 71.27 330 P **P 05 02 43.3 -0.3**
MDND Maddock 71.31 339 P 05 02 44.2
baz=150,SNR=57
MDND S 05 11 50.5
baz=150
GRAC Grapevine Rang 71.37 321 P 05 02 45.6
baz=132,SNR=43
GRAC S 05 11 57.1
baz=132
HWUT Hardware Ranch 71.39 328 IAmb IAmb 05 02 47.1
comp=Z,681nm,1.8s
CWC Cottonwood Cre 71.43 320 P 05 02 46.3
baz=131
CWC S 05 11 57.4
baz=131
PKM Mcpherson Peak 71.51 318 P 05 02 46.9
baz=129,SNR=83
PKM S 05 11 57.8
baz=129
SPUT South Promonto 71.62 327 IAmb IAmb 05 02 48.7
comp=Z,793nm,1.7s
BGU Big Grassy Mou 71.65 326 IAmb IAmb 05 02 48.8
comp=Z,588nm,1.6s
VES Vestal, Richgr 71.66 319 P 05 02 47.2
baz=130,SNR=71
VES S 05 12 00.0
baz=130
QSPA South Pole Qui 71.82 180 P **P 05 02 47.3 +0.8**
comp=Z,624nm,1.3s,baz=171,slow=0.9,SNR=227
QSPA pP **pP 05 03 20.4 +1.0**
comp=Z,150nm,0.9s,baz=126,slow=2.1,SNR=6.2
QSPA S **S 05 11 55.6 -1.0**
comp=Z,4.9nm,1.1s,baz=120,slow=5.6,SNR=5.7
QSPA South Pole Qui 71.82 180 P **P 05 02 46.2 -0.3**
QSPA IAmb IAmb 05 03 23.0
comp=Z,396nm,1.1s
QSPA South Pole Qui 71.82 180 ⇓P **P 05 02 47.3 +0.8**
PMPS Porto Santo 71.84 45 *e*P **P 05 02 48.3 +1.4**
comp=Z,762nm,1.6s
PMPS Porto Santo 71.84 45 *e*PP PP 05 05 28.6 +0.2
PMPST Porto Santo, M 71.85 45 *e*P **P 05 02 48.5 +1.5**
comp=Z,732nm,1.3s
SMMC Simmler 71.90 318 P 05 02 49.1
baz=129,SNR=66
SMMC S 05 12 03.6
baz=129
TIN Tinemaha, Big 71.92 321 P 05 02 49.3
baz=131,SNR=29
TIN S 05 12 02.9
baz=131
KOWA Kowa 72.04 68 P **P 05 02 48.1 -0.4**
comp=Z,408nm,0.6s,baz=246,slow=6.1,SNR=616
KOWA S **S 05 11 58.0 -2.4**
comp=Z,33nm,1.1s,baz=145,slow=23,SNR=23
KOWA Kowa 72.04 68 P **P 05 02 47.8 -0.7**
HVU Hansel Valley 72.14 327 IAmb IAmb 05 02 51.6
comp=Z,621nm,1.6s
VOG Valley Oaks Go 72.15 319 P 05 02 48.9
baz=130,SNR=5.6
VOG S 05 12 04.3
baz=130
ULM Lac du Bonnet 72.25 342 P **P 05 02 48.6 -0.4**
comp=Z,172nm,0.7s,baz=153,slow=5.9,SNR=357
ULM pP **pP 05 03 21.8 -0.2**
comp=Z,350nm,0.6s,baz=156,slow=6.1,SNR=13
ULM S **S 05 11 57.4 -4.1**
comp=Z,19nm,0.9s,baz=56,slow=22,SNR=19
ULM Lac du Bonnet 72.25 342 IAmb IAmb 05 03 24.9
comp=Z,359nm,0.7s
ULM Lac du Bonnet 72.25 342 ⇓P **P 05 02 48.6 -0.4**
ULM ⇓P **P 05 02 48.6 -0.4**
PAGB Antelope Grade 72.32 318 IAmb IAmb 05 02 53.6
comp=Z,659nm,1.6s
LOHW Long Hollow 72.41 330 P **P 05 02 50.5 +0.1**
LOHW IAmb IAmb 05 03 29.1
comp=Z,639nm,1.9s
MLAC Mammoth, Mammo 72.67 321 P 05 02 53.6
baz=131,SNR=33
MLAC S 05 12 11.5
baz=131
ELK Elko 72.70 325 P **P 05 02 53.2 +1.0**
comp=Z,70nm,0.7s,baz=131,slow=3.9,SNR=326
ELK pP **pP 05 03 25.8 +0.7**
comp=Z,57nm,0.9s,baz=125,slow=4.3,SNR=5.2
FLWY Flagg Ranch 72.81 330 IAmb IAmb 05 02 58.5
comp=Z,373nm,0.9s
LAO LASA Array 72.85 334 P 05 02 53.6
baz=143,SNR=92
LAO S 05 12 10.2
baz=143
LAO LASA Array 72.85 334 IAmb IAmb 05 03 30.0
comp=Z,782nm,1.4s
NVAR Mina Array Bea 72.87 322 P **P 05 02 54.6 +1.4**
comp=Z,86nm,0.9s,baz=141,slow=5.8,SNR=275
NVAR pP **pP 05 03 26.9 +0.8**
comp=Z,58nm,1.0s,baz=142,slow=6.3,SNR=3.0
NVAR Mina Array Bea 72.87 322 P **P 05 02 54.1 +0.8**
NVAR **pP 05 03 26.5 +0.4**
RLMT Red Lodge 72.94 332 P 05 02 54.4
baz=140,SNR=194
RLMT S 05 12 09.7
baz=140
RLMT Red Lodge 72.94 332 IAmb IAmb 05 03 28.1
comp=Z,348nm,1.2s
H17A Grant Village 72.99 330 P 05 02 55.6
baz=139,SNR=28
H17A S 05 12 13.7
baz=139
H17A Grant Village 72.99 330 IAmb IAmb 05 03 37.9
comp=Z,669nm,1.8s
YMP Mirror Lake Pl 73.05 331 P **P 05 02 54.7 +0.4**
YMP IAmb IAmb 05 03 42.1
comp=Z,402nm,1.2s
YNE Yellowstone No 73.19 331 IAmb IAmb 05 03 00.3
comp=Z,481nm,0.8s
YNR Norris Junctio 73.28 330 P **P 05 02 56.8 +1.3**
YMR Madison River 73.38 330 IAmb IAmb 05 02 59.9
comp=Z,442nm,1.2s
YHH Holmes Hill 73.41 330 IAmb IAmb 05 03 00.1
comp=Z,295nm,0.9s
DGMT Dagmar 73.49 337 P 05 02 57.4
baz=145
DGMT S 05 12 17.6
baz=145
DGMT Dagmar 73.50 337 IAmb IAmb 05 03 31.4
comp=Z,361nm,1.1s
YHB Horse Butte 73.55 330 IAmb IAmb 05 03 00.1
comp=Z,213nm,0.8s
GCMT Greyclif 73.63 332 P **P 05 02 57.9 +0.5**
SAO San Andreas Ge 73.72 319 ⇓P **P 05 02 59.2 +1.2**
YERR Yerington 73.79 322 P **P 05 03 00.1 +1.5**
YERR IAmb IAmb 05 03 02.4
comp=Z,705nm,1.6s
YERR **pP 05 03 32.0 +0.5**
PNTR Pine Nut 74.07 321 IAmb IAmb 05 03 04.3
comp=Z,1µm,1.8s
HLID Hailey 74.26 328 P 05 03 02.7
baz=136,SNR=388
HLID S 05 12 27.7
baz=136
TBI Tubuai 74.29 250 *e*P **P 05 03 03.5 +1.9**
comp=Z,840nm,1.5s
TBI Tubuai 74.29 250 *e*LQ LQ 05 22 50.0
comp=Z,5µm,35.2s
TBI *e*LR LR 05 25 54.3
comp=Z,18µm,34.5s
MEH Mehetia 74.34 256 *e*P **P 05 03 04.0 +1.9**
comp=Z,101nm,1.3s
PAHR Pah Rah Range 74.34 322 IAmb IAmb 05 03 04.9
comp=Z,395nm,0.8s
BOZ Bozeman (W) 74.38 331 P 05 03 02.8
baz=138,SNR=180
BOZ S 05 12 26.6
baz=138
VAH Vaihoa 74.61 259 *e*P **P 05 03 05.6 +2.0**
comp=Z,545nm,1.2s
VAH *e*pP **pP 05 03 34.0 -2.2**
comp=Z,524nm,1.4s
DLMT Dillon 74.67 330 IAmb IAmb 05 03 06.8
comp=Z,461nm,1.6s
AFDM Forest Hills D 74.80 321 IAmb IAmb 05 03 07.4
comp=Z,497nm,1.7s
MFID Camas Ranch 74.88 327 P **P 05 03 05.6 +0.9**
MFID IAmb IAmb 05 03 08.4
comp=Z,681nm,1.3s
EGMT Eagleton 75.38 333 P 05 03 07.7
baz=140,SNR=128
EGMT S 05 12 37.8
baz=140
EGMT Eagleton 75.38 333 IAmb IAmb 05 03 44.7
comp=Z,684nm,1.4s
MCCM Marconi Confer 75.47 319 P **P 05 03 09.4 +1.4**
MCCM **pP 05 03 41.3 +0.2**
MCCM IAmb IAmb 05 03 42.9
comp=Z,586nm,1.5s
MCCM Marconi Confer 75.47 319 ⇓P **P 05 03 09.8 +1.8**
MCCM ⇓P **P 05 03 09.9 +1.8**
ORV Oroville 75.50 321 IAmb IAmb 05 03 43.5
comp=Z,779nm,1.4s
WVOR Wild Horse Val 75.72 325 ⇓P **P 05 03 10.5 +1.0**
PAE Paea 75.79 256 *e*P **P 05 03 12.3 +2.0**
comp=Z,69nm,1.2s
PAE *e*pP **pP 05 03 40.9 -2.2**
comp=Z,53nm,1.2s
PPTF Pamatai, Papee 75.79 256 ⇑P **P 05 03 13.5 +3.0**
PPT2 Papeete2 75.80 256 *e*P **P 05 03 12.6 +2.1**
comp=Z,314nm,1.4s
PPT2 *e*pP **pP 05 03 41.0 -2.3**
comp=Z,190nm,1.5s
PPT2 *e*S **S 05 12 42.6 -0.2**
comp=Z,11µm,28.2s
PPT2 Papeete2 75.80 256 *e*LQ LQ 05 23 27.8
comp=Z,11µm,29.1s
PPT2 *e*LR LR 05 26 38.5
comp=Z,7µm,32.2s
PPT Papeete 75.81 256 P **P 05 03 12.7 +2.2**
comp=Z,191nm,1.1s,baz=94,slow=5.9,SNR=14
PPT LR LR 05 27 31.4
comp=Z,684nm,18.9s,baz=101,slow=28
HOPS Hopland Field 76.11 320 P **P 05 03 13.2 +1.5**
HOPS **pP 05 03 45.1 +0.3**
HOPS IAmb IAmb 05 03 47.0
comp=Z,598nm,1.8s
O03E Paynes Creek 76.14 321 P 05 03 12.3
baz=129,SNR=61
O03E S 05 12 45.8
baz=129
MOD Modoc Plateau 76.30 323 IAmb IAmb 05 03 16.4
comp=Z,199nm,0.8s
MSO Missoula 76.38 330 P 05 03 14.3
baz=137,SNR=89
MSO S 05 12 50.6
baz=137
TORD Torodi Ar. Bea 76.57 71 P **P 05 03 14.0 -0.8**
comp=Z,745nm,1.0s,baz=258,slow=5.0,SNR=592
TORD pP **pP 05 03 48.5 +0.6**
comp=Z,304nm,1.1s,baz=258,slow=5.8,SNR=1.6
TORD PP PP 05 05 59.7 -9.1
comp=Z,71nm,0.8s,baz=250,slow=8.0,SNR=3.7
TORD S **S 05 12 48.6 -2.4**
comp=Z,58nm,1.1s,baz=254,slow=6.1,SNR=26
TORD PKKPbc **PKKPbc 05 22 26.3 +1.2**
comp=Z,1.2nm,0.6s,baz=46,slow=2.1,SNR=5.5
TORD LR LR 05 37 04.2
comp=Z,9µm,18.7s,baz=240,slow=36
TORD Torodi Ar. Bea 76.57 71 P **P 05 03 13.6 -1.2**
TORD IAmb IAmb 05 03 20.2
comp=Z,582nm,0.8s
BMO Blue Mountains 76.64 327 IAmb IAmb 05 03 17.7
comp=Z,1µm,1.7s
O02D Mt. Diablo Mer 76.66 321 P 05 03 15.5
baz=128,SNR=34
O02D S 05 12 52.5
baz=128
WDC Whiskeytown Da 76.76 321 ⇓P **P 05 03 14.9 -0.4**
WDC ⇓P **P 05 03 14.9 -0.4**
KCPM Cahto Peak 76.84 320 IAmb IAmb 05 03 51.5
comp=Z,529nm,1.6s
M04C Macdoel 77.10 322 P 05 03 18.4
baz=129,SNR=37
M04C S 05 12 58.2
baz=129
N02D Trinity Center 77.11 321 P 05 03 17.3
baz=128,SNR=86
N02D S 05 12 56.6
baz=128
I07A Izee 77.29 325 P **P 05 03 19.7 +1.3**
F10A Beach Ranch, E 77.38 328 IAmb IAmb 05 03 26.1
comp=Z,488nm,1.4s
M02C Callahan 77.45 322 P 05 03 19.6
baz=128,SNR=44
M02C S 05 13 00.4
baz=128
YBH Yreka Blue Hor 77.58 322 P **P 05 03 19.9 -0.1**
comp=Z,52nm,0.8s,baz=86,slow=2.1,SNR=101
YBH pP **pP 05 03 53.0 -0.2**
comp=Z,21nm,0.7s,baz=101,slow=5.1,SNR=2.8
K04D Chiloquin, OR 77.59 323 P 05 03 21.0
baz=130,SNR=22
K04D S 05 13 04.1
baz=130
L04D Klamath Falls 77.65 323 P 05 03 21.1
baz=129,SNR=25
L04D S 05 13 03.7
baz=129
KHMM Horse Mountain 77.66 321 IAmb IAmb 05 04 09.2
comp=Z,569nm,1.6s
J05D Fort Rock, OR 77.72 324 P 05 03 22.2
baz=130,SNR=44
J05D S 05 13 06.4
baz=130
PINE Pine Mountain 77.88 324 P **P 05 03 23.1 +1.4**
PINE IAmb IAmb 05 03 24.9
comp=Z,239nm,0.8s
PINE pP **pP 05 03 55.8 +0.7**
FFC Flin Flon 77.98 341 P **P 05 03 21.7 -0.1**
FFC pmax pmax
comp=Z,148nm,1.1s
FFC Flin Flon 77.98 341 P **P 05 03 21.7 -0.1**
WALA Waterton Lakes 77.99 332 IAmb IAmb 05 03 59.9
comp=Z,484nm,1.4s
KRMB Red Mountain 78.16 321 IAmb IAmb 05 03 58.6
comp=Z,459nm,1.5s
AVE Averroes 78.16 49 ⇑P **P 05 03 24.8 +1.5**
J04D Umpqua Nationa 78.18 323 P 05 03 24.5
baz=129,SNR=53

J04D S 05 13 10.5
baz=129
HUMO Hull Mountain 78.27 323 ⇓P **P** **05 03 23.9 +0.2**
HUMO ⇓P **P** **05 03 23.9 +0.2**
L02E Cave Junction 78.37 322 P 05 03 25.4
baz=128,SNR=26
L02E S 05 13 12.1
baz=128
I05D Terrebonne, OR 78.45 325 P 05 03 26.6
baz=130,SNR=185
I05D S 05 13 15.2
baz=130
I04A Tendick Farm, 78.70 324 P 05 03 26.8
baz=129,SNR=36
I04A S 05 13 14.3
baz=129
K02D Willamette Mer 78.73 322 P 05 03 27.7
baz=128,SNR=40
K02D S 05 13 16.0
baz=128
HAWA Hanford 78.84 327 IAmb IAmb 05 03 30.1
comp=Z,1μm,1.8s
HAWA Hanford 78.84 327 ⇓P **P** **05 03 28.2 +1.6**
HAWA ⇓P **P** **05 03 28.2 +1.6**
SBA Scott Base 78.86 190 P **P** **05 03 27.5 +1.1**
SBA pmax pmax
comp=Z,381nm,1.6s
SBA Scott Base 78.86 190 P **P** **05 03 27.5 +1.1**
NEW Newport 78.91 330 P 05 03 27.4
baz=134,SNR=65
NEW S 05 13 16.3
baz=134
NEW Newport 78.91 330 P **P** **05 03 27.4 +0.3**
comp=Z,22nm,0.5s,baz=131,slow=5.6,SNR=64
RTC Rabat Centre 78.91 49 ⇑P **P** **05 03 28.6 +1.2**
D08A Wollman Farm, 78.97 328 IAmb IAmb 05 04 03.0
comp=Z,927nm,1.9s
G05D Wamic, OR 79.02 325 P 05 03 29.7
baz=130,SNR=114
G05D S 05 13 21.5
baz=130
E07A Sunnyside 79.11 327 IAmb IAmb 05 03 32.0
comp=Z,405nm,1.3s
H04A Detroit Lake 79.14 325 P **P** **05 03 28.9 +0.4**
I03D Drain, OR 79.17 323 P 05 03 29.6
baz=128,SNR=42
I03D S 05 13 20.3
baz=128
J01E Myrtle Point 79.17 323 P 05 03 30.0
baz=128,SNR=13
J01E S 05 13 21.2
baz=128
PFVI Vila Bisbo 79.21 45 *e*P **P** **05 03 30.5 +1.6**
comp=Z,463nm,1.2s
PFVI *ep*P **pP** **05 04 03.4 +0.9**
PFVI Vila Bisbo 79.21 45 IAmb IAmb 05 03 32.2
comp=Z,282nm,0.9s
H04D Lebanon 79.34 324 P 05 03 30.2
baz=129,SNR=19
H04D S 05 13 21.3
baz=129
PTEO Sao Teotonio 79.50 45 *e*P **P** **05 03 32.4 +1.9**
comp=Z,916nm,1.3s
PTEO *ep*P **pP** **05 04 06.7 +2.6**
F05D White Salmon 79.51 326 P 05 03 31.7
baz=130,SNR=27
F05D S 05 13 25.4
baz=130
FCC Fort Churchill 79.52 347 P **P** **05 03 30.2 +0.1**
FCC pmax pmax
comp=Z,251nm,1.0s
FCC Fort Churchill 79.52 347 P **P** **05 03 30.2 +0.1**
FCC IAmb IAmb 05 03 34.6
comp=Z,250nm,0.9s
SYO Syowa Base 79.53 160 ⇓ *i*P **P** **05 03 31.1 +1.0**
SYO Syowa Base 79.53 160 ⇓ *i*PcP **PcP** **05 03 36.2 -1.5**
SYO Syowa Base 79.53 160 ⇓ *i*pP pP 05 04 02.8 -0.8
COR Corvallis 79.70 324 P **P** **05 03 33.1 +1.7**
COR pmax pmax
comp=Z,315nm,0.8s
COR Corvallis 79.70 324 P **P** **05 03 33.1 +1.7**
COR IAmb IAmb 05 03 34.5
comp=Z,315nm,0.8s
COR Corvallis 79.70 324 ⇓P **P** **05 03 33.1 +1.7**
COR ⇑P **PcP** **05 03 33.4 -5.3**
I02D Swisshome 79.71 323 P 05 03 33.0
baz=128,SNR=14
I02D S 05 13 26.7
baz=128
LIS Lisbon 79.86 44 *e*P **P** **05 03 33.0 +0.6**
LIS AMb AMB 05 03 38.0
comp=Z,358nm,1.8s
LIS *e*S **S** **05 13 27.1 +1.8**
LIS Lisbon 79.86 44 *e*P **P** **05 03 33.0 +0.6**
LIS *e*S **S** **05 13 27.0 +1.8**
LIS Lisbon 79.86 44 *e*P **P** **05 03 34.4 +2.0**
comp=Z,355nm,1.8s
LIS *ep*P **pP** **05 04 07.0 +1.0**
PBDV Barranco-do-Ve 79.87 45 *e*P **P** **05 03 34.7 +2.2**
comp=Z,513nm,1.3s
PBDV *ep*P **pP** **05 04 07.7 +1.5**
VNDA Vanda 79.89 190 P **P** **05 03 33.3 +1.3**
comp=Z,31nm,0.9s,baz=135,slow=4.6,SNR=107
VNDA pP **pP** **05 04 06.8 +1.3**
comp=Z,41nm,1.0s,baz=109,slow=3.0,SNR=6.9
VNDA PKKPbc **PKKPbc** **05 22 16.9 -2.3**
comp=Z,2.0nm,0.7s,baz=299,slow=3.9,SNR=9.5
VNDA PKPPKP **P'P'df** **05 30 19.1 -2.4**
comp=Z,1.2nm,1.0s,baz=296,slow=4.0,SNR=3.9
VNDA LR LR 05 35 37.2
comp=Z,1μm,21.9s,baz=134,slow=33
PMAFR Mafra 79.90 43 *e*P **P** **05 03 34.0 +1.4**
comp=Z,416nm,1.2s
PMAFR *ep*P **pP** **05 04 06.8 +0.5**
PNCL Nicolau / Gran 79.94 44 *e*P **P** **05 03 34.5 +1.7**
comp=Z,409nm,1.3s
PNCL *ep*P **pP** **05 04 07.2 +0.8**
MDT Midelt 79.95 51 P **P** **05 03 34.5 +1.4**
comp=Z,336nm,1.1s,baz=253,slow=5.2,SNR=260
LTY Liberty 80.00 327 IAmb IAmb 05 03 36.3
comp=Z,909nm,1.6s
MESJ Messejana 80.00 45 *e*P **P** **05 03 33.8 +0.6**
MESJ AMb AMB 05 03 36.7
comp=Z,309nm,1.3s
MESJ *e*S **S** **05 13 28.4 +1.6**
MESJ Messejana 80.00 45 *e*P **P** **05 03 33.7 +0.6**
MESJ *e*S **S** **05 13 28.4 +1.6**
MESJ Messejana 80.00 45 *e*P **P** **05 03 34.8 +1.6**
comp=Z,308nm,1.3s
MESJ *ep*P **pP** **05 04 08.4 +1.6**
PCVE Castro Verde 80.01 45 *e*P **P** **05 03 35.1 +1.9**
comp=Z,251nm,1.8s
PCVE *ep*P **pP** **05 04 07.7 +0.9**
G03D McMinnville, O 80.07 324 P 05 03 35.0
baz=129,SNR=17
G03D S 05 13 29.6
baz=129
PVAQ Vaqueiros 80.10 45 *e*P **P** **05 03 35.4 +1.7**
comp=Z,250nm,2.0s
PVAQ *ep*P **pP** **05 04 07.6 +0.2**
PVAQ *e*S **S** **05 13 32.2 +4.3**
PBEJ Beja 80.33 45 *e*P **P** **05 03 36.5 +1.5**
comp=Z,134nm,1.1s
PBEJ *ep*P **pP** **05 04 10.9 +2.3**
SUR Sutherland 80.40 121 P **P** **05 03 37.0 +1.1**
SUR IAmb IAmb 05 04 13.1
comp=Z,645nm,1.6s
SUR Sutherland 80.40 121 P **P** **05 03 36.1 +0.2**
F04D Rainier, OR 80.47 325 P 05 03 37.0
baz=129,SNR=13
F04D S 05 13 34.9
baz=129
EVO Evora 80.50 44 *e*P **P** **05 03 37.1 +1.2**
comp=Z,270nm,1.5s
EVO *ep*P **pP** **05 04 09.3 -0.2**
PSBE So Bento 80.53 43 *e*P **P** **05 03 37.9 +1.9**
comp=Z,372nm,1.4s
PSBE *ep*P **pP** **05 04 09.9 +0.2**
E04D Cinebar 80.53 326 P 05 03 36.7
baz=130,SNR=33
E04D S 05 13 34.7
baz=130
C06D Leavenworth 80.55 328 P 05 03 36.7
baz=131,SNR=7.9
C06D S 05 13 34.8
baz=131

D05A Enumclaw 80.63 327 IAmb IAmb 05 03 42.1
comp=Z,550nm,0.9s
SFS San Fernando 80.64 47 IAmb IAmb 05 03 40.5
comp=Z,644nm,1.2s
SFS San Fernando 80.64 47 ⇑P **P** **05 03 39.2 +2.5**
PMTG Montargil 80.65 44 *e*P **P** **05 03 38.1 +1.5**
comp=Z,532nm,1.2s
PMTG *ep*P **pP** **05 04 10.9 +0.6**
PBAR Barrancos 80.96 45 *e*P **P** **05 03 39.5 +1.2**
comp=Z,270nm,1.4s
PBAR *ep*P **pP** **05 04 12.1 +0.1**
PCAS Casmilo, Conde 81.01 43 *e*P **P** **05 03 39.5 +1.0**
comp=Z,298nm,1.1s
PCAS *ep*P **pP** **05 04 14.1 +1.9**
D04E Lakebay 81.04 326 P 05 03 39.0
baz=129,SNR=30
D04E S 05 13 42.4
baz=129
E03A Lebam 81.06 325 IAmb IAmb 05 03 42.0
comp=Z,981nm,1.6s
COI Coimbra 81.15 43 *e*P **P** **05 03 40.6 +1.4**
comp=Z,546nm,1.1s
COI *ep*P **pP** **05 04 14.1 +1.2**
COI Coimbra 81.15 43 IAmb IAmb 05 03 42.3
comp=Z,437nm,1.1s
TSUM Tsumeb 81.21 107 P **P** **05 03 40.1 -0.2**
TSUM IAmb IAmb 05 04 16.9
comp=Z,401nm,1.3s
TSUM Tsumeb 81.21 107 *i* P **P** **05 03 41.0 +0.8**
TSUM Tsumeb 81.21 107 ⇑P **P** **05 03 40.5 +0.3**
TSUM ⇑P **P** **05 03 40.6 +0.3**
TSUM Tsumeb 81.21 107 *i* P **P** **05 03 41.0 +0.8**
B06A Marblemount 81.23 328 IAmb IAmb 05 03 41.3
comp=Z,348nm,0.7s
B05A Bryant 81.38 327 P 05 03 40.7
baz=130,SNR=171
B05A S 05 13 42.1
baz=130
PMRV Marv??o 81.39 44 *e*P **P** **05 03 41.5 +0.9**
comp=Z,126nm,1.4s
PMRV *ep*P **pP** **05 04 14.8 +0.5**
PMRV *e*S **S** **05 13 45.5 +4.2**
D03D Eldon 81.43 326 P 05 03 41.5
baz=129,SNR=59
D03D S 05 13 45.1
baz=129
PTO Porto 81.54 42 *e*P **P** **05 03 42.3 +1.0**
comp=Z,246nm,1.5s
PCBR Castelo Branco 81.56 43 *e*P **P** **05 03 42.3 +0.9**
comp=Z,192nm,1.2s
PCBR *ep*P **pP** **05 04 15.0 -0.1**
NLWA Neilton Lookou 81.75 326 IAmb IAmb 05 04 18.1
comp=Z,352nm,1.3s
NLWA Neilton Lookou 81.75 326 ⇑P **P** **05 03 43.8 +1.5**
NLWA ⇑P **P** **05 03 44.0 +1.7**
PVIS Viseu 81.76 42 *e*P **P** **05 03 43.4 +0.9**
comp=Z,212nm,1.4s
PVIS *ep*P **pP** **05 04 17.3 +1.0**
MTE Manteigas 81.81 43 *e*P **P** **05 03 43.7 +0.9**
comp=Z,221nm,1.1s
MTE *ep*P **pP** **05 04 16.3 -0.3**
MTE *e*S **S** **05 13 48.0 +2.3**
FRB Frobisher Bay 81.83 0 P **P** **05 03 42.1 -0.2**
comp=Z,24nm,0.7s,baz=187,slow=6.1,SNR=80
FRB pP **pP** **05 04 15.9 0.0**
comp=Z,54nm,0.8s,baz=183,slow=6.1,SNR=6.2
A04D Lummi Island 81.98 327 P 05 03 44.4
baz=130,SNR=50
A04D S 05 13 50.7
baz=130
PVRL Vila Real 82.17 42 *e*P **P** **05 03 45.5 +0.8**
comp=Z,302nm,1.5s
PVRL *ep*P **pP** **05 04 20.0 +1.6**
POLO Lamas de Olo 82.18 42 *e*P **P** **05 03 46.0 +1.2**
comp=Z,127nm,1.3s
POLO *ep*P **pP** **05 04 17.6 -0.9**
PGAV Gavieira, Arco 82.20 41 *e*P **P** **05 03 45.6 +0.7**
comp=Z,332nm,1.8s
PGAV *ep*P **pP** **05 04 18.6 0.0**
PGAV *e*S **S** **05 13 51.3 +1.7**
PCAB Cabril 82.21 41 *e*P **P** **05 03 45.3 +0.5**
comp=Z,311nm,1.8s
PCAB *ep*P **pP** **05 04 19.9 +1.3**
PGC Sidney 82.32 327 IAmb IAmb 05 03 47.8
comp=Z,326nm,0.8s
MVO Moncorvo 82.55 42 *e*P **P** **05 03 47.6 +0.9**
comp=Z,431nm,2.0s
MVO *ep*P **pP** **05 04 19.9 -0.6**
MVO *e*S **S** **05 13 54.8 +1.6**
PBRG Braganca 83.07 42 *e*P **P** **05 03 50.4 +1.1**
comp=Z,589nm,1.5s
PBRG *ep*P **pP** **05 04 23.2 +0.1**
NUUK Nuuk 83.38 8 *i* P **P** **05 03 51.0 +0.7**
NUUK IAmb IAmb 05 03 54.3
comp=Z,96nm,0.7s
NUUK *i* 05 04 26.9
PAB San Pablo 83.47 45 P **P** **05 03 52.1 +0.7**
PAB pmax pmax
comp=Z,486nm,1.0s
PAB San Pablo 83.47 45 P **P** **05 03 52.1 +0.7**
PAB IAmb IAmb 05 03 54.4
comp=Z,486nm,1.0s
TAM Tamanrasset 83.65 64 IAmb IAmb 05 04 30.3
comp=Z,617nm,1.4s
ESDC Sonseca Array 83.79 45 P **P** **05 03 54.0 +0.9**
comp=Z,263nm,1.0s,baz=249,slow=5.1,SNR=449
ESDC S **S** **05 14 09.0 +3.2**
comp=Z,5.6nm,1.3s,baz=242,slow=7.1,SNR=6.0
ESDC PKKPbc **PKKPbc** **05 22 09.2 -1.1**
comp=Z,1.0nm,0.7s,baz=35,slow=1.9,SNR=5.7
ESDC LR LR 05 40 48.5
comp=Z,2μm,18.6s,baz=245,slow=35
ESDC Sonseca Array 83.79 45 P **P** **05 03 53.3 +0.2**
ESBB Sonseca Array 83.79 45 IAmb IAmb 05 03 56.2
comp=Z,523nm,1.1s
RAR Rarotonga 84.06 250 P **P** **05 03 55.9 +1.1**
comp=Z,61nm,1.0s,baz=134,slow=6.2,SNR=5.1
RAR LR LR 05 32 29.7
comp=Z,3μm,19.2s,baz=90,slow=29
RAR Rarotonga 84.06 250 P **P** **05 03 55.8 +1.0**
RAR IAmb IAmb 05 03 56.9
comp=Z,380nm,1.5s
USTO Oran 84.29 50 P P 05 04 02.0 +6.4
ODJA Bouhanifia 84.40 50 P **P** **05 03 59.0 +2.8**
CART Cartagena 84.82 48 P **P** **05 03 58.0 -0.2**
BOSA Boshof 85.16 118 P **P** **05 04 00.8 +0.4**
comp=Z,112nm,1.1s,baz=248,slow=5.0,SNR=66
BOSA PKKPbc **PKKPbc** **05 22 06.8 +1.0**
comp=Z,3.1nm,0.6s,baz=70,slow=3.2,SNR=6.5
BOSA LR LR 05 38 33.1
comp=Z,13μm,21.2s,baz=256,slow=33
ETRT Tiaret 85.48 51 P **P** **05 04 02.5 +0.7**
EANR 'Ain N'Sour 85.58 50 P **P** **05 04 04.0 +1.8**
ECHA Ech Chlef 85.87 50 P **P** **05 04 04.3 +0.9**
EBNR Beni Rached 86.05 50 P **P** **05 04 06.0 +1.6**
SFJD Kangerlussuaq 86.21 7 P **P** **05 04 04.4 0.0**
comp=Z,61nm,0.9s,baz=204,slow=3.2,SNR=28
SFJD pP **pP** **05 04 38.0 -0.5**
comp=Z,37nm,0.8s,baz=229,slow=5.3,SNR=3.2
SFJD Kangerlussuaq 86.21 7 *i* P **P** **05 04 04.0 -0.4**
comp=Z,29nm,0.9s
SFJD Kangerlussuaq 86.21 7 P **P** **05 04 03.8 -0.7**
SFJD IAmb IAmb 05 04 42.6
comp=Z,618nm,1.9s
SFJD Kangerlussuaq 86.21 7 *i* P **P** **05 04 04.0 -0.4**
SFJD *i* P **PcP** **05 04 04.6 -2.2**
SFJD IAmb IAmb 05 04 09.7
comp=Z,29nm,0.9s
LBTB Lobatse 86.58 115 *i* P **P** **05 04 08.1 +0.6**
LBTB Lobatse 86.58 115 *i* P **P** **05 04 08.1 +0.6**
ISOG Isortoq, Green 86.73 12 *i* P **P** **05 04 08.1 +1.2**
ISOG IAmb IAmb 05 04 11.1
comp=Z,155nm,0.7s
BBB Bella Bella 86.84 328 P **P** **05 04 08.9 +1.1**
comp=Z,100nm,0.8s,baz=66,slow=4.5,SNR=23
BBB pP **pP** **05 04 42.0 +0.1**
comp=Z,199nm,1.4s,baz=133,slow=7.1,SNR=2.2
BBB Bella Bella 86.84 328 IAmb IAmb 05 04 10.3
comp=Z,525nm,1.6s
ANGG Ammassalik, Gr 87.06 13 IAmb IAmb 05 04 46.4
comp=Z,650nm,1.7s
ANGG Ammassalik, Gr 87.06 13 *i* P **P** **05 04 09.0 +0.5**
ANGG IAmb IAmb 05 04 12.5
comp=Z,77nm,0.8s
ANGG *i* 05 04 42.9
MAW Mawson 87.40 163 P **P** **05 04 11.3 +0.9**
comp=Z,51nm,0.9s,baz=232,slow=6.3,SNR=19
MAW pP **pP** **05 04 46.1 +1.7**
comp=Z,39nm,0.9s,baz=226,slow=5.6,SNR=3.0
MAW LR LR 05 44 03.1
comp=Z,2μm,20.3s,baz=223,slow=36
YKA Yellowknife Ar 88.15 341 P **P** **05 04 14.7 +0.9**
comp=Z,380nm,0.9s,baz=132,slow=5.2,SNR=1880
YKA pP **pP** **05 04 48.1 +0.2**
comp=Z,184nm,0.8s,baz=133,slow=5.4,SNR=6.6
YKA SP **SP** **05 15 47.0 -3.5**
comp=Z,8.0nm,1.3s,baz=132,slow=9.9,SNR=5.1
YKA PKKP **PKKPdf** **05 21 57.0 +1.7**
comp=Z,0.6nm,0.5s,baz=332,slow=3.2,SNR=15
YKA PKPPKP **P'P'df** **05 30 07.0 +2.9**
comp=Z,1.1nm,1.0s,baz=300,slow=2.0,SNR=3.8
YKA LR LR 05 45 44.1
comp=Z,2μm,20.7s,baz=0.0,slow=37
ILULI Ilulissat 88.28 6 *i* P **P** **05 04 14.8 +0.5**
comp=Z,101nm,1.1s
ILULI *i* 05 04 49.4
ILULI Ilulissat 88.28 6 *i* P **P** **05 04 14.8 +0.5**
ILULI *i* 05 04 49.4
ILULI Ilulissat 88.28 6 IAmb IAmb 05 04 52.8
comp=Z,329nm,1.4s
ILULI Ilulissat 88.28 6 *i* P **P** **05 04 14.9 +0.5**
ILULI IAmb IAmb 05 04 18.1
comp=Z,101nm,1.1s
ILULI *i* 05 04 49.5
CCA1 Carnmenellis 88.38 35 *e*P **P** **05 04 14.7 -0.5**
CCA1 IAmb IAmb 05 04 16.7
comp=Z,233nm,1.2s
SET Setif 88.85 51 P **P** **05 04 20.0 +2.1**
DYA Yadsworthy 89.22 36 *e*P **P** **05 04 18.3 -0.9**
DYA IAmb IAmb 05 04 20.4
comp=Z,187nm,1.2s
DFRA Djebel Bou Aff 89.34 51 P **P** **05 04 21.8 +1.6**
JVM Valle D.L. Mar 89.59 37 *e*P **P** **05 04 20.5 -0.4**
JSA Saint Aubin 89.59 37 *e*P **P** **05 04 19.4 -1.4**
JSA IAmb IAmb 05 04 21.0
comp=Z,81nm,0.9s
JLP Les Platons 89.66 37 *e*P **P** **05 04 20.7 -0.5**
JQE Queens East 89.68 37 *e*P **P** **05 04 21.0 -0.3**
CASM Ain Smara 89.68 52 P **P** **05 04 22.4 +0.7**
CKFL Kef-Lekhel 89.91 51 P **P** **05 04 23.6 +0.7**
ITZ Itezhi-Tezhi 89.92 106 *i* P **P** **05 04 24.0 +0.6**
ITZ *i* 05 04 57.2
ITZ *i* 05 04 58.0
ITZ Itezhi-Tezhi 89.92 106 *i* P **P** **05 04 24.0 +0.6**
ITZ *i* 05 04 57.2
ITZ *i* 05 04 58.0
ITZ Itezhi-Tezhi 89.92 106 *i* P **P** **05 04 24.3 +0.9**
ITZ *i* 05 04 24.4
baz=229,slow=12
ITZ *i* S **SKSac** **05 14 42.8 -0.3**
ITZ IAML 05 14 52.8
comp=Z,105nm,6.2s
GMM Mts of Mourne 90.14 32 *e*P **P** **05 04 23.4 0.0**
CAEH 'Ain El Ouahch 90.15 51 P **P** **05 04 25.5 +1.6**
YRC Rhoscolyn 90.32 33 *e*P **P** **05 04 23.4 -0.8**
WLF1 Llynfaes 90.43 33 *e*P **P** **05 04 23.1 -1.6**
WLF1 IAmb IAmb 05 04 25.2
comp=Z,251nm,1.4s
YLL Llanberis 90.47 33 *e*P **P** **05 04 24.8 -0.1**
CMAH Djebel Manchou 90.51 52 P **P** **05 04 26.2 +0.6**
MCH1 Michaelchurch 90.51 34 *e*P **P** **05 04 23.9 -1.2**
MCH1 IAmb IAmb 05 04 26.1
comp=Z,364nm,1.8s
BORG Borgarnes 90.54 19 P **P** **05 04 27.0 +2.1**
comp=Z,83nm,0.8s,baz=203,slow=3.2,SNR=23
BORG Borgarnes 90.54 19 P **P** **05 04 27.2 +2.3**
MONM Monmouth 90.54 35 *e*P **P** **05 04 24.4 -0.8**
MONM IAmb IAmb 05 04 26.4
comp=Z,229nm,1.4s
OLDB Oldbury-Upon-S 90.59 35 *e*P **P** **05 04 24.8 -0.7**
MATP Matopo 90.61 112 *i* P **P** **05 04 27.4 +0.8**
MATP Matopo 90.61 112 *i* P **P** **05 04 27.4 +0.8**
WIM Isle of Man 90.73 32 *e*P **P** **05 04 25.6 -0.5**
BLWY Bulawayo 90.80 111 *i* P **P** **05 04 28.3 +0.8**
BLWY Bulawayo 90.80 111 *i* P **P** **05 04 28.3 +0.8**
FOEL Foel Wylfa 90.85 34 *e*P **P** **05 04 24.9 -1.9**
STRD Stroud 90.86 35 *e*P **P** **05 04 25.9 -0.8**
STRD IAmb IAmb 05 04 27.0
comp=Z,212nm,1.3s
GAL1 Galloway 91.08 31 *e*P **P** **05 04 27.2 -0.4**
CRAG Craig 91.12 329 P 05 04 27.9
baz=122,SNR=5.3
CRAG S 05 15 11.8
baz=122
CRAG Craig 91.13 329 P **P** **05 04 27.8 -0.1**
WRAK Wrangell Islan 91.25 330 P 05 04 28.4
baz=122,SNR=26
WRAK S 05 15 14.1
baz=122
WRAK Wrangell Islan 91.26 330 IAmb IAmb 05 04 33.2
comp=Z,104nm,0.9s
DLBC Dease Lake 91.31 333 P **P** **05 04 29.8 +1.0**
comp=Z,117nm,0.9s,baz=131,slow=3.7,SNR=178
DLBC pP **pP** **05 05 03.7 +0.6**
comp=Z,71nm,1.0s,baz=131,slow=5.4,SNR=4.9
DLBC Dease Lake 91.31 333 IAmb IAmb 05 04 33.4
comp=Z,150nm,0.9s
UPNV Upernavik 91.33 4 *i* P **P** **05 04 29.8 +1.3**
UPNV IAmb IAmb 05 04 32.9
comp=Z,107nm,1.1s
UPNV *i* 05 05 04.3
NEWG New Galloway 91.45 31 *e*P **P** **05 04 28.6 -0.8**
NEWG IAmb IAmb 05 04 30.7
comp=Z,125nm,1.0s
STNC Stoke 91.47 34 *e*P **P** **05 04 29.2 -0.3**
STNC IAmb IAmb 05 04 33.0
comp=Z,165nm,1.1s
KEST Kesra 91.63 53 P **P** **05 04 31.4 +0.6**
comp=Z,24nm,0.8s,baz=232,slow=4.2,SNR=20
KEST pP **pP** **05 05 05.4 +0.3**
comp=Z,41nm,0.9s,baz=195,slow=2.2,SNR=3.1
KEST PKKPbc **PKKPbc** **05 21 51.5 +0.6**
comp=Z,4.1nm,0.8s,baz=76,slow=5.2,SNR=5.3
KEST LR LR 05 45 24.3
comp=Z,4μm,20.0s,baz=213,slow=35
KEST Kesra 91.63 53 IAmb IAmb 05 05 08.6
comp=Z,159nm,1.4s
CLF Chambon-Foret 91.67 40 IAmb IAmb 05 04 32.6
comp=Z,273nm,1.2s
PGBU Glenifferbraes 91.68 31 *e*P **P** **05 04 29.6 -0.8**
PGBU IAmb IAmb 05 04 33.6
comp=Z,114nm,1.1s
KESW Keswick, Cumbr 91.74 32 *e*P **P** **05 04 30.4 -0.4**
KESW IAmb IAmb 05 04 34.2
comp=Z,173nm,0.8s
CWF Charnwood Fore 91.78 34 *e*P **P** **05 04 29.2 -1.8**
HMNX Herstmonceux 91.81 36 *e*P **P** **05 04 30.3 -0.9**
HMNX IAmb IAmb 05 04 31.9
comp=Z,297nm,1.1s
LBWR Ladybower, Pea 91.88 34 *e*P **P** **05 04 31.5 +0.1**
LBWR IAmb IAmb 05 04 32.2
comp=Z,162nm,1.3s
KPL Plockton 91.92 29 *e*P **P** **05 04 30.6 -0.9**
SSB Saint Sauveur 91.94 43 IAmb IAmb 05 04 34.3
comp=Z,111nm,1.0s
LSZ Lusaka 92.05 107 PKKPbc PKKPbc 05 21 50.3 +1.6
comp=Z,12nm,0.6s,baz=56,slow=2.3,SNR=22
LSZ Lusaka 92.05 107 P **P** **05 04 34.7 +1.4**
LSZ pmax pmax
comp=Z,232nm,1.9s
LSZ Lusaka 92.05 107 P **P** **05 04 34.7 +1.4**
LSZ IAmb IAmb 05 05 12.7
comp=Z,232nm,1.9s
LSZ Lusaka 92.05 107 *i* P **P** **05 04 36.2 +2.9**
LSZ Lusaka 92.05 107 P **P** **05 04 33.1 -0.3**
LSZ Lusaka 92.05 107 *i* P **P** **05 04 36.2 +2.9**
ESK Eskdalemuir 92.06 31 *e*P **P** **05 04 31.1 -1.1**
ESK Eskdalemuir 92.06 31 P **P** **05 04 31.5 -0.7**
ESK pmax pmax
comp=Z,84nm,1.0s
ESK Eskdalemuir 92.06 31 P **P** **05 04 31.5 -0.7**
EKA Eskdalemuir Ar 92.09 31 P **P** **05 04 31.6 -0.8**
comp=Z,59nm,1.0s,baz=237,slow=4.8,SNR=36
EKA pP **pP** **05 05 06.8 +0.2**
comp=Z,45nm,1.1s,baz=238,slow=4.4,SNR=4.0
KAC Achnashellach 92.17 29 *e*P **P** **05 04 32.3 -0.4**
HPK Haverah Park 92.19 33 *e*P **P** **05 04 32.7 -0.1**
HPK IAmb IAmb 05 04 33.6
comp=Z,237nm,1.5s
INVG Invergeldie, C 92.20 30 *e*P **P** **05 04 31.9 -1.0**
INVG IAmb IAmb 05 04 35.1

comp=Z,279nm,1.7s
MDO Dochfour 92.57 29 *e*P **P 05 04 33.8 -0.8**
ESY Stoneypath 92.64 31 *e*P **P 05 04 34.4 -0.5**
HMH Humu'ula Sheep 92.67 290 IAmb IAmb 05 04 41.5
comp=Z,307nm,1.4s
SIT Sitka 92.99 330 P 05 04 37.0
baz=120
SIT S 05 15 29.2
baz=120
SUMG Summit 93.01 9 *i* P **P 05 04 37.9 +1.1**
comp=Z,156nm,0.8s
SUMG *i* 05 05 12.7
SUMG Summit 93.01 9 *i* P **P 05 04 37.9 +1.1**
SUMG *i* 05 05 12.7
SUMG Summit 93.01 9 IAmb IAmb 05 04 42.8
comp=Z,157nm,0.7s
SUMG Summit 93.01 9 *i* P **P 05 04 37.9 +1.1**
SUMG *i* 05 05 12.7
VSL Villasalto 93.02 49 P **P 05 04 37.4 +0.4**
VSL pP **pP 05 05 13.4 +2.1**
VSL IAmb IAmb 05 05 15.4
comp=Z,342nm,1.8s
KHLU Kahalu`u 93.03 290 IAmb IAmb 05 04 39.9
comp=Z,155nm,0.9s
KULLO Kullorsuaq 93.04 3 *i* P **P 05 04 37.7 +1.4**
comp=Z,54nm,0.8s
KULLO *i* 05 05 12.4
KULLO Kullorsuaq 93.04 3 *i* P **P 05 04 37.7 +1.4**
KULLO *i* 05 05 12.4
KULLO Kullorsuaq 93.04 3 *i* P **P 05 04 37.8 +1.4**
KULLO IAmb IAmb 05 04 44.5
comp=Z,54nm,0.8s
KULLO *i* 05 05 12.4
JIS Juneau Island 93.16 331 IAmb IAmb 05 05 12.9
comp=Z,159nm,1.5s
BNI Bardonecchia 93.23 44 IAmb IAmb 05 05 16.8
comp=Z,124nm,1.4s
SNF Seneffe 93.92 38 *d*P **P 05 04 40.5 -0.4**
SNF *d*pP **pP 05 05 15.8 +0.6**
DOU Dourbes 93.93 38 *d*P **P 05 04 40.8 -0.2**
DOU *d*pP **pP 05 05 16.1 +0.7**
UCC Uccle 94.08 38 *d*P **P 05 04 41.2 -0.5**
UCC *d*pP **pP 05 05 16.7 +0.7**
BMRD Maredsous 94.12 38 *d*P **P 05 04 41.2 -0.7**
BMRD *d*pP **pP 05 05 16.9 +0.7**
SENIN Lac Senin/Sane 94.14 42 IAmb IAmb 05 04 44.8
comp=Z,210nm,1.9s
SKAG Skagway 94.18 332 P 05 04 42.5
baz=120,SNR=12
SKAG S 05 15 38.5
baz=120
SKAG Skagway 94.18 332 IAmb IAmb 05 05 18.3
comp=Z,137nm,1.6s
RES Resolute Bay 94.26 353 P **P 05 04 42.6 +0.6**
comp=Z,27nm,1.0s,baz=176,slow=8.7,SNR=29
RES pP **pP 05 05 16.8 +0.5**
comp=Z,26nm,1.0s,baz=186,slow=5.4,SNR=4.6
RES Resolute Bay 94.26 353 IAmb IAmb 05 05 19.9
comp=Z,159nm,1.7s
RCHB Rochefort 94.33 38 *d*P **P 05 04 43.0 +0.2**
RCHB *d*pP **pP 05 05 17.5 +0.3**
BGES Gesves 94.34 38 *d*P **P 05 04 42.0 -0.9**
BGES *d*pP **pP 05 05 18.0 +0.8**
SCO Scoresbysund 94.48 14 *i* P **P 05 04 44.0 +1.0**
comp=Z,16nm,0.9s
SCO Scoresbysund 94.48 14 *i* P **P 05 04 44.0 +1.0**
SCO Scoresbysund 94.48 14 *i* P **P 05 04 44.0 +1.0**
SCO IAmb IAmb 05 04 45.3
comp=Z,16nm,0.9s
BCLA Clavier 94.48 38 *d*P **P 05 04 43.2 -0.3**
comp=Z,52nm,2.3s
BCLA *d*pP **pP 05 05 18.1 +0.2**
WHY Whitehorse 94.58 333 IAmb IAmb 05 05 19.1
comp=Z,180nm,2.0s
WLF Walferdange 94.69 39 P **P 05 04 44.5 +0.1**
WLF pP **pP 05 05 18.2 -0.6**
WLF IAmb IAmb 05 05 22.9
comp=Z,230nm,1.4s
WLF Walferdange 94.69 39 *e*P **P 05 04 44.7 +0.2**
comp=Z,264nm,1.5s,baz=251,slow=4.6
WLF *e*pP **pP 05 05 19.4 +0.6**
baz=251,slow=4.6
WLF *e*SKSac **SKSac 05 15 08.9 +1.0**
baz=249,slow=5.4
WLF *e*S **S 05 15 43.9 -2.8**
baz=253,slow=9.6
TULEG Thule 94.69 0 IAmb IAmb 05 05 21.1
comp=Z,237nm,1.5s
TULEG Thule 94.69 0 *i* P **P 05 04 45.3 +1.4**
TULEG IAmb IAmb 05 04 47.6
comp=Z,38nm,1.0s
TULEG *i* 05 05 20.0
BSTI Sart Tilman 94.70 38 *d*P **P 05 04 45.5 +1.0**
BSTI *d*pP **pP 05 05 21.3 +2.4**
ECH Echery 94.75 41 IAmb IAmb 05 05 22.6
comp=Z,214nm,1.5s
MSSA Maissana 94.84 45 IAmb IAmb 05 05 23.0
comp=Z,331nm,1.7s
BEBN Eben Emael 94.85 38 *d*P **P 05 04 45.2 0.0**
BEBN *d*pP **pP 05 05 19.1 -0.4**
BHOU Houvegnez 94.87 38 *d*P **P 05 04 45.3 0.0**
BHOU *d*pP **pP 05 05 20.6 +0.9**
MEM Membach 94.97 38 *d*P **P 05 04 45.8 +0.1**
MEM *d*pP **pP 05 05 19.7 -0.4**
BTNL Ternell 95.03 38 *d*P **P 05 04 45.7 -0.4**
BTNL *d*pP **pP 05 05 20.9 +0.5**
VLC Villacollemand 95.37 45 IAmb IAmb 05 05 24.9
comp=Z,148nm,1.4s
BFO Black Forest 95.52 41 P **P 05 04 47.4 -0.9**
BFO pmax pmax
comp=Z,46nm,1.2s
BFO Black Forest 95.52 41 P **P 05 04 47.4 -0.9**
BFO Black Forest 95.52 41 *e*P **P 05 04 47.7 -0.7**
comp=Z,50nm,1.3s,baz=251,slow=4.6
BFO *e*pP **pP 05 05 22.6 -0.1**
baz=251,slow=4.6
BFO *e*SKSac **SKSac 05 15 15.0 +2.5**
baz=249,slow=5.4
AHRW Bad Neuenahr-A 95.57 39 *e*P **P 05 04 48.7 +0.2**
comp=Z,118nm,1.2s,baz=251,slow=4.6
AHRW *e*pP **pP 05 05 23.4 +0.6**
baz=251,slow=4.6
AHRW *e*SKSac **SKSac 05 15 15.9 +3.3**
baz=249,slow=5.4
AHRW *e*S **S 05 15 52.5 -1.8**
baz=253,slow=9.6
CASY Casey 95.62 180 P **P 05 04 49.2 +0.7**
CASY IAmb IAmb 05 05 27.4
comp=Z,142nm,1.3s
C36M Paulatuk 95.67 343 P 05 04 47.4
baz=129
C36M S 05 15 47.1
baz=129
LATE Laterza 95.82 47 IAmb IAmb 05 05 29.1
comp=Z,196nm,1.5s
ZCCA Zocca 95.83 45 IAmb IAmb 05 05 28.9
comp=Z,120nm,1.0s
DAVOX Davos/Dischmat 95.95 43 P **P 05 04 50.5 -0.1**
comp=Z,26nm,0.9s,baz=252,slow=2.9,SNR=35
DAVOX pP **pP 05 05 24.8 -0.2**
comp=Z,37nm,1.1s,baz=241,slow=7.5,SNR=3.0
DAVOX PKKPbc **PKKPdf 05 21 41.3 +0.2**
comp=Z,4.5nm,0.6s,baz=202,slow=5.7,SNR=12
SALO Salr 95.97 44 P **P 05 04 50.0 -0.5**
BUG Bochum--Univer 96.02 38 *e*P **P 05 04 50.4 -0.1**
comp=Z,156nm,1.4s,baz=251,slow=4.6
BUG *e*pP **pP 05 05 25.1 +0.3**
baz=251,slow=4.6
BUG *e*SKSac **SKSac 05 15 15.4 +0.6**
baz=249,slow=5.4
VAE Valguarnera 96.05 53 P **P 05 04 51.0 0.0**
comp=Z,5.6nm,0.6s,baz=286,slow=23,SNR=2.1
DAVA Damuels 96.12 42 *i* P **P 05 04 51.4 +0.1**
comp=Z,51nm,1.2s,SNR=18
DAVA *i* P **pP 05 05 27.4 +1.7**
comp=Z,98nm,1.5s,SNR=5.1
DAVA *e*P **PKKPbc 05 21 38.8 -0.9**
comp=Z,3.6nm,0.5s
DAVA *e*P **P'P'df 05 29 51.7 +0.8**
comp=Z,15nm,1.3s
URZ Urewera 96.17 226 P **P 05 04 52.7 +1.1**
comp=Z,5.3nm,0.9s,baz=68,slow=1.6,SNR=6.9
URZ LR LR 05 40 52.6
comp=Z,5μm,18.7s,baz=210,slow=31
STU Stuttgart 96.21 41 IAmb IAmb 05 05 29.1
comp=Z,115nm,1.1s

STU Stuttgart 96.21 41 *e*P **P 05 04 51.1 -0.4**
comp=Z,128nm,1.3s,baz=251,slow=4.6
STU *e*pP **pP 05 05 25.8 0.0**
baz=251,slow=4.6
TNS Taunus Mts 96.27 39 *e*P **P 05 04 51.7 -0.1**
comp=Z,96nm,1.2s,baz=251,slow=4.6
TNS *e*pP **pP 05 05 26.4 +0.3**
baz=251,slow=4.6
TNS *e*PP **PP 05 08 43.1 -3.9**
baz=250,slow=6.9
UBR Ueberruh 96.40 42 *e*P **P 05 04 52.5 +0.1**
comp=Z,198nm,1.7s,baz=251,slow=4.6
UBR *e*pP **pP 05 05 27.3 +0.4**
baz=251,slow=4.6
UBR *e*PP **PP 05 08 44.6 -3.5**
baz=250,slow=6.9
KHZ Kahutara 96.43 221 P **P 05 04 54.4 +1.7**
MURB Monte Urbino 96.53 47 IAmb IAmb 05 05 30.8
comp=Z,117nm,1.3s
RAO Raoul Island 96.57 236 P **P 05 04 55.0 +1.4**
comp=Z,381nm,0.3s,baz=103,slow=23,SNR=2.3
RAO LR LR 05 39 24.8
comp=Z,861nm,20.2s,baz=128,slow=30
FETA Feichten 96.58 43 *i* P **P 05 04 53.8 +0.4**
comp=Z,55nm,1.3s,SNR=20
FETA *e*P **pP 05 05 29.3 +1.6**
comp=Z,66nm,1.5s
FETA *e*P **PKKPbc 05 21 38.6 +0.2**
comp=Z,8.3nm,1.7s
FETA *e*P **P'P'df 05 29 51.1 +1.0**
comp=Z,8.9nm,1.3s
KASTN Kahler Asten 96.61 38 *e*P **P 05 04 52.9 -0.3**
comp=Z,58nm,1.3s,baz=251,slow=4.6
KASTN *e*pP **pP 05 05 27.6 0.0**
baz=251,slow=4.6
KASTN *e*SKSac **SKSac 05 15 19.7 +1.7**
baz=249,slow=5.4
KASTN *e*S **S 05 16 00.5 -2.8**
baz=253,slow=9.6
IBBN Ibbenburen 96.62 37 *e*P **P 05 04 53.2 0.0**
comp=Z,136nm,1.2s,baz=251,slow=4.6
IBBN *e*pP **pP 05 05 28.0 +0.4**
baz=251,slow=4.6
TEOL Teolo 96.64 44 P **P 05 04 53.1 -0.4**
PINM Pinnacle 96.69 331 P 05 04 53.4
baz=115,SNR=6.3
PINM S 05 16 00.7
baz=115
RETA Reutte 96.75 42 *i* P **P 05 04 54.1 +0.1**
comp=Z,41nm,1.1s,SNR=16
RETA *i* P **pP 05 05 30.0 +1.6**
comp=Z,77nm,1.4s,SNR=5.0
RETA *e*P **PKKPbc 05 21 36.2 -1.7**
comp=Z,2.7nm,0.6s
NRCA Norcia 96.80 47 IAmb IAmb 05 05 40.1
comp=Z,89nm,1.5s
AQU L'Aquila 96.85 48 IAmb IAmb 05 05 34.0
comp=Z,164nm,1.3s
MOTA Moosalm 96.92 42 *i* P **P 05 04 55.0 +0.1**
comp=Z,89nm,1.5s,SNR=20
MOTA *i* P **pP 05 05 31.1 +1.8**
comp=Z,138nm,1.5s,SNR=7.1
MOTA *e*P **PKKPbc 05 21 34.4 -3.1**
comp=Z,14nm,1.2s
MOTA *e*P **P'P'df 05 29 48.7 -0.7**
comp=Z,9.8nm,1.2s
SQTA Sankt Quirin 96.95 43 *i* P **P 05 04 55.0 0.0**
comp=Z,119nm,1.4s,SNR=32
SQTA *i* P **pP 05 05 30.9 +1.5**
comp=Z,163nm,1.3s,SNR=9.5
SQTA *e*P **PKKPbc 05 21 34.3 -3.1**
comp=Z,5.0nm,0.6s
SQTA *e*P **P'P'df 05 29 52.7 +3.4**
comp=Z,15nm,1.7s
LTZ Lake Taylor 97.02 221 IAmb IAmb 05 05 00.3
comp=Z,56nm,1.0s
INTR Introdacqua 97.10 48 P **P 05 04 55.1 -0.7**
THZ Tophouse 97.17 222 IAmb IAmb 05 04 59.2
comp=Z,139nm,1.2s
WATA Walderalm 97.22 43 *i* P **P 05 04 56.3 0.0**
comp=Z,77nm,1.4s,SNR=19
WATA *i* P **pP 05 05 32.4 +1.7**
comp=Z,145nm,1.4s,SNR=8.0
WATA *e*P **PKKPbc 05 21 32.0 -4.7**
comp=Z,3.4nm,0.7s
WATA *e*P **P'P'df 05 29 50.1 +1.3**
comp=Z,7.1nm,0.6s
WTTA Wattenberg 97.24 43 *i* P Pdif 05 04 56.5 0.0
comp=Z,135nm,1.6s,SNR=26
WTTA *i* P pP 05 05 32.5 +1.7
comp=Z,181nm,1.3s,SNR=8.3
WTTA *e*P **PKKPbc 05 21 32.5 -4.1**
comp=Z,2.8nm,0.5s
WTTA *e*P **P'P'df 05 29 50.6 +1.8**
comp=Z,26nm,1.6s
AFI Afiamalu 97.25 253 P Pdif 05 04 59.3 +2.1
comp=Z,46nm,0.8s,baz=14,slow=2.7,SNR=4.4
AFI pP pP 05 05 32.9 +1.8
comp=Z,28nm,0.9s,baz=210,slow=23,SNR=2.3
RPZ Rata Peaks 97.25 219 P Pdif 05 04 57.8 +1.3
comp=Z,20nm,0.9s,baz=56,slow=3.7,SNR=5.6
RPZ pP pP 05 05 32.2 +1.6
comp=Z,31nm,1.1s,baz=188,slow=4.8,SNR=3.8
RPZ LR LR 05 42 07.1
comp=Z,2μm,18.1s,baz=114,slow=31
FUR Furstenfeldbru 97.31 42 *e*P **P 05 04 56.4 -0.1**
comp=Z,92nm,1.1s,baz=251,slow=4.6
FUR *e*pP **pP 05 05 31.1 +0.3**
baz=251,slow=4.6
FUR *e*PP **PP 05 08 49.5 -5.5**
baz=250,slow=6.9
HLG Helgoland 97.37 35 *e*P Pdif 05 04 56.6 0.0
comp=Z,234nm,1.2s,baz=251,slow=4.6
UBBA Unterbreizbach 97.41 39 *e*P Pdif 05 04 57.1 +0.3
comp=Z,66nm,1.5s,baz=251,slow=4.6
UBBA *e*pP pP 05 05 31.8 +0.7
baz=251,slow=4.6
UBBA *e*SKSac **SKSac 05 15 26.7 +4.8**
baz=249,slow=5.4
CTG Chitna Glacier 97.54 332 P 05 04 56.3
baz=114,SNR=8.7
CTG S 05 16 03.4
baz=114
DBG Daneborg 97.56 12 *i* P Pdif 05 04 59.9 +2.9
DBG IAmb IAmb 05 05 00.9
comp=Z,14nm,1.2s
GRNC Granite Creek 97.63 332 IAmb IAmb 05 05 32.8
comp=Z,100nm,1.9s
GTTG Gottingen 97.64 38 *e*P Pdif 05 04 58.0 +0.2
comp=Z,74nm,1.2s,baz=251,slow=4.6
GTTG *e*pP pP 05 05 32.8 +0.6
baz=251,slow=4.6
ABTA Abfaltersbach 97.64 43 *i* P **P 05 04 58.0 -0.1**
comp=Z,65nm,1.4s,SNR=24
ABTA *i* P **pP 05 05 34.5 +2.0**
comp=Z,118nm,1.4s,SNR=6.3
ABTA *e*P **PKKPbc 05 21 32.7 -2.7**
comp=Z,7.7nm,1.3s
GRFO Grafenberg 97.77 40 P **P 05 04 58.0 -0.5**
GRFO pmax pmax
comp=Z,108nm,1.3s
GRFO Grafenberg 97.77 40 P **P 05 04 58.0 -0.5**
GRFO IAmb IAmb 05 05 36.7
comp=Z,108nm,1.3s
GRA1 Grafenberg Arr 97.77 40 P **P 05 04 58.5 0.0**
GRA1 IAmb IAmb 05 05 36.8
comp=Z,121nm,1.3s
GRF Grafenberg Arr 97.77 40 P **P 05 04 58.5 0.0**
GRF pmax pmax
comp=Z,121nm,1.3s
GRF Grafenberg Arr 97.77 40 *e*P Pdif 05 04 58.6 +0.1
comp=Z,80nm,1.2s,baz=251,slow=4.6
GRF *e*pP pP 05 05 33.4 +0.5
baz=251,slow=4.6
GRF *e*PP **PP 05 08 53.0 -5.5**
baz=250,slow=6.9
WHZ Wether Hill Ro 97.81 216 IAmb IAmb 05 05 02.5
comp=Z,167nm,1.9s
ZOU Zoufplan 97.88 44 IAmb IAmb 05 05 37.2
comp=Z,192nm,1.5s
KMY Karmoy 97.89 30 *e*Pdif Pdif 05 04 58.8 +0.1
KMY *e*SKSac **SKSac 05 15 24.6 +0.5**
INK Inuvik 97.91 340 P Pdif 05 04 59.3 +0.6
comp=Z,21nm,0.8s,baz=94,slow=4.8,SNR=65
INK pP pP 05 05 32.8 -0.1
comp=Z,27nm,1.1s,baz=102,slow=4.5,SNR=4.6
INK Inuvik 97.91 340 IAmb IAmb 05 05 38.3
comp=Z,138nm,1.5s

CLZ Clausthal 97.97 38 *e*P Pdif 05 04 59.6 +0.2
comp=Z,92nm,1.2s,baz=251,slow=4.6
CLZ *e*pP pP 05 05 34.3 +0.5
baz=251,slow=4.6
CLZ *e*SKSac **SKSac 05 15 29.1 +4.1**
baz=249,slow=5.4
CLZ *e*S **S 05 16 13.8 -1.2**
baz=253,slow=9.6
DAWY Dawson 98.03 335 P **P 05 04 58.8 -0.6**
NRDL Niedersach Rie 98.04 37 *e*P Pdif 05 05 00.1 +0.6
comp=Z,66nm,1.2s,baz=251,slow=4.6
NRDL *e*pP pP 05 05 34.9 +1.1
baz=251,slow=4.6
NRDL *e*SKSac **SKSac 05 15 27.8 +2.8**
baz=249,slow=5.4
EPYK Eagle Plains 98.05 338 P 05 04 58.8
baz=118,SNR=9.9
EPYK S 05 16 09.1
baz=118
EPYK Eagle Plains 98.06 338 IAmb IAmb 05 05 38.9
comp=Z,72nm,1.5s
TGL Tana Glacier 98.12 332 IAmb IAmb 05 05 34.5
comp=Z,82nm,1.5s
RJOB Jochberg 98.14 42 *e*P **P 05 05 00.1 -0.1**
comp=Z,228nm,1.6s,baz=251,slow=4.6
RJOB *e*pP **pP 05 05 34.9 +0.2**
baz=251,slow=4.6
RJOB *e*SKSac **SKSac 05 15 27.3 +1.2**
baz=249,slow=5.4
CRQE Cirque 98.24 332 P 05 04 59.6
baz=113,SNR=11
CRQE S 05 16 10.4
baz=113
ASSE Asse, Remlinge 98.24 38 *e*P Pdif 05 05 01.1 +0.7
comp=Z,110nm,1.4s,baz=251,slow=4.6
ASSE *e*pP pP 05 05 35.9 +1.1
baz=251,slow=4.6
ASSE *e*S **S 05 16 16.0 -1.0**
baz=253,slow=9.6
CADS Cadrg 98.28 44 *e*Pdiff **P 05 05 00.7 -0.3**
CADS *i* pPdiff **pP 05 05 34.9 -0.3**
CADS *i* PP **PP 05 08 59.4 -3.1**
CADS *e*SKSac **SKSac 05 15 27.9 +1.0**
CADS *i* SKKSac **SKKSac 05 15 56.3 -0.5**
CADS *e*S **ScS 05 16 19.4 +1.5**
CADS *e*sS **sS 05 17 20.0 +2.8**
CADS *e*SP **SP 05 17 43.2 +0.4**
CADS *e* 05 20 46.3
CADS *e* 05 28 36.5
KBA Koelnbreinsper 98.29 43 *i* P **P 05 05 01.1 0.0**
comp=Z,37nm,1.3s,SNR=8.9
KBA *e*P **pP 05 05 36.5 +1.0**
comp=Z,25nm,1.0s
KBA *e*P **PKKPbc 05 21 31.8 -2.0**
comp=Z,2.0nm,0.7s
MOX Moxa 98.32 39 *e*P Pdif 05 05 01.2 +0.2
comp=Z,57nm,1.6s,baz=251,slow=4.6
MOX *e*pP pP 05 05 35.9 +0.6
baz=251,slow=4.6
TIP Timpagrande 98.32 52 ⇑P **P 05 04 58.3 -3.0**
MYKA Terra Mystica 98.34 44 *i* P Pdif 05 05 01.7 +0.4
comp=Z,51nm,1.4s,SNR=8.6
MYKA *i* P pP 05 05 37.1 +1.6
comp=Z,74nm,1.3s,SNR=6.3
MYKA *e*P P'P'df 05 29 54.8 +8.1
comp=Z,10nm,1.8s
ASK Askoy 98.36 29 *e*Pdif **P 05 05 00.8 0.0**
ASK *e*SKSac **SKSac 05 15 23.7 -2.7**
SUE Sulen 98.38 28 *e*Pdif Pdif 05 05 02.2 +1.4
SUE *e*SKSac **SKSac 05 15 27.2 +0.8**
SUE *e*SS **SS 05 23 07.5 +2.3**
BER Bergen 98.38 29 *e*Pdif Pdif 05 05 01.2 +0.3
BER IVmB_BB 05 05 02.6
comp=Z,2μm,2.3s
BER *e*SKSac **SKSac 05 15 26.0 -0.5**
BER *e*SS **SS 05 23 04.7 -0.6**
BER IVMs_BB IVMs_BB 05 34 49.4
comp=Z,4μm,4.1s
ROTZ Rotzenmuhle 98.40 40 *e*P Pdif 05 05 01.6 +0.2
comp=Z,59nm,1.4s,baz=251,slow=4.6
ROTZ *e*pP pP 05 05 36.3 +0.6
baz=251,slow=4.6
ROTZ *e*PP **PP 05 08 57.2 -6.2**
baz=250,slow=6.9
ROTZ *e*SKSac **SKSac 05 15 29.6 +2.4**
baz=249,slow=5.4
SKMB Sankelmark Bun 98.41 35 *e*P Pdif 05 05 01.8 +0.7
comp=Z,123nm,0.8s,baz=251,slow=4.6
SKMB *e*pP pP 05 05 36.5 +1.0
baz=251,slow=4.6
MANZ Manzenberg 98.41 40 *e*P Pdif 05 05 01.7 +0.3
comp=Z,79nm,1.3s,baz=251,slow=4.6
MANZ *e*pP pP 05 05 36.5 +0.7
baz=251,slow=4.6
MANZ *e*SKSac **SKSac 05 15 30.5 +3.2**
baz=249,slow=5.4
MANZ *e*S **S 05 16 16.6 -2.2**
baz=253,slow=9.6
MCARA McCarthy VSAT 98.45 332 P 05 05 00.7
baz=113,SNR=10.0
MCARA S 05 16 11.9
baz=113
SNART Snartemo 98.52 31 *e*Pdif **P 05 05 01.2 -0.4**
SNART *e*SKSac **SKSac 05 15 25.0 -2.3**
KAIM Kayak Island 98.54 330 P 05 05 01.1
baz=112
BLS5 Blasjo 98.55 30 *e*Pdif Pdif 05 05 02.4 +0.6
BLS5 *e*SKSac **SKSac 05 15 25.4 -2.1**
BCAR Beaver Creek A 98.59 334 P **P 05 05 01.2 -0.7**
NEUB Neuenburg 98.60 39 *e*P Pdif 05 05 02.4 +0.3
comp=Z,62nm,1.3s,baz=251,slow=4.6
NEUB *e*pP pP 05 05 37.3 +0.8
baz=251,slow=4.6
PLN Plauen 98.60 40 *e*P Pdif 05 05 02.4 +0.2
comp=Z,38nm,1.2s,baz=251,slow=4.6
PLN *e*pP pP 05 05 37.2 +0.6
baz=251,slow=4.6
PLN *e*PP **PP 05 08 58.3 -6.5**
baz=250,slow=6.9
WET Wettzell 98.62 41 *e*P Pdif 05 05 02.4 0.0
comp=Z,48nm,1.3s,baz=251,slow=4.6
WET *e*pP pP 05 05 37.2 +0.4
baz=251,slow=4.6
WET *e*PP **PP 05 08 58.9 -6.1**
baz=250,slow=6.9
WET *e*SKSac **SKSac 05 15 30.3 +1.9**
baz=249,slow=5.4
WET *e*S **S 05 16 19.8 -0.8**
baz=253,slow=9.6
BSEG Bad Segeberg 98.63 36 *e*P **P 05 05 02.1 -0.1**
comp=Z,69nm,1.3s,baz=251,slow=4.6
BSEG *e*pP **pP 05 05 36.9 +0.3**
baz=251,slow=4.6
BSEG *e*SKSac **SKSac 05 15 31.8 +3.8**
baz=249,slow=5.4
FLTG Flechtingen 98.64 38 *e*P **P 05 05 02.2 0.0**
comp=Z,88nm,1.6s,baz=251,slow=4.6
FLTG *e*pP **pP 05 05 37.0 +0.4**
baz=251,slow=4.6
FLTG *e*SKSac **SKSac 05 15 31.2 +3.0**
baz=249,slow=5.4
EUNU Eureka 98.66 357 P Pdif 05 05 02.5 +0.6
GUNZ Gunzen 98.67 40 *e*P Pdif 05 05 03.0 +0.5
comp=Z,45nm,1.4s,baz=251,slow=4.6
GUNZ *e*pP pP 05 05 37.8 +0.8
baz=251,slow=4.6
GUNZ *e*PP **PP 05 08 59.6 -5.8**
baz=250,slow=6.9
GUNZ *e*SKSac **SKSac 05 15 31.2 +2.6**
baz=249,slow=5.4
GUNZ *e*S **ScS 05 16 22.3 +1.4**
baz=253,slow=9.6
WERN Wernitzgruen 98.67 40 *e*P Pdif 05 05 02.9 +0.4
comp=Z,42nm,1.2s,baz=251,slow=4.6
WERN *e*pP pP 05 05 37.8 +0.8
baz=251,slow=4.6
WERN *e*S **S 05 16 23.2 +2.3**
baz=253,slow=9.6
WERD Werda 98.68 40 *e*P Pdif 05 05 02.7 +0.2
comp=Z,22nm,1.2s,baz=251,slow=4.6
WERD *e*pP pP 05 05 37.5 +0.5
baz=251,slow=4.6
WERD *e*PP **PP 05 08 59.6 -5.8**
baz=250,slow=6.9
WERD *e*SKSac **SKSac 05 15 30.5 +1.9**
baz=249,slow=5.4
WERD *e*S **ScS 05 16 24.1 +3.2**

baz=253,slow=9.6
NKC Novy Kostel 98.70 40 *e*P Pdif 05 05 03.6 +0.9
NKC *e* 05 15 33.0
NKC Novy Kostel 98.70 40 *e*PDIFF Pdif 05 05 03.6 +0.9
NKC *e*SKS **SKSac 05 15 33.0 +4.3**
FOO Floro 98.71 28 *e*Pdif Pdif 05 05 02.4 0.0
FOO *e*PP **PP 05 09 04.9 -0.4**
FOO *e*SKSac **SKSac 05 15 29.0 +0.8**
FOO *e*SS **SS 05 23 12.7 +2.8**
FOO IVMs_BB IVMs_BB 05 48 20.8
comp=Z,4µm,4.3s
LJU Ljubljana 98.75 44 *e*Pdiff **P 05 05 02.2 -0.8**
comp=Z,265nm,2.4s
LJU *e*pPdiff **pP 05 05 37.1 -0.2**
LJU *i* sPdiff **sP 05 05 52.0 +0.9**
LJU *i* PP **PP 05 09 03.7 -2.4**
LJU *e*pPP 05 09 48.2
LJU *i* SKSac **SKSac 05 15 30.5 +1.4**
LJU *e*S **ScS 05 16 22.6 +0.8**
LJU *e* 05 16 33.8
LJU *e*sS **sS 05 17 24.4 +3.2**
TANN Tannenbergstha 98.76 40 *e*P Pdif 05 05 03.5 +0.5
comp=Z,64nm,1.3s,baz=251,slow=4.6
TANN *e*pP pP 05 05 38.2 +0.8
baz=251,slow=4.6
TANN *e*PP **PP 05 09 00.5 -5.6**
baz=250,slow=6.9
ODD1 Odda 98.81 30 *e*Pdif Pdif 05 05 03.8 +0.9
ODD1 *e*SKSac **SKSac 05 15 31.5 +2.7**
ODD1 *e*SS **SS 05 23 12.0 +0.6**
MUD Monsted U'grnd 98.86 33 *i* P Pdif 05 05 04.0 +0.9
comp=Z,190nm,1.4s
MUD Monsted U'grnd 98.86 33 *i* P Pdif 05 05 04.0 +0.9
MUD Monsted U'grnd 98.86 33 *i* P Pdif 05 05 04.1 +1.0
MUD IAmb IAmb 05 05 05.5
comp=Z,191nm,1.4s
OBKA Obir 98.91 44 *i* P Pdif 05 05 04.3 +0.5
comp=Z,65nm,1.6s,SNR=7.7
OBKA *e*P pP 05 05 40.5 +2.4
comp=Z,58nm,1.2s
OBKA *e*P **PKKPbc 05 21 33.1 +1.2**
comp=Z,12nm,1.5s
OBKA *e*P **P'P'df 05 29 44.2 -1.5**
comp=Z,12nm,1.8s
BMRM Bremner River 99.01 331 IAmb IAmb 05 09 06.3
comp=Z,70nm,1.6s
BMRM Bremner River 99.01 331 P 05 05 03.3
baz=112,SNR=5.1
EGAK Eagle 99.02 336 P 05 05 03.4
baz=114,SNR=15
EGAK Eagle 99.02 336 IAmb IAmb 05 05 38.4
comp=Z,64nm,1.6s
GEC2 GERESS Array S 99.05 42 P **Pdif 05 05 03.9 -0.4**
GEC2 GERESS Array S 99.05 42 *e*P **Pdif 05 05 04.1 -0.2**
comp=Z,32nm,1.2s,baz=251,slow=4.6
GEC2 *e*pP **pP 05 05 38.9 0.0**
baz=251,slow=4.6
GEC2 *e*SKSac **SKSac 05 15 32.1 +1.4**
baz=249,slow=5.4
GERES GERESS Array B 99.05 42 P **Pdif 05 05 04.2 -0.2**
comp=Z,16nm,1.0s,baz=242,slow=2.9,SNR=42
GERES pP **pP 05 05 38.6 -0.2**
comp=Z,14nm,1.1s,baz=261,slow=2.6,SNR=3.6
GERES PP **PP 05 09 08.3 -0.1**
comp=Z,4.7nm,1.0s,baz=204,slow=6.5,SNR=4.0
GERES PKKPbc **PKKPbc 05 21 30.9 -0.6**
comp=Z,1.9nm,0.7s,baz=85,slow=2.3,SNR=12
GERES PKPPKP 05 29 44.9
comp=Z,1.3nm,0.8s,baz=116,slow=3.1,SNR=7.8
GERES LR LR 05 51 15.5
comp=Z,2µm,18.4s,baz=248,slow=36
GERES GERESS Array B 99.05 42 P **Pdif 05 05 04.4 0.0**
GERES *PP **pP 05 05 38.8 0.0**
GERES GERESS Array B 99.05 42 P **Pdif 05 05 04.4 0.0**
GERES pP **pP 05 05 38.8 0.0**
KHC Kasperske Hory 99.06 41 *e*P **Pdif 05 05 04.1 -0.2**
KHC *e*PP **pP 05 05 38.0 -0.8**
KHC *e* 05 09 04.0
KHC *e* 05 15 32.9
KHC MLR MLR
comp=Z,2µm,17.3s
KHC Kasperske Hory 99.06 41 *e*PDIFF **Pdif 05 05 04.1 -0.2**
KHC *e*pP **pP 05 05 38.0 -0.8**
KHC *e*PP **PP 05 09 04.0 -4.4**
KHC *e*SKS **SKSac 05 15 32.9 +2.3**
KHC AMS AMS 05 49 10.0
comp=Z,2µm,17.3s
HYA Hoyanger 99.06 28 *e*Pdif **Pdif 05 05 04.7 +0.8**
HYA *e*SKSac **SKSac 05 15 30.0 +0.1**
HYA *e*SS **SS 05 23 18.7 +3.9**
K27K Chicken 99.09 335 IAmb IAmb 05 05 40.2
comp=Z,80nm,1.4s
K27K Chicken 99.09 335 P 05 05 04.2
baz=113
MOA Molln 99.11 43 *i* P **Pdif 05 05 04.8 +0.3**
comp=Z,34nm,1.4s,SNR=13
MOA *i* P **pP 05 05 41.3 +2.3**
comp=Z,58nm,1.4s,SNR=5.3
MOA *e*P **PKKPbc 05 21 30.0 -1.2**
comp=Z,6.1nm,1.0s
MOA *e*P **P'P'df 05 29 44.9 -0.2**
comp=Z,7.8nm,1.6s
HOMB Homborsund 99.13 32 *e*Pdif **Pdif 05 05 04.6 +0.3**
HOMB *e*SKSac **SKSac 05 15 32.9 +2.5**
HOMB *e*SS **SS 05 23 17.6 +1.8**
MBAR Mbarara 99.23 94⇑ *e*P **Pdif 05 05 07.5 +1.4**
MBAR pmax pmax
comp=Z,13nm,1.3s
MBAR Mbarara 99.23 94 P **Pdif 05 05 04.4 -1.8**
N25K Chitina, Valde 99.24 332 P 05 05 04.2
baz=111
SOKA Soboth 99.27 44 *i* P **Pdif 05 05 05.7 +0.3**
comp=Z,22nm,1.5s,SNR=5.9
SOKA *e*P **pP 05 05 40.7 +1.0**
comp=Z,20nm,1.1s
SOKA *e*P **P'P'df 05 29 45.3 +0.4**
comp=Z,13nm,1.3s
CLL Collm 99.36 39 *i* Pdif **Pdif 05 05 05.7 +0.2**
comp=Z,60nm,1.4s
CLL *i* pPdif **pP 05 05 41.2 +1.2**
comp=Z,85nm,1.3s
CLL *e* 05 08 31.0
CLL *e*PP **PP 05 09 03.0 -7.5**
CLL *e*pPP 05 09 42.0
CLL *e*SKSac **SKSac 05 15 37.0 +5.1**
CLL *e*Sdif **S 05 16 28.0 +1.4**
CLL *e* 05 17 25.0
CLL *e*SP **SP 05 17 59.0 +4.9**
CLL *e*PPS PPS 05 18 48.0
CLL *e*PKKPbc **PKKPbc 05 21 30.0 -0.6**
CLL *e*pPKKPbc 05 21 58.0
CLL *e*SS **SS 05 23 12.0 -7.5**
CLL *e*sSS 05 24 10.0
CLL *e*SSS SSS 05 27 12.0
CLL *e*sSSS 05 28 00.0
CLL *e*PKPPKPd **P'P'df 05 29 45.0 +0.7**
CLL *e*pPKPPKPd 05 30 14.0
CLL *e* 05 31 54.0
CLL Lm MLR 05 47 00.0
comp=N,1µm,21.1s
CLL Lm MLR 05 47 00.0
comp=E,2µm,21.1s
CLL Collm 99.36 39 *i* P **Pdif 05 05 05.7 +0.2**
CLL *i* *PP **pP 05 05 41.2 +1.2**
CLL *e* 05 15 37.0
CLL *e*S **S 05 16 28.0 +1.4**
CLL pmax pmax
comp=Z,60nm,1.4s
CLL Collm 99.36 39 *e*P **Pdif 05 05 05.7 +0.2**
comp=Z,60nm,1.4s,baz=251,slow=4.6
CLL *e*pP **pP 05 05 40.5 +0.6**
baz=251,slow=4.6
CLL *e*SKSac **SKSac 05 15 35.0 +3.1**
baz=249,slow=5.4
EYAK Cordova Ski Ar 99.38 331 P 05 05 04.7
baz=111
CKRC Cesky Krumlov 99.43 42 *e*PDIFF **Pdif 05 05 06.3 +0.4**
CKRC *e*pP **pP 05 05 40.7 +0.3**
CKRC *e*SKS **SKSac 05 15 34.6 +2.2**
FBE Freiberg 99.46 40 *e*P **Pdif 05 05 06.5 +0.6**
comp=Z,68nm,1.4s,baz=251,slow=4.6
FBE *e*pP **pP 05 05 41.3 +0.9**
baz=251,slow=4.6
FBE *e*PP **PP 05 09 05.9 -5.4**
baz=250,slow=6.9
FBE *e*SKSac **SKSac 05 15 35.2 +2.9**
baz=249,slow=5.4
FBE *e*S **S 05 16 30.1 +2.7**
baz=253,slow=9.6
PBCC Pribram 99.48 41 *e*PDIFF **Pdif 05 05 07.0 +0.8**
PBCC *e*pP **pP 05 05 41.8 +1.2**
PBCC *e*SKS **SKSac 05 15 36.2 +3.6**
DAG Danmarks Havn 99.53 10 *i* P **Pdif 05 05 06.2 +0.5**
comp=Z,15nm,1.4s
DAG Danmarks Havn 99.53 10 *i* P **Pdif 05 05 06.2 +0.5**
DAG Danmarks Havn 99.53 10 *i* P **Pdif 05 05 06.2 +0.5**
DAG IAmb IAmb 05 05 07.9
comp=Z,15nm,1.4s
ARSA Arzberg 99.76 43 *i* P **Pdif 05 05 06.5 -1.0**
comp=Z,23nm,1.6s,SNR=5.6
ARSA *i* P **pP 05 05 44.3 +2.6**
comp=Z,34nm,1.4s,SNR=5.1
ARSA *e*P **PKKPbc 05 21 27.7 -1.7**
comp=Z,5.5nm,1.1s
ARSA *e*P **P'P'df 05 29 36.6 -7.3**
comp=Z,6.4nm,1.0s
AKN Aaknes 99.79 28 *e*Pdif **Pdif 05 05 07.2 0.0**
AKN *e*SKSac **SKSac 05 15 27.4 -6.1**
AKN IVMs_BB IVMs_BB 05 45 02.0
comp=Z,4µm,4.5s
KLU Klutina 99.79 332 P 05 05 07.1
baz=110,SNR=24
BRG Berggiesshubel 99.80 40⇓ *e*Piff 05 05 08.3
BRG Amp 05 05 10.0
comp=Z,63nm,1.7s
⇓pPiff 05 05 44.0
BRG Amp 05 05 46.1
comp=Z,75nm,1.5s
BRG PP **PP 05 09 09.6 -4.3**
BRG Amp 05 09 13.1
comp=Z,104nm,1.9s
BRG SKS **SKSac 05 15 38.0 +3.9**
BRG ⇓Siff 05 16 32.0
BRG SP SP 05 18 03.0 +4.2
BRG ⇑PKKPb 05 21 29.0
BRG Amp 05 21 31.8
comp=Z,6.4nm,1.1s
BRG ⇓PKKPf 05 21 55.4
BRG Amp 05 21 58.4
comp=Z,32nm,1.6s
BRG *ex* x 05 22 29.3
BRG Amp 05 22 31.3
comp=Z,20nm,1.6s
BRG SS **SS 05 23 23.0 -2.6**
BRG PKPPKP 05 30 12.9
BRG Amp 05 30 22.1
comp=Z,63nm,2.1s
BRG Amp 05 47 55.0
comp=E,2.0nm,21.1s
BRG Amp 05 48 01.0
comp=Z,3.1nm,21.5s
BRG Amp 05 48 04.0
comp=N,1.1nm,21.1s
BRG Berggiesshubel 99.80 40 *e*P **Pdif 05 05 07.9 +0.4**
comp=N,43nm,1.4s,baz=251,slow=4.6
BRG *e*pP **pP 05 05 42.6 +0.7**
baz=251,slow=4.6
BRG *e*SKSac **SKSac 05 15 36.8 +2.7**
baz=249,slow=5.4
BRG *e*S **S 05 16 32.3 +2.0**
baz=253,slow=9.6
SCRK Sand Creek 99.85 334 P 05 05 07.4
baz=112,SNR=11
SKAR Skarslia 99.86 29 *e*Pdif **Pdif 05 05 07.9 +0.3**
SKAR *e*SKSac **SKSac 05 15 35.5 +1.4**
SKAR *e*SS **SS 05 23 31.4 +5.3**
SKAR IVMs_BB IVMs_BB 05 39 14.3
comp=Z,3µm,3.9s
PRA Prague 99.87 41 *e*P **Pdif 05 05 07.2 -0.6**
PRA *e* 05 15 37.2
PRA Prague 99.87 41 *e*PDIFF **Pdif 05 05 07.2 -0.6**
PRA *e*SKS **SKSac 05 15 37.2 +2.8**
PRU Pruhonice 99.91 41 *e*P **Pdif 05 05 08.2 +0.2**
PRU *e* 05 15 37.8
PRU MLR MLR
comp=Z,2µm,21.8s
PRU Pruhonice 99.91 41 *e*PDIFF **Pdif 05 05 08.2 +0.2**
PRU *e*SKS **SKSac 05 15 37.8 +3.1**
PRU AMS AMS 05 49 00.0
comp=Z,2µm,21.8s
KOGS Kog 100.01 44 *i* Pdiff **Pdif 05 05 09.2 +0.6**
KOGS *e*pPdiff **pPdif 05 05 41.9 -1.0**
KOGS *e*SKSac **SKSac 05 15 37.6 +2.3**
KOGS *e* 05 16 13.7
KOGS *e*S **Sdif 05 16 35.0 +2.8**
KOGS *e*sS **sS 05 17 34.5 +2.7**
KOGS *e* 05 23 40.7
GOPC GO Pecny, Ondr 100.04 41 *e*P **Pdif 05 05 09.1 +0.5**
GOPC *e**PP pP 05 05 43.3 +0.2
GOPC *e* 05 15 38.5
GOPC GO Pecny, Ondr 100.04 41 *e*PDIFF **Pdif 05 05 09.1 +0.5**
GOPC *e*pP pP 05 05 43.3 +0.2
GOPC *e*SKS 05 15 38.5
PVCC Panska Ves 100.08 40 *e*P **Pdif 05 05 08.1 -0.7**
PVCC Panska Ves 100.08 40 *e*PDIFF **Pdif 05 05 08.1 -0.7**
PAX Paxson 100.11 333 P 05 05 07.8
baz=110,SNR=9.2
M24K Tolsona, Glenn 100.12 332 P 05 05 08.1
baz=110,SNR=8.6
GLI Glacier Island 100.12 331 P 05 05 07.9
baz=109,SNR=10
KONO Kongsberg 100.13 30 *e*Pdif **Pdif 05 05 06.7 -2.0**
KONO *e*PP **PP 05 09 14.3 -1.8**
KONO *e*SKSac **SKSac 05 15 34.8 -0.5**
KONO *e*SP **SP 05 18 01.7 -0.2**
KONO *e*SS **SS 05 23 33.4 +3.6**
KONO IVMs_BB IVMs_BB 05 40 52.2
comp=Z,2µm,4.8s
MOL Molde 100.17 27 *e*Pdif **Pdif 05 05 08.2 -0.6**
CONA Conrad Observa 100.17 43 *i* P **Pdif 05 05 09.8 +0.4**
comp=Z,31nm,1.7s,SNR=12
CONA *i* P pP 05 05 45.6 +1.8
comp=Z,47nm,1.7s,SNR=6.0
CONA *e*P **PKKPbc 05 21 27.2 -1.1**
comp=Z,6.2nm,1.4s
CONA *e*P **P'P'df 05 29 42.8 -0.4**
comp=Z,8.2nm,1.6s
RUE Ruedersdorf 100.17 38 *e*P **Pdif 05 05 09.2 +0.1**
comp=Z,34nm,0.6s,baz=251,slow=4.6
RUE *e*pP pP 05 05 44.0 +0.5
baz=251,slow=4.6
TREC Trest 100.31 41 *e*P **Pdif 05 05 10.1 +0.3**
TREC *e* 05 15 39.5
TREC Trest 100.31 41 *e*PDIFF **Pdif 05 05 10.1 +0.3**
TREC *e*pP pP 05 05 44.9 +0.6
TREC *e*SKS 05 15 39.5
DOMB Dombas 100.66 28 *e*Pdif **Pdif 05 05 11.6 +0.5**
DOMB IVmB_BB 05 05 13.0
comp=Z,3µm,5.0s
DOMB *e*PP **PP 05 09 20.1 0.0**
DOMB *e*SKSac **SKSac 05 15 37.2 -0.6**
DOMB *e*SS **SS 05 23 36.5 -0.5**
DOMB IVMs_BB IVMs_BB 05 45 33.2
comp=Z,3µm,4.9s
LNIZ Loecknitz 100.70 37 *e*P **Pdif 05 05 11.0 -0.4**
comp=Z,70nm,1.3s,baz=251,slow=4.6
LNIZ *e*pP **pPdif 05 05 45.7 -0.1**
baz=251,slow=4.6
OSL Oslo 100.76 30 *e*Pdif **Pdif 05 05 11.8 +0.3**
OSL *e*SKSac **SKSac 05 15 39.6 +1.3**
OSL *e*SS **SS 05 23 32.9 -5.5**
KRUC Moravsky 100.82 42 *e*PDIFF **Pdif 05 05 12.4 +0.3**
KRUC *e*pPDIFF 05 05 48.2
KRUC *e*PP **PP 05 09 17.7 -3.9**
KRUC *e*SKS 05 15 40.6
KRUC *e*SDIFF SKKSac 05 16 39.8 +25
KRUC *e* 05 17 40.8
KRUC *e*PKKP **PKKPbc 05 21 25.6 -0.8**
KRUC *e* 05 21 50.2
KNK Knik Glacier 100.92 331 P 05 05 10.2
baz=108,SNR=10
UPC Upice 100.96 40 *e*P **Pdif 05 05 13.5 +0.8**
UPC *e* 05 15 42.1
UPC Upice 100.96 40 *e*PDIFF **Pdif 05 05 13.5 +0.8**
UPC *e*SKS 05 15 42.1
WAT6 Susitna Watana 100.96 332 P 05 05 12.0
baz=108,SNR=18
SEW Seward 100.98 330 P 05 05 11.7
baz=108
SML Sawmill 100.98 332 P 05 05 12.2
baz=108,SNR=16
VRAC Vranov 101.01 42⇑ P **Pdif 05 05 13.8 +0.8**
VRAC Vranov 101.01 42 *e*PDIFF **Pdif 05 05 13.5 +0.6**
VRAC *e*pPDIFF 05 05 49.0
VRAC *e*PP **PP 05 09 18.7 -4.4**
VRAC *e*SKS 05 15 42.8
VRAC *e*SDIFF SKKSac 05 16 41.4 +25
VRAC *e* 05 17 44.5
VRAC *e*PKKP **PKKPbc 05 21 23.9 -2.0**
VRAC *e* 05 21 50.1
VRAC Vranov 101.01 42⇑ P **Pdif 05 05 13.8 +0.8**
CHVC Chvalec 101.01 40 *e*PDIFF **Pdif 05 05 13.6 +0.7**
CHVC *e*pP pP 05 05 46.7 +0.1
CHVC *e*SKS 05 15 39.5
PRP Porcupine Dome 101.01 336 P 05 05 12.5
baz=110,SNR=8.3
PDG Podgorica 101.03 49⇑ P **Pdif 05 05 15.5 +2.3**
ZST Bratislava 101.04 43⇑ *e*P **Pdif 05 05 13.8 +0.7**
ZST *e* 05 15 37.5
ZST *e* 05 18 17.7
ZST Bratislava 101.04 43 *e*PDIFF **Pdif 05 05 13.8 +0.7**
ZST *e* 05 05 48.4
ZST *e*PP **PP 05 09 17.9 -5.4**
OSTC Ostas 101.10 40 *e*PDIFF **Pdif 05 05 14.1 +0.8**
OSTC *e*SKS 05 15 43.1
DPC Dobruska-Polom 101.11 41 *e*P **Pdif 05 05 13.7 +0.3**
DPC *e* 05 15 44.5
DPC Dobruska-Polom 101.11 41 *e*PDIFF **Pdif 05 05 13.7 +0.3**
DPC *e*pP pP 05 05 49.7 +1.7
DPC *e*SKS 05 15 44.5
MODS Modra-Piesok 101.20 43⇑ *e*P **Pdif 05 05 14.2 +0.4**
MODS *e* 05 15 39.7
MODS *e*S **Sdif 05 16 45.1 +3.0**
MODS *e* 05 18 13.0
MODS Modra-Piesok 101.20 43 *e*PDIFF **Pdif 05 05 14.2 +0.4**
MODS *e* 05 05 50.8
MODS *e*PP **PP 05 09 18.7 -5.9**
HDA Harding Lake 101.21 334 P 05 05 13.0
baz=109,SNR=7.1
HDA P 05 05 13.0
baz=109,SNR=7.1
O22K Cooper Landing 101.22 330 P 05 05 11.8
baz=107
KSP Ksiaz 101.22 40 *e*P **Pdif 05 05 15.1 +1.2**
KSP *e* 05 05 50.5
PMR Palmer 101.28 331 P 05 05 13.5
baz=108
ILAR Eielson Array 101.31 335 P **Pdif 05 05 13.8 -0.2**
comp=Z,2.4nm,0.7s,baz=134,slow=3.1,SNR=35
ILAR PP **PP 05 09 17.6 -7.3**
comp=Z,7.2nm,1.0s,baz=102,slow=6.9,SNR=8.0
ILAR PKKPbc **PKKPbc 05 21 24.2 -1.3**
comp=Z,0.7nm,0.8s,baz=304,slow=4.0,SNR=5.6
ILAR Eielson Array 101.31 335 Pdif **Pdif 05 05 13.3 -0.6**
KRLC Kraliky 101.32 41 *e*P **Pdif 05 05 15.4 +1.0**
KRLC *e* 05 15 45.0
KRLC Kraliky 101.32 41 *e*PDIFF **Pdif 05 05 15.4 +1.0**
KRLC *e*pP pP 05 05 50.0 +1.1
KRLC *e*SKS 05 15 45.0
NB2 NORSAR Subarra 101.32 29 P **Pdif 05 05 14.6 +0.5**
comp=Z,64nm,1.7s,baz=251,slow=4.3
NB2 NORSAR Subarra 101.32 29 Pdif **Pdif 05 05 14.6 +0.5**
baz=251,slow=4.3
NOA NORSAR Array B 101.32 29 P **Pdif 05 05 14.6 +0.5**
comp=Z,8.3nm,0.9s,baz=252,slow=4.3,SNR=9.7
NOA PP **PP 05 09 24.5 -0.7**
comp=Z,7.5nm,1.1s,baz=264,slow=9.0,SNR=5.1
NOA PKKPbc **PKKPbc 05 21 23.4 -2.0**
comp=Z,1.9nm,0.6s,baz=261,slow=2.9,SNR=8.5
NC602 NORSAR Array S 101.39 30 *e*Pdif **Pdif 05 05 14.5 +0.1**
NC602 *e*PP **PP 05 09 24.8 -0.8**
NC602 *e*SKSac **SKSac 05 15 40.3 -1.1**
NC602 *e*SP SP 05 18 17.0 +1.7
NC602 *e*SS **SS 05 23 50.3 +3.1**
NC602 IVMs_BB IVMs_BB 05 41 05.0
comp=Z,3µm,4.1s
RC01 Rabbit Creek A 101.41 331 P 05 05 13.7
baz=107,SNR=8.6
WAT2 Susitna Watana 101.45 333 P 05 05 14.1
baz=108,SNR=9.7
BRSE Bradley Lake S 101.49 329 P 05 05 14.3
baz=106
MORH Mrgy, Hungar 101.55 45⇓ P **Pdif 05 05 16.5 +1.1**
JAVC Velka Javorina 101.58 42 *e*PDIFF **Pdif 05 05 16.9 +1.4**
JAVC *e*pPDIFF 05 05 52.6
JAVC *e*SKS 05 15 46.7
JAVC *e*SDIFF **Sdif 05 16 46.8 +1.5**
JAVC *e*PKKP **PKKPbc 05 21 24.6 +0.3**
JAVC *e* 05 21 48.4
POKR Poker Plat Res 101.64 335 P 05 05 15.5
baz=108,SNR=7.7
MORC Moravsky Berou 101.72 41⇓ P **Pdif 05 05 16.9 +0.7**
MORC Moravsky Berou 101.72 41 *e*PDIFF **Pdif 05 05 16.5 +0.3**
MORC *e*pPDIFF 05 05 52.0
MORC *e*SKS 05 15 46.6
MORC *e*PKKP **PKKPbc 05 21 22.9 -0.9**
MORC *e* 05 21 46.7
MORC Moravsky Berou 101.72 41⇓ P **Pdif 05 05 16.9 +0.7**
COLA College 101.73 335 P 05 05 15.8
baz=108
TCOL CIGO, IJAF Yank 101.73 335 P 05 05 15.8
baz=108
MCK McKinley 101.83 333 P 05 05 16.4
baz=107
KDAK Kodiak Island 101.87 327 P 05 05 15.8
baz=105
KDAK Kodiak Island 101.88 327 P **Pdif 05 05 17.4 +0.9**
comp=Z,13nm,1.1s,baz=128,slow=2.7,SNR=5.6
HOM Homer 101.91 329 P 05 05 16.6
baz=106
SUA Susitna One 101.98 331 P 05 05 17.4
baz=106,SNR=11
CUT Chulitna 102.03 332 P 05 05 17.1
baz=106
OHAK Old Harbor 102.09 326 P 05 05 16.4
baz=105
OKC Ostrava-Krasne 102.12 41 *e*SKS 05 15 48.3
NEA2 Nenana 102.14 334 P 05 05 17.6
baz=107,SNR=12
VYHS Vyhne 102.23 43⇑ *e*P **Pdif 05 05 18.9 +0.5**
VYHS *e* 05 15 47.2
VYHS *e*S **Sdif 05 16 48.6 -2.2**
VYHS *e* 05 18 27.1
VYHS Vyhne 102.23 43 *e*PDIFF **Pdif 05 05 18.9 +0.5**
VYHS *e* 05 05 55.2
TRF Thorofare Moun 102.33 333 P 05 05 18.5
baz=106,SNR=7.7
SII Sitkinak Islan 102.40 326 P 05 05 18.1
baz=104
I23K Minto, Yukon-K 102.42 335 P 05 05 18.4
baz=107,SNR=8.5
SKT Skwentna 102.48 331 P 05 05 18.1
baz=105,SNR=17
NSS Namsos 102.66 26 *e*Pdif **Pdif 05 05 19.8 0.0**
NSS IVmB_BB 05 05 23.6
comp=Z,5µm,4.3s
NSS *e*PP **PP 05 09 33.1 -1.9**
NSS *e*SKSac **SKSac 05 15 49.1 +2.0**
NSS *e*SP SP 05 18 30.1 +1.6
NSS *e*SS **SS 05 24 05.8 +1.4**
NSS IVMs_BB IVMs_BB 05 41 22.9
comp=Z,4µm,4.4s
PSZ Piszkesteto 102.79 44⇓ P **Pdif 05 05 22.1 +1.1**
PSZ Piszkesteto 102.79 44⇓ P **Pdif 05 05 22.1 +1.1**
LANS Liptovska Anna 102.79 42 *e*PP **PKiKP 05 09 34.9 -6.0**
BPAW Bear Paw Mtn. 102.81 334 P 05 05 20.3
baz=105,SNR=20
MLY Manley 102.95 334 P 05 05 20.8
baz=105,SNR=11
PPLA Purkeypile 103.02 332 P 05 05 21.0
baz=105,SNR=11
BOVS Bovan 103.06 48⇑ P **Pdif 05 05 22.7 +0.5**
OJC Ojcow 103.24 41 *e*P **Pdif 05 05 24.5 +1.6**
OJC *e* 05 06 00.3
CHUM Lake Minchumin 103.32 333 P 05 05 22.1
baz=104
MDVR Moldovita 103.32 47⇑ P **Pdif 05 05 24.3 +0.9**
COLD Coldfoot 103.33 337 P 05 05 23.6
baz=105
NIE Niedzica 103.39 42 *e*P **Pdif 05 05 25.5 +2.0**
NIE *e* 05 06 02.1
BZS Buzias 103.43 46⇑ P **Pdif 05 05 24.7 +0.9**
BZS Buzias 103.43 46⇑ P **Pdif 05 05 24.7 +0.9**

TOLK	Toolik Lake Re	103.48	338		P			05 05 24.1	
	baz=106								
HERR	Herculane	103.83	47	⇑	P		Pdif	05 05 29.1	+3.6
N2SV	S rvⱯgen	103.94	23		ePdif		Pdif	05 05 27.4	+1.9
NBB17	Glomfjord BⱭr	104.04	24	⇑	ePdif		Pdif	05 05 26.1	+0.1
MOR8	Moi Rana	104.07	25		ePdif		Pdif	05 05 26.7	+0.5
MOR8					IVmB_BB			05 05 28.5	
	comp=Z,2µm,3.1s								
MOR8					eSKSac		SKSac	05 15 51.5	-2.2
MOR8					eSS		SS	05 24 24.0	0.0
MOR8					IVMs_BB	IVMs_BB		05 42 02.7	
	comp=Z,4µm,5.1s								
GZR	Gura Zlata	104.18	47	⇑	P		Pdif	05 05 29.0	+1.8
GZR	Gura Zlata	104.18	47	⇑	P		Pdif	05 05 29.0	+1.8
LOF	Lofoten	104.19	23		ePdif		Pdif	05 05 26.8	+0.1
LOF					eSKSac		SKSac	05 15 55.3	+1.1
LOF					eSS		SS	05 24 25.4	+0.1
NBB28	Valnes	104.32	24		ePdif		Pdif	05 05 26.1	-1.1
DRGR		104.42	45	⇓	P		Pdif	05 05 26.5	-1.8
DRGR		104.42	45	⇓	P		Pdif	05 05 26.5	-1.8
UZH	Uzhgorod	104.51	43		eP		Pdif	05 05 30.0	+1.5
UZH					i			05 09 47.0	
UZH					e			05 16 02.0	
UZH					e			05 16 43.0	
UZH					eS		Sdif	05 17 08.0	-1.6
UZH					ePS		SP	05 18 46.0	-2.7
KOLS	Kolonicke sedl	104.55	43		ePP		PKiKP	05 09 47.1	+3.0
KOLS					e			05 18 47.6	
CHGN	Chignik	104.64	325		P			05 05 28.5	
	baz=101								
FAUS	Fauske	104.67	23		ePdif		Pdif	05 05 28.7	-0.1
FAUS					eSKSac		SKSac	05 15 59.4	+3.0
FAUS					eSS		SS	05 24 32.2	+0.3
FAUS					IVMs_BB	IVMs_BB		05 46 10.1	
	comp=Z,5µm,4.3s								
STEI	Steigen	104.77	23		ePdif		Pdif	05 05 29.5	+0.3
STEI					eSKSac		SKSac	05 16 01.8	+5.1
KMBO	Kilima Mbogo	105.23	96		Pdiff		Pdif	05 05 34.7	+1.9
	comp=Z,0.7nm,0.3s,baz=216,slow=6.4,SNR=3.2								
KIBK	Kibwezi	105.57	98		P		PKiKP	05 09 54.0	+6.9
VOIR		105.76	47	⇓	P		Pdif	05 05 35.1	+0.8
VOIR		105.76	47	⇓	P		Pdif	05 05 35.1	+0.8
LVV	L'vov	105.84	42		eP		Pdif	05 05 38.5	+4.1
LVV					e			05 16 04.0	
LVV					e			05 16 45.5	
LVV					eS		Sdif	05 17 08.1	-13
LVV					eSS		SS	05 24 46.8	-2.1
KBS	Kingsbay	106.19	11		ePdif		Pdif	05 05 35.3	0.0
KBS					ePP		PP	05 09 58.7	-2.1
KBS					eSKSac		SKSac	05 16 02.5	-0.4
KBS					eSS		SS	05 24 53.8	+1.7
KBS					IVMs_BB	IVMs_BB		05 43 10.2	
	comp=Z,2µm,3.6s								
BURAR	Bucovina Array	106.25	45	⇑	P		Pdif	05 05 36.4	0.0
BURAR	Bucovina Array	106.25	45	⇑	P		Pdif	05 05 36.4	0.0
BURAR	Bucovina Array	106.25	45		Pdif		Pdif	05 05 37.5	+1.1
TRO	Tromso	106.39	21		ePdif		Pdif	05 05 36.4	0.0
TRO					ePP		PP	05 10 02.2	-0.3
TRO					eSKSac		SKSac	05 16 02.7	-1.3
TRO					eSS		SS	05 24 57.9	+2.6
TRO					IVMs_BB	IVMs_BB		05 43 38.0	
	comp=Z,5µm,4.2s								
HSPB	Hornsund (broa	106.56	14		ePP		PP	05 10 02.7	-0.9
HSPB					eSKSac		SKSac	05 16 06.1	+1.6
HSPB					eSP		SP	05 19 10.5	+1.8
HSPB					IVMs_BB	IVMs_BB		05 43 36.9	
	comp=Z,1µm,3.7s								
PABE	Paberze	106.69	36		eP		PP	05 10 01.9	-3.1
JETT	Jettan, Norway	106.90	22		ePdif		Pdif	05 05 38.4	-0.3
JETT					eSKSac		SKSac	05 16 07.5	+1.2
SPA0	Spitsbergen Ar	106.92	12		ePdif		Pdif	05 05 38.7	+0.1
SPA0					eSKSac		SKSac	05 16 08.1	+2.0
SPITS	Spitsbergen Ar	106.92	12		PKKPbc	PKKPbc		05 21 08.3	-0.5
	comp=Z,6.7nm,0.8s,baz=148,slow=13,SNR=6.6								
SPITS					PKKP		PKKPdf	05 21 23.1	+2.0
	comp=Z,5.8nm,0.6s,baz=139,slow=13,SNR=8.4								
BJO1	Bjornoya	107.06	16		ePdif		Pdif	05 05 42.2	+2.9
BJO1					eSKSac		SKSac	05 16 07.6	+0.8
BJO1					eSP		SP	05 19 11.9	-1.9
BJO1					eSS		SS	05 25 07.1	+3.0
BJO1					IVMs_BB	IVMs_BB		05 47 42.8	
	comp=Z,4µm,4.0s								
OPO	Ambohidratompo	107.53	117		PP		PP	05 10 12.2	+0.3
	comp=Z,11nm,1.1s,baz=241,slow=10,SNR=5.8								
OPO					PKKPbc		PKKPbc	05 21 00.7	-4.6
	comp=Z,2.3nm,0.6s,baz=332,slow=12,SNR=3.1								
HAMF	Hammerfest	108.12	21		ePdif		Pdif	05 05 44.0	0.0
HAMF					ePP		PP	05 10 14.4	-0.6
HAMF					eSKSac		SKSac	05 16 11.9	+0.5
HAMF					eSS		SS	05 25 16.8	-1.7
RDOG	Red Dog Mine	108.25	337		P			05 09 51.0	
	baz=94								
FINES	FINESS Array B	108.44	30		Pdiff		Pdif	05 05 46.2	+0.6
	comp=Z,3.5nm,1.0s,baz=276,slow=5.4,SNR=1.8								
FINES					PKiKP		PKiKP	05 09 50.9	0.0
	comp=Z,3.7nm,1.0s,baz=289,slow=5.8,SNR=1.6								
FINES					PP		PP	05 10 16.2	-1.4
	comp=Z,16nm,1.1s,baz=241,slow=3.9,SNR=7.3								
FINES					PKKPbc		PKKPbc	05 21 02.1	-1.6
	comp=Z,5.7nm,0.6s,baz=101,slow=3.1,SNR=24								
FINES					PKKPab		PKKPab	05 21 15.3	+1.6
	comp=Z,3.6nm,0.6s,baz=80,slow=4.5,SNR=4.7								
FINES					PKPPKP			05 29 27.1	
	comp=Z,2.8nm,0.9s,baz=183,slow=9.5,SNR=3.3								
FINES	FINESS Array B	108.44	30				PKiKP	05 09 51.5	+0.6
KIS	Kishinev	108.59	46		ePP		PP	05 10 15.0	-4.2
KIS					eSKS		SKSac	05 16 13.0	-1.5
KIS	Kishinev	108.59	46		eLR		LR	05 52 25.0	
	comp=Z,2µm,20.0s								
KIS	Kishinev	108.59	46		ePS		SP	05 19 30.0	-0.7
ARCES	ARCESS Array B	108.68	22		Pdiff		Pdif	05 05 47.8	+1.2
	comp=Z,4.0nm,1.0s,baz=317,slow=7.4,SNR=1.8								
ARCES					PKiKP		PKiKP	05 09 50.3	-0.8
	comp=Z,4.1nm,1.0s,baz=242,slow=2.6,SNR=2.0								
ARCES					PP		PP	05 10 14.5	-4.7
	comp=Z,7.5nm,1.0s,baz=267,slow=5.4,SNR=4.1								
ARCES					PKKPbc		PKKPbc	05 21 01.1	-2.1
	comp=Z,6.2nm,0.9s,baz=57,slow=3.0,SNR=7.0								
ARCES					PKKPab		PKKPab	05 21 13.1	+0.7
	comp=Z,8.1nm,0.8s,baz=108,slow=2.7,SNR=3.9								
ARCES	ARCESS Array B	108.68	22				PKiKP	05 09 50.7	-0.4
HOPEN	Hopen	108.70	14		ePdif		Pdif	05 05 47.3	+0.8
HOPEN					ePP		PP	05 10 20.3	+1.1
HOPEN					eSKSac		SKSac	05 16 13.1	-0.6
HOPEN					eSP		SP	05 19 32.2	+1.9
HOPEN					IVMs_BB	IVMs_BB		05 46 34.0	
	comp=Z,3µm,3.8s								
ANM	Nome	109.06	333		P			05 09 51.2	
	baz=93								
AKASG	Malin Array Be	109.26	42		Pdiff		Pdif	05 05 50.6	+1.0
	comp=Z,0.6nm,0.6s,baz=276,slow=3.9,SNR=1.3								
AKASG					PKiKP		PKiKP	05 09 52.8	+0.1
	comp=Z,2.1nm,0.5s,baz=272,slow=2.6,SNR=9.8								
AKASG					PP		PP	05 10 17.2	-6.8
	comp=Z,14nm,1.1s,baz=260,slow=7.2,SNR=7.1								
AKASG					PKKPbc		PKKPbc	05 20 59.2	-1.5
	comp=Z,1.4nm,0.4s,baz=73,slow=3.4,SNR=6.6								
AKASG					PKKPab		PKKPab	05 21 12.5	+2.1
	comp=Z,0.9nm,0.5s,baz=65,slow=4.8,SNR=6.0								
NIKH	Nikolski High	110.22	321		P			05 09 53.6	
	baz=94								
BRTR	Keskin Array B	111.21	54		Pdiff		Pdif	05 05 59.5	+0.8
	comp=Z,0.2nm,0.5s,baz=264,slow=2.9,SNR=1.1								
BRTR					PKiKP		PKiKP	05 09 57.9	+0.9
	comp=Z,4.5nm,0.8s,baz=164,slow=2.4,SNR=10.0								
BRTR					PP		PP	05 10 30.6	-8.1
	comp=Z,9.9nm,1.0s,baz=247,slow=7.4,SNR=7.0								
BRTR					PKKPbc		PKKPbc	05 20 55.0	+0.9
	comp=Z,1.1nm,0.6s,baz=122,slow=3.2,SNR=4.9								
BRTR					PKKPab		PKKPab	05 21 03.8	+1.4
	comp=Z,5.4nm,0.8s,baz=112,slow=3.5,SNR=16								
BRTR	Keskin Array B	111.21	54				PKiKP	05 09 56.7	-0.3
APA	Apatity	111.62	24	⇑	/PKiKP		PKiKP	05 09 57.7	+1.0
APA					i *PP		PP	05 10 37.1	-3.3
APA					i			05 10 44.4	
APA					i			05 16 28.0	
APA					pmax	pmax			
	comp=Z,8.0nm,0.9s								
DZM	Mont Dzumac	112.36	236		ePP		PP	05 10 43.3	-3.2
	comp=Z,3µm,28.3s								
DZM					eSKSac		SKSac	05 16 31.8	+0.3
	comp=Z,3µm,29.1s								
DZM					eSP		SP	05 20 06.3	-1.1
	comp=Z,5µm,26.1s								

OBN	Obninsk	113.85	37		PKiKP		PKiKP	05 10 02.0	+0.8
	comp=Z,4.9nm,0.4s,baz=32,slow=7.8,SNR=2.1								
OBN					PP		PP	05 10 53.2	-3.4
	comp=Z,5.4nm,0.4s,baz=108,slow=3.1,SNR=11								
OBN					PKKPbc		PKKPbc	05 20 45.8	+0.2
	comp=Z,5.5nm,0.5s,baz=83,slow=23,SNR=3.5								
OBN	Obninsk	113.85	37	⇓	iPKiKP		PKiKP	05 10 02.5	+1.3
OBN					i			05 10 38.1	
OBN					e			05 10 50.9	
OBN					i			05 10 59.9	
OBN					i			05 16 34.9	
OBN					eSP		SP	05 20 36.1	+17
OBN					eSSS		SSS	05 30 55.9	
OBN					pmax	pmax			
	comp=Z,10.0nm,0.5s								
OBN					MLR		MLR		
	comp=Z,2µm,18.0s								
KLMR	Klimovskoe	114.96	31		eP		Pdif	05 06 14.7	+0.1
KLMR					i			05 10 03.6	
KLMR					e			05 11 02.6	
KLMR					e			05 20 38.9	
KLMR					eSS		SS	05 26 43.2	-6.7
KLMR					pmax	pmax			
	comp=Z,19nm,1.5s								
KLMR	Klimovskoe	114.96	31		ePdif		Pdif	05 06 14.8	+0.1
KLMR					AMP			05 06 26.2	
	comp=Z,19nm,1.5s								
KLMR					ePKiKP		PKPdf	05 10 03.7	+0.5
KLMR					ePP		PP	05 11 02.7	-1.5
KLMR					eSKSac		SKSac	05 17 49.4	-3.3
KLMR					eSKSac		SKSac	05 17 49.4	-3.3
KLMR					ePKKPbc		PKKPbc	05 20 38.9	-3.1
KLMR					eSS		SS	05 26 43.3	-6.6
KLMR					eSS		SS	05 26 43.3	-6.6
KLMR					eSS		SS	05 26 43.3	-6.6
LPSR	Galich'ya Gora	115.35	40		ePKiKP		PKPdf	05 10 05.1	+0.9
LPSR					eSP		SP	05 20 30.1	-3.3
LPSR					pmax	pmax			
	comp=Z,30nm,0.7s								
VSR	Storozhevoye	115.56	41		ePKiKP		PKPdf	05 10 04.6	-0.1
VSR					eSP		SP	05 20 34.9	-0.5
VSR					pmax	pmax			
	comp=Z,10.0nm,0.6s								
SOC	Sochi	116.02	50		eP		Pdif	05 06 20.0	+0.2
SOC					i			05 10 04.9	
SOC					e			05 11 08.9	
SOC					e			05 16 43.4	
SOC					ePS		PKKPab	05 20 43.9	+3.1
SOC					eSS		SS	05 27 15.3	+11
SOC					pmax	pmax			
	comp=Z,56nm,1.1s								
VRH	Novokhopyorsk	117.16	41		ePKiKP		PKPdf	05 10 07.7	-0.1
VRH					pmax	pmax			
	comp=Z,10.0nm,0.6s								
PRGR	Permogore	117.73	29		ePKiKP		PKiKP	05 10 09.8	+1.2
PRGR					e			05 11 23.9	
PRGR					pmax	pmax			
	comp=Z,39nm,0.7s								
KIV	Kislovodsk	118.17	49		eP		Pdif	05 06 30.7	+1.2
KIV					i			05 10 11.3	
KIV					e			05 11 25.1	
KIV					e			05 16 53.8	
KIV					ePS		PS	05 21 16.8	+1.7
KIV					eSS		SS	05 27 32.2	-0.7
KIV					pmax	pmax			
	comp=Z,45nm,1.0s								
KIV					MLR		MLR		
	comp=Z,3µm,22.0s								
KIV	Kislovodsk	118.17	49				PKiKP	05 10 10.2	0.0
KBZ	Khabaz	118.33	50		PKP		PKiKP	05 10 10.7	+0.4
	comp=Z,35nm,0.9s,baz=225,slow=1.5,SNR=35								
KBZ					pPKP		pPKPdf	05 10 46.6	+0.6
	comp=Z,7.8nm,0.8s,baz=208,slow=10,SNR=1.3								
KBZ					PKKPbc		PKKPab	05 20 30.6	0.0
	comp=Z,2.3nm,0.8s,baz=125,slow=6.9,SNR=3.6								
ZEI	Tsey	119.08	51		iPKiKP		PKiKP	05 10 12.1	0.0
ZEI					pmax	pmax			
	comp=Z,14nm,0.9s								
RAYN	Ar Rayn	119.23	73		PKiKP		PKiKP	05 10 13.3	+0.5
RAYN	Ar Rayn	119.23	73				PKiKP	05 10 13.3	+0.5
BILL	Bilibino	119.51	339		iPKiKP		PKiKP	05 10 12.7	+0.8
BILL					i			05 10 48.2	
BILL					e			05 11 00.9	
BILL					i			05 11 33.7	
BILL					ePS		PS	05 21 25.3	-0.6
BILL					pmax	pmax			
	comp=Z,12nm,0.8s								
BILL					MLR		MLR		
	comp=Z,1µm,19.0s								
BILL	Bilibino	119.51	339				PKiKP	05 10 12.2	+0.3
GNI	Garni	119.76	54		PKiKP		PKPdf	05 10 12.9	-0.5
GNI	Garni	119.76	54	⇑	iPKiKP		PKiKP	05 10 15.6	+2.2
GNI					pmax	pmax			
	comp=Z,22nm,0.8s								
GNI	Garni	119.76	54		PKPdf		PKiKP	05 10 13.5	+0.1
KIRV	Kirov	120.32	32		PKP		PKiKP	05 10 13.9	+0.2
	comp=Z,14nm,0.7s,baz=338,slow=4.0,SNR=5.3								
KIRV					PKKPbc		PKKPbc	05 20 22.9	+0.1
	comp=Z,8.4nm,0.4s,baz=120,slow=3.2,SNR=5.8								
KIRV	Kirov	120.32	32	c	iPKiKP		PKiKP	05 10 15.2	+1.5
GROC	Groznyy	120.45	50		ePKiKP		PKiKP	05 10 15.7	+1.2
GROC					e			05 10 50.0	
GROC					e			05 11 38.7	
GROC					e			05 17 16.2	
GROC					pmax	pmax			
	comp=Z,19nm,0.4s								
BELG	Belogornoye	120.66	39		PKP		PKiKP	05 10 14.8	+0.3
	comp=Z,67nm,0.9s,baz=66,slow=0.4,SNR=27								
BELG					PP		PP	05 11 41.3	-2.6
	comp=Z,59nm,1.1s,baz=243,slow=4.5,SNR=8.3								
BELG					PKKPbc		PKKPbc	05 20 21.1	-0.2
	comp=Z,28nm,0.7s,baz=300,slow=3.3,SNR=12								
BELG					PKKP		PKKPdf	05 20 55.6	+1.2
	comp=Z,32nm,0.8s,baz=253,slow=1.0,SNR=8.3								
BELG	Belogornoye	120.66	39	c	iPKiKP		PKiKP	05 10 15.1	+0.6
RST	Umm Al-Ruwaisa	121.25	66		eP			05 10 16.6	
MIB	Mutribah	121.56	66		eP			05 10 17.3	
RDF	Al-Radifah	121.68	67		eP			05 10 17.6	
MAK	Makhachkala	121.72	50		eP		Pdif	05 06 45.8	+0.7
MAK					i			05 10 16.7	
MAK					e			05 10 49.4	
MAK					e			05 17 05.6	
MAK					ePS		PS	05 21 43.0	-3.6
MAK					pmax	pmax			
	comp=Z,19nm,0.3s								
UMR	Umm Al-Rimmam	121.87	66		eP			05 10 17.8	
AKT	Akhty	121.98	52		ePKiKP		PKiKP	05 10 18.6	+0.9
AKT					e			05 10 52.4	
AKT					e			05 11 50.9	
AKT					e			05 17 08.6	
AKT					pmax	pmax			
	comp=Z,25nm,1.0s								
STKA	Stephens Creek	121.98	211		PKP		PKiKP	05 10 18.4	+0.4
	comp=Z,18nm,0.6s,baz=107,slow=1.9,SNR=30								
STKA					pPKP		pPKPdf	05 10 53.4	-0.1
	comp=Z,30nm,1.0s,baz=129,slow=1.4,SNR=5.9								
STKA					PP		PP	05 11 51.6	-0.8
	comp=Z,7.9nm,0.8s,baz=130,slow=6.9,SNR=3.6								
STKA					PKKPbc		PKKPbc	05 20 15.6	-0.5
	comp=Z,4.4nm,1.0s,baz=334,slow=8.1,SNR=3.9								
STKA	Stephens Creek	121.98	211	d	iPKiKP		PKiKP	05 10 18.2	+0.2
SOCY	Socotra	125.02	88				PKPdf	05 10 23.8	-0.3
TIXI	Tiksi	125.66	353		PKP		PKiKP	05 10 24.3	+0.4
	comp=Z,21nm,0.7s,baz=3.7,slow=1.7,SNR=25								
TIXI					pPKP		pPKPdf	05 10 59.0	-0.3
	comp=Z,11nm,0.9s,baz=350,slow=2.9,SNR=2.7								
TIXI	Tiksi	125.66	353	c	iPKiKP		PKiKP	05 10 24.1	+0.2
TIXI					pmax	pmax			
	comp=Z,105nm,0.8s								
TIXI	Tiksi	125.66	353		PKPdf		PKiKP	05 10 23.9	0.0
ARU	Arti	125.68	33		PKP		PKiKP	05 10 24.7	+0.3
	comp=Z,16nm,0.6s,baz=281,slow=1.2,SNR=59								
ARU					pPKP		pPKPdf	05 11 00.3	+0.5
	comp=Z,11nm,0.6s,baz=292,slow=2.4,SNR=4.5								
ARU	Arti	125.68	33		iPKiKP		PKiKP	05 10 25.6	+1.2
ARU								05 12 17.5	
ARU	Arti	125.68	33		PKPdf		PKiKP	05 10 24.9	+0.5
SVE	Sverdlovsk	126.57	32		ePKiKP		PKiKP	05 10 27.8	+1.6
SEY	Seymchan	127.11	338	⇓	iPKiKP		PKiKP	05 10 28.1	+1.1
AKTO	Aktyubinsk	127.44	40		PKP		PKiKP	05 10 28.9	+0.8
	comp=Z,28nm,0.8s,baz=269,slow=2.0,SNR=34								
AKTO					pPKP		pPKPdf	05 11 04.0	+0.5
	comp=Z,18nm,0.8s,baz=290,slow=2.5,SNR=3.7								
AKTO					PP		PP	05 12 26.9	-2.5

	comp=Z,8.9nm,0.9s,baz=309,slow=8.0,SNR=5.7								
ASUD	Al Ashush, Dub	128.28	73		iPKiKP		PKiKP	05 10 31.9	+1.4
	SNR=7.2								
CTA	Charters Tower	128.34	224		PKP		PKiKP	05 10 31.3	+0.5
	comp=Z,35nm,0.7s,baz=158,slow=2.0,SNR=32								
CTA					pPKP		pPKPdf	05 11 05.5	-0.5
	comp=Z,95nm,1.2s,baz=108,slow=0.7,SNR=7.8								
CTAO	Charters Tower	128.34	224		PKiKP		PKiKP	05 10 31.4	+0.5
CTAO	Charters Tower	128.34	224				PKiKP	05 10 31.4	+0.5
FAQ	Al Faqa, Dubai	128.53	73		iPKiKP		PKiKP	05 10 31.2	+0.1
	SNR=14								
NAZ	Nazwa, Dubai	128.61	72		iPKiKP		PKiKP	05 10 31.2	0.0
	SNR=8.0								
NWAO	Narrogin (SRO)	128.64	187		PKP		PKiKP	05 10 31.4	+0.2
	comp=Z,28nm,0.7s,baz=180,slow=3.1,SNR=15								
NWAO					pPKP		pPKPdf	05 11 06.3	+0.2
	comp=Z,122nm,1.1s,baz=197,slow=2.2,SNR=13								
NWAO	Narrogin (SRO)	128.64	187				PKPdf	05 10 30.7	+0.2
ASHO	Ashiyiah	128.95	73		iPKiKP		PKiKP	05 10 31.8	-0.2
	SNR=15								
ABKAR	Akbulak array	128.99	41		PKPdf		PKiKP	05 10 31.9	+0.7
HATD	Hatta, Dubai	129.02	73		iPKiKP		PKiKP	05 10 31.9	-0.2
	SNR=9.4								
MSFE	Esma-Masafi	129.08	72		iPKiKP		PKiKP	05 10 32.0	-0.2
	SNR=5.7								
UOSS	Minazif	129.10	72		iPKiKP		PKPdf	05 10 31.5	0.0
	SNR=10								
UOSS	Minazif	129.10	72				PKPdf	05 10 30.8	-0.7
SHME	Shamm	129.11	71		iPKiKP		PKiKP	05 10 32.6	+0.4
	SNR=17								
BANOM	Banah	129.24	71		iPKiKP		PKPdf	05 10 31.4	-0.4
	SNR=11								
SOHO	SOHO	129.34	74		iPKiKP		PKiKP	05 10 32.6	-0.1
	SNR=7.9								
PET	Petropavlovsk	129.38	325		iPKiKP		PKiKP	05 10 31.7	-0.2
PET					e			05 11 06.4	
PET					e			05 12 44.6	
PET					eSS		SS	05 29 52.7	-0.5
PET					eSSS		SSS	05 34 46.2	
PET					pmax	pmax			
	comp=Z,82nm,0.9s								
PET					pmax	pmax			
	comp=Z,2µm,8.7s								
PET					pmax	pmax			
	comp=Z,2µm,17.9s								
PET	Petropavlovsk	129.38	325				PKiKP	05 10 31.8	0.0
MA2	Magadan	129.79	335	d	iPKiKP		PKiKP	05 10 32.5	0.0
MA2					pmax	pmax			
	comp=Z,48nm,1.7s								
MA2	Magadan	129.79	335		PKPdf		PKiKP	05 10 32.6	0.0
PETK	Petropavlovsk-	129.87	325		PKP		PKiKP	05 10 33.8	+0.8
	comp=Z,51nm,0.9s,baz=86,slow=6.4,SNR=28								
PETK					pPKP		pPKPdf	05 11 08.9	+1.1
	comp=Z,16nm,0.9s,baz=64,slow=4.5,SNR=2.1								
PETK					SKPbc		SKPbc	05 13 45.3	+2.2
	comp=Z,21nm,1.0s,baz=96,slow=7.6,SNR=5.9								
PETK	Petropavlovsk-	129.87	325				PKiKP	05 10 32.9	0.0
GEYT	Alibeck	130.30	56		PKP		PKiKP	05 10 35.1	+0.8
	comp=Z,15nm,0.8s,baz=251,slow=4.5,SNR=12								
GEYT					PP		PP	05 12 45.7	-3.0
	comp=Z,23nm,0.9s,baz=264,slow=7.4,SNR=7.9								
GEYT					SKPbc		SKPbc	05 13 47.4	+2.3
	comp=Z,39nm,1.1s,baz=291,slow=4.1,SNR=8.3								
GEYT	Alibeck	130.30	56				PKiKP	05 10 34.2	-0.1
WSAR	Wadi Sarin	131.18	75		PP		PP	05 12 53.9	-1.0
	comp=Z,47nm,0.9s,baz=282,slow=6.5,SNR=10								
WSAR					SKPbc		SKPab	05 13 49.4	+0.2
	comp=Z,33nm,0.9s,baz=273,slow=5.0,SNR=10								
SKR	Severo-Kuril's	131.79	323		iPKHKP		PKPpre	05 10 26.4	
SKR					e			05 12 58.0	
SKR					eSS		SS	05 30 23.2	+0.5
SKR					eSSS		SSS	05 35 20.4	
SKR					pmax	pmax			
	comp=Z,1µm,8.1s								
ASAR	Alice Springs	132.54	209		PKhKP		PKPpre	05 10 21.0	
	comp=Z,4.5nm,0.7s,baz=132,slow=2.6,SNR=32								
ASAR					PKP		PKPdf	05 10 38.3	+0.1

KURBB PP **PP** 05 13 39.8 -1.8
comp=Z,12nm,1.1s,baz=307,slow=5.5,SNR=4.7
KURBB SKPbc **SKPbc** 05 14 09.1 -3.1
comp=Z,24nm,0.9s,baz=283,slow=6.4,SNR=4.8
KUR Kuril'sk 139.21 319 *de*PKIKP **PKPdf** 05 10 47.9 -1.9
KUR *e* 05 11 27.3
KUR *e* 05 13 46.1
KUR *i* PPP PPP 05 16 48.0
KUR *i* SS SS 05 31 57.2 +5.7
KUR pmax pmax
comp=Z,2μm,5.3s
KUR pmax pmax
comp=Z,2μm,18.0s
ZALV Zalesovo Beam 139.21 23 PKhKP PKPpre 05 10 45.0
comp=Z,8.8nm,0.6s,baz=302,slow=2.5,SNR=18
ZALV PKP **PKiKP** 05 10 51.0 -0.8
comp=Z,77nm,0.6s,baz=297,slow=2.1,SNR=45
ZALV pPKP pPKPdf 05 11 25.7 +0.3
comp=Z,90nm,0.9s,baz=298,slow=3.2,SNR=4.7
ZALV SKPbc **SKPbc** 05 14 13.5 +0.4
comp=Z,34nm,0.8s,baz=301,slow=3.5,SNR=7.5
ZALV Zalesovo Beam 139.21 23 PKPpre 05 10 39.9
ZALV PKPdf **PKiKP** 05 10 51.0 -0.8
PSA00 Pilbara Seismi 139.34 193 PKPpre 05 10 42.4
PSA00 PKPdf **PKPdf** 05 10 50.7 -0.2
PSA00 pPKPdf pPKPdf 05 11 25.3 -1.3
BTLS Baital 139.48 41 *e*PKP **PKiKP** 05 10 51.6 -1.0
baz=41
BTLS *e*PP **PP** 05 13 48.0 +2.0
baz=41
BTLS *e*SKP 05 14 14.6
baz=41
BTLS Baital 139.48 41 *e*PKIKP **PKiKP** 05 10 51.6 -1.0
BTLS *e* 05 13 48.0
KBL Kabul 139.59 58 PKIKP **PKPdf** 05 10 49.2 -1.9
KBL Kabul 139.59 58 PKPdf **PKPdf** 05 10 49.2 -1.9
SEM Semipalatinsk 139.80 30 *e*PKP **PKPdf** 05 10 51.1 0.0
baz=30
SEM *e*SKP 05 14 15.7
baz=30
SEM Semipalatinsk 139.80 30 *e*PKIKP **PKPdf** 05 10 51.0 0.0
EKS2 Erkin-Say 140.41 44 P **PKiKP** 05 10 55.0 +0.2
SNR=16
BOD Bodaibo 140.52 357 *e*PKHKP PKPpre 05 10 44.7
BOD pmax pmax
comp=Z,32nm,1.6s
AML Almayashu 140.58 45 P **PKiKP** 05 10 55.6 0.0
SNR=16
SGDS Sogindy 140.60 43 *e*PKP **PKPdf** 05 10 52.8 +0.3
baz=42
SGDS *e*PP **PP** 05 13 54.9 +1.8
baz=42
SGDS Sogindy 140.60 43 *e*PKIKP **PKPdf** 05 10 52.8 +0.3
SGDS *e* 05 13 54.8
USP Ospenovka 140.61 43 P **PKiKP** 05 10 55.0 -0.1
SNR=20
AAK Ala-Archa 140.89 44 PKhKP PKPpre 05 10 48.5
comp=Z,8.4nm,0.8s,baz=216,slow=2.6,SNR=11
AAK PP **PP** 05 13 55.7 +0.7
comp=Z,19nm,1.0s,baz=272,slow=7.0,SNR=4.1
AAK SKPbc **SKiKP** 05 14 20.0 -0.3
comp=Z,30nm,0.9s,baz=268,slow=3.3,SNR=8.3
AAK Ala-Archa 140.89 44 P **PKPdf** 05 10 52.2 -0.9
SNR=8.7
AAK Ala-Archa 140.89 44 *i* PKPdf **PKPdf** 05 10 48.7 -4.5
SNR=14
AAK Ala-Archa 140.89 44 PKHKP PKPpre 05 10 47.5
AAK Ala-Archa 140.89 44 PKPpre 05 10 47.5
AAK Ala-Archa 140.89 44 P **PKPdf** 05 10 48.8 -4.5
FITZ Fitzroy Crossi 140.95 203 PKhKP PKPpre 05 10 47.4
baz=219,slow=6.4
YUK Yuzh-Kuril'sk 141.04 319 *e*PKIKP **PKPdf** 05 10 51.3 -1.8
YUK *e* 05 13 53.8
YUK *e*PPP PPP 05 17 00.5
YUK *e*SS SS 05 32 12.4 -0.6
YUK *e*SSS SSS 05 37 29.4
UCH Uchtor 141.09 44 P **PKPdf** 05 10 55.0 +1.1
SNR=14
YSS Yuzh-Sakhalins 141.27 325 *e*PKHKP PKPpre 05 10 47.6
YSS *i* 05 10 54.5
YSS *e* 05 13 56.6
YSS *e* 05 17 53.0
YSS *e*SS SS 05 32 19.0 +3.7
YSS pmax pmax
comp=Z,90nm,0.8s
YSS Yuzh-Sakhalins 141.27 325 **PKPdf** 05 10 53.8 +0.3
BHUJ Bhuj 141.31 76 *ex* x 05 14 19.6
BHUJ *i* x **PP** 05 13 54.9 -3.3
TKM2 Tokmak 2 141.48 43 P **PKiKP** 05 10 58.8 +1.7
SNR=7.6
GRNR Gornyy 141.78 334 *e*PKHKP PKPpre 05 10 50.1
ULHL Ulahol 142.22 43 P **PKPdf** 05 10 52.5 -3.1
SNR=16
MDOK Medeo 142.29 42 *e*PKP **PKPdf** 05 10 56.8 +1.1
baz=42
MDOK Medeo 142.29 42 *e*PKIKP **PKPdf** 05 10 56.7 +1.1
ZEA Zeya 142.46 344 *e*PKHKP PKPpre 05 10 51.3
ZEA *e* 05 26 28.5
ZEA pmax pmax
comp=Z,300nm,5.8s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA pmax pmax
comp=E,200nm,3.7s
ZEA pmax pmax
comp=N,400nm,9.9s
ZEA pmax pmax
comp=Z,1μm,6.1s
ZEA MLR MLR
comp=N,700nm,19.0s
ZEA MLR MLR
comp=Z,1μm,20.0s
ASAJ Asahikawa 143.00 321 PKP **PKPdf** 05 10 54.7 -1.9
comp=Z,47nm,0.8s,baz=294,slow=1.0,SNR=18
NIL Nilore 143.19 58 PKIKP PKPbc 05 10 54.6 -0.1
NIL Nilore 143.19 58 PKPbc 05 10 54.6 -0.1
MK31 Makanchi Array 143.20 33 *i* PKIKP PKPbc 05 10 54.6 +0.3
MKAR Makanchi Array 143.20 33 PKhKP PKPpre 05 10 53.8
comp=Z,20nm,0.8s,baz=321,slow=3.6,SNR=60
MKAR SKPbc **SKiKP** 05 14 24.6 -0.2
comp=Z,27nm,0.9s,baz=294,slow=3.6,SNR=5.1
MKAR Makanchi Array 143.20 33 PKPdf PKPbc 05 10 53.7 -0.7
KSH Kashi 143.26 48 PKP PKPbc 05 10 55.4 +0.6
KSH pPKP pPKPdf 05 11 28.3 -5.0
KSH PP **PP** 05 14 09.9 +0.5
KSH SS SS 05 32 42.1 +2.6
KSH LR LR
comp=Z,760nm,14.9s
KSH LR LR
comp=Z,2μm,16.6s
KSH LR LR
comp=Z,4μm,21.0s
DGZ Jazzator, Alta 143.52 26 *i* PKIKP PKPbc 05 10 55.8 +0.5
ERM Erimo 143.77 318 PKIKP **PKPdf** 05 10 57.1 -1.0
ERM Erimo 143.77 318 **PKPdf** 05 10 57.1 -1.0
GOA Goa 144.54 89⇑ *i*P **PKPab** 05 10 57.9 -1.0
GOA IAmb IAmb 05 11 03.0
comp=Z,70nm,0.6s
KLR Kul'dur 144.87 336 PKP **PKPdf** 05 10 59.6 -0.2
comp=Z,178nm,0.6s,baz=62,slow=3.3,SNR=344
KLR Kul'dur 144.87 336 *i* PKIKP PKPbc 05 10 59.4 +0.2
POO Poona 144.97 84⇑ *i*P PKPbc 05 10 57.0 -3.5
comp=Z,330nm,1.3s
POO ⇑ *i*P **PKPab** 05 10 59.3 -1.2
AJM Ajmer 145.69 70⇑ *i*P **PKPdf** 05 11 02.0 +0.1
TRD Trivandrum 145.71 102⇑ *i*P **PKPab** 05 11 03.5 +0.1
TRD *i* x x 05 11 39.2
TRD *ex* x 05 14 20.6
IRK Irkutsk 145.79 7 *e*PKP2 **PKPab** 05 11 02.7 +0.2
IRK pmax pmax
comp=Z,390nm,28.0s
TEY Ternei 145.80 327⇑ *i*PKP2 **PKPab** 05 11 03.3 +0.6
TEY pmax pmax
comp=E,120nm,0.9s
TEY pmax pmax
comp=N,50nm,0.8s
TEY pmax pmax
comp=Z,450nm,0.9s
TEY pmax pmax
comp=Z,900nm,4.6s
TEY pmax pmax
comp=Z,700nm,9.3s
MOY Mondy 145.87 11 *e*PKP2 **PKPab** 05 11 03.6 +0.6
MOY pmax pmax
comp=Z,46nm,1.1s

DHRM DHARAMSHALA 146.03 59 *eP* **PKPdf** 05 11 01.9 -0.7
DHRM *i* x x 05 11 38.5
DHRM *eP* **PP** 05 14 23.7 -2.7
TLY Talaya 146.27 8 PKPbc **PKPab** 05 11 04.6 +0.2
comp=Z,173nm,0.8s,baz=276,slow=1.7,SNR=114
TLY Talaya 146.27 8*d* *i*PKP2 **PKPab** 05 11 04.0 -0.4
TLY *e*SS SS 05 33 05.3 -6.2
TLY pmax pmax
comp=Z,425nm,0.8s
TLY Talaya 146.27 8 **PKPab** 05 11 04.2 -0.2
TLY Talaya 146.27 8 P **PKPab** 05 11 04.8 +0.4
CIT Chita 146.34 357 *e*PKP2 **PKPab** 05 11 05.0 +0.3
CIT pmax pmax
comp=Z,350nm,3.3s
BHK Bhakra 146.34 61 *eP* **PKPdf** 05 11 03.2 +0.3
BHK *ex* x 05 11 40.4
BHK *ex* x 05 14 24.8
GUMO Guam 146.95 267 PKIKP **PKPdf** 05 11 03.6 -0.7
GUMO Guam 146.95 267 **PKPdf** 05 11 03.6 -0.7
SMLA Simla 147.04 61 *eP* **PKPbc** 05 11 06.2 -0.1
SMLA *i* x x 05 11 40.9
SMLA *ex* x 05 14 29.2
KUDL Kundal 147.09 66 *eP* **PKPbc** 05 11 06.4 -0.1
KUDL *i* x x 05 11 41.3
ZAK Zakamensk 147.48 9 *e*PKIKP **PKPbc** 05 11 06.2 -0.8
ZAK pmax pmax
comp=Z,84nm,1.0s
AYAN Aya Nagar 147.59 66 *eP* **PKPbc** 05 11 08.6 +0.8
SONA Sohna 147.59 66 *eP* **PKPbc** 05 11 08.4 +0.6
NDI New Delhi 147.62 65 *eP* **PKPbc** 05 11 08.0 +0.1
NDI *ex* x 05 14 30.0
DDI Dehra Dun 147.98 62 *eP* **PKPbc** 05 11 08.1 -0.8
WMQ Urumqi 148.02 32 PKPbc **PKPdf** 05 11 06.3 +1.0
WMQ pPKP pPKPdf 05 11 36.8 -4.5
WMQ sPKP 05 11 46.3
WMQ PP **PP** 05 14 37.9 +1.0
WMQ SKKS 05 21 15.8
WMQ SS **SS** 05 33 34.0 +1.6
WMQ AMB AMB
comp=Z,3μm,4.9s
WMQ LR LR
comp=Z,2μm,21.9s
WMQ LR LR
comp=Z,2μm,21.9s
WMQ LR LR
comp=Z,5μm,26.5s
BHPL Bhopal 148.46 75 *eP* **PKPdf** 05 11 04.5 -2.1
BHPL *i* x x 05 11 42.8
USRK Ussuriysk Ar. 148.70 330 PKP **PKPdf** 05 11 07.2 +0.9
comp=Z,222nm,1.0s,baz=320,slow=32,SNR=24
USRK PKPbc **PKiKP** 05 11 11.5 -0.1
comp=Z,216nm,0.8s,baz=17,slow=1.6,SNR=106
USRK pPKPbc **pPKPbc** 05 11 46.9 +1.1
comp=Z,137nm,0.9s,baz=42,slow=1.5,SNR=5.1
USRK Ussuriysk Ar. 148.70 330 PKPdf **PKPdf** 05 11 07.3 +1.0
PALK Pallekele 148.70 107 PKPbc **PKPbc** 05 11 09.5 -1.7
comp=Z,40nm,0.9s,baz=355,slow=2.0,SNR=18
PALK pPKPbc **pPKPbc** 05 11 46.3 -0.3
comp=Z,92nm,1.1s,baz=73,slow=0.7,SNR=6.3
PALK Pallekele 148.70 107 PKIKP **PKPdf** 05 11 08.8 +1.5
PALK Pallekele 148.70 107 **PKPdf** 05 11 08.8 +1.5
PALK Pallekele 148.70 107 P **PKPdf** 05 11 08.6 +1.3
HYB Hyderabad 149.31 87 *i* PKP **PKPdf** 05 11 09.0 +0.9
comp=Z,2μm,1.8s
HYB *ep*PKP **pPKPdf** 05 11 42.0 -2.1
HYB *e* 05 11 50.0
HYB *eP* **PP** 05 14 48.0 +2.1
HYB *e*SKKS 05 21 28.0
HYB *e* 05 22 28.0
HYB Hyderabad 149.31 87 *eP* **PKPdf** 05 11 08.2 0.0
HYB *i* x x 05 11 44.1
MDJ Mudanjiang 149.46 333 PKPbc **PKPdf** 05 11 08.4 +0.9
MDJ pPKP pPKPdf 05 11 40.3 -3.2
MDJ sPKP 05 11 51.5
MDJ PP **PP** 05 14 45.3 +0.3
MDJ SS SS 05 33 49.8 +1.8
MDJ AMB AMB
comp=Z,930nm,4.3s
MJAR Matsushiro Arr 149.84 312 PKP **PKPdf** 05 11 09.8 +1.3
comp=Z,71nm,0.9s,baz=91,slow=1.5,SNR=68
MJAR PKPbc **PKiKP** 05 11 14.4 +0.1
comp=Z,154nm,0.7s,baz=104,slow=1.6,SNR=61
MJAR pPKPbc **pPKPbc** 05 11 49.2 +0.3
comp=Z,69nm,0.9s,baz=196,slow=1.2,SNR=3.5
MJAR Matsushiro Arr 149.84 312 **PKPdf** 05 11 09.1 +0.7
MAJO Matsushiro 149.84 312 PKHKP PKPpre 05 11 10.0
MAJO Matsushiro 149.84 312 PKPdf **PKPdf** 05 11 10.0 +1.5
MAT Matsushiro 149.84 312 PKP **PKPdf** 05 11 09.5 +1.1
JCJ Chichijima 149.85 292 PKPbc **PKPbc** 05 11 13.9 +0.3
comp=Z,209nm,0.8s,baz=100,slow=2.2,SNR=7.9
MDRS Chennai 150.13 96 *eP* **PKPbc** 05 11 12.3 -2.3
MDRS *i* x x 05 11 50.7
JHJ Hachijo jima 2 150.17 305 PKPbc **PKiKP** 05 11 14.9 -0.1
baz=243,slow=2.3
MSHR Mys Shultsa 150.31 329*c* *i*PKIKP **PKiKP** 05 11 16.4 +1.4
MSHR pmax pmax
comp=Z,257nm,0.8s
SONM Songino Array 150.38 6 PKP **PKPdf** 05 11 10.8 +1.8
comp=Z,11nm,0.5s,baz=314,slow=1.2,SNR=86
SONM PKPbc **PKiKP** 05 11 15.6 +0.5
comp=Z,160nm,0.8s,baz=319,slow=1.1,SNR=98
SONM pPKPbc **pPKPbc** 05 11 50.7 +0.7
comp=Z,123nm,0.9s,baz=334,slow=1.0,SNR=5.0
SONM Songino Array 150.38 6 PKIKP **PKPdf** 05 11 10.2 +1.1
SONM Songino Array 150.38 6 **PKPdf** 05 11 10.2 +1.1
SONM PKPbc **PKiKP** 05 11 16.0 +0.8
ULN Ulaanbaatar 150.41 5 P **PKPdf** 05 11 11.3 +2.2
CN2 Changchun 151.79 337 *e*PKPbc **PKPdf** 05 11 10.8 -0.4
CN2 pPKP pPKPdf 05 11 44.8 -2.4
CN2 SS SS 05 34 10.8 -2.8
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,1μm,21.0s
CN2 LR LR
comp=Z,2μm,24.0s
SIJI Sorong 152.26 229 PKP **PKPdf** 05 11 13.8 +1.0
comp=Z,26nm,1.0s,baz=13,slow=3.6,SNR=14
SIJI PKPbc **PKiKP** 05 11 20.6 +0.7
comp=Z,243nm,0.6s,baz=18,slow=4.5,SNR=43
JWT Wachi 152.44 313 **PKiKP** 05 11 19.7 0.0
GKN Gorkha 154.14 63 *eP* **PKPdf** 05 11 16.4 +1.1
comp=Z,73nm,1.1s
SNY Shenyang 154.19 338 PKPbc **PKPdf** 05 11 16.4 +1.7
SNY PP **PP** 05 15 13.9 +2.2
SNY AMB AMB
comp=Z,850nm,8.2s
SNY LR LR
comp=Z,1μm,22.6s
SNY LR LR
comp=Z,980nm,23.5s
SNY LR LR
comp=Z,2μm,23.5s
DMN Daman 154.65 64 *eP* **PKPdf** 05 11 17.2 +1.0
comp=Z,38nm,1.1s
KKN Kakani 154.75 64 *eP* **PKPdf** 05 11 17.0 +0.8
comp=Z,30nm,0.7s
LEM Lembang 154.78 173 PKP **PKPdf** 05 11 17.9 +1.3
comp=Z,44nm,0.8s,baz=345,slow=1.6,SNR=10
LEM PKPbc **PKiKP** 05 11 26.6 +1.3
comp=Z,110nm,0.7s,baz=85,slow=6.4,SNR=14
LEM PKPab **PKPab** 05 11 42.0 +1.5
comp=Z,90nm,0.7s,baz=158,slow=8.8,SNR=11
PKIN Phulchoki 154.91 64 *eP* **PKPdf** 05 11 17.5 +1.0
comp=Z,34nm,1.0s
PKI Pulchoki 154.92 64 *eP* **PKPdf** 05 11 17.2 +0.6
comp=Z,36nm,1.0s
KAPI Kappang 155.16 202 PKP **PKPdf** 05 11 18.2 +1.3
comp=Z,22nm,0.8s,baz=119,slow=2.0,SNR=13
KAPI PKPab **PKPab** 05 11 43.8 +1.8
comp=Z,343nm,1.0s,baz=150,slow=1.9,SNR=48
GUN Gumba 155.22 63 *eP* **PKPdf** 05 11 18.0 +1.0
KSRS Korea Array 155.77 325 PKP **PKPdf** 05 11 18.9 +1.9
comp=Z,15nm,0.9s,baz=84,slow=1.4,SNR=22
KSRS PKPab **PKPab** 05 11 45.4 +1.3
comp=Z,32nm,0.9s,baz=54,slow=3.7,SNR=13
KSRS PP **PP** 05 15 21.8 +0.9
comp=Z,4.0nm,1.0s,baz=48,slow=5.6,SNR=2.3
RAMN Ramite 156.11 65 *eP* **PKPdf** 05 11 19.3 +1.2
comp=Z,26nm,0.5s
BOK Bokaro 156.14 73 *eP* **PKPdf** 05 11 20.1 +2.2
ODAN Odare 156.81 64 *eP* **PKPdf** 05 11 19.8 +0.8
comp=Z,61nm,1.0s
GTA Gaotai 156.95 22 ⇓PKP **PKPdf** 05 11 19.8 +1.1

GTA PKPab **PKPab** 05 11 50.3 +1.1
GTA PP **PP** 05 15 28.5 +1.2
GTA SKKS 05 22 05.3
GTA AMB AMB
comp=Z,1μm,8.7s
GTA LR LR
comp=Z,960nm,20.0s
GTA LR LR
comp=Z,880nm,19.3s
GTA LR LR
comp=Z,2μm,21.8s
LUWI Luwuk 157.42 213 **PKPdf** 05 11 20.9 +1.1
LUWI PKPab **PKPab** 05 11 53.2 +1.5
DL2 Dalian 157.46 338 PKP **PKPdf** 05 11 20.3 +1.2
DL2 pPKP **PKPab** 05 11 51.5 +0.3
DL2 PP **PP** 05 15 27.3 -2.6
DL2 SS SS 05 35 14.1 -0.9
DL2 AMB AMB
comp=Z,1μm,4.1s
HHC Hu-ho-hao-te 157.57 359 *e*PKP **PKPdf** 05 11 21.5 +2.1
HHC PP **PP** 05 15 32.6 +2.3
HHC SKS **SKSdf** 05 18 07.8 -6.0
HHC SKKS **SKKSac** 05 22 04.6 -3.9
HHC AMB AMB
comp=Z,790nm,8.6s
GTK Tadong 157.70 62 *eP* **PKPdf** 05 11 18.1 -1.9
GTK *i* pP **PKPab** 05 11 53.0 0.0
BTO Baotou 157.81 2 P **PKPdf** 05 11 19.9 +0.2
BTO pmax pmax
comp=Z,77nm,0.8s
BTO LR LR
comp=N,8μm,16.5s
BTO LR LR
comp=E,12μm,18.6s
BJI Beijing 157.90 349 PKP **PKPdf** 05 11 20.6 +1.0
BJI pPKP **PKPab** 05 11 53.8 +0.8
BJI LR LR
comp=E,840nm,18.1s
BJI LR LR
comp=E,540nm,19.6s
BJI LR LR
comp=E,1μm,22.1s
LSA Lhasa 158.82 54 PKP **PKPdf** 05 11 23.8 +2.1
LSA PP **PP** 05 15 38.6 -0.5
LSA LR LR
comp=E,7μm,21.4s
LSA LR LR
comp=E,4μm,27.0s
LSA LR LR
comp=E,9μm,22.8s
LSA Lhasa 158.82 54 PKPdf **PKPdf** 05 11 23.8 +2.1
TOLI2 Tolitoli 160.27 211 **PKPdf** 05 11 23.2 0.0
PSI Prapat 160.65 142 PKP **PKPdf** 05 11 24.2 +0.4
comp=E,17nm,1.0s,baz=180,slow=5.8,SNR=15
PSI pPKP **pPKPdf** 05 12 00.1 +0.4
comp=E,57nm,1.0s,baz=180,slow=3.9,SNR=8.7
TIY Taiyuan 160.66 356 *e*PKP **PKPdf** 05 11 24.3 +1.3
TIY PKPab **PKPab** 05 12 07.5 +2.3
TIY PP **PP** 05 15 51.4 +4.4
TIY AMB AMB
comp=E,440nm,4.8s
GUWA GUWAHATI 160.68 63 *eP* **PKPdf** 05 11 23.6 +0.3
AGT Agartala 160.95 70 *i* x **PKPdf** 05 11 25.9 +2.3
SHL Shillong 161.05 64 *eP* **PKPdf** 05 11 24.0 +0.1
SHL *i* x x 05 11 57.8
SHL *ex* x 05 12 42.4
BELO BELONIA 161.26 72 *i* x **PKPdf** 05 11 27.2 +3.2
LZH Lanzhou 161.29 18 ⇓PKP **PKPdf** 05 11 26.0 +2.1
LZH PP **PP** 05 15 48.6 -2.1
LZH SKKS 05 22 25.3
LZH SS **SS** 05 35 56.1 +0.5
LZH AMB AMB
comp=E,1μm,10.0s
LZH LR LR
comp=E,2μm,18.4s
LZH LR LR
comp=E,2μm,18.5s
LZH LR LR
comp=E,2μm,20.2s
PBA Port Blair 161.33 108 *eP* PKPdf 05 11 24.9 +0.7
PBA *i* x x 05 11 59.0
TIA Tai'an 161.36 344 PKP **PKPdf** 05 11 24.4 +0.7
TIA pPKP **pPKPdf** 05 11 59.6 -0.1
TIA SS SS 05 35 52.0 -3.8
TIA LR LR
comp=E,990nm,20.8s
TIA LR LR
comp=E,870nm,19.0s
TIA LR LR
comp=E,2μm,19.6s
ZIRO ZIRO 161.92 57 *eP* **PKPdf** 05 11 27.8 +3.0
DGPR DIGLIPUR 162.04 104 *eP* **PKPdf** 05 11 26.7 +1.7
SAIH SAIHA 162.80 73 *eP* **PKPdf** 05 11 26.6 +0.8
MOKO MOKOCHONG 162.98 59 *eP* **PKPdf** 05 11 27.7 +1.9
MOKO *i* x x 05 12 01.3
MOKO *ex* x 05 12 49.0
IMP Imphal 163.05 65 *eP* **PKPdf** 05 11 25.9 0.0
IMP *i* x x 05 12 01.5
IMP *ex* x 05 12 50.8
KULM Kulim 163.66 141 **PKPdf** 05 11 27.2 +0.5
SBUM Sibu 164.13 185 **PKPdf** 05 11 27.9 +0.8
SSE Sheshan 164.21 325 PKP **PKPdf** 05 11 28.6 +2.0
SSE PP **PP** 05 16 05.9 -0.5
SSE SS SS 05 36 32.1 +5.8
SSE AMB AMB
comp=E,1μm,9.4s
SSE LR LR
comp=E,510nm,23.1s
SSE LR LR
comp=E,640nm,20.6s
XAN Xi'an 164.29 6 PKP **PKPdf** 05 11 27.6 +0.9
XAN pPKP pPKPdf 05 12 02.9 +0.2
XAN sPKP 05 12 15.8
XAN PP **PP** 05 16 06.8 +0.6
XAN SKKS 05 22 43.4
XAN AMB AMB
comp=E,1μm,9.0s
XAN LR LR
comp=E,2μm,24.1s
XAN LR LR
comp=E,1μm,23.0s
XAN LR LR
comp=E,3μm,23.9s
NJ2 Nanjing 164.55 334 *e*PKP **PKPdf** 05 11 28.3 +1.4
NJ2 pPKP **pPKPdf** 05 12 02.3 -0.6
NJ2 sPKP 05 12 12.0
NJ2 PKPab **PKPab** 05 12 22.0 -0.4
NJ2 PP **PP** 05 16 06.4 -1.5
NJ2 SS SS 05 36 26.4 -2.9
NJ2 AMB AMB
comp=E,3μm,9.9s
NJ2 LR LR
comp=E,830nm,19.9s
NJ2 LR LR
comp=E,890nm,20.8s
NJ2 LR LR
comp=E,2μm,20.6s
CD2 Chengdu 165.96 26 PKP **PKPdf** 05 11 30.1 +1.9
CD2 pPKP pPKPdf 05 12 04.8 +0.5
CD2 sPKP 05 12 13.0
CD2 PP **PP** 05 16 14.1 -1.2
CD2 SKS **SKSdf** 05 18 18.3 -2.6
CD2 SS **SS** 05 36 42.9 -0.8
CD2 AMB AMB
comp=E,3μm,8.0s
KKM Kota Kinabalu 166.68 204 **PKPdf** 05 11 29.9 +0.6
WHN Wuhan 167.45 346⇑ PKP **PKPdf** 05 11 31.1 +1.8
WHN pPKP **pPKPdf** 05 12 05.9 +0.6
WHN PKPab **PKPab** 05 12 35.4 +0.3
WHN PP **PP** 05 16 20.9 -1.6
WHN LR LR
comp=E,7μm,28.0s
MHMT Maesarieng 167.76 89 P **PKPdf** 05 11 30.5 +0.7
CM32 Chiang Mai Arr 168.64 87 P **PKPdf** 05 11 32.0 +1.6
CM13 Chiang Mai Arr 168.70 88 P **PKPdf** 05 11 32.0 +1.5
comp=E,448nmcomp=E,7.7nm,1.0s
CM13 Chiang Mai Arr 168.70 88 P **PKPab** 05 12 42.0 +0.6
comp=E,44nm,0.9s
CM15 Chiang Mai Arr 168.72 88 P **PKPdf** 05 11 32.0 +1.5
comp=E,438nmcomp=E,12nm,0.8s
CM15 Chiang Mai Arr 168.72 88 P **PKPab** 05 12 42.0 +0.5
comp=E,58nm,1.2s
CM31 Chiang Mai Arr 168.73 88 P **PKPdf** 05 11 34.0 +3.5
comp=E,18μmcomp=E,352nm,0.7s

CM31	**Chiang Mai Arr**	**168.73**	**88**	P		**PKPab**	**05 12 42.2**	**+0.7**
	comp=E,24µmcomp=E,2µm,1.3s								
CMAR	**Chiang Mai Arr**	**168.73**	**88**	PKP		**PKPdf**	**05 11 31.8**	**+1.2**
	comp=E,7.8nm,0.8s,baz=286,slow=2.3,SNR=29								
CMAR				pPKP		**pPKPdf**	**05 12 07.0**	**+0.4**
	comp=E,21nm,1.1s,baz=275,slow=1.9,SNR=5.3								
CMAR				PKPab		**PKPab**	**05 12 42.2**	**+0.7**
	comp=E,42nm,1.0s,baz=272,slow=5.3,SNR=24								
CMAR	**Chiang Mai Arr**	**168.73**	**88**			**PKPdf**	**05 11 31.2**	**+0.7**
CMAR						**PKPab**	**05 12 41.3**	**-0.3**
CM05	**Chiang Mai Arr**	**168.73**	**88**	P		**PKPdf**	**05 11 32.1**	**+1.6**
	comp=E,419nmcomp=E,10nm,0.9s								
CM05	**Chiang Mai Arr**	**168.73**	**88**	P		**PKPab**	**05 12 42.4**	**+0.9**
	comp=E,55nm,1.2s								
CM02	**Chiang Mai Arr**	**168.74**	**88**	P		**PKPdf**	**05 11 32.2**	**+1.7**
	comp=E,495nmcomp=E,13nm,0.8s								
CM02	**Chiang Mai Arr**	**168.74**	**88**	P		**PKPab**	**05 12 42.3**	**+0.8**
	comp=E,68nm,1.1s								
CHTO	**Chiang Mai**	**168.74**	**86**	PKP2		**PKPab**	**05 12 40.9**	**-0.6**
CHTO							06 11 30.5		
CHTO	**Chiang Mai Arr**	**168.74**	**86**			**PKPdf**	**05 11 30.5**	**0.0**
CHTO						**PKPab**	**05 12 40.9**	**-0.6**
CM33	**Chiang Mai Arr**	**168.74**	**86**	P		**PKPdf**	**05 11 31.0**	**+0.5**
CM01	**Chiang Mai Arr**	**168.75**	**88**	P		**PKPdf**	**05 11 32.4**	**+1.8**
	comp=E,630nmcomp=E,9.7nm,0.7s								
CM01	**Chiang Mai Arr**	**168.75**	**88**	P		**PKPab**	**05 12 42.0**	**+0.4**
	comp=E,1µmcomp=E,66nm,1.1s								
CM04	**Chiang Mai Arr**	**168.76**	**88**	P		**PKPdf**	**05 11 32.2**	**+1.7**
	comp=E,518nmcomp=E,14nm,0.8s								
CM04	**Chiang Mai Arr**	**168.76**	**88**	P		**PKPab**	**05 12 42.0**	**+0.3**
	comp=E,62nm,0.9s								
CM09	**Chiang Mai Arr**	**168.78**	**88**	P		**PKPdf**	**05 11 32.4**	**+1.8**
	comp=E,494nmcomp=E,18nm,0.8s								
CM09	**Chiang Mai Arr**	**168.78**	**88**	P		**PKPab**	**05 12 42.6**	**+0.9**
	comp=E,72nm,1.1s								
CM36	**Chiang Mai Arr**	**168.88**	**87**	P		**PKPdf**	**05 11 31.0**	**+0.4**
CM35	**Chiang Mai Arr**	**168.94**	**86**	P		**PKPdf**	**05 11 31.0**	**+0.4**
CM35	**Chiang Mai Arr**	**168.94**	**86**	P		**PKPab**	**05 12 42.0**	**-0.4**
SUKH	**Sukhothai**	**169.32**	**93**	P		**PKPab**	**05 12 44.7**	**+0.6**
LAMP	**Lampang**	**169.39**	**87**	P		**PKPdf**	**05 11 32.3**	**+1.4**
	comp=E,1µmcomp=E,36nm,0.8s								
TGY	**Tagaytay City**	**169.40**	**248**	PKP		**PKPdf**	**05 11 33.5**	**+2.4**
	comp=E,110nm,0.3s,baz=216,slow=18,SNR=1.5								
TGY				pPKP		**pPKPdf**	**05 12 08.0**	**+1.0**
	comp=E,113nm,0.3s,baz=158,slow=6.8,SNR=1.7								
TGY				PKPab		**PKPab**	**05 12 46.7**	**+2.2**
	comp=E,207nm,0.4s,baz=108,slow=18,SNR=4.4								
KMI	**Kunming**	**169.92**	**47**	⇑PKP		**PKPdf**	**05 11 31.9**	**+0.6**
KMI				sPKP			05 12 18.9		
PHIT	**Phitsanulok**	**170.03**	**95**	P		**PKPab**	**05 12 47.9**	**+0.6**
	comp=E,5µmcomp=E,642nm,1.0s								
UTTA	**Uttaradit**	**170.22**	**92**	P		**PKPdf**	**05 11 32.5**	**+1.1**
	comp=E,4µmcomp=E,936nmcomp=E,21nm,0.7s								
UTTA	**Uttaradit**	**170.22**	**92**	P		**PKPab**	**05 12 48.0**	**-0.1**
	comp=E,1µmcomp=E,153nm,1.1s								
QZH	**Quanzhou**	**170.24**	**314**	*i* PKP		**PKPdf**	**05 11 32.3**	**+1.1**
QZH				PP		**PP**	**05 16 37.9**	**+0.1**
QZH				SS		SS	05 37 29.4	+1.5
QZH				AMB		AMB			
	comp=E,2µm,7.2s								
QZH				LR		LR			
	comp=E,1µm,16.9s								
QZH				LR		LR			
	comp=E,930nm,19.1s								
QZH				LR		LR			
	comp=E,2µm,21.4s								
LOEI	**Loei**	**170.87**	**94**	P		**PKPdf**	**05 11 32.0**	**+0.2**
	comp=E,44nm,0.8s								
GYA	**Guiyang**	**171.07**	**25**	⇑PKP		**PKPdf**	**05 11 33.1**	**+1.3**
GYA				PKPab		**PKPab**	**05 12 51.9**	**+0.4**
GYA				PP		**PP**	**05 16 39.3**	**-2.0**
GYA				SKKS			05 23 11.6		
GYA				SS		**SS**	**05 37 34.4**	**-0.4**
GYA				AMB		AMB			
	comp=E,740nm,11.0s								
GYA				LR		LR			
	comp=E,690nm,21.7s								
GYA				LR		LR			
	comp=E,930nm,19.4s								
GYA				LR		LR			
	comp=E,2µm,20.9s								
KHON	**Khomkaen**	**172.11**	**104**	P		**PKPdf**	**05 11 37.1**	**+4.8**
KHON	**Khomkaen**	**172.11**	**104**	P		**PKPab**	**05 12 57.0**	**+0.5**
NONG	**Nongkai**	**172.71**	**91**	P		**PKPdf**	**05 11 33.6**	**+1.0**
UBPT	**Khong Chiam**	**174.04**	**120**	P		**PKPdf**	**05 11 34.5**	**+1.3**
UBPT	**Khong Chiam**	**174.04**	**120**			**PKPdf**	**05 11 33.6**	**+0.4**
UBPT						**pPKPdf**	**05 12 09.5**	**+0.2**
GZH	**Guangzhou**	**174.73**	**334**	PKP		**PKPdf**	**05 11 33.8**	**+0.6**
GZH				PP		**PP**	**05 16 55.8**	**-3.2**
GZH				SKKS			05 23 36.5		
GZH				SS		**SS**	**05 38 03.5**	**-6.6**
GZH				LR		LR			
	comp=E,2µm,20.7s								
GZH				LR		LR			
	comp=E,2µm,20.2s								
QIZ	**Qiongzhong**	**178.86**	**54**	PKP		**PKPdf**	**05 11 33.3**	**-0.8**
QIZ				pPKP		**pPKPdf**	**05 12 06.8**	**-3.3**
QIZ				PKPab		pPKPab	05 13 26.8	-34
QIZ				PP		**PP**	**05 17 17.9**	**-1.8**
QIZ				SS		SS	05 38 49.6	-1.7
QIZ				AMB		AMB			
	comp=E,4µm,13.9s								

IDC 23 04:54:11.5±1.5, 19°.45N×145°.32E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/67, mbtmp3.7/7, MS4.4/1, Ms1 4.4/1, ms1mx2.7/62 Error ellipse: s-maj=44.5km s-min=29.1km az=86.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**31.65**	**343**	LR	LR	05 13 20.6	
	comp=Z,633nm,18.7s,baz=298,slow=36						
WRA	**Warramunga Arr**	**40.60**	**196**	P	P	05 01 53.1	-0.1
	0.7nm,1.0s,baz=19,slow=8.0,SNR=4.7						
SONM	**Songino Array**	**42.34**	**321**	P	P	05 02 08.0	+0.6
	0.2nm,0.6s,baz=126,slow=7.3,SNR=1.5						
ZALV	**Zalesovo Beam**	**57.21**	**322**	P	P	05 04 01.0	+0.6
	0.7nm,0.3s,baz=115,slow=6.2,SNR=2.6						
MKAR	**Makanchi Array**	**57.69**	**314**	P	P	05 04 04.8	+0.8
	0.4nm,0.4s,baz=94,slow=8.2,SNR=7.5						
KURBB	**Kurchatov Arra**	**60.53**	**318**	P	P	05 04 23.5	0.0
	3.3nm,0.5s,baz=95,slow=7.3,SNR=31						
ILAR	**Eielson Array**	**63.13**	**26**	P	P	05 04 40.9	+0.1
	0.4nm,0.8s,baz=252,slow=6.3,SNR=6.4						
BVAR	**Borovoye Array**	**65.67**	**320**	P	P	05 04 55.7	-2.0
	0.6nm,0.4s,baz=79,slow=7.5,SNR=5.8						

NEIC 23 05:28:42±1.1, 18°.43S±0°.09×173°.2W±0°.1, h94km±7km, mb4.4/10, Error ellipse: s-maj=15.5km s-min=12.6km az=65.0
IDC 23 05:29:22.8±6.7, 19°.70S×174°.68W, h392km±74km, mb2.9/4, mb1 3.3/5, mb1mx3.0/35, mbtmp3.8/5, Error ellipse: s-maj=52.2km s-min=27.2km az=170.0
ISC 23 05:28:33.0±0.7, 18°.40S±0°.08×172°.82W±0°.08, h10km, n22, σ2^{s}70/19, mb4.2/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.82**	**104**	Pn	**Pg**	**05 29 26.4**	**-0.7**
AFI	**Afiamalu**	**4.57**	**13**	Pn	**Pb**	**05 29 54.5**	**+1.1**
MSVF	**Nonsavu**	**8.71**	**273**	Pn	**Pn**	**05 30 40.2**	**+0.9**
RAO	**Raoul Island**	**11.77**	**202**	P	Pn	05 31 41.1	+20
	119nm,0.3s,baz=126,slow=9.4,SNR=3.6						
RAO	**Raoul Island**	**11.77**	**202**	Pn	**Pn**	**05 31 24.8**	**+3.8**
FUNA	**Funafuti**	**12.51**	**321**	Pn	**Pn**	**05 31 33.3**	**+2.1**
SANVU	**Saraoutou**	**19.34**	**276**	P	**P**	**05 32 56.7**	**-2.0**
SANVU				IAmb	IAmb	05 33 08.2	
	comp=Z,13nm,0.7s						
URZ	**Urewera**	**21.65**	**202**	P	**P**	**05 33 25.7**	**+2.1**
	comp=Z,1.1nm,0.3s,baz=16,slow=16,SNR=8.4						
URZ	**Urewera**	**21.65**	**202**	P	**P**	**05 33 23.1**	**-0.5**
URZ				IAmb	IAmb	05 33 41.8	
	comp=Z,14nm,1.3s						
BKZ	**Black Stump Fm**	**22.68**	**202**	P	**P**	**05 33 35.0**	**+0.3**
BKZ				IAmb	IAmb	05 33 47.6	
	comp=Z,16nm,1.3s						
BFZ	**Birch Farm**	**24.12**	**201**	P	**P**	**05 33 46.6**	**-2.4**
BFZ				IAmb	IAmb	05 34 02.1	
	comp=Z,43nm,1.4s						
LTZ	**Lake Taylor**	**27.40**	**204**	P	**P**	**05 34 17.4**	**-1.3**
WR0	**Warramunga Arr**	**49.58**	**259**	P	**P**	**05 37 21.5**	**-3.2**
WR0				IAmb	IAmb	05 37 31.3	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**49.74**	**259**	P	**P**	**05 37 22.3**	**-3.7**
WB2	**Warramunga Arr**	**49.76**	**259**	P	**P**	**05 37 22.7**	**-3.4**
WB2				IAmb	IAmb	05 37 27.7	
	comp=Z,8.9nm,1.3s						
WRA	**Warramunga Arr**	**49.77**	**259**	P	**P**	**05 37 22.4**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=97,slow=7.6,SNR=29						
ASAR	**Alice Springs**	**49.78**	**254**	P	**P**	**05 37 22.3**	**-3.9**
	comp=Z,1.4nm,0.6s,baz=90,slow=8.6,SNR=19						
FITZ	**Fitzroy Crossi**	**58.18**	**260**	P	**P**	**05 38 23.8**	**-3.8**
QSPA	**South Pole Qui**	**71.66**	**180**	P	**P**	**05 39 55.5**	**+0.6**
TXAR	**Lajitas Array**	**81.83**	**56**	P	P	05 41 09.3	+16
	comp=Z,0.1nm,0.4s,baz=220,slow=6.8,SNR=1.4						
ILAR	**Eielson Array**	**85.27**	**11**	P	P	05 41 24.3	+15
	comp=Z,0.3nm,0.7s,baz=214,slow=6.2,SNR=2.8						
BRTR	**Keskin Array B**	**148.79**	**318**	PKPbc	**PKPab**	**05 48 25.3**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=100,slow=4.8,SNR=3.2						

NEIC 23 05:41:46.2±2.7, 24°.23S±0°.09×67°.3W±0°.1, h199km±15km, Error ellipse: s-maj=16.6km s-min=11.1km az=117.0
IDC 23 05:41:47.5±2.6, 24°.02S×66°.99W, h167km±24km, mb3.5/2, mb1 3.4/6, mb1mx3.2/29, mbtmp3.9/6, Error ellipse: s-maj=35.6km s-min=26.8km az=158.0
ISC 23 05:41:45.7±0.9, 24°.17S±0°.07×67°.21W±0°.10, h200km, n33, σ2^{s}03/35, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.20**	**315**	P	**Pn**	**05 42 27.6**	**+0.8**
	18nm,0.3s,baz=155,slow=7.6,SNR=177						
LVC				S	**Sn**	**05 42 57.6**	**-1.1**
	24nm,0.3s,baz=15,slow=21,SNR=19						
PB15	**IPOC Station P**	**2.28**	**294**		**Pn**	**05 42 28.2**	**+0.8**
GO02	**Mina Guanaco**	**2.38**	**245**		**Pn**	**05 42 29.0**	**+0.4**
PB06	**IPOC Station P**	**2.61**	**304**		**Pn**	**05 42 31.6**	**+0.5**
PB14	**IPOC Station P**	**2.94**	**261**		**Pn**	**05 42 35.3**	**+0.3**
PB09	**IPOC Station P**	**3.02**	**321**		**Pn**	**05 42 37.1**	**+1.4**
PB10	**IPOC Station P**	**3.13**	**281**	Pn	**Pn**	**05 42 37.7**	**+0.8**
AC02	**Maricunga**	**3.17**	**213**		**Pn**	**05 42 38.5**	**+0.7**
PB04	**IPOC Station P**	**3.26**	**304**		**Pn**	**05 42 38.8**	**+0.1**
PB07	**IPOC Station P**	**3.46**	**314**		**Pn**	**05 42 41.9**	**+0.7**
AC01	**Pan de Azucar**	**3.64**	**237**		**Pn**	**05 42 42.7**	**-0.4**
PB01	**IPOC Station P**	**3.76**	**326**		**Pn**	**05 42 44.6**	**0.0**
GO03	**Copiap**	**4.36**	**218**	Pn	**Pn**	**05 42 51.1**	**-0.9**
PB08	**IPOC Station P**	**4.40**	**335**		**Pn**	**05 42 52.7**	**-0.2**
TA01	**Diego Aracena**	**4.52**	**322**	Pn	**Pn**	**05 42 54.5**	**+0.5**
PSGCX	**Pisagua**	**5.29**	**329**	Pn	**Pn**	**05 43 01.5**	**-2.5**
AC04	**Llanos de Chal**	**5.30**	**220**	Pn	**Pn**	**05 43 02.6**	**-1.4**
AC05	**El Transito**	**5.39**	**210**	Pn	**Pn**	**05 43 01.9**	**-3.3**
MNMC	**Minye Minye**	**5.49**	**336**		**Pn**	**05 43 03.3**	**-3.4**
LCO	**Las Campanas**	**5.74**	**212**	Pn	**Pn**	**05 43 08.6**	**-1.3**
PB16	**IPOC Station P**	**6.19**	**339**	Pn	**Pn**	**05 43 13.3**	**-2.7**
CO01	**Juntas del Tor**	**6.33**	**203**	Pn	**Pn**	**05 43 16.9**	**-0.4**
GO04	**Tololo Observa**	**6.78**	**207**	Pn	**Pn**	**05 43 21.5**	**-1.7**
CO03	**El Pedregal**	**7.32**	**204**	Pn	**Pn**	**05 43 28.5**	**-1.7**
CO02	**Combarbal**	**7.76**	**205**	Pn	**Pn**	**05 43 33.9**	**-2.1**
LPAZ	**La Paz**	**7.89**	**354**	P	**Pn**	**05 43 40.0**	**+1.8**
	1.3nm,0.3s,baz=163,slow=6.6,SNR=37						
LPAZ				S	**Sn**	**05 45 03.5**	**-4.2**
	0.0nm,0.3s,baz=122,slow=11,SNR=0.9						
SIV	**San Ignacio**	**9.97**	**36**	P	**Pn**	**05 44 03.1**	**-1.6**
	0.5nm,0.3s,baz=232,slow=8.9,SNR=14						
BDFB	**Brasilia**	**19.93**	**68**	P	**Pn**	**05 46 04.3**	**-2.6**
	0.3nm,0.3s,baz=241,slow=12,SNR=7.1						
BDFB	**Brasília**	**19.93**	**68**	P	**Pn**	**05 46 04.0**	**-2.9**
BDFB				IAmb	IAmb	05 46 05.3	
	comp=Z,4.0nm,0.8s						
PTGA	**Pitinga**	**24.34**	**18**	P	**P**	**05 46 49.8**	**+4.5**
	comp=Z,1.2nm,0.3s,baz=201,slow=5.3,SNR=0.9						
TORD	**Torodi Ar. Bea**	**76.81**	**69**	P	**P**	**05 53 18.7**	**+2.9**
	comp=Z,0.5nm,0.6s,baz=246,slow=5.8,SNR=1.9						
MKAR	**Makanchi Array**	**146.78**	**40**	PKPbc	**PKiKP**	**06 01 08.3**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=293,slow=4.1,SNR=5.2						
MKAR	**Makanchi Array**	**146.78**	**40**	PKPbc	**PKiKP**	**06 01 08.4**	**+1.9**

NEIC 23 05:45:48.4±0.4, 5°.62S±0°.10×153°.17E±0°.07, h50km±14km, mb4.3/6, Error ellipse: s-maj=14.7km s-min=9.9km az=200.0
IDC 23 05:45:51.6±6.5, 5°.42S×152°.71E, h56km±53km, mb3.7/4, mb1 3.9/5, mb1mx3.5/39, mbtmp3.9/5, Error ellipse: s-maj=100.0km s-min=33.3km az=132.0
ISC 23 05:45:48.2±1.2, 5°.6S±0°.1×153°.1E±0°.2, h37km, n16, σ0^{s}80/16, mb4.2/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.70**	**327**	Pn	**Pn**	**05 46 16.1**	**+0.8**
PMG	**Port Moresby**	**6.99**	**237**	P	**Pn**	**05 47 29.5**	**+1.4**
	baz=270,slow=16,SNR=1.3						
PMG				S	**Sn**	**05 48 45.3**	**-0.9**
	3.0nm,0.3s,baz=45,slow=20,SNR=3.9						
PMG	**Port Moresby**	**6.99**	**237**		**Pn**	**05 47 29.1**	**+1.0**
PATS	**Pohnpei**	**13.43**	**23**	Pn	**Pn**	**05 48 55.9**	**-0.4**
MTN	**Manton Dam**	**22.82**	**250**	P	**P**	**05 50 48.5**	**+0.3**
WR0	**Warramunga Arr**	**23.00**	**230**	P	**P**	**05 50 49.9**	**-0.1**
WR0				IAmb	IAmb	05 51 06.0	
	comp=Z,14nm,1.3s						
WB0	**Warramunga Arr**	**23.00**	**231**	P	**P**	**05 50 50.1**	**+0.2**
WB0				IAmb	IAmb	05 50 51.5	
	comp=Z,10nm,1.1s						
WB2	**Warramunga Arr**	**23.13**	**230**	P	**P**	**05 50 51.0**	**-0.3**
WB2				IAmb	IAmb	05 50 57.1	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**23.14**	**230**	P	**P**	**05 50 51.1**	**-0.2**
	comp=Z,4.3nm,0.8s,baz=53,slow=9.8,SNR=20						
WRA	**Warramunga Arr**	**23.14**	**230**	IAmb	IAmb	05 50 52.4	
	comp=Z,0.3nm,1.1s						
ASAR	**Alice Springs**	**25.76**	**224**	P	**P**	**05 51 15.8**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=56,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**25.76**	**224**	P	**P**	**05 51 15.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**29.54**	**243**	P	**P**	**05 51 48.6**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=89,slow=7.5,SNR=8.2						
FITZ	**Fitzroy Crossi**	**29.54**	**243**	P	**P**	**05 51 48.3**	**-1.3**
FITZ				IAmb	IAmb	05 51 53.4	
	comp=Z,19nm,1.4s						
ILAR	**Eielson Array**	**82.81**	**22**	P	**P**	**05 58 08.9**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=224,slow=2.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**150.84**	**287**	PKPbc	**PKiKP**	**06 05 38.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=84,slow=2.4,SNR=4.2						

IDC 23 05:49:50.3±2.1, 2°.70N×128°.40E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/47, mbtmp3.8/4, MS4.5/2, Ms1 4.5/2, ms1mx3.7/38, Error ellipse: s-maj=145.5km s-min=27.1km az=67.0
DJA 23 05:49:55.7±0.8, 2°.N±4°×12°.7E±°, h148km±11km, M4.0/7, mB5.5/1, MLv4.0/7, Mw(mB)5.0/1
NEIC 23 05:49:56.4±1.9, 2°.2N±0°.1×127°.4E±0°.1, h35km±2km, mb4.3/9, Error ellipse: s-maj=28.0km s-min=10.5km az=56.0
ISC 23 05:49:59.7±0.9, 1°.91N±0°.07×127°.1E±0°.1, h63km, n25, σ1^{s}56/22, mb4.0/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.16**	**166**	Pn	**Pn**	**05 50 20.8**	**+0.7**
TNTI	**Ternate**	**1.16**	**166**	P	**Pn**	**05 50 20.1**	**+0.1**
SGSI	**Sangihe**	**2.35**	**319**	P	**Pn**	**05 50 36.3**	**+0.2**
SGSI				S	**Sn**	**05 51 03.3**	**-0.6**
SANI	**Sanana**	**4.08**	**196**	P	**Pn**	**05 50 55.7**	**-4.0**
SANI				S	**Sn**	**05 51 47.9**	**+1.8**
GTOI	**Gorontalo**	**4.26**	**253**	P	Pn	05 51 06.7	+4.6
NLAI	**Namlea**	**5.11**	**180**	P	Pn	05 51 08.3	-5.5
LUWI	**Luwuk**	**5.21**	**236**	Pn	**Pn**	**05 51 16.4**	**+1.2**
TOLI2	**Tolitoli**	**6.35**	**263**		Pn	05 51 34.1	+3.4
MTN	**Manton Dam**	**15.19**	**165**	Pn	**P**	**05 53 32.2**	**-2.2**
MTN				IAmb	IAmb	05 53 39.5	
	comp=Z,51nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.93**	**184**	LR	LR	06 04 09.5	
	comp=Z,1µm,20.4s,baz=174,slow=41						
WB0	**Warramunga Arr**	**22.70**	**162**	P	**P**	**05 54 57.1**	**+0.7**
WB0				IAmb	IAmb	05 55 04.4	
	comp=Z,5.3nm,0.8s						
WRAB	**Tennant Creek**	**22.84**	**162**	P	**P**	**05 54 56.9**	**-1.0**
WRA	**Warramunga Arr**	**22.85**	**162**	P	**P**	**05 54 58.6**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=345,slow=11,SNR=26						
WRA	**Warramunga Arr**	**22.85**	**162**	P	**P**	**05 54 57.9**	**-0.1**
WB2	**Warramunga Arr**	**22.85**	**162**	P	**P**	**05 54 58.5**	**+0.6**
WB2				IAmb	IAmb	05 55 25.4	
	comp=Z,15nm,1.5s						
WR0	**Warramunga Arr**	**22.93**	**162**	P	**P**	**05 54 59.7**	**+1.0**
WR0				IAmb	IAmb	05 55 07.1	
	comp=Z,8.5nm,1.2s						
ASAR	**Alice Springs**	**26.27**	**166**	P	**P**	**05 55 33.0**	**+3.6**
	comp=Z,0.5nm,0.3s,baz=347,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**26.27**	**166**	P	**P**	**05 55 28.4**	**-1.0**
STKA	**Stephens Creek**	**36.31**	**159**	P	**P**	**05 56 57.6**	**+0.1**
	comp=Z,4.9nm,0.9s,baz=324,slow=8.7,SNR=3.2						
STKA	**Stephens Creek**	**36.31**	**159**	P	**P**	**05 56 58.6**	**+1.1**
MKAR	**Makanchi Array**	**59.25**	**326**	P	**P**	**05 59 54.5**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=111,slow=8.3,SNR=2.3						
MKAR	**Makanchi Array**	**59.25**	**326**	P	**P**	**05 59 53.9**	**-0.9**
MAKZ	**Makanchi**	**59.43**	**326**	P	**P**	**05 59 55.1**	**-0.9**
MAKZ				IAmb	IAmb	05 59 57.1	
	comp=Z,1.9nm,0.6s						
LBZ	**Lake Benmore**	**59.99**	**146**	P	**P**	**06 00 00.2**	**+0.4**
TIXI	**Tiksi**	**69.65**	**1**	LR	LR	06 30 28.4	
	comp=Z,353nm,20.5s,baz=254,slow=35						

UCR 23 05:55:06.3±1.6, 8°.66N×83°.80W, h5km, MW4.1
UPA 23 05:55:06.4±1.8, 8°.72N×83°.74W, h0km±8km, MW3.8
INET 23 05:55:08.0, 8°.88N×83°.38W, h9km, MW3.1
ISC 23 05:55:06.4±1.6, 8°.71N±0°.06×83°.77W±0°.04, h7km±11km, n28, σ0^{s}86/40, 4C-11D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDPN	**Palmar Norte**	**0.40**	**50**	*e*P	**Pb**	**05 55 15.3**	**-0.5**
EDPN				*e*S	**Sb**	**05 55 22.7**	**+0.6**
PTJ1	**Puerto Jimnez**	**0.49**	**110**	*e*P	**Pb**	**05 55 17.2**	**-0.2**
PTJ1	**Puerto Jimnez**	**0.49**	**110**	⇓*e*P	**Pb**	**05 55 17.1**	**-0.3**
EDDO	**Dominical**	**0.55**	**350**	*e*P	**Pg**	**05 55 15.9**	**-1.1**
EDDO				*e*S	**Sb**	**05 55 26.8**	**+0.2**
EDBA	**Buenos Aires**	**0.67**	**47**	*e*P	**Pg**	**05 55 18.9**	**-0.4**
EDBA				*e*S	**Sb**	**05 55 30.7**	**+0.8**
PEZE	**Perez Zeledon,**	**0.68**	**8**	⇓*e*P	**Pb**	**05 55 19.8**	**-0.8**
POTG	**Potrero Grande**	**0.73**	**62**	⇓*e*P	**Pb**	**05 55 21.1**	**-0.4**
DRK0	**Durika**	**0.76**	**43**	⇓*i*P	**Pb**	**05 55 21.4**	**-0.6**
DRK0				*e*S	**Sb**	**05 55 33.3**	**+0.7**
DRK0	**Durika**	**0.76**	**43**	⇓*i*P	**Pb**	**05 55 21.4**	**-0.6**
DRK0				*e*S	**Sb**	**05 55 32.9**	**+0.3**
EDSV	**San Vito**	**0.80**	**82**	⇑*e*P	**Pb**	**05 55 22.7**	**0.0**
EDSV				*e*S	**Sn**	**05 55 35.9**	**-0.5**
LPLA	**Las Palmas La**	**0.82**	**67**	*e*P	**Pb**	**05 55 22.6**	**-0.4**
LPLA				*e*S	**Sn**	**05 55 35.4**	**-1.6**
CDM	**Cerro de Muert**	**0.84**	**0**	⇓*i*P	**Pg**	**05 55 22.6**	**0.0**
LCR2	**La Lucha 2**	**1.06**	**347**	⇓*e*P	**Pg**	**05 55 25.9**	**-0.8**
RIMA	**Rio Macho**	**1.06**	**355**	⇓*e*P	**Pg**	**05 55 25.9**	**-0.8**
BRU2	**Volcan**	**1.07**	**85**	⇑*i*P	**Pb**	**05 55 26.9**	**-0.4**
BRU2				⇓*e*S	**Sn**	**05 55 43.6**	**+0.4**
BRU2	**Volcan**	**1.07**	**85**	⇑*i*P	**Pb**	**05 55 26.9**	**-0.4**
MRVA	**Moravia de Chi**	**1.16**	**16**	⇓*e*P	**Pg**	**05 55 28.1**	**-0.5**
BCO2	**Palmira**	**1.23**	**89**	*i* P	**Pg**	**05 55 29.3**	**-0.7**
BCO2				*e*S	**Sn**	**05 55 47.3**	**+0.3**
JACO	**JACO, Garabito**	**1.29**	**317**	*e*P	**Pn**	**05 55 29.4**	**-1.5**
CVTR	**Volcan Turrial**	**1.31**	**0**	*e*P	**Pg**	**05 55 30.9**	**-0.6**
HDC	**Heredia**	**1.33**	**345**	*i* P	**Pn**	**05 55 31.5**	**-0.1**
HDC				*e*S	**Sn**	**05 55 49.9**	**+0.3**
HDC	**Heredia**	**1.33**	**345**	⇑*e*P	**Pn**	**05 55 31.2**	**-0.4**
CNI2	**El Empalme, Bo**	**1.47**	**61**	*e*P	**Pn**	**05 55 33.0**	**-0.3**
CNI2				*e*S	**Sg**	**05 55 54.2**	**+0.5**
LAFE	**Finca La Fe, P**	**1.57**	**314**	*e*P	**Pn**	**

LCCY	Blossom Villag	5.91	273			Pn	06 12 57.6	+0.4
MGV	Manicaragua	6.35	296	*e*	P	Pn	06 13 01.7	-1.6
MGV				*e*	S	Sn	06 14 09.5	-5.9
MGV					IAML		06 14 14.1	
	comp=N,60nm,0.5s							
MGV					IAML		06 14 14.4	
	comp=E,52nm,0.5s							
AGPR	Aguadilla, PR	6.42	98			Pn	06 13 04.3	+0.1
AGPR	Aguadilla, PR	6.42	98	*e*	P	Pn	06 13 04.2	0.0
AGPR					IAML		06 14 59.9	
	comp=Z,76nm,1.4s							
MPR	Mayaguez	6.44	100			Pn	06 13 05.5	+1.0
MLPR	Magueyes Islan	6.58	102	Pn		Pn	06 13 07.1	+0.7
AOPR	Arecibo Observ	6.77	98			Pn	06 13 09.9	+0.8
FSCY	Frank Sound, G	6.96	270	*e*	P	Pn	06 13 09.4	-2.2
FSCY				*e*	S	Sn	06 14 23.5	-6.9
FSCY					IAML		06 14 27.7	
	comp=Z,22nm,0.3s							
FSCY	Frank Sound, G	6.96	270	Pn		Pn	06 13 10.7	-0.9
EMPR	Esperanza - Ma	6.96	97	Pn		Pn	06 13 12.1	+0.4
OBIP	Obispado Ponce	6.97	100			Pn	06 13 11.2	-0.6
ICMP	Isla Caja de M	7.08	101	Pn		Pn	06 13 13.3	+0.1
WBCY	West Bay, Gran	7.16	271			Pn	06 13 13.7	-0.6
SJG	San Juan	7.38	99	Pn		Pn	06 13 17.1	-0.3
	comp=Z,4.9nm,0.3s,baz=299,slow=11,SNR=8.2							
SJG					Sn	Sn	06 14 34.8	-5.9
	comp=Z,2.0nm,0.3s,baz=304,slow=19,SNR=1.2							
SJG	San Juan	7.38	99			Pn	06 13 18.0	+0.6
GCPR	Guaynabo City	7.41	97			Pn	06 13 16.9	-0.8
PDPR	Patillas Dam,	7.52	100	Pn		Pn	06 13 19.1	-0.2
CBYP	Canovanas	7.62	97			Pn	06 13 19.0	-1.8
URIC	Uribia, Colomb	7.89	167	*e*	P	Pn	06 13 25.2	+0.7
SMRC	Santa Marta, M	8.24	183	*e*	P	Pn	06 13 28.7	-0.5
CRJC	Cerrejon, Guaj	8.42	174	*e*	P	Pn	06 13 32.8	+1.0
CRJC				*e*	S	Sn	06 15 00.9	-5.6
CDVI	St. Croix	8.74	100	Pn		Pn	06 13 35.7	-0.4
061Z	Ochoppi	9.15	316	Pn		Pn	06 13 40.0	-1.7
SOR	Soroa	9.21	293	*e*	P	Pn	06 13 42.5	0.0
SOR				*e*	S	Sn	06 15 16.7	-9.0
SOR					IAML		06 15 24.2	
	comp=E,6.7nm,0.2s							
SOR					IAML		06 15 27.2	
	comp=N,5.7nm,0.3s							
SOR	Soroa	9.21	293	Pn		Pn	06 13 42.2	-0.2
ARGC	Ariguani, Magd	9.53	183	*e*	P	Pn	06 13 49.0	+2.0
SJCC	San Jacinto, C	9.58	188	*e*	P	Pn	06 13 48.6	+0.9
SMLC	San Martn de	10.58	181	*e*	P	Pn	06 14 02.5	+1.2
SKI	Saint Kitts	10.72	99	Pn		Pn	06 14 02.5	-0.8
MOTC	Monteria, Cord	10.75	190	*e*	P	Pn	06 14 04.8	+1.2
SDV	Santo Domingo	10.93	163	Pn		Pn	06 14 07.5	+1.2
	comp=N,2.6nm,0.3s,baz=3.6,slow=6.0,SNR=17							
SDV					Sn	Sn	06 16 02.3	-6.2
	comp=N,0.5nm,0.3s,baz=210,slow=16,SNR=1.8							
SDV	Santo Domingo	10.93	163	Pn		Pn	06 14 07.2	+0.8
SDV	Santo Domingo	10.93	163	*e*	P	Pn	06 14 05.6	-0.8
OCAC	Ocana	11.14	177	*e*	P	Pn	06 14 10.9	+1.7
UREC	San Jos de Ur	11.74	188	*e*	P	Pn	06 14 20.3	+3.1
BCIP	Isla Barro Col	11.76	211	Pn		Pn	06 14 18.6	+1.1
ZARC	Zaragoza, Cauc	11.92	185	*e*	P	Pn	06 14 22.0	+2.3
PAMC	Pamplona, Colo	12.08	175	*e*	P	Pn	06 14 22.8	+0.5
BRRC	Barranca, Sant	12.26	180	*e*	P	Pn	06 14 26.3	+2.0
ESPN	Las Esperanzas	12.39	236	Pn		Pn	06 14 29.5	+3.3
DBBC	Dabeiba	12.56	191	*e*	P	Pn	06 14 30.9	+2.3
PCRV	Puerto La Cruz	12.78	135	Pn		Pn	06 14 31.9	+0.4
	comp=N,2.3nm,0.3s,baz=170,slow=4.3,SNR=13							
PCRV					Sn	Sn	06 16 41.8	-12
	comp=N,0.5nm,0.3s,baz=39,slow=14,SNR=1.2							
BARC	Barichara	12.79	177	*e*	P	Pn	06 14 33.6	+1.9
PLCV	Puerto La Cruz	12.82	135			Pn	06 14 31.9	-0.1
PTBC	PUERTO BERRIO,	12.84	183	*e*	P	Pn	06 14 34.2	+2.0
ACON	Acoyapa	13.21	237	Pn		Pn	06 14 37.2	-0.2
HELC	Santa Helena	13.27	187	*e*	P	Pn	06 14 41.3	+2.8
MATN	Matagalpa	13.31	243	Pn		Pn	06 14 39.1	+0.4
BOAB	BOACO BROADBAN	13.34	240			Pn	06 14 40.3	+1.2
456A	Hilliard	13.47	328	Pn		Pn	06 14 39.4	-1.4
RUSC	La Rusia	13.48	177	*e*	P	Pn	06 14 41.9	+0.4
TEIG	Tepich	13.63	276	Pn		Pn	06 14 43.2	+0.1
	comp=N,1.2nm,0.3s,baz=38,slow=0.7,SNR=14							
CBOC	Ciudad Bolivar	13.66	189	*e*	P	Pn	06 14 47.5	+3.8
SPBC	San Pablo de B	13.71	181	*e*	P	Pn	06 14 46.6	+2.4
NORC	Norcasia	13.83	184	*e*	P	Pn	06 14 47.8	+2.0
TGUH	Tegucigalpa,Un	13.95	249	Pn		Pn	06 14 51.0	+3.4
GUY2C	Guyana, Caldas	14.21	186	*e*	P	Pn	06 14 53.7	+2.3
ROSC	El Rosal	14.52	182	Pn		Pn	06 14 58.3	+2.7
	comp=N,3.3nm,0.3s,baz=131,slow=11,SNR=7.1							
ROSC	El Rosal	14.52	182	Pn		Pn	06 14 56.1	+0.5
ROSC	El Rosal	14.52	182	*e*	P	Pn	06 14 57.0	+1.4
ANIL	Santa Ana	14.94	186	*e*	P	P	06 15 05.4	-1.3
VILC	Villavicencio,	15.23	180	*e*	P	Pn	06 15 06.9	+1.9
BBSR	BB Station	15.26	31	Pn		Pn	06 15 02.3	-2.7
ORTC	Ortega, Tolima	15.50	185	*e*	P	P	06 15 12.8	+0.1
352A	Blakely	15.62	322	Pn		Pn	06 15 07.5	-2.3
352A				IAmb	IAmb		06 15 17.4	
	comp=Z,19nm,1.1s							
250A	Grady	16.77	321	Pn		Pn	06 15 24.8	+0.3
250A				IAmb	IAmb		06 15 50.3	
	comp=Z,26nm,1.4s							
V58A	Windy Hill, Pi	16.95	345	Pn		Pn	06 15 24.3	-2.5
Z51A	Franklin	17.14	326	Pn		Pn	06 15 28.9	-0.4
U59A	Littleton	17.21	349	Pn		Pn	06 15 27.3	-2.7
U56A	King	17.81	342	Pn		Pn	06 15 36.3	-1.1
T60A	Surry	17.82	352			Pn	06 15 35.7	-1.9
V53A	Saluda	18.01	336	P		Pn	06 15 38.0	-2.0
V53A				IAmb	IAmb		06 15 40.0	
	comp=Z,28nm,1.4s							
FPAL	Fort Paine	18.33	328	P		Pn	06 15 44.8	+0.9
TKL	Tuckaleechee C	18.39	333	P		P	06 15 43.2	-1.3
	comp=Z,0.3nm,0.3s,baz=167,slow=12,SNR=6.5							
TKL	Tuckaleechee C	18.39	333	P		P	06 15 42.7	-1.9
U54A	Nelsons Funny	18.41	339	P		P	06 15 43.4	-1.5
V52A	Sevierville	18.48	334	P		P	06 15 45.3	-0.2
V52A				IAmb	IAmb		06 15 51.8	
	comp=Z,21nm,1.4s							
S58A	Poland Farm, P	18.48	349	P		P	06 15 44.1	-1.4
S58A				IAmb	IAmb		06 15 46.7	
	comp=Z,11nm,0.6s							
CPCT	Cooper Cave	18.54	332	P		P	06 15 45.5	-0.7
BLA	Blacksburg	18.63	343			P	06 15 48.1	+0.9
BLA				IAmb	IAmb		06 15 51.1	
	comp=Z,27nm,1.0s							
W50A	Signal Mountai	18.70	329	P		P	06 15 47.0	-1.0
R58B	Mineral	18.80	350	P		P	06 15 47.4	-1.6
S57A	Dark Hollow, R	18.80	347	P		P	06 15 48.2	-0.9
S57A				IAmb	IAmb		06 15 49.9	
	comp=Z,11nm,0.7s							
CBN	Corbin Frederi	18.95	351	P		P	06 15 50.8	+0.1
S54A	Dingess, Beckl	19.43	342	P		P	06 15 57.2	+1.2
S54A				IAmb	IAmb		06 15 58.3	
	comp=Z,20nm,0.9s							
R55A	Marlinton	19.56	345	P		P	06 15 58.5	+1.1
R55A				IAmb	IAmb		06 16 00.4	
	comp=Z,21nm,0.9s							
V48A	Smith Brothers	19.88	327	P		P	06 16 01.8	+0.9
S51A	Beattyville	20.04	337	P		P	06 16 04.6	+2.0
CMIG	Matias Romero	20.14	267	P		P	06 16 05.7	+1.8
	comp=Z,3.4nm,0.6s,baz=70,slow=8.3,SNR=10							
MVL	Millersville	20.61	354	P		P	06 16 09.5	+0.7
Q52A	Bidwell	20.79	341	P		P	06 16 11.4	+0.7
Q52A				IAmb	IAmb		06 16 13.0	
	comp=Z,14nm,0.9s							
O56A	Blue Knob Stat	21.16	350	P		P	06 16 15.0	+0.3
O56A				IAmb	IAmb		06 16 19.0	
	comp=Z,13nm,1.1s							
BRNJ	Basking Ridge	21.18	358	P		P	06 16 14.7	-0.2
BRNJ				IAmb	IAmb		06 16 20.0	
	comp=Z,14nm,0.9s							
Q51A	Peebles	21.19	339	P		P	06 16 14.4	-0.7
Q51A				IAmb	IAmb		06 16 20.4	
	comp=Z,14nm,0.7s							
P52A	Corning	21.37	342	P		P	06 16 18.3	+1.4
P52A				IAmb	IAmb		06 16 18.9	
	comp=Z,19nm,1.1s							
O54A	Avella	21.43	346	P		P	06 16 17.9	+0.3
O54A				IAmb	IAmb		06 16 19.4	
	comp=Z,16nm,1.1s							
N59A	State Game Lan	21.47	356	P		P	06 16 19.0	+0.9
N59A				IAmb	IAmb		06 16 23.0	
	comp=Z,8.7nm,0.8s							
N58A	Sunbury	21.48	354	P		P	06 16 19.2	+1.1
N58A				IAmb	IAmb		06 16 20.2	
	comp=Z,12nm,1.1s							
P51A	Williamsport	21.51	340	P		P	06 16 19.3	+0.9
P51A				IAmb	IAmb		06 16 23.1	
	comp=Z,7.8nm,0.8s							
WSPT	Westport, CT	21.66	1	P		P	06 16 19.6	-0.5
O52A	Adamsville	21.73	343	P		P	06 16 22.4	+1.6
M63A	Gales Ferry	21.95	4	P		P	06 16 24.2	+1.1
ACSO	Alum Creek Sta	22.17	341	P		P	06 16 27.5	+1.9
P48A	Milroy	22.33	336	P		P	06 16 27.4	+0.1
P48A				IAmb	IAmb		06 16 30.2	
	comp=Z,18nm,1.4s							
M54A	Oil Creek Stat	22.56	348	P		P	06 16 30.1	+0.4
K58A	Earlville	23.30	357	P		P	06 16 35.8	-1.7
L48A	N Adams	24.18	340	P		P	06 16 47.2	+1.4
L48A				IAmb	IAmb		06 16 47.4	
	comp=Z,9.8nm,0.8s							
PTGA	Pitinga	24.22	144	P		P	06 16 48.4	+2.0
	comp=Z,1.5nm,0.3s,baz=351,slow=11,SNR=5.5							
P43A	Skaggs, Pawnee	24.26	329	P		P	06 16 46.7	0.0
NCB	Newcomb	24.46	359	P		P	06 16 50.1	+1.6
R40A	Maddies Statio	24.70	323	P		P	06 16 51.3	+0.7
R40A				IAmb	IAmb		06 17 00.5	
	comp=Z,8.7nm,1.3s							
S39A	Bolivar	24.90	321	P		P	06 16 52.9	+0.4
S39A				IAmb	IAmb		06 16 55.8	
	comp=Z,6.2nm,0.8s							
P40A	Paris	25.46	326	P		P	06 16 58.1	+0.6
P40A				IAmb	IAmb		06 16 59.0	
	comp=Z,8.0nm,0.8s							
TXAR	Lajitas Array	28.85	296	P		P	06 17 28.7	+0.5
	comp=Z,0.2nm,0.5s,baz=111,slow=9.1,SNR=8.0							
TXAR	Lajitas Array	28.85	296	P		P	06 17 29.8	+1.6
TX32	Lajitas Array	28.85	296	P		P	06 17 30.1	+1.9
ECSD	EROS Data Cent	30.85	327	P		P	06 17 45.8	+0.1
ECSD				IAmb	IAmb		06 17 46.6	
	comp=Z,1.9nm,0.6s							
K31A	O'Neill	31.26	323	P		P	06 17 50.0	+0.6
B35A	Bob, Littlefor	33.04	335	P		P	06 18 05.6	+0.7
B35A				IAmb	IAmb		06 18 05.7	
	comp=Z,2.8nm,0.8s							
AGMN	Agassiz Nation	33.87	333	P		P	06 18 13.3	+1.2
AGMN				IAmb	IAmb		06 18 14.7	
	comp=Z,3.8nm,0.8s							
ULM	Lac du Bonnet	35.40	335	P		P	06 18 24.7	-0.5
	comp=Z,1.0nm,0.5s,baz=148,slow=9.3,SNR=4.7							
LPAZ	La Paz	35.94	171	P		P	06 18 32.7	+1.8
	comp=Z,1.5nm,0.8s,baz=359,slow=10,SNR=5.5							
LPAZ	La Paz	35.94	171	P		P	06 18 32.5	+1.6
PDAR	Pinedale Array	38.02	316	P		P	06 18 48.5	+0.5
	comp=Z,0.4nm,0.6s,baz=107,slow=9.9,SNR=5.6							
PDAR	Pinedale Array	38.02	316	P		P	06 18 48.1	+0.2
RLMT	Red Lodge	38.93	319	P		P	06 18 56.9	+1.3
LOHW	Long Hollow	39.08	316	P		P	06 18 58.3	+1.5
LOHW				IAmb	IAmb		06 18 59.0	
	comp=Z,4.7nm,0.8s							
REDW	Red Top Meadow	39.13	316	P		P	06 18 58.7	+1.4
REDW				IAmb	IAmb		06 18 59.5	
	comp=Z,5.4nm,0.9s							
YHH	Holmes Hill	39.76	318			P	06 19 03.2	+0.5
SPR3	Spring Creek 3	39.97	308	P		P	06 19 06.2	+1.7
YHL	Hebgen Lake	40.00	318	P		P	06 19 07.1	+2.5
MCMT	McKenzie Canyo	41.06	317	P		P	06 19 15.0	+1.7
BCYI	Bear Canyon	41.20	316	P		P	06 19 16.6	+2.1
BDFB	Brasilia	43.12	142	P		P	06 19 31.4	+1.2
	comp=Z,2.6nm,0.8s,baz=288,slow=7.8,SNR=4.5							
BDFB	Brasilia	43.12	142	P		P	06 19 30.9	+0.6
BDFB				IAmb	IAmb		06 19 51.7	
	comp=Z,7.4nm,1.3s							
G08A	Pilot Rock	45.24	315	P		P	06 19 47.2	+0.2
G08A				IAmb	IAmb		06 19 48.8	
	comp=Z,3.4nm,0.9s							
B08A	Colville Reser	46.57	319	P		P	06 19 58.0	+0.7
YKA	Yellowknife Ar	51.34	337	P		P	06 20 33.5	-0.1
	comp=Z,2.4nm,0.8s,baz=127,slow=8.4,SNR=56							
DLBC	Dease Lake	56.12	328	P		P	06 21 10.8	+1.9
DLBC				IAmb	IAmb		06 21 11.1	
	comp=Z,2.3nm,0.8s							
RES	Resolute Bay	56.43	353	P		P	06 21 10.5	-0.1
EUNU	Eureka	60.93	358	P		P	06 21 43.3	+1.3
EPYK	Eagle Plains	61.58	336	P		P	06 21 47.7	+1.1
DAWY	Dawson	62.05	333	P		P	06 21 50.8	+1.0
DAWY				IAmb	IAmb		06 21 51.4	
	comp=Z,1.5nm,0.9s							
CTGM	Chitina Glacie	62.30	329	P		P	06 21 53.8	+2.1
MENT	Mentasta	63.74	331	P		P	06 22 02.5	+1.5
MENT				IAmb	IAmb		06 22 03.1	
	comp=Z,2.2nm,0.8s							
BMRM	Bremner River	63.88	329	P		P	06 22 04.0	+1.9
N25K	Chitina, Valde	63.96	330	P		P	06 22 04.6	+2.1
SCRK	Sand Creek	64.02	333	P		P	06 22 04.2	+1.3
SCRK				IAmb	IAmb		06 22 05.1	
	comp=Z,2.4nm,0.8s							
EYAK	Cordova Ski Ar	64.39	329	P		P	06 22 07.4	+2.1
HIN	Hinchinbrook I	64.75	328	P		P	06 22 09.7	+2.0
FID	Port Fidalgo	64.77	329	P		P	06 22 09.7	+1.9
ILAR	Eielson Array	65.38	333	P		P	06 22 11.9	+0.2
	comp=Z,1.2nm,0.9s,baz=101,slow=4.6,SNR=13							
ILAR	Eielson Array	65.38	333	P		P	06 22 12.3	+0.7
RND	Reindeer	66.10	332	P		P	06 22 18.3	+1.9
PMR	Palmer	66.11	330	P		P	06 22 17.7	+1.3
PMR				IAmb	IAmb		06 22 38.0	
	comp=Z,4.1nm,1.2s							
RC01	Rabbit Creek A	66.38	329	P		P	06 22 18.5	+0.3
RC01				IAmb	IAmb		06 22 38.7	
	comp=Z,2.8nm,1.1s							
I23K	Minto, Yukon-K	66.46	333	P		P	06 22 19.5	+0.9
I23K				IAmb	IAmb		06 22 20.0	
	comp=Z,2.4nm,0.8s							
TRF	Thorofare Moun	66.75	332	P		P	06 22 21.6	+0.9
TRF				IAmb	IAmb		06 22 22.3	
	comp=Z,2.6nm,1.0s							
TOLK	Toolik Lake Re	66.87	337	P		P	06 22 22.0	+0.8
TOLK				IAmb	IAmb		06 22 22.1	
	comp=Z,2.2nm,0.7s							
COLD	Coldfoot	66.97	336	P		P	06 22 23.4	+1.5
COLD				IAmb	IAmb		06 22 24.1	
	comp=Z,3.4nm,1.2s							
MLY	Manley	67.04	333	P		P	06 22 22.9	+0.6
MLY				IAmb	IAmb		06 22 24.5	
	comp=Z,1.3nm,0.8s							
BPAW	Bear Paw Mtn.	67.09	332	P		P	06 22 23.1	+0.4
BPAW				IAmb	IAmb		06 22 23.9	
	comp=Z,2.6nm,0.9s							
NOA	NORSAR Array B	70.81	31	P		P	06 22 48.0	+2.1
	comp=Z,0.8nm,0.8s,baz=22,slow=12,SNR=3.2							
WRA	Warramunga Arr	153.50	264	PKPbc		PKPbc	06 31 28.2	-0.6
	comp=Z,1.0nm,0.8s,baz=83,slow=2.3,SNR=5.8							
WRA				PKPab		PKPab	06 31 42.5	+1.3
	comp=Z,0.8nm,0.7s,baz=86,slow=2.8,SNR=5.6							
ASAR	Alice Springs	153.90	256	PKPbc		PKPbc	06 31 28.9	-0.7
	comp=Z,0.2nm,0.6s,baz=79,slow=2.6,SNR=1.8							
ASAR				PKPab		PKPab	06 31 43.6	+0.8
	comp=Z,0.7nm,0.7s,baz=96,slow=2.6,SNR=6.7							
ASAR	Alice Springs	153.90	256	PKPdf		PKPdf	06 31 19.9	-1.8
ASAR				PKPbc		sPKPdf	06 31 29.3	+0.2
ASAR				PKPab		PKPab	06 31 41.9	-0.9

ISK ***23*** *06:14:49.4, 36.07N×31.02E, h12km, ML2.9/34*
DDA ***23*** *06:14:50.4, 36.07N×31.00E, h50km±4km, ML2.7*
NIC ***23*** *06:14:51.5±0.0, 36.20N×31.09E, h18km±8km, Ml3.2/6*

ISC 23 06:14:51.2±1.1, **36.10N**±0.02×**31.01E**±0.02, **h23**km±13km, **n74**, σ1.1**s58**/114, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AKUM	**Antalya-Kumluc**	**0.59**	**292**	*i* P		**Pn**	**06 15 03.5**	**-0.7**
AKUM				*i* S		**Sn**	**06 15 13.9**	**+0.8**
AKUM				IAML			06 15 17.0	
	comp=E,387nm,0.3s							
AKUM				IAML			06 15 19.0	
	comp=N,395nm,0.5s							
KEMT	**Kemer-ANTALYA**	**0.62**	**324**	PG		**Pb**	**06 15 02.3**	**-1.2**
KEMT				SG		**Sb**	**06 15 11.3**	**-0.5**
ANTB	**Antalya**	**0.85**	**340**	PG		**Pb**	**06 15 06.3**	**-1.0**
ANTB				SG		**Sb**	**06 15 18.5**	**+0.2**
DEMR	**Demre-Antalya**	**0.91**	**279**	PG		**Pb**	**06 15 07.3**	**-1.0**
ALAN	**Alanya-ANTALYA**	**0.94**	**61**	PG		**Pb**	**06 15 08.1**	**-0.8**
ALAN				SG		**Sn**	**06 15 21.1**	**-0.7**
KORT	**Korkueli**	**1.04**	**329**	PG		**Pb**	**06 15 10.1**	**-0.7**
KORT				SG		**Sn**	**06 15 25.1**	**+0.5**
KORT	**Korkueli**	**1.04**	**329**	*i* P		**Pb**	**06 15 10.1**	**-0.7**
KORT				*i* S		**Sn**	**06 15 25.3**	**+0.7**
KORT				IAML			06 15 32.0	
	comp=N,94nm,0.7s							
GAZI	**Gazipasa**	**1.06**	**82**	PG		**Pn**	**06 15 09.9**	**-0.9**
GAZI				SG		**Sn**	**06 15 25.1**	**+0.2**
GAZI	**Gazipasa**	**1.06**	**82**	*i* P		**Pb**	**06 15 10.4**	**-0.6**
GAZI				*i* S		**Sb**	**06 15 21.7**	**-2.7**
GAZI				IAML			06 15 25.0	
	comp=E,118nm,0.2s							
GAZI				IAML			06 15 25.0	
	comp=N,133nm,0.3s							
ELL	**Elmali**	**1.10**	**306**	PN		**Pb**	**06 15 11.2**	**-0.5**
ELL				SN		**Sn**	**06 15 27.1**	**+1.1**
ELL	**Elmali**	**1.10**	**306**	P		**Pb**	**06 15 12.9**	**+1.2**
ELL				S		**Sn**	**06 15 27.6**	**+1.6**
AKAS	**Kas**	**1.15**	**277**	PN		**Pb**	**06 15 11.9**	**-0.6**
AKAS				SN		**Sn**	**06 15 28.3**	**+1.2**
AKAS	**Kas**	**1.15**	**277**	*i* P		**Pn**	**06 15 11.3**	**-0.7**
AKAS				*i* S		**Sn**	**06 15 26.9**	**-0.3**
KSL	**Kastellorizon**	**1.16**	**273**	P		**Pb**	**06 15 12.6**	**+0.1**
KSL				S		**Sn**	**06 15 29.0**	**+1.8**
BUCA	**Burdur, Bucak-**	**1.28**	**344**	*i* P		**Pn**	**06 15 13.6**	**-0.2**
BCK	**Bucak**	**1.40**	**346**	PN		**Pn**	**06 15 15.4**	**-0.1**
SEDI	**Konya, Seydise**	**1.47**	**24**	*i* P		**Pb**	**06 15 17.2**	**-0.8**
SEDI				*i* S		**Sn**	**06 15 33.6**	**-1.6**
SEDI				IAML			06 15 42.0	
	comp=N,105nm,0.5s							
SEDI				IAML			06 15 42.0	
	comp=E,104nm,0.5s							
AKMS	**Akamas**	**1.53**	**135**	P		**Pb**	**06 15 18.3**	**-0.5**
AKMS				S		**Sb**	**06 15 37.0**	**-0.7**
AKMS				AML	AML		06 15 48.8	
	comp=E,0.9nm,0.3s							
AKMS				AML	AML		06 15 48.8	
	comp=E,0.9nm,0.3s							
AKMS				AML	AML		06 15 49.3	
	comp=E,1.0nm,0.3s							
AKMS				AML	AML		06 15 49.3	
	comp=E,1.0nm,0.3s							
ALFC	**Alefka**	**1.60**	**126**	P		**Pn**	**06 15 17.8**	**-0.4**
ALFC				S		**Sb**	**06 15 40.9**	**+1.0**
ALFC				AML	AML		06 15 49.8	
	comp=E,1.0nm,0.3s							
ALFC				AML	AML		06 15 49.8	
	comp=E,1.0nm,0.3s							
ALFC				AML	AML		06 15 53.7	
	comp=E,0.7nm,0.3s							
ALFC				AML	AML		06 15 53.7	
	comp=E,0.7nm,0.3s							
ERMK	**Ermenek**	**1.62**	**70**	*i* P		**Pb**	**06 15 20.6**	**-0.1**
ERMK				*i* S		**Sb**	**06 15 42.3**	**+1.5**
ERMK				IAML			06 15 49.0	
	comp=N,144nm,0.4s							
ERMK				IAML			06 15 51.0	
	comp=E,82nm,0.6s							
GOLH	**Golhisar**	**1.63**	**315**	*i* P		**Pb**	**06 15 21.1**	**+0.4**
GOLH				*i* S		**Sn**	**06 15 37.9**	**-1.0**
GOLH				IAML			06 15 46.0	
	comp=N,51nm,0.4s							
FETY	**Fethiye**	**1.65**	**289**	PN		**Pn**	**06 15 18.8**	**0.0**
FETY				SN		**Sb**	**06 15 40.7**	**-0.6**
TEKE	**Tekeli-Mersin**	**1.70**	**88**	PN		**Pn**	**06 15 19.3**	**-0.2**
TEKE				SN		**Sb**	**06 15 41.3**	**-1.5**
CAEL	**Denizli, Camel**	**1.70**	**307**	*i* P		**Pb**	**06 15 22.9**	**+1.0**
CAEL				*i* S		**Sb**	**06 15 42.1**	**-0.8**
CAEL				IAML			06 15 46.0	
	comp=N,52nm,0.4s							
CAEL				IAML			06 15 48.0	
	comp=E,60nm,0.5s							
ISP	**Isparta**	**1.76**	**347**	PN		**Pn**	**06 15 20.6**	**+0.1**
BRDR	**BURDUR-Merkez**	**1.77**	**335**	*i* P		**Pb**	**06 15 22.1**	**-0.9**
BERE	**Bereket-Mersin**	**1.80**	**82**	PN		**Pn**	**06 15 21.2**	**+0.1**
BERE				SN		**Sn**	**06 15 44.1**	**+0.8**
LEF	**Lefka**	**1.82**	**122**	PN		**Pn**	**06 15 20.5**	**-0.6**
LEF				SN		**Sn**	**06 15 43.5**	**+0.1**
LEF	**Lefka**	**1.82**	**122**	*i* P		**Pn**	**06 15 39.2**	**-0.4**
LEF				*i* S		**Sn**	**06 15 39.2**	**-4.2**
NATA	**Nata**	**1.83**	**136**	P		**Pn**	**06 15 17.1**	**-4.2**
NATA				S		**Sb**	**06 15 52.8**	**+6.3**
NATA				AML

	comp=N,32nm,0.6s						
AFYO				IAML		06 16 13.0	
	comp=E,28nm,1.0s						
AYDN	**Tasoluk**	**2.96**	**303**	*i* P	**Pn**	**06 15 37.3**	**+0.4**
AYDN				IAML		06 16 12.0	
	comp=N,60nm,0.3s						
KULA	**Kula-Manisa**	**3.05**	**323**	PN	**Pn**	**06 15 38.9**	**+0.7**
USAK	**Uak-Merkez**	**3.05**	**329**	*i* P	**Pn**	**06 15 39.0**	**+0.8**
MANT	**Manisa**	**3.09**	**321**	*i* P	**Pn**	**06 15 38.0**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**3.10**	**307**	PN	**Pn**	**06 15 39.8**	**+0.8**
BODT	**Bodrum**	**3.13**	**289**	PN	**Pn**	**06 15 39.9**	**+0.7**
KARP	**Karpathos**	**3.18**	**261**	PN	**Pn**	**06 15 40.9**	**+1.0**
KARP	**Karpathos**	**3.18**	**261**	P	**Pn**	**06 15 40.9**	**+1.0**
KARP				S	**Sn**	**06 16 13.6**	**-3.6**
CIFT	**Cifteler, Eski**	**3.25**	**1**	PN	**Pn**	**06 15 42.0**	**+1.0**
KULU	**Kulu**	**3.33**	**28**	PN	**Pn**	**06 15 42.9**	**+0.8**
SIMA	**Simav-Kutahya**	**3.39**	**332**	PN	**Pn**	**06 15 43.8**	**+1.0**
TVSB	**Tavsanli**	**3.56**	**340**	PN	**Pn**	**06 15 45.8**	**+0.6**

*IDC **23** 06:59:49.4±1.6,5.°71S×146.°66E,h0km,mb3.4/4, mb1 3.6/6,mb1mx3.5/27,mbtmp3.4/6,ML3.3/1,MS3.6/1, Ms1 3.6/1,ms1mx2.9/20,Error ellipse: s-maj=58.2km s-min=25.1km az=100.0*

ISC 23 07:00:00.9±1.3,**6.°2S**±0.°1×**146.°9E**±0.°3,**h100**km,**n7, σ1$45/7,mb3.1**/4,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.23**	**176**		Op Pn	**Pn**	**07 00 49.9**	**+0.3**
	3.9nm,0.3s,baz=328,slow=11,SNR=2.8							
PMG					Sn	**Sn**	**07 01 25.7**	**-1.6**
	3.9nm,0.3s,baz=56,slow=22,SNR=2.0							
WRA	**Warramunga Arr**	**18.35**	**221**	P		**P**	**07 04 07.3**	**-0.4**
	0.1nm,0.3s,baz=36,slow=11,SNR=7.9							
ASAR	**Alice Springs**	**21.43**	**214**	P		**P**	**07 04 41.7**	**+0.6**
	0.4nm,0.5s,baz=45,slow=8.8,SNR=8.1							
FITZ	**Fitzroy Crossi**	**23.91**	**238**	LR		LR	07 14 34.2	
	comp=Z,137nm,18.9s,baz=272,slow=37							
STKA	**Stephens Creek**	**26.06**	**190**	P		**P**	**07 05 27.1**	**+2.0**
	2.5nm,0.9s,baz=347,slow=14,SNR=2.1							
MKAR	**Makanchi Array**	**77.57**	**321**	P		**P**	**07 11 45.0**	**-1.0**
	0.1nm,0.5s,baz=97,slow=6.1,SNR=1.9							
ILAR	**Eielson Array**	**85.67**	**23**	P		**P**	**07 12 28.3**	**+0.1**
	0.2nm,0.9s,baz=239,slow=5.1,SNR=2.0							

*TAP **23** 07:20:39.8,24.°31N×121.°83E,h12km,ML2.9,C*
*JMA **23** 07:20:39.4±0.1,24.°29N×121.°82E,h0km,M2.5*

ISC 23 07:20:39.8±0.9,**24.°30N**±0.°02×**121.°84E**±0.°02,**h11**km±6km, **n61,σ0$43/102,12C-3D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.16**	**326**	⇑*i*	Op P	**Pg**	**07 20 43.3**	**0.0**
	baz=329							
ENA					*e*S	**Sg**	**07 20 45.5**	**-0.4**
	baz=329							
EWUT	**Wuta**	**0.16**	**341**	⇑*i*	P	**Pg**	**07 20 43.4**	**+0.1**
	baz=342							
EWUT					S	**Sg**	**07 20 45.8**	**-0.1**
	baz=342							
NACB	**Ninganchiao**	**0.25**	**241**	⇓*i*	P	**Pg**	**07 20 45.0**	**-0.1**
	baz=233							
NACB					S	**Sg**	**07 20 48.5**	**0.0**
	baz=233							
TWD	**Chiawan**	**0.31**	**225**	⇓*i*	P	**Pg**	**07 20 45.9**	**-0.1**
	baz=222							
TWD					*e*S	**Sg**	**07 20 50.3**	**+0.2**
	baz=222							
TWC	**Suao**	**0.31**	**2**	⇓*i*	P	**Pg**	**07 20 46.1**	**0.0**
	baz=6.0							
TWC					*e*S	**Sg**	**07 20 50.1**	**-0.2**
	baz=6.0							
ETLH	**Xiulin Townshi**	**0.34**	**254**	⇑	P	**Pg**	**07 20 46.5**	**-0.1**
	baz=253							
ETLH					*e*S	**Sg**	**07 20 51.5**	**+0.4**
	baz=253							
NDS	**Dongshan**	**0.35**	**342**	*e*P		**Pg**	**07 20 47.0**	**+0.1**
	baz=343							
NDS					*e*S	**Sg**	**07 20 51.7**	**+0.1**
	baz=343							
ENTT	**Nioudou**	**0.42**	**324**	⇑*i*	P	**Pg**	**07 20 48.4**	**+0.3**
	baz=325							
ENTT					S	**Sg**	**07 20 53.9**	**+0.1**
	baz=325							
NDT	**Datong Townshi**	**0.42**	**316**	⇑*i*	P	**Pg**	**07 20 48.5**	**+0.3**
	baz=316							
NDT					*e*S	**Sg**	**07 20 54.0**	**+0.3**
	baz=316							
NNSB	**Datong**	**0.43**	**288**	⇑*i*	P	**Pg**	**07 20 48.5**	**+0.1**
	baz=287							
NNSB					*e*S	**Sg**	**07 20 54.1**	**0.0**
	baz=287							
NNSH	**Datong**	**0.43**	**288**	*e*P		**Pg**	**07 20 48.5**	**+0.1**
	baz=287							
NNSH					*e*S	**Sg**	**07 20 54.0**	**-0.1**
	baz=287							
NNS	**Nan Shan**	**0.45**	**289**	⇑*i*	P	**Pg**	**07 20 48.6**	**0.0**
	baz=288							
NNS					S	**Sg**	**07 20 54.8**	**+0.3**
	baz=288							
TWE	**Neicheng**	**0.45**	**340**	*e*P		**Pg**	**07 20 48.9**	**+0.2**
	baz=342							
TWE					*e*S	**Sg**	**07 20 53.7**	**-0.9**
	baz=342							
ILA	**Ilan**	**0.47**	**350**	*e*S		**Sg**	**07 20 55.8**	**+0.4**
	baz=345							
FUSS	**Fushou**	**0.54**	**265**	*e*P		**Pb**	**07 20 50.7**	**-0.8**
	baz=264							
FUSS					*e*S	**Sg**	**07 20 58.0**	**+0.3**
	baz=264							
WHF	**Hehuan Shan**	**0.54**	**254**	⇑*i*	P	**Pg**	**07 20 50.5**	**0.0**
	baz=253							
WHF					*e*S	**Sg**	**07 20 57.6**	**-0.1**
	baz=253							
EGS		**0.55**	**9**	*e*P		**Pg**	**07 20 50.1**	**-0.5**
	baz=19							
NTC	**Toucheng**	**0.55**	**359**	*e*P		**Pg**	**07 20 50.4**	**-0.2**
	baz=360							
NTC					*e*S	**Sg**	**07 20 57.7**	**-0.3**
	baz=360							
YHNB	**Yeheng**	**0.56**	**312**	⇑*i*	P	**Pb**	**07 20 51.0**	**-0.6**
	baz=311							
YHNB					*e*S	**Sg**	**07 20 57.5**	**-0.6**
	baz=311							
NWLT	**Wulai**	**0.57**	**328**	⇑	P	**Pg**	**07 20 51.1**	**+0.2**
	baz=327							
NWLT					*e*S	**Sg**	**07 20 58.1**	**-0.2**
	baz=327							
NSK	**Sanguang**	**0.58**	**311**	⇑*i*	P	**Pg**	**07 20 51.2**	**+0.2**
	baz=311							
NSK					*e*S	**Sg**	**07 20 58.4**	**-0.2**
	baz=311							
TWT	**Tachien**	**0.60**	**266**	*e*P		**Pb**	**07 20 52.1**	**-0.4**
	baz=265							
TWT					*e*S	**Sb**	**07 21 00.1**	**-1.0**
	baz=265							
ESL	**Shilin**	**0.61**	**217**	*e*P		**Pg**	**07 20 51.4**	**-0.2**
	baz=223							
ESL					*e*S	**Sg**	**07 20 59.4**	**-0.2**
	baz=223							
TDCB	**Techi**	**0.62**	**266**	⇑*i*	P	**Pb**	**07 20 52.1**	**-0.6**
	baz=265							
TDCB					*e*S	**Sg**	**07 20 59.9**	**-0.2**
	baz=265							
CHGB	**Renai**	**0.65**	**249**	*i* P		**Pg**	**07 20 52.6**	**+0.1**
	baz=241							
CHGB					*e*S	**Sg**	**07 21 01.1**	**+0.1**
	baz=241							
TIPB	**Shuangxi**	**0.67**	**359**	*e*P		**Pg**	**07 20 53.0**	**+0.1**
	baz=359							
TIPB					*e*S	**Sg**	**07 21 01.4**	**-0.2**
	baz=359							
NHDH	**Xindian Distri**	**0.72**	**337**	*e*S		**Sg**	**07 21 02.9**	**-0.3**
	baz=337							
TWB1	**Santiao Chiao**	**0.72**	**11**	*e*P		**Pg**	**07 20 53.7**	**-0.1**
	baz=12							
TWB1					*e*S	**Sg**	**07 21 03.1**	**-0.2**
	baz=12							
EGFH	**Guangfu**	**0.73**	**211**	*e*P		**Pb**	**07 20 54.3**	**-0.2**
	baz=216							
TATO	**Taipei**	**0.74**	**335**	*e*P		**Pn**	**07 20 55.8**	**-0.5**
	baz=335							
TATO					*e*S	**Sg**	**07 21 03.9**	**-0.1**
	baz=335							
WFSB	**Wu-fen Shan**	**0.77**	**356**	*e*P		**Pb**	**07 20 55.4**	**+0.1**
	baz=348							
WFSB					*e*S	**Sg**	**07 21 04.9**	**+0.1**
	baz=348							
WHP	**Taichung City**	**0.81**	**269**	*i* P		**Pb**	**07 20 56.2**	**+0.3**
	baz=268							
WHP					S	**Sb**	**07 21 06.2**	**-0.7**
	baz=268							
LIOB	**Emei**	**0.82**	**295**	P		**Pb**	**07 20 56.2**	**+0.1**
	baz=295							
LIOB					*e*S	**Sb**	**07 21 07.2**	**0.0**
	baz=295							
NSTT	**Nanjuang**	**0.83**	**294**	*e*P		**Pb**	**07 20 56.1**	**-0.1**
	baz=294							
NSTT					*e*S	**Sg**	**07 21 06.1**	**-0.6**
	baz=294							
VWDT	**VWDT**	**0.83**	**230**	P		**Pb**	**07 20 56.0**	**-0.3**
	baz=229							
VWDT					*e*S	**Sb**	**07 21 07.4**	**0.0**
	baz=229							
TNOU	**National Taiwa**	**0.85**	**356**	*e*P		**Pg**	**07 20 56.2**	**0.0**
	baz=349							
TNOU					*e*S	**Sg**	**07 21 06.7**	**-0.7**
	baz=349							
WPL	**Puli Township**	**0.85**	**251**	*e*P		**Pb**	**07 20 56.5**	**-0.1**
	baz=250							
DPDB	**Guoxing**	**0.87**	**253**	*e*P		**Pg**	**07 20 56.1**	**-0.5**
	baz=252							
YM01	**YM01**	**0.88**	**344**	*e*P		**Pg**	**07 20 56.3**	**-0.4**
	baz=344							
HGSD	**Ruisui**	**0.89**	**205**	*e*P		**Pn**	**07 20 58.2**	**+0.1**
	baz=216							
YM10	**YM10**	**0.89**	**344**	*e*P		**Pb**	**07 20 57.5**	**+0.2**
	baz=344							
YM10					*e*S	**Sg**	**07 21 08.2**	**-0.4**
	baz=344							
YM04	**YM04**	**0.90**	**342**	*e*P		**Pb**	**07 20 57.5**	**+0.1**
	baz=343							
YM11	**YM11**	**0.90**	**345**	*e*P		**Pb**	**07 20 58.1**	**+0.7**
	baz=345							
YM08	**YM08**	**0.91**	**346**	*e*P		**Pb**	**07 20 57.8**	**+0.1**
	baz=346							
EHY	**Hungye**	**0.92**	**211**	*e*P		**Pb**	**07 20 58.0**	**+0.3**
	baz=223							
YM03	**YM03**	**0.92**	**343**	*e*P		**Pb**	**07 20 58.3**	**+0.5**
	baz=343							
ANP	**Anpu**	**0.93**	**342**	*e*P		**Pb**	**07 20 58.4**	**+0.4**
	baz=342							
ANP					*e*S	**Sb**	**07 21 10.7**	**+0.3**
	baz=342							
SMLT	**Sun Moon Lake**	**0.95**	**244**	*e*P		**Pb**	**07 20 58.4**	**+0.1**
	baz=243							
TYC	**Yuchr**	**0.98**	**247**	*e*P		**Pb**	**07 20 58.6**	**-0.1**
	baz=245							
TWY	**Chenhua**	**1.00**	**348**	*e*P		**Pb**	**07 20 59.1**	**+0.1**
	baz=340							
TWY					*e*S	**Sb**	**07 21 13.0**	**+0.8**
	baz=340							
YULB	**Yu-li**	**1.03**	**209**	*e*P		**Pg**	**07 20 59.1**	**-0.4**
	baz=219							
YULB					*e*S	**Sb**	**07 21 13.1**	**0.0**
	baz=219							
TWF1	**Yuli**	**1.06**	**208**	*e*P		**Pg**	**07 21 00.1**	**-0.1**
	baz=220							
YOJ	**Yonaguni jima**	**1.08**	**81**	P		**Pb**	**07 21 00.8**	**+0.3**
YOJ					S	**Sb**	**07 21 15.3**	**+0.6**
ALS	**Alishan**	**1.23**	**230**	*e*P		**Pn**	**07 21 03.8**	**+0.7**
	baz=229							
CHN5	**Tsauling**	**1.27**	**237**	*e*P		**Pn**	**07 21 05.2**	**+1.6**
	baz=237							
CHN4	**Tsaushan**	**1.48**	**231**	*e*P		**Pg**	**07 21 07.8**	**-0.3**
	baz=231							
TWK	**Hsinying**	**1.60**	**231**	*e*P		**Pn**	**07 21 09.0**	**+0.9**
	baz=232							
IRIF	**Iriomote-Funau**	**1.73**	**88**	P		**Pn**	**07 21 09.8**	**0.0**
IRIF					S	**Sn**	**07 21 31.1**	**-0.7**
JKRS	**Kuro-shima**	**1.98**	**91**	P		**Pn**	**07 21 13.9**	**+0.6**
JKRS					S	**Sn**	**07 21 38.6**	**+0.5**
JIJ	**Ishigaki jima**	**2.11**	**88**	P		**Pn**	**07 21 13.5**	**-1.5**
JIJ					*e*S	**Sn**	**07 21 41.2**	**+0.1**
JISG	**Ishigakijimahi**	**2.27**	**82**	P		**Pn**	**07 21 17.2**	**-0.1**
JISG					*e*S	**Sn**	**07 21 45.6**	**+0.3**

NNC 23 07:23:43.1±0.2,**50.°09N**×**78.°87E,h0**km,**mb4.0,mpv3.7, 19C-12D,Error ellipse: s-maj=2.8km s-min=1.4km az=64.0,Suspected Mining explosion.,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.55**	**336**	⇑	Op P	Pg	07 23 53.2	-0.4
KUR07				⇓	S	Sg	07 24 01.9	+1.2
KUR14	**Kurchatov Arra**	**0.56**	**342**	⇑	P	Pg	07 23 53.4	-0.4
KUR14				⇓	S	Sg	07 24 02.4	+1.3
KUR06	**Kurchatov Arra**	**0.56**	**337**	⇑	P	Pg	07 23 53.5	-0.4
KUR06				⇑	S	Sg	07 24 02.3	+1.1
KUR15	**Kurchatov Arra**	**0.57**	**340**	⇓	P	Pg	07 23 53.6	-0.4
KUR15				⇑	S	Sg	07 24 03.0	+1.6
KURBB	**Kurchatov Arra**	**0.58**	**338**	⇑	P	Pg	07 23 53.9	-0.4
	53nm,0.3s							
KURBB				⇓	S	Sg	07 24 03.2	+1.5
	258nm,0.6s							
KUR16	**Kurchatov Arra**	**0.59**	**337**	⇑	P	Pg	07 23 54.0	-0.5
KUR16				⇑	S	Sg	07 24 03.2	+1.1
KUR05	**Kurchatov Arra**	**0.60**	**339**	⇑	P	Pg	07 23 54.1	-0.4
KUR05				⇓	S	Sg	07 24 03.0	+0.8
KUR17	**Kurchatov Arra**	**0.60**	**335**	⇑	P	Pg	07 23 54.0	-0.7
KUR17				⇑	S	Sg	07 24 03.8	+1.3
SEM	**Semipalatinsk**	**0.94**	**69**	P		Pg	07 24 00.9	-0.2
	8.7nm,0.2s							
SEM					S	Sb	07 24 14.6	-1.0
	95nm,0.3s							
MAKZ	**Makanchi**	**3.88**	**147**	⇑	Pn	Pn	07 24 44.3	+0.3
	0.8nm,0.6s							
MAKZ				⇓	Pg	Pb	07 24 52.8	+0.4
	4.3nm,0.7s							
MAKZ				⇓	Lg	Lg	07 25 46.1	
	23nm,0.6s							
BRZS	**Berezniki**	**3.99**	**271**		Pg	Pb	07 24 55.2	+0.9
	6.5nm,0.5s							
BRZS					Lg	Lg	07 25 47.1	
	9.0nm,0.6s							
MK31	**Makanchi Array**	**4.00**	**144**	⇑	Pn	Pn	07 24 45.4	-0.3
	1.1nm,0.1s,baz=278,slow=7.0,SNR=21							
MK31				⇑	Pg	Pb	07 24 55.6	+1.0
	1.6nm,0.2s,baz=146,slow=56,SNR=30							
MK31				⇓	Lg	Lg	07 25 50.5	
	22nm,0.5s,baz=331,slow=27,SNR=8.3							
ZSN	**Zaisan**	**4.76**	**121**		Pg	Pb	07 25 06.8	-0.7
	3.4nm,0.3s							
ZSN					Lg	Lg	07 26 07.3	
	16nm,0.3s							
TDK	**Taldyqorghan**	**5.10**	**184**		Pg	Pg	07 25 17.7	-3.0
	48nm,0.3s							
TDK					Lg	Lg	07 26 25.8	
	24nm,0.4s							
ZAA0	**Zalesovo Array**	**5.33**	**41**	⇓	Pn	Pn	07 25 04.3	+0.3
	0.5nm,0.6s							
ZAA0				⇑	Sn	Sn	07 26 07.1	+1.1
	0.4nm,0.4s							
ZAA0				⇓	Lg	Lg	07 26 33.9	
	1.1nm,0.6s							
DJR	**Jarkent**	**5.79**	**173**		Pg	Pg	07 25 30.9	-3.2
	4.7nm,0.5s							
DJR					Lg	Lg	07 26 47.8	
	8.9nm,0.5s							
BTLS	**Baital**	**6.01**	**215**		Pg	Pg	07 25 33.8	-4.4
	1.6nm,0.4s							
BTLS					Lg	Lg	07 26 52.8	
	5.4nm,0.5s							
MNBS	**Baschi**	**6.02**	**183**		Pg	Pg	07 25 33.7	-4.7
	3.8nm,0.4s							
MNBS					Lg	Lg	07 26 53.9	
	30nm,0.7s							
BRVK	**Borovoye**	**6.12**	**302**	⇓	Sn	Sn	07 26 24.5	-1.0
	3.5nm,0.6s							
BRVK				⇓	Lg	Lg	07 26 56.5	
	3.1nm,0.6s							
KUU	**Kurty**	**6.43**	**197**		Pg	Pg	07 25 41.5	-4.8
	3.5nm,0.3s							
KUU					Lg	Lg	07 27 06.8	
	17nm,0.4s							
KTBS	**Karatobe**	**6.55**	**194**		Pg	Pg	07 25 43.4	-5.2
KTBS					Lg	Lg	07 27 09.8	
	33nm,0.3s							
KURS	**Kuram**	**6.62**	**184**		Pg	Pg	07 25 45.4	-4.4
	5.7nm,1.0s							
KURS					Lg	Lg	07 27 13.6	
	12nm,0.4s							
KRBS	**Karabastau**	**6.76**	**200**		Pg	Pg	07 25 47.2	-5.3
	1.2nm,0.4s							
KRBS					Lg	Lg	07 27 16.2	
	6.6nm,0.5s							
PDGK	**Podgornoye**	**6.77**	**176**		Pg	Pg	07 25 48.4	-4.4
	0.8nm,0.3s							
PDGK					Lg	Lg	07 27 18.7	
	4.2nm,0.7s							
PDGK	**Podgornoye**	**6.77**	**176**	⇑	Lg	Lg	07 27 17.4	
	12nm,0.7s							
UZB	**Uzynbulak**	**6.94**	**179**		Pg	Pg	07 25 51.5	-4.6
	4.1nm,0.3s							
UZB					Lg	Lg	07 27 23.8	
	7.7nm,1.0s							
SHLS	**Shalkode**	**6.94**	**176**		Pg	Pg	07 25 52.1	-4.0
	3.7nm,0.2s							
SHLS					Lg	Lg	07 27 25.1	
	16nm,0.6s							
SATY	**Saty**	**7.04**	**183**		Pg	Pg	07 25 53.0	-4.9
	2.6nm,0.2s							
SATY					Lg	Lg	07 27 26.5	
	11nm,0.4s							
MDOK	**Medeo**	**7.04**	**191**		Pg	Pg	07 25 52.9	-5.0
	2.2nm,0.2s							
MDOK					Lg	Lg	07 27 27.0	
	10.0nm,0.5s							
MTBS	**Maitube**	**7.16**	**194**		Pg	Pg	07 25 55.2	-5.0
	1.6nm,0.2s							
MTBS					Lg	Lg	07 27 29.6	
	13nm,0.4s							
DGS	**Degeres**	**7.17**	**198**		Pg	Pg	07 25 55.0	-5.5
	4.0nm,0.4s							
DGS					Lg	Lg	07 27 29.6	
	26nm,0.6s							
TNSS	**Tian-Shan**	**7.17**	**191**		Pg	Pg	07 25 55.3	-5.3
	2.1nm,0.3s							
TNSS					Lg	Lg	07 27 30.1	
	3.9nm,0.4s							
IZV	**Izvestkoviy**	**7.22**	**193**		Pg	Pg	07 25 56.9	-4.5
	1.3nm,0.2s							
IZV					Lg	Lg	07 27 33.5	
	8.6nm,0.4s							
KST	**Kastek**	**7.32**	**197**		Pg	Pg	07 25 59.4	-3.9
	3.7nm,0.7s							
KST					Lg	Lg	07 27 38.4	
	12nm,0.4s							
TKM2	**Tokmak 2**	**7.51**	**199**	⇑	Lg	Lg	07 27 41.9	
	5.0nm,0.6s							
AAK	**Ala-Archa**	**8.04**	**204**	⇑	Lg	Lg	07 27 58.9	
	7.2nm,0.8s							
KK31	**Karatay Array**	**9.04**	**223**	⇑	Lg	Lg	07 28 30.5	
	2.4nm,0.7s,baz=31,slow=24,SNR=3.9							

*IDC **23** 07:24:25.6±0.9,36.°81N×98.°12W,h0km,mb3.3/1, mb1 3.7/6,mb1mx3.4/56,mbtmp3.4/6,ML3.7/4,Error ellipse: s-maj=12.5km s-min=11.2km az=151.0*
*TUL **23** 07:24:26.7±2.0,36.°78N±0.°02×98.°03W±0.°06,h7km±6km, ML3.6,mb_Lg3.5/118(NEIC),Error ellipse: s-maj=6.5km s-min=2.3km az=89.0*
*NEIC **23** 07:24:27.0±2.0,36.°76N±0.°02×97.°95W±0.°06,h7km±6km, Error ellipse: s-maj=7.5km s-min=2.4km az=87.0*
*ANF **23** 07:24:27.1±0.2,36.°76N×98.°00W,h7km,ML4.2/23,Error ellipse: s-maj=1.9km s-min=1.8km az=130.0*

ISC 23 07:24:26.5±0.8,**36.°81N**±0.°02×**98.°04W**±0.°03,**h13**km±5km, **n188,σ1$28/187,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.14**	**269**		Op	**Pg**	**07 24 30.1**	**0.0**
OK032					Sg	**Sg**	**07 24 32.5**	**-0.1**
GC02	**Grant County #**	**0.15**	**73**			**Pg**	**07 24 30.3**	**+0.1**
KAN14	**Manchester OK**	**0.16**	**22**			**Pg**	**07 24 30.9**	**+0.5**
KAN14					Sg	**Sg**	**07 24 33.7**	**+0.5**
CROK	**Carrier**	**0.30**	**171**			**Pg**	**07 24 32.3**	**-0.5**
CROK					Sg	**Sg**	**07 24 36.4**	**-0.7**
KAN10	**Anthony SW Sta**	**0.32**	**352**			**Pb**	**07 24 33.9**	**-0.2**
KAN10					Sg	**Sg**	**07 24 39.0**	**+1.4**
KAN05	**Bluff City Nor**	**0.33**	**24**			**Pb**	**07 24 34.0**	**-0.4**
KAN05					Sg	**Sg**	**07 24 39.1**	**+1.3**
KAN01	**Argonia South**	**0.41**	**33**			**Pb**	**07 24 35.4**	**-0.3**
KAN01					Sg	**Sb**	**07 24 41.4**	**-0.5**
KAN08	**Anthony NE Sta**	**0.42**	**7**			**Pb**	**07 24 35.8**	**-0.1**
KAN09	**Caldwell North**	**0.47**	**46**			**Pb**	**07 24 36.3**	**-0.4**
KAN09					Sg	**Sb**	**07 24 43.1**	**-0.5**
KAN12	**Harper NE Stat**	**0.49**	**4**			**Pb**	**07 24 37.1**	**0.0**
KAN12					Sg	**Sb**	**07 24 44.3**	**+0.1**
KAN13	**South Haven SW**	**0.49**	**65**			**Pb**	**07 24 36.6**	**-0.5**
KAN13					Sg	**Sb**	**07 24 43.5**	**-0.8**
U32A	**Winter Ranch,**	**0.88**	**241**			**Pg**	**07 24 43.2**	**-0.4**
U32A	**Winter Ranch,**	**0.88**	**241**	P		**Pg**	**07 24 43.3**	**-0.4**
	baz=65,SNR=103							
U32A				S		**Sg**	**07 24 55.3**	**+0.1**
	baz=65							
U32A	**Winter Ranch,**	**0.88**	**241**	P			07 24 43.3	
	baz=65,SNR=103							
U32A				S			07 24 55.3	
	baz=65							
OK029	**Liberty Lake**	**1.11**	**155**			**Pn**	**07 24 46.9**	**-0.9**
OK029					Sg	**Sb**	**07 25 01.1**	**-0.9**
BCOK	**Bluff Creek, N**	**1.20**	**163**			**Pn**	**07 24 48.2**	**-0.8**
T35A	**Sooner Cattle**	**1.23**	**84**			**Pb**	**07 24 49.4**	**-0.2**
T35B	**Sooner Cattle**	**1.23**	**84**	P		**Pb**	**07 24 49.4**	**-0.2**
	baz=263,SNR=304							
T35B				S		**Sg**	**07 25 05.5**	**-0.7**
	baz=263							
T35B	**Sooner Cattle**	**1.23**	**84**	P			07 24 49.4	
	baz=263,SNR=304							
T35B				S			07 25 05.5	
	baz=263							
QUOK	**Quay**	**1.25**	**120**			**Pn**	**07 24 49.6**	**-0.1**
OK031	**S. Brethren Rd**	**1.29**	**131**			**Pn**	**07 24 50.1**	**-0.2**
OK030	**Cody Creek RV**	**1.34**	**131**			**Pn**	**07 24 50.9**	**0.0**
OK025	**Westminster Rd**	**1.35**	**155**			**Pn**	**07 24 51.1**	**0.0**
OKCFA	**Oklahoma City**	**1.47**	**161**			**Pn**	**07 24 52.8**	**+0.1**
OKCFA					IAmb_Lg		07 25 15.1	
	comp=Z,204nm,0.9s							
OKCFA	**Oklahoma City**	**1.47**	**161**	P		**Pn**	**07 24 52.9**	**+0.1**
	baz=343,SNR=14							
OKCFA				S		**Sn**	**07 25 13.0**	**+1.2**
	baz=343							
OKCFA	**Oklahoma City**	**1.47**	**161**	P			07 24 52.9	
	baz=343,SNR=14							
OKCFA				S			07 25 13.0	

	baz=145								
CBKS					S			07 25 38.7	
	baz=145								
CBKS	**Cedar Bluff**	**2.41**	**327**		P			07 25 07.9	
	baz=145,SNR=77								
CBKS					S			07 25 39.3	
	baz=145								
KSU1	**Kansas State U**	**2.55**	**26**				**Pb**	**07 25 09.6**	**-2.7**
KSU1					IAmb_Lg			07 25 48.1	
	comp=Z,153nm,0.8s								
KSU1	**Kansas State U**	**2.55**	**26**		P		**Pb**	**07 25 09.5**	**-2.7**
	baz=205,SNR=118								
KSU1					S		**Sb**	**07 25 41.8**	**-1.7**
	baz=205								
KSU1	**Kansas State U**	**2.55**	**26**		P			07 25 09.5	
	baz=205,SNR=119								
KSU1					S			07 25 41.6	
	baz=205								
KSU1	**Kansas State U**	**2.55**	**26**		P			07 25 09.5	
	baz=205,SNR=118								
KSU1					S			07 25 41.8	
	baz=205								
U38A	**Gravette**	**2.96**	**96**				**Pn**	**07 25 14.4**	**+1.2**
U38A	**Gravette**	**2.96**	**96**		P		**Pn**	**07 25 14.6**	**+1.3**
	baz=277,SNR=7.9								
U38A	**Gravette**	**2.96**	**96**		P			07 25 14.6	
	baz=277,SNR=7.9								
X37A	**Clayton**	**3.10**	**135**				**Pn**	**07 25 16.1**	**+0.9**
X37A	**Clayton**	**3.10**	**135**		P		**Pn**	**07 25 16.0**	**+0.9**
	baz=316,SNR=120								
X37A	**Clayton**	**3.10**	**135**		P			07 25 16.0	
	baz=316,SNR=120								
HHAR	**Hobbs**	**3.34**	**98**				**Pn**	**07 25 19.6**	**+1.1**
HHAR					IAmb_Lg			07 26 17.2	
	comp=Z,104nm,0.8s								
HHAR	**Hobbs**	**3.34**	**98**		P		**Pn**	**07 25 19.8**	**+1.3**
	baz=280,SNR=11								
HHAR	**Hobbs**	**3.34**	**98**		P			07 25 19.8	
	baz=280,SNR=11								
AMTX	**Amarillo**	**3.53**	**238**		Pn		**Pn**	**07 25 24.0**	**+2.9**
AMTX					IAmb_Lg			07 26 27.7	
	comp=Z,118nm,0.8s								
AMTX	**Amarillo**	**3.53**	**238**		P		**Pn**	**07 25 24.1**	**+3.0**
	baz=57								
AMTX	**Amarillo**	**3.53**	**238**		P			07 25 23.0	
	baz=57								
AMTX					Sb			07 26 16.1	
	baz=57								
AMTX	**Amarillo**	**3.53**	**238**		P			07 25 24.1	
	baz=57								
Z35A	**Perchaven, San**	**3.53**	**169**				**Pn**	**07 25 22.5**	**+1.4**
Z35A	**Perchaven, San**	**3.53**	**169**		P		**Pn**	**07 25 22.3**	**+1.2**
	baz=350,SNR=11								
Z35A					S		**Sn**	**07 26 04.0**	**+1.4**
	baz=350								
Z35A	**Perchaven, San**	**3.53**	**169**		P			07 25 22.3	
	baz=350,SNR=11								
Z35A					S			07 26 04.0	
	baz=350								
W39A	**Magazine**	**3.81**	**114**				**Pn**	**07 25 26.1**	**+1.3**
W39A					IAmb_Lg			07 26 35.8	
	comp=Z,118nm,0.7s								
W39A	**Magazine**	**3.81**	**114**		P		**Pn**	**07 25 26.3**	**+1.4**
	baz=296,SNR=6.0								
W39A	**Magazine**	**3.81**	**114**		P			07 25 25.7	
	baz=296,SNR=6.8								
W39A	**Magazine**	**3.81**	**114**		P			07 25 26.3	
	baz=296,SNR=6.0								
S39A	**Bolivar**	**3.87**	**75**				**Pn**	**07 25 26.6**	**+0.9**
S39A					IAmb_Lg			07 26 34.1	
	comp=Z,100nm,0.8s								
S39A	**Bolivar**	**3.87**	**75**		P		**Pn**	**07 25 26.5**	**+0.9**
	baz=257,SNR=49								
S39A	**Bolivar**	**3.87**	**75**		P			07 25 26.5	
	baz=257,SNR=49								
N33A	**J Bar K, Exete**	**3.95**	**7**		IAmb_Lg			07 26 43.8	
	comp=Z,99nm,0.7s								
U40A	**Yellville**	**4.20**	**95**		Pn		**Pn**	**07 25 31.2**	**+0.9**
U40A	**Yellville**	**4.20**	**95**		P		**Pn**	**07 25 31.2**	**+0.9**
	baz=277,SNR=62								
U40A	**Yellville**	**4.20**	**95**		P			07 25 31.2	
	baz=277,SNR=39								
U40A					S			07 26 19.2	
	baz=277								
U40A	**Yellville**	**4.20**	**95**		P			07 25 31.2	
	baz=277,SNR=62								
U40A					P			07 25 31.2	
	baz=277,SNR=62								
KSCO	**Kaye Shedlock'**	**4.24**	**303**				**Pn**	**07 25 33.2**	**+2.2**
KSCO					IAmb_Lg			07 26 47.3	
	comp=Z,60nm,0.7s								
KSCO	**Kaye Shedlock'**	**4.24**	**303**		P			07 25 33.0	
	baz=120,SNR=12								
KSCO					S			07 26 23.1	
	baz=120								
MIAR	**Mount Ida**	**4.28**	**121**		Pn		**Pn**	**07 25 32.3**	**+1.0**
MIAR					IAmb_Lg			07 26 43.1	
	comp=Z,162nm,1.0s								
MIAR	**Mount Ida**	**4.28**	**121**		P		**Pn**	**07 25 31.9**	**+0.6**
	baz=303,SNR=32								
MIAR	**Mount Ida**	**4.28**	**121**		P			07 25 31.8	
	baz=303,SNR=5.6								
MIAR					S			07 26 21.5	
	baz=303								
MIAR	**Mount Ida**	**4.28**	**121**		P			07 25 31.9	
	baz=303,SNR=32								
Z38A	**Mt. Pleasant**	**4.34**	**144**				**Pn**	**07 25 32.8**	**+0.7**
Z38A	**Mt. Pleasant**	**4.34**	**144**		P		**Pn**	**07 25 32.7**	**+0.5**
	baz=326								
Z38A	**Mt. Pleasant**	**4.34**	**144**		P			07 25 32.7	
	baz=326								
ABTX	**Abilene, Hawle**	**4.38**	**198**		IAmb_Lg			07 26 46.9	
	comp=Z,65nm,0.8s								
ABTX	**Abilene, Hawle**	**4.38**	**198**		P			07 25 33.9	
	baz=18,SNR=16								
ABTX					S			07 26 24.1	
	baz=18								
P38A	**Dawn**	**4.53**	**50**		P		**Pn**	**07 25 36.4**	**+1.6**
	baz=232,SNR=13								
P38A	**Dawn**	**4.53**	**50**		P			07 25 36.4	
	baz=232,SNR=13								
BGNE	**Belgrade**	**4.60**	**359**		Pn		**Pn**	**07 25 38.1**	**+2.3**
BGNE					IAmb_Lg			07 26 59.6	
	comp=Z,125nm,0.8s								
BGNE	**Belgrade**	**4.60**	**359**		P			07 25 37.0	
	baz=178								
MGMO	**Mountain Grove**	**4.63**	**84**		Pn		**Pn**	**07 25 37.7**	**+1.5**
MGMO					IAmb_Lg			07 26 58.9	
	comp=Z,64nm,0.8s								
MSTX	**Muleshoe**	**4.79**	**235**		Pn		**Pn**	**07 25 40.4**	**+1.9**
MSTX	**Muleshoe**	**4.79**	**235**		P			07 25 39.9	
	baz=53,SNR=14								
R40A	**Maddies Statio**	**4.82**	**70**				**Pn**	**07 25 39.5**	**+0.7**
R40A					IAmb_Lg			07 27 02.0	
	comp=Z,100nm,0.8s								
R40A	**Maddies Statio**	**4.82**	**70**		P		**Pn**	**07 25 39.7**	**+0.9**
	baz=253,SNR=48								
R40A	**Maddies Statio**	**4.82**	**70**		P			07 25 39.7	
	baz=253,SNR=48								
WHTX	**Lake Whitney,**	**4.83**	**174**				**Pn**	**07 25 39.4**	**+0.5**
WHTX					IAmb_Lg			07 27 07.6	
	comp=Z,60nm,0.9s								
WHTX	**Lake Whitney,**	**4.83**	**174**		P		**Pn**	**07 25 39.4**	**+0.5**
	baz=355,SNR=58								
WHTX	**Lake Whitney,**	**4.83**	**174**		P			07 25 39.6	
	baz=355,SNR=9.3								
WHTX					S			07 26 33.9	
	baz=355								
WHTX	**Lake Whitney,**	**4.83**	**174**		P			07 25 39.4	
	baz=355,SNR=58								
X40A	**Basin Creek Fa**	**4.83**	**117**				**Pn**	**07 25 39.8**	**+0.9**
X40A					IAmb_Lg			07 27 01.8	
	comp=Z,112nm,0.8s								
X40A	**Basin Creek Fa**	**4.83**	**117**		P		**Pn**	**07 25 40.0**	**+1.1**
	baz=300,SNR=20								
X40A	**Basin Creek Fa**	**4.83**	**117**		P			07 25 39.8	
	baz=300,SNR=7.8								
X40A	**Basin Creek Fa**	**4.83**	**117**		P			07 25 40.0	
	baz=300,SNR=20								
X40A					P			07 25 40.0	
	baz=300,SNR=20								
FCAR	**Ozark Folk Cen**	**4.86**	**99**				**Pn**	**07 25 39.8**	**+0.4**
FCAR					IAmb_Lg			07 27 02.8	
	comp=Z,84nm,1.0s								
WHAR	**Wooly Hollow**	**4.90**	**106**				**Pn**	**07 25 40.8**	**+0.9**
WHAR					IAmb_Lg			07 27 00.1	
	comp=Z,87nm,0.9s								
W41B	**Gary Mavity, V**	**4.97**	**107**		P		**Pn**	**07 25 41.0**	**+0.2**
	baz=291,SNR=15								
W41B	**Gary Mavity, V**	**4.97**	**107**		P			07 25 41.2	
	baz=291								
W41B	**Gary Mavity, V**	**4.97**	**107**		P			07 25 41.0	
	baz=291,SNR=15								
WLAR	**White Oak Lake**	**5.09**	**126**				**Pn**	**07 25 43.1**	**+0.6**
WLAR					IAmb_Lg			07 27 11.0	
	comp=Z,80nm,0.7s								
T25A	**Trinidad**	**5.11**	**276**		Pn		**Pn**	**07 25 45.4**	**+2.4**
T25A					IAmb_Lg			07 27 13.2	
	comp=Z,82nm,0.8s								
T25A	**Trinidad**	**5.11**	**276**		P			07 25 45.0	
	baz=92,SNR=11								
237A	**Washetta, Mont**	**5.14**	**158**		Pn		**Pn**	**07 25 42.3**	**-0.8**
237A					IAmb_Lg			07 27 19.6	
	comp=Z,69nm,0.9s								
237A	**Washetta, Mont**	**5.14**	**158**		P		**Pn**	**07 25 43.4**	**+0.3**
	baz=340								
237A	**Washetta, Mont**	**5.14**	**158**		P			07 25 43.4	
	baz=340								
OGNE	**Ogallala**	**5.17**	**324**				**Pn**	**07 25 46.7**	**+3.0**
OGNE	**Ogallala**	**5.17**	**324**		P		**Pn**	**07 25 46.7**	**+3.0**
	baz=142,SNR=8.3								
OGNE	**Ogallala**	**5.17**	**324**		P			07 25 46.1	
	baz=142,SNR=5.2								
OGNE					S			07 26 46.3	
	baz=142								
OGNE	**Ogallala**	**5.17**	**324**		P			07 25 46.7	
	baz=142,SNR=8.3								
P40A	**Paris**	**5.45**	**58**				**Pn**	**07 25 48.7**	**+1.3**
P40A	**Paris**	**5.45**	**58**		P		**Pn**	**07 25 48.5**	**+1.1**
	baz=241,SNR=6.2								
P40A	**Paris**	**5.45**	**58**		P			07 25 48.5	
	baz=241,SNR=6.2								
N38A	**Joes South For**	**5.47**	**42**				**Pn**	**07 25 49.0**	**+1.3**
N38A					IAmb_Lg			07 27 21.5	
	comp=Z,91nm,0.7s								
N38A	**Joes South For**	**5.47**	**42**		P		**Pn**	**07 25 49.0**	**+1.3**
	baz=224,SNR=9.3								
N38A	**Joes South For**	**5.47**	**42**		P			07 25 49.0	
	baz=224,SNR=9.3								
CCM	**Cathedral Cave**	**5.55**	**75**		IAmb_Lg			07 27 26.7	
	comp=Z,69nm,0.7s								
CCM	**Cathedral Cave**	**5.55**	**75**		P		**Pn**	**07 25 49.3**	**+0.5**
	baz=258,SNR=5.8								
CCM	**Cathedral Cave**	**5.55**	**75**		P			07 25 49.1	
	baz=258								
CCM	**Cathedral Cave**	**5.55**	**75**		P			07 25 49.3	
	baz=258,SNR=5.8								
Z41A	**Richland Creek**	**5.57**	**128**		P			07 25 49.0	
	baz=311								
Z41A					S			07 26 51.1	
	baz=311								
T42A	**Van Buren**	**5.57**	**86**				**Pn**	**07 25 49.6**	**+0.5**
T42A	**Van Buren**	**5.57**	**86**		P		**Pn**	**07 25 50.3**	**+1.2**
	baz=269,SNR=20								
T42A	**Van Buren**	**5.57**	**86**		P			07 25 50.3	
	baz=269,SNR=20								
LCAR	**Lake Charles**	**5.60**	**96**				**Pn**	**07 25 51.4**	**+1.9**
LCAR					IAmb_Lg			07 27 24.0	
	comp=Z,50nm,0.8s								
LCAR	**Lake Charles**	**5.60**	**96**		P		**Pn**	**07 25 50.1**	**+0.6**
	baz=279,SNR=9.8								
LCAR	**Lake Charles**	**5.60**	**96**		P			07 25 50.1	
	baz=279,SNR=9.8								
NATX	**Nacogdoches**	**5.76**	**150**		Pn		**Pn**	**07 25 51.2**	**-0.5**
NATX	**Nacogdoches**	**5.76**	**150**		S			07 26 55.8	
	baz=332								
K31A	**O'Neill**	**5.83**	**355**		Pn		**Pn**	**07 25 51.6**	**-1.2**
CCAR	**Cane Creek**	**5.88**	**118**		IAmb_Lg			07 27 41.2	
	comp=Z,41nm,0.8s								
435B	**Jarrell**	**6.02**	**176**		Pn		**Pn**	**07 25 54.0**	**-1.3**
435B					IAmb_Lg			07 27 48.7	
	comp=Z,75nm,0.9s								
435B	**Jarrell**	**6.02**	**176**		P		**Pn**	**07 25 56.1**	**+0.8**
	baz=357								
435B	**Jarrell**	**6.02**	**176**		P			07 25 55.8	
	baz=357								
435B					S			07 27 02.0	
	baz=357								
435B	**Jarrell**	**6.02**	**176**		P			07 25 56.1	
	baz=357								
Q24A	**Divide**	**6.02**	**293**		P			07 25 57.1	
	baz=109,SNR=7.1								
PBMO	**Poplar Bluff**	**6.11**	**88**		Pn		**Pn**	**07 25 57.9**	**+1.5**
PBMO					IAmb_Lg			07 27 41.1	
	comp=Z,68nm,0.8s								
FVM	**French Village**	**6.17**	**77**				**Pn**	**07 25 57.7**	**+0.3**
FVM					IAmb_Lg			07 27 46.1	
	comp=Z,77nm,0.8s								
FVM	**French Village**	**6.17**	**77**		P		**Pn**	**07 25 57.7**	**+0.3**
	baz=261,SNR=8.6								
FVM	**French Village**	**6.17**	**77**		P			07 25 57.7	
	baz=261,SNR=8.6								
X43A	**Marvell**	**6.26**	**109**		P			07 25 58.8	
	baz=293								
SCIA	**State Center**	**6.32**	**35**		S			07 27 10.1	
	baz=217								
LPAR	**Lepanto**	**6.37**	**99**		IAmb_Lg			07 28 01.5	
	comp=Z,63nm,0.8s								
JCT	**Junction City**	**6.48**	**194**				**Pn**	**07 26 01.8**	**+0.1**
JCT					IAmb_Lg			07 28 08.7	
	comp=Z,85nm,1.2s								
JCT	**Junction City**	**6.48**	**194**		P			07 26 02.1	
	baz=13								
PEBM	**Pemiscott Bayo**	**6.63**	**94**		IAmb_Lg			07 27 57.2	
	comp=Z,85nm,1.0s								
ISCO	**Idaho Springs**	**6.66**	**299**		Pn		**Pn**	**07 26 05.3**	**+0.9**
ISCO	**Idaho Springs**	**6.66**	**299**		P			07 26 06.1	
	baz=114								
PENMO	**Penman**	**6.77**	**91**		IAmb_Lg			07 28 19.0	
	comp=Z,70nm,0.7s								
143A	**Socs Landing,**	**6.82**	**125**		IAmb_Lg			07 28 16.0	
	comp=Z,49nm,0.9s								
143A	**Socs Landing,**	**6.82**	**125**		P		**Pn**	**07 26 06.5**	**+0.2**
	baz=309,SNR=5.2								
143A	**Socs Landing,**	**6.82**	**125**		P			07 26 06.5	
	baz=309,SNR=5.2								
LNXT	**Lenox**	**6.92**	**93**		Pn		**Pn**	**07 26 08.7**	**+1.0**
LNXT					IAmb_Lg			07 28 12.0	
	comp=Z,82nm,0.8s								
ECSD	**EROS Data Cent**	**7.00**	**9**		Pn		**Pn**	**07 26 09.1**	**+0.3**
ECSD	**EROS Data Cent**	**7.00**	**9**		P			07 26 08.9	
	baz=189								
S44A	**Carbondale**	**7.06**	**80**		Pn		**Pn**	**07 26 08.2**	**-1.4**
S44A					IAmb_Lg			07 28 12.9	
	comp=Z,83nm,0.8s								
GLAT	**Glass**	**7.07**	**92**		Pn		**Pn**	**07 26 12.2**	**+2.6**
HALT	**Halls**	**7.08**	**95**		IAmb_Lg			07 28 23.0	
	comp=Z,88nm,0.9s								
ANMO	**Albuquerque**	**7.08**	**257**		Pn		**Pn**	**07 26 08.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=34,slow=9.8,SNR=3.9								
ANMO					Pg		Pg	07 26 38.1	-4.1
	comp=Z,0.6nm,0.3s,baz=64,slow=16,SNR=7.1								
ANMO					Lg		Lg	07 28 07.4	
	comp=Z,2.6nm,0.3s,baz=344,slow=21,SNR=7.9								
SIUC	**Southern Illin**	**7.09**	**80**		Pn		**Pn**	**07 26 09.9**	**-0.1**
SIUC					IAmb_Lg			07 28 10.7	
	comp=Z,67nm,0.8s								
P43A	**Skaggs, Pawnee**	**7.28**	**65**				**Pn**	**07 26 13.7**	**+1.2**
PHWY	**Pilot Hill**	**7.31**	**310**				**Pn**	**07 26 15.6**	**+2.3**
PHWY					IAmb_Lg			07 28 34.3	
	comp=Z,38nm,0.8s								
W45A	**Hickory Valley**	**7.36**	**100**		Pn		**Pn**	**07 26 13.7**	**0.0**
OXF	**Oxford**	**7.39**	**106**		Pn		**Pn**	**07 26 13.8**	**-0.2**
OXF					IAmb_Lg			07 28 25.2	
	comp=Z,51nm,1.1s								
OXF	**Oxford**	**7.39**	**106**		P			07 26 13.2	
	baz=290,SNR=6.1								
N23A	**Red Feather La**	**7.39**	**306**		P			07 26 17.1	
	baz=121								
UTMT	**University of**	**7.40**	**91**		IAmb_Lg			07 28 23.4	
	comp=Z,72nm,0.8s								
Q44A	**Meyer Farm, Va**	**7.44**	**71**		Pn		**Pn**	**07 26 15.7**	**+0.9**
L40A	**Anamosa**	**7.44**	**43**		Pn		**Pn**	**07 26 15.8**	**+1.1**
L40A					IAmb_Lg			07 28 38.8	
	comp=Z,51nm,0.8s								
Y45A	**Yeager Farm, C**	**7.54**	**110**		IAmb_Lg			07 28 46.6	
	comp=Z,32nm,0.9s								
SUSD	**Miller**	**7.66**	**355**		IAmb_Lg			07 28 38.9	
	comp=Z,62nm,1.1s								
SUSD	**Miller**	**7.66**	**355**		P			07 26 19.3	
	baz=174								
Y22D	**IRIS PASSCAL I**	**7.74**	**252**		IAmb_Lg			07 28 50.9	
	comp=Z,59nm,0.8s								
HDIL	**Hopedale**	**7.80**	**59**				**Pn**	**07 26 20.9**	**+1.3**
HDIL	**Hopedale**	**7.80**	**59**		P			07 26 20.3	
	baz=244,SNR=6.7								
MNTX	**Cornudas Mount**	**7.93**	**232**		Pn		**Pn**	**07 26 22.9**	**+1.3**
I37A	**Lemond, Waseca**	**8.02**	**25**		IAmb_Lg			07 28 53.2	
	comp=Z,53nm,0.9s								
344A	**Westbrook Farm**	**8.07**	**129**		Pn		**Pn**	**07 26 25.1**	**+1.7**
OLIL	**Olney**	**8.10**	**73**		Pn		**Pn**	**07 26 24.2**	**+0.3**
O44A	**Mansfield**	**8.22**	**63**		Pn		**Pn**	**07 26 25.8**	**+0.4**
WVT	**Waverly**	**8.25**	**92**		P			07 26 26.2	
	baz=277								
PLAL	**Pickwick Lake**	**8.29**	**100**		Pn		**Pn**	**07 26 26.6**	**+0.1**
L42A	**Oliver, Polo**	**8.30**	**49**		Pn		**Pn**	**07 26 26.8**	**+0.2**
USIN	**University of**	**8.34**	**79**		IAmb_Lg			07 28 50.0	
	comp=Z,68nm,1.0s								
JFWS	**Jewell Farm**	**8.55**	**42**		Pn		**Pn**	**07 26 30.4**	**+0.5**
JFWS					IAmb_Lg			07 29 02.1	
	comp=Z,58nm,0.8s								
JFWS	**Jewell Farm**	**8.55**	**42**		P			07 26 30.5	
	baz=226								
RSSD	**Black Hills**	**8.62**	**330**		Pn		**Pn**	**07 26 34.1**	**+3.0**
RSSD					IAmb_Lg			07 29 22.6	
	comp=Z,26nm,0.8s								
RSSD	**Black Hills**	**8.62**	**330**		P			07 26 33.5	
	baz=146								
RWWY	**Rawlins**	**8.62**	**307**		Pn		**Pn**	**07 26 33.9**	**+2.7**
RWWY					IAmb_Lg			07 29 07.7	
	comp=Z,51nm,1.1s								
K22A	**Casper**	**8.76**	**314**		Pn		**Pn**	**07 26 36.6**	**+3.6**
K22A	**Casper**	**8.76**	**314**		P			07 26 35.7	
	baz=129								
T47A	**Sharon Grove**	**8.76**	**86**		Pn		**Pn**	**07 26 33.8**	**+0.9**
T47A					IAmb_Lg			07 29 13.9	
	comp=Z,54nm,1.2s								
TX31	**Lajitas Ar. Si**	**8.82**	**214**		Pn		**Pn**	**07 26 33.5**	**-0.3**
TX32	**Lajitas Array**	**8.82**	**214**				**Pn**	**07 26 33.2**	**-0.6**
TXAR	**Lajitas Array**	**8.82**	**214**		Pn		**Pn**	**07 26 32.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=38,slow=11,SNR=6.9								
TXAR					Pg		Pg	07 27 06.7	-8.6
	comp=Z,0.9nm,0.3s,baz=34,slow=15,SNR=7.4								
TXAR					Lg		Lg	07 28 58.1	
	comp=Z,0.9nm,0.3s,baz=67,slow=16,SNR=4.0								
TXAR	**Lajitas Array**	**8.82**	**214**				**Pn**	**07 26 33.5**	**-0.3**
Z47A	**Carrollton**	**8.94**	**111**		Pn		**Pn**	**07 26 37.5**	**+2.2**
Z47A					IAmb_Lg			07 29 15.0	
	comp=Z,23nm,1.1s								
P46A	**Rosedale**	**8.98**	**69**		Pn		**Pn**	**07 26 35.7**	**-0.2**
M44A	**Midewin, Midew**	**9.02**	**56**		Pn		**Pn**	**07 26 36.6**	**+0.3**
M44A					IAmb_Lg			07 29 13.3	
	comp=Z,48nm,0.8s								
121A	**Cookes Peak, D**	**9.09**	**245**		IAmb_Lg			07 29 31.7	
	comp=Z,24nm,1.1s								
F33A	**5 Mile Ranch,**	**9.12**	**8**		Pn		**Pn**	**07 26 37.7**	**-0.1**
SFIN	**Lafayette**	**9.28**	**64**		Pn		**Pn**	**07 26 40.8**	**+0.8**
SFIN					IAmb_Lg			07 29 26.6	
	comp=Z,47nm,0.8s								
SFIN	**Lafayette**	**9.28**	**64**		P			07 26 40.3	
	baz=250								
SPMN	**Marine on St.**	**9.29**	**24**		Pn		**Pn**	**07 26 41.0**	**+0.9**
SPMN					IAmb_Lg			07 29 22.3	
	comp=Z,34nm,1.2s								
SPMN	**Marine on St.**	**9.29**	**24**		P			07 26 41.2	
	baz=206								
BLO	**Bloomington**	**9.39**	**72**		Pn		**Pn**	**07 26 41.6**	**+0.1**
BLO					IAmb_Lg			07 29 30.2	
	comp=Z,48nm,0.8s								
WCI	**Wyandotte Cave**	**9.44**	**78**		Pn		**Pn**	**07 26 42.8**	**+0.6**
WCI					IAmb_Lg			07 29 39.9	
	comp=Z,42nm,0.8s								
WCI	**Wyandotte Cave**	**9.44**	**78**		P			07 26 42.6	
	baz=265								
CLTN	**Cedars of Leba**	**9.46**	**91**		IAmb_Lg			07 29 25.4	
	comp=Z,36nm,1.2s								
K43A	**Burlington**	**9.51**	**49**		Pn		**Pn**	**07 26 43.6**	**+0.4**
F36A	**Milaca**	**9.66**	**19**		Pn		**Pn**	**07 26 47.7**	**+2.5**
LRAL	**Lakeview Retre**	**9.81**	**109**		Pn		**Pn**	**07 26 48.2**	**+0.9**
U49A	**Red Boiling Sp**	**9.86**	**88**		Pn		**Pn**	**07 26 49.5**	**+1.6**
I42A	**Draeger Farm,**	**9.92**	**42**		Pn		**Pn**	**07 26 47.8**	**-1.0**
I42A					IAmb_Lg			07 29 49.8	
	comp=Z,38nm,0.9s								
SWET	**Sewanee**	**9.94**	**96**		Pn		**Pn**	**07 26 50.5**	**+1.4**
Y49A	**Blount Mountai**	**9.94**	**104**		Pn		**Pn**	**07 26 48.8**	**-0.3**
E28A	**Huff**	**9.96**	**349**		IAmb_Lg			07 30 01.8	
	comp=Z,24nm,0.8s								
P48A	**Milroy**	**10.28**	**71**		Pn		**Pn**	**07 26 52.1**	**-1.6**
N47A	**Urbana**	**10.45**	**63**		Pn		**Pn**	**07 26 55.4**	**-0.7**
T50A	**Nancy**	**10.57**	**85**		Pn		**Pn**	**07 26 59.1**	**+1.3**
BW06	**Boulder Array**	**10.67**	**307**		Pn		**Pn**	**07 26 58.8**	**-0.5**
PD31	**Pinedale Array**	**10.67**	**307**		Pn		**Pn**	**07 27 00.1**	**+0.8**
PDAR	**Pinedale Array**	**10.67**	**307**		Pn		**Pn**	**07 26 59.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=114,slow=16,SNR=6.3								
PDAR					Lg		Lg	07 29 59.2	
	comp=Z,0.8nm,0.3s,baz=96,slow=34,SNR=4.1								
PDAR	**Pinedale Array**	**10.67**	**307**				**Pn**	**07 26 59.9**	**+0.7**
250A	**Grady**	**10.85**	**113**		Pn		**Pn**	**07 27 01.7**	**+0.2**
CPCT	**Cooper Cave**	**11.02**	**93**		Pn		**Pn**	**07 27 05.

TTO4	TONANKAI O.B.S	0.88	312	P	Pn	07 48 22.3	+1.3
TTO3	TONANKAI O.B.S	0.89	300	P	Pn	07 48 22.8	+1.6
JHJ	Hachijo jima 2	1.26	103	Pn	Pn	07 48 21.4	-1.7
	8.1nm,0.3s,baz=227,slow=11,SNR=1.7						
TTO1	TONANKAI O.B.S	1.30	280	P	Pn	07 48 24.5	+1.7
JKN2	Miekihoku	1.89	296	P	Pn	07 48 27.1	+0.5
JOD2	Odawara 2	1.95	19	P	Pn	07 48 28.6	+1.6
JOD2				eS	S	07 49 07.2	-0.7
JAO	Obara	2.04	335	P	Pn	07 48 28.6	+0.9
JYN	Shimob	2.08	5	P	Pn	07 48 29.9	+1.9
BSO3	Boso 3	2.28	52	P	Pn	07 48 31.0	+1.9
BSO3				eS	S	07 49 10.8	-0.9
BSO4	Boso 4	2.29	46	P	Pn	07 48 31.7	+2.3
BSO4				eS	S	07 49 12.4	+0.2
JTNC	Tanabenakahech	2.30	281	P	Pn	07 48 30.8	+1.2
BSO1	Boso 1	2.53	60	P	Pn	07 48 33.0	+2.3
BSO1				eS	S	07 49 13.3	-1.4
JYTA	Yamagatataniai	2.54	329	P	Pn	07 48 32.2	+0.8
JHU	Hanno	2.56	18	P	Pn	07 48 33.3	+1.7
JRY	Ryogami san	2.64	10	P	Pn	07 48 34.3	+2.0
JWT	Wachi	3.05	308	P	Pn	07 48 36.6	+0.7
MJAR	Matsushiro Arr	3.12	358	Pn	Pn	07 48 36.7	+0.2
	0.3nm,0.3s,baz=182,slow=10,SNR=8.2						
JAG	Ashikaga	3.14	17	P	Pn	07 48 37.8	+1.1
JYT	Yasato	3.20	28	P	Pn	07 48 38.2	+1.0
JYT				eS	S	07 49 20.6	-5.8
JHO	Hitachi	3.68	29	P	Pn	07 48 43.2	+1.4
JFK	Kawauchi	4.46	27	P	Pn	07 48 51.9	+2.1
KSRS	Korea Array	9.39	298	LR	LR	07 52 34.2	
	comp=Z,61nm,19.9s,baz=105,slow=38						
SONM	Songino Array	27.95	311	P	P	07 53 07.9	+12
	0.2nm,0.3s,baz=132,slow=6.8,SNR=2.2						
MKAR	Makanchi Array	44.00	305	P	P	07 55 20.7	+11
	0.2nm,0.5s,baz=87,slow=9.5,SNR=4.8						
WRA	Warramunga Arr	53.20	185	P	P	07 56 34.8	+15
	0.3nm,0.6s,baz=358,slow=7.5,SNR=4.8						

IDC ***23*** *08:24:30.2±2.5, 17.°65S×178.°67W, h610km±22km, mb2.7/7, mb1 3.0/8, mb1mx2.9/28, mbtmp3.6/8, Error ellipse: s-maj=119.6km s-min=18.3km az=154.0*

ISC 23 08:24:29.5±2.0, 17.°7S±0.°8×178.°6W±0.°4, h600km, n8, σ0°89/8, mb3.2/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.20	268	P	P	08 25 50.8	+0.9
	1.6nm,0.4s,baz=14,slow=23,SNR=8.6						
CTA	Charters Tower	33.31	260	P	P	08 30 20.1	+0.5
	0.8nm,0.4s,baz=110,slow=7.6,SNR=1.9						
WRA	Warramunga Arr	44.51	259	P	P	08 31 48.2	-1.2
	0.3nm,0.4s,baz=95,slow=8.0,SNR=16						
ASAR	Alice Springs	44.69	254	P	P	08 31 50.3	-0.5
	2.2nm,0.7s,baz=87,slow=8.8,SNR=34						
NVAR	Mina Array Bea	79.36	44	P	P	08 35 35.5	+0.9
	0.2nm,0.5s,baz=212,slow=6.3,SNR=2.2						
ILAR	Eielson Array	85.68	13	P	P	08 36 04.9	-0.5
	0.2nm,0.4s,baz=223,slow=5.1,SNR=4.4						
TXAR	Lajitas Array	86.01	58	P	P	08 36 07.7	-0.3
	0.4nm,0.8s,baz=211,slow=5.8,SNR=6.3						
PDAR	Pinedale Array	87.29	44	P	P	08 36 13.9	0.0
	0.2nm,0.5s,baz=234,slow=3.1,SNR=2.7						

IDC ***23*** *09:25:18.9±3.4, 5.°59S×148.°56E, h244km±28km, mb3.3/3, mb1 3.4/5, mb1mx3.1/32, mbtmp3.8/5, Error ellipse: s-maj=81.1km s-min=30.4km az=110.0*

ISC 23 09:25:21.4±1.9, 5.°6S±0.°1×148.°1E±0.°3, h250km, n6, σ0°92/8, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.91	194	P	Pn	09 26 24.2	-0.1
	1.8nm,0.3s,baz=1.5,slow=8.0,SNR=4.4						
PMG				S	S	09 27 13.6	-0.6
	1.4nm,0.3s,baz=306,slow=18,SNR=2.2						
WRA	Warramunga Arr	19.57	222	P	P	09 29 31.8	+0.8
	0.7nm,0.3s,baz=50,slow=8.7,SNR=42						
WRA				S	S	09 32 57.5	-0.9
	0.1nm,0.3s,baz=36,slow=22,SNR=6.1						
ASAR	Alice Springs	22.59	216	P	P	09 30 02.3	+1.3
	2.0nm,0.4s,baz=52,slow=8.3,SNR=49						
FITZ	Fitzroy Crossi	25.22	239	P	P	09 30 25.3	+0.5
	1.0nm,0.3s,baz=51,slow=11,SNR=1.3						
MKAR	Makanchi Array	77.88	320	P	P	09 36 51.1	-0.6
	0.3nm,0.4s,baz=99,slow=8.0,SNR=5.2						
TORD	Torodi Ar. Bea	146.04	285	PKPbc	PKPdf	09 44 31.6	-0.2
	0.2nm,0.3s,baz=66,slow=3.8,SNR=1.5						

IDC ***23*** *09:37:03.4±1.2, 11.°94S×74.°51W, h0km, mb3.3/5, mb1 3.8/8, mb1mx3.7/28, mbtmp3.6/8, ML4.0/3, MS2.6/2, Ms1 2.7/2, ms1mx2.5/22, Error ellipse: s-maj=29.6km s-min=14.0km az=6.0*

ISC 23 09:37:09.0±0.8, 11.°80S±0.°10×74.°37W±0.°09, h35km, n18, σ1°98/18, mb3.4/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	2.43	265	Pg	Pn	09 37 45.0	-1.3
	32μm,0.3s,baz=247,slow=0.0,SNR=14						
NNA				Lg	Lg	09 38 15.5	
	baz=358,slow=0.4,SNR=10						
ATAH	Atahualpa	6.11	319	Pn	Pn	09 38 34.4	-2.8
	3.6nm,0.3s,baz=122,slow=3.9,SNR=19						
ATAH				Sn	Sn	09 39 48.0	+1.9
	3.1nm,0.3s,baz=70,slow=21,SNR=1.3						
LPAZ	La Paz	7.52	127	Pn	Pn	09 38 58.4	+1.6
	0.1nm,0.3s,baz=324,slow=10,SNR=2.6						
LPAZ				Lg	Lg	09 41 12.2	
	2.1nm,0.3s,baz=174,slow=25,SNR=3.5						
LPAZ				LR	LR	09 41 36.5	
	comp=Z,36nm,20.3s,baz=10.0,slow=36						
LVC	Limon Verde	11.94	155	LR	LR	09 43 49.2	
	comp=Z,36nm,18.9s,baz=252,slow=34						
SIV	San Ignacio	13.56	109	Pn	Pn	09 40 16.7	-2.3
	0.7nm,0.3s,baz=274,slow=9.3,SNR=15						
SIV				Lg	Lg	09 44 11.2	
	1.0nm,0.3s,baz=219,slow=22,SNR=5.9						
MACC	Macarena, Meta	13.87	2	eP	Pn	09 40 25.0	+1.8
GARC	Garzon, Huila	13.94	355	eP	Pn	09 40 27.9	+3.4
SOTA	Rioblanco	14.03	351	eP	P	09 40 30.8	-2.5
PCON	Cinco Dias	14.18	352	eP	P	09 40 33.7	-1.4
BETC	Betania	14.43	356	eP	P	09 40 34.4	-2.9
ORTC	Ortega, Tolima	15.63	357	eP	Pn	09 40 46.2	-0.7
VILC	Villavicencio,	15.83	2	eP	P	09 40 53.9	+1.0
PTGA	Pitinga	18.04	53	P	Pn	09 41 17.3	+0.3
	0.7nm,0.3s,baz=228,slow=15,SNR=5.8						
PTGA				Lg	Lg	09 46 32.3	
	0.7nm,0.3s,baz=316,slow=22,SNR=1.5						
CPUP	Villa Florida	21.60	134	P	P	09 41 55.7	-0.2
	2.3nm,0.8s,baz=299,slow=11,SNR=4.8						
TXAR	Lajitas Array	49.72	326	P	P	09 45 58.0	-0.1
	0.1nm,0.5s,baz=130,slow=8.4,SNR=1.8						
PDAR	Pinedale Array	63.14	332	P	P	09 47 33.5	-0.1
	0.1nm,0.3s,baz=133,slow=5.0,SNR=1.3						
TORD	Torodi Ar. Bea	79.41	74	P	P	09 49 12.6	+0.3
	0.9nm,0.7s,baz=276,slow=5.7,SNR=4.1						
YKA	Yellowknife Ar	80.39	342	P	P	09 49 18.5	+2.1
	0.1nm,0.4s,baz=139,slow=6.3,SNR=3.4						

JMA ***23*** *09:43:05.1, 40.°00N×142.°40E, h20km±1km, M3.4*
IDC ***23*** *09:43:12.5±2.9, 40.°08N×142.°30E, h50km±29km, mb3.1/4, mb1 3.4/6, mb1mx3.1/33, mbtmp3.4/6, ML2.5/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/16, Error ellipse: s-maj=38.3km s-min=22.8km az=102.0*

ISC 23 09:43:07.5±1.4, 39.°98N±0.°03×142.°20E±0.°07, h16km±8km, n24, σ1°43/30, mb3.3/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	Tanohata	0.27	262	P	Pg	09 43 13.6	+0.3
JTH				S	Sb	09 43 19.7	+1.5
JKEN	Kujiedanarisaw	0.44	301	P	Pg	09 43 16.1	-0.4
JKEN				eS	Sb	09 43 23.9	+0.5
MIYJ	Miyakonagasawa	0.50	217	P	Pg	09 43 17.0	-0.4
MIYJ				S	Sg	09 43 24.9	+0.8
JANG	Nango	0.66	307	P	Pg	09 43 19.4	-1.1
JANG				eS	Sg	09 43 29.7	+0.4
JKZ	Kuzumaki	0.67	271	P	Pg	09 43 20.6	-0.1
JKZ				eS	Sb	09 43 31.3	+1.3
JOM	Ohasama	0.86	235	P	Pg	09 43 23.5	-0.8
JOM				S	Sg	09 43 36.5	+0.8
OFUJ	Ofunato	0.99	205	P	Pb	09 43 24.4	-1.8
OFUJ				eS	Sb	09 43 38.8	-0.2
JTM	Tenmabayashi	1.19	313	P	Pn	09 43 28.3	-1.2
JTM				S	Sb	09 43 44.7	-0.1
JARK	Aomorirokkasho	1.21	328	P	Pn	09 43 28.1	-1.7
JARK				eS	Sb	09 43 44.3	-1.2
JAH	Hinai	1.22	280	P	Pn	09 43 29.9	0.0
JAH				eS	Sb	09 43 47.3	+1.5
JMK	Ichinoseki	1.28	217	P	Pn	09 43 29.8	-0.9
JMK				eS	Sb	09 43 47.3	0.0
ASAJ	Asahikawa	4.15	4	P	Pn	09 44 12.8	+2.7
	0.3nm,0.3s,baz=216,slow=14,SNR=1.7						
ASAJ				LR	LR	09 46 17.6	
	comp=Z,103nm,20.4s,baz=140,slow=46						
MJAR	Matsushiro Arr	4.65	224	P	Pn	09 44 21.0	+3.8
	0.1nm,0.3s,baz=34,slow=12,SNR=9.7						
MAT	Matsushiro	4.65	224	P	Pn	09 44 15.4	-1.7
MAT				eS	Sn	09 45 09.1	-1.7
H11N2	WAKE ISLAND Hy	29.26	126	T	T	10 19 42.7	
	baz=320,slow=75,SNR=455						
H11N1	WAKE ISLAND Hy	29.27	126	T	T	10 19 42.4	
	baz=320,slow=75,SNR=398						
H11N3	WAKE ISLAND Hy	29.27	126	T	T	10 19 49.2	
	baz=320,slow=75,SNR=43						
H11S1	WAKE ISLAND Hy	30.07	128	T	T	10 20 44.2	
	baz=321,slow=76,SNR=147						
H11S3	WAKE ISLAND Hy	30.07	128	T	T	10 20 42.5	
	baz=321,slow=76,SNR=72						
H11S2	WAKE ISLAND Hy	30.08	128	T	T	10 20 43.4	
	baz=321,slow=76,SNR=97						
ZALV	Zalesovo Beam	40.45	310	P	P	09 50 45.6	+0.7
	0.3nm,0.3s,baz=96,slow=8.9,SNR=1.7						
MKAR	Makanchi Array	43.14	300	P	P	09 51 08.0	+0.8
	0.2nm,0.5s,baz=91,slow=8.8,SNR=1.9						
ILAR	Eielson Array	46.69	34	P	P	09 51 34.1	-1.0
	0.2nm,0.8s,baz=262,slow=6.2,SNR=2.4						
WRA	Warramunga Arr	60.06	189	P	P	09 53 15.4	+1.7
	0.6nm,0.6s,baz=6.8,slow=6.9,SNR=6.8						

FUNV ***23*** *09:48:37.3, 10.°49N×71.°20W, h4km, MW3.3*

ISC 23 09:48:37.1±1.6, 10.°48N±0.°04×71.°21W±0.°03, h10km±12km, n22, σ0°55/34, 1D, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DABV	Dabajuro	0.71	52	eP	Pg	09 48 50.7	-0.2
DABV				eS	Sg	09 49 00.6	+0.3
MCQV	Machiques	1.38	252	eP	Pn	09 49 02.6	+0.3
MCQV				eS	Sn	09 49 21.8	+1.2
SIQV	Siquisique	1.39	83	eP	Pn	09 49 02.9	+0.4
SIQV				eS	Sn	09 49 21.6	+0.7
URIC	Uribia, Colomb	1.44	328	eP	Pn	09 49 02.5	-0.7
URIC				eS	Sn	09 49 21.6	-0.5
URIC				i		09 49 23.0	
	comp=Z,93nm,0.1s						
SDV	Santo Domingo	1.68	160	eP	Pn	09 49 06.6	0.0
SDV				eS	Sn	09 49 27.7	-0.7
SDV				i		09 49 29.8	
	comp=Z,71nm,0.4s						
SDV	Santo Domingo	1.68	160	eP	Pn	09 49 06.7	0.0
SDV				eS	Sn	09 49 28.1	-0.2
CRJC	Cerrejon, Guaj	1.73	288	iP	Pn	09 49 07.2	-0.1
CRJC				eS	Sn	09 49 29.6	+0.1
CRJC				i		09 49 33.2	
	comp=Z,84nm,0.2s						
MONV	Montecano	1.90	39	eP	Pn	09 49 09.9	+0.3
MONV				eS	Sn	09 49 33.4	-0.3
CVALL	Valledupar, Ce	2.02	271	eP	Pn	09 49 11.6	+0.4
CVALL				eS	Sn	09 49 36.7	+0.2
CVALL				i		09 49 40.4	
	comp=Z,55nm,0.4s						
SOCV	Socops	2.21	171	eP	Pn	09 49 14.0	+0.2
SOCV				eS	Sn	09 49 41.9	+0.8
MAPV	Macapo	2.78	103	eP	Pn	09 49 22.2	+0.5
MAPV				eS	Sn	09 49 55.1	-0.2
CAPV	Capacho	2.82	203	eP	Pn	09 49 22.4	0.0
CAPV				eS	Sn	09 49 56.8	+0.2
SMRC	Santa Marta, M	3.04	283	eP	Pn	09 49 25.1	-0.2
OCAC	Ocana	3.05	223	eP	Pn	09 49 25.3	-0.2
ARGC	Ariguani, Magd	3.06	259	eP	Pn	09 49 23.3	-2.1
SMLC	San Martn de	3.28	240	eP	Pn	09 49 27.9	-0.6
PAMC	Pamplona, Colo	3.45	205	eP	Pn	09 49 30.9	-0.4
BAUV	El Baul	3.47	116	eP	Pn	09 49 31.4	+0.2
BAUV				eS	Sn	09 50 11.2	-1.1
SJCC	San Jacinto, C	3.95	262	eP	Pn	09 49 39.0	+1.1
ZARC	Zaragoza, Cauc	4.67	231	eP	Pn	09 49 47.0	-0.6
MOTC	Monteria, Cord	4.71	249	eP	Pn	09 49 47.9	-0.3
RUSC	La Rusia	4.92	202	eP	Pn	09 49 51.1	-0.4

TAP ***23*** *10:02:19.0, 24.°44N×121.°91E, h23km, ML3.3, C*
JMA ***23*** *10:02:18.9±0.1, 24.°41N×121.°92E, h21km, M2.5*

ISC 23 10:02:17.6±0.8, 24.°42N±0.°01×122.°03E±0.°01, h17km±6km, n115, σ0°96/218, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	Wuta	0.23	276	iP	Pb	10 02 23.5	+0.2
	baz=273						
EWUT				S	Sg	10 02 26.6	+0.1
	baz=273						
TWC	Suao	0.25	319	iP	Pb	10 02 24.3	+0.6
	baz=345						
TWC				iS	Sg	10 02 27.7	+0.7
	baz=345						
ENA	Nanau	0.26	272	iP	Pg	10 02 23.8	+0.3
	baz=264						
ENA				S	Sg	10 02 27.2	-0.2
	baz=264						
NDS	Dongshan	0.36	307	iP	Pg	10 02 25.6	+0.6
	baz=318						
NDS				S	Sg	10 02 29.6	-0.5
	baz=318						
ILA	Ilan	0.43	323	iP	Pb	10 02 27.3	+0.6
	baz=330						
ILA				S	Sg	10 02 33.1	+0.9
	baz=330						
EGS		0.43	348	P	Pn	10 02 28.0	-1.0
	baz=4.0						
EGS				S	Sb	10 02 34.0	+1.1
	baz=4.0						
TWE	Neicheng	0.45	312	iP	Pg	10 02 26.9	+0.3
	baz=324						
TWE				S	Sg	10 02 32.1	-0.6
	baz=324						
NACB	Ninganchiao	0.47	238	P	Pg	10 02 27.1	+0.1
	baz=231						
NACB				S	Sg	10 02 33.4	0.0
	baz=231						
NTC	Toucheng	0.47	337	P	Pb	10 02 28.0	+0.6
	baz=350						
NTC				S	Sb	10 02 34.4	+0.4
	baz=350						
ENTT	Nioudou	0.48	297	iP	Pg	10 02 27.2	+0.1
	baz=303						
ENTT				S	Sg	10 02 32.9	-0.8
	baz=303						
NDT	Datong Townshi	0.51	291	iP	Pg	10 02 27.8	+0.1
	baz=295						
NDT				S	Sg	10 02 33.7	-0.8
	baz=295						
TWD	Chiawan	0.52	230	iP	Pb	10 02 28.4	+0.1
	baz=219						
TWD				S	Sb	10 02 37.0	+1.4
	baz=219						
ETLH	Xiulin Townshi	0.54	247	P	Pg	10 02 28.2	-0.3
	baz=243						
ETLH				S	Sg	10 02 35.4	-0.4
	baz=243						
TIPB	Shuangxi	0.58	341	iP	Pb	10 02 30.1	+0.8
	baz=357						
TIPB				S	Sg	10 02 37.3	+0.4
	baz=357						
TWB1	Santiao Chiao	0.59	356	iP	Pn	10 02 30.7	-0.4
	baz=3.0						
TWB1				S	Sb	10 02 38.6	+1.2
	baz=3.0						
HWA	Hwalien	0.59	221	iP	Pn	10 02 30.8	-0.4
	baz=218						
HWA				S	Sn	10 02 40.2	-0.1
	baz=218						
NNSB	Datong	0.59	271	P	Pg	10 02 29.2	-0.1
	baz=275						
NNSB				S	Sg	10 02 35.9	-1.3
	baz=275						
NNSH	Datong	0.59	271	P	Pg	10 02 29.2	-0.1
	baz=273						
NNSH				S	Sg	10 02 35.8	-1.5
	baz=273						
NWLT	Wulai	0.60	307	iP	Pg	10 02 29.3	-0.1
	baz=313						
NWLT				S	Sg	10 02 36.4	-1.0
	baz=313						
NNS	Nan Shan	0.60	272	iP	Pg	10 02 29.3	-0.2
	baz=271						
NNS				iS	Sg	10 02 35.9	-1.6
	baz=271						
YHNB	Yeheng	0.65	293	P	Pg	10 02 30.0	-0.4
	baz=296						
YHNB				S	Sg	10 02 37.3	-1.7
	baz=296						
NSK	Sanguang	0.66	293	iP	Pb	10 02 30.3	-0.5
	baz=296						
NSK				iS	Sg	10 02 37.6	-1.9
	baz=296						
WFSB	Wu-fen Shan	0.69	341	P	Pn	10 02 32.1	-0.4
	baz=343						
WFSB				S	Sg	10 02 41.0	+0.8
	baz=343						
TWA	Mucha	0.69	324	P	Pg	10 02 31.7	+0.5
	baz=323						
TWA				S	Sg	10 02 41.3	+1.0
	baz=323						
NHDH	Xindian Distri	0.71	320	iP	Pg	10 02 32.0	+0.5
	baz=319						
NHDH				S	Sb	10 02 41.0	+0.1
	baz=319						
FUSS	Fushou	0.74	257	iP	Pb	10 02 32.0	-0.1
	baz=258						
FUSS				iS	Sb	10 02 40.9	-1.1
	baz=258						
TATO	Taipei	0.74	318	P	Pb	10 02 32.3	+0.3
	baz=318						
TATO				S	Sb	10 02 41.5	-0.4
	baz=318						
WHF	Hehuan Shan	0.75	249	iP	Pb	10 02 32.1	-0.3
	baz=250						
WHF				S	Sb	10 02 42.5	0.0
	baz=250						
TNOU	National Taiwa	0.76	342	P	Pn	10 02 33.5	0.0
	baz=346						
TNOU				S	Sb	10 02 42.7	+0.2
	baz=346						
TAP1	Taipei	0.77	323	eP	Pg	10 02 33.3	+0.7
	baz=323						
TAP1				S	Sb	10 02 43.5	+0.9
	baz=323						
TAP	Taipei	0.78	322	P	Pn	10 02 33.9	+0.1
	baz=323						
TAP				S	Sb	10 02 43.6	+0.7
	baz=323						
TWT	Tachien	0.80	258	P	Pg	10 02 33.8	+0.6
	baz=255						
TWT				eS	Sb	10 02 44.1	+0.5
	baz=255						
TDCB	Techi	0.81	258	P	Pb	10 02 33.3	-0.1
	baz=255						
TDCB				S	Sb	10 02 43.4	-0.7
	baz=255						
ESL	Shilin	0.81	222	iP	Pn	10 02 33.7	-0.6
	baz=229						
ESL				iS	Sg	10 02 44.8	+0.6
	baz=229						
JYNG	Yonagunijimaku	0.83	88	P	Pn	10 02 36.4	+1.9
JYNG				S	Sn	10 02 49.2	+2.8
YM01	YM01	0.83	330	P	Pb	10 02 33.7	+0.1
	baz=337						
YM01				eS	Sb	10 02 43.7	-0.9
	baz=337						
YM10	YM10	0.85	330	P	Pn	10 02 34.8	0.0
	baz=336						
YM10				S	Sb	10 02 44.8	-0.2
	baz=336						
YM11	YM11	0.85	331	P	Pn	10 02 35.3	+0.5
	baz=337						
YM11				S	Sb	10 02 45.5	+0.5
	baz=337						
YM04	YM04	0.86	329	P	Pg	10 02 34.6	+0.3
	baz=335						
YM04				S	Sb	10 02 45.5	+0.3
	baz=335						
CHGB	Renai	0.86	245	P	Pb	10 02 34.2	+0.1
	baz=247						
CHGB				S	Sb	10 02 45.3	-0.2
	baz=247						
YM08	YM08	0.86	332	P	Pg	10 02 34.7	+0.4
	baz=339						
YM08				S	Sb	10 02 45.7	+0.3
	baz=339						
TWS1	Kuangyinshan	0.88	321	iP	Pn	10 02 35.3	+0.2
	baz=322						
TWS1				iS	Sg	10 02 47.0	+0.8
	baz=322						
YM03	YM03	0.88	330	P	Pn	10 02 35.3	+0.1
	baz=336						
YM03				S	Sb	10 02 44.5	-1.4
	baz=336						
NTY	Taoyuan	0.88	311	P	Pn	10 02 35.5	+0.3
	baz=320						
NTY				S	Sb	10 02 47.1	+1.2
	baz=320						
ANP	Anpu	0.89	329	P	Pg	10 02 35.2	+0.3
	baz=335						
YOJ	Yonaguni jima	0.90	87	P	Pn	10 02 36.8	+1.5
	baz=80						
YOJ				S	Sn	10 02 50.9	+2.9
	baz=80						
YOJ	Yonaguni jima	0.90	87	P	Pn	10 02 37.3	+1.9
YOJ				S	Sn	10 02 50.8	+2.9
NTST	Danshui	0.91	325	P	Pn	10 02 36.1	+0.6
	baz=340						
NTST				S	Sb	10 02 47.7	+1.0
	baz=340						
EGFH	Guangfu	0.93	216	eP	Pn	10 02 35.6	-0.3
	baz=225						
EGFH				iS	Sn	10 02 49.7	+0.9
	baz=225						
TWY	Chenhua	0.94	335	iP	Pg	10 02 36.8	+1.0
	baz=342						
TWY				iS	Sg	10 02 48.9	+0.8
	baz=342						
NCU	National Centr	0.94	306	iP	Pn	10 02 36.2	+0.2
	baz=313						
NCU				eS	Sb	10 02 47.8	+0.2
	baz=313						
NCUH	Zhongli	0.94	305	iP	Pn	10 02 36.1	+0.1
	baz=314						
NCUH				S	Sb	10 02 48.2	+0.5
	baz=314						
LIOB	Emei	0.95	284	iP	Pg	10 02 36.5	+0.4
	baz=285						
LIOB				S	Sb	10 02 48.0	+0.1
	baz=285						
NSTT	Nanjuang	0.96	283	iP	Pn	10 02 36.4	+0.1
	baz=284						
NSTT				eS	Sb	10 02 48.3	+0.1
	baz=284						
HSN1	Hsinchu	0.99	291	P	Pg	10 02 37.2	+0.4
	baz=291						
HSN1				eS	Sn	10 02 52.3	+2.1
	baz=291						
WHP	Taichung City	1.00	262	iP	Pg	10 02 37.2	+0.3
	baz=265						
WHP				S	Sb	10 02 49.0	-0.4
	baz=265						
SBCB	Hsinchu	1.02	291	P	Pn	10 02 37.5	+0.4
	baz=293						
SBCB				S	Sn	10 02 51.5	+0.5
	baz=293						
HSN	Hsinchu	1.04	292	eP	Pg	10 02 38.6	+0.9
	baz=296						
HSN				eS	Sb	10 02 50.9	+0.5
	baz=296						
VWDT	VWDT	1.05	231	P	Pg	10 02 38.1	+0.2

HGSD	**Ruisui**	**1.08 211**	P		**Pg**	**10 02 38.8**	**+0.3**
	baz=195							
HGSD			S		**Sg**	**10 02 54.2**	**+1.6**
	baz=195							
DPDB	**Guoxing**	**1.08 249**	P		**Pg**	**10 02 38.9**	**+0.4**
	baz=253							
DPDB			S		**Sg**	**10 02 53.5**	**+0.8**
	baz=253							
EHY	**Hungye**	**1.12 216**	*i* P		**Pg**	**10 02 38.9**	**-0.3**
	baz=209							
EHY			S		**Sg**	**10 02 54.4**	**+0.5**
	baz=209							
NMLH	**Miaoli**	**1.14 276**	*i* P		**Pg**	**10 02 40.0**	**+0.5**
	baz=276							
NMLH			S		**Sg**	**10 02 55.3**	**+0.9**
	baz=276							
NSY	**Sanyi**	**1.16 270**	P		**Pg**	**10 02 40.6**	**+0.7**
	baz=273							
NSY			S		**Sb**	**10 02 54.2**	**+0.3**
	baz=273							
SMLT	**Sun Moon Lake**	**1.16 243**	*i* P		**Pg**	**10 02 40.3**	**+0.2**
	baz=248							
SMLT			*e*S		**Sg**	**10 02 56.6**	**+1.3**
	baz=248							
SSLB	**Suanglung**	**1.17 238**	P		**Pg**	**10 02 39.9**	**-0.3**
	baz=234							
SSLB			S		**Sb**	**10 02 54.1**	**-0.1**
	baz=234							
TYC	**Yuchr**	**1.19 245**	*i* P		**Pg**	**10 02 40.3**	**-0.2**
	baz=250							
TYC			S		**Sb**	**10 02 54.9**	**+0.2**
	baz=250							
YULB	**Yu-li**	**1.22 213**	*e*P		**Pg**	**10 02 41.1**	**-0.2**
	baz=207							
EYUL	**Yuli**	**1.25 211**	*e*P		**Pg**	**10 02 42.8**	**+1.1**
	baz=220							
EYUL			*e*S		**Sn**	**10 02 56.8**	**+0.1**
	baz=220							
TWF1	**Yuli**	**1.26 212**	*e*P		**Pg**	**10 02 43.4**	**+1.5**
	baz=206							
TWF1			*e*S		**Sg**	**10 02 59.4**	**+1.1**
	baz=206							
TCU	**Taichung**	**1.27 258**	*e*P		**Pg**	**10 02 44.4**	**+2.3**
	baz=256							
TCU			*e*S		**Sg**	**10 03 00.2**	**+1.7**
	baz=256							
WDJ	**Dajia District**	**1.27 267**	*i* P		**Pg**	**10 02 42.7**	**+0.6**
	baz=261							
WDJ			*e*S		**Sn**	**10 02 57.0**	**-0.2**
	baz=261							
WWF	**Wufeng**	**1.27 253**	*e*P		**Pg**	**10 02 42.1**	**0.0**
	baz=245							
WWF			*e*S		**Sg**	**10 03 00.1**	**+1.3**
	baz=245							
WHYT	**Xinyi Township**	**1.29 236**	P		**Pg**	**10 02 42.9**	**+0.3**
	baz=233							
WHYT			*e*S		**Sg**	**10 03 01.1**	**+1.6**
	baz=233							
WJS	**Zhushan**	**1.33 244**	P		**Pb**	**10 02 42.5**	**+0.4**
	baz=224							
WJS			*e*S		**Sg**	**10 03 01.5**	**+0.8**
	baz=224							
YUS	**Yu-Shan**	**1.35 227**	*e*P		**Pb**	**10 02 42.9**	**+0.2**
	baz=222							
YUS			*e*S		**Sg**	**10 03 01.6**	**+0.1**
	baz=222							
FULB	**Fuli**	**1.39 209**	*e*P		**Pg**	**10 02 43.9**	**-0.5**
	baz=218							
FULB			*e*S		**Sg**	**10 03 04.1**	**+1.5**
	baz=218							
ALS	**Alishan**	**1.44 231**	*e*P		**Pg**	**10 02 44.8**	**-0.6**
	baz=215							
ALS			*e*S		**Sg**	**10 03 05.0**	**+0.7**
	baz=215							
CHKT	**Chengkung**	**1.45 205**	*e*S		**Sg**	**10 03 05.7**	**+1.3**
	baz=184							
CHN5	**Tsauling**	**1.48 237**	*e*P		**Pg**	**10 02 45.8**	**-0.4**
	baz=233							
CHN5			*e*S		**Sg**	**10 03 06.5**	**+1.0**
	baz=233							
WGK	**Gukeng**	**1.53 242**	*e*S		**Sg**	**10 03 06.6**	**-0.3**
	baz=238							
ELDTW	**Lidau**	**1.54 217**	P		**Pb**	**10 02 46.0**	**+0.3**
	baz=199							
ELDTW			*e*S		**Sn**	**10 03 03.3**	**-0.7**
	baz=199							
WDLH	**Douliu**	**1.55 242**	P		**Pb**	**10 02 46.2**	**+0.4**
	baz=225							
WDLH			*e*S		**Sb**	**10 03 06.4**	**+1.4**
	baz=225							
IRIF	**Iriomote-Funau**	**1.55 93**	P		**Pg**	**10 02 46.7**	**-0.8**
IRIF			S		**Sg**	**10 03 07.1**	**-0.6**
EDH	**Donghe**	**1.59 205**	P		**Pb**	**10 02 45.4**	**-1.1**
	baz=187							
EDH			S		**Sn**	**10 03 04.2**	**-0.9**
	baz=187							
WRL	**Guolierlin Hig**	**1.60 251**	*e*S		**Sb**	**10 03 06.6**	**+0.1**
	baz=261							
HATJ	**Hateruma jima**	**1.66 102**	S		**Sg**	**10 03 11.5**	**+0.4**
WTK	**Tuku**	**1.67 244**	*e*S		**Sb**	**10 03 10.1**	**+1.5**
	baz=241							
CHN4	**Tsaushan**	**1.69 231**	*i* P		**Pg**	**10 02 49.7**	**-0.5**
	baz=228							
CHN4			*e*S		**Sg**	**10 03 11.8**	**-0.3**
	baz=228							
STYH	**Taoyuan**	**1.69 223**	P		**Pb**	**10 02 48.5**	**+0.3**
	baz=219							
STYH			*e*S		**Sb**	**10 03 10.8**	**+1.5**
	baz=219							
STYT	**Tauyuan**	**1.71 223**	*i* P		**Pg**	**10 02 49.6**	**-0.9**
	baz=219							
STYT			*e*S		**Sg**	**10 03 13.1**	**+0.4**
	baz=219							
CHY	**Chiayi**	**1.73 238**	S		**Sb**	**10 03 12.3**	**+1.9**
	baz=235							
WTP	**Ta-pu**	**1.75 228**	P		**Pb**	**10 02 49.7**	**+0.5**
	baz=225							
WTP			*e*S		**Sg**	**10 03 13.1**	**-0.8**
	baz=225							
JKRS	**Kuro-shima**	**1.81 95**	P		**Pg**	**10 02 51.3**	**-1.2**
JKRS			S		**Sg**	**10 03 13.7**	**-2.4**
TWK	**Hsinying**	**1.82 231**	*i* P		**Pb**	**10 02 51.5**	**+1.0**
	baz=227							
TWK			S		**Sg**	**10 03 15.2**	**-1.1**
	baz=227							
CHN1	**Nanshi**	**1.85 228**	*e*P		**Pg**	**10 02 52.6**	**-0.5**
	baz=224							
CHN1			S		**Sb**	**10 03 15.4**	**+1.7**
	baz=224							
SLGT	**Liugui**	**1.91 222**	*e*P		**Pg**	**10 02 53.6**	**-0.6**
	baz=218							
SLGT			*e*S		**Sg**	**10 03 18.0**	**-0.9**
	baz=218							
ICHU	**Yijhu**	**1.92 237**	*e*P		**Pb**	**10 02 52.5**	**+0.4**
	baz=218							
ICHU			*e*S		**Sb**	**10 03 17.9**	**+2.1**
	baz=218							
JIJ	**Ishigaki jima**	**1.93 91**	P		**Pg**	**10 02 52.4**	**-2.2**
JIJ			S		**Sb**	**10 03 15.7**	**-0.3**
JISG	**Ishigakijimahi**	**2.08 85**	P		**Pb**	**10 02 53.6**	**-1.3**
JISG			S		**Sb**	**10 03 20.3**	**-0.2**
SSD	**Sandimen**	**2.10 218**	*e*P		**Pb**	**10 02 56.2**	**+0.9**
	baz=224							
SSD			*e*S		**Sb**	**10 03 20.9**	**-0.2**
	baz=224							
TSMG	**Majia**	**2.13 217**	*e*P		**Pg**	**10 02 57.0**	**-1.4**
	baz=224							
TSMG			*e*S		**Sb**	**10 03 22.8**	**+0.9**
	baz=224							
MASBT	**Mashibuluo**	**2.21 216**	P		**Pb**	**10 02 56.0**	**-1.1**
	baz=211							
MASBT			*e*S		**Sn**	**10 03 21.5**	**+1.1**
	baz=211							
EAST	**Anshuo**	**2.30 208**	*e*P		**Pb**	**10 02 57.2**	**-1.4**
	baz=194							
EAST			*e*S		**Sb**	**10 03 25.4**	**-1.4**
	baz=194							
VWUC	**VWUC**	**2.42 284**	*e*P		**Pn**	**10 02 55.4**	**-0.9**
	baz=285							
VWUC			*e*S		**Sn**	**10 03 23.2**	**-2.3**
	baz=285							
SCZT	**Fangliau**	**2.42 213**	*e*P		**Pb**	**10 02 59.9**	**-0.7**
	baz=196							
PHUB	**P'eng-hu**	**2.42 249**	*e*P		**Pn**	**10 02 55.4**	**-1.0**
	baz=246							
PHUB			*e*S		**Sn**	**10 03 25.2**	**-0.4**
	baz=246							
JTJ	**Tarama**	**2.44 84**	P		**Pb**	**10 03 00.5**	**-0.5**
JTJ			*e*S		**Sb**	**10 03 29.4**	**-1.5**
SLIU	**Shizi**	**2.47 208**	*e*P		**Pn**	**10 02 57.9**	**+0.8**
	baz=195							
MATB	**Ma-tsu**	**2.56 313**	*e*P		**Pn**	**10 02 57.8**	**-0.4**
	baz=314							
MATB			*e*S		**Sn**	**10 03 27.3**	**-1.7**
	baz=314							
MSUT	**Lienchiang**	**2.58 313**	*e*P		**Pb**	**10 03 02.5**	**-0.9**
	baz=314							
MSUT			*e*S		**Sn**	**10 03 28.1**	**-1.5**
	baz=314							
LYJJ	**Jianjiangzhen**	**2.95 316**	*e*P		**Pn**	**10 03 03.5**	**-0.1**
	baz=318							
LYJJ			*e*S		**Sn**	**10 03 38.1**	**-0.6**
	baz=318							
XPSS	**Dashiqiu**	**3.00 327**	*e*P		**Pn**	**10 03 04.5**	**+0.1**
	baz=328							
MHZQ	**Yesham**	**3.19 302**	*e*P		**Pb**	**10 03 10.7**	**-3.1**
	baz=303							

BJI ***23*** *10:13:49.7±0.0,23.°81N×121.°71E,h20km,mB5.4/61, mb5.3/77,ML5.5/12,Ms5.5/90,Ms7.5.4/85*
JMA ***23*** *10:13:50.5±0.2,23.°71N×121.69E,h37km±4km,M5.8*
JMA Felt I J1.
MOS ***23*** *10:13:50.8±1.1,23.°80N×121.°71E,h47km,mb5.9/85, MS5.2/43,Error ellipse: s-maj=5.9km s-min=3.7km az=115.8*
ASIES ***23*** *10:13:50.6,23.°70N×121.°76E,h27km,MW5.3*
NEIC ***23*** *10:13:50.9±2.3,23.°72N±0.°06×121.°75E±0.°03,h35km±1km, mb5.9/396,Ms_20 5.1/328,Mwb5.5/62,Mww5.5, ML6.0(TAP),Mwc5.5(GCMT),Error ellipse: s-maj=9.4km s-min=4.1km az=179.0*
IDC ***23*** *10:13:50.6±1.8,23.°70N×121.°63E,h33km±13km,mb5.3/51, mb1 5.3/55,mb1mx5.2/58,mbtmp5.4/55,ML4.6/4,MS5.0/47, Ms1 5.0/47,ms1mx5.0/49,Error ellipse: s-maj=10.0km s-min=8.4km az=79.0*
NEIC ***23*** *10:13:50.9,23.°67N×121.°75E,h24km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.63; $M_{\theta\theta}$0.75; $M_{\phi\phi}$-2.38; $M_{r\theta}$-0.47; $M_{\theta\phi}$-0.28; $M_{\phi r}$-0.10; Fault plane solution: M_o2.18000×10^{17} NP1:ϕ_s206.31000°, δ51.45000°,λ120.42000°. NP2:ϕ_s343.01000°,δ47.59000°, λ57.57000°. Principal axes: T 1.8330, Plg67.0000°, Azm181.0000°; N 0.5749, Plg23.0000°, Azm6.0000°; P -2.4079, Plg2.0000°, Azm275.0000°;*
GCMT ***23*** *10:13:51.9±0.1,23.°70N±0.°01×121.°55E±0.°01,h44km, MW5.5/145,Moment Tensor Solution. s139,c219; s145,c259; Duration: ŧ4 Moment tensor: Scale 10^{17} Nm; M_{rr}2.05±.04; $M_{\theta\theta}$0.19±.03; $M_{\phi\phi}$-2.24±.03; $M_{r\theta}$-0.81±.03; $M_{\theta\phi}$-0.75±.02; $M_{\phi r}$-0.36±.03; Best double couple: M_o2.44200×10^{17} NP1:ϕ_s357.00000°,δ41.00000°, λ61.00000°. NP2:ϕ_s214.00000°,δ55.00000°,λ113.00000°. Principal axes: T 2.3560, Plg70.0000°, Azm177.0000°; N 0.1700, Plg19.0000°, Azm20.0000°; P -2.5280, Plg7.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
TAP ***23*** *10:13:51.6,23.°73N×121.°67E,h38km,ML6.2,B*
BGR ***23*** *10:13:52.7±0.0,23.°93N×121.°57E,h33km,mb5.9,Ms5.6*
NEIC ***23*** *10:13:52,23.°70N×121.°64E,h42km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.09; $M_{\theta\theta}$0.26; $M_{\phi\phi}$-2.34; $M_{r\theta}$-0.76; $M_{\theta\phi}$-0.80; $M_{\phi r}$-0.35; Fault plane solution: M_o2.51000×10^{17} NP1:ϕ_s357.00000°, δ41.00000°,λ62.00000°. NP2:ϕ_s213.00000°,δ54.00000°, λ113.00000°. Principal axes: T 2.3647, Plg70.0000°, Azm178.0000°; N 0.2680, Plg18.0000°, Azm19.0000°; P -2.6326, Plg7.0000°, Azm287.0000°;*
NEIC ***23*** *10:13:53,23.°80N×121.°79E,h40km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.91; $M_{\theta\theta}$0.50; $M_{\phi\phi}$-2.41; $M_{r\theta}$-0.83; $M_{\theta\phi}$-0.66; $M_{\phi r}$-0.58; Fault plane solution: M_o2.51000×10^{17} NP1:ϕ_s350.00000°, δ40.00000°,λ55.00000°. NP2:ϕ_s212.00000°,δ58.00000°, λ116.00000°. Principal axes: T 2.3076, Plg66.0000°, Azm172.0000°; N 0.3654, Plg22.0000°, Azm18.0000°; P -2.6730, Plg10.0000°, Azm284.0000°;*
ISC 23 10:13:51.3±0.3,23.°71N±0.°02×121.°72E±0.°01,h40km±2km, h40km:pP-P,n1433,σ1§54/1515,mb5.8/462,MS5.2/245, 88C-113D,Fault plane solution: NP1:ϕ_s330.12317°, δ78.84094°,λ56.67314°. NP2:ϕ_s223.72266°,δ34.93995°, λ160.24974°. Principal axes: T Plg45.7664°, Azm206.2806°; N Plg32.6174°, Azm337.3755°; P Plg26.2829°, Azm85.7996°; **Fault plane solution: NP1:ϕ_s**186.28713°,δ37.91431°,λ91.47301°. **NP2:** ϕ_s4.42028°,δ52.10043°,λ88.85298°. **Principal axes:** T Plg82.8479°, Azm267.8922°; N Plg0.9051°, Azm5.1249°; P Plg7.0940°, Azm95.2376°; **Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
EGFH	**Guangfu**	**0.27 261**		⇓P		**Pn**	**10 13 59.2**	**-0.1**
	baz=265							
EGFH				S		**Sn**	**10 14 04.7**	**-0.1**
	baz=265							
ESL	**Shilin**	**0.28 291**		⇓*i*P		**Pn**	**10 13 59.0**	**-0.4**
	baz=283							
ESL				*i* S		**Sn**	**10 14 04.1**	**-1.0**
	baz=283							
HWA	**Hwalien**	**0.28 339**		⇑*i*P		**Pn**	**10 13 59.4**	**0.0**
	baz=354							
HWA				S		**Sn**	**10 14 05.4**	**+0.3**
	baz=354							
HGSD	**Ruisui**	**0.35 231**		⇑P		**Pn**	**10 14 00.4**	**+0.2**
	baz=219							
HGSD				S		**Sn**	**10 14 07.2**	**+0.9**
	baz=219							
TWD	**Chiawan**	**0.38 343**		⇑*i*P		**Pn**	**10 14 00.2**	**-0.4**
	baz=359							
TWD				*i* S		**Sn**	**10 14 06.9**	**-0.1**
	baz=359							
EHY	**Hungye**	**0.42 240**		⇓*i*P		**Pn**	**10 14 00.6**	**-0.5**
	baz=244							
EHY				S		**Sn**	**10 14 06.8**	**-1.1**
	baz=244							
NACB	**Ninganchiao**	**0.47 346**		⇑P		**Pn**	**10 14 01.3**	**-0.5**
	baz=356							
NACB				S		**Sn**	**10 14 08.6**	**-0.5**
	baz=356							
NACB	**Ninganchiao**	**0.47 346**				**Pn**	**10 14 01.3**	**-0.5**
YULB	**Yu-li**	**0.50 230**		⇓P		**Pn**	**10 14 01.8**	**-0.4**
	baz=236							
YULB				S		**Sn**	**10 14 08.8**	**-0.9**
	baz=236							
YULB	**Yu-li**	**0.50 230**				**Pn**	**10 14 01.7**	**-0.4**
EYUL	**Yuli**	**0.52 225**		⇓*e*P		**Pn**	**10 14 02.4**	**0.0**
	baz=232							
EYUL				*e*S		**Sn**	**10 14 09.9**	**-0.2**
	baz=232							
TWF1	**Yuli**	**0.53 227**		⇓*i*P		**Pn**	**10 14 02.2**	**-0.3**
	baz=231							
TWF1				*e*S		**Sn**	**10 14 08.3**	**-2.1**
	baz=231							
VWDT	**VWDT**	**0.53 275**		⇓P		**Pn**	**10 14 02.5**	**0.0**
	baz=270							
ETLH	**Xiulin Townshi**	**0.54 337**		⇓P		**Pn**	**10 14 02.1**	**-0.6**
	baz=331							
ETLH				*e*S		**Sn**	**10 14 09.3**	**-1.4**
	baz=331							
WHF	**Hehuan Shan**	**0.60 316**		⇓*i*P		**Pn**	**10 14 03.1**	**-0.7**
	baz=312							
WHF				S		**Sn**	**10 14 11.0**	**-1.6**
	baz=312							
CHGB	**Renai**	**0.60 305**		⇓P		**Pn**	**10 14 03.5**	**-0.2**
	baz=307							
CHGB				S		**Sn**	**10 14 11.2**	**-1.3**
	baz=307							
FULB	**Fuli**	**0.64 217**		⇓P		**Pn**	**10 14 04.4**	**+0.4**
	baz=226							
FULB				S		**Sn**	**10 14 14.8**	**+1.7**
	baz=226							
FUSS	**Fushou**	**0.69 321**		⇓*i*P		**Pn**	**10 14 04.7**	**-0.2**
	baz=324							
FUSS				S		**Sn**	**10 14 13.9**	**-0.6**
	baz=324							
CHKT	**Chengkung**	**0.69 208**		P		**Pn**	**10 14 04.5**	**-0.2**
	baz=193							
CHKT				*e*S		**Sn**	**10 14 14.2**	**-0.1**
	baz=193							
SSLB	**Suanglung**	**0.70 276**		⇓P		**Pn**	**10 14 04.5**	**-0.3**
	baz=276							
SSLB				S		**Sn**	**10 14 13.8**	**-0.8**
	baz=276							
SSLB	**Suanglung**	**0.70 276**				**Pn**	**10 14 04.6**	**-0.3**
ENA	**Nanau**	**0.71 2**		⇑P		**Pn**	**10 14 04.7**	**-0.3**
	baz=15							
ENA				*i* S		**Sn**	**10 14 15.3**	**+0.5**
	baz=15							
TWT	**Tachien**	**0.73 318**		⇓*i*P		**Pn**	**10 14 05.5**	**+0.1**
	baz=315							
TWT				*i* S		**Sn**	**10 14 15.2**	**-0.3**
	baz=315							
EWUT	**Wuta**	**0.73 4**		⇑*e*P		**Pn**	**10 14 05.1**	**-0.1**
	baz=9.0							
EWUT				S		**Sn**	**10 14 15.7**	**+0.5**
	baz=9.0							
YUS	**Yu-Shan**	**0.73 253**		⇓*i*P		**Pn**	**10 14 05.9**	**+0.2**
	baz=250							
YUS				*i* S		**Sn**	**10 14 15.1**	**-1.0**
	baz=250							
TDCB	**Techi**	**0.74 317**		⇓P		**Pn**	**10 14 05.6**	**+0.1**
	baz=315							
TDCB				S		**Sn**	**10 14 15.2**	**-0.5**
	baz=315							
WPL	**Puli Township**	**0.76 293**		⇓P		**Pn**	**10 14 05.6**	**0.0**
	baz=298							
WPL				S		**Sn**	**10 14 15.1**	**-0.7**
	baz=298							
SMLT	**Sun Moon Lake**	**0.77 283**		⇓*i*P		**Pn**	**10 14 05.9**	**+0.1**
	baz=287							
SMLT				*i* S		**Sn**	**10 14 16.5**	**+0.3**
	baz=287							
NNSB	**Datong**	**0.77 337**		⇓P		**Pn**	**10 14 05.6**	**-0.3**
	baz=341							
NNSB				S		**Sn**	**10 14 15.6**	**-0.9**
	baz=341							
NNSH	**Datong**	**0.77 337**		⇓P		**Pn**	**10 14 05.6**	**-0.4**
	baz=339							
NNS	**Nan Shan**	**0.79 337**		⇓P		**Pn**	**10 14 05.8**	**-0.3**
	baz=341							
NNS				*i* S		**Sn**	**10 14 16.3**	**-0.5**
	baz=341							
DPDB	**Guoxing**	**0.79 294**		⇓P		**Pn**	**10 14 06.2**	**+0.1**
	baz=299							
DPDB				S		**Sn**	**10 14 16.3**	**-0.4**
	baz=299							
WHYT	**Xinyi Township**	**0.79 269**		⇓*i*P		**Pn**	**10 14 06.5**	**+0.4**
	baz=262							
WHYT				*i* S		**Sn**	**10 14 16.6**	**-0.2**
	baz=262							
TYC	**Yuchr**	**0.81 284**		⇓*i*P		**Pn**	**10 14 06.4**	**+0.1**
	baz=290							
TYC				*i* S		**Sn**	**10 14 17.1**	**0.0**
	baz=290							
ELDTW	**Lidau**	**0.83 231**		⇓*i*P		**Pn**	**10 14 06.2**	**-0.5**
	baz=227							
ELDTW				*i* S		**Sn**	**10 14 16.4**	**-1.4**
	baz=227							
EDH	**Donghe**	**0.83 207**		P		**Pn**	**10 14 06.5**	**-0.1**
	baz=196							
EDH				S		**Sn**	**10 14 17.7**	**+0.1**
	baz=196							
ALS	**Alishan**	**0.86 257**		⇓*i*P		**Pn**	**10 14 07.8**	**+0.5**
	baz=262							
ALS				*i* S		**Sn**	**10 14 18.7**	**-0.1**
	baz=262							
TWC	**Suao**	**0.90 8**		⇑*i*P		**Pn**	**10 14 07.9**	**+0.3**
	baz=13							
TWC				S		**Sn**	**10 14 20.5**	**+1.1**
	baz=13							
WHP	**Taichung City**	**0.90 309**		⇓*i*P		**Pn**	**10 14 08.0**	**+0.3**
	baz=316							
WHP				S		**Sn**	**10 14 19.2**	**-0.3**
	baz=316							
NDT	**Datong Townshi**	**0.91 348**		⇓P		**Pn**	**10 14 07.7**	**0.0**
	baz=343							
NDT				S		**Sn**	**10 14 19.6**	**+0.1**
	baz=343							
WJS	**Zhushan**	**0.91 277**		⇓*i*P		**Pn**	**10 14 08.7**	**+1.0**
	baz=277							
WJS				S		**Sn**	**10 14 21.2**	**+1.6**
	baz=277							
NDS	**Dongshan**	**0.92 0**		*e*P		**Pn**	**10 14 07.9**	**+0.1**
	baz=353							
NDS				*e*S		**Sn**	**10 14 20.4**	**+0.6**
	baz=353							
ENTT	**Nioudou**	**0.93 352**		⇓*i*P		**Pn**	**10 14 08.1**	**0.0**
	baz=347							
ENTT				*e*S		**Sn**	**10 14 20.2**	**0.0**
	baz=347							
CHN5	**Tsauling**	**0.96 263**		⇓P		**Pn**	**10 14 09.3**	**+0.9**
	baz=262							
CHN5				*i* S		**Sn**	**10 14 22.0**	**+1.1**
	baz=262							
WNT	**Mingjian**	**0.96 280**		⇓*i*P		**Pn**	**10 14 09.6**	**+1.2**
	baz=280							
WNT				S		**Sn**	**10 14 22.1**	**+1.3**
	baz=280							
LONT	**Longtian**	**0.97 214**		*e*P		**Pn**	**10 14 08.1**	**-0.4**
	baz=211							
LONT				S		**Sn**	**10 14 20.6**	**-0.4**
	baz=211							
WNT1	**Nantou City**	**0.97 282**		P		**Pn**	**10 14 09.8**	**+1.3**
	baz=282							
WNT1				S		**Sn**	**10 14 22.5**	**+1.4**
	baz=282							
WWF	**Wufeng**	**0.99 290**		P		**Pn**	**10 14 10.1**	**+1.4**
	baz=280							
WWF				*e*S		**Sn**	**10 14 23.9**	**+2.4**
	baz=280							
YHNB	**Yeheng**	**1.00 342**		⇓P		**Pn**	**10 14 09.3**	**+0.3**
	baz=346							
YHNB				S		**Sn**	**10 14 21.8**	**-0.2**
	baz=346							
YHNB	**Yeheng**	**1.00 342**				**Pn**	**10 14 09.1**	**0.0**
TWE	**Neicheng**	**1.00 357**		⇓P		**Pn**	**10 14 09.2**	**+0.2**
	baz=352							
TWE				*e*S		**Sn**	**10 14 21.8**	**-0.1**
	baz=352							
NSK	**Sanguang**	**1.01 341**		⇓*i*P		**Pn**	**10 14 09.4**	**+0.2**
	baz=346							
NSK				*i* S		**Sn**	**10 14 22.2**	**-0.1**
	baz=346							
STYH	**Taoyuan**	**1.02 238**		⇓P		**Pn**	**10 14 09.8**	**+0.6**
	baz=231							
STYH				S		**Sn**	**10 14 22.7**	**+0.5**
	baz=231							
STYT	**Tauyuan**	**1.04 238**		⇓*i*P		**Pn**	**10 14 10.2**	**+0.7**
	baz=231							
STYT				*i* S		**Sn**	**10 14 23.6**	**+0.8**
	baz=231							
TCU	**Taichung**	**1.04 295**		⇓*i*P		**Pn**	**10 14 11.0**	**+1.5**
	baz=296							
TCU				S		**Sn**	**10 14 25.3**	**+2.4**
	baz=296							
ILA	**Ilan**	**1.05 2**		*e*P		**Pn**	**10 14 10.3**	**+0.7**
	baz=355							
ILA				*e*S		**Sn**	**10 14 24.2**	**+1.2**
	baz=355							
WGK	**Gukeng**	**1.06 269**		⇓P		**Pn**	**10 14 10.6**	**+0.9**
	baz=268							
WGK				*e*S		**Sn**	**10 14 25.1**	**+1.9**
	baz=268							
LDUT	**Ludao**	**1.06 192**		*e*P		**Pn**	**10 14 09.2**	**-0.5**
	baz=189							
LDUT				*e*S		**Sn**	**10 14 22.1**	**-1.2**
	baz=189							
TWGBT	**Beinan**	**1.07 213**		*e*P		**Pn**	**10 14 09.0**	**-0.8**
	baz=210							
TWGBT				S		**Sn**	**10 14 21.5**	**-1.9**
	baz=210							
TWG	**Pinlang**	**1.07 214**		*e*P		**Pn**	**10 14 09.0**	**-0.8**
	baz=210							
TWG				S		**Sn**	**10 14 22.1**	**-1.4**
	baz=210							
TWG	**Pinlang**	**1.07 214**				**Pn**	**10 14 09.5**	**-0.3**
TWQ1	**Liyutan**	**1.07 306**		⇓*i*P		**Pn**	**10 14 11.1**	**+1.2**
	baz=308							
TWQ1				*i* S		**Sn**	**10 14 25.0**	**+1.4**
	baz=308							
NWLT	**Wulai**	**1.08 350**		*e*P		**Pn**	**10 14 10.2**	**+0.2**
	baz=347							
NWLT				*e*S		**Sn**	**10 14 23.3**	**-0.4**
	baz=347							
TPUB

baz=246
TPUB Ta-pu 1.08 248 Pn 10 14 10.7 +0.6
WDLH Douliu 1.08 269 P Pn 10 14 11.0 +1.0
baz=268
WDLH S **Sn 10 14 25.6 +1.8**
baz=268
TTN Taitung 1.09 209 eP Pn 10 14 10.7 +0.6
baz=205
TTN eS **Sn 10 14 24.3 +0.3**
baz=205
CHN4 Tsaushan 1.09 251 ⇓P Pn 10 14 11.5 +1.3
baz=249
CHN4 S **Sn 10 14 26.2 +2.1**
baz=249
WTP Ta-pu 1.11 246 ⇓iP Pn 10 14 11.7 +1.1
baz=243
WTP S **Sn 10 14 25.9 +1.3**
baz=243
NSY Sanyi 1.12 309 ⇓iP Pn 10 14 11.9 +1.3
baz=311
NSY S **Sn 10 14 26.5 +1.7**
baz=311
WCHH Zhanghua 1.12 289 ⇓P Pn 10 14 11.9 +1.4
baz=289
WCHH S **Sn 10 14 26.8 +2.1**
baz=289
NSTT Nanjuang 1.12 325 ⇓iP Pn 10 14 11.9 +1.3
baz=328
NSTT S **Sn 10 14 25.7 +0.8**
baz=328
LIOB Emei 1.13 326 ⇓iP Pn 10 14 12.1 +1.4
baz=329
LIOB S **Sn 10 14 26.2 +1.2**
baz=329
NTC Toucheng 1.14 5 eP Pn 10 14 11.9 +1.0
baz=19
NTC S **Sn 10 14 27.4 +2.1**
baz=19
EGS 1.14 10 eP Pn 10 14 12.3 +1.4
baz=13
CHN2 Minshiung 1.15 261 ⇓P Pn 10 14 12.5 +1.5
baz=260
CHN2 S **Sn 10 14 27.7 +2.1**
baz=260
NJD Zhudong 1.17 331 ⇓P Pn 10 14 13.1 +1.9
baz=334
NJD S **Sn 10 14 27.4 +1.4**
baz=334
WDJ Dajia District 1.17 303 ⇓iP Pn 10 14 12.4 +1.2
baz=304
WDJ S **Sn 10 14 28.2 +2.2**
baz=304
NMLH Miaoli 1.18 314 P Pn 10 14 12.5 +1.1
baz=316
NMLH S **Sn 10 14 28.1 +1.8**
baz=316
CHY Chiayi 1.20 260 ⇓P Pn 10 14 13.0 +1.3
baz=258
CHY S **Sn 10 14 29.1 +2.3**
baz=258
CHN1 Nanshi 1.21 245 ⇓P Pn 10 14 13.3 +1.5
baz=243
CHN1 S **Sn 10 14 28.4 +1.4**
baz=243
TWK Hsinying 1.21 249 ⇓iP Pn 10 14 13.1 +1.2
baz=247
TWK *i* S **Sn 10 14 29.3 +2.2**
baz=247
SGST Jiashian 1.22 239 ⇓P Pn 10 14 12.4 +0.5
baz=237
SGST *i* S **Sn 10 14 29.0 +1.8**
baz=237
SLGT Liugui 1.22 234 eP Pn 10 14 13.2 +1.4
baz=241
SLGT eS **Sn 10 14 28.7 +1.6**
baz=241
WTK Tuku 1.22 269 eP Pn 10 14 13.1 +1.2
baz=268
WTK S **Sn 10 14 29.5 +2.4**
baz=268
SNST Tainan City 1.22 247 ⇓iP Pn 10 14 13.3 +1.3
baz=245
SNST *i* S **Sn 10 14 29.7 +2.4**
baz=245
HSN1 Hsinchu 1.24 329 P Pn 10 14 13.7 +1.5
baz=320
HSN1 S **Sn 10 14 29.7 +2.0**
baz=320
NJN Zhunan 1.24 322 eP Pn 10 14 13.1 +0.9
baz=324
NJN S **Sn 10 14 30.4 +2.8**
baz=324
WRL Guolierlin Hig 1.24 279 eP Pn 10 14 13.6 +1.4
baz=279
WRL S **Sn 10 14 30.4 +2.6**
baz=279
NHDH Xindian Distri 1.26 352 ⇓P Pn 10 14 13.4 +1.0
baz=357
NHDH S **Sn 10 14 28.5 +0.4**
baz=357
TIPB Shuangxi 1.26 5 eP Pn 10 14 13.4 +1.0
baz=358
TIPB eS **Sn 10 14 30.0 +1.8**
baz=358
SBCB Hsinchu 1.27 328 ⇓P Pn 10 14 13.8 +1.2
baz=332
SBCB S **Sn 10 14 29.7 +1.4**
baz=332
TWA Mucha 1.27 355 eP Pn 10 14 13.3 +0.7
baz=351
TWA S **Sn 10 14 29.1 +0.7**
baz=351
TATO Taipei 1.27 351 ⇓P Pn 10 14 13.4 +0.7
baz=355
TATO S **Sn 10 14 28.9 +0.3**
baz=355
TATO Taipei 1.27 351 Pn 10 14 13.4 +0.7
HSN Hsinchu 1.28 328 eP Pn 10 14 14.2 +1.4
baz=334
HSN S **Sn 10 14 31.8 +3.0**
baz=334
BACT New Taipei Cit 1.30 349 eP Pn 10 14 14.2 +1.1
baz=2.0
BACT eS **Sn 10 14 31.2 +1.9**
baz=2.0
TWB1 Santiao Chiao 1.31 11 ⇑P Pn 10 14 14.3 +1.1
baz=16
TWB1 S **Sn 10 14 31.6 +2.1**
baz=16
ECL Taimali 1.31 212 eP Pn 10 14 12.3 -0.9
baz=210
WTCT Ta-ch'eng 1.32 277 ⇓iP Pn 10 14 14.7 +1.3
baz=276
WTCT S **Sn 10 14 32.0 +2.3**
baz=276
TAP1 Taipei 1.33 352 eP Pn 10 14 15.3 +1.9
baz=355
TAP Taipei 1.33 352 eP Pn 10 14 14.5 +1.0
baz=357
TAP eS **Sn 10 14 30.9 +0.9**
baz=357
NTY Taoyuan 1.34 344 eP Pn 10 14 14.6 +1.1
baz=356
NTY eS **Sn 10 14 32.2 +2.1**
baz=356
NCUH Zhongli 1.34 339 eP Pn 10 14 14.7 +1.1
baz=344
NCUH S **Sn 10 14 33.1 +2.9**
baz=344
NCU National Centr 1.34 339 eP Pn 10 14 14.8 +1.1
baz=344
NCU S **Sn 10 14 32.7 +2.5**
baz=344
JYNG Yonagunijimaku 1.34 57 P Pn 10 14 14.7 +1.1
JYNG S **Sn 10 14 32.5 +2.3**
WFSB Wu-fen Shan 1.35 3 eP Pn 10 14 14.7 +1.0
baz=355
WFSB eS **Sn 10 14 33.6 +3.1**
baz=355
ICHU Yijhu 1.36 255 ⇓P Pn 10 14 15.1 +1.2
baz=254
ICHU *i* S **Sn 10 14 33.0 +2.2**
baz=254
WMLT Mailiao 1.37 274 P Pn 10 14 15.3 +1.4
baz=273
WMLT S **Sn 10 14 33.1 +2.2**
baz=273
WSF Szhu 1.37 267 eP Pn 10 14 14.9 +0.9
baz=254
WSF eS **Sn 10 14 32.9 +2.0**
baz=254
SSD Sandimen 1.39 226 eP Pn 10 14 15.1 +0.9
baz=224
SSD eS **Sn 10 14 33.5 +2.2**
baz=224
SCST Cishan 1.39 234 eP Pn 10 14 17.4 +3.1
baz=245
SCST eS **Sn 10 14 35.6 +4.1**
baz=245
CHN3 Shinhua 1.39 243 eP Pn 10 14 16.7 +2.4
baz=242
YOJ Yonaguni jima 1.40 58 ⇓P Pn 10 14 15.9 +1.5
baz=57
YOJ S **Sn 10 14 33.7 +2.1**
baz=57
YOJ Yonaguni jima 1.40 58 P Pn 10 14 15.4 +1.0
YOJ S **Sn 10 14 34.2 +2.6**
YOJ Yonaguni jima 1.40 58 P Pn 10 14 15.9 +1.5
YOJ Yonaguni jima 1.40 58 Pn 10 14 15.9 +1.5
TSMG Majia 1.41 225 eP Pn 10 14 15.7 +1.2
baz=222
TSMG S **Sn 10 14 34.7 +2.8**
baz=222
TWS1 Kuangyinshan 1.41 349 eP Pn 10 14 15.2 +0.7
baz=354
TWS1 eS **Sn 10 14 33.1 +1.2**
baz=354
CHN8 Yiju 1.43 255 P Pn 10 14 15.9 +1.1
baz=254
CHN8 S **Sn 10 14 33.9 +1.5**
baz=254
TNOU National Taiwa 1.43 2 eP Pn 10 14 15.7 +0.9
baz=350
YM01 YM01 1.43 355 eP Pn 10 14 14.5 -0.5
baz=357
YM10 YM10 1.44 354 ⇓eP Pn 10 14 15.4 +0.3
baz=357
YM04 YM04 1.44 354 eP Pn 10 14 15.4 +0.4
baz=356
YM05 YM05 1.45 355 eP Pn 10 14 15.4 +0.3
baz=357
YM11 YM11 1.45 355 eP Pn 10 14 15.7 +0.5
baz=358
NTST Danshui 1.47 351 eP Pn 10 14 16.6 +1.3
baz=353
YM03 YM03 1.47 354 ⇓eP Pn 10 14 15.9 +0.5
baz=356
YM08 YM08 1.47 356 eP Pn 10 14 15.6 +0.2
baz=358
ANP Anpu 1.48 353 eP Pn 10 14 15.9 +0.3
baz=356
MASBT Mashibuluo 1.48 222 ⇓eP Pn 10 14 16.5 +1.0
baz=220
MASBT S **Sn 10 14 36.0 +2.3**
baz=220
TWM1 Shoushan 1.48 234 eP Pn 10 14 19.1 +3.5
baz=246
SGLT Jiouru 1.50 229 eP Pn 10 14 19.0 +3.3
baz=213
SGLT eS **Sn 10 14 38.6 +4.6**
baz=213
SCLT Jiali 1.50 249 eP Pn 10 14 17.0 +1.3
baz=248
SCLT S **Sn 10 14 36.3 +2.2**
baz=248
TAI1 Yung-k'ang 1.52 244 eP Pn 10 14 18.3 +2.3
baz=256
TAI1 S **Sn 10 14 38.3 +3.7**
baz=256
TSPT Pingtung City 1.52 228 eP Pn 10 14 18.8 +2.7
baz=212
TSPT eS **Sn 10 14 39.3 +4.6**
baz=212
EAST Anshuo 1.55 211 eP Pn 10 14 16.4 -0.1
baz=202
TWY Chenhua 1.56 356 eP Pn 10 14 17.9 +1.3
baz=359
SNJT Kaohsiung City 1.59 233 eP Pn 10 14 19.8 +2.8
baz=215
SNJT eS **Sn 10 14 39.8 +3.5**
baz=215
SSPT Xinbi 1.62 221 eP Pn 10 14 19.6 +2.2
baz=220
LAY Lan-yu 1.67 185 ⇓P Pn 10 14 17.8 -0.4
baz=177
LAY eS **Sn 10 14 36.1 -2.3**
baz=177
SCZT Fangliau 1.67 217 eP Pn 10 14 19.5 +1.3
baz=215
SCZT eS **Sn 10 14 40.9 +2.5**
baz=215
SLIU Shizi 1.71 210 eP Pn 10 14 19.4 +0.7
baz=201
KAU Kaohsiung 1.73 229 eP Pn 10 14 21.0 +2.2
baz=244
WLCH Liuqiu 1.83 223 eP Pn 10 14 23.7 +3.3
baz=221
TWP Hsiaoliuchiu 1.84 223 eP Pn 10 14 23.6 +3.0
baz=222
HEN Hengchun 1.92 208 eP Pn 10 14 24.2 +2.6
baz=195
PCYT Pengchaiyu 1.94 10 eP Pn 10 14 22.8 +1.0
baz=13
WDGT Dungji 1.94 257 ⇑P Pn 10 14 22.4 +0.5
baz=256
WDGT eS **Sn 10 14 43.5 -1.5**
baz=256
HATJ Hateruma jima 1.94 79 P Pn 10 14 23.0 +1.2
HATJ S **Sn 10 14 46.7 +1.7**
IRIF Iriomote-Funau 1.94 71 P Pn 10 14 23.1 +1.2
IRIF S **Sn 10 14 47.7 +2.7**
TWKBT Hengchun 1.95 205 eP Pn 10 14 22.8 +0.8
baz=203
TWKBT eS **Sn 10 14 47.8 +2.6**
baz=203
TWK1 Hengchun 1.95 206 eP Pn 10 14 23.1 +1.1
baz=194
TSEB Hengchuen, Pin 1.96 203 eP Pn 10 14 23.4 +1.4
baz=194
SNW Nanwan 1.96 207 eP Pn 10 14 25.4 +3.3
baz=195
PHUB P'eng-hu 1.98 265 ⇓eP Pn 10 14 22.8 +0.4
baz=251
PHUB S **Sn 10 14 45.3 -0.6**
baz=251
PNG Penghu 1.99 266 eP Pn 10 14 22.8 +0.3
baz=253
PNG eS **Sn 10 14 45.8 -0.3**
baz=253
VCHM Qimei 2.16 257 eP Pn 10 14 25.1 +0.3
baz=256
VCHM S **Sn 10 14 49.0 -1.4**
baz=256
JKRS Kuro-shima 2.16 76 P Pn 10 14 26.3 +1.4
JKRS S **Sn 10 14 53.5 +3.1**
JIJ Ishigaki jima 2.31 73 P Pn 10 14 27.7 +0.8
JIJ S **Sn 10 14 55.2 +1.1**
VWUC VWUC 2.43 302 ⇓P Pn 10 14 28.2 -0.3
baz=303
VWUC eS **Sn 10 14 54.5 -2.5**
baz=303
JISG Ishigakijimahi 2.52 69 P Pn 10 14 30.6 +0.7
JISG S **Sn 10 15 00.2 +0.8**
PTMZ Houxiangcun 2.71 300 ⇓eP Pn 10 14 32.2 -0.2
baz=300
PTMZ eS **Sn 10 15 00.7 -3.2**
baz=300
JTJ Tarama 2.88 71 P Pn 10 14 35.7 +1.0
JTJ eS **Sn 10 15 08.8 +0.7**
MATB Ma-tsu 2.91 327 ⇓eP Pn 10 14 34.1 -1.0
baz=327
MSUT Lienchiang 2.94 327 eP Pn 10 14 34.8 -0.8
baz=329
MSUT eS **Sn 10 15 07.3 -2.3**
baz=329
KNM Kinmen 3.08 284 eP Pn 10 14 39.1 +1.6
baz=284
QZH Quanzhou 3.10 294 ⇓iPn Pn 10 14 37.1 -0.7
QZH Sn **Sn 10 15 11.6 -2.0**
QZH smax smax
comp=N,16μm,0.7s
QZH smax smax
comp=E,17μm,0.6s
QZH LR LR
comp=N,44μm,4.2s
QZH LR LR
comp=E,36μm,5.8s
QZH LR LR
comp=Z,39μm,6.1s
KNMB Chin-men Tao 3.13 284 eP Pn 10 14 38.0 -0.1
baz=285
KNMB Chin-men Tao 3.13 284 Pn Pn 10 14 37.8 -0.4
BBP Basco 3.26 176 eP Pn 10 14 39.8 -0.3
BBP eS **Sn 10 15 15.4 -2.3**
LYJJ Jianjiangzhen 3.33 328 ⇓eP Pn 10 14 40.2 -0.8
baz=318
JIRB Irabujima 3.34 70 P Pn 10 14 41.8 +0.7
JIRB S **Sn 10 15 20.5 +0.9**
MHZQ Yeshan 3.41 315 eP Pn 10 14 41.2 -0.7
baz=315
JIKM Ikemajima 3.44 69 P Pn 10 14 43.6 +1.2
JIKM S **Sn 10 15 23.3 +1.3**
JMJ Miyako jima 2 3.44 71 eP Pn 10 14 44.1 +1.6
baz=81
JMJ S **Sn 10 15 22.9 +0.8**
baz=81
JMJ2 Miyako jima3 3.45 72 P Pn 10 14 44.4 +1.8
JMJ2 S **Sn 10 15 24.6 +2.3**
XPSS Dashiqiu 3.49 337 ⇓eP Pn 10 14 42.3 -0.8
baz=348
JOGS Gusukube 3.53 72 P Pn 10 14 45.1 +1.5
JOGS S **Sn 10 15 26.6 +2.5**
AXDP Jialang 3.62 290 ⇓eP Pn 10 14 44.6 -0.2
baz=290
ZPLA Ao Xicun 3.64 274 ⇓eP Pn 10 14 45.1 0.0
baz=275
SGCP Mt. Cagua 5.45 177 eP Pn 10 15 11.2 +1.1
SGCP eS **Sn 10 16 08.8 -2.8**
VDOS Pratas Island 5.51 238 ⇓P Pn 10 15 12.3 +1.4
baz=236
JAGN Aguni-jima 5.77 59 P Pn 10 15 15.6 +1.2
APYP Conner 5.84 184 eP Pn 10 15 17.4 +2.0
APYP eS **Sn 10 16 25.3 +4.1**
CVP Callao Caves 5.98 179 ⇑iP Pn 10 15 19.1 +1.7
CVP *i* S **Sn 10 16 25.5 +0.9**
JJT3 Tamagusuku3 6.02 65 P Pn 10 15 18.6 +0.8
SZP Santa 6.24 191 ⇑eP Pn 10 15 22.4 +1.4
baz=181
SZP Santa 6.24 191 Pn 10 15 23.2 +2.2
JOW Kunigami 6.70 61 Pn Pn 10 15 26.3 -0.9
108nm,0.3s,baz=174,slow=12,SNR=76
JOW Sn **Sn 10 16 40.1 -2.2**
baz=25,slow=25,SNR=1.3
JOW Kunigami 6.70 61 eP Pn 10 15 26.4 -0.8
baz=61
JOW Kunigami 6.70 61 Pn Pn 10 15 26.7 -0.5
HKC Hong Kong Obse 7.09 260 ⇑P Pn 10 15 34.0 +1.4
HKPS Hong Kong Po S 7.12 260 ⇓eP Pn 10 15 33.8 +0.7
baz=258
BCP Baguio City 7.33 188 ⇓eP Pn 10 15 38.3 +2.2
SSE Sheshan 7.37 356 Pn Pn 10 15 36.0 -0.4
SSE Sn **Sn 10 16 58.9 +0.2**
SSE smax smax
comp=N,600nm,1.2s
SSE smax smax
comp=E,770nm,1.1s
SSE LR LR
comp=N,8μm,14.2s
SSE Sheshan 7.37 356 Pn Pn 10 15 35.6 -0.8
BOLP Bolinao 7.49 193 eP Pn 10 15 41.3 +3.2
SMPP San Manuel, Pa 7.59 188 eP Pn 10 15 40.5 +1.0
JTK Tokunoshima 7.68 57 P Pn 10 15 39.3 -1.4
MCO Taipa Grande 7.69 260 P Pn 10 15 41.0 +0.2
GZH Guangzhou 7.71 267 Pn Pn 10 15 36.8 -4.4
GZH Sn Sn 10 16 54.3 -13
GZH smax smax
comp=N,5μm,1.1s
GZH smax smax
comp=E,4μm,1.0s
JAM Amami Oshima 8.50 55 P Pn 10 15 50.1 -1.8
NJ2 Nanjing 8.68 344 ⇑P Pn 10 15 54.0 -0.4
NJ2 pP 10 16 00.8
NJ2 sP 10 16 04.6
NJ2 S **Sn 10 17 27.8 -3.2**
NJ2 pmax pmax
comp=Z,90nm,0.5s
NJ2 smax smax
comp=N,2μm,1.1s
NJ2 smax smax
comp=E,1μm,1.0s
NJ2 LR LR
comp=N,19μm,7.8s
NJ2 LR LR
comp=E,14μm,8.5s
NJ2 LR LR
comp=Z,24μm,12.8s
JMZ Minamidaito 2 8.89 74 Pn Pn 10 15 53.8 -3.5
QVP Quezon City--P 9.07 184 eP Pn 10 16 03.1 +3.3
JCNP Jose Panganiba 9.42 174 eP Pn 10 16 07.0 +2.4
MACP Maragondon, Ca 9.45 186 eP Pn 10 16 07.1 +2.1
WHN Wuhan 9.45 318 ⇑P Pn 10 16 04.0 -0.9
WHN pP 10 16 10.3
WHN S **Sn 10 17 45.3 -4.5**
WHN pmax pmax
comp=Z,390nm,0.6s
WHN LR LR
comp=N,42μm,6.6s
WHN LR LR
comp=E,48μm,4.6s
WHN LR LR
comp=Z,37μm,5.5s
LQP Lukban 9.55 181 ⇓eP Pn 10 16 08.0 +1.4
TGY Tagaytay City 9.59 185 Pn Pn 10 16 11.2 +4.2
baz=303,slow=4.9,SNR=8.6
TGY LR LR 10 19 57.5
comp=Z,5μm,19.6s,baz=46,slow=38
LUBP Lubang 10.02 188 eP Pn 10 16 09.5 -3.4
SCSP San Jose Seism 10.15 170 eP Pn 10 16 18.5 +3.9
PGP Puerto Galera 10.18 184 ⇑eP Pn 10 16 15.7 +0.7
BOAC Boac 10.20 179 eP Pn 10 16 20.9 +5.7
JSU Suzuyama 10.96 43 Pn Pn 10 16 27.0 +1.3
SJMP San Jose 11.21 183 eP Pn 10 16 32.2 +3.1
QIZ Qiongzhong 12.00 249 P Pn 10 16 41.8 +1.9
QIZ sP P 10 16 49.4 -2.7
QIZ PP **PnPn 10 16 52.3 +4.5**
QIZ S **Sn 10 18 55.6 +3.1**
QIZ sS S 10 19 02.8 -18
QIZ pmax pmax
comp=Z,73nm,2.1s
QIZ LR LR
comp=N,9μm,18.4s
QIZ LR LR
comp=E,9μm,18.8s
QIZ LR LR
comp=Z,12μm,19.0s
QIZ Qiongzhong 12.00 249 Pn Pn 10 16 41.4 +1.5
JNU Nakatsue 12.36 39 Pn Pn 10 16 46.7 +2.0
1.3nm,0.3s,baz=226,slow=2.9,SNR=14
JNU LR LR 10 22 26.0
comp=Z,7μm,20.2s,baz=210,slow=42
JNU Nakatsue 12.36 39 Pn Pn 10 16 45.7 +1.0
TIA Tai'an 13.07 343 P Pn 10 16 56.0 +1.5
TIA pmax pmax
comp=Z,13nm,0.4s
TIA pmax pmax
comp=Z,580nm,5.8s
TIA LR LR
comp=N,11μm,15.3s
TIA LR LR
comp=E,8μm,14.3s
TIA LR LR
comp=Z,16μm,15.9s
TJN Taejon 13.53 20 *i* P Pn 10 17 01.1 +0.4
MSLP Maasin 13.83 167 eP Pn 10 17 08.0 +3.0
CNOP Candoni, Negro 13.84 176 eP Pn 10 17 05.4 +0.4
GYA Guiyang 13.91 284 ⇓P Pn 10 17 06.8 +0.7
GYA S **Sn 10 19 33.5 -5.8**
GYA SS **SnSn 10 19 53.6 +1.8**
GYA pmax pmax
comp=Z,200nm,1.1s
GYA pmax pmax
comp=Z,1μm,3.5s
GYA LR LR
comp=Z,30μm,16.5s
INCN Inchon 14.36 16 P Pn 10 17 13.7 +1.7
INCN Inchon 14.36 16 Pn Pn 10 17 13.7 +1.7
INCN Inchon 14.36 16 P P 10 17 15.9 -2.4
INCN P P 10 17 15.9 -2.4
JMN Monobe 14.60 44 Pn Pn 10 17 10.3 -4.9

KSAR **Wonju Array Be** 14.67 20 P **P** 10 17 23.2 +1.5
KSAR **Wonju Array Be** 14.67 20 **P** 10 17 23.2 +1.5
KSRS **Korea Array** 14.70 20 Pn **P** 10 17 20.3 -1.7
11nm,0.3s,baz=201,slow=11,SNR=81
KSRS PcP **PcP** 10 22 26.3 -0.7
0.4nm,0.3s,baz=201,slow=2.0,SNR=4.4
KSRS LR LR 10 23 42.0
comp=Z,5μm,19.2s,baz=182,slow=40
KS19 Wonju Array Si 14.72 20 P **P** 10 17 20.9 -1.4
JHS Saijyo 14.99 39 Pn **Pn** 10 17 19.2 -1.3
DL2 Dalian 15.15 360 P **P** 10 17 26.3 -0.7
DL2 S **Sn** 10 20 15.8 +6.8
DL2 pmax pmax
comp=Z,240nm,1.1s
DL2 pmax pmax
comp=Z,880nm,3.6s
DL2 LR LR
comp=N,8μm,15.2s
DL2 LR LR
comp=E,3μm,14.2s
DL2 LR LR
comp=Z,9μm,15.1s
XAN Xi'an 15.20 315 P **Pn** 10 17 23.3 +0.1
XAN pP P 10 17 28.3 +0.6
XAN sP pP 10 17 31.4 -6.5
XAN S **Sn** 10 20 10.8 +0.3
XAN sS S 10 20 18.0 -8.0
XAN SS **SnSn** 10 20 28.5 +5.0
XAN pmax pmax
comp=Z,250nm,1.4s
XAN pmax pmax
comp=Z,2μm,4.6s
XAN LR LR
comp=N,15μm,8.9s
XAN LR LR
comp=E,11μm,7.0s
XAN LR LR
comp=Z,8μm,7.1s
XAN Xi'an 15.20 315 P **Pn** 10 17 23.3 +0.1
XAN pmax pmax
comp=Z,355nm,1.3s
XAN Xi'an 15.20 315 Pn **Pn** 10 17 23.3 +0.1
BATP Bataraza 15.30 195 *e*P **Pn** 10 17 25.2 +0.7
PAGZ Pagadian 15.86 174 *e*P **Pn** 10 17 32.9 +1.1
TIY Taiyuan 16.06 332 *e*P **P** 10 17 37.3 +0.1
TIY pP **pP** 10 17 44.0 -3.3
TIY sP **sP** 10 17 47.6 -4.9
TIY S **Sn** 10 20 35.4 +4.0
TIY sS **S** 10 20 42.1 -1.5
TIY pmax pmax
comp=Z,150nm,1.1s
TIY LR LR
comp=Z,8μm,11.2s
TIY LR LR
comp=Z,8μm,9.0s
TIY LR LR
comp=Z,13μm,19.3s
JWT Wachi 16.56 43 Pn **Pn** 10 17 38.0 -2.6
SLVN Son La 16.63 265 Pn **Pn** 10 17 42.3 +0.7
BJT Baijiatuao 16.92 345 P **P** 10 17 48.1 +1.5
BJT pmax pmax
comp=Z,144nm,1.1s
BJT Baijiatuao 16.92 345 P **P** 10 17 48.1 +1.5
BJI Beijing 16.94 345 P **P** 10 17 46.8 0.0
BJI sP **sP** 10 17 59.5 -2.5
BJI S **Sn** 10 20 54.3 +1.8
BJI pmax pmax
comp=Z,660nm,3.9s
BJI LR LR
comp=Z,7μm,15.2s
BJI LR LR
comp=Z,4μm,12.8s
BJI LR LR
comp=Z,5μm,24.4s
DLV T Lat 17.18 229 P **P** 10 17 51.1 +1.3
KMI Kunming 17.34 279 ⇓P **Pn** 10 17 50.8 +0.1
KMI pP pP 10 17 58.3 -3.7
KMI sP sP 10 18 01.8 -5.5
KMI S **Sn** 10 21 00.5 -2.3
KMI sS sS 10 21 18.9 -6.0
KMI pmax pmax
comp=Z,120nm,1.7s
KMI pmax pmax
comp=Z,1μm,3.5s
KMI LR LR
comp=Z,9μm,10.3s
KMI LR LR
comp=Z,20μm,15.3s
KMI LR LR
comp=Z,24μm,15.3s
UBPT Khong Chiam 17.45 244 P **P** 10 17 55.8 +3.1
comp=Z,2μmcomp=Z,58nm,1.3s
UBPT Khong Chiam 17.45 244 P **P** 10 17 55.6 +2.9
CD2 Chengdu 17.48 298 ⇑*i*P **P** 10 17 53.1 +0.1
CD2 pmax pmax
comp=Z,450nm,0.9s
CD2 pmax pmax
comp=Z,2μm,5.1s
CD2 LR LR
comp=Z,21μm,12.0s
CD2 LR LR
comp=Z,34μm,16.8s
CD2 LR LR
comp=Z,42μm,12.0s
INU Inuyama 17.63 45 P **P** 10 17 55.8 +1.2
DDMP Don Marcelino, 17.93 167 *e*P **Pn** 10 17 56.0 -1.7
JGF Kuroka 18.00 45 P **Pn** 10 17 58.3 -0.3
SNY Shenyang 18.13 4 ⇓P **Pn** 10 18 04.3 +4.3
SNY pmax pmax
comp=Z,66nm,1.6s
SNY pmax pmax
comp=Z,880nm,5.3s
SNY LR LR
comp=Z,6μm,15.2s
SNY LR LR
comp=Z,5μm,12.8s
SNY LR LR
comp=Z,8μm,17.2s
NONG Nongkai 18.23 256 P **Pn** 10 18 05.2 +3.7
comp=Z,6μmcomp=Z,185nm,1.3s
KKM Kota Kinabalu 18.35 198 **Pn** 10 18 03.6 +0.7
KKM IAmb IAmb 10 18 09.3
comp=Z,1μm,1.5s
JHJ Hachijo jima 2 18.43 55 LR LR 10 24 51.5
comp=Z,3μm,20.7s,baz=15,slow=36
MYLDM **Lahad Datu** 18.68 190 **Pn** 10 18 09.4 +2.5
MYLDM IAmb IAmb 10 18 33.6
comp=Z,1μm,1.7s
JCJ Chichijima 18.79 75 P **Pn** 10 18 08.8 +0.6
comp=Z,5.8nm,0.3s,baz=114,slow=3.7,SNR=8.4
JCJ LR LR 10 24 35.7
comp=Z,3μm,21.3s,baz=276,slow=34
JCJ Chichijima 18.79 75 P **Pn** 10 18 09.0 +0.8
JCJ IAmb IAmb 10 18 34.1
comp=Z,814nm,1.1s
HHC Hu-ho-hao-te 19.10 336 *e*P **Pn** 10 18 13.8 +2.0
HHC PP **sP** 10 18 29.9 +3.8
HHC S **S** 10 21 50.4 +5.1
HHC pmax pmax
comp=Z,210nm,0.8s
HHC pmax pmax
comp=Z,1μm,4.6s
HHC LR LR
comp=Z,11μm,12.4s
HHC LR LR
comp=Z,7μm,11.6s
HHC LR LR
comp=Z,13μm,11.7s
MAJO Matsushiro 19.12 44 P **Pn** 10 18 11.7 -0.4
MAJO pmax pmax
comp=Z,46nm,0.9s
MAJO Matsushiro 19.12 44 P **Pn** 10 18 11.7 -0.4
MAT Matsushiro 19.12 44 P **P** 10 18 11.3 +0.4
MAT S **Sn** 10 21 43.0 -2.3
MJAR Matsushiro Arr 19.12 44 P **P** 10 18 10.0 -0.9
comp=Z,0.3nm,0.3s,baz=235,slow=9.8,SNR=13
MJAR LR LR 10 25 57.4
comp=Z,3μm,20.1s,baz=215,slow=38
MJAR Matsushiro Arr 19.12 44 P **P** 10 18 11.4 +0.4
MJAR pmax pmax
comp=Z,22nm,0.9s
MJAR Matsushiro Arr 19.12 44 P **P** 10 18 11.4 +0.4
KHON Khomkaen 19.20 251 P **Pn** 10 18 15.7 +2.6
comp=Z,182nm,1.0s
BTO Baotou 19.50 332 P **Pn** 10 18 18.5 +1.8
BTO S **Sn** 10 21 54.9 +0.2
BTO pmax pmax
comp=Z,330nm,1.0s
BTO LR LR
comp=Z,31μm,12.6s
BTO LR LR
comp=Z,40μm,8.8s
SPMM Sapulut 19.56 196 P **Pn** 10 18 18.0 +0.5
LZH Lanzhou 19.76 313 ⇓P **Pn** 10 18 20.8 +0.9
LZH pP pP 10 18 28.4 -0.1
LZH sP sP 10 18 32.9 -0.8
LZH S **S** 10 21 57.9 -0.9
LZH sS sS 10 22 10.9 -2.9
LZH SS **SnSn** 10 22 24.4 +8.7
LZH pmax pmax
comp=Z,440nm,1.3s
LZH pmax pmax
comp=Z,4μm,6.0s
LZH LR LR
comp=Z,13μm,13.6s
LZH LR LR
comp=Z,16μm,13.1s
LZH LR LR
comp=Z,15μm,15.0s
CHAI Chaiyaphum 20.11 251 P Pn 10 18 25.0 +1.1
comp=Z,1μmcomp=Z,140nm,1.0s
CN2 Changchun 20.27 8 *e*P **P** 10 18 23.8 +0.4
CN2 sP pP 10 18 34.1 +1.2
CN2 S **S** 10 22 04.1 -4.4
CN2 pmax pmax
comp=Z,70nm,1.2s
CN2 pmax pmax
comp=Z,870nm,7.0s
CN2 LR LR
comp=Z,6μm,17.0s
CN2 LR LR
comp=Z,3μm,12.0s
CN2 LR LR
comp=Z,7μm,16.0s
MSHR Mys Shultsa 20.38 20 *i*P **P** 10 18 22.4 -2.2
SRAK Srakaew 20.95 246 P **P** 10 18 29.3 -1.7
comp=Z,16μmcomp=Z,2μm,1.1s
PHIT Phitsanulok 20.97 256 P Pn 10 18 34.2 +0.2
comp=Z,5μmcomp=Z,569nm,0.9s
LAMP Lampang 21.23 260 P **P** 10 18 37.2 +3.2
comp=Z,1μmcomp=Z,193nm,0.9s
JMM Marumori 21.57 45 P **P** 10 18 34.6 -2.8
CM34 Chiang Mai Arr 21.57 261 P **P** 10 18 40.0 +2.4
SUKH Sukhothai 21.57 257 P **P** 10 18 40.6 +3.0
comp=Z,1μmcomp=Z,114nm,1.0s
CM35 Chiang Mai Arr 21.61 261 P **P** 10 18 40.0 +1.9
CM36 Chiang Mai Arr 21.72 261 P **P** 10 18 41.0 +1.8
CM33 Chiang Mai Arr 21.76 261 P **P** 10 18 41.0 +1.3
CMMT Chiang Mai 21.76 261 P **P** 10 18 42.0 +2.3
comp=Z,152nm,1.2s
CHTO Chiang Mai 21.77 261 P **P** 10 18 42.1 +2.4
CHTO pmax pmax
comp=Z,402nm,1.3s
CHTO MLR MLR
comp=Z,7μm,20.0s
CHTO Chiang Mai 21.77 261 P **P** 10 18 42.1 +2.4
CHTO IAmb IAmb 10 19 00.2
comp=Z,402nm,1.2s
CHTO Chiang Mai 21.77 261 IAMs_20 IAMs_20 10 27 25.3
comp=Z,7μm,20.0s
CHTO Chiang Mai 21.77 261 P **P** 10 18 41.8 +2.0
CHTO P **P** 10 18 41.8 +2.0
MDJ Mudanjiang 21.82 15 P **P** 10 18 40.4 +0.3
MDJ pP pP 10 18 49.5 +0.2
MDJ sP pwP 10 18 53.6 -0.2
MDJ PcP **PcP** 10 22 39.4 +0.5
MDJ S **S** 10 22 41.8 +2.7
MDJ pmax pmax
comp=Z,60nm,1.1s
MDJ pmax pmax
comp=Z,960nm,6.4s
MDJ LR LR
comp=Z,7μm,15.0s
MDJ LR LR
comp=Z,3μm,17.8s
MDJ LR LR
comp=Z,8μm,14.2s
CM09 Chiang Mai Arr 21.83 260 P **P** 10 18 43.4 +2.9
comp=Z,1μmcomp=Z,147nm,1.2s
CM04 Chiang Mai Arr 21.86 260 P **P** 10 18 43.5 +2.8
comp=Z,1μmcomp=Z,139nm,1.1s
CM01 Chiang Mai Arr 21.87 260 P **P** 10 18 43.0 +2.2
comp=Z,2μmcomp=Z,181nm,1.1s
CM31 Chiang Mai Arr 21.87 260 P **P** 10 18 43.9 +3.0
comp=Z,32μmcomp=Z,4μm,1.1s
CM31 Chiang Mai Arr 21.87 260 P **P** 10 18 43.2 +2.4
CMAR Chiang Mai Arr 21.87 260 P **P** 10 18 43.4 +2.5
comp=Z,39nm,0.8s,baz=62,slow=8.9,SNR=144
CMAR PcP **PcP** 10 22 40.8 +1.3
comp=Z,12nm,1.0s,baz=53,slow=1.6,SNR=7.3
CMAR LR LR 10 27 59.2
comp=Z,6μm,18.6s,baz=117,slow=39
CMAR PKiKP **PKiKP** 10 30 24.1 -1.7
comp=Z,1.0nm,0.3s,baz=287,slow=1.4,SNR=4.8
CM02 Chiang Mai Arr 21.88 260 P **P** 10 18 43.0 +2.1
comp=Z,1μmcomp=Z,159nm,1.0s
CM05 Chiang Mai Arr 21.89 260 P **P** 10 18 44.0 +2.9
comp=Z,948nmcomp=Z,99nm,1.1s
CM15 Chiang Mai Arr 21.89 260 P **P** 10 18 44.0 +2.9
comp=Z,1μmcomp=Z,169nm,1.1s
CM32 Chiang Mai Arr 21.90 261 P **P** 10 18 43.0 +1.8
CM13 Chiang Mai Arr 21.92 260 P **P** 10 18 44.2 +2.9
comp=Z,1μmcomp=Z,132nm,1.1s
USA0B Ussuriysk Arra 22.11 20 P **P** 10 18 43.4 +0.3
USA0B pmax pmax
comp=Z,192nm,1.8s
USA0B MLR MLR
comp=Z,3μm,18.0s
USA0B Ussuriysk Arra 22.11 20 P **P** 10 18 43.4 +0.3
USRK Ussuriysk Ar. 22.11 20 P **P** 10 18 44.0 +0.9
comp=Z,25nm,0.8s,baz=206,slow=9.5,SNR=21
USRK LR LR 10 28 15.9
comp=Z,2μm,19.6s,baz=193,slow=39
USRK Ussuriysk Ar. 22.11 20 P **P** 10 18 44.0 +0.9
USRK Ussuriysk Ar. 22.11 20 P **P** 10 18 43.8 +0.7
PATY Pattaya 22.48 245 P **P** 10 18 53.2 +5.8
TOLI2 Tolitoli 22.49 182 P **P** 10 18 46.7 -0.7
TOLI2 IAmb IAmb 10 18 50.2
comp=Z,439nm,1.1s
UMPA Umpang Tak 22.72 255 P **P** 10 18 54.0 +4.0
comp=Z,3μmcomp=Z,196nm,1.2s
MHMT Maesarieng 22.87 261 P **P** 10 18 53.4 +1.9
comp=Z,4μmcomp=Z,222nm,1.1s
GTOI Gorontalo 22.98 177 P **P** 10 18 50.6 -1.9
comp=Z,2μmcomp=Z,153nm,1.0s
SBUM Sibu 23.05 205 P **P** 10 18 52.7 -0.6
SBUM IAmb IAmb 10 18 55.5
comp=Z,384nm,0.7s
MRSI Marisa 23.10 179 P **P** 10 18 53.8 0.0
comp=Z,4μmcomp=Z,5μmcomp=Z,393nm,1.5s
KMSI Cibinong 23.11 174 P **P** 10 18 54.0 +0.1
comp=Z,364nm,0.9s
SRDT SRDT 23.27 250 P **P** 10 18 57.1 +1.5
comp=Z,60nm,2.3s
TNTI Ternate 23.45 166 P **P** 10 18 57.4 +0.1
TNTI Ternate 23.45 166 P **P** 10 18 57.6 +0.3
comp=Z,2μmcomp=Z,3μmcomp=Z,205nm,1.2s
PHET Kaeng Krachan 23.52 247 P **P** 10 19 01.1 +3.1
comp=Z,1μmcomp=Z,185nm,0.9s
JTM Tennabayashi 23.53 39 P **P** 10 18 54.5 -3.3
LKP Lekhapani 23.61 284 *e*P **P** 10 19 00.4 +1.7
LKP IAmb IAmb 10 19 01.6
comp=Z,238nm,0.6s
GUMO Guam 24.10 111 P **P** 10 19 04.3 +0.9
GUMO pmax pmax
comp=Z,2μm,1.5s
GUMO MLR MLR
comp=Z,3μm,20.0s
GUMO Guam 24.10 111 P **P** 10 19 04.3 +0.9
GTA Gaotai 24.26 315 ⇑P **P** 10 19 05.8 +1.0
GTA pP pP 10 19 16.0 +0.1
GTA sP sP 10 19 20.6 -0.2
GTA PcP **PcP** 10 22 45.5 +1.2
GTA S **S** 10 23 20.5 -0.5
GTA sS sS 10 23 31.8 -6.3
GTA SS **SnSn** 10 24 14.8 +8.9
GTA pmax pmax
comp=Z,54nm,1.4s
GTA pmax pmax
comp=Z,450nm,4.5s
GTA LR LR
comp=Z,5μm,17.1s
GTA LR LR
comp=Z,8μm,18.2s
GTA LR LR
comp=Z,11μm,17.4s
DIBR DIBRUGARH 24.44 284 *e*P **P** 10 19 08.1 +1.7
APSI Ampana 24.48 180 P **P** 10 19 06.9 +0.1
comp=Z,3μmcomp=Z,368nm,1.1s
LUWI Luwuk 24.63 177 IAmb IAmb 10 19 47.9
comp=Z,551nm,1.0s
LUWI Luwuk 24.63 177 P **P** 10 19 08.2 +0.1
comp=Z,6μmcomp=Z,560nm,1.0s
KSM Kuching 24.72 208 P **P** 10 19 10.0 +1.0
MOKO MOKOCHONG 24.77 282 *e*P **P** 10 19 09.9 +0.3
JEW Eniwo 25.11 36 P **P** 10 19 12.0 -0.3
JEW IAmb IAmb 10 19 21.5
comp=Z,273nm,1.2s
KOHI KOHIMA 25.14 280 *e*P **P** 10 19 14.0 +1.0
BKB Balikpapan 25.26 191 P **P** 10 19 13.8 0.0
BKB IAMs_20 IAMs_20 10 29 34.7
comp=Z,5μm,20.0s
BKB Balikpapan 25.26 191 P **P** 10 19 15.1 +1.2
comp=Z,5μmcomp=Z,12μmcomp=Z,1μm,1.3s
IMP Imphal 25.32 278 *e*P **P** 10 19 14.3 -0.2
IMP IAmb IAmb 10 19 23.1
comp=Z,36nm,0.8s
MTKI Muara Teweh, K 25.39 196 P **P** 10 19 15.3 +0.2
comp=Z,5μmcomp=Z,332nm,1.2s
ZIRO ZIRO 25.39 285 *e*P **P** 10 19 17.6 +2.4
ZIRO *i* x x 10 19 33.1
ITAN ITANAGAR 25.49 284 *e*P **P** 10 19 18.6 +2.6
ERM Erimo 25.52 39 P **P** 10 19 15.4 -0.6
ERM pmax pmax
comp=Z,161nm,1.3s
ERM MLR MLR
comp=Z,4μm,20.0s
ERM Erimo 25.52 39 P **P** 10 19 15.4 -0.6
STKI Sintang 25.52 204 P **P** 10 19 17.6 +1.3
HIA Hailar 25.55 357 IAMs_20 IAMs_20 10 30 50.3
comp=Z,6μm,19.0s
SANI Sanana 25.94 170 P **P** 10 19 18.0 -2.1
comp=Z,3μmcomp=Z,2μmcomp=Z,138nm,1.1s
SWI Sorong 26.13 158 P **P** 10 19 22.2 +0.4
comp=Z,1μmcomp=Z,68nm,1.0s
SIJI Sorong 26.14 158 P **P** 10 19 22.3 +0.4
comp=Z,24nm,0.7s,baz=348,slow=12,SNR=14
SIJI PcP **PcP** 10 22 48.4 -0.3
comp=Z,16nm,0.8s,baz=48,slow=6.9,SNR=3.9
TRTT Trang 26.36 237 P **P** 10 19 25.2 +1.2
SAIH SAIHA 26.44 273 *e*P **P** 10 19 25.7 +1.0
SAIH IAmb IAmb 10 19 30.9
comp=Z,56nm,0.5s
ASAJ Asahikawa 26.59 35 P **P** 10 19 26.6 +0.9
comp=Z,12nm,0.5s,baz=244,slow=8.5,SNR=31
ASAJ LR LR 10 30 30.1
comp=Z,7μm,20.1s,baz=232,slow=38
TTSI Tana Toraja 26.66 184 P **P** 10 19 26.2 -0.4
comp=Z,2μmcomp=Z,137nm,1.5s
KLR Kul'dur 26.67 15 P **P** 10 19 26.8 +0.5
comp=Z,18nm,0.7s,baz=219,slow=8.6,SNR=41
KLR PcP **PcP** 10 22 49.7 +0.4
comp=Z,6.5nm,0.8s,baz=203,slow=2.4,SNR=4.7
KLR LR LR 10 31 19.2
comp=Z,4μm,19.4s,baz=192,slow=39
KLR Kul'dur 26.67 15 *e*P **P** 10 19 26.1 -0.2
KLR pmax pmax
comp=Z,139nm,1.3s
KLR MLR MLR
comp=Z,4μm,16.0s
ULN Ulaanbaatar 26.78 338 *c i*P **P** 10 19 27.3 -0.3
ULN pmax pmax
comp=Z,240nm,1.2s
ULN Ulaanbaatar 26.78 338 P **P** 10 19 28.0 +0.3
ULN **P** 10 19 28.4 +0.8
ULN IAmb IAmb 10 19 29.8
comp=Z,252nm,1.2s
ULN Ulaanbaatar 26.78 338 P **P** 10 19 27.6 0.0
ULN P **P** 10 19 27.6 0.0
SONM Songino Array 26.99 337 P **P** 10 19 29.3 -0.1
comp=Z,72nm,0.7s,baz=154,slow=9.2,SNR=318
SONM PcP **PcP** 10 22 50.6 +0.3
comp=Z,8.7nm,0.9s,baz=172,slow=4.0,SNR=6.2
SONM ScP **ScP** 10 26 23.7 -3.7
comp=Z,2.8nm,1.0s,baz=151,slow=3.3,SNR=3.3
SONM PKiKP **PKiKP** 10 30 26.7 -1.3
comp=Z,0.7nm,0.6s,baz=181,slow=2.0,SNR=4.1
SONM LR LR 10 31 27.1
comp=Z,13μm,18.4s,baz=149,slow=39
SONM P3KPbc 10 52 06.8
comp=Z,0.8nm,1.0s,baz=325,slow=3.4,SNR=6.6
SONM Songino Array 26.99 337 P **P** 10 19 29.8 +0.4
JRMM Jerantut 27.09 226 P **P** 10 19 31.0 +0.6
SHL Shillong 27.16 280 P **P** 10 19 32.9 +1.6
SHL pmax pmax
comp=Z,415nm,1.2s
SHL MLR MLR
comp=Z,11μm,19.0s
SHL Shillong 27.16 280 *e*P **P** 10 19 32.3 +1.0
SHL IAmb IAmb 10 19 40.3
comp=Z,149nm,1.3s
SHL *i* x x 10 19 49.9
SHL Shillong 27.16 280 P **P** 10 19 32.9 +1.6
SHL IAmb IAmb 10 19 57.9
comp=Z,415nm,1.2s
SHL Shillong 27.16 280 P **P** 10 19 32.5 +1.3
SNR=61
NLAI Namlea 27.30 168 P **P** 10 19 33.4 +1.1
comp=Z,182nm,1.1s
GUWA GUWAHATI 27.31 281 *e*P **P** 10 19 33.2 +0.8
KULM Kulim 27.34 231 P **P** 10 19 33.2 +0.6
KULM IAmb IAmb 10 19 36.3
comp=Z,207nm,1.3s
KULM IAMs_20 IAMs_20 10 30 02.2
comp=Z,5μm,20.0s
KULM Kulim 27.34 231 P **P** 10 19 35.0 +2.3
SPSI Sidrap Palu 27.57 184 P **P** 10 19 34.0 -0.8
comp=Z,3μmcomp=Z,1μmcomp=Z,91nm,1.8s
IPM Ipoh 27.64 229 P **P** 10 19 36.4 +1.0
IPM IAmb IAmb 10 19 38.2
comp=Z,358nm,1.6s
IPM Ipoh 27.64 229 P **P** 10 19 37.0 +1.6
BELO BELONIA 27.74 275 *e*P **P** 10 19 39.5 +3.2
MYKOM **Kota Tinggi** 27.83 221 IAmb IAmb 10 19 40.2
comp=Z,240nm,1.4s
MYKOM **Kota Tinggi** 27.83 221 P **P** 10 19 39.0 +1.9
BBKI Banjar Baru 27.83 195 P **P** 10 19 37.6 +0.5
comp=Z,4μmcomp=Z,222nm,1.4s
AGT Agartala 27.85 277 *e*P **P** 10 19 37.1 -0.1
AGT IAmb IAmb 10 19 59.2
comp=Z,300nm,1.0s
LSA Lhasa 27.90 289 P **P** 10 19 40.4 +2.2
LSA S **S** 10 24 20.3 +0.8
LSA pmax pmax
comp=Z,300nm,0.8s
LSA LR LR
comp=Z,15μm,22.8s
LSA LR LR
comp=Z,40μm,19.9s
LSA LR LR
comp=Z,54μm,19.2s
LSA Lhasa 27.90 289 P **P** 10 19 41.1 +2.9
LSA Lhasa 27.90 289 IAmb IAmb 10 19 45.8
comp=Z,178nm,0.6s
LSA Lhasa 27.90 289 P **P** 10 19 40.2 +2.0
LSA P **P** 10 19 40.2 +2.0
BNSI Bone 27.99 183 P **P** 10 19 37.8 -0.6
comp=Z,2μmcomp=Z,106nm,1.3s
YUK Yuzh-Kuril'sk 28.33 38 *e*P **P** 10 19 41.3 0.0
YUK *e* 10 20 30.1
YUK *e*S **S** 10 24 26.9 +1.9
YUK *e*SS **SnSn** 10 25 47.2 +2.3
YUK pmax pmax
comp=Z,836nm,1.4s
YUK pmax pmax
comp=Z,147nm,0.8s
FAKI Fak Fak 28.39 157 P **P** 10 19 42.5 +0.4
FAKI IAmb IAmb 10 19 43.6
comp=Z,243nm,1.5s
FAKI Fak Fak 28.39 157 P **P** 10 19 42.0 -0.1
comp=Z,1μmcomp=Z,117nm,1.5s
KAPI Kappang 28.62 184 P **P** 10 19 44.1 0.0
comp=Z,47nm,0.8s,baz=346,slow=2.2,SNR=16
KAPI PcP **PcP** 10 22 55.0 +0.4
comp=Z,16nm,0.6s,baz=151,slow=3.3,SNR=4.6
KAPI Kappang 28.62 184 P **P** 10 19 43.7 -0.3
KAPI Kappang 28.62 184 P **P** 10 19 42.9 -1.2

KAPI P P 10 19 42.9 -1.2
YSS Yuzh-Sakhalins 28.68 31 *e*P P 10 19 47.8 +3.5
YSS *e* 10 20 41.6
YSS *e*S S 10 24 33.5 +3.1
YSS pmax pmax
comp=Z,50nm,0.9s
YSS pmax pmax
comp=Z,300nm,3.6s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,2μm,17.0s
YSS MLR MLR
comp=E,3μm,18.0s
YSS Yuzh-Sakhalins 28.68 31 P P 10 19 44.2 -0.1
CIT Chita 28.95 350 *e*P P 10 19 46.6 -0.2
CIT *e* 10 19 57.3
CIT *e* 10 20 38.7
CIT pmax pmax
comp=Z,133nm,1.4s
SRPI Serui, Papua 29.09 149 P P 10 19 49.9 +1.6
comp=Z,113nm,0.4s
DSRI Dabo 29.25 217 P P 10 19 50.7 +1.0
comp=Z,3μmcomp=Z,60nm,1.3s
GRNR Gornyy 29.32 19 *e*P P 10 19 50.7 +0.6
GRNR MLR MLR
comp=E,1μm,12.0s
GRNR MLR MLR
comp=N,700nm,18.0s
GRNR MLR MLR
comp=Z,1μm,13.0s
TPI Tanjungpandan 29.66 209 P P 10 19 54.4 +1.1
comp=Z,3μmcomp=Z,301nm,1.7s
PPBI Pangkal Pinang 29.86 213 P P 10 19 56.3 +1.2
PBA Port Blair 30.02 252 PcP PcP 10 22 58.2 +0.1
PBA IAMs_20 IAMs_20 10 32 44.9
comp=Z,5μm,20.0s
GTK Tadong 30.05 284 *e*P P 10 19 58.6 +1.7
GTK IAmb IAmb 10 20 00.7
comp=Z,85nm,0.9s
TSI Tuntungan 30.07 232 P P 10 19 58.9 +1.9
comp=Z,18μmcomp=Z,381nm,1.4s
LHMI Lhok Sumawe 30.11 236 IAMs_20 IAMs_20 10 32 02.3
comp=Z,4μm,21.0s
LHMI Lhok Sumawe 30.11 236 P P 10 20 00.3 +2.9
comp=Z,246nm,1.0s
ZAK Zakamensk 30.25 336 *e*P P 10 19 57.7 -0.7
ZAK pmax pmax
comp=Z,27nm,1.0s
ZEA Zeya 30.27 7 *e*P P 10 19 58.6 +0.2
ZEA *e*S S 10 24 51.0 -4.4
ZEA pmax pmax
comp=E,100nm,2.8s
ZEA pmax pmax
comp=N,100nm,2.4s
ZEA pmax pmax
comp=Z,200nm,1.9s
ZEA pmax pmax
comp=E,30nm,0.9s
ZEA pmax pmax
comp=N,50nm,1.1s
ZEA pmax pmax
comp=Z,80nm,1.1s
ZEA smax smax
comp=E,200nm,5.3s
ZEA smax smax
comp=N,300nm,11.3s
ZEA MLR MLR
comp=N,3μm,15.0s
ZEA MLR MLR
comp=Z,3μm,15.0s
RPSI Rantau Prapat 30.37 230 IAmb IAmb 10 20 02.6
comp=Z,267nm,1.2s
RPSI PcP PcP 10 22 58.6 -0.5
SMPI Sarmi 30.43 145 P P 10 20 01.7 +1.5
comp=Z,2μmcomp=Z,168nm,1.7s
BKNI Bangkinang 30.71 224 IAmb IAmb 10 20 05.6
comp=Z,292nm,1.1s
BKNI Bangkinang 30.71 224 P P 10 20 04.0 +1.3
comp=Z,20μmcomp=Z,259nm,1.2s
JMBI JAMBI 30.72 217 P P 10 20 05.8 +3.1
comp=Z,452nm,1.2s
TAPN Taplejung 30.84 284 *e*P P 10 20 06.2 +2.1
comp=Z,325nm,0.9s
ODAN Odare 31.14 283 *e*P P 10 20 08.5 +1.8
comp=Z,241nm,0.9s
TLY Talaya 31.19 338 P P 10 20 06.4 -0.2
comp=Z,26nm,0.6s,baz=173,slow=5.9,SNR=44
TLY PcP PcP 10 23 01.6 +1.0
comp=Z,8.2nm,0.9s,baz=158,slow=5.4,SNR=3.8
TLY LR LR 10 34 02.9
comp=Z,8μm,18.0s,baz=132,slow=39
TLY Talaya 31.19 338 *e*P P 10 20 06.1 -0.5
TLY *e*S S 10 25 07.6 -2.3
TLY *e*SSS SSS 10 26 57.7
TLY pmax pmax
comp=Z,156nm,1.1s
TLY MLR MLR
comp=Z,16μm,16.0s
TLY Talaya 31.19 338 P P 10 20 05.9 -0.7
TLY Talaya 31.19 338 P P 10 20 06.6 0.0
TLY P P 10 20 06.6 0.0
PMBI Palembang 31.20 214 P P 10 20 09.7 +2.7
comp=Z,686nm,1.2s
TPTI 31.23 233 P P 10 20 06.2 -1.1
comp=Z,28nm,1.2s
SDSI Sungai Dareh 31.45 222 P P 10 20 10.4 +1.3
comp=Z,72nm,1.4s
IRK Irkutsk 31.46 339 *e*P P 10 20 08.7 -0.2
IRK pmax pmax
comp=Z,186nm,0.9s
KMMI Kalianget 31.50 195 P P 10 20 10.4 +0.9
comp=Z,2μmcomp=Z,142nm,0.9s
TYV Tymovskoe 31.59 26 *e*P P 10 20 26.8 +17
TYV pmax pmax
comp=Z,400nm,5.7s
TYV pmax pmax
comp=Z,31nm,1.4s
TYV MLR MLR
comp=Z,3μm,18.0s
GENI Genyem 31.72 143 P P 10 20 13.7 +2.1
comp=Z,3μmcomp=Z,194nm,0.9s
RAMN Ramite 31.84 283 *e*P P 10 20 14.7 +1.8
comp=Z,231nm,0.8s
JAY Jayapura 31.96 142 P P 10 20 14.9 +1.2
comp=Z,438nmcomp=Z,24nm,1.2s
MOY Mondy 32.14 336 *e*P P 10 20 14.9 -0.1
MOY pmax pmax
comp=Z,88nm,1.6s
MMRI Maumere 32.16 179 P P 10 20 14.7 -0.6
MMRI Maumere 32.16 179 P P 10 20 14.9 -0.4
comp=Z,464nm,1.5s
ABJI Asem Bagus 32.16 194 P P 10 20 15.9 +0.6
comp=Z,69nm,1.5s
SRBI Singaraja 32.24 192 P P 10 20 16.1 +0.1
comp=Z,2μmcomp=Z,127nm,1.4s
EDFI Ende, Flores 32.26 180 P P 10 20 15.2 -1.2
comp=Z,3μmcomp=Z,330nm,0.7s
GSI Gunungsitoli 32.30 230 IAmb IAmb 10 20 19.7
comp=Z,55nm,0.6s
GSI PcP 10 23 04.7 +0.4
GSI IAMs_20 IAMs_20 10 32 38.9
comp=Z,4μm,21.0s
GSI Gunungsitoli 32.30 230 P P 10 20 16.5 -0.2
comp=Z,92nm,0.6s
SNSI Sinabang, Aceh 32.43 233 P P 10 20 17.8 0.0
comp=Z,427nm,1.1s
GUN Gumba 32.46 285 *e*P P 10 20 19.8 +1.4
comp=Z,279nm,0.8s
SMRI Semarang 32.50 201 IAmb IAmb 10 20 21.7
comp=Z,210nm,0.8s
SMRI Semarang 32.50 201 P P 10 20 19.2 +0.8
comp=Z,319nm,1.0s
PLAI Plampang 32.57 187 P P 10 20 18.2 -0.8
comp=Z,2μmcomp=Z,210nm,0.9s
TWSI Taliwang, Sumb 32.60 189 P P 10 20 19.2 0.0
comp=Z,1μmcomp=Z,112nm,1.4s
LHSI Lahat 32.61 215 P P 10 20 21.0 +1.6
comp=Z,6μmcomp=Z,244nm,0.7s
NKL Nikolayevsk 32.72 21 *e*P P 10 20 19.1 -0.8
NKL MLR MLR
comp=E,850nm,13.0s
NKL MLR MLR
comp=N,37nm,16.0s
NKL MLR MLR
comp=Z,3μm,16.0s
KLSI 32.73 213 P P 10 20 22.2 +1.8
comp=Z,1μmcomp=Z,141nm,1.3s
BOK Bokaro 32.74 278 *e*P P 10 20 20.7 +0.2
BOK IAmb IAmb 10 20 25.8
comp=Z,36nm,1.0s
MASI Maura Aman, Be 32.75 218 P P 10 20 22.4 +1.8
comp=Z,5μmcomp=Z,523nm,1.3s
PBSI Pulau Batu 32.80 227 P P 10 20 20.9 -0.1
comp=Z,2μmcomp=Z,175nm,1.3s
DNP Denpasar 32.81 192 P P 10 20 21.6 +0.5
comp=Z,840nm,1.3s
JAGI Jajag, Banyuwa 32.83 194 P P 10 20 20.8 -0.4
comp=Z,96nm,1.2s
MDSI Maura Dua 32.83 214 P P 10 20 22.5 +1.2
comp=Z,4μmcomp=Z,341nm,1.3s
PKI Pulchoki 32.88 284 *e*P P 10 20 22.9 +0.8
comp=Z,134nm,0.9s
PKIN Phulchoki 32.89 285 *e*P P 10 20 23.1 +1.0
comp=Z,155nm,1.0s
KSI Kapahiang 32.97 217 P P 10 20 23.7 +1.1
comp=Z,479nm,0.9s
KKN Kakani 32.99 285 *e*P P 10 20 24.1 +1.2
comp=Z,1.0nm,0.7s
BLSI Bandar Lampung 33.07 211 P P 10 20 24.4 +1.0
comp=Z,374nm,0.7s
TNG Tangerang 33.15 208 P P 10 20 26.4 +2.4
comp=Z,534nm,0.4s
DMN Daman 33.15 285 *e*P P 10 20 25.7 +1.4
comp=Z,188nm,0.8s
UGM Wanagama 33.28 201 P P 10 20 25.1 -0.1
UGM Wanagama 33.28 201 P P 10 20 26.4 +1.2
comp=Z,8μmcomp=Z,593nm,1.2s
LEM Lembang 33.33 206 P P 10 20 27.9 +2.1
comp=Z,2μmcomp=Z,199nm,1.0s
LWLI Liwa 33.35 213 P P 10 20 26.7 +0.8
comp=Z,8μmcomp=Z,355nm,0.7s
SOEI Soe 33.36 175 IAmb IAmb 10 20 51.8
comp=Z,134nm,0.8s
SOEI Soe 33.36 175 P P 10 20 24.2 -1.8
comp=Z,2μmcomp=Z,164nm,0.7s
MNAI Manna 33.37 216 P P 10 20 25.9 0.0
MNAI Manna 33.37 216 P P 10 20 28.1 +2.1
comp=Z,427nm,0.6s
DBJI Dramaga 33.45 208 P P 10 20 28.4 +1.8
comp=Z,250nm,1.6s
GKN Gorkha 33.55 285 *e*P P 10 20 28.7 +0.9
comp=Z,151nm,0.7s
KASI Kota Agung 33.57 212 P P 10 20 27.8 +0.1
comp=Z,3μmcomp=Z,295nm,1.1s
BASI Baing, Sumba 33.74 182 P P 10 20 28.5 -0.7
comp=Z,2μmcomp=Z,209nm,0.8s
BATI Baumata 33.77 177 P P 10 20 26.9 -2.5
comp=Z,1μmcomp=Z,156nm,0.8s
CISI Cisompet, Garu 33.92 205 IAmb IAmb 10 20 36.0
comp=Z,192nm,0.9s
CISI PcP 10 23 08.2 -0.6
CISI Cisompet, Garu 33.92 205 P P 10 20 30.6 -0.2
comp=Z,2μmcomp=Z,241nm,1.0s
WMQ Urumqi 34.33 314 P P 10 20 36.8 +2.6
WMQ pP pP 10 20 42.4 -3.0
WMQ sP sP 10 20 46.9 -3.4
WMQ PcP PcP 10 23 10.5 +0.9
WMQ S S 10 26 00.8 +1.8
WMQ ScS ScS 10 30 52.4 -1.7
WMQ pmax pmax
comp=Z,110nm,1.3s
WMQ pmax pmax
comp=Z,750nm,5.1s
WMQ LR LR
comp=Z,5μm,16.5s
WMQ LR LR
comp=Z,7μm,12.7s
WMQ LR LR
comp=Z,7μm,17.3s
WMQ Urumqi 34.33 314 P P 10 20 35.3 +1.1
WMQ pmax pmax
comp=Z,120nm,1.2s
WMQ MLR MLR
comp=Z,2μm,21.0s
WMQ Urumqi 34.33 314 P P 10 20 35.3 +1.1
WMQ IAmb IAmb 10 20 48.1
comp=Z,120nm,1.2s
BOD Bodaibo 34.52 353 *e*P P 10 20 34.4 -1.2
BOD pmax pmax
comp=Z,25nm,1.3s
MANU Manus Island 35.75 132 P P 10 20 48.9 +2.2
MANU IAmb IAmb 10 20 51.0
comp=Z,83nm,0.9s
DGZ Jazzator, Alta 37.26 323*c i*P P 10 20 59.3 -0.1
DGZ pmax pmax
comp=Z,66nm,1.1s
XMIS Christmas Isla 37.44 207 P P 10 21 00.4 -0.6
XMIS IAmb IAmb 10 21 01.0
comp=Z,130nm,0.9s
MTN Manton Dam 37.48 165 P P 10 20 59.8 -1.5
MTN IAmb IAmb 10 21 00.6
comp=Z,132nm,0.9s
ZSN Zaisan 37.68 318 *e*P P 10 21 01.5 -1.2
comp=Z,25nm,1.1s,baz=318
ZSN Zaisan 37.68 318 *e*P P 10 21 01.5 -1.2
ZSN pmax pmax
comp=Z,25nm,1.1s
SKR Severo-Kuril's 37.85 36 *e*P P 10 20 51.9 -12
SKR *e*S S 10 26 54.5 +2.1
SKR *e*SSS SSS 10 31 06.4
SKR pmax pmax
comp=Z,200nm,2.3s
SKR MLR MLR
comp=Z,2μm,19.0s
YAK Yakutsk 38.68 6 P P 10 21 11.4 +0.5
comp=Z,21nm,0.5s,baz=152,slow=1.5,SNR=10
YAK LR LR 10 39 31.7
comp=Z,3μm,18.3s,baz=196,slow=40
YAK Yakutsk 38.68 6 *e*P P 10 21 09.9 -1.0
YAK *e**PP pP 10 21 20.8 -0.8
YAK *e* 10 22 39.8
YAK *e*PPP PPP 10 23 01.5
YAK *e* 10 23 21.7
YAK *e*S S 10 27 04.6 -0.1
YAK *e**SS sS 10 27 22.1 -0.2
YAK *e*SSS SSS 10 30 18.6
YAK *e* 10 31 19.1
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,102nm,2.2s
YAK pmax pmax
comp=N,52nm,2.1s
YAK pmax pmax
comp=E,17nm,1.9s
YAK smax smax
comp=N,92nm,2.3s
YAK smax smax
comp=E,32nm,2.5s
YAK Yakutsk 38.68 6 P P 10 21 10.4 -0.5
YAK IAMs_20 IAMs_20 10 38 55.2
comp=Z,3μm,18.0s
PATS Pohnpei 38.92 110 P P 10 21 15.5 +2.0
MK31 Makanchi Array 39.01 316 *i*P P 10 21 14.5 +0.5
MK31 pmax pmax
comp=Z,204nm,0.9s
MK31 Makanchi Array 39.01 316 P P 10 21 14.4 +0.5
MK31 IAmb IAmb 10 21 16.6
comp=Z,157nm,0.9s
MKAR Makanchi Array 39.01 316 P P 10 21 14.2 +0.2
comp=Z,169nm,0.8s,baz=103,slow=10,SNR=535
MKAR PcP PcP 10 23 23.8 +0.2
comp=Z,28nm,0.7s,baz=119,slow=3.1,SNR=8.3
MKAR ScP ScP 10 27 08.5 -0.3
comp=Z,1.0nm,0.6s,baz=127,slow=6.4,SNR=2.6
MKAR PKiKP PKiKP 10 30 34.5 -2.0
comp=Z,0.6nm,0.7s,baz=193,slow=1.1,SNR=4.0
MKAR LR LR 10 38 48.7
comp=Z,7μm,18.5s,baz=100,slow=38
MKAR P3KP 10 53 03.4
comp=Z,0.3nm,0.8s,baz=247,slow=0.9,SNR=3.7
MKAR Makanchi Array 39.01 316 P P 10 21 13.3 -0.6
MAKZ Makanchi 39.22 316 P P 10 21 16.1 +0.4
MAKZ pmax pmax
comp=Z,223nm,1.0s
MAKZ MLR MLR
comp=Z,8μm,18.0s
MAKZ Makanchi 39.22 316 P P 10 21 16.1 +0.4
MAKZ IAmb IAmb 10 21 18.3
comp=Z,223nm,0.9s
DDI Dehra Dun 39.27 289 *e*P P 10 21 18.1 +1.8
DDI IAmb IAmb 10 21 20.3
comp=Z,102nm,0.5s
SHLS Shalkode 39.74 310 *e*P P 10 21 17.5 -2.7
comp=Z,78nm,1.0s,baz=310
SHLS *e*S S 10 27 17.5 -3.9
baz=310
SHLS Shalkode 39.74 310 *e*P P 10 21 17.5 -2.7
SHLS *e*S S 10 27 17.5 -3.9
SHLS pmax pmax
comp=Z,78nm,1.0s
PEA0B Petropavlovsk- 39.99 33 *i*P P 10 21 21.6 -0.4
PEA0B Petropavlovsk- 39.99 33 IAMs_20 IAMs_20 10 37 42.9
comp=Z,3μm,20.0s
PETK Petropavlovsk- 39.99 33 P P 10 21 22.5 +0.5
comp=Z,10.0nm,0.7s,baz=157,slow=1.1,SNR=21
PETK LR LR 10 37 32.7
comp=Z,3μm,21.7s,baz=227,slow=36
SMLA Simla 40.02 291 *e*P P 10 21 23.6 +1.1
SMLA IAmb IAmb 10 21 38.0
comp=Z,233nm,1.5s
UZB Uzynbulak 40.05 310 *e*P P 10 21 22.4 -0.5
comp=Z,49nm,1.0s,baz=309
UZB *e*S S 10 27 26.9 +0.9
baz=309
UZB Uzynbulak 40.05 310 *e*P P 10 21 22.3 -0.5
UZB *e*S S 10 27 26.9 +0.9
UZB pmax pmax
comp=Z,49nm,1.0s
NDI New Delhi 40.06 287 *e*P P 10 21 24.0 +1.1
KPKS Kokpek 40.37 310 *e*P P 10 21 24.8 -0.6
comp=Z,61nm,0.9s,baz=310
KPKS *e*S S 10 27 31.2 +0.4
baz=310
KPKS Kokpek 40.37 310 *e*P P 10 21 24.7 -0.6
KPKS *e*S S 10 27 31.1 +0.4
KPKS pmax pmax
comp=Z,61nm,0.9s
PET Petropavlovsk 40.43 34 *e*P P 10 21 24.3 -1.3
PET *e*S S 10 27 31.1 0.0
PET pmax pmax
comp=Z,400nm,8.0s
PET pmax pmax
comp=Z,200nm,19.4s
PET pmax pmax
comp=Z,84nm,0.9s
PET MLR MLR
comp=Z,3μm,18.0s
PET MLR MLR
comp=Z,3μm,17.0s
PET Petropavlovsk 40.43 34 P P 10 21 25.9 +0.4
PET IAMs_20 IAMs_20 10 38 07.5
comp=Z,2μm,19.0s
SATY Saty 40.46 309 *e*P P 10 21 25.7 -0.5
comp=Z,36nm,0.8s,baz=309
SATY *e*S S 10 27 32.9 +0.7
baz=309
SATY Saty 40.46 309 *e*P P 10 21 25.7 -0.5
SATY *e*S S 10 27 32.9 +0.7
SATY pmax pmax
comp=Z,36nm,0.8s
BHPL Bhopal 40.50 279 *e*P P 10 21 25.0 -1.7
BHPL *i* x x 10 23 05.3
MDRS Chennai 40.62 262 *e*P P 10 21 30.7 +3.0
RABL Rabaul 40.62 129 P P 10 21 28.7 +1.1
RABL IAmb IAmb 10 21 43.6
comp=Z,211nm,0.8s
RABL Rabaul 40.62 129 P P 10 21 27.6 -0.1
BHK Bhakra 40.66 291 *ex* P 10 21 28.0 +0.2
DHRM DHARAMSHALA 40.75 292 *e*P P 10 21 27.4 -1.4
DHRM IAmb IAmb 10 21 33.5
comp=Z,104nm,0.3s
HYB Hyderabad 40.78 269 *i*P P 10 21 30.0 +1.0
HYB *e*sP sP 10 21 43.0 -2.3
HYB *e*PcP PcP 10 23 30.0 +0.2
HYB *e*S S 10 27 40.0 +2.7
HYB Hyderabad 40.78 269 *e*P P 10 21 29.6 +0.6
ZAA0 Zalesovo Array 40.90 327 IAmb IAmb 10 21 30.8
comp=Z,236nm,1.1s
ZALV Zalesovo Beam 40.90 327 P P 10 21 28.8 -0.7
comp=Z,110nm,0.6s,baz=112,slow=7.6,SNR=302
ZALV PcP PcP 10 23 28.4 -1.1
comp=Z,10nm,0.6s,baz=103,slow=4.5,SNR=5.4
ZALV ScP ScP 10 27 12.6 -3.4
comp=Z,3.9nm,0.9s,baz=107,slow=1.5,SNR=3.5
ZALV LR LR 10 39 49.7
comp=Z,5μm,18.8s,baz=128,slow=38
ZALV Zalesovo Beam 40.90 327 P P 10 21 28.4 -1.0
TDK Taldyqorghan 40.98 312 *e*P P 10 21 30.5 +0.2
comp=Z,257nm,0.9s,baz=312
TDK *e*S S 10 27 40.9 +1.2
baz=312
TDK LR LR 10 38 57.4
comp=Z,2μm,15.1s,baz=312
TDK Taldyqorghan 40.98 312 *e*P P 10 21 30.4 +0.2
TDK *e*S S 10 27 40.8 +1.2
TDK pmax pmax
comp=Z,257nm,0.9s
TDK MLR MLR
comp=Z,2μm,15.0s
MA2 Magadan 41.23 22 P P 10 21 33.5 +1.3
comp=Z,36nm,1.0s,baz=216,slow=8.1,SNR=44
MA2 PcP PcP 10 23 30.4 0.0
comp=Z,11nm,0.8s,baz=221,slow=5.7,SNR=3.0
MA2 LR LR 10 39 44.8
comp=Z,3μm,19.5s,baz=212,slow=38
MA2 Magadan 41.23 22*ce*P P 10 21 32.1 -0.1
MA2 pmax pmax
comp=Z,44nm,1.0s
MA2 MLR MLR
comp=Z,3μm,19.0s
MA2 Magadan 41.23 22 P P 10 21 32.6 +0.5
MA2 Magadan 41.23 22 IAMs_20 IAMs_20 10 40 12.6
comp=Z,3μm,20.0s
PMG Port Moresby 41.26 140*c i*P P 10 21 33.7 +0.9
PMG pmax pmax
comp=Z,230nm,1.1s
PMG Port Moresby 41.26 140 P P 10 21 34.2 +1.4
PMG IAmb IAmb 10 21 35.7
comp=Z,252nm,1.1s
PMG Port Moresby 41.26 140 P P 10 21 33.9 +1.1
MDOK Medeo 41.45 309 *e*P P 10 21 34.4 0.0
baz=309
MDOK *e*S S 10 27 47.9 +0.9
baz=309
MDOK LR LR 10 39 11.3
comp=Z,1μm,16.4s,baz=309
MDOK Medeo 41.45 309 *e*P P 10 21 34.4 0.0
MDOK *e*S S 10 27 47.8 +0.9
MDOK MLR MLR
comp=Z,1μm,16.0s
TNSS Tian-Shan 41.49 309 *e*P P 10 21 34.9 -0.1
baz=309
TNSS Tian-Shan 41.49 309 *e*P P 10 21 34.9 -0.1
AAA Alma-Ata 41.55 309 *e*P P 10 21 35.3 +0.2
comp=Z,44nm,0.8s,baz=309
AAA *e*S S 10 27 49.7 +1.3
baz=309
AAA LR LR 10 39 16.5
baz=309
AAA Alma-Ata 41.55 309 *e*P P 10 21 35.3 +0.2
AAA *e*S S 10 27 49.6 +1.3
AAA pmax pmax
comp=Z,44nm,0.8s
KSH Kashi 41.56 303 P P 10 21 39.8 +4.5
KSH sP sP 10 21 50.8 -0.7
KSH PcP PcP 10 23 35.6 +3.5
KSH S S 10 27 55.1 +6.4
KSH SS SS 10 30 56.6 +2.2
KSH pmax pmax
comp=Z,85nm,1.0s
KSH pmax pmax
comp=Z,740nm,3.0s
KSH LR LR
comp=Z,13μm,15.9s
KSH LR LR
comp=Z,8μm,14.3s
KSH LR LR
comp=Z,18μm,18.7s
SEM Semipalatinsk 41.69 320 *e*P P 10 21 35.3 -1.0
comp=Z,105nm,0.9s,baz=320
SEM LR LR 10 39 43.7
baz=320
SEM Semipalatinsk 41.69 320 *e*P P 10 21 35.3 -1.0

SEM pmax pmax
comp=Z,105nm,0.9s
FITZ Fitzroy Crossi 41.73 174 P **P** **10 21 34.8 -1.8**
ULHL Ulahol 41.83 307 P **P** **10 21 40.1 +2.6**
SNR=6.2
H11N1 WAKE ISLAND Hy 42.03 86 T T 11 06 47.9
baz=283,slow=74,SNR=859
H11N2 WAKE ISLAND Hy 42.03 86 T T 11 06 49.0
baz=283,slow=74,SNR=662
H11N3 WAKE ISLAND Hy 42.05 86 T T 11 06 51.3
baz=283,slow=74,SNR=859
KUU Kurty 42.12 310 *e*P **P** **10 21 39.2 -0.5**
comp=Z,105nm,0.8s,baz=310
KUU *e*S **S** **10 27 57.2 +0.6**
baz=310
KUU Kurty 42.12 310 *e*P **P** **10 21 39.1 -0.5**
KUU *e*S **S** **10 27 57.2 +0.6**
KUU pmax pmax
comp=Z,105nm,0.8s
H11S3 WAKE ISLAND Hy 42.15 88 T T 11 07 12.7
SNR=967
H11S1 WAKE ISLAND Hy 42.15 88 T T 11 07 44.7
baz=285,slow=74,SNR=1788
H11S2 WAKE ISLAND Hy 42.16 88 T T 11 07 45.3
baz=45,slow=74,SNR=692
TKM2 Tokmak 2 42.44 308 P **P** **10 21 43.8 +1.3**
SNR=203
TKM2 Tokmak 2 42.44 308 *i* P **P** **10 21 43.5 +1.0**
TKM2 pmax pmax
comp=Z,191nm,0.9s
AJM Ajmer 42.54 284 *e*P **P** **10 21 44.0 +0.7**
PALK Pallekele 42.58 254*c i*P **P** **10 21 45.4 +1.7**
PALK pmax pmax
comp=Z,47nm,1.4s
PALK Pallekele 42.58 254 P **P** **10 21 46.0 +2.3**
PALK PcP **PcP** **10 23 36.7 +1.0**
PALK Pallekele 42.58 254 P **P** **10 21 44.7 +0.9**
PALK P **P** **10 21 44.7 +0.9**
KURK Kurchatov 42.76 320 P **P** **10 21 44.7 0.0**
KURK 10 23 35.4
KURBB Kurchatov Arra 42.78 320 P **P** **10 21 44.7 -0.2**
comp=Z,74nm,0.6s,baz=112,slow=9.3,SNR=258
KURBB PcP **PcP** **10 23 35.4 -0.3**
comp=Z,18nm,0.9s,baz=114,slow=3.0,SNR=4.8
KBK Karagaybulak 42.85 308 P **P** **10 21 47.3 +1.5**
SNR=69
COEN Coen 42.92 149 P **P** **10 21 47.1 +0.8**
COEN IAmb IAmb 10 21 49.6
comp=Z,148nm,1.1s
CHMS Chumysh 43.06 308 P **P** **10 21 49.8 +2.5**
SNR=61
UCH Uchtor 43.09 307 P **P** **10 21 49.9 +1.8**
SNR=261
AAK Ala-Archa 43.18 308 P **P** **10 21 49.0 +0.6**
comp=Z,63nm,0.9s,baz=118,slow=5.5,SNR=103
AAK PcP **PcP** **10 23 37.0 -0.5**
comp=Z,20nm,0.7s,baz=145,slow=4.2,SNR=8.6
AAK LR LR 10 42 04.4
comp=Z,3µm,21.1s,baz=87,slow=39
AAK Ala-Archa 43.18 308 P **P** **10 21 49.6 +1.2**
SNR=44
AAK Ala-Archa 43.18 308 *i* P **P** **10 21 49.7 +1.2**
SNR=11
AAK Ala-Archa 43.18 308 P **P** **10 21 48.7 +0.3**
AAK Ala-Archa 43.18 308 IAMs_20 IAMs_20 10 41 40.4
comp=Z,3µm,20.0s
AAK Ala-Archa 43.18 308 P **P** **10 21 49.9 +1.4**
COCO West Island 43.19 217 P **P** **10 21 50.1 +1.6**
COCO pmax pmax
comp=Z,491nm,0.9s
COCO West Island 43.19 217 P **P** **10 21 50.1 +1.6**
SGDS Sogindy 43.23 309 *e*P **P** **10 21 48.1 -0.7**
comp=Z,27nm,0.8s,baz=309
SGDS *e*S **S** **10 28 13.6 +0.5**
baz=309
SGDS Sogindy 43.23 309 *e*P **P** **10 21 48.1 -0.7**
SGDS *e*S **S** **10 28 13.6 +0.5**
SGDS pmax pmax
comp=Z,27nm,0.8s
USP Ospenovka 43.29 309 P **P** **10 21 51.0 +1.7**
SNR=52
NIL Nilore 43.32 294 P **P** **10 21 50.9 +1.3**
NIL pmax pmax
comp=Z,131nm,1.3s
NIL MLR MLR
comp=Z,4µm,20.0s
NIL Nilore 43.32 294 P **P** **10 21 50.9 +1.3**
NIL Nilore 43.32 294 P **P** **10 21 50.0 +0.4**
NIL P **P** **10 21 50.0 +0.4**
AML Almayashu 43.67 307 P **P** **10 21 54.2 +1.5**
SNR=250
EKS2 Erkin-Say 43.70 308 P **P** **10 21 53.8 +1.2**
SNR=47
BTLS Baital 43.98 311 *e*P **P** **10 21 53.8 -0.9**
comp=Z,52nm,0.8s,baz=311
BTLS *e*S **S** **10 28 24.5 +0.8**
baz=311
BTLS Baital 43.98 311 *e*P **P** **10 21 53.7 -0.9**
BTLS *e*S **S** **10 28 24.5 +0.8**
BTLS pmax pmax
comp=Z,52nm,0.8s
SEY Seymchan 44.25 20 P **P** **10 21 57.4 +0.8**
comp=Z,12nm,0.7s,baz=224,slow=6.0,SNR=43
SEY LR LR 10 43 07.9
comp=Z,2µm,18.1s,baz=200,slow=40
SEY Seymchan 44.25 20 *i* P **P** **10 21 56.1 -0.5**
MBWA Marble Bar 44.64 183 P **P** **10 21 58.5 -1.6**
MBWA P **P** **10 21 58.5 -1.6**
POO Poona 44.79 273 *e*P **P** **10 22 03.1 +1.6**
POO IAmb IAmb 10 22 09.1
comp=Z,54nm,1.1s
POO *i* x x 10 22 15.7
POO *e*S **S** **10 28 33.0 -3.2**
WB0 Warramunga Arr 44.95 163 P **P** **10 22 01.8 -0.8**
WB0 IAmb IAmb 10 22 03.2
comp=Z,114nm,0.9s
PSA00 Pilbara Seismi 45.05 182 P **P** **10 22 01.3 -2.0**
PSA00 Pilbara Seismi 45.05 182 IAmb IAmb 10 22 03.4
comp=Z,157nm,0.8s
WRAB Tennant Creek 45.10 163*c i*P **P** **10 22 03.1 -0.7**
WRAB pmax pmax
comp=Z,156nm,1.2s
WRAB Tennant Creek 45.10 163 P **P** **10 22 02.3 -1.5**
WRAB IAmb IAmb 10 22 04.5
comp=Z,125nm,0.9s
WRA Warramunga Arr 45.10 163 P **P** **10 22 03.0 -0.8**
comp=Z,84nm,0.8s,baz=345,slow=8.6,SNR=204
WRA LR LR 10 42 42.8
comp=Z,513nm,19.3s,baz=345,slow=38
WRA Warramunga Arr 45.10 163 P **P** **10 22 03.0 -0.8**
WRA Warramunga Arr 45.10 163 P **P** **10 22 01.9 -1.9**
WB2 Warramunga Arr 45.11 163 P **P** **10 22 03.0 -0.8**
WB2 IAmb IAmb 10 22 04.6
comp=Z,131nm,0.8s
WR0 Warramunga Arr 45.17 163 IAmb IAmb 10 22 05.1
comp=Z,112nm,0.8s
TRD Trivandrum 45.37 258 *e*P **P** **10 22 07.7 +1.6**
DZA Taraz 45.52 307 *e*P **P** **10 22 06.7 -0.3**
comp=Z,33nm,0.7s,baz=307
DZA *e*S **S** **10 28 46.9 +0.7**
baz=307
DZA Taraz 45.52 307 *e*P **P** **10 22 06.7 -0.3**
DZA *e*S **S** **10 28 46.9 +0.7**
DZA pmax pmax
comp=Z,33nm,0.7s
GOA Goa 45.68 269 *e*P **P** **10 22 10.3 +1.8**
GOA IAmb IAmb 10 22 24.7
comp=Z,36nm,0.4s
BRZS Berezniki 46.11 317 *e*P **P** **10 22 11.4 -0.2**
comp=Z,34nm,0.8s,baz=317
BRZS Berezniki 46.11 317 *e*P **P** **10 22 11.3 -0.2**
BRZS pmax pmax
comp=Z,34nm,0.8s
KK31 Karatay Array 46.14 308 P **P** **10 22 12.2 +0.3**
KK31 pmax pmax
comp=Z,102nm,0.9s
KK31 Karatay Array 46.14 308 P **P** **10 22 12.2 +0.3**
KK31 IAmb IAmb 10 22 15.3
comp=Z,102nm,0.9s
KKAR Karatay Array 46.14 308 P **P** **10 22 11.9 0.0**
KKAR Karatay Array 46.14 308 P **P** **10 22 11.9 0.0**
KKAR Karatay Array 46.14 308 IAmb IAmb 10 22 15.3
comp=Z,102nm,0.9s
IUG Iuzhnay 46.37 306 *e*P **P** **10 22 13.7 -0.2**
comp=Z,120nm,0.8s,baz=306
IUG *e*S **S** **10 28 59.7 +0.9**
baz=306
IUG Iuzhnay 46.37 306 *e*P **P** **10 22 13.7 -0.2**
IUG *e*S **S** **10 28 59.6 +0.9**
IUG pmax pmax
comp=Z,120nm,0.8s
BRLS Boroldav 46.62 307 *e*P **P** **10 22 15.8 0.0**
comp=Z,37nm,0.9s,baz=307
BRLS *e*S **S** **10 29 03.3 +1.2**
baz=307
BRLS Boroldav 46.62 307 *e*P **P** **10 22 15.7 0.0**
BRLS *e*S **S** **10 29 03.2 +1.2**
BRLS pmax pmax
comp=Z,37nm,0.9s
GIRL Giralia 46.65 190 P **P** **10 22 15.8 -0.2**
CHM Chimkent 46.71 306 *e*S **S** **10 29 05.1 +1.8**
baz=306
KBL Kabul 46.80 296 P **P** **10 22 18.7 +1.2**
KBL pmax pmax
comp=Z,237nm,1.1s
KBL MLR MLR
comp=Z,5µm,21.0s
KBL Kabul 46.80 296 P **P** **10 22 18.7 +1.2**
KBL IAmb IAmb 10 22 33.9
comp=Z,237nm,1.1s
KBL Kabul 46.80 296 P **P** **10 22 18.8 +1.4**
SNR=97
KBL P **P** **10 22 18.8 +1.4**
SNR=97
TAS Tashkent 46.84 305 IAMs_20 IAMs_20 10 43 29.3
comp=Z,4µm,21.0s
BHUJ Bhuj 47.53 280 *e*P **P** **10 22 23.8 +0.8**
BHUJ IAmb IAmb 10 22 27.6
comp=Z,86nm,1.3s
BHUJ *i* x x 10 22 36.9
TIXI Tiksi 48.14 3 P **P** **10 22 26.4 -0.6**
comp=Z,63nm,1.0s,baz=166,slow=6.6,SNR=96
TIXI LR LR 10 45 27.6
comp=Z,4µm,19.0s,baz=216,slow=39
TIXI Tiksi 48.14 3*c e*P **P** **10 22 25.2 -1.7**
TIXI pmax pmax
comp=Z,577nm,1.3s
TIXI Tiksi 48.14 3 P **P** **10 22 25.7 -1.2**
TIXI IAmb IAmb 10 22 44.5
comp=Z,114nm,1.0s
BVAR Borovoye Array 48.34 321 P **P** **10 22 28.5 -0.4**
comp=Z,44nm,0.8s,baz=137,slow=18,SNR=224
BVAR PcP **PcP** **10 23 54.8 -0.3**
comp=Z,30nm,0.6s,baz=209,slow=8.5,SNR=10
BRVK Borovoye 48.41 321 *i* P **P** **10 22 29.1 -0.3**
BRVK pmax pmax
comp=Z,210nm,1.0s
BRVK Borovoye 48.41 321 P **P** **10 22 29.6 +0.2**
BRVK IAmb IAmb 10 22 31.7
comp=Z,178nm,0.9s
BRVK Borovoye 48.41 321 P **P** **10 22 29.6 +0.2**
BRVK P **P** **10 22 29.6 +0.2**
AS31 Alice Springs 48.56 165 P **P** **10 22 29.4 -1.5**
ASAR Alice Springs 48.56 165 P **P** **10 22 30.6 -0.3**
comp=Z,67nm,0.9s,baz=342,slow=6.5,SNR=208
ASAR PcP **PcP** **10 23 55.6 -0.6**
comp=Z,12nm,0.7s,baz=330,slow=2.9,SNR=4.5
ASAR LR LR 10 44 23.7
comp=Z,685nm,20.7s,baz=348,slow=38
ASAR P4KPbc 11 00 08.9
comp=Z,1.4nm,0.9s,baz=346,slow=4.0,SNR=10
ASAR Alice Springs 48.56 165 P **P** **10 22 30.3 -0.5**
ASAR PcP **PcP** **10 23 55.0 -1.2**
MNCI Minicoy 48.97 260 P **P** **10 22 34.7 +0.5**
MNCI IAmb IAmb 10 22 37.2
comp=Z,98nm,1.0s
MNCI IAMs_20 IAMs_20 10 46 17.1
comp=Z,2µm,20.0s
MNCY Minicoy 49.00 260 *e*P **P** **10 22 35.6 +1.2**
MNCY IAmb IAmb 10 22 44.7
comp=Z,53nm,1.0s
CTA Charters Tower 49.67 149 LR LR 10 41 22.2
comp=Z,2µm,21.9s,baz=337,slow=33
CTAO Charters Tower 49.67 149 P **P** **10 22 39.5 +0.1**
CTAO pmax pmax
comp=Z,319nm,1.6s
CTAO Charters Tower 49.67 149 P **P** **10 22 39.5 +0.1**
CTAO IAmb IAmb 10 22 42.3
comp=Z,318nm,1.6s
CTAO Charters Tower 49.67 149 IAMs_20 IAMs_20 10 41 31.0
comp=Z,2µm,20.0s
AMKA Amchitka 51.72 42 P **P** **10 22 54.4 0.0**
BILL Bilibino 51.96 20*d i*P **P** **10 22 55.1 -0.9**
BILL *i* 10 24 07.6
BILL *e* 10 24 53.8
BILL *i* S **S** **10 30 14.4 -1.7**
BILL *e*SS **SS** **10 33 49.0 -4.0**
BILL pmax pmax
comp=Z,114nm,1.3s
BILL MLR MLR
comp=Z,2µm,17.0s
BILL Bilibino 51.96 20 P **P** **10 22 56.3 +0.2**
BILL IAmb IAmb 10 23 00.4
comp=Z,91nm,1.1s
BILL IAMs_20 IAMs_20 10 48 25.1
comp=Z,2µm,18.0s
HRA Herat 52.42 296 P **P** **10 23 00.5 +0.3**
MORW Morawa 52.76 186 IAmb IAmb 10 23 02.7
comp=Z,98nm,1.1s
ABKAR Akbulak array 54.12 315 P **P** **10 23 12.6 +0.4**
ABKAR Akbulak array 54.12 315 IAmb IAmb 10 23 14.6
comp=Z,157nm,0.8s
ADK Adak 54.27 42 P **P** **10 23 14.4 +1.2**
ADK pmax pmax
comp=Z,129nm,1.3s
ADK Adak 54.27 42 P **P** **10 23 14.4 +1.2**
ADK IAmb IAmb 10 23 17.5
comp=Z,129nm,1.2s
FORT Forrest 54.52 173 P **P** **10 23 14.0 -1.2**
SVE Sverdlovsk 54.71 324*c i*P **P** **10 23 17.3 +0.9**
SVE pmax pmax
comp=Z,162nm,0.9s
SVE MLR MLR
comp=Z,4µm,17.0s
AKTO Aktyubinsk 55.45 316 P **P** **10 23 22.1 +0.2**
comp=Z,98nm,1.0s,baz=93,slow=8.8,SNR=102
AKTO PcP **PcP** **10 24 20.5 -1.2**
comp=Z,16nm,0.6s,baz=102,slow=7.5,SNR=5.2
AKTO LR LR 10 49 01.7
comp=Z,3µm,18.4s,baz=93,slow=38
GEYT Alibeck 55.45 301 P **P** **10 23 23.5 +1.4**
comp=Z,72nm,1.0s,baz=124,slow=2.7,SNR=69
GEYT LR LR 10 51 23.6
comp=Z,5µm,18.2s,baz=75,slow=41
GEYT Alibeck 55.45 301 P **P** **10 23 23.5 +1.4**
GEYT IAmb IAmb 10 23 37.5
comp=Z,83nm,1.0s
GYA0B ALIBECK ARRAY 55.45 301 IAmb IAmb 10 23 37.5
comp=Z,115nm,1.1s
ARU Arti 55.77 323 P **P** **10 23 23.8 -0.2**
comp=Z,30nm,0.5s,baz=104,slow=3.4,SNR=102
ARU PcP **PcP** **10 24 22.2 -0.5**
comp=Z,14nm,0.5s,baz=111,slow=4.7,SNR=7.2
ARU LR LR 10 48 55.2
comp=Z,2µm,21.8s,baz=96,slow=38
ARU Arti 55.77 323*c i*P **P** **10 23 23.8 -0.2**
ARU *PP **pP** **10 23 34.7 -0.8**
ARU 10 24 22.1
ARU 10 25 25.5
ARU S **S** **10 31 09.6 +1.6**
ARU SS **SS** **10 34 54.4 +0.9**
ARU pmax pmax
comp=Z,140nm,0.8s
ARU MLR MLR
comp=Z,2µm,24.0s
ARU Arti 55.77 323 P **P** **10 23 23.9 -0.2**
ARU IAmb IAmb 10 23 25.6
comp=Z,166nm,1.0s
ARU IAMs_20 IAMs_20 10 48 32.3
comp=Z,2µm,20.0s
ATKA Atka Island 55.83 42 P **P** **10 23 24.9 +0.4**
ATKA IAmb IAmb 10 23 32.4
comp=Z,58nm,0.8s
ATKA IAMs_20 IAMs_20 10 46 00.8
comp=Z,1µm,21.0s
EIDS Eidsvold 56.48 148 IAmb IAmb 10 23 32.7
comp=Z,387nm,1.9s
NWAO Narrogin (SRO) 56.49 185 LR LR 10 51 30.1
comp=Z,166nm,18.0s,baz=15,slow=40
NWAO Narrogin (SRO) 56.49 185 P **P** **10 23 28.7 -0.6**
NWAO pmax pmax
comp=Z,161nm,1.1s
NWAO Narrogin (SRO) 56.49 185 P **P** **10 23 29.1 -0.2**
NWAO IAmb IAmb 10 23 30.8
comp=Z,201nm,1.1s
NWAO Narrogin (SRO) 56.49 185 P **P** **10 23 28.7 -0.6**
NWAO IAmb IAmb 10 23 30.8
comp=Z,161nm,1.1s
NWAO Narrogin (SRO) 56.49 185 P **P** **10 23 28.8 -0.5**
JLN Jalan Bani Buh 56.99 282 P **P** **10 23 35.0 +1.8**
SNR=5.1
JLN P **P** **10 23 35.0 +1.8**
SNR=5.1
DGAR Diego Garcia 57.18 243 P **P** **10 23 34.6 0.0**
DGAR pmax pmax
comp=Z,150nm,1.2s
DGAR MLR MLR
comp=Z,2µm,18.0s
DGAR Diego Garcia 57.18 243 P **P** **10 23 34.6 0.0**
DGAR IAmb IAmb 10 23 37.0
comp=Z,150nm,1.1s
DGAR Diego Garcia 57.18 243 IAMs_20 IAMs_20 10 48 43.6
comp=Z,2µm,18.0s
DGAR Diego Garcia 57.18 243 P **P** **10 23 36.3 +1.6**
DGAR P **P** **10 23 36.3 +1.6**
WBK Wadi Bani Khal 57.27 282 P **P** **10 23 36.6 +1.4**
SNR=5.4
WBK P **P** **10 23 36.6 +1.4**
SNR=5.4
BIDO Bidbid 57.80 284 P **P** **10 23 41.5 +2.5**
SNR=13
BIDO P **P** **10 23 41.5 +2.5**
SNR=13
BBOO Buckleboo 57.85 166 P **P** **10 23 39.0 0.0**
SMDO Samad 57.98 283 P **P** **10 23 42.3 +2.0**
SNR=6.4
SMDO P **P** **10 23 42.3 +2.0**
SNR=6.4
JMDO Jabal Madar 58.10 282 P **P** **10 23 42.4 +1.2**
SNR=5.3
JMDO P **P** **10 23 42.4 +1.2**
SNR=5.3
STKA Stephens Creek 58.46 160 P **P** **10 23 43.2 0.0**
comp=Z,74nm,0.9s,baz=338,slow=7.3,SNR=93
STKA LR LR 10 48 52.5
comp=Z,519nm,21.8s,baz=343,slow=36
HOQ Hoqain 58.51 284 P **P** **10 23 46.0 +2.0**
SNR=11
HOQ P **P** **10 23 46.0 +2.0**
SNR=11
SPIA Saint Paul Isl 58.53 36 P 10 23 43.3
baz=265
MHTO MHTO 58.59 281 P **P** **10 23 44.5 +0.1**
SNR=8.3
MHTO P **P** **10 23 44.5 +0.1**
SNR=8.3
BANOM Banah 58.85 287 P **P** **10 23 48.2 +1.9**
SOHO SOHO 59.06 285 *i* P **P** **10 23 49.0 +1.2**
SNR=6.8
SANVU Saraoutou 59.08 127 P **P** **10 23 50.2 +2.3**
MSFE Esma-Masafi 59.10 286 P **P** **10 23 50.5 +2.4**
NIKH Nikolski High 59.12 41 P **P** **10 23 47.5 -0.1**
NIKH IAmb IAmb 10 24 36.4
comp=Z,85nm,1.1s
NIKH Nikolski High 59.12 41 P 10 23 46.8
baz=269
HATD Hatta, Dubai 59.25 286 P **P** **10 23 51.6 +2.5**
ARQ Araqi 59.27 284 P **P** **10 23 51.0 +1.7**
SNR=8.9
ARQ P **P** **10 23 51.0 +1.7**
SNR=8.9
ASHO Ashiyiah 59.35 286 *i* P **P** **10 23 51.3 +1.5**
SNR=10
ASHO Ashiyiah 59.35 286 P **P** **10 23 51.6 +1.8**
SNR=5.3
FAQ Al Faqa, Dubai 59.75 286 *i* P **P** **10 23 53.1 +0.6**
SNR=6.0
FAQ Al Faqa, Dubai 59.75 286 P **P** **10 23 53.8 +1.3**
FAQ P **P** **10 23 53.8 +1.3**
ALNE Al Ain 59.78 285 P **P** **10 23 53.5 +0.8**
ALNE Al Ain 59.78 285 P **P** **10 23 55.0 +2.2**
SNR=6.3
ALNE P **P** **10 23 55.0 +2.2**
SNR=6.3
ASUD Al Ashush, Dub 60.01 286 *i* P **P** **10 23 55.7 +1.4**
SNR=5.5
KIRV Kirov 60.88 325 P **P** **10 23 59.1 -0.5**
comp=Z,102nm,0.6s,baz=97,slow=3.2,SNR=56
KIRV Kirov 60.88 325*c i*P **P** **10 23 58.9 -0.7**
ARMA Armidale 61.00 150 P **P** **10 24 02.0 +1.2**
ARMA IAMs_20 IAMs_20 10 48 27.2
comp=Z,2µm,20.0s
ANM Nome 61.51 28 P 10 24 04.6
baz=265
ANM S 10 32 25.2
baz=265
BELG Belogornoye 61.97 318 P **P** **10 24 06.5 -0.6**
comp=Z,179nm,1.0s,baz=67,slow=0.4,SNR=25
BELG PcP **PcP** **10 24 46.6 -0.8**
comp=Z,211nm,0.9s,baz=42,slow=0.7,SNR=6.1
JRN Qarnain Island 62.12 287 P **P** **10 24 09.0 +0.5**
JRN P **P** **10 24 09.0 +0.5**
FALS False Pass 62.31 39 P 10 24 10.0
baz=272
DOK Doka 62.72 279 P **P** **10 24 12.9 +0.2**
DOK P **P** **10 24 12.9 +0.2**
RDOG Red Dog Mine 62.77 24 IAMs_20 IAMs_20 10 52 18.8
comp=Z,1µm,21.0s
RDOG Red Dog Mine 62.77 24 P 10 24 12.7
baz=266
PRGR Permogore 62.83 329⇓ *i*P **P** **10 24 12.6 -0.1**
PRGR *e**SP **pP** **10 24 25.2 +0.8**
PRGR pmax pmax
comp=Z,82nm,0.8s
DZM Mont Dzumac 62.96 133 *e*P **P** **10 24 15.2 +1.0**
DZM *e*S **S** **10 32 44.2 +2.4**
comp=Z,2µm,28.4s
DZM *e*SS **SS** **10 36 49.6 +1.5**
comp=Z,930nm,25.9s
DZM *e*LR LR 10 43 03.5
comp=Z,5µm,23.8s
DZM Mont Dzumac 62.96 133 P **P** **10 24 14.8 +0.6**
DZM IAmb IAmb 10 24 17.1
comp=Z,127nm,1.2s
DZM IAMs_20 IAMs_20 10 46 22.0
comp=Z,2µm,22.0s
DZM Mont Dzumac 62.96 133 P **P** **10 24 15.6 +1.4**
comp=Z,109nm,1.8s
MAK Makhachkala 62.96 308 *e*P **P** **10 24 10.1 -3.8**
MAK *e* 10 26 32.7
MAK *e*S **S** **10 32 34.8 -6.4**
MAK *e*SS **SS** **10 36 46.3 -0.4**
MAK pmax pmax
comp=Z,131nm,0.9s
MAK MLR MLR
comp=Z,1µm,16.0s
RBK Rabkut 62.99 278 P **P** **10 24 16.1 +1.6**
SNR=5.0
RBK P **P** **10 24 16.1 +1.6**
SNR=5.0
AKT Akhty 63.01 306 *e*P **P** **10 24 14.6 +0.2**
AKT *e* 10 24 50.8
AKT pmax pmax
comp=Z,85nm,1.1s
WHFO Wadi Hawf 63.26 279 P **P** **10 24 16.2 -0.1**
WHFO P **P** **10 24 16.2 -0.1**
OUENC Ouen Island, N 63.46 133 P **P** **10 24 18.5 +1.1**
ABTO Aybut 63.86 278 P **P** **10 24 21.0 +0.7**
SNR=7.2
ABTO P **P** **10 24 21.0 +0.7**
SNR=7.2
SDPT Sand Point 63.97 38 P 10 24 20.2
baz=274
GROC Groznyy 64.16 308 *e*P **P** **10 24 21.9 +0.1**
GROC *e* 10 24 56.0
GROC *e* 10 26 45.1
GROC *e*S **S** **10 32 58.2 +2.0**
GROC pmax pmax
comp=Z,117nm,1.0s
GROC MLR MLR
comp=Z,947nm,12.0s
TOO Toolangi 64.93 159 IAmb IAmb 10 24 28.9
comp=Z,82nm,0.9s
SOCY Socotra 64.94 273 P **P** **10 24 25.9 -1.5**
SOCY IAmb IAmb 10 24 28.5
comp=Z,84nm,1.0s
SOCY IAMs_20 IAMs_20 10 56 52.3
comp=Z,905nm,19.0s

SOCY	**Socotra**	**64.94**	**273**	P		**P**		**10 24 26.5**	**-1.0**
	SNR=11								
CHGN	**Chignik**	**65.05**	**37**	P				10 24 28.1	
	baz=276								
A21K	**Barrow**	**65.08**	**21**	IAMs_20		IAMs_20		10 56 11.8	
	comp=Z,2μm,19.0s								
A21K	**Barrow**	**65.08**	**21**	P				10 24 27.9	
	baz=270,SNR=126								
A21K				S				10 33 07.2	
	baz=270								
GNI	**Garni**	**65.47**	**305**	P		**P**		**10 24 31.6**	**+1.0**
GNI	**Garni**	**65.47**	**305**	*ce*P		**P**		**10 24 31.9**	**+1.3**
GNI				pmax		pmax			
	comp=Z,85nm,1.3s								
GNI	**Garni**	**65.47**	**305**	P		**P**		**10 24 31.2**	**+0.6**
GNI				IAmb		IAmb		10 24 51.7	
	comp=Z,123nm,1.2s								
GNI	**Garni**	**65.47**	**305**	IAMs_20		IAMs_20		10 56 58.3	
	comp=Z,2μm,22.0s								
GNI	**Garni**	**65.47**	**305**	P		**P**		**10 24 32.1**	**+1.5**
GNI				P		**P**		**10 24 32.1**	**+1.5**
ZEI	**Tsey**	**65.60**	**308**	*e*P		**P**		**10 24 29.5**	**-2.0**
ZEI				pmax		pmax			
	comp=Z,126nm,1.3s								
MIB	**Mutribah**	**65.65**	**293**	*e*P				10 24 29.3	
RDF	**Al-Radifah**	**65.69**	**292**	*e*P				10 24 29.9	
NCK	**Nalchik**	**65.70**	**309**	*i* P		**P**		**10 24 31.9**	**0.0**
NCK				pmax		pmax			
	comp=Z,82nm,1.0s								
VRH	**Novokhopyorsk**	**65.73**	**317**	*e*P		**P**		**10 24 31.4**	**-0.5**
VRH				pmax		pmax			
	comp=Z,180nm,0.7s								
GOF	**Gofitskoye**	**65.81**	**310**	⇓*i* P		**P**		**10 24 33.6**	**+1.0**
GOF				*e*S		**S**		**10 33 12.6**	**-3.8**
GOF				pmax		pmax			
	comp=Z,161nm,1.3s								
KLMR	**Klimovskoe**	**65.82**	**328**	*e*P		**P**		**10 24 29.3**	**-3.0**
KLMR				*e*				10 26 53.9	
KLMR				pmax		pmax			
	comp=Z,196nm,1.3s								
KLMR	**Klimovskoe**	**65.82**	**328**	*e*P		**P**		**10 24 29.3**	**-3.0**
KLMR				AMP				10 24 33.5	
	comp=Z,196nm,1.3s								
KLMR				*e*PP		**PP**		**10 26 54.0**	**-3.1**
KLMR				LQ		LQ		10 47 51.9	
KLMR				LQ		LQ		10 47 51.9	
KLMR				LR		LR		10 52 10.9	
RST	**Umm Al-Ruwaisa**	**66.02**	**293**	*e*P				10 24 31.9	
SVW2	**Sparrevohn**	**66.04**	**32**	P		**P**		**10 24 34.3**	**+0.6**
SVW2				IAmb		IAmb		10 24 38.0	
	comp=Z,241nm,1.5s								
KBZ	**Khabaz**	**66.15**	**309**	P		**P**		**10 24 35.8**	**+1.1**
	comp=Z,65nm,0.9s,baz=90,slow=5.2,SNR=102								
KBZ				LR		LR		10 57 38.6	
	comp=Z,2μm,18.5s,baz=67,slow=40								
KBZ	**Khabaz**	**66.15**	**309**	*c i* P		**P**		**10 24 34.5**	**-0.2**
KBZ				pmax		pmax			
	comp=Z,79nm,0.9s								
AKH	**Akhalkalaki**	**66.16**	**306**	⇑P		**P**		**10 24 36.8**	**+1.8**
KIV	**Kislovodsk**	**66.26**	**309**	⇑P		**P**		**10 24 36.5**	**+0.9**
KIV	**Kislovodsk**	**66.26**	**309**	*i* P		**P**		**10 24 36.1**	**+0.6**
	SNR=15								
KIV	**Kislovodsk**	**66.26**	**309**	*e*P		**P**		**10 24 36.3**	**+0.7**
KIV				*e*S		**S**		**10 33 23.7**	**+1.6**
KIV				pmax		pmax			
	comp=Z,354nm,1.0s								
KIV				pmax		pmax			
	comp=Z,224nm,3.4s								
KIV				MLR		MLR			
	comp=Z,3μm,17.0s								
KIV	**Kislovodsk**	**66.26**	**309**	P		**P**		**10 24 36.0**	**+0.4**
KIV				IAmb		IAmb		10 24 38.3	
	comp=Z,121nm,1.0s								
KIV				IAMs_20		IAMs_20		10 56 52.1	
	comp=Z,1μm,20.0s								
KIV	**Kislovodsk**	**66.26**	**309**	P		**P**		**10 24 36.1**	**+0.6**
KIV				P		**P**		**10 24 36.1**	**+0.6**
SHA1	**Shidzhatmaz**	**66.32**	**309**	*c i* P		**P**		**10 24 36.5**	**+0.4**
NEY	**Neytrino**	**66.37**	**308**	*i* P		**P**		**10 24 36.6**	**+0.2**
NEY				pmax		pmax			
	comp=Z,15nm,0.7s								
IMAR	**Indian Mountai**	**66.39**	**26**	P		**P**		**10 24 35.0**	**-0.8**
CHVG	**Ch'k'valeri**	**66.93**	**308**	⇑P		**P**		**10 24 41.7**	**+2.0**
LVZ	**Lovozero**	**67.17**	**336**	*i* P		**P**		**10 24 40.5**	**-0.4**
LVZ				pmax		pmax			
	comp=Z,103nm,2.0s								
VORR	**Voronezh**	**67.21**	**318**	*e*P		**P**		**10 24 40.0**	**-1.3**
VORR				pmax		pmax			
	comp=Z,350nm,1.2s								
CHUM	**Lake Minchumin**	**67.23**	**29**	P				10 24 42.9	
	baz=278,SNR=131								
CHUM				S				10 33 36.6	
	baz=278								
LPSR	**Galich'ya Gora**	**67.23**	**319**	*e*P		**P**		**10 24 41.0**	**-0.4**
LPSR				pmax		pmax			
	comp=Z,150nm,0.9s								
VORD	**Divnogorie**	**67.28**	**317**	*e*P		**P**		**10 24 41.2**	**-0.6**
VORD				pmax		pmax			
	comp=Z,90nm,1.2s								
VSR	**Storozhevoye**	**67.32**	**317**	*e*P		**P**		**10 24 41.4**	**-0.6**
VSR				pmax		pmax			
	comp=Z,180nm,1.1s								
SII	**Sitkinak Islan**	**67.35**	**37**	P				10 24 43.4	
	baz=279								
CAST	**Castle Rocks**	**67.39**	**29**	P				10 24 43.5	
	baz=278								
PPLA	**Purkeypile**	**67.41**	**30**	P		**P**		**10 24 43.5**	**+0.8**
PPLA				IAMs_20		IAMs_20		10 54 06.6	
	comp=Z,902nm,20.0s								
PPLA	**Purkeypile**	**67.41**	**30**	P				10 24 43.9	
	baz=278,SNR=75								
PPLA				S				10 33 37.8	
	baz=278								
MOS	**Moscow**	**67.47**	**322**	*e*P		**P**		**10 24 41.4**	**-1.5**
MOS				*e*				10 24 57.0	
MOS				*e*				10 25 07.5	
MOS				*e*				10 27 10.5	
MOS				*e*S		**S**		**10 33 36.9**	**+0.9**
MOS				pmax		pmax			
	comp=Z,174nm,1.2s								
MOS				MLR		MLR			
	comp=Z,2μm,17.0s								
COLD	**Coldfoot**	**67.65**	**25**	P				10 24 44.9	
	baz=278,SNR=192								
COLD				S				10 33 40.3	
	baz=278								
SPCR	**Spurr Chakacha**	**67.65**	**31**	S				10 33 41.3	
	baz=279								
APA	**Apatity**	**67.69**	**336**	⇓*i* P		**P**		**10 24 42.0**	**-2.1**
APA				*i*				10 25 02.4	
APA				*i*				10 27 14.0	
APA				*i*				10 34 29.0	
APA				pmax		pmax			
	comp=Z,31nm,0.8s								
APA				MLR		MLR			
	comp=Z,3μm,15.0s								
TOLK	**Toolik Lake Re**	**67.69**	**23**	IAMs_20		IAMs_20		10 56 17.8	
	comp=Z,1μm,20.0s								
TOLK	**Toolik Lake Re**	**67.69**	**23**	P				10 24 44.9	
	baz=278,SNR=238								
TOLK				S				10 33 40.2	
	baz=278								
OHAK	**Old Harbor**	**67.73**	**36**	IAmb		IAmb		10 24 46.6	
	comp=Z,157nm,1.3s								
OHAK	**Old Harbor**	**67.73**	**36**	P				10 24 44.9	
	baz=279,SNR=7.6								
MLY	**Manley**	**67.74**	**27**	P				10 24 45.7	
	baz=278,SNR=444								
MLY				S				10 33 42.6	
	baz=278								
BPAW	**Bear Paw Mtn.**	**67.78**	**28**	P		**P**		**10 24 46.4**	**+1.6**
BPAW	**Bear Paw Mtn.**	**67.78**	**28**	P				10 24 45.7	
	baz=278,SNR=277								
BPAW				S				10 33 42.1	
	baz=278								
SKT	**Skwentna**	**67.85**	**31**	P		**P**		**10 24 45.1**	**-0.1**
SKT				IAMs_20		IAMs_20		10 54 48.2	
	comp=Z,1μm,21.0s								
SKT	**Skwentna**	**67.85**	**31**	P				10 24 45.3	
	baz=279,SNR=67								
SKT				S				10 33 43.6	
	baz=279								
KTH	**Kantishna Hill**	**67.89**	**29**	IAmb		IAmb		10 24 48.3	
	comp=Z,126nm,0.8s								
KTH				IAMs_20		IAMs_20		10 54 44.1	
	comp=Z,1μm,21.0s								
KDAK	**Kodiak Island**	**68.01**	**35**	P		**P**		**10 24 47.5**	**+1.3**
	comp=Z,65nm,0.5s,baz=296,slow=4.1,SNR=89								
KDAK	**Kodiak Island**	**68.01**	**35**	P		**P**		**10 24 47.6**	**+1.3**
KDAK				pmax		pmax			
	comp=Z,615nm,1.7s								
KDAK				MLR		MLR			
	comp=Z,1μm,21.0s								
KDAK	**Kodiak Island**	**68.01**	**35**	P		**P**		**10 24 47.6**	**+1.3**
KDAK	**Kodiak Island**	**68.01**	**35**	IAMs_20		IAMs_20		10 55 25.4	
	comp=Z,1μm,21.0s								
KDAK	**Kodiak Island**	**68.01**	**35**	S				10 33 44.3	
	baz=280								
OBN	**Obninsk**	**68.17**	**322**	LR		LR		10 54 37.8	
	comp=Z,155nm,18.5s,baz=39,slow=36								
OBN	**Obninsk**	**68.17**	**322**	*d i* P		**P**		**10 24 47.1**	**-0.2**
OBN				*e**PP		**pP**		**10 24 58.2**	**-0.8**
OBN				*i* *SP		**sP**		**10 25 05.6**	**+2.1**
OBN								10 25 18.0	
OBN				*e*S		**S**		**10 33 42.6**	**-1.8**
OBN				*e*				10 34 37.9	
OBN				pmax		pmax			
	comp=Z,161nm,1.5s								
OBN				MLR		MLR			
	comp=Z,2μm,19.0s								
OBN	**Obninsk**	**68.17**	**322**	P		**P**		**10 24 45.6**	**-1.7**
OBN				IAmb		IAmb		10 25 09.7	
	comp=Z,204nm,1.4s								
HOM	**Homer**	**68.17**	**33**	P				10 24 47.4	
	baz=280								
TRF	**Thorofare Moun**	**68.18**	**29**	IAmb		IAmb		10 24 52.9	
	comp=Z,80nm,0.7s								
TRF				IAMs_20		IAMs_20		10 54 31.9	
	comp=Z,972nm,20.0s								
TRF	**Thorofare Moun**	**68.18**	**29**	P				10 24 48.0	
	baz=279,SNR=92								
TRF				S				10 33 46.7	
	baz=279								
CAPN	**Captain Cook N**	**68.23**	**32**	P				10 24 48.8	
	baz=280,SNR=29								
CAPN				S				10 33 48.3	
	baz=280								
I23K	**Minto, Yukon-K**	**68.30**	**27**	IAmb		IAmb		10 24 51.7	
	comp=Z,115nm,0.8s								
I23K	**Minto, Yukon-K**	**68.30**	**27**	P				10 24 49.1	
	baz=280,SNR=190								
I23K				S				10 33 48.4	
	baz=280								
SUA	**Susitna One**	**68.30**	**31**	P				10 24 48.5	
	baz=280,SNR=270								
SUA				S				10 33 47.4	
	baz=280								
CUT	**Chulitna**	**68.37**	**30**	P		**P**		**10 24 48.8**	**+0.4**
CUT				IAMs_20		IAMs_20		10 53 33.9	
	comp=Z,1μm,21.0s								
CUT	**Chulitna**	**68.37**	**30**	P				10 24 48.9	
	baz=280,SNR=50								
CUT				S				10 33 47.2	
	baz=280								
CNPM	**China Poot**	**68.40**	**33**	IAmb		IAmb		10 24 50.9	
	comp=Z,149nm,1.5s								
SOC	**Sochi**	**68.44**	**309**	*e*P		**P**		**10 24 48.3**	**-0.9**
SOC				*e*				10 27 18.8	
SOC				*e*PPP		PPP		10 28 57.6	
SOC				*e*S		**S**		**10 33 49.8**	**+1.7**
SOC				*e*				10 34 43.7	
SOC				*e*SS		**SS**		**10 38 10.0**	**-1.9**
SOC				pmax		pmax			
	comp=Z,51nm,0.7s								
SOC				MLR		MLR			
	comp=Z,2μm,15.0s								
NEA2	**Nenana**	**68.52**	**28**	IAMs_20		IAMs_20		10 56 14.8	
	comp=Z,836nm,19.0s								
NEA2	**Nenana**	**68.52**	**28**	P				10 24 50.1	
	baz=280,SNR=157								
NEA2				S				10 33 50.4	
	baz=280								
BRLK	**Bradley Lake**	**68.53**	**33**	IAmb		IAmb		10 24 53.9	
	comp=Z,150nm,1.0s								
BRSE	**Bradley Lake S**	**68.61**	**33**	P				10 24 50.2	
	baz=280,SNR=41								
HOPEN	**Hopen**	**68.68**	**346**	*e*P		**P**		**10 24 50.3**	**+0.1**
MSVF	**Nonsavu**	**68.70**	**122**	*i* P		**P**		**10 24 51.9**	**+0.6**
MSVF				pmax		pmax			
	comp=Z,105nm,1.4s								
MSVF	**Nonsavu**	**68.70**	**122**	P		**P**		**10 24 49.9**	**-1.3**
MSVF				IAmb		IAmb		10 24 54.6	
	comp=Z,101nm,1.1s								
MSVF	**Nonsavu**	**68.70**	**122**	P		**P**		**10 24 52.8**	**+1.5**
MCK	**McKinley**	**68.73**	**29**	IAMs_20		IAMs_20		10 55 41.4	
	comp=Z,938nm,21.0s								
MCK	**McKinley**	**68.73**	**29**	P				10 24 51.1	
	baz=280,SNR=156								
MCK				S				10 33 53.4	
	baz=280								
MDM	**Murphy Dome**	**68.81**	**27**	P		**P**		**10 24 52.8**	**+1.6**
RND	**Reindeer**	**68.83**	**29**	IAMs_20		IAMs_20		10 55 23.8	
	comp=Z,1μm,21.0s								
RC01	**Rabbit Creek A**	**68.85**	**31**	IAmb		IAmb		10 24 53.3	
	comp=Z,182nm,1.4s								
RC01	**Rabbit Creek A**	**68.85**	**31**	P				10 24 51.7	
	baz=281,SNR=34								
RC01				S				10 33 54.2	
	baz=281								
RAYN	**Ar Rayn**	**68.95**	**287**	*i* P		**P**		**10 24 52.7**	**-0.1**
	SNR=25								
RAYN	**Ar Rayn**	**68.95**	**287**	P		**P**		**10 24 51.6**	**-1.2**
RAYN				pmax		pmax			
	comp=Z,99nm,1.3s								
RAYN				MLR		MLR			
	comp=Z,2μm,21.0s								
RAYN	**Ar Rayn**	**68.95**	**287**	P		**P**		**10 24 51.6**	**-1.2**
RAYN				IAmb		IAmb		10 25 11.7	
	comp=Z,99nm,1.2s								
RAYN				IAMs_20		IAMs_20		10 58 55.2	
	comp=Z,2μm,21.0s								
O22K	**Cooper Landing**	**68.97**	**32**	P				10 24 52.2	
	baz=281,SNR=44								
O22K				S				10 33 55.3	
	baz=281								
TCOL	**CIGO, UAF Yank**	**68.98**	**27**	IAMs_20		IAMs_20		10 58 01.9	
	comp=Z,867nm,18.0s								
TCOL	**CIGO, UAF Yank**	**68.98**	**27**	P				10 24 53.0	
	baz=281,SNR=89								
TCOL				S				10 33 56.0	
	baz=281								
COLA	**College**	**68.98**	**27**	*c i* P		**P**		**10 24 52.7**	**+0.5**
COLA				pmax		pmax			
	comp=Z,116nm,0.9s								
COLA	**College**	**68.98**	**27**	P		**P**		**10 24 52.1**	**-0.1**
COLA	**College**	**68.98**	**27**	IAMs_20		IAMs_20		10 58 01.9	
	comp=Z,798nm,18.0s								
COLA	**College**	**68.98**	**27**	P				10 24 52.9	
	baz=281								
COLA				S				10 33 56.6	
	baz=281								
KTUT	**Trabzon**	**68.99**	**307**	⇓P		**P**		**10 24 53.6**	**+0.9**
WAT2	**Susitna Watana**	**69.03**	**29**	P				10 24 52.6	
	baz=281,SNR=132								
WAT2				S				10 33 57.3	
	baz=281								
PMR	**Palmer**	**69.04**	**31**	IAmb		IAmb		10 24 55.2	
	comp=Z,243nm,1.3s								
PMR	**Palmer**	**69.04**	**31**	P				10 24 52.8	
	baz=281,SNR=94								
PMR				S				10 33 55.0	
	baz=281								
CCB	**Clear Creek Bu**	**69.05**	**27**	P		**P**		**10 24 52.9**	**+0.3**
GHO	**Glory Hole Cre**	**69.10**	**31**	IAmb		IAmb		10 24 55.9	
	comp=Z,191nm,1.2s								
GHO				IAMs_20		IAMs_20		10 55 27.3	
	comp=Z,1μm,22.0s								
POKR	**Poker Flat Res**	**69.11**	**27**	P				10 24 53.8	
	baz=281,SNR=150								
POKR				S				10 33 57.8	
	baz=281								
SEW	**Seward**	**69.18**	**32**	IAMs_20		IAMs_20		10 56 45.3	
	comp=Z,957nm,20.0s								
SEW	**Seward**	**69.18**	**32**	P				10 24 53.7	
	baz=281,SNR=46								
SEW				S				10 33 57.2	
	baz=281								
SML	**Sawmill**	**69.37**	**30**	P				10 24 55.1	
	baz=282,SNR=69								
SML				S				10 33 59.1	
	baz=282								
KNK	**Knik Glacier**	**69.39**	**31**	IAMs_20		IAMs_20		10 58 09.2	
	comp=Z,887nm,20.0s								
KNK	**Knik Glacier**	**69.39**	**31**	P				10 24 55.2	
	baz=282,SNR=136								
KNK				S				10 33 59.9	
	baz=282								
IL31		**69.41**	**27**	IAmb		IAmb		10 24 58.7	
	comp=Z,56nm,0.8s								
ILAR	**Eielson Array**	**69.41**	**27**	P		**P**		**10 24 54.5**	**-0.3**
	comp=Z,31nm,0.7s,baz=266,slow=5.0,SNR=250								
ILAR				S		**S**		**10 34 03.6**	**+4.8**
	comp=Z,0.6nm,1.0s,baz=266,slow=7.1,SNR=2.6								
ILAR				PKPPKP		**P'P'df**		**10 53 01.9**	**-5.5**
	comp=Z,4.1nm,1.1s,baz=83,slow=1.5,SNR=12								
ILAR				LR		LR		10 58 34.5	
	comp=Z,687nm,18.3s,baz=290,slow=39								
ILAR	**Eielson Array**	**69.41**	**27**	P		**P**		**10 24 53.7**	**-1.1**
HDA	**Harding Lake**	**69.46**	**28**	IAMs_20		IAMs_20		10 59 23.6	
	comp=Z,755nm,18.0s								
HDA	**Harding Lake**	**69.46**	**28**	P				10 24 54.7	
	baz=282,SNR=218								
HDA				P				10 24 54.7	
	baz=282,SNR=218								
WAT6	**Susitna Watana**	**69.49**	**30**	P				10 24 55.6	
	baz=282,SNR=159								
WAT6				S				10 34 01.1	
	baz=282								
PWL	**Port Wells**	**69.57**	**31**	IAMs_20		IAMs_20		10 57 46.6	
	comp=Z,1μm,20.0s								
KEV	**Kevo**	**69.59**	**338**	P		**P**		**10 24 55.7**	**-0.2**
KEV				pmax		pmax			
	comp=Z,50nm,1.0s								
KEV	**Kevo**	**69.59**	**338**	P		**P**		**10 24 55.7**	**-0.2**
BMAR	**Burnt Mountain**	**69.75**	**24**	P		**P**		**10 24 57.6**	**+0.6**
ANN	**Anapa**	**69.77**	**311**	*e*P		**P**		**10 24 57.0**	**-0.4**
ANN				*e*S		**S**		**10 34 04.1**	**+0.4**
ANN				pmax		pmax			
	comp=Z,242nm,1.1s								
ANN				MLR		MLR			
	comp=N,1μm,19.0s								
ANN				MLR		MLR			
	comp=Z,2μm,18.0s								
ANN				MLR		MLR			
	comp=E,1μm,18.0s								
PRP	**Porcupine Dome**	**69.81**	**26**	P		**P**		**10 24 57.5**	**0.0**
PRP				IAmb		IAmb		10 25 00.9	
	comp=Z,152nm,1.0s								
PRP	**Porcupine Dome**	**69.81**	**26**	P				10 24 58.0	
	baz=283,SNR=155								
PRP				S				10 34 05.4	
	baz=283								
SCM	**Sheep Creek Mo**	**69.83**	**30**	IAMs_20		IAMs_20		10 56 33.6	
	comp=Z,837nm,20.0s								
SPA0	**Spitsbergen Ar**	**70.05**	**348**	*e*P		**P**		**10 24 58.1**	**-0.5**
SPITS	**Spitsbergen Ar**	**70.05**	**348**	P		**P**		**10 24 58.4**	**-0.2**
	comp=Z,9.9nm,0.7s,baz=123,slow=12,SNR=16								
ARA0	**ARCESS Array S**	**70.16**	**338**	*e*P		**P**		**10 24 59.6**	**+0.2**
ARCES	**ARCESS Array B**	**70.16**	**338**	P		**P**		**10 24 59.6**	**+0.2**
	comp=Z,12nm,0.6s,baz=68,slow=8.9,SNR=58								
ARCES				LR		LR		10 59 34.5	
	comp=Z,1μm,19.5s,baz=85,slow=39								
ARCES	**ARCESS Array B**	**70.16**	**338**	P		**P**		**10 24 59.2**	**-0.2**
GLI	**Glacier Island**	**70.16**	**31**	P				10 24 59.8	
	baz=283,SNR=93								
GLI				S				10 34 08.2	
	baz=283								
M24K	**Tolsona, Glenn**	**70.30**	**30**	IAMs_20		IAMs_20		10 55 06.0	
	comp=Z,969nm,20.0s								
M24K	**Tolsona, Glenn**	**70.30**	**30**	P				10 25 01.6	
	baz=283,SNR=91								
M24K				S				10 34 11.1	
	baz=283								
PAX	**Paxson**	**70.42**	**29**	IAmb		IAmb		10 25 03.7	
	comp=Z,129nm,1.0s								
PAX				IAMs_20		IAMs_20		10 56 24.0	
	comp=Z,1μm,20.0s								
PAX	**Paxson**	**70.42**	**29**	P				10 25 01.9	
	baz=284,SNR=104								
PAX				S				10 34 11.5	
	baz=284								
HAMF	**Hammerfest**	**70.47**	**339**	*e*P		**P**		**10 25 01.3**	**+0.1**
FID	**Port Fidalgo**	**70.48**	**31**	IAMs_20		IAMs_20		10 55 59.3	
	comp=Z,958nm,21.0s								
HIN	**Hinchinbrook I**	**70.55**	**32**	P		**P**		**10 25 02.9**	**+0.9**
HIN				IAmb		IAmb		10 25 05.1	
	comp=Z,144nm,0.8s								
HIN				IAMs_20		IAMs_20		10 56 45.6	
	comp=Z,900nm,20.0s								
KLU	**Klutina**	**70.56**	**31**	IAmb		IAmb		10 25 05.2	
	comp=Z,145nm,1.0s								
KLU	**Klutina**	**70.56**	**31**	P				10 25 02.8	
	baz=284,SNR=85								
KLU				S				10 34 15.1	
	baz=284								
HSPB	**Hornsund (broa**	**70.63**	**347**	*e*P		**P**		**10 25 02.5**	**+0.3**
SCRK	**Sand Creek**	**70.82**	**28**	P				10 25 04.1	
	baz=285,SNR=178								
SCRK				S				10 34 16.6	
	baz=285								
Q23K	**Middleton Isla**	**70.86**	**33**	P				10 25 04.2	
	baz=284								
DOT	**Dot Lake**	**70.87**	**28**	IAmb		IAmb		10 25 06.3	
	comp=Z,154nm,0.9s								
EYAK	**Cordova Ski Ar**	**70.88**	**32**	IAMs_20		IAMs_20		10 56 24.2	
	comp=Z,1μm,21.0s								
EYAK	**Cordova Ski Ar**	**70.88**	**32**	P				10 25 05.0	
	baz=284,SNR=53								
EYAK				S				10 34 14.6	
	baz=284								
KTK1	**Kautokeino**	**71.07**	**338**	*e*P		**P**		**10 25 05.1**	**+0.1**
N25K	**Chitina, Valde**	**71.15**	**30**	IAmb		IAmb		10 25 09.3	
	comp=Z,231nm,1.3s								
N25K				IAMs_20		IAMs_20		10 57 17.4	
	comp=Z,839nm,19.0s								
N25K	**Chitina, Valde**	**71.15**	**30**	P				10 25 06.8	
	baz=285,SNR=114								
N25K				S				10 34 21.0	
	baz=285								
MENT	**Mentasta**	**71.20**	**29**	P		**P**		**10 25 06.6**	**+0.7**
MENT				IAmb		IAmb		10 25 09.3	
	comp=Z,195nm,1.0s								
MENT				IAMs_20		IAMs_20		10 56 39.7	
	comp=Z,1μm,21.0s								
BMRM	**Bremner River**	**71.31**	**31**	IAMs_20		IAMs_20		10 55 20.7	
	comp=Z,1μm,22.0s								
BMRM	**Bremner River**	**71.31**	**31**	P				10 25 07.2	
	baz=285,SNR=96								
BMRM				S				10 34 23.0	
	baz=285								
RAGM	**Ragged Mountai**	**71.43**	**32**	IAMs_20		IAMs_20		10 57 32.8	
	comp=Z,1μm,20.0s								
GLB	**Gilahina Butte**	**71.56**	**30**	IAMs_20		IAMs_20		10 57 28.2	
	comp=Z,1μm,20.0s								
K27K	**Chicken**	**71.61**	**27**	P				10 25 09.5	
	baz=286								
K27K				S				10 34 24.8	
	baz=286								
HMT	**Hamilton**	**71.64**	**32**	IAmb		IAmb		10 25 11.9	

baz=286,SNR=122
FINES FINESS Array B 72.09 330 P P 10 25 10.8 -0.4
comp=Z,18nm,0.5s,baz=54,slow=5.9,SNR=128
FINES LR LR 10 59 56.6
comp=Z,4μm,19.0s,baz=76,slow=38
FINES FINESS Array B 72.09 330 P P 10 25 09.7 -1.5
DIKM Dikmen 72.11 308 ⇑P P 10 25 12.9 +1.1
TGL Tana Glacier 72.21 31 IAmb IAmb 10 25 15.1
comp=Z,231nm,1.1s
TGL IAMs_20 IAMs_20 10 57 50.7
comp=Z,1μm,21.0s
TRO Tromso 72.33 339 *eP* **P 10 25 12.7 +0.3**
VSU Vasula 72.64 327 *eP* **P 10 25 14.8 +0.2**
VSU Vasula 72.64 327 *d iP* **P 10 25 14.4 -0.1**
VSU pmax pmax
comp=Z,319nm,1.1s
BARN Barnard Glacie 72.66 30 IAmb IAmb 10 25 18.3
comp=Z,123nm,0.8s
BARN IAMs_20 IAMs_20 10 56 15.5
comp=Z,934nm,21.0s
GRNC Granite Creek 72.72 31 IAmb IAmb 10 25 18.7
comp=Z,315nm,1.5s
GRNC IAMs_20 IAMs_20 10 58 27.2
comp=Z,1μm,21.0s
DAWY Dawson 72.73 27 IAMs_20 IAMs_20 11 00 08.1
comp=Z,1μm,20.0s
MESA MESA 72.79 31 IAmb IAmb 10 25 19.2
comp=Z,179nm,1.0s
MESA IAMs_20 IAMs_20 10 57 09.3
comp=Z,838nm,19.0s
YAH Yahtse 72.83 31 IAmb IAmb 10 25 19.5
comp=Z,156nm,1.1s
YAH IAMs_20 IAMs_20 10 58 29.3
comp=Z,1μm,19.0s
CTG Chitna Glacier 72.84 30 P 10 25 16.8
baz=288,SNR=204
CTGM Chitina Glacie 72.84 30 P P 10 25 17.3 +1.3
CTGM IAMs_20 IAMs_20 10 55 58.2
comp=Z,1μm,22.0s
NOR Nord 72.86 354 *i P* **P 10 25 13.4 -2.1**
comp=Z,8.7nm,0.6s
NOR Nord 72.86 354 *i P* **P 10 25 13.4 -2.1**
NOR Nord 72.86 354 *i P* **P 10 25 13.4 -2.1**
NOR IAmb IAmb 10 25 15.7
comp=Z,8.7nm,0.6s
BZK Bozkurt 72.92 309 ⇑P P 10 25 16.9 +0.4
EPYK Eagle Plains 73.03 24 P 10 25 17.1
baz=290,SNR=181
LOGN Logan Glacier 73.04 31 IAmb IAmb 10 25 20.6
comp=Z,138nm,0.9s
LOGN IAMs_20 IAMs_20 10 58 19.5
comp=Z,828nm,21.0s
TABL Table Mountain 73.10 31 IAmb IAmb 10 25 20.9
comp=Z,228nm,1.1s
TABL IAMs_20 IAMs_20 10 58 47.2
comp=Z,899nm,20.0s
MNK Minsk 73.20 323 ⇓ *eP* **P 10 25 18.0 +0.1**
MNK pmax pmax
comp=Z,600nm,1.0s
MNK Minsk 73.20 323 *i P* **P 10 25 19.1 +1.2**
comp=E,27nm,1.1s
MNK *i* P **P 10 25 19.1 +1.2**
comp=N,55nm,1.1s
MNK *i* P **P 10 25 19.1 +1.2**
comp=Z,207nm,1.1s
MNK *i* PP **PP 10 28 02.9 +2.0**
MNK *i* PPP PPP 10 29 48.0
MNK *i* S **SKiKP 10 34 45.0 -1.4**
MNK *i* SS **SS 10 39 30.8 +6.5**
MNK *i* SSS SSS 10 43 23.1
MNK *i* LQ LQ 10 52 44.3
MNK *i* LR LR 10 58 20.0
MNK *i* LRM MLR 11 00 05.8
comp=E,146nm,17.3s
MNK *i* LRM MLR 11 00 05.8
comp=N,433nm,16.1s
MNK *i* LRM MLR 11 00 05.8
comp=Z,1μm,16.6s
INK Inuvik 73.48 22 P P 10 25 19.1 -0.2
comp=Z,164nm,0.9s,baz=301,slow=6.2,SNR=334
INK S **SKiKP 10 34 46.3 -0.2**
comp=Z,2.9nm,1.1s,baz=120,slow=29,SNR=13
INK Inuvik 73.48 22 IAmb IAmb 10 25 21.7
comp=Z,201nm,0.9s
INK IAMs_20 IAMs_20 11 03 43.7
comp=Z,849nm,19.0s
AKASG Malin Array Be 73.54 319 P P 10 25 18.9 -1.1
comp=Z,23nm,0.7s,baz=59,slow=6.0,SNR=116
AKASG Malin Array Be 73.54 319 *i P* **P 10 25 19.6 -0.4**
AKASG pmax pmax
comp=Z,41nm,0.9s
AKASG Malin Array Be 73.54 319 IAmb IAmb 10 25 20.8
comp=Z,31nm,1.1s
AKBB Malin Array Si 73.54 319 *ceP* **P 10 25 18.1 -1.9**
AKBB Malin Array Si 73.54 319 P P 10 25 18.6 -1.4
AKBB IAMs_20 IAMs_20 11 03 43.2
comp=Z,1μm,19.0s
IDID Didziasalis 73.58 324 *eP* **P 10 25 20.9 +0.8**
PCA Pinnacle 73.62 31 IAMs_20 IAMs_20 10 56 18.9
comp=Z,1μm,22.0s
PINM Pinnacle 73.63 31 P 10 25 21.8
baz=289,SNR=120
NACGM Naroch 73.68 323 *i P* **P 10 25 20.9 +0.1**
NACGM *i* P **P 10 25 20.9 +0.1**
NACGM *i* P **P 10 25 20.9 +0.1**
NACGM *i* PcP **sP 10 25 37.0 -0.2**
NACGM *i* PP PP 10 27 28.7 -36
NACGM *i* PPP PPP 10 29 43.3
NACGM *i* S **S 10 34 50.8 +2.4**
NACGM *i* PS **PnS 10 35 26.0 +1.0**
NACGM *i* SS SS 10 38 15.8 -76
NACGM *i* SSS SSS 10 41 48.5
NACGM *i* LQ LQ 10 53 49.8
NACGM *i* LR LR 10 58 28.2
ISAL Salakas 73.83 324 *eP* **P 10 25 22.3 +0.6**
BR131 Keskin Array S 73.84 307 *i P* **P 10 25 22.0 -0.2**
BR131 Keskin Array S 73.84 307 IAmb IAmb 10 25 37.3
comp=Z,102nm,1.1s
BRTR Keskin Array B 73.84 307 P P 10 25 22.2 0.0
comp=Z,28nm,0.8s,baz=103,slow=5.6,SNR=91
BRTR LR LR 11 03 44.0
comp=Z,965nm,18.4s,baz=74,slow=41
BRTR Keskin Array B 73.84 307 P P 10 25 21.6 -0.7
IIGN Ignalina 73.85 324 *eP* **P 10 25 22.4 +0.6**
BCPM Bancas Point 73.97 31 IAmb IAmb 10 25 25.6
comp=Z,231nm,1.2s
BCPM IAMs_20 IAMs_20 10 58 54.2
comp=Z,833nm,20.0s
MTSE Matsula 74.02 327 *eP* **P 10 25 22.3 -0.3**
STEI Steigen 74.22 338 *eP* **P 10 25 23.9 +0.2**
N2TV TѴrnvik 74.41 338 *eP* **P 10 25 24.7 0.0**
FAUS Fauske 74.42 337 *eP* **P 10 25 25.0 +0.1**
BR231 Keskin MP Arra 74.44 307 P P 10 25 25.5 -0.2
BR231 IAmb IAmb 10 25 27.2
comp=Z,62nm,0.9s
NBB08 Skaug oppvekst 74.65 337 *eP* **P 10 25 26.6 +0.5**
LOF Lofoten 74.71 338 *eP* **P 10 25 27.1 +0.6**
KIS Kishinev 74.94 315 *eP* **P 10 25 27.0 -1.2**
KIS Kishinev 74.94 315 *ePsP* 10 25 37.0
KIS Kishinev 74.94 315 *ePP* PP 10 28 26.0 +10
AFI Afiamalu 74.97 113 P P 10 25 29.4 +0.4
AFI pmax pmax
comp=Z,222nm,1.6s
AFI Afiamalu 74.97 113 P P 10 25 29.4 +0.4
AFI IAmb IAmb 10 25 50.1
comp=Z,222nm,1.6s
PABE Paberze 75.01 324 *eP* **P 10 25 28.3 -0.2**
NBB17 Glomfjord BѴr 75.14 337 *eP* **P 10 25 29.2 +0.2**
MOR8 Moi Rana 75.24 336 *eP* **P 10 25 28.1 -1.5**
NBB15 Halsa Church 75.30 337 *eP* **P 10 25 30.2 +0.3**
AAL Aland 75.33 330 *eP* **P 10 25 29.4 -0.7**
TLCR 75.53 313 ⇑P P 10 25 32.3 +0.7
CSS Mathiatis 75.56 302 P P 10 25 31.8 -0.3
CSS IAmb IAmb 10 25 53.5
comp=Z,64nm,0.7s
KONS Konsvik 75.58 337 *eP* **P 10 25 31.5 +0.1**
STOK Stokkvaagen 75.69 337 *eP* **P 10 25 31.7 -0.4**
VASR Vaslui 75.72 315 ⇑P P 10 25 33.6 +0.9
LEF Lefka 75.85 302 ⇑P P 10 25 34.4 +0.7
TPGR Topolog 75.90 313 ⇑P P 10 25 34.4 +0.5
PBUR Paburge 75.91 325 *eP* **P 10 25 33.7 +0.1**
WHY Whitehorse 75.91 30 P P 10 25 34.8 +1.1
WHY IAmb IAmb 10 25 37.4
comp=Z,204nm,1.1s
SUW Suwalki 75.96 323 *eP* **P 10 25 34.1 +0.2**
SUW Suwalki 75.96 323 *eP* **P 10 25 34.1 +0.2**
SUW Suwalki 75.96 323 P P 10 25 33.0 -1.0
SUW pmax pmax
comp=Z,459nm,1.0s
SUW MLR MLR
comp=Z,4μm,20.0s
SUW Suwalki 75.96 323 P P 10 25 33.0 -1.0
CFR Carcaliu 75.98 313 ⇓P P 10 25 34.3 +0.1
KHU Kahuku 76.02 75 P P 10 25 35.0 -0.2
KHU pmax pmax
comp=Z,321nm,1.2s
KHU Kahuku 76.02 75 P P 10 25 35.0 -0.2
C36M Paulatuk 76.08 19 IAmb IAmb 10 25 36.1
comp=Z,110nm,0.8s
C36M Paulatuk 76.08 19 P 10 25 34.0
baz=301
C36M S 10 35 10.9
baz=301
SKAG Skagway 76.18 31 IAmb IAmb 10 25 38.9
comp=Z,192nm,0.8s
SKAG Skagway 76.18 31 P 10 25 36.6
baz=293,SNR=67
HARR Harsova 76.28 313 ⇑P P 10 25 36.6 +0.6
PETR Petresti 76.40 314 ⇑P P 10 25 38.2 +1.6
PRAR RASCA 76.49 316 ⇑P P 10 25 37.2 +0.1
ODBI Odobesti 76.50 314 ⇑P P 10 25 38.3 +1.1
TESR Tescani 76.51 315 ⇑P P 10 25 37.2 0.0
ICOR Ion Corvin 76.56 312 ⇑P P 10 25 39.2 +1.6
VRI Vrincioaia 76.68 314 ⇑P P 10 25 39.7 +1.4
BIZ Bicaz 76.71 316 ⇑P P 10 25 38.5 +0.1
PLOR Plostina 76.74 314 ⇑P P 10 25 39.1 +0.5
BESE Bessie Mountai 76.75 32 P P 10 25 39.9 +1.4
ISP Isparta 76.76 306 IAmb IAmb 10 26 00.2
comp=Z,82nm,1.1s
NSS Namsos 76.90 335 *eP* **P 10 25 38.2 -0.8**
DAG Danmarks Havn 76.90 351 *i P* **P 10 25 36.3 -2.6**
comp=Z,6.5nm,0.8s
DAG Danmarks Havn 76.90 351 *i P* **P 10 25 36.3 -2.6**
DAG Danmarks Havn 76.90 351 *i P* **P 10 25 36.3 -2.6**
DAG IAmb IAmb 10 25 39.0
comp=Z,6.5nm,0.8s
LVV L'vov 76.98 319 *c iP* **P 10 25 40.2 +0.4**
LVV *e* 10 25 54.1
LVV *e* 10 28 35.0
LVV *eS* **S 10 35 20.7 -4.5**
LVV *ePS* **PnS 10 36 05.1 -2.6**
LVV pmax pmax
comp=Z,200nm,1.4s
BURAR Bucovina Array 77.04 316 ⇑P P 10 25 40.4 +0.1
BURAR Bucovina Array 77.04 316 P P 10 25 39.2 -1.2
ISR Istrita 77.06 314 ⇑P P 10 25 42.3 +1.8
JIS Juneau Island 77.11 32 IAmb IAmb 10 25 44.2
comp=Z,190nm,1.0s
JIS IAMs_20 IAMs_20 11 00 32.2
comp=Z,744nm,20.0s
NEHR Nehoiu 77.12 314 ⇑P P 10 25 42.4 +1.6
SIT Sitka 77.14 33 P 10 25 42.3
baz=294
OZUR 77.21 315 ⇑P P 10 25 42.9 +1.7
MLR Muntele Rosu 77.33 314 ⇓P P 10 25 42.1 +0.1
MLR Muntele Rosu 77.33 314 IAmb IAmb 10 25 44.0
comp=Z,85nm,1.1s
RAZG Razgrad 77.63 312 ⇑P P 10 25 44.9 +1.3
ARCR ARCALIA 77.78 316 ⇑P P 10 25 46.1 +1.7
KWP Kalwaria Pacla 77.85 319 *eP* **P 10 25 45.5 +0.8**
KWP Kalwaria Pacla 77.85 319 P P 10 25 44.7 0.0
KWP pmax pmax
comp=Z,130nm,0.8s
KWP Kalwaria Pacla 77.85 319 P P 10 25 44.7 0.0
KWP IAmb IAmb 10 25 46.9
comp=Z,130nm,0.8s
VOIR 77.93 314 ⇑P P 10 25 46.1 +0.8
MTUR Matau 78.00 314 ⇑P P 10 25 47.0 +1.2
BMR Baia Mare 78.10 317 ⇑P P 10 25 47.7 +1.5
BEL Belsk 78.12 321 *eP* **P 10 25 46.8 +0.7**
ARR Arges 78.23 314 ⇑P P 10 25 47.2 +0.2
COPA Copaceanca 78.30 313 ⇑P P 10 25 48.0 +0.7
HUMR Humele 78.31 314 ⇑P P 10 25 47.5 +0.2
KOLS Kolonicke sedl 78.38 318 *eP* **P 10 25 47.8 +0.1**
KOLS pmax pmax
comp=Z,26nm,1.3s
KOLS Kolonicke sedl 78.38 318 *eP* **P 10 25 47.8 +0.1**
CJR Cluj-Napoca 78.40 316 ⇑P P 10 25 49.6 +1.7
UZH Uzhgorod 78.48 318 *i iP* **P 10 25 48.5 +0.3**
UZH *e* 10 25 56.8
NC303 NORSAR Array S 78.71 332 IAmb IAmb 10 25 50.5
comp=Z,177nm,1.0s
LOT Lotru 78.77 315 ⇑P P 10 25 50.2 +0.2
NB201 NORSAR Array S 78.83 332 IAmb IAmb 10 25 51.4
comp=Z,141nm,0.8s
NB2 NORSAR Subarra 78.87 332 P P 10 25 49.0 -1.1
comp=Z,49nm,0.8s,baz=62,slow=5.6
NB2 NORSAR Subarra 78.87 332 P P 10 25 49.0 -1.1
baz=62,slow=5.6
NOA NORSAR Array B 78.87 332 P P 10 25 49.0 -1.1
comp=Z,39nm,0.8s,baz=62,slow=5.2,SNR=72
NOA PP **PP 10 28 50.9 +2.3**
comp=Z,3.0nm,0.9s,baz=68,slow=8.3,SNR=4.3
NOA LR LR 11 04 07.4
comp=Z,5μm,18.7s,baz=70,slow=38
NC602 NORSAR Array S 78.87 332 IAmb IAmb 10 25 50.9
comp=Z,155nm,1.2s
NC602 NORSAR Array S 78.87 332 *eP* **P 10 25 49.3 -0.8**
CRVS Cervenica-Dubn 78.88 319 *eP* **P 10 25 50.9 +0.5**
CRVS pmax pmax
comp=Z,130nm,1.6s
CRVS Cervenica-Dubn 78.88 319 *eP* **P 10 25 50.9 +0.5**
WRAK Wrangell Islan 78.89 33 P P 10 25 51.4 +1.1
WRAK IAmb IAmb 10 25 53.7
comp=Z,110nm,0.9s
WRAK Wrangell Islan 78.90 33 P 10 25 51.6
baz=296,SNR=29
CRAG Craig 78.92 34 IAmb IAmb 10 25 53.4
comp=Z,102nm,1.0s
CRAG Craig 78.92 34 P 10 25 51.7
baz=296
ALN Alexandroupoli 78.92 310 IAmb IAmb 10 25 52.5
comp=Z,93nm,1.2s
DRGR 78.93 316 ⇓P P 10 25 50.8 0.0
NC204 NORSAR Array S 78.94 333 IAmb IAmb 10 25 51.6
comp=Z,104nm,0.8s
RES Resolute Bay 79.05 9 P P 10 25 50.5 -0.4
comp=Z,17nm,0.7s,baz=303,slow=6.0,SNR=59
NBO00 NORSAR Array S 79.06 332 IAmb IAmb 10 26 12.7
comp=Z,361nm,1.9s
DLBC Dease Lake 79.10 31 P P 10 25 53.2 +1.7
comp=Z,80nm,1.0s,baz=306,slow=5.3,SNR=96
DLBC Dease Lake 79.10 31 P P 10 25 53.0 +1.5
DLBC IAmb IAmb 10 25 54.8
comp=Z,149nm,1.1s
NAO01 NORSAR Array S 79.10 332 IAmb IAmb 10 25 52.6
comp=Z,95nm,1.0s
DBG Daneborg 79.14 350 *i P* **P 10 25 51.7 +0.4**
DBG IAmb IAmb 10 25 52.0
comp=Z,21nm,1.1s
DEV Deva 79.16 315 ⇑P P 10 25 53.2 +1.2
DOMB Dombas 79.26 334 *eP* **P 10 25 51.9 -0.4**
OJC Ojcow 79.34 320 *eP* **P 10 25 52.7 -0.3**
OJC Ojcow 79.34 320 IAmb IAmb 10 25 55.0
comp=Z,122nm,0.7s
NIE Niedzica 79.38 319 *eP* **P 10 25 54.4 +1.3**
GZR Gura Zlata 79.43 315 ⇑P P 10 25 54.4 +0.8
SRE Strehaia 79.44 314 ⇑P P 10 25 54.8 +1.3
MOL Molde 79.59 335 *eP* **P 10 25 54.0 0.0**
OSL Oslo 79.62 331 *eP* **P 10 25 53.9 -0.3**
KECS Kecovo 79.64 318 *eP* **P 10 25 55.3 +0.7**
KECS pmax pmax
comp=Z,31nm,1.2s
KECS Kecovo 79.64 318 *eP* **P 10 25 55.3 +0.7**
PUNG Punghina 79.77 314 ⇑P P 10 25 56.7 +1.4
SIRR Siria 79.81 316 ⇑P P 10 25 56.6 +1.1
HERR Herculane 79.87 315 ⇑P P 10 25 57.0 +1.1
LANS Liptovska Anna 79.98 319 *eP* **P 10 25 58.1 +1.6**
LANS pmax pmax
comp=Z,16nm,0.9s
LANS Liptovska Anna 79.98 319 *eP* **P 10 25 58.1 +1.6**
AKN Aaknes 80.02 334 *eP* **P 10 25 57.0 +0.6**
KARP Karpathos 80.09 304 IAmb IAmb 10 25 58.8
comp=Z,227nm,1.4s
BZS Buzias 80.09 315 ⇓P P 10 25 56.8 -0.3
VTS Vitosha 80.21 312 IAmb IAmb 10 26 00.4
comp=Z,141nm,0.9s
VTS IAMs_20 IAMs_20 11 06 02.2
comp=Z,981nm,19.0s
PSZ Piszkesteto 80.24 318 ⇑P P 10 25 58.8 +0.9
PSZ Piszkesteto 80.24 318 IAmb IAmb 10 25 59.9
comp=Z,78nm,1.1s
PSZ IAMs_20 IAMs_20 11 06 40.4
comp=Z,1μm,19.0s
DIB Dawson Inlet, 80.26 36 P P 10 25 58.9 +1.1
DIB IAmb IAmb 10 26 00.5
comp=Z,142nm,1.1s
KONO Kongsberg 80.26 331 *eP* **P 10 25 57.6 0.0**
SKAR Skarsvag 80.28 333 *eP* **P 10 25 58.2 +0.3**
NGZ Ngauruhoe 80.31 140 P P 10 25 59.6 +1.2
OTVZ Oturere 80.34 140 P P 10 25 59.9 +1.4
MDVR Moldovita 80.37 315 ⇑P P 10 25 58.6 0.0
OKC Ostrava-Krasne 80.47 320 AMS AMS 11 04 20.0
comp=Z,1μm,16.3s
MOVZ Moawhango 80.55 141 P P 10 25 59.7 +0.1
VYHS Vyhne 80.64 319 *eP* **P 10 26 00.9 +0.9**
VYHS pmax pmax
comp=Z,153nm,0.9s
VYHS Vyhne 80.64 319 *eP* **P 10 26 00.9 +0.9**
RUGZ Raukumara Rang 80.76 138 P P 10 26 00.4 -0.4
BHHZ Black Hill Sta 80.79 140 P P 10 26 00.9 +0.1
BOVS Bovan 80.83 314 ⇓P P 10 26 01.1 0.0
MORC Moravsky Berou 80.85 320 ⇑P P 10 26 01.4 +0.3
MORC Moravsky Berou 80.85 320 *eP* **P 10 26 01.7 +0.6**
RPZ Rata Peaks 80.93 146 P P 10 26 00.3 -1.1
PKGZ Pakihiroa 80.96 138 P P 10 26 03.5 +1.7
LBZ Lake Benmore 80.97 147 P P 10 26 00.9 -0.7
LNIZ Loecknitz 81.03 325 *eP* **P 10 26 01.4 -0.5**
comp=Z,198nm,1.0s,baz=60,slow=5.1
SANT Santorini 81.06 306 IAMs_20 IAMs_20 11 08 27.9
comp=Z,778nm,19.0s
KRHZ Kereru 81.07 140 P P 10 26 02.6 +0.4
KSP Ksiaz 81.10 322 *eP* **P 10 26 03.2 +0.9**
TSZ Takapari Road 81.10 141 P P 10 26 01.9 -0.5
KRLC Kraliky 81.16 321 *eP* **P 10 26 03.0 +0.2**
KRLC MLR MLR
comp=Z,1μm,17.9s
KRLC Kraliky 81.16 321 *eP* **P 10 26 03.0 +0.2**
KRLC AMS AMS 11 04 50.0
comp=Z,1μm,17.9s
JAVC Velka Javorina 81.18 320 *eP* **P 10 26 04.2 +1.3**
SRO Srobarova 81.25 318 *eP* **P 10 26 04.7 +1.5**
SRO pmax pmax
comp=Z,66nm,0.9s
SRO Srobarova 81.25 318 *eP* **P 10 26 04.7 +1.5**
OSTC Ostas 81.27 322 *eP* **P 10 26 04.0 +0.7**
OSTC AMS AMS 11 06 40.0
comp=Z,2μm,18.1s
STIP Stip 81.30 312 *i P* **P 10 26 01.7 -1.9**
DPC Dobruska-Polom 81.30 321 *eP* **P 10 26 03.8 +0.3**
DPC *e* 10 36 08.1
DPC MLR MLR
comp=Z,2μm,15.9s
DPC Dobruska-Polom 81.30 321 *eP* **P 10 26 03.8 +0.3**
DPC *e*SKS **S 10 36 08.1 -3.2**
DPC AMS AMS 11 06 40.0
comp=Z,2μm,15.9s
KHZ Kahutara 81.33 144 P P 10 26 03.0 -0.5
CHVC Chvalec 81.35 322 *eP* **P 10 26 04.5 +0.8**
CHVC AMS AMS 11 06 30.0
comp=Z,2μm,20.8s
DVHZ Dannevirke 81.38 141 P P 10 26 03.4 -0.5
UPC Upice 81.41 322 *eP* **P 10 26 04.6 +0.6**
UPC MLR MLR
comp=Z,2μm,19.8s
UPC Upice 81.41 322 *eP* **P 10 26 04.6 +0.6**
UPC AMS AMS 11 06 40.0
comp=Z,2μm,19.8s
FRGS Fruska Gora 81.44 316 ⇑P P 10 26 05.0 +0.7
FRGS Fruska Gora 81.44 316 *i iP* **P 10 26 03.7 -0.6**
SMOL Smolenice 81.47 319 *eP* **P 10 26 05.3 +0.9**
SMOL pmax pmax
comp=Z,33nm,1.2s
SMOL Smolenice 81.47 319 *eP* **P 10 26 05.3 +0.9**
VRAC Vranov 81.61 320 *eP* **P 10 26 05.5 +0.4**
MODS Modra-Piesok 81.62 319 *eP* **P 10 26 06.0 +0.8**
MODS pmax pmax
comp=Z,54nm,1.1s
MODS Modra-Piesok 81.62 319 *eP* **P 10 26 06.0 +0.8**
BFZ Birch Farm 81.67 141 IAmb IAmb 10 26 06.2
comp=Z,100nm,0.8s
SKO Skopje 81.69 312 *i P* **P 10 26 06.8 +1.1**
LIT Litokhoron 81.73 310 IAmb IAmb 10 26 06.1
comp=Z,120nm,1.4s
MORH Mrgy. Hungar 81.73 317 ⇑ *iP* **P 10 26 05.5 -0.3**
RUE Ruedersdorf 81.73 324 *eP* **P 10 26 05.8 +0.2**
comp=Z,142nm,0.8s,baz=60,slow=5.1
DIVS Divibare 81.77 315 *eP* **P 10 26 05.8 -0.4**
DIVS Divibare 81.77 315 IAmb IAmb 10 26 08.3
comp=Z,79nm,1.2s
DIVS IAMs_20 IAMs_20 11 08 47.3
comp=Z,810nm,20.0s
ZST Bratislava 81.81 319 *eP* **P 10 26 07.1 +0.9**
ZST pmax pmax
comp=Z,79nm,1.0s
ZST Bratislava 81.81 319 *eP* **P 10 26 07.1 +0.9**
KRUC Moravsky 81.84 320 *eP* **P 10 26 06.3 0.0**
TEKS Tekeris 81.88 315 *eP* **P 10 26 06.6 -0.1**
IDI Anoyia 81.90 305 ⇑P P 10 26 06.2 -0.8
IDI Anoyia 81.90 305 IAmb IAmb 10 26 10.7
comp=Z,110nm,1.6s
KULLO Kullorsuaq 81.94 360 *i P* **P 10 26 06.6 +0.2**
comp=Z,41nm,1.0s
KULLO Kullorsuaq 81.94 360 *i P* **P 10 26 06.6 +0.2**
KULLO Kullorsuaq 81.94 360 *i P* **P 10 26 06.6 +0.2**
KULLO IAmb IAmb 10 26 07.7
comp=Z,41nm,1.0s
MUD Monsted U'grnd 82.09 329 *i P* **P 10 26 06.0 -1.4**
comp=Z,125nm,1.4s
MUD Monsted U'grnd 82.09 329 *i P* **P 10 26 06.0 -1.4**
MUD Monsted U'grnd 82.09 329 *i P* **P 10 26 06.1 -1.4**
MUD IAmb IAmb 10 26 09.8
comp=Z,126nm,1.4s
PVCC Panska Ves 82.22 322 *eP* **P 10 26 09.3 +1.0**
PVCC Panska Ves 82.22 322 *eP* **P 10 26 09.3 +1.0**
FNA Florina 82.22 311 IAmb IAmb 10 26 09.2
comp=Z,69nm,0.9s
BBLS Lazići 82.25 315 ⇑ *iP* **P 10 26 08.4 -0.3**
TREC Trest 82.27 321 *eP* **P 10 26 08.5 -0.1**
TREC MLR MLR
comp=Z,2μm,18.8s
TREC Trest 82.27 321 *eP* **P 10 26 08.5 -0.1**
TREC AMS AMS 11 05 30.0
comp=Z,2μm,18.8s
AGG Agios Georgios 82.28 309 IAmb IAmb 10 26 08.9
comp=Z,81nm,0.9s
GOPC GO Pecny, Ondr 82.38 321 *eP* **P 10 26 10.1 +0.9**
GOPC MLR MLR
comp=Z,2μm,15.8s
GOPC GO Pecny, Ondr 82.38 321 *eP* **P 10 26 10.1 +0.9**
GOPC AMS AMS 11 07 10.0
comp=Z,2μm,15.8s
BRG Berggiesshubel 82.41 323 *i P* **P 10 26 09.4 +0.2**
BRG Amp 10 26 10.7
comp=Z,44nm,0.9s
BRG S **S 10 36 27.0 +4.5**
BRG Amp 11 07 49.0
comp=E,1.3nm,18.2s
BRG Amp 11 07 49.0
comp=N,1.7nm,18.9s
BRG Amp 11 07 52.0
comp=Z,2.1nm,19.9s
BRG Berggiesshubel 82.41 323 *eP* **P 10 26 09.2 0.0**
comp=Z,44nm,0.9s,baz=60,slow=5.1
HAPS Han Pijesak,Bl 82.45 315 *eP* **P 10 26 08.4 -1.4**
OHR Ohrid 82.49 312 *i P* **P 10 26 09.7 -0.3**
PRU Pruhonice 82.49 322 *eP* **P 10 26 09.8 +0.1**
PRU *e* 10 26 28.0
PRU MLR MLR
comp=Z,2μm,19.2s
PRU Pruhonice 82.49 322 *eP* **P 10 26 09.8 +0.1**
PRU *e*sP **sP 10 26 28.0 +1.7**
PRU AMS AMS 11 07 30.0
comp=Z,2μm,19.2s
PRA Prague 82.51 322 AMS AMS 11 07 20.0
comp=Z,2μm,17.5s
CONA Conrad Observa 82.67 319 *i P* **P 10 26 11.5 +0.7**
comp=Z,73nm,1.1s,SNR=33
FBE Freiberg 82.71 323 *eP* **P 10 26 11.2 +0.4**
comp=Z,114nm,1.1s,baz=60,slow=5.1
CLL Collm 82.72 323 *i P* **P 10 26 10.4 -0.5**
comp=Z,87nm,1.0s
CLL *e*PP **PP 10 29 20.0 -0.6**

CLL eS S 10 36 22.0 -3.6
CLL ePS PnS 10 37 18.0 -1.4
CLL eSS SS 10 41 36.0 -12
CLL eSSmax 10 42 42.0
CLL e 10 47 18.0
CLL eSSSS 10 48 00.0
CLL Lm MLR 11 07 00.0
comp=N,2µm,18.4s
CLL Lm MLR 11 07 00.0
comp=E,2µm,19.0s
CLL Lm MLR 11 07 00.0
comp=Z,4µm,19.7s
CLL Collm 82.72 323 *i* P P 10 26 10.4 -0.5
CLL eS S 10 36 22.0 -3.6
CLL pmax pmax
comp=Z,87nm,1.0s
CLL MLR MLR
comp=Z,4µm,19.7s
CLL Collm 82.72 323 P P 10 26 10.1 -0.8
CLL IAmb IAmb 10 26 12.3
comp=Z,69nm,0.8s
CLL Collm 82.72 323 eP P 10 26 10.5 -0.3
comp=Z,87nm,1.0s,baz=60,slow=5.1
BEHE Becsehely 82.78 318 ⇑*i*P P 10 26 13.7 +2.4
BSEG Bad Segeberg 82.83 326 eP P 10 26 11.4 +0.1
comp=Z,53nm,0.9s,baz=60,slow=5.1
UPM Unac-Piva 82.87 314 eP P 10 26 11.4 -0.6
SKMB Sankelmark Bun 82.87 327 eP P 10 26 12.1 +0.6
comp=Z,177nm,0.8s,baz=60,slow=5.1
PBCC Pribram 82.94 321 eP P 10 26 13.0 +0.9
PDG Podgorica 82.97 313 ⇑P P 10 26 12.6 +0.2
PDG Podgorica 82.97 313 eP P 10 26 12.5 +0.2
PDG Podgorica 82.97 313 IAMs_20 IAMs_20 11 09 07.0
comp=Z,944nm,21.0s
SUMG Summit 83.02 354 *i* P P 10 26 11.3 -1.2
comp=Z,13nm,0.7s
SUMG Summit 83.02 354 *i* P P 10 26 11.3 -1.2
SUMG Summit 83.02 354 *i* P P 10 26 11.4 -1.2
SUMG IAmb IAmb 10 26 13.5
comp=Z,13nm,0.7s
BBB Bella Bella 83.08 36 P P 10 26 12.8 +0.1
comp=Z,28nm,0.9s,baz=317,slow=6.8,SNR=5.8
KOGS Kog 83.11 318 *i* P P 10 26 12.4 -0.6
comp=Z,196nm,1.5s
DRME Dracevica, Mon 83.12 313 eP P 10 26 13.0 -0.1
KALN Kalnik 83.13 317 *i* P P 10 26 12.8 -0.4
FLTG Flechtingen 83.17 325 eP P 10 26 12.7 -0.4
comp=Z,79nm,1.2s,baz=60,slow=5.1
CKRC Cesky Krumlov 83.17 321 eP P 10 26 13.9 +0.6
CKRC AMS AMS 11 06 00.0
comp=Z,2µm,17.9s
ARSA Arzberg 83.19 319 *i* P P 10 26 13.4 0.0
comp=Z,40nm,0.9s,SNR=14
YKA Yellowknife Ar 83.21 23 P P 10 26 12.8 -0.4
comp=Z,36nm,0.7s,baz=319,slow=4.4,SNR=470
YKA PKKP **PKKPdf 10 44 17.9 -6.6**
comp=Z,0.2nm,0.6s,baz=136,slow=3.0,SNR=5.0
YKA PKKPbc **PKKPbc 10 44 31.4 -3.5**
comp=Z,1.7nm,0.7s,baz=120,slow=2.9,SNR=20
YKA PKPPKP P'P'df 10 52 25.9 -17
comp=Z,0.2nm,0.7s,baz=155,slow=3.1,SNR=4.7
YKA LR LR 11 06 30.9
comp=Z,522nm,20.7s,baz=0,slow=38
BRY Bratogost 83.24 314 eP P 10 26 13.1 -0.8
BLY Banja Luka 83.30 316 ⇑*i*P P 10 26 13.9 -0.1
NEUB Neuenburg 83.44 323 eP P 10 26 14.5 0.0
comp=Z,144nm,1.0s,baz=60,slow=5.1
TREB Trebinje 83.45 314 eP P 10 26 14.8 0.0
KHC Kasperske Hory 83.45 321 eP P 10 26 14.6 -0.1
KHC *e* 10 36 31.5
KHC MLR MLR
comp=Z,2µm,17.7s
KHC Kasperske Hory 83.45 321 eP P 10 26 14.6 -0.1
KHC *ex* x 10 26 21.0
KHC eSKS S 10 36 31.5 -1.7
KHC AMS AMS 11 08 00.0
comp=Z,2µm,17.7s
KHC Kasperske Hory 83.45 321 IAmb IAmb 10 26 16.7
comp=Z,67nm,0.9s
TANN Tannenbergstha 83.45 323 eP P 10 26 14.7 0.0
comp=Z,56nm,1.1s,baz=60,slow=5.1
HCY Herceg Novi 83.47 314 eP P 10 26 14.5 -0.4
MGRS Mrkonjic Grad 83.51 316 eP P 10 26 15.9 +0.8
GEC2 GERESS Array S 83.51 321 IAmb IAmb 10 26 16.9
comp=Z,107nm,0.8s
GEC2 GERESS Array S 83.51 321 eP P 10 26 15.1 0.0
comp=Z,127nm,0.9s,baz=60,slow=5.1
GERES GERESS Array B 83.51 321 P P 10 26 15.0 -0.1
comp=Z,76nm,0.8s,baz=64,slow=6.1,SNR=260
GERES LR LR 11 06 53.7
comp=Z,2µm,19.4s,baz=62,slow=38
GERES GERESS Array B 83.51 321 P P 10 26 14.4 -0.8
WERD Werda 83.53 323 eP P 10 26 14.9 -0.1
comp=Z,34nm,0.9s,baz=60,slow=5.1
PTJ Puntijarka 83.54 317 P P 10 26 14.6 -0.8
NKC Novy Kostel 83.55 322 eP P 10 26 15.5 +0.3
NKC MLR MLR
comp=Z,2µm,16.9s
NKC Novy Kostel 83.55 322 eP P 10 26 15.5 +0.3
NKC AMS AMS 11 07 10.0
comp=Z,2µm,16.9s
GUNZ Gunzen 83.55 323 eP P 10 26 15.3 +0.1
comp=Z,91nm,0.9s,baz=60,slow=5.1
WERN Wernitzgruen 83.56 322 eP P 10 26 15.4 +0.1
comp=Z,95nm,1.0s,baz=60,slow=5.1
ASSE Asse, Remlinge 83.57 325 eP P 10 26 15.3 +0.2
comp=Z,68nm,1.4s,baz=60,slow=5.1
PLN Plauen 83.59 323 eP P 10 26 15.4 0.0
comp=Z,62nm,1.0s,baz=60,slow=5.1
MOA Molln 83.66 320 *i* P P 10 26 15.9 +0.1
comp=Z,57nm,0.7s,SNR=44
NRDL Niedersach Rie 83.68 325 eP P 10 26 16.4 +0.7
comp=Z,73nm,1.3s,baz=60,slow=5.1
UPNV Upernavik 83.74 359 *i* P P 10 26 14.6 -1.1
UPNV IAmb IAmb 10 26 16.6
comp=Z,25nm,1.2s
SOKA Soboth 83.75 318 *i* P P 10 26 16.1 -0.3
comp=Z,83nm,0.7s,SNR=29
MOX Moxa 83.81 323 eP P 10 26 16.5 0.0
comp=Z,63nm,1.0s,baz=60,slow=5.1
MOX eL L 11 07 55.1
comp=Z,3µm,19.6s
WET Wettzell 83.84 321 eP P 10 26 17.0 +0.3
comp=Z,56nm,1.1s,baz=60,slow=5.1
MANZ Manzenberg 83.86 322 eP P 10 26 17.0 +0.2
comp=Z,62nm,1.0s,baz=60,slow=5.1
CLZ Clausthal 83.88 324 eP P 10 26 17.2 +0.4
comp=Z,134nm,0.9s,baz=60,slow=5.1
CLZ ePP PP 10 29 28.3 -1.8
CRES Cresnjev 83.89 318 ⇑*i*P P 10 26 16.4 -0.6
ROTZ Rotzenmuhle 83.92 322 eP P 10 26 17.4 +0.4
comp=Z,114nm,1.1s,baz=60,slow=5.1
OPO Ambohidratompo 83.95 247 LR LR 11 00 00.9
comp=Z,323nm,21.1s,baz=204,slow=33
OZLJ Ozalj 83.98 317 *i* P P 10 26 17.6 +0.2
MAKA Makarska 84.06 315 *i* P P 10 26 16.8 -1.1
ABPO Ambohimpanom 84.12 246 P P 10 26 19.5 +0.7
ABPO pmax pmax
comp=Z,145nm,0.9s
ABPO Ambohimpanom 84.12 246 P P 10 26 19.5 +0.7
ABPO Ambohimpanom 84.12 246 IAMs_20 IAMs_20 10 59 00.4
comp=Z,906nm,21.0s
OBKA Obir 84.13 318 *i* P P 10 26 18.1 -0.3
comp=Z,82nm,0.8s,SNR=18
KIJV Kijevo 84.13 316 *i* P P 10 26 18.0 -0.3
BOJS Bojanci 84.17 317 *i* P P 10 26 18.5 +0.1
comp=Z,241nm,1.7s
GTTG Gottingen 84.25 324 eP P 10 26 18.9 +0.2
comp=Z,108nm,0.8s,baz=60,slow=5.1
UDBI Udbina 84.30 316 *i* P P 10 26 18.9 -0.3
LJU Ljubljana 84.36 318 *i* P P 10 26 19.0 -0.4
LJU Ljubljana 84.36 318 ⇑*i*P P 10 26 18.4 -1.0
HVAR Hvar 84.48 315 *i* P P 10 26 18.5 -1.5
GRA1 Grafenberg Arr 84.51 322 P P 10 26 19.9 -0.2
GRA1 IAmb IAmb 10 26 21.7
comp=Z,86nm,0.9s
GRF Grafenberg Arr 84.51 322 P P 10 26 19.9 -0.2
GRF pmax pmax
comp=Z,86nm,0.9s
GRF MLR MLR
comp=Z,2µm,19.0s
GRF Grafenberg Arr 84.51 322 eP P 10 26 20.4 +0.3
comp=Z,106nm,0.9s,baz=60,slow=5.1
GRF eL L 11 08 21.4
comp=Z,2µm,19.0s
GRFO Grafenberg 84.51 322 P P 10 26 20.1 0.0
GRFO pmax pmax
comp=Z,77nm,0.9s
GRFO MLR MLR
comp=Z,2µm,19.0s
GRFO Grafenberg 84.51 322 P P 10 26 20.1 0.0
GRFO IAmb IAmb 10 26 21.6
comp=Z,77nm,0.9s
CEY Cerknica 84.57 318 ⇑*i*P P 10 26 20.1 -0.4
KBA Koelnbreinsper 84.58 319 *i* P P 10 26 19.9 -0.8
comp=Z,47nm,0.7s,SNR=25
RJOB Jochberg 84.58 320 eP P 10 26 20.5 -0.1
comp=Z,353nm,0.8s,baz=60,slow=5.1
UBBA Unterbreizbach 84.60 324 eP P 10 26 20.7 +0.4
comp=Z,33nm,0.6s,baz=60,slow=5.1
MYKA Terra Mystica 84.62 319 *i* P P 10 26 20.3 -0.5
comp=Z,37nm,1.0s,SNR=12
MORI Morici 84.64 316 *i* P P 10 26 19.7 -1.2
NVLJ Novalja 84.85 317 *i* P P 10 26 20.3 -1.5
TRI Trieste 84.99 318 IAmb IAmb 10 26 23.0
comp=Z,55nm,0.8s
TRI IAMs_20 IAMs_20 11 09 45.2
comp=Z,1µm,19.0s
DUGI Dugi Otok 85.00 316 *i* P P 10 26 20.9 -1.8
IBBN Ibbenburen 85.00 326 eP P 10 26 22.5 +0.1
comp=Z,151nm,0.8s,baz=60,slow=5.1
ZOU Zoufplan 85.06 319 IAmb IAmb 10 26 23.2
comp=Z,57nm,0.7s
KIBK Kibwezi 85.14 265 P P 10 26 25.0 +1.1
SNR=17
ABTA Abfaltersbach 85.24 319 *i* P P 10 26 22.8 -1.2
comp=Z,74nm,0.8s,SNR=35
FUR Furstenfeldbru 85.25 321 eP P 10 26 24.2 +0.4
comp=Z,302nm,0.9s,baz=60,slow=5.1
KASTN Kahler Asten 85.25 325 eP P 10 26 23.9 +0.1
comp=Z,66nm,1.2s,baz=60,slow=5.1
LODK Lodwar 85.30 272 P P 10 26 26.0 +1.2
SNR=17
KMBO Kilima Mbogo 85.38 267 P P 10 26 26.4 +1.1
comp=Z,38nm,0.8s,baz=48,slow=6.0,SNR=48
KMBO LR LR 11 03 27.5
comp=Z,364nm,21.9s,baz=92,slow=35
WATA Walderalm 85.50 320 *i* P P 10 26 24.8 -0.4
comp=Z,69nm,1.0s,SNR=14
WTTA Wattenberg 85.50 320 *i* P P 10 26 25.0 -0.3
comp=Z,136nm,1.0s,SNR=40
SGRT San Giovanni R 85.61 314 IAmb IAmb 10 26 27.1
comp=Z,96nm,0.9s
BUG Bochum-Univer 85.73 325 eP P 10 26 26.0 -0.1
comp=Z,162nm,1.1s,baz=60,slow=5.1
TNS Taunus Mts 85.76 324 eP P 10 26 26.5 +0.1
comp=Z,74nm,1.4s,baz=60,slow=5.1
MOTA Moosalm 85.77 320 *i* P P 10 26 26.1 -0.6
comp=Z,72nm,1.0s,SNR=26
SQTA Sankt Quirin 85.77 320 *i* P P 10 26 26.8 +0.1
comp=Z,97nm,0.9s,SNR=25
VOI Vohitsoka 85.81 244 P P 10 26 27.2 0.0
SNR=12
RETA Reutte 85.90 321 *i* P P 10 26 26.5 -0.6
comp=Z,31nm,1.1s,SNR=9.0
CTI Castel Tesino 86.10 319 IAmb IAmb 10 26 29.0
comp=Z,60nm,1.3s
TIP Timpagrande 86.12 311 IAmb IAmb 10 26 30.4
comp=Z,108nm,1.1s
STU Stuttgart 86.12 322 eP P 10 26 27.9 -0.3
comp=Z,53nm,1.0s,baz=60,slow=5.1
FETA Fehmtet 86.16 320 *i* P P 10 26 28.0 -0.6
comp=Z,72nm,1.0s,SNR=28
UBR Ueberruh 86.17 321 eP P 10 26 28.2 -0.3
comp=Z,68nm,0.9s,baz=60,slow=5.1
AHRW Bad Neuenahr-A 86.33 324 eP P 10 26 29.2 +0.1
comp=Z,64nm,1.1s,baz=60,slow=5.1
DAVA Damuels 86.51 321 *i* P P 10 26 30.0 -0.3
comp=Z,35nm,0.8s,SNR=12
INTR Introdacqua 86.69 315 IAmb IAmb 10 26 34.0
comp=Z,100nm,1.1s
PAOL Paolisi 86.73 314 IAMs_20 IAMs_20 11 11 32.5
comp=Z,931nm,22.0s
NRCA Norcia 86.80 316 P P 10 26 31.6 -0.2
BTNL Ternell 86.80 325 *d*P P 10 26 31.2 -0.3
comp=Z,50nm,1.3s
BFO Black Forest 86.84 322 P P 10 26 30.9 -0.9
BFO pmax pmax
comp=Z,29nm,1.2s
BFO Black Forest 86.84 322 P P 10 26 30.9 -0.9
BFO Black Forest 86.84 322 eP P 10 26 31.4 -0.3
comp=Z,42nm,1.4s,baz=60,slow=5.1
AQU L'Aquila 86.85 315 ⇑*i*P P 10 26 32.2 +0.3
MEM Membach 86.85 325 *d*P P 10 26 31.9 +0.2
BHOU Houvegnez 87.00 325 *d*P P 10 26 32.9 +0.5
comp=Z,48nm,1.2s
BHOU *d*sP pP 10 26 44.1 -0.5
BSTI Sart Tilman 87.10 325 *d*P P 10 26 33.4 +0.5
comp=Z,20nm,1.0s
WLF Walferdange 87.31 324 *d*P P 10 26 34.2 +0.3
comp=Z,150nm,1.1s
WLF Walferdange 87.31 324 eP P 10 26 34.1 +0.3
comp=Z,224nm,1.1s,baz=60,slow=5.1
BCLA Clavier 87.33 325 κP P 10 26 34.0 0.0
ZCCA Zocca 87.38 318 IAmb IAmb 10 26 40.5
comp=Z,73nm,0.7s
BGES Gesves 87.47 325 κP P 10 26 34.6 -0.1
BGES *d*sP pP 10 26 46.6 -0.3
PGC Sidney 87.48 37 IAmb IAmb 10 26 37.6
comp=Z,93nm,0.8s
RCHB Rochefort 87.52 325 *d*P P 10 26 34.4 -0.5
comp=Z,77nm,1.0s
RCHB *d*PcP PcP 10 26 35.1 -1.8
ECH Echery 87.56 322 P P 10 26 33.9 -1.3
ECH pmax pmax
comp=Z,66nm,1.5s
ECH Echery 87.56 322 P P 10 26 33.9 -1.3
ECH IAmb IAmb 10 26 36.4
comp=Z,66nm,1.5s
PRMA PARMA 87.57 318 IAmb IAmb 10 26 37.2
comp=Z,97nm,0.9s
PRMA IAMs_20 IAMs_20 11 09 31.5
comp=Z,1µm,20.0s
UCC Uccle 87.61 326 IAmb IAmb 10 26 36.3
comp=Z,71nm,0.9s
OSSC Osservatorio P 87.64 317 IAmb IAmb 10 26 36.1
comp=Z,41nm,0.7s
OSSC IAMs_20 IAMs_20 11 12 08.3
comp=Z,808nm,19.0s
BMRD Maredsous 87.68 325 *d*P P 10 26 35.1 -0.6
BMRD *d*sP pP 10 26 47.5 -0.4
LATE Laterza 87.75 316 IAmb IAmb 10 26 37.5
comp=Z,55nm,1.3s
SNF Seneffe 87.81 325 *d*P P 10 26 36.3 0.0
comp=Z,53nm,1.0s
VLC Villacollemand 87.84 318 IAMs_20 IAMs_20 11 10 31.7
comp=Z,1µm,22.0s
A04D Lummi Island 87.85 37 P 10 26 38.0
baz=304,SNR=20
DOU Dourbes 87.89 325 *d*P P 10 26 36.1 -0.5
comp=Z,58nm,0.9s
A05A Maple Falls 88.03 36 IAmb IAmb 10 26 39.9
comp=Z,108nm,1.1s
MSSA Maissana 88.29 318 IAmb IAmb 10 26 39.3
comp=Z,71nm,1.3s
MSSA IAMs_20 IAMs_20 11 09 56.5
comp=Z,916nm,22.0s
D03D Eldon 88.30 38 P 10 26 39.9
baz=304,SNR=81
B05A Bryant 88.44 37 P 10 26 40.8
baz=305,SNR=38
SENIN Lac Senin/Sane 88.50 321 IAmb IAmb 10 26 41.0
comp=Z,36nm,0.8s
B06A Marblemount 88.63 36 P P 10 26 40.7 +0.5
D04E Lakebay 88.68 38 P 10 26 42.7
baz=304,SNR=22
RAFF Raffo Rosso 88.70 310 IAMs_20 IAMs_20 11 11 51.0
comp=Z,773nm,20.0s
E04D Cinebar 89.14 38 P 10 26 44.4
baz=304,SNR=33
F04D Rainier, OR 89.16 39 P 10 26 44.0
baz=304,SNR=11
C06D Leavenworth 89.30 37 P 10 26 44.6
baz=306,SNR=7.0
SFJD Kangerlussuaq 89.39 357 P P 10 26 43.0 -0.4
comp=Z,4.6nm,0.5s,baz=27,slow=7.6,SNR=2.8
SFJD Kangerlussuaq 89.39 357 *i* P P 10 26 42.2 -1.2
SFJD Kangerlussuaq 89.39 357 P P 10 26 43.0 -0.4
SFJD Kangerlussuaq 89.39 357 P P 10 26 42.0 -1.3
SFJD Kangerlussuaq 89.39 357 *i* P P 10 26 41.0 -2.4
SFJD *i* P P 10 26 42.2 -1.2
LON Longmire 89.46 38 IAmb IAmb 10 26 47.5
comp=Z,98nm,1.1s
G03D McMinnville, O 89.49 40 P 10 26 45.6
baz=304,SNR=12
BNI Bardonecchia 89.59 320 IAmb IAmb 10 26 45.8
comp=Z,41nm,0.7s
I02D Swisshome 89.76 41 P 10 26 46.7
baz=304
LTY Liberty 89.81 37 IAmb IAmb 10 26 49.0
comp=Z,71nm,0.9s
COR Corvallis 89.82 40 P P 10 26 45.1 -0.7
COR pmax pmax
comp=Z,255nm,1.1s
COR Corvallis 89.82 40 P P 10 26 45.1 -0.7
B08A Colville Reser 89.88 36 P P 10 26 46.4 +0.2
CASY Casey 90.11 184 P P 10 26 45.5 -0.9
CASY IAmb IAmb 10 26 47.6
comp=Z,70nm,0.9s
F05D White Salmon 90.16 39 P 10 26 49.1
baz=305,SNR=18
H04D Lebanon 90.19 40 P 10 26 49.1
baz=304,SNR=20
J01E Myrtle Point 90.23 42 P 10 26 49.6
baz=304,SNR=6.6
I03D Drain, OR 90.29 41 P 10 26 49.5
baz=304,SNR=14
CLF Chambon-Foret 90.35 324 IAmb IAmb 10 26 49.9
comp=Z,69nm,0.9s
G05D Wamic, OR 90.61 39 P 10 26 50.9
baz=305,SNR=16
K02D Willamette Mer 90.65 42 P 10 26 51.1
baz=304,SNR=11
SSB Saint Sauveur 90.71 321 IAmb IAmb 10 26 50.8
comp=Z,31nm,0.8s
I04A Tendick Farm, 90.79 41 P 10 26 51.2
baz=304,SNR=35
D08A Wollman Farm, 90.89 37 IAmb IAmb 10 26 54.3
comp=Z,80nm,1.0s
VSL Villasalto 90.93 314 IAMs_20 IAMs_20 11 13 10.7
comp=Z,620nm,18.0s
HAWA Hanford 90.95 37 P P 10 26 51.9 +0.8
L02E Cave Junction 90.98 43 P 10 26 51.7
baz=304
L02E S 10 37 48.3
baz=304
NEW Newport 91.11 35 P P 10 26 52.9 +1.0
comp=Z,38nm,1.0s,baz=305,slow=3.8,SNR=55
NEW Newport 91.11 35 IAmb IAmb 10 26 55.2
comp=Z,80nm,1.1s
NEW Newport 91.11 35 P 10 26 53.0
baz=308
I05D Terrebonne, OR 91.12 40 P 10 26 53.2
baz=305,SNR=20
HUMO Hull Mountain 91.13 42 IAmb IAmb 10 26 56.0
comp=Z,44nm,1.1s
MBAR Mbarara 91.14 270 LR LR 11 08 51.2
comp=Z,301nm,20.3s,baz=56,slow=36
MBAR Mbarara 91.14 270 P P 10 26 54.3 +1.5
MBAR pmax pmax
comp=Z,9.0nm,0.8s
MBAR MLR MLR
comp=Z,500nm,21.0s
MBAR Mbarara 91.14 270 P P 10 26 54.3 +1.5
E08A Dider Farm, El 91.15 37 IAmb IAmb 10 26 55.7
comp=Z,51nm,0.9s
J04D Umpqua Nationa 91.29 41 P 10 26 53.8
baz=305,SNR=17
KHMM Horse Mountain 91.61 44 IAmb IAmb 10 26 58.2
comp=Z,68nm,1.3s
E09A Wood Farm, Sta 91.64 37 IAmb IAmb 10 26 57.3
comp=Z,93nm,1.3s
PINE Pine Mountain 91.67 40 P P 10 26 56.2 +1.4
L04D Klamath Falls 91.75 42 P 10 26 55.8
baz=305,SNR=32
YBH Yreka Blue Hor 91.77 42 P P 10 26 56.5 +1.4
comp=Z,50nm,1.1s,baz=31,slow=1.3,SNR=36
YBH Yreka Blue Hor 91.77 42 P P 10 26 55.5 +0.4
YBH IAmb IAmb 10 26 58.8
comp=Z,70nm,1.1s
J05D Fort Rock, OR 91.79 41 P 10 26 55.7
baz=305,SNR=54
K04D Chiloquin, OR 91.86 41 P 10 26 56.4
baz=305,SNR=15
M02C Callahan 91.88 43 P 10 26 56.4
baz=304,SNR=17
G08A Pilot Rock 91.93 38 IAmb IAmb 10 26 58.8
comp=Z,56nm,1.4s
N02D Trinity Center 92.20 43 P 10 26 57.9
baz=304,SNR=7.6
M04C Macdoel 92.28 42 P 10 26 58.1
baz=305,SNR=44
I07A Izee 92.34 39 IAmb IAmb 10 27 19.3
comp=Z,59nm,1.2s
FRB Frobisher Bay 92.46 5 P P 10 26 56.9 -0.8
comp=Z,14nm,0.9s,baz=344,slow=6.0,SNR=21
FRB PP PP 10 30 41.6 +3.4
comp=Z,4.5nm,1.0s,baz=0.0,slow=6.1,SNR=3.6
FRB PKKPbc **PKKPdf 10 44 08.3 -0.4**
comp=Z,1.4nm,0.6s,baz=46,slow=9.5,SNR=3.9
WDC Whiskeytown Da 92.53 43 IAmb IAmb 10 27 01.7
comp=Z,58nm,1.3s
O02D Mt. Diablo Mer 92.60 44 P 10 26 59.4
baz=304,SNR=15
FCC Fort Churchill 92.64 18 IAmb IAmb 10 26 59.3
comp=Z,20nm,0.7s
JTMT Jette 92.91 34 P P 10 27 01.0 +0.6
JTMT IAmb IAmb 10 27 03.5
comp=Z,42nm,0.9s
JTMT IAMs_20 IAMs_20 11 10 12.4
comp=Z,527nm,20.0s
KEST Kesra 92.94 311 P P 10 27 00.7 0.0
comp=Z,54nm,0.9s,baz=336,slow=0.4,SNR=47
KEST LR LR 11 15 58.9
comp=Z,434nm,18.3s,baz=0.5,slow=40
BMO Blue Mountains 93.12 38 IAmb IAmb 10 27 04.3
comp=Z,33nm,0.9s
O03E Paynes Creek 93.15 43 P 10 27 01.7
baz=305,SNR=20
GDXM Geysers 93.36 45 IAmb IAmb 10 27 06.0
comp=Z,45nm,1.3s
FFC Flin Flon 93.36 24 P P 10 27 01.4 -0.7
FFC pmax pmax
comp=Z,33nm,1.0s
FFC Flin Flon 93.36 24 P P 10 27 01.4 -0.7
FFC IAmb IAmb 10 27 04.7
comp=Z,33nm,0.9s
J08A Circle Bar Ran 93.37 39 IAmb IAmb 10 27 06.2
comp=Z,55nm,0.9s
MSO Missoula 93.69 35 IAmb IAmb 10 27 06.5
comp=Z,39nm,1.1s
MSO IAMs_20 IAMs_20 11 16 17.9
comp=Z,603nm,19.0s
MSO Missoula 93.69 35 P 10 27 03.7
baz=311
ORV Oroville 93.77 44 IAmb IAmb 10 27 06.6
comp=Z,42nm,1.1s
WVOR Wild Horse Val 93.83 40 IAmb IAmb 10 27 08.2
comp=Z,47nm,1.1s
BEKR Beckworth 94.30 43 IAmb IAmb 10 27 09.7
comp=Z,52nm,1.0s
AFDM Forest Hills D 94.45 44 IAmb IAmb 10 27 10.1
comp=Z,36nm,1.2s
MFID Camas Ranch 94.85 38 IAmb IAmb 10 27 12.7
comp=Z,32nm,1.1s
EGMT Eagleton 94.98 32 IAmb IAmb 10 27 12.2
comp=Z,28nm,1.1s
EGMT IAMs_20 IAMs_20 11 11 30.1
comp=Z,587nm,22.0s
EGMT Eagleton 94.98 32 P 10 27 10.4
baz=314,SNR=9.2
PAHR Pah Rah Range 95.01 43 P P 10 27 10.9 +0.7
PAHR IAmb IAmb 10 27 13.6
comp=Z,57nm,1.1s
VCNR Virginia City 95.08 43 IAmb IAmb 10 27 13.6
comp=Z,31nm,1.0s
PNTR Pine Nut 95.23 43 IAmb IAmb 10 27 14.5
comp=Z,65nm,1.2s
CMB Columbia Colle 95.35 45 IAmb IAmb 10 27 14.3
comp=Z,51nm,1.1s
DLMT Dillon 95.36 35 IAmb IAmb 10 27 14.8
comp=Z,38nm,1.0s
YERR Yerington 95.52 43 IAmb IAmb 10 29 44.2
comp=Z,37nm,0.8s
HLID Hailey 95.55 37 IAmb IAmb 10 27 16.2
comp=Z,24nm,0.9s
HLID IAMs_20 IAMs_20 11 16 34.4
comp=Z,488nm,20.0s
HLID Hailey 95.55 37 P 10 27 13.7
baz=310
MCMT McKenzie Canyo 95.58 36 P P 10 27 12.8 0.0

WAKR	**Walker**	**95.68**	**44**	IAmb	IAmb	10 27 16.6		
	comp=Z,24nm,1.0s							
WAKR				IAMs_20	IAMs_20	11 00 36.3		
	comp=Z,592nm,21.0s							
BOZ	**Bozeman (W)**	**95.71**	**34**	P		10 27 13.5		
	baz=312,SNR=18							
PPT	**Papeete**	**95.75**	**107**	LR	LR	11 01 30.6		
	comp=Z,385nm,21.6s,baz=289,slow=30							
PPT2	**Papeete2**	**95.76**	**107**	*e*S	**S**	**10 38 29.6**	**+0.7**	
	comp=Z,554nm,28.0s							
PPT2	**Papeete2**	**95.76**	**107**	*e*LQ	LQ	10 54 10.0		
	comp=Z,487nm,25.0s							
PPT2				*e*LR	LR	10 58 19.4		
	comp=Z,1µm,25.0s,baz=290							
PMPB	**Monarch Peak**	**96.13**	**46**	IAmb	IAmb	10 27 40.7		
	comp=Z,41nm,1.3s							
RYN	**Ryan**	**96.19**	**43**	IAmb	IAmb	10 27 18.8		
	comp=Z,43nm,1.1s							
KVN	**Kaiserville**	**96.19**	**43**	IAmb	IAmb	10 27 19.4		
	comp=Z,52nm,1.1s							
LHV	**Little Huntoon**	**96.42**	**43**	IAmb	IAmb	10 27 20.2		
	comp=Z,70nm,1.2s							
MDPB	**Devils Postpil**	**96.43**	**44**	P	**P**	**10 27 17.5**	**+0.6**	
MDPB				IAmb	IAmb	10 27 19.7		
	comp=Z,27nm,1.1s							
NVAR	**Mina Array Bea**	**96.44**	**43**	P	**P**	**10 27 18.3**	**+1.4**	
	comp=Z,14nm,0.9s,baz=282,slow=4.4,SNR=76							
NVAR				PP	**PP**	**10 31 10.8**	**+0.4**	
	comp=Z,1.1nm,1.0s,baz=289,slow=9.2,SNR=1.9							
NVAR				PKKPbc	**PKKPbc**	**10 44 00.5**	**-1.2**	
	comp=Z,0.5nm,0.5s,baz=65,slow=1.5,SNR=4.3							
NVAR				LR	LR	11 07 37.9		
	comp=Z,269nm,20.3s,baz=300,slow=33							
NVAR	**Mina Array Bea**	**96.44**	**43**	P	**P**	**10 27 17.0**	**+0.1**	
PAGB	**Antelope Grade**	**96.78**	**46**	IAmb	IAmb	10 27 21.2		
	comp=Z,62nm,1.3s							
PAGB				IAMs_20	IAMs_20	11 01 21.4		
	comp=Z,713nm,20.0s							
YNR	**Norris Junctio**	**96.80**	**35**	P	**P**	**10 27 19.5**	**+1.1**	
ELK	**Elko**	**96.88**	**40**	P	**P**	**10 27 19.5**	**+0.7**	
	comp=Z,3.6nm,0.8s,baz=318,slow=5.4,SNR=12							
ELK				PKKPbc	**PKKPbc**	**10 43 59.3**	**-1.3**	
	comp=Z,1.0nm,0.5s,baz=156,slow=4.3,SNR=5.0							
LKWY	**Lake**	**97.05**	**35**	IAMs_20	IAMs_20	11 11 11.8		
	comp=Z,731nm,20.0s							
H17A	**Grant Village**	**97.07**	**35**	IAmb	IAmb	10 27 24.4		
	comp=Z,24nm,1.2s							
H17A	**Grant Village**	**97.07**	**35**	P		10 27 20.7		
	baz=313,SNR=15							
SMMC	**Simmler**	**97.19**	**47**	P		10 27 20.7		
	baz=306,SNR=7.2							
DGMT	**Dagmar**	**97.23**	**29**	IAmb	IAmb	10 27 22.1		
	comp=Z,28nm,1.0s							
DGMT	**Dagmar**	**97.23**	**29**	P		10 27 19.3		
	baz=318							
RLMT	**Red Lodge**	**97.24**	**34**	P	Pdif	10 27 20.4	0.0	
RLMT				IAmb	IAmb	10 27 42.6		
	comp=Z,80nm,1.9s							
RLMT	**Red Lodge**	**97.25**	**34**	P		10 27 21.0		
	baz=314,SNR=12							
TIN	**Tinemaha, Big**	**97.31**	**44**	P		10 27 21.0		
	baz=307,SNR=8.5							
VES	**Vestal, Richgr**	**97.48**	**46**	P		10 27 21.2		
	baz=306,SNR=12							
PKM	**Mcpherson Peak**	**97.56**	**47**	P		10 27 22.0		
	baz=306,SNR=6.8							
LAO	**LASA Array**	**97.62**	**31**	P		10 27 21.5		
	baz=317							
CWC	**Cottonwood Cre**	**97.78**	**45**	P		10 27 22.4		
	baz=307							
AHID	**Auburn Hatcher**	**97.90**	**36**	IAMs_20	IAMs_20	11 17 55.4		
	comp=Z,503nm,19.0s							
GRAC	**Grapevine Rang**	**97.90**	**44**	P		10 27 23.7		
	baz=308							
ISA	**Isabella, Lake**	**97.99**	**46**	P		10 27 23.3		
	baz=307,SNR=6.7							
TBI	**Tubuai**	**98.06**	**112**	*e*S	**S**	**10 38 48.7**	**+0.4**	
	comp=Z,331nm,25.0s							
TBI	**Tubuai**	**98.06**	**112**	*e*LR	LR	10 59 14.7		
	comp=Z,669nm,29.0s,baz=295							
TBI	**Tubuai**	**98.06**	**112**	*e*T	T	12 16 42.2		
	comp=Z,12nm,0.4s							
ARVC	**Arvin**	**98.07**	**46**	P		10 27 24.1		
	baz=306							
R11A	**Troy Canyon, C**	**98.18**	**42**	P		10 27 25.0		
	baz=309,SNR=9.2							
MPMC	**Manual Prospec**	**98.39**	**45**	P		10 27 25.8		
	baz=307,SNR=14							
HWUT	**Hardware Ranch**	**98.42**	**37**	P	Pdif	10 27 25.9	+0.3	
OSI	**Osito Audit: C**	**98.44**	**46**	IAMs_20	IAMs_20	11 08 09.5		
	comp=Z,850nm,21.0s							
FURC	**Furnace Creek,**	**98.54**	**44**	P		10 27 26.3		
	baz=308,SNR=8.7							
LRMC	**Laurel Mtn Rad**	**98.61**	**45**	P		10 27 26.9		
	baz=307,SNR=5.5							
TPNV	**Topopah Spring**	**98.64**	**43**	P		10 27 26.6		
	baz=308,SNR=7.3							
DUG	**Dugway, Tooele**	**98.65**	**39**	P		10 27 27.4		
	baz=311,SNR=11							
CART	**Cartagena**	**98.66**	**317**	IAMs_20	IAMs_20	11 17 43.2		
	comp=Z,1µm,20.0s							
PDAR	**Pinedale Array**	**98.72**	**36**	P	Pdif	10 27 27.3	+0.2	
	comp=Z,1.7nm,0.8s,baz=302,slow=0.9,SNR=12							
PDAR				PP	**PP**	**10 31 28.6**	**+0.8**	
	comp=Z,2.4nm,1.1s,baz=305,slow=5.2,SNR=4.4							
PDAR				PKKPbc	**PKKPbc**	**10 43 54.0**	**-1.6**	
	comp=Z,0.5nm,0.5s,baz=131,slow=4.5,SNR=6.0							
PDAR				LR	LR	11 14 34.0		
	comp=Z,197nm,19.5s,baz=342,slow=37							
BW06	**Boulder Array**	**98.73**	**36**	P		10 27 26.8		
	baz=314							
EDW2	**Edwards Air Fo**	**98.77**	**46**	P		10 27 27.2		
	baz=307,SNR=5.5							
TCUT	**Toone Canyon**	**98.83**	**38**	IAmb	IAmb	10 27 32.8		
	comp=Z,31nm,1.5s							
ES08	**SONSECA Array**	**99.07**	**321**	IAMs_20	IAMs_20	11 19 50.7		
	comp=Z,873nm,20.0s							
ES10	**SONSECA Array**	**99.08**	**321**	IAMs_20	IAMs_20	11 20 05.0		
	comp=Z,812nm,20.0s							
ES02	**SONSECA Array**	**99.09**	**321**	IAMs_20	IAMs_20	11 16 43.2		
	comp=Z,845nm,21.0s							
ES11	**SONSECA Array**	**99.10**	**321**	IAMs_20	IAMs_20	11 16 24.4		
	comp=Z,859nm,22.0s							
ESBB	**Sonseca Array**	**99.11**	**321**	IAMs_20	IAMs_20	11 19 50.6		
	comp=Z,878nm,20.0s							
ESDC	**Sonseca Array**	**99.11**	**321**	P	**Pdif**	**10 27 28.2**	**-0.3**	
	comp=Z,1.6nm,0.9s,baz=22,slow=4.3,SNR=5.1							
ESDC				PP	**PP**	**10 31 24.9**	**-5.6**	
	comp=Z,5.0nm,1.1s,baz=48,slow=7.7,SNR=6.0							
ESDC				LR	LR	11 16 49.8		
	comp=Z,601nm,21.1s,baz=45,slow=38							
PSUT	**Pine Spring**	**99.11**	**41**		**Pdif**	**10 27 29.8**	**+1.0**	
MWC	**Mount Wilson**	**99.12**	**46**	IAMs_20	IAMs_20	11 03 55.4		
	comp=Z,770nm,20.0s							
ES14	**SONSECA Array**	**99.14**	**321**	IAMs_20	IAMs_20	11 16 42.4		
	comp=Z,817nm,20.0s							
LSZ	**Lusaka**	**99.16**	**257**	LR	LR	11 09 40.8		
	comp=Z,1µm,21.0s,baz=98,slow=34							
LSZ	**Lusaka**	**99.16**	**257**	P	**Pdif**	**10 27 28.5**	**-0.7**	
LSZ				IAmb	IAmb	10 27 30.0		
	comp=Z,33nm,1.3s							
LSZ					**pP**	**10 27 41.2**	**-0.1**	
ULM	**Lac du Bonnet**	**99.19**	**23**	P	**Pdif**	**10 27 27.2**	**-1.4**	
	comp=Z,2.8nm,0.7s,baz=308,slow=5.6,SNR=6.6							
ULM				PP	**PP**	**10 31 26.1**	**-4.4**	
	comp=Z,2.0nm,0.8s,baz=48,slow=9.2,SNR=2.9							
ULM				PKKPbc	**PKKPbc**	**10 43 51.5**	**-2.8**	
	comp=Z,2.4nm,0.7s,baz=310,slow=1.1,SNR=5.0							
ULM				LR	LR	11 13 51.0		
	comp=Z,316nm,21.6s,baz=324,slow=36							
GSC	**Goldstone, Bar**	**99.29**	**45**	IAmb	IAmb	10 27 32.5		
	comp=Z,25nm,1.2s							
GSC	**Goldstone, Bar**	**99.29**	**45**	P		10 27 30.1		
	baz=308,SNR=7.1							
CIS	**Catalina Islan**	**99.37**	**47**	P		10 27 29.5		
	baz=306							
BFSC	**Mount Baldy Ra**	**99.37**	**46**	P		10 27 29.8		
	baz=307							
MDND	**Maddock**	**99.68**	**27**	P		10 27 30.7		
	baz=322							
MVO	**Moncorvo**	**99.84**	**323**	*e*LR	LR	11 07 36.7		
MVO				A	A	11 19 17.9		
	comp=Z,1µm,18.0s							
PGAV	**Gavieira, Arco**	**99.95**	**325**	*e*LR	LR	11 05 50.5		
PGAV				A	A	11 17 04.0		
	comp=Z,1µm,20.0s							
MURC	**Murrieta**	**100.06**	**47**	P		10 27 33.1		
	baz=307							
GMRC	**Granite Mounta**	**100.35**	**45**	P		10 27 35.1		
	baz=308							
K22A	**Casper**	**100.39**	**34**	IAMs_20	IAMs_20	11 20 12.3		
	comp=Z,429nm,19.0s							
K22A	**Casper**	**100.39**	**34**	P		10 27 34.1		
	baz=316							
PFO	**Pinyon Flats O**	**100.55**	**46**	P		10 27 35.4		
	baz=308							
109C	**Camp Elliot, M**	**100.55**	**47**	P		10 27 35.4		
	baz=307							
TPFO	**Pinon Flats**	**100.55**	**46**	P		10 27 35.0		
	baz=308							
RSSD	**Black Hills**	**100.55**	**32**	IAMs_20	IAMs_20	11 18 14.5		
	comp=Z,601nm,21.0s							
RSSD	**Black Hills**	**100.56**	**32**	P		10 27 35.5		
	baz=318							
MTE	**Manteigas**	**100.65**	**323**	*e*LR	LR	11 09 43.3		
MTE				A	A	11 19 53.4		
	comp=Z,1µm,18.0s							
TAOE	**Nuku Hiva Isla**	**100.91**	**95**	*e*T	T	12 20 11.0		
	comp=Z,25nm,0.2s							
IRM	**Iron Mountain**	**101.07**	**45**	P		10 27 38.5		
	baz=309							
BC3	**Big Chuckawall**	**101.18**	**46**	P		10 27 38.7		
	baz=308							
PMRV	**Marv??o**	**101.23**	**322**	*e*LR	LR	11 08 48.3		
PMRV				A	A	11 19 46.0		
	comp=Z,1µm,20.0s							
O20A	**White River Ci**	**101.27**	**37**	P		10 27 38.5		
	baz=314							
RMX	**La Rumorosa**	**101.41**	**47**	IAMs_20	IAMs_20	11 08 54.9		
	comp=Z,496nm,22.0s							
PDMCI	**Parker Dam,Lak**	**101.63**	**44**	P		10 27 40.6		
	baz=309							
PESTR	**Estremoz**	**101.73**	**322**	IAMs_20	IAMs_20	11 20 22.0		
	comp=Z,882nm,18.0s							
UABX	**UABC, Campus M**	**101.82**	**46**	IAMs_20	IAMs_20	11 16 03.9		
	comp=Z,528nm,20.0s							
N23A	**Red Feather La**	**101.96**	**35**	P		10 27 41.7		
	baz=316							
GLA	**Glamis**	**101.97**	**46**	IAMs_20	IAMs_20	11 07 57.7		
	comp=Z,570nm,19.0s							
CPBX	**Cerro Prieto**	**102.04**	**47**	IAMs_20	IAMs_20	10 59 07.8		
	comp=Z,608nm,20.0s							
PV15	**Paradox Valley**	**102.38**	**38**	IAMs_20	IAMs_20	11 21 55.1		
	comp=Z,495nm,19.0s							
WUAZ	**Wupatki**	**102.58**	**42**	P		10 27 44.0		
	baz=312							
SUSD	**Miller**	**102.65**	**29**	P		10 27 44.6		
	baz=322							
TAM	**Tamanrasset**	**102.67**	**302**	IAMs_20	IAMs_20	11 21 17.5		
	comp=Z,740nm,21.0s							
PVAQ	**Vaqueiros**	**102.81**	**321**	*e*LR	LR	11 11 45.7		
PVAQ				A	A	11 21 23.5		
	comp=Z,804nm,18.0s							
ISCO	**Idaho Springs**	**102.92**	**36**	IAMs_20	IAMs_20	11 16 12.4		
	comp=Z,563nm,21.0s							
S22A	**4UR Ranch, Cre**	**103.72**	**38**	P		10 27 50.1		
	baz=315							
VNDA	**Vanda**	**103.76**	**172**	Pdiff	**Pdif**	**10 27 48.7**	**+0.5**	
	comp=Z,0.8nm,0.7s,baz=296,slow=1.4,SNR=6.6							
VNDA				PP	**PP**	**10 32 03.8**	**-1.7**	
	comp=Z,6.2nm,0.9s,baz=322,slow=8.2,SNR=11							
VNDA				PKKPbc	**PKKPbc**	**10 43 40.4**	**-1.7**	
	comp=Z,1.0nm,0.9s,baz=221,slow=2.6,SNR=4.2							
ECSD	**EROS Data Cent**	**104.22**	**28**	IAMs_20	IAMs_20	11 23 22.0		
	comp=Z,607nm,19.0s							
ECSD	**EROS Data Cent**	**104.22**	**28**	P		10 27 50.8		
	baz=324							
TUC	**Tucson**	**105.06**	**44**	IAMs_20	IAMs_20	11 09 31.5		
	comp=Z,665nm,21.0s							
ANMO	**Albuquerque**	**105.91**	**40**	P		10 32 11.4		
	baz=315							
BOSA	**Boshof**	**106.33**	**246**	Pdiff	**Pdif**	**10 28 00.1**	**-0.8**	
	comp=Z,2.6nm,1.1s,baz=63,slow=2.3,SNR=1.9							
JFWS	**Jewell Farm**	**107.45**	**24**	IAMs_20	IAMs_20	11 22 31.3		
	comp=Z,769nm,19.0s							
KSU1	**Kansas State U**	**107.96**	**30**	IAMs_20	IAMs_20	11 20 17.0		
	comp=Z,663nm,21.0s							
MNTX	**Cornudas Mount**	**108.83**	**41**	IAMs_20	IAMs_20	11 26 55.2		
	comp=Z,476nm,20.0s							
L44A	**Lake County Fo**	**108.95**	**23**	IAMs_20	IAMs_20	11 17 10.7		
	comp=Z,720nm,21.0s							
OK032	**Salt Plains WL**	**109.00**	**33**	IAMs_20	IAMs_20	11 24 29.2		
	comp=Z,544nm,20.0s							
SYO	**Syowa Base**	**109.13**	**202**	*e*pPdiff	pPdif	10 28 23.6	+0.1	
T35A	**Sooner Cattle**	**109.75**	**32**	IAMs_20	IAMs_20	11 21 17.8		
	comp=Z,666nm,21.0s							
TSUM	**Tsumeb**	**110.01**	**257**	IAMs_20	IAMs_20	11 14 27.7		
	comp=Z,852nm,22.0s							
OK029	**Liberty Lake**	**110.17**	**33**	IAMs_20	IAMs_20	11 25 45.1		
	comp=Z,656nm,21.0s							
WMOK	**White Mounta**	**110.32**	**35**	P		10 32 18.5		
	baz=321							
OK031	**S. Brethren Rd**	**110.35**	**33**	IAMs_20	IAMs_20	11 28 29.9		
	comp=Z,667nm,21.0s							
OK025	**Westminster Rd**	**110.40**	**33**	IAMs_20	IAMs_20	11 25 17.1		
	comp=Z,709nm,19.0s							
OK030	**Cody Creek RV**	**110.40**	**33**	IAMs_20	IAMs_20	11 28 33.1		
	comp=Z,706nm,21.0s							
RKT	**Rikitea**	**110.51**	**107**	*e*LR	LR	11 05 07.0		
	comp=Z,877nm,27.5s							
PKME	**Peaks-Kenny Pk**	**110.63**	**8**	P		10 32 19.0		
	baz=349							
TORD	**Torodi Ar. Bea**	**110.88**	**295**	PKiKP	**PKiKP**	**10 32 18.8**	**-2.1**	
	comp=Z,2.7nm,0.6s,baz=22,slow=3.0,SNR=9.7							
TORD				PKKPbc	**PKKPbc**	**10 43 19.4**	**+1.4**	
	comp=Z,0.9nm,0.7s,baz=275,slow=3.2,SNR=2.9							
ABTX	**Abilene, Hawle**	**111.47**	**37**	IAMs_20	IAMs_20	11 28 18.7		
	comp=Z,734nm,20.0s							
ABTX	**Abilene, Hawle**	**111.47**	**37**	P		10 32 21.1		
	baz=320							
J59A	**Piesco**	**111.51**	**13**	P		10 32 20.7		
	baz=344							
TXAR	**Lajitas Array**	**111.54**	**42**	Pdiff	**Pdif**	**10 28 23.8**	**-0.3**	
	comp=Z,0.9nm,1.0s,baz=211,slow=5.1,SNR=5.6							
TXAR				PKiKP	**PKiKP**	**10 32 21.9**	**-0.2**	
	comp=Z,1.8nm,0.8s,baz=274,slow=0.5,SNR=15							
TXAR				PP	**PP**	**10 33 05.6**	**+2.8**	
	comp=Z,5.7nm,1.1s,baz=305,slow=4.4,SNR=8.8							
TXAR				PKKPbc	**PKKPbc**	**10 43 16.2**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=152,slow=6.5,SNR=11							
U40A	**Yellville**	**111.92**	**30**	P		10 32 21.8		
	baz=326							
M54A	**Oil Creek Stat**	**112.15**	**17**	P		10 32 22.2		
	baz=339							
Z35A	**Perchaven, San**	**112.20**	**35**	IAMs_20	IAMs_20	11 26 20.0		
	comp=Z,622nm,20.0s							
ACSO	**Alum Creek Sta**	**112.35**	**20**	P		10 32 22.1		
	baz=336							
P49A	**Miami Univ. Ec**	**112.41**	**22**	IAMs_20	IAMs_20	11 22 01.3		
	comp=Z,616nm,20.0s							
BINY	**Binghamton**	**112.41**	**14**	P		10 32 23.4		
	baz=343							
W39A	**Magazine**	**112.44**	**31**	P		10 32 22.8		
	baz=325							
K62A	**Royalston**	**112.71**	**11**	P		10 32 23.3		
	baz=346							
O53A	**New Philadelph**	**112.88**	**19**	P		10 32 24.1		
	baz=337							
M57A	**Sunshine Farm,**	**112.96**	**15**	P		10 32 24.0		
	baz=341							
L60A	**Shokan**	**112.99**	**13**	P		10 32 24.7		
	baz=344							
JCT	**Junction City**	**112.99**	**38**	IAMs_20	IAMs_20	11 27 11.2		
	comp=Z,415nm,20.0s							
JCT	**Junction City**	**113.00**	**38**	P		10 32 24.9		
	baz=319							
WCI	**Wyandotte Cave**	**113.01**	**24**	P		10 32 24.0		
	baz=332							
MIAR	**Mount Ida**	**113.07**	**31**	IAMs_20	IAMs_20	11 23 58.6		
	comp=Z,771nm,22.0s							
MIAR	**Mount Ida**	**113.07**	**31**	P		10 32 24.4		
	baz=325							
M58A	**Price's Panora**	**113.09**	**15**	P		10 32 24.6		
	baz=342							
P52A	**Corning**	**113.16**	**20**	P		10 32 23.3		
	baz=336							
N57A	**Milroy**	**113.41**	**16**	P		10 32 24.2		
	baz=341							
X40A	**Basin Creek Fa**	**113.46**	**31**	IAMs_20	IAMs_20	11 27 21.1		
	comp=Z,654nm,18.0s							
M60A	**Port Jervis**	**113.54**	**13**	P		10 32 25.0		
	baz=344							
N60A	**Cedar Hill Far**	**113.87**	**14**	P		10 32 25.6		
	baz=343							
O57A	**Amberson**	**113.90**	**16**	P		10 32 24.6		
	baz=341							
WLAR	**White Oak Lake**	**113.99**	**31**	IAMs_20	IAMs_20	11 24 25.0		
	comp=Z,707nm,21.0s							
Q53A	**Leroy**	**114.06**	**20**	P		10 32 25.8		
	baz=337							
P56A	**Dayton Farm, R**	**114.24**	**17**	P		10 32 26.2		
	baz=339							
WVT	**Waverly**	**114.25**	**26**	IAMs_20	IAMs_20	11 25 28.4		
	comp=Z,531nm,20.0s							
WVT	**Waverly**	**114.25**	**26**	P		10 32 26.3		
	baz=330							
P60A	**Greenville**	**114.76**	**15**	IAMs_20	IAMs_20	11 25 24.3		
	comp=Z,830nm,22.0s							
KOWA	**Kowa**	**114.77**	**300**	IAMs_20	IAMs_20	11 31 35.3		
	comp=Z,736nm,19.0s							
NATX	**Nacogdoches**	**114.78**	**34**	IAMs_20	IAMs_20	11 23 39.2		
	comp=Z,554nm,20.0s							
OXF	**Oxford**	**114.98**	**28**	IAMs_20	IAMs_20	11 27 38.9		
	comp=Z,486nm,20.0s							
R55A	**Marlinton**	**115.02**	**19**	P		10 32 27.9		
	baz=338							
Q58A	**Fox Den Farm,**	**115.08**	**17**	P		10 32 27.7		
	baz=340							
R56A	**Bull Pasture M**	**115.11**	**18**	P		10 32 27.4		
	baz=339							
R57A	**Stanardsville**	**115.46**	**18**	P		10 32 28.6		
	baz=340							
TZTN	**Tazewell**	**115.50**	**22**	P		10 32 28.2		
	baz=334							
HKT	**Hockley**	**115.60**	**36**	IAMs_20	IAMs_20	11 28 49.7		
	comp=Z,519nm,19.0s							
143A	**Socs Landing,**	**115.61**	**31**	IAMs_20	IAMs_20	11 30 24.8		
	comp=Z,496nm,18.0s							
CBN	**Corbin Frederi**	**115.85**	**17**	IAMs_20	IAMs_20	11 26 11.3		
	comp=Z,804nm,20.0s							
BLA	**Blacksburg**	**115.91**	**20**	IAMs_20	IAMs_20	11 28 08.0		
	comp=Z,787nm,20.0s							
BLA	**Blacksburg**	**115.91**	**20**	P		10 32 29.2		
	baz=338							
R58B	**Mineral**	**115.95**	**17**	IAMs_20	IAMs_20	11 28 53.7		
	comp=Z,686nm,18.0s							
R58B	**Mineral**	**115.95**	**17**	P		10 32 29.5		
	baz=340							
U54A	**Nelsons Funny**	**116.10**	**21**	IAMs_20	IAMs_20	11 24 33.0		
	comp=Z,770nm,20.0s							
V52A	**Sevierville**	**116.11**	**23**		**PKiKP**	**10 32 28.9**	**-1.6**	
S58A	**Poland Farm, P**	**116.23**	**17**	P		10 32 29.7		
	baz=340							
342A	**Flagon Creek P**	**116.26**	**32**	IAMs_20	IAMs_20	11 29 31.2		
	comp=Z,744nm,20.0s							
S59A	**Mechanicsville**	**116.29**	**17**	P		10 32 29.9		
	baz=341							
VBMS	**Vicksburg**	**116.42**	**30**	P		10 32 30.8		
	baz=327							
U56A	**King**	**116.72**	**20**	P		10 32 31.0		
	baz=337							
T60A	**Surry**	**117.03**	**16**	IAMs_20	IAMs_20	11 31 48.2		
	comp=Z,872nm,22.0s							
V56A	**Mocksville**	**117.18**	**20**	P		10 32 31.4		
	baz=337							
U58A	**Oxford**	**117.23**	**18**	P		10 32 30.8		
	baz=339							
LRAL	**Lakeview Retre**	**117.28**	**27**		**PKPdf**	**10 32 32.1**	**-0.7**	
LRAL	**Lakeview Retre**	**117.28**	**27**	P		10 32 32.1		
	baz=330							
V57A	**Coltrane Farms**	**117.33**	**20**	P		10 32 31.9		
	baz=338							
KMSC	**Kings Mountain**	**117.52**	**21**	P		10 32 32.2		
	baz=336							
W56A	**Indian Trail**	**117.77**	**21**	P		10 32 32.9		
	baz=337							
U61A	**Possum Corner**	**117.86**	**17**	P		10 32 32.8		
	baz=341							
V59A	**Middlesex**	**117.90**	**18**	P		10 32 33.0		
	baz=339							
V60A	**Jim Taylor Roa**	**118.18**	**17**	IAMs_20	IAMs_20	11 29 23.8		
	comp=Z,598nm,20.0s							
V60A	**Jim Taylor Roa**	**118.18**	**17**	P		10 32 34.0		
	baz=340							
GOGA	**Godfrey**	**118.33**	**24**	IAMs_20	IAMs_20	11 34 10.3		
	comp=Z,743nm,20.0s							
GOGA	**Godfrey**	**118.33**	**24**	P		10 32 34.1		
	baz=334							
BRAL	**Brewton**	**118.87**	**28**	P		10 32 36.1		
	baz=330							
X60A	**Albert Glenn T**	**119.09**	**19**	P		10 32 35.3		
	baz=339							
DBIC	**Dimbokro**	**119.76**	**293**	PKP	**PKPdf**	**10 32 36.6**	**-1.4**	
	comp=Z,6.7nm,0.6s,baz=45,slow=3.3,SNR=9.4							
DBIC				PKKPbc	**PKKPbc**	**10 42 48.7**	**+1.4**	
	comp=Z,1.8nm,0.7s,baz=151,slow=2.1,SNR=3.9							
KIC	**Kosan Boka**	**119.82**	**293**	*e*PKP1	**PKPdf**	**10 32 37.5**	**-0.7**	
	comp=Z,58nm,1.1s							
TIC	**Toumodi**	**119.91**	**293**	*e*PKP1	**PKiKP**	**10 32 38.4**	**0.0**	
TIGA	**Tifton**	**120.05**	**25**	P		10 32 37.4		
	baz=333							
LIC	**Lamto**	**120.14**	**293**	*e*PKP1	**PKPdf**	**10 32 37.4**	**-1.4**	
	comp=Z,57nm,1.2s							
SNAA	**Sanae**	**122.94**	**198**	PKPdf	**PKPdf**	**10 32 41.5**	**-1.0**	
SNAA	**Sanae**	**122.94**	**198**	PKiKP	**PKPdf**	**10 32 41.3**	**-1.2**	
SNAA	**Sanae**	**122.94**	**198**	PKPdf	**PKPdf**	**10 32 41.3**	**-1.2**	
TLIG	**Tlapa**	**123.17**	**47**		**PKPdf

POPC	**Popayan, Colom**	**148.35**	**37**	*eP*		**PKPdf**	**10 33 29.2**	**-1.9**
BBAC	**Balboa, Cauca**	**148.46**	**38**	*eP*		**PKPdf**	**10 33 30.6**	**-0.7**
MARP	**Paez Belalcaza**	**148.49**	**35**	*eP*		**PKPdf**	**10 33 31.5**	**+0.1**
VILC	**Villavicencio,**	**148.53**	**31**	*eP*		**PKPdf**	**10 33 31.3**	**0.0**
PCON	**Cinco Dias**	**148.68**	**37**	*eP*		**PKPdf**	**10 33 29.6**	**-2.4**
SOTA	**Rioblanco**	**148.73**	**37**	*eP*		**PKPdf**	**10 33 31.9**	**-0.2**
BETC	**Betania**	**148.90**	**35**	*eP*		**PKPdf**	**10 33 31.6**	**-0.2**
GO10	**Punta Arenas**	**149.05**	**165**			**PKPbc**	**10 33 35.1**	**+0.2**
GCUF	**Volcan Galeras**	**149.05**	**39**	*eP*		**PKPdf**	**10 33 32.7**	**+0.1**
OTAV	**Otavalo**	**149.17**	**42**	PKIKP		**PKPdf**	**10 33 33.4**	**+0.7**
OTAV	**Otavalo**	**149.17**	**42**	PKPdf		**PKPdf**	**10 33 33.4**	**+0.7**
OTAV	**Otavalo**	**149.17**	**42**	*eP*		**PKPdf**	**10 33 32.1**	**-0.6**
GARC	**Garzon, Huila**	**149.29**	**35**	*eP*		**PKPdf**	**10 33 31.8**	**-0.9**
MACC	**Macarena, Meta**	**150.17**	**33**	*eP*		**PKPdf**	**10 33 27.0**	**-6.8**
MDP	**Montagnes des**	**150.84**	**348**	PKP		**PKPdf**	**10 33 35.0**	**+0.2**
	comp=Z,19nm,1.0s,baz=140,slow=6.7,SNR=3.1							
MDP				PKPbc		**PKiKP**	**10 33 40.9**	**-0.1**
	comp=Z,60nm,0.9s,baz=343,slow=0.7,SNR=22							
RCBR	**Riachuelo**	**152.07**	**306**	PKP		**PKPdf**	**10 33 37.3**	**+0.6**
	comp=Z,5.8nm,0.6s,baz=292,slow=6.8,SNR=2.8							
RCBR				PKPbc		**PKiKP**	**10 33 43.5**	**-0.1**
	comp=Z,51nm,0.7s,baz=33,slow=2.0,SNR=5.7							
RCBR	**Riachuelo**	**152.07**	**306**			**PKPbc**	**10 33 42.6**	**-0.7**
EFI	**East Falkland**	**152.08**	**180**			**PKPbc**	**10 33 41.7**	**-0.4**
EFI						**sPKPdf**	**10 33 52.1**	**+0.5**
PTGA	**Pitinga**	**157.10**	**4**	PKP		**PKPdf**	**10 33 43.2**	**-0.4**
	comp=Z,5.9nm,0.6s,baz=117,slow=1.4,SNR=16							
PTGA				PKPab		**PKPab**	**10 34 13.0**	**-0.9**
	comp=Z,15nm,0.8s,baz=113,slow=7.6,SNR=4.2							
PTGA	**Pitinga**	**157.10**	**4**	PKPdf		**PKPdf**	**10 33 42.7**	**-0.9**
LL01	**San Ignacio de**	**157.99**	**151**			**PKPdf**	**10 33 42.8**	**-1.0**
PLCA	**Paso Flores**	**160.14**	**152**	PKP		**PKPdf**	**10 33 46.7**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=44,slow=0.8,SNR=8.1							
PLCA				PKPab		**PKPab**	**10 34 26.8**	**+0.2**
	comp=Z,11nm,0.8s,baz=329,slow=1.9,SNR=4.9							
PLCA	**Paso Flores**	**160.14**	**152**			**PKPdf**	**10 33 45.6**	**-0.9**
SAML	**Samuel**	**164.59**	**19**	PKP2		**PKPab**	**10 34 45.5**	**-1.0**
SAML							11 33 50.6	
SAML	**Samuel**	**164.59**	**19**			**PKPdf**	**10 33 50.6**	**-1.0**
SAML						**PKPab**	**10 34 45.5**	**-1.0**
CO02	**Combarbal**	**166.47**	**126**			**PKPdf**	**10 33 52.8**	**-0.1**
BDFB	**Brasilia**	**167.43**	**308**	PKP		**PKPdf**	**10 33 53.9**	**-0.1**
	comp=Z,7.1nm,0.7s,baz=190,slow=2.6,SNR=8.0							
BDFB				PKPab		**PKPab**	**10 34 59.0**	**-0.4**
	comp=Z,44nm,0.7s,baz=70,slow=5.0,SNR=36							
LCO	**Las Campanas**	**167.68**	**118**	PKIKP		**PKPdf**	**10 33 54.3**	**+0.3**
LCO	**Las Campanas**	**167.68**	**118**			**PKPdf**	**10 33 54.3**	**+0.3**
CO01	**Juntas del Tor**	**167.75**	**123**			**PKPdf**	**10 33 54.0**	**0.0**
LPAZ	**La Paz**	**168.16**	**53**	PKP		**PKPdf**	**10 33 55.5**	**+0.4**
	comp=Z,17nm,1.1s,baz=25,slow=2.9,SNR=30							
LPAZ				PKPab		**PKPab**	**10 35 03.3**	**+0.1**
	comp=Z,15nm,1.0s,baz=359,slow=4.5,SNR=5.9							
LPAZ				PP		**PP**	**10 38 49.5**	**-2.3**
	comp=Z,3.1nm,0.9s,baz=334,slow=6.0,SNR=3.8							
AC01	**Pan de Azucar**	**168.56**	**105**			**PKPdf**	**10 33 54.5**	**+0.1**
PB07	**IPOC Station P**	**169.11**	**82**			**PKPdf**	**10 33 54.7**	**-0.4**
PB08	**IPOC Station P**	**169.30**	**73**			**PKPdf**	**10 33 55.4**	**-0.1**
LVC	**Limon Verde**	**170.16**	**86**	PKP		**PKPdf**	**10 33 55.9**	**0.0**
	comp=Z,6.3nm,0.9s,baz=180,slow=3.2,SNR=8.5							
LVC				PKPab		**PKPab**	**10 35 13.4**	**+1.6**
	comp=Z,11nm,1.0s,baz=270,slow=3.1,SNR=6.5							
LVC				PP		**PP**	**10 39 02.1**	**-0.3**
	comp=Z,5.3nm,1.1s,baz=337,slow=1.7,SNR=5.0							
LVC	**Limon Verde**	**170.16**	**86**			**PKPdf**	**10 33 56.3**	**+0.4**
SIV	**San Ignacio**	**171.88**	**19**	PKP		**PKPdf**	**10 33 56.1**	**-0.5**
	comp=Z,18nm,1.0s,baz=111,slow=1.0,SNR=46							
SIV				PKPab		**PKPab**	**10 35 18.2**	**-0.6**
	comp=Z,9.0nm,1.0s,baz=351,slow=3.6,SNR=8.0							
SIV				PP		**PP**	**10 39 08.5**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=42,slow=5.9,SNR=6.0							
CPUP	**Villa Florida**	**177.25**	**198**	PKP		**PKPdf**	**10 33 56.9**	**-1.0**
	comp=Z,10nm,1.0s,baz=85,slow=3.2,SNR=13							
CPUP				PKPab	PKPab		10 35 41.5	-0.9
	comp=Z,8.5nm,1.0s,baz=167,slow=5.2,SNR=6.3							

TAP ***23*** *10:21:46.2,23.73N×121.68E,h40km,ML3.5,B*
JMA ***23*** *10:21:46.0±0.1,23.72N×121.72E,h32km±3km,M3.2*
ISC 23 10:21:46.7±0.9,23.74N±0.02×121.69E±0.02,h31km±8km,
n121,σ0.86/196,2C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.24**	**288**	⇑*i*P		**Pn**	**10 21 53.7**	**-0.5**
	baz=281							
ESL				S		**Sn**	**10 21 59.2**	**+0.3**
	baz=281							
EGFH	**Guangfu**	**0.25**	**253**	*i* P		**Pn**	**10 21 54.0**	**-0.2**
	baz=265							
EGFH				S		**Sn**	**10 21 59.5**	**+0.5**
	baz=265							
HWA	**Hwalien**	**0.25**	**343**	P		**Pn**	**10 21 54.2**	**+0.1**
	baz=351							
HGSD	**Ruisui**	**0.34**	**224**	P		**Pb**	**10 21 55.2**	**+0.3**
	baz=221							
HGSD				*e*S		**Sn**	**10 22 02.2**	**+0.8**
	baz=221							
TWD	**Chiawan**	**0.35**	**346**	P		**Pb**	**10 21 55.0**	**+0.1**
	baz=354							
TWD				S		**Sn**	**10 22 01.7**	**+0.2**
	baz=354							
EHY	**Hungye**	**0.41**	**235**	P		**Pb**	**10 21 55.3**	**-0.5**
	baz=244							
EHY				*e*S		**Sb**	**10 22 01.6**	**-0.3**
	baz=244							
NACB	**Ninganchiao**	**0.44**	**349**	P		**Pb**	**10 21 56.0**	**-0.2**
	baz=353							
NACB				S		**Sb**	**10 22 03.1**	**+0.4**
	baz=353							
YULB	**Yu-li**	**0.50**	**226**	P		**Pb**	**10 21 56.5**	**-0.6**
	baz=236							
YULB				S		**Sb**	**10 22 03.7**	**-0.6**
	baz=236							
VWDT	**VWDT**	**0.50**	**272**	P		**Pb**	**10 21 57.2**	**+0.1**
	baz=273							
VWDT				S		**Sb**	**10 22 05.0**	**+0.7**
	baz=273							
ETLH	**Xiulin Townshi**	**0.50**	**338**	⇑P		**Pb**	**10 21 56.9**	**-0.3**
	baz=329							
ETLH				*e*S		**Sb**	**10 22 04.3**	**-0.2**
	baz=329							
EYUL	**Yuli**	**0.52**	**221**	*e*P		**Pb**	**10 21 57.2**	**-0.2**
	baz=233							
TWF1	**Yuli**	**0.53**	**223**	P		**Pn**	**10 21 56.9**	**-1.2**
	baz=232							
TWF1				*e*S		**Sb**	**10 22 04.4**	**-0.6**
	baz=232							
WHF	**Hehuan Shan**	**0.56**	**316**	P		**Pn**	**10 21 57.9**	**-1.0**
	baz=311							
WHF				S		**Sb**	**10 22 06.4**	**0.0**
	baz=311							
CHGB	**Renai**	**0.57**	**304**	P		**Pn**	**10 21 58.2**	**-0.6**
	baz=306							
CHGB				S		**Sb**	**10 22 06.5**	**+0.1**
	baz=306							
FUSS	**Fushou**	**0.65**	**321**	P		**Pn**	**10 21 59.2**	**-0.7**
	baz=332							
FUSS				S		**Sn**	**10 22 08.5**	**-0.7**
	baz=332							
FULB	**Fuli**	**0.65**	**214**	P		**Pn**	**10 21 59.4**	**-0.4**
	baz=227							
FULB				*e*S		**Sn**	**10 22 09.5**	**+0.5**
	baz=227							
SSLB	**Suanglung**	**0.67**	**274**	P		**Pn**	**10 21 59.3**	**-0.7**
	baz=275							
SSLB				*e*S		**Sn**	**10 22 09.2**	**-0.4**
	baz=275							
ENA	**Nanau**	**0.69**	**4**	P		**Pn**	**10 21 59.6**	**-0.7**
	baz=13							
ENA				*e*S		**Sn**	**10 22 10.0**	**+0.1**
	baz=13							
TWT	**Tachien**	**0.69**	**318**	P		**Pn**	**10 22 00.3**	**-0.1**
	baz=314							
TWT				*e*S		**Sn**	**10 22 09.6**	**-0.7**
	baz=314							
TDCB	**Techi**	**0.70**	**317**	*e*P		**Pn**	**10 22 00.3**	**-0.3**
	baz=314							
TDCB				S		**Sn**	**10 22 09.7**	**-0.8**
	baz=314							
CHKT	**Chengkung**	**0.70**	**205**	*e*P		**Pn**	**10 21 59.4**	**-1.1**
	baz=195							
CHKT				*e*S		**Sn**	**10 22 08.5**	**-1.8**
	baz=195							
EWUT	**Wuta**	**0.71**	**7**	P		**Pn**	**10 22 00.0**	**-0.5**
	baz=8.0							
EWUT				S		**Sn**	**10 22 10.0**	**-0.3**
	baz=8.0							
YUS	**Yu-Shan**	**0.72**	**250**	P		**Pn**	**10 22 00.6**	**-0.6**
	baz=250							
YUS				*e*S		**Sn**	**10 22 10.0**	**-1.3**
	baz=250							
WPL	**Puli Township**	**0.72**	**292**	*e*P		**Pn**	**10 22 00.4**	**-0.3**
	baz=298							
WPL				*e*S		**Sn**	**10 22 10.0**	**-0.7**
	baz=298							
SMLT	**Sun Moon Lake**	**0.73**	**281**	P		**Pn**	**10 22 00.6**	**-0.4**
	baz=287							
SMLT				*e*S		**Sn**	**10 22 10.6**	**-0.6**
	baz=287							
NNSB	**Datong**	**0.74**	**338**	P		**Pn**	**10 22 00.5**	**-0.6**
	baz=340							
NNSB				S		**Sn**	**10 22 10.6**	**-0.7**
	baz=340							
NNSH	**Datong**	**0.74**	**338**	*e*P		**Pn**	**10 22 00.4**	**-0.6**
	baz=340							
NNSH				S		**Sn**	**10 22 10.3**	**-1.0**
	baz=340							
NNS	**Nan Shan**	**0.75**	**338**	*e*P		**Pn**	**10 22 01.0**	**-0.3**
	baz=340							
NNS				S		**Sn**	**10 22 10.9**	**-0.8**
	baz=340							
DPDB	**Guoxing**	**0.75**	**293**	P		**Pn**	**10 22 00.9**	**-0.4**
	baz=297							
DPDB				S		**Sn**	**10 22 11.0**	**-0.6**
	baz=297							
WHYT	**Xinyi Township**	**0.76**	**267**	*e*P		**Pn**	**10 22 01.1**	**-0.2**
	baz=262							
WHYT				*e*S		**Sn**	**10 22 11.4**	**-0.5**
	baz=262							
TYC	**Yuchr**	**0.78**	**282**	P		**Pn**	**10 22 01.1**	**-0.4**
	baz=288							
TYC				S		**Sn**	**10 22 11.6**	**-0.5**
	baz=288							
ELDTW	**Lidau**	**0.82**	**228**	P		**Pn**	**10 22 01.1**	**-1.2**
	baz=226							
ELDTW				S		**Sn**	**10 22 11.6**	**-1.8**
	baz=226							
ALS	**Alishan**	**0.84**	**254**	P		**Pn**	**10 22 02.5**	**-0.2**
	baz=261							
ALS				*e*S		**Sn**	**10 22 13.9**	**-0.1**
	baz=261							
EDH	**Donghe**	**0.84**	**205**	*e*P		**Pn**	**10 22 01.4**	**-0.9**
	baz=217							
EDH				*e*S		**Sn**	**10 22 12.2**	**-1.4**
	baz=217							
WHP	**Taichung City**	**0.86**	**308**	P		**Pn**	**10 22 02.8**	**0.0**
	baz=315							
WHP				*e*S		**Sn**	**10 22 14.3**	**0.0**
	baz=315							
NDT	**Datong Townshi**	**0.87**	**350**	P		**Pn**	**10 22 02.4**	**-0.4**
	baz=343							
NDT				*e*S		**Sn**	**10 22 14.0**	**-0.5**
	baz=343							
TWC	**Suao**	**0.88**	**10**	P		**Pn**	**10 22 02.8**	**-0.1**
	baz=11							
TWC				S		**Sn**	**10 22 14.8**	**+0.2**
	baz=11							
WJS	**Zhushan**	**0.88**	**275**	*e*P		**Pn**	**10 22 03.2**	**+0.3**
	baz=276							
NDS	**Dongshan**	**0.89**	**2**	P		**Pn**	**10 22 02.8**	**-0.2**
	baz=353							
NDS				S		**Sn**	**10 22 14.7**	**-0.2**
	baz=353							
ENTT	**Nioudou**	**0.90**	**353**	P		**Pn**	**10 22 03.0**	**-0.2**
	baz=354							
WNT	**Mingjian**	**0.93**	**279**	P		**Pn**	**10 22 04.3**	**+0.8**
	baz=280							
WNT				*e*S		**Sn**	**10 22 16.9**	**+1.1**
	baz=280							
CHN5	**Tsauling**	**0.93**	**261**	P		**Pn**	**10 22 04.2**	**+0.5**
	baz=262							
CHN5				S		**Sn**	**10 22 16.7**	**+0.6**
	baz=262							
WNT1	**Nantou City**	**0.94**	**280**	*e*P		**Pn**	**10 22 04.0**	**+0.4**
	baz=281							
WWF	**Wufeng**	**0.95**	**289**	*e*P		**Pn**	**10 22 05.2**	**+1.4**
	baz=290							
YHNB	**Yeheng**	**0.97**	**343**	*e*P		**Pn**	**10 22 04.2**	**0.0**
	baz=346							
YHNB				*e*S		**Sn**	**10 22 16.5**	**-0.4**
	baz=346							
LONT	**Longtian**	**0.97**	**212**	*e*P		**Pn**	**10 22 03.6**	**-0.6**
	baz=212							
TWE	**Neicheng**	**0.98**	**359**	P		**Pn**	**10 22 04.0**	**-0.2**
	baz=351							
NSK	**Sanguang**	**0.98**	**342**	P		**Pn**	**10 22 04.3**	**0.0**
	baz=345							
NSK				*e*S		**Sn**	**10 22 16.5**	**-0.7**
	baz=345							
TCU	**Taichung**	**1.01**	**294**	*e*P		**Pn**	**10 22 06.2**	**+1.5**
	baz=295							
TCU				S		**Sn**	**10 22 19.4**	**+1.6**
	baz=295							
STYH	**Taoyuan**	**1.01**	**236**	P		**Pn**	**10 22 04.4**	**-0.3**
	baz=231							
STYH				*e*S		**Sn**	**10 22 17.6**	**-0.2**
	baz=231							
STYT	**Tauyuan**	**1.03**	**236**	P		**Pn**	**10 22 05.0**	**-0.1**
	baz=231							
STYT				S		**Sn**	**10 22 18.5**	**+0.1**
	baz=231							
TWQ1	**Liyutan**	**1.03**	**306**	P		**Pn**	**10 22 05.8**	**+0.8**
	baz=308							
TWQ1				S		**Sn**	**10 22 19.8**	**+1.4**
	baz=308							
NWLT	**Wulai**	**1.04**	**351**	*e*P		**Pn**	**10 22 05.8**	**+0.5**
	baz=347							
NWLT				*e*S		**Sn**	**10 22 18.7**	**-0.1**
	baz=347							
WDLH	**Douliu**	**1.05**	**267**	*e*P		**Pn**	**10 22 05.5**	**+0.2**
	baz=268							
TPUB	**Ta-pu**	**1.06**	**246**	*e*P		**Pn**	**10 22 05.9**	**+0.5**
	baz=246							
TPUB				*e*S		**Sn**	**10 22 20.3**	**+1.1**
	baz=246							
TWGBT	**Beinan**	**1.07**	**211**	*e*P		**Pn**	**10 22 04.0**	**-1.6**
	baz=211							
CHN4	**Tsaushan**	**1.07**	**249**	*e*P		**Pn**	**10 22 06.2**	**+0.6**
	baz=249							
CHN4				*e*S		**Sn**	**10 22 21.5**	**+2.1**
	baz=249							
TWG	**Pinlang**	**1.07**	**212**	*e*P		**Pn**	**10 22 05.1**	**-0.5**
	baz=211							
NSY	**Sanyi**	**1.08**	**309**	*e*P		**Pn**	**10 22 06.9**	**+1.2**
	baz=311							
NSY				*e*S		**Sn**	**10 22 21.6**	**+2.0**
	baz=311							
LDUT	**Ludao**	**1.08**	**191**	*e*P		**Pn**	**10 22 04.1**	**-1.5**
	baz=190							
NSTT	**Nanjuang**	**1.08**	**325**	*e*P		**Pn**	**10 22 06.8**	**+1.0**
	baz=314							
NSTT				*e*S		**Sn**	**10 22 20.4**	**+0.7**
	baz=314							
WCHH	**Zhanghua**	**1.08**	**288**	*e*P		**Pn**	**10 22 06.6**	**+0.9**
	baz=289							
WCHH				*e*S		**Sn**	**10 22 21.2**	**+1.5**
	baz=289							
LIOB	**Emei**	**1.09**	**326**	*e*P		**Pn**	**10 22 06.9**	**+1.1**
	baz=312							
WTP	**Ta-pu**	**1.10**	**244**	*e*P		**Pn**	**10 22 06.6**	**+0.6**
	baz=243							
WTP				*e*S		**Sn**	**10 22 21.1**	**+0.9**
	baz=243							
NTC	**Toucheng**	**1.12**	**7**	*e*P		**Pn**	**10 22 06.0**	**-0.2**
	baz=15							
WDJ	**Dajia District**	**1.13**	**303**	*e*P		**Pn**	**10 22 07.1**	**+0.7**
	baz=304							
WDJ				*e*S		**Sn**	**10 22 22.4**	**+1.5**
	baz=304							
NMLH	**Miaoli**	**1.14**	**314**	*e*P		**Pn**	**10 22 07.7**	**+1.2**
	baz=316							
NMLH				*e*S		**Sn**	**10 22 22.0**	**+0.9**
	baz=316							
CHY	**Chiayi**	**1.18**	**258**	*e*P		**Pn**	**10 22 07.7**	**+0.6**
	baz=259							
WTK	**Tuku**	**1.19**	**268**	*e*P		**Pn**	**10 22 07.7**	**+0.6**
	baz=269							
TWK	**Hsinying**	**1.20**	**247**	*e*P		**Pn**	**10 22 07.9**	**+0.6**
	baz=247							
TWK				*e*S		**Sn**	**10 22 23.9**	**+1.3**
	baz=247							
CHN1	**Nanshi**	**1.20**	**243**	*e*P		**Pn**	**10 22 08.0**	**+0.7**
	baz=243							
CHN1				*e*S		**Sn**	**10 22 24.1**	**+1.6**
	baz=243							
SGST	**Jiashian**	**1.21**	**237**	*e*P		**Pn**	**10 22 07.3**	**-0.1**
	baz=237							
SGST				*e*S		**Sn**	**10 22 23.8**	**+1.1**
	baz=237							
SNST	**Tainan City**	**1.21**	**245**	*e*P		**Pn**	**10 22 08.3**	**+0.9**
	baz=245							
SNST				*e*S		**Sn**	**10 22 24.3**	**+1.6**
	baz=245							
WRL	**Guolierlin Hig**	**1.21**	**278**	*e*P		**Pn**	**10 22 08.8**	**+1.3**
	baz=279							
WRL				*e*S		**Sn**	**10 22 23.9**	**+1.1**
	baz=279							
SLGT	**Liugui**	**1.21**	**232**	*e*P		**Pn**	**10 22 08.1**	**+0.6**
	baz=232							
SLGT				*e*S		**Sn**	**10 22 24.0**	**+1.2**
	baz=232							
SBCB	**Hsinchu**	**1.23**	**329**	*e*P		**Pn**	**10 22 09.6**	**+1.9**
	baz=330							
TIPB	**Shuangxi**	**1.23**	**6**	*e*P		**Pn**	**10 22 08.7**	**+0.9**
	baz=353							
TATO	**Taipei**	**1.24**	**352**	*e*P		**Pn**	**10 22 07.1**	**-0.8**
	baz=353							
TWB1	**Santiao Chiao**	**1.29**	**12**	*e*P		**Pn**	**10 22 09.2**	**+0.6**
	baz=13							
ECL	**Taimali**	**1.32**	**211**	*e*P		**Pn**	**10 22 08.9**	**0.0**
	baz=210							
WFSB	**Wu-fen Shan**	**1.33**	**4**	*e*P		**Pn**	**10 22 10.1**	**+1.0**
	baz=353							
JYNG	**Yonagunijimaku**	**1.35**	**58**	P		**Pn**	**10 22 09.7**	**+0.3**
JYNG				S		**Sn**	**10 22 26.7**	**+0.4**
SSD	**Sandimen**	**1.39**	**225**	*e*P		**Pn**	**10 22 10.7**	**+0.9**
	baz=224							
SSD				*e*S		**Sn**	**10 22 28.4**	**+1.3**
	baz=224							
SCST	**Cishan**	**1.39**	**232**	*e*P		**Pn**	**10 22 11.8**	**+1.9**
	baz=233							
YM01	**YM01**	**1.40**	**356**	*e*P		**Pn**	**10 22 09.8**	**-0.3**
	baz=357							
TSMG	**Majia**	**1.41**	**223**	*e*P		**Pn**	**10 22 10.6**	**+0.5**
	baz=222							
TSMG				*e*S		**Sn**	**10 22 29.0**	**+1.4**
	baz=222							
YOJ	**Yonaguni jima**	**1.41**	**59**	*e*P		**Pn**	**10 22 10.9**	**+0.7**
	baz=57							
YOJ				*e*S		**Sn**	**10 22 27.9**	**+0.2**
	baz=57							
YOJ	**Yonaguni jima**	**1.41**	**59**	P		**Pn**	**10 22 10.6**	**+0.4**
YOJ				*e*S		**Sn**	**10 22 27.9**	**+0.2**
CHN8	**Yiju**	**1.41**	**254**	*e*S		**Sn**	**10 22 28.7**	**+1.0**
	baz=254							
YM04	**YM04**	**1.41**	**355**	*e*P		**Pn**	**10 22 10.4**	**+0.1**
	baz=356							
YM10	**YM10**	**1.41**	**355**	*e*P		**Pn**	**10 22 10.6**	**+0.2**
	baz=357							
YM11	**YM11**	**1.42**	**356**	*e*P		**Pn**	**10 22 11.2**	**+0.8**
	baz=357							
YM03	**YM03**	**1.44**	**355**	*e*P		**Pn**	**10 22 12.2**	**+1.5**
	baz=356							
YM08	**YM08**	**1.44**	**357**	*e*P		**Pn**	**10 22 10.3**	**-0.4**
	baz=358							
ANP	**Anpu**	**1.45**	**354**	*e*P		**Pn**	**10 22 12.0**	**+1.2**
	baz=356							
MASBT	**Mashibuluo**	**1.48**	**221**	*e*P		**Pn**	**10 22 11.3**	**+0.1**
	baz=221							
SSPT	**Xinbi**	**1.62**	**220**	*e*P		**Pn**	**10 22 14.5**	**+1.4**
	baz=220							
SCZT	**Fangliau**	**1.68**	**216**	*e*P		**Pn**	**10 22 15.8**	**+1.9**
	baz=216							
SLIU	**Shizi**	**1.72**	**208**	*e*P		**Pn**	**10 22 15.0**	**+0.5**
	baz=202							
WDGT	**Dungji**	**1.92**	**256**	*e*P		**Pn**	**10 22 16.9**	**-0.3**
	baz=257							
PHUB	**P'eng-hu**	**1.95**	**264**	*e*P		**Pn**	**10 22 17.4**	**-0.2**
	baz=251							
PHUB				*e*S		**Sn**	**10 22 40.3**	**-0.8**
	baz=251							
IRIF	**Iriomote-Funau**	**1.96**	**72**	P		**Pn**	**10 22 18.3**	**+0.5**
IRIF				S		**Sn**	**10 22 42.0**	**+0.7**
TWK1	**Hengchun**	**1.96**	**205**	*e*S		**Sn**	**10 22 41.0**	**-0.4**
	baz=204							
TWKBT	**Hengchun**	**1.96**	**204**	*e*P		**Pn**	**10 22 18.9**	**+1.0**
	baz=195							
HATJ	**Hateruma jima**	**1.97**	**80**	P		**Pn**	**10 22 18.1**	**+0.3**
VCHM	**Qimei**	**2.14**	**256**	*e*P		**Pn**	**10 22 20.1**	**-0.1**
	baz=257							
JKRS	**Kuro-shima**	**2.18**	**76**	P		**Pn**	**10 22 21.7**	**+0.9**
JKRS				*e*S		**Sn**	**10 22 48.0**	**+1.2**
JIJ	**Ishigaki jima**	**2.33**	**74**	P		**Pn**	**10 22 22.9**	**0.0**
JIJ				S		**Sn**	**10 22 49.9**	**-0.6**
VWUC	**VWUC**	**2.39**	**302**	*e*P		**Pn**	**10 22 23.2**	**-0.5**
	baz=303							
VWUC				*e*S		**Sn**	**10 22 50.0**	**-1.9**
	baz=303							
JISG	**Ishigakijimahi**	**2.54**	**70**	P		**Pn**	**10 22 25.6**	**-0.2**
JISG				S		**Sn**	**10 22 54.8**	**-0.9**
PTMZ	**Houxiangcun**	**2.67**	**299**	*e*P		**Pn**	**10 22 27.1**	**-0.4**
	baz=301							
PTMZ				*e*S		**Sn**	**10 22 56.6**	**-2.3**
	baz=301							
JTJ	**Tarama**	**2.90**	**71**	P		**Pn**	**10 22 30.8**	**+0.2**
JTJ				S		**Sn**	**10 23 04.1**	**-0.3**
MSUT	**Lienchiang**	**2.90**	**327**	*e*S		**Sn**	**10 23 03.0**	**-1.5**
	baz=329							
KNM	**Kinmen**	**3.05**	**283**	*e*P		**Pn**	**10 22 34.1**	**+1.4**
	baz=284							
KNMB	**Chin-men Tao**	**3.10**	**284**	*e*P		**Pn**	**10 22 32.9**	**-0.5**
	baz=285							
JIRB	**Irabujima**	**3.36**	**71**	P		**Pn**	**10 22 37.4**	**+0.4**
JIRB				S		**Sn**	**10 23 15.4**	**-0.5**
MHZQ	**Yeshan**	**3.37**	**315**	*e*P		**Pn**	**10 22 36.7**	**-0.4**
	baz=316							
MHZQ				*e*S		**Sn**	**10 23 14.1**	**-1.9**
	baz=316							
JIKM	**Ikemajima**	**3.46**	**69**	P		**Pn**	**10

	baz=338							
TWF1	**Yuli**	**0.51**	**223**	*e*P		**Pb**	**10 26 41.5**	**-0.8**
	baz=221							
WHF	**Hehuan Shan**	**0.56**	**318**	P		**Pb**	**10 26 42.6**	**-0.7**
	baz=317							
WHF				*e*S		**Sn**	**10 26 51.7**	**0.0**
	baz=317							
CHGB	**Renai**	**0.56**	**306**	*e*P		**Pb**	**10 26 43.0**	**-0.3**
	baz=304							
FULB	**Fuli**	**0.63**	**214**	*e*P		**Pb**	**10 26 44.6**	**+0.3**
	baz=213							
FULB				*e*S		**Sn**	**10 26 54.2**	**+1.4**
	baz=213							
FUSS	**Fushou**	**0.65**	**323**	P		**Pn**	**10 26 44.1**	**-0.3**
	baz=321							
FUSS				*e*S		**Sn**	**10 26 53.7**	**+0.1**
	baz=321							
SSLB	**Suanglung**	**0.66**	**275**	*e*P		**Pb**	**10 26 44.9**	**+0.1**
	baz=274							
CHKT	**Chengkung**	**0.69**	**204**	*e*P		**Pb**	**10 26 44.8**	**-0.3**
	baz=203							
ENA	**Nanau**	**0.70**	**5**	*e*P		**Pn**	**10 26 44.6**	**-0.3**
	baz=5.0							
ENA				*e*S		**Sb**	**10 26 54.6**	**-0.2**
	baz=5.0							
TDCB	**Techi**	**0.70**	**318**	*e*P		**Pb**	**10 26 45.1**	**-0.4**
	baz=317							
TDCB				*e*S		**Sb**	**10 26 55.0**	**-0.1**
	baz=317							
YUS	**Yu-Shan**	**0.70**	**250**	*e*P		**Pn**	**10 26 45.1**	**-0.3**
	baz=249							
YUS				*e*S		**Sb**	**10 26 54.4**	**-1.0**
	baz=249							
WPL	**Puli Township**	**0.71**	**293**	*e*P		**Pn**	**10 26 44.9**	**-0.2**
	baz=292							
EWUT	**Wuta**	**0.72**	**8**	*e*S		**Sb**	**10 26 54.9**	**-0.4**
	baz=7.0							
SMLT	**Sun Moon Lake**	**0.72**	**282**	*e*P		**Pn**	**10 26 45.2**	**-0.1**
	baz=281							
SMLT				*e*S		**Sb**	**10 26 56.4**	**+0.8**
	baz=281							
NNSB	**Datong**	**0.74**	**339**	*e*P		**Pn**	**10 26 45.4**	**-0.3**
	baz=338							
NNSB				*e*S		**Sn**	**10 26 55.4**	**-0.5**
	baz=338							
NNSH	**Datong**	**0.74**	**339**	*e*P		**Pn**	**10 26 45.5**	**-0.2**
	baz=338							
NNSH				*e*S		**Sn**	**10 26 55.4**	**-0.5**
	baz=338							
DPDB	**Guoxing**	**0.75**	**294**	*e*P		**Pn**	**10 26 45.6**	**0.0**
	baz=293							
NNS	**Nan Shan**	**0.76**	**339**	*e*P		**Pb**	**10 26 46.1**	**-0.3**
	baz=338							
NNS				*e*S		**Sn**	**10 26 56.1**	**-0.1**
	baz=338							
TYC	**Yuchr**	**0.77**	**283**	*e*P		**Pb**	**10 26 46.0**	**-0.4**
	baz=282							
TYC				*e*S		**Sb**	**10 26 57.0**	**+0.3**
	baz=282							
ELDTW	**Lidau**	**0.81**	**228**	*e*P		**Pn**	**10 26 45.4**	**-1.0**
	baz=227							
ALS	**Alishan**	**0.83**	**255**	*e*P		**Pb**	**10 26 47.2**	**-0.4**
	baz=253							
EDH	**Donghe**	**0.83**	**204**	*e*P		**Pb**	**10 26 46.8**	**-0.6**
	baz=204							
WHP	**Taichung City**	**0.86**	**310**	*e*P		**Pb**	**10 26 47.6**	**-0.5**
	baz=308							
NDT	**Datong Townshi**	**0.88**	**350**	*e*P		**Pn**	**10 26 47.1**	**-0.3**
	baz=350							
NDT				*e*S		**Sn**	**10 26 59.1**	**+0.1**
	baz=350							
NDS	**Dongshan**	**0.90**	**2**	*e*P		**Pn**	**10 26 47.5**	**-0.2**
	baz=2.0							
ENTT	**Nioudou**	**0.91**	**354**	*e*P		**Pn**	**10 26 47.9**	**0.0**
	baz=353							
CHN5	**Tsauling**	**0.92**	**262**	*e*P		**Pb**	**10 26 48.9**	**-0.2**
	baz=261							
CHN5				*e*S		**Sb**	**10 27 01.3**	**+0.2**
	baz=261							
LONT	**Longtian**	**0.96**	**212**	*e*P		**Pb**	**10 26 49.4**	**-0.2**
	baz=211							
YHNB	**Yeheng**	**0.97**	**344**	*e*P		**Pn**	**10 26 49.0**	**+0.2**
	baz=343							
YHNB				*e*S		**Sn**	**10 27 01.7**	**+0.2**
	baz=343							
NSK	**Sanguang**	**0.99**	**343**	*e*P		**Pn**	**10 26 49.1**	**+0.2**
	baz=342							
TWE	**Neicheng**	**0.99**	**360**	*e*P		**Pn**	**10 26 48.9**	**0.0**
STYH	**Taoyuan**	**0.99**	**236**	*e*P		**Pn**	**10 26 49.1**	**+0.2**
	baz=235							
STYH				*e*S		**Sb**	**10 27 02.1**	**-0.9**
	baz=235							
STYT	**Tauyuan**	**1.01**	**236**	*e*P		**Pn**	**10 26 49.4**	**+0.2**
	baz=235							
TWQ1	**Liyutan**	**1.03**	**307**	*e*P		**Pb**	**10 26 50.6**	**-0.2**
	baz=306							
TWQ1				*e*S		**Sb**	**10 27 05.0**	**+0.9**
	baz=306							
WDLH	**Douliu**	**1.04**	**268**	*e*S		**Sb**	**10 27 04.9**	**+0.5**
	baz=267							
TPUB	**Ta-pu**	**1.05**	**246**	*e*P		**Pb**	**10 26 50.8**	**-0.4**
	baz=245							
TPUB				*e*S		**Sb**	**10 27 04.7**	**0.0**
	baz=245							
NWLT	**Wulai**	**1.05**	**352**	*e*P		**Pn**	**10 26 50.1**	**+0.3**
	baz=351							
TWGBT	**Beinan**	**1.06**	**211**	*e*P		**Pb**	**10 26 50.6**	**-0.7**
	baz=210							
TWG	**Pinlang**	**1.06**	**212**	*e*P		**Pb**	**10 26 50.5**	**-0.8**
	baz=211							
LIOB	**Emei**	**1.09**	**327**	*e*P		**Pb**	**10 26 51.7**	**-0.2**
	baz=326							
JYNG	**Yonagunijimaku**	**1.37**	**58**	P		**Pb**	**10 26 55.0**	**-1.5**
JYNG				*e*S		**Sn**	**10 27 11.6**	**+0.6**
IRIF	**Iriomote-Funau**	**1.97**	**72**	P		**Pn**	**10 27 03.5**	**+1.1**
IRIF				S		**Sn**	**10 27 27.1**	**+1.1**
JIJ	**Ishigaki jima**	**2.34**	**74**	P		**Pn**	**10 27 07.8**	**+0.3**
JIJ				S		**Sn**	**10 27 34.6**	**-0.5**
JISG	**Ishigakijimahi**	**2.56**	**70**	P		**Pn**	**10 27 10.5**	**+0.1**
JISG				*e*S		**Sn**	**10 27 39.3**	**-1.0**
JTJ	**Tarama**	**2.91**	**71**	S		**Sn**	**10 27 50.0**	**+0.9**

JMA ***23*** *10:26:50.9±0.1, 23°.71N×121°.75E, h27km±3km*
TAP ***23*** *10:26:51.4, 23°.77N×121°.65E, h39km, ML2.9, D*
ISC 23 10:26:51.9±1.0, 23°.76N±0°.03×121°.67E±0°.03, h33km±2km, n37, σ0°61/58, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.23**	**285**	P	**Pn**	**10 26 58.7**	**+0.4**
	baz=282						
ESL				S	**Sb**	**10 27 04.3**	**+0.7**
	baz=282						
HWA	**Hwalien**	**0.23**	**345**	*e*P	**Pb**	**10 26 59.3**	**+0.4**
	baz=350						
HWA				*e*S	**Sb**	**10 27 05.9**	**+2.2**
	baz=350						
EGFH	**Guangfu**	**0.24**	**249**	P	**Pn**	**10 26 59.1**	**+0.4**
	baz=243						
EGFH				*e*S	**Sb**	**10 27 04.4**	**+0.6**
	baz=243						
TWD	**Chiawan**	**0.33**	**348**	P	**Pb**	**10 27 00.1**	**0.0**
	baz=352						
TWD				*e*S	**Sb**	**10 27 06.7**	**+1.0**
	baz=352						
HGSD	**Ruisui**	**0.35**	**221**	*e*P	**Pb**	**10 27 00.9**	**+0.5**
	baz=217						
HGSD				S	**Sb**	**10 27 07.1**	**+1.0**
	baz=217						
EHY	**Hungye**	**0.41**	**232**	P	**Pb**	**10 27 01.0**	**-0.2**
	baz=228						
NACB	**Ninganchiao**	**0.42**	**350**	P	**Pb**	**10 27 01.0**	**-0.4**
	baz=352						
NACB				S	**Sb**	**10 27 08.4**	**+0.4**
	baz=352						
ETLH	**Xiulin Townshi**	**0.48**	**339**	P	**Pb**	**10 27 02.0**	**-0.4**
	baz=340						
ETLH				*e*S	**Sb**	**10 27 09.2**	**-0.3**
	baz=340						
VWDT	**VWDT**	**0.49**	**270**	*e*P	**Pb**	**10 27 02.4**	**+0.1**
	baz=267						
VWDT				S	**Sb**	**10 27 10.0**	**+0.5**
	baz=267						
YULB	**Yu-li**	**0.50**	**224**	*e*P	**Pb**	**10 27 01.6**	**-0.9**
	baz=220						
YULB				*e*S	**Sb**	**10 27 08.6**	**-1.2**
	baz=220						
EYUL	**Yuli**	**0.52**	**219**	P	**Pb**	**10 27 02.9**	**0.0**
	baz=215						
EYUL				S	**Sn**	**10 27 11.4**	**+0.7**
	baz=215						
TWF1	**Yuli**	**0.53**	**221**	P	**Pn**	**10 27 02.8**	**-0.3**
	baz=217						
WHF	**Hehuan Shan**	**0.54**	**316**	*e*P	**Pb**	**10 27 03.3**	**-0.2**
	baz=316						
WHF				*e*S	**Sb**	**10 27 11.2**	**-0.2**
	baz=316						
CHGB	**Renai**	**0.55**	**304**	*e*P	**Pn**	**10 27 03.3**	**-0.3**
	baz=303						
CHGB				*e*S	**Sb**	**10 27 11.6**	**+0.2**
	baz=303						
FUSS	**Fushou**	**0.63**	**321**	*e*P	**Pn**	**10 27 04.3**	**-0.4**
	baz=321						
FUSS				*e*S	**Sn**	**10 27 13.6**	**-0.1**
	baz=321						
FULB	**Fuli**	**0.65**	**212**	S	**Sb**	**10 27 14.8**	**+0.8**
	baz=210						
SSLB	**Suanglung**	**0.66**	**273**	*e*P	**Pn**	**10 27 04.8**	**-0.1**
	baz=271						
ENA	**Nanau**	**0.67**	**5**	S	**Sn**	**10 27 14.7**	**+0.2**
	baz=7.0						
TDCB	**Techi**	**0.68**	**317**	*e*P	**Pn**	**10 27 05.3**	**0.0**
	baz=316						
TDCB				S	**Sn**	**10 27 14.7**	**-0.3**
	baz=316						
EWUT	**Wuta**	**0.69**	**8**	S	**Sn**	**10 27 15.2**	**+0.3**
	baz=9.0						
WPL	**Puli Township**	**0.70**	**291**	P	**Pn**	**10 27 05.2**	**-0.3**
	baz=290						
WPL				*e*S	**Sn**	**10 27 15.0**	**-0.2**
	baz=290						
CHKT	**Chengkung**	**0.71**	**203**	*e*P	**Pn**	**10 27 05.5**	**-0.1**
	baz=200						
YUS	**Yu-Shan**	**0.71**	**248**	P	**Pn**	**10 27 05.6**	**-0.5**
	baz=246						
YUS				*e*S	**Sn**	**10 27 15.0**	**-1.1**
	baz=246						
SMLT	**Sun Moon Lake**	**0.72**	**280**	*e*P	**Pn**	**10 27 05.6**	**-0.2**
	baz=279						
NNSB	**Datong**	**0.72**	**339**	*e*S	**Sn**	**10 27 15.6**	**-0.3**
	baz=339						
NNSH	**Datong**	**0.72**	**339**	P	**Pn**	**10 27 05.5**	**-0.4**
	baz=339						
NNSH				S	**Sn**	**10 27 15.4**	**-0.4**
	baz=339						
NNS	**Nan Shan**	**0.73**	**338**	S	**Sn**	**10 27 16.0**	**-0.2**
	baz=339						
JYNG	**Yonagunijimaku**	**1.35**	**59**	S	**Sn**	**10 27 31.4**	**+0.1**
YOJ	**Yonaguni jima**	**1.41**	**60**	*e*S	**Sn**	**10 27 33.0**	**+0.3**
IRIF	**Iriomote-Funau**	**1.97**	**73**	P	**Pn**	**10 27 22.5**	**-0.4**
IRIF				*e*S	**Sn**	**10 27 46.6**	**+0.1**
JKRS	**Kuro-shima**	**2.19**	**77**	P	**Pn**	**10 27 26.3**	**+0.3**
JKRS				*e*S	**Sn**	**10 27 52.3**	**+0.3**
JIJ	**Ishigaki jima**	**2.34**	**74**	P	**Pn**	**10 27 27.8**	**-0.2**
JIJ				S	**Sn**	**10 27 54.7**	**-0.9**
JISG	**Ishigakijimahi**	**2.55**	**71**	P	**Pn**	**10 27 31.0**	**+0.1**
JISG				*e*S	**Sn**	**10 27 59.4**	**-1.4**
JTJ	**Tarama**	**2.90**	**72**	S	**Sn**	**10 28 08.9**	**-0.7**
JIRB	**Irabujima**	**3.37**	**71**	*e*S	**Sn**	**10 28 20.9**	**-0.1**
JIKM	**Ikemajima**	**3.46**	**70**	S	**Sn**	**10 28 23.2**	**-0.2**
JMJ2	**Miyako jima3**	**3.48**	**73**	*e*S	**Sn**	**10 28 24.4**	**+0.7**

JMA ***23*** *10:36:38.9±0.2, 23°.47N×121°.66E, h13km±4km*
TAP ***23*** *10:36:39.7, 23°.48N×121°.53E, h28km, ML2.6, C*
ISC 23 10:36:39.7±0.9, 23°.48N±0°.02×121°.56E±0°.03, h31km±5km, n65, σ0°74/90, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.13**	**277**	P	**Pb**	**10 36 45.3**	**-0.1**
	baz=273						
HGSD				S	**Sb**	**10 36 49.4**	**+0.1**
	baz=273						
EHY	**Hungye**	**0.22**	**278**	*i* P	**Pb**	**10 36 45.8**	**-0.6**
	baz=276						
EHY				*e*S	**Sb**	**10 36 49.7**	**-1.1**
	baz=276						
EGFH	**Guangfu**	**0.23**	**327**	P	**Pb**	**10 36 46.1**	**-0.3**
	baz=323						
EGFH				*i* S	**Sb**	**10 36 50.7**	**-0.2**
	baz=323						
YULB	**Yu-li**	**0.26**	**251**	P	**Pb**	**10 36 46.4**	**-0.3**
	baz=259						
YULB				*e*S	**Sb**	**10 36 50.8**	**-0.7**
	baz=259						
EYUL	**Yuli**	**0.26**	**240**	*e*P	**Pn**	**10 36 47.6**	**+0.3**
	baz=246						
EYUL				S	**Sb**	**10 36 51.7**	**+0.2**
	baz=246						
TWF1	**Yuli**	**0.27**	**243**	P	**Pb**	**10 36 46.6**	**-0.3**
	baz=248						
TWF1				*e*S	**Sb**	**10 36 51.5**	**-0.3**
	baz=248						
ESL	**Shilin**	**0.36**	**341**	*i* P	**Pb**	**10 36 47.4**	**-0.6**
	baz=337						
ESL				S	**Sb**	**10 36 53.8**	**+0.1**
	baz=337						
FULB	**Fuli**	**0.37**	**222**	*e*P	**Pn**	**10 36 48.8**	**-0.1**
	baz=214						
CHKT	**Chengkung**	**0.42**	**206**	P	**Pn**	**10 36 49.3**	**-0.2**
	baz=186						
CHKT				S	**Sn**	**10 36 56.4**	**+0.3**
	baz=186						
VWDT	**VWDT**	**0.47**	**306**	P	**Pb**	**10 36 49.4**	**-0.3**
	baz=306						
VWDT				S	**Sb**	**10 36 56.1**	**-0.5**
	baz=306						
EDH	**Donghe**	**0.56**	**205**	P	**Pb**	**10 36 51.1**	**+0.1**
	baz=190						
EDH				S	**Sn**	**10 36 59.9**	**+0.4**
	baz=190						
ELDTW	**Lidau**	**0.58**	**240**	P	**Pb**	**10 36 50.5**	**-1.0**
	baz=241						
ELDTW				*e*S	**Sb**	**10 36 59.0**	**-0.6**
	baz=241						
TWD	**Chiawan**	**0.60**	**3**	P	**Pb**	**10 36 51.6**	**-0.2**
	baz=354						
TWD				*e*S	**Sn**	**10 37 00.9**	**+0.2**
	baz=354						
SSLB	**Suanglung**	**0.64**	**299**	P	**Pb**	**10 36 51.6**	**-0.9**
	baz=295						
SSLB				*e*S	**Sb**	**10 36 59.7**	**-1.5**
	baz=295						
CHGB	**Renai**	**0.68**	**329**	P	**Pb**	**10 36 52.7**	**-0.6**
	baz=337						
WHYT	**Xinyi Township**	**0.69**	**289**	S	**Sb**	**10 37 01.8**	**-0.7**
	baz=286						
LONT	**Longtian**	**0.69**	**215**	*e*P	**Pb**	**10 36 52.1**	**-1.2**
	baz=210						
NACB	**Ninganchiao**	**0.69**	**2**	*e*P	**Pb**	**10 36 52.5**	**-0.9**
	baz=355						
NACB				*e*S	**Sn**	**10 37 03.9**	**+0.8**
	baz=355						
ALS	**Alishan**	**0.70**	**273**	*e*P	**Pb**	**10 36 53.2**	**-0.3**
	baz=278						
ALS				S	**Sb**	**10 37 02.2**	**-0.9**
	baz=278						
WHF	**Hehuan Shan**	**0.72**	**338**	P	**Pb**	**10 36 53.1**	**-1.0**
	baz=333						
WHF				*e*S	**Sb**	**10 37 02.6**	**-1.2**
	baz=333						
SMLT	**Sun Moon Lake**	**0.73**	**304**	*e*P	**Pb**	**10 36 53.4**	**-0.7**
	baz=310						
ETLH	**Xiulin Townshi**	**0.73**	**354**	P	**Pb**	**10 36 52.9**	**-1.2**
	baz=358						
ETLH				S	**Sb**	**10 37 03.5**	**-0.3**
	baz=358						
WPL	**Puli Township**	**0.77**	**314**	*e*P	**Pb**	**10 36 53.9**	**-0.7**
	baz=322						
TYC	**Yuchr**	**0.77**	**303**	*e*P	**Pb**	**10 36 53.9**	**-0.8**
	baz=313						
STYH	**Taoyuan**	**0.78**	**247**	P	**Pb**	**10 36 54.2**	**-0.7**
	baz=242						
STYH				*e*S	**Sb**	**10 37 04.3**	**-0.8**
	baz=242						
TWGBT	**Beinan**	**0.79**	**214**	*e*P	**Pb**	**10 36 54.7**	**-0.3**
	baz=210						
TWG	**Pinlang**	**0.79**	**215**	*e*P	**Pb**	**10 36 54.3**	**-0.7**
	baz=210						
STYT	**Tauyuan**	**0.80**	**247**	*e*P	**Pb**	**10 36 54.7**	**-0.5**
	baz=242						
STYT				*e*S	**Sb**	**10 37 04.8**	**-1.0**
	baz=242						
DPDB	**Guoxing**	**0.80**	**314**	*e*P	**Pb**	**10 36 54.7**	**-0.5**
	baz=321						
LDUT	**Ludao**	**0.80**	**186**	*e*P	**Pb**	**10 36 54.0**	**-1.2**
	baz=171						
CHN5	**Tsauling**	**0.82**	**279**	*e*P	**Pb**	**10 36 55.7**	**+0.2**
	baz=278						
FUSS	**Fushou**	**0.82**	**339**	P	**Pb**	**10 36 54.9**	**-0.8**
	baz=350						
WCS	**Beigang Elemen**	**0.83**	**314**	*e*P	**Pb**	**10 36 55.0**	**-0.6**
	baz=322						
WJS	**Zhushan**	**0.84**	**294**	*e*P	**Pb**	**10 36 55.9**	**+0.1**
	baz=289						
WJS				*e*S	**Sb**	**10 37 07.4**	**+0.6**
	baz=289						
TWT	**Tachien**	**0.85**	**335**	*e*P	**Pb**	**10 36 55.7**	**-0.4**
	baz=337						
TWT				*e*S	**Sb**	**10 37 06.1**	**-1.1**
	baz=337						
TDCB	**Techi**	**0.86**	**335**	*e*P	**Pb**	**10 36 55.7**	**-0.5**
	baz=337						
TDCB				*e*S	**Sb**	**10 37 06.2**	**-1.2**
	baz=337						
TPUB	**Ta-pu**	**0.87**	**259**	*e*P	**Pb**	**10 36 56.4**	**0.0**
	baz=257						
TPUB				*e*S	**Sb**	**10 37 07.9**	**+0.1**
	baz=257						
CHN4	**Tsaushan**	**0.90**	**262**	*e*P	**Pn**	**10 36 57.2**	**+1.1**
	baz=252						
WNT	**Mingjian**	**0.90**	**297**	*e*P	**Pb**	**10 36 56.2**	**-0.5**
	baz=297						
WTP	**Ta-pu**	**0.90**	**255**	*e*P	**Pb**	**10 36 56.8**	**-0.1**
	baz=253						
ENA	**Nanau**	**0.96**	**10**	*e*P	**Pn**	**10 36 57.8**	**+0.8**
NNSB	**Datong**	**0.96**	**350**	P	**Pb**	**10 36 56.8**	**-1.1**
	baz=7.0						
NNSH	**Datong**	**0.96**	**350**	*e*P	**Pb**	**10 36 56.7**	**-1.2**
	baz=5.0						
SLGT	**Liugui**	**0.97**	**240**	*e*P	**Pb**	**10 36 57.8**	**-0.2**
	baz=229						
NNS	**Nan Shan**	**0.97**	**350**	*e*P	**Pb**	**10 36 57.4**	**-0.8**
	baz=6.0						
WHP	**Taichung City**	**0.98**	**325**	*e*P	**Pb**	**10 36 57.7**	**-0.4**
	baz=329						
WHP				*e*S	**Sb**	**10 37 10.9**	**+0.1**
	baz=329						
SGST	**Jiashian**	**0.98**	**247**	*e*P	**Pb**	**10 36 57.4**	**-0.8**
	baz=245						
EWUT	**Wuta**	**0.98**	**12**	*e*P	**Pn**	**10 36 57.9**	**+0.5**
	baz=2.0						
CHN1	**Nanshi**	**0.99**	**253**	*e*P	**Pn**	**10 36 58.9**	**+1.4**
	baz=251						
TWK	**Hsinying**	**1.01**	**258**	*e*P	**Pn**	**10 36 58.7**	**+1.0**
	baz=256						
SNST	**Tainan City**	**1.01**	**256**	*e*P	**Pn**	**10 36 58.9**	**+1.2**
	baz=253						
NDT	**Datong Townshi**	**1.12**	**358**	*e*P	**Pn**	**10 36 59.0**	**-0.2**
	baz=14						
SSD	**Sandimen**	**1.12**	**230**	*e*P	**Pn**	**10 36 59.8**	**+0.5**
	baz=220						
TSMG	**Majia**	**1.14**	**228**	*e*P	**Pb**	**10 37 00.7**	**-0.1**
	baz=223						
ENTT	**Nioudou**	**1.16**	**0**	*e*P	**Pn**	**10 36 59.7**	**0.0**
	baz=6.0						
NDS	**Dongshan**	**1.16**	**7**	*e*P	**Pn**	**10 37 00.1**	**+0.3**
	baz=13						
YHNB	**Yeheng**	**1.20**	**352**	*e*P	**Pn**	**10 37 00.9**	**+0.5**
	baz=356						
NSK	**Sanguang**	**1.21**	**351**	*e*P	**Pn**	**10 37 00.8**	**+0.3**
	baz=356						
MASBT	**Mashibuluo**	**1.21**	**225**	*e*P	**Pn**	**10 37 00.6**	**+0.1**
	baz=220						
LIOB	**Emei**	**1.27**	**337**	*e*P	**Pb**	**10 37 02.8**	**-0.1**
	baz=348						
EAST	**Anshuo**	**1.27**	**211**	*e*P	**Pn**	**10 37 01.5**	**+0.2**
	baz=197						
NWLT	**Wulai**	**1.30**	**358**	*e*P	**Pn**	**10 37 02.4**	**+0.8**
	baz=16						
JYNG	**Yonagunijimaku**	**1.59**	**52**	*e*S	**Sb**	**10 37 26.9**	**-1.4**
JIJ	**Ishigaki jima**	**2.52**	**69**	P	**Pn**	**10 37 20.1**	**+1.6**
JIJ				*e*S	**Sn**	**10 37 49.6**	**+1.5**
JISG	**Ishigakijimahi**	**2.75**	**66**	P	**Pn**	**10 37 22.4**	**+0.9**

IDC 23 10:48:26.5±3.1, 2°.22S×136°.68E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.3/21, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=125.7km s-min=29.3km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.77**	**187**	P	Pn	10 52 35.3	-0.2
	0.0nm,0.3s,baz=8.5,slow=12,SNR=1.9						
ASAR	**Alice Springs**	**21.49**	**187**	P	P	10 53 16.8	-0.3
	0.4nm,0.7s,baz=14,slow=12,SNR=5.7						
MKAR	**Makanchi Array**	**68.17**	**323**	P	P	10 59 28.9	+0.2
	0.6nm,0.7s,baz=109,slow=6.0,SNR=7.0						

INET ***23*** *11:01:15.2, 11°.09N×86°.51W, h15km, MW3.0*
UCR 23 11:01:15.9±2.5, 11°.16N×86°.51W, h21km±11km, MW3.7, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**1.00**	**116**	*e*P	Pb	11 01 32.9	-1.6
GPS2	**Hotel Rincn d**	**1.20**	**110**	*e*P	Pn	11 01 36.6	-1.0
PLVR	**Palo Verde**	**1.39**	**125**	*e*P	Pn	11 01 38.7	-1.7
PLVR				*e*S	Sn	11 01 58.1	-0.1
CUI	**Cuipilapa**	**1.41**	**111**	*e*P	Pn	11 01 39.6	-0.8
CUI				*e*S	Sb	11 01 59.5	+0.4
ACON	**Acoyapa**	**1.53**	**58**	*e*P	Pn	11 01 40.7	-1.3
JTS	**Las Juntas de**	**1.76**	**119**	*e*P	Pn	11 01 43.7	-1.4
ARE1	**Arenal 1**	**1.89**	**112**	*e*P	Pn	11 01 48.0	+1.0
CEDE	**Laguna Cedeo**	**1.89**	**111**	*e*P	Pb	11 01 48.8	-1.1
LAFE	**Finca La Fe, P**	**2.07**	**130**	*e*P	Pn	11 01 50.3	+0.9
JACO	**JACO, Garabito**	**2.35**	**129**	*e*P	Pb	11 01 56.3	-1.3
ESPN	**Las Esperanzas**	**2.39**	**64**	*e*P	Pn	11 01 53.2	-0.7
RIMA	**Rio Macho**	**2.95**	**118**	*e*P	Pn	11 02 03.3	+1.6
CDM	**Cerro de Muert**	**3.14**	**120**	*e*P	Pn	11 02 06.4	+1.8

IDC 23 11:20:29.1±1.5, 13°.44N×145°.50E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/43, mbtmp3.5/4, Error ellipse: s-maj=50.2km s-min=32.9km az=101.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.94**	**199**	P	P	11 27 22.5	-0.5
	0.3nm,0.7s,baz=11,slow=9.6,SNR=1.4						
MKAR	**Makanchi Array**	**62.03**	**316**	P	P	11 30 52.8	+1.3
	0.5nm,0.6s,baz=93,slow=7.7,SNR=6.3						
KURBB	**Kurchatov Arra**	**65.14**	**320**	P	P	11 31 12.0	+0.1
	0.6nm,0.8s,baz=104,slow=7.0,SNR=6.8						
ILAR	**Eielson Array**	**68.44**	**25**	P	P	11 31 31.8	-1.0
	0.2nm,0.4s,baz=255,slow=5.5,SNR=9.8						

KRSC ***23*** *11:29:00.4±1.2, 51°.95N×159°.42E, h40km±19km, ML4.3*
MOS ***23*** *11:29:02.4±0.8, 52°.02N×159°.33E, h47km, mb4.0/1, Error ellipse: s-maj=9.7km s-min=4.4km az=93.2*
IDC ***23*** *11:29:04.4±0.5, 52°.15N×159°.18E, h45km±5km, mb3.6/20, mb1 3.8/23, mb1mx3.7/47, mbtmp3.9/23, ML3.7/3, MS3.8/3, Ms1 3.8/3, ms1mx2.9/55, Error ellipse: s-maj=14.6km s-min=10.7km az=150.0*
**ISC 23 11:29:02.7±0.5, 52°.02N±

GRL *i* S **Sb** **11 29 33.3 +0.6**
ASAK Asacha 0.95 293 PN **Pn** **11 29 20.2 +0.4**
ASAK S **Sb** **11 29 33.6 +0.5**
ASAK Asacha 0.95 293 *i* P **Pn** **11 29 20.2 +0.4**
ASAK *i* S **Sb** **11 29 33.6 +0.5**
DALK Dalny 1.07 341 PN **Pn** **11 29 21.1 -0.3**
DALK S **Sn** **11 29 35.0 0.0**
DALK Dalny 1.07 341 *i* P **Pn** **11 29 21.1 -0.3**
DALK *i* S **Sn** **11 29 35.0 0.0**
PET Petropavlovsk 1.08 338 *e*PN **Pn** **11 29 21.6 0.0**
PET *e*S **Sn** **11 29 35.4 0.0**
PET smax smax
comp=N,3μm,0.6s
PET smax smax
comp=E,1μm,0.6s
PET Petropavlovsk 1.08 338 *e*P **Pn** **11 29 21.4 -0.2**
PET *i* S **Sn** **11 29 35.4 0.0**
KRMR Karymshinskiy 1.09 318 PN **Pn** **11 29 22.6 +0.9**
KRMR S **Sb** **11 29 37.1 +0.1**
KRMR Karymshinskiy 1.09 318 *e*P **Pn** **11 29 22.6 +0.9**
KRMR *e*S **Sb** **11 29 37.1 +0.1**
NLC Nalytchevo 1.15 1 PN **Pn** **11 29 21.7 -0.8**
NLC S **Sn** **11 29 36.2 -0.8**
NLC Nalytchevo 1.15 1 *e*P **Pn** **11 29 21.7 -0.8**
NLC *e*S **Sn** **11 29 36.2 -0.8**
SPN Mys Shipunski 1.16 21 PN **Pn** **11 29 22.6 0.0**
SPN S **Sb** **11 29 38.7 -0.2**
SPN Mys Shipunski 1.16 21 *e*P **Pn** **11 29 22.6 0.0**
SPN *e*S **Sb** **11 29 38.7 -0.2**
UGLR Uglovaya 1.23 346 PN **Pn** **11 29 23.7 0.0**
UGLR Uglovaya 1.23 346 *e*P **Pn** **11 29 23.7 0.0**
SMAR Somma 1.28 346 PN **Pn** **11 29 24.6 +0.1**
SMAR Somma 1.28 346 *e*P **Pn** **11 29 24.6 +0.1**
SDLR Sedlovina 1.29 348 PN **Pn** **11 29 24.1 -0.4**
SDLR Sedlovina 1.29 348 *e*P **Pn** **11 29 24.1 -0.4**
AVH Avacha 1.29 344 PN **Pn** **11 29 24.9 +0.3**
AVH Avacha 1.29 344 *e*P **Pn** **11 29 24.9 +0.3**
KRER Koryakskii 1.33 345 PN **Pn** **11 29 25.6 +0.4**
KRER Koryakskii 1.33 345 *e*P **Pn** **11 29 25.6 +0.4**
KOK Koryaka 1.34 342 PN **Pn** **11 29 25.5 +0.3**
KOK S **Sn** **11 29 42.6 +0.7**
KOK Koryaka 1.34 342 *e*P **Pn** **11 29 25.5 +0.3**
KOK *e*S **Sn** **11 29 42.6 +0.7**
KRX Arik 1.40 343 PN **Pn** **11 29 26.1 0.0**
KRX S **Sn** **11 29 44.0 +0.5**
KRX Arik 1.40 343 *e*P **Pn** **11 29 26.1 0.0**
KRX *e*S **Sn** **11 29 44.0 +0.5**
PETK Petropavlovsk- 1.47 318 P **Pn** **11 29 27.9 +1.0**
comp=E,33nm,0.3s,baz=125,slow=18,SNR=390
PETK S **Sn** **11 29 46.5 +1.5**
comp=E,45nm,0.3s,baz=127,slow=19,SNR=6.0
PETK LR LR 11 30 07.2
comp=E,223nm,19.7s,baz=120,slow=48
MIPR Malaya Ipel'ka 1.60 280 PN **Pn** **11 29 30.1 +1.4**
MIPR Malaya Ipel'ka 1.60 280 *e*P **Pn** **11 29 30.1 +1.4**
APC Apacha 1.60 305 PN **Pn** **11 29 30.4 +1.7**
APC S **Sb** **11 29 51.4 -0.2**
APC Apacha 1.60 305 *e*P **Pn** **11 29 30.4 +1.7**
APC *e*S **Sb** **11 29 51.4 -0.2**
PAU Pauzhetka 1.66 251 PN **Pn** **11 29 29.6 +0.1**
PAU S **Sn** **11 29 49.6 0.0**
PAU Pauzhetka 1.66 251 *e*P **Pn** **11 29 29.6 +0.1**
PAU *e*S **Sn** **11 29 49.6 0.0**
GNL Ganaly 1.87 334 PN **Pn** **11 29 33.7 +1.2**
GNL Ganaly 1.87 334 *e*P **Pn** **11 29 33.7 +1.2**
KII Karymskiy 2.02 2 PN **Pb** **11 29 37.4 -1.4**
KII Karymskiy 2.02 2 *e*P **Pb** **11 29 37.4 -1.4**
SKR Severo-Kuril's 2.42 238 PN **Pn** **11 29 39.9 0.0**
SKR S **Sn** **11 30 07.7 -0.6**
SKR Severo-Kuril's 2.42 238 *e*P **Pn** **11 29 39.9 0.0**
SKR *e*S **Sn** **11 30 07.7 -0.6**
ALID Alaid 2.63 245 PN **Pn** **11 29 43.8 +0.8**
ALID Alaid 2.63 245 *e*P **Pn** **11 29 43.8 +0.8**
MKZ Mys Kozlova 2.92 29 PN **Pn** **11 29 47.4 +0.6**
MKZ S **Sn** **11 30 20.6 0.0**
MKZ Mys Kozlova 2.92 29 *e*P **Pn** **11 29 47.4 +0.6**
MKZ *e*S **Sn** **11 30 20.6 0.0**
KZV Kizimen 3.15 10 PN **Pn** **11 29 52.5 +2.4**
KZV Kizimen 3.15 10 *e*P **Pn** **11 29 52.5 +2.4**
TUMD Tumrok D 3.25 11 *e*P **Pn** **11 29 53.5 +2.1**
TUMR Tumrok 3.30 8 PN **Pn** **11 29 53.5 +1.3**
TUMR Tumrok 3.30 8 *e*P **Pn** **11 29 55.9 +3.7**
KBTR Krutoberegovo 4.67 25 PN **Pn** **11 30 12.3 +1.5**
KBTR Krutoberegovo 4.67 25 *e*P **Pn** **11 30 12.3 +1.5**
KBG Krutoberegovo 4.68 24 PN **Pn** **11 30 13.2 +2.2**
KBG Krutoberegovo 4.68 24 *e*P **Pn** **11 30 13.2 +2.2**
SMKR Semkarok 4.74 15 PN **Pn** **11 30 15.6 +3.8**
SMKR Semkarok 4.74 15 *e*P **Pn** **11 30 15.6 +3.8**
MA2 Magadan 8.97 331 P **Pn** **11 31 10.3 +0.6**
comp=E,0.2nm,0.3s,baz=183,slow=5.3,SNR=3.8
ASAJ Asahikawa 13.68 241 P **Pn** **11 32 16.3 +2.1**
comp=E,0.4nm,0.3s,baz=30,slow=20,SNR=1.9
BILL Bilibino 16.42 9|| *e*P P **11 33 03.4 +11**
BILL pmax pmax
comp=Z,7.0nm,2.9s
KLR Kul'dur 17.68 272 P **P** **11 33 07.9 +1.1**
comp=Z,0.1nm,0.3s,baz=69,slow=12,SNR=4.2
MAT Matsushiro 21.52 232 P **P** **11 33 50.1 +1.4**
MJAR Matsushiro Arr 21.52 232 P **P** **11 33 49.2 +0.5**
comp=Z,7.7nm,0.8s,baz=34,slow=7.3,SNR=27
TIXI Tiksi 23.87 337 P **P** **11 34 12.0 -0.6**
comp=Z,2.9nm,0.6s,baz=128,slow=8.8,SNR=8.6
KSRS Korea Array 26.39 249 P **P** **11 34 36.3 +0.5**
comp=Z,1.1nm,0.7s,baz=49,slow=12,SNR=4.6
JNU Nakatsue 27.93 239 LR LR 11 46 54.9
comp=Z,429nm,19.9s,baz=344,slow=38
ILAR Eielson Array 29.91 44 P **P** **11 35 07.4 +0.3**
comp=Z,0.7nm,0.8s,baz=262,slow=8.5,SNR=11
ILAR pP **sP** **11 35 19.1 -0.2**
comp=Z,0.4nm,0.8s,baz=254,slow=7.7,SNR=2.8
H11N2 WAKE ISLAND Hy 32.77 167 T T 12 10 36.7
baz=352,slow=74
H11N3 WAKE ISLAND Hy 32.78 167 T T 12 10 33.1
baz=352
H11N1 WAKE ISLAND Hy 32.78 167 T T 12 10 38.0
baz=352,slow=74
SONM Songino Array 33.70 284 PcP **PcP** **11 38 19.4 -0.3**
comp=Z,1.0nm,0.9s,baz=50,slow=1.9,SNR=5.0
H11S1 WAKE ISLAND Hy 33.94 167 T T 12 11 20.4
baz=351,slow=76
H11S3 WAKE ISLAND Hy 33.96 167 T T 12 11 23.3
baz=351,slow=76
H11S2 WAKE ISLAND Hy 33.96 167 T T 12 11 21.6
baz=351,slow=76
INK Inuvik 35.01 37 P **P** **11 35 50.1 -1.4**
comp=Z,0.9nm,0.8s,baz=264,slow=6.7,SNR=4.9
YKA Yellowknife Ar 44.27 42 P **P** **11 37 06.9 -1.7**
comp=Z,0.7nm,1.1s,baz=298,slow=7.1,SNR=5.2
YKA pP **sP** **11 37 20.9 -0.2**
comp=Z,0.7nm,0.9s,baz=287,slow=6.4,SNR=5.6
KURK Kurchatov 47.91 302 P **P** **11 37 36.1 -1.2**
KURBB Kurchatov Arra 48.01 302 P **P** **11 37 36.1 -2.0**
comp=Z,1.1nm,0.7s,baz=60,slow=7.7,SNR=6.4
MKAR Makanchi Array 48.20 296 P **P** **11 37 37.0 -2.8**
comp=Z,0.3nm,0.5s,baz=49,slow=6.0,SNR=5.5
MKAR Makanchi Array 48.20 296 P **P** **11 37 37.0 -2.8**
BVAR Borovoye Array 50.69 309 P **P** **11 37 56.0 -2.6**
comp=Z,0.2nm,0.3s,baz=137,slow=14,SNR=3.9
NVAR Mina Array Bea 56.56 69 P **P** **11 38 43.5 +1.5**
comp=Z,0.8nm,0.8s,baz=293,slow=7.6,SNR=6.4
NVAR pP **sP** **11 38 54.8 0.0**
comp=Z,0.3nm,0.6s,baz=131,slow=31,SNR=2.4
NVAR ScP **ScP** **11 43 33.0 -2.0**
comp=Z,0.4nm,0.8s,baz=256,slow=6.0,SNR=3.6
CMAR Chiang Mai Arr 57.50 258 P **P** **11 38 49.8 +1.1**
comp=Z,2.3nm,0.7s,baz=26,slow=6.9,SNR=11
PDAR Pinedale Array 58.46 60 P **P** **11 38 57.0 +1.6**
comp=Z,0.5nm,0.7s,baz=346,slow=1.8,SNR=6.5
PDAR pP **sP** **11 39 08.9 +0.8**
comp=Z,1.5nm,0.8s,baz=297,slow=4.0,SNR=8.6
FINES FINESS Array B 60.92 336 P **P** **11 39 11.4 -0.3**
comp=Z,3.1nm,1.0s,baz=52,slow=9.0,SNR=1.5
PFO Pinyon Flats O 60.98 72 LR LR 12 03 17.6
comp=Z,62nm,18.5s,baz=334,slow=34
NB2 NORSAR Subarra 64.44 343 P **P** **11 39 34.5 -0.8**
comp=Z,1.1nm,0.5s,baz=23,slow=6.9
NOA NORSAR Array B 64.44 343 P **P** **11 39 34.5 -0.8**
comp=Z,1.3nm,0.6s,baz=21,slow=6.7,SNR=6.5
AKASG Malin Array Be 69.29 329 P **P** **11 40 05.4 -0.8**
comp=Z,0.5nm,0.4s,baz=31,slow=5.8,SNR=4.4
TXAR Lajitas Array 71.50 66 P **P** **11 40 21.4 +1.2**
comp=Z,0.3nm,0.4s,baz=297,slow=4.9,SNR=12
TXAR pP **sP** **11 40 33.3 +0.4**
comp=Z,1.9nm,0.7s,baz=310,slow=5.0,SNR=17
WRA Warramunga Arr 74.91 204 P **P** **11 40 40.0 -0.1**
comp=Z,1.2nm,0.9s,baz=17,slow=6.1,SNR=8.5
WRA pP **sP** **11 40 53.0 +0.3**
comp=Z,0.6nm,0.6s,baz=20,slow=6.5,SNR=2.6
GERES GERESS Array B 75.32 337 P **P** **11 40 41.8 -0.6**
comp=Z,0.9nm,0.6s,baz=46,slow=4.2,SNR=4.2
FITZ Fitzroy Crossi 75.74 213 LR LR 12 15 35.4
comp=Z,24nm,19.5s,baz=18,slow=37
BRTR Keskin Array B 77.14 320 P **P** **11 40 52.6 -0.3**
comp=Z,0.6nm,0.5s,baz=53,slow=3.0,SNR=2.7
ASAR Alice Springs 78.59 204 P **P** **11 41 02.0 +1.2**
comp=Z,0.7nm,0.6s,baz=14,slow=5.3,SNR=17
ASAR pP **pwP** **11 41 14.9 +0.4**
comp=Z,0.3nm,0.6s,baz=8.2,slow=5.6,SNR=2.1
H03N2 Juan Fernandez 134.67 89 T T 14 18 37.1
baz=314,slow=77,SNR=27
H03N1 Juan Fernandez 134.69 89 T T 14 18 38.6
baz=314,slow=77,SNR=32
H03N3 Juan Fernandez 134.69 89 T T 14 18 37.4
baz=314,slow=77,SNR=32

IDC 23 11:35:00.6±4.5, 22.74N×94.31E, h48km±43km, mb3.3/4, mb1 3.5/5, mb1mx3.1/47, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=93.0km s-min=19.4km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.08**	**134**	P	Pn	11 36 28.0	0.0
	0.6nm,0.3s,baz=310,slow=13,SNR=1.8						
MKAR	**Makanchi Array**	**25.89**	**341**	P	P	11 40 28.2	+0.3
	0.8nm,0.7s,baz=151,slow=9.3,SNR=9.7						
KURBB	**Kurchatov Arra**	**30.44**	**340**	P	P	11 41 07.9	-0.5
	0.3nm,0.6s,baz=146,slow=7.8,SNR=3.1						
WRA	**Warramunga Arr**	**57.68**	**134**	P	P	11 44 46.4	-0.1
	0.9nm,0.8s,baz=322,slow=7.5,SNR=7.9						
ASAR	**Alice Springs**	**60.08**	**138**	P	P	11 45 03.1	0.0
	0.4nm,0.6s,baz=318,slow=6.7,SNR=8.5						

IDC 23 11:45:03.4±1.4, 1.97S×100.22E, h0km, mb4.2/10, mb1 4.3/11, mb1mx3.9/52, mbtmp4.2/11, ML4.3/1, Error ellipse: s-maj=54.5km s-min=15.0km az=57.0
DJA 23 11:45:11.1±0.9, 2.2S×10.0E±°, h17km±8km, M4.1/18, mb4.1/4, MLv4.1/18
NEIC 23 11:45:12.9±1.0, 1.83S±0.04×100.46E±0.07, h74km±8km, mb4.3/9, Error ellipse: s-maj=9.9km s-min=5.4km az=110.0
ISC 23 11:45:11.2±0.7, 1.86S±0.06×100.26E±0.08, h56km, n49, σ1§41/52, mb4.4/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDSI	**Sungai Dareh**	**1.48**	**52**	P	**Pn**	**11 45 35.7**	**+0.1**
SDSI				S	**Sn**	**11 45 53.2**	**-0.7**
BKNI	**Bangkinang**	**2.31**	**20**	P	**Pn**	**11 45 47.9**	**+1.1**
BKNI	**Bangkinang**	**2.31**	**20**	P	**Pn**	**11 45 48.4**	**+1.6**
MASI	**Maura Aman, Be**	**2.35**	**123**	P	**Pn**	**11 45 47.8**	**+0.4**
MASI				S	**Sn**	**11 46 16.1**	**+0.9**
RGRI	**Rengat**	**2.56**	**54**	P	**Pn**	**11 45 52.7**	**+2.5**
MNSI	**Mandailing Nat**	**2.72**	**345**	P	**Pn**	**11 45 53.0**	**+0.5**
KSI	**Kapahiang**	**2.93**	**127**	P	**Pn**	**11 45 58.0**	**+2.6**
KSI				S	**Sn**	**11 46 32.2**	**+2.8**
JMBI	**JAMBI**	**3.38**	**86**	P	**Pn**	**11 46 01.9**	**+0.3**
MNAI	**Manna**	**3.66**	**133**	Pn	**Pn**	**11 46 05.7**	**+0.4**
MNAI	**Manna**	**3.66**	**133**	P	**Pn**	**11 46 05.8**	**+0.4**
MNAI				S	**Sn**	**11 46 48.0**	**+0.7**
LHSI	**Lahat**	**3.80**	**121**	P	**Pn**	**11 46 11.3**	**+4.1**
GSI	**Gunungsitoli**	**4.13**	**319**		**Pn**	**11 46 13.9**	**+2.1**
GSI	**Gunungsitoli**	**4.13**	**319**	P	**Pn**	**11 46 14.0**	**+2.1**
MDSI	**Maura Dua**	**4.70**	**124**	P	**Pn**	**11 46 21.2**	**+1.6**
RPSI	**Rantau Prapat**	**4.72**	**344**		**Pn**	**11 46 22.5**	**+2.7**
LWLI	**Liwa**	**4.92**	**130**	P	**Pn**	**11 46 23.8**	**+1.1**
MYKOM	**Kota Tinggi**	**5.10**	**45**		**Pn**	**11 46 24.7**	**-0.4**
KLSI		**5.27**	**122**	P	**Pn**	**11 46 29.2**	**+1.7**
	0.0nm4.5nm,0.8s						
IPM	**Ipoh**	**6.34**	**7**	Pn	**Pn**	**11 46 42.3**	**+0.1**
KULM	**Kulim**	**7.11**	**3**	Pn	**Pn**	**11 46 53.9**	**+1.2**
KAPI	**Kappang**	**19.70**	**100**	P	**P**	**11 49 36.7**	**+0.6**
	0.9nm,0.3s,baz=67,slow=16,SNR=4.3						
KAPI	**Kappang**	**19.70**	**100**		**P**	**11 49 36.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**20.23**	**356**	P	**P**	**11 49 40.7**	**-1.1**
	0.7nm,0.4s,baz=188,slow=11,SNR=7.2						
H08S2	**Diego Garcia H**	**28.25**	**257**	T	T	12 20 00.7	
	baz=80,slow=76,SNR=3.4						
H08S3	**Diego Garcia H**	**28.26**	**257**	T	T	12 20 01.1	
	baz=80,slow=76,SNR=14						
H08S1	**Diego Carcia H**	**28.27**	**257**	T	T	12 20 02.0	
	baz=80,slow=76,SNR=2.8						
FITZ	**Fitzroy Crossi**	**29.67**	**125**	P	**P**	**11 51 10.5**	**-1.4**
	1.3nm,0.5s,baz=311,slow=8.6,SNR=6.3						
FITZ	**Fitzroy Crossi**	**29.67**	**125**	P	**P**	**11 51 09.8**	**-2.1**
FITZ				IAmb	IAmb	11 51 14.2	
	comp=Z,10.0nm,1.5s						
WRA	**Warramunga Arr**	**37.84**	**121**	P	**P**	**11 52 21.0**	**-1.8**
	comp=Z,1.1nm,0.4s,baz=315,slow=11,SNR=22						
WRA				PcP	**PcP**	**11 54 38.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=315,slow=2.6,SNR=1.9						
WB2	**Warramunga Arr**	**37.85**	**121**	P	**P**	**11 52 20.5**	**-2.4**
WR0	**Warramunga Arr**	**38.02**	**121**	P	**P**	**11 52 22.4**	**-1.9**
AS31	**Alice Springs**	**39.12**	**126**	P	**P**	**11 52 31.9**	**-1.6**
ASAR	**Alice Springs**	**39.12**	**126**	P	**P**	**11 52 33.0**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=302,slow=7.9,SNR=70						
ASAR				PcP	**PcP**	**11 54 42.8**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=303,slow=2.6,SNR=4.9						
ASAR	**Alice Springs**	**39.12**	**126**	P	**P**	**11 52 32.5**	**-1.1**
STKA	**Stephens Creek**	**49.05**	**132**	P	**P**	**11 53 52.2**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=328,slow=9.5,SNR=1.2						
SONM	**Songino Array**	**49.78**	**5**	P	**P**	**11 53 58.5**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=185,slow=9.3,SNR=7.2						
SONM				PcP	**PcP**	**11 55 18.7**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=187,slow=3.6,SNR=2.3						
MK31	**Makanchi Array**	**50.97**	**344**	P	**P**	**11 54 07.9**	**+0.7**
MK31				IAmb	IAmb	11 54 08.7	
	comp=Z,2.6nm,0.7s						
MKAR	**Makanchi Array**	**50.97**	**344**	P	**P**	**11 54 08.1**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=147,slow=8.0,SNR=47						
MKAR	**Makanchi Array**	**50.97**	**344**	P	**P**	**11 54 07.2**	**+0.1**
USRK	**Ussuriysk Ar.**	**53.91**	**28**	P	**P**	**11 54 29.0**	**0.0**
	comp=Z,3.1nm,0.6s,baz=238,slow=3.8,SNR=7.3						
ZAA0	**Zalesovo Array**	**57.08**	**349**	P	**P**	**11 54 51.5**	**0.0**
ZALV	**Zalesovo Beam**	**57.08**	**349**	P	**P**	**11 54 51.8**	**+0.3**
	comp=Z,3.6nm,0.6s,baz=177,slow=5.5,SNR=20						
ZALV	**Zalesovo Beam**	**57.08**	**349**	P	**P**	**11 54 51.1**	**-0.4**
ABKAR	**Akbulak array**	**61.64**	**331**	P	**P**	**11 55 23.8**	**+0.6**
ABKAR				IAmb	IAmb	11 55 24.5	
	comp=Z,1.7nm,0.7s						
ABKAR	**Akbulak array**	**61.64**	**331**	P	**P**	**11 55 23.4**	**+0.3**
TIXI	**Tiksi**	**75.68**	**9**	P	**P**	**11 56 49.6**	**-0.5**
TIXI				IAmb	IAmb	11 56 50.7	
	comp=Z,2.6nm,0.6s						
ARCES	**ARCESS Array B**	**86.43**	**340**	P	**P**	**11 57 48.2**	**+0.8**
	comp=Z,3.4nm,1.0s,baz=93,slow=3.6,SNR=1.4						
TXAR	**Lajitas Array**	**144.43**	**38**	PKP	**PKPdf**	**12 04 41.4**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=206,slow=1.2,SNR=25						
TXAR	**Lajitas Array**	**144.43**	**38**		PKPbc	12 04 41.1	+0.4

IDC 23 11:46:45.1±1.7, 3.24N×123.95E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.5/46, mbtmp4.0/3, Error ellipse: s-maj=218.2km s-min=25.6km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.20**	**157**	P	P	11 52 11.5	-1.1
	1.8nm,0.7s,baz=335,slow=11,SNR=2.3						
STKA	**Stephens Creek**	**38.75**	**156**	P	P	11 54 11.9	+0.7
	1.8nm,0.8s,baz=324,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**56.40**	**327**	P	P	11 56 28.4	0.0
	1.5nm,0.5s,baz=118,slow=7.9,SNR=16						

IDC 23 11:50:56.7±6.4, 18.59S×177.32W, h542km±61km, mb3.2/4, mb1 3.3/4, mb1mx2.8/44, mbtmp4.1/4, Error ellipse: s-maj=57.7km s-min=24.7km az=55.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.19**	**193**	P	P	11 54 54.6	-0.1
	4.6nm,0.8s,baz=302,slow=22,SNR=7.5						
HNR	**Honiara**	**23.83**	**289**	P	P	11 55 27.2	-0.5
	39nm,0.4s,baz=225,slow=10.0,SNR=5.1						
JAY	**Jayapura**	**44.09**	**286**	P	P	11 58 17.4	+0.1
	18nm,0.9s,baz=131,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**45.53**	**260**	P	P	11 58 28.0	-0.2
	1.0nm,0.3s,baz=97,slow=6.8,SNR=40						
WRA				PcP	PcP	11 59 55.0	-0.7
	0.7nm,1.1s,baz=92,slow=4.0,SNR=1.6						
ASAR	**Alice Springs**	**45.61**	**255**	P	P	11 58 29.0	+0.2
	1.2nm,0.5s,baz=87,slow=8.3,SNR=40						
ASAR				PcP	PcP	11 59 55.2	-0.7
	0.5nm,0.7s,baz=104,slow=3.8,SNR=6.2						
FITZ	**Fitzroy Crossi**	**53.94**	**261**	P	P	11 59 29.8	-0.2
	2.4nm,1.0s,baz=98,slow=7.1,SNR=1.6						
ARCES	**ARCESS Array B**	**127.16**	**350**	PKP	PKPdf	12 08 59.0	+0.1
	2.6nm,0.9s,baz=198,slow=0.6,SNR=1.6						

IDC 23 12:04:05.4±2.3, 24.09S×179.29E, h534km±23km, mb3.2/6, mb1 3.3/8, mb1mx3.1/36, mbtmp4.0/8, Error ellipse: s-maj=32.5km s-min=20.3km az=142.0
ISC 23 12:04:05.4±0.9, 24°10S±0°10×179°3E±0°2, h537km, n12, σ0§56/13, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.44**	**349**	P	**P**	**12 05 47.2**	**-0.5**
	1.1nm,0.3s,baz=263,slow=23,SNR=6.2						
URZ	**Urewera**	**14.24**	**187**	P	**P**	**12 07 07.3**	**+0.3**
	0.2nm,0.3s,baz=125,slow=22,SNR=1.6						
URZ				S	**S**	**12 09 35.9**	**-0.8**
	0.1nm,0.3s,baz=304,slow=22,SNR=1.8						
CTA	**Charters Tower**	**30.82**	**271**	P	**P**	**12 09 38.5**	**+0.6**
	4.5nm,0.3s,baz=95,slow=11,SNR=17						
ASAR	**Alice Springs**	**41.36**	**261**	P	**P**	**12 11 05.2**	**+0.4**
	1.0nm,0.5s,baz=93,slow=7.1,SNR=26						
ASAR				PcP	**PcP**	**12 12 50.7**	**+0.2**
	0.2nm,0.7s,baz=72,slow=4.0,SNR=2.0						
WRA	**Warramunga Arr**	**41.74**	**267**	P	**P**	**12 11 07.6**	**-0.3**
	1.6nm,0.4s,baz=90,slow=5.9,SNR=58						
FITZ	**Fitzroy Crossi**	**50.16**	**266**	P	**P**	**12 12 11.9**	**0.0**
	1.8nm,0.7s,baz=135,slow=7.1,SNR=1.8						
PETK	**Petropavlovsk-**	**79.14**	**347**	P	**P**	**12 15 14.2**	**0.0**
	1.1nm,0.7s,baz=123,slow=5.3,SNR=5.1						
TXAR	**Lajitas Array**	**91.09**	**58**	P	**P**	**12 16 13.9**	**+0.8**
	0.1nm,0.6s,baz=250,slow=1.8,SNR=2.2						
ARCES	**ARCESS Array B**	**131.95**	**348**	PKP	**PKPdf**	**12 22 16.4**	**-0.7**
	3.0nm,0.9s,baz=57,slow=3.3,SNR=1.6						
HFS	**Hagfors**	**142.61**	**348**	PKhKP	PKPpre	12 22 33.4	
	1.7nm,0.4s,baz=46,slow=4.3,SNR=13						
AKASG	**Malin Array Be**	**144.78**	**327**	PKP	**PKPdf**	**12 22 40.6**	**-0.3**
	0.9nm,0.5s,baz=45,slow=4.1,SNR=4						
BRTR	**Keskin Array B**	**147.17**	**307**	PKPbc	**PKPbc**	**12 22 48.1**	**-0.6**
	0.8nm,0.7s,baz=97,slow=4.0,SNR=2.0						

DJA 23 12:08:45.8±0.4, 9.7S±5.1×11.0E±°, h73km±15km, M4.3/11, mb4.3/3, MLv4.3/11
IDC 23 12:08:48.1±1.6, 8.19S×109.71E, h118km±19km, mb3.7/10, mb1 3.8/12, mb1mx3.6/39, mbtmp4.0/12, MS3.3/1, Ms1 3.3/1, ms1mx2.5/36, Error ellipse: s-maj=35.1km s-min=11.7km az=54.0
ISC 23 12:08:46.5±1.0, 8.34S±0.09×109.61E±0.05, h107km±9km, n22, σ1§19/27, mb3.9/10, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**0.99**	**65**	P	**Pn**	**12 09 07.3**	**-0.2**
UGM				S	**Sn**	**12 09 22.2**	**-1.0**
SMRI	**Semarang**	**1.52**	**33**	P	**Pn**	**12 09 15.1**	**+1.7**
SMRI				S	**Sn**	**12 09 34.8**	**+0.9**
CISI	**Cisompet, Garu**	**1.94**	**293**	P	**Pn**	**12 09 18.0**	**-0.7**
CISI				S	**Sn**	**12 09 41.5**	**-1.8**
JCJI	**Jatiwangi**	**2.27**	**324**	P	**Pn**	**12 09 23.3**	**+0.5**
JCJI				S	**Sn**	**12 09 48.7**	**-2.0**
LEM	**Lembang**	**2.48**	**307**	P	**Pn**	**12 09 26.9**	**+1.1**
	19nm,0.3s,baz=73,slow=12,SNR=5.6						
LEM				S	**Sn**	**12 09 59.0**	**+3.0**
	23nm,0.3s,baz=76,slow=16,SNR=5.1						
LEM	**Lembang**	**2.48**	**307**	P	**Pn**	**12 09 27.5**	**+1.7**
JAGI	**Jajag, Banyuwa**	**4.49**	**92**	P	**Pn**	**12 09 53.3**	**+0.7**
JAGI				S	**Sn**	**12 10 43.5**	**-0.2**
SRBI	**Singaraja**	**5.55**	**88**	P	**Pn**	**12 10 06.6**	**-0.2**
	0.2nm27nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.36**	**124**	P	**Pn**	**12 12 54.1**	**-0.1**
	0.3nm,0.3s,baz=292,slow=8.0,SNR=6.4						
FITZ				S	S	12 16 01.6	-16
	0.1nm,0.3s,baz=270,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**26.56**	**118**	P	**P**	**12 14 15.3**	**+0.6**
	1.7nm,0.9s,baz=293,slow=11,SNR=10.0						
WRA				PcP	**PcP**	**12 17 36.9**	**+0.1**
	0.5nm,1.1s,baz=316,slow=2.2,SNR=0.9						
ASAR	**Alice Springs**	**27.81**	**126**	P	**P**	**12 14 26.4**	**+0.5**
	1.4nm,0.6s,baz=304,slow=9.2,SNR=30						
ASAR				PcP	**PcP**	**12 17 40.5**	**+0.8**
	0.3nm,0.5s,baz=304,slow=2.2,SNR=5.0						
CMAR	**Chiang Mai Arr**	**28.63**	**338**	P	**P**	**12 14 32.7**	**-0.5**
	0.6nm,0.3s,baz=178,slow=7.9,SNR=5.0						
H08S2	**Diego Garcia H**	**36.76**	**268**	T	T	12 54 21.6	
	baz=99						
H08S3	**Diego Garcia H**	**36.77**	**268**	T	T	12 54 21.4	
	baz=99						
H08S1	**Diego Carcia H**	**36.78**	**268**	T	T	12 54 29.2	
	baz=99						
STKA	**Stephens Creek**	**37.83**	**133**	P	**P**	**12 15 53.6**	**+0.7**
	1.6nm,0.3s,baz=324,slow=8.5,SNR=10						
MJAR	**Matsushiro Arr**	**52.10**	**29**	P	**P**	**12 17 44.4**	**-1.4**
	1.5nm,0.7s,baz=184,slow=9.0,SNR=4.3						
MJAR				LR	LR	12 41 21.8	

	5.3nm,0.7s,baz=11,slow=7.4,SNR=1.7							
STKA	**Stephens Creek**	**37.72**	**160**	P	**P**	**12 25 41.0**	**-0.2**
	4.3nm,0.6s,baz=356,slow=7.6,SNR=13							
SONM	**Songino Array**	**47.70**	**341**	P	**P**	**12 27 02.3**	**+0.1**
	0.3nm,0.4s,baz=153,slow=8.8,SNR=3.0							
PETK	**Petropavlovsk-**	**55.63**	**22**	P	**P**	**12 28 02.0**	**+0.9**
	1.7nm,0.7s,baz=216,slow=6.2,SNR=6.2							
MKAR	**Makanchi Array**	**57.99**	**325**	P	**P**	**12 28 17.1**	**-0.9**
	1.3nm,0.5s,baz=120,slow=8.1,SNR=15							
ZALV	**Zalesovo Beam**	**61.02**	**333**	P	**P**	**12 28 39.3**	**+0.7**
	0.9nm,0.5s,baz=128,slow=6.3,SNR=3.7							
VNDA	**Vanda**	**83.06**	**173**	P	**P**	**12 30 50.5**	**+0.4**
	0.7nm,0.7s,baz=316,slow=5.9,SNR=2.3							
ILAR	**Eielson Array**	**85.28**	**25**	P	**P**	**12 31 01.2**	**-0.4**
	0.2nm,0.6s,baz=251,slow=5.5,SNR=6.4							
YKA	**Yellowknife Ar**	**99.68**	**24**	P	**Pdif**	**12 32 08.1**	**-0.4**
	0.1nm,0.7s,baz=302,slow=5.0,SNR=2.8							
TXAR	**Lajitas Array**	**121.57**	**52**	PKP	**PKiKP**	**12 37 20.0**	**+0.5**
	0.2nm,0.6s,baz=222,slow=1.2,SNR=2.8							
TORD	**Torodi Ar. Bea**	**123.30**	**288**	PKP	**PKPdf**	**12 37 22.7**	**-0.2**
	0.7nm,0.9s,baz=64,slow=1.9,SNR=2.4							

MOS ***23*** *12:40:27.0±0.9,35°.80N×139°.91E,h84km,mb4.2/6,Error ellipse: s-maj=13.9km s-min=8.0km az=113.7*

NEIC ***23*** *12:40:29.7±0.6,35°.87N±0°.06×139°.82E±0°.08,h82km±6km, mb4.1/12,Error ellipse: s-maj=10.0km s-min=7.6km az=126.0*

IDC ***23*** *12:40:30.3±1.2,35°.83N×139°.75E,h87km±12km,mb3.7/16, mb1 3.8/21,mb1mx3.6/54,mbtmp4.0/21,Error ellipse: s-maj=18.1km s-min=8.7km az=72.0*

JMA ***23*** *12:40:30.3±0.2,35°.92N×139°.83E,h78km±2km,M3.9 Broadband fault plane solution: P waves. NP1: φs189.00000°,δ26.00000°,λ90.00000°. NP2:φs9.00000°, δ64.00000°,λ90.00000°. Principal axes: T Plg71.0000°, Azm279.0000°; N Plg0.0000°, Azm9.0000°; P Plg19.0000°, Azm99.0000°;*

JMA Felt II J1.

ISC 23 12:40:29.2±0.6,35°.91N±0°.04×139°.87E±0°.05,h82km±5km, n96,σ1s40/103,mb4.1/28,4C-8D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOK	**Tokyo**	**0.24**	**203**	⇑P	**Pn**	**12 40 43.1**	**+1.8**
JYT	**Yasato**	**0.41**	**39**	⇑P	**Pn**	**12 40 43.3**	**+0.8**
JYT				S	**Sn**	**12 40 52.9**	**+0.6**
JYT	**Yasato**	**0.41**	**39**		**Pn**	**12 40 43.5**	**+1.0**
JYT				Sn	**Sn**	**12 40 53.1**	**+0.8**
JAG	**Ashikaga**	**0.62**	**327**	⇓P	**Pn**	**12 40 44.8**	**+0.6**
JAG				S	**Sn**	**12 40 55.4**	**0.0**
JRY	**Ryogami san**	**0.79**	**278**	⇓P	**Pn**	**12 40 46.8**	**+0.7**
JRY				S	**Sn**	**12 40 59.0**	**+0.4**
JOD2	**Odawara 2**	**0.90**	**225**	⇓P	**Pn**	**12 40 47.2**	**-0.1**
JOD2				S	**Sn**	**12 40 59.5**	**-1.3**
JKT	**Katashina**	**1.00**	**330**	⇓P	**Pn**	**12 40 49.0**	**+0.6**
JKT				S	**Sn**	**12 41 02.8**	**0.0**
JYN	**Shimob**	**1.15**	**250**	⇓P	**Pn**	**12 40 50.6**	**+0.3**
JYN				S	**Sn**	**12 41 05.5**	**-0.6**
JFNN	**Fujinakano**	**1.20**	**234**	⇓P	**Pn**	**12 40 51.0**	**+0.2**
JFNN				S	**Sn**	**12 41 06.4**	**-0.6**
BSO3	**Boso 3**	**1.22**	**154**	⇑P	**Pn**	**12 40 51.7**	**+0.9**
JIM2	**Oshima 3**	**1.24**	**197**	P	**Pn**	**12 40 51.2**	**-0.1**
JIM2				S	**Sn**	**12 41 06.8**	**-1.1**
MJAR	**Matsushiro Arr**	**1.49**	**296**	P	**Pn**	**12 40 54.1**	**-0.3**
	23nm,0.3s,baz=88,slow=27,SNR=710						
MJAR	**Matsushiro Arr**	**1.49**	**296**		**Pn**	**12 40 53.7**	**-0.8**
MAJO	**Matsushiro**	**1.49**	**296**	*d* iP	**Pn**	**12 40 52.5**	**-2.0**
MAJO	**Matsushiro**	**1.49**	**296**	Pn	**Pn**	**12 40 54.9**	**+0.5**
MAT	**Matsushiro**	**1.49**	**296**	P	**Pn**	**12 40 55.0**	**+0.5**
MAT				*e*S	**Sn**	**12 41 13.5**	**-0.1**
MJB9	**Matsu-Tunnel**	**1.49**	**296**		**Pn**	**12 40 54.7**	**+0.1**
JSG	**Sagara**	**1.85**	**229**		**Pn**	**12 40 59.1**	**0.0**
JGF	**Kuroka**	**2.07**	**262**	Pn	**Pn**	**12 41 02.5**	**+0.4**
JMM	**Marumori**	**2.09**	**20**		**Pn**	**12 41 03.7**	**+1.4**
INU	**Inuyama**	**2.39**	**257**		**Pn**	**12 41 06.5**	**+0.2**
JSD	**Sado**	**2.49**	**329**		**Pn**	**12 41 08.3**	**+0.6**
JHJ	**Hachijo jima 2**	**2.78**	**182**	P	**Pn**	**12 41 12.7**	**+1.1**
	86nm,0.3s,baz=76,slow=21,SNR=18						
JHJ				S	**Sn**	**12 41 43.8**	**-0.4**
	149nm,0.3s,baz=86,slow=22,SNR=12						
JHJ2	**Mitsune**	**2.79**	**181**	Pn	**Pn**	**12 41 12.0**	**+0.3**
JWT	**Wachi**	**3.69**	**262**	Pn	**Pn**	**12 41 24.0**	**0.0**
JTM	**Tenmabayashi**	**4.96**	**11**	Pn	**Pn**	**12 41 41.6**	**+0.4**
JMN	**Monobe**	**5.39**	**248**	Pn	**Pn**	**12 41 47.2**	**+0.1**
JHS	**Saijyo**	**5.59**	**263**	Pn	**Pn**	**12 41 50.0**	**+0.3**
ERM	**Erimo**	**6.62**	**22**	P	**Pn**	**12 42 05.2**	**+1.5**
ERM	**Erimo**	**6.62**	**22**	Pn	**Pn**	**12 42 05.2**	**+1.5**
JEW	**Eniwo**	**7.03**	**10**	Pn	**Pn**	**12 42 10.4**	**+0.9**
JNU	**Nakatsue**	**7.92**	**252**	P	**Pn**	**12 42 22.3**	**+0.6**
	0.6nm,0.3s,baz=75,slow=5.0,SNR=9.8						
JNU	**Nakatsue**	**7.92**	**252**	Pn	**Pn**	**12 42 21.4**	**-0.3**
ASAJ	**Asahikawa**	**8.46**	**13**	P	**Pn**	**12 42 28.2**	**-0.7**
	1.1nm,0.3s,baz=215,slow=10.0,SNR=8.9						
ASAJ				S	**Sn**	**12 43 58.0**	**-4.8**
	0.8nm,0.3s,baz=322,slow=19,SNR=1.5						
ASAJ	**Asahikawa**	**8.46**	**13**	P	**Pn**	**12 42 29.8**	**+0.9**
JKA	**Kamikawa-asahi**	**8.46**	**13**	Pn	**Pn**	**12 42 29.8**	**+0.9**
JCJ	**Chichijima**	**9.00**	**167**	P	**Pn**	**12 42 33.6**	**-2.7**
	6.8nm,0.3s,baz=286,slow=22,SNR=5.1						
JCJ				S	Sn	12 44 06.6	-9.5
	6.0nm,0.3s,baz=131,slow=19,SNR=1.2						
KSRS	**Korea Array**	**9.72**	**283**	P	**Pn**	**12 42 48.4**	**+2.3**
	0.3nm,0.3s,baz=95,slow=14,SNR=7.3						
USRK	**Ussuriysk Ar.**	**10.25**	**326**	P	**Pn**	**12 42 56.2**	**+3.0**
	baz=146,slow=14,SNR=3.5						
KUR	**Kuril'sk**	**11.12**	**31**	P	Pn	12 42 59.9	-5.2
KUR				*e*S	**Sn**	**12 45 01.4**	**-6.1**
KUR				smax	smax		
	comp=E,25nm,0.4s						
KUR				smax	smax		
	comp=N,25nm,0.6s						
KLR	**Kul'dur**	**14.59**	**338**	P	**Pn**	**12 43 51.0**	**-0.2**
	comp=N,0.2nm,0.3s,baz=194,slow=3.9,SNR=4.1						
GUMO	**Guam**	**22.67**	**167**	P	**P**	**12 45 20.4**	**-3.5**
GUMO				pmax	pmax		
	comp=Z,173nm,1.4s						
GUMO	**Guam**	**22.67**	**167**	P	**P**	**12 45 20.4**	**-3.5**
HHC	**Hu-ho-hao-te**	**22.68**	**291**	*e*P	**P**	**12 45 24.3**	**+0.3**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,4.5s						
MA2	**Magadan**	**24.73**	**13**	P	**P**	**12 45 44.2**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=208,slow=11,SNR=4.9						
MA2	**Magadan**	**24.73**	**13**	*e*P	**P**	**12 45 42.2**	**-0.3**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.7s						
XAN	**Xi'an**	**25.38**	**275**	P	P	12 45 40.3	-8.5
XAN				pmax	pmax		
	comp=Z,12nm,0.6s						
XAN				pmax	pmax		
	comp=Z,110nm,4.3s						
ULN	**Ulaanbaatar**	**26.99**	**306**	*i* P	**P**	**12 46 02.5**	**-0.9**
ULN				pmax	pmax		
	comp=Z,12nm,3.2s						
SONM	**Songino Array**	**27.41**	**306**	P	**P**	**12 46 06.0**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=111,slow=7.8,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**28.69**	**117**	T	T	13 16 32.8	
	baz=308,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**28.70**	**117**	T	T	13 16 31.4	
	baz=308,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.71**	**117**	T	T	13 16 32.8	
	baz=308,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**29.34**	**119**	T	T	13 17 35.5	
	baz=314,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.34**	**119**	T	T	13 17 22.7	
	baz=314,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.36**	**119**	T	T	13 17 33.4	
	baz=314						
CD2	**Chengdu**	**30.44**	**271**	P	**P**	**12 46 36.8**	**+2.8**
CD2				pmax	pmax		
	comp=Z,50nm,0.5s						
BILL	**Bilibino**	**35.46**	**17**	⇓*e*P	**P**	**12 47 14.4**	**-2.9**
BILL				*PP	**pP**	**12 47 35.0**	**-1.5**
BILL				*SP	**sP**	**12 47 48.0**	**+1.9**
BILL				pmax	pmax		
	comp=Z,7.0nm,2.5s						
BILL				MLR	MLR		
	comp=Z,24nm,15.0s						
TIXI	**Tiksi**	**36.27**	**354**	P	**P**	**12 47 24.3**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=140,slow=5.9,SNR=2.1						
CMAR	**Chiang Mai Arr**	**40.01**	**255**	P	**P**	**12 47 55.3**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=50,slow=8.4,SNR=1.1						
DGZ	**Jazzator, Alta**	**40.06**	**307**	*i* P	**P**	**12 47 55.2**	**-1.2**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WMQ	**Urumqi**	**40.25**	**298**	*e*P	**P**	**12 47 59.8**	**+1.8**
ZAA0	**Zalesovo Array**	**41.77**	**313**	P	**P**	**12 48 10.5**	**+0.3**
ZAA0				IAmb	IAmb	12 48 11.5	
	comp=Z,5.0nm,0.6s						
ZALV	**Zalesovo Beam**	**41.77**	**313**	P	**P**	**12 48 11.1**	**+0.9**
DGZ	comp=Z,5.5nm,0.4s,baz=101,slow=8.0,SNR=24						
ZALV	**Zalesovo Beam**	**41.77**	**313**	P	**P**	**12 48 10.8**	**+0.6**
MK31	**Makanchi Array**	**43.67**	**303**	P	**P**	**12 48 26.0**	**+0.2**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MK31	**Makanchi Array**	**43.67**	**303**	P	**P**	**12 48 26.0**	**+0.2**
MK31				IAmb	IAmb	12 48 27.0	
	comp=Z,3.1nm,1.1s						
MKAR	**Makanchi Array**	**43.67**	**303**	P	**P**	**12 48 26.3**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=88,slow=9.5,SNR=25						
MAKZ	**Makanchi**	**43.89**	**303**	P	**P**	**12 48 27.8**	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MAKZ	**Makanchi**	**43.89**	**303**	P	**P**	**12 48 27.8**	**+0.3**
MAKZ				IAmb	IAmb	12 48 28.8	
	comp=Z,3.5nm,1.0s						
KURK	**Kurchatov**	**45.66**	**309**	P	**P**	**12 48 42.3**	**+0.9**
KURBB	**Kurchatov Arra**	**45.73**	**309**	P	**P**	**12 48 42.3**	**+0.4**
	comp=Z,2.4nm,0.3s,baz=85,slow=8.1,SNR=30						
IMAR	**Indian Mountai**	**48.25**	**30**	P	**P**	**12 49 02.5**	**+1.1**
MTN	**Manton Dam**	**49.18**	**191**	P	**P**	**12 49 09.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**55.37**	**197**	P	**P**	**12 49 55.2**	**+0.4**
WB0	**Warramunga Arr**	**55.61**	**186**	P	**P**	**12 49 56.6**	**0.0**
WB2	**Warramunga Arr**	**55.79**	**186**	P	**P**	**12 49 57.8**	**0.0**
WR0	**Warramunga Arr**	**55.79**	**186**	P	**P**	**12 49 58.2**	**+0.5**
WRA	**Warramunga Arr**	**55.79**	**186**	P	**P**	**12 49 57.6**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=0.5,slow=7.6,SNR=61						
WRA	**Warramunga Arr**	**55.79**	**186**	P	**P**	**12 49 57.9**	**+0.1**
WRA	**Warramunga Arr**	**55.79**	**186**	P	**P**	**12 49 57.9**	**+0.1**
INK	**Inuvik**	**55.95**	**27**	P	**P**	**12 49 59.2**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=328,slow=9.6,SNR=3.7						
AS31	**Alice Springs**	**59.52**	**186**	P	**P**	**12 50 24.1**	**+0.2**
AS31				IAmb	IAmb	12 50 27.5	
	comp=Z,2.2nm,1.4s						
ASAR	**Alice Springs**	**59.52**	**186**	P	**P**	**12 50 24.0**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=4.2,slow=7.2,SNR=28						
ASAR	**Alice Springs**	**59.52**	**186**	P	**P**	**12 50 24.4**	**+0.5**
ASAR	**Alice Springs**	**59.52**	**186**	P	**P**	**12 50 24.4**	**+0.5**
EUNU	**Eureka**	**61.48**	**8**	P	**P**	**12 50 37.4**	**+0.7**
EUNU				IAmb	IAmb	12 50 53.9	
	comp=Z,0.7nm,0.7s						
ARCES	**ARCESS Array B**	**64.61**	**339**	P	**P**	**12 50 58.0**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=41,slow=7.2,SNR=5.9						
YKA	**Yellowknife Ar**	**65.40**	**29**	P	**P**	**12 51 03.0**	**+0.4**
	comp=Z,0.1nm,0.7s,baz=308,slow=6.0,SNR=4.6						
FINES	**FINESS Array B**	**69.23**	**332**	P	**P**	**12 51 26.5**	**-0.3**
	comp=Z,5.4nm,1.0s,baz=90,slow=5.7,SNR=4.7						
FINES	**FINESS Array B**	**69.23**	**332**	*i* P	**P**	**12 51 27.2**	**+0.4**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV	**Kislovodsk**	**70.70**	**311**	*e*P	**P**	**12 51 33.3**	**-3.0**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
NOA	**NORSAR Array B**	**74.74**	**337**	P	**P**	**12 52 00.4**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=55,slow=5.5,SNR=2.4						
NVAR	**Mina Array Bea**	**76.66**	**52**	P	**P**	**12 52 14.1**	**+2.7**
	comp=Z,0.4nm,0.6s,baz=290,slow=7.2,SNR=3.3						
TXAR	**Lajitas Array**	**91.80**	**51**	P	**P**	**12 53 30.1**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=326,slow=4.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**117.22**	**313**	PKP	**PKPdf**	**12 59 05.5**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=6.7,slow=2.3,SNR=1.3						
LPAZ	**La Paz**	**148.34**	**59**	PKPbc	**PKPbc**	**13 00 08.2**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=329,slow=5.9,SNR=2.0						

IDC ***23*** *12:46:00.6±3.5,36°.56N×71°.33E,h63km±30km,mb3.4/7, mb1 3.7/12,mb1mx3.4/54,mbtmp3.8/12,ML4.1/6,Error ellipse: s-maj=29.0km s-min=23.1km az=10.0*

NEIC ***23*** *12:46:04.4±2.2,36°.90N±0°.08×71°.0E±0°.1,h100km±13km, mb4.1/2,Error ellipse: s-maj=13.7km s-min=9.5km az=225.0*

NNC ***23*** *12:46:08.3±2.1,37°.14N×71°.08E,h170km±28km,mb3.4, mpv4.3,Error ellipse: s-maj=21.3km s-min=10.3km az=36.0*

ISC 23 12:46:03.3±0.7,36°.83N±0°.06×71°.09E±0°.06,h88km,n44, σ2s41/52,mb3.4/7,5C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.82**	**217**	Pn	**Pn**	**12 46 50.0**	**+3.5**
NIL	**Nilore**	**3.63**	**150**	Pn	**Pn**	**12 47 00.3**	**+3.0**
AML	**Almayashu**	**5.67**	**20**	P	**Pn**	**12 47 27.0**	**+1.7**
	SNR=168						
UCH	**Uchtor**	**6.01**	**25**	P	**Pn**	**12 47 31.5**	**+1.6**
	SNR=35						
EKS2	**Erkin-Say**	**6.19**	**19**	P	**Pn**	**12 47 34.1**	**+2.0**
	SNR=29						
DHRM	**DHARAMSHALA**	**6.27**	**135**	*e*P	**Pn**	**12 47 32.6**	**-0.8**
DHRM				*e*S	**Sn**	**12 48 39.0**	**-4.8**
DHRM				IAML		12 48 42.8	
	comp=E,118nm,0.5s						
DHRM				IAML		12 48 42.9	
	comp=N,85nm,0.2s						
KK31	**Karatay Array**	**6.29**	**356**	P	**Pn**	**12 47 35.1**	**+1.8**
	comp=N,13nm,0.5s,baz=174,slow=12,SNR=67						
KK31				⇑S	**Sn**	**12 48 42.6**	**-1.1**
	comp=N,7.4nm,0.3s						
KK31	**Karatay Array**	**6.29**	**356**	Pn	**Pn**	**12 47 34.9**	**+1.6**
KKAR	**Karatay Array**	**6.29**	**356**		**Pn**	**12 47 35.0**	**+1.6**
KKAR	**Karatay Array**	**6.29**	**356**	Pn	**Pn**	**12 47 34.4**	**+1.1**
AAK	**Ala-Archa**	**6.37**	**23**	P	**Pn**	**12 47 36.2**	**+1.5**
	comp=N,16nm,0.3s,baz=190,slow=6.5,SNR=164						
AAK				S	**Sn**	**12 48 45.8**	**-0.1**
	comp=N,1.4nm,0.3s,baz=166,slow=23,SNR=7.8						
AAK	**Ala-Archa**	**6.37**	**23**	P	**Pn**	**12 47 36.6**	**+2.0**
	SNR=72						
AAK	**Ala-Archa**	**6.37**	**23**	⇓P	**Pn**	**12 47 36.6**	**+2.0**
	comp=N,29nm,0.5s						
AAK				⇑S	**Sn**	**12 48 46.9**	**+0.9**
	comp=N,14nm,0.5s						
AAK	**Ala-Archa**	**6.37**	**23**	Pn	**Pn**	**12 47 36.6**	**+2.0**
KBK	**Karagaybulak**	**6.54**	**26**	P	**Pn**	**12 47 39.0**	**+2.1**
	SNR=13						
CHMS	**Chumysh**	**6.78**	**23**	P	**Pn**	**12 47 41.6**	**+1.6**
	SNR=37						
USP	**Ospenovka**	**6.95**	**21**	P	**Pn**	**12 47 43.4**	**+1.1**
	SNR=29						
TKM2	**Tokmak 2**	**7.00**	**28**	P	**Pn**	**12 47 44.8**	**+1.4**
	SNR=18						
TKM2	**Tokmak 2**	**7.00**	**28**	⇓P	**Pn**	**12 47 44.7**	**+1.4**
	comp=N,15nm,0.6s						
SMLA	**Simla**	**7.60**	**137**	*e*P	**Pn**	**12 47 50.7**	**-0.6**
SMLA				*e*S	Sn	12 49 08.2	-7.7
SMLA				IAML		12 49 12.1	
	comp=E,31nm,0.1s						
SMLA				IAML		12 49 12.3	
	comp=N,30nm,0.1s						
MDOK	**Medeo**	**7.81**	**34**	⇓P	**Pn**	**12 47 55.7**	**+1.5**
	comp=N,7.9nm,0.6s						
PDGK	**Podgornoye**	**9.14**	**42**	⇑P	**Pn**	**12 48 12.7**	**+0.3**
	comp=N,2.6nm,0.6s						
GEYT	**Alibeck**	**10.38**	**280**	P	**Pn**	**12 48 29.3**	**+0.1**
	comp=N,1.1nm,0.3s,baz=99,slow=9.2,SNR=6.3						
GEYT				S	**Sn**	**12 50 21.6**	**-2.1**
	comp=N,0.5nm,0.3s,baz=266,slow=40,SNR=1.9						
MK31	**Makanchi Array**	**12.99**	**36**		**Pn**	**12 49 03.2**	**-1.1**
MKAR	**Makanchi Array**	**12.99**	**36**	P	**Pn**	**12 49 03.1**	**-1.1**
	comp=N,0.2nm,0.3s,baz=223,slow=13,SNR=12						
MKAR	**Makanchi Array**	**12.99**	**36**	Pn	**Pn**	**12 49 04.1**	**-0.2**
KURBB	**Kurchatov Arra**	**14.79**	**19**	P	**Pn**	**12 49 25.4**	**-2.3**
	baz=214,slow=10,SNR=1.6						
AB31	**Akbulak array**	**14.83**	**330**	P	**Pn**	**12 49 27.0**	**-1.2**
	comp=N,0.8nm,0.4s,baz=140,slow=12,SNR=47						
AB31				S	**Sn**	**12 52 08.0**	**-3.5**
	comp=N,1.6nm,0.6s,baz=162,slow=22,SNR=6.3						
ABKAR	**Akbulak array**	**14.83**	**330**		**Pn**	**12 49 27.5**	**-0.7**
ABKAR	**Akbulak array**	**14.83**	**330**		**Pn**	**12 49 27.1**	**-1.2**
BVAR	**Borovoye Array**	**16.21**	**358**	P	**Pn**	**12 49 45.9**	**+0.4**
	comp=N,0.8nm,0.3s,baz=184,slow=16,SNR=11						
BRVK	**Borovoye**	**16.24**	**358**		**Pn**	**12 49 46.8**	**+0.9**
BRVK				IAmb	IAmb	12 49 50.2	
	comp=Z,4.8nm,0.7s						
AKTO	**Aktyubinsk**	**16.53**	**329**	P	**P**	**12 49 52.3**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=145,slow=9.7,SNR=16						
AKTO				S	**Sn**	**12 52 42.5**	**-10**
	comp=Z,0.1nm,0.3s,baz=15,slow=19,SNR=2.2						
AKTO	**Aktyubinsk**	**16.53**	**329**	⇑P	**Pn**	**12 49 47.5**	**-2.0**
	comp=Z,3.2nm,0.5s						
AKTO				⇑S	**Sn**	**12 52 47.6**	**-5.0**
	comp=Z,1.9nm,0.6s						
ZAA0	**Zalesovo Array**	**19.59**	**25**	P	**P**	**12 50 23.1**	**-1.0**
ZAA0				IAmb	IAmb	12 50 24.8	
	comp=Z,6.1nm,0.4s						
ZALV	**Zalesovo Beam**	**19.59**	**25**	P	**P**	**12 50 24.2**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=213,slow=10,SNR=27						
ZALV	**Zalesovo Beam**	**19.59**	**25**	P	**P**	**12 50 23.6**	**-0.6**
FINES	**FINESS Array B**	**37.25**	**326**	P	**P**	**12 53 09.0**	**+3.0**
	comp=Z,3.2nm,1.0s,baz=120,slow=8.5,SNR=3.3						
ARCES	**ARCESS Array B**	**40.87**	**337**	P	**P**	**12 53 38.8**	**+2.7**
	comp=Z,3.1nm,0.9s,baz=114,slow=9.9,SNR=8.5						
NOA	**NORSAR Array B**	**44.16**	**323**	P	**P**	**12 54 05.1**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=96,slow=7.6,SNR=1.2						
TORD	**Torodi Ar. Bea**	**65.79**	**269**	P	**P**	**12 56 40.8**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=58,slow=5.5,SNR=1.8						
YKA	**Yellowknife Ar**	**80.92**	**3**	P	**P**	**12 58 08.8**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=354,slow=4.9,SNR=5.3						
WRA	**Warramunga Arr**	**82.10**	**122**	P	**P**	**12 58 13.0**	**-1.3**
	comp=Z,0.6nm,1.0s,baz=323,slow=4.5,SNR=1.7						
ASAR	**Alice Springs**	**84.38**	**125**	P	**P**	**12 58 24.6**	**-1.3**
	comp=Z,0.2nm,0.8s,baz=316,slow=5.2,SNR=1.8						

MAN 23 12:50:12.3,7°.90N×123°.52E,h34km,mb4.1,ML2.8,MS2.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.14**	**249**	*e*P	Pb	12 50 20.0	+1.5
PAGZ				*e*S	Sb	12 50 24.1	+1.4
GLSP	**General Luna,**	**3.19**	**54**	*e*P	Pn	12 51 01.1	+1.0
GLSP				*e*S	Sn	12 51 16.5	-20

JMA ***23*** *12:52:21.3±0.1,23°.71N×121°.69E,h37km±2km,M2.7*

TAP ***23*** *12:52:22.4,23°.75N×121°.66E,h37km,ML3.3,B*

ISC 23 12:52:22.2±0.9,23.74N±0°.01×121.70E±0°.02,h32km±7km, n135,σ0s76/259,5C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.25**	**340**	*i* P	**Pn**	**12 52 29.9**	**+0.3**
	baz=356						
HWA				S	**Sn**	**12 52 35.9**	**+1.5**
	baz=356						
ESL	**Shilin**	**0.25**	**286**	⇑*i* P	**Pb**	**12 52 29.3**	**+0.1**
	baz=288						
ESL				S	**Sn**	**12 52 34.2**	**-0.4**
	baz=288						
EGFH	**Guangfu**	**0.26**	**254**	*i* P	**Pb**	**12 52 29.7**	**+0.4**
	baz=259						
EGFH				S	**Sn**	**12 52 34.9**	**+0.2**
	baz=259						
TWD	**Chiawan**	**0.35**	**344**	*i* P	**Pn**	**12 52 30.6**	**-0.5**
	baz=358						
TWD				*i* S	**Sn**	**12 52 36.7**	**-0.2**
	baz=358						
HGSD	**Ruisui**	**0.35**	**225**	⇑*i* P	**Pb**	**12 52 31.0**	**+0.5**
	baz=219						
HGSD				S	**Sn**	**12 52 37.9**	**+0.9**
	baz=219						
EHY	**Hungye**	**0.42**	**236**	⇑*i* P	**Pb**	**12 52 31.1**	**-0.4**
	baz=240						
EHY				*i* S	**Sb**	**12 52 37.6**	**-0.2**
	baz=240						
NACB	**Ninganchiao**	**0.44**	**347**	⇓*i* P	**Pb**	**12 52 31.6**	**-0.2**
	baz=358						
NACB				*i* S	**Sn**	**12 52 38.7**	**-0.5**
	baz=358						
ETLH	**Xiulin Townshi**	**0.50**	**337**	*i* P	**Pb**	**12 52 32.4**	**-0.4**
	baz=332						
ETLH				*e*S	**Sn**	**12 52 40.9**	**0.0**
	baz=332						
YULB	**Yu-li**	**0.51**	**227**	⇑*i* P	**Pb**	**12 52 32.3**	**-0.5**
	baz=233						

baz=294
TYC Yuchr 0.79 282 P Pn 12 52 36.8 -0.2
baz=288
TYC S Sn 12 52 47.7 0.0
baz=288
ELDTW Lidau 0.83 229 P Pn 12 52 36.9 -0.9
baz=221
ELDTW S Sn 12 52 46.9 -2.2
baz=221
EDH Donghe 0.85 205 eP Pn 12 52 37.3 -0.6
baz=193
EDH eS Sn 12 52 48.0 -1.2
baz=193
ALS Alishan 0.85 254 P Pn 12 52 38.4 +0.2
baz=259
ALS S Sn 12 52 49.4 -0.4
baz=259
WHP Taichung City 0.87 308 P Pb 12 52 38.4 -0.5
baz=317
WHP S Sb 12 52 49.8 -0.5
baz=317
NDT Datong Townshi 0.87 349 P Pn 12 52 38.0 -0.2
baz=344
NDT S Sb 12 52 49.6 -0.6
baz=344
TWC Suao 0.87 9 eP Pn 12 52 38.0 -0.2
baz=14
TWC eS Sb 12 52 50.8 +0.5
baz=14
NDS Dongshan 0.89 1 eP Pn 12 52 38.0 -0.4
baz=354
NDS eS Sb 12 52 50.6 -0.1
baz=354
WJS Zhushan 0.89 275 P Pb 12 52 39.5 +0.3
baz=275
WJS S Sb 12 52 51.9 +1.1
baz=275
ENTT Nioudou 0.90 352 eP Pn 12 52 38.5 -0.2
baz=348
ENTT eS Sb 12 52 50.9 -0.2
baz=348
WNT Mingjian 0.94 278 P Pb 12 52 40.1 +0.1
baz=278
WNT S Sb 12 52 52.6 +0.5
baz=278
CHN5 Tsauling 0.95 261 P Pb 12 52 40.2 0.0
baz=260
CHN5 S Sb 12 52 52.9 +0.4
baz=260
WNT1 Nantou City 0.95 280 eP Pb 12 52 40.8 +0.7
baz=280
WNT1 eS Sb 12 52 53.1 +0.7
baz=280
WWF Wufeng 0.96 288 P Pb 12 52 40.9 +0.5
baz=278
WWF eS Sb 12 52 54.4 +1.6
baz=278
YHNB Yeheng 0.97 342 P Pn 12 52 39.6 0.0
baz=347
YHNB eS Sn 12 52 51.6 -0.8
baz=347
TWE Neicheng 0.97 358 eP Pn 12 52 39.6 0.0
baz=355
TWE eS Sb 12 52 53.4 +0.3
baz=355
NSK Sanguang 0.98 342 P Pn 12 52 39.8 0.0
baz=346
NSK eS Sb 12 52 52.4 -1.0
baz=346
LONT Longtian 0.98 212 eP Pn 12 52 38.7 -1.1
baz=209
LONT eS Sn 12 52 51.5 -1.1
baz=209
TCU Taichung 1.02 293 eP Pb 12 52 41.4 +0.1
baz=294
TCU eS Sb 12 52 55.8 +1.4
baz=294
STYH Taoyuan 1.02 236 eP Pn 12 52 40.7 +0.4
baz=229
STYH eS Sn 12 52 53.8 +0.2
baz=229
TWQ1 Liyutan 1.04 306 P Pb 12 52 41.5 -0.1
baz=307
TWQ1 S Sb 12 52 55.0 0.0
baz=307
STYT Tauyuan 1.04 236 eP Pn 12 52 41.0 +0.4
baz=229
STYT eS Sn 12 52 55.0 -0.1
baz=229
WGK Gukeng 1.04 267 eP Pb 12 52 41.5 -0.2
baz=266
WGK eS Sb 12 52 56.0 +1.0
baz=266
NWLT Wulai 1.04 350 eP Pn 12 52 40.4 -0.3
baz=347
NWLT eS Sb 12 52 54.6 -0.6
baz=347
WDLH Douliu 1.07 267 eP Pb 12 52 42.0 -0.1
baz=266
WDLH S Sb 12 52 56.0 +0.3
baz=266
TPUB Ta-pu 1.08 246 P Pb 12 52 42.0 -0.3
baz=244
TPUB S Sb 12 52 56.4 +0.3
baz=244
TWGBT Beinan 1.08 212 eP Pn 12 52 40.2 -0.9
baz=209
TWGBT eS Sn 12 52 53.7 -1.3
baz=209
TWG Pinlang 1.08 212 eP Pn 12 52 40.6 -0.6
baz=209
TWG eS Sn 12 52 53.8 -1.3
baz=209
LDUT Ludao 1.08 191 eP Pn 12 52 39.8 -1.3
baz=182
LDUT eS Sn 12 52 53.8 -1.3
baz=182
CHN4 Tsaushan 1.09 249 eP Pb 12 52 42.5 0.0
baz=247
CHN4 S Sb 12 52 57.0 +0.7
baz=247
NSY Sanyi 1.09 308 eP Pb 12 52 42.4 -0.1
baz=310
NSY eS Sb 12 52 57.3 +0.9
baz=310
NSTT Nanjuang 1.09 324 P Pb 12 52 42.4 -0.1
baz=327
NSTT eS Sb 12 52 56.5 +0.1
baz=327
LIOB Emei 1.09 325 eP Pb 12 52 42.6 0.0
baz=327
WCHH Zhanghua 1.10 288 eP Pb 12 52 42.4 -0.2
baz=288
WCHH eS Sb 12 52 56.8 +0.2
baz=288
WTP Ta-pu 1.11 244 eP Pn 12 52 42.5 +0.9
baz=241
WTP eS Sb 12 52 57.3 +0.2
baz=241
NTC Toucheng 1.11 6 eP Pb 12 52 43.4 +0.5
baz=20
NTC eS Sb 12 52 57.7 +0.6
baz=20
NJD Zhudong 1.14 331 eP Pb 12 52 43.5 +0.2
baz=334
NJD eS Sb 12 52 58.6 +0.9
baz=334
WDJ Dajia District 1.14 302 eP Pb 12 52 42.6 -0.7
baz=303
WDJ eS Sb 12 52 58.1 +0.2
baz=303
NMLH Miaoli 1.15 314 eP Pb 12 52 42.9 -0.6
baz=315
NMLH eS Sb 12 52 58.4 +0.4
baz=315
CHY Chiayi 1.20 258 eP Pb 12 52 43.9 -0.4
baz=257
CHY eS Sb 12 52 59.5 +0.1
baz=257
WTK Tuku 1.20 268 eP Pb 12 52 43.9 -0.5
baz=266
WTK eS Sb 12 53 00.4 +0.8
baz=266
HSN1 Hsinchu 1.20 329 eP Pb 12 52 43.8 -0.7
baz=319
HSN1 eS Sb 12 53 01.2 +1.6
baz=319
TWK Hsinying 1.21 247 eP Pb 12 52 44.1 -0.5
baz=244
TWK eS Sb 12 53 00.2 +0.4
baz=244
CHN1 Nanshi 1.21 243 eP Pb 12 52 44.7 +0.2
baz=240
CHN1 eS Sb 12 53 00.5 +0.6
baz=240
SGST Jiashian 1.22 238 eP Pn 12 52 43.5 +0.5
baz=235
SGST eS Sb 12 52 59.8 -0.3
baz=235
WRL Guolierlin Hig 1.22 278 eP Pb 12 52 44.9 +0.1
baz=277
WRL eS Sb 12 52 59.7 -0.4
baz=277
SLGT Liugui 1.22 233 eP Pb 12 52 44.4 -0.4
baz=230
SLGT eS Sb 12 52 59.9 -0.3
baz=230
NHDH Xindian Distri 1.23 353 eP Pb 12 52 43.7 -1.1
baz=357
NHDH eS Sb 12 52 59.2 -1.0
baz=357
TIPB Shuangxi 1.23 5 eP Pb 12 52 43.8 -1.1
TIPB eS Sb 12 52 59.6 -0.8
SBCB Hsinchu 1.23 328 eP Pb 12 52 44.4 -0.5
baz=332
SBCB eS Sb 12 53 01.8 +1.3
baz=332
TATO Taipei 1.24 351 eP Pb 12 52 42.4 -0.9
baz=356
TATO eS Sb 12 52 60.0 -0.8
baz=356
TWB1 Santiao Chiao 1.29 12 P Pb 12 52 45.4 -0.4
baz=18
TWB1 eS Sb 12 53 01.9 -0.1
baz=18
WTCT Ta-ch'eng 1.30 276 eS Sb 12 53 02.3 -0.2
baz=275
NCUH Zhongli 1.31 339 eP Pb 12 52 45.7 -0.5
baz=344
NCUH eS Sb 12 53 03.1 +0.5
baz=344
NCU National Centr 1.31 339 eS Sb 12 53 03.9 +1.2
baz=344
WFSB Wu-fen Shan 1.32 3 eP Pn 12 52 44.6 +0.2
baz=356
WFSB eS Sb 12 53 02.6 -0.5
baz=356
ECL Taimali 1.33 211 eP Pn 12 52 43.6 -0.9
baz=200
ECL eS Sn 12 52 59.7 -1.4
baz=200
JYNG Yonagunijimaku 1.34 58 P Pn 12 52 44.7 0.0
JYNG S Sn 12 53 01.0 -0.4
ICHU Yijhu 1.36 254 eP Pn 12 52 45.8 +0.9
baz=252
ICHU eS Sb 12 53 03.6 -0.4
baz=252
WSF Szhu 1.36 266 eS Sb 12 53 04.2 +0.2
baz=252
TWS1 Kuangyinshan 1.38 349 eP Pb 12 52 46.3 -1.0
baz=355
TWS1 eS Sb 12 53 04.5 -0.1
baz=355
SSD Sandimen 1.40 225 eP Pn 12 52 46.9 +1.5
baz=222
SSD eS Sb 12 53 05.5 +0.4
baz=222
YOJ Yonaguni jima 1.40 59 P Pn 12 52 45.3 -0.1
YOJ S Sn 12 53 03.2 +0.4
SCST Cishan 1.40 233 eP Pb 12 52 47.6 -0.1
baz=243
SCST eS Sb 12 53 06.2 +1.0
baz=243
YM01 YM01 1.40 355 eP Pn 12 52 46.3 +0.7
baz=1.0
YM01 eS Sn 12 53 02.3 -0.7
baz=1.0
YM04 YM04 1.41 354 eP Pn 12 52 46.1 +0.4
baz=360
YM04 eS Sn 12 53 03.6 +0.4
baz=360
YM10 YM10 1.41 355 eP Pn 12 52 46.3 +0.6
baz=1.0
YM10 eS Sb 12 53 04.0 -1.7
baz=1.0
TSMG Majia 1.42 223 eP Pb 12 52 47.6 -0.4
baz=217
TSMG eS Sb 12 53 05.6 -0.1
baz=217
YM05 YM05 1.42 355 eP Pn 12 52 45.9 0.0
baz=1.0
YM05 eS Sb 12 53 04.8 -1.1
baz=1.0
YM11 YM11 1.42 355 eP Pn 12 52 46.5 +0.6
baz=1.0
YM11 eS Sb 12 53 04.1 -1.8
baz=1.0
YM03 YM03 1.44 354 eP Pn 12 52 46.3 +0.2
baz=359
YM03 eS Sb 12 53 04.4 -2.0
baz=359
YM08 YM08 1.44 356 eP Pn 12 52 45.8 -0.3
baz=2.0
YM08 eS Sb 12 53 04.8 -1.7
baz=2.0
ANP Anpu 1.45 354 eP Pn 12 52 46.5 +0.3
baz=359
ANP eS Sn 12 53 04.4 +0.2
baz=359
MASBT Mashibuluo 1.49 221 eP Pn 12 52 47.5 +0.7
baz=218
MASBT eS Sn 12 53 07.0 +1.8
baz=218
EAST Anshuo 1.56 210 eP Pn 12 52 47.1 -0.7
baz=200
EAST eS Sn 12 53 05.8 -1.2
baz=200
SSPT Xinbi 1.63 220 eP Pb 12 52 50.9 -0.7
baz=206
SSPT eS Sn 12 53 11.5 -0.3
baz=206
SCZT Fangliau 1.69 216 eP Pb 12 52 51.6 -1.0
baz=213
SCZT eS Sn 12 53 12.4 +2.4
baz=213
LAY Lan-yu 1.70 185 eP Pn 12 52 48.6 -1.0
baz=175
LAY eS Sn 12 53 09.0 -1.3
baz=175
SLIU Shizi 1.73 209 eP Pn 12 52 50.7 +0.6
baz=198
SLIU eS Sn 12 53 11.2 +0.1
baz=198
HEN Hengchun 1.94 207 eP Pn 12 52 53.8 +0.8
baz=193
HEN eS Sn 12 53 17.4 +1.1
baz=193
IRIF Iriomote-Funau 1.95 72 P Pn 12 52 54.3 +1.3
IRIF S Sn 12 53 17.9 +1.5
HATJ Hateruma jima 1.95 80 S Sn 12 53 17.3 +0.8
PHUB P'eng-hu 1.96 264 eP Pn 12 52 53.2 -0.1
baz=249
PHUB eS Sn 12 53 16.8 0.0
baz=249
TWK1 Hengchun 1.97 205 eP Pn 12 52 53.7 +0.3
baz=202
TWK1 eS Sn 12 53 17.0 0.0
baz=202
TWKBT Hengchun 1.97 205 eP Pn 12 52 53.8 +0.4
baz=202
TWKBT eS Sn 12 53 17.3 +0.3
baz=202
PNG Penghu 1.97 265 eP Pn 12 52 53.9 +0.5
baz=251
PNG eS Sn 12 53 17.7 +0.6
baz=251
TSEB Hengchuen, Pin 1.98 202 eS Sn 12 53 17.9 +0.8
baz=200
VCHM Qimei 2.15 256 eS Sn 12 53 21.4 0.0
baz=255
JKRS Kuro-shima 2.17 76 P Pn 12 52 57.7 +1.6
JKRS eS Sn 12 53 23.7 +1.8
JIJ Ishigaki jima 2.32 74 P Pn 12 52 58.8 +0.7
JIJ S Sn 12 53 25.6 +0.1
VWUC VWUC 2.40 302 eP Pn 12 52 58.7 -0.5
baz=301
VWUC eS Sn 12 53 28.0 +0.5
baz=301
JISG Ishigakijimahi 2.53 70 P Pn 12 53 01.6 +0.6
JISG eS Sn 12 53 31.5 +0.8
PTMZ Houxiangcun 2.68 299 eP Pn 12 53 02.4 -0.7
baz=298
PTMZ eS Sn 12 53 35.2 +0.7
baz=298
MATB Ma-tsu 2.88 327 eP Pn 12 53 04.9 -0.9
baz=327
MATB eS Sn 12 53 40.5 +1.1
baz=327
JTJ Tarama 2.88 71 P Pn 12 53 06.7 +0.8
JTJ S Sn 12 53 40.6 +1.1
MSUT Lienchiang 2.90 327 eS Sn 12 53 38.7 -1.3
baz=328
KNM Kinmen 3.06 283 eS Sn 12 53 45.7 +1.8
baz=281
KNMB Chin-men Tao 3.11 284 eP Pn 12 53 09.2 +0.2
baz=283
KNMB eS Sn 12 53 45.2 +0.1
baz=283
LYJJ Jianjiangzhen 3.30 328 eP Pn 12 53 11.7 +0.1
baz=330
LYJJ eS Sn 12 53 51.0 +1.1
baz=330
JIRB Irabujima 3.35 70 S Sn 12 53 50.8 -0.2
MHZQ Yeshan 3.37 315 eP Pn 12 53 13.7 +1.0
baz=313
MHZQ eS Sn 12 53 52.1 +0.5
baz=313
XPSS Dashiqiu 3.46 337 eP Pn 12 53 13.2 -0.6
baz=349
XPSS eS Sn 12 53 54.7 +1.1
baz=349
JMJ2 Miyako jima3 3.46 73 eS Sn 12 53 54.7 +1.0
AXDP Jialang 3.59 289 eP Pn 12 53 16.9 +1.3
baz=288
AXDP eS Sn 12 53 57.2 +0.2
baz=288

IDC ***23*** *13:02:23.9±14.0, 10°.06N×83°.56W, h0km, mb3.2/4, mb1 3.6/4, mb1mx3.5/22, mbtmp3.2/4, MS3.3/1, Ms1 3.4/1, ms1mx2.8/10, Error ellipse: s-maj=338.4km s-min=103.3km az=1.0*
UCR ***23*** *13:02:34.4±1.3, 9°.82N×84°.67W, h52km±4km, MW4.2*
INET ***23*** *13:02:35.8, 9°.94N×84°.55W, h19km, MW3.3*
ISC 23 13:02:34.3±0.9, **9°.85N**±0°.04×**84°.64W**±0°.04, **h55**km±6km, **n42,** σ**0s.76**/53, **mb3.1**/4, **21C-4D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACO	JACO, Garabito	0.19	187⇓	eP	Pn	13 02 42.9	-0.3
JACO				eS	Sn	13 02 49.7	+0.2
LAFE	Finca La Fe, P	0.27	261⇓	eP	Pn	13 02 44.0	+0.3
LAFE				eS	Sn	13 02 51.4	+0.9
SRA1	San Ramn	0.28	34⇓	eP	Pn	13 02 43.0	-0.9
JTS	Las Juntas de	0.54	324⇑	eP	Pn	13 02 45.9	-0.5
HDC	Heredia	0.54	74⇓	eP	Pn	13 02 46.3	-0.1
HDC				eS	Sn	13 02 55.4	+0.1
CASO	Castillo	0.58	351⇑	iP	Pn	13 02 46.8	-0.2
CASO				i S	Sn	13 02 57.2	+1.1
ARE1	Arenal 1	0.61	352⇑	iP	Pn	13 02 47.4	+0.2
ARE1				eS	Sn	13 02 57.8	+1.2
FORC	Fortuna	0.61	357⇑	iP	Pn	13 02 47.0	-0.3
FORC				i S	Sn	13 02 57.5	+0.9
CEDE	Laguna Cedeo	0.63	354	i P	Pn	13 02 47.5	0.0
CEDE				i S	Sn	13 02 58.5	+1.4
LCR2	La Lucha 2	0.63	100⇑	eP	Pn	13 02 47.2	-0.5
RIMA	Rio Macho	0.77	96⇑	eP	Pn	13 02 49.1	-0.2
INDI	Punta indio, G	0.85	271	eP	Pn	13 02 49.9	-0.4
PLVR	Palo Verde	0.86	305⇑	eP	Pn	13 02 49.5	-1.0
ACAL	Aguas Claras	0.87	333⇑	iP	Pn	13 02 50.7	+0.2
ACAL				i S	Sn	13 03 03.5	+1.0
CVTR	Volcan Turrial	0.88	79⇑	eP	Pn	13 02 50.9	-0.1
COVE	Coope Vega, Sa	0.89	15⇑	eP	Pn	13 02 50.1	-0.7
PTEN	Parque Tenorio	0.92	338⇑	iP	Pn	13 02 51.4	+0.2
CUI	Cuipilapa	0.95	327⇑	iP	Pn	13 02 51.9	+0.3
GUAI	GUAI	0.95	296	i P	Pn	13 02 51.9	+0.3
EDDO	Dominical	0.97	128⇑	eP	Pn	13 02 51.6	-0.1
EDDO				eP	Pn	13 02 52.3	+0.5
COLC	Colonia	0.98	325⇑	iP	Pn	13 02 52.3	+0.4
COLC				i S	Sn	13 03 06.4	+1.4
GRZA	Playa Garza	0.99	274	eP	Pn	13 02 51.7	-0.2
HORNC	Hornillas	1.01	328⇑	iP	Pn	13 02 52.5	+0.1
HORNC				i S	Sn	13 03 06.7	+1.0
LIM1	Limonal	1.04	324⇑	iP	Pn	13 02 52.9	+0.2
PEZE	Perez Zeledon,	1.05	116⇑	eP	Pn	13 02 53.4	+0.4
SAJU	San Juanillo,	1.08	281	eP	Pn	13 02 52.9	-0.3
GPS2	Hotel Rincn d	1.14	322⇑	iP	Pn	13 02 54.5	+0.4
GPS3	Bodega del ICE	1.15	321	i P	Pn	13 02 54.6	+0.4
MRVA	Moravia de Chi	1.18	91⇑	eP	Pn	13 02 55.2	+0.6
BUEV	Buena Vista	1.21	321	i P	Pn	13 02 55.3	+0.3
GBS3	Finca Las Img	1.23	319⇑	iP	Pn	13 02 55.4	+0.1
BUAI	Buenos Aires	1.23	326⇑	iP	Pn	13 02 55.5	+0.3
EDPN	Palmar Norte	1.46	127	eP	Pn	13 02 59.1	+0.7
DRK0	Durika	1.49	113	eP	Pn	13 02 59.2	+0.3
EDBA	Buenos Aires	1.51	117	eP	Pn	13 02 58.8	-0.3
LPLA	Las Palmas La	1.80	117	eP	Pn	13 03 03.5	+0.3
LPLA				eS	Sn	13 03 26.8	+1.8
BRU2	Volcan	2.19	119	eP	Pn	13 03 08.2	-0.3
TXAR	Lajitas Array	26.32	320	P	P	13 08 06.9	+1.7
	0.2nm,0.4s,baz=139,slow=11,SNR=4.0						
LPAZ	La Paz	30.68	148	LR	LR	13 21 53.9	
	comp=Z,53nm,18.3s,baz=321,slow=39						
NVAR	Mina Array Bea	41.46	319	P	P	13 10 16.7	+0.6
	0.1nm,0.5s,baz=115,slow=10,SNR=2.1						
YKA	Yellowknife Ar	56.84	344	P	P	13 12 10.9	-2.0
	0.2nm,0.6s,baz=135,slow=7.6,SNR=7.3						
ILAR	Eielson Array	69.50	336	P	P	13 13 35.5	-1.2
	0.2nm,0.5s,baz=138,slow=5.6,SNR=4.6						

TAP 23 13:18:44.4, 23°.75N×121°.64E, h32km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESL	Shilin	0.20	290	i P	Pn	13 18 51.6	+0.4
	baz=289						
ESL				S	Sn	13 18 56.5	+1.0
	baz=289						
EGFH	Guangfu	0.21	249	P	Pn	13 18 51.7	+0.4
	baz=248						
EGFH				S	Sn	13 18 56.6	+1.0
	baz=248						
HGSD	Ruisui	0.32	218	P	Pn	13 18 53.0	+0.2
	baz=218						
HGSD				S	Sn	13 18 59.0	+0.6
	baz=218						
EHY	Hungye	0.38	231	i P	Pb	13 18 53.1	0.0
	baz=229						
EHY				i S	Sb	13 18 59.1	+0.1
	baz=229						
NACB	Ninganchiao	0.43	354	P	Pb	13 18 54.1	+0.2
	baz=354						
NACB				S	Sn	13 19 01.1	0.0
	baz=354						
VWDT	VWDT	0.46	271	P	Pn	13 18 55.0	+0.3
	baz=271						
VWDT				S	Sn	13 19 02.1	+0.4
	baz=271						
YULB	Yu-li	0.47	222	P	Pb	13 18 54.4	-0.1
	baz=221						
YULB				S	Sb	13 19 01.3	-0.1
	baz=221						
ETLH	Xiulin Townshi	0.48	342	eP	Pn	13 18 55.1	-0.1
	baz=342						
ETLH				S	Sb	13 19 01.9	+0.1
	baz=342						
EYUL	Yuli	0.49	217	P	Pb	13 18 54.8	-0.1
	baz=216						
EYUL				eS	Sn	13 19 03.5	+0.8
	baz=216						
TWF1	Yuli	0.50	219	eP	Pb	13 18 54.5	-0.4
	baz=218						
TWF1				eS	Sb	13 19 02.1	-0.1
	baz=218						
WHF	Hehuan Shan	0.53	319	eP	Pn	13 18 56.3	+0.3
	baz=319						
WHF				S	Sn	13 19 04.0	-0.1
	baz=319						
CHGB	Renai	0.53	306	P	Pn	13 18 56.3	+0.4
	baz=306						
CHGB				S	Sn	13 19 04.0	+0.1
	baz=306						

FUSS	**Fushou**	**0.62**	**324**	P	Pn	13 18 57.3 +0.1
	baz=323					
FUSS				eS	Sb	13 19 05.2 -0.4
	baz=323					
FULB	**Fuli**	**0.63**	**210**	eP	Pn	13 18 57.4 +0.2
	baz=210					
FULB				eS	Sn	13 19 07.5 +1.3
	baz=210					
SSLB	**Suanglung**	**0.63**	**274**	P	Pn	13 18 57.1 0.0
	baz=273					
SSLB				S	Sn	13 19 06.2 0.0
	baz=273					
YUS	**Yu-Shan**	**0.68**	**248**	eP	Pn	13 18 58.6 +0.4
	baz=247					
YUS				eS	Sn	13 19 07.8 -0.2
	baz=247					
SMLT	**Sun Moon Lake**	**0.69**	**282**	eP	Pb	13 18 58.5 +0.4
	baz=281					
SMLT				eS	Sn	13 19 08.5 +0.7
	baz=281					
NNSB	**Datong**	**0.72**	**341**	eP	Pb	13 18 59.8 +1.2
	baz=340					
NNSB				eS	Sb	13 19 07.9 -0.4
	baz=340					
NNSH	**Datong**	**0.72**	**341**	eP	Pb	13 18 59.9 +1.3
	baz=340					
NNSH				eS	Sb	13 19 08.2 -0.1
	baz=340					
NNS	**Nan Shan**	**0.73**	**341**	eP	Pb	13 18 59.0 +0.2
	baz=340					
NNS				eS	Sn	13 19 08.9 0.0
	baz=340					
TYC	**Yuchr**	**0.73**	**283**	eS	Sn	13 19 09.9 +1.3
	baz=282					
WCS	**Beigang Elemen**	**0.74**	**295**	eP	Pb	13 18 59.2 +0.4
	baz=294					
WCS				eS	Sn	13 19 09.6 +1.0
	baz=294					
ELDTW	**Lidau**	**0.80**	**226**	eP	Pn	13 18 58.9 -0.6
	baz=225					
ELDTW				eS	Sn	13 19 09.1 -1.2
	baz=225					
ALS	**Alishan**	**0.80**	**253**	eP	Pb	13 19 00.6 +0.5
	baz=252					
ALS				eS	Sb	13 19 11.5 +0.7
	baz=252					
WHP	**Taichung City**	**0.83**	**310**	eP	Pn	13 19 00.1 +0.2
	baz=309					
WHP				eS	Sb	13 19 12.4 +1.2
	baz=309					
EDH	**Donghe**	**0.83**	**202**	eS	Sb	13 19 12.3 +1.2
	baz=201					
NDT	**Datong Townshi**	**0.86**	**352**	eS	Sb	13 19 12.5 +0.3
	baz=352					
NDS	**Dongshan**	**0.89**	**4**	eS	Sn	13 19 12.4 0.0
	baz=4.0					
ENTT	**Nioudou**	**0.89**	**356**	eP	Pb	13 19 01.6 +0.2
	baz=356					
ENTT				eS	Sb	13 19 13.9 +0.9
	baz=356					
CHN5	**Tsauling**	**0.90**	**261**	eP	Pb	13 19 01.3 -0.2
	baz=260					
CHN5				eS	Sb	13 19 14.9 +1.7
	baz=260					
YHNB	**Yeheng**	**0.95**	**345**	eP	Pn	13 19 01.9 +0.3
	baz=345					
YHNB				eS	Sb	13 19 14.6 -0.2
	baz=345					
NSK	**Sanguang**	**0.96**	**344**	eP	Pn	13 19 02.0 +0.3
	baz=344					
NSK				eS	Sb	13 19 14.9 -0.2
	baz=344					
STYH	**Taoyuan**	**0.98**	**234**	eP	Pb	13 19 02.8 0.0
	baz=234					
STYH				eS	Sb	13 19 15.3 -0.1
	baz=234					
STYT	**Tauyuan**	**1.00**	**235**	eP	Pb	13 19 03.1 -0.1
	baz=234					
STYT				eS	Sb	13 19 16.3 +0.3
	baz=234					
NWLT	**Wulai**	**1.03**	**353**	eS	Sb	13 19 17.5 +0.4
	baz=352					
NSTT	**Nanjuang**	**1.06**	**327**	eP	Pn	13 19 03.2 +0.3
	baz=326					
NSTT				eS	Sn	13 19 17.1 +0.4
	baz=326					
WTP	**Ta-pu**	**1.07**	**242**	eP	Pn	13 19 03.5 +0.4
	baz=241					
WTP				eS	Sb	13 19 19.3 +1.3
	baz=241					
TWK	**Hsinying**	**1.16**	**246**	eS	Sn	13 19 19.8 +0.6
	baz=245					
CHN1	**Nanshi**	**1.16**	**242**	eP	Pn	13 19 05.0 +0.5
	baz=241					
CHN1				eS	Sb	13 19 21.6 +0.8
	baz=241					
SLGT	**Liugui**	**1.18**	**231**	eP	Pn	13 19 05.4 +0.7
	baz=230					
SLGT				eS	Sb	13 19 20.6 -0.6
	baz=230					

MAN 23 13:19:31.5, 14.06N×119.93E, h40km, mb3.6, ML1.8, MS2.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**1.14**	**119**	eS	Sn	13 20 09.7	+4.2
PGP	**Puerto Galera**	**1.14**	**119**	eP	Pn	13 20 01.7	+11
LQP	**Lukban**	**1.57**	**88**	eP	Pn	13 20 01.4	+4.4

*IDC **23** 13:37:21.9±4.1, 17.22S×174.69W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.7/29, mbtmp4.2/4, ML3.8/1, Error ellipse: s-maj=197.7km s-min=31.2km az=141.0*
*NEIC **23** 13:37:37.2±1.7, 16.2S±0.1×173.5W±0.1, h254km±3km, mb4.4/17, Error ellipse: s-maj=22.0km s-min=16.1km az=130.0*

ISC 23 13:37:37.1±0.7, 16.3S±0.1×173.6W±0.1, h250km, n25, σ1§09/25, mb4.2/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.94**	**36**	Pn	**Pn**	**13 38 28.9**	**-0.1**
	5.1nm,0.3s,baz=238,slow=7.1,SNR=16						
AFI				Sn	**S**	**13 39 12.4**	**+2.2**
	25nm,0.3s,baz=56,slow=21,SNR=9.3						
NIUE	**Niue**	**4.42**	**129**		Pn	13 38 34.1	-12
PPTF	**Pamatai, Papee**	**22.98**	**97**	P	**P**	**13 42 18.9**	**-1.3**
BFZ	**Birch Farm**	**25.85**	**198**	P	**P**	**13 42 46.9**	**+1.1**
BFZ				IAmb	IAmb	13 42 47.5	
	comp=Z,32nm,1.4s						
BSWZ	**Blackbirch Sta**	**27.54**	**201**	P	**P**	**13 43 00.9**	**+0.1**
LTZ	**Lake Taylor**	**29.04**	**202**	P	**P**	**13 43 12.9**	**-1.2**
LTZ				IAmb	IAmb	13 43 40.7	
	comp=Z,17nm,1.3s						
ODZ	**Otahua Downs**	**31.58**	**202**	P	**P**	**13 43 36.0**	**-0.4**
ODZ				IAmb	IAmb	13 44 01.8	
	comp=Z,36nm,1.4s						
WHZ	**Wether Hill Ro**	**33.30**	**204**	P	**P**	**13 43 50.8**	**-0.6**
WHZ				IAmb	IAmb	13 44 15.1	
	comp=Z,44nm,1.5s						
ARMA	**Armidale**	**34.75**	**240**	P	**P**	**13 44 03.1**	**-1.1**
ARMA				IAmb	IAmb	13 44 26.8	
	comp=Z,12nm,1.3s						
PATS	**Pohnpei**	**36.11**	**307**	P	**P**	**13 44 14.5**	**-1.3**
CTAO	**Charters Tower**	**38.30**	**258**	P	**P**	**13 44 34.0**	**-0.2**
CTAO				IAmb	IAmb	13 44 54.9	
	comp=Z,12nm,1.5s						
STKA	**Stephens Creek**	**43.46**	**241**	P	**P**	**13 45 16.1**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=94,slow=11,SNR=4.7						
STKA	**Stephens Creek**	**43.46**	**241**	P	**P**	**13 45 16.6**	**+0.7**
MCQ	**Macquarie Isla**	**43.65**	**203**	P	**P**	**13 45 18.3**	**+1.3**
BBOO	**Buckleboo**	**48.23**	**240**	P	**P**	**13 45 53.2**	**+0.1**
WR0	**Warramunga Arr**	**49.31**	**258**	P	**P**	**13 46 02.9**	**+1.5**
WR0				IAmb	IAmb	13 46 20.0	
	comp=Z,7.2nm,1.4s						
WB0	**Warramunga Arr**	**49.46**	**258**	P	**P**	**13 46 04.0**	**+1.4**
WB2	**Warramunga Arr**	**49.49**	**258**	P	**P**	**13 46 03.2**	**+0.4**
WB2				IAmb	IAmb	13 46 25.3	
	comp=Z,9.4nm,1.3s						
WRA	**Warramunga Arr**	**49.50**	**258**	P	**P**	**13 46 04.6**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=97,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**49.50**	**258**	P	**P**	**13 46 03.0**	**+0.2**
AS31	**Alice Springs**	**49.69**	**253**	P	**P**	**13 46 05.1**	**+0.8**
ASAR	**Alice Springs**	**49.70**	**253**	P	**P**	**13 46 05.8**	**+1.5**
	comp=Z,5.3nm,0.6s,baz=90,slow=7.8,SNR=115						
ASAR	**Alice Springs**	**49.70**	**253**	P	**P**	**13 46 04.9**	**+0.6**
CHGN	**Chignik**	**73.44**	**9**	P	**P**	**13 48 40.9**	**-0.9**
QSPA	**South Pole Qui**	**73.74**	**180**	P	**P**	**13 48 43.5**	**-0.2**
QSPA				IAmb	IAmb	13 49 08.3	
	comp=Z,11nm,1.5s						

*NEIC **23** 13:43:26.1±2.0, 24.0S±0.2×179.5W±0.2, h515km±20km, mb4.5/28, Error ellipse: s-maj=27.4km s-min=22.6km az=70.0*
*NOU **23** 13:43:27.4, 23.94S×179.51W, h522km, mb4.2, South of Fiji Islands*
*IDC **23** 13:43:37.4±10.0, 23.59S×178.20E, h448km±112km, mb3.4/4, mb1 3.5/5, mb1mx3.1/36, mbtmp4.2/5, Error ellipse: s-maj=296.1km s-min=75.5km az=104.0*

ISC 23 13:43:26.1±0.9, 23.98S±0.1×179.4W±0.1, h512km, n68, σ1§25/68, mb4.3/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.65**	**339**	P	**P**	**13 45 10.1**	**+0.6**
	2.9nm,0.3s,baz=228,slow=22,SNR=18						
MSVF	**Nonsavu**	**6.65**	**339**	P	**P**	**13 45 09.4**	**0.0**
MSVF	**Nonsavu**	**6.65**	**339**	P	**P**	**13 45 10.0**	**+0.6**
PINNC	**Pines Island,**	**12.13**	**274**	P	**P**	**13 46 07.3**	**+1.2**
AFI	**Afiamalu**	**12.36**	**37**	P	**P**	**13 46 08.6**	**-0.1**
AFI	**Afiamalu**	**12.36**	**37**	P	**P**	**13 46 09.3**	**+0.6**
URZ	**Urewera**	**14.53**	**191**	P	**P**	**13 46 28.4**	**-2.7**
RATZ	**Rangitukua**	**15.38**	**194**	P	**P**	**13 46 42.8**	**+2.7**
BKZ	**Black Stump Fm**	**15.53**	**192**	P	**P**	**13 46 42.1**	**+0.6**
TMVZ	**Te Maari**	**15.64**	**194**	P	**P**	**13 46 44.7**	**+2.0**
ETVZ	**East Tongariro**	**15.66**	**194**	P	**P**	**13 46 44.5**	**+1.6**
OTVZ	**Oturere**	**15.69**	**194**	P	**P**	**13 46 42.5**	**-0.9**
MCHZ	**McNeill Hill**	**15.76**	**191**	P	**P**	**13 46 45.4**	**+1.6**
KWHZ	**Kaweka Forest**	**15.79**	**192**	P	**P**	**13 46 45.3**	**+1.1**
WNVZ	**Wahianoa**	**15.87**	**194**	P	**P**	**13 46 44.2**	**-0.9**
VRZ	**Vera Road**	**15.88**	**197**	P	**P**	**13 46 49.4**	**+4.3**
BHHZ	**Black Hill Sta**	**15.92**	**193**	P	**P**	**13 46 45.0**	**-0.6**
KAHZ	**Kahuranaki**	**16.07**	**190**	P	**P**	**13 46 48.3**	**+1.2**
NEZ	**North Egmont**	**16.20**	**198**	P	**P**	**13 46 53.0**	**+4.5**
PXZ	**Pawanui**	**16.30**	**190**	P	**P**	**13 46 49.9**	**+0.5**
TSZ	**Takapari Road**	**16.49**	**193**	P	**P**	**13 46 50.5**	**-0.9**
ANWZ	**Angora Road**	**16.78**	**191**	P	**P**	**13 46 54.5**	**+0.2**
BFZ	**Birch Farm**	**17.04**	**191**	P	**P**	**13 46 56.2**	**-0.6**
BFZ				IAmb	IAmb	13 47 24.1	
	comp=Z,33nm,1.3s						
BFZ	**Birch Farm**	**17.04**	**191**	P	**P**	**13 46 56.4**	**-0.4**
HOWZ	**Holdsworth Sta**	**17.39**	**193**	P	**P**	**13 46 59.8**	**-0.4**
DUWZ	**D'Urville Isla**	**17.67**	**197**	P	**P**	**13 47 02.8**	**0.0**
CAW	**Cannon Point**	**17.68**	**194**	P	**P**	**13 47 02.5**	**-0.3**
MSWZ	**Moikau Station**	**17.94**	**193**	P	**P**	**13 47 04.2**	**-0.9**
SNZO	**South Karori**	**17.96**	**194**	P	**P**	**13 47 04.4**	**-0.9**
TCW	**Tory Channel**	**17.97**	**196**	P	**P**	**13 47 06.1**	**+0.7**
BHW	**Baring Head**	**18.02**	**194**	P	**P**	**13 47 05.1**	**-0.7**
BHW	**Baring Head**	**18.02**	**194**	P	**P**	**13 47 06.6**	**+0.8**
PLWZ	**Palliser**	**18.09**	**193**	P	**P**	**13 47 04.9**	**-1.7**
NNZ	**Nelson**	**18.21**	**198**	P	**P**	**13 47 08.2**	**+0.7**
TUWZ	**Tuamarina**	**18.25**	**196**	P	**P**	**13 47 07.0**	**-1.0**
TUWZ	**Tuamarina**	**18.25**	**196**	P	**P**	**13 47 08.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**18.54**	**196**	P	**P**	**13 47 11.4**	**+0.8**
THZ	**Tophouse**	**18.84**	**198**	P	**P**	**13 47 13.4**	**0.0**
KHZ	**Kahutara**	**19.29**	**196**	P	**P**	**13 47 16.8**	**-0.5**
KHZ				IAmb	IAmb	13 47 31.7	
	comp=Z,21nm,1.3s						
LTZ	**Lake Taylor**	**19.96**	**198**	P	**P**	**13 47 23.3**	**-0.4**
OXZ	**Oxford**	**20.53**	**198**	P	**P**	**13 47 28.2**	**-0.5**
MQZ	**McQueen's Vall**	**20.72**	**196**	P	**P**	**13 47 30.4**	**0.0**
RPZ	**Rata Peaks**	**21.18**	**199**	P	**P**	**13 47 34.6**	**+0.1**
RPZ				IAmb	IAmb	13 47 48.6	
	comp=Z,26nm,1.4s						
FOZ	**Fox Glacier**	**21.41**	**202**	P	**P**	**13 47 36.1**	**-0.5**
ARMA	**Armidale**	**26.48**	**250**	P	**P**	**13 48 22.8**	**+0.7**
ARMA				IAmb	IAmb	13 48 32.5	
	comp=Z,14nm,1.4s						
EIDS	**Eidsvold**	**26.80**	**261**	P	**P**	**13 48 24.9**	**0.0**
EIDS				IAmb	IAmb	13 48 46.1	
	comp=Z,14nm,1.5s						
CAN	**Canberra**	**29.55**	**240**	P	**P**	**13 48 49.6**	**+0.7**
CAN				IAmb	IAmb	13 48 53.5	
	comp=Z,18nm,1.2s						
CTAO	**Charters Tower**	**31.99**	**270**	P	**P**	**13 49 09.8**	**-0.3**
CTAO				IAmb	IAmb	13 49 10.5	
	comp=Z,4.8nm,0.6s						
TOO	**Toolangi**	**32.84**	**237**	P	**P**	**13 49 17.5**	**+0.5**
TOO				IAmb	IAmb	13 49 34.7	
	comp=Z,38nm,1.4s						
TAU	**Tasmania Unive**	**33.26**	**227**	P	**P**	**13 49 21.5**	**+1.1**
STKA	**Stephens Creek**	**35.17**	**248**	P	**P**	**13 49 35.8**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=104,slow=12,SNR=5.7						
STKA	**Stephens Creek**	**35.17**	**248**	P	**P**	**13 49 36.6**	**-0.1**
BBOO	**Buckleboo**	**39.89**	**247**	P	**P**	**13 50 14.2**	**-1.1**
BBOO				IAmb	IAmb	13 50 19.3	
	comp=Z,48nm,1.5s						
AS31	**Alice Springs**	**42.53**	**261**	P	**P**	**13 50 35.6**	**-0.9**
ASAR	**Alice Springs**	**42.53**	**261**	P	**P**	**13 50 35.9**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=99,slow=7.2,SNR=62						
ASAR	**Alice Springs**	**42.53**	**261**	P	**P**	**13 50 35.2**	**-1.3**
WR0	**Warramunga Arr**	**42.73**	**266**	P	**P**	**13 50 36.7**	**-1.4**
WR0				IAmb	IAmb	13 51 05.2	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**42.91**	**266**	P	**P**	**13 50 38.2**	**-1.2**
WB0	**Warramunga Arr**	**42.91**	**266**	P	**P**	**13 50 38.1**	**-1.4**
WB0				IAmb	IAmb	13 50 39.2	
	comp=Z,6.1nm,0.7s						
WRA	**Warramunga Arr**	**42.92**	**266**	P	**P**	**13 50 38.4**	**-1.2**
	comp=Z,3.7nm,0.4s,baz=97,slow=8.4,SNR=66						
WRA	**Warramunga Arr**	**42.92**	**266**	P	**P**	**13 50 38.0**	**-1.5**
FORT	**Forrest**	**46.77**	**250**	P	**P**	**13 51 08.0**	**-1.0**
FORT				IAmb	IAmb	13 51 08.6	
	comp=Z,23nm,0.6s						
MTN	**Manton Dam**	**47.98**	**274**	P	**P**	**13 51 17.1**	**-1.3**
MTN				IAmb	IAmb	13 51 36.8	
	comp=Z,39nm,1.3s						
FITZ	**Fitzroy Crossi**	**51.34**	**265**	P	**P**	**13 51 43.4**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=114,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**51.34**	**265**	P	**P**	**13 51 42.9**	**-0.2**
VNDA	**Vanda**	**54.34**	**185**	P	**P**	**13 52 04.0**	**+0.5**
MORW	**Morawa**	**57.33**	**250**	P	**P**	**13 52 24.6**	**-0.6**
TOLI2	**Tolitoli**	**63.10**	**284**	P	**P**	**13 53 03.8**	**+0.1**
TOLI2				IAmb	IAmb	13 53 06.7	
	comp=Z,10nm,0.9s						

IDC 23 13:51:18.9±5.3, 8.66S×124.23E, h85km±62km, mb3.1/1, mb1 3.2/4, mb1mx3.0/43, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=59.7km s-min=29.3km az=33.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.64**	**200**	P	Pn	13 51 46.8	+0.5
	15nm,0.3s,baz=261,slow=2.1,SNR=20						
BATI				S	Sn	13 52 07.0	0.0
	16nm,0.3s,baz=359,slow=22,SNR=20						
FITZ	**Fitzroy Crossi**	**9.48**	**172**	P	Pn	13 53 31.2	-1.5
	0.3nm,0.3s,baz=357,slow=9.3,SNR=20						
FITZ				S	Sn	13 55 09.1	-8.5
	0.9nm,0.3s,baz=286,slow=20,SNR=13						
WRA	**Warramunga Arr**	**14.88**	**140**	P	Pn	13 54 46.6	+1.7
	0.3nm,0.3s,baz=323,slow=13,SNR=13						
WRA				S	Sn	13 57 26.3	-2.7
	0.2nm,0.3s,baz=314,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**17.57**	**149**	P	Pn	13 55 19.1	+0.7
	0.1nm,0.3s,baz=317,slow=11,SNR=9.8						
ASAR				S	Sn	13 58 27.4	-6.5
	0.1nm,0.3s,baz=315,slow=21,SNR=2.0						
MKAR	**Makanchi Array**	**66.63**	**330**	P	P	14 02 00.3	-0.2
	0.2nm,0.6s,baz=120,slow=8.1,SNR=2.4						

*MOS **23** 13:56:48.6±0.9, 39.73N×142.06E, h60km, mb4.6/20, Error ellipse: s-maj=8.0km s-min=5.7km az=97.0*
*NEIC **23** 13:56:49.6±1.5, 39.67N±0.05×142.06E±0.09, h52km±3km, mb4.4/63, Error ellipse: s-maj=9.8km s-min=7.4km az=108.0*
*JMA **23** 13:56:49.1, 39.63N×142.11E, h48km±1km, M4.2*
JMA Felt III J1.
*IDC **23** 13:56:51.1±2.1, 39.61N×142.03E, h69km±18km, mb4.0/23, mb1 4.1/28, mb1mx3.9/49, mbtmp4.3/28, MS3.0/7, Ms1 3.0/7, ms1mx2.7/33, Error ellipse: s-maj=15.5km s-min=11.9km az=117.0*

ISC 23 13:56:48.7±0.6, 39.64N±0.03×142.09E±0.04, h47km±4km, n208, σ1§51/225, mb4.5/79, MS3.2/5, 16C-2D, Fault plane solution: NP1:φ§355.92783°, δ64.67644°, λ72.29296°. NP2:φ§212.66708°, δ30.56156°, λ122.73090°. Principal axes: T Plg65.6896°, Azm234.4337°; N Plg15.9574°, Azm3.7043°; P Plg17.8441°, Azm98.9857°; **Fault plane solution: NP1:**φ§136.04385°, δ55.78069°, λ40.00668°. **NP2:**φ§20.77704°, δ57.88711°, λ138.39864°. **Principal axes:** T Plg50.6729°, Azm347.3245°; N Plg39.2994°, Azm169.8675°; P Plg1.2468°, Azm78.8467°; **Fault plane solution: NP1:**φ§52.32353°, δ68.70441°, λ67.39701°. **NP2:**φ§281.22357°, δ30.66613°, λ134.59653°. **Principal axes:** T Plg59.8858°, Azm289.5258°; N Plg20.9836°, Azm60.9215°; P Plg20.5738°, Azm159.1986°; **Fault plane solution: NP1:** φ§172.99796°, δ28.09141°, λ31.52968°. **NP2:**φ§54.57393°, δ75.74477°, λ114.46357°. **Principal axes:** T Plg52.9326°, Azm353.6394°; N Plg23.6634°, Azm228.1817°; P Plg26.7237°, Azm125.4361°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.22**	**253**	P	**Pn**	**13 56 57.5**	**+0.6**
MIYJ				S	**Sn**	**13 57 03.3**	**+0.6**
JTH	**Tanohata**	**0.34**	**329**	P	**Pn**	**13 56 58.7**	**+0.6**
JTH				S	**Sn**	**13 57 05.2**	**+0.5**
JKEN	**Kujiedanarisaw**	**0.64**	**333**	P	**Pn**	**13 57 01.9**	**+0.4**
JKEN				S	**Sn**	**13 57 11.2**	**+0.5**
JOM	**Ohasama**	**0.64**	**255**	P	**Pn**	**13 57 02.4**	**+0.8**
JOM				S	**Sn**	**13 57 11.8**	**+0.9**
OFUJ	**Ofunato**	**0.65**	**210**	P	**Pn**	**13 57 01.9**	**+0.2**
OFUJ				S	**Sn**	**13 57 10.9**	**-0.1**
JKZ	**Kuzumaki**	**0.68**	**301**	P	**Pn**	**13 57 03.0**	**+0.8**
JKZ				S	**Sn**	**13 57 12.5**	**+0.7**
JANG	**Nango**	**0.85**	**329**	P	**Pn**	**13 57 04.8**	**+0.4**
JANG				S	**Sn**	**13 57 16.1**	**+0.2**
JMK	**Ichinoseki**	**0.97**	**225**	P	**Pn**	**13 57 06.3**	**+0.4**
JMK				S	**Sn**	**13 57 18.8**	**+0.3**
JRG	**Rokugo**	**1.15**	**258**	P	**Pn**	**13 57 09.1**	**+0.6**
JRG				eS	**Sn**	**13 57 23.7**	**+0.6**
JAH	**Hinai**	**1.25**	**296**	P	**Pn**	**13 57 10.6**	**+0.9**
JAH				eS	**Sn**	**13 57 26.6**	**+1.2**
JIO	**Ouri**	**1.32**	**206**	P	**Pn**	**13 57 10.9**	**+0.2**
JIO				S	**Sn**	**13 57 26.8**	**-0.3**
JTM	**Tenmabayashi**	**1.39**	**326**	P	**Pn**	**13 57 12.3**	**+0.7**
JTM	**Tenmabayashi**	**1.39**	**326**	Pn	**Pn**	**13 57 12.4**	**+0.7**
JMM	**Marumori**	**2.04**	**210**		**Pn**	**13 57 20.5**	**-0.1**
ERM	**Erimo**	**2.50**	**18**	P	**Pn**	**13 57 28.0**	**+1.1**
ERM	**Erimo**	**2.50**	**18**		**Pn**	**13 57 28.0**	**+1.1**
JEM	**Erimo**	**2.51**	**18**	Pn	**Sn**	**13 57 56.8**	**+0.5**
JEW	**Eniwo**	**3.23**	**352**		**Pn**	**13 57 37.5**	**+0.5**
JSD	**Sado**	**3.39**	**243**	Pn	**Pn**	**13 57 40.0**	**+0.8**
JYT	**Yasato**	**3.72**	**204**	Pn	**Pn**	**13 57 44.3**	**+0.6**
MAJO	**Matsushiro**	**4.35**	**226**	*i* P	**Pn**	**13 57 55.3**	**+2.9**
MAJO	**Matsushiro**	**4.35**	**226**	Pn	**Pn**	**13 57 54.0**	**+1.6**
MAT	**Matsushiro**	**4.35**	**226**	P	**Pn**	**13 57 53.9**	**+1.5**
MAT				S	**Sn**	**13 58 42.4**	**+0.6**
MJAR	**Matsushiro Arr**	**4.35**	**226**	P	**Pn**	**13 57 55.2**	**+2.8**
	1.9nm,0.3s,baz=33,slow=14,SNR=110						
MJAR				LR	LR	13 59 44.1	
	comp=Z,91nm,21.7s,baz=70,slow=40						
MJAR	**Matsushiro Arr**	**4.35**	**226**		**Pn**	**13 57 53.7**	**+1.4**
MJB9	**Matsu-Tunnel**	**4.35**	**226**		**Pn**	**13 57 54.7**	**+2.3**
ASAJ	**Asahikawa**	**4.49**	**5**	P	**Pn**	**13 57 55.1**	**+1.0**
	4.4nm,0.3s,baz=218,slow=9.3,SNR=52						
ASAJ				S	**Sn**	**13 58 51.2**	**+6.1**
	0.7nm,0.3s,baz=40,slow=31,SNR=1.6						
JKA	**Kamikawa-asahi**	**4.49**	**5**		**Pn**	**13 57 55.2**	**+1.1**
GLVR	**Golovnino**	**4.83**	**31**	P	**Pn**	**13 57 59.3**	**+0.5**
GLVR				eS	**Sn**	**13 58 51.1**	**-2.3**
GLVR				smax	smax		
	comp=E,514nm,0.4s						
GLVR				smax	smax		
	comp=N,324nm,0.3s						
GRPR	**Tuman**	**5.14**	**31**	eP	**Pn**	**13 58 02.5**	**-0.6**
GRPR				eS	**Sn**	**13 58 56.3**	**-4.9**
GRPR				pmax	pmax		
	comp=Z,87nm,0.3s						
GRPR				smax	smax		
	comp=E,370nm,0.3s						
GRPR				smax	smax		
	comp=N,426nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.21**	**31**	eP	**Pn**	**13 58 05.9**	**+1.8**
YUK				eS	**Sn**	**13 58 58.9**	**-4.0**
YUK				smax	smax		
	comp=N,543nm,0.5s						
YUK				smax	smax		
	comp=E,469nm,0.5s						
JGF	**Kuroka**	**5.51**	**224**		**Pn**	**13 58 10.8**	**+2.6**
INU	**Inuyama**	**5.88**	**225**		**Pn**	**13 58 14.8**	**+1.4**
TEY	**Ternei**	**6.75**	**325**	eP	Pn	13 58 31.3	+6.1
JHJ2	**Mitsune**	**6.77**	**196**	Pn	**Pn**	**13 58 26.8**	**+1.3**
JWT	**Wachi**	**6.87**	**233**	Pn	**Pn**	**13 58 30.4**	**+3.6**
KUR	**Kuril'sk**	**7.03**	**36**	eP	**Pn**	**13 58 29.2**	**+0.2**
KUR				eS	**Sn**	**13 59 43.9**	**-3.6**
KUR				pmax	pmax		
	comp=Z,42nm,0.7s						
KUR				smax	smax		
	comp=E,113nm,0.4s						
KUR				smax	smax		
	comp=N,31nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.33**	**4**	ceP	Pn	13 58 28.0	-5.0
YSS				pmax	pmax		
	comp=Z,50nm,2.5s						
YSS	**Yuzh-Sakhalins**	**7.33**	**4**	Pn	**Pn**	**13 58 34.2**	**+1.2**
JHS	**Saijyo**	**8.52**	**240**	Pn	**Pn**	**13 58 53.4**	**+3.9**
USA0B	**Ussuriysk Arra**	**8.80**	**304**	P	**Pn**	**13 58 53.2**	**0.0**
USA0B	**Ussuriysk Arra**	**8.80**	**304**	Pn	**Pn**	**13 58 53.2**	**0.0**
USRK	**Ussuriysk Ar.**	**8.80**	**304**	P	**Pn**	**13 58 55.5**	**+2.2**
	baz=110,slow=14,SNR=18						
USRK				LR	LR	14 02 44.1	
	comp=Z,42nm,18.5s,baz=100,slow=40						
USRK	**Ussuriysk Ar.**	**8.80**	**304**	Pn	**Pn**	**13 58 52.9**	**-0.3**
JMN	**Monobe**	**8.85**	**231**	Pn	**Pn**	**13 58 55.2**	**+1.2**
MDJ	**Mudanjiang**	**10.53**	**302**	P

YAK				*e*S	**S**	**14 06 03.7**	**-3.0**
YAK				*e**SS	**sS**	**14 06 26.3**	**-0.9**
YAK				*e*SS	**SnSn**	**14 06 45.9**	**-1.6**
YAK				*e*		14 12 57.7	
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK				pmax	pmax		
	comp=Z,116nm,3.5s						
YAK				pmax	pmax		
	comp=N,51nm,3.2s						
YAK				pmax	pmax		
	comp=E,35nm,3.2s						
YAK				smax	smax		
	comp=N,50nm,2.3s						
YAK				smax	smax		
	comp=E,45nm,2.6s						
YAK	**Yakutsk**	**23.66**	**345**	P	**P**	**14 01 54.2**	**-1.3**
SEY	**Seymchan**	**24.13**	**12**	P	**P**	**14 02 00.8**	**+0.9**
	comp=E,9.1nm,0.8s,baz=196,slow=7.5,SNR=43						
SEY	**Seymchan**	**24.13**	**12**	*i* P	**P**	**14 01 59.7**	**-0.1**
TPUB	**Ta-pu**	**24.41**	**234**	P	**P**	**14 02 01.8**	**-0.9**
BOD	**Bodaibo**	**25.66**	**324**	*e*P	**P**	**14 02 13.5**	**-0.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ULN	**Ulaanbaatar**	**26.43**	**300**	*ce*P	**P**	**14 02 20.7**	**-0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
SONM	**Songino Array**	**26.87**	**300**	P	**P**	**14 02 24.3**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=80,slow=9.2,SNR=8.1						
SONM				LR	LR	14 13 37.1	
	comp=Z,58nm,19.4s,baz=56,slow=38						
SONM	**Songino Array**	**26.87**	**300**	P	**P**	**14 02 25.2**	**+0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**26.87**	**300**	P	**P**	**14 02 25.2**	**+0.2**
XAN	**Xi'an**	**27.03**	**269**	P	**P**	**14 02 27.8**	**+1.3**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TLY	**Talaya**	**29.10**	**307**	P	**P**	**14 02 45.3**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=101,slow=8.1,SNR=6.3						
TLY	**Talaya**	**29.10**	**307**	*e*P	**P**	**14 02 44.6**	**-0.1**
TLY				pmax	pmax		
	comp=Z,11nm,0.9s						
TLY				MLR	MLR		
	comp=Z,76nm,8.0s						
TLY	**Talaya**	**29.10**	**307**	IAmb	IAmb	14 02 46.0	
	comp=Z,4.2nm,0.9s						
WAKE	**Wake Island**	**29.31**	**127**	P	**P**	**14 02 46.9**	**+0.1**
H11S1	**WAKE ISLAND Hy**	**29.93**	**128**	T	T	14 34 19.0	
	baz=319,slow=76,SNR=144						
H11S3	**WAKE ISLAND Hy**	**29.93**	**128**	T	T	14 34 21.7	
	baz=319,slow=76,SNR=167						
H11S2	**WAKE ISLAND Hy**	**29.94**	**128**	T	T	14 34 24.3	
	baz=319,slow=76,SNR=80						
LZH	**Lanzhou**	**30.25**	**276**	*e*P	**P**	**14 02 56.9**	**+1.7**
LZH				pP	pP	14 03 10.3	+2.4
LZH				sP	sP	14 03 16.8	+3.2
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
BILL	**Bilibino**	**31.38**	**17⇑**	*e*P	**P**	**14 03 07.7**	**+3.1**
BILL				*SP	**sP**	**14 03 22.0**	**-0.6**
BILL						14 04 09.0	
BILL				S	**S**	**14 08 11.0**	**+2.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	**Tiksi**	**32.77**	**352**	*ce*P	**P**	**14 03 15.4**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,13nm,0.8s						
TIXI	**Tiksi**	**32.77**	**352**	P	**P**	**14 03 16.6**	**-0.1**
TIXI				IAmb	IAmb	14 03 21.7	
	comp=Z,3.1nm,0.6s						
DGZ	**Jazzator, Alta**	**39.35**	**303**	*i* P	**P**	**14 04 12.5**	**-1.0**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ	**Urumqi**	**40.20**	**294**	*e*P	**P**	**14 04 22.8**	**+2.3**
WMQ				pP	pP	14 04 33.1	-0.2
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,200nm,5.5s						
MYLDM	**Lahad Datu**	**40.38**	**218**	P	**P**	**14 04 22.1**	**0.0**
MYLDM				IAmb	IAmb	14 04 42.0	
	comp=Z,6.6nm,1.0s						
ZAA0	**Zalesovo Array**	**40.60**	**310**	P	**P**	**14 04 23.2**	**-0.3**
ZAA0				IAmb	IAmb	14 04 24.8	
	comp=Z,6.0nm,0.6s						
ZALV	**Zalesovo Beam**	**40.60**	**310**	P	**P**	**14 04 23.8**	**+0.3**
	comp=Z,6.6nm,0.4s,baz=90,slow=8.4,SNR=35						
ZALV				PcP	**PcP**	**14 06 25.0**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=95,slow=3.1,SNR=9.8						
ZALV				LR	LR	14 21 52.7	
	comp=Z,34nm,19.8s,baz=64,slow=37						
ZALV	**Zalesovo Beam**	**40.60**	**310**	P	**P**	**14 04 23.5**	**0.0**
ZALV					**PcP**	**14 06 24.9**	**+0.2**
RDOG	**Red Dog Mine**	**40.95**	**28**	P	**P**	**14 04 27.7**	**+1.5**
RDOG				IAmb	IAmb	14 04 34.8	
	comp=Z,2.3nm,0.4s						
CHTO	**Chiang Mai**	**42.50**	**254**	P	**P**	**14 04 39.5**	**0.0**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHTO	**Chiang Mai**	**42.50**	**254**	P	**P**	**14 04 39.5**	**0.0**
CMAR	**Chiang Mai Arr**	**42.72**	**253**	P	**P**	**14 04 41.3**	**0.0**
	comp=Z,0.7nm,0.5s,baz=42,slow=8.8,SNR=7.8						
CMAR				LR	LR	14 21 58.7	
	comp=Z,12nm,19.1s,baz=215,slow=35						
CMAR	**Chiang Mai Arr**	**42.72**	**253**	*i* P	**P**	**14 04 42.0**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK31	**Makanchi Array**	**43.23**	**300**	*c i*P	**P**	**14 04 45.0**	**-0.2**
MK31	**Makanchi Array**	**43.23**	**300**	P	**P**	**14 04 44.9**	**-0.3**
MK31				IAmb	IAmb	14 04 46.0	
	comp=Z,4.8nm,0.7s						
MKAR	**Makanchi Array**	**43.23**	**300**	P	**P**	**14 04 45.3**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=84,slow=9.9,SNR=65						
MKAR	**Makanchi Array**	**43.23**	**300**	P	**P**	**14 04 45.0**	**-0.2**
MAKZ	**Makanchi**	**43.44**	**300**	P	**P**	**14 04 46.7**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAKZ	**Makanchi**	**43.44**	**300**	P	**P**	**14 04 46.7**	**-0.2**
MAKZ				IAmb	IAmb	14 04 47.8	
	comp=Z,4.5nm,0.8s						
SII	**Sitkinak Islan**	**44.08**	**46**	P	**P**	**14 04 52.6**	**+0.8**
KURK	**Kurchatov**	**44.78**	**306**	P	**P**	**14 04 58.0**	**+0.5**
KURK						14 06 38.5	
KURK	**Kurchatov**	**44.78**	**306**	P	**P**	**14 04 58.0**	**+0.5**
KURK					**PcP**	**14 06 38.5**	**-0.3**
KDAK	**Kodiak Island**	**44.83**	**44**	P	**P**	**14 04 59.1**	**+1.4**
KDAK				pmax	pmax		
	comp=Z,59nm,1.5s						
KDAK	**Kodiak Island**	**44.83**	**44**	P	**P**	**14 04 59.1**	**+1.4**
KURBB	**Kurchatov Arra**	**44.86**	**306**	P	**P**	**14 04 58.0**	**-0.1**
	comp=Z,10nm,0.5s,baz=81,slow=8.4,SNR=71						
KURBB				PcP	**PcP**	**14 06 38.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=81,slow=3.5,SNR=4.3						
MLY	**Manley**	**45.37**	**33**	P	**P**	**14 05 03.7**	**+1.6**
COLD	**Coldfoot**	**45.63**	**30**	P	**P**	**14 05 05.1**	**+1.2**
TOLK	**Toolik Lake Re**	**45.92**	**28**	P	**P**	**14 05 07.7**	**+1.4**
TAPN	**Taplejung**	**46.34**	**272**	*e*P	**P**	**14 05 10.8**	**+0.3**
	comp=Z,4.4nm,0.3s						
IL31		**47.02**	**34**	P	**P**	**14 05 16.2**	**+1.3**
IL31				IAmb	IAmb	14 05 29.9	
	comp=Z,4.1nm,1.2s						
ILAR	**Eielson Array**	**47.02**	**34**	P	**P**	**14 05 16.0**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=268,slow=6.3,SNR=22						
RAMN	**Ramite**	**47.40**	**272**	*e*P	**P**	**14 05 18.7**	**0.0**
	comp=Z,10nm,0.5s						
GUN	**Gumba**	**47.48**	**274**	*e*P	**P**	**14 05 19.8**	**+0.4**
	comp=Z,23nm,0.6s						
PRP	**Porcupine Dome**	**47.54**	**33**	P	**P**	**14 05 21.2**	**+2.0**
PRP				IAmb	IAmb	14 05 22.1	
	comp=Z,2.4nm,0.8s						
FID	**Port Fidalgo**	**47.60**	**39**	P	**P**	**14 05 20.8**	**+1.3**
FID				IAmb	IAmb	14 05 22.3	
	comp=Z,14nm,1.3s						
KKN	**Kakani**	**48.00**	**274**	*e*P	**P**	**14 05 23.8**	**+0.5**
	comp=Z,20nm,0.6s						
PKI	**Pulchoki**	**48.01**	**274**	*e*P	**P**	**14 05 23.7**	**+0.2**
	comp=Z,4.3nm,0.4s						
PKIN	**Phulchoki**	**48.01**	**274**	*e*P	**P**	**14 05 24.1**	**+0.6**
	comp=Z,5.6nm,0.5s						
SCRK	**Sand Creek**	**48.35**	**35**	P	**P**	**14 05 26.2**	**+0.8**
SCRK				IAmb	IAmb	14 05 26.8	
	comp=Z,1.5nm,0.6s						
DOT	**Dot Lake**	**48.35**	**35**	P	**P**	**14 05 26.2**	**+0.9**
GKN	**Gorkha**	**48.39**	**274**	*e*P	**P**	**14 05 26.0**	**-0.2**
	comp=Z,5.1nm,0.3s						
MENT	**Mentasta**	**48.60**	**36**	P	**P**	**14 05 29.4**	**+2.2**
MENT				IAmb	IAmb	14 05 30.1	
	comp=Z,2.5nm,0.8s						
GLB	**Gilahina Butte**	**48.78**	**38**	P	**P**	**14 05 30.1**	**+1.5**
GLB				IAmb	IAmb	14 05 46.2	
	comp=Z,4.5nm,1.3s						
MCARA	**McCarthy VSAT**	**49.16**	**38**	P	**P**	**14 05 33.4**	**+1.8**
MCARA				IAmb	IAmb	14 05 45.6	
	comp=Z,6.9nm,1.4s						
BVAR	**Borovoye Array**	**49.24**	**311**	P	**P**	**14 05 32.1**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=243,slow=6.0,SNR=17						
BRVK	**Borovoye**	**49.30**	**311**	P	**P**	**14 05 33.0**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BRVK	**Borovoye**	**49.30**	**311**	P	**P**	**14 05 33.0**	**+0.3**
BRVK				IAmb	IAmb	14 05 33.6	
	comp=Z,3.8nm,1.1s						
EGAK	**Eagle**	**49.46**	**33**	P	**P**	**14 05 34.5**	**+0.8**
EGAK				IAmb	IAmb	14 05 55.5	
	comp=Z,2.9nm,1.1s						
AAK	**Ala-Archa**	**49.76**	**297**	P	**P**	**14 05 36.7**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=122,slow=4.0,SNR=7.9						
AAK	**Ala-Archa**	**49.76**	**297**	P	**P**	**14 05 36.5**	**0.0**
AAK				IAmb	IAmb	14 05 54.9	
	comp=Z,4.3nm,1.4s						
DAWY	**Dawson**	**50.34**	**34**	P	**P**	**14 05 41.7**	**+1.3**
EPYK	**Eagle Plains**	**51.01**	**31**	P	**P**	**14 05 47.0**	**+1.5**
EPYK				IAmb	IAmb	14 05 48.4	
	comp=Z,5.0nm,0.8s						
INK	**Inuvik**	**51.83**	**28**	P	**P**	**14 05 53.0**	**+1.5**
	comp=Z,2.4nm,0.5s,baz=279,slow=6.2,SNR=14						
INK	**Inuvik**	**51.83**	**28**	P	**P**	**14 05 52.5**	**+1.0**
INK				IAmb	IAmb	14 05 53.7	
	comp=Z,3.2nm,0.8s						
KK31	**Karatay Array**	**52.31**	**299**	P	**P**	**14 05 55.2**	**-0.4**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KK31	**Karatay Array**	**52.31**	**299**	P	**P**	**14 05 55.1**	**-0.4**
KK31				IAmb	IAmb	14 05 56.1	
	comp=Z,3.7nm,0.7s						
KKAR	**Karatay Array**	**52.31**	**299**	P	**P**	**14 05 55.1**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KKAR	**Karatay Array**	**52.31**	**299**	P	**P**	**14 05 55.1**	**-0.4**
KKAR	**Karatay Array**	**52.31**	**299**	P	**P**	**14 05 55.1**	**-0.4**
KKAR				IAmb	IAmb	14 05 56.2	
	comp=Z,3.7nm,0.7s						
WHY	**Whitehorse**	**53.19**	**38**	P	**P**	**14 06 01.8**	**-0.1**
WHY				IAmb	IAmb	14 06 17.3	
	comp=Z,6.2nm,1.4s						
NIL	**Nilore**	**54.34**	**287**	P	**P**	**14 06 10.3**	**-0.3**
NIL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NIL	**Nilore**	**54.34**	**287**	P	**P**	**14 06 10.3**	**-0.3**
ARU	**Arti**	**54.78**	**317**	*c i*P	**P**	**14 06 13.5**	**+0.2**
ARU						14 07 14.7	
ARU				S	**S**	**14 13 50.8**	**+0.4**
ARU				SS	**SS**	**14 17 28.1**	**-5.3**
ARU				pmax	pmax		
	comp=Z,13nm,0.8s						
ARU	**Arti**	**54.78**	**317**	P	**P**	**14 06 13.3**	**-0.1**
C36M	**Paulatuk**	**54.85**	**26**	P	**P**	**14 06 14.7**	**+1.1**
C36M				IAmb	IAmb	14 06 16.1	
	comp=Z,2.6nm,0.8s						
ABKAR	**Akbulak array**	**56.69**	**309**	P	**P**	**14 06 26.7**	**-0.5**
KHU	**Kahuku**	**56.81**	**92**	P	**P**	**14 06 27.5**	**-1.2**
KHU				pmax	pmax		
	comp=Z,215nm,1.4s						
KHU	**Kahuku**	**56.81**	**92**	P	**P**	**14 06 27.5**	**-1.2**
KBL	**Kabul**	**57.01**	**290**	P	**P**	**14 06 30.8**	**+0.9**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBL	**Kabul**	**57.01**	**290**	P	**P**	**14 06 30.8**	**+0.9**
KBL				IAmb	IAmb	14 06 31.4	
	comp=Z,3.1nm,0.6s						
EUNU	**Eureka**	**57.53**	**9**	P	**P**	**14 06 33.0**	**+0.2**
EUNU				IAmb	IAmb	14 06 34.2	
	comp=Z,4.0nm,0.8s						
WB0	**Warramunga Arr**	**59.53**	**188**	P	**P**	**14 06 46.4**	**-0.8**
WB0				IAmb	IAmb	14 06 46.9	
	comp=Z,7.6nm,1.2s						
WR0	**Warramunga Arr**	**59.71**	**188**	P	**P**	**14 06 47.5**	**-0.9**
WB2	**Warramunga Arr**	**59.71**	**188**	P	**P**	**14 06 47.8**	**-0.6**
WB2				IAmb	IAmb	14 06 59.2	
	comp=Z,6.6nm,1.2s						
WRA	**Warramunga Arr**	**59.71**	**188**	P	**P**	**14 06 47.2**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=7.7,slow=7.1,SNR=18						
WRA	**Warramunga Arr**	**59.71**	**188**	P	**P**	**14 06 47.7**	**-0.8**
WRA	**Warramunga Arr**	**59.71**	**188**	P	**P**	**14 06 47.7**	**-0.8**
RES	**Resolute Bay**	**59.95**	**15**	P	**P**	**14 06 49.9**	**+0.4**
RES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RES	**Resolute Bay**	**59.95**	**15**	P	**P**	**14 06 49.9**	**+0.4**
RES				IAmb	IAmb	14 06 50.3	
	comp=Z,2.7nm,0.7s						
YKA	**Yellowknife Ar**	**61.30**	**31**	*i* P	**P**	**14 06 58.7**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=309,slow=5.8,SNR=8.0						
YKA	**Yellowknife Ar**	**61.30**	**31**	*i* P	**P**	**14 07 00.1**	**+1.3**
ARCES	**ARCESS Array B**	**61.75**	**339**	P	**P**	**14 07 00.7**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=51,slow=9.6,SNR=8.2						
ARCES	**ARCESS Array B**	**61.75**	**339**	IAmb	IAmb	14 07 06.1	
	comp=Z,16nm,1.4s						
BELG	**Belogornoye**	**62.27**	**316**	*i* P	**P**	**14 07 03.9**	**-1.6**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TULEG	**Thule**	**62.45**	**8**	P	**P**	**14 07 06.5**	**+0.1**
TULEG				IAmb	IAmb	14 07 07.0	
	comp=Z,4.1nm,0.6s						
GEYT	**Alibeck**	**63.06**	**298**	P	**P**	**14 07 10.7**	**-0.4**
GEYT				IAmb	IAmb	14 07 11.5	
	comp=Z,1.8nm,0.6s						
AS31	**Alice Springs**	**63.44**	**188**	P	**P**	**14 07 13.1**	**-0.4**
ASAR	**Alice Springs**	**63.44**	**188**	P	**P**	**14 07 13.3**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=0.1,slow=4.1,SNR=16						
ASAR	**Alice Springs**	**63.44**	**188**	P	**P**	**14 07 13.2**	**-0.4**
OBN	**Obninsk**	**66.34**	**323⇑**	*e*P	**P**	**14 07 31.8**	**-0.2**
OBN						14 08 01.0	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FIA1	**FINESS Array S**	**66.76**	**332**	P	**P**	**14 07 34.5**	**-0.2**
FINES	**FINESS Array B**	**66.76**	**332**	P	**P**	**14 07 34.8**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=37,slow=9.8,SNR=19						
FINES	**FINESS Array B**	**66.76**	**332**	P	**P**	**14 07 34.4**	**-0.3**
SUMG	**Summit**	**68.08**	**0**	P	**P**	**14 07 44.1**	**+0.7**
SUMG	**Summit**	**68.08**	**0**	P	**P**	**14 07 44.1**	**+0.7**
KIV	**Kislovodsk**	**69.61**	**311**	*e*P	**P**	**14 07 52.3**	**-0.7**
KIV				pmax	pmax		
	comp=Z,35nm,1.1s						
KIV				MLR	MLR		
	comp=Z,77nm,17.0s						
KBZ	**Khabaz**	**69.62**	**310**	P	**P**	**14 07 53.6**	**+0.8**
	comp=Z,7.2nm,1.2s,baz=23,slow=4.6,SNR=5.6						
NC405	**NORSAR Array S**	**71.78**	**337**	P	**P**	**14 08 05.7**	**-0.1**
NC303	**NORSAR Array S**	**71.80**	**337**	P	**P**	**14 08 05.9**	**+0.1**
NC204	**NORSAR Array S**	**71.94**	**338**	P	**P**	**14 08 07.0**	**+0.2**
NC204				IAmb	IAmb	14 08 22.3	
	comp=Z,15nm,1.1s						
NB201	**NORSAR Array S**	**71.96**	**337**	P	**P**	**14 08 06.8**	**0.0**
NB2	**NORSAR Subarra**	**71.99**	**337**	P	**P**	**14 08 06.8**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**71.99**	**337**	P	**P**	**14 08 07.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=37,slow=6.1,SNR=7.3						
NBO00	**NORSAR Array S**	**72.13**	**337**	P	**P**	**14 08 08.1**	**+0.2**
BOZ	**Bozeman (W)**	**72.51**	**45**	P	**P**	**14 08 10.6**	**0.0**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BOZ	**Bozeman (W)**	**72.51**	**45**	P	**P**	**14 08 10.6**	**0.0**
AKASG	**Malin Array Be**	**72.57**	**322**	P	**P**	**14 08 10.4**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=44,slow=6.5,SNR=6.4						
AKASG	**Malin Array Be**	**72.57**	**322**	P	**P**	**14 08 10.6**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.57**	**322**	P	**P**	**14 08 10.6**	**0.0**
AKBB	**Malin Array Si**	**72.57**	**322**	*ce*P	**P**	**14 08 10.3**	**-0.4**
AKBB	**Malin Array Si**	**72.57**	**322**	P	**P**	**14 08 10.2**	**-0.4**
AKBB				IAmb	IAmb	14 08 26.4	
	comp=Z,7.9nm,1.3s						
PD31	**Pinedale Array**	**75.47**	**46**	P	**P**	**14 08 27.9**	**-0.1**
PDAR	**Pinedale Array**	**75.47**	**46**	P	**P**	**14 08 29.1**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=252,slow=2.2,SNR=6.8						
PDAR	**Pinedale Array**	**75.47**	**46**	P	**P**	**14 08 28.6**	**+0.6**
BUR08	**Bucovina Ar. S**	**76.59**	**322**	P	**P**	**14 08 34.6**	**+0.5**
BUR08				IAmb	IAmb	14 08 52.4	
	comp=Z,12nm,1.5s						
BURAR	**Bucovina Array**	**76.60**	**322**	P	**P**	**14 08 34.8**	**+0.6**
MORC	**Moravsky Berou**	**78.47**	**327**	P	**P**	**14 08 44.9**	**+0.4**
MORC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MORC	**Moravsky Berou**	**78.47**	**327**	P	**P**	**14 08 44.9**	**+0.4**
MORC				IAmb	IAmb	14 08 46.3	
	comp=Z,4.8nm,0.9s						
CLL	**Collm**	**79.10**	**330**	*e*P	**P**	**14 08 48.0**	**+0.1**
CLL				LmV		16 54 00.0	
	comp=Z,100nm,20.2s						
CLL	**Collm**	**79.10**	**330**	*e*P	**P**	**14 08 48.0**	**+0.1**
DGAR	**Diego Garcia**	**79.34**	**251**	*ce*P	**P**	**14 08 50.9**	**+1.2**
DGAR				pmax	pmax		
	comp=Z,17nm,0.8s						
GERES	**GERESS Array B**	**80.78**	**328**	P	**P**	**14 08 56.7**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=71,slow=9.0,SNR=5.1						
SNAA	**Sanae**	**143.39**	**198**	PKPdf	PKPbc	14 16 13.6	-0.5
VNA2	**Neumayer--Watz**	**144.97**	**197**	PKPbc	PKPbc	14 16 18.5	-0.3
VNA3	**Neumayer Olymp**	**145.22**	**196**	PKPbc	**PKPbc**	**14 16 18.5**	**-1.1**
VNA1	**Neumayer--Stat**	**145.36**	**197**	PKPbc	**PKPbc**	**14 16 19.8**	**-0.2**

KRSZO ***23*** *14:05:16.0±0.7, 44.08°N×19.90°E, h10^{km}±4^{km}, ML3.4/12*
Error ellipse: s-maj=2.1km s-min=2.0km az=137.0
IASPEI ***23*** *14:05:15.9±0.9, 44.07°N±0.02×19.89°E±0.02, h6^{km}±6^{km},*
Error ellipse: s-maj=2.7km s-min=2.5km az=125.1, GT5
selection from ISC bulletin GT5 identified by Bondr and
McLaughlin (2009) selection criteria Bondr and
McLaughlin, A new ground truth data set for seismic
studies, Seism. Res. Let., 80, 465-472,
2009
PDG ***23*** *14:05:15.8±0.3, 44.10°N×19.92°E, h13^{km}, MD3.3/1,*
ML3.0/14, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0
PRU ***23*** *14:05:15.6±0.0, 43.99°N×19.87°E, h0^{km}*
RHSSO ***23*** *14:05:16.5±0.2, 44.07°N×19.88°E, h2^{km}±1^{km}, ML3.0/14*
BEO ***23*** *14:05:16.6±0.2, 44.07°N×19.89°E, h2^{km}±1^{km}, ML3.0/16*

ISC 23 14:05:15.9±0.8, 44.08°N±0.01×19.91°E±0.01, h8^{km}±5^{km}, n170, σ1°19/301, 37C-17D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIVS	**Divibare**	**0.07**	**71**	⇓*i* Pg	**Pg**	**14 05 18.1**	**+0.2**
DIVS				*e*Sg	**Sg**	**14 05 19.0**	**0.0**
DIVS	**Divibare**	**0.07**	**71**	⇓*i* Pg	**Pg**	**14 05 18.1**	**+0.2**
DIVS				*e*Sg	**Sg**	**14 05 19.4**	**+0.1**
DIVS	**Divibare**	**0.07**	**71**	Pg	**Pg**	**14 05 18.2**	**+0.2**
	comp=Z,99nm,SNR=1000						
DIVS				Lg	Lg	14 05 19.3	
DIVS				Sg	**Sg**	**14 05 19.4**	**+0.1**
TRUS	**Trudelj**	**0.39**	**68**	*e*Pg	**Pg**	**14 05 24.0**	**+0.5**
TRUS				*e*Sg	**Sg**	**14 05 29.4**	**+0.8**
TRUS	**Trudelj**	**0.39**	**68**	Pg	**Pg**	**14 05 24.0**	**+0.5**
TRUS				Lg	Lg	14 05 29.4	
BBLS	**Lazići**	**0.42**	**240**	*e*Pg	**Pg**	**14 05 24.1**	**0.0**
BBLS				*e*Sg	**Sg**	**14 05 30.0**	**+0.4**
BBLS	**Lazići**	**0.42**	**240**	⇓*i* Pg	**Pg**	**14 05 24.1**	**0.0**
BBLS				*e*Sg	**Sg**	**14 05 29.8**	**+0.2**
BBLS	**Lazići**	**0.42**	**240**	Pb	**Pg**	**14 05 24.1**	**0.0**
BBLS				Pg	**Pb**	**14 05 24.4**	**-1.2**
	comp=Z,15nm,SNR=78						
BBLS				Lg	Lg	14 05 29.8	
BBLS				Sg	**Sg**	**14 05 30.0**	**+0.4**
IVAS	**Ivanjica**	**0.53**	**160**	⇑*i* Pg	**Pg**	**14 05 25.7**	**-0.5**
IVAS				*e*Sg	**Sg**	**14 05 33.0**	**-0.1**
IVAS	**Ivanjica**	**0.53**	**160**	Pg	**Pg**	**14 05 25.7**	**-0.5**
IVAS				Lg	Lg	14 05 33.0	
TEKS	**Tekeris**	**0.54**	**330**	*e*Pg	**Pg**	**14 05 26.7**	**+0.3**
TEKS				*e*Sg	**Sg**	**14 05 34.0**	**+0.4**
TEKS	**Tekeris**	**0.54**	**330**	⇑*i* Pg	**Pg**	**14 05 26.9**	**+0.5**
TEKS				*e*Sg	**Sg**	**14 05 33.7**	**+0.1**
TEKS	**Tekeris**	**0.54**	**330**	Pg	**Pg**	**14 05 26.7**	**+0.3**
TEKS				Pb	**Pg**	**14 05 26.9**	**+0.5**
TEKS				Lg	Lg	14 05 33.7	
TEKS				Sg	**Sg**	**14 05 34.0**	**+0.4**
RUDO	**Rudo**	**0.60**	**220**	⇑*i* Pg	**Pg**	**14 05 26.7**	**-0.8**
RUDO				*e*Sg	**Sg**	**14 05 34.8**	**-0.5**
RUDO	**Rudo**	**0.60**	**220**	Pg	**Pg**	**14 05 26.7**	**-0.8**
RUDO				Lg	Lg	14 05 34.8	
GRUS	**Gruza**	**0.61**	**108**	*e*Pg	**Pg**	**14 05 28.2**	**+0.5**
GRUS				*e*Sg	**Sb**	**14 05 37.3**	**-0.4**
GRUS	**Gruza**	**0.61**	**108**	Pg	**Pg**	**14 05 28.2**	**+0.5**
GRUS				Lg	Lg	14 05 37.3	
HAPS	**Han Pijesak,Bl**	**0.69**	**271**	*e*Pg	**Pg**	**14 05 28.1**	**-1.1**
HAPS				*e*Sg	**Sg**	**14 05 37.7**	**-0.4**
HAPS	**Han Pijes

BRY	**Bratogost**	**1.54**	**221**	*e*Pn		**Pb**	**14 05 44.4**	**-0.3**
BRY				*e*Sn		**Sb**	**14 06 04.4**	**0.0**
BRY	**Bratogost**	**1.54**	**221**	⇑*i*Pg		**Pb**	**14 05 44.2**	**-0.5**
BRY				*e*Sg		**Sg**	**14 06 07.0**	**+1.6**
BRY	**Bratogost**	**1.54**	**221**	Pn		**Pb**	**14 05 44.4**	**-0.3**
BRY				Sn		**Sb**	**14 06 04.4**	**0.0**
BANR	**Banloc**	**1.57**	**33**	⇓P		**Pn**	**14 05 43.7**	**-0.4**
BANR	**Banloc**	**1.57**	**33**	Pn		**Pn**	**14 05 43.7**	**-0.4**
CEME	**Cevo**	**1.69**	**206**	⇓*i*Pn		**Pn**	**14 05 46.3**	**+0.5**
CEME				*i* Sn		**Sg**	**14 06 10.7**	**+0.5**
ZAGS	**Zajecar**	**1.70**	**98**	*e*Pn		**Pb**	**14 05 46.9**	**-0.5**
ZAGS				*e*Sn		**Sg**	**14 06 10.3**	**-0.2**
ZAGS	**Zajecar**	**1.70**	**98**	Pn		**Pb**	**14 05 46.9**	**-0.5**
ZAGS				Lg		Lg	14 06 10.3	
PDG	**Podgorica**	**1.71**	**196**	*e*Pg		**Pb**	**14 05 47.9**	**+0.3**
PDG				*e*Sg		**Sg**	**14 06 11.3**	**+0.4**
PDG	**Podgorica**	**1.71**	**196**	⇑P		**Pb**	**14 05 47.9**	**+0.3**
PDG				⇑S		**Sg**	**14 06 10.3**	**-0.6**
PDG	**Podgorica**	**1.71**	**196**	*e*Pn		**Pb**	**14 05 47.5**	**-0.1**
PDG				*e*Sn		**Sb**	**14 06 08.7**	**-0.6**
PDG	**Podgorica**	**1.71**	**196**	Pg		**Pb**	**14 05 47.5**	**-0.1**
PDG				Pb		**Pb**	**14 05 47.9**	**+0.3**
PDG				Pb		**Pb**	**14 05 47.9**	**+0.3**
PDG				Sn		**Sb**	**14 06 08.7**	**-0.6**
PDG				Lg		Lg	14 06 10.3	
PDG				Sg		**Sg**	**14 06 11.3**	**+0.4**
TTG	**Podgorica**	**1.71**	**196**	⇓*i*Pn		**Pn**	**14 05 46.7**	**+0.7**
TTG				*i* Sn		**Sg**	**14 06 11.0**	**+0.1**
TREB	**Trebinje**	**1.77**	**220**	*e*Pn		**Pb**	**14 05 48.5**	**-0.1**
TREB				*e*Sn		**Sg**	**14 06 12.0**	**-0.7**
TREB	**Trebinje**	**1.77**	**220**	*e*Pn		**Pb**	**14 05 48.2**	**-0.4**
TREB				*e*Sn		**Sb**	**14 06 10.9**	**0.0**
TREB	**Trebinje**	**1.77**	**220**	Pn		**Pb**	**14 05 48.2**	**-0.4**
TREB				Pg		**Pb**	**14 05 48.5**	**-0.1**
TREB				Sn		**Sb**	**14 06 10.9**	**0.0**
TREB				Lg		Lg	14 06 12.0	
BARS	**Barje**	**1.88**	**132**	*e*Pn		**Pn**	**14 05 44.2**	**-4.1**
BARS	**Barje**	**1.88**	**132**	*e*Pn		**Pn**	**14 05 49.0**	**+0.7**
BARS				*e*Sn		**Sn**	**14 06 05.0**	**-7.1**
BARS				*e*Sn		**Sb**	**14 06 14.3**	**+0.3**
BARS	**Barje**	**1.88**	**132**	Pn		**Pn**	**14 05 44.2**	**-4.1**
BARS				Pg		**Pn**	**14 05 49.0**	**+0.7**
BARS				Sn		**Sn**	**14 06 05.0**	**-7.1**
BARS				Lg		Lg	14 06 14.3	
BUM	**Brajici-Budva**	**1.92**	**203**	*e*Pn		**Pb**	**14 05 50.2**	**-1.0**
BUM				*e*Sn		**Sb**	**14 06 16.2**	**+0.8**
HCY	**Herceg Novi**	**1.93**	**213**	*e*Pn		**Pn**	**14 05 50.0**	**+1.0**
HCY				*e*Sn		**Sb**	**14 06 14.4**	**-1.1**
HCY	**Herceg Novi**	**1.93**	**213**	*e*Pn		**Pn**	**14 05 50.0**	**+1.0**
HCY				*e*Sn		**Sb**	**14 06 16.5**	**+1.0**
HCY	**Herceg Novi**	**1.93**	**213**	Pn		**Pn**	**14 05 50.0**	**+1.0**
HCY				Sn		**Sb**	**14 06 14.4**	**-1.1**
BZS	**Buzias**	**1.96**	**38**	*e*Pn		**Pn**	**14 05 50.3**	**+0.8**
BZS				*e*Sn		**Sb**	**14 06 16.5**	**0.0**
BZS	**Buzias**	**1.96**	**38**	⇑P		**Pn**	**14 05 49.2**	**-0.2**
BZS				⇑S		**Sn**	**14 06 12.8**	**-1.5**
BZS	**Buzias**	**1.96**	**38**	Pn		**Pn**	**14 05 49.2**	**-0.2**
BZS				Pn		**Pb**	**14 05 49.5**	**-2.3**
	comp=Z,0.3nm,SNR=18							
BZS				Pg		**Pn**	**14 05 50.3**	**+0.8**
BZS				Sn		**Sn**	**14 06 12.8**	**-1.5**
BZS				Lg		Lg	14 06 16.5	
DRME	**Dracevica, Mon**	**1.96**	**196**	*e*Pn		**Pb**	**14 05 50.9**	**-0.9**
DRME				*e*Sn		**Sb**	**14 06 15.5**	**-0.9**
DRME	**Dracevica, Mon**	**1.96**	**196**	*e*Pn		**Pb**	**14 05 51.2**	**-0.6**
DRME				*e*Sn		**Sb**	**14 06 17.2**	**+0.8**
DRME	**Dracevica, Mon**	**1.96**	**196**	Pn		**Pb**	**14 05 50.9**	**-0.9**
DRME				Sn		**Sb**	**14 06 15.5**	**-0.9**
HERR	**Herculane**	**1.97**	**65**	⇓P		**Pn**	**14 05 49.9**	**+0.4**
HERR				⇑S		**Sn**	**14 06 14.7**	**+0.3**
HERR	**Herculane**	**1.97**	**65**	Pn		**Pn**	**14 05 49.9**	**+0.4**
HERR				Sn		**Sn**	**14 06 14.7**	**+0.3**
STON	**Ston**	**2.01**	**234**	*e*Pn		**Pn**	**14 05 50.8**	**+0.7**
STON				Sn		**Sb**	**14 06 17.5**	**-0.2**
STON	**Ston**	**2.01**	**234**	Pn		**Pn**	**14 05 50.8**	**+0.7**
STON				Sn		**Sb**	**14 06 17.5**	**-0.2**
BLKB	**Belogradchik**	**2.05**	**102**	⇑S		**Sn**	**14 06 17.0**	**+0.4**
BLKB	**Belogradchik**	**2.05**	**102**	Sn		**Sn**	**14 06 17.0**	**+0.4**
MGRS	**Mrkonjic Grad**	**2.06**	**280**	*e*Pn		**Pn**	**14 05 51.2**	**+0.4**
MGRS				*e*Sn		**Sn**	**14 06 17.3**	**+0.7**
MGRS	**Mrkonjic Grad**	**2.06**	**280**	Pn		**Pn**	**14 05 51.2**	**+0.4**
MGRS				Sn		**Sn**	**14 06 17.3**	**+0.7**
BLY	**Banja Luka**	**2.06**	**290**	*e*Pn		**Pb**	**14 05 52.7**	**-0.9**
BLY				*e*Sn		**Sb**	**14 06 18.0**	**-1.3**
BLY	**Banja Luka**	**2.06**	**290**	*e*Pn		**Pn**	**14 05 52.0**	**+1.2**
BLY				*e*Sn		**Sb**	**14 06 18.1**	**-1.3**
BLY	**Banja Luka**	**2.06**	**290**	Pn		**Pn**	**14 05 52.1**	**+1.2**
	comp=Z,0.4nm,SNR=11							
BLY				Pn		**Pb**	**14 05 52.7**	**-0.9**
BLY				Sn		**Sb**	**14 06 18.0**	**-1.3**
BLY				Sn		**Sb**	**14 06 18.1**	**-1.3**
RMGR	**Halanga-Turnu**	**2.08**	**73**	⇓S		**Sn**	**14 06 17.3**	**+0.1**
RMGR	**Halanga-Turnu**	**2.08**	**73**	Sn		**Sn**	**14 06 17.3**	**+0.1**
RICI	**Ricice**	**2.09**	**255**	*e*Pn		**Pb**	**14 05 52.8**	**-1.3**
RICI				Sn		**Sb**	**14 06 20.8**	**+0.6**
RICI	**Ricice**	**2.09**	**255**	Pn		**Pb**	**14 05 52.8**	**-1.3**
RICI				Sn		**Sb**	**14 06 20.8**	**+0.6**
ZAPS	**Zavoj**	**2.14**	**111**	*e*Pn		**Pn**	**14 05 53.0**	**+1.1**
ZAPS				*e*Sn		**Sb**	**14 06 21.6**	**+0.1**
ZAPS	**Zavoj**	**2.14**	**111**	Pn		**Pn**	**14 05 53.0**	**+1.1**
ZAPS				Sn		**Sb**	**14 06 21.6**	**+0.1**
ULC	**Ulcinj**	**2.17**	**193**	*e*Pn		**Pn**	**14 05 53.0**	**+0.7**
ULC				*e*Sn		**Sb**	**14 06 22.2**	**-0.2**
PUNG	**Punghina**	**2.19**	**84**	⇑P		**Pn**	**14 05 53.0**	**+0.5**
PUNG				⇑S		**Sn**	**14 06 19.7**	**0.0**
PUNG	**Punghina**	**2.19**	**84**	Pn		**Pn**	**14 05 53.0**	**+0.5**
PUNG				Sn		**Sn**	**14 06 19.7**	**0.0**
MAKA	**Makarska**	**2.24**	**250**	*e*Pn		**Pb**	**14 05 55.8**	**-0.7**
MAKA	**Makarska**	**2.24**	**250**	Pn		**Pb**	**14 05 55.8**	**-0.7**
MORH	**Mrgy, Hungar**	**2.32**	**338**	⇑P		**Pn**	**14 05 54.1**	**-0.2**
MORH				⇑S		**Sn**	**14 06 21.7**	**-1.2**
MORH	**Mrgy, Hungar**	**2.32**	**338**	*e*Pn		**Pn**	**14 05 55.9**	**+1.6**
MORH				*e*Sn		**Sb**	**14 06 24.6**	**-2.1**
MORH	**Mrgy, Hungar**	**2.32**	**338**	Pb		**Pn**	**14 05 54.0**	**-0.3**
	comp=Z,0.1nm,SNR=4.0							
MORH				Pn		**Pn**	**14 05 54.1**	**-0.2**
MORH				Pg		**Pn**	**14 05 55.9**	**+1.6**
MORH				Sn		**Sn**	**14 06 21.7**	**-1.2**
MORH				Lg		Lg	14 06 24.6	
MRAK	**Mrakovica**	**2.34**	**295**	*e*Pn		**Pn**	**14 05 55.6**	**+0.8**
MRAK				*e*Sn		**Sn**	**14 06 24.7**	**+0.9**
MRAK	**Mrakovica**	**2.34**	**295**	Pn		**Pn**	**14 05 55.6**	**+0.8**
MRAK				Sn		**Sn**	**14 06 24.7**	**+0.9**
GZR	**Gura Zlata**	**2.43**	**56**	⇑P		**Pn**	**14 05 56.1**	**+0.1**
GZR				⇑S		**Sn**	**14 06 25.8**	**-0.2**
GZR	**Gura Zlata**	**2.43**	**56**	Pn		**Pn**	**14 05 56.1**	**+0.1**
	comp=Z,0.3nm,SNR=12							
GZR				Sn		**Sn**	**14 06 25.8**	**-0.2**
SRE	**Strehaia**	**2.44**	**75**	⇓P		**Pn**	**14 05 55.6**	**-0.4**
SRE				⇑S		**Sn**	**14 06 25.3**	**-0.7**
SRE	**Strehaia**	**2.44**	**75**	Pn		**Pn**	**14 05 55.6**	**-0.4**
SRE				Sn		**Sn**	**14 06 25.3**	**-0.7**
BOSS	**Bosilegrad**	**2.46**	**129**	*e*Pn		**Pn**	**14 05 56.6**	**+0.4**
BOSS				*e*Sn		**Sn**	**14 06 27.8**	**+1.4**
BOSS	**Bosilegrad**	**2.46**	**129**	Pn		**Pn**	**14 05 56.6**	**+0.4**
BOSS				Sn		**Sn**	**14 06 27.8**	**+1.4**
SIRR	**Siria**	**2.52**	**29**	⇑P		**Pn**	**14 05 57.1**	**0.0**
SIRR				⇑S		**Sn**	**14 06 27.3**	**-0.7**
SIRR	**Siria**	**2.52**	**29**	Pn		**Pn**	**14 05 56.9**	**-0.2**
	comp=Z,0.2nm,SNR=5.6							
SIRR				Pg		**Pn**	**14 05 57.1**	**0.0**
SIRR				Sn		**Sn**	**14 06 27.3**	**-0.7**
KIJV	**Kijevo**	**2.52**	**270**	*e*Pn		**Pn**	**14 05 58.4**	**+1.2**
KIJV	**Kijevo**	**2.52**	**270**	Pn		**Pn**	**14 05 58.4**	**+1.2**
HVAR	**Hvar**	**2.67**	**251**	*e*Pn		**Pb**	**14 06 01.5**	**-2.3**
HVAR				Sn		**Sb**	**14 06 34.4**	**-2.3**
HVAR	**Hvar**	**2.67**	**251**	Pn		**Pb**	**14 06 01.5**	**-2.3**
HVAR				Sn		**Sb**	**14 06 34.4**	**-2.3**
DEV	**Deva**	**2.79**	**49**	⇓P		**Pn**	**14 06 01.0**	**+0.2**
DEV	**Deva**	**2.79**	**49**	Pn		**Pn**	**14 06 01.0**	**+0.2**
VTS	**Vitosha**	**2.83**	**120**	⇑P		**Pn**	**14 06 02.3**	**+0.7**
VTS				⇓S		**Sn**	**14 06 37.0**	**+1.1**
VTS	**Vitosha**	**2.83**	**120**	Pn		**Pn**	**14 06 02.3**	**+0.7**
VTS				Sn		**Sn**	**14 06 37.0**	**+1.1**
STIP	**Stip**	**2.91**	**144**	*i* Pn		**Pn**	**14 06 03.2**	**+0.7**
MORI	**Morici**	**3.04**	**267**	*e*Pn		**Pn**	**14 06 06.0**	**+1.8**
MORI				Sn		**Sn**	**14 06 41.7**	**+0.9**
MORI	**Morici**	**3.04**	**267**	Pn		**Pn**	**14 06 06.0**	**+1.8**
MORI				Sn		**Sn**	**14 06 41.7**	**+0.9**
LOT	**Lotru**	**3.08**	**62**	⇑S		**Sn**	**14 06 41.1**	**-0.8**
LOT	**Lotru**	**3.08**	**62**	Sn		**Sn**	**14 06 41.1**	**-0.8**
ZIRJ	**Zirje**	**3.11**	**264**	*e*Pn		**Pn**	**14 06 07.2**	**+1.9**
ZIRJ				Sn		**Sn**	**14 06 44.2**	**+1.6**
ZIRJ	**Zirje**	**3.11**	**264**	Pn		**Pn**	**14 06 07.2**	**+1.9**
ZIRJ				Sn		**Sn**	**14 06 44.2**	**+1.6**
TIH	**Tihany**	**3.16**	**334**	Pn		**Pn**	**14 06 05.9**	**0.0**
	comp=Z,1.8nm,SNR=12							
KALN	**Kalnik**	**3.19**	**311**	*e*Pn		**Pn**	**14 06 05.5**	**-0.9**
KALN	**Kalnik**	**3.19**	**311**	Pn		**Pn**	**14 06 05.5**	**-0.9**
BEHE	**Becsehely**	**3.26**	**318**	*e*Pn		**Pn**	**14 06 08.9**	**+1.7**
BEHE				*e*Sn		**Sn**	**14 06 47.4**	**+1.2**
BEHE	**Becsehely**	**3.26**	**318**	Pn		**Pn**	**14 06 08.9**	**+1.7**
BEHE				Sn		**Sn**	**14 06 47.4**	**+1.2**
PTJ	**Puntijarka**	**3.34**	**305**	*e*Pn		**Pn**	**14 06 08.0**	**-0.5**
PTJ	**Puntijarka**	**3.34**	**305**	Pn		**Pn**	**14 06 08.0**	**-0.5**
DRGR		**3.36**	**35**	⇑P		**Pn**	**14 06 08.1**	**-0.6**
DRGR		**3.36**	**35**	Pn		**Pn**	**14 06 08.1**	**-0.6**
DRGR				Pg		Pb	14 06 08.2	-7.4
	comp=Z,0.1nm,SNR=2.9							
PLVB	**Pleven**	**3.49**	**100**	⇑P		**Pn**	**14 06 10.9**	**+0.6**
PLVB	**Pleven**	**3.49**	**100**	Pn		**Pn**	**14 06 10.9**	**+0.6**
DUGI	**Dugi Otok**	**3.50**	**270**	*e*Pn		**Pn**	**14 06 11.6**	**+1.1**
DUGI	**Dugi Otok**	**3.50**	**270**	Pn		**Pn**	**14 06 11.6**	**+1.1**
MPLH	**Magyarpolny**	**3.51**	**333**	Pn		**Pn**	**14 06 11.1**	**+0.4**
	comp=Z,0.4nm,SNR=14							
CRES	**Cresnjev**	**3.61**	**301**	*e*Pn		**Pn**	**14 06 12.4**	**+0.3**
CRES				*e*Sn		**Sn**	**14 06 55.4**	**+0.5**
CRES	**Cresnjev**	**3.61**	**301**	Pn		**Pn**	**14 06 12.4**	**+0.3**
CRES				Sn		**Sn**	**14 06 55.4**	**+0.5**
NVLJ	**Novalja**	**3.65**	**279**	*e*Pn		**Pn**	**14 06 13.7**	**+1.1**
NVLJ	**Novalja**	**3.65**	**279**	Pn		**Pn**	**14 06 13.7**	**+1.1**
PSZ	**Piszkesteto**	**3.84**	**360**	⇑P		**Pn**	**14 06 14.9**	**-0.5**
PSZ				⇓S		**Sn**	**14 06 59.1**	**-1.6**
PSZ	**Piszkesteto**	**3.84**	**360**	Pn		**Pn**	**14 06 14.9**	**-0.5**
PSZ				Sn		**Sn**	**14 06 59.1**	**-1.6**
VOIR		**3.91**	**68**	⇑P		**Pn**	**14 06 17.8**	**+1.6**
VOIR		**3.91**	**68**	Pn		**Pn**	**14 06 17.8**	**+1.6**
ARSA	**Arzberg**	**4.42**	**317**	*i* Pn		**Pn**	**14 06 23.4**	**+0.2**
	comp=Z,14nm,0.5s							
ARSA	**Arzberg**	**4.42**	**317**	Pn		**Pn**	**14 06 23.2**	**0.0**
	comp=Z,0.1nm,SNR=2.4							
ARSA				Pg		Pb	14 06 23.4	-10
	comp=Z,14nm,0.5s							
KECS	**Kecovo**	**4.43**	**5**	*e*PN		**Pn**	**14 06 24.1**	**+0.8**
KECS	**Kecovo**	**4.43**	**5**	Pn		**Pn**	**14 06 24.1**	**+0.8**
VYHS	**Vyhne**	**4.48**	**351**	*e*PN		**Pn**	**14 06 24.1**	**0.0**
VYHS				*e*SN		**Sn**	**14 07 16.8**	**+0.4**
VYHS	**Vyhne**	**4.48**	**351**	Pn		**Pn**	**14 06 24.1**	**0.0**
VYHS				Sn		**Sn**	**14 07 16.8**	**+0.4**
OBKA	**Obir**	**4.49**	**305**	*i* Pn		**Pn**	**14 06 25.3**	**+1.0**
	comp=Z,2.6nm,0.4s							
OBKA	**Obir**	**4.49**	**305**	Pn		**Pn**	**14 06 25.3**	**+1.0**
	comp=Z,2.6nm,0.4s							
MLR	**Muntele Rosu**	**4.53**	**70**	⇑P		**Pn**	**14 06 25.0**	**+0.2**
MLR	**Muntele Rosu**	**4.53**	**70**	Pn		**Pn**	**14 06 25.0**	**+0.2**
ZST	**Bratislava**	**4.56**	**336**	*e*PN		**Pn**	**14 06 25.5**	**+0.4**
ZST				*e*SN		**Sn**	**14 07 17.8**	**-0.4**
ZST	**Bratislava**	**4.56**	**336**	Pn		**Pn**	**14 06 25.5**	**+0.4**
ZST				Sn		**Sn**	**14 07 17.8**	**-0.4**
MODS	**Modra-Piesok**	**4.67**	**338**	*e*PN		**Pn**	**14 06 27.2**	**+0.5**
MODS				*e*SN		**Sn**	**14 07 17.5**	**-3.5**
MODS	**Modra-Piesok**	**4.67**	**338**	Pn		**Pn**	**14 06 27.2**	**+0.5**
MODS				Sn		**Sn**	**14 07 17.5**	**-3.5**
SMOL	**Smolenice**	**4.76**	**340**	*e*PN		**Pn**	**14 06 27.7**	**-0.2**
SMOL	**Smolenice**	**4.76**	**340**	Pn		**Pn**	**14 06 27.7**	**-0.2**
CONA	**Conrad Observa**	**4.77**	**325**	*e*Pn		**Pn**	**14 06 28.0**	**-0.1**
	comp=Z,3.7nm,0.3s							
CONA	**Conrad Observa**	**4.77**	**325**	Pn		**Pn**	**14 06 28.0**	**-0.1**
	comp=Z,3.7nm,0.3s							
KHC	**Kasperske Hory**	**6.67**	**321**	*e*PN		**Pn**	**14 06 55.1**	**+0.9**
KHC				*e*SG		**Sg**	**14 08 56.5**	**+6.5**
KHC	**Kasperske Hory**	**6.67**	**321**	Pn		**Pn**	**14 06 55.1**	**+0.9**
KHC				Lg		Lg	14 08 56.5	
FETA	**Feichten**	**7.08**	**298**	*i* Pn		**Pn**	**14 07 01.6**	**+1.7**
	comp=Z,1.6nm,0.4s							
FETA	**Feichten**	**7.08**	**298**	Pn		**Pn**	**14 07 01.6**	**+1.7**
	comp=Z,1.6nm,0.4s							

*ECX **23** 14:06:56.4±0.8, 31°.37N×114°.30W, h20km±16km, MD3.0, ML3.3*
*MEX **23** 14:06:56.8±0.5, 31°.30N×114°.23W, h5km, MD3.9*
ISC 23 14:06:55.5±1.1, 31°.30N±0°.08×114°.25W±0°.03, h22km±13km, n14, σ0°.83/20, 3C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.58**	**243**	*e*P	**Pb**	**14 07 06.9**	**-0.1**
SFX				*e*S	**Sb**	**14 07 15.4**	**+0.6**
PIX	**Pinacate**	**0.72**	**69**	*e*P	**Pb**	**14 07 09.2**	**-0.1**
PIX				*e*S	**Sb**	**14 07 19.6**	**+0.8**
PIX				IAML		14 07 20.6	
	comp=E,1μm,0.1s						
PIX				⇑*e*		14 07 20.6	
SPIG	**San Pedro Mart**	**1.07**	**256**	*e*P	**Pb**	**14 07 14.8**	**-0.8**
SPIG				*e*S	**Sn**	**14 07 29.8**	**-0.1**
SPIG	**San Pedro Mart**	**1.07**	**256**	*e*P	**Pb**	**14 07 14.4**	**-1.2**
SPX	**San Pedro Mart**	**1.08**	**256**	*e*P	**Pb**	**14 07 14.9**	**-0.7**
214A	**Organ Pipe Nat**	**1.39**	**62**	*e*P	**Pn**	**14 07 19.1**	**-0.5**
214A				*i* S	**Sn**	**14 07 35.5**	**-1.7**
CPBX	**Cerro Prieto**	**1.43**	**321**	IAML		14 08 24.2	
	comp=N,2μm,0.7s						
CPBX				⇑*e*		14 08 24.2	
CPBX				IAML		14 08 27.9	
	comp=E,1μm,1.1s						
CPBX				⇓*e*		14 08 27.9	
SQX	**San Quintin**	**1.58**	**243**	*e*P	**Pn**	**14 07 22.6**	**+0.6**
GLA	**Glamis**	**1.81**	**344**	*e*P	**Pn**	**14 07 25.7**	**+0.3**
CBX	**Cerro Bola**	**2.29**	**297**	*e*P	**Pn**	**14 07 31.4**	**-0.6**
CBX				IAML		14 08 20.9	
	comp=N,174nm,0.9s						
CBX				⇑*e*		14 08 20.9	
TJIG	**Tijuana**	**2.35**	**299**	*e*P	**Pn**	**14 07 33.1**	**+0.4**
TJIG				*e*S	**Sn**	**14 08 01.2**	**+0.2**
BAR	**Barrett**	**2.48**	**304**	*e*P	**Pn**	**14 07 35.2**	**+0.7**
TUC	**Tucson**	**3.11**	**70**	*i* P	**Pn**	**14 07 42.8**	**-0.5**
TUC				*e*S	**Sn**	**14 08 21.0**	**+1.1**
121A	**Cookes Peak, D**	**5.63**	**76**	*i* P	**Pn**	**14 08 17.9**	**-0.1**
121A				*i* S	**Sn**	**14 09 23.1**	**+1.0**

*SNET **23** 14:58:27.6±0.9, 13°.69N×91°.08W, h11km±6km, ML3.6*
*GCG **23** 14:58:28.0±0.6, 13°.94N×91°.25W, h1km±8km, MD3.8*
ISC 23 14:58:24.9±2.4, 13°.69N±0°.10×91°.19W±0°.09, h3km±18km, n17, σ0°.67/30, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.82**	**24**	*e*P	**Pb**	**14 58 42.2**	**+0.2**
ERG	**Entre ros, C**	**0.83**	**334**	*e*P	**Pg**	**14 58 41.4**	**+0.6**
ERG				*e*S	**Sg**	**14 58 49.9**	**-1.7**
PCG	**Pacaya**	**0.90**	**39**	*e*P	**Pb**	**14 58 44.0**	**+0.8**
NBG	**Las Nubes**	**1.21**	**42**	*e*P	**Pb**	**14 58 49.3**	**+0.7**
NBG				*e*S	**Sn**	**14 59 06.0**	**0.0**
RTR	**El Retiro**	**1.51**	**82**	*e*P	**Pn**	**14 58 53.1**	**+0.1**
RTR				*e*S	**Sn**	**14 59 13.0**	**-0.4**
CEVE	**Cerro Verde**	**1.53**	**85**	*e*P	**Pn**	**14 58 53.3**	**-0.1**
CEVE				*e*S	**Sn**	**14 59 14.0**	**+0.1**
CEVE				IAML		14 59 18.5	
	comp=Z,2μm,0.3s						
SBLS	**San Blas**	**1.53**	**84**	*e*P	**Pn**	**14 58 53.2**	**-0.2**
SBLS				*e*S	**Sn**	**14 59 13.2**	**-0.7**
SNJE	**San Jose**	**1.55**	**83**	*e*P	**Pn**	**14 58 53.5**	**-0.1**
JAYA	**Jayaque - finc**	**1.69**	**91**	*e*P	**Pn**	**14 58 55.3**	**-0.2**
JAYA				*e*S	**Sn**	**14 59 16.5**	**-1.3**
JAYA				IAML		14 59 19.5	
	comp=Z,2μm,0.2s						
TACO	**Tacachico**	**1.81**	**81**	*e*P	**Pn**	**14 58 56.7**	**-0.2**
TACO				IAML		14 59 24.1	
	comp=Z,161nm,0.4s						
PMON	**Piamonte**	**1.82**	**89**	*e*P	**Pn**	**14 58 57.4**	**+0.2**
PMON				*e*S	**Sn**	**14 59 20.3**	**-0.6**
LALI	**Alcalda de L**	**1.83**	**96**	*e*P	**Pn**	**14 58 57.7**	**+0.5**
LALI				*e*S	**Sn**	**14 59 19.9**	**-1.0**
BOQS	**Boqueron**	**1.86**	**88**	*e*P	**Pn**	**14 58 58.0**	**+0.1**
BOQS				*e*S	**Sn**	**14 59 22.2**	**+0.2**
MTO3	**Montecristo**	**1.91**	**68**	*e*P	**Pn**	**14 58 58.5**	**-0.1**
MTO3				*e*S	**Sn**	**14 59 24.1**	**+0.9**
MRL	**Marmol**	**2.01**	**46**	*e*P	**Pn**	**14 59 00.1**	**+0.2**
MRL				*e*S	**Sg**	**14 59 28.7**	**-0.9**
LFRS	**El Faro**	**2.07**	**92**	*e*P	**Pn**	**14 59 01.3**	**+0.6**
LFRS				*e*S	**Sn**	**14 59 26.1**	**-0.9**
COEG	**Centro de Oper**	**2.25**	**92**	*e*P	**Pn**	**14 59 03.2**	**+0.1**
COEG				*e*S	**Sn**	**14 59 31.0**	**-0.3**
COEG				IAML		14 59 40.1	
	comp=Z,372nm,0.3s						

INET 23 15:07:22.0, 10°.09N×83°.50W, h14km, MW3.6, Costa Rica

*IDC **23** 15:10:59.0±4.9, 9°.06S×124°.13E, h79km±60km, mb3.6/3, mb1 4.0/6, mb1mx3.5/30, mbtmp4.2/6, ML4.4/3, Error ellipse: s-maj=70.4km s-min=30.0km az=37.0*
*NEIC **23** 15:11:00.5±1.6, 9°.13S±0°.07×123°.66E±0°.07, h93km±10km, mb4.1/7, Error ellipse: s-maj=11.0km s-min=9.1km az=56.0*
*DJA **23** 15:11:02.3±3.5, 9°.S±6°×12°.3E±°, h23km±42km, M4.1/9, mb4.3/5, mB5.3/1, MLv4.0/9, Mw(mB)4.7/1*
ISC 23 15:11:00.3±0.7, 9°.20S±0°.06×123°.64E±0°.08, h86km, n35, σ1°.54/32, mb4.0/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.83**	**132**		**Pn**	**15 11 19.2**	**+1.2**
SOEI	**Soe**	**0.83**	**132**	P	**Pn**	**15 11 19.5**	**+1.5**
BATI	**Baumata**	**1.00**	**179**	P	**Pn**	**15 11 21.1**	**+1.3**
	baz=62,slow=6.0						
BATI				S	**Sn**	**15 11 37.3**	**+2.9**
	549nm,0.3s,baz=143,slow=21,SNR=13						
BATI				LR	LR	15 12 06.9	
	comp=Z,244nm,21.6s,baz=1.5,slow=55						
BATI	**Baumata**	**1.00**	**179**	P	**Pn**	**15 11 21.1**	**+1.3**
MMRI	**Maumere**	**1.49**	**292**		**Pn**	**15 11 25.8**	**+0.1**
MMRI	**Maumere**	**1.49**	**292**	P	**Pn**	**15 11 26.1**	**+0.4**
EDFI	**Ende, Flores**	**1.97**	**283**	P	**Pn**	**15 11 32.4**	**+0.3**
BASI	**Baing, Sumba**	**3.18**	**251**	P	**Pn**	**15 11 49.4**	**+1.2**
BKSI	**Bulukumba**	**5.19**	**318**	P	**Pn**	**15 12 17.2**	**+1.7**
	0.1nm24nm,1.0s						
KAPI	**Kappang**	**5.67**	**317**	Pn	**Pn**	**15 12 21.6**	**-0.4**
PLAI	**Plampang**	**5.80**	**273**	P	**Pn**	**15 12 24.3**	**+0.5**
	0.2nm52nm,0.8s						
BNSI	**Bone**	**5.91**	**323**	P	**Pn**	**15 12 27.6**	**+2.2**
	0.1nm16nm,1.2s						
TWSI	**Taliwang, Sumb**	**6.69**	**273**	P	**Pn**	**15 12 36.9**	**+1.0**
NLAI	**Namlea**	**6.84**	**30**	P	**Pn**	**15 12 43.0**	**+4.9**
	0.2nm2μm

KAPI S **Sn** **15 51 19.7 +2.7**
16nm,0.3s,baz=190,slow=21,SNR=7.3
KAPI LR LR 15 53 07.0
comp=Z,4μm,21.6s,baz=61,slow=40
KAPI Kappang 7.62 222 P **Pn** **15 49 53.7 +1.6**
KAPI 15 51 19.7
KAPI Kappang 7.62 222 Pn **Pn** **15 49 53.6 +1.6**
CGP Cagayan de Oro 7.75 359ǁ *eP* Pn 15 49 59.4 +5.5
MYLDM Lahad Datu 7.80 305 Pn **Pn** **15 49 56.5 +1.8**
FAKI Fak Fak 8.17 116 Pn **Pn** **15 49 59.4 -0.3**
FAKI Fak Fak 8.17 116 P **Pn** **15 49 59.4 -0.3**
BUTP Butuan 8.29 5 *eP* Pn 15 50 06.3 +4.9
GLSP General Luna, 9.15 8 *eP* **Pn** **15 50 16.3 +3.1**
SPMM Sapulut 9.32 296 P **Pn** **15 50 19.0 +3.5**
CNOP Candoni, Negro 9.38 346 *eP* **Pn** **15 50 19.7 +3.4**
MSLP Maasin 9.42 360 *eP* **Pn** **15 50 20.9 +4.1**
MMRI Maumere 9.60 196 Pn **Pn** **15 50 20.9 +1.7**
KKM Kota Kinabalu 10.18 302 Pn **Pn** **15 50 27.8 +0.6**
SOEI Soe 10.36 183 Pn **Pn** **15 50 28.6 -1.1**
BATP Bataraza 10.73 319 *eP* **Pn** **15 50 38.2 +3.4**
CUYO Cuyo Island 10.84 339 *eP* **Pn** **15 50 40.5 +4.4**
BATI Baumata 10.86 186 P **Pn** **15 50 36.5 0.0**
0.6nm,0.3s,baz=53,slow=1.4,SNR=3.2
BATI LR LR 15 55 05.4
comp=Z,3μm,21.6s,baz=342,slow=39
I39PW PALAU INFRASON11.81 54 *i* 16 58 50.0
baz=237,slow=302,SNR=1.1
BUSP Coron 12.20 338 *eP* **Pn** **15 50 55.5 +0.8**
SJMP San Jose 12.31 342 *eP* **Pn** **15 51 00.5 +4.2**
SBUM Sibu 12.79 278 Pn **Pn** **15 51 04.0 +1.2**
SBUM Sibu 12.79 278 P **Pn** **15 51 06.0 +3.2**
LQP Lukban 13.78 346ǁ *iP* **P** **15 51 21.9 -1.4**
TGY Tagaytay City 13.92 344 P **P** **15 51 23.8 -1.1**
11nm,0.3s,baz=200,slow=4.3,SNR=17
TGY LR LR 15 57 58.8
comp=Z,2μm,18.7s,baz=126,slow=43
JAGI Jajag, Banyuwa 14.02 230 Pn **Pn** **15 51 20.9 +1.3**
MACP Maragondon, Ca 14.14 343 *eP* **P** **15 51 25.8 -1.4**
KSM Kuching 14.60 273 Pn **Pn** **15 51 27.1 -0.1**
KSM Kuching 14.60 273 P **P** **15 51 35.0 +2.7**
KDU Kakadu 15.24 151 P **Pn** **15 51 34.3 -1.2**
baz=15,SNR=14
SMPP San Manuel, Pa 15.95 345 *eP* **P** **15 51 46.5 -0.8**
JAY Jayapura 16.12 101 P **P** **15 51 48.9 -0.4**
0.7nm,0.3s,baz=139,slow=4.8,SNR=4.1
SMRI Semarang 16.32 242 **P** **15 51 51.5 +0.1**
SMRI IAmb IAmb 15 51 53.3
comp=Z,109nm,0.9s
KNRA Kununurra 16.67 167 Pn **Pn** **15 51 53.2 -0.4**
SZP Santa 17.35 346 **P** **15 52 03.7 +1.0**
SZP IAmb IAmb 15 52 22.4
comp=Z,104nm,0.9s
APYP Conner 17.47 348 *eP* **P** **15 52 06.3 +2.2**
FITZ Fitzroy Crossi 18.65 178 P **Pn** **15 52 17.8 -0.2**
comp=Z,1.7nm,0.3s,baz=14,slow=9.1,SNR=64
FITZ LR LR 16 00 44.8
comp=Z,318nm,18.8s,baz=350,slow=41
FITZ Fitzroy Crossi 18.65 178 P **P** **15 52 17.0 0.0**
baz=18,SNR=38
FITZ Fitzroy Crossi 18.65 178 P **P** **15 52 16.4 -0.7**
FITZ IAmb IAmb 15 52 19.4
comp=Z,76nm,0.9s
LEM Lembang 18.76 246 P **P** **15 52 18.5 -0.1**
comp=Z,3.3nm,0.3s,baz=35,slow=8.3,SNR=18
LEM LR LR 16 00 17.6
comp=Z,704nm,19.4s,baz=52,slow=39
CISI Cisompet, Garu 18.88 244 P **P** **15 52 17.4 -2.3**
CISI IAmb IAmb 15 52 23.0
comp=Z,108nm,0.9s
DLV T Lat 19.76 305 P **P** **15 52 28.5 -1.1**
DLV IAmb IAmb 15 52 49.5
comp=Z,92nm,1.0s
MYKOM Kota Tinggi 21.06 273 P **P** **15 52 44.1 +0.7**
MYKOM IAmb IAmb 15 52 60.0
comp=Z,69nm,1.0s
MYKOM Kota Tinggi 21.06 273 P **P** **15 52 46.0 +2.6**
WB0 Warramunga Arr 22.33 156 P **P** **15 52 55.1 -1.9**
WRAB Tennant Creek 22.46 156 *c iP* **P** **15 52 57.2 -1.2**
WRAB pmax pmax
comp=Z,222nm,0.9s
WRAB Tennant Creek 22.46 156 P **P** **15 52 56.4 -2.1**
WRA Warramunga Arr 22.47 156 P **P** **15 52 57.4 -1.1**
comp=Z,185nm,0.9s,baz=334,slow=9.9,SNR=120
WRA LR LR 16 03 04.7
comp=Z,134nm,18.7s,baz=290,slow=40
WRA Warramunga Arr 22.47 156 P **P** **15 52 56.1 -2.4**
WB2 Warramunga Arr 22.47 156 P **P** **15 52 57.0 -1.5**
WC3 Warramunga Arr 22.50 156 P **P** **15 52 57.9 -0.8**
baz=22
WR0 Warramunga Arr 22.57 156 P **P** **15 52 58.0 -1.5**
JRMM Jerantut 22.62 279 P **P** **15 53 02.0 +1.9**
MANU Manus Island 22.64 97 P **P** **15 52 59.3 -1.1**
YUJI Yu-li 22.87 351 P **P** **15 53 01.8 -0.9**
TPUB Ta-pu 22.89 350 P **P** **15 53 01.2 -1.6**
TPUB IAmb IAmb 15 53 13.1
comp=Z,86nm,1.0s
COEN Coen 23.21 129 P **P** **15 53 05.1 -1.1**
SSLB Suanglung 23.31 351 P **P** **15 53 06.4 -0.6**
SSLB IAmb IAmb 15 53 24.7
comp=Z,61nm,1.1s
QIZ Qiongzhong 23.48 322 P **P** **15 53 07.5 -1.1**
QIZ S **S** **15 57 18.0 -0.3**
QIZ LR LR
comp=Z,570nm,13.0s
QIZ LR LR
comp=Z,520nm,16.5s
GUMO Guam 23.59 56 P **P** **15 53 09.4 -0.3**
GUMO pmax pmax
comp=Z,168nm,0.9s
GUMO Guam 23.59 56 P **P** **15 53 09.4 -0.3**
GUMO Guam 23.59 56 P **P** **15 53 11.2 +1.5**
UBPT Khong Chiam 24.06 308 P **P** **15 53 16.3 +2.4**
comp=Z,343nmcomp=Z,22nm,1.1s
UBPT Khong Chiam 24.06 308 P **P** **15 53 13.3 -0.7**
UBPT IAmb IAmb 15 53 28.8
comp=Z,46nm,1.1s
YHNB Yeheng 24.12 352 P **P** **15 53 15.0 +0.5**
YHNB IAmb IAmb 15 53 15.2
comp=Z,88nm,1.3s
IPM Ipoh 24.13 279 P **P** **15 53 15.2 +0.5**
IPM IAmb IAmb 15 53 33.1
comp=Z,60nm,1.3s
IPM Ipoh 24.13 279 P **P** **15 53 16.0 +1.3**
PMG Port Moresby 24.33 115 P **P** **15 53 17.2 +0.8**
comp=Z,10.0nm,0.8s,baz=272,slow=10.0,SNR=4.9
PMG Port Moresby 24.33 115 *c iP* **P** **15 53 16.2 -0.2**
PMG pmax pmax
comp=Z,13nm,1.0s
PMG Port Moresby 24.33 115 P **P** **15 53 15.7 -0.8**
PMG Port Moresby 24.33 115 P **P** **15 53 17.5 +1.1**
KULM Kulim 24.63 281 P **P** **15 53 18.8 -0.5**
KULM Kulim 24.63 281 P **P** **15 53 20.0 +0.8**
GIRL Giralia 25.37 203 P **P** **15 53 26.8 +1.0**
baz=25,SNR=8.5
GIRL Giralia 25.37 203 P **P** **15 53 26.0 +0.1**
QIS Mount Isa 25.54 146 P **P** **15 53 28.1 +0.8**
baz=25,SNR=44
AS31 Alice Springs 25.71 161 P **P** **15 53 28.8 -0.2**
ASPA Alice Springs 25.71 161 P **P** **15 53 30.1 +1.1**
baz=26
ASAR Alice Springs 25.71 161 P **P** **15 53 29.6 +0.6**
comp=Z,94nm,1.0s,baz=338,slow=6.6,SNR=358
ASAR PcP **PcP** **15 56 59.2 +1.0**
comp=Z,9.4nm,0.8s,baz=344,slow=1.8,SNR=9.7
ASAR pPcP 15 57 12.3
comp=Z,4.8nm,0.5s,baz=348,slow=2.3,SNR=8.6
ASAR ScP **ScP** **16 00 34.1 +0.9**
comp=Z,4.0nm,0.8s,baz=342,slow=2.4,SNR=12
ASAR LR LR 16 05 28.7
comp=Z,198nm,20.2s,baz=328,slow=41
ASAR Alice Springs 25.71 161 P **P** **15 53 28.8 -0.2**
ASAR **PcP** **15 56 58.9 +0.6**
WRKA Warakurna 25.75 173 P **P** **15 53 29.5 +0.2**
baz=26,SNR=33
JMZ Minamidaito 2 25.75 13 P **P** **15 53 29.9 +0.6**
JMZ IAmb IAmb 15 53 49.0
comp=Z,120nm,1.0s
ANA2 Anatahan 25.78 52 P **P** **15 53 28.1 -1.5**
RPSI Rantau Prapat 26.03 275 P **P** **15 53 31.8 -0.2**
RPSI **ScP** **16 00 34.5 +0.2**
PSI Prapat 26.04 275 P **P** **15 53 31.8 -0.4**
comp=Z,12nm,0.9s,baz=179,slow=3.4,SNR=8.1
PSI pP **pP** **15 53 44.8 -1.3**
comp=Z,14nm,0.9s,baz=1.4,slow=1.8,SNR=4.4
PSI ScP **ScP** **16 00 34.5 0.0**
comp=Z,3.5nm,0.4s,baz=179,slow=6.2,SNR=5.2
PSI LR LR 16 04 57.8
comp=Z,610nm,21.4s,baz=90,slow=39
TRTT Trang 26.10 287 P **P** **15 53 33.0 +0.4**
comp=Z,35nm,1.3s
JOW Kunigami 26.23 7 P **P** **15 53 34.5 +0.9**
comp=Z,70nm,0.8s,baz=206,slow=8.3,SNR=7.9
JOW LR LR 16 03 27.2
comp=Z,816nm,21.4s,baz=184,slow=35
JOW Kunigami 26.23 7 P **P** **15 53 32.9 -0.7**
JOW IAmb IAmb 15 53 45.9
comp=Z,85nm,0.8s
MTSU Mount Surprise 26.72 135 P **P** **15 53 39.6 +1.5**
baz=27,SNR=12
KHON Khomkaen 26.76 307 P **P** **15 53 42.1 +3.7**
comp=Z,97nm,0.9s
CHAI Chaiyaphum 27.20 305 P **P** **15 53 46.0 +3.5**
comp=Z,395nmcomp=Z,46nm,0.9s
GSI Gunungsitoli 27.31 272 P **P** **15 53 41.5 -2.0**
NONG Nongkai 27.49 310 P **P** **15 53 46.9 +1.9**
comp=Z,56nm,1.1s
SLVN Son La 29.01 317 P **P** **15 53 56.2 -2.4**
UTHA Uthaitani 29.15 302 P **P** **15 54 04.6 +4.8**
comp=Z,250nmcomp=Z,23nm,1.0s
CTA Charters Tower 29.38 136 P **P** **15 54 02.4 +0.5**
comp=Z,4.7nm,0.8s,baz=333,slow=7.8,SNR=6.0
CTAO Charters Tower 29.38 136 P **P** **15 54 01.0 -0.9**
CTAO pmax pmax
comp=Z,13nm,1.1s
CTAO Charters Tower 29.38 136 P **P** **15 54 01.0 -0.9**
SUKH Sukhothai 29.95 305 P **P** **15 54 11.1 +4.2**
comp=Z,208nmcomp=Z,31nm,0.9s
SSE Sheshan 30.48 354 P **P** **15 54 12.1 +0.7**
SSE pmax pmax
comp=Z,11nm,0.7s
SSE pmax pmax
comp=Z,130nm,4.2s
SSE LR LR
comp=Z,260nm,19.2s
SSE LR LR
comp=Z,190nm,12.7s
MORW Morawa 30.74 195 P **P** **15 54 13.5 -0.3**
baz=31,SNR=12
MORW Morawa 30.74 195 P **P** **15 54 13.1 -0.7**
MORW IAmb IAmb 15 54 14.6
comp=Z,71nm,0.9s
CM09 Chiang Mai Arr 30.97 306 P P 15 54 22.0 +6.1
comp=Z,76nmcomp=Z,9.1nm,1.2s
CMAR Chiang Mai Arr 31.01 306 P **P** **15 54 17.2 +0.9**
comp=Z,2.4nm,1.0s,baz=140,slow=8.4,SNR=9.9
CMAR pP **pP** **15 54 29.6 -0.8**
comp=Z,8.0nm,1.1s,baz=133,slow=7.2,SNR=11
CMAR PcP **PcP** **15 57 13.0 +1.6**
comp=Z,2.9nm,0.8s,baz=175,slow=1.4,SNR=9.0
CMAR pPcP 15 57 26.2
comp=Z,2.3nm,0.9s,baz=154,slow=2.7,SNR=4.7
CMAR ScP **ScP** **16 00 50.2 +0.5**
comp=Z,2.0nm,0.9s,baz=155,slow=2.3,SNR=10
CMAR LR LR 16 06 14.2
comp=Z,180nm,21.4s,baz=160,slow=35
CMAR Chiang Mai Arr 31.01 306 P **P** **15 54 15.5 -0.8**
CMAR **PcP** **15 57 11.2 -0.2**
GYA Guiyang 31.08 327ǁ P P 15 54 31.1 +14
GYA pmax pmax
comp=Z,15nm,1.2s
JCJ Chichijima 31.10 31 LR LR 16 05 10.8
comp=Z,167nm,20.3s,baz=270,slow=33
JCJ Chichijima 31.10 31 P **P** **15 54 15.4 -1.5**
CHTO Chiang Mai 31.20 307 P **P** **15 54 16.5 -1.5**
CHTO pmax pmax
comp=Z,14nm,1.0s
CHTO Chiang Mai 31.20 307 P **P** **15 54 16.5 -1.5**
FORT Forrest 31.40 175 P **P** **15 54 20.1 +0.5**
baz=31,SNR=6.4
FORT Forrest 31.40 175 P **P** **15 54 18.8 -0.7**
MHMT Maesarieng 31.69 305 P **P** **15 54 26.0 +3.7**
NJ2 Nanjing 31.75 350 *eP* **P** **15 54 24.0 +1.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.7s
KMBL Kambalda 31.97 185 P **P** **15 54 24.5 -0.1**
baz=32,SNR=11
BLDU Ballidu 32.05 193 P **P** **15 54 24.9 -0.4**
baz=32,SNR=25
KMI Kunming 32.40 320ǁ P P 15 54 35.1 +6.4
KMI pP sP 15 54 48.6 -0.6
KMI sP pP 15 54 54.8 +12
KMI PP **PP** **15 55 41.0 -1.7**
KMI S **S** **15 59 38.6 -0.9**
KMI pmax pmax
comp=Z,16nm,1.6s
KMI pmax pmax
comp=Z,140nm,4.1s
KMI LR LR
comp=Z,210nm,20.6s
KMI LR LR
comp=Z,400nm,15.2s
KMI LR LR
comp=Z,460nm,19.1s
KLBR Kellerberrin 32.77 191 P **P** **15 54 31.5 -0.1**
baz=33,SNR=10
JNU Nakatsue 32.79 9 LR LR 16 06 47.3
comp=Z,446nm,21.8s,baz=184,slow=34
QLP Quilpie 32.88 147 P **P** **15 54 33.3 +0.7**
baz=33,SNR=5.6
MUN Mundaring 33.48 193 P **P** **15 54 37.5 -0.3**
baz=33,SNR=4.8
PATS Pohnpei 33.90 79 P **P** **15 54 40.8 -0.9**
NWAO Narrogin (SRO) 34.17 192 P **P** **15 54 43.3 -0.4**
comp=Z,30nm,0.9s,baz=32,slow=9.4,SNR=8.0
NWAO Narrogin (SRO) 34.17 192 P **P** **15 54 43.8 +0.1**
baz=34,SNR=6.6
NWAO Narrogin (SRO) 34.17 192 P **P** **15 54 42.7 -1.0**
NWAO Narrogin (SRO) 34.17 192 P **P** **15 54 42.7 -1.0**
NWAO IAmb IAmb 15 54 44.9
comp=Z,65nm,1.2s
BBOO Buckleboo 34.91 163 P **P** **15 54 50.9 +0.7**
baz=35,SNR=8.8
BBOO Buckleboo 34.91 163 P **P** **15 54 49.5 -0.7**
JHJ Hachijo jima 2 35.20 22 LR LR 16 08 02.3
comp=Z,275nm,21.0s,baz=125,slow=34
RMQ Roma 35.46 141 P **P** **15 54 55.9 +0.9**
baz=35,SNR=7.8
JWT Wachi 35.82 15 P **P** **15 54 58.7 +0.8**
JWT IAmb IAmb 15 55 02.7
comp=Z,42nm,0.9s
STKA Stephens Creek 36.02 155 P **P** **15 54 59.4 -0.3**
comp=Z,30nm,0.8s,baz=326,slow=8.9,SNR=40
STKA LR LR 16 11 52.2
comp=Z,168nm,18.5s,baz=349,slow=40
STKA Stephens Creek 36.02 155 P **P** **15 55 00.7 +1.0**
baz=36,SNR=18
STKA Stephens Creek 36.02 155 *c iP* **P** **15 55 00.0 +0.4**
STKA Stephens Creek 36.02 155 P **P** **15 55 00.1 +0.5**
CD2 Chengdu 36.15 328 P **P** **15 55 01.3 +0.4**
CD2 S **S** **16 00 36.1 -0.8**
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 pmax pmax
comp=Z,180nm,8.8s
CD2 LR LR
comp=Z,750nm,18.0s
CD2 LR LR
comp=Z,570nm,13.9s
CD2 LR LR
comp=Z,780nm,16.7s
HNR Honiara 36.32 107 LR LR 16 10 36.9
comp=Z,244nm,21.8s,baz=265,slow=37
HNR Honiara 36.32 107 P **P** **15 55 03.1 +0.6**
HNR pmax pmax
comp=Z,41nm,0.7s
HNR Honiara 36.32 107 P **P** **15 55 03.1 +0.6**
INU Inuyama 36.32 17 P **P** **15 55 03.0 +0.8**
INU IAmb IAmb 15 55 04.3
comp=Z,37nm,0.9s
HTT Hallett 36.39 160 P **P** **15 55 04.3 +1.4**
baz=36,SNR=12
XAN Xi'an 36.43 337 P **P** **15 55 04.1 +0.9**
XAN pP sP 15 55 21.4 -2.5
XAN sP pP 15 55 31.3 +14
XAN PP **PnPn** **15 56 32.4 +5.3**
XAN S **S** **16 00 41.8 +0.8**
XAN sS ScP 16 01 12.9 +4.4
XAN SS **SS** **16 03 13.8 -8.2**
XAN ScS **ScS** **16 05 10.3 -4.7**
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN pmax pmax
comp=Z,130nm,4.6s
XAN LR LR
comp=Z,550nm,13.3s
XAN LR LR
comp=Z,340nm,15.2s
XAN LR LR
comp=Z,780nm,17.1s
XAN Xi'an 36.43 337 P **P** **15 55 03.2 0.0**
XAN pmax pmax
comp=Z,17nm,1.0s
XAN Xi'an 36.43 337 P **P** **15 55 03.2 0.0**
XAN IAmb IAmb 15 55 17.1
comp=Z,17nm,1.0s
JGF Kuroka 36.66 17 P **P** **15 55 05.8 +0.7**
KSAR Wonju Array Be 36.71 4 P **P** **15 55 06.6 +1.1**
KSAR Wonju Array Be 36.71 4 P **P** **15 55 06.6 +1.1**
KSRS Korea Array 36.73 4 P **P** **15 55 06.0 +0.4**
comp=Z,5.7nm,0.7s,baz=176,slow=9.8,SNR=19
KSRS PcP **PcP** **15 57 28.3 +1.1**
comp=Z,1.8nm,0.8s,baz=174,slow=2.2,SNR=3.7
KSRS pPcP 15 57 39.8
comp=Z,1.8nm,0.7s,baz=184,slow=3.3,SNR=4.5
KSRS ScP **ScP** **16 01 10.8 +1.3**
comp=Z,5.9nm,0.9s,baz=194,slow=3.6,SNR=14
KSRS LR LR 16 10 08.2
comp=Z,410nm,21.1s,baz=187,slow=36
KS19 Wonju Array Si 36.77 4 P **P** **15 55 07.2 +1.3**
KS19 IAmb IAmb 15 55 25.0
comp=Z,50nm,1.5s
CMSA Cobar Meteorol 37.61 150 P **P** **15 55 14.4 +1.2**
baz=38,SNR=29
MAJO Matsushiro 37.78 18 P **P** **15 55 14.4 -0.2**
MAJO pmax pmax
comp=Z,36nm,0.9s
MAJO Matsushiro 37.78 18 P **P** **15 55 14.4 -0.2**
MAJO IAmb IAmb 15 55 15.8
comp=Z,36nm,0.8s
MAT Matsushiro 37.78 18 P **P** **15 55 14.6 0.0**
MAT *e*S **S** **16 00 57.2 -4.4**
MJAR Matsushiro Arr 37.78 18 P **P** **15 55 15.0 +0.4**
comp=Z,30nm,0.8s,baz=193,slow=9.0,SNR=46
MJAR ScP **ScP** **16 01 14.3 +0.8**
comp=Z,7.5nm,1.1s,baz=221,slow=5.7,SNR=5.7
MJAR LR LR 16 09 13.1
comp=Z,399nm,21.8s,baz=315,slow=34
MJAR Matsushiro Arr 37.78 18 P **P** **15 55 15.0 +0.4**
MJAR Matsushiro Arr 37.78 18 P **P** **15 55 13.9 -0.7**
MJAR IAmb IAmb 15 55 25.0
comp=Z,13nm,0.8s
MJB9 Matsu-Tunnel 37.79 18 P **P** **15 55 14.5 -0.2**
MJB9 IAmb IAmb 15 55 15.8
comp=Z,38nm,0.9s
SAIH SAIHA 37.87 307 *eP* **P** **15 55 15.9 +0.2**
SAIH IAmb IAmb 15 55 21.5
comp=Z,12nm,0.8s
JYT Yasato 38.14 20 P **P** **15 55 17.1 -0.5**
JYT IAmb IAmb 15 55 19.4
comp=Z,41nm,1.1s
DL2 Dalian 38.19 356 P P 15 55 24.5 +6.6
DL2 pP sP 15 55 42.4 +3.8
DL2 S S 16 01 18.3 +11
DL2 pmax pmax
comp=Z,23nm,1.2s
DL2 LR LR
comp=N,480nm,18.2s
DL2 LR LR
comp=E,310nm,20.6s
DL2 LR LR
comp=Z,420nm,18.1s
KOHI KOHIMA 38.75 312 *eP* **P** **15 55 23.2 +0.1**
MOKO MOKOCHONG 38.80 314 *eP* **P** **15 55 22.9 -0.6**
MOKO IAmb IAmb 15 55 30.9
JMM Marumori 39.83 20 P **P** **15 55 32.2 +0.5**
ZIRO ZIRO 40.00 315 *eP* **P** **15 55 34.6 +1.1**
BJI Beijing 40.00 350 P **P** **15 55 34.1 +1.1**
BJI pmax pmax
comp=Z,5.0nm,0.8s
ARMA Armidale 40.03 143 P **P** **15 55 35.3 +1.6**
baz=40,SNR=10
ARMA Armidale 40.03 143 P **P** **15 55 34.8 +1.2**
ARMA IAmb IAmb 15 55 35.9
comp=Z,21nm,0.8s
LZH Lanzhou 40.31 333 *eP* **P** **15 55 38.9 +3.0**
LZH pP sP 15 55 55.8 -1.1
LZH sP pP 15 56 05.8 +15
LZH S **S** **16 01 40.0 +0.2**
LZH sS sS 16 02 12.3 +9.1
LZH SS **SS** **16 04 42.3 +2.0**
LZH pmax pmax
comp=Z,29nm,1.3s
LZH pmax pmax
comp=Z,130nm,4.6s
LZH LR LR
comp=Z,470nm,14.3s
LZH LR LR
comp=Z,540nm,14.1s
LZH LR LR
comp=Z,490nm,16.3s
SHL Shillong 40.33 311 P **P** **15 55 36.9 +0.6**
SHL pmax pmax
comp=Z,49nm,1.1s
SHL Shillong 40.33 311 P **P** **15 55 36.9 +0.6**
SHL IAmb IAmb 15 55 50.9
comp=Z,49nm,1.1s
ARPS Mount Arapiles 40.42 159 P **P** **15 55 38.0 +1.4**
baz=40,SNR=13
YNG Young 41.17 150 P **P** **15 55 45.0 +2.1**
baz=41,SNR=6.8
HHC Hu-ho-hao-te 41.80 345 *eP* **P** **15 55 47.1 -0.9**
HHC PP **PP** **15 57 27.3 +1.7**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.0s
HHC LR LR
comp=Z,350nm,13.8s
HHC LR LR
comp=Z,260nm,13.9s
HHC LR LR
comp=Z,280nm,15.0s
MSHR Mys Shultsa 42.12 7 *i* P **P** **15 55 49.3 -1.1**
CAN Canberra 42.28 150 P **P** **15 55 53.6 +1.6**
CAN pmax pmax
comp=Z,81nm,1.1s
CAN Canberra 42.28 150 P **P** **15 55 53.5 +1.6**
CAN IAmb IAmb 15 55 55.4
comp=Z,81nm,1.1s
TOO Toolangi 42.54 156 P **P** **15 55 56.0 +2.0**
baz=42,SNR=6.3
TOO Toolangi 42.54 156 P **P** **15 55 55.0 +1.0**
TOO pmax pmax
comp=Z,90nm,1.3s
TOO Toolangi 42.54 156 P **P** **15 55 55.0 +1.0**
TOO IAmb IAmb 15 55 57.5
comp=Z,90nm,1.2s
JTM Tenmabayashi 42.56 18 P **P** **15 55 55.3 +1.2**
JTM IAmb IAmb 15 55 56.7
comp=Z,56nm,0.7s
LSA Lhasa 43.19 315 P **P** **15 56 02.1 +2.2**
LSA pmax pmax
comp=Z,23nm,0.6s
LSA Lhasa 43.19 315 P **P** **15 56 00.2 +0.3**
LSA pmax pmax
comp=Z,25nm,1.5s
LSA Lhasa 43.19 315 P **P** **15 56 00.2 +0.3**
USA0B Ussuriysk Arra 43.82 7 P **P** **15 56 04.4 +0.3**
USA0B pmax pmax
comp=Z,24nm,1.1s
USA0B Ussuriysk Arra 43.82 7 P **P** **15 56 04.4 +0.3**
USA0B IAmb IAmb 15 56 18.4
comp=Z,24nm,1.1s
USRK Ussuriysk Ar. 43.82 7 P **P** **15 56 05.3 +1.1**
comp=Z,8.7nm,0.8s,baz=196,slow=7.5,SNR=12
USRK ScP **ScP** **16 01 37.4 +0.3**
comp=Z,5.1nm,0.9s,baz=213,slow=2.3,SNR=6.6
USRK LR LR 16 13 27.3
comp=Z,175nm,21.5s,baz=176,slow=35
USRK Ussuriysk Ar. 43.82 7 P **P** **15 56 04.6 +0.4**
MDJ Mudanjiang 43.97 5 P **P** **15 56 06.8 +1.4**
MDJ pP sP 15 56 24.0 -2.3
MDJ sP pP 15 56 32.3 +12
MDJ PP **PcP** **15 57 50.3 -0.1**
MDJ pmax pmax
comp=Z,28nm,0.8s

MDJ pmax pmax
comp=Z,740nm,4.3s
MDJ LR LR
comp=Z,910nm,4.6s
MDJ LR LR
comp=Z,210nm,4.6s
MDJ LR LR
comp=Z,790nm,27.8s
MDJ Mudanjiang 43.97 5 P **P** **15 56 05.7 +0.2**
MDJ lAmb lAmb 15 56 17.1
comp=Z,38nm,0.9s
TAPN Taplejung 44.45 310 *e*P **P** **15 56 10.2 +0.3**
comp=Z,16nm,0.8s
PALK Pallekele 44.54 280 P **P** **15 56 11.0 +0.5**
comp=Z,4.0nm,0.8s,baz=230,slow=7.5,SNR=3.6
PALK Pallekele 44.54 280 P **P** **15 56 11.0 +0.5**
PALK Pallekele 44.54 280 P **P** **15 56 09.4 -1.1**
JEW Eniwo 44.55 17 P **P** **15 56 10.4 +0.4**
SANVU Saraoutou 44.77 113 P **P** **15 56 11.8 -0.3**
SANVU Saraoutou 44.77 113 P **P** **15 56 14.3 +2.1**
GTA Gaotai 44.86 332 ⇑P **P** **15 56 15.4 +2.6**
GTA ScP **ScP** **16 01 42.4 +0.8**
GTA ScS **ScS** **16 06 03.3 -2.2**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,57nm,5.3s
GTA LR LR
comp=Z,260nm,18.9s
GTA LR LR
comp=Z,430nm,19.6s
GTA LR LR
comp=Z,600nm,18.2s
RAMN Ramite 45.11 309 *e*P **P** **15 56 15.8 +0.7**
comp=Z,28nm,0.8s
TEY Ternei 45.40 12 *e*P P 15 56 23.4 +6.7
ASAJ Asahikawa 46.06 18 LR LR 16 14 13.8
comp=Z,390nm,21.9s,baz=188,slow=34
ASAJ Asahikawa 46.06 18 P **P** **15 56 23.6 +1.6**
ASAJ pmax pmax
comp=Z,137nm,1.5s
JKA Kamikawa-asahi 46.06 18 P **P** **15 56 23.6 +1.6**
GUN Gumba 46.14 309 *e*P **P** **15 56 24.1 +0.8**
comp=Z,25nm,0.7s
PKI Pulchoki 46.34 309 *e*P **P** **15 56 25.8 +0.9**
comp=Z,12nm,0.9s
DZM Mont Dzumac 46.38 122 *e*P **P** **15 56 24.8 -0.2**
comp=Z,41nm,1.2s
DZM Mont Dzumac 46.38 122 *e*LR LR 16 09 37.2
comp=Z,313nm,28.3s
DZM Mont Dzumac 46.38 122 P **P** **15 56 26.2 +1.2**
comp=Z,11nm,1.0s,baz=298,slow=10,SNR=3.8
DZM LR LR 16 16 02.4
comp=Z,145nm,20.5s,baz=321,slow=36
KKN Kakani 46.55 309 *e*P **P** **15 56 27.6 +1.2**
comp=Z,22nm,0.9s
DMN Daman 46.59 309 *e*P **P** **15 56 27.2 +0.4**
comp=Z,24nm,1.0s
GKN Gorkha 47.15 309 *e*P **P** **15 56 31.5 +0.5**
comp=Z,35nm,1.0s
HYB Hyderabad 48.51 293 *i* P **P** **15 56 41.0 -0.5**
HYB Hyderabad 48.51 293 *e*P **P** **15 56 39.7 -1.8**
YSS Yuzh-Sakhalins 48.69 16 *e*P **P** **15 56 43.6 +1.3**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS Yuzh-Sakhalins 48.69 16 P **P** **15 56 41.4 -0.9**
YSS lAmb lAmb 15 56 49.4
comp=Z,17nm,0.8s
KLR Kul'dur 48.75 6 LR LR 16 18 13.8
comp=Z,146nm,21.1s,baz=197,slow=37
KLR Kul'dur 48.75 6 *ce*P **P** **15 56 43.3 +0.5**
KLR pmax pmax
comp=Z,29nm,1.2s
ULN Ulaanbaatar 49.51 344 P **P** **15 56 48.6 -0.3**
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 49.51 344 P **P** **15 56 48.6 -0.3**
SONM Songino Array 49.66 344 P **P** **15 56 49.5 -0.5**
comp=Z,1.5nm,0.7s,baz=158,slow=7.4,SNR=9.1
SONM pP **pP** **15 57 02.4 -2.3**
comp=Z,2.9nm,0.8s,baz=155,slow=6.8,SNR=9.0
SONM ScP **ScP** **16 02 00.5 -1.1**
comp=Z,0.6nm,0.9s,baz=158,slow=5.2,SNR=4.3
SONM LR LR 16 19 56.8
comp=Z,178nm,20.6s,baz=152,slow=38
SONM Songino Array 49.66 344 P **P** **15 56 49.1 -0.8**
GRNR Gornyy 50.88 9 ⇓ *i*P **P** **15 57 00.3 +1.3**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,90nm,16.0s
GRNR MLR MLR
comp=N,90nm,13.0s
GRNR MLR MLR
comp=Z,120nm,16.0s
BHPL Bhopal 51.22 300 *e*P **P** **15 57 00.6 -1.5**
BHPL lAmb lAmb 15 57 04.0
comp=Z,7.5nm,1.0s
BHPL *i* pP **pP** **15 57 14.4 -2.6**
ZAK Zakamensk 52.85 343 *e*P **P** **15 57 15.9 +2.1**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
ZEA Zeya 52.94 2 *e*P **P** **15 57 14.7 +0.5**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=Z,200nm,17.0s
TLY Talaya 53.91 344 LR LR 16 22 37.3
comp=Z,142nm,19.9s,baz=142,slow=38
TLY Talaya 53.91 344 *e*P **P** **15 57 22.9 +1.5**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY MLR MLR
comp=Z,395nm,17.0s
WMQ Urumqi 54.24 327 *e*P **P** **15 57 24.0 0.0**
WMQ sP sP 15 57 50.3 +4.9
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ pmax pmax
comp=Z,290nm,4.5s
WMQ LR LR
comp=Z,630nm,21.9s
SMLA Simla 54.36 309 *e*P **P** **15 57 25.2 +0.2**
SMLA *i* x x 15 57 37.0
SMLA lAmb lAmb 15 57 40.0
comp=Z,49nm,0.6s
DHRM DHARAMSHALA 55.49 310 *e*P **P** **15 57 32.1 -1.4**
DHRM lAmb lAmb 15 57 35.9
comp=Z,25nm,1.0s
DHRM *i* x x 15 57 43.2
BOD Bodaibo 57.65 353 *e*P **P** **15 57 48.3 +0.2**
BOD pmax pmax
comp=Z,16nm,1.7s
ZSN Zaisan 58.13 329 *e*P **P** **15 57 50.8 -0.8**
baz=329
ZSN Zaisan 58.13 329 *e*P **P** **15 57 50.8 -0.8**
DGZ Jazzator, Alta 58.40 332 *i* P **P** **15 57 54.4 +0.7**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
SHLS Shalkode 58.58 322 *e*P **P** **15 57 51.8 -3.3**
baz=322
SHLS Shalkode 58.58 322 *e*P **P** **15 57 51.7 -3.3**
PEA0B Petropavlovsk- 58.96 22 *ce*P **P** **15 57 56.9 -0.4**
PEA0B Petropavlovsk- 58.96 22 P **P** **15 57 58.0 +0.7**
PETK Petropavlovsk- 58.96 22 P **P** **15 57 59.3 +2.0**
comp=Z,25nm,0.7s,baz=181,slow=2.6,SNR=73
PETK Petropavlovsk- 58.96 22 P **P** **15 57 57.9 +0.6**
KSH Kashi 58.97 317 P **P** **15 58 00.0 +2.2**
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,68nm,4.8s
MK31 Makanchi Array 59.07 327 *i* P **P** **15 57 58.2 0.0**
MK31 Makanchi Array 59.07 327 P **P** **15 57 57.4 -0.8**
MKAR Makanchi Array 59.07 327 P **P** **15 57 58.2 0.0**
comp=Z,1.4nm,0.5s,baz=123,slow=7.6,SNR=34
MKAR pP **pP** **15 58 11.2 -2.1**
comp=Z,2.0nm,0.4s,baz=124,slow=8.8,SNR=8.8
MKAR LR LR 16 23 47.6
comp=Z,272nm,21.5s,baz=120,slow=36
MKAR PKPPKP **P'P'df** **16 27 33.5 +1.9**
comp=Z,0.8nm,0.9s,baz=272,slow=3.5,SNR=4.8
MKAR Makanchi Array 59.07 327 P **P** **15 57 57.4 -0.8**
SATY Saty 59.18 322 *e*P **P** **15 57 58.3 -0.9**
comp=Z,2.7nm,0.8s,baz=322
SATY Saty 59.18 322 *e*P **P** **15 57 58.3 -0.9**
SATY pmax pmax
comp=Z,3.0nm,0.8s
KPKS Kokpek 59.23 322 *e*P **P** **15 57 58.7 -0.8**
comp=Z,2.7nm,0.8s,baz=322
KPKS Kokpek 59.23 322 *e*P **P** **15 57 58.7 -0.8**
KPKS pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 59.25 327 P **P** **15 57 58.4 -1.1**
MAKZ pmax pmax
comp=Z,6.0nm,1.1s
MAKZ Makanchi 59.25 327 P **P** **15 57 58.4 -1.1**
PET Petropavlovsk 59.26 23 *ce*P **P** **15 57 58.9 -0.4**
PET pmax pmax
comp=Z,155nm,1.7s
FOZ Fox Glacier 59.53 143 P **P** **15 58 02.3 +0.9**
FOZ lAmb lAmb 15 58 08.8
comp=Z,42nm,1.2s
MLZ Mavora Lakes 59.63 146 P **P** **15 58 02.3 +0.2**
MLZ lAmb lAmb 15 58 04.2
comp=Z,18nm,0.9s
WKZ Wanaka 59.82 145 P **P** **15 58 02.1 -1.3**
WHZ Wether Hill Ro 59.86 147 P **P** **15 58 03.1 -0.6**
WHZ lAmb lAmb 15 58 05.5
comp=Z,33nm,1.0s
MDOK Medeo 60.08 321 *e*P **P** **15 58 04.6 -0.9**
baz=321
MDOK Medeo 60.08 321 *e*P **P** **15 58 04.5 -0.9**
RPZ Rata Peaks 60.37 143 P **P** **15 58 08.2 +0.9**
comp=Z,31nm,0.9s,baz=72,slow=1.8,SNR=10
RPZ LR LR 16 25 43.2
comp=Z,100nm,18.5s,baz=270,slow=37
RPZ Rata Peaks 60.37 143 P **P** **15 58 07.6 +0.3**
THZ Tophouse 60.47 140 P **P** **15 58 08.3 +0.3**
THZ lAmb lAmb 15 58 30.1
comp=Z,15nm,0.8s
OXZ Oxford 60.76 142 P **P** **15 58 09.9 +0.1**
OXZ lAmb lAmb 15 58 32.9
comp=Z,25nm,1.2s
KUU Kurty 60.90 322 *e*P **P** **15 58 10.2 -0.6**
comp=Z,4.7nm,1.1s,baz=322
KUU Kurty 60.90 322 *e*P **P** **15 58 10.2 -0.6**
KUU pmax pmax
comp=Z,5.0nm,1.1s
TUWZ Tuamarina 60.97 139 P **P** **15 58 11.6 +0.3**
BSWZ Blackbirch Sta 61.07 140 P **P** **15 58 12.2 +0.2**
KHZ Kahutara 61.21 141 P **P** **15 58 13.6 +0.7**
KHZ lAmb lAmb 15 58 26.8
comp=Z,21nm,0.9s
YAK Yakutsk 61.33 3 *e*P **P** **15 58 13.8 +0.5**
YAK *e**PP **pP** **15 58 29.3 +0.9**
YAK *e* 15 58 52.2
YAK *e* 16 00 28.3
YAK *e*PPP PPP 16 01 57.9
YAK *e*S **S** **16 06 30.7 +1.2**
YAK *e**SS **sS** **16 06 59.8 +4.7**
YAK *e* 16 07 58.2
YAK *e*SS **SS** **16 10 37.1 +6.3**
YAK pmax pmax
comp=Z,42nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=Z,39nm,2.7s
YAK pmax pmax
comp=N,53nm,2.8s
YAK pmax pmax
comp=E,74nm,2.8s
YAK smax smax
comp=N,29nm,1.6s
YAK smax smax
comp=E,15nm,1.6s
YAK Yakutsk 61.33 3 P **P** **15 58 13.3 0.0**
SNZO South Karori 61.41 139 P **P** **15 58 13.8 -0.5**
AAK Ala-Archa 61.44 320 P **P** **15 58 15.0 +0.3**
comp=E,2.5nm,0.8s,baz=147,slow=4.1,SNR=9.0
AAK Ala-Archa 61.44 320 *ce*P **P** **15 58 15.6 +0.9**
AAK pmax pmax
comp=Z,10.0nm,1.0s
BHW Baring Head 61.56 139 P **P** **15 58 14.8 -0.6**
BKZ Black Stump Fm 61.60 136 P **P** **15 58 15.6 -0.1**
BKZ lAmb lAmb 15 58 19.0
comp=Z,22nm,0.9s
URZ Urewera 61.63 135 P **P** **15 58 15.7 -0.1**
URZ lAmb lAmb 15 58 18.3
comp=Z,25nm,0.9s
MSWZ Moikau Station 61.82 139 P **P** **15 58 16.3 -0.8**
PLWZ Palliser 61.90 139 P **P** **15 58 17.0 -0.6**
KBL Kabul 61.98 309 P **P** **15 58 17.7 -0.8**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 61.98 309 P **P** **15 58 17.7 -0.8**
KBL lAmb lAmb 15 58 33.4
comp=Z,8.0nm,0.8s
MA2 Magadan 62.12 15 *ce*P **P** **15 58 18.2 -0.5**
MA2 pmax pmax
comp=Z,29nm,1.0s
MA2 Magadan 62.12 15 P **P** **15 58 18.8 +0.1**
ZAA0 Zalesovo Array 62.52 335 P **P** **15 58 20.4 -1.0**
ZALV Zalesovo Beam 62.52 335 P **P** **15 58 21.5 0.0**
comp=Z,1.0nm,0.6s,baz=133,slow=6.5,SNR=5.5
ZALV PKPPKP **P'P'df** **16 27 31.2 +5.6**
comp=Z,1.5nm,0.8s,baz=298,slow=3.2,SNR=7.0
ZALV LR LR 16 27 50.7
comp=Z,227nm,19.1s,baz=137,slow=38
ZALV Zalesovo Beam 62.52 335 *i* P **P** **15 58 24.0 +2.5**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 62.52 335 P **P** **15 58 19.6 -1.9**
KURBB Kurchatov Arra 63.36 329 P **P** **15 58 26.9 -0.3**
comp=Z,2.1nm,0.8s,baz=131,slow=6.0,SNR=25
KURK Kurchatov 63.37 329 P **P** **15 58 26.9 -0.3**
KURK Kurchatov 63.37 329 P **P** **15 58 26.9 -0.3**
IUG Iuzhnay 64.17 318 *e*P **P** **15 58 31.9 -0.9**
baz=318
IUG Iuzhnay 64.17 318 *e*P **P** **15 58 31.9 -0.9**
KKAR Karatay Array 64.26 319 P **P** **15 58 31.7 -1.6**
KKAR Karatay Array 64.26 319 P **P** **15 58 31.6 -1.6**
SEY Seymchan 65.43 13 *i* P **P** **15 58 39.9 -0.5**
BRZS Berezniki 66.16 326 *e*P **P** **15 58 44.5 -1.0**
baz=326
BRZS Berezniki 66.16 326 *e*P **P** **15 58 44.4 -1.0**
CASY Casey 67.57 186 P **P** **15 58 53.3 -0.7**
CASY lAmb lAmb 15 58 55.9
comp=Z,22nm,1.0s
BVAR Borovoye Array 68.91 328 P **P** **15 59 01.5 -1.2**
comp=Z,0.8nm,0.8s,baz=118,slow=12,SNR=6.2
BRVK Borovoye 68.98 328 *ce*P **P** **15 59 02.6 -0.5**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 68.98 328 P **P** **15 59 02.1 -1.0**
TIXI Tiksi 70.93 1 P **P** **15 59 14.4 -0.3**
TIXI pmax pmax
comp=Z,36nm,1.4s
TIXI Tiksi 70.93 1 P **P** **15 59 14.4 -0.3**
TIXI lAmb lAmb 15 59 29.5
comp=Z,36nm,1.4s
SOCY Socotra 71.20 283 P **P** **15 59 15.1 -2.5**
SOCY lAmb lAmb 15 59 16.1
comp=Z,21nm,1.0s
GEYT Alibeck 71.41 310 P **P** **15 59 18.3 0.0**
comp=Z,0.9nm,0.5s,baz=167,slow=7.0,SNR=2.1
GEYT Alibeck 71.41 310 P **P** **15 59 17.9 -0.4**
BILL Bilibino 72.98 15 *di* P **P** **15 59 26.5 -0.6**
BILL *i* 15 59 36.9
BILL *PP **PcP** **15 59 45.0 +1.3**
BILL 16 02 16.0
BILL *e* 16 09 41.0
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL MLR MLR
comp=Z,52nm,18.0s
BILL Bilibino 72.98 15 P **P** **15 59 26.5 -0.6**
ABKAR Akbulak array 73.38 322 P **P** **15 59 28.0 -1.8**
AKTO Aktyubinsk 74.94 322 P **P** **15 59 38.1 -0.7**
baz=89,slow=11,SNR=1.5
AKTO LR LR 16 34 57.2
comp=Z,182nm,20.3s,baz=110,slow=38
ARU Arti 76.56 328 LR LR 16 36 14.1
comp=Z,112nm,21.2s,baz=112,slow=38
ARU Arti 76.56 328 *di* P **P** **15 59 46.8 -1.2**
ARU *PP **pP** **16 00 02.7 -0.8**
ARU S **S** **16 09 29.0 -0.7**
ARU SS **SS** **16 14 21.2 -4.6**
ARU pmax pmax
comp=Z,4.0nm,0.9s
ABPO Ambohimpanom 78.55 251 P **P** **15 59 58.3 -1.8**
ABPO pmax pmax
comp=Z,15nm,0.9s
ABPO Ambohimpanom 78.55 251 P **P** **15 59 58.3 -1.8**
ABPO lAmb lAmb 16 00 01.0
comp=Z,14nm,0.8s
OPO Ambohidratompo 78.55 251 P **P** **15 59 59.8 -0.2**
comp=Z,25nm,0.8s,baz=66,slow=4.3,SNR=36
FALS False Pass 79.00 34 P 16 00 03.4
baz=255
AKT Akhty 79.95 312 *e*P **P** **16 00 11.7 +4.5**
AKT *e* 16 00 18.1
AKT pmax pmax
comp=Z,3.0nm,0.6s
RAYN Ar Rayn 80.00 294 P **P** **16 00 05.8 -2.0**
RAYN pmax pmax
comp=Z,9.0nm,1.0s
RAYN Ar Rayn 80.00 294 P **P** **16 00 05.8 -2.0**
MAW Mawson 80.25 200 LR LR 16 31 51.9
comp=Z,119nm,19.0s,baz=56,slow=33
VNDA Vanda 80.63 172 P **P** **16 00 10.9 +0.9**
comp=Z,9.4nm,0.8s,baz=311,slow=6.4,SNR=46
VNDA pP **pP** **16 00 23.8 -1.0**
comp=Z,4.8nm,0.7s,baz=302,slow=7.6,SNR=6.3
VNDA LR LR 16 37 37.8
comp=Z,115nm,18.7s,baz=318,slow=37
VNDA Vanda 80.63 172 P **P** **16 00 10.3 +0.3**
VNDA lAmb lAmb 16 00 12.0
comp=Z,12nm,0.8s
ANM Nome 80.81 24 P 16 00 13.9
baz=252
SBA Scott Base 81.57 172 P **P** **16 00 16.2 +1.3**
SBA pmax pmax
comp=Z,13nm,1.0s
SBA Scott Base 81.57 172 P **P** **16 00 16.2 +1.3**
SBA lAmb lAmb 16 00 18.0
comp=Z,13nm,1.0s
BELG Belogornoye 81.72 323 *i* P **P** **16 00 15.4 -0.8**
BELG pmax pmax
comp=Z,5.0nm,1.5s
RDOG Red Dog Mine 82.80 21 P 16 00 24.6
baz=254
ZEI Tsey 82.93 313 *e*P **P** **16 00 23.0 -0.1**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 83.75 314 P **P** **16 00 27.4 +0.4**
comp=Z,2.8nm,1.0s,baz=244,slow=4.2,SNR=5.5
KBZ pP **pP** **16 00 39.6 -3.0**
comp=Z,3.2nm,0.9s,baz=137,slow=0.9,SNR=6.1
KBZ LR LR 16 44 32.6
comp=Z,38nm,18.3s,baz=92,slow=40
KIV Kislovodsk 83.92 314 *e*P **P** **16 00 29.6 +1.6**
KIV pmax pmax
comp=Z,14nm,1.1s
VRH Novokhopyorsk 85.20 321 *e*P **P** **16 00 32.4 -1.7**
VRH pmax pmax
comp=Z,20nm,1.6s
PPT Papeete 85.94 108 LR LR 16 40 52.9
comp=Z,29nm,18.1s,baz=265,slow=37
PPT2 Papeete2 85.94 108 *e*LR LR 16 27 52.6
comp=Z,79nm,25.2s
TBI Tubuai 86.26 113 *e*LR LR 16 28 07.6
comp=Z,105nm,30.2s
VSR Storozhevoye 86.80 321 *e*P **P** **16 00 41.9 -0.2**
VSR pmax pmax
comp=Z,10.0nm,1.4s
LPSR Galich'ya Gora 87.02 322 *e*P **P** **16 00 43.2 +0.1**
LPSR pmax pmax
comp=Z,20nm,1.9s
KLMR Klimovskoe 87.17 331 *e*P **P** **16 00 42.5 -1.1**
KLMR pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 87.17 331 *e*P **P** **16 00 42.5 -1.1**
KLMR AMP 16 00 52.2
comp=Z,11nm,1.0s
COLD Coldfoot 87.42 23 P 16 00 47.3
baz=266
KMBO Kilima Mbogo 87.65 269 P **P** **16 00 46.8 -0.5**
comp=Z,7.0nm,0.8s,baz=57,slow=9.1,SNR=14
KMBO LR LR 16 38 32.9
comp=Z,91nm,18.9s,baz=94,slow=35
TOLK Toolik Lake Re 87.77 21 P 16 00 49.7
baz=266
OBN Obninsk 88.50 325 ⇑ *e*P **P** **16 00 52.9 +2.8**
OBN pmax pmax
comp=Z,45nm,2.2s
ILAR Eielson Array 88.66 25 PP PP 16 04 24.7 +5.0
comp=Z,1.1nm,1.0s,baz=275,slow=5.4,SNR=5.1
ILAR LR LR 16 39 08.1
comp=Z,49nm,19.8s,baz=291,slow=35
SYO Syowa Base 88.91 201 ⇓ *e*P **P** **16 00 53.0 +1.3**
SYO Syowa Base 88.91 201 ⇑ *e*pP pP 16 01 07.0 -0.2
MMAI Mount Meron Ar 89.21 303 P **P** **16 00 55.3 +1.2**
comp=Z,4.2nm,0.9s,baz=70,slow=5.4,SNR=7.3
MMAI pP **pP** **16 01 07.0 -2.8**
comp=Z,9.9nm,1.1s,baz=118,slow=4.8,SNR=4.3
BRTR Keskin Array B 90.55 310 LR LR 16 49 53.4
comp=Z,41nm,18.0s,baz=89,slow=41
K27K Chicken 90.75 26 P 16 01 03.2
baz=273
CTG Chitna Glacier 91.27 29 P 16 01 05.8
baz=274
ARCES ARCESS Array B 92.68 340 P **P** **16 01 10.2 +1.0**
comp=Z,2.6nm,0.9s,baz=57,slow=6.6,SNR=1.3
ARCES ARCESS Array B 92.68 340 lAmb lAmb 16 01 30.2
comp=Z,17nm,1.4s
AKASG Malin Array Be 93.09 321 LR LR 16 47 39.7
comp=Z,53nm,20.1s,baz=55,slow=38
SPITS Spitsbergen Ar 93.12 349 P **P** **16 01 10.9 -0.3**
comp=Z,5.5nm,0.8s,baz=95,slow=12,SNR=4.2
FINES FINESS Array B 93.65 332 LR LR 16 46 14.6
comp=Z,109nm,21.5s,baz=81,slow=37
MLR Muntele Rosu 95.81 316 P **P** **16 01 23.7 -0.6**
comp=Z,1.8nm,0.5s,baz=169,slow=5.2,SNR=2.4
BURAR Bucovina Array 96.04 318 P **P** **16 01 24.3 -1.0**
MATP Matopo 96.21 250 P **P** **16 01 25.8 -0.9**
comp=Z,8.3nm,0.8s,baz=105,slow=5.9,SNR=23
C36M Paulatuk 96.71 19 P **P** **16 01 28.2 +0.6**
C36M lAmb lAmb 16 01 39.9
comp=Z,11nm,0.9s
C36M Paulatuk 96.71 19 P 16 01 29.1
baz=290
DLBC Dease Lake 97.31 31 LR LR 16 38 40.0
comp=Z,121nm,21.4s,baz=328,slow=31
BOSA Boshof 98.77 241 LR LR 16 46 31.9
comp=Z,61nm,18.0s,baz=169,slow=36
YKA Yellowknife Ar 103.04 24 Pdiff **Pdif** **16 01 56.0 -0.2**
comp=Z,0.3nm,0.8s,baz=302,slow=3.6,SNR=4.3
YKA PKKPbc **PKKPbc** **16 17 52.5 -2.6**
comp=Z,1.0nm,0.8s,baz=113,slow=2.9,SNR=13
NVAR Mina Array Bea 110.32 48 PKKPbc PKKPbc 16 17 33.4 +1.3
comp=Z,0.4nm,0.6s,baz=132,slow=2.2,SNR=5.0
PDAR Pinedale Array 114.87 41 PKKPbc PKKPbc 16 17 17.4 +0.3
comp=Z,2.4nm,0.8s,baz=207,slow=1.7,SNR=4.6
ULM Lac du Bonnet 118.53 28 PKP **PKPdf** **16 06 45.1 -0.2**
comp=Z,0.9nm,0.4s,baz=211,slow=5.9,SNR=3.5
TOA0 Torodi Ar. Sit 122.05 286 PKPdf **PKPdf** **16 06 52.2 -0.9**
TORD Torodi Ar. Bea 122.05 286 PKP **PKPdf** **16 06 52.8 -0.3**
comp=Z,4.1nm,0.8s,baz=47,slow=2.0,SNR=17
TORD PKKPbc **PKKPab** **16 16 54.0 +3.2**
comp=Z,0.9nm,0.7s,baz=284,slow=5.4,SNR=3.8
ECSD EROS Data Cent 122.35 35 P 16 06 54.0
baz=308
MNTX Cornudas Mount 122.61 51 P 16 06 55.9
baz=294
TXAR Lajitas Array 124.92 53 PKP **PKiKP** **16 06 58.9 +0.2**
comp=Z,0.5nm,0.7s,baz=172,slow=0.9,SNR=4.5
S39A Bolivar 128.06 39 **PKiKP** **16 07 04.5 -0.2**
U40A Yellville 129.17 40 P 16 07 07.5
baz=308
SLM Saint Louis 129.31 36 PKIKP **PKPdf** **16 07 05.2 -1.2**
SLM Saint Louis 129.31 36 **PKPdf** **16 07 05.2 -1.2**
DBIC Dimbokro 129.32 279 PKP **PKiKP** **16 07 07.5 -0.3**
comp=Z,2.6nm,0.7s,baz=176,slow=5.3,SNR=3.6
PLCA Paso Flores 137.72 163 PKP **PKiKP** **16 07 23.2 -0.9**
comp=Z,3.8nm,0.8s,baz=204,slow=6.3,SNR=7.6
BO02 Sierra Bellavi 143.02 158 PKPdf **PKPdf** **16 07 29.3 -2.7**
MT02 Curacav 144.24 157 **PKPdf** **16 07 33.1 -1.0**
PEL Peldehue 144.52 157 PKIKP **PKPdf** **16 07 33.9 -0.8**
PEL Peldehue 144.52 157 PKPdf **PKPdf** **16 07 33.9 -0.8**
VA03 San Esteban 144.91 157 PKPdf **PKPdf** **16 07 35.6 +0.2**
CO03 El Pedregal 146.54 155 **PKPbc** **16 07 39.7 0.0**

BOAB	**BOACO BROADBAND**	**147.00**	**66**	PKPbc	**PKPbc**	**16 07 40.1**	**-1.2**
LCO	**Las Campanas**	**148.11**	**154**	PKP2	**PKPbc**	**16 07 42.8**	**-1.6**
LCO	**Las Campanas**	**148.11**	**154**		**PKPbc**	**16 07 42.8**	**-1.6**
LCO				PKPab	**PKiKP**	**16 07 45.7**	**-0.4**
AC05	**El Transito**	**148.45**	**154**		**PKiKP**	**16 07 46.6**	**-0.1**
CBCY	**The Bluff, Cay**	**148.46**	**49**	PKPdf	**PKPdf**	**16 07 39.8**	**-1.8**
CBCY					**PKiKP**	**16 07 46.4**	**-0.3**
AC04	**Llanos de Chal**	**148.63**	**152**	PKPbc	**PKiKP**	**16 07 46.7**	**-0.1**
AC01	**Pan de Azucar**	**150.59**	**151**	PKPbc	**PKiKP**	**16 07 51.6**	**+0.7**
GO02	**Mina Guanaco**	**151.90**	**151**		**PKiKP**	**16 07 54.5**	**+0.4**
CPUP	**Villa Florida**	**154.38**	**175**	PKP	**PKPdf**	**16 07 50.7**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=326,slow=5.2,SNR=5.1						
CPUP				PKPbc	**PKiKP**	**16 07 59.8**	**+1.0**
	comp=Z,5.8nm,0.9s,baz=166,slow=0.9,SNR=11						
CPUP				PKPab	**PKPab**	**16 08 12.8**	**+0.1**
	comp=Z,8.4nm,0.9s,baz=175,slow=3.3,SNR=8.1						
LPAZ	**La Paz**	**159.85**	**141**	PKP	**PKPdf**	**16 07 58.5**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=272,slow=0.4,SNR=5.9						
LPAZ				PKPab	**PKPab**	**16 08 38.4**	**+1.0**
	comp=Z,5.9nm,0.9s,baz=175,slow=1.6,SNR=7.6						
BDFB	**Brasilia**	**163.54**	**205**	PKPab	**PKPab**	**16 08 52.7**	**-0.2**
	comp=Z,6.7nm,0.8s,baz=240,slow=2.0,SNR=5.6						

*SOME **23** 15:48:47.6,41.°75N×84.°23E,h10km*
*NNC **23** 15:48:51.8±1.1,41.°79N×83.°95E,h0km,mb3.0,mpv2.6,*
Error ellipse: s-maj=8.5km s-min=4.9km az=147.0
ISC 23 15:48:48.3±3.4,41.°5N±0.°2×84.°4E±0.°1,h10km,n8,
σ1s88/16,5C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHLS	**Shalkode**	**4.00**	**296**	*eP*		**Pn**	**15 49 51.8**	**+1.9**
	1.3nm,0.2s							
SHLS				*eS*		**Sn**	**15 50 38.4**	**+1.4**
	15nm,0.4s							
PDGK	**Podgornoye**	**4.06**	**298**	⇑Pn		**Pn**	**15 49 49.8**	**-0.8**
	0.8nm,0.6s							
PDGK				⇓Sn		**Sn**	**15 50 34.1**	**-4.1**
	2.3nm,0.4s							
PDGK				⇓Lg		Lg	15 50 48.0	
	16nm,0.8s							
DJR	**Jarkent**	**4.40**	**311**	*eP*		**Pb**	**15 50 04.9**	**-0.9**
	1.9nm,0.7s							
DJR				*eS*		**Sb**	**15 51 00.2**	**+1.3**
	2.6nm,0.4s							
KPKS	**Kokpek**	**4.65**	**297**	*eP*		**Pb**	**15 50 08.5**	**-1.5**
	2.2nm,0.2s							
KPKS				*eS*		**Sb**	**15 51 06.6**	**+0.5**
	6.9nm,0.3s							
SATY	**Saty**	**4.70**	**291**	*eP*		**Pb**	**15 50 11.0**	**+0.1**
	1.2nm,0.2s							
SATY				*eS*		**Sb**	**15 51 10.8**	**+3.3**
	3.1nm,0.1s							
MNBS	**Baschi**	**5.10**	**302**	*eP*		**Pb**	**15 50 16.3**	**-1.4**
	1.0nm,0.3s							
MNBS				*eS*		**Sb**	**15 51 19.8**	**+0.8**
	2.9nm,0.3s							
MK31	**Makanchi Array**	**5.50**	**345**	⇓Pn		**Pn**	**15 50 10.0**	**-0.2**
	baz=170,slow=13,SNR=9.0							
MK31				⇑Pg		**Pb**	**15 50 24.9**	**+0.5**
	0.5nm,0.5s,baz=162,slow=16,SNR=4.4							
MK31				⇑Sn		**Sn**	**15 51 11.7**	**-1.8**
	0.9nm,0.6s,baz=227,slow=42,SNR=2.5							
MK31				⇓Lg		Lg	15 51 35.5	
	1.0nm,0.5s,baz=32,slow=20,SNR=5.3							
MAKZ	**Makanchi**	**5.58**	**343**	⇑Pg		**Pb**	**15 50 26.7**	**+0.9**
	0.5nm,0.5s							
MAKZ				⇑Lg		Lg	15 51 37.5	
	2.1nm,1.1s							

*NSSP **23** 15:49:38.6,41.°17N×47.°77E,h10km,Ms3.0*
*AZER **23** 15:49:38.1±0.0,41.°10N×47.°93E,h12km,ml3.0/33,Error*
ellipse: s-maj=0.7km s-min=0.3km az=255.0
*MOS **23** 15:49:39.5±0.0,41.°19N×47.°80E,h6km,MPVA3.8*
*DRS **23** 15:49:40.4±0.0,41.°28N×48.°15E,h14km,ML2.9/5*
ISC 23 15:49:39.5±0.8,41.°11N±0.°02×47.°85E±0.°02,h14km±6km,
n52,σ1s45/101,3D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
QBL	**Gabala**	**0.16**	**182**	P		**Pg**	**15 49 44.2**	**+0.7**
	SNR=162							
QBL				S		**Sg**	**15 49 48.1**	**+1.9**
XNQ	**Khinaliq**	**0.23**	**73**	P		**Pg**	**15 49 44.1**	**-0.6**
XNQ				S		**Sg**	**15 49 47.6**	**-0.7**
AKT	**Akhty**	**0.38**	**347**	⇓*i*Pg		**Pb**	**15 49 47.4**	**-0.7**
	394nm,0.5s							
AKT				*e*Sg		**Sb**	**15 49 53.2**	**-0.7**
	2μm,0.3s							
IML	**Ismayilli**	**0.40**	**141**	P		**Pb**	**15 49 47.5**	**-0.9**
	SNR=77							
IML				S		**Sb**	**15 49 54.3**	**-0.1**
SEKA	**Sheki**	**0.50**	**282**	P		**Pb**	**15 49 49.9**	**-0.1**
	SNR=107							
SEKA				S		**Sb**	**15 49 58.3**	**+1.0**
QSAR	**Qusar**	**0.52**	**37**	P		**Pb**	**15 49 49.4**	**-0.9**
	SNR=277							
QSAR				S		**Sb**	**15 49 56.8**	**-0.9**
QUBA	**Quba, Azerbaij**	**0.55**	**63**	P		**Pb**	**15 49 49.9**	**-1.0**
	SNR=42							
QUBA				S		**Sg**	**15 49 56.5**	**-1.1**
PQL	**Pirkuli**	**0.65**	**119**	P		**Pg**	**15 49 51.5**	**-0.7**
	SNR=68							
PQL				S		**Sb**	**15 50 02.5**	**+1.0**
MNGR	**Mingechevir, A**	**0.67**	**240**	P		**Pn**	**15 49 54.1**	**-0.4**
	SNR=3.3							
MNGR				S		**Sn**	**15 50 04.9**	**+0.3**
KDMR	**Kurdemir**	**0.77**	**160**	P		**Pb**	**15 49 54.3**	**-0.3**
	SNR=5.5							
KDMR				S		**Sb**	**15 50 06.8**	**+1.8**
SIZA	**Siyzn**	**0.80**	**92**	P		**Pg**	**15 49 54.3**	**-0.7**
	SNR=20							
SIZA				S		**Sb**	**15 50 06.0**	**+0.2**
ZRD	**Zardab**	**0.83**	**189**	P		**Pn**	**15 49 56.4**	**-0.3**
	SNR=211							
ZRD				S		**Sn**	**15 50 09.5**	**+0.7**
ATGJ	**Altiaghaj**	**0.86**	**106**	P		**Pg**	**15 49 55.3**	**-0.9**
	SNR=8.6							
ATGJ				S		**Sb**	**15 50 07.5**	**-0.2**
BRDA	**Brd**	**0.98**	**211**	P		**Pn**	**15 49 59.2**	**+0.5**
	SNR=8.8							
BRDA				S		**Sn**	**15 50 14.6**	**+2.1**
GBS	**Qobustan**	**1.01**	**124**	P		**Pb**	**15 49 58.4**	**-0.3**
	SNR=12							
GBS				S		**Sn**	**15 50 13.6**	**+0.3**
ZKTA	**Zakatala**	**1.06**	**300**	P		**Pn**	**15 49 59.9**	**0.0**
	SNR=59							
ZKTA				S		**Sn**	**15 50 17.0**	**+2.4**
URKR	**Urkarakh**	**1.07**	**352**	*e*Pg		**Pb**	**15 49 59.4**	**-0.4**
URKR				*e*Sg		**Sg**	**15 50 13.1**	**-1.0**
AGDM	**Agdam**	**1.14**	**210**	P		**Pb**	**15 50 01.1**	**+0.1**
	SNR=21							
AGDM				S		**Sn**	**15 50 18.6**	**+2.1**
GANJ	**Ganja**	**1.24**	**249**	P		**Pg**	**15 50 02.2**	**-1.2**
	SNR=29							
GANJ				S		**Sn**	**15 50 20.0**	**+1.0**
SAAT	**Saatly**	**1.32**	**160**	P		**Pn**	**15 50 02.1**	**-1.3**
SAAT				S		**Sg**	**15 50 20.0**	**-2.0**
SGKR	**Sergokala**	**1.36**	**354**	*e*Pg		**Pg**	**15 50 06.2**	**+0.6**
SGKR				*e*Sg		**Sn**	**15 50 23.6**	**+1.7**
BLQ	**Beylaqan**	**1.40**	**189**	Pn		**Pn**	**15 50 04.2**	**-0.3**
	SNR=24							
BLQ				Sn		**Sn**	**15 50 24.3**	**+1.5**
GNBR	**Gunib**	**1.44**	**333**	*e*Pg		**Pg**	**15 50 07.0**	**-0.2**
	36nm,0.6s							
GNBR				*e*Sg		**Sg**	**15 50 27.0**	**+1.0**
	121nm,0.8s							
ALIB	**Äli-Bayra**	**1.45**	**142**	S		**Sb**	**15 50 24.4**	**0.0**
GOBA	**Gobu**	**1.60**	**116**	Pn		**Pn**	**15 50 06.8**	**-0.4**
	SNR=3.8							
GOBA				Sn		**Sb**	**15 50 29.4**	**+0.6**
ARKR	**Arakani**	**1.62**	**337**	*e*Pg		**Pg**	**15 50 10.3**	**-0.4**
	44nm,0.8s							
ARKR				*e*Sg		**Sg**	**15 50 34.5**	**+2.7**
	81nm,0.8s							
GDB	**GEDABAY**	**1.63**	**257**	Pn		**Pn**	**15 50 08.4**	**+0.5**
	SNR=91							
GDB				Sn		**Sb**	**15 50 30.7**	**+0.8**
QRD	**Qoradiz**	**1.69**	**194**	Pn		**Pn**	**15 50 09.0**	**+0.4**
	SNR=5.9							
QRD				Sn		**Sb**	**15 50 32.2**	**+0.7**
BUJR	**Buynaksk**	**1.80**	**343**	*e*Pg		**Pg**	**15 50 13.6**	**-0.5**
BUJR				*e*Sg		**Sg**	**15 50 40.3**	**+2.8**
KRNR	**Karanay**	**1.86**	**338**	*e*Pg		**Pg**	**15 50 14.6**	**-0.6**
	14nm,0.3s							
KRNR				*e*Sg		**Sg**	**15 50 42.1**	**+2.8**
	60nm,0.8s							
QZX	**Qazax, Azerbai**	**1.87**	**269**	Pn		**Pb**	**15 50 12.5**	**-0.9**
	SNR=20							
QZX				Sn		**Sg**	**15 50 38.6**	**-1.0**
GLBA	**Clilabad**	**1.91**	**167**	Pn		**Pn**	**15 50 11.3**	**-0.2**
	SNR=5.5							
GLBA				Sn		**Sb**	**15 50 37.3**	**-0.4**
BTLR	**Botlikh**	**1.97**	**323**	*e*Pg		**Pb**	**15 50 15.2**	**+0.1**
BTLR				*e*Sg		**Sg**	**15 50 41.4**	**-1.5**
DBC	**Dubki**	**2.06**	**339**	*e*Pg		**Pg**	**15 50 17.4**	**-1.5**
	25nm,0.4s							
DBC				*e*Sg		**Sg**	**15 50 46.4**	**+0.8**
	59nm,0.6s							
YRD	**Yardimli**	**2.21**	**172**	Pn		**Pn**	**15 50 15.1**	**-0.7**
	SNR=24							
YRD				Sn		**Sn**	**15 50 44.3**	**+1.3**
DVE	**Vedeno**	**2.25**	**326**	*e*Pg		**Pb**	**15 50 19.8**	**-0.1**
DVE				*e*Sg		**Sg**	**15 50 49.8**	**-2.0**
SBZ	**Shahbuz**	**2.45**	**227**	Pn		**Pn**	**15 50 20.3**	**+1.2**
	SNR=5.9							
SBZ				Sn		**Sb**	**15 50 54.3**	**+0.9**
LRK	**Lerik**	**2.49**	**171**	Pn		**Pn**	**15 50 20.9**	**+1.2**
	SNR=3.5							
LRK				Sn		**Sn**	**15 50 52.0**	**+2.1**
LKRN	**Lenkeran, Azer**	**2.50**	**163**	Pn		**Pn**	**15 50 19.6**	**0.0**
LKRN				Sn		**Sn**	**15 50 51.5**	**+1.6**
KAPZ	**Kaputan**	**2.52**	**253**	*i* P		**Pb**	**15 50 23.6**	**-0.9**
KAPZ				*i* S		**Sg**	**15 50 58.5**	**-1.9**
GNI	**Garni**	**2.55**	**249**	⇓*i*P		**Pb**	**15 50 24.4**	**-0.6**
GNI				⇓*i*S		**Sg**	**15 50 59.8**	**-1.5**
GNI	**Garni**	**2.55**	**249**	*e*Pn		**Pb**	**15 50 25.3**	**+0.2**
GNI				*e*Sn		**Sb**	**15 50 58.5**	**+2.2**
ORD	**Ordubad**	**2.60**	**214**	Pn		**Pn**	**15 50 22.0**	**+0.9**
	SNR=11							
ORD				Sn		**Sb**	**15 50 56.2**	**-1.5**
STE	**Stepanavan**	**2.63**	**269**	*e*P		**Pb**	**15 50 25.4**	**-1.0**
STE				*e*S		**Sb**	**15 50 57.9**	**-0.7**
NAX	**Nakhchivan**	**2.64**	**224**	Pg		**Pb**	**15 50 26.1**	**-0.5**
NAX				Sn		**Sb**	**15 50 57.0**	**-1.8**
ASTR	**Astara**	**2.65**	**164**	Pn		**Pn**	**15 50 22.9**	**+1.2**
ASTR				Sn		**Sn**	**15 50 56.0**	**+2.5**
NRKZ	**NAREK**	**2.67**	**247**	*i* P		**Pb**	**15 50 26.4**	**-0.7**
NRKZ				*i* S		**Sg**	**15 51 03.5**	**-1.7**
HYR	**Heyderabad**	**2.67**	**240**	Sg		**Sg**	**15 51 03.6**	**-1.7**
LACR	**Lac**	**3.16**	**304**	*e*Pn		**Pb**	**15 50 32.8**	**-2.5**
ZEI	**Tsey**	**3.39**	**301**	*e*Pn		**Pb**	**15 50 35.9**	**-3.5**
ZEI				*e*Sn		**Sb**	**15 51 17.8**	**-2.7**
ONI	**Oni**	**3.60**	**296**	*e*Pn		**Pn**	**15 50 38.0**	**+3.2**
ONI				*e*Sn		**Sb**	**15 51 23.5**	**-3.0**
DIGR	**Digorskoe uzhe**	**3.65**	**301**	*e*Pn		**Pb**	**15 50 40.1**	**-3.7**
DIGR				*e*Sn		**Sn**	**15 51 22.0**	**+3.5**

*BJI **23** 16:06:08.6±0.0,36.°73N×137.°97E,h11km,mB4.7/7,*
mb4.3/5,Ms3.9/3,Ms7 3.6/3
*IDC **23** 16:06:10.4±0.8,36.°75N×137.°82E,h0km,mb3.5/9,*
mb1 3.7/11,mb1mx3.6/68,mbtmp3.5/11,ML3.2/2,MS3.8/5,
Ms1 3.9/5,ms1mx3.3/30,Error ellipse: s-maj=18.5km
s-min=6.9km az=38.0
*NEIC **23** 16:06:11.7±1.7,36.°80N±0.°03×137.°98E±0.°05,h13km±5km,*
mb4.2/8,Error ellipse: s-maj=6.2km s-min=3.8km az=56.0
*JMA **23** 16:06:11.0,36.°80N×137.°90E,h3km±1km,M3.8*
Broadband fault plane solution: P waves. NP1:
ϕs315.00000°,δ85.00000°,λ1.00000°. NP2:ϕs225.00000°,
δ89.00000°,λ175.00000°. Principal axes: T Plg4.0000°,
Azm180.0000°; N Plg85.0000°, Azm37.0000°; P
Plg3.0000°, Azm270.0000°;
JMA Felt IV J1.
ISC 23 16:06:11.2±1.2,36.°80N±0.°04×137.°94E±0.°04,h7km±8km,
n52,σ0s97/53,mb3.8/13,MS3.9/6,1C-3D,Eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MJB9	**Matsu-Tunnel**	**0.33**	**140**			**Pg**	**16 06 18.0**	**+0.3**
MJB9				Sg		**Sg**	**16 06 22.4**	**+0.3**
MAJO	**Matsushiro**	**0.34**	**140**			**Pg**	**16 06 17.9**	**+0.1**
MAJO				Sg		**Sg**	**16 06 22.2**	**-0.1**
MAT	**Matsushiro**	**0.34**	**140**	P		**Pg**	**16 06 17.8**	**0.0**
MAT				S		**Sg**	**16 06 22.7**	**+0.5**
MAT	**Matsushiro**	**0.34**	**140**	P		**Pg**	**16 06 17.8**	**0.0**
MAT				S		**Sg**	**16 06 22.8**	**+0.5**
MJAR	**Matsushiro Arr**	**0.34**	**140**	Pg		**Pg**	**16 06 18.6**	**+0.8**
	97nm,0.3s,baz=312,slow=18,SNR=2.9							
MJAR				Lg		Lg	16 06 24.0	
	217nm,0.3s,baz=3.1,slow=27,SNR=49							
MJAR	**Matsushiro Arr**	**0.34**	**140**			**Pg**	**16 06 17.9**	**+0.1**
JNG	**Nsakai**	**0.42**	**162**	⇑P		**Pg**	**16 06 19.3**	**0.0**
JNG				S		**Sg**	**16 06 25.3**	**+0.5**
JTT	**Ttatey**	**0.53**	**248**	⇓P		**Pg**	**16 06 21.0**	**-0.4**
JGK	**Kuni**	**0.61**	**113**	⇓P		**Pg**	**16 06 23.3**	**+0.3**
JGK				S		**Sb**	**16 06 32.2**	**-0.9**
JGN	**Niukaw**	**0.77**	**221**	P		**Pg**	**16 06 25.2**	**-0.8**
JSZ	**Suzu**	**0.79**	**325**	⇓P		**Pg**	**16 06 25.9**	**-0.6**
JSD	**Sado**	**1.26**	**12**			**Pb**	**16 06 33.7**	**-1.6**
JGF	**Kuroka**	**1.29**	**202**			**Pn**	**16 06 34.9**	**-0.8**
INU	**Inuyama**	**1.63**	**208**			**Pn**	**16 06 40.1**	**-0.3**
JYT	**Yasato**	**1.90**	**107**			**Pn**	**16 06 43.9**	**-0.3**
JSG	**Sagara**	**2.13**	**175**	Pn		**Pn**	**16 06 46.4**	**-0.9**
JMM	**Marumori**	**2.51**	**64**	Pn		**Pn**	**16 06 52.4**	**-0.1**
JWT	**Wachi**	**2.56**	**234**	Pn		**Pn**	**16 06 54.1**	**+1.0**
JHS	**Saijyo**	**4.31**	**247**	Pn		**Pn**	**16 07 18.8**	**+1.5**
JMN	**Monobe**	**4.52**	**228**	Pn		**Pn**	**16 07 21.8**	**+1.6**
JTM	**Tenmabayashi**	**4.67**	**31**	Pn		**Pn**	**16 07 20.7**	**-1.5**
KSRS	**Korea Array**	**8.03**	**278**	Pn		**Pn**	**16 08 08.8**	**+0.5**
	0.4nm,0.3s,baz=93,slow=14,SNR=8.9							
KSAR	**Wonju Array Be**	**8.06**	**278**	Pn		**Pn**	**16 08 09.1**	**+0.4**
KS19	**Wonju Array Si**	**8.07**	**278**	Pn		**Pn**	**16 08 09.3**	**+0.3**
KLR	**Kul'dur**	**13.21**	**342**	Pn		**Pn**	**16 09 20.1**	**+0.9**
	0.1nm,0.3s,baz=172,slow=12,SNR=2.7							
SSE	**Sheshan**	**15.02**	**253**	Pn		**Pn**	**16 09 43.9**	**-0.1**
HHC	**Hu-ho-hao-te**	**20.91**	**289**	*e*P		**P**	**16 10 54.9**	**+0.5**
HHC				pmax		pmax		
	comp=Z,12nm,0.9s							
HHC				pmax		pmax		
	comp=Z,76nm,4.0s							
HHC				LR		LR		
	comp=N,160nm,11.2s							
HHC				LR		LR		
	comp=E,150nm,11.8s							
HHC				LR		LR		
	comp=Z,140nm,12.0s							
PETK	**Petropavlovsk-**	**21.36**	**34**	P		**P**	**16 11 00.3**	**+1.3**
	1.3nm,0.8s,baz=251,slow=8.8,SNR=2.4							
PETK	**Petropavlovsk-**	**21.36**	**34**	P		**P**	**16 10 59.4**	**+0.3**
MA2	**Magadan**	**24.25**	**16**	P		**P**	**16 11 28.4**	**-0.2**
	1.9nm,0.6s,baz=193,slow=9.8,SNR=9.0							
SONM	**Songino Array**	**25.63**	**305**	P		**P**	**16 11 43.0**	**+1.5**
	0.3nm,0.7s,baz=108,slow=4.7,SNR=2.4							
SEY	**Seymchan**	**27.63**	**14**	P		**P**	**16 12 00.5**	**+1.4**
	0.5nm,0.7s,baz=257,slow=24,SNR=4.3							
WMQ	**Urumqi**	**38.46**	**297**	*e*P		**P**	**16 13 34.8**	**+1.0**
MKAR	**Makanchi Array**	**41.88**	**302**	P		**P**	**16 14 02.9**	**+0.8**
	0.3nm,0.7s,baz=74,slow=11,SNR=2.7							
KDAK	**Kodiak Island**	**49.12**	**42**	LR		LR	16 32 32.5	
	comp=Z,59nm,21.8s,baz=264,slow=32							
ILAR	**Eielson Array**	**51.17**	**32**	P		**P**	**16 15 14.7**	**-0.1**
	0.4nm,0.8s,baz=288,slow=7.7,SNR=6.1							
MCARA	**McCarthy VSAT**	**53.39**	**36**	P		**P**	**16 15 32.6**	**+1.3**
MCARA						IAmb	IAmb	16 15 47.6
	comp=Z,7.6nm,1.4s							
ABKAR	**Akbulak array**	**55.95**	**309**	P		**P**	**16 15 49.2**	**-0.8**
WB0	**Warramunga Arr**	**56.36**	**184**	P		**P**	**16 15 51.4**	**-1.8**
WB0						IAmb	IAmb	16 16 13.4
	comp=Z,6.1nm,1.3s							
WB2	**Warramunga Arr**	**56.54**	**184**	P		**P**	**16 15 52.9**	**-1.5**
WRA	**Warramunga Arr**	**56.54**	**184**	P		**P**	**16 15 52.4**	**-2.0**
	comp=Z,0.9nm,0.4s,baz=0.0,slow=7.7,SNR=33							
WRA	**Warramunga Arr**	**56.54**	**184**	P		**P**	**16 15 52.6**	**-1.8**
WR0	**Warramunga Arr**	**56.55**	**184**	P		**P**	**16 15 52.9**	**-1.5**
AS31	**Alice Springs**	**60.26**	**184**	P		**P**	**16 16 19.7**	**-0.7**
AS31						IAmb	IAmb	16 16 37.0
	comp=Z,1.8nm,1.4s							
ASAR	**Alice Springs**	**60.27**	**184**	P		**P**	**16 16 20.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=13,slow=10,SNR=12							
ASAR	**Alice Springs**	**60.27**	**184**	P		**P**	**16 16 20.1**	**-0.3**
EUNU	**Eureka**	**60.81**	**8**	P		**P**	**16 16 22.0**	**-1.6**
EUNU						IAmb	IAmb	16 16 28.9
	comp=Z,0.8nm,0.9s							
NOA	**NORSAR Array B**	**73.29**	**336**	LR		LR	16 52 32.6	
	comp=Z,143nm,19.4s,baz=55,slow=38							
ULM	**Lac du Bonnet**	**81.19**	**32**	LR		LR	16 58 51.4	
	comp=Z,38nm,18.7s,baz=324,slow=39							
GERES	**GERESS Array B**	**81.40**	**326**	LR		LR	16 57 00.7	
	comp=Z,58nm,18.0s,baz=66,slow=38							
TXAR	**Lajitas Array**	**92.44**	**50**	P		**P**	**16 19 23.8**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=274,slow=4.4,SNR=2.4							
ESDC	**Sonseca Array**	**96.21**	**331**	LR		LR	17 07 34.8	
	comp=Z,56nm,18.6s,baz=220,slow=38							

*NEIC **23** 16:10:49.5±2.4,14.°48S±0.°05×167.°4E±0.°1,h125km±7km,*
mb4.4/27,Error ellipse: s-maj=17.2km s-min=7.7km
az=80.0
*IDC **23** 16:10:49.6±1.0,14.°57S×167.°29E,h130km±7km,mb3.8/19,*
mb1 3.9/21,mb1mx3.8/55,mbtmp4.2/21,Error ellipse:
s-maj=22.0km s-min=13.7km az=117.0
*NOU **23** 16:11:05.2,15.°72S×166.°95E,h0km,MLv4.4,Vanuatu*
Islands
ISC 23 16:10:49.7±0.5,14.°46S±0.°06×167.°34E±0.°08,h125km,n69,
σ1s60/72,mb4.3/33,1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANVU	**Saraoutou**	**0.99**	**187**	P		**Pn**	**16 11 12.1**	**0.0**
SANVU				S		**Sn**	**16 11 28.7**	**-0.3**
SANVU	**Saraoutou**	**0.99**	**187**	P		**Pn**	**16 11 12.4**	**+0.3**
MARNC	**Mare, Loyalty**	**7.01**	**175**	P		**Pn**	**16 12 32.8**	**+3.0**
YATNC	**Mamie plateau,**	**7.57**	**183**	P		**Pn**	**16 12 38.4**	**+1.0**
DZM	**Mont Dzumac**	**7.62**	**186**	P		**Pn**	**16 12 37.8**	**-0.3**
	3.6nm,0.3s,baz=123,slow=23,SNR=47							
DZM				S		**Sn**	**16 14 06.4**	**+3.5**
	3.8nm,0.3s,baz=11,slow=21,SNR=5.4							
DZM	**Mont Dzumac**	**7.62**	**186**	Pn		**Pn**	**16 12 38.9**	**+0.8**
DZM	**Mont Dzumac**	**7.62**	**186**	P		**Pn**	**16 12 39.4**	**+1.3**
ONTNC	**Ouen Toro**	**7.85**	**186**	P		**Pn**	**16 12 43.7**	**+2.6**
OUENC	**Ouen Island, N**	**7.93**	**183**	P		**Pn**	**16 12 44.9**	**+2.7**
PINNC	**Pines Island,**	**8.11**	**179**	P		**Pn**	**16 12 47.3**	**+2.7**
HNR	**Honiara**	**8.79**	**304**	P		**Pn**	**16 12 54.8**	**+1.0**
	5.6nm,0.3s,baz=63,slow=5.3,SNR=5.4							
HNR				S		**Sn**	**16 14 32.1**	**+0.8**
	3.6nm,0.3s,baz=67,slow=22,SNR=8.7							
HNR	**Honiara**	**8.79**	**304**			**Pn**	**16 12 55.4**	**+1.6**
EIDS	**Eidsvold**	**18.72**	**232**	P		**Pn**	**16 14 59.5**	**-1.1**
EIDS					IAmb	IAmb	16 15 00.4	
	comp=Z,15nm,0.7s							
CTA	**Charters Tower**	**20.89**	**251**	P		**P**	**16 15 21.3**	**-0.9**
	comp=Z,5.1nm,0.6s,baz=84,slow=13,SNR=17							
CTAO	**Charters Tower**	**20.89**	**251**	P		**P**	**16 15 21.7**	**-0.4**
CTAO					IAmb	IAmb	16 15 22.1	
	comp=Z,7.7nm,0.8s							
ARMA	**Armidale**	**21.48**	**220**	P		**P**	**16 15 25.3**	**-3.2**
ARMA					IAmb	IAmb	16 15 31.6	
	comp=Z,27nm,1.4s							
NIUE	**Niue**	**22.24**	**105**	P		**P**	**16 15 36.6**	**+0.2**
COEN	**Coen**	**23.43**	**268**	P		**P**	**16 15 47.4**	**-0.5**
COEN					IAmb	IAmb	16 15 48.6	
	comp=Z,9.0nm,1.1s							
STKA	**Stephens Creek**	**29.22**	**229**	P		**P**	**16 16 38.9**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=27,slow=8.4,SNR=6.0							
STKA	**Stephens Creek**	**29.22**	**229**	P		**P**	**16 16 39.7**	**0.0**
RPZ	**Rata Peaks**	**29.33**	**174**	P		**P**	**16 16 39.1**	**-1.4**
RPZ					IAmb	IAmb	16 16 47.1	
	comp=Z,28nm,1.3s							
WR0	**Warramunga Arr**	**31.77**	**255**	P		**P**	**16 16 59.6**	**-2.7**
WR0					IAmb	IAmb	16 17 07.9	
	comp=Z,15nm,1.5s							
WB0	**Warramunga Arr**	**31.89**	**256**	P		**P**	**16 17 00.6**	**-2.8**
WB0					IAmb	IAmb	16 17 23.0	
	comp=Z,14nm,1.5s							
WB2	**Warramunga Arr**	**31.94**	**255**	P		**P**	**16 17 01.4**	**-2.5**
WB2					IAmb	IAmb	16 17 26.2	
	comp=Z,12nm,1.4s							
WRAB	**Tennant Creek**	**31.94**	**255**	P		**P**	**16 17

ARCES ARCESS Array B 120.01 345 PKP **PKPdf** **16 29 23.7 -1.2**
comp=Z,8.9nm,1.1s,baz=50,slow=2.3,SNR=8.9
KEST Kesra 151.04 321 PKPbc **PKPbc** **16 30 27.0 -1.5**
comp=Z,3.7nm,0.8s,baz=248,slow=5.0,SNR=4.8

*IDC **23** 16:18:18.2±2.3,36.88N×98.10W,h0km,mb3.2/1, mb1 3.6/3,mb1mx3.2/60,mbtmp3.1/3,ML3.9/2,Error ellipse: s-maj=30.0km s-min=15.7km az=89.0*
*ANF **23** 16:18:19.5±0.2,36.76N×98.00W,h5km,ML4.1/13,Error ellipse: s-maj=1.9km s-min=1.7km az=119.0*
*TUL **23** 16:18:19.4±0.8,36.78N±0.02×98.02W±0.02,h7km±7km, ML3.3,mb_Lg3.3/88(NEIC),Error ellipse: s-maj=3.3km s-min=1.3km az=52.0*
*NEIC **23** 16:18:19.3±0.8,36.75N±0.02×98.00W±0.03,h5km±7km, Error ellipse: s-maj=3.4km s-min=2.4km az=60.0*
ISC 23 16:18:19.1±0.9,36.75N±0.02×98.04W±0.03,h10km±6km, n97,σ0.92/79,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.14**	**291**	Pg	**Pg**	**16 18 22.8**	**+0.4**
OK032				Sg	**Sg**	**16 18 25.0**	**+0.3**
GC02	**Grant County #**	**0.18**	**56**	Pg	**Pg**	**16 18 22.9**	**-0.1**
KAN14	**Manchester OK**	**0.21**	**17**	Pg	**Pg**	**16 18 23.5**	**-0.1**
KAN14				Sg	**Sg**	**16 18 26.1**	**-0.5**
CROK	**Carrier**	**0.25**	**169**	Pg	**Pb**	**16 18 25.0**	**-0.8**
CROK				Sg	**Sg**	**16 18 28.5**	**+0.8**
KAN10	**Anthony SW Sta**	**0.37**	**354**	Pg	**Pg**	**16 18 26.5**	**0.0**
KAN10				Sg	**Sg**	**16 18 31.1**	**-0.5**
KAN05	**Bluff City Nor**	**0.38**	**21**	Pg	**Pg**	**16 18 26.5**	**-0.2**
KAN05				Sg	**Sg**	**16 18 31.4**	**-0.4**
KAN01	**Argonia South**	**0.46**	**29**	Pg	**Pg**	**16 18 28.0**	**-0.2**
KAN08	**Anthony NE Sta**	**0.48**	**7**	Pg	**Pg**	**16 18 28.4**	**0.0**
KAN08				Sg	**Sg**	**16 18 34.4**	**-0.4**
KAN09	**Caldwell North**	**0.51**	**41**	Pg	**Pg**	**16 18 28.8**	**-0.3**
KAN13	**South Haven SW**	**0.52**	**60**	Pg	**Pg**	**16 18 29.1**	**-0.2**
KAN12	**Harper NE Stat**	**0.55**	**4**	Pg	**Pg**	**16 18 29.6**	**-0.1**
U32A	**Winter Ranch,** baz=63,SNR=49	**0.86**	**245**	Pg	**Pb**	**16 18 35.9**	**-0.2**
U32A	**Winter Ranch,** baz=63,SNR=49	**0.86**	**245**	P	**Pb**	**16 18 36.0**	**-0.2**
U32A				S	**Sn**	**16 18 48.1**	**-1.8**
U32A	**Winter Ranch,** baz=63,SNR=49	**0.86**	**245**	P		16 18 36.0	
U32A				S		16 18 48.1	
OK029	**Liberty Lake**	**1.06**	**153**		**Pg**	**16 18 39.5**	**-0.1**
BCOK	**Bluff Creek, N**	**1.15**	**162**		**Pg**	**16 18 40.9**	**-0.3**
QUOK	**Quay**	**1.22**	**118**		**Pg**	**16 18 42.1**	**-0.2**
T35A	**Sooner Cattle**	**1.24**	**82**		**Pn**	**16 18 41.9**	**-0.6**
T35B	**Sooner Cattle** baz=264,SNR=71	**1.24**	**82**	P	**Pn**	**16 18 42.2**	**-0.4**
T35B				S	**Sg**	**16 18 58.4**	**-0.6**
T35B	**Sooner Cattle** baz=264,SNR=71	**1.24**	**82**	P		16 18 42.2	
T35B				S		16 18 58.4	
OK031	**S. Brethren Rd**	**1.26**	**129**		**Pn**	**16 18 42.6**	**-0.2**
OK025	**Westminster Rd**	**1.30**	**154**		**Pn**	**16 18 43.6**	**+0.2**
OK030	**Cody Creek RV**	**1.31**	**129**		**Pn**	**16 18 43.2**	**-0.2**
OKCFA	**Oklahoma City**	**1.42**	**160**		**Pg**	**16 18 46.2**	**-0.2**
OKCFA	**Oklahoma City** baz=341	**1.42**	**160**	S	**Sg**	**16 19 05.2**	**+0.4**
OKCFA	**Oklahoma City** baz=341	**1.42**	**160**	S		16 19 05.2	
OKCSW	**OKLAHOMA CITY**	**1.43**	**160**		**Pg**	**16 18 46.6**	**0.0**
FNO	**Franklin**	**1.58**	**161**		**Pg**	**16 18 48.9**	**-0.5**
R32A	**Long Quarter,** comp=Z,157nm,0.8s	**1.75**	**343**	Pn	**Pb**	**16 18 50.8**	**-0.6**
R32A				lAmb_Lg		16 19 14.9	
R32A	**Long Quarter,** baz=161,SNR=71	**1.75**	**343**	P	**Pb**	**16 18 50.9**	**-0.6**
R32A				S	**Sb**	**16 19 14.1**	**+0.6**
R32A	**Long Quarter,** baz=161,SNR=71	**1.75**	**343**	P		16 18 50.9	
R32A				S		16 19 14.1	
TUL1	**Leonard** baz=296	**2.00**	**114**	Sb	**Sb**	**16 19 21.9**	**+1.3**
TUL1	**Leonard** baz=296	**2.00**	**114**	S		16 19 21.6	
TUL1	**Leonard** baz=296	**2.00**	**114**	Sb		16 19 21.9	
WMOK	**Wichita Mounta** comp=Z,107nm,0.8s	**2.10**	**197**	Pn	**Pb**	**16 18 56.0**	**-1.3**
WMOK				lAmb_Lg		16 19 27.5	
WMOK	**Wichita Mounta** baz=17,SNR=124	**2.10**	**197**	P	**Pb**	**16 18 56.1**	**-1.2**
WMOK				S	**Sg**	**16 19 24.1**	**-2.5**
WMOK	**Wichita Mounta** baz=17	**2.10**	**197**	P		16 18 56.2	
WMOK				S		16 19 24.1	
WMOK	**Wichita Mounta** baz=17,SNR=124	**2.10**	**197**	P		16 18 56.1	
WMOK				S		16 19 24.1	
CBKS	**Cedar Bluff** comp=Z,87nm,0.7s	**2.46**	**327**	lAmb_Lg	**Pn**	**16 19 00.1** 16 19 41.7	**+0.8**
CBKS	**Cedar Bluff** baz=146,SNR=17	**2.46**	**327**	P	**Pn**	**16 19 00.6**	**+1.3**
CBKS				S	**Sb**	**16 19 31.8**	**-2.0**
CBKS	**Cedar Bluff** baz=146	**2.46**	**327**	P		16 19 00.5	
CBKS				S		16 19 31.4	
CBKS	**Cedar Bluff** baz=146,SNR=17	**2.46**	**327**	P		16 19 00.6	
CBKS				S		16 19 31.8	
KSU1	**Kansas State U** comp=Z,96nm,0.8s	**2.60**	**25**	Pn lAmb_Lg	**Pn**	**16 19 01.8** 16 19 44.2	**+0.5**
KSU1	**Kansas State U** baz=206	**2.60**	**25**	P	**Pn**	**16 19 02.2**	**+0.9**
KSU1				Sb	**Sb**	**16 19 40.5**	**+2.5**
KSU1	**Kansas State U** baz=206	**2.60**	**25**	Sb		16 19 40.4	
KSU1	**Kansas State U** baz=206	**2.60**	**25**	P		16 19 02.2	
KSU1				Sb		16 19 40.5	
U38A	**Gravette** comp=Z,74nm,0.8s	**2.96**	**95**		**Pn**	**16 19 06.9**	**+0.7**
U38A				lAmb_Lg		16 19 59.6	
X37A	**Clayton**	**3.06**	**134**		**Pn**	**16 19 08.5**	**+0.9**
X37A	**Clayton** baz=316,SNR=30	**3.06**	**134**	P	**Pn**	**16 19 08.9**	**+1.3**
X37A	**Clayton** baz=316,SNR=30	**3.06**	**134**	P		16 19 08.9	
HHAR	**Hobbs**	**3.34**	**97**		**Pn**	**16 19 11.8**	**+0.4**
Z35A	**Perchaven, San**	**3.47**	**169**	Pn	**Pn**	**16 19 14.9**	**+1.6**
Z35A	**Perchaven, San** baz=350,SNR=9.3	**3.47**	**169**	P	**Pn**	**16 19 14.6**	**+1.3**
Z35A				S	**Sn**	**16 19 57.1**	**+2.6**
Z35A	**Perchaven, San** baz=350,SNR=9.3	**3.47**	**169**	P		16 19 14.6	
Z35A				S		16 19 57.1	
AMTX	**Amarillo**	**3.50**	**239**	Pn	**Pn**	**16 19 14.9**	**+1.2**
AMTX	**Amarillo** baz=56	**3.50**	**239**	Pb		16 19 23.2	
W39A	**Magazine** comp=Z,66nm,0.9s	**3.79**	**113**	Pn lAmb_Lg	**Pn**	**16 19 19.1** 16 20 26.6	**+1.5**
W39A	**Magazine** baz=296	**3.79**	**113**	Pb		16 19 27.4	
S39A	**Bolivar**	**3.88**	**75**		**Pn**	**16 19 19.5**	**+0.6**
S39A	**Bolivar** baz=258,SNR=10	**3.88**	**75**	P	**Pn**	**16 19 19.7**	**+0.8**
S39A	**Bolivar** baz=258,SNR=10	**3.88**	**75**	P		16 19 19.7	
N33A	**J Bar K, Exete** comp=Z,58nm,0.7s	**4.01**	**6**	Pn lAmb_Lg	**Pn**	**16 19 21.4** 16 20 33.1	**+0.8**
U40A	**Yellville**	**4.20**	**94**		**Pn**	**16 19 23.6**	**+0.4**
U40A	**Yellville** baz=277,SNR=8.8	**4.20**	**94**	P	**Pn**	**16 19 24.0**	**+0.8**
U40A	**Yellville** baz=277	**4.20**	**94**	P		16 19 23.9	
U40A	**Yellville** baz=277,SNR=8.8	**4.20**	**94**	P		16 19 24.0	
U40A				P		16 19 24.0	
MIAR	**Mount Ida** comp=Z,64nm,0.9s	**4.25**	**120**	Pn lAmb_Lg	**Pn**	**16 19 25.1** 16 20 37.6	**+1.2**
KSCO	**Kaye Shedlock'** comp=Z,57nm,0.7s	**4.27**	**303**	Pn lAmb_Lg	**Pn**	**16 19 25.4** 16 20 40.8	**+1.1**
Z38A	**Mt. Pleasant**	**4.29**	**143**	Pn	**Pn**	**16 19 25.1**	**+0.6**
ABTX	**Abilene, Hawle** comp=Z,50nm,1.0s	**4.32**	**198**	lAmb_Lg		16 20 35.9	
P38A	**Dawn** comp=Z,52nm,0.7s	**4.57**	**50**	lAmb_Lg		16 20 55.7	
P38A	**Dawn** baz=232	**4.57**	**50**	P	**Pn**	**16 19 29.0**	**+0.7**
P38A	**Dawn** baz=232	**4.57**	**50**	P		16 19 29.0	
MGMO	**Mountain Grove**	**4.64**	**83**	Pn	**Pn**	**16 19 29.4**	**+0.1**
BGNE	**Belgrade**	**4.65**	**359**	Pn	**Pn**	**16 19 29.5**	**0.0**
MSTX	**Muleshoe**	**4.76**	**236**	Pn	**Pn**	**16 19 32.1**	**+1.1**
MSTX	**Muleshoe** baz=53	**4.76**	**236**	Sb		16 20 47.0	
WHTX	**Lake Whitney,** comp=Z,48nm,1.1s	**4.77**	**174**	lAmb_Lg	**Pn**	**16 19 32.0** 16 20 52.6	**+0.9**
WHTX	**Lake Whitney,** baz=355,SNR=7.1	**4.77**	**174**	P	**Pn**	**16 19 32.3**	**+1.2**
WHTX	**Lake Whitney,** baz=355	**4.77**	**174**	P		16 19 32.5	
WHTX				S		16 20 27.3	
WHTX	**Lake Whitney,** baz=355,SNR=7.1	**4.77**	**174**	P		16 19 32.3	
X40A	**Basin Creek Fa**	**4.81**	**117**	Pn	**Pn**	**16 19 32.1**	**+0.6**
X40A	**Basin Creek Fa** baz=300	**4.81**	**117**	P		16 19 32.9	
R40A	**Maddies Statio** comp=Z,40nm,0.8s	**4.84**	**70**	Pn lAmb_Lg	**Pn**	**16 19 32.5** 16 21 00.2	**+0.4**
WHAR	**Wooly Hollow** comp=Z,44nm,0.9s	**4.89**	**106**	lAmb_Lg		16 20 55.6	
W41B	**Gary Mavity, V** baz=290	**4.96**	**107**	Sb		16 20 52.2	
WLAR	**White Oak Lake** comp=Z,39nm,1.1s	**5.06**	**126**	Pn lAmb_Lg	**Pn**	**16 19 35.9** 16 21 10.1	**+0.8**
237A	**Washetta, Mont** comp=Z,45nm,1.0s	**5.09**	**158**	Pn lAmb_Lg	**Pn**	**16 19 36.1** 16 21 11.6	**+0.7**
T25A	**Trinidad** comp=Z,50nm,0.7s	**5.12**	**276**	lAmb_Lg		16 21 07.4	
OGNE	**Ogallala**	**5.22**	**325**	Pn	**Pn**	**16 19 37.7**	**+0.4**
L34A	**Svendsen Farm,** comp=Z,74nm,0.8s	**5.37**	**13**	Pn lAmb_Lg	**Pn**	**16 19 39.6** 16 21 13.7	**+0.4**
P40A	**Paris** comp=Z,55nm,0.7s	**5.48**	**58**	lAmb_Lg		16 21 16.6	
N38A	**Joes South For** comp=Z,42nm,0.7s	**5.51**	**41**	lAmb_Lg		16 21 21.4	
CCM	**Cathedral Cave** comp=Z,59nm,1.1s	**5.57**	**74**	lAmb_Lg		16 21 20.3	
T42A	**Van Buren** comp=Z,33nm,0.9s	**5.58**	**85**	Pn lAmb_Lg	**Pn**	**16 19 43.0** 16 21 22.5	**+0.8**
435B	**Jarrell** comp=Z,36nm,0.8s	**5.97**	**176**	lAmb_Lg		16 21 35.2	
PBMO	**Poplar Bluff** comp=Z,39nm,0.7s	**6.11**	**87**	lAmb_Lg		16 21 36.1	
SCIA	**State Center** comp=Z,47nm,0.8s	**6.36**	**35**	lAmb_Lg		16 21 51.5	
LPAR	**Lepanto** comp=Z,41nm,0.7s	**6.37**	**98**	lAmb_Lg		16 21 42.7	
JCT	**Junction City** comp=Z,36nm,0.8s	**6.43**	**194**	lAmb_Lg		16 21 58.1	
SLM	**Saint Louis** comp=Z,38nm,0.7s	**6.47**	**71**	lAmb_Lg		16 21 39.9	
ANMO	**Albuquerque** baz=84,slow=17,SNR=1.1	**7.07**	**258**	Pg	Pg	16 20 27.8	-6.7
ANMO	comp=Z,0.8nm,0.3s,baz=22,slow=12,SNR=7.0			Lg	Lg	16 22 01.1	
S44A	**Carbondale** comp=Z,53nm,0.7s	**7.07**	**80**	lAmb_Lg		16 22 04.0	
SIUC	**Southern Illin** comp=Z,41nm,0.8s	**7.11**	**80**	lAmb_Lg		16 22 00.5	
K38A	**Parkersburg** comp=Z,53nm,0.8s	**7.15**	**33**	lAmb_Lg		16 22 10.4	
P43A	**Skaggs, Pawnee** comp=Z,49nm,0.8s	**7.30**	**64**	lAmb_Lg		16 22 13.6	
W45A	**Hickory Valley** comp=Z,40nm,0.8s	**7.36**	**100**	lAmb_Lg		16 22 13.5	
L40A	**Anamosa** comp=Z,45nm,1.1s	**7.48**	**43**	lAmb_Lg		16 22 34.7	
SUSD	**Miller** comp=Z,21nm,0.8s	**7.71**	**355**	lAmb_Lg		16 22 43.9	
I37A	**Lemond, Waseca** comp=Z,25nm,0.9s	**8.07**	**25**	lAmb_Lg		16 22 52.2	
JFWS	**Jewell Farm** comp=Z,24nm,0.7s	**8.59**	**42**	lAmb_Lg		16 22 51.9	
RWWY	**Rawlins** comp=Z,22nm,1.1s	**8.65**	**308**	lAmb_Lg		16 23 00.5	
T47A	**Sharon Grove** comp=Z,23nm,1.0s	**8.77**	**85**	lAmb_Lg		16 23 10.7	
TXAR	**Lajitas Array** comp=Z,0.2nm,0.3s,baz=30,slow=11,SNR=8.1	**8.77**	**214**	Pn	**Pn**	**16 20 25.9**	**-0.3**
TXAR	comp=Z,0.4nm,0.3s,baz=47,slow=13,SNR=4.8			Pg	Pg	16 20 59.8	-7.3
TXAR	comp=Z,0.5nm,0.3s,baz=62,slow=16,SNR=4.4			Lg	Lg	16 22 52.0	
K22A	**Casper** comp=Z,26nm,0.9s	**8.80**	**315**	lAmb_Lg		16 23 19.0	
I40A	**Norwalk** comp=Z,17nm,1.1s	**9.11**	**36**	lAmb_Lg		16 23 17.7	
SFIN	**Lafayette** comp=Z,28nm,0.9s	**9.30**	**64**	lAmb_Lg		16 23 13.2	
WCI	**Wyandotte Cave** comp=Z,21nm,0.8s	**9.45**	**77**	lAmb_Lg		16 23 19.5	
SWET	**Sewanee** comp=Z,15nm,1.2s	**9.93**	**95**	lAmb_Lg		16 23 37.9	
PDAR	**Pinedale Array** comp=Z,0.2nm,0.3s,baz=119,slow=17,SNR=3.6	**10.70**	**308**	Pn	**Pn**	**16 20 51.7**	**-1.0**
PDAR	comp=Z,0.2nm,0.3s,baz=107,slow=30,SNR=3.5			Lg	Lg	16 23 50.9	
TKL	**Tuckaleechee C** comp=Z,0.5nm,0.3s,baz=0.5,slow=21,SNR=5.9	**11.58**	**91**	Lg	Lg	16 24 22.6	
ILAR	**Eielson Array** comp=Z,0.3nm,0.7s,baz=114,slow=6.9,SNR=4.5	**40.11**	**330**	P	**P**	**16 25 54.6**	**0.0**

*ANF **23** 16:23:42.9±0.3,36.77N×98.00W,h6km,ML3.8/14, Error ellipse: s-maj=3.1km s-min=2.8km az=65.0*
*TUL **23** 16:23:42.5±0.9,36.78N±0.02×98.02W±0.02,h6km±5km, ML3.3,mb_Lg3.1/67(NEIC),Error ellipse: s-maj=3.0km s-min=2.1km az=58.0*
*NEIC **23** 16:23:42.8±0.9,36.77N±0.04×98.00W±0.07,h10km±2km, Error ellipse: s-maj=7.7km s-min=5.7km az=93.0*
ISC 23 16:23:42.8±1.0,36.76N±0.02×98.01W±0.02,h6km±9km, n78,σ0.53/60,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.15**	**53**	Pg	**Pg**	**16 23 46.0**	**+0.2**
OK032	**Salt Plains WL**	**0.17**	**284**	Pg	**Pg**	**16 23 46.0**	**-0.2**
OK032				Sg	**Sg**	**16 23 48.4**	**-0.2**
KAN14	**Manchester OK**	**0.20**	**10**	Pg	**Pg**	**16 23 46.7**	**-0.1**
KAN14				Sg	**Sg**	**16 23 49.5**	**+0.1**
CROK	**Carrier**	**0.26**	**176**	Pg	**Pg**	**16 23 48.2**	**+0.3**
CROK				Sg	**Sg**	**16 23 52.1**	**+0.8**
KAN05	**Bluff City Nor**	**0.36**	**17**	Pg	**Pg**	**16 23 49.7**	**-0.1**
KAN10	**Anthony SW Sta**	**0.37**	**349**		**Pg**	**16 23 49.7**	**-0.3**
KAN01	**Argonia South**	**0.44**	**27**	Pg	**Pg**	**16 23 51.2**	**-0.1**
KAN08	**Anthony NE Sta**	**0.46**	**3**		**Pg**	**16 23 51.5**	**-0.3**
KAN09	**Caldwell North**	**0.48**	**40**	Pg	**Pg**	**16 23 52.0**	**-0.1**
KAN13	**South Haven SW**	**0.49**	**59**	Pg	**Pg**	**16 23 52.2**	**-0.1**
KAN12	**Harper NE Stat**	**0.53**	**1**		**Pg**	**16 23 52.9**	**-0.3**
U32A	**Winter Ranch,** baz=63,SNR=35	**0.89**	**245**	Pg	**Pg**	**16 23 59.1**	**-0.7**
U32A	**Winter Ranch,** baz=63,SNR=35	**0.89**	**245**	P	**Pg**	**16 23 59.2**	**-0.7**
U32A				S		16 23 59.2	
OK029	**Liberty Lake**	**1.06**	**155**	Pg	**Pg**	**16 24 02.8**	**-0.4**
BCOK	**Bluff Creek, N**	**1.15**	**164**	Pg	**Pg**	**16 24 04.2**	**-0.7**
QUOK	**Quay**	**1.20**	**119**	Pg	**Pg**	**16 24 05.2**	**-0.6**
T35A	**Sooner Cattle**	**1.21**	**82**	Pg	**Pg**	**16 24 05.2**	**-0.8**
T35B	**Sooner Cattle** baz=264,SNR=55	**1.21**	**82**	P	**Pg**	**16 24 05.3**	**-0.7**
T35B				S	**Sg**	**16 24 21.2**	**-0.5**
T35B	**Sooner Cattle** baz=264,SNR=55	**1.21**	**82**	P		16 24 05.3	
T35B				S		16 24 21.2	
OK031	**S. Brethren Rd**	**1.24**	**130**	Pn	**Pg**	**16 24 05.8**	**-0.8**
OK030	**Cody Creek RV**	**1.29**	**130**		**Pn**	**16 24 06.5**	**-0.9**
OK025	**Westminster Rd**	**1.30**	**155**		**Pn**	**16 24 06.7**	**-0.9**
OKCFA	**Oklahoma City**	**1.42**	**161**	Pn	**Pn**	**16 24 09.1**	**0.0**
OKCFA	**Oklahoma City** baz=342	**1.42**	**161**	S	**Sg**	**16 24 28.7**	**+0.3**
OKCFA	**Oklahoma City** baz=342	**1.42**	**161**	S		16 24 28.7	
OKCSW	**OKLAHOMA CITY**	**1.43**	**161**	Pn	**Pn**	**16 24 09.1**	**-0.3**
FNO	**Franklin**	**1.58**	**162**	Pn	**Pn**	**16 24 11.4**	**0.0**
R32A	**Long Quarter,** comp=Z,101nm,0.8s	**1.75**	**342**	lAmb_Lg		16 24 40.1	
R32A	**Long Quarter,** baz=161,SNR=46	**1.75**	**342**	P	**Pn**	**16 24 13.8**	**+0.1**
R32A				S	**Sb**	**16 24 37.2**	**-0.4**
R32A	**Long Quarter,** baz=161,SNR=46	**1.75**	**342**	P		16 24 13.8	
R32A				S		16 24 37.2	
TUL1	**Leonard** baz=297	**1.98**	**115**	S	**Sb**	**16 24 45.0**	**+0.8**
TUL1	**Leonard** baz=297	**1.98**	**115**	S		16 24 45.0	
TUL1	**Leonard** baz=297	**1.98**	**115**	S		16 24 45.0	
WMOK	**Wichita Mounta** comp=Z,70nm,0.8s	**2.12**	**198**	Pn lAmb_Lg	**Pn**	**16 24 18.8** 16 24 50.3	**0.0**
WMOK	**Wichita Mounta** baz=17,SNR=96	**2.12**	**198**	P	**Pn**	**16 24 19.2**	**+0.4**
WMOK				S	**Sb**	**16 24 47.4**	**-0.8**
WMOK	**Wichita Mounta** baz=17	**2.12**	**198**	P		16 24 19.3	
WMOK				S		16 24 47.4	
WMOK	**Wichita Mounta** baz=17,SNR=96	**2.12**	**198**	P		16 24 19.2	
WMOK				S		16 24 47.4	
CBKS	**Cedar Bluff**	**2.46**	**327**	Pn	**Pn**	**16 24 22.9**	**-0.7**
CBKS	**Cedar Bluff** baz=146,SNR=15	**2.46**	**327**	P	**Pn**	**16 24 25.4**	**+1.7**
CBKS				S	**Sn**	**16 24 54.6**	**+0.5**
CBKS	**Cedar Bluff** baz=146	**2.46**	**327**	P		16 24 25.3	
CBKS				S		16 24 54.6	
CBKS	**Cedar Bluff** baz=146,SNR=15	**2.46**	**327**	P		16 24 25.4	
CBKS				S		16 24 54.6	
KSU1	**Kansas State U** baz=206	**2.58**	**25**		**Pn**	**16 24 24.8**	**-0.4**
KSU1	**Kansas State U** baz=206	**2.58**	**25**	P	**Pn**	**16 24 25.1**	**-0.1**
KSU1	**Kansas State U** baz=206	**2.58**	**25**	P		16 24 25.3	
KSU1				Sb		16 25 02.9	
KSU1	**Kansas State U** baz=206	**2.58**	**25**	P		16 24 25.1	
U38A	**Gravette**	**2.93**	**95**	Pn	**Pn**	**16 24 29.9**	**-0.1**
X37A	**Clayton** comp=Z,47nm,0.8s	**3.05**	**135**	Pn lAmb_Lg	**Pn**	**16 24 31.9** 16 25 22.1	**+0.3**
X37A	**Clayton** baz=316,SNR=17	**3.05**	**135**	P	**Pn**	**16 24 32.0**	**+0.3**
X37A	**Clayton** baz=316,SNR=17	**3.05**	**135**	P		16 24 32.0	
HHAR	**Hobbs**	**3.31**	**97**	Pn	**Pn**	**16 24 35.1**	**-0.1**
Z35A	**Perchaven, San**	**3.48**	**170**		**Pn**	**16 24 37.8**	**+0.3**
Z35A	**Perchaven, San** baz=350,SNR=8.8	**3.48**	**170**	P	**Pn**	**16 24 38.2**	**+0.7**
Z35A				S	**Sn**	**16 25 20.3**	**+1.3**
Z35A	**Perchaven, San** baz=350,SNR=8.8	**3.48**	**170**	P		16 24 38.2	
Z35A				S		16 25 20.3	
AMTX	**Amarillo** comp=Z,51nm,0.9s	**3.53**	**239**	Pn lAmb_Lg	**Pn**	**16 24 38.2** 16 25 34.5	**-0.1**
AMTX	**Amarillo** baz=56	**3.53**	**239**	P	**Pn**	**16 24 38.0**	**-0.3**
AMTX	**Amarillo** baz=56	**3.53**	**239**	Pb		16 24 46.5	
AMTX	**Amarillo** baz=56	**3.53**	**239**	P		16 24 38.0	
W39A	**Magazine** comp=Z,41nm,0.9s	**3.76**	**113**	lAmb_Lg		16 25 49.4	
W39A	**Magazine** baz=296	**3.76**	**113**	Pb		16 24 50.5	
S39A	**Bolivar**	**3.85**	**75**	Pn	**Pn**	**16 24 42.1**	**-0.5**
S39A	**Bolivar** baz=258,SNR=6.5	**3.85**	**75**	P	**Pn**	**16 24 42.8**	**+0.2**
S39A	**Bolivar** baz=258,SNR=6.5	**3.85**	**75**	P		16 24 42.8	
N33A	**J Bar K, Exete** comp=Z,36nm,0.9s	**3.99**	**6**	lAmb_Lg		16 25 59.6	
U40A	**Yellville** comp=Z,52nm,0.7s	**4.17**	**94**	Pn lAmb_Lg	**Pn**	**16 24 46.7** 16 25 55.3	**-0.3**
U40A	**Yellville** baz=277,SNR=7.6	**4.17**	**94**	P	**Pn**	**16 24 47.1**	**+0.1**
U40A	**Yellville** baz=277	**4.17**	**94**	P		16 24 47.5	
U40A	**Yellville** baz=277,SNR=7.6	**4.17**	**94**	P		16 24 47.1	
U40A				P		16 24 47.1	
MIAR	**Mount Ida** comp=Z,52nm,1.1s	**4.23**	**120**	Pn lAmb_Lg	**Pn**	**16 24 47.9** 16 25 59.9	**+0.1**
MIAR	**Mount Ida** baz=303	**4.23**	**120**	Pb		16 24 58.3	
Z38A	**Mt. Pleasant** comp=Z,29nm,0.7s	**4.28**	**144**	Pn lAmb_Lg	**Pn**	**16 24 48.3** 16 26 03.6	**-0.2**
KSCO	**Kaye Shedlock'** comp=Z,34nm,0.8s	**4.29**	**303**	lAmb_Lg		16 26 00.9	
P38A	**Dawn** comp=Z,38nm,0.7s	**4.54**	**50**	lAmb_Lg		16 26 07.1	
BGNE	**Belgrade**	**4.64**	**359**	Pn	**Pn**	**16 24 52.8**	**-0.7**
WHTX	**Lake Whitney,** baz=355,SNR=12	**4.78**	**174**	Pn	**Pn**	**16 24 55.4**	**-0.1**
WHTX	**Lake Whitney,** baz=355	**4.78**	**174**	P	**Pn**	**16 24 55.7**	**+0.3**
WHTX	**Lake Whitney,** baz=355	**4.78**	**174**	P		16 24 55.7	
WHTX	**Lake Whitney,** baz=355,SNR=12	**4.78**	**174**	P		16 24 55.7	
X40A	**Basin Creek Fa** comp=Z,27nm,1.0s	**4.79**	**117**	Pn lAmb_Lg	**Pn**	**16 24 55.4** 16 26 19.8	**-0.1**
X40A	**Basin Creek Fa** baz=300	**4.79**	**117**	P	**Pn**	**16 24 55.6**	**+0.2**
X40A	**Basin Creek Fa** baz=300	**4.79**	**117**	P		16 24 55.6	
X40A				P		16 24 55.6	
WHAR	**Wooly Hollow** comp=Z,25nm,0.9s	**4.86**	**106**	lAmb_Lg		16 26 18.8	
WLAR	**White Oak Lake** comp=Z,24nm,1.1s	**5.04**	**126**	lAmb_Lg		16 26 33.2	
T25A	**Trinidad** comp=Z,31nm,1.0s	**5.14**	**276**	lAmb_Lg		16 26 30.1	
L34A	**Svendsen Farm,** comp=Z,37nm,0.8s	**5.35**	**13**	lAmb_Lg		16 26 46.7	
P40A	**Paris** comp=Z,30nm,0.8s	**5.45**	**58**	lAmb_Lg		16 26 40.5	
N38A	**Joes South For** comp=Z,29nm,0.8s	**5.48**	**41**	lAmb_Lg		16 26 36.8	
CCM	**Cathedral Cave** comp=Z,23nm,0.9s	**5.53**	**74**	lAmb_Lg		16 26 43.9	
435B	**Jarrell**	**5.97**	**177**	lAmb_Lg		16 27 07.6	

	comp=Z,23nm,0.8s					
PBMO	**Poplar Bluff**	**6.08**	**88**	IAmb_Lg		16 26 59.6
	comp=Z,18nm,0.7s					
FVM	**French Village**	**6.16**	**76**	IAmb_Lg		16 26 59.2
	comp=Z,23nm,0.8s					
SCIA	**State Center**	**6.34**	**34**	IAmb_Lg		16 27 04.7
	comp=Z,23nm,0.8s					
S44A	**Carbondale**	**7.04**	**80**	IAmb_Lg		16 27 28.6
	comp=Z,27nm,0.8s					
ECSD	**EROS Data Cent**	**7.04**	**8**	IAmb_Lg		16 27 24.5
	comp=Z,5.6nm,0.7s					
SIUC	**Southern Illin**	**7.08**	**80**	IAmb_Lg		16 27 32.1
	comp=Z,22nm,0.8s					
K38A	**Parkersburg**	**7.13**	**33**	IAmb_Lg		16 27 33.1
	comp=Z,28nm,0.8s					
OXF	**Oxford**	**7.35**	**105**	IAmb_Lg		16 27 36.1
	comp=Z,26nm,1.2s					
L40A	**Anamosa**	**7.45**	**43**	IAmb_Lg		16 27 58.2
	comp=Z,24nm,0.9s					
JFWS	**Jewell Farm**	**8.56**	**42**	IAmb_Lg		16 28 13.3
	comp=Z,14nm,0.8s					
RWWY	**Rawlins**	**8.67**	**307**	IAmb_Lg		16 28 23.0
	comp=Z,17nm,1.1s					
T47A	**Sharon Grove**	**8.74**	**85**	IAmb_Lg		16 28 34.2
	comp=Z,14nm,1.1s					
K22A	**Casper**	**8.81**	**314**	IAmb_Lg		16 28 32.5
	comp=Z,13nm,0.8s					

MEX ***23*** *16:31:57.7±0.9, 14.75N×92.62W, h85km±12km, MD4.2*
SNET ***23*** *16:32:01.0±0.8, 15.22N×92.29W, h35km±999km, ML4.1*
GCG ***23*** *16:32:05.0±0.3, 14.85N×92.26W, h62km±20km, MD4.2*

ISC 23 16:31:57.9±1.6, 14.73N±0.09×92.75W±0.08, h64km±14km, n23, σ1§14/34, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**0.50**	**69**	*eP*		**Pn**	**16 32 09.5**	**-0.7**
THIG				*eS*		**Sn**	**16 32 19.1**	**-0.1**
PCIG		**1.07**	**335**	*eP*		**Pn**	**16 32 17.3**	**+0.3**
PCIG				*eS*		**Sn**	**16 32 31.5**	**+0.3**
STG3	**Santiaguito 3,**	**1.14**	**91**	*eP*		**Pn**	**16 32 19.6**	**+1.5**
ERG	**Entre ros, C**	**1.18**	**104**	*eP*		**Pn**	**16 32 20.3**	**+1.9**
CCIG	**Comitan**	**1.65**	**21**	*eP*		**Pn**	**16 32 25.8**	**+0.9**
CCIG				*eS*		**Sn**	**16 32 46.5**	**+1.2**
FUG	**Fuego 3**	**1.87**	**98**	*eP*		**Pn**	**16 32 29.2**	**+1.4**
TGIG		**2.07**	**350**	*eP*		**Pn**	**16 32 29.2**	**-1.2**
TGIG				*i* S		**Sn**	**16 32 54.3**	**-0.9**
PCG	**Pacaya**	**2.10**	**99**	*eP*		**Pn**	**16 32 32.9**	**+1.9**
NBG	**Las Nubes**	**2.33**	**93**	*eP*		**Pn**	**16 32 35.8**	**+1.7**
NBG				*eS*		**Sn**	**16 32 59.7**	**-2.2**
MRL	**Marmol**	**2.98**	**83**	*eP*		**Pn**	**16 32 44.2**	**+1.2**
CMIG	**Matias Romero**	**3.12**	**319**	*eP*		**Pn**	**16 32 45.0**	**+0.3**
CMIG				*i* S		**Sn**	**16 33 21.2**	**+0.4**
RTR	**El Retiro**	**3.12**	**105**	*eP*		**Pn**	**16 32 44.6**	**-0.3**
SBLS	**San Blas**	**3.16**	**106**	*eP*		**Pn**	**16 32 46.3**	**+0.9**
SBLS				*eS*		**Sn**	**16 33 21.1**	**-0.9**
CEVE	**Cerro Verde**	**3.16**	**106**	*eP*		**Pn**	**16 32 46.1**	**+0.7**
CEVE				*eS*		**Sn**	**16 33 21.2**	**-0.9**
CEVE				IAML			16 33 36.4	
	comp=Z,2μm,0.3s							
MTO3	**Montecristo**	**3.30**	**95**	*eP*		**Pn**	**16 32 46.3**	**-1.0**
JAYA	**Jayaque - finc**	**3.37**	**108**	*eP*		**Pn**	**16 32 48.4**	**+0.1**
JAYA				*eS*		**Sn**	**16 33 25.4**	**-1.8**
JAYA				IAML			16 33 37.3	
	comp=Z,967nm,0.2s							
TACO	**Tacachico**	**3.38**	**103**	*eP*		**Pn**	**16 32 47.5**	**-0.7**
TACO				IAML			16 33 41.3	
	comp=Z,58nm,0.3s							
PMON	**Piamonte**	**3.48**	**106**	*eP*		**Pn**	**16 32 50.3**	**+0.6**
PMON				*eS*		**Sn**	**16 33 28.4**	**-1.4**
LALI	**Alcalda de L**	**3.55**	**110**	*eP*		**Pn**	**16 32 51.5**	**+1.0**
LFRS	**El Faro**	**3.74**	**107**	*eP*		**Pn**	**16 32 53.9**	**+0.6**
LFRS				*eS*		**Sn**	**16 33 35.5**	**-0.6**
COEG	**Centro de Oper**	**3.91**	**106**	*eP*		**Pn**	**16 32 56.2**	**+0.7**
COEG				IAML			16 33 59.3	
	comp=Z,429nm,0.5s							
TECA	**Tecapa**	**4.30**	**106**	*eP*		**Pn**	**16 33 01.4**	**+0.4**
PACA	**Pacayal**	**4.47**	**106**	*eP*		**Pn**	**16 33 04.2**	**+0.9**

IDC ***23*** *17:00:06.9±1.2, 37.51N×142.16E, h0km, mb3.5/5, mb1 3.8/10, mb1mx3.5/40, mbtmp3.6/10, ML3.1/4, MS2.4/1, Ms1 2.4/1, ms1mx2.1/39, Error ellipse: s-maj=27.9km s-min=21.9km az=123.0*
JMA ***23*** *17:00:15.4, 37.78N×141.75E, h50km±1km, M3.6*

ISC 23 17:00:14.1±1.7, 37.74N±0.06×141.9E±0.1, h47km±17km, n29, σ1§27/38, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.68**	**327**	P		**Pn**	**17 00 27.7**	**+0.2**
JIKH				*eS*		**Sn**	**17 00 36.2**	**-0.9**
JMST	**Minamisoumatoc**	**0.84**	**269**	P		**Pn**	**17 00 29.0**	**-0.5**
JMST				S		**Sn**	**17 00 38.9**	**-1.8**
JIO	**Ouri**	**0.85**	**327**	P		**Pn**	**17 00 29.8**	**+0.1**
JIO				*eS*		**Sn**	**17 00 39.9**	**-1.3**
JMM	**Marumori**	**0.92**	**278**	P		**Pn**	**17 00 30.1**	**-0.5**
JMM				S		**Sn**	**17 00 40.8**	**-1.9**
JFK	**Kawauchi**	**0.93**	**247**	P		**Pn**	**17 00 30.6**	**-0.2**
JFK				S		**Sn**	**17 00 41.8**	**-1.2**
ONAJ	**Iwakimizuishiy**	**1.11**	**235**	P		**Pn**	**17 00 33.3**	**0.0**
ONAJ				S		**Sn**	**17 00 46.3**	**-1.2**
JOU	**Okura**	**1.19**	**302**	P		**Pn**	**17 00 33.9**	**-0.4**
JOU				S		**Sn**	**17 00 47.9**	**-1.4**
JFT	**Otama**	**1.29**	**261**	P		**Pn**	**17 00 36.1**	**+0.4**
JFT				S		**Sn**	**17 00 51.2**	**-0.7**
JMK	**Ichinoseki**	**1.34**	**335**	P		**Pn**	**17 00 37.0**	**+0.7**
JMK				*eS*		**Sn**	**17 00 52.2**	**-0.7**
JYS	**Shirataka**	**1.56**	**289**	P		**Pn**	**17 00 39.1**	**-0.2**
JYK	**Kaneyama**	**1.71**	**314**	P		**Pn**	**17 00 41.5**	**0.0**
JOM	**Ohasama**	**1.81**	**344**	P		**Pn**	**17 00 43.8**	**+1.1**
JOM				*eS*		**Sn**	**17 01 04.8**	**+0.4**
JFY	**Yanaizu**	**1.81**	**260**	P		**Pn**	**17 00 43.0**	**+0.2**
JRG	**Rokugo**	**1.95**	**329**	P		**Pn**	**17 00 45.5**	**+0.8**
JYA	**Atsumi**	**1.95**	**297**	P		**Pn**	**17 00 44.6**	**-0.1**
MJAR	**Matsushiro Arr**	**3.21**	**249**	Pn		**Pn**	**17 01 01.6**	**-0.5**
	0.2nm,0.3s,baz=54,slow=11,SNR=9.2							
MJAR				S		**Sn**	**17 01 42.2**	**+3.0**
	0.3nm,0.3s,baz=337,slow=21,SNR=4.1							
MAT	**Matsushiro**	**3.21**	**249**	P		**Pn**	**17 01 03.6**	**+1.5**
MAT				*eS*		**Sn**	**17 01 42.4**	**+3.3**
ASAJ	**Asahikawa**	**6.39**	**4**	Pn		**Pn**	**17 01 44.8**	**-0.8**
	0.7nm,0.3s,baz=212,slow=15,SNR=10							
USRK	**Ussuriysk Ar.**	**9.91**	**314**	Pn		**Pn**	**17 02 33.9**	**+0.1**
	baz=169,slow=30,SNR=3.2							
KSRS	**Korea Array**	**11.13**	**273**	Pn		**Pn**	**17 02 51.4**	**+0.9**
	0.1nm,0.3s,baz=80,slow=14,SNR=2.6							
KSRS				LR		LR	17 07 01.7	
	comp=Z,19nm,18.5s,baz=85,slow=37							
KLR	**Kul'dur**	**13.65**	**331**	Pn		**Pn**	**17 03 26.8**	**+2.0**
	0.1nm,0.3s,baz=277,slow=18,SNR=2.3							
SEY	**Seymchan**	**26.02**	**11**	P		**P**	**17 05 43.8**	**+1.4**
	1.4nm,0.9s,baz=254,slow=22,SNR=6.9							
H11N2	**WAKE ISLAND Hy**	**28.16**	**123**	T		T	17 36 21.6	
	baz=315,slow=76,SNR=18							
H11N1	**WAKE ISLAND Hy**	**28.17**	**123**	T		T	17 36 23.4	
	baz=315,slow=76,SNR=27							
H11N3	**WAKE ISLAND Hy**	**28.18**	**123**	T		T	17 36 23.2	
	baz=315,slow=76,SNR=15							
MKAR	**Makanchi Array**	**44.11**	**302**	P		**P**	**17 08 16.9**	**-0.7**
	0.2nm,0.5s,baz=81,slow=8.8,SNR=2.9							
ILAR	**Eielson Array**	**48.67**	**33**	P		**P**	**17 08 53.4**	**+0.2**
	0.3nm,0.5s,baz=264,slow=6.4,SNR=5.3							
WRA	**Warramunga Arr**	**57.82**	**188**	P		**P**	**17 09 58.4**	**-2.3**
	0.6nm,0.7s,baz=6.3,slow=7.0,SNR=5.4							
TXAR	**Lajitas Array**	**89.36**	**53**	P		**P**	**17 13 05.8**	**-0.1**
	0.2nm,0.5s,baz=344,slow=3.0,SNR=2.6							

NNC ***23*** *17:08:36.8±2.1, 42.13N×81.73E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=17.6km s-min=10.9km az=151.0*
SOME ***23*** *17:08:38.4, 42.35N×81.58E, h5km*

ISC 23 17:08:39.9±2.6, 42.3N±0.1×81.41E±0.07, h5km±13km, n13, σ1§66/25, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.39**	**326**	*eP*		**Pb**	**17 09 05.5**	**-0.9**
KTMS				*eS*		**Sn**	**17 09 25.0**	**0.0**
SHLS	**Shalkode**	**1.67**	**302**	*eP*		**Pn**	**17 09 07.5**	**-2.5**
	9.1nm,0.3s							
SHLS				*eS*		**Sn**	**17 09 28.7**	**-3.3**
	19nm,0.5s							
PDGK	**Podgornoye**	**1.75**	**307**	⇑Pn		**Pb**	**17 09 12.1**	**-0.5**
	1.4nm,0.3s							
PDGK				⇓Lg		Lg	17 09 42.6	
	16nm,0.5s							
UZB	**Uzynbulak**	**1.95**	**297**	*eP*		**Pb**	**17 09 16.9**	**+0.8**
	3.0nm,0.1s							
UZB				*eS*		**Sg**	**17 09 44.6**	**+2.0**
	18nm,0.5s							
KPKS	**Kokpek**	**2.32**	**301**	*eP*		**Pb**	**17 09 23.2**	**+0.8**
	5.9nm,0.3s							
KPKS				*eS*		**Sg**	**17 09 55.4**	**+1.0**
	34nm,0.5s							
SATY	**Saty**	**2.34**	**290**	*eP*		**Pg**	**17 09 24.4**	**-0.4**
	2.5nm,0.3s							
SATY				*eS*		**Sg**	**17 09 57.6**	**+2.5**
	18nm,0.3s							
DJR	**Jarkent**	**2.35**	**330**	*eP*		**Pg**	**17 09 22.8**	**-2.2**
	2.8nm,0.3s							
DJR				*eS*		**Sg**	**17 09 55.0**	**-0.5**
	17nm,0.5s							
ZHN	**Zhinishke**	**2.36**	**293**	*eP*		**Pg**	**17 09 24.6**	**-0.5**
	253nm,0.4s							
ZHN				*eS*		**Sg**	**17 09 57.7**	**+2.0**
	4.5nm,0.3s							
MNBS	**Baschi**	**2.83**	**310**	*eP*		**Pb**	**17 09 30.7**	**-0.4**
	1.0nm,0.2s							
MNBS				*eS*		**Sb**	**17 10 08.3**	**+2.2**
	10nm,0.3s							
ARXS	**Arharly**	**3.24**	**307**	*eP*		**Pb**	**17 09 39.8**	**+1.7**
	2.8nm,0.3s							
ARXS				*eS*		**Sg**	**17 10 24.0**	**0.0**
	4.6nm,0.2s							
TNSS	**Tian-Shan**	**3.37**	**284**	*eP*		**Pg**	**17 09 43.3**	**-1.3**
	0.6nm,0.1s							
TNSS				*eS*		**Sg**	**17 10 29.6**	**+1.3**
	2.4nm,0.5s							
MAKZ	**Makanchi**	**4.53**	**5**	⇑Pn		**Pn**	**17 09 49.7**	**+0.5**
	0.4nm,0.2s							
MAKZ				⇑Lg		Lg	17 11 04.8	
	3.2nm,0.6s							
MK31	**Makanchi Array**	**4.54**	**8**	Pn		**Pn**	**17 09 49.5**	**+0.1**
	0.1nm,0.2s,baz=189,slow=13,SNR=11							
MK31				⇑Pg		**Pb**	**17 10 00.3**	**+0.1**
	0.6nm,0.6s,baz=184,slow=15,SNR=2.8							
MK31				Sn		**Sn**	**17 10 45.1**	**+2.5**
	0.2nm,0.3s,baz=30,slow=22,SNR=4.0							
MK31				⇑Lg		Lg	17 11 03.0	
	4.5nm,0.7s,baz=188,slow=29,SNR=9.6							

IDC ***23*** *17:17:27.0±2.4, 35.66N×96.60W, h0km, mb1 3.4/3, mb1mx3.2/38, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=30.9km s-min=15.3km az=110.0*
ANF ***23*** *17:17:30.5±0.2, 35.85N×97.02W, h5km, ML4.1/12, Error ellipse: s-maj=2.4km s-min=1.7km az=162.0*
NEIC ***23*** *17:17:30.6, 35.79N×96.99W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.16; $M_{\theta\theta}$3.00; $M_{\phi\phi}$-3.17; $M_{r\theta}$1.11; $M_{\theta\phi}$-1.01; $M_{\phi r}$-0.38; Fault plane solution: $M_0$3.45000×10^{14} NP1:$\phi_1$145.51000°, δ79.38000°, λ16.02000°. NP2:$\phi_2$52.48000°, δ74.26000°, λ168.96000°. Principal axes: T 3.5551, Plg19.0000°, Azm10.0000°; N -0.2166, Plg71.0000°, Azm178.0000°; P -3.3386, Plg4.0000°, Azm278.0000°;*
TUL ***23*** *17:17:30.6±0.8, 35.79N±0.04×96.99W±0.06, h5km±7km, ML3.8, mb_Lg3.7/138(NEIC), Mwr3.6/43(NEIC) Error ellipse: s-maj=7.1km s-min=5.9km az=57.0*
NEIC ***23*** *17:17:30.6±0.8, 35.81N±0.04×97.02W±0.06, h5km±8km, Error ellipse: s-maj=7.3km s-min=6.2km az=63.0*

ISC 23 17:17:30.8±1.0, 35.82N±0.03×97.01W±0.03, h9km±9km, n130, σ0§81/92, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.19**	**47**	Pg		**Pg**	**17 17 34.9**	**+0.1**
OK030	**Cody Creek RV**	**0.21**	**60**	Pg		**Pg**	**17 17 35.1**	**0.0**
OK001	**Jones High Sch**	**0.35**	**221**	Pg		**Pg**	**17 17 37.5**	**-0.2**
OK025	**Westminster Rd**	**0.36**	**228**	Pg		**Pg**	**17 17 37.5**	**-0.4**
OK029	**Liberty Lake**	**0.36**	**266**	Pg		**Pg**	**17 17 38.0**	**0.0**
OK009	**Oakdale Elemen**	**0.41**	**234**	Pg		**Pg**	**17 17 39.0**	**+0.1**
QUOK	**Quay**	**0.42**	**35**	Pg		**Pg**	**17 17 39.2**	**+0.1**
OK011	**Prague**	**0.43**	**142**			**Pn**	**17 17 38.7**	**-0.5**
BCOK	**Bluff Creek, N**	**0.52**	**251**	Pg		**Pg**	**17 17 40.7**	**-0.2**
BCOK				IAmb_Lg			17 17 47.7	
	comp=Z,2μm,0.9s							
OKCFA	**Oklahoma City**	**0.54**	**222**	Pg		**Pg**	**17 17 41.0**	**-0.4**
OKCFA	**Oklahoma City**	**0.54**	**222**	P		**Pg**	**17 17 41.2**	**-0.2**
	baz=45,SNR=7.4							
OKCFA				S		**Sg**	**17 17 48.7**	**+0.2**
	baz=45							
OKCFA	**Oklahoma City**	**0.54**	**222**	P			17 17 41.2	
	baz=45,SNR=7.4							
OKCFA				S			17 17 48.7	
	baz=45							
OKCSW	**OKLAHOMA CITY**	**0.55**	**220**	Pg		**Pg**	**17 17 40.6**	**-0.7**
FNO	**Franklin**	**0.65**	**210**	Pg		**Pg**	**17 17 43.1**	**-0.3**
FNO				IAmb_Lg			17 17 51.5	
	comp=Z,924nm,1.1s							
TUL1	**Leonard**	**0.99**	**85**	S		**Sg**	**17 18 02.1**	**-0.6**
	baz=263							
TUL1	**Leonard**	**0.99**	**85**	S			17 18 02.2	
	baz=263							
TUL1	**Leonard**	**0.99**	**85**	S			17 18 02.1	
	baz=263							
CROK	**Carrier**	**1.04**	**311**	Pg		**Pg**	**17 17 49.5**	**-1.4**
T35A	**Sooner Cattle**	**1.16**	**20**	Pg		**Pg**	**17 17 52.5**	**-0.6**
T35B	**Sooner Cattle**	**1.16**	**20**	S		**Sb**	**17 18 08.6**	**+0.3**
	baz=199							
T35B	**Sooner Cattle**	**1.16**	**20**	S			17 18 08.6	
	baz=199							
GC02	**Grant County #**	**1.23**	**326**			**Pg**	**17 17 54.4**	**-0.1**
KAN13	**South Haven SW**	**1.25**	**342**			**Pg**	**17 17 54.5**	**-0.2**
KAN14	**Manchester OK**	**1.37**	**326**			**Pn**	**17 17 56.5**	**+0.3**
OK032	**Salt Plains WL**	**1.38**	**316**			**Pn**	**17 17 56.6**	**+0.3**
KAN09	**Caldwell North**	**1.40**	**340**			**Pn**	**17 17 57.0**	**+0.4**
KAN09				IAmb_Lg			17 18 16.8	
	comp=Z,302nm,0.9s							
KAN01	**Argonia South**	**1.46**	**336**			**Pn**	**17 17 57.9**	**+0.5**
KAN01				IAmb_Lg			17 18 18.7	
	comp=Z,327nm,0.8s							
KAN05	**Bluff City Nor**	**1.46**	**332**			**Pn**	**17 17 58.1**	**+0.7**
KAN10	**Anthony SW Sta**	**1.56**	**326**			**Pn**	**17 17 59.2**	**+0.3**
KAN08	**Anthony NE Sta**	**1.60**	**331**			**Pn**	**17 17 59.7**	**+0.4**
KAN08				IAmb_Lg			17 18 26.1	
	comp=Z,376nm,0.7s							
KAN12	**Harper NE Stat**	**1.67**	**332**			**Pn**	**17 18 00.7**	**+0.4**
U32A	**Winter Ranch,**	**1.71**	**290**	Pn		**Pn**	**17 18 01.5**	**+0.7**
U32A	**Winter Ranch,**	**1.71**	**290**	Pb		**Pn**	**17 18 02.0**	**+1.2**
	baz=109,SNR=8.4							
U32A				Sg		**Sg**	**17 18 25.7**	**0.0**
	baz=109							
U32A	**Winter Ranch,**	**1.71**	**290**	Pb			17 18 02.0	
	baz=109,SNR=8.4							
U32A				Sg			17 18 25.7	
	baz=109							
WMOK	**Wichita Mounta**	**1.81**	**234**	Pn		**Pn**	**17 18 02.5**	**+0.2**
WMOK				IAmb_Lg			17 18 28.8	
	comp=Z,239nm,0.8s							
WMOK	**Wichita Mounta**	**1.81**	**234**	P		**Pn**	**17 18 03.0**	**+0.8**
	baz=54							
WMOK				S		**Sb**	**17 18 27.1**	**+0.1**
	baz=54							
WMOK	**Wichita Mounta**	**1.81**	**234**	P			17 18 03.2	
	baz=54							
WMOK				S			17 18 27.1	
	baz=54							
WMOK	**Wichita Mounta**	**1.81**	**234**	P			17 18 03.0	
	baz=54							
WMOK				S			17 18 27.1	
	baz=54							
X37A	**Clayton**	**1.82**	**132**	Pn		**Pn**	**17 18 01.9**	**-0.4**
X37A	**Clayton**	**1.82**	**132**	P		**Pn**	**17 18 03.0**	**+0.6**
	baz=313							
X37A				S		**Sb**	**17 18 27.5**	**+0.2**
	baz=313							
X37A	**Clayton**	**1.82**	**132**	P			17 18 03.0	
	baz=313							
X37A				S			17 18 27.5	
	baz=313							
U38A	**Gravette**	**2.21**	**73**	Pn		**Pn**	**17 18 08.2**	**+0.5**
U38A				IAmb_Lg			17 18 40.2	
	comp=Z,305nm,0.9s							
Z35A	**Perchaven, San**	**2.50**	**185**	Pn		**Pn**	**17 18 11.8**	**+0.1**
	baz=5.0							
Z35A	**Perchaven, San**	**2.50**	**185**	P			17 18 12.6	
	baz=5.0							
HHAR	**Hobbs**	**2.53**	**79**			**Pn**	**17 18 12.6**	**+0.5**
HHAR				IAmb_Lg			17 18 51.7	
	comp=Z,155nm,0.8s							
W39A	**Magazine**	**2.70**	**102**	Pn		**Pn**	**17 18 14.7**	**+0.2**
W39A				IAmb_Lg			17 19 01.5	
	comp=Z,193nm,1.1s							
W39A	**Magazine**	**2.70**	**102**	P		**Pn**	**17 18 15.3**	**+0.8**
	baz=284,SNR=12							
W39A				S		**Sn**	**17 18 49.0**	**+1.6**
	baz=284							
W39A	**Magazine**	**2.70**	**102**	P			17 18 15.3	
	baz=284							
W39A				S			17 18 48.9	
	baz=284							
W39A	**Magazine**	**2.70**	**102**	P			17 18 15.3	
	baz=284,SNR=12							
W39A				S			17 18 49.0	
	baz=284							
Z38A	**Mt. Pleasant**	**3.06**	**146**	IAmb_Lg			17 19 06.3	
	comp=Z,234nm,0.8s							
MIAR	**Mount Ida**	**3.09**	**113**	Pn		**Pn**	**17 18 19.6**	**-0.2**
MIAR				IAmb_Lg			17 19 13.5	
	comp=Z,158nm,1.1s							
MIAR	**Mount Ida**	**3.09**	**113**	P		**Pn**	**17 18 20.9**	**+1.1**
	baz=295,SNR=7.8							
MIAR	**Mount Ida**	**3.09**	**113**	P			17 18 20.8	
	baz=295							
MIAR	**Mount Ida**	**3.09**	**113**	P			17 18 20.9	
	baz=295,SNR=7.8							
KSU1	**Kansas State U**	**3.29**	**5**			**Pn**	**17 18 23.2**	**+0.7**
KSU1				IAmb_Lg			17 19 20.6	
	comp=Z,161nm,0.9s							
KSU1	**Kansas State U**	**3.29**	**5**	Pb			17 18 32.1	
	baz=185							
U40A	**Yellville**	**3.41**	**80**	Pn		**Pn**	**17 18 24.2**	**0.0**
U40A				IAmb_Lg			17 19 17.5	
	comp=Z,168nm,0.7s							
S39A	**Bolivar**	**3.50**	**57**	IAmb_Lg			17 19 26.5	
	comp=Z,212nm,0.7s							
X40A	**Basin Creek Fa**	**3.67**	**110**	IAmb_Lg			17 19 33.4	
	comp=Z,192nm,0.8s							
CBKS	**Cedar Bluff**	**3.69**	**325**	IAmb_Lg			17 19 39.4	
	comp=Z,149nm,0.9s							
CBKS	**Cedar Bluff**	**3.69**	**325**	Sb			17 19 28.8	
	baz=143							
WHTX	**Lake Whitney,**	**3.84**	**186**	P		**Pn**	**17 18 30.9**	**+0.7**
	baz=5.7							
WHTX	**Lake Whitney,**	**3.84**	**186**	Sb			17 19 27.7	
	baz=5.7							
WHTX	**Lake Whitney,**	**3.84**	**186**	P			17 18 30.9	
	baz=5.7							
WLAR	**White Oak Lake**	**3.85**	**122**	IAmb_Lg			17 19 37.7	
	comp=Z,130nm,0.7s							
ABTX	**Abilene, Hawle**	**3.87**	**215**	Pn		**Pn**	**17 18 30.4**	**-0.2**
ABTX				IAmb_Lg			17 19 35.3	
	comp=Z,101nm,0.9s							
ABTX	**Abilene, Hawle**	**3.87**	**215**	Pb			17 18 40.3	
	baz=34							
WHAR	**Wooly Hollow**	**3.88**	**97**	IAmb_Lg			17 19 42.7	
	comp=Z,136nm,0.9s							
AMTX	**Amarillo**	**3.93**	**258**	IAmb_Lg			17 19 37.9	
	comp=Z,220nm,1.1s							
AMTX	**Amarillo**	**3.93**	**258**	P			17 18 33.2	
	baz=75							
W41B	**Gary Mavity, V**	**3.94**	**98**	P		**Pn**	**17 18 32.1**	**+0.6**
	baz=280							
W41B	**Gary Mavity, V**	**3.94**	**98**	P			17 18 32.0	
	baz=280							
W41B				S			17 19 18.7	
	baz=280							
W41B	**Gary Mavity, V**	**3.94**	**98**	P			17 18 32.1	
	baz=280							
237A	**Washetta, Mont**	**3.94**	**165**	Pn		**Pn**	**17 18 31.2**	**-0.3**
237A				IAmb_Lg			17 19 38.1	
	comp=Z,91nm,0.9s							
237A	**Washetta, Mont**	**3.94**	**165**	P		**Pn**	**17 18 31.6**	**+0.1**
	baz=346,SNR=6.6							
237A	**Washetta, Mont**	**3.94**	**165**	P			17 18 31.6	
	baz=346,SNR=6.6							
FCAR	**Ozark Folk Cen**	**3.97**	**88**	Pn		**Pn**	**17 18 31.9**	**0.0**
FCAR				IAmb_Lg			17 19 42.4	
	comp=Z,165nm,0.9s							
MGMO	**Mountain Grove**	**4.04**	**69**	IAmb_Lg			17 19 43.1	
	comp=Z,278nm,0.8s							
NATX	**Nacogdoches**	**4.50**	**154**	IAmb_Lg			17 20 04.0	
	comp=Z,78nm,0.7s							
R40A	**Maddies Statio**	**4.52**	**56**	IAmb_Lg			17 19 54.2	
	comp=Z,233nm,0.9s							
P38A	**Dawn**	**4.69**	**35**	IAmb_Lg			17 20 00.7	
	comp=Z,208nm,0.8s							
CCAR	**Cane Creek**	**4.71**	**112**	IAmb_Lg			17 20 12.0	
	comp=Z,101nm,0.8s							
T42A	**Van Buren**	**4.92**	**74**			**Pn**	**17 18 45.2**	**+0.2**
T42A				IAmb_Lg			17 20 08.8	
	comp=Z,136nm,0.9s							
435B	**Jarrell**	**5.05**	**186**	IAmb_Lg			17 20 23.2	
	comp=Z,78nm,0.8s							
MSTX	**Muleshoe**	**5.08**	**250**	Pn		**Pn**	**17 18 47.4**	**0.0**
MSTX	**Muleshoe**	**5.08**	**250**	P		**Pn**	**17 18 47.4**	**0.0**
	baz

comp=Z,1.1nm,0.3s,baz=335,slow=9.8,SNR=8.5
ANMO Albuquerque 7.77 266 Pg **Pb** **17 19 46.3 +0.5**
Z47A Carrollton 7.83 107 Pn **Pn** **17 19 22.6 -2.3**
ECSD EROS Data Cent 7.91 2 Pn **Pn** **17 19 26.2 +0.2**
ECSD IAmb_Lg 17 21 46.1
comp=Z,38nm,1.1s
O44A Mansfield 8.01 55 IAmb_Lg 17 21 43.5
comp=Z,130nm,0.8s
BNM Barren Site 8.07 261 Pg **Pb** **17 19 52.8 +1.8**
MNTX Cornudas Mount 8.09 242 Pn **Pn** **17 19 28.4 -0.2**
L42A Oliver, Polo 8.41 41 Pn **Pn** **17 19 33.1 +0.2**
TXAR Lajitas Array 8.57 223 Pn **Pn** **17 19 31.8 -3.4**
comp=Z,0.1nm,0.3s,baz=52,slow=12,SNR=5.6
TXAR Lg Lg 17 21 59.6
comp=Z,2.0nm,0.3s,baz=50,slow=34,SNR=9.9
TXAR Lajitas Array 8.57 223 **Pn** **17 19 34.7 -0.4**
TX31 Lajitas Ar. Si 8.57 223 Pn **Pn** **17 19 33.4 -1.8**
TX32 Lajitas Array 8.57 223 Pn **Pn** **17 19 32.3 -2.9**
PHWY Pilot Hill 8.58 312 Pn **Pn** **17 19 34.8 -0.8**
PHWY IAmb_Lg 17 22 11.0
comp=Z,56nm,0.8s
I37A Lemond, Waseca 8.64 18 IAmb_Lg 17 22 22.0
comp=Z,85nm,1.1s
LRAL Lakeview Retre 8.72 106 Pn **Pn** **17 19 36.6 -0.6**
SUSD Miller 8.74 351 IAmb_Lg 17 22 18.5
comp=Z,78nm,1.0s
JFWS Jewell Farm 8.80 34 IAmb_Lg 17 22 11.8
comp=Z,105nm,0.9s
Y49A Blount Mountai 8.93 100 Pn **Pn** **17 19 39.8 -0.3**
SFIN Lafayette 9.04 57 IAmb_Lg 17 22 15.9
comp=Z,112nm,0.9s
U49A Red Boiling Sp 9.11 82 IAmb_Lg 17 22 23.8
comp=Z,91nm,1.2s
FPAL Fort Paine 9.42 95 IAmb_Lg 17 22 46.3
comp=Z,55nm,1.1s
I40A Norwalk 9.43 29 IAmb_Lg 17 22 41.0
comp=Z,45nm,0.7s
121A Cookes Peak, D 9.51 253 IAmb_Lg 17 22 43.2
comp=Z,41nm,1.2s
W50A Signal Mountai 9.56 90 IAmb_Lg 17 22 54.9
comp=Z,55nm,0.8s
PV12 Saucer Basin, 9.75 288 IAmb_Lg 17 23 07.0
comp=Z,28nm,0.9s
R49A Shelbyville 9.78 72 IAmb_Lg 17 22 39.2
comp=Z,44nm,0.9s
PV04 Paradox Valley 9.84 289 IAmb_Lg 17 22 59.9
comp=Z,32nm,1.1s
O20A White River Ci 9.86 299 IAmb_Lg 17 22 58.8
comp=Z,37nm,1.1s
P48A Milroy 9.88 65 IAmb_Lg 17 22 41.3
comp=Z,78nm,0.7s
T50A Nancy 9.88 79 IAmb_Lg 17 22 45.1
comp=Z,67nm,1.2s
RSSD Black Hills 9.88 329 IAmb_Lg 17 22 58.4
comp=Z,52nm,0.9s
RWWY Rawlins 9.88 309 IAmb_Lg 17 22 51.3
comp=Z,65nm,1.1s
SPMN Marine on St. 9.92 18 **Pn** **17 19 52.9 -0.7**
SPMN IAmb_Lg 17 23 01.0
comp=Z,28nm,0.8s
G40A Rib Lake 10.76 27 Pn **Pn** **17 20 04.1 -0.9**
GOGA Godfrey 11.41 98 Pn **Pn** **17 20 14.6 +0.5**
PDAR Pinedale Array 11.93 309 Pn **Pn** **17 20 23.0 +1.6**
comp=Z,0.1nm,0.3s,baz=120,slow=16,SNR=1.8
PDAR Lg Lg 17 23 50.7
comp=Z,0.7nm,0.3s,baz=114,slow=27,SNR=8.9
ULM Lac du Bonnet 14.44 3 Pn Pn 17 20 50.6 -4.7
comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=4.0
ULM Lg Lg 17 24 59.3
comp=Z,0.3nm,0.3s,baz=277,slow=12,SNR=5.2

*MAN **23** 19:16:25.0,5°.27N×127°.38E,h162km,mb4.5,ML3.4, MS3.2*
*NEIC **23** 19:16:25.1±1.1,4°.96N±0°.07×127°.5E±0°.1,h155km±7km, mb4.3/35, Error ellipse: s-maj=16.0km s-min=9.5km az=68.0*
*DJA **23** 19:16:26.0±0.7,5°N±7°×12°7E±°,h157km±8km,M4.2/12, mb4.4/11,mB4.7/7,MLv4.4/12,Mw(mB)3.9/7*
*IDC **23** 19:16:26.1±1.2,4°.93N×127°.46E,h165km±11km,mb3.6/15, mb1 3.7/17,mb1mx3.5/48,mbtmp4.1/17, Error ellipse: s-maj=25.8km s-min=8.8km az=69.0*
ISC 23 19:16:24.3±0.4,4°.95N±0°.04×127°.49E±0°.07,h150km,n79, σ1°34/88,mb4.1/32,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.11**	**303**	*e*P	**Pn**	**19 16 59.1**	**-1.6**
DDMP				*e*S	**Sn**	**19 17 27.0**	**-1.7**
SGSI	**Sangihe**	**2.32**	**237**	P	**Pn**	**19 17 02.6**	**-0.7**
SGSI				S	**Sn**	**19 17 32.1**	**-1.2**
MATI	**Mati**	**2.33**	**328**	*e*P	**Pn**	**19 17 01.5**	**-1.9**
MATI				*e*S	**Sn**	**19 17 28.3**	**-5.2**
DAV	**Davao City (W)**	**2.83**	**318**	P	**Pn**	**19 17 10.6**	**+1.0**
	13nm,0.3s,baz=234,slow=7.5,SNR=1.1						
DAV				S	**Sn**	**19 17 48.4**	**+3.8**
	93nm,0.3s,baz=119,slow=21,SNR=7.4						
SKMP	**Bagumbayan, Su**	**3.32**	**298**	*e*P	**Pn**	**19 17 14.0**	**-1.8**
SKMP				*e*S	**Sn**	**19 17 52.8**	**-2.9**
TNTI	**Ternate**	**4.15**	**182**	Pn	**Pn**	**19 17 27.4**	**+0.7**
TNTI	**Ternate**	**4.15**	**182**	P	**Pn**	**19 17 26.5**	**-0.1**
TNTI				S	**Sn**	**19 18 13.7**	**-1.4**
GLSP	**General Luna,**	**4.99**	**344**	*e*P	**Pn**	**19 17 35.4**	**-2.2**
GLSP				*e*S	Sn	19 18 24.5	-10
KMSI	**Cibinong**	**5.58**	**219**	P	**Pn**	**19 17 43.4**	**-2.1**
	0.3nm913nm70nm,0.9s						
GTOI	**Gorontalo**	**6.19**	**226**	P	**Pn**	**19 17 53.6**	**-0.1**
	0.3nm1µm54nm,0.4s						
SWI	**Sorong**	**6.90**	**147**	P	**Pn**	**19 18 04.8**	**+1.8**
	0.1nm19nm,0.9s						
SIJI	**Sorong**	**6.90**	**147**	P	**Pn**	**19 18 04.9**	**+1.8**
	3.7nm,0.3s,baz=338,slow=18,SNR=26						
SIJI				S	**Sn**	**19 19 16.2**	**-4.5**
	1.8nm,0.3s,baz=205,slow=22,SNR=14						
MRSI	**Marisa**	**7.10**	**231**	P	**Pn**	**19 18 06.3**	**+0.5**
	0.9nm3µm248nm,0.6s						
SANI	**Sanana**	**7.11**	**192**	P	**Pn**	**19 18 04.3**	**-1.6**
	0.1nm332nm7.2nm,0.7s						
LUWI	**Luwuk**	**7.59**	**218**	Pn	**Pn**	**19 18 13.1**	**+0.8**
LUWI	**Luwuk**	**7.59**	**218**	P	**Pn**	**19 18 11.3**	**-1.0**
	0.2nm39nm,0.8s						
TOLI2	**Tolitoli**	**7.71**	**241**	Pn	**Pn**	**19 18 13.1**	**-0.7**
NLAI	**Namlea**	**8.14**	**183**	P	**Pn**	**19 18 19.5**	**-0.2**
	0.4nm7.8nm,0.7s						
APSI	**Ampana**	**8.24**	**225**	P	**Pn**	**19 18 19.8**	**-1.2**
	19nm,0.8s						
MSAI	**Masohi**	**8.37**	**170**	P	**Pn**	**19 18 22.9**	**+0.2**
	461nm,0.7s						
MYLDM	**Lahad Datu**	**8.96**	**272**	Pn	**Pn**	**19 18 32.4**	**+1.9**
SBUM	**Sibu**	**15.44**	**261**		**P**	**19 19 54.6**	**-0.9**
SBUM				IAmb	IAmb	19 19 58.7	
	comp=Z,5.4nm,0.7s						
JAGI	**Jajag, Banyuwa**	**18.83**	**225**	P	**Pn**	**19 20 33.4**	**-1.7**
JAGI				IAmb	IAmb	19 20 58.6	
	comp=Z,37nm,1.3s						
TPUB	**Ta-pu**	**19.41**	**341**	P	**P**	**19 20 38.5**	**-0.5**
SSLB	**Suanglung**	**19.76**	**342**	P	**P**	**19 20 42.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**22.98**	**185**	P	**P**	**19 21 17.1**	**+1.1**
	comp=Z,2.2nm,0.6s,baz=1.6,slow=9.1,SNR=3.2						
FITZ	**Fitzroy Crossi**	**22.98**	**185**	P	**P**	**19 21 16.7**	**+0.7**
FITZ				IAmb	IAmb	19 21 21.1	
	comp=Z,11nm,1.4s						
COEN	**Coen**	**24.40**	**141**	P	**P**	**19 21 29.1**	**+0.1**
COEN				IAmb	IAmb	19 21 55.9	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**25.48**	**165**	P	**P**	**19 21 38.7**	**-0.1**
WB0				IAmb	IAmb	19 21 42.4	
	comp=Z,8.5nm,0.6s						
WRAB	**Tennant Creek**	**25.63**	**165**	P	**P**	**19 21 39.8**	**-0.3**
WRAB				IAmb	IAmb	19 21 45.1	
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**25.64**	**165**	P	**P**	**19 21 39.8**	**-0.4**
	comp=Z,4.1nm,0.4s,baz=344,slow=10,SNR=30						
WRA	**Warramunga Arr**	**25.64**	**165**	P	**P**	**19 21 39.8**	**-0.4**
WB2	**Warramunga Arr**	**25.64**	**165**	P	**P**	**19 21 40.1**	**-0.1**
WB2				IAmb	IAmb	19 21 48.9	
	comp=Z,30nm,1.5s						
WR0	**Warramunga Arr**	**25.71**	**165**	P	**P**	**19 21 40.7**	**-0.1**
WR0				IAmb	IAmb	19 21 45.0	
	comp=Z,5.6nm,1.1s						
AS31	**Alice Springs**	**29.12**	**168**	P	**P**	**19 22 11.1**	**-0.2**
ASAR	**Alice Springs**	**29.12**	**168**	P	**P**	**19 22 11.8**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=345,slow=6.9,SNR=15						
ASAR				PcP	**PcP**	**19 25 15.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=352,slow=2.5,SNR=5.4						
ASAR	**Alice Springs**	**29.12**	**168**	P	**P**	**19 22 11.3**	**0.0**
CMAR	**Chiang Mai Arr**	**30.94**	**298**	P	**P**	**19 22 27.9**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=121,slow=7.4,SNR=2.8						
CHTO	**Chiang Mai**	**31.07**	**299**	P	**P**	**19 22 29.5**	**+0.9**
CHTO				IAmb	IAmb	19 22 58.3	
	comp=Z,4.5nm,1.4s						
FORT	**Forrest**	**35.53**	**179**	P	**P**	**19 23 07.4**	**+0.4**
MORW	**Morawa**	**35.57**	**197**	P	**P**	**19 23 07.8**	**+0.5**
BBOO	**Buckleboo**	**38.43**	**168**	P	**P**	**19 23 31.8**	**+0.4**
HHC	**Hu-ho-hao-te**	**38.49**	**340**	*e*P	**P**	**19 23 33.4**	**+1.3**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,55nm,4.7s						
NWAO	**Narrogin (SRO)**	**38.91**	**194**	P	**P**	**19 23 36.2**	**+0.8**
NWAO				IAmb	IAmb	19 23 51.7	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**39.01**	**161**	P	**P**	**19 23 36.7**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=332,slow=8.2,SNR=9.4						
STKA	**Stephens Creek**	**39.01**	**161**	P	**P**	**19 23 36.8**	**+0.4**
SHL	**Shillong**	**39.78**	**305**	P	**P**	**19 23 43.1**	**0.0**
SHL				IAmb	IAmb	19 23 44.1	
	comp=Z,9.5nm,0.7s						
GTA	**Gaotai**	**42.46**	**328**	P	**P**	**19 24 06.0**	**+1.3**
GTA				pP	pP	19 24 35.8	-1.0
GTA				sP	sP	19 24 50.3	-2.9
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**46.21**	**341**	P	**P**	**19 24 34.6**	**+0.2**
ULN				IAmb	IAmb	19 24 36.8	
	comp=Z,2.7nm,0.6s						
SONM	**Songino Array**	**46.40**	**340**	P	**P**	**19 24 36.1**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=157,slow=8.9,SNR=8.5						
SONM	**Songino Array**	**46.40**	**340**	P	**P**	**19 24 36.3**	**+0.4**
TLY	**Talaya**	**50.62**	**341**	P	**P**	**19 25 07.9**	**0.0**
TLY				IAmb	IAmb	19 25 09.2	
	comp=Z,1.9nm,0.6s						
WMQ	**Urumqi**	**52.17**	**324**	*e*P	**P**	**19 25 22.4**	**+2.7**
PEA0B	**Petropavlovsk-**	**54.02**	**22**	P	**P**	**19 25 33.9**	**+0.9**
PETK	**Petropavlovsk-**	**54.02**	**22**	P	**P**	**19 25 34.2**	**+1.2**
	comp=Z,5.6nm,0.6s,baz=158,slow=4.7,SNR=31						
PETK	**Petropavlovsk-**	**54.02**	**22**	P	**P**	**19 25 33.9**	**+0.9**
MK31	**Makanchi Array**	**57.00**	**324**	P	**P**	**19 25 55.0**	**+0.7**
MKAR	**Makanchi Array**	**57.00**	**324**	P	**P**	**19 25 55.4**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=115,slow=8.0,SNR=30						
MKAR				pP	**pwP**	**19 26 32.2**	**-1.9**
	comp=Z,1.5nm,0.7s,baz=127,slow=8.3,SNR=9.5						
MKAR	**Makanchi Array**	**57.00**	**324**	P	**P**	**19 25 55.1**	**+0.8**
MAKZ	**Makanchi**	**57.19**	**324**	P	**P**	**19 25 56.5**	**+0.8**
MAKZ				IAmb	IAmb	19 25 59.0	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**59.86**	**332**	P	**P**	**19 26 13.5**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=99,slow=7.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**59.86**	**332**	P	**P**	**19 26 13.0**	**-1.0**
KK31	**Karatay Array**	**62.87**	**316**	P	**P**	**19 26 34.9**	**+0.4**
KK31				IAmb	IAmb	19 26 36.0	
	comp=Z,2.5nm,0.9s						
KKAR	**Karatay Array**	**62.87**	**316**	P	**P**	**19 26 34.9**	**+0.4**
TIXI	**Tiksi**	**66.62**	**0**	P	**P**	**19 26 57.5**	**-0.7**
	comp=Z,2.9nm,0.4s,baz=158,slow=5.7,SNR=21						
TIXI	**Tiksi**	**66.62**	**0**	P	**P**	**19 26 57.7**	**-0.5**
TIXI				IAmb	IAmb	19 26 59.5	
	comp=Z,3.5nm,0.5s						
BRVK	**Borovoye**	**66.79**	**326**	P	**P**	**19 27 00.0**	**+0.4**
BRVK				IAmb	IAmb	19 27 00.9	
	comp=Z,4.3nm,1.1s						
SPIA	**Saint Paul Isl**	**71.07**	**31**	P	**P**	**19 27 24.7**	**-1.2**
ABKAR	**Akbulak array**	**71.69**	**320**	P	**P**	**19 27 29.9**	**0.0**
ABKAR	**Akbulak array**	**71.69**	**320**	P	**P**	**19 27 30.0**	**+0.2**
ABKAR				IAmb	IAmb	19 27 30.7	
	comp=Z,1.1nm,0.7s						
CASY	**Casey**	**72.11**	**187**	P	**P**	**19 27 33.0**	**+1.0**
SOCY	**Socotra**	**72.86**	**281**	P	**P**	**19 27 37.2**	**-0.4**
SOCY				IAmb	IAmb	19 27 38.0	
	comp=Z,8.7nm,0.9s						
AKTO	**Aktyubinsk**	**73.18**	**321**	P	**P**	**19 27 38.7**	**0.0**
	comp=Z,1.4nm,0.7s,baz=79,slow=2.9,SNR=3.6						
ARU	**Arti**	**74.32**	**327**	P	**P**	**19 27 45.0**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=283,slow=8.3,SNR=3.6						
ARU	**Arti**	**74.32**	**327**	P	**P**	**19 27 45.1**	**-0.2**
RAYN	**Ar Rayn**	**80.70**	**293**	P	**P**	**19 28 21.6**	**+0.2**
RAYN				IAmb	IAmb	19 28 22.8	
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	**83.68**	**25**	P	**P**	**19 28 37.2**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=243,slow=4.0,SNR=2.5						
VNDA	**Vanda**	**84.54**	**173**	P	**P**	**19 28 40.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=68,slow=1.4,SNR=8.2						
ARCES	**ARCESS Array B**	**89.57**	**340**	P	**P**	**19 29 03.3**	**-1.2**
	comp=Z,4.0nm,0.9s,baz=81,slow=4.6,SNR=5.5						

*IDC **23** 19:27:17.5±2.7,6°.69S×129°.62E,h142km±32km,mb3.2/2, mb1 3.3/6,mb1mx3.0/26,mbtmp3.6/6,Error ellipse: s-maj=52.6km s-min=18.5km az=83.0*
ISC 23 19:27:17.2±1.0,6°.70S±0°.07×130°.1E±0°.2,h150km,n6, σ2°80/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.91**	**12**	P	**Pn**	**19 28 44.6**	**+1.7**
	0.5nm,0.3s,baz=142,slow=24,SNR=20						
SIJI				S	**Sn**	**19 29 46.5**	**-3.4**
	2.8nm,0.3s,baz=262,slow=23,SNR=9.7						
FITZ	**Fitzroy Crossi**	**12.12**	**200**	P	**Pn**	**19 30 04.6**	**-0.6**
	0.2nm,0.3s,baz=15,slow=9.3,SNR=16						
FITZ				S	Sn	19 32 09.5	-10
	0.6nm,0.3s,baz=160,slow=17,SNR=6.3						
WRA	**Warramunga Arr**	**13.81**	**163**	P	**Pn**	**19 30 27.4**	**+0.6**
	0.5nm,0.3s,baz=344,slow=13,SNR=23						
WRA				S	**Sn**	**19 32 56.3**	**-3.5**
	0.7nm,0.3s,baz=331,slow=22,SNR=6.7						
ASAR	**Alice Springs**	**17.27**	**168**	P	**Pn**	**19 31 10.4**	**+0.9**
	0.1nm,0.3s,baz=346,slow=10,SNR=8.2						
STKA	**Stephens Creek**	**27.27**	**158**	P	**P**	**19 32 50.9**	**+3.2**
	1.0nm,0.6s,baz=342,slow=9.6,SNR=1.5						
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**19 37 59.8**	**-0.5**
	0.2nm,0.5s,baz=117,slow=7.9,SNR=5.7						

*IPEC **23** 19:30:37.1±0.2,51°.51N×16°.27E,h1km,ML2.0/3,Error ellipse: s-maj=1.9km s-min=1.0km az=45.0*
*PRU **23** 19:30:38.4±0.0,51°.46N×16°.10E,h0km*
*VIE **23** 19:30:38.5±0.7,51°.43N×16°.37E,h0km,mb2.0/2,ml2.7/3, Error ellipse: s-maj=9.9km s-min=4.8km az=84.0 59 km NW of Wroclaw Suspected Mining induced.*
ISC 23 19:30:38.6±1.2,51°.39N±0°.05×16°.14E±0°.03,h0km,n29, σ0°63/52,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.55**	**170**	*i* Pg	**Pb**	**19 30 50.4**	**-0.8**
KSP				*e*Sg	**Sb**	**19 30 59.1**	**-0.5**
CHVC	**Chvalec**	**0.80**	**184**	*e*PG	**Pb**	**19 30 55.0**	**-0.4**
CHVC				*e*SG	**Sb**	**19 31 07.1**	**+0.3**
	comp=Z,28nm,0.4s						
OSTC	**Ostas**	**0.83**	**177**	*e*PG	**Pb**	**19 30 56.0**	**+0.1**
OSTC				*e*SG	**Sb**	**19 31 08.0**	**+0.3**
	comp=Z,42nm,0.4s						
UPC	**Upice**	**0.88**	**185**	*e*PG	**Pb**	**19 30 57.0**	**+0.2**
UPC				*e*SG	**Sb**	**19 31 09.7**	**+0.6**
	comp=Z,87nm,0.5s						
DPC	**Dobruska-Polom**	**1.04**	**173**	*e*PG	**Pb**	**19 30 59.3**	**-0.3**
DPC				*e*SG	**Sb**	**19 31 14.1**	**+0.3**
	comp=Z,18nm,0.4s						
PVCC	**Panska Ves**	**1.31**	**230**	*e*PG	**Pn**	**19 31 04.1**	**-0.1**
PVCC				*e*SG	**Sn**	**19 31 22.5**	**+0.1**
	comp=Z,71nm,0.4s						
KRLC	**Kraliky**	**1.38**	**162**	*e*PG	**Pb**	**19 31 05.2**	**0.0**
KRLC				*e*SG	**Sn**	**19 31 23.9**	**-0.1**
	comp=Z,26nm,0.6s						
BRG	**Berggiesshubel**	**1.47**	**250**	Pg	Pn	**19 31 06.2**	**-0.2**
BRG				Sg	**Sn**	**19 31 26.3**	**-0.1**
BRG				Amp		19 31 27.8	
	comp=Z,48nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.71**	**211**	*e*PG	**Pb**	**19 31 10.7**	**-0.1**
PRU	**Pruhonice**	**1.73**	**217**	*e*PG	**Pb**	**19 31 11.1**	**-0.1**
PRU				*e*SG	**Sg**	**19 31 34.8**	**+0.7**
	comp=Z,18nm,0.3s						
MORC	**Moravsky Berou**	**1.84**	**150**	*e*PN	**Pn**	**19 31 11.2**	**-0.3**
MORC				*e*SG	**Sb**	**19 31 36.6**	**-0.3**
MORC	**Moravsky Berou**	**1.84**	**150**	*e*Pn	**Pn**	**19 31 11.1**	**-0.4**
	baz=336						
MORC				*e*Sg	**Sb**	**19 31 36.5**	**-0.3**
	comp=Z,9.7nm,0.3s,baz=336						
CLL	**Collm**	**1.97**	**269**	*e*Pg	**Pn**	**19 31 14.0**	**+0.8**
CLL				*e*Sg	**Sg**	**19 31 41.0**	**-0.8**
	comp=Z,17nm,0.5s						
VRAC	**Vranov**	**2.10**	**172**	*e*PN	**Pn**	**19 31 15.5**	**+0.4**
VRAC				*e*SG	**Sg**	**19 31 46.8**	**+0.8**
VRAC	**Vranov**	**2.10**	**172**	*e*Pn	**Pn**	**19 31 15.4**	**+0.4**
	baz=355						
VRAC				*e*Sg	**Sg**	**19 31 46.8**	**+0.8**
	comp=Z,9.5nm,0.4s,baz=355						
TREC	**Trest**	**2.13**	**191**	*e*SG	**Sg**	**19 31 48.2**	**+1.1**
	comp=Z,10.0nm,0.4s						
KRUC	**Moravsky**	**2.33**	**176**	*e*PN	**Pn**	**19 31 18.1**	**-0.1**
KRUC				*e*SG	**Sg**	**19 31 53.5**	**0.0**
KRUC	**Moravsky**	**2.33**	**176**	*e*Pn	**Pn**	**19 31 18.1**	**-0.1**
	baz=358						
KRUC				*e*Sg	**Sg**	**19 31 53.5**	**0.0**
	comp=Z,7.7nm,0.3s,baz=358						
OJC	**Ojcow**	**2.60**	**115**	*e*Pg	**Pg**	**19 31 28.2**	**-0.2**
OJC				*e*Sg	**Sg**	**19 32 02.8**	**+0.7**
NKC	**Novy Kostel**	**2.61**	**245**	*e*PG	**Pb**	**19 31 27.2**	**+1.0**
NKC				*e*SG	**Sg**	**19 32 02.1**	**-0.3**
	comp=Z,19nm,0.3s						
KHC	**Kasperske Hory**	**2.79**	**217**	*e*PN	**Pn**	**19 31 24.7**	**+0.1**
KHC				*e*PG	**Pb**	**19 31 30.1**	**+0.7**
KHC				*e*SN	**Sn**	**19 31 58.6**	**-0.3**
KHC				*e*SG	**Sg**	**19 32 08.2**	**0.0**
	comp=Z,8.2nm,0.4s						
CKRC	**Cesky Krumlov**	**2.83**	**205**	*e*PG	**Pg**	**19 31 31.6**	**-1.1**
LANS	**Liptovska Anna**	**3.09**	**135**	*e*SG	**Sg**	**19 32 18.4**	**+0.4**
MODS	**Modra-Piesok**	**3.10**	**166**	*e*SG	**Sg**	**19 32 17.6**	**-0.7**
KOLL	**Kolacno**	**3.17**	**152**	*e*SG	**Sg**	**19 32 22.5**	**+2.2**
VYHS	**Vyhne**	**3.38**	**148**	*e*SG	**Sg**	**19 32 27.2**	**+0.1**
CONA	**Conrad Observa**	**3.47**	**183**	*i* Pn	**Pn**	**19 31 34.5**	**+0.6**
	comp=Z,0.3nm,0.2s						
CONA				Sg	**Sg**	**19 32 30.8**	**+0.9**
	comp=Z,7.7nm,0.4s						
MOA	**Molln**	**3.74**	**200**	*i* Pn	**Pn**	**19 31 37.3**	**-0.3**
	comp=Z,0.4nm,0.1s						
MOA				Sg	**Sg**	**19 32 40.3**	**+1.5**
	comp=Z,1.8nm,0.2s						
ARSA	**Arzberg**	**4.16**	**186**	*e*Sg	**Sg**	**19 32 51.9**	**-0.3**
	comp=Z,2.3nm,0.5s						

*GCG **23** 19:32:22.2±0.5,13°.24N×90°.99W,h7km±7km,MD4.1*
*IDC **23** 19:32:26.9±1.9,13°.53N×90°.97W,h75km±16km,mb3.7/6, mb1 4.1/10,mb1mx3.7/42,mbtmp4.1/10,MS3.0/4, Ms1 3.0/4,ms1mx2.6/34,Error ellipse: s-maj=20.7km s-min=11.1km az=47.0*
*SNET **23** 19:32:27.1±0.9,13°.53N×90°.87W,h17km±3km,ML4.4*
*NEIC **23** 19:32:28.2±1.9,13°.66N±0°.10×90°.86W±0°.05,h83km±9km, mb4.3/48,Md4.4(SNET),Error ellipse: s-maj=16.1km s-min=1.9km az=207.0*
*INET **23** 19:32:29.6,13°.52N×90°.71W,h15km,MW3.7*
*UCR **23** 19:32:37.2±1.6,13°.49N×90°.20W,h36km±788km, mb4.3(NEIC)*
ISC 23 19:32:27.8±1.7,13°.53N±0°.09×90°.9W±0°.1,h89km±14km, n134,σ1°24/144,mb4.3/28,5D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.90**	**17**	*e*P	**Pn**	**19 32 44.7**	**-1.9**
FUG	**Fuego 3**	**0.92**	**2**	*e*P	Pn	**19 32 44.3**	**-2.5**
ERG	**Entre ros, C**	**1.13**	**323**	*e*P	Pn	**19 32 45.9**	**-3.2**
NBG	**Las Nubes**	**1.17**	**26**	*e*P	**Pn**	**19 32 49.6**	**-0.2**
RTR	**El Retiro**	**1.25**	**73**	*e*P	**Pn**	**19 32 49.9**	**-0.7**
CEVE	**Cerro Verde**	**1.25**	**76**	*i*P	**Pn**	**19 32 49.9**	**-0.8**
CEVE				*e*S	**Sn**	**19 33 07.0**	**-0.8**
CEVE				IAML		19 33 10.6	
	comp=Z,10µm,0.2s						
SBLS	**San Blas**	**1.25**	**75**	*e*P	**Pn**	**19 32 49.8**	**-0.9**
SBLS				*e*S	**Sn**	**19 33 07.3**	**-0.6**
SNJE	**San Jose**	**1.28**	**74**	*e*P	**Pn**	**19 32 50.3**	**-0.7**
UNIC	**Universidad Ca**	**1.36**	**70**	*e*P	**Pn**	**19 32 51.3**	**-0.6**
UNIC				*e*S	**Sn**	**19 33 10.1**	**0.0**
JAYA	**Jayaque - finc**	**1.39**	**85**	*i*P	**Pn**	**19 32 51.4**	**-0.9**
JAYA				*e*S	**Sn**	**19 33 10.4**	**-0.4**
JAYA				IAML		19 33 11.8	
	comp=Z,9µm,0.2s						
CEDA	**San Andres**	**1.46**	**79**	*i*P	**Pn**	**19 32 52.6**	**-0.5**
CEDA				*e*S	**Sn**	**19 33 12.4**	**+0.2**
LALI	**Alcalda de L**	**1.51**	**91**	*e*P	**Pn**	**19 32 52.9**	**-0.8**
LALI				*e*S	**Sn**	**19 33 13.2**	**0.0**
APG	**El Apazote**	**1.52**	**15**	P	**Pn**	**19 32 53.1**	**-1.0**
	comp=Z,98nm,0.3s,baz=198,slow=12,SNR=138						
APG				S	**Sn**	**19 33 12.6**	**-1.3**
	comp=Z,80nm,0.3s,baz=183,slow=20,SNR=8.3						
PMON	**Piamonte**	**1.52**	**83**	*e*P	**Pn**	**19 32 53.4**	**-0.6**
PMON				*e*S	**Sn**	**19 33 14.3**	**+0.5**
TACO	**Tacachico**	**1.54**	**73**	*e*P	**Pn**	**19 32 53.6**	**-0.4**
MAGS	**Ministerio de**	**1.55**	**84**	*e*P	**Pn**	**19 32 53.5**	**-0.8**
BOQS	**Boqueron**	**1.56**	**82**	*e*P	**Pn**	**19 32 54.3**	**-0.3**
BOQS				*e*S	**Sn**	**19 33 15.7

JTS	**Las Juntas de**	**6.62**	**118**		**Pn**	**19 34 03.8**	**+1.2**
ARE1	**Arenal 1**	**6.75**	**116**	*eP*	**Pn**	**19 34 07.2**	**+2.8**
LAFE	**Finca La Fe, P**	**6.91**	**122**	*eP*	**Pn**	**19 34 08.4**	**+1.9**
LAFE				*eS*	**Sn**	**19 35 20.1**	**-3.6**
TEIG	**Tepich**	**7.11**	**20**	P	**Pn**	**19 34 10.3**	**+1.0**
	comp=Z,15nm,0.3s,baz=162,slow=7.1,SNR=90						
TEIG				LR	LR	19 37 06.7	
	comp=Z,173nm,18.9s,baz=200,slow=39						
CDM	**Cerro de Muert**	**8.01**	**119**	*eP*	**Pn**	**19 34 25.4**	**+3.5**
PEZE	**Perez Zeledon,**	**8.16**	**120**	Pn	**Pn**	**19 34 25.6**	**+1.9**
RIOS	**Rincon, Osa**	**8.67**	**123**	*eP*	**Pn**	**19 34 33.9**	**+3.4**
RIOS	**Rincon, Osa**	**8.67**	**123**		**Pn**	**19 34 31.1**	**+0.6**
LPLA	**Las Palmas La**	**8.91**	**119**	*eP*	**Pn**	**19 34 37.4**	**+3.4**
SOR	**Soroa**	**11.86**	**38**		**Pn**	**19 35 14.0**	**+0.1**
TX31	**Lajitas Ar. Si**	**19.70**	**325**	P	**P**	**19 36 50.2**	**-0.1**
TX31				IAmb	IAmb	19 36 52.9	
	comp=Z,22nm,0.9s						
TX32	**Lajitas Array**	**19.70**	**325**	P	**P**	**19 36 50.4**	**+0.1**
TXAR	**Lajitas Array**	**19.70**	**325**	P	**P**	**19 36 51.5**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=154,slow=12,SNR=52						
TXAR	**Lajitas Array**	**19.70**	**325**	P	**P**	**19 36 51.2**	**+0.9**
SDV	**Santo Domingo**	**20.38**	**101**	LR	LR	19 45 04.7	
	comp=Z,51nm,18.5s,baz=316,slow=37						
X40A	**Basin Creek Fa**	**20.95**	**355**	P	**P**	**19 37 03.0**	**-0.5**
MIAR	**Mount Ida**	**21.07**	**354**	P	**P**	**19 37 03.4**	**-1.5**
MIAR				IAmb	IAmb	19 37 05.0	
	comp=Z,24nm,1.5s						
X37A	**Clayton**	**21.36**	**350**	P	**P**	**19 37 07.8**	**-0.2**
W50A	**Signal Mountai**	**22.16**	**12**	P	**P**	**19 37 17.2**	**+0.8**
W50A				IAmb	IAmb	19 37 37.1	
	comp=Z,26nm,1.4s						
MNTX	**Cornudas Mount**	**22.46**	**326**	P	**P**	**19 37 18.6**	**-1.2**
U40A	**Yellville**	**22.80**	**356**	P	**P**	**19 37 21.9**	**-1.3**
HHAR	**Hobbs**	**22.83**	**354**	P	**P**	**19 37 22.0**	**-1.4**
HHAR				IAmb	IAmb	19 37 22.9	
	comp=Z,12nm,1.0s						
U38A	**Gravette**	**23.03**	**353**	P	**P**	**19 37 25.0**	**-0.4**
AMTX	**Amarillo**	**23.40**	**337**	P	**P**	**19 37 28.1**	**-0.9**
MGMO	**Mountain Grove**	**23.56**	**357**	P	**P**	**19 37 30.2**	**-0.2**
MGMO				IAmb	IAmb	19 37 31.4	
	comp=Z,20nm,1.3s						
T47A	**Sharon Grove**	**23.61**	**8**	P	**P**	**19 37 30.3**	**-0.4**
T47A				IAmb	IAmb	19 37 31.9	
	comp=Z,22nm,1.1s						
T50A	**Nancy**	**24.01**	**12**	P	**P**	**19 37 34.3**	**-0.1**
S39A	**Bolivar**	**24.16**	**355**	P	**P**	**19 37 34.9**	**-0.8**
CCM	**Cathedral Cave**	**24.43**	**359**	P	**P**	**19 37 37.5**	**-0.7**
CCM				IAmb	IAmb	19 38 05.8	
	comp=Z,12nm,1.2s						
R40A	**Maddies Statio**	**24.70**	**357**	P	**P**	**19 37 39.4**	**-1.1**
BNM	**Barren Site**	**25.02**	**328**	P	**P**	**19 37 45.2**	**+1.3**
Q51A	**Peebles**	**26.26**	**13**	P	**P**	**19 37 54.6**	**-0.1**
Q51A				IAmb	IAmb	19 37 55.7	
	comp=Z,15nm,1.1s						
P48A	**Milroy**	**26.28**	**10**	P	**P**	**19 37 54.5**	**-0.3**
P52A	**Corning**	**27.12**	**15**	P	**P**	**19 38 02.0**	**-0.5**
P52A				IAmb	IAmb	19 38 27.0	
	comp=Z,9.2nm,0.8s						
CCUT	**Cedar City**	**31.21**	**324**	P	**P**	**19 38 38.7**	**-0.3**
SPMN	**Marine on St.**	**31.64**	**357**	P	**P**	**19 38 41.1**	**-1.3**
G45A	**Suttons Bay**	**31.72**		P	**P**	**19 38 41.7**	**-1.4**
PDAR	**Pinedale Array**	**33.31**	**335**	P	**P**	**19 38 57.1**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=155,slow=6.6,SNR=2.9						
REDW	**Red Top Meadow**	**34.34**	**334**	P	**P**	**19 39 07.1**	**+0.8**
REDW				IAmb	IAmb	19 39 08.8	
	comp=Z,5.7nm,0.8s						
LOHW	**Long Hollow**	**34.44**	**334**	P	**P**	**19 39 07.9**	**+0.8**
LOHW				IAmb	IAmb	19 39 09.1	
	comp=Z,3.1nm,0.8s						
NV11	**Mina Array Sit**	**34.64**	**321**	P	**P**	**19 39 10.2**	**+1.4**
NV11				IAmb	IAmb	19 39 13.0	
	comp=Z,3.1nm,0.8s						
NVAR	**Mina Array Bea**	**34.73**	**321**	P	**P**	**19 39 11.4**	**+1.7**
	comp=Z,3.6nm,0.7s,baz=134,slow=8.8,SNR=32						
NVAR	**Mina Array Bea**	**34.73**	**321**	P	**P**	**19 39 11.3**	**+1.6**
MCMT	**McKenzie Canyo**	**36.38**	**333**	P	**P**	**19 39 25.4**	**+1.7**
ULM	**Lac du Bonnet**	**36.85**	**355**	P	**P**	**19 39 25.9**	**-1.4**
	comp=Z,8.2nm,0.8s,baz=168,slow=8.6,SNR=17						
ULM	**Lac du Bonnet**	**36.85**	**355**	P	**P**	**19 39 25.2**	**-2.2**
LRM	**Limekiln Ridge**	**37.00**	**335**	P	**P**	**19 39 29.9**	**+0.8**
F10A	**Beach Ranch, E**	**39.25**	**331**	P	**P**	**19 39 48.4**	**+0.7**
H04A	**Detroit Lake**	**40.92**	**326**	P	**P**	**19 40 02.3**	**+0.8**
SIV	**San Ignacio**	**41.57**	**134**	P	**P**	**19 40 07.6**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=314,slow=8.1,SNR=6.9						
LVC	**Limon Verde**	**41.87**	**149**	LR	LR	19 57 24.0	
	comp=Z,56nm,20.9s,baz=224,slow=36						
FFC	**Flin Flon**	**42.02**	**350**	P	**P**	**19 40 09.6**	**-0.6**
FFC				IAmb	IAmb	19 40 10.9	
	comp=Z,3.8nm,0.7s						
LON	**Longmire**	**42.07**	**328**	P	**P**	**19 40 11.7**	**+0.8**
LON				IAmb	IAmb	19 40 38.2	
	comp=Z,12nm,1.5s						
YKA	**Yellowknife Ar**	**51.74**	**346**	P	**P**	**19 41 25.4**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=143,slow=8.5,SNR=18						
RES	**Resolute Bay**	**61.19**	**359**	P	**P**	**19 42 31.5**	**-1.2**
RES				IAmb	IAmb	19 42 32.5	
	comp=Z,2.6nm,0.8s						
INK	**Inuvik**	**61.20**	**343**	P	**P**	**19 42 32.5**	**-0.4**
INK				IAmb	IAmb	19 42 33.6	
	comp=Z,1.8nm,0.7s						
N25K	**Chitina, Valde**	**61.37**	**334**	P	**P**	**19 42 35.7**	**+1.5**
N25K				IAmb	IAmb	19 42 59.8	
	comp=Z,4.3nm,1.3s						
RC01	**Rabbit Creek A**	**63.42**	**332**	P	**P**	**19 42 48.4**	**+0.6**
BRLK	**Bradley Lake**	**63.48**	**331**	P	**P**	**19 42 49.6**	**+1.3**
IL31		**63.71**	**337**	P	**P**	**19 42 49.2**	**-0.4**
IL31				IAmb	IAmb	19 42 50.8	
	comp=Z,4.8nm,1.4s						
ILAR	**Eielson Array**	**63.71**	**337**	P	**P**	**19 42 49.5**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=142,slow=4.8,SNR=10						
RND	**Reindeer**	**63.92**	**335**	P	**P**	**19 42 51.6**	**+0.4**
RND				IAmb	IAmb	19 42 52.9	
	comp=Z,4.7nm,1.1s						
TRF	**Thorofare Moun**	**64.53**	**335**	P	**P**	**19 42 56.3**	**+1.0**
TRF				IAmb	IAmb	19 43 22.1	
	comp=Z,7.5nm,1.5s						
SKT	**Skwentna**	**64.54**	**333**	P	**P**	**19 42 56.3**	**+1.1**
SKT				IAmb	IAmb	19 43 07.0	
	comp=Z,5.1nm,1.2s						
RSO	**Redoubt South**	**64.60**	**331**	P	**P**	**19 42 56.9**	**+1.1**
I23K	**Minto, Yukon-K**	**64.82**	**337**	P	**P**	**19 42 57.9**	**+1.0**
KTH	**Kantishna Hill**	**64.83**	**335**	P	**P**	**19 42 57.7**	**+0.5**
BPAW	**Bear Paw Mtn.**	**65.06**	**335**	P	**P**	**19 42 58.6**	**+0.1**
MLY	**Manley**	**65.31**	**336**	P	**P**	**19 43 00.6**	**+0.4**
MLY				IAmb	IAmb	19 43 01.2	
	comp=Z,2.6nm,0.7s						
SVW2	**Sparrevohn**	**66.11**	**331**	P	**P**	**19 43 05.4**	**+0.1**
TOLK	**Toolik Lake Re**	**66.34**	**340**	P	**P**	**19 43 06.2**	**-0.5**
EUNU	**Eureka**	**66.58**	**1**	P	**P**	**19 43 07.7**	**-0.4**
EUNU				IAmb	IAmb	19 43 08.4	
	comp=Z,2.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**146.78**	**343**	PKPbc	**PKPab**	**19 52 01.9**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=339,slow=3.4,SNR=8.2						

*IDC **23** 19:40:05.8±0.8, 4°.29S×153°.63E, h107km±6km, mb3.9/7, mb1 4.1/10, mb1mx3.8/31, mbtmp4.4/10, MS2.7/2, Ms1 2.7/2, ms1mx2.5/30, Error ellipse: s-maj=22.0km s-min=15.3km az=116.0*

*BJI **23** 19:40:06.2±0.0, 4°.37S×153°.30E, h120km, mB4.9/11, mb4.5/13*

*DJA **23** 19:40:07.2±1.4, 4°.5S±9°.9×15°.4E±1°.1, h120km±7km, M4.9/12, mB5.0/3, mb4.8/12, MLv5.0/1, Mw(mB)4.3/3*

*NEIC **23** 19:40:07.9±1.3, 4°.28S±0°.10×153°.43E±0°.07, h123km±5km, mb4.8/32, Error ellipse: s-maj=14.3km s-min=10.6km az=193.0*

ISC 23 19:40:07.8±0.4, **4°.23S**±0°.06×**153°.50E**±0°.06, **h123**km, **n78,** σ1**900**/81, **mb4.7**/30, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.33**	**272**	Pn	**Pn**	**19 40 32.8**	**-0.8**
RABL	**Rabaul**	**1.33**	**272**	P	**Pn**	**19 40 32.8**	**-0.8**
MANU	**Manus Island**	**6.50**	**289**	Pn	**Pn**	**19 41 41.0**	**-0.1**
PMG	**Port Moresby**	**8.13**	**230**	P	**Pn**	**19 42 02.6**	**-0.4**
	19nm,0.3s,baz=360,slow=4.7,SNR=64						
PMG				LR	LR	19 45 12.2	
	comp=Z,56nm,21.9s,baz=82,slow=37						
PMG	**Port Moresby**	**8.13**	**230**	Pn	**Pn**	**19 42 02.8**	**-0.2**
PMG	**Port Moresby**	**8.13**	**230**	P	**Pn**	**19 42 03.1**	**+0.1**
HNR	**Honiara**	**8.22**	**129**	S	**Sn**	**19 43 36.1**	**+0.4**
	17nm,0.3s,baz=120,slow=21,SNR=8.5						
HNR				LR	LR	19 44 40.1	
	comp=Z,54nm,18.9s,baz=12,slow=34						
HNR	**Honiara**	**8.22**	**129**	Pn	**Pn**	**19 42 05.0**	**+0.6**
JAY	**Jayapura**	**12.89**	**277**	P	**Pn**	**19 43 08.8**	**+2.2**
	4.7nm,0.3s,baz=141,slow=4.9,SNR=19						
JAY	**Jayapura**	**12.89**	**277**	P	**Pn**	**19 43 07.0**	**+0.4**
GENI	**Genyem**	**13.41**	**277**	P	**Pn**	**19 43 15.1**	**+1.8**
	88nm,0.7s						
COEN	**Coen**	**14.04**	**226**	P	**Pn**	**19 43 22.8**	**+1.4**
CTA	**Charters Tower**	**17.27**	**204**	P	**Pn**	**19 44 02.0**	**+0.5**
	0.4nm,0.3s,baz=19,slow=14,SNR=7.3						
CTAO	**Charters Tower**	**17.27**	**204**		**Pn**	**19 44 02.0**	**+0.5**
BAKI	**Biak**	**17.63**	**279**	P	Pn	19 44 13.6	+7.7
EIDS	**Eidsvold**	**21.14**	**186**	P	**P**	**19 44 42.9**	**-0.2**
FAKI	**Fak Fak**	**21.25**	**273**	P	**P**	**19 44 44.0**	**-0.3**
FAKI				IAmb	IAmb	19 44 55.8	
	comp=Z,69nm,1.1s						
DZM	**Mont Dzumac**	**21.73**	**146**	P	**P**	**19 44 49.4**	**-0.1**
DZM	**Mont Dzumac**	**21.73**	**146**	P	**P**	**19 44 49.5**	**+0.1**
SIJI	**Sorong**	**22.46**	**278**	P	**P**	**19 44 57.2**	**+0.2**
	comp=Z,20nm,0.7s,baz=156,slow=6.5,SNR=15						
SWI	**Sorong**	**22.46**	**278**	P	**P**	**19 44 57.1**	**+0.1**
	comp=Z,26nm,0.7s						
WB0	**Warramunga Arr**	**24.19**	**229**	P	**P**	**19 45 12.8**	**-0.3**
WB0				IAmb	IAmb	19 45 18.3	
	comp=Z,20nm,0.6s						
WR0	**Warramunga Arr**	**24.20**	**228**	P	**P**	**19 45 13.1**	**-0.1**
WR0				IAmb	IAmb	19 45 18.5	
	comp=Z,16nm,0.6s						
WRAB	**Tennant Creek**	**24.33**	**229**	P	**P**	**19 45 14.5**	**+0.3**
WB2	**Warramunga Arr**	**24.33**	**229**	P	**P**	**19 45 14.6**	**+0.2**
WRA	**Warramunga Arr**	**24.34**	**229**	P	**P**	**19 45 14.3**	**-0.1**
	comp=Z,22nm,0.5s,baz=51,slow=9.4,SNR=59						
WRA				PcP	**PcP**	**19 48 51.4**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=50,slow=2.3,SNR=7.0						
WRA	**Warramunga Arr**	**24.34**	**229**	P	**P**	**19 45 14.7**	**+0.3**
WRA					**PcP**	**19 48 51.1**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**26.06**	**30**	T	T	20 13 33.1	
	baz=0.9,slow=74,SNR=32						
H11S2	**WAKE ISLAND Hy**	**26.06**	**30**	T	T	20 13 12.3	
	baz=208,slow=74,SNR=22						
H11S1	**WAKE ISLAND Hy**	**26.07**	**30**	T	T	20 11 24.1	
	SNR=13						
ARMA	**Armidale**	**26.11**	**184**	P	**P**	**19 45 30.5**	**+0.1**
ARMA				IAmb	IAmb	19 45 31.5	
	comp=Z,13nm,0.8s						
AS31	**Alice Springs**	**27.04**	**223**	P	**P**	**19 45 38.3**	**-0.4**
ASAR	**Alice Springs**	**27.04**	**223**	P	**P**	**19 45 38.2**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=55,slow=9.0,SNR=29						
ASAR				PcP	**PcP**	**19 48 57.5**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=40,slow=2.5,SNR=5.8						
ASAR				ScP	**ScP**	**19 52 27.2**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=44,slow=2.6,SNR=8.9						
ASAR	**Alice Springs**	**27.04**	**223**	P	**P**	**19 45 38.0**	**-0.8**
LHI	**Lord Howe Isla**	**27.64**	**170**	P	**P**	**19 45 43.4**	**-0.6**
SOEI	**Soe**	**29.52**	**258**	P	**P**	**19 46 00.9**	**-0.1**
SOEI				IAmb	IAmb	19 46 28.6	
	comp=Z,31nm,1.2s						
STKA	**Stephens Creek**	**29.69**	**201**	P	**P**	**19 46 00.3**	**-1.8**
	comp=Z,7.7nm,0.6s,baz=12,slow=8.3,SNR=25						
STKA	**Stephens Creek**	**29.69**	**201**	P	**P**	**19 46 01.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**30.54**	**241**	P	**P**	**19 46 09.2**	**-0.7**
FITZ				IAmb	IAmb	19 46 10.4	
	comp=Z,10nm,0.6s						
CAN	**Canberra**	**31.21**	**187**	P	**P**	**19 46 15.7**	**+0.1**
BBOO	**Bucklebroo**	**32.78**	**208**	P	**P**	**19 46 28.3**	**-0.9**
FORT	**Forrest**	**35.67**	**219**	P	**P**	**19 46 53.5**	**-0.7**
NIUE	**Niue**	**38.62**	**115**	P	**P**	**19 47 20.3**	**+0.9**
TAU	**Tasmania Unive**	**38.90**	**187**	P	**P**	**19 47 22.3**	**+0.9**
TUWZ	**Tuamarina**	**41.32**	**157**	P	**P**	**19 47 41.1**	**-0.2**
MSWZ	**Moikau Station**	**41.84**	**155**	P	**P**	**19 47 44.9**	**-0.7**
LTZ	**Lake Taylor**	**41.86**	**159**	P	**P**	**19 47 44.9**	**-0.9**
LTZ				IAmb	IAmb	19 47 58.3	
	comp=Z,16nm,1.3s						
LBZ	**Lake Benmore**	**42.60**	**162**	P	**P**	**19 47 50.8**	**-0.9**
LBZ				IAmb	IAmb	19 48 02.4	
	comp=Z,22nm,1.3s						
MLZ	**Mavora Lakes**	**42.92**	**165**	P	**P**	**19 47 53.7**	**-0.6**
MLZ				IAmb	IAmb	19 48 04.7	
	comp=Z,37nm,1.5s						
WHZ	**Wether Hill Ro**	**43.37**	**165**	P	**P**	**19 47 57.6**	**-0.3**
WHZ				IAmb	IAmb	19 48 05.6	
	comp=Z,30nm,1.2s						
CISI	**Cisompet, Garu**	**45.55**	**264**	P	**P**	**19 48 14.3**	**-1.5**
CISI				IAmb	IAmb	19 48 15.0	
	comp=Z,23nm,0.7s						
NJ2	**Nanjing**	**48.85**	**320**	*eP*	**P**	**19 48 42.4**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KULM	**Kulim**	**53.63**	**280**	P	**P**	**19 49 16.2**	**-0.8**
KULM				IAmb	IAmb	19 49 29.7	
	comp=Z,9.0nm,1.2s						
HMH	**Humu'ula Sheep**	**55.46**	**63**	P	**P**	**19 49 31.2**	**+0.7**
GSI	**Gunungsitoli**	**56.15**	**274**	P	**P**	**19 49 34.7**	**-0.5**
GSI				IAmb	IAmb	19 49 34.9	
	comp=Z,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**58.27**	**295**	P	**P**	**19 49 50.9**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=116,slow=5.5,SNR=9.2						
CMAR	**Chiang Mai Arr**	**58.27**	**295**	P	**P**	**19 49 50.1**	**0.0**
CD2	**Chengdu**	**58.90**	**310**	*eP*	**P**	**19 49 53.5**	**-0.8**
CD2				LR	LR		
	comp=Z,240nm,10.0s						
CD2				LR	LR		
	comp=Z,520nm,11.4s						
CD2				LR	LR		
	comp=Z,630nm,11.0s						
HHC	**Hu-ho-hao-te**	**59.00**	**324**	*eP*	**P**	**19 49 53.9**	**-0.9**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,84nm,5.4s						
GTA	**Gaotai**	**65.72**	**317**	*eP*	**P**	**19 50 40.1**	**+0.5**
GTA				pP	PcP	19 51 10.1	+0.1
GTA				sP	sP	19 51 25.0	+3.1
SONM	**Songino Array**	**66.22**	**327**	pP	pP	19 51 13.0	+1.1
	comp=Z,1.5nm,0.7s,baz=146,slow=5.8,SNR=5.7						
YAK	**Yakutsk**	**68.56**	**348**	P	**P**	**19 50 57.6**	**+0.7**
YAK				IAmb	IAmb	19 50 58.3	
	comp=Z,7.4nm,0.4s						
CASY	**Casey**	**68.76**	**197**	P	**P**	**19 50 57.6**	**-0.5**
CASY				IAmb	IAmb	19 51 13.8	
	comp=Z,20nm,1.3s						
VNDA	**Vanda**	**73.37**	**178**	P	**P**	**19 51 25.7**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=335,slow=7.0,SNR=23						
VNDA	**Vanda**	**73.37**	**178**	P	**P**	**19 51 25.1**	**-0.7**
WMQ	**Urumqi**	**75.80**	**317**	*eP*	**P**	**19 51 42.1**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,100nm,4.3s						
SVW2	**Sparrevohn**	**76.03**	**23**	P	**P**	**19 51 43.5**	**+2.1**
SVW2				IAmb	IAmb	19 52 10.9	
	comp=Z,9.6nm,1.4s						
MKAR	**Makanchi Array**	**80.36**	**319**	P	**P**	**19 52 05.9**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=98,slow=7.0,SNR=2.4						
MKAR	**Makanchi Array**	**80.36**	**319**	P	**P**	**19 52 04.7**	**-0.8**
ILAR	**Eielson Array**	**81.38**	**22**	P	**P**	**19 52 09.6**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=254,slow=4.6,SNR=6.9						
ILAR				pP	**pP**	**19 52 38.1**	**-3.1**
	comp=Z,0.6nm,1.0s,baz=234,slow=5.2,SNR=2.8						
YKA	**Yellowknife Ar**	**94.60**	**28**	P	**P**	**19 53 14.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=267,slow=4.1,SNR=4.0						
YKA				pP	**pP**	**19 53 42.3**	**-3.6**
	comp=Z,0.3nm,0.8s,baz=269,slow=4.2,SNR=2.7						
BOSA	**Boshof**	**120.52**	**233**	PKP	**PKPdf**	**19 58 45.6**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=66,slow=7.2,SNR=3.9						
BOSA	**Boshof**	**120.52**	**233**		**PKPdf**	**19 58 45.3**	**-0.5**
GERES	**GERESS Array B**	**123.93**	**329**	PKP	**PKiKP**	**19 58 52.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=82,slow=2.8,SNR=4.8						
GERES	**GERESS Array B**	**123.93**	**329**		**PKiKP**	**19 58 52.1**	**+0.1**
TOA0	**Torodi Ar. Sit**	**150.78**	**289**		**PKPbc**	**19 59 46.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**150.78**	**289**	PKPbc	**PKPbc**	**19 59 46.7**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=58,slow=2.5,SNR=24						
TORD				pPKPbc	**pPKPdf**	**20 00 15.8**	**+2.6**
	comp=Z,2.1nm,0.8s,baz=61,slow=1.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**150.78**	**289**		**PKPbc**	**19 59 46.5**	**-0.3**
TORD					**pPKPdf**	**20 00 15.5**	**+2.2**

*NNC **23** 19:48:19.9±0.8, 42°.83N×79°.36E, h0km, mb2.7, mpv2.8, Error ellipse: s-maj=5.1km s-min=2.6km az=154.0*

*KRNET **23** 19:48:20.3±0.1, 42°.83N×79°.32E, h16km, mb2.5*

*SOME **23** 19:48:20.2, 42°.83N×79°.32E, h10km*

ISC 23 19:48:19.3±1.2, **42.79N**±0°.04×**79°.36E**±0°.03, **h9**km±10km, **n36,** σ0**92**/70, **9C-3D, Lake Issyk-Kul region**

*FUNV **23** 19:48:49.0, 8°.72N×71°.27W, h5km, MW3.1*

ISC 23 19:48:48.2±1.4, **8.73N**±0°.03×**71°.25W**±0°.03, **h5**km±11km, **n16,** σ1**912**/32, **Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.58**	**139**	*eP*	**Pb**	**19 48 60.0**	**-1.0**
SOCV				*eS*	**Sg**	**19 49 07.6**	**+0.5**
SDV	**Santo Domingo**	**0.63**	**75**	*eP*	**Pg**	**19 49 00.1**	**-0.2**
SDV				*eS*	**Sg**	**19 49 07.9**	**-0.6**
SDV				*i*		19 49 09.3	
	comp=Z,43nm,0.3s						
CAPV	**Capacho**	**1.36**	**231**	*eP*	**Pb**	**19 49 14.5**	**+0.2**
CAPV				*eS*	**Sn**	**19 49 32.7**	**+0.2**
CURV	**Curarigua**	**1.80**	**45**	*eP*	**Pb**	**19 49 21.5**	**-0.2**
CURV				*eS*	**Sb**	**19 49 44.5**	**-0.2**
SANV	**Sanarito**	**1.86**	**65**	*eP*	**Pb**	**19 49 23.0**	**+0.3**
SANV				*eS*	**Sb**	**19 49 46.6**	**+0.3**
PAMC	**Pamplona, Colo**	**1.99**	**226**	*eP*	**Pn**	**19 49 24.0**	**+1.0**
PAMC				*eS*	**Sg**	**19 49 52.2**	**-0.1**
PAMC				*i*		19 49 57.1	
	comp=Z,32nm,0.5s						
OCAC	**Ocana**	**2.11**	**257**	*eP*	**Pn**	**19 49 25.3**	**+1.1**
	3.7nm,0.1s						
ZHN	**Zhinishke**	**0.78**	**300**	*eP*	**Pg**	**19 48 34.3**	**0.0**
	108nm,0.3s						
ZHN				*eS*	**Sg**	**19 48 44.4**	**0.0**
	3.7nm,0.1s						
ZHN	**Zhinishke**	**0.78**	**300**	P	**Pg**	**19 48 34.3**	**0.0**
	108nm,0.3s						
ZHN				S	**Sg**	**19 48 44.4**	**0.0**
	3.7nm,0.1s						
KPKS	**Kokpek**	**0.84**	**324**	*eP*	**Pg**	**19 48 35.1**	**-0.4**
	baz=24						
KPKS				*eS*	**Sg**	**19 48 45.9**	**-0.5**
	baz=24						
KPKS	**Kokpek**	**0.84**	**324**	*eP*	**Pg**	**19 48 35.1**	**-0.4**
	6.7nm,0.1s						
KPKS				*eS*	**Sg**	**19 48 45.9**	**-0.5**
	21nm,0.3s						
KTMS	**Ketmen**	**0.98**	**48**	*eP*	**Pg**	**19 48 37.7**	**-0.6**
KTMS				*eS*	**Sg**	**19 48 50.3**	**-0.7**
KTMS	**Ketmen**	**0.98**	**48**	P	**Pg**	**19 48 37.7**	**-0.6**
KTMS				S	**Sg**	**19 48 50.3**	**-0.7**
ANVS	**Anan'yevo**	**1.24**	**270**	⇑*iP*	**Pg**	**19 48 43.9**	**+0.7**
	baz=68						
ANVS				⇑*iS*	**Sn**	**19 49 00.2**	**+0.2**
	baz=68						
MNBS	**Baschi**	**1.47**	**332**	*eP*	**Pn**	**19 48 46.3**	**+0.3**
	2.7nm,0.1s						
MNBS				*eS*	**Sb**	**19 49 05.0**	**-0.6**
	8.1nm,0.2s						
MNBS	**Baschi**	**1.47**	**332**	P	**Pn**	**19 48 46.3**	**+0.3**
	2.7nm,0.1s						
MNBS				S	**Sb**	**19 49 05.0**	**-0.6**
	8.1nm,0.2s						
DJR	**Jarkent**	**1.57**	**11**	*eP*	**Pb**	**19 48 48.4**	**-0.3**
	1.4nm,0.2s						
DJR				*eS*	**Sb**	**19 49 08.5**	**-0.3**
	4.3nm,0.3s						
DJR	**Jarkent**	**1.57**	**11**	P	**Pb**	**19 48 48.4**	**-0.3**
	1.4nm,0.2s						
DJR				S	**Sb**	**19 49 08.5**	**-0.3**
	4.3nm,0.3s						
KOTS	**Kotyrbulak**	**1.70**	**286**	*eP*	**Pb**	**19 48 51.1**	**+0.2**
	baz=85						
KOTS				*eS*	**Sg**	**19 49 13.4**	**-0.7**
	baz=85						
KOTS	**Kotyrbulak**	**1.70**	**286**	*eP*	**Pb**	**19 48 51.1**	**+0.2**
	1.7nm,0.4s						
KOTS				*eS*	**Sg**	**19 49 13.4**	**-0.7**
	3.9nm,0.3s						
KOTS	**Kotyrbulak**	**1.70**	**286**	P	**Pb**	**19 48 51.1**	**+0.2**
	1.7nm,0.4s						
KOTS				S	**Sg**	**19 49 13.4**	**-0.7**
	3.9nm,0.3s						

OCAC				*eS*		**Sb**	19 49 53.3	**-0.2**
OCAC				*i*			19 49 55.5	
	comp=Z,67nm,0.4s							
DABV	**Dabajuro**	**2.26**	**15**	*eP*		**Pn**	19 49 26.9	**+0.6**
DABV				*eS*		**Sn**	19 49 55.1	**+0.5**
TAMC	**Tame, Arauca**	**2.34**	**193**	*eP*		**Pn**	19 49 28.9	**+1.5**
TAMC				*eS*		**Sb**	19 49 58.5	**-1.6**
TAMC				*i*			19 50 06.8	
	comp=Z,32nm,0.2s							
SIQV	**Siquisique**	**2.38**	**36**	*eP*		**Pn**	19 49 28.9	**+1.0**
SIQV				*eS*		**Sn**	19 49 58.0	**+0.4**
ELOV	**Elorza**	**2.45**	**134**	*eP*		**Pn**	19 49 29.7	**+0.9**
ELOV				*eS*		**Sn**	19 49 59.9	**+0.8**
MAPV	**Macapo**	**2.96**	**68**	*eP*		**Pn**	19 49 37.5	**+1.5**
MAPV				*eS*		**Sn**	19 50 12.3	**+0.4**
URIC	**Uribia, Colomb**	**3.05**	**346**	*eP*		**Pn**	19 49 38.9	**+1.9**
URIC				*eS*		**Sn**	19 50 10.6	**-3.3**
BAUV	**El Baul**	**3.17**	**86**	*eP*		**Pn**	19 49 39.8	**+1.0**
BAUV				*eS*		**Sn**	19 50 17.5	**+0.4**
MONV	**Montecano**	**3.45**	**21**	*eP*		**Pn**	19 49 42.4	**-0.1**
MONV				*eS*		**Sn**	19 50 22.9	**-0.9**
PAYV	**Puerto Ayacuch**	**4.85**	**132**	*eP*		**Pn**	19 50 02.1	**+0.3**
PAYV				*eS*		**Sn**	19 50 56.4	**-1.9**

*JMA **23** 20:01:21.1, 36˚.38N × 140˚.55E, h85km ± 1km, M3.0*
*IDC **23** 20:01:27.5 ± 3.3, 35˚.92N × 139˚.55E, h128km ± 16km, mb2.9/3, mb1 3.1/3, mb1mx2.8/34, mbtmp3.3/3, Error ellipse: s-maj=82.9km s-min=29.4km az=64.0*

ISC 23 20:01:20.1 ± 1.0, **36˚.38N** ± 0˚.04 × **140˚.61E** ± 0˚.06, **h91** km ± 7km, **n23**, σ0**s52**/29, **mb3.1**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.04**	**202**	P	**Pn**	**20 01 33.2**	**+0.4**
JHYU				S	**Sn**	**20 01 42.3**	**0.0**
JHO	**Hitachi**	**0.23**	**353**	P	**Pn**	**20 01 33.7**	**+0.3**
JHO				S	**Sn**	**20 01 42.9**	**-0.3**
JYT	**Yasato**	**0.36**	**246**	P	**Pn**	**20 01 34.3**	**+0.3**
JYT				S	**Sn**	**20 01 43.9**	**-0.4**
JAG	**Ashikaga**	**0.93**	**273**	P	**Pn**	**20 01 39.4**	**+0.3**
JAG				S	**Sn**	**20 01 53.1**	**-0.2**
JFK	**Kawauchi**	**1.01**	**12**	P	**Pn**	**20 01 40.3**	**+0.3**
JFK				*eS*	**Sn**	**20 01 54.6**	**-0.4**
JFT	**Otama**	**1.16**	**349**	P	**Pn**	**20 01 42.3**	**+0.6**
JFT				*eS*	**Sn**	**20 01 58.3**	**+0.3**
JKT	**Katashina**	**1.16**	**290**	*eS*	**Sn**	**20 01 57.7**	**-0.4**
JFY	**Yanaizu**	**1.26**	**325**	P	**Pn**	**20 01 43.3**	**+0.4**
JFY				*eS*	**Sn**	**20 01 59.9**	**-0.2**
JRY	**Ryogami san**	**1.42**	**256**	P	**Pn**	**20 01 45.5**	**+0.5**
JRY				*eS*	**Sn**	**20 02 03.5**	**-0.3**
JMM	**Marumori**	**1.49**	**6**	P	**Pn**	**20 01 46.2**	**+0.4**
JMM				S	**Sn**	**20 02 05.5**	**+0.3**
BSO3	**Boso 3**	**1.57**	**183**	P	**Pn**	**20 01 47.2**	**+0.6**
BSO3				*eS*	**Sn**	**20 02 07.5**	**+0.8**
JOD2	**Odawara 2**	**1.66**	**228**	P	**Pn**	**20 01 48.2**	**+0.2**
JOD2				*eS*	**Sn**	**20 02 08.4**	**-0.7**
MJAR	**Matsushiro Arr**	**1.94**	**276**	P	**Pn**	**20 01 52.2**	**+0.7**
	0.3nm,0.3s,baz=118,slow=9.8,SNR=20						
MAT	**Matsushiro**	**1.94**	**276**	P	**Pn**	**20 01 52.9**	**+1.3**
MAT				*eS*	**Sn**	**20 02 15.5**	**0.0**
SONM	**Songino Array**	**27.62**	**305**	P	**P**	**20 06 58.9**	**-0.2**
	0.2nm,0.4s,baz=102,slow=8.8,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**28.39**	**119**	T	T	20 37 22.7	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**28.39**	**119**	T	T	20 37 20.6	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**28.41**	**119**	T	T	20 37 22.2	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**29.07**	**121**	T	T	20 38 06.2	
	baz=314,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.07**	**121**	T	T	20 38 04.1	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**29.08**	**121**	T	T	20 38 09.3	
	baz=314,slow=74						
MKAR	**Makanchi Array**	**43.92**	**303**	P	**P**	**20 09 17.9**	**+0.1**
	0.2nm,0.6s,baz=90,slow=8.6,SNR=2.3						
WRA	**Warramunga Arr**	**56.33**	**187**	P	**P**	**20 10 50.9**	**-0.7**
	0.4nm,0.7s,baz=1.7,slow=7.4,SNR=2.1						

*ANF **23** 20:12:45.9 ± 1.7, 43˚.73N × 128˚.31W, h0km, ML3.7/8, Error ellipse: s-maj=18.7km s-min=7.7km az=51.0, Hypocentre not reviewed by the ISC*
*IDC **23** 20:12:45.5 ± 1.4, 43˚.99N × 128˚.38W, h0km, mb3.5/6, mb1 3.8/11, mb1mx3.6/40, mbtmp3.5/11, ML3.2/5, MS3.6/8, Ms1 3.6/8, ms1mx3.4/27, Error ellipse: s-maj=42.4km s-min=12.6km az=37.0*
*NEIC **23** 20:12:55.7 ± 1.6, 43˚.91N ± 0˚.08 × 127˚.4W ± 0˚.1, h10km ± 2km, ML3.2/26, Error ellipse: s-maj=16.7km s-min=12.9km az=297.0*

ISC 23 20:12:47.0 ± 1.0, **43˚.93N** ± 0˚.08 × **128˚.5W** ± 0˚.1, **h10** km, **n39**, σ1**s50**/30, **mb3.6**/5, **Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.19**	**108**	Pn	**Pn**	**20 13 34.7**	**-2.6**
KEBM				IAML		20 13 59.5	
	comp=E,119nm,2.4s						
KEBM				IAML		20 14 09.1	
	comp=N,127nm,2.5s						
J01E	**Myrtle Point**	**3.39**	**101**	P		20 13 38.1	
	baz=288,SNR=12						
J01E				S		20 14 18.5	
	baz=288						
I03D	**Drain, OR**	**3.71**	**92**	P		20 13 42.5	
	baz=276,SNR=57						
K02D	**Willamette Mer**	**3.71**	**108**	P		20 13 42.0	
	baz=295,SNR=39						
K02D				S		20 14 25.7	
	baz=295						
COR	**Corvallis**	**3.77**	**78**	Pn	**Pn**	**20 13 44.2**	**-0.9**
COR				IAML		20 14 32.4	
	comp=N,57nm,2.0s						
COR				IAML		20 15 24.5	
	comp=N,70nm,2.7s						
G03D	**McMinnville, O**	**3.94**	**69**	P		20 13 46.8	
	baz=248						
H04D	**Lebanon**	**4.16**	**80**	P		20 13 50.1	
	baz=261						
HUMO	**Hull Mountain**	**4.24**	**106**	Pn	**Pn**	**20 13 50.4**	**-1.1**
E03A	**Lebam**	**4.34**	**51**		**Pn**	**20 13 53.0**	**0.0**
E03A				IAML		20 15 04.2	
	comp=E,48nm,1.9s						
I04A	**Tendick Farm,**	**4.38**	**90**	P		20 13 52.5	
	baz=274,SNR=19						
F04D	**Rainier, OR**	**4.43**	**59**	S		20 14 47.3	
	baz=237						
H04A	**Detroit Lake**	**4.57**	**78**	Pn	**Pn**	**20 13 55.6**	**-0.6**
J04D	**Umpqua Nationa**	**4.67**	**96**	P		20 13 56.2	
	baz=282,SNR=16						
NLWA	**Neilton Lookou**	**4.73**	**41**		**Pn**	**20 14 01.0**	**+2.5**
NLWA				IAML		20 16 10.8	
	comp=E,26nm,2.8s						
NLWA				IAML		20 16 41.7	
	comp=E,27nm,4.8s						
YBH	**Yreka Blue Hor**	**4.77**	**115**	Pn	**Pn**	**20 13 58.7**	**-0.2**
	comp=E,0.3nm,0.3s,baz=315,slow=13,SNR=2.5						
YBH	**Yreka Blue Hor**	**4.77**	**115**	Pn	**Pn**	**20 13 58.9**	**-0.1**
D03D	**Eldon**	**5.22**	**44**	P		20 14 05.7	
	baz=222						
F05D	**White Salmon**	**5.35**	**66**	P		20 14 07.1	
	baz=247						
PINE	**Pine Mountain**	**5.45**	**89**		**Pn**	**20 14 07.8**	**-0.6**
PINE				IAML		20 14 46.7	
	comp=E,22nm,3.8s						
LON	**Longmire**	**5.48**	**57**		**Pn**	**20 14 08.7**	**0.0**
LON				IAML		20 15 27.8	
	comp=N,12nm,4.3s						
LON				IAML		20 15 59.8	
	comp=E,11nm,4.9s						
WDC	**Whiskeytown Da**	**5.52**	**125**	Pn	**Pn**	**20 14 10.2**	**+0.9**
WDC				IAML		20 15 03.9	
	comp=N,12nm,4.4s						
WDC				IAML		20 17 12.2	
	comp=E,10nm,4.9s						
D05A	**Enumclaw**	**5.60**	**52**	Pn	**Pn**	**20 14 08.7**	**-1.5**
K05A	**Summer Lake**	**5.65**	**100**		**Pn**	**20 14 11.0**	**-0.2**
MOD	**Modoc Plateau**	**6.33**	**106**	Pn	**Pn**	**20 14 19.9**	**-0.6**
LTY	**Liberty**	**6.41**	**56**		**Pn**	**20 14 21.1**	**-0.3**
GDXM	**Geysers**	**6.66**	**138**		**Pn**	**20 14 28.0**	**+3.1**
B06A	**Marblemount**	**6.67**	**44**	Pn	**Pn**	**20 14 26.6**	**+1.6**
A05A	**Maple Falls**	**6.72**	**39**		**Pn**	**20 14 28.4**	**+2.8**
ORV	**Oroville**	**6.80**	**128**		**Pn**	**20 14 28.1**	**+1.4**
G08A	**Pilot Rock**	**6.92**	**75**		**Pn**	**20 14 26.7**	**-1.9**
NEW	**Newport**	**9.00**	**57**	LR	LR	20 17 33.4	
	comp=E,65nm,18.6s,baz=248,slow=32						
NVAR	**Mina Array Bea**	**9.42**	**122**	Pn	**Pn**	**20 15 05.4**	**+2.4**
	comp=E,0.1nm,0.3s,baz=295,slow=13,SNR=8.1						
NVAR				LR	LR	20 18 43.9	
	comp=E,518nm,20.2s,baz=294,slow=38						
ELK	**Elko**	**10.30**	**103**	Pn	**Pn**	**20 15 16.2**	**+1.3**
	comp=E,0.1nm,0.3s,baz=300,slow=12,SNR=8.7						
ELK				LR	LR	20 19 21.6	
	comp=E,413nm,20.5s,baz=305,slow=39						
PDAR	**Pinedale Array**	**13.81**	**88**	Pn	**Pn**	**20 16 05.2**	**+2.3**
	comp=E,0.0nm,0.3s,baz=283,slow=14,SNR=8.4						
PDAR				LR	LR	20 21 37.3	
	comp=E,453nm,18.9s,baz=276,slow=39						
PFO	**Pinyon Flats O**	**13.90**	**134**	LR	LR	20 21 08.9	
	comp=E,211nm,19.7s,baz=338,slow=36						
ANMO	**Albuquerque**	**19.18**	**110**	P	**Pn**	**20 17 11.8**	**0.0**
	comp=E,0.1nm,0.3s,baz=318,slow=11,SNR=8.2						
ANMO				LR	LR	20 25 01.8	
	comp=E,507nm,18.7s,baz=312,slow=38						
YKA	**Yellowknife Ar**	**20.29**	**19**	P	**P**	**20 17 23.4**	**+0.9**
	comp=E,2.5nm,0.8s,baz=205,slow=11,SNR=17						
ULM	**Lac du Bonnet**	**22.95**	**62**	LR	LR	20 26 59.9	
	comp=E,138nm,20.6s,baz=303,slow=37						
ILAR	**Eielson Array**	**23.31**	**340**	P	**P**	**20 17 55.1**	**+0.4**
	comp=E,0.4nm,0.7s,baz=164,slow=9.0,SNR=7.0						
TXAR	**Lajitas Array**	**24.54**	**118**	P	**P**	**20 18 06.2**	**-0.6**
	comp=E,0.8nm,0.8s,baz=296,slow=9.6,SNR=8.7						
TXAR				LR	LR	20 28 21.5	
	comp=E,156nm,21.6s,baz=0.0,slow=38						
SEY	**Seymchan**	**47.40**	**322**	P	**P**	**20 21 20.2**	**-0.7**
	comp=E,0.4nm,0.5s,baz=67,slow=13,SNR=3.7						
TIXI	**Tiksi**	**52.73**	**337**	P	**P**	**20 22 00.2**	**-1.1**
	comp=E,0.5nm,0.6s,baz=90,slow=3.8,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**58.43**	**268**	T	T	21 25 51.9	
	baz=50,slow=75,SNR=153						
H11N2	**WAKE ISLAND Hy**	**58.43**	**268**	T	T	21 25 53.9	
	baz=50,slow=75,SNR=116						
H11N1	**WAKE ISLAND Hy**	**58.44**	**268**	T	T	21 25 55.4	
	baz=50,slow=75,SNR=110						
H11S1	**WAKE ISLAND Hy**	**59.35**	**267**	T	T	21 27 01.5	
	baz=50,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**59.36**	**267**	T	T	21 27 05.0	
	baz=50,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy**	**59.37**	**267**	T	T	21 27 05.4	
	baz=50,slow=75,SNR=24						
SONM	**Songino Array**	**76.66**	**326**	P	**P**	**20 24 38.4**	**+0.4**
	comp=E,1.2nm,1.0s,baz=38,slow=5.6,SNR=8.4						

*ANF **23** 20:16:15.2 ± 0.3, 36˚.13N × 97˚.57W, h4km ± 2km, ML4.6/21, Error ellipse: s-maj=2.1km s-min=1.9km az=113.0*
*NEIC **23** 20:16:15.3, 36˚.12N × 97˚.57W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.73; $M_{\theta\theta}$2.64; $M_{\phi\phi}$-0.91; $M_{r\theta}$-1.94; $M_{\theta\phi}$-0.28; $M_{\phi r}$1.84; Fault plane solution: $M_0$3.55000×10^{14} NP1:ϕ_s243.83000°, δ31.34000°, λ-146.49000°. NP2:ϕ_s124.34000°, δ73.31000°, λ-63.08000°. Principal axes: T 3.5766, Plg24.0000°, Azm194.0000°; N -0.0523, Plg26.0000°, Azm296.0000°; P -3.5242, Plg54.0000°, Azm67.0000°;*
*TUL **23** 20:16:15.3 ± 1.0, 36˚.12N ± 0˚.02 × 97˚.57W ± 0˚.06, h4km ± 8km, ML3.8, mb_Lg3.7/136(NEIC), Mwr3.6/22(NEIC) Error ellipse: s-maj=6.8km s-min=2.5km az=68.0*
*NEIC **23** 20:16:15.4 ± 0.9, 36˚.14N ± 0˚.02 × 97˚.57W ± 0˚.06, h2km ± 8km, Error ellipse: s-maj=7.6km s-min=0.6km az=69.0*
*IDC **23** 20:16:17.0 ± 1.6, 36˚.32N × 97˚.97W, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.6/38, mbtmp3.5/6, ML2.6/3, Error ellipse: s-maj=24.1km s-min=11.3km az=107.0*

ISC 23 20:16:15.8 ± 1.1, **36˚.14N** ± 0˚.02 × **97˚.57W** ± 0˚.02, **h7** km ± 8km, **n126**, σ0**s76**/93, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.35**	**165**	Pg	**Pg**	**20 16 22.3**	**-0.3**
OK029				Sg	**Sg**	**20 16 27.1**	**-0.1**
BCOK	**Bluff Creek, N**	**0.48**	**184**	Pg	**Pg**	**20 16 24.6**	**-0.4**
BCOK				Sg	**Sg**	**20 16 31.2**	**-0.1**
CROK	**Carrier**	**0.50**	**318**	Pg	**Pg**	**20 16 25.5**	**+0.1**
CROK				Sg	**Sg**	**20 16 32.5**	**+0.6**
OK009	**Oakdale Elemen**	**0.56**	**168**	Pg	**Pg**	**20 16 26.1**	**-0.5**
OK009				Sg	**Sg**	**20 16 34.1**	**0.0**
OK025	**Westminster Rd**	**0.58**	**161**	Pg	**Pg**	**20 16 26.6**	**-0.4**
OK025				IAmb_Lg		20 16 33.8	
	comp=Z,1μm,0.9s						
OK031	**S. Brethren Rd**	**0.62**	**107**	Pg	**Pg**	**20 16 27.4**	**-0.3**
OK031				IAmb_Lg		20 16 35.4	
	comp=Z,559nm,0.8s						
OK030	**Cody Creek RV**	**0.67**	**108**	Pg	**Pg**	**20 16 28.4**	**-0.3**
QUOK	**Quay**	**0.70**	**87**	Pg	**Pg**	**20 16 29.0**	**-0.2**
QUOK				IAmb_Lg		20 16 38.6	
	comp=Z,509nm,0.7s						
OKCFA	**Oklahoma City**	**0.72**	**172**		**Pg**	**20 16 29.1**	**-0.7**
OKCFA				IAmb_Lg		20 16 38.6	
	comp=Z,1μm,0.9s						
OKCFA	**Oklahoma City**	**0.72**	**172**	P	**Pg**	**20 16 29.0**	**-0.7**
	baz=352,SNR=34						
OKCFA				S	**Sg**	**20 16 39.0**	**-0.2**
	baz=352						
OKCFA	**Oklahoma City**	**0.72**	**172**	P		20 16 29.0	
	baz=352,SNR=34						
OKCFA				S		20 16 39.0	
	baz=352						
OKCSW	**OKLAHOMA CITY**	**0.74**	**172**		**Pg**	**20 16 29.2**	**-0.7**
GC02	**Grant County #**	**0.75**	**342**	Pg	**Pg**	**20 16 30.0**	**-0.2**
OK032	**Salt Plains WL**	**0.84**	**322**		**Pg**	**20 16 31.6**	**-0.4**
KAN13	**South Haven SW**	**0.88**	**5**	Pg	**Pg**	**20 16 32.3**	**-0.3**
KAN14	**Manchester OK**	**0.88**	**339**		**Pg**	**20 16 32.2**	**-0.4**
FNO	**Franklin**	**0.89**	**171**		**Pg**	**20 16 32.5**	**-0.3**
FNO				IAmb_Lg		20 16 42.7	
	comp=Z,1μm,1.0s						
KAN09	**Caldwell North**	**1.00**	**358**		**Pg**	**20 16 34.5**	**-0.5**
KAN05	**Bluff City Nor**	**1.00**	**346**		**Pg**	**20 16 34.5**	**-0.5**
KAN01	**Argonia South**	**1.03**	**352**		**Pg**	**20 16 35.0**	**-0.6**
KAN10	**Anthony SW Sta**	**1.07**	**337**	Pg	**Pg**	**20 16 35.6**	**-0.7**
KAN08	**Anthony NE Sta**	**1.14**	**344**		**Pg**	**20 16 36.9**	**-0.7**
T35A	**Sooner Cattle**	**1.16**	**47**	Pg	**Pg**	**20 16 37.2**	**-0.7**
T35B	**Sooner Cattle**	**1.16**	**47**	P	**Pg**	**20 16 37.3**	**-0.7**
	baz=227						
T35B				S	**Sg**	**20 16 52.2**	**-0.7**
	baz=227						
T35B	**Sooner Cattle**	**1.16**	**47**	P		20 16 37.3	
	baz=227						
T35B				S		20 16 52.2	
	baz=227						
U32A	**Winter Ranch,**	**1.18**	**282**		**Pg**	**20 16 37.3**	**-1.1**
U32A	**Winter Ranch,**	**1.18**	**282**	P	**Pg**	**20 16 37.6**	**-0.9**
	baz=102						
U32A				S	**Sb**	**20 16 54.4**	**+0.3**
	baz=102						
U32A	**Winter Ranch,**	**1.18**	**282**	P		20 16 37.6	
	baz=102						
U32A				S		20 16 54.4	
	baz=102						
KAN12	**Harper NE Stat**	**1.21**	**344**	Pg	**Pg**	**20 16 38.2**	**-0.8**
TUL1	**Leonard**	**1.46**	**98**	S	**Sb**	**20 17 02.0**	**0.0**
	baz=279						
TUL1	**Leonard**	**1.46**	**98**	S		20 17 01.8	
	baz=279						
TUL1	**Leonard**	**1.46**	**98**	S		20 17 02.0	
	baz=279						
WMOK	**Wichita Mounta**	**1.71**	**216**	Pn	**Pn**	**20 16 45.8**	**-0.3**
WMOK				IAmb_Lg		20 17 09.5	
	comp=Z,546nm,0.9s						
WMOK	**Wichita Mounta**	**1.71**	**216**	P	**Pn**	**20 16 45.9**	**-0.1**
	baz=35,SNR=95						
WMOK				S	**Sn**	**20 17 08.5**	**+0.4**
	baz=35						
WMOK	**Wichita Mounta**	**1.71**	**216**	P		20 16 45.8	
	baz=35						
WMOK				S		20 17 08.5	
	baz=35						
WMOK	**Wichita Mounta**	**1.71**	**216**	P		20 16 45.9	
	baz=35,SNR=95						
WMOK				S		20 17 08.5	
	baz=35						
X37A	**Clayton**	**2.37**	**130**		**Pn**	**20 16 55.5**	**+0.5**
X37A				IAmb_Lg		20 17 34.8	
	comp=Z,266nm,0.9s						
X37A	**Clayton**	**2.37**	**130**	P	**Pn**	**20 16 55.5**	**+0.5**
	baz=311,SNR=16						
X37A				S	**Sn**	**20 17 26.1**	**+1.8**
	baz=311						
X37A	**Clayton**	**2.37**	**130**	P		20 16 55.5	
	baz=311,SNR=16						
X37A				S		20 17 26.1	
	baz=311						
R32A	**Long Quarter,**	**2.46**	**339**	IAmb_Lg		20 17 38.9	
	comp=Z,325nm,0.9s						
R32A	**Long Quarter,**	**2.46**	**339**	S	**Sn**	**20 17 27.4**	**+0.7**
	baz=158						
R32A	**Long Quarter,**	**2.46**	**339**	S		20 17 27.4	
	baz=158						
U38A	**Gravette**	**2.59**	**82**		**Pn**	**20 16 58.3**	**+0.2**
Z35A	**Perchaven, San**	**2.81**	**175**	Pn	**Pn**	**20 17 01.9**	**+0.8**
Z35A	**Perchaven, San**	**2.81**	**175**	P	**Pn**	**20 17 01.4**	**+0.3**
	baz=355,SNR=39						
Z35A				S	**Sn**	**20 17 36.6**	**+1.4**
	baz=355						
Z35A	**Perchaven, San**	**2.81**	**175**	P		20 17 01.4	
	baz=355,SNR=39						
Z35A				S		20 17 36.6	
	baz=355						
HHAR	**Hobbs**	**2.94**	**86**		**Pn**	**20 17 03.0**	**0.0**
HHAR	**Hobbs**	**2.94**	**86**	P	**Pn**	**20 17 03.0**	**0.0**
	baz=268,SNR=9.0						
HHAR	**Hobbs**	**2.94**	**86**	P		20 17 03.0	
	baz=268,SNR=9.0						
KSU1	**Kansas State U**	**3.06**	**14**	IAmb_Lg		20 17 58.3	
	comp=Z,177nm,0.7s						
KSU1	**Kansas State U**	**3.06**	**14**	Pb		20 17 11.4	
	baz=195						
CBKS	**Cedar Bluff**	**3.18**	**328**	IAmb_Lg		20 17 59.4	
	comp=Z,188nm,0.7s						
W39A	**Magazine**	**3.22**	**106**	Pn	**Pn**	**20 17 06.5**	**-0.2**
W39A				IAmb_Lg		20 17 59.2	
	comp=Z,156nm,0.8s						
W39A	**Magazine**	**3.22**	**106**	P	**Pn**	**20 17 06.8**	**0.0**
	baz=288,SNR=13						
W39A				S	**Sn**	**20 17 45.9**	**+0.5**
	baz=288						
W39A	**Magazine**	**3.22**	**106**	P		20 17 06.9	
	baz=288						
W39A				S		20 17 45.9	
	baz=288						
W39A	**Magazine**	**3.22**	**106**	P		20 17 06.8	
	baz=288,SNR=13						
W39A				S		20 17 45.9	
	baz=288						
Z38A	**Mt. Pleasant**	**3.57**	**143**	Pn	**Pn**	**20 17 11.4**	**-0.2**
Z38A	**Mt. Pleasant**	**3.57**	**143**	P	**Pn**	**20 17 12.1**	**+0.5**
	baz=324						
Z38A	**Mt. Pleasant**	**3.57**	**143**	P		20 17 12.1	
	baz=324						
AMTX	**Amarillo**	**3.58**	**251**	Pn	**Pn**	**20 17 12.0**	**+0.2**
AMTX				IAmb_Lg		20 18 13.1	
	comp=Z,214nm,0.7s						
AMTX	**Amarillo**	**3.58**	**251**	P	**Pn**	**20 17 12.3**	**+0.5**
	baz=68						
AMTX	**Amarillo**	**3.58**	**251**	P		20 17 12.5	
	baz=68						
AMTX				Sb		20 18 05.4	
	baz=68						
AMTX	**Amarillo**	**3.58**	**251**	P		20 17 12.3	
	baz=68						
MIAR	**Mount Ida**	**3.63**	**115**	Pn	**Pn**	**20 17 12.3**	**-0.1**
MIAR				IAmb_Lg		20 18 18.0	
	comp=Z,200nm,0.8s						
MIAR	**Mount Ida**	**3.63**	**115**	P	**Pn**	**20 17 12.7**	**+0.3**
	baz=297,SNR=24						
MIAR				S	**Sn**	**20 17 56.7**	**+1.2**
	baz=297						
MIAR	**Mount Ida**	**3.63**	**115**	P		20 17 12.7	
	baz=297						
MIAR				S		20 17 56.7	
	baz=297						
MIAR	**Mount Ida**	**3.63**	**115**	P		20 17 12.7	
	baz=297,SNR=24						
MIAR				S		20 17 56.7	
	baz=297						
S39A	**Bolivar**	**3.74**	**64**		**Pn**	**20 17 14.0**	**+0.1**
S39A				IAmb_Lg		20 18 21.0	
	comp=Z,230nm,0.7s						
S39A	**Bolivar**	**3.74**	**64**	P	**Pn**	**20 17 14.4**	**+0.4**
	baz=246,SNR=25						
S39A	**Bolivar**	**3.74**	**64**	P		20 17 14.4	
	baz=246,SNR=25						
U40A	**Yellville**	**3.82**	**85**	Pn	**Pn**	**20 17 14.0**	**-1.0**
U40A				IAmb_Lg		20 18 21.4	
	comp=Z,315nm,0.9s						
ABTX	**Abilene, Hawle**	**3.90**	**207**	Pn	**Pn**	**20 17 15.5**	**-0.6**
ABTX				IAmb_Lg		20 18 20.2	
	comp=Z,200nm,0.9s						
ABTX	**Abilene, Hawle**	**3.90**	**207**	Pb		20 17 23.9	
	baz=26						
WHTX	**Lake Whitney,**	**4.13**	**179**	Pn	**Pn**	**20 17 20.0**	**+0.6**
WHTX	**Lake Whitney,**	**4.13**	**179**	P	**Pn**	**20 17 19.5**	**+0.1**
	baz=359,SNR=19						
WHTX				S	**Sn**	**20 18 07.8**	**-0.2**
	baz=359						
WHTX	**Lake Whitney,**	**4.13**	**179**	P		20 17 20.1	
	baz=359						
WHTX				S		20 18 07.4	
	baz=359						
WHTX	**Lake Whitney,**	**4.13**	**179**	P		20 17 19.5	
	baz=359,SNR=19						
WHTX				S		20 18 07.8	
	baz=359						
X40A	**Basin Creek Fa**	**4.21**	**112**		**Pn**	**20 17 20.9**	**+0.6**
X40A				IAmb_Lg		20 18 32.7	
	comp=Z,235nm,0.8s						
X40A	**Basin Creek Fa**	**4.21**	**112**	P	**Pn**	**20 17 20.4**	**+0.1**
	baz=294,SNR=11						
X40A	**Basin Creek Fa**	**4.21**	**112**	P		20 17 20.9	
	baz=294						
X40A				Sb		20 18 26.7	
	baz=294						
X40A	**Basin Creek Fa**	**4.21**	**112**	P		20 17 20.4	
	baz=294,SNR=11						
X40A				P		20 17 20.4	
	baz=294,SNR=11						
237A	**Washetta, Mont**	**4.38**	**160**	Pn	**Pn**	**20 17 22.1**	**-0.5**
237A				IAmb_Lg		20 18

baz=308
Z41A Richland Creek 4.86 125 P 20 17 29.2
baz=308
Z41A P 20 17 29.2
baz=308
KSCO Kaye Shedlock' 4.94 307 IAmb_Lg 20 19 04.6
comp=Z,134nm,0.8s
N35A Tabor 4.96 17 Pn **Pn** **20 17 31.7 +1.1**
N35A Tabor 4.96 17 P **Pn** **20 17 30.8 +0.2**
baz=198,SNR=5.0
N35A Tabor 4.96 17 P 20 17 30.8
baz=198,SNR=5.0
NATX Nacogdoches 4.99 150 IAmb_Lg 20 19 04.5
comp=Z,86nm,0.9s
LCAR Lake Charles 5.20 89 IAmb_Lg 20 19 02.9
comp=Z,96nm,1.0s
CCAR Cane Creek 5.25 113 IAmb_Lg 20 19 10.3
comp=Z,204nm,0.9s
BGNE Belgrade 5.29 355 Pn **Pn** **20 17 34.4 -0.8**
BGNE Belgrade 5.29 355 P **Pn** **20 17 34.9 -0.3**
baz=175,SNR=8.3
BGNE Belgrade 5.29 355 P 20 17 34.9
baz=175
BGNE Belgrade 5.29 355 P 20 17 34.9
baz=175,SNR=8.3
T42A Van Buren 5.29 78 IAmb_Lg 20 19 10.8
comp=Z,123nm,0.8s
T42A Van Buren 5.29 78 P **Pn** **20 17 34.7 -0.5**
baz=262,SNR=12
T42A Van Buren 5.29 78 P 20 17 34.7
baz=262,SNR=12
435B Jarrell 5.34 180 Pn **Pn** **20 17 35.7 -0.2**
435B IAmb_Lg 20 19 08.0
comp=Z,153nm,0.8s
CCM Cathedral Cave 5.41 67 **Pn** **20 17 37.3 +0.5**
CCM IAmb_Lg 20 19 16.7
comp=Z,139nm,1.0s
P40A Paris 5.53 51 **Pn** **20 17 38.1 -0.4**
T25A Trinidad 5.59 282 IAmb_Lg 20 19 20.6
comp=Z,122nm,1.0s
HBAR Harrisburg 5.64 94 IAmb_Lg 20 19 22.2
comp=Z,206nm,0.7s
OGNE Ogallala 5.94 325 IAmb_Lg 20 19 35.3
comp=Z,192nm,0.7s
FVM French Village 6.00 70 IAmb_Lg 20 19 35.1
comp=Z,86nm,0.7s
GNAR Gosnell 6.12 89 IAmb_Lg 20 19 35.2
comp=Z,181nm,0.8s
143A Socs Landing, 6.14 122 IAmb_Lg 20 19 37.2
comp=Z,140nm,0.8s
SLM Saint Louis 6.35 65 IAmb_Lg 20 19 37.6
comp=Z,123nm,0.8s
PENMO Penman 6.42 85 IAmb_Lg 20 19 47.7
comp=Z,157nm,0.8s
LNXT Lenox 6.54 88 IAmb_Lg 20 19 44.3
comp=Z,174nm,0.9s
HALT Halls 6.67 90 IAmb_Lg 20 19 56.9
comp=Z,130nm,0.9s
GLAT Glass 6.70 86 IAmb_Lg 20 20 01.9
comp=Z,150nm,0.7s
OXF Oxford 6.87 101 IAmb_Lg 20 20 06.7
comp=Z,66nm,0.8s
W45A Hickory Valley 6.90 96 IAmb_Lg 20 19 55.6
comp=Z,94nm,0.7s
Y45A Yeager Farm, C 6.96 107 IAmb_Lg 20 20 11.9
comp=Z,51nm,0.7s
735A Kenedy 7.26 182 IAmb_Lg 20 20 16.5
comp=Z,68nm,0.9s
ISCO Idaho Springs 7.33 302 IAmb_Lg 20 20 07.2
comp=Z,52nm,0.9s
ANMO Albuquerque 7.34 263 Pn **Pn** **20 18 01.3 -2.3**
comp=Z,0.1nm,0.3s,baz=80,slow=18,SNR=1.1
ANMO Pg **Pb** **20 18 26.8 +3.2**
comp=Z,0.4nm,0.3s,baz=80,slow=15,SNR=2.4
ANMO Lg Lg 20 20 00.5
comp=Z,0.8nm,0.3s,baz=63,slow=12,SNR=2.3
ECSD EROS Data Cent 7.62 5 IAmb_Lg 20 20 25.0
comp=Z,98nm,1.1s
ECSD EROS Data Cent 7.62 5 P **Pn** **20 18 06.9 -0.3**
baz=186,SNR=12
ECSD EROS Data Cent 7.62 5 P 20 18 06.9
baz=186,SNR=12
PLAL Pickwick Lake 7.82 96 IAmb_Lg 20 20 34.3
comp=Z,50nm,1.0s
WVT Waverly 7.88 87 IAmb_Lg 20 20 36.4
comp=Z,42nm,0.8s
Y22D IRIS PASSCAL I 7.93 258 IAmb_Lg 20 20 40.0
comp=Z,130nm,0.9s
PHWY Pilot Hill 8.04 312 IAmb_Lg 20 20 38.8
comp=Z,58nm,0.8s
SUSD Miller 8.37 353 IAmb_Lg 20 20 47.2
comp=Z,101nm,0.9s
L42A Oliver, Polo 8.49 44 IAmb_Lg 20 20 51.5
comp=Z,88nm,0.8s
I37A Lemond, Waseca 8.49 21 IAmb_Lg 20 20 48.3
comp=Z,109nm,0.9s
TXAR Lajitas Array 8.51 219 Pn **Pn** **20 18 18.9 -0.6**
comp=Z,0.1nm,0.3s,baz=38,slow=18,SNR=9.5
TXAR Pg Pg 20 18 44.2 -14
comp=Z,1.3nm,0.3s,baz=37,slow=16,SNR=5.8
TXAR Lg Lg 20 20 40.1
comp=Z,3.8nm,0.3s,baz=120,slow=43,SNR=2.6
X48A Hartselle 8.77 98 IAmb_Lg 20 20 49.4
comp=Z,36nm,1.0s
JFWS Jewell Farm 8.82 38 IAmb_Lg 20 21 10.5
comp=Z,97nm,0.7s
M44A Midewin, Midew 9.10 52 IAmb_Lg 20 21 11.8
comp=Z,84nm,0.9s
121A Cookes Peak, D 9.18 250 IAmb_Lg 20 21 18.7
comp=Z,56nm,1.2s
WCI Wyandotte Cave 9.24 74 IAmb_Lg 20 21 15.4
comp=Z,64nm,0.8s
SFIN Lafayette 9.26 60 IAmb_Lg 20 21 08.0
comp=Z,100nm,0.7s
PV11 David Mesa, Pa 9.27 287 IAmb_Lg 20 21 12.5
comp=Z,43nm,1.2s
RWWY Rawlins 9.34 309 IAmb_Lg 20 21 22.6
comp=Z,87nm,1.2s
RSSD Black Hills 9.38 330 IAmb_Lg 20 21 27.8
comp=Z,36nm,0.8s
I40A Norwalk 9.40 32 IAmb_Lg 20 21 18.3
comp=Z,55nm,0.7s
U49A Red Boiling Sp 9.52 84 IAmb_Lg 20 21 22.1
comp=Z,33nm,0.9s
F33A 5 Mile Ranch, 9.74 5 IAmb_Lg 20 21 20.6
comp=Z,44nm,0.9s
SPMN Marine on St. 9.77 20 IAmb_Lg 20 21 39.4
comp=Z,40nm,0.8s
PDAR Pinedale Array 11.38 309 Pn **Pn** **20 18 56.7 -2.3**
comp=Z,0.6nm,0.3s,baz=122,slow=15,SNR=7.8
PDAR Pg 20 19 41.1
comp=Z,0.4nm,0.3s,baz=106,slow=16,SNR=4.9
PDAR Lg Lg 20 22 01.3
comp=Z,0.3nm,0.3s,baz=117,slow=26,SNR=1.9
ULM Lac du Bonnet 14.16 4 Pn Pn 20 19 31.7 -5.0
comp=Z,0.1nm,0.3s,baz=186,slow=10,SNR=1.7
ULM Sn Sn 20 22 00.0 -14
comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=4.1
ULM Lg Lg 20 23 31.4
comp=Z,0.4nm,0.3s,baz=116,slow=22,SNR=4.8
YKA Yellowknife Ar 28.44 343 P **P** **20 22 10.3 -0.5**
comp=Z,0.3nm,0.6s,baz=144,slow=9.4,SNR=5.9
DLBC Dease Lake 30.84 327 P **P** **20 22 32.6 +0.4**
comp=Z,0.7nm,0.4s,baz=306,slow=18,SNR=3.3

MOS ***23*** *20:18:06.7±1.0,52.°51N×169.°55W,h28km,mb5.1/44, MS4.1/7, Error ellipse: s-maj=15.5km s-min=5.6km az=106.0*
BJI ***23*** *20:18:07.0±0.0,52.°78N×169.°65W,h23km,mB5.1/44, mb4.9/63,Ms4.7/39,Ms7 4.5/39*
NEIC ***23*** *20:18:08.9±1.3,52.°52N±0.°10×169.°3W±0.°1,h35km±1km, mb5.0/285,ML4.8(AEIC),Error ellipse: s-maj=17.9km s-min=8.5km az=158.0*
IDC ***23*** *20:18:09.2±2.2,52.°54N×169.°36W,h32km±14km,mb4.5/31, mb1 4.6/33,mb1mx4.5/45,mbtmp4.6/33,ML4.1/2,MS4.1/23, Ms1 4.1/23,ms1mx3.9/34,Error ellipse: s-maj=16.4km s-min=9.5km az=174.0*
AEIC ***23*** *20:18:09±1.7,52.°5N±0.°1×169.°2W±0.°1,h50km±5km,Error ellipse: s-maj=16.8km s-min=7.3km az=160.0*
GCMT ***23*** *20:18:10.9±0.3,52.°35N±0.°02×169.°16W±0.03,h33km, MW5.0/101,Moment Tensor Solution. s59,c80; s101,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.44±.15; $M_{\theta\theta}$-2.48±.11; $M_{\phi\phi}$-0.95±.11; $M_{r\theta}$1.87±.13; $M_{\theta\phi}$-1.34±.06; $M_{\phi r}$1.23±.11; Best double couple:*

M_o4.02900×10^{16} NP1:ϕ_s241.00000°, δ28.00000°, λ93.00000°. NP2:ϕ_s58.00000°,δ62.00000°,λ88.00000°. Principal axes: T 4.1200, Plg73.0000°, Azm324.0000°; N -0.1800, Plg1.0000°, Azm59.0000°; P -3.9370, Plg17.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ANF ***23*** *20:18:14.7±0.8,52.°72N×168.°65W,h52km±4km,ML5.1/2 Error ellipse: s-maj=8.3km s-min=5.3km az=55.0, Hypocentre not reviewed by the ISC*
ISC 23 20:18:07.9±0.7,52.°54N±0.°06×169.°29W±0.°04,h27km±4km, n692,σ1§02/722,mb5.1/267,MS4.3/39,62C-14D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
NIKH	**Nikolski High**	**0.51**	**31**		**Pn**	**20 18 20.1**	**+0.8**	
NIKH	**Nikolski High**	**0.51**	**31**	P		20 18 20.3		
	baz=204,SNR=653							
NIKH				S		20 18 29.2		
	baz=204							
AKUT	**Akutan**	**2.65**	**51**	Pn	**Pn**	**20 18 49.9**	**+1.2**	
ATKA	**Atka Island**	**3.03**	**266**	Pn	**Pn**	**20 18 55.3**	**+1.4**	
FALS	**False Pass**	**4.19**	**54**	Pn	**Pn**	**20 19 12.3**	**+2.5**	
ADK	**Adak**	**4.60**	**265**	Pn	**Pn**	**20 19 17.7**	**+2.2**	
SPIA	**Saint Paul Isl**	**4.68**	**354**		**Pn**	**20 19 20.0**	**+3.3**	
SPIA	**Saint Paul Isl**	**4.68**	**354**	P		20 19 20.9		
	baz=172,SNR=18							
SDPT	**Sand Point**	**5.92**	**58**	Pn	**Pn**	**20 19 35.8**	**+2.3**	
SDPT	**Sand Point**	**5.92**	**58**	P		20 19 35.5		
	baz=245							
AMKA	**Amchitka**	**7.15**	**265**	Pn	**Pn**	**20 19 52.6**	**+2.1**	
CHGN	**Chignik**	**7.38**	**55**		**Pn**	**20 19 56.0**	**+2.4**	
CHGN	**Chignik**	**7.38**	**55**	P		20 19 53.5		
	baz=243							
SII	**Sitkinak Islan**	**9.65**	**59**	Pn	**Pn**	**20 20 25.0**	**+0.2**	
SII	**Sitkinak Islan**	**9.65**	**59**	P		20 20 25.5		
	baz=251							
OHAK	**Old Harbor**	**10.34**	**57**	Pn	**Pn**	**20 20 33.6**	**-0.6**	
OHAK	**Old Harbor**	**10.34**	**57**	P		20 20 33.9		
	baz=249							
KDAK	**Kodiak Island**	**10.89**	**55**	Pn	**Pn**	**20 20 41.2**	**-0.5**	
	5.2nm,0.3s,baz=234,slow=7.8,SNR=42							
KDAK				Sn	**Sn**	**20 22 37.6**	**-4.9**	
	1.4nm,0.3s,baz=225,slow=17,SNR=1.4							
KDAK	**Kodiak Island**	**10.89**	**55**	Pn	**Pn**	**20 20 40.7**	**-1.0**	
KDAK	**Kodiak Island**	**10.89**	**55**	P		20 20 41.1		
	baz=248							
RSO	**Redoubt South**	**12.07**	**42**		**Pn**	**20 20 59.7**	**+1.6**	
HOM	**Homer**	**12.13**	**47**	Pn	**Pn**	**20 20 58.1**	**-0.6**	
ANM	**Nome**	**12.23**	**8**	P		20 21 04.9		
	baz=191							
CNPM	**China Poot**	**12.26**	**48**	Pn	**Pn**	**20 21 00.1**	**-0.3**	
BRLK	**Bradley Lake**	**12.52**	**47**		**Pn**	**20 21 04.1**	**+0.1**	
BRSE	**Bradley Lake S**	**12.58**	**48**	P		20 21 04.8		
	baz=243							
SEW	**Seward**	**13.32**	**48**		**Pn**	**20 21 14.1**	**-0.8**	
SEW	**Seward**	**13.32**	**48**	P		20 21 14.7		
	baz=244,SNR=12							
SEW				S		20 23 39.0		
	baz=244							
O22K	**Cooper Landing**	**13.37**	**46**		**Pn**	**20 21 15.6**	**0.0**	
O22K	**Cooper Landing**	**13.37**	**46**	P		20 21 15.5		
	baz=242,SNR=9.1							
SKT	**Skwentna**	**13.43**	**38**	P		20 21 16.6		
	baz=233							
SUA	**Susitna One**	**13.44**	**41**		**Pn**	**20 21 17.6**	**+0.9**	
SUA	**Susitna One**	**13.44**	**41**	P		20 21 18.0		
	baz=236,SNR=17							
RC01	**Rabbit Creek A**	**13.66**	**44**		**Pn**	**20 21 20.1**	**+0.6**	
RC01	**Rabbit Creek A**	**13.66**	**44**	P		20 21 19.9		
	baz=240,SNR=6.8							
PPLA	**Purkeypile**	**13.77**	**34**	P		20 21 21.8		
	baz=229							
PWL	**Port Wells**	**14.15**	**46**	Pn	**Pn**	**20 21 25.3**	**-1.0**	
GHO	**Glory Hole Cre**	**14.35**	**42**		**Pn**	**20 21 28.2**	**-0.7**	
KNK	**Knik Glacier**	**14.36**	**44**		**Pn**	**20 21 28.6**	**-0.5**	
KNK	**Knik Glacier**	**14.36**	**44**	P		20 21 28.7		
	baz=241,SNR=11							
Q23K	**Middleton Isla**	**14.52**	**53**	Pn	**Pn**	**20 21 30.9**	**-0.3**	
Q23K	**Middleton Isla**	**14.52**	**53**	P		20 21 30.1		
	baz=251							
MID	**Middleton Isla**	**14.53**	**53**	Pn	**Pn**	**20 21 30.9**	**-0.4**	
SML	**Sawmill**	**14.61**	**42**		**Pn**	**20 21 31.8**	**-0.6**	
SML	**Sawmill**	**14.61**	**42**	P		20 21 31.7		
	baz=240							
GLI	**Glacier Island**	**14.71**	**47**		**Pn**	**20 21 31.7**	**-2.1**	
GLI	**Glacier Island**	**14.71**	**47**	P		20 21 31.9		
	baz=245							
GLI				S		20 24 10.1		
	baz=245							
HIN	**Hinchinbrook I**	**14.78**	**49**	Pn	**Pn**	**20 21 33.2**	**-1.6**	
TRF	**Thorofare Moun**	**14.79**	**35**	Pn	**Pn**	**20 21 37.4**	**+2.3**	
FID	**Port Fidalgo**	**14.93**	**48**		**Pn**	**20 21 33.9**	**-2.9**	
BPAW	**Bear Paw Mtn.**	**14.98**	**32**	Pn	**Pn**	**20 21 37.6**	**+0.2**	
BPAW	**Bear Paw Mtn.**	**14.98**	**32**	P		20 21 38.0		
	baz=228,SNR=42							
SCM	**Sheep Creek Mo**	**15.03**	**43**		**Pn**	**20 21 37.8**	**-0.5**	
SCM				IAmb	IAmb	20 21 57.0		
	comp=Z,59nm,0.7s							
WAT2	**Susitna Watana**	**15.12**	**38**	P		20 21 39.6		
	baz=236							
EYAK	**Cordova Ski Ar**	**15.19**	**49**	Pn	**Pn**	**20 21 38.3**	**-1.9**	
EYAK	**Cordova Ski Ar**	**15.19**	**49**	P		20 21 39.0		
	baz=248							
WAT6	**Susitna Watana**	**15.24**	**40**	P		20 21 40.3		
	baz=238,SNR=13							
RND	**Reindeer**	**15.28**	**37**	Pn	**Pn**	**20 21 41.6**	**+0.1**	
MCK	**McKinley**	**15.44**	**36**	Pn	**Pn**	**20 21 43.9**	**+0.3**	
MCK	**McKinley**	**15.44**	**36**	P		20 21 43.9		
	baz=233							
KLU	**Klutina**	**15.48**	**45**	Pn	**Pn**	**20 21 43.2**	**-0.9**	
KLU	**Klutina**	**15.48**	**45**	P		20 21 42.7		
	baz=245,SNR=30							
KLU				S		20 24 28.5		
	baz=245							
IMAR	**Indian Mountai**	**15.57**	**24**	P	**P**	**20 21 50.1**	**+0.8**	
KAIM	**Kayak Island**	**15.61**	**52**	Pn	**Pn**	**20 21 45.8**	**+0.1**	
KAIM				IAmb	IAmb	20 21 56.9		
	comp=Z,91nm,1.2s							
KAIM	**Kayak Island**	**15.61**	**52**	P		20 21 44.7		
	baz=252							
RAGM	**Ragged Mountai**	**15.63**	**50**		**Pn**	**20 21 45.5**	**-0.5**	
RAGM				IAmb	IAmb	20 22 09.0		
	comp=Z,67nm,1.0s							
M24K	**Tolsona, Glenn**	**15.64**	**43**	Pn	**Pn**	**20 21 45.7**	**-0.5**	
M24K				IAmb	IAmb	20 22 04.2		
	comp=Z,68nm,0.9s							
M24K	**Tolsona, Glenn**	**15.64**	**43**	P		20 21 45.8		
	baz=242,SNR=13							
MLY	**Manley**	**15.70**	**30**	P	**P**	**20 21 49.1**	**-1.5**	
MLY				IAmb	IAmb	20 21 57.2		
	comp=Z,64nm,0.8s							
MLY	**Manley**	**15.70**	**30**	P		20 21 48.3		
	baz=226,SNR=82							
HMT	**Hamilton**	**15.81**	**51**		**Pn**	**20 21 46.9**	**-1.4**	
HMT				IAmb	IAmb	20 21 49.3		
	comp=Z,47nm,0.5s							
BMRM	**Bremner River**	**15.86**	**48**		**Pn**	**20 21 48.0**	**-1.1**	
BMRM	**Bremner River**	**15.86**	**48**	P		20 21 47.7		
	baz=249,SNR=11							
RDOG	**Red Dog Mine**	**15.87**	**9**	P	**P**	**20 21 52.9**	**+0.4**	
RDOG	**Red Dog Mine**	**15.87**	**9**	P		20 21 50.2		
	baz=194,SNR=25							
NEA2	**Nenana**	**15.93**	**33**	P	**P**	**20 21 52.2**	**-1.1**	
NEA2	**Nenana**	**15.93**	**33**	P		20 21 49.6		
	baz=230,SNR=20							
SUCK	**Suckling Hills**	**15.96**	**52**	Pn	**Pn**	**20 21 51.4**	**+1.2**	
BERG	**Berg Lake**	**16.09**	**51**	P	**Pn**	**20 21 50.8**	**-1.1**	
N25K	**Chitina, Valde**	**16.11**	**46**	Pn	**Pn**	**20 21 50.8**	**-1.4**	
N25K	**Chitina, Valde**	**16.11**	**46**	P		20 21 50.8		
	baz=247,SNR=18							
WRH	**Wood River Hil**	**16.19**	**34**		**Pn**	**20 21 52.4**	**-0.7**	
I23K	**Minto, Yukon-K**	**16.20**	**31**	P	**P**	**20 21 55.0**	**-1.2**	
I23K	**Minto, Yukon-K**	**16.20**	**31**	P		20 21 53.7		
	baz=228,SNR=35							
PAX	**Paxson**	**16.34**	**41**		**Pn**	**20 21 55.4**	**+0.2**	
PAX	**Paxson**	**16.34**	**41**	P		20 21 54.6		
	baz=241,SNR=15							
CCB	**Clear Creek Bu**	**16.39**	**34**		**Pn**	**20 21 55.5**	**-0.2**	
GLB	**Gilahina Butte**	**16.39**	**47**		**Pn**	**20 21 55.1**	**-0.7**	
MDM	**Murphy Dome**	**16.45**	**33**		**P**	**20 21 57.8**	**-1.2**	
CRQM	**Cirque**	**16.47**	**50**		**Pn**	**20 21 56.1**	**-0.7**	
VRDI	**Verde Repeater**	**16.48**	**48**		**Pn**	**20 21 55.6**	**-1.4**	
CRQE	**Cirque**	**16.49**	**50**	P		20 21 55.4		
	baz=252,SNR=17							
TCOL	**CIGO, UAF Yank**	**16.51**	**33**	Pn	**Pn**	**20 21 57.0**	**-0.2**	
COLA	**College**	**16.52**	**33**	*i* P	**Pn**	**20 21 58.0**	**+0.7**	
COLA	**College**	**16.52**	**33**	Pn	**Pn**	**20 21 57.3**	**0.0**	
HDA	**Harding Lake**	**16.55**	**35**	P		20 21 57.1		
	baz=234							
HDA				P		20 21 57.1		
	baz=234							
TGL	**Tana Glacier**	**16.61**	**50**	Pn	**Pn**	**20 21 58.1**	**-0.5**	
MCARA	**McCarthy VSAT**	**16.73**	**48**		**Pn**	**20 21 59.4**	**-0.6**	
MCARA	**McCarthy VSAT**	**16.73**	**48**	P		20 21 58.2		
	baz=250,SNR=19							
IL31		**16.78**	**34**		**Pn**	**20 21 59.9**	**-0.7**	
ILAR	**Eielson Array**	**16.78**	**34**	Pn	**Pn**	**20 21 59.9**	**-0.8**	
	comp=Z,0.6nm,0.3s,baz=231,slow=11,SNR=26							
ILAR				PcP	**PcP**	**20 26 48.0**	**+0.4**	
	comp=Z,0.1nm,0.3s,baz=284,slow=3.6,SNR=5.3							
ILAR				LR	LR	20 29 14.1		
	comp=Z,589nm,18.7s,baz=232,slow=40							
ILAR				ScP	**ScP**	**20 30 19.8**	**-0.3**	
	comp=Z,0.1nm,0.3s,baz=248,slow=2.8,SNR=7.4							
ILAR	**Eielson Array**	**16.78**	**34**	Pn	**Pn**	**20 21 59.7**	**-1.0**	
POKR	**Poker Plat Res**	**16.81**	**33**		**Pn**	**20 22 00.1**	**-0.9**	
POKR	**Poker Plat Res**	**16.81**	**33**	P		20 22 00.3		
	baz=232							
YAH	**Yahtse**	**17.01**	**52**	Pn	**Pn**	**20 22 03.6**	**-0.2**	
YAH				IAmb	IAmb	20 22 19.9		
	comp=Z,87nm,0.8s							
MENT	**Mentasta**	**17.04**	**42**	Pn	**Pn**	**20 22 03.2**	**-0.7**	
GRNC	**Granite Creek**	**17.11**	**51**		**Pn**	**20 22 04.4**	**-0.6**	
GRNC				IAmb	IAmb	20 22 16.4		
	comp=Z,57nm,0.8s							
DOT	**Dot Lake**	**17.22**	**40**	Pn	**Pn**	**20 22 05.3**	**-0.9**	
BARN	**Barnard Glacie**	**17.25**	**50**	Pn	**Pn**	**20 22 06.3**	**-0.3**	
TABL	**Table Mountain**	**17.32**	**52**	Pn	**Pn**	**20 22 07.1**	**-0.5**	
TABL				IAmb	IAmb	20 22 20.5		
	comp=Z,106nm,0.9s							
CTG	**Chitna Glacier**	**17.37**	**50**	P		20 22 05.9		
	baz=253,SNR=25							
CTGM	**Chitina Glacie**	**17.37**	**50**	Pn	**Pn**	**20 22 07.8**	**-0.4**	
SCRK	**Sand Creek**	**17.41**	**39**	Pn	**Pn**	**20 22 07.6**	**-1.1**	
SCRK	**Sand Creek**	**17.41**	**39**	P		20 22 07.1		
	baz=240,SNR=20							
COLD	**Coldfoot**	**17.44**	**25**	P		20 22 09.2		
	baz=222,SNR=36							
LOGN	**Logan Glacier**	**17.49**	**51**	P	**P**	**20 22 10.3**	**-0.3**	
PCA	**Pinnacle**	**17.67**	**53**	P	**Pn**	**20 22 11.9**	**+0.1**	
PCA				IAmb	IAmb	20 22 21.5		
	comp=Z,78nm,0.7s							
PINM	**Pinnacle**	**17.67**	**53**	P		20 22 10.7		
	baz=257,SNR=18							
PRP	**Porcupine Dome**	**17.69**	**34**	Pn	**Pn**	**20 22 11.2**	**-0.8**	
PRP	**Porcupine Dome**	**17.69**	**34**	P		20 22 12.2		
	baz=234							
L27K	**Beaver Creek,**	**17.87**	**43**	P	**Pn**	**20 22 14.3**	**0.0**	
BCPM	**Bancas Point**	**17.95**	**54**	P	**P**	**20 22 15.4**	**-0.1**	
BCPM				IAmb	IAmb	20 22 36.2		
	comp=Z,71nm,0.9s							
K27K	**Chicken**	**18.18**	**40**	P	**Pn**	**20 22 17.1**	**-0.8**	
FYU	**Fort Yukon**	**18.42**	**31**	P	**Pn**	**20 22 21.0**	**+0.2**	
TOLK	**Toolik Lake Re**	**18.67**	**23**		**Pn**	**20 22 24.2**	**+0.2**	
TOLK	**Toolik Lake Re**	**18.67**	**23**	P		20 22 24.8		
	baz=220,SNR=29							
EGAK	**Eagle**	**18.88**	**39**	P	**P**	**20 22 25.3**	**-0.3**	
EGAK	**Eagle**	**18.88**	**39**	P		20 22 25.5		
	baz=243,SNR=25							
BMAR	**Burnt Mountain**	**19.16**	**29**	P	**P**	**20 22 29.2**	**+0.4**	
DAWY	**Dawson**	**19.27**	**42**	P	**P**	**20 22 29.4**	**-0.7**	
PET	**Petropavlovsk**	**19.32**	**284**	*e*P	**Pn**	**20 22 32.4**	**+0.6**	
PET				*e*S	**Sn**	**20 26 02.9**	**-4.5**	
PET				pmax	pmax			
	comp=Z,60nm,1.1s							
PET				pmax	pmax			
	comp=Z,300nm,9.8s							
PET				pmax	pmax			
	comp=Z,400nm,17.3s							
PET				MLR	MLR			
	comp=Z,500nm,17.0s							
PET				MLR	MLR			
	comp=Z,500nm,20.0s							
BILL	**Bilibino**	**19.47**	**332**	*de*P	**Pn**	**20 22 35.2**	**+1.7**	
BILL				S	S	20 25 57.0	-13	
BILL				pmax	pmax			
	comp=Z,30nm,1.0s							
BILL				MLR	MLR			
	comp=Z,323nm,14.0s							
BILL	**Bilibino**	**19.47**	**332**	P	**P**	**20 22 31.9**	**-0.3**	
A21K	**Barrow**	**19.68**	**12**	P	**P**	**20 22 34.7**	**+0.2**	
A21K				IAmb	IAmb	20 22 52.5		
	comp=Z,77nm,1.3s							
A21K	**Barrow**	**19.68**	**12**	P		20 22 35.7		
	baz=203,SNR=6.0							
PEA0B	**Petropavlovsk-**	**19.87**	**285**	*ce*P	**P**	**20 22 37.1**	**+0.5**	
PEA0B	**Petropavlovsk-**	**19.87**	**285**	P	**P**	**20 22 37.1**	**+0.5**	
PEA0B				IAmb	IAmb	20 22 39.2		
	comp=Z,126nm,1.4s							
PETK	**Petropavlovsk-**	**19.87**	**285**	P	**Pn**	**20 22 37.8**	**-0.5**	
	comp=Z,3.2nm,0.3s,baz=85,slow=14,SNR=86							
PETK				PcP	**PcP**	**20 26 53.8**	**+0.8**	
	comp=Z,0.1nm,0.3s,baz=80,slow=1.8,SNR=4.0							
PETK				LR	LR	20 30 26.7		
	comp=Z,255nm,21.6s,baz=92,slow=37							
PETK	**Petropavlovsk-**	**19.87**	**285**	P	**P**	**20 22 36.6**	**0.0**	
SKAG	**Skagway**	**20.04**	**56**		Pn	20 22 40.6	+0.3	
SKAG				IAmb	IAmb	20 22 55.6		
	comp=Z,72nm,0.8s							
SKAG	**Skagway**	**20.04**	**56**	P		20 22 39.9		
	baz=265							
BESE	**Bessie Mountai**	**20.22**	**59**		Pn	20 22 42.1	-0.4	
BESE				IAmb	IAmb	20 22 58.8		
	comp=Z,86nm,1.3s							
WHY	**Whitehorse**	**20.40**	**53**		Pn	20 22 44.1	-0.5	
WHY				IAmb	IAmb	20 22 48.4		
	comp=Z,43nm,0.8s							
JIS	**Juneau Island**	**20.46**	**60**	P	**P**	**20 22 43.1**	**+0.1**	
JIS				IAmb	IAmb	20 23 08.8		
	comp=Z,36nm,0.8s							
EPYK	**Eagle Plains**	**21.23**	**37**	P	**P**	**20 22 50.1**	**-1.3**	
EPYK				IAmb	IAmb	20 22 56.0		
	comp=Z,79nm,0.8s							
EPYK	**Eagle Plains**	**21.24**	**37**	P		20 22 51.0		
	baz=245							
CRAG	**Craig**	**21.30**	**68**	P		20 22 50.6		
	baz=277							
H02S1	**DAWSON INLET T**	**22.08**	**74**	T	T	20 45 51.8		
	SNR=5.9							
SEY	**Seymchan**	**22.59**	**312**	P	**P**	**20 23 06.8**	**+1.0**	
	comp=Z,8.7nm,0.8s,baz=106,slow=8.6,SNR=48							
SEY				PcP	**PcP**	**20 26 59.1**	**+1.2**	
	comp=Z,3.4nm,0.6s,baz=119,slow=2.5,SNR=5.7							
SEY	**Seymchan**	**22.59**	**312**	*i* P	**P**	**20 23 05.9**	**+0.1**	
DLBC	**Dease Lake**	**22.76**	**59**	P	**P**	**20 23 09.2**	**+1.5**	
	comp=Z,17nm,1.1s,baz=270,slow=10,SNR=14							
DLBC	**Dease Lake**	**22.76**	**59**	P	**P**	**20 23 08.7**	**+0.9**	
DLBC				IAmb	IAmb	20 23 26.6		
	com

YKA pmax pmax
comp=Z,7.0nm,0.8s
B08A Colville Reser 31.56 77 P **P** **20 24 27.8 +0.1**
B08A IAmb IAmb 20 24 44.5
comp=Z,20nm,0.8s
TIXI Tiksi 32.62 329 P **P** **20 24 37.5 +0.8**
comp=Z,2.0nm,0.3s,baz=100,slow=8.3,SNR=22
TIXI PcP **PcP** **20 27 22.5 +0.5**
comp=Z,4.7nm,0.8s,baz=96,slow=2.6,SNR=7.9
TIXI Tiksi 32.62 329 *ce*P **P** **20 24 36.4 -0.2**
TIXI pmax pmax
comp=Z,43nm,1.3s
TIXI Tiksi 32.62 329 P **P** **20 24 37.0 +0.4**
TIXI PcP **PcP** **20 27 22.1 +0.1**
NEW Newport 32.92 76 P 20 24 39.3
baz=297,SNR=8.5
GRNR Gornyy 33.07 289 ⇑ *i*P **P** **20 24 40.3 -0.5**
GRNR pmax pmax
comp=E,4.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,300nm,15.0s
GRNR MLR MLR
comp=N,160nm,20.0s
GRNR MLR MLR
comp=Z,290nm,15.0s
YAK Yakutsk 33.10 311 *e*P **P** **20 24 40.7 -0.2**
YAK *e**PP **pP** **20 24 48.5 -0.4**
YAK *e* 20 25 50.1
YAK *e*PPP PPP 20 26 03.7
YAK *e* 20 27 23.3
YAK *e*S **S** **20 29 57.2 -0.8**
YAK *e*SS **SnSn** **20 31 53.2 -4.2**
YAK *e*SSS SSS 20 32 18.3
YAK *e* 20 35 04.5
YAK pmax pmax
comp=Z,28nm,1.1s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=Z,63nm,3.6s
YAK pmax pmax
comp=N,46nm,3.3s
YAK pmax pmax
comp=E,41nm,3.1s
YAK smax smax
comp=N,96nm,4.6s
YAK smax smax
comp=E,45nm,4.2s
YAK Yakutsk 33.10 311 P **P** **20 24 40.4 -0.5**
YAK IAmb IAmb 20 24 42.6
comp=Z,21nm,0.7s
ERM Erimo 33.37 271 P **P** **20 24 42.9 -0.6**
O03E Paynes Creek 34.33 92 P 20 24 52.2
baz=307
WALA Waterton Lakes 34.45 73 P **P** **20 24 53.1 +0.2**
WALA IAmb IAmb 20 25 09.7
comp=Z,16nm,0.9s
JTMT Jette 34.85 75 P **P** **20 24 56.8 +0.3**
JTMT IAmb IAmb 20 25 14.3
comp=Z,11nm,0.7s
MSO Missoula 35.50 77 P 20 25 02.3
baz=300
MFID Camas Ranch 36.17 83 P **P** **20 25 08.0 +0.1**
RES Resolute Bay 36.20 26 P **P** **20 25 07.7 +0.2**
comp=Z,0.8nm,0.3s,baz=240,slow=7.1,SNR=5.0
RES PcP **PcP** **20 27 33.6 +1.3**
comp=Z,3.4nm,0.9s,baz=309,slow=5.6,SNR=4.4
RES LR LR 20 42 48.2
comp=Z,367nm,20.1s,baz=280,slow=41
RES Resolute Bay 36.20 26 P **P** **20 25 07.4 -0.1**
PNTR Pine Nut 36.41 91 P **P** **20 25 10.4 +0.3**
PNTR IAmb IAmb 20 25 30.1
comp=Z,25nm,0.8s
KLR Kul'dur 36.45 289 LR LR 20 41 40.6
comp=Z,412nm,18.3s,baz=68,slow=39
KLR Kul'dur 36.45 289 *ce*P **P** **20 25 08.5 -1.5**
KLR pmax pmax
comp=Z,11nm,1.1s
YERR Yerington 36.70 91 P **P** **20 25 12.2 -0.3**
YERR IAmb IAmb 20 25 31.2
comp=Z,24nm,1.2s
LRM Limekiln Ridge 36.90 77 P **P** **20 25 14.3 0.0**
HLID Hailey 36.95 82 P **P** **20 25 13.4 -1.2**
HLID Hailey 36.95 82 P 20 25 15.1
baz=304
ZEA Zeya 36.96 298 *e*P **P** **20 25 14.4 +0.1**
ZEA *e* 20 27 35.6
ZEA *e* 20 33 56.7
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=N,100nm,19.0s
ZEA MLR MLR
comp=Z,200nm,21.0s
JMM Marumori 37.32 267 P **P** **20 25 16.8 -0.8**
JMM IAmb IAmb 20 25 18.9
comp=Z,34nm,1.0s
EGMT Eagleton 37.37 72 P 20 25 18.1
baz=300
BOZ Bozeman (W) 37.51 77 P **P** **20 25 19.6 +0.4**
BOZ IAmb IAmb 20 25 35.3
comp=Z,10nm,0.8s
BOZ Bozeman (W) 37.51 77 P 20 25 19.4
baz=302
EUNU Eureka 37.54 16 P **P** **20 25 18.9 -0.1**
NVAR Mina Array Bea 37.62 91 P **P** **20 25 23.3 +3.0**
comp=Z,3.5nm,0.7s,baz=308,slow=7.9,SNR=7.4
NVAR PcP **PcP** **20 27 38.4 +0.9**
comp=Z,0.9nm,0.6s,baz=301,slow=4.4,SNR=3.8
NVAR ScP **ScP** **20 31 22.5 -0.2**
comp=Z,1.8nm,1.0s,baz=282,slow=3.3,SNR=6.5
NVAR LR LR 20 37 29.7
comp=Z,253nm,21.6s,baz=276,slow=31
NVAR Mina Array Bea 37.62 91 P **P** **20 25 20.4 0.0**
H11N2 WAKE ISLAND Hy 37.62 219 T T 21 05 47.7
baz=24,slow=76,SNR=526
H11N3 WAKE ISLAND Hy 37.62 219 T T 21 05 47.5
baz=24,slow=76,SNR=618
H11N1 WAKE ISLAND Hy 37.63 219 T T 21 05 49.8
baz=24,slow=76,SNR=460
GCMT Greycliff 38.57 75 P **P** **20 25 27.8 -0.4**
FFC Flin Flon 38.59 59 P **P** **20 25 28.2 +0.1**
H17A Grant Village 38.79 78 P 20 25 31.4
baz=304
H11S1 WAKE ISLAND Hy 38.81 218 T T 21 07 07.0
baz=23,slow=76,SNR=2200
H11S2 WAKE ISLAND Hy 38.82 218 T T 21 07 05.9
baz=23,slow=76,SNR=1501
H11S3 WAKE ISLAND Hy 38.82 218 T T 21 07 13.2
baz=23,slow=76,SNR=1099
USRK Ussuriysk Ar. 38.91 282 P **P** **20 25 30.1 -0.7**
comp=Z,1.7nm,0.6s,baz=60,slow=11,SNR=7.7
USRK PcP **PcP** **20 27 42.9 +1.8**
comp=Z,7.6nm,1.0s,baz=91,slow=3.8,SNR=5.7
USRK LR LR 20 41 24.3
comp=Z,114nm,19.6s,baz=62,slow=36
PKM Mcpherson Peak 39.00 97 P 20 25 31.8
baz=313
RLMT Red Lodge 39.17 76 P **P** **20 25 32.6 -0.7**
RLMT IAmb IAmb 20 25 49.9
comp=Z,22nm,0.9s
RLMT Red Lodge 39.17 76 P 20 25 33.3
baz=303
REDW Red Top Meadow 39.20 79 P **P** **20 25 33.3 -0.3**
R11A Troy Canyon, C 39.33 89 P 20 25 34.2
baz=309
MJAR Matsushiro Arr 39.75 268 P **P** **20 25 38.6 +0.6**
comp=Z,22nm,1.0s,baz=50,slow=7.3,SNR=25
MJAR PcP **PcP** **20 27 44.5 +0.6**
comp=Z,6.9nm,1.0s,baz=82,slow=1.4,SNR=6.7
MJAR LR LR 20 40 04.8
comp=Z,230nm,21.9s,baz=65,slow=33
MJAR Matsushiro Arr 39.75 268 P **P** **20 25 38.2 +0.2**
MJB9 Matsu-Tunnel 39.75 268 P **P** **20 25 38.0 0.0**
MAJO Matsushiro 39.75 268 P **P** **20 25 38.1 +0.1**
MAT Matsushiro 39.75 268 P **P** **20 25 38.4 +0.4**
MAT *e*S **S** **20 31 40.6 +0.5**
TPNV Topopah Spring 39.81 91 P 20 25 39.0
baz=310,SNR=5.8
DUG Dugway, Tooele 39.88 85 P 20 25 39.0
baz=308
MDJ Mudanjiang 40.10 284 P **P** **20 25 40.3 -0.5**
MDJ pmax pmax
comp=Z,13nm,1.8s
MDJ pmax pmax
comp=Z,210nm,5.3s
BW06 Boulder Array 40.32 79 P **P** **20 25 41.5 -1.4**
BW06 IAmb IAmb 20 25 59.1
comp=Z,16nm,0.9s
BW06 Boulder Array 40.32 79 P 20 25 42.9
baz=305
PD31 Pinedale Array 40.32 79 P **P** **20 25 41.9 -1.1**
PDAR Pinedale Array 40.32 79 P **P** **20 25 44.1 +1.1**
comp=Z,2.0nm,0.5s,baz=283,slow=4.2,SNR=11
PDAR LR LR 20 40 02.3
comp=Z,158nm,21.4s,baz=310,slow=32
PDAR Pinedale Array 40.32 79 P **P** **20 25 41.5 -1.5**
MSHR Mys Shultsa 40.33 280 *ce*P **P** **20 25 42.0 -0.7**
MSHR pmax pmax
comp=Z,50nm,1.7s
FCC Fort Churchill 40.79 50 P **P** **20 25 46.8 +0.5**
FCC IAmb IAmb 20 25 48.4
comp=Z,53nm,0.9s
JGF Kuroka 40.89 267 P **P** **20 25 48.7 +1.2**
JGF IAmb IAmb 20 25 50.0
comp=Z,44nm,1.0s
TPFO Pinon Flats 41.91 95 P 20 25 56.5
baz=313
BOD Bodaibo 41.93 309 *e*P **P** **20 25 55.3 -0.3**
BOD pmax pmax
comp=Z,26nm,1.0s
JWT Wachi 42.30 269 P **P** **20 25 59.4 +0.5**
O20A White River Ci 42.69 82 P 20 26 02.3
baz=308
RSSD Black Hills 42.82 74 P 20 26 03.4
baz=305
HIA Hailar 43.22 295 P **P** **20 26 05.9 -0.5**
HIA IAmb IAmb 20 26 09.5
comp=Z,32nm,1.5s
MDND Maddock 43.27 67 P **P** **20 26 06.9 +0.2**
MDND IAmb IAmb 20 26 09.3
comp=Z,51nm,1.1s
MDND Maddock 43.28 67 P 20 26 07.1
baz=303
PV10 Paradox Valley 43.30 84 P **P** **20 26 06.7 -0.7**
PV10 IAmb IAmb 20 26 21.9
comp=Z,20nm,1.1s
PV22 Blue Mesa, Par 43.35 84 P **P** **20 26 07.9 +0.1**
PV11 David Mesa, Pa 43.45 84 P **P** **20 26 08.7 +0.1**
PV11 IAmb IAmb 20 26 27.9
comp=Z,19nm,0.7s
PV18 Skein Mesa, Pa 43.46 84 P **P** **20 26 09.3 +0.7**
PV02 Paradox Valley 43.59 84 P **P** **20 26 09.6 -0.1**
PV15 Paradox Valley 43.66 84 P **P** **20 26 10.2 -0.1**
PV15 IAmb IAmb 20 26 31.0
comp=Z,19nm,1.0s
JCJ Chichijima 44.00 254 LR LR 20 42 12.6
comp=Z,89nm,20.6s,baz=110,slow=33
ULM Lac du Bonnet 44.03 62 P **P** **20 26 12.8 0.0**
comp=Z,14nm,1.1s,baz=301,slow=8.6,SNR=4.7
ULM LR LR 20 44 37.4
comp=Z,184nm,20.9s,baz=301,slow=36
MVCO Mesa Verde 44.38 85 P 20 26 16.3
baz=310
AGMN Agassiz Nation 45.11 65 P **P** **20 26 21.4 -0.1**
AGMN IAmb IAmb 20 26 23.0
comp=Z,36nm,1.3s
AGMN Agassiz Nation 45.11 65 P 20 26 21.3
baz=304
KSRS Korea Array 45.44 277 P **P** **20 26 24.9 +0.9**
comp=Z,7.5nm,0.8s,baz=54,slow=7.1,SNR=21
KSRS PcP **PcP** **20 28 04.0 +1.2**
comp=Z,3.3nm,1.0s,baz=45,slow=5.7,SNR=4.1
KSRS LR LR 20 45 34.9
comp=Z,102nm,19.2s,baz=56,slow=36
KSAR Wonju Array Be 45.47 277 P **P** **20 26 24.6 +0.3**
SUSD Miller 45.59 71 P **P** **20 26 25.5 +0.2**
JNU Nakatsue 46.51 270 P **P** **20 26 32.0 -0.7**
T25A Trinidad 46.90 82 P **P** **20 26 36.7 +0.7**
T25A IAmb IAmb 20 26 53.0
comp=Z,22nm,0.9s
T25A Trinidad 46.90 82 P 20 26 35.9
baz=311
ANMO Albuquerque 47.11 86 PcP **PcP** **20 28 10.1 +1.1**
comp=Z,4.0nm,1.1s,baz=143,slow=3.5,SNR=3.4
ANMO Albuquerque 47.11 86 P **P** **20 26 37.7 +0.1**
ECSD EROS Data Cent 47.37 70 P **P** **20 26 38.9 -0.4**
ECSD EROS Data Cent 47.37 70 P 20 26 38.6
baz=308
BNM Barren Site 47.54 87 P **P** **20 26 40.8 -0.2**
EYMN Ely 47.70 63 P **P** **20 26 41.6 -0.2**
EYMN IAmb IAmb 20 26 43.4
comp=Z,23nm,1.1s
EYMN Ely 47.70 63 P 20 26 41.8
baz=306
319A Douglas 47.83 92 P **P** **20 26 43.2 +0.1**
DL2 Dalian 48.29 282 P **P** **20 26 46.8 +0.4**
DL2 S **S** **20 33 46.9 +2.6**
DL2 pmax pmax
comp=Z,17nm,0.9s
DL2 LR LR
comp=Z,310nm,21.6s
DL2 LR LR
comp=Z,200nm,16.8s
DL2 LR LR
comp=Z,270nm,18.2s
E38A The Farm, Brul 48.47 64 P **P** **20 26 47.7 -0.1**
E38A IAmb IAmb 20 26 48.4
comp=Z,25nm,1.1s
SPMN Marine on St. 48.62 66 P **P** **20 26 49.3 +0.5**
SPMN IAmb IAmb 20 26 49.9
comp=Z,9.7nm,0.9s
SPMN Marine on St. 48.62 66 P 20 26 48.0
baz=308
CBKS Cedar Bluff 48.62 77 P **P** **20 26 49.2 +0.2**
CBKS IAmb IAmb 20 27 05.9
comp=Z,23nm,0.8s
CBKS Cedar Bluff 48.62 77 P 20 26 48.9
baz=310
I37A Lemond, Waseca 49.03 68 P **P** **20 26 51.8 -0.2**
SPA0 Spitsbergen Ar 49.50 358 P **P** **20 26 55.9 +0.7**
DAG Danmarks Havn 49.62 9 *i*P **P** **20 26 56.0 -0.1**
comp=Z,24nm,1.2s
DAG Danmarks Havn 49.62 9 *i*P **P** **20 26 56.0 -0.1**
DAG Danmarks Havn 49.62 9 *i*P **P** **20 26 56.0 -0.1**
DAG IAmb IAmb 20 26 57.2
comp=Z,24nm,1.2s
D41A Chassel 49.82 62 P **P** **20 26 56.8 -1.3**
D41A IAmb IAmb 20 27 00.0
comp=Z,28nm,1.1s
MNTX Cornudas Mount 49.98 88 P 20 27 00.4
baz=314
MSTX Muleshoe 50.01 84 P **P** **20 26 58.4 -1.4**
MSTX Muleshoe 50.01 84 P 20 27 00.1
baz=313
AMTX Amarillo 50.05 83 P **P** **20 27 00.6 +0.5**
AMTX IAmb IAmb 20 27 16.4
comp=Z,11nm,1.0s
AMTX Amarillo 50.05 83 P 20 27 00.6
baz=313
COWI Conover 50.10 63 P **P** **20 27 00.2 0.0**
COWI IAmb IAmb 20 27 02.0
comp=Z,25nm,1.4s
TLY Talaya 50.28 306 *e*P **P** **20 27 02.4 +0.9**
TLY pmax pmax
comp=Z,66nm,1.0s
TLY MLR MLR
comp=Z,376nm,18.0s
TLY Talaya 50.28 306 P **P** **20 27 01.9 +0.5**
TLY IAmb IAmb 20 27 04.1
comp=Z,26nm,1.0s
SUMG Summit 50.60 17 *i*P **P** **20 27 04.8 +0.7**
comp=Z,33nm,1.2s
SUMG Summit 50.60 17 *i*P **P** **20 27 04.8 +0.7**
SUMG Summit 50.60 17 P **P** **20 27 04.5 +0.4**
SUMG IAmb IAmb 20 27 07.0
comp=Z,41nm,1.3s
SUMG Summit 50.60 17 *i*P **P** **20 27 04.8 +0.7**
SUMG IAmb IAmb 20 27 06.6
comp=Z,33nm,1.2s
BJI Beijing 50.77 287 P **P** **20 27 04.8 -0.5**
BJI pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 50.89 300 *ce*P **P** **20 27 06.8 +0.5**
ULN pmax pmax
comp=Z,15nm,1.3s
ULN Ulaanbaatar 50.89 300 P **P** **20 27 06.4 +0.1**
ULN IAmb IAmb 20 27 07.8
comp=Z,8.2nm,0.8s
E43A Lone Tree Farm 51.09 62 P **P** **20 27 07.7 0.0**
E43A IAmb IAmb 20 27 08.7
comp=Z,17nm,0.9s
KAN13 South Haven SW 51.15 78 P **P** **20 27 08.1 -0.2**
N38A Joes South For 51.16 71 P **P** **20 27 07.8 -0.5**
N38A IAmb IAmb 20 27 24.2
comp=Z,26nm,0.9s
SONM Songino Array 51.26 301 P **P** **20 27 10.0 +0.9**
comp=Z,9.2nm,1.1s,baz=60,slow=6.2,SNR=40
SONM PcP **PcP** **20 28 24.5 +0.7**
comp=Z,5.2nm,0.7s,baz=61,slow=3.3,SNR=7.1
SONM ScP **ScP** **20 32 18.0 -0.1**
comp=Z,0.9nm,1.0s,baz=99,slow=3.1,SNR=4.1
SONM LR LR 20 52 52.6
comp=Z,201nm,18.0s,baz=46,slow=41
SONM Songino Array 51.26 301 P **P** **20 27 08.8 -0.3**
SONM PcP **PcP** **20 28 24.7 +0.9**
ZAK Zakamensk 51.26 305 *e*P **P** **20 27 08.4 -0.6**
ZAK *e* 20 28 24.2
ZAK pmax pmax
comp=Z,11nm,1.3s
ZAK pmax pmax
comp=Z,8.0nm,1.1s
MOY Mondy 51.59 307 *e*P **P** **20 27 11.6 +0.2**
MOY pmax pmax
comp=Z,20nm,1.3s
I42A Draeger Farm, 51.62 65 P **P** **20 27 11.2 -0.4**
I42A IAmb IAmb 20 27 12.9
comp=Z,14nm,0.9s
DBG Daneborg 51.73 10 *i*P **P** **20 27 11.7 -0.4**
DBG IAmb IAmb 20 27 13.0
comp=Z,15nm,0.8s
P38A Dawn 51.75 72 P **P** **20 27 11.9 -0.8**
P38A IAmb IAmb 20 27 28.3
comp=Z,21nm,0.9s
T35A Sooner Cattle 51.79 77 P **P** **20 27 12.1 -0.9**
WMOK Wichita Mounta 51.90 81 P **P** **20 27 13.8 -0.1**
WMOK IAmb IAmb 20 27 33.4
comp=Z,17nm,1.0s
WMOK Wichita Mounta 51.90 81 P 20 27 13.8
baz=313
E46A Sault Ste Mari 52.54 60 P **P** **20 27 18.2 -0.2**
E46A IAmb IAmb 20 27 20.2
comp=Z,43nm,1.2s
P40A Paris 52.68 72 P **P** **20 27 18.7 -0.8**
TX31 Lajitas Ar. Si 52.69 89 P **P** **20 27 20.6 +0.7**
TX31 IAmb IAmb 20 27 34.6
comp=Z,25nm,0.8s
TX32 Lajitas Array 52.69 89 P **P** **20 27 20.4 +0.5**
TXAR Lajitas Array 52.69 89 P **P** **20 27 20.7 +0.8**
comp=Z,3.1nm,0.7s,baz=304,slow=5.6,SNR=17
TXAR LR LR 20 47 35.8
comp=Z,185nm,20.1s,baz=0.0,slow=34
TXAR Lajitas Array 52.69 89 P **P** **20 27 20.5 +0.5**
TIA Tai'an 52.75 283 P **P** **20 27 20.6 +0.4**
TIA pmax pmax
comp=Z,15nm,0.9s
HHC Hu-ho-hao-te 52.91 291 *e*P **P** **20 27 22.4 +1.0**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.4s
HHC LR LR
comp=Z,220nm,16.7s
HHC LR LR
comp=Z,320nm,16.8s
HHC LR LR
comp=Z,340nm,15.2s
R40A Maddies Statio 53.38 73 P **P** **20 27 22.8 -1.9**
R40A IAmb IAmb 20 27 38.5
comp=Z,8.9nm,0.7s
U38A Gravette 53.38 76 P **P** **20 27 24.2 -0.6**
U38A IAmb IAmb 20 27 39.9
comp=Z,9.4nm,0.9s
HDIL Hopedale 53.58 69 P **P** **20 27 25.5 -0.7**
HDIL IAmb IAmb 20 27 38.2
comp=Z,20nm,0.7s
HDIL Hopedale 53.58 69 P 20 27 26.2
baz=312
MATQ Matagami 53.75 53 P 20 27 27.2
baz=311
X37A Clayton 54.05 78 P **P** **20 27 30.4 +0.7**
X37A IAmb IAmb 20 27 31.5
comp=Z,40nm,1.4s
CCM Cathedral Cave 54.13 72 P 20 27 29.0
baz=313
U40A Yellville 54.34 75 P **P** **20 27 30.5 -1.3**
U40A IAmb IAmb 20 27 46.3
comp=Z,7.9nm,0.8s
U40A Yellville 54.34 75 P 20 27 30.7
baz=313
TIY Taiyuan 54.50 287 *e*P **P** **20 27 34.4 +1.4**
NJ2 Nanjing 54.57 278 *e*P **P** **20 27 33.9 +0.4**
NJ2 pmax pmax
comp=Z,18nm,0.7s
W39A Magazine 54.58 77 P **P** **20 27 33.4 -0.2**
W39A IAmb IAmb 20 27 34.8
comp=Z,23nm,1.2s
W39A Magazine 54.58 77 P 20 27 33.6
baz=314
WHTX Lake Whitney, 54.60 82 P **P** **20 27 34.1 +0.4**
WHTX IAmb IAmb 20 27 53.1
comp=Z,30nm,1.1s
WHTX Lake Whitney, 54.60 82 P 20 27 33.9
baz=315
T42A Van Buren 54.91 73 P **P** **20 27 34.1 -1.9**
T42A IAmb IAmb 20 27 49.8
comp=Z,6.6nm,0.7s
VLDQ Val d'Or 54.93 55 P **P** **20 27 33.9 -1.9**
SFIN Lafayette 54.95 68 P **P** **20 27 36.0 -0.1**
SFIN IAmb IAmb 20 27 50.6
comp=Z,28nm,1.2s
SFIN Lafayette 54.95 68 P 20 27 35.3
baz=312
SCO Scoresbysund 55.05 13 *i*P **P** **20 27 37.2 +0.8**
comp=Z,11nm,0.8s
SCO Scoresbysund 55.05 13 *i*P **P** **20 27 37.2 +0.8**
SCO Scoresbysund 55.05 13 P **P** **20 27 37.1 +0.7**
SCO IAmb IAmb 20 27 37.9
comp=Z,11nm,0.8s
SCO Scoresbysund 55.05 13 *i*P **P** **20 27 37.2 +0.8**
SCO IAmb IAmb 20 27 38.0
comp=Z,11nm,0.8s
MIAR Mount Ida 55.15 77 P **P** **20 27 36.2 -1.5**
MIAR IAmb IAmb 20 27 39.3
comp=Z,26nm,1.4s
MIAR Mount Ida 55.15 77 P 20 27 37.4
baz=314
W41B Gary Mavity, V 55.51 76 P 20 27 38.9
baz=314
I51A Listowel 55.98 61 P 20 27 43.9
baz=313
WLAR White Oak Lake 56.02 78 P **P** **20 27 43.8 -0.2**
H06N1 SOCORRO T-PHAS 56.06 104 T T 21 28 27.5
SNR=11
ALGO Algonquin Park 56.08 57 P 20 27 44.4
baz=313
SADO Sadowa 56.31 59 P **P** **20 27 46.0 +0.1**
SADO IAmb IAmb 20 27 47.8
comp=Z,19nm,1.0s
G54A Lake Saint Pet 56.44 58 P 20 27 47.1
baz=313
ANGG Ammassalik, Gr 56.51 22 P **P** **20 27 46.4 -0.5**
ANGG IAmb IAmb 20 27 47.6
comp=Z,23nm,1.0s
D55A Sainte-Anne-du 56.66 55 P 20 27 48.1
baz=313,SNR=7.2
H53A Bobcaygeon 56.74 59 P 20 27 49.1
baz=313
E55A Montcerf-Lytto 56.75 56 P 20 27 48.4
baz=313
P49A Miami Univ. Ec 56.86 67 P **P** **20 27 48.5 -1.4**
P49A IAmb IAmb 20 28 03.8
comp=Z,31nm,1.4s
P49A Miami Univ. Ec 56.86 67 P 20 27 48.4
baz=314
D56A ZEC Mazanza, M 56.99 54 P 20 27 50.2
baz=314
PLVO Plevna 57.20 57 P **P** **20 27 52.2 0.0**
E56A St. Veronique 57.20 55 P 20 27 51.9
baz=314
DELO Deloro Mine 57.28 58 P **P** **20 27 52.7 0.0**
DELO IAmb IAmb 20 27 54.7
comp=Z,25nm,1.1s
ZAA0 Zalesovo Array 57.33 318 P **P** **20 27 53.2 +0.2**
ZAA0 **PcP** **20 28 47.6 +0.8**
ZALV Zalesovo Beam 57.33 318 P **P** **20 27 53.9 +0.9**

comp=Z,2.7nm,0.7s,baz=37,slow=6.7,SNR=13
ZALV PcP **PcP** **20 28 47.8 +1.0**
comp=Z,6.4nm,0.7s,baz=37,slow=3.7,SNR=15
ZALV LR LR 20 53 30.0
comp=Z,238nm,21.1s,baz=46,slow=37
ZALV Zalesovo Beam 57.33 318 P **P** **20 27 53.0 +0.1**
ZALV **PcP** **20 28 47.4 +0.7**
M52A Chesterland 57.34 63 P **P** **20 27 52.2 -1.0**
M52A IAmb IAmb 20 27 53.8
comp=Z,32nm,1.4s
ACSO Alum Creek Sta 57.35 65 P 20 27 52.4
baz=314
WVT Waverly 57.44 72 P **P** **20 27 53.3 -0.6**
WVT IAmb IAmb 20 27 54.6
comp=Z,22nm,1.3s
WVT Waverly 57.44 72 P 20 27 53.5
baz=314
OXF Oxford 57.64 74 P **P** **20 27 54.9 -0.5**
OXF Oxford 57.64 74 P 20 27 55.4
baz=315
L53A Girard 57.65 62 P 20 27 55.4
baz=314
TRQ Mont Tremblant 57.66 55 P **P** **20 27 55.0 -0.5**
ERPA Erie 57.68 62 P 20 27 55.6
baz=314
LATQ La Tuque 57.73 53 P **P** **20 27 55.9 0.0**
LATQ IAmb IAmb 20 27 57.1
comp=Z,7.7nm,0.8s
LATQ La Tuque 57.73 53 P 20 27 55.8
baz=314
ARCES ARCESS Array B 57.76 354 P **P** **20 27 56.1 +0.3**
comp=Z,10nm,1.1s,baz=14,slow=7.0,SNR=7.6
ARCES PcP **PcP** **20 28 48.8 +0.5**
comp=Z,5.3nm,0.5s,baz=24,slow=4.5,SNR=19
ARCES ARCESS Array B 57.76 354 **PcP** **20 28 49.0 +0.8**
MEDO Medina 57.78 60 P **P** **20 27 56.4 +0.2**
MEDO IAmb IAmb 20 27 58.2
comp=Z,28nm,1.1s
M53A WI Miller and 57.78 63 P **P** **20 27 56.0 -0.3**
M53A IAmb IAmb 20 27 57.8
comp=Z,26nm,1.1s
M53A WI Miller and 57.78 63 P 20 27 55.7
baz=314
D58A Chemin du LacG 57.89 53 P 20 27 55.6
baz=314
ALLY Alegheny Colle 57.92 62 P **P** **20 27 57.0 -0.3**
Q51A Peebles 57.98 66 P **P** **20 27 57.6 -0.1**
PECO Prince Edward 58.01 58 P **P** **20 27 58.3 +0.5**
PECO IAmb IAmb 20 27 59.9
comp=Z,23nm,0.9s
J55A Hilton 58.04 59 P **P** **20 27 58.2 +0.1**
J55A IAmb IAmb 20 27 59.4
comp=Z,16nm,0.7s
O52A Adamsville 58.06 65 P **P** **20 27 57.9 -0.4**
PLAL Pickwick Lake 58.09 73 P **P** **20 27 58.1 -0.5**
PLAL IAmb IAmb 20 28 10.8
comp=Z,13nm,1.1s
G57A Newington 58.23 56 P 20 27 57.9
baz=314
M54A Oil Creek Stat 58.28 62 P 20 27 59.2
baz=314
WHN Wuhan 58.36 280 ⇓P **P** **20 28 01.3 +0.8**
H57A Richville 58.47 57 P 20 28 01.0
baz=314,SNR=5.5
N54A Moraine State 58.48 63 P 20 28 00.4
baz=314
T50A Nancy 58.53 69 P **P** **20 28 01.3 -0.3**
J56A Wolcott 58.54 59 P **P** **20 28 01.5 -0.1**
J56A IAmb IAmb 20 28 03.8
comp=Z,20nm,0.9s
J56A Wolcott 58.54 59 P 20 28 00.9
baz=314
LVZ Lovozero 58.56 350 *i*P **P** **20 27 58.7 -2.7**
LVZ pmax pmax
comp=Z,33nm,0.9s
LVZ Lovozero 58.56 350 P **P** **20 28 01.1 -0.3**
G58A Ormstown 58.67 56 P 20 28 01.6
baz=315
I57A Carthage 58.70 58 P 20 28 02.7
baz=314,SNR=7.6
K56A Middlesex 58.70 60 P 20 28 01.7
baz=314
LONY Lake Ozonia 58.77 56 P 20 28 02.7
baz=315
M55A Ridgway 58.79 61 P **P** **20 28 03.7 +0.3**
F59A Saint Guilaume 58.81 54 P 20 28 03.1
baz=315
O54A Avella 58.82 64 P **P** **20 28 03.1 -0.5**
O54A IAmb IAmb 20 28 18.4
comp=Z,14nm,0.8s
J57A Williamstown 58.89 58 P **P** **20 28 04.1 +0.1**
J57A Williamstown 58.89 58 P 20 28 03.8
baz=315,SNR=6.0
L56A Greenwood 58.97 60 P **P** **20 28 04.9 +0.3**
D60A Saint Jean D'O 58.97 52 P 20 28 03.5
baz=315
L56A Greenwood 58.97 60 P 20 28 04.5
baz=315,SNR=7.2
M56A Emporium 59.09 61 P **P** **20 28 05.3 -0.2**
M56A Emporium 59.09 61 P 20 28 05.0
baz=315
XAN Xi'an 59.10 287 P **P** **20 28 05.5 -0.2**
XAN pP sP 20 28 15.8 -1.1
XAN PcP **PcP** **20 28 51.5 -2.7**
XAN S **S** **20 36 10.5 -0.5**
XAN sS sS 20 36 27.0 +2.6
XAN SS **SS** **20 40 05.3 +0.6**
XAN pmax pmax
comp=Z,17nm,1.1s
XAN pmax pmax
comp=Z,140nm,6.2s
XAN LR LR
comp=Z,270nm,19.5s
XAN LR LR
comp=Z,270nm,18.4s
XAN LR LR
comp=Z,370nm,20.1s
XAN Xi'an 59.10 287 P **P** **20 28 05.3 -0.4**
XAN IAmb IAmb 20 28 06.8
comp=Z,14nm,1.0s
K57A Scipio Center 59.10 59 P 20 28 05.5
baz=315
E60A Ste Agathe de 59.10 53 P 20 28 05.1
baz=315
Q53A Leroy 59.11 65 P 20 28 05.2
baz=315
D61A St Aubert, Com 59.12 52 P 20 28 05.4
baz=315
H58A Gabriels 59.12 56 P 20 28 05.1
baz=315
F60A Warwick 59.14 54 P 20 28 04.7
baz=315
H59A Cadyville 59.20 56 P 20 28 05.9
baz=315
I58A Old Forge 59.23 57 P 20 28 06.3
baz=315
SSLB Suanglung 59.26 270 P **P** **20 28 06.8 -0.1**
DGZ Jazzator, Alta 59.27 313 *i*P **P** **20 28 06.4 -0.3**
DGZ pmax pmax
comp=Z,21nm,1.6s
Z47A Carrollton 59.36 74 P **P** **20 28 07.0 -0.4**
Q54A Coxs Mills 59.41 65 P **P** **20 28 07.5 -0.2**
NCB Newcomb 59.41 57 P **P** **20 28 07.2 -0.4**
NCB IAmb IAmb 20 28 10.2
comp=Z,21nm,1.3s
N56A West Decatur 59.43 62 P 20 28 07.4
baz=315
L57A Andrews Acres 59.44 60 P 20 28 07.1
baz=315,SNR=5.6
MOQ Mont Orford 59.45 54 P **P** **20 28 08.0 +0.1**
MCWV Mont Chateau 59.48 64 P 20 28 07.8
baz=315
E61A Lac Etchemin 59.52 52 P 20 28 08.2
baz=316
K58A Earlville 59.53 59 P 20 28 08.7
baz=315
F61A St Evariste 59.60 53 P 20 28 08.6
baz=316
J59A Piesco 59.62 57 P **P** **20 28 09.0 -0.1**
J59A IAmb IAmb 20 28 10.1
comp=Z,14nm,0.7s
J59A Piesco 59.63 57 P 20 28 08.9
baz=315
O56A Blue Knob Stat 59.74 62 P **P** **20 28 09.7 -0.3**
O56A IAmb IAmb 20 28 11.2
comp=Z,29nm,1.2s
O56A Blue Knob Stat 59.74 62 P 20 28 09.7
baz=315
D62A Allapoint, All 59.74 51 P **P** **20 28 10.3 +0.5**
D62A IAmb IAmb 20 28 14.3
comp=Z,24nm,1.4s
BINY Binghamton 59.75 59 P 20 28 10.1
baz=315
M57A Sunshine Farm, 59.76 61 P **P** **20 28 10.2 +0.1**
M57A IAmb IAmb 20 28 12.5
comp=Z,24nm,1.1s
M57A Sunshine Farm, 59.76 61 P 20 28 09.9
baz=315
TPUB Ta-pu 59.82 269 P **P** **20 28 10.7 -0.1**
G61A St-Isidore-de- 59.83 54 P 20 28 10.0
baz=316
Y49A Blount Mountai 59.86 73 P **P** **20 28 10.0 -0.9**
Y49A IAmb IAmb 20 28 35.5
comp=Z,18nm,1.2s
R54A Victor 59.89 66 P 20 28 10.7
baz=315
L58A Harry Jones Me 59.93 59 P 20 28 11.1
baz=315
K59A Cooperstown 59.94 58 P 20 28 11.1
baz=315
N57A Milroy 59.94 61 P 20 28 11.2
baz=315
S54A Dingess, Beckl 59.98 66 P **P** **20 28 11.7 +0.1**
S54A IAmb IAmb 20 28 26.8
comp=Z,31nm,1.4s
S54A Dingess, Beckl 59.98 66 P 20 28 11.2
baz=315
LRAL Lakeview Retre 60.10 74 P 20 28 11.1
baz=316
ACCN Adirondack Com 60.11 57 P **P** **20 28 12.5 0.0**
ACCN IAmb IAmb 20 28 13.7
comp=Z,24nm,1.1s
P56A Dayton Farm, R 60.13 63 P 20 28 12.0
baz=315
H61A Lyndonville 60.17 55 P 20 28 11.9
baz=316
D63A Stockholm 60.23 51 P 20 28 12.2
baz=316
L59A Walton 60.25 59 P **P** **20 28 14.2 +0.7**
L59A Walton 60.25 59 P 20 28 13.9
baz=316,SNR=6.0
O57A Amberson 60.29 62 P 20 28 13.5
baz=315,SNR=5.9
R55A Marlinton 60.30 65 P **P** **20 28 14.5 +0.6**
R55A Marlinton 60.30 65 P 20 28 13.5
baz=315
N58A Sunbury 60.33 61 P 20 28 13.9
baz=315
J60A Lant Hill Farm 60.34 57 P 20 28 13.3
baz=316
G62A West of Eustis 60.37 53 P **P** **20 28 14.6 +0.4**
G62A West of Eustis 60.37 53 P 20 28 14.1
baz=316
GTA Gaotai 60.45 297 ⇑P **P** **20 28 14.5 -0.5**
GTA pP sP 20 28 24.8 -1.4
GTA sP pP 20 28 28.8 +5.6
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,85nm,6.0s
GTA LR LR
comp=Z,180nm,18.5s
GTA LR LR
comp=Z,300nm,19.3s
GTA LR LR
comp=Z,390nm,19.6s
M59A Waymart 60.51 59 P 20 28 15.2
baz=316
E63A Oxbow 60.52 51 P **P** **20 28 15.1 -0.1**
E63A Oxbow 60.52 51 P 20 28 14.7
baz=316
H62A Milan 60.52 54 P **P** **20 28 15.3 0.0**
H62A Milan 60.52 54 P 20 28 16.3
baz=316
LZH Lanzhou 60.57 292 *e*P **P** **20 28 16.5 +0.6**
LZH pP sP 20 28 25.6 -1.6
LZH sP pP 20 28 30.6 +6.4
LZH pmax pmax
comp=Z,31nm,1.3s
LZH pmax pmax
comp=Z,170nm,6.0s
LZH LR LR
comp=Z,390nm,15.2s
LZH LR LR
comp=Z,360nm,16.3s
LZH LR LR
comp=Z,340nm,17.9s
TRY Troy 60.58 57 P **P** **20 28 16.2 +0.6**
TRY IAmb IAmb 20 28 36.9
comp=Z,24nm,1.2s
P57A Homestead Farm 60.60 63 P **P** **20 28 16.3 +0.5**
P57A IAmb IAmb 20 28 17.6
comp=Z,31nm,1.3s
P57A Homestead Farm 60.60 63 P 20 28 15.8
baz=316
R56A Bull Pasture M 60.60 64 P 20 28 15.9
baz=316
Q57A Strasburg 60.70 63 P 20 28 16.7
baz=316
J61A Chester 60.71 56 P 20 28 15.5
baz=316
F63A Nahmakanta, Br 60.71 52 P **P** **20 28 16.5 0.0**
F63A Nahmakanta, Br 60.72 52 P 20 28 16.3
baz=316
O58A Lewisberry 60.73 61 P 20 28 16.5
baz=316
N59A State Game Lan 60.78 60 P **P** **20 28 17.6 +0.5**
N59A IAmb IAmb 20 28 18.8
comp=Z,28nm,1.2s
N59A State Game Lan 60.78 60 P 20 28 17.3
baz=316
E64A Bridgewater 60.81 51 P 20 28 17.0
baz=317
L60A Shokan 60.82 58 P 20 28 17.4
baz=316
K61A Williamstown 60.83 57 P 20 28 17.6
baz=316
F64A Sherman 60.96 52 P **P** **20 28 18.0 -0.2**
F64A Sherman 60.96 52 P 20 28 17.9
baz=317
BATG Bathurst New B 61.01 49 P **P** **20 28 19.2 +0.7**
L61A Hillsdale 1, H 61.02 58 P 20 28 18.6
baz=316
S56A Natural Bridge 61.04 65 P 20 28 18.0
baz=316
M60A Port Jervis 61.09 59 P 20 28 18.9
baz=316,SNR=5.8
N60A Cedar Hill Far 61.17 60 P 20 28 19.0
baz=316
Q58A Fox Den Farm, 61.17 63 P 20 28 19.3
baz=316
J62A Henniker 61.17 56 P 20 28 18.6
baz=316
R57A Stanardsville 61.17 64 P 20 28 19.0
baz=316
I63A Otisfield 61.19 54 P 20 28 19.7
baz=316
LUPA Lehigh Univers 61.22 60 P **P** **20 28 20.4 +0.4**
SDMD Soldier's Deli 61.28 62 P **P** **20 28 20.9 +0.4**
SDMD IAmb IAmb 20 28 21.9
comp=Z,13nm,1.1s
S57A Dark Hollow, R 61.31 65 P 20 28 20.9
baz=316
K62A Royalston 61.36 57 P **P** **20 28 21.2 +0.2**
K62A Royalston 61.36 57 P 20 28 20.6
baz=316
P59A Jarrettsville 61.36 62 P 20 28 21.5
baz=316
KSCT Kent School, K 61.39 58 P **P** **20 28 21.2 0.0**
KSCT IAmb IAmb 20 28 22.7
comp=Z,17nm,0.9s
O60A Telford 61.40 60 P 20 28 21.4
baz=316
BRAL Brewton 61.41 75 P 20 28 21.2
baz=316
TRNY Table Rock, Ra 61.43 59 P **P** **20 28 21.9 +0.4**
TRNY IAmb IAmb 20 28 22.6
comp=Z,24nm,1.1s
H64A Troy 61.43 53 P 20 28 21.4
baz=317
R58A Rapidan 61.45 64 P 20 28 21.6
baz=316
ENH Enshi 61.46 283 P **P** **20 28 21.9 +0.1**
U56A King 61.53 67 P 20 28 22.6
baz=316
M61A Granite Spring 61.55 59 P 20 28 22.7
baz=316
WUPA West Chester U 61.57 61 P **P** **20 28 23.1 +0.8**
WUPA IAmb IAmb 20 28 24.2
comp=Z,7.9nm,1.0s
N61A South Mountain 61.67 59 P 20 28 23.0
baz=316
PAL Palisades 61.69 59 P **P** **20 28 23.6 +0.4**
PAL Palisades 61.69 59 P 20 28 23.7
baz=316
R58B Mineral 61.76 64 P 20 28 24.6
baz=316
SEM Semipalatinsk 61.85 317 *e*P **P** **20 28 22.9 -1.5**
baz=317
SEM Semipalatinsk 61.85 317 *e*P **P** **20 28 22.9 -1.5**
V56A Mocksville 61.86 67 P 20 28 23.8
baz=316
KMSC Kings Mountain 61.86 68 P 20 28 23.9
baz=316
WSPT Westport, CT 61.88 58 P **P** **20 28 24.9 +0.5**
S58A Poland Farm, P 61.92 64 P 20 28 25.1
baz=316
JSRW J. Sargeant Re 61.95 64 P **P** **20 28 25.5 +0.5**
HODGE Hodges 61.99 70 P **P** **20 28 24.8 -0.5**
HODGE IAmb IAmb 20 28 49.1
comp=Z,24nm,1.3s
UCCT U. Connecticut 61.99 57 P **P** **20 28 25.0 -0.2**
WES Weston 62.02 56 P **P** **20 28 25.4 0.0**
U57A Blanch 62.06 66 P 20 28 25.4
baz=316
T58A Grand View Acr 62.13 65 P 20 28 26.6
baz=316
V57A Coltrane Farms 62.20 67 P 20 28 27.1
baz=316
GGN Saint George 62.23 51 P **P** **20 28 27.2 +0.5**
GGN IAmb IAmb 20 28 30.6
comp=Z,31nm,1.3s
EMMW East Machias 62.23 52 P **P** **20 28 27.1 +0.3**
BRYW Bryant College 62.26 57 P **P** **20 28 27.6 +0.6**
M63A Gales Ferry 62.37 57 P 20 28 26.9
baz=317
U58A Oxford 62.52 65 P 20 28 28.3
baz=317
T59A Double "B" Far 62.65 64 P **P** **20 28 30.2 +0.5**
T59A IAmb IAmb 20 28 45.8
comp=Z,18nm,0.8s
PRGR Permogore 62.84 342 *e*P **P** **20 28 28.2 -2.3**
PRGR *e* 20 29 08.2
PRGR pmax pmax
comp=Z,19nm,0.9s
V59A Middlesex 63.15 66 P 20 28 32.7
baz=317
DRLN Deer Lake 63.28 43 P **P** **20 28 33.8 +0.1**
WMQ Urumqi 63.47 308 *e*P **P** **20 28 36.5 +1.4**
WMQ pP sP 20 28 45.6 -0.8
WMQ sP pP 20 28 52.5 +8.9
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ LR LR
comp=Z,760nm,19.7s
SVE Sverdlovsk 63.56 332 *e*P **P** **20 28 36.5 +1.1**
SVE pmax pmax
comp=Z,12nm,0.7s
BRVK Borovoye 63.60 324 *ce*P **P** **20 28 34.8 -1.0**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 63.60 324 P **P** **20 28 35.6 -0.2**
BRVK IAmb IAmb 20 28 37.1
comp=Z,8.1nm,0.7s
MK31 Makanchi Array 63.73 313 *i*P **P** **20 28 35.5 -1.2**
MK31 Makanchi Array 63.73 313 P **P** **20 28 36.3 -0.4**
MKAR Makanchi Array 63.73 313 P **P** **20 28 36.3 -0.4**
comp=Z,4.3nm,0.8s,baz=50,slow=6.7,SNR=38
MKAR LR LR 20 57 14.5
comp=Z,228nm,19.3s,baz=31,slow=37
MKAR Makanchi Array 63.73 313 *i*P **P** **20 28 36.2 -0.5**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 63.73 313 P **P** **20 28 35.6 -1.1**
MAKZ Makanchi 63.85 314 P **P** **20 28 37.2 -0.4**
CD2 Chengdu 64.37 288 ⇓P **P** **20 28 42.3 +1.1**
CD2 S **S** **20 37 15.4 -2.3**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,230nm,9.8s
CD2 LR LR
comp=Z,300nm,16.7s
CD2 LR LR
comp=Z,330nm,22.6s
CD2 LR LR
comp=Z,330nm,22.9s
ARU Arti 64.49 333 *d*P **P** **20 28 42.1 +0.6**
ARU 20 29 15.2
ARU 20 30 59.1
ARU S **S** **20 37 20.6 +2.2**
ARU SS **SS** **20 41 32.7 +4.9**
ARU pmax pmax
comp=Z,17nm,0.8s
ARU Arti 64.49 333 P **P** **20 28 41.5 -0.1**
ARU IAmb IAmb 20 28 43.2
comp=Z,20nm,0.9s
GBN Guysborough 64.49 48 P **P** **20 28 42.8 +1.1**
KLMR Klimovskoe 64.63 345 *e*P **P** **20 28 40.5 -1.8**
KLMR pmax pmax
comp=Z,21nm,1.4s
KLMR Klimovskoe 64.63 345 *e*P **P** **20 28 40.6 -1.8**
KLMR AMP 20 28 43.1
comp=Z,21nm,1.4s
KIRV Kirov 64.86 339 *ce*P **P** **20 28 41.6 -2.3**
BRZS Berezniki 65.21 321 *e*P **P** **20 28 45.4 -0.9**
baz=321
BRZS Berezniki 65.21 321 *e*P **P** **20 28 45.4 -0.9**
FIA1 FINESS Array S 65.71 352 P **P** **20 28 49.3 -0.1**
FIA1 IAmb IAmb 20 29 10.5
comp=Z,28nm,1.4s
FINES FINESS Array B 65.71 352 P **P** **20 28 49.5 +0.2**
comp=Z,6.7nm,0.7s,baz=20,slow=7.7,SNR=29
FINES FINESS Array B 65.71 352 P **P** **20 28 49.2 -0.2**
GYA Guiyang 65.94 282 ⇓P **P** **20 28 52.5 +0.9**
GYA pmax pmax
comp=Z,32nm,1.1s
TAOE Nuku Hiva Isla 66.04 148 *e*T T 21 39 41.4
comp=Z,59nm,0.2s
NC204 NORSAR Array S 66.53 360 P **P** **20 28 54.8 +0.1**
NC204 IAmb IAmb 20 29 07.1
comp=Z,13nm,1.3s
NC303 NORSAR Array S 66.58 360 P **P** **20 28 55.4 +0.4**
NC405 NORSAR Array S 66.69 359 P **P** **20 28 55.9 +0.2**
NC405 IAmb IAmb 20 29 25.7
comp=Z,6.1nm,0.6s
NB201 NORSAR Array S 66.76 360 P **P** **20 28 56.7 +0.5**
NB2 NORSAR Subarra 66.77 360 P **P** **20 28 56.3 +0.1**
comp=Z,16nm,1.0s,baz=1.3,slow=6.9
NOA NORSAR Array B 66.77 360 P **P** **20 28 56.4 +0.1**
comp=Z,7.0nm,0.9s,baz=0.2,slow=6.3,SNR=12
TDK Taldyqorghan 66.83 314 *e*P **P** **20 28 55.9 -1.0**
comp=Z,9.6nm,0.7s,baz=314
TDK Taldyqorghan 66.83 314 *e*P **P** **20 28 55.8 -1.0**
TDK pmax pmax
comp=Z,10.0nm,0.7s
HNR Honiara 67.11 213 LR LR 20 54 18.4
comp=Z,91nm,20.3s,baz=27,slow=32
SHLS Shalkode 67.81 313 *e*P **P** **20 29 00.9 -2.3**
comp=Z,11nm,1.0s,baz=312
SHLS Shalkode 67.81 313 *e*P **P** **20 29 00.9 -2.3**
SHLS pmax pmax
comp=Z,11nm,1.0s
KPKS Kokpek 67.92 313 *e*P **P** **20 29 03.0 -0.9**
comp=Z,10nm,0.8s,baz=313
KPKS Kokpek 67.92 313 *e*P **P** **20 29 02.9 -0.9**
KPKS pmax pmax
comp=Z,10.0nm,0.8s
KONO Kongsberg 68.16 1 *ce*P **P** **20 29 04.0 -1.0**
KONO pmax pmax
comp=Z,83nm,2.5s
KONO Kongsberg 68.16 1 P **P** **20 29 05.7 +0.7**
CHKK Chushkaly 68.36 315 *e*P **P** **20 29 05.6 -0.9**
baz=314
CHKK Chushkaly 68.36 315 *e*P **P** **20 29 05.6 -0.9**
SATY Saty 68.36 313 *e*P **P** **20 29 05.8 -0.9**

comp=Z,6.0nm,1.2s,baz=313
SATY Saty 68.36 313 *e*P **P** **20 29 05.8 -0.9**
SATY pmax pmax
comp=Z,6.0nm,1.2s
KUU Kurty 68.61 315 *e*P **P** **20 29 07.2 -0.9**
comp=Z,8.1nm,1.4s,baz=315
KUU Kurty 68.61 315 *e*P **P** **20 29 07.1 -0.9**
KUU pmax pmax
comp=Z,8.0nm,1.4s
BTLS Baital 68.65 317 *i* P **P** **20 29 07.4 -0.9**
baz=317
BTLS Baital 68.65 317 *i* P **P** **20 29 07.3 -1.0**
MDOK Medeo 68.88 314 *e*P **P** **20 29 09.0 -1.0**
baz=314
MDOK Medeo 68.88 314 *e*P **P** **20 29 09.0 -1.0**
AAA Alma-Ata 68.90 314 *e*P **P** **20 29 09.4 -0.6**
comp=Z,11nm,1.1s,baz=314
AAA Alma-Ata 68.90 314 *e*P **P** **20 29 09.4 -0.6**
AAA pmax pmax
comp=Z,11nm,1.1s
KMI Kunming 69.27 284 ⇑P **P** **20 29 13.6 +0.9**
KMI pP pP 20 29 21.8 +0.6
KMI sP sP 20 29 27.3 +3.2
KMI PcP **PcP** **20 29 37.8 +1.5**
KMI S **S** **20 38 10.6 -6.9**
KMI SS **SS** **20 42 44.1 +0.3**
KMI pmax pmax
comp=Z,26nm,1.2s
KMI pmax pmax
comp=Z,130nm,4.9s
KMI LR LR
comp=Z,190nm,7.6s
KMI LR LR
comp=Z,130nm,6.4s
KMI LR LR
comp=Z,150nm,18.2s
KMI Kunming 69.27 284 P **P** **20 29 13.4 +0.7**
KMI IAmb IAmb 20 29 14.6
comp=Z,21nm,0.9s
SGDS Sogindy 69.69 316 *e*P **P** **20 29 13.8 -1.2**
baz=316
SGDS Sogindy 69.69 316 *e*P **P** **20 29 13.7 -1.2**
USP Ospenovka 69.90 316 P **P** **20 29 16.8 +0.6**
SNR=22
ULHL Ulahol 69.97 314 P **P** **20 29 17.7 +0.9**
SNR=11
CHMS Chumysh 70.01 315 P **P** **20 29 17.9 +1.1**
SNR=6.5
KBK Karagaybulak 70.20 315 P **P** **20 29 18.8 +0.7**
SNR=14
ABKAR Akbulak array 70.32 328 P **P** **20 29 18.5 0.0**
ABKAR IAmb IAmb 20 29 21.2
comp=Z,14nm,1.1s
AAK Ala-Archa 70.41 315 P **P** **20 29 19.9 +0.5**
SNR=13
AAK Ala-Archa 70.41 315 *ce*P **P** **20 29 19.7 +0.3**
AAK pmax pmax
comp=Z,64nm,1.7s
AAK Ala-Archa 70.41 315 P **P** **20 29 19.5 +0.1**
AAK IAmb IAmb 20 29 21.8
comp=Z,13nm,1.1s
OBN Obninsk 70.59 345 ⇓*i*P **P** **20 29 19.7 -0.3**
OBN *PP **pP** **20 29 27.0 -1.5**
OBN *SP **sP** **20 29 32.0 +0.2**
OBN *e* 20 29 41.6
OBN pmax pmax
comp=Z,11nm,0.8s
OBN MLR MLR
comp=Z,173nm,19.0s
EKS2 Erkin-Say 70.70 316 P **P** **20 29 21.8 +0.7**
SNR=15
UCH Uchtor 70.74 315 P **P** **20 29 22.8 +1.0**
SNR=6.0
BELG Belogornoye 70.95 337 *i* P **P** **20 29 21.0 -1.2**
BELG pmax pmax
comp=Z,6.0nm,1.1s
AML Almayashu 71.17 316 P **P** **20 29 25.7 +1.4**
SNR=10
SLVN Son La 71.45 281 P **P** **20 29 26.2 +0.4**
SLVN IAmb IAmb 20 29 28.9
comp=Z,34nm,1.1s
ISAL Salakas 71.50 351 *e*P **P** **20 29 26.2 +0.7**
IDID Didziasalis 71.70 350 *e*P **P** **20 29 26.8 +0.1**
KK31 Karatay Array 71.70 318 P **P** **20 29 26.4 -0.6**
KKAR Karatay Array 71.70 318 P **P** **20 29 26.4 -0.6**
KKAR Karatay Array 71.70 318 P **P** **20 29 26.5 -0.6**
KKAR IAmb IAmb 20 29 28.9
comp=Z,10nm,1.1s
IIGN Ignalina 71.71 351 *e*P **P** **20 29 27.1 +0.2**
PABE Paberze 71.77 352 *e*P **P** **20 29 27.8 +0.6**
PPT Papeete 71.88 160 LR LR 20 52 49.6
comp=Z,212nm,20.6s,baz=347,slow=29
PPT2 Papeete2 71.90 160 *e*LR LR 20 51 19.0
comp=Z,282nm,24.0s
NACGM Naroch 72.10 350 *i* P **P** **20 29 27.8 -1.3**
NACGM *i* P **P** **20 29 27.8 -1.3**
NACGM *i* P **P** **20 29 27.8 -1.3**
comp=Z,18nm,0.8s
NACGM *i* PP PP 20 31 47.9 -21
NACGM *i* PPP PPP 20 33 43.2
NACGM *i* S **S** **20 38 49.1 +0.1**
NACGM *i* SS **SS** **20 43 26.7 +1.7**
NACGM *i* SSS SSS 20 47 29.2
NACGM *i* LQ LQ 20 56 00.1
NACGM *i* LR LR 21 01 22.5
KSH Kashi 72.30 312 P **P** **20 29 34.8 +4.0**
KSH pmax pmax
comp=Z,80nm,1.3s
KSH pmax pmax
comp=Z,130nm,5.0s
KSH LR LR
comp=Z,290nm,6.8s
KSH LR LR
comp=Z,180nm,5.9s
KSH LR LR
comp=Z,430nm,7.4s
MNK Minsk 72.38 350 *i* P **P** **20 29 29.8 -1.0**
comp=E,3.0nm,1.0s
MNK *i* P **P** **20 29 29.8 -1.0**
comp=N,61nm,1.6s
MNK *i* P **P** **20 29 29.8 -1.0**
comp=Z,45nm,1.3s
MNK *i* PP PP 20 31 49.9 -21
MNK *i* PPP PPP 20 33 46.1
MNK *i* S **S** **20 38 47.3 -4.8**
MNK *i* SS SS 20 43 13.5 -16
MNK *i* SSS SSS 20 46 23.8
MNK *i* LQ LQ 20 56 22.9
MNK *i* LR LR 21 01 52.9
MNK *i* LRM MLR 21 04 10.1
comp=E,20nm,16.6s
MNK *i* LRM MLR 21 04 17.8
comp=N,385nm,22.1s
MNK *i* LRM MLR 21 04 19.1
comp=Z,210nm,26.8s
LSA Lhasa 72.42 296 P **P** **20 29 32.3 +0.2**
LSA IAmb IAmb 20 29 34.7
comp=Z,21nm,0.9s
LPSR Galich'ya Gora 72.59 342 *e*P **P** **20 29 30.7 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,1.6s
SWI Sorong 72.63 244 P **P** **20 29 32.6 -0.3**
comp=Z,18nm,1.0s
IUG Iuzhnay 72.69 318 *e*P **P** **20 29 32.0 -1.1**
comp=Z,4.9nm,1.0s,baz=318
IUG Iuzhnay 72.69 318 *e*P **P** **20 29 31.9 -1.1**
IUG pmax pmax
comp=Z,5.0nm,1.0s
SUW Suwalki 73.31 352 *e*P **P** **20 29 36.2 -0.1**
SUW Suwalki 73.31 352 *e*P **P** **20 29 36.5 +0.2**
SUW Suwalki 73.31 352 P **P** **20 29 36.3 -0.1**
VRH Novokhopyorsk 73.38 340 *e*P **P** **20 29 36.0 -0.8**
VRH pmax pmax
comp=Z,20nm,1.5s
VSR Storozhevoye 73.87 342 *e*P **P** **20 29 39.0 -0.7**
VSR pmax pmax
comp=Z,40nm,1.5s
BSEG Bad Segeberg 73.89 0 *e*P **P** **20 29 40.9 +1.1**
comp=Z,29nm,1.2s,baz=0.3,slow=5.7
RAR Rarotonga 73.90 171 LR LR 20 54 38.5
comp=Z,206nm,21.0s,baz=346,slow=30
LNIZ Loecknitz 74.30 358 *e*P **P** **20 29 42.7 +0.6**
comp=Z,34nm,1.1s,baz=0.3,slow=5.7
GKP Gorka Klasztor 74.42 356 *e*P **P** **20 29 43.5 +0.6**
MYLDM Lahad Datu 75.12 259 P **P** **20 29 47.5 0.0**
MYLDM IAmb IAmb 20 29 50.2
comp=Z,16nm,1.0s
UBPT Khong Chiam 75.15 276 P **P** **20 29 47.7 +0.1**
UBPT IAmb IAmb 20 29 49.7
comp=Z,37nm,1.2s
SHL Shillong 75.22 293 P **P** **20 29 46.8 -1.4**
SHL IAmb IAmb 20 29 48.7
comp=Z,18nm,0.9s
NRDL Niedersach Rie 75.34 0 *e*P **P** **20 29 48.9 +0.8**
comp=Z,19nm,1.2s,baz=0.3,slow=5.7
IBBN Ibbenburen 75.50 2 *e*P **P** **20 29 50.0 +0.9**
comp=Z,36nm,1.1s,baz=0.3,slow=5.7
FLTG Flechtingen 75.50 360 *e*P **P** **20 29 49.5 +0.4**
comp=Z,12nm,0.9s,baz=0.3,slow=5.7
BEL Belsk 75.65 354 *e*P **P** **20 29 51.6 +1.6**
ASSE Asse, Remlinge 75.70 0 *e*P **P** **20 29 51.0 +0.8**
comp=Z,22nm,1.2s,baz=0.3,slow=5.7
AKASG Malin Array Be 75.95 348 P **P** **20 29 51.4 -0.4**
comp=Z,4.6nm,0.4s,baz=15,slow=5.9,SNR=25
CLZ Clausthal 75.99 0 *e*P **P** **20 29 53.1 +1.1**
comp=Z,28nm,1.1s,baz=0.3,slow=5.7
TAPN Taplejung 76.14 297 *e*P **P** **20 29 53.7 +0.1**
comp=Z,48nm,1.0s
GTTG Gottingen 76.29 0 *e*P **P** **20 29 54.9 +1.2**
comp=Z,30nm,1.1s,baz=0.3,slow=5.7
CHTO Chiang Mai 76.35 283 P **P** **20 29 54.2 -0.3**
CHTO IAmb IAmb 20 29 56.2
comp=Z,26nm,1.1s
BUG Bochum–Univer 76.35 2 *e*P **P** **20 29 54.5 +0.5**
comp=Z,16nm,0.9s,baz=0.3,slow=5.7
CLL Collm 76.51 359 *i* P **P** **20 29 55.6 +0.7**
comp=Z,14nm,1.0s
CLL Lm MLR 21 04 00.0
comp=Z,100nm,20.2s
CLL Collm 76.51 359 *i* P **P** **20 29 55.6 +0.7**
CLL pmax pmax
comp=Z,14nm,1.0s
CLL Collm 76.51 359 P **P** **20 29 54.9 0.0**
CLL IAmb IAmb 20 29 56.4
comp=Z,11nm,0.9s
CLL Collm 76.51 359 *e*P **P** **20 29 55.3 +0.4**
comp=Z,14nm,1.1s,baz=0.3,slow=5.7
SANI Sanana 76.56 248 P **P** **20 29 54.9 -0.7**
comp=Z,19nm,1.0s
KASTN Kahler Asten 76.61 1 *e*P **P** **20 29 56.6 +1.1**
comp=Z,11nm,1.1s,baz=0.3,slow=5.7
NEUB Neuenburg 76.62 359 *e*P **P** **20 29 56.5 +0.9**
comp=Z,29nm,1.1s,baz=0.3,slow=5.7
CM31 Chiang Mai Arr 76.63 283 P **P** **20 29 56.2 +0.1**
CMAR Chiang Mai Arr 76.63 283 P **P** **20 29 57.1 +1.0**
comp=Z,33nm,0.9s,baz=26,slow=6.4,SNR=130
CMAR LR LR 21 07 25.2
comp=Z,97nm,18.5s,baz=295,slow=39
CMAR Chiang Mai Arr 76.63 283 P **P** **20 29 56.4 +0.3**
GUN Gumba 76.69 298 *e*P **P** **20 29 57.0 +0.3**
comp=Z,31nm,0.4s
ODAN Odare 76.70 297 *e*P **P** **20 29 56.5 -0.2**
MRSI Marisa 76.84 253 P **P** **20 29 56.6 -0.7**
comp=Z,13nm,0.9s
KSP Ksiaz 76.89 356 *e*P **P** **20 29 57.9 +0.9**
FBE Freiberg 76.89 358 *e*P **P** **20 29 57.6 +0.6**
comp=Z,24nm,1.1s,baz=0.3,slow=5.7
BRG Berggiesshubel 76.93 358 *i* P **P** **20 29 58.1 +0.8**
BRG Amp 20 30 00.4
comp=Z,15nm,1.0s
BRG *ex* x 20 30 08.4
BRG Amp 20 30 09.4
comp=Z,3.6nm,0.8s
BRG *ex* x 21 07 41.1
BRG Amp 21 07 42.9
comp=Z,8.3nm,1.5s
BRG Berggiesshubel 76.93 358 *e*P **P** **20 29 58.1 +0.8**
comp=Z,19nm,1.2s,baz=0.3,slow=5.7
RAMN Ramite 77.06 297 *e*P **P** **20 29 58.8 +0.1**
comp=Z,29nm,0.6s
KKN Kakani 77.10 299 *e*P **P** **20 29 59.2 +0.3**
comp=Z,11nm,0.4s
CHVC Chvalec 77.15 357 *e*P **P** **20 29 59.6 +1.0**
MEM Membach 77.15 3 *d*P **P** **20 29 58.0 -0.6**
comp=Z,15nm,1.2s
BSTI Sart Tilman 77.16 3 *d*P **P** **20 29 59.3 +0.7**
OSTC Ostas 77.17 356 *e*P **P** **20 29 59.7 +1.0**
BTNL Ternell 77.18 3 *d*P **P** **20 29 59.5 +0.7**
comp=Z,18nm,1.4s
MOX Moxa 77.19 359 *e*P **P** **20 29 59.7 +0.9**
comp=Z,18nm,1.1s,baz=0.3,slow=5.7
PKI Pulchoki 77.21 299 *e*P **P** **20 29 59.5 -0.2**
PKIN Phulchoki 77.21 299 *e*P **P** **20 29 59.6 0.0**
comp=Z,48nm,1.2s
UPC Upice 77.23 357 *e*P **P** **20 30 00.1 +1.1**
UPC Upice 77.23 357 *e*P **P** **20 30 00.1 +1.1**
AHRW Bad Neuenahr-A 77.25 2 *e*P **P** **20 30 00.3 +1.2**
comp=Z,20nm,1.3s,baz=0.3,slow=5.7
DZM Mont Dzumac 77.25 203 *e*LR LR 20 53 30.6
comp=Z,292nm,22.2s
PVCC Panska Ves 77.26 357 *e*P **P** **20 29 59.9 +0.8**
PVCC Panska Ves 77.26 357 *e*P **P** **20 29 59.9 +0.8**
GKN Gorkha 77.28 299 *e*P **P** **20 29 59.8 0.0**
comp=Z,15nm,0.4s
BCLA Clavier 77.31 4 *d*P **P** **20 29 59.5 0.0**
OJC Ojcow 77.33 354 *e*P **P** **20 30 00.2 +0.7**
OJC Ojcow 77.33 354 P **P** **20 29 59.6 +0.1**
OJC IAmb IAmb 20 30 02.1
comp=Z,30nm,1.3s
DMN Daman 77.34 299 *e*P **P** **20 30 00.3 0.0**
comp=Z,54nm,1.1s
BGES Gesves 77.34 4 *d*P **P** **20 30 00.2 +0.5**
PLN Plauen 77.34 359 *e*P **P** **20 30 00.3 +0.7**
baz=0.3,slow=5.7
DPC Dobruska-Polom 77.38 356 *e*P **P** **20 30 00.9 +1.0**
DPC Dobruska-Polom 77.38 356 *e*P **P** **20 30 00.9 +1.0**
WERD Werda 77.38 359 *e*P **P** **20 30 00.6 +0.8**
comp=Z,4.5nm,1.2s,baz=0.3,slow=5.7
BMRD Maredsous 77.41 4 *d*P **P** **20 30 00.6 +0.6**
TANN Tannenbergstha 77.41 359 *e*P **P** **20 30 00.8 +0.8**
comp=Z,7.1nm,1.1s,baz=0.3,slow=5.7
GUNZ Gunzen 77.46 359 *e*P **P** **20 30 01.2 +0.9**
comp=Z,8.7nm,1.1s,baz=0.3,slow=5.7
TBI Tubuai 77.52 161 *e*LR LR 20 53 37.0
comp=Z,222nm,29.2s
WERN Wernitzgruen 77.54 359 *e*P **P** **20 30 01.9 +1.1**
comp=Z,18nm,1.1s,baz=0.3,slow=5.7
LUWI Luwuk 77.58 252 P **P** **20 30 00.8 -0.6**
LUWI Luwuk 77.58 252 P **P** **20 30 00.6 -0.8**
NKC Novy Kostel 77.59 359 *e*P **P** **20 30 01.9 +0.8**
NKC Novy Kostel 77.59 359 *e*P **P** **20 30 01.9 +0.8**
TNS Taunus Mts 77.60 1 *e*P **P** **20 30 01.9 +0.7**
comp=Z,21nm,1.3s,baz=0.3,slow=5.7
DOU Dourbes 77.61 4 *d*P **P** **20 30 01.8 +0.7**
KRLC Kraliky 77.63 356 *e*P **P** **20 30 02.6 +1.3**
KRLC Kraliky 77.63 356 *e*P **P** **20 30 02.6 +1.3**
KWP Kalwaria Pacla 77.70 352 *e*P **P** **20 30 02.6 +1.0**
KWP Kalwaria Pacla 77.70 352 P **P** **20 30 02.1 +0.4**
PRU Pruhonice 77.80 357 *e*P **P** **20 30 03.2 +1.0**
PRU Pruhonice 77.80 357 *e*P **P** **20 30 03.2 +1.0**
MANZ Manzenberg 77.84 359 *e*P **P** **20 30 03.3 +0.8**
comp=Z,8.4nm,1.0s,baz=0.3,slow=5.7
GOPC GO Pecny, Ondr 77.86 357 *e*P **P** **20 30 03.5 +0.9**
GOPC GO Pecny, Ondr 77.86 357 *e*P **P** **20 30 03.5 +0.9**
MORC Moravsky Berou 77.90 355 ⇑P **P** **20 30 03.7 +0.9**
MORC Moravsky Berou 77.90 355 *e*P **P** **20 30 03.3 +0.5**
MORC Moravsky Berou 77.90 355 ⇑P **P** **20 30 03.7 +0.9**
MORC Moravsky Berou 77.90 355 P **P** **20 30 03.0 +0.2**
MORC IAmb IAmb 20 30 04.7
comp=Z,14nm,1.0s
MILB Miltenberg 78.00 1 *e*P **P** **20 30 04.3 +1.0**
comp=Z,16nm,0.9s,baz=0.3,slow=5.7
ROTZ Rotzenmuhle 78.06 359 *e*P **P** **20 30 04.8 +1.1**
comp=Z,19nm,1.4s,baz=0.3,slow=5.7
NIE Niedzica 78.09 354 *e*P **P** **20 30 05.3 +1.5**
WLF Walferdange 78.10 3 *e*P **P** **20 30 05.4 +1.6**
baz=0.3,slow=5.7
GRA1 Grafenberg Arr 78.14 360 P **P** **20 30 04.7 +0.5**
GRA1 IAmb IAmb 20 30 06.5
comp=Z,28nm,1.0s
GRF Grafenberg Arr 78.14 360 *e*P **P** **20 30 05.2 +1.0**
comp=Z,50nm,1.3s,baz=0.3,slow=5.7
GRFO Grafenberg 78.15 360 P **P** **20 30 04.8 +0.7**
GRFO IAmb IAmb 20 30 06.4
comp=Z,31nm,1.1s
NIL Nilore 78.36 311 P **P** **20 30 05.8 +0.2**
VRAC Vranov 78.41 356 ⇑P **P** **20 30 06.8 +1.2**
VRAC Vranov 78.41 356 *e*P **P** **20 30 06.4 +0.8**
VRAC Vranov 78.41 356 ⇑P **P** **20 30 06.8 +1.2**
LANS Liptovska Anna 78.42 354 *e*P **P** **20 30 07.5 +1.8**
LANS pmax pmax
comp=Z,19nm,1.2s
LANS Liptovska Anna 78.42 354 *e*P **P** **20 30 07.5 +1.8**
KOLS Kolonicke sedl 78.43 352 *e*P **P** **20 30 06.1 +0.4**
KOLS pmax pmax
comp=Z,14nm,1.2s
KOLS Kolonicke sedl 78.43 352 *e*P **P** **20 30 06.1 +0.4**
KRUC Moravsky 78.66 356 *e*P **P** **20 30 07.5 +0.5**
WET Wettzell 78.68 359 *e*P **P** **20 30 07.9 +0.8**
comp=Z,11nm,1.1s,baz=0.3,slow=5.7
KHC Kasperske Hory 78.68 358 *e*P **P** **20 30 08.2 +1.1**
KHC *e* 20 30 17.0
KHC Kasperske Hory 78.68 358 *e*P **P** **20 30 08.2 +1.1**
KHC *ep*P **PcP** **20 30 17.0 +1.0**
KHC Kasperske Hory 78.68 358 P **P** **20 30 07.8 +0.7**
KHC IAmb IAmb 20 30 09.5
comp=Z,20nm,1.1s
UZH Uzhgorod 78.73 352 ⇑*i*P **P** **20 30 08.0 +0.7**
UZH *e* 20 30 14.6
UZH *i* 20 30 23.6
JAVC Velka Javorina 78.81 355 *e*P **P** **20 30 09.3 +1.4**
GOF Gofitskoye 78.89 337 ⇓*i*P **P** **20 30 09.7 +1.4**
GOF pmax pmax
comp=Z,97nm,1.1s
GEC2 GERESS Array S 78.96 358 P **P** **20 30 09.1 +0.4**
GEC2 IAmb IAmb 20 30 10.6
comp=Z,11nm,0.9s
GEC2 GERESS Array S 78.96 358 *e*P **P** **20 30 09.5 +0.7**
comp=Z,14nm,1.1s,baz=0.3,slow=5.7
GERES GERESS Array B 78.96 358 P **P** **20 30 09.8 +1.0**
comp=Z,5.6nm,0.8s,baz=20,slow=4.3,SNR=35
CKRC Cesky Krumlov 78.97 358 *e*P **P** **20 30 09.5 +0.8**
KECS Kecovo 79.01 353 *e*P **P** **20 30 10.1 +1.2**
KECS pmax pmax
comp=Z,11nm,1.1s
KECS Kecovo 79.01 353 *e*P **P** **20 30 10.1 +1.2**
STU Stuttgart 79.06 1 *e*P **P** **20 30 10.2 +1.0**
comp=Z,16nm,0.8s,baz=0.3,slow=5.7
VYHS Vyhne 79.11 355 *e*P **P** **20 30 10.5 +1.0**
VYHS pmax pmax
comp=Z,21nm,1.1s
VYHS Vyhne 79.11 355 *e*P **P** **20 30 10.5 +1.0**
SMOL Smolenice 79.16 355 *e*P **P** **20 30 11.0 +1.3**
SMOL pmax pmax
comp=Z,14nm,1.0s
SMOL Smolenice 79.16 355 *e*P **P** **20 30 11.0 +1.3**
MODS Modra-Piesok 79.31 356 *e*P **P** **20 30 12.1 +1.5**
MODS pmax pmax
comp=Z,44nm,1.2s
MODS Modra-Piesok 79.31 356 *e*P **P** **20 30 12.1 +1.5**
BUR08 Bucovina Ar. S 79.43 350 P **P** **20 30 11.6 +0.2**
BURAR Bucovina Array 79.46 350 ⇑P **P** **20 30 12.2 +0.8**
BURAR Bucovina Array 79.46 350 ⇑P **P** **20 30 12.3 +0.8**
BURAR Bucovina Array 79.46 350 P **P** **20 30 11.4 -0.1**
BFO Black Forest 79.49 2 P **P** **20 30 11.9 +0.4**
BFO IAmb IAmb 20 30 13.4
comp=Z,13nm,1.1s
BFO Black Forest 79.49 2 *e*P **P** **20 30 12.4 +0.9**
comp=Z,18nm,1.2s,baz=0.3,slow=5.7
ZST Bratislava 79.50 356 *e*P **P** **20 30 13.3 +1.8**
ZST pmax pmax
comp=Z,73nm,1.0s
ZST Bratislava 79.50 356 *e*P **P** **20 30 13.3 +1.8**
KBL Kabul 79.50 314 P **P** **20 30 11.3 -0.9**
KBL IAmb IAmb 20 30 13.2
comp=Z,29nm,1.2s
CLF Chambon-Foret 79.55 6 P **P** **20 30 12.5 +0.7**
ECH Echery 79.58 2 P **P** **20 30 12.3 +0.3**
ECH IAmb IAmb 20 30 13.9
comp=Z,20nm,1.0s
PSZ Piszkesteto 79.61 354 ⇑P **P** **20 30 14.3 +2.0**
PSZ Piszkesteto 79.61 354 ⇑P **P** **20 30 14.3 +2.0**
PSZ Piszkesteto 79.61 354 P **P** **20 30 12.9 +0.6**
PSZ IAmb IAmb 20 30 15.3
comp=Z,23nm,1.2s
FUR Furstenfeldbru 79.67 360 *e*P **P** **20 30 13.7 +1.2**
comp=Z,30nm,1.2s,baz=0.3,slow=5.7
CONA Conrad Observa 79.81 356 *i* P **P** **20 30 14.6 +1.2**
comp=Z,29nm,1.1s,SNR=13
SDDR Presa de Saban 79.89 72 P **P** **20 30 14.3 +0.1**
SDDR IAmb IAmb 20 30 30.7
comp=Z,11nm,1.0s
GROC Groznyy 79.94 335 *e*P **P** **20 30 14.1 0.0**
GROC *e* 20 30 21.8
GROC *e* 20 33 16.3
GROC pmax pmax
comp=Z,18nm,1.3s
MOA Molln 79.94 358 *i* P **P** **20 30 14.9 +0.9**
comp=Z,10.0nm,1.4s
KIV Kislovodsk 80.01 337 ⇑P **P** **20 30 16.2 +1.7**
KIV Kislovodsk 80.01 337 *e*P **P** **20 30 14.9 +0.4**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV MLR MLR
comp=Z,221nm,19.0s
KIV Kislovodsk 80.01 337 P **P** **20 30 15.0 +0.4**
KIV IAmb IAmb 20 30 17.1
comp=Z,22nm,1.2s
BIZ Bicaz 80.03 349 ⇑P **P** **20 30 14.8 +0.4**
SLE Schleitheim 80.06 2 *e*P **P** **20 30 15.3 +0.6**
baz=0.3,slow=5.7
ARCR ARCALIA 80.07 351 ⇑P **P** **20 30 16.6 +1.9**
RJOB Jochberg 80.09 359 *e*P **P** **20 30 15.9 +1.1**
comp=Z,43nm,0.9s,baz=0.3,slow=5.7
UBR Ueberruh 80.16 0 *e*P **P** **20 30 16.6 +1.3**
comp=Z,23nm,1.3s,baz=0.3,slow=5.7
KBZ Khabaz 80.17 337 P **P** **20 30 16.6 +1.3**
comp=Z,7.6nm,0.9s,baz=152,slow=1.3,SNR=16
KBZ LR LR 21 10 59.1
comp=Z,98nm,18.8s,baz=28,slow=40
KBZ Khabaz 80.17 337 *ce*P **P** **20 30 15.8 +0.5**
KBZ pmax pmax
comp=Z,11nm,1.0s
SHA1 Shidzhatmaz 80.22 337 *i* P **P** **20 30 16.7 +0.8**
NCK Nalchik 80.23 336 *i* P **P** **20 30 16.2 +0.6**
NCK pmax pmax
comp=Z,34nm,1.1s
SULZ Cheisacher 80.29 2 *e*P **P** **20 30 16.4 +0.5**
baz=0.3,slow=5.7
RETA Reutte 80.35 360 *i* P **P** **20 30 17.3 +1.0**
comp=Z,18nm,1.3s,SNR=6.2
WILA Wila 80.41 1 *e*P **P** **20 30 17.5 +0.9**
baz=0.3,slow=5.7
BALST Balsthal 80.47 2 *e*P **P** **20 30 17.7 +0.7**
baz=0.3,slow=5.7
MOTA Moosalm 80.49 360 *i* P **P** **20 30 18.1 +1.0**
comp=Z,33nm,1.3s,SNR=14
WATA Walderalm 80.50 359 *i* P **P** **20 30 18.3 +1.1**
comp=Z,22nm,1.0s,SNR=12
ARSA Arzberg 80.50 357 *i* P **P** **20 30 18.3 +1.3**
comp=Z,21nm,1.2s,SNR=8.7
DRGR 80.52 352 ⇑P **P** **20 30 17.1 -0.1**
DRGR 80.52 352 ⇑P **P** **20 30 17.1 -0.1**
DAVA Damuels 80.55 1 *i* P **P** **20 30 19.2 +1.7**
comp=Z,10.0nm,1.0s
WTTA Wattenberg 80.57 359 *i* P **P** **20 30 18.8 +1.2**
comp=Z,16nm,0.8s,SNR=11
SQTA Sankt Quirin 80.62 360 *i* P **P** **20 30 18.9 +1.1**
comp=Z,29nm,1.0s,SNR=17
KBA Koelnbreinsper 80.74 358 *i* P **P** **20 30 20.0 +1.5**
comp=Z,55nm,1.1s,SNR=26
PLONS Plons/SG 80.78 1 *e*P **P** **20 30 19.5 +0.9**
baz=0.3,slow=5.7
ZEI Tsey 80.82 336 *e*P **P** **20 30 19.0 0.0**
ZEI pmax pmax
comp=Z,11nm,1.4s
FETA Feichten 80.82 360 *i* P **P** **20 30 20.1 +1.2**
comp=Z,30nm,1.0s,SNR=17
OZUR 80.90 349 ⇑P **P** **20 30 19.7 +0.5**
GEYT Alibeck 80.92 324 P **P** **20 30 20.5 +1.0**
comp=Z,9.1nm,0.8s,baz=328,slow=5.3,SNR=17
GEYT Alibeck 80.92 324 P **P** **20 30 19.5 0.0**
GYA0B ALIBECK ARRAY 80.92 324 P **P** **20 30 19.8 +0.3**
GYA0B IAmb IAmb 20 30 21.8
comp=Z,13nm,0.8s
VRI Vrincioaia 81.01 349 ⇑P **P** **20 30 20.8 +1.0**
VRI Vrincioaia 81.01 349 ⇑P **P** **20 30 20.8 +1.0**
AKT Akhty 81.03 333 *e*P **P** **20 30 20.3 +0.2**
AKT *e* 20 30 26.5
AKT pmax pmax
comp=Z,42nm,1.1s
SBUM Sibu 81.06 262 P **P** **20 30 20.5 0.0**
SBUM IAmb IAmb 20 30 22.5
comp=Z,18nm,1.5s
DOPR Dopca 81.07 350 ⇑P **P** **20 30 20.8 +0.7**

ABTA	**Abfaltersbach**	**81.08**	**359**	*i* P		**P**	**20 30 21.1 +0.9**			
	comp=Z,20nm,1.0s,SNR=10									
SOKA	**Soboth**	**81.09**	**357**	*i* P		**P**	**20 30 21.3 +1.0**			
	comp=Z,40nm,1.1s,SNR=25									
SIRR	**Siria**	**81.13**	**352**	⇑P		**P**	**20 30 20.8 +0.4**			
PERS	**Pernice**	**81.13**	**357**	*i* P		**P**	**20 30 21.5 +1.0**			
MYKA	**Terra Mystica**	**81.18**	**358**	*i* P		**P**	**20 30 21.2 +0.5**			
	comp=Z,9.1nm,1.3s									
ZOU	**Zoufplan**	**81.26**	**358**	P		**P**	**20 30 21.6 +0.3**			
ZOU				IAmb		IAmb	20 30 23.8			
	comp=Z,9.4nm,0.8s									
OBKA	**Obir**	**81.28**	**357**	*i* P		**P**	**20 30 22.2 +1.0**			
	comp=Z,19nm,0.9s,SNR=6.7									
GROS	**Grobnik**	**81.29**	**357**	*i* P		**P**	**20 30 22.1 +0.8**			
BISRR	**Bisoca**	**81.33**	**349**	⇑P		**P**	**20 30 22.8 +1.2**			
TUE	**Stuetta**	**81.36**	**1**	P		**P**	**20 30 22.7 +0.8**			
TUE				IAmb		IAmb	20 30 25.8			
	comp=Z,24nm,1.0s									
MORH	**Mrgy, Hungar**	**81.39**	**354**	⇑P		**P**	**20 30 22.7 +0.9**			
TLCR		**81.42**	**347**	⇑P		**P**	**20 30 22.1 +0.2**			
TLCR		**81.42**	**347**	⇑P		**P**	**20 30 22.1 +0.2**			
MLR	**Muntele Rosu**	**81.48**	**349**	⇑P		**P**	**20 30 23.9 +1.5**			
MLR	**Muntele Rosu**	**81.48**	**349**	⇑P		**P**	**20 30 23.9 +1.5**			
MLR	**Muntele Rosu**	**81.48**	**349**	P		**P**	**20 30 23.0 +0.6**			
CFR	**Carcaliu**	**81.52**	**348**	⇑P		**P**	**20 30 22.5 +0.1**			
CFR	**Carcaliu**	**81.52**	**348**	⇑P		**P**	**20 30 22.5 +0.1**			
CADS	**Cadrg**	**81.58**	**358**	*i* P		**P**	**20 30 23.0 +0.2**			
VOIR		**81.63**	**350**	⇑P		**P**	**20 30 24.4 +1.3**			
VOIR		**81.63**	**350**	⇑P		**P**	**20 30 24.4 +1.3**			
ARR	**Arges**	**81.74**	**350**	⇑P		**P**	**20 30 25.2 +1.5**			
BZS	**Buzias**	**81.78**	**352**	⇑P		**P**	**20 30 24.0 +0.2**			
BZS	**Buzias**	**81.78**	**352**	⇑P		**P**	**20 30 24.0 +0.2**			
CTI	**Castel Tesino**	**81.79**	**359**	P		**P**	**20 30 24.1 +0.1**			
CTI				IAmb		IAmb	20 30 26.7			
	comp=Z,14nm,1.1s									
TPGR	**Topolog**	**81.79**	**347**	⇑P		**P**	**20 30 23.8 -0.2**			
GZR	**Gura Zlata**	**81.90**	**351**	⇑P		**P**	**20 30 25.0 +0.4**			
GZR	**Gura Zlata**	**81.90**	**351**	⇑P		**P**	**20 30 25.0 +0.4**			
HARR	**Harsova**	**82.02**	**348**	⇑P		**P**	**20 30 26.1 +1.0**			
HARR	**Harsova**	**82.02**	**348**	⇑P		**P**	**20 30 26.1 +1.0**			
TIRR	**Tirgusor**	**82.19**	**347**	⇑P		**P**	**20 30 25.5 -0.5**			
TIRR	**Tirgusor**	**82.19**	**347**	⇑P		**P**	**20 30 25.5 -0.5**			
AKH	**Akhalkalaki**	**82.22**	**336**	⇑P		**P**	**20 30 27.6 +1.2**			
SALO	**Salr**	**82.22**	**0**	P		**P**	**20 30 26.3 +0.1**			
FRGS	**Fruska Gora**	**82.37**	**354**	⇑P		**P**	**20 30 27.3 +0.3**			
SSB	**Saint Sauveur**	**82.42**	**4**	P		**P**	**20 30 27.8 +0.5**			
SSB				IAmb		IAmb	20 30 30.0			
	comp=Z,16nm,1.0s									
TEOL	**Teolo**	**82.48**	**359**	P		**P**	**20 30 28.1 +0.6**			
HRA	**Herat**	**82.48**	**319**	P		**P**	**20 30 27.8 -0.1**			
BNI	**Bardonecchia**	**82.73**	**3**	P		**P**	**20 30 29.4 +0.5**			
COPA	**Copaceanca**	**82.90**	**350**	⇑P		**P**	**20 30 29.5 -0.2**			
DIVS	**Divibare**	**83.41**	**353**	P		**P**	**20 30 32.6 +0.1**			
DIVS				IAmb		IAmb	20 30 33.7			
	comp=Z,8.1nm,1.0s									
ZCCA	**Zocca**	**83.49**	**360**	P		**P**	**20 30 33.2 +0.4**			
KTUT	**Trabzon**	**83.50**	**338**	⇑P		**P**	**20 30 34.4 +1.6**			
MSSA	**Maissana**	**83.52**	**1**	P		**P**	**20 30 33.0 0.0**			
MSSA				IAmb		IAmb	20 30 34.4			
	comp=Z,9.7nm,0.8s									
PLVB	**Pleven**	**83.70**	**350**	⇑P		**P**	**20 30 34.2 +0.3**			
DIKM	**Dikmen**	**83.81**	**342**	⇑P		**P**	**20 30 35.0 +0.6**			
OSSC	**Osservatorio P**	**84.31**	**360**	P		**P**	**20 30 37.2 +0.2**			
BATI	**Baumata**	**84.55**	**246**	P		**P**	**20 30 37.5 -0.9**			
	comp=Z,22nm,0.6s,baz=0.0,slow=1.0,SNR=2.9									
MURB	**Monte Urbino**	**84.56**	**359**	P		**P**	**20 30 39.0 +0.7**			
VTS	**Vitosha**	**84.60**	**351**	⇑P		**P**	**20 30 39.3 +0.6**			
VTS	**Vitosha**	**84.60**	**351**	⇑P		**P**	**20 30 39.3 +0.6**			
VTS	**Vitosha**	**84.60**	**351**	P		**P**	**20 30 38.1 -0.6**			
PBRG	**Braganca**	**84.83**	**13**	*eP*		**P**	**20 30 40.5 +0.8**			
	comp=Z,34nm,1.6s									
NRCA	**Norcia**	**84.98**	**358**	P		**P**	**20 30 41.3 +0.9**			
PDG	**Podgorica**	**85.12**	**354**	⇑P		**P**	**20 30 40.7 -0.3**			
PDG	**Podgorica**	**85.12**	**354**	P		**P**	**20 30 40.8 -0.3**			
LATE	**Laterza**	**85.22**	**359**	P		**P**	**20 30 41.7 +0.1**			
AQU	**L'Aquila**	**85.46**	**358**	P		**P**	**20 30 43.7 +0.9**			
MDUB	**Mudurnu**	**85.67**	**344**	P		**P**	**20 30 44.5 +0.5**			
INTR	**Introdacqua**	**85.79**	**358**	P		**P**	**20 30 45.2 +0.7**			
KULM	**Kulim**	**85.88**	**273**	P		**P**	**20 30 45.6 +0.4**			
KULM				IAmb		IAmb	20 30 47.4			
	comp=Z,18nm,1.1s									
BRTR	**Keskin Array B**	**85.98**	**342**	P		**P**	**20 30 46.0 +0.4**			
	comp=Z,4.0nm,1.0s,baz=11,slow=1.3,SNR=12									
BRTR	**Keskin Array B**	**85.98**	**342**	*i* P		**P**	**20 30 46.2 +0.6**			
BRTR				pmax		pmax				
	comp=Z,2.0nm,0.5s									
BRTR	**Keskin Array B**	**85.98**	**342**	P		**P**	**20 30 45.9 +0.3**			
IPM	**Ipoh**	**86.29**	**272**	P		**P**	**20 30 47.3 +0.1**			
IPM				IAmb		IAmb	20 30 48.9			
	comp=Z,20nm,1.1s									
PCBR	**Castelo Branco**	**86.65**	**14**	*eP*		**P**	**20 30 49.1 +0.4**			
	comp=Z,41nm,1.6s									
MARD	**Mardin**	**86.76**	**336**	P		**P**	**20 30 49.9 +0.5**			
PMRV	**Marv??o**	**87.06**	**14**	*eP*		**P**	**20 30 52.0 +1.3**			
	comp=Z,37nm,1.5s									
WR0	**Warramunga Arr**	**87.07**	**231**	P		**P**	**20 30 49.6 -1.2**			
WR0				IAmb		IAmb	20 31 06.2			
	comp=Z,8.6nm,1.1s									
WRA	**Warramunga Arr**	**87.15**	**232**	P		**P**	**20 30 50.0 -1.2**			
	comp=Z,3.4nm,0.9s,baz=37,slow=5.9,SNR=9.8									
ESBB	**Sonseca Array**	**87.28**	**11**	P		**P**	**20 30 52.0 +0.2**			
ESDC	**Sonseca Array**	**87.28**	**11**	P		**P**	**20 30 52.2 +0.4**			
	comp=Z,12nm,0.8s,baz=346,slow=4.7,SNR=50									
ESDC				LR		LR	21 14 06.4			
	comp=Z,38nm,18.1s,baz=5.0,slow=38									
ESDC	**Sonseca Array**	**87.28**	**11**	P		**P**	**20 30 52.1 +0.2**			
PESTR	**Estremoz**	**87.58**	**14**	*eP*		**P**	**20 30 53.8 +0.5**			
	comp=Z,32nm,1.7s									
EVO	**Evora**	**87.85**	**15**	*eP*		**P**	**20 30 54.9 +0.4**			
	comp=Z,30nm,1.7s									
PBAR	**Barrancos**	**88.35**	**14**	*eP*		**P**	**20 30 57.0 +0.1**			
	comp=Z,53nm,1.5s									
PCVE	**Castro Verde**	**88.73**	**15**	*eP*		**P**	**20 30 58.9 +0.2**			
	comp=Z,43nm,1.8s									
RPSI	**Rantau Prapat**	**88.97**	**273**	P		**P**	**20 30 59.9 -0.2**			
PVAQ	**Vaqueiros**	**89.00**	**15**	*eP*		**P**	**20 30 59.5 -0.5**			
	comp=Z,42nm,1.5s									
HYB	**Hyderabad**	**89.11**	**298**	*i* P		**P**	**20 31 01.0 +0.2**			
AS31	**Alice Springs**	**90.54**	**230**	P		**P**	**20 31 07.2 0.0**			
ASAR	**Alice Springs**	**90.54**	**230**	P		**P**	**20 31 06.8 -0.3**			
	comp=Z,11nm,1.1s,baz=28,slow=4.3,SNR=41									
ASAR	**Alice Springs**	**90.54**	**230**	P		**P**	**20 31 07.0 -0.2**			
CSS	**Mathiatis**	**90.65**	**342**	P		**P**	**20 31 07.9 +0.2**			
CSS				IAmb		IAmb	20 31 09.8			
	comp=Z,16nm,1.1s									
POO	**Poona**	**90.67**	**302**	*eP*		**P**	**20 31 04.0 -4.1**			
GSI	**Gunungsitoli**	**90.89**	**273**	P		**P**	**20 31 09.1 0.0**			
	comp=Z,11nm,1.8s									
STKA	**Stephens Creek**	**94.36**	**220**	LR		LR	21 09 08.1			
	comp=Z,150nm,20.2s,baz=14,slow=32									
RAYN	**Ar Rayn**	**98.41**	**328**	P		**P**	**20 31 43.0 -0.4**			
TORD	**Torodi Ar. Bea**	**114.12**	**10**	PKP		**PKiKP**	**20 36 43.5 -1.2**			
	comp=Z,0.6nm,0.6s,baz=8.9,slow=1.8,SNR=2.8									
TORD				PP		**PP**	**20 37 35.5 -2.9**			
	comp=Z,0.8nm,0.9s,baz=339,slow=7.7,SNR=4.2									
DBIC	**Dimbokro**	**119.55**	**18**	PKP		**PKPdf**	**20 36 54.7 -0.4**			
	comp=Z,2.5nm,0.5s,baz=164,slow=3.1,SNR=4.2									
KMBO	**Kilima Mbogo**	**124.18**	**327**	PKP		**PKPdf**	**20 37 02.4 -2.0**			
	comp=Z,0.6nm,0.3s,baz=57,slow=8.0,SNR=3.6									
PLCA	**Paso Flores**	**125.81**	**112**	PKP		**PKPdf**	**20 37 05.9 -0.4**			
	comp=Z,2.2nm,1.0s,baz=278,slow=5.3,SNR=3.2									
QSPA	**South Pole Qui**	**142.30**	**180**			PKPpre	20 37 30.4			
TSUM	**Tsumeb**	**146.30**	**348**			**PKPbc**	**20 37 46.1 +0.1**			
BOSA	**Boshof**	**153.77**	**330**	PKP		**PKPdf**	**20 37 56.5 +0.2**			
	comp=Z,5.9nm,1.1s,baz=76,slow=8.9,SNR=3.2									
BOSA				PKPbc		**PKPbc**	**20 38 04.0 -0.2**			
	comp=Z,3.0nm,0.6s,baz=16,slow=3.1,SNR=7.8									
BOSA	**Boshof**	**153.77**	**330**			**PKiKP**	**20 38 04.5 +0.2**			

NEIC ***23*** *20:25:02.2±2.1, 52.46N±0.05×169.11W±0.05, h25km±12km, Error ellipse: s-maj=8.6km s-min=3.0km az=154.0*

AEIC 23 20:25:01±2.2, 52.42N±0.05×169.09W±0.03, h26km±8km, ML2.8, mb3.7/2(NEIC), Error ellipse: s-maj=7.7km s-min=2.2km az=175.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.57**	**14**		Pn	20 25 13.6	+0.2
NIKH					Sn	20 25 22.1	+0.1
OKSP	**Okmok Steeple**	**0.96**	**30**		Pb	20 25 19.1	+0.1
OKSP					Sn	20 25 31.8	0.0
OKER	**Okmok East Rim**	**1.21**	**31**		Pb	20 25 23.6	+0.4
MAPS	**Pakushin South**	**1.90**	**42**		Pn	20 25 32.8	+1.1
MAPS					Sn	20 25 55.7	+0.9
MGOD	**Makushin Gods**	**1.92**	**43**		Pn	20 25 32.7	+0.7
MREP	**Makushin Rep't**	**1.98**	**45**		Pn	20 25 34.0	+1.1
MSW	**Makushin Switc**	**2.04**	**42**		Pn	20 25 35.2	+1.5
MSW					Sb	20 26 02.2	0.0
MNAT	**Makushin Natee**	**2.06**	**44**		Pn	20 25 35.6	+1.6
MTBL	**Makushin Table**	**2.12**	**42**		Pn	20 25 36.7	+1.8
AKBBA	**Akutan Broad B**	**2.53**	**47**		Pn	20 25 42.4	+1.9
AKBBA					Sn	20 26 13.1	+2.7
AKUT	**Akutan**	**2.63**	**48**	Pn	Pn	20 25 43.7	+2.0
ATKA	**Atka Island**	**3.14**	**268**	Pn	Pn	20 25 49.8	+1.0
ADK	**Adak**	**4.71**	**266**	Pn	Pn	20 26 11.4	+1.1
SPIA	**Saint Paul Isl**	**4.81**	**352**	Pn	Pn	20 26 12.4	+0.8
CHGN	**Chignik**	**7.34**	**54**	Pn	Pn	20 26 46.1	-0.4
HIN	**Hinchinbrook I**	**14.77**	**48**		Pn	20 28 28.3	+0.3
FID	**Port Fidalgo**	**14.92**	**47**	Pn	Pn	20 28 28.8	-1.1
SCM	**Sheep Creek Mo**	**15.04**	**43**	Pn	Pn	20 28 31.5	-0.1
KLU	**Klutina**	**15.47**	**45**	Pn	Pn	20 28 37.0	-0.4
KLU				IAmb	IAmb	20 29 04.5	
	comp=Z,7.1nm,1.4s						

IDC ***23*** *20:35:14.8±2.3, 21.17S×178.50W, h573km±21km, mb3.3/10, mb1 3.4/12, mb1mx3.1/42, mbtmp4.2/12, Error ellipse: s-maj=32.3km s-min=21.1km az=130.0*

ISC 23 20:35:15.4±1.3, 21.2S±0.2×178.6W±0.2, h579km, n14, σ0s67/14, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.69**	**316**	P	**P**	**20 36 44.3**	**-0.4**
	4.6nm,0.3s,baz=152,slow=7.2,SNR=12						
URZ	**Urewera**	**17.44**	**191**	P	**P**	**20 38 45.9**	**-0.7**
	0.7nm,0.3s,baz=124,slow=23,SNR=2.2						
CTA	**Charters Tower**	**32.92**	**265**	P	**P**	**20 41 03.4**	**+0.1**
	1.8nm,0.3s,baz=121,slow=7.7,SNR=5.2						
STKA	**Stephens Creek**	**37.04**	**245**	P	**P**	**20 41 37.6**	**+0.4**
	1.4nm,0.5s,baz=93,slow=9.2,SNR=3.3						
JAY	**Jayapura**	**43.77**	**290**	P	**P**	**20 42 30.2**	**-0.9**
	5.2nm,0.5s,baz=179,slow=9.0,SNR=5.1						
ASAR	**Alice Springs**	**43.87**	**257**	P	**P**	**20 42 31.9**	**+0.2**
	3.7nm,0.7s,baz=89,slow=8.8,SNR=30						
ASAR				PcP	**PcP**	**20 44 05.0**	**-0.1**
	0.7nm,0.8s,baz=89,slow=6.1,SNR=4.4						
WRA	**Warramunga Arr**	**44.00**	**263**	P	**P**	**20 42 32.5**	**-0.3**
	1.0nm,0.3s,baz=96,slow=7.5,SNR=10						
FITZ	**Fitzroy Crossi**	**52.43**	**263**	P	**P**	**20 43 35.6**	**+0.2**
	1.0nm,0.6s,baz=112,slow=5.4,SNR=1.2						
SIJI	**Sorong**	**52.92**	**286**	P	**P**	**20 43 38.6**	**-0.2**
	9.3nm,0.8s,baz=89,slow=9.4,SNR=4.8						
SEY	**Seymchan**	**86.91**	**347**	P	**P**	**20 46 59.0**	**+0.1**
	0.3nm,0.3s,baz=79,slow=23,SNR=5.9						
ILAR	**Eielson Array**	**89.08**	**13**	P	**P**	**20 47 08.8**	**-0.3**
	0.5nm,0.7s,baz=229,slow=7.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**89.85**	**290**	P	**P**	**20 47 15.4**	**+1.7**
	0.7nm,0.7s,baz=117,slow=5.0,SNR=4.7						
AKASG	**Malin Array Be**	**143.34**	**330**	PKP	PKPab	20 53 42.1	-0.6
	1.1nm,0.4s,baz=43,slow=4.4,SNR=5.9						
GERES	**GERESS Array B**	**150.70**	**343**	PKPbc	**PKPbc**	**20 54 02.9**	**+0.1**
	0.6nm,0.7s,baz=353,slow=4.9,SNR=4.6						

IDC ***23*** *20:37:50.1±5.8, 20.15S×177.79W, h581km±37km, mb3.1/5, mb1 3.2/7, mb1mx2.9/36, mbtmp4.1/7, Error ellipse: s-maj=117.5km s-min=69.2km az=142.0*

ISC 23 20:37:51.2±4.3, 19.7S±0.4×177.9W±0.5, h600km, n7, σ0s85/8, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.35**	**297**	P	**P**	**20 39 18.9**	**-0.4**
	5.9nm,0.3s,baz=110,slow=17,SNR=18						
DZM	**Mont Dzumac**	**14.84**	**258**	P	**P**	**20 40 59.0**	**+0.9**
	0.3nm,0.3s,baz=97,slow=22,SNR=2.0						
CTA	**Charters Tower**	**33.70**	**263**	P	**P**	**20 43 44.0**	**-0.5**
	1.3nm,0.2s,baz=100,slow=15,SNR=4.4						
STKA	**Stephens Creek**	**38.24**	**243**	P	**P**	**20 44 20.5**	**-1.1**
	1.1nm,0.5s,baz=106,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**44.82**	**256**	P	**P**	**20 45 13.4**	**-0.1**
	3.0nm,0.6s,baz=94,slow=7.6,SNR=31						
ASAR				PcP	**PcP**	**20 46 42.5**	**+0.3**
	0.2nm,0.5s,baz=90,slow=4.6,SNR=2.0						
WRA	**Warramunga Arr**	**44.83**	**261**	P	**P**	**20 45 13.5**	**-0.1**
	1.3nm,0.3s,baz=98,slow=8.1,SNR=12						
FITZ	**Fitzroy Crossi**	**53.25**	**262**	P	**P**	**20 46 16.6**	**+1.1**
	1.0nm,0.7s,baz=97,slow=8.1,SNR=1.0						

NEIC ***23*** *20:57:24.8±1.6, 4.75N±0.2×62.74E±0.1, h12km±5km, mb4.7/60, Error ellipse: s-maj=23.9km s-min=14.8km az=205.0*

IDC ***23*** *20:57:25.1±0.5, 4.72N×62.32E, h0km, mb4.3/28, mb1 4.3/30, mb1mx4.2/49, mbtmp4.3/30, ML3.4/2, MS3.8/18, Ms1 3.8/18, ms1mx3.6/38, Error ellipse: s-maj=14.2km s-min=12.7km az=142.0*

ISC 23 20:57:25.7±4.3, 4.61N±0.07×62.46E±0.06, h9km±26km, n240, σ1s56/238, mb4.6/86, MS3.7/18, 14C-15D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**11.26**	**313**	Pn	**Pn**	**21 00 08.7**	**+1.6**
SOCY	**Socotra**	**11.26**	**313**	P	**Pn**	**21 00 11.0**	**+4.0**
SHAO	**Shalim**	**14.92**	**334**	P	**Pn**	**21 00 57.2**	**+0.2**
SHAO	**Shalim**	**14.92**	**334**	S	S	21 04 12.0	+11
SHAO	**Shalim**	**14.92**	**334**	P	**Pn**	**21 00 57.0**	**0.0**
DMTO	**DMTO**	**14.96**	**331**	S	**Sn**	**21 03 43.0**	**-0.8**
DMTO	**DMTO**	**14.96**	**331**	P	**Pn**	**21 00 58.3**	**+0.8**
ABTO	**Aybut**	**15.53**	**325**	S	**Sn**	**21 03 56.0**	**-1.4**
ABTO	**Aybut**	**15.53**	**325**	P	**Pn**	**21 01 06.3**	**+1.2**
WHFO	**Wadi Hawf**	**15.73**	**328**	S	**S**	**21 04 26.3**	**+9.0**
WHFO	**Wadi Hawf**	**15.73**	**328**	P	**Pn**	**21 01 08.1**	**+0.4**
	SNR=5.8						
DQM	**DQM**	**15.97**	**343**	P	**P**	**21 01 12.8**	**-1.5**
DOK	**Doka**	**16.13**	**330**	P	**Pn**	**21 01 12.2**	**-0.6**
MHTO	**MHTO**	**16.86**	**345**	P	**Pn**	**21 01 20.9**	**-1.2**
	SNR=18						
JLN	**Jalan Bani Buh**	**17.69**	**351**	P	**Pn**	**21 01 30.7**	**-1.8**
	SNR=6.4						
PALK	**Pallekele**	**18.34**	**81**	P	**P**	**21 01 42.7**	**+2.0**
	0.1nm,0.3s,baz=14,slow=12,SNR=1.7						
PALK				LR	LR	21 07 17.2	
	comp=Z,676nm,19.3s,baz=5.7,slow=32						
WSAR	**Wadi Sarin**	**18.89**	**349**	P	**P**	**21 01 45.6**	**-1.0**
	0.1nm,0.3s,baz=173,slow=13,SNR=2.3						
WSAR				LR	LR	21 07 40.6	
	comp=Z,280nm,19.3s,baz=140,slow=33						
MDRS	**Chennai**	**19.47**	**63**	*eP*	**Pn**	**21 01 55.7**	**+1.4**
HOQ	**Hoqain**	**19.51**	**346**	P	**Pn**	**21 01 54.8**	**+0.1**
HOQ				P	**Pn**	**21 01 54.8**	**+0.1**
SOHO	**SOHO**	**20.24**	**344**	P	**P**	**21 02 01.3**	**0.0**
HYB	**Hyderabad**	**20.27**	**50**	*i* P	Pn	21 02 04.0	+0.3
HYB	**Hyderabad**	**20.27**	**50**	*eP*	Pn	21 02 03.5	-0.2
ALNE	**Al Ain**	**20.39**	**342**	*i* P	**P**	**21 02 03.4**	**+0.3**
	SNR=6.2						
ATD	**Arta Tunnel**	**20.59**	**291**	LR	LR	21 09 06.0	
	comp=Z,209nm,18.4s,baz=118,slow=34						
ASHO	**Ashiyiah**	**20.89**	**343**	P	**P**	**21 02 08.0**	**-0.5**
HATD	**Hatta, Dubai**	**21.00**	**344**	*i* P	**P**	**21 02 10.0**	**+0.3**
	SNR=5.1						
ASUD	**Al Ashush, Dub**	**21.05**	**342**	P	**P**	**21 02 10.7**	**+0.5**
FAQ	**Al Faga, Dubai**	**21.09**	**342**	*i* P	**P**	**21 02 13.4**	**+2.9**
	SNR=5.8						
UOSS	**Minazif**	**21.10**	**344**	P	**P**	**21 02 10.6**	**-0.1**
UOSS	**Minazif**	**21.10**	**344**		**P**	**21 02 10.5**	**-0.2**
UOSS				IAmb	IAmb	21 02 14.1	
	comp=Z,65nm,1.3s						
MDH	**Madha**	**21.41**	**345**	P	**P**	**21 02 17.6**	**+3.6**
MSFE	**Esma-Masafi**	**21.50**	**344**	P	**P**	**21 02 18.6**	**+3.5**
SLWR	**Sila**	**21.96**	**333**	P	**P**	**21 02 22.4**	**+2.5**
BANOM	**Banah**	**22.00**	**345**	P	**P**	**21 02 21.8**	**+1.4**
BANOM	**Banah**	**22.00**	**345**	P	**P**	**21 02 22.4**	**+2.0**
SHME	**Shamm**	**22.17**	**345**	P	**P**	**21 02 24.2**	**+2.1**
SHME	**Shamm**	**22.17**	**345**	P	**P**	**21 02 24.6**	**+2.4**
JRN	**Qarnain Island**	**22.23**	**336**	P	**P**	**21 02 25.5**	**+2.7**
BHPL	**Bhopal**	**23.50**	**37**	*eP*	**P**	**21 02 36.6**	**+0.5**
BHPL				IAmb	IAmb	21 02 43.1	
	comp=Z,18nm,1.1s						
RAYN	**Ar Rayn**	**24.93**	**321**	*i* P	**P**	**21 02 48.8**	**-0.6**
	SNR=12						
RAYN	**Ar Rayn**	**24.93**	**321**	P	**P**	**21 02 48.8**	**-0.6**
KMBO	**Kilima Mbogo**	**25.82**	**258**	P	**P**	**21 02 58.9**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=56,slow=12,SNR=15						
KMBO				LR	LR	21 11 53.8	
	comp=Z,335nm,21.2s,baz=92,slow=34						
LODK	**Lodwar**	**27.05**	**269**	P	**P**	**21 03 12.4**	**+3.6**
	SNR=5.1						
BOK	**Bokaro**	**29.57**	**48**	*eP*	**P**	**21 03 33.3**	**+2.1**
HRA	**Herat**	**29.63**	**360**	P	**P**	**21 03 32.0**	**+0.1**
DHRM	**DHARAMSHALA**	**30.41**	**24**	*eP*	**P**	**21 03 40.1**	**+1.4**
DHRM				IAmb	IAmb	21 03 46.0	
	comp=Z,42nm,1.5s						
KBL	**Kabul**	**30.41**	**11**	P	**P**	**21 03 39.3**	**+0.6**
KBL	**Kabul**	**30.41**	**11**	P	**P**	**21 03 41.5**	**+2.9**
	SNR=5.9						
KBL				P	**P**	**21 03 41.5**	**+2.9**
	SNR=5.9						
NIL	**Nilore**	**30.60**	**18**	P	**P**	**21 03 41.0**	**+0.9**
NIL				IAmb	IAmb	21 03 43.3	
	comp=Z,15nm,0.9s						
GKN	**Gorkha**	**31.41**	**40**	*eP*	**P**	**21 03 49.2**	**+1.6**
	comp=Z,36nm,1.3s						
DMN	**Daman**	**31.45**	**41**	*eP*	**P**	**21 03 49.7**	**+1.7**
	comp=Z,20nm,0.9s						
PKIN	**Phulchoki**	**31.62**	**41**	*eP*	**P**	**21 03 50.6**	**+1.1**
	comp=Z,18nm,1.1s						
PKI	**Pulchoki**	**31.62**	**41**	*eP*	**P**	**21 03 50.8**	**+1.2**
KKN	**Kakani**	**31.68**	**41**	*eP*	**P**	**21 03 51.5**	**+1.5**
	comp=Z,9.3nm,0.7s						
RAMN	**Ramite**	**32.02**	**44**	*eP*	**P**	**21 03 55.0**	**+2.0**
	comp=Z,12nm,0.5s						
GUN	**Gumba**	**32.16**	**41**	*eP*	**P**	**21 03 56.4**	**+2.1**
	comp=Z,36nm,1.2s						
ODAN	**Odare**	**32.51**	**44**	*eP*	**P**	**21 03 59.4**	**+2.1**
TAPN	**Taplejung**	**33.03**	**44**	*eP*	**P**	**21 04 04.5**	**+2.5**
	comp=Z,17nm,1.1s						
GEYT	**Alibeck**	**33.41**	**354**	P	**P**	**21 04 04.8**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=200,slow=17,SNR=5.5						
GEYT	**ALIBECK**	**33.41**	**354**	P	**P**	**21 04 03.3**	**-1.4**
GYA0B	**ALIBECK ARRAY**	**33.41**	**354**	P	**P**	**21 04 03.1**	**-1.6**
GYA0B				IAmb	IAmb	21 04 14.1	
	comp=Z,9.6nm,1.4s						
SAIH	**SAIHA**	**34.47**	**56**	*eP*	**P**	**21 04 16.9**	**+2.6**
SHL	**Shillong**	**35.08**	**51**	*eP*	**P**	**21 04 22.3**	**+2.7**
SHL				IAmb	IAmb	21 04 27.2	
	comp=Z,7.5nm,1.4s						
SHL	**Shillong**	**35.08**	**51**	P	**P**	**21 04 17.4**	**-2.2**
SHL	**Shillong**	**35.08**	**51**	P	**P**	**21 04 22.6**	**+3.0**
	SNR=5.7						

GTA LR LR
comp=Z,140nm,16.0s
BOSA Boshof 48.69 225 P **P** **21 06 11.3 +0.5**
comp=Z,2.2nm,0.9s,baz=37,slow=11,SNR=2.1
BVAR Borovoye Array 48.71 6 P **P** **21 06 10.1 -0.3**
comp=Z,2.1nm,0.8s,baz=127,slow=8.4,SNR=10
BRVK Borovoye 48.73 6 P **P** **21 06 10.2 -0.4**
BRVK IAmb IAmb 21 06 11.3
comp=Z,6.9nm,0.9s
BELG Belogornoye 49.19 348 P **P** **21 06 14.1 0.0**
comp=Z,8.8nm,0.9s,baz=197,slow=7.2,SNR=3.6
HARR Harsova 50.08 328 ⇓P **P** **21 06 21.0 -0.1**
CFR Carcaliu 50.31 329 ⇓P **P** **21 06 21.2 -1.5**
ENH Enshi 51.11 54 P **P** **21 06 28.9 -0.3**
ENH IAmb IAmb 21 06 30.7
comp=Z,14nm,1.3s
BISRR Bisoca 51.30 328 ⇓P **P** **21 06 32.2 +1.9**
VTS Vitosha 51.40 323 ⇑P **P** **21 06 31.2 -0.1**
VTS Vitosha 51.40 323 P **P** **21 06 30.4 -0.9**
VTS IAmb IAmb 21 06 31.7
comp=Z,8.6nm,0.9s
NEHR Nehoiu 51.44 328 ⇓P **P** **21 06 32.7 +1.4**
VRI Vrincioaia 51.50 329 ⇓P **P** **21 06 32.9 +1.1**
PLOR Plostina 51.53 329 ⇓P **P** **21 06 33.2 +1.2**
HUMR Humele 51.57 326 ⇓P **P** **21 06 32.6 +0.4**
MLR Muntele Rosu 51.67 328 ⇑P **P** **21 06 34.5 +1.3**
MLR Muntele Rosu 51.67 328 P **P** **21 06 32.6 -0.5**
ARU Arti 51.77 357 P **P** **21 06 33.1 -0.4**
comp=Z,2.5nm,0.8s,baz=173,slow=5.1,SNR=12
ARU Arti 51.77 357 P **P** **21 06 32.8 -0.8**
ARU IAmb IAmb 21 06 33.7
comp=Z,10nm,0.9s
TESR Tescani 51.98 329 ⇑P **P** **21 06 35.3 0.0**
XAN Xi'an 52.08 50 P **P** **21 06 37.3 +1.0**
XAN pP pwP 21 06 43.0 +0.4
XAN pmax pmax
comp=Z,14nm,1.3s
XAN pmax pmax
comp=Z,99nm,4.1s
XAN Xi'an 52.08 50 P **P** **21 06 34.6 -1.7**
XAN IAmb IAmb 21 06 38.8
comp=Z,19nm,1.3s
VOIR 52.11 327 ⇑P **P** **21 06 35.9 -0.5**
OZUR 52.15 328 ⇑P **P** **21 06 36.3 -0.3**
DOPR Dopca 52.27 326 ⇓P **P** **21 06 37.6 +0.1**
ARR Arges 52.29 327 ⇓P **P** **21 06 37.3 -0.4**
ZAA0 Zalesovo Array 52.47 16 P **P** **21 06 37.0 -1.8**
ZAA0 IAmb IAmb 21 06 39.1
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 52.47 16 P **P** **21 06 38.3 -0.5**
comp=Z,9.5nm,0.9s,baz=217,slow=7.2,SNR=35
ZALV PcP **PcP** **21 07 48.3 -1.0**
comp=Z,1.0nm,0.8s,baz=235,slow=5.1,SNR=1.1
ZALV LR LR 21 29 51.7
comp=Z,47nm,19.3s,baz=210,slow=37
ZALV Zalesovo Beam 52.47 16 P **P** **21 06 37.3 -1.5**
BIZ Bicaz 52.54 329 ⇑P **P** **21 06 40.3 +0.8**
KMMI Kalianget 52.70 102 P **P** **21 06 40.7 -0.4**
PRAR RASCA 52.76 330 ⇑P **P** **21 06 40.8 -0.4**
LOT Lotru 52.82 326 ⇓P **P** **21 06 40.3 -1.4**
BURAR Bucovina Array 53.44 329 ⇑P **P** **21 06 46.4 +0.2**
BURAR Bucovina Array 53.44 329 P **P** **21 06 44.4 -1.8**
BUR08 Bucovina Ar. S 53.47 329 P **P** **21 06 45.2 -1.3**
BUR08 IAmb IAmb 21 07 01.8
comp=Z,9.1nm,1.2s
ARCR ARCALIA 53.54 328 ⇓P **P** **21 06 47.7 +0.9**
AKASG Malin Array Be 53.72 334 P **P** **21 06 47.2 -0.9**
comp=Z,2.9nm,0.8s,baz=129,slow=6.4,SNR=18
AKASG PcP **PcP** **21 07 53.5 -0.6**
comp=Z,0.1nm,0.2s,baz=114,slow=3.1,SNR=5.3
AKASG LR LR 21 33 03.1
comp=Z,21nm,19.9s,baz=0.0,slow=40
AKASG Malin Array Be 53.72 334 P **P** **21 06 46.5 -1.6**
AKBB Malin Array Si 53.72 334 P **P** **21 06 46.8 -1.3**
BZS Buzias 54.12 325 ⇓P **P** **21 06 50.9 -0.2**
DIVS Divibare 54.19 323 P **P** **21 06 50.0 -1.8**
DIVS IAmb IAmb 21 06 52.3
comp=Z,8.4nm,1.0s
DRGR 54.23 327 ⇓P **P** **21 06 52.1 +0.1**
BMR Baia Mare 54.37 328 ⇑P **P** **21 06 52.7 -0.2**
STON Ston 54.94 321 *i* P **P** **21 07 01.4 +4.4**
CORL Corleone 55.63 314 P **P** **21 07 00.4 -1.9**
KOLS Kolonicke sedl 55.80 329 *e*P **P** **21 07 03.8 +0.6**
HVAR Hvar 55.89 321 *i* P **P** **21 07 03.4 -0.6**
KWP Kalwaria Pacla 56.02 330 P **P** **21 07 03.6 -1.2**
MORH Mrgy, Hungar 56.16 325 ⇓P **P** **21 07 05.3 -0.5**
CRVS Cervenica-Dubn 56.20 329 *e*P **P** **21 07 06.6 +0.5**
KIJV Kijevo 56.33 321 *i* P **P** **21 07 06.8 -0.3**
UDBI Udbina 56.99 322 *i* P **P** **21 07 11.7 -0.2**
SONM Songino Array 57.14 34 P **P** **21 07 13.8 +0.8**
comp=Z,6.7nm,1.0s,baz=226,slow=7.4,SNR=44
SONM Songino Array 57.14 34 P **P** **21 07 13.1 +0.1**
VYHS Vyhne 57.35 327 *e*P **P** **21 07 14.2 -0.1**
LANS Liptovska Anna 57.39 328 *e*P **P** **21 07 14.9 +0.3**
ULN Ulaanbaatar 57.53 34 P **P** **21 07 13.9 -1.9**
OJC Ojcow 57.86 329 P **P** **21 07 16.1 -1.7**
OJC IAmb IAmb 21 07 17.7
comp=Z,5.4nm,0.9s
NRCA Norcia 57.88 319 P **P** **21 07 17.0 -1.2**
NRCA IAmb IAmb 21 07 26.5
comp=Z,14nm,1.2s
JAVC Velka Javorina 58.19 327 *e*P **P** **21 07 20.9 +0.7**
SOKA Soboth 58.52 324 *e*P **P** **21 07 22.2 -0.5**
comp=Z,6.7nm,1.1s
ARSA Arzberg 58.53 324 *e*P **P** **21 07 22.6 0.0**
comp=Z,7.2nm,0.9s
LATE Laterza 58.65 318 P **P** **21 07 21.7 -1.8**
LATE IAmb IAmb 21 07 23.8
comp=Z,6.1nm,1.2s
CONA Conrad Observa 58.69 325 *i* P **P** **21 07 23.3 -0.5**
comp=Z,10nm,1.0s,SNR=7.3
OBKA Obir 58.72 323 *e*P **P** **21 07 23.8 -0.2**
comp=Z,8.8nm,1.0s
MORC Moravsky Berou 58.78 328 ⇑P **P** **21 07 24.3 0.0**
MORC Moravsky Berou 58.78 328 *e*P **P** **21 07 22.9 -1.5**
MORC Moravsky Berou 58.78 328 P **P** **21 07 22.8 -1.5**
TRI Trieste 58.80 322 P **P** **21 07 22.4 -2.1**
KRUC Moravsky 59.00 326 *e*P **P** **21 07 24.7 -1.1**
VRAC Vranov 59.03 327 ⇑P **P** **21 07 26.2 +0.2**
VRAC Vranov 59.03 327 *e*P **P** **21 07 25.0 -1.0**
KRLC Kraliky 59.35 328 *e*P **P** **21 07 27.8 -0.5**
MOA Molln 59.57 324 *e*P **P** **21 07 29.2 -0.6**
comp=Z,13nm,0.9s,SNR=6.5
KBA Koelnbreinsper 59.72 323 *e*P **P** **21 07 30.2 -0.9**
comp=Z,7.7nm,1.2s
DPC Dobruska-Polom 59.75 328 *e*P **P** **21 07 29.8 -1.2**
OSTC Ostas 59.92 328 *e*P **P** **21 07 30.4 -1.8**
ZCCA Zocca 59.94 320 P **P** **21 07 31.3 -1.2**
CHVC Chvalec 60.02 328 *e*P **P** **21 07 32.6 -0.3**
ABTA Abfaltersbach 60.06 323 *e*P **P** **21 07 32.2 -1.2**
comp=Z,6.6nm,1.0s,SNR=4.6
CTI Castel Tesino 60.27 322 P **P** **21 07 32.9 -1.9**
CTI IAmb IAmb 21 07 37.4
comp=Z,8.1nm,1.1s
GOPC GO Pecny, Ondr 60.34 327 *e*P **P** **21 07 33.9 -1.2**
GERES GERESS Array B 60.40 325 P **P** **21 07 34.2 -1.3**
comp=Z,0.9nm,0.9s,baz=104,slow=5.6,SNR=4.5
TOA0 Torodi Ar. Sit 60.51 282 P **P** **21 07 34.8 -2.0**
TORD Torodi Ar. Bea 60.51 282 P **P** **21 07 37.1 +0.4**
comp=Z,4.0nm,1.2s,baz=46,slow=4.3,SNR=10.0
TORD LR LR 21 33 06.5
comp=Z,146nm,19.8s,baz=70,slow=36
PRU Pruhonice 60.52 327 *e*P **P** **21 07 35.5 -0.7**
KHC Kasperske Hory 60.61 325 *e*P **P** **21 07 35.3 -1.7**
KHC Kasperske Hory 60.61 325 P **P** **21 07 34.5 -2.5**
WTTA Wattenberg 60.84 323 *e*P **P** **21 07 37.5 -1.2**
comp=Z,8.3nm,0.9s
WATA Walderalm 60.91 323 *e*P **P** **21 07 37.8 -1.4**
comp=Z,6.4nm,1.0s
SQTA Sankt Quirin 61.08 323 *e*P **P** **21 07 38.9 -1.3**
comp=Z,8.7nm,1.0s
MOTA Moosalm 61.20 323 *e*P **P** **21 07 39.6 -1.5**
comp=Z,11nm,1.0s
FETA Feichten 61.28 322 *e*P **P** **21 07 40.9 -0.8**
comp=Z,3.4nm,0.9s
RETA Reutte 61.47 323 *e*P **P** **21 07 41.7 -1.2**
comp=Z,2.9nm,0.8s
NKC Novy Kostel 61.80 326 *e*P **P** **21 07 44.3 -0.7**
DAVA Damuels 61.91 322 *e*P **P** **21 07 44.7 -1.2**
comp=Z,12nm,1.4s
CLL Collm 62.04 327 ⇑ *i*P **P** **21 07 44.4 -2.1**
comp=Z,46nm,2.0s
CLL Lm MLR 22 59 00.0
comp=Z,100nm,18.0s
CLL Lm MLR 02 48 00.0
comp=N,200nm,19.4s
CLL Lm MLR 02 48 00.0
comp=E,100nm,18.2s
CLL Lm MLR 02 48 00.0
comp=Z,300nm,19.3s
GRA1 Grafenberg Arr 62.23 325 P **P** **21 07 45.5 -2.4**
GRA1 IAmb IAmb 21 07 47.5
comp=Z,6.0nm,0.8s
GRFO Grafenberg 62.23 325 P **P** **21 07 45.7 -2.1**
GRFO IAmb IAmb 21 08 03.3
comp=Z,10nm,1.2s
FINES FINESS Array B 62.90 341 LR LR 21 38 37.6
comp=Z,74nm,18.5s,baz=167,slow=39
SENIN Lac Senin/Sane 63.13 320 P **P** **21 07 52.1 -2.1**
BFO Black Forest 63.31 323 P **P** **21 07 53.2 -1.9**
ECH Echery 63.97 322 P **P** **21 07 58.3 -1.2**
ECH IAmb IAmb 21 08 00.8
comp=Z,7.5nm,1.1s
SSB Saint Sauveur 64.51 318 P **P** **21 08 01.6 -1.6**
SSB IAmb IAmb 21 08 03.2
comp=Z,6.7nm,1.0s
DBIC Dimbokro 66.98 275 P **P** **21 08 19.7 +0.1**
comp=Z,2.4nm,0.7s,baz=135,slow=7.1,SNR=2.5
KSAR Wonju Array Be 67.78 51 P **P** **21 08 23.6 -0.6**
KSRS Korea Array 67.81 51 P **P** **21 08 24.4 0.0**
comp=Z,1.1nm,0.8s,baz=258,slow=6.1,SNR=2.2
KSRS LR LR 21 39 52.9
comp=Z,58nm,18.1s,baz=246,slow=38
NOA NORSAR Array B 68.08 336 LR LR 21 39 40.7
comp=Z,37nm,20.0s,baz=135,slow=37
ESDC Sonseca Array 68.99 311 P **P** **21 08 30.9 -1.0**
comp=Z,4.8nm,0.9s,baz=87,slow=5.2,SNR=20
ESDC Sonseca Array 68.99 311 P **P** **21 08 29.6 -2.3**
ARCES ARCESS Array B 69.22 347 P **P** **21 08 31.8 -0.8**
comp=Z,4.5nm,0.9s,baz=154,slow=6.5,SNR=4.7
ARCES LR LR 21 40 46.9
comp=Z,34nm,18.2s,baz=285,slow=38
WRA Warramunga Arr 74.66 112 P **P** **21 09 08.0 +1.8**
comp=Z,4.3nm,0.7s,baz=296,slow=5.2,SNR=17
WRA Warramunga Arr 74.66 112 P **P** **21 09 05.1 -1.1**
ASAR Alice Springs 74.99 116 P **P** **21 09 09.8 +1.6**
comp=Z,1.6nm,0.6s,baz=285,slow=6.2,SNR=14
ASAR Alice Springs 74.99 116 P **P** **21 09 08.2 +0.1**
MJAR Matsushiro Arr 75.83 54 LR LR 21 46 26.8
comp=Z,32nm,18.3s,baz=250,slow=39
TIXI Tiksi 78.35 17 P **P** **21 09 24.0 -2.1**
TIXI IAmb IAmb 21 09 34.3
comp=Z,7.4nm,1.4s
STKA Stephens Creek 83.23 123 P **P** **21 09 55.8 +2.8**
comp=Z,1.9nm,0.7s,baz=306,slow=6.6,SNR=3.4
MA2 Magadan 85.20 31 P **P** **21 10 01.4 -1.1**
MA2 IAmb IAmb 21 10 03.0
comp=Z,5.8nm,0.9s
BILL Bilibino 90.90 21 P **P** **21 10 28.6 -1.0**
BILL IAmb IAmb 21 10 31.0
comp=Z,5.8nm,1.2s
VNDA Vanda 96.50 168 LR LR 21 47 51.7
comp=Z,104nm,18.5s,baz=293,slow=31
ILAR Eielson Array 107.48 13 PP **PP** **21 16 08.8 -2.6**
comp=Z,0.5nm,0.8s,baz=288,slow=4.4,SNR=5.8
YKA Yellowknife Ar 113.05 359 PP **PP** **21 16 50.2 -1.2**
comp=Z,0.6nm,0.9s,baz=357,slow=6.5,SNR=5.8
TXAR Lajitas Array 143.72 339 PKhKP PKPpre 21 16 58.7
comp=Z,0.9nm,0.9s,baz=56,slow=3.6,SNR=7.2
CMIG Matias Romero 148.92 314 PKPbc **PKPbc** **21 17 13.6 -1.4**
comp=Z,4.2nm,0.9s,baz=136,slow=5.2,SNR=4.8

*ATH **23** 21:17:50.9, 41°.49N×20°.24E, h35km±4km, ML2.5/5, Error ellipse: s-maj=4.6km s-min=1.2km az=295.0*
*SKO **23** 21:17:50.8, 41°.34N×20°.26E, h15km TIR **23** 21:17:51.9, 41°.33N×20°.29E, h3km±1km, Md2.8*
*THE **23** 21:17:53.2, 41°.35N×20°.30E, h2km±1km, ML2.3/4, Error ellipse: s-maj=1.8km s-min=0.8km az=32.0*
*BEO **23** 21:17:53.5±0.6, 41°.28N×20°.27E, h0km±2km, ML2.3/13*
*PDG **23** 21:17:53.4±0.3, 41°.35N×20°.19E, h7km, ML2.8/12, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*

ISC 23 21:17:53.4±0.9, 41°.35N±0°.01×20°.25E±0°.02, h11km±8km, n109, σ1s15/167, 8C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.29**	**271**	P	**Pg**	**21 17 59.0**	**-0.3**
TIR				S	**Sg**	**21 18 04.4**	**+1.2**
TIR				AML	AML	21 18 04.7	
	comp=E,5555μm,0.3s						
TIR				AML	AML	21 18 07.2	
	comp=N,2796μm,0.4s						
TIR	**Tirane**	**0.29**	**271**	P	**Pg**	**21 17 59.0**	**-0.3**
TIR				S	**Sg**	**21 18 03.9**	**+0.8**
	comp=N,828nm,0.3s						
TIR	**Tirane**	**0.29**	**271**	*e*Pg	**Pg**	**21 17 59.0**	**-0.3**
TIR				*e*Sg	**Sg**	**21 18 04.0**	**+0.8**
TIR	**Tirane**	**0.29**	**271**	P	**Pg**	**21 17 59.1**	**-0.2**
	baz=273						
TIR				S	**Sb**	**21 18 04.6**	**-0.9**
	baz=273						
TIR	**Tirane**	**0.29**	**271**	⇓ *i*Pg	**Pg**	**21 17 59.1**	**-0.2**
PHP	**Peshkopia**	**0.37**	**23**	P	**Pg**	**21 18 00.4**	**-0.5**
PHP	**Peshkopia**	**0.37**	**23**	P	**Pg**	**21 18 00.3**	**-0.5**
	baz=18						
PHP				S	**Sb**	**21 18 06.9**	**-1.0**
	baz=18						
OHR	**Ohrid**	**0.48**	**119**	*i*Pg	**Pg**	**21 18 01.9**	**-0.9**
OHR				*i*Sg	**Sg**	**21 18 10.1**	**+0.9**
OHR				*e*Lg	Lg	21 18 10.7	
	comp=N,638nm,0.5s						
PUK	**Puka**	**0.74**	**339**	P	**Pg**	**21 18 07.4**	**-0.5**
	baz=338						
PUK				S	**Sb**	**21 18 20.1**	**+1.3**
	baz=338						
KBN	**Korca**	**0.83**	**150**	P	**Pg**	**21 18 08.9**	**-0.5**
KBN				S	**Sb**	**21 18 21.0**	**-0.1**
	comp=N,200nm,0.4s						
KBN	**Korca**	**0.83**	**150**	P	**Pg**	**21 18 08.9**	**-0.5**
	baz=151						
KBN				S	**Sb**	**21 18 21.4**	**+0.3**
	baz=151						
ULC	**Ulcinj**	**0.97**	**310**	*i*Pg	**Pg**	**21 18 10.6**	**-1.5**
ULC	**Ulcinj**	**0.97**	**310**	⇑ *i*Pg	**Pg**	**21 18 10.7**	**-1.5**
ULC				*i*Sg	**Sb**	**21 18 25.8**	**+0.6**
FNA	**Florina**	**1.02**	**123**	P	**Pg**	**21 18 11.5**	**-1.6**
FNA				S	**Sg**	**21 18 25.7**	**-0.7**
FNA				AML	AML	21 18 28.5	
	comp=E,1071μm,0.3s						
FNA				AML	AML	21 18 28.5	
	comp=N,920μm,0.3s						
FNA	**Florina**	**1.02**	**123**	P	**Pg**	**21 18 11.5**	**-1.6**
FNA				S	**Sg**	**21 18 25.7**	**-0.7**
	comp=N,500nm,0.3s						
FNA	**Florina**	**1.02**	**123**	P	**Pg**	**21 18 11.5**	**-1.6**
	baz=123						
FNA				S	**Sb**	**21 18 26.9**	**+0.2**
	baz=123						
FNA	**Florina**	**1.02**	**123**	*i*Pg	**Pg**	**21 18 11.5**	**-1.6**
FNA				*i*Sg	**Sg**	**21 18 25.8**	**-0.6**
BCI	**Bajram Curri**	**1.03**	**353**	P	**Pg**	**21 18 12.6**	**-0.7**
	baz=352						
BCI				S	**Sn**	**21 18 28.9**	**+0.6**
	baz=352						
SKO	**Skopje**	**1.09**	**55**	*e*Pg	**Pb**	**21 18 13.7**	**-0.7**
SKO				*e*Sg	**Sg**	**21 18 28.6**	**0.0**
SKO	**Skopje**	**1.09**	**55**	*i*Pg	**Pb**	**21 18 13.0**	**-1.4**
SKO				*i*Sg	**Sg**	**21 18 28.4**	**-0.2**
SKO				*e*Lg	Lg	21 18 28.7	
	comp=N,11nm,0.4s						
NEST	**Nestorio**	**1.11**	**147**	P	**Pb**	**21 18 13.4**	**-1.4**
NEST				S	**Sb**	**21 18 30.0**	**+0.7**
NEST				AML	AML	21 18 35.2	
	comp=E,262μm,0.5s						
NEST				AML	AML	21 18 35.3	
	comp=N,185μm,0.3s						
NEST	**Nestorio**	**1.11**	**147**	P	**Pb**	**21 18 13.4**	**-1.4**
NEST				S	**Sb**	**21 18 30.0**	**+0.7**
	comp=N,88nm,0.3s						
ZATK	**Zatriq**	**1.14**	**14**	*i*Pg	**Pb**	**21 18 14.1**	**-1.1**
DRME	**Dracevica, Mon**	**1.16**	**317**	*e*Pn	**Pb**	**21 18 14.0**	**-1.5**
DRME	**Dracevica, Mon**	**1.16**	**317**	⇓ *i*Pg	**Pb**	**21 18 14.0**	**-1.5**
DRME				*i*Sg	**Sn**	**21 18 31.8**	**+0.3**
LSK	**Leskovik**	**1.22**	**167**	P	**Pn**	**21 18 16.4**	**-0.2**
	baz=168						
LSK				S	**Sn**	**21 18 34.3**	**+1.0**
	baz=168						
PVY	**Plav**	**1.27**	**350**	⇓ *i*Pg	**Pn**	**21 18 16.5**	**-0.8**
PVY				*i*Sg	**Sn**	**21 18 36.2**	**+1.8**
PDG	**Podgorica**	**1.31**	**326**	*e*Pg	**Pn**	**21 18 17.7**	**-0.1**
PDG				*e*Sg	**Sg**	**21 18 37.4**	**+1.7**
PDG	**Podgorica**	**1.31**	**326**	*e*Pn	**Pn**	**21 18 16.7**	**-1.1**
PDG	**Podgorica**	**1.31**	**326**	*i*Pg	**Pn**	**21 18 17.3**	**-0.4**
PDG				*i*Sg	**Sg**	**21 18 37.2**	**+1.5**
TTG	**Podgorica**	**1.31**	**326**	⇑ *i*Pg	**Pn**	**21 18 17.0**	**-0.8**
TTG				*e*Sg	**Sg**	**21 18 37.4**	**+1.7**
PENT	**Pentalofos**	**1.33**	**149**	P	**Pn**	**21 18 17.6**	**-0.6**
PENT	**Pentalofos**	**1.33**	**149**	P	**Pn**	**21 18 17.6**	**-0.6**
BUM	**Brajici-Budva**	**1.39**	**314**	⇑ *i*Pg	**Pn**	**21 18 18.4**	**-0.5**
BUM				*i*Sg	**Sg**	**21 18 39.7**	**+1.5**
GJIK	**Gjilan**	**1.43**	**38**	*i*Pg	**Pg**	**21 18 20.9**	**0.0**
GJIK				*i*Sg	**Sg**	**21 18 40.0**	**+0.6**
SRN	**Sarande**	**1.48**	**187**	P	**Pn**	**21 18 21.0**	**+0.1**
SRN				S	**Sg**	**21 18 40.5**	**-0.4**
SRN	**Sarande**	**1.48**	**187**	P	**Pb**	**21 18 21.3**	**+0.4**
	baz=189						
SRN				S	**Sg**	**21 18 42.6**	**+1.7**
	baz=189						
STIP	**Stip**	**1.50**	**76**	*i*Pn	**Pb**	**21 18 21.7**	**+0.4**
STIP				*i*Sn	**Sg**	**21 18 46.9**	**+5.3**
STIP				*e*Lg	Lg	21 18 49.0	
	comp=N,9.2nm,0.3s						
IVA	**Berane**	**1.55**	**350**	⇑ *i*Pg	**Pb**	**21 18 21.9**	**-0.3**
IVA				*i*Sg	**Sg**	**21 18 45.3**	**+2.0**
KZN	**Kozani**	**1.55**	**131**	P	**Pn**	**21 18 20.9**	**-0.2**
KZN				AML	AML	21 18 47.8	
	comp=N,170μm,0.4s						
KZN				AML	AML	21 18 48.5	
	comp=E,204μm,0.6s						
KZN	**Kozani**	**1.55**	**131**	P	**Pn**	**21 18 20.9**	**-0.2**
CEME	**Cevo**	**1.56**	**321**	⇓ *i*Pg	**Pn**	**21 18 21.1**	**-0.1**
CEME				*i*Sg	**Sg**	**21 18 44.9**	**+1.4**
KOME	**Kolasin**	**1.60**	**340**	⇑ *i*Pn	**Pn**	**21 18 22.4**	**+0.6**
KOME				*i*Sn	**Sg**	**21 18 46.7**	**+1.8**
KPRO	**Kipourio**	**1.63**	**148**	P	**Pn**	**21 18 22.4**	**+0.3**
KPRO	**Kipourio**	**1.63**	**148**	P	**Pn**	**21 18 22.6**	**+0.4**
KEK	**Kerkira**	**1.67**	**192**	P	**Pn**	**21 18 22.6**	**0.0**
KEK				S	**Sb**	**21 18 45.8**	**+0.6**
KEK	**Kerkira**	**1.67**	**192**	P	**Pn**	**21 18 22.6**	**0.0**
KEK				S	**Sb**	**21 18 45.8**	**+0.6**
GRG	**Griva**	**1.67**	**103**	P	**Pn**	**21 18 21.6**	**-1.1**
GRG				AML	AML	21 18 49.4	
	comp=E,53μm,0.3s						
GRG				AML	AML	21 18 52.6	
	comp=N,74μm,0.4s						
GRG	**Griva**	**1.67**	**103**	P	**Pn**	**21 18 21.6**	**-1.1**
GRG	**Griva**	**1.67**	**103**	*i*Pn	**Pn**	**21 18 21.6**	**-1.1**
HCY	**Herceg Novi**	**1.71**	**311**	*e*Pn	**Pn**	**21 18 23.6**	**+0.4**
HCY	**Herceg Novi**	**1.71**	**311**	⇓ *i*Pn	**Pn**	**21 18 23.8**	**+0.6**
HCY				*i*Sn	**Sg**	**21 18 48.5**	**+0.1**
NKME	**Niksic**	**1.72**	**326**	⇓ *i*Pn	**Pn**	**21 18 24.1**	**+0.7**
NKME				*i*Sn	**Sg**	**21 18 48.9**	**+0.3**
NKY	**Niksic**	**1.74**	**328**	⇑ *i*Pn	**Pn**	**21 18 24.7**	**+0.8**
NKY				*i*Sn	**Sg**	**21 18 49.4**	**0.0**
IGT	**Igoumenitsa**	**1.81**	**178**	P	**Pn**	**21 18 25.1**	**+0.5**
IGT	**Igoumenitsa**	**1.81**	**178**	P	**Pn**	**21 18 25.1**	**+0.5**
IGT	**Igoumenitsa**	**1.81**	**178**	*i*Pn	**Pn**	**21 18 25.1**	**+0.5**
BARS	**Barje**	**1.88**	**38**	*e*Pn	**Pb**	**21 18 28.1**	**+0.3**
BARS				*e*Sn	**Sg**	**21 18 53.1**	**-0.7**
BARS	**Barje**	**1.88**	**38**	*i*Pn	**Pn**	**21 18 26.5**	**+1.0**
SJES	**Sjenica**	**1.93**	**354**	*e*Pg	**Pb**	**21 18 28.4**	**-0.3**
SJES				*e*Sn	**Sg**	**21 18 54.5**	**-0.9**
TREB	**Trebinje**	**1.97**	**315**	*e*Pn	**Pb**	**21 18 28.5**	**-0.8**
TREB				*e*Sn	**Sg**	**21 18 55.4**	**-1.3**
TREB	**Trebinje**	**1.97**	**315**	*e*Pn	**Pn**	**21 18 28.0**	**+1.2**
SELS	**Selova**	**1.98**	**19**	*e*Pn	**Pb**	**21 18 28.9**	**-0.7**
SELS				*e*Sn	**Sg**	**21 18 55.9**	**-1.2**
KNT	**Kendrikon**	**2.01**	**94**	P	**Pn**	**21 18 26.3**	**-1.0**
KNT	**Kendrikon**	**2.01**	**94**	P	**Pn**	**21 18 26.4**	**-0.9**
KNT	**Kendrikon**	**2.01**	**94**	*i*Pn	**Pn**	**21 18 26.8**	**-0.6**
BRY	**Bratogost**	**2.01**	**321**	*e*Pn	**Pn**	**21 18 27.3**	**-0.2**
BRY	**Bratogost**	**2.01**	**321**	⇑ *i*Pn	**Pn**	**21 18 28.3**	**+0.8**
BRY				*i*Sn	**Sb**	**21 18 55.8**	**+0.6**
BOSS	**Bosilegrad**	**2.02**	**55**	*e*Pn	**Pn**	**21 18 28.7**	**+1.1**
BOSS				*e*Sn	**Sb**	**21 18 54.4**	**-1.1**
UPM	**Unac-Piva**	**2.11**	**332**	*e*Pn	**Pb**	**21 18 30.8**	**-1.0**
UPM	**Unac-Piva**	**2.11**	**332**	⇑ *i*Pn	**Pn**	**21 18 30.1**	**+1.2**
UPM				*i*Sn	**Sb**	**21 18 58.6**	**+0.6**
LIT	**Litokhoron**	**2.11**	**125**	P	**Pn**	**21 18 27.7**	**-1.0**
LIT	**Litokhoron**	**2.11**	**125**	P	**Pn**	**21 18 27.7**	**-1.0**
LIT	**Litokhoron**	**2.11**	**125**	*i*Pn	**Pn**	**21 18 29.1**	**+0.4**
IVAS	**Ivanjica**	**2.23**	**358**	*e*Pn	**Pn**	**21 18 31.3**	**+0.8**
IVAS				*e*Sn	**Sb**	**21 19 01.6**	**+0.1**
THL	**Klokotos Trika**	**2.23**	**142**	P	**Pn**	**21 18 31.4**	**+1.0**
THL	**Klokotos Trika**	**2.23**	**142**	P	**Pn**	**21 18 31.4**	**+1.0**
HORT	**Hortiatis**	**2.29**	**108**	P	**Pn**	**21 18 30.0**	**-1.2**
HORT	**Hortiatis**	**2.29**	**108**	P	**Pn**	**21 18 30.0**	**-1.2**
RUDO	**Rudo**	**2.36**	**344**	*e*Pn	**Pb**	**21 18 35.3**	**-0.7**
SOH	**Sokhos**	**2.41**	**102**	P	**Pn**	**21 18 33.8**	**+1.0**
SOH	**Sokhos**	**2.41**	**102**	P	**Pn**	**21 18 33.8**	**+1.0**
STON	**Ston**	**2.43**	**310**	*e*Pn	**Pn**	**21 18 31.7**	**-1.5**
STON				Sn	**Sn**	**21 19 03.8**	**+1.0**
SRS	**Serrai**	**2.53**	**94**	P	**Pn**	**21 18 35.1**	**+0.5**
SRS	**Serrai**	**2.53**	**94**	P	**Pn**	**21 18 35.6**	**+1.0**
GRUS	**Gruza**	**2.56**	**8**	*e*Pn	**Pn**	**21 18 36.8**	**+1.8**
GRUS				*e*Sn	**Sb**	**21 19 10.5**	**-0.5**
BBLS	**Lazići**	**2.59**	**346**	*e*Pn	**Pn**	**21 18 37.3**	**+1.8**
BBLS				*e*Sn	**Sb**	**21 19 10.4**	**-1.6**
BBLS	**Lazići**	**2.59**	**346**	*e*Pn	**Pb**	**21 18 39.6**	**-0.4**
ZAPS	**Zavoj**	**2.62**	**42**	*e*Sn	**Pn**	**21 18 37.8**	**+2.1**
ZAPS	**Zavoj**	**2.62**	**42**	*e*Pn	**Sb**	**21 19 11.5**	**-1.1**
EVR	**Evrytania**	**2.71**	**153**	P	**Pn**	**21 18 39.5**	**+2.5**
EVR	**Evrytania**	**2.71**	**153**	P	**Pn**	**21 18 39.5**	**+2.5**
NVR	**Nevrokopi**	**2.72**	**89**	P	**Pn**	**21 18 37.1**	**-0.1**
NVR	**Nevrokopi**	**2.72**	**89**	P	**Pn**	**21 18 37.1**	**-0.1**
MAKR	**Makrakomi, Fth**	**2.74**	**148**	P	**Pn**	**21 18 39.3**	**+1.8**
MAKR	**Makrakomi, Fth**	**2.74**	**148**	P	**Pn**	**21 18 39.2**	**+1.8**
DIVS	**Divibare**	**2.76**	**356**	*e*Pn	**Pn**	**21 18 39.4**	**+1.7**
DIVS				*e*Sn	**Sn**	**21 19 13.7**	**+2.6**
DIVS	**Divibare**	**2.76**	**356**	*e*Pn	**Pn**	**21 18 39.1**	**+1.4**
HAPS	**Han Pijesak,Bl**	**2.90**	**341**	*e*Pn	**Pn**	**21 18 42.3**	**+2.6**
HAPS				*e*Sn	**Sn**	**21 19 16.5**	**+1.8**
HAPS	**Han Pijesak,Bl**	**2.90**	**341

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.33**	**324**	Pg	Pg	21 47 19.1	0.0
	8.9nm,0.3s,baz=234,slow=9.2,SNR=25						
JAY				Lg	Lg	21 47 36.3	
	8.3nm,0.3s,baz=186,slow=17,SNR=11						
WRA	**Warramunga Arr**	**17.68**	**203**	P	Pn	21 50 59.5	-1.9
	0.1nm,0.3s,baz=20,slow=12,SNR=9.9						
ASAR	**Alice Springs**	**21.26**	**200**	P	P	21 51 43.0	+1.5
	0.3nm,0.5s,baz=22,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**28.13**	**180**	P	P	21 52 46.7	-0.8
	0.5nm,0.3s,baz=6.3,slow=18,SNR=1.1						

NEIC ***23*** *21:46:55.8±2.0,41.22N±0.05×117.18W±0.05, h0km±2km, ML2.5/28, Error ellipse: s-maj=8.8km s-min=5.1km az=211.0*

IDC ***23*** *21:46:57.6±1.7,41.26N×117.23W, h0km, mb2.7/1, mb1 3.1/3, mb1mx3.1/40, mbtmp2.7/3, ML2.7/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/9, Error ellipse: s-maj=33.5km s-min=10.3km az=121.0*

ISC 23 21:46:55.7±1.0, 41°20N±0.04×117°25W±0.04, h0km, n20, σ1§45/21, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	**Elko**	**1.59**	**106**	Lg	Lg	21 47 44.4	
	6.8nm,0.3s,baz=257,slow=14,SNR=7.5						
ELK	**Elko**	**1.59**	**106**	Pn	**Pn**	**21 47 24.1**	**-1.2**
ELK					**Sn**	**21 47 46.3**	**-0.5**
WVOR	**Wild Horse Val**	**1.61**	**320**	Pn	**Pn**	**21 47 25.3**	**-0.2**
WVOR				Sn	**Sg**	**21 47 48.6**	**+1.2**
PAHR	**Pah Rah Range**	**2.21**	**228**		**Pn**	**21 47 33.9**	**+0.1**
J08A	**Circle Bar Ran**	**2.34**	**338**	Pn	**Pn**	**21 47 36.4**	**+0.8**
MOD	**Modoc Plateau**	**2.40**	**288**		**Pn**	**21 47 35.9**	**-0.5**
MOD				IAML		21 48 21.9	
	comp=E,23nm,0.7s						
MOD				IAML		21 48 28.4	
	comp=N,21nm,0.9s						
MFID	**Camas Ranch**	**2.45**	**25**		**Pn**	**21 47 36.8**	**-0.3**
MFID				IAML		21 48 17.8	
	comp=N,26nm,0.9s						
MFID				IAML		21 48 25.4	
	comp=N,30nm,0.6s						
YERR	**Yerington**	**2.69**	**215**	Pn	**Pn**	**21 47 40.9**	**+0.5**
YERR				IAML		21 48 57.2	
	comp=N,27nm,1.0s						
BEKR	**Beckworth**	**2.72**	**242**		**Pn**	**21 47 41.0**	**+0.2**
BEKR				IAML		21 48 26.8	
	comp=E,12nm,0.6s						
NVAR	**Mina Array Bea**	**2.88**	**197**	Pn	**Pb**	**21 47 47.2**	**-1.0**
	comp=E,2.6nm,0.3s,baz=17,slow=12,SNR=8.2						
NVAR				Lg	Lg	21 48 28.9	
	baz=17,slow=28,SNR=0.9						
HLID	**Hailey**	**3.16**	**41**		**Pn**	**21 47 45.6**	**-1.3**
HLID				IAML		21 48 43.6	
	comp=E,9.1nm,0.8s						
HLID				IAML		21 48 46.8	
	comp=E,11nm,1.8s						
I07A	**Izee**	**3.33**	**331**		**Pn**	**21 47 50.2**	**+1.1**
I07A				IAML		21 48 38.2	
	comp=E,12nm,4.8s						
I07A				IAML		21 48 43.5	
	comp=N,15nm,4.0s						
HVU	**Hansel Valley**	**3.41**	**79**		**Pn**	**21 47 49.6**	**-0.8**
DUG	**Dugway, Tooele**	**3.52**	**105**	Pn	**Pn**	**21 47 54.4**	**+2.6**
DUG				IAML		21 48 53.2	
	comp=N,12nm,1.0s						
DUG				IAML		21 49 07.0	
	comp=N,10nm,1.1s						
YBH	**Yreka Blue Hor**	**4.14**	**279**		**Pn**	**21 48 00.1**	**-0.1**
TPNV	**Topopah Spring**	**4.32**	**169**	Pn	**Pn**	**21 48 04.0**	**+1.2**
TPNV				IAML		21 49 23.2	
	comp=N,8.7nm,0.6s						
TPNV				IAML		21 49 31.9	
	comp=N,8.8nm,3.8s						
KEBM	**Edson Butte**	**5.53**	**290**		**Pn**	**21 48 16.8**	**-2.6**
PDAR	**Pinedale Array**	**5.94**	**72**	Pn	**Pn**	**21 48 28.9**	**+3.7**
PDAR				Pg	**Pb**	**21 48 40.4**	**+0.1**
	comp=N,0.0nm,0.3s,baz=259,slow=8.7,SNR=1.0						
	comp=N,0.1nm,0.3s,baz=248,slow=14,SNR=2.7						
PFO	**Pinyon Flats O**	**7.60**	**175**	LR	LR	21 51 32.1	
	comp=N,49nm,20.0s,baz=209,slow=36						
YKA	**Yellowknife Ar**	**21.38**	**3**	P	**P**	**21 51 44.4**	**-0.2**
	comp=N,0.3nm,0.7s,baz=179,slow=10,SNR=5.8						

IDC ***23*** *21:48:30.2±0.7,2.79S×139.33E, h0km, mb4.1/10, mb1 4.3/13, mb1mx4.1/35, mbtmp4.1/13, ML4.1/3, MS4.1/9, Ms1 4.1/9, ms1mx3.7/22, Error ellipse: s-maj=14.1km s-min=11.8km az=128.0*

NEIC ***23*** *21:48:32.4±2.1,2.80S±0.09×139.39E±0.06, h15km±4km, mb4.5/24, Error ellipse: s-maj=12.7km s-min=8.1km az=172.0*

DJA ***23*** *21:48:34.8±1.0,3°S±5°×13°9E±°, h28km±11km, M4.7/18, mB5.4/7, mb4.6/18, MLv4.6/6, Mw(mB)4.9/7*

ISC 23 21:48:32.3±0.4, 2.78S±0.05×139.32E±0.06, h10km, n80, σ1§80/77, mb4.5/24, MS4.2/9, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.86**	**78**	P	**Pn**	**21 48 50.2**	**-0.4**
WAMI	**Wamena**	**1.26**	**209**	P	**Pg**	**21 48 59.4**	**+2.9**
JAY	**Jayapura**	**1.41**	**79**	Pg	**Pn**	**21 48 56.6**	**-1.5**
	75nm,0.3s,baz=237,slow=10,SNR=24						
JAY				Lg	Lg	21 49 14.4	
	124nm,0.3s,baz=72,slow=19,SNR=7.5						
JAY				LR	LR	21 49 42.9	
	comp=Z,2μm,19.2s,baz=25,slow=52						
JAY	**Jayapura**	**1.41**	**79**	P	**Pn**	**21 48 56.4**	**-1.7**
BAKI	**Biak**	**3.58**	**296**	P	**Pn**	**21 49 28.9**	**+0.9**
FAKI	**Fak Fak**	**7.07**	**269**	Pn	**Pn**	**21 50 17.5**	**+1.6**
FAKI	**Fak Fak**	**7.07**	**269**	P	**Pn**	**21 50 16.8**	**+0.9**
	0.3nm46nm,1.5s						
SIJI	**Sorong**	**8.27**	**283**	Pn	**Pn**	**21 50 33.3**	**+0.8**
	2.7nm,0.3s,baz=249,slow=22,SNR=14						
SIJI				Sn	**Sn**	**21 52 02.1**	**-4.0**
	baz=198,slow=23,SNR=1.2						
SWI	**Sorong**	**8.28**	**283**	P	**Pn**	**21 50 35.3**	**+2.7**
	46nm,0.7s						
PMG	**Port Moresby**	**10.20**	**131**	Pn	Pn	21 51 05.0	+6.1
	2.0nm,0.3s,baz=5.8,slow=21,SNR=9.0						
PMG				LR	LR	21 56 04.5	
	comp=Z,429nm,19.6s,baz=295,slow=45						
COEN	**Coen**	**11.74**	**161**	Pn	**Pn**	**21 51 22.4**	**+2.4**
NLAI	**Namlea**	**12.21**	**268**	P	**Pn**	**21 51 28.5**	**+2.0**
	3μm30nm,0.8s						
MTN	**Manton Dam**	**12.87**	**219**		**Pn**	**21 51 35.1**	**-0.4**
SANI	**Sanana**	**13.34**	**273**	P	**Pn**	**21 51 42.9**	**+1.0**
	60nm,0.8s						
SOEI	**Soe**	**16.48**	**244**	Pn	**Pn**	**21 52 24.4**	**+0.4**
SOEI	**Soe**	**16.48**	**244**	P	**Pn**	**21 52 25.1**	**+1.1**
	1μm178nm,1.1s						
LUWI	**Luwuk**	**16.63**	**276**	Pn	**Pn**	**21 52 25.4**	**-0.4**
LUWI				IAmb	IAmb	21 52 34.1	
	comp=Z,76nm,1.4s						
LUWI	**Luwuk**	**16.63**	**276**	P	**Pn**	**21 52 25.1**	**-0.7**
	comp=Z,2μmcomp=Z,53nm,1.1s						
GTOI	**Gorontalo**	**16.66**	**282**	P	**Pn**	**21 52 27.2**	**+1.1**
	comp=Z,13nm,0.7s						
WB0	**Warramunga Arr**	**17.56**	**196**		**Pn**	**21 52 36.0**	**-1.4**
WB0				IAmb	IAmb	21 52 50.4	
	comp=Z,27nm,1.1s						
MRSI	**Marisa**	**17.68**	**280**	P	**Pn**	**21 52 38.7**	**-0.1**
	comp=Z,20nm,1.5s						
WR0	**Warramunga Arr**	**17.70**	**195**	P	**Pn**	**21 52 37.4**	**-1.8**
WR0				IAmb	IAmb	21 52 54.2	
	comp=Z,68nm,1.4s						
WRAB	**Tennant Creek**	**17.73**	**196**	P	**Pn**	**21 52 37.7**	**-1.8**
WRAB				IAmb	IAmb	21 52 52.5	
	comp=Z,25nm,0.7s						
WB2	**Warramunga Arr**	**17.74**	**196**		**Pn**	**21 52 37.7**	**-1.9**
WB2				IAmb	IAmb	21 52 52.6	
	comp=Z,27nm,0.7s						
WRA	**Warramunga Arr**	**17.74**	**196**	P	**Pn**	**21 52 38.0**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=16,slow=12,SNR=22						
WRA				S	Sn	21 55 45.8	-12
	comp=Z,0.2nm,0.3s,baz=12,slow=22,SNR=6.1						
WRA				LR	LR	21 59 56.9	
	comp=Z,968nm,21.0s,baz=10.0,slow=39						
WRA	**Warramunga Arr**	**17.74**	**196**	P	**Pn**	**21 52 38.5**	**-1.1**
CTA	**Charters Tower**	**18.49**	**159**	P	**P**	**21 52 47.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=338,slow=11,SNR=1.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**18.93**	**282**	P	**P**	**21 52 54.0**	**+0.4**
BNSI	**Bone**	**19.25**	**265**	P	**P**	**21 52 56.0**	**-1.1**
	comp=Z,13nm,0.7s						
TTSI	**Tana Toraja**	**19.48**	**269**	P	**Pn**	**21 53 02.7**	**+1.8**
	comp=Z,15nm,0.6s						
SPSI	**Sidrap Palu**	**19.55**	**266**	P	**Pn**	**21 53 03.0**	**+1.2**
	comp=Z,15nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.29**	**220**	P	**P**	**21 53 07.6**	**-0.8**
	comp=Z,12nm,0.8s,baz=47,slow=11,SNR=14						
FITZ				S	**S**	**21 56 47.1**	**-9.0**
	comp=Z,29nm,1.0s,baz=183,slow=11,SNR=6.5						
FITZ	**Fitzroy Crossi**	**20.29**	**220**	P	**P**	**21 53 07.8**	**-0.7**
FITZ				IAmb	IAmb	21 53 15.2	
	comp=Z,23nm,1.0s						
AS31	**Alice Springs**	**21.41**	**194**	P	**P**	**21 53 20.6**	**0.0**
ASAR	**Alice Springs**	**21.42**	**194**	P	**P**	**21 53 20.4**	**-0.2**
	comp=Z,4.8nm,0.5s,baz=23,slow=9.8,SNR=26						
ASAR				S	**S**	**21 57 18.6**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=5.7,slow=29,SNR=2.0						
ASAR				LR	LR	22 02 20.2	
	comp=Z,1μm,18.0s,baz=12,slow=39						
ASAR	**Alice Springs**	**21.42**	**194**	P	**P**	**21 53 20.1**	**-0.5**
BBKI	**Banjar Baru**	**24.45**	**268**	P	**P**	**21 53 53.4**	**+1.7**
	comp=Z,35nm,1.4s						
EIDS	**Eidsvold**	**25.15**	**154**	P	**P**	**21 53 59.8**	**+1.9**
EIDS				IAmb	IAmb	21 54 10.5	
	comp=Z,8.8nm,0.8s						
KMMI	**Kalianget**	**25.61**	**260**	P	**P**	**21 54 03.6**	**+1.4**
STKA	**Stephens Creek**	**29.02**	**176**	P	**P**	**21 54 32.3**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=8.5,slow=10,SNR=3.0						
STKA				LR	LR	22 07 23.9	
	comp=Z,628nm,18.0s,baz=1.2,slow=39						
STKA	**Stephens Creek**	**29.02**	**176**	P	**P**	**21 54 32.5**	**-0.1**
FORT	**Forrest**	**29.82**	**200**	P	**P**	**21 54 38.4**	**-1.3**
QIZ	**Qiongzhong**	**36.20**	**308**	P	**P**	**21 55 36.8**	**+1.2**
QIZ				S	**S**	**22 01 12.5**	**-3.4**
QIZ				LR	LR		
	comp=N,240nm,9.8s						
QIZ				LR	LR		
	comp=E,250nm,3.8s						
QIZ				LR	LR		
	comp=Z,220nm,8.2s						
NWAO	**Narrogin (SRO)**	**36.44**	**212**	LR	LR	22 11 46.7	
	comp=Z,1μm,18.0s,baz=58,slow=38						
MJAR	**Matsushiro Arr**	**39.13**	**359**	LR	LR	22 10 07.9	
	comp=Z,130nm,20.6s,baz=130,slow=33						
NJ2	**Nanjing**	**39.72**	**332**	*e*P	**P**	**21 56 08.0**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**45.00**	**300**	P	**P**	**21 56 47.8**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=119,slow=7.3,SNR=1.4						
XAN	**Xi'an**	**46.48**	**325**	P	**P**	**21 57 01.3**	**+1.4**
XAN				pP	sP	21 57 07.4	+2.9
XAN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
USA0B	**Ussuriysk Arra**	**47.23**	**353**	P	**P**	**21 57 06.7**	**+1.2**
BJT	**Baijiatuan**	**47.59**	**336**	P	**P**	**21 57 08.3**	**-0.1**
BJT				IAmb	IAmb	21 57 13.6	
	comp=Z,6.2nm,0.9s						
BJI	**Beijing**	**47.61**	**336**	P	**P**	**21 57 08.9**	**+0.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.5s						
CD2	**Chengdu**	**47.65**	**317**	P	**P**	**21 57 09.6**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
RPZ	**Rata Peaks**	**49.52**	**150**	P	**P**	**21 57 25.0**	**+1.8**
LBZ	**Lake Benmore**	**49.58**	**151**	P	**P**	**21 57 24.3**	**+0.6**
HHC	**Hu-ho-hao-te**	**50.27**	**333**	*e*P	**P**	**21 57 31.3**	**+2.2**
HHC				S	S	22 04 24.8	-17
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,160nm,5.1s						
HHC				LR	LR		
	comp=N,190nm,15.3s						
HHC				LR	LR		
	comp=E,170nm,15.6s						
HHC				LR	LR		
	comp=Z,120nm,16.6s						
LZH	**Lanzhou**	**50.91**	**323**	*e*P	P	21 57 39.0	+4.9
LZH				pP	sP	21 57 54.3	+16
LZH				sP	pP	21 58 02.1	+25
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
GTA	**Gaotai**	**55.49**	**323**	*e*P	**P**	**21 58 07.8**	**+0.1**
GTA				pP	sP	21 58 18.1	+5.8
GTA				sP	pP	21 58 22.3	+11
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,72nm,5.3s						
GTA				LR	LR		
	comp=N,87nm,17.1s						
GTA				LR	LR		
	comp=E,99nm,18.2s						
GTA				LR	LR		
	comp=Z,71nm,17.8s						
PETK	**Petropavlovsk-**	**57.79**	**13**	P	**P**	**21 58 24.6**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=210,slow=8.3,SNR=2.3						
PETK	**Petropavlovsk-**	**57.79**	**13**	P	P	21 58 28.1	+4.4
SONM	**Songino Array**	**58.05**	**334**	P	**P**	**21 58 25.4**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=150,slow=6.7,SNR=2.3						
SONM	**Songino Array**	**58.05**	**334**	P	**P**	**21 58 27.1**	**+1.3**
WMQ	**Urumqi**	**65.44**	**321**	*e*P	**P**	**21 59 19.1**	**+3.4**
WMQ				pP	PcP	21 59 34.5	-13
WMQ				pmax	pmax		
	comp=Z,23nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.9s						
MK31	**Makanchi Array**	**70.22**	**322**	P	**P**	**21 59 45.4**	**-0.3**
MK31				IAmb	IAmb	21 59 55.5	
	comp=Z,2.3nm,0.9s						
MKAR	**Makanchi Array**	**70.22**	**322**	P	**P**	**21 59 45.2**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=110,slow=8.2,SNR=13						
MAKZ	**Makanchi**	**70.42**	**322**	P	**P**	**21 59 47.0**	**+0.2**
MAKZ				IAmb	IAmb	21 59 55.5	
	comp=Z,4.1nm,0.7s						
KSH	**Kashi**	**71.58**	**313**	P	P	21 59 59.1	+4.9
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,76nm,4.2s						
ZALV	**Zalesovo Beam**	**72.30**	**330**	P	**P**	**21 59 56.8**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=112,slow=5.9,SNR=5.1						
ZALV				LR	LR	22 31 12.8	
	comp=Z,42nm,21.8s,baz=79,slow=35						
ZALV	**Zalesovo Beam**	**72.30**	**330**	P	**P**	**21 59 56.9**	**-1.1**
VNDA	**Vanda**	**75.66**	**175**	P	**P**	**22 00 17.4**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=325,slow=6.5,SNR=19						
VNDA				LR	LR	22 33 25.0	
	comp=Z,155nm,19.1s,baz=307,slow=36						
VNDA	**Vanda**	**75.66**	**175**	P	**P**	**22 00 17.4**	**+0.1**
VNDA				IAmb	IAmb	22 00 28.1	
	comp=Z,4.6nm,0.8s						
KKAR	**Karatay Array**	**76.61**	**315**	P	**P**	**22 00 21.0**	**-2.4**
BRVK	**Borovoye**	**79.79**	**325**	P	**P**	**22 00 39.5**	**-1.3**
IMAR	**Indian Mountai**	**83.32**	**22**	P	**P**	**22 00 57.8**	**-1.4**
MLY	**Manley**	**84.16**	**24**	P	**P**	**22 01 03.2**	**-0.3**
MLY				IAmb	IAmb	22 01 13.0	
	comp=Z,5.5nm,1.3s						
ILAR	**Eielson Array**	**85.64**	**24**	P	**P**	**22 01 09.2**	**-1.8**
	comp=Z,1.4nm,0.9s,baz=262,slow=4.7,SNR=5.8						
ILAR	**Eielson Array**	**85.64**	**24**	P	**P**	**22 01 09.1**	**-1.9**
YKA	**Yellowknife Ar**	**99.85**	**27**	LR	LR	22 43 44.7	
	comp=Z,80nm,21.2s,baz=0.0,slow=33						
DBIC	**Dimbokro**	**144.10**	**277**	PKP	**PKPdf**	**22 08 08.8**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=40,slow=4.2,SNR=4.2						
DBIC	**Dimbokro**	**144.10**	**277**		**PKPdf**	**22 08 08.6**	**-0.9**
LPAZ	**La Paz**	**146.91**	**126**	PKPbc	**PKPbc**	**22 08 16.6**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=278,slow=10,SNR=2.0						

ATH ***23*** *21:57:01.6,41.53N×20.20E, h48km±4km, ML2.9/15, Error ellipse: s-maj=4.6km s-min=1.8km az=293.0*

SKO ***23*** *21:57:03.5,41.32N×20.25E, h15km*

BEO ***23*** *21:57:04.2±0.5,41.19N×20.27E, h5km±2km, ML3.0/19*

PRU ***23*** *21:57:04.9±0.0,41.32N×20.33E, h0km*

TIR ***23*** *21:57:04.4,41.33N×20.27E, h3km±1km, Md3.2*

THE ***23*** *21:57:05.0,41.41N×20.33E, h3km, ML2.9/7, Error ellipse: s-maj=1.2km s-min=0.6km az=200.0*

PDG ***23*** *21:57:05.4±0.4,41.36N×20.20E, h11km, MD3.6/5, ML3.4/13, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*

ISC 23 21:57:05.4±0.9, 41.34N±0.01×20.24E±0.02, h13km±8km, n166, σ1§29/234, 19C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28**	**273**	P	**Pg**	**21 57 11.5**	**+0.1**
TIR				S	**Sb**	**21 57 16.7**	**-0.3**
TIR				AML	AML	21 57 17.1	
	comp=E,27782μm,0.3s						
TIR				AML	AML	21 57 19.6	
	comp=N,12310μm,0.4s						
TIR	**Tirane**	**0.28**	**273**	P	**Pg**	**21 57 11.4**	**+0.1**
TIR				S	**Sb**	**21 57 16.7**	**-0.3**
	comp=N,4μm,0.3s						
TIR	**Tirane**	**0.28**	**273**	*e*Pg	**Pg**	**21 57 11.1**	**-0.2**
TIR				*e*Sg	**Sb**	**21 57 16.3**	**-0.7**
TIR	**Tirane**	**0.28**	**273**	↑↑P	**Pg**	**21 57 10.9**	**-0.4**
TIR	**Tirane**	**0.28**	**273**	P	**Pg**	**21 57 11.5**	**+0.1**
	baz=274						
TIR				S	**Sb**	**21 57 17.0**	**0.0**
	baz=274						
TIR	**Tirane**	**0.28**	**273**	*i* Pg	**Pg**	**21 57 11.2**	**-0.2**
PHP	**Peshkopia**	**0.38**	**23**	P	**Pg**	**21 57 12.8**	**-0.3**
	baz=20						
PHP				S	**Sb**	**21 57 19.2**	**-0.6**
	baz=20						
OHR	**Ohrid**	**0.47**	**118**	*i* Pg	**Pg**	**21 57 14.3**	**-0.5**
OHR				*i* Sg	**Sb**	**21 57 22.5**	**0.0**
OHR				*e*Lg	Lg	21 57 23.2	
	comp=N,3μm,0.5s						
PUK	**Puka**	**0.75**	**340**	P	**Pg**	**21 57 19.7**	**-0.3**
	baz=339						
PUK				S	**Sn**	**21 57 32.6**	**-0.5**
	baz=339						
KBN	**Korca**	**0.82**	**150**	P	**Pg**	**21 57 20.8**	**-0.5**
KBN				S	**Sb**	**21 57 33.5**	**+1.0**
	comp=N,932nm,0.4s						
KBN	**Korca**	**0.82**	**150**	P	**Pb**	**21 57 21.2**	**-0.3**
	baz=150						
KBN				S	**Sn**	**21 57 34.3**	**-0.4**
	baz=150						
PRZK	**Prizren**	**0.96**	**24**	*i* Pg	**Pg**	**21 57 23.1**	**-0.8**
PRZK				*i* Sg	**Sn**	**21 57 37.5**	**-0.5**
ULC	**Ulcinj**	**0.98**	**310**	↑*i* Pg	**Pg**	**21 57 22.8**	**-1.5**
ULC	**Ulcinj**	**0.98**	**310**	↑*i* Pg	**Pg**	**21 57 22.7**	**-1.6**
ULC				*i* Sg	**Sb**	**21 57 37.1**	**+0.1**
FNA	**Florina**	**1.02**	**122**	P	**Pg**	**21 57 23.7**	**-1.4**
FNA				S	**Sb**	**21 57 38.3**	**+0.1**
FNA				AML	AML	21 57 40.9	
	comp=E,4630μm,0.3s						
FNA				AML	AML	21 57 40.9	
	comp=N,4324μm,0.4s						
FNA	**Florina**	**1.02**	**122**	P	**Pg**	**21 57 23.7**	**-1.4**
FNA				S	**Sg**	**21 57 38.1**	**-0.3**
	comp=N,2μm,0.5s						
FNA	**Florina**	**1.02**	**122**	↓↓*i* Pg	**Pg**	**21 57 23.9**	**-1.2**
FNA				*i* Sg	**Sb**	**21 57 38.3**	**+0.1**
VLO	**Vlora**	**1.03**	**213**	P	**Pn**	**21 57 27.2**	**+1.7**
VLO	**Vlora**	**1.03**	**213**	P	**Pn**	**21 57 26.3**	**+0.8**
	baz=215						
VLO				S	**Sn**	**21 57 41.0**	**+1.1**
	baz=215						
BCI	**Bajram Curri**	**1.04**	**353**	P	**Pb**	**21 57 25.3**	**+0.1**
	baz=352						
BCI				S	**Sn**	**21 57 41.5**	**+1.5**
	baz=352						
SKO	**Skopje**	**1.10**	**54**	*e*Pg	**Pg**	**21 57 25.6**	**-1.0**
SKO				*e*Sg	**Sb**	**21 57 40.5**	**0.0**
SKO	**Skopje**	**1.10**	**54**	*i* Pg	**Pg**	**21 57 25.0**	**-1.6**
SKO				*i* Sg	**Sb**	**21 57 40.6**	**+0.1**
SKO				*e*Lg	Lg	21 57 41.0	
	comp=N,52nm,0.4s						
NEST	**Nestorio**	**1.10**	**146**	P	**Pg**	**21 57 25.9**	**-0.8**
NEST				S	**Sn**	**21 57 42.5**	**+0.8**
NEST				AML	AML	21 57 47.6	
	comp=E,1046μm,0.5s						
NEST				AML	AML	21 57 47.8	
	comp=N,847μm,0.3s						
NEST	**Nestorio**	**1.10**	**146**	P	**Pg**	**21 57 25.8**	**-0.8**
NEST				S	**Sn**	**21 57 42.5**	**+0.8**
	comp=N,388nm,0.4s						
ZATK	**Zatriq**	**1.15**	**14**	↓↓*i* Pg	**Pb**	**21 57 26.2**	**-0.9**
DRME	**Dracevica, Mon**	**1.16**	**317**	*e*Pn	**Pb**	**21 57 26.4**	**-0.9**
DRME	**Dracevica, Mon**	**1.16**	**317**	↓↓*i* Pg	**Pb**	**21 57 26.3**	**-1.0**
DRME				*i* Sg	**Sn**	**21 57 44.1**	**+1.0**
LSK	**Leskovik**	**1.21**	**167**	P	**Pb**	**21 57 27.7**	**-0.6**
LSK				S	**Sn**	**21 57 47.9**	**+3.5**
LSK	**Leskovik**	**1.21**	**167**	P	**Pn**	**21 57 28.3**	**+0.2**
	baz=167						
LSK				S	**Sn**	**21 57 47.0**	**+2.6**
	baz=167						
PVY	**Plav**	**1.28**	**351**	↓↓*i* Pg	**Pn**	**21 57 28.4**	**-0.6**
PVY				*i* Sg	**Sn**	**21 57 48.3**	**+2.2**
PDG	**Podgorica**	**1.32**	**326**	*e*Pn	**Pn**	**21 57 29.5**	**0.0**
PDG				*e*Sn	**Sg**	**21 57 50.0**	**+2.0**
PDG	**Podgorica**	**1.32**	**326**	↑↑P	**Pn**	**21 57 29.3**	**-0.2**
PDG	**Podgorica**	**1.32**	**326**	*e*Pn	**Pn**	**21 57 29.3**	**-0.2**
PDG	**Podgorica**	**1.32**	**326**	*i* Pg	**Pn**	**21 57 29.2**	**-0.2**
PDG				*i* Sg	**Sg**	**21 57 48.7**	**+0.8**
TTG	**Podgorica**	**1.32**	**326**	↓↓*i* Pg	**Pn**	**21 57 29.0**	**-0.5**
TTG				*i* Sg	**Sg**	**21 57 48.8**	**+0.8**
PENT	**Pentalofos**	**1.33**	**149**	P	**Pn**	**21 57 29.5**	**-0.1**
PENT				AML	AML	21 57 55.5	
	comp=E,810μm,0.6s						
PENT				AML	AML	21 57 56.2	
	comp=N,541μm,0.7s						
PENT	**Pentalofos**	**1.33**	**149**	P	**Pn**	**21 57 29.7**	**0.0**
BUM	**Brajici-Budva**	**1.40**	**314**	↑*i* Pg	**Pn**	**21 57 30.5**	**-0.1**
BUM				*i* Sg	**Sg**	**21 57 51.3**	**+0.9**
GJIK	**Gjilan**	**1.44**	**38**	↓↓*i* Pg	**Pn**	**21 57 31.3**	**+0.2**
GJIK				*i* Sg	**Sg**	**21 57 52.6**

JAN					AML	AML	21 58 09.2	
	comp=E,399μm,0.6s							
JAN	**Janina**	**1.74**	**164**	P	**Pb**	**Pb**	**21 57 37.7**	**+0.5**
NKY	**Niksic**	**1.75**	**328**	⇑*i*Pn	**Pn**	**Pn**	**21 57 36.0**	**+0.5**
NKY				*i* Sn	**Sg**	**Sg**	**21 58 00.2**	**-1.4**
IGT	**Igoumenitsa**	**1.80**	**178**	P	**Pb**	**Pb**	**21 57 37.4**	**-0.8**
IGT				AML	AML	AML	21 58 09.1	
	comp=N,340μm,0.7s							
IGT				AML	AML	AML	21 58 17.2	
	comp=E,387μm,0.6s							
IGT	**Igoumenitsa**	**1.80**	**178**	P	**Pb**	**Pb**	**21 57 37.4**	**-0.8**
IGT	**Igoumenitsa**	**1.80**	**178**	⇑*i*Pn	**Pb**	**Pb**	**21 57 37.6**	**-0.6**
SCTE	**Santa Cesarea**	**1.85**	**228**	P	**Pn**	**Pn**	**21 57 37.6**	**+0.9**
BARS	**Barje**	**1.89**	**38**	*e*Pn	**Pb**	**Pb**	**21 57 39.7**	**0.0**
BARS	**Barje**	**1.89**	**38**	*e*Pn	**Sn**	**Sn**	**21 57 54.0**	**-7.0**
BARS				*e*Sn	**Sb**	**Sb**	**21 58 03.9**	**+0.8**
BARS	**Barje**	**1.89**	**38**	*i* Pn	**Pn**	**Pn**	**21 57 38.1**	**+0.8**
BARS				*i* Sn	**Sb**	**Sb**	**21 58 04.0**	**+0.8**
SJES	**Sjenica**	**1.94**	**354**	*e*Pn	**Pb**	**Pb**	**21 57 40.8**	**+0.2**
SJES				*e*Sn	**Sg**	**Sg**	**21 58 06.4**	**-1.3**
TREB	**Trebinje**	**1.97**	**315**	*e*Pn	**Pb**	**Pb**	**21 57 40.6**	**-0.6**
TREB				*e*Sn	**Sb**	**Sb**	**21 58 06.0**	**+0.4**
TREB	**Trebinje**	**1.97**	**315**	*e*Pn	**Pn**	**Pn**	**21 57 39.4**	**+0.9**
SELS	**Selova**	**1.99**	**19**	*e*Pn	**Pn**	**Pn**	**21 57 40.0**	**+1.2**
SELS				*e*Sn	**Sg**	**Sg**	**21 58 07.7**	**-1.8**
KNT	**Kendrikon**	**2.01**	**94**	P	**Pn**	**Pn**	**21 57 38.6**	**-0.4**
KNT				AML	AML	AML	21 58 10.9	
	comp=N,169μm,0.6s							
KNT				AML	AML	AML	21 58 17.4	
	comp=E,152μm,0.7s							
KNT	**Kendrikon**	**2.01**	**94**	P	**Pn**	**Pn**	**21 57 38.6**	**-0.4**
KNT	**Kendrikon**	**2.01**	**94**	*i* Pn	**Pn**	**Pn**	**21 57 38.8**	**-0.2**
BRY	**Bratogost**	**2.01**	**322**	*e*Pn	**Pb**	**Pb**	**21 57 40.6**	**-1.3**
BRY	**Bratogost**	**2.01**	**322**	⇑*i*Pn	**Pn**	**Pn**	**21 57 39.9**	**+0.7**
BRY				*i* Sn	**Sb**	**Sb**	**21 58 06.5**	**-0.5**
BOSS	**Bosilegrad**	**2.03**	**54**	*e*Pn	**Pn**	**Pn**	**21 57 39.1**	**-0.2**
BOSS				*e*Sn	**Sb**	**Sb**	**21 58 06.5**	**-0.9**
PLE	**Pljevlja**	**2.09**	**343**	⇓*i*Pn	**Pn**	**Pn**	**21 57 40.9**	**+0.7**
PLE				*i* Sn	**Sb**	**Sb**	**21 58 08.6**	**-0.6**
LIT	**Litokhoron**	**2.11**	**125**	P	**Pn**	**Pn**	**21 57 40.3**	**0.0**
LIT				AML	AML	AML	21 58 17.1	
	comp=N,343μm,0.7s							
LIT				AML	AML	AML	21 58 20.8	
	comp=E,277μm,0.6s							
LIT	**Litokhoron**	**2.11**	**125**	P	**Pn**	**Pn**	**21 57 40.3**	**0.0**
LIT	**Litokhoron**	**2.11**	**125**	*i* Pn	**Pn**	**Pn**	**21 57 40.3**	**0.0**
UPM	**Unac-Piva**	**2.12**	**332**	*e*Pn	**Pb**	**Pb**	**21 57 43.1**	**-0.6**
UPM	**Unac-Piva**	**2.12**	**332**	⇓*i*Pn	**Pn**	**Pn**	**21 57 41.3**	**+0.7**
UPM				*i* Sn	**Sb**	**Sb**	**21 58 09.1**	**-0.8**
THE	**Thessaloniki**	**2.18**	**108**	P	**Pn**	**Pn**	**21 57 40.9**	**-0.4**
THE	**Thessaloniki**	**2.18**	**108**	P	**Pn**	**Pn**	**21 57 40.7**	**-0.5**
THE	**Thessaloniki**	**2.18**	**108**	*i* Pn	**Pn**	**Pn**	**21 57 40.9**	**-0.4**
THL	**Klokotos Trika**	**2.23**	**142**	P	**Pb**	**Pb**	**21 57 44.0**	**-1.4**
THL				AML	AML	AML	21 58 21.8	
	comp=E,128μm,0.5s							
THL				AML	AML	AML	21 58 31.7	
	comp=N,185μm,0.7s							
THL	**Klokotos Trika**	**2.23**	**142**	P	**Pb**	**Pb**	**21 57 44.0**	**-1.4**
IVAS	**Ivanjica**	**2.24**	**358**	*e*Pn	**Pn**	**Pn**	**21 57 43.2**	**+1.0**
IVAS				*e*Sn	**Sb**	**Sb**	**21 58 14.5**	**+1.1**
HORT	**Hortiatis**	**2.29**	**108**	P	**Pn**	**Pn**	**21 57 42.3**	**-0.5**
HORT	**Hortiatis**	**2.29**	**108**	P	**Pn**	**Pn**	**21 57 42.3**	**-0.5**
RUDO	**Rudo**	**2.37**	**344**	*e*Pn	**Pn**	**Pn**	**21 57 45.2**	**+1.2**
SOH	**Sokhos**	**2.41**	**101**	P	**Pn**	**Pn**	**21 57 44.5**	**0.0**
SOH	**Sokhos**	**2.41**	**101**	P	**Pn**	**Pn**	**21 57 44.5**	**0.0**
STON	**Ston**	**2.44**	**310**	*e*Pn	**Pn**	**Pn**	**21 57 43.8**	**-1.0**
NOCI	**Noci**	**2.46**	**258**	P	**Pn**	**Pn**	**21 57 44.7**	**-0.5**
TSLK	**Tsoukalades, L**	**2.53**	**173**	P	**Pn**	**Pn**	**21 57 47.3**	**+1.2**
TSLK	**Tsoukalades, L**	**2.53**	**173**	P	**Pn**	**Pn**	**21 57 47.3**	**+1.2**
SRS	**Serrai**	**2.54**	**94**	P	**Pn**	**Pn**	**21 57 45.9**	**-0.3**
SRS	**Serrai**	**2.54**	**94**	P	**Pn**	**Pn**	**21 57 45.9**	**-0.3**
BOVS	**Bovan**	**2.54**	**25**	*e*Pn	**Pn**	**Pn**	**21 57 48.0**	**+1.7**
BOVS				*e*Sn	**Sb**	**Sb**	**21 58 20.5**	**-1.4**
BOVS	**Bovan**	**2.54**	**25**	⇑P	**Pn**	**Pn**	**21 57 46.8**	**+0.5**
LKD2	**Lefkada island**	**2.56**	**173**	P	**Pn**	**Pn**	**21 57 47.4**	**+0.8**
LKD2	**Lefkada island**	**2.56**	**173**	P	**Pn**	**Pn**	**21 57 47.4**	**+0.8**
VTS	**Vitosha**	**2.57**	**59**	⇓P	**Pn**	**Pn**	**21 57 46.8**	**0.0**
GRUS	**Gruza**	**2.58**	**8**	*e*Pn	**Pn**	**Pn**	**21 57 48.3**	**+1.5**
GRUS				*e*Sn	**Sb**	**Sb**	**21 58 21.0**	**-2.0**
BBLS	**Lazići**	**2.60**	**347**	*e*Pn	**Pn**	**Pn**	**21 57 49.0**	**+1.8**
BBLS				*e*Sn	**Sb**	**Sb**	**21 58 23.2**	**-0.7**
BBLS	**Lazići**	**2.60**	**347**	⇑*i*Pn	**Pn**	**Pn**	**21 57 48.7**	**+1.5**
PLG	**Polygyros**	**2.61**	**111**	P	**Pn**	**Pn**	**21 57 47.7**	**+0.4**
PLG	**Polygyros**	**2.61**	**111**	P	**Pn**	**Pn**	**21 57 47.7**	**+0.4**
ZAPS	**Zavoj**	**2.63**	**42**	*e*Pn	**Pn**	**Pn**	**21 57 49.2**	**+1.7**
ZAPS				*e*Sn	**Sb**	**Sb**	**21 58 22.2**	**-2.3**
EVR	**Evrytania**	**2.70**	**153**	P	**Pn**	**Pn**	**21 57 51.0**	**+2.5**
EVR	**Evrytania**	**2.70**	**153**	P	**Pn**	**Pn**	**21 57 51.0**	**+2.5**
NVR	**Nevrokopi**	**2.73**	**88**	P	**Pn**	**Pn**	**21 57 48.9**	**+0.1**
NVR				AML	AML	AML	21 58 38.2	
	comp=E,77μm,0.9s							
NVR				AML	AML	AML	21 58 40.2	
	comp=N,109μm,1.2s							
NVR	**Nevrokopi**	**2.73**	**88**	P	**Pn**	**Pn**	**21 57 48.9**	**+0.1**
DIVS	**Divibare**	**2.77**	**356**	*e*Pn	**Pn**	**Pn**	**21 57 51.0**	**+1.5**
DIVS				*e*Sn	**Sb**	**Sb**	**21 58 26.8**	**-1.8**
DIVS	**Divibare**	**2.77**	**356**	⇑*i*Pn	**Pn**	**Pn**	**21 57 51.0**	**+1.5**
AGG	**Agios Georgios**	**2.81**	**145**	AML	AML	AML	21 58 30.8	
	comp=N,134μm,0.6s							
AGG				AML	AML	AML	21 58 31.5	
	comp=E,136μm,0.4s							
AGG	**Agios Georgios**	**2.81**	**145**	P	**Pn**	**Pn**	**21 57 50.0**	**0.0**
PDO	**Prodromos**	**2.83**	**165**	P	**Pn**	**Pn**	**21 57 52.2**	**+2.0**
PDO	**Prodromos**	**2.83**	**165**	P	**Pn**	**Pn**	**21 57 52.2**	**+2.0**
ZAGS	**Zajecar**	**2.88**	**30**	*e*Pn	**Pn**	**Pn**	**21 57 52.8**	**+1.9**
ZAGS				*e*Sn	**Sn**	**Sn**	**21 58 28.6**	**+3.2**
PVO	**Paravola**	**2.89**	**160**	P	**Pn**	**Pn**	**21 57 53.7**	**+2.6**
PVO	**Paravola**	**2.89**	**160**	P	**Pn**	**Pn**	**21 57 53.7**	**+2.6**
TRUS	**Trudelj**	**2.89**	**2**	*e*Pn	**Pn**	**Pn**	**21 57 52.9**	**+1.8**
TRUS				*e*Sn	**Sn**	**Sn**	**21 58 28.5**	**+2.8**
HAPS	**Han Pijesak,BI**	**2.91**	**341**	*e*Pn	**Pn**	**Pn**	**21 57 52.1**	**+0.6**
HAPS				*e*Sn	**Sn**	**Sn**	**21 58 29.5**	**+3.2**
HAPS	**Han Pijesak,BI**	**2.91**	**341**	⇑*i*Pn	**Pn**	**Pn**	**21 57 52.1**	**+0.6**
SVIS	**Svilajnac**	**3.02**	**13**	*e*Pn	**Pn**	**Pn**	**21 57 55.0**	**+2.2**
SVIS				*e*Sn	**Sn**	**Sn**	**21 58 32.3**	**+3.6**
ANX	**Ano Chora**	**3.03**	**154**	P	**Pb**	**Pb**	**21 57 56.2**	**-3.0**
ANX	**Ano Chora**	**3.03**	**154**	P	**Pb**	**Pb**	**21 57 56.2**	**-3.0**
MAKA	**Makarska**	**3.09**	**310**	*i* Pn	**Pn**	**Pn**	**21 57 54.1**	**+0.3**
MAKA				Sn	**Sn**	**Sn**	**21 58 31.4**	**+0.9**
RICI	**Ricice**	**3.16**	**314**	*e*Pn	**Pn**	**Pn**	**21 57 55.2**	**+0.4**
KUBS	**Kucevo**	**3.25**	**18**	*e*Pn	**Pn**	**Pn**	**21 57 57.2**	**+1.2**
KUBS				*e*Sn	**Sn**	**Sn**	**21 58 36.4**	**+1.8**
TEKS	**Tekeris**	**3.25**	**351**	*e*Pn	**Pn**	**Pn**	**21 57 57.9**	**+1.8**
TEKS	**Tekeris**	**3.25**	**351**	*e*Pn	**Pn**	**Pn**	**21 57 56.0**	**-0.1**
HVAR	**Hvar**	**3.37**	**304**	*e*Pn	**Pn**	**Pn**	**21 57 57.4**	**-0.2**
HVAR				Sn	**Sn**	**Sn**	**21 58 38.0**	**+0.6**
TIP	**Timpagrande**	**3.43**	**232**	⇓P	**Pn**	**Pn**	**21 57 58.3**	**-0.3**
FRGS	**Fruska Gora**	**3.83**	**355**	*e*Pn	**Pn**	**Pn**	**21 58 05.3**	**+1.2**
FRGS				*e*Sn	**Sn**	**Sn**	**21 58 52.1**	**+3.1**
FRGS	**Fruska Gora**	**3.83**	**355**	⇓P	**Pn**	**Pn**	**21 58 05.5**	**+1.4**
FRGS	**Fruska Gora**	**3.83**	**355**	⇑*i*Pn	**Pn**	**Pn**	**21 58 05.2**	**+1.2**
MGRS	**Mrkonjic Grad**	**3.86**	**324**	*e*Pn	**Pn**	**Pn**	**21 58 04.6**	**+0.2**
HERR	**Herculane**	**3.88**	**23**	⇑P	**Pn**	**Pn**	**21 58 05.9**	**+1.2**
KIJV	**Kijevo**	**3.89**	**315**	*e*Pn	**Pn**	**Pn**	**21 58 05.7**	**+0.8**
BLY	**Banja Luka**	**4.08**	**328**	⇑*i*Pn	**Pn**	**Pn**	**21 58 08.9**	**+1.4**
ZIRJ	**Zirje**	**4.12**	**306**	*e*Pn	**Pn**	**Pn**	**21 58 08.2**	**+0.3**
BZS	**Buzias**	**4.39**	**13**	⇑P	**Pn**	**Pn**	**21 58 12.4**	**+0.6**
GZR	**Gura Zlata**	**4.46**	**24**	⇑P	**Pn**	**Pn**	**21 58 13.3**	**+0.6**
UDBI	**Udbina**	**4.58**	**316**	*i* Pn	**Pn**	**Pn**	**21 58 16.0**	**+1.6**
DUGI	**Dugi Otok**	**4.66**	**307**	*e*Pn	**Pn**	**Pn**	**21 58 16.0**	**+0.6**
MORH	**Mrgy, Hungar**	**5.01**	**347**	*e*Pn	**Pn**	**Pn**	**21 58 21.3**	**+1.1**
NVLJ	**Novalja**	**5.09**	**311**	*e*Pn	**Pn**	**Pn**	**21 58 21.4**	**0.0**
AQU	**L'Aquila**	**5.21**	**284**	*e*Pn	**Pn**	**Pn**	**21 58 22.4**	**-0.6**
OZLJ	**Ozalj**	**5.51**	**323**	*e*Pn	**Pn**	**Pn**	**21 58 28.3**	**+1.3**
CRES	**Cresnjev**	**5.68**	**324**	*e*Pn	**Pn**	**Pn**	**21 58 29.1**	**-0.3**
CEY	**Cerknica**	**6.10**	**318**	*e*Pn	**Pn**	**Pn**	**21 58 35.3**	**+0.1**
SOKA	**Soboth**	**6.53**	**327**	*i* Pn	**Pn**	**Pn**	**21 58 42.1**	**+1.0**
	comp=E,1.6nm,0.3s,SNR=6.4							
SOKA				*i* Sn	**Sn**	**Sn**	**21 59 55.1**	**-0.4**
	comp=E,0.6nm,0.3s							
OBKA	**Obir**	**6.61**	**323**	*e*Pn	**Pn**	**Pn**	**21 58 44.0**	**+1.8**
	comp=E,1.2nm,0.3s							
OBKA				*i* Sn	**Sn**	**Sn**	**21 59 58.8**	**+1.4**
	comp=E,2.9nm,0.6s							
KOLS	**Kolonicke sedl**	**7.73**	**10**	*e*PG	**Pg**	**Pg**	**21 59 35.1**	**+1.8**
ABTA	**Abfaltersbach**	**7.76**	**317**	*e*Pn	**Pn**	**Pn**	**21 58 59.1**	**+1.1**
	comp=E,2.2nm,0.5s,SNR=5.5							
ABTA				*e*Sn	**Sn**	**Sn**	**22 00 24.6**	**-1.2**
	comp=E,2.8nm,0.6s							
WTTA	**Wattenberg**	**8.55**	**317**	*i* Pn	**Pn**	**Pn**	**21 59 10.2**	**+1.2**
	comp=E,1.2nm,0.2s							
WTTA				*i* Sn	**Sn**	**Sn**	**22 00 44.7**	**-0.7**
	comp=E,2.7nm,0.5s							
WATA	**Walderalm**	**8.63**	**317**	*i* Pn	**Pn**	**Pn**	**21 59 11.5**	**+1.5**
	comp=E,1.9nm,0.3s,SNR=5.4							
SQTA	**Sankt Quirin**	**8.75**	**315**	*i* Pn	**Pn**	**Pn**	**21 59 12.6**	**+0.9**
	comp=E,2.2nm,0.3s							
MOTA	**Moosalm**	**8.88**	**316**	*e*Pn	**Pn**	**Pn**	**21 59 14.2**	**+0.7**
	comp=E,1.7nm,0.4s							
MOTA				*i* Sn	**Sn**	**Sn**	**22 00 54.0**	**+0.6**
	comp=E,2.3nm,0.6s							
FETA	**Feichten**	**8.89**	**313**	*i* Sn	**Sn**	**Sn**	**22 00 53.1**	**-0.5**
	comp=E,1.7nm,0.6s							
KHC	**Kasperske Hory**	**9.10**	**331**	*e*PN	**Pn**	**Pn**	**21 59 16.0**	**-0.4**

IDC 23 22:17:31.9±2.5, 4°94S×151°44E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/27, mbtmp3.4/3, Error ellipse: s-maj=220.6km s-min=31.3km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.14**	**224**		Sn	Sn	22 20 16.4	+1.4
	2.2nm,0.3s,baz=195,slow=22,SNR=2.2							
WRA	**Warramunga Arr**	**22.35**	**227**	P		P	22 22 32.3	+0.6
	0.7nm,1.0s,baz=52,slow=10.0,SNR=2.1							
ASAR	**Alice Springs**	**25.14**	**221**	P		P	22 22 58.5	-0.5
	0.4nm,0.7s,baz=51,slow=9.9,SNR=5.3							
ILAR	**Eielson Array**	**82.80**	**22**	P		P	22 29 58.0	+0.1
	0.2nm,0.5s,baz=251,slow=5.6,SNR=4.4							

IDC 23 22:21:46.4±1.9, 0°49N×125°55E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/27, mbtmp3.4/3, Error ellipse: s-maj=189.5km s-min=24.7km az=64.0

DJA 23 22:21:53.5±0.7, 1°N±7°×127°E±°, h52km±22km, M3.0/5, MLv3.0/5, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.53**	**121**	P		Pn	22 22 06.8	+1.5
WRA	**Warramunga Arr**	**22.10**	**161**	P		P	22 26 41.1	-3.5
	0.3nm,0.4s,baz=335,slow=12,SNR=9.7							
ASAR	**Alice Springs**	**25.49**	**165**	P		P	22 27 16.8	-0.3
	0.7nm,0.5s,baz=344,slow=11,SNR=8.7							
MKAR	**Makanchi Array**	**59.85**	**326**	P		P	22 31 51.8	-2.0
	0.2nm,0.4s,baz=118,slow=7.6,SNR=8.3							

NOU 23 22:27:49.2, 40°20S×174°27E, h12km, MLv3.5, Cook Strait, New Zealand

WEL 23 22:27:50.3, 40°S±1°×177°E±°, h38km±7km, M3.7/21, ML4.0/21, MLv3.7/21, Error ellipse: s-maj=0.0km s-min=0.0km az=44.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.62**	**207**	P		Pn	22 28 02.9	+0.1
DUWZ				S		Sn	22 28 12.7	+1.2
WAZ	**Wanganui**	**0.72**	**47**	P		Pn	22 28 03.5	-0.5
WAZ				S		Sn	22 28 13.5	-0.4
KIW	**Kapiti Island**	**0.77**	**143**	P		Pn	22 28 04.8	+0.1
KIW				S		Sn	22 28 14.9	-0.2
OHWZ	**Ohakea**	**0.78**	**87**	P		Pn	22 28 05.2	+0.4
OHWZ				S		Sn	22 28 16.0	+0.6
LREZ	**Lake Rotokare**	**0.79**	**6**	P		Pn	22 28 05.0	0.0
LREZ				S		Sn	22 28 16.4	+0.9
OGWZ	**Otaki Gorge**	**0.88**	**131**	P		Pn	22 28 06.5	+0.4
OGWZ				S		Sn	22 28 18.1	+0.4
NMEZ	**Namu Road**	**0.89**	**339**	P		Pn	22 28 07.1	+0.8
NMEZ				S		Sn	22 28 20.4	+2.4
PREZ	**Palmer Road**	**0.91**	**353**	P		Pn	22 28 07.1	+0.5
PREZ				S		Sn	22 28 20.5	+1.9
NEZ	**North Egmont**	**0.99**	**351**	P		Pn	22 28 08.2	+0.4
CAW	**Cannon Point**	**1.04**	**146**	P		Pn	22 28 09.0	+0.6
CAW				S		Sn	22 28 22.9	+1.2
MRZ	**Mangatainoka R**	**1.06**	**113**	P		Pn	22 28 09.5	+0.8
MRZ				S		Sn	22 28 23.0	+0.7
PKE	**Pukeiti**	**1.08**	**347**	P		Pn	22 28 09.9	+1.0
PKE				S		Sn	22 28 25.6	+2.9
VRZ	**Vera Road**	**1.18**	**18**	P		Pn	22 28 10.8	+0.6
VRZ				S		Sn	22 28 26.2	+1.2
TUWZ	**Tuamarina**	**1.21**	**193**	P		Pn	22 28 11.3	+0.6
TUWZ				S		Sn	22 28 26.9	+1.0
BHW	**Baring Head**	**1.24**	**160**	P		Pn	22 28 12.1	+1.0
PKVZ	**Pokaka**	**1.25**	**41**	P		Pn	22 28 11.6	+0.3
PKVZ				S		Sn	22 28 27.5	+0.5
TSZ	**Takapari Road**	**1.29**	**82**	P		Pn	22 28 12.4	+0.5
PRWZ	**Pori Road**	**1.32**	**104**	P		Pn	22 28 13.8	+1.6
TIWZ	**Tintock**	**1.32**	**114**	P		Pn	22 28 13.9	+1.6
MSWZ	**Moikau Station**	**1.37**	**148**	P		Pn	22 28 14.4	+1.4
PAWZ	**Paruwai Farm**	**1.42**	**143**	S		Sn	22 28 34.8	+3.7
DVHZ	**Dannevirke**	**1.43**	**93**	P		Pn	22 28 14.9	+1.1
QRZ	**Quartz Range**	**1.46**	**246**	P		Pn	22 28 15.3	+1.1
TWVZ	**Taurewa**	**1.47**	**37**	P		Pn	22 28 14.4	0.0
NGZ	**Ngauruhoe**	**1.47**	**44**	P		Pn	22 28 14.5	+0.1
TMWZ	**Te Maipa**	**1.49**	**126**	P		Pn	22 28 15.1	+0.6
BSWZ	**Blackbirch Sta**	**1.50**	**192**	P		Pn	22 28 15.8	+1.1
PLWZ	**Palliser**	**1.51**	**151**	P		Pn	22 28 15.7	+0.8
WTVZ	**West Tongariro**	**1.51**	**42**	P		Pn	22 28 14.8	-0.1
OTVZ	**Murero**	**1.51**	**45**	P		Pn	22 28 15.7	+0.6
BFZ	**Birch Farm**	**1.55**	**107**	P		Pn	22 28 16.0	+0.6
BHHZ	**Black Hill Sta**	**1.56**	**61**	P		Pn	22 28 16.6	+1.1
TRWZ	**Traveller**	**1.56**	**138**	P		Pn	22 28 17.3	+1.7
CPWZ	**Castlepoint**	**1.60**	**115**	P		Pn	22 28 20.1	+4.1
WPHZ	**Waipukurau**	**1.66**	**84**	P		Pn	22 28 19.7	+2.9
KRHZ	**Kereru**	**1.71**	**70**	P		Pn	22 28 19.3	+1.7
HIZ	**Hauiti**	**1.79**	**14**	P		Pn	22 28 19.1	+0.5
PRHZ	**Porangahau**	**1.79**	**91**	P		Pn	22 28 20.4	+1.7
RATZ	**Rangitukua**	**1.79**	**40**	P		Pn	22 28 19.0	+0.3
KWHZ	**Kaweka Forest**	**1.83**	**64**	P		Pn	22 28 21.5	+2.2
THZ	**Tophouse**	**1.84**	**214**	P		Pn	22 28 22.1	+2.6
WATZ	**Wairara**	**1.90**	**36**	P		Pn	22 28 20.7	+0.5
PXZ	**Pawanui**	**1.98**	**85**	P		Pn	22 28 24.7	+3.5
BKZ	**Black Stump Fm**	**2.01**	**58**	P		Pn	22 28 22.6	+0.9
MCHZ	**McNeill Hill**	**2.02**	**67**	P		Pn	22 28 24.1	+2.3
KAHZ	**Kahuranaki**	**2.03**	**78**	P		Pn	22 28 23.0	+0.9
WHTZ	**Whakarara**	**2.04**	**40**	P		Pn	22 28 26.0	+3.8
KUTZ	**Kaahu Road**	**2.12**	**34**	P		Pn	22 28 24.4	+1.1
TLZ	**Tolley Road**	**2.15**	**27**	P		Pn	22 28 23.6	0.0
MRHZ	**Matea Rd**	**2.17**	**50**	P		Pn	22 28 26.0	+2.1
KHZ	**Kahutara**	**2.24**	**194**	P		Pn	22 28 26.7	+1.8
NMHZ	**Naumai**	**2.25**	**60**	P		Pn	22 28 24.6	-0.5
ARHZ	**Aropaoanui**	**2.30**	**66**	P		Pn	22 28 29.5	+3.8
ALRZ	**Allen Road**	**2.31**	**44**	P		Pn	22 28 27.5	+1.6
DSZ	**Denniston Nort**	**2.41**	**231**	P		Pn	22 28 29.1	+1.9
MTHZ	**Maungataniwha**	**2.41**	**56**	P		Pn	22 28 28.0	+0.7
RAHZ	**Arahi**	**2.53**	**59**	P		Pn	22 28 31.7	+2.8
MUGZ	**Murupara**	**2.61**	**48**	P		Pn	22 28 31.6	+1.7
RTZ	**Ruatahuna**	**2.64**	**53**	P		Pn	22 28 31.0	+0.5
TARZ	**Mount Tarawera**	**2.64**	**41**	P		Pn	22 28 33.5	+3.0
TOZ	**Tahuroa Road**	**2.68**	**21**	P		Pn	22 28 31.2	+0.3
SNGZ	**Shannon Statio**	**2.77**	**59**	P		Pn	22 28 36.5	+4.3
GVZ	**Greta Valley S**	**2.88**	**199**	P		Pn	22 28 35.1	+1.5
TGRZ	**Tauranga**	**2.94**	**32**	P		Pn	22 28 38.1	+3.5
LTZ	**Lake Taylor**	**2.95**	**210**	P		Pn	22 28 36.8	+2.1
URZ	**Urewera**	**2.95**	**49**	P		Pn	22 28 35.0	+0.3
MHGZ	**Mahia Peninsul**	**2.99**	**70**	P		Pn	22 28 35.8	+0.6
MWZ	**Matawai**	**3.15**	**54**	P		Pn	22 28 37.7	+0.2
AWAZ	**Awhitu Peninsu**	**3.19**	**5**	P		Pn	22 28 38.4	+0.5
MKAZ	**Moumakai**	**3.21**	**12**	P		Pn	22 28 38.5	+0.4
INZ	**Inchbonnie**	**3.27**	**220**	P		Pn	22 28 41.4	+2.4
WTAZ	**Waiatarua**	**3.32**	**4**	P		Pn	22 28 40.3	+0.6
RUGZ	**Raukumara Rang**	**3.48**	**50**	P		Pn	22 28 42.9	+0.9
MBAZ	**Motutapu North**	**3.50**	**8**	P		Pn	22 28 42.9	+0.6
OXZ	**Oxford**	**3.51**	**208**	P		Pn	22 28 42.7	+0.4
WIAZ	**Waiheke Island**	**3.51**	**11**	P		Pn	22 28 42.8	+0.4
TWGZ	**Tauwhareparae**	**3.53**	**55**	P		Pn	22 28 43.8	+1.1
OKCZ	**Okains Bay**	**3.59**	**194**	P		Pn	22 28 43.6	+0.2
MQZ	**McQueen's Vall**	**3.67**	**199**	P		Pn	22 28 43.8	-0.6
HAZ	**Te Kaha**	**3.68**	**49**	P		Pn	22 28 44.8	+0.1
AKCZ	**Akaroa Harbour**	**3.77**	**195**	P		Pn	22 28 45.8	0.0
PKIZ	**Pakihiroa**	**3.77**	**53**	P		Pn	22 28 46.1	+0.2
WVZ	**Waitaha Valley**	**3.88**	**222**	P		Pn	22 28 49.9	+2.5
WMGZ	**Waiomatatini S**	**4.02**	**54**	P		Pn	22 28 48.9	-0.4
RPZ	**Rata Peaks**	**4.22**	**214**	P		Pn	22 28 53.2	+1.1
GCSZ	**Gaunt Creek Bo**	**4.27**	**223**	P		Pn	22 28 54.4	+1.7
WCZ	**Waipu Caves**	**4.30**	**1**	P		Pn	22 28 53.7	+0.5
ARCZ	**Arundel**	**4.36**	**211**	P		Pn	22 28 54.7	+0.7
FOZ	**Fox Glacier**	**4.69**	**224**	P		Pn	22 28 59.7	+1.3
TMZ	**Timaru**	**4.80**	**209**	P		Pn	22 29 00.4	+0.4
LBZ	**Lake Benmore**	**5.14**	**215**	P		Pn	22 29 04.7	+0.1
ODZ	**Otahua Downs**	**5.50**	**208**	P		Pn	22 29 09.5	-0.1
CTZ	**Chatham Island**	**7.61**	**120**	P		Pn	22 29 38.3	-0.3

IDC 23 23:03:31.9±2.8, 6°67S×129°71E, h115km±37km, mb3.3/1, mb1 3.5/4, mb1mx3.0/45, mbtmp3.8/4, MS2.6/1, Ms1 2.6/1, ms1mx2.3/19, Error ellipse: s-maj=57.2km s-min=21.6km az=91.0

NEIC 23 23:03:32.9±1.8, 6°67S±0°05×129°97E±0°08, h160km±8km, mb4.7/5, Error ellipse: s-maj=12.5km s-min=5.9km az=69.0

ISC 23 23:03:31.1±0.7, 6°62S±0°05×129°89E±0°08, h146km, n21, σ2°71/27, mb4.6/4, 1C, Banda Sea

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

MSVF	**Nonsavu**	**6.66**	**353**	P		**P**	**23 11 39.6 +1.8**
	1.3nm,0.3s,baz=97,slow=23,SNR=2.5						
MSVF	**Nonsavu**	**6.66**	**353**	P		**P**	**23 11 38.6 +0.7**
OUZ	**Omahuta**	**11.75**	**202**	P		**P**	**23 12 26.9 +0.2**
URZ	**Urewera**	**13.93**	**186**	P		**P**	**23 12 47.4 -1.1**
BKZ	**Black Stump Fm**	**14.89**	**187**	P		**P**	**23 12 57.3 -0.3**
FUNA	**Funafuti**	**15.77**	**1**	P		**P**	**23 13 04.5 -1.5**
BFZ	**Birch Farm**	**16.41**	**187**	P		**P**	**23 13 12.1 +0.6**
BFZ				IAmb	IAmb		23 13 24.1
	comp=Z,22nm,1.1s						
SNZO	**South Karori**	**17.25**	**191**	P		**P**	**23 13 20.0 +0.8**
QRZ	**Quartz Range**	**17.26**	**197**	P		**P**	**23 13 20.9 +1.6**
MSWZ	**Moikau Station**	**17.27**	**189**	P		**P**	**23 13 20.1 +0.8**
BHW	**Baring Head**	**17.32**	**190**	P		**P**	**23 13 20.4 +0.6**
PLWZ	**Palliser**	**17.42**	**189**	P		**P**	**23 13 21.1 +0.3**
NNZ	**Nelson**	**17.42**	**194**	P		**P**	**23 13 21.0 +0.3**
NNZ				IAmb	IAmb		23 13 21.7
	comp=Z,12nm,0.7s						
TUWZ	**Tuamarina**	**17.51**	**193**	P		**P**	**23 13 21.6 +0.2**
BSWZ	**Blackbirch Sta**	**17.80**	**192**	P		**P**	**23 13 25.5 +1.3**
THZ	**Tophouse**	**18.05**	**195**	P		**P**	**23 13 27.1 +0.6**
THZ				IAmb	IAmb		23 13 30.3
	comp=Z,10.0nm,0.9s						
KHZ	**Kahutara**	**18.54**	**193**	P		**P**	**23 13 31.1 +0.3**
KHZ				IAmb	IAmb		23 13 35.9
	comp=Z,15nm,1.2s						
LHI	**Lord Howe Isla**	**18.93**	**244**	P		**P**	**23 13 33.7 -0.9**
LTZ	**Lake Taylor**	**19.16**	**195**	P		**P**	**23 13 38.9 +2.3**
LTZ				IAmb	IAmb		23 13 41.7
	comp=Z,13nm,1.2s						
FOZ	**Fox Glacier**	**20.52**	**199**	P		**P**	**23 13 49.3 +0.5**
LBZ	**Lake Benmore**	**21.20**	**198**	P		**P**	**23 13 54.3 -0.6**
LBZ				IAmb	IAmb		23 13 57.2
	comp=Z,9.9nm,1.1s						
WKZ	**Wanaka**	**21.94**	**199**	P		**P**	**23 14 01.0 -0.5**
MLZ	**Mavora Lakes**	**22.70**	**200**	P		**P**	**23 14 08.6 +0.3**
WHZ	**Wether Hill Ro**	**23.23**	**200**	P		**P**	**23 14 13.9 +1.0**
ARMA	**Armidale**	**24.95**	**250**	P		**P**	**23 14 28.0 -0.5**
ARMA				IAmb	IAmb		23 14 38.7
	comp=Z,7.1nm,1.1s						
EIDS	**Eidsvold**	**25.28**	**262**	P		**P**	**23 14 31.1 -0.3**
CAN	**Canberra**	**28.06**	**240**	P		**P**	**23 14 56.0 +0.4**
CAN				IAmb	IAmb		23 15 05.8
	comp=Z,9.0nm,1.1s						
CTA	**Charters Tower**	**30.51**	**272**	P		**P**	**23 15 17.2 +0.3**
	comp=Z,4.4nm,0.3s,baz=96,slow=11,SNR=7.5						
CTAO	**Charters Tower**	**30.51**	**272**	P		**P**	**23 15 17.2 +0.3**
CTAO				IAmb	IAmb		23 15 17.5
	comp=Z,6.0nm,0.4s						
TOO	**Toolangi**	**31.38**	**237**	P		**P**	**23 15 24.0 -0.1**
TOO				IAmb	IAmb		23 15 27.5
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**33.65**	**249**	P		**P**	**23 15 43.0 -0.2**
	comp=Z,2.4nm,0.4s,baz=99,slow=11,SNR=8.6						
STKA	**Stephens Creek**	**33.65**	**249**	IAmb	IAmb		23 15 43.6
	comp=Z,0.7nm,0.6s						
BBOO	**Buckleboo**	**38.37**	**247**	P		**P**	**23 16 21.3 -0.7**
BBOO				IAmb	IAmb		23 16 24.7
	comp=Z,10nm,1.1s						
AS31	**Alice Springs**	**41.00**	**261**	P		**P**	**23 16 43.0 -0.2**
ASAR	**Alice Springs**	**41.00**	**261**	P		**P**	**23 16 43.1 -0.1**
	comp=Z,4.7nm,0.8s,baz=92,slow=8.4,SNR=24						
WR0	**Warramunga Arr**	**41.22**	**267**	P		**P**	**23 16 44.7 -0.3**
WB2	**Warramunga Arr**	**41.40**	**267**	P		**P**	**23 16 45.6 -0.7**
WB2				IAmb	IAmb		23 16 46.4
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**41.40**	**267**			pwP	23 18 34.7 +0.7
WB0	**Warramunga Arr**	**41.41**	**267**	P		**P**	**23 16 45.9 -0.5**
WB0				IAmb	IAmb		23 16 46.4
	comp=Z,7.6nm,0.6s						
WRA	**Warramunga Arr**	**41.41**	**267**	P		**P**	**23 16 45.9 -0.6**
	comp=Z,4.3nm,0.3s,baz=97,slow=8.3,SNR=52						
WRA	**Warramunga Arr**	**41.41**	**267**	P		**P**	**23 16 45.8 -0.7**
FORT	**Forrest**	**45.24**	**250**	P		**P**	**23 17 15.1 -0.8**
FITZ	**Fitzroy Crossi**	**49.83**	**266**	P		**P**	**23 17 51.2 +0.9**
	comp=Z,3.3nm,0.8s,baz=100,slow=6.2,SNR=2.4						
POHA	**Pohakuloa**	**50.43**	**32**			**PcP**	**23 19 01.4 -0.6**
PSA00	**Pilbara Seismi**	**54.13**	**260**	P		**P**	**23 18 22.1 +1.1**
PSA00				IAmb	IAmb		23 18 22.7
	comp=Z,7.9nm,0.7s						
NWAO	**Narrogin (SRO)**	**54.16**	**246**	P		**P**	**23 18 20.9 -0.1**
MORW	**Morawa**	**55.80**	**250**	P		**P**	**23 18 32.2 -0.3**
MORW				IAmb	IAmb		23 18 33.2
	comp=Z,15nm,1.1s						
NVAR	**Mina Array Bea**	**85.77**	**44**	P		P	23 21 34.2 +6.5
	comp=Z,0.4nm,0.7s,baz=224,slow=8.5,SNR=3.9						
TXAR	**Lajitas Array**	**91.51**	**58**	P		P	23 22 02.1 +7.5
	comp=Z,0.4nm,0.8s,baz=230,slow=5.7,SNR=4.2						
PV16	**Nyswonger Mesa**	**91.92**	**49**			pP	23 24 02.4 -3.3
PV22	**Blue Mesa, Par**	**92.12**	**48**			pP	23 24 04.4 -2.2
ILAR	**Eielson Array**	**92.72**	**14**	P		P	23 22 02.4 +3.3
	comp=Z,0.6nm,1.0s,baz=194,slow=7.1,SNR=2.7						
AKASG	**Malin Array Be**	**144.84**	**326**	PKP		**PKiKP**	**23 28 23.6 -0.3**
	comp=Z,0.4nm,0.4s,baz=45,slow=4.2,SNR=4.0						

*IDC **23** 23:11:11.9±1.2,2°.95S×139°.39E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.3/37, mbtmp3.5/5, ML3.7/2, Error ellipse: s-maj=26.4km s-min=15.2km az=157.0*
*DJA **23** 23:11:15.4±1.1,2°.5±9°×13°.9E±, h21kmb18km, M3.1/4, MLv3.1/4*
ISC 23 23:11:15.2±1.1,**2°.8S**±0°.1×**139°.32E**±0°.08,**h35**km,**n10**, σ1°**31**/8,**mb3.1**/3,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.88**	**74**	P		**Pn**		**23 11 30.0**	**-1.1**
SMPI	**Sarmi**	**1.04**	**324**	P		**Pn**		**23 11 32.0**	**-1.4**
WAMI	**Wamena**	**1.20**	**210**	P		Pn		23 11 43.9	+8.4
JAY	**Jayapura**	**1.42**	**77**	Pg		**Pn**		**23 11 38.2**	**-0.3**
	7.2nm,0.3s,baz=264,slow=6.0,SNR=15								
JAY				Lg		Lg		23 11 55.8	
	10nm,0.3s,baz=90,slow=18,SNR=10								
JAY	**Jayapura**	**1.42**	**77**	P		**Pn**		**23 11 37.7**	**-0.9**
WRA	**Warramunga Arr**	**17.68**	**196**	P		**Pn**		**23 15 18.2**	**-0.6**
	0.1nm,0.3s,baz=20,slow=7.9,SNR=2.7								
CTA	**Charters Tower**	**18.43**	**159**	P		**Pn**		**23 15 27.4**	**-0.5**
	0.6nm,0.3s,baz=331,slow=8.4,SNR=1.9								
ASAR	**Alice Springs**	**21.35**	**194**	P		**P**		**23 16 00.1**	**+0.5**
	0.5nm,0.5s,baz=22,slow=10,SNR=6.1								
MKAR	**Makanchi Array**	**70.27**	**322**	P		**P**		**23 22 26.9**	**+1.9**
	0.1nm,0.5s,baz=122,slow=7.3,SNR=1.9								
ZALV	**Zalesovo Beam**	**72.36**	**330**	P		P		23 22 41.4	+4.0
	0.2nm,0.2s,baz=135,slow=7.0,SNR=1.4								

*NNC **23** 23:15:10.7±0.5,45°.99N×79°.50E, h4km±6km, mb3.8, mpv3.6, Error ellipse: s-maj=5.3km s-min=3.1km az=112.0*
*SOME **23** 23:15:12.0, 46°.00N×79°.47E, h25km*
ISC 23 23:15:11.1±0.9,**45°.99N**±0°.03×**79°.65E**±0°.03,**h10**km,**n61**, σ1°**73**/91,**9C-10D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**1.32**	**222**	⇓*eP*		**Pn**		**23 15 35.1**	**-0.5**
	106nm,0.1s								
TDK				*eS*		**Sb**		**23 15 51.7**	**-1.2**
	60nm,0.2s								
TDK	**Taldyqorghan**	**1.32**	**222**	P		**Pn**		**23 15 35.1**	**-0.5**
	106nm,0.1s								
TDK				S		**Sb**		**23 15 51.7**	**-1.2**
	60nm,0.2s								
DJR	**Jarkent**	**1.66**	**176**	*eP*		**Pb**		**23 15 42.3**	**+0.5**
	7.3nm,0.2s								
DJR				*eS*		**Sb**		**23 16 03.5**	**+0.6**
	67nm,0.4s								
DJR	**Jarkent**	**1.66**	**176**	P		**Pb**		**23 15 42.3**	**+0.5**
	7.3nm,0.2s								
DJR				S		**Sb**		**23 16 03.5**	**+0.6**
	67nm,0.4s								
MAKZ	**Makanchi**	**1.81**	**62**	⇑Pn		**Pb**		**23 15 44.2**	**-0.1**
	4.9nm,0.2s								
MAKZ				⇑Sn		**Sg**		**23 16 08.3**	**-0.9**
	12nm,0.2s								
MK31	**Makanchi Array**	**2.00**	**65**	⇓Pn		**Pb**		**23 15 47.0**	**-0.5**
	7.1nm,0.4s,baz=242,slow=13,SNR=300								
MK31				⇑Sn		**Sg**		**23 16 14.1**	**-1.2**
	5.8nm,0.2s,baz=242,slow=26,SNR=12								
MNBS	**Baschi**	**2.11**	**205**	*eP*		**Pb**		**23 15 49.2**	**-0.2**
	44nm,0.1s								
MNBS				*eS*		**Sb**		**23 16 15.7**	**0.0**
	251nm,0.3s								
MNBS	**Baschi**	**2.11**	**205**	Pg		**Pb**		**23 15 49.2**	**-0.2**
	44nm,0.1s								
MNBS				Lg		Lg		23 16 15.7	
	251nm,0.3s								
ARXS	**Arharly**	**2.20**	**217**	*eP*		**Pb**		**23 15 51.0**	**+0.1**
	110nm,0.3s								
ARXS				*eS*		**Sb**		**23 16 18.8**	**+0.6**
	95nm,0.3s								
ARXS	**Arharly**	**2.20**	**217**	Pg		**Pb**		**23 15 51.0**	**+0.1**
	110nm,0.3s								
ARXS				Lg		Lg		23 16 18.8	
	95nm,0.3s								
KTMS	**Ketmen**	**2.59**	**169**	*eP*		**Pb**		**23 15 58.6**	**+0.8**
KTMS				*eS*		**Sb**		**23 16 31.6**	**+1.8**
KTMS	**Ketmen**	**2.59**	**169**	Pg		**Pb**		**23 15 58.6**	**+0.8**
KTMS				Lg		Lg		23 16 31.6	
KPKS	**Kokpek**	**2.62**	**196**	*eP*		**Pb**		**23 15 58.3**	**+0.2**
	22nm,0.1s								
KPKS				*eS*		**Sb**		**23 16 31.6**	**+1.3**
	98nm,0.4s								
PDGK	**Podgornoye**	**2.66**	**182**	Pg		**Pb**		**23 15 59.4**	**+0.4**
	2.2nm,0.2s								
PDGK				Lg		Lg		23 16 33.1	
	21nm,0.3s								
PDGK	**Podgornoye**	**2.66**	**182**	⇓Pg		**Pb**		**23 16 00.2**	**+1.3**
	1.6nm,0.3s								
PDGK				⇑Lg		Lg		23 16 34.3	
	27nm,0.5s								
KURS	**Kuram**	**2.71**	**203**	*eP*		**Pb**		**23 16 00.6**	**+0.8**
	11nm,0.3s								
KURS				*eS*		**Sb**		**23 16 35.1**	**+1.9**
	18nm,0.4s								
KURS	**Kuram**	**2.71**	**203**	Pg		**Pb**		**23 16 00.6**	**+0.8**
	11nm,0.3s								
KURS				Lg		Lg		23 16 35.1	
	18nm,0.4s								
SHLS	**Shalkode**	**2.84**	**183**	*eP*		**Pb**		**23 16 02.6**	**+0.7**
	4.7nm,0.2s								
SHLS				*eS*		**Sb**		**23 16 38.7**	**+2.0**
	52nm,0.5s								
SHLS	**Shalkode**	**2.84**	**183**	Pg		**Pb**		**23 16 02.6**	**+0.7**
	4.7nm,0.2s								
SHLS				Lg		Lg		23 16 38.7	
	52nm,0.5s								
CHKK	**Chushkaly**	**2.85**	**222**	*eP*		**Pb**		**23 16 01.7**	**-0.4**
	9.6nm,0.2s								
CHKK				*eS*		**Sb**		**23 16 37.6**	**+0.6**
	32nm,0.3s								
CHKK	**Chushkaly**	**2.85**	**222**	Pg		**Pb**		**23 16 01.7**	**-0.4**
	9.6nm,0.2s								
CHKK				Lg		Lg		23 16 37.6	
	32nm,0.3s								
UZB	**Uzynbulak**	**2.88**	**189**	*eP*		**Pb**		**23 16 03.3**	**+0.6**
	7.6nm,0.3s								
UZB				*eS*		**Sb**		**23 16 39.5**	**+1.6**
	77nm,0.4s								
UZB	**Uzynbulak**	**2.88**	**189**	Pg		**Pb**		**23 16 03.3**	**+0.6**
	7.6nm,0.3s								
UZB				Lg		Lg		23 16 39.5	
	77nm,0.4s								
ZHN	**Zhinishke**	**2.95**	**197**	*eP*		**Pb**		**23 16 05.0**	**+1.2**
	222nm,0.6s								
ZHN				*eS*		**Sb**		**23 16 42.7**	**+2.6**
	19nm,0.2s								
ZHN	**Zhinishke**	**2.95**	**197**	Pg		**Pb**		**23 16 05.0**	**+1.2**
	222nm,0.6s								
ZHN				Lg		Lg		23 16 42.7	
	19nm,0.2s								
SATY	**Saty**	**3.06**	**197**	⇑*iP*		**Pb**		**23 16 06.5**	**+0.8**
	4.0nm,0.1s								
SATY				⇓*iS*		**Sb**		**23 16 45.5**	**+2.2**
	85nm,0.2s								
SATY	**Saty**	**3.06**	**197**	Pg		**Pb**		**23 16 06.5**	**+0.8**
	4.0nm,0.1s								
SATY				Lg		Lg		23 16 45.5	
	85nm,0.2s								
KTBS	**Karatobe**	**3.10**	**224**	*eP*		**Pb**		**23 16 06.2**	**-0.2**
	5.9nm,0.3s								
KTBS				*eS*		**Sb**		**23 16 45.0**	**+0.6**
	34nm,0.5s								
KTBS	**Karatobe**	**3.10**	**224**	Pg		**Pb**		**23 16 06.2**	**-0.2**
	5.9nm,0.3s								
KTBS				Lg		Lg		23 16 45.0	
	34nm,0.5s								
KUU	**Kurty**	**3.15**	**229**	*eP*		**Pb**		**23 16 06.5**	**-0.6**
	6.4nm,0.1s								
KUU				*eS*		**Sb**		**23 16 46.1**	**+0.5**
	50nm,0.3s								
KUU	**Kurty**	**3.15**	**229**	Pg		**Pb**		**23 16 06.5**	**-0.6**
	6.4nm,0.1s								
KUU				Lg		Lg		23 16 46.1	
	50nm,0.3s								
KOTS	**Kotyrbulak**	**3.30**	**214**	*eP*		**Pb**		**23 16 10.7**	**+0.9**
	8.1nm,0.3s								
KOTS				*eS*		**Sb**		**23 16 53.0**	**+2.9**
	22nm,0.2s								
KOTS	**Kotyrbulak**	**3.30**	**214**	Pg		**Pb**		**23 16 10.7**	**+0.9**
	8.1nm,0.3s								
KOTS				Lg		Lg		23 16 52.9	
	22nm,0.2s								
MDOK	**Medeo**	**3.38**	**214**	*eP*		**Pb**		**23 16 11.7**	**+0.5**
	3.8nm,0.1s								
MDOK				*eS*		**Sb**		**23 16 54.8**	**+2.3**
	13nm,0.5s								
MDOK	**Medeo**	**3.38**	**214**	⇓Pg		**Pb**		**23 16 11.3**	**+0.1**
	0.4nm,0.2s								
MDOK				⇓Lg		Lg		23 16 54.9	
	13nm,0.7s								
MDOK	**Medeo**	**3.38**	**214**	Pg		**Pb**		**23 16 11.7**	**+0.5**
	3.8nm,0.1s								
MDOK				Lg		Lg		23 16 54.8	
	13nm,0.5s								
AAA	**Alma-Ata**	**3.40**	**216**	*eP*		**Pb**		**23 16 12.8**	**+1.4**
	9.2nm,0.2s								
AAA				*eS*		**Sb**		**23 16 56.3**	**+3.5**
	17nm,0.2s								
AAA	**Alma-Ata**	**3.40**	**216**	Pg		**Pb**		**23 16 12.8**	**+1.4**
	9.2nm,0.2s								
AAA				Lg		Lg		23 16 56.3	
	17nm,0.2s								
TNSS	**Tian-Shan**	**3.53**	**214**	*eP*		**Pb**		**23 16 14.3**	**+0.4**
	5.4nm,0.3s								
TNSS				*eS*		**Sb**		**23 16 59.4**	**+2.5**
	9.6nm,0.3s								
TNSS	**Tian-Shan**	**3.53**	**214**	Pg		**Pb**		**23 16 14.3**	**+0.4**
	5.4nm,0.3s								
TNSS				Lg		Lg		23 16 59.4	
	9.6nm,0.3s								
KRBS	**Karabastau**	**3.64**	**232**	*eP*		**Pb**		**23 16 15.8**	**+0.3**
	4.2nm,0.2s								
KRBS				*eS*		**Sb**		**23 17 01.4**	**+1.6**
	11nm,0.1s								
KRBS	**Karabastau**	**3.64**	**232**	Pg		**Pb**		**23 16 15.8**	**+0.3**
	4.2nm,0.2s								
KRBS				Lg		Lg		23 17 01.4	
	11nm,0.1s								
IZV	**Izvestkoviy**	**3.67**	**217**	*eP*		**Pb**		**23 16 16.7**	**+0.6**
	5.7nm,0.2s								
IZV				*eS*		**Sb**		**23 17 03.1**	**+2.5**
	8.5nm,0.1s								
IZV	**Izvestkoviy**	**3.67**	**217**	Pg		**Pb**		**23 16 16.7**	**+0.6**
	5.7nm,0.2s								
IZV				Lg		Lg		23 17 03.1	
	8.5nm,0.1s								
MTBS	**Maitube**	**3.67**	**220**	*eP*		**Pb**		**23 16 17.3**	**+1.2**
	2.4nm,0.1s								
MTBS				*eS*		**Sb**		**23 17 04.0**	**+3.4**
	14nm,0.2s								
MTBS	**Maitube**	**3.67**	**220**	Pg		**Pb**		**23 16 17.3**	**+1.2**
	2.4nm,0.1s								
MTBS				Lg		Lg		23 17 04.0	
	14nm,0.2s								
DGS	**Degeres**	**3.90**	**227**	*eP*		**Pb**		**23 16 20.1**	**+0.1**
	6.0nm,0.3s								
DGS				*eS*		**Sb**		**23 17 08.7**	**+1.4**
	12nm,0.5s								
DGS	**Degeres**	**3.90**	**227**	Pg		**Pb**		**23 16 20.1**	**+0.1**
	6.0nm,0.3s								
DGS				Lg		Lg		23 17 08.7	
	12nm,0.5s								
KST	**Kastek**	**3.95**	**223**	*eP*		**Pb**		**23 16 20.7**	**-0.2**
	8.1nm,0.3s								
KST				*eS*		**Sb**		**23 17 09.2**	**+0.4**
	8.1nm,0.6s								
KST	**Kastek**	**3.95**	**223**	Pg		**Pb**		**23 16 20.7**	**-0.2**
	8.1nm,0.3s								
KST				Lg		Lg		23 17 09.2	
	8.1nm,0.6s								
BTLS	**Baital**	**4.05**	**258**	*eP*		**Pb**		**23 16 22.9**	**+0.4**
	2.8nm,0.3s								
BTLS				*eS*		**Sb**		**23 17 13.7**	**+2.2**
	3.6nm,0.5s								
BTLS	**Baital**	**4.05**	**258**	Pg		**Pb**		**23 16 22.9**	**+0.4**
	2.8nm,0.3s								
BTLS				Lg		Lg		23 17 13.7	
	3.6nm,0.5s								
TKM2	**Tokmak 2**	**4.22**	**225**	⇑Pg		**Pb**		**23 16 26.2**	**+0.6**
	9.9nm,0.8s								
TKM2				⇓Lg		Lg		23 17 22.4	
	5.7nm,0.5s								
SGDS	**Sogindy**	**4.38**	**236**	Pg		**Pb**		**23 16 28.1**	**-0.2**
	4.6nm,0.3s								
SGDS				Lg		Lg		23 17 22.6	
	9.2nm,0.3s								
SEM	**Semipalatinsk**	**4.44**	**5**	*eP*		**Pb**		**23 16 30.7**	**+1.5**
	1.9nm,0.1s								
SEM				*eS*		**Sg**		**23 17 27.5**	**-6.1**
	22nm,0.3s								
SEM	**Semipalatinsk**	**4.44**	**5**	Pg		**Pb**		**23 16 30.7**	**+1.5**
	1.9nm,0.1s								
SEM				Lg		Lg		23 17 27.5	
	22nm,0.3s								
KURBB	**Kurchatov Arra**	**4.70**	**351**	⇑Pg		**Pb**		**23 16 36.0**	**+2.5**
	0.9nm,0.5s								
KURBB				⇓Lg		Lg		23 17 39.8	
	32nm,0.7s								
AAK	**Ala-Archa**	**4.99**	**230**	⇑Pg		**Pb**		**23 16 40.8**	**+2.1**
	2.1nm,0.5s								
AAK				⇑Lg		Lg		23 17 44.6	
	4.8nm,0.9s								
BRZS	**Berezniki**	**6.15**	**313**	*eP*		**Pb**		**23 17 02.6**	**+4.3**
	1.2nm,0.2s								
BRZS				*eS*		**Sg**		**23 18 22.0**	**-6.4**
	4.5nm,0.3s								
BRZS	**Berezniki**	**6.15**	**313**	Pg		**Pb**		**23 17 02.6**	**+4.3**
	1.2nm,0.2s								
BRZS				Lg		Lg		23 18 22.0	
	4.5nm,0.3s								
KK31	**Karatay Array**	**7.14**	**249**	⇓Pg		**Pb**		**23 17 19.2**	**+4.2**
	0.4nm,0.4s								
KK31				⇓Lg		Lg		23 18 53.1	
	7.9nm,0.7s								

INET 23 23:26:26.4, 11°.77N×86°.35W, h93km, ML3.5, Near coast of Nicaragua

*IDC **23** 23:27:37.8±1.3,26°.02N×94°.73E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.4/62, mbtmp3.6/7, Error ellipse: s-maj=64.9km s-min=18.1km az=59.0*
ISC 23 23:27:46.5±1.2,**26°.1N**±0°.2×**94°.8E**±0°.3,**h71**km,**n8**,σ1°**33**/8, **mb3.3**/7,**Northeastern India**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.49**	**152**	Pn		**Pn**		**23 29 45.6**	**-1.3**
	0.1nm,0.3s,baz=322,slow=12,SNR=4.1								
MKAR	**Makanchi Array**	**22.94**	**338**	P		**P**		**23 32 43.2**	**-1.6**
	0.8nm,0.7s,baz=141,slow=12,SNR=13								
AAK	**Ala-Archa**	**23.43**	**320**	P		**P**		**23 32 50.6**	**+0.9**
	0.4nm,0.4s,baz=131,slow=11,SNR=2.5								
SONM	**Songino Array**	**23.59**	**20**	P		**P**		**23 32 50.8**	**-0.2**
	0.3nm,0.7s,baz=208,slow=8.2,SNR=2.9								
KURBB	**Kurchatov Arra**	**27.51**	**337**	P		**P**		**23 33 25.6**	**-0.6**
	0.4nm,0.6s,baz=156,slow=9.4,SNR=5.2								
WRA	**Warramunga Arr**	**59.73**	**136**	P		**P**		**23 37 44.1**	**-0.1**
	0.9nm,0.7s,baz=320,slow=7.8,SNR=5.2								
ASAR	**Alice Springs**	**62.27**	**139**	P		**P**		**23 38 01.3**	**0.0**
	0.5nm,0.4s,baz=320,slow=6.4,SNR=8.2								
CTA	**Charters Tower**	**67.84**	**127**	P		**P**		**23 38 39.4**	**+1.9**
	1.7nm,0.6s,baz=336,slow=10.0,SNR=3.7								

*NEIC **23** 23:29:54.5±1.4, 36°.61N±0°.02×97°.66W±0°.04, h1km±6km, Error ellipse: s-maj=5.0km s-min=1.9km az=56.0*
*TUL **23** 23:29:54.5±1.6, 36°.63N±0°.02×97°.65W±0°.06, h3km±6km, ML4.1, mb4.3/1(NEIC), mb_Lg4.0/145(NEIC), Mwr3.9/44(NEIC), Error ellipse: s-maj=7.1km s-min=2.1km az=66.0*
*IDC **23** 23:29:54.9±0.9, 36°.73N×97°.73W, h0km, mb3.9/3, mb1 3.9/12, mb1mx3.6/61, mbtmp3.7/12, ML3.5/9, MS3.2/17, Ms1 3.2/17, ms1mx3.0/61, Error ellipse: s-maj=15.8km s-min=9.1km az=113.0*
*NEIC **23** 23:29:54.5, 36°.63N×97°.65W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.95; $M_{\theta\theta}$6.25; $M_{\phi\phi}$-5.30; $M_{r\theta}$2.07; $M_{\theta\phi}$-4.35; $M_{\phi r}$-4.66; Fault plane solution: M_o8.89000×10^{14} NP1:φ=331.58000°, δ85.39000°, λ-35.60000°. NP2:φ=64.87000°, δ54.54000°, λ-174.34000°. Principal axes: T 9.0129, Plg21.0000°, Azm24.0000°; N -0.2605, Plg54.0000°, Azm145.0000°; P -8.7524, Plg28.0000°, Azm282.0000°;*
*ANF **23** 23:29:54.6±0.1, 36°.62N×97°.67W, h3km, ML4.8/25 Error ellipse: s-maj=1.7km s-min=1.4km az=150.0*
ISC 23 23:29:54.3±1.1,**36°.67N**±0°.02×**97°.68W**±0°.02,**h5**km±8km, **n216**,σ1°**25**/191,**mb3.6**/3,**MS3.6**/6,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.23**	**322**			**Pg**		**23 30 00.3**	**+1.4**
GC02						Sg		**23 30 04.5**	**+2.5**
CROK	**Carrier**	**0.29**	**237**			**Pb**		**23 30 00.6**	**-1.4**
CROK						Sg		**23 30 04.9**	**-2.3**
**KAN14

baz=296
TUL1 Leonard 1.70 116 S 23 30 47.6
baz=296
R32A Long Quarter, 1.94 335 Pg **23 30 29.7 -1.7**
R32A IAmb_Lg 23 30 56.8
comp=Z,920nm,1.1s
R32A Long Quarter, 1.94 335 P Pg **23 30 29.8 -1.6**
baz=155,SNR=199
R32A S Sg **23 30 55.8 -0.8**
baz=155
R32A Long Quarter, 1.94 335 P 23 30 29.8
baz=155,SNR=199
R32A S 23 30 55.8
baz=155
WMOK Wichita Mounta 2.12 205 Pn Pn **23 30 30.7 +0.3**
WMOK Wichita Mounta 2.12 205 P Pn **23 30 30.8 +0.3**
baz=25,SNR=245
WMOK S Sb **23 30 58.4 -1.5**
baz=25
WMOK Wichita Mounta 2.12 205 P 23 30 30.7
baz=25
WMOK S 23 30 58.1
baz=25
WMOK Wichita Mounta 2.12 205 P 23 30 30.8
baz=25,SNR=245
WMOK S 23 30 58.4
baz=25
KSU1 Kansas State U 2.58 19 Pn Pb **23 30 38.3 -2.7**
KSU1 Kansas State U 2.58 19 P Pn **23 30 38.0 +1.3**
baz=199,SNR=26
KSU1 Kansas State U 2.58 19 P 23 30 38.1
baz=199,SNR=152
KSU1 Kansas State U 2.58 19 P 23 30 38.0
baz=199,SNR=26
U38A Gravette 2.66 94 Pn **23 30 38.7 +0.8**
U38A Gravette 2.66 94 P Pn **23 30 38.8 +0.8**
baz=275,SNR=116
U38A Gravette 2.66 94 P 23 30 38.8
baz=275,SNR=116
CBKS Cedar Bluff 2.69 323 Pn Pb **23 30 40.0 -3.1**
CBKS IAmb_Lg 23 31 28.3
comp=Z,588nm,1.0s
CBKS Cedar Bluff 2.69 323 P Pb **23 30 40.0 -3.1**
baz=142,SNR=30
CBKS Cedar Bluff 2.69 323 P 23 30 40.0
baz=142,SNR=85
CBKS S 23 31 18.8
baz=142
CBKS Cedar Bluff 2.69 323 P 23 30 40.0
baz=142,SNR=30
X37A Clayton 2.80 137 Pn Pn **23 30 40.5 +0.7**
X37A IAmb_Lg 23 31 25.7
comp=Z,561nm,0.8s
X37A Clayton 2.80 137 P Pn **23 30 40.5 +0.7**
baz=318,SNR=94
X37A Sb Sb **23 31 20.7 +1.3**
baz=318
X37A Clayton 2.80 137 P 23 30 40.5
baz=318,SNR=94
X37A Sb 23 31 20.7
baz=318
HHAR Hobbs 3.04 96 Pn Pn **23 30 43.9 +0.8**
HHAR Hobbs 3.04 96 P Pn **23 30 44.0 +0.8**
baz=278,SNR=20
HHAR Hobbs 3.04 96 P 23 30 44.0
baz=278,SNR=20
Z35A Perchaven, San 3.34 174 Pn Pn **23 30 47.7 +0.5**
Z35A IAmb_Lg 23 31 48.4
comp=Z,332nm,1.1s
Z35A Perchaven, San 3.34 174 P Pn **23 30 47.5 +0.3**
baz=354,SNR=48
Z35A S Sn **23 31 28.6 +1.2**
baz=354
Z35A Perchaven, San 3.34 174 P 23 30 47.5
baz=354,SNR=48
Z35A S 23 31 28.6
baz=354
W39A Magazine 3.49 114 Pn **23 30 49.4 +0.2**
W39A IAmb_Lg 23 31 51.4
comp=Z,302nm,0.7s
W39A Magazine 3.49 114 P 23 30 48.2
baz=296,SNR=81
S39A Bolivar 3.63 72 Pn Pn **23 30 52.0 +0.8**
S39A Bolivar 3.63 72 P Pn **23 30 51.7 +0.5**
baz=254,SNR=44
S39A Bolivar 3.63 72 P 23 30 51.7
baz=254,SNR=44
AMTX Amarillo 3.71 243 Pn Pn **23 30 53.6 +1.2**
AMTX IAmb_Lg 23 31 59.3
comp=Z,492nm,0.7s
AMTX Amarillo 3.71 243 P Pn **23 30 53.3 +1.0**
baz=61,SNR=8.9
AMTX S Sn **23 31 38.3 +1.8**
baz=61
AMTX Amarillo 3.71 243 P 23 30 53.3
baz=61
AMTX Sb 23 31 50.2
baz=61
AMTX Amarillo 3.71 243 P 23 30 53.3
baz=61,SNR=8.9
AMTX S 23 31 38.3
baz=61
U40A Yellville 3.90 93 IAmb_Lg 23 32 05.4
comp=Z,264nm,0.7s
U40A Yellville 3.90 93 P Pn **23 30 55.3 +0.3**
baz=276,SNR=85
U40A Yellville 3.90 93 P 23 30 55.3
baz=276,SNR=16
U40A S 23 31 40.7
baz=276
U40A Yellville 3.90 93 P 23 30 55.3
baz=276,SNR=85
U40A P 23 30 55.3
baz=276,SNR=85
MIAR Mount Ida 3.96 121 Pn **23 30 56.2 +0.6**
MIAR IAmb_Lg 23 32 00.8
comp=Z,484nm,0.9s
MIAR Mount Ida 3.96 121 P Pn **23 30 56.3 +0.6**
baz=303,SNR=27
MIAR Mount Ida 3.96 121 P 23 30 55.5
baz=303,SNR=11
MIAR S 23 31 42.1
baz=303
MIAR Mount Ida 3.96 121 P 23 30 56.3
baz=303,SNR=27
Z38A Mt. Pleasant 4.05 146 Pn Pn **23 30 57.1 +0.1**
N33A J Bar K, Exete 4.07 2 Pn **23 30 58.1 +0.8**
ABTX Abilene, Hawle 4.34 202 Pn Pn **23 31 00.7 -0.3**
ABTX IAmb_Lg 23 32 13.3
comp=Z,348nm,0.8s
ABTX Abilene, Hawle 4.34 202 P Pn **23 31 01.0 0.0**
baz=22
ABTX Abilene, Hawle 4.34 202 P 23 31 00.8
baz=22
ABTX S 23 31 51.0
baz=22
ABTX Abilene, Hawle 4.34 202 P 23 31 01.0
baz=22
MGMO Mountain Grove 4.37 82 Pn **23 31 02.2 +0.9**
MGMO IAmb_Lg 23 32 16.7
comp=Z,338nm,0.9s
P38A Dawn 4.41 47 Pn Pn **23 31 02.6 +0.8**
P38A IAmb_Lg 23 32 14.7
comp=Z,243nm,0.9s
P38A Dawn 4.41 47 P Pn **23 31 02.8 +0.9**
baz=229,SNR=11
P38A Dawn 4.41 47 P 23 31 02.8
baz=229,SNR=11
N35A Tabor 4.48 20 Pn **23 31 04.4 +1.5**
N35A Tabor 4.48 20 P Pn **23 31 04.5 +1.5**
baz=201,SNR=9.4
N35A Tabor 4.48 20 P 23 31 04.5
baz=201,SNR=9.4
X40A Basin Creek Fa 4.51 117 Pn Pn **23 31 03.5 +0.3**
X40A IAmb_Lg 23 32 17.6
comp=Z,266nm,0.8s
X40A Basin Creek Fa 4.51 117 P Pn **23 31 03.9 +0.6**
baz=300,SNR=12
X40A Basin Creek Fa 4.51 117 P 23 31 03.3
baz=300,SNR=9.0
X40A S 23 31 56.5
baz=300
X40A Basin Creek Fa 4.51 117 P 23 31 03.9
baz=300,SNR=12
X40A P 23 31 03.9
baz=300,SNR=12
KSCO Kaye Shedlock' 4.56 302 Pn Pn **23 31 06.5 +2.4**
baz=120
KSCO Kaye Shedlock' 4.56 302 P 23 31 05.9
baz=120
KSCO Sb 23 32 20.0
baz=120
WHAR Wooly Hollow 4.58 106 Pn Pn **23 31 07.9 +3.6**
WHAR IAmb_Lg 23 32 18.3
comp=Z,331nm,1.0s
R40A Maddies Statio 4.60 68 Pn **23 31 05.3 +0.8**
R40A Maddies Statio 4.60 68 P Pn **23 31 05.3 +0.8**
baz=250,SNR=38
R40A Maddies Statio 4.60 68 P 23 31 05.3
baz=250,SNR=38
W41B Gary Mavity, V 4.65 107 P Pn **23 31 04.8 -0.5**
baz=290,SNR=16
W41B Gary Mavity, V 4.65 107 P 23 31 04.9
baz=290,SNR=14
W41B S 23 31 59.3
baz=290
W41B Gary Mavity, V 4.65 107 P 23 31 04.8
baz=290,SNR=16
WHTX Lake Whitney, 4.67 178 Pn Pn **23 31 05.3 -0.2**
WHTX IAmb_Lg 23 32 28.8
comp=Z,265nm,1.1s
WHTX Lake Whitney, 4.67 178 P Pn **23 31 05.4 0.0**
baz=358,SNR=16
WHTX Lake Whitney, 4.67 178 P 23 31 05.3
baz=358
WHTX Sb 23 32 15.7
baz=358
WHTX Lake Whitney, 4.67 178 P 23 31 05.4
baz=358,SNR=16
BGNE Belgrade 4.75 356 Pn Pn **23 31 07.6 +1.0**
BGNE Belgrade 4.75 356 P Pn **23 31 07.4 +0.7**
baz=175,SNR=45
BGNE Belgrade 4.75 356 P 23 31 07.4
baz=175,SNR=14
BGNE Sb 23 32 25.6
baz=175
BGNE Belgrade 4.75 356 P 23 31 07.4
baz=175,SNR=45
WLAR White Oak Lake 4.78 127 Pn Pn **23 31 07.0 0.0**
WLAR IAmb_Lg 23 32 30.3
comp=Z,319nm,1.0s
MSTX Muleshoe 4.96 239 IAmb_Lg 23 32 39.6
comp=Z,177nm,0.8s
MSTX Muleshoe 4.96 239 P Pn **23 31 10.1 +0.6**
baz=56
MSTX Muleshoe 4.96 239 P 23 31 10.1
baz=56
MSTX Sb 23 32 27.3
baz=56
MSTX Muleshoe 4.96 239 P 23 31 10.1
baz=56
Z41A Richland Creek 5.25 129 P 23 31 12.8
baz=312
Z41A S 23 32 11.6
baz=312
P40A Paris 5.28 56 IAmb_Lg 23 32 48.2
comp=Z,208nm,0.7s
T42A Van Buren 5.30 84 IAmb_Lg 23 32 45.5
comp=Z,322nm,1.2s
T42A Van Buren 5.30 84 P Pn **23 31 14.4 +0.3**
baz=268,SNR=25
T42A Van Buren 5.30 84 P 23 31 14.4
baz=268,SNR=25
LCAR Lake Charles 5.30 94 IAmb_Lg 23 32 44.3
comp=Z,162nm,0.8s
CCM Cathedral Cave 5.31 73 P Pn **23 31 14.7 +0.4**
baz=256,SNR=13
CCM Cathedral Cave 5.31 73 P 23 31 14.3
baz=256
CCM Sb 23 32 36.8
baz=256
CCM Cathedral Cave 5.31 73 P 23 31 14.7
baz=256,SNR=13
N38A Joes South For 5.39 39 Pn Pn **23 31 15.2 -0.2**
N38A IAmb_Lg 23 32 53.5
comp=Z,268nm,0.8s
T25A Trinidad 5.41 277 Pn Pn **23 31 16.1 +0.2**
T25A Trinidad 5.41 277 P 23 31 16.7
baz=93
T25A Sb 23 32 44.3
baz=93
OGNE Ogallala 5.46 323 P 23 31 18.3
baz=140
OGNE Sb 23 32 46.8
baz=140
NATX Nacogdoches 5.50 152 IAmb_Lg 23 32 52.2
comp=Z,266nm,0.9s
PBMO Poplar Bluff 5.83 87 IAmb_Lg 23 33 03.1
comp=Z,295nm,1.0s
435B Jarrell 5.87 179 P 23 31 21.5
baz=360
435B Jarrell 5.87 179 Pn Pn **23 31 21.5 -0.4**
435B IAmb_Lg 23 33 04.1
comp=Z,332nm,0.8s
FVM French Village 5.93 75 Pn Pn **23 31 22.9 +0.2**
FVM French Village 5.93 75 P Pn **23 31 22.8 +0.1**
baz=259,SNR=9.8
FVM French Village 5.93 75 P 23 31 22.8
baz=259,SNR=9.8
X43A Marvell 5.94 109 P 23 31 21.9
baz=293
K31A oil 6.01 352 P Pn **23 31 25.0 +1.2**
baz=172,SNR=7.7
K31A O'Neill 6.01 352 P 23 31 25.0
baz=172,SNR=7.7
SLM Saint Louis 6.23 69 IAmb_Lg 23 33 11.9
comp=Z,354nm,1.1s
SCIA State Center 6.28 32 Pn **23 31 28.6 +1.1**
SCIA State Center 6.28 32 P Pn **23 31 28.5 +1.0**
baz=214,SNR=6.6
SCIA State Center 6.28 32 P 23 31 28.9
baz=214
SCIA State Center 6.28 32 P 23 31 28.5
baz=214,SNR=6.6
JCT Junction City 6.42 197 Pn Pn **23 31 29.5 -0.1**
JCT Junction City 6.42 197 P 23 31 29.4
baz=16,SNR=8.7
MET Memphis--Engin 6.47 101 IAmb_Lg 23 33 26.6
comp=Z,279nm,1.1s
143A Socs Landing, 6.51 126 IAmb_Lg 23 33 35.3
comp=Z,161nm,0.7s
LNXT Lenox 6.63 92 IAmb_Lg 23 33 38.0
comp=Z,303nm,0.7s
N41A Harden Midland 6.69 51 IAmb_Lg 23 33 29.5
comp=Z,234nm,0.8s
GLAT Glass 6.78 91 IAmb_Lg 23 33 35.1
comp=Z,308nm,0.9s
HALT Halls 6.78 94 IAmb_Lg 23 33 39.4
comp=Z,253nm,0.8s
S44A Carbondale 6.80 79 Pn Pn **23 31 35.4 +0.6**
S44A Carbondale 6.80 79 P Pn **23 31 35.4 +0.6**
baz=264
S44A Carbondale 6.80 79 P 23 31 35.4
baz=264
SIUC Southern Illin 6.84 79 Pn **23 31 35.5 +0.3**
SIUC IAmb_Lg 23 33 31.6
comp=Z,323nm,0.9s
342A Flagon Creek P 6.90 138 IAmb_Lg 23 33 33.0
comp=Z,140nm,1.1s
ISCO Idaho Springs 6.98 299 Pn Pn **23 31 38.9 +1.3**
ISCO IAmb_Lg 23 33 50.8
comp=Z,192nm,1.1s
ISCO Idaho Springs 6.98 299 P Pn **23 31 38.7 +1.2**
baz=114
ISCO Idaho Springs 6.98 299 P 23 31 38.4
baz=114
ISCO Idaho Springs 6.98 299 P 23 31 38.7
baz=114
441A DeRidder 6.99 146 IAmb_Lg 23 33 50.1
comp=Z,165nm,1.2s
W45A Hickory Valley 7.06 100 Pn **23 31 39.1 +0.8**
W45A IAmb_Lg 23 33 45.1
comp=Z,306nm,1.2s
K38A Parkersburg 7.07 31 Pn **23 31 38.6 +0.2**
K38A IAmb_Lg 23 33 48.9
comp=Z,220nm,1.0s
OXF Oxford 7.07 105 Pn Pn **23 31 38.6 +0.1**
OXF IAmb_Lg 23 33 50.7
comp=Z,241nm,1.1s
OXF Oxford 7.07 105 P 23 31 37.6
baz=290
P43A Skaggs, Pawnee 7.08 63 Pn **23 31 39.4 +0.8**
P43A IAmb_Lg 23 33 45.1
comp=Z,255nm,0.9s
ECSD EROS Data Cent 7.11 6 Pn Pn **23 31 38.7 -0.3**
ECSD IAmb_Lg 23 33 43.4
comp=Z,120nm,1.1s
ECSD EROS Data Cent 7.11 6 P Pn **23 31 38.7 -0.3**
baz=187,SNR=12
ECSD EROS Data Cent 7.11 6 P 23 31 38.8
baz=187
ECSD EROS Data Cent 7.11 6 P 23 31 38.7
baz=187,SNR=12
Q44A Meyer Farm, Va 7.22 69 Pn Pn **23 31 41.5 +1.1**
Y45A Yeager Farm, C 7.22 110 IAmb_Lg 23 33 57.5
comp=Z,187nm,1.2s
ANMO Albuquerque 7.33 259 Pn Pn **23 31 44.0 +1.7**
comp=Z,0.1nm,0.3s,baz=84,slow=9.2,SNR=2.9
ANMO Pg Pg 23 32 08.7 -6.1
comp=Z,1.1nm,0.3s,baz=94,slow=14,SNR=7.3
ANMO Sn **Sn** **23 33 10.3 +4.3**
comp=Z,1.9nm,0.3s,baz=98,slow=19,SNR=1.7
ANMO Lg Lg 23 33 46.8
comp=Z,14nm,0.3s,baz=163,slow=22,SNR=17
ANMO LR LR 23 34 51.3
comp=Z,131nm,19.2s,baz=74,slow=41
ANMO Albuquerque 7.33 259 P 23 31 42.8
baz=74
L40A Anamosa 7.35 41 Pn Pn **23 31 42.7 +0.4**
L40A IAmb_Lg 23 34 09.0
comp=Z,188nm,1.1s
S22A 4UR Ranch, Cre 7.38 281 P 23 31 45.5
baz=96
VBMS Vicksburg 7.39 125 IAmb_Lg 23 34 06.4
comp=Z,117nm,1.3s
PHWY Pilot Hill 7.62 310 Pn Pn **23 31 47.6 +1.3**
PHWY IAmb_Lg 23 34 11.3
comp=Z,257nm,1.1s
HDIL Hopedale 7.63 57 Pn Pn **23 31 46.7 +0.6**
HDIL Hopedale 7.63 57 P 23 31 46.4
baz=242
N23A Red Feather La 7.71 306 P 23 31 49.9
baz=121
BNM Barren Site 7.72 254 Pn Pn **23 31 48.6 +1.0**
344A Westbrook Farm 7.76 130 Pn Pn **23 31 48.6 +0.7**
344A IAmb_Lg 23 34 17.6
comp=Z,118nm,1.3s
735A Kenedy 7.79 181 IAmb_Lg 23 34 18.0
comp=Z,237nm,0.9s
SUSD Miller 7.83 353 IAmb_Lg 23 34 12.2
comp=Z,230nm,0.8s
WVT Waverly 7.96 91 Pn Pn **23 31 51.9 +1.2**
WVT Waverly 7.96 91 P 23 31 50.3
baz=277
PLAL Pickwick Lake 7.98 99 Pn Pn **23 31 52.6 +1.7**
O44A Mansfield 8.03 62 Pn Pn **23 31 52.2 +0.6**
O44A IAmb_Lg 23 34 09.5
comp=Z,178nm,0.8s
I37A Lemond, Waseca 8.04 23 Pn Pn **23 31 52.9 +1.2**
I37A IAmb_Lg 23 34 27.8
comp=Z,129nm,1.0s
MNTX Cornudas Mount 8.08 234 Pn Pn **23 31 53.9 +1.6**
MNTX IAmb_Lg 23 34 19.0
comp=Z,100nm,0.9s
MNTX Cornudas Mount 8.08 234 P 23 31 52.4
baz=50
146A Union 8.16 117 IAmb_Lg 23 34 34.2
comp=Z,93nm,1.1s
L42A Oliver, Polo 8.18 47 Pn Pn **23 31 53.0 -0.7**
JFWS Jewell Farm 8.46 40 Pn Pn **23 31 58.2 +0.6**
JFWS IAmb_Lg 23 34 29.3
comp=Z,107nm,1.0s
JFWS Jewell Farm 8.46 40 P 23 31 57.3
baz=225
T47A Sharon Grove 8.49 85 IAmb_Lg 23 34 35.1
comp=Z,108nm,0.9s
346A Big Creek Wild 8.61 125 Pn Pn **23 32 01.3 +1.7**
MVCO Mesa Verde 8.68 277 IAmb_Lg 23 34 50.1
comp=Z,125nm,1.2s
PV15 Paradox Valley 8.74 284 Pn Pn **23 32 02.2 +0.5**
P46A Rosedale 8.76 67 IAmb_Lg 23 34 31.7
comp=Z,208nm,0.9s
PV01 Paradox Valley 8.79 283 Pn Pn **23 32 02.9 +0.6**
V48A Smith Brothers 8.83 93 IAmb_Lg 23 34 35.0
comp=Z,86nm,0.9s
M44A Midewin, Midew 8.86 55 Pn Pn **23 32 04.6 +1.7**
TX31 Lajitas Ar. Si 8.87 216 Pn Pn **23 32 03.9 +0.6**
TX31 Lajitas Ar. Si 8.87 216 P Pn **23 32 02.6 -0.6**
baz=33,SNR=10
TX31 Lajitas Ar. Si 8.87 216 P 23 32 02.6
baz=33,SNR=10
TX32 Lajitas Array 8.87 216 Pn Pn **23 32 03.3 +0.1**
TXAR Lajitas Array 8.87 216 Pn Pn **23 32 02.5 -0.8**
comp=Z,0.7nm,0.3s,baz=42,slow=11,SNR=28
TXAR Sn **Sn** **23 33 39.1 -4.6**
comp=Z,2.4nm,0.3s,baz=36,slow=16,SNR=1.9
TXAR Lg Lg 23 34 30.9
comp=Z,6.0nm,0.3s,baz=22,slow=21,SNR=10
TXAR LR LR 23 35 41.1
comp=Z,268nm,21.1s,baz=0.0,slow=39
TXAR Lajitas Array 8.87 216 Pn Pn **23 32 02.9 -0.4**
RSSD Black Hills 8.88 329 Pn Pn **23 32 05.8 +2.3**
RSSD Black Hills 8.88 329 P 23 32 05.9
baz=145
PV02 Paradox Valley 8.93 283 IAmb_Lg 23 35 01.5
comp=Z,96nm,1.2s
X48A Hartselle 8.94 101 Pn Pn **23 32 03.9 -0.3**
O20A White River Ci 8.98 296 IAmb_Lg 23 34 54.1
comp=Z,83nm,1.1s
I40A Norwalk 9.01 35 Pn Pn **23 32 04.6 -0.5**
I40A IAmb_Lg 23 34 51.0
comp=Z,82nm,1.1s
PV11 David Mesa, Pa 9.04 284 IAmb_Lg 23 35 01.7
comp=Z,82nm,1.0s
PV04 Paradox Valley 9.08 284 IAmb_Lg 23 34 54.4
comp=Z,83nm,1.0s
SFIN Lafayette 9.09 63 Pn Pn **23 32 06.5 +0.5**
SFIN Lafayette 9.09 63 P 23 32 06.8
baz=249
BLO Bloomington 9.17 71 Pn Pn **23 32 07.8 +0.6**
BLO IAmb_Lg 23 34 44.9
comp=Z,156nm,0.7s
CLTN Cedars of Leba 9.17 90 Pn Pn **23 32 07.2 -0.1**
CLTN IAmb_Lg 23 34 54.6
comp=Z,131nm,1.2s
PV14 Lion Creek, Pa 9.17 284 IAmb_Lg 23 35 08.2
comp=Z,85nm,1.0s
PV10 Paradox Valley 9.19 284 Pn Pn **23 32 08.9 +1.2**
HQIL Hanson Quary C 9.19 53 IAmb_Lg 23 34 50.8
comp=Z,140nm,1.0s
WCI Wyandotte Cave 9.19 77 Pn Pn **23 32 08.4 +0.9**
WCI IAmb_Lg 23 34 45.9
comp=Z,137nm,0.9s
WCI Wyandotte Cave 9.19 77 P 23 32 08.4
baz=264
F33A 5 Mile Ranch, 9.23 6 Pn Pn **23 32 07.1 -0.9**
F33A IAmb_Lg 23 34 52.1
comp=Z,91nm,1.0s
121A Cookes Peak, D 9.29 247 IAmb_Lg 23 34 55.7
comp=Z,204nm,1.1s
SPMN Marine on St. 9.31 22 Pn Pn **23 32 09.0 -0.2**
SPMN Marine on St. 9.31 22 P 23 32 09.0
baz=205
K43A Burlington 9.39 47 Pn Pn **23 32 10.1 -0.2**
K43A IAmb_Lg 23 35 16.6
comp=Z,186nm,1.1s
LRAL Lakeview Retre 9.50 109 Pn Pn **23 32 11.9 +0.2**
U49A Red Boiling Sp 9.57 87 Pn Pn **23 32 13.5 +0.7**
U49A IAmb_Lg 23 34 55.8
comp=Z,116nm,1.1s
Y49A Blount Mountai 9.63 104 Pn Pn **23 32 14.0 +0.4**
SWET Sewanee 9.64 95 Pn Pn **23 32 13.2 -0.5**
F36A Milaca 9.71 17 Pn Pn **23 32 13.6 -1.0**
I42A Draeger Farm, 9.84 40 Pn Pn **23 32 16.5 +0.1**
I42A IAmb_Lg 23 35 11.8
comp=Z,118nm,1.2s
W18A Petrified Fore 9.90 265 IAmb_Lg 23 35 19.3
comp=Z,77nm,1.2s
FPAL Fort Paine 10.05 99 Pn Pn **23 32 20.2 +0.8**
P48A Milroy 10.06 70 Pn Pn **23 32 19.9 +0.5**
N47A Urbana 10.26 62 Pn Pn **23 32 22.4 +0.2**
G40A Rib Lake 10.28 31 Pn Pn **23 32 22.1 -0.4**
CPCT Cooper Cave 10.72 93 Pn Pn **23 32 28.1 -0.4**
V51A Loudon 10.80 91 Pn Pn **23 32 30.7 +1.0**
H43A Windswept, Lux 10.84 41 Pn Pn **23 32 29.4 -0.6**
E38A The Farm, Brul 10.94 23 Pn Pn **23 32 31.5 +0.1**
PDAR Pinedale Array 10.99 307 Pn Pn **23 32 33.3 +1.0**
comp=Z,0.2nm,0.3s,baz=105,slow=14,SNR=2.3
PDAR Pg 23 33 13.8
comp=Z,0.7nm,0.3s,baz=118,slow=14,SNR=4.4
PDAR Lg Lg 23 35 37.3

comp=Z,1.4nm,0.3s,baz=105,slow=35,SNR=3.8
PDAR LR LR 23 36 53.7
comp=Z,111nm,21.4s,baz=140,slow=38
O49A Covington 11.04 67 Pn **Pn 23 32 31.9 -1.0**
S51A Beattyville 11.29 81 Pn **Pn 23 32 37.0 +0.7**
TKL Tuckaleechee C 11.29 91 Lg Lg 23 35 47.6
comp=Z,20µm,0.3s,baz=289,slow=0.0,SNR=9.2
N49A Columbus Grove 11.36 64 Pn **Pn 23 32 35.9 -1.3**
COWI Conover 11.40 32 Pn **Pn 23 32 37.0 -0.7**
V52A Sevierville 11.40 90 Pn **Pn 23 32 38.2 +0.3**
L48A N Adams 11.53 59 Pn **Pn 23 32 39.0 -0.7**
F42A Maple Grove Fa 11.58 35 Pn **Pn 23 32 41.6 +1.4**
Q51A Peebles 11.58 74 Pn **Pn 23 32 40.9 +0.6**
AGMN Agassiz Nation 11.70 6 Pn **Pn 23 32 40.7 -1.2**
AGMN Agassiz Nation 11.70 6 P 23 32 38.6
baz=187
B35A Bob, Littlefor 12.04 13 Pn **Pn 23 32 45.0 -1.5**
EYMN Ely 12.16 20 Pn **Pn 23 32 46.5 -1.7**
EYMN Ely 12.16 20 P 23 32 46.7
baz=204
G45A Suttons Bay 12.35 44 Pn **Pn 23 32 49.4 -1.4**
D41A Chassel 12.40 30 Pn **Pn 23 32 48.6 -2.8**
Q52A Bidwell 12.41 75 Pn **Pn 23 32 51.7 +0.1**
E43A Lone Tree Farm 12.57 36 Pn **Pn 23 32 51.4 -2.3**
P52A Corning 12.59 72 Pn **Pn 23 32 53.8 -0.4**
P52A Corning 12.59 72 P 23 32 54.0
baz=261
N51A Ashland 12.67 66 Pn **Pn 23 32 54.6 -0.6**
GLMI Grayling 12.82 46 Pn **Pn 23 32 55.0 -2.1**
GLMI Grayling 12.82 46 P 23 32 54.8
baz=235
ULM Lac du Bonnet 13.64 5 Pn Pn 23 33 03.4 -5.0
comp=Z,0.6nm,0.3s,baz=187,slow=12,SNR=6.1
ULM Sn Sn 23 35 27.6 -13
comp=Z,0.5nm,0.3s,baz=144,slow=9.0,SNR=2.1
ULM Lg Lg 23 36 53.4
comp=Z,0.8nm,0.3s,baz=100,slow=18,SNR=1.5
ULM LR LR 23 38 59.7
comp=Z,39nm,20.2s,baz=152,slow=40
ELK Elko 14.30 292 Lg Lg 23 37 22.3
comp=Z,0.1nm,0.3s,baz=204,slow=20,SNR=1.7
ELK LR LR 23 38 24.4
comp=Z,45nm,18.9s,baz=80,slow=36
PFO Pinyon Flats O 15.66 264 Lg Lg 23 38 08.9
comp=Z,0.3nm,0.3s,baz=206,slow=3.8,SNR=3.7
PFO LR LR 23 39 59.8
comp=Z,90nm,18.5s,baz=190,slow=39
SADO Sadowa 16.20 54 Pn **Pn 23 33 38.6 -3.9**
comp=Z,0.2nm,0.3s,baz=259,slow=16,SNR=2.1
SADO Lg Lg 23 38 16.0
comp=Z,0.3nm,0.3s,baz=165,slow=21,SNR=3.4
SADO LR LR 23 40 07.3
comp=Z,80nm,19.4s,baz=230,slow=38
NVAR Mina Array Bea 16.45 282 Pn **P 23 33 48.4 -0.5**
comp=Z,0.1nm,0.3s,baz=92,slow=11,SNR=2.3
NVAR Lg Lg 23 38 29.4
comp=Z,0.1nm,0.3s,baz=75,slow=29,SNR=1.4
NVAR LR LR 23 41 25.9
comp=Z,47nm,19.7s,baz=124,slow=42
LPIG La Paz 16.58 224 LR LR 23 40 34.3
comp=Z,121nm,18.4s,baz=354,slow=38
TEIG Tepich 18.33 151 Pn **P 23 34 12.2 +2.7**
comp=Z,0.5nm,0.3s,baz=208,slow=17,SNR=1.8
NEW Newport 18.38 315 Lg Lg 23 39 26.9
comp=Z,0.1nm,0.3s,baz=216,slow=22,SNR=1.8
NEW LR LR 23 40 58.4
comp=Z,76nm,18.6s,baz=121,slow=36
CMIG Matias Romero 19.65 172 P **Pn 23 34 27.0 +1.6**
comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=1.6
CMIG LR LR 23 44 45.9
comp=Z,47nm,18.2s,baz=14,slow=45
YBH Yreka Blue Hor 20.02 292 P **Pn 23 34 29.8 0.0**
comp=Z,0.1nm,0.3s,baz=124,slow=6.9,SNR=3.2
YBH Yreka Blue Hor 20.02 292 P **Pn 23 34 28.8 -0.9**
YBH IAmb IAmb 23 35 24.9
comp=Z,33nm,2.0s
YKA Yellowknife Ar 27.90 343 P **P 23 35 46.0 +1.0**
comp=Z,0.3nm,0.8s,baz=142,slow=9.3,SNR=3.6
YKA Lg Lg 23 44 32.2
comp=Z,2.2nm,1.0s,baz=144,slow=29,SNR=4.7
ILAR Eielson Array 40.33 330 P **P 23 37 34.1 +1.7**
comp=Z,1.0nm,0.7s,baz=108,slow=7.4,SNR=12
ARCES ARCESS Array B 66.31 19 P **P 23 40 44.0 +0.7**
comp=Z,7.4nm,1.1s,baz=331,slow=7.2,SNR=1.2
ARCES LR LR 00 09 17.1
comp=Z,36nm,19.4s,baz=315,slow=36
NOA NORSAR Array B 66.88 30 LR LR 00 08 51.2
comp=Z,37nm,19.3s,baz=310,slow=35
BELG Belogornoye 86.29 20 LR LR 00 19 53.4
comp=Z,33nm,19.8s,baz=296,slow=35
DBIC Dimbokro 88.32 83 LR LR 00 19 58.1
comp=Z,12nm,19.0s,baz=197,slow=34
GNI Garni 96.12 28 LR LR 00 27 21.1
comp=Z,22nm,18.2s,baz=289,slow=36
MMAI Mount Meron Ar 97.99 38 LR LR 00 27 50.1
comp=Z,8.1nm,19.3s,baz=205,slow=36

*IDC **23** 23:34:07.4±0.8, 2°.77S×139°.26E, h0km, mb3.8/10, mb1 4.1/13, mb1mx3.9/51, mbtmp3.9/13, ML4.3/2, MS3.6/15, Ms1 3.6/15, ms1mx3.4/43, Error ellipse: s-maj=19.4km s-min=16.8km az=86.0*
*NEIC **23** 23:34:11.5±2.5, 2°.8S±0°.1×139°.33E±0°.06, h28km±8km, mb4.1/10, Error ellipse: s-maj=17.1km s-min=8.2km az=172.0*
*DJA **23** 23:34:13.2±0.4, 3°.5S±5°×13°.9E±°, h55km±7km, M4.8/10, mB5.6/5, mb4.6/10, MLv4.7/6, Mw(mB)5.1/5*
ISC 23 23:34:13.6±0.6, 2°.82S±0°.06×139°.30E±0°.06, h46km, n50, σ2s22/45, mb3.9/11, MS3.5/14, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.89**	**75**	P	**Pn**	**23 34 28.0**	**-1.8**
SMPI	**Sarmi**	**1.02**	**324**	P	**Pn**	**23 34 29.1**	**-2.4**
WAMI	**Wamena**	**1.21**	**209**	P	Pn	23 34 39.7	+5.6
JAY	**Jayapura**	**1.43**	**78**	Pn	**Pn**	**23 34 34.9**	**-2.3**
	23nm,0.3s,baz=239,slow=11,SNR=39						
JAY				Sn	**Sn**	**23 34 53.6**	**-1.2**
	60nm,0.3s,baz=112,slow=19,SNR=8.5						
JAY				LR	LR	23 35 21.1	
	comp=Z,1µm,19.5s,baz=10,slow=50						
JAY	**Jayapura**	**1.43**	**78**	P	**Pn**	**23 34 35.4**	**-1.8**
SRPI	**Serui, Papua**	**3.20**	**287**	P	**Pn**	**23 35 02.0**	**+0.5**
BAKI	**Biak**	**3.58**	**297**	P	**Pn**	**23 35 06.9**	**+0.2**
MMPI	**Merauke**	**5.71**	**169**	P	**Pn**	**23 35 40.1**	**+4.2**
FAKI	**Fak Fak**	**7.05**	**269**	Pn	**Pn**	**23 35 55.4**	**+1.2**
FAKI	**Fak Fak**	**7.05**	**269**	P	**Pn**	**23 35 55.4**	**+1.2**
	0.3nm64nm,1.2s						
SIJI	**Sorong**	**8.26**	**283**	Pn	**Pn**	**23 36 07.2**	**-3.8**
	11nm,0.3s,baz=269,slow=1.0,SNR=17						
SIJI				Sn	**Sn**	**23 37 42.3**	**-0.8**
	1.6nm,0.3s,baz=128,slow=22,SNR=2.1						
SWI	**Sorong**	**8.27**	**283**	P	**Pn**	**23 36 12.4**	**+1.4**
	31nm,0.7s						
PMG	**Port Moresby**	**10.19**	**130**	Pn	**Pn**	**23 36 36.4**	**-0.8**
	1.9nm,0.3s,baz=212,slow=15,SNR=1.7						
MTN	**Manton Dam**	**12.83**	**219**	Pn	**Pn**	**23 37 13.0**	**-0.4**
SANI	**Sanana**	**13.33**	**273**	P	**Pn**	**23 37 20.3**	**+0.1**
	699nm58nm,0.8s						
SOEI	**Soe**	**16.45**	**245**		**P**	**23 38 04.6**	**+1.1**
SOEI	**Soe**	**16.45**	**245**	P	**P**	**23 38 04.3**	**+0.7**
	86nm,0.9s						
BATI	**Baumata**	**17.18**	**244**	P	**P**	**23 38 12.6**	**+1.0**
	7.4nm,0.3s,baz=156,slow=1.9,SNR=14						
BATI	**Baumata**	**17.18**	**244**	P	**P**	**23 38 11.9**	**+0.4**
	572nm49nm,0.6s						
WB0	**Warramunga Arr**	**17.51**	**196**		**Pn**	**23 38 14.2**	**-0.4**
WB0				IAmb	IAmb	23 38 29.1	
	comp=Z,13nm,1.1s						
WR0	**Warramunga Arr**	**17.66**	**195**	P	**Pn**	**23 38 16.2**	**-0.1**
WR0				IAmb	IAmb	23 38 21.9	
	comp=Z,7.2nm,0.7s						
WB2	**Warramunga Arr**	**17.69**	**196**	P	**Pn**	**23 38 16.7**	**-0.1**
WB2				IAmb	IAmb	23 38 33.5	
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**17.69**	**196**	P	**Pn**	**23 38 16.0**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=19,slow=9.3,SNR=27						
WRA				S	**Sn**	**23 41 24.4**	**-8.7**
	comp=Z,0.2nm,0.3s,baz=12,slow=22,SNR=5.1						
WRA				LR	LR	23 45 43.8	
	comp=Z,701nm,18.6s,baz=15,slow=39						
WRA	**Warramunga Arr**	**17.69**	**196**	P	**Pn**	**23 38 17.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.25**	**220**	P	**P**	**23 38 43.9**	**-1.2**
	comp=Z,8.9nm,0.8s,baz=47,slow=8.5,SNR=17						
FITZ				S	**S**	**23 42 25.2**	**-4.7**
	comp=Z,7.1nm,0.9s,baz=191,slow=13,SNR=4.2						
FITZ	**Fitzroy Crossi**	**20.25**	**220**		**P**	**23 38 45.4**	**+0.2**
FITZ				IAmb	IAmb	23 38 53.8	
	comp=Z,15nm,1.0s						
AS31	**Alice Springs**	**21.37**	**194**	P	**P**	**23 38 58.0**	**+0.7**
AS31				IAmb	IAmb	23 39 09.6	
	comp=Z,5.3nm,0.7s						
ASAR	**Alice Springs**	**21.37**	**194**	P	**P**	**23 38 58.0**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=23,slow=10,SNR=20						
ASAR				S	**S**	**23 42 58.0**	**+5.8**
	comp=Z,2.3nm,0.9s,baz=12,slow=27,SNR=4.6						
ASAR				LR	LR	23 47 58.2	
	comp=Z,488nm,18.2s,baz=10.0,slow=39						
ASAR	**Alice Springs**	**21.37**	**194**	P	**P**	**23 38 57.7**	**+0.4**
HNR	**Honiara**	**21.54**	**109**	LR	LR	23 47 36.7	
	comp=Z,60nm,19.4s,baz=306,slow=38						
EIDS	**Eidsvold**	**25.12**	**154**	P	**P**	**23 39 36.3**	**+2.0**
EIDS				IAmb	IAmb	23 39 53.1	
	comp=Z,14nm,1.2s						
PSA00	**Pilbara Seismi**	**26.56**	**224**		**P**	**23 39 47.4**	**0.0**
STKA	**Stephens Creek**	**28.98**	**176**	P	**P**	**23 40 09.2**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=356,slow=14,SNR=1.6						
STKA				LR	LR	23 53 03.4	
	comp=Z,278nm,19.6s,baz=16,slow=39						
JCJ	**Chichijima**	**29.87**	**5**	LR	LR	23 50 32.8	
	comp=Z,65nm,19.1s,baz=294,slow=33						
DZM	**Mont Dzumac**	**32.57**	**128**	LR	LR	23 53 52.8	
	comp=Z,107nm,18.1s,baz=150,slow=36						
KSRS	**Korea Array**	**41.44**	**346**	LR	LR	23 56 46.7	
	comp=Z,34nm,20.8s,baz=164,slow=33						
CMAR	**Chiang Mai Arr**	**45.01**	**300**	LR	LR	00 01 28.0	
	comp=Z,36nm,19.4s,baz=180,slow=36						
ASAJ	**Asahikawa**	**46.82**	**3**	LR	LR	23 59 30.1	
	comp=Z,54nm,21.8s,baz=158,slow=33						
KLR	**Kul'dur**	**52.26**	**354**	P	**P**	**23 43 20.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=207,slow=9.0,SNR=2.0						
KLR				LR	LR	00 02 02.8	
	comp=Z,45nm,19.2s,baz=178,slow=32						
PETK	**Petropavlovsk-**	**57.83**	**13**	P	**P**	**23 44 01.3**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=184,slow=4.3,SNR=2.0						
PETK				LR	LR	00 05 19.8	
	comp=Z,43nm,21.5s,baz=183,slow=32						
SONM	**Songino Array**	**58.07**	**334**	P	**P**	**23 44 01.8**	**-0.5**
	comp=Z,0.3nm,0.9s,baz=133,slow=3.4,SNR=4.2						
SONM				LR	LR	00 09 36.0	
	comp=Z,63nm,19.5s,baz=130,slow=37						
SONM	**Songino Array**	**58.07**	**334**	P	**P**	**23 44 02.9**	**+0.6**
TLY	**Talaya**	**62.16**	**336**	LR	LR	00 11 49.9	
	comp=Z,32nm,20.6s,baz=122,slow=36						
MKAR	**Makanchi Array**	**70.24**	**322**	P	**P**	**23 45 22.7**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=110,slow=7.5,SNR=13						
ZALV	**Zalesovo Beam**	**72.33**	**330**	P	**P**	**23 45 32.8**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=133,slow=6.1,SNR=2.3						
AAK	**Ala-Archa**	**73.70**	**316**	LR	LR	00 18 23.0	
	comp=Z,19nm,21.7s,baz=121,slow=36						
KURBB	**Kurchatov Arra**	**74.16**	**325**	P	**P**	**23 45 46.5**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=117,slow=6.1,SNR=7.1						
VNDA	**Vanda**	**75.62**	**175**	LR	LR	00 19 04.9	
	comp=Z,52nm,18.4s,baz=324,slow=36						
ILAR	**Eielson Array**	**85.69**	**24**	P	**P**	**23 46 47.0**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=243,slow=4.9,SNR=6.0						
TORD	**Torodi Ar. Bea**	**136.86**	**286**	PKP	**PKPdf**	**23 53 31.6**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=76,slow=1.8,SNR=2.7						

*SOME **23** 23:54:36.1, 39°.43N×73°.23E, h15km*
*NNC **23** 23:54:40.2±3.4, 39°.38N×74°.34E, h14km±31km, mb3.5, mpv3.6, Error ellipse: s-maj=46.0km s-min=23.8km az=96.0*
ISC 23 23:54:39.6±4.1, 38°.8N±0°.2×73°.24E±0°.07, h10km, n15, σ0s43/20, 2C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.33**	**6**	P	**Pn**	**23 55 32.4**	**+0.2**
	SNR=155						
UCH	**Uchtor**	**3.55**	**16**	P	**Pn**	**23 55 35.2**	**0.0**
	SNR=18						
EKS2	**Erkin-Say**	**3.87**	**6**	P	**Pn**	**23 55 39.7**	**+0.5**
	SNR=39						
AAK	**Ala-Archa**	**3.94**	**14**	P	**Pn**	**23 55 41.3**	**+1.0**
	SNR=7.0						
AAK	**Ala-Archa**	**3.94**	**14**	⇑Pg	**Pn**	**23 55 40.0**	**-0.3**
	1.4nm,0.3s						
AAK				⇑Lg	Lg	23 56 24.0	
	12nm,0.6s						
ULHL	**Ulahol**	**4.12**	**33**	P	**Pn**	**23 55 42.8**	**-0.1**
	SNR=9.9						
IUG	**luzhnay**	**4.13**	**325**	*e*P	**Pn**	**23 55 42.9**	**0.0**
	4.5nm,0.1s						
IUG				*e*S	**Sn**	**23 56 31.3**	**0.0**
	42nm,0.3s						
IUG	**luzhnay**	**4.13**	**325**	Pg	**Pn**	**23 55 42.9**	**0.0**
	4.5nm,0.1s						
IUG				Lg	Lg	23 56 31.3	
	42nm,0.3s						
DZA	**Taraz**	**4.33**	**341**	*e*P	**Pn**	**23 55 45.8**	**+0.4**
	27nm,0.2s						
DZA				*e*S	**Sn**	**23 56 36.3**	**+0.4**
	56nm,0.2s						
DZA	**Taraz**	**4.33**	**341**	Pg	**Pn**	**23 55 45.8**	**+0.4**
	27nm,0.2s						
DZA				Lg	Lg	23 56 36.3	
	56nm,0.2s						
KK31	**Karatay Array**	**4.76**	**335**	Pn	**Pn**	**23 55 51.0**	**-0.4**
	1.8nm,0.2s,baz=135,slow=12,SNR=103						
KK31				Sn	**Sn**	**23 56 46.0**	**-0.6**
	3.7nm,0.3s,baz=156,slow=23,SNR=22						
DGS	**Degeres**	**4.82**	**23**	*e*P	**Pn**	**23 55 52.9**	**+0.5**
	1.1nm,0.5s						
DGS				*e*S	**Sn**	**23 56 48.1**	**-0.3**
	5.2nm,0.7s						
DGS	**Degeres**	**4.82**	**23**	Pg	**Pn**	**23 55 52.0**	**-0.4**
	1.8nm,0.5s						
DGS				Lg	Lg	23 56 46.7	
	5.2nm,0.7s						
IZV	**Izvestkoviy**	**4.94**	**30**	*e*P	**Pn**	**23 55 54.2**	**+0.3**
	0.6nm,0.1s						
IZV				*e*S	**Sn**	**23 56 50.8**	**-0.4**
	8.5nm,0.3s						
IZV	**Izvestkoviy**	**4.94**	**30**	Pg	**Pn**	**23 55 54.2**	**+0.3**
	0.6nm,0.1s						
IZV				Lg	Lg	23 56 50.8	
	8.5nm,0.3s						

*NEIC **23** 23:58:26.0±2.5, 11°.4S±0°.1×166°.3E±0°.1, h59km±10km, mb4.6/9, Error ellipse: s-maj=21.6km s-min=12.8km az=50.0*
*IDC **23** 23:58:27.5±3.7, 11°.43S×166°.24E, h66km±32km, mb3.7/10, mb1 3.9/12, mb1mx3.6/46, mbtmp4.0/12, ML4.1/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/38, Error ellipse: s-maj=26.5km s-min=24.6km az=10.0*
ISC 23 23:58:26.1±0.7, 11°.45S±0°.08×166°.32E±0°.09, h59km, n31, σ1s18/29, mb4.0/15, MS3.5/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.07**	**168**	Pn	**Pn**	**23 59 26.9**	**+1.1**
HNR	**Honiara**	**6.58**	**287**	P	**Pn**	**00 00 00.2**	**0.0**
	24nm,0.3s,baz=238,slow=3.8,SNR=5.8						
HNR				S	**Sn**	**00 01 13.7**	**-0.1**
	4.9nm,0.3s,baz=204,slow=21,SNR=1.0						
HNR				LR	LR	00 02 30.0	
	comp=Z,150nm,20.9s,baz=124,slow=37						
HNR	**Honiara**	**6.58**	**287**		**Pn**	**23 59 59.0**	**-1.2**
DZM	**Mont Dzumac**	**10.56**	**179**	P	**Pn**	**00 00 57.7**	**+2.9**
	0.3nm,0.3s,baz=227,slow=23,SNR=1.3						
DZM				S	**Sn**	**00 02 50.2**	**-1.5**
	0.2nm,0.3s,baz=128,slow=17,SNR=1.7						
DZM				LR	LR	00 04 37.5	
	comp=Z,55nm,19.8s,baz=291,slow=35						
MSVF	**Nonsavu**	**12.96**	**120**	LR	LR	00 05 31.2	
	comp=Z,102nm,18.4s,baz=89,slow=32						
CTA	**Charters Tower**	**21.11**	**244**	P	**P**	**00 03 05.6**	**-0.4**
	1.4nm,0.2s,baz=75,slow=19,SNR=3.1						
STKA	**Stephens Creek**	**30.54**	**224**	LR	LR	00 14 54.8	
	comp=Z,52nm,20.1s,baz=246,slow=32						
THZ	**Tophouse**	**30.75**	**170**	P	**P**	**00 04 33.8**	**-1.9**
THZ				IAmb	IAmb	00 04 36.0	
	comp=Z,6.5nm,1.1s						
LTZ	**Lake Taylor**	**31.64**	**172**	P	**P**	**00 04 44.9**	**+1.3**
LTZ				IAmb	IAmb	00 04 48.1	
	comp=Z,11nm,1.0s						
WR0	**Warramunga Arr**	**31.69**	**251**	P	**P**	**00 04 43.3**	**-1.0**
WB0	**Warramunga Arr**	**31.79**	**251**	P	**P**	**00 04 45.7**	**+0.5**
WB0				IAmb	IAmb	00 04 46.7	
	comp=Z,8.6nm,1.0s						
WB2	**Warramunga Arr**	**31.86**	**251**	P	**P**	**00 04 46.9**	**+1.1**
WRA	**Warramunga Arr**	**31.88**	**251**	P	**P**	**00 04 45.6**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=81,slow=9.7,SNR=5.3						
ASAR	**Alice Springs**	**33.12**	**244**	P	**P**	**00 04 57.2**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=66,slow=10,SNR=20						
ASAR	**Alice Springs**	**33.12**	**244**	P	**P**	**00 04 56.5**	**-0.4**
WKZ	**Wanaka**	**33.34**	**177**	P	**P**	**00 04 57.5**	**-0.9**
WHZ	**Wether Hill Ro**	**34.35**	**178**	P	**P**	**00 05 04.6**	**-2.6**
WHZ				IAmb	IAmb	00 05 09.5	
	comp=Z,15nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.82**	**255**	P	**P**	**00 05 54.7**	**+0.8**
NWAO	**Narrogin (SRO)**	**49.70**	**236**	LR	LR	00 28 32.3	
	comp=Z,49nm,21.6s,baz=110,slow=36						
NWAO	**Narrogin (SRO)**	**49.70**	**236**	P	**P**	**00 07 12.8**	**+0.3**
NWAO				IAmb	IAmb	00 07 31.6	
	comp=Z,12nm,1.1s						
RPSI	**Rantau Prapat**	**68.45**	**278**	P	**P**	**00 09 22.4**	**-0.1**
PSI	**Prapat**	**68.48**	**278**	P	**P**	**00 09 22.4**	**-0.4**
	comp=Z,3.1nm,0.4s,baz=183,slow=1.6,SNR=3.8						
SONM	**Songino Array**	**79.32**	**324**	P	**P**	**00 10 26.7**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=141,slow=4.3,SNR=2.6						
ILAR	**Eielson Array**	**83.72**	**18**	P	**P**	**00 10 49.1**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=248,slow=5.3,SNR=7.1						
PFO	**Pinyon Flats O**	**85.86**	**55**	LR	LR	00 39 25.5	
	comp=Z,24nm,21.1s,baz=86,slow=29						
RLMT	**Red Lodge**	**94.11**	**45**	P	**P**	**00 11 37.3**	**-1.3**
MKAR	**Makanchi Array**	**94.20**	**317**	P	**P**	**00 11 39.7**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=96,slow=3.7,SNR=10						
MKAR	**Makanchi Array**	**94.20**	**317**	P	**P**	**00 11 39.3**	**+0.6**
ZALV	**Zalesovo Beam**	**94.21**	**324**	P	**P**	**00 11 38.7**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=110,slow=7.8,SNR=1.7						
YKA	**Yellowknife Ar**	**95.07**	**27**	P	**P**	**00 11 42.2**	**0.0**
	comp=Z,0.1nm,0.6s,baz=248,slow=3.3,SNR=2.5						
TXAR	**Lajitas Array**	**95.53**	**61**	P	**P**	**00 11 44.5**	**-0.8**
	comp=Z,0.1nm,0.6s,baz=286,slow=4.4,SNR=1.7						

*IDC **24** 00:10:55.9±2.8, 36°.20N×70°.76E, h125km±23km, mb3.6/18, mb1 3.7/24, mb1mx3.5/65, mbtmp4.1/24, Error ellipse: s-maj=18.5km s-min=13.1km az=172.0*
*MOS **24** 00:10:57.7±0.9, 36°.41N×70°.71E, h143km, mb4.1/10, Error ellipse: s-maj=8.1km s-min=4.3km az=77.1*
*BJI **24** 00:10:57.5±0.0, 36°.47N×70°.61E, h132km, mB4.8/13, mb4.5/20*
*NEIC **24** 00:10:58.6±1.9, 36°.40N±0°.05×70°.65E±0°.08, h140km±5km, mb4.3/23, Error ellipse: s-maj=9.9km s-min=7.3km az=100.0*
*NNC **24** 00:11:00.0±1.7, 36°.56N×70°.46E, h116km±41km, mb4.0, mpv4.6, Error ellipse: s-maj=16.7km s-min=8.2km az=156.0*
ISC 24 00:10:58.6±0.4, 36°.30N±0°.04×70°.67E±0°.04, h150km, n174, σ2s00/196, mb4.0/33, 11C-10D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.21**	**218**	PN	**Pn**	**00 11 36.2**	**-0.2**
KBL						00 12 04.7	
KBL	**Kabul**	**2.21**	**218**	Pn	**Pn**	**00 11 36.2**	**-0.2**
KBL				Sn	**Sn**	**00 12 04.7**	**-0.7**
NIL	**Nilore**	**3.39**	**141**	PN	**Pn**	**00 11 51.8**	**+0.8**
NIL	**Nilore**	**3.39**	**141**	Pn	**Pn**	**00 11 51.8**	**+0.8**
THW	**Thamme Wali**	**3.61**	**166**	P	**Pn**	**00 11 54.2**	**+0.4**
SARP	**Sargodha**	**4.67**	**159**	P	**Pn**	**00 12 07.3**	**-0.4**
TAS	**Tashkent**	**5.13**	**348**	Pn	**Pn**	**00 12 12.1**	**-1.5**
TAS					**Sn**	**00 13 08.9**	**-3.4**
KSH	**Kashi**	**5.28**	**51**	P	**Pn**	**00 12 11.4**	**-4.4**
KSH				S	Sn	00 13 02.8	-13
KSH				smax	smax		
	comp=N,410nm,0.7s						
KSH				smax	smax		
	comp=E,290nm,0.7s						
THN	**Thein Dam**	**5.68**	**131**	*e*P	**Pn**	**00 12 20.5**	**-0.6**
THN				*e*S	**Sn**	**00 13 23.5**	**-2.0**
IUG	**luzhnay**	**5.86**	**355**	*e*P	**Pn**	**00 12 22.2**	**-1.2**
	24nm,0.6s,baz=355						
IUG				*e*S	**Sn**	**00 13 26.1**	**-3.8**
	baz=355						
IUG	**luzhnay**	**5.86**	**355**	*e*PN	**Pn**	**00 12 22.2**	**-1.2**
IUG				*e*S	**Sn**	**00 13 26.0**	**-3.8**
IUG				pmax	pmax		
	comp=Z,24nm,0.6s						
DHRM	**DHARAMSHALA**	**6.17**	**129**	*e*P	**Pn**	**00 12 26.1**	**-1.7**
DHRM				*e*S	**Sn**	**00 13 32.7**	**-4.8**
DHRM				IAML		00 13 36.1	
	comp=E,855nm,0.6s						
DHRM				IAML		00 13 36.3	
	comp=N,593nm,0.2s						
AML	**Almayashu**	**6.28**	**21**	P	**Pn**	**00 12 28.7**	**-0.6**
	SNR=283						
DZA	**Taraz**	**6.60**	**4**	*e*P	**Pn**	**00 12 32.5**	**-0.8**
	comp=N,48nm,0.6s,baz=3.9						
DZA				*e*S	**Sn**	**00 13 45.2**	**-2.2**
	baz=3.9						
DZA	**Taraz**	**6.60**	**4**	*e*PN	**Pn**	**00 12 32.4**	**-0.8**
DZA				*e*S	**Sn**	**00 13 45.2**	**-2.2**
DZA				pmax	pmax		
	comp=Z,48nm,0.6s						
UCH	**Uchtor**	**6.62**	**26**	P	**Pn**	**00 12 33.5**	**-0.5**
	SNR=78						
BRLS	**Boroldav**	**6.75**	**355**	*e*P	**Pn**	**00 12 31.1**	**-4.2**
	comp=Z,9.2nm,0.6s,baz=353						
BRLS	**Boroldav**	**6.75**	**355**	*e*PN	**Pn**	**00 12 31.0**	**-4.2**
BRLS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
EKS2	**Erkin-Say**	**6.79**	**20**	P	**Pn**	**00 12 35.7**	**-0.2**
	SNR=95						
KK31	**Karatay Array**	**6.79**	**359**	⇓P	**Pn**	**00 12 35.0**	**-0.8**
	comp=Z,20nm,0.5s,baz=175,slow=12,SNR=407						
KK31				⇑S	**Sn**	**00 13 47.4**	**-4.6**
	comp=Z,60nm,0.7s,baz=187,slow=23,SNR=13						
KK31	**Karatay Array**	**6.79**	**359**	Pn	**Pn**	**00 12 34.8**	**-1.0**
KK31				Sn	**Sn**	**00 13 48.0**	**-4.0**
KKAR	**Karatay Array**	**6.79**	**359**

AAA pmax pmax
comp=Z,14nm,0.7s
MDOK Medeo 8.43 34 ⇓P **Pn 00 12 58.4 +0.7**
comp=Z,19nm,0.8s
MDOK ⇓S **Sn 00 14 30.1 -1.4**
comp=Z,8.6nm,0.8s
KUU Kurty 8.73 28 *e*P **Pn 00 13 00.0 -1.7**
comp=Z,5.9nm,0.8s,baz=28
KUU Kurty 8.73 28 *e*PN **Pn 00 13 00.0 -1.7**
KUU pmax pmax
comp=Z,6.0nm,0.8s
CHKK Chushkaly 8.96 31 *e*P **Pn 00 13 03.5 -1.2**
baz=31
CHKK Chushkaly 8.96 31 *e*PN **Pn 00 13 03.5 -1.2**
SATY Saty 9.00 39 *e*P **Pn 00 13 04.5 -0.9**
baz=40
SATY Saty 9.00 39 *e*PN **Pn 00 13 04.4 -0.9**
BTLS Baital 9.10 15 *e*P **Pn 00 13 04.8 -1.7**
baz=15
BTLS Baital 9.10 15 *e*PN **Pn 00 13 04.8 -1.7**
UZB Uzynbulak 9.38 41 *e*P **Pn 00 13 09.4 -1.0**
baz=41
UZB Uzynbulak 9.38 41 *e*P **Pn 00 13 09.4 -1.0**
NDI New Delhi 9.39 142 *e*P **Pn 00 13 09.0 -1.6**
NDI *e*S **Sn 00 14 48.0 -6.7**
KPKS Kokpek 9.43 38 *e*P **Pn 00 13 10.2 -0.9**
comp=Z,7.3nm,0.7s,baz=39
KPKS Kokpek 9.43 38 *e*P **Pn 00 13 10.1 -0.9**
KPKS pmax pmax
comp=Z,7.0nm,0.7s
SHLS Shalkode 9.62 42 *e*P **Pn 00 13 14.9 +1.3**
baz=44
SHLS Shalkode 9.62 42 *e*P **Pn 00 13 14.9 +1.3**
PDGK Podgornoye 9.75 41 ⇓P **Pn 00 13 15.3 0.0**
comp=Z,5.6nm,0.6s
PDGK ⇓S **Sn 00 14 57.3 -6.1**
comp=Z,8.4nm,1.1s
GEYT Alibeck 10.16 283 P **Pn 00 13 18.3 -2.4**
comp=Z,5.0nm,0.3s,baz=102,slow=13,SNR=28
GEYT S **Sn 00 15 06.2 -6.9**
comp=Z,1.4nm,0.3s,baz=93,slow=31,SNR=2.4
GEYT Alibeck 10.16 283 Pn 00 13 18.1 -2.6
GYA0B ALIBECK ARRAY 10.16 283 ⇑P **Pn 00 13 18.7 -2.0**
GYA0B ⇓S **Sn 00 15 08.9 -4.3**
GYA0B ALIBECK ARRAY 10.16 283 Pn **Pn 00 13 18.3 -2.3**
AJM Ajmer 10.36 160 *e*P **Pn 00 13 22.0 -1.5**
AJM *i* S **Sn 00 15 12.0 -6.2**
TDK Taldyqorghan 10.48 32 *e*P **Pn 00 13 23.5 -1.4**
comp=Z,5.7nm,0.8s,baz=32
TDK Taldyqorghan 10.48 32 *e*P **Pn 00 13 23.5 -1.4**
TDK pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 13.47 35 P **Pn 00 14 03.2 -0.5**
MAKZ Makanchi 13.47 35 Pn **Pn 00 14 03.1 -0.5**
MK31 Makanchi Array 13.61 36 *i* P **Pn 00 14 05.1 -0.3**
MK31 Makanchi Array 13.61 36 Pn 00 14 05.5 +0.1
MKAR Makanchi Array 13.61 36 P **Pn 00 14 05.0 -0.4**
comp=Z,0.3nm,0.3s,baz=223,slow=15,SNR=42
MKAR Makanchi Array 13.61 36 P **Pn 00 14 04.3 -1.1**
MKAR Makanchi Array 13.61 36 Pn 00 14 04.3 -1.1
BHPL Bhopal 14.27 154 *e*P **Pn 00 14 12.2 -1.8**
BHPL *e*S Sn 00 16 41.1 -11
GKN Gorkha 14.42 121 *e*P **Pn 00 14 13.4 -2.6**
comp=Z,114nm,0.5s
DMN Daman 14.99 121 *e*P **Pn 00 14 21.7 -1.5**
comp=Z,41nm,0.4s
KKN Kakani 15.00 120 *e*P **Pn 00 14 20.7 -2.6**
comp=Z,106nm,0.6s
WMQ Urumqi 15.03 55 *e*P **Pn 00 14 23.6 +0.3**
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,150nm,3.9s
WMQ Urumqi 15.03 55 P **Pn 00 14 22.4 -0.9**
WMQ Urumqi 15.03 55 Pn **Pn 00 14 22.4 -0.9**
AB31 Akbulak array 15.13 332 ⇑P **Pn 00 14 23.0 -1.4**
comp=Z,5.4nm,0.3s,baz=146,slow=12,SNR=430
ABKAR Akbulak array 15.13 332 Pn **Pn 00 14 23.8 -0.7**
ABKAR Akbulak array 15.13 332 P **Pn 00 14 23.5 -0.9**
ABKAR IAmb IAmb 00 14 25.5
comp=Z,26nm,1.1s
PKIN Phulchoki 15.21 121 *e*P **Pn 00 14 24.6 -1.4**
comp=Z,37nm,0.3s
PKI Pulchoki 15.23 121 *e*P **Pn 00 14 24.7 -1.5**
comp=Z,28nm,0.2s
ZSN Zaisan 15.33 39 *e*P **Pn 00 14 26.5 -0.4**
baz=39
ZSN Zaisan 15.33 39 *e*P **Pn 00 14 26.5 -0.4**
GUN Gumba 15.35 119 *e*P **Pn 00 14 25.4 -2.3**
comp=Z,47nm,0.3s
KURBB Kurchatov Arra 15.39 19 P **Pn 00 14 25.7 -2.0**
comp=Z,0.1nm,0.3s,baz=208,slow=10.0,SNR=28
KURK Kurchatov 15.50 19 P **Pn 00 14 25.7 -3.3**
KURK Kurchatov 15.50 19 P **Pn 00 14 25.7 -3.3**
RAMN Ramite 16.44 120 *e*P **Pn 00 14 39.7 -1.3**
comp=Z,34nm,0.2s
BVAR Borovoye Array 16.72 359 P **P 00 14 42.4 -1.2**
comp=Z,1.0nm,0.3s,baz=166,slow=24,SNR=22
BRVK Borovoye 16.76 359 *ce*P **P 00 14 42.9 -1.0**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 16.76 359 P 00 14 43.0 -1.0
BRVK IAmb IAmb 00 14 47.8
comp=Z,4.7nm,0.8s
AKTO Aktyubinsk 16.82 331 P **Pn 00 14 45.8 +0.7**
comp=Z,1.1nm,0.3s,baz=144,slow=13,SNR=37
AKTO Aktyubinsk 16.82 331 ⇓P **Pn 00 14 45.5 +0.4**
comp=Z,23nm,0.9s
TAPN Taplejung 16.99 117 *e*P **Pn 00 14 47.5 -0.2**
comp=Z,44nm,0.3s
ODAN Odare 17.05 119 *e*P **Pn 00 14 47.9 -0.5**
comp=Z,92nm,0.8s
DGZ Jazzator, Alta 18.10 37 *c i*P **Pn 00 15 00.0 -0.5**
DGZ pmax pmax
comp=Z,18nm,1.2s
LSA Lhasa 18.38 105 P **Pn 00 15 04.6 +0.3**
LSA pmax pmax
comp=Z,18nm,1.1s
LSA Lhasa 18.38 105 P **Pn 00 15 04.6 +0.3**
LSA IAmb IAmb 00 15 12.0
comp=Z,18nm,1.1s
AKT Akhty 18.57 293 *e*P **Pn 00 15 08.8 +2.7**
AKT *e*S **Sn 00 18 32.6 -2.5**
AKT pmax pmax
comp=Z,5.0nm,0.2s
AKT smax smax
comp=E,5.0nm,0.4s
AKT smax smax
comp=N,6.0nm,0.6s
HYB Hyderabad 20.07 158 *i* P **P 00 15 20.0 -0.3**
ZAA0 Zalesovo Array 20.20 25 P **P 00 15 22.1 +0.7**
ZALV Zalesovo Beam 20.20 25 P **P 00 15 22.1 +0.7**
comp=N,29nm,0.6s,baz=222,slow=11,SNR=167
ZALV Zalesovo Beam 20.20 25 P **P 00 15 22.0 +0.5**
GNI Garni 20.70 289 P **P 00 15 27.4 +0.2**
comp=N,3.4nm,0.8s,baz=178,slow=4.3,SNR=5.0
SHL Shillong 21.06 115 P **P 00 15 33.3 +2.2**
SHL pmax pmax
comp=Z,21nm,0.7s
SHL Shillong 21.06 115 P **P 00 15 33.3 +2.2**
ARU Arti 21.73 342 P **P 00 15 37.7 -0.1**
comp=Z,1.5nm,0.2s,baz=57,slow=19,SNR=12
ARU Arti 21.73 342 *d i*P **P 00 15 39.2 +1.4**
ARU 00 16 08.4
ARU S **S 00 19 30.9 +2.8**
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 21.73 342 P **P 00 15 38.1 +0.3**
ARU IAmb IAmb 00 15 41.1
comp=Z,4.2nm,0.8s
NCK Nalchik 21.92 297 *i* P **P 00 15 42.3 +2.4**
NCK pmax pmax
comp=Z,15nm,1.3s
KBZ Khabaz 22.46 298 P **P 00 15 46.4 +1.3**
comp=Z,1.4nm,0.7s,baz=30,slow=23,SNR=2.7
KIV Kislovodsk 22.65 298 *e*P **P 00 15 48.0 +1.0**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 22.65 298 P **P 00 15 48.1 +1.1**
BELG Belogornoye 22.88 322 P **P 00 15 49.5 +0.5**
comp=Z,2.6nm,0.5s,baz=217,slow=1.4,SNR=4.4
GTA Gaotai 23.17 73 ⇓P **P 00 15 54.8 +2.8**
GTA pP pP 00 16 25.9 +4.1
GTA sP sP 00 16 36.8 -4.0
GTA pmax pmax
comp=Z,7.0nm,1.3s
RAYN Ar Rayn 25.18 247 P **P 00 16 12.1 +1.9**
RAYN pmax pmax
comp=Z,1.0nm,0.9s
RAYN Ar Rayn 25.18 247 P **P 00 16 12.1 +1.9**
TOKA Tokat 27.03 289 P **P 00 16 28.1 +1.4**
TOKA IAmb IAmb 00 16 44.6
comp=Z,5.8nm,0.4s
SONM Songino Array 28.66 55 P **P 00 16 41.6 +0.3**
comp=Z,0.5nm,0.7s,baz=266,slow=9.5,SNR=7.1
SONM Songino Array 28.66 55 IAmb IAmb 00 16 46.5
comp=Z,0.7nm,1.0s
ULN Ulaanbaatar 29.11 55 P **P 00 16 44.6 -0.6**
ULN pmax pmax
comp=Z,2.0nm,1.1s
ULN Ulaanbaatar 29.11 55 P **P 00 16 44.6 -0.6**
OBN Obninsk 29.92 320 *e*P **P 00 16 52.8 +0.8**
OBN *e* 00 17 53.1
OBN *e* 00 19 58.4
OBN pmax pmax
comp=Z,3.0nm,0.9s
PALK Pallekele 30.32 160 P **P 00 16 54.8 -1.2**
PALK pmax pmax
comp=Z,8.0nm,1.2s
PALK Pallekele 30.32 160 P **P 00 16 54.8 -1.2**
PALK IAmb IAmb 00 16 56.9
comp=Z,8.0nm,1.1s
CMAR Chiang Mai Arr 30.59 118 *ce*P **P 00 17 01.2 +2.8**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
HHC Hu-ho-hao-te 32.08 69 *e*P **P 00 17 14.9 +3.5**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.7s
ELL Elmali 32.59 283 P **P 00 17 17.3 +1.4**
ELL pmax pmax
comp=Z,11nm,0.8s
ELL Elmali 32.59 283 P **P 00 17 17.3 +1.4**
AKASG Malin Array Be 32.86 309 P **P 00 17 18.9 +1.0**
comp=Z,0.7nm,0.5s,baz=82,slow=6.9,SNR=4.8
AKASG Malin Array Be 32.86 309 *ce*P **P 00 17 18.8 +0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
KOLS Kolonicke sedl 37.17 305 *e*P **P 00 17 55.7 +0.8**
KOLS Kolonicke sedl 37.17 305 *e*P **P 00 17 55.7 +0.8**
FIA1 FINESS Array S 37.50 326 P **P 00 17 57.9 +0.5**
FIA1 IAmb IAmb 00 18 01.3
comp=Z,7.9nm,1.1s
FINES FINESS Array B 37.50 326 P **P 00 17 58.5 +1.1**
comp=Z,0.8nm,0.3s,baz=126,slow=8.9,SNR=18
FINES FINESS Array B 37.50 326 *i* P **P 00 17 58.9 +1.5**
FINES pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 41.23 338 P **P 00 18 30.0 +1.7**
comp=Z,1.7nm,0.4s,baz=115,slow=8.1,SNR=16
ARCES ARCESS Array B 41.23 338 P **P 00 18 30.0 +1.7**
ARCES ARCESS Array B 41.23 338 P **P 00 18 29.5 +1.3**
ARCES IAmb IAmb 00 18 31.3
comp=Z,7.8nm,1.1s
HFS Hagfors 43.06 322 P **P 00 18 44.0 +0.8**
comp=Z,1.8nm,0.3s,baz=94,slow=9.6,SNR=16
NC405 NORSAR Array S 44.15 323 P **P 00 18 52.6 +0.8**
NC405 IAmb IAmb 00 19 02.5
comp=Z,2.9nm,0.6s
NC602 NORSAR Array S 44.19 323 P **P 00 18 52.2 0.0**
NC602 IAmb IAmb 00 19 10.2
comp=Z,10nm,0.9s
NC303 NORSAR Array S 44.32 323 P **P 00 18 54.4 +1.1**
NB201 NORSAR Array S 44.34 323 P **P 00 18 54.1 +0.6**
NB2 NORSAR Subarra 44.38 323 P **P 00 18 54.5 +0.7**
comp=Z,0.8nm,0.4s,baz=98,slow=7.9
NOA NORSAR Array B 44.38 323 P **P 00 18 54.4 +0.7**
comp=Z,1.1nm,0.5s,baz=166,slow=9.1,SNR=6.7
NAO01 NORSAR Array S 44.52 323 P **P 00 18 54.9 +0.1**
NBO00 NORSAR Array S 44.59 323 P **P 00 18 55.8 +0.4**
NC204 NORSAR Array S 44.62 323 P **P 00 18 56.4 +0.7**
KONO Kongsberg 45.07 321 P **P 00 18 59.3 +0.1**
KONO Kongsberg 45.07 321 P **P 00 18 59.3 +0.1**
YULB Yu-li 45.29 92 P **P 00 19 01.5 +0.1**
SALO Salr 45.40 301 P **P 00 19 01.6 -0.5**
TIXI Tiksi 46.05 22 *ce*P **P 00 19 07.3 +0.5**
TIXI pmax pmax
comp=Z,30nm,1.0s
TIXI Tiksi 46.05 22 P **P 00 19 07.3 +0.5**
TIXI IAmb IAmb 00 19 08.9
comp=Z,6.1nm,0.9s
MSSA Maissana 46.36 300 P **P 00 19 11.2 +1.6**
MSSA IAmb IAmb 00 19 15.2
comp=Z,2.7nm,0.8s
BILL Bilibino 58.90 26 *e*P **P 00 20 42.8 +1.5**
BILL *e* 00 21 30.7
BILL *e* 00 22 53.8
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL Bilibino 58.90 26 P **P 00 20 42.5 +1.2**
BILL IAmb IAmb 00 20 43.7
comp=Z,3.2nm,0.6s
TORD Torodi Ar. Bea 65.45 269 P **P 00 21 25.3 -0.4**
comp=Z,1.2nm,0.5s,baz=47,slow=5.8,SNR=19
TORD Torodi Ar. Bea 65.45 269 IAmb IAmb 00 21 25.4
comp=Z,0.9nm,0.8s
INK Inuvik 74.14 9 P **P 00 22 18.4 +0.5**
comp=Z,1.3nm,0.5s,baz=327,slow=5.7,SNR=8.6
ILAR Eielson Array 75.04 16 P **P 00 22 23.0 -0.3**
comp=Z,0.5nm,0.8s,baz=318,slow=5.3,SNR=5.7
ILAR Eielson Array 75.04 16 P **P 00 22 23.8 +0.5**
ILAR Eielson Array 75.04 16 P **P 00 22 23.8 +0.5**
BOSA Boshof 77.43 220 P **P 00 22 38.3 +1.0**
comp=Z,0.8nm,0.5s,baz=51,slow=1.4,SNR=1.4
YKA Yellowknife Ar 81.45 2 P **P 00 22 58.6 +0.1**
comp=Z,0.6nm,0.7s,baz=355,slow=4.6,SNR=11
YKA Yellowknife Ar 81.45 2 *ce*P **P 00 22 58.4 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 82.11 122 P **P 00 23 01.8 -0.8**
comp=Z,0.6nm,0.6s,baz=325,slow=4.9,SNR=5.2
WRA Warramunga Arr 82.11 122 *i* P **P 00 23 04.5 +1.9**
ASAR Alice Springs 84.36 125 P **P 00 23 13.8 -0.3**
comp=Z,0.7nm,0.8s,baz=329,slow=5.4,SNR=6.9

TUL ***24*** *00:27:27.9≈1.6,36.36N×0.02×97.11W×0.04,h1km≈5km, ML4.1,mb3.9/18(NEIC),mb_Lg4.0/147(NEIC), Mwr3.7/57(NEIC),Error ellipse: s-maj=4.7km s-min=2.2km az=79.0*

ANF ***24*** *00:27:27.9≈0.2,36.36N×97.15W,h0km,ML4.8/23,Error ellipse: s-maj=2.6km s-min=2.2km az=123.0*

NEIC ***24*** *00:27:28.2≈1.2,36.36N×0.02×97.14W×0.04,h3km≈6km, Error ellipse: s-maj=4.5km s-min=2.5km az=68.0*

IDC ***24*** *00:27:28.7≈0.9,36.49N×97.39W,h0km,mb3.8/4, mb1 3.9/12,mb1mx3.7/53,mbtmp3.7/12,ML3.6/8,MS3.3/6, Ms1 3.3/6,ms1mx2.8/45,Error ellipse: s-maj=17.1km s-min=10.6km az=119.0*

NEIC ***24*** *00:27:28.3,36.34N×97.17W,h4km,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-0.20; Mθθ3.77; Mϕϕ-3.57; Mrθ0.14; Mθϕ1.74; Mϕr-0.41; Fault plane solution: M₀4.09000×10¹⁴ NP1:φ₀302.10000°, δ85.78000°, λ-4.99000°. NP2:φ₀32.47000°,δ85.02000°, λ-175.77000°. Principal axes: T 4.1621, Plg1.0000°, Azm347.0000°; N -0.1517, Plg83.0000°, Azm82.0000°; P -4.0104, Plg7.0000°, Azm257.0000°:*

ISC 24 00:27:28.2≈1.1,36.37N×0.02×97.12W×0.02,h7km≈8km, n248,σ1ŝ16/250,mb4.1/5,MS3.5/3,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.39**	**120**		**Pg**	**00 27 35.6**	**-0.1**
QUOK				Sg	**Sg**	**00 27 40.6**	**-0.2**
OK031	**S. Brethren Rd**	**0.47**	**151**		**Pg**	**00 27 37.3**	**0.0**
OK031				Sg	**Sg**	**00 27 43.5**	**0.0**
OK030	**Cody Creek RV**	**0.52**	**148**	Pg	**Pg**	**00 27 38.1**	**-0.1**
OK030				Sg	**Sg**	**00 27 44.8**	**-0.1**
OK029	**Liberty Lake**	**0.63**	**205**		**Pg**	**00 27 40.3**	**0.0**
OK029				IAmb_Lg		00 27 48.1	
comp=Z,1μm,0.8s							
KAN13	**South Haven SW**	**0.70**	**336**		**Pg**	**00 27 42.1**	**+0.4**
CROK	**Carrier**	**0.71**	**281**		**Pg**	**00 27 42.1**	**+0.3**
CROK				Sg	**Sb**	**00 27 52.2**	**-0.6**
OK005	**Luther M Schoo**	**0.71**	**184**	Pg	**Pg**	**00 27 41.8**	**0.0**
T35A	**Sooner Cattle**	**0.74**	**42**		**Pg**	**00 27 42.4**	**0.0**
T35B	**Sooner Cattle**	**0.74**	**42**	P	**Pg**	**00 27 42.3**	**-0.1**
baz=221,SNR=374							
T35B				S	**Sg**	**00 27 52.0**	**+0.1**
baz=221							
T35B	**Sooner Cattle**	**0.74**	**42**	P		00 27 42.3	
baz=221,SNR=374							
T35B				S		00 27 52.0	
baz=221							
GC02	**Grant County #**	**0.76**	**309**		**Pg**	**00 27 43.1**	**+0.2**
OK025	**Westminster Rd**	**0.80**	**193**		**Pg**	**00 27 43.4**	**-0.2**
OK025				IAmb_Lg		00 27 53.2	
comp=Z,1μm,0.8s							
BCOK	**Bluff Creek, N**	**0.81**	**209**		**Pg**	**00 27 43.6**	**-0.1**
OK001	**Jones High Sch**	**0.81**	**190**	Pg	**Pb**	**00 27 45.0**	**+0.4**
OK009	**Oakdale Elemen**	**0.82**	**197**		**Pg**	**00 27 43.9**	**0.0**
KAN09	**Caldwell North**	**0.86**	**333**		**Pg**	**00 27 45.0**	**+0.2**
KAN14	**Manchester OK**	**0.90**	**311**		**Pg**	**00 27 45.5**	**+0.1**
KAN01	**Argonia South**	**0.94**	**327**		**Pg**	**00 27 46.3**	**+0.2**
KAN05	**Bluff City Nor**	**0.95**	**321**		**Pg**	**00 27 46.7**	**+0.2**
OK032	**Salt Plains WL**	**0.98**	**297**		**Pg**	**00 27 46.9**	**0.0**
OKCFA	**Oklahoma City**	**0.99**	**196**		**Pg**	**00 27 46.7**	**-0.4**
OKCFA	**Oklahoma City**	**0.99**	**196**	P	**Pg**	**00 27 46.7**	**-0.4**
baz=16,SNR=86							
OKCFA				S	**Sg**	**00 28 00.1**	**+0.2**
baz=16							
OKCFA	**Oklahoma City**	**0.99**	**196**	P		00 27 46.7	
baz=16,SNR=86							
OKCFA				S		00 28 00.1	
baz=16							
OKCSW	**OKLAHOMA CITY**	**0.99**	**195**		**Pg**	**00 27 46.8**	**-0.4**
KAN10	**Anthony SW Sta**	**1.08**	**314**		**Pg**	**00 27 49.1**	**+0.1**
KAN08	**Anthony NE Sta**	**1.09**	**322**		**Pg**	**00 27 49.3**	**+0.1**
FNO	**Franklin**	**1.13**	**192**		**Pg**	**00 27 49.6**	**-0.3**
KAN12	**Harper NE Stat**	**1.16**	**323**		**Pg**	**00 27 50.5**	**0.0**
TUL1	**Leonard**	**1.17**	**113**	S		00 28 05.3	
baz=293							
U32A	**Winter Ranch,**	**1.52**	**271**		**Pn**	**00 27 56.1**	**+0.3**
U32A	**Winter Ranch,**	**1.52**	**271**	P	**Pn**	**00 27 56.1**	**+0.3**
baz=90,SNR=681							
U32A				S	**Sn**	**00 28 17.1**	**+1.3**
baz=90							
U32A	**Winter Ranch,**	**1.52**	**271**	P		00 27 56.1	
baz=90,SNR=681							
U32A				S		00 28 17.1	
baz=90							
WMOK	**Wichita Mounta**	**2.11**	**220**		**Pn**	**00 28 04.6**	**+0.7**
WMOK	**Wichita Mounta**	**2.11**	**220**	P	**Pn**	**00 28 04.7**	**+0.7**
baz=40,SNR=212							
WMOK				S	**Sb**	**00 28 32.8**	**-0.5**
baz=40							
WMOK	**Wichita Mounta**	**2.11**	**220**	P		00 28 04.6	
baz=40,SNR=221							
WMOK				S		00 28 32.5	
baz=40							
WMOK	**Wichita Mounta**	**2.11**	**220**	P		00 28 04.7	
baz=40,SNR=212							
WMOK				S		00 28 32.8	
baz=40							
U38A	**Gravette**	**2.21**	**87**		**Pn**	**00 28 06.8**	**+1.5**
U38A				IAmb_Lg		00 28 39.7	
comp=Z,581nm,0.8s							
U38A	**Gravette**	**2.21**	**87**	P	**Pn**	**00 28 06.8**	**+1.5**
baz=269,SNR=126							
U38A				S	**Sb**	**00 28 36.9**	**+0.8**
baz=269							
U38A	**Gravette**	**2.21**	**87**	P		00 28 06.8	
baz=269,SNR=126							
U38A				S		00 28 36.9	
baz=269							
X37A	**Clayton**	**2.28**	**141**		**Pn**	**00 28 06.8**	**+0.5**
X37A				IAmb_Lg		00 28 41.8	
comp=Z,386nm,0.7s							
X37A	**Clayton**	**2.28**	**141**	P	**Pn**	**00 28 06.9**	**+0.6**
baz=322,SNR=137							
X37A				S	**Sb**	**00 28 39.4**	**+1.4**
baz=322							
X37A	**Clayton**	**2.28**	**141**	P		00 28 06.9	
baz=322,SNR=137							
X37A				S		00 28 39.4	
baz=322							
R32A	**Long Quarter,**	**2.41**	**329**		**Pn**	**00 28 09.2**	**+1.0**
R32A	**Long Quarter,**	**2.41**	**329**	P	**Pn**	**00 28 09.1**	**+1.0**
baz=148,SNR=198							
R32A				S	**Sn**	**00 28 39.0**	**+1.1**
baz=148							
R32A	**Long Quarter,**	**2.41**	**329**	P		00 28 09.1	
baz=148,SNR=198							
R32A				S		00 28 39.0	
baz=148							
HHAR	**Hobbs**	**2.57**	**91**		**Pn**	**00 28 11.1**	**+0.8**
HHAR				IAmb_Lg		00 28 50.2	
comp=Z,406nm,0.8s							
HHAR	**Hobbs**	**2.57**	**91**	P	**Pn**	**00 28 11.6**	**+1.3**
baz=273,SNR=74							
HHAR	**Hobbs**	**2.57**	**91**	P		00 28 11.6	
baz=273,SNR=74							
KSU1	**Kansas State U**	**2.76**	**8**		**Pn**	**00 28 13.4**	**+0.5**
KSU1				IAmb_Lg		00 29 01.0	
comp=Z,356nm,0.8s							
KSU1	**Kansas State U**	**2.76**	**8**	P	**Pn**	**00 28 14.1**	**+1.2**
baz=188,SNR=54							
KSU1	**Kansas State U**	**2.76**	**8**	P		00 28 13.2	
baz=188,SNR=148							
KSU1	**Kansas State U**	**2.76**	**8**	P		00 28 14.1	
baz=188,SNR=54							
W39A	**Magazine**	**2.96**	**112**		**Pn**	**00 28 15.8**	**+0.2**
W39A				IAmb_Lg		00 29 04.3	
comp=Z,670nm,0.9s							
W39A	**Magazine**	**2.96**	**112**	P	**Pn**	**00 28 15.9**	**+0.3**
baz=294							
W39A	**Magazine**	**2.96**	**112**	P		00 28 15.9	
baz=294,SNR=52							
W39A	**Magazine**	**2.96**	**112**	P		00 28 15.9	
baz=294							
Z35A	**Perchaven, San**	**3.03**	**182**		**Pn**	**00 28 17.1**	**+0.4**
Z35A	**Perchaven, San**	**3.03**	**182**	P	**Pn**	**00 28 17.4**	**+0.8**
baz=2.1,SNR=56							
Z35A	**Perchaven, San**	**3.03**	**182**	P		00 28 17.4	
baz=2.1,SNR=56							
CBKS	**Cedar Bluff**	**3.21**	**320**		**Pn**	**00 28 19.8**	**+0.7**
CBKS	**Cedar Bluff**	**3.21**	**320**	P	**Pn**	**00 28 20.0**	**+1.0**
baz=139,SNR=10							
CBKS	**Cedar Bluff**	**3.21**	**320**	P		00 28 19.5	
baz=139,SNR=44							
CBKS				S		00 28 57.5	
baz=139							
CBKS	**Cedar Bluff**	**3.21**	**320**	P		00 28 20.0	
baz=139,SNR=10							
S39A	**Bolivar**	**3.32**	**65**		**Pn**	**00 28 20.9**	**+0.3**
S39A	**Bolivar**	**3.32**	**65**	P	**Pn**	**00 28 21.7**	**+1.1**
baz=247,SNR=71							
S39A	**Bolivar**	**3.32**	**65**	P		00 28 21.7	
baz=247,SNR=71							
MIAR	**Mount Ida**	**3.42**	**121**		**Pn**	**00 28 22.9**	**+0.9**
MIAR				IAmb_Lg		00 29 21.4	
comp=Z,316nm,0.8s							
MIAR	**Mount Ida**	**3.42**	**121**	P	**Pn**	**00 28 22.8**	**+0.9**
baz=303,SNR=64							
MIAR				S	**Sn**	**00 29 03.9**	**+1.1**
baz=303							
MIAR	**Mount Ida**	**3.42**	**121**	P		00 28 22.6	
baz=303,SNR=15							
MIAR				S		00 29 03.1	
baz=303							
MIAR	**Mount Ida**	**3.42**	**121**	P		00 28 22.8	
baz=303,SNR=64							
MIAR				S		00 29 03.9	
baz=303							
U40A	**Yellville**	**3.45**	**89**		**Pn**	**00 28 22.6**	**+0.3**
U40A				IAmb_Lg		00 29 19.6	
comp=Z,384nm,0.8s							
U40A	**Yellville**	**3.45**	**89**	P	**Pn**	**00 28 22.7**	**+0.3**
baz=271,SNR=130							
U40A	**Yellville**	**3.45**	**89**	P		00 28 22.6	
baz=271,SNR=136							
U40A	**Yellville**	**3.45**	**89**	P		00 28 22.7	
baz=271,SNR=130							
U40A				P		00 28 22.7	
baz=271,SNR=130							
Z38A	**Mt. Pleasant**	**3.56**	**150**	Pn	**Pn**	**00 28 24.4**	**+0.5**
Z38A				IAmb_Lg		00 29 25.3	
comp=Z,509nm,0.9s							
X40A	**Basin Creek Fa**	**3.97**	**117**		**Pn**	**00 28 31.1**	**+1.5**
X40A	**Basin Creek Fa**	**3.97**	**117**	P		00 28 30.8	
baz=299,SNR=12							
MGMO	**Mountain Grove**	**3.98**	**77**		**Pn**	**00 28 30.7**	**+1.0**
MGMO				IAmb_Lg		00 29 42.9	
comp=Z,335nm,0.9s							

AMTX Amarillo 4.00 250 Pn **Pn** **00 28 31.1 +1.1**
AMTX IAmb_Lg 00 29 45.7
comp=Z,329nm,0.7s
AMTX Amarillo 4.00 250 P **Pn** **00 28 30.8 +0.9**
baz=67,SNR=10
AMTX Amarillo 4.00 250 P 00 28 30.8
baz=67
AMTX Amarillo 4.00 250 P 00 28 30.8
baz=67,SNR=10
WHAR Wooly Hollow 4.07 104 Pn **Pn** **00 28 31.7 +0.8**
WHAR IAmb_Lg 00 29 42.9
comp=Z,567nm,1.0s
FCAR Ozark Folk Cen 4.08 95 **Pn** **00 28 31.5 +0.6**
FCAR IAmb_Lg 00 29 39.4
comp=Z,204nm,0.9s
W41B Gary Mavity, V 4.14 105 P **Pn** **00 28 31.7 -0.1**
baz=288,SNR=34
W41B Gary Mavity, V 4.14 105 P 00 28 31.8
baz=288,SNR=7.6
W41B S 00 29 19.8
baz=288
W41B Gary Mavity, V 4.14 105 P 00 28 31.7
baz=288,SNR=34
WLAR White Oak Lake 4.24 128 **Pn** **00 28 33.8 +0.5**
WLAR IAmb_Lg 00 29 40.8
comp=Z,274nm,0.7s
ABTX Abilene, Hawle 4.27 210 **Pn** **00 28 33.6 -0.2**
ABTX IAmb_Lg 00 29 48.7
comp=Z,379nm,1.0s
ABTX Abilene, Hawle 4.27 210 P 00 28 34.0
baz=28
P38A Dawn 4.32 40 Pn **Pn** **00 28 35.0 +0.7**
P38A IAmb_Lg 00 29 52.6
comp=Z,606nm,0.7s
P38A Dawn 4.32 40 P **Pn** **00 28 35.0 +0.7**
baz=222,SNR=8.7
P38A Dawn 4.32 40 P 00 28 35.0
baz=222,SNR=8.7
R40A Maddies Statio 4.32 62 **Pn** **00 28 34.9 +0.5**
R40A IAmb_Lg 00 29 47.7
comp=Z,447nm,0.7s
R40A Maddies Statio 4.32 62 P **Pn** **00 28 34.8 +0.5**
baz=245,SNR=46
R40A Maddies Statio 4.32 62 P 00 28 34.8
baz=245,SNR=46
N33A J Bar K, Exete 4.37 357 **Pn** **00 28 35.1 +0.1**
N33A IAmb_Lg 00 29 50.0
comp=Z,342nm,1.0s
WHTX Lake Whitney, 4.37 184 P 00 28 34.9
baz=3.6,SNR=14
WHTX Lake Whitney, 4.37 184 P 00 28 34.9
baz=3.6,SNR=18
WHTX Lake Whitney, 4.37 184 **Pn** **00 28 35.1 +0.1**
WHTX Lake Whitney, 4.37 184 P **Pn** **00 28 34.9 -0.1**
baz=3.6,SNR=18
237A Washetta, Mont 4.49 166 Pn **Pn** **00 28 36.7 +0.1**
237A IAmb_Lg 00 29 59.7
comp=Z,210nm,1.1s
237A Washetta, Mont 4.49 166 P **Pn** **00 28 36.5 -0.1**
baz=346,SNR=36
237A S **Sn** **00 29 28.8 -0.3**
baz=346
237A Washetta, Mont 4.49 166 P 00 28 36.5
baz=346,SNR=36
237A S 00 29 28.8
baz=346
N35A Tabor 4.63 14 **Pn** **00 28 39.1 +0.4**
N35A Tabor 4.63 14 P **Pn** **00 28 39.1 +0.4**
baz=195
N35A Tabor 4.63 14 P 00 28 39.1
baz=195
Z41A Richland Creek 4.72 130 P 00 28 39.3
baz=312
Z41A S 00 29 33.5
baz=312
LCAR Lake Charles 4.84 92 **Pn** **00 28 41.5 0.0**
LCAR IAmb_Lg 00 30 08.3
comp=Z,243nm,1.0s
T42A Van Buren 4.89 80 **Pn** **00 28 42.5 +0.4**
T42A IAmb_Lg 00 30 01.0
comp=Z,275nm,0.8s
T42A Van Buren 4.89 80 P **Pn** **00 28 42.3 +0.2**
baz=264,SNR=35
T42A Van Buren 4.89 80 P 00 28 42.3
baz=264,SNR=35
CCM Cathedral Cave 4.99 68 Pn **Pn** **00 28 43.6 +0.1**
CCM IAmb_Lg 00 30 02.2
comp=Z,489nm,0.9s
CCM Cathedral Cave 4.99 68 P **Pn** **00 28 43.9 +0.4**
baz=252,SNR=27
CCM Cathedral Cave 4.99 68 P 00 28 43.2
baz=252
CCM Cathedral Cave 4.99 68 P 00 28 43.9
baz=252,SNR=27
CCAR Cane Creek 5.02 118 **Pn** **00 28 44.7 +0.8**
CCAR IAmb_Lg 00 30 20.5
comp=Z,247nm,0.9s
NATX Nacogdoches 5.03 155 **Pn** **00 28 43.7 -0.4**
NATX Nacogdoches 5.03 155 S 00 29 41.9
baz=337
BGNE Belgrade 5.10 351 **Pn** **00 28 45.7 +0.7**
BGNE IAmb_Lg 00 30 23.7
comp=Z,458nm,1.0s
BGNE Belgrade 5.10 351 P **Pn** **00 28 45.2 +0.1**
baz=171,SNR=15
BGNE Belgrade 5.10 351 P 00 28 45.3
baz=171
BGNE S 00 29 42.8
baz=171
BGNE Belgrade 5.10 351 P 00 28 45.2
baz=171,SNR=15
KSCO Kaye Shedlock' 5.10 303 Pn **Pn** **00 28 46.0 +0.9**
KSCO IAmb_Lg 00 30 20.7
comp=Z,362nm,0.8s
KSCO Kaye Shedlock' 5.10 303 P 00 28 46.3
baz=120
KSCO S 00 29 43.2
baz=120
P40A Paris 5.11 50 **Pn** **00 28 46.9 +1.8**
MSTX Muleshoe 5.21 244 Pn **Pn** **00 28 47.1 +0.4**
MSTX IAmb_Lg 00 30 25.5
comp=Z,129nm,0.8s
MSTX Muleshoe 5.21 244 P 00 28 46.9
baz=61
HBAR Harrisburg 5.31 97 Pg **Pb** **00 29 05.5 +4.3**
N38A Joes South For 5.37 33 **Pn** **00 28 49.5 +0.8**
PBMO Poplar Bluff 5.40 84 **Pn** **00 28 50.2 +1.0**
PBMO IAmb_Lg 00 30 24.9
comp=Z,334nm,0.7s
435B Jarrell 5.58 184 Pn **Pn** **00 28 51.4 -0.3**
435B IAmb_Lg 00 30 28.3
comp=Z,207nm,0.8s
435B Jarrell 5.58 184 P 00 28 51.7
baz=3.9,SNR=5.7
435B S 00 29 54.8
baz=3.9
LPAR Lepanto 5.59 96 Pn **Pn** **00 28 52.3 +0.6**
LPAR IAmb_Lg 00 30 30.3
comp=Z,362nm,0.9s
FVM French Village 5.59 71 **Pn** **00 28 52.1 +0.4**
FVM IAmb_Lg 00 30 27.6
comp=Z,336nm,1.0s
FVM French Village 5.59 71 P **Pn** **00 28 52.3 +0.6**
baz=255,SNR=13
FVM French Village 5.59 71 P 00 28 52.3
baz=255,SNR=13
L34A Svendsen Farm, 5.62 6 Pn **Pn** **00 28 54.1 +1.8**
T25A Trinidad 5.90 280 Pn **Pn** **00 28 56.9 +0.6**
T25A IAmb_Lg 00 30 37.8
comp=Z,305nm,0.9s
T25A Trinidad 5.90 280 P 00 28 56.3
baz=95,SNR=17
SLM Saint Louis 5.93 65 **Pn** **00 28 57.7 +1.3**
SLM **Pg** **00 29 17.7 -4.0**
SLM IAmb_Lg 00 30 35.6
comp=Z,310nm,0.8s
PARMO Parma 5.95 85 Pn **Pn** **00 28 57.9 +1.2**
PARMO IAmb_Lg 00 30 48.3
comp=Z,384nm,0.8s
143A Socs Landing, 5.97 126 Pn **Pn** **00 28 57.3 +0.3**
143A IAmb_Lg 00 30 43.4
comp=Z,205nm,0.8s
OGNE Ogallala 5.97 321 **Pn** **00 28 58.0 +1.0**
OGNE IAmb_Lg 00 30 46.5
comp=Z,301nm,0.8s
OGNE Ogallala 5.97 321 P 00 28 57.9
baz=138
OGNE S 00 30 04.3
baz=138
PENMO Penman 6.05 87 **Pn** **00 28 58.7 +0.6**
LNXT Lenox 6.17 90 **Pn** **00 28 59.9 0.0**
JCT Junction City 6.28 202 Pn **Pn** **00 29 01.4 +0.1**
JCT IAmb_Lg 00 30 59.5
comp=Z,313nm,1.0s
JCT Junction City 6.28 202 P 00 29 01.1
baz=20,SNR=7.4
JCT S 00 30 11.2
baz=20
SCIA State Center 6.31 28 **Pn** **00 29 01.7 0.0**
SCIA State Center 6.31 28 P 00 29 01.3
baz=210
SCIA S 00 30 11.3
baz=210
HALT Halls 6.32 92 IAmb_Lg 00 30 50.9
comp=Z,254nm,0.8s
GLAT Glass 6.33 89 Pn **Pn** **00 29 02.7 +0.8**
HICK Hickman 6.37 86 Pn **Pn** **00 29 02.7 +0.3**
K31A O'Neill 6.37 349 Pn **Pn** **00 29 03.4 +0.8**
K31A IAmb_Lg 00 31 00.2
comp=Z,273nm,0.8s
342A Flagon Creek P 6.38 140 Pn **Pn** **00 29 02.7 +0.1**
S44A Carbondale 6.43 76 **Pn** **00 29 03.9 +0.5**
S44A Carbondale 6.43 76 P **Pn** **00 29 03.9 +0.5**
baz=260,SNR=9.5
S44A Carbondale 6.43 76 P 00 29 03.9
baz=260,SNR=9.5
SIUC Southern Illin 6.47 76 **Pn** **00 29 04.2 +0.4**
HKT Hockley 6.49 170 Pn **Pn** **00 29 04.4 +0.3**
N41A Harden Midland 6.55 47 Pn **Pn** **00 29 06.3 +1.4**
OXF Oxford 6.56 104 Pn **Pn** **00 29 04.3 -0.9**
OXF Oxford 6.56 104 P 00 29 04.2
baz=289
W45A Hickory Valley 6.57 98 Pn **Pn** **00 29 05.9 +0.8**
Y45A Yeager Farm, C 6.70 110 **Pn** **00 29 05.8 -1.2**
Y45A IAmb_Lg 00 31 14.1
comp=Z,268nm,0.9s
P43A Skaggs, Pawnee 6.83 59 **Pn** **00 29 09.2 +0.3**
P43A Skaggs, Pawnee 6.83 59 P **Pn** **00 29 09.1 +0.2**
baz=244,SNR=9.4
P43A Skaggs, Pawnee 6.83 59 P 00 29 09.1
baz=244,SNR=9.4
Q44A Meyer Farm, Va 6.91 66 Pn **Pn** **00 29 10.9 +1.0**
K38A Parkersburg 7.12 27 **Pn** **00 29 11.8 -0.9**
GDL2 Guadalupe Moun 7.29 237 Pn **Pn** **00 29 15.5 +0.2**
L40A Anamosa 7.30 37 **Pn** **00 29 15.6 +0.3**
L40A IAmb_Lg 00 31 25.5
comp=Z,267nm,0.8s
ECSD EROS Data Cent 7.37 3 Pn **Pn** **00 29 15.8 -0.5**
ECSD EROS Data Cent 7.37 3 P 00 29 15.5
baz=183,SNR=17
HDIL Hopedale 7.43 53 **Pn** **00 29 17.4 +0.3**
HDIL Hopedale 7.43 53 P 00 29 16.4
baz=238,SNR=7.0
PLAL Pickwick Lake 7.49 98 **Pn** **00 29 18.8 +0.9**
PLAL IAmb_Lg 00 31 27.6
comp=Z,90nm,0.8s
735A Kenedy 7.51 185 **Pn** **00 29 17.9 -0.3**
735A IAmb_Lg 00 31 39.9
comp=Z,253nm,1.3s
WVT Waverly 7.51 89 **Pn** **00 29 18.2 0.0**
ISCO Idaho Springs 7.52 300 Pn **Pn** **00 29 19.0 +0.4**
ISCO IAmb_Lg 00 31 45.3
comp=Z,114nm,0.8s
ISCO Idaho Springs 7.52 300 P 00 29 18.2
baz=115,SNR=7.2
OLIL Olney 7.55 69 Pn **Pn** **00 29 19.4 +0.8**
OLIL IAmb_Lg 00 31 44.4
comp=Z,310nm,1.0s
146A Union 7.63 117 Pn **Pn** **00 29 20.7 +0.9**
146A IAmb_Lg 00 31 44.4
comp=Z,125nm,0.9s
ANMO Albuquerque 7.73 262 Pn **Pn** **00 29 21.9 +0.6**
comp=Z,0.3nm,0.3s,baz=82,slow=18,SNR=7.1
ANMO Pg Pg 00 29 50.5 -5.7
comp=Z,3.7nm,0.3s,baz=77,slow=16,SNR=15
ANMO Lg Lg 00 31 30.4
comp=Z,2.5nm,0.3s,baz=182,slow=22,SNR=2.8
ANMO LR LR 00 32 37.6
comp=Z,198nm,18.1s,baz=359,slow=41
ANMO Albuquerque 7.73 262 **Pn** **00 29 22.1 +0.7**
O44A Mansfield 7.79 58 **Pn** **00 29 22.9 +1.0**
L42A Oliver, Polo 8.07 44 Pn **Pn** **00 29 25.9 +0.1**
T47A Sharon Grove 8.07 83 **Pn** **00 29 25.6 -0.2**
T47A IAmb_Lg 00 31 56.3
comp=Z,167nm,1.0s
BNM Barren Site 8.08 257 Pn **Pn** **00 29 26.6 +0.4**
Z47A Carrollton 8.09 110 Pn **Pn** **00 29 28.4 +2.3**
Z47A IAmb_Lg 00 32 07.3
comp=Z,88nm,0.9s
I37A Lemond, Waseca 8.15 19 Pn **Pn** **00 29 25.1 -1.8**
I37A IAmb_Lg 00 31 50.6
comp=Z,208nm,0.8s
PHWY Pilot Hill 8.16 310 **Pn** **00 29 27.5 +0.2**
PHWY IAmb_Lg 00 31 55.6
comp=Z,80nm,0.8s
SUSD Miller 8.19 351 IAmb_Lg 00 31 59.2
comp=Z,192nm,1.1s
833A Chaparral WMA, 8.25 194 P 00 29 27.9
baz=13
N23A Red Feather La 8.25 306 P 00 29 28.9
baz=120
MNTX Cornudas Mount 8.28 238 Pn **Pn** **00 29 28.9 +0.1**
MNTX Cornudas Mount 8.28 238 P 00 29 28.3
baz=54,SNR=11
Y22D IRIS PASSCAL I 8.34 257 Pg 00 30 01.3 -6.5
Y22D IAmb_Lg 00 32 12.7
comp=Z,209nm,1.1s
JFWS Jewell Farm 8.42 37 Pn **Pn** **00 29 31.0 +0.5**
JFWS Jewell Farm 8.42 37 P 00 29 30.5
baz=221
X48A Hartselle 8.45 100 Pn **Pn** **00 29 32.5 +1.5**
X48A IAmb_Lg 00 31 55.1
comp=Z,91nm,0.9s
P46A Rosedale 8.47 65 **Pn** **00 29 31.9 +0.6**
M44A Midewin, Midew 8.67 52 Pn **Pn** **00 29 35.4 +1.3**
M44A IAmb_Lg 00 32 09.6
comp=Z,239nm,0.8s
CLTN Cedars of Leba 8.73 89 Pn **Pn** **00 29 36.4 +1.6**
WCI Wyandotte Cave 8.83 75 Pn **Pn** **00 29 38.2 +1.9**
WCI IAmb_Lg 00 32 06.9
comp=Z,147nm,0.7s
WCI Wyandotte Cave 8.83 75 P 00 29 36.7
baz=261
SFIN Lafayette 8.83 60 Pn **Pn** **00 29 37.7 +1.4**
SFIN IAmb_Lg 00 32 11.0
comp=Z,223nm,0.8s
BLO Bloomington 8.85 68 **Pn** **00 29 37.2 +0.7**
BLO IAmb_Lg 00 32 07.5
comp=Z,251nm,0.8s
TX31 Lajitas Ar. Si 8.91 220 **Pn** **00 29 36.5 -1.0**
TX32 Lajitas Array 8.91 220 **Pn** **00 29 36.5 -1.0**
TXAR Lajitas Array 8.91 220 Pn **Pn** **00 29 36.5 -1.1**
comp=Z,0.5nm,0.3s,baz=38,slow=11,SNR=30
TXAR Pg Pg 00 30 08.8 -10
comp=Z,2.8nm,0.3s,baz=44,slow=14,SNR=8.8
TXAR Lg Lg 00 32 06.8
comp=Z,5.4nm,0.3s,baz=21,slow=32,SNR=6.8
TXAR Lajitas Array 8.91 220 Pn **Pn** **00 29 37.9 +0.4**
LRAL Lakeview Retre 8.98 109 Pn **Pn** **00 29 38.7 +0.4**
I40A Norwalk 9.01 32 **Pn** **00 29 38.3 -0.4**
I40A IAmb_Lg 00 32 19.5
comp=Z,215nm,1.0s
Y49A Blount Mountai 9.13 103 Pn **Pn** **00 29 42.4 +2.0**
Y49A IAmb_Lg 00 32 23.9
comp=Z,82nm,0.7s
U49A Red Boiling Sp 9.14 86 Pn **Pn** **00 29 41.6 +1.0**
U49A IAmb_Lg 00 32 15.7
comp=Z,77nm,0.9s
SWET Sewanee 9.17 94 Pn **Pn** **00 29 43.4 +2.5**
L44A Lake County Fo 9.20 48 Pn **Pn** **00 29 41.6 +0.3**
PV15 Paradox Valley 9.26 286 Pn **Pn** **00 29 42.6 +0.3**
K43A Burlington 9.28 44 Pn **Pn** **00 29 43.4 +1.0**
PV01 Paradox Valley 9.29 284 Pn **Pn** **00 29 42.7 -0.2**
RSSD Black Hills 9.37 328 Pn **Pn** **00 29 44.5 +0.7**
RSSD IAmb_Lg 00 32 35.7
comp=Z,86nm,0.9s
RSSD Black Hills 9.37 328 P 00 29 44.3
baz=144
PV07 Paradox Valley 9.40 286 Pn **Pn** **00 29 44.6 +0.3**
SPMN Marine on St. 9.43 19 **Pn** **00 29 42.8 -1.7**
SPMN IAmb_Lg 00 32 46.4
comp=Z,92nm,0.9s
SPMN Marine on St. 9.43 19 P 00 29 44.2
baz=202,SNR=7.1
PV02 Paradox Valley 9.44 285 Pn **Pn** **00 29 44.4 -0.4**
RWWY Rawlins 9.47 307 Pn **Pn** **00 29 44.8 -0.5**
F33A 5 Mile Ranch, 9.48 4 **Pn** **00 29 45.2 +0.1**
F33A IAmb_Lg 00 32 37.2
comp=Z,69nm,0.8s
PV13 Radium Mtn., P 9.49 284 Pn **Pn** **00 29 45.7 +0.1**
PV12 Saucer Basin, 9.50 285 IAmb_Lg 00 32 41.1
comp=Z,66nm,0.9s
PV03 Paradox Valley 9.53 285 Pn **Pn** **00 29 45.9 -0.1**
PV11 David Mesa, Pa 9.55 285 Pn **Pn** **00 29 46.1 -0.2**
PV11 IAmb_Lg 00 32 58.7
comp=Z,71nm,1.2s
FPAL Fort Paine 9.57 98 Pn **Pn** **00 29 48.0 +1.6**
FPAL IAmb_Lg 00 32 37.9
comp=Z,62nm,0.8s
PV18 Skein Mesa, Pa 9.57 285 Pn **Pn** **00 29 46.8 +0.2**
PV16 Nyswonger Mesa 9.59 285 Pn **Pn** **00 29 47.9 +1.0**
PV16 IAmb_Lg 00 32 46.4
comp=Z,69nm,1.2s
PV04 Paradox Valley 9.59 286 IAmb_Lg 00 32 39.0
comp=Z,60nm,1.1s
K22A Casper 9.59 314 Pn **Pn** **00 29 47.0 +0.1**
K22A IAmb_Lg 00 32 52.7
comp=Z,203nm,1.3s
121A Cookes Peak, D 9.60 250 Pn **Pn** **00 29 47.4 +0.4**
PV17 East Wray Mesa 9.62 285 Pn **Pn** **00 29 47.6 +0.3**
W50A Signal Mountai 9.67 93 IAmb_Lg 00 32 38.1
comp=Z,95nm,0.8s
R49A Shelbyville 9.71 75 Pn **Pn** **00 29 49.0 +0.7**
R49A IAmb_Lg 00 32 34.9
comp=Z,87nm,1.0s
P48A Milroy 9.75 68 **Pn** **00 29 48.4 -0.5**
P48A IAmb_Lg 00 32 38.5
comp=Z,160nm,0.8s
I42A Draeger Farm, 9.79 37 Pn **Pn** **00 29 50.8 +1.4**
F36A Milaca 9.87 15 Pn **Pn** **00 29 48.7 -1.7**
T50A Nancy 9.89 83 IAmb_Lg 00 32 47.6
comp=Z,58nm,0.8s
250A Grady 10.00 113 Pn **Pn** **00 29 53.3 +1.0**
250A IAmb_Lg 00 32 59.3
comp=Z,81nm,1.1s
N47A Urbana 10.01 60 Pn **Pn** **00 29 53.3 +0.9**
L46A Eue Claire 10.12 53 **Pn** **00 29 55.4 +1.5**
CPCT Cooper Cave 10.27 91 Pn **Pn** **00 29 57.1 +1.2**
P49A Miami Univ. Ec 10.30 68 Pn **Pn** **00 29 55.8 -0.6**
P49A Miami Univ. Ec 10.30 68 P 00 29 55.5
baz=256
G40A Rib Lake 10.32 28 Pn **Pn** **00 29 56.2 -0.4**
V51A Loudon 10.35 89 Pn **Pn** **00 29 58.1 +0.9**
R50A Paris 10.37 76 Pn **Pn** **00 29 56.8 -0.6**
E28A Huff 10.54 346 Pn **Pn** **00 29 58.6 -1.1**
X18A Snowflake 10.62 264 Pn **Pn** **00 29 59.8 -1.3**
O49A Covington 10.75 65 Pn **Pn** **00 30 02.3 -0.3**
H43A Windswept, Lux 10.78 38 Pn **Pn** **00 30 01.5 -1.4**
S51A Beattyville 10.90 79 **Pn** **00 30 05.0 +0.5**
SRU San Rafael Swe 10.96 288 Pn **Pn** **00 30 06.1 +0.5**
V52A Sevierville 10.96 89 Pn **Pn** **00 30 06.9 +1.5**
N49A Columbus Grove 11.09 62 Pn **Pn** **00 30 06.4 -0.8**
L48A N Adams 11.31 57 Pn **Pn** **00 30 08.9 -1.3**
COWI Conover 11.43 29 **Pn** **00 30 09.7 -2.1**
TMUT Trail Mountain 11.52 289 Pn **Pn** **00 30 12.9 -0.5**
PD31 Pinedale Array 11.52 307 Pn **Pn** **00 30 12.6 -0.8**
PDAR Pinedale Array 11.52 307 Pn **Pn** **00 30 12.1 -1.2**
comp=Z,0.2nm,0.3s,baz=121,slow=15,SNR=8.1
PDAR Lg Lg 00 33 25.4
comp=Z,0.7nm,0.3s,baz=94,slow=33,SNR=1.9
PDAR Pinedale Array 11.52 307 Pn **Pn** **00 30 14.3 +1.0**
ACSO Alum Creek Sta 11.76 67 **Pn** **00 30 15.1 -1.3**
AGMN Agassiz Nation 11.96 4 Pn **Pn** **00 30 16.1 -3.0**
AAM Ann Arbor 11.99 56 Pn **Pn** **00 30 18.6 -0.9**
Q52A Bidwell 12.06 73 **Pn** **00 30 19.8 -0.6**
B35A Bob, Littlefor 12.24 11 **Pn** **00 30 20.2 -2.8**
P52A Corning 12.27 70 P 00 30 22.2
baz=259
N51A Ashland 12.39 64 **Pn** **00 30 25.9 +0.9**
D41A Chassel 12.44 28 **Pn** **00 30 22.7 -2.9**
E43A Lone Tree Farm 12.55 34 Pn **Pn** **00 30 27.6 +0.4**
Q53A Leroy 12.62 74 P 00 30 26.8
baz=263
O53A New Philadelph 13.08 68 P 00 30 32.4
baz=258
DGMT Dagmar 13.17 339 Pn **Pn** **00 30 33.8 -1.8**
DGMT Dagmar 13.17 339 P 00 30 33.8
baz=154
R55A Marlinton 13.67 77 P 00 30 41.0
baz=267
ULM Lac du Bonnet 13.91 3 Pn Pn 00 30 40.7 -4.9
comp=Z,0.8nm,0.3s,baz=174,slow=12,SNR=7.9
ULM Lg Lg 00 34 37.0
comp=Z,1.0nm,0.3s,baz=269,slow=19,SNR=2.9
ULM Lac du Bonnet 13.91 3 Pn Pn 00 30 40.8 -4.8
EGMT Eagleton 14.92 325 Pn **Pn** **00 30 57.9 -1.6**
Q56A Blue Knob Stat 15.08 69 Pn **Pn** **00 30 59.7 -1.9**
M55A Ridgway 15.16 65 Pn **Pn** **00 30 59.9 -2.9**
WVNY West Valley, N 15.53 62 Pn **Pn** **00 31 05.3 -2.3**
M56A Emporium 15.60 65 Pn **Pn** **00 31 04.5 -3.9**
M56A IAmb IAmb 00 31 13.6
comp=Z,17nm,1.4s
T59A Double "B" Far 15.72 82 Pn **Pn** **00 31 08.8 -1.3**
T59A IAmb IAmb 00 31 10.6
comp=Z,12nm,1.1s
MEDO Medina 15.86 59 Pn **Pn** **00 31 07.7 -4.3**
MEDO IAmb IAmb 00 31 14.2
comp=Z,7.4nm,0.8s
SADO Sadowa 16.01 53 Pn **Pn** **00 31 14.7 +0.8**
comp=Z,0.3nm,0.3s,baz=263,slow=16,SNR=1.7
SADO Lg Lg 00 35 42.5
comp=Z,0.9nm,0.3s,baz=155,slow=20,SNR=5.8
SADO LR LR 00 37 34.3
comp=Z,40nm,21.9s,baz=246,slow=38
XPFO Pion Flat 16.08 266 Pn **Pn** **00 31 13.0 -1.9**
PFO Pinyon Flats O 16.08 266 Pn **Pn** **00 31 12.7 -2.2**
ESJX Sierra Juarez 16.17 260 Pn **Pn** **00 31 17.7 +1.6**
ESJX IAmb IAmb 00 31 23.9
comp=Z,6.0nm,1.1s
L56A Greenwood 16.20 63 Pn **Pn** **00 31 13.6 -2.7**
L56A IAmb IAmb 00 31 26.5
comp=Z,14nm,1.2s
SDMD Soldier's Deli 16.30 73 Pn **Pn** **00 31 18.5 +1.0**
SDMD IAmb IAmb 00 31 20.0
comp=Z,5.4nm,1.0s
J55A Hilton 16.34 59 Pn **Pn** **00 31 16.4 -1.6**
J55A IAmb IAmb 00 31 21.8
comp=Z,8.4nm,0.8s
M57A Sunshine Farm, 16.34 66 Pn **Pn** **00 31 17.1 -1.0**
M57A IAmb IAmb 00 31 25.6
comp=Z,12nm,1.1s
N58A Sunbury 16.56 68 Pn **Pn** **00 31 18.5 -2.3**
MVL Millersville 16.73 71 Pn **Pn** **00 31 20.2 -2.7**
MVL IAmb IAmb 00 31 26.6
comp=Z,5.2nm,0.9s
KVN Kaiserville 16.81 285 Pn **Pn** **00 31 21.3 -3.0**
NVAR Mina Array Bea 16.95 283 Pn **Pn** **00 31 22.8 -3.4**
comp=Z,0.0nm,0.3s,baz=94,slow=12,SNR=1.6
TEIG Tepich 17.85 152 P **P** **00 31 40.2 +2.3**
comp=Z,0.6nm,0.3s,baz=49,slow=7.8,SNR=2.5
TEIG LR LR 00 39 35.5
comp=Z,32nm,19.6s,baz=273,slow=40
FFC Flin Flon 18.66 351 P **P** **00 31 47.3 +0.7**
NCB Newcomb 19.04 59 P **P** **00 31 49.5 -1.3**
NCB IAmb IAmb 00 32 01.2
comp=Z,8.4nm,1.4s
CMIG Matias Romero 19.30 174 P **Pn** **00 31 55.6 +0.8**
comp=Z,0.4nm,0.3s,baz=290,slow=10.0,SNR=2.9
YKA Yellowknife Ar 28.32 343 P **P** **00 33 21.7 -0.5**
comp=Z,0.1nm,0.5s,baz=141,slow=9.1,SNR=3.6
YKA LR LR 00 45 09.4
comp=Z,40nm,21.2s,baz=0.0,slow=38
FRB Frobisher Bay 32.44 23 P **P** **00 34 00.1 +1.5**
comp=Z,1.9nm,0.8s,baz=94,slow=19,SNR=1.8
ILAR Eielson Array 40.81 330 P **P** **00 35 10.6 +0.6**
comp=Z,0.8nm,0.6s,baz=107,slow=7.2,SNR=10
KDAK Kodiak Island 41.95 319 LR LR 00 52 47.6
comp=Z,354nm,21.0s,baz=234,slow=36
ARCES ARCESS Array B 66.45 19 P **P** **00 38 18.0 +0.3**
comp=Z,5.8nm,1.1s,baz=321,slow=7.1,SNR=1.9
MA2 Magadan 69.29 330 LR LR 01 09 38.4
comp=Z,24nm,19.0s,baz=322,slow=37
HHC Hu-ho-hao-te 98.77 338 *e*P Pdif 00 41 10.9 +2.1
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,94nm,5.6s

NEIC ***24*** *00:29:59.2±1.9, 18°.50S±0°.05×69°.36W±0°.10, h136km±5km, mb4.6/8, ML4.0(GUC), Error ellipse: s-maj=13.5km s-min=7.7km az=84.0*

IDC ***24*** *00:30:00.4±1.1, 18°.51S×68°.99W, h127km±9km, mb3.9/8, mb1 3.9/13, mb1mx3.7/47, mbtmp4.2/13, MS2.1/1, Ms1 2.2/1, ms1mx2.1/21, Error ellipse: s-maj=18.0km s-min=9.3km az=97.0*

VAO ***24*** *00:30:00.4±0.7, 18°.34S×69°.23W, h137km±5km, mb4.4*

GUC ***24*** *00:30:01.2±0.8, 18°.46S×69°.28W, h119km±4km, ML4.1*

ISC 24 00:29:58.9±0.5, 18°.49S±0°.04×69°.23W±0°.05, h125km±5km, n100, σ1§32/121, mb4.5/11, 6C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB16	**IPOC Station P**	**0.30**	**300⇑**	*eP*		**Pn**	**00 30 18.6**	**+1.3**
PB16				*i*	S	**Sn**	**00 30 32.1**	**+1.2**
PB16	**IPOC Station P**	**0.30**	**300**	Pn		**Pn**	**00 30 17.5**	**+0.2**
PB16					Sn	**Sn**	**00 30 31.9**	**+1.0**
MNMC	**Minye Minye**	**0.73**	**208**	*eP*		**Pn**	**00 30 20.9**	**+1.5**
MNMC				*i*	S	**Sn**	**00 30 36.1**	**+1.3**
MNMC					IAML		00 30 38.7	
	comp=E,10μm,0.2s							
MNMC	**Minye Minye**	**0.73**	**208**	Pn		**Pn**	**00 30 20.9**	**+1.5**
MNMC					Sn	**Sn**	**00 30 36.4**	**+1.6**
AP01	**Chacalluta**	**1.06**	**276**	*eP*		**Pn**	**00 30 22.5**	**+0.5**
AP01				*i*	S	**Sn**	**00 30 39.6**	**+0.1**
AP01	**Chacalluta**	**1.06**	**276**	Pn		**Pn**	**00 30 22.7**	**+0.7**
AP01					Sn	**Sn**	**00 30 39.7**	**+0.3**
PSGC	**Pisagua**	**1.39**	**217⇑**	*eP*		**Pn**	**00 30 26.4**	**+0.8**
PSGC				*eS*		**Sn**	**00 30 45.7**	**-0.2**
PSGC					IAML		00 30 47.7	
	comp=E,3μm,0.3s							
PSGCX	**Pisagua**	**1.39**	**217**			**Pn**	**00 30 26.0**	**+0.4**
PSGCX					Sn	**Sn**	**00 30 46.2**	**+0.3**
PB08	**IPOC Station P**	**1.65**	**177⇑**	*eP*		**Pn**	**00 30 31.1**	**+2.3**
PB08				*eS*		**Sn**	**00 30 53.9**	**+2.4**
PB08					IAML		00 30 56.5	
	comp=E,1μm,0.6s							
PB08	**IPOC Station P**	**1.65**	**177**	Pn		**Pn**	**00 30 31.2**	**+2.3**
PB08					Sn	**Sn**	**00 30 54.0**	**+2.4**
TA02	**Huaiquique**	**1.97**	**205⇑**	*eP*		**Pn**	**00 30 33.1**	**+0.8**
TA02				*eS*		**Sn**	**00 30 57.9**	**+0.1**
TA02					IAML		00 31 04.7	
	comp=N,2μm,0.2s							
TA01	**Diego Aracena**	**2.25**	**203⇑**	*eP*		**Pn**	**00 30 36.5**	**+0.6**
TA01				*eS*		**Sn**	**00 31 03.3**	**-0.8**
TA01					IAML		00 31 12.4	
	comp=N,899nm,0.2s							
TA01	**Diego Aracena**	**2.25**	**203**			**Pn**	**00 30 36.1**	**+0.2**
TA01					Sn	**Sn**	**00 31 03.1**	**-1.0**
LPAZ	**La Paz**	**2.43**	**26**	P		**Pn**	**00 30 40.9**	**+2.3**
	comp=N,23nm,0.3s,baz=221,slow=6.5,SNR=426							
LPAZ					S	**Sn**	**00 31 09.1**	**+0.1**
	comp=N,5.8nm,0.3s,baz=258,slow=8.5,SNR=3.6							
LPAZ					LR	LR	00 31 56.9	
	comp=N,42nm,21.7s,baz=238,slow=50							
LPAZ	**La Paz**	**2.43**	**26**	Pn		**Pn**	**00 30 40.8**	**+2.2**
LPAZ	**La Paz**	**2.43**	**26**	*eP*		**Pn**	**00 30 40.0**	**+1.3**
PB01	**IPOC Station P**	**2.55**	**185**	*eP*		**Pn**	**00 30 41.5**	**+1.8**
PB01	**IPOC Station P**	**2.55**	**185**	Pn		**Pn**	**00 30 41.7**	**+1.9**
PB01					Sn	**Sn**	**00 31 11.4**	**+0.3**
PB07	**IPOC Station P**	**3.28**	**191**	*eP*		**Pn**	**00 30 50.4**	**+1.1**
PB07				*eS*		**Sn**	**00 31 26.2**	**-1.9**
PB07					IAML		00 31 40.1	
	comp=E,425nm,0.4s							
PB07	**IPOC Station P**	**3.28**	**191**	Pn		**Pn**	**00 30 51.1**	**+1.8**
PB09	**IPOC Station P**	**3.29**	**180**	*eP*		**Pn**	**00 30 51.8**	**+2.4**
PB09	**IPOC Station P**	**3.29**	**180**			**Pn**	**00 30 51.7**	**+2.3**
PB03	**IPOC Station P**	**3.58**	**188⇓**	*eP*		**Pn**	**00 30 54.1**	**+1.0**
PB03				*eS*		**Sn**	**00 31 32.9**	**-2.2**
PB03					IAML		00 31 39.6	
	comp=E,199nm,0.3s							
PB04	**IPOC Station P**	**3.92**	**193**			**Pn**	**00 30 57.8**	**0.0**
LVC	**Limon Verde**	**4.11**	**176**	P		**Pn**	**00 31 02.9**	**+2.4**
	comp=E,5.0nm,0.3s,baz=2.2,slow=8.8,SNR=51							
LVC					S	**Sn**	**00 31 48.5**	**+0.4**
	comp=E,11nm,0.3s,baz=139,slow=23,SNR=9.2							
LVC	**Limon Verde**	**4.11**	**176**	Pn		**Pn**	**00 31 02.6**	**+2.1**
LVC	**Limon Verde**	**4.11**	**176**	*eP*		**Pn**	**00 31 03.3**	**+2.9**
PB06	**IPOC Station P**	**4.21**	**184⇑**	*eP*		**Pn**	**00 31 02.7**	**+1.1**
PB06				*eS*		**Sn**	**00 31 47.3**	**-2.8**
PB06					IAML		00 31 53.0	
	comp=N,172nm,0.4s							
PB06	**IPOC Station P**	**4.21**	**184**			**Pn**	**00 31 02.6**	**+1.0**
PB15	**IPOC Station P**	**4.70**	**183**			**Pn**	**00 31 08.6**	**+0.4**
PB10	**IPOC Station P**	**5.15**	**194**			**Pn**	**00 31 13.6**	**-0.4**
PB14	**IPOC Station P**	**6.21**	**190**	Pn		**Pn**	**00 31 28.9**	**+0.4**
GO02	**Mina Guanaco**	**6.65**	**183**	Pn		**Pn**	**00 31 34.2**	**-0.3**
GO02					Sn	**Sn**	**00 32 47.9**	**-1.2**
AC01	**Pan de Azucar**	**7.73**	**189**	Pn		**Pn**	**00 31 46.4**	**-2.4**
SIV	**San Ignacio**	**8.18**	**74**	P		**Pn**	**00 31 53.7**	**-1.2**
	comp=N,4.2nm,0.3s,baz=269,slow=9.3,SNR=69							
SIV					S	**Sn**	**00 33 21.9**	**-4.0**
	baz=155,slow=22,SNR=5.8							
AC02	**Maricunga**	**8.31**	**179**	Pn		**Pn**	**00 31 56.6**	**-0.4**
ETMB	**Extrema**	**9.10**	**19**	*eP*		**Pn**	**00 32 06.0**	**-1.3**
GO03	**Copiap**	**9.11**	**186**	Pn		**Pn**	**00 32 04.0**	**-2.9**
NNA	**Nana**	**9.78**	**310**	Pn		**Pn**	**00 32 15.7**	**-0.8**
AC04	**Llanos de Chal**	**9.82**	**190**	Pn		Pn	00 32 13.3	-3.6
PTLB	**Pontes e Lacer**	**10.12**	**74**	*eP*		**Pn**	**00 32 20.2**	**-0.8**
VILB	**Vilhena**	**10.29**	**59**	*eP*		**Pn**	**00 32 22.3**	**-1.0**
AC05	**El Transito**	**10.35**	**185**	Pn		**Pn**	**00 32 21.6**	**-2.5**
LCO	**Las Campanas**	**10.56**	**187**	Pn		Pn	00 32 23.4	-3.8
SAML	**Samuel**	**11.15**	**33**	Pn		**Pn**	**00 32 35.1**	**+0.2**
GO04	**Tololo Observa**	**11.72**	**187**	Pn		**Pn**	**00 32 40.4**	**-2.2**
CO03	**El Pedregal**	**12.37**	**186**	Pn		**Pn**	**00 32 49.2**	**-1.7**
AQDB	**Aquidauana**	**12.91**	**101**	*eP*		**P**	**00 33 01.8**	**-2.0**
CPUP	**Villa Florida**	**13.49**	**127**	P		**Pn**	**00 33 04.0**	**-1.3**
	comp=N,0.2nm,0.3s,baz=311,slow=12,SNR=3.9							
CLDB	**Colider**	**15.03**	**62**	*eP*		**Pn**	**00 33 24.8**	**-0.3**
ARAG	**Araguaiana, MT**	**16.88**	**83**	*eP*		**P**	**00 33 48.2**	**+0.4**
PTGB	**Pitanga**	**17.12**	**114**	*eP*		**Pn**	**00 33 52.0**	**+1.3**
PCMB	**Pacaembu**	**17.16**	**103**	*eP*		**P**	**00 33 51.6**	**+0.7**
NPGB	**Novo Progresso**	**17.66**	**52**	*eP*		**P**	**00 33 56.0**	**-0.3**
ITRB	**Iturama**	**17.88**	**97**	*eP*		**Pn**	**00 34 00.1**	**+0.3**
ITAB	**Concordia**	**17.99**	**122**	*eP*		**Pn**	**00 34 01.6**	**+0.6**
SNDB	**Serra Nova Dou**	**18.47**	**72**	*eP*		**P**	**00 34 05.6**	**+0.3**
CPSB	**Cacapava Do Su**	**18.61**	**133**	*eP*		**P**	**00 34 08.1**	**+1.4**
FRTB	**Fartura**	**18.99**	**108**	*eP*		**P**	**00 34 12.2**	**+1.2**
ITTB	**Itaituba**	**19.26**	**45**	*eP*		**P**	**00 34 13.5**	**-0.4**
PLTB	**Pedras Altas**	**19.33**	**136**	*eP*		**P**	**00 34 15.3**	**+0.8**
BB19B	**Bebedouro**	**19.65**	**101**	*eP*		**P**	**00 34 18.3**	**+0.2**
PTGA	**Pitinga**	**19.85**	**28**	P		**P**	**00 34 19.2**	**-1.0**
	comp=N,2.2nm,0.3s,baz=197,slow=12,SNR=12							
PTGA	**Pitinga**	**19.85**	**28**	P		**P**	**00 34 19.3**	**-1.0**
PTGA	**Pitinga**	**19.85**	**28**	*eP*		**P**	**00 34 19.4**	**-0.9**
IPMB	**Ipameri, GO**	**19.97**	**92**	*eP*		**P**	**00 34 21.6**	**-0.1**
BDFB	**Brasilia**	**20.48**	**85**	P		**P**	**00 34 26.6**	**-0.5**
	comp=N,22nm,0.5s,baz=251,slow=9.0,SNR=48							
BDFB	**Brasilia**	**20.48**	**85**	P		**P**	**00 34 27.3**	**+0.2**
PEXB	**Peixe**	**21.15**	**76**	*eP*		**P**	**00 34 34.7**	**+0.4**
MALB	**Monte Alegre**	**22.11**	**43**	*eP*		**P**	**00 34 43.1**	**-1.2**
BOAV	**Boa Vista**	**22.45**	**23**	*eP*		**P**	**00 34 47.6**	**-0.2**
PRPB	**Paraupebas**	**22.54**	**60**	*eP*		**P**	**00 34 47.4**	**-1.3**
SMTB	**Santa Maria do**	**23.08**	**68**	*eP*		**P**	**00 34 54.1**	**+0.2**
JANB	**Januaria**	**24.09**	**86**	*eP*		**P**	**00 35 03.5**	**+0.3**
SDBA	**SAO DESIDERIO**	**24.20**	**79**	*eP*		**P**	**00 35 04.4**	**+0.3**
MCPB	**Macapa, AP**	**24.68**	**45**	*eP*		**P**	**00 35 08.5**	**+0.1**
DUB01	**Friburgo-RJ**	**25.43**	**103**	*eP*		**P**	**00 35 16.9**	**+1.6**
NAN01	**Guarapari, ES**	**27.65**	**93**	*eP*		**P**	**00 35 35.2**	**0.0**
NBIT	**Itapeh - BA**	**28.74**	**87**	*eP*		**P**	**00 35 45.6**	**+0.8**
GDU01	**Guandu, BA**	**28.86**	**85**	*eP*		**P**	**00 35 46.3**	**+0.4**
NBLA	**Lagarto - SE**	**31.27**	**81**	*eP*		**P**	**00 36 06.3**	**-0.9**
NBPB	**Pedra_Branca-C**	**31.65**	**70**	*eP*		**P**	**00 36 10.6**	**0.0**
NBAN	**Anadia - AL**	**33.10**	**79**	*eP*		**P**	**00 36 23.6**	**+0.4**
M56A	**Emporium**	**60.24**	**352**	P		**P**	**00 39 53.5**	**-0.4**
M56A					IAmb	IAmb	00 40 08.3	
	comp=Z,8.2nm,1.1s							
SFIN	**Lafayette**	**60.88**	**344**	P		**P**	**00 39 57.2**	**-1.0**
SFIN					IAmb	IAmb	00 40 11.3	
	comp=Z,6.8nm,1.1s							
DBIC	**Dimbokro**	**68.20**	**75**	P		**P**	**00 40 46.4**	**-0.1**
	comp=Z,10nm,0.7s,baz=218,slow=5.3,SNR=17							
DBIC	**Dimbokro**	**68.20**	**75**	P		**P**	**00 40 45.8**	**-0.6**
PDAR	**Pinedale Array**	**71.36**	**330**	P		**P**	**00 41 07.2**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=113,slow=6.9,SNR=2.1							
KOWA	**Kowa**	**72.12**	**68**	P		**P**	**00 41 10.5**	**+0.2**
KOWA					IAmb	IAmb	00 41 11.3	
	comp=Z,6.2nm,0.5s							
NVAR	**Mina Array Bea**	**72.95**	**322**	P		**P**	**00 41 17.3**	**+2.3**
	comp=Z,0.6nm,0.9s,baz=167,slow=7.4,SNR=3.6							
NVAR	**Mina Array Bea**	**72.95**	**322**	P		**P**	**00 41 16.2**	**+1.2**
TOA0	**Torodi Ar. St**	**76.65**	**71**	P		**P**	**00 41 36.3**	**-0.3**
TOA0					IAmb	IAmb	00 41 38.0	
	comp=Z,5.8nm,0.5s							
TORD	**Torodi Ar. Bea**	**76.65**	**71**	P		**P**	**00 41 36.2**	**-0.3**
	comp=Z,3.8nm,0.4s,baz=255,slow=5.4,SNR=59							
TORD	**Torodi Ar. Bea**	**76.65**	**71**	P		**P**	**00 41 36.2**	**-0.3**
ESDC	**Sonseca Array**	**83.91**	**45**	P		**P**	**00 42 16.1**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=256,slow=5.8,SNR=8.2							
BOSA	**Boshof**	**85.13**	**118**	P		**P**	**00 42 22.1**	**+0.5**
	comp=Z,2.4nm,1.0s,baz=308,slow=6.3,SNR=1.7							
YKA	**Yellowknife Ar**	**88.26**	**341**	P		**P**	**00 42 36.9**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=129,slow=5.2,SNR=8.8							
YKA					pP	**pP**	**00 43 09.3**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=130,slow=5.4,SNR=7.7							
ZALV	**Zalesovo Beam**	**139.34**	**23**	PKP		**PKPdf**	**00 49 12.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=289,slow=14,SNR=2.7							
MKAR	**Makanchi Array**	**143.34**	**33**	PKP		**PKPdf**	**00 49 18.9**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=349,slow=1.2,SNR=2.4							
SONM	**Songino Array**	**150.51**	**6**	PKPbc		**PKiKP**	**00 49 37.4**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=307,slow=1.7,SNR=7.7							
SONM					pPKPbc	**pPKPbc**	**00 50 12.6**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=322,slow=1.1,SNR=3.5							

ECX ***24*** *00:52:28.5±0.7, 32°.24N×115°.32W, h7km±6km, MD2.5, ML2.7*

MEX ***24*** *00:52:28.0±20.0, 32°.45N×114°.91W, h15km±774km, MD3.5*

ISC 24 00:52:29.5±1.0, 32°.19N±0°.03×115°.34W±0°.06, h14km±10km, n12, σ0§97/18, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.23**	**7⇓**	*eP*		**Pg**	**00 52 33.9**	**-0.7**
CPBX				*⇓e*			00 52 44.6	
CPBX					IAML		00 52 44.6	
	comp=E,5μm,0.4s							
MBIG	**Mexicali**	**0.25**	**28**	*eS*		**Sg**	**00 52 39.9**	**+1.4**
GUVIX	**Guadalupe Vict**	**0.25**	**62⇓**	*eP*		**Pg**	**00 52 35.0**	**+0.1**
UABX	**UABC, Campus M**	**0.45**	**349**	*eS*		**Sg**	**00 52 46.9**	**+1.1**
EMSC	**East Mesa**	**0.63**	**28⇓**	*eP*		**Pb**	**00 52 41.2**	**-1.0**
SJX	**San Joaquin**	**0.68**	**231**	*eP*		**Pg**	**00 52 42.4**	**-0.3**
ECBX	**El Chinero**	**0.75**	**161**	*eP*		**Pg**	**00 52 43.2**	**-0.9**
ECBX				*eS*		**Sg**	**00 52 54.1**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.80**	**305⇓**	*eP*		**Pn**	**00 52 45.6**	**-0.8**
IKP				*eS*		**Sn**	**00 52 56.8**	**-1.4**
CBX	**Cerro Bola**	**1.13**	**277**	*eP*		**Pn**	**00 52 51.2**	**+0.2**
CBX				*eS*		**Sn**	**00 53 07.7**	**+1.3**
CBX					IAML		00 53 08.5	
	comp=N,192nm,0.5s							
CBX				*⇑e*			00 53 08.5	
SPIG	**San Pedro Mart**	**1.14**	**186**	*eP*		**Pg**	**00 52 51.2**	**-0.4**
SPIG				*i*	S	**Sn**	**00 53 08.5**	**+1.5**
TJIG	**Tijuana**	**1.16**	**283**	*eP*		**Pn**	**00 52 51.2**	**0.0**
	baz=215,slow=18							
TJIG				*i*	S	**Sn**	**00 53 07.5**	**+0.6**
BAR	**Barrett**	**1.23**	**294**	*eP*		**Pn**	**00 52 52.5**	**+0.2**
BAR				*eS*		**Sn**	**00 53 09.4**	**+0.7**

IDC ***24*** *01:35:43.1±0.8, 2°.65S×139°.36E, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/30, mbtmp4.1/7, ML4.3/1, MS3.9/1, Ms1 3.9/1, ms1mx3.4/13, Error ellipse: s-maj=21.4km s-min=18.4km az=141.0*

NEIC ***24*** *01:35:47.2±1.5, 2°.73S±0°.10×139°.37E±0°.04, h29km±5km, mb4.2/15, Error ellipse: s-maj=14.3km s-min=5.4km az=172.0*

DJA ***24*** *01:35:48.4±0.5, 3°.S±7°×13°.9E±°, h45km±28km, M4.6/5, mb4.2/4, mB4.8/2, MLv4.8/5, Mw(mB)4.1/2*

ISC 24 01:35:47.2±0.7, 2°.71S±0°.08×139°.39E±0°.05, h27km, n36, σ1§01/36, mb4.1/10, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**0.78**	**81**	P		**Pn**	**01 36 03.4**	**+1.0**
JAY	**Jayapura**	**1.32**	**82**	Pn		**Pn**	**01 36 09.8**	**-0.1**
	44nm,0.3s,baz=231,slow=11,SNR=51							
JAY					Sn	**Sn**	**01 36 27.3**	**+0.6**
	83nm,0.3s,baz=186,slow=14,SNR=9.3							
JAY	**Jayapura**	**1.32**	**82**	P		**Pn**	**01 36 09.8**	**-0.1**
WAMI	**Wamena**	**1.35**	**210**	P		**Pb**	**01 36 13.0**	**+1.2**
BAKI	**Biak**	**3.62**	**295**	P		**Pn**	**01 36 42.7**	**+1.3**
FAKI	**Fak Fak**	**7.14**	**268**	Pn		**Pn**	**01 37 30.4**	**+0.5**
FAKI	**Fak Fak**	**7.14**	**268**	P		**Pn**	**01 37 30.3**	**+0.4**
	0.7nm47nm,1.5s							
PMG	**Port Moresby**	**10.19**	**131**	Pn		**Pn**	**01 38 12.5**	**+0.8**
COEN	**Coen**	**11.78**	**162**	Pn		**Pn**	**01 38 35.4**	**+1.8**
MTN	**Manton Dam**	**12.97**	**219**	Pn		**Pn**	**01 38 48.3**	**-1.5**
SOEI	**Soe**	**16.58**	**244**	P		**P**	**01 39 39.8**	**-0.6**
SOEI					IAmb	IAmb	01 39 45.0	
	comp=Z,28nm,0.9s							
BATI	**Baumata**	**17.30**	**244**	P		**P**	**01 39 49.1**	**+0.8**
	comp=Z,6.6nm,0.3s,baz=90,slow=5.8,SNR=4.2							
WB0	**Warramunga Arr**	**17.64**	**196**	Pn		**Pn**	**01 39 49.8**	**-1.4**
WR0	**Warramunga Arr**	**17.79**	**195**	Pn		**Pn**	**01 39 50.5**	**-2.4**
WB2	**Warramunga Arr**	**17.82**	**196**	Pn		**Pn**	**01 39 51.9**	**-1.5**
WB2					IAmb	IAmb	01 40 00.3	
	comp=Z,9.0nm,0.6s							
WRA	**Warramunga Arr**	**17.82**	**196**	P		**Pn**	**01 39 53.6**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=16,slow=13,SNR=32							
WRA	**Warramunga Arr**	**17.82**	**196**	Pn		**Pn**	**01 39 51.1**	**-2.3**
FITZ	**Fitzroy Crossi**	**20.39**	**220**	P		**P**	**01 40 21.7**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=45,slow=10,SNR=13							
FITZ	**Fitzroy Crossi**	**20.39**	**220**	P		**P**	**01 40 21.6**	**-0.5**
FITZ					IAmb	IAmb	01 40 28.6	
	comp=Z,10nm,1.0s							
AS31	**Alice Springs**	**21.50**	**194**	P		**P**	**01 40 34.0**	**-0.1**
AS31					IAmb	IAmb	01 40 42.9	
	comp=Z,2.6nm,0.5s							
ASAR	**Alice Springs**	**21.50**	**194**	P		**P**	**01 40 33.5**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=22,slow=10,SNR=33							
ASAR	**Alice Springs**	**21.50**	**194**	P		**P**	**01 40 33.8**	**-0.3**
TGY	**Tagaytay City**	**24.78**	**313**	LR		LR	01 52 44.0	
	comp=Z,258nm,18.5s,baz=115,slow=41							
EIDS	**Eidsvold**	**25.18**	**154**	P		**P**	**01 41 10.2**	**-0.3**
EIDS					IAmb	IAmb	01 41 16.6	
	comp=Z,3.5nm,0.8s							
PSA00	**Pilbara Seismi**	**26.70**	**224**	P		**P**	**01 41 23.9**	**-0.4**
PSA00					IAmb	IAmb	01 41 31.9	
	comp=Z,4.2nm,0.7s							
BBOO	**Buckleboo**	**30.11**	**186**	P		**P**	**01 41 54.5**	**-0.1**
MORW	**Morawa**	**34.36**	**218**	P		**P**	**01 42 30.7**	**-1.2**
MKAR	**Makanchi Array**	**70.21**	**322**	P		**P**	**01 46 58.0**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=116,slow=8.0,SNR=14							
MKAR	**Makanchi Array**	**70.21**	**322**	P		**P**	**01 46 57.5**	**-0.2**
ZALV	**Zalesovo Beam**	**72.28**	**330**	P		**P**	**01 47 09.7**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=126,slow=7.5,SNR=4.2							
KBL	**Kabul**	**75.48**	**307**	P		**P**	**01 47 28.9**	**-0.6**
VNDA	**Vanda**	**75.72**	**175**	P		**P**	**01 47 31.1**	**+1.2**
	comp=Z,2.9nm,0.7s,baz=324,slow=6.8,SNR=20							
VNDA	**Vanda**	**75.72**	**175**	P		**P**	**01 47 30.6**	**+0.8**
VNDA					IAmb	IAmb	01 47 32.4	
	comp=Z,3.0nm,0.8s							
RC01	**Rabbit Creek A**	**83.22**	**28**	P		**P**	**01 48 10.2**	**-0.7**
RC01					IAmb	IAmb	01 48 14.4	
	comp=Z,3.3nm,1.1s							
RND	**Reindeer**	**84.33**	**25**	P		**P**	**01 48 17.3**	**+0.6**
RND					IAmb	IAmb	01 48 18.0	
	comp=Z,2.1nm,0.9s							
ILAR	**Eielson Array**	**85.55**	**24**	P		**P**	**01 48 22.2**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=265,slow=4.4,SNR=8.3							

IDC ***24*** *01:36:47.6±0.5, 2°.65S×139°.26E, h0km, mb4.6/17, mb1 4.7/20, mb1mx4.6/32, mbtmp4.6/20, ML4.6/4, MS4.6/8, Ms1 4.6/8, ms1mx4.4/12, Error ellipse: s-maj=15.6km s-min=11.9km az=65.0*

BJI ***24*** *01:36:51.1±0.0, 2°.79S×139°.59E, h50km, mB5.2/36, mb4.9/54, Ms4.6/31, Ms7 4.4/31*

DJA ***24*** *01:36:53.5±0.3, 3°.S±3°×13°.9E±°, h42km±3km, M4.9/41, mb5.0/41, mB5.3/20, MLv5.3/6, Mw(mB)4.7/20, MwMwp4.8/2, Mwp5.1/2*

NEIC ***24*** *01:36:54.1±0.7, 2°.78S±0°.08×139°.12E±0°.07, h49km±5km, mb4.9/89, Error ellipse: s-maj=12.2km s-min=9.7km az=192.0*

GCMT ***24*** *01:36:54.1±0.3, 2°.54S±0°.02×139°.72E±0°.03, h51km±2km, MW5.0/71, Moment Tensor Solution. s33,c38; s71,c91; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.13±.23; Mθθ0.41±.17; Mϕϕ-2.54±.17; Mrθ-1.49±.12; Mrϕ2.29±.11; Mθϕ0.15±.15; Best double couple: M₀3.69100×10¹⁶ NP1:ϕ180.00000°, δ34.00000°, λ133.00000°. NP2: ϕ311.00000°, δ66.00000°, λ65.00000°. Principal axes: T 2.9920, Plg61.0000°, Azm183.0000°; N 1.3950, Plg23.0000°, Azm322.0000°; P -4.3900, Plg17.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 01:36:53.5±0.3, 2°.81S±0°.04×139°.29E±0°.04, h46km, n236, σ1§79/242, mb4.9/80, MS4.4/19, 2C-1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**0.91**	**76**	P		**Pn**	**01 37 07.2**	**-2.7**
WAMI	**Wamena**	**1.22**	**208**	P		**Pn**	**01 37 18.5**	**+4.4**
JAY	**Jayapura**	**1.45**	**78**	Pn		**Pn**	**01 37 13.9**	**-3.4**
	174nm,0.3s,baz=218,slow=13,SNR=9.9							
JAY					Sn	**Sn**	**01 37 29.8**	**-5.3**
	507nm,0.3s,baz=256,slow=23,SNR=9.8							
JAY					LR	LR	01 38 09.4	
	comp=Z,11μm,20.4s,baz=5.0,slow=57							
JAY	**Jayapura**	**1.45**	**78**	P		**Pn**	**01 37 13.5**	**-3.8**
SRPI	**Serui, Papua**	**3.18**	**287**	P		**Pn**	**01 37 43.1**	**+2.0**
BAKI	**Biak**	**3.56**	**297**	P		**Pn**	**01 37 46.7**	**+0.4**
MMPI	**Merauke**	**5.73**	**169**	P		**Pn**	**01 38 19.9**	**+3.8**
	16nm1μm,0.6s							
FAKI	**Fak Fak**	**7.03**	**269**			**Pn**	**01 38 32.6**	**-1.3**
FAKI					Sn	**Sn**	**01 39 50.1**	**-2.6**
FAKI	**Fak Fak**	**7.03**	**269**	P		**Pn**	**01 38 34.3**	**+0.3**
	0.7nm2μm2μm123nm,0.9s							
MANU	**Manus Island**	**8.11**	**85**			**Pn**	**01 38 51.4**	**+2.7**
SIJI	**Sorong**	**8.24**	**283**	Pn		**Pn**	**01 38 52.3**	**+1.7**
	13nm,0.3s,baz=218,slow=21,SNR=11							
SIJI					Sn	**Sn**	**01 40 15.9**	**-6.6**
	baz=106,slow=11,SNR=2.1							
SWI	**Sorong**	**8.25**	**283**	P		**Pn**	**01 38 50.9**	**+0.2**
	1μm66nm,0.5s							
SAUI	**Saumlaki**	**9.47**	**237**	Pn		**Pn**	**01 39 05.4**	**-2.0**
PMG	**Port Moresby**	**10.21**	**130**	Pn		**Pn**	**01 39 20.0**	**+2.5**
	3.0nm,0.3s,baz=335,slow=12,SNR=14							
PMG					Sn	**Sn**	**01 41 09.4**	**-1.3**
	1.2nm,0.3s,baz=207,slow=20,SNR=1.3							
PMG					LR	LR	01 44 41.6	
	comp=Z,2μm,18.3s,baz=312,slow=46							
PMG	**Port Moresby**	**10.21**	**130**	Pn		**Pn**	**01 39 19.7**	**+2.2**
PMG	**Port Moresby**	**10.21**	**130**	P		**Pn**	**01 39 21.0**	**+3.5**
COEN	**Coen**	**11.73**	**161**	P		**Pn**	**01 39 40.2**	**+1.9**
	baz=12							
COEN	**Coen**	**11.73**	**161**	Pn		**Pn**	**01 39 39.5**	**+1.2**
**K

baz=25,SNR=16
EIDS Eidsvold 25.14 154 P **P** **01 42 15.2 +0.7**
EIDS IAmb IAmb 01 42 20.4
comp=Z,40nm,0.9s
ABJI Asem Bagus 25.42 258 P **P** **01 42 17.5 +0.3**
comp=Z,54nm,1.0s
KMMI Kalianget 25.57 260 P **P** **01 42 20.0 +1.5**
comp=Z,2µmcomp=Z,143nm,1.0s
JAGI Jajag, Banyuwa 25.63 256 P **P** **01 42 17.5 -1.5**
JAGI IAmb IAmb 01 42 35.9
comp=Z,37nm,1.0s
PSA00 Pilbara Seismi 26.56 224 P **P** **01 42 27.0 -0.4**
PSA00 IAmb IAmb 01 42 35.1
comp=Z,40nm,1.1s
STKA Stephens Creek 29.00 176 P **P** **01 42 51.2 +2.2**
comp=Z,2.0nm,0.4s,baz=348,slow=11,SNR=4.8
STKA LR LR 01 55 41.5
comp=Z,3µm,18.1s,baz=353,slow=39
STKA Stephens Creek 29.00 176 P **P** **01 42 49.6 +0.6**
CMSA Cobar Meteorol 29.21 169 P **P** **01 42 55.5 +4.6**
baz=30
HTT Hallett 30.47 181 P **P** **01 43 04.8 +2.7**
baz=31,SNR=3.9
GIRL Giralia 31.29 229 P **P** **01 43 11.9 +2.5**
baz=32,SNR=3.9
TPI Tanjungpandan 31.59 269 P **P** **01 43 12.9 +0.7**
comp=Z,12nm,0.9s
DZM Mont Dzumac 32.59 128 *e*LR LR 01 52 05.2
comp=Z,1µm,27.1s
MORW Morawa 34.22 218 P **P** **01 43 36.5 +1.6**
baz=34,SNR=4.5
MORW Morawa 34.22 218 P **P** **01 43 35.7 +0.8**
MDSI Maura Dua 35.07 266 P **P** **01 43 42.3 -0.3**
comp=Z,32nm,1.2s
QIZ Qiongzhong 36.19 308 P **P** **01 43 53.4 +1.4**
QIZ S **S** **01 49 30.9 +1.8**
QIZ pmax pmax
comp=Z,33nm,1.4s
QIZ LR LR
comp=Z,330nm,15.7s
QIZ LR LR
comp=Z,310nm,14.7s
QIZ LR LR
comp=Z,360nm,28.4s
SSE Sheshan 37.87 334 P **P** **01 44 06.0 -0.1**
SSE S **S** **01 49 54.8 +0.4**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE LR LR
comp=Z,250nm,22.6s
SSE LR LR
comp=Z,200nm,16.8s
MJAR Matsushiro Arr 39.16 359 LR LR 01 58 25.5
comp=Z,573nm,21.3s,baz=145,slow=33
NJ2 Nanjing 39.73 332 *e*P **P** **01 44 22.8 +1.1**
NJ2 pmax pmax
comp=Z,19nm,0.5s
RPSI Rantau Prapat 40.72 277 P **P** **01 44 28.9 -1.3**
PSI Prapat 40.73 278 P **P** **01 44 30.1 -0.3**
comp=Z,9.7nm,0.9s,baz=175,slow=0.5,SNR=8.0
KSRS Korea Array 41.42 346 P **P** **01 44 34.8 -0.8**
comp=Z,1.3nm,0.6s,baz=163,slow=8.1,SNR=4.4
KSRS PcP **PcP** **01 46 32.5 -0.5**
comp=Z,1.2nm,0.6s,baz=178,slow=4.4,SNR=5.6
GYA Guiyang 42.90 315 *e*P **P** **01 44 49.1 +1.1**
GYA pmax pmax
comp=Z,8.0nm,0.9s
TIA Tai'an 43.99 334 P **P** **01 44 56.8 +0.3**
TIA pmax pmax
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 44.98 300 P **P** **01 45 04.7 -0.1**
comp=Z,1.8nm,0.4s,baz=120,slow=6.1,SNR=10
CMAR PcP **PcP** **01 46 45.8 +0.4**
comp=Z,3.5nm,0.9s,baz=146,slow=1.8,SNR=4.7
CMAR LR LR 02 06 22.7
comp=Z,171nm,18.2s,baz=151,slow=40
CMAR Chiang Mai Arr 44.98 300 P **P** **01 45 03.7 -1.0**
KMI Kunming 45.02 310 ⇑P **P** **01 45 04.8 -0.4**
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI LR LR
comp=Z,300nm,9.0s
KMI LR LR
comp=Z,210nm,22.6s
KMI LR LR
comp=Z,310nm,23.8s
XAN Xi'an 46.49 325 P **P** **01 45 16.8 +0.4**
XAN pP pP 01 45 26.0 -3.3
XAN sP sP 01 45 30.4 -4.4
XAN pmax pmax
comp=Z,20nm,1.3s
XAN pmax pmax
comp=Z,95nm,4.6s
XAN LR LR
comp=Z,400nm,18.2s
XAN LR LR
comp=Z,170nm,17.3s
XAN LR LR
comp=Z,390nm,16.5s
XAN Xi'an 46.49 325 P **P** **01 45 16.0 -0.4**
USRK Ussuriysk Ar. 47.25 353 P **P** **01 45 22.3 +0.2**
comp=Z,3.3nm,0.9s,baz=182,slow=5.7,SNR=5.3
BJT Baijiatuan 47.60 336 P **P** **01 45 24.2 -0.7**
BJT IAmb IAmb 01 45 25.8
comp=Z,18nm,1.1s
BJI Beijing 47.62 336 P **P** **01 45 25.6 +0.6**
BJI S **S** **01 52 19.3 +2.0**
BJI pmax pmax
comp=Z,23nm,1.2s
BJI pmax pmax
comp=Z,100nm,3.9s
BJI LR LR
comp=Z,360nm,18.0s
BJI LR LR
comp=Z,220nm,19.0s
BJI LR LR
comp=Z,650nm,54.3s
CD2 Chengdu 47.64 317 ⇓*i*P **P** **01 45 25.8 +0.4**
CD2 S **S** **01 52 19.3 +1.2**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,370nm,8.5s
CD2 LR LR
comp=Z,340nm,20.8s
CD2 LR LR
comp=Z,320nm,10.8s
CD2 LR LR
comp=Z,480nm,15.7s
TUWZ Tuamarina 49.47 146 P **P** **01 45 39.7 +0.5**
RPZ Rata Peaks 49.52 150 P **P** **01 45 42.0 +2.3**
comp=Z,9.7nm,0.6s,baz=335,slow=6.1,SNR=2.0
RPZ Rata Peaks 49.52 150 P **P** **01 45 41.1 +1.5**
HHC Hu-ho-hao-te 50.28 333 *e*P **P** **01 45 47.4 +1.8**
HHC S **S** **01 52 54.8 -0.2**
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,140nm,5.4s
HHC LR LR
comp=Z,400nm,19.4s
HHC LR LR
comp=Z,240nm,21.0s
HHC LR LR
comp=Z,450nm,19.2s
LZH Lanzhou 50.91 323 *e*P **P** **01 45 51.3 +0.9**
LZH pP pP 01 46 00.9 -2.7
LZH sP sP 01 46 04.6 -4.4
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.1s
LZH LR LR
comp=Z,290nm,14.1s
LZH LR LR
comp=Z,290nm,14.6s
LZH LR LR
comp=Z,210nm,17.8s
SHL Shillong 53.86 305 P **P** **01 46 11.4 -1.2**
SHL IAmb IAmb 01 46 25.4
comp=Z,11nm,0.9s
HIA Hailar 54.56 344 P **P** **01 46 16.5 -0.6**
HIA IAmb IAmb 01 46 18.0
comp=Z,8.7nm,1.1s
GTA Gaotai 55.49 323 ⇑P **P** **01 46 25.1 +1.0**
GTA PcP **PcP** **01 47 24.5 +0.8**
GTA S **S** **01 54 09.9 +3.7**
GTA pmax pmax
comp=Z,10.0nm,0.8s
GTA pmax pmax
comp=Z,42nm,4.9s
GTA LR LR
comp=Z,160nm,16.7s
GTA LR LR
comp=Z,160nm,17.1s
GTA LR LR
comp=Z,200nm,16.4s
ULN Ulaanbaatar 57.80 335 P **P** **01 46 39.7 -0.6**
ULN IAmb IAmb 01 46 47.3
comp=Z,5.3nm,0.6s
PETK Petropavlovsk- 57.82 13 P **P** **01 46 40.9 +0.7**
comp=Z,5.8nm,0.7s,baz=160,slow=4.7,SNR=9.0
PETK Petropavlovsk- 57.82 13 P **P** **01 46 40.3 +0.1**
SONM Songino Array 58.05 334 P **P** **01 46 42.4 +0.3**
comp=Z,0.8nm,0.6s,baz=157,slow=6.6,SNR=8.2
SONM Songino Array 58.05 334 P **P** **01 46 41.7 -0.4**
MA2 Magadan 62.85 7 P **P** **01 47 14.8 +0.4**
WMQ Urumqi 65.44 321 P **P** **01 47 33.0 +1.1**
WMQ pP pP 01 47 46.8 +1.7
WMQ sP sP 01 47 50.0 -0.4
WMQ pmax pmax
comp=Z,39nm,0.9s
WMQ pmax pmax
comp=Z,150nm,4.5s
WMQ Urumqi 65.44 321 P **P** **01 47 31.2 -0.6**
ZSN Zaisan 68.98 324 *e*P **P** **01 47 54.4 +0.2**
baz=324
MK31 Makanchi Array 70.22 322 P **P** **01 48 01.4 -0.4**
MK31 IAmb IAmb 01 48 03.4
comp=Z,9.9nm,0.9s
MKAR Makanchi Array 70.22 322 P **P** **01 48 02.3 +0.5**
comp=Z,9.1nm,0.7s,baz=114,slow=7.9,SNR=47
MKAR LR LR 02 21 11.9
comp=Z,94nm,18.9s,baz=107,slow=38
MKAR Makanchi Array 70.22 322 P **P** **01 48 01.4 -0.4**
SHLS Shalkode 70.47 318 *e*P **P** **01 48 02.1 -1.5**
comp=Z,3.8nm,0.8s,baz=318
UZB Uzynbulak 70.77 318 *e*P **P** **01 48 05.5 +0.1**
comp=Z,5.5nm,0.9s,baz=318
KPKS Kokpek 71.12 318 *e*P **P** **01 48 07.4 -0.1**
comp=Z,4.7nm,1.1s,baz=318
SATY Saty 71.15 317 *e*P **P** **01 48 07.7 0.0**
comp=Z,6.6nm,1.0s,baz=317
PPT2 Papeete2 71.18 108 *e*S S 01 57 33.2 +11
comp=Z,305nm,28.8s
PPT2 Papeete2 71.18 108 *e*LR LR 02 09 53.5
comp=Z,358nm,28.8s
KSH Kashi 71.57 313 P **P** **01 48 12.3 +2.0**
KSH pP PcP 01 48 30.5 +1.1
KSH pmax pmax
comp=Z,20nm,1.4s
KSH pmax pmax
comp=Z,150nm,4.7s
TBI Tubuai 71.69 114 *e*LR LR 02 10 12.8
comp=Z,170nm,28.8s
NIL Nilore 71.84 307 P **P** **01 48 11.3 -0.6**
NIL IAmb IAmb 01 48 13.2
comp=Z,13nm,0.8s
TDK Taldyqorghan 71.91 319 *e*P **P** **01 48 12.3 +0.2**
baz=319
MDOK Medeo 72.11 317 *e*P **P** **01 48 13.8 +0.3**
baz=317
TNSS Tian-Shan 72.13 317 *e*P **P** **01 48 14.1 +0.2**
baz=317
AAA Alma-Ata 72.21 317 *e*P **P** **01 48 14.3 +0.3**
baz=317
ZAA0 Zalesovo Array 72.31 330 P **P** **01 48 14.0 -0.2**
ZALV Zalesovo Beam 72.31 330 P **P** **01 48 13.8 -0.4**
comp=Z,5.1nm,0.6s,baz=114,slow=6.5,SNR=26
CHKK Chushkaly 72.40 318 *e*P **P** **01 48 14.9 -0.2**
baz=318
KUU Kurty 72.85 318 *e*P **P** **01 48 16.8 -1.0**
comp=Z,6.6nm,1.1s,baz=318
BILL Bilibino 73.16 10 P **P** **01 48 19.7 +0.7**
AAK Ala-Archa 73.67 316 P **P** **01 48 22.3 -0.5**
SGDS Sogindy 73.86 317 *e*P **P** **01 48 23.3 -0.4**
baz=317
FALS False Pass 74.20 30 P 01 48 26.4
baz=241
TIXI Tiksi 74.63 357 P **P** **01 48 27.3 -0.3**
BTLS Baital 74.80 318 *e*P **P** **01 48 28.7 -0.4**
baz=318
KBL Kabul 75.45 307 P **P** **01 48 32.5 -0.8**
VNDA Vanda 75.63 175 P **P** **01 48 35.1 +1.8**
comp=Z,13nm,0.7s,baz=322,slow=6.2,SNR=37
VNDA Vanda 75.63 175 P **P** **01 48 34.5 +1.3**
VNDA IAmb IAmb 01 48 36.1
comp=Z,14nm,0.8s
DZA Taraz 75.97 315 *e*P **P** **01 48 36.2 +0.3**
baz=315
SBA Scott Base 76.39 174 P **P** **01 48 38.9 +1.4**
SBA IAmb IAmb 01 48 41.1
comp=Z,16nm,1.0s
IUG Iuzhnay 76.67 314 *e*P **P** **01 48 40.1 +0.1**
baz=314
ANM Nome 78.38 21 P 01 48 50.3
baz=237
ANM Nome 78.38 21 P **P** **01 48 49.5 +0.6**
ANM IAmb IAmb 01 48 51.4
comp=Z,10nm,1.0s
BRVK Borovoye 79.79 325 P **P** **01 48 56.7 -0.2**
BRVK IAmb IAmb 01 48 58.1
comp=Z,12nm,0.7s
TAOE Nuku Hiva Isla 80.26 98 *e*LR LR 02 14 07.3
comp=Z,636nm,29.8s
SVW2 Sparrevohn 80.70 27 P **P** **01 49 02.3 +0.7**
SVW2 IAmb IAmb 01 49 04.2
comp=Z,16nm,1.1s
KDAK Kodiak Island 80.89 30 P 01 49 04.0
baz=250
RDOG Red Dog Mine 81.08 19 P 01 49 05.1
baz=239
RDOG Red Dog Mine 81.09 19 P **P** **01 49 04.3 +0.8**
RDOG IAmb IAmb 01 49 05.8
comp=Z,14nm,0.9s
SKT Skwentna 82.83 26 P 01 49 12.9
baz=250
PPLA Purkeypile 82.86 25 P **P** **01 49 13.6 +0.4**
PPLA IAmb IAmb 01 49 31.5
comp=Z,7.5nm,1.0s
SUA Susitna One 83.01 27 P **P** **01 49 14.0 +0.1**
SUA Susitna One 83.01 27 P 01 49 13.9
baz=251
CHUM Lake Minchumin 83.16 24 P 01 49 15.3
baz=249,SNR=13
RC01 Rabbit Creek A 83.36 28 P **P** **01 49 16.0 +0.5**
RC01 Rabbit Creek A 83.36 28 P 01 49 14.9
baz=252,SNR=7.4
IMAR Indian Mountai 83.36 22 P **P** **01 49 16.2 +0.7**
KTH Kantishna Hill 83.63 25 P **P** **01 49 17.3 +0.4**
KTH IAmb IAmb 01 49 18.0
comp=Z,12nm,1.1s
BPAW Bear Paw Mtn. 83.78 24 P **P** **01 49 18.3 +0.6**
BPAW Bear Paw Mtn. 83.78 24 P 01 49 17.8
baz=251
PMR Palmer 83.79 27 P 01 49 17.5
baz=253,SNR=5.5
PMR Palmer 83.79 27 P **P** **01 49 18.1 +0.4**
PMR IAmb IAmb 01 49 18.7
comp=Z,14nm,1.0s
TRF Thorofare Moun 83.86 25 P 01 49 17.9
baz=251
GHO Glory Hole Cre 83.94 27 P **P** **01 49 19.2 +0.6**
GHO IAmb IAmb 01 49 19.8
comp=Z,13nm,1.1s
PWL Port Wells 83.94 28 P **P** **01 49 19.2 +0.7**
KNK Knik Glacier 84.04 27 P **P** **01 49 19.8 +0.7**
KNK Knik Glacier 84.04 27 P 01 49 19.5
baz=253,SNR=8.6
MLY Manley 84.19 24 P 01 49 20.5
baz=251,SNR=9.3
SML Sawmill 84.22 27 P **P** **01 49 20.5 +0.6**
SML Sawmill 84.22 27 P 01 49 20.2
baz=253,SNR=9.5
WAT2 Susitna Watana 84.44 26 P 01 49 20.7
baz=253,SNR=9.1
RND Reindeer 84.46 25 P **P** **01 49 21.3 +0.1**
Q23K Middleton Isla 84.50 30 P 01 49 21.9
baz=255
MCK McKinley 84.53 25 P 01 49 21.2
baz=252,SNR=10.0
MCK McKinley 84.53 25 P **P** **01 49 21.7 +0.2**
MCK IAmb IAmb 01 49 22.4
comp=Z,17nm,1.1s
GLI Glacier Island 84.53 28 P 01 49 21.4
baz=254
GLI Glacier Island 84.53 28 P **P** **01 49 22.2 +0.7**
A21K Barrow 84.58 17 P 01 49 22.2
baz=245
A21K Barrow 84.58 17 P **P** **01 49 22.4 +0.9**
SCM Sheep Creek Mo 84.68 27 P **P** **01 49 22.9 +0.5**
WAT6 Susitna Watana 84.70 26 P 01 49 21.7
baz=254,SNR=8.6
NEA2 Nenana 84.73 24 P 01 49 23.0
baz=252
GEYT Alibeck 84.75 308 P **P** **01 49 22.7 -0.5**
comp=Z,4.1nm,0.7s,baz=72,slow=4.8,SNR=11
GEYT Alibeck 84.75 308 P **P** **01 49 22.7 -0.5**
GYA0B ALIBECK ARRAY 84.75 308 P **P** **01 49 23.0 -0.2**
GYA0B IAmb IAmb 01 49 33.8
comp=Z,10nm,1.1s
I23K Minto, Yukon-K 84.79 24 P **P** **01 49 23.5 +0.8**
I23K IAmb IAmb 01 49 24.5
comp=Z,11nm,0.9s
I23K Minto, Yukon-K 84.79 24 P 01 49 23.1
baz=252,SNR=8.1
EYAK Cordova Ski Ar 85.08 29 P 01 49 24.8
baz=256
WRH Wood River Hil 85.10 25 P **P** **01 49 24.4 +0.1**
WRH IAmb IAmb 01 49 25.0
comp=Z,15nm,1.0s
COLD Coldfoot 85.13 22 P **P** **01 49 25.1 +0.7**
COLD IAmb IAmb 01 49 28.2
comp=Z,7.9nm,0.9s
COLD Coldfoot 85.13 22 P 01 49 25.3
baz=251,SNR=11
ABKAR Akbulak array 85.17 320 P **P** **01 49 24.7 -0.2**
ABKAR IAmb IAmb 01 49 26.5
comp=Z,6.3nm,1.0s
KLU Klutina 85.24 28 P **P** **01 49 25.7 +0.5**
KLU IAmb IAmb 01 49 27.0
comp=Z,11nm,1.0s
KLU Klutina 85.24 28 P 01 49 25.6
baz=255
M24K Tolsona, Glenn 85.28 27 P **P** **01 49 26.0 +0.7**
M24K Tolsona, Glenn 85.28 27 P 01 49 26.3
baz=255
TCOL CIGO, UAF Yank 85.31 24 P 01 49 25.7
baz=253
COLA College 85.31 24 P 01 49 25.7
baz=253
HDA Harding Lake 85.56 25 P 01 49 25.6
baz=254,SNR=7.6
HDA P 01 49 25.6
baz=254,SNR=7.6
IL31 85.68 24 P **P** **01 49 26.1 -1.1**
IL31 IAmb IAmb 01 49 27.2
comp=Z,7.3nm,0.8s
ILAR Eielson Array 85.68 24 P **P** **01 49 26.1 -1.1**
comp=Z,6.1nm,0.8s,baz=263,slow=5.0,SNR=33
BMRM Bremner River 85.73 28 P **P** **01 49 28.2 +0.6**
BMRM IAmb IAmb 01 49 29.2
comp=Z,11nm,0.9s
BMRM Bremner River 85.73 28 P 01 49 27.9
baz=257,SNR=6.3
TOLK Toolik Lake Re 85.81 20 P **P** **01 49 28.6 +0.8**
TOLK IAmb IAmb 01 49 29.8
comp=Z,15nm,1.1s
TOLK Toolik Lake Re 85.81 20 P 01 49 29.0
baz=252,SNR=9.5
PAX Paxson 85.82 26 P **P** **01 49 28.4 +0.3**
PAX Paxson 85.82 26 P 01 49 28.5
baz=256
N25K Chitina, Valde 85.88 28 P **P** **01 49 29.0 +0.7**
N25K IAmb IAmb 01 49 35.5
comp=Z,5.2nm,1.1s
N25K Chitina, Valde 85.88 28 P 01 49 29.2
baz=257
GLB Gilahina Butte 86.21 28 P **P** **01 49 30.5 +0.6**
VRDI Verde Repeater 86.33 28 P **P** **01 49 31.2 +0.5**
VRDI IAmb IAmb 01 49 31.7
comp=Z,5.9nm,1.0s
CRQM Cirque 86.38 29 P **P** **01 49 31.6 +0.6**
CRQE Cirque 86.40 29 P 01 49 31.9
baz=258
TGL Tana Glacier 86.53 29 P **P** **01 49 32.0 +0.4**
MCARA McCarthy VSAT 86.57 28 P 01 49 32.7
baz=258
DOT Dot Lake 86.60 26 P **P** **01 49 32.5 +0.8**
DOT IAmb IAmb 01 49 34.1
comp=Z,5.8nm,1.0s
SCRK Sand Creek 86.70 25 P **P** **01 49 32.9 +0.4**
SCRK Sand Creek 86.70 25 P 01 49 33.2
baz=257
FYU Fort Yukon 86.81 23 P **P** **01 49 33.4 +0.7**
FYU IAmb IAmb 01 49 52.4
comp=Z,9.8nm,1.1s
QSPA South Pole Qui 87.14 180 P **P** **01 49 35.4 +0.9**
BARN Barnard Glacie 87.15 29 P **P** **01 49 35.2 +0.5**
BARN IAmb IAmb 01 49 37.0
comp=Z,12nm,1.0s
ARU Arti 87.19 327 P **P** **01 49 34.3 -0.5**
ARU IAmb IAmb 01 49 36.7
comp=Z,4.7nm,1.0s
BMAR Burnt Mountain 87.28 22 P **P** **01 49 35.7 +0.7**
CTG Chitna Glacier 87.28 29 P 01 49 36.4
baz=260
CTGM Chitina Glacie 87.29 29 P **P** **01 49 35.9 +0.5**
LOGN Logan Glacier 87.42 29 P **P** **01 49 36.4 +0.4**
LOGN IAmb IAmb 01 49 39.7
comp=Z,7.3nm,0.8s
BCAR Beaver Creek A 87.48 27 P **P** **01 49 36.8 +0.7**
K27K Chicken 87.54 26 P **P** **01 49 37.1 +0.8**
K27K Chicken 87.54 26 P 01 49 37.8
baz=259
EGAK Eagle 88.07 25 P **P** **01 49 39.5 +0.6**
EGAK IAmb IAmb 01 49 40.8
comp=Z,9.3nm,1.1s
EGAK Eagle 88.07 25 P 01 49 39.7
baz=260
DAWY Dawson 88.71 26 P **P** **01 49 42.5 +0.6**
DAWY IAmb IAmb 01 49 59.0
comp=Z,8.6nm,1.1s
EPYK Eagle Plains 90.14 24 P 01 49 49.3
baz=264
WHY Whitehorse 90.38 29 P **P** **01 49 50.2 +0.3**
YKA Yellowknife Ar 99.89 27 P **Pdif** **01 50 33.0 -0.1**
comp=Z,0.2nm,0.7s,baz=280,slow=4.3,SNR=4.1
ARCES ARCESS Array B 100.79 341 P **Pdif** **01 50 36.0 -1.0**
comp=Z,4.0nm,0.8s,baz=48,slow=3.6,SNR=7.9
TORD Torodi Ar. Bea 136.84 286 PKP **PKPdf** **01 56 11.4 -0.7**
comp=Z,3.4nm,0.8s,baz=50,slow=2.5,SNR=15
KIC Kosan Boka 143.98 277 *e*PKP1 PKPbc 01 56 23.2 +0.1
comp=Z,17nm,0.7s
DBIC Dimbokro 144.07 277 PKP PKPbc 01 56 23.6 +0.3
comp=Z,7.2nm,0.6s,baz=55,slow=4.0,SNR=19
POPC Popayan, Colom 144.08 90 *e*P **PKPab** **01 56 22.3 -0.9**
SOTA Rioblanco 144.13 90 *e*P **PKPdf** **01 56 25.3 -0.8**
TIC Toumodi 144.23 277 *e*PKP1 PKPbc 01 56 24.0 +0.1
LIC Lamto 144.27 277 *e*PKP1 PKPbc 01 56 24.1 +0.1
comp=Z,69nm,1.4s
DBBC Dabeiba 144.40 82 *e*P PKPbc 01 56 25.1 +0.6
YOTC Yotoco, Valle 144.41 87 *e*P **PKPab** **01 56 23.7 -0.6**
PLMC San Jos del P 144.45 86 *e*P **PKPab** **01 56 22.8 -1.6**
CBOC Ciudad Bolivar 144.68 84 *e*P **PKPab** **01 56 23.6 -1.8**
UREC San Jos de Ur 145.00 81 *e*P **PKPbc** **01 56 25.8 -0.4**
SJCC San Jacinto, C 145.06 77 *e*P **PKPbc** **01 56 23.0 -3.5**
GARC Garzon, Huila 145.25 90 *e*P **PKPbc** **01 56 24.4 -3.0**
ORTC Ortega, Tolima 145.51 87 *e*P **PKPdf** **01 56 25.8 -2.1**
ZARC Zaragoza, Cauc 145.69 81 *e*P **PKPdf** **01 56 21.0 -7.1**
NORC Norcasia 145.83 84 *e*P **PKPdf** **01 56 27.0 -1.4**
PTBC PUERTO BERRIO 146.17 82 *e*P **PKPdf** **01 56 28.5 -0.5**
SMLC San Martn de 146.30 78 *e*P **PKPdf** **01 56 28.9 -0.2**
SPBC San Pablo de B 146.62 84 *e*P **PKPdf** **01 56 30.6 +0.8**
CPUP Villa Florida 146.88 152 PKPbc **PKPab** **01 56 32.6 -0.4**
comp=Z,2.1nm,0.8s,baz=217,slow=3.1,SNR=4.4
CPUP Villa Florida 146.88 152 **PKPbc** **01 56 31.8 +0.2**
MACC Macarena, Meta 146.89 90 *e*P **PKPdf** **01 56 28.4 -1.8**
LPAZ La Paz 146.92 126 PKPbc **PKPab** **01 56 33.9 -0.4**
comp=Z,1.9nm,0.8s,baz=57,slow=3.6,SNR=6.7
LPAZ La Paz 146.92 126 **PKPdf** **01 56 31.8 +0.9**
RUSC La Rusia 147.58 83 *e*P **PKPdf** **01 56 32.8 +0.9**
PAMC Pamplona, Colo 147.83 81 *e*P PKPdf 01 56 22.3 -10
SDV Santo Domingo 149.65 77 *e*P **PKPbc** **01 56 37.8 -1.7**
SIV San Ignacio 152.54 133 PKPbc **PKPbc** **01 56 46.1 +0.1**
comp=Z,1.0nm,0.8s,baz=252,slow=1.1,SNR=3.1
SIV PKPab **sPKPdf** **01 56 58.8 +0.4**

comp=Z,1.9nm,0.9s,baz=222,slow=2.8,SNR=7.6

IDC 24 02:48:42.3±1.8, 10°.67S×79°.22W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.7/30, mbtmp3.7/5, ML3.6/2, MS3.2/3, Ms1 3.2/3, ms1mx2.9/24, Error ellipse: s-maj=49.4km s-min=22.7km az=48.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.67**	**120**	Pn	Pn	02 49 27.7	+1.0
	7.3nm,0.3s,baz=345,slow=13,SNR=25						
NNA				Sn	Sb	02 50 02.6	-1.9
	70nm,0.3s,baz=173,slow=12,SNR=6.3						
NNA				LR	LR	02 50 39.8	
	comp=Z,163nm,19.7s,baz=287,slow=44						
ATAH	**Atahualpa**	**3.61**	**13**	Pn	Pn	02 49 41.0	+1.2
	8.9nm,0.3s,baz=181,slow=8.1,SNR=63						
ATAH				Sn	Sn	02 50 23.9	+0.5
	8.3nm,0.3s,baz=275,slow=21,SNR=5.9						
ATAH				LR	LR	02 50 55.5	
	comp=Z,193nm,18.2s,baz=241,slow=37						
H03N2	**Juan Fernandez**	**22.66**	**179**	T	T	03 17 45.6	
	baz=0.3,slow=75,SNR=82						
H03N1	**Juan Fernandez**	**22.66**	**179**	T	T	03 17 39.5	
	baz=0.3,slow=75,SNR=74						
H03N3	**Juan Fernandez**	**22.68**	**179**	T	T	03 17 38.3	
	baz=0.3,slow=75,SNR=75						
TXAR	**Lajitas Array**	**46.24**	**330**	P	P	02 57 11.0	+1.4
	0.2nm,0.8s,baz=144,slow=11,SNR=2.7						
YKA	**Yellowknife Ar**	**77.93**	**344**	P	P	03 00 41.4	-0.5
	0.4nm,0.6s,baz=137,slow=6.4,SNR=15						
TORD	**Torodi Ar. Bea**	**83.71**	**75**	P	P	03 01 12.6	-1.2
	0.6nm,0.8s,baz=260,slow=5.6,SNR=4.0						
KDAK	**Kodiak Island**	**90.27**	**329**	LR	LR	03 38 56.0	
	comp=Z,54nm,18.1s,baz=41,slow=33						
H11N3	**WAKE ISLAND Hyl**	**15.88**	**287**	T	T	05 13 58.8	
	baz=92,slow=74,SNR=5.2						
H11N2	**WAKE ISLAND Hyl**	**15.89**	**287**	T	T	05 13 58.6	
	baz=92,slow=74,SNR=6.8						
H11N1	**WAKE ISLAND Hyl**	**15.89**	**287**	T	T	05 14 02.6	
	baz=92,slow=74,SNR=6.2						
H11S2	**WAKE ISLAND Hyl**	**16.01**	**285**	T	T	05 14 08.7	
	baz=93,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hyl**	**16.02**	**285**	T	T	05 14 10.0	
	baz=93,slow=75,SNR=8.3						
H11S3	**WAKE ISLAND Hyl**	**16.03**	**285**	T	T	05 14 11.8	
	baz=93,slow=75,SNR=11						

*GUC **24** 02:48:48.2±0.6,21°.10S×68°.92W,h114km±3km, ML3.8*
*IDC **24** 02:48:48.1±0.8,21°.07S×68°.54W,h101km± 10km,mb3.6/5, mb1 3.7/8,mb1mx3.5/27,mbtmp4.0/8,Error ellipse: s-maj=23.1km s-min=9.2km az=105.0*
*VAO **24** 02:48:49.0±0.3,21°.18S×68°.73W,h121km,mb4.1*
ISC 24 02:48:47.7±0.6, 21°.08S±0°.03×68°.82W±0°.06, h109km±6km, n59,σ1°.40/77, mb3.9/4, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.62**	**273**	*e*P	**Pn**	**02 49 05.1**	**-0.3**
PB01				*i* S	**Sn**	**02 49 18.1**	**-0.7**
PB09	**IPOC Station P**	**0.82**	**208**	*e*P	**Pn**	**02 49 07.2**	**0.0**
PB09				*i* S	**Sn**	**02 49 22.6**	**+0.7**
PB09				IAML		02 49 24.7	
	comp=E,1μm,0.2s						
PB08	**IPOC Station P**	**0.98**	**342**	*e*P	**Pn**	**02 49 09.7**	**+0.7**
PB08				*i* S	**Sn**	**02 49 26.5**	**+1.4**
PB08				IAML		02 49 28.3	
	comp=E,4μm,0.2s						
PB07	**IPOC Station P**	**1.18**	**237**	*e*P	**Pn**	**02 49 10.4**	**-0.6**
PB07				*i* S	**Sn**	**02 49 27.8**	**-0.8**
PB07				IAML		02 49 31.0	
	comp=E,1μm,0.3s						
PB03	**IPOC Station P**	**1.30**	**222**	*e*P	**Pn**	**02 49 11.8**	**-0.5**
PB03				*i* S	**Sn**	**02 49 29.6**	**-1.2**
PB03				IAML		02 49 31.8	
	comp=E,2μm,0.4s						
TA01	**Diego Aracena**	**1.37**	**292↑**	*e*P	**Pn**	**02 49 12.1**	**-0.7**
TA01				*e*S	**Sn**	**02 49 30.4**	**-1.5**
TA01				IAML		02 49 32.1	
	comp=E,4μm,0.2s						
TA02	**Huaiquique**	**1.46**	**303↑**	*e*P	**Pn**	**02 49 13.4**	**-0.5**
TA02				*e*S	**Sn**	**02 49 32.1**	**-1.8**
TA02				IAML		02 49 38.3	
	comp=N,4μm,0.1s						
LVC	**Limon Verde**	**1.53**	**183**	P	**Pn**	**02 49 15.8**	**+0.6**
	comp=N,38nm,0.3s,baz=5.2,slow=10,SNR=197						
LVC				S	**Sn**	**02 49 36.3**	**+0.3**
	comp=N,157nm,0.3s,baz=270,slow=23,SNR=17						
LVC	**Limon Verde**	**1.53**	**183↑**	*e*P	**Pn**	**02 49 15.7**	**+0.5**
LVC				*e*S	**Sn**	**02 49 36.7**	**+0.7**
LVC	**Limon Verde**	**1.53**	**183**	*e*P	**Pn**	**02 49 16.2**	**+1.1**
LVC				*e*S	**Sn**	**02 49 35.8**	**-0.2**
PB04	**IPOC Station P**	**1.76**	**224**	*e*P	**Pn**	**02 49 17.0**	**-0.8**
PB04				*i* S	**Sn**	**02 49 39.3**	**-1.3**
PB04				IAML		02 49 44.6	
	comp=E,1μm,0.2s						
PB06	**IPOC Station P**	**1.76**	**203**	*e*P	**Pn**	**02 49 17.6**	**-0.3**
PB06				*i* S	**Sn**	**02 49 40.3**	**-0.5**
PSGC	**Pisagua**	**1.91**	**320**	*e*P	**Pn**	**02 49 18.7**	**-0.9**
PSGC				*i* S	**Sn**	**02 49 42.9**	**-1.1**
MNMC	**Minye Minye**	**2.07**	**339**	*e*P	**Pn**	**02 49 22.1**	**+0.3**
PB15	**IPOC Station P**	**2.21**	**196↑**	*e*P	**Pn**	**02 49 23.4**	**-0.1**
PB15				*e*S	**Sn**	**02 49 51.0**	**+0.2**
PB16	**IPOC Station P**	**2.80**	**347**	IAML		02 50 10.0	
	comp=E,145nm,0.3s						
PB10	**IPOC Station P**	**2.91**	**213↓**	*e*P	**Pn**	**02 49 30.9**	**-1.6**
PB10				*e*S	**Sn**	**02 50 02.0**	**-4.9**
PB10				IAML		02 50 05.2	
	comp=E,196nm,0.4s						
GO02	**Mina Guanaco**	**4.13**	**190↑**	*e*P	**Pn**	**02 49 47.8**	**-1.2**
GO02				*e*S	**Sn**	**02 50 33.7**	**-2.9**
GO02				IAML		02 50 38.3	
	comp=N,277nm,0.1s						
LPAZ	**La Paz**	**4.81**	**8**	P	**Pn**	**02 50 00.3**	**+1.8**
	comp=N,1.1nm,0.3s,baz=207,slow=8.0,SNR=18						
LPAZ				S	**Sn**	**02 50 52.3**	**-1.1**
	comp=N,0.7nm,0.3s,baz=190,slow=17,SNR=3.6						
LPAZ	**La Paz**	**4.81**	**8**	*e*P	**Pn**	**02 50 01.7**	**+3.2**
SIV	**San Ignacio**	**8.92**	**57**	P	**Pn**	**02 50 51.8**	**-1.9**
	comp=N,3.9nm,0.3s,baz=253,slow=9.3,SNR=68						
SIV				S	**Sn**	**02 52 26.8**	**-5.7**
	comp=N,0.1nm,0.3s,baz=159,slow=21,SNR=1.0						
PTLB	**Pontes e Lacer**	**10.77**	**60**	*e*P	**Pn**	**02 51 18.0**	**-0.7**
ETMB	**Extrema**	**11.47**	**13**	*e*P	**Pn**	**02 51 29.4**	**+1.2**
VILB	**Vilhena**	**11.54**	**47**	*e*P	**Pn**	**02 51 28.5**	**-0.7**
AQDB	**Aquidauana**	**12.29**	**90**	*e*P	**Pn**	**02 51 38.2**	**-0.8**
SAML	**Samuel**	**13.23**	**25**	*e*P	**Pn**	**02 51 53.9**	**+2.6**
PTGB	**Pitanga**	**15.86**	**106**	*e*P	**Pn**	**02 52 24.9**	**0.0**
CLDB	**Colider**	**16.11**	**53**	*e*P	**P**	**02 52 29.2**	**+0.1**
FRTB	**Fartura**	**17.98**	**101**	*e*P	**P**	**02 52 49.4**	**-0.3**
BB19B	**Bebedouro**	**18.94**	**94**	*e*P	**P**	**02 53 00.1**	**-0.2**
SNDB	**Serra Nova Dou**	**19.07**	**64**	*e*P	**P**	**02 53 01.1**	**-0.6**
MACA	**Manacapuru-AM**	**19.49**	**25**	*e*P	**P**	**02 53 07.4**	**+1.2**
PLCA	**Paso Flores**	**19.65**	**184**	P	**P**	**02 53 08.1**	**+0.3**
	comp=N,0.3nm,0.3s,baz=5.5,slow=11,SNR=14						
PLCA	**Paso Flores**	**19.65**	**184**	*e*P	**P**	**02 53 08.3**	**+0.5**
IPMB	**Ipameri, GO**	**19.67**	**85**	*e*P	**P**	**02 53 08.1**	**-0.2**
BDFB	**Brasilia**	**20.47**	**78**	P	**P**	**02 53 16.4**	**-0.6**
	comp=N,3.7nm,0.4s,baz=256,slow=8.6,SNR=11						
PEXB	**Peixe**	**21.58**	**69**	*e*P	**P**	**02 53 28.4**	**-0.3**
PTGA	**Pitinga**	**21.99**	**24**	P	**P**	**02 53 31.7**	**-1.3**
	comp=N,3.6nm,0.3s,baz=320,slow=22,SNR=8.4						
PTGA	**Pitinga**	**21.99**	**24**	*e*P	**P**	**02 53 33.7**	**+0.6**
PRPB	**Parauapebas**	**23.64**	**54**	*e*P	**P**	**02 53 48.7**	**-0.5**
SMTB	**Santa Maria do**	**23.80**	**62**	*e*P	**P**	**02 53 50.8**	**+0.1**
DIAM	**Diamantina, MG**	**23.84**	**88**	*e*P	**P**	**02 53 51.0**	**-0.1**
JANB	**Januaria**	**24.05**	**80**	*e*P	**P**	**02 53 51.7**	**-1.2**
SDBA	**SAO DESIDERIO**	**24.45**	**73**	*e*P	**P**	**02 53 57.0**	**+0.5**
BOAV	**Boa Vista**	**24.70**	**20**	*e*P	**P**	**02 53 60.0**	**+1.2**
CAM01	**Campos-RJ**	**25.29**	**97**	*e*P	**P**	**02 54 02.6**	**-1.4**
ALF01	**Guarapari-ES**	**26.25**	**94**	*e*P	**P**	**02 54 11.7**	**-1.0**
NAN01	**Guarapari, ES**	**27.23**	**88**	*e*P	**P**	**02 54 21.9**	**+0.3**
NBIT	**Itapeh - BA**	**28.58**	**83**	*e*P	**P**	**02 54 33.8**	**+0.2**
GDU01	**Guandu, BA**	**28.82**	**80**	*e*P	**P**	**02 54 34.9**	**-0.8**
NBPN	**Ponto Novo - B**	**29.29**	**74**	*e*P	**P**	**02 54 40.2**	**+0.3**
NBPS	**Pedro II - PI**	**31.34**	**62**	*e*P	**P**	**02 54 58.5**	**+0.5**
NBLA	**Lagarto - SE**	**31.41**	**76**	*e*P	**P**	**02 54 57.5**	**-1.1**
NBPB	**Pedra_Branca-C**	**32.28**	**66**	*e*P	**P**	**02 55 07.3**	**+1.0**
RCBR	**Riachuelo**	**35.31**	**69**	P	**P**	**02 55 32.9**	**+0.3**
	comp=N,4.5nm,0.6s,baz=230,slow=11,SNR=5.4						
TXAR	**Lajitas Array**	**60.33**	**325**	P	**P**	**02 58 48.6**	**+3.4**
	comp=N,0.1nm,0.4s,baz=126,slow=5.9,SNR=1.9						
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	**P**	**03 00 28.9**	**-0.8**
	comp=N,0.5nm,0.5s,baz=253,slow=5.0,SNR=6.2						
KURBB	**Kurchatov Arra**	**140.94**	**33**	PKP	**PKPdf**	**03 08 04.7**	**0.0**
	comp=N,0.1nm,0.3s,baz=316,slow=2.4,SNR=5.0						
MKAR	**Makanchi Array**	**145.25**	**36**	PKPbc	**PKPbc**	**03 08 12.6**	**+0.3**
	comp=N,0.4nm,0.8s,baz=319,slow=3.8,SNR=3.8						
MKAR				pPKPbc	**pPKPdf**	**03 08 43.6**	**-0.1**
	comp=N,0.6nm,0.8s,baz=330,slow=4.2,SNR=4.9						

*IDC **24** 03:02:40.2±1.2,2°.87S×139°.48E,h0km,mb3.5/4, mb1 3.9/5,mb1mx3.5/42,mbtmp3.6/5,ML3.9/1,Error ellipse: s-maj=29.3km s-min=13.7km az=153.0*
ISC 24 03:02:46.0±1.0, 3°.1S±0°.1×139°.7E±0°.2, h46km, n6,σ1°.56/7, mb3.3/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.18**	**60**	Pg	**Pn**	**03 03 06.5**	**+0.5**
	106nm,0.3s,baz=257,slow=14,SNR=174						
JAY				Lg	Lg	03 03 20.7	
	76nm,0.3s,baz=252,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	**17.53**	**197**	P	**Pn**	**03 06 46.9**	**-0.3**
	0.5nm,0.3s,baz=20,slow=12,SNR=17						
WRA				S	Sn	03 09 51.5	-10
	0.1nm,0.3s,baz=14,slow=24,SNR=2.5						
FITZ	**Fitzroy Crossi**	**20.29**	**222**	P	**P**	**03 07 19.1**	**+1.1**
	3.3nm,0.9s,baz=55,slow=1,SNR=11						
ASAR	**Alice Springs**	**21.19**	**195**	P	**P**	**03 07 29.2**	**+1.5**
	0.9nm,0.7s,baz=25,slow=10.0,SNR=13						
ASAR				S	**S**	**03 11 19.0**	**-2.1**
	0.4nm,0.7s,baz=18,slow=25,SNR=2.7						
MKAR	**Makanchi Array**	**70.69**	**322**	P	**P**	**03 13 57.2**	**0.0**
	0.1nm,0.3s,baz=130,slow=6.2,SNR=2.1						
ILAR	**Eielson Array**	**85.79**	**24**	P	**P**	**03 15 18.9**	**-1.3**
	0.5nm,0.7s,baz=261,slow=4.5,SNR=8.1						

IDC 24 03:06:36.1±2.0, 28°.26N×86°.75E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.3/50, mbtmp3.6/5, ML3.5/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/43, Error ellipse: s-maj=129.7km s-min=22.7km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.84**	**128**	LR	LR	03 16 04.1	
	comp=Z,11nm,20.4s,baz=355,slow=38						
MKAR	**Makanchi Array**	**18.83**	**350**	P	Pn	03 10 58.1	+0.3
	0.1nm,0.3s,baz=177,slow=12,SNR=6.2						
PALK	**Pallekele**	**21.64**	**196**	LR	LR	03 19 42.2	
	comp=Z,47nm,18.7s,baz=272,slow=36						
KURBB	**Kurchatov Arra**	**23.19**	**347**	P	P	03 11 44.3	0.0
	0.5nm,0.4s,baz=160,slow=11,SNR=6.6						
FINES	**FINESS Array B**	**51.63**	**328**	P	P	03 15 43.7	-0.5
	6.4nm,1.1s,baz=127,slow=9.0,SNR=3.7						
WRA	**Warramunga Arr**	**66.42**	**131**	P	P	03 17 27.4	0.0
	0.2nm,0.9s,baz=325,slow=6.6,SNR=5.8						
ASAR	**Alice Springs**	**68.78**	**134**	P	P	03 17 42.3	0.0
	0.2nm,0.5s,baz=322,slow=5.9,SNR=2.2						
DZM	**Mont Dzumac**	**91.70**	**114**	LR	LR	04 02 17.1	
	comp=Z,106nm,21.1s,baz=260,slow=36						

*ISK **24** 03:07:37.5,42°.06N×24°.85E,h6km,ML2.7/13*
*DDA **24** 03:07:37.1,42°.11N×24°.93E,h18km±3km, ML2.5*
*SOF **24** 03:07:37.6,42°.09N×24°.83E,h15km, MD2.7*
*THE **24** 03:07:39.5,42°.01N×24°.89E,h4km±1km,ML2.4/9,Error ellipse: s-maj=1.9km s-min=0.9km az=175.0*
*BEO **24** 03:07:40.4±0.6,42°.03N×24°.74E,h0km, ML2.5/10*
ISC 24 03:07:37.8±0.9, 42°.06N±0°.02×24°.87E±0°.02, h6km±7km, n75,σ1°.57/111, 16C-9D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.13**	**291**	*e*Pg	**Pg**	**03 07 40.6**	**+0.1**
PLD				*e*Sg	**Sg**	**03 07 42.3**	**-0.1**
PLD	**Plovdiv**	**0.13**	**291**	PG	**Pg**	**03 07 40.8**	**+0.3**
PLD				SG	**Sg**	**03 07 42.1**	**-0.3**
PLD	**Plovdiv**	**0.13**	**291**	*i* Pg	**Pg**	**03 07 40.8**	**+0.3**
RZN	**Rozhen**	**0.39**	**197**	*i* Pg	**Pb**	**03 07 46.2**	**-1.0**
DIM	**Dimitrovgrad**	**0.50**	**91**	*i* Pg	**Pb**	**03 07 49.3**	**+0.3**
KDZ	**Kurdzhali**	**0.58**	**135**	PG	**Pg**	**03 07 48.9**	**-0.1**
KDZ				SG	**Sg**	**03 07 57.0**	**+0.5**
PGB	**Panagyurishte**	**0.72**	**314**	*i* Pg	**Pg**	**03 07 51.3**	**-0.3**
MMB	**Musomiste**	**0.97**	**242**	*i* Pg	**Pb**	**03 07 56.7**	**-0.4**
NVR	**Nevrokopi**	**1.03**	**227**	P	**Pb**	**03 07 57.8**	**-0.4**
NVR				S	**Sn**	**03 08 13.9**	**+0.2**
	210nm,0.3s						
RDO	**Rodhopi**	**1.04**	**151**	P	**Pb**	**03 07 58.3**	**0.0**
RDO				S	**Sb**	**03 08 12.7**	**+0.5**
	428nm,0.1s						
RDO	**Rodhopi**	**1.04**	**151**	PG	**Pb**	**03 07 58.1**	**-0.2**
KAVA	**Kavala**	**1.09**	**194**	P	**Pb**	**03 07 59.2**	**0.0**
KAVA				S	**Sb**	**03 08 13.8**	**+0.1**
	272nm,0.3s						
VTS	**Vitosha**	**1.33**	**295**	*e*Pg	**Pb**	**03 08 03.3**	**-0.1**
VTS				*e*Sg	**Sn**	**03 08 20.9**	**-0.5**
VTS	**Vitosha**	**1.33**	**295**	↑P	**Pb**	**03 08 04.0**	**+0.6**
VTS				↑S	**Sn**	**03 08 22.3**	**+1.0**
JMB	**Yambol**	**1.34**	**72**	*i* Pg	**Pg**	**03 08 03.9**	**+0.4**
SRS	**Serrai**	**1.34**	**226**	P	**Pg**	**03 08 03.3**	**-0.2**
SRS				S	**Sn**	**03 08 22.9**	**+1.6**
	165nm,0.5s						
SRS	**Serrai**	**1.34**	**226**	*e*Pg	**Pg**	**03 08 03.5**	**0.0**
SRS				*e*Sg	**Sb**	**03 08 19.4**	**-1.4**
PLVB	**Pleven**	**1.34**	**352**	↑P	**Pg**	**03 08 04.6**	**+1.0**
EDRB	**Edirne**	**1.42**	**98**	P	**Pg**	**03 08 05.0**	**0.0**
EDRB				S	**Sg**	**03 08 23.9**	**+0.6**
	30nm,0.3s						
EDRB	**Edirne**	**1.42**	**98**	PN	**Pb**	**03 08 04.8**	**+0.1**
SZH	**Strazhica**	**1.44**	**33**	*i* Pg	**Pg**	**03 08 06.9**	**+1.4**
THAS	**Thassos island**	**1.45**	**184**	P	**Pn**	**03 08 04.4**	**-0.3**
THAS				S	**Sg**	**03 08 25.1**	**+0.6**
	112nm,0.4s						
ALN	**Alexandroupoli**	**1.46**	**142**	P	**Pg**	**03 08 05.9**	**+0.1**
ALN				S	**Sg**	**03 08 24.7**	**0.0**
	42nm,0.6s						
ALN	**Alexandroupoli**	**1.46**	**142**	PN	**Pg**	**03 08 05.6**	**-0.2**
ENEZ	**Enez**	**1.64**	**143**	P	**Pb**	**03 08 08.5**	**+0.1**
ENEZ	**Enez**	**1.64**	**143**	PN	**Pb**	**03 08 08.0**	**-0.4**
SMTH	**Samothraki Isl**	**1.66**	**162**	P	**Pb**	**03 08 08.2**	**-0.7**
CAVK	**Edirne/Enez-Ca**	**1.68**	**144**	*i* P	**Pg**	**03 08 10.5**	**+0.5**
CAVK				*i* S	**Sg**	**03 08 32.7**	**+0.9**
CAVK				IAML		03 08 38.0	
	comp=N,99nm,1.1s						
CAVK				IAML		03 08 50.0	
	comp=E,87nm,1.1s						
SOH	**Sokhos**	**1.68**	**223**	P	**Pb**	**03 08 08.6**	**-0.6**
SOH				S	**Sg**	**03 08 31.6**	**-0.2**
	comp=E,120nm,0.4s						
KIRK	**Kırklareli**	**1.69**	**99**	*i* P	**Pn**	**03 08 08.5**	**+0.6**
KIRK				*i* S	**Sn**	**03 08 30.2**	**+0.4**
KNT	**Kendrikon**	**1.73**	**239**	P	**Pb**	**03 08 09.4**	**-0.5**
KNT				S	**Sg**	**03 08 33.1**	**-0.2**
	comp=E,100nm,0.4s						
KNT	**Kendrikon**	**1.73**	**239**	PN	**Pb**	**03 08 09.5**	**-0.5**
BOSS	**Bosilegrad**	**1.82**	**285**	*e*Pn	**Pg**	**03 08 12.1**	**-0.7**
BOSS				*e*Sn	**Sg**	**03 08 35.0**	**-1.5**
KESN	**Edirne-Kesan**	**1.84**	**131**	*i* P	**Pg**	**03 08 14.6**	**+1.6**
KESN				*i* S	**Sg**	**03 08 38.0**	**+1.2**
OUR	**Ouranopolis**	**1.85**	**201**	P	**Pn**	**03 08 10.8**	**+0.7**
OUR	**Ouranopolis**	**1.85**	**201**	PN	**Pn**	**03 08 10.6**	**+0.5**
ERIK	**Erikli-Kesan**	**1.86**	**138**	PN	**Pn**	**03 08 10.9**	**+0.7**
ARMN	**Kirklareli, Me**	**1.92**	**95**	*i* P	**Pn**	**03 08 11.9**	**+0.8**
ARMN				*i* S	**Sn**	**03 08 34.9**	**-0.8**
RAZG	**Razgrad**	**1.93**	**38**	↑S	**Sg**	**03 08 40.9**	**+0.9**
VLAD	**Vladila**	**1.97**	**350**	↑P	**Pb**	**03 08 14.4**	**+0.2**
VLAD				↑S	**Sg**	**03 08 42.6**	**+1.4**
HORT	**Hortiatis**	**1.97**	**223**	PN	**Pn**	**03 08 12.5**	**+0.6**
GADA	**Gvkgeada**	**2.02**	**157**	PN	**Pn**	**03 08 13.3**	**+0.8**
GOKA	**anakkale-Gk**	**2.02**	**157**	*i* P	**Pn**	**03 08 12.7**	**+0.2**
STIP	**Stip**	**2.03**	**261**	*i* Pn	**Pn**	**03 08 11.6**	**-1.1**
STIP				*i* Sn	**Sn**	**03 08 37.0**	**-1.5**
ZAPS	**Zavoj**	**2.05**	**307**	*e*Pn	**Pb**	**03 08 14.9**	**-0.6**
ZAPS				*e*Sn	**Sb**	**03 08 41.0**	**-0.2**
GELI	**Tayfur-Gelibol**	**2.05**	**143**	PN	**Pn**	**03 08 13.7**	**+0.8**
COPA	**Copaceanca**	**2.09**	**7**	↓P	**Pg**	**03 08 16.8**	**-1.1**
COPA				↑S	**Sg**	**03 08 46.3**	**+1.3**
GRG	**Griva**	**2.15**	**240**	PN	**Pn**	**03 08 14.8**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.21**	**127**	PN	**Pn**	**03 08 15.9**	**+0.7**
BLKB	**Belogradchik**	**2.25**	**315**	*e*Pn	**Pb**	**03 08 18.1**	**-0.8**
BLKB				*e*Sn	**Sb**	**03 08 45.7**	**-1.3**
BLKB	**Belogradchik**	**2.25**	**315**	↓S	**Sb**	**03 08 45.8**	**-1.1**
MAR3	**Marsite Statio**	**2.25**	**125**	PN	**Pn**	**03 08 16.5**	**+0.9**
MAR6	**Marsite Statio**	**2.25**	**126**	PN	**Pn**	**03 08 16.6**	**+0.9**
GZKV	**Gazikoy-Tekird**	**2.27**	**124**	PN	**Pn**	**03 08 16.7**	**+0.9**
VIZE	**Kirklareli, Vi**	**2.27**	**101**	*i* P	**Pn**	**03 08 15.7**	**-0.3**
VIZE				*i* S	**Sn**	**03 08 42.9**	**-1.5**
VIZE				IAML		03 08 45.0	
	comp=E,14nm,1.9s						
BARS	**Barje**	**2.38**	**290**	*e*Pn	**Pb**	**03 08 20.5**	**-0.7**
BARS	**Barje**	**2.38**	**290**	*e*Pn	Pg	03 08 28.0	+4.5
BARS				*e*Sn	**Sn**	**03 08 48.2**	**+1.2**
BARS				*e*Sn	**Sg**	**03 09 02.3**	**+7.9**
EZN	**Ezine**	**2.49**	**153**	PN	**Pn**	**03 08 19.9**	**+1.0**
MRMT	**Marmara Adasi**	**2.52**	**124**	PN	**Pn**	**03 08 20.1**	**+0.7**
ZAGS	**Zajecar**	**2.61**	**313**	*e*Pn	**Pb**	**03 08 22.7**	**-2.4**
ZAGS				*e*Sn	**Sb**	**03 08 56.1**	**-1.3**
PUNG	**Punghina**	**2.63**	**328**	↑S	**Sb**	**03 08 57.0**	**-1.0**
BOVS	**Bovan**	**2.81**	**305**	*e*Pn	**Pb**	**03 08 26.4**	**-2.0**
BOVS				*e*Sn	**Sb**	**03 09 00.5**	**-2.6**
BOVS	**Bovan**	**2.81**	**305**	↑P	**Pn**	**03 08 23.4**	**+0.1**
FNA	**Florina**	**2.92**	**245**	PN	**Pn**	**03 08 25.6**	**+0.7**
SELS	**Selova**	**3.00**	**294**	*e*Pn	**Pn**	**03 08 28.1**	**+2.1**
HERR	**Herculane**	**3.34**	**329**	↑P	**Pn**	**03 08 32.5**	**+1.9**
HERR				↓S	**Sb**	**03 09 15.1**	**-3.2**
VOIR		**3.38**	**2**	↓P	**Pn**	**03 08 34.2**	**+2.9**
VOIR				↓S	**Sb**	**03 09 18.1**	**-1.5**
MLR	**Muntele Rosu**	**3.52**	**12**	↓P	**Pb**	**03 08 36.7**	**-3.9**
MLR				↑S	**Sb**	**03 09 22.3**	**-1.4**
TIRR	**Tirgusor**	**3.53**	**46**	↓P	**Pn**	**03 08 34.4**	**+1.2**
TIRR				↑S	**Sb**	**03 09 20.5**	**-3.4**
GZR	**Gura Zlata**	**3.66**	**336**	↑P	**Pn**	**03 08 34.9**	**-0.2**
IVAS	**Ivanjica**	**3.79**	**295**	*e*Pn	**Pn**	**03 08 38.6**	**+1.8**
IVAS				*e*Sn	**Sn**	**03 09 21.5**	**-0.2**
TPGR	**Topolog**	**3.81**	**42**	↑S	**Sb**	**03 09 28.3**	**-3.6**
VRI	**Vrincioaia**	**4.04**	**19**	↓P	**Pn**	**03 08 43.9**	**+3.7**
VRI				↑S	**Sb**	**03 09 33.8**	**-4.7**
BZS	**Buzias**	**4.26**	**328**	*e*Pn	**Pn**	**03 08 46.3**	**+3.0**
BZS	**Buzias**	**4.26**	**328**	↑P	**Pn**	**03 08 44.1**	**+0.8**
BZS				↓S	**Sn**	**03 09 37.1**	**+3.7**

*ATH **24** 03:17:29.1,36°.71N×20°.96E,h46km±9km,ML2.8/5, Error ellipse: s-maj=9.8km s-min=1.6km az=30.0*
*THE **24** 03:17:30.9,36°.83N×20°.90E,h0km±3km,ML2.4/4,Error ellipse: s-maj=3.6km s-min=1.5km az=133.0*
ISC 24 03:17:28.4±2.4, 36°.7N±0°.1×20°.83E±0°.06, h16km±11km, n49,σ1°.77/59, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**1.00**	**61**	P	**Pg**	**03 17 47.3**	**-0.5**
ITM				S	**Sg**	**03 17 58.7**	**-2.2**
ITM				AML	AML	03 18 04.5	
	comp=N,453μm,0.6s						
ITM				AML	AML	03 18 04.9	
	comp=E,564μm,0.4s						
ITM	**Ithomi**	**1.00**	**61**	P	**Pg**	**03 17 47.4**	**-0.4**
LTHK	**Lithakia**	**1.00**	**0**	P	**Pg**	**03 17 47.4**	**-0.4**
LTHK				S	**Sb**	**03 18 00.2**	**-0.2**
	comp=E,580nm,0.3s						
AMT	**Artemida-Makis**	**1.08**	**40**	P	**Pg**	**03 17 49.0**	**-

ISC 24 03:28:27.1±0.3,17°88S±0'06×178°56W±0'06,h579km,
n330,σ1°07/302,mb4.5/119,7C-11D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.24**	**272**	P	**P**	**03 29 47.2**	**+1.1**
	2.5nm,0.3s,baz=126,slow=6.9,SNR=33						
MSVF	**Nonsavu**	**3.24**	**272**	P	**P**	**03 29 43.4**	**-2.7**
AFI	**Afiamalu**	**7.62**	**60**	P	**P**	**03 30 19.9**	**-2.5**
	36nm,0.3s,baz=243,slow=6.8,SNR=38						
AFI				S	**S**	**03 31 51.5**	**-5.1**
	0.2nm,0.3s,baz=156,slow=20,SNR=1.4						
AFI	**Afiamalu**	**7.62**	**60**	P	**P**	**03 30 19.7**	**-2.6**
AFI					**S**	**03 31 59.1**	**+2.4**
AFI	**Afiamalu**	**7.62**	**60**	P	**P**	**03 30 19.9**	**-2.5**
NIUE	**Niue**	**8.28**	**100**	P	**P**	**03 30 27.9**	**-0.5**
MARNC	**Mare, Loyalty**	**13.13**	**252**	P	**P**	**03 31 17.1**	**-0.3**
SANVU	**Saraoutou**	**13.86**	**278**	P	**P**	**03 31 23.2**	**-1.7**
SANVU	**Saraoutou**	**13.86**	**278**	P	**P**	**03 31 23.9**	**-1.0**
PINNC	**Pines Island,**	**13.95**	**248**	P	**P**	**03 31 25.0**	**-0.8**
YATNC	**Mamie plateau,**	**14.30**	**251**	P	**P**	**03 31 28.7**	**-0.5**
OUENC	**Ouen Island, N**	**14.43**	**249**	P	**P**	**03 31 31.3**	**+0.8**
DZM	**Mont Dzumac**	**14.70**	**251**	P	**P**	**03 31 32.3**	**-1.0**
	7.5nm,0.3s,baz=63,slow=11,SNR=28						
DZM	**Mont Dzumac**	**14.70**	**251**	P	**P**	**03 31 32.1**	**-1.1**
DZM	**Mont Dzumac**	**14.70**	**251**	P	**P**	**03 31 32.6**	**-0.6**
KNTN	**Kanton**	**16.44**	**25**	P	**P**	**03 31 48.1**	**-1.6**
KNTN	**Kanton**	**16.44**	**25**	P	**P**	**03 31 48.5**	**-1.2**
OUZ	**Omahuta**	**18.63**	**200**	P	**P**	**03 32 11.8**	**+2.6**
URZ	**Urewera**	**20.65**	**190**	P	**P**	**03 32 25.5**	**-2.0**
	15nm,0.6s,baz=301,slow=20,SNR=13						
URZ				S	**S**	**03 35 34.6**	**-7.1**
	6.3nm,0.7s,baz=308,slow=20,SNR=2.8						
URZ	**Urewera**	**20.65**	**190**	P	**P**	**03 32 25.2**	**-2.4**
BKZ	**Black Stump Fm**	**21.64**	**190**	P	**P**	**03 32 34.3**	**-2.2**
BKZ				IAmb	IAmb	03 32 35.2	
	comp=Z,5.0nm,0.8s						
TMVZ	**Te Maari**	**21.74**	**192**	P	**P**	**03 32 36.6**	**-0.8**
ETVZ	**East Tongariro**	**21.76**	**192**	P	**P**	**03 32 37.1**	**-0.6**
TSZ	**Takapari Road**	**22.60**	**191**	P	**P**	**03 32 44.1**	**-1.0**
DVHZ	**Dannevirke**	**22.80**	**190**	P	**P**	**03 32 46.3**	**-0.5**
BFZ	**Birch Farm**	**23.16**	**190**	P	**P**	**03 32 49.8**	**-0.2**
MRZ	**Mangatainoka R**	**23.26**	**191**	P	**P**	**03 32 49.5**	**-1.3**
KIW	**Kapiti Island**	**23.58**	**192**	P	**P**	**03 32 53.8**	**+0.1**
CAW	**Cannon Point**	**23.79**	**192**	P	**P**	**03 32 54.5**	**-1.0**
TRWZ	**Traveller**	**23.95**	**191**	P	**P**	**03 32 56.1**	**-0.9**
MSWZ	**Moikau Station**	**24.05**	**191**	P	**P**	**03 32 56.7**	**-1.1**
BHW	**Baring Head**	**24.12**	**192**	P	**P**	**03 32 57.9**	**-0.5**
QRZ	**Quartz Range**	**24.12**	**197**	P	**P**	**03 32 58.8**	**+0.3**
QRZ				IAmb	IAmb	03 33 05.1	
	comp=Z,28nm,1.1s						
QRZ	**Quartz Range**	**24.12**	**197**	P	**P**	**03 32 58.9**	**+0.5**
PLWZ	**Palliser**	**24.20**	**191**	P	**P**	**03 32 57.7**	**-1.5**
PLWZ	**Palliser**	**24.20**	**191**	P	**P**	**03 32 58.0**	**-1.2**
NNZ	**Nelson**	**24.27**	**195**	P	**P**	**03 32 59.5**	**-0.2**
BSWZ	**Blackbirch Sta**	**24.62**	**194**	P	**P**	**03 33 03.4**	**+0.5**
THZ	**Tophouse**	**24.90**	**195**		**P**	**03 33 05.0**	**-0.3**
THZ				IAmb	IAmb	03 33 09.8	
	comp=Z,15nm,0.9s						
THZ	**Tophouse**	**24.90**	**195**	P	**P**	**03 33 05.1**	**-0.3**
KHZ	**Kahutara**	**25.37**	**194**	P	**P**	**03 33 08.0**	**-1.4**
LTZ	**Lake Taylor**	**26.02**	**196**	P	**P**	**03 33 13.9**	**-1.3**
OXZ	**Oxford**	**26.59**	**195**	P	**P**	**03 33 19.5**	**-0.7**
RPZ	**Rata Peaks**	**27.21**	**197**	P	**P**	**03 33 25.2**	**-0.5**
	comp=Z,10nm,0.4s,baz=21,slow=7.2,SNR=8.4						
RPZ	**Rata Peaks**	**27.21**	**197**	P	**P**	**03 33 25.1**	**-0.5**
RPZ				IAmb	IAmb	03 33 28.6	
	comp=Z,11nm,0.7s						
FOZ	**Fox Glacier**	**27.40**	**199**	P	**P**	**03 33 26.6**	**-0.6**
EIDS	**Eidsvold**	**29.14**	**250**	P	**P**	**03 33 41.9**	**-0.8**
MLZ	**Mavora Lakes**	**29.58**	**199**	P	**P**	**03 33 46.5**	**+0.4**
ARMA	**Armidale**	**29.83**	**240**	P	**P**	**03 33 48.6**	**-0.1**
DCZ	**Deep Cove**	**29.97**	**200**	P	**P**	**03 33 49.7**	**+0.2**
WHZ	**Wether Hill Ro**	**30.10**	**199**	P	**P**	**03 33 51.0**	**+0.4**
CTAO	**Charters Tower**	**33.31**	**260**	P	**P**	**03 34 17.7**	**-0.6**
CAN	**Canberra**	**33.61**	**232**	P	**P**	**03 34 20.4**	**-0.2**
PMG	**Port Moresby**	**34.31**	**280**	P	**P**	**03 34 27.8**	**+1.0**
	comp=Z,74nm,0.8s,baz=86,slow=7.5,SNR=23						
PMG	**Port Moresby**	**34.31**	**280**	P	**P**	**03 34 25.7**	**-1.1**
PMG	**Port Moresby**	**34.31**	**280**	P	**P**	**03 34 28.2**	**+1.4**
JOHN	**Johnston Islan**	**35.53**	**15**	P	**P**	**03 34 35.8**	**-0.9**
COEN	**Coen**	**36.96**	**270**	P	**P**	**03 34 48.3**	**-0.3**
TOO	**Toolangi**	**37.08**	**231**	P	**P**	**03 34 49.3**	**-0.1**
TAU	**Tasmania Unive**	**38.17**	**222**	P	**P**	**03 34 58.2**	**+0.2**
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**03 35 02.1**	**+1.1**
	comp=Z,66nm,0.5s,baz=101,slow=8.1,SNR=233						
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**03 35 01.4**	**+0.3**
STKA				IAmb	IAmb	03 35 03.0	
	comp=Z,29nm,1.1s						
JAY	**Jayapura**	**42.76**	**286**	P	**P**	**03 35 35.8**	**+0.7**
	comp=Z,37nm,0.7s,baz=184,slow=7.1,SNR=15						
JAY	**Jayapura**	**42.76**	**286**	P	**P**	**03 35 35.6**	**+0.6**
	comp=Z,325nmcomp=Z,26nm,0.8s						
JAY	**Jayapura**	**42.76**	**286**	P	**P**	**03 35 35.9**	**+0.9**
	comp=Z,324nmcomp=Z,26nm,0.8s						
GENI	**Genyem**	**43.22**	**286**	P	**P**	**03 35 38.7**	**+0.1**
	comp=Z,84nm,0.8s						
GENI	**Genyem**	**43.22**	**286**	P	**P**	**03 35 38.7**	**+0.1**
	comp=Z,84nm,0.8s						
BBOO	**Buckleboo**	**43.30**	**241**	P	**P**	**03 35 39.4**	**+0.5**
WR0	**Warramunga Arr**	**44.31**	**260**	P	**P**	**03 35 46.2**	**-0.7**
WR0				IAmb	IAmb	03 35 49.2	
	comp=Z,12nm,0.8s						
WB0	**Warramunga Arr**	**44.46**	**260**	P	**P**	**03 35 47.5**	**-0.6**
WB2	**Warramunga Arr**	**44.49**	**260**	P	**P**	**03 35 47.7**	**-0.6**
WRA	**Warramunga Arr**	**44.50**	**260**	P	**P**	**03 35 47.6**	**-0.7**
	comp=Z,27nm,0.6s,baz=92,slow=6.8,SNR=258						
WRA				PcP	**PcP**	**03 37 19.7**	**+0.7**
	comp=Z,5.7nm,0.7s,baz=92,slow=3.5,SNR=7.2						
WRA				ScP	**ScP**	**03 40 19.0**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=88,slow=4.3,SNR=1.7						
WRA				S	**S**	**03 41 37.7**	**-4.8**
	comp=Z,0.7nm,0.7s,baz=99,slow=12,SNR=1.1						
WRA	**Warramunga Arr**	**44.50**	**260**	P	**P**	**03 35 47.5**	**-0.8**
WRA					**PcP**	**03 37 19.2**	**+0.2**
AS31	**Alice Springs**	**44.66**	**254**	P	**P**	**03 35 49.7**	**+0.1**
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**03 35 49.8**	**+0.2**
	comp=Z,268nm,0.6s,baz=88,slow=8.3,SNR=3294						
ASAR				PcP	**PcP**	**03 37 20.1**	**+0.5**
	comp=Z,7.9nm,0.6s,baz=112,slow=3.4,SNR=5.6						
ASAR				ScP	**ScP**	**03 40 20.8**	**+3.6**
	comp=Z,1.2nm,0.7s,baz=86,slow=4.9,SNR=4.9						
ASAR				S	**S**	**03 41 42.4**	**-2.4**
	comp=Z,3.8nm,0.9s,baz=89,slow=16,SNR=17						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**03 35 49.2**	**-0.4**
ASAR					**ScP**	**03 40 18.3**	**+1.2**
MTN	**Manton Dam**	**48.66**	**268**	P	**P**	**03 36 19.2**	**-0.5**
FORT	**Forrest**	**49.89**	**245**	P	**P**	**03 36 28.3**	**-0.3**
SWI	**Sorong**	**52.10**	**283**	P	**P**	**03 36 45.1**	**+0.3**
	comp=Z,1µmcomp=Z,122nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.89**	**261**	P	**P**	**03 36 49.9**	**-0.5**
FITZ				IAmb	IAmb	03 36 51.2	
	comp=Z,12nm,0.7s						
NLAI	**Namlea**	**55.15**	**279**	P	**P**	**03 37 07.0**	**+0.7**
	comp=Z,27nm,0.6s						
SOEI	**Soe**	**55.93**	**270**	P	**P**	**03 37 10.9**	**-1.0**
SOEI	**Soe**	**55.93**	**270**	P	**P**	**03 37 11.8**	**-0.1**
	comp=Z,118nm,0.8s						
SANI	**Sanana**	**56.60**	**280**	P	**P**	**03 37 16.0**	**-0.3**
	comp=Z,488nmcomp=Z,52nm,0.9s						
PSA00	**Pilbara Seismi**	**57.78**	**255**	P	**P**	**03 37 23.2**	**-1.0**
PSA00				IAmb	IAmb	03 37 24.1	
	comp=Z,28nm,0.8s						
PSA00	**Pilbara Seismi**	**57.78**	**255**	P	**P**	**03 37 23.6**	**-0.6**
PSA00				IAmb	IAmb	03 37 24.9	
	comp=Z,44nm,0.7s						
EDFI	**Ende, Flores**	**58.65**	**271**	P	**P**	**03 37 30.2**	**-0.1**
	comp=Z,358nmcomp=Z,24nm,0.8s						
GTOI	**Gorontalo**	**60.32**	**281**	P	**P**	**03 37 42.4**	**+1.1**
	comp=Z,15nm,0.9s						
MORW	**Morawa**	**60.36**	**246**	P	**P**	**03 37 41.1**	**-0.3**
MORW				IAmb	IAmb	03 37 41.6	
	comp=Z,17nm,0.7s						
SBA	**Scott Base**	**60.44**	**184**	P	**P**	**03 37 42.3**	**+1.3**
SBA				IAmb	IAmb	03 37 45.1	
	comp=Z,17nm,1.1s						
VNDA	**Vanda**	**60.46**	**185**	P	**P**	**03 37 42.9**	**+1.7**
	comp=Z,4.7nm,0.8s,baz=350,slow=7.1,SNR=13						
VNDA	**Vanda**	**60.46**	**185**	P	**P**	**03 37 42.5**	**+1.3**
APSI	**Ampana**	**61.06**	**279**	P	**P**	**03 37 47.6**	**+1.4**
	comp=Z,462nmcomp=Z,55nm,1.0s						
MRSI	**Marisa**	**61.27**	**281**	P	**P**	**03 37 47.4**	**-0.1**
	comp=Z,28nm,0.8s						
BNSI	**Bone**	**61.40**	**275**	P	**P**	**03 37 48.1**	**-0.3**
	comp=Z,36nm,1.1s						
KAPI	**Kappang**	**61.55**	**274**	P	**P**	**03 37 48.6**	**-0.8**
KAPI				IAmb	IAmb	03 37 50.0	
	comp=Z,10nm,0.7s						
PLAI	**Plampang**	**62.35**	**269**	P	**P**	**03 37 54.2**	**-0.4**
TOLI2	**Tolitoli**	**62.57**	**281**	P	**P**	**03 37 55.2**	**-0.8**
TOLI2				IAmb	IAmb	03 37 60.0	
	comp=Z,11nm,0.7s						
TWSI	**Taliwang, Sumb**	**63.23**	**269**	P	**P**	**03 38 00.1**	**-0.1**
	comp=Z,56nm,0.8s						
SRBI	**Singaraja**	**64.99**	**269**	P	**P**	**03 38 11.4**	**0.0**
JAGI	**Jajag, Banyuwa**	**65.90**	**269**	P	**P**	**03 38 16.2**	**-0.9**
	comp=Z,106nm,0.9s						
KMMI	**Kalianget**	**66.47**	**270**	P	**P**	**03 38 21.3**	**+0.7**
	comp=Z,38nm,1.1s						
BBKI	**Banjar Baru**	**66.68**	**274**	P	**P**	**03 38 23.3**	**+1.4**
	comp=Z,25nm,0.6s						
MJAR	**Matsushiro Arr**	**67.80**	**323**	P	**P**	**03 38 28.5**	**+0.3**
	comp=Z,4.4nm,0.6s,baz=157,slow=6.3,SNR=9.6						
MJAR	**Matsushiro Arr**	**67.80**	**323**	P	**P**	**03 38 28.1**	**-0.2**
MAT	**Matsushiro**	**67.80**	**323**	P	**P**	**03 38 28.0**	**-0.3**
UGM	**Wanagama**	**69.51**	**268**	P	**P**	**03 38 38.3**	**-0.7**
SBUM	**Sibu**	**71.06**	**279**	P	**P**	**03 38 47.4**	**-0.8**
SBUM				IAmb	IAmb	03 38 49.7	
	comp=Z,5.6nm,0.7s						
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**03 38 54.8**	**+1.0**
CISI	**Cisompet, Garu**	**72.18**	**268**	P	**P**	**03 38 54.2**	**-0.6**
	comp=Z,2µmcomp=Z,84nm,0.8s						
KSM	**Kuching**	**72.54**	**277**	P	**P**	**03 38 56.0**	**-0.7**
LEM	**Lembang**	**72.58**	**268**	P	**P**	**03 38 57.9**	**+0.7**
	comp=Z,66nm,0.8s						
LEM	**Lembang**	**72.58**	**268**	P	**P**	**03 38 57.4**	**+0.2**
	comp=Z,66nm,0.8s						
PETK	**Petropavlovsk-**	**73.62**	**345**	P	**P**	**03 39 02.6**	**+0.5**
	comp=Z,11nm,0.6s,baz=131,slow=8.5,SNR=18						
PETK	**Petropavlovsk-**	**73.62**	**345**	P	**P**	**03 39 02.2**	**+0.2**
BLSI	**Bandar Lampung**	**75.25**	**269**	P	**P**	**03 39 11.6**	**-0.5**
	comp=Z,61nm,0.4s						
PPBI	**Pangkal Pinang**	**75.36**	**272**	P	**P**	**03 39 13.8**	**+1.0**
PPBI	**Pangkal Pinang**	**75.36**	**272**	P	**P**	**03 39 13.7**	**+1.0**
KASI	**Kota Agung**	**75.92**	**269**	P	**P**	**03 39 15.7**	**-0.1**
	comp=Z,79nm,0.8s						
KASI	**Kota Agung**	**75.92**	**269**	P	**P**	**03 39 15.3**	**-0.5**
	comp=Z,79nm,0.8s						
MDSI	**Maura Dua**	**76.53**	**270**	P	**P**	**03 39 18.6**	**-0.5**
	comp=Z,20nm,1.0s						
MDSI	**Maura Dua**	**76.53**	**270**	P	**P**	**03 39 18.3**	**-0.8**
	comp=Z,20nm,1.0s						
PKM	**Mcpherson Peak**	**76.56**	**46**	P		03 39 19.7	
	baz=237						
VES	**Vestal, Richgr**	**77.58**	**46**	P		03 39 25.5	
	baz=207						
O02D	**Mt. Diablo Mer**	**77.62**	**40**	P		03 39 26.8	
	baz=234						
MURC	**Murrieta**	**77.71**	**49**	P		03 39 26.4	
	baz=239						
BFSC	**Mount Baldy Ra**	**77.71**	**48**	P		03 39 26.6	
	baz=238						
OHAK	**Old Harbor**	**77.74**	**14**	P		03 39 25.2	
	baz=205						
NJ2	**Nanjing**	**77.81**	**310**	*e*P	**P**	**03 39 26.4**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
EDW2	**Edwards Air Fo**	**77.82**	**47**	P		03 39 27.4	
	baz=238						
JMBI	**JAMBI**	**77.89**	**272**	P	**P**	**03 39 26.7**	**+0.2**
	comp=Z,61nm,0.5s						
ISA	**Isabella, Lake**	**77.90**	**46**	P		03 39 27.7	
	baz=238						
ISA	**Isabella, Lake**	**77.90**	**46**	P	**P**	**03 39 26.9**	**+0.7**
MONP2	**Monument Peak**	**77.90**	**50**	P		03 39 27.5	
	baz=239						
CMB	**Columbia Colle**	**77.92**	**43**	P	**P**	**03 39 26.8**	**+0.6**
IKP	**In-Ko-Pah, Jac**	**78.01**	**50**	P		03 39 28.4	
	baz=240						
AFDM	**Forest Hills D**	**78.05**	**42**	P	**P**	**03 39 27.6**	**+0.7**
ORV	**Oroville**	**78.06**	**42**	P	**P**	**03 39 27.6**	**+0.7**
N02D	**Trinity Center**	**78.15**	**40**	P		03 39 29.3	
	baz=234						
TPFO	**Pinon Flats**	**78.24**	**49**	P		03 39 29.4	
	baz=239						
O03E	**Paynes Creek**	**78.30**	**41**	P		03 39 28.8	
	baz=234						
M02C	**Callahan**	**78.30**	**39**	P		03 39 30.5	
	baz=233						
SWSC	**Sam W. Stewart**	**78.38**	**50**	P		03 39 29.3	
	baz=240						
KDAK	**Kodiak Island**	**78.41**	**14**	P		03 39 29.4	
	baz=205						
CWC	**Cottonwood Cre**	**78.58**	**46**	P		03 39 31.6	
	baz=238						
YBH	**Yreka Blue Hor**	**78.59**	**39**	P	**P**	**03 39 31.8**	**+2.0**
	comp=Z,7.2nm,0.8s,baz=252,slow=6.4,SNR=13						
YBH	**Yreka Blue Hor**	**78.59**	**39**	P	**P**	**03 39 30.4**	**+0.6**
YBH				IAmb	IAmb	03 39 32.7	
	comp=Z,12nm,1.1s						
BELC	**Belle Mtn. Jos**	**78.77**	**49**	P		03 39 32.3	
	baz=240						
MPMC	**Manual Prospec**	**78.79**	**46**	P		03 39 32.5	
	baz=238						
WAKR	**Walker**	**78.80**	**43**	P	**P**	**03 39 31.7**	**+0.6**
BEKR	**Beckworth**	**78.97**	**42**	P	**P**	**03 39 32.5**	**+0.5**
BEKR				IAmb	IAmb	03 39 33.8	
	comp=Z,6.4nm,0.5s						
BC3	**Big Chuckawall**	**78.99**	**49**	P		03 39 33.9	
	baz=240						
PNTR	**Pine Nut**	**79.02**	**43**	P	**P**	**03 39 32.4**	**+0.1**
PNTR				IAmb	IAmb	03 39 34.9	
	comp=Z,16nm,0.9s						
L04D	**Klamath Falls**	**79.12**	**39**	P		03 39 34.1	
	baz=234						
M04C	**Macdoel**	**79.15**	**40**	P		03 39 34.2	
	baz=234						
LHV	**Little Huntoon**	**79.27**	**44**	P	**P**	**03 39 33.8**	**+0.5**
LHV				IAmb	IAmb	03 39 36.4	
	comp=Z,12nm,1.0s						
GRAC	**Grapevine Rang**	**79.36**	**46**	P		03 39 35.6	
	baz=238						
GMRC	**Granite Mounta**	**79.41**	**48**	P		03 39 35.6	
	baz=240						
FURC	**Furnace Creek,**	**79.43**	**46**	P		03 39 35.7	
	baz=238						
IRM	**Iron Mountain**	**79.46**	**49**	P		03 39 36.1	
	baz=240						
PAHR	**Pah Rah Range**	**79.50**	**42**	P	**P**	**03 39 35.0**	**+0.3**
NVAR	**Mina Array Bea**	**79.50**	**44**	P	**P**	**03 39 36.6**	**+1.8**
	comp=Z,3.8nm,0.7s,baz=224,slow=8.7,SNR=33						
NVAR				pP	**pwP**	**03 41 37.8**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=215,slow=7.6,SNR=4.9						
NVAR	**Mina Array Bea**	**79.50**	**44**	P	**P**	**03 39 35.0**	**+0.2**
NV11	**Mina Array Sit**	**79.67**	**44**	P	**P**	**03 39 35.5**	**+0.2**
KVN	**Kaiserville**	**79.97**	**43**	P	**P**	**03 39 37.5**	**+0.2**
I04A	**Tendick Farm,**	**80.00**	**38**	P		03 39 38.3	
	baz=233						
TPH	**Tonopah**	**80.03**	**45**	P	**P**	**03 39 37.7**	**+0.1**
TPH				IAmb	IAmb	03 39 40.1	
	comp=Z,15nm,0.8s						
TPNV	**Topopah Spring**	**80.10**	**46**	P		03 39 39.4	
	baz=239						
TPNV	**Topopah Spring**	**80.10**	**46**	P	**P**	**03 39 38.0**	**0.0**
MOD	**Modoc Plateau**	**80.16**	**40**	P	**P**	**03 39 38.3**	**+0.2**
MOD				IAmb	IAmb	03 39 40.5	
	comp=Z,9.2nm,0.7s						
J05D	**Fort Rock, OR**	**80.39**	**39**	P		03 39 41.1	
	baz=234						
BRSE	**Bradley Lake S**	**80.59**	**14**	P		03 39 39.9	
	baz=207						
SHPR	**Sheep Range**	**80.63**	**47**	P	**P**	**03 39 40.8**	**+0.1**
RSO	**Redoubt South**	**80.81**	**13**	P	**P**	**03 39 41.4**	**+0.3**
I05D	**Terrebonne, OR**	**80.94**	**38**	P		03 39 42.8	
	baz=234						
BKNI	**Bangkinang**	**80.97**	**273**	P	**P**	**03 39 43.8**	**+1.1**
	comp=Z,4µmcomp=Z,50nm,0.6s						
PRN	**Pahroc Range**	**81.16**	**46**	P	**P**	**03 39 43.5**	**+0.1**
PRN				IAmb	IAmb	03 39 46.4	
	comp=Z,9.0nm,1.0s						
R11A	**Troy Canyon, C**	**81.27**	**45**	P		03 39 44.5	
	baz=239						
WVOR	**Wild Horse Val**	**81.48**	**40**	P	**P**	**03 39 45.0**	**+0.2**
WVOR				IAmb	IAmb	03 39 47.0	
	comp=Z,6.5nm,0.8s						
O22K	**Cooper Landing**	**81.49**	**14**	P		03 39 44.6	
	baz=208						
F05D	**White Salmon**	**81.78**	**36**	P		03 39 47.8	
	baz=234						
TUC	**Tucson**	**81.80**	**52**	P	**P**	**03 39 46.8**	**+0.1**
TUC	**Tucson**	**81.80**	**52**	P		03 39 48.4	
	baz=243						
D03D	**Eldon**	**81.87**	**34**	P		03 39 48.0	
	baz=232						
RC01	**Rabbit Creek A**	**82.03**	**14**	IAmb	IAmb	03 39 46.8	
	baz=208						
RC01	**Rabbit Creek A**	**82.03**	**14**	IAmb	IAmb	03 39 48.6	
	comp=Z,9.8nm,1.1s						
J08A	**Circle Bar Ran**	**82.09**	**40**	IAmb	IAmb	03 39 50.4	
	comp=Z,13nm,1.2s						
SUA	**Susitna One**	**82.14**	**13**	P		03 39 47.2	
	baz=207,SNR=11						
SUA	**Susitna One**	**82.14**	**13**	IAmb	IAmb	03 39 48.9	
	comp=Z,14nm,0.8s						
PWL	**Port Wells**	**82.15**	**14**	IAmb	IAmb	03 39 48.5	
	comp=Z,12nm,0.8s						
BELA	**Belgrano 2**	**82.21**	**173**	P	**P**	**03 39 48.7**	**+0.8**
BBB	**Bella Bella**	**82.36**	**29**	P	**P**	**03 39 50.0**	**+1.2**
	comp=Z,16nm,1.1s,baz=270,slow=4.0,SNR=1.7						
BBB	**Bella Bella**	**82.36**	**29**	P	**P**	**03 39 49.2**	**+0.4**
BBB				IAmb	IAmb	03 40 03.1	
	comp=Z,25nm,1.1s						
SKT	**Skwentna**	**82.44**	**13**	P		03 39 48.6	
	baz=206						
GLI	**Glacier Island**	**82.46**	**15**	P		03 39 49.2	
	baz=210,SNR=7.9						
GLI	**Glacier Island**	**82.46**	**15**	IAmb	IAmb	03 39 50.0	
	comp=Z,21nm,0.7s						
KNK	**Knik Glacier**	**82.60**	**14**	P		03 39 50.0	
	baz=209,SNR=5.5						
KNK	**Knik Glacier**	**82.61**	**14**	IAmb	IAmb	03 39 51.0	
	comp=Z,11nm,0.8s						
PMR	**Palmer**	**82.61**	**14**	P		03 39 49.8	
	baz=208,SNR=7.2						
PMR	**Palmer**	**82.61**	**14**	IAmb	IAmb	03 39 50.4	
	comp=Z,7.5nm,0.6s						
ELK	**Elko**	**82.73**	**43**	P	**P**	**03 39 52.8**	**+1.4**
	comp=Z,3.3nm,0.9s,baz=265,slow=5.6,SNR=13						
A04D	**Lummi Island**	**82.80**	**34**	P		03 39 52.3	
	baz=233						
ANM	**Nome**	**82.81**	**6**	P		03 39 51.5	
	baz=193						
WUAZ	**Wupatki**	**82.83**	**49**	P		03 39 53.7	
	baz=242						
B05A	**Bryant**	**82.85**	**34**	P		03 39 52.7	
	baz=233						
G08A	**Pilot Rock**	**82.88**	**38**	P	**P**	**03 39 51.9**	**+0.1**
SML	**Sawmill**	**82.98**	**14**	P		03 39 52.0	
	baz=209						
PPLA	**Purkeypile**	**83.14**	**12**	P		03 39 52.9	
	baz=205						
HAWA	**Hanford**	**83.17**	**37**	IAmb	IAmb	03 39 55.5	
	comp=Z,12nm,1.1s						
BMRM	**Bremner River**	**83.17**	**16**	P		03 39 53.1	
	baz=212,SNR=7.6						
BMRM	**Bremner River**	**83.17**	**16**	IAmb	IAmb	03 39 53.6	
	comp=Z,11nm,0.6s						
KLU	**Klutina**	**83.28**	**15**	P		03 39 53.6	
	baz=211						
CRQM	**Cirque**	**83.38**	**17**	IAmb	IAmb	03 39 55.4	
	comp=Z,16nm,1.0s						
CRQE	**Cirque**	**83.39**	**17**	P		03 39 54.4	
	baz=214,SNR=7.4						
YAH	**Yahtse**	**83.45**	**17**	IAmb	IAmb	03 39 56.2	
	comp=Z,13nm,0.7s						
TGL	**Tana Glacier**	**83.47**	**17**	IAmb	IAmb	03 39 55.8	
	comp=Z,15nm,1.2s						
E08A	**Dider Farm, El**	**83.49**	**37**	IAmb	IAmb	03 39 57.0	
	comp=Z,5.9nm,0.7s						
WRAK	**Wrangell Islan**	**83.54**	**24**	P		03 39 55.8	
	baz=224						
PINM	**Pinnacle**	**83.66**	**18**	P		03 39 55.6	
	baz=216						
TABL	**Table Mountain**	**83.68**	**18**	IAmb	IAmb	03 39 57.0	
	comp=Z,15nm,0.7s						
VRDI	**Verde Repeater**	**83.69**	**16**	IAmb	IAmb	03 39 56.4	
	comp=Z,6.4nm,0.7s						
RPSI	**Rantau Prapat**	**83.71**	**275**	IAmb	IAmb	03 39 57.6	
	comp=Z,20nm,0.9s						
N25K	**Chitina, Valde**	**83.71**	**16**	P		03 39 56.0	
	baz=212,SNR=18						
N25K	**Chitina, Valde**	**83.71**	**16**	IAmb	IAmb	03 39 56.9	
	comp=Z,18nm,0.7s						
GRNC	**Granite Creek**	**83.75**	**17**	IAmb	IAmb	03 39 56.9	
	comp=Z,6.6nm,0.6s						
M24K	**T

baz=209
TCOL CIGO, UAF Yank 85.78 13 IAmb IAmb 03 40 06.6
comp=Z,9.2nm,0.9s
COLA College 85.78 13 P 03 40 05.4
baz=209
COLA College 85.78 13 P **P 03 40 05.4 +0.1**
COLA IAmb IAmb 03 40 06.6
comp=Z,9.3nm,0.9s
DLBC Dease Lake 85.86 23 P **P 03 40 07.5 +1.5**
comp=Z,2.0nm,0.7s,baz=188,slow=7.1,SNR=7.3
DLBC Dease Lake 85.86 23 P **P 03 40 06.5 +0.5**
SCRK Sand Creek 85.87 15 P 03 40 06.3
baz=213
IL31 85.89 13 IAmb IAmb 03 40 06.5
comp=Z,4.3nm,0.6s
ILAR Eielson Array 85.89 13 P **P 03 40 05.6 -0.3**
comp=Z,3.0nm,0.4s,baz=220,slow=5.1,SNR=73
ILAR pP **pwP 03 42 11.3 -1.1**
comp=Z,1.6nm,1.0s,baz=228,slow=6.4,SNR=5.9
ILAR PP **PP 03 43 39.4 +2.4**
comp=Z,1.1nm,0.9s,baz=224,slow=7.7,SNR=4.7
ILAR Eielson Array 85.89 13 P **P 03 40 05.5 -0.4**
POKR Poker Plat Res 86.08 13 P 03 40 06.1
baz=210
POKR Poker Plat Res 86.08 13 IAmb IAmb 03 40 07.1
comp=Z,5.8nm,0.6s
TX31 Lajitas Ar. Si 86.10 58 IAmb IAmb 03 40 11.4
comp=Z,9.6nm,0.9s
TXAR Lajitas Array 86.10 58 P **P 03 40 10.5 +2.6**
comp=Z,1.8nm,0.7s,baz=218,slow=6.0,SNR=33
TXAR pP **pwP 03 42 14.8 -0.6**
comp=Z,1.3nm,1.1s,baz=224,slow=5.2,SNR=5.5
TXAR Lajitas Array 86.10 58 P **P 03 40 07.9 0.0**
XAN Xi'an 86.13 307 P **P 03 40 09.8 +1.9**
XAN pmax pmax
comp=Z,10.0nm,1.0s
XAN pmax pmax
comp=Z,140nm,4.1s
XAN Xi'an 86.13 307 P **P 03 40 07.2 -0.6**
XAN IAmb IAmb 03 40 10.3
comp=Z,10nm,1.1s
ANMO Albuquerque 86.19 52 pP pP 03 42 15.1 +3.0
comp=Z,1.8nm,1.0s,baz=227,slow=5.4,SNR=3.5
K27K Chicken 86.38 15 P 03 40 09.4
baz=215
BILL Bilibino 86.39 354 P **P 03 40 08.8 +0.6**
BILL IAmb IAmb 03 40 10.2
comp=Z,4.6nm,0.6s
MLSI Meulaboh, Aceh 86.58 276 P **P 03 40 11.1 +0.7**
comp=Z,74nm,0.8s
MSO Missoula 86.65 38 P 03 40 10.8
baz=240
PRP Porcupine Dome 86.83 13 P 03 40 10.3
baz=211
REDW Red Top Meadow 86.86 43 IAmb IAmb 03 40 13.5
comp=Z,6.0nm,1.0s
S22A 4UR Ranch, Cre 87.10 49 P 03 40 13.7
baz=245
O20A White River Ci 87.14 46 P 03 40 12.7
baz=244
HHC Hu-ho-hao-te 87.15 315 *e*P **P 03 40 10.3 -2.3**
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,150nm,5.9s
EGAK Eagle 87.22 15 P 03 40 12.4
baz=215
EGAK Eagle 87.22 15 IAmb IAmb 03 40 13.5
comp=Z,4.4nm,0.8s
FLWY Flagg Ranch 87.30 42 IAmb IAmb 03 40 16.4
comp=Z,6.2nm,1.0s
YHL Hebgen Lake 87.36 41 IAmb IAmb 03 40 16.9
comp=Z,6.0nm,0.9s
COLD Coldfoot 87.41 11 P 03 40 13.9
baz=207
COLD Coldfoot 87.41 11 IAmb IAmb 03 40 14.7
comp=Z,7.3nm,1.0s
BW06 Boulder Array 87.43 43 IAmb IAmb 03 40 15.9
comp=Z,2.9nm,0.6s
BW06 Boulder Array 87.43 43 P 03 40 14.7
baz=243
PDAR Pinedale Array 87.43 43 P **P 03 40 15.2 +1.2**
comp=Z,2.4nm,0.5s,baz=214,slow=3.6,SNR=35
PDAR pP **pP 03 42 18.4 -0.1**
comp=Z,0.7nm,0.9s,baz=255,slow=4.5,SNR=4.5
PDAR PP **PP 03 43 48.3 -1.6**
comp=Z,1.2nm,1.1s,baz=224,slow=8.3,SNR=4.4
BOZ Bozeman (W) 87.44 40 P 03 40 15.3
baz=241
H17A Grant Village 87.53 42 IAmb IAmb 03 40 18.1
comp=Z,4.7nm,0.9s
H17A Grant Village 87.53 42 P 03 40 17.1
baz=242
KMI Kunming 87.69 297 *e*P **P 03 40 15.5 -0.1**
KMI pmax pmax
comp=Z,8.0nm,0.9s
MSTX Muleshoe 88.59 54 P 03 40 20.5
baz=247
BMAR Burnt Mountain 88.66 12 P **P 03 40 19.5 +0.6**
RLMT Red Lodge 88.69 41 P 03 40 21.4
baz=243
CMAR Chiang Mai Arr 88.74 290 P **P 03 40 22.3 +2.0**
comp=Z,4.5nm,0.9s,baz=108,slow=2.8,SNR=24
TOLK Toolik Lake Re 88.78 10 P 03 40 19.7
baz=208
Q24A Divide 88.80 48 P 03 40 21.2
baz=246
N23A Red Feather La 89.04 46 P 03 40 21.1
baz=245
SNAA Sanae 90.63 179 P **P 03 40 28.2 0.0**
SNAA Sanae 90.63 179 P **P 03 40 28.6 +0.4**
LZH Lanzhou 90.76 308 ⇑P **P 03 40 31.8 +2.2**
LZH pmax pmax
comp=Z,23nm,1.4s
VNA3 Neumayer Olymp 90.78 176 P **P 03 40 29.2 +0.4**
VNA2 Neumayer--Watz 91.21 177 P **P 03 40 31.0 +0.2**
baz=176,slow=4.0
LAO LASA Array 91.28 41 P 03 40 33.2
baz=245
VNA1 Neumayer--Stat 91.44 177 P **P 03 40 32.3 +0.5**
RSSD Black Hills 91.64 44 P 03 40 34.4
baz=247
INK Inuvik 91.90 15 P **P 03 40 34.0 +0.2**
comp=Z,3.6nm,0.8s,baz=214,slow=5.0,SNR=14
INK Inuvik 91.90 15 IAmb IAmb 03 40 34.6
comp=Z,5.0nm,0.8s
DGMT Dagmar 93.26 40 P 03 40 41.7
baz=247
YKA Yellowknife Ar 94.37 25 P **P 03 40 45.6 +0.4**
comp=Z,1.2nm,0.8s,baz=239,slow=4.3,SNR=16
YKA PKKPbc **PKKPdf 03 57 41.1 -2.2**
comp=Z,0.2nm,0.5s,baz=50,slow=2.7,SNR=5.2
C36M Paulatuk 95.11 17 P 03 40 48.9
baz=231
ZALV Zalesovo Beam 108.12 322 PKiKP **PKiKP 03 45 49.4 -0.3**
comp=Z,0.9nm,0.5s,baz=175,slow=1.8,SNR=4.2
MKAR Makanchi Array 109.02 314 PKiKP **PKiKP 03 45 51.2 -0.4**
comp=Z,0.9nm,0.5s,baz=70,slow=4.5,SNR=15
KKAR Karatay Array 117.19 310 PKPdf 03 46 07.1 -0.2
ABKAR Akbulak array 123.82 318 PKiKP 03 46 20.1 -0.1
ARCES ARCESS Array B 126.26 350 PKP **PKiKP 03 46 25.4 +0.9**
comp=Z,2.3nm,0.9s,baz=24,slow=2.5,SNR=11
ARCES ARCESS Array B 126.26 350 PKiKP 03 46 24.9 +0.5
GEYT Alibeck 126.91 304 PKP **PKiKP 03 46 28.8 +2.0**
comp=Z,0.8nm,0.3s,baz=82,slow=3.1,SNR=1.5
GEYT Alibeck 126.91 304 PKPdf 03 46 26.1 -0.1
BOSA Boshof 128.36 207 PKP **PKiKP 03 46 31.0 +0.9**
comp=Z,4.0nm,0.9s,baz=124,slow=3.1,SNR=4.4
FINES FINESS Array B 133.12 344 PKhKP PKPpre 03 46 35.2
comp=Z,1.0nm,0.7s,baz=99,slow=4.4,SNR=4.4
FINES SKPbc **SKPab 03 49 14.4 +0.2**
comp=Z,3.3nm,0.8s,baz=49,slow=2.8,SNR=10.0
NOA NORSAR Array B 136.33 353 PKP **PKiKP 03 46 45.1 0.0**
comp=Z,0.3nm,0.6s,baz=26,slow=2.2,SNR=1.3
AKASG Malin Array Be 140.47 332 PKP **PKPdf 03 46 50.9 -0.1**
comp=Z,0.5nm,0.3s,baz=42,slow=3.2,SNR=4.1
AKASG Malin Array Be 140.47 332 PKPdf 03 46 51.4 +0.4
GAZ Gaziantep 143.21 309 PKPdf **PKPdf 03 46 55.8 -0.6**
BURAR Bucovina Array 144.52 332 ⇓P **PKPab 03 46 59.8 +0.6**
BURAR Bucovina Array 144.52 332 PKPdf **PKPdf 03 46 58.5 +0.1**
BIZ Bicaz 144.62 330 ⇓P **PKPab 03 47 00.1 +0.6**
BR131 Keskin Array S 144.66 315 PKPdf 03 46 58.7 -0.2
BRTR Keskin Array B 144.66 315 PKP **PKPab 03 47 00.0 -0.1**
comp=Z,6.1nm,0.8s,baz=111,slow=2.8,SNR=16
BRTR Keskin Array B 144.66 315 PKPdf **PKPdf 03 46 58.9 -0.1**
TESR Tescani 144.66 329 ⇓P PKPbc 03 46 59.3 +0.3
KOLS Kolonicke sedl 144.72 336 *e*PKP **PKPab 03 47 00.6 +0.8**

KSP Ksiaz 145.04 344 *e*PKP **PKPab 03 47 01.2 +0.2**
NIE Niedzica 145.05 338 *e*PKP **PKPab 03 47 01.4 +0.3**
CRVS Cervenica-Dubn 145.06 337 *e*PKP **PKPab 03 47 01.2 +0.1**
VRI Vrincioaia 145.08 329 ⇓P **PKPab 03 47 00.9 -0.4**
HARR Harsova 145.27 326 ⇑P **PKPbc 03 47 01.1 +0.3**
OSTC Ostas 145.32 343 *e*PKP **PKPab 03 47 01.6 -0.5**
CHVC Chvalec 145.34 344 *e*PKP **PKPab 03 47 02.4 +0.2**
CLL Collm 145.41 347 *i* PKPbc **PKPbc 03 47 01.6 +0.6**
comp=Z,6.0nm,0.9s
UPC Upice 145.42 344 *e*PKP **PKPab 03 47 02.0 -0.5**
DPC Dobruska-Polom 145.48 343 *e*PKP **PKPbc 03 47 01.5 +0.2**
MORC Moravsky Berou 145.64 341 ⇓P **PKPbc 03 47 01.3 -0.4**
MORC Moravsky Berou 145.64 341 *e*PKP **PKPbc 03 47 02.6 +0.8**
DOPR Dopca 145.66 330 ⇓P **PKPab 03 47 03.5 -0.1**
MLR Muntele Rosu 145.74 329 ⇑P **PKPab 03 47 03.9 -0.1**
MBAR Mbarara 145.82 241 PKPdf 03 47 02.5 +0.7
CJR Cluj-Napoca 145.93 332 ⇓P **PKPab 03 47 04.3 -0.3**
VOIR 146.21 330 ⇑P **PKPbc 03 47 03.8 +0.3**
DRGR 146.25 333 ⇑P **PKPbc 03 47 04.4 +0.8**
PRU Pruhonice 146.28 345 *e*PKP **PKPab 03 47 06.8 +0.9**
VRAC Vranov 146.34 342 *e*PKP **PKPbc 03 47 04.4 +0.7**
VYHS Vyhne 146.34 339 *e*PKP **PKiKP 03 47 05.0 -1.0**
ARR Arges 146.46 330 ⇑P **PKiKP 03 47 06.0 -0.4**
KRUC Moravsky 146.62 342 *e*PKP **PKPbc 03 47 04.8 +0.4**
SMOL Smolenice 146.79 340 *e*PKP **PKiKP 03 47 06.6 -0.3**
MODS Modra-Piesok 146.96 341 *e*PKP **PKiKP 03 47 07.1 -0.1**
SRO Srobarova 147.11 339 *e*PKP **PKPbc 03 47 06.4 +0.7**
GZR Gura Zlata 147.31 332 ⇓P **PKPbc 03 47 06.8 +0.3**
KHC Kasperske Hory 147.31 345 *e*PKP **PKPbc 03 47 06.1 -0.2**
CKRC Cesky Krumlov 147.32 344 *e*PKP **PKPbc 03 47 07.1 +0.5**
GERES GERESS Array B 147.55 345 PKPbc **PKPbc 03 47 07.8 +0.7**
comp=Z,2.4nm,0.5s,baz=31,slow=2.9,SNR=25
GERES PKPab **PKPab 03 47 11.8 +0.6**
comp=Z,0.6nm,0.4s,baz=27,slow=3.9,SNR=6.7
GERES GERESS Array B 147.55 345 PKPbc **PKPbc 03 47 07.2 +0.2**
CONA Conrad Observa 147.79 342 *i* P **PKiKP 03 47 08.8 -0.3**
comp=Z,5.7nm,0.9s
HERR Herculane 147.86 331 ⇓P **PKPbc 03 47 07.7 -0.1**
PLVB Pleven 147.90 327 ⇑P **PKPbc 03 47 08.6 +0.7**
MORH Mrgy, Hungar 148.35 337 *e*P **PKPbc 03 47 08.2 -0.8**
ARSA Arzberg 148.50 342 *e*P **PKPbc 03 47 08.8 -0.6**
comp=Z,3.9nm,1.0s
FRGS Fruska Gora 148.77 335 *e*P **PKPbc 03 47 10.3 +0.2**
BOVS Bovan 149.15 331 ⇓P **PKPbc 03 47 11.0 0.0**
VTS Vitosha 149.16 328 ⇓P **PKPbc 03 47 11.4 +0.1**
VTS Vitosha 149.16 328 PKPbc 03 47 11.2 -0.1
SOKA Soboth 149.16 342 *e*P **PKPbc 03 47 11.3 +0.2**
comp=Z,3.6nm,0.9s
PERS Pernice 149.18 341 *i* PKPbc **PKPbc 03 47 11.1 +0.1**
KALN Kalnik 149.20 339 *i* P **PKPbc 03 47 11.1 0.0**
KBA Koelnbreinsper 149.28 344 *e*P **PKPbc 03 47 11.3 -0.2**
comp=Z,2.8nm,0.5s
WATA Walderalm 149.47 346 *i* P **PKPbc 03 47 12.2 +0.3**
comp=Z,1.8nm,0.5s
RETA Rette 149.50 348 *i* P **PKiKP 03 47 12.4 -0.2**
comp=Z,5.8nm,1.3s
WTTA Wattenberg 149.52 346 *i* P **PKiKP 03 47 12.6 -0.2**
comp=Z,3.1nm,0.4s
DIVS Divibare 149.55 333 *e*P **PKPbc 03 47 12.4 +0.3**
MOTA Moosalm 149.56 347 *i* P **PKiKP 03 47 12.5 -0.3**
comp=Z,9.5nm,1.3s
MYKA Terra Mystica 149.61 343 *i* P **PKPbc 03 47 11.9 -0.2**
comp=Z,3.8nm,0.6s
SQTA Sant Quirin 149.66 347 *i* P **PKiKP 03 47 12.9 -0.1**
comp=Z,5.3nm,0.7s
CRES Cresnjev 149.79 340 *e*P **PKPbc 03 47 12.3 -0.2**
ABTA Abfaltersbach 149.80 345 *i* P **PKPbc 03 47 12.5 -0.1**
comp=Z,6.0nm,0.7s
DAVA Damuels 149.86 349 *i* P **PKiKP 03 47 13.6 +0.1**
comp=Z,4.0nm,0.8s
FETA Feichten 149.95 347 *e*P **PKiKP 03 47 13.7 +0.1**
comp=Z,6.3nm,1.0s
BBLS Lazići 149.99 334 *e*P **PKPbc 03 47 13.4 +0.3**
HAPS Han Pijesak,Bl 150.00 334 *e*P **PKPbc 03 47 13.0 -0.2**
GBAS Gorenja Brezov 150.01 342 *i* PKPbc **PKiKP 03 47 13.4 -0.3**
BLY Banja Luka 150.14 337 *e*P **PKPbc 03 47 13.6 +0.3**
BOJS Bojanci 150.15 340 *i* PKPbc **PKiKP 03 47 14.2 +0.3**
CEY Cerknica 150.19 342 *e*P **PKPbc 03 47 13.3 -0.2**
RUDO Rudo 150.21 333 *e*P **PKPbc 03 47 13.2 -0.3**
MGRS Mrkonjic Grad 150.46 337 *e*P PKPdf 03 46 57.5 -11
UDBI Udbina 150.84 339 *i* P **PKPbc 03 47 15.1 +0.1**
KIJV Kijevo 151.06 337 *i* P **PKPbc 03 47 15.6 +0.1**
NVLJ Novalja 151.11 340 *i* P **PKPbc 03 47 15.1 -0.4**
PDG Podgorica 151.21 332 *e*P **PKPbc 03 47 15.1 -0.7**
RICI Ricice 151.22 336 P **PKPbc 03 47 15.7 -0.2**
TREB Trebinje 151.37 333 *e*P **PKPbc 03 47 15.8 -0.4**
DRME Dracevica, Mon 151.44 332 *e*P **PKPbc 03 47 16.1 -0.3**
MORI Morici 151.44 338 *i* P **PKPbc 03 47 16.2 -0.1**
STON Ston 151.52 334 *i* P **PKPbc 03 47 14.9 -1.6**
DUGI Dugi Otok 151.55 339 *i* P **PKPbc 03 47 16.5 0.0**
ESDC Sonseca Array 157.78 11 PKPab **PKPab 03 47 55.0 +0.2**
comp=Z,1.1nm,0.9s,baz=336,slow=3.7,SNR=5.9
ESDC Sonseca Array 157.78 11 PKPab 03 47 54.8 0.0
TORD Torodi Ar. Bea 175.29 183 PKP **PKPdf 03 47 31.7 -0.4**
comp=Z,1.6nm,0.9s,baz=135,slow=1.2,SNR=6.9
TORD PKPab **PKPab 03 49 13.0 +0.5**
comp=Z,2.0nm,0.6s,baz=182,slow=3.7,SNR=11
TORD PP **PP 03 53 05.3 +1.3**
comp=Z,0.9nm,0.8s,baz=175,slow=5.4,SNR=3.8

TAP 24 03:36:08.1,24.15N×121.61E,h4km,ML1.4,1C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.03**	**330**	⇑P	Pg	03 36 09.6	+0.5
	baz=329						
NACB				S	Sg	03 36 10.4	+0.6
	baz=329						
TWD	**Chiawan**	**0.07**	**194**	*i* P	Pg	03 36 10.3	+0.8
	baz=186						
TWD				S	Sg	03 36 11.6	+1.0
	baz=186						
ETLH	**Xiulin Townshi**	**0.14**	**297**	*e*P	Pg	03 36 11.6	+0.7
	baz=297						
ETLH				S	Sg	03 36 14.2	+1.6
	baz=297						
HWA	**Hwalien**	**0.17**	**183**	*e*P	Pg	03 36 11.9	+0.5
	baz=179						
HWA				*e*S	Sg	03 36 15.1	+1.5
	baz=179						
ENA	**Nanau**	**0.30**	**22**	P	Pb	03 36 15.8	-0.3
	baz=23						
ENA				S	Sb	03 36 20.6	-0.8
	baz=23						
WHF	**Wehuan Shan**	**0.32**	**270**	P	Pb	03 36 15.7	-0.9
	baz=269						
WHF				S	Sb	03 36 20.6	-1.6
	baz=269						
EWUT	**Wuta**	**0.34**	**27**	*e*S	Sb	03 36 21.5	-0.8
	baz=26						
FUSS	**Fushou**	**0.35**	**287**	*e*P	Pb	03 36 16.2	-0.8
	baz=286						
FUSS				*e*S	Sb	03 36 22.4	-0.6
	baz=286						
NNSB	**Datong**	**0.35**	**323**	P	Pb	03 36 16.4	-0.6
	baz=323						
NNSB				*e*S	Sb	03 36 22.1	-0.9
	baz=323						
NNSH	**Datong**	**0.35**	**323**	*e*P	Pb	03 36 16.0	-0.9
	baz=323						
NNSH				*e*S	Sb	03 36 21.9	-1.0
	baz=323						
NNS	**Nan Shan**	**0.37**	**323**	*e*P	Pg	03 36 16.2	+1.0
	baz=324						
NNS				S	Sb	03 36 22.6	-0.7
	baz=324						
ESL	**Shilin**	**0.37**	**207**	*e*P	Pb	03 36 16.7	-0.5
	baz=205						
ESL				*e*S	Sb	03 36 23.0	-0.2
	baz=205						
CHGB	**Renai**	**0.41**	**258**	*e*P	Pb	03 36 17.4	-0.6
	baz=258						
CHGB				*e*S	Sb	03 36 24.4	-0.3
	baz=258						
NDT	**Datong Townshi**	**0.47**	**349**	*e*S	Sb	03 36 26.6	+0.5
	baz=348						
ENTT	**Nioudou**	**0.49**	**355**	*e*P	Pb	03 36 18.6	-0.8
	baz=355						
ENTT				*e*S	Sb	03 36 26.7	-0.2
	baz=355						
NDS	**Dongshan**	**0.49**	**11**	*e*P	Pg	03 36 18.5	+0.8
	baz=10.0						
NDS				*e*S	Sb	03 36 27.0	+0.1
	baz=10.0						

JMA 24 03:36:33.8,24.40N×123.77E,h7km±1km,M2.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.07**	**209**	P	Pg	03 36 35.6	-0.1
IRIF				S	Sg	03 36 37.2	+0.2
JKRS	**Kuro-shima**	**0.27**	**127**	P	Pg	03 36 39.2	0.0
JKRS				S	Sg	03 36 43.6	+0.8
JIJ	**Ishigaki jima**	**0.34**	**96**	P	Pg	03 36 40.4	-0.1
JIJ				S	Sg	03 36 45.2	+0.2
HATJ	**Hateruma jima**	**0.34**	**175**	P	Pg	03 36 40.4	-0.1
HATJ				S	Sg	03 36 45.3	+0.3
JISG	**Ishigakijimahi**	**0.53**	**69**	P	Pg	03 36 44.1	+0.1
JISG				S	Sg	03 36 52.0	+1.1
YOJ	**Yonaguni jima**	**0.69**	**275**	P	Pg	03 36 47.5	+0.3
YOJ				S	Sg	03 36 56.5	+0.3
JYNG	**Yonagunijimaku**	**0.75**	**274**	P	Pb	03 36 48.8	-0.4
JYNG				S	Sg	03 36 58.5	+0.4
JTJ	**Tarama**	**0.88**	**74**	P	Pg	03 36 50.7	-0.1
JTJ				S	Sb	03 37 03.1	-0.3

*IDC **24** 03:39:42.6±1.3,2.87S×139.37E,h0km,mb3.6/4, mb1 3.9/5,mb1mx3.6/39,mbtmp3.7/5,ML3.3/1,Error ellipse: s-maj=31.9km s-min=14.1km az=153.0*

ISC 24 03:39:48.3±1.2,3.0S±0.2×139.6E±0.2,h46km,n6,σ1§69/6, mb3.5/3,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.23**	**69**	Pg	**Pn**	**03 40 08.5**	**-0.6**
	9.2nm,0.3s,baz=258,slow=12,SNR=15						
JAY				Lg	Lg	03 40 26.5	
	31nm,0.3s,baz=294,slow=20,SNR=10						
WRA	**Warramunga Arr**	**17.64**	**196**	P	**Pn**	**03 43 49.4**	**-1.3**
	0.1nm,0.3s,baz=17,slow=12,SNR=4.1						
FITZ	**Fitzroy Crossi**	**20.31**	**221**	P	**P**	**03 44 20.1**	**-0.4**
	4.7nm,1.1s,baz=45,slow=8.6,SNR=2.3						
ASAR	**Alice Springs**	**21.30**	**194**	P	**P**	**03 44 30.6**	**-0.7**
	1.0nm,0.5s,baz=23,slow=9.8,SNR=16						
MKAR	**Makanchi Array**	**70.50**	**322**	P	**P**	**03 50 58.1**	**-0.2**
	0.3nm,0.8s,baz=114,slow=5.2,SNR=2.5						
VNDA	**Vanda**	**75.47**	**175**	P	**P**	**03 51 29.5**	**+2.4**
	0.9nm,0.8s,baz=308,slow=6.5,SNR=5.0						

*IDC **24** 03:40:49.5±0.5,2.72S×139.33E,h0km,mb4.3/16, mb1 4.5/18,mb1mx4.3/38,mbtmp4.4/18,ML4.4/2,MS3.9/10, Ms1 3.9/10,ms1mx3.6/27,Error ellipse: s-maj=13.2km s-min=12.5km az=25.0*

*DJA **24** 03:40:55.3±0.5,3.3S±4.3×13.9E±7.3,h33km±6km,M4.6/27, mB5.1/9,mb4.8/27,MLv4.7/4,Mw(mB)4.5/9*

*NEIC **24** 03:40:57.0±1.5,2.88S±0.06×139.12E±0.07,h55km±4km, mb4.6/50,Error ellipse: s-maj=10.9km s-min=9.1km az=110.0*

ISC 24 03:40:51.4±0.3,2.81S±0.05×139.33E±0.04,h10km,n124, σ1§86/126,mb4.6/44,MS3.8/6,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.87**	**75**	P	**Pn**	**03 41 09.8**	**+0.1**
GENI				S	**Sn**	**03 41 22.0**	**-0.4**
JAY	**Jayapura**	**1.41**	**78**	Pg	**Pn**	**03 41 16.0**	**-1.1**
	240nm,0.3s,baz=244,slow=14,SNR=23						
JAY				Lg	Lg	03 41 33.4	
	302nm,0.3s,baz=255,slow=20,SNR=12						
JAY				LR	LR	03 42 03.2	
	comp=Z,2μm,19.5s,baz=38,slow=53						
JAY	**Jayapura**	**1.41**	**78**	P	**Pn**	**03 41 16.3**	**-0.9**
JAY				S	**Sb**	**03 41 33.8**	**-2.0**
SRPI	**Serui, Papua**	**3.23**	**287**	P	**Pn**	**03 41 45.2**	**+3.0**
SRPI				S	**Sn**	**03 42 20.7**	**0.0**
BAKI	**Biak**	**3.60**	**297**	P	**Pn**	**03 41 48.0**	**+0.7**
FAKI	**Fak Fak**	**7.07**	**269**		**Pn**	**03 42 35.4**	**+0.3**
MANU	**Manus Island**	**8.07**	**85**	Pn	Pn	03 42 53.8	+5.0
SIJI	**Sorong**	**8.29**	**283**	Pn	**Pn**	**03 42 53.4**	**+1.6**
	11nm,0.3s,baz=68,slow=13,SNR=16						
SIJI				Sn	**Sn**	**03 44 24.4**	**-1.1**
	1.9nm,0.3s,baz=142,slow=19,SNR=1.9						
SIJI				LR	LR	03 46 51.3	
	comp=Z,857nm,19.6s,baz=92,slow=44						
SWI	**Sorong**	**8.29**	**283**	P	**Pn**	**03 42 55.2**	**+3.4**
	48nm,0.6s						
PMG	**Port Moresby**	**10.17**	**130**	Pn	Pn	03 43 23.6	+6.0
	2.4nm,0.3s,baz=302,slow=9.5,SNR=5.4						
PMG				Sn	**Sn**	**03 45 16.8**	**+4.9**
	1.2nm,0.3s,baz=275,slow=19,SNR=1.2						
PMG				LR	LR	03 48 23.0	
	comp=Z,384nm,21.0s,baz=308,slow=44						
PMG	**Port Moresby**	**10.17**	**130**	Pn	**Pn**	**03 43 22.0**	**+4.4**
PMG	**Port Moresby**	**10.17**	**130**	P	Pn	03 43 24.0	+6.4
COEN	**Coen**	**11.71**	**161**		**Pn**	**03 43 40.9**	**+2.2**
NLAI	**Namlea**	**12.22**	**268**	P	**Pn**	**03 43 47.0**	**+1.3**
	4μm55nm,1.0s						
MTN	**Manton Dam**	**12.85**	**219**		**Pn**	**03 43 54.1**	**-0.2**
SANI	**Sanana**	**13.35**	**273**	P	**Pn**	**03 44 01.5**	**+0.4**
	865nm120nm,0.7s						
SOEI	**Soe**	**16.48**	**245**	Pn	**Pn**	**03 44 41.7**	**-1.2**
SOEI	**Soe**	**16.48**	**245**	P	**P**	**03 44 48.4**	**+2.7**
	176nm,1.1s						
KNRA	**Kununurra**	**16.48**	**218**	Pn	**Pn**	**03 44 42.1**	**-0.9**
KNRA				IAmb	IAmb	03 44 55.8	
	comp=Z,43nm,0.8s						
LUWI	**Luwuk**	**16.64**	**276**	Pn	**Pn**	**03 44 43.8**	**-1.1**
LUWI				IAmb	IAmb	03 44 55.5	
	comp=Z,34nm,0.9s						
LUWI	**Luwuk**	**16.64**	**276**	P	**Pn**	**03 44 45.0**	**0.0**
	comp=Z,62nm,1.0s						
GTOI	**Gorontalo**	**16.67**	**282**	P	**P**	**03 44 51.0**	**+3.3**
	comp=Z,16nm,1.0s						
BATI	**Baumata**	**17.20**	**244**	P	**P**	**03 44 56.0**	**+2.3**
	comp=Z,10nm,0.3s,baz=103,slow=14,SNR=8.4						
BATI	**Baumata**	**17.20**	**244**	P	**P**	**03 44 56.5**	**+2.9**
	comp=Z,894nmcomp=Z,113nm,1.0s						
WB0	**Warramunga Arr**	**17.53**	**196**	P	**Pn**	**03 44 54.4**	**-1.7**
WB0				IAmb	IAmb	03 45 11.9	
	comp=Z,45nm,0.9s						
WR0	**Warramunga Arr**	**17.67**	**195**	P	**Pn**	**03 44 56.8**	**-1.1**
WR0				IAmb	IAmb	03 45 15.1	
	comp=Z,31nm,0.7s						
WR0				Sn	**Sn**	**03 48 11.1**	**-3.9**
MRSI	**Marisa**	**17.69**	**280**	P	**P**	**03 44 59.9**	**+0.9**
	comp=Z,22nm,1.1s						
WRAB	**Tennant Creek**	**17.70**	**196**	P	**Pn**	**03 44 57.5**	**-0.7**
WRAB				IAmb	IAmb	03 45 16.3	
	comp=Z,48nm,1.1s						
WB2	**Warramunga Arr**	**17.71**	**196**	P	**Pn**	**03 44 58.1**	**-0.2**
WB2				IAmb	IAmb	03 45 12.2	
	comp=Z,39nm,0.8s						
WRA	**Warramunga Arr**	**17.71**	**196**	P	**Pn**	**03 44 57.0**	**-1.4**
	comp=Z,2.0nm,0.3s,baz=15,slow=13,SNR=17						
WRA				S	**Sn**	**03 48 08.2**	**-7.7**
	comp=Z,0.8nm,0.3s,baz=12,slow=22,SNR=4.6						
WRA				Lg	Lg	03 50 17.7	
	baz=27,slow=25,SNR=1.7						
WRA				LR	LR	03 52 32.3	
	comp=Z,1μm,18.1s,baz=10.0,slow=40						
WRA	**Warramunga Arr**	**17.71**	**196**	P	**Pn**	**03 44 58.4**	**+0.1**
APSI	**Ampana**	**17.77**	**276**	P	**P**	**03 45 00.7**	**+0.8**
	comp=Z,494nmcomp=Z,37nm,1.1s						
CTA	**Charters Tower**	**18.45**	**159**	P	**Pn**	**03 45 08.6**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=334,slow=11,SNR=8.8						
CTA				Lg	Lg	03 50 39.8	
	comp=Z,0.3nm,0.3s,baz=260,slow=15,SNR=3.7						
CTAO	**Charters Tower**	**18.45**	**159**	P	**Pn**	**03 45 09.5**	**+2.1**
EDFI	**Ende, Flores**	**18.51**	**251**	P	**P**	**03 45 08.0**	**-0.1**
	comp=Z,8.1nm,1.1s						
TOLI2	**Tolitoli**	**18.95**	**282**	P	**P**	**03 45 12.7**	**-0.2**
BNSI	**Bone**	**19.25**	**265**	P	**Pn**	**03 45 21.2**	**+4.0**
	comp=Z,30nm,1.0s						
TTSI	**Tana Toraja**	**19.48**	**269**	P	**Pn**	**03 45 22.3**	**+2.3**
	comp=Z,1μmcomp=Z,28nm,0.9s						
SPSI	**S

comp=Z,24nm,1.1s,baz=90,slow=15,SNR=4.2
FITZ LR LR 03 54 04.8
FITZ Fitzroy Crossi 20.27 221 P **P** **03 45 26.1 -1.2**
FITZ IAmb IAmb 03 45 27.8
comp=Z,20nm,0.8s
AS31 Alice Springs 21.38 194 P **P** **03 45 39.0 -0.4**
AS31 IAmb IAmb 03 45 58.0
comp=Z,12nm,0.6s
ASAR Alice Springs 21.39 194 P **P** **03 45 39.5 +0.1**
comp=Z,7.4nm,0.7s,baz=22,slow=10.0,SNR=18
ASAR S **S** **03 49 40.0 +3.1**
comp=Z,7.1nm,0.9s,baz=5.7,slow=23,SNR=6.1
ASAR Lg Lg 03 52 13.0
comp=Z,19nm,1.1s,baz=11,slow=29,SNR=4.1
ASAR LR LR 03 54 38.3
comp=Z,931nm,18.5s,baz=10,slow=39
ASAR Alice Springs 21.39 194 P **P** **03 45 38.7 -0.7**
MYLDM Lahad Datu 22.27 291 P **P** **03 45 47.9 -1.0**
MYLDM IAmb IAmb 03 46 03.1
comp=Z,16nm,0.7s
TWSI Taliwang, Sumb 23.09 254 P **P** **03 45 56.7 -0.9**
comp=Z,899nmcomp=Z,11nm,1.3s
BBKI Banjar Baru 24.46 268 P **P** **03 46 13.0 +2.1**
comp=Z,4µmcomp=Z,39nm,1.0s
SRBI Singaraja 24.56 257 P **P** **03 46 12.4 +0.6**
comp=Z,32nm,0.9s
EIDS Eidsvold 25.12 154 P **P** **03 46 17.5 +0.8**
EIDS IAmb IAmb 03 46 30.2
comp=Z,24nm,1.0s
KMMI Kalianget 25.61 260 P **P** **03 46 23.5 +2.2**
comp=Z,82nm,1.1s
PSA00 Pilbara Seismi 26.58 224 P **P** **03 46 29.3 -0.7**
PSA00 IAmb IAmb 03 46 43.3
comp=Z,16nm,0.8s
STKA Stephens Creek 28.99 176 P **P** **03 46 51.2 -0.3**
comp=Z,2.2nm,0.6s,baz=340,slow=10.0,SNR=5.6
STKA Stephens Creek 28.99 P **P** **03 46 51.1 -0.3**
FORT Forrest 29.79 200 P **P** **03 46 57.9 -0.6**
BBOO Buckleboo 30.00 186 P **P** **03 46 59.1 -1.3**
BBOO IAmb IAmb 03 47 04.9
comp=Z,19nm,1.1s
GIRL Giralia 31.32 229 P **P** **03 47 10.3 -1.9**
MORW Morawa 34.24 218 P **P** **03 47 35.5 -2.1**
MDSI Maura Dua 35.12 266 P **P** **03 47 44.8 -0.6**
comp=Z,19nm,1.3s
H11N1 WAKE ISLAND Hy 35.13 49 T T 04 24 18.5
baz=233
H11N2 WAKE ISLAND Hy 35.15 49 T T 04 24 18.9
baz=233
H11N3 WAKE ISLAND Hy 35.15 49 T T 04 24 19.5
baz=233
NWAO Narrogin (SRO) 36.42 212 P **P** **03 47 56.1 -0.3**
NWAO IAmb IAmb 03 48 14.4
comp=Z,10nm,1.1s
NJ2 Nanjing 39.75 332 *e*P **P** **03 48 26.8 +2.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
RPSI Rantau Prapat 40.76 277 P **P** **03 48 30.7 -2.4**
RPSI IAmb IAmb 03 48 39.8
comp=Z,13nm,1.1s
KSRS Korea Array 41.44 346 P **P** **03 48 35.9 -2.5**
comp=Z,0.8nm,0.5s,baz=160,slow=7.6,SNR=2.3
CMAR Chiang Mai Arr 45.02 300 P **P** **03 49 07.3 -0.3**
comp=Z,1.1nm,0.3s,baz=120,slow=6.5,SNR=8.4
CMAR PcP **PcP** **03 50 48.8 +0.1**
comp=Z,0.7nm,0.3s,baz=127,slow=2.4,SNR=0.9
CMAR LR LR 04 11 46.6
comp=Z,34nm,18.3s,baz=184,slow=41
CMAR Chiang Mai Arr 45.02 300 P **P** **03 49 06.3 -1.3**
CM31 Chiang Mai Arr 45.02 300 P **P** **03 49 05.6 -2.1**
XAN Xi'an 46.52 325 P **P** **03 49 19.0 -0.3**
XAN pmax pmax
comp=Z,4.0nm,0.9s
USRK Ussuriysk Ar. 47.26 353 P **P** **03 49 22.0 -2.9**
comp=Z,2.2nm,0.6s,baz=133,slow=15,SNR=3.5
USRK LR LR 04 05 47.8
comp=Z,108nm,20.8s,baz=174,slow=32
CD2 Chengdu 47.67 317 P **P** **03 49 26.3 -2.1**
CD2 pmax pmax
comp=Z,20nm,1.2s
TUWZ Tuamarina 49.44 146 P **P** **03 49 41.8 +0.1**
RPZ Rata Peaks 49.49 150 P **P** **03 49 44.2 +2.1**
AFI Afiamalu 49.51 106 LR LR 04 10 24.1
comp=Z,63nm,18.5s,baz=238,slow=36
LBZ Lake Benmore 49.55 151 P **P** **03 49 44.5 +1.9**
KHZ Kahutara 49.88 147 P **P** **03 49 45.6 +0.5**
KHZ IAmb IAmb 03 49 46.4
comp=Z,8.0nm,0.7s
HHC Hu-ho-hao-te 50.30 333 *e*P **P** **03 49 48.8 +0.3**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,85nm,5.6s
LZH Lanzhou 50.94 323 *e*P **P** **03 49 56.0 +2.6**
LZH pP sP 03 50 08.4 +11
LZH sP pP 03 50 14.6 +18
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,120nm,6.2s
KLR Kul'dur 52.25 354 P **P** **03 50 02.8 +0.1**
comp=Z,2.5nm,0.8s,baz=160,slow=5.2,SNR=8.4
KLR LR LR 04 08 43.5
comp=Z,71nm,19.1s,baz=200,slow=32
GTA Gaotai 55.52 323 *e*P **P** **03 50 28.3 +1.2**
GTA pP sP 03 50 32.8 +1.2
GTA sP pP 03 50 35.0 +4.7
GTA pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 58.08 334 P **P** **03 50 45.1 +0.1**
comp=Z,0.5nm,0.7s,baz=130,slow=5.8,SNR=4.1
SONM Songino Array 58.08 334 P **P** **03 50 47.1 +2.1**
WMQ Urumqi 65.47 321 *e*P **P** **03 51 36.4 +1.5**
SEY Seymchan 66.31 6 P **P** **03 51 40.0 +0.2**
comp=Z,0.6nm,0.4s,baz=200,slow=12,SNR=1.6
MK31 Makanchi Array 70.25 322 P **P** **03 52 04.5 -0.4**
MKAR Makanchi Array 70.25 322 P **P** **03 52 04.5 -0.4**
comp=Z,2.7nm,0.7s,baz=111,slow=7.8,SNR=26
MAKZ Makanchi 70.45 322 P **P** **03 52 06.5 +0.4**
PPT Papeete 71.14 108 P **P** **03 52 10.9 +0.1**
comp=Z,20nm,0.8s,baz=355,slow=12,SNR=1.9
KSH Kashi 71.60 313 P **P** **03 52 14.4 +1.0**
KSH pmax pmax
comp=Z,11nm,1.3s
KSH pmax pmax
comp=Z,250nm,6.2s
ZAA0 Zalesovo Array 72.33 330 P **P** **03 52 17.2 -0.1**
ZALV Zalesovo Beam 72.33 330 P **P** **03 52 16.1 -1.3**
comp=Z,2.2nm,0.6s,baz=113,slow=6.8,SNR=9.3
ZALV Zalesovo Beam 72.33 330 P **P** **03 52 16.3 -1.0**
TIXI Tiksi 74.64 357 P **P** **03 52 29.9 -0.6**
comp=Z,1.7nm,0.4s,baz=104,slow=4.2,SNR=2.1
VNDA Vanda 75.62 175 P **P** **03 52 37.1 +0.9**
comp=Z,11nm,0.8s,baz=322,slow=6.3,SNR=53
VNDA Vanda 75.62 175 P **P** **03 52 37.1 +0.9**
SBA Scott Base 76.38 174 P **P** **03 52 42.6 +2.1**
BRVK Borovoye 79.82 325 P **P** **03 53 00.0 0.0**
SVW2 Sparrevohn 80.69 27 P **P** **03 53 03.9 -0.6**
SVW2 IAmb IAmb 03 53 20.0
comp=Z,6.3nm,1.1s
SUA Susitna One 83.00 27 P **P** **03 53 17.4 +0.6**
RC01 Rabbit Creek A 83.34 28 P **P** **03 53 18.2 -0.2**
RC01 IAmb IAmb 03 53 19.9
comp=Z,5.2nm,0.8s
IMAR Indian Mountai 83.35 22 P **P** **03 53 18.2 -0.2**
GHO Glory Hole Cre 83.92 27 P **P** **03 53 22.1 +0.5**
SML Sawmill 84.20 27 P **P** **03 53 23.4 +0.4**
SML IAmb IAmb 03 53 24.4
comp=Z,5.8nm,0.8s
RND Reindeer 84.45 25 P **P** **03 53 24.1 -0.1**
RND IAmb IAmb 03 53 32.7
comp=Z,4.5nm,0.9s
SCM Sheep Creek Mo 84.67 27 P **P** **03 53 25.9 +0.5**
I23K Minto, Yukon-K 84.78 24 P **P** **03 53 25.6 -0.1**
GEYT Alibeck 84.79 308 P **P** **03 53 26.8 +0.3**
comp=Z,1.5nm,0.5s,baz=69,slow=4.8,SNR=2.5
GEYT Alibeck 84.79 308 P **P** **03 53 24.1 -2.4**
GEYT IAmb IAmb 03 53 31.6
comp=Z,3.0nm,0.9s
ABKAR Akbulak array 85.20 320 P **P** **03 53 26.8 -1.4**
CCB Clear Creek Bu 85.26 24 P **P** **03 53 27.3 -0.8**
CCB IAmb IAmb 03 53 35.7
comp=Z,6.5nm,1.2s
IL31 85.67 24 P **P** **03 53 28.9 -1.2**
IL31 IAmb IAmb 03 53 40.3
comp=Z,4.4nm,1.1s
ILAR Eielson Array 85.67 24 P **P** **03 53 28.8 -1.5**
comp=Z,1.7nm,0.8s,baz=263,slow=4.5,SNR=18
QSPA South Pole Qui 87.13 180 P **P** **03 53 37.9 +0.3**
BMAR Burnt Mountain 87.27 22 P **P** **03 53 37.7 -0.3**
BCAR Beaver Creek A 87.46 27 P **P** **03 53 39.0 -0.1**
K27K Chicken 87.53 26 P **P** **03 53 39.4 +0.1**
K27K IAmb IAmb 03 53 44.4
comp=Z,3.2nm,1.1s
EGAK Eagle 88.06 25 P **P** **03 53 42.4 +0.6**
EGAK IAmb IAmb 03 53 50.8
comp=Z,3.4nm,0.9s
DAWY Dawson 88.69 26 P **P** **03 53 45.9 +1.0**
DAWY IAmb IAmb 03 53 54.3
comp=Z,6.9nm,1.1s
ARCES ARCESS Array B 100.81 341 P **Pdif** **03 54 37.4 -2.8**
comp=Z,3.3nm,0.9s,baz=51,slow=7.1,SNR=5.8
TORD Torodi Ar. Bea 136.88 286 PKP **PKPdf** **04 00 14.6 -0.9**
comp=Z,1.5nm,0.8s,baz=46,slow=2.0,SNR=8.0
DBIC Dimbokro 144.11 277 PKP **PKPab** **04 00 25.6 -0.6**
comp=Z,5.2nm,0.6s,baz=84,slow=2.7,SNR=10
CPUP Villa Florida 146.85 152 PKPbc **PKPbc** **04 00 35.1 +0.4**
comp=Z,1.3nm,0.6s,baz=192,slow=1.8,SNR=5.3
LPAZ La Paz 146.88 126 PKPbc **PKPbc** **04 00 35.7 -0.2**
comp=Z,2.6nm,1.0s,baz=288,slow=3.2,SNR=5.4

*IDC **24** 03:44:59.8±6.0, 35.°35N×29.°57E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.3/40, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=108.4km s-min=28.8km az=150.0*
*ISK **24** 03:45:00.9, 35.°28N×29.°49E, h28km, ML3.0/31*
*NIC **24** 03:45:02.7±0.0, 35.°21N×29.°54E, h36km±21km, Ml3.6/4*
*ATH **24** 03:45:03.3, 35.°38N×29.°46E, h73km±10km, ML2.5/2, Error ellipse: s-maj=10.9km s-min=2.5km az=90.0*
*HLW **24** 03:45:04.3, 34.°98N×29.°40E, h19km±18km, Md3.9*
*DDA **24** 03:45:05.0, 35.°47N×29.°37E, h26km±16km, ML2.6*
ISC 24 03:45:01.5±1.4, **35.°25N**±0.°03×**29.°48E**±0.°03, **h27**km±14km, **n102**, σ1°**56**/124, **1C-1D**, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.90**	**5**	P	**Pb**	**03 45 19.1**	**+0.6**
KSL				AML	AML	03 45 32.4	
	comp=N,477µm,0.4s						
KSL				AML	AML	03 45 46.6	
	comp=E,638µm,0.5s						
KSL	**Kastellorizon**	**0.90**	**5**	P	**Pb**	**03 45 19.4**	**+0.9**
KSL				S	**Sn**	**03 45 32.3**	**+1.7**
AKAS	**Kas**	**0.99**	**6**	PG	**Pn**	**03 45 19.0**	**-0.7**
AKAS	**Kas**	**0.99**	**6**	*i* P	**Pn**	**03 45 19.9**	**+0.2**
AKAS				*i* S	**Sn**	**03 45 26.0**	**-6.9**
AKUM	**Antalya-Kumluc**	**1.28**	**33**	*i* P	**Pb**	**03 45 25.7**	**+0.8**
FETY	**Fethiye**	**1.42**	**347**	PN	**Pn**	**03 45 24.7**	**-0.9**
FETY				SN	**Sn**	**03 45 42.7**	**-0.7**
FETY	**Fethiye**	**1.42**	**347**	*i* P	**Pn**	**03 45 25.1**	**-0.5**
FETY				*i* S	**Sn**	**03 45 42.4**	**-1.0**
ARG	**Arkhangelos**	**1.47**	**312**	P	**Pn**	**03 45 26.6**	**+0.4**
ARG				AML	AML	03 46 06.9	
	comp=E,191µm,0.7s						
ARG				AML	AML	03 46 12.2	
	comp=N,187µm,1.0s						
ARG	**Arkhangelos**	**1.47**	**312**	PN	**Pn**	**03 45 25.9**	**-0.3**
ARG	**Arkhangelos**	**1.47**	**312**	P	**Pn**	**03 45 27.2**	**+1.0**
ELL	**Elmali**	**1.54**	**13**	PN	**Pn**	**03 45 26.9**	**-0.3**
ELL	**Elmali**	**1.54**	**13**	P	**Pn**	**03 45 28.5**	**-0.3**
DALY	**Dalyan (Mula)**	**1.70**	**337**	PN	**Pn**	**03 45 29.3**	**-0.1**
DALY	**Dalyan (Mula)**	**1.70**	**337**	*i* P	**Pn**	**03 45 29.4**	**0.0**
TURN	**Turunc**	**1.82**	**327**	PN	**Pn**	**03 45 31.1**	**0.0**
CAEL	**Denizli, Camel**	**1.87**	**356**	*i* P	**Pn**	**03 45 32.3**	**+0.4**
KORT	**Korkueli**	**1.88**	**22**	PN	**Pn**	**03 45 32.3**	**+0.3**
KORT	**Korkueli**	**1.88**	**22**	*i* P	**Pb**	**03 45 34.6**	**-0.6**
ANTB	**Antalya**	**1.90**	**30**	PN	**Pn**	**03 45 32.5**	**+0.4**
KARP	**Karpathos**	**1.92**	**280**	P	**Pn**	**03 45 34.1**	**+1.6**
KARP	**Karpathos**	**1.92**	**280**	PN	**Pn**	**03 45 32.7**	**+0.2**
KARP	**Karpathos**	**1.92**	**280**	P	**Pn**	**03 45 33.8**	**+1.3**
KARP				AML	AML	03 45 34.8	
	comp=N,0.2nm,0.4s						
KARP				AML	AML	03 45 34.8	
	comp=N,0.2nm,0.4s						
KARP				S	**Sb**	**03 45 58.4**	**-1.0**
KARP				AML	AML	03 46 00.5	
	comp=N,0.2nm,0.5s						
KARP				AML	AML	03 46 00.5	
	comp=N,0.2nm,0.5s						
GOLH	**Golhisar**	**1.98**	**2**	*i* P	**Pn**	**03 45 35.3**	**+1.9**
GOLH				*i* S	**Sn**	**03 45 57.4**	**0.0**
YER	**Yerkesik**	**2.12**	**333**	PN	**Pn**	**03 45 35.2**	**0.0**
MULA	**Mugla, Merkez-**	**2.21**	**335**	*i* P	**Pn**	**03 45 37.3**	**+0.8**
MULA				*i* S	**Sn**	**03 46 02.1**	**-1.0**
BUCA	**Burdur, Bucak-**	**2.25**	**22**	*i* P	**Pb**	**03 45 43.2**	**+1.7**
TAVA	**DENIZLI_Tavas**	**2.26**	**348**	*i* P	**Pn**	**03 45 37.8**	**+0.6**
TAVA				*i* S	**Sn**	**03 46 03.6**	**-0.6**
TAVA				IAML		03 46 06.0	
	comp=N,44nm,0.5s						
OSC1	**CSNet OBS 1**	**2.29**	**139**	P	**Pn**	**03 45 37.6**	**+0.1**
OSC1				S	**Sn**	**03 46 04.5**	**-0.3**
NIS1	**Nisyros Isl.**	**2.31**	**306**	P	**Pn**	**03 45 38.4**	**+0.6**
NIS1	**Nisyros Isl.**	**2.31**	**306**	PN	**Pn**	**03 45 37.9**	**+0.1**
AKMS	**Akamas**	**2.35**	**95**	⇓P	**Pn**	**03 45 38.7**	**+0.3**
AKMS				S	**Sn**	**03 46 05.7**	**-0.6**
AKMS				AML	AML	03 46 05.8	
	comp=N,0.6nm,0.3s						
AKMS				AML	AML	03 46 05.8	
	comp=N,0.6nm,0.3s						
AKMS				AML	AML	03 46 10.6	
	comp=N,0.7nm,0.3s						
AKMS				AML	AML	03 46 10.6	
	comp=N,0.7nm,0.3s						
KEPZ	**Antalya-Kepez**	**2.38**	**46**	*i* P	**Pn**	**03 45 39.8**	**+1.0**
KEPZ				*i* S	**Sn**	**03 46 05.7**	**-1.5**
BDRM	**Kayabasi**	**2.45**	**318**	*i* P	**Pn**	**03 45 40.5**	**+0.7**
BRDR	**BURDUR-Merkez**	**2.49**	**11**	*i* P	**Pb**	**03 45 43.4**	**-2.1**
GAZI	**Gazipasa**	**2.50**	**66**	PN	**Pn**	**03 45 40.8**	**+0.3**
BODT	**Bodrum**	**2.52**	**316**	PN	**Pn**	**03 45 40.9**	**+0.2**
ALFC	**Alefka**	**2.55**	**91**	P	**Pn**	**03 45 41.6**	**+0.5**
ALFC				AML	AML	03 46 11.0	
	comp=N,1.0nm,0.6s						
ALFC				AML	AML	03 46 13.3	
	comp=N,0.9nm,0.7s						
NATA	**Nata**	**2.58**	**100**	⇑P	**Pn**	**03 45 42.1**	**+0.6**
NATA				AML	AML	03 46 10.8	
	comp=N,0.8nm,0.4s						
NATA				AML	AML	03 46 13.2	
	comp=N,1.4nm,0.4s						
ZKR	**Zakros**	**2.68**	**268**	P	**Pn**	**03 45 44.3**	**+1.4**
ZKR				S	**Sn**	**03 46 14.5**	**+0.1**
ZKR	**Zakros**	**2.68**	**268**	PN	**Pn**	**03 45 43.6**	**+0.7**
ZKR	**Zakros**	**2.68**	**268**	P	**Pn**	**03 45 44.5**	**+1.7**
BASM	**Basmaki-Afyon**	**2.70**	**10**	PN	**Pn**	**03 45 43.6**	**+0.3**
AYDN	**Tasoluk**	**2.73**	**332**	*i* P	**Pn**	**03 45 44.2**	**+0.6**
AYDN				*i* S	**Sn**	**03 46 15.8**	**0.0**
LEF	**Lefka**	**2.79**	**92**	PN	**Pn**	**03 45 44.5**	**+0.1**
SZAC	**Souni**	**2.83**	**99**	P	**Pn**	**03 45 45.8**	**+0.8**
SZAC				S	**Sn**	**03 46 17.6**	**-0.7**
AKDN	**Akdeniz- Kıbrı**	**2.85**	**88**	PN	**Pn**	**03 45 45.8**	**+0.6**
SEDI	**Konya, Seydise**	**2.86**	**39**	*i* P	**Pn**	**03 45 44.9**	**-0.6**
SEDI				*i* S	**Sn**	**03 46 20.1**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.98**	**335**	PN	**Pn**	**03 45 47.6**	**+0.5**
GCAM	**G?zelcaml?**	**3.04**	**324**	PN	**Pn**	**03 45 48.6**	**+0.7**
GCAM	**G?zelcaml?**	**3.04**	**324**	*i* P	**Pn**	**03 45 49.6**	**+1.7**
GCAM				IAML		03 46 23.0	
	comp=E,23nm,0.3s						
GCAM				*i* S	**Sn**	**03 46 23.1**	**-0.3**
GCAM				IAML		03 46 26.0	
	comp=N,41nm,0.3s						
TEKE	**Tekeli-Mersin**	**3.09**	**72**	PN	**Pn**	**03 45 48.9**	**+0.5**
KHAL	**Karahalli**	**3.12**	**0**	*i* P	**Pn**	**03 45 52.8**	**+3.9**
ASGA	**Asgata**	**3.12**	**97**	P	**Pn**	**03 45 49.3**	**+0.3**
CSS	**Mathiatis**	**3.17**	**94**	PN	**Pn**	**03 45 50.4**	**+0.8**
CSS	**Mathiatis**	**3.17**	**94**	P	**Pn**	**03 45 49.9**	**+0.3**
OSC2	**CSNet OBS 4**	**3.17**	**132**	P	**Pn**	**03 45 49.6**	**+0.1**
NPS	**Neapolis**	**3.17**	**271**	P	**Pn**	**03 45 51.8**	**+2.2**
BERE	**Bereket-Mersin**	**3.23**	**69**	PN	**Pn**	**03 45 51.5**	**+0.9**
SMG	**Samos**	**3.25**	**320**	P	**Pn**	**03 45 52.0**	**+1.2**
LAST	**Lasithi**	**3.28**	**270**	P	**Pn**	**03 45 53.2**	**+2.0**
MANT	**Manisa**	**3.32**	**347**	*i* P	**Pn**	**03 45 51.4**	**-0.5**
MANT				*i* S	**Sn**	**03 46 28.2**	**-2.4**
KULA	**Kula-Manisa**	**3.33**	**349**	PN	**Pn**	**03 45 52.3**	**+0.5**
YVAC	**Isparta, Yalva**	**3.33**	**25**	*i* P	**Pb**	**03 45 56.2**	**-3.6**
DOGA	**KONYA_Doganhis**	**3.35**	**31**	*i* P	**Pn**	**03 45 54.7**	**+2.5**
SHUT	**Suhut-Afyon**	**3.41**	**14**	PN	**Pn**	**03 45 53.5**	**+0.5**
TEVE	**Tevekalti-Mers**	**3.43**	**69**	PN	**Pn**	**03 45 53.7**	**+0.5**
SANT	**Santorini**	**3.46**	**290**	P	**Pn**	**03 45 54.3**	**+0.7**
SANT	**Santorini**	**3.46**	**290**	PN	**Pn**	**03 45 54.5**	**+0.9**
USAK	**Uak-Merkez**	**3.48**	**354**	*i* P	**Pn**	**03 45 52.5**	**-1.4**
USAK				*i* S	**Sn**	**03 46 29.5**	**-4.7**
DGB	**zmir**	**3.49**	**324**	*i* P	**Pn**	**03 45 54.4**	**+0.4**
DGB				*i* S	**Sn**	**03 46 31.5**	**-3.0**
SNT1	**Gialos, Santor**	**3.50**	**291**	P	**Pn**	**03 45 54.9**	**+0.9**
THR6	**Thira Island,**	**3.50**	**290**	P	**Pn**	**03 45 54.9**	**+0.8**
THR3	**Thira Island,**	**3.51**	**290**	P	**Pn**	**03 45 55.3**	**+1.0**
SNT5	**Nea Kammeni, S**	**3.52**	**290**	P	**Pn**	**03 45 55.3**	**+0.9**
KONT	**Konya--Tatoy**	**3.55**	**40**	PN	**Pn**	**03 45 55.7**	**+0.9**
IKL	**Isikli**	**3.56**	**73**	PN	**Pn**	**03 45 55.9**	**+1.0**
KRMN	**Karaman**	**3.61**	**57**	PN	**Pn**	**03 45 56.6**	**+0.9**
APE	**Apeiranthos**	**3.68**	**301**	P	**Pn**	**03 45 57.5**	**+0.8**
APE	**Apeiranthos**	**3.68**	**301**	PN	**Pn**	**03 45 57.6**	**+1.0**
BLCB	**Balcova**	**3.69**	**329**	PN	**Pn**	**03 45 56.8**	**0.0**
LADK	**Ladik-KONYA**	**3.75**	**37**	PN	**Pn**	**03 45 58.4**	**+0.8**
IDI	**Anoyia**	**3.76**	**272**	P	**Pn**	**03 45 59.1**	**+1.3**
SIVA	**Sivas**	**3.84**	**268**	P	**Pn**	**03 46 00.8**	**+2.0**
SIMA	**Simav-Kutahya**	**3.85**	**354**	PN	**Pn**	**03 45 59.2**	**+0.2**
AKHS	**Akhisar**	**3.86**	**340**	*i* P	**Pn**	**03 45 58.7**	**-0.4**
TVSB	**Tavsanli**	**4.19**	**360**	PN	**Pn**	**03 46 03.9**	**+0.1**
VAM	**Vamos**	**4.32**	**274**	P	**Pn**	**03 46 06.6**	**+1.1**
MATC	**Matruh**	**4.33**	**206**	P	**Pn**	**03 46 06.1**	**+0.6**
	baz=208						
IMMV	**Iera Moni Meta**	**4.50**	**274**	P	**Pn**	**03 46 09.3**	**+1.4**
SLUM	**Salum**	**5.18**	**225**	P	**Pn**	**03 46 17.6**	**+0.4**
	baz=227						
SLUM				S	**Sn**	**03 47 10.4**	**-5.7**
	baz=227						
VLI	**Veliai**	**5.51**	**287**	P	**Pn**	**03 46 22.7**	**+1.0**
BRTR	**Keskin Array B**	**5.56**	**35**	Pn	**Pn**	**03 46 24.0**	**+1.5**
	comp=N,0.2nm,0.3s,baz=224,slow=13,SNR=1.2						
BRTR				Sn	**Sn**	**03 47 26.2**	**+0.6**
	comp=N,0.1nm,0.3s,baz=201,slow=26,SNR=2.1						
HNAT	**Natroun**	**5.68**	**170**	P	**Pn**	**03 46 24.4**	**+0.3**
	baz=168						
HHAG	**Hagoal**	**5.72**	**157**	P	**Pn**	**03 46 25.9**	**+1.1**
	baz=154						
GLL	**Jalalah**	**5.96**	**161**	P	**Pn**	**03 46 28.6**	**+0.6**
	baz=159						
RYAN	**Fayoum**	**6.19**	**174**	P	**Pn**	**03 46 30.4**	**-0.7**
	baz=172						
KLV	**Kalavryta, Ach**	**6.52**	**297**	P	**Pn**	**03 46 37.7**	**+2.0**
NBNS	**Bani Suef**	**6.78**	**166**	P	**Pn**	**03 46 39.2**	**-0.1**
	baz=165						
SWA2		**6.89**	**211**	P	**Pn**	**03 46 40.4**	**-0.4**
	baz=212						
SWA2				S	**Sn**	**03 47 51.8**	**-6.4**
	baz=212						
HFRF	**Wahat Farafira**	**8.14**	**187**	P	**Pn**	**03 46 57.7**	**-0.1**
	baz=188						
GERES	**GERESS Array B**	**17.89**	**324**	P	**P**	**03 49 10.2**	**+1.3**
	comp=N,0.1nm,0.3s,baz=138,slow=9.0,SNR=2.8						
ESDC	**Sonseca Array**	**26.82**	**289**	P	**P**	**03 50 42.1**	**+2.5**
	comp=N,1.0nm,0.6s,baz=83,slow=10,SNR=11						

*TAP **24** 03:59:24.8, 24.°33N×122.°99E, h50km, ML3.3, D*
*JMA **24** 03:59:25.4±0.1, 24.°34N×122.°97E, h49km±1km, M2.4*
ISC 24 03:59:25.7±1.2, **24.°30N**±0.°04×**122.°97E**±0.°02, **h44**km±7km, **n71**, σ0°**99**/125, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.16**	**352**	P	**Pn**	**03 59 33.0**	**-0.1**
JYNG				S	**Sn**	**03 59 38.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.17**	**13**	P	**Pn**	**03 59 33.0**	**-0.2**
	baz=5.0						
YOJ				S	**Sn**	**03 59 38.8**	**+0.3**
	baz=5.0						
YOJ	**Yonaguni jima**	**0.17**	**13**	P	**Pn**	**03 59 33.2**	**0.0**
YOJ				S	**Sn**	**03 59 38.6**	**+0.1**
IRIF	**Iriomote-Funau**	**0.70**	**87**	P	**Pn**	**03 59 38.9**	**-0.3**
IRIF				S	**Sn**	**03 59 48.7**	**-0.2**
HATJ	**Hateruma jima**	**0.80**	**107**	P	**Pn**	**03 59 40.6**	**0.0**
HATJ				*e*S	**Sn**	**03 59 51.8**	**+0.4**
JKRS	**Kuro-shima**	**0.95**	**93**	P	**Pn**	**03 59 43.0**	**+0.4**
JKRS				S	**Sn**	**03 59 55.6**	**+0.5**
TWC	**Suao**	**1.07**	**287**	P	**Pn**	**03 59 43.5**	**-0.7**
	baz=285						
TWC				*i* S	**Sn**	**03 59 56.9**	**-1.0**
	baz=285						
JIJ	**Ishigaki jima**	**1.07**	**86**	P	**Pn**	**03 59 44.0**	**-0.3**
JIJ				S	**Sn**	**03 59 57.1**	**-1.0**
EWUT	**Wuta**	**1.10**	**278**	*e*S	**Sn**	**03 59 57.9**	**-0.7**
	baz=284						
ENA	**Nanau**	**1.13**	**277**	P	**Pn**	**03 59 44.5**	**-0.6**
	baz=283						
ENA				S	**Sn**	**03 59 58.8**	**-0.6**
	baz=283						
TWB1	**Santiao Chiao**	**1.14**	**309**	*e*S	**Sn**	**03 59 59.6**	**0.0**
	baz=314						
NTC	**Toucheng**	**1.18**	**298**	*e*P	**Pn**	**03 59 44.9**	**-0.9**
	baz=296						
NTC				*e*S	**Sn**	**04 00 00.0**	**-0.6**
	baz=296						
NDS	**Dongshan**	**1.19**	**287**	*e*P	**Pn**	**03 59 45.0**	**-1.0**
	baz=292						
NDS				*e*S	**Sn**	**04 00 00.1**	**-0.9**
	baz=292						
TIPB	**Shuangxi**	**1.24**	**303**	P	**Pn**	**03 59 45.8**	**-0.8**
	baz=309						
TIPB				S	**Sn**	**04 00 00.8**	**-1.4**
	baz=309						
JISG	**Ishigakijimahi**	**1.26**	**76**	P	**Pn**	**03 59 46.5**	**-0.3**
JISG				S	**Sn**	**04 00 02.3**	**-0.3**
TWE	**Neicheng**	**1.26**	**290**	P	**Pn**	**03 59 46.0**	**-0.9**
	baz=297						
TWE				S	**Sn**	**04 00 00.8**	**-1.8**
	baz=297						
NACB	**Ninganchiao**	**1.26**	**265**	P	**Pn**	**03 59 47.1**	**+0.3**
	baz=263						
NACB				*e*S	**Sn**	**04 00 02.7**	**0.0**
	baz=263						
TWD	**Chiawan**	**1.27**	**261**	*e*P	**Pn**	**03 59 46.0**	**-1.0**
	baz=247						
TWD				S	**Sn**	**04 00 02.9**	**0.0**
	baz=247						
ENTT	**Nioudou**	**1.32**	**285**	P	**Pn**	**03 59 48.3**	**+0.5**
	baz=290						
ENTT				S	**Sn**	**04 00 04.4**	**+0.2**
	baz=290						
WFSB	**Wu-fen Shan**	**1.33**	**306**	P	**Pn**	**03 59 47.5**	**-0.3**
	baz=304						
WFSB				*e*S	**Sn**	**04 00 04.2**	**-0.1**
	baz=304						
ETLH	**Xiulin Townshi**	**1.36**	**267**	*e*P	**Pn**	**03 59 48.6**	**+0.3**
	baz=265						
ETLH				*

EGFH	**Guangfu**	**1.54 246**	*e*S		**Sn**	**04 00 10.1**	**+0.5**
	baz=245						
WHF	**Hehuan Shan**	**1.56 265**	P		**Pn**	**03 59 51.7**	**+0.3**
	baz=252						
WHF			S		**Sn**	**04 00 11.0**	**+0.3**
	baz=252						
FUSS	**Fushou**	**1.57 269**	*e*P		**Pn**	**03 59 52.0**	**+0.6**
	baz=267						
FUSS			*e*S		**Sn**	**04 00 11.0**	**+0.3**
	baz=267						
TWY	**Chenhua**	**1.58 308**	*e*P		**Pn**	**03 59 50.9**	**-0.3**
	baz=299						
TWY			*e*S		**Sn**	**04 00 11.0**	**+0.5**
	baz=299						
JTJ	**Tarama**	**1.62 77**	P		**Pn**	**03 59 52.1**	**+0.4**
JTJ			S		**Sn**	**04 00 11.4**	**0.0**
TWS1	**Kuangyinshan**	**1.62 300**	*e*S		**Sn**	**04 00 11.8**	**+0.2**
	baz=298						
HGSD	**Ruisui**	**1.62 241**	P		**Pn**	**03 59 50.9**	**-0.9**
	baz=240						
HGSD			S		**Sn**	**04 00 10.1**	**-1.5**
	baz=240						
NTST	**Danshui**	**1.63 302**	*e*S		**Sn**	**04 00 11.2**	**-0.5**
	baz=300						
TWT	**Tachien**	**1.64 269**	*e*P		**Pn**	**03 59 52.2**	**0.0**
	baz=259						
TDCB	**Techi**	**1.65 269**	*e*S		**Sn**	**04 00 11.8**	**-0.7**
	baz=267						
CHGB	**Renai**	**1.66 262**	P		**Pn**	**03 59 52.8**	**+0.3**
	baz=250						
CHGB			*e*S		**Sn**	**04 00 12.7**	**0.0**
	baz=250						
EHY	**Hungye**	**1.70 243**	P		**Pn**	**03 59 52.4**	**-0.5**
	baz=253						
EHY			S		**Sn**	**04 00 12.5**	**-0.9**
	baz=253						
NCU	**National Centr**	**1.75 293**	*e*P		**Pn**	**03 59 53.2**	**-0.5**
	baz=299						
NCU			*e*S		**Sn**	**04 00 13.7**	**-1.1**
	baz=299						
VWDT	**VWDT**	**1.76 252**	P		**Pn**	**03 59 54.0**	**+0.3**
	baz=242						
VWDT			S		**Sn**	**04 00 14.6**	**-0.2**
	baz=242						
YULB	**Yu-li**	**1.77 240**	P		**Pn**	**03 59 53.4**	**-0.6**
	baz=252						
YULB			S		**Sn**	**04 00 13.5**	**-1.8**
	baz=252						
EYUL	**Yuli**	**1.78 238**	*e*S		**Sn**	**04 00 15.0**	**-0.5**
	baz=237						
TWF1	**Yuli**	**1.80 239**	P		**Pn**	**03 59 53.8**	**-0.5**
	baz=238						
TWF1			S		**Sn**	**04 00 15.2**	**-0.6**
	baz=238						
WHP	**Taichung City**	**1.85 270**	P		**Pn**	**03 59 57.2**	**+2.2**
	baz=268						
WHP			*e*S		**Sn**	**04 00 18.6**	**+1.4**
	baz=268						
WPL	**Puli Township**	**1.86 262**	*e*P		**Pn**	**03 59 56.2**	**+1.1**
	baz=252						
WPL			*e*S		**Sn**	**04 00 18.2**	**+0.9**
	baz=252						
SBCB	**Hsinchu**	**1.87 286**	*e*S		**Sn**	**04 00 17.3**	**-0.4**
	baz=284						
FULB	**Fuli**	**1.88 235**	P		**Pn**	**03 59 54.3**	**-1.1**
	baz=224						
FULB			S		**Sn**	**04 00 17.3**	**-0.7**
	baz=224						
CHKT	**Chengkung**	**1.89 231**	*e*S		**Sn**	**04 00 15.4**	**-2.8**
	baz=221						
SSLB	**Suanglung**	**1.91 255**	*e*P		**Pn**	**03 59 55.3**	**-0.5**
	baz=254						
SSLB			*e*S		**Sn**	**04 00 18.2**	**-0.4**
	baz=254						
SMLT	**Sun Moon Lake**	**1.94 258**	*e*P		**Pn**	**03 59 56.2**	**0.0**
	baz=249						
SMLT			S		**Sn**	**04 00 19.4**	**0.0**
	baz=249						
TYC	**Yuchr**	**1.97 259**	*e*P		**Pn**	**03 59 56.4**	**-0.2**
	baz=249						
TYC			S		**Sn**	**04 00 19.2**	**-0.9**
	baz=249						
EDH	**Donghe**	**2.02 230**	*e*P		**Pn**	**03 59 55.7**	**-1.6**
	baz=221						
EDH			*e*S		**Sn**	**04 00 18.8**	**-2.4**
	baz=221						
NSY	**Sanyi**	**2.02 274**	*e*S		**Sn**	**04 00 22.8**	**+1.5**
	baz=272						
ELDTW	**Lidau**	**2.10 239**	P		**Pn**	**03 59 57.7**	**-0.8**
	baz=238						
ELDTW			S		**Sn**	**04 00 22.0**	**-1.5**
	baz=238						
ALS	**Alishan**	**2.13 249**	*e*P		**Pn**	**03 59 59.6**	**+0.6**
	baz=248						
ALS			*e*S		**Sn**	**04 00 23.9**	**-0.5**
	baz=248						
CHN5	**Tsauling**	**2.21 252**	*e*P		**Pn**	**04 00 01.2**	**+1.2**
	baz=244						
CHN5			S		**Sn**	**04 00 26.8**	**+0.7**
	baz=244						
TWGBT	**Beinan**	**2.27 230**	*e*S		**Sn**	**04 00 26.2**	**-1.4**
	baz=240						
STYH	**Taoyuan**	**2.30 241**	*e*P		**Pn**	**04 00 01.5**	**+0.4**
	baz=234						
STYH			*e*S		**Sn**	**04 00 27.7**	**-0.5**
	baz=234						
STYT	**Tauyuan**	**2.32 241**	*e*P		**Pn**	**04 00 02.5**	**+1.0**
	baz=234						
STYT			*e*S		**Sn**	**04 00 28.7**	**-0.1**
	baz=234						
TPUB	**Ta-pu**	**2.36 246**	P		**Pn**	**04 00 03.4**	**+1.4**
	baz=244						
TPUB			*e*S		**Sn**	**04 00 31.5**	**+1.7**
	baz=244						
CHN4	**Tsaushan**	**2.37 247**	P		**Pn**	**04 00 04.2**	**+2.1**
	baz=246						
CHN4			S		**Sn**	**04 00 32.6**	**+2.7**
	baz=246						
WTP	**Ta-pu**	**2.40 245**	P		**Pn**	**04 00 04.2**	**+1.7**
	baz=243						
WTP			*e*S		**Sn**	**04 00 32.1**	**+1.4**
	baz=243						
TWK	**Hsinying**	**2.49 246**	*e*P		**Pn**	**04 00 06.5**	**+2.6**
	baz=245						
TWK			*e*S		**Sn**	**04 00 35.5**	**+2.4**
	baz=245						
CHN1	**Nanshi**	**2.50 244**	*e*S		**Sn**	**04 00 35.3**	**+2.2**
	baz=243						
SGST	**Jiashian**	**2.50 242**	*e*P		**Pn**	**04 00 05.7**	**+1.8**
	baz=240						
SGST			*e*S		**Sn**	**04 00 33.8**	**+0.6**
	baz=240						
MASBT	**Mashibuluo**	**2.72 232**	*e*P		**Pn**	**04 00 07.0**	**+0.1**
	baz=227						

IDC 24 04:09:26.2±6.2, 4°.25S×127°.69E, h299km±83km, mb2.7/2, mb1 2.8/4, mb1mx2.6/42, mbtmp3.3/4, Error ellipse: s-maj=107.4km s-min=19.9km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.91**	**47**	P		Pn	04 10 43.1	+0.4
	0.5nm,0.3s,baz=205,slow=22,SNR=8.3							
SIJI				S		S	04 11 44.0	-0.1
	1.1nm,0.3s,baz=286,slow=23,SNR=1.8							
WRA	**Warramunga Arr**	**16.89**	**158**	P		P	04 13 04.1	+0.1
	0.1nm,0.3s,baz=334,slow=11,SNR=5.2							
ASAR	**Alice Springs**	**20.21**	**163**	P		P	04 13 39.6	+0.2
	0.5nm,0.4s,baz=344,slow=12,SNR=7.6							
MKAR	**Makanchi Array**	**64.68**	**327**	P		P	04 19 32.4	-0.3
	0.1nm,0.3s,baz=124,slow=7.8,SNR=2.2							

IDC 24 04:14:57.7±3.1, 10°.12S×151°.91E, h0km, mb2.9/1, mb1 3.5/3, mb1mx3.3/25, mbtmp3.4/3, ML3.4/1, MS2.4/1, Ms1 2.4/1, ms1mx2.3/11, Error ellipse: s-maj=63.4km s-min=47.6km az=178.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.74**	**278**	Pn		Pn	04 16 11.4	+1.0
	1.2nm,0.3s,baz=105,slow=12,SNR=1.5							
PMG				Sn		Sn	04 17 06.7	+0.5
	1.9nm,0.3s,baz=308,slow=18,SNR=1.2							
PMG				LR		LR	04 17 28.2	
	comp=Z,47nm,20.2s,baz=14,slow=32							
WRA	**Warramunga Arr**	**19.56**	**238**	P		P	04 19 27.1	-0.3
	0.1nm,0.3s,baz=60,slow=11,SNR=7.9							
ASAR	**Alice Springs**	**21.83**	**230**	P		P	04 19 52.0	+0.1
	0.4nm,0.7s,baz=57,slow=9.2,SNR=2.2							
TORD	**Torodi Ar. Bea**	**150.68**	**279**	PKPbc		PKPbc	04 34 52.5	-0.4
	0.5nm,0.6s,baz=62,slow=3.3,SNR=2.3							

*IDC **24** 04:30:04.7±0.8, 2°.75S×139°.30E, h0km, mb3.9/8, mb1 4.2/9, mb1mx4.0/34, mbtmp4.0/9, ML3.9/1, MS3.6/3, Ms1 3.6/3, ms1mx2.9/35, Error ellipse: s-maj=25.6km s-min=13.5km az=100.0*
*DJA **24** 04:30:08.6±0.5, 3°.5S×7°.7×13°.9E±°, h10km, M4.5/5, mB4.7/1, mb4.5/5, MLv4.5/3, Mw(mB)3.9/1*
*NEIC **24** 04:30:11.2±1.3, 2°.85S±0°.1×139°.03E±0°.10, h48km±10km, mb4.0/8, Error ellipse: s-maj=16.4km s-min=13.1km az=204.0*

ISC 24 04:30:06.1±0.7, 2°.73S±0°.08×139°.25E±0°.06, h10km, n31, σ1§70/31, mb3.9/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.93**	**82**	P		Pn	04 30 24.6	-0.6
GENI				S		Sn	04 30 37.5	-1.1
WAMI	**Wamena**	**1.27**	**205**	P		Pg	04 30 36.3	+5.8
JAY	**Jayapura**	**1.47**	**82**	Pg		Pn	04 30 31.3	-1.4
	37nm,0.3s,baz=227,slow=10,SNR=59							
JAY				Lg		Lg	04 30 47.9	
	64nm,0.3s,baz=107,slow=21,SNR=14							
JAY				LR		LR	04 31 10.8	
	comp=Z,524nm,19.8s,baz=194,slow=46							
FAKI	**Fak Fak**	**7.00**	**268**	Pn		Pn	04 31 50.1	+1.3
FAKI				Sn		Sn	04 33 05.2	-3.3
FAKI	**Fak Fak**	**7.00**	**268**	P		Pn	04 31 52.5	+3.7
	0.1nm33nm,0.9s							
PMG	**Port Moresby**	**10.28**	**131**	LR		LR	04 37 13.2	
	comp=Z,157nm,18.4s,baz=174,slow=42							
PMG	**Port Moresby**	**10.28**	**131**			Pn	04 32 40.7	+6.8
COEN	**Coen**	**11.81**	**161**	Pn		Pn	04 32 57.6	+2.8
MTN	**Manton Dam**	**12.87**	**218**	Pn		Pn	04 33 08.7	-0.5
MTN				Sn		Sn	04 35 28.6	-4.0
SANI	**Sanana**	**13.27**	**273**	P		Pn	04 33 17.6	+2.8
	21nm,0.7s							
WB0	**Warramunga Arr**	**17.59**	**195**	P		P	04 34 12.4	-0.2
WB0				IAmb		IAmb	04 34 25.6	
	comp=Z,15nm,0.9s							
WR0	**Warramunga Arr**	**17.73**	**195**	P		P	04 34 14.7	+0.6
WR0				IAmb		IAmb	04 34 32.6	
	comp=Z,9.6nm,0.8s							
WB2	**Warramunga Arr**	**17.77**	**195**	P		Pn	04 34 12.4	-1.3
WB2				IAmb		IAmb	04 34 27.3	
	comp=Z,12nm,1.0s							
WRA	**Warramunga Arr**	**17.77**	**195**	P		Pn	04 34 12.7	-1.1
	comp=Z,0.4nm,0.3s,baz=16,slow=13,SNR=19							
WRA				S		Sn	04 37 18.0	-14
	baz=13,slow=23,SNR=1.6							
WRA				Lg		Lg	04 39 20.0	
	baz=25,slow=26,SNR=1.3							
WRA				LR		LR	04 41 29.4	
	comp=Z,230nm,18.4s,baz=5.0,slow=39							
WRA	**Warramunga Arr**	**17.77**	**195**	P		Pn	04 34 14.0	+0.2
CTA	**Charters Tower**	**18.56**	**159**	Lg		Lg	04 39 48.4	
	comp=Z,0.3nm,0.3s,baz=252,slow=18,SNR=1.3							
FITZ	**Fitzroy Crossi**	**20.28**	**220**	P		P	04 34 40.8	-1.4
	comp=Z,4.5nm,0.7s,baz=37,slow=14,SNR=7.0							
FITZ				S		S	04 38 19.3	-10
	comp=Z,8.9nm,0.8s,baz=188,slow=10,SNR=6.0							
FITZ	**Fitzroy Crossi**	**20.28**	**220**	P		P	04 34 40.5	-1.6
AS31	**Alice Springs**	**21.45**	**194**	P		P	04 34 55.1	+0.3
AS31				IAmb		IAmb	04 35 09.1	
	comp=Z,5.1nm,1.1s							
ASAR	**Alice Springs**	**21.45**	**194**	P		P	04 34 55.0	+0.2
	comp=Z,1.9nm,0.6s,baz=23,slow=10.0,SNR=21							
ASAR				S		S	04 38 55.2	+2.4
	comp=Z,2.8nm,1.1s,baz=16,slow=24,SNR=5.1							
ASAR				Lg		Lg	04 41 24.5	
	comp=Z,2.5nm,1.1s,baz=358,slow=32,SNR=1.8							
ASAR				LR		LR	04 43 44.6	
	comp=Z,218nm,20.8s,baz=7.0,slow=38							
ASAR	**Alice Springs**	**21.45**	**194**	P		P	04 34 54.5	-0.3
SONM	**Songino Array**	**57.97**	**334**	P		P	04 40 00.3	+1.3
	comp=Z,0.2nm,0.4s,baz=147,slow=8.6,SNR=2.2							
SONM	**Songino Array**	**57.97**	**334**	P		P	04 39 58.2	-0.8
MKAR	**Makanchi Array**	**70.14**	**322**	P		P	04 41 20.0	+1.1
	comp=Z,0.9nm,0.6s,baz=110,slow=8.2,SNR=14							
MKAR	**Makanchi Array**	**70.14**	**322**	P		P	04 41 18.1	-0.9
ZALV	**Zalesovo Beam**	**72.22**	**330**	P		P	04 41 31.1	-0.3
	comp=Z,0.6nm,0.4s,baz=108,slow=4.8,SNR=3.8							
ZALV	**Zalesovo Beam**	**72.22**	**330**	P		P	04 41 30.8	-0.6
VNDA	**Vanda**	**75.71**	**175**	P		P	04 41 51.3	-0.1
	comp=Z,3.8nm,0.8s,baz=319,slow=6.5,SNR=22							
FINES	**FINESS Array B**	**145.38**	**339**	PKP		**PKPdf**	04 53 24.3	-0.4
	2.5nm,0.4s,baz=48,slow=4.7,SNR=28							
NOA	**NORSAR Array B**	**149.08**	**351**	PKPbc		**PKPbc**	04 53 35.4	+0.2
	0.9nm,0.7s,baz=15,slow=4.3,SNR=3.5							
AKASG	**Malin Array Be**	**151.38**	**322**	PKPbc		**PKPbc**	04 53 41.1	+0.3
	0.9nm,0.6s,baz=64,slow=2.6,SNR=4.9							

*ANF **24** 04:46:18.4±0.1, 35°.28N×118°.58W, h13km±1km, ML3.6/37, Error ellipse: s-maj=1.2km s-min=1.1km az=110.0, Hypocentre not reviewed by the ISC*
*SCEDC **24** 04:46:19.4, 35°.27N×118°.58W, h11km, Hypocentre not reviewed by the ISC*
*PAS **24** 04:46:19.4±0.9, 35°.267N±0°.009×118°.580W±0°.004, h11km±2km, ML3.6/161, ML3.2/84(NEIC), Error ellipse: s-maj=1.4km s-min=0.5km az=184.0*

NEIC 24 04:46:18.9±1.2, 35°.268N±0°.010×118°.57W±0°.01, h15km±2km, Error ellipse: s-maj=1.6km s-min=1.4km az=133.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TEJ	**El Tejon**	**0.11**	**249**			Pb	04 46 23.6	+0.8
ARVC	**Arvin**	**0.26**	**237**			Pg	04 46 24.5	0.0
ARVC						Sg	04 46 28.4	+0.1
ARVC	**Arvin**	**0.26**	**237**	P			04 46 24.5	
	baz=55,SNR=982							
ARVC				S			04 46 28.3	
	baz=55							
TJR	**Tejon Ranch**	**0.28**	**211**			Pg	04 46 24.7	-0.2
TJR						Sg	04 46 28.5	-0.4
WOFM	**Oak Flat**	**0.29**	**336**			Pg	04 46 25.1	-0.1
THC	**Tehachapi Micr**	**0.37**	**192**			Pg	04 46 26.2	-0.2
THC						Sg	04 46 31.1	-0.5
ISA	**Isabella, Lake**	**0.40**	**11**	Pg		Pg	04 46 27.0	-0.1
ISA				IAML			04 46 32.7	
	comp=E,2μm,0.6s							
ISA				IAML			04 46 33.0	
	comp=N,2μm,0.4s							
ISA	**Isabella, Lake**	**0.40**	**11**			Sg	04 46 32.4	-0.2
ISA	**Isabella, Lake**	**0.40**	**11**	P			04 46 27.0	
	baz=192,SNR=817							
ISA				S			04 46 32.3	
	baz=192							
WBSM	**Bird Springs**	**0.44**	**52**			Pg	04 46 27.9	+0.1
WBSM						Sg	04 46 33.9	0.0
BAKC	**Calstate**	**0.45**	**280**			Pb	04 46 28.3	-0.2
BAKC						Sb	04 46 35.0	0.0
WHFM	**Hanning Flat**	**0.46**	**23**			Pg	04 46 28.1	-0.1
WHFM						Sg	04 46 34.2	-0.3
CCAC	**Calif City Air**	**0.47**	**104**			Pg	04 46 28.2	0.0
CCAC						Sg	04 46 34.6	+0.1
WASM	**Alta Sierra Ca**	**0.47**	**1**			Pg	04 46 28.2	-0.2
WASM						Sg	04 46 34.4	-0.3
TPO	**Tropico Hills**	**0.48**	**144**			Pg	04 46 28.4	-0.1
TPO						Sg	04 46 34.8	-0.1
WORM	**Onyx Ranch**	**0.50**	**32**			Pg	04 46 28.9	0.0
WORM						Sg	04 46 35.6	-0.1
BTPC	**Burnt Peak**	**0.58**	**181**			Pg	04 46 30.3	-0.2
DTP	**Desert Tortois**	**0.59**	**90**			Pg	04 46 30.5	-0.1
DTP						Sg	04 46 38.7	+0.3
EDW2	**Edwards Air Fo**	**0.61**	**129**			Pg	04 46 30.6	-0.3
EDW2						Sg	04 46 38.5	-0.4
EDW2	**Edwards Air Fo**	**0.61**	**129**	P			04 46 30.6	
	baz=309,SNR=106							
EDW2				S			04 46 38.5	
	baz=309							
ALPC	**Antelope**	**0.62**	**159**			Pg	04 46 30.9	-0.2
ALPC						Sg	04 46 39.2	-0.1
MPI	**Mount Pinos, F**	**0.66**	**226**			Pg	04 46 31.5	-0.4
MPI						Sg	04 46 40.3	-0.3
OSI	**Osito Audit: C**	**0.66**	**191**			Pg	04 46 31.7	-0.2
OSI						Sg	04 46 40.5	-0.2
OSI	**Osito Audit: C**	**0.66**	**191**	IAML			04 46 42.2	
	comp=N,1μm,0.5s							
OSI	**Osito Audit: C**	**0.66**	**191**	P			04 46 31.7	
	baz=10,SNR=17							
OSI				S			04 46 40.6	
	baz=10							
LEOC	**Leona Valley**	**0.67**	**161**			Pg	04 46 31.7	-0.3
LEOC						Sg	04 46 40.6	-0.4
ABL	**Mount Abel**	**0.68**	**232**			Pg	04 46 31.7	-0.6
VES	**Vestal, Richgr**	**0.71**	**324**			Pg	04 46 32.3	-0.5
VES						Sg	04 46 41.2	-1.0
VES	**Vestal, Richgr**	**0.71**	**324**	P			04 46 32.3	
	baz=144,SNR=327							
VES				S			04 46 41.1	
	baz=144							
PYR	**Pyramid**	**0.71**	**192**			Pg	04 46 32.6	-0.3
WCHM	**Chimney Peak**	**0.73**	**33**			Pg	04 46 33.1	-0.2
WCHM						Sg	04 46 42.6	-0.4
LRMC	**Laurel Mtn Rad**	**0.75**	**73**			Pg	04 46 33.3	-0.3
LRMC						Sg	04 46 43.6	0.0
LRMC	**Laurel Mtn Rad**	**0.75**	**73**	P			04 46 33.3	
	baz=254,SNR=205							
LRMC				S			04 46 43.6	
	baz=254							
BCW	**Bitter Crk WRg**	**0.77**	**245**			Pg	04 46 33.3	-0.6
WNMM	**Nine Mile Cany**	**0.79**	**43**			Pg	04 46 33.9	-0.3
WNMM						Sg	04 46 44.3	-0.4
CJV	**Casa Juvan**	**0.81**	**155**			Pg	04 46 34.3	-0.5
SBB	**Saddle Back Bu**	**0.84**	**133**			Pg	04 46 34.8	-0.5
SBB						Sg	04 46 45.4	-0.9
TOW	**Tower One**	**0.85**	**50**			Pb	04 46 35.5	0.0
LRRC	**Littlerock Res**	**0.86**	**149**			Pb	04 46 35.1	-0.5
LRRC						Sg	04 46 46.9	-0.1
RYS	**Reyes Peak**	**0.90**	**226**			Pb	04 46 35.7	-0.6
WLHM	**Little Horse**	**0.91**	**13**			Pg	04 46 36.0	-0.6
WLHM						Sg	04 46 47.9	-0.6
HYS	**Haystack Butte**	**0.91**	**116**			Pb	04 46 35.9	-0.6
HYS						Sb	04 46 47.7	-0.8
WVPM	**Volcano Peak E**	**0.92**	**42**			Pb	04 46 36.3	-0.3
WVPM						Sb	04 46 48.1	-0.6
WRVM	**Rose V. Centra**	**0.92**	**37**			Pb	04 46 36.4	-0.3
WRVM						Sb	04 46 48.7	-0.2
OAT	**Oat Mountain**	**0.92**	**182**			Pg	04 46 37.0	+0.1
JRC2	**Joshua Ridge**	**0.94**	**41**			Pb	04 46 36.9	-0.2
JRC2						Sb	04 46 49.1	-0.4
CRGC	**Crocker Grade**	**0.95**	**269**			Pb	04 46 36.9	-0.3
CRGC						Sg	04 46 49.9	+0.2
JNH	**Juniper Hills**	**0.96**	**148**			Pb	04 46 36.9	-0.5
CLC	**China Lake**	**0.96**	**55**			Pb	04 46 36.9	-0.5
CLC						Sb	04 46 49.9	-0.1
WCSM	**Coso Springs S**	**1.00**	**40**			Pb	04 46 37.9	-0.1
WCSM						Sb	04 46 50.9	-0.2
CCCA	**Chr Cany lake**	**1.02**	**75**			Pb	04 46 38.2	-0.1
BLCC	**Black Canyon**	**1.02**	**185**			Pn	04 46 38.9	0.0
MFS	**McCloud Flat S**	**1.03**	**34**			Pb	04 46 38.4	-0.2
MFS						Sb	04 46 52.1	+0.1
DECC	**Green Verdugo**	**1.03**	**169**			Pb	04 46 38.3	-0.2
DECC	**Green Verdugo**	**1.03**	**169**	P			04 46 38.3	
	baz=349,SNR=72							
CHFC	**Chilao Flat St**	**1.03**	**154**			Pb	04 46 38.1	-0.5
CHFC						Sb	04 46 51.8	-0.3
CARC	**Carrizo Plain**	**1.05**	**273**			Pb	04 46 38.2	-0.6
CARC						Sb	04 46 52.2	-0.2
STCC	**Santa Clara**	**1.09**	**208**			Pg	04 46 40.9	+0.9
PKM	**Mcpherson Peak**	**1.09**	**250**			Pb	04 46 39.0	-0.6
PKM	**Mcpherson Peak**	**1.09**	**250**	P			04 46 38.7	
	baz=69,SNR=49							
PKM				S			04 46 53.7	
	baz=69							
MWC	**Mount Wilson**	**1.12**	**158**			Pb	04 46 39.8	-0.4
MWC	**Mount Wilson**	**1.12**	**158**	IAML			04 46 58.7	
	comp=E,728nm,0.4s							
XTL	**Crystal Lake,**	**1.13**	**149**			Pb	04 46 40.0	-0.3
PASC	**Pasadena Art C**	**1.14**	**164**			Pb	04 46 40.0	-0.4
PASC	**Pasadena Art C**	**1.14**	**164**	IAML			04 46 57.8	
	comp=E,533nm,0.4s							
PASC				IAML			04 46 58.1	
	comp=N,383nm,0.4s							
DJJ	**Donna J Jenkin**	**1.16**	**175**			Pb	04 46 40.7	0.0
DJJ	**Donna J Jenkin**	**1.16**	**175**			Pn	04 46 40.7	0.0
GR2C	**Griffith Obs.**	**1.17**	**169**			Pn	04 46 40.5	-0.2
SMMC	**Simmler**	**1.17**	**273**	P			04 46 39.9	
	baz=92,SNR=63							
SMMC				S			04 46 55.8	
	baz=92							
RCTC	**Rector, Farmer**	**1.17**	**332**			Pn	04 46 40.1	-0.7
MPMC	**Manual Prospec**	**1.18**	**48**			Pn	04 46 41.0	-0.1
MPMC						Sn	04 46 56.9	-0.2
MPMC	**Manual Prospec**	**1.18**	**48**	P			04 46 41.1	
	baz=229,SNR=828							
MPMC				S			04 46 56.9	
	baz=229							
CWC	**Cottonwood Cre**	**1.23**	**19**			Pn	04 46 41.9	0.0
CWC						Sb	04 46 58.0	+0.1
CWC	**Cottonwood Cre**	**1.23**	**19**	P			04 46 41.8	
	baz=199							
CWC				S			04 46 58.0	
	baz=199							
VOG	**Valley Oaks Go**	**1.24**	**328**			Pn	04 46 41.2	-0.5
VOG	**Valley Oaks Go**	**1.24**	**328**	P			04 46 41.2	
	baz=148,SNR=17							
SBC	**Santa Barbara**	**1.25**	**229**			Pb	04 46 42.5	+0.2
SBC						Sg	04 46 59.8	+0.5
SBC	**Santa Barbara**	**1.25**	**229**	P			04 46 42.3	
	baz=48,SNR=7.4							
BFSC	**Mount Baldy Ra**	**1.27**	**144**			Pn	04 46 42.4	+0.1
BFSC	**Mount Baldy Ra**	**1.27**	**144**	P			04 46 42.4	
	baz=324,SNR=67							
BFSC				S			04 46 59.1	
	baz=324							
GVRC	**Garvey Reservo**	**1.27**	**163**			Pb	04 46 42.7	+0.1
PT2	**Point Dume**	**1.28**	**189**			Pn	04 46 42.4	+0.2
PT2						Sn	04 46 59.5	+0.4
SSK	**Sunset Peak**	**1.28**	**145**			Pb	04 46 42.7	-0.1
PSRC	**Puddingstone R**	**1.33**	**152**			Pb	04 46 43.7	+0.1
RHC	**Rose Hills Cem**	**1.34**	**160**			Pb	04 46 43.7	-0.1
RRX	**Edison Barstow**	**1.35**	**106**	P			04 46 43.7	
	baz=287,SNR=21							
RRX				S			04 47 01.4	
	baz=287							
**SS2

BBRC	**Big Bear Solar**	**1.69**	**126**			Pn	04 46 47.9	-0.3
BBRC	**Big Bear Solar**	**1.69**	**126**	P			04 46 48.0	
	baz=307,SNR=36							
BBRC				Sb			04 47 12.4	
	baz=307							
CFT	**Crafton Hills**	**1.72**	**135**			Pn	04 46 48.8	+0.4
SME	**Santa Rosa Min**	**1.75**	**145**			Pn	04 46 48.6	-0.2
TIN	**Tinemaha, Big**	**1.80**	**9**			Pb	04 46 52.4	+0.6
TIN	**Tinemaha, Big**	**1.80**	**9**	Pg			04 46 52.4	
	baz=189							
TIN				Sb			04 47 15.7	
	baz=189							
FURC	**Furnace Creek,**	**1.83**	**49**	Pg			04 46 53.5	
	baz=230							
PSMM	**Smith Mountain**	**1.83**	**296**			Pn	04 46 50.4	+0.3
CIS	**Catalina Islan**	**1.86**	**176**	P			04 46 50.5	
	baz=356,SNR=9.7							
HEC	**Hector,Ludlow**	**1.88**	**103**	Pg			04 46 54.5	
	baz=284							
HEC				S			04 47 14.8	
	baz=284							
BSM	**San Miguel Isl**	**1.91**	**231**			Pb	04 46 52.7	-0.8
SHOC	**Shoshone, Teco**	**1.97**	**71**	P			04 46 51.9	
	baz=252,SNR=55							
GRAC	**Grapevine Rang**	**1.98**	**29**	Pb			04 46 53.8	
	baz=210							
MURC	**Murrieta**	**2.01**	**145**	P			04 46 52.6	
	baz=326,SNR=38							
MURC				Sb			04 47 22.2	
	baz=326							
HMTC	**Hemet**	**2.02**	**140**			Pn	04 46 53.1	+0.5
PMPB	**Monarch Peak**	**2.05**	**298**			Pn	04 46 53.0	0.0
DGR	**Domenigoni Val**	**2.06**	**141**			Pn	04 46 53.6	+0.4
POB	**Polly Butte**	**2.08**	**139**			Pn	04 46 53.8	+0.3
BLAC	**Blackrock camp**	**2.16**	**123**			Pn	04 46 55.0	+0.5
EW2	**E Wide Canyon**	**2.22**	**126**			Pn	04 46 56.8	+1.5
MMIM	**Miami Mountain**	**2.35**	**336**			Pb	04 46 59.7	-1.4
MLAC	**Mammoth, Mammo**	**2.37**	**355**			Pb	04 47 01.3	-0.2
MLAC	**Mammoth, Mammo**	**2.37**	**355**	Pb			04 47 01.3	
	baz=175							
PFO	**Pinyon Flats O**	**2.40**	**133**	Pn		Pn	04 46 58.1	+0.3
PFO				IAML			04 47 37.2	
	comp=N,92nm,0.5s							
PFO				IAML			04 47 43.2	
	comp=N,133nm,0.8s							
PFO	**Pinyon Flats O**	**2.40**	**133**	P			04 46 58.1	
	baz=314,SNR=19							
PFO				Sb			04 47 33.1	
	baz=314							
XPFO	**Pion Flat**	**2.40**	**133**	Pn		Pn	04 46 58.2	+0.3
XPFO	**Pion Flat**	**2.40**	**133**	IAML			04 47 37.2	
	comp=N,93nm,0.5s							
XPFO				IAML			04 47 43.2	
	comp=N,135nm,0.8s							
TPFO	**Pinon Flats**	**2.41**	**133**	P			04 46 58.2	
	baz=314,SNR=18							
TPFO				Sb			04 47 33.2	
	baz=314							
GMRC	**Granite Mounta**	**2.43**	**101**	P			04 46 57.8	
	baz=282							
BELC	**Belle Mtn. Jos**	**2.47**	**120**			Pn	04 46 59.2	+0.5
BELC	**Belle Mtn. Jos**	**2.47**	**120**	P			04 46 59.0	
	baz=302,SNR=19							
BELC				Sb			04 47 36.9	
	baz=302							
TPNV	**Topopah Spring**	**2.52**	**48**			Pn	04 47 00.7	+1.2
TPNV				IAML			04 47 43.8	
	comp=N,113nm,0.7s							
TPNV	**Topopah Spring**	**2.52**	**48**	P			04 47 00.8	
	baz=229,SNR=47							
109C	**Camp Elliot, M**	**2.67**	**152**	Pn		Pn	04 47 02.4	+1.0
109C				IAML			04 47 43.2	
	comp=N,105nm,0.3s							
109C				IAML			04 47 44.2	
	comp=E,94nm,0.4s							
109C	**Camp Elliot, M**	**2.67**	**152**	Sb			04 47 41.8	
	baz=333							
SAO	**San Andreas Ge**	**2.77**	**303**	Pn		Pn	04 47 03.5	+0.7
MONP2	**Monument Peak**	**2.96**	**142**	P			04 47 06.2	
	baz=324,SNR=14							
LHV	**Little Huntoon**	**2.98**	**1**	Pn		Pn	04 47 06.8	+1.1
LHV				IAML			04 47 55.9	
	comp=N,107nm,0.8s							
TPH	**Tonopah**	**3.00**	**21**	Pn		Pn	04 47 07.0	+0.7
BAR	**Barrett**	**3.02**	**148**			Pn	04 47 07.2	+0.9
BAR				IAML			04 47 53.5	
	comp=N,58nm,0.5s							
IRM	**Iron Mountain**	**3.03**	**110**	P			04 47 06.2	
	baz=292							
SHPR	**Sheep Range**	**3.03**	**65**			Pn	04 47 07.4	+0.9
BC3	**Big Chuckawall**	**3.03**	**121**	P			04 47 06.3	
	baz=303							
CMB	**Columbia Colle**	**3.12**	**333**	Pn		Pn	04 47 08.6	+0.8
CMB				IAML			04 47 59.2	
	comp=N,65nm,0.6s							
CMB				IAML			04 48 03.3	
	comp=E,89nm,0.6s							
TKX	**Tecate**	**3.15**	**148**	Pn		Pn	04 47 08.9	+0.9
TKX						Sn	04 47 46.1	+0.7
TKX				IAML			04 47 56.2	
	comp=E,82nm,0.2s							
NVAR	**Mina Array Bea**	**3.16**	**4**	Pn		Pn	04 47 09.0	+0.6
NV11	**Mina Array Sit**	**3.18**	**6**	Pn		Pn	04 47 09.2	+0.6
NEE2	**Needles Airpor**	**3.28**	**98**	P			04 47 09.7	
	baz=280							
WAKR	**Walker**	**3.31**	**348**	Pn		Pn	04 47 11.0	+0.6
WAKR				IAML			04 48 06.2	
	comp=E,73nm,0.6s							
WAKR				IAML			04 48 07.9	
	comp=N,72nm,0.6s							
CBX	**Cerro Bola**	**3.35**	**151**			Pn	04 47 11.6	+0.8
CBX				IAML			04 48 05.2	
	comp=N,47nm,0.6s							
CBX				IAML			04 48 07.7	
	comp=E,46nm,0.8s							
RYN	**Ryan**	**3.35**	**1**	Pn		Pn	04 47 11.8	+0.8
RYN				IAML			04 48 07.4	
	comp=E,60nm,0.6s							
RYN				IAML			04 48 12.4	
	comp=N,43nm,0.5s							
PRN	**Pahroc Range**	**3.55**	**52**			Pn	04 47 14.4	+0.7
PRN				IAML			04 48 20.1	
	comp=N,42nm,1.2s							
PRN				IAML			04 48 32.1	
	comp=E,50nm,0.8s							
YERR	**Yerington**	**3.75**	**352**	Pn		Pn	04 47 17.1	+0.7
YERR				IAML			04 48 25.8	
	comp=N,35nm,0.7s							
KVN	**Kaiserville**	**3.79**	**6**	Pn		Pn	04 47 17.7	+0.6
GLA	**Glamis**	**3.81**	**124**	Pn		Pn	04 47 18.2	+1.1
W13A	**Hualapai Mount**	**3.84**	**91**			Pn	04 47 18.2	+0.5
W13A				IAML			04 48 24.2	
	comp=N,41nm,0.6s							
W13A				IAML			04 48 25.1	
	comp=E,33nm,0.5s							
R11A	**Troy Canyon, C**	**3.90**	**37**	Pn		Pn	04 47 19.2	+0.7
PNTR	**Pine Nut**	**3.90**	**348**	Pn		Pn	04 47 19.2	+0.6
ESJX	**Sierra Juarez**	**3.92**	**145**	Pn		Pn	04 47 19.4	+0.6
VCNR	**Virginia City**	**4.11**	**348**	Pn		Pn	04 47 21.9	+0.4
AFDM	**Forest Hills D**	**4.15**	**333**	Pn		Pn	04 47 22.2	+0.4
AFDM				IAML			04 48 29.3	
	comp=E,43nm,0.7s							
AFDM				IAML			04 48 29.3	
	comp=N,32nm,0.4s							
PAHR	**Pah Rah Range**	**4.48**	**352**	Pn		Pn	04 47 27.2	+0.8
PAHR				IAML			04 48 46.4	
	comp=N,20nm,1.0s							
PAHR				IAML			04 48 58.8	
	comp=E,17nm,2.1s							
LCMT	**Little Creek M**	**4.65**	**66**	Pn		Pn	04 47 29.6	+0.9
CCUT	**Cedar City**	**4.78**	**60**	Pn		Pn	04 47 31.4	+0.8
BEKR	**Beckworth**	**4.81**	**343**	Pn		Pn	04 47 31.8	+0.8
ORV	**Oroville**	**4.87**	**332**	Pn		Pn	04 47 32.4	+0.6
ORV				IAML			04 49 00.3	
	comp=E,18nm,0.7s							
KNB	**Kanab**	**4.97**	**68**	Pn		Pn	04 47 33.8	+0.6
KNB				IAML			04 49 34.1	
	comp=E,13nm,4.7s							
PSUT	**Pine Spring**	**4.99**	**48**	Pn		Pn	04 47 34.4	+0.9
PSUT				IAML			04 49 11.4	
	comp=N,14nm,1.2s							
PSUT				IAML			04 49 11.7	
	comp=E,20nm,1.4s							
SZCU	**Shurtz Canyon**	**4.99**	**61**	Pn		Pn	04 47 34.9	+1.3
SPR3	**Spring Creek 3**	**5.03**	**41**	Pn		Pn	04 47 35.0	+0.8
SPR3				IAML			04 49 03.4	
	comp=E,11nm,1.1s							
PKCU	**Pink Cliffs**	**5.50**	**65**	Pn		Pn	04 47 41.2	+0.6
MSU	**Marysvale**	**6.06**	**56**	Pn		Pn	04 47 49.4	+1.2
ELK	**Elko**	**6.07**	**25**	Pn		Pn	04 47 49.7	+1.4

IDC ***24*** *04:51:21.9±0.8,2˚.83S×139˚.31E, h0km, mb4.2/10, mb1 4.3/14, mb1mx4.1/51, mbtmp4.2/14, ML3.9/3, MS3.8/12, Ms1 3.8/12, ms1mx3.5/31, Error ellipse: s-maj=20.8km s-min=15.6km az=78.0*

NEIC ***24*** *04:51:25.3±1.5, 2˚.87S±0˚.06×139˚.45E±0˚.07, h36km±10km, mb4.3/15, Error ellipse: s-maj=9.8km s-min=8.6km az=62.0*

DJA ***24*** *04:51:25.2±0.4, 3˚S×5˚×13˚9E±˚, h10km, M4.7/9, mB5.9/3, mb4.5/9, MLv4.8/3, Mw(mB)5.5/3*

ISC 24 04:51:23.2±0.5, 2˚.97S±0˚.06×139˚.34E±0˚.06, h10km, n47, σ2s00/47, mb4.3/12, MS3.9/9, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**0.90**	**66**	P		**Pn**	**04 51 40.8**	**-1.2**
WAMI	**Wamena**	**1.11**	**215**	P		Pg	04 51 50.7	+6.1
JAY	**Jayapura**	**1.43**	**72**	Pg		**Pn**	**04 51 47.0**	**-2.3**
	66nm,0.3s,baz=234,slow=10,SNR=144							
JAY				Lg		Lg	04 52 04.5	
	82nm,0.3s,baz=86,slow=15,SNR=6.8							
JAY				LR		LR	04 52 42.3	
	comp=Z,756nm,19.3s,baz=30,slow=56							
SRPI	**Serui, Papua**	**3.29**	**289**	P		**Pn**	**04 52 15.1**	**+0.3**
MMPI	**Merauke**	**5.56**	**169**	P		Pn	04 52 53.1	+7.0
FAKI	**Fak Fak**	**7.09**	**270**	Pn		**Pn**	**04 53 08.4**	**+1.3**
FAKI				Sn		**Sn**	**04 54 28.0**	**+0.2**
FAKI	**Fak Fak**	**7.09**	**270**	P		**Pn**	**04 53 08.7**	**+1.6**
	0.2nm24nm,0.6s							
SIJI	**Sorong**	**8.34**	**284**	Pn		**Pn**	**04 53 23.2**	**-1.1**
	0.7nm,0.3s,baz=250,slow=23,SNR=1.6							
SIJI				LR		LR	04 57 23.2	
	comp=Z,290nm,20.7s,baz=133,slow=44							
PMG	**Port Moresby**	**10.06**	**130**	Pn		**Pn**	**04 53 49.6**	**+1.7**
	1.7nm,0.3s,baz=268,slow=18,SNR=1.6							
PMG				LR		LR	04 58 55.3	
	comp=Z,230nm,21.0s,baz=268,slow=45							
MTN	**Manton Dam**	**12.74**	**219**			**Pn**	**04 54 26.3**	**+1.7**
MTN				Sn		**Sn**	**04 56 47.3**	**+0.6**
SANI	**Sanana**	**13.37**	**274**	P		**Pn**	**04 54 34.3**	**+1.0**
	25nm,0.9s							
SOEI	**Soe**	**16.43**	**245**	Pn		**Pn**	**04 55 14.4**	**+0.3**
SOEI	**Soe**	**16.43**	**245**	P		**P**	**04 55 18.6**	**+1.6**
	4µm121nm,1.1s							
LUWI	**Luwuk**	**16.67**	**276**	Pn		**Pn**	**04 55 17.7**	**+0.5**
LUWI				IAmb		IAmb	04 55 26.3	
	comp=Z,27nm,1.0s							
GTOI	**Gorontalo**	**16.71**	**282**	P		**P**	**04 55 20.9**	**+0.9**
	comp=Z,8.9nm,0.8s							
WB0	**Warramunga Arr**	**17.39**	**196**	P		**Pn**	**04 55 26.7**	**+0.5**
WB0				IAmb		IAmb	04 55 41.6	
	comp=Z,17nm,0.8s							
WR0	**Warramunga Arr**	**17.53**	**195**	P		**Pn**	**04 55 28.1**	**+0.2**
WR0				IAmb		IAmb	04 55 46.7	
	comp=Z,11nm,0.7s							
WB2	**Warramunga Arr**	**17.56**	**196**			**Pn**	**04 55 28.8**	**+0.5**
WB2				IAmb		IAmb	04 55 37.6	
	comp=Z,20nm,0.8s							
WRA	**Warramunga Arr**	**17.57**	**196**	P		**Pn**	**04 55 28.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=16,slow=11,SNR=20							
WRA				S		**Sn**	**04 58 39.4**	**-4.8**
	comp=Z,0.7nm,0.3s,baz=12,slow=22,SNR=7.4							
WRA				Lg		Lg	05 00 41.1	
	baz=24,slow=32,SNR=1.5							
WRA				LR		LR	05 02 47.6	
	comp=Z,495nm,21.1s,baz=15,slow=39							
WRA	**Warramunga Arr**	**17.57**	**196**			**Pn**	**04 55 28.4**	**0.0**
CTA	**Charters Tower**	**18.31**	**159**	P		**P**	**04 55 39.8**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=358,slow=14,SNR=2.5							
CTA				Lg		Lg	05 01 03.2	
	comp=Z,0.3nm,0.3s,baz=74,slow=16,SNR=2.0							
BNSI	**Bone**	**19.25**	**265**	P		**Pn**	**04 55 52.5**	**+3.5**
	comp=Z,15nm,1.4s							
FITZ	**Fitzroy Crossi**	**20.16**	**221**	P		**P**	**04 55 58.2**	**+0.3**
	comp=Z,6.9nm,0.7s,baz=38,slow=10.0,SNR=10							
FITZ				S		**S**	**04 59 35.1**	**-9.4**
	comp=Z,24nm,0.9s,baz=206,slow=11,SNR=8.2							
FITZ				LR		LR	05 04 37.9	
	comp=Z,473nm,18.6s,baz=48,slow=39							
FITZ	**Fitzroy Crossi**	**20.16**	**221**	P		**P**	**04 55 58.1**	**+0.1**
FITZ				IAmb		IAmb	04 56 15.5	
	comp=Z,18nm,0.9s							
AS31	**Alice Springs**	**21.24**	**194**	P		**P**	**04 56 09.6**	**-0.1**
AS31				IAmb		IAmb	04 56 29.0	
	comp=Z,5.6nm,0.6s							
ASAR	**Alice Springs**	**21.24**	**194**	P		**P**	**04 56 11.0**	**+1.3**
	comp=Z,12nm,0.7s,baz=22,slow=9.9,SNR=40							
ASAR				S		**S**	**05 00 06.0**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=11,slow=25,SNR=4.8							
ASAR				Lg		Lg	05 02 37.4	
	comp=Z,4.1nm,1.0s,baz=11,slow=30,SNR=1.8							
ASAR				LR		LR	05 05 02.7	
	comp=Z,504nm,19.3s,baz=12,slow=38							
ASAR	**Alice Springs**	**21.24**	**194**	P		**P**	**04 56 09.4**	**-0.3**
HNR	**Honiara**	**21.46**	**108**	LR		LR	05 04 36.7	
	comp=Z,73nm,21.5s,baz=299,slow=37							
BBKI	**Banjar Baru**	**24.47**	**268**	P		**P**	**04 56 44.5**	**+1.7**
EIDS	**Eidsvold**	**24.98**	**154**	P		**P**	**04 56 47.5**	**+0.3**
EIDS				IAmb		IAmb	04 57 01.0	
	comp=Z,18nm,1.1s							
STKA	**Stephens Creek**	**28.84**	**176**	P		**P**	**04 57 23.6**	**+1.8**
	comp=Z,2.2nm,0.5s,baz=334,slow=7.2,SNR=4.7							
STKA				LR		LR	05 10 54.2	
	comp=Z,251nm,18.8s,baz=6.7,slow=40							
STKA	**Stephens Creek**	**28.84**	**176**	P		**P**	**04 57 22.2**	**+0.3**
BBOO	**Buckleboo**	**29.85**	**186**	P		**P**	**04 57 31.1**	**+0.2**
YULB	**Yu-li**	**31.56**	**327**	P		**P**	**04 57 44.8**	**-1.3**
KSRS	**Korea Array**	**41.59**	**346**	LR		LR	05 14 08.2	
	comp=Z,67nm,19.9s,baz=170,slow=33							
CMAR	**Chiang Mai Arr**	**45.11**	**300**	P		**P**	**04 59 39.1**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=128,slow=5.8,SNR=2.0							
RAO	**Raoul Island**	**48.24**	**127**	LR		LR	05 17 10.8	
	comp=Z,380nm,21.5s,baz=169,slow=32							
RPZ	**Rata Peaks**	**49.35**	**150**	P		**P**	**05 00 14.2**	**+1.3**
	comp=Z,6.1nm,0.5s,baz=255,slow=15,SNR=2.3							
KLR	**Kul'dur**	**52.40**	**354**	P		**P**	**05 00 36.6**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=175,slow=9.4,SNR=2.9							
PETK	**Petropavlovsk-**	**57.96**	**13**	P		**P**	**05 01 15.0**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=160,slow=8.8,SNR=2.9							
PETK				LR		LR	05 22 31.8	
	comp=Z,52nm,21.6s,baz=182,slow=32							
SONM	**Songino Array**	**58.22**	**334**	P		**P**	**05 01 17.3**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=153,slow=5.0,SNR=1.3							
SONM				LR		LR	05 26 38.6	
	comp=Z,73nm,19.1s,baz=170,slow=36							
MKAR	**Makanchi Array**	**70.38**	**322**	P		**P**	**05 02 36.2**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=116,slow=6.6,SNR=1.4							
MKAR	**Makanchi Array**	**70.38**	**322**	P		**P**	**05 02 35.7**	**-1.8**
VNDA	**Vanda**	**75.47**	**175**	P		**P**	**05 03 08.6**	**+1.4**
	comp=Z,3.8nm,0.8s,baz=328,slow=6.6,SNR=16							
VNDA				LR		LR	05 36 26.9	
	comp=Z,88nm,18.9s,baz=326,slow=36							
VNDA	**Vanda**	**75.47**	**175**	P		**P**	**05 03 06.1**	**-1.0**
VNDA				IAmb		IAmb	05 03 10.2	
	comp=Z,3.3nm,0.7s							
SBA	**Scott Base**	**76.23**	**174**	P		**P**	**05 03 10.4**	**-1.0**
SBA				IAmb		IAmb	05 03 24.1	
	comp=Z,2.6nm,0.9s							
QSPA	**South Pole Qui**	**86.98**	**180**	P		**P**	**05 04 08.1**	**-0.6**

BJI ***24*** *04:53:21.1±0.0, 36˚.29N×140˚.20E, h73km, mB4.8/45, mb4.8/64, Ms4.2/28, Ms7 3.9/26*

MOS ***24*** *04:53:22.2±0.9, 36˚.28N×140˚.05E, h71km, mb5.0/56, Error ellipse: s-maj=6.3km s-min=4.3km az=114.2*

NEIC ***24*** *04:53:24.6±0.9, 36˚.25N±0˚.05×140˚.06E±0˚.07, h74km±3km, mb4.7/179, Error ellipse: s-maj=9.3km s-min=6.7km az=120.0*

IDC ***24*** *04:53:24.1±0.4, 36˚.25N×140˚.05E, h75km±3km, mb4.4/45, mb1 4.5/51, mb1mx4.4/75, mbtmp4.7/51, MS3.7/25, Ms1 3.7/25, ms1mx3.6/36, Error ellipse: s-maj=9.7km s-min=7.1km az=93.0*

JMA ***24*** *04:53:25.2±0.1, 36˚.27N×140˚.08E, h68km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs195.00000°, δ36.00000°, λ82.00000°. NP2:φs25.00000°, δ54.00000°, λ96.00000°. Principal axes: T Plg80.0000°, Azm320.0000°; N Plg5.0000°, Azm202.0000°; P Plg9.0000°, Azm111.0000°;*

JMA Felt III J1.

NIED ***24*** *04:53:25.2, 36˚.27N×140˚.08E, h68km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.90; Mθθ-0.09; Mφφ-0.81; Mrθ0.27; Mrφ-0.03; Mθφ0.77; Fault plane solution: Mo^1.18000×10^16 NP1:φs14.00000°, δ67.00000°, λ98.00000°. NP2:φs175.00000°, δ24.00000°, λ73.00000°.*

GCMT ***24*** *04:53:26.6±0.4, 36˚.28N±0˚.03×140˚.10E±0˚.04, h70km±2km, MW4.8/70, Moment Tensor Solution. s26,c27; s70,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.72±.11; Mθθ-0.22±.10; Mφφ-1.50±.09; Mrθ0.19±.07; Mrφ-0.56±.10; Mθφ0.76±.06; Best double couple: Mo^1.88700×10^16 NP1:φs203.00000°, δ33.00000°, λ95.00000°. NP2: φs18.00000°, δ57.00000°, λ87.00000°. Principal axes: T 1.8930, Plg78.0000°, Azm278.0000°; N -0.0110, Plg2.0000°, Azm19.0000°; P -1.8800, Plg12.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 04:53:24.1±0.4, 36˚.28N±0˚.03×140˚.12E±0˚.04, h74km±2km, h74km:pP-P, n464, σ1s25/457, mb4.8/199, 23C-21D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYT	**Yasato**	**0.08**	**128**	⇑P		**Pn**	**04 53 35.4**	**+0.6**
JYT				S		**Sn**	**04 53 42.7**	**+0.1**
JYT	**Yasato**	**0.08**	**128**			**Pn**	**04 53 35.4**	**+0.6**
JYT				Sn		**Sn**	**04 53 42.8**	**+0.1**
JAG	**Ashikaga**	**0.55**	**286**	⇓P		**Pn**	**04 53 38.3**	**+0.5**
JAG				S		**Sn**	**04 53 47.9**	**0.0**
JKT	**Katashina**	**0.85**	**305**	⇓P		**Pn**	**04 53 41.7**	**+0.6**
JKT				S		**Sn**	**04 53 54.4**	**+0.6**
JRY	**Ryogami san**	**1.02**	**255**	⇓P		**Pn**	**04 53 43.6**	**+0.6**
JRY				S		**Sn**	**04 53 57.4**	**+0.2**
JFY	**Yanaizu**	**1.17**	**344**	⇓P		**Pn**	**04 54 00.4**	**+1.0**
JFY				eS		**Sn**	**04 54 02.0**	**+1.3**
JFK	**Kawauchi**	**1.25**	**29**	⇑P		**Pn**	**04 53 46.9**	**+1.0**
JFT	**Otama**	**1.25**	**8**	⇑P		**Pn**	**04 53 47.3**	**+1.3**
JFT				S		**Sn**	**04 54 04.0**	**+1.6**
JOD2	**Odawara 2**	**1.31**	**220**	⇓P		**Pn**	**04 53 47.3**	**+0.5**
JOD2				S		**Sn**	**04 54 03.5**	**-0.3**
JYN	**Shimob**	**1.49**	**239**	⇓P		**Pn**	**04 53 50.5**	**+1.3**
MJAR	**Matsushiro Arr**	**1.56**	**280**	P		**Pn**	**04 53 50.4**	**+0.4**
	50nm,0.3s,baz=87,slow=14,SNR=1860							
MJAR				S		**Sn**	**04 54 05.8**	**-3.8**
	32nm,0.3s,baz=108,slow=16,SNR=12							
MJAR	**Matsushiro Arr**	**1.56**	**280**	P		**Pn**	**04 53 50.0**	**0.0**
MJAR	**Matsushiro Arr**	**1.56**	**280**			**Pn**	**04 53 50.0**	**0.0**
MAJO	**Matsushiro**	**1.56**	**280**	*d*	*i*P	**Pn**	**04 53 50.6**	**+0.6**
MAJO	**Matsushiro**	**1.56**	**280**			**Pn**	**04 53 51.1**	**+1.1**
MAT	**Matsushiro**	**1.56**	**280**	P		**Pn**	**04 53 50.3**	**+0.3**
MAT				S		**Sn**	**04 54 06.7**	**-2.9**
MA1	**Matsushiro**	**1.56**	**280**	P		**Pn**	**04 53 51.1**	**+1.1**
MJB9	**Matsu-tunnel**	**1.56**	**280**			**Pn**	**04 53 51.1**	**+1.0**
JFNN	**Fujinakano**	**1.59**	**228**	⇓P		**Pn**	**04 53 51.3**	**+0.9**
JMM	**Marumori**	**1.68**	**19**			**Pn**	**04 53 52.9**	**+1.4**
JSG	**Sagara**	**2.25**	**225**			**Pn**	**04 54 00.5**	**+1.3**
JSD	**Sado**	**2.30**	**320**	Pn		**Pn**	**04 54 00.5**	**+0.6**
JGF	**Kuroka**	**2.34**	**254**	Pn		**Pn**	**04 54 00.5**	**0.0**
INU	**Inuyama**	**2.68**	**251**			**Pn**	**04 54 06.2**	**+1.2**
JHJ	**Hachijo jima 2**	**3.16**	**185**	P		**Pn**	**04 54 11.8**	**+0.2**
	303nm,0.3s,baz=248,slow=13,SNR=16							
JHJ				S		**Sn**	**04 54 46.6**	**-1.6**
	276nm,0.3s,baz=262,slow=23,SNR=3.2							
JHJ				LR		LR	04 55 06.3	
	comp=Z,475nm,20.7s,baz=124,slow=33							
JHJ2	**Mitsune**	**3.17**	**185**	Pn		**Pn**	**04 54 12.2**	**+0.6**
JWT	**Wachi**	**3.96**	**257**	Pn		**Pn**	**04 54 23.7**	**+1.3**
JTM	**Tenmabayashi**	**4.56**	**9**	Pn		**Pn**	**04 54 32.5**	**+1.8**
JMN	**Monobe**	**5.71**	**245**	Pn		**Pn**	**04 54 47.0**	**+0.6**
JHS	**Saijyo**	**5.84**	**259**	Pn		**Pn**	**04 54 50.0**	**+1.8**
ERM	**Erimo**	**6.20**	**21**	*ce*P		**Pn**	**04 54 51.7**	**-1.2**
ERM				pmax		pmax		
	comp=Z,73nm,1.0s							
ERM	**Erimo**	**6.20**	**21**			**Pn**	**04 54 52.3**	**-0.6**
JEW	**Eniwo**	**6.63**	**9**	Pn		**Pn**	**04 55 02.3**	**+3.4**
ASAJ	**Asahikawa**	**8.06**	**13**	P		**Pn**	**04 55 18.6**	**+0.3**
	comp=Z,3.3nm,0.3s,baz=253,slow=28,SNR=3.2							
ASAJ				S		**Sn**	**04 56 46.0**	**-1.8**
	comp=Z,1.2nm,0.3s,baz=267,slow=32,SNR=2.1							
ASAJ	**Asahikawa**	**8.06**	**13**	P		**Pn**	**04 55 19.1**	**+0.8**
JKA	**Kamikawa-asahi**	**8.06**	**13**	Pn		**Pn**	**04 55 19.1**	**+0.7**
JNU	**Nakatsue**	**8.23**	**250**	P		**Pn**	**04 55 20.4**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=58,slow=8.7,SNR=8.9							
JNU				LR		LR	04 58 50.6	
	comp=Z,555nm,18.6s,baz=64,slow=40							
JNU	**Nakatsue**	**8.23**	**250**	Pn		**Pn**	**04 55 22.0**	**+1.2**
NMR	**Nemuro--Hokkai**	**8.29**	**30**	*e*P

BJI Beijing 19.18 289 P **P** **04 57 41.5 -0.2**
BJI S **S** **05 01 09.5 -5.7**
BJI sS **sS** **05 01 39.8 +0.1**
BJI pmax pmax
comp=Z,24nm,1.1s
BJI pmax pmax
comp=Z,92nm,4.3s
BJI LR LR
comp=Z,190nm,9.3s
BJI LR LR
comp=Z,170nm,9.9s
BJT Baijiatuau 19.19 288 P **P** **04 57 41.6 -0.2**
BJT pmax pmax
comp=Z,26nm,0.9s
BJT Baijiatuau 19.19 288 P **P** **04 57 41.6 -0.2**
ZEA Zeya 19.63 337 *eP* **P** **04 57 47.3 +0.8**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=Z,20nm,0.8s
NACB Ninganchiao 20.00 238 P **P** **04 57 50.5 -0.3**
NACB IAmb IAmb 04 57 55.1
comp=Z,33nm,0.8s
PEA0B Petropavlovsk- 20.87 31 P **P** **04 58 01.4 +1.5**
PEA0B pmax pmax
comp=Z,33nm,1.3s
PEA0B Petropavlovsk- 20.87 31 P **P** **04 58 01.4 +1.5**
PETK Petropavlovsk- 20.87 31 P **P** **04 57 59.9 0.0**
comp=Z,5.5nm,0.9s,baz=222,slow=8.0,SNR=8.7
PETK LR LR 05 05 41.4
comp=Z,74nm,19.9s,baz=222,slow=35
PETK Petropavlovsk- 20.87 31 P **P** **04 58 00.7 +0.8**
PETK Petropavlovsk- 20.87 31 P **P** **04 58 00.7 +0.8**
PET Petropavlovsk 21.21 32 *eP* **P** **04 58 04.9 +1.4**
PET *eS* **S** **05 01 51.2 -3.8**
PET 05 02 25.9
PET pmax pmax
comp=Z,28nm,0.9s
PET MLR MLR
comp=Z,100nm,17.0s
TPUB Ta-pu 21.24 238 P **P** **04 58 04.1 0.0**
TPUB IAmb IAmb 04 58 08.0
comp=Z,57nm,1.0s
WHN Wuhan 22.22 263 ⇑P **P** **04 58 14.6 0.0**
HHC Hu-ho-hao-te 22.74 290 *eP* **P** **04 58 21.0 +0.8**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.6s
MA2 Magadan 24.32 13 P **P** **04 58 34.9 +0.5**
comp=Z,28nm,0.7s,baz=197,slow=9.0,SNR=46
MA2 LR LR 05 08 47.1
comp=Z,72nm,19.8s,baz=180,slow=38
MA2 Magadan 24.32 13 P **P** **04 58 35.0 +0.5**
MA2 pmax pmax
comp=Z,29nm,0.7s
MA2 Magadan 24.32 13 P **P** **04 58 35.0 +0.5**
MA2 IAmb IAmb 04 58 36.8
comp=Z,29nm,0.7s
XAN Xi'an 25.55 274 P **P** **04 58 46.5 +0.5**
XAN pP pP 04 59 04.3 +1.0
XAN sP sP 04 59 13.1 +1.2
XAN pmax pmax
comp=Z,21nm,1.1s
XAN pmax pmax
comp=Z,140nm,5.4s
XAN Xi'an 25.55 274 P **P** **04 58 45.0 -1.0**
XAN pmax pmax
comp=Z,27nm,1.3s
XAN Xi'an 25.55 274 P **P** **04 58 45.0 -1.0**
XAN IAmb IAmb 04 58 47.5
comp=Z,27nm,1.3s
ENH Enshi 26.23 266 P **P** **04 58 51.1 -1.1**
ENH IAmb IAmb 04 58 52.6
comp=Z,36nm,1.2s
YAK Yakutsk 26.59 349 *eP* **P** **04 58 54.0 -1.1**
YAK *e**PP **pP** **04 59 13.4 +1.0**
YAK *e* 04 59 40.8
YAK *e* 05 02 15.2
YAK *eS* **S** **05 03 21.9 -2.3**
YAK *e* 05 09 36.2
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,55nm,1.8s
YAK pmax pmax
comp=N,31nm,1.7s
YAK pmax pmax
comp=E,43nm,2.0s
YAK smax smax
comp=N,11nm,1.2s
YAK smax smax
comp=E,6.0nm,1.0s
ULN Ulaanbaatar 26.93 306 *ceP* **P** **04 58 57.1 -1.4**
ULN pmax pmax
comp=Z,13nm,1.3s
SONM Songino Array 27.36 306 P **P** **04 59 01.6 -0.7**
comp=Z,2.1nm,0.4s,baz=108,slow=9.3,SNR=19
SONM PcP **PcP** **05 02 19.4 -0.2**
comp=Z,1.3nm,0.7s,baz=132,slow=2.1,SNR=3.8
SONM LR LR 05 10 14.0
comp=Z,220nm,19.9s,baz=136,slow=37
SONM Songino Array 27.36 306 P **P** **04 59 01.8 -0.5**
BOD Bodaibo 27.63 329 *eP* **P** **04 59 04.2 -0.2**
BOD pmax pmax
comp=Z,25nm,0.8s
SEY Seymchan 27.74 12 P **P** **04 59 05.8 +0.5**
comp=Z,11nm,0.8s,baz=205,slow=5.3,SNR=22
SEY Seymchan 27.74 12 *i* P **P** **04 59 05.3 0.0**
LZH Lanzhou 29.17 281 *eP* **P** **04 59 18.6 0.0**
LZH pP pP 04 59 37.3 +1.2
LZH sP sP 04 59 44.9 +0.2
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,200nm,11.4s
LZH LR LR
comp=Z,260nm,13.0s
LZH LR LR
comp=Z,200nm,15.2s
ZAK Zakamensk 29.93 310 *eP* **P** **04 59 22.9 -2.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 30.05 312 LR LR 05 12 08.3
comp=Z,161nm,19.2s,baz=108,slow=37
TLY Talaya 30.05 312 *eP* **P** **04 59 27.0 +1.0**
TLY pmax pmax
comp=Z,10.0nm,0.7s
TLY MLR MLR
comp=Z,350nm,16.0s
GYA Guiyang 30.07 261 ⇑P **P** **04 59 25.3 -1.2**
GYA S **S** **05 04 14.3 -5.5**
GYA pmax pmax
comp=Z,31nm,1.0s
GYA pmax pmax
comp=Z,200nm,4.5s
CD2 Chengdu 30.63 271 P **P** **04 59 32.6 +1.2**
CD2 pmax pmax
comp=Z,30nm,0.6s
GTA Gaotai 31.80 288 ⇓P **P** **04 59 40.8 -0.9**
GTA PcP **PcP** **05 02 32.1 +0.9**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,78nm,5.6s
GTA LR LR
comp=Z,130nm,18.5s
GTA LR LR
comp=Z,190nm,19.6s
GTA LR LR
comp=Z,110nm,18.5s
KMI Kunming 33.82 261 ⇓P **P** **04 59 59.0 -0.5**
KMI pP sP 05 00 22.1 -3.6
KMI pmax pmax
comp=Z,30nm,1.1s
KMI LR LR
comp=Z,100nm,9.9s
KMI LR LR
comp=Z,210nm,15.2s
KMI LR LR
comp=Z,190nm,16.4s
KMI Kunming 33.82 261 P **P** **04 59 57.9 -1.6**
KMI pmax pmax
comp=Z,34nm,1.1s
KMI Kunming 33.82 261 P **P** **04 59 57.9 -1.6**
BILL Bilibino 35.05 17 *ceP* **P** **05 00 09.8 +0.4**
BILL *e* 05 01 31.0
BILL *e* 05 02 41.0
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 35.05 17 P **P** **05 00 09.8 +0.4**
BILL IAmb IAmb 05 00 11.4
comp=Z,7.3nm,0.8s
TIXI Tiksi 35.92 354 P **P** **05 00 16.0 -0.9**
comp=Z,5.8nm,0.7s,baz=142,slow=6.2,SNR=14
TIXI Tiksi 35.92 354 P **P** **05 00 16.6 -0.2**
TIXI pmax pmax
comp=Z,6.0nm,0.7s
TIXI Tiksi 35.92 354 P **P** **05 00 16.6 -0.2**
TIXI IAmb IAmb 05 00 17.5
comp=Z,6.3nm,0.7s
UBPT Khong Chiam 37.26 245 P **P** **05 00 29.5 +0.6**
comp=Z,11nm,1.0s
UBPT Khong Chiam 37.26 245 P **P** **05 00 28.2 -0.7**
NONG Nongkai 37.28 251 P **P** **05 00 29.0 0.0**
comp=Z,6µmcomp=Z,46nm,0.9s
SIJI Sorong 37.87 195 P **P** **05 00 33.0 -0.9**
comp=Z,9.0nm,0.5s,baz=89,slow=7.6,SNR=4.4
KHON Khomkaen 38.56 249 P **P** **05 00 40.9 +1.1**
GTOI Gorontalo 38.85 208 P **P** **05 00 41.4 -0.8**
comp=Z,13nm,0.7s
MRSI Marisa 39.41 209 P **P** **05 00 47.2 +0.3**
comp=Z,678nmcomp=Z,12nm,1.0s
CHAI Chaiyaphum 39.46 249 P **P** **05 00 48.0 +0.6**
comp=Z,520nmcomp=Z,64nm,0.9s
FAKI Fak Fak 39.68 192 P **P** **05 00 49.0 -0.1**
FAKI Fak Fak 39.68 192 P **P** **05 00 50.3 +1.2**
comp=Z,59nm,0.8s
DGZ Jazzator, Alta 39.99 307 *c i* P **P** **05 00 52.7 +1.1**
DGZ pmax pmax
comp=Z,29nm,0.8s
CHTO Chiang Mai 40.09 256 P **P** **05 00 52.4 -0.2**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 40.09 256 P **P** **05 00 52.4 -0.2**
WMQ Urumqi 40.25 297 *eP* **P** **05 00 56.1 +2.4**
WMQ pP pP 05 01 13.3 +1.6
WMQ pmax pmax
comp=Z,31nm,0.7s
WMQ pmax pmax
comp=Z,220nm,5.1s
CMAR Chiang Mai Arr 40.29 255 P **P** **05 00 53.3 -1.0**
comp=Z,1.4nm,0.3s,baz=47,slow=8.4,SNR=1.9
CMAR PcP **PcP** **05 02 56.3 -0.3**
comp=Z,1.3nm,0.3s,baz=20,slow=2.9,SNR=5.9
CMAR Chiang Mai Arr 40.29 255 P **P** **05 00 53.9 -0.4**
CMAR 05 02 56.5
CMAR Chiang Mai Arr 40.29 255 P **P** **05 00 53.9 -0.4**
CMAR PcP **PcP** **05 02 56.5 -0.1**
SUKH Sukhothai 40.32 253 P **P** **05 00 58.0 +3.6**
comp=Z,10nm,0.8s
SANI Sanana 40.34 202 P **P** **05 00 53.0 -1.6**
comp=Z,23nm,1.0s
SRAK Srakaew 40.61 247 P **P** **05 00 54.2 -2.6**
comp=Z,192nm,0.9s
LSA Lhasa 41.24 275 P **P** **05 01 03.3 +0.8**
LSA pmax pmax
comp=Z,99nm,1.0s
LSA Lhasa 41.24 275 P **P** **05 01 01.9 -0.6**
LSA pmax pmax
comp=Z,20nm,0.9s
LSA Lhasa 41.24 275 P **P** **05 01 01.9 -0.6**
ZAA0 Zalesovo Array 41.66 313 P **P** **05 01 05.2 +0.1**
ZALV Zalesovo Beam 41.66 313 P **P** **05 01 04.5 -0.5**
comp=Z,22nm,0.8s,baz=91,slow=7.4,SNR=68
ZALV PcP **PcP** **05 03 00.0 -0.4**
comp=Z,9.6nm,0.8s,baz=91,slow=3.3,SNR=8.2
ZALV Zalesovo Beam 41.66 313 P **P** **05 01 05.1 +0.1**
ZALV Zalesovo Beam 41.66 313 P **P** **05 01 05.1 +0.1**
ZALV **PcP** **05 03 00.3 -0.1**
UMPA Umpang Tak 41.66 252 P P 05 01 11.0 +5.5
comp=Z,6µmcomp=Z,17nm,0.8s
ZSN Zaisan 41.82 303 *eP* **P** **05 01 05.5 -0.9**
comp=Z,21nm,1.0s,baz=303
ZSN Zaisan 41.82 303 *eP* **P** **05 01 05.5 -0.9**
ZSN pmax pmax
comp=Z,21nm,1.0s
SHL Shillong 42.35 269 P **P** **05 01 09.9 -1.4**
SHL pmax pmax
comp=Z,14nm,1.0s
SHL Shillong 42.35 269 P **P** **05 01 09.9 -1.4**
SHL IAmb IAmb 05 01 14.0
comp=Z,14nm,1.0s
ANM Nome 42.78 31 P **P** **05 01 13.9 -0.1**
ANM pmax pmax
comp=Z,5.0nm,1.0s
ANM Nome 42.78 31 P **P** **05 01 13.9 -0.1**
ANM Nome 42.78 31 P 05 01 16.3
baz=256
PHET Kaeng Krachan 43.11 248 P **P** **05 01 18.6 +1.4**
MK31 Makanchi Array 43.64 303 *i* P **P** **05 01 21.3 +0.1**
MK31 pmax pmax
comp=Z,31nm,0.9s
MK31 Makanchi Array 43.64 303 P **P** **05 01 21.3 +0.1**
MKAR Makanchi Array 43.64 303 P **P** **05 01 21.2 0.0**
comp=Z,20nm,0.9s,baz=89,slow=9.8,SNR=87
MKAR PcP **PcP** **05 03 06.8 -0.5**
comp=Z,5.7nm,0.8s,baz=83,slow=5.0,SNR=5.6
MKAR LR LR 05 20 29.6
comp=Z,109nm,18.2s,baz=58,slow=37
MKAR Makanchi Array 43.64 303 P **P** **05 01 21.2 0.0**
MKAR PcP **PcP** **05 03 07.2 -0.1**
MAKZ Makanchi 43.85 303 P **P** **05 01 23.0 +0.1**
MAKZ pmax pmax
comp=Z,20nm,0.9s
MAKZ Makanchi 43.85 303 P **P** **05 01 23.0 +0.1**
KSM Kuching 44.28 225 P **P** **05 01 26.7 +0.1**
BNSI Bone 44.59 209 P **P** **05 01 30.0 +1.0**
comp=Z,19nm,1.1s
RDOG Red Dog Mine 44.65 27 P **P** **05 01 30.5 +1.5**
RDOG IAmb IAmb 05 01 31.9
comp=Z,13nm,0.9s
RDOG Red Dog Mine 44.65 27 P 05 01 31.1
baz=255
TAPN Taplejung 44.95 274 *eP* **P** **05 01 32.4 +0.1**
comp=Z,5.6nm,0.4s
KAPI Kappang 45.29 209 P **P** **05 01 33.9 -0.7**
comp=Z,6.1nm,0.4s,baz=33,slow=5.2,SNR=10
KAPI Kappang 45.29 209 P **P** **05 01 34.7 +0.1**
KAPI pmax pmax
comp=Z,32nm,1.2s
KAPI Kappang 45.29 209 P **P** **05 01 34.7 +0.1**
ODAN Odare 45.42 274 *eP* **P** **05 01 35.7 -0.2**
comp=Z,28nm,0.9s
KURK Kurchatov 45.58 309 P **P** **05 01 36.8 +0.3**
KURK 05 03 13.4
KURBB Kurchatov Arra 45.65 308 P **P** **05 01 36.8 -0.3**
comp=Z,19nm,0.9s,baz=85,slow=8.2,SNR=94
KURBB PcP **PcP** **05 03 13.4 -0.6**
comp=Z,4.7nm,0.9s,baz=85,slow=4.3,SNR=7.4
RAMN Ramite 46.02 274 *eP* **P** **05 01 40.6 0.0**
comp=Z,54nm,0.9s
GUN Gumba 46.19 276 *eP* **P** **05 01 42.4 +0.3**
comp=Z,41nm,0.9s
SHLS Shalkode 46.27 298 *eP* **P** **05 01 39.2 -3.1**
comp=Z,14nm,0.8s,baz=298
SHLS Shalkode 46.27 298 *eP* **P** **05 01 39.1 -3.1**
SHLS pmax pmax
comp=Z,14nm,0.8s
UZB Uzynbulak 46.58 298 *eP* **P** **05 01 44.0 -0.7**
comp=Z,18nm,1.3s,baz=298
UZB Uzynbulak 46.58 298 *eP* **P** **05 01 44.0 -0.7**
UZB pmax pmax
comp=Z,17nm,1.3s
PKI Pulchoki 46.71 276 *eP* **P** **05 01 45.6 -0.6**
KPKS Kokpek 46.75 299 *eP* **P** **05 01 45.0 -1.1**
baz=298
KPKS Kokpek 46.75 299 *eP* **P** **05 01 44.9 -1.1**
DMN Daman 46.94 276 *eP* **P** **05 01 47.7 -0.2**
comp=Z,14nm,0.5s
SATY Saty 47.04 298 *eP* **P** **05 01 47.6 -0.8**
baz=298
SATY Saty 47.04 298 *eP* **P** **05 01 47.5 -0.8**
GKN Gorkha 47.15 276 *eP* **P** **05 01 49.4 0.0**
comp=Z,203nm,1.0s
A21K Barrow 47.56 23 P **P** **05 01 52.5 +0.8**
baz=258,SNR=10
A21K Barrow 47.56 23 P 05 01 53.2
baz=258,SNR=10
IMAR Indian Mountai 47.83 30 P **P** **05 01 55.3 +1.3**
IMAR **PcP** **05 03 22.8 +1.3**
IPM Ipoh 47.86 238 P **P** **05 01 54.6 -0.1**
IPM IAmb IAmb 05 01 55.7
comp=Z,15nm,1.0s
CHKK Chushkaly 47.86 300 *eP* **P** **05 01 54.3 -0.3**
baz=299
CHKK Chushkaly 47.86 300 *eP* **P** **05 01 54.2 -0.3**
MDOK Medeo 47.98 299 *eP* **P** **05 01 55.4 -0.3**
baz=298
MDOK Medeo 47.98 299 *eP* **P** **05 01 55.3 -0.3**
AAA Alma-Ata 48.06 299 *eP* **P** **05 01 56.1 0.0**
comp=Z,7.5nm,0.6s,baz=299
AAA Alma-Ata 48.06 299 *eP* **P** **05 01 56.1 0.0**
AAA pmax pmax
comp=Z,7.0nm,0.6s
TNSS Tian-Shan 48.09 298 *eP* **P** **05 01 56.6 -0.2**
baz=298
TNSS Tian-Shan 48.09 298 *eP* **P** **05 01 56.5 -0.2**
KUU Kurty 48.31 300 *eP* **P** **05 01 56.7 -1.2**
comp=Z,23nm,1.4s,baz=300
KUU Kurty 48.31 300 *eP* **P** **05 01 56.7 -1.2**
KUU pmax pmax
comp=Z,23nm,1.4s
CHUM Lake Minchumin 48.34 33 P 05 02 00.4
baz=269,SNR=5.5
PPLA Purkeypile 48.38 35 IAmb IAmb 05 02 06.1
comp=Z,19nm,1.3s
SKT Skwentna 48.70 36 P 05 02 02.1
baz=271
ULHL Ulahol 48.79 298 P **P** **05 02 02.5 +0.6**
SNR=7.4
BPAW Bear Paw Mtn. 48.93 33 P 05 02 04.1
baz=270
KTH Kantishna Hill 48.96 34 IAmb IAmb 05 02 05.9
comp=Z,9.5nm,1.0s
MLY Manley 49.04 32 IAmb IAmb 05 02 06.5
comp=Z,7.2nm,0.9s
MLY Manley 49.04 32 P 05 02 05.5
baz=269,SNR=8.2
TKM2 Tokmak 2 49.07 299 P **P** **05 02 05.1 +1.1**
SNR=16
TKM2 Tokmak 2 49.07 299 *i* P **P** **05 02 04.9 +0.8**
TKM2 pmax pmax
comp=Z,20nm,1.1s
SUA Susitna One 49.09 36 P **P** **05 02 04.8 +1.1**
SUA IAmb IAmb 05 02 09.7
comp=Z,5.3nm,0.8s
SUA Susitna One 49.09 36 P 05 02 05.6
baz=272
TRF Thorofare Moun 49.24 34 P **P** **05 02 05.9 +0.9**
TRF IAmb IAmb 05 02 08.7
comp=Z,4.5nm,0.8s
TRF Thorofare Moun 49.24 34 P 05 02 06.8
baz=271
CUT Chulitna 49.28 35 P 05 02 06.5
baz=272
COLD Coldfoot 49.32 29 P 05 02 06.7
baz=268
BRZS Berezniki 49.45 308 *eP* **P** **05 02 05.6 -1.0**
baz=308
BRZS Berezniki 49.45 308 *eP* **P** **05 02 05.6 -1.0**
RC01 Rabbit Creek A 49.59 37 P **P** **05 02 08.9 +1.4**
RC01 IAmb IAmb 05 02 26.9
comp=Z,9.9nm,1.1s
RC01 Rabbit Creek A 49.59 37 P 05 02 08.8
baz=274
KMMI Kalianget 49.60 215 P **P** **05 02 08.2 +0.2**
comp=Z,36nm,1.0s
SGDS Sogindy 49.62 300 *eP* **P** **05 02 07.8 -0.3**
comp=Z,9.6nm,1.0s,baz=300
SGDS Sogindy 49.62 300 *eP* **P** **05 02 07.7 -0.3**
SGDS pmax pmax
comp=Z,10.0nm,1.0s
TOLK Toolik Lake Re 49.62 27 IAmb IAmb 05 02 10.6
comp=Z,5.4nm,0.9s
TOLK Toolik Lake Re 49.62 27 P 05 02 09.4
baz=267,SNR=6.0
BTLS Baital 49.62 302 *eP* **P** **05 02 07.4 -0.5**
comp=Z,7.3nm,0.7s,baz=302
BTLS Baital 49.62 302 *eP* **P** **05 02 07.4 -0.5**
BTLS pmax pmax
comp=Z,7.0nm,0.7s
I23K Minto, Yukon-K 49.63 32 P **P** **05 02 09.2 +1.6**
NEA2 Nenana 49.76 32 IAmb IAmb 05 02 11.8
comp=Z,11nm,0.9s
NEA2 Nenana 49.76 32 P 05 02 10.5
baz=271,SNR=12
KSH Kashi 49.76 294 P **P** **05 02 12.9 +3.6**
KSH pP sP 05 02 32.4 -3.8
KSH pmax pmax
comp=Z,36nm,1.3s
KSH pmax pmax
comp=Z,230nm,5.8s
SEW Seward 49.80 38 P 05 02 10.1
baz=275
MCK McKinley 49.84 33 P **P** **05 02 10.7 +1.4**
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 49.84 33 P **P** **05 02 10.7 +1.4**
MCK IAmb IAmb 05 02 16.1
comp=Z,7.0nm,0.9s
MCK McKinley 49.84 33 P 05 02 10.8
baz=272,SNR=5.3
PMR Palmer 49.85 36 IAmb IAmb 05 02 28.7
comp=Z,5.3nm,0.9s
PMR Palmer 49.85 36 P 05 02 10.3
baz=274
RND Reindeer 49.89 34 IAmb IAmb 05 02 12.0
comp=Z,9.1nm,0.9s
AAK Ala-Archa 49.93 299 P **P** **05 02 11.1 +0.5**
SNR=8.9
AAK Ala-Archa 49.93 299 *i* P **P** **05 02 10.6 +0.1**
AAK pmax pmax
comp=Z,27nm,1.0s
AAK Ala-Archa 49.93 299 P **P** **05 02 10.5 -0.1**
AAK IAmb IAmb 05 02 12.0
comp=Z,11nm,1.1s
GHO Glory Hole Cre 49.94 36 IAmb IAmb 05 02 29.9
comp=Z,9.5nm,0.9s
SRBI Singaraja 49.95 213 P P 05 02 17.4 +6.7
UCH Uchtor 50.03 298 P **P** **05 02 12.7 +1.1**
SNR=7.1
WAT2 Susitna Watana 50.03 34 P 05 02 11.6
baz=273
WRH Wood River Hil 50.18 32 IAmb IAmb 05 02 14.3
comp=Z,4.7nm,0.8s
KNK Knik Glacier 50.19 36 P 05 02 12.8
baz=274
SML Sawmill 50.22 36 P 05 02 13.7
baz=274
TCOL CIGO, UAF Yank 50.27 32 P 05 02 13.8
baz=272
COLA College 50.27 32 *i* P **P** **05 02 10.5 -2.0**
COLA pmax pmax
comp=Z,25nm,2.1s
COLA College 50.27 32 P 05 02 13.8
baz=272
PWL Port Wells 50.29 37 IAmb IAmb 05 02 17.5
comp=Z,7.2nm,1.0s
CCB Clear Creek Bu 50.30 32 P **P** **05 02 14.1 +1.4**
BVAR Borovoye Array 50.31 313 P **P** **05 02 11.7 -1.3**
comp=Z,2.1nm,0.8s,baz=108,slow=9.7,SNR=8.4
BRVK Borovoye 50.37 313 P **P** **05 02 13.7 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 50.37 313 P **P** **05 02 13.7 +0.2**
BRVK IAmb IAmb 05 02 20.7
comp=Z,5.6nm,0.7s
EKS2 Erkin-Say 50.43 299 P **P** **05 02 15.1 +0.8**
SNR=7.2
POKR Poker Plat Res 50.44 32 P 05 02 16.0
baz=272,SNR=14
PSI Prapat 50.51 238 P **P** **05 02 14.2 -1.0**
comp=Z,6.0nm,0.7s,baz=0.8,slow=4.6,SNR=7.6
PSI LR LR 05 24 50.6
comp=Z,78nm,18.2s,baz=90,slow=37
RPSI Rantau Prapat 50.59 238 IAmb IAmb 05 02 16.8
comp=Z,7.5nm,0.8s
AML Almayashu 50.64 298 P **P** **05 02 17.3 +1.1**
SNR=65
HDA Harding Lake 50.68 32 P 05 02 16.5
baz=273,SNR=9.0
HDA P 05 02 16.5
baz=273,SNR=9.0

IL31 **50.69 32** IAmb IAmb 05 02 17.7
comp=Z,8.1nm,0.8s
ILAR Eielson Array 50.69 32 P **P** **05 02 16.1 +0.4**
comp=Z,6.8nm,0.8s,baz=271,slow=6.3,SNR=87
ILAR Eielson Array 50.69 32 P **P** **05 02 17.0 +1.3**
ILAR Eielson Array 50.69 32 P **P** **05 02 17.0 +1.3**
SCM Sheep Creek Mo 50.69 36 P **P** **05 02 17.0 +1.1**
SCM pmax pmax
comp=Z,15nm,1.2s
SCM Sheep Creek Mo 50.69 36 P **P** **05 02 16.9 +1.1**
SCM IAmb IAmb 05 02 35.9
comp=Z,15nm,1.2s
M24K Tolsona, Glenn 51.21 35 P **P** **05 02 20.5 +0.8**
M24K Tolsona, Glenn 51.21 35 P 05 02 20.1
baz=276
PRP Porcupine Dome 51.22 31 IAmb IAmb 05 02 22.7
comp=Z,7.0nm,0.9s
PRP Porcupine Dome 51.22 31 P 05 02 21.6
baz=274,SNR=6.9
FYU Fort Yukon 51.28 30 P **P** **05 02 21.5 +1.4**
FYU IAmb IAmb 05 02 23.4
comp=Z,14nm,1.1s
KLU Klutina 51.39 36 P 05 02 22.5
baz=276
PAX Paxson 51.45 34 P 05 02 23.6
baz=276
BMAR Burnt Mountain 51.49 28 P **P** **05 02 23.0 +1.2**
EYAK Cordova Ski Ar 51.59 37 P 05 02 24.1
baz=277
N25K Chitina, Valde 52.01 36 P **P** **05 02 26.8 +1.1**
N25K IAmb IAmb 05 02 39.9
comp=Z,10nm,1.5s
N25K Chitina, Valde 52.01 36 P 05 02 27.3
baz=277
SCRK Sand Creek 52.01 33 IAmb IAmb 05 02 28.0
comp=Z,10.0nm,0.9s
SCRK Sand Creek 52.01 33 P 05 02 26.9
baz=276,SNR=16
DOT Dot Lake 52.01 33 IAmb IAmb 05 02 28.7
comp=Z,5.5nm,1.0s
BMRM Bremner River 52.09 37 IAmb IAmb 05 02 46.7
comp=Z,16nm,1.4s
BMRM Bremner River 52.09 37 P 05 02 28.0
baz=278
DZA Taraz 52.09 300 *e*P **P** **05 02 26.0 -0.6**
comp=Z,6.7nm,0.9s,baz=300
DZA Taraz 52.09 300 *e*P **P** **05 02 26.0 -0.6**
DZA pmax pmax
comp=Z,7.0nm,0.9s
MENT Mentasta 52.25 34 IAmb IAmb 05 02 30.2
comp=Z,5.3nm,0.8s
GLB Gilahina Butte 52.40 36 IAmb IAmb 05 02 49.3
comp=Z,11nm,1.3s
KLSI 52.50 227 P **P** **05 02 28.9 -0.9**
comp=Z,13nm,1.2s
GSI Gunungsitoli 52.52 238 P **P** **05 02 29.7 -0.3**
GSI Gunungsitoli 52.52 238 P **P** **05 02 29.8 -0.2**
comp=Z,46nm,1.1s
LHSI Lahat 52.53 229 P **P** **05 02 29.8 -0.2**
comp=Z,41nm,0.9s
KKAR Karatay Array 52.60 300 P **P** **05 02 30.4 +0.1**
KKAR Karatay Array 52.60 300 P **P** **05 02 30.4 +0.1**
KKAR Karatay Array 52.60 300 IAmb IAmb 05 02 31.7
comp=Z,22nm,1.0s
BERG Berg Lake 52.61 37 P **P** **05 02 32.3 +2.1**
BERG IAmb IAmb 05 02 37.7
comp=Z,9.3nm,0.9s
MDSI Maura Dua 52.66 227 P **P** **05 02 30.3 -0.7**
MCARA McCarthy VSAT 52.79 36 IAmb IAmb 05 02 52.1
comp=Z,15nm,1.1s
MCARA McCarthy VSAT 52.79 36 P 05 02 33.3
baz=279,SNR=7.0
CRQM Cirque 52.83 37 IAmb IAmb 05 02 35.1
comp=Z,12nm,1.0s
K27K Chicken 52.84 33 IAmb IAmb 05 02 34.8
comp=Z,7.5nm,0.9s
K27K Chicken 52.84 33 P 05 02 33.5
baz=278
CRQE Cirque 52.85 37 P 05 02 34.0
baz=279
TGL Tana Glacier 52.98 37 IAmb IAmb 05 02 53.5
comp=Z,9.2nm,1.1s
BCAR Beaver Creek A 53.10 34 P **P** **05 02 35.1 +1.3**
EGAK Eagle 53.13 32 P 05 02 34.9
baz=278,SNR=6.4
IUG Iuzhnay 53.23 299 *e*P **P** **05 02 34.6 -0.6**
comp=Z,11nm,0.9s,baz=299
IUG Iuzhnay 53.23 299 *e*P **P** **05 02 34.5 -0.6**
IUG pmax pmax
comp=Z,11nm,0.9s
BARN Barnard Glacie 53.49 36 P **P** **05 02 37.7 +0.9**
BARN IAmb IAmb 05 02 39.8
comp=Z,7.8nm,1.2s
GRNC Granite Creek 53.51 37 IAmb IAmb 05 02 57.3
comp=Z,9.0nm,1.1s
CTG Chitna Glacier 53.66 36 P 05 02 39.6
baz=281
CTGM Chitina Glacie 53.66 36 IAmb IAmb 05 02 58.5
comp=Z,10nm,1.2s
EPYK Eagle Plains 54.70 29 P **P** **05 02 46.5 +1.2**
EPYK Eagle Plains 54.70 29 P 05 02 47.2
baz=281
INK Inuvik 55.53 27 IAmb IAmb 05 02 53.2
comp=Z,6.0nm,0.8s
FITZ Fitzroy Crossi 55.79 197 P **P** **05 02 53.8 +0.2**
comp=Z,17nm,0.7s,baz=31,slow=7.4,SNR=6.2
WR0 Warramunga Arr 56.18 186 P **P** **05 02 56.3 -0.1**
WRA Warramunga Arr 56.18 187 P **P** **05 02 56.2 -0.2**
comp=Z,6.5nm,0.7s,baz=0.5,slow=7.4,SNR=12
WRA LR LR 05 26 42.3
comp=Z,45nm,20.0s,baz=55,slow=36
ARU Arti 56.24 319 P **P** **05 02 56.3 -0.1**
comp=Z,2.7nm,0.5s
ARU Arti 56.24 319 *c* iP **P** **05 02 56.5 +0.1**
ARU *PP **pP** **05 03 15.1 -0.2**
ARU 05 05 00.9
ARU S **S** **05 10 42.8 +2.5**
ARU SS **SS** **05 14 28.5 +1.2**
ARU pmax pmax
comp=Z,13nm,0.8s
ARU Arti 56.24 319 P **P** **05 02 56.8 +0.4**
WHY Whitehorse 56.81 36 IAmb IAmb 05 03 04.1
comp=Z,12nm,1.4s
HYB Hyderabad 57.14 268 *i* P **P** **05 03 03.0 -0.4**
ABKAR Akbulak array 57.63 310 P **P** **05 03 06.3 0.0**
ABKAR Akbulak array 57.63 310 IAmb IAmb 05 03 07.3
comp=Z,13nm,0.8s
JIS Juneau Island 57.75 39 P **P** **05 03 08.2 +1.2**
JIS IAmb IAmb 05 03 10.8
comp=Z,8.5nm,0.9s
AKTO Aktyubinsk 58.40 312 P **P** **05 03 11.1 -0.7**
comp=Z,10nm,0.9s
C36M Paulatuk 58.55 24 P **P** **05 03 13.8 +1.3**
C36M IAmb IAmb 05 03 14.3
comp=Z,6.9nm,0.8s
C36M Paulatuk 58.55 24 P 05 03 13.7
baz=290
DLBC Dease Lake 59.86 37 IAmb IAmb 05 03 43.7
comp=Z,6.8nm,0.9s
ASAR Alice Springs 59.91 187 P **P** **05 03 22.1 -0.3**
comp=Z,5.2nm,0.9s,baz=1.9,slow=5.8,SNR=6.0
ASAR PKP2bc 05 32 54.4
comp=Z,0.6nm,0.8s,baz=163,slow=2.5,SNR=5.8
ASAR Alice Springs 59.91 187 P **P** **05 03 22.8 +0.3**
KIRV Kirov 60.22 323 P **P** **05 03 22.7 -1.4**
comp=Z,29nm,0.7s,baz=65,slow=3.4,SNR=8.2
SPITS Spitsbergen Ar 61.06 349 P **P** **05 03 29.6 0.0**
comp=Z,4.9nm,0.8s,baz=359,slow=7.2,SNR=2.5
EUNU Eureka 61.09 8 P **P** **05 03 30.9 +1.1**
EUNU IAmb IAmb 05 03 31.4
comp=Z,9.4nm,0.9s
EIDS Eidsvold 62.18 169 P **P** **05 03 38.1 +0.4**
EIDS IAmb IAmb 05 03 45.9
comp=Z,14nm,1.5s
DZM Mont Dzumac 63.15 153 P **P** **05 03 44.5 +0.2**
comp=Z,6.1nm,0.8s,baz=61,slow=7.6,SNR=3.2
DZM LR LR 05 28 20.9
comp=Z,46nm,20.7s,baz=11,slow=33
GEYT Alibeck 63.28 299 P **P** **05 03 45.0 -0.1**
comp=Z,4.4nm,0.7s,baz=42,slow=5.1,SNR=6.4
GEYT LR LR 05 33 07.2
comp=Z,38nm,20.7s,baz=300,slow=38
GEYT Alibeck 63.28 299 P **P** **05 03 45.1 0.0**
GEYT IAmb IAmb 05 03 46.6
comp=Z,4.9nm,0.8s
RES Resolute Bay 63.59 14 P **P** **05 03 47.4 +0.9**
RES pmax pmax
comp=Z,4.0nm,0.9s
RES Resolute Bay 63.59 14 P **P** **05 03 47.4 +0.9**
BELG Belogornoye 63.64 317 P **P** **05 03 46.6 -0.5**
comp=Z,42nm,0.9s,baz=106,slow=4.0,SNR=18
BELG Belogornoye 63.64 317 *i* P **P** **05 03 46.8 -0.3**
BELG pmax pmax
comp=Z,9.0nm,0.9s
KLMR Klimovskoe 63.84 328 *e*P **P** **05 03 46.7 -1.6**
KLMR pmax pmax
comp=Z,13nm,0.8s
KLMR Klimovskoe 63.84 328 *e*P **P** **05 03 46.7 -1.6**
KLMR AMP 05 03 49.1
comp=Z,13nm,0.8s
ARCES ARCESS Array B 64.33 339 P **P** **05 03 51.6 +0.1**
comp=Z,6.1nm,0.8s,baz=50,slow=6.8,SNR=10.0
ARCES LR LR 05 34 47.9
comp=Z,79nm,20.0s,baz=80,slow=39
MSVF Nonsavu 64.59 140 LR LR 05 28 21.9
comp=Z,28nm,21.4s,baz=299,slow=32
YKA Yellowknife Ar 64.98 30 P **P** **05 03 56.3 +0.6**
comp=Z,4.1nm,0.8s,baz=301,slow=6.0,SNR=63
YKA pP **pP** **05 04 14.8 -0.2**
comp=Z,2.3nm,0.8s,baz=301,slow=6.2,SNR=7.0
DAG Danmarks Havn 66.43 355 *i* P **P** **05 04 04.9 0.0**
comp=Z,15nm,1.1s
DAG Danmarks Havn 66.43 355 *i* P **P** **05 04 04.9 0.0**
DAG Danmarks Havn 66.43 355 *i* P **P** **05 04 05.0 0.0**
DAG IAmb IAmb 05 04 05.9
comp=Z,15nm,1.1s
VRH Novokhopyorsk 67.44 318 *e*P **P** **05 04 10.7 -1.0**
VRH pmax pmax
comp=Z,20nm,0.8s
STKA Stephens Creek 67.81 179 P **P** **05 04 14.0 -0.1**
comp=Z,5.0nm,0.7s,baz=2.7,slow=5.6,SNR=8.0
STKA LR LR 05 35 20.2
comp=Z,39nm,18.0s,baz=24,slow=37
OBN Obninsk 68.07 323 *e*P **P** **05 04 15.0 -0.6**
OBN *e* 05 04 38.5
OBN *e* 05 06 47.4
OBN pmax pmax
comp=Z,13nm,0.8s
LPSR Galich'ya Gora 68.21 320 *e*P **P** **05 04 16.0 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 68.81 319 *e*P **P** **05 04 19.7 -0.6**
VSR pmax pmax
comp=Z,30nm,0.9s
KULLO Kullorsuaq 68.82 5 *i* P **P** **05 04 20.5 +0.6**
KULLO Kullorsuaq 68.82 5 *i* P **P** **05 04 20.5 +0.6**
KULLO Kullorsuaq 68.82 5 *i* P **P** **05 04 20.6 +0.6**
VORD Divnogorie 68.87 318 *e*P **P** **05 04 20.3 -0.3**
VORD pmax pmax
comp=Z,30nm,1.3s
DBG Daneborg 68.91 354 *e*P **P** **05 04 20.3 -0.3**
FINES FINESS Array B 68.99 332 P **P** **05 04 21.3 +0.1**
comp=Z,13nm,0.8s,baz=66,slow=4.8,SNR=20
FINES LR LR 05 35 34.5
comp=Z,64nm,18.6s,baz=272,slow=37
FINES FINESS Array B 68.99 332 P **P** **05 04 21.5 +0.3**
FINES FINESS Array B 68.99 332 P **P** **05 04 21.5 +0.3**
GOF Gofitskoye 69.81 311 ǁ *e*P **P** **05 04 27.3 +0.7**
GOF pmax pmax
comp=Z,26nm,0.9s
B08A Colville Reser 70.11 44 P **P** **05 04 29.4 +0.9**
B08A IAmb IAmb 05 04 48.2
comp=Z,12nm,1.4s
ZEI Tsey 70.47 309 *e*P **P** **05 04 29.6 -1.3**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
VSU Vasula 70.57 329 *e*P **P** **05 04 30.9 0.0**
KBZ Khabaz 70.60 310 P **P** **05 04 31.6 +0.2**
comp=Z,15nm,0.9s,baz=38,slow=4.3,SNR=29
KBZ LR LR 05 37 38.9
comp=Z,60nm,20.1s,baz=52,slow=38
KBZ Khabaz 70.60 310 *c* iP **P** **05 04 31.2 -0.2**
KBZ pmax pmax
comp=Z,18nm,0.9s
KIV Kislovodsk 70.61 311 *e*P **P** **05 04 31.9 +0.3**
KIV pmax pmax
comp=Z,107nm,1.1s
KIV MLR MLR 05 39 46.0
comp=Z,105nm,18.0s
KIV Kislovodsk 70.61 311 P **P** **05 04 31.7 +0.1**
SHA1 Shidzhatmaz 70.74 310 *i* P **P** **05 04 31.9 -0.7**
NEY Neytrino 70.96 310 *i* P **P** **05 04 33.9 0.0**
NEY pmax pmax
comp=Z,3.0nm,1.2s
GNI Garni 71.32 306 P **P** **05 04 36.8 +0.8**
comp=Z,5.1nm,0.6s,baz=99,slow=22,SNR=3.9
GNI Garni 71.32 306 *i* P **P** **05 04 36.2 +0.2**
GNI pmax pmax
comp=Z,9.0nm,1.2s
NEW Newport 71.40 43 P **P** **05 04 37.3 +1.1**
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW Newport 71.40 43 P **P** **05 04 37.3 +1.1**
NEW IAmb IAmb 05 04 57.1
comp=Z,7.5nm,0.9s
NEW Newport 71.40 43 P 05 04 37.4
baz=304
SUMG Summit 71.44 360 *i* P **P** **05 04 37.4 +0.9**
comp=Z,22nm,0.9s
SUMG Summit 71.44 360 *i* P **P** **05 04 37.4 +0.9**
SUMG Summit 71.44 360 P **P** **05 04 37.3 +0.8**
SUMG Summit 71.44 360 *i* P **P** **05 04 37.5 +0.9**
SUMG IAmb IAmb 05 04 38.6
comp=Z,22nm,0.9s
M04C Macdoel 72.15 51 P 05 04 42.7
baz=303
MNK Minsk 72.53 326 *i* P **P** **05 04 40.5 -2.3**
comp=E,2.0nm,0.9s
MNK *i* P **P** **05 04 40.5 -2.3**
comp=N,19nm,1.2s
MNK *i* P **P** **05 04 40.5 -2.3**
comp=Z,12nm,0.9s
MNK *i* PcP **PcP** **05 04 57.6 -2.5**
MNK *i* pP **pP** **05 04 59.2 -3.2**
MNK *i* PP **PP** **05 07 22.2 -2.2**
MNK *i* PPP PPP 05 09 06.6
MNK *i* S **S** **05 13 58.5 -2.7**
MNK *i* sS **sS** **05 14 32.1 -3.0**
MNK *i* ScS **SKKSac** **05 14 41.8 +0.7**
MNK *i* SS **SS** **05 18 41.3 +1.0**
MNK *i* SSS SSS 05 22 01.9
MNK *i* LQ LQ 05 31 44.5
MNK *i* LR LR 05 37 24.8
MNK *i* LRM MLR 05 39 38.3
comp=E,10.0nm,13.4s
MNK *i* LRM MLR 05 39 46.0
comp=Z,46nm,10.6s
MNK *i* LRM MLR 05 39 50.5
comp=N,134nm,19.2s
IDID Didziasalis 72.54 327 *e*P **P** **05 04 40.5 -2.3**
ISAL Salakas 72.65 327 *e*P **P** **05 04 44.4 +1.0**
IIGN Ignalina 72.74 327 *e*P **P** **05 04 42.1 -1.9**
SCO Scoresbysund 72.75 354 *i* P **P** **05 04 45.3 +1.5**
comp=N,8.5nm,0.8s
SCO Scoresbysund 72.75 354 *i* P **P** **05 04 45.3 +1.5**
SCO Scoresbysund 72.75 354 *i* P **P** **05 04 45.3 +1.5**
SCO IAmb IAmb 05 04 46.5
comp=Z,8.5nm,0.8s
NACGM Naroch 72.78 326 *i* P **P** **05 04 44.1 -0.1**
NACGM *i* P **P** **05 04 44.1 -0.1**
NACGM *i* P **P** **05 04 44.1 -0.1**
NACGM *i* pP **pP** **05 05 05.2 +1.3**
NACGM *i* PP **PP** **05 07 27.3 +0.9**
NACGM *i* PPP PPP 05 09 14.9
NACGM *i* S **S** **05 14 07.2 +3.2**
NACGM *i* sS **sS** **05 14 38.9 +1.0**
NACGM *i* SS **SS** **05 18 43.7 -0.4**
NACGM *i* SSS SSS 05 22 04.4
JTMT Jette 73.26 43 P **P** **05 04 48.2 +0.8**
JTMT IAmb IAmb 05 04 50.5
comp=Z,6.6nm,0.8s
PABE Paberze 73.63 328 *e*P **P** **05 04 49.5 +0.2**
TOO Toolangi 73.65 176 P **P** **05 04 50.0 +0.5**
TOO pmax pmax
comp=Z,11nm,1.0s
TOO Toolangi 73.65 176 P **P** **05 04 50.0 +0.5**
TOO IAmb IAmb 05 04 51.6
comp=Z,11nm,1.0s
BEKR Beckworth 74.14 52 P **P** **05 04 53.4 +0.6**
BEKR IAmb IAmb 05 04 55.3
comp=Z,6.7nm,0.8s
AKASG Malin Array Be 74.25 322 P **P** **05 04 52.7 -0.2**
comp=Z,4.3nm,0.4s,baz=48,slow=6.2,SNR=34
AKASG LR LR 05 40 22.3
comp=Z,154nm,19.1s,baz=60,slow=38
AKASG Malin Array Be 74.25 322 P **P** **05 04 52.8 -0.2**
AKASG pmax pmax
comp=Z,9.0nm,1.1s
AKASG Malin Array Be 74.25 322 P **P** **05 04 52.8 -0.2**
AKASG IAmb IAmb 05 04 53.9
comp=Z,9.0nm,1.1s
AKBB Malin Array Si 74.25 322 P **P** **05 04 52.9 -0.1**
AKBB pmax pmax
comp=Z,17nm,0.8s
AKBB Malin Array Si 74.25 322 P **P** **05 04 52.9 -0.1**
NC405 NORSAR Array S 74.26 337 IAmb IAmb 05 05 08.7
comp=Z,16nm,1.0s
HFS Hagfors 74.34 335 P **P** **05 04 53.0 -0.3**
comp=Z,4.8nm,0.6s,baz=62,slow=3.8,SNR=12
NC204 NORSAR Array S 74.44 337 P **P** **05 04 54.6 +0.6**
NB201 NORSAR Array S 74.44 337 P **P** **05 04 54.2 +0.2**
NB2 NORSAR Subarra 74.47 337 P **P** **05 04 54.0 -0.2**
comp=Z,6.2nm,0.7s,baz=41,slow=5.9
NOA NORSAR Array B 74.47 337 P **P** **05 04 54.3 +0.1**
comp=Z,8.9nm,0.7s,baz=40,slow=5.8,SNR=32
NOA PP **PP** **05 07 42.1 +1.4**
comp=Z,2.1nm,1.0s,baz=41,slow=8.7,SNR=3.3
NOA LR LR 05 40 38.9
comp=Z,40nm,18.6s,baz=45,slow=38
NBO00 NORSAR Array S 74.62 337 P **P** **05 04 55.7 +0.7**
FFC Flin Flon 74.90 32 P **P** **05 04 57.9 +1.2**
FFC pmax pmax
comp=Z,10.0nm,1.0s
FFC Flin Flon 74.90 32 P **P** **05 04 57.9 +1.2**
FFC IAmb IAmb 05 04 59.0
comp=Z,10nm,1.0s
FCC Fort Churchill 75.14 26 P **P** **05 04 58.7 +0.8**
FCC pmax pmax
comp=Z,8.0nm,1.0s
FCC Fort Churchill 75.14 26 P **P** **05 04 58.7 +0.8**
FCC IAmb IAmb 05 04 59.2
comp=Z,8.2nm,0.9s
LRM Limekiln Ridge 75.41 44 P **P** **05 05 00.9 +0.8**
MARD Mardin 75.46 306 P **P** **05 05 01.2 +0.8**
EGMT Eagleton 75.53 41 IAmb IAmb 05 05 21.4
comp=Z,13nm,0.9s
EGMT Eagleton 75.53 41 P 05 05 02.1
baz=308
DLMT Dillon 75.61 44 IAmb IAmb 05 05 22.3
comp=Z,9.1nm,0.7s
HLID Hailey 75.65 46 P 05 05 02.9
baz=307
BOZ Bozeman (W) 76.01 43 P 05 05 04.8
baz=308
KVN Kaiserville 76.05 52 IAmb IAmb 05 05 06.6
comp=Z,6.6nm,1.0s
LHV Little Huntoon 76.25 53 IAmb IAmb 05 05 08.2
comp=Z,8.9nm,1.0s
NVAR Mina Array Bea 76.28 52 P **P** **05 05 06.8 +1.6**
comp=Z,3.5nm,0.7s,baz=286,slow=5.9,SNR=30
NVAR pP **pP** **05 05 25.6 +0.7**
comp=Z,1.5nm,0.6s,baz=284,slow=4.9,SNR=4.5
NVAR Mina Array Bea 76.28 52 P **P** **05 05 05.8 +0.6**
YHL Hebgen Lake 76.72 44 IAmb IAmb 05 05 29.1
comp=Z,6.8nm,0.9s
YHB Horse Butte 76.77 44 IAmb IAmb 05 05 29.3
comp=Z,6.5nm,0.8s
ELK Elko 76.83 49 P **P** **05 05 08.9 +0.6**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 76.83 49 P **P** **05 05 08.9 +0.6**
VES Vestal, Richgr 77.27 55 P 05 05 11.7
baz=306
LVV L'vov 77.37 323 *e*P **P** **05 05 10.8 0.0**
RLMT Red Lodge 77.61 43 P **P** **05 05 13.2 +0.6**
RLMT Red Lodge 77.61 43 P 05 05 14.1
baz=309
HVU Hansel Valley 77.69 47 IAmb IAmb 05 05 15.9
comp=Z,4.8nm,0.8s
GRAC Grapevine Rang 77.72 53 P 05 05 14.8
baz=306
R11A Troy Canyon, C 78.05 51 P **P** **05 05 15.6 +0.5**
R11A Troy Canyon, C 78.05 51 P 05 05 16.4
baz=307
DGMT Dagmar 78.08 38 P 05 05 16.2
baz=312
MPMC Manual Prospec 78.19 54 P 05 05 17.1
baz=306
LAO LASA Array 78.23 40 P 05 05 17.0
baz=311
TESR Tescani 78.24 320 ⇑P **P** **05 05 15.9 +0.2**
BIZ Bicaz 78.24 320 ⇓P **P** **05 05 17.0 +1.3**
BURAR Bucovina Array 78.25 321 P **P** **05 05 16.4 +0.5**
CFR Carcaliu 78.31 318 ⇓P **P** **05 05 15.8 -0.3**
CFR Carcaliu 78.31 318 ⇓P **P** **05 05 15.8 -0.3**
FURC Furnace Creek, 78.36 53 P 05 05 18.4
baz=307
TPGR Topolog 78.37 318 ⇑P **P** **05 05 16.5 0.0**
TPNV Topopah Spring 78.46 53 P **P** **05 05 18.2 +0.9**
TPNV pmax pmax
comp=Z,5.0nm,0.9s
TPNV Topopah Spring 78.46 53 P **P** **05 05 18.2 +0.9**
TPNV Topopah Spring 78.46 53 P 05 05 19.2
baz=307
BRTR Keskin Array B 78.56 311 P **P** **05 05 17.6 -0.2**
comp=Z,4.2nm,0.8s,baz=116,slow=2.9,SNR=12
BRTR pP **pP** **05 05 37.8 +0.2**
comp=Z,3.7nm,1.0s,baz=104,slow=5.2,SNR=3.4
BRTR LR LR 05 45 20.6
comp=Z,39nm,18.1s,baz=50,slow=40
BRTR Keskin Array B 78.56 311 P **P** **05 05 18.2 +0.4**
BRTR Keskin Array B 78.56 311 P **P** **05 05 18.1 +0.4**
DUG Dugway, Tooele 78.64 48 P **P** **05 05 18.8 +0.6**
DUG pmax pmax
comp=Z,7.0nm,1.1s
DUG Dugway, Tooele 78.64 48 P **P** **05 05 18.8 +0.6**
DUG Dugway, Tooele 78.64 48 P 05 05 20.3
baz=308
MUD Monsted U'grnd 78.69 335 *i* P **P** **05 05 17.8 -0.1**
MUD Monsted U'grnd 78.69 335 *i* P **P** **05 05 17.8 -0.1**
MUD Monsted U'grnd 78.69 335 *i* P **P** **05 05 17.9 -0.1**
KOLS Kolonicke sedl 78.81 324 *e*P **P** **05 05 18.6 -0.2**
KOLS Kolonicke sedl 78.81 324 *e*P **P** **05 05 18.6 -0.2**
TCUT Toone Canyon 78.90 47 IAmb IAmb 05 05 41.1
comp=Z,6.6nm,0.8s
BW06 Boulder Array 78.94 45 P **P** **05 05 20.8 +0.9**
PDAR Pinedale Array 78.94 45 P **P** **05 05 20.9 +1.0**
comp=Z,1.7nm,0.7s,baz=257,slow=2.4,SNR=16
PDAR pP **pP** **05 05 40.1 +0.4**
comp=Z,1.7nm,0.6s,baz=261,slow=2.2,SNR=6.9
PDAR Pinedale Array 78.94 45 P **P** **05 05 20.7 +0.8**
BW06 Boulder Array 78.94 45 P 05 05 20.8
baz=310
UZH Uzhgorod 79.01 323 *e*P **P** **05 05 20.6 +0.7**
UZH *e* 05 05 23.7
UZH *e* 05 05 36.3
GSC Goldstone, Bar 79.09 54 P 05 05 22.0
baz=307
CRVS Cervenica-Dubn 79.22 324 *e*P **P** **05 05 21.7 +0.6**
CRVS Cervenica-Dubn 79.22 324 *e*P **P** **05 05 21.7 +0.6**
DOPR Dopca 79.26 320 ⇓P **P** **05 05 22.8 +1.5**
MLR Muntele Rosu 79.28 319 P **P** **05 05 21.3 -0.3**
comp=Z,4.6nm,1.1s,baz=279,slow=3.3,SNR=5.0
MLR Muntele Rosu 79.28 319 ⇓P **P** **05 05 21.2 -0.4**
MLR Muntele Rosu 79.28 319 ⇓P **P** **05 05 21.2 -0.4**
MLR Muntele Rosu 79.28 319 IAmb IAmb 05 05 23.1
comp=Z,15nm,1.5s
MPU Maple Canyon 79.46 48 IAmb IAmb 05 05 25.5
comp=Z,5.1nm,0.7s
VOIR 79.79 320 ⇑P **P** **05 05 24.6 +0.3**
VOIR 79.79 320 ⇑P **P** **05 05 24.6 +0.3**
GMRC Granite Mounta 80.15 54 P 05 05 27.8
baz=308
RDMU Red Mountain 80.33 46 IAmb IAmb 05 05 30.1
comp=Z,16nm,1.4s
P17A Butcher Ranch, 80.33 48 IAmb IAmb 05 05 30.3
comp=Z,8.4nm,0.8s
BELC Belle Mtn. Jos 80.40 55 P 05 05 29.5
baz=307
RAR Rarotonga 80.57 125 P **P** **05 05 28.4 -0.2**
comp=Z,4.6nm,0.5s,baz=45,slow=1.4,SNR=3.3
SRU San Rafael Swe 80.69 48 IAmb IAmb 05 05 50.6
comp=Z,7.5nm,0.8s
ULM Lac du Bonnet 80.70 33 P **P** **05 05 28.2 -0.8**
comp=Z,3.7nm,0.8s,baz=309,slow=6.7,SNR=11
MONP2 Monument Peak 80.79 56 P 05 05 31.8
baz=307

IRM	**Iron Mountain**	**80.87**	**54**	P			05 05 31.7
	baz=308						
BC3	**Big Chuckawall**	**80.97**	**55**	P			05 05 32.8
	baz=308						
GZR	**Gura Zlata**	**80.99**	**321**	⇑P	**P**		**05 05 31.3 +0.6**
GZR	**Gura Zlata**	**80.99**	**321**	⇑P	**P**		**05 05 31.3 +0.6**
RSSD	**Black Hills**	**81.09**	**41**	P			05 05 32.9
	baz=313						
CLL	**Collm**	**81.22**	**330**	*e*P	**P**		**05 05 32.0 +0.3**
	comp=Z,26nm,1.1s						
CLL	**Collm**	**81.22**	**330**	*e*P	**P**		**05 05 32.0 +0.3**
CLL				pmax	pmax		
	comp=Z,26nm,1.1s						
O20A	**White River Ci**	**81.39**	**46**	P			05 05 34.1
	baz=311						
PDMCI	**Parker Dam,Lak**	**81.43**	**54**	P			05 05 34.8
	baz=308						
MMAI	**Mount Meron Ar**	**81.54**	**305**	P	**P**		**05 05 33.6 -0.3**
	comp=Z,4.2nm,0.7s,baz=40,slow=6.6,SNR=7.6						
MMAI				pP	**pP**		**05 05 54.6 +0.8**
	comp=Z,0.6nm,0.3s,baz=40,slow=9.2,SNR=2.5						
CSS	**Mathiatis**	**81.70**	**307**	IAmb	IAmb		05 05 35.2
	comp=Z,11nm,0.9s						
PV20	**West Nyswonger**	**82.12**	**48**	IAmb	IAmb		05 05 58.4
	comp=Z,7.7nm,0.8s						
AGMN	**Agassiz Nation**	**82.15**	**34**	P			05 05 37.0
	baz=318						
PV16	**Nyswonger Mesa**	**82.17**	**48**	IAmb	IAmb		05 05 58.2
	comp=Z,14nm,1.4s						
N23A	**Red Feather La**	**82.21**	**44**	P			05 05 39.5
	baz=312						
WUAZ	**Wupatki**	**82.45**	**51**	P			05 05 40.5
	baz=310						
FRGS	**Fruska Gora**	**82.66**	**322**	⇓P	**P**		**05 05 39.9 +0.5**
VTS	**Vitosha**	**82.66**	**318**	⇑P	**P**		**05 05 40.9 +1.2**
VTS	**Vitosha**	**82.66**	**318**	⇑P	**P**		**05 05 40.9 +1.2**
VTS	**Vitosha**	**82.66**	**318**	IAmb	IAmb		05 05 41.5
	comp=Z,7.8nm,0.8s						
GERES	**GERESS Array B**	**82.80**	**328**	LR	LR		05 44 10.8
	comp=Z,43nm,20.7s,baz=54,slow=37						
ISCO	**Idaho Springs**	**83.13**	**45**	P			05 05 44.0
	baz=312						
MVCO	**Mesa Verde**	**83.14**	**48**	P			05 05 43.9
	baz=311						
DIVS	**Divibare**	**83.32**	**321**	IAmb	IAmb		05 05 44.2
	comp=Z,8.1nm,1.1s						
EKA	**Eskdalemuir Ar**	**83.49**	**340**	P	**P**		**05 05 42.9 -0.5**
	comp=Z,1.6nm,0.6s,baz=36,slow=4.5,SNR=7.1						
W18A	**Petrified Fore**	**83.73**	**51**	P			05 05 47.2
	baz=310						
214A	**Organ Pipe Nat**	**83.76**	**55**	IAmb	IAmb		05 05 48.0
	comp=Z,6.1nm,0.9s						
214A	**Organ Pipe Nat**	**83.76**	**55**	P			05 05 47.3
	baz=309						
S22A	**4UR Ranch, Cre**	**83.79**	**47**	P			05 05 47.6
	baz=312						
EIL	**Elat**	**83.91**	**302**	P	**P**		**05 05 45.9 -0.2**
	comp=Z,18nm,1.0s,baz=144,slow=6.2,SNR=8.5						
LEGS	**Legarje**	**84.24**	**325**	*e*P	**P**		**05 05 47.3 -0.2**
BTNL	**Ternell**	**84.48**	**333**	*d*P	**P**		**05 05 48.6 -0.1**
MEM	**Membach**	**84.51**	**333**	*d*P	**P**		**05 05 49.0 +0.2**
	comp=Z,8.7nm,1.0s						
GBAS	**Gorenja Brezov**	**84.66**	**325**	*i* P	**P**		**05 05 49.2 -0.5**
LIT	**Litokhoron**	**84.80**	**317**	P	**P**		**05 05 50.7 +0.2**
LIT				pmax	pmax		
	comp=Z,43nm,0.9s						
LIT	**Litokhoron**	**84.80**	**317**	P	**P**		**05 05 50.7 +0.2**
JAVS	**Javornik**	**84.86**	**325**	*i* P	**P**		**05 05 50.0 -0.8**
TUC	**Tucson**	**84.87**	**53**	P	**P**		**05 05 51.7 +0.7**
TUC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TUC	**Tucson**	**84.87**	**53**	P	**P**		**05 05 51.7 +0.7**
TUC				IAmb	IAmb		05 05 53.7
	comp=Z,5.6nm,1.0s						
TUC	**Tucson**	**84.87**	**53**	P			05 05 52.7
	baz=310						
PDG	**Podgorica**	**84.89**	**320**	⇑P	**P**		**05 05 50.9 +0.1**
BCLA	**Clavier**	**84.92**	**333**	*d*P	**P**		**05 05 50.8 -0.1**
FNA	**Florina**	**84.93**	**318**	IAmb	IAmb		05 05 51.8
	comp=Z,13nm,1.1s						
ECSD	**EROS Data Cent**	**85.15**	**37**	P			05 05 52.9
	baz=317						
BMRD	**Maredsous**	**85.22**	**333**	*d*P	**P**		**05 05 52.5 +0.2**
PPT	**Papeete**	**85.24**	**116**	LR	LR		05 41 48.6
	comp=Z,34nm,19.1s,baz=288,slow=34						
BFO	**Black Forest**	**85.44**	**330**	P	**P**		**05 05 54.1 +0.6**
BFO				pmax	pmax		
	comp=Z,12nm,0.9s						
BFO	**Black Forest**	**85.44**	**330**	P	**P**		**05 05 54.1 +0.6**
BFO				IAmb	IAmb		05 05 54.6
	comp=Z,12nm,0.9s						
T25A	**Trinidad**	**85.62**	**46**	IAmb	IAmb		05 06 16.1
	comp=Z,6.8nm,0.8s						
T25A	**Trinidad**	**85.62**	**46**	P			05 05 56.1
	baz=313						
ANMO	**Albuquerque**	**85.87**	**49**	P	**P**		**05 05 56.7 +0.6**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ANMO	**Albuquerque**	**85.87**	**49**	P	**P**		**05 05 56.7 +0.6**
ANMO	**Albuquerque**	**85.87**	**49**	P			05 05 58.6
	baz=312						
ECH	**Echery**	**86.00**	**331**	IAmb	IAmb		05 05 57.1
	comp=Z,9.8nm,0.9s						
DAVOX	**Davos/Dischmat**	**86.03**	**328**	P	**P**		**05 05 55.9 -0.8**
	comp=Z,1.7nm,0.4s,baz=48,slow=18,SNR=4.3						
121A	**Cookes Peak, D**	**86.65**	**52**	IAmb	IAmb		05 06 03.4
	comp=Z,4.1nm,0.9s						
121A	**Cookes Peak, D**	**86.65**	**52**	P			05 06 02.0
	baz=312						
IDI	**Anoyia**	**86.73**	**312**	P	**P**		**05 05 59.6 -0.5**
	comp=Z,7.8nm,0.8s,baz=39,slow=8.7,SNR=5.3						
MATQ	**Matagami**	**88.05**	**23**	P			05 06 07.3
	baz=330						
MSTX	**Muleshoe**	**88.76**	**48**	P			05 06 11.1
	baz=314						
AMTX	**Amarillo**	**88.77**	**46**	P			05 06 11.3
	baz=315						
JFWS	**Jewell Farm**	**88.80**	**34**	P			05 06 10.1
	baz=322						
TX32	**Lajitas Array**	**91.41**	**52**	IAmb	IAmb		05 06 24.7
	comp=Z,5.8nm,1.2s						
TXAR	**Lajitas Array**	**91.41**	**52**	P	**P**		**05 06 22.6 +0.2**
	comp=Z,2.2nm,0.9s,baz=299,slow=3.3,SNR=19						
TXAR				pP	**pP**		**05 06 42.8 +0.2**
	comp=Z,2.0nm,0.6s,baz=273,slow=2.2,SNR=13						
TXAR				sP	**sP**		**05 06 51.1 +0.5**
	comp=Z,0.9nm,0.6s,baz=301,slow=3.4,SNR=4.3						
TXAR	**Lajitas Array**	**91.41**	**52**	P	**P**		**05 06 22.7 +0.4**
ABTX	**Abilene, Hawle**	**91.57**	**47**	P			05 06 24.4
	baz=316						
CCM	**Cathedral Cave**	**92.10**	**38**	P			05 06 25.7
	baz=321						
SFIN	**Lafayette**	**92.25**	**34**	P			05 06 25.5
	baz=324						
U40A	**Yellville**	**92.59**	**40**	P			05 06 28.4
	baz=320						
F61A	**St Evariste**	**93.46**	**21**	P			05 06 32.3
	baz=335						
W41B	**Gary Mavity, V**	**93.81**	**41**	P			05 06 34.1
	baz=320						
M56A	**Emporium**	**95.03**	**28**	P			05 06 39.2
	baz=330						
ESDC	**Sonseca Array**	**97.49**	**333**	LR	LR		05 55 54.4
	comp=Z,31nm,18.9s,baz=155,slow=38						
S57A	**Dark Hollow, R**	**97.93**	**30**	P			05 06 53.2
	baz=329						
U56A	**King**	**98.54**	**32**	P			05 06 55.1
	baz=328						
DBIC	**Dimbokro**	**126.11**	**315**	PKP	**PKPdf**		**05 12 18.4 -0.1**
	comp=Z,2.4nm,0.6s,baz=334,slow=4.0,SNR=2.4						
LPAZ	**La Paz**	**147.98**	**59**	PKPbc	**PKPdf**		**05 13 00.5 +1.4**
	comp=Z,5.9nm,0.7s,baz=334,slow=3.9,SNR=16						
LPAZ	**La Paz**	**147.98**	**59**		**PKPbc**		**05 13 00.9 -1.3**
H03N2	**Juan Fernandez**	**147.98**	**97**	T	T		07 58 26.3
	baz=291,slow=76,SNR=14						
H03N3	**Juan Fernandez**	**147.99**	**97**	T	T		07 58 26.3
	baz=291,slow=76,SNR=14						
H03N1	**Juan Fernandez**	**148.00**	**97**	T	T		07 58 28.2
	baz=291,slow=76,SNR=18						
PLCA	**Paso Flores**	**155.66**	**110**	PKPab	**PKPab**		**05 13 35.6 -0.3**
	comp=Z,1.3nm,0.8s,baz=275,slow=4.7,SNR=4.2						

***IDC* 24 04:58:48.8±10.0, 17°98S×177°84W, h432km±45km, mb3.1/3, mb1 3.3/4, mb1mx2.9/37, mbtmp3.8/4, Error ellipse: s-maj=273.2km s-min=33.5km az=140.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.92**	**273**	P	P	05 00 02.2	0.0
	1.8nm,0.3s,baz=107,slow=18,SNR=9.6						
WRA	**Warramunga Arr**	**45.15**	**260**	P	P	05 06 24.8	-0.7
	0.4nm,0.4s,baz=95,slow=7.9,SNR=5.3						
ASAR	**Alice Springs**	**45.29**	**254**	P	P	05 06 26.8	+0.2
	2.2nm,0.4s,baz=91,slow=8.4,SNR=19						
ILAR	**Eielson Array**	**85.83**	**13**	P	P	05 10 40.8	-0.2
	0.2nm,0.4s,baz=223,slow=4.7,SNR=4.6						

BEO ***24*** *05:01:57.8±0.6, 43°.12N×18°.89E, h10km, ML1.4/8*

RHSSO 24 05:01:57.1±0.3, 43°.16N×18°.84E, h8km±3km, ML1.4/7, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.07**	**50**	*e*Pg	Pg	05 01 59.5	+0.3
UPM				*e*Sg	Sg	05 02 01.4	+0.7
BRY	**Bratogost**	**0.34**	**220**	⇓*i* Pg	Pg	05 02 03.6	-0.2
BRY				*e*Sg	Sg	05 02 09.0	+0.7
TREB	**Trebinje**	**0.57**	**219**	*e*Pg	Pg	05 02 07.6	-0.5
TREB				*e*Sg	Sb	05 02 16.8	-0.8
TREB	**Trebinje**	**0.57**	**219**	*e*Pg	Pg	05 02 07.3	-0.8
TREB				*e*Sg	Sb	05 02 16.9	-0.7
RUDO	**Rudo**	**0.60**	**40**	*e*Pg	Pg	05 02 07.6	-1.1
RUDO				*e*Sg	Sg	05 02 16.7	+0.2
PDG	**Podgorica**	**0.79**	**157**	*e*Pg	Pg	05 02 11.1	-1.2
PDG				*e*Sg	Sg	05 02 22.7	+0.1
PDG	**Podgorica**	**0.79**	**157**	*e*Pg	Pg	05 02 11.5	-0.8
PDG				*e*Sg	Sg	05 02 22.4	-0.2
BBLS	**Lazići**	**0.82**	**30**	*e*Pg	Pg	05 02 13.1	+0.3
BBLS				*e*Sg	Sb	05 02 24.9	+0.1
BBLS	**Lazići**	**0.82**	**30**	*e*Pg	Pg	05 02 12.5	-0.3
BBLS				*e*Sg	Sg	05 02 23.2	-0.3
SJES	**Sjenica**	**0.84**	**83**	*e*Pg	Pg	05 02 13.1	-0.1
SJES				*e*Sg	Sg	05 02 23.4	-0.7
HAPS	**Han Pijesak,Bl**	**0.93**	**5**	*e*Pg	Pg	05 02 14.8	-0.2
HAPS				*e*Sg	Sb	05 02 28.9	+0.8
HAPS	**Han Pijesak,Bl**	**0.93**	**5**	*e*Pg	Pg	05 02 13.1	-1.9
HAPS				*e*Sg	Sg	05 02 26.8	-0.2
DRME	**Dracevica, Mon**	**1.01**	**165**	*e*Pg	Pg	05 02 14.8	-1.6
DRME				*e*Sg	Sg	05 02 29.3	-0.2
IVAS	**Ivanjica**	**1.04**	**66**	*e*Pg	Pg	05 02 16.1	-1.1
IVAS				*e*Sg	Sg	05 02 29.3	-1.4
DIVS	**Divibare**	**1.26**	**41**	*e*Pg	Pn	05 02 20.6	-0.5
DIVS				*e*Sg	Sn	05 02 38.7	+0.4
DIVS	**Divibare**	**1.26**	**41**	*e*Pg	Pn	05 02 19.8	-1.3
DIVS				*e*Sg	Sb	05 02 37.2	-0.3

DNK ***24*** *05:03:08.8±1.8, 51°.57N×16°.41E, h1km±107km, ML2.2*
LDG ***24*** *05:03:08.5±0.2, 51°.49N×16°.16E, h1km, Ml3.4/4, Error ellipse: s-maj=5.5km s-min=2.6km az=27.0, Suspected Mining induced.*
IDC ***24*** *05:03:09.8±0.7, 51°.46N×16°.10E, h0km, mb3.4/3, mb1 3.7/10, mb1mx3.4/52, mbtmp3.5/10, ML3.2/7, Error ellipse: s-maj=15.1km s-min=7.4km az=104.0*
IPEC ***24*** *05:03:09.0±0.3, 51°.50N×16°.18E, h1km±1km, ML3.0/3, Error ellipse: s-maj=2.2km s-min=0.8km az=24.0*
BGR ***24*** *05:03:10.4±0.5, 51°.45N×16°.16E, h1km, ML3.1/17, Error ellipse: s-maj=6.7km s-min=3.3km az=27.0*
PRU ***24*** *05:03:10.0±0.0, 51°.45N×16°.10E, h0km*
VIE ***24*** *05:03:11.9±0.5, 51°.31N×15°.94E, h0km, mb2.7/15, ml2.9/15, ms3.5/1, Error ellipse: s-maj=5.0km s-min=3.0km az=36.0 78 km WNW of Wroclaw Suspected Mining induced.*
UPP ***24*** *05:03:14.2±3.3, 51°.82N×15°.99E, h0km, ML3.0, Suspected explosion*

ISC 24 05:03:08.2±0.6, 51°.54N±0°.03×16°.11E±0°.02, h0km, n97, σ1s59/161, mb3.3/3, 4C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**170**	*e*P	**Pg**	**05 03 22.2**	**+0.5**
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg	**Pg**	**05 03 22.2**	**+0.5**
KSP				*e*Sg	**Sg**	**05 03 30.9**	**+0.1**
CHVC	**Chvalec**	**0.95**	**182**	*e*Pg	**Pg**	**05 03 26.6**	**+0.2**
CHVC				*e*SG	**Sg**	**05 03 38.0**	**-0.7**
	comp=Z,100nm,0.5s						
OSTC	**Ostas**	**0.98**	**176**	*e*PG	**Pg**	**05 03 27.0**	**0.0**
OSTC				*e*SG	**Sg**	**05 03 39.3**	**-0.4**
	comp=Z,100nm,0.4s						
UPC	**Upice**	**1.03**	**183**	*e*PG	**Pg**	**05 03 28.0**	**0.0**
UPC				*e*SG	**Sg**	**05 03 40.6**	**-0.7**
	comp=Z,207nm,0.6s						
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*PG	**Pg**	**05 03 30.8**	**-0.3**
DPC				*e*SG	**Sg**	**05 03 45.3**	**-1.2**
	comp=Z,86nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*Pg	**Pg**	**05 03 30.9**	**-0.2**
DPC				*e*Sg	**Sg**	**05 03 45.5**	**-1.1**
PVCC	**Panska Ves**	**1.40**	**225**	*e*PG	**Pb**	**05 03 35.3**	**+0.1**
PVCC				*e*SG	**Sn**	**05 03 54.3**	**+0.1**
	comp=Z,277nm,0.5s						
BRG	**Berggiesshubel**	**1.51**	**245**	Pn	**Pn**	**05 03 36.4**	**-0.2**
BRG				Pg	**Pg**	**05 03 38.0**	**+0.8**
BRG				Sg	**Sn**	**05 03 58.2**	**+1.2**
BRG				Amp		05 03 58.7	
	comp=Z,100nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**245**	*e*Pn	**Pn**	**05 03 36.6**	**0.0**
BRG				*e*Sg	**Sn**	**05 03 58.0**	**+1.0**
KRLC	**Kraliky**	**1.52**	**163**	*e*PG	**Pn**	**05 03 36.6**	**-0.1**
KRLC				*e*SG	**Sg**	**05 03 55.2**	**-1.9**
	comp=Z,227nm,1.0s						
PRA	**Prague**	**1.81**	**217**	*e*PG	**Pn**	**05 03 40.8**	**+0.2**
PRA				*e*SG	**Sg**	**05 04 05.9**	**-0.5**
	comp=Z,60nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	*e*PG	**Pn**	**05 03 41.0**	**+0.1**
GOPC				*e*SG	**Sb**	**05 04 06.0**	**+0.1**
	comp=Z,46nm,0.6s						
FBE	**Freiberg**	**1.84**	**252**	*e*Pn	**Pg**	**05 03 43.8**	**+0.4**
FBE				*e*Sg	**Sg**	**05 04 07.8**	**+0.6**
PRU	**Pruhonice**	**1.84**	**213**	*e*PG	**Pn**	**05 03 41.3**	**+0.2**
PRU				*e*SG	**Sb**	**05 04 06.4**	**+0.1**
	comp=Z,182nm,1.2s						
CLL	**Collm**	**1.96**	**265**	*i* Pn	**Pn**	**05 03 42.8**	**+0.1**
CLL				*i* Pg	**Pg**	**05 03 45.3**	**-0.4**
CLL				*i*		05 03 50.0	
CLL				*i*		05 04 00.4	
CLL				*e*Sg	**Sg**	**05 04 11.0**	**-0.1**
	comp=Z,44nm,0.7s						
CLL	**Collm**	**1.96**	**265**	*e*Pn	**Pn**	**05 03 43.1**	**+0.4**
MORC	**Moravsky Berou**	**1.98**	**152**	⇑P	**Pn**	**05 03 43.0**	**0.0**
MORC	**Moravsky Berou**	**1.98**	**152**	*e*PN	**Pn**	**05 03 42.9**	**-0.2**
MORC				*e*SG	**Sb**	**05 04 09.6**	**-0.9**
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	**Pn**	**05 03 42.9**	**-0.2**
	baz=334						
MORC				*e*Sg	**Sb**	**05 04 09.5**	**-0.9**
	comp=Z,93nm,0.7s,baz=334						
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	**Pn**	**05 03 43.1**	**0.0**
MORC				*e*Sg	**Sb**	**05 04 09.9**	**-0.5**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*PG	**Pn**	**05 03 45.8**	**+0.7**
OKC				*e*SG	**Sb**	**05 04 14.2**	**-0.6**
	comp=Z,139nm,0.7s						
VRAC	**Vranov**	**2.25**	**172**	Pn	**Pn**	**05 03 47.5**	**+0.8**
	comp=Z,3.9nm,0.3s,baz=349,slow=16,SNR=15						
VRAC				Lg	Lg	05 04 18.1	
	comp=Z,6.4nm,0.3s,baz=95,slow=22,SNR=10						
VRAC	**Vranov**	**2.25**	**172**	⇑P	**Pn**	**05 03 47.6**	**+0.9**
VRAC	**Vranov**	**2.25**	**172**	*e*PN	**Pn**	**05 03 47.6**	**+0.9**
VRAC				*e*SG	**Sb**	**05 04 18.1**	**0.0**
VRAC	**Vranov**	**2.25**	**172**	*e*Pn	**Pn**	**05 03 47.6**	**+0.9**
	baz=353						
VRAC				*e*Sg	**Sb**	**05 04 18.1**	**0.0**
	comp=Z,70nm,0.7s,baz=353						
TREC	**Trest**	**2.28**	**190**	*e*PN	**Pn**	**05 03 47.9**	**+0.8**
TREC				*e*PG	**Pb**	**05 03 50.4**	**+0.2**
TREC				*e*SG	**Sb**	**05 04 19.0**	**+0.1**
	comp=Z,50nm,0.5s						
PBCC	**Pribram**	**2.29**	**217**	*e*PG	**Pb**	**05 03 51.0**	**+0.6**
PBCC				*e*SG	**Sb**	**05 04 20.3**	**+1.1**
	comp=Z,26nm,0.5s						
KRUC	**Moravsky**	**2.48**	**176**	*e*PN	**Pn**	**05 03 50.5**	**+0.6**
KRUC				*e*PG	**Pb**	**05 03 53.7**	**0.0**
KRUC				*e*SG	**Sb**	**05 04 25.3**	**+0.5**
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn	**Pn**	**05 03 50.5**	**+0.6**
	baz=357						
KRUC	**Moravsky**	**2.48**	**176**	*e*Pg	**Pb**	**05 03 53.7**	**0.0**
	baz=357						
KRUC				*e*Sg	**Sb**	**05 04 25.2**	**+0.5**
	comp=Z,74nm,0.8s,baz=357						
TANN	**Tannenbergstha**	**2.56**	**245**	*e*Pn	**Pn**	**05 03 52.1**	**+1.1**
WERD	**Werda**	**2.64**	**247**	*e*Pn	**Pn**	**05 03 52.8**	**+0.8**
NKC	**Novy Kostel**	**2.66**	**242**	*e*Pn	**Pn**	**05 03 53.3**	**+1.0**
NKC				*e*PG	**Pg**	**05 03 58.4**	**-0.8**
NKC				*e*SG	**Sg**	**05 04 35.2**	**+1.6**
	comp=Z,71nm,0.7s						
OJC	**Ojcow**	**2.68**	**118**	*e*P	**Pn**	**05 03 51.7**	**-0.9**
OJC	**Ojcow**	**2.68**	**118**	*e*Pn	**Pn**	**05 03 51.6**	**-1.0**
JAVC	**Velka Javorina**	**2.86**	**159**	*e*PN	**Pn**	**05 03 56.3**	**+1.2**
JAVC				*e*SG	**Sg**	**05 04 41.1**	**+1.0**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**05 03 55.8**	**+0.1**
KHC				*e*PG	**Pb**	**05 04 01.5**	**+0.7**
KHC				*e*SN	**Sn**	**05 04 30.9**	**-0.4**
KHC				*e*SG	**Sg**	**05 04 40.4**	**-1.0**
	comp=Z,36nm,0.4s						
CKRC	**Cesky Krumlov**	**2.95**	**204**	*e*PN	**Pn**	**05 03 57.4**	**+1.0**
CKRC				*e*PG	**Pb**	**05 04 02.1**	**+0.4**
CKRC				*e*SG	**Sg**	**05 04 41.6**	**-1.5**
MOX	**Moxa**	**2.97**	**254**	*e*Pn	**Pn**	**05 03 57.1**	**+0.6**
MOX				*e*Sg	**Sg**	**05 04 45.7**	**+2.1**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn	**Pn**	**05 03 57.8**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	*e*Pn	**Pn**	**05 03 58.6**	**+0.9**
GEC2	**GERESS Array S**	**3.10**	**211**	*e*Pn	**Pn**	**05 03 59.5**	**+1.0**
GERES	**GERESS Array B**	**3.10**	**211**	Pn	**Pn**	**05 03 59.2**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=29,slow=12,SNR=50						
GERES				Pg	**Pb**	**05 04 05.4**	**+1.0**
	comp=Z,6.2nm,0.3s,baz=33,slow=18,SNR=45						
GERES				Lg	Lg	05 04 46.4	
	comp=Z,5.0nm,0.3s,baz=31,slow=26,SNR=6.6						
SMOL	**Smolenice**	**3.14**	**164**	*e*PG	**Pg**	**05 04 08.3**	**-0.1**
SMOL				*e*SG	**Sg**	**05 04 48.4**	**-0.7**
SMOL				*e*LG	Lg	05 04 53.2	
WET	**Wettzell**	**3.16**	**222**	*e*Pn	**Pn**	**05 03 59.8**	**+0.5**
LANS	**Liptovska Anna**	**3.21**	**137**	*e*PG	**Pg**	**05 04 08.5**	**-1.3**
LANS				*e*SG	**Sg**	**05 04 50.1**	**-1.3**
LANS				*e*LG	Lg	05 04 57.7	
MODS	**Modra-Piesok**	**3.25**	**166**	*e*PN	**Pn**	**05 04 01.9**	**+1.4**
MODS				*e*PG	**Pg**	**05 04 10.1**	**-0.5**
MODS				*e*SG	**Sg**	**05 04 50.7**	**-2.0**
MODS				*e*LG	Lg	05 04 57.5	
ZST	**Bratislava**	**3.40**	**169**	*e*PG	**Pg**	**05 04 11.7**	**-1.7**
ZST				*e*SG	**Sg**	**05 04 56.3**	**-1.2**
ZST				*e*LG	Lg	05 04 59.0	
NIE	**Niedzica**	**3.41**	**127**	*e*Pn	**Pb**	**05 04 06.5**	**-3.1**
NIE				*e*Pg	**Pg**	**05 04 18.0**	**+4.4**
NIE				*e*Sg	**Sg**	**05 05 02.4**	**+4.5**
VYHS	**Vyhne**	**3.52**	**149**	*e*PN	**Pn**	**05 04 04.3**	**+0.2**
VYHS				*e*PG	**Pg**	**05 04 15.0**	**-0.6**
VYHS				*e*SG	**Sg**	**05 05 00.0**	**-1.1**
VYHS				*e*LG	Lg	05 05 04.4	
CLZ	**Clausthal**	**3.58**	**277**	*e*Pn	**Pn**	**05 04 06.9**	**+1.8**
CONA	**Conrad Observa**	**3.61**	**183**	*e*Pn	**Pn**	**05 04 06.2**	**+0.7**
	comp=Z,4.3nm,0.4s,SNR=5.8						
CONA				*e*Sg	**Sg**	**05 05 02.7**	**-1.6**
	comp=Z,28nm,0.5s						
GRF	**Grafenberg Arr**	**3.62**	**241**	*e*Pn	**Pn**	**05 04 06.5**	**+1.0**
GRF				*e*Sg	**Sg**	**05 05 03.8**	**-0.6**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**05 04 06.5**	**+0.5**
BSD				*i* S	**Sn**	**05 04 48.4**	**-1.4**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**05 04 06.5**	**+0.5**
BSD				*i* S	**Sn**	**05 04 48.4**	**-1.4**
BSD				IAML		05 04 51.2	
	comp=Z,2.8nm,0.4s						
MOA	**Molln**	**3.88**	**199**	*i* Pn	**Pn**	**05 04 09.8**	**+0.7**
	comp=Z,1.5nm,0.2s,SNR=7.4						
MOA				Sg	**Sg**	**05 05 11.7**	**-1.0**
	comp=Z,24nm,0.5s						
ARSA	**Arzberg**	**4.30**	**185**	*i* Pn	**Pn**	**05 04 15.8**	**+0.8**
	comp=Z,2.6nm,0.4s						
ARSA				Sg	**Sg**	**05 05 24.4**	**-2.1**
	comp=Z,30nm,0.7s						
PSZ	**Piszkesteto**	**4.37**	**144**	⇑P	**Pn**	**05 04 17.1**	**+1.1**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*PN	**Pn**	**05 04 21.4**	**+0.5**
KOLS				*e*PG	**Pg**	**05 04 40.1**	**+1.1**
BLEU	**Blekinge**	**4.78**	**358**	P	**Pn**	**05 04 22.8**	**+1.3**
BLEU				S	**Sn**	**05 05 15.3**	**-2.2**
KBA	**Koelnbreinsper**	**4.81**	**203**	*e*Pn	**Pn**	**05 04 22.9**	**+0.8**
	SNR=6.6						
SOKA	**Soboth**	**4.91**	**189**	*e*Pn	**Pn**	**05 04 25.4**	**+2.0**
	comp=Z,1.4nm,0.4s,SNR=4.1						
SOKA				Sg	**Sg**	**05 05 44.9**	**-1.0**
	comp=Z,9.4nm,0.9s						
DEL	**Delary**	**5.12**	**346**	P	**Pn**	**05 04 26.4**	**+0.4**
WTTA	**Wattenberg**

FITZ				S		Sn	05 49 11.2	-5.2
	0.9nm,0.3s,baz=53,slow=22,SNR=3.2							
WRA	**Warramunga Arr**	**13.70**	**161**	P		**Pn**	**05 47 33.0**	**+1.3**
	0.9nm,0.3s,baz=339,slow=12,SNR=17							
WRA				S		**Sn**	**05 49 59.0**	**-4.5**
	1.3nm,0.3s,baz=339,slow=21,SNR=10							
ASAR	**Alice Springs**	**17.12**	**167**	P		**Pn**	**05 48 17.6**	**+3.6**
	1.0nm,0.3s,baz=343,slow=9.3,SNR=83							
ASAR				S		**Sn**	**05 51 24.3**	**-1.3**
	0.3nm,0.3s,baz=355,slow=30,SNR=4.8							
STKA	**Stephens Creek**	**27.20**	**157**	P		**P**	**05 49 56.2**	**+3.0**
	0.8nm,0.3s,baz=330,slow=14,SNR=3.0							
MKAR	**Makanchi Array**	**67.98**	**327**	P		**P**	**05 55 06.1**	**-0.4**
	0.3nm,0.4s,baz=127,slow=6.7,SNR=6.6							

NEIC ***24*** *06:49:24.3±1.8,25.5S±0.1×179.7E±0.2,h506km±8km, mb4.4/22, Error ellipse: s-maj=20.4km s-min=16.5km az=90.0*
IDC ***24*** *06:49:24.0±2.1,25.48S×179.65E,h496km±23km, mb3.4/7, mb1 3.7/11,mb1mx3.5/23,mbtmp4.3/11, Error ellipse: s-maj=23.8km s-min=17.9km az=132.0*

ISC 24 06:49:24.3±0.6,25.47S±0.06×179.8E±0.1,h500km,n83, σ1s61/87,mb4.0/14,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.30**	**152**	P	**P**	**06 50 46.9**	**+1.9**
GLKZ	**Green Lake**	**4.31**	**152**	P	**P**	**06 50 46.4**	**+1.3**
GLKZ				S	**S**	**06 51 51.6**	**+0.4**
MSVF	**Nonsavu**	**7.86**	**348**	P	**P**	**06 51 19.0**	**-0.4**
	8.2nm,0.3s,baz=176,slow=7.4,SNR=33						
MSVF	**Nonsavu**	**7.86**	**348**		**P**	**06 51 19.4**	**0.0**
OUZ	**Omahuta**	**11.08**	**207**	P	**P**	**06 51 55.4**	**+2.5**
OUZ	**Omahuta**	**11.08**	**207**	P	P	06 51 57.2	+4.4
WCZ	**Waipu Caves**	**11.43**	**203**	P	**P**	**06 51 59.2**	**+2.6**
KUZ	**Kuaotunu**	**11.76**	**198**	P	**P**	**06 52 01.0**	**+0.9**
MXZ	**Matakaoa Point**	**12.12**	**185**	P	**P**	**06 52 05.0**	**+1.0**
HAZ	**Te Kaha**	**12.37**	**187**	P	**P**	**06 52 06.5**	**0.0**
HAZ				S	**S**	**06 54 19.9**	**-0.4**
WMGZ	**Waiomatatini S**	**12.37**	**185**	P	**P**	**06 52 08.5**	**+1.9**
PKGZ	**Pakihiroa**	**12.47**	**186**	P	**P**	**06 52 11.1**	**+3.5**
RUGZ	**Raukumara Rang**	**12.59**	**188**	P	**P**	**06 52 10.6**	**+1.6**
PUZ	**Puketiti**	**12.63**	**185**	P	**P**	**06 52 11.7**	**+2.3**
PUZ				S	**S**	**06 54 22.9**	**-2.6**
DZM	**Mont Dzumac**	**12.64**	**283**	P	**P**	**06 52 08.7**	**-1.1**
	0.1nm,0.3s,baz=103,slow=17,SNR=1.1						
TOZ	**Tahuroa Road**	**12.75**	**195**	P	P	06 52 15.3	+4.7
TOZ				S	S	06 54 36.2	+8.4
KMRZ	**Kaimai**	**12.76**	**194**	P	**P**	**06 52 14.2**	**+3.5**
URZ	**Urewera**	**12.95**	**189**	P	**P**	**06 52 10.8**	**-1.9**
	4.3nm,0.3s,baz=300,slow=22,SNR=22						
URZ				S	**S**	**06 54 27.8**	**-3.7**
	0.6nm,0.3s,baz=121,slow=23,SNR=2.5						
URZ	**Urewera**	**12.95**	**189**	P	**P**	**06 52 11.5**	**-1.2**
URZ	**Urewera**	**12.95**	**189**	P	**P**	**06 52 12.5**	**-0.2**
MWZ	**Matawai**	**12.97**	**188**	P	**P**	**06 52 14.6**	**+1.7**
RIGZ	**Rimuhau**	**13.31**	**187**	P	**P**	**06 52 19.8**	**+3.3**
RIGZ				S	**S**	**06 54 34.9**	**-3.7**
MTHZ	**Maungataniwha**	**13.57**	**190**	P	**P**	**06 52 19.3**	**0.0**
RAHZ	**Arahi**	**13.60**	**189**	P	**P**	**06 52 18.2**	**-1.4**
RAHZ				S	**S**	**06 54 47.4**	**+3.2**
HATZ	**Hinemaiaia**	**13.74**	**192**	P	**P**	**06 52 21.5**	**+0.5**
RATZ	**Rangitukua**	**13.78**	**193**	P	**P**	**06 52 22.7**	**+1.2**
BKZ	**Black Stump Fm**	**13.93**	**191**	P	**P**	**06 52 23.2**	**0.0**
BKZ				S	**S**	**06 54 49.7**	**-1.0**
BKZ	**Black Stump Fm**	**13.93**	**191**	P	**P**	**06 52 22.8**	**-0.4**
BKZ				S	**S**	**06 54 45.4**	**-5.3**
WTVZ	**West Tongariro**	**14.05**	**193**	P	**P**	**06 52 25.1**	**+0.6**
OTVZ	**Oturere**	**14.09**	**193**	P	**P**	**06 52 25.2**	**+0.3**
NGZ	**Ngauruhoe**	**14.11**	**193**	P	**P**	**06 52 25.1**	**0.0**
MCHZ	**McNeill Hill**	**14.17**	**190**	P	**P**	**06 52 24.6**	**-1.0**
MCHZ				S	**S**	**06 54 54.3**	**-0.9**
TUVZ	**Tukino**	**14.19**	**193**	P	**P**	**06 52 26.2**	**+0.3**
KWHZ	**Kaweka Forest**	**14.20**	**191**	S	**S**	**06 54 54.9**	**-0.8**
WNVZ	**Wahianoa**	**14.26**	**193**	S	**S**	**06 54 59.8**	**+2.7**
BHHZ	**Black Hill Sta**	**14.32**	**192**	P	**P**	**06 52 25.8**	**-1.4**
BHHZ				S	**S**	**06 54 55.9**	**-2.2**
KRHZ	**Kereru**	**14.42**	**191**	S	**S**	**06 54 58.8**	**-1.2**
KAHZ	**Kahuranaki**	**14.49**	**189**	P	**P**	**06 52 29.1**	**+0.1**
NEZ	**North Egmont**	**14.56**	**198**	P	**P**	**06 52 33.5**	**+3.6**
TSZ	**Takapari Road**	**14.89**	**191**	P	**P**	**06 52 32.6**	**-0.6**
DVHZ	**Dannevirke**	**15.09**	**191**	P	**P**	**06 52 34.9**	**-0.4**
BFZ	**Birch Farm**	**15.45**	**190**	P	**P**	**06 52 37.4**	**-1.6**
BFZ				IAmb	IAmb	06 52 59.8	
	comp=Z,22nm,1.0s						
BFZ	**Birch Farm**	**15.45**	**190**	P	**P**	**06 52 37.6**	**-1.4**
OGWZ	**Otaki Gorge**	**15.78**	**193**	P	**P**	**06 52 42.6**	**+0.3**
HOWZ	**Holdsworth Sta**	**15.79**	**192**	P	**P**	**06 52 41.6**	**-0.9**
CAW	**Cannon Point**	**16.08**	**193**	P	**P**	**06 52 45.7**	**+0.2**
MSWZ	**Moikau Station**	**16.34**	**192**	P	**P**	**06 52 46.9**	**-1.4**
SNZO	**South Karori**	**16.35**	**194**	P	**P**	**06 52 47.3**	**-1.0**
BHW	**Baring Head**	**16.41**	**193**	P	**P**	**06 52 48.4**	**-0.6**
QRZ	**Quartz Range**	**16.46**	**200**	P	**P**	**06 52 50.9**	**+1.4**
PLWZ	**Palliser**	**16.49**	**192**	P	**P**	**06 52 48.5**	**-1.3**
NNZ	**Nelson**	**16.58**	**197**	P	**P**	**06 52 50.2**	**-0.5**
THZ	**Tophouse**	**17.21**	**198**	P	**P**	**06 52 56.6**	**-0.6**
THZ				IAmb	IAmb	06 52 59.4	
	comp=Z,19nm,1.2s						
KHZ	**Kahutara**	**17.67**	**195**	P	**P**	**06 53 00.5**	**-0.8**
KHZ				IAmb	IAmb	06 53 18.8	
	comp=Z,24nm,1.2s						
LTZ	**Lake Taylor**	**18.34**	**198**	P	**P**	**06 53 06.8**	**-0.8**
LTZ				IAmb	IAmb	06 53 12.4	
	comp=Z,10nm,0.8s						
OXZ	**Oxford**	**18.90**	**198**	P	**P**	**06 53 11.9**	**-0.8**
RPZ	**Rata Peaks**	**19.54**	**199**	P	**P**	**06 53 17.9**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=13,slow=18,SNR=2.5						
RPZ	**Rata Peaks**	**19.54**	**199**	IAmb	IAmb	06 53 20.4	
	comp=Z,28nm,1.5s						
FOZ	**Fox Glacier**	**19.77**	**202**	P	**P**	**06 53 20.2**	**-0.3**
EIDS	**Eidsvold**	**25.88**	**264**	P	**P**	**06 54 17.2**	**+1.6**
EIDS				IAmb	IAmb	06 54 17.5	
	comp=Z,6.4nm,0.9s						
CTAO	**Charters Tower**	**31.29**	**273**	P	**P**	**06 55 04.1**	**+1.1**
CTAO				IAmb	IAmb	06 55 04.7	
	comp=Z,25nm,1.5s						
COEN	**Coen**	**36.17**	**281**	P	**P**	**06 55 44.7**	**+0.6**
ASAR	**Alice Springs**	**41.58**	**262**	P	**P**	**06 56 27.5**	**-0.5**
	comp=Z,4.1nm,1.0s,baz=91,slow=7.6,SNR=26						
WR0	**Warramunga Arr**	**41.91**	**268**	P	**P**	**06 56 29.9**	**-0.7**
WR0				IAmb	IAmb	06 56 53.5	
	comp=Z,7.2nm,1.2s						
WB2	**Warramunga Arr**	**42.09**	**268**	P	**P**	**06 56 31.4**	**-0.6**
WB2				IAmb	IAmb	06 56 37.5	
	comp=Z,11nm,1.3s						
WB0	**Warramunga Arr**	**42.10**	**268**	P	**P**	**06 56 31.5**	**-0.6**
WB0				IAmb	IAmb	06 56 32.4	
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**42.10**	**268**	P	**P**	**06 56 31.5**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=103,slow=7.6,SNR=22						
WRA	**Warramunga Arr**	**42.10**	**268**	P	**P**	**06 56 30.4**	**-1.7**
FITZ	**Fitzroy Crossi**	**50.50**	**267**	P	**P**	**06 57 35.9**	**-0.1**
QSPA	**South Pole Qui**	**64.62**	**180**	P	**P**	**06 59 12.8**	**+1.0**
MJAR	**Matsushiro Arr**	**73.06**	**326**	P	**P**	**07 00 02.3**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=165,slow=5.0,SNR=2.6						
MJAR	**Matsushiro Arr**	**73.06**	**326**	IAmb	IAmb	07 00 09.5	
	comp=Z,5.1nm,1.3s						
KSRS	**Korea Array**	**79.30**	**320**	P	**P**	**07 00 37.3**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=127,slow=6.7,SNR=5.8						
PETK	**Petropavlovsk-**	**80.56**	**347**	P	**P**	**07 00 43.3**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=134,slow=6.2,SNR=4.2						
NVAR	**Mina Array Bea**	**86.03**	**44**	P	**P**	**07 01 12.5**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=222,slow=9.2,SNR=13						
NVAR	**Mina Array Bea**	**86.03**	**44**	P	**P**	**07 01 11.8**	**+0.1**
KVN	**Kaiserville**	**86.53**	**44**	P	**P**	**07 01 14.0**	**0.0**
MTPU	**Mount Pierson**	**89.76**	**47**	IAmb	IAmb	07 01 32.4	
	comp=Z,3.4nm,0.9s						
HVU	**Hansel Valley**	**91.42**	**44**	IAmb	IAmb	07 01 38.2	
	comp=Z,1.9nm,0.6s						
TXAR	**Lajitas Array**	**91.45**	**58**	P	**P**	**07 01 38.2**	**+1.1**
	comp=Z,1.4nm,0.9s,baz=216,slow=6.2,SNR=15						
TXAR	**Lajitas Array**	**91.45**	**58**	P	**P**	**07 01 35.7**	**-1.3**
ARCES	**ARCESS Array B**	**133.37**	**348**	PKP	**PKPdf**	**07 07 41.8**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=63,slow=2.2,SNR=9.5						
AKASG	**Malin Array Be**	**146.15**	**326**	PKPbc	**PKPdf**	**07 08 06.3**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=44,slow=4.6,SNR=4.8						

NNC 24 07:12:11.3±0.7,50.00N×78.69E,h0km,mb3.7,mpv3.4, 10C-9D,Error ellipse: s-maj=6.5km s-min=3.3km az=62.0,Suspected Mining explosion.,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**349**	⇓P	Pg	07 12 23.1	+0.4
KUR07				⇑S	Sg	07 12 31.7	+1.3
KUR06	**Kurchatov Arra**	**0.61**	**350**	⇑P	Pg	07 12 23.3	+0.2
KUR06				⇑S	Sg	07 12 32.1	+1.1
KUR14	**Kurchatov Arra**	**0.62**	**354**	⇑P	Pg	07 12 23.4	+0.2
KUR14				⇑S	Sg	07 12 32.0	+0.9
KUR15	**Kurchatov Arra**	**0.62**	**352**	⇑P	Pg	07 12 23.5	+0.2
KUR15				⇓S	Sg	07 12 32.7	+1.3
KURBB	**Kurchatov Arra**	**0.63**	**350**	⇓P	Pg	07 12 23.8	+0.4
	34nm,0.2s						
KURBB				⇓S	Sg	07 12 32.5	+0.9
	33nm,0.2s						
KUR16	**Kurchatov Arra**	**0.64**	**349**	⇑P	Pg	07 12 24.0	+0.4
KUR16				⇑S	Sg	07 12 32.7	+0.8
KUR17	**Kurchatov Arra**	**0.65**	**347**	⇓P	Pg	07 12 24.1	+0.3
KUR17				⇑S	Sg	07 12 33.1	+1.0
KUR05	**Kurchatov Arra**	**0.65**	**351**	⇓P	Pg	07 12 23.8	+0.1
KUR05				⇓S	Sg	07 12 32.8	+0.6
SEM	**Semipalatinsk**	**1.08**	**67**	P	Pg	07 12 29.5	-2.5
	4.6nm,0.1s						
SEM				S	Sb	07 12 47.9	+0.1
	34nm,0.1s						
BRZS	**Berezniki**	**3.88**	**272**	Pg	Pb	07 13 23.1	+2.4
	4.8nm,0.3s						
MK31	**Makanchi Array**	**4.00**	**142**	⇓Pn	Pn	07 13 16.0	+2.0
	0.1nm,0.1s,baz=323,slow=9.9,SNR=17						
MK31				⇑Pg	Pb	07 13 25.0	+2.2
	0.2nm,0.2s,baz=308,slow=15,SNR=6.9						
MK31				⇓Lg	Lg	07 14 17.4	
	4.9nm,0.5s,baz=333,slow=24,SNR=16						
ZSN	**Zaisan**	**4.82**	**120**	Pg	Pb	07 13 38.8	+2.2
	1.6nm,0.2s						
DJR	**Jarkent**	**5.72**	**172**	Pg	Pb	07 13 54.5	+2.5
	1.6nm,0.4s						
DJR				Lg	Lg	07 15 13.5	
	2.0nm,0.5s						
ARXS	**Arharly**	**5.82**	**186**	Pg	Pb	07 13 54.8	+1.1
	3.7nm,0.4s						
ARXS				Lg	Lg	07 15 13.0	
	8.0nm,0.6s						
MNBS	**Baschi**	**5.93**	**182**	Pg	Pg	07 14 01.8	-3.0
	2.7nm,0.1s						
MNBS				Lg	Lg	07 15 24.3	
	12nm,0.5s						

IDC ***24*** *07:49:42.2±1.2,21.90S×67.07W,h171km±13km, mb3.1/1, mb1 3.5/5,mb1mx3.2/19,mbtmp3.9/5,Error ellipse: s-maj=22.1km s-min=14.2km az=117.0*
GUC ***24*** *07:49:43.9±0.6,21.94S×67.53W,h219km±6km, ML4.0*
SCB ***24*** *07:49:46.7±2.3,21.93S×67.31W,h161km±19km, ML3.6/4, Error ellipse: s-maj=7.1km s-min=6.3km az=0.0*

ISC 24 07:49:42.8±0.9,21.93S±0.04×67.29W±0.05,h186km±8km, n38,σ1s44/58,8C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.65**	**245**	P	**Pn**	**07 50 18.1**	**+1.0**
	11nm,0.3s,baz=52,slow=9.2,SNR=224						
LVC				S	**Sn**	**07 50 44.6**	**+0.9**
	25nm,0.3s,baz=252,slow=20,SNR=64						
LVC	**Limon Verde**	**1.65**	**245**	P	**Pn**	**07 50 18.5**	**+1.3**
YJA	**Yavi**	**1.67**	**99**	P	**Pn**	**07 50 17.6**	**+0.2**
MOCB	**Mochara**	**1.68**	**67**	P	**Pn**	**07 50 17.7**	**+0.1**
MOCB				S	**Sn**	**07 50 42.5**	**-1.9**
MOCB				IAML		07 50 44.2	
	1μm,0.5s						
PB09	**IPOC Station P**	**1.82**	**274**	⇑*iP*	**Pn**	**07 50 19.8**	**+1.1**
PB09				*i* S	**Sn**	**07 50 47.9**	**+1.5**
PB09	**IPOC Station P**	**1.82**	**274**	P	**Pn**	**07 50 20.3**	**+1.6**
PB01	**IPOC Station P**	**2.23**	**293**	⇑*iP*	**Pn**	**07 50 23.4**	**+0.5**
PB01				*i* S	**Sn**	**07 50 53.7**	**-0.4**
PB01				IAML		07 50 55.2	
	comp=N,577nm,0.3s						
PB01	**IPOC Station P**	**2.23**	**293**	P	**Pn**	**07 50 23.6**	**+0.6**
PB06	**IPOC Station P**	**2.25**	**249**	⇑*iP*	**Pn**	**07 50 23.6**	**+0.4**
PB06				*e*S	**Sn**	**07 50 54.7**	**0.0**
PB06				IAML		07 50 56.9	
	comp=E,443nm,0.2s						
PB06	**IPOC Station P**	**2.25**	**249**	P	**Pn**	**07 50 23.9**	**+0.6**
PB06				S	**Sn**	**07 50 53.2**	**-1.5**
PB06				IAML		07 50 55.5	
	comp=E,40nm,0.5s						
PB03	**IPOC Station P**	**2.29**	**267**	⇓*iP*	**Pn**	**07 50 24.1**	**+0.4**
PB03				*i* S	**Sn**	**07 50 54.9**	**-0.6**
PB03				IAML		07 50 55.9	
	comp=E,442nm,0.2s						
PB15	**IPOC Station P**	**2.38**	**237**	*e*P	**Pn**	**07 50 25.9**	**+1.1**
PB15				*i* S	**Sn**	**07 50 57.8**	**+0.3**
PB07	**IPOC Station P**	**2.42**	**274**	*e*P	**Pn**	**07 50 25.4**	**+0.2**
PB07				*e*S	**Sn**	**07 50 56.7**	**-1.4**
PB07				IAML		07 50 58.5	
	comp=N,863nm,0.4s						
PB08	**IPOC Station P**	**2.49**	**315**	⇑*iP*	**Pn**	**07 50 27.5**	**+1.3**
PB08				*i* S	**Sn**	**07 51 00.8**	**+0.9**
PB08				IAML		07 51 03.3	
	comp=N,156nm,0.4s						
PB08	**IPOC Station P**	**2.49**	**315**	P	**Pn**	**07 50 27.8**	**+1.6**
PB04	**IPOC Station P**	**2.68**	**261**	⇑*iP*	**Pn**	**07 50 28.3**	**+0.1**
PB04				*e*S	**Sn**	**07 51 01.6**	**-1.9**
PB04				IAML		07 51 10.0	
	comp=N,316nm,0.6s						
PB05	**IPOC Station P**	**2.85**	**251**	*e*P	**Pn**	**07 50 30.5**	**+0.4**
PB05				*i* S	**Sn**	**07 51 05.4**	**-1.6**
PB05				IAML		07 51 06.8	
	comp=N,165nm,0.2s						
TA01	**Diego Aracena**	**3.02**	**296**	⇑*iP*	**Pn**	**07 50 31.7**	**-0.4**
TA01				*i* S	**Sn**	**07 51 08.4**	**-1.9**
TA01				IAML		07 51 10.2	
	comp=N,376nm,0.4s						
TA02	**Huaiquique**	**3.12**	**301**	⇓*iP*	**Pn**	**07 50 32.9**	**-0.4**
TA02				*e*S	**Sn**	**07 51 10.6**	**-2.0**
TA02				IAML		07 51 15.0	
	comp=N,407nm,0.2s						
SLA	**San Lorenzo**	**3.23**	**150**	P	**Pn**	**07 50 35.8**	**+1.1**
PB10	**IPOC Station P**	**3.40**	**242**	*e*P	**Pn**	**07 50 36.6**	**0.0**
PB10				*e*S	**Sn**	**07 51 16.0**	**-2.8**
PB10	**IPOC Station P**	**3.40**	**242**	P	**Pn**	**07 50 37.8**	**+1.1**
PB10				S	**Sn**	**07 51 14.7**	**-4.1**
PB10				IAML		07 51 17.9	
	comp=N,77nm,0.3s						
PSGC	**Pisagua**	**3.52**	**311**	⇑*iP*	**Pn**	**07 50 37.2**	**-1.1**
PSGC				*i* S	**Sn**	**07 51 18.9**	**-2.8**
PSGC	**Pisagua**	**3.52**	**311**	P	**Pn**	**07 50 38.5**	**+0.2**
MNMC	**Minye Minye**	**3.52**	**322**	⇑*iP*	**Pn**	**07 50 39.0**	**+0.5**
MNMC				*e*S	**Sn**	**07 51 21.3**	**-0.7**
MNMC	**Minye Minye**	**3.52**	**322**	P	**Pn**	**07 50 39.2**	**+0.7**
MNMC				S	**Sn**	**07 51 19.2**	**-2.8**
MNMC				IAML		07 51 23.3	
	comp=N,330nm,0.4s						
GO02	**Mina Guanaco**	**3.85**	**213**	⇓*iP*	**Pn**	**07 50 42.9**	**+0.4**
GO02				*i* S	**Sn**	**07 51 27.9**	**-1.4**
BBOE	**La Paz, Chanca**	**5.13**	**353**	P	**Pn**	**07 51 01.2**	**+2.0**
AHML	**Horco Molle**	**5.15**	**160**	P	**Pn**	**07 51 00.1**	**+1.2**
BBOD	**La Paz, Gloria**	**5.41**	**347**	P	**Pn**	**07 51 04.4**	**+1.6**
LPAZ	**La Paz**	**5.67**	**352**	P	**Pn**	**07 51 07.1**	**+0.9**
	comp=N,2.1nm,0.3s,baz=170,slow=9.3,SNR=57						
LPAZ				S	**Sn**	**07 52 11.0**	**-0.8**
	comp=N,0.4nm,0.3s,baz=356,slow=16,SNR=4.1						
LPAZ	**La Paz**	**5.67**	**352**	P	**Pn**	**07 51 07.3**	**+1.1**
SIV	**San Ignacio**	**8.33**	**46**	P	Pn	07 51 37.1	-3.5
	comp=N,11nm,0.3s,baz=243,slow=11,SNR=230						
SIV				S	Sn	07 53 03.6	-11
	comp=N,1.3nm,0.3s,baz=292,slow=19,SNR=7.3						
CPUP	**Villa Florida**	**10.10**	**118**	P	**Pn**	**07 52 00.3**	**-3.2**
	comp=N,0.1nm,0.3s,baz=296,slow=12,SNR=3.3						
NNA	**Nana**	**13.46**	**316**	P	**Pn**	**07 52 46.4**	**-0.2**
	comp=N,0.5nm,0.3s,baz=159,slow=8.6,SNR=2.3						
YKA	**Yellowknife Ar**	**92.10**	**340**	P	**P**	**08 02 31.2**	**+0.9**
	comp=N,0.2nm,0.8s,baz=129,slow=5.2,SNR=3.1						
WRA	**Warramunga Arr**	**133.32**	**208**	PKP	**PKPdf**	**08 08 38.9**	**+1.5**
	comp=N,0.6nm,1.1s,baz=159,slow=1.7,SNR=1.6						
MKAR	**Makanchi Array**	**145.08**	**37**	PKP	**PKPbc**	**08 08 58.8**	**+1.0**
	comp=N,0.5nm,0.6s,baz=318,slow=3.3,SNR=5.7						

OMAN ***24*** *08:14:35.6,27.70N×56.01E,h36km, mb5.1/9, ml3.9/15*
IDC ***24*** *08:14:36.1±0.8,27.19N×56.01E, h0km, mb3.6/19, mb1 3.8/22,mb1mx3.8/47,mbtmp3.7/22, ML3.4/3, Error ellipse: s-maj=18.1km s-min=16.0km az=42.0*

DSN ***24*** *08:14:38.0±1.3,27.32N×55.95E,h10km,ML3.9/11,Error ellipse: s-maj=21.1km s-min=7.6km az=60.0*
TEH ***24*** *08:14:38.7,27.23N×56.00E,h10km,MJ4.3*
THR ***24*** *08:14:40.7±0.5,27.32N×56.21E,h15km,MJ3.7*

ISC 24 08:14:38.7±0.9,27.28N±0.03×56.00E±0.03,h15km±6km, n99,σ1s50/112,mb3.6/19,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.19**	**51**	*e*Pg	**Pg**	**08 14 43.6**	**+0.2**
GENO				*e*Sg	**Sg**	**08 14 48.3**	**+1.7**
SHME	**Shamm**	**1.23**	**174**	*e*P	**Pn**	**08 15 01.4**	**+0.1**
	SNR=65						
SHME				S	**Sn**	**08 15 19.8**	**+2.1**
SHME	**Shamm**	**1.23**	**174**	*e*Pn	**Pn**	**08 15 01.5**	**+0.1**
SHME	**Shamm**	**1.23**	**174**	P	**Pn**	**08 15 01.7**	**+0.4**
SHME				S	**Sn**	**08 15 19.8**	**+2.1**
BANOM	**Banah**	**1.38**	**169**	*e*P	**Pn**	**08 15 03.8**	**+0.4**
	SNR=79						
BANOM				S	**Sg**	**08 15 23.6**	**+0.5**
BANOM	**Banah**	**1.38**	**169**	*e*Pn	**Pb**	**08 15 04.2**	**0.0**
BANOM	**Banah**	**1.38**	**169**	P	**Pn**	**08 15 04.0**	**+0.6**
BANOM				S	**Sg**	**08 15 23.6**	**+0.5**
LAR1	**LAR**	**1.50**	**285**	*e*Pg	**Pg**	**08 15 06.9**	**-0.7**
KHNJ	**Kahnooj**	**1.65**	**66**	*e*Pg	**Pg**	**08 15 09.7**	**-0.8**
MASF	**Masafi**	**1.90**	**176**	P	**Pn**	**08 15 12.2**	**+1.5**
	SNR=16						
MASF				S	**Sg**	**08 15 39.5**	**-0.5**
MSFE	**Esma-Masafi**	**1.92**	**176**	*e*P	**Pn**	**08 15 11.9**	**+1.1**
	SNR=16						
MSFE	**Esma-Masafi**	**1.92**	**176**	*e*Pn	**Pn**	**08 15 12.3**	**+1.4**
MDH	**Madha**	**1.99**	**172**	*e*P	**Pn**	**08 15 12.6**	**+0.8**
	SNR=17						
MDH	**Madha**	**1.99**	**172**	*e*Pn	**Pn**	**08 15 12.8**	**+1.0**
MDH	**Madha**	**1.99**	**172**	P	**Pn**	**08 15 12.6**	**+0.8**
MDH				S	**Sg**	**08 15 41.9**	**-0.8**
NAZ	**Nazwa, Dubai**	**2.30**	**188**	P	**Pn**	**08 15 17.5**	**+1.3**
NAZ	**Nazwa, Dubai**	**2.30**	**188**	*e*Pn	**Pb**	**08 15 18.5**	**-1.4**
NAZ	**Nazwa, Dubai**	**2.30**	**188**	P	**Pn**	**08 15 16.9**	**+0.8**
UOSS	**Minazif**	**2.33**	**175**	*e*P	**Pn**	**08 15 17.4**	**+0.8**
	SNR=31						
UOSS	**Minazif**	**2.33**	**175**	*e*Pn	**Pn**	**08 15 17.7**	**+1.2**
UOSS	**Minazif**	**2.33**	**175**	P	**Pn**	**08 15 17.9**	**+1.3**
UOSS				S	**Sg**	**08 15 53.3**	**-0.3**
NGRK	**Negar Kerman**	**2.44**	**15**	*e*Pn	**Pb**	**08 15 21.0**	**-1.6**
NGRK				*e*		08 15 59.5	
	comp=Z,99nm,0.4s						
HATD	**Hatta, Dubai**	**2.44**	**177**	*e*P	**Pn**	**08 15 19.3**	**+1.1**
	SNR=22						
HATD	**Hatta, Dubai**	**2.44**	**177**	*e*Pn	**Pn**	**08 15 19.5**	**+1.4**
HATD	**Hatta, Dubai**	**2.44**	**177**	P	**Pn**	**08 15 19.0**	**+0.8**
JHRM	**Jahrom**	**2.47**	**300**	*e*Pn	**Pb**	**08 15 22.0**	**-0.9**
LMD1	**Lamerd**	**2.53**	**272**	*e*Pn	**Pb**	**08 15 22.1**	**-1.7**
FAQ	**Al Faqa, Dubai**	**2.55**	**188**	P	**Pn**	**08 15 20.5**	**+0.9**
FAQ	**Al Faqa, Dubai**	**2.55**	**188**	*e*Pn	**Pb**	**08 15 23.1**	**-1.1**
FAQ	**Al Faqa, Dubai**	**2.55**	**188**	P	**Pn**	**08 15 20.3**	**+0.7**
ASHO	**Ashiyiah**	**2.58**	**179**	*e*P	**Pn**	**08 15 21.4**	**+1.4**
	SNR=46						
ASHO	**Ashiyiah**	**2.58**	**179**	*e*Pn	**Pn**	**08 15 21.6**	**+1.5**
ASHO	**Ashiyiah**	**2.58**	**179**	P	**Pn**	**08 15 20.9**	**+0.9**
	SNR=50						
ASUD	**Al Ashush, Dub**	**2.71**	**193**	*e*P	**Pn**	**08 15 23.7**	**+2.0**
	SNR=6.4						
ASUD	**Al Ashush, Dub**	**2.71**	**193**	P	**Pn**	**08 15 24.0**	**+2.3**
	SNR=6.2

comp=Z,0.2nm,0.4s,baz=71,slow=6.4,SNR=1.3
TORD Torodi Ar. Bea 52.49 266 P **P** **08 23 50.8 -0.7**
baz=65,slow=7.3
KSRS Korea Array 60.27 61 P **P** **08 24 46.4 -0.3**
comp=Z,0.7nm,0.5s,baz=266,slow=6.6,SNR=2.2
BOSA Boshof 62.91 210 P **P** **08 25 03.4 -1.2**
comp=Z,3.3nm,0.9s,baz=18,slow=6.4,SNR=2.5
ILAR Eielson Array 86.53 10 P **P** **08 27 20.8 -0.1**
comp=Z,0.4nm,0.6s,baz=323,slow=4.5,SNR=8.4
WRA Warramunga Arr 89.16 113 P **P** **08 27 33.4 -0.8**
comp=Z,0.3nm,0.7s,baz=314,slow=4.0,SNR=1.6
YKA Yellowknife Ar 90.23 356 P **P** **08 27 37.9 -0.5**
comp=Z,0.1nm,0.5s,baz=11,slow=3.8,SNR=2.6
ASAR Alice Springs 90.63 116 P **P** **08 27 41.2 +0.2**
comp=Z,0.3nm,0.6s,baz=303,slow=5.0,SNR=5.8

IDC 24 08:15:56.3±3.5, 54.25°N×87.47°E, h0km, mb1 2.7/2, mb1mx2.6/48, mbtmp2.7/2, ML1.8/2, Error ellipse: s-maj=28.8km s-min=20.0km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**260**	*i*		08 26 30.0	
	baz=78,slow=314,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.59**	**260**	Pg	Pn	08 16 24.9	-0.8
	2.1nm,0.3s,baz=77,slow=16,SNR=18						
ZALV				Lg	Lg	08 16 46.6	
	1.7nm,0.3s,baz=81,slow=24,SNR=8.9						
KURBB	**Kurchatov Arra**	**6.56**	**240**	Pn	Pn	08 17 34.4	+0.4
	0.1nm,0.3s,baz=54,slow=14,SNR=4.2						
KURBB				Sn	Sn	08 18 49.1	-0.3
	0.0nm,0.3s,baz=51,slow=18,SNR=1.4						
KURBB				Lg	Lg	08 19 21.1	
	0.0nm,0.3s,baz=52,slow=27,SNR=2.8						
MKAR	**Makanchi Array**	**8.16**	**206**	Pn	Pn	08 17 57.2	+1.3
	0.0nm,0.3s,baz=25,slow=14,SNR=1.2						
MKAR				Lg	Lg	08 20 11.9	
	0.0nm,0.3s,baz=26,slow=20,SNR=1.5						

IDC 24 08:21:25.7±3.4, 54.30N×87.45E, h0km, mb1 2.6/2, mb1mx2.6/43, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=25.4km s-min=17.9km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**258**	*i*		08 31 55.5	
	baz=75,slow=316,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.59**	**258**	Pg	Pn	08 21 53.6	-1.4
	0.5nm,0.3s,baz=74,slow=14,SNR=12						
ZALV				Lg	Lg	08 22 16.4	
	1.0nm,0.3s,baz=79,slow=24,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.58**	**240**	Pn	Pn	08 23 04.5	+1.0
	0.0nm,0.3s,baz=53,slow=14,SNR=2.2						
KURBB				Sn	Sn	08 24 17.6	-1.5
	0.0nm,0.3s,baz=57,slow=20,SNR=1.7						
KURBB				Lg	Lg	08 24 54.0	
	0.0nm,0.3s,baz=52,slow=33,SNR=4.2						
MKAR	**Makanchi Array**	**8.20**	**206**	Pn	Pn	08 23 27.0	+1.1
	0.1nm,0.3s,baz=22,slow=12,SNR=2.5						
MKAR				Sn	Sn	08 24 59.0	-0.1
	0.1nm,0.3s,baz=27,slow=28,SNR=5.8						
MKAR				Lg	Lg	08 25 46.7	
	0.0nm,0.3s,baz=28,slow=31,SNR=2.7						

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*RSNC **24** 08:40:28.4±1.2, 6.82N×73.18W, h148km±4km, ML3.3, Mw3.6, Fault plane solution: NP1:φs98.00000°, δ73.00000°, λ-142.00000°.*
*IDC **24** 08:40:29.6±2.6, 6.80N×73.45W, h163km±27km, mb2.9/5, mb1 3.2/6, mb1mx3.1/28, mbtmp3.4/6, Error ellipse: s-maj=44.5km s-min=22.3km az=59.0*
ISC 24 08:40:27.9±0.8, 6.82N±0.03×73.16W±0.04, h153km±5km, n37, σ2s06/67, mb3.2/5, 3C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**187**	⇓*i* P	**Pn**	**08 40 48.7**	**-0.2**
BARC				*e* S	**Sn**	**08 41 03.6**	**-1.3**
BARC				*i*		08 41 05.0	
	comp=Z,511nm,0.2s						
BRRC	**Barranca, Sant**	**0.62**	**297**	⇓*i* P	**Pn**	**08 40 50.5**	**+0.3**
BRRC				*e* S	**Sn**	**08 41 06.3**	**-0.9**
BRRC				*i*		08 41 10.7	
	comp=Z,358nm,0.3s						
PAMC	**Pamplona, Colo**	**0.69**	**41**	⇑*i* P	**Pn**	**08 40 51.6**	**+0.4**
PAMC				*e* S	**Sn**	**08 41 08.1**	**-0.8**
PAMC				*i*		08 41 09.5	
	comp=Z,338nm,0.2s						
RUSC	**La Rusia**	**0.93**	**176**	⇓*e* P	**Pn**	**08 40 52.6**	**-0.3**
RUSC				*e* S	**Sn**	**08 41 11.0**	**-1.0**
RUSC				*i*		08 41 12.9	
	comp=Z,218nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*e* P	**Pn**	**08 40 55.1**	**-0.8**
PTBC				*e* S	**Sn**	**08 41 15.8**	**-1.5**
PTBC				*i*		08 41 18.4	
	comp=Z,294nm,0.4s						
TAMC	**Tame, Arauca**	**1.41**	**106**	⇓*i* P	**Pn**	**08 40 57.2**	**+0.4**
TAMC				*e* S	**Sn**	**08 41 18.2**	**-0.7**
TAMC				*i*		08 41 18.2	
	comp=Z,159nm,0.3s						
OCAC	**Ocana**	**1.42**	**353**	⇑*i* P	**Pn**	**08 40 56.8**	**-0.3**
OCAC				*e* S	**Sn**	**08 41 17.8**	**-1.6**
OCAC				*i*		08 41 27.2	
	comp=Z,639nm,0.2s						
SPBC	**San Pablo de B**	**1.48**	**218**	*e* P	**Pn**	**08 40 57.5**	**-0.1**
SPBC				*e* S	**Sn**	**08 41 19.3**	**-1.0**
SPBC				*i*		08 41 24.3	
	comp=Z,434nm,0.6s						
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*e* P	**Pn**	**08 41 01.0**	**-0.1**
ZARC				*e* S	**Sn**	**08 41 26.0**	**-0.6**
ZARC				*i*		08 41 32.1	
	comp=Z,273nm,0.4s						
NORC	**Norcasia**	**2.11**	**234**	*e* P	**Pn**	**08 41 04.5**	**-0.1**
NORC				*e* S	**Sn**	**08 41 32.1**	**-0.7**
NORC				*i*		08 41 40.8	
	comp=Z,137nm,0.3s						
SMLC	**San Martn de**	**2.17**	**335**	*e* P	**Pn**	**08 41 04.7**	**-0.5**
SMLC				*e* S	**Sn**	**08 41 33.0**	**-0.9**
SMLC				*i*		08 41 42.4	
	comp=Z,274nm,0.1s						
ROSC	**El Rosal**	**2.29**	**211**	P	**Pn**	**08 41 08.2**	**+1.2**
	comp=Z,34nm,0.3s,baz=87,slow=18,SNR=103						
ROSC				S	**Sn**	**08 41 36.7**	**-0.4**
	comp=Z,25nm,0.3s,baz=32,slow=19,SNR=6.5						
ROSC	**El Rosal**	**2.29**	**211**	*e* P	**Pn**	**08 41 08.0**	**+1.0**
ROSC				*e* S	**Sn**	**08 41 36.8**	**-0.2**
ROSC				*i*		08 41 43.1	
	comp=Z,422nm,0.4s						
HELC	**Santa Helena**	**2.44**	**255**	*e* P	**Pn**	**08 41 08.6**	**-0.2**
HELC				*e* S	**Sn**	**08 41 38.6**	**-1.7**
HELC				*i*		08 41 46.8	
	comp=Z,143nm,0.3s						
UREC	**San Jos de Ur**	**2.53**	**292**	*e* P	**Pn**	**08 41 08.5**	**-1.1**
UREC				*e* S	**Sn**	**08 41 38.4**	**-3.3**
UREC				*i*		08 41 47.9	
	comp=Z,127nm,0.2s						
VILC	**Villavicencio,**	**2.75**	**191**	*e* P	**Pn**	**08 41 12.5**	**+0.1**
VILC				*e* S	**Sn**	**08 41 45.8**	**-0.9**
VILC				*i*		08 41 49.5	
	comp=Z,244nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇓*i* P	**Pn**	**08 41 11.9**	**-1.0**
PTGC				*e* S	**Sn**	**08 41 43.4**	**-4.3**
PTGC				*i*		08 41 47.2	
	comp=Z,88nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.00**	**252**	*e* P	**Pn**	**08 41 16.1**	**+0.6**
CBOC				*e* S	**Sn**	**08 41 51.1**	**-1.2**
CBOC				*i*		08 41 58.6	
	comp=Z,38nm,0.3s						
DBBC	**Dabeiba**	**3.04**	**274**	*e* P	**Pn**	**08 41 16.1**	**+0.1**
DBBC				*e* S	**Sn**	**08 41 51.4**	**-1.7**
MOTC	**Monteria, Cord**	**3.16**	**308**	*e* P	**Pn**	**08 41 15.8**	**-1.6**
MOTC				*e* S	**Sn**	**08 41 53.8**	**-2.0**
MOTC				*i*		08 41 56.5	
	comp=Z,59nm,0.3s						
SDV	**Santo Domingo**	**3.23**	**50**	*e* P	**Pn**	**08 41 18.2**	**-0.3**
SDV				*e* S	**Sn**	**08 41 54.7**	**-3.0**
SDV				*i*		08 41 58.9	
	comp=Z,34nm,0.4s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	*e* P	**Pn**	**08 41 23.0**	**+0.3**
ORTC				*e* S	**Sn**	**08 42 04.4**	**-0.8**
ORTC				*i*		08 42 10.1	
	comp=Z,75nm,0.2s						
PLMC	**San Jos del P**	**3.65**	**239**	⇑*e* P	**Pn**	**08 41 24.1**	**+0.3**
PLMC				*e* S	**Sn**	**08 42 05.1**	**-2.0**
PLMC				*i*		08 42 12.0	
	comp=Z,26nm,0.6s						
SJCC	**San Jacinto, C**	**3.65**	**327**	*e* P	**Pn**	**08 41 22.4**	**-1.5**
SJCC				*e* S	**Sn**	**08 42 04.0**	**-3.2**
SJCC				*i*		08 42 08.8	
	comp=Z,32nm,0.3s						
SJCC				*i*		08 42 08.8	
	comp=Z,32nm,0.3s						
GUVC	**San Jose del G**	**4.28**	**173**	*e* P	**Pn**	**08 41 31.2**	**-0.8**
GUVC				*e* S	**Sn**	**08 42 18.2**	**-3.7**
GUVC				*i*		08 42 24.9	
	comp=Z,72nm,0.3s						
SMRC	**Santa Marta, M**	**4.44**	**346**	*e* P	**Pn**	**08 41 33.2**	**-0.9**
SMRC				*e* S	**Sn**	**08 42 20.1**	**-5.6**
SMRC				*i*		08 42 25.8	
	comp=Z,33nm,0.2s						
MACC	**Macarena, Meta**	**4.70**	**188**	*e* P	**Pn**	**08 41 35.9**	**-1.5**
MACC				*e* S	**Sn**	**08 42 24.1**	**-7.5**
MACC				*i*		08 42 33.2	
	comp=Z,29nm,0.7s						
GARC	**Garzon, Huila**	**5.16**	**207**	*e* P	**Pn**	**08 41 42.7**	**-1.1**
GARC				*e* S	**Sn**	**08 42 36.7**	**-6.3**
GARC				*i*		08 42 44.5	
	comp=Z,28nm,0.3s						
PCON	**Cinco Dias**	**5.51**	**216**	*e* P	**Pn**	**08 41 48.5**	**-0.2**
PCON				*e* S	**Sn**	**08 42 50.5**	**-1.2**
PCON				*i*		08 43 17.7	
	comp=Z,8.0nm,0.4s						
POPC	**Popayan, Colom**	**5.51**	**220**	*e* P	**Pn**	**08 41 48.1**	**-0.4**
POPC				*e* S	**Sn**	**08 42 50.0**	**-1.4**
BBAC	**Balboa, Cauca**	**6.28**	**221**	*e* P	**Pn**	**08 41 57.2**	**-1.3**
LPAZ	**La Paz**	**23.49**	**168**	P	**P**	**08 45 26.6**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=3.8,slow=15,SNR=2.1						
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**08 47 18.6**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=136,slow=11,SNR=2.0						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**08 48 51.5**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=116,slow=8.4,SNR=1.9						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**08 50 39.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=127,slow=7.5,SNR=12						
TORD	**Torodi Ar. Bea**	**73.77**	**78**	P	**P**	**08 51 48.5**	**+2.4**
	comp=Z,0.4nm,0.9s,baz=289,slow=4.4,SNR=1.8						
WRA	**Warramunga Arr**	**150.31**	**241**	PKPbc	**PKPdf**	**09 00 00.7**	**+4.0**
	comp=Z,0.4nm,0.9s,baz=106,slow=3.7,SNR=1.5						

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*IDC **24** 09:17:19.6±3.1, 12.05N×126.40E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/45, mbtmp3.4/5, Error ellipse: s-maj=271.4km s-min=22.9km az=65.0*
*MAN **24** 09:17:26.9, 11.66N×125.49E, h29km, mb4.2, ML3.1, MS2.8*
ISC 24 09:17:26.0±1.3, 11.82N±0.1×125.65E±0.10, h35km, n9, σ0s86/12, mb3.4/5, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.26**	**233**	*e* P	**Pn**	**09 17 32.9**	**-0.5**
BESP				*e* S	**Sn**	**09 17 37.7**	**-0.7**
MSLP	**Maasin**	**1.79**	**206**	*e* P	**Pn**	**09 17 54.8**	**+0.4**
MSLP				*e* S	Sn	09 18 23.8	+7.8
GLSP	**General Luna,**	**2.02**	**166**	*e* P	**Pn**	**09 17 58.2**	**+0.7**
GLSP				*e* S	**Sn**	**09 18 22.8**	**+1.3**
RCP	**Roxas**	**2.85**	**266**	*e* P	**Pn**	**09 18 10.0**	**+1.0**
RCP				*e* S	**Sn**	**09 18 42.7**	**+0.6**
WRA	**Warramunga Arr**	**32.64**	**165**	P	**P**	**09 23 53.4**	**-1.4**
	0.5nm,1.0s,baz=348,slow=9.3,SNR=1.7						
ASAR	**Alice Springs**	**36.12**	**167**	P	**P**	**09 24 24.7**	**-0.2**
	0.2nm,0.5s,baz=347,slow=7.6,SNR=6.5						
STKA	**Stephens Creek**	**46.00**	**161**	P	**P**	**09 25 45.7**	**-0.3**
	1.2nm,0.6s,baz=349,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**50.48**	**322**	P	**P**	**09 26 21.0**	**+0.5**
	0.2nm,0.6s,baz=119,slow=8.4,SNR=2.7						
KURBB	**Kurchatov Arra**	**54.51**	**325**	P	**P**	**09 26 50.3**	**+0.1**
	0.3nm,0.5s,baz=125,slow=7.6,SNR=3.4						

IDC 24 09:30:59.1±1.3, 3.68N×126.93E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/39, mbtmp3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/53, Error ellipse: s-maj=126.4km s-min=20.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**21.92**	**242**	LR	LR	09 46 13.2	
	comp=Z,53nm,21.7s,baz=230,slow=42						
WRA	**Warramunga Arr**	**24.58**	**163**	P	P	09 36 19.7	-1.3
	1.4nm,0.7s,baz=344,slow=10,SNR=7.9						
ASAR	**Alice Springs**	**28.02**	**166**	P	P	09 36 52.7	+0.6
	0.2nm,0.8s,baz=339,slow=7.3,SNR=1.9						
STKA	**Stephens Creek**	**36.01**	**160**	P	P	09 38 20.1	+1.0
	1.0nm,0.6s,baz=343,slow=11,SNR=3.4						
SONM	**Songino Array**	**47.41**	**341**	P	P	09 39 35.8	+0.4
	0.6nm,0.7s,baz=158,slow=6.5,SNR=4.2						
MKAR	**Makanchi Array**	**57.71**	**325**	P	P	09 40 51.1	-0.5
	0.4nm,0.4s,baz=121,slow=8.0,SNR=9.5						

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*TAP **24** 09:36:59.2, 24.83N×121.97E, h10km, ML3.6, B*
*JMA **24** 09:37:00.2, 24.80N×121.91E, h27km, M2.8*
ISC 24 09:36:59.3±0.8, 24.82N±0.02×121.97E±0.02, h12km±4km, n103, σ0s73/140, 16C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.04**	**308**	⇓*i* P	**Pg**	**09 37 01.2**	**-0.4**
	baz=293						
EGS				*e* S	**Sg**	**09 37 02.8**	**-0.4**
	baz=293						
NTC	**Toucheng**	**0.13**	**285**	⇑*i* P	**Pg**	**09 37 02.9**	**+0.3**
	baz=289						
NTC				*e* S	**Sg**	**09 37 04.9**	**0.0**
	baz=289						
TWB1	**Santiao Chiao**	**0.19**	**6**	⇑*i* P	**Pb**	**09 37 03.4**	**-1.3**
	baz=5.0						
TWB1				*i* S	**Sb**	**09 37 05.9**	**-0.5**
	baz=5.0						
TIPB	**Shuangxi**	**0.20**	**320**	⇑*i* P	**Pb**	**09 37 03.9**	**-1.0**
	baz=316						
TIPB				*i* S	**Sb**	**09 37 06.8**	**+0.1**
	baz=316						
ILA	**Ilan**	**0.20**	**254**	⇑*i* P	**Pg**	**09 37 04.3**	**+0.6**
	baz=251						
ILA				S	**Sg**	**09 37 08.0**	**+1.2**
	baz=251						
TWC	**Suao**	**0.24**	**207**	⇑*i* P	**Pb**	**09 37 04.8**	**-0.7**
	baz=207						
TWC				*i* S	**Sb**	**09 37 07.8**	**+0.2**
	baz=207						
TWE	**Neicheng**	**0.29**	**250**	⇑*i* P	**Pg**	**09 37 05.7**	**+0.4**
	baz=239						
TWE				*i* S	**Sg**	**09 37 09.1**	**-0.1**
	baz=239						
NDS	**Dongshan**	**0.29**	**231**	⇑*i* P	**Pg**	**09 37 05.9**	**+0.5**
	baz=231						
NDS				*e* S	**Sg**	**09 37 09.9**	**+0.5**
	baz=231						
NWF	**Wu-fen Shan**	**0.30**	**326**	⇑*i* P	**Pg**	**09 37 06.0**	**+0.5**
	baz=315						
WFSB	**Wu-fen Shan**	**0.30**	**326**	⇑*i* P	**Pg**	**09 37 06.0**	**+0.6**
	baz=318						
WFSB				S	**Sg**	**09 37 10.7**	**+1.1**
	baz=318						
TNOU	**National Taiwa**	**0.37**	**332**	⇑*i* P	**Pg**	**09 37 07.3**	**+0.5**
	baz=321						
TNOU				S	**Sg**	**09 37 12.2**	**+0.5**
	baz=321						
TWA	**Mucha**	**0.38**	**295**	⇑*i* P	**Pg**	**09 37 07.6**	**+0.6**
	baz=292						
TWA				*e* S	**Sg**	**09 37 12.7**	**+0.7**
	baz=292						
ENTT	**Nioudou**	**0.41**	**244**	⇑*i* P	**Pg**	**09 37 07.7**	**+0.3**
	baz=242						
ENTT				*e* S	**Sb**	**09 37 13.6**	**-1.0**
	baz=242						
EWUT	**Wuta**	**0.41**	**204**	⇑*i* P	**Pg**	**09 37 07.9**	**+0.4**
	baz=210						
EWUT				*e* S	**Sg**	**09 37 13.2**	**+0.2**
	baz=210						
NWLT	**Wulai**	**0.42**	**264**	⇑*i* P	**Pg**	**09 37 08.0**	**+0.3**
	baz=262						
NWLT				*e* S	**Sg**	**09 37 13.6**	**+0.2**
	baz=262						
NHDH	**Xindian Distri**	**0.42**	**290**	*e* P	**Pb**	**09 37 08.6**	**-0.2**
	baz=287						
NHDH				*e* S	**Sb**	**09 37 14.5**	**-0.6**
	baz=287						
ENA	**Nanau**	**0.44**	**208**	P	**Pg**	**09 37 08.4**	**+0.4**
	baz=212						
ENA				*e* S	**Sg**	**09 37 14.2**	**+0.2**
	baz=212						
TAP1	**Taipei**	**0.46**	**298**	*e* P	**Pb**	**09 37 09.1**	**-0.1**
	baz=296						
TATO	**Taipei**	**0.46**	**290**	⇑*i* P	**Pb**	**09 37 09.1**	**-0.2**
	baz=278						
TATO				*e* S	**Sg**	**09 37 14.7**	**+0.2**
	baz=278						
NDT	**Datong Townshi**	**0.47**	**242**	*e* P	**Pg**	**09 37 08.9**	**+0.4**
	baz=242						
NDT				*e* S	**Sg**	**09 37 14.7**	**0.0**
	baz=242						
TAP	**Taipei**	**0.47**	**298**	*e* P	**Pb**	**09 37 09.6**	**+0.1**
	baz=295						
TAP				*e* S	**Sb**	**09 37 15.6**	**-0.8**
	baz=295						
YM01	**YM01**	**0.48**	**312**	⇑*i* P	**Pg**	**09 37 08.8**	**0.0**
	baz=301						
YM01				*e* S	**Sg**	**09 37 15.2**	**-0.1**
	baz=301						
YM11	**YM11**	**0.49**	**314**	*e* P	**Pb**	**09 37 09.8**	**-0.1**
	baz=312						
YM10	**YM10**	**0.49**	**312**	*e* P	**Pb**	**09 37 10.1**	**+0.1**
	baz=310						
YM08	**YM08**	**0.50**	**317**	*e* P	**Pb**	**09 37 09.8**	**-0.2**
	baz=307						
YM04	**YM04**	**0.51**	**310**	*i* P	**Pb**	**09 37 10.3**	**+0.1**
	baz=308						
YM03	**YM03**	**0.53**	**313**	*i* P	**Pb**	**09 37 10.5**	**0.0**
	baz=311						
ANP	**Anpu**	**0.54**	**312**	*e* P	**Pb**	**09 37 10.7**	**-0.1**
	baz=310						
YHNB	**Yeheng**	**0.56**	**254**	*e* P	**Pg**	**09 37 10.4**	**+0.2**
	baz=262						
TWY	**Chenhua**	**0.56**	**324**	*e* P	**Pg**	**09 37 11.3**	**+1.0**
	baz=312						
TWS1	**Kuangyinshan**	**0.57**	**299**	*e* P	**Pn**	**09 37 11.9**	**-1.3**
	baz=306						
NSK	**Sanguang**	**0.57**	**255**	P	**Pb**	**09 37 10.5**	**-0.7**
	baz=264						
NSK				*e* S	**Sb**	**09 37 18.9**	**-0.4**
	baz=264						
NTST	**Danshui**	**0.58**	**306**	*e* P	**Pg**	**09 37 11.9**	**+1.3**
	baz=304						
NTY	**Taoyuan**	**0.63**	**286**	*e* P	**Pg**	**09 37 12.2**	**+0.5**
	baz=276						
NNS	**Nan Shan**	**0.66**	**235**	*e* P	**Pb**	**09 37 12.2**	**-0.6**
	baz=235						
NNS				*e* S	**Sg**	**09 37 21.7**	**+0.8**
	baz=235						
NNSB	**Datong**	**0.66**	**234**	*e* P	**Pb**	**09 37 12.1**	**-0.7**
	baz=246						
NNSH	**Datong**	**0.66**	**234**	*e* P	**Pb**	**09 37 11.9**	**-0.9**
	baz=235						
NNSH				*e* S	**Sg**	**09 37 21.7**	**+0.8**
	baz=235						
NCU	**National Centr**	**0.72**	**282**	*e* P	**Pn**	**09 37 14.2**	**-1.1**
	baz=280						
NCUH	**Zhongli**	**0.72**	**282**	*e* P	**Pn**	**09 37 14.6**	**-0.7**
	baz=280						
NACB	**Ninganchiao**	**0.73**	**208**	*e* P	**Pg**	**09 37 13.8**	**+0.4**
	baz=210						
NACB				*e* S	**Sg**	**09 37 24.3**	**+1.3**
	baz=210						
ETLH	**Xiulin Townshi**	**0.75**	**216**	*e* P	**Pg**	**09 37 14.2**	**+0.2**
	baz=218						
ETLH				*e* S	**Sn**	**09 37 25.8**	**-1.4**
	baz=218						
NJD	**Zhudong**	**0.80**	**264**	*e* P	**Pn**	**09 37 16.5**	**+0.1**
	baz=256						
TWD	**Chiawan**	**0.81**	**205**	P	**Pg**	**09 37 15.2**	**+0.2**
	baz=207						
TWD				*e* S	**Sb**	**09 37 25.4**	**-0.8**
	baz=207						
HSN1	**Hsinchu**	**0.86**	**267**	*e* P	**Pn**	**09 37 17.6**	**+0.3**
	baz=281						
FUSS	**Fushou**	**0.87**	**229**	*e* P	**Pg**	**09 37 16.3**	**+0.1**
	baz=223						
LIOB	**Emei**	**0.88**	**259**	*e* P	**Pn**	**09 37 17.2**	**-0.3**
	baz=257						
SBCB	**Hsinchu**	**0.89**	**268**	*e* P	**Pn**	**09 37 17.7**	**+0.1**
	baz=284						
SBCB				*e* S	**Sn**	**09 37 32.1**	**+1.7**
	baz=284						
NSTT	**Nanjuang**	**0.90**	**258**	*e* P	**Pn**	**09 37 17.3**	**-0.4**
	baz=247						
NSTT				*e* S	**Sn**	**09 37 29.7**	**-1.0**
	baz=247						
HWA	**Hwalien**	**0.90**	**201**	*e* P	**Pn**	**09 37 17.4**	**-0.4**
	baz=203						
HSN	**Hsinchu**	**0.91**	**269**	*e* P	**Pn**	**09 37 17.9**	**+0.1**
	baz=285						
HSN				*e* S	**Sn**	**09 37 30.2**	**-0.6**
	baz=285						
TWT	**Tachien**	**0.92**	**232**	*e* P	**Pn**	**09 37 17.6**	**-0.5**
	baz=224						
TDCB	**Techi**	**0.93**	**233**	*e* P	**Pg**	**09 37 17.2**	**0.0**
	baz=225						
WHF	**Hehuan Shan**	**0.93**	**224**	*e* P	**Pb**	**09 37 17.2**	**-0.3**
	baz=224						
WHF				*e* S	**Sg**	**09 37 29.8**	**+0.3**
	baz=224						
JYNG	**Yonagunijimaku**	**0.96**	**112**	P	**Pn**	**09 37 18.4**	**-0.2**
JYNG				*e* S	**Sg**	**09 37 31.5**	**+1.0**
YOJ	**Yonaguni jima**	**1.02**	**110**	*e* P	**Pb**	**09 37 18.3**	**-0.5**
	baz=113						
YOJ	**Yonaguni jima**	**1.02**	**110**	P	**Pb**	**09 37 18.7**	**-0.1**
YOJ				*e* S	**Sb**	**09 37 32.2**	**+0.1**
CHGB	**Renai**	**1.05**	**224**	*e* P	**Pb**	**09 37 19.2**	**-0.3**
	baz=214						
WHP	**Taichung City**	**1.07**	**240**	*e* P	**Pg**	**09 37 20.4**	**+0.3**
	baz=239						
NMLH	**Miaoli**	**1.10**	**255**	*e* P	**Pg**	**09 37 21.4**	**+0.8**
	baz=253						
ESL	**Shilin**	**1.11**	**206**	*e* P	**Pb**	**09 37 20.3**	**-0.2**
	baz=208						
NSY	**Sanyi**	**1.17**	**250**	*e* P	**Pg**	**09 37 23.5**	**+1.7**
	baz=266						
TWQ1	**Liyutan**	**1.18**	**247**	*e* P	**Pg**	**09 37 23.5**	**+1.4**
	baz=260						
WPL	**Puli Township**	**1.22**	**229**	*e* P	**Pg**	**09 37 22.7**	**-0.2**
	baz=218						
WCS	**Beigang Elemen**	**1.23**	**232**	*e* P	**Pg**	**09 37 23.1**	**+0.2**
	baz=238						
DPDB	**Guoxing**	**1.23**	**231**	*e* P	**Pg**	**09 37 23.3**	**+0.3**
	baz=237						
EGFH	**Guangfu**	**1.25**	**203**	*e* P	**Pb**	**09 37 22.9**	**+0.1**
	baz=212

ALS	**Alishan**	**1.68**	**219**	*e*P	**Pg**	**09 37 31.2**	**-0.4**
	baz=208						
CHN5	**Tsauling**	**1.69**	**224**	*e*P	**Pg**	**09 37 31.9**	**+0.1**
	baz=224						
WDLH	**Douliu**	**1.72**	**229**	*e*P	**Pg**	**09 37 32.8**	**+0.4**
	baz=245						
FULB	**Fuli**	**1.73**	**201**	*e*P	**Pb**	**09 37 30.9**	**-0.1**
	baz=216						
ELDTW	**Lidau**	**1.84**	**208**	*e*P	**Pb**	**09 37 32.6**	**-0.4**
	baz=212						
CHN4	**Tsaushan**	**1.93**	**221**	*e*P	**Pg**	**09 37 36.1**	**-0.2**
	baz=222						
CHY	**Chiayi**	**1.93**	**227**	*e*P	**Pg**	**09 37 36.2**	**-0.1**
	baz=242						
EDH	**Donghe**	**1.94**	**198**	*e*P	**Pb**	**09 37 33.2**	**-1.4**
	baz=189						
TPUB	**Ta-pu**	**1.94**	**219**	*e*P	**Pb**	**09 37 35.4**	**+0.7**
	baz=221						
JKRS	**Kuro-shima**	**1.95**	**107**	P	**Pn**	**09 37 32.5**	**+0.3**
STYH	**Taoyuan**	**1.97**	**214**	*e*P	**Pb**	**09 37 35.5**	**+0.4**
	baz=205						
STYT	**Tauyuan**	**1.99**	**214**	*e*P	**Pb**	**09 37 35.6**	**+0.2**
	baz=206						
WTP	**Ta-pu**	**2.00**	**219**	*e*P	**Pg**	**09 37 36.6**	**-1.0**
	baz=220						
JIJ	**Ishigaki jima**	**2.03**	**102**	P	**Pn**	**09 37 33.1**	**-0.3**
JIJ				*e*S	**Sn**	**09 37 59.0**	**+0.3**
TWK	**Hsinying**	**2.05**	**221**	*e*P	**Pb**	**09 37 37.4**	**+0.8**
	baz=223						
CHN1	**Nanshi**	**2.09**	**219**	*e*P	**Pb**	**09 37 36.5**	**-0.7**
	baz=221						
ICHU	**Yijhu**	**2.12**	**227**	*e*P	**Pb**	**09 37 37.6**	**-0.1**
	baz=228						
SGST	**Jiashian**	**2.14**	**216**	*e*P	**Pb**	**09 37 37.8**	**-0.3**
	baz=206						
JISG	**Ishigakijimahi**	**2.15**	**96**	P	**Pn**	**09 37 35.8**	**+0.9**
TWG	**Pinlang**	**2.15**	**203**	*e*P	**Pb**	**09 37 37.5**	**-0.8**
	baz=207						
TWGBT	**Beinan**	**2.15**	**202**	*e*P	**Pb**	**09 37 37.3**	**-0.9**
	baz=207						
MASBT	**Mashibuluo**	**2.52**	**209**	*e*P	**Pb**	**09 37 43.6**	**-0.8**
	baz=213						

TUL ***24*** *09:39:13.7±1.6, 36.52N±0.04×98.96W±0.04, h0km±7km, ML3.5, mb_Lg3.4/104(NEIC), Error ellipse: s-maj=6.4km s-min=4.5km az=156.0*
IDC ***24*** *09:39:14.0±1.6, 36.61N×99.18W, h0km, mb1 3.7/3, mb1mx3.3/41, mbtmp3.4/3, ML3.3/3, Error ellipse: s-maj=23.4km s-min=11.5km az=100.0*
NEIC ***24*** *09:39:14.5±1.8, 36.53N±0.04×98.92W±0.03, h5km±2km, Error ellipse: s-maj=7.6km s-min=3.1km az=323.0*
ANF ***24*** *09:39:15.2±0.5, 36.51N×98.91W, h9km, ML4.4/13, Error ellipse: s-maj=7.0km s-min=3.2km az=73.0*

ISC 24 09:39:14.0±1.0, 36.52N±0.03×98.93W±0.03, h9km±9km, n123, σ1.101/117, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.15**	**201**	Pg	**Pg**	**09 39 16.8**	**-0.6**
U32A				Sg	**Sg**	**09 39 19.6**	**-0.1**
OK032	**Salt Plains WL**	**0.64**	**64**		**Pg**	**09 39 26.9**	**+0.4**
OK032				Sg	**Sb**	**09 39 36.2**	**-0.4**
CROK	**Carrier**	**0.77**	**91**		**Pg**	**09 39 29.2**	**+0.4**
CROK				Sg	**Sb**	**09 39 40.4**	**+0.3**
KAN14	**Manchester OK**	**0.89**	**61**	Pg	**Pg**	**09 39 31.5**	**+0.3**
KAN14				Sg	**Sb**	**09 39 43.9**	**+0.2**
KAN10	**Anthony SW Sta**	**0.90**	**48**		**Pg**	**09 39 31.4**	**+0.1**
KAN10				Sg	**Sb**	**09 39 43.7**	**-0.3**
GC02	**Grant County #**	**0.92**	**69**		**Pg**	**09 39 32.0**	**+0.2**
GC02				Sg	**Sb**	**09 39 45.0**	**+0.4**
KAN05	**Bluff City Nor**	**1.03**	**55**		**Pg**	**09 39 34.0**	**+0.2**
KAN05				Sg	**Sb**	**09 39 48.2**	**+0.4**
KAN08	**Anthony NE Sta**	**1.04**	**47**		**Pg**	**09 39 34.0**	**-0.1**
KAN08				Sg	**Sb**	**09 39 48.6**	**+0.6**
KAN12	**Harper NE Stat**	**1.08**	**44**	Pg	**Pg**	**09 39 34.5**	**-0.2**
KAN01	**Argonia South**	**1.13**	**56**	Pg	**Pg**	**09 39 35.7**	**-0.1**
KAN09	**Caldwell North**	**1.22**	**60**	Pn	**Pg**	**09 39 37.1**	**-0.3**
KAN13	**South Haven SW**	**1.27**	**67**		**Pg**	**09 39 37.9**	**-0.4**
BCOK	**Bluff Creek, N**	**1.38**	**129**		**Pn**	**09 39 39.5**	**0.0**
OK029	**Liberty Lake**	**1.40**	**121**		**Pn**	**09 39 39.8**	**0.0**
OK025	**Westminster Rd**	**1.60**	**126**		**Pn**	**09 39 43.2**	**+0.7**
OKCFA	**Oklahoma City**	**1.63**	**132**	Pn	**Pn**	**09 39 43.8**	**+0.8**
OKCFA	**Oklahoma City**	**1.63**	**132**	P	**Pn**	**09 39 43.8**	**+0.8**
	baz=315						
OKCFA				Sb	**Sg**	**09 40 06.5**	**0.0**
	baz=315						
OKCFA	**Oklahoma City**	**1.63**	**132**	P		09 39 43.8	
	baz=315						
OKCFA				Sb		09 40 06.5	
	baz=315						
OKCSW	**OKLAHOMA CITY**	**1.65**	**132**		**Pn**	**09 39 44.0**	**+0.8**
FNO	**Franklin**	**1.77**	**135**		**Pn**	**09 39 46.5**	**+1.6**
OK031	**S. Brethren Rd**	**1.79**	**108**	Pn	**Pn**	**09 39 46.2**	**+1.1**
WMOK	**Wichita Mounta**	**1.79**	**176**	Pn	**Pn**	**09 39 45.6**	**+0.5**
WMOK	**Wichita Mounta**	**1.79**	**176**	S	**Sb**	**09 40 10.2**	**+0.7**
	baz=358						
WMOK	**Wichita Mounta**	**1.79**	**176**	P		09 39 45.4	
	baz=358						
WMOK				S		09 40 09.7	
	baz=358						
WMOK	**Wichita Mounta**	**1.79**	**176**	S		09 40 10.2	
	baz=358						
QUOK	**Quay**	**1.83**	**100**	Pn	**Pn**	**09 39 46.9**	**+1.2**
OK030	**Cody Creek RV**	**1.84**	**108**		**Pn**	**09 39 46.8**	**+1.1**
R32A	**Long Quarter,**	**1.90**	**5**		**Pn**	**09 39 47.5**	**+0.7**
R32A				IAmb_Lg		09 40 18.0	
	comp=Z,122nm,0.8s						
R32A	**Long Quarter,**	**1.90**	**5**	P	**Pn**	**09 39 47.6**	**+0.9**
	baz=183,SNR=21						
R32A				S	**Sb**	**09 40 13.7**	**+0.8**
	baz=183						
R32A	**Long Quarter,**	**1.90**	**5**	P		09 39 47.6	
	baz=183,SNR=21						
R32A				S		09 40 13.7	
	baz=183						
T35A	**Sooner Cattle**	**1.98**	**78**	Pn	**Pn**	**09 39 48.3**	**+0.5**
T35A				IAmb_Lg		09 40 19.6	
	comp=Z,174nm,0.9s						
T35B	**Sooner Cattle**	**1.98**	**78**	S	**Sg**	**09 40 17.3**	**-0.5**
	baz=259						
T35B	**Sooner Cattle**	**1.98**	**78**	S		09 40 17.3	
	baz=259						
CBKS	**Cedar Bluff**	**2.37**	**345**	Pn	**Pn**	**09 39 54.1**	**+0.9**
CBKS				IAmb_Lg		09 40 30.2	
	comp=Z,171nm,0.7s						
CBKS	**Cedar Bluff**	**2.37**	**345**	P	**Pn**	**09 39 55.1**	**+1.9**
	baz=163,SNR=12						
CBKS				S	**Sb**	**09 40 26.4**	**0.0**
	baz=163						
CBKS	**Cedar Bluff**	**2.37**	**345**	P		09 39 54.8	
	baz=163,SNR=7.2						
CBKS				S		09 40 25.8	
	baz=163						
CBKS	**Cedar Bluff**	**2.37**	**345**	P		09 39 55.1	
	baz=163,SNR=12						
CBKS				S		09 40 26.4	
	baz=163						
TUL1	**Leonard**	**2.61**	**103**	Sb		09 40 35.0	
	baz=285						
AMTX	**Amarillo**	**2.77**	**235**	Pn	**Pb**	**09 40 03.2**	**-0.6**
AMTX				IAmb_Lg		09 40 42.2	
	comp=Z,118nm,0.8s						
AMTX	**Amarillo**	**2.77**	**235**	S		09 40 36.8	
	baz=54						
KSU1	**Kansas State U**	**3.16**	**35**	Pn	**Pn**	**09 40 04.7**	**+0.6**
KSU1	**Kansas State U**	**3.16**	**35**	P	**Pn**	**09 40 05.1**	**+1.0**
	baz=215,SNR=6.8						
KSU1	**Kansas State U**	**3.16**	**35**	P		09 40 04.9	
	baz=215,SNR=8.0						
KSU1				S		09 40 43.4	
	baz=215						
KSU1	**Kansas State U**	**3.16**	**35**	P		09 40 05.1	
	baz=215,SNR=6.8						
Z35A	**Perchaven, San**	**3.47**	**156**		**Pn**	**09 40 11.8**	**+3.5**
Z35A	**Perchaven, San**	**3.47**	**156**	P	**Pn**	**09 40 09.3**	**+1.1**
	baz=338						
Z35A	**Perchaven, San**	**3.47**	**156**	P		09 40 09.3	
	baz=338						
X37A	**Clayton**	**3.49**	**123**		**Pn**	**09 40 09.3**	**+0.9**
X37A				IAmb_Lg		09 41 12.6	
	comp=Z,182nm,1.2s						
X37A	**Clayton**	**3.49**	**123**	P	**Pn**	**09 40 09.2**	**+0.7**
	baz=306						
X37A	**Clayton**	**3.49**	**123**	P		09 40 09.2	
	baz=306						
U38A	**Gravette**	**3.67**	**90**	Pn	**Pn**	**09 40 12.0**	**+1.1**
KSCO	**Kaye Shedlock'**	**3.84**	**311**	Pn	**Pn**	**09 40 15.3**	**+1.9**
KSCO				IAmb_Lg		09 41 20.8	
	comp=Z,73nm,0.7s						
KSCO	**Kaye Shedlock'**	**3.84**	**311**	P		09 40 14.7	
	baz=128						
KSCO				Sb		09 41 12.9	
	baz=128						
ABTX	**Abilene, Hawle**	**3.93**	**189**	Pn	**Pn**	**09 40 15.2**	**+0.6**
ABTX	**Abilene, Hawle**	**3.93**	**189**	P		09 40 14.8	
	baz=9.3						
MSTX	**Muleshoe**	**4.05**	**232**		**Pn**	**09 40 19.5**	**+3.2**
MSTX				IAmb_Lg		09 41 25.6	
	comp=Z,79nm,1.1s						
MSTX	**Muleshoe**	**4.05**	**232**	P		09 40 16.6	
	baz=50						
MSTX				Sb		09 41 20.4	
	baz=50						
N33B	**J Bar K, Exete**	**4.36**	**15**	S	**Sn**	**09 41 10.7**	**-0.9**
	baz=195						
N33B	**J Bar K, Exete**	**4.36**	**15**	S		09 41 10.7	
	baz=195						
N33A	**J Bar K, Exete**	**4.37**	**15**	Pn	**Pn**	**09 40 20.1**	**-0.5**
W39A	**Magazine**	**4.39**	**106**		**Pn**	**09 40 23.2**	**+2.4**
W39A				IAmb_Lg		09 41 42.9	
	comp=Z,124nm,0.8s						
W39A	**Magazine**	**4.39**	**106**	P		09 40 21.3	
	baz=290,SNR=5.6						
T25A	**Trinidad**	**4.44**	**280**		**Pn**	**09 40 23.4**	**+1.7**
T25A				IAmb_Lg		09 41 37.8	
	comp=Z,87nm,0.9s						
T25A	**Trinidad**	**4.44**	**280**	P		09 40 22.8	
	baz=96,SNR=16						
T25A				Sb		09 41 30.0	
	baz=96						
Z38A	**Mt. Pleasant**	**4.60**	**134**	Pn	**Pn**	**09 40 23.3**	**-0.4**
Z38A				IAmb_Lg		09 41 44.4	
	comp=Z,80nm,0.7s						
Z38A	**Mt. Pleasant**	**4.60**	**134**	P	**Pn**	**09 40 24.5**	**+0.8**
	baz=317						
Z38A	**Mt. Pleasant**	**4.60**	**134**	P		09 40 24.5	
	baz=317						
S39A	**Bolivar**	**4.63**	**74**		**Pn**	**09 40 24.9**	**+0.7**
S39A				IAmb_Lg		09 41 42.8	
	comp=Z,106nm,0.8s						
S39A	**Bolivar**	**4.63**	**74**	P	**Pn**	**09 40 24.9**	**+0.7**
	baz=257,SNR=12						
S39A	**Bolivar**	**4.63**	**74**	P		09 40 24.9	
	baz=257,SNR=12						
WHTX	**Lake Whitney,**	**4.68**	**164**	Pn	**Pn**	**09 40 26.7**	**+1.8**
WHTX	**Lake Whitney,**	**4.68**	**164**	P		09 40 25.7	
	baz=346,SNR=6.9						
WHTX				Sb		09 41 37.0	
	baz=346						
MIAR	**Mount Ida**	**4.79**	**113**		**Pn**	**09 40 27.2**	**+0.8**
MIAR	**Mount Ida**	**4.79**	**113**	P	**Pn**	**09 40 27.2**	**+0.8**
	baz=296,SNR=14						
MIAR	**Mount Ida**	**4.79**	**113**	P		09 40 26.9	
	baz=296,SNR=8.4						
MIAR				S		09 41 22.8	
	baz=296						
MIAR	**Mount Ida**	**4.79**	**113**	P		09 40 27.2	
	baz=296,SNR=14						
U40A	**Yellville**	**4.90**	**90**		**Pn**	**09 40 29.3**	**+1.3**
U40A				IAmb_Lg		09 41 52.5	
	comp=Z,65nm,0.7s						
U40A	**Yellville**	**4.90**	**90**	P	**Pn**	**09 40 29.0**	**+1.0**
	baz=274,SNR=7.7						
U40A	**Yellville**	**4.90**	**90**	P		09 40 28.6	
	baz=274						
U40A	**Yellville**	**4.90**	**90**	P		09 40 29.0	
	baz=274,SNR=7.7						
U40A				P		09 40 29.0	
	baz=274,SNR=7.7						
BGNE	**Belgrade**	**4.92**	**7**		**Pn**	**09 40 27.6**	**-0.6**
BGNE				IAmb_Lg		09 41 59.4	
	comp=Z,106nm,0.7s						
BGNE	**Belgrade**	**4.92**	**7**	P		09 40 28.2	
	baz=187,SNR=5.2						
BGNE				S		09 41 26.6	
	baz=187						
OGNE	**Ogallala**	**5.04**	**332**		**Pn**	**09 40 30.1**	**+0.2**
OGNE	**Ogallala**	**5.04**	**332**	P		09 40 30.4	
	baz=150						
OGNE				Sb		09 41 49.8	
	baz=150						
N35A	**Tabor**	**5.04**	**30**	Pn	**Pn**	**09 40 29.9**	**+0.1**
237A	**Washetta, Mont**	**5.20**	**149**	Pn	**Pn**	**09 40 33.1**	**+1.1**
237A				IAmb_Lg		09 42 12.9	
	comp=Z,66nm,0.8s						
P38A	**Dawn**	**5.27**	**52**		**Pn**	**09 40 34.3**	**+1.4**
P38A				IAmb_Lg		09 41 59.1	
	comp=Z,61nm,0.8s						
P38A	**Dawn**	**5.27**	**52**	P	**Pn**	**09 40 34.0**	**+1.1**
	baz=235,SNR=8.5						
P38A	**Dawn**	**5.27**	**52**	P		09 40 34.0	
	baz=235,SNR=8.5						
X40A	**Basin Creek Fa**	**5.37**	**110**	Pn	**Pn**	**09 40 34.7**	**+0.3**
X40A				IAmb_Lg		09 42 08.5	
	comp=Z,40nm,1.1s						
X40A	**Basin Creek Fa**	**5.37**	**110**	P		09 40 34.7	
	baz=294						
X40A				S		09 41 37.3	
	baz=294						
MGMO	**Mountain Grove**	**5.38**	**81**		**Pn**	**09 40 35.3**	**+0.8**
MGMO				IAmb_Lg		09 42 06.3	
	comp=Z,70nm,0.8s						
SDCO	**Great Sand Dun**	**5.39**	**285**	Sb		09 41 59.1	
	baz=101						
Q24A	**Divide**	**5.50**	**298**	Sb		09 42 03.1	
	baz=114						
WHAR	**Wooly Hollow**	**5.53**	**101**	Pn	**Pn**	**09 40 38.9**	**+2.3**
WHAR				IAmb_Lg		09 42 16.1	
	comp=Z,96nm,1.0s						
FCAR	**Ozark Folk Cen**	**5.54**	**95**		**Pn**	**09 40 38.1**	**+1.4**
WLAR	**White Oak Lake**	**5.55**	**119**		**Pn**	**09 40 36.4**	**-0.3**
WLAR				IAmb_Lg		09 42 13.7	
	comp=Z,47nm,1.0s						
R40A	**Maddies Statio**	**5.59**	**70**		**Pn**	**09 40 37.7**	**+0.4**
R40A				IAmb_Lg		09 42 11.5	
	comp=Z,54nm,1.1s						
R40A	**Maddies Statio**	**5.59**	**70**	P	**Pn**	**09 40 37.8**	**+0.4**
	baz=253,SNR=28						
R40A	**Maddies Statio**	**5.59**	**70**	P		09 40 37.8	
	baz=253,SNR=28						
W41B	**Gary Mavity, V**	**5.59**	**102**	P	**Pn**	**09 40 37.7**	**+0.3**
	baz=286,SNR=5.3						
W41B	**Gary Mavity, V**	**5.59**	**102**	P		09 40 37.4	
	baz=286,SNR=5.7						
W41B				S		09 41 41.6	
	baz=286						
W41B	**Gary Mavity, V**	**5.59**	**102**	P		09 40 37.7	
	baz=286,SNR=5.3						
L34A	**Svendsen Farm,**	**5.79**	**19**	IAmb_Lg		09 42 29.1	
	comp=Z,108nm,0.8s						
435B	**Jarrell**	**5.83**	**169**	IAmb_Lg		09 42 29.1	
	comp=Z,62nm,0.7s						
NATX	**Nacogdoches**	**5.93**	**142**	IAmb_Lg		09 42 33.9	
	comp=Z,37nm,1.0s						
JCT	**Junction City**	**6.07**	**187**	Pn	**Pn**	**09 40 45.2**	**+1.2**
JCT				IAmb_Lg		09 42 32.0	
	comp=Z,74nm,0.8s						
JCT	**Junction City**	**6.07**	**187**	P		09 40 45.0	
	baz=7.2,SNR=6.0						
K31A	**O'Neill**	**6.09**	**1**	Pn	**Pn**	**09 40 44.9**	**+0.6**
K31A				IAmb_Lg		09 42 33.7	
	comp=Z,99nm,0.8s						
N38A	**Joes South For**	**6.17**	**45**		**Pn**	**09 40 45.6**	**+0.3**
ISCO	**Idaho Springs**	**6.20**	**304**	IAmb_Lg		09 42 35.2	
	comp=Z,35nm,0.7s						
LCAR	**Lake Charles**	**6.30**	**92**	Pn	**Pn**	**09 40 48.0**	**+0.9**
LCAR				IAmb_Lg		09 42 32.4	
	comp=Z,45nm,0.8s						
T42A	**Van Buren**	**6.31**	**83**		**Pn**	**09 40 48.1**	**+0.8**
T42A				IAmb_Lg		09 42 44.0	
	comp=Z,41nm,0.8s						
T42A	**Van Buren**	**6.31**	**83**	P	**Pn**	**09 40 47.9**	**+0.6**
	baz=268,SNR=10						
T42A	**Van Buren**	**6.31**	**83**	P		09 40 47.9	
	baz=268,SNR=10						
CCM	**Cathedral Cave**	**6.32**	**74**	Pn	**Pn**	**09 40 48.1**	**+0.8**
CCM				IAmb_Lg		09 42 44.8	
	comp=Z,88nm,1.0s						
CCM	**Cathedral Cave**	**6.32**	**74**	P		09 40 47.8	
	baz=258						
ANMO	**Albuquerque**	**6.32**	**258**	Pg	**Pb**	**09 41 07.0**	**+2.7**
	comp=Z,0.8nm,0.3s,baz=72,slow=17,SNR=17						
ANMO				Lg	Lg	09 42 25.4	
	comp=Z,1.0nm,0.3s,baz=35,slow=18,SNR=3.6						
CCAR	**Cane Creek**	**6.41**	**112**	Pn	**Pn**	**09 40 50.2**	**+1.5**
PBMO	**Poplar Bluff**	**6.84**	**85**	IAmb_Lg		09 42 59.2	
	comp=Z,51nm,0.7s						
SMCO	**Snowmass**	**6.89**	**295**	Pn	**Pn**	**09 40 55.0**	**-0.6**
SCIA	**State Center**	**6.97**	**38**	IAmb_Lg		09 43 13.4	
	comp=Z,41nm,0.8s						
PHWY	**Pilot Hill**	**6.97**	**315**	IAmb_Lg		09 42 59.0	
	comp=Z,48nm,0.8s						
Y22D	**IRIS PASSCAL I**	**6.97**	**252**	IAmb_Lg		09 43 13.6	
	comp=Z,50nm,0.8s						
LPAR	**Lepanto**	**7.05**	**95**	IAmb_Lg		09 43 16.6	
	comp=Z,84nm,0.9s						
MNTX	**Cornudas Mount**	**7.19**	**230**	Pn	**Pn**	**09 40 59.2**	**-0.2**
SLM	**Saint Louis**	**7.22**	**70**	Pn	**Pn**	**09 41 00.6**	**+0.9**
SLM				IAmb_Lg		09 43 01.6	
	comp=Z,51nm,0.7s						
ECSD	**EROS Data Cent**	**7.42**	**13**	Pn	**Pn**	**09 41 01.0**	**-1.5**
ECSD	**EROS Data Cent**	**7.42**	**13**	P		09 41 00.8	
	baz=194						
K38A	**Parkersburg**	**7.75**	**36**	Pn	**Pn**	**09 41 08.3**	**+1.4**
K38A				IAmb_Lg		09 43 28.4	
	comp=Z,63nm,0.7s						
S44A	**Carbondale**	**7.82**	**79**	Pn	**Pn**	**09 41 08.1**	**+0.1**
S44A				IAmb_Lg		09 43 22.2	
	comp=Z,73nm,0.8s						
SIUC	**Southern Illin**	**7.85**	**78**	Pn	**Pn**	**09 41 08.1**	**-0.4**
SIUC				IAmb_Lg		09 43 23.7	
	comp=Z,71nm,0.8s						
SUSD	**Miller**	**7.91**	**360**	IAmb_Lg		09 43 36.3	
	comp=Z,38nm,0.9s						
OXF	**Oxford**	**8.02**	**102**	Pn	**Pn**	**09 41 09.9**	**-0.8**
OXF				IAmb_Lg		09 43 32.1	
	comp=Z,29nm,1.0s						
W45A	**Hickory Valley**	**8.03**	**97**	Pn	**Pn**	**09 41 10.4**	**-0.5**
W45A				IAmb_Lg		09 43 38.9	
	comp=Z,36nm,0.8s						
P43A	**Skaggs, Pawnee**	**8.05**	**64**		**Pn**	**09 41 11.8**	**+0.7**
TX31	**Lajitas Ar. Si**	**8.20**	**210**	Pn	**Pn**	**09 41 12.8**	**-0.5**
TXAR	**Lajitas Array**	**8.20**	**210**	Pn	**Pn**	**09 41 12.5**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=28,slow=11,SNR=35						
TXAR				Pg	**Pb**	**09 41 37.5**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=36,slow=16,SNR=6.1						
TXAR				Lg	Lg	09 43 29.9	
	comp=Z,1.1nm,0.3s,baz=27,slow=26,SNR=7.8						
TX32	**Lajitas Array**	**8.20**	**210**	Pn	**Pn**	**09 41 12.6**	**-0.7**
Q44A	**Meyer Farm, Va**	**8.21**	**70**	Pn	**Pn**	**09 41 14.9**	**+1.5**
K22A	**Casper**	**8.47**	**319**	Pn	**Pn**	**09 41 17.7**	**+0.6**
K22A				IAmb_Lg		09 44 04.3	
	comp=Z,58nm,0.9s						
RSSD	**Black Hills**	**8.53**	**334**	Pn	**Pn**	**09 41 17.3**	**-0.6**
RSSD				IAmb_Lg		09 43 51.0	
	comp=Z,29nm,0.8s						
HDIL	**Hopedale**	**8.56**	**59**		**Pn**	**09 41 19.1**	**+1.1**
I37A	**Lemond, Waseca**	**8.59**	**28**	IAmb_Lg		09 44 10.2	
	comp=Z,33nm,1.1s						
PLAL	**Pickwick Lake**	**8.96**	**97**	Pn	**Pn**	**09 41 24.6**	**+1.0**
WVT	**Waverly**	**8.97**	**89**	Pn	**Pn**	**09 41 23.6**	**-0.2**
O44A	**Mansfield**	**8.98**	**63**	Pn	**Pn**	**09 41 24.4**	**+0.4**
KVTX	**Kingsville**	**8.99**	**174**	IAmb_Lg		09 44 19.9	
	comp=Z,53nm,0.7s						
146A	**Union**	**9.02**	**113**	IAmb_Lg		09 44 16.7	
	comp=Z,27nm,1.2s						
L42A	**Oliver, Polo**	**9.03**	**50**	Pn	**Pn**	**09 41 24.4**	**-0.2**
L42A				IAmb_Lg		09 44 03.7	
	comp=Z,58nm,0.9s						
JFWS	**Jewell Farm**	**9.24**	**44**	IAmb_Lg		09 44 16.7	
	comp=Z,47nm,0.7s						
T47A	**Sharon Grove**	**9.50**	**84**	Pn	**Pn**	**09 41 31.1**	**0.0**
T47A				IAmb_Lg		09 44 24.7	
	comp=Z,42nm,1.1s						
F33A	**5 Mile Ranch,**	**9.52**	**11**	Pn	**Pn**	**09 41 29.9**	**-1.3**
F33A				IAmb_Lg		09 44 22.9	
	comp=Z,22nm,1.1s						
I40A	**Norwalk**	**9.72**	**38**	IAmb_Lg		09 44 23.4	
	comp=Z,18nm,0.9s						
P46A	**Rosedale**	**9.75**	**68**	Pn	**Pn**	**09 41 35.2**	**+0.8**
M44A	**Midewin, Midew**	**9.77**	**57**	Pn	**Pn**	**09 41 33.7**	**-1.0**
V48A	**Smith Brothers**	**9.83**	**91**	IAmb_Lg		09 44 34.2	
	comp=Z,27nm,1.2s						
SPMN	**Marine on St.**	**9.85**	**26**	IAmb_Lg		09 44 39.3	
	comp=Z,27nm,1.2s						
F36A	**Milaca**	**10.18**	**22**	Pn	**Pn**	**09 41 40.2**	**-0.1**
WCI	**Wyandotte Cave**	**10.20**	**77**	Pn	**Pn**	**09 41 41.6**	**+0.9**
PDAR	**Pinedale Array**	**10.29**	**311**	Pn	**Pn**	**09 41 42.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=112,slow=12,SNR=5.2						
PDAR				Lg	Lg	09 44 30.9	
	comp=Z,0.4nm,0.3s,baz=108,slow=35,SNR=4.2						
ULM	**Lac du Bonnet**	**13.90**	**8**	Pn	Pn	09 42 25.6	-5.5
	comp=Z,0.3nm,0.3s,baz=185,slow=12,SNR=2.3						
ULM				Sn	Sn	09 44 53.9	-12
	comp=Z,0.4nm,0.3s,baz=153,slow=19,SNR=2.5						
ULM				Lg	Lg	09 46 26.4	
	comp=Z,0.1nm,0.3s,baz=86,slow=11,SNR=3.4						

TAP ***24*** *09:39:23.4, 24.85N×121.97E, h7km, ML3.2, B*
JMA ***24*** *09:39:24.5±0.1, 24.82N×121.89E, h29km, M2.5*

ISC 24 09:39:23.4±0.8, 24.85N±0.02×121.95E±0.02, h14km±5km, n78, σ0.888/128, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.02**	**271**	*i* P	**Pg**	**09 39 25.4**	**-0.4**
	baz=257						
EGS				*e*S	**Sg**	**09 39 26.6**	**-0.8**
	baz=257						
NTC	**Toucheng**	**0.11**	**275**	P	**Pg**	**09 39 27.0**	**+0.4**
	baz=272						
NTC				S	**Sg**	**09 39 29.4**	**+0.5**
	baz=272						
TWB1	**Santiao Chiao**	**0.17**	**11**	P	**Pb**	**09 39 27.6**	**-0.8**
	baz=8.0						
TWB1				S	**Sb**	**09 39 30.0**	**-1.6**
	baz=8.0						
TIPB	**Shuangxi**

	baz=286							
TATO				*e*S		**Sb**	09 39 39.1	-0.5
	baz=286							
TAP	**Taipei**	**0.45**	**296**	*e*P		**Pb**	09 39 34.0	+0.8
	baz=294							
TAP				*e*S		**Sb**	09 39 40.6	+0.8
	baz=294							
ENA	**Nanau**	**0.46**	**205**	*e*P		**Pb**	09 39 33.4	+0.1
	baz=205							
ENA				*e*S		**Sn**	09 39 41.5	-2.1
	baz=205							
YM01	**YM01**	**0.46**	**311**	P		**Pg**	09 39 33.2	+0.6
	baz=309							
YM01				*e*S		**Sb**	09 39 39.6	-0.5
	baz=309							
NDT	**Datong Townshi**	**0.47**	**239**	*e*P		**Pb**	09 39 33.3	-0.2
	baz=239							
NDT				*e*S		**Sn**	09 39 42.7	-1.2
	baz=239							
YM11	**YM11**	**0.47**	**313**	*e*P		**Pb**	09 39 34.6	+1.0
	baz=311							
YM11				*e*S		**Sn**	09 39 42.9	-1.2
	baz=311							
YM10	**YM10**	**0.47**	**311**	P		**Pb**	09 39 34.1	+0.5
	baz=309							
YM08	**YM08**	**0.47**	**316**	P		**Pb**	09 39 33.9	+0.2
	baz=314							
YM04	**YM04**	**0.49**	**309**	P		**Pb**	09 39 34.5	+0.6
	baz=307							
YM04				*e*S		**Sn**	09 39 42.4	-2.0
	baz=307							
YM03	**YM03**	**0.50**	**312**	*e*P		**Pb**	09 39 34.7	+0.6
	baz=310							
YM03				*e*S		**Sn**	09 39 42.9	-1.9
	baz=310							
ANP	**Anpu**	**0.52**	**311**	P		**Pb**	09 39 34.9	+0.4
	baz=309							
ANP				*e*S		**Sn**	09 39 43.7	-1.6
	baz=309							
TWY	**Chenhua**	**0.54**	**323**	*e*P		**Pb**	09 39 35.4	+0.7
	baz=322							
TWS1	**Kuangyinshan**	**0.55**	**298**	*e*P		**Pn**	09 39 36.4	-0.5
	baz=296							
TWS1				*e*S		**Sn**	09 39 46.0	+0.1
	baz=296							
YHNB	**Yeheng**	**0.55**	**252**	P		**Pb**	09 39 34.7	-0.3
	baz=251							
YHNB				*e*S		**Sn**	09 39 45.1	-1.0
	baz=251							
NTST	**Danshui**	**0.56**	**305**	*e*P		**Pn**	09 39 36.2	-0.8
	baz=303							
NTST				*e*S		**Sn**	09 39 46.0	-0.1
	baz=303							
NSK	**Sanguang**	**0.57**	**253**	P		**Pg**	09 39 34.7	+0.1
	baz=252							
NSK				*e*S		**Sn**	09 39 45.3	-1.1
	baz=252							
NTY	**Taoyuan**	**0.61**	**285**	*e*P		**Pn**	09 39 37.9	+0.1
	baz=283							
NNS	**Nan Shan**	**0.66**	**233**	*e*P		**Pg**	09 39 36.9	+0.5
	baz=232							
NNSB	**Datong**	**0.66**	**231**	*e*P		**Pb**	09 39 36.4	-0.5
	baz=232							
NNSB				*e*S		**Sn**	09 39 48.9	-0.1
	baz=232							
NNSH	**Datong**	**0.66**	**231**	*e*P		**Pg**	09 39 37.1	+0.7
	baz=232							
NNSH				*e*S		**Sn**	09 39 48.1	-0.9
	baz=232							
NCU	**National Centr**	**0.71**	**280**	*e*P		**Pn**	09 39 38.4	-0.7
	baz=279							
NCU				*e*S		**Sn**	09 39 50.3	+0.4
	baz=279							
NCUH	**Zhongli**	**0.71**	**280**	*e*P		**Pn**	09 39 39.3	+0.2
	baz=279							
NCUH				*e*S		**Sn**	09 39 50.4	+0.5
	baz=279							
NACB	**Ninganchiao**	**0.74**	**206**	*e*P		**Pb**	09 39 38.0	-0.2
	baz=207							
NACB				*e*S		**Sg**	09 39 48.6	+0.9
	baz=207							
ETLH	**Xiulin Townshi**	**0.77**	**214**	*e*P		**Pn**	09 39 39.2	-0.8
	baz=214							
ETLH				*e*S		**Sn**	09 39 51.6	+0.2
	baz=214							
PCYT	**Pengchaiyu**	**0.79**	**8**	*e*P		**Pb**	09 39 39.4	+0.3
	baz=7.0							
PCYT				*e*S		**Sn**	09 39 51.5	-0.3
	baz=7.0							
TWD	**Chiawan**	**0.83**	**203**	*e*P		**Pg**	09 39 39.9	+0.4
	baz=203							
LIOB	**Emei**	**0.87**	**257**	*e*P		**Pn**	09 39 41.8	+0.3
	baz=256							
FUSS	**Fushou**	**0.88**	**227**	*e*P		**Pn**	09 39 41.4	-0.3
	baz=227							
NSTT	**Nanjuang**	**0.89**	**256**	*e*P		**Pn**	09 39 42.9	+1.3
	baz=256							
NSTT				*e*S		**Sn**	09 39 56.4	+2.0
	baz=256							
TDCB	**Techi**	**0.93**	**231**	*e*P		**Pn**	09 39 42.6	+0.3
	baz=231							
TDCB				*e*S		**Sn**	09 39 57.0	+1.3
	baz=231							
WHF	**Hehuan Shan**	**0.94**	**222**	*e*P		**Pg**	09 39 41.9	+0.2
	baz=222							
JYNG	**Yonagunijimaku**	**0.98**	**113**	P		**Pb**	09 39 42.6	+0.3
JYNG				S		**Sb**	09 39 55.6	+0.4
YOJ	**Yonaguni jima**	**1.04**	**111**	*e*P		**Pb**	09 39 43.2	0.0
	baz=111							
YOJ				*e*S		**Sg**	09 39 58.9	+1.9
	baz=111							
YOJ	**Yonaguni jima**	**1.04**	**111**	P		**Pb**	09 39 43.4	+0.2
YOJ				*e*S		**Sb**	09 39 57.0	+0.3
CHGB	**Renai**	**1.05**	**222**	*e*P		**Pg**	09 39 44.0	+0.2
	baz=222							
CHGB				*e*S		**Sn**	09 39 59.7	+1.0
	baz=222							
WHP	**Taichung City**	**1.08**	**239**	*e*P		**Pg**	09 39 45.2	+1.0
	baz=238							
NSY	**Sanyi**	**1.17**	**249**	*e*P		**Pg**	09 39 48.0	+2.0
	baz=248							
TWQ1	**Liyutan**	**1.18**	**246**	*e*P		**Pg**	09 39 47.0	+0.7
	baz=245							
WCS	**Beigang Elemen**	**1.23**	**231**	*e*P		**Pg**	09 39 47.2	0.0
	baz=230							
DPDB	**Guoxing**	**1.24**	**229**	*e*P		**Pg**	09 39 48.1	+0.9
	baz=229							
EGFH	**Guangfu**	**1.27**	**202**	*e*P		**Pg**	09 39 49.1	+1.3
	baz=202							
VWDT	**VWDT**	**1.31**	**214**	*e*P		**Pg**	09 39 49.1	+0.3
	baz=214							
SMLT	**Sun Moon Lake**	**1.36**	**225**	*e*P		**Pg**	09 39 49.5	-0.1
	baz=225							
TYC	**Yuchr**	**1.37**	**227**	*e*P		**Pb**	09 39 48.9	0.0
	baz=226							
SSLB	**Suanglung**	**1.39**	**221**	*e*P		**Pg**	09 39 50.1	-0.2
	baz=221							
HGSD	**Ruisui**	**1.43**	**200**	*e*P		**Pb**	09 39 50.2	+0.3
	baz=200							
EHY	**Hungye**	**1.45**	**203**	*e*P		**Pb**	09 39 50.6	+0.3
	baz=203							
YULB	**Yu-li**	**1.56**	**203**	*e*P		**Pb**	09 39 52.7	+0.4
	baz=203							
TWF1	**Yuli**	**1.60**	**202**	*e*P		**Pg**	09 39 53.9	-0.3
	baz=202							
ALS	**Alishan**	**1.69**	**218**	*e*P		**Pb**	09 39 54.7	+0.1
	baz=218							
IRIF	**Iriomote-Funau**	**1.70**	**107**	P		**Pn**	09 39 52.2	-0.5
CHN5	**Tsauling**	**1.70**	**223**	*e*P		**Pb**	09 39 54.7	+0.1
	baz=223							
CHN5				*e*S		**Sg**	09 40 17.4	-0.9
	baz=223							
WTK	**Tuku**	**1.83**	**231**	*e*P		**Pb**	09 39 56.1	-0.8
	baz=231							
WTK				*e*S		**Sg**	09 40 20.8	-1.6
	baz=231							
ELDTW	**Lidau**	**1.86**	**208**	*e*P		**Pb**	09 39 56.6	-0.7
	baz=207							
ELDTW				*e*S		**Sb**	09 40 20.8	+0.4
	baz=207							
CHN4	**Tsaushan**	**1.94**	**220**	*e*P		**Pb**	09 39 57.8	-0.8
	baz=220							
CHN4				*e*S		**Sb**	09 40 23.5	+0.8
	baz=220							
TPUB	**Ta-pu**	**1.96**	**218**	*e*S		**Sb**	09 40 23.4	+0.1
	baz=218							
JKRS	**Kuro-shima**	**1.97**	**107**	P		**Pn**	09 39 57.0	+0.6
JKRS				*e*S		**Sn**	09 40 20.6	-0.4
STYH	**Taoyuan**	**1.98**	**213**	*e*P		**Pb**	09 39 58.2	-1.2
	baz=213							
STYH				*e*S		**Sb**	09 40 24.1	+0.2
	baz=213							
STYT	**Tauyuan**	**2.00**	**213**	*e*P		**Pb**	09 40 00.1	+0.4
	baz=213							
STYT				*e*S		**Sb**	09 40 25.3	+0.8
	baz=213							
WTP	**Ta-pu**	**2.01**	**218**	*e*P		**Pb**	09 39 59.0	-0.9
	baz=217							
WTP				*e*S		**Sb**	09 40 24.4	-0.3
	baz=217							
TWK	**Hsinying**	**2.06**	**221**	*e*P		**Pb**	09 39 59.5	-1.2
	baz=220							
TWK				*e*S		**Sb**	09 40 25.0	-1.4
	baz=220							
TWGBT	**Beinan**	**2.17**	**202**	*e*P		**Pb**	09 40 01.1	-1.5
	baz=201							
TWGBT				*e*S		**Sb**	09 40 27.8	-1.6
	baz=201							

TAP ***24*** *09:39:45.8, 24.°85N×121.°98E, h10km, ML3.4, D*
JMA ***24*** *09:39:47.1, 24.°79N×121.°92E, h23km, M2.5*
ISC 24 09:39:46.6±0.9, 24.83N±0.02×121.99E±0.02, h9km±5km, n88, σ0.51/151, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.05**	**288**	*i* P	**Pg**	09 39 48.1	-0.4
	baz=262						
EGS				S	**Sg**	09 39 50.0	+0.1
	baz=262						
NTC	**Toucheng**	**0.15**	**280**	P	**Pg**	09 39 49.7	-0.1
	baz=273						
NTC				S	**Sg**	09 39 52.5	+0.5
	baz=273						
TWB1	**Santiao Chiao**	**0.18**	**0**	P	**Pg**	09 39 50.2	-0.2
	baz=5.0						
TWB1				S	**Sg**	09 39 52.9	-0.1
	baz=5.0						
TIPB	**Shuangxi**	**0.20**	**314**	*i* P	**Pg**	09 39 50.7	-0.1
	baz=311						
TIPB				*i* S	**Sg**	09 39 54.0	+0.2
	baz=311						
ILA	**Ilan**	**0.23**	**254**	P	**Pg**	09 39 51.2	0.0
	baz=247						
ILA				*e*S	**Sg**	09 39 55.7	+1.4
	baz=247						
TWC	**Suao**	**0.25**	**210**	P	**Pg**	09 39 51.8	0.0
	baz=204						
TWC				S	**Sb**	09 39 56.7	-1.2
	baz=204						
NWF	**Wu-fen Shan**	**0.31**	**322**	P	**Pb**	09 39 53.9	-0.5
	baz=321						
NWF				S	**Sg**	09 39 57.8	+0.9
	baz=321						
WFSB	**Wu-fen Shan**	**0.31**	**322**	P	**Pg**	09 39 52.8	+0.1
	baz=321						
WFSB				S	**Sg**	09 39 56.9	0.0
	baz=321						
TWE	**Neicheng**	**0.31**	**250**	P	**Pg**	09 39 52.6	-0.2
	baz=244						
TWE				*e*S	**Sb**	09 39 59.4	-0.2
	baz=244						
NDS	**Dongshan**	**0.31**	**232**	P	**Pg**	09 39 52.5	-0.4
	baz=228						
NDS				*e*S	**Sb**	09 39 59.2	-0.5
	baz=228						
TNOU	**National Taiwa**	**0.38**	**329**	P	**Pg**	09 39 54.0	-0.1
	baz=327						
TNOU				*e*S	**Sg**	09 39 58.4	-0.6
	baz=327						
TWA	**Mucha**	**0.40**	**292**	P	**Pg**	09 39 54.5	0.0
	baz=290						
TWA				S	**Sg**	09 40 00.2	+0.5
	baz=290						
ENTT	**Nioudou**	**0.43**	**244**	*e*P	**Pg**	09 39 54.8	-0.2
	baz=240						
ENTT				*e*S	**Sb**	09 40 02.4	-0.6
	baz=240						
EWUT	**Wuta**	**0.43**	**207**	*e*P	**Pg**	09 39 54.7	-0.3
	baz=204						
EWUT				*e*S	**Sb**	09 40 02.2	-0.7
	baz=204						
NHDH	**Xindian Distri**	**0.44**	**288**	*e*P	**Pg**	09 39 55.4	+0.1
	baz=285						
NHDH				*e*S	**Sg**	09 40 01.3	+0.2
	baz=285						
NWLT	**Wulai**	**0.44**	**264**	P	**Pg**	09 39 55.1	-0.2
	baz=260						
ENA	**Nanau**	**0.46**	**209**	*e*P	**Pg**	09 39 55.8	+0.2
	baz=206						
ENA				*e*S	**Sb**	09 40 04.2	+0.4
	baz=206						
TAP1	**Taipei**	**0.47**	**297**	*e*P	**Pg**	09 39 56.1	+0.3
	baz=294						
TAP1				*e*S	**Sb**	09 40 03.2	-1.0
	baz=294						
TATO	**Taipei**	**0.48**	**288**	*e*P	**Pg**	09 39 56.2	+0.3
	baz=286						
TAP	**Taipei**	**0.48**	**296**	*e*P	**Pg**	09 39 56.0	-0.1
	baz=294						
TAP				*e*S	**Sg**	09 40 03.1	+0.6
	baz=294						
NDT	**Datong Townshi**	**0.49**	**243**	P	**Pg**	09 39 55.6	-0.5
	baz=240						
NDT				*e*S	**Sb**	09 40 04.5	-0.2
	baz=240						
YM01	**YM01**	**0.49**	**310**	P	**Pg**	09 39 55.8	-0.5
	baz=308						
YM01				*e*S	**Sg**	09 40 02.0	-0.8
	baz=308						
YM11	**YM11**	**0.50**	**312**	*e*P	**Pb**	09 39 57.3	-0.5
	baz=310						
YM11				*e*S	**Sg**	09 40 03.6	+0.5
	baz=310						
YM10	**YM10**	**0.51**	**310**	P	**Pg**	09 39 56.7	+0.2
	baz=308						
YM08	**YM08**	**0.51**	**315**	P	**Pg**	09 39 56.4	-0.2
	baz=313						
YM04	**YM04**	**0.52**	**308**	P	**Pg**	09 39 57.0	+0.2
	baz=307						
YM04				*e*S	**Sg**	09 40 04.0	+0.4
	baz=307						
YM03	**YM03**	**0.54**	**311**	*e*P	**Pg**	09 39 57.4	+0.3
	baz=309						
ANP	**Anpu**	**0.55**	**310**	*e*P	**Pg**	09 39 57.8	+0.3
	baz=309						
ANP				*e*S	**Sg**	09 40 04.0	-0.7
	baz=309						
TWY	**Chenhua**	**0.57**	**322**	*e*P	**Pg**	09 39 57.1	-0.5
	baz=321						
TWY				*e*S	**Sg**	09 40 06.1	+1.0
	baz=321						
YHNB	**Yeheng**	**0.58**	**254**	*e*P	**Pg**	09 39 57.1	-0.7
	baz=252						
YHNB				*e*S	**Sb**	09 40 07.0	-0.4
	baz=252						
TWS1	**Kuangyinshan**	**0.58**	**298**	*e*P	**Pb**	09 39 58.7	-0.4
	baz=296						
TWS1				*e*S	**Sg**	09 40 06.3	+0.7
	baz=296						
NSK	**Sanguang**	**0.59**	**255**	*e*P	**Pg**	09 39 57.5	-0.7
	baz=252						
NSK				*e*S	**Sg**	09 40 06.6	+0.7
	baz=252						
NTST	**Danshui**	**0.59**	**304**	*e*P	**Pg**	09 39 58.7	+0.6
	baz=303						
NTST				*e*S	**Sg**	09 40 06.7	+0.8
	baz=303						
NNS	**Nan Shan**	**0.68**	**235**	*e*P	**Pg**	09 39 59.7	-0.1
	baz=233						
NNS				*e*S	**Sb**	09 40 09.6	-0.8
	baz=233						
NNSB	**Datong**	**0.68**	**234**	*e*P	**Pg**	09 39 59.1	-0.6
	baz=232						
NNSB				*e*S	**Sb**	09 40 10.5	+0.2
	baz=232						
NNSH	**Datong**	**0.68**	**234**	*e*P	**Pg**	09 39 59.5	-0.3
	baz=232						
NNSH				*e*S	**Sb**	09 40 10.6	+0.2
	baz=232						
NCU	**National Centr**	**0.74**	**281**	*e*P	**Pb**	09 40 02.1	+0.4
	baz=279						
NCU				*e*S	**Sb**	09 40 12.8	+0.7
	baz=279						
NCUH	**Zhongli**	**0.74**	**281**	*e*P	**Pb**	09 40 01.6	-0.1
	baz=279						
NACB	**Ninganchiao**	**0.74**	**209**	*e*P	**Pg**	09 40 00.7	-0.3
	baz=207						
NACB				*e*S	**Sg**	09 40 11.1	+0.4
	baz=207						
ETLH	**Xiulin Townshi**	**0.77**	**217**	*e*P	**Pg**	09 40 01.5	0.0
	baz=215						
ETLH				*e*S	**Sg**	09 40 11.9	+0.3
	baz=215						
TWD	**Chiawan**	**0.83**	**206**	P	**Pg**	09 40 02.2	-0.4
	baz=204						
TWD				*e*S	**Sg**	09 40 12.8	-0.5
	baz=204						
HSN1	**Hsinchu**	**0.88**	**267**	*e*P	**Pn**	09 40 05.0	-0.3
	baz=265						
HSN1				*e*S	**Sb**	09 40 16.7	+0.6
	baz=265						
FUSS	**Fushou**	**0.89**	**230**	*e*P	**Pg**	09 40 03.0	-0.8
	baz=228						
FUSS				*e*S	**Sg**	09 40 15.8	+0.4
	baz=228						
LIOB	**Emei**	**0.90**	**259**	*e*P	**Pb**	09 40 04.8	+0.2
	baz=257						
LIOB				*e*S	**Sb**	09 40 17.0	+0.3
	baz=257						
SBCB	**Hsinchu**	**0.91**	**268**	*e*P	**Pg**	09 40 04.2	0.0
	baz=266						
SBCB				*e*S	**Sb**	09 40 17.2	+0.2
	baz=266						
HWA	**Hwalien**	**0.92**	**202**	*e*P	**Pb**	09 40 05.2	+0.4
	baz=201						
HWA				*e*S	**Sg**	09 40 16.4	+0.2
	baz=201						
NSTT	**Nanjuang**	**0.92**	**258**	*e*P	**Pg**	09 40 04.5	+0.2
	baz=256						
NSTT				*e*S	**Sb**	09 40 17.2	0.0
	baz=256						
TWT	**Tachien**	**0.94**	**232**	*e*P	**Pg**	09 40 04.8	+0.1
	baz=231						
TWT				*e*S	**Sb**	09 40 17.7	0.0
	baz=231						
WHF	**Hehuan Shan**	**0.95**	**224**	*e*P	**Pg**	09 40 04.1	-0.8
	baz=222						
WHF				*e*S	**Sb**	09 40 18.3	0.0
	baz=222						
TDCB	**Techi**	**0.95**	**233**	*e*P	**Pg**	09 40 04.7	-0.2
	baz=231						
TDCB				*e*S	**Sb**	09 40 18.8	+0.7
	baz=231						
JYNG	**Yonagunijimaku**	**0.95**	**113**	P	**Pb**	09 40 05.2	-0.1
JYNG				*e*S	**Sb**	09 40 18.4	+0.4
YOJ	**Yonaguni jima**	**1.00**	**111**	P	**Pg**	09 40 05.8	-0.1
YOJ				*e*S	**Sb**	09 40 20.0	+0.6
CHGB	**Renai**	**1.06**	**224**	*e*P	**Pg**	09 40 06.4	-0.8
	baz=223						
CHGB				*e*S	**Sb**	09 40 21.8	+0.2
	baz=223						
WHP	**Taichung City**	**1.10**	**240**	*e*P	**Pg**	09 40 06.9	-0.9
	baz=238						
WHP				*e*S	**Sn**	09 40 23.9	+0.2
	baz=238						
NMLH	**Miaoli**	**1.13**	**255**	*e*P	**Pg**	09 40 07.5	-0.8
	baz=254						
NMLH				*e*S	**Sg**	09 40 23.0	0.0
	baz=254						
ESL	**Shilin**	**1.13**	**207**	*e*P	**Pg**	09 40 07.3	-1.1
	baz=205						
ESL				*e*S	**Sn**	09 40 24.3	-0.1
	baz=205						
NSY	**Sanyi**	**1.19**	**250**	*e*P	**Pb**	09 40 09.2	-0.3
	baz=248						
NSY				*e*S	**Sb**	09 40 25.2	+0.2
	baz=248						
TWQ1	**Liyutan**	**1.21**	**247**	*e*P	**Pg**	09 40 10.0	+0.2
	baz=245						
TWQ1				*e*S	**Sn**	09 40 27.6	+1.4
	baz=245						
WPL	**Puli Township**	**1.24**	**229**	*e*P	**Pn**	09 40 09.4	-0.8
	baz=228						
WCS	**Beigang Elemen**	**1.25**	**232**	*e*P	**Pn**	09 40 09.8	-0.5
	baz=231						
WCS				*e*S	**Sn**	09 40 27.2	0.0
	baz=231						
DPDB	**Guoxing**	**1.25**	**231**	*e*P	**Pg**	09 40 11.4	+0.7
	baz=229						
EGFH	**Guangfu**	**1.26**	**204**	*e*P	**Pg**	09 40 10.8	-0.1
	baz=203						
WDJ	**Dajia District**	**1.32**	**249**	*e*P	**Pn**	09 40 10.8	-0.5
	baz=247						
WDJ				*e*S	**Sb**	09 40 28.2	-0.4
	baz=247						
VWDT	**VWDT**	**1.32**	**216**	P	**Pn**	09 40 11.4	+0.1
	baz=215						
VWDT				*e*S	**Sg**	09 40 30.3	+1.1
	baz=215						
SMLT	**Sun Moon Lake**	**1.37**	**227**	*e*P	**Pn**	09 40 11.2	-0.9
	baz=225						
SMLT				*e*S	**Sb**	09 40 29.7	-0.4
	baz=225						
TYC	**Yuchr**	**1.38**	**228**	*e*P	**Pn**	09 40 12.1	0.0
	baz=227						
SSLB	**Suanglung**	**1.40**	**223**	*e*P	**Pn**	09 40 12.4	0.0
	baz=221						
SSLB				*e*S	**Sb**	09 40 30.7	-0.4
	baz=221						
HGSD	**Ruisui**	**1.43**	**201**	*e*P	**Pn**	09 40 12.5	-0.3
	baz=200						
EHY	**Hungye**	**1.45**	**205**	*e*P	**Pn**	09 40 12.5	-0.6
	baz=203						
YULB	**Yu-li**	**1.56**	**204**	*e*P	**Pn**	09 40 14.3	-0.4
	baz=203						
YULB				*e*S	**Sb**	09 40 35.5	-0.1
	baz=203						
EYUL	**Yuli**	**1.60**	**203**	*e*P	**Pn**	09 40 15.0	-0.1
	baz=202						
TWF1	**Yuli**	**1.60**	**203**	*e*P	**Pn**	09 40 15.2	+0.1
	baz=202						
YUS	**Yu-Shan**	**1.64**	**216**	*e*P	**Pn**	09 40 15.4	-0.7
	baz=214						
ALS	**Alishan**	**1.70**	**220**	*e*P	**Pn**	09 40 16.2	-0.6
	baz=218						
ALS				*e*S	**Sn**	09 40 38.2	-0.6
	baz=218						
CHN5	**Tsauling**	**1.71**	**225**	*e*P	**Pn**	09 40 16.4	-0.4
	baz=223						
CHN5				*e*S	**Sn**	09 40 39.2	+0.3
	baz=223						
FULB	**Fuli**	**1.74**	**202**	*e*P	**Pn**	09 40 17.4	+0.2
	baz=200						
CHN4	**Tsaushan**	**1.95**	**221**	*e*P	**Pn**	09 40 19.7	-0.3
	baz=220						
CHN4				*e*S	**Sn**	09 40 44.8	+0.3
	baz=220						
EDH	**Donghe**	**1.95**	**199**	*e*P	**Pn**	09 40 19.9	-0.1
	baz=198						
TPUB	**Ta-pu**	**1.96**	**220**	*e*P	**Pn**	09 40 20.4	+0.3
	baz=218						
STYH	**Taoyuan**	**1.99**	**214**	*e*P	**Pn**	09 40 20.8	+0.3
	baz=213						
STYH				*e*S	**Sn**	09 40 46.0	+0.5
	baz=213						
STYT	**Tauyuan**	**2.00**	**214**	*e*P	**Pn**	09 40 20.4	-0.3
	baz=213						
WTP	**Ta-pu**	**2.02**	**219**	*e*P	**Pn**	09 40 21.2	+0.3
	baz=217						
WTP				*e*S	**Sn**	09 40 45.2	-1.1
	baz=217						
LONT	**Longtian**	**2.07**	**202**	*e*P	**Pn**	09 40 22.0	+0.4
	baz=201						
TWK	**Hsinying**	**2.07**	**222**	*e*P	**Pn**	09 40 22.2	+0.5
	baz=220						
CHN1	**Nanshi**	**2.11**	**220**	*e*P	**Pn**	09 40 23.4	+1.1
	baz=218						
ICHU	**Yijhu**	**2.14**	**227**	*e*P	**Pn**	09 40 22.8	+0.2
	baz=226						
SGST	**Jiashian**	**2.16**	**217**	*e*P	**Pn**	09 40 24.1	+1.2
	baz=215						
MASBT	**Mashibuluo**	**2.53**	**210**	*e*P	**Pn**	09 40 28.0	0.0
	baz=209						

IDC ***24*** *09:58:50.8±3.6, 4.°22S×142.°96E, h97km±31km, mb3.8/12, mb1 3.9/13, mb1mx3.6/59, mbtmp4.2/13, Error ellipse: s-maj=34.9km s-min=11.6km az=95.0*
NEIC ***24*** *09:58:53.2±2.4, 4.°17S±0.°07×142.°8E±0.°1, h119km±7km, mb4.6/21, Error ellipse: s-maj=17.6km s-min=9.3km az=69.0*

*DJA **24** 09:58:54.0±0.8, 4°S±7°×14°3E±°, h109km±7km, M4.3/10, mB5.0/1, mb4.5/10, MLv4.2/3, Mw(mB)4.3/1*

ISC 24 09:58:51.5±0.6**, 4°18S**±0°06×**142°88E**±0°09**, h100**km**, n51,** σ**0s98**/51**, mb4.3**/18**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.73	307	P	Pn	09 59 34.8	+1.0
	3.2nm,0.3s,baz=164,slow=9.1,SNR=15						
JAY				S	Sn	10 00 07.7	+1.4
	9.4nm,0.3s,baz=308,slow=11,SNR=5.3						
JAY	Jayapura	2.73	307	P	Pn	09 59 35.0	+1.2
GENI	Genyem	3.14	300	P	Pn	09 59 40.1	+1.0
MMPI	Merauke	4.93	210	P	Pn	10 00 03.7	+0.4
COEN	Coen	9.72	178	Pn	Pn	10 01 10.3	+1.9
MTN	Manton Dam	14.45	233	Pn	Pn	10 02 10.7	-0.7
WB0	Warramunga Arr	17.56	207	P	P	10 02 47.8	-1.9
WB0				IAmb	IAmb	10 02 52.0	
	comp=Z,35nm,1.2s						
WR0	Warramunga Arr	17.66	207	P	P	10 02 49.6	-1.2
WR0				IAmb	IAmb	10 02 53.2	
	comp=Z,27nm,1.1s						
WRAB	Tennant Creek	17.73	207	P	P	10 02 51.1	-0.4
WRAB				IAmb	IAmb	10 02 53.4	
	comp=Z,24nm,0.5s						
WB2	Warramunga Arr	17.74	207	P	P	10 02 50.6	-1.0
WB2				IAmb	IAmb	10 02 52.7	
	comp=Z,30nm,0.6s						
WRA	Warramunga Arr	17.74	207	P	P	10 02 50.9	-0.8
	comp=Z,8.0nm,0.3s,baz=29,slow=10.0,SNR=377						
WRA	Warramunga Arr	17.74	207	P	P	10 02 50.1	-1.5
SOEI	Soe	19.28	252	P	Pn	10 03 09.2	-1.5
SOEI	Soe	19.28	252	P	P	10 03 08.6	-0.1
	comp=Z,50nm,0.7s						
BATI	Baumata	19.98	252	P	Pn	10 03 18.3	-0.4
	comp=Z,30nm,0.4s,baz=127,slow=4.6,SNR=6.7						
BATI	Baumata	19.98	252	P	Pn	10 03 17.9	-0.8
	comp=Z,30nm,0.6s						
AS31	Alice Springs	21.22	203		P	10 03 28.7	-0.7
ASAR	Alice Springs	21.22	203	P	P	10 03 28.6	-0.9
	comp=Z,1.9nm,0.4s,baz=29,slow=12,SNR=83						
ASAR	Alice Springs	21.22	203		P	10 03 28.3	-1.2
FITZ	Fitzroy Crossi	21.82	229	P	P	10 03 34.1	-1.7
	comp=Z,6.8nm,0.5s,baz=39,slow=8.2,SNR=29						
FITZ	Fitzroy Crossi	21.82	229	P	P	10 03 34.7	-1.1
FITZ				IAmb	IAmb	10 03 38.8	
	comp=Z,37nm,1.4s						
EIDS	Eidsvold	22.49	160	P	P	10 03 44.5	+1.7
EIDS				IAmb	IAmb	10 03 45.8	
	comp=Z,10nm,0.8s						
BKSI	Bulukumba	22.71	266	P	P	10 03 44.7	-0.5
	comp=Z,17nm,0.9s						
SANVU	Saraoutou	26.41	117	P	P	10 04 18.1	-0.9
SANVU				IAmb	IAmb	10 04 37.1	
	comp=Z,17nm,1.1s						
ARMA	Armidale	27.37	163	P	P	10 04 28.0	+0.5
ARMA				IAmb	IAmb	10 04 57.3	
	comp=Z,12nm,1.3s						
STKA	Stephens Creek	27.58	182	P	P	10 04 28.9	-0.4
	comp=Z,11nm,0.8s,baz=346,slow=9.3,SNR=24						
STKA	Stephens Creek	27.58	182	P	P	10 04 29.4	+0.1
PSA00	Pilbara Seismi	28.26	230	P	P	10 04 34.6	-0.9
PSA00				IAmb	IAmb	10 05 02.1	
	comp=Z,18nm,1.4s						
BBOO	Buckleboo	29.19	192	P	P	10 04 43.4	-0.2
BBOO				IAmb	IAmb	10 05 10.4	
	comp=Z,28nm,1.4s						
FORT	Forrest	29.92	206	P	P	10 04 50.0	-0.1
CAN	Canberra	31.50	170	P	P	10 05 04.9	+0.9
MORW	Morawa	35.51	223	P	P	10 05 39.1	+0.3
MORW				IAmb	IAmb	10 05 57.2	
	comp=Z,16nm,1.2s						
NWAO	Narrogin (SRO)	37.31	217	P	P	10 05 54.5	+0.3
	comp=Z,5.3nm,0.7s,baz=12,slow=9.8						
NWAO	Narrogin (SRO)	37.31	217	P	P	10 05 54.9	+0.8
TUWZ	Tuamarina	46.35	148	P	P	10 07 08.2	+0.6
USRK	Ussuriysk Ar.	49.15	350	P	P	10 07 29.8	+0.7
	comp=Z,1.5nm,0.5s,baz=163,slow=7.0,SNR=5.8						
PEA0B	Petropavlovsk-	58.43	10	P	P	10 08 37.5	+0.9
PETK	Petropavlovsk-	58.43	10	P	P	10 08 37.1	+0.5
	comp=Z,2.7nm,0.8s,baz=168,slow=6.8,SNR=4.8						
PETK	Petropavlovsk-	58.43	10	P	P	10 08 36.7	+0.1
MA2	Magadan	63.87	4	P	P	10 09 13.4	+0.2
	comp=Z,0.8nm,0.2s,baz=171,slow=12,SNR=3.7						
MA2	Magadan	63.87	4	IAmb	IAmb	10 09 14.5	
	comp=Z,1.7nm,0.8s						
SEY	Seymchan	67.32	5	P	P	10 09 35.2	-0.1
	comp=Z,0.5nm,0.3s,baz=117,slow=7.8,SNR=6.1						
MKAR	Makanchi Array	73.51	321	P	P	10 10 12.8	-0.7
	comp=Z,0.2nm,0.7s,baz=104,slow=6.1,SNR=2.4						
MKAR				pP	pP	10 10 40.0	+1.0
	comp=Z,0.1nm,0.3s,baz=150,slow=22,SNR=3.1						
MKAR	Makanchi Array	73.51	321	P	P	10 10 13.2	-0.3
VNDA	Vanda	73.98	176	P	P	10 10 15.3	-0.3
	comp=Z,0.5nm,0.4s,baz=328,slow=6.3,SNR=7.9						
VNDA	Vanda	73.98	176	IAmb	IAmb	10 10 15.8	
	comp=Z,0.6nm,0.8s						
ILAR	Eielson Array	85.46	24	P	P	10 11 15.8	-1.9
	comp=Z,0.4nm,0.7s,baz=251,slow=3.6,SNR=8.4						
ILAR				pP	pP	10 11 44.1	+0.1
	comp=Z,0.5nm,0.6s,baz=253,slow=4.8,SNR=5.8						
ILAR	Eielson Array	85.46	24	P	P	10 11 16.2	-1.6
KEST	Kesra	126.95	312	PKP	PKPdf	10 17 44.0	-0.4
	comp=Z,4.1nm,0.6s,baz=148,slow=2.4,SNR=4.6						
KEST	Kesra	126.95	312		PKPdf	10 17 43.8	-0.6
LPAZ	La Paz	143.20	124	PKP	PKPbc	10 18 13.6	+0.7
	comp=Z,1.0nm,0.5s,baz=325,slow=3.0,SNR=5.3						

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*IDC **24** 09:59:03.5±2.2, 64°55N×31°10E, h0km, mb1 3.1/3, mb1mx2.8/70, mbtmp2.9/3, ML1.9/3, Error ellipse: s-maj=29.7km s-min=9.4km az=110.0*

*KOLA **24** 09:59:04.5, 64°84N×29°77E, h0km, ML2.5, Karelia,Finland, Oulu area*

ISC 24 09:59:05.2±1.6**, 64°69N**±0°09×**30°6E**±0°1**, h13**km**, n6,** σ**0s34**/8**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	3.10	18	P	Pn	09 59 53.5	-0.2
APA0				S	Sn	10 00 30.4	-0.2
APA	Apatity	3.12	21	P	Pn	09 59 54.2	+0.2
APA				S	Sn	10 00 31.3	+0.2
FINES	FINESS Array B	3.84	214	Pn	Pn	10 00 04.0	+0.1
	0.1nm,0.3s,baz=33,slow=15,SNR=2.4						
FINES				Lg	Lg	10 01 03.5	
	0.7nm,0.3s,baz=36,slow=30,SNR=10.0						
ARCES	ARCESS Array B	5.25	340	Pn	Pn	10 00 23.1	-0.2
	baz=155,slow=14,SNR=17						
ARCES				Sn	Sn	10 01 24.2	+0.6
	baz=153,slow=22,SNR=5.8						
ARCES				Lg	Lg	10 01 46.1	
	baz=140,slow=36,SNR=1.6						
I37NO	I37NO	6.44	318	*i*		10 45 50.0	
	baz=127,slow=326,SNR=2.6						
NOA	NORSAR Array B	9.55	256	Pn	Pn	10 01 22.1	-0.2
	0.0nm,0.3s,baz=66,slow=14,SNR=1.6						

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*TUL **24** 10:07:14.7±1.7, 36°52N±0°03×99°00W±0°04, h7km±6km, ML3.3, mb_Lg3.3/85(NEIC), Error ellipse: s-maj=5.0km s-min=4.2km az=113.0*

*ANF **24** 10:07:15.7±0.5, 36°51N×98°92W, h5km, ML4.1/10, Error ellipse: s-maj=5.7km s-min=5.0km az=105.0*

*NEIC **24** 10:07:15.7±1.4, 36°54N±0°03×98°91W±0°05, h5km±2km, Error ellipse: s-maj=6.2km s-min=4.7km az=103.0*

*IDC **24** 10:07:16.9±1.8, 36°53N×99°36W, h0km, mb1 3.6/3, mb1mx3.3/47, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=28.7km s-min=13.8km az=101.0*

ISC 24 10:07:14.9±1.0**, 36°52N**±0°04×**98°94W**±0°03**, h7**km±9km**, n106,** σ**1s03**/99**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.14	199	Pg	Pg	10 07 17.6	-0.3
U32A				Sg	Sg	10 07 20.1	+0.2
U32A	Winter Ranch,	0.14	199	P	Pg	10 07 17.6	-0.3
	baz=38,SNR=1000						
U32A	Winter Ranch,	0.14	199	P		10 07 17.6	
	baz=38,SNR=1000						
OK032	Salt Plains WL	0.66	64		Pg	10 07 27.3	-0.3
OK032				Sg	Sb	10 07 37.8	-0.3
CROK	Carrier	0.77	90		Pg	10 07 30.2	+0.5
CROK				Sg	Sb	10 07 41.6	+0.1
KAN14	Manchester OK	0.90	60		Pg	10 07 32.5	+0.2
KAN14				Sg	Sb	10 07 44.9	-0.3
KAN10	Anthony SW Sta	0.91	48		Pg	10 07 32.4	0.0
KAN10				Sg	Sb	10 07 45.4	-0.1
GC02	Grant County #	0.93	69		Pg	10 07 32.9	+0.1
GC02				Sg	Sb	10 07 46.1	0.0
KAN05	Bluff City Nor	1.04	55		Pg	10 07 35.0	+0.1
KAN05				Sg	Sg	10 07 48.9	+0.4
KAN08	Anthony NE Sta	1.05	47		Pg	10 07 35.0	-0.2
KAN08				Sg	Sb	10 07 49.7	+0.1
KAN12	Harper NE Stat	1.09	44		Pg	10 07 35.5	-0.3
KAN12				Sg	Sb	10 07 50.9	+0.4
KAN01	Argonia South	1.14	56		Pg	10 07 36.7	-0.2
KAN01				Sg	Sb	10 07 52.5	+0.3
KAN09	Caldwell North	1.23	59		Pg	10 07 38.1	-0.4
KAN09				Sg	Sg	10 07 53.6	-0.9
KAN13	South Haven SW	1.28	67		Pg	10 07 38.9	-0.5
BCOK	Bluff Creek, N	1.38	128		Pn	10 07 40.5	-0.1
OK029	Liberty Lake	1.40	120		Pn	10 07 40.8	-0.2
OK025	Westminster Rd	1.60	125		Pn	10 07 44.2	+0.6
OKCFA	Oklahoma City	1.63	132		Pn	10 07 44.7	+0.6
OKCFA	Oklahoma City	1.63	132	P	Pn	10 07 44.7	+0.6
	baz=316,SNR=22						
OKCFA				S	Sg	10 08 07.5	+0.1
	baz=316						
OKCFA	Oklahoma City	1.63	132	P		10 07 44.7	
	baz=316,SNR=22						
OKCFA				S		10 08 07.5	
	baz=316						
OKCSW	OKLAHOMA CITY	1.65	132		Pn	10 07 45.0	+0.7
FNO	Franklin	1.77	135		Pn	10 07 47.4	+1.4
WMOK	Wichita Mounta	1.78	176	Pn	Pn	10 07 45.9	-0.2
WMOK				IAmb_Lg		10 08 15.0	
	comp=Z,103nm,0.9s						
WMOK	Wichita Mounta	1.78	176	P	Pn	10 07 45.7	-0.4
	baz=358,SNR=88						
WMOK	Wichita Mounta	1.78	176	P		10 07 45.9	
	baz=358						
WMOK				S		10 08 10.2	
	baz=358						
WMOK	Wichita Mounta	1.78	176	P		10 07 45.7	
	baz=358,SNR=88						
OK031	S. Brethren Rd	1.79	108		Pn	10 07 47.3	+1.0
QUOK	Quay	1.84	100		Pn	10 07 48.0	+1.1
OK030	Cody Creek RV	1.84	108		Pn	10 07 47.8	+0.8
R32A	Long Quarter,	1.91	5	Pn	Pn	10 07 48.5	+0.6
R32A	Long Quarter,	1.91	5	P	Pn	10 07 48.6	+0.6
	baz=183						
R32A	Long Quarter,	1.91	5	P		10 07 48.6	
	baz=183						
T35A	Sooner Cattle	1.99	78		Pn	10 07 49.8	+0.7
T35A				IAmb_Lg		10 08 20.6	
	comp=Z,85nm,0.9s						
T35B	Sooner Cattle	1.99	78	P	Pn	10 07 49.8	+0.7
	baz=260,SNR=30						
T35B				S	Sg	10 08 18.2	-0.8
	baz=260						
T35B	Sooner Cattle	1.99	78	P		10 07 49.8	
	baz=260,SNR=30						
T35B				S		10 08 18.2	
	baz=260						
CBKS	Cedar Bluff	2.38	345	Pn	Pn	10 07 55.8	+1.4
CBKS				IAmb_Lg		10 08 33.6	
	comp=Z,91nm,0.9s						
CBKS	Cedar Bluff	2.38	345	P	Pn	10 07 56.0	+1.6
	baz=162						
CBKS				S	Sb	10 08 27.3	-0.5
	baz=162						
CBKS	Cedar Bluff	2.38	345	P		10 07 56.0	
	baz=162						
CBKS				S		10 08 27.5	
	baz=162						
CBKS	Cedar Bluff	2.38	345	P		10 07 56.0	
	baz=162						
CBKS				S		10 08 27.3	
	baz=162						
AMTX	Amarillo	2.76	235	Pn	Pn	10 08 01.5	+1.8
AMTX				IAmb_Lg		10 08 40.4	
	comp=Z,74nm,0.8s						
AMTX	Amarillo	2.76	235	S	Sb	10 08 37.9	-0.8
	baz=53						
AMTX	Amarillo	2.76	235	P		10 08 00.3	
	baz=53						
AMTX				S		10 08 38.0	
	baz=53						
AMTX	Amarillo	2.76	235	S		10 08 37.9	
	baz=53						
KSU1	Kansas State U	3.17	35		Pn	10 08 08.4	+3.1
KSU1	Kansas State U	3.17	35	P	Pn	10 08 06.1	+0.8
	baz=215						
KSU1	Kansas State U	3.17	35	P		10 08 06.2	
	baz=215						
KSU1	Kansas State U	3.17	35	P		10 08 06.1	
	baz=215						
Z35A	Perchaven, San	3.47	156		Pn	10 08 10.5	+1.2
X37A	Clayton	3.49	122		Pn	10 08 10.2	+0.6
X37A				IAmb_Lg		10 09 13.9	
	comp=Z,106nm,0.8s						
X37A	Clayton	3.49	122	P	Pn	10 08 10.1	+0.5
	baz=306,SNR=17						
X37A	Clayton	3.49	122	P		10 08 10.1	
	baz=306,SNR=17						
U38A	Gravette	3.67	90		Pn	10 08 13.0	+0.8
KSCO	Kaye Shedlock’	3.84	312		Pn	10 08 16.3	+1.7
KSCO				IAmb_Lg		10 09 23.0	
	comp=Z,50nm,0.7s						
ABTX	Abilene, Hawle	3.92	189		Pn	10 08 17.1	+1.5
MSTX	Muleshoe	4.03	232		Pb	10 08 24.8	-1.6
MSTX	Muleshoe	4.03	232	Pb		10 08 25.5	
	baz=50						
HHAR	Hobbs	4.04	92	Pn	Pn	10 08 18.3	+1.0
HHAR				IAmb_Lg		10 09 22.9	
	comp=Z,40nm,0.8s						
N33B	J Bar K, Exete	4.37	15	P	Pn	10 08 21.0	-0.8
	baz=195,SNR=6.6						
N33B	J Bar K, Exete	4.37	15	P		10 08 21.0	
	baz=195,SNR=6.6						
N33A	J Bar K, Exete	4.38	15	Pn	Pn	10 08 21.6	-0.2
W39A	Magazine	4.39	106		Pn	10 08 22.5	+0.5
W39A				IAmb_Lg		10 09 42.0	
	comp=Z,83nm,0.8s						
T25A	Trinidad	4.43	280	Pn	Pn	10 08 24.4	+1.6
T25A				IAmb_Lg		10 09 32.7	
	comp=Z,83nm,1.1s						
T25A	Trinidad	4.43	280	P		10 08 24.4	
	baz=96						
T25A				Sb		10 09 31.0	
	baz=96						
Z38A	Mt. Pleasant	4.60	134	IAmb_Lg		10 09 44.5	
	comp=Z,45nm,0.8s						
S39A	Bolivar	4.64	74	Pn	Pn	10 08 26.0	+0.5
S39A				IAmb_Lg		10 09 40.3	
	comp=Z,58nm,0.7s						
WHTX	Lake Whitney,	4.68	164	Pn	Pn	10 08 26.3	+0.4
WHTX	Lake Whitney,	4.68	164	P		10 08 26.5	
	baz=346						
MIAR	Mount Ida	4.80	113		Pn	10 08 27.9	+0.3
U40A	Yellville	4.91	90	Pn	Pn	10 08 29.8	+0.6
U40A				IAmb_Lg		10 09 54.1	
	comp=Z,34nm,0.7s						
BGNE	Belgrade	4.92	7	Pn	Pn	10 08 29.2	-0.1
BGNE				IAmb_Lg		10 09 59.6	
	comp=Z,62nm,0.8s						
BGNE	Belgrade	4.92	7	P		10 08 29.2	
	baz=186						
OGNE	Ogallala	5.04	332	Pn	Pn	10 08 32.0	+1.0
OGNE	Ogallala	5.04	332	P		10 08 31.7	
	baz=150						
OGNE				Sb		10 09 51.0	
	baz=150						
N35A	Tabor	5.05	30	Pn	Pn	10 08 32.3	+1.2
237A	Washetta, Mont	5.20	149	IAmb_Lg		10 10 13.5	
	comp=Z,43nm,0.8s						
P38A	Dawn	5.28	52	Pn	Pn	10 08 35.7	+1.5
P38A				IAmb_Lg		10 10 17.1	
	comp=Z,33nm,0.8s						
P38A	Dawn	5.28	52	P	Pn	10 08 34.7	+0.5
	baz=235,SNR=6.4						
P38A	Dawn	5.28	52	P		10 08 34.7	
	baz=235,SNR=6.4						
X40A	Basin Creek Fa	5.38	110	Pn	Pn	10 08 38.2	+2.6
MGMO	Mountain Grove	5.39	81	Pn	Pn	10 08 36.7	+0.9
MGMO				IAmb_Lg		10 10 06.4	
	comp=Z,41nm,0.8s						
WHAR	Wooly Hollow	5.54	101	Pn	Pn	10 08 37.4	-0.4
WHAR				IAmb_Lg		10 10 17.1	
	comp=Z,56nm,1.0s						
FCAR	Ozark Folk Cen	5.55	94	Pn	Pn	10 08 39.0	+1.1
FCAR				IAmb_Lg		10 10 19.9	
	comp=Z,27nm,0.7s						
R40A	Maddies Statio	5.60	70	Pn	Pn	10 08 39.3	+0.7
R40A				IAmb_Lg		10 10 12.5	
	comp=Z,36nm,1.1s						
L34A	Svendsen Farm,	5.80	19	IAmb_Lg		10 10 27.6	
	comp=Z,69nm,0.8s						
435B	Jarrell	5.83	168	IAmb_Lg		10 10 29.6	
	comp=Z,45nm,0.8s						
NATX	Nacogdoches	5.92	142	IAmb_Lg		10 10 35.4	
	comp=Z,26nm,1.1s						
JCT	Junction City	6.06	187	IAmb_Lg		10 10 33.2	
	comp=Z,47nm,0.8s						
K31A	O'Neill	6.10	1	IAmb_Lg		10 10 35.5	
	comp=Z,46nm,0.8s						
N38A	Joes South For	6.18	45	Pn	Pn	10 08 47.6	+1.0
ISCO	Idaho Springs	6.20	304	IAmb_Lg		10 10 33.7	
	comp=Z,23nm,0.8s						
LCAR	Lake Charles	6.31	92	IAmb_Lg		10 10 35.1	
	comp=Z,22nm,0.8s						
ANMO	Albuquerque	6.31	258	Pg	Pb	10 09 07.8	+2.6
	comp=Z,0.9nm,0.3s,baz=71,slow=16,SNR=11						
ANMO				Lg	Lg	10 10 27.0	
	comp=Z,1.9nm,0.3s,baz=24,slow=16,SNR=4.9						
T42A	Van Buren	6.32	83	IAmb_Lg		10 10 45.4	
	comp=Z,26nm,0.8s						
T42A	Van Buren	6.32	83	P	Pn	10 08 49.2	+0.7
	baz=268,SNR=6.2						
T42A	Van Buren	6.32	83	P		10 08 49.2	
	baz=268,SNR=6.2						
CCM	Cathedral Cave	6.33	74	IAmb_Lg		10 10 45.8	
	comp=Z,49nm,0.9s						
PBMO	Poplar Bluff	6.85	85	IAmb_Lg		10 11 04.1	
	comp=Z,41nm,1.0s						
FVM	French Village	6.95	75	IAmb_Lg		10 10 55.7	
	comp=Z,46nm,0.7s						
Y22D	IRIS PASSCAL I	6.96	252	IAmb_Lg		10 11 12.9	
	comp=Z,31nm,0.8s						
PHWY	Pilot Hill	6.97	315	IAmb_Lg		10 10 57.7	
	comp=Z,31nm,0.8s						
SCIA	State Center	6.98	38	IAmb_Lg		10 11 14.3	
	comp=Z,26nm,0.7s						
SLM	Saint Louis	7.23	70	IAmb_Lg		10 11 02.2	
	comp=Z,40nm,1.0s						
ECSD	EROS Data Cent	7.43	13	Pn	Pn	10 09 02.6	-1.1
HALT	Halls	7.79	92	IAmb_Lg		10 11 26.6	
	comp=Z,31nm,0.8s						
SIUC	Southern Illin	7.86	78	IAmb_Lg		10 11 26.4	
	comp=Z,41nm,0.8s						
SUSD	Miller	7.92	360	IAmb_Lg		10 11 37.1	
	comp=Z,21nm,0.9s						
OXF	Oxford	8.03	102	Pn	Pn	10 09 11.3	-0.7
W45A	Hickory Valley	8.04	97	Pn	Pn	10 09 10.8	-1.3
W45A				IAmb_Lg		10 11 46.3	
	comp=Z,28nm,0.8s						
P43A	Skaggs, Pawnee	8.06	64	Pn	Pn	10 09 12.2	-0.2
L40A	Anamosa	8.15	45	IAmb_Lg		10 11 34.9	
	comp=Z,36nm,0.9s						
TX31	Lajitas Ar. Si	8.19	210	Pn	Pn	10 09 13.4	-0.9
TX32	Lajitas Array	8.19	210	Pn	Pn	10 09 13.7	-0.5
TXAR	Lajitas Array	8.19	210	Pn	Pn	10 09 13.3	-0.9
	comp=Z,0.5nm,0.3s,baz=29,slow=11,SNR=21						
TXAR				Pg	Pb	10 09 38.9	+1.8
	comp=Z,0.7nm,0.3s,baz=21,slow=12,SNR=6.2						
TXAR				Lg	Lg	10 11 27.5	
	comp=Z,0.6nm,0.3s,baz=24,slow=25,SNR=3.3						
TXAR	Lajitas Array	8.19	210	Pn	Pn	10 09 13.5	-0.8
Q44A	Meyer Farm, Va	8.22	70	Pn	Pn	10 09 13.9	-0.6
K22A	Casper	8.47	319	Pn	Pn	10 09 17.4	-0.8
K22A				IAmb_Lg		10 12 05.1	
	comp=Z,34nm,0.9s						
HDIL	Hopedale	8.57	59	Pn	Pn	10 09 20.2	+0.8
WVT	Waverly	8.98	89	Pn	Pn	10 09 22.5	-2.5
O44A	Mansfield	9.00	63	Pn	Pn	10 09 25.7	+0.5
L42A	Oliver, Polo	9.04	50	IAmb_Lg		10 12 04.7	
	comp=Z,36nm,0.8s						
JFWS	Jewell Farm	9.26	44	Pn	Pn	10 09 30.1	+1.4
JFWS				IAmb_Lg		10 12 17.4	
	comp=Z,26nm,0.8s						
Z47A	Carrollton	9.53	107	Pn	Pn	10 09 33.5	+1.0
I40A	Norwalk	9.73	38	Pn	Pn	10 09 37.1	+1.8
SFIN	Lafayette	10.06	64	Pn	Pn	10 09 40.5	+0.7
F36A	Milaca	10.19	22	Pn	Pn	10 09 39.7	-1.9
PDAR	Pinedale Array	10.29	311	Pn	Pn	10 09 44.2	+1.1
	comp=Z,0.1nm,0.3s,baz=115,slow=16,SNR=3.4						
PDAR				Lg	Lg	10 12 34.4	
	comp=Z,0.5nm,0.3s,baz=126,slow=28,SNR=4.1						
ULM	Lac du Bonnet	13.91	8	Pn	Pn	10 10 30.6	-1.8
	comp=Z,0.3nm,0.3s,baz=190,slow=14,SNR=1.9						
ULM				Lg	Lg	10 14 32.1	
	comp=Z,0.2nm,0.3s,baz=110,slow=23,SNR=3.3						

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*IDC **24** 10:08:28.7±2.3, 5°37S×153°14E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/44, mbtmp3.5/5, Error ellipse: s-maj=146.1km s-min=24.6km az=124.0*

ISC 24 10:08:34.5±2.0**, 5°3S**±0°5×**153°0E**±0°7**, h37**km**, n6,** σ**0s53**/6**, mb3.3**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.24	230	P	P	10 13 38.2	-0.4
	0.2nm,0.4s,baz=54,slow=9.7,SNR=2.3						
ASAR	Alice Springs	25.90	223	P	P	10 14 03.4	+0.2
	0.2nm,0.3s,baz=56,slow=9.3,SNR=5.8						
PETK	Petropavlovsk-	58.32	3	P	P	10 18 25.6	+0.1
	1.5nm,0.9s,baz=158,slow=7.5,SNR=4.4						
ILAR	Eielson Array	82.55	22	P	P	10 20 52.7	-0.5
	0.2nm,0.7s,baz=227,slow=5.3,SNR=4.4						
YKA	Yellowknife Ar	95.78	28	P	P	10 21 56.7	+0.2
	0.2nm,0.8s,baz=274,slow=5.6,SNR=3.9						
TORD	Torodi Ar. Bea	150.60	287	PKPbc	PKiKP	10 28 24.8	+0.6
	0.5nm,0.7s,baz=46,slow=1.6,SNR=2.0						

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*NEIC **24** 10:09:24.8±0.8, 24°8S±0°1×179°9E±0°1, h496km±10km, mb4.3/19, Error ellipse: s-maj=18.6km s-min=15.5km az=94.0*

*IDC **24** 10:09:34.4±4.4, 24°02S×179°30E, h585km±53km, mb3.3/8, mb1 3.5/9, mb1mx3.2/42, mbtmp4.3/9, Error ellipse: s-maj=27.2km s-min=24.2km az=44.0*

ISC 24 10:09:24.9±0.6**, 24°85S**±0°09×**179°99E**±0°09**, h500**km**, n41,** σ**0s99**/40**, mb4.2**/16**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.77	157	P	P	10 10 48.2	-1.6
MSVF	Nonsavu	7.30	345	P	P	10 11 15.2	+0.8
NIUE	Niue	10.98	60	P	P	10 11 51.8	-1.0
OUZ	Omahuta	11.72	207	P	P	10 12 02.6	+2.3
DZM	Mont Dzumac	12.73	280	P	P	10 12 13.5	+2.1
	0.4nm,0.3s,baz=83,slow=14,SNR=4.6						
DZM	Mont Dzumac	12.73	280	P	P	10 12 09.9	-1.5
URZ	Urewera	13.59	190	P	P	10 12 20.3	+0.2
BKZ	Black Stump Fm	14.58	191	P	P	10 12 30.8	+0.2
SANVU	Saraoutou	15.21	306	P	P	10 12 36.3	-1.0
BFZ	Birch Farm	16.10	190	P	P	10 12 46.8	+0.4
MSWZ	Moikau Station	16.99	192	P	P	10 12 55.6	0.0
QRZ	Quartz Range	17.11	200	P	P	10 12 56.7	-0.1
THZ	Tophouse	17.87	197	P	P	10 13 03.8	-0.2
THZ				IAmb	IAmb	10 13 24.3	
	comp=Z,12nm,1.2s						
OXZ	Oxford	19.55	198	P	P	10 13 19.7	+0.4
OXZ				IAmb	IAmb	10 13 45.1	
	comp=Z,11nm,1.1s						
CTA	Charters Tower	31.48	272	P	P	10 15 05.5	+0.3
	comp=Z,8.3nm,0.3s,baz=94,slow=11,SNR=36						
CTAO	Charters Tower	31.48	272	P	P	10 15 05.5	+0.3
STKA	Stephens Creek	34.37	249	P	P	10 15 29.9	+0.4
	comp=Z,2.6nm,0.5s,baz=88,slow=9.8,SNR=7.9						
STKA	Stephens Creek	34.37	249	P	P	10 15 29.7	+0.2
COEN	Coen	36.26	280	P	P	10 15 45.0	-0.6
BBOO	Buckleboo	39.07	248	P	P	10 16 07.9	-0.5
BBOO				IAmb	IAmb	10 16 11.9	
	comp=Z,21nm,1.5s						
AS31	Alice Springs	41.88	262	P	P	10 16 30.6	-0.4
ASAR	Alice Springs	41.88	262	P	P	10 16 30.4	-0.6
	comp=Z,1.4nm,0.3s,baz=91,slow=7.1,SNR=57						
ASAR	Alice Springs	41.88	262	P	P	10 16 30.2	-0.8
WR0	Warramunga Arr	42.15	267	P	P	10 16 32.1	-1.0
WR0				IAmb	IAmb	10 16 44.6	
	comp=Z,12nm,1.4s						

WB2	**Warramunga Arr**	**42.33 267**	P	**P**	**10 16 33.7**	**-0.9**
WB2			IAmb	IAmb	10 16 34.1	
	comp=Z,9.3nm,1.1s					
WB0	**Warramunga Arr**	**42.34 267**	P	**P**	**10 16 33.7**	**-1.0**
WB0			IAmb	IAmb	10 16 34.0	
	comp=Z,4.9nm,0.7s					
WRA	**Warramunga Arr**	**42.34 267**	P	**P**	**10 16 33.5**	**-1.2**
	comp=Z,3.4nm,0.3s,baz=99,slow=7.0,SNR=136					
WRA	**Warramunga Arr**	**42.34 267**	P	**P**	**10 16 32.5**	**-2.2**
FORT	**Forrest**	**45.98 250**	P	**P**	**10 17 01.7**	**-1.0**
FORT			IAmb	IAmb	10 17 10.1	
	comp=Z,22nm,1.2s					
FITZ	**Fitzroy Crossi**	**50.75 266**	P	**P**	**10 17 37.7**	**-0.8**
	comp=Z,4.6nm,0.9s,baz=91,slow=4.3,SNR=9.6					
FITZ	**Fitzroy Crossi**	**50.75 266**	P	**P**	**10 17 38.2**	**-0.3**
FITZ			IAmb	IAmb	10 17 39.4	
	comp=Z,12nm,1.3s					
VNDA	**Vanda**	**53.44 185**	P	P	10 18 05.8	+8.9
	comp=Z,0.8nm,0.4s,baz=53,slow=10,SNR=12					
PSA00	**Pilbara Seismi**	**54.99 260**	P	**P**	**10 18 08.0**	**-0.8**
PSA00			IAmb	IAmb	10 18 30.2	
	comp=Z,26nm,1.5s					
MORW	**Morawa**	**56.54 251**	P	**P**	**10 18 19.2**	**-0.3**
MORW			IAmb	IAmb	10 18 31.7	
	comp=Z,28nm,1.4s					
QSPA	**South Pole Qui**	**65.24 180**	P	**P**	**10 19 18.1**	**+1.7**
QSPA			IAmb	IAmb	10 19 34.4	
	comp=Z,5.8nm,1.5s					
SNAA	**Sanae**	**83.72 179**	P	**P**	**10 20 59.7**	**-0.7**
VNA3	**Neumayer Olymp**	**83.93 177**	P	**P**	**10 21 01.3**	**-0.1**
VNA2	**Neumayer--Watz**	**84.35 178**	P	**P**	**10 21 03.8**	**+0.4**
NVAR	**Mina Array Bea**	**85.44 44**	P	**P**	**10 21 10.2**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=220,slow=8.8,SNR=5.2					
TXAR	**Lajitas Array**	**90.94 58**	P	**P**	**10 21 36.9**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=201,slow=6.6,SNR=6.8					
AKASG	**Malin Array Be**	**145.75 326**	PKP	**PKPdf**	**10 28 05.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=51,slow=3.6,SNR=2.6					

*INET **24** 10:14:17.2,9.˝74N×82.˝96W,h55km,ML3.3*
UPA 24 10:14:14.8±0.8,9.˚67N×82.˚78W,h7km±5km,MW3.7,
1C-2D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK0	**Durika**	**0.61**	**228**	*i* P	Pb	10 14 27.5	-0.5
DRK0				*e*S	Sb	10 14 36.6	-0.3
BATAN	**Batan**	**0.72**	**306**	*e* P	Pg	10 14 29.1	+0.4
BATAN				*e*S	Sb	10 14 40.2	+0.3
BC3P	**Paso Ancho**	**0.87**	**169**	*e* P	Pg	10 14 31.7	+0.2
BC3P				*i* S	Sb	10 14 44.6	+0.3
MLIR3	**Monte Lirio, C**	**0.87**	**183**	*e* P	Pb	10 14 32.5	+0.1
MLIR3				*e*S	Sb	10 14 45.4	+1.1
BRU2	**Volcan**	**0.88**	**174**	*i* P	Pg	10 14 32.0	+0.3
BRU2				*i* S	Sn	10 14 45.9	-1.0
LNBQ3	**Los Naranjos,**	**0.94**	**159**	*e* P	Pb	10 14 33.8	+0.3
LNBQ3				*e*S	Sb	10 14 46.3	+0.1
CHGR2	**Aguacate**	**0.96**	**139**	*e* P	Pg	10 14 33.4	0.0
CHGR2				*e*S	Sb	10 14 46.7	-0.1
BCO2	**Palmira**	**0.98**	**165**	*e* P	Pg	10 14 33.6	0.0
BCO2				*e*S	Sn	10 14 48.6	-0.8
PTAR3	**Potrerillos Ar**	**1.01**	**164**	*e* S	Sb	10 14 48.8	+0.4
CDITO	**Canoas**	**1.09**	**185**	*e* P	Pb	10 14 36.2	+0.1
CDITO				*e*S	Sn	10 14 52.0	0.0
PTJ1	**Puerto Jimnez**	**1.24**	**205**	*e* S	Sn	10 14 56.4	+0.8
DVD	**David**	**1.27**	**165**	*e* P	Pn	10 14 39.0	0.0
DVD				*e*S	Sn	10 14 56.5	+0.2
PEDE3	**Pedregal, Chir**	**1.33**	**164**	*e* S	Sb	10 14 57.0	-0.3
HDC	**Heredia**	**1.35**	**284**	*e* S	Sb	10 14 57.5	-0.7
REME3	**Remedios, Chir**	**1.71**	**147**	*e* S	Sb	10 15 08.4	-0.1
JTS	**Las Juntas de**	**2.23**	**286**	*e* P	Pn	10 14 53.4	+1.2
JTS				*e*S	Sb	10 15 22.6	-0.7
GMAL	**Guarumal, Vera**	**2.44**	**141**	*e* P	Pn	10 14 56.5	+1.4
GMAL				*e*S	Sn	10 15 23.5	-1.7

*NOU **24** 10:13:48.5,35˚82S×179˚54E,h270km,MLv4.4, Off E. Coast of N. Island, N.Z.*
WEL 24 10:14:16.0,37˚S±3˚×17˚8E±˚,h145km±4km,M3.1/33,
ML3.4/8,MLv3.1/33,Error ellipse: s-maj=0.0km
s-min=0.0km az=44.8,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.67**	**137**	P	Pn	10 14 37.8	+0.1
MXZ				S	Sn	10 14 54.1	-0.2
HAZ	**Te Kaha**	**0.68**	**176**	P	Pn	10 14 37.5	-0.3
HAZ				S	Sn	10 14 52.4	-2.1
PKGZ	**Pakihiroa**	**0.85**	**161**	P	Pn	10 14 39.4	+0.2
PKGZ				S	Sn	10 14 56.1	-0.8
RUGZ	**Raukumara Rang**	**0.89**	**183**	P	Pn	10 14 38.8	-0.7
WMGZ	**Waiomatatini S**	**0.92**	**144**	P	Pn	10 14 40.0	+0.4
WMGZ				S	Sn	10 14 57.2	-0.4
PUZ	**Puketiti**	**1.08**	**157**	P	Pn	10 14 41.2	+0.2
PUZ				S	Sn	10 14 59.1	-1.0
TWGZ	**Tauwhareparae**	**1.11**	**170**	P	Pn	10 14 42.3	+1.0
TWGZ				S	Sn	10 15 01.0	+0.1
OPRZ	**Ohinepanea**	**1.21**	**230**	P	Pn	10 14 42.4	+0.2
MARZ	**Manawahe**	**1.23**	**222**	P	Pn	10 14 42.8	+0.4
MWZ	**Matawai**	**1.26**	**187**	P	Pn	10 14 42.9	+0.1
MWZ				S	Sn	10 15 03.2	-0.2
URZ	**Urewera**	**1.28**	**202**	P	Pn	10 14 42.8	0.0
URZ				S	Sn	10 15 02.9	-0.6
EDRZ	**Edgecumbe**	**1.29**	**217**	P	Pn	10 14 43.5	+0.4
TGRZ	**Tauranga**	**1.34**	**240**	P	Pn	10 14 43.9	+0.5
TKGZ	**Te Karaka**	**1.36**	**176**	P	Pn	10 14 44.3	+0.6
TKGZ				S	Sn	10 15 04.6	-0.4
RAGZ	**Rawiri**	**1.44**	**190**	P	Pn	10 14 45.4	+0.8
RAGZ				S	Sn	10 15 07.5	+1.0
CNGZ	**Carnagh Statio**	**1.45**	**165**	P	Pn	10 14 45.8	+1.1
OMRZ	**Omania**	**1.49**	**226**	P	Pn	10 14 46.3	+1.2
KARZ	**Kaharoa**	**1.51**	**231**	P	Pn	10 14 45.9	+0.7
TARZ	**Mount Tarawera**	**1.51**	**220**	P	Pn	10 14 46.9	+1.6
RRRZ	**Republican Roa**	**1.58**	**217**	P	Pn	10 14 47.0	+1.0
MUGZ	**Murupara**	**1.59**	**208**	P	Pn	10 14 46.4	+0.3
MUGZ				S	Sn	10 15 09.0	-0.2
KMRZ	**Kaimai**	**1.61**	**241**	P	Pn	10 14 47.0	+0.6
RIGZ	**Rimuhau**	**1.63**	**179**	P	Pn	10 14 47.0	+0.4
RIGZ				S	Sn	10 15 09.6	-0.5
KUZ	**Kuaotunu**	**1.64**	**281**	P	Pn	10 14 46.3	-0.2
RTZ	**Ruatahuna**	**1.65**	**201**	P	Pn	10 14 46.8	0.0
RTZ				S	Sn	10 15 10.3	-0.2
SNGZ	**Shannon Statio**	**1.73**	**190**	P	Pn	10 14 48.1	+0.5
SNGZ				S	Sn	10 15 12.8	+0.8
HRRZ	**Handcock Road**	**1.74**	**221**	P	Pn	10 14 49.3	+1.5
PRRZ	**Plateau Road**	**1.77**	**216**	P	Pn	10 14 48.9	+0.8
PRRZ				S	Sn	10 15 13.8	+1.0
ALRZ	**Allen Road**	**1.84**	**216**	P	Pn	10 14 49.8	+0.8
PRGZ	**Paritu Road**	**1.85**	**176**	P	Pn	10 14 49.3	+0.3
PRGZ				S	Sn	10 15 15.4	+0.9
TOZ	**Tahuroa Road**	**1.89**	**249**	P	Pn	10 14 50.0	+0.6
RAHZ	**Arahi**	**1.90**	**195**	P	Pn	10 14 50.2	+0.5
RAHZ				S	Sn	10 15 15.6	0.0
MTHZ	**Maungataniwha**	**1.91**	**201**	P	Pn	10 14 49.7	0.0
MTHZ				S	Sn	10 15 16.1	+0.4
KNZ	**Kokohu**	**1.94**	**181**	P	Pn	10 14 50.2	+0.1
WHHZ	**Waihua**	**2.03**	**191**	P	Pn	10 14 51.7	+0.5
WHHZ				S	Sn	10 15 18.9	+0.6
MRHZ	**Matea Rd**	**2.04**	**210**	P	Pn	10 14 51.5	+0.2
MRHZ				S	Sn	10 15 18.3	-0.2
MKAZ	**Moumakai**	**2.05**	**268**	P	Pn	10 14 52.0	+0.6
KUTZ	**Kaahu Road**	**2.06**	**226**	P	Pn	10 14 52.8	+1.2
MHGZ	**Mahia Peninsul**	**2.08**	**176**	P	Pn	10 14 52.2	+0.6
MHGZ				S	Sn	10 15 19.5	+0.3
WIAZ	**Waiheke Island**	**2.10**	**277**	P	Pn	10 14 52.5	+0.6
NMHZ	**Naumai**	**2.14**	**200**	P	Pn	10 14 53.3	+0.7
NMHZ				S	Sn	10 15 21.7	+1.0
HATZ	**Hinemaiaia**	**2.22**	**215**	P	Pn	10 14 53.9	+0.4
ARHZ	**Aropaoanui**	**2.26**	**195**	P	Pn	10 14 54.2	+0.3
ARHZ				S	Sn	10 15 22.6	-0.5
WATZ	**Wairara**	**2.27**	**224**	P	Pn	10 14 55.2	+1.2
BKZ	**Black Stump Fm**	**2.30**	**205**	P	Pn	10 14 54.3	-0.2
BKZ				S	Sn	10 15 23.4	-0.7
RATZ	**Rangitukua**	**2.36**	**220**	P	Pn	10 14 56.3	+1.1
RITZ	**Rihia Road**	**2.40**	**217**	P	Pn	10 14 56.6	+0.9
RITZ				S	Sn	10 15 27.8	+1.5
AWAZ	**Awhitu Peninsu**	**2.47**	**269**	P	Pn	10 14 57.8	+1.4
KATZ	**Kakaramea**	**2.48**	**220**	P	Pn	10 14 57.9	+1.2
MCHZ	**McNeill Hill**	**2.50**	**199**	P	Pn	10 14 57.0	+0.2
MCHZ				S	Sn	10 15 28.4	+0.1
WTAZ	**Waiatarua**	**2.53**	**272**	P	Pn	10 14 58.8	+1.6
KWHZ	**Kaweka Forest**	**2.56**	**203**	P	Pn	10 14 57.5	-0.1
KWHZ				S	Sn	10 15 29.6	-0.1
TMVZ	**Te Maari**	**2.59**	**218**	P	Pn	10 14 58.6	+0.6
ETVZ	**East Tongariro**	**2.60**	**217**	P	Pn	10 14 58.6	+0.5
KRVZ	**Karewarewa**	**2.60**	**219**	P	Pn	10 14 59.1	+0.9
CKHZ	**Cape Kidnapper**	**2.63**	**191**	P	Pn	10 14 58.1	-0.3
CKHZ				S	Sn	10 15 30.7	-0.4
OTVZ	**Oturere**	**2.64**	**217**	P	Pn	10 14 59.2	+0.5
WTVZ	**West Tongariro**	**2.64**	**219**	P	Pn	10 14 59.4	+0.7
NGZ	**Ngauruhoe**	**2.68**	**218**	P	Pn	10 14 59.9	+0.6
TWVZ	**Taurewa**	**2.69**	**222**	P	Pn	10 15 00.2	+1.0
HIZ	**Hauiti**	**2.69**	**237**	P	Pn	10 15 00.9	+1.8
BHHZ	**Black Hill Sta**	**2.74**	**208**	P	Pn	10 14 59.3	-0.5
BHHZ				S	Sn	10 15 32.4	-1.4
FWVZ	**Far West T-bar**	**2.77**	**218**	P	Pn	10 15 00.9	+0.5
KRHZ	**Kereru**	**2.77**	**202**	P	Pn	10 14 59.5	-0.7
KRHZ				S	Sn	10 15 32.8	-1.7
KAHZ	**Kahuranaki**	**2.79**	**194**	P	Pn	10 15 00.3	-0.2
MOVZ	**Moawhango**	**2.80**	**213**	P	Pn	10 15 00.1	-0.5
WNVZ	**Wahianoa**	**2.80**	**216**	P	Pn	10 15 00.7	-0.1
MTVZ	**Mangateitei**	**2.91**	**217**	P	Pn	10 15 02.5	+0.5
WCZ	**Waipu Caves**	**2.95**	**292**	P	Pn	10 15 03.0	+0.5
PXZ	**Pawanui**	**3.03**	**193**	P	Pn	10 15 02.5	-0.9
PNHZ	**Pukenui**	**3.08**	**202**	P	Pn	10 15 02.9	-1.1
WPHZ	**Waipukurau**	**3.15**	**198**	P	Pn	10 15 04.1	-0.9
TSZ	**Takapari Road**	**3.28**	**204**	P	Pn	10 15 05.2	-1.5
PRHZ	**Porangahau**	**3.30**	**195**	P	Pn	10 15 05.7	-1.2
WAZ	**Wanganui**	**3.43**	**218**	P	Pn	10 15 09.0	+0.3
DVHZ	**Dannevirke**	**3.44**	**200**	P	Pn	10 15 07.0	-1.8
ANWZ	**Angora Road**	**3.52**	**196**	P	Pn	10 15 08.4	-1.3
POWZ	**Post Office Ro**	**3.65**	**204**	P	Pn	10 15 10.3	-1.1
PRWZ	**Pori Road**	**3.73**	**201**	P	Pn	10 15 11.6	-0.9
BFZ	**Birch Farm**	**3.78**	**197**	P	Pn	10 15 11.5	-1.7
OUZ	**Omahuta**	**3.82**	**298**	P	Pn	10 15 14.5	+0.7
MRZ	**Mangatainoka R**	**3.95**	**204**	P	Pn	10 15 13.1	-2.3
TIWZ	**Tintock**	**3.96**	**201**	P	Pn	10 15 13.9	-1.7
CPWZ	**Castlepoint**	**4.01**	**197**	P	Pn	10 15 15.5	-0.6
HOWZ	**Holdsworth Sta**	**4.19**	**204**	P	Pn	10 15 15.8	-2.7
OGWZ	**Otaki Gorge**	**4.23**	**207**	P	Pn	10 15 16.9	-2.2
TMWZ	**Te Maipa**	**4.27**	**199**	P	Pn	10 15 17.3	-2.3
KIW	**Kapiti Island**	**4.37**	**209**	P	Pn	10 15 18.7	-2.2
MTW	**Mount Morrison**	**4.43**	**202**	P	Pn	10 15 19.0	-2.6
CAW	**Cannon Point**	**4.53**	**206**	P	Pn	10 15 20.1	-2.8
TRWZ	**Traveller**	**4.60**	**200**	P	Pn	10 15 21.3	-2.5
PAWZ	**Paruwai Farm**	**4.65**	**202**	P	Pn	10 15 22.0	-2.7
MSWZ	**Moikau Station**	**4.74**	**203**	P	Pn	10 15 22.6	-3.2
BHW	**Baring Head**	**4.86**	**206**	P	Pn	10 15 24.3	-3.0
PLWZ	**Palliser**	**4.88**	**202**	P	Pn	10 15 24.4	-3.2
TCW	**Tory Channel**	**4.92**	**212**	P	Pn	10 15 25.5	-2.6
TUWZ	**Tuamarina**	**5.25**	**213**	P	Pn	10 15 29.4	-3.1
BSWZ	**Blackbirch Sta**	**5.51**	**212**	P	Pn	10 15 33.6	-2.4
QRZ	**Quartz Range**	**5.51**	**226**	P	Pn	10 15 33.8	-2.3
THZ	**Tophouse**	**5.99**	**217**	P	Pn	10 15 39.4	-3.0
KHZ	**Kahutara**	**6.23**	**210**	P	Pn	10 15 42.3	-3.3
GVZ	**Greta Valley S**	**6.90**	**210**	P	Pn	10 15 50.8	-3.8
LTZ	**Lake Taylor**	**7.07**	**215**	P	Pn	10 15 52.8	-4.1
AMCZ	**Amberley**	**7.23**	**211**	P	Pn	10 15 54.5	-4.3
MQZ	**McQueen's Vall**	**7.67**	**209**	P	Pn	10 15 59.9	-4.9
AKCZ	**Akaroa Harbour**	**7.71**	**207**	P	Pn	10 16 01.4	-4.0
TMZ	**Timaru**	**8.90**	**213**	P	Pn	10 16 17.2	-4.1
ODZ	**Otahua Downs**	**9.59**	**212**	P	Pn	10 16 26.1	-4.3

*UPP **24** 10:29:27.6±0.2,58˚71N×18˚53E,h0km,ML2.4, Explosion*
*DNK **24** 10:29:28.2±0.3,58˚71N×18˚52E,h0km,ML2.4(UPP), Explosion*
*HEL **24** 10:29:28.5±0.0,58˚71N×18˚52E,h0km,ML2.4(UPP), Explosion*
*NAO **24** 10:29:30.1±2.0,58˚83N×18˚45E,ML2.3*
*IDC **24** 10:29:33.3±3.2,59˚10N×18˚49E,h0km,mb1 3.2/3, mb1mx2.9/59,mbtmp3.0/3,ML2.2/3,Error ellipse: s-maj=40.3km s-min=11.3km az=0.0*
ISC 24 10:29:27.3±0.9,58˚72N±0˚02×18˚54E±0˚03,h0km,n46,
σ1s29/53,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.40**	**316**	P	**Pg**	**10 29 35.5**	**+0.6**
NYNU				S	**Sg**	**10 29 40.7**	**+0.7**
NYNU	**Nynaeshamn**	**0.40**	**316**	P	**Pg**	**10 29 35.5**	**+0.6**
NYNU				S	**Sg**	**10 29 40.7**	**+0.7**
NYNU	**Nynaeshamn**	**0.40**	**316**	*i* P	**Pg**	**10 29 35.5**	**+0.6**
NYNU				*i* S	**Sg**	**10 29 40.7**	**+0.7**
NRTU	**Norrtaelje**	**0.96**	**3**	P	**Pg**	**10 29 45.9**	**+0.2**
NRTU	**Norrtaelje**	**0.96**	**3**	P	**Pg**	**10 29 45.9**	**+0.2**
NRTU	**Norrtaelje**	**0.96**	**3**	*e* P	**Pg**	**10 29 45.9**	**+0.2**
NRTU				*e*S	**Sg**	**10 29 57.4**	**-0.7**
VIKU	**Vikbolandet**	**0.99**	**258**	P	**Pg**	**10 29 46.0**	**-0.2**
VIKU	**Vikbolandet**	**0.99**	**258**	P	**Pg**	**10 29 46.0**	**-0.2**
VIKU	**Vikbolandet**	**0.99**	**258**	*e* P	**Pg**	**10 29 46.0**	**-0.2**
GOTU	**Gotland**	**1.04**	**179**	P	**Pg**	**10 29 46.9**	**-0.2**
GOTU	**Gotland**	**1.04**	**179**	P	**Pg**	**10 29 46.9**	**-0.2**
GOTU	**Gotland**	**1.04**	**179**	*e* P	**Pg**	**10 29 46.9**	**-0.2**
GOTU				*e*S	**Sg**	**10 30 00.5**	**0.0**
ESKU	**Eskilstuna**	**1.22**	**296**	P	**Pg**	**10 29 50.3**	**-0.3**
ESKU	**Eskilstuna**	**1.22**	**296**	P	**Pg**	**10 29 50.3**	**-0.3**
ESKU	**Eskilstuna**	**1.22**	**296**	*e* P	**Pg**	**10 29 50.3**	**-0.3**
VSTU	**Vaestervik**	**1.50**	**226**	P	**Pn**	**10 29 55.1**	**-0.3**
VSTU	**Vaestervik**	**1.50**	**226**	P	**Pn**	**10 29 55.1**	**-0.3**
VSTU	**Vaestervik**	**1.50**	**226**	*e* P	**Pn**	**10 29 55.1**	**-0.3**
GRAU	**Graesoe**	**1.62**	**0**	P	**Pn**	**10 29 57.5**	**+0.4**
GRAU	**Graesoe**	**1.62**	**0**	P	**Pn**	**10 29 57.5**	**+0.4**
GRAU	**Graesoe**	**1.62**	**0**	*e* P	**Pn**	**10 29 57.5**	**+0.4**
AAL	**Aland**	**1.64**	**26**	P	**Pn**	**10 29 57.7**	**+0.4**
AAL	**Aland**	**1.64**	**26**	*e* P	**Pn**	**10 29 57.7**	**+0.4**
BYXU	**Byxelkrok**	**1.65**	**210**	P	**Pn**	**10 29 57.5**	**+0.1**
BYXU	**Byxelkrok**	**1.65**	**210**	P	**Pn**	**10 29 57.5**	**+0.1**
BYXU	**Byxelkrok**	**1.65**	**210**	*e* P	**Pn**	**10 29 57.5**	**+0.1**
OSTU	**Oestervaala**	**1.68**	**335**	P	**Pn**	**10 29 58.5**	**+0.7**
OSTU	**Oestervaala**	**1.68**	**335**	P	**Pn**	**10 29 58.5**	**+0.7**
OSTU	**Oestervaala**	**1.68**	**335**	*e* P	**Pn**	**10 29 58.5**	**+0.7**
SLIT	**Slitere, Latvi**	**2.27**	**117**	*e* P	**Pn**	**10 30 07.0**	**+1.0**
MTSE	**Matsula**	**2.75**	**88**	*e* P	**Pn**	**10 30 13.7**	**+1.1**
RAF	**Rauma**	**2.83**	**34**	*e* P	**Pb**	**10 30 16.8**	**-1.8**
HFC2	**Hagfors New Ar**	**2.85**	**302**	*e* P	**Pn**	**10 30 16.2**	**+2.2**
HFS	**Hagfors**	**2.85**	**302**	Pn	**Pn**	**10 30 15.3**	**+1.4**
	baz=119,slow=14						
HFS				Sn	**Sn**	**10 30 48.8**	**-0.2**
	baz=131,slow=28						
HFS				Lg	Lg	10 30 55.6	
	baz=112,slow=37						
ARNU	**Arnoeviken**	**3.04**	**350**	*e* P	**Pn**	**10 30 16.8**	**+0.3**
NRA0	**NORESS Array S**	**4.08**	**303**	Pn	**Pn**	**10 30 31.6**	**+0.7**
	baz=135,slow=11						
NRA0				Lg	Lg	10 31 34.6	
	baz=117,slow=28						
BSD	**Bornholm Skovb**	**4.12**	**210**	*i* P	**Pn**	**10 30 35.8**	**+4.4**
BSD				*e*		10 31 18.2	
BSD	**Bornholm Skovb**	**4.12**	**210**	*e* P	**Pn**	**10 30 35.9**	**+4.4**
BSD				*e*		10 31 18.2	
BSD				IAML		10 31 51.4	
	comp=Z,9.8nm,0.3s						
BSD	**Bornholm Skovb**	**4.12**	**210**	*e* P	**Pn**	**10 30 32.3**	**+0.8**
NB2	**NORSAR Subarra**	**4.36**	**305**	Pn	**Pn**	**10 30 35.4**	**+0.6**
	baz=112,slow=14						
NB2				Lg	Lg	10 31 43.4	
	baz=119,slow=37						
NOA	**NORSAR Array B**	**4.36**	**305**	Pn	**Pn**	**10 30 36.8**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=134,slow=19,SNR=2.2						
NOA				Lg	Lg	10 31 41.0	
	comp=Z,0.2nm,0.3s,baz=153,slow=12,SNR=7.7						
FIA0	**FINESS Array S**	**4.66**	**51**	Pn	**Pn**	**10 30 40.7**	**+1.9**
	baz=243,slow=14						
FIA0				Sn	**Sn**	**10 31 34.5**	**+1.0**
	baz=238,slow=18						
FIA0				Lg	Lg	10 31 53.0	
	baz=232,slow=28						
FIA0	**FINESS Array S**	**4.66**	**51**	*e* P	**Pn**	**10 30 40.9**	**+2.1**
FINES	**FINESS Array B**	**4.66**	**51**	Pn	**Pn**	**10 30 40.9**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=243,slow=13,SNR=9.6						
FINES				Lg	Lg	10 31 52.3	
	comp=Z,1.0nm,0.3s,baz=233,slow=26,SNR=5.4						
ARA0	**ARCESS Array S**	**11.27**	**13**	Pn	**Pn**	**10 32 07.7**	**-1.6**
	baz=195,slow=14						
ARCES	**ARCESS Array B**	**11.27**	**13**	Pn	**Pn**	**10 32 07.4**	**-1.9**
	baz=194,slow=13,SNR=6.6						

IDC 24 10:29:44.9±3.4,58.˚77N×18.˚67E,h0km,mb1 3.2/3,
mb1mx2.9/59,mbtmp3.1/3,ML2.6/3,Error ellipse:
s-maj=47.9km s-min=14.2km az=169.0,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOA	**NORSAR Array B**	**4.39**	**304**	Pn	Pn	10 30 50.6	-2.2
	0.1nm,0.3s,baz=110,slow=13,SNR=5.2						
FINES	**FINESS Array B**	**4.57**	**51**	Pn	Pn	10 30 55.2	0.0
	0.9nm,0.3s,baz=242,slow=12,SNR=15						
FINES				Lg	Lg	10 32 07.3	
	2.8nm,0.3s,baz=236,slow=25,SNR=8.8						
ARCES	**ARCESS Array B**	**11.20**	**12**	Pn	Pn	10 32 21.9	-4.1
	baz=196,slow=14,SNR=11						

*KRSC **24** 10:31:20.9±1.5,53˚53N×162˚01E,h15km±25km,ML4.4*
*NEIC **24** 10:31:22.2±2.8,53˚60N±0˚10×161˚88E±0˚05,h10km±1km, mb4.2/25,Error ellipse: s-maj=17.3km s-min=3.8km az=166.0*
*MOS **24** 10:31:23.5±0.9,53˚59N×161˚90E,h23km,mb4.5/11,Error ellipse: s-maj=6.4km s-min=4.6km az=75.1*
*IDC **24** 10:31:25.5±7.0,53˚81N×161˚60E,h24km±45km,mb3.7/19, mb1 3.9/23,mb1mx3.8/52,mbtmp3.8/23,ML4.0/3,MS3.1/7, Ms1 3.1/7,ms1mx2.8/43,Error ellipse: s-maj=19.4km s-min=12.8km az=134.0*
ISC 24 10:31:25.2±1.6,53˚61N±0˚03×161˚86E±0˚04,h29km±11km,
n179,σ1s47/216,mb4.1/34,MS3.3/3,4C-11D,Off east
coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.95**	**356**	PN	**Pn**	**10 31 40.9**	**-1.6**
MKZ				S	**Sn**	**10 31 54.5**	**-0.6**
MKZ	**Mys Kozlova**	**0.95**	**356**	*e*P	**Pn**	**10 31 40.9**	**-1.6**
MKZ				*e*S	**Sn**	**10 31 54.5**	**-0.6**
SPN	**Mys Shipunski**	**1.21**	**246**	PN	**Pn**	**10 31 44.7**	**-1.5**
SPN				S	**Sn**	**10 32 01.0**	**-0.7**
SPN	**Mys Shipunski**	**1.21**	**246**	*e*P	**Pn**	**10 31 44.7**	**-1.5**
SPN				*e*S	**Sn**	**10 32 01.0**	**-0.7**
KII	**Karymskiy**	**1.49**	**288**	PN	**Pn**	**10 31 48.4**	**-1.7**
KII				S	**Sn**	**10 32 08.0**	**-0.6**
KII	**Karymskiy**	**1.49**	**288**	*e*P	**Pn**	**10 31 48.4**	**-1.7**
KII				*e*S	**Sn**	**10 32 08.0**	**-0.6**
NLC	**Nalytchevo**	**1.57**	**255**	PN	**Pn**	**10 31 49.9**	**-1.1**
NLC				S	**Sn**	**10 32 10.4**	**0.0**
NLC	**Nalytchevo**	**1.57**	**255**	*e*P	**Pn**	**10 31 49.9**	**-1.1**
NLC				*e*S	**Sn**	**10 32 10.4**	**0.0**
KZV	**Kizimen**	**1.76**	**329**	PN	**Pn**	**10 31 53.8**	**-0.1**
KZV				S	**Sn**	**10 32 17.0**	**+1.6**
KZV	**Kizimen**	**1.76**	**329**	*e*P	**Pn**	**10 31 53.8**	**-0.1**
KZV				*e*S	**Sn**	**10 32 17.0**	**+1.6**
TUMD	**Tumrok D**	**1.81**	**332**	*e*P	**Pn**	**10 31 53.9**	**-0.5**
TUMD				*e*S	**Sn**	**10 32 17.5**	**+1.1**
SDLR	**Sedlovina**	**1.81**	**261**	PN	**Pn**	**10 31 53.6**	**-0.9**
SDLR				S	**Sn**	**10 32 16.9**	**+0.4**
SDLR	**Sedlovina**	**1.81**	**261**	*e*P	**Pn**	**10 31 53.6**	**-0.9**
SDLR				*e*S	**Sn**	**10 32 16.9**	**+0.4**
UGLR	**Uglovaya**	**1.86**	**259**	PN	**Pn**	**10 31 54.6

PAU	**Pauzhetka**	**3.76**	**237**	PN	**Pn**	**10 32 22.0 +0.9**		
PAU	**Pauzhetka**	**3.76**	**237**	*e*P	**Pn**	**10 32 22.0 +0.9**		
SKR	**Severo-Kuril's**	**4.59**	**233**	*e*PN	**Pn**	**10 32 33.7 +1.1**		
SKR	**Severo-Kuril's**	**4.59**	**233**	*e*P	**Pn**	**10 32 35.3 +2.7**		
OSSR	**Ossora**	**5.69**	**6**	PN	**Pn**	**10 32 51.2 +3.6**		
OSSR	**Ossora**	**5.69**	**6**	*e*P	**Pn**	**10 32 51.2 +3.6**		
MA2	**Magadan**	**8.54**	**319**	Pn	**Pn**	**10 33 27.8 +1.0**		
	comp=Z,1.0nm,0.3s,baz=122,slow=10,SNR=19							
MA2				LR	LR	10 37 14.7		
	comp=Z,92nm,20.2s,baz=182,slow=42							
MA2	**Magadan**	**8.54**	**319**	*e*PN	**Pn**	**10 33 28.7 +1.9**		
MA2				pmax	pmax			
	comp=Z,8.0nm,0.8s							
MA2	**Magadan**	**8.54**	**319**		**Pn**	**10 33 26.9 +0.1**		
YUK	**Yuzh-Kuril'sk**	**14.21**	**234**‖	*e*P	**Pn**	**10 34 46.6 +2.3**		
BILL	**Bilibino**	**14.63**	**7**‖	*e*P	**Pn**	**10 34 48.0 -1.9**		
BILL				*e*S	**Sn**	**10 37 30.6 -0.2**		
BILL				pmax	pmax			
	comp=Z,3.0nm,1.4s							
BILL				MLR	MLR			
	comp=Z,37nm,12.0s							
ASAJ	**Asahikawa**	**15.79**	**241**	Pn	**Pn**	**10 35 05.1 -0.3**		
	comp=Z,0.4nm,0.3s,baz=86,slow=11,SNR=8.1							
ERM	**Erimo**	**17.04**	**235**‖	*e*P	**P**	**10 35 24.3 +1.6**		
ERM	**Erimo**	**17.04**	**235**	Pn	**Pn**	**10 35 20.4 -0.7**		
YAK	**Yakutsk**	**18.91**	**309**	LR	LR	10 43 58.0		
	comp=Z,74nm,18.7s,baz=114,slow=40							
YAK	**Yakutsk**	**18.91**	**309**‖	*e*P	**P**	**10 35 40.8 -2.4**		
KLR	**Kul'dur**	**19.20**	**269**	P	**P**	**10 35 46.7 +0.2**		
	comp=Z,0.1nm,0.3s,baz=64,slow=12,SNR=4.8							
KLR				LR	LR	10 43 10.1		
	comp=Z,67nm,18.0s,baz=80,slow=37							
KLR	**Kul'dur**	**19.20**	**269**‖	*e*P	**Pn**	**10 35 49.6 +2.0**		
KLR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KLR				MLR	MLR			
	comp=Z,60nm,10.0s							
USRK	**Ussuriysk Ar.**	**21.63**	**256**	P	**P**	**10 36 12.8 0.0**		
	comp=Z,1.6nm,0.8s,baz=44,slow=11,SNR=5.9							
USRK				LR	LR	10 45 35.7		
	comp=Z,59nm,18.2s,baz=102,slow=40							
USRK	**Ussuriysk Ar.**	**21.63**	**256**	P	**P**	**10 36 12.2 -0.6**		
RDOG	**Red Dog Mine**	**22.00**	**35**	P	**P**	**10 36 13.9 -2.8**		
RDOG				IAmb	IAmb	10 36 15.7		
	comp=Z,3.4nm,0.6s							
TIXI	**Tiksi**	**23.07**	**334**	P	**P**	**10 36 26.0 -1.9**		
	comp=Z,2.4nm,0.6s,baz=121,slow=9.8,SNR=8.7							
TIXI	**Tiksi**	**23.07**	**334**‖	*e*P	**P**	**10 36 26.3 -1.5**		
TIXI				pmax	pmax			
	comp=Z,11nm,0.7s							
TIXI	**Tiksi**	**23.07**	**334**	P	**P**	**10 36 25.8 -2.0**		
MJA0	**Matsu Arr-Jizo**	**23.68**	**233**	*e*P	**P**	**10 36 36.2 +1.9**		
MJA0				pmax	pmax			
	comp=Z,6.0nm,0.8s							
MAJO	**Matsushiro**	**23.70**	**233**‖	*e*P	**P**	**10 36 36.1 +1.6**		
MAJO				pmax	pmax			
	comp=Z,60nm,2.7s							
MAJO	**Matsushiro**	**23.70**	**233**	P	**P**	**10 36 36.0 +1.6**		
MAJO				IAmb	IAmb	10 36 37.0		
	comp=Z,13nm,0.8s							
MAT	**Matsushiro**	**23.70**	**233**	P	**P**	**10 36 36.0 +1.6**		
MJAR	**Matsushiro Arr**	**23.70**	**233**	P	**P**	**10 36 35.9 +1.4**		
	comp=Z,6.2nm,0.8s,baz=20,slow=10,SNR=10							
MJAR	**Matsushiro Arr**	**23.70**	**233**	P	**P**	**10 36 34.6 +0.2**		
MJAR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MJAR	**Matsushiro Arr**	**23.70**	**233**	P	**P**	**10 36 34.6 +0.2**		
MJAR				IAmb	IAmb	10 36 39.7		
	comp=Z,5.0nm,0.8s							
IMAR	**Indian Mountai**	**24.90**	**43**	P	**P**	**10 36 46.3 +1.1**		
COLD	**Coldfoot**	**26.47**	**40**	P	**P**	**10 37 00.6 +1.2**		
GHO	**Glory Hole Cre**	**26.93**	**53**	P	**P**	**10 37 00.6 -3.1**		
GHO				IAmb	IAmb	10 37 12.8		
	comp=Z,8.3nm,1.3s							
WRH	**Wood River Hil**	**27.18**	**47**	P	**P**	**10 37 05.3 -0.5**		
WRH				IAmb	IAmb	10 37 19.2		
	comp=Z,7.1nm,1.3s							
KNK	**Knik Glacier**	**27.18**	**53**	P	**P**	**10 37 06.1 +0.2**		
KNK				IAmb	IAmb	10 37 15.4		
	comp=Z,9.6nm,1.3s							
SML	**Sawmill**	**27.21**	**53**	P	**P**	**10 37 06.0 -0.1**		
SML				IAmb	IAmb	10 37 19.2		
	comp=Z,14nm,1.4s							
CCB	**Clear Creek Bu**	**27.30**	**46**	P	**P**	**10 37 07.0 +0.1**		
ILAR	**Eielson Array**	**27.70**	**46**	P	**P**	**10 37 09.3 -1.1**		
	comp=Z,0.4nm,0.8s,baz=252,slow=7.6,SNR=6.3							
ILAR	**Eielson Array**	**27.70**	**46**	*e*P	**P**	**10 37 11.0 +0.6**		
ILAR	**Eielson Array**	**27.70**	**46**	P	**P**	**10 37 07.3 -3.0**		
KSRS	**Korea Array**	**28.39**	**249**	P	**P**	**10 37 16.8 0.0**		
	comp=Z,0.9nm,0.6s,baz=44,slow=9.8,SNR=5.0							
KSRS	**Korea Array**	**28.39**	**249**	*e*P	**P**	**10 37 18.0 +1.2**		
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BMAR	**Burnt Mountain**	**28.66**	**40**	P	**P**	**10 37 20.5 +1.5**		
DOT	**Dot Lake**	**28.99**	**48**	P	**P**	**10 37 21.5 -0.5**		
K27K	**Chicken**	**29.83**	**47**	P	**P**	**10 37 30.7 +1.4**		
K27K				IAmb	IAmb	10 37 47.4		
	comp=Z,3.5nm,1.1s							
BCAR	**Beaver Creek A**	**30.08**	**49**	P	**P**	**10 37 33.4 +1.8**		
EGAK	**Eagle**	**30.14**	**46**	P	**P**	**10 37 32.4 +0.3**		
EGAK				IAmb	IAmb	10 37 45.8		
	comp=Z,3.9nm,1.4s							
H11N2	**WAKE ISLAND Hy**	**34.04**	**172**	T	T	11 15 36.0		
	baz=355,slow=76,SNR=49							
H11N3	**WAKE ISLAND Hy**	**34.06**	**171**	T	T	11 15 34.4		
	baz=355,slow=76,SNR=56							
H11N1	**WAKE ISLAND Hy**	**34.06**	**172**	T	T	11 15 38.9		
	baz=355,slow=76,SNR=57							
SONM	**Songino Array**	**34.81**	**284**	P	**P**	**10 38 11.1 -2.2**		
	comp=Z,0.5nm,0.6s,baz=64,slow=6.1,SNR=4.6							
SONM				PcP	**PcP**	**10 40 46.9 +1.0**		
	comp=Z,0.6nm,0.6s,baz=90,slow=2.1,SNR=6.4							
SONM				LR	LR	10 53 51.4		
	comp=Z,57nm,19.1s,baz=58,slow=39							
SONM	**Songino Array**	**34.81**	**284**	*e*P	**P**	**10 38 14.2 +0.9**		
SONM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**34.81**	**284**	P	**P**	**10 38 11.7 -1.6**		
H11S1	**WAKE ISLAND Hy**	**35.24**	**172**	T	T	11 16 48.5		
	baz=351							
H11S3	**WAKE ISLAND Hy**	**35.25**	**172**	T	T	11 17 04.3		
	baz=351							
H11S2	**WAKE ISLAND Hy**	**35.25**	**172**	T	T	11 17 08.7		
	baz=351							
YKA	**Yellowknife Ar**	**42.06**	**44**	P	**P**	**10 39 14.8 +1.0**		
	comp=Z,0.1nm,0.5s,baz=302,slow=6.6,SNR=2.2							
ZALV	**Zalesovo Beam**	**43.38**	**303**	LR	LR	10 59 07.2		
	comp=Z,47nm,18.3s,baz=64,slow=38							
DGZ	**Jazzator, Alta**	**44.38**	**297**‖	*e*P	**P**	**10 39 29.9 -3.0**		
DGZ				pmax	pmax			
	comp=Z,4.0nm,2.1s							
SPA0	**Spitsbergen Ar**	**46.80**	**351**	P	**P**	**10 39 52.2 +0.8**		
MK31	**Makanchi Array**	**48.88**	**296**‖	*e*P	**P**	**10 40 04.8 -3.2**		
MK31	**Makanchi Array**	**48.88**	**296**	P	**P**	**10 40 05.1 -2.9**		
MKAR	**Makanchi Array**	**48.88**	**296**	P	**P**	**10 40 05.1 -2.9**		
	comp=Z,0.5nm,0.5s,baz=56,slow=7.6,SNR=9.2							
MKAR	**Makanchi Array**	**48.88**	**296**	P	**P**	**10 40 05.4 -2.6**		
MKAR	**Makanchi Array**	**48.88**	**296**	P	**P**	**10 40 05.3 -2.6**		
ARU	**Arti**	**53.73**	**318***c*	*i*P	**P**	**10 40 43.0 -1.1**		
ARU				S	**S**	**10 48 15.1 -1.0**		
ARU				SS	**SKiKP**	**10 51 53.6 -2.0**		
ARU				pmax	pmax			
	comp=Z,4.0nm,0.6s							
NVAR	**Mina Array Bea**	**54.57**	**72**	P	**P**	**10 40 53.2 +2.4**		
	comp=Z,0.3nm,0.5s,baz=312,slow=5.2,SNR=4.0							
NVAR	**Mina Array Bea**	**54.57**	**72**	P	**P**	**10 40 48.0 -2.8**		
PDAR	**Pinedale Array**	**56.34**	**62**	P	**P**	**10 41 05.1 +1.6**		
	comp=Z,0.3nm,0.7s,baz=263,slow=7.8,SNR=2.2							
ABKAR	**Akbulak array**	**58.26**	**311**	P	**P**	**10 41 15.7 -0.9**		
ABKAR				IAmb	IAmb	10 41 33.4		
	comp=Z,0.8nm,0.8s							
CHTO	**Chiang Mai**	**59.04**	**260**	P	**P**	**10 41 23.4 +0.9**		
CHTO				pmax	pmax			
	comp=Z,5.0nm,0.7s							
CHTO	**Chiang Mai**	**59.04**	**260**	P	**P**	**10 41 23.4 +0.9**		
CMAR	**Chiang Mai Arr**	**59.32**	**259**	P	**P**	**10 41 25.6 +1.2**		
	comp=Z,3.2nm,0.7s,baz=25,slow=6.8,SNR=16							
CMAR	**Chiang Mai Arr**	**59.32**	**259**	*e*P	**P**	**10 41 25.6 +1.2**		
CMAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**59.32**	**259**	P	**P**	**10 41 25.3 +0.9**		
FIA1	**FINESS Array S**	**60.06**	**337**	P	**P**	**10 41 29.3 +0.5**		
FINES	**FINESS Array B**	**60.06**	**337**	P	**P**	**10 41 28.3 -0.6**		
	comp=Z,4.0nm,0.7s,baz=38,slow=7.8,SNR=11							
FINES	**FINESS Array B**	**60.06**	**337**	*i* P	**P**	**10 41 28.7 -0.1**		
FINES				pmax	pmax			
	comp=Z,4.0nm,0.7s							
FINES	**FINESS Array B**	**60.06**	**337**	P	**P**	**10 41 28.7 -0.4**		
BELG	**Belogornoye**	**61.00**	**320**‖	*e*P	**P**	**10 41 34.9 -0.5**		
BELG				pmax	pmax			
	comp=Z,12nm,4.1s							
NC303	**NORSAR Array S**	**63.13**	**345**	P	**P**	**10 41 49.1 -0.6**		
NC303				IAmb	IAmb	10 42 06.5		
	comp=Z,6.3nm,1.0s							
NC204	**NORSAR Array S**	**63.18**	**345**	P	**P**	**10 41 50.0 0.0**		
NC405	**NORSAR Array S**	**63.18**	**344**	P	**P**	**10 41 49.4 -0.6**		
NB201	**NORSAR Array S**	**63.31**	**344**	P	**P**	**10 41 50.5 -0.4**		
NB2	**NORSAR Subarra**	**63.33**	**345**	P	**P**	**10 41 50.4 -0.6**		
	comp=Z,0.6nm,0.4s,baz=20,slow=6.9							
NOA	**NORSAR Array B**	**63.33**	**345**	P	**P**	**10 41 50.6 -0.4**		
	comp=Z,0.9nm,0.5s,baz=23,slow=6.0,SNR=8.3							
GEYT	**Alibeck**	**67.69**	**304**	P	**P**	**10 42 19.0 -0.5**		
GEYT				IAmb	IAmb	10 42 19.6		
	comp=Z,2.4nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**67.69**	**304**	P	**P**	**10 42 18.3 -1.2**		
AKASG	**Malin Array Be**	**68.70**	**330**	P	**P**	**10 42 24.6 -1.0**		
	comp=Z,1.3nm,0.5s,baz=30,slow=6.4,SNR=4.6							
AKBB	**Malin Array Si**	**68.70**	**330**‖	*i*P	**P**	**10 42 25.7 +0.1**		
TXAR	**Lajitas Array**	**69.46**	**68**	P	**P**	**10 42 32.4 +1.6**		
	comp=Z,0.2nm,0.7s,baz=302,slow=4.1,SNR=2.9							
TXAR	**Lajitas Array**	**69.46**	**68**	P	**P**	**10 42 32.1 +1.3**		
TXAR	**Lajitas Array**	**69.46**	**68**	P	**P**	**10 42 32.1 +1.3**		
KBZ	**Khabaz**	**69.88**	**318**	P	**P**	**10 42 32.9 0.0**		
	comp=Z,2.4nm,0.8s,baz=66,slow=8.0,SNR=5.1							
KBZ	**Khabaz**	**69.88**	**318**‖	*e*P	**P**	**10 42 33.4 +0.5**		
KBZ				pmax	pmax			
	comp=Z,3.0nm,1.0s							
CLL	**Collm**	**72.24**	**340**	*i* P	**P**	**10 42 48.6 +1.5**		
CLL	**Collm**	**72.24**	**340**	*i* P	**P**	**10 42 48.6 +1.5**		
BURAR	**Bucovina Array**	**72.64**	**331**	P	**P**	**10 42 50.0 +0.2**		
BURAR				IAmb	IAmb	10 42 50.8		
	comp=Z,1.7nm,0.8s							
GERES	**GERESS Array B**	**74.42**	**339**	P	**P**	**10 43 00.1 -0.1**		
	comp=Z,0.8nm,0.6s,baz=355,slow=2.8,SNR=4.4							
GERES	**GERESS Array B**	**74.42**	**339**	P	**P**	**10 42 59.6 -0.6**		
WRA	**Warramunga Arr**	**77.01**	**206**	P	**P**	**10 43 15.6 +0.5**		
	comp=Z,0.7nm,0.6s,baz=18,slow=6.0,SNR=9.5							
ASAR	**Alice Springs**	**80.68**	**206**	P	**P**	**10 43 36.4 +1.2**		
	comp=Z,0.7nm,0.7s,baz=18,slow=5.9,SNR=11							

*NEIC **24** 10:37:51.7±2.2,25°.65N±0°.08×142°.7E±0°.2,h35km±2km, mb4.5/15,Error ellipse: s-maj=28.0km s-min=13.7km az=263.0*
*IDC **24** 10:37:51.2±5.5,25°.63N×142°.62E,h33km±40km, mb3.7/16, mb1 4.0/16,mb1mx3.8/36,mbtmp3.9/16,MS3.0/1, Ms1 3.0/1,ms1mx2.4/37,Error ellipse: s-maj=24.1km s-min=16.7km az=90.0*

ISC 24 10:37:51.7±0.7, 25°.65N±0°.08×142°.6E±0°.2, h38km, n50, σ 1§02/45, mb4.0/20, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.50**	**345**	Pn		**Pn**		**10 38 17.0**	**+0.9**
	134nm,0.3s,baz=266,slow=18,SNR=58								
JCJ				Sn		**Sn**		**10 38 33.8**	**-0.6**
	82nm,0.3s,baz=12,slow=21,SNR=7.4								
JCJ	**Chichijima**	**1.50**	**345**			**Pn**		**10 38 16.9**	**+0.8**
MJAR	**Matsushiro Arr**	**11.50**	**342**	Pn		**Pn**		**10 40 35.2**	**+1.8**
JMM	**Marumori**	**12.28**	**353**	Pn		**Pn**		**10 40 42.7**	**-1.3**
KSRS	**Korea Array**	**17.17**	**317**	LR		LR		10 47 40.2	
	comp=Z,52nm,18.4s,baz=59,slow=34								
USRK	**Ussuriysk Ar.**	**20.43**	**338**	P		**P**		**10 42 26.4**	**+0.7**
	2.2nm,0.8s,baz=154,slow=11,SNR=4.9								
USRK	**Ussuriysk Ar.**	**20.43**	**338**	P		**P**		**10 42 26.5**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**23.14**	**100**	T		T		11 06 43.8	
	baz=290,slow=75,SNR=18								
H11N1	**WAKE ISLAND Hy**	**23.14**	**100**	T		T		11 06 33.7	
	baz=290,slow=75,SNR=14								
H11N3	**WAKE ISLAND Hy**	**23.15**	**100**	T		T		11 06 29.1	
	baz=290,slow=75,SNR=17								
H11S3	**WAKE ISLAND Hy**	**23.38**	**103**	T		T		11 06 47.5	
	baz=292,slow=75,SNR=6.7								
H11S1	**WAKE ISLAND Hy**	**23.39**	**103**	T		T		11 06 51.2	
	baz=292,slow=75,SNR=7.7								
H11S2	**WAKE ISLAND Hy**	**23.40**	**103**	T		T		11 06 47.6	
	baz=292,slow=75,SNR=6.6								
KLR	**Kul'dur**	**25.02**	**343**	P		**P**		**10 43 12.7**	**+0.6**
	4.0nm,0.6s,baz=176,slow=5.5,SNR=11								
MA2	**Magadan**	**34.38**	**7**	P		**P**		**10 44 32.6**	**-2.3**
MA2				IAmb		IAmb		10 44 38.4	
	comp=Z,4.1nm,0.4s								
SONM	**Songino Array**	**36.04**	**317**	P		**P**		**10 44 48.1**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=124,slow=8.0,SNR=5.0								
SONM	**Songino Array**	**36.04**	**317**	P		**P**		**10 44 47.1**	**-2.4**
SEY	**Seymchan**	**37.84**	**7**	P		**P**		**10 45 04.7**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=68,slow=18,SNR=5.1								
MTN	**Manton Dam**	**39.86**	**198**	P		**P**		**10 45 23.0**	**+1.2**
WB2	**Warramunga Arr**	**46.02**	**191**	P		**P**		**10 46 11.1**	**-0.6**
WB2				IAmb		IAmb		10 46 19.8	
	comp=Z,6.7nm,0.8s								
WRA	**Warramunga Arr**	**46.02**	**191**	P		**P**		**10 46 11.0**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=8.6,slow=8.3,SNR=14								
WRA	**Warramunga Arr**	**46.02**	**191**	P		**P**		**10 46 09.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**46.52**	**203**	P		**P**		**10 46 15.6**	**+0.1**
AS31	**Alice Springs**	**49.74**	**190**	P		**P**		**10 46 42.4**	**+1.9**
ASAR	**Alice Springs**	**49.74**	**190**	P		**P**		**10 46 39.8**	**-0.7**
	comp=Z,0.5nm,1.0s,baz=17,slow=11,SNR=3.3								
ASAR	**Alice Springs**	**49.74**	**190**	P		**P**		**10 46 40.5**	**0.0**
ZALV	**Zalesovo Beam**	**50.84**	**320**	P		**P**		**10 46 47.8**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=123,slow=5.3,SNR=2.9								
ZALV				PcP		**PcP**		**10 48 04.8**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=127,slow=3.9,SNR=5.3								
MK31	**Makanchi Array**	**51.71**	**310**	P		**P**		**10 46 55.6**	**+0.5**
MK31				IAmb		IAmb		10 47 13.3	
	comp=Z,2.4nm,1.4s								
MKAR	**Makanchi Array**	**51.71**	**310**	P		**P**		**10 46 55.4**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=95,slow=9.0,SNR=8.4								
MKAR	**Makanchi Array**	**51.71**	**310**	P		**P**		**10 46 54.7**	**-0.4**
IMAR	**Indian Mountai**	**56.16**	**26**	P		**P**		**10 47 28.3**	**+1.0**
I23K	**Minto, Yukon-K**	**57.80**	**28**	P		**P**		**10 47 39.8**	**+1.0**
I23K				IAmb		IAmb		10 47 51.5	
	comp=Z,5.3nm,1.5s								
ILAR	**Eielson Array**	**58.79**	**28**	P		**P**		**10 47 44.5**	**-1.3**
	comp=Z,1.0nm,1.0s,baz=249,slow=5.8,SNR=8.6								
ILAR	**Eielson Array**	**58.79**	**28**	P		**P**		**10 47 45.3**	**-0.6**
BMAR	**Burnt Mountain**	**59.99**	**25**	P		**P**		**10 47 55.6**	**+1.5**
SCRK	**Sand Creek**	**59.99**	**29**	P		**P**		**10 47 54.4**	**+0.1**
SCRK				IAmb		IAmb		10 48 12.9	
	comp=Z,6.1nm,1.2s								
EPYK	**Eagle Plains**	**63.06**	**26**	P		**P**		**10 48 15.8**	**+0.9**
INK	**Inuvik**	**64.18**	**24**	P		**P**		**10 48 22.4**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=279,slow=6.3,SNR=3.3								
INK	**Inuvik**	**64.18**	**24**	P		**P**		**10 48 21.9**	**-0.2**
INK				IAmb		IAmb		10 48 36.7	
	comp=Z,3.4nm,1.2s								
YKA	**Yellowknife Ar**	**73.22**	**28**	P		**P**		**10 49 18.1**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=294,slow=5.2,SNR=13								
KBZ	**Khabaz**	**79.29**	**313**	P		**P**		**10 49 54.3**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=94,slow=3.7,SNR=10								
FINES	**FINESS Array B**	**79.42**	**334**	P		**P**		**10 49 54.0**	**+0.3**
	comp=Z,2.5nm,0.4s,baz=65,slow=4.7,SNR=22								
NVAR	**Mina Array Bea**	**81.10**	**52**	P		**P**		**10 50 04.3**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=273,slow=6.3,SNR=5.7								
NVAR	**Mina Array Bea**	**81.10**	**52**	P		**P**		**10 50 03.8**	**+0.3**
NB2	**NORSAR Subarra**	**85.10**	**339**	P		**P**		**10 50 23.1**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=49,slow=4.6								
NOA	**NORSAR Array B**	**85.10**	**339**	P		**P**		**10 50 23.2**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=46,slow=4.9,SNR=4.7								
TXAR	**Lajitas Array**	**96.15**	**54**	P		**P**		**10 51 16.3**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=336,slow=2.0,SNR=1.8								
PLCA	**Paso Flores**	**148.64**	**127**	PKPbc		**PKPbc**		**10 57 35.4**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=239,slow=6.2,SNR=5.4								
LPAZ	**La Paz**	**149.87**	**78**	PKPbc		**PKiKP**		**10 57 40.7**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=214,slow=3.6,SNR=2.8								
LPAZ	**La Paz**	**149.87**	**78**			**PKiKP**		**10 57 40.2**	**-0.1**

*OSPL **24** 10:42:35.5±2.8, 18°.29N×71°.92W, h0km±21km, ML3.2*

ISC 24 10:42:33.0±1.2, 18°.26N±0°.08×71°.92W±0°.04, h10km, n9, σ 1§18/14, 1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LGNH	**Logne**	**0.70**	**291**	*i* P		**Pb**		**10 42 47.2**	**0.0**
LGNH				*e*S		**Sn**		**10 42 57.8**	**-2.0**
LGNH				IAML				10 43 06.0	
	comp=Z,337nm,0.7s								
SDDR	**Presa de Saban**	**0.94**	**40**	‖ *i*P		**Pb**		**10 42 51.0**	**-0.4**
SDDR				*e*S		**Sb**		**10 43 03.1**	**-0.8**
SDDR				IAML				10 43 10.7	
	comp=Z,345nm,0.7s								
BANI	**BANI**	**1.49**	**85**	*i* P		**Pn**		**10 43 00.3**	**+0.3**
BANI				*e*S		**Sg**		**10 43 22.3**	**+1.3**
BANI				IAML				10 43 23.9	
	comp=Z,465nm,0.5s								
SC01	**Santiago de lo**	**1.62**	**44**	*i* P		**Pn**		**10 43 01.1**	**-0.5**
SC01				IAML				10 43 33.0	
	comp=Z,362nm,0.5s								
SDD	**Santo Domingo**	**1.92**	**84**	*i* P		**Pb**		**10 43 07.9**	**-0.2**
GRTK	**Grand Turk**	**3.32**	**13**	*i* P		**Pn**		**10 43 27.4**	**+2.5**
GTBY	**Guantanamo Bay**	**3.44**	**299**	*e*P		**Pn**		**10 43 27.0**	**+0.3**
GTBY				*e*S		**Sn**		**10 44 08.2**	**+0.7**
URIC	**Uribia, Colomb**	**6.52**	**181**	*e*P		**Pn**		**10 44 09.4**	**+0.3**
URIC				*e*S		Sn		10 45 14.8	-8.7
URIC				*i*				10 45 24.5	
	comp=Z,7.4nm,0.4s								

*DNK **24** 10:50:52.2±0.4, 59°.22N×17°.99E, h0km±56km, Explosion*
*UPP **24** 10:50:53.5±0.2, 58°.73N×18°.58E, h0km, ML2.3, Explosion*
*HEL **24** 10:50:54.4±0.1, 58°.74N×18°.55E, h0km, ML2.3(UPP), Explosion*
*NAO **24** 10:50:56.9±2.1, 58°.94N×18°.47E, ML2.0*
*BER **24** 10:50:58.9±4.4, 59°.10N×18°.59E, h0km, ML2.3(UPP), Suspected explosion*
*IDC **24** 10:50:58.0±3.0, 59°.03N×18°.53E, h0km, mb1 3.4/3, mb1mx3.0/35, mbtmp3.2/3, ML2.0/3, Error ellipse: s-maj=36.5km s-min=11.4km az=178.0*

ISC 24 10:50:53.0±0.7, 58°.72N±0°.02×18°.60E±0°.02, h0km, n59, σ 1§37/77, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.42**	**312**	P		**Pg**		**10 51 01.3**	**+0.2**
NYNU				S		**Sg**		**10 51 06.4**	**-0.2**
NYNU	**Nynaeshamn**	**0.42**	**312**	P		**Pg**		**10 51 01.3**	**+0.2**
NYNU				S		**Sg**		**10 51 06.4**	**-0.2**
NYNU	**Nynaeshamn**	**0.42**	**312**	*i* P		**Pg**		**10 51 01.3**	**+0.2**
NYNU				*i* S		**Sg**		**10 51 06.4**	**-0.2**
NRTU	**Norrtaelje**	**0.96**	**1**	P		**Pg**		**10 51 11.2**	**-0.1**
NRTU	**Norrtaelje**	**0.96**	**1**	P		**Pg**		**10 51 11.2**	**-0.1**
NRTU	**Norrtaelje**	**0.96**	**1**	*e*P		**Pg**		**10 51 11.2**	**-0.1**
NRTU				*e*S		**Sg**		**10 51 23.6**	**-0.2**
VIKU	**Vikbolandet**	**1.02**	**258**	P		**Pg**		**10 51 12.5**	**0.0**
VIKU	**Vikbolandet**	**1.02**	**258**	P		**Pg**		**10 51 12.5**	**0.0**
VIKU	**Vikbolandet**	**1.02**	**258**	*e*P		**Pg**		**10 51 12.5**	**0.0**
GOTU	**Gotland**	**1.04**	**181**	P		**Pb**		**10 51 13.1**	**-0.7**
GOTU	**Gotland**	**1.04**	**181**	P		**Pb**		**10 51 13.1**	**-0.7**
GOTU	**Gotland**	**1.04**	**181**	*e*P		**Pb**		**10 51 13.2**	**-0.7**
GOTU		

n106,σ1$53/102, mb4.6/45, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.63**	**92**		**Pn**	**11 00 44.4**	**-0.8**
NIUE				Sn	**Sn**	**11 01 32.4**	**-5.4**
AFI	**Afiamalu**	**5.83**	**31**	P	**Pn**	**11 01 01.0**	**-0.5**
	12nm,0.3s,baz=228,slow=3.0,SNR=21						
AFI				S	Sn	11 01 59.4	-7.7
	69nm,0.3s,baz=19,slow=24,SNR=13						
AFI	**Afiamalu**	**5.83**	**31**	Pn	**Pn**	**11 00 59.1**	**-2.4**
AFI				Sn	**Sn**	**11 02 02.0**	**-5.1**
MSVF	**Nonsavu**	**6.88**	**279**	P	Pn	11 01 22.7	+6.9
	0.8nm,0.3s,baz=110,slow=13,SNR=16						
MSVF				LR	LR	11 03 38.1	
	comp=Z,225nm,21.6s,baz=85,slow=35						
RAR	**Rarotonga**	**14.31**	**101**	P	**Pn**	**11 02 56.2**	**+0.8**
	4.6nm,0.3s,baz=271,slow=8.2,SNR=9.1						
RAR	**Rarotonga**	**14.31**	**101**		**Pn**	**11 02 55.9**	**+0.4**
KNTN	**Kanton**	**16.39**	**11**		**Pn**	**11 03 21.9**	**+0.3**
SANVU	**Saraoutou**	**17.53**	**279**	P	**P**	**11 03 31.4**	**-3.9**
SANVU				IAmb	IAmb	11 03 43.7	
	comp=Z,43nm,0.9s						
DZM	**Mont Dzumac**	**17.82**	**257**	*e*P	**Pn**	**11 03 40.5**	**+1.4**
	comp=Z,51nm,1.1s						
DZM				*e*LR	LR	11 07 42.6	
	comp=Z,177nm,31.7s						
DZM	**Mont Dzumac**	**17.82**	**257**	P	**Pn**	**11 03 40.3**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=81,slow=18,SNR=17						
OUZ	**Omahuta**	**19.16**	**210**	P	**P**	**11 03 51.1**	**-1.8**
URZ	**Urewera**	**20.45**	**198**	P	**P**	**11 04 06.4**	**-0.6**
	comp=Z,8.7nm,0.6s,baz=301,slow=23,SNR=11						
URZ	**Urewera**	**20.45**	**198**	P	**P**	**11 04 05.4**	**-1.5**
URZ				IAmb	IAmb	11 04 07.6	
	comp=Z,27nm,1.2s						
BKZ	**Black Stump Fm**	**21.48**	**199**	P	**P**	**11 04 16.5**	**-1.5**
PAE	**Paea**	**23.99**	**91**	*e*P	**P**	**11 04 43.7**	**+0.7**
	comp=Z,9.0nm,0.9s						
PAE	**Paea**	**23.99**	**91**	*e*T	T	11 28 54.7	
	comp=Z,4.5nm,0.3s						
PPT2	**Papeete2**	**24.01**	**91**	*e*P	**P**	**11 04 44.4**	**+1.2**
	comp=Z,59nm,1.1s						
PPT2				*e*LR	LR	11 10 06.9	
	comp=Z,194nm,31.0s						
PPT	**Papeete**	**24.01**	**91**	P	**P**	**11 04 43.7**	**+0.6**
	comp=Z,57nm,0.9s,baz=342,slow=7.3,SNR=6.4						
PPTF	**Pamatai, Papee**	**24.02**	**91**		**P**	**11 04 44.9**	**+1.6**
TBI	**Tubuai**	**24.03**	**105**	*e*P	**P**	**11 04 44.3**	**+1.0**
	comp=Z,139nm,1.0s						
TBI				*e*LR	LR	11 10 17.0	
	comp=Z,133nm,32.0s						
QRZ	**Quartz Range**	**24.32**	**204**	P	**P**	**11 04 45.6**	**-0.1**
QRZ				IAmb	IAmb	11 04 48.7	
	comp=Z,52nm,1.4s						
THZ	**Tophouse**	**25.00**	**202**	P	**P**	**11 04 50.8**	**-1.2**
KHZ	**Kahutara**	**25.36**	**200**	P	**P**	**11 04 55.6**	**+0.4**
KHZ				IAmb	IAmb	11 05 00.6	
	comp=Z,16nm,1.1s						
LTZ	**Lake Taylor**	**26.12**	**202**	P	**P**	**11 05 00.7**	**-1.4**
LTZ				IAmb	IAmb	11 05 06.3	
	comp=Z,10nm,0.7s						
VAH	**Vaihoa**	**26.24**	**86**	*e*P	**P**	**11 05 04.2**	**+0.8**
	comp=Z,43nm,1.0s						
OXZ	**Oxford**	**26.68**	**202**	P	**P**	**11 05 06.1**	**-1.0**
OXZ				IAmb	IAmb	11 05 09.5	
	comp=Z,15nm,1.0s						
ODZ	**Otahua Downs**	**28.67**	**202**	P	**P**	**11 05 25.9**	**+1.1**
ODZ				IAmb	IAmb	11 05 44.7	
	comp=Z,50nm,1.4s						
WHZ	**Wether Hill Ro**	**30.39**	**204**	P	**P**	**11 05 38.1**	**-1.9**
WHZ				IAmb	IAmb	11 05 48.6	
	comp=Z,26nm,1.1s						
EIDS	**Eidsvold**	**32.15**	**252**	P	**P**	**11 05 55.5**	**-0.2**
EIDS				IAmb	IAmb	11 05 57.3	
	comp=Z,14nm,1.4s						
TAOE	**Nuku Hiva Isla**	**35.06**	**78**	*e*T	T	11 42 17.2	
	comp=Z,16nm,0.3s						
CTAO	**Charters Tower**	**36.65**	**262**	P	**P**	**11 06 34.6**	**0.0**
PMG	**Port Moresby**	**37.99**	**279**	P	**P**	**11 06 46.9**	**+0.9**
	comp=Z,29nm,1.1s,baz=54,slow=3.4,SNR=4.1						
COEN	**Coen**	**40.52**	**271**	P	**P**	**11 07 06.9**	**-0.1**
COEN				IAmb	IAmb	11 07 10.4	
	comp=Z,5.7nm,0.8s						
STKA	**Stephens Creek**	**41.14**	**243**	P	**P**	**11 07 11.1**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=81,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**41.14**	**243**	P	**P**	**11 07 11.6**	**-0.4**
BBOO	**Buckleboo**	**45.90**	**242**	P	**P**	**11 07 48.5**	**-1.7**
JAY	**Jayapura**	**46.47**	**285**	P	**P**	**11 07 56.6**	**+1.6**
	comp=Z,6.4nm,0.6s,baz=90,slow=1.0,SNR=4.8						
WR0	**Warramunga Arr**	**47.60**	**260**	P	**P**	**11 08 02.0**	**-1.6**
WR0				IAmb	IAmb	11 08 10.7	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**47.77**	**260**	P	**P**	**11 08 03.8**	**-1.1**
WB0				IAmb	IAmb	11 08 06.1	
	comp=Z,8.2nm,0.5s						
WB2	**Warramunga Arr**	**47.78**	**260**	P	**P**	**11 08 03.1**	**-1.9**
WB2				IAmb	IAmb	11 08 05.9	
	comp=Z,9.3nm,0.6s						
WRAB	**Tennant Creek**	**47.78**	**260**	P	**P**	**11 08 03.2**	**-1.9**
AS31	**Alice Springs**	**47.79**	**255**	P	**P**	**11 08 04.1**	**-1.0**
AS31				IAmb	IAmb	11 08 06.7	
	comp=Z,11nm,0.8s						
ASAR	**Alice Springs**	**47.79**	**255**	P	**P**	**11 08 04.2**	**-0.9**
	comp=Z,37nm,0.8s,baz=87,slow=8.3,SNR=230						
ASAR				PcP	**PcP**	**11 09 31.7**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=77,slow=5.4,SNR=4.1						
ASAR				ScP	**ScP**	**11 13 19.6**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=90,slow=3.7,SNR=2.6						
ASAR				S	**S**	**11 14 51.1**	**-3.4**
	comp=Z,0.6nm,0.8s,baz=89,slow=18,SNR=5.6						
ASAR	**Alice Springs**	**47.79**	**255**	P	**P**	**11 08 03.5**	**-1.6**
WRA	**Warramunga Arr**	**47.79**	**260**	P	**P**	**11 08 03.9**	**-1.3**
	comp=Z,5.0nm,0.5s,baz=97,slow=5.5,SNR=101						
WRA				S	**S**	**11 14 50.3**	**-4.3**
	comp=Z,0.9nm,0.9s,baz=98,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**47.79**	**260**	P	**P**	**11 08 03.7**	**-1.4**
MTN	**Manton Dam**	**52.17**	**268**	P	**P**	**11 08 37.5**	**-0.8**
FORT	**Forrest**	**52.64**	**245**	P	**P**	**11 08 40.2**	**-1.4**
FORT				IAmb	IAmb	11 08 59.4	
	comp=Z,13nm,0.8s						
SWI	**Sorong**	**55.80**	**282**	P	**P**	**11 09 04.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**56.21**	**261**	P	**P**	**11 09 07.5**	**-0.1**
SOEI	**Soe**	**59.48**	**270**	P	**P**	**11 09 30.7**	**+0.1**
SOEI	**Soe**	**59.48**	**270**	P	**P**	**11 09 31.0**	**+0.4**
PSA00	**Pilbara Seismi**	**60.94**	**255**	P	**P**	**11 09 39.5**	**-0.9**
GTOI	**Gorontalo**	**64.01**	**280**	P	**P**	**11 10 02.1**	**+1.2**
	comp=Z,8.5nm,0.9s						
APSI	**Ampana**	**64.73**	**278**	P	**P**	**11 10 06.0**	**+0.4**
MRSI	**Marisa**	**64.95**	**280**	P	**P**	**11 10 05.4**	**-1.6**
TWSI	**Taliwang, Sumb**	**66.75**	**268**	P	**P**	**11 10 17.7**	**-0.9**
MJAR	**Matsushiro Ar**	**70.83**	**321**	P	**P**	**11 10 43.6**	**+0.1**
	comp=Z,5.7nm,0.8s,baz=150,slow=6.0,SNR=10						
MAT	**Matsushiro**	**70.83**	**321**	P	**P**	**11 10 43.6**	**+0.1**
QSPA	**South Pole Qui**	**71.08**	**180**		**P**	**11 10 46.0**	**+1.2**
QSPA				IAmb	IAmb	11 10 51.6	
	comp=Z,9.9nm,1.1s						
JHS	**Saijyo**	**72.96**	**317**	P	**P**	**11 10 55.6**	**-0.6**
JNU	**Nakatsue**	**73.29**	**315**	P	**P**	**11 10 59.0**	**+0.8**
CHGN	**Chignik**	**76.26**	**9**	P	**P**	**11 11 16.3**	**+1.6**
KSRS	**Korea Array**	**77.79**	**317**	P	**P**	**11 11 25.4**	**+1.7**
	comp=Z,2.2nm,0.7s,baz=134,slow=6.6,SNR=9.8						
NVAR	**Mina Array Bea**	**77.88**	**42**	P	**P**	**11 11 26.4**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=227,slow=9.0,SNR=11						
NVAR	**Mina Array Bea**	**77.88**	**42**	P	**P**	**11 11 25.8**	**+1.2**
TUC	**Tucson**	**79.70**	**51**	P	**P**	**11 11 34.9**	**+0.4**
319A	**Douglas**	**80.35**	**52**	P	**P**	**11 11 39.8**	**+1.7**
LCMT	**Little Creek M**	**80.40**	**46**	P	**P**	**11 11 40.1**	**+1.8**
NJ2	**Nanjing**	**81.26**	**308**	*e*P	**P**	**11 11 44.8**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
PKCU	**Pink Cliffs**	**81.26**	**46**	P	**P**	**11 11 40.8**	**-2.2**
PKCU				IAmb	IAmb	11 11 58.3	
	comp=Z,6.3nm,0.8s						
CN2	**Changchun**	**82.97**	**321**	*e*P	**P**	**11 11 53.5**	**+2.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SRU	**San Rafael Swe**	**83.33**	**45**	P	**P**	**11 11 53.3**	**-0.4**
TXAR	**Lajitas Array**	**83.72**	**56**	P	**P**	**11 11 57.8**	**+2.1**
	comp=Z,0.9nm,0.9s,baz=168,slow=8.9,SNR=7.1						
TXAR	**Lajitas Array**	**83.72**	**56**	P	**P**	**11 11 55.1**	**-0.6**
ANMO	**Albuquerque**	**84.13**	**50**	P	**P**	**11 11 59.1**	**+1.3**
H03S2	**Juan Fernandez**	**84.36**	**124**	T	T	12 44 46.8	
	baz=249,slow=75,SNR=11						
H03S1	**Juan Fernandez**	**84.37**	**124**	T	T	12 44 55.4	
	baz=249,slow=75,SNR=12						
H03S3	**Juan Fernandez**	**84.38**	**124**	T	T	12 44 53.7	
	baz=249,slow=75,SNR=13						
H03N2	**Juan Fernandez**	**84.48**	**123**	T	T	12 44 53.4	
	baz=257,slow=72,SNR=8.4						
H03N3	**Juan Fernandez**	**84.48**	**123**	T	T	12 44 56.2	
	baz=257,slow=72,SNR=8.6						
H03N1	**Juan Fernandez**	**84.50**	**123**	T	T	12 44 54.9	
	baz=257,slow=72,SNR=8.7						
RND	**Reindeer**	**84.59**	**11**	P	**P**	**11 11 59.8**	**+0.4**
RND				IAmb	IAmb	11 12 00.6	
	comp=Z,8.0nm,1.3s						
MCK	**McKinley**	**84.88**	**11**	P	**P**	**11 12 01.2**	**+0.5**
MCK				IAmb	IAmb	11 12 02.9	
	comp=Z,4.1nm,1.0s						
WRH	**Wood River Hil**	**85.71**	**11**	P	**P**	**11 12 05.5**	**+0.7**
WRH				IAmb	IAmb	11 12 06.8	
	comp=Z,5.8nm,1.0s						
MLY	**Manley**	**85.76**	**10**	P	**P**	**11 12 04.7**	**-0.3**
DOT	**Dot Lake**	**85.78**	**13**	P	**P**	**11 12 05.8**	**+0.6**
PDAR	**Pinedale Array**	**85.82**	**42**	P	**P**	**11 12 06.1**	**0.0**
	comp=Z,0.6nm,0.8s,baz=212,slow=1.4,SNR=5.3						
PDAR				LR	LR	11 42 27.4	
	comp=Z,230nm,21.3s,baz=346,slow=30						
CCB	**Clear Creek Bu**	**85.92**	**11**	P	**P**	**11 12 05.9**	**+0.2**
CCB				IAmb	IAmb	11 12 07.1	
	comp=Z,8.3nm,1.2s						
MDM	**Murphy Dome**	**86.12**	**11**	P	**P**	**11 12 07.4**	**+0.5**
MDM				IAmb	IAmb	11 12 09.4	
	comp=Z,12nm,1.4s						
IL31		**86.20**	**12**	P	**P**	**11 12 07.4**	**+0.3**
IL31				IAmb	IAmb	11 12 09.4	
	comp=Z,5.3nm,1.4s						
ILAR	**Eielson Array**	**86.20**	**12**	P	**P**	**11 12 08.4**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=224,slow=5.6,SNR=28						
ILAR	**Eielson Array**	**86.20**	**12**	P	**P**	**11 12 07.7**	**+0.5**
XAN	**Xi'an**	**89.62**	**306**	P	**P**	**11 12 27.3**	**+3.0**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,120nm,4.3s						
HHC	**Hu-ho-hao-te**	**90.47**	**313**	*e*P	**P**	**11 12 29.3**	**+1.2**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,130nm,5.5s						
INK	**Inuvik**	**92.05**	**14**	P	**P**	**11 12 35.2**	**+0.6**
	comp=Z,1.6nm,1.1s,baz=230,slow=7.9,SNR=3.5						
INK	**Inuvik**	**92.05**	**14**	P	**P**	**11 12 34.4**	**-0.2**
INK				IAmb	IAmb	11 12 59.0	
	comp=Z,2.6nm,1.2s						
CMAR	**Chiang Mai Arr**	**92.45**	**289**	P	**P**	**11 12 39.4**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=108,slow=2.3,SNR=7.9						
CMAR	**Chiang Mai Arr**	**92.45**	**289**	P	**P**	**11 12 38.5**	**+0.8**
YKA	**Yellowknife Ar**	**93.91**	**24**	P	**P**	**11 12 44.0**	**+0.7**
	comp=Z,0.2nm,0.8s,baz=235,slow=4.4,SNR=2.9						
KSH	**Kashi**	**116.47**	**305**	PKP	PKPdf	11 17 59.9	-10
BURAR	**Bucovina Array**	**147.09**	**335**	PKPbc	**PKPbc**	**11 19 08.6**	**-0.3**
CLL	**Collm**	**147.15**	**351**	*e*PKPbc	**PKPbc**	**11 19 09.0**	**+0.2**
BRTR	**Keskin Array B**	**147.93**	**316**	PKPbc	**PKiKP**	**11 19 13.4**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=35,slow=4.5,SNR=6.6						
BRTR	**Keskin Array B**	**147.93**	**316**		**PKPbc**	**11 19 11.7**	**+0.2**
GERES	**GERESS Array B**	**149.42**	**349**	PKPbc	**PKPbc**	**11 19 15.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=46,slow=4.2,SNR=2.1						

*IDC **24** 11:09:14.6±0.4,53.76N×161.62E,h0km,mb4.9/31, mb1 5.0/36,mb1mx5.0/39,mbtmp4.9/36,ML5.3/4,MS4.7/35, Ms1 4.7/35,ms1mx4.6/47,Error ellipse: s-maj=11.9km s-min=9.3km az=154.0*

*KRSC **24** 11:09:15.9±1.5,53.55N×161.88E,h56km±23km,ML5.4*

*BJI **24** 11:09:16.8±0.0,53.68N×161.46E,h23km,mB5.1/52, mb5.0/69,Ms5.3/66,Ms7 5.2/64*

*NEIC **24** 11:09:17.5±1.6,53.69N±0.08×161.72E±0.09,h20km±1km, mb5.1/382,Mwb5.1/74,Error ellipse: s-maj=13.8km s-min=8.6km az=164.0*

*MOS **24** 11:09:18.7±1.1,53.59N×161.72E,h49km,mb5.3/73, MS4.9/23,Error ellipse: s-maj=4.8km s-min=3.1km az=82.5*

*NEIC **24** 11:09:19.5,53.67N×161.72E,h21km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr1.95; Mθθ1.08; Mϕϕ-3.04; Mrθ1.28; Mθϕ-2.22; Mϕr4.55; Fault plane solution: M0 5.86000×10^16^ NP1:ϕs226.94000°, δ18.40000°, λ122.55000°. NP2:ϕs13.01000°, δ74.57000°, λ79.85000°. Principal axes: T 4,6492, Plg59.0000°, Azm269.0000°; N 1.9381, Plg10.0000°, Azm16.0000°; P -6.5873, Plg29.0000°, Azm111.0000°;*

*GCMT **24** 11:09:21.5±0.2,53.63N±0.01×161.97E±0.02,h24km, MW5.2/127,Moment Tensor Solution. s85,c125; s127,c223; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.57±.19; Mθθ1.47±.14; Mϕϕ-6.04±.13; Mrθ1.67±.23; Mθϕ-2.38±.09; Mϕr3.18±.19; Best double couple: M0 6.72600×10^16^ NP1:ϕs182.00000°,δ30.00000°, λ69.00000°. NP2:ϕs26.00000°,δ62.00000°,λ102.00000°. Principal axes: T 5.7110, Plg71.0000°, Azm322.0000°; N 2.0300, Plg10.0000°, Azm200.0000°; P -7.7410, Plg16.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 11:09:17.4±0.3, 53.69N±0.02×161.67E±0.03, h21km±2km, h21km:pP-P,n904,σ1$34/943, mb5.1/343, MS5.0/75, 38C-50D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.87**	**2**	PN	**Pb**	**11 09 34.0**	**+0.1**
MKZ	**Mys Kozlova**	**0.87**	**2**	*i* P	**Pb**	**11 09 34.0**	**+0.1**
SPN	**Mys Shipunski**	**1.15**	**240**	PN	**Pn**	**11 09 37.9**	**-0.3**
SPN				S	**Sb**	**11 09 52.5**	**-0.5**
SPN	**Mys Shipunski**	**1.15**	**240**	*e*P	**Pn**	**11 09 37.9**	**-0.3**
SPN				*e*S	**Sb**	**11 09 52.5**	**-0.5**
KII	**Karymskiy**	**1.36**	**286**	PN	**Pn**	**11 09 41.1**	**-0.2**
KII	**Karymskiy**	**1.36**	**286**	*e*P	**Pn**	**11 09 41.1**	**-0.2**
NLC	**Nalytchevo**	**1.48**	**251**	PN	**Pb**	**11 09 44.1**	**-0.1**
NLC				S	**Sb**	**11 10 03.1**	**+0.5**
NLC	**Nalytchevo**	**1.48**	**251**	*e*P	**Pb**	**11 09 44.1**	**-0.1**
NLC				*e*S	**Sb**	**11 10 03.1**	**+0.5**
KZV	**Kizimen**	**1.64**	**331**	PN	**Pb**	**11 09 46.8**	**-0.2**
KZV	**Kizimen**	**1.64**	**331**	*i* P	**Pb**	**11 09 46.8**	**-0.2**
TUMD	**Tumrok D**	**1.69**	**334**	P	**Pb**	**11 09 47.0**	**-0.8**
TUMD				*e*S	**Sn**	**11 10 07.6**	**+0.8**
SDLR	**Sedlovina**	**1.71**	**257**	PN	**Pn**	**11 09 46.9**	**+0.8**
SDLR	**Sedlovina**	**1.71**	**257**	*i* P	**Pn**	**11 09 46.9**	**+0.8**
SMAR	**Somma**	**1.77**	**257**	PN	**Pn**	**11 09 47.6**	**+0.7**
SMAR				S	**Sn**	**11 10 09.4**	**+0.5**
SMAR	**Somma**	**1.77**	**257**	*i* P	**Pn**	**11 09 47.6**	**+0.7**
SMAR				*e*S	**Sn**	**11 10 09.4**	**+0.5**
UGLR	**Uglovaya**	**1.77**	**255**	PN	**Pn**	**11 09 47.8**	**+0.9**
UGLR	**Uglovaya**	**1.77**	**255**	*i* P	**Pn**	**11 09 47.8**	**+0.9**
KRER	**Koryakskii**	**1.79**	**259**	PN	**Pn**	**11 09 48.3**	**+1.1**
KRER				S	**Sn**	**11 10 09.7**	**+0.4**
KRER	**Koryakskii**	**1.79**	**259**	*i* P	**Pn**	**11 09 48.3**	**+1.1**
KRER				*e*S	**Sn**	**11 10 09.7**	**+0.4**
AVH	**Avacha**	**1.80**	**258**	PN	**Pn**	**11 09 48.5**	**+1.2**
AVH	**Avacha**	**1.80**	**258**	*i* P	**Pn**	**11 09 48.5**	**+1.2**
TUMR	**Tumrok**	**1.83**	**332**	PN	**Pb**	**11 09 49.8**	**-0.5**
TUMR				S	**Sb**	**11 10 13.6**	**+0.8**
TUMR	**Tumrok**	**1.83**	**332**	*i* P	**Pb**	**11 09 49.8**	**-0.5**
TUMR				*e*S	**Sb**	**11 10 13.6**	**+0.8**
KRX	**Arik**	**1.83**	**261**	PN	**Pn**	**11 09 48.5**	**+0.7**
KRX				S	**Sn**	**11 10 11.6**	**+1.2**
KRX	**Arik**	**1.83**	**261**	*i* P	**Pn**	**11 09 48.5**	**+0.7**
KRX				*e*S	**Sn**	**11 10 11.6**	**+1.2**
KOK	**Koryaka**	**1.85**	**259**	PN	**Pn**	**11 09 49.0**	**+0.9**
KOK				S	**Sb**	**11 10 13.1**	**-0.3**
KOK	**Koryaka**	**1.85**	**259**	*i* P	**Pn**	**11 09 49.0**	**+0.9**
KOK				*e*S	**Sb**	**11 10 13.1**	**-0.3**
DALK	**Dalny**	**1.87**	**251**	PN	**Pn**	**11 09 48.7**	**+0.6**
DALK				S	**Sn**	**11 10 12.1**	**+1.1**
DALK	**Dalny**	**1.87**	**251**	*e*P	**Pn**	**11 09 48.7**	**+0.6**
DALK				*e*S	**Sn**	**11 10 12.1**	**+1.1**
PET	**Petropavlovsk**	**1.93**	**251**	*i* PN	**Pn**	**11 09 49.5**	**+0.6**
PET				*e*S	**Sb**	**11 10 14.9**	**-0.4**
PET				pmax	pmax		
	comp=Z,2μm,0.6s						
PET				smax	smax		
	comp=E,13μm,0.6s						
PET				smax	smax		
	comp=N,11μm,0.7s						
PET	**Petropavlovsk**	**1.93**	**251**	*i* P	**Pn**	**11 09 49.7**	**+0.8**
PET				*e*S	**Sn**	**11 10 12.8**	**+0.4**
PET	**Petropavlovsk**	**1.93**	**251**	Sn	**Sn**	**11 10 13.4**	**+1.0**
GNL	**Ganaly**	**2.22**	**272**	PN	**Pb**	**11 09 55.2**	**-1.6**
GNL				S	**Sb**	**11 10 23.3**	**-0.5**
GNL	**Ganaly**	**2.22**	**272**	*e*P	**Pb**	**11 09 55.2**	**-1.6**
GNL				S	**Sb**	**11 10 23.3**	**-0.5**
KMNR	**Kamenistaya**	**2.24**	**339**	PN	**Pb**	**11 09 56.4**	**-0.7**
KMNR				S	**Sb**	**11 10 24.3**	**-0.1**
KMNR	**Kamenistaya**	**2.24**	**339**	*i* P	**Pb**	**11 09 56.4**	**-0.7**
KMNR				S	**Sb**	**11 10 24.3**	**-0.1**
RUS	**Russkaya**	**2.28**	**238**	PN	**Pn**	**11 09 53.6**	**-0.2**
RUS				S	**Sn**	**11 10 19.8**	**-1.4**
RUS	**Russkaya**	**2.28**	**238**	*i* P	**Pn**	**11 09 53.6**	**-0.2**
RUS				*e*S	**Sn**	**11 10 19.8**	**-1.4**
KRMR	**Karymshinskiy**	**2.29**	**249**	PN	**Pn**	**11 09 56.5**	**-1.5**
KRMR	**Karymshinskiy**	**2.29**	**249**	*e*P	**Pb**	**11 09 56.5**	**-1.5**
BZGR	**Bezymyannyi-Gr**	**2.33**	**346**	PN	**Pb**	**11 09 57.2**	**-1.5**
BZGR				S	**Sb**	**11 10 26.2**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**2.33**	**346**	*e*P	**Pb**	**11 09 57.2**	**-1.5**
BZGR				*e*S	**Sb**	**11 10 26.2**	**-0.9**
BZMR	**Bezymyannaya**	**2.36**	**344**	PN	**Pb**	**11 09 57.7**	**-1.5**
BZMR	**Bezymyannaya**	**2.36**	**344**	*e*P	**Pb**	**11 09 57.7**	**-1.5**
BZWR	**Bezymyannyi-We**	**2.38**	**344**	PN	**Pb**	**11 09 59.5**	**-0.2**
BZWR	**Bezymyannyi-We**	**2.38**	**344**	*e*P	**Pb**	**11 09 59.5**	**-0.2**
ZLN	**Zelenaya**	**2.39**	**348**	PN	**Pb**	**11 09 58.2**	**-1.6**
ZLN	**Zelenaya**	**2.39**	**348**	*e*P	**Pb**	**11 09 58.2**	**-1.6**
KIRR	**Kirishev**	**2.40**	**342**	PN	**Pn**	**11 09 57.7**	**+2.1**
KIRR				S	**Sn**	**11 10 26.2**	**+1.8**
KIRR	**Kirishev**	**2.40**	**342**	*e*P	**Pn**	**11 09 57.7**	**+2.1**
KIRR				*e*S	**Sn**	**11 10 26.2**	**+1.8**
MTVR	**Mutnovka**	**2.42**	**242**	PN	**Pn**	**11 09 57.1**	**+1.2**
MTVR	**Mutnovka**	**2.42**	**242**	*e*P	**Pn**	**11 09 57.1**	**+1.2**
GRL	**Gorelyy**	**2.45**	**244**	PN	**Pn**	**11 09 57.6**	**+1.4**
GRL	**Gorelyy**	**2.45**	**244**	*i* P	**Pn**	**11 09 57.6**	**+1.4**
PEA0B	**Petropavlovsk-**	**2.45**	**258**	*d* iPN	**Pn**	**11 09 57.8**	**+1.7**
PEA0B	**Petropavlovsk-**	**2.45**	**258**		**Pn**	**11 09 57.9**	**+1.8**
PETK	**Petropavlovsk-**	**2.45**	**258**	Pn	**Pn**	**11 09 57.6**	**+1.5**
	comp=N,101nm,0.3s,baz=80,slow=17,SNR=407						
PETK				Sn	**Sb**	**11 10 28.9**	**-1.4**
	comp=N,206nm,0.3s,baz=86,slow=21,SNR=4.4						
PETK				LR	LR	11 11 08.1	
	comp=N,24μm,18.3s,baz=123,slow=47						
PETK	**Petropavlovsk-**	**2.45**	**258**	Pn	**Pn**	**11 09 57.9**	**+1.8**
LGNR	**Loginova**	**2.47**	**347**	PN	**Pb**	**11 10 00.9**	**-0.3**
LGNR				S	**Sb**	**11 10 32.0**	**+0.8**
LGNR	**Loginova**	**2.47**	**347**	*i* P	**Pb**	**11 10 00.9**	**-0.3**
LGNR				*e*S	**Sb**	**11 10 32.0**	**+0.8**
CIRR	**Tsirk**	**2.49**	**348**	PN	**Pb**	**11 10 01.1**	**-0.4**
CIRR	**Tsirk**	**2.49**	**348**	*e*P	**Pb**	**11 10 01.1**	**-0.4**
KOZ	**Kozyrevsk**	**2.59**	**337**	PN	**Pb**	**11 10 01.5**	**-1.7**
KOZ				S	**Sb**	**11 10 34.2**	**-0.4**
KOZ	**Kozyrevsk**	**2.59**	**337**	*e*P	**Pb**	**11 10 01.5**	**-1.7**
KOZ				*e*S	**Sb**	**11 10 34.2**	**-0.4**
KBTR	**Krutoberegovo**	**2.61**	**14**	PN	**Pn**	**11 09 59.3**	**+0.9**
KBTR				S	**Sn**	**11 10 31.1**	**+1.7**
KBTR	**Krutoberegovo**	**2.61**	**14**	*i* P	**Pn**	**11 09 59.3**	**+0.9**
KBTR				*e*S	**Sn**	**11 10 31.1**	**+1.7**
KRSR	**Krestovskiy**	**2.62**	**346**	PN	**Pb**	**11 10 01.4**	**-2.2**
KRSR	**Krestovskiy**	**2.62**	**346**	*e*P	**Pb**	**11 10 01.4**	**-2.2**
ASAK	**Asacha**	**2.62**	**242**	PN	**Pn**	**11 10 00.1**	**+1.5**
ASAK				S	**Sn**	**11 10 31.4**	**+1.6**
ASAK	**Asacha**	**2.62**	**242**	*i* P	**Pn**	**11 10 00.1**	**+1.5**
ASAK				*e*S	**Sn**	**11 10 31.4**	**+1.6**
KBG	**Krutoberegovo**	**2.64**	**13**	PN	**Pn**

NKL pmax pmax
comp=N,1.0nm,0.5s
NKL MLR MLR
comp=E,2µm,15.0s
NKL MLR MLR
comp=N,7µm,17.0s
NKL MLR MLR
comp=Z,4µm,14.0s
ADK Adak 13.22 89 PN **Pn** 11 12 22.1 -1.6
ADK Adak 13.22 89 Pn **Pn** 11 12 22.1 -1.6
GSTR Great Sitkin T 13.53 88 Pn **Pn** 11 12 27.1 -0.8
YSS Yuzh-Sakhalins 13.81 248 *eP* **Pn** 11 12 34.6 +2.8
YSS pmax pmax
comp=Z,30nm,1.2s
YSS MLR MLR
comp=Z,11µm,14.0s
YSS MLR MLR
comp=E,5µm,15.0s
YUK Yuzh-Kuril'sk 14.16 233 *diP* **Pn** 11 12 35.6 -1.0
YUK S **Sn** 11 15 16.7 +3.7
YUK pmax pmax
comp=Z,240nm,0.7s
YUK pmax pmax
comp=N,139nm,0.5s
YUK pmax pmax
comp=E,79nm,0.5s
GRPR Tuman 14.24 233 ⇓ *iP* **Pn** 11 12 36.6 -1.0
GRPR S **Sn** 11 15 19.5 +4.7
GRPR pmax pmax
comp=Z,269nm,0.4s
GRPR pmax pmax
comp=N,89nm,0.1s
GRPR pmax pmax
comp=E,100nm,0.3s
GRPR pmax pmax
comp=Z,248nm,1.6s
RUSJ Misakicho 14.41 235 P **Pn** 11 12 41.3 +1.3
RUSJ S S 11 15 29.2 -9.4
GLVR Golovnino 14.55 233 P **Pn** 11 12 41.4 -0.5
BILL Bilibino 14.57 7 *ceP* **P** 11 12 45.4 -3.0
BILL *eS* **Sn** 11 15 20.9 -1.7
BILL pmax pmax
comp=Z,44nm,1.3s
BILL MLR MLR
comp=Z,2µm,13.0s
BILL Bilibino 14.57 7 Pn **Pn** 11 12 44.8 +2.8
ATKA Atka Island 14.61 86 Pn **Pn** 11 12 42.0 -0.7
NMR Nemuro--Hokkai 14.73 232 *eP* Pn 11 12 35.7 -8.6
GRNR Gornyy 15.72 270 ⇑ *iP* **P** 11 13 03.1 +1.9
GRNR pmax pmax
comp=E,30nm,0.7s
GRNR pmax pmax
comp=Z,30nm,0.7s
GRNR MLR MLR
comp=E,2µm,17.0s
GRNR MLR MLR
comp=N,960nm,16.0s
GRNR MLR MLR
comp=Z,2µm,16.0s
JKA Kamikawa-asahi 15.73 240 **Pn** 11 12 57.8 +0.3
JKA IAmb IAmb 11 13 12.1
comp=Z,159nm,0.9s
ASAJ Asahikawa 15.73 240 Pn **Pn** 11 12 57.8 +0.3
comp=Z,10nm,0.3s,baz=73,slow=14,SNR=62
ASAJ LR LR 11 19 00.1
comp=Z,4µm,21.0s,baz=58,slow=37
ERM Erimo 16.99 234 ⇑ *eP* **Pn** 11 13 12.8 -0.7
ERM Erimo 16.99 234 **Pn** 11 13 13.2 -0.4
JEW Eniwo 17.23 239 **Pn** 11 13 15.6 -0.9
JEW IAmb IAmb 11 13 30.0
comp=Z,168nm,0.9s
NIKH Nikolski High 17.57 80 P **Pn** 11 13 21.0 +0.3
NIKH IAmb IAmb 11 13 23.0
comp=Z,164nm,1.1s
NIKH Nikolski High 17.57 80 P 11 13 20.1
baz=284,SNR=6.0
TEY Ternei 18.40 252 ⇓ *eP* **Pn** 11 13 32.5 +1.6
TEY pmax pmax
comp=Z,60nm,0.7s
TEY pmax pmax
comp=N,20nm,0.9s
TEY pmax pmax
comp=E,40nm,0.9s
TEY pmax pmax
comp=Z,100nm,6.8s
YAK Yakutsk 18.78 309 P **P** 11 13 34.1 -0.8
comp=Z,1.2nm,0.3s,baz=197,slow=1.2,SNR=14
YAK LR LR 11 21 44.7
comp=Z,4µm,19.5s,baz=108,slow=40
YAK Yakutsk 18.78 309 *eP* **P** 11 13 33.3 -1.6
YAK *eS* **S** 11 17 06.1 -1.1
YAK pmax pmax
comp=Z,160nm,0.9s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,48nm,1.0s
YAK pmax pmax
comp=Z,154nm,0.9s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,100nm,1.2s
YAK smax smax
comp=N,74nm,1.5s
YAK smax smax
comp=E,66nm,1.5s
YAK MLR MLR
comp=Z,7µm,16.0s
YAK MLR MLR
comp=N,2µm,14.0s
YAK MLR MLR
comp=E,4µm,15.0s
YAK Yakutsk 18.78 309 P **P** 11 13 33.6 -1.2
KLR Kul'dur 19.09 269 P **Pn** 11 13 40.1 +0.7
comp=E,1.2nm,0.3s,baz=69,slow=9.3,SNR=26
KLR LR LR 11 21 56.7
comp=E,4µm,18.3s,baz=70,slow=40
KLR Kul'dur 19.09 269 *ceP* **Pn** 11 13 39.9 +0.6
KLR pmax pmax
comp=Z,51nm,1.1s
KLR MLR MLR
comp=Z,4µm,16.0s
AKUT Akutan 19.10 75 **Pn** 11 13 40.1 +0.7
ANM Nome 19.85 44 P **Pn** 11 13 47.6 -0.7
ANM pmax pmax
comp=Z,79nm,1.4s
ANM Nome 19.85 44 P **Pn** 11 13 47.6 -0.7
ANM Nome 19.85 44 P 11 13 47.5
baz=252,SNR=25
ZEA Zeya 20.26 284 *eP* **P** 11 13 51.1 -0.1
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA pmax pmax
comp=Z,300nm,4.9s
ZEA MLR MLR
comp=E,1µm,14.0s
ZEA MLR MLR
comp=Z,2µm,15.0s
FALS False Pass 20.30 73 P **P** 11 13 51.5 0.0
FALS False Pass 20.30 73 P 11 13 52.2
baz=281,SNR=10
JMM Marumori 21.38 231 P **P** 11 14 03.1 -0.2
USA0B Ussuriysk Arra 21.54 256 ⇓ *eP* **P** 11 14 06.6 +1.6
USA0B Ussuriysk Arra 21.54 256 P **P** 11 14 05.5 +0.4
USRK Ussuriysk Ar. 21.54 256 P **P** 11 14 04.9 -0.1
comp=Z,18nm,0.8s,baz=58,slow=10,SNR=21
USRK LR LR 11 23 06.5
comp=Z,3µm,18.7s,baz=55,slow=39
USRK Ussuriysk Ar. 21.54 256 P **P** 11 14 04.0 -1.0
USRK Ussuriysk Ar. 21.54 256 P **P** 11 14 04.0 -1.0
SDPT Sand Point 21.86 70 P 11 14 08.1
baz=282
RDOG Red Dog Mine 22.01 36 P **P** 11 14 10.2 +0.3
RDOG Red Dog Mine 22.01 36 P 11 14 10.0
baz=247,SNR=7.6
JSD Sado 22.44 235 P **P** 11 14 13.5 -1.3
MDJ Mudanjiang 22.69 260 P **P** 11 14 15.9 -1.4
MDJ pmax pmax
comp=Z,13nm,0.9s
MDJ pmax pmax
comp=Z,200nm,3.6s
MDJ LR LR
comp=Z,3µm,18.1s
MDJ LR LR
comp=Z,3µm,19.9s
MDJ LR LR
comp=Z,5µm,15.9s
MDJ Mudanjiang 22.69 260 P **P** 11 14 16.0 -1.3
CHGN Chignik 22.82 67 P **P** 11 14 17.4 -1.2
CHGN Chignik 22.82 67 P 11 14 16.8
baz=280
TIXI Tiksi 22.95 334 P **P** 11 14 18.6 -1.2
comp=Z,27nm,0.6s,baz=120,slow=10,SNR=67
TIXI LR LR 11 24 39.4
comp=Z,4µm,18.4s,baz=115,slow=40
TIXI Tiksi 22.95 334 *iP* **P** 11 14 18.3 -1.5
TIXI pmax pmax
comp=Z,231nm,1.3s
TIXI Tiksi 22.95 334 P **P** 11 14 18.0 -1.8
TIXI IAmb IAmb 11 14 22.5
comp=Z,32nm,0.7s
JYT Yasato 22.99 229 P **P** 11 14 21.3 +0.8
MSHR Mys Shultsa 23.01 254 ⇓ *iP* **P** 11 14 20.7 0.0
MSHR pmax pmax
comp=Z,15nm,0.6s
MJAR Matsushiro Arr 23.66 233 P **P** 11 14 28.4 +1.1
comp=Z,52nm,0.7s,baz=21,slow=11,SNR=72
MJAR Matsushiro Arr 23.66 233 P **P** 11 14 27.4 +0.2
MJAR pmax pmax
comp=Z,59nm,0.8s
MJAR Matsushiro Arr 23.66 233 P **P** 11 14 27.4 +0.2
MJAR IAmb IAmb 11 14 42.2
comp=Z,59nm,0.8s
MJB9 Matsu-Tunnel 23.66 233 P **P** 11 14 27.5 +0.3
MAJO Matsushiro 23.66 233 *ciP* **P** 11 14 28.3 +1.1
MAJO pmax pmax
comp=Z,176nm,1.0s
MAJO Matsushiro 23.66 233 P **P** 11 14 27.4 +0.2
MAT Matsushiro 23.66 233 P **P** 11 14 27.1 -0.1
MAT S **S** 11 18 40.8 +0.1
SVW2 Sparrevohn 23.82 55 P **P** 11 14 28.5 -0.1
JGF Kuroka 24.82 233 P **P** 11 14 38.4 +0.4
JGF IAmb IAmb 11 14 47.9
comp=Z,56nm,0.8s
IMAR Indian Mountai 24.93 43 P **P** 11 14 39.0 +0.4
SII Sitkinak Islan 25.08 65 P **P** 11 14 40.6 +0.5
SII Sitkinak Islan 25.08 65 P 11 14 38.6
baz=282
INU Inuyama 25.19 233 P **P** 11 14 41.8 +0.5
RSO Redoubt South 25.24 56 P **P** 11 14 43.2 +1.5
A21K Barrow 25.30 30 P **P** 11 14 42.6 +0.7
A21K IAmb IAmb 11 15 06.8
comp=Z,49nm,1.0s
A21K Barrow 25.30 30 P 11 14 40.3
baz=248
CHUM Lake Minchumin 25.36 48 P 11 14 42.1
baz=268,SNR=35
PPLA Purkeypile 25.40 50 P **P** 11 14 44.4 +1.3
PPLA IAmb IAmb 11 15 06.7
comp=Z,59nm,1.1s
PPLA Purkeypile 25.40 50 P 11 14 42.1
baz=270,SNR=16
OHAK Old Harbor 25.42 64 P **P** 11 14 42.8 -0.4
OHAK Old Harbor 25.43 64 P 11 14 41.9
baz=281
SPCR Spurr Chakacha 25.45 54 P 11 14 42.8
baz=274,SNR=6.4
CN2 Changchun 25.59 262 ⇓ P **P** 11 14 44.1 -0.7
CN2 sP pwP 11 14 56.0 +1.2
CN2 S **S** 11 19 07.5 -4.0
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,3µm,16.0s
CN2 LR LR
comp=Z,5µm,16.0s
CN2 LR LR
comp=Z,6µm,15.0s
KDAK Kodiak Island 25.69 62 P **P** 11 14 44.9 -0.7
comp=Z,18nm,0.8s,baz=317,slow=4.3,SNR=12
KDAK Kodiak Island 25.69 62 ⇓ *eP* **P** 11 14 46.9 +1.3
KDAK pmax pmax
comp=Z,120nm,1.6s
KDAK Kodiak Island 25.69 62 P **P** 11 14 45.8 +0.2
KDAK IAmb IAmb 11 14 53.9
comp=Z,51nm,1.2s
KDAK Kodiak Island 25.69 62 P 11 14 44.7
baz=281
SKT Skwentna 25.73 52 P **P** 11 14 46.3 +0.4
SKT Skwentna 25.73 52 P 11 14 44.9
baz=273,SNR=7.7
JHJ Hachijo jima 2 25.80 226 LR LR 11 27 49.2
comp=Z,313nm,18.6s,baz=96,slow=43
BPAW Bear Paw Mtn. 25.95 48 P **P** 11 14 47.8 -0.1
BPAW Bear Paw Mtn. 25.95 48 P 11 14 47.2
baz=269,SNR=14
KTH Kantishna Hill 25.97 49 P **P** 11 14 48.6 +0.4
CAPN Captain Cook N 26.00 55 P **P** 11 14 48.9 +0.6
CAPN IAmb IAmb 11 15 15.9
comp=Z,66nm,1.0s
CAPN Captain Cook N 26.00 55 P 11 14 47.3
baz=276
MLY Manley 26.09 45 P **P** 11 14 49.7 +0.5
MLY Manley 26.09 45 P 11 14 48.9
baz=267,SNR=18
CNPM China Poot 26.10 58 P **P** 11 14 49.0 -0.4
CNPM IAmb IAmb 11 14 51.4
comp=Z,59nm,1.0s
SUA Susitna One 26.13 54 P **P** 11 14 49.9 +0.1
SUA Susitna One 26.13 54 P 11 14 48.5
baz=274,SNR=15
HIA Hailar 26.20 278 P **P** 11 14 49.6 -0.8
HIA pmax pmax
comp=Z,31nm,0.9s
HIA Hailar 26.20 278 P **P** 11 14 49.5 -0.8
HIA IAmb IAmb 11 15 05.4
comp=Z,31nm,0.9s
BRLK Bradley Lake 26.25 57 P **P** 11 14 51.0 +0.3
TRF Thorofare Moun 26.25 49 P **P** 11 14 51.7 +0.8
TRF IAmb IAmb 11 15 19.4
comp=Z,51nm,1.0s
TRF Thorofare Moun 26.25 49 P 11 14 49.6
baz=271,SNR=25
CUT Chulitna 26.30 51 P **P** 11 14 51.2 +0.1
CUT IAmb IAmb 11 14 53.4
comp=Z,48nm,0.8s
CUT Chulitna 26.30 51 P 11 14 50.1
baz=273
BRSE Bradley Lake S 26.32 57 P 11 14 49.3
baz=278,SNR=7.1
FIS Fire Island 26.41 54 P **P** 11 14 51.7 -0.4
FIS IAmb IAmb 11 15 18.7
comp=Z,33nm,1.0s
COLD Coldfoot 26.49 41 P **P** 11 14 52.3 -0.5
COLD Coldfoot 26.49 41 P 11 14 51.5
baz=263,SNR=14
RC01 Rabbit Creek A 26.65 54 P **P** 11 14 53.6 -0.7
RC01 Rabbit Creek A 26.65 54 P 11 14 52.9
baz=276
I23K Minto, Yukon-K 26.67 45 P **P** 11 14 54.3 -0.1
I23K Minto, Yukon-K 26.68 45 P 11 14 54.5
baz=268,SNR=12
BOD Bodaibo 26.69 298 *eP* **P** 11 14 51.8 -2.9
BOD pmax pmax
comp=Z,33nm,1.1s
O22K Cooper Landing 26.73 56 P **P** 11 14 55.3 +0.4
O22K IAmb IAmb 11 15 15.0
comp=Z,36nm,0.9s
NEA2 Nenana 26.79 46 P **P** 11 14 54.4 -1.1
NEA2 Nenana 26.79 46 P 11 14 55.2
baz=270,SNR=17
MCK McKinley 26.85 48 P **P** 11 14 55.2 -0.9
MCK pmax pmax
comp=Z,32nm,1.0s
MCK McKinley 26.85 48 P **P** 11 14 55.2 -0.9
MCK IAmb IAmb 11 14 58.8
comp=Z,32nm,1.0s
MCK McKinley 26.85 48 P 11 14 55.4
baz=271,SNR=22
PMR Palmer 26.89 53 P **P** 11 14 56.9 +0.5
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 26.89 53 P **P** 11 14 56.9 +0.5
PMR Palmer 26.89 53 P 11 14 55.1
baz=276,SNR=6.6
RND Reindeer 26.90 49 P **P** 11 14 56.0 -0.6
RND pmax pmax
comp=Z,29nm,0.9s
RND Reindeer 26.90 49 P **P** 11 14 56.0 -0.6
RND IAmb IAmb 11 14 58.9
comp=Z,29nm,0.9s
SEW Seward 26.91 56 P **P** 11 14 56.1 -0.5
SEW IAmb IAmb 11 15 00.9
comp=Z,52nm,0.9s
SEW Seward 26.91 56 P 11 14 55.8
baz=278,SNR=14
TOLK Toolik Lake Re 26.92 37 P **P** 11 14 56.9 +0.2
TOLK Toolik Lake Re 26.92 37 P 11 14 56.6
baz=261,SNR=17
GHO Glory Hole Cre 26.97 53 P **P** 11 14 57.8 +0.6
WAT2 Susitna Watana 27.04 50 P 11 14 56.9
baz=273,SNR=29
MDM Murphy Dome 27.15 46 P **P** 11 14 59.0 +0.2
WRH Wood River Hil 27.21 47 P **P** 11 14 59.4 +0.1
WRH IAmb IAmb 11 15 26.3
comp=Z,45nm,1.1s
KNK Knik Glacier 27.23 53 P 11 14 59.1
baz=276,SNR=43
SML Sawmill 27.25 53 P 11 14 59.5
baz=276,SNR=40
TCOL CIGO, UAF Yank 27.31 46 P 11 14 59.6
baz=270,SNR=7.5
COLA College 27.31 46 ⇓ *eP* **P** 11 15 00.4 +0.3
COLA pmax pmax
comp=Z,18nm,1.0s
COLA College 27.31 46 P **P** 11 15 00.3 +0.1
COLA College 27.31 46 P 11 14 59.2
baz=270
PWL Port Wells 27.36 55 IAmb IAmb 11 15 02.7
comp=Z,50nm,0.8s
JHS Saijyo 27.39 239 IAmb IAmb 11 15 13.9
comp=Z,40nm,0.9s
WAT6 Susitna Watana 27.46 51 P 11 15 00.5
baz=275,SNR=11
POKR Poker Flat Res 27.49 45 P 11 15 01.5
baz=270,SNR=6.3
HDA Harding Lake 27.71 47 P 11 15 03.2
baz=272,SNR=12
HDA P 11 15 03.2
baz=272,SNR=12
SCM Sheep Creek Mo 27.72 52 P **P** 11 15 04.4 +0.4
SCM pmax pmax
comp=Z,73nm,1.0s
SCM Sheep Creek Mo 27.72 52 P **P** 11 15 04.4 +0.4
IL31 27.73 46 P **P** 11 15 03.4 -0.5
ILAR Eielson Array 27.73 46 P **P** 11 15 03.6 -0.3
comp=Z,12nm,0.9s,baz=263,slow=7.8,SNR=69
ILAR LR LR 11 27 24.4
comp=Z,1µm,18.1s,baz=274,slow=39
SNY Shenyang 27.88 260 ⇑ P **P** 11 15 05.6 +0.2
SNY S **S** 11 19 51.9 +4.4
SNY pmax pmax
comp=Z,12nm,0.6s
SNY pmax pmax
comp=Z,350nm,4.6s
SNY LR LR
comp=Z,3µm,18.8s
SNY LR LR
comp=Z,2µm,17.2s
SNY LR LR
comp=Z,4µm,16.3s
GLI Glacier Island 27.96 54 P 11 15 05.7
baz=278
JMN Monobe 28.02 236 IAmb IAmb 11 15 20.2
comp=Z,55nm,1.1s
M24K Tolsona, Glenn 28.23 52 IAmb IAmb 11 15 38.4
comp=Z,49nm,0.9s
M24K Tolsona, Glenn 28.23 52 P 11 15 08.1
baz=277,SNR=6.9
PRP Porcupine Dome 28.29 44 IAmb IAmb 11 15 21.5
comp=Z,25nm,1.0s
PRP Porcupine Dome 28.29 44 P 11 15 08.2
baz=271,SNR=25
KS19 Wonju Array Si 28.31 249 P **P** 11 15 08.5 -0.9
KS19 IAmb IAmb 11 15 24.0
comp=Z,26nm,0.9s
KSRS Korea Array 28.31 249 P **P** 11 15 10.0 +0.7
comp=Z,14nm,0.7s,baz=42,slow=9.4,SNR=27
KSRS LR LR 11 25 39.0
comp=Z,2µm,20.4s,baz=58,slow=35
HIN Hinchinbrook I 28.32 55 IAmb IAmb 11 15 11.7
comp=Z,44nm,1.0s
KSAR Wonju Array Be 28.34 249 P **P** 11 15 09.1 -0.6
KSAR Wonju Array Be 28.34 249 P **P** 11 15 09.1 -0.6
FYU Fort Yukon 28.40 42 P **P** 11 15 10.9 +1.1
KLU Klutina 28.43 53 P **P** 11 15 10.1 -0.2
KLU Klutina 28.43 53 P 11 15 10.0
baz=278,SNR=13
PAX Paxson 28.46 50 P **P** 11 15 10.8 +0.2
PAX pmax pmax
comp=Z,13nm,1.1s
PAX Paxson 28.46 50 P **P** 11 15 10.8 +0.2
PAX Paxson 28.46 50 P 11 15 09.5
baz=276
EYAK Cordova Ski Ar 28.66 55 P **P** 11 15 12.0 -0.2
EYAK Cordova Ski Ar 28.66 55 P 11 15 10.6
baz=280
BMAR Burnt Mountain 28.68 40 P **P** 11 15 12.9 +0.5
DOT Dot Lake 29.03 48 P **P** 11 15 15.1 -0.5
SCRK Sand Creek 29.03 48 P **P** 11 15 14.5 -1.1
SCRK IAmb IAmb 11 15 41.7
comp=Z,29nm,1.2s
SCRK Sand Creek 29.03 48 P 11 15 14.6
baz=275,SNR=18
N25K Chitina, Valde 29.04 53 P **P** 11 15 16.0 +0.3
N25K Chitina, Valde 29.04 53 P 11 15 15.6
baz=279,SNR=12
BMRM Bremner River 29.14 54 P **P** 11 15 16.8 +0.2
BMRM IAmb IAmb 11 15 19.5
comp=Z,39nm,0.9s
BMRM Bremner River 29.14 54 P 11 15 15.9
baz=280,SNR=19
RAGM Ragged Mountai 29.21 55 P **P** 11 15 18.0 +0.8
RAGM IAmb IAmb 11 15 22.0
comp=Z,37nm,0.9s
MENT Mentasta 29.26 50 P **P** 11 15 17.4 -0.2
TJN Taejon 29.40 248 ⇓ *eP* **P** 11 15 19.6 +0.6
HMT Hamilton 29.43 55 P **P** 11 15 19.9 +0.8
HMT IAmb IAmb 11 15 21.7
comp=Z,27nm,0.9s
KAIM Kayak Island 29.43 56 P **P** 11 15 18.6 -0.5
KAIM IAmb IAmb 11 15 22.6
comp=Z,43nm,0.9s
KAIM Kayak Island 29.43 56 P 11 15 19.2
baz=282,SNR=5.8
GLB Gilahina Butte 29.44 53 P **P** 11 15 19.2 0.0
VRDI Verde Repeater 29.65 53 P **P** 11 15 21.2 0.0
BERG Berg Lake 29.69 55 P **P** 11 15 21.7 +0.3
MCARA McCarthy VSAT 29.82 53 P **P** 11 15 22.4 -0.2
MCARA IAmb IAmb 11 15 44.0
comp=Z,22nm,1.0s
MCARA McCarthy VSAT 29.82 53 P 11 15 22.6
baz=280
K27K Chicken 29.86 47 P **P** 11 15 23.4 +0.5
K27K IAmb IAmb 11 15 25.1
comp=Z,19nm,0.8s
K27K Chicken 29.86 47 P 11 15 22.8
baz=277
CRQM Cirque 29.89 54 P **P** 11 15 24.1 +0.7
CRQE Cirque 29.91 54 P 11 15 22.8
baz=282,SNR=34
TGL Tana Glacier 30.04 54 P **P** 11 15 24.9 +0.4
TGL IAmb IAmb 11 15 33.9
comp=Z,23nm,1.0s
BCAR Beaver Creek A 30.12 49 P **P** 11 15 25.3 +0.1
EGAK Eagle 30.17 46 P **P** 11 15 24.8 -0.8
EGAK IAmb IAmb 11 15 27.4
comp=Z,19nm,0.8s
EGAK Eagle 30.17 46 P 11 15 24.7
baz=276,SNR=28
JCJ Chichijima 30.22 216 LR LR 11 31 06.4
comp=Z,266nm,18.5s,baz=9.0,slow=43
BARN Barnard Glacie 30.53 53 IAmb IAmb 11 15 32.1
comp=Z,20nm,0.8s
GRNC Granite Creek 30.56 54 IAmb IAmb 11 15 32.7
comp=Z,33nm,1.2s
CTG Chitna Glacier 30.71 53 P 11 15 30.0
baz=282,SNR=26
CTGM Chitina Glacie 30.71 53 IAmb IAmb 11 15 33.5
comp=Z,33nm,0.9s
DL2 Dalian 30.90 258 P **P** 11 15 31.0 -1.2

DL2 S **S** **11 20 30.1 -4.9**
DL2 pmax pmax
comp=Z,40nm,0.7s
DL2 pmax pmax
comp=Z,170nm,10.5s
DL2 LR LR
comp=Z,2µm,14.1s
DL2 LR LR
comp=Z,3µm,15.3s
DL2 LR LR
comp=Z,3µm,18.3s
LOGN Logan Glacier 30.90 53 P **P** **11 15 32.1 -0.1**
LOGN IAmb IAmb 11 15 34.9
comp=Z,29nm,0.9s
TABL Table Mountain 30.92 54 P **P** **11 15 31.9 -0.6**
TABL IAmb IAmb 11 15 35.2
comp=Z,30nm,0.9s
DAWY Dawson 31.03 47 P **P** **11 15 33.2 0.0**
PINM Pinnacle 31.43 55 P 11 15 36.8
baz=285,SNR=15
EPYK Eagle Plains 31.82 42 IAmb IAmb 11 15 52.0
comp=Z,14nm,0.8s
EPYK Eagle Plains 31.82 42 P 11 15 39.9
baz=277
INK Inuvik 32.82 38 P **P** **11 15 49.8 +1.0**
comp=Z,6.3nm,0.5s,baz=280,slow=7.1,SNR=42
BJI Beijing 33.36 265 P **P** **11 15 55.1 +1.2**
BJI S **S** **11 21 15.5 +2.1**
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI pmax pmax
comp=Z,82nm,6.4s
BJI LR LR
comp=Z,2µm,15.6s
BJI LR LR
comp=Z,3µm,14.5s
BJI LR LR
comp=Z,2µm,17.1s
WHY Whitehorse 33.84 52 IAmb IAmb 11 16 02.2
comp=Z,25nm,0.9s
SKAG Skagway 34.00 54 IAmb IAmb 11 16 06.8
comp=Z,25nm,1.0s
SKAG Skagway 34.00 54 P 11 15 59.9
baz=289,SNR=7.4
H11N2 WAKE ISLAND Hy 34.13 171 T T 11 53 29.5
baz=355,slow=76,SNR=541
H11N3 WAKE ISLAND Hy 34.15 171 T T 11 53 26.5
baz=355,slow=76,SNR=771
H11N1 WAKE ISLAND Hy 34.15 171 T T 11 53 31.2
baz=355,slow=76,SNR=764
ULN Ulaanbaatar 34.29 283⇓ *e*P **P** **11 16 00.6 -1.4**
ULN pmax pmax
comp=Z,4.0nm,0.7s
TLY Talaya 34.40 291⇑ *e*P **P** **11 16 04.6 +1.8**
TLY pmax pmax
comp=Z,7.0nm,1.5s
TLY MLR MLR
comp=Z,4µm,17.0s
BESE Bessie Mountai 34.52 56 P **P** **11 16 04.1 +0.2**
BESE IAmb IAmb 11 16 07.4
comp=Z,29nm,0.9s
SONM Songino Array 34.68 283 P **P** **11 16 04.5 -1.0**
comp=Z,4.7nm,0.7s,baz=65,slow=7.9,SNR=17
SONM PcP **PcP** **11 18 39.9 +0.9**
comp=Z,7.0nm,0.6s,baz=83,slow=1.7,SNR=13
SONM LR LR 11 31 46.1
comp=Z,4µm,18.1s,baz=56,slow=39
SONM Songino Array 34.68 283 P **P** **11 16 04.5 -1.0**
SONM **PcP** **11 18 39.5 +0.5**
SIT Sitka 34.84 58 P **P** **11 16 07.7 +1.3**
SIT pmax pmax
comp=Z,44nm,1.1s
SIT Sitka 34.84 58 P **P** **11 16 07.7 +1.3**
SIT Sitka 34.84 58 P 11 16 07.8
baz=292,SNR=6.6
JIS Juneau Island 34.86 56 P **P** **11 16 08.1 +1.4**
ZAK Zakamensk 35.20 289 *e*P **P** **11 16 08.5 -1.3**
ZAK *e* 11 18 41.6
ZAK pmax pmax
comp=Z,4.0nm,1.4s
H11S1 WAKE ISLAND Hy 35.33 172 T T 11 54 22.6
baz=350,slow=74,SNR=22
H11S3 WAKE ISLAND Hy 35.34 172 T T 11 54 20.9
baz=350,slow=74,SNR=9.2
H11S2 WAKE ISLAND Hy 35.34 172 T T 11 54 21.5
baz=350
TIA Tai'an 35.35 259 P **P** **11 16 10.1 -1.0**
TIA pmax pmax
comp=Z,16nm,0.8s
TIA pmax pmax
comp=Z,170nm,3.9s
TIA LR LR
comp=Z,2µm,14.9s
TIA LR LR
comp=Z,2µm,18.4s
TIA LR LR
comp=Z,2µm,19.8s
HHC Hu-ho-hao-te 35.59 270 *e*P **P** **11 16 15.4 +2.1**
HHC PP **PP** **11 17 36.3 +2.2**
HHC S **S** **11 21 48.4 +0.3**
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,85nm,5.3s
HHC LR LR
comp=Z,2µm,14.7s
HHC LR LR
comp=Z,3µm,15.1s
HHC LR LR
comp=Z,3µm,14.4s
MOY Mondy 35.87 292 *e*P **P** **11 16 16.3 +0.7**
C36M Paulatuk 36.02 35 P **P** **11 16 17.0 +0.6**
C36M IAmb IAmb 11 16 34.9
comp=Z,20nm,0.8s
C36M Paulatuk 36.02 36 P 11 16 16.5
baz=283,SNR=12
JOW Kunigami 36.42 236 P **P** **11 16 20.7 +0.3**
WRAK Wrangell Islan 36.60 58 P **P** **11 16 23.9 +2.3**
WRAK IAmb IAmb 11 16 25.8
comp=Z,30nm,1.1s
WRAK Wrangell Islan 36.60 58 P 11 16 22.4
baz=294,SNR=5.7
BTO Baotou 36.66 271 *e*P P 11 16 17.4 -5.1
BTO PP **PP** **11 17 48.3 +2.4**
BTO S S 11 22 16.9 +12
BTO SS **SnSn** **11 24 35.6 +0.7**
BTO LR LR
comp=N,9µm,16.1s
BTO LR LR
comp=E,10µm,19.2s
BTO LR LR
comp=Z,12µm,18.1s
SSE Sheshan 36.75 249 P **P** **11 16 23.4 +0.3**
SSE S **S** **11 22 09.6 +3.9**
SSE pmax pmax
comp=Z,14nm,0.6s
SSE pmax pmax
comp=Z,110nm,3.0s
SSE LR LR
comp=Z,600nm,20.4s
SSE LR LR
comp=Z,630nm,15.7s
DLBC Dease Lake 36.93 54 P **P** **11 16 26.5 +2.0**
NJ2 Nanjing 37.34 252 *e*P **P** **11 16 28.4 +0.3**
NJ2 pmax pmax
comp=Z,27nm,0.8s
NJ2 pmax pmax
comp=Z,420nm,4.7s
NJ2 LR LR
comp=Z,2µm,21.8s
NJ2 LR LR
comp=Z,2µm,18.0s
NJ2 LR LR
comp=Z,3µm,17.1s
WHN Wuhan 41.03 255⇑ P **P** **11 16 58.8 -0.2**
WHN S **S** **11 23 08.4 -1.7**
WHN pmax pmax
comp=Z,52nm,0.8s
WHN LR LR
comp=Z,3µm,13.1s
WHN LR LR
comp=Z,4µm,15.9s
WHN LR LR
comp=Z,3µm,14.0s
EUNU Eureka 41.15 14 P **P** **11 17 00.1 +0.6**
EUNU IAmb IAmb 11 17 17.7
comp=Z,22nm,0.7s
XAN Xi'an 41.68 264 P **P** **11 17 03.5 -0.9**
XAN pP sP 11 17 12.8 +1.0
XAN PP **PnPn** **11 18 44.4 -1.2**
XAN S **S** **11 23 17.3 -2.5**
XAN sS sS 11 23 33.8 +3.3
XAN SS **SS** **11 26 17.8 -7.4**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,110nm,5.4s
XAN LR LR
comp=Z,2µm,17.4s
XAN LR LR
comp=Z,4µm,15.7s
XAN LR LR
comp=Z,5µm,16.5s
YKA Yellowknife Ar 42.08 44 P **P** **11 17 08.0 +0.8**
comp=Z,2.1nm,0.6s,baz=300,slow=7.4,SNR=33
YKA LR LR 11 36 41.1
comp=Z,495nm,18.3s,baz=0.0,slow=39
YKA Yellowknife Ar 42.08 44 *i*P **P** **11 17 07.4 +0.2**
YKA pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 43.25 303 P **P** **11 17 14.6 -2.2**
comp=Z,2.0nm,0.6s,baz=68,slow=7.8,SNR=8.6
ZALV PcP **PcP** **11 19 05.4 -0.1**
comp=Z,4.4nm,0.7s,baz=52,slow=7.7,SNR=4.4
ZALV LR LR 11 36 53.3
comp=Z,3µm,18.2s,baz=57,slow=38
ZALV Zalesovo Beam 43.25 303 P **P** **11 17 14.3 -2.5**
LZH Lanzhou 43.28 270 *e*P **P** **11 17 19.3 +1.8**
LZH pP pwP 11 17 29.3 +1.5
LZH sP sP 11 17 32.5 +7.4
LZH sS sS 11 24 01.8 +7.5
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,180nm,6.0s
LZH LR LR
comp=Z,2µm,14.1s
LZH LR LR
comp=Z,2µm,13.6s
LZH LR LR
comp=Z,2µm,14.1s
GTA Gaotai 43.48 277⇑ P **P** **11 17 18.1 -0.9**
GTA pP pwP 11 17 29.6 +0.3
GTA sP sP 11 17 34.6 +8.0
GTA S **S** **11 23 44.3 -2.0**
GTA sS sS 11 24 02.4 +5.7
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,97nm,4.7s
GTA LR LR
comp=Z,1µm,15.3s
GTA LR LR
comp=Z,2µm,14.5s
GTA LR LR
comp=Z,3µm,14.2s
ENH Enshi 44.05 259 P **P** **11 17 22.9 -0.7**
ENH IAmb IAmb 11 17 25.0
comp=Z,30nm,0.7s
DGZ Jazzator, Alta 44.25 296⇓ *i*P **P** **11 17 24.1 -1.1**
DGZ pmax pmax
comp=Z,12nm,0.6s
KIP Kipapa 44.40 121⇑ *e*P **P** **11 17 28.4 +2.0**
KIP pmax pmax
comp=Z,122nm,1.7s
A04D Lummi Island 45.56 64 P 11 17 35.5
baz=306,SNR=5.3
NLWA Neilton Lookou 45.73 66 P **P** **11 17 36.4 -0.4**
NLWA IAmb IAmb 11 17 51.2
comp=Z,22nm,0.9s
A05A Maple Falls 45.73 63 P **P** **11 17 36.0 -0.6**
D03D Eldon 46.06 65 P 11 17 39.1
baz=307
B05A Bryant 46.16 64 P 11 17 40.3
baz=307,SNR=12
B06A Marblemount 46.33 64 P **P** **11 17 41.8 +0.3**
B06A IAmb IAmb 11 17 43.9
comp=Z,20nm,0.8s
D04E Lakebay 46.45 66 P 11 17 42.2
baz=308
SPA0 Spitsbergen Ar 46.70 351 *e*P **P** **11 17 45.4 +1.4**
D05A Enumclaw 46.87 65 IAmb IAmb 11 17 49.0
comp=Z,23nm,0.8s
E04D Cinebar 46.94 66 P 11 17 46.2
baz=308
CD2 Chengdu 46.96 265⇓ *i*P **P** **11 17 46.8 +0.1**
CD2 S **S** **11 24 34.9 -1.8**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 LR LR
comp=Z,3µm,19.8s
CD2 LR LR
comp=Z,3µm,15.1s
CD2 LR LR
comp=Z,4µm,16.5s
F04D Rainier, OR 46.99 67 P 11 17 46.4
baz=308
C06D Leavenworth 47.01 64 P 11 17 46.7
baz=308
HOPEN Hopen 47.17 347 *e*P **P** **11 17 48.8 +1.2**
B08A Colville Reser 47.57 62 P **P** **11 17 51.9 +0.7**
WMQ Urumqi 47.66 290 *e*P **P** **11 17 51.8 -0.2**
WMQ pP pwP 11 18 03.3 +1.0
WMQ pmax pmax
comp=Z,46nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.9s
WMQ LR LR
comp=Z,4µm,17.1s
WMQ LR LR
comp=Z,4µm,17.7s
WMQ LR LR
comp=Z,8µm,19.3s
WMQ Urumqi 47.66 290 P **P** **11 17 51.3 -0.7**
WMQ pmax pmax
comp=Z,25nm,0.8s
WMQ Urumqi 47.66 290 P **P** **11 17 51.3 -0.7**
HSPB Hornsund (broa 47.84 350 *e*P **P** **11 17 53.3 +0.4**
F05D White Salmon 47.96 66 P 11 17 53.5
baz=309
SZP Santa 48.10 238 P **P** **11 17 56.2 +0.6**
H04D Lebanon 48.12 69 P 11 17 55.5
baz=309
E07A Sunnyside 48.41 65 IAmb IAmb 11 18 11.0
comp=Z,14nm,0.8s
G05D Wamic, OR 48.45 67 P 11 17 56.7
baz=309
C09A Chrisman Ranch 48.47 62 IAmb IAmb 11 18 00.5
comp=Z,16nm,0.9s
GYA Guiyang 48.55 258⇑ P **P** **11 18 00.9 +1.8**
GYA pmax pmax
comp=Z,13nm,0.9s
GYA LR LR
comp=Z,1µm,15.6s
GYA LR LR
comp=Z,1µm,14.9s
GYA LR LR
comp=Z,2µm,15.3s
HAWA Hanford 48.69 65 IAmb IAmb 11 18 02.2
comp=Z,17nm,1.0s
MK31 Makanchi Array 48.75 296*d* *i*P **P** **11 17 58.7 -1.6**
MK31 Makanchi Array 48.75 296 P **P** **11 17 58.1 -2.2**
MKAR Makanchi Array 48.75 296 P **P** **11 17 58.2 -2.1**
comp=Z,6.6nm,0.5s,baz=56,slow=6.4,SNR=58
MKAR LR LR 11 39 36.1
comp=Z,342nm,21.4s,baz=46,slow=37
MKAR Makanchi Array 48.75 296 P **P** **11 17 57.9 -2.4**
I04A Tendick Farm, 48.76 69 P 11 17 59.6
baz=310
NEW Newport 48.79 61 IAmb IAmb 11 18 02.9
comp=Z,15nm,0.9s
NEW Newport 48.79 61 P 11 18 00.2
baz=309,SNR=14
E08A Dider Farm, El 48.88 64 P **P** **11 18 01.2 0.0**
E08A IAmb IAmb 11 18 03.5
comp=Z,10nm,0.8s
I05D Terrebonne, OR 49.01 68 P 11 18 01.1
baz=310
J04D Umpqua Nationa 49.29 69 P 11 18 03.7
baz=310
KULLO Kullorsuaq 49.41 13 *i*P **P** **11 18 06.1 +1.2**
comp=Z,30nm,0.7s
KULLO Kullorsuaq 49.41 13 *i*P **P** **11 18 06.1 +1.2**
KULLO IAmb IAmb 11 18 06.5
comp=Z,30nm,0.7s
PINE Pine Mountain 49.58 68 IAmb IAmb 11 18 09.7
comp=Z,20nm,1.1s
J05D Fort Rock, OR 49.74 69 P 11 18 07.3
baz=311
DAG Danmarks Havn 49.81 0 *i*P **P** **11 18 08.0 0.0**
comp=Z,12nm,0.7s
DAG Danmarks Havn 49.81 0 *i*P **P** **11 18 08.0 0.0**
DAG Danmarks Havn 49.81 0 *i*P **P** **11 18 08.0 0.0**
DAG IAmb IAmb 11 18 09.3
comp=Z,12nm,0.7s
L04D Klamath Falls 49.84 71 P 11 18 08.2
baz=311,SNR=5.9
YBH Yreka Blue Hor 49.93 71 IAmb IAmb 11 18 13.1
comp=Z,19nm,0.9s
WALA Waterton Lakes 49.94 59 IAmb IAmb 11 18 27.6
comp=Z,32nm,1.1s
M02C Callahan 50.08 72 P 11 18 09.3
baz=312
F10A Beach Ranch, E 50.19 64 P **P** **11 18 12.1 +0.7**
F10A IAmb IAmb 11 18 13.7
comp=Z,13nm,0.9s
M04C Macdoel 50.39 71 P 11 18 11.8
baz=312
N02D Trinity Center 50.44 72 P 11 18 12.8
baz=312
JTMT Jette 50.59 60 P **P** **11 18 15.2 +0.7**
BRVK Borovoye 50.78 309⇑ *e*P **P** **11 18 13.6 -2.0**
BRVK pmax pmax
comp=Z,11nm,0.7s
BRVK Borovoye 50.78 309 P **P** **11 18 13.6 -2.0**
BRVK IAmb IAmb 11 18 16.8
comp=Z,12nm,0.7s
BRVK Borovoye 50.78 309 P **P** **11 18 14.0 -1.7**
BRVK P **P** **11 18 14.0 -1.7**
WDC Whiskeytown Da 50.79 72 IAmb IAmb 11 18 19.2
comp=Z,19nm,1.0s
O02D Mt. Diablo Mer 50.92 73 P 11 18 17.6
baz=312,SNR=7.4
MOD Modoc Plateau 51.17 70 IAmb IAmb 11 18 22.0
comp=Z,23nm,0.8s
MSO Missoula 51.37 61 P 11 18 19.4
baz=311,SNR=7.9
O03E Paynes Creek 51.40 72 P 11 18 20.7
baz=312,SNR=23
WVOR Wild Horse Val 51.74 68 P **P** **11 18 23.0 -0.2**
WVOR pmax pmax
comp=Z,11nm,0.9s
WVOR Wild Horse Val 51.74 68 P **P** **11 18 22.9 -0.2**
KMI Kunming 51.85 261⇓ P **P** **11 18 26.0 +1.7**
KMI pmax pmax
comp=Z,14nm,0.8s
KMI LR LR
comp=Z,1µm,14.3s
KMI LR LR
comp=Z,770nm,12.7s
KMI LR LR
comp=Z,2µm,14.4s
FFC Flin Flon 51.93 47 *i*P **P** **11 18 23.4 -0.8**
FFC Flin Flon 51.93 47 P **P** **11 18 23.9 -0.2**
ORV Oroville 52.07 73 P **P** **11 18 25.8 +0.3**
ORV pmax pmax
comp=Z,13nm,0.9s
ORV Oroville 52.07 73 P **P** **11 18 25.8 +0.3**
DBG Daneborg 52.29 1 *i*P **P** **11 18 26.9 +0.3**
DBG IAmb IAmb 11 18 27.9
comp=Z,6.6nm,0.6s
FCC Fort Churchill 52.42 40 P **P** **11 18 28.1 +0.3**
FCC pmax pmax
comp=Z,9.0nm,0.7s
FCC Fort Churchill 52.42 40 P **P** **11 18 28.1 +0.3**
BEKR Beckworth 52.51 72 P **P** **11 18 29.9 +1.0**
BEKR IAmb IAmb 11 18 31.9
comp=Z,22nm,1.1s
QIZ Qiongzhong 52.53 250 P **P** **11 18 31.3 +2.2**
QIZ PP **PP** **11 20 29.5 +1.5**
QIZ S **S** **11 25 55.0 +0.4**
QIZ pmax pmax
comp=Z,230nm,10.0s
QIZ LR LR
comp=Z,730nm,20.6s
QIZ LR LR
comp=Z,840nm,18.6s
QIZ LR LR
comp=Z,1µm,13.2s
HRY Holter Researc 52.53 60 P **P** **11 18 28.7 -0.2**
MFID Camas Ranch 52.62 65 P **P** **11 18 30.6 +1.0**
AFDM Forest Hills D 52.79 73 P **P** **11 18 31.5 +0.7**
LRM Limekiln Ridge 52.80 61 P **P** **11 18 31.8 +0.7**
ARA0 ARCESS Array S 53.01 342 *e*P **P** **11 18 31.2 -0.9**
ARCES ARCESS Array B 53.01 342 P **P** **11 18 31.1 -0.9**
comp=Z,16nm,0.9s,baz=35,slow=8.4,SNR=15
ARCES PcP **PcP** **11 19 41.0 +0.6**
comp=Z,3.9nm,0.8s,baz=57,slow=4.5,SNR=3.9
ARCES LR LR 11 45 06.0
comp=Z,601nm,19.7s,baz=20,slow=41
ARCES ARCESS Array B 53.01 342 P **P** **11 18 31.8 -0.2**
DLMT Dillon 53.04 62 P **P** **11 18 33.0 +0.3**
PAHR Pah Rah Range 53.17 71 P **P** **11 18 34.4 +0.6**
PAHR IAmb IAmb 11 18 36.9
comp=Z,17nm,1.0s
SUMG Summit 53.25 7 *i*P **P** **11 18 35.7 +1.5**
comp=Z,15nm,0.8s
SUMG Summit 53.25 7 P **P** **11 18 34.7 +0.5**
SUMG pmax pmax
comp=Z,41nm,1.0s
SUMG Summit 53.25 7 P **P** **11 18 34.7 +0.5**
SUMG Summit 53.25 7 *i*P **P** **11 18 35.7 +1.5**
SUMG IAmb IAmb 11 18 36.6
comp=Z,15nm,0.8s
MCMT McKenzie Canyo 53.26 62 P **P** **11 18 32.8 -1.7**
HLID Hailey 53.28 64 P **P** **11 18 35.3 +0.7**
HLID Hailey 53.28 64 P 11 18 34.0
baz=313,SNR=12
VCNR Virginia City 53.30 72 P **P** **11 18 35.6 +0.8**
VCNR IAmb IAmb 11 18 49.4
comp=Z,18nm,0.8s
BCYI Bear Canyon 53.32 63 P **P** **11 18 35.1 +0.2**
BOZ Bozeman (W) 53.38 61 P **P** **11 18 35.3 0.0**
BOZ pmax pmax
comp=Z,10.0nm,0.9s
BOZ Bozeman (W) 53.38 61 P **P** **11 18 35.3 0.0**
BOZ Bozeman (W) 53.38 61 P 11 18 35.2
baz=312,SNR=8.6
PNTR Pine Nut 53.47 72 P **P** **11 18 36.5 +0.4**
ARU Arti 53.60 318*c* *i*P **P** **11 18 36.0 -0.5**
ARU 11 19 38.4
ARU 11 20 33.7
ARU S **S** **11 26 09.1 +0.8**
ARU SS **SS** **11 29 44.3 -3.7**
ARU pmax pmax
comp=Z,30nm,0.7s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 53.60 318 P **P** **11 18 35.2 -1.2**
YERR Yerington 53.74 72 P **P** **11 18 39.0 +1.0**
YERR IAmb IAmb 11 18 41.4
comp=Z,28nm,1.1s
CMB Columbia Colle 53.75 73 P **P** **11 18 38.5 +0.6**
CMB pmax pmax
comp=Z,12nm,1.1s
CMB Columbia Colle 53.75 73 P **P** **11 18 38.5 +0.6**
JETT Jettan, Norway 53.87 344 *e*P **P** **11 18 39.2 +0.9**
KTK1 Kautokeino 53.87 343 *e*P **P** **11 18 38.6 +0.2**
WAKR Walker 53.96 72 P **P** **11 18 41.2 +1.5**
WAKR IAmb IAmb 11 18 43.2
comp=Z,25nm,0.9s
QLMT Earthquake Lak 54.01 61 P **P** **11 18 40.8 +0.9**
TRO Tromso 54.04 345 *e*P **P** **11 18 40.6 +1.1**
SLVN Son La 54.09 257 P **P** **11 18 41.3 +0.7**
SLVN IAmb IAmb 11 18 43.8
comp=Z,18nm,0.7s
YHL Hebgen Lake 54.12 61 P **P** **11 18 41.6 +0.7**
YHB Horse Butte 54.18 61 P **P** **11 18 41.5 +0.2**
YHB IAmb IAmb 11 19 08.0
comp=Z,27nm,1.3s
YHH Holmes Hill 54.34 61 P **P** **11 18 43.1 +0.6**
YHH IAmb IAmb 11 18 56.1
comp=Z,11nm,0.8s
KVN Kaiserville 54.34 71 P **P** **11 18 42.0 -0.4**
KVN pmax pmax
comp=Z,18nm,0.8s

KVN **Kaiserville** 54.34 71 P P 11 18 42.0 -0.4
KVN IAmb IAmb 11 18 57.0
comp=Z,18nm,0.8s
YMR **Madison River** 54.36 61 IAmb IAmb 11 19 06.5
comp=Z,13nm,1.0s
RYN **Ryan** 54.39 71 IAmb IAmb 11 18 46.1
comp=Z,13nm,0.9s
PRGR **Permogore** 54.44 328 eP P 11 18 42.2 -0.3
PRGR e*PP pwP 11 18 53.3 +0.6
PRGR pmax pmax
comp=Z,32nm,0.8s
YNE **Yellowstone No** 54.62 60 P P 11 18 44.4 0.0
YNE IAmb IAmb 11 19 00.4
comp=Z,16nm,1.0s
NVAR **Mina Array Bea** 54.66 72 P P 11 18 46.0 +1.3
comp=Z,8.9nm,0.7s,baz=298,slow=7.6,SNR=58
NVAR **Mina Array Bea** 54.66 72 P P 11 18 45.1 +0.4
LHV **Little Huntoon** 54.67 72 P P 11 18 45.5 +1.0
YPP **Pitchstone Pla** 54.71 62 P P 11 18 44.6 -0.5
LKWY **Lake** 54.72 61 P P 11 18 45.9 +0.7
LKWY pmax pmax
comp=Z,17nm,1.1s
LKWY **Lake** 54.72 61 P P 11 18 45.9 +0.7
LKWY IAmb IAmb 11 19 08.0
comp=Z,17nm,1.1s
NV11 **Mina Array Sit** 54.74 71 IAmb IAmb 11 18 48.7
comp=Z,19nm,1.1s
H17A **Grant Village** 54.75 61 IAmb IAmb 11 19 05.6
comp=Z,30nm,1.3s
H17A **Grant Village** 54.75 61 P 11 18 46.6
baz=313,SNR=12
ELK **Elko** 54.76 67 IAmb IAmb 11 18 48.8
comp=Z,14nm,0.8s
FLWY **Flagg Ranch** 54.90 62 P P 11 18 47.4 +0.9
FLWY IAmb IAmb 11 19 16.3
comp=Z,24nm,1.1s
RLMT **Red Lodge** 54.93 60 P P 11 18 47.8 +1.1
RLMT IAmb IAmb 11 18 49.9
comp=Z,15nm,0.9s
RLMT **Red Lodge** 54.93 60 P 11 18 47.4
baz=314,SNR=16
DGMT **Dagmar** 55.15 54 IAmb IAmb 11 18 51.0
comp=Z,14nm,1.1s
DGMT **Dagmar** 55.15 54 P 11 18 47.8
baz=314
SNOW **Snow King Moun** 55.30 62 P P 11 18 50.3 +0.9
REDW **Red Top Meadow** 55.31 62 P P 11 18 49.3 -0.1
LSA **Lhasa** 55.33 274 P P 11 18 49.7 -0.3
LSA pmax pmax
comp=Z,12nm,0.6s
LSA **Lhasa** 55.33 274 P P 11 18 49.7 -0.3
LSA IAmb IAmb 11 18 53.9
comp=Z,12nm,0.6s
HVU **Hansel Valley** 55.38 65 P P 11 18 50.8 +0.9
HVU pmax pmax
comp=Z,18nm,1.0s
HVU **Hansel Valley** 55.38 65 P P 11 18 50.8 +0.9
HVU IAmb IAmb 11 18 53.3
comp=Z,18nm,1.0s
LAO **LASA Array** 55.39 57 P P 11 18 50.5 +0.8
LAO IAmb IAmb 11 18 53.3
comp=Z,25nm,0.9s
LAO **LASA Array** 55.39 57 P 11 18 50.6
baz=314,SNR=10
AHID **Auburn Hatcher** 55.60 63 IAmb IAmb 11 19 05.8
comp=Z,13nm,0.9s
AAK **Ala-Archa** 55.66 297⇑ eP P 11 18 50.7 -1.1
AAK pmax pmax
comp=Z,13nm,0.7s
AAK **Ala-Archa** 55.66 297 P P 11 18 49.7 -2.1
AAK **Ala-Archa** 55.66 297 P P 11 18 51.1 -0.7
AAK P P 11 18 51.1 -0.7
BGU **Big Grassy Mou** 55.84 66 P P 11 18 52.5 -0.7
SMMC **Simmler** 55.88 75 P 11 18 52.3
baz=315
SPUT **South Promonto** 55.89 65 P P 11 18 54.7 +1.2
SPUT IAmb IAmb 11 18 56.9
comp=Z,23nm,1.0s
VES **Vestal, Richgr** 56.03 74 P 11 18 53.6
baz=315
STEI **Steigen** 56.15 345 eP P 11 18 55.1 +0.3
HWUT **Hardware Ranch** 56.16 64 P P 11 18 55.9 +0.5
HWUT IAmb IAmb 11 19 10.1
comp=Z,19nm,0.8s
CWC **Cottonwood Cre** 56.18 73 P 11 18 55.4
baz=315
LOF **Lofoten** 56.22 346 eP P 11 18 55.0 -0.2
R11A **Troy Canyon, C** 56.24 70 P 11 18 57.0
baz=315,SNR=13
PKM **Mcpherson Peak** 56.28 76 P 11 18 56.4
baz=316
BW06 **Boulder Array** 56.41 62 P P 11 18 58.1 +0.8
BW06 **Boulder Array** 56.41 62 P 11 18 57.2
baz=315,SNR=17
PD31 **Pinedale Array** 56.41 62 P P 11 18 58.0 +0.7
PDAR **Pinedale Array** 56.41 62 P P 11 18 58.5 +1.1
comp=Z,10.0nm,0.9s,baz=320,slow=3.9,SNR=52
PDAR **Pinedale Array** 56.41 62 P P 11 18 57.8 +0.4
DUG **Dugway, Tooele** 56.47 66 P 11 18 58.3
baz=315,SNR=30
SPR3 **Spring Creek 3** 56.48 68 IAmb IAmb 11 19 12.8
comp=Z,17nm,0.9s
ISA **Isabella, Lake** 56.50 74 P 11 18 57.9
baz=316
N2TV **TWnvik** 56.51 345 eP P 11 18 58.2 +0.9
TCUT **Toone Canyon** 56.58 65 P P 11 18 59.6 +1.1
TCUT IAmb IAmb 11 19 17.0
comp=Z,17nm,0.8s
FAUS **Fauske** 56.65 345 eP P 11 18 58.1 -0.3
CTU **Camp Tracy** 56.70 65 IAmb IAmb 11 19 17.6
comp=Z,17nm,0.9s
NBB08 **Skaug oppvekst** 56.75 345 eP P 11 18 58.6 -0.4
MPMC **Manual Prospec** 56.78 73 P 11 19 00.4
baz=316,SNR=7.8
FURC **Furnace Creek,** 56.85 72 P 11 19 00.5
baz=316,SNR=13
TPNV **Topopah Spring** 56.85 71 P P 11 19 00.6 +0.2
TPNV pmax pmax
comp=Z,20nm,1.1s
TPNV **Topopah Spring** 56.85 71 P P 11 19 00.6 +0.2
TPNV IAmb IAmb 11 19 03.7
comp=Z,20nm,1.1s
TPNV **Topopah Spring** 56.85 71 P 11 19 01.0
baz=315,SNR=16
KLMR **Klimovskoe** 56.91 330 eP P 11 18 59.4 -0.8
KLMR pmax pmax
comp=Z,34nm,0.7s
KLMR **Klimovskoe** 56.91 330 eP P 11 18 59.4 -0.8
KLMR AMP 11 19 02.0
comp=Z,34nm,0.7s
KLMR LQ LQ 11 39 05.3
KLMR LQ LQ 11 39 05.3
KLMR LR LR 11 43 18.6
NLU **North Lily Min** 57.04 66 IAmb IAmb 11 19 05.1
comp=Z,16nm,1.0s
KSH **Kashi** 57.05 293 P P 11 19 06.6 +4.9
KSH pP pwP 11 19 11.9 -0.2
KSH pmax pmax
comp=Z,14nm,0.7s
KSH pmax pmax
comp=Z,330nm,6.2s
LRMC **Laurel Mtn Rad** 57.09 74 P 11 19 02.0
baz=316
NONG **Nongkai** 57.10 255 P P 11 19 03.8 +1.6
comp=Z,47nm,0.8s
OSI **Osito Audit: C** 57.11 75 P 11 19 01.7
baz=316
NBB05 **Inndyr** 57.16 346 eP P 11 19 02.4 +0.5
PRN **Pahroc Range** 57.20 70 IAmb IAmb 11 19 17.5
comp=Z,19nm,0.8s
MPU **Maple Canyon** 57.24 66 IAmb IAmb 11 19 06.6
comp=Z,13nm,0.9s
NBB30 **Finnes** 57.26 346 eP P 11 19 03.3 +0.6
EDW2 **Edwards Air Fo** 57.34 74 P 11 19 04.0
baz=316,SNR=5.4
NBB17 **Glomfjord BVr** 57.38 345 eP P 11 19 05.0 +1.5
KKAR **Karatay Array** 57.42 300 P P 11 19 02.6 -1.6
KKAR **Karatay Array** 57.42 300 P P 11 19 02.6 -1.6
SHOC **Shoshone, Teco** 57.59 72 P 11 19 05.4
baz=316
GSC **Goldstone, Bar** 57.71 73 P P 11 19 06.7 +0.2
GSC pmax pmax
comp=Z,17nm,1.1s
GSC **Goldstone, Bar** 57.71 73 P P 11 19 06.7 +0.2
GSC IAmb IAmb 11 19 09.4
comp=Z,17nm,1.1s
GSC **Goldstone, Bar** 57.71 73 P 11 19 06.9
baz=316,SNR=10
ULM **Lac du Bonnet** 57.72 48 P P 11 19 05.2 -1.0
comp=Z,4.1nm,0.9s,baz=313,slow=6.5,SNR=9.1
ULM LR LR 11 44 49.5
comp=Z,1μm,20.4s,baz=320,slow=37
ULM **Lac du Bonnet** 57.72 48 IAmb IAmb 11 19 28.6
comp=Z,16nm,1.2s
MWC **Mount Wilson** 57.77 75 IAmb IAmb 11 19 09.9
comp=Z,22nm,1.1s
SHPR **Sheep Range** 57.78 71 P P 11 19 08.1 +1.0
KONS **Konsvik** 57.80 346 eP P 11 19 07.5 +1.1
MOR8 **Moi Rana** 57.90 345 eP P 11 19 05.8 -1.4
SHL **Shillong** 57.95 270 P P 11 19 08.5 +0.1
SNR=6.2
PAYA **Payao** 57.98 259 P P 11 19 10.0 +1.6
comp=Z,6μmcomp=Z,704nm,0.7s
TMUT **Trail Mountain** 57.98 66 P P 11 19 08.6 0.0
TMUT IAmb IAmb 11 19 23.0
comp=Z,20nm,0.8s
BFSC **Mount Baldy Ra** 57.99 75 P 11 19 08.5
baz=316
UBPT **Khong Chiam** 58.00 251 P P 11 19 11.6 +3.1
comp=Z,22nm,0.9s
UBPT **Khong Chiam** 58.00 251 P P 11 19 10.1 +1.6
CCUT **Cedar City** 58.04 69 P P 11 19 10.2 +1.3
CCUT IAmb IAmb 11 19 12.2
comp=Z,12nm,1.0s
K22A **Casper** 58.07 60 P P 11 19 08.7 -0.3
K22A IAmb IAmb 11 19 34.3
comp=Z,15nm,1.1s
K22A **Casper** 58.07 60 P 11 19 09.0
baz=316
P17A **Butcher Ranch,** 58.11 66 P P 11 19 09.8 +0.5
P17A IAmb IAmb 11 19 25.1
comp=Z,13nm,0.9s
ABKAR **Akbulak array** 58.12 311 P P 11 19 07.3 -1.7
SZCU **Shurtz Canyon** 58.16 69 P P 11 19 11.1 +1.3
Q16A **Castle Valley** 58.27 66 P P 11 19 11.2 +0.7
Q16A IAmb IAmb 11 19 25.0
comp=Z,16nm,0.9s
RSSD **Black Hills** 58.29 58 P P 11 19 10.8 +0.3
RSSD pmax pmax
comp=Z,17nm,0.8s
RSSD **Black Hills** 58.29 58 P P 11 19 10.8 +0.3
RSSD IAmb IAmb 11 19 34.1
comp=Z,17nm,0.8s
RSSD **Black Hills** 58.29 58 P 11 19 10.4
baz=316
HEC **Hector,Ludlow** 58.32 73 P 11 19 10.7
baz=316
LCMT **Little Creek M** 58.49 69 IAmb IAmb 11 19 15.5
comp=Z,19nm,1.0s
PKCU **Pink Cliffs** 58.70 68 IAmb IAmb 11 19 17.4
comp=Z,22nm,1.0s
MURC **Murrieta** 58.72 75 P 11 19 13.3
baz=317
KNB **Kanab** 58.72 69 IAmb IAmb 11 19 17.2
comp=Z,12nm,1.0s
GMRC **Granite Mounta** 58.74 73 P 11 19 14.3
baz=316,SNR=7.4
LAMP **Lampang** 58.77 259 P P 11 19 15.4 +1.5
comp=Z,1μmcomp=Z,95nm,0.8s
UTTA **Uttaradit** 58.85 257 P P 11 19 15.0 +0.6
comp=Z,832nmcomp=Z,119nm,0.8s
CMMT **Chiang Mai** 58.94 259 P P 11 19 16.4 +1.3
comp=Z,32nm,0.8s
CHTO **Chiang Mai** 58.95 259 P P 11 19 15.7 +0.6
CHTO pmax pmax
comp=Z,43nm,0.7s
CHTO **Chiang Mai** 58.95 259 P P 11 19 15.7 +0.6
CHTO **Chiang Mai** 58.95 259 P P 11 19 15.8 +0.6
CHTO P P 11 19 15.8 +0.6
O20A **White River Ci** 58.98 63 P 11 19 15.7
baz=316,SNR=11
TAPN **Taplejung** 59.10 275 eP P 11 19 16.7 +0.2
comp=Z,71nm,0.6s
BELC **Belle Mtn. Jos** 59.11 74 P 11 19 16.4
baz=317
PFO **Pinyon Flats O** 59.13 74 P P 11 19 18.1 +1.7
PFO pmax pmax
comp=Z,11nm,0.4s
PFO **Pinyon Flats O** 59.13 74 P P 11 19 18.1 +1.7
PFO **Pinyon Flats O** 59.13 74 P 11 19 16.6
baz=317
XPFO **Pion Flat** 59.13 74 P P 11 19 18.2 +1.8
XPFO IAmb IAmb 11 19 22.1
comp=Z,13nm,1.1s
TPFO **Pinon Flats** 59.14 74 P 11 19 16.4
baz=317
AGMN **Agassiz Nation** 59.16 49 P P 11 19 16.1 -0.2
AGMN **Agassiz Nation** 59.16 49 P 11 19 16.1
baz=316
CM31 **Chiang Mai Arr** 59.22 259 P P 11 19 18.6 +1.6
CMAR **Chiang Mai Arr** 59.22 259 P P 11 19 18.4 +1.3
comp=Z,36nm,0.7s,baz=25,slow=6.8,SNR=128
CMAR LR LR 11 48 26.0
comp=Z,930nm,18.5s,baz=90,slow=40
CMAR **Chiang Mai Arr** 59.22 259 P P 11 19 17.9 +0.8
CMAR **Chiang Mai Arr** 59.22 259 P P 11 19 17.9 +0.8
PHIT **Phitsanulok** 59.37 257 P P 11 19 20.1 +2.1
comp=Z,152nm,0.8s
CHAI **Chaiyaphum** 59.48 255 P P 11 19 20.5 +1.7
comp=Z,686nmcomp=Z,65nm,0.8s
W13A **Hualapai Mount** 59.51 71 P P 11 19 19.2 +0.1
SUKH **Sukhothai** 59.59 258 P P 11 19 21.0 +1.4
comp=Z,270nmcomp=Z,33nm,0.8s
N23A **Red Feather La** 59.64 61 P 11 19 20.1
baz=317,SNR=8.8
ODAN **Odare** 59.65 275 eP P 11 19 19.8 -0.4
comp=Z,32nm,0.5s
BC3 **Big Chuckawall** 59.67 74 P 11 19 20.0
baz=317
GUN **Gumba** 59.77 277 eP P 11 19 20.9 -0.2
comp=Z,24nm,0.3s
NSS **Namsos** 59.82 345 eP P 11 19 21.4 +0.9
PV14 **Lion Creek, Pa** 59.83 65 IAmb IAmb 11 19 41.8
comp=Z,17nm,0.9s
PV22 **Blue Mesa, Par** 59.84 65 IAmb IAmb 11 19 24.3
comp=Z,15nm,0.9s
PV19 **Morning Glory** 59.89 65 IAmb IAmb 11 19 37.6
comp=Z,20nm,0.9s
PV16 **Nyswonger Mesa** 59.93 65 IAmb IAmb 11 19 49.5
comp=Z,19nm,0.9s
FIA1 **FINESS Array S** 59.95 337 P P 11 19 20.9 -0.5
FINES **FINESS Array B** 59.95 337 P P 11 19 21.4 0.0
comp=Z,36nm,0.7s,baz=33,slow=7.3,SNR=68
FINES LR LR 11 50 57.3
comp=Z,775nm,18.4s,baz=31,slow=42
FINES **FINESS Array B** 59.95 337 P P 11 19 21.7 +0.3
PDMCI **Parker Dam,Lak** 59.95 72 P 11 19 22.1
baz=317,SNR=7.5
CBX **Cerro Bola** 59.96 75 P P 11 19 20.8 -1.3
CBX IAmb IAmb 11 19 22.6
comp=Z,6.7nm,0.4s
PV18 **Skein Mesa, Pa** 59.98 65 P P 11 19 22.3 0.0
PV07 **Paradox Valley** 59.98 65 IAmb IAmb 11 19 25.8
comp=Z,19nm,1.1s
PV05 **Paradox Valley** 60.00 66 P P 11 19 22.3 -0.1
PV03 **Paradox Valley** 60.01 65 IAmb IAmb 11 19 25.5
comp=Z,22nm,1.0s
MHMT **Maesariang** 60.04 260 P P 11 19 23.0 +0.4
comp=Z,2μmcomp=Z,166nm,0.8s
RAMN **Ramite** 60.05 276 eP P 11 19 22.5 -0.5
comp=Z,139nm,0.6s
B35A **Bob, Littlefor** 60.07 48 P P 11 19 22.5 0.0
B35A IAmb IAmb 11 19 44.1
comp=Z,21nm,1.4s
PV13 **Radium Mtn., P** 60.09 65 P P 11 19 23.9 +0.8
PV02 **Paradox Valley** 60.10 65 P P 11 19 24.3 +1.1
PV02 IAmb IAmb 11 19 50.8
comp=Z,18nm,0.9s
PV15 **Paradox Valley** 60.14 65 IAmb IAmb 11 19 41.5
comp=Z,16nm,0.8s
PV01 **Paradox Valley** 60.24 65 IAmb IAmb 11 19 42.2
comp=Z,9.6nm,0.8s
PKI **Pulchoki** 60.30 277 eP P 11 19 24.8 0.0
comp=Z,42nm,0.6s
PKIN **Phulchoki** 60.30 277 eP P 11 19 24.6 -0.1
comp=Z,41nm,0.5s
SMCO **Snowmass** 60.34 63 P P 11 19 25.8 +0.8
SMCO IAmb IAmb 11 19 38.8
comp=Z,11nm,0.9s
GKN **Gorkha** 60.43 278 eP P 11 19 25.4 -0.1
comp=Z,50nm,0.6s
DMN **Daman** 60.45 277 eP P 11 19 26.0 +0.3
comp=Z,61nm,0.7s
GLA **Glamis** 60.47 74 P P 11 19 25.7 +0.2
GLA pmax pmax
comp=Z,32nm,1.3s
GLA **Glamis** 60.47 74 P P 11 19 25.7 +0.2
GLA **Glamis** 60.47 74 P 11 19 25.7
baz=317
ISCO **Idaho Springs** 60.61 62 IAmb IAmb 11 19 50.7
comp=Z,15nm,0.9s
ISCO **Idaho Springs** 60.61 62 P 11 19 27.1
baz=317,SNR=9.3
WUAZ **Wupatki** 60.61 69 P P 11 19 27.8 +1.1
WUAZ IAmb IAmb 11 19 30.1
comp=Z,20nm,1.1s
WUAZ **Wupatki** 60.62 69 P 11 19 26.9
baz=317,SNR=8.6
F33A **5 Mile Ranch,** 60.78 52 P P 11 19 28.5 +1.0
F33A IAmb IAmb 11 19 49.1
comp=Z,10nm,0.9s
BELG **Belogornoye** 60.88 320⇑ eP P 11 19 27.8 -0.1
BELG pmax pmax
comp=Z,9.0nm,0.8s
MVCO **Mesa Verde** 60.96 66 P P 11 19 28.7 -0.3
MVCO IAmb IAmb 11 19 57.6
comp=Z,11nm,0.9s
MVCO **Mesa Verde** 60.96 66 P 11 19 28.7
baz=317
UMPA **Umpang Tak** 61.05 258 P P 11 19 32.0 +2.4
comp=Z,131nm,0.9s
UTHA **Uthaitani** 61.22 257 P P 11 19 32.7 +2.0
comp=Z,582nmcomp=Z,73nm,0.9s
EYMN **Ely** 61.36 47 P 11 19 30.1
baz=320
Q24A **Divide** 61.46 62 P 11 19 31.6
baz=318
S22A **4UR Ranch, Cre** 61.47 64 P 11 19 33.4
baz=318,SNR=12
MOS **Moscow** 61.66 328 eP P 11 19 32.5 -0.7
X18A **Snowlake** 62.13 69 IAmb IAmb 11 19 51.6
comp=Z,11nm,0.8s
ECSD **EROS Data Cent** 62.21 53 P P 11 19 38.1 +1.0
MOL **Molde** 62.31 347 eP P 11 19 37.2 -0.2
E38A **The Farm, Brul** 62.36 48 P P 11 19 37.9 -0.2
E38A IAmb IAmb 11 20 00.5
comp=Z,17nm,1.0s
VSU **Vasula** 62.42 335 eP P 11 19 38.8 +0.6
VSU **Vasula** 62.42 335 deP P 11 19 39.0 +0.8
VSU pmax pmax
comp=Z,122nm,1.0s
AAL **Aland** 62.42 340 eP P 11 19 38.0 -0.1
214A **Organ Pipe Nat** 62.42 73 P P 11 19 39.3 +0.6
214A IAmb IAmb 11 19 41.8
comp=Z,12nm,1.1s
214A **Organ Pipe Nat** 62.42 73 P 11 19 39.2
baz=318,SNR=11
OBN **Obninsk** 62.52 328 ||| eP P 11 19 39.0 +0.1
OBN e 11 19 51.1
OBN e 11 20 17.1
OBN i 11 21 56.8
OBN ePPP PPP 11 23 24.3
OBN pmax pmax
comp=Z,21nm,0.6s
OBN MLR MLR
comp=Z,1μm,19.0s
DOMB **Dombas** 62.60 346 eP P 11 19 40.4 +0.9
AKN **Aaknes** 62.76 347 eP P 11 19 41.0 +0.5
NIL **Nilore** 62.80 290 P P 11 19 40.6 -0.6
NIL pmax pmax
comp=Z,26nm,1.1s
NIL **Nilore** 62.80 290 P P 11 19 40.6 -0.6
NIL **Nilore** 62.80 290 P P 11 19 41.8 +0.6
NIL P P 11 19 41.8 +0.6
SPMN **Marine on St.** 62.86 50 P P 11 19 40.8 -0.6
SPMN IAmb IAmb 11 20 03.5
comp=Z,17nm,1.2s
MTSE **Matsula** 62.90 337 eP P 11 19 38.3 -3.1
NC204 **NORSAR Array S** 63.08 345 P P 11 19 42.5 -0.1
NC405 **NORSAR Array S** 63.08 344 P P 11 19 42.9 +0.2
T25A **Trinidad** 63.21 63 P P 11 19 44.2 +0.1
T25A IAmb IAmb 11 20 09.6
comp=Z,20nm,1.4s
T25A **Trinidad** 63.21 63 P 11 19 44.1
baz=318
NB201 **NORSAR Array S** 63.21 344 P P 11 19 43.5 0.0
BGNE **Belgrade** 63.22 56 P P 11 19 43.7 -0.1
NB2 **NORSAR Subarra** 63.23 344 P P 11 19 43.4 -0.3
comp=Z,11nm,0.5s,baz=20,slow=6.9
NB2 **NORSAR Subarra** 63.23 344 P P 11 19 43.4 -0.3
baz=20,slow=6.9
NOA **NORSAR Array B** 63.23 344 P P 11 19 43.8 +0.1
comp=Z,9.0nm,0.5s,baz=20,slow=6.7,SNR=66
NOA LR LR 11 50 24.1
comp=Z,244nm,19.7s,baz=45,slow=39
PHET **Kaeng Krachan** 63.23 255 P P 11 19 47.5 +3.3
comp=Z,83nm,0.8s
NBO00 **NORSAR Array S** 63.31 345 P P 11 19 43.8 -0.4
TUC **Tucson** 63.31 71 P P 11 19 45.0 +0.3
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC **Tucson** 63.31 71 P P 11 19 45.0 +0.3
TUC **Tucson** 63.31 71 P 11 19 44.9
baz=318
NC602 **NORSAR Array S** 63.47 344 eP P 11 19 45.1 -0.1
NAO01 **NORSAR Array S** 63.47 345 P P 11 19 45.1 -0.1
NAO01 IAmb IAmb 11 19 51.5
comp=Z,21nm,0.9s
I37A **Lemond, Waseca** 63.51 51 P P 11 19 46.0 +0.3
ANMO **Albuquerque** 63.74 66 ceP P 11 19 48.6 +1.0
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ANMO **Albuquerque** 63.74 66 P P 11 19 48.8 +1.1
ANMO **Albuquerque** 63.74 66 P 11 19 48.0
baz=319
HYA **Hoyanger** 63.85 347 eP P 11 19 46.8 -0.8
SKAR **Skarslia** 64.02 346 eP P 11 19 49.8 +0.9
SUE **Sulen** 64.14 348 eP P 11 19 49.6 +0.1
BNM **Barren Site** 64.24 67 P P 11 19 51.3 +0.3
OSL **Oslo** 64.36 344 eP P 11 19 52.5 +1.5
KBL **Kabul** 64.46 294 P P 11 19 50.5 -1.9
KBL pmax pmax
comp=Z,11nm,0.7s
KBL **Kabul** 64.46 294 P P 11 19 50.5 -1.9
KBL IAmb IAmb 11 19 53.4
comp=Z,11nm,0.7s
KBL **Kabul** 64.46 294 P P 11 19 51.1 -1.2
ASK **Askoy** 64.64 347 eP P 11 19 54.2 +1.4
KONO **Kongsberg** 64.81 345 eP P 11 19 54.7 +0.7
121A **Cookes Peak, D** 64.82 69 P P 11 19 55.4 +0.7
121A IAmb IAmb 11 20 13.4
comp=Z,12nm,1.1s
319A **Douglas** 64.85 71 IAmb IAmb 11 20 08.6
comp=Z,21nm,0.9s
ODD1 **Odda** 65.00 346 eP P 11 19 56.5 +1.2
ISAL **Salakas** 65.14 334 eP P 11 19 57.0 +0.8
IIGN **Ignalina** 65.31 334 eP P 11 19 58.0 +0.8
BLS5 **Blasjo** 65.49 346 eP P 11 19 59.5 +1.1
NACGM **Naroch** 65.56 333 i P P 11 19 58.3 -0.6
NACGM i P P 11 19 58.3 -0.6
NACGM i P P 11 19 58.3 -0.6
NACGM i PP PP 11 22 19.1 -3.4
NACGM i PPP PPP 11 23 49.3
NACGM i S S 11 28 35.5 -7.0
NACGM i SS SS 11 32 28.8 -26
NACGM i SSS SSS 11 36 07.6
NACGM i LQ LQ 11 43 19.4
NACGM i LR LR 11 49 22.0
MNK **Minsk** 65.61 332 eP P 11 20 00.0 +0.7
MNK eS S 11 28 44.0 +0.8
MNK **Minsk** 65.61 332 i P P 11 19 58.3 -1.0
comp=E,3.0nm,0.9s
MNK i P P 11 19 58.3 -1.0
comp=N,21nm,1.3s
MNK i P P 11 19 58.3 -1.0
comp=Z,22nm,0.7s
MNK i PcP PcP 11 20 29.6 -1.1
MNK i PP PP 11 22 22.6 -0.5
MNK i PPP PPP 11 23 56.2
MNK i S S 11 28 41.1 -2.0
MNK i ScS SKSac 11 29 52.6 -0.5
MNK i SS SS 11 32 56.2 +0.1
MNK i SSS SSS 11 36 04.9
MNK i LQ LQ 11 44 00.0
MNK i LR LR 11 48 59.4
MNK i LRM MLR 11 52 21.2

	comp=N,983nm,15.5s									
MNK					*i* LRM	MLR	11 52 23.5			
	comp=Z,629nm,16.1s									
MNK					*i* LRM	MLR	11 52 26.7			
	comp=E,34nm,15.2s									
PABE	**Paberze**	**65.75**	**335**		*e*P	**P**	**11 20 00.7**	**+0.6**		
HOMB	**Homborsund**	**66.30**	**345**		*e*P	**P**	**11 20 03.2**	**-0.3**		
SNART	**Snartemo**	**66.43**	**346**		*e*P	**P**	**11 20 05.4**	**+1.0**		
MSTX	**Muleshoe**	**66.47**	**64**		IAmb	IAmb	11 20 19.9			
	comp=Z,16nm,0.9s									
MNTX	**Cornudas Mount**	**66.78**	**68**		P	**P**	**11 20 06.8**	**-0.4**		
MNTX					IAmb	IAmb	11 20 10.2			
	comp=Z,10nm,1.1s									
MNTX	**Cornudas Mount**	**66.78**	**68**		P		11 20 07.8			
	baz=320,SNR=15									
P38A	**Dawn**	**66.84**	**54**		P	**P**	**11 20 06.8**	**-0.6**		
P38A					IAmb	IAmb	11 20 29.8			
	comp=Z,9.6nm,0.8s									
VLDQ	**Val d'Or**	**66.92**	**39**		P	**P**	**11 20 05.8**	**-1.9**		
VLDQ					IAmb	IAmb	11 20 28.0			
	comp=Z,11nm,1.0s									
KSM	**Kuching**	**66.93**	**238**		P	**P**	**11 20 09.4**	**+1.2**		
KSM	**Kuching**	**66.93**	**238**		P	**P**	**11 20 09.0**	**+0.8**		
GDL2	**Guadalupe Moun**	**66.96**	**67**		P	**P**	**11 20 09.3**	**+0.9**		
N41A	**Harden Midland**	**67.26**	**52**		P	**P**	**11 20 09.1**	**-1.0**		
SUW	**Suwalki**	**67.29**	**335**		*e*P	**P**	**11 20 09.5**	**-0.5**		
SUW	**Suwalki**	**67.29**	**335**		P	**P**	**11 20 08.8**	**-1.2**		
SUW					pmax	pmax				
	comp=Z,31nm,0.5s									
SUW	**Suwalki**	**67.29**	**335**		P	**P**	**11 20 08.8**	**-1.2**		
TRTT	**Trang**	**67.31**	**251**		P	**P**	**11 20 15.4**	**+4.7**		
GEYT	**Alibeck**	**67.55**	**304**		P	**P**	**11 20 11.9**	**-0.1**		
	comp=Z,23nm,0.6s,baz=27,slow=3.6,SNR=25									
GEYT					LR	LR	11 52 15.2			
	comp=Z,2µm,18.5s,baz=40,slow=38									
GEYT	**Alibeck**	**67.55**	**304**		P	**P**	**11 20 11.4**	**-0.6**		
GYA0B	**ALIBECK ARRAY**	**67.55**	**304**		P	**P**	**11 20 11.6**	**-0.4**		
P40A	**Paris**	**67.63**	**53**		P	**P**	**11 20 12.4**	**0.0**		
P40A					IAmb	IAmb	11 20 35.9			
	comp=Z,17nm,1.0s									
WMOK	**Wichita Mounta**	**67.99**	**61**		P	**P**	**11 20 14.3**	**-0.5**		
WMOK					pmax	pmax				
	comp=Z,19nm,1.0s									
WMOK	**Wichita Mounta**	**67.99**	**61**		P	**P**	**11 20 14.3**	**-0.5**		
WMOK					IAmb	IAmb	11 20 36.2			
	comp=Z,19nm,0.9s									
WMOK	**Wichita Mounta**	**67.99**	**61**		P		11 20 14.9			
	baz=321,SNR=14									
HDIL	**Hopedale**	**68.11**	**51**		P		11 20 14.7			
	baz=323									
HRA	**Herat**	**68.20**	**299**		P	**P**	**11 20 15.7**	**-0.7**		
HRA					IAmb	IAmb	11 20 18.5			
	comp=Z,8.8nm,0.9s									
MAK	**Makhachkala**	**68.46**	**314**		*e*P	**P**	**11 20 15.1**	**-2.4**		
MAK					*e*PPP	PPP	11 24 25.4			
MAK					*e*S	**S**	**11 29 14.8**	**-3.1**		
MAK					pmax	pmax				
	comp=Z,201nm,1.4s									
MAK					MLR	MLR				
	comp=Z,1µm,16.0s									
R40A	**Maddies Statio**	**68.50**	**54**		P	**P**	**11 20 16.9**	**-1.0**		
R40A					IAmb	IAmb	11 20 40.4			
	comp=Z,11nm,0.9s									
AKASG	**Malin Array Be**	**68.58**	**330**		P	**P**	**11 20 17.7**	**-0.5**		
	comp=Z,26nm,0.7s,baz=28,slow=6.1,SNR=25									
AKASG					LR	LR	11 54 11.3			
	comp=Z,1µm,18.5s,baz=25,slow=39									
AKBB	**Malin Array Si**	**68.58**	**330**	⇑	*e*P	**P**	**11 20 17.6**	**-0.6**		
AKBB					pmax	pmax				
	comp=Z,25nm,0.9s									
GOF	**Gofitskoye**	**68.59**	**318**	⇑	*e*P	**P**	**11 20 14.9**	**-3.4**		
GOF					pmax	pmax				
	comp=Z,42nm,0.8s									
KULM	**Kulim**	**68.86**	**249**		P	**P**	**11 20 22.0**	**+1.6**		
U38A	**Gravette**	**68.91**	**57**		P	**P**	**11 20 19.1**	**-1.4**		
ABTX	**Abilene, Hawle**	**69.17**	**63**		P	**P**	**11 20 22.0**	**-0.2**		
ABTX					IAmb	IAmb	11 20 46.3			
	comp=Z,16nm,1.0s									
CCM	**Cathedral Cave**	**69.17**	**54**		P	**P**	**11 20 21.5**	**-0.6**		
CCM					pmax	pmax				
	comp=Z,14nm,1.1s									
CCM	**Cathedral Cave**	**69.17**	**54**		P	**P**	**11 20 21.5**	**-0.6**		
CCM					IAmb	IAmb	11 20 44.8			
	comp=Z,14nm,1.1s									
CCM	**Cathedral Cave**	**69.18**	**54**		P		11 20 21.2			
	baz=323									
COEN	**Coen**	**69.21**	**199**		P	**P**	**11 20 22.6**	**+0.2**		
COEN					IAmb	IAmb	11 20 25.0			
	comp=Z,12nm,1.2s									
HHAR	**Hobbs**	**69.26**	**57**		P	**P**	**11 20 22.2**	**-0.5**		
HHAR					IAmb	IAmb	11 20 43.0			
	comp=Z,12nm,0.7s									
IPM	**Ipoh**	**69.33**	**248**		P	**P**	**11 20 23.4**	**+0.1**		
IPM					IAmb	IAmb	11 20 42.5			
	comp=Z,21nm,1.0s									
IPM	**Ipoh**	**69.33**	**248**		P	**P**	**11 20 24.0**	**+0.7**		
TX31	**Lajitas Ar. Si**	**69.54**	**68**		P	**P**	**11 20 25.3**	**+0.7**		
TX32	**Lajitas Array**	**69.54**	**68**		P	**P**	**11 20 25.2**	**+0.6**		
TX32					IAmb	IAmb	11 20 38.0			
	comp=Z,7.7nm,0.8s									
TXAR	**Lajitas Array**	**69.54**	**68**		P	**P**	**11 20 25.1**	**+0.5**		
	comp=Z,3.7nm,0.7s,baz=300,slow=4.5,SNR=51									
TXAR					LR	LR	11 49 29.3			
	comp=Z,347nm,20.8s,baz=0.0,slow=35									
TXAR	**Lajitas Array**	**69.54**	**68**		P	**P**	**11 20 24.8**	**+0.2**		
TXAR	**Lajitas Array**	**69.54**	**68**		P	**P**	**11 20 24.8**	**+0.2**		
AKT	**Akhty**	**69.57**	**313**		*e*P	**P**	**11 20 24.8**	**+0.2**		
AKT					*e*		11 20 47.9			
AKT					pmax	pmax				
	comp=Z,24nm,0.6s									
TRQ	**Mont Tremblant**	**69.58**	**38**		P	**P**	**11 20 23.2**	**-1.3**		
KIV	**Kislovodsk**	**69.64**	**318**	⇓	P	**P**	**11 20 25.3**	**+0.2**		
KIV	**Kislovodsk**	**69.64**	**318**		*e*P	**P**	**11 20 25.0**	**0.0**		
KIV					*e*S	**S**	**11 29 31.2**	**-0.9**		
KIV					pmax	pmax				
	comp=Z,165nm,4.3s									
KIV					pmax	pmax				
	comp=Z,51nm,0.9s									
KIV	**Kislovodsk**	**69.64**	**318**		P	**P**	**11 20 25.0**	**0.0**		
KIV					IAmb	IAmb	11 20 40.5			
	comp=Z,15nm,0.7s									
KIV	**Kislovodsk**	**69.64**	**318**		P	**P**	**11 20 26.3**	**+1.3**		
KIV					P	**P**	**11 20 26.3**	**+1.3**		
NCK	**Nalchik**	**69.66**	**317**	⇑	*e*P	**P**	**11 20 26.2**	**+1.2**		
NCK					pmax	pmax				
	comp=Z,15nm,0.2s									
U40A	**Yellville**	**69.74**	**56**		P	**P**	**11 20 24.8**	**-0.8**		
U40A					IAmb	IAmb	11 20 46.2			
	comp=Z,17nm,1.1s									
U40A	**Yellville**	**69.74**	**56**		P		11 20 24.7			
	baz=322,SNR=8.6									
KBZ	**Khabaz**	**69.75**	**317**		P	**P**	**11 20 25.9**	**+0.4**		
	comp=Z,13nm,0.7s,baz=43,slow=5.2,SNR=34									
KBZ					LR	LR	11 55 06.3			
	comp=Z,2µm,19.6s,baz=24,slow=40									
ZEI	**Tsey**	**70.12**	**316**		*e*P	P	11 20 21.1	-7.0		
ZEI					pmax	pmax				
	comp=Z,11nm,0.8s									
W39A	**Magazine**	**70.19**	**57**		P		11 20 28.5			
	baz=322									
NEY	**Neytrino**	**70.22**	**317**	⇑	*e*P	**P**	**11 20 30.6**	**+1.9**		
NEY					pmax	pmax				
	comp=Z,2.0nm,1.0s									
D61A	**St Aubert, Com**	**70.28**	**35**		P		11 20 28.2			
	baz=330									
S44A	**Carbondale**	**70.41**	**53**		P	**P**	**11 20 29.5**	**-0.2**		
S44A					IAmb	IAmb	11 20 49.6			
	comp=Z,14nm,0.9s									
SIUC	**Southern Illin**	**70.41**	**53**		P	**P**	**11 20 29.5**	**-0.2**		
SIUC					IAmb	IAmb	11 20 52.0			
	comp=Z,23nm,1.2s									
FCAR	**Ozark Folk Cen**	**70.47**	**56**		P	**P**	**11 20 29.1**	**-0.9**		
FCAR					IAmb	IAmb	11 20 50.6			
	comp=Z,13nm,1.0s									
E60A	**Ste Agathe de**	**70.56**	**36**		P		11 20 30.0			
	baz=330									
PBMO	**Poplar Bluff**	**70.58**	**54**		P	**P**	**11 20 30.6**	**-0.2**		
PBMO					IAmb	IAmb	11 20 49.2			
	comp=Z,21nm,1.4s									
G58A	**Ormstown**	**70.67**	**38**		P		11 20 30.9			
	baz=329									
JCT	**Junction City**	**70.76**	**65**		P	**P**	**11 20 32.0**	**0.0**		
JCT					pmax	pmax				
	comp=Z,14nm,1.0s									
JCT	**Junction City**	**70.76**	**65**		P	**P**	**11 20 32.0**	**0.0**		
JCT					IAmb	IAmb	11 20 53.3			
	comp=Z,14nm,0.9s									
JCT	**Junction City**	**70.76**	**65**		P		11 20 31.7			
	baz=322									
MIAR	**Mount Ida**	**70.81**	**58**		P	**P**	**11 20 30.9**	**-1.3**		
MIAR					pmax	pmax				
	comp=Z,11nm,1.0s									
MIAR	**Mount Ida**	**70.81**	**58**		P	**P**	**11 20 30.9**	**-1.3**		
MIAR					IAmb	IAmb	11 20 53.0			
	comp=Z,11nm,0.9s									
MIAR	**Mount Ida**	**70.81**	**58**		P		11 20 31.8			
	baz=323									
LVV	**L'vov**	**70.87**	**332**		*e*P	**P**	**11 20 32.8**	**+0.5**		
LONY	**Lake Ozonia**	**70.93**	**39**		P		11 20 31.8			
	baz=328									
L53A	**Girard**	**70.94**	**44**		P		11 20 31.9			
	baz=326									
ANN	**Anapa**	**70.96**	**321**		*e*P	P	11 20 20.5	-12		
ANN					*e*PP	pP	11 20 29.8	-8.8		
ANN					pmax	pmax				
	comp=Z,50nm,1.3s									
ANN					MLR	MLR				
	comp=N,547nm,16.0s									
ANN					MLR	MLR				
	comp=Z,926nm,15.0s									
ANN					MLR	MLR				
	comp=E,828nm,15.0s									
W41B	**Gary Mavity, V**	**70.97**	**56**		P		11 20 32.0			
	baz=323									
P49A	**Miami Univ. Ec**	**71.01**	**49**		P		11 20 31.9			
	baz=325									
G59A	**Clarenceville**	**71.05**	**38**		P		11 20 32.1			
	baz=329									
SOC	**Sochi**	**71.13**	**319**		*e*P	**P**	**11 20 34.1**	**+0.2**		
SOC					*e*PPP	PPP	11 24 52.4			
SOC					*e*S	**S**	**11 29 50.5**	**+1.3**		
SOC					*e*SS	**SS**	**11 34 25.6**	**+3.9**		
SOC					pmax	pmax				
	comp=Z,32nm,1.1s									
SOC					MLR	MLR				
	comp=Z,2µm,19.0s									
M53A	**WI Miller and**	**71.19**	**45**		P		11 20 33.5			
	baz=326									
J56A	**Wolcott**	**71.20**	**41**		P		11 20 33.3			
	baz=328									
BATI	**Baumata**	**71.35**	**220**		P	**P**	**11 20 35.8**	**+0.3**		
	comp=Z,20nm,0.8s,baz=105,slow=1.5,SNR=5.8									
KWP	**Kalwaria Pacla**	**71.40**	**333**		P	**P**	**11 20 36.2**	**+0.7**		
KWP					pmax	pmax				
	comp=Z,75nm,1.1s									
KWP	**Kalwaria Pacla**	**71.40**	**333**		P	**P**	**11 20 36.2**	**+0.7**		
AKH	**Akhalkalaki**	**71.43**	**316**	⇑	P	**P**	**11 20 35.4**	**-0.7**		
K56A	**Middlesex**	**71.50**	**42**		P		11 20 35.5			
	baz=328									
FLTG	**Flechtingen**	**71.50**	**341**		*e*P	**P**	**11 20 36.4**	**+0.3**		
	comp=Z,11nm,1.0s,baz=18,slow=6.0									
NRDL	**Niedersach Rie**	**71.56**	**342**		*e*P	**P**	**11 20 37.2**	**+0.9**		
	comp=Z,9.0nm,0.9s,baz=18,slow=6.0									
OJC	**Ojcow**	**71.61**	**335**		*e*P	**P**	**11 20 38.5**	**+1.7**		
OJC	**Ojcow**	**71.61**	**335**		P	**P**	**11 20 36.7**	**-0.1**		
OJC					pmax	pmax				
	comp=Z,33nm,1.1s									
OJC	**Ojcow**	**71.61**	**335**		P	**P**	**11 20 36.7**	**-0.1**		
ASSE	**Asse, Remlinge**	**71.80**	**342**		*e*P	**P**	**11 20 38.9**	**+1.1**		
	comp=Z,22nm,1.4s,baz=18,slow=6.0									
KSP	**Ksiaz**	**71.86**	**338**		*e*P	**P**	**11 20 40.0**	**+1.7**		
L56A	**Greenwood**	**71.88**	**42**		P		11 20 38.1			
	baz=328									
J59A	**Piesco**	**71.94**	**40**		P		11 20 38.3			
	baz=329									
O53A	**New Philadelph**	**71.95**	**46**		P		11 20 38.7			
	baz=326									
GNI	**Garni**	**71.95**	**314**		*ce*P	**P**	**11 20 39.9**	**+0.7**		
GNI					pmax	pmax				
	comp=Z,34nm,1.3s									
GNI	**Garni**	**71.95**	**314**		P	**P**	**11 20 38.9**	**-0.3**		
GNI	**Garni**	**71.95**	**314**		P	**P**	**11 20 41.0**	**+1.8**		
GNI					P	**P**	**11 20 41.0**	**+1.8**		
H61A	**Lyndonville**	**71.98**	**37**		P		11 20 38.9			
	baz=330									
KIS	**Kishinev**	**71.99**	**328**		*e*P	**P**	**11 20 39.8**	**+0.7**		
KIS	**Kishinev**	**71.99**	**328**		*e*PcP	**PcP**	**11 20 53.0**	**-4.6**		
KIS	**Kishinev**	**71.99**	**328**		*e*PP	PP	11 23 13.0	-5.4		
KIS					*e*LR	LR	11 56 15.0			
	comp=Z,600nm,17.0s									
KIS	**Kishinev**	**71.99**	**328**		*e*P	**P**	**11 20 40.0**	**+0.9**		
KIS					*e*		11 20 53.0			
KIS					MLR	MLR				
	comp=N,500nm,17.0s									
KIS					MLR	MLR				
	comp=Z,600nm,17.0s									
T47A	**Sharon Grove**	**71.99**	**52**		P	**P**	**11 20 38.9**	**-0.4**		
T47A					IAmb	IAmb	11 21 01.9			
	comp=Z,22nm,0.9s									
HYB	**Hyderabad**	**72.11**	**275**		*i* P	**P**	**11 20 39.0**	**-1.3**		
CLL	**Collm**	**72.13**	**340**		*i* P	**P**	**11 20 40.6**	**+0.8**		
	comp=Z,42nm,1.3s									
CLL					*i* sP	**sP**	**11 20 48.2**	**+0.6**		
CLL					*i* sPcP		11 21 07.2			
CLL					*e*S	**S**	**11 30 02.0**	**+1.5**		
CLL					*e*SKSac	**SKSac**	**11 30 39.0**	**-3.5**		
CLL					*e*(SS)		11 35 12.0			
CLL					*e*SSS	SSS	11 37 42.0			
CLL					LmH		11 56 00.0			
	comp=N,500nm,18.1s									
CLL					LmH		11 56 00.0			
	comp=E,400nm,20.6s									
CLL					LmV		11 58 00.0			
	comp=Z,700nm,18.4s									
CLL	**Collm**	**72.13**	**340**		*i* P	**P**	**11 20 40.6**	**+0.8**		
CLL					*e*S	**S**	**11 30 02.0**	**+1.5**		
CLL					pmax	pmax				
	comp=Z,42nm,1.3s									
CLL					MLR	MLR				
	comp=Z,700nm,18.4s									
CLL	**Collm**	**72.13**	**340**		P	**P**	**11 20 40.0**	**+0.1**		
CLL					IAmb	IAmb	11 20 41.7			
	comp=Z,16nm,0.7s									
CLL	**Collm**	**72.13**	**340**		*e*P	**P**	**11 20 40.1**	**+0.2**		
	comp=Z,12nm,0.6s,baz=18,slow=6.0									
CLZ	**Clausthal**	**72.13**	**342**		*e*P	**P**	**11 20 41.2**	**+1.2**		
	comp=Z,22nm,0.9s,baz=18,slow=6.0									
OSTC	**Ostas**	**72.15**	**338**		*e*P	**P**	**11 20 41.2**	**+1.2**		
OSTC					AMS	AMS	11 57 30.0			
	comp=Z,900nm,13.8s									
KOLS	**Kolonicke sedl**	**72.15**	**333**		*e*P	**P**	**11 20 41.1**	**+1.0**		
KOLS					pmax	pmax				
	comp=Z,100nm,2.3s									
KOLS	**Kolonicke sedl**	**72.15**	**333**		*e*P	**P**	**11 20 41.1**	**+1.0**		
CHVC	**Chvalec**	**72.15**	**338**		*e*P	**P**	**11 20 40.8**	**+0.7**		
CHVC					AMS	AMS	11 57 20.0			
	comp=Z,800nm,18.7s									
H62A	**Milan**	**72.22**	**37**		P		11 20 40.1			
	baz=330									
UPC	**Upice**	**72.24**	**338**		*e*P	**P**	**11 20 41.9**	**+1.4**		
UPC					MLR	MLR				
	comp=Z,800nm,17.0s									
UPC	**Upice**	**72.24**	**338**		*e*P	**P**	**11 20 41.9**	**+1.4**		
UPC					AMS	AMS	11 57 30.0			
	comp=Z,800nm,17.0s									
DPC	**Dobruska-Polom**	**72.31**	**338**		*e*P	**P**	**11 20 41.9**	**+0.8**		
DPC					MLR	MLR				
	comp=Z,800nm,18.6s									
DPC	**Dobruska-Polom**	**72.31**	**338**		*e*P	**P**	**11 20 41.9**	**+0.8**		
DPC					AMS	AMS	11 57 20.0			
	comp=Z,800nm,18.6s									
BRG	**Berggiesshubel**	**72.34**	**339**		*i* P	**P**	**11 20 42.4**	**+1.2**		
BRG					Amp		11 20 43.9			
	comp=Z,9.0nm,0.7s									
BRG					Amp		11 59 42.0			
	comp=Z,1.0nm,16.3s									
BRG					Amp		11 59 45.0			
	comp=N,0.7nm,16.9s									
BRG					Amp		11 59 47.0			
	comp=E,0.5nm,14.4s									
BRG	**Berggiesshubel**	**72.34**	**339**		*e*P	**P**	**11 20 41.8**	**+0.6**		
	comp=E,7.9nm,0.7s,baz=18,slow=6.0									
WVT	**Waverly**	**72.35**	**53**		P	**P**	**11 20 41.4**	**0.0**		
WVT					pmax	pmax				
	comp=Z,7.0nm,0.9s									
WVT	**Waverly**	**72.35**	**53**		P	**P**	**11 20 41.4**	**0.0**		
WVT	**Waverly**	**72.35**	**53**		P		11 20 41.2			
	baz=324									
OKC	**Ostrava-Krasne**	**72.37**	**336**		AMS	AMS	11 56 50.0			
	comp=Z,1µm,17.3s									
CRVS	**Cervenica-Dubn**	**72.39**	**334**		*e*P	**P**	**11 20 43.3**	**+1.8**		
CRVS	**Cervenica-Dubn**	**72.39**	**334**		*e*P	**P**	**11 20 43.3**	**+1.8**		
K59A	**Cooperstown**	**72.40**	**40**		P		11 20 40.9			
	baz=329									
UZH	**Uzhgorod**	**72.42**	**333**		*e*P	**P**	**11 20 41.5**	**-0.1**		
UZH					*i*		11 20 54.3			
FBE	**Freiberg**	**72.42**	**340**		*e*P	**P**	**11 20 42.4**	**+0.8**		
	comp=Z,40nm,1.4s,baz=18,slow=6.0									
G64A	**Maxfield**	**72.46**	**35**		P		11 20 41.5			
	baz=331									
KRLC	**Kraliky**	**72.47**	**337**		*e*P	**P**	**11 20 43.5**	**+1.5**		
KRLC					MLR	MLR				
	comp=Z,800nm,15.7s									
KRLC	**Kraliky**	**72.47**	**337**		*e*P	**P**	**11 20 43.5**	**+1.5**		
KRLC					AMS	AMS	11 57 40.0			
	comp=Z,800nm,15.7s									
NEUB	**Neuenburg**	**72.47**	**341**		*e*P	**P**	**11 20 42.5**	**+0.6**		
	comp=Z,18nm,0.7s,baz=18,slow=6.0									
BUR08	**Bucovina Ar. S**	**72.50**	**331**		P	**P**	**11 20 42.7**	**+0.3**		
BUR08					IAmb	IAmb	11 20 44.8			
	comp=Z,20nm,0.9s									
BURAR	**Bucovina Array**	**72.53**	**331**	⇑	P	**P**	**11 20 42.6**	**+0.2**		
BURAR	**Bucovina Array**	**72.53**	**331**		P	**P**	**11 20 42.5**	**+0.1**		
PVCC	**Panska Ves**	**72.54**	**339**		AMS	AMS	11 57 40.0			
	comp=Z,700nm,16.3s									
MORC	**Moravsky Berou**	**72.57**	**337**	⇑	P	**P**	**11 20 44.1**	**+1.5**		
MORC	**Moravsky Berou**	**72.57**	**337**		*e*PKP	**P**	**11 20 44.5**	**+1.9**		
MORC	**Moravsky Berou**	**72.57**	**337**		P	**P**	**11 20 43.8**	**+1.2**		
MORC					pmax	pmax				
	comp=Z,11nm,0.8s									
MORC	**Moravsky Berou**	**72.57**	**337**		P	**P**	**11 20 43.8**	**+1.2**		
MORC					IAmb	IAmb	11 20 45.9			
	comp=Z,11nm,0.8s									
L58A	**Harry Jones Me**	**72.64**	**41**		P		11 20 42.5			
	baz=328									
LANS	**Liptovska Anna**	**72.68**	**335**		*e*P	**P**	**11 20 45.6**	**+2.4**		
LANS					pmax	pmax				
	comp=Z,14nm,0.8s									
LANS	**Liptovska Anna**	**72.68**	**335**		*e*P	**P**	**11 20 45.6**	**+2.4**		
M57A	**Sunshine Farm,**	**72.73**	**42**		P		11 20 43.2			
	baz=328									
BIZ	**Bicaz**	**72.88**	**330**	⇑	P	**P**	**11 20 45.4**	**+1.0**		
Q53A	**Leroy**	**72.97**	**47**		P		11 20 44.2			
	baz=326									
PRA	**Prague**	**73.00**	**339**		AMS	AMS	11 58 20.0			
	comp=Z,700nm,13.4s									
MOX	**Moxa**	**73.04**	**341**		*e*P	**P**	**11 20 46.1**	**+0.8**		
	comp=Z,13nm,0.9s,baz=18,slow=6.0									
N57A	**Milroy**	**73.05**	**43**		P		11 20 44.9			
	baz=328									
PRU	**Pruhonice**	**73.05**	**339**		*e*P	**P**	**11 20 46.3**	**+0.9**		
PRU					MLR	MLR				
	comp=Z,800nm,14.5s									
PRU	**Pruhonice**	**73.05**	**339**		*e*P	**P**	**11 20 46.3**	**+0.9**		
PRU					AMS	AMS	11 58 30.0			
	comp=Z,800nm,14.5s									
GOPC	**GO Pecny, Ondr**	**73.07**	**338**		*e*P	**P**	**11 20 46.9**	**+1.4**		
GOPC					MLR	MLR				
	comp=Z,700nm,15.2s									
GOPC	**GO Pecny, Ondr**	**73.07**	**338**		*e*P	**P**	**11 20 46.9**	**+1.4**		
GOPC					AMS	AMS	11 58 20.0			
	comp=Z,700nm,15.2s									
PLN	**Plauen**	**73.08**	**340**		*e*P	**P**	**11 20 46.4**	**+0.8**		
	comp=Z,10nm,0.8s,baz=18,slow=6.0									
TANN	**Tannenbergstha**	**73.09**	**340**		*e*P	**P**	**11 20 46.5**	**+0.8**		
	comp=Z,13nm,0.2s,baz=18,slow=6.0									
WERD	**Werda**	**73.09**	**340**		*e*P	**P**	**11 20 46.4**	**+0.8**		
	comp=Z,6.4nm,1.1s,baz=18,slow=6.0									
TESR	**Tescani**	**73.09**	**329**	⇑	P	**P**	**11 20 46.3**	**+0.6**		
KASTN	**Kahler Asten**	**73.10**	**343**		*e*P	**P**	**11 20 46.5**	**+0.8**		
	comp=Z,10nm,0.8s,baz=18,slow=6.0									
PLAL	**Pickwick Lake**	**73.16**	**54**		IAmb	IAmb	11 21 09.0			
	comp=Z,13nm,1.1s									
GUNZ	**Gunzen**	**73.16**	**340**		*e*P	**P**	**11 20 47.0**	**+0.9**		
	comp=Z,9.4nm,0.8s,baz=18,slow=6.0									
UBBA	**Unterbreizbach**	**73.18**	**342**		*e*P	**P**	**11 20 47.2**	**+1.2**		
	comp=Z,10nm,0.8s,baz=18,slow=6.0									
WERN	**Wernitzgruen**	**73.22**	**340**		*e*P	**P**	**11 20 47.6**	**+1.1**		
	comp=Z,15nm,0.7s,baz=18,slow=6.0									
VRAC	**Vranov**	**73.23**	**337**		LR	LR	11 57 18.7			
	comp=Z,661nm,19.4s,baz=32,slow=39									
VRAC	**Vranov**	**73.23**	**337**	⇑	P	**P**	**11 20 48.5**	**+2.1**		
VRAC	**Vranov**	**73.23**	**337**		*e*PKP	**P**	**11 20 48.4**	**+1.9**		
NKC	**Novy Kostel**	**73.26**	**340**		*e*P	**P**	**11 20 48.3**	**+1.7**		

comp=Z,6,8nm,0.5s,baz=32,slow=5.4,SNR=45
GERES LR LR 11 57 55.5
comp=Z,593nm,20.5s,baz=27,slow=39
GERES GERESS Array B 74.31 339 P **P** **11 20 52.8 -0.1**
GERES GERESS Array B 74.31 339 P **P** **11 20 52.8 -0.1**
BHOU Houvegnez 74.33 344 *d*P **P** **11 20 53.2 +0.3**
BHOU *d*PcP **PcP** **11 21 07.5 -0.1**
HARR Harsova 74.33 328 ⇓P **P** **11 20 53.2 +0.3**
TIRR Tirgusor 74.38 327 ⇓P **P** **11 20 53.7 +0.4**
TIRR Tirgusor 74.38 327 P **P** **11 20 53.2 -0.1**
TIRR pmax pmax
comp=Z,64nm,0.9s
TIRR Tirgusor 74.38 327 P **P** **11 20 53.2 -0.1**
BGES Gesves 74.45 345 *d*P **P** **11 20 53.0 -0.6**
VOIR 74.55 330 ⇑P **P** **11 20 55.0 +0.7**
BMRD Maredsous 74.58 345 *d*P **P** **11 20 54.6 +0.3**
BMRD *d*pP **pwP** **11 21 04.3 -0.5**
CTAO Charters Tower 74.67 195 P **P** **11 20 54.9 -0.1**
CTAO pmax pmax
comp=Z,19nm,1.1s
CTAO Charters Tower 74.67 195 P **P** **11 20 54.9 -0.1**
CTAO IAmb IAmb 11 21 13.5
comp=Z,19nm,1.1s
FPAL Fort Paine 74.69 52 IAmb IAmb 11 21 18.4
comp=Z,11nm,0.8s
CONA Conrad Observa 74.69 337 *e*P **P** **11 20 57.6 +2.4**
comp=Z,9.0nm,0.6s,SNR=7.7
ARR Arges 74.73 330 ⇓P **P** **11 20 57.1 +1.7**
DOU Dourbes 74.80 345 *d*P **P** **11 20 55.5 -0.1**
DOU *d*PcP **PcP** **11 21 09.4 -0.2**
BLA Blacksburg 74.82 47 P 11 20 55.0
baz=327
M64A Tiverton 74.83 38 P 11 20 56.2
baz=331
MOA Molln 75.13 338 *e*P **P** **11 20 59.4 +1.8**
comp=Z,7.1nm,0.8s
GZR Gura Zlata 75.25 331 ⇑P **P** **11 20 59.2 +0.8**
LRAL Lakeview Retre 75.26 54 P 11 20 58.1
baz=325
BZS Buzias 75.37 332 ⇓P **P** **11 20 59.3 +0.3**
ARSA Arzberg 75.41 337 *e*P **P** **11 21 01.3 +2.2**
comp=Z,8.4nm,0.6s,SNR=6.1
FUR Furstenfeldbru 75.47 340 *e*P **P** **11 21 00.9 +1.4**
comp=Z,24nm,0.7s,baz=18,slow=6.0
DZM Mont Dzumac 75.55 175 *e*LR LR 11 44 40.4
comp=Z,469nm,22.1s
RJOB Jochberg 75.56 339 *e*P **P** **11 21 01.3 +1.2**
comp=Z,48nm,0.8s,baz=18,slow=6.0
MORH Mrgy, Hungar 75.61 334 ⇓P **P** **11 21 00.6 +0.3**
RAZG Razgrad 75.79 328 ⇓P **P** **11 21 01.2 -0.2**
BFO Black Forest 75.88 342 P **P** **11 21 02.6 +0.7**
BFO pmax pmax
comp=Z,7.0nm,0.8s
BFO Black Forest 75.88 342 P **P** **11 21 02.5 +0.7**
BFO Black Forest 75.88 342 *e*P **P** **11 21 03.2 +1.3**
comp=Z,7.0nm,0.8s,baz=18,slow=6.0
MARD Mardin 76.01 315 P **P** **11 21 03.7 +0.8**
MARD IAmb IAmb 11 21 06.0
comp=Z,25nm,1.0s
SOKA Soboth 76.06 337 *e*P **P** **11 21 04.3 +1.3**
comp=Z,11nm,0.6s,SNR=10
KBA Koelnbreinsper 76.06 338 *e*P **P** **11 21 04.7 +1.6**
comp=Z,31nm,0.6s,SNR=25
PERS Pernice 76.08 337 *i*P **P** **11 21 04.0 +0.9**
GROS Grobnik 76.15 337 *i*P **P** **11 21 04.2 +0.6**
UBR Ueberruh 76.16 341 *e*P **P** **11 21 05.0 +1.5**
comp=Z,16nm,1.3s,baz=18,slow=6.0
WATA Walderalm 76.20 340 *e*P **P** **11 21 05.1 +1.3**
comp=Z,11nm,0.9s
ECH Echery 76.20 343 P **P** **11 21 04.8 +1.1**
ECH pmax pmax
comp=Z,13nm,1.0s
ECH Echery 76.20 343 P **P** **11 21 04.8 +1.1**
ECH IAmb IAmb 11 21 15.6
comp=Z,13nm,1.0s
RETA Reutte 76.22 340 *e*P **P** **11 21 05.0 +1.1**
comp=Z,5.5nm,0.7s
WTTA Wattenberg 76.25 339 *e*P **P** **11 21 05.7 +1.5**
comp=Z,13nm,0.7s,SNR=7.8
MOTA Moosalm 76.28 340 *e*P **P** **11 21 05.5 +1.1**
comp=Z,12nm,0.7s
OBKA Obir 76.33 337 *e*P **P** **11 21 06.0 +1.5**
comp=Z,18nm,0.7s,SNR=9.6
SQTA Sankt Quirin 76.38 340 *e*P **P** **11 21 06.3 +1.5**
comp=Z,21nm,0.8s,SNR=7.8
MYKA Terra Mystica 76.42 338 *e*P **P** **11 21 07.2 +2.1**
comp=Z,9.1nm,0.7s,SNR=5.3
PLVB Pleven 76.53 329 ⇑P **P** **11 21 06.1 +0.5**
ABTA Abfaltersbach 76.56 339 *e*P **P** **11 21 06.9 +1.1**
comp=Z,17nm,0.7s,SNR=9.3
ZOU Zoufplan 76.64 338 P **P** **11 21 07.2 +0.7**
ZOU IAmb IAmb 11 21 10.1
comp=Z,7.1nm,0.5s
FETA Feichten 76.67 340 *e*P **P** **11 21 08.0 +1.4**
comp=Z,14nm,0.8s,SNR=6.8
BR131 Keskin Array S 76.76 321 P **P** **11 21 07.2 +0.1**
BR131 pmax pmax
comp=Z,44nm,1.5s
BR131 Keskin Array S 76.76 321 P **P** **11 21 07.2 +0.1**
BRTR Keskin Array B 76.76 321 P **P** **11 21 07.4 +0.2**
comp=Z,5.6nm,0.6s,baz=48,slow=3.8,SNR=17
BRTR LR LR 12 00 55.1
comp=Z,820nm,18.3s,baz=32,slow=40
WB0 Warramunga Arr 76.84 206 IAmb IAmb 11 21 26.8
comp=Z,25nm,1.1s
WR0 Warramunga Arr 76.99 206 P **P** **11 21 09.2 +0.9**
WRAB Tennant Creek 77.01 206 *c*eP **P** **11 21 08.9 +0.5**
WRAB pmax pmax
comp=Z,22nm,1.1s
WB2 Warramunga Arr 77.02 206 P **P** **11 21 08.8 +0.3**
WB2 IAmb IAmb 11 21 25.6
comp=Z,15nm,0.8s
WRA Warramunga Arr 77.02 206 P **P** **11 21 08.8 +0.3**
comp=Z,11nm,0.7s,baz=20,slow=6.0,SNR=103
WRA LR LR 11 53 14.9
comp=Z,186nm,22.0s,baz=5.0,slow=34
WRA Warramunga Arr 77.02 206 P **P** **11 21 08.7 +0.1**
GBRS Gornja Briga 77.19 337 *i*P **P** **11 21 09.8 +0.4**
DIVS Divibare 77.22 333 IAmb IAmb 11 21 24.7
comp=Z,14nm,0.9s
CTI Castel Tesino 77.41 339 IAmb IAmb 11 21 12.4
comp=Z,14nm,0.6s
VTS Vitosha 77.65 330 ⇓P **P** **11 21 12.9 +0.7**
VTS Vitosha 77.65 330 IAmb IAmb 11 21 14.3
comp=Z,12nm,0.5s
FITZ Fitzroy Crossi 77.92 215 P **P** **11 21 14.5 +1.0**
comp=Z,20nm,0.6s,baz=13,slow=5.2,SNR=81
FITZ Fitzroy Crossi 77.92 215 P **P** **11 21 14.7 +1.2**
FITZ IAmb IAmb 11 21 16.4
comp=Z,18nm,0.7s
SHME Shamm 78.00 298 P **P** **11 21 14.3 +0.2**
SHME P **P** **11 21 14.3 +0.2**
BANOM Banah 78.02 297 P **P** **11 21 14.2 -0.1**
NVLJ Novalja 78.09 336 *i*P **P** **11 21 13.8 -0.4**
KIJV Kijevo 78.24 335 *i*P **P** **11 21 15.9 +0.7**
ALN Alexandroupoli 78.35 327 P **P** **11 21 15.9 +0.1**
ALN pmax pmax
comp=Z,22nm,1.0s
ALN Alexandroupoli 78.35 327 P **P** **11 21 15.9 +0.1**
ALN IAmb IAmb 11 21 31.0
comp=Z,22nm,1.0s
RICI Ricice 78.53 334 P **P** **11 21 16.1 -0.8**
MORI Morici 78.54 336 *i*P **P** **11 21 17.1 +0.2**
DUGI Dugi Otok 78.58 336 *i*P **P** **11 21 16.8 -0.3**
ZIRJ Zirje 78.76 336 *i*P **P** **11 21 16.8 -1.2**
STIP Stip 78.81 330 *i*P **P** **11 21 17.8 -0.5**
PALK Pallekele 78.83 267 P **P** **11 21 18.9 0.0**
PALK pmax pmax
comp=Z,28nm,1.0s
PALK Pallekele 78.83 267 P **P** **11 21 18.9 0.0**
PALK IAmb IAmb 11 21 44.1
comp=Z,28nm,1.0s
PALK Pallekele 78.83 267 P **P** **11 21 18.5 -0.3**
PALK P **P** **11 21 18.5 -0.3**
UOSS Minazif 78.86 297 P **P** **11 21 17.9 -1.0**
UOSS Minazif 78.86 297 P **P** **11 21 18.2 -0.7**
UOSS P **P** **11 21 18.2 -0.7**
PDG Podgorica 78.97 333 ⇑P **P** **11 21 19.0 -0.1**
STON Ston 78.97 334 *i*P **P** **11 21 16.8 -2.4**
HATD Hatta, Dubai 79.00 297 P **P** **11 21 19.5 -0.2**
HATD P **P** **11 21 19.5 -0.2**
HVAR Hvar 79.01 335 *i*P **P** **11 21 18.9 -0.5**
ASHO Ashiyiah 79.15 297 P **P** **11 21 20.6 0.0**
ASHO P **P** **11 21 20.6 0.0**
TAOE Nuku Hiva Isla 79.22 121 *e*LR LR 11 46 02.3
comp=Z,427nm,22.2s,baz=335
WBK Wadi Bani Khal 79.25 293 P **P** **11 21 22.0 +0.9**
WBK P **P** **11 21 22.0 +0.9**
BNI Bardonecchia 79.34 342 IAmb IAmb 11 21 36.5
comp=Z,23nm,1.1s
SOHO SOHO 79.34 296 P **P** **11 21 21.1 -0.5**
SOHO P **P** **11 21 21.1 -0.5**
MIB Mutribah 79.37 306 *e*P 11 21 20.9
HOQ Hoqain 79.37 295 P **P** **11 21 21.7 0.0**
HOQ P **P** **11 21 21.7 0.0**
JLN Jalan Bani Buh 79.38 293 P **P** **11 21 22.6 +0.9**
JLN P **P** **11 21 22.6 +0.9**
UMR Umm Al-Rimmam 79.40 306 *e*P 11 21 20.8
VLC Villacollemand 79.48 339 P **P** **11 21 23.1 +1.0**
SSB Saint Sauveur 79.49 344 P **P** **11 21 22.3 +0.2**
SSB pmax pmax
comp=Z,25nm,1.5s
SSB Saint Sauveur 79.49 344 P **P** **11 21 22.3 +0.2**
SSB IAmb IAmb 11 21 36.7
comp=Z,25nm,1.5s
ASUD Al Ashush, Dub 79.58 297 P **P** **11 21 21.7 -1.1**
ASUD P **P** **11 21 21.7 -1.1**
MANT Manisa 79.67 324 P **P** **11 21 23.4 -0.1**
OHR Ohrid 79.75 331 *i*P **P** **11 21 24.5 +0.9**
RST Umm Al-Ruwaisa 79.78 306 *e*P 11 21 22.7
FNA Florina 79.89 330 P **P** **11 21 24.7 +0.4**
FNA pmax pmax
comp=Z,13nm,0.9s
FNA Florina 79.89 330 P **P** **11 21 24.7 +0.4**
FNA IAmb IAmb 11 21 42.5
comp=Z,13nm,0.9s
JMDO Jabal Madar 79.92 294 P **P** **11 21 25.2 +0.4**
SNR=6.2
JMDO P **P** **11 21 25.2 +0.4**
SNR=6.2
QRN Al-Qurain 79.97 305 *e*P 11 21 24.3
ARQ Araqi 79.99 296 P **P** **11 21 25.3 +0.2**
SNR=5.5
ARQ P **P** **11 21 25.3 +0.2**
SNR=5.5
RDF Al-Radifah 80.00 306 *e*P 11 21 24.3
BSY Bisya 80.11 295 P **P** **11 21 26.2 +0.4**
SNR=7.5
BSY P **P** **11 21 26.2 +0.4**
SNR=7.5
NRCA Norcia 80.14 337 P **P** **11 21 26.4 +0.7**
SGRT San Giovanni R 80.52 335 P **P** **11 21 28.4 +0.7**
SGRT IAmb IAmb 11 21 30.5
comp=Z,22nm,0.9s
AS31 Alice Springs 80.69 206 P **P** **11 21 29.2 +0.6**
ASAR Alice Springs 80.69 206 P **P** **11 21 29.4 +0.8**
comp=Z,6.5nm,0.6s,baz=18,slow=5.5,SNR=99
ASAR LR LR 11 55 18.9
comp=Z,217nm,21.9s,baz=14,slow=34
ASAR Alice Springs 80.69 206 P **P** **11 21 29.3 +0.7**
INTR Introdacqua 80.73 336 P **P** **11 21 29.0 +0.1**
INTR IAmb IAmb 11 21 43.9
comp=Z,21nm,0.8s
ELL Elmali 80.75 323 P **P** **11 21 29.9 +0.7**
ELL pmax pmax
comp=Z,59nm,1.2s
ELL Elmali 80.75 323 P **P** **11 21 29.9 +0.7**
CSS Mathiatis 81.05 319 P **P** **11 21 30.4 -0.2**
MHTO MHTO 81.11 293 P **P** **11 21 30.9 -0.2**
SNR=18
MHTO P **P** **11 21 30.9 -0.2**
SNR=18
AKAS Kas 81.32 323 IAmb IAmb 11 21 46.1
comp=Z,10nm,0.8s
PPT Papeete 82.36 134 LR LR 11 53 39.0
comp=Z,323nm,19.6s,baz=326,slow=32
PPT2 Papeete2 82.38 134 *e*S **S** **11 31 58.0 +5.5**
comp=Z,268nm,23.2s
PPT2 Papeete2 82.38 134 *e*LR LR 11 47 43.5
comp=Z,647nm,25.2s,baz=328
TIP Timpagrande 82.67 333 ⇓P **P** **11 21 38.8 -0.3**
TIP Timpagrande 82.67 333 P **P** **11 21 39.3 +0.1**
TIP IAmb IAmb 11 21 54.2
comp=Z,18nm,1.0s
EIL Elat 85.04 316 LR LR 12 04 20.4
comp=Z,631nm,20.3s,baz=61,slow=39
DOK Doka 85.12 295 P **P** **11 21 51.5 -0.3**
DOK P **P** **11 21 51.5 -0.3**
DMTO DMTO 85.41 294 P **P** **11 21 54.1 +0.8**
RAYN Ar Rayn 85.51 304 P **P** **11 21 53.5 -0.3**
RAYN pmax pmax
comp=Z,20nm,0.8s
RAYN Ar Rayn 85.51 304 P **P** **11 21 53.5 -0.3**
WHFO Wadi Hawf 85.88 295 P **P** **11 21 54.5 -1.2**
SNR=6.5
WHFO P **P** **11 21 54.5 -1.2**
SNR=6.5
ESDC Sonseca Array 86.19 349 P **P** **11 21 58.4 +1.4**
comp=Z,2.7nm,0.7s,baz=357,slow=4.0,SNR=16
ESDC Sonseca Array 86.19 349 P **P** **11 21 57.7 +0.8**
ABTO Aybut 86.60 295 P **P** **11 21 58.7 -0.6**
ABTO P **P** **11 21 58.7 -0.6**
STKA Stephens Creek 86.97 197 P **P** **11 22 01.4 +0.9**
comp=Z,3.3nm,1.0s,baz=339,slow=6.1,SNR=12
STKA LR LR 11 58 14.2
comp=Z,145nm,21.4s,baz=22,slow=34
STKA Stephens Creek 86.97 197 P **P** **11 22 01.4 +0.9**
TBI Tubuai 87.55 136 *e*S **S** **11 32 45.5 +2.1**
comp=Z,148nm,27.5s
TBI Tubuai 87.55 136 *e*LR LR 11 50 06.8
comp=Z,512nm,23.2s,baz=330
KEST Kesra 87.78 338 P **P** **11 22 05.8 +1.1**
comp=Z,6.0nm,0.7s,baz=324,slow=3.2,SNR=7.6
KEST LR LR 12 08 14.3
comp=Z,738nm,18.4s,baz=350,slow=40
FORT Forrest 89.03 208 P **P** **11 22 10.6 +0.4**
MDT Midelt 93.04 348 LR LR 12 09 13.9
comp=Z,76nm,18.6s,baz=348,slow=39
TORD Torodi Ar. Bea 111.27 339 PP **PP** **11 28 25.6 -2.8**
comp=Z,1.8nm,0.8s,baz=4.3,slow=6.8,SNR=6.4
DBIC Dimbokro 118.80 345 PKP **PKiKP** **11 28 04.3 +0.1**
comp=Z,2.9nm,0.7s,baz=340,slow=2.9,SNR=5.1
PLCA Paso Flores 143.08 91 PKP **PKPdf** **11 28 48.0 -1.0**
comp=Z,3.9nm,1.0s,baz=304,slow=2.3,SNR=4.8
PLCA Paso Flores 143.08 91 PKIKP PKPbc 11 28 47.1 +1.1
PLCA Paso Flores 143.08 91 PKPbc 11 28 47.1 +1.2
SYO Syowa Base 149.73 217 ⇓*e*PKPbc **PKiKP** **11 29 05.6 +0.7**
BELA Belgrano 2 155.01 172 PKPbc PKPdf 11 29 15.2 +8.3
BELA PKPab **PKPab** **11 29 34.2 +2.8**
SNAA Sanae 160.72 195 PKPab **PKPab** **11 29 57.8 +1.5**
VNA3 Neumayer Olymp 161.97 189 PKPab **PKPab** **11 30 01.0 -0.7**
VNA2 Neumayer--Watz 162.02 192 PKPab **PKPab** **11 30 02.4 +0.5**
baz=165,slow=2.0
VNA1 Neumayer--Stat 162.38 191 PKPab **PKPab** **11 30 05.5 +2.0**

*MOS **24** 11:16:05.5±0.8, 53.54N×161.93E, h6km, mb4.5/4, Error ellipse: s-maj=6.6km s-min=5.1km az=65.0*
*IDC **24** 11:16:05.6±0.7, 53.78N×161.57E, h0km, mb3.8/15, mb1 4.1/18, mb1mx3.9/53, mbtmpb3.8/18, ML4.3/2, Error ellipse: s-maj=18.2km s-min=14.4km az=143.0*
*KRSC **24** 11:16:05.9±1.4, 53.60N×161.81E, h5km±20km, ML4.3*
*NEIC **24** 11:16:07.6±2.4, 53.7N±0.2×161.5E±0.1, h10km±1km, mb4.6/8, Error ellipse: s-maj=27.6km s-min=10.9km az=159.0*

ISC 24 11:16:05.5±1.4, **53.64N**±0.03×**161.83E**±0.04, **h1**km±8km, **n124**, σ1§**56**/154, **mb4.0**/19, **2C-3D**, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MKZ	**Mys Kozlova**	**0.92**	**356**	PN	**Pb**	**11 16 24.8**	**+0.5**
MKZ				S	**Sn**	**11 16 38.2**	**-1.3**
MKZ	**Mys Kozlova**	**0.92**	**356**	*e*P	**Pb**	**11 16 24.8**	**+0.5**
MKZ				*e*S	**Sn**	**11 16 38.2**	**-1.3**
SPN	**Mys Shipunski**	**1.21**	**244**	PN	**Pb**	**11 16 28.9**	**-0.3**
SPN				S	**Sb**	**11 16 45.3**	**0.0**
SPN	**Mys Shipunski**	**1.21**	**244**	*e*P	**Pb**	**11 16 28.9**	**-0.3**
SPN				*e*S	**Sb**	**11 16 45.3**	**0.0**
KII	**Karymskiy**	**1.47**	**287**	PN	**Pn**	**11 16 33.3**	**+0.1**
KII	**Karymskiy**	**1.47**	**287**	*e*P	**Pn**	**11 16 33.3**	**+0.1**
NLC	**Nalytchevo**	**1.56**	**254**	PN	**Pb**	**11 16 35.1**	**0.0**
NLC				S	**Sn**	**11 16 55.1**	**-0.1**
NLC	**Nalytchevo**	**1.56**	**254**	*e*P	**Pb**	**11 16 35.1**	**0.0**
NLC				*e*S	**Sn**	**11 16 55.1**	**-0.1**
KZV	**Kizimen**	**1.73**	**329**	PN	**Pb**	**11 16 38.2**	**0.0**
KZV				S	**Sg**	**11 17 01.0**	**-0.1**
KZV	**Kizimen**	**1.73**	**329**	*e*P	**Pb**	**11 16 38.2**	**0.0**
KZV				*e*S	**Sg**	**11 17 01.0**	**-0.1**
TUMD	**Tumrok D**	**1.78**	**333**	*e*P	**Pn**	**11 16 38.0**	**+0.6**
TUMD				*e*S	**Sn**	**11 17 00.7**	**0.0**
SDLR	**Sedlovina**	**1.80**	**260**	PN	**Pn**	**11 16 37.9**	**+0.1**
SDLR				S	**Sb**	**11 17 01.8**	**-0.5**
SDLR	**Sedlovina**	**1.80**	**260**	*e*P	**Pn**	**11 16 37.9**	**+0.1**
SDLR				*e*S	**Sb**	**11 17 01.8**	**-0.5**
SMAR	**Somma**	**1.85**	**260**	PN	**Pn**	**11 16 38.6**	**0.0**
SMAR	**Somma**	**1.85**	**260**	*e*P	**Pn**	**11 16 38.6**	**0.0**
UGLR	**Uglovaya**	**1.85**	**258**	PN	**Pn**	**11 16 38.7**	**+0.2**
UGLR	**Uglovaya**	**1.85**	**258**	*e*P	**Pn**	**11 16 38.7**	**+0.2**
KRER	**Koryakskii**	**1.87**	**261**	PN	**Pn**	**11 16 39.1**	**+0.2**
KRER				S	**Sb**	**11 17 03.9**	**-0.6**
KRER	**Koryakskii**	**1.87**	**261**	*e*P	**Pn**	**11 16 39.1**	**+0.2**
KRER				*e*S	**Sb**	**11 17 03.9**	**-0.6**
AVH	**Avacha**	**1.89**	**260**	PN	**Pn**	**11 16 39.3**	**+0.4**
AVH	**Avacha**	**1.89**	**260**	*e*P	**Pn**	**11 16 39.3**	**+0.4**
KRX	**Arik**	**1.92**	**263**	PN	**Pn**	**11 16 39.7**	**+0.2**
KRX	**Arik**	**1.92**	**263**	*e*P	**Pn**	**11 16 39.7**	**+0.2**
TUMR	**Tumrok**	**1.92**	**330**	PN	**Pb**	**11 16 40.8**	**-0.6**
TUMR				S	**Sb**	**11 17 05.9**	**0.0**
TUMR	**Tumrok**	**1.92**	**330**	*e*P	**Pb**	**11 16 40.8**	**-0.6**
TUMR				*e*S	**Sb**	**11 17 05.9**	**0.0**
KOK	**Koryaka**	**1.94**	**261**	PN	**Pn**	**11 16 40.0**	**+0.3**
KOK	**Koryaka**	**1.94**	**261**	*e*P	**Pn**	**11 16 40.0**	**+0.3**
DALK	**Dalny**	**1.94**	**253**	PN	**Pn**	**11 16 39.6**	**0.0**
DALK	**Dalny**	**1.94**	**253**	*e*P	**Pn**	**11 16 39.6**	**0.0**
PET	**Petropavlovsk**	**2.00**	**253**	*e*PN	**Pn**	**11 16 41.4**	**+1.0**
PET				*e*S	**Sn**	**11 17 05.2**	**-0.9**
PET				smax	smax		
	comp=E,527nm,0.5s						
PET				smax	smax		
	comp=N,611nm,0.7s						
PET	**Petropavlovsk**	**2.00**	**253**	*e*P	**Pn**	**11 16 41.0**	**+0.6**
PET				*e*S	**Sn**	**11 17 06.6**	**+0.5**
PET	**Petropavlovsk**	**2.00**	**253**		**Pn**	**11 16 41.3**	**+0.8**
PET				Sn	**Sn**	**11 17 00.4**	**-5.7**
GNL	**Ganaly**	**2.31**	**273**	PN	**Pn**	**11 16 46.0**	**+1.1**
GNL	**Ganaly**	**2.31**	**273**	*e*P	**Pn**	**11 16 46.0**	**+1.1**
KMNR	**Kamenistaya**	**2.31**	**337**	PN	**Pb**	**11 16 47.3**	**-0.8**
KMNR				S	**Sb**	**11 17 17.1**	**-0.2**
KMNR	**Kamenistaya**	**2.31**	**337**	*e*P	**Pb**	**11 16 47.3**	**-0.8**
KMNR				*e*S	**Sb**	**11 17 17.1**	**-0.2**
RUS	**Russkaya**	**2.34**	**240**	PN	**Pn**	**11 16 46.2**	**+1.1**
RUS				S	**Sn**	**11 17 14.2**	**-0.2**
RUS	**Russkaya**	**2.34**	**240**	*e*P	**Pn**	**11 16 46.2**	**+1.1**
RUS				*e*S	**Sn**	**11 17 14.2**	**-0.2**
KRMR	**Karymshinskiy**	**2.37**	**251**	PN	**Pn**	**11 16 47.4**	**+2.0**
KRMR	**Karymshinskiy**	**2.37**	**251**	*e*P	**Pn**	**11 16 47.4**	**+2.0**
KIRR	**Kirishev**	**2.48**	**340**	PN	**Pb**	**11 16 51.4**	**+0.5**
KIRR	**Kirishev**	**2.48**	**340**	*e*P	**Pb**	**11 16 51.4**	**+0.5**
MTVR	**Mutnovka**	**2.48**	**244**	PN	**Pn**	**11 16 48.8**	**+1.6**
MTVR				S	**Sn**	**11 17 18.5**	**+0.2**
MTVR	**Mutnovka**	**2.48**	**244**	*e*P	**Pn**	**11 16 48.8**	**+1.6**
MTVR				*e*S	**Sn**	**11 17 18.5**	**+0.2**
GRL	**Gorelyy**	**2.51**	**246**	PN	**Pn**	**11 16 49.8**	**+2.2**
GRL	**Gorelyy**	**2.51**	**246**	*e*P	**Pn**	**11 16 49.8**	**+2.2**
PEA0B	**Petropavlovsk-**	**2.53**	**260**	⇓*e*PN	**Pn**	**11 16 49.7**	**+2.0**
PEA0B	**Petropavlovsk-**	**2.53**	**260**	Pn	**Pn**	**11 16 48.6**	**+0.9**
PETK	**Petropavlovsk-**	**2.53**	**260**	Pn	**Pn**	**11 16 48.5**	**+0.8**
	comp=N,17nm,0.3s,baz=89,slow=18,SNR=30						
PETK				Sn	**Sn**	**11 17 19.2**	**0.0**
	comp=N,9.1nm,0.3s,baz=85,slow=19,SNR=5.8						
PETK	**Petropavlovsk-**	**2.53**	**260**	PN	**Pn**	**11 16 48.7**	**+1.0**
PETK	**Petropavlovsk-**	**2.53**	**260**	Pn	**Pn**	**11 16 48.7**	**+1.0**
KBTR	**Krutoberegovo**	**2.64**	**12**	PN	**Pn**	**11 16 50.8**	**+1.6**
KBTR	**Krutoberegovo**	**2.64**	**12**	*e*P	**Pn**	**11 16 50.8**	**+1.6**
KBG	**Krutoberegovo**	**2.67**	**11**	PN	**Pg**	**11 16 57.4**	**+0.7**
KBG	**Krutoberegovo**	**2.67**	**11**	*e*P	**Pg**	**11 16 57.4**	**+0.7**
KOZ	**Kozyrevsk**	**2.68**	**336**	PN	**Pb**	**11 16 52.6**	**-1.6**
KOZ	**Kozyrevsk**	**2.68**	**336**	*e*P	**Pb**	**11 16 52.6**	**-1.6**
ASAK	**Asacha**	**2.69**	**244**	PN	**Pn**	**11 16 52.1**	**+2.2**
ASAK				S	**Sn**	**11 17 24.9**	**+1.8**
ASAK	**Asacha**	**2.69**	**244**	*e*P	**Pn**	**11 16 52.1**	**+2.2**
ASAK				*e*S	**Sn**	**11 17 24.9**	**+1.8**
KLY	**Klyuchi**	**2.77**	**346**	PN	**Pn**	**11 16 53.0**	**+2.0**
KLY	**Klyuchi**	**2.77**	**346**	*e*P	**Pn**	**11 16 53.0**	**+2.0**
BKI	**Bering**	**2.89**	**55**	PN	**Pn**	**11 16 52.3**	**-0.3**
BKI	**Bering**	**2.89**	**55**	*e*P	**Pn**	**11 16 52.3**	**-0.3**
BKI				*e*S	**Sn**	**11 17 23.7**	**-4.2**
APC	**Apacha**	**2.89**	**258**	PN	**Pb**	**11 16 55.6**	**-2.3**
APC	**Apacha**	**2.89**	**258**	*e*P	**Pb**	**11 16 55.6**	**-2.3**
ESO	**Esso**	**2.92**	**323**	PN	**Pb**	**11 16 55.9**	**-2.5**
ESO	**Esso**	**2.92**	**323**	*e*P	**Pb**	**11 16 55.9**	**-2.5**
KDTR	**Khodutka, Kamc**	**2.92**	**233**	PN	**Pn**	**11 16 53.8**	**+0.7**
KDTR	**Khodutka, Kamc**	**2.92**	**233**	*e*P	**Pn**	**11 16 53.8**	**+0.7**
BDR	**Baidarnaya**	**2.96**	**353**	PN	**Pb**	**11 16 57.3**	**-1.8**
BDR	**Baidarnaya**	**2.96**	**353**	*e*P	**Pb**	**11 16 57.3**	**-1.8**
SMKR	**Semkarok**	**2.96**	**356**	*e*P	**Pb**	**11 16 58.7**	**-0.4**
SRKR	**Sorokina**	**3.05**	**353**	PN	**Pn**	**11 16 57.8**	**+2.9**
SRKR	**Sorokina**	**3.05**	**353**	*e*P	**Pn**	**11 16 57.8**	**+2.9**
MIPR	**Malaya Ipel'ka**	**3.35**	**248**	PN	**Pn**	**11 17 02.0**	**+2.9**
MIPR	**Malaya Ipel'ka**	**3.35**	**248**	*e*P	**Pn**	**11 17 02.0**	**+2.9**
PAU	**Pauzhetka**	**3.75**	**237**	PN	**Pn**	**11 17 04.6**	**+0.1**
PAU	**Pauzhetka**	**3.75**	**237**	*e*P	**Pn**	**11 17 04.6**	**+0.1**
SKR	**Severo-Kuril's**	**4.59**	**232**	*e*PN	**Pn**	**11 17 15.6**	**-0.5**
ALID	**Alaid**	**4.75**	**237**	PN	**Pn**	**11 17 20.2**	**+1.8**
ALID	**Alaid**	**4.75**	**237**	*e*P	**Pn**	**11 17 20.2**	**+1.8**
MA2	**Magadan**	**8.51**	**319**	Pn	**Pn**	**11 18 10.7**	**+0.8**
	comp=N,0.8nm,0.3s,baz=138,slow=9.6,SNR=4.1						
MA2	**Magadan**	**8.51**	**319**	⇓*e*PN	**Pn**	**11 18 13.2**	**+3.3**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BILL	**Bilibino**	**14.61**	**7**	*e*P	**P**	**11 19 37.4**	**-2.3**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
JKA	**Kamikawa-asahi**	**15.79**	**241**		**Pn**	**11 19 48.3**	**-0.6**
JKA				IAmb	IAmb	11 20 04.2	
	comp=Z,73nm,1.4s						
ASAJ	**Asahikawa**	**15.79**	**241**	Pn	**Pn**	**11 19 48.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=79,slow=13,SNR=8.7						
KLR	**Kul'dur**	**19.18**	**269**	⇑*e*P	**Pn**	**11 20 31.4**	**+0.2**
KLR				pmax	pmax		
	comp=Z,19nm,2.7s						
KLR				MLR	MLR		
	comp=Z,902nm,16.0s						
MJA0	**Matsu Arr-Jizo**	**23.68**	**233**	*e*P	**P**	**11 21 20.2**	**+1.6**
MJA0				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MJAR	**Matsushiro Arr**	**23.70**	**233**	P	**P**	**11 21 19.1**	**+0.3**
	comp=Z,6.9nm,0.9s,baz=21,slow=10,SNR=9.8						
MJAR	**Matsushiro Arr**	**23.70**	**233**	P	**P**	**11 21 19.8**	**+1.0**
MAJO	**Matsushiro**	**23.70**	**233**	⇓*e*P	**P**	**11 21 19.7**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s						
MAJO	**Matsushiro**	**23.70**	**233**	P	**P**	**11 21 18.4**	**-0.3**
MAJO				IAmb	IAmb	11 21 20.4	
	comp=Z,17nm,0.9s						
MAT	**Matsushiro**	**23.70**	**233**	P	**P**	**11 21 19.7**	**+1.0**
IMAR	**Indian Mountai**	**24.90**	**43**	P	**P**	**11 21 30.9**	**+1.4**
ILAR	**Eielson Array**	**27.69**	**46**	P	**P**	**11 21 55.4**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=256,slow=7.3,SNR=2.1						
KSRS	**Korea Array**	**28.38**	**249**	P	**P**	**11 22 00.2**	**-0.9**
	comp=Z,2.1nm,1.0s,baz=45,slow=9.1,SNR=3.6						
KSRS	**Korea Array**	**28.38**	**249**	*e*P	**P**	**11 22 04.5**	**+3.4**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.9s						

FIA1	FINESS Array S	60.02	337	P		P	11 26 13.3	0.0
FINES	FINESS Array B	60.03	337	P		P	11 26 12.4	-0.9
	comp=Z,2.2nm,0.7s,baz=46,slow=8.2,SNR=4.0							
FINES	FINESS Array B	60.03	337	P		P	11 26 12.6	-0.7
FINES	FINESS Array B	60.03	337	P		P	11 26 12.6	-0.7
NOA	NORSAR Array B	63.30	344	P		P	11 26 34.4	-1.1
	comp=Z,0.6nm,0.7s,baz=19,slow=6.6,SNR=2.4							
AKASG	Malin Array Be	68.67	330	P		P	11 27 08.7	-1.4
	comp=Z,0.9nm,0.5s,baz=32,slow=6.2,SNR=2.4							
TXAR	Lajitas Array	69.47	68	P		P	11 27 16.2	+0.7
	comp=Z,0.1nm,0.6s,baz=308,slow=4.4,SNR=2.0							
TXAR	Lajitas Array	69.47	68	P		P	11 27 16.4	+0.8
TXAR	Lajitas Array	69.47	68	P		P	11 27 16.4	+0.8
SOC	Sochi	71.22	319	*e*P		P	11 27 26.3	+0.4
SOC				*e*S		S	11 36 40.2	-3.6
SOC				*e*SS		SS	11 41 24.0	+7.6
SOC				pmax		pmax		
	comp=Z,33nm,1.4s							
SOC				MLR		MLR		
	comp=Z,350nm,15.0s							
GERES	GERESS Array B	74.39	339	P		P	11 27 44.5	-0.3
	comp=Z,0.3nm,0.4s,baz=38,slow=6.5,SNR=2.1							
WRA	Warramunga Arr	77.02	206	P		P	11 27 59.6	-0.4
	comp=Z,0.9nm,0.6s,baz=21,slow=6.0,SNR=8.6							
FITZ	Fitzroy Crossi	77.93	215	P		P	11 28 04.8	-0.2
	comp=Z,2.1nm,0.7s,baz=31,slow=3.7,SNR=6.8							
FITZ	Fitzroy Crossi	77.93	215	P		P	11 28 05.6	+0.6
ASAR	Alice Springs	80.69	206	P		P	11 28 20.5	+0.5
	comp=Z,0.8nm,0.7s,baz=17,slow=5.5,SNR=8.2							

TUN ***24*** *11:58:34.0,36.°32N×9.°74E,h27km±18km, MD3.6, Hypocentre not reviewed by the ISC*
IDC ***24*** *11:58:36.6±1.1,36.°47N×9.°83E,h0km,mb3.5/4,mb1 3.6/7, mb1mx3.3/59,mbtmp3.5/7,ML3.8/3, Error ellipse: s-maj=38.0km s-min=9.2km az=116.0*
LDG ***24*** *11:58:40.3±0.4,36.°44N×9.°35E,h2km,Ml3.4/5, Error ellipse: s-maj=19.3km s-min=5.9km az=84.0*
ISC 24 11:58:37.8±0.9, 36.°54N±0.°06×9.°4E±0.°1, h10km, n19, σ2s63/24, mb3.4/4, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BLIT	Baltah	0.41	295	*i* P			11 58 52.4	
KCHT	Kechabta	0.71	36	*i* P			11 58 52.8	
KEST	Kesra	0.81	184	Pg		Pg	11 58 52.0	-1.4
	217nm,0.3s,baz=332,slow=17,SNR=264							
KEST				Lg		Lg	11 59 05.3	
	277nm,0.3s,baz=336,slow=5.0,SNR=20							
GHAT	Ghardimaou	0.89	268	*i* P			11 58 58.6	
THTN	Thala	1.14	211	*i* P			11 59 00.9	
OAR	Oum El Arais	2.17	203	*i* P			11 59 19.0	
PGF	Pioggiola	6.01	357	*e*Pn		Pn	12 00 10.2	+3.4
PGF				*e*Sn		Sn	12 01 14.3	-1.5
	4.7nm,0.6s							
LMR	La Mourre	7.14	343	*e*Pn		Pn	12 00 24.4	+2.1
LMR				*e*Sn		Sn	12 01 41.5	-2.0
	29nm,1.2s							
FRF	La Foret Royal	7.33	344	*e*Pn		Pn	12 00 26.8	+2.0
FRF				*e*Sn		Sn	12 01 44.6	-3.4
	1.7nm,0.4s							
SBF	Sospel	7.47	349	*e*Pn		Pn	12 00 28.4	+1.6
MBDF	Montbardon	8.42	347	*e*Pn		Pn	12 00 43.4	+3.4
LASF	Ste Croix	8.64	332	*e*Pn		Pn	12 00 44.2	+1.4
LASF				*e*Sn		Sn	12 02 16.0	-4.3
	1.6nm,0.3s							
MTLF	Montolieu	8.75	323	*e*Pn		Pn	12 00 45.7	+1.3
MTLF				*e*Sn		Sn	12 02 19.7	-3.4
	8.1nm,0.6s							
ORIF	Oris-en-Rattie	8.79	343	*e*Pn		Pn	12 00 47.8	+2.9
VIVF	Saint-Julien-l	9.05	338	*e*Pn		Pn	12 00 50.7	+2.2
EPF	Esparros	9.52	316	*e*Pn		Pn	12 00 58.5	+3.5
ETSF	Etsaut	9.96	313	*e*Pn		Pn	12 01 02.6	+1.6
DAVOX	Davos/Dischmat	10.24	2	Pn		Pn	12 01 07.1	+2.2
	0.3nm,0.3s,baz=38,slow=19,SNR=1.7							
ESDC	Sonseca Array	10.99	291	Pn		Pn	12 01 19.4	+4.3
	0.2nm,0.3s,baz=96,slow=14,SNR=11							
AKASG	Malin Array Be	20.06	39	P		P	12 03 11.5	+0.5
	0.5nm,0.3s,baz=233,slow=9.1,SNR=1.6							
TORD	Torodi Ar. Bea	24.30	199	P		P	12 03 55.6	+0.1
	0.7nm,0.8s,baz=17,slow=8.4,SNR=4.0							
FINES	FINESS Array B	27.05	18	P		P	12 04 19.8	-0.2
	2.0nm,0.8s,baz=210,slow=13,SNR=4.6							
MKAR	Makanchi Array	53.59	55	P		P	12 07 57.2	-1.7
	0.4nm,0.7s,baz=271,slow=7.6,SNR=3.9							
YKA	Yellowknife Ar	71.59	336	P		P	12 10 00.5	+1.7
	0.1nm,0.4s,baz=52,slow=6.7,SNR=2.1							

IDC ***24*** *12:14:08.6±1.4,17.°29S×173.°84W,h0km,mb4.1/5, mb1 4.3/6,mb1mx3.8/29,mbtmp4.1/6,ML4.2/1,MS3.1/2, Ms1 3.1/2,ms1mx2.8/35,Error ellipse: s-maj=55.9km s-min=22.1km az=127.0*
NEIC ***24*** *12:14:10.0±1.0,17.°20S±0.°09×173.°88W±0.°04,h10km±1km, mb4.6/13,Error ellipse: s-maj=14.8km s-min=5.4km az=346.0*
NOU ***24*** *12:14:59.7,14.°03S×171.°97W,h50km,MLv2.4,Samoa Islands*
ISC 24 12:14:09.6±0.7, 17.°16S±0.°08×173.°8W±0.°1, h10km, n36, σ1s55/27, mb4.5/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AFI	Afiamalu	3.76	31	Pn		Pn	12 15 09.9	+2.1
	17nm,0.3s,baz=130,slow=4.1,SNR=15							
AFI				Sn		Sn	12 15 48.0	-4.2
	29nm,0.3s,baz=306,slow=22,SNR=4.3							
AFI				LR		LR	12 16 42.9	
	comp=Z,125nm,18.1s,baz=289,slow=40							
AFI	Afiamalu	3.76	31			Pn	12 15 09.9	+2.1
AFI				Sn		Sn	12 15 51.1	-1.2
AFI	Afiamalu	3.76	31	P		Pn	12 15 09.6	+1.7
NIUE	Niue	4.14	118			Pn	12 15 13.9	+1.0
DZM	Mont Dzumac	19.25	252	LR		LR	12 25 25.8	
	comp=Z,114nm,18.0s,baz=31,slow=35							
OUZ	Omahuta	21.22	210	P		P	12 18 54.1	-1.6
URZ	Urewera	22.49	199	P		P	12 19 07.8	-1.5
	4.0nm,0.4s,baz=301,slow=24,SNR=14							
URZ				S		S	12 23 06.1	-10
	3.1nm,0.8s,baz=303,slow=24,SNR=1.3							
URZ	Urewera	22.49	199	IAmb		IAmb	12 19 22.6	
	comp=Z,25nm,1.4s							
QRZ	Quartz Range	26.38	204	P		P	12 19 47.3	+1.1
TUWZ	Tuamarina	26.39	201	P		P	12 19 42.9	-3.4
KHZ	Kahutara	27.41	201	P		P	12 19 53.9	-1.5
H11N3	WAKE ISLAND Hy	41.26	332	T		T	13 05 52.2	
	baz=1.8,slow=74,SNR=2.3							
H11N1	WAKE ISLAND Hy	41.27	332	T		T	13 05 50.2	
	baz=151,slow=74,SNR=5.6							
STKA	Stephens Creek	42.86	241	P		P	12 22 08.0	-0.4
	comp=Z,0.7nm,0.3s,baz=94,slow=7.5,SNR=4.0							
STKA	Stephens Creek	42.86	241	IAmb		IAmb	12 22 15.0	
	comp=Z,1.1nm,1.1s							
BBOO	Buckleboo	47.63	241	P		P	12 22 46.0	-0.2
WR0	Warramunga Arr	48.91	258	P		P	12 22 56.9	+0.6
WR0				IAmb		IAmb	12 23 13.1	
	comp=Z,9.1nm,1.4s							
WB0	Warramunga Arr	49.07	258	P		P	12 22 57.5	-0.1
WB2	Warramunga Arr	49.09	258	P		P	12 22 57.3	-0.4
WB2				IAmb		IAmb	12 23 03.5	
	comp=Z,12nm,1.4s							
WRA	Warramunga Arr	49.10	258	P		P	12 22 57.3	-0.5
	comp=Z,1.0nm,0.6s,baz=97,slow=7.0,SNR=17							
WRA	Warramunga Arr	49.10	258	IAmb		IAmb	12 23 01.7	
	comp=Z,0.4nm,1.4s							
AS31	Alice Springs	49.23	253	P		P	12 22 58.2	-0.5
AS31				IAmb		IAmb	12 22 59.4	
	comp=Z,1.8nm,0.6s							
ASAR	Alice Springs	49.24	253	P		P	12 22 58.5	-0.3
	comp=Z,5.8nm,0.6s,baz=90,slow=8.1,SNR=155							
ASAR				PcP		PcP	12 24 22.4	+0.6
	comp=Z,0.5nm,0.5s,baz=96,slow=5.0,SNR=1.2							
ASAR	Alice Springs	49.24	253	P		P	12 22 58.0	-0.7
FITZ	Fitzroy Crossi	57.50	259	P		P	12 23 59.6	0.0
FITZ				IAmb		IAmb	12 24 17.9	
	comp=Z,12nm,1.4s							
SBA	Scott Base	61.48	185	P		P	12 24 26.3	+0.2
SBA				IAmb		IAmb	12 24 29.7	
	comp=Z,3.5nm,0.9s							
QSPA	South Pole Qui	72.90	180	P		P	12 25 40.7	+1.8
QSPA				IAmb		IAmb	12 25 41.3	
	comp=Z,6.8nm,1.1s							
ILAR	Eielson Array	84.23	11	P		P	12 26 41.7	+0.7
	comp=Z,0.5nm,0.8s,baz=203,slow=5.6,SNR=5.4							
H03S2	Juan Fernandez	84.54	124	T		T	13 59 53.1	
	baz=253							
H03S1	Juan Fernandez	84.56	124	T		T	13 59 58.5	
	baz=253							
H03S3	Juan Fernandez	84.56	124	T		T	13 59 57.3	
	baz=253							
H03N2	Juan Fernandez	84.65	123	T		T	14 00 02.4	
	baz=265,slow=74							
H03N3	Juan Fernandez	84.66	123	T		T	14 00 02.2	
	baz=265,slow=74							
H03N1	Juan Fernandez	84.67	123	T		T	13 59 55.4	
	baz=265							
BRTR	Keskin Array B	147.26	319	PKPbc		PKPbc	12 33 53.2	-0.6
	comp=Z,0.6nm,0.5s,baz=46,slow=4.2,SNR=2.7							
GERES	GERESS Array B	147.81	351	PKPbc		PKiKP	12 33 56.5	-0.5
	comp=Z,0.3nm,0.2s,baz=36,slow=5.1,SNR=1.5							

SNET ***24*** *12:42:58.3±1.4,12.°87N×90.°46W,h30km±29km,ML3.3*
IDC ***24*** *12:43:00.8±3.0,12.°92N×89.°78W,h61km±26km,mb3.0/3, mb1 3.5/7,mb1mx3.3/36,mbtmp3.4/7,ML3.3/4,MS2.9/2, Ms1 2.9/2,ms1mx2.5/17,Error ellipse: s-maj=52.6km s-min=19.1km az=55.0*
GCG ***24*** *12:43:14.8±0.3,14.°33N×90.°73W,h51km±5km,MD3.7*
ISC 24 12:43:02.0±1.5, 12.°9N±0.°1×90.°51W±0.°06, h35km, n18, σ2s34/21, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CEVE	Cerro Verde	1.24	44	*e*P		Pn	12 43 22.0	-1.1
CEVE				*e*S		Sn	12 43 42.5	+3.7
JAYA	Jayaque - finc	1.26	55	*e*P		Pn	12 43 22.1	-1.2
JAYA				*e*S		Sn	12 43 39.1	0.0
JAYA				IAML			12 43 43.0	
	comp=Z,599nm,0.4s							
PCG	Pacaya	1.46	356	*e*P		Pn	12 43 23.8	-2.3
TACO	Tacachico	1.53	47	*e*P		Pn	12 43 26.4	-0.5
FUG	Fuego 3	1.54	348	*e*P		Pn	12 43 23.6	-3.6
NBG	Las Nubes	1.66	6	*e*P		Pn	12 43 28.5	-0.3
COEG	Centro de Oper	1.73	66	*e*P		Pn	12 43 28.9	-0.8
ERG	Entre ros, C	1.82	326	*e*P		Pn	12 43 30.1	-0.7
PQSS	Presa 15 de Se	2.02	70	*e*P		Pn	12 43 33.1	-0.5
APG	El Apazote	2.06	1	P		Pn	12 43 33.7	-0.7
	comp=Z,26nm,0.3s,baz=134,slow=6.6,SNR=52							
APG				S		Sn	12 44 01.8	+2.7
	comp=Z,12nm,0.3s,baz=73,slow=17,SNR=5.8							
APG				LR		LR	12 44 39.6	
	comp=Z,199nm,20.0s,baz=247,slow=45							
MRL	Marmol	2.29	21	*e*P		Pn	12 43 36.8	-0.7
LCND	La Caada	2.58	81	*e*P		Pn	12 43 41.2	-0.1
LCND				*e*S		Sn	12 44 13.9	+2.3
CMIG	Matias Romero	5.91	315	P		Pn	12 44 33.7	+6.5
	comp=Z,0.4nm,0.3s,baz=99,slow=16,SNR=2.4							
CMIG				S		Sn	12 45 39.3	+5.6
	comp=Z,0.4nm,0.3s,baz=294,slow=8.0,SNR=3.8							
JTS	Las Juntas de	6.04	115	P		Pn	12 44 19.0	-10
	comp=Z,0.3nm,0.3s,baz=336,slow=18,SNR=1.5							
TEIG	Tepich	7.57	16	P		Pn	12 44 47.7	-2.1
	comp=Z,0.8nm,0.3s,baz=30,slow=9.1,SNR=2.5							
TEIG				LR		LR	12 48 22.5	
	comp=Z,108nm,18.9s,baz=156,slow=43							
TXAR	Lajitas Array	20.39	325	P		P	12 47 36.8	+0.8
	comp=Z,0.5nm,0.6s,baz=148,slow=12,SNR=11							
NVAR	Mina Array Bea	35.41	321	P		P	12 49 56.0	+1.0
	comp=Z,0.4nm,0.7s,baz=135,slow=9.1,SNR=3.7							
YKA	Yellowknife Ar	52.40	346	P		P	12 52 07.4	-3.2
	comp=Z,0.2nm,0.6s,baz=135,slow=9.1,SNR=4.8							

IDC 24 12:43:12.7±3.1, 4.°79N×94.°03E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/37, mbtmp3.4/4, ML3.9/1, Error ellipse: s-maj=110.8km s-min=28.4km az=64.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CMAR	Chiang Mai Arr	14.41	19	Pn		Pn	12 46 40.0	+1.9
	0.2nm,0.3s,baz=208,slow=11,SNR=12							
H08S3	Diego Garcia H	24.79	240	T		T	13 14 49.2	
	baz=61							
H08S2	Diego Garcia H	24.79	240	T		T	13 14 47.5	
	baz=61							
H08S1	Diego Garcia H	24.80	240	T		T	13 14 46.3	
	baz=61							
MKAR	Makanchi Array	43.06	348	P		P	12 51 13.8	-0.6
	0.2nm,0.6s,baz=157,slow=7.8,SNR=2.6							
WRA	Warramunga Arr	46.62	123	P		P	12 51 42.7	-0.4
	0.2nm,0.3s,baz=306,slow=9.1,SNR=10.0							
ASAR	Alice Springs	48.07	128	P		P	12 51 54.6	+0.1
	0.2nm,0.4s,baz=301,slow=7.6,SNR=11							

NEIC ***24*** *12:53:29.6±1.6,18.°78S±0.°05×169.°7E±0.°1,h244km±12km, mb4.2/14,Error ellipse: s-maj=19.8km s-min=7.5km az=90.0*
IDC ***24*** *12:53:30.9±3.0,18.°76S×169.°66E,h255km±23km,mb3.6/6, mb1 3.7/8,mb1mx3.3/35,mbtmp4.3/8,Error ellipse: s-maj=40.6km s-min=27.1km az=124.0*
NOU ***24*** *12:54:13.0,21.°08S×167.°63E,h0km,MLv2.8,Loyalty Islands*
ISC 24 12:53:29.7±1.1, 18.°72S±0.°07×169.°8E±0.°1, h250km, n34, σ1s04/35, mb4.2/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LIFNC	LIFOU	3.13	229	P		Pn	12 54 22.2	-1.4
MARNC	Mare, Loyalty	3.19	210	P		Pn	12 54 23.6	-0.6
SANVU	Sanmatoo	4.07	323			Pn	12 54 34.3	0.0
YATNC	Mamie plateau,	4.27	218	P		Pn	12 54 35.5	-1.2
PINNC	Pines Island,	4.44	209	P		Pn	12 54 40.7	+2.1
DZM	Mont Dzumac	4.56	222	P		Pn	12 54 39.9	-0.3
	3.8nm,0.3s,baz=119,slow=19,SNR=48							
DZM				S		S	12 55 36.5	+0.2
	4.6nm,0.3s,baz=132,slow=20,SNR=2.0							
DZM	Mont Dzumac	4.56	222			Pn	12 54 39.8	-0.3
DZM	Mont Dzumac	4.56	222	P		Pn	12 54 39.9	-0.3
OUENC	Ouen Island, N	4.58	216	P		Pn	12 54 41.1	+0.7
ONTNC	Ouen Toro	4.72	220	P		Pn	12 54 42.3	+0.2
HNR	Honiara	13.25	313	P		P	12 56 29.7	-0.6
	5.1nm,0.3s,baz=131,slow=2.2,SNR=18							
HNR	Honiara	13.25	313			P	12 56 30.6	+0.3
OUZ	Omahuta	16.78	169	P		P	12 57 08.7	-0.3
EIDS	Eidsvold	18.52	246	P		P	12 57 29.3	+1.2
EIDS				IAmb		IAmb	12 57 54.1	
	comp=Z,9.1nm,1.5s							
BKZ	Black Stump Fm	21.20	165	P		P	12 57 53.0	-3.1
BKZ				IAmb		IAmb	12 58 21.6	
	comp=Z,13nm,1.2s							
CTA	Charters Tower	22.21	263	P		P	12 58 06.0	+0.2
	comp=Z,1.9nm,0.5s,baz=78,slow=11,SNR=6.4							
CTAO	Charters Tower	22.21	263	P		P	12 58 04.3	-1.5
CTAO				IAmb		IAmb	12 58 10.7	
	comp=Z,3.0nm,0.8s							
PMG	Port Moresby	23.77	290	P		P	12 58 20.7	+0.7
	comp=Z,8.8nm,0.7s,baz=115,slow=7.3,SNR=3.8							
PMG	Port Moresby	23.77	290	P		P	12 58 19.0	-1.0
COEN	Coen	25.93	277	P		P	12 58 39.5	0.0
COEN				IAmb		IAmb	12 59 02.8	
	comp=Z,3.8nm,1.1s							
STKA	Stephens Creek	28.54	237	P		P	12 59 03.6	+1.1
	comp=Z,1.2nm,0.6s,baz=55,slow=11,SNR=3.9							
STKA	Stephens Creek	28.54	237	P		P	12 59 03.6	+1.1
WR0	Warramunga Arr	33.22	262	P		P	12 59 43.0	-0.6
WR0				IAmb		IAmb	12 59 47.4	
	comp=Z,17nm,1.5s							
WB0	Warramunga Arr	33.37	262	P		P	12 59 44.2	-0.7
WB0				IAmb		IAmb	12 59 58.3	
	comp=Z,11nm,1.4s							
WB2	Warramunga Arr	33.40	262	P		P	12 59 44.5	-0.6
WB2				IAmb		IAmb	12 59 52.1	
	comp=Z,16nm,1.5s							
WRA	Warramunga Arr	33.41	262	P		P	12 59 44.3	-0.9
	comp=Z,0.8nm,0.3s,baz=97,slow=8.2,SNR=64							
WRA	Warramunga Arr	33.41	262	P		P	12 59 43.5	-1.7
AS31	Alice Springs	33.73	255	P		P	12 59 47.9	-0.2
ASAR	Alice Springs	33.73	255	P		P	12 59 47.8	-0.3
	comp=Z,10.0nm,0.4s,baz=81,slow=8.8,SNR=500							
ASAR	Alice Springs	33.73	255	P		P	12 59 47.4	-0.6
FITZ	Fitzroy Crossi	41.78	264	P		P	13 00 56.0	+0.8
PSA00	Pilbara Seismi	46.79	258	P		P	13 01 34.8	0.0
PSA00				IAmb		IAmb	13 01 35.3	
	comp=Z,16nm,1.2s							
QSPA	South Pole Qui	71.33	180	P		P	13 04 22.5	+0.3
ILAR	Eielson Array	89.59	17	P		P	13 05 59.4	+0.9
	comp=Z,0.1nm,0.6s,baz=237,slow=5.7,SNR=5.5							

IDC ***24*** *12:59:38.9±2.3,53.°92N×161.°94E,h0km,mb3.5/4, mb1 3.8/6,mb1mx3.4/43,mbtmp3.7/6,ML3.2/2,Error ellipse: s-maj=53.1km s-min=37.8km az=10.0*
KRSC ***24*** *12:59:41.5±1.2,53.°57N×161.°96E,h41km±19km,ML3.8*
ISC 24 12:59:39.1±1.9, 53.°69N±0.°05×161.°95E±0.°04, h1km±12km, n40, σ1s49/62, mb3.6/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MKZ	Mys Kozlova	0.88	352	P		Pn	13 00 00.2	+1.6
MKZ				*e*S		Sn	13 00 13.0	+1.1
SPN	Mys Shipunski	1.30	244	P		Pn	13 00 04.0	-0.3
SPN				*e*S		Sn	13 00 20.0	-2.3
KII	Karymskiy	1.52	284	*e*P		Pb	13 00 08.1	-0.1
KII				*e*S		Sn	13 00 26.9	-1.1
NLC	Nalytchevo	1.64	253	*e*P		Pn	13 00 09.1	0.0
NLC				*e*S		Sn	13 00 28.3	-2.5
KZV	Kizimen	1.73	326	P		Pg	13 00 13.1	+0.9
KZV				*e*S		Sg	13 00 36.1	+1.6
TUMD	Tumrok D	1.77	330	*e*P		Pg	13 00 12.9	-0.1
TUMD				*e*S		Sg	13 00 35.6	-0.3
SDLR	Sedlovina	1.88	259	P		Pn	13 00 12.8	+0.4
SDLR				*e*S		Sn	13 00 35.4	-1.4
TUMR	Tumrok	1.91	327	P		Pg	13 00 15.8	0.0
TUMR				*e*S		Sg	13 00 40.3	-0.3
SMAR	Somma	1.93	259	P		Pn	13 00 13.5	+0.3
UGLR	Uglovaya	1.93	257	P		Pn	13 00 13.7	+0.6
UGLR				*e*S		Sn	13 00 37.1	-1.0
KRER	Koryakskii	1.95	260	P		Pn	13 00 14.3	+0.8
KRER				*e*S		Sn	13 00 37.9	-0.8
AVH	Avacha	1.97	259	P		Pn	13 00 14.4	+0.8
AVH				*e*S		Sn	13 00 38.6	-0.3
KRX	Arik	2.00	262	P		Pn	13 00 14.6	+0.5
KRX				*e*S		Sn	13 00 37.7	-2.1
KOK	Koryaka	2.02	260	P		Pn	13 00 15.0	+0.6
KOK				*e*S		Sn	13 00 38.6	-1.7
DALK	Dalny	2.03	252	*e*P		Pn	13 00 14.6	+0.3
DALK				*e*S		Sn	13 00 37.8	-2.4
PET	Petropavlovsk	2.09	253	*e*P		Pn	13 00 15.7	+0.6
PET				*e*S		Sn	13 00 39.7	-2.0
KMNR	Kamenistaya	2.30	335	*e*P		Pb	13 00 22.4	+1.0
KMNR				*e*S		Sg	13 00 51.7	-1.2
GNL	Ganaly	2.38	272	*e*P		Pn	13 00 21.3	+1.9
RUS	Russkaya	2.43	240	P		Pn	13 00 21.1	+1.3
RUS				*e*S		Sn	13 00 49.4	-0.7
KRMR	Karymshinskiy	2.45	251	*e*P		Pn	13 00 22.4	+2.2
KRMR				*e*S		Sn	13 00 52.9	+2.2
KBTR	Krutoberegovo	2.57	11	P		Pb	13 00 26.0	0.0
MTVR	Mutnovka	2.57	244	*e*P		Pn	13 00 23.3	+1.3
MTVR				*e*S		Sn	13 00 53.0	-1.0
GRL	Gorelyy	2.60	246	P		Pn	13 00 24.7	+2.4
GRL				*e*S		Sn	13 00 56.0	+1.4
PETK	Petropavlovsk-	2.61	259	Pn		Pn	13 00 23.9	+1.5
	4.9nm,0.3s,baz=78,slow=20,SNR=94							
PETK				Sn		Sn	13 00 56.7	+1.9
	4.0nm,0.3s,baz=270,slow=25,SNR=4.7							
KLY	Klyuchi	2.73	345	*e*P		Pb	13 00 27.8	-0.9
ASAK	Asacha	2.77	243	P		Pn	13 00 27.2	+2.5
ASAK				*e*S		Sn	13 00 59.9	+1.1
BKI	Bering	2.79	55	*e*P		Pb	13 00 27.6	-2.2
BKI				*e*S		Sn	13 00 59.1	-0.1
ESO	Esso	2.93	321	*e*P		Pb	13 00 30.3	-1.7
ESO				*e*S		Sb	13 01 05.5	-2.8
SRDR	Sredinnyy	2.93	335	P		Pb	13 00 31.1	-1.0
APC	Apacha	2.98	257	*e*P		Pn	13 00 30.4	+3.0
APC				*e*S		Sn	13 01 05.8	+2.1
MIPR	Malaya Ipel'ka	3.44	248	P		Pn	13 00 36.5	+2.7
PAU	Pauzhetka	3.84	237	P		Pn	13 00 40.4	+1.1
ASAJ	Asahikawa	15.88	241	Pn		Pn	13 03 23.6	-0.1
	0.3nm,0.3s,baz=81,slow=13,SNR=2.0							
H11N2	WAKE ISLAND Hy	34.11	172	T		T	13 43 16.4	
	baz=353							
H11N3	WAKE ISLAND Hy	34.12	172	T		T	13 43 06.4	
	baz=353							
H11N1	WAKE ISLAND Hy	34.13	172	T		T	13 43 22.3	
	baz=353							
MKAR	Makanchi Array	48.90	296	P		P	13 08 25.0	-1.2
	0.1nm,0.4s,baz=64,slow=7.2,SNR=2.3							
CMAR	Chiang Mai Arr	59.39	259	P		P	13 09 43.4	+0.3
	0.3nm,0.4s,baz=21,slow=6.4,SNR=4.4							
WRA	Warramunga Arr	77.10	207	P		P	13 11 34.6	+0.7
	0.4nm,0.7s,baz=20,slow=6.1,SNR=2.2							
ASAR	Alice Springs	80.77	206	P		P	13 11 55.5	+1.6
	0.5nm,0

comp=N,1µm,0.5s
PET smax smax

comp=E,1µm,0.5s
PET Petropavlovsk 2.00 254 *e*P **Pn** 13 05 53.2 -0.7
PET *e*S **Sn** 13 06 18.3 +0.6
PET Petropavlovsk 2.00 254 Pn **Pn** 13 05 52.9 -1.1
GNL Ganaly 2.32 274 PN **Pn** 13 05 58.6 +0.1
GNL Ganaly 2.32 274 *e*P **Pn** 13 05 58.6 +0.1
RUS Russkaya 2.33 241 PN **Pn** 13 05 58.5 +0.1
RUS S **Sn** 13 06 27.1 +1.3
RUS Russkaya 2.33 241 *e*P **Pn** 13 05 58.5 +0.1
RUS *e*S **Sn** 13 06 27.1 +1.3
KMNR Kamenistaya 2.34 337 PN **Pn** 13 06 00.1 +1.3
KMNR Kamenistaya 2.34 337 *e*P **Pn** 13 06 00.1 +1.3
KRMR Karymshinskiy 2.36 252 PN **Pn** 13 06 00.4 +1.5
KRMR S **Sn** 13 06 29.0 +2.4
KRMR Karymshinskiy 2.36 252 *e*P **Pn** 13 06 00.4 +1.5
KRMR *e*S **Sn** 13 06 29.0 +2.4
BZGR Bezymyannyi-Gr 2.43 345 PN **Pn** 13 06 01.1 +1.1
BZGR S **Sn** 13 06 32.2 +3.7
BZGR Bezymyannyi-Gr 2.43 345 *e*P **Pn** 13 06 01.1 +1.1
BZGR *e*S **Sn** 13 06 32.2 +3.7
BZMR Bezymyannaya 2.46 342 PN **Pn** 13 06 01.9 +1.5
BZMR S **Sn** 13 06 33.4 +4.1
BZMR Bezymyannaya 2.46 342 *e*P **Pn** 13 06 01.9 +1.5
BZMR *e*S **Sn** 13 06 33.4 +4.1
MTVR Mutnovka 2.48 244 PN **Pn** 13 06 00.6 -0.1
MTVR S **Sn** 13 06 30.4 +0.7
MTVR Mutnovka 2.48 244 *e*P **Pn** 13 06 00.6 -0.1
MTVR *e*S **Sn** 13 06 30.4 +0.7
BZWR Bezymyannyi-We 2.48 342 PN **Pn** 13 06 03.2 +2.4
BZWR Bezymyannyi-We 2.48 342 *e*P **Pn** 13 06 03.2 +2.4
ZLN Zelenaya 2.49 347 PN **Pn** 13 06 02.9 +2.1
ZLN Zelenaya 2.49 347 *e*P **Pn** 13 06 02.9 +2.1
GRL Gorelyy 2.50 247 PN **Pn** 13 06 01.7 +0.7
GRL S **Sn** 13 06 33.0 +2.6
GRL Gorelyy 2.50 247 *e*P **Pn** 13 06 01.7 +0.7
GRL *e*S **Sn** 13 06 33.0 +2.6
KIRR Kirishev 2.50 340 PN **Pn** 13 06 02.4 +1.4
KIRR Kirishev 2.50 340 *e*P **Pn** 13 06 02.4 +1.4
PEA0B Petropavlovsk- 2.53 260 *de*PN **Pn** 13 06 01.3 0.0
PEA0B Petropavlovsk- 2.53 260 **Pn** 13 06 00.7 -0.6
PETK Petropavlovsk- 2.53 260 P **Pn** 13 06 02.5 +1.2
comp=E,34nm,0.3s,baz=78,slow=18,SNR=212
PETK S **Sn** 13 06 33.4 +2.6
comp=E,38nm,0.3s,baz=268,slow=21,SNR=7.6
PETK Petropavlovsk- 2.53 260 Pn **Pn** 13 06 00.8 -0.5
KBTR Krutoberegovo 2.67 12 PN **Pn** 13 06 03.3 +0.2
KBTR Krutoberegovo 2.67 12 *e*P **Pn** 13 06 03.3 +0.2
ASAK Asacha 2.68 244 PN **Pn** 13 06 04.8 +1.5
ASAK S **Sn** 13 06 36.5 +2.0
ASAK Asacha 2.68 244 *e*P **Pn** 13 06 04.8 +1.5
ASAK *e*S **Sn** 13 06 36.5 +2.0
KBG Krutoberegovo 2.70 10 PN **Pn** 13 06 03.8 +0.2
KBG Krutoberegovo 2.70 10 P **Pn** 13 06 03.8 +0.2
KOZ Kozyrevsk 2.71 336 PN **Pn** 13 06 05.0 +1.3
KOZ S **Sn** 13 06 38.3 +3.1
KOZ Kozyrevsk 2.71 336 P **Pn** 13 06 05.0 +1.3
KOZ S **Sn** 13 06 38.3 +3.1
KRSR Krestovskiy 2.72 345 PN **Pn** 13 06 04.9 +1.0
KRSR Krestovskiy 2.72 345 P **Pn** 13 06 04.9 +1.0
KLY Klyuchi 2.80 346 PN **Pn** 13 06 05.6 +0.7
KLY S **Sn** 13 06 38.7 +1.4
KLY Klyuchi 2.80 346 *e*P **Pn** 13 06 05.6 +0.7
KLY *e*S **Sn** 13 06 38.7 +1.4
APC Apacha 2.89 258 PN **Pn** 13 06 07.9 +1.7
APC S **Sn** 13 06 43.8 +4.1
APC Apacha 2.89 258 *e*P **Pn** 13 06 07.9 +1.7
APC *e*S **Sn** 13 06 43.8 +4.1
BKI Bering 2.90 55 PN **Pn** 13 06 05.2 -1.1
BKI Bering 2.90 55 *e*P **Pn** 13 06 05.2 -1.1
BKI *e*S **Sn** 13 06 36.3 -3.5
KDTR Khodutka, Kamc 2.91 233 PN **Pn** 13 06 06.5 0.0
KDTR S **Sn** 13 06 40.0 -0.2
KDTR Khodutka, Kamc 2.91 233 *e*P **Pn** 13 06 06.5 0.0
KDTR *e*S **Sn** 13 06 40.0 -0.2
ESO Esso 2.95 323 PN **Pn** 13 06 07.9 +0.9
ESO Esso 2.95 323 *e*P **Pn** 13 06 07.9 +0.9
SRDR Sredinnyy 2.98 337 PN **Pn** 13 06 07.9 +0.5
SRDR Sredinnyy 2.98 337 *e*P **Pn** 13 06 07.9 +0.5
SMKR Semkarok 2.99 356 PN **Pn** 13 06 09.0 +1.4
SMKR Semkarok 2.99 356 *e*P **Pn** 13 06 09.0 +1.4
BDR Baidarnaya 2.99 353 PN **Pn** 13 06 08.6 +1.0
BDR Baidarnaya 2.99 353 *e*P **Pn** 13 06 08.6 +1.0
SRKR Sorokina 3.08 353 PN **Pn** 13 06 10.2 +1.4
SRKR Sorokina 3.08 353 *e*P **Pn** 13 06 10.2 +1.4
MIPR Malaya Ipel'ka 3.35 249 PN **Pn** 13 06 14.0 +1.5
MIPR Malaya Ipel'ka 3.35 249 *e*P **Pn** 13 06 14.0 +1.5
PAU Pauzhetka 3.74 237 PN **Pn** 13 06 19.1 +1.2
PAU Pauzhetka 3.74 237 *e*P **Pn** 13 06 19.1 +1.2
SKR Severo-Kuril's 4.58 233 *e*PN **Pn** 13 06 29.9 +0.5
SKR *e*S **Sn** 13 07 23.8 +2.6
comp=Z,107nm,0.5s
SKR pmax pmax
comp=N,302nm,0.7s
SKR smax smax
comp=E,308nm,0.6s
SKR Severo-Kuril's 4.58 233 *e*P **Pn** 13 06 29.8 +0.4
SKR *e*S **Sn** 13 07 19.2 -2.0
ALID Alaid 4.74 237 PN **Pn** 13 06 32.4 +0.7
ALID Alaid 4.74 237 *e*P **Pn** 13 06 32.4 +0.7
MA2 Magadan 8.54 319 P **Pn** 13 07 24.8 +1.2
comp=E,0.8nm,0.3s,baz=123,slow=10,SNR=30
MA2 S **Sn** 13 08 55.2 -3.2
comp=E,0.5nm,0.3s,baz=308,slow=23,SNR=1.6
MA2 Magadan 8.54 319 *d i*PN **Pn** 13 07 25.7 +2.1
MA2 pmax pmax
comp=Z,10.0nm,0.8s
MA2 Magadan 8.54 319 Pn **Pn** 13 07 23.3 -0.3
SEY Seymchan 10.58 336‖ *e*PN **Pn** 13 07 51.5 +0.1
YSS Yuzh-Sakhalins 13.88 249 *e*P Pn 13 08 21.0 -16
YSS MLR MLR
comp=Z,100nm,15.0s
BILL Bilibino 14.63 7‖ *e*P P 13 08 46.7 -5.2
BILL pmax pmax
comp=Z,6.0nm,2.6s
BILL Bilibino 14.63 7 Pn P 13 08 55.7 +3.8
JKA Kamikawa-asahi 15.78 241 Pn **P** **13 09 01.1 -3.6**
JKA IAmb IAmb 13 09 05.5
comp=Z,37nm,1.1s
ASAJ Asahikawa 15.78 241 P **P** **13 09 01.1 -3.7**
comp=Z,1.4nm,0.3s,baz=79,slow=13,SNR=15
ASAJ Asahikawa 15.78 241 P **P** **13 09 01.2 -3.6**
ASAJ pmax pmax
comp=Z,37nm,1.1s
ERM Erimo 17.02 235 P **P** **13 09 14.4 -4.2**
ERM pmax pmax
comp=Z,64nm,1.2s
ERM Erimo 17.02 235 Pn **P** **13 09 14.4 -4.2**
ERM IAmb IAmb 13 09 33.5
comp=Z,64nm,1.1s
JEW Eniwo 17.27 240 P **P** **13 09 21.1 -0.2**
YAK Yakutsk 18.91 309 P **Pn** **13 09 37.0 -3.1**
comp=Z,0.2nm,0.3s,baz=280,slow=2.2,SNR=1.9
YAK Yakutsk 18.91 309‖ *e*P **Pn** **13 09 37.7 -2.4**
YAK pmax pmax
comp=Z,9.0nm,0.7s
KLR Kul'dur 19.19 269 P **Pn** **13 09 42.5 -1.1**
comp=Z,0.3nm,0.3s,baz=60,slow=6.3,SNR=6.3
KLR Kul'dur 19.19 269‖ *e*P **Pn** **13 09 43.3 -0.3**
KLR pmax pmax
comp=Z,13nm,1.8s
KLR MLR MLR
comp=Z,65nm,11.0s
JMM Marumori 21.40 231 P **P** **13 10 06.8 +0.5**
USRK Ussuriysk Ar. 21.62 256 P **P** **13 10 09.3 +0.7**
comp=Z,2.5nm,0.8s,baz=43,slow=14,SNR=6.1
JYT Yasato 23.02 230 P **P** **13 10 23.9 +0.4**
TIXI Tiksi 23.06 334 P **P** **13 10 22.6 -1.1**
comp=Z,1.7nm,0.3s,baz=119,slow=10,SNR=9.3
TIXI Tiksi 23.06 334‖ *i*P **P** **13 10 22.8 -0.9**
TIXI Tiksi 23.06 334 P **P** **13 10 20.9 -2.8**
MJA0 Matsu Arr-Jizo 23.67 233 *e*P **P** **13 10 32.8 +2.9**
MJA0 pmax pmax
comp=Z,10.0nm,0.8s
MAJO Matsushiro 23.69 233‖ *e*P **P** **13 10 32.2 +2.1**
MAJO pmax pmax
comp=Z,60nm,2.5s
MAJO Matsushiro 23.69 233 P **P** **13 10 31.9 +1.9**
MAJO IAmb IAmb 13 10 33.4
comp=Z,16nm,0.8s

MAT Matsushiro 23.69 233 P **P** **13 10 32.6 +2.5**
MJAR Matsushiro Arr 23.69 233 P **P** **13 10 31.8 +1.8**
comp=Z,9.3nm,0.9s,baz=19,slow=11,SNR=15
MJAR Matsushiro Arr 23.69 233 P **P** **13 10 30.9 +0.8**
MJAR pmax pmax
comp=Z,6.0nm,0.7s
MJAR Matsushiro Arr 23.69 233 P **P** **13 10 30.9 +0.8**
JGF Kuroka 24.85 233 P **P** **13 10 42.4 +1.6**
JGF IAmb IAmb 13 10 46.7
comp=Z,9.5nm,0.9s
JWT Wachi 26.06 236 P **P** **13 10 52.0 +0.4**
HIA Hailar 26.31 278‖ *i*P **P** **13 10 53.8 0.0**
HIA pmax pmax
comp=Z,4.0nm,0.7s
WRH Wood River Hil 27.19 47 P pP 13 11 14.0 +1.3
SML Sawmill 27.22 53 P **pP** **13 11 14.9 +1.8**
SML IAmb IAmb 13 11 15.7
comp=Z,22nm,1.5s
CCB Clear Creek Bu 27.31 46 P pP 13 11 15.2 +1.3
IL31 27.71 46 P pP 13 11 17.9 +0.6
ILAR Eielson Array 27.71 46 P **P** **13 11 07.8 +1.6**
comp=Z,0.5nm,0.8s,baz=266,slow=8.8,SNR=8.1
ILAR Eielson Array 27.71 46 P pP 13 11 18.9 +1.6
PRP Porcupine Dome 28.27 44 pP 13 11 23.4 +0.8
KSRS Korea Array 28.38 249 P **P** **13 11 13.2 +0.9**
comp=Z,1.7nm,0.7s,baz=42,slow=9.6,SNR=8.8
KSRS Korea Array 28.38 249 *e*P P 13 11 13.8 +1.5
KSRS pmax pmax
comp=Z,2.0nm,0.7s
DOT Dot Lake 29.00 48 P pP 13 11 28.8 -0.2
SCRK Sand Creek 29.01 48 P pP 13 11 29.0 -0.1
RAGM Ragged Mountai 29.18 55 P **pP** **13 11 30.8 +0.2**
RAGM IAmb IAmb 13 11 55.0
comp=Z,21nm,1.4s
EGAK Eagle 30.16 46 P **pP** **13 11 39.9 +0.8**
EGAK IAmb IAmb 13 11 40.5
comp=Z,3.7nm,0.8s
INK Inuvik 32.82 38 P P 13 11 52.6 +1.4
comp=Z,0.4nm,0.4s,baz=287,slow=7.7,SNR=6.5
INK Inuvik 32.82 38 P pP 13 12 03.5 +1.1
H11N2 WAKE ISLAND Hy 34.04 171 T T 13 49 10.4
baz=355,slow=76
H11N3 WAKE ISLAND Hy 34.05 171 T T 13 49 20.5
baz=355,slow=76
H11N1 WAKE ISLAND Hy 34.06 171 T T 13 49 36.5
baz=355,slow=76
TLY Talaya 34.52 291 *e*P **P** **13 12 04.0 -2.2**
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY MLR MLR
comp=Z,167nm,11.0s
SONM Songino Array 34.80 284 P **P** **13 12 08.1 -0.7**
comp=Z,0.3nm,0.3s,baz=68,slow=8.5,SNR=5.4
SONM PcP **PcP** **13 14 42.7 +1.5**
comp=Z,1.2nm,0.6s,baz=40,slow=1.3,SNR=12
SONM Songino Array 34.80 284 **PcP** **13 14 42.8 +1.7**
HHC Hu-ho-hao-te 35.69 270 *e*P **P** **13 12 16.5 0.0**
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,88nm,5.1s
NJ2 Nanjing 37.41 252 *e*P **P** **13 12 29.0 -2.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
YKA Yellowknife Ar 42.07 44 P P 13 13 11.2 +1.8
comp=Z,0.2nm,0.7s,baz=301,slow=7.8,SNR=2.7
RES Resolute Bay 42.45 23 P P 13 13 20.1 +7.7
RES pmax pmax
comp=Z,6.0nm,1.5s
RES Resolute Bay 42.45 23 P P 13 13 20.1 +7.7
RES IAmb IAmb 13 13 42.0
comp=Z,6.4nm,1.4s
ZALV Zalesovo Beam 43.37 303 PcP **PcP** **13 15 08.9 +1.1**
comp=Z,1.1nm,0.8s,baz=45,slow=2.7,SNR=3.7
GTA Gaotai 43.58 277 P **P** **13 13 23.3 +1.1**
GTA pP pP 13 13 32.8 -0.7
GTA sP sP 13 13 36.9 -1.6
GTA pmax pmax
comp=Z,4.0nm,1.2s
DGZ Jazzator, Alta 44.38 297‖ *e*P **P** **13 13 28.5 +0.1**
DGZ pmax pmax
comp=Z,1.0nm,0.5s
TULEG Thule 46.20 15 P P 13 13 48.8 +6.5
SPA0 Spitsbergen Ar 46.80 351 P **P** **13 13 48.0 +1.0**
WMQ Urumqi 47.78 290 *e*P **P** **13 13 55.0 -0.2**
MK31 Makanchi Array 48.87 296‖ *e*P **P** **13 14 01.4 -2.1**
MK31 Makanchi Array 48.87 296 P **P** **13 14 01.1 -2.4**
MKAR Makanchi Array 48.87 296 P **P** **13 14 01.4 -2.1**
comp=Z,0.9nm,0.5s,baz=51,slow=6.8,SNR=15
MKAR Makanchi Array 48.87 296 P **P** **13 14 01.2 -2.3**
MAKZ Makanchi 49.03 296 P **P** **13 14 02.2 -2.5**
MAKZ pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 49.03 296 P **P** **13 14 02.2 -2.5**
MAKZ IAmb IAmb 13 14 29.0
comp=Z,5.3nm,0.7s
BRVK Borovoye 50.91 309‖ *e*P **P** **13 14 18.4 -0.4**
BRVK pmax pmax
comp=Z,12nm,4.2s
BRVK Borovoye 50.91 309 P **P** **13 14 17.5 -1.3**
BRVK IAmb IAmb 13 14 19.4
comp=Z,2.0nm,0.6s
MOD Modoc Plateau 51.11 70 P **pP** **13 14 34.3 +1.9**
MOD IAmb IAmb 13 14 40.9
comp=Z,4.7nm,1.1s
EGMT Eagleton 52.68 58 P pP 13 14 43.0 -0.8
ARCES ARCESS Array B 53.12 342 P **P** **13 14 34.4 -0.6**
comp=Z,6.4nm,1.0s,baz=39,slow=5.9,SNR=3.8
ARCES ARCESS Array B 53.12 342 P P 13 14 39.0 +4.0
SUMG Summit 53.32 7 *i* P **P** **13 14 38.0 +1.1**
SUMG Summit 53.32 7 *i* P **P** **13 14 38.0 +1.1**
SUMG Summit 53.32 7 *i* P **P** **13 14 38.0 +1.1**
ARU Arti 53.72 318 *d i*P **P** **13 14 39.4 -0.2**
ARU S **S** **13 22 09.1 -0.9**
ARU SS **SKiKP** **13 25 43.9 -5.1**
ARU pmax pmax
comp=Z,27nm,3.5s
ARU Arti 53.72 318 P **P** **13 14 39.0 -0.6**
ARU IAmb IAmb 13 14 40.0
comp=Z,4.9nm,0.6s
KVN Kaiserville 54.27 71 P **pP** **13 14 57.3 +1.4**
KVN IAmb IAmb 13 14 59.6
comp=Z,2.3nm,0.8s
RYN Ryan 54.32 72 P **pP** **13 14 57.9 +1.5**
RYN IAmb IAmb 13 14 59.9
comp=Z,1.8nm,0.9s
NVAR Mina Array Bea 54.59 72 P P 13 14 49.8 +3.3
comp=Z,0.4nm,0.6s,baz=306,slow=7.7,SNR=4.5
ELK Elko 54.70 68 P P 13 14 50.6 +3.4
comp=Z,0.2nm,0.3s,baz=210,slow=20,SNR=1.2
KIRV Kirov 55.59 324‖ *e*P **P** **13 14 53.7 +0.6**
BW06 Boulder Array 56.36 62 P **pP** **13 15 11.5 +0.5**
BW06 IAmb IAmb 13 15 16.3
comp=Z,2.3nm,1.2s
PD31 Pinedale Array 56.36 62 P pP 13 15 11.8 +0.8
PDAR Pinedale Array 56.36 62 P P 13 15 01.8 +2.6
comp=Z,0.2nm,0.6s,baz=347,slow=3.7,SNR=4.1
PDAR Pinedale Array 56.36 62 P pP 13 15 10.6 -0.4
SNCC San Nicolas Is 57.55 77 P pP 13 15 21.0 +1.9
PAYA Payao 58.06 259 P P 13 15 13.0 +1.9
ABKAR Akbulak array 58.25 311 P **P** **13 15 10.4 -1.7**
SRU San Rafael Swe 58.42 66 P **pP** **13 15 26.0 +0.4**
SRU IAmb IAmb 13 15 29.0
comp=Z,3.1nm,0.6s
LAMP Lampang 58.85 259 P P 13 15 19.5 +2.9
comp=Z,1.5nm,0.7s
CM34 Chiang Mai Arr 58.88 259 P P 13 15 19.0 +2.2
CM35 Chiang Mai Arr 59.01 259 P P 13 15 20.0 +2.3
CM33 Chiang Mai Arr 59.02 260 P P **13 15 19.0 +1.2**
CHTO Chiang Mai 59.03 260 P **P** **13 15 16.7 -1.2**
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CHTO Chiang Mai 59.03 260 P **P** **13 15 16.6 -1.2**
CM36 Chiang Mai Arr 59.17 259 P P 13 15 21.0 +2.2
TAPN Taplejung 59.20 275 *e*P **P** **13 15 20.1 +0.7**
comp=Z,7.8nm,0.5s
CM09 Chiang Mai Arr 59.29 259 P P 13 15 22.4 +2.7
comp=Z,7.1nmcomp=Z,9.7nm,0.8s
CM31 Chiang Mai Arr 59.31 259 P P 13 15 22.4 +2.6
comp=Z,270nm,0.6s
CM31 Chiang Mai Arr 59.31 259 P P **13 15 19.5 -0.3**
CMAR Chiang Mai Arr 59.31 259 P P 13 15 21.8 +2.0
comp=Z,4.7nm,0.6s,baz=26,slow=6.9,SNR=35
CMAR Chiang Mai Arr 59.31 259 P **P** **13 15 19.6 -0.2**
CMAR Chiang Mai Arr 59.31 259 P **P** **13 15 19.6 -0.2**

CM15 Chiang Mai Arr 59.32 259 P P 13 15 22.8 +2.9
comp=Z,6.1nm,0.8s
CM02 Chiang Mai Arr 59.32 259 P P 13 15 22.0 +2.1
comp=Z,66nmcomp=Z,9.5nm,0.8s
CM01 Chiang Mai Arr 59.33 259 P P 13 15 22.6 +2.7
comp=Z,54nmcomp=Z,7.4nm,0.7s
CM04 Chiang Mai Arr 59.33 259 P P 13 15 22.6 +2.6
comp=Z,76nmcomp=Z,9.6nm,0.8s
CM05 Chiang Mai Arr 59.35 259 P P 13 15 22.6 +2.6
comp=Z,64nmcomp=Z,7.7nm,0.7s
CM13 Chiang Mai Arr 59.36 259 P P 13 15 22.7 +2.6
comp=Z,109nmcomp=Z,6.8nm,0.8s
ODAN Odare 59.76 275 *e*P P 13 15 24.6 +1.5
comp=Z,6.8nm,0.5s
GUN Gumba 59.87 277 *e*P **P** **13 15 24.4 +0.4**
comp=Z,6.3nm,0.3s
PV13 Radium Mtn., P 60.03 65 P pP 13 15 36.6 -0.2
PV02 Paradox Valley 60.04 65 P **pP** **13 15 36.0 -0.8**
PV02 IAmb IAmb 13 15 36.2
comp=Z,4.0nm,1.2s
FIA1 FINESS Array S 60.05 337 P **P** **13 15 24.6 +0.3**
FINES FINESS Array B 60.06 337 P **P** **13 15 24.8 +0.5**
comp=Z,5.3nm,0.6s,baz=34,slow=7.3,SNR=14
MHMT Maesarieng 60.12 260 P P 13 15 28.0 +2.6
RAMN Ramite 60.16 276 *e*P **P** **13 15 26.5 +0.6**
comp=Z,26nm,0.5s
PKI Pulchoki 60.40 277 *e*P **P** **13 15 28.0 +0.4**
comp=Z,9.8nm,0.5s
PKIN Phulchoki 60.41 277 *e*P **P** **13 15 28.7 +1.1**
comp=Z,11nm,0.5s
BELG Belogornoye 61.00 320‖ *e*P **P** **13 15 31.6 +0.8**
BELG pmax pmax
comp=Z,3.0nm,0.9s
TOLI2 Tolitoli 62.31 228 P P 13 15 42.3 +2.1
NC204 NORSAR Array S 63.18 345 P **P** **13 15 46.0 +0.6**
NC405 NORSAR Array S 63.18 344 P **P** **13 15 46.0 +0.5**
NB201 NORSAR Array S 63.31 344 P **P** **13 15 47.0 +0.7**
NB2 NORSAR Subarra 63.33 345 P **P** **13 15 47.0 +0.5**
comp=Z,3.0nm,0.6s,baz=20,slow=6.9
NOA NORSAR Array B 63.33 345 P **P** **13 15 47.0 +0.5**
comp=Z,2.2nm,0.8s,baz=20,slow=6.7,SNR=8.5
NOA NORSAR Array B 63.33 345 P **P** **13 15 47.0 +0.5**
NBO00 NORSAR Array S 63.41 345 P **P** **13 15 47.8 +0.9**
GEYT Alibeck 67.68 304 P **P** **13 16 14.8 -0.1**
comp=Z,3.7nm,0.6s,baz=40,slow=2.5,SNR=5.8
GEYT Alibeck 67.68 304 P **P** **13 16 15.2 +0.3**
GEYT IAmb IAmb 13 16 16.1
comp=Z,3.4nm,0.6s
GYA0B ALIBECK ARRAY 67.68 304 P **P** **13 16 15.4 +0.5**
GYA0B IAmb IAmb 13 16 16.4
comp=Z,6.1nm,0.7s
AKASG Malin Array Be 68.70 330 P **P** **13 16 20.6 -0.3**
comp=Z,2.2nm,0.6s,baz=28,slow=5.9,SNR=7.8
TXAR Lajitas Array 69.47 68 P P 13 16 28.4 +2.1
comp=Z,0.5nm,0.7s,baz=303,slow=5.3,SNR=8.2
KBZ Khabaz 69.87 317 P **P** **13 16 28.7 +0.4**
comp=Z,1.7nm,0.6s,baz=124,slow=3.6,SNR=5.0
KBZ Khabaz 69.87 317‖ *e*P P 13 16 29.8 +1.5
KBZ pmax pmax
comp=Z,4.0nm,1.1s
WVT Waverly 72.31 53 P **pP** **13 16 53.8 -1.7**
WVT IAmb IAmb 13 16 56.2
comp=Z,6.7nm,0.9s
BURAR Bucovina Array 72.64 331 P **P** **13 16 45.8 +0.6**
KOPT Kop Dagi 73.96 317 P **P** **13 16 52.8 -0.5**
KOPT IAmb IAmb 13 17 03.9
comp=Z,5.8nm,1.0s
GERES GERESS Array B 74.42 339 P **P** **13 16 56.6 +1.0**
comp=Z,0.6nm,0.4s,baz=33,slow=8.0,SNR=5.0
GERES GERESS Array B 74.42 339 P **P** **13 16 56.4 +0.8**
GERES GERESS Array B 74.42 339 P **P** **13 16 56.4 +0.8**
WB0 Warramunga Arr 76.82 206 P P 13 17 11.2 +1.8
WB0 IAmb IAmb 13 17 33.2
comp=Z,9.9nm,1.4s
WR0 Warramunga Arr 76.96 206 P P 13 17 11.9 +1.7
WR0 IAmb IAmb 13 17 24.5
comp=Z,8.5nm,1.3s
WB2 Warramunga Arr 77.00 206 P P 13 17 12.2 +1.8
WB2 IAmb IAmb 13 17 13.1
comp=Z,5.2nm,0.9s
WRA Warramunga Arr 77.00 206 P P 13 17 12.1 +1.7
comp=Z,2.4nm,0.7s,baz=17,slow=6.0,SNR=34
WRA Warramunga Arr 77.00 206 *i* P P 13 17 12.3 +1.9
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 77.00 206 P P 13 17 12.4 +2.0
TUE Stuetta 77.58 341 P P 13 17 16.1 +2.4
TUE IAmb IAmb 13 17 16.4
comp=Z,4.7nm,0.7s
VTS Vitosha 77.77 330 P **P** **13 17 16.1 +1.3**
VTS pmax pmax
comp=Z,4.0nm,1.1s
VTS Vitosha 77.77 330 P P **13 17 16.1 +1.3**
VTS IAmb IAmb 13 17 28.1
comp=Z,3.7nm,1.1s
FITZ Fitzroy Crossi 77.91 215 P P 13 17 18.2 +2.7
FITZ IAmb IAmb 13 17 18.8
comp=Z,4.2nm,0.7s
XMIS Christmas Isla 79.57 236 P P 13 17 26.5 +1.7
VLC Villacollemand 79.58 340 P P 13 17 27.1 +2.5
VLC IAmb IAmb 13 17 39.8
comp=Z,11nm,1.0s
NRCA Norcia 80.25 337 P P 13 17 30.1 +1.8
NRCA IAmb IAmb 13 17 32.1
comp=Z,8.1nm,1.0s
ASAR Alice Springs 80.67 206 P P 13 17 33.0 +2.5
comp=Z,2.6nm,0.8s,baz=17,slow=4.9,SNR=36
STKA Stephens Creek 86.93 197 P P 13 18 04.6 +2.4
comp=Z,1.5nm,0.7s,baz=287,slow=5.8,SNR=3.0

KRSC ***24*** *13:18:59.0± 1.4, 53.°54N× 162.°06E, h48km± 24km, ML5.3*
NEIC ***24*** *13:19:01.8± 1.4, 53.°66N± 0.°08× 161.°66E± 0.°07, h25km± 4km, mb4.9/258, Error ellipse: s-maj=11.9km s-min=5.4km az=167.0*
MOS ***24*** *13:19:02.3± 1.0, 53.°63N× 161.°79E, h45km, mb5.1/73, MS4.4/11, Error ellipse: s-maj=5.0km s-min=3.2km az=82.4*
GCMT ***24*** *13:19:02.8± 0.4, 53.°66N± 0.°04× 161.°84E± 0.°04, h28km, MW4.8/69, Moment Tensor Solution. s41,c48; s69,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.02±.12; $M_{\theta\theta}$0.38±.09; $M_{\phi\phi}$1.63±.08; $M_{r\theta}$0.70±.15; $M_{\theta\phi}$0.02±.08; M_{rr}0.96±.10; Best double couple: $M_0$2.15800×10^{16} NP1:ϕ_s352.00000°, δ32.00000°, λ-112.00000°. NP2: ϕ_s197.00000°, δ61.00000°, λ-77.00000°. Principal axes: T 1.8940, Plg15.0000°, Azm278.0000°; N 0.5210, Plg11.0000°, Azm11.0000°; P -2.4220, Plg71.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***24*** *13:19:02.2± 0.0, 54.°00N× 161.°41E, h36km, mB5.0/47, mb4.8/58, Ms4.9/50, Ms7 4.8/50*
IDC ***24*** *13:19:06.6± 1.6, 53.°80N× 161.°58E, h60km± 14km, mb4.4/37, mb1 4.5/43, mb1mx4.5/53, mbtmp4.7/43, MS4.3/29, Ms1 4.3/29, ms1mx4.1/57, Error ellipse: s-maj=11.7km s-min=7.4km az=139.0*
ISC 24 13:19:02.1±0.5, **53.°68N**±0.°03× **161.°78E**±0.°03, **h27**km±3km, **h27**km**:pP-P, n707,** σ1**°34/756, mb4.9**/268**, MS4.6**/48**, 34C-34D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MKZ	**Mys Kozlova**	**0.87**	**358**	PN	**Pn**	**13**	**19**	**17.7 -0.8**
MKZ	**Mys Kozlova**	**0.87**	**358**	*e*P	**Pn**	**13**	**19**	**17.7 -0.8**
SPN	**Mys Shipunski**	**1.21**	**242**	PN	**Pn**	**13**	**19**	**21.6 -1.5**
SPN				S	**Sb**	**13**	**19**	**39.2 -0.2**
SPN	**Mys Shipunski**	**1.21**	**242**	*e*P	**Pn**	**13**	**19**	**21.6 -1.5**
SPN				*e*S	**Sb**	**13**	**19**	**39.2 -0.2**
KII	**Karymskiy**	**1.43**	**285**	PN	**Pn**	**13**	**19**	**25.3 -0.9**
KII	**Karymskiy**	**1.43**	**285**	*e*P	**Pn**	**13**	**19**	**25.3 -0.9**
NLC	**Nalytchevo**	**1.55**	**252**	PN	**Pn**	**13**	**19**	**27.5 -0.3**
NLC	**Nalytchevo**	**1.55**	**252**	*e*P	**Pn**	**13**	**19**	**27.5 -0.3**
KZV	**Kizimen**	**1.68**	**329**	PN	**Pn**	**13**	**19**	**30.4 +0.7**
KZV	**Kizimen**	**1.68**	**329**	*e*P	**Pn**	**13**	**19**	**30.4 +0.7**
TUMD	**Tumrok D**	**1.72**	**333**	*e*P	**Pn**	**13**	**19**	**30.7 +0.4**
TUMD				*e*S	**Sb**	**13**	**19**	**54.7 +0.4**
SDLR	**Sedlovina**	**1.78**	**258**	PN	**Pn**	**13**	**19**	**30.9 -0.2**
SDLR	**Sedlovina**	**1.78**	**258**	*e*P	**Pn**	**13**	**19**	**30.9 -0.2**
SMAR	**Somma**	**1.83**	**258**	PN	**Pn**	**13**	**19**	**31.8 -0.1**
SMAR				S	**Sb**	**13**	**19**	**57.5 -0.1**
SMAR	**Somma**	**1.83**	**258**	*e*P	**Pn**	**13**	**19**	**31.8 -0.1**

SMAR eS **Sb** 13 19 57.5 -0.1
UGLR Uglovaya 1.83 256 PN **Pn** 13 19 31.8 0.0
UGLR S **Sn** 13 19 55.3 +1.1
UGLR Uglovaya 1.83 256 eP **Pn** 13 19 31.8 0.0
UGLR eS **Sn** 13 19 55.3 +1.1
KRER Koryakskii 1.85 259 PN **Pn** 13 19 32.1 -0.1
KRER S **Sn** 13 19 55.9 +1.1
KRER Koryakskii 1.85 259 eP **Pn** 13 19 32.1 -0.1
KRER eS **Sn** 13 19 55.9 +1.1
TUMR Tumrok 1.86 330 PN **Pn** 13 19 33.5 +1.2
TUMR S **Sb** 13 19 59.0 +0.5
TUMR Tumrok 1.86 330 eP **Pn** 13 19 33.5 +1.2
TUMR eS **Sb** 13 19 59.0 +0.5
AVH Avacha 1.87 258 PN **Pn** 13 19 32.2 -0.1
AVH Avacha 1.87 258 eP **Pn** 13 19 32.2 -0.1
KRX Arik 1.90 261 PN **Pn** 13 19 32.7 -0.1
KRX Arik 1.90 261 eP **Pn** 13 19 32.7 -0.1
KOK Koryaka 1.92 259 PN **Pn** 13 19 33.0 0.0
KOK S **Sn** 13 19 56.4 +0.1
KOK Koryaka 1.92 259 eP **Pn** 13 19 33.0 0.0
KOK eS **Sn** 13 19 56.4 +0.1
DALK Dalny 1.93 251 PN **Pn** 13 19 32.3 -0.8
DALK S **Sn** 13 19 58.0 +1.6
DALK Dalny 1.93 251 eP **Pn** 13 19 32.3 -0.8
DALK eS **Sn** 13 19 58.0 +1.6
PET Petropavlovsk 1.99 252α *i*PN **Pn** 13 19 33.6 -0.3
PET eS **Sn** 13 19 59.6 +1.8
PET pmax pmax
comp=Z,2µm,0.6s
PET smax smax
comp=N,6µm,0.6s
PET smax smax
comp=E,8µm,0.9s
PET Petropavlovsk 1.99 252 eP **Pn** 13 19 33.2 -0.7
PET eS **Sn** 13 19 59.0 +1.2
PET Petropavlovsk 1.99 252 Pn **Pn** 13 19 33.3 -0.5
KMNR Kamenistaya 2.26 337 PN **Pn** 13 19 40.0 +2.3
KMNR Kamenistaya 2.26 337 eP **Pn** 13 19 40.0 +2.3
GNL Ganaly 2.28 272 PN **Pn** 13 19 38.9 +0.8
GNL Ganaly 2.28 272 eP **Pn** 13 19 38.9 +0.8
RUS Russkaya 2.34 239 PN **Pn** 13 19 39.7 +1.0
RUS S **Sn** 13 20 07.9 +1.5
RUS Russkaya 2.34 239 eP **Pn** 13 19 39.7 +1.0
RUS eS **Sn** 13 20 07.9 +1.5
BZGR Bezymyannyi-Gr 2.35 345 PN **Pn** 13 19 41.1 +2.2
BZGR Bezymyannyi-Gr 2.35 345 eP **Pn** 13 19 41.1 +2.2
KRMR Karymshinskiy 2.36 250 PN **Pn** 13 19 40.8 +1.9
KRMR Karymshinskiy 2.36 250 eP **Pn** 13 19 40.8 +1.9
BZMR Bezymyannaya 2.38 342 PN **Pn** 13 19 42.0 +2.6
BZMR Bezymyannaya 2.38 342 eP **Pn** 13 19 42.0 +2.6
BZWR Bezymyannyi-We 2.40 342 PN **Pb** 13 19 43.3 -1.4
BZWR Bezymyannyi-We 2.40 342 eP **Pb** 13 19 43.3 -1.4
ZLN Zelenaya 2.41 347 PN **Pn** 13 19 41.6 +1.9
ZLN Zelenaya 2.41 347 eP **Pn** 13 19 41.6 +1.9
KIRR Kirishev 2.42 340 PN **Pn** 13 19 42.3 +2.3
KIRR S **Sb** 13 20 13.4 -1.1
KIRR Kirishev 2.42 340 eP **Pn** 13 19 42.3 +2.3
KIRR eS **Sb** 13 20 13.4 -1.1
MTVR Mutnovka 2.48 242 PN **Pn** 13 19 42.0 +1.2
MTVR S **Sn** 13 20 12.9 +2.7
MTVR Mutnovka 2.48 242 eP **Pn** 13 19 42.0 +1.2
MTVR eS **Sn** 13 19 42.0 +2.7
GRL Gorelyy 2.51 245 PN **Pn** 13 19 42.7 +1.6
GRL Gorelyy 2.51 245 eP **Pn** 13 19 42.7 +1.6
CIRR Tsirk 2.51 347 PN **Pb** 13 19 46.3 -0.2
CIRR Tsirk 2.51 347 eP **Pb** 13 19 46.3 -0.2
PEA0B Petropavlovsk- 2.51 258*c*ePN **Pn** 13 19 41.9 +0.8
PEA0B Petropavlovsk- 2.51 258 **Pn** 13 19 40.8 -0.3
PETK Petropavlovsk- 2.51 258 P **Pn** 13 19 42.9 +1.8
comp=E,93nm,0.3s,baz=79,slow=16,SNR=179
PETK LR LR 13 20 12.1
comp=E,1µm,20.0s,baz=91,slow=27
PETK S **Sb** **13 20 14.1 -2.8**
comp=E,160nm,0.3s,baz=107,slow=14,SNR=3.8
PETK Petropavlovsk- 2.51 258 Pn **Pn** 13 19 41.3 +0.2
KBTR Krutoberegovo 2.60 13 PN **Pn** 13 19 42.0 -0.3
KBTR Krutoberegovo 2.60 13 eP **Pn** 13 19 42.0 -0.3
KOZ Kozyrevsk 2.62 336 PN **Pn** 13 19 45.4 +2.8
KOZ Kozyrevsk 2.62 336 eP **Pn** 13 19 45.4 +2.8
KBG Krutoberegovo 2.63 11 PN **Pn** 13 19 44.1 +1.4
KBG S **Sb** 13 20 18.8 -1.5
KBG Krutoberegovo 2.63 11 eP **Pn** 13 19 44.1 +1.4
KBG eS **Sb** 13 20 18.8 -1.5
KRSR Krestovskiy 2.63 345 PN **Pn** 13 19 44.4 +1.6
KRSR Krestovskiy 2.63 345 eP **Pn** 13 19 44.4 +1.6
ASAK Asacha 2.68 242 PN **Pn** 13 19 45.1 +1.6
ASAK Asacha 2.68 242 eP **Pn** 13 19 45.1 +1.6
KLY Klyuchi 2.71 347 PN **Pn** 13 19 45.0 +1.2
KLY Klyuchi 2.71 347 eP **Pn** 13 19 45.0 +1.2
ESO Esso 2.87 323 PN **Pn** 13 19 48.7 +2.7
ESO Esso 2.87 323 eP **Pn** 13 19 48.7 +2.7
APC Apacha 2.88 257 PN **Pn** 13 19 47.5 +1.4
APC S **Sb** 13 20 25.3 -2.1
APC Apacha 2.88 257 eP **Pn** 13 19 47.5 +1.4
APC eS **Sb** 13 20 25.3 -2.1
BKI Bering 2.88 56 PN **Pn** 13 19 45.4 -0.7
BKI Bering 2.88 56 eP **Pn** 13 19 45.4 -0.7
BKI eS **Sn** 13 20 16.5 -3.3
SRDR Sredinnyy 2.90 337 PN **Pn** 13 19 48.1 +1.7
SRDR Sredinnyy 2.90 337 eP **Pn** 13 19 48.1 +1.7
SMKR Semkarok 2.91 357 PN **Pn** 13 19 48.1 +1.5
SMKR Semkarok 2.91 357 eP **Pn** 13 19 48.1 +1.5
KDTR Khodutka, Kamc 2.93 232 PN **Pn** 13 19 47.1 +0.3
KDTR S **Sn** 13 20 21.6 +0.5
KDTR Khodutka, Kamc 2.93 232 eP **Pn** 13 19 47.1 +0.3
KDTR eS **Sn** 13 20 21.6 +0.5
SRKR Sorokina 3.00 353 PN **Pn** 13 19 49.2 +1.4
SRKR Sorokina 3.00 353 eP **Pn** 13 19 49.2 +1.4
MIPR Malaya Ipel'ka 3.35 247 PN **Pn** 13 19 54.9 +2.3
MIPR Malaya Ipel'ka 3.35 247 eP **Pn** 13 19 54.9 +2.3
PAU Pauzhetka 3.76 236 PN **Pn** 13 19 59.9 +1.7
PAU Pauzhetka 3.76 236 eP **Pn** 13 19 59.9 +1.7
SKR Severo-Kuril's 4.60 232 ePN **Pn** 13 20 10.6 +0.8
SKR pmax pmax
comp=Z,200nm,3.3s
SKR pmax pmax
comp=Z,55nm,0.5s
SKR MLR MLR
comp=Z,2µm,14.0s
SKR Severo-Kuril's 4.60 232 eP **Pn** 13 20 10.4 +0.6
SKR eS **Sn** 13 21 01.0 -1.3
ALID Alaid 4.75 236 PN **Pn** 13 20 13.5 +1.5
ALID Alaid 4.75 236 eP **Pn** 13 20 13.5 +1.5
PALN Palana 5.51 350 PN **Pn** 13 20 24.1 +1.9
PALN Palana 5.51 350 eP **Pn** 13 20 24.1 +1.9
OSSR Ossora 5.62 7 PN **Pn** 13 20 24.4 +0.6
OSSR Ossora 5.62 7 eP **Pn** 13 20 24.4 +0.6
TILK Tilichiki 7.18 18 PN **Pn** 13 20 47.2 +2.1
TILK Tilichiki 7.18 18 eP **Pn** 13 20 47.2 +2.1
SMY Shemya 7.46 92 PN **Pn** 13 20 48.9 -0.1
SMY Shemya 7.46 92 Pn **Pn** 13 20 48.9 -0.1
MA2 Magadan 8.46 319 P **Pn** **13 21 05.7 +3.0**
comp=Z,1.5nm,0.3s,baz=125,slow=10.0,SNR=93
MA2 LR LR 13 24 55.2
comp=Z,3µm,19.2s,baz=125,slow=42
MA2 Magadan 8.46 319*d i*PN **Pn** **13 21 06.2 +3.5**
MA2 pmax pmax
comp=Z,39nm,0.8s
MA2 Magadan 8.46 319 Pn **Pn** 13 21 03.4 +0.7
KMSK Kamenskaya 9.11 13 PN **Pn** 13 21 14.6 +3.0
KMSK Kamenskaya 9.11 13 eP **Pn** 13 21 14.6 +3.0
SEY Seymchan 10.50 336 P **Pn** **13 21 33.7 +3.2**
comp=Z,0.2nm,0.3s,baz=152,slow=10,SNR=10
SEY Seymchan 10.50 336⇑ *e*PN **Pn** 13 21 34.1 +3.6
AMKA Amchitka 10.92 95 Pn **Pn** 13 21 36.3 0.0
OKH Okha 11.20 277*de*PN Pn 13 21 27.5 -13
OKH MLR MLR
comp=Z,2µm,12.0s
OKH MLR MLR
comp=E,2µm,13.0s
OKH MLR MLR
comp=N,1µm,11.0s
TYV Tymovskoe 12.05 264 *e*PN Pn 13 21 56.9 +5.1
TYV eS Sn 13 24 14.9 +10
TYV pmax pmax
comp=Z,100nm,2.2s
TYV pmax pmax
comp=Z,28nm,1.1s
TYV smax smax
comp=E,9.0nm,1.1s
TYV MLR MLR
comp=Z,700nm,16.0s
KUR Kuril'sk 12.37 232 *e*PN **Pn** **13 21 57.1 +0.9**
KUR pmax pmax
comp=N,19nm,0.6s
KUR pmax pmax
comp=Z,44nm,0.6s
NKL Nikolayevsk 12.60 276 *e*PN **Pn** **13 21 58.9 -0.3**
NKL pmax pmax
comp=N,1.0nm,1.2s
NKL MLR MLR
comp=E,1µm,10.0s
NKL MLR MLR
comp=N,11µm,14.0s
NKL MLR MLR
comp=Z,1µm,14.0s
ADK Adak 13.15 89 PN **Pn** **13 22 06.0 -0.8**
ADK Adak 13.15 89 Pn **Pn** **13 22 06.0 -0.8**
YSS Yuzh-Sakhalins 13.87 249 *e*P **P** **13 22 24.5 -0.2**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=N,2µm,15.0s
YSS MLR MLR
comp=Z,4µm,15.0s
YUK Yuzh-Kuril'sk 14.22 234⇑ *i*P **Pn** **13 22 18.2 -3.2**
YUK S **Sn** **13 24 56.0 -2.1**
YUK pmax pmax
comp=Z,298nm,0.5s
YUK pmax pmax
comp=N,27nm,0.3s
YUK pmax pmax
comp=E,61nm,0.3s
YUK pmax pmax
comp=Z,347nm,1.1s
GRPR Tuman 14.29 234*c i*P **Pn** **13 22 20.9 -1.6**
GRPR pmax pmax
comp=Z,180nm,0.4s
GRPR pmax pmax
comp=N,63nm,0.2s
RUSJ Misakicho 14.46 235 P **Pn** **13 22 23.9 -0.9**
ATKA Atka Island 14.54 86 Pn **Pn** **13 22 26.1 +0.3**
BILL Bilibino 14.56 7⇓ *e*P **Pn** **13 22 28.7 +2.7**
BILL eS **Sn** **13 25 07.6 +1.4**
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,2µm,15.0s
BILL Bilibino 14.56 7 Pn **Pn** **13 22 27.4 +1.4**
GLVR Golovnino 14.60 234 P **Pn** **13 22 22.6 -4.1**
NMR Nemuro--Hokkai 14.78 232 *e*P Pn 13 22 23.3 -5.8
GRNR Gornyy 15.78 270⇓ *i*P **P** **13 22 47.7 +1.8**
GRNR pmax pmax
comp=N,7.0nm,0.9s
GRNR pmax pmax
comp=E,20nm,0.9s
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,740nm,13.0s
GRNR MLR MLR
comp=N,460nm,15.0s
GRNR MLR MLR
comp=Z,1µm,14.0s
JKA Kamikawa-asahi 15.79 240 Pn **Pn** **13 22 41.6 -0.7**
ASAJ Asahikawa 15.79 240 P **Pn** **13 22 42.5 +0.1**
comp=Z,6.2nm,0.3s,baz=77,slow=10,SNR=57
ASAJ LR LR 13 28 58.1
comp=Z,1µm,19.3s,baz=56,slow=38
ASAJ Asahikawa 15.79 240 P **Pn** **13 22 41.6 -0.7**
ASAJ pmax pmax
comp=Z,140nm,0.9s
ERM Erimo 17.04 234 P **Pn** **13 22 52.9 -5.3**
ERM pmax pmax
comp=Z,134nm,1.3s
ERM Erimo 17.04 234 Pn **Pn** **13 22 52.9 -5.3**
ERM IAmb IAmb 13 23 01.4
comp=Z,134nm,1.2s
JEW Eniwo 17.28 239 Pn **Pn** **13 22 57.1 -4.1**
NIKH Nikolski High 17.50 80 Pn **Pn** **13 23 02.8 -1.1**
NIKH Nikolski High 17.50 80 P 13 23 04.6
baz=284
TEY Ternei 18.46 252⇓ *e*P **Pn** **13 23 20.0 +4.3**
TEY pmax pmax
comp=Z,50nm,0.8s
YAK Yakutsk 18.83 309 P **P** **13 23 18.0 -1.4**
comp=Z,0.6nm,0.3s,baz=114,slow=1.1,SNR=14
YAK LR LR 13 31 30.1
comp=Z,2µm,19.2s,baz=100,slow=40
YAK Yakutsk 18.83 309 *e*P **P** **13 23 17.8 -1.6**
YAK eS **Sn** **13 26 45.5 -4.2**
YAK pmax pmax
comp=Z,54nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,82nm,1.0s
YAK pmax pmax
comp=E,69nm,1.5s
YAK smax smax
comp=E,72nm,2.5s
YAK smax smax
comp=N,35nm,1.6s
YAK MLR MLR
comp=Z,2µm,16.0s
YAK MLR MLR
comp=E,2µm,16.0s
YAK MLR MLR
comp=N,493nm,16.0s
YAK Yakutsk 18.83 309 P **P** **13 23 18.1 -1.3**
JTM Tennabayashi 19.00 236 P **P** **13 23 15.3 -6.1**
KLR Kul'dur 19.16 269 P **P** **13 23 23.6 +0.5**
comp=N,1.0nm,0.3s,baz=65,slow=8.6,SNR=14
KLR LR LR 13 31 34.2
comp=N,1µm,18.3s,baz=70,slow=39
KLR Kul'dur 19.16 269⇓ *e*P **Pn** **13 23 24.0 -0.1**
KLR pmax pmax
comp=Z,49nm,1.6s
KLR MLR MLR
comp=Z,1µm,15.0s
ANM Nome 19.80 44 P **Pn** **13 23 31.2 -0.5**
ANM pmax pmax
comp=Z,51nm,1.4s
ANM Nome 19.80 44 P **Pn** **13 23 31.2 -0.5**
ANM Nome 19.80 44 P 13 23 32.4
baz=252,SNR=31
FALS False Pass 20.24 73 P 13 23 34.1
baz=281
ZEA Zeya 20.32 284 *e*P **P** **13 23 35.3 -0.5**
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA pmax pmax
comp=Z,200nm,5.6s
ZEA MLR MLR
comp=E,500nm,14.0s
ZEA MLR MLR
comp=Z,600nm,15.0s
JMM Marumori 21.43 231 P **P** **13 23 46.3 -1.5**
JMM IAmb IAmb 13 24 13.1
comp=Z,64nm,1.0s
USA0B Ussuriysk Arra 21.60 256⇓ *e*P **P** **13 23 50.6 +1.0**
USA0B Ussuriysk Arra 21.60 256 P **P** **13 23 49.2 -0.4**
USRK Ussuriysk Ar. 21.60 256 P **P** **13 23 49.7 +0.1**
comp=Z,10nm,0.8s,baz=58,slow=11,SNR=15
USRK LR LR 13 32 44.1
comp=Z,666nm,18.6s,baz=52,slow=38
USRK Ussuriysk Ar. 21.60 256 P **P** **13 23 48.7 -0.9**
SDPT Sand Point 21.80 70 P 13 23 51.3
baz=281
RDOG Red Dog Mine 21.97 35 P **P** **13 23 51.3 -2.1**
RDOG IAmb IAmb 13 24 07.7
comp=Z,30nm,0.8s
RDOG Red Dog Mine 21.97 35 P 13 23 52.8
baz=247
JSD Sado 22.50 235 P **P** **13 23 59.9 +0.6**
MDJ Mudanjiang 22.75 260 P **P** **13 24 03.1 +1.2**
MDJ pmax pmax
comp=Z,27nm,1.2s
MDJ pmax pmax
comp=Z,330nm,4.1s
MDJ LR LR
comp=Z,2µm,15.3s
MDJ Mudanjiang 22.75 260 P **P** **13 23 59.5 -2.5**
MDJ IAmb IAmb 13 24 04.1
comp=Z,54nm,1.5s
TIXI Tiksi 22.98 334 P **P** **13 24 02.9 -1.1**
comp=Z,12nm,0.8s,baz=119,slow=9.8,SNR=44
TIXI Tiksi 22.98 334⇓ *i*P **P** **13 24 02.8 -1.2**
TIXI pmax pmax
comp=Z,78nm,1.0s
TIXI Tiksi 22.98 334 P **P** **13 24 01.5 -2.6**
JYT Yasato 23.04 229 P **P** **13 24 02.3 -2.6**
MAJO Matsushiro 23.71 233*d i*P **P** **13 24 12.6 +1.0**
MAJO pmax pmax
comp=Z,119nm,0.9s
MAJO Matsushiro 23.71 233 P **P** **13 24 10.9 -0.7**
MAT Matsushiro 23.71 233 P **P** **13 24 12.5 +0.9**
MAT S **S** **13 28 24.4 -0.4**
MJAR Matsushiro Arr 23.71 233 P **P** **13 24 12.1 +0.5**
comp=Z,29nm,0.8s,baz=22,slow=10,SNR=52
MJAR Matsushiro Arr 23.71 233 P **P** **13 24 12.2 +0.7**
MJAR IAmb IAmb 13 24 26.8
comp=Z,47nm,1.0s
SVW2 Sparrevohn 23.76 55 P **P** **13 24 10.9 -1.0**
JGF Kuroka 24.88 233 P **P** **13 24 21.0 -1.4**
JGF IAmb IAmb 13 24 39.5
comp=Z,50nm,1.2s
RSO Redoubt South 25.18 56 P **P** **13 24 26.1 +1.1**
INU Inuyama 25.24 233 P **P** **13 24 24.2 -1.4**
INU IAmb IAmb 13 24 42.6
comp=Z,29nm,0.8s
A21K Barrow 25.27 30 P **P** **13 24 25.7 +0.2**
A21K IAmb IAmb 13 24 39.3
comp=Z,26nm,1.0s
A21K Barrow 25.27 30 P 13 24 25.2
baz=248,SNR=6.9
CHUM Lake Minchumin 25.31 48 P 13 24 26.5
baz=268,SNR=19
PPLA Purkeypile 25.34 50 P **P** **13 24 27.2 +0.7**
PPLA Purkeypile 25.35 50 P 13 24 26.3
baz=270,SNR=11
OHAK Old Harbor 25.36 64 P **P** **13 24 26.4 -0.1**
OHAK IAmb IAmb 13 24 39.3
comp=Z,48nm,1.0s
SPCR Spurr Chakacha 25.39 54 P 13 24 27.6
baz=274
KDAK Kodiak Island 25.63 62 P **P** **13 24 29.3 +0.4**
comp=Z,11nm,0.5s,baz=269,slow=4.0,SNR=11
KDAK Kodiak Island 25.63 62⇑ *e*P **P** **13 24 30.6 +1.7**
KDAK pmax pmax
comp=Z,69nm,1.4s
KDAK Kodiak Island 25.63 62 P **P** **13 24 28.7 -0.2**
KDAK IAmb IAmb 13 24 35.1
comp=Z,29nm,1.1s
CN2 Changchun 25.66 262 *e*P **P** **13 24 28.8 -0.5**
CN2 sP pwP 13 24 44.0 +3.0
CN2 S **S** **13 28 52.3 -3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,1µm,16.0s
CN2 LR LR
comp=Z,2µm,16.0s
CN2 LR LR
comp=Z,2µm,17.0s
SKT Skwentna 25.67 52 P **P** **13 24 29.8 +0.5**
SKT Skwentna 25.67 52 P 13 24 28.9
baz=273
BPAW Bear Paw Mtn. 25.90 48 P **P** **13 24 32.4 +1.0**
BPAW Bear Paw Mtn. 25.90 48 P 13 24 31.8
baz=269,SNR=8.4
KTH Kantishna Hill 25.92 49 P **P** **13 24 30.9 -0.7**
KTH IAmb IAmb 13 24 35.9
comp=Z,46nm,1.4s
CAPN Captain Cook N 25.94 55 P 13 24 30.3
baz=275
MLY Manley 26.04 45 P **P** **13 24 32.7 0.0**
MLY Manley 26.04 45 P 13 24 32.9
baz=267,SNR=9.9
CNPM China Poot 26.05 58 P **P** **13 24 32.5 -0.2**
CNPM IAmb IAmb 13 24 40.8
comp=Z,34nm,1.2s
JWT Wachi 26.08 236 P **P** **13 24 33.0 -0.2**
JWT IAmb IAmb 13 24 55.4
comp=Z,42nm,1.2s
SUA Susitna One 26.08 54 P **P** **13 24 33.3 +0.2**
SUA Susitna One 26.08 54 P 13 24 33.4
baz=274,SNR=7.0
BRLK Bradley Lake 26.19 57 P **P** **13 24 34.2 +0.2**
TRF Thorofare Moun 26.20 49 P **P** **13 24 34.9 +0.6**
TRF IAmb IAmb 13 24 36.4
comp=Z,23nm,1.0s
TRF Thorofare Moun 26.20 49 P 13 24 34.0
baz=271,SNR=12
CUT Chulitna 26.25 51 P **P** **13 24 34.7 +0.3**
CUT IAmb IAmb 13 24 36.0
comp=Z,25nm,0.8s
CUT Chulitna 26.25 51 P 13 24 34.6
baz=273,SNR=6.8
BRSE Bradley Lake S 26.27 58 P 13 24 33.9
baz=276
HIA Hailar 26.27 278 P **P** **13 24 34.4 -0.4**
HIA pmax pmax
comp=Z,29nm,0.6s
HIA Hailar 26.27 278 P **P** **13 24 34.4 -0.4**
HIA IAmb IAmb 13 24 37.7
comp=Z,29nm,0.6s
COLD Coldfoot 26.45 41 P **P** **13 24 36.7 +0.5**
COLD Coldfoot 26.45 41 P 13 24 36.3
baz=263,SNR=16
RC01 Rabbit Creek A 26.60 54 P **P** **13 24 37.8 +0.1**
RC01 Rabbit Creek A 26.60 54 P 13 24 36.7
baz=276
I23K Minto, Yukon-K 26.63 45 P **P** **13 24 38.5 +0.6**
I23K Minto, Yukon-K 26.63 45 P 13 24 38.6
baz=268,SNR=9.7
O22K Cooper Landing 26.67 56 P 13 24 37.8
baz=277
NEA2 Nenana 26.74 46 P **P** **13 24 38.9 0.0**
NEA2 Nenana 26.74 46 P 13 24 39.4
baz=269,SNR=12
BOD Bodaibo 26.75 298 *e*P **P** **13 24 36.0 -3.0**
BOD pmax pmax
comp=Z,18nm,1.1s
MCK McKinley 26.80 48 P **P** **13 24 40.1 +0.6**
MCK pmax pmax
comp=Z,22nm,1.1s
MCK McKinley 26.80 48 P **P** **13 24 40.1 +0.6**
MCK McKinley 26.80 48 P 13 24 40.0
baz=271,SNR=13
PMR Palmer 26.84 53 P **P** **13 24 40.3 +0.5**
PMR pmax pmax
comp=Z,5.0nm,0.8s
PMR Palmer 26.84 53 P **P** **13 24 40.3 +0.5**
PMR Palmer 26.84 53 P 13 24 39.6
baz=275
RND Reindeer 26.85 49 P **P** **13 24 40.1 +0.1**
RND pmax pmax
comp=Z,33nm,1.0s
RND Reindeer 26.85 49 P **P** **13 24 40.1 +0.1**
RND IAmb IAmb 13 24 41.4
comp=Z,33nm,1.0s
SEW Seward 26.86 56 P **P** **13 24 39.9 -0.1**
SEW IAmb IAmb 13 24 41.2
comp=Z,44nm,1.2s
SEW Seward 26.86 56 P 13 24 39.8
baz=278
TOLK Toolik Lake Re 26.88 37 P **P** **13 24 40.0 -0.2**
TOLK Toolik Lake Re 26.88 37 P 13 24 40.2
baz=261,SNR=10
GHO Glory Hole Cre 26.92 53 P **P** **13 24 40.8 +0.2**
WAT2 Susitna Watana 26.99 50 P 13 24 40.9
baz=273,SNR=12
MDM Murphy Dome 27.10 46 P **P** **13 24 42.8 +0.6**
WRH Wood River Hil 27.16 47 P **P** **13 24 43.5 +0.8**
WRH IAmb IAmb 13 24 55.5
comp=Z,36nm,1.0s
KNK Knik Glacier 27.18 53 P **P** **13 24 43.4 +0.5**
KNK IAmb IAmb 13 24 45.2
comp=Z,37nm,0.9s
KNK Knik Glacier 27.18 53 P 13 24 42.8
baz=276,SNR=14
SML Sawmill 27.20 53 P **P** **13 24 43.5 +0.4**
SML Sawmill 27.20 53 P 13 24 43.5
baz=276,SNR=18
TCOL CIGO, UAF Yank 27.26 46 P **P** **13 24 44.4 +0.8**

TCOL IAmb IAmb 13 24 56.3
comp=Z,33nm,1.2s
TCOL CIGO, UAF Yank **27.26 46** P 13 24 43.5
baz=270
COLA College **27.26 46**⇑ *i*P **P** **13 24 44.9 +1.3**
COLA pmax pmax
comp=Z,20nm,1.2s
COLA College **27.26 46** P **P** **13 24 43.8 +0.3**
COLA IAmb IAmb 13 24 56.4
comp=Z,36nm,1.2s
COLA College **27.26 46** P 13 24 43.4
baz=270
CCB Clear Creek Bu **27.28 46** P **P** **13 24 43.8 +0.1**
CCB IAmb IAmb 13 24 56.5
comp=Z,28nm,1.2s
PWL Port Wells **27.30 55** P **P** **13 24 43.8 -0.3**
PWL IAmb IAmb 13 24 45.3
comp=Z,45nm,1.2s
WAT6 Susitna Watana **27.41 51** P 13 24 44.5
baz=275,SNR=7.4
POKR Poker Plat Res **27.44 45** P **P** **13 24 45.9 +0.7**
POKR Poker Plat Res **27.44 45** P 13 24 45.4
baz=270,SNR=6.5
HDA Harding Lake **27.66 47** P 13 24 47.1
baz=272,SNR=9.9
HDA P 13 24 47.1
baz=272,SNR=9.9
SCM Sheep Creek Mo **27.67 52** P **P** **13 24 48.0 +0.7**
SCM pmax pmax
comp=Z,31nm,1.0s
SCM Sheep Creek Mo **27.67 52** P **P** **13 24 48.0 +0.7**
SCM IAmb IAmb 13 24 49.3
comp=Z,31nm,1.0s
IL31 **27.68 46** P **P** **13 24 47.3 +0.1**
ILAR Eielson Array **27.68 46** P **P** **13 24 47.7 +0.4**
comp=Z,7.2nm,0.8s,baz=262,slow=8.2,SNR=84
ILAR Eielson Array **27.68 46** P **P** **13 24 47.1 -0.2**
ILAR Eielson Array **27.68 46** P **P** **13 24 47.1 -0.2**
GLI Glacier Island **27.90 54** P 13 24 49.2
baz=278
M24K Tolsona, Glenn **28.18 52** P **P** **13 24 53.0 +1.1**
M24K IAmb IAmb 13 24 59.2
comp=Z,30nm,1.1s
M24K Tolsona, Glenn **28.18 52** P 13 24 51.9
baz=277
FID Port Fidalgo **28.22 55** P **P** **13 24 52.7 +0.5**
PRP Porcupine Dome **28.24 44** P **P** **13 24 52.8 +0.3**
PRP IAmb IAmb 13 25 05.2
comp=Z,19nm,0.9s
PRP Porcupine Dome **28.24 44** P 13 24 52.9
baz=271,SNR=25
FYU Fort Yukon **28.36 42** P **P** **13 24 54.3 +1.0**
FYU IAmb IAmb 13 25 06.6
comp=Z,29nm,1.2s
KS19 Wonju Array Si **28.37 249** P **P** **13 24 52.5 -1.2**
KSRS Korea Array **28.38 249** P **P** **13 24 53.9 +0.2**
comp=Z,8.2nm,0.8s,baz=45,slow=9.4,SNR=17
KSRS LR LR 13 37 43.5
comp=Z,551nm,18.6s,baz=59,slow=39
KLU Klutina **28.38 53** P **P** **13 24 54.3 +0.6**
KLU IAmb IAmb 13 24 55.7
comp=Z,22nm,1.2s
KLU Klutina **28.38 53** P 13 24 54.1
baz=278,SNR=6.5
KSAR Wonju Array Be **28.41 249** P **P** **13 24 53.1 -0.9**
KSAR Wonju Array Be **28.41 249** P **P** **13 24 53.1 -0.9**
PAX Paxson **28.41 50** P **P** **13 24 54.2 +0.2**
PAX pmax pmax
comp=Z,11nm,1.2s
PAX Paxson **28.41 50** P **P** **13 24 54.2 +0.2**
PAX Paxson **28.41 50** P 13 24 54.2
baz=276
Q23K Middleton Isla **28.52 57** P 13 24 53.9
baz=282
EYAK Cordova Ski Ar **28.61 55** P **P** **13 24 55.7 +0.1**
DOT Dot Lake **28.98 48** P **P** **13 24 58.4 -0.5**
SCRK Sand Creek **28.98 48** P **P** **13 24 58.3 -0.7**
SCRK Sand Creek **28.98 48** P 13 24 58.4
baz=275,SNR=15
N25K Chitina, Valde **28.99 53** P **P** **13 24 58.8 -0.3**
N25K Chitina, Valde **28.99 53** P 13 24 58.9
baz=279,SNR=7.9
BMRM Bremner River **29.09 54** P **P** **13 25 00.1 +0.1**
BMRM IAmb IAmb 13 25 02.2
comp=Z,28nm,1.1s
BMRM Bremner River **29.09 54** P 13 25 00.0
baz=280,SNR=6.5
RAGM Ragged Mountai **29.16 55** P **P** **13 25 01.8 +1.2**
RAGM IAmb IAmb 13 25 03.2
comp=Z,29nm,1.2s
MENT Mentasta **29.21 50** P **P** **13 25 01.5 +0.5**
HMT Hamilton **29.37 55** P **P** **13 25 03.1 +0.7**
HMT IAmb IAmb 13 25 15.6
comp=Z,24nm,1.2s
KAIM Kayak Island **29.38 56** P 13 25 02.3
baz=282
GLB Gilahina Butte **29.39 53** P **P** **13 25 03.0 +0.4**
GLB IAmb IAmb 13 25 31.1
comp=Z,19nm,1.3s
VRDI Verde Repeater **29.59 53** P **P** **13 25 04.6 0.0**
BERG Berg Lake **29.63 55** P **P** **13 25 05.4 +0.7**
BERG IAmb IAmb 13 25 18.1
comp=Z,18nm,1.1s
MIDW Midway **29.70 141** P **P** **13 25 05.5 -0.1**
MCARA McCarthy VSAT **29.77 53** P **P** **13 25 06.0 0.0**
MCARA McCarthy VSAT **29.77 53** P 13 25 04.8
baz=280
CRQM Cirque **29.83 54** P **P** **13 25 06.7 0.0**
CRQM IAmb IAmb 13 25 09.4
comp=Z,28nm,1.0s
CRQE Cirque **29.86 54** P 13 25 07.6
baz=281,SNR=10
TGL Tana Glacier **29.98 54** P **P** **13 25 08.3 +0.4**
TGL IAmb IAmb 13 25 10.4
comp=Z,16nm,1.1s
JNU Nakatsue **30.06 239** P **P** **13 25 09.3 +0.5**
comp=Z,7.8nm,1.0s,baz=346,slow=4.2,SNR=1.6
JNU Nakatsue **30.06 239** IAmb IAmb 13 25 19.5
comp=Z,12nm,0.8s
EGAK Eagle **30.13 46** P **P** **13 25 08.9 -0.1**
EGAK IAmb IAmb 13 25 20.7
comp=Z,16nm,0.8s
EGAK Eagle **30.13 46** P 13 25 08.7
baz=276,SNR=14
BARN Barnard Glacie **30.48 53** P **P** **13 25 13.0 +0.6**
BARN IAmb IAmb 13 25 15.2
comp=Z,14nm,0.8s
GRNC Granite Creek **30.50 54** P **P** **13 25 13.3 +0.6**
GRNC IAmb IAmb 13 25 15.3
comp=Z,20nm,1.1s
YAH Yahtse **30.59 55** P **P** **13 25 13.2 -0.3**
YAH IAmb IAmb 13 25 16.3
comp=Z,26nm,0.9s
CTG Chitna Glacier **30.65 53** P 13 25 14.4
baz=282,SNR=9.9
CTGM Chitina Glacie **30.66 53** P **P** **13 25 14.2 +0.3**
CTGM IAmb IAmb 13 25 16.6
comp=Z,15nm,0.9s
LOGN Logan Glacier **30.84 53** P **P** **13 25 16.2 +0.6**
DL2 Dalian **30.96 258** *e*P P 13 25 10.5 -6.1
DL2 *e*S S 13 30 07.3 -12
DL2 pmax pmax
comp=Z,14nm,0.8s
DL2 pmax pmax
comp=Z,140nm,5.5s
DL2 LR LR
comp=N,670nm,15.7s
DL2 LR LR
comp=E,1μm,14.6s
DL2 LR LR
comp=Z,1μm,16.1s
DAWY Dawson **30.98 47** P **P** **13 25 17.3 +0.7**
PCA Pinnacle **31.37 55** P **P** **13 25 20.3 +0.1**
PINM Pinnacle **31.38 55** P 13 25 20.3
baz=284
BCPM Bancas Point **31.71 55** P **P** **13 25 23.4 +0.3**
EPYK Eagle Plains **31.78 42** P **P** **13 25 24.6 +0.9**
EPYK IAmb IAmb 13 25 36.6
comp=Z,28nm,1.4s
EPYK Eagle Plains **31.78 42** P 13 25 24.7
baz=277,SNR=5.6
INK Inuvik **32.78 38** P **P** **13 25 33.0 +0.7**
comp=Z,5.4nm,0.5s,baz=292,slow=6.5,SNR=50
INK Inuvik **32.78 38** P **P** **13 25 32.9 +0.7**
INK pmax pmax
comp=Z,11nm,0.9s
INK Inuvik **32.78 38** P **P** **13 25 32.9 +0.7**
INK IAmb IAmb 13 25 45.1
comp=Z,11nm,0.8s
WHY Whitehorse **33.79 52** P **P** **13 25 43.3 +1.9**
WHY IAmb IAmb 13 25 55.5
comp=Z,20nm,1.0s
SKAG Skagway **33.95 54** P 13 25 44.0
baz=288
H11N2 WAKE ISLAND Hy **34.12 171** T T 14 03 13.2
baz=354,slow=76
H11N3 WAKE ISLAND Hy **34.13 171** T T 14 03 18.5
baz=354,slow=76
H11N1 WAKE ISLAND Hy **34.14 171** T T 14 03 05.3
baz=354,slow=76
ULN Ulaanbaatar **34.35 283**⇑ *e*P **P** **13 25 47.9 +1.5**
ULN pmax pmax
comp=Z,4.0nm,1.3s
TLY Talaya **34.46 291** *e*P **P** **13 25 47.6 +0.5**
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY MLR MLR
comp=Z,2μm,15.0s
BESE Bessie Mountai **34.47 56** P **P** **13 25 47.5 +0.3**
BESE IAmb IAmb 13 25 50.6
comp=Z,25nm,1.0s
SONM Songino Array **34.75 283** P **P** **13 25 48.5 -1.4**
comp=Z,1.8nm,0.6s,baz=67,slow=8.0,SNR=13
SONM PcP **PcP** **13 28 24.0 +1.1**
comp=Z,4.9nm,0.7s,baz=84,slow=1.5,SNR=17
SONM LR LR 13 41 49.8
comp=Z,1μm,18.1s,baz=58,slow=39
SONM Songino Array **34.75 283** P **P** **13 25 48.3 -1.6**
SONM PcP **PcP** **13 28 23.6 +0.7**
JIS Juneau Island **34.81 56** P **P** **13 25 51.9 +1.9**
H11S1 WAKE ISLAND Hy **35.31 172** T T 14 03 38.8
baz=356,slow=74
H11S3 WAKE ISLAND Hy **35.33 172** T T 14 03 47.7
baz=356,slow=74
H11S2 WAKE ISLAND Hy **35.33 172** T T 14 03 43.1
baz=356
HHC Hu-ho-hao-te **35.66 270** *e*P **P** **13 25 58.3 +0.6**
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,90nm,5.5s
HHC LR LR
comp=Z,480nm,16.3s
HHC LR LR
comp=Z,600nm,14.9s
HHC LR LR
comp=Z,740nm,13.1s
C36M Paulatuk **35.98 36** P **P** **13 26 00.2 +0.2**
C36M IAmb IAmb 13 26 12.5
comp=Z,20nm,0.9s
C36M Paulatuk **35.98 36** P 13 26 00.4
baz=283,SNR=13
JOW Kunigami **36.48 236** P **P** **13 26 07.4 +2.7**
SSE Sheshan **36.82 249** P **P** **13 26 07.4 -0.1**
SSE S **S** **13 31 52.9 +3.0**
SSE pmax pmax
comp=Z,12nm,0.7s
SSE pmax pmax
comp=Z,100nm,3.7s
SSE LR LR
comp=Z,300nm,14.0s
SSE LR LR
comp=Z,230nm,15.0s
DLBC Dease Lake **36.88 54** P **P** **13 26 10.0 +2.1**
comp=Z,3.8nm,0.6s,baz=296,slow=8.6,SNR=14
DLBC Dease Lake **36.88 54** P **P** **13 26 10.5 +2.6**
NJ2 Nanjing **37.40 252** *e*P **P** **13 26 12.3 -0.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 LR LR
comp=Z,730nm,14.7s
NJ2 LR LR
comp=Z,780nm,12.3s
NJ2 LR LR
comp=Z,930nm,18.5s
BBB Bella Bella **40.71 63** LR LR 13 42 56.9
comp=Z,297nm,19.4s,baz=281,slow=35
EUNU Eureka **41.13 14** P **P** **13 26 43.9 +0.7**
EUNU IAmb IAmb 13 26 56.1
comp=Z,19nm,0.8s
YKA Yellowknife Ar **42.04 44** P **P** **13 26 51.2 +0.5**
comp=Z,2.1nm,0.7s,baz=300,slow=7.4,SNR=24
YKA LR LR 13 45 12.4
comp=Z,266nm,20.0s,baz=0.0,slow=37
YKA Yellowknife Ar **42.04 44** *ce*P **P** **13 26 51.5 +0.8**
YKA pmax pmax
comp=Z,2.0nm,0.7s
RES Resolute Bay **42.39 23** P **P** **13 26 53.1 -0.3**
comp=Z,2.2nm,0.7s,baz=302,slow=8.9,SNR=11
RES LR LR 13 48 03.8
comp=Z,95nm,18.1s,baz=289,slow=41
RES Resolute Bay **42.39 23** P **P** **13 26 54.0 +0.6**
ZALV Zalesovo Beam **43.31 303** P **P** **13 26 59.7 -1.4**
comp=Z,1.3nm,0.5s,baz=57,slow=5.5,SNR=4.4
ZALV PcP **PcP** **13 28 48.2 -1.3**
comp=Z,3.7nm,0.8s,baz=46,slow=6.2,SNR=7.4
ZALV LR LR 13 46 39.5
comp=Z,1μm,18.1s,baz=72,slow=38
ZALV Zalesovo Beam **43.31 303** P **P** **13 26 58.0 -3.1**
LZH Lanzhou **43.35 270** *e*P **P** **13 27 00.6 -1.3**
LZH pP sP 13 27 11.6 -0.4
LZH sP pwP 13 27 15.1 +1.3
LZH PP **PP** **13 28 43.5 +0.8**
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,120nm,5.8s
LZH LR LR
comp=Z,950nm,14.1s
LZH LR LR
comp=Z,780nm,14.6s
LZH LR LR
comp=Z,810nm,15.7s
GTA Gaotai **43.54 277**⇑ P **P** **13 27 03.5 +0.1**
GTA pP pP 13 27 11.8 +1.3
GTA sP pwP 13 27 15.6 +0.4
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,78nm,4.9s
GTA LR LR
comp=Z,680nm,14.5s
GTA LR LR
comp=Z,510nm,14.5s
GTA LR LR
comp=Z,920nm,14.5s
DGZ Jazzator, Alta **44.31 296**⇓ *e*P **P** **13 27 08.0 -1.4**
DGZ pmax pmax
comp=Z,4.0nm,0.5s
PGC Sidney **45.14 65** P **P** **13 27 16.2 +0.3**
PGC IAmb IAmb 13 27 19.1
comp=Z,12nm,0.9s
NLWA Neilton Lookou **45.66 66** P **P** **13 27 22.3 +2.2**
NLWA IAmb IAmb 13 27 23.4
comp=Z,31nm,1.2s
D03D Eldon **46.00 66** P 13 27 22.9
baz=307
B05A Bryant **46.10 64** P 13 27 22.8
baz=307
TULEG Thule **46.13 15** P **P** **13 27 20.8 -2.5**
TULEG IAmb IAmb 13 27 23.8
comp=Z,32nm,1.4s
D04E Lakebay **46.39 66** P 13 27 25.1
baz=307
KBS Kingsbay **46.43 352** P **P** **13 27 26.2 +0.6**
KBS pmax pmax
comp=Z,25nm,1.0s
KBS Kingsbay **46.43 352** P **P** **13 27 26.2 +0.6**
SPA0 Spitsbergen Ar **46.72 351** P **P** **13 27 28.1 +0.1**
D05A Enumclaw **46.81 65** P **P** **13 27 30.1 +1.1**
CD2 Chengdu **47.03 265** P **P** **13 27 30.3 -0.7**
CD2 S **S** **13 34 18.0 -2.9**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,440nm,5.6s
CD2 LR LR
comp=Z,910nm,14.5s
CD2 LR LR
comp=Z,870nm,15.8s
CD2 LR LR
comp=Z,1μm,14.7s
LON Longmire **47.17 66** P **P** **13 27 33.2 +1.2**
LON pmax pmax
comp=Z,13nm,1.5s
LON Longmire **47.17 66** P **P** **13 27 33.1 +1.2**
LON IAmb IAmb 13 27 52.9
comp=Z,13nm,1.4s
LTY Liberty **47.48 64** P **P** **13 27 35.1 +0.8**
LTY IAmb IAmb 13 27 41.5
comp=Z,15nm,1.4s
B08A Colville Reser **47.51 63** P **P** **13 27 35.0 +0.5**
B08A IAmb IAmb 13 27 47.9
comp=Z,17nm,1.0s
WMQ Urumqi **47.73 290** *e*P **P** **13 27 38.8 +2.5**
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ pmax pmax
comp=Z,140nm,4.5s
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,1μm,16.5s
WMQ LR LR
comp=Z,2μm,17.7s
WMQ Urumqi **47.73 290** P **P** **13 27 35.1 -1.2**
WMQ pmax pmax
comp=Z,19nm,0.6s
WMQ Urumqi **47.73 290** P **P** **13 27 35.1 -1.2**
C09A Chrisman Ranch **48.41 63** P **P** **13 27 42.4 +0.9**
C09A IAmb IAmb 13 27 43.7
comp=Z,9.1nm,0.8s
GYA Guiyang **48.61 259** *e*P **P** **13 27 45.8 +2.4**
GYA pmax pmax
comp=Z,6.0nm,1.0s
GYA LR LR
comp=Z,480nm,17.3s
GYA LR LR
comp=Z,480nm,17.1s
GYA LR LR
comp=Z,750nm,16.1s
HAWA Hanford **48.62 65** P **P** **13 27 44.1 +1.0**
HAWA IAmb IAmb 13 27 56.5
comp=Z,8.8nm,0.9s
NEW Newport **48.73 61** P **P** **13 27 44.2 +0.3**
comp=Z,4.1nm,0.8s,baz=298,slow=7.0,SNR=7.9
NEW LR LR 13 46 19.8
comp=Z,274nm,21.1s,baz=306,slow=34
NEW Newport **48.73 61** P **P** **13 27 43.9 -0.1**
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport **48.73 61** P **P** **13 27 43.9 -0.1**
NEW IAmb IAmb 13 27 57.0
comp=Z,9.6nm,0.9s
NEW Newport **48.73 61** P 13 27 44.4
baz=309,SNR=6.1
MK31 Makanchi Array **48.81 296** *ce*P **P** **13 27 41.9 -2.6**
MK31 Makanchi Array **48.81 296** P **P** **13 27 41.5 -3.0**
MKAR Makanchi Array **48.81 296** P **P** **13 27 42.4 -2.2**
comp=Z,2.5nm,0.5s,baz=52,slow=6.9,SNR=25
MKAR LR LR 13 48 02.0
comp=Z,111nm,18.4s,baz=43,slow=36
MKAR Makanchi Array **48.81 296** P **P** **13 27 41.5 -3.0**
I05D Terrebonne, OR **48.95 68** P 13 27 45.9
baz=310
HUMO Hull Mountain **49.16 71** P **P** **13 27 49.4 +2.1**
J04D Umpqua Nationa **49.23 70** P 13 27 48.4
baz=310
KULLO Kullorsuaq **49.39 13**⇑ *i*P **P** **13 27 49.5 +0.9**
comp=Z,23nm,0.8s
KULLO Kullorsuaq **49.39 13**⇑ *i*P **P** **13 27 49.5 +0.9**
KULLO Kullorsuaq **49.39 13**⇑ *i*P **P** **13 27 49.5 +0.9**
KULLO IAmb IAmb 13 27 49.9
comp=Z,23nm,0.8s
J05D Fort Rock, OR **49.68 69** P 13 27 51.9
baz=311
L04D Klamath Falls **49.78 71** P 13 27 52.3
baz=311
DAG Danmarks Havn **49.81 0**⇓ *i*P **P** **13 27 51.9 +0.2**
comp=Z,7.6nm,0.9s
DAG Danmarks Havn **49.81 0**⇓ *i*P **P** **13 27 51.9 +0.2**
DAG Danmarks Havn **49.81 0**⇓ *i*P **P** **13 27 51.9 +0.2**
DAG IAmb IAmb 13 27 52.0
comp=Z,7.6nm,0.9s
WALA Waterton Lakes **49.89 59** P **P** **13 27 54.0 +1.1**
K05A Summer Lake **50.24 69** P **P** **13 27 57.0 +1.3**
M04C Macdoel **50.33 71** P 13 27 56.0
baz=311
N02D Trinity Center **50.38 72** P 13 27 58.2
baz=312
JTMT Jette **50.53 60** P **P** **13 27 58.6 +0.8**
WDC Whiskeytown Da **50.73 72** P **P** **13 27 59.3 +0.1**
WDC pmax pmax
comp=Z,15nm,1.1s
WDC Whiskeytown Da **50.73 72** P **P** **13 27 59.3 +0.1**
WDC IAmb IAmb 13 28 13.8
comp=Z,15nm,1.1s
BMO Blue Mountains **50.81 65** P **P** **13 28 00.6 +0.7**
BMO pmax pmax
comp=Z,11nm,1.1s
BMO Blue Mountains **50.81 65** P **P** **13 28 00.6 +0.7**
BRVK Borovoye **50.84 309** *c*P **P** **13 27 59.0 -0.8**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye **50.84 309** P **P** **13 27 57.7 -2.1**
O02D Mt. Diablo Mer **50.86 73** P 13 28 01.3
baz=312
MOD Modoc Plateau **51.11 70** P **P** **13 28 03.1 +0.9**
MOD IAmb IAmb 13 28 16.2
comp=Z,20nm,1.0s
MSO Missoula **51.31 61** P **P** **13 28 04.6 +1.0**
MSO Missoula **51.31 61** P 13 28 04.2
baz=311
O03E Paynes Creek **51.34 72** P 13 28 04.8
baz=312
WVOR Wild Horse Val **51.68 68** P **P** **13 28 05.2 -1.2**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR Wild Horse Val **51.68 68** P **P** **13 28 05.2 -1.2**
KMI Kunming **51.92 261** *e*P **P** **13 28 09.3 +0.8**
KMI pmax pmax
comp=Z,14nm,1.1s
KMI LR LR
comp=Z,520nm,15.4s
KMI LR LR
comp=Z,350nm,14.1s
KMI LR LR
comp=Z,510nm,14.3s
ORV Oroville **52.01 73** P **P** **13 28 07.3 -1.5**
ORV pmax pmax
comp=Z,6.0nm,0.9s
ORV Oroville **52.01 73** P **P** **13 28 07.3 -1.5**
DBG Daneborg **52.29 1** *i* P **P** **13 28 10.4 +0.1**
DBG IAmb IAmb 13 28 11.0
comp=Z,2.7nm,0.7s
FCC Fort Churchill **52.38 40** P **P** **13 28 11.3 +0.1**
FCC pmax pmax
comp=Z,16nm,1.4s
FCC Fort Churchill **52.38 40** P **P** **13 28 11.3 +0.1**
FCC IAmb IAmb 13 28 12.3
comp=Z,16nm,1.4s
BEKR Beckworth **52.44 72** P **P** **13 28 13.1 +0.9**
HRY Holter Researc **52.48 60** P **P** **13 28 13.2 +0.9**
MFID Camas Ranch **52.56 65** P **P** **13 28 13.6 +0.6**
QIZ Qiongzhong **52.60 250** P **P** **13 28 12.8 -0.5**
QIZ S **S** **13 35 40.8 +2.1**
QIZ LR LR
comp=Z,380nm,17.7s
QIZ LR LR
comp=Z,430nm,12.8s
QIZ LR LR
comp=Z,460nm,11.3s
EGMT Eagleton **52.66 58** P **P** **13 28 14.4 +0.7**
EGMT IAmb IAmb 13 28 21.4
comp=Z,21nm,1.4s
EGMT Eagleton **52.66 58** P 13 28 14.1
baz=312
LRM Limekiln Ridge **52.75 61** P **P** **13 28 15.1 +0.6**
ARCES ARCESS Array B **53.04 342** P **P** **13 28 15.5 -0.5**
comp=Z,7.7nm,0.9s,baz=50,slow=6.6,SNR=8.1
ARCES LR LR 13 54 29.0
comp=Z,293nm,19.3s,baz=40,slow=40
ARCES ARCESS Array B **53.04 342** P **P** **13 28 15.5 -0.5**
ARCES pmax pmax
comp=Z,20nm,1.2s
ARCES ARCESS Array B **53.04 342** P **P** **13 28 15.5 -0.5**
ARCES IAmb IAmb 13 28 39.3
comp=Z,20nm,1.2s

PAHR Pah Rah Range 53.10 71 P P 13 28 18.2 +1.2
PAHR IAmb IAmb 13 28 31.0
comp=Z,13nm,1.0s
MCMT McKenzie Canyo 53.20 62 P P 13 28 16.2 -1.7
HLID Hailey 53.22 64 P P 13 28 19.2 +1.3
HLID Hailey 53.22 64 P 13 28 18.7
baz=312
SUMG Summit 53.25 7 *i* P P 13 28 19.0 +1.0
comp=Z,43nm,1.2s
SUMG Summit 53.25 7 P P 13 28 18.7 +0.7
SUMG pmax pmax
comp=Z,27nm,0.9s
SUMG Summit 53.25 7 P P 13 28 18.7 +0.7
SUMG Summit 53.25 7 *i* P P 13 28 19.0 +1.0
SUMG IAmb IAmb 13 28 20.4
comp=Z,43nm,1.2s
BCYI Bear Canyon 53.26 63 P P 13 28 18.6 +0.3
BOZ Bozeman (W) 53.33 61 P P 13 28 19.7 +1.1
BOZ pmax pmax
comp=Z,14nm,1.2s
BOZ Bozeman (W) 53.33 61 P P 13 28 19.7 +1.1
BOZ IAmb IAmb 13 28 32.2
comp=Z,14nm,1.1s
BOZ Bozeman (W) 53.33 61 P 13 28 19.5
baz=312,SNR=7.9
PNTR Pine Nut 53.40 72 P P 13 28 19.9 +0.5
ARU Arti 53.64 318 *d i* P P 13 28 20.0 -0.6
ARU *PP pP 13 28 29.5 +1.7
ARU 13 30 18.0
ARU S S 13 35 51.7 -0.4
ARU SS SS 13 39 29.9 -2.1
ARU pmax pmax
comp=Z,12nm,0.7s
ARU MLR MLR
comp=Z,661nm,17.0s
ARU Arti 53.64 318 P P 13 28 19.0 -1.6
ARU IAmb IAmb 13 28 20.9
comp=Z,12nm,0.7s
YERR Yerington 53.68 72 P P 13 28 22.2 +0.8
YERR IAmb IAmb 13 28 24.7
comp=Z,25nm,1.3s
WAKR Walker 53.90 72 P P 13 28 23.1 +0.1
WAKR IAmb IAmb 13 28 37.4
comp=Z,15nm,0.9s
QLMT Earthquake Lak 53.95 61 P P 13 28 24.0 +0.8
YHL Hebgen Lake 54.06 61 P P 13 28 25.5 +1.3
YHL IAmb IAmb 13 28 38.0
comp=Z,8.7nm,1.0s
YHB Horse Butte 54.12 61 P P 13 28 25.7 +1.2
YHB IAmb IAmb 13 28 38.4
comp=Z,14nm,1.0s
KVN Kaiserville 54.28 71 P P 13 28 25.6 -0.1
KVN pmax pmax
comp=Z,17nm,1.0s
KVN Kaiserville 54.28 71 P P 13 28 25.6 -0.1
KVN IAmb IAmb 13 28 40.0
comp=Z,16nm,1.0s
YHH Holmes Hill 54.28 61 P P 13 28 26.1 +0.3
YHH IAmb IAmb 13 28 39.5
comp=Z,13nm,1.1s
YMR Madison River 54.30 61 P P 13 28 25.1 -0.8
YMR IAmb IAmb 13 28 39.7
comp=Z,14nm,1.0s
RYN Ryan 54.33 72 P P 13 28 26.2 +0.1
RYN IAmb IAmb 13 28 40.3
comp=Z,9.5nm,0.9s
YNR Norris Junctio 54.42 61 P P 13 28 26.4 -0.3
YNR IAmb IAmb 13 28 42.3
comp=Z,25nm,1.5s
PRGR Permogore 54.48 328 *e* P P 13 28 26.3 -0.3
PRGR pmax pmax
comp=Z,23nm,0.8s
NVAR Mina Array Bea 54.59 72 P P 13 28 30.1 +2.0
comp=Z,4.1nm,0.6s,baz=302,slow=7.5,SNR=42
NVAR LR LR 13 49 33.5
comp=Z,185nm,19.8s,baz=294,slow=33
NVAR Mina Array Bea 54.59 72 P P 13 28 28.7 +0.7
H17A Grant Village 54.69 61 P 13 28 29.4
baz=313,SNR=6.8
ELK Elko 54.70 68 P P 13 28 29.2 +0.4
ELK pmax pmax
comp=Z,8.0nm,0.9s
ELK Elko 54.70 68 P P 13 28 29.2 +0.4
ELK IAmb IAmb 13 28 43.0
comp=Z,7.9nm,0.9s
RLMT Red Lodge 54.87 60 P P 13 28 30.8 +0.8
RLMT IAmb IAmb 13 28 44.2
comp=Z,15nm,1.1s
RLMT Red Lodge 54.87 60 P 13 28 31.2
baz=313
DGMT Dagmar 55.09 54 P 13 28 32.5
baz=314
LOHW Long Hollow 55.21 62 P P 13 28 32.4 -0.1
LOHW IAmb IAmb 13 28 46.8
comp=Z,10nm,1.1s
HVU Hansel Valley 55.32 65 P P 13 28 34.3 +1.1
HVU pmax pmax
comp=Z,12nm,1.0s
HVU Hansel Valley 55.32 65 P P 13 28 34.3 +1.1
HVU IAmb IAmb 13 28 47.4
comp=Z,12nm,1.0s
LAO LASA Array 55.33 57 P 13 28 34.2
baz=314
TPH Tonopah 55.45 71 P P 13 28 35.2 +0.9
TPH pmax pmax
comp=Z,90nm,1.0s
TPH Tonopah 55.45 71 P P 13 28 35.1 +0.9
KIRV Kirov 55.51 324 *c i* P P 13 28 34.2 +0.1
AAK Ala-Archa 55.72 297 P P 13 28 34.4 -1.6
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 55.72 297 P P 13 28 34.4 -1.6
VES Vestal, Richgr 55.96 74 P 13 28 39.1
baz=315
HWUT Hardware Ranch 56.09 64 P P 13 28 39.4 +0.6
HWUT IAmb IAmb 13 28 53.1
comp=Z,13nm,0.8s
CWC Cottonwood Cre 56.11 73 P 13 28 40.2
baz=315
R11A Troy Canyon, C 56.17 70 P P 13 28 39.9 +0.5
R11A Troy Canyon, C 56.17 70 P 13 28 40.9
baz=315,SNR=12
BW06 Boulder Array 56.35 62 P P 13 28 41.6 +0.9
BW06 IAmb IAmb 13 28 54.5
comp=Z,13nm,1.1s
BW06 Boulder Array 56.35 62 P 13 28 42.1
baz=314,SNR=13
PD31 Pinedale Array 56.35 62 P P 13 28 41.1 +0.4
PD31 IAmb IAmb 13 28 54.5
comp=Z,12nm,1.1s
PDAR Pinedale Array 56.35 62 P P 13 28 42.1 +1.4
comp=Z,3.8nm,0.8s,baz=312,slow=2.7,SNR=30
PDAR Pinedale Array 56.35 62 P P 13 28 41.1 +0.4
DUG Dugway, Tooele 56.41 66 P 13 28 42.0
baz=315,SNR=6.6
ISA Isabella, Lake 56.44 74 P 13 28 42.0
baz=316
CTU Camp Tracy 56.63 65 P P 13 28 42.3 -0.4
CTU IAmb IAmb 13 28 56.6
comp=Z,16nm,1.1s
MPMC Manual Prospec 56.72 73 P 13 28 44.8
baz=316
FURC Furnace Creek, 56.78 72 P 13 28 45.0
baz=315,SNR=6.7
TPNV Topopah Spring 56.79 71 P P 13 28 43.3 -0.5
TPNV pmax pmax
comp=Z,16nm,1.2s
TPNV Topopah Spring 56.79 71 P P 13 28 43.3 -0.5
TPNV IAmb IAmb 13 28 51.9
comp=Z,16nm,1.1s
TPNV Topopah Spring 56.79 71 P 13 28 44.2
baz=315,SNR=8.6
KLMR Klimovskoe 56.94 330 *e* P P 13 28 42.8 -1.5
KLMR pmax pmax
comp=Z,22nm,0.8s
KLMR Klimovskoe 56.94 330 *e* P P 13 28 42.9 -1.4
KLMR AMP 13 28 45.4
comp=Z,22nm,0.8s
KLMR LQ LQ 13 51 13.4
KLMR LQ LQ 13 51 13.4
KLMR LR LR 13 53 54.5
SCZ2 Santa Cruz Isl 56.96 76 P 13 28 46.4
baz=316
LRMC Laurel Mtn Rad 57.02 74 P 13 28 46.7
baz=316

KSH Kashi 57.11 293 P P 13 28 50.1 +4.1
KSH pmax pmax
comp=Z,16nm,1.1s
KSH pmax pmax
comp=Z,230nm,4.8s
MPU Maple Canyon 57.18 66 P P 13 28 47.3 +0.8
MPU IAmb IAmb 13 29 00.8
comp=Z,12nm,1.0s
EDW2 Edwards Air Fo 57.27 74 P 13 28 48.5
baz=316
KKAR Karatay Array 57.48 300 P P 13 28 46.0 -2.4
KKAR Karatay Array 57.48 300 P P 13 28 46.0 -2.4
SHOC Shoshone, Teco 57.52 72 P 13 28 50.1
baz=316
ULM Lac du Bonnet 57.67 48 P P 13 28 50.5 +0.9
comp=Z,1.5nm,0.5s,baz=282,slow=5.8,SNR=5.4
ULM LR LR 13 54 49.9
comp=Z,427nm,20.1s,baz=312,slow=37
ULM Lac du Bonnet 57.67 48 *e* P P 13 28 50.3 +0.7
MSU Marysvale 57.95 67 P P 13 28 53.7 +1.7
MSU Marysvale 57.95 67 P P 13 28 53.7 +1.7
CCUT Cedar City 57.98 69 P P 13 28 53.5 +1.3
ABKAR Akbulak array 58.18 311 P P 13 28 51.3 -1.9
ABKAR Akbulak array 58.18 311 P P 13 28 51.3 -1.9
ABKAR IAmb IAmb 13 28 56.4
comp=Z,3.3nm,0.7s
RSSD Black Hills 58.23 58 P P 13 28 54.1 +0.2
RSSD pmax pmax
comp=Z,20nm,1.2s
RSSD Black Hills 58.23 58 P P 13 28 54.0 +0.2
RSSD IAmb IAmb 13 29 07.4
comp=Z,20nm,1.2s
RSSD Black Hills 58.23 58 P 13 28 55.3
baz=316
SRU San Rafael Swe 58.42 66 P P 13 28 56.4 +1.1
SRU pmax pmax
comp=Z,19nm,0.9s
SRU San Rafael Swe 58.42 66 P P 13 28 56.4 +1.1
KNB Kanab 58.66 69 P P 13 28 58.3 +1.4
KNB pmax pmax
comp=Z,18nm,1.3s
KNB Kanab 58.66 69 P P 13 28 58.3 +1.4
KNB IAmb IAmb 13 29 00.6
comp=Z,18nm,1.3s
GMRC Granite Mounta 58.67 73 P 13 28 58.5
baz=316
JAY Jayapura 58.70 205 P P 13 28 59.8 +2.6
comp=Z,7.4nm,1.2s
BAKI Biak 58.71 210 P P 13 28 58.3 +1.1
comp=Z,45nm,1.3s
O20A White River Ci 58.91 64 P P 13 28 59.9 +1.2
O20A IAmb IAmb 13 29 19.1
comp=Z,7.0nm,0.8s
GENI Genyem 58.91 205 P P 13 29 00.9 +2.3
comp=Z,25nm,0.7s
O20A White River Ci 58.91 64 P 13 28 59.7
baz=316,SNR=6.2
CHTO Chiang Mai 59.01 259 P P 13 28 59.8 +0.4
CHTO pmax pmax
comp=Z,29nm,0.9s
CHTO Chiang Mai 59.01 259 P P 13 28 59.8 +0.4
BELC Belle Mtn. Jos 59.05 74 P 13 29 00.8
baz=317
TPFO Pinon Flats 59.07 74 P 13 29 01.1
baz=317
TAPN Taplejung 59.17 275 *e* P P 13 29 00.8 +0.1
comp=Z,21nm,0.4s
CMAR Chiang Mai Arr 59.29 259 P P 13 29 02.5 +1.2
comp=Z,16nm,0.8s,baz=23,slow=7.0,SNR=94
CMAR LR LR 13 57 09.0
comp=Z,289nm,18.8s,baz=90,slow=39
CMAR Chiang Mai Arr 59.29 259 *e* P P 13 29 02.7 +1.4
CMAR pmax pmax
comp=Z,17nm,0.8s
CMAR Chiang Mai Arr 59.29 259 P P 13 29 01.9 +0.6
W13A Hualapai Mount 59.45 71 P P 13 29 03.5 +1.0
W13A IAmb IAmb 13 29 17.0
comp=Z,12nm,1.4s
BC3 Big Chuckawall 59.61 74 P 13 29 04.8
baz=317
MONP2 Monument Peak 59.61 75 P 13 29 04.6
baz=317
ODAN Odare 59.72 275 *e* P P 13 29 04.9 +0.4
comp=Z,26nm,0.7s
PV22 Blue Mesa, Par 59.78 65 P P 13 29 05.7 +1.0
PV22 IAmb IAmb 13 29 18.4
comp=Z,13nm,1.0s
PV04 Paradox Valley 59.81 65 P P 13 29 06.3 +1.4
PV20 West Nyswonger 59.82 65 P P 13 29 05.7 +0.8
PV19 Morning Glory 59.83 65 P P 13 29 04.8 -0.3
GUN Gumba 59.83 277 *e* P P 13 29 04.9 -0.5
comp=Z,18nm,0.4s
PV17 East Wray Mesa 59.87 65 P P 13 29 04.8 -0.5
PV16 Nyswonger Mesa 59.87 65 P P 13 29 06.0 +0.6
PDMCI Parker Dam,Lak 59.88 72 P 13 29 06.7
baz=317
PV11 David Mesa, Pa 59.90 65 P P 13 29 06.3 +0.8
PV18 Skein Mesa, Pa 59.92 65 P P 13 29 05.1 -0.5
SWSC Sam W. Stewart 59.93 74 P 13 29 07.0
baz=317
PV03 Paradox Valley 59.95 65 P P 13 29 06.0 +0.2
FIA1 FINESS Array S 59.97 337 P P 13 29 05.6 +0.2
FINES FINESS Array B 59.97 337 P P 13 29 05.5 +0.1
comp=Z,20nm,0.7s,baz=42,slow=8.9,SNR=44
FINES LR LR 14 00 40.5
comp=Z,232nm,19.0s,baz=24,slow=42
FINES FINESS Array B 59.97 337 *i* P P 13 29 05.8 +0.4
FINES pmax pmax
comp=Z,20nm,0.7s
FINES FINESS Array B 59.97 337 P P 13 29 05.4 0.0
SWI Sorong 59.98 216 P P 13 29 07.5 +1.5
comp=Z,36nm,1.0s
SIJI Sorong 59.98 216 P P 13 29 07.2 +1.1
comp=Z,22nm,0.9s,baz=355,slow=13,SNR=7.1
PV02 Paradox Valley 60.04 65 P P 13 29 06.6 0.0
PV02 IAmb IAmb 13 29 20.5
comp=Z,17nm,1.3s
PV15 Paradox Valley 60.08 65 P P 13 29 07.6 +0.7
PV15 IAmb IAmb 13 29 20.5
comp=Z,13nm,0.9s
RAMN Ramite 60.12 276 *e* P P 13 29 06.9 -0.3
comp=Z,77nm,0.8s
PV01 Paradox Valley 60.18 65 P P 13 29 08.7 +1.2
KKN Kakani 60.28 277 *e* P P 13 29 08.3 0.0
comp=Z,30nm,0.7s
SMCO Snowmass 60.28 63 P P 13 29 09.8 +1.4
SMCO IAmb IAmb 13 29 22.2
comp=Z,9.7nm,1.0s
PKI Pulchoki 60.36 277 *e* P P 13 29 08.8 -0.2
comp=Z,42nm,0.9s
PKIN Phulchowki 60.37 277 *e* P P 13 29 08.7 -0.2
comp=Z,42nm,1.0s
GLA Glamis 60.41 74 P P 13 29 09.7 +0.9
GLA pmax pmax
comp=Z,11nm,1.0s
GLA Glamis 60.41 74 P P 13 29 09.7 +0.9
GLA IAmb IAmb 13 29 22.9
comp=Z,11nm,0.9s
GLA Glamis 60.41 74 P 13 29 10.5
baz=317
GKN Gorkha 60.50 278 *e* P P 13 29 09.6 -0.1
comp=Z,40nm,1.0s
DMN Daman 60.51 277 *e* P P 13 29 10.0 +0.1
comp=Z,30nm,0.7s
ISCO Idaho Springs 60.55 62 P P 13 29 10.8 +0.7
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO Idaho Springs 60.55 62 P P 13 29 10.8 +0.7
ISCO IAmb IAmb 13 29 24.5
comp=Z,9.9nm,0.9s
ISCO Idaho Springs 60.55 62 P 13 29 10.5
baz=317
WUAZ Wupatki 60.55 69 P P 13 29 11.2 +1.3
WUAZ IAmb IAmb 13 29 13.4
comp=Z,20nm,1.3s
WUAZ Wupatki 60.55 69 P 13 29 11.7
baz=317
BELG Belogornoye 60.92 320 *de* P P 13 29 12.0 +0.1
BELG pmax pmax
comp=Z,7.0nm,0.9s
S22A 4UR Ranch, Cre 61.41 64 P 13 29 17.4
baz=318,SNR=8.7
FAKI Fak Fak 61.56 214 P P 13 29 17.6 +0.8
comp=Z,26nm,1.4s
MOS Moscow 61.70 328 *e* P P 13 29 17.2 0.0
W18A Petrified Fore 61.75 68 P 13 29 18.9
baz=318
GTOI Gorontalo 61.80 225 P P 13 29 19.6 +1.2
comp=Z,7.1nm,1.3s
X18A Snowflake 62.07 69 P P 13 29 21.2 +0.9
X18A IAmb IAmb 13 29 34.7
comp=Z,12nm,1.1s
ECSD EROS Data Cent 62.16 53 P 13 29 21.1
baz=319
214A Organ Pipe Nat 62.36 73 P P 13 29 23.3 +1.3
214A IAmb IAmb 13 29 36.0
comp=Z,14nm,1.2s
214A Organ Pipe Nat 62.36 73 P 13 29 23.4
baz=318
MRSI Marisa 62.40 226 P P 13 29 23.3 +0.9
comp=Z,32nm,1.1s
VSU Vasula 62.45 335 *e* P P 13 29 22.7 +0.6
VSU Vasula 62.45 335 *e* P P 13 29 22.1 0.0
VSU pmax pmax
comp=Z,61nm,0.8s
OBN Obninsk 62.56 328 *e* P P 13 29 23.2 +0.3
OBN *e* 13 30 02.5
OBN *e* 13 31 41.9
OBN *e* S S 13 37 51.3 +2.9
OBN pmax pmax
comp=Z,8.0nm,0.4s
OBN MLR MLR
comp=Z,563nm,17.0s
NIL Nilore 62.87 290 P P 13 29 24.4 -1.0
NIL pmax pmax
comp=Z,13nm,1.0s
NIL Nilore 62.87 290 P P 13 29 24.4 -1.0
NIL IAmb IAmb 13 29 37.5
comp=Z,13nm,0.9s
SANI Sanana 63.02 221 P P 13 29 27.2 +0.7
comp=Z,26nm,1.0s
NC303 NORSAR Array S 63.05 344 P P 13 29 26.0 -0.2
NC204 NORSAR Array S 63.10 345 P P 13 29 26.4 -0.1
NC405 NORSAR Array S 63.10 344 P P 13 29 26.6 0.0
T25A Trinidad 63.15 63 P 13 29 27.4
baz=318
NB201 NORSAR Array S 63.23 344 P P 13 29 27.3 -0.1
TUC Tucson 63.25 71 P 13 29 28.7
baz=318
NB2 NORSAR Subarra 63.25 344 P P 13 29 27.9 +0.3
comp=Z,3.9nm,0.5s,baz=20,slow=6.9
NOA NORSAR Array B 63.25 344 P P 13 29 27.6 +0.1
comp=Z,10.0nm,0.8s,baz=20,slow=6.7,SNR=34
NOA LR LR 14 03 15.3
comp=Z,97nm,18.3s,baz=10.0,slow=42
NBO00 NORSAR Array S 63.33 345 P P 13 29 27.6 -0.5
NBO00 IAmb IAmb 13 29 30.9
comp=Z,5.6nm,0.7s
I37A Lemond, Waseca 63.46 51 P P 13 29 29.6 +0.4
NC602 NORSAR Array S 63.49 344 P P 13 29 29.1 +0.1
ANMO Albuquerque 63.68 66 *i* P P 13 29 33.1 +2.1
ANMO pmax pmax
comp=Z,7.0nm,1.7s
ANMO Albuquerque 63.68 66 P P 13 29 30.8 -0.2
LPSR Galich'ya Gora 63.88 325 *e* P P 13 29 30.4 -1.4
LPSR pmax pmax
comp=Z,20nm,0.8s
PMG Port Moresby 64.06 196 P P 13 29 33.8 +0.5
comp=Z,8.0nm,0.8s,baz=5.7,slow=10,SNR=3.0
VRH Novokhopyorsk 64.06 323 *e* P P 13 29 31.4 -1.6
VRH pmax pmax
comp=Z,20nm,0.6s
BNM Barren Site 64.18 67 P P 13 29 35.0 +0.6
121A Cookes Peak, D 64.76 69 P P 13 29 38.8 +0.7
121A IAmb IAmb 13 29 52.4
comp=Z,10nm,1.2s
SBUM Sibu 65.19 237 P P 13 29 44.0 +3.2
IDID Didziasalis 65.23 334 *e* P P 13 29 39.2 -1.4
IIGN Ignalina 65.34 334 *e* P P 13 29 41.6 +0.3
NACGM Naroch 65.59 333 *i* P P 13 29 43.2 +0.4
NACGM *i* P P 13 29 43.2 +0.4
NACGM *i* P P 13 29 43.2 +0.4
NACGM *i* PP PP 13 32 19.8 +13
NACGM *i* PPP PPP 13 33 54.0
NACGM *i* S S 13 38 26.4 +0.4
NACGM *i* SS SS 13 42 43.4 +4.4
NACGM *i* SSS SSS 13 48 05.5
NACGM *i* LQ LQ 13 54 26.5
NACGM *i* LR LR 13 58 51.9
MNK Minsk 65.64 333 *e* P P 13 29 43.0 -0.2
MNK Minsk 65.64 333 *i* P P 13 29 45.6 +2.4
comp=E,5.0nm,0.9s
MNK *i* P P 13 29 45.6 +2.4
comp=N,15nm,0.8s
MNK *i* P P 13 29 45.6 +2.4
comp=Z,48nm,0.7s
MNK *i* PcP PcP 13 30 17.0 +2.5
MNK *i* PP PP 13 32 09.8 +2.6
MNK *i* PPP PPP 13 33 42.9
MNK *i* S S 13 38 30.8 +4.0
MNK *i* ScS ScS 13 39 41.2 +4.6
MNK *i* SSS SSS 13 45 52.5
MNK *i* LQ LQ 13 53 45.0
MNK *i* LR LR 13 58 44.6
MNK *i* LRM MLR 14 03 18.7
comp=N,614nm,20.0s
MNK *i* LRM MLR 14 03 32.9
comp=Z,220nm,13.2s
MNK *i* LRM MLR 14 03 38.7
comp=E,22nm,13.6s
PABE Paberze 65.77 335 *e* P P 13 29 44.6 +0.6
MNTX Cornudas Mount 66.72 68 P P 13 29 51.1 +0.6
MNTX IAmb IAmb 13 30 04.5
comp=Z,12nm,1.1s
MNTX Cornudas Mount 66.72 68 P 13 29 51.7
baz=320,SNR=6.5
MTKI Muara Teweh, K 66.84 233 P P 13 29 53.1 +1.7
KSM Kuching 66.99 238 P P 13 29 55.0 +2.6
SUW Suwalki 67.32 335 *e* P P 13 29 53.2 -0.8
BNSI Bone 67.56 226 P P 13 29 55.8 -0.1
comp=Z,11nm,1.4s
P40A Paris 67.57 53 P P 13 29 55.5 -0.3
P40A IAmb IAmb 13 29 57.0
comp=Z,8.7nm,1.0s
GEYT Alibeck 67.61 304 P P 13 29 55.4 -0.7
comp=Z,8.9nm,0.7s,baz=358,slow=4.5,SNR=14
GEYT LR LR 14 02 10.1
comp=Z,703nm,18.2s,baz=180,slow=38
GEYT Alibeck 67.61 304 P P 13 29 55.0 -1.2
GEYT IAmb IAmb 13 29 57.0
comp=Z,8.3nm,0.8s
GYA0B ALIBECK ARRAY 67.61 304 P P 13 29 55.3 -0.8
WMOK Wichita Mounta 67.93 61 P P 13 29 58.5 +0.3
WMOK pmax pmax
comp=Z,13nm,1.2s
WMOK Wichita Mounta 67.93 61 P P 13 29 58.5 +0.3
WMOK IAmb IAmb 13 30 11.2
comp=Z,12nm,1.2s
WMOK Wichita Mounta 67.94 61 P 13 29 58.1
baz=321,SNR=6.9
BKSI Bulukumba 68.38 225 P P 13 30 02.1 +1.0
comp=Z,15nm,0.8s
R40A Maddies Statio 68.44 54 P P 13 30 00.3 -1.0
R40A IAmb IAmb 13 30 01.7
comp=Z,16nm,1.4s
MAK Makhachkala 68.51 314 *e* P P 13 30 01.0 -0.6
MAK *e* S S 13 39 01.2 -0.4
MAK MLR MLR
comp=Z,567nm,14.0s
AKASG Malin Array Be 68.62 330 P P 13 30 01.7 -0.4
comp=Z,12nm,0.7s,baz=29,slow=6.1,SNR=26
AKASG LR LR 14 03 57.4
comp=Z,573nm,18.4s,baz=15,slow=39
AKASG Malin Array Be 68.62 330 P P 13 30 01.2 -0.9
AKBB Malin Array Si 68.62 330 *i* P P 13 30 01.6 -0.6
AKBB pmax pmax
comp=Z,18nm,1.0s
AKBB Malin Array Si 68.62 330 P P 13 30 01.4 -0.8
GOF Gofitskoye 68.63 318 *e* P P 13 30 03.2 +0.8
GOF pmax pmax
comp=Z,21nm,0.6s
BBKI Banjar Baru 69.08 231 P P 13 30 06.5 +1.1
comp=Z,2umcomp=Z,37nm,1.2s
JRMM Jerantut 69.08 247 P P 13 30 08.0 +2.5
CCM Cathedral Cave 69.12 54 P P 13 30 04.5 -1.0
CCM pmax pmax
comp=Z,8.0nm,1.2s
CCM Cathedral Cave 69.12 54 P P 13 30 04.5 -1.0
CCM IAmb IAmb 13 30 26.9
comp=Z,8.3nm,1.2s
COEN Coen 69.23 199 P P 13 30 06.7 +0.4

COEN IAmb IAmb 13 30 08.2
comp=Z,13nm,1.1s
IPM Ipoh 69.39 248 P **P** **13 30 06.6 -0.8**
IPM Ipoh 69.39 248 P **P** **13 30 09.0 +1.6**
TX31 Lajitas Ar. Si 69.47 68 P **P** **13 30 08.7 +0.8**
TX32 Lajitas Array 69.47 68 P **P** **13 30 08.8 +0.8**
TX32 IAmb IAmb 13 30 21.6
comp=Z,7.7nm,1.0s
TXAR Lajitas Array 69.48 68 P **P** **13 30 09.2 +1.3**
comp=Z,3.0nm,0.5s,baz=300,slow=5.1,SNR=63
TXAR Lajitas Array 69.48 68 P **P** **13 30 08.4 +0.4**
TXAR Lajitas Array 69.48 68 P **P** **13 30 08.4 +0.4**
FVM French Village 69.57 53 P **P** **13 30 07.6 -0.7**
FVM pmax pmax
comp=Z,6.0nm,0.9s
FVM French Village 69.57 53 P **P** **13 30 07.6 -0.7**
AKT Akhty 69.62 313 *e*P **P** **13 30 08.7 0.0**
AKT *e* 13 30 29.6
AKT *e* 13 32 41.3
AKT pmax pmax
comp=Z,15nm,0.8s
U40A Yellville 69.68 56 P 13 30 08.5
baz=322
KIV Kislovodsk 69.69 318 *e*P **P** **13 30 10.4 +1.3**
KIV pmax pmax
comp=Z,26nm,0.9s
KIV MLR MLR
comp=Z,1μm,17.0s
KBZ Khabaz 69.79 317 P **P** **13 30 09.5 0.0**
comp=Z,11nm,0.8s,baz=80,slow=4.4,SNR=20
KBZ LR LR 14 05 01.6
comp=Z,612nm,19.4s,baz=26,slow=40
KBZ Khabaz 69.79 317 *de*P **P** **13 30 10.2 +0.7**
KBZ pmax pmax
comp=Z,16nm,1.0s
E58A La Victoria 69.87 37 P 13 30 09.8
baz=329
PBKI Pangkalan Bun 69.92 235 P **P** **13 30 12.6 +1.9**
comp=Z,2μmcomp=Z,104nm,0.9s
MYKOM Kota Tinggi 70.09 244 P **P** **13 30 14.0 +2.3**
ZEI Tsey 70.17 316 *e*P **P** **13 30 11.4 -0.7**
ZEI pmax pmax
comp=Z,11nm,1.2s
S44A Carbondale 70.36 53 P **P** **13 30 13.2 0.0**
S44A IAmb IAmb 13 30 14.4
comp=Z,7.8nm,0.7s
FCAR Ozark Folk Cen 70.41 56 P **P** **13 30 12.7 -0.8**
E60A Ste Agathe de 70.53 36 P 13 30 13.5
baz=330
MEDO Medina 70.61 42 P **P** **13 30 15.1 +0.5**
MEDO IAmb IAmb 13 30 25.7
comp=Z,10nm,0.8s
JCT Junction City 70.70 65 P 13 30 15.1
baz=322
P48A Milroy 70.70 49 P **P** **13 30 14.8 -0.4**
P48A IAmb IAmb 13 30 42.1
comp=Z,20nm,1.4s
SOEI Soe 70.75 219 P **P** **13 30 17.0 +1.2**
comp=Z,31nm,1.2s
MIAR Mount Ida 70.75 58 P 13 30 15.8
baz=323
WHTX Lake Whitney, 70.77 62 P 13 30 14.8
baz=322
LVV L'vov 70.90 333 *e*P P 13 30 23.1 +6.9
W41B Gary Mavity, V 70.92 56 P 13 30 16.6
baz=323
MOQ Mont Orford 71.15 37 P **P** **13 30 18.2 +0.3**
SOC Sochi 71.17 319 *e*P **P** **13 30 22.7 +4.7**
SOC *e*S **S** **13 39 28.8 -4.0**
SOC MLR MLR
comp=Z,926nm,19.0s
BATI Baumata 71.39 220 P **P** **13 30 20.2 +0.6**
comp=Z,14nm,0.6s,baz=76,slow=2.9,SNR=5.2
BATI Baumata 71.39 220 P **P** **13 30 20.3 +0.7**
comp=Z,16nm,1.2s
KWP Kalwaria Pacla 71.43 333 P **P** **13 30 19.8 +0.3**
KWP pmax pmax
comp=Z,47nm,1.0s
KWP Kalwaria Pacla 71.43 333 P **P** **13 30 19.8 +0.3**
AKH Akhalkalaki 71.48 316 ⇓P **P** **13 30 18.7 -1.4**
FLTG Flechtingen 71.53 341 *e*P **P** **13 30 20.6 +0.6**
comp=Z,42nm,1.8s,baz=18,slow=6.0
ASSE Asse, Remlinge 71.83 342 *e*P **P** **13 30 22.9 +1.2**
comp=Z,32nm,1.6s,baz=18,slow=6.0
L56A Greenwood 71.84 42 P **P** **13 30 21.7 -0.4**
L56A IAmb IAmb 13 30 41.5
comp=Z,20nm,1.4s
TPI Tanjungpandan 71.96 238 P **P** **13 30 24.0 +1.0**
comp=Z,13nm,1.2s
GNI Garni 72.00 314 *d i*P **P** **13 30 24.7 +1.4**
GNI pmax pmax
comp=Z,11nm,0.8s
CLL Collm 72.15 340 *i* P **P** **13 30 23.6 -0.1**
CLL comp=Z,29nm,1.6s
CLL *i* pP **pP** **13 30 31.0 -0.2**
comp=Z,24nm,1.3s
CLL *i* sP **sP** **13 30 34.9 +0.7**
comp=Z,28nm,1.2s
CLL *e*S **S** **13 39 41.0 -2.9**
CLL *e*SKSac **SKSac** **13 40 25.0 -0.8**
CLL LmH 14 05 00.0
comp=N,200nm,19.1s
CLL LmH 14 05 00.0
comp=E,100nm,20.9s
CLL LmH 14 05 00.0
comp=Z,200nm,19.1s
CLL Collm 72.15 340 *i* P **P** **13 30 23.6 -0.1**
CLL *i* 13 30 34.9
CLL *e*S **S** **13 39 41.0 -2.9**
CLL pmax pmax
comp=Z,29nm,1.6s
CLL Collm 72.15 340 P **P** **13 30 24.0 +0.3**
CLL Collm 72.15 340 *e*P **P** **13 30 24.3 +0.6**
comp=Z,24nm,1.3s,baz=18,slow=6.0
CLZ Clausthal 72.16 342 *e*P **P** **13 30 25.0 +1.2**
comp=Z,25nm,1.1s,baz=18,slow=6.0
IBBN Ibbenburen 72.17 344 *e*P **P** **13 30 25.0 +1.2**
comp=Z,22nm,0.9s,baz=18,slow=6.0
HYB Hyderabad 72.18 275 *i* P **P** **13 30 23.0 -1.4**
HYB *e* 13 30 35.5
KOLS Kolonicke sedl 72.18 333 *e*P **P** **13 30 24.8 +0.8**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 72.18 333 *e*P **P** **13 30 24.8 +0.8**
PPBI Pangkal Pinang 72.22 240 P **P** **13 30 26.4 +1.8**
comp=Z,6μmcomp=Z,7.7nm,0.6s
DPC Dobruska-Polom 72.34 338 *e*P **P** **13 30 26.3 +1.3**
DPC Dobruska-Polom 72.34 338 *e*P **P** **13 30 26.3 +1.3**
BRG Berggiesshubel 72.37 339 *e*P **P** **13 30 26.6 +1.6**
BRG Amp 13 30 28.5
comp=Z,3.2nm,0.7s
BRG Berggiesshubel 72.37 339 *e*P **P** **13 30 25.7 +0.7**
comp=Z,10.0nm,1.0s,baz=18,slow=6.0
CRVS Cervenica-Dubn 72.43 334 *e*P **P** **13 30 27.4 +1.9**
CRVS Cervenica-Dubn 72.43 334 *e*P **P** **13 30 27.4 +1.9**
FBE Freiberg 72.45 340 *e*P **P** **13 30 26.7 +1.2**
comp=Z,20nm,1.2s,baz=18,slow=6.0
UZH Uzhgorod 72.45 333 *e*P **P** **13 30 26.7 +1.1**
UZH *e* 13 30 45.7
BUR08 Bucovina Ar. S 72.54 331 P **P** **13 30 26.5 +0.2**
BUR08 IAmb IAmb 13 30 27.7
comp=Z,11nm,0.9s
BURAR Bucovina Array 72.56 331 ⇑P **P** **13 30 26.9 +0.5**
BURAR Bucovina Array 72.56 331 P **P** **13 30 26.4 +0.1**
BURAR IAmb IAmb 13 30 28.1
comp=Z,11nm,0.8s
MORC Moravsky Berou 72.59 337 *e*P **P** **13 30 27.4 +0.9**
MORC Moravsky Berou 72.59 337 P **P** **13 30 27.0 +0.5**
MORC pmax pmax
comp=Z,14nm,1.2s
MORC Moravsky Berou 72.59 337 P **P** **13 30 27.0 +0.5**
MORC IAmb IAmb 13 30 28.7
comp=Z,14nm,1.2s
KMMI Kalianget 72.64 230 P **P** **13 30 28.5 +1.5**
comp=Z,42nm,1.4s
M57A Sunshine Farm, 72.68 42 P **P** **13 30 26.5 -0.6**
M57A IAmb IAmb 13 30 42.9
comp=Z,16nm,1.2s
M57A Sunshine Farm, 72.69 42 P 13 30 27.1
baz=328
BKNI Bangkinang 72.83 246 P **P** **13 30 30.1 +1.9**
comp=Z,64nm,0.6s
OXF Oxford 72.84 55 P 13 30 28.0
baz=324
BIZ Bicaz 72.91 330 ⇓P **P** **13 30 29.4 +1.0**

Q53A Leroy 72.92 47 P 13 30 28.2
baz=326
MOX Moxa 73.06 341 *e*P **P** **13 30 30.4 +1.3**
comp=Z,13nm,1.2s,baz=18,slow=6.0
MOX *e*L L 14 08 04.1
comp=Z,194nm,19.2s
GOPC GO Pecny, Ondr 73.09 338 *e*P **P** **13 30 30.4 +1.0**
GOPC GO Pecny, Ondr 73.09 338 *e*P **P** **13 30 30.4 +1.0**
PLN Plauen 73.10 340 *e*P **P** **13 30 30.6 +1.2**
comp=Z,28nm,1.7s,baz=18,slow=6.0
TANN Tannenbergstha 73.11 340 *e*P **P** **13 30 30.8 +1.2**
comp=Z,20nm,1.6s,baz=18,slow=6.0
WERD Werda 73.11 340 *e*P **P** **13 30 30.6 +1.1**
comp=Z,9.0nm,1.1s,baz=18,slow=6.0
TESR Tescani 73.13 329 ⇑P **P** **13 30 30.1 +0.5**
GUNZ Gunzen 73.19 340 *e*P **P** **13 30 31.2 +1.2**
comp=Z,27nm,1.6s,baz=18,slow=6.0
WERN Wernitzgruen 73.25 340 *e*P **P** **13 30 31.7 +1.4**
comp=Z,23nm,1.5s,baz=18,slow=6.0
VRAC Vranov 73.25 337 ⇓P **P** **13 30 32.2 +1.9**
VRAC Vranov 73.25 337 *e*P **P** **13 30 31.6 +1.2**
VYHS Vyhne 73.47 335 *e*P **P** **13 30 32.9 +1.2**
VYHS pmax pmax
comp=Z,13nm,1.3s
VYHS Vyhne 73.47 335 *e*P **P** **13 30 32.9 +1.2**
KRUC Moravsky 73.53 337 *e*P **P** **13 30 33.2 +1.2**
TLCR 73.64 327 ⇓P **P** **13 30 33.7 +1.0**
VRI Vrincioaia 73.69 329 ⇑P **P** **13 30 33.9 +0.9**
PLOR Plostina 73.72 329 ⇑P **P** **13 30 34.0 +0.8**
ROTZ Rotzenmuhle 73.78 340 *e*P **P** **13 30 34.8 +1.4**
comp=Z,17nm,1.4s,baz=18,slow=6.0
CFR Carcaliu 73.86 328 ⇓P **P** **13 30 34.4 +0.4**
GSI Gunungsitoli 73.92 250 P **P** **13 30 36.5 +1.8**
comp=Z,22nm,0.8s
SWET Sewanee 73.93 52 P **P** **13 30 34.7 +0.1**
DRGR 74.02 332 ⇓P **P** **13 30 35.6 +0.6**
GRF Grafenberg Arr 74.05 341 *e*P **P** **13 30 36.5 +1.5**
comp=Z,12nm,0.8s,baz=18,slow=6.0
GRF *e*L L 14 08 43.5
comp=Z,214nm,19.0s
TPGR Topolog 74.06 327 ⇑P **P** **13 30 36.0 +0.8**
KHC Kasperske Hory 74.09 339 ⇓*e*P **P** **13 30 36.3 +0.9**
KHC pmax pmax
comp=Z,32nm,1.3s
KHC Kasperske Hory 74.09 339 *e*P **P** **13 30 36.2 +0.9**
KHC Kasperske Hory 74.09 339 P **P** **13 30 36.0 +0.7**
KHC IAmb IAmb 13 30 48.8
comp=Z,22nm,1.4s
MEM Membach 74.10 344 *d*P **P** **13 30 35.5 +0.2**
MEM *d*pP **sP** **13 30 46.5 +0.7**
BTNL Ternell 74.10 344 *d*P **P** **13 30 36.2 +0.8**
BTNL *d*pP **sP** **13 30 46.2 +0.4**
CKRC Cesky Krumlov 74.23 338 *e*P **P** **13 30 36.9 +0.8**
WET Wettzell 74.23 339 *e*P **P** **13 30 37.6 +1.5**
comp=Z,10nm,1.1s,baz=18,slow=6.0
MLR Muntele Rosu 74.26 329 ⇓P **P** **13 30 37.9 +1.4**
MLR Muntele Rosu 74.26 329 P **P** **13 30 37.2 +0.7**
MLR pmax pmax
comp=Z,11nm,0.8s
MLR Muntele Rosu 74.26 329 P **P** **13 30 37.2 +0.7**
MLR IAmb IAmb 13 30 54.9
comp=Z,11nm,0.8s
GEC2 GERESS Array S 74.34 339 P **P** **13 30 36.9 +0.1**
GEC2 GERESS Array S 74.34 339 *e*P **P** **13 30 38.0 +1.2**
comp=Z,11nm,1.1s,baz=18,slow=6.0
GERES GERESS Array B 74.34 339 P **P** **13 30 37.0 +0.2**
comp=Z,17nm,0.6s,baz=40,slow=5.2,SNR=15
GERES GERESS Array B 74.34 339 P **P** **13 30 37.3 +0.5**
TIRR Tirgusor 74.42 327 ⇓P **P** **13 30 37.8 +0.5**
TIRR Tirgusor 74.42 327 P **P** **13 30 37.5 +0.3**
TIRR pmax pmax
comp=Z,41nm,0.9s
TIRR Tirgusor 74.42 327 P **P** **13 30 37.5 +0.3**
DIKM Dikmen 74.52 321 ⇑P **P** **13 30 34.4 -3.4**
VOIR 74.58 330 ⇑P **P** **13 30 39.7 +1.4**
FPAL Fort Paine 74.64 52 P **P** **13 30 38.5 -0.2**
FPAL IAmb IAmb 13 30 55.6
comp=Z,11nm,1.0s
CTA Charters Tower 74.68 195 P **P** **13 30 39.2 +0.3**
comp=Z,10nm,0.8s,baz=19,slow=7.7,SNR=15
CTAO Charters Tower 74.68 195 P **P** **13 30 38.7 -0.2**
CTAO pmax pmax
comp=Z,23nm,1.1s
CTAO Charters Tower 74.68 195 P **P** **13 30 38.7 -0.2**
CONA Conrad Observa 74.72 337 *e*P **P** **13 30 40.8 +1.7**
comp=Z,21nm,1.7s
ARR Arges 74.77 330 ⇑P **P** **13 30 40.8 +1.5**
LHSI Lahat 74.99 241 P **P** **13 30 41.1 +0.2**
comp=Z,45nm,0.9s
KLSI 75.10 240 P **P** **13 30 41.8 +0.3**
comp=Z,7.6nm,1.1s
MOA Molln 75.16 338 *i* P **P** **13 30 43.1 +1.6**
comp=Z,9.1nm,0.6s
BZS Buzias 75.40 332 ⇓P **P** **13 30 44.1 +1.2**
ARSA Arzberg 75.43 337 *i* P **P** **13 30 45.0 +1.9**
comp=Z,5.2nm,0.8s
LEM Lembang 75.47 236 P **P** **13 30 44.3 +0.5**
comp=Z,9.5nm,1.0s
DZM Mont Dzumac 75.55 176 *e*LR LR 13 54 23.3
comp=Z,211nm,22.6s
ILGA Ilgaz 75.61 322 P **P** **13 30 44.6 +0.2**
DBJI Dramaga 75.67 237 P **P** **13 30 43.9 -0.9**
LWLI Liwa 75.72 240 P **P** **13 30 44.3 -0.9**
comp=Z,7μmcomp=Z,40nm,0.7s
SOKA Soboth 76.09 337 *e*P **P** **13 30 48.5 +1.5**
comp=Z,9.8nm,1.2s
KBA Koelnbreinsper 76.09 338 *e*P **P** **13 30 49.1 +2.0**
comp=Z,16nm,0.8s
UBR Ueberruh 76.19 341 *e*P **P** **13 30 48.6 +1.1**
comp=Z,16nm,1.2s,baz=18,slow=6.0
WATA Walderalm 76.22 340 *i* P **P** **13 30 49.4 +1.6**
comp=Z,4.1nm,0.5s
RETA Reutte 76.24 340 *e*P **P** **13 30 49.3 +1.5**
comp=Z,5.7nm,0.8s
WTTA Wattenberg 76.28 340 *i* P **P** **13 30 49.9 +1.8**
comp=Z,14nm,1.4s
MOTA Moosalm 76.31 340 *e*P **P** **13 30 49.5 +1.3**
comp=Z,8.4nm,0.8s
FRGS Fruska Gora 76.32 333 ⇑P **P** **13 30 49.1 +1.0**
OBKA Obir 76.36 337 *i* P **P** **13 30 50.1 +1.6**
comp=Z,14nm,0.9s
SQTA Sankt Quirin 76.41 340 *e*P **P** **13 30 50.5 +1.8**
comp=Z,10nm,0.7s
MYKA Terra Mystica 76.45 338 *i* P **P** **13 30 50.3 +1.3**
comp=Z,3.6nm,0.6s
ABTA Abfaltersbach 76.58 339 *e*P **P** **13 30 51.0 +1.3**
comp=Z,14nm,0.9s,SNR=5.5
DAVA Damuels 76.61 341 *i* P **P** **13 30 51.3 +1.3**
comp=Z,7.1nm,1.2s
ZOU Zoufplan 76.66 338 P **P** **13 30 50.7 +0.3**
FETA Feichten 76.69 340 *e*P **P** **13 30 52.0 +1.6**
comp=Z,7.4nm,0.8s,SNR=9.3
BR131 Keskin Array S 76.80 321 P **P** **13 30 51.1 0.0**
BR131 pmax pmax
comp=Z,14nm,1.0s
BR131 Keskin Array S 76.80 321 P **P** **13 30 51.1 0.0**
BR131 IAmb IAmb 13 30 52.7
comp=Z,14nm,1.0s
BRTR Keskin Array B 76.80 321 P **P** **13 30 50.7 -0.4**
comp=Z,5.2nm,0.8s,baz=43,slow=6.1,SNR=17
BRTR LR LR 14 10 31.2
comp=Z,275nm,18.4s,baz=32,slow=40
BRTR Keskin Array B 76.80 321 *ce*P **P** **13 30 51.9 +0.8**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 76.80 321 P **P** **13 30 51.0 -0.2**
WB0 Warramunga Arr 76.87 206 P **P** **13 30 51.2 -0.2**
WR0 Warramunga Arr 77.02 206 P **P** **13 30 52.4 +0.2**
MDUB Mudurnu 77.03 324 P **P** **13 30 52.1 -0.2**
WRAB Tennant Creek 77.04 206 *i* P **P** **13 30 53.4 +1.0**
WRAB pmax pmax
comp=Z,26nm,1.0s
WB2 Warramunga Arr 77.05 206 P **P** **13 30 52.6 +0.2**
WRA Warramunga Arr 77.05 206 P **P** **13 30 52.9 +0.5**
comp=Z,9.9nm,0.6s,baz=25,slow=6.3,SNR=36
WRA LR LR 14 02 39.5
comp=Z,54nm,21.5s,baz=175,slow=34
WRA Warramunga Arr 77.05 206 P **P** **13 30 52.1 -0.3**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 77.05 206 P **P** **13 30 52.1 -0.3**
DIVS Divibare 77.25 333 P **P** **13 30 53.6 +0.1**
DIVS IAmb IAmb 13 31 07.6
comp=Z,13nm,1.3s
CTI Castel Tesino 77.43 339 P **P** **13 30 54.3 -0.3**

CTI pmax pmax
comp=Z,7.0nm,0.8s
CTI Castel Tesino 77.43 339 P **P** **13 30 54.2 -0.3**
CTI IAmb IAmb 13 30 55.7
comp=Z,7.3nm,0.8s
TUE Stuetta 77.49 341 P **P** **13 30 55.4 +0.4**
VTS Vitosha 77.69 330 ⇓P **P** **13 30 56.3 +0.2**
FITZ Fitzroy Crossi 77.96 215 P **P** **13 30 58.8 +1.2**
comp=Z,29nm,0.9s,baz=18,slow=5.4,SNR=20
FITZ Fitzroy Crossi 77.96 215 P **P** **13 30 58.7 +1.2**
TEOL Teolo 78.08 339 P **P** **13 30 58.3 +0.2**
ALN Alexandroupoli 78.38 327 P **P** **13 30 59.6 -0.1**
ALN pmax pmax
comp=Z,17nm,1.0s
ALN Alexandroupoli 78.38 327 P **P** **13 30 59.6 -0.1**
ALN IAmb IAmb 13 31 01.9
comp=Z,17nm,1.0s
PALK Pallekele 78.90 267 P **P** **13 31 02.4 -0.6**
PALK pmax pmax
comp=Z,11nm,0.9s
PALK Pallekele 78.90 267 P **P** **13 31 02.4 -0.6**
PALK IAmb IAmb 13 31 16.2
comp=Z,11nm,0.9s
UOSS Minazif 78.92 297 P **P** **13 31 02.0 -1.0**
PDG Podgorica 79.00 333 ⇑P **P** **13 31 03.5 +0.4**
EIDS Eidsvold 79.27 190 P **P** **13 31 05.0 +0.5**
MIB Mutribah 79.42 306 *e*P 13 31 04.4
UMR Umm Al-Rimmam 79.45 306 *e*P 13 31 04.9
MSSA Maissana 79.53 340 P **P** **13 31 06.5 +0.4**
RST Umm Al-Ruwaisa 79.84 306 *e*P 13 31 06.8
MURB Monte Urbino 79.89 338 P **P** **13 31 09.2 +1.2**
NRCA Norcia 80.17 337 P **P** **13 31 10.5 +0.9**
AS31 Alice Springs 80.72 206 P **P** **13 31 13.2 +0.7**
ASAR Alice Springs 80.72 206 P **P** **13 31 13.7 +1.2**
comp=Z,9.9nm,0.8s,baz=16,slow=5.2,SNR=41
ASAR LR LR 14 04 33.0
comp=Z,107nm,21.9s,baz=27,slow=34
ASAR Alice Springs 80.72 206 P **P** **13 31 13.2 +0.7**
ASAR Alice Springs 80.72 206 P **P** **13 31 13.2 +0.7**
INTR Introdacqua 80.76 336 P **P** **13 31 12.9 +0.2**
INTR IAmb IAmb 13 31 15.3
comp=Z,14nm,0.8s
CSS Mathiatis 81.10 319 P **P** **13 31 14.4 -0.2**
PPT2 Papeete2 82.33 134 *e*LR LR 13 57 23.4
comp=Z,127nm,23.2s
TIP Timpagrande 82.71 333 ⇑P **P** **13 31 24.3 +1.3**
RAYN Ar Rayn 85.57 304 P **P** **13 31 37.6 -0.3**
RAYN pmax pmax
comp=Z,29nm,1.2s
RAYN Ar Rayn 85.57 304 P **P** **13 31 37.5 -0.3**
ESDC Sonseca Array 86.20 349 P **P** **13 31 41.2 +0.5**
comp=Z,1.6nm,0.7s,baz=1.2,slow=5.1,SNR=10
ESDC Sonseca Array 86.20 349 P **P** **13 31 41.2 +0.5**
ESDC IAmb IAmb 13 32 04.7
comp=Z,14nm,1.2s
STKA Stephens Creek 86.99 197 P **P** **13 31 45.4 +1.1**
comp=Z,7.6nm,0.8s,baz=331,slow=8.3,SNR=15
STKA LR LR 14 08 38.0
comp=Z,82nm,19.0s,baz=25,slow=34
STKA Stephens Creek 86.99 197 P **P** **13 31 44.2 -0.1**
STKA pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 86.99 197 P **P** **13 31 44.2 -0.1**
TBI Tubuai 87.50 136 *e*LR LR 13 59 49.9
comp=Z,165nm,22.0s
KEST Kesra 87.80 338 LR LR 14 18 07.7
comp=Z,284nm,18.1s,baz=300,slow=40
FORT Forrest 89.06 209 P **P** **13 31 54.1 0.0**
JTS Las Juntas de 95.08 65 LR LR 14 20 13.2
comp=Z,74nm,21.4s,baz=18,slow=38
DBIC Dimbokro 118.82 345 PKP **PKiKP** **13 37 48.0 0.0**
comp=Z,2.0nm,0.9s,baz=59,slow=0.6,SNR=5.0
SIV San Ignacio 129.75 58 PKP **PKiKP** **13 38 09.4 -0.1**
comp=Z,0.6nm,0.6s,baz=158,slow=1.3,SNR=4.5
SNAA Sanae 160.74 195 PKPab **PKPab** **13 39 38.2 -1.9**
VNA3 Neumayer Olymp 161.97 189 PKPab **PKPab** **13 39 44.9 -0.6**
VNA2 Neumayer--Watz 162.04 192 PKPab **PKPab** **13 39 45.6 -0.1**

*IDC **24** 13:21:50.3±1.1,2.°93S×139.°31E,h0km,mb3.6/4, mb1 4.0/6,mb1mx3.7/34,mbtmp3.9/6,ML4.0/2,MS3.5/2, Ms1 3.5/2,ms1mx2.9/33,Error ellipse: s-maj=19.0km s-min=11.0km az=132.0*
*DJA **24** 13:21:54.3±0.8,3.°5S±5.°1×13.°9E±.°1,h18km±9km,M4.1/6, mb4.3/1,MLv4.0/6*
*NEIC **24** 13:21:54.6±2.8,2.°69S±0.°07×139.°37E±0.°07,h35km±7km, mb4.1/11,Error ellipse: s-maj=11.3km s-min=8.8km az=144.0*
ISC 24 13:21:55.0±0.6,2.77S±0.°05×139.°35E±0.°04,h35km,n30, σ2.°20/36,mb3.7/6,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.84**	**78**	P	**Pn**	**13 22 10.9**	**+0.6**
GENI				S	**Sn**	**13 22 20.3**	**-1.1**
SMPI	**Sarmi**	**1.00**	**320**	P	**Pn**	**13 22 12.0**	**-0.5**
SMPI				S	**Sn**	**13 22 27.1**	**+1.7**
WAMI	**Wamena**	**1.28**	**210**	P	**Pn**	**13 22 19.9**	**+3.5**
JAY	**Jayapura**	**1.38**	**80**	Pg	**Pn**	**13 22 17.4**	**-0.4**
	25nm,0.3s,baz=227,slow=11,SNR=53						
JAY				Lg	Lg	13 22 36.2	
	31nm,0.3s,baz=150,slow=20,SNR=7.1						
JAY				LR	LR	13 23 05.4	
	comp=Z,279nm,19.9s,baz=74,slow=52						
JAY	**Jayapura**	**1.38**	**80**	P	**Pn**	**13 22 17.4**	**-0.4**
JAY				S	**Sn**	**13 22 36.3**	**+1.4**
SRPI	**Serui, Papua**	**3.23**	**286**	P	**Pn**	**13 22 44.7**	**+1.5**
SRPI				S	**Sn**	**13 23 22.7**	**+2.2**
BAKI	**Biak**	**3.59**	**296**	P	**Pn**	**13 22 49.3**	**+1.1**
FAKI	**Fak Fak**	**7.09**	**269**	Pn	**Pn**	**13 23 37.2**	**+0.9**
FAKI	**Fak Fak**	**7.09**	**269**	P	**Pn**	**13 23 37.4**	**+1.1**
SIJI	**Sorong**	**8.29**	**283**	Pn	**Pn**	**13 23 52.8**	**0.0**
	3.6nm,0.3s,baz=238,slow=23,SNR=9.0						
SIJI				Sn	**Sn**	**13 25 23.4**	**-1.9**
	0.6nm,0.3s,baz=165,slow=20,SNR=1.7						
PMG	**Port Moresby**	**10.19**	**131**	Pn	Pn	13 24 24.5	+5.7
	0.4nm,0.3s,baz=181,slow=20,SNR=2.8						
COEN	**Coen**	**11.75**	**161**	Pn	**Pn**	**13 24 41.4**	**+1.2**
MTN	**Manton Dam**	**12.90**	**219**	Pn	**Pn**	**13 24 54.8**	**-1.1**
SOEI	**Soe**	**16.51**	**244**	P	**P**	**13 25 46.9**	**+0.4**
SOEI				IAmb	IAmb	13 26 04.1	
	comp=Z,32nm,1.0s						
BATI	**Baumata**	**17.24**	**244**	P	**P**	**13 25 57.1**	**+2.7**
	comp=Z,2.9nm,0.3s,baz=48,slow=1.4,SNR=6.1						
WB0	**Warramunga Arr**	**17.58**	**196**	Pn	**Pn**	**13 25 57.0**	**-0.4**
WB0				IAmb	IAmb	13 26 08.1	
	comp=Z,15nm,1.2s						
WR0	**Warramunga Arr**	**17.72**	**195**	Pn	**Pn**	**13 25 57.7**	**-1.5**
WB2	**Warramunga Arr**	**17.76**	**196**	Pn	**Pn**	**13 25 57.8**	**-1.8**
WB2				IAmb	IAmb	13 26 24.9	
	comp=Z,9.4nm,0.8s						
WRA	**Warramunga Arr**	**17.76**	**196**	P	**Pn**	**13 25 57.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=16,slow=13,SNR=16						
WRA				S	**Sn**	**13 29 11.3**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=17,slow=22,SNR=2.9						
WRA	**Warramunga Arr**	**17.76**	**196**	Pn	**Pn**	**13 25 59.1**	**-0.5**
KAPI	**Kappang**	**19.68**	**263**	P	**P**	**13 26 21.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.32**	**220**	P	**P**	**13 26 27.6**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=67,slow=10.0,SNR=5.0						
FITZ				S	**S**	**13 30 05.9**	**-8.3**
	comp=Z,2.7nm,0.9s,baz=198,slow=16,SNR=2.4						
FITZ				LR	LR	13 34 56.4	
	comp=Z,115nm,18.8s,baz=6.0,slow=39						
FITZ	**Fitzroy Crossi**	**20.32**	**220**	IAmb	IAmb	13 26 28.4	
	comp=Z,7.9nm,1.1s						
AS31	**Alice Springs**	**21.43**	**194**	P	**P**	**13 26 40.6**	**+0.4**
AS31				IAmb	IAmb	13 27 01.8	
	comp=Z,2.6nm,0.7s						
ASAR	**Alice Springs**	**21.43**	**194**	P	**P**	**13 26 40.4**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=21,slow=10,SNR=38						
ASAR				S	**S**	**13 30 37.3**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=15,slow=26,SNR=5.3						
ASAR				LR	LR	13 35 39.0	
	comp=Z,128nm,18.6s,baz=308,slow=39						
PSA00	**Pilbara Seismi**	**26.63**	**224**	P	**P**	**13 27 32.1**	**+1.6**
PSA00				IAmb	IAmb	13 27 48.6	
	comp=Z,11nm,1.1s						
JCJ	**Chichijima**	**29.81**	**5**	P	**P**	**13 27 57.3**	**-1.5**
MKAR	**Makanchi Array**	**70.22**	**322**	P	**P**	**13 33 04.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=111,slow=6.5,SNR=5.2						
VNDA	**Vanda**	**75.67**	**175**	P	**P**	**13 33 37.9**	**+1.7**
VNDA				IAmb	IAmb	13 33 51.7	
	comp=Z,1.7nm,1.1s						
ILAR	**Eielson Array**	**85.62**	**24**	P	**P**	**13 34 31.3**	**+1.7**

comp=Z,0.5nm,1.0s,baz=267,slow=3.6,SNR=4.2

*IDC **24** 13:24:51.3±1.8,35˚.96S×73˚.41W, h0km,mb3.3/3, mb1 3.6/4,mb1mx3.5/28,mbtmp3.4/4,ML3.4/1, Error ellipse: s-maj=55.8km s-min=21.2km az=74.0*

*GUC **24** 13:24:53.0±0.4,36˚.15S×73˚.83W, h43km±2km,ML3.5*

ISC 24 13:24:54.8±1.3,36˚.10S±0˚.05×73˚.7W±0˚.1, h35km,n13, σ1s32/15,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.92**	**144**	*eP*	**Pn**	**13 25 10.0**	**-1.3**
BI03				*i* S	**Sn**	**13 25 22.5**	**-0.9**
LAJA	**Laja**	**1.43**	**146**	*eP*	**Pn**	**13 25 16.9**	**-1.3**
LAJA				*i* S	**Sn**	**13 25 35.0**	**-0.7**
LAJA				IAML		13 25 35.9	
	comp=N,494nm,0.3s						
BI02	**San Fabin de**	**2.04**	**107⇑**	*i* P	**Pn**	**13 25 26.4**	**-0.3**
BI02				*i* S	**Sn**	**13 25 52.0**	**+1.0**
BI02				IAML		13 26 04.5	
	comp=N,334nm,0.4s						
BO03	**Pichilemu**	**2.14**	**42**	*eP*	**Pn**	**13 25 25.8**	**-2.2**
BO02	**Sierra Bellavi**	**2.72**	**62**	*eP*	**Pn**	**13 25 36.1**	**+0.1**
BO02				*i* S	**Sn**	**13 26 09.2**	**+1.4**
BO02				IAML		13 26 27.2	
	comp=N,259nm,0.6s						
LMEL	**Las Melosas**	**3.65**	**53⇑**	*e*P	**Pn**	**13 25 48.7**	**-0.2**
LMEL				*e*S	**Sn**	**13 26 30.7**	**-0.1**
LMEL				IAML		13 27 02.1	
	comp=E,67nm,0.7s						
H03S1	**Juan Fernandez**	**4.83**	**296**	T	T	13 30 58.0	
	baz=117,slow=73						
H03S3	**Juan Fernandez**	**4.84**	**296**	T	T	13 30 56.7	
	baz=117,slow=73						
H03S2	**Juan Fernandez**	**4.84**	**296**	T	T	13 30 58.7	
	baz=117,slow=73						
PLCA	**Paso Flores**	**5.25**	**153**	Pn	**Pn**	**13 26 11.9**	**+1.1**
	comp=E,0.3nm,0.3s,baz=327,slow=14,SNR=16						
PLCA				Lg	Lg	13 27 37.9	
	comp=E,0.3nm,0.3s,baz=254,slow=20,SNR=1.5						
LPAZ	**La Paz**	**20.35**	**16**	P	**P**	**13 29 27.3**	**-1.5**
	comp=E,0.6nm,0.6s,baz=250,slow=15,SNR=2.0						
SIV	**San Ignacio**	**22.98**	**33**	P	**P**	**13 29 55.3**	**-1.1**
	comp=E,1.3nm,0.7s,baz=264,slow=18,SNR=4.4						
TXAR	**Lajitas Array**	**70.93**	**333**	P	**P**	**13 36 10.5**	**+2.0**
	comp=E,0.3nm,0.6s,baz=154,slow=8.9,SNR=5.3						

DJA 24 13:37:38.2±0.5,9˚S±5˚×11˚5E±˚, h82km±6km,M4.0/11, mb5.1/1,MLv3.4/11,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.37**	**57**	P	Pn	13 37 50.2	-0.9
DNP				S	Sn	13 38 07.6	+6.9
JAGI	**Jajag, Banyuwa**	**0.84**	**299**	P	Pn	13 37 56.9	+1.3
JAGI				S	Sn	13 38 10.7	+2.1
SRBI	**Singaraja**	**0.85**	**21**	P	Pn	13 37 56.4	+0.8
SRBI				S	Sn	13 38 10.3	+1.7
ABJI	**Asem Bagus**	**1.26**	**329**	P	Pn	13 38 01.2	+0.6
ABJI				S	Sn	13 38 18.5	+1.1
TWSI	**Taliwang, Sumb**	**1.96**	**86**	P	Pn	13 38 10.0	+0.3
TWSI				S	Sn	13 38 34.3	+0.6
KMMI	**Kalianget**	**2.04**	**333**	P	Pn	13 38 11.0	+0.3
KMMI				S	Sn	13 38 36.5	+1.0
PLAI	**Plampang**	**2.84**	**89**	P	Pn	13 38 20.9	-0.6
PLAI				S	Sn	13 38 56.1	+1.3
UGM	**Wanagama**	**4.44**	**282**	P	Pn	13 38 42.9	-0.2
WSI	**Waingapu**	**5.38**	**99**	P	Pn	13 38 56.6	+0.5

*SOME **24** 13:41:32.7,44˚.42N×74˚.35E*

NNC 24 13:41:34.7±22.0,42˚.20N×75˚.73E,h0km,mb2.5,mpv2.2, Error ellipse: s-maj=215.3km s-min=153.6km az=99.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBS	**Karabastau**	**1.50**	**358**	P	Pg	13 42 03.3	-0.1
	0.3nm,0.2s						
KRBS				S	Sn	13 42 24.9	+1.7
	5.9nm,0.5s						
KTBS	**Karatobe**	**1.66**	**24**	P	Pg	13 42 07.1	+0.4
	2.7nm,0.8s						
KTBS				S	Sg	13 42 31.0	+2.8
	7.9nm,0.4s						
KUU	**Kurty**	**1.75**	**15**	P	Pn	13 42 02.8	-3.5
	2.0nm,0.7s						
KUU				S	Sn	13 42 24.1	-5.3
	9.2nm,0.7s						

*NEIC **24** 13:53:48.4±1.9, 19˚.8S±0˚.1×177˚.8W±0˚.1, h428km±7km, mb4.3/27, Error ellipse: s-maj=20.2km s-min=16.0km az=118.0*

*IDC **24** 13:53:50.3±2.6, 19˚.59S×177˚.87W, h438km±23km, mb3.3/8, mb1 3.6/10,mb1mx3.3/33,mbtmp4.1/10, Error ellipse: s-maj=44.6km s-min=16.5km az=146.0*

ISC 24 13:53:50.6±0.5, 19.70S±0.08×177.82W±0.10, h450km, n72, σ1s08/71, mb4.2/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.37**	**296**	P	**P**	**13 55 07.7**	**-1.6**
	12nm,0.3s,baz=285,slow=22,SNR=65						
MSVF	**Nonsavu**	**4.37**	**296**	P	**P**	**13 55 07.4**	**-1.9**
AFI	**Afiamalu**	**8.16**	**46**	P	P	13 55 40.6	-7.3
	4.2nm,0.3s,baz=120,slow=3.8,SNR=9.8						
AFI				S	S	13 57 10.3	-14
	5.3nm,0.3s,baz=68,slow=21,SNR=7.2						
AFI	**Afiamalu**	**8.16**	**46**	P	P	13 55 40.8	-7.1
FUNA	**Funafuti**	**11.47**	**345**	P	**P**	**13 56 22.5**	**-1.4**
DZM	**Mont Dzumac**	**14.89**	**258**	P	**P**	**13 57 02.4**	**+1.6**
	0.2nm,0.3s,baz=101,slow=19,SNR=1.2						
KNTN	**Kanton**	**17.84**	**20**	P	**P**	**13 57 30.7**	**-1.1**
URZ	**Urewera**	**19.02**	**192**	S	**S**	**14 00 48.1**	**-4.3**
	0.4nm,0.3s,baz=307,slow=20,SNR=2.0						
BKZ	**Black Stump Fm**	**20.02**	**193**	P	**P**	**13 57 48.8**	**-3.2**
BKZ				IAmb	IAmb	13 58 17.4	
	comp=Z,15nm,1.4s						
LTZ	**Lake Taylor**	**24.49**	**198**	P	**P**	**13 58 30.2**	**-2.1**
LTZ				IAmb	IAmb	13 58 40.2	
	comp=Z,17nm,1.2s						
OXZ	**Oxford**	**25.06**	**198**	P	**P**	**13 58 35.8**	**-1.5**
OXZ				IAmb	IAmb	13 59 02.4	
	comp=Z,7.4nm,0.9s						
ARMA	**Armidale**	**29.57**	**243**	P	**P**	**13 59 18.6**	**+1.0**
ARMA				IAmb	IAmb	13 59 24.1	
	comp=Z,33nm,1.4s						
CAN	**Canberra**	**33.10**	**235**	P	**P**	**13 59 49.2**	**+1.4**
CAN				IAmb	IAmb	14 00 00.5	
	comp=Z,11nm,1.0s						
CTAO	**Charters Tower**	**33.74**	**263**	P	**P**	**13 59 53.6**	**+0.2**
CTAO				IAmb	IAmb	14 00 17.1	
	comp=Z,12nm,1.4s						
TOO	**Toolangi**	**36.51**	**233**	P	**P**	**14 00 17.1**	**+0.7**
TOO				IAmb	IAmb	14 00 37.6	
	comp=Z,22nm,1.4s						
COEN	**Coen**	**37.71**	**273**	P	**P**	**14 00 25.9**	**-0.6**
STKA	**Stephens Creek**	**38.29**	**243**	P	**P**	**14 00 31.9**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=91,slow=12,SNR=8.2						
STKA	**Stephens Creek**	**38.29**	**243**	P	**P**	**14 00 31.7**	**+0.5**
BBOO	**Buckleboo**	**43.06**	**243**	P	**P**	**14 01 09.2**	**-0.2**
BBOO				IAmb	IAmb	14 01 10.0	
	comp=Z,6.7nm,0.6s						
WR0	**Warramunga Arr**	**44.69**	**261**	P	**P**	**14 01 21.7**	**-0.7**
WB0	**Warramunga Arr**	**44.86**	**261**	P	**P**	**14 01 22.7**	**-0.9**
WB0				IAmb	IAmb	14 01 23.6	
	comp=Z,5.0nm,0.8s						
AS31	**Alice Springs**	**44.87**	**256**	P	**P**	**14 01 23.1**	**-0.6**
ASAR	**Alice Springs**	**44.87**	**256**	P	**P**	**14 01 23.8**	**0.0**
	comp=Z,6.4nm,0.6s,baz=92,slow=8.1,SNR=166						
ASAR				PcP	**PcP**	**14 02 56.7**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=105,slow=4.2,SNR=5.6						
ASAR	**Alice Springs**	**44.87**	**256**	P	**P**	**14 01 22.9**	**-0.8**
WB2	**Warramunga Arr**	**44.87**	**261**	P	**P**	**14 01 22.9**	**-0.8**
WB2				IAmb	IAmb	14 01 23.8	
	comp=Z,6.0nm,0.4s						
WRA	**Warramunga Arr**	**44.88**	**261**	P	**P**	**14 01 23.2**	**-0.6**
	comp=Z,2.6nm,0.3s,baz=97,slow=6.7,SNR=116						
WRA	**Warramunga Arr**	**44.88**	**261**	P	**P**	**14 01 22.6**	**-1.2**
MTN	**Manton Dam**	**49.33**	**270**	P	**P**	**14 01 57.1**	**-0.5**
MTN				IAmb	IAmb	14 02 06.8	
	comp=Z,30nm,1.4s						
FORT	**Forrest**	**49.77**	**246**	P	**P**	**14 02 00.1**	**-0.5**
FORT				IAmb	IAmb	14 02 01.5	
	comp=Z,20nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.30**	**262**	P	**P**	**14 02 26.8**	**+0.2**
SOEI	**Soe**	**56.65**	**271**	P	**P**	**14 02 51.3**	**+1.0**
SOEI				IAmb	IAmb	14 03 17.6	
	comp=Z,24nm,1.3s						
PSA00	**Pilbara Seismi**	**58.02**	**256**	P	**P**	**14 02 59.1**	**-0.4**
PSA00				IAmb	IAmb	14 03 09.9	
	comp=Z,28nm,1.4s						
JCJ	**Chichijima**	**60.55**	**319**	P	**P**	**14 03 16.8**	**+0.5**
GIRL	**Giralia**	**62.93**	**254**	P	**P**	**14 03 33.0**	**+0.9**
CASY	**Casey**	**64.76**	**205**	P	**P**	**14 03 44.0**	**+0.9**
JMZ	**Minamidaito 2**	**67.06**	**311**	P	**P**	**14 03 59.4**	**+1.3**
KKM	**Kota Kinabalu**	**69.72**	**284**	P	**P**	**14 04 15.2**	**+0.4**
QSPA	**South Pole Qui**	**70.37**	**180**	P	**P**	**14 04 19.5**	**+1.7**
QSPA				IAmb	IAmb	14 04 20.6	
	comp=Z,4.6nm,0.9s						
NVAR	**Mina Array Bea**	**80.33**	**43**	P	**P**	**14 05 14.7**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=220,slow=8.3,SNR=4.8						
NVAR	**Mina Array Bea**	**80.33**	**43**	P	**P**	**14 05 14.2**	**+0.1**
TXAR	**Lajitas Array**	**86.48**	**57**	P	**P**	**14 05 46.4**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=219,slow=5.8,SNR=10						
TXAR	**Lajitas Array**	**86.48**	**57**	P	**P**	**14 05 45.9**	**+0.9**
ILAR	**Eielson Array**	**87.50**	**13**	P	**P**	**14 05 48.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=223,slow=4.6,SNR=8.7						
PDAR	**Pinedale Array**	**88.26**	**43**	P	**P**	**14 05 52.6**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=186,slow=3.4,SNR=2.8						
SNAA	**Sanae**	**88.81**	**178**	P	**P**	**14 05 55.5**	**+0.3**
VNA3	**Neumayer Olymp**	**88.93**	**176**	P	**P**	**14 05 56.3**	**+0.7**
VNA2	**Neumayer--Watz**	**89.37**	**177**	P	**P**	**14 05 58.6**	**+0.9**
	baz=188,slow=3.4						
VNA1	**Neumayer--Stat**	**89.60**	**177**	P	**P**	**14 05 59.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**90.00**	**290**	P	**P**	**14 06 03.0**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=110,slow=4.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**90.00**	**290**	P	**P**	**14 06 00.0**	**-1.6**
MKAR	**Makanchi Array**	**110.77**	**314**	PKiKP	**PKiKP**	**14 11 31.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=130,slow=0.8,SNR=13						
MKAR	**Makanchi Array**	**110.77**	**314**	Pdif	**Pdif**	**14 07 33.7**	**-0.5**
ARCES	**ARCESS Array B**	**128.16**	**350**	PKP	**PKiKP**	**14 12 04.8**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=29,slow=2.1,SNR=19						
FINES	**FINESS Array B**	**135.05**	**344**	PKP	**PKiKP**	**14 12 18.7**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=11,slow=1.4,SNR=5.2						
BRTR	**Keskin Array B**	**146.42**	**313**	PKPbc	**PKPab**	**14 12 41.9**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=90,slow=3.0,SNR=4.6						
BURAR	**Bucovina Array**	**146.44**	**331**		**PKPbc**	**14 12 40.8**	**+0.4**
CLL	**Collm**	**147.32**	**347**	*i* PKPbc	**PKiKP**	**14 12 44.0**	**-0.3**
	comp=Z,5.0nm,0.6s						
KHC	**Kasperske Hory**	**149.24**	**345**		**PKPbc**	**14 12 47.4**	**0.0**
GERES	**GERESS Array B**	**149.47**	**345**	PKPbc	**PKiKP**	**14 12 48.6**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=49,slow=3.0,SNR=10						
GERES	**GERESS Array B**	**149.47**	**345**		**PKPbc**	**14 12 48.1**	**-0.1**
CONA	**Conrad Observa**	**149.72**	**342**	*eP*	**PKiKP**	**14 12 49.8**	**+0.3**
	comp=Z,3.2nm,0.5s						
SOKA	**Soboth**	**151.10**	**342**	*i* P	**PKiKP**	**14 12 52.2**	**-0.1**
	comp=Z,1.4nm,0.5s						
KBA	**Koelnbreinsper**	**151.20**	**344**	*i* P	**PKiKP**	**14 12 53.1**	**+0.4**
	comp=Z,4.4nm,0.5s						
WATA	**Walderalm**	**151.38**	**347**	*i* P	**PKiKP**	**14 12 53.0**	**0.0**
	comp=Z,3.8nm,0.5s						
RETA	**Reutte**	**151.41**	**348**	*i* P	**PKiKP**	**14 12 53.2**	**+0.2**
	comp=Z,2.0nm,0.4s						
WTTA	**Wattenberg**	**151.44**	**346**	*i* P	**PKiKP**	**14 12 53.4**	**+0.3**
	comp=Z,7.8nm,0.5s						
MOTA	**Moosalm**	**151.47**	**347**	*i* P	**PKiKP**	**14 12 54.0**	**+0.8**
	comp=Z,2.6nm,0.4s						
MYKA	**Terra Mystica**	**151.54**	**343**	*eP*	**PKPbc**	**14 12 52.7**	**-0.3**
	comp=Z,4.6nm,0.5s						
SQTA	**Sankt Quirin**	**151.57**	**347**	*i* P	**PKiKP**	**14 12 53.8**	**+0.4**
	comp=Z,7.1nm,0.7s						
ABTA	**Abfaltersbach**	**151.72**	**345**	*i* P	**PKPbc**	**14 12 53.3**	**-0.1**
	comp=Z,7.6nm,0.6s						
FETA	**Feichten**	**151.86**	**348**	*i* P	**PKiKP**	**14 12 54.3**	**+0.3**
	comp=Z,2.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**173.47**	**176**	PKPab	**PKPab**	**14 14 40.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=201,slow=3.0,SNR=2.4						

*ANF **24** 13:54:43.8±0.2,36˚.09N×97˚.23W, h5km,ML3.6/13, Error ellipse: s-maj=2.6km s-min=2.0km az=125.0*

*TUL **24** 13:54:43.7±1.0,36˚.08N±0˚.01×97˚.22W±0˚.02, h5km±7km, ML3.2,mb_Lg3.0/57(NEIC), Error ellipse: s-maj=2.5km s-min=1.8km az=102.0*

*NEIC **24** 13:54:43.6±0.4,36˚.095N±0˚.008×97˚.24W±0˚.02, h5km±7km, Error ellipse: s-maj=2.5km s-min=1.2km az=81.0*

ISC 24 13:54:43.7±1.1,36˚.09N±0˚.02×97˚.23W±0˚.02, h8km±10km, n84, σ0s41/84, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.34**	**212**		**Pg**	**13 54 50.4**	**-0.1**
OK029				Sg	**Sg**	**13 54 55.1**	**+0.1**
OK031	**S. Brethren Rd**	**0.35**	**113**		**Pg**	**13 54 50.5**	**0.0**
OK031				Sg	**Sg**	**13 54 55.2**	**+0.1**
OK030	**Cody Creek RV**	**0.40**	**114**		**Pg**	**13 54 51.5**	**0.0**
OK030				Sg	**Sg**	**13 54 56.7**	**0.0**
QUOK	**Quay**	**0.43**	**79**	Pg	**Pg**	**13 54 52.2**	**+0.1**
QUOK				Sg	**Sg**	**13 54 57.9**	**+0.1**
OK025	**Westminster Rd**	**0.52**	**190**		**Pg**	**13 54 53.6**	**-0.1**
OK025				IAmb_Lg		13 55 00.2	
	comp=Z,154nm,0.8s						
OK025				Sg	**Sg**	**13 55 00.5**	**0.0**
BCOK	**Bluff Creek, N**	**0.53**	**215**		**Pg**	**13 54 53.9**	**-0.1**
BCOK				Sg	**Sg**	**13 55 01.0**	**0.0**
OKCFA	**Oklahoma City**	**0.70**	**195**	Pg	**Pg**	**13 54 56.9**	**-0.3**
OKCFA				Sg	**Sg**	**13 55 06.2**	**0.0**
OKCFA	**Oklahoma City**	**0.70**	**195**	P	**Pg**	**13 54 57.0**	**-0.2**
	baz=16,SNR=22						
OKCFA				S	**Sg**	**13 55 06.4**	**+0.2**
	baz=16						
OKCFA	**Oklahoma City**	**0.70**	**195**	P		13 54 57.0	
	baz=16,SNR=22						
OKCFA				S		13 55 06.4	
	baz=16						
OKCSW	**OKLAHOMA CITY**	**0.70**	**194**		**Pg**	**13 54 56.9**	**-0.4**
OKCSW				Sg	**Sg**	**13 55 06.4**	**-0.1**
CROK	**Carrier**	**0.73**	**304**		**Pg**	**13 54 58.0**	**+0.1**
FNO	**Franklin**	**0.84**	**189**		**Pg**	**13 54 59.9**	**0.0**
GC02	**Grant County #**	**0.91**	**326**		**Pg**	**13 55 01.2**	**-0.1**
KAN13	**South Haven SW**	**0.94**	**348**		**Pg**	**13 55 01.8**	**0.0**
KAN13				Sg	**Sg**	**13 55 13.7**	**-0.4**
T35A	**Sooner Cattle**	**1.01**	**35**		**Pg**	**13 55 02.8**	**-0.2**
T35A				Sg	**Sg**	**13 55 16.2**	**0.0**
T35B	**Sooner Cattle**	**1.01**	**35**	P	**Pg**	**13 55 02.8**	**-0.3**
	baz=215,SNR=156						
T35B				S	**Sg**	**13 55 16.5**	**+0.3**
	baz=215						
T35B	**Sooner Cattle**	**1.01**	**35**	P		13 55 02.8	
	baz=215,SNR=156						
T35B				S		13 55 16.5	
	baz=215						
KAN14	**Manchester OK**	**1.04**	**326**		**Pg**	**13 55 03.6**	**-0.2**
OK032	**Salt Plains WL**	**1.06**	**312**		**Pg**	**13 55 03.9**	**-0.3**
KAN09	**Caldwell North**	**1.09**	**344**		**Pg**	**13 55 04.4**	**-0.2**
KAN05	**Bluff City Nor**	**1.14**	**333**		**Pg**	**13 55 05.3**	**-0.3**
KAN01	**Argonia South**	**1.14**	**338**		**Pg**	**13 55 05.3**	**-0.3**
TUL1	**Leonard**	**1.18**	**98**	S		13 55 21.1	
	baz=279						
KAN10	**Anthony SW Sta**	**1.24**	**326**		**Pg**	**13 55 07.1**	**-0.5**
KAN08	**Anthony NE Sta**	**1.28**	**333**		**Pn**	**13 55 07.8**	**-0.2**
KAN12	**Harper NE Stat**	**1.35**	**333**		**Pn**	**13 55 09.0**	**0.0**
U32A	**Winter Ranch,**	**1.46**	**282**		**Pn**	**13 55 10.5**	**0.0**
U32A	**Winter Ranch,**	**1.46**	**282**	P	**Pn**	**13 55 10.5**	**0.0**
	baz=101,SNR=31						
U32A				S	**Sg**	**13 55 30.9**	**+0.2**
	baz=101						
U32A	**Winter Ranch,**	**1.46**	**282**	P		13 55 10.5	
	baz=101,SNR=31						
U32A				S		13 55 30.9	
	baz=101						
WMOK	**Wichita Mounta**	**1.85**	**224**	Pn	**Pn**	**13 55 16.5**	**+0.7**
WMOK	**Wichita Mounta**	**1.85**	**224**	P	**Pn**	**13 55 16.8**	**+0.9**
	baz=43,SNR=93						
WMOK				S	**Sb**	**13 55 41.8**	**+0.6**
	baz=43						
WMOK	**Wichita Mounta**	**1.85**	**224**	P		13 55 16.7	
	baz=43						
WMOK				S		13 55 41.7	
	baz=43						
WMOK	**Wichita Mounta**	**1.85**	**224**	P		13 55 16.8	
	baz=43,SNR=93						
WMOK				S		13 55 41.8	
	baz=43						
X37A	**Clayton**	**2.13**	**134**		**Pn**	**13 55 20.2**	**+0.4**
X37A				IAmb_Lg		13 55 55.6	
	comp=Z,85nm,0.8s						
X37A	**Clayton**	**2.13**	**134**	P	**Pn**	**13 55 20.5**	**+0.8**
	baz=315,SNR=11						
X37A				Sb	**Sg**	**13 55 51.0**	**-1.3**
	baz=315						
X37A	**Clayton**	**2.13**	**134**	P		13 55 20.5	
	baz=315,SNR=11						
X37A				Sb		13 55 51.0	
	baz=315						
U38A	**Gravette**	**2.33**	**81**		**Pn**	**13 55 22.8**	**+0.4**
U38A	**Gravette**	**2.33**	**81**	P	**Pn**	**13 55 23.1**	**+0.7**
	baz=262,SNR=43						
U38A	**Gravette**	**2.33**	**81**	P		13 55 23.1	
	baz=262,SNR=43						
R32A	**Long Quarter,**	**2.61**	**334**	Pn	**Pn**	**13 55 26.9**	**+0.6**
R32A	**Long Quarter,**	**2.61**	**334**	P	**Pn**	**13 55 27.2**	**+0.9**
	baz=153						
R32A	**Long Quarter,**	**2.61**	**334**	P		13 55 27.2	
	baz=153						
HHAR	**Hobbs**	**2.67**	**85**	Pn	**Pn**	**13 55 27.4**	**+0.3**
HHAR				IAmb_Lg		13 56 06.7	
	comp=Z,45nm,0.7s						
Z35A	**Perchaven, San**	**2.75**	**180**	Pn	**Pn**	**13 55 28.8**	**+0.6**
W39A	**Magazine**	**2.95**	**107**		**Pn**	**13 55 31.3**	**+0.4**
W39A				IAmb_Lg		13 56 23.4	
	comp=Z,35nm,0.8s						
W39A	**Magazine**	**2.95**	**107**	P	**Pn**	**13 55 31.3**	**+0.4**
	baz=288						
W39A	**Magazine**	**2.95**	**107**	P		13 55 31.8	
	baz=288						
W39A	**Magazine**	**2.95**	**107**	P		13 55 31.3	
	baz=288						
KSU1	**Kansas State U**	**3.04**	**9**	Pn	**Pn**	**13 55 33.4**	**+1.1**
MIAR	**Mount Ida**	**3.36**	**116**		**Pn**	**13 55 37.1**	**+0.4**
MIAR	**Mount Ida**	**3.36**	**116**	P	**Pn**	**13 55 37.0**	**+0.3**
	baz=298,SNR=18						
MIAR	**Mount Ida**	**3.36**	**116**	P		13 55 37.5	
	baz=298						
MIAR	**Mount Ida**	**3.36**	**116**	P		13 55 37.0	
	baz=298,SNR=18						
CBKS	**Cedar Bluff**	**3.37**	**324**	Pn	**Pn**	**13 55 37.4**	**+0.6**
CBKS	**Cedar Bluff**	**3.37**	**324**	Sb		13 56 29.5	
	baz=143						
Z38A	**Mt. Pleasant**	**3.38**	**146**	Pn	**Pn**	**13 55 37.0**	**+0.2**
Z38A				IAmb_Lg		13 56 38.1	
	comp=Z,42nm,0.9s						
S39A	**Bolivar**	**3.52**	**62**		**Pn**	**13 55 39.2**	**+0.5**
S39A	**Bolivar**	**3.52**	**62**	P	**Pn**	**13 55 39.7**	**+1.0**
	baz=244,SNR=12						
S39A	**Bolivar**	**3.52**	**62**	P		13 55 39.7	
	baz=244,SNR=12						
U40A	**Yellville**	**3.55**	**84**		**Pn**	**13 55 39.0**	**-0.2**
U40A	**Yellville**	**3.55**	**84**	P	**Pn**	**13 55 39.2**	**0.0**
	baz=267,SNR=21						
U40A	**Yellville**	**3.55**	**84**	P		13 55 39.2	
	baz=267						
U40A	**Yellville**	**3.55**	**84**	P		13 55 39.2	
	baz=267,SNR=21						
U40A				P		13 55 39.2	
	baz=267,SNR=21						
AMTX	**Amarillo**	**3.83**	**253**	Pn	**Pn**	**13 55 43.2**	**+0.1**
X40A	**Basin Creek Fa**	**3.94**	**113**	Pn	**Pn**	**13 55 44.9**	**+0.4**
X40A	**Basin Creek Fa**	**3.94**	**113**	P	**Pn**	**13 55 45.2**	**+0.7**
	baz=295,SNR=7.8						
X40A	**Basin Creek Fa**	**3.94**	**113**	P		13 55 45.2	
	baz=295,SNR=7.8						
X40A				P		13 55 45.2	
	baz=295,SNR=7.8						
WHTX	**Lake Whitney,**	**4.09**	**183**	Pn	**Pn**	**13 55 46.5**	**-0.2**
WHAR	**Wooly Hollow**	**4.10**	**100**	Pn	**Pn**	**13 55 46.7**	**-0.1**
MGMO	**Mountain Grove**	**4.13**	**74**	Pn	**Pn**	**13 55 47.6**	**+0.4**
MGMO				IAmb_Lg		13 56 59.4	
	comp=Z,42nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.15**	**91**	IAmb_Lg		13 57 01.4	
	comp=Z,21nm,0.7s						
W41B	**Gary Mavity, V**	**4.16**	**101**	P	**Pn**	**13 55 47.6**	**0.0**
	baz=284,SNR=12						
W41B	**Gary Mavity, V**	**4.16**	**101**	P		13 55 47.7	
	baz=284						
W41B				Sb		13 56 53.1	
	baz=284						
W41B	**Gary Mavity, V**	**4.16**	**101**	P		13 55 47.6	
	baz=284,SNR=12						
237A	**Washetta, Mont**	**4.25**	**163**	Pn	**Pn**	**13 55 48.9**	**+0.1**
237A	**Washetta, Mont**	**4.25**	**163**	S	**Sn**	**13 56 38.3**	**-0.3**
	baz=344						
237A	**Washetta, Mont**	**4.25**	**163**	S		13 56 38.3	
	baz=344						
R40A	**Maddies Statio**	**4.53**	**60**		**Pn**	**13 55 52.9**	**+0.2**
R40A				IAmb_Lg		13 57 04.6	
	comp=Z,27nm,0.8s						
P38A	**Dawn**	**4.58**	**39**	IAmb_Lg		13 57 09.9	
	comp=Z,25nm,0.7s						
N33A	**J Bar K, Exete**	**4.64**	**358**	Pn	**Pn**	**13 55 54.2**	**0.0**
N33A				IAmb_Lg		13 57 20.4	
	comp=Z,19nm,0.8s						
LCAR	**Lake Charles**	**4.92**	**88**	Pn	**Pn**	**13 55 57.4**	**-0.6**
LCAR				IAm

ISC 24 14:04:14.6±0.6, 2.72S±0.05×139.37E±0.05, h27km, n29, σ2s35/36, mb3.6/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.80**	**81**	P	**Pb**	**14 04 31.0**	**+1.0**
GENI				S	**Sn**	**14 04 43.0**	**+1.7**
SMPI	**Sarmi**	**0.98**	**317**	P	**Pn**	**14 04 32.1**	**-0.5**
SMPI				S	**Sb**	**14 04 46.2**	**+0.7**
WAMI	**Wamena**	**1.34**	**210**	P	**Pb**	**14 04 40.9**	**+1.9**
WAMI				S	**Sb**	**14 05 01.8**	**+6.1**
JAY	**Jayapura**	**1.35**	**82**	Pg	**Pn**	**14 04 37.6**	**-0.1**
	29nm,0.3s,baz=240,slow=10,SNR=65						
JAY				Lg	Lg	14 04 55.1	
	27nm,0.3s,baz=143,slow=14,SNR=7.8						
JAY	**Jayapura**	**1.35**	**82**	P	**Pn**	**14 04 37.4**	**-0.3**
JAY				S	**Sn**	**14 04 56.6**	**+1.9**
BAKI	**Biak**	**3.60**	**295**	P	**Pn**	**14 05 10.8**	**+2.2**
FAKI	**Fak Fak**	**7.12**	**268**	Pn	**Pn**	**14 05 58.0**	**+0.9**
SIJI	**Sorong**	**8.31**	**283**	Pn	**Pn**	**14 06 14.7**	**+1.3**
	2.9nm,0.3s,baz=16,slow=22,SNR=7.8						
MTN	**Manton Dam**	**12.95**	**219**	Pn	**Pn**	**14 07 16.2**	**-0.9**
SOEI	**Soe**	**16.56**	**244**	Pn	**Pn**	**14 08 04.2**	**-1.1**
SOEI				IAmb	IAmb	14 08 27.9	
	comp=Z,40nm,1.3s						
BATI	**Baumata**	**17.28**	**244**	P	**P**	**14 08 18.1**	**+2.5**
	comp=Z,3.3nm,0.3s,baz=97,slow=0.9,SNR=7.0						
WB0	**Warramunga Arr**	**17.63**	**196**		**Pn**	**14 08 16.1**	**-2.4**
WB0				IAmb	IAmb	14 08 28.1	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**17.78**	**195**		**Pn**	**14 08 17.7**	**-2.6**
WRAB	**Tennant Creek**	**17.80**	**196**		**Pn**	**14 08 17.4**	**-3.2**
WRAB				IAmb	IAmb	14 08 46.9	
	comp=Z,10nm,1.1s						
WRAB					**Sn**	**14 11 38.0**	**-0.4**
WB2	**Warramunga Arr**	**17.81**	**196**		**Pn**	**14 08 18.6**	**-2.2**
WB2				IAmb	IAmb	14 08 43.7	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**17.81**	**196**	P	**Pn**	**14 08 19.1**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=17,slow=11,SNR=14						
WRA				S	Sn	14 11 29.0	-10
	comp=Z,0.1nm,0.3s,baz=8.8,slow=23,SNR=3.0						
FITZ	**Fitzroy Crossi**	**20.37**	**220**	P	**P**	**14 08 48.5**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=63,slow=6.3,SNR=10						
FITZ				S	**S**	**14 12 28.2**	**-8.2**
	comp=Z,2.0nm,0.8s,baz=184,slow=13,SNR=1.7						
FITZ				LR	LR	14 18 00.3	
	comp=Z,69nm,18.5s,baz=68,slow=41						
FITZ	**Fitzroy Crossi**	**20.37**	**220**	P	**P**	**14 08 48.4**	**-1.0**
FITZ				IAmb	IAmb	14 09 08.1	
	comp=Z,7.2nm,1.1s						
AS31	**Alice Springs**	**21.49**	**194**	P	**P**	**14 09 00.5**	**-1.0**
ASAR	**Alice Springs**	**21.49**	**194**	P	**P**	**14 09 01.1**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=22,slow=10,SNR=52						
ASAR				S	**S**	**14 12 58.1**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=20,slow=28,SNR=2.7						
ASAR	**Alice Springs**	**21.49**	**194**	P	**P**	**14 08 59.8**	**-1.6**
STKA	**Stephens Creek**	**29.08**	**176**	P	**P**	**14 10 14.8**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=337,slow=15,SNR=1.5						
FORT	**Forrest**	**29.89**	**200**	P	**P**	**14 10 19.4**	**-0.8**
BBOO	**Buckleboo**	**30.10**	**186**	P	**P**	**14 10 19.1**	**-3.0**
MORW	**Morawa**	**34.34**	**218**	P	**P**	**14 10 58.4**	**-0.9**
MKAR	**Makanchi Array**	**70.20**	**322**	P	**P**	**14 15 26.0**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=108,slow=8.4,SNR=5.6						
MKAR	**Makanchi Array**	**70.20**	**322**	P	**P**	**14 15 25.7**	**+0.5**
VNDA	**Vanda**	**75.72**	**175**	P	**P**	**14 15 57.9**	**+0.6**
VNDA				IAmb	IAmb	14 16 19.4	
	comp=Z,3.8nm,1.5s						
ILAR	**Eielson Array**	**85.56**	**24**	P	**P**	**14 16 50.8**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=259,slow=5.2,SNR=2.2						

*IDC **24** 14:05:27.3±3.8, 12.90N×89.48W, h0km, mb3.3/3, mb1 3.8/5, mb1mx3.5/31, mbtmp3.4/5, ML3.4/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/15, Error ellipse: s-maj=54.7km s-min=39.5km az=129.0*

*SNET **24** 14:05:31.9±1.4, 12.96N×90.73W, h17km±19km, ML3.5*

*GCG **24** 14:05:33.6±1.3, 13.20N×91.18W, h126km±165km, MD3.8*

ISC 24 14:05:34.2±1.6, 13.0N±0.1×90.61W±0.05, h24km, n19, σ1s55/21, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEVE	**Cerro Verde**	**1.30**	**48**	*e*P	**Pn**	**14 05 56.1**	**-0.9**
CEVE				IAML		14 06 20.5	
	comp=Z,1μm,0.3s						
JAYA	**Jayaque - finc**	**1.33**	**58**	*e*P	**Pn**	**14 05 57.2**	**-0.3**
JAYA				*e*S	**Sb**	**14 06 16.4**	**+1.1**
JAYA				IAML		14 06 20.9	
	comp=Z,601nm,0.3s						
PCG	**Pacaya**	**1.43**	**0**	*e*P	**Pn**	**14 05 56.2**	**-2.8**
CEDA	**San Andres**	**1.45**	**54**	*e*S	**Sb**	**14 06 18.6**	**-0.2**
PMON	**Piamonte**	**1.47**	**59**	IAML		14 06 29.9	
FUG	**Fuego 3**	**1.50**	**351**	*e*P	**Pn**	**14 05 59.2**	**-0.7**
FUG				*e*P	**Pb**	**14 06 00.6**	**-1.0**
BOQS	**Boqueron**	**1.51**	**59**	*e*P	**Pn**	**14 05 59.3**	**-0.8**
NBG	**Las Nubes**	**1.65**	**9**	*e*P	**Pb**	**14 06 03.8**	**-0.3**
NBG				*e*S	**Sb**	**14 06 27.3**	**+2.8**
LFRS	**El Faro**	**1.65**	**66**	*e*P	**Pn**	**14 06 01.6**	**-0.2**
ERG	**Entre ros, C**	**1.75**	**328**	*e*P	**Pn**	**14 06 01.4**	**-1.7**
COEG	**Centro de Oper**	**1.81**	**68**	*e*P	**Pn**	**14 06 04.1**	**+0.1**
COEG				IAML		14 06 15.5	
	comp=Z,246nm,0.3s						
COEG				*e*S	**Sb**	**14 06 29.1**	**0.0**
MTO3	**Montecristo**	**1.88**	**40**	*e*P	**Pn**	**14 06 05.3**	**+0.2**
COEB	**Comit de Eme**	**2.10**	**75**	*e*S	**Sb**	**14 06 35.5**	**-1.8**
MRL	**Marmol**	**2.30**	**23**	*e*P	**Pb**	**14 06 13.2**	**-2.0**
MRL				*e*S	**Sb**	**14 06 44.2**	**+0.9**
CMIG	**Matias Romero**	**5.83**	**315**	Pn	Pn	14 07 07.9	+8.7
	comp=Z,0.5nm,0.3s,baz=115,slow=6.1,SNR=5.5						
CMIG				Sn	**Sb**	**14 08 24.8**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=282,slow=23,SNR=2.5						
CMIG				LR	LR	14 09 42.3	
	comp=Z,65nm,22.0s,baz=192,slow=38						
TEIG	**Tepich**	**7.57**	**17**	Pn	Pn	14 07 17.3	-5.8
	comp=Z,0.8nm,0.3s,baz=184,slow=15,SNR=2.3						
TEIG				Lg	Lg	14 09 21.4	
	comp=Z,0.1nm,0.3s,baz=21,slow=23,SNR=1.6						
TEIG				LR	LR	14 10 38.6	
	comp=Z,193nm,20.3s,baz=296,slow=42						
TXAR	**Lajitas Array**	**20.32**	**325**	P	Pn	14 10 11.5	+0.6
	comp=Z,0.6nm,0.7s,baz=149,slow=11,SNR=10.0						
NVAR	**Mina Array Bea**	**35.33**	**321**	P	**P**	**14 12 31.3**	**+3.3**
	comp=Z,0.5nm,0.7s,baz=124,slow=11,SNR=3.5						
YKA	**Yellowknife Ar**	**92.35**	**346**	P	**P**	**14 14 43.1**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=137,slow=7.4,SNR=5.4						

ISC 24 14:13:15.1±1.1, 45.26N±0.03×14.57E±0.06, h11km±9km, n9, σ0s62/15, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIY	**Rijeka**	**0.09**	**317**	*i* Pg	**Pg**	**14 13 17.6**	**-0.3**
RIY				E		14 13 17.8	
RIY				Sg	**Sg**	**14 13 19.9**	**+0.2**
KNDS	**Knezji Dol**	**0.30**	**334**	*i* Pg	**Pg**	**14 13 21.6**	**+0.3**
KNDS				*i* Sg	**Sb**	**14 13 27.9**	**+0.2**
GBRS	**Gornja Briga**	**0.32**	**31**	*i* Pg	**Pg**	**14 13 21.9**	**+0.3**
GBRS				*i* Sg	**Sb**	**14 13 27.4**	**-0.7**
VISS	**Visnje**	**0.58**	**19**	*i* Pg	**Pg**	**14 13 26.5**	**+0.1**
VISS				*i* Sg	**Sb**	**14 13 35.4**	**-0.1**
VISS				IAML		14 13 36.6	
	comp=Z,2.4nm,0.1s						
NVLJ	**Novalja**	**0.72**	**163**	*e*Pg	**Pg**	**14 13 27.9**	**-1.3**
NVLJ				E		14 13 28.1	
NVLJ				Sg	**Sg**	**14 13 39.3**	**+0.7**
OZLJ	**Ozalj**	**0.72**	**60**	Sg	**Sb**	**14 13 39.7**	**0.0**
OZLJ				E		14 13 39.8	
JAVS	**Javornik**	**0.73**	**331**	*i* Pg	**Pg**	**14 13 29.0**	**-0.3**
DUGI	**Dugi Otok**	**1.31**	**164**	*i* Pg	**Pg**	**14 13 41.1**	**+0.8**
DUGI				E		14 13 41.3	
DUGI				Sg	**Sb**	**14 13 57.2**	**+0.7**
ZIRJ	**Zirje**	**1.78**	**154**	*e*Pn	**Pb**	**14 13 47.4**	**-0.3**
ZIRJ				E		14 13 47.5	

*TAP **24** 14:14:19.8, 24.51N×122.22E, h50km, ML2.9, B*

*JMA **24** 14:14:19.1±0.2, 24.45N×122.25E, h62km±4km, M2.3*

ISC 24 14:14:19.2±1.1, 24.47N±0.03×122.28E±0.02, h26km±12km, n89, σ0s72/131, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.42**	**289**	P	**Pn**	**14 14 29.5**	**0.0**
	baz=291						
TWC				*e*S	**Sn**	**14 14 36.3**	**0.0**
	baz=291						
EWUT	**Wuta**	**0.46**	**267**	P	**Pn**	**14 14 30.3**	**+0.2**
	baz=262						
EWUT				S	**Sn**	**14 14 37.9**	**+0.5**
	baz=262						
EGS		**0.49**	**320**	*e*P	**Pn**	**14 14 30.4**	**-0.1**
	baz=322						
EGS				*e*S	**Sn**	**14 14 38.3**	**+0.2**
	baz=322						
ENA	**Nanau**	**0.49**	**265**	P	**Pn**	**14 14 30.9**	**+0.4**
	baz=256						
ENA				*e*S	**Sn**	**14 14 39.4**	**+1.1**
	baz=256						
NDS	**Dongshan**	**0.54**	**287**	P	**Pn**	**14 14 31.1**	**-0.2**
	baz=293						
NDS				S	**Sn**	**14 14 39.3**	**-0.1**
	baz=293						
NTC	**Toucheng**	**0.56**	**313**	P	**Pn**	**14 14 31.2**	**-0.3**
	baz=323						
NTC				*e*S	**Sn**	**14 14 39.3**	**-0.6**
	baz=323						
ILA	**Ilan**	**0.57**	**301**	*e*S	**Sn**	**14 14 40.3**	**+0.2**
	baz=309						
TWB1	**Santiao Chiao**	**0.60**	**334**	P	**Pb**	**14 14 31.4**	**+0.3**
	baz=326						
TWB1				*e*S	**Sb**	**14 14 39.5**	**+0.3**
	baz=326						
JYNG	**Yonagunijimaku**	**0.61**	**92**	P	**Pn**	**14 14 32.7**	**+0.6**
JYNG				S	**Sn**	**14 14 42.1**	**+1.0**
TWE	**Neicheng**	**0.61**	**294**	P	**Pn**	**14 14 32.0**	**-0.2**
	baz=298						
TIPB	**Shuangxi**	**0.65**	**320**	P	**Pb**	**14 14 32.2**	**+0.2**
	baz=329						
TIPB				*e*S	**Sb**	**14 14 41.3**	**+0.7**
	baz=329						
YOJ	**Yonaguni jima**	**0.67**	**91**	*e*P	**Pn**	**14 14 34.2**	**+1.3**
	baz=85						
ENTT	**Nioudou**	**0.67**	**285**	P	**Pn**	**14 14 33.2**	**+0.2**
	baz=285						
NACB	**Ninganchiao**	**0.69**	**245**	P	**Pb**	**14 14 33.1**	**+0.4**
	baz=230						
NDT	**Datong Townshi**	**0.71**	**281**	*e*P	**Pn**	**14 14 34.0**	**+0.5**
	baz=281						
NDT				S	**Sn**	**14 14 43.5**	**-0.2**
	baz=281						
TWD	**Chiawan**	**0.74**	**238**	*e*P	**Pb**	**14 14 33.8**	**+0.4**
	baz=223						
TWD				*e*S	**Sn**	**14 14 44.3**	**0.0**
	baz=223						
WFSB	**Wu-fen Shan**	**0.75**	**323**	P	**Pb**	**14 14 33.7**	**0.0**
	baz=324						
WFSB				S	**Sb**	**14 14 43.9**	**+0.4**
	baz=324						
NWLT	**Wulai**	**0.77**	**293**	P	**Pn**	**14 14 34.3**	**-0.1**
	baz=298						
NWLT				S	**Sn**	**14 14 44.8**	**-0.4**
	baz=298						
ETLH	**Xiulin Townshi**	**0.78**	**250**	P	**Pb**	**14 14 34.4**	**+0.2**
	baz=237						
ETLH				*e*S	**Sn**	**14 14 45.3**	**-0.1**
	baz=237						
TWA	**Mucha**	**0.81**	**309**	*e*P	**Pb**	**14 14 34.6**	**-0.1**
	baz=319						
TWA				S	**Sb**	**14 14 45.1**	**-0.2**
	baz=319						
TNOU	**National Taiwa**	**0.82**	**326**	*e*P	**Pb**	**14 14 34.4**	**-0.4**
	baz=327						
NNSB	**Datong**	**0.82**	**267**	*e*P	**Pn**	**14 14 35.2**	**+0.1**
	baz=254						
NNSH	**Datong**	**0.82**	**267**	*e*P	**Pn**	**14 14 35.3**	**+0.1**
	baz=255						
NNSH				S	**Sb**	**14 14 46.1**	**+0.5**
	baz=255						
NNS	**Nan Shan**	**0.83**	**268**	*e*P	**Pn**	**14 14 35.5**	**+0.2**
	baz=255						
NHDH	**Xindian Distri**	**0.84**	**306**	P	**Pb**	**14 14 35.1**	**-0.2**
	baz=314						
NHDH				*e*S	**Sb**	**14 14 46.0**	**-0.1**
	baz=314						
YHNB	**Yeheng**	**0.85**	**284**	P	**Pn**	**14 14 35.8**	**+0.2**
	baz=282						
YHNB				S	**Sb**	**14 14 46.7**	**+0.3**
	baz=282						
NSK	**Sanguang**	**0.86**	**284**	*e*P	**Pn**	**14 14 36.1**	**+0.3**
	baz=282						
NSK				*e*S	**Sb**	**14 14 47.2**	**+0.4**
	baz=282						
TATO	**Taipei**	**0.88**	**305**	P	**Pb**	**14 14 35.3**	**-0.5**
	baz=315						
TATO				S	**Sb**	**14 14 46.9**	**-0.3**
	baz=315						
YM01	**YM01**	**0.93**	**316**	*e*P	**Pb**	**14 14 35.0**	**-1.8**
	baz=317						
YM10	**YM10**	**0.94**	**316**	P	**Pb**	**14 14 36.2**	**-0.8**
	baz=317						
YM10				*e*S	**Sb**	**14 14 48.4**	**-0.7**
	baz=317						
YM11	**YM11**	**0.94**	**317**	*e*P	**Pb**	**14 14 36.2**	**-0.8**
	baz=318						
YM08	**YM08**	**0.95**	**319**	*e*P	**Pb**	**14 14 35.9**	**-1.2**
	baz=319						
YM04	**YM04**	**0.96**	**315**	P	**Pb**	**14 14 36.3**	**-0.9**
	baz=316						
YM04				*e*S	**Sb**	**14 14 48.5**	**-1.0**
	baz=316						
FUSS	**Fushou**	**0.97**	**257**	P	**Pb**	**14 14 37.4**	**-0.2**
	baz=254						
FUSS				S	**Sb**	**14 14 50.3**	**+0.2**
	baz=254						
YM03	**YM03**	**0.97**	**316**	*e*P	**Pb**	**14 14 36.4**	**-1.1**
	baz=317						
WHF	**Hehuan Shan**	**0.98**	**251**	*e*P	**Pb**	**14 14 37.6**	**-0.3**
	baz=247						
ANP	**Anpu**	**0.99**	**316**	*e*P	**Pb**	**14 14 36.8**	**-1.0**
	baz=316						
TWS1	**Kuangyinshan**	**1.00**	**309**	P	**Pb**	**14 14 37.2**	**-0.8**
	baz=319						
TWS1				S	**Sb**	**14 14 50.1**	**-0.7**
	baz=319						
ESL	**Shilin**	**1.01**	**230**	P	**Pb**	**14 14 37.2**	**-0.9**
	baz=218						
TWT	**Tachien**	**1.03**	**258**	*e*P	**Pn**	**14 14 38.9**	**+0.8**
	baz=247						
TWT				*e*S	**Sb**	**14 14 51.6**	**-0.1**
	baz=247						
TDCB	**Techi**	**1.05**	**258**	*e*P	**Pn**	**14 14 38.7**	**+0.4**
	baz=248						
TDCB				*e*S	**Sb**	**14 14 51.7**	**-0.4**
	baz=248						
CHGB	**Renai**	**1.09**	**248**	P	**Pn**	**14 14 39.1**	**+0.1**
	baz=234						
CHGB				*e*S	**Sb**	**14 14 52.9**	**-0.5**
	baz=234						
EGFH	**Guangfu**	**1.12**	**224**	*e*P	**Pn**	**14 14 38.8**	**-0.3**
	baz=233						
EGFH				*e*S	**Sb**	**14 14 52.9**	**-1.1**
	baz=233						
LIOB	**Emei**	**1.16**	**279**	*e*P	**Pb**	**14 14 40.5**	**-0.2**
	baz=277						
NSTT	**Nanjuang**	**1.18**	**278**	*e*P	**Pb**	**14 14 40.9**	**0.0**
	baz=289						
NSTT				*e*S	**Sb**	**14 14 55.6**	**-0.1**
	baz=289						
WHP	**Taichung City**	**1.23**	**261**	*e*P	**Pb**	**14 14 41.5**	**-0.3**
	baz=253						
WHP				*e*S	**Sn**	**14 14 56.7**	**0.0**
	baz=253						
HGSD	**Ruisui**	**1.25**	**219**	*e*P	**Pn**	**14 14 40.5**	**-0.6**
	baz=209						
VWDT	**VWDT**	**1.26**	**236**	*e*P	**Pn**	**14 14 41.4**	**+0.3**
	baz=224						
VWDT				*e*S	**Sn**	**14 14 56.6**	**-0.7**
	baz=224						
WPL	**Puli Township**	**1.29**	**250**	*e*P	**Pn**	**14 14 42.0**	**+0.4**
	baz=240						
EHY	**Hungye**	**1.30**	**223**	*e*P	**Pn**	**14 14 40.8**	**-0.9**
	baz=229						
DPDB	**Guoxing**	**1.31**	**251**	*e*P	**Pn**	**14 14 42.0**	**+0.2**
	baz=242						
WCS	**Beigang Elemen**	**1.32**	**252**	*e*P	**Pn**	**14 14 42.4**	**+0.5**
	baz=242						
WCS				*e*S	**Sn**	**14 14 58.9**	**+0.3**
	baz=242						
IRIF	**Iriomote-Funau**	**1.33**	**96**	P	**Pn**	**14 14 42.2**	**+0.1**
IRIF				S	**Sn**	**14 14 58.9**	**0.0**
TWQ1	**Liyutan**	**1.38**	**265**	*e*P	**Pb**	**14 14 45.6**	**+1.2**
	baz=263						
SMLT	**Sun Moon Lake**	**1.39**	**245**	*e*P	**Pn**	**14 14 43.7**	**+0.6**
	baz=234						
SSLB	**Suanglung**	**1.39**	**241**	*e*P	**Pn**	**14 14 43.0**	**+0.1**
	baz=229						
YULB	**Yu-li**	**1.40**	**220**	*e*P	**Pn**	**14 14 42.0**	**-1.1**
	baz=218						
TYC	**Yuchr**	**1.42**	**247**	*e*P	**Pn**	**14 14 43.9**	**+0.6**
	baz=235						
EYUL	**Yuli**	**1.42**	**218**	*e*P	**Pn**	**14 14 43.4**	**0.0**
	baz=216						
EYUL				*e*S	**Sn**	**14 15 00.9**	**-0.4**
	baz=216						
TWF1	**Yuli**	**1.43**	**219**	*e*P	**Pn**	**14 14 42.5**	**-1.1**
	baz=228						
FULB	**Fuli**	**1.56**	**216**	*e*P	**Pn**	**14 14 44.7**	**-0.6**
	baz=224						
WJS	**Zhushan**	**1.56**	**246**	*e*P	**Pb**	**14 14 46.7**	**-0.7**
	baz=234						
WJS				*e*S	**Sn**	**14 15 05.7**	**+1.1**
	baz=234						
YUS	**Yu-Shan**	**1.56**	**231**	*e*P	**Pn**	**14 14 45.9**	**+0.2**
	baz=220						
YUS				*e*S	**Sn**	**14 15 04.8**	**-0.6**
	baz=220						
JKRS	**Kuro-shima**	**1.59**	**98**	P	**Pn**	**14 14 46.4**	**+0.7**
JKRS				S	**Sn**	**14 15 06.0**	**+0.5**
ALS	**Alishan**	**1.65**	**235**	*e*P	**Pn**	**14 14 47.4**	**+0.5**
	baz=233						
ALS				*e*S	**Sn**	**14 15 07.4**	**0.0**
	baz=233						
JIJ	**Ishigaki jima**	**1.70**	**93**	P	**Pn**	**14 14 47.2**	**0.0**
JIJ				S	**Sn**	**14 15 07.5**	**-0.6**
CHN5	**Tsauling**	**1.70**	**240**	*e*P	**Pn**	**14 14 48.4**	**+1.1**
	baz=227						
ELDTW	**Lidau**	**1.72**	**222**	*e*P	**Pn**	**14 14 46.9**	**-0.8**
	baz=213						
EDH	**Donghe**	**1.74**	**211**	*e*P	**Pn**	**14 14 46.7**	**-1.0**
	baz=202						
WDLH	**Douliu**	**1.77**	**244**	*e*P	**Pn**	**14 14 49.8**	**+1.6**
	baz=256						
JISG	**Ishigakijimahi**	**1.85**	**86**	P	**Pn**	**14 14 49.4**	**+0.1**
JISG				*e*S	**Sn**	**14 15 10.9**	**-1.0**
LONT	**Longtian**	**1.88**	**214**	*e*P	**Pn**	**14 14 48.7**	**-1.0**
	baz=213						
STYH	**Taoyuan**	**1.89**	**227**	P	**Pn**	**14 14 50.4**	**+0.6**
	baz=218						
STYH				*e*S	**Sn**	**14 15 12.8**	**0.0**
	baz=218						
CHN4	**Tsaushan**	**1.91**	**234**	*e*P	**Pn**	**14 14 51.4**	**+1.4**
	baz=233						
STYT	**Tauyuan**	**1.91**	**227**	*e*P	**Pn**	**14 14 50.9**	**+0.7**
	baz=217						
STYT				*e*S	**Sn**	**14 15 13.3**	**0.0**
	baz=217						
TPUB	**Ta-pu**	**1.91**	**233**	*e*P	**Pn**	**14 14 50.9**	**+0.8**
	baz=221						
LDUT	**Ludao**	**1.94**	**203**	*e*P	**Pn**	**14 14 48.9**	**-1.6**
	baz=201						
WTP	**Ta-pu**	**1.95**	**232**	*e*P	**Pn**	**14 14 51.5**	**+0.8**
	baz=230						
TWGBT	**Beinan**	**1.98**	**214**	*e*P	**Pn**	**14 14 50.7**	**-0.4**
	baz=212						
TWG	**Pinlang**	**1.98**	**214**	*e*P	**Pn**	**14 14 51.5**	**+0.4**
	baz=212						
TWK	**Hsinying**	**2.03**	**234**	*e*P	**Pn**	**14 14 52.9**	**+1.1**
	baz=232						
CHN1	**Nanshi**	**2.05**	**232**	*e*P	**Pn**	**14 14 53.6**	**+1.6**
	baz=230						
SGST	**Jiashian**	**2.08**	**229**	*e*P	**Pn**	**14 14 52.9**	**+0.4**
	baz=217						
SLGT	**Liugui**	**2.10**	**226**	*e*P	**Pn**	**14 14 53.9**	**+1.2**
	baz=224						
SCST	**Cishan**	**2.27**	**226**	*e*P	**Pn**	**14 14 57.5**	**+2.4**
	baz=236						
SSD	**Sandimen**	**2.29**	**222**	*e*P	**Pn**	**14 14 56.4**	**+1.1**
	baz=220						
TSMG	**Majia**	**2.31**	**221**	*e*P	**Pn**	**14 14 56.8**	**+1.2**
	baz=210						
MASBT	**Mashibuluo**	**2.39**	**220**	*e*P	**Pn**	**14 14 57.6**	**+0.9**
	baz=211						
EAST	**Anshuo**	**2.46**	**213**	*e*P	**Pn**	**14 14 59.3**	**+1.6**
	baz=211						

*KRSC **24** 14:22:38.7±1.0, 53.55N×161.94E, h40km±17km, ML4.1*

*IDC **24** 14:22:46.3±6.7, 53.96N×161.19E, h54km±40km, mb3.4/9, mb1 3.6/12, mb1mx3.4/52, mbtmp3.7/12, ML3.3/3, MS2.5/1, Ms1 2.5/1, ms1mx2.3/35, Error ellipse: s-maj=81.8km s-min=24.6km az=112.0*

ISC 24 14:22:40.7±1.4, 53.54N±0.05×161.97E±0.06, h42km±14km, n50, σ1s27/65, mb3.6/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.03**	**352**	*e*P	**Pn**	**14 22 57.2**	**-1.4**
MKZ				*e*S	**Sn**	**14 23 10.5**	**-1.4**
SPN	**Mys Shipunski**	**1.25**	**250**	*e*P	**Pn**	**14 23 00.8**	**-0.9**
SPN				*e*S	**Sn**	**14 23 16.3**	**-1.0**
KII	**Karymskiy**	**1.58**	**289**	*e*P	**Pn**	**14 23 05.2**	**-1.1**
NLC	**Nalytchevo**	**1.62**	**258**	*e*P	**Pn**	**14 23 05.7**	**-1.0**
NLC				*e*S	**Sn**	**14 23 25.4**	**-0.9**
KZV	**Kizimen**	**1.86**	**329**	*e*P	**Pn**	**14 23 09.9**	**-0.3**
KZV				*e*S	**Sn**	**14 23 32.2**	**-0.3**
SDLR	**Sedlovina**	**1.87**	**263**	*e*P	**Pn**	**14 23 09.7**	**-0.6**
TUMD	**Tumrok D**	**1.91**	**332**	*e*P	**Pn**	**14 23 09.9**	**-0.8**
TUMD				S	**Sn**	**14 23 32.7**	**-0.8**
UGLR	**Uglovaya**	**1.92**	**261**	*i* P	**Pn**	**14 23 10.8**	**-0.1**
UGLR				*e*S	**Sn**	**14 23 33.7**	**-0.1**
SMAR	**Somma**	**1.92**	**263**	*i* P	**Pn**	**14 23 10.6**	**-0.5**
KRER	**Koryakskii**	**1.94**	**264**	*e*P	**Pn**	**14 23 11.3**	**-0.1**
KRER				*e*S	**Sn**	**14 23 34.6**	**-0.1**
AVH	**Avacha**	**1.96**	**263**	*i* P	**Pn**	**14 23 11.4**	**0.0**
KRX	**Arik**	**2.00**	**266**	*e*P	**Pn**	**14 23 11.4**	**-0.7**
KRX				*e*S	**Sn**	**14 23 34.7**	**-1.2**
DALK	**Dalny**	**2.00**	**257**	*e*P	**Pn**	**14 23 11.7**	**-0.2**
DALK				S	**Sn**	**14 23 35.1**	**-0.6**
KOK	**Koryaka**	**2.01**	**264**	*e*P	**

0.7nm,0.5s,baz=125,slow=13,SNR=2.1
MJAR Matsushiro Arr 23.71 234 P **P 14 27 51.6 +3.0**
3.8nm,0.9s,baz=16,slow=12,SNR=4.4
KSRS Korea Array 28.43 249 P **P 14 28 32.5 +1.2**
0.7nm,0.6s,baz=40,slow=9.8,SNR=2.4
H11N2 WAKE ISLAND Hy 33.96 172 T T 15 06 43.7
baz=354,slow=76
H11N3 WAKE ISLAND Hy 33.97 172 T T 15 06 46.0
baz=354,slow=76
H11N1 WAKE ISLAND Hy 33.98 172 T T 15 06 45.6
baz=354,slow=76
SONM Songino Array 34.89 284 P **P 14 29 26.8 -1.3**
0.2nm,0.7s,baz=77,slow=5.7,SNR=1.7
MKAR Makanchi Array 48.97 296 P **P 14 31 21.3 -1.4**
0.2nm,0.5s,baz=55,slow=6.5,SNR=4.6
CMAR Chiang Mai Arr 59.38 259 P P 14 32 41.7 +3.0
1.2nm,0.7s,baz=24,slow=6.9,SNR=9.9
FINES FINESS Array B 60.15 337 P **P 14 32 44.0 +0.6**
1.5nm,0.7s,baz=23,slow=7.5,SNR=1.7
NOA NORSAR Array B 63.42 345 P **P 14 33 06.6 +1.1**
0.4nm,0.7s,baz=22,slow=2.9,SNR=1.8
AKASG Malin Array Be 68.80 330 P **P 14 33 39.5 -0.6**
0.8nm,0.4s,baz=29,slow=6.4,SNR=4.3

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*IDC **24** 14:37:35.2±5.1,6.˚19N×126.˚88E,h86km±42km,mb3.2/4, mb1 3.4/4,mb1mx3.1/33,mbtmp3.5/4, Error ellipse: s-maj=95.6km s-min=22.0km az=65.0*
*MAN **24** 14:37:44.2,6.˚30N×125.˚76E,h13km,mb4.4, ML3.2, MS2.9*
ISC 24 14:37:36.6±1.2,5.72N±0.09×126.05E±0.10,h75km±11km, n9,σ1§36/14,mb3.2/4,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.51**	**319**	*eP*	**Pn**	**14 37 50.4**	**+0.4**
DDMP				*eS*	**Sn**	**14 37 58.5**	**-1.4**
MATI	**Mati**	**1.24**	**10**	*eP*	**Pn**	**14 37 58.6**	**+0.2**
MATI				*eS*	**Sn**	**14 38 14.2**	**-0.5**
DAV	**Davao City (W)**	**1.42**	**341**	P	**Pn**	**14 38 01.2**	**+0.4**
	39nm,0.3s,baz=77,slow=19,SNR=1.5						
DAV				S	**Sn**	**14 38 21.4**	**+2.5**
	82nm,0.3s,baz=182,slow=22,SNR=2.3						
SKMP	**Bagumbayan, Su**	**1.69**	**298**	*eP*	**Pn**	**14 38 05.3**	**+1.0**
SKMP				*eS*	**Sn**	**14 38 24.5**	**-0.8**
CGP	**Cagayan de Oro**	**3.04**	**334**	*eP*	**Pn**	**14 38 24.0**	**+1.7**
CGP				*eS*	**Sn**	**14 38 56.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**23.66**	**181**	P	**P**	**14 42 42.0**	**+0.6**
	1.6nm,0.7s,baz=355,slow=8.1,SNR=5.7						
WRA	**Warramunga Arr**	**26.77**	**162**	P	**P**	**14 43 09.8**	**+0.3**
	0.2nm,0.3s,baz=346,slow=10,SNR=2.0						
ASAR	**Alice Springs**	**30.19**	**166**	P	**P**	**14 43 40.6**	**+0.6**
	0.2nm,0.4s,baz=350,slow=7.4,SNR=7.5						
MKAR	**Makanchi Array**	**55.55**	**325**	P	**P**	**14 47 02.2**	**-2.0**
	0.1nm,0.4s,baz=112,slow=8.6,SNR=4.1						

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*BJI **24** 14:50:26.9±0.0,1.˚84N×126.˚75E,h62km,mB5.0/47, mb4.9/71,Ms4.6/53,Ms7 4.3/51*
*MOS **24** 14:50:27.1±1.1,2.˚04N×126.˚54E,h38km,mb5.4/71, MS4.5/4, Error ellipse: s-maj=7.7km s-min=4.3km az=113.6*
*IDC **24** 14:50:29.7±1.3,2.˚01N×126.˚58E,h45km±11km,mb4.8/36, mb1 4.8/39,mb1mx4.8/43,mbtmp5.0/39,ML4.9/3, MS4.1/31, Ms1 4.1/31,ms1mx4.0/49, Error ellipse: s-maj=11.0km s-min=6.5km az=76.0*
*DJA **24** 14:50:30.6±0.2,2.˚N±2.˚×12.˚7E±.˚, h62km±2km, M5.1/97, mb5.4/97,mB5.6/56,MLv5.4/18,Mw(mB)5.1/56, MwMwp5.0/12,Mwp5.3/12*
*NEIC **24** 14:50:30.6±1.7,2.˚06N±0.˚06×126.˚62E±0.˚06, h63km±4km, mb5.2/179, Error ellipse: s-maj=9.5km s-min=8.2km az=67.0*
*KLM **24** 14:50:31,2.˚00N×126.˚75E,h56km,mb5.3*
*GCMT **24** 14:50:31.6±0.1,2.˚20N±0.˚01×126.˚61E±0.˚01,h36km, MW5.3/120,Moment Tensor Solution. s101,c178; s120,c199; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; Mrr0.77±.02; Mθθ0.19±.01; Mϕϕ-0.96±.02; Mrθ-0.19±.02; Mθϕ-0.52±.01; Mϕr-0.33±.02; Best double couple: Mo1.03700×10^{17} NP1:ϕ9.13.00000°,δ35.00000°, λ78.00000°. NP2:ϕ207.00000°,δ56.00000°,λ98.00000°. Principal axes: T 0.8450, Plg77.0000°, Azm145.0000°; N 0.3840, Plg7.0000°, Azm23.0000°; P -1.2290, Plg11.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 14:50:30.4±0.4,2.04N±0.03×126.62E±0.04,h56km±3km, h56km:pP-P,n688,σ1§38/737,mb5.2/224,MS4.2/52, 23C-16D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.46**	**149**	Pn	**Pn**	**14 50 53.3**	**-1.2**
TNTI	**Ternate**	**1.46**	**149**	P	**Pn**	**14 50 53.2**	**-1.2**
SGSI	**Sangihe**	**1.97**	**326**	P	**Pn**	**14 51 00.1**	**-1.2**
SGSI				S	**Sn**	**14 51 25.9**	**+1.0**
KMSI	**Cibinong**	**3.01**	**241**	P	**Pn**	**14 51 18.0**	**+2.4**
GTOI	**Gorontalo**	**3.86**	**249**	P	**Pn**	**14 51 28.9**	**+1.6**
SANI	**Sanana**	**4.11**	**189**	P	**Pn**	**14 51 30.6**	**-0.1**
DDMP	**Don Marcelino,**	**4.14**	**347**	*eP*	**Pn**	**14 51 29.9**	**-1.3**
MATI	**Mati**	**4.89**	**356**	*eP*	**Pn**	**14 51 43.8**	**+2.3**
SKMP	**Bagumbayan, Su**	**4.91**	**335**	*eP*	**Pn**	**14 51 41.9**	**+0.2**
LUWI	**Luwuk**	**4.91**	**232**	Pn	**Pn**	**14 51 43.3**	**+1.6**
LUWI	**Luwuk**	**4.91**	**232**	P	**Pn**	**14 51 43.8**	**+2.1**
	17nm7µm17µm2µm,0.7s						
MRSI	**Marisa**	**4.92**	**252**	P	**Pn**	**14 51 44.0**	**+2.1**
	6.0nm8µm18µm1µm,0.5s						
DAV	**Davao City (W)**	**5.11**	**348**	P	**Pn**	**14 51 45.7**	**+1.3**
	70nm,0.3s,baz=253,slow=17,SNR=2.2						
DAV				S	**Sn**	**14 52 45.5**	**+3.4**
	85nm,0.3s,baz=180,slow=20,SNR=1.6						
KCP	**Kidapawan**	**5.17**	**343**	*i*P	**Pn**	**14 51 45.1**	**-0.2**
NLAI	**Namlea**	**5.26**	**175**	P	**Pn**	**14 51 47.4**	**+0.9**
	1.5nm5µm355nm,0.7s						
SWI	**Sorong**	**5.46**	**122**	P	**Pn**	**14 51 48.1**	**-1.1**
	0.9nm12µm3µm217nm,0.9s						
SIJI	**Sorong**	**5.47**	**122**	P	**Pn**	**14 51 49.4**	**0.0**
	19nm,0.3s,baz=335,slow=20,SNR=46						
SIJI				LR	LR	14 54 24.8	
	comp=Z,9µm,20.6s,baz=298,slow=43						
APSI	**Ampana**	**5.77**	**240**	P	**Pn**	**14 51 55.8**	**+2.4**
	6.2nm4µm14µm2µm,0.7s						
TOLI2	**Tolitoli**	**5.91**	**261**	Pn	**Pn**	**14 51 54.8**	**-0.5**
PAGZ	**Pagadian**	**6.61**	**331**	*eP*	**Pn**	**14 52 04.6**	**-0.4**
ZCP	**Zamboanga City**	**6.64**	**317**	*i*P	**Pn**	**14 52 05.1**	**-0.3**
ZCP				*i* S	**Sn**	**14 53 17.4**	**-2.4**
CGP	**Cagayan de Oro**	**6.66**	**343**	*i*P	**Pn**	**14 52 08.1**	**+2.5**
BUTP	**Butuan**	**6.96**	**352**	*eP*	**Pn**	**14 52 10.7**	**+0.9**
BNDI	**Bandanaira**	**7.30**	**153**	P	**Pn**	**14 52 14.9**	**+0.5**
	2.3nm6µm9µm514nm,1.2s						
FAKI	**Fak Fak**	**7.48**	**131**	Pn	**Pn**	**14 52 15.7**	**-1.2**
FAKI	**Fak Fak**	**7.48**	**131**	P	**Pn**	**14 52 17.0**	**+0.1**
	0.8nm7µm2µm193nm,1.1s						
GLSP	**General Luna,**	**7.71**	**356**	*eP*	**Pn**	**14 52 20.3**	**+0.2**
MSLP	**Maasin**	**8.23**	**348**	*eP*	**Pn**	**14 52 30.1**	**+2.9**
TTSI	**Tana Toraja**	**8.46**	**233**	P	**Pn**	**14 52 31.8**	**+1.4**
	4µm3µm340nm,0.8s						
MYLDM	**Lahad Datu**	**8.68**	**291**	Pn	**Pn**	**14 52 34.4**	**+1.1**
CNOP	**Candoni, Negro**	**8.69**	**333**	*eP*	**Pn**	**14 52 34.6**	**+1.1**
BNSI	**Bone**	**9.12**	**225**	P	**Pn**	**14 52 40.9**	**+1.5**
	193µm2µm218nm,0.7s						
BKSI	**Bulukumba**	**9.77**	**222**	P	**Pn**	**14 52 49.8**	**+1.5**
	2µm161nm,0.8s						
KAPI	**Kappang**	**9.80**	**224**	P	**Pn**	**14 52 47.6**	**-1.1**
	12nm,0.3s,baz=3.1,slow=1.9,SNR=16						
KAPI				S	**Sn**	**14 54 38.5**	**+1.1**
	4.0nm,0.3s,baz=199,slow=21,SNR=1.5						
KAPI				LR	LR	14 57 23.4	
	comp=Z,1µm,18.6s,baz=69,slow=42						
KAPI	**Kappang**	**9.80**	**224**	P	**Pn**	**14 52 48.0**	**-0.7**
KAPI	**Kappang**	**9.80**	**224**	Pn	**Pn**	**14 52 48.0**	**-0.7**
BAKI	**Biak**	**10.02**	**109**	P	**Pn**	**14 52 53.4**	**+1.8**
	12µm994nm,1.4s						
SRPI	**Serui, Papua**	**10.37**	**112**	P	**Pn**	**14 52 57.5**	**+0.9**
	209nm,1.4s						
SPMM	**Sapulut**	**10.47**	**285**	P	**Pn**	**14 53 01.0**	**+3.0**
SAUI	**Saumlaki**	**10.99**	**155**	Pn	**Pn**	**14 53 04.2**	**-0.8**
SAUI	**Saumlaki**	**10.99**	**155**	P	**Pn**	**14 53 05.2**	**+0.2**
	291nm,0.8s						
BATP	**Bataraza**	**11.05**	**308**	*eP*	**Pn**	**14 53 02.1**	**-3.7**
KKM	**Kota Kinabalu**	**11.11**	**291**	Pn	**Pn**	**14 53 07.0**	**+0.3**
MMRI	**Maumere**	**11.46**	**202**	P	**Pn**	**14 53 11.7**	**+0.2**
	141nm,0.8s						
ENPP	**El Nido**	**11.57**	**322**	*eP*	**Pn**	**14 53 13.6**	**+0.7**
BUSP	**Coron**	**11.77**	**328**	*eP*	Pn	14 53 25.4	+10
EDFI	**Ende, Flores**	**11.79**	**205**	P	**Pn**	**14 53 17.3**	**+1.4**
	954nm97nm,0.7s						
SOEI	**Soe**	**11.95**	**191**	Pn	**Pn**	**14 53 21.4**	**+3.3**
SOEI	**Soe**	**11.95**	**191**	P	**Pn**	**14 53 22.0**	**+3.9**
	3µm377nm,0.8s						
MTKI	**Muara Teweh, K**	**12.09**	**256**	P	**Pn**	**14 53 22.4**	**+2.4**
	2µm3µm48nm,0.8s						
BATI	**Baumata**	**12.51**	**194**	P	**Pn**	**14 53 30.3**	**+4.5**
	9.8nm,0.3s,baz=356,slow=2.2,SNR=21						
BATI				LR	LR	14 59 12.8	
	comp=Z,539nm,21.4s,baz=6.5,slow=42						
BATI	**Baumata**	**12.51**	**194**	P	**Pn**	**14 53 28.2**	**+2.4**
	1µm140nm,0.9s						
JCNP	**Jose Panganiba**	**12.78**	**343**	*eP*	**Pn**	**14 53 30.9**	**+1.5**
BBKI	**Banjar Baru**	**12.98**	**245**	P	**Pn**	**14 53 34.9**	**+2.8**
	1µm72nm,0.8s						
LQP	**Lukban**	**13.01**	**338**	*eP*	**Pn**	**14 53 35.2**	**+2.5**
WSI	**Waingapu**	**13.22**	**208**	P	**Pn**	**14 53 38.7**	**+3.2**
	5µm284nm,0.4s						
BASI	**Baing, Sumba**	**13.58**	**206**	P	**Pn**	**14 53 42.0**	**+1.7**
	3µm188nm,1.0s						
PLAI	**Plampang**	**13.93**	**219**	P	**Pn**	**14 53 47.2**	**+2.1**
	4µm310nm,0.9s						
GENI	**Genyem**	**14.31**	**109**	P	**Pn**	**14 53 51.5**	**+1.4**
	4µm8µm749nm,1.2s						
SBUM	**Sibu**	**14.39**	**272**	P	**P**	**14 53 54.5**	**-2.2**
SBUM	**Sibu**	**14.39**	**272**	P	**P**	**14 53 55.0**	**-1.6**
TWSI	**Taliwang, Sumb**	**14.45**	**222**	P	**Pn**	**14 53 54.1**	**+2.2**
	3µm397nm,0.9s						
JAY	**Jayapura**	**14.79**	**108**	P	**P**	**14 54 01.6**	**+0.5**
	4.6nm,0.3s,baz=266,slow=7.3,SNR=34						
JAY				LR	LR	14 59 03.4	
	comp=Z,2µm,21.9s,baz=300,slow=35						
JAY	**Jayapura**	**14.79**	**108**	P	**Pn**	**14 53 57.4**	**+0.9**
	871nm105nm,0.9s						
SRBI	**Singaraja**	**15.18**	**228**	P	**Pn**	**14 54 01.6**	**+0.2**
	2µm192nm,0.7s						
SMPP	**Sam Manuel, Pa**	**15.20**	**338**	*eP*	**P**	**14 54 03.6**	**-2.0**
STKI	**Sintang**	**15.26**	**263**	P	**P**	**14 54 05.7**	**-0.6**
	11µm46nm,0.9s						
KMMI	**Kalianget**	**15.52**	**234**	P	**P**	**14 54 08.0**	**-1.2**
	4µm414nm,0.8s						
CAUP	**Cauayan**	**15.55**	**343**	*eP*	**Pn**	**14 54 06.0**	**-0.1**
DNP	**Denpasar**	**15.57**	**227**	P	**Pn**	**14 54 07.9**	**+1.4**
	13µm908nm,0.9s						
PBKI	**Pangkalan Bun**	**15.67**	**253**	P	**Pn**	**14 54 07.6**	**-0.1**
	2µm135nm,0.9s						
KDU	**Kakadu**	**15.74**	**158**	P	**Pn**	**14 54 06.6**	**-2.0**
	baz=16,SNR=149						
ABJI	**Asem Bagus**	**15.75**	**232**	P	**P**	**14 54 10.4**	**-1.3**
	160nm,0.8s						
JAGI	**Jajag, Banyuwa**	**16.23**	**230**	P	**P**	**14 54 17.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**16.23**	**230**	P	**P**	**14 54 17.3**	**+0.2**
	3µm341nm,1.1s						
KSM	**Kuching**	**16.31**	**268**	P	**P**	**14 54 19.0**	**+1.1**
KSM	**Kuching**	**16.31**	**268**	P	**P**	**14 54 20.0**	**+2.0**
ABRA	**Dolores**	**16.56**	**340**	*eP*	**Pn**	**14 54 18.9**	**0.0**
APYP	**Conner**	**16.59**	**342**	*eP*	**Pn**	**14 54 17.9**	**-1.4**
MMPI	**Merauke**	**17.24**	**127**	P	**Pn**	**14 54 27.5**	**0.0**
	5µm347nm,0.7s						
KNRA	**Kununurra**	**17.73**	**173**	P	**Pn**	**14 54 32.6**	**-0.8**
KNRA				IAmb	IAmb	14 54 34.1	
	comp=Z,171nm,0.9s						
SMRI	**Semarang**	**18.50**	**241**	P	**P**	**14 54 41.4**	**-0.7**
SMRI				IAmb	IAmb	14 54 57.3	
	comp=Z,110nm,0.9s						
SMRI	**Semarang**	**18.50**	**241**	P	**P**	**14 54 40.2**	**-1.9**
	comp=Z,104nm,0.9s						
UGM	**Wanagama**	**18.85**	**238**		**Pn**	**14 54 46.6**	**-0.5**
UGM				IAmb	IAmb	14 54 59.0	
	comp=Z,115nm,0.6s						
UGM	**Wanagama**	**18.85**	**238**	P	**Pn**	**14 54 47.4**	**+0.3**
	comp=Z,176nm,0.7s						
TPI	**Tanjungpandan**	**19.55**	**256**	P	**Pn**	**14 54 54.8**	**-0.6**
	comp=Z,688nmcomp=Z,42nm,1.3s						
FITZ	**Fitzroy Crossi**	**20.03**	**183**	P	**P**	**14 54 58.3**	**-0.5**
	comp=Z,44nm,0.5s,baz=9.9,slow=8.2,SNR=165						
FITZ				S	**S**	**14 58 42.4**	**+1.3**
	comp=Z,9.4nm,0.8s,baz=5.4,slow=23,SNR=3.3						
FITZ				LR	LR	15 04 18.9	
	comp=Z,106nm,20.2s,baz=10.0,slow=41						
FITZ	**Fitzroy Crossi**	**20.03**	**183**	P	**P**	**14 54 58.3**	**-0.5**
	baz=20,SNR=537						
FITZ	**Fitzroy Crossi**	**20.03**	**183**	P	**P**	**14 54 58.0**	**-0.9**
DLV	**T Lat**	**20.49**	**300**	P	**P**	**14 55 03.2**	**-0.9**
PPBI	**Pangkal Pinang**	**20.90**	**259**	P	**P**	**14 55 07.6**	**-0.7**
	comp=Z,57µmcomp=Z,88nm,1.1s						
LEM	**Lembang**	**20.91**	**245**	P	**P**	**14 55 08.0**	**-0.6**
	comp=Z,36nm,0.7s,baz=21,slow=9.6,SNR=7.3						
LEM				LR	LR	15 05 31.8	
	comp=Z,807nm,18.8s,baz=62,slow=43						
LEM	**Lembang**	**20.91**	**245**	P	**P**	**14 55 08.4**	**-0.2**
	comp=Z,32nm,0.7s						
CISI	**Cisompet, Garu**	**21.04**	**243**	P	**P**	**14 55 07.3**	**-2.6**
CISI				IAmb	IAmb	14 55 21.1	
	comp=Z,109nm,0.6s						
CISI	**Cisompet, Garu**	**21.04**	**243**	P	**P**	**14 55 07.5**	**-2.4**
MANU	**Manus Island**	**21.14**	**101**	P	**P**	**14 55 08.1**	**-2.8**
TWG	**Pinlang**	**21.35**	**346**	P	**P**	**14 55 10.1**	**-2.9**
TWG				IAmb	IAmb	14 55 16.7	
	comp=Z,83nm,0.5s						
CBJI	**Citeko**	**21.45**	**247**	P	**P**	**14 55 13.6**	**-0.6**
	comp=Z,79nm,0.4s						
DBJI	**Dramaga**	**21.59**	**247**	P	**P**	**14 55 17.5**	**+1.8**
	comp=Z,3µmcomp=Z,32nm,0.6s						
YULB	**Yu-li**	**21.85**	**347**	P	**P**	**14 55 15.9**	**-2.4**
YULB				IAmb	IAmb	14 55 24.6	
	comp=Z,182nm,1.5s						
TPUB	**Ta-pu**	**21.92**	**345**	P	**P**	**14 55 17.1**	**-2.1**
TPUB				IAmb	IAmb	14 55 45.1	
	comp=Z,242nm,1.4s						
SSLB	**Suanglung**	**22.31**	**346**	P	**P**	**14 55 21.5**	**-1.9**
SSLB				IAmb	IAmb	14 55 28.3	
	comp=Z,59nm,0.7s						
NACB	**Ninganchiao**	**22.54**	**348**	P	**P**	**14 55 23.6**	**-2.2**
BLSI	**Bandar Lampung**	**22.58**	**251**	P	**P**	**14 55 24.7**	**-1.7**
	comp=Z,177nm,0.6s						
MYKOM	**Kota Tinggi**	**22.75**	**270**	P	**P**	**14 55 27.4**	**-0.8**
MYKOM				IAmb	IAmb	14 55 33.4	
	comp=Z,72nm,1.1s						
MYKOM	**Kota Tinggi**	**22.75**	**270**	P	**P**	**14 55 31.0**	**+2.8**
COEN	**Coen**	**22.85**	**135**	P	**P**	**14 55 27.5**	**-1.7**
KLSI		**22.87**	**253**	P	**P**	**14 55 28.3**	**-1.1**
	comp=Z,30nm,0.8s						
WB0	**Warramunga Arr**	**22.97**	**161**	P	**P**	**14 55 29.4**	**-0.9**
YHNB	**Yeheng**	**23.06**	**348**	P	**P**	**14 55 29.8**	**-1.5**
YHNB				IAmb	IAmb	14 55 47.5	
	comp=Z,93nm,1.2s						
WRAB	**Tennant Creek**	**23.11**	**161**	*c i*P	**P**	**14 55 30.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,253nm,0.6s						
WRAB	**Tennant Creek**	**23.11**	**161**	P	**P**	**14 55 30.8**	**-0.9**
WRA	**Warramunga Arr**	**23.12**	**161**	P	**P**	**14 55 30.7**	**-1.1**
	comp=Z,247nm,0.7s,baz=341,slow=11,SNR=699						
WRA				PcP	**PcP**	**14 59 20.1**	**+0.9**
	comp=Z,4.2nm,0.5s,baz=332,slow=2.1,SNR=3.3						
WRA				S	**S**	**14 59 39.3**	**+0.3**
	comp=Z,16nm,1.1s,baz=333,slow=20,SNR=6.1						
WRA				ScP	**ScP**	**15 02 52.6**	**0.0**
	comp=Z,1.1nm,0.7s,baz=329,slow=2.7,SNR=2.6						
WRA	**Warramunga Arr**	**23.12**	**161**	P	**P**	**14 55 29.8**	**-2.0**
WB2	**Warramunga Arr**	**23.12**	**161**	P	**P**	**14 55 31.0**	**-0.9**
WR0	**Warramunga Arr**	**23.20**	**161**	P	**P**	**14 55 31.8**	**-0.9**
JMBI	**JAMBI**	**23.26**	**261**	P	**P**	**14 55 33.9**	**+0.7**
	comp=Z,3µmcomp=Z,173nm,0.5s						
KASI	**Kota Agung**	**23.34**	**251**	P	**P**	**14 55 33.9**	**-0.1**
	comp=Z,1µmcomp=Z,182nm,0.7s						
PMG	**Port Moresby**	**23.41**	**119**	P	**P**	**14 55 34.1**	**-0.6**
	comp=Z,23nm,0.9s,baz=329,slow=6.8,SNR=10						
PMG				LR	LR	15 05 44.1	
	comp=Z,993nm,21.2s,baz=320,slow=39						
PMG	**Port Moresby**	**23.41**	**119**	*d i*P	**P**	**14 55 34.9**	**+0.2**
PMG				pmax	pmax		
	comp=Z,50nm,1.1s						
PMG	**Port Moresby**	**23.41**	**119**	P	**P**	**14 55 34.0**	**-0.7**
PMG	**Port Moresby**	**23.41**	**119**	P	**P**	**14 55 33.5**	**-1.2**
QIZ	**Qiongzhong**	**23.56**	**317**	P	**P**	**14 55 35.5**	**-0.5**
QIZ				S	**S**	**14 59 44.3**	**-1.9**
QIZ				sS	Sn	15 00 11.9	+1.6
QIZ				SS	**SnSn**	**15 00 29.3**	**+1.6**
QIZ				pmax	pmax		
	comp=Z,39nm,1.8s						
QIZ				LR	LR		
	comp=Z,640nm,18.1s						
QIZ				LR	LR		
	comp=Z,700nm,18.6s						
QIZ				LR	LR		
	comp=Z,1µm,20.1s						
QIZ	**Qiongzhong**	**23.56**	**317**	P	**P**	**14 55 35.4**	**-0.5**
LWLI	**Liwa**	**23.60**	**253**	P	**P**	**14 55 36.8**	**+0.2**
	comp=Z,154nm,0.7s						
LHSI	**Lahat**	**23.80**	**256**	P	**P**	**14 55 39.2**	**+0.9**
	comp=Z,5µmcomp=Z,68nm,0.6s						
JRMM	**Jerantut**	**24.18**	**275**	P	**P**	**14 55 43.0**	**+1.3**
XMIS	**Christmas Isla**	**24.29**	**239**	P	**P**	**14 55 40.9**	**-1.9**
XMIS				IAmb	IAmb	14 55 44.5	
	comp=Z,118nm,1.1s						
PSA00	**Pilbara Seismi**	**24.38**	**195**	P	**P**	**14 55 43.1**	**-0.3**
PSA00				IAmb	IAmb	14 55 47.1	
	comp=Z,42nm,0.6s						
PSA00	**Pilbara Seismi**	**24.38**	**195**	P	**P**	**14 55 43.3**	**-0.2**
PSA00				IAmb	IAmb	14 55 47.3	
	comp=Z,27nm,0.7s						
MNAI	**Manna**	**24.48**	**255**	P	**P**	**14 55 44.4**	**-0.1**
UBPT	**Khong Chiam**	**24.66**	**303**	P	**P**	**14 55 47.5**	**+1.4**
	comp=Z,28nm,0.7s						
UBPT	**Khong Chiam**	**24.66**	**303**	P	**P**	**14 55 45.1**	**-1.0**
UBPT				IAmb	IAmb	14 55 50.9	
	comp=Z,30nm,0.6s						
KSI	**Kapahiang**	**24.67**	**257**	P	**P**	**14 55 46.6**	**+0.3**
	comp=Z,4µmcomp=Z,100nm,0.9s						
JOW	**Kunigami**	**24.71**	**4**	P	**P**	**14 55 46.8**	**+0.4**
	comp=Z,62nm,0.6s,baz=209,slow=9.0,SNR=11						
JOW	**Kunigami**	**24.71**	**4**	P	**P**	**14 55 46.3**	**-0.1**
JOW				IAmb	IAmb	14 55 59.8	
	comp=Z,96nm,1.0s						
MASI	**Maura Aman, Be**	**24.91**	**258**	P	**P**	**14 55 49.5**	**+1.1**
	comp=Z,318nm,0.9s						
BKNI	**Bangkinang**	**25.63**	**267**	P	**P**	**14 55 55.0**	**+0.1**
	comp=Z,1µmcomp=Z,99nm,0.9s						
IPM	**Ipoh**	**25.66**	**276**	P	**P**	**14 55 54.5**	**-0.8**
IPM	**Ipoh**	**25.66**	**276**	P	**P**	**14 55 55.0**	**-0.3**
QIS	**Mount Isa**	**25.81**	**151**	P	**P**	**14 55 56.3**	**-0.2**
	baz=26,SNR=166						
KULM	**Kulim**	**26.11**	**278**	P	**P**	**14 55 58.6**	**-0.7**
KULM	**Kulim**	**26.11**	**278**	P	**P**	**14 56 01.0**	**+1.7**
RABL	**Rabaul**	**26.27**	**104**	P	**P**	**14 55 59.3**	**-1.5**
RABL				IAmb	IAmb	14 56 03.3	
	comp=Z,65nm,0.6s						
RABL	**Rabaul**	**26.27**	**104**	P	**P**	**14 56 00.9**	**+0.1**
AS31	**Alice Springs**	**26.51**	**165**	P	**P**	**14 56 02.3**	**-0.6**
AS31				IAmb	IAmb	14 56 09.2	
	comp=Z,59nm,1.1s						
ASAR	**Alice Springs**	**26.51**	**165**	P	**P**	**14 56 02.4**	**-0.5**
	comp=Z,18nm,0.5s,baz=344,slow=7.6,SNR=316						
ASAR				PcP	**PcP**	**14 59 27.9**	**+1.2**
	comp=Z,8.4nm,0.6s,baz=340,slow=2.1,SNR=4.7						
ASAR				S	**S**	**15 00 36.3**	**+3.0**
	comp=Z,3.3nm,0.8s,baz=356,slow=25,SNR=2.8						
ASAR				ScP	**ScP**	**15 03 04.9**	**+2.9**
	comp=Z,2.1nm,0.9s,baz=324,slow=2.4,SNR=3.7						
ASAR				LR	LR	15 08 28.2	
	comp=Z,338nm,20.8s,baz=346,slow=41						
MTSU	**Mount Surprise**	**26.56**	**140**	P	**P**	**14 56 03.3**	**-0.1**
	baz=27,SNR=94						
WRKA	**Warakurna**	**26.96**	**177**	P	**P**	**14 56 07.3**	**+0.4**
	baz=27,SNR=294						
MNSI	**Mandailing Nat**	**27.06**	**268**	P	**P**	**14 56 08.6**	**+0.8**
	comp=Z,30nm,0.7s						
GIRL	**Giralia**	**27.34**	**206**	P	**P**	**14 56 12.2**	**+1.9**
	baz=27,SNR=12						
GIRL	**Giralia**	**27.34**	**206**	P	**P**	**14 56 11.7**	**+1.4**
KHON	**Khomkaen**	**27.40**	**303**	P	**P**	**14 56 11.7**	**+0.8**
	comp=Z,80nm,0.8s						
RPSI	**Rantau Prapat**	**27.68**	**272**	P	**P**	**14 56 13.0**	**-0.4**
RPSI	**Rantau Prapat**	**27.68**	**272**	P	**P**	**14 56 13.6**	**+0.2**
PSI	**Prapat**	**27.68**	**272**	P	**P**	**14 56 13.6**	**0.0**
	comp=Z,11nm,0.8s,baz=179,slow=1.9,SNR=14						
PSI				S	**S**	**15 00 53.3**	**+1.2**
	comp=Z,2.0nm,0.4s,baz=181,slow=15,SNR=1.9						
PSI				LR	LR	15 08 16.8	
	comp=Z,543nm,21.6s,baz=91,slow=39						
PSI	**Prapat**	**27.68**	**272**	P	**P**	**14 56 13.6**	**0.0**
PSI				pmax	pmax		
	comp=Z,43nm,1.3s						
CHAI	**Chaiyaphum**	**27.90**	**301**	P	**P**	**14 56 15.8**	**+0.4**
	comp=Z,603nmcomp=

comp=Z,4µmcomp=Z,382nm,0.7s
CM31 Chiang Mai Arr 31.66 303 P **P** **14 56 47.8 -0.8**
CMAR Chiang Mai Arr 31.66 303 P **P** **14 56 49.5 +0.8**
comp=Z,7.3nm,0.8s,baz=111,slow=6.6,SNR=50
CMAR LR LR 15 10 20.2
comp=Z,195nm,19.6s,baz=178,slow=38
CMAR Chiang Mai Arr 31.66 303 P **P** **14 56 47.8 -0.8**
CM34 Chiang Mai Arr 31.67 304 P **P** **14 56 48.0 -0.7**
CM13 Chiang Mai Arr 31.67 303 P **P** **14 56 50.0 +1.3**
comp=Z,86nmcomp=Z,11nm,0.8s
CM15 Chiang Mai Arr 31.67 303 P **P** **14 56 49.0 +0.3**
comp=Z,15nm,0.8s
CHTO Chiang Mai 31.82 303 P **P** **14 56 49.6 -0.5**
CHTO pmax pmax
comp=Z,26nm,0.7s
CHTO Chiang Mai 31.82 303 P **P** **14 56 49.5 -0.5**
CHTO IAmb IAmb 14 56 56.7
comp=Z,26nm,0.7s
CM33 Chiang Mai Arr 31.82 303 P **P** **14 56 50.0 -0.1**
CM32 Chiang Mai Arr 31.83 303 P **P** **14 56 51.0 +0.9**
MHMT Maesarieng 32.39 302 P **P** **14 56 55.0 0.0**
ENH Enshi 32.44 332 P **P** **14 56 55.2 -0.1**
ENH IAmb IAmb 14 57 01.4
comp=Z,43nm,0.9s
KMI Kunming 32.51 317 ⇑P **P** **14 56 59.4 +3.1**
KMI pP sP 14 57 14.8 -1.6
KMI sP pwP 14 57 21.8 +10
KMI pmax pmax
comp=Z,20nm,1.3s
KMI LR LR
comp=Z,310nm,10.0s
KMI LR LR
comp=Z,520nm,22.9s
KMI LR LR
comp=Z,780nm,27.2s
MORW Morawa 32.55 197 P **P** **14 56 56.7 +0.4**
baz=33,SNR=16
MORW Morawa 32.55 197 P **P** **14 56 56.3 +0.1**
FORT Forrest 32.66 178 P **P** **14 56 57.6 +0.4**
baz=33,SNR=54
FORT Forrest 32.66 178 P **P** **14 56 57.0 -0.2**
COCO West Island 32.79 244 P **P** **14 56 58.3 -0.2**
COCO pmax pmax
comp=Z,218nm,1.5s
COCO West Island 32.79 244 P **P** **14 56 58.3 -0.2**
QLP Quilpie 33.15 150 P **P** **14 57 01.4 -0.2**
baz=33,SNR=16
KMBL Kambalda 33.52 187 P **P** **14 57 05.4 +0.7**
baz=34,SNR=64
BLDU Ballidu 33.82 195 P **P** **14 57 07.7 +0.4**
baz=34,SNR=50
JWT Wachi 34.07 13 P **P** **14 57 09.8 +0.3**
KLBR Kellerberrin 34.49 193 P **P** **14 57 13.8 +0.7**
baz=35,SNR=52
INU Inuyama 34.53 15 P **P** **14 57 13.6 +0.2**
INU IAmb IAmb 14 57 17.9
comp=Z,37nm,0.9s
JGF Kuroka 34.85 15 P **P** **14 57 16.7 +0.4**
JGF IAmb IAmb 14 57 20.7
comp=Z,24nm,0.9s
PBA Port Blair 34.92 287 P P 14 57 16.6 -0.5
PBA IAmb IAmb 14 57 45.0
comp=Z,30nm,0.8s
HNR Honiara 35.10 109 P **P** **14 57 18.0 -0.7**
HNR pmax pmax
comp=Z,36nm,0.9s
HNR Honiara 35.10 109 P **P** **14 57 18.0 -0.7**
HNR IAmb IAmb 14 57 21.1
comp=Z,36nm,0.9s
MUN Mundaring 35.24 195 P **P** **14 57 20.2 +0.6**
baz=35,SNR=37
KSAR Wonju Array Be 35.25 2 P **P** **14 57 19.8 +0.2**
KSAR Wonju Array Be 35.25 2 P **P** **14 57 19.8 +0.2**
KSRS Korea Array 35.27 2 P **P** **14 57 21.1 +1.4**
comp=Z,14nm,0.7s,baz=179,slow=9.7,SNR=60
KSRS PcP **PcP** **14 59 50.3 +0.9**
comp=Z,1.9nm,0.8s,baz=184,slow=3.5,SNR=4.5
KSRS ScP **ScP** **15 03 31.2 +0.6**
comp=Z,1.3nm,0.8s,baz=183,slow=4.8,SNR=4.6
KS19 Wonju Array Si 35.31 2 P **P** **14 57 20.5 +0.3**
KS19 IAmb IAmb 14 57 33.5
comp=Z,28nm,1.1s
RMQ Roma 35.51 144 P **P** **14 57 21.7 -0.4**
baz=36,SNR=15
BBOO Buckleboo 35.79 166 P **P** **14 57 24.1 -0.2**
baz=36,SNR=56
BBOO Buckleboo 35.79 166 P **P** **14 57 23.9 -0.4**
XAN Xi'an 35.88 334 P **P** **14 57 24.3 -0.8**
XAN pP pwP 14 57 39.6 -1.5
XAN sP sP 14 57 46.6 +1.3
XAN PP **PP** **14 58 50.4 +2.8**
XAN S **S** **15 02 58.3 -0.9**
XAN sS sS 15 03 23.3 +1.0
XAN pmax pmax
comp=Z,15nm,0.6s
XAN pmax pmax
comp=Z,89nm,5.7s
XAN LR LR
comp=Z,480nm,17.6s
XAN LR LR
comp=Z,510nm,19.0s
XAN LR LR
comp=Z,920nm,21.4s
XAN Xi'an 35.88 334 P **P** **14 57 23.5 -1.6**
XAN pmax pmax
comp=Z,16nm,0.7s
XAN Xi'an 35.88 334 P **P** **14 57 23.5 -1.6**
XAN IAmb IAmb 14 57 29.8
comp=Z,16nm,0.7s
NWAO Narrogin (SRO) 35.89 194 P **P** **14 57 26.1 +0.9**
baz=36,SNR=31
NWAO Narrogin (SRO) 35.89 194 P **P** **14 57 25.4 +0.2**
NWAO pmax pmax
comp=Z,38nm,0.7s
NWAO Narrogin (SRO) 35.89 194 P **P** **14 57 25.4 +0.2**
NWAO IAmb IAmb 14 57 29.0
comp=Z,38nm,0.7s
CD2 Chengdu 35.95 325 ⇑*iP* **P** **14 57 25.3 -0.5**
CD2 pP pP 14 57 39.9 +0.4
CD2 sP sP 14 57 50.3 +4.4
CD2 S **S** **15 03 00.5 +0.1**
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,280nm,5.3s
CD2 LR LR
comp=Z,880nm,25.9s
CD2 LR LR
comp=Z,780nm,23.9s
CD2 LR LR
comp=Z,690nm,21.6s
MAJO Matsushiro 35.97 16 ⇑*eP* **P** **14 57 25.1 -0.7**
MAJO pmax pmax
comp=Z,56nm,1.2s
MAJO Matsushiro 35.97 16 P **P** **14 57 24.0 -1.8**
MAJO IAmb IAmb 14 57 31.7
comp=Z,58nm,1.1s
MAT Matsushiro 35.97 16 P **P** **14 57 24.6 -1.2**
MAT *e*S **S** **15 03 02.8 +2.3**
MJAR Matsushiro Arr 35.97 16 P **P** **14 57 25.4 -0.4**
comp=Z,20nm,0.7s,baz=180,slow=10,SNR=26
MJAR PcP **PcP** **14 59 52.9 +1.3**
comp=Z,2.9nm,0.7s,baz=179,slow=4.0,SNR=4.3
MJAR Matsushiro Arr 35.97 16 P **P** **14 57 23.9 -2.0**
EIDS Eidsvold 36.11 141 P **P** **14 57 26.6 -0.5**
baz=36,SNR=44
EIDS Eidsvold 36.11 141 P **P** **14 57 26.2 -1.0**
JYT Yasato 36.27 19 P **P** **14 57 27.7 -0.6**
JYT IAmb IAmb 14 57 31.7
comp=Z,23nm,0.8s
STKA Stephens Creek 36.60 158 P **P** **14 57 30.9 -0.4**
comp=Z,32nm,0.4s,baz=330,slow=8.5,SNR=89
STKA PcP **PcP** **14 59 55.2 +1.6**
comp=Z,8.2nm,0.5s,baz=348,slow=3.4,SNR=4.0
STKA LR LR 15 15 38.9
comp=Z,216nm,18.6s,baz=341,slow=41
STKA Stephens Creek 36.60 158 P **P** **14 57 31.1 -0.1**
baz=37,SNR=39
STKA Stephens Creek 36.60 158 *ciP* **P** **14 57 31.1 -0.1**
STKA Stephens Creek 36.60 158 P **P** **14 57 30.6 -0.7**
DL2 Dalian 36.98 354 P **P** **14 57 35.4 +1.1**
DL2 sP **sP** **14 57 55.8 +1.4**
DL2 PP **PnPn** **14 59 00.4 +0.1**
DL2 S **S** **15 03 19.5 +3.8**
DL2 pmax pmax
comp=Z,81nm,0.8s
DL2 pmax pmax
comp=Z,200nm,3.7s
DL2 LR LR
comp=Z,450nm,19.7s
DL2 LR LR
comp=Z,670nm,22.9s
DL2 LR LR
comp=Z,420nm,13.6s
HTT Hallett 37.14 163 P **P** **14 57 36.3 +0.4**
baz=37,SNR=59
JSD Sado 37.39 15 P **P** **14 57 37.9 +0.1**
JMM Marumori 37.96 18 P **P** **14 57 42.7 0.0**
CMSA Cobar Meteorol 37.99 153 P **P** **14 57 43.0 0.0**
baz=38,SNR=63
SAIH SAIHA 38.46 305 *eP* **P** **14 57 46.2 -1.1**
SAIH IAmb IAmb 14 57 51.0
comp=Z,42nm,0.9s
BJT Baijiatuan 38.98 347 P **P** **14 57 51.0 -0.2**
BJT pmax pmax
comp=Z,27nm,0.8s
BJT Baijiatuan 38.98 347 P **P** **14 57 51.0 -0.2**
BJT IAmb IAmb 14 58 16.8
comp=Z,27nm,0.8s
BJI Beijing 39.00 347 P **P** **14 57 51.3 -0.1**
BJI sP **sP** **14 58 15.0 +3.5**
BJI S **S** **15 03 48.3 +2.0**
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI pmax pmax
comp=Z,70nm,3.8s
BJI LR LR
comp=Z,130nm,12.1s
BJI LR LR
comp=Z,210nm,19.3s
KOHI KOHIMA 39.15 310 *eP* **P** **14 57 51.9 -1.2**
KOHI IAmb IAmb 14 57 54.2
comp=Z,30nm,0.6s
MOKO MOKOCHONG 39.16 311 *eP* **P** **14 57 52.5 -0.6**
LZH Lanzhou 39.91 331 *eP* **P** **14 58 00.4 +1.2**
LZH pP sP 14 58 17.3 -2.2
LZH sP pwP 14 58 23.3 +7.9
LZH S **S** **15 04 01.5 +1.1**
LZH sS sS 15 04 26.3 +2.6
LZH pmax pmax
comp=Z,44nm,1.2s
LZH pmax pmax
comp=Z,160nm,5.7s
LZH LR LR
comp=Z,420nm,13.5s
LZH LR LR
comp=Z,440nm,13.4s
LZH LR LR
comp=Z,480nm,16.2s
ARMA Armidale 40.13 145 P **P** **14 58 02.2 +1.1**
baz=40,SNR=72
ARMA Armidale 40.13 145 P **P** **14 58 01.9 +0.8**
MSHR Mys Shultsa 40.57 5*d iP* **P** **14 58 07.0 +2.6**
MSHR pmax pmax
comp=Z,36nm,1.0s
SHL Shillong 40.80 308 P **P** **14 58 05.7 -1.1**
SHL pmax pmax
comp=Z,74nm,0.7s
SHL Shillong 40.80 308 *eP* **P** **14 58 06.3 -0.5**
SHL IAmb IAmb 14 58 10.3
comp=Z,48nm,1.7s
SHL Shillong 40.80 308 P **P** **14 58 05.7 -1.1**
HHC Hu-ho-hao-te 40.97 343 *eP* **P** **14 58 08.8 +1.0**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,120nm,5.3s
HHC LR LR
comp=Z,540nm,26.5s
HHC LR LR
comp=Z,330nm,21.2s
HHC LR LR
comp=Z,950nm,27.1s
ARPS Mount Arapiles 41.12 161 P **P** **14 58 09.7 +0.7**
baz=41,SNR=49
GUWA GUWAHATI 41.26 309 *eP* **P** **14 58 09.5 -0.9**
GUWA IAmb IAmb 14 58 13.9
comp=Z,124nm,1.8s
YNG Young 41.54 152 P **P** **14 58 13.8 +1.3**
baz=42,SNR=13
CN2 Changchun 41.60 359 *eP* **P** **14 58 15.6 +2.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
MGCD Mangrove Creek 41.99 149 P **P** **14 58 18.6 +2.4**
baz=42,SNR=4.4
USRK Ussuriysk Ar. 42.25 6 P **P** **14 58 19.1 +1.0**
comp=Z,17nm,0.8s,baz=192,slow=2.2,SNR=26
USRK Ussuriysk Ar. 42.25 6 P **P** **14 58 17.6 -0.5**
USA0B Ussuriysk Arra 42.26 6‖ *iP* **P** **14 58 20.4 +2.3**
USA0B Ussuriysk Arra 42.26 6 P **P** **14 58 17.8 -0.3**
USA0B IAmb IAmb 14 58 40.5
comp=Z,44nm,1.1s
MDJ Mudanjiang 42.48 3 P **P** **14 58 22.3 +2.3**
MDJ pmax pmax
comp=Z,13nm,0.8s
MDJ pmax pmax
comp=Z,170nm,2.8s
MDJ Mudanjiang 42.48 3 P **P** **14 58 19.9 -0.1**
MDJ IAmb IAmb 14 58 44.4
comp=Z,34nm,0.9s
CAN Canberra 42.66 153 P **P** **14 58 21.8 +0.1**
CAN pmax pmax
comp=Z,89nm,1.2s
CAN Canberra 42.66 153 P **P** **14 58 21.8 +0.1**
CAN IAmb IAmb 14 58 25.3
comp=Z,89nm,1.2s
CNB Canberra Magne 42.83 152 P **P** **14 58 25.6 +2.6**
baz=43,SNR=6.4
TOO Toolangi 43.12 158 P **P** **14 58 27.0 +1.7**
baz=43,SNR=15
TOO Toolangi 43.12 158 P **P** **14 58 26.1 +0.8**
TOO pmax pmax
comp=Z,22nm,0.8s
TOO Toolangi 43.12 158 P **P** **14 58 26.1 +0.8**
TOO IAmb IAmb 14 58 28.6
comp=Z,22nm,0.8s
LSA Lhasa 43.48 313 P **P** **14 58 29.3 +0.4**
LSA pmax pmax
comp=Z,62nm,1.0s
LSA Lhasa 43.48 313 P **P** **14 58 28.2 -0.7**
LSA pmax pmax
comp=Z,19nm,0.7s
LSA Lhasa 43.48 313 P **P** **14 58 28.2 -0.7**
LSA IAmb IAmb 14 58 42.9
comp=Z,19nm,0.7s
SANVU Saraoutou 43.73 115 P **P** **14 58 29.3 -1.2**
SANVU IAmb IAmb 14 58 32.9
comp=Z,77nm,1.1s
SANVU Saraoutou 43.73 115 P **P** **14 58 31.7 +1.1**
GTK Tadong 44.22 308 *eP* **P** **14 58 33.9 -0.6**
GTK IAmb IAmb 14 58 37.9
comp=Z,51nm,0.3s
ASAJ Asahikawa 44.23 17 P **P** **14 58 35.0 +0.9**
comp=Z,6.9nm,0.4s,baz=234,slow=12,SNR=23
GTA Gaotai 44.49 330 ⇑P **P** **14 58 37.0 +0.5**
GTA pP pP 14 58 50.4 -0.2
GTA sP sP 14 58 55.9 -0.9
GTA PcP **PP** **15 00 21.9 +0.7**
GTA S **S** **15 05 06.9 -1.0**
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,83nm,4.2s
GTA LR LR
comp=Z,220nm,19.6s
GTA LR LR
comp=Z,350nm,22.2s
GTA LR LR
comp=Z,320nm,20.5s
TAPN Taplejung 44.94 308 *eP* **P** **14 58 39.8 -0.6**
comp=Z,42nm,0.5s
BOK Bokaro 44.94 302 *eP* **P** **14 58 39.8 -0.4**
BOK IAmb IAmb 14 58 43.3
comp=Z,9.2nm,1.0s
ODAN Odare 44.97 307 *eP* **P** **14 58 40.1 -0.5**
comp=Z,101nm,0.7s
RAMN Ramite 45.64 307 *eP* **P** **14 58 45.6 -0.4**
comp=Z,70nm,0.9s
DZM Mont Dzumac 45.67 124 *eP* **P** **14 58 46.2 +0.1**
comp=Z,97nm,1.1s
DZM *e*S **S** **15 05 21.9 -3.5**
comp=Z,399nm,38.2s
DZM *e*LR LR 15 11 42.0
comp=Z,1µm,23.7s
DZM Mont Dzumac 45.67 124 P **P** **14 58 46.4 +0.3**
comp=Z,33nm,0.9s,baz=35,slow=5.2,SNR=12
DZM LR LR 15 19 07.0
comp=Z,520nm,19.6s,baz=323,slow=38
DZM Mont Dzumac 45.67 124 P **P** **14 58 46.8 +0.7**
DZM IAmb IAmb 14 58 48.2
comp=Z,36nm,0.9s
DZM Mont Dzumac 45.67 124 P **P** **14 58 47.0 +0.9**
PALK Pallekele 46.03 278 P **P** **14 58 47.6 -1.4**
PALK pmax pmax
comp=Z,11nm,0.9s
PALK Pallekele 46.03 278 P **P** **14 58 47.6 -1.4**
YATNC Mamie plateau, 46.04 124 P **P** **14 58 50.0 +1.2**
GUN Gumba 46.64 307 *eP* **P** **14 58 53.3 -0.6**
comp=Z,79nm,0.4s
PKI Pulchoki 46.87 307 *eP* **P** **14 58 54.4 -1.3**
comp=Z,18nm,0.5s
PKIN Phulchoki 46.88 307 *eP* **P** **14 58 54.4 -1.3**
comp=Z,22nm,0.4s
YSS Yuzh-Sakhalins 46.90 15⇑*eP* **P** **14 58 55.7 +0.6**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=Z,700nm,14.0s
YSS Yuzh-Sakhalins 46.90 15 P **P** **14 58 55.1 0.0**
YSS IAmb IAmb 14 59 05.2
comp=Z,28nm,0.7s
DMN Daman 47.13 307 *eP* **P** **14 58 56.8 -0.8**
comp=Z,48nm,1.0s
KLR Kul'dur 47.22 5 P **P** **14 58 58.0 +0.4**
comp=Z,10nm,0.7s,baz=201,slow=6.6,SNR=26
KLR Kul'dur 47.22 5*d iP* **P** **14 58 59.6 +2.0**
KLR pmax pmax
comp=Z,40nm,1.8s
HIA Hailar 47.42 354 P **P** **14 58 58.8 -0.4**
HIA pmax pmax
comp=Z,16nm,0.9s
HIA Hailar 47.42 354 P **P** **14 58 58.8 -0.4**
GKN Gorkha 47.67 307 *eP* **P** **14 59 00.7 -1.0**
comp=Z,54nm,0.8s
ULN Ulaanbaatar 48.69 343*deP* **P** **14 59 09.4 +0.2**
ULN pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 48.69 343 P **P** **14 59 08.8 -0.4**
ULN IAmb IAmb 14 59 17.0
comp=Z,17nm,0.8s
SONM Songino Array 48.86 342 P **P** **14 59 10.5 0.0**
comp=Z,6.0nm,0.6s,baz=163,slow=9.1,SNR=45
SONM LR LR 15 21 24.2
comp=Z,193nm,19.7s,baz=156,slow=38
SONM Songino Array 48.86 342 P **P** **14 59 09.7 -0.8**
GRNR Gornyy 49.26 8‖ *iP* **P** **14 59 14.6 +1.2**
GRNR pmax pmax
comp=Z,7.0nm,1.1s
GRNR MLR MLR
comp=E,140nm,18.0s
GRNR MLR MLR
comp=N,90nm,20.0s
GRNR MLR MLR
comp=Z,90nm,19.0s
HYB Hyderabad 49.60 291 *i* P **P** **14 59 15.0 -1.5**
comp=Z,50nm,0.8s
HYB Hyderabad 49.60 291 *eP* **P** **14 59 14.1 -2.4**
HYB IAmb IAmb 14 59 18.6
comp=Z,35nm,0.7s
ZEA Zeya 51.53 0 *eP* **P** **14 59 31.6 +1.2**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZEA MLR MLR
comp=E,100nm,18.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
BHPL Bhopal 52.08 298 *eP* **P** **14 59 32.9 -2.2**
BHPL IAmb IAmb 14 59 37.5
comp=Z,21nm,0.8s
ZAK Zakamensk 52.08 341 *eP* **P** **14 59 32.3 -2.4**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
TLY Talaya 53.09 342 *eP* **P** **14 59 43.2 +1.1**
TLY *e* 15 01 43.6
TLY *e*S **S** **15 07 11.5 +3.2**
TLY pmax pmax
comp=Z,12nm,0.6s
TLY MLR MLR
comp=Z,547nm,18.0s
TLY Talaya 53.09 342 P **P** **14 59 40.5 -1.6**
TLY IAmb IAmb 14 59 50.4
comp=Z,19nm,0.7s
IRK Irkutsk 53.40 343 *eP* **P** **14 59 47.6 +3.3**
IRK pmax pmax
comp=Z,33nm,2.0s
DDI Dehra Dun 53.87 307 *eP* **P** **14 59 47.3 -0.9**
DDI IAmb IAmb 14 59 53.9
comp=Z,31nm,0.7s
MOY Mondy 53.93 341 *eP* **P** **14 59 48.9 +0.6**
MOY pmax pmax
comp=Z,31nm,2.2s
WMQ Urumqi 54.05 326 *eP* **P** **14 59 49.3 0.0**
WMQ pP pwP 15 00 07.0 +1.0
WMQ sP sP 15 00 13.1 +3.2
WMQ pmax pmax
comp=Z,29nm,1.1s
WMQ pmax pmax
comp=Z,240nm,6.1s
WMQ LR LR
comp=Z,630nm,26.5s
WMQ LR LR
comp=Z,540nm,24.7s
WMQ LR LR
comp=Z,670nm,23.7s
WMQ Urumqi 54.05 326 P **P** **14 59 48.0 -1.3**
WMQ pmax pmax
comp=Z,19nm,1.0s
WMQ Urumqi 54.05 326 P **P** **14 59 48.0 -1.3**
WMQ IAmb IAmb 14 59 52.4
comp=Z,19nm,1.0s
MSVF Nonsavu 54.33 113 P **P** **14 59 52.3 +0.5**
comp=Z,22nm,0.7s,baz=276,slow=22,SNR=15
MSVF LR LR 15 21 43.4
comp=Z,499nm,20.9s,baz=272,slow=34
MSVF Nonsavu 54.33 113⇑*eP* **P** **14 59 52.9 +1.1**
MSVF pmax pmax
comp=Z,84nm,1.5s
MSVF Nonsavu 54.33 113 P **P** **14 59 51.3 -0.5**
SMLA Simla 54.88 307 *eP* **P** **14 59 54.7 -0.7**
SMLA IAmb IAmb 14 59 58.7
comp=Z,50nm,0.8s
DHRM DHARAMSHALA 55.98 308 *eP* **P** **15 00 02.4 -1.3**
DHRM IAmb IAmb 15 00 05.5
comp=Z,72nm,0.5s
THN Thein Dam 56.51 308 *eP* **P** **15 00 07.0 -0.1**
BOD Bodaibo 56.51 352 *eP* **P** **15 00 07.3 +0.6**
BOD pmax pmax
comp=Z,21nm,1.0s
PEA0B Petropavlovsk- 57.03 22*c iP* **P** **15 00 11.1 +0.7**
PEA0B Petropavlovsk- 57.03 22 P **P** **15 00 10.3 -0.1**
PEA0B IAmb IAmb 15 00 34.7
comp=Z,39nm,1.3s
PETK Petropavlovsk- 57.03 22 P **P** **15 00 11.2 +0.7**
comp=Z,8.9nm,0.6s,baz=180,slow=4.3,SNR=27
PETK Petropavlovsk- 57.03 22 P **P** **15 00 09.4 -1.0**
PET Petropavlovsk 57.33 22 *eP* **P** **15 00 14.9 +2.4**
PET *e**PP **sP** **15 00 32.5 -0.5**
PET *e*S **S** **15 08 06.6 +2.0**
PET pmax pmax
comp=Z,34nm,1.0s
PET pmax pmax
comp=Z,100nm,11.9s
ZSN Zaisan 57.86 328 *eP* **P** **15 00 16.1 -0.4**
baz=328
ZSN Zaisan 57.86 328 *eP* **P** **15 00 16.0 -0.4**
DGZ Jazzator, Alta 58.01 331‖ *eP* **P** **15 00 17.5 -0.1**
DGZ pmax pmax
comp=Z,14nm,1.8s
SHLS Shalkode 58.58 321 *eP* **P** **15 00 19.7 -2.0**
comp=Z,10nm,0.9s,baz=321
SHLS Shalkode 58.58 321 *eP* **P** **15 00 19.6 -2.0**
SHLS pmax pmax
comp=Z,11nm,0.9s

UZB Uzynbulak 58.85 321 *e*P **P** **15 00 23.2 -0.3**
comp=Z,5.2nm,0.9s,baz=321
UZB Uzynbulak 58.85 321 *e*P **P** **15 00 23.2 -0.3**
UZB pmax pmax
comp=Z,5.0nm,0.9s
NIL Nilore 58.88 309 P **P** **15 00 21.7 -2.1**
NIL pmax pmax
comp=Z,29nm,0.8s
NIL Nilore 58.88 309 P **P** **15 00 21.7 -2.1**
MK31 Makanchi Array 58.88 326*ce*P **P** **15 00 23.5 0.0**
MK31 Makanchi Array 58.88 326 P **P** **15 00 22.7 -0.8**
MK31 IAmb IAmb 15 00 25.1
comp=Z,20nm,1.2s
MKAR Makanchi Array 58.88 326 P **P** **15 00 23.2 -0.3**
comp=Z,11nm,0.4s,baz=120,slow=8.0,SNR=161
MKAR LR LR 15 28 12.8
comp=Z,220nm,18.2s,baz=115,slow=38
MKAR PKPPKP **P'P'df** **15 29 55.5 -3.2**
comp=Z,0.5nm,0.9s,baz=279,slow=2.3,SNR=3.9
MKAR PKP2bc 15 30 08.3
comp=Z,1.1nm,0.9s,baz=300,slow=3.4,SNR=5.5
MKAR Makanchi Array 58.88 326 P **P** **15 00 22.6 -0.9**
MAKZ Makanchi 59.06 326 P **P** **15 00 23.9 -0.9**
MAKZ pmax pmax
comp=Z,38nm,1.3s
MAKZ Makanchi 59.06 326 P **P** **15 00 23.9 -0.9**
MAKZ IAmb IAmb 15 00 26.5
comp=Z,38nm,1.2s
KSH Kashi 59.16 316 P **P** **15 00 27.3 +1.5**
KSH pP pP 15 00 39.3 -1.1
KSH PcP **PcP** **15 01 12.6 -1.2**
KSH S **S** **15 08 30.6 +1.2**
KSH pmax pmax
comp=Z,35nm,0.8s
KSH pmax pmax
comp=Z,220nm,2.9s
KSH LR LR
comp=Z,850nm,10.1s
KSH LR LR
comp=Z,320nm,7.0s
KSH LR LR
comp=Z,380nm,10.5s
SATY Saty 59.19 320 *e*P **P** **15 00 25.9 0.0**
comp=Z,14nm,0.8s,baz=320
SATY Saty 59.19 320 *e*P **P** **15 00 25.9 0.0**
SATY pmax pmax
comp=Z,14nm,0.8s
KPKS Kokpek 59.22 321 *e*P **P** **15 00 25.8 -0.3**
comp=Z,15nm,0.8s,baz=321
KPKS Kokpek 59.22 321 *e*P **P** **15 00 25.7 -0.3**
KPKS pmax pmax
comp=Z,15nm,0.8s
FOZ Fox Glacier 59.63 145 P **P** **15 00 28.3 -0.4**
FOZ IAmb IAmb 15 00 35.9
comp=Z,33nm,1.0s
QRZ Quartz Range 59.69 141 P **P** **15 00 29.1 -0.1**
MLZ Mavora Lakes 59.83 147 P **P** **15 00 29.3 -0.8**
MLZ IAmb IAmb 15 00 36.3
comp=Z,31nm,1.4s
YAK Yakutsk 59.89 2 P **P** **15 00 30.8 +0.6**
comp=Z,10nm,0.5s,baz=169,slow=0.7,SNR=13
YAK Yakutsk 59.89 2 *e*P **P** **15 00 30.3 +0.1**
YAK *e**PP **pP** **15 00 43.6 -1.1**
YAK *e* 15 01 18.7
YAK *e* 15 02 45.0
YAK *e*S **S** **15 08 35.1 -2.6**
YAK *e**SS **sS** **15 09 00.9 -1.6**
YAK *e* 15 10 12.5
YAK pmax pmax
comp=Z,52nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,97nm,3.2s
YAK pmax pmax
comp=N,37nm,3.1s
YAK pmax pmax
comp=E,50nm,3.8s
YAK smax smax
comp=E,139nm,4.8s
YAK smax smax
comp=N,77nm,4.2s
YAK Yakutsk 59.89 2 P **P** **15 00 29.9 -0.2**
WKZ Wanaka 59.98 146 P **P** **15 00 30.6 -0.5**
HIZ Hauiti 59.98 137 P **P** **15 00 31.1 -0.2**
WHZ Wether Hill Ro 60.08 148 P **P** **15 00 31.3 -0.4**
MDOK Medeo 60.11 320 *e*P **P** **15 00 31.9 -0.4**
baz=320
MDOK Medeo 60.11 320 *e*P **P** **15 00 31.9 -0.4**
TNSS Tian-Shan 60.12 320 *e*P **P** **15 00 32.0 -0.6**
baz=320
TNSS Tian-Shan 60.12 320 *e*P **P** **15 00 32.0 -0.6**
TDK Taldyqorghan 60.17 322 *e*P **P** **15 00 32.3 -0.3**
comp=N,12nm,0.7s,baz=322
TDK Taldyqorghan 60.17 322 *e*P **P** **15 00 32.2 -0.3**
TDK pmax pmax
comp=Z,12nm,0.7s
AAA Alma-Ata 60.22 320 *e*P **P** **15 00 32.9 -0.1**
comp=Z,16nm,1.0s,baz=320
AAA Alma-Ata 60.22 320 *e*P **P** **15 00 32.8 -0.1**
AAA pmax pmax
comp=Z,15nm,1.0s
LBZ Lake Benmore 60.36 145 P **P** **15 00 33.3 -0.4**
MA2 Magadan 60.36 14 P **P** **15 00 34.8 +1.3**
comp=Z,12nm,0.6s,baz=205,slow=6.3,SNR=35
MA2 Magadan 60.36 14*c i*P **P** **15 00 34.6 +1.1**
MA2 pmax pmax
comp=Z,32nm,0.8s
MA2 Magadan 60.36 14 P **P** **15 00 33.3 -0.2**
NNZ Nelson 60.44 141 P **P** **15 00 34.0 -0.3**
THZ Tophouse 60.45 142 P **P** **15 00 33.9 -0.5**
RPZ Rata Peaks 60.45 144 LR LR 15 28 02.2
comp=Z,219nm,19.2s,baz=316,slow=37
RPZ Rata Peaks 60.45 144 P **P** **15 00 34.2 -0.2**
CHKK Chushkaly 60.48 321 *e*P **P** **15 00 33.9 -0.7**
baz=321
CHKK Chushkaly 60.48 321 *e*P **P** **15 00 33.9 -0.7**
LTZ Lake Taylor 60.63 143 P **P** **15 00 35.1 -0.6**
OXZ Oxford 60.81 143 P **P** **15 00 36.5 -0.2**
KUU Kurty 60.91 320 *e*P **P** **15 00 37.4 -0.2**
comp=Z,36nm,1.0s,baz=320
KUU Kurty 60.91 320 *e*P **P** **15 00 37.4 -0.2**
KUU pmax pmax
comp=Z,36nm,1.0s
TUWZ Tuamarina 60.91 141 P **P** **15 00 35.9 -1.6**
TKM2 Tokmak 2 60.94 319 P **P** **15 00 38.3 +0.3**
SNR=17
TKM2 Tokmak 2 60.94 319 *i*P **P** **15 00 37.7 -0.3**
TKM2 pmax pmax
comp=Z,13nm,0.7s
ODZ Otahua Downs 61.02 146 P **P** **15 00 37.7 -0.5**
ODZ IAmb IAmb 15 00 56.2
comp=Z,13nm,1.1s
BSWZ Blackbirch Sta 61.03 141 P **P** **15 00 37.5 -0.8**
KHZ Kahutara 61.20 142 P **P** **15 00 38.7 -0.8**
KBK Karagaybulak 61.24 319 P **P** **15 00 37.2 -2.8**
SNR=22
SNZO South Karori 61.34 140 P **P** **15 00 39.0 -1.3**
UCH Uchtor 61.34 318 P **P** **15 00 41.4 +0.4**
SNR=21
MQZ McQueen's Vall 61.39 144 P **P** **15 00 40.3 -0.4**
MQZ IAmb IAmb 15 00 42.5
comp=Z,27nm,0.8s
URZ Urewera 61.40 136 LR LR 15 28 29.6
comp=Z,428nm,19.2s,baz=31,slow=37
URZ Urewera 61.40 136 P **P** **15 00 39.9 -0.9**
URZ IAmb IAmb 15 00 44.3
comp=Z,19nm,0.9s
BKZ Black Stump Fm 61.41 137 P **P** **15 00 40.3 -0.8**
BHW Baring Head 61.49 140 P **P** **15 00 40.1 -1.4**
CHMS Chumysh 61.53 319 P **P** **15 00 41.8 0.0**
SNR=6.7
AAK Ala-Archa 61.54 319 P **P** **15 00 44.1 +2.1**
SNR=13
AAK Ala-Archa 61.54 319⇑ *e*P **P** **15 00 42.2 +0.2**
AAK pmax pmax
comp=Z,117nm,2.5s
AAK Ala-Archa 61.54 319 P **P** **15 00 39.9 -2.1**
AAK IAmb IAmb 15 00 45.5
comp=Z,9.1nm,0.8s
MSWZ Moikau Station 61.74 140 P **P** **15 00 40.9 -2.3**
SGDS Sogindy 61.81 319 *e*P **P** **15 00 43.1 -0.6**
baz=319
comp=Z,38nm,1.1s
SBA Scott Base 82.68 172 P **P** **15 02 48.8 +1.4**
SBA pmax pmax
comp=Z,21nm,0.9s
SBA Scott Base 82.68 172 P **P** **15 02 48.8 +1.4**
SBA IAmb IAmb 15 02 50.5
comp=Z,21nm,0.8s
ZEI Tsey 83.27 313 *e*P **P** **15 02 51.8 +0.3**
ZEI pmax pmax
comp=Z,66nm,1.4s
NCK Nalchik 83.54 313⇑ *e*P **P** **15 02 53.3 +0.7**
NCK pmax pmax
comp=Z,32nm,0.9s
RSO Redoubt South 83.61 29 P **P** **15 02 52.3 -0.5**
A21K Barrow 83.85 18 P 15 02 55.1
baz=258,SNR=16
PRGR Permogore 83.93 332 *e*P **P** **15 02 55.1 +1.0**
PRGR pmax pmax
comp=Z,39nm,0.7s
GOF Gofitskoye 84.02 315⇑ *e*P **P** **15 02 57.9 +2.9**
GOF pmax pmax
comp=Z,22nm,0.6s
KBZ Khabaz 84.06 314 P **P** **15 02 55.5 +0.4**
comp=Z,9.3nm,0.8s,baz=107,slow=3.6,SNR=16
KBZ Khabaz 84.06 314*c i*P **P** **15 02 56.0 +0.9**
KBZ pmax pmax
comp=Z,19nm,1.0s
NEY Neytrino 84.16 313⇓ *e*P **P** **15 02 57.7 +1.7**
NEY pmax pmax
comp=Z,10.0nm,1.0s
PPLA Purkeypile 84.18 27 P **P** **15 02 56.3 +0.7**
PPLA Purkeypile 84.18 27 P 15 02 56.4
baz=263
KIV Kislovodsk 84.22 314 *e*P **P** **15 02 57.4 +1.3**
KIV pmax pmax
comp=Z,75nm,1.0s
KIV Kislovodsk 84.22 314 P **P** **15 02 56.6 +0.4**
KIV IAmb IAmb 15 03 03.5
comp=Z,24nm,1.0s
CHUM Lake Minchumin 84.24 26 P 15 02 57.4
baz=263,SNR=8.4
SKT Skwentna 84.38 28 P **P** **15 02 56.4 -0.1**
SKT IAmb IAmb 15 02 59.9
comp=Z,31nm,1.1s
SKT Skwentna 84.38 28 P 15 02 56.5
baz=264,SNR=14
CAPN Captain Cook N 84.43 29 P 15 02 57.1
baz=264
BRLK Bradley Lake 84.46 30 P **P** **15 02 56.4 -0.5**
BRLK IAmb IAmb 15 03 06.4
comp=Z,18nm,0.7s
BRSE Bradley Lake S 84.53 30 P 15 02 56.7
baz=265
SUA Susitna One 84.69 29 P **P** **15 02 56.9 -1.3**
SUA IAmb IAmb 15 03 01.9
comp=Z,27nm,0.7s
SUA Susitna One 84.69 29 P 15 02 58.5
baz=264,SNR=18
PPT Papeete 84.71 108 LR LR 15 37 08.8
comp=Z,107nm,21.9s,baz=275,slow=33
PPT2 Papeete2 84.71 108 *e*LR LR 15 29 47.3
comp=Z,504nm,26.2s
KTH Kantishna Hill 84.82 26 P **P** **15 02 57.4 -1.4**
MLY Manley 85.05 25 P **P** **15 03 00.5 +0.6**
MLY Manley 85.05 25 P 15 03 00.8
baz=264,SNR=8.9
TRF Thorofare Moun 85.09 27 P **P** **15 03 00.1 -0.1**
TRF IAmb IAmb 15 03 22.9
comp=Z,23nm,1.5s
TRF Thorofare Moun 85.09 27 P 15 03 00.5
baz=265
O22K Cooper Landing 85.11 30 P **P** **15 03 01.1 +1.0**
O22K Cooper Landing 85.11 30 P 15 02 59.9
baz=266
RC01 Rabbit Creek A 85.15 29 P **P** **15 03 00.2 -0.1**
RC01 IAmb IAmb 15 03 07.1
comp=Z,27nm,1.0s
RC01 Rabbit Creek A 85.15 29 P 15 03 00.7
baz=265,SNR=7.1
SEW Seward 85.21 30 P **P** **15 03 01.1 +0.5**
SEW IAmb IAmb 15 03 11.8
comp=Z,25nm,1.0s
SEW Seward 85.21 30 P 15 03 00.9
baz=266
VRH Novokhopyorsk 85.22 321 *e*P **P** **15 03 01.4 +0.6**
VRH pmax pmax
comp=Z,50nm,0.6s
TBI Tubuai 85.22 113 *e*LR LR 15 30 01.7
comp=Z,391nm,29.2s
PMR Palmer 85.48 29 P **P** **15 03 02.2 +0.3**
PMR pmax pmax
comp=Z,14nm,0.8s
PMR Palmer 85.48 29 P **P** **15 03 02.2 +0.3**
PMR IAmb IAmb 15 03 04.6
comp=Z,14nm,0.8s
PMR Palmer 85.48 29 P 15 03 02.1
baz=266,SNR=6.4
COLD Coldfoot 85.49 23 P **P** **15 03 03.2 +1.3**
COLD IAmb IAmb 15 03 06.2
comp=Z,10nm,0.8s
COLD Coldfoot 85.49 23 P 15 03 03.2
baz=264,SNR=20
GHO Glory Hole Cre 85.59 28 P **P** **15 03 02.1 -0.5**
GHO IAmb IAmb 15 03 15.4
comp=Z,12nm,0.7s
I23K Minto, Yukon-K 85.64 25 P **P** **15 03 03.2 +0.5**
I23K IAmb IAmb 15 03 06.5
comp=Z,30nm,1.5s
I23K Minto, Yukon-K 85.64 25 P 15 03 03.3
baz=265,SNR=12
MCK McKinley 85.72 26 P **P** **15 03 03.3 +0.1**
MCK pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 85.72 26 P **P** **15 03 03.3 +0.1**
MCK McKinley 85.72 26 P 15 03 03.9
baz=266,SNR=6.4
NEA2 Nenana 85.72 25 P 15 03 04.1
baz=266
RND Reindeer 85.73 27 P **P** **15 03 03.1 -0.2**
RND pmax pmax
comp=Z,8.0nm,0.8s
RND Reindeer 85.73 27 P **P** **15 03 03.0 -0.2**
KNK Knik Glacier 85.79 29 P 15 03 04.3
baz=266,SNR=13
PWL Port Wells 85.81 29 P **P** **15 03 04.5 +0.8**
PWL IAmb IAmb 15 03 14.4
comp=Z,22nm,0.9s
WAT2 Susitna Watana 85.83 27 P 15 03 04.2
baz=266,SNR=9.1
TOLK Toolik Lake Re 85.85 21 P **P** **15 03 04.7 +0.9**
TOLK IAmb IAmb 15 03 27.0
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 85.85 21 P 15 03 05.2
baz=265,SNR=10
SML Sawmill 85.87 28 P 15 03 05.2
baz=267,SNR=8.4
MDM Murphy Dome 86.11 25 P **P** **15 03 04.9 -0.2**
WRH Wood River Hil 86.14 26 P **P** **15 03 04.8 -0.3**
WAT6 Susitna Watana 86.19 28 P 15 03 06.1
baz=267,SNR=7.7
CCB Clear Creek Bu 86.27 25 P **P** **15 03 05.0 -0.8**
SOC Sochi 86.36 313 *e*P **P** **15 03 07.4 +0.7**
SOC *e* 15 06 29.9
SOC *e*PPP PPP 15 08 30.1
SOC *e*S **SKSac** **15 13 26.3 -2.2**
SOC *e*SS **SS** **15 19 26.9 +8.1**
SOC pmax pmax
comp=Z,28nm,0.8s
SOC MLR MLR
comp=Z,277nm,26.0s
GLI Glacier Island 86.42 29 P 15 03 07.2
baz=268
POKR Poker Plat Res 86.45 25 P 15 03 08.1
baz=267
HDA Harding Lake 86.63 26 P 15 03 07.5
baz=268
HDA P 15 03 07.5
baz=268
IL31 86.67 25 P **P** **15 03 06.7 -1.1**
ILAR Eielson Array 86.67 25 P **P** **15 03 07.2 -0.6**
comp=Z,1.6nm,0.6s,baz=238,slow=5.3,SNR=37
ILAR PKKPbc **PKKPbc** **15 21 04.5 -1.1**
comp=Z,0.4nm,0.6s,baz=117,slow=3.2,SNR=6.3
ILAR Eielson Array 86.67 25 P **P** **15 03 06.8 -1.0**
VORD Divnogorie 86.74 321 *e*P **P** **15 03 09.2 +0.8**
VORD pmax pmax
comp=Z,38nm,1.1s
SGDS Sogindy 61.81 319 *e*P **P** **15 00 43.1 -0.6**
USP Ospenovka 61.81 319 P **P** **15 00 43.6 -0.1**
SNR=38
PLWZ Palliser 61.82 140 P **P** **15 00 41.9 -1.9**
AML Almayashu 61.85 318 P **P** **15 00 44.8 +0.4**
SNR=16
BFZ Birch Farm 62.01 139 P **P** **15 00 44.0 -0.9**
BFZ IAmb IAmb 15 00 48.1
comp=Z,43nm,1.4s
EKS2 Erkin-Say 62.02 318 P **P** **15 00 45.7 +0.5**
SNR=23
ZAA0 Zalesovo Array 62.04 334 P **P** **15 00 43.2 -1.7**
ZAA0 IAmb IAmb 15 01 09.2
comp=Z,12nm,1.0s
ZALV Zalesovo Beam 62.04 334 P **P** **15 00 44.1 -0.8**
comp=Z,4.1nm,0.4s,baz=115,slow=6.1,SNR=19
ZALV PKP2bc 15 30 00.9
comp=Z,0.9nm,0.4s,baz=298,slow=3.2,SNR=7.4
ZALV LR LR 15 30 43.7
comp=Z,90nm,18.2s,baz=124,slow=39
ZALV Zalesovo Beam 62.04 334 *i*P **P** **15 00 44.4 -0.5**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV Zalesovo Beam 62.04 334 P **P** **15 00 43.4 -1.5**
KBL Kabul 62.47 308 P **P** **15 00 47.4 -1.0**
KBL pmax pmax
comp=Z,36nm,0.7s
KBL Kabul 62.47 308 P **P** **15 00 47.4 -1.0**
BTLS Baital 62.90 321 *e*P **P** **15 00 50.1 -0.7**
baz=321
BTLS Baital 62.90 321 *e*P **P** **15 00 50.1 -0.7**
AFI Afiamalu 63.06 107 P **P** **15 00 52.1 -0.4**
comp=Z,28nm,1.0s,baz=253,slow=15,SNR=3.9
SEY Seymchan 63.70 13 P **P** **15 00 57.4 +1.7**
comp=Z,9.9nm,0.8s,baz=215,slow=6.2,SNR=29
SEY Seymchan 63.70 13⇑ *e*P **P** **15 00 56.3 +0.6**
IUG Iuzhnay 64.35 316 *e*P **P** **15 01 00.3 -0.3**
comp=Z,7.8nm,1.0s,baz=316
IUG Iuzhnay 64.35 316 *e*P **P** **15 01 00.3 -0.3**
IUG pmax pmax
comp=Z,8.0nm,1.0s
KK31 Karatay Array 64.39 318 P **P** **15 01 00.6 -0.2**
KK31 pmax pmax
comp=Z,16nm,1.0s
KK31 Karatay Array 64.39 318 P **P** **15 01 00.6 -0.2**
KK31 IAmb IAmb 15 01 07.0
comp=Z,16nm,0.9s
KKAR Karatay Array 64.39 318 P **P** **15 01 00.1 -0.6**
KKAR pmax pmax
comp=Z,16nm,1.0s
KKAR Karatay Array 64.39 318 P **P** **15 01 00.1 -0.6**
KKAR IAmb IAmb 15 01 07.0
comp=Z,16nm,0.9s
KKAR Karatay Array 64.39 318 P **P** **15 00 59.1 -1.7**
BRZS Berezniki 66.00 325 *e*P **P** **15 01 10.8 -0.3**
baz=325
BRZS Berezniki 66.00 325 *e*P **P** **15 01 10.7 -0.3**
HRA Herat 67.83 306 P **P** **15 01 21.3 -2.0**
BRVK Borovoye 68.74 327*d i*P **P** **15 01 28.1 -0.2**
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 68.74 327 P **P** **15 01 27.2 -1.0**
BRVK IAmb IAmb 15 01 32.1
comp=Z,31nm,1.1s
CASY Casey 69.13 187 P **P** **15 01 30.9 +0.5**
CASY IAmb IAmb 15 01 32.7
comp=Z,39nm,0.8s
TIXI Tiksi 69.53 1⇓ *e*P **P** **15 01 32.1 -0.6**
TIXI pmax pmax
comp=Z,87nm,1.7s
TIXI Tiksi 69.53 1 P **P** **15 01 31.5 -1.2**
TIXI IAmb IAmb 15 01 56.6
comp=Z,23nm,1.3s
BILL Bilibino 71.21 15 *i*P **P** **15 01 46.1 +3.0**
BILL *e* 15 02 01.0
BILL *e* 15 04 23.7
BILL *e*PPP PPP 15 06 08.1
BILL pmax pmax
comp=Z,11nm,1.5s
BILL MLR MLR
comp=Z,102nm,21.0s
BILL Bilibino 71.21 15 P **P** **15 01 42.3 -0.8**
GEYT Alibeck 71.87 309 P **P** **15 01 47.9 +0.2**
comp=Z,7.0nm,0.7s,baz=156,slow=7.6,SNR=10.0
GEYT Alibeck 71.87 309 P **P** **15 01 46.4 -1.3**
GYA0B ALIBECK ARRAY 71.87 309 P **P** **15 01 46.8 -0.9**
GYA0B IAmb IAmb 15 02 14.5
comp=Z,17nm,0.9s
SOCY Socotra 72.59 282 P **P** **15 01 50.4 -2.1**
SOCY IAmb IAmb 15 01 55.3
comp=Z,29nm,0.9s
RER Riviere de l'E 72.96 247 P **P** **15 01 52.7 -1.9**
ABKAR Akbulak array 73.39 321 P **P** **15 01 55.8 -0.7**
SPIA Saint Paul Isl 74.00 30 P 15 02 01.0
baz=248
SVE Sverdlovsk 75.34 329⇑ *e*P **P** **15 02 08.2 +0.6**
SVE pmax pmax
comp=Z,82nm,0.6s
AKUT Akutan 75.37 34 P **P** **15 02 06.9 -1.0**
RAR Rarotonga 75.50 112 LR LR 15 33 31.7
comp=Z,121nm,19.4s,baz=246,slow=34
ARU Arti 76.30 328*c i*P **P** **15 02 13.3 +0.2**
ARU 15 05 00.3
ARU S **S** **15 11 57.0 +3.5**
ARU SS **SS** **15 16 46.7 -1.7**
ARU pmax pmax
comp=Z,47nm,0.7s
ARU Arti 76.30 328 P **P** **15 02 12.3 -0.8**
MLOA Mauna Loa Obse 77.83 71 P **P** **15 02 21.2 -1.8**
HMH Humu'ula Sheep 77.92 71 P **P** **15 02 21.1 -2.3**
MLH Mauna Loa 78.01 71 P **P** **15 02 22.3 -1.5**
ANM Nome 78.85 24 P 15 02 28.4
baz=251
ANM Nome 78.85 24 P **P** **15 02 26.9 -0.3**
ANM pmax pmax
comp=Z,5.0nm,0.8s
ANM Nome 78.85 24 P **P** **15 02 26.9 -0.3**
UMR Umm Al-Rimmam 79.34 300 *e*P 15 02 30.3
RDF Al-Radifah 79.45 299 *e*P 15 02 30.7
MIB Mutribah 79.69 300 *e*P 15 02 31.5
RST Umm Al-Ruwaisa 79.96 299 *e*P 15 02 33.0
AKT Akhty 80.33 312 *e*P **P** **15 02 36.8 +0.9**
AKT *e* 15 02 43.6
AKT pmax pmax
comp=Z,18nm,0.6s
ABPO Ambohimpanom 80.64 250 P **P** **15 02 37.9 -0.2**
ABPO pmax pmax
comp=Z,20nm,0.9s
ABPO Ambohimpanom 80.64 250 P **P** **15 02 37.9 -0.2**
ABPO IAmb IAmb 15 02 41.3
comp=Z,20nm,0.9s
RDOG Red Dog Mine 80.89 21 P **P** **15 02 38.0 -0.2**
RDOG Red Dog Mine 80.89 21 P 15 02 39.0
baz=252
RAYN Ar Rayn 81.04 293 P **P** **15 02 39.0 -1.0**
RAYN pmax pmax
comp=Z,11nm,0.8s
RAYN Ar Rayn 81.04 293 P **P** **15 02 39.0 -1.0**
KIRV Kirov 81.60 329*de*P **P** **15 02 42.5 +0.4**
BELG Belogornoye 81.67 323*ce*P **P** **15 02 43.3 +0.7**
BELG pmax pmax
comp=Z,21nm,1.0s
VNDA Vanda 81.77 173 P **P** **15 02 43.6 +1.0**
comp=Z,23nm,0.5s,baz=318,slow=6.2,SNR=128
VNDA LR LR 15 41 15.6
comp=Z,104nm,18.1s,baz=328,slow=37
VNDA Vanda 81.77 173 P **P** **15 02 43.1 +0.5**
VNDA IAmb IAmb 15 02 45.9
comp=Z,32nm,0.7s
GROC Groznyy 81.91 313 *e*P **P** **15 02 45.4 +1.3**
GROC *e**PP **pP** **15 02 59.9 +0.5**
GROC *e* 15 05 52.3
GROC *e*S **S** **15 12 57.2 +3.5**
GROC pmax pmax
comp=Z,79nm,1.3s
MAW Mawson 82.14 200 P **P** **15 02 46.1 +1.4**
comp=Z,34nm,0.6s,baz=81,slow=5.2,SNR=20
MAW LR LR 15 38 06.7
comp=Z,100nm,19.2s,baz=56,slow=35
MAW Mawson 82.14 200 P **P** **15 02 46.6 +1.9**
baz=82,SNR=11
MAW Mawson 82.14 200 P **P** **15 02 46.0 +1.4**
SVW2 Sparrevohn 82.33 29 P **P** **15 02 45.7 -0.3**
GNI Garni 82.48 310*c i*P **P** **15 02 50.3 +2.9**
GNI pmax pmax

comp=Z,50nm,0.7s
KLMR Klimovskoe 86.82 331 *e*P **P 15 03 07.3 -1.2**
KLMR pmax pmax
comp=Z,38nm,0.9s
KLMR Klimovskoe 86.82 331 *e*P **P 15 03 07.3 -1.2**
KLMR AMP 15 03 13.8
comp=Z,38nm,0.9s
VSR Storozhevoye 86.82 321 *e*P **P 15 03 09.3 +0.5**
VSR pmax pmax
comp=Z,20nm,0.5s
LPSR Galich'ya Gora 86.99 322 *e*P **P 15 03 10.5 +1.0**
LPSR pmax pmax
comp=Z,40nm,0.8s
KLU Klutina 87.01 29 P **P 15 03 08.6 -1.0**
KLU Klutina 87.01 29 P 15 03 09.7
baz=269
EYAK Cordova Ski Ar 87.07 30 P 15 03 09.3
baz=269
PAX Paxson 87.25 27 P 15 03 10.5
baz=269
PRP Porcupine Dome 87.27 25 P 15 03 09.4
baz=269
FYU Fort Yukon 87.41 24 P **P 15 03 11.2 -0.1**
BMRM Bremner River 87.64 29 P 15 03 12.0
baz=270
N25K Chitina, Valde 87.64 29 P 15 03 11.7
baz=270
MOS Moscow 87.76 326 *e*P **P 15 03 15.0 +1.8**
MOS *e* 15 03 35.3
MOS *e*S **SKSac 15 13 40.6 +4.1**
MOS pmax pmax
comp=Z,52nm,0.6s
DOT Dot Lake 87.89 27 P **P 15 03 12.9 -0.8**
SCRK Sand Creek 87.92 26 P **P 15 03 13.2 -0.8**
SCRK Sand Creek 87.92 26 P 15 03 14.0
baz=270
ANN Anapa 88.00 315 *e*P **P 15 03 13.2 -1.4**
ANN *e**PP **pP 15 03 26.8 -3.1**
ANN *e* 15 06 36.5
ANN *e*S **SKSac 15 13 36.0 -2.4**
ANN pmax pmax
comp=Z,68nm,1.1s
GLB Gilahina Butte 88.02 29 P **P 15 03 14.1 -0.3**
MENT Mentasta 88.05 27 P **P 15 03 14.3 -0.2**
OBN Obninsk 88.37 325 *e*P **P 15 03 17.9 +1.8**
OBN *e* 15 06 44.8
OBN *e*PPP PPP 15 08 39.4
OBN pmax pmax
comp=Z,82nm,1.7s
OBN MLR MLR
comp=Z,143nm,16.0s
EGAK Eagle 89.12 25 P **P 15 03 19.4 -0.1**
EGAK Eagle 89.12 25 P 15 03 20.1
baz=273
CTG Chitna Glacier 89.23 29 P 15 03 20.7
baz=273
CTGM Chitina Glacie 89.23 29 P **P 15 03 19.8 -0.5**
CTGM IAmb IAmb 15 03 45.7
comp=Z,14nm,1.3s
KMBO Kilima Mbogo 89.40 269 P **P 15 03 23.2 +1.0**
comp=Z,3.7nm,0.9s,baz=76,slow=7.9,SNR=9.1
KMBO LR LR 15 41 45.3
comp=Z,80nm,18.1s,baz=98,slow=34
EIL Elat 90.45 300 LR LR 15 50 25.7
comp=Z,34nm,18.2s,baz=98,slow=40
SYO Syowa Base 90.82 201‖ *e*PcP **PcP 15 03 28.6 +0.4**
SYO Syowa Base 90.82 201‖ *e*sP sP 15 03 51.4 +2.7
EPYK Eagle Plains 90.83 24 P **P 15 03 27.3 -0.2**
EPYK IAmb IAmb 15 03 31.3
comp=Z,15nm,1.4s
EPYK Eagle Plains 90.83 24 P 15 03 27.9
baz=277
BRTR Keskin Array B 91.01 310 P **P 15 03 28.9 -0.2**
comp=Z,3.9nm,0.8s,baz=174,slow=3.7,SNR=8.6
BRTR LR LR 15 52 39.3
comp=Z,36nm,18.4s,baz=88,slow=41
BRTR Keskin Array B 91.01 310 P **P 15 03 28.1 -0.9**
INK Inuvik 91.77 21 P **P 15 03 31.3 -0.4**
INK pmax pmax
comp=Z,8.0nm,1.3s
INK Inuvik 91.77 21 P **P 15 03 31.3 -0.4**
INK IAmb IAmb 15 03 52.6
comp=Z,8.0nm,1.2s
ARA0 ARCESS Array S 91.99 340 *e*P **P 15 03 34.0 +1.2**
ARCES ARCESS Array B 91.99 340 P **P 15 03 32.7 -0.1**
comp=Z,9.0nm,0.9s,baz=72,slow=5.8,SNR=18
ARCES LR LR 15 51 05.9
comp=Z,76nm,18.5s,baz=60,slow=40
ARCES ARCESS Array B 91.99 340 P **P 15 03 32.7 -0.1**
ARCES pmax pmax
comp=Z,16nm,1.2s
ARCES ARCESS Array B 91.99 340 IAmb IAmb 15 03 41.4
comp=Z,16nm,1.1s
SPA0 Spitsbergen Ar 92.11 349 *e*P **P 15 03 34.2 +1.0**
SKAG Skagway 92.36 30 P 15 03 34.8
baz=278
HAMF Hammerfest 92.37 341 *e*P **P 15 03 34.2 -0.2**
BJO1 Bjornoya 92.71 345 *e*P **P 15 03 36.4 +0.4**
KTK1 Kautokeino 92.89 339 *e*P **P 15 03 37.3 +0.4**
AKASG Malin Array Be 93.13 321 P **P 15 03 37.6 -0.7**
comp=Z,3.1nm,0.5s,baz=67,slow=4.7,SNR=5.2
AKASG LR LR 15 49 16.5
comp=Z,92nm,21.3s,baz=65,slow=38
AKASG Malin Array Be 93.13 321 *i* P **P 15 03 39.5 +1.2**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 93.13 321 IAmb IAmb 15 03 47.8
comp=Z,9.7nm,1.5s
AKBB Malin Array Si 93.13 321‖ *e*P **P 15 03 39.0 +0.7**
AKBB pmax pmax
comp=Z,10.0nm,1.2s
FINES FINESS Array B 93.26 332 P **P 15 03 38.5 -0.3**
comp=Z,4.1nm,0.6s,baz=86,slow=4.3,SNR=13
FINES LR LR 15 49 34.6
comp=Z,102nm,19.0s,baz=76,slow=38
FINES FINESS Array B 93.26 332 *i* P **P 15 03 40.2 +1.5**
FINES pmax pmax
comp=Z,9.0nm,0.9s
MNK Minsk 93.43 325 *i* P **P 15 03 37.1 -2.6**
comp=E,2.0nm,0.9s
MNK *i* P **P 15 03 37.1 -2.6**
comp=N,12nm,0.9s
MNK *i* P **P 15 03 37.1 -2.6**
comp=Z,4.0nm,0.6s
MNK *i* PP **PP 15 07 20.6 -3.6**
MNK *i* PPP PPP 15 09 21.6
MNK *i* S **SKSac 15 14 06.6 -2.7**
MNK *i* SKS **SKSac 15 14 25.4 -3.4**
MNK *i* SS **SS 15 20 58.3 -2.2**
MNK *i* SSS SSS 15 24 39.7
MNK *i* LQ LQ 15 39 53.4
MNK *i* LR LR 15 45 28.7
MNK *i* LRM MLR 15 46 29.0
comp=N,77nm,18.7s
MNK *i* LRM MLR 15 46 29.3
comp=E,5.0nm,14.5s
MNK *i* LRM MLR 15 46 36.4
comp=Z,80nm,14.5s
TAOE Nuku Hiva Isla 93.50 99 *e*LR LR 15 33 53.8
comp=Z,168nm,22.9s
JETT Jettan, Norway 93.72 340 *e*P **P 15 03 42.6 +1.8**
NACGM Naroch 94.00 325 *i* P **P 15 03 43.8 +1.5**
NACGM *i* P **P 15 03 43.8 +1.5**
NACGM *i* P **P 15 03 43.8 +1.5**
NACGM *i* PP PP 15 07 10.6 -18
NACGM *i* PPP PPP 15 09 16.0
NACGM *i* SKS **SKSac 15 14 06.7 -5.7**
NACGM *i* PS PS 15 15 44.6 -25
NACGM *i* SS SS 15 21 25.8 +17
NACGM *i* SSS SSS 15 25 32.1
NACGM *i* LQ LQ 15 34 43.6
NACGM *i* LR LR 15 40 40.1
TRO Tromso 94.20 340 *e*P **P 15 03 44.0 +1.1**
WRAK Wrangell Islan 94.42 33 P 15 03 44.6
baz=280
C36M Paulatuk 94.83 20 P **P 15 03 45.7 -0.1**
C36M IAmb IAmb 15 04 08.5
comp=Z,8.1nm,0.9s
C36M Paulatuk 94.83 20 P 15 03 45.8
baz=289
N2IH Innhavet 95.77 339 *e*P **P 15 03 51.3 +1.2**
STEI Steigen 96.03 339 *e*P **P 15 03 53.1 +1.9**
MLR Muntele Rosu 96.03 316 LR LR 15 53 08.8
comp=Z,36nm,21.0s,baz=72,slow=39
MLR Muntele Rosu 96.03 316 P **P 15 03 52.0 0.0**
MLR pmax pmax
comp=Z,8.0nm,0.7s
MLR Muntele Rosu 96.03 316 P **P 15 03 52.0 0.0**
MLR IAmb IAmb 15 04 04.3
comp=Z,8.3nm,0.7s
BURAR Bucovina Array 96.18 318 P **P 15 03 52.3 -0.3**
BURAR IAmb IAmb 15 03 59.5
comp=Z,9.6nm,0.7s
BUR08 Bucovina Ar. S 96.19 318 P **P 15 03 51.8 -0.8**
BUR08 IAmb IAmb 15 04 02.2
comp=Z,9.6nm,0.8s
LOF Lofoten 96.55 340 *e*P **P 15 03 54.2 +0.6**
LVV L'vov 96.56 320 *e*P P 15 03 48.4 -5.7
N2SV S_rvÿgen 96.82 340 *e*P **P 15 03 54.9 +0.1**
MOR8 Moi Rana 96.95 338 *e*P **P 15 03 55.4 -0.1**
STOK Stokkvaagen 97.42 338 *e*P Pdif 15 03 59.1 +1.5
KOLS Kolonicke sedl 97.86 320 *e*P Pdif 15 04 03.1 +3.0
KOLS Kolonicke sedl 97.86 320 *e*PDIFF Pdif 15 04 03.1 +3.0
UZH Uzhgorod 97.91 320‖ *e*P Pdif 15 04 02.8 +2.6
UZH *i* 15 04 13.9
CRVS Cervenica-Dubn 98.39 320 *e*P Pdif 15 04 05.4 +3.0
CRVS Cervenica-Dubn 98.39 320 *e*PDIFF Pdif 15 04 05.4 +3.0
NSS Namsos 98.53 337 *e*Pdif Pdif 15 04 03.4 +0.8
DAG Danmarks Havn 98.91 352 *i* P **P 15 04 03.5 -0.6**
DAG Danmarks Havn 98.91 352 *i* P **P 15 04 03.5 -0.6**
DAG Danmarks Havn 98.91 352 *i* P **P 15 04 03.5 -0.6**
RES Resolute Bay 99.49 10 P **Pdif 15 04 06.6 -0.1**
RES pmax pmax
comp=Z,13nm,1.5s
RES Resolute Bay 99.49 10 P **Pdif 15 04 06.6 -0.1**
RES IAmb IAmb 15 04 14.7
comp=Z,13nm,1.5s
NB2 NORSAR Subarra100.24 333 P **Pdif 15 04 09.4 -1.0**
comp=Z,4.4nm,1.0s,baz=70,slow=4.6
NB2 NORSAR Subarra100.24 333 P **Pdif 15 04 09.4 -1.0**
baz=70,slow=4.6
NOA NORSAR Array B 100.24 333 P **Pdif 15 04 09.2 -1.3**
comp=Z,1.3nm,0.7s,baz=69,slow=4.6,SNR=6.2
YKA Yellowknife Ar 101.08 24 P **Pdif 15 04 14.2 +0.2**
comp=Z,0.7nm,0.6s,baz=300,slow=4.0,SNR=15
YKA PKiKP **PKiKP 15 08 40.0 +1.1**
comp=Z,0.5nm,0.7s,baz=306,slow=0.9,SNR=8.9
YKA PKKPbc **PKKPbc 15 20 25.4 -2.0**
comp=Z,0.9nm,0.8s,baz=111,slow=3.1,SNR=8.8
YKA Yellowknife Ar 101.08 24 *i* P **Pdif 15 04 14.8 +0.8**
YKA pmax pmax
comp=Z,1.0nm,0.6s
CLL Collm 102.93 324 *e*PS PS 15 17 42.0 -4.2
CLL *e*SS SS 15 24 06.0 +52
CLL *e*SSS SSS 15 28 06.0
CLL *e* 15 32 00.0
GERES GERESS Array B 103.33 321 Pdiff **Pdif 15 04 26.6 +2.1**
comp=Z,0.5nm,0.5s,baz=50,slow=5.2,SNR=2.2
SNAA Sanae 103.56 195 Pdiff **Pdif 15 04 24.1 -0.9**
VNA2 Neumayer--Watz 105.17 194 PKiKP **PKiKP 15 08 48.0 +1.9**
VNA2 Neumayer--Watz 105.17 194 Pdiff **Pdif 15 04 36.3 +4.3**
VNA3 Neumayer Olymp 105.49 193 PKiKP **PKiKP 15 08 48.5 +1.8**
NVAR Mina Array Bea 108.11 48 PKiKP **PKiKP 15 08 54.0 +1.2**
comp=Z,0.7nm,0.9s,baz=5.2,slow=2.0,SNR=3.0
NVAR PP **PP 15 09 16.0 0.0**
comp=Z,0.4nm,0.8s,baz=113,slow=2.3,SNR=2.8
NVAR PKKPbc **PKKPbc 15 20 05.5 -0.3**
comp=Z,0.4nm,0.7s,baz=108,slow=4.8,SNR=3.9
NVAR PKKP **PKKPdf 15 20 19.4 -0.1**
comp=Z,0.5nm,0.6s,baz=127,slow=5.0,SNR=5.0
PDAR Pinedale Array 112.69 42 PKiKP **PKiKP 15 09 02.3 +0.9**
comp=Z,0.3nm,0.6s,baz=207,slow=1.0,SNR=4.4
PDAR PKKPbc **PKKPbc 15 19 50.5 -0.6**
comp=Z,0.7nm,0.5s,baz=114,slow=4.2,SNR=10
PDAR PKKPab **PKKPab 15 19 58.5 -0.2**
comp=Z,1.6nm,0.8s,baz=116,slow=6.9,SNR=9.7
O20A White River Ci 114.73 44 P 15 09 05.6
baz=296
RSSD Black Hills 115.58 38 PKiKP **PKiKP 15 09 05.5 -1.3**
RSSD Black Hills 115.58 38 **PKiKP 15 09 05.5 -1.3**
RSSD Black Hills 115.59 38 P 15 09 06.9
baz=301
MVCO Mesa Verde 115.79 47 P 15 09 07.9
baz=294
ULM Lac du Bonnet 116.49 29 PKP **PKiKP 15 09 08.2 +0.1**
comp=Z,3.2nm,0.7s,baz=302,slow=3.2,SNR=9.5
ULM Lac du Bonnet 116.49 29 PKPdf **PKPdf 15 09 07.9 -0.2**
T25A Trinidad 118.76 45 P 15 09 13.6
baz=298
ECSD EROS Data Cent 120.23 35 PKPdf **PKPdf 15 09 15.5 0.0**
ECSD EROS Data Cent 120.23 35 P 15 09 16.2
baz=308
MNTX Cornudas Mount 120.40 51 P 15 09 17.1
baz=294
F36A Milaca 120.57 32 PKPdf **PKPdf 15 09 15.9 -0.1**
SPMN Marine on St. 121.38 32 P 15 09 18.2
baz=312
MSTX Muleshoe 121.40 48 P 15 09 18.2
baz=297
I37A Lemond, Waseca 121.86 33 **PKPdf 15 09 18.7 +0.1**
D41A Chassel 122.19 28 **PKPdf 15 09 19.0 -0.2**
TXAR Lajitas Array 122.71 53 PKP **PKiKP 15 09 21.9 +0.9**
comp=Z,0.9nm,0.6s,baz=337,slow=2.1,SNR=10
TXAR PKKPbc **PKKPab 15 19 14.8 +0.1**
comp=Z,0.2nm,0.4s,baz=133,slow=3.8,SNR=4.3
TXAR Lajitas Array 122.71 53 PKPdf **PKPdf 15 09 18.6 -2.2**
TORD Torodi Ar. Bea 123.32 287 PKP **PKiKP 15 09 22.5 +0.1**
comp=Z,2.9nm,0.7s,baz=77,slow=1.7,SNR=16
TORD PKKPbc **PKKPab 15 19 13.3 +1.3**
comp=Z,1.6nm,0.8s,baz=269,slow=3.4,SNR=7.0
TORD Torodi Ar. Bea 123.32 287 **PKPdf 15 09 20.8 -1.4**
WMOK Wichita Mounta 123.91 45 P 15 09 23.5
baz=301
JFWS Jewell Farm 124.30 32 P 15 09 23.2
baz=314
MATQ Matagami 124.34 19 P 15 09 23.0
baz=330
P38A Dawn 124.58 37 PKPdf **PKPdf 15 09 23.0 -0.9**
E46A Sault Ste Mari 124.62 26 PKPdf **PKPdf 15 09 23.8 -0.1**
JCT Junction City 125.24 50 P 15 09 26.2
baz=298
S39A Bolivar 125.90 39 **PKPdf 15 09 25.3 -1.2**
R40A Maddies Statio 126.18 38 **PKPdf 15 09 26.2 -0.8**
CCM Cathedral Cave 126.95 37 PKiKP **PKPdf 15 09 28.5 0.0**
CCM Cathedral Cave 126.95 37 PKPdf **PKPdf 15 09 28.5 0.0**
CCM Cathedral Cave 126.96 37 P 15 09 29.1
baz=310
U40A Yellville 127.01 40 **PKPdf 15 09 28.4 -0.3**
U40A Yellville 127.01 40 P 15 09 28.5
baz=307
W39A Magazine 127.09 42 P 15 09 28.7
baz=306
D55A Sainte-Anne-du 127.43 19 P 15 09 29.1
baz=332
ALGO Algonquin Park 127.47 22 P 15 09 29.4
baz=328
FVM French Village 127.50 37 PKiKP **PKPdf 15 09 29.0 -0.6**
FVM French Village 127.50 37 **PKPdf 15 09 29.0 -0.6**
MIAR Mount Ida 127.61 42 P 15 09 30.6
baz=306
D56A ZEC Mazanza, M 127.64 18 P 15 09 30.0
baz=333
SFIN Lafayette 127.75 32 P 15 09 30.6
baz=316
G54A Lake Saint Pet 127.92 22 P 15 09 30.9
baz=328
LATQ La Tuque 127.93 17 P 15 09 31.2
baz=335
E56A St. Veronique 128.00 19 P 15 09 30.9
baz=332
I51A Listowel 128.07 25 P 15 09 31.0
baz=324
D58A Chemin du LacG 128.16 17 P 15 09 30.9
baz=336
LCAR Lake Charles 128.27 39 **PKPdf 15 09 30.8 -0.3**
H53A Bobcaygeon 128.43 23 P 15 09 32.3
baz=327
E61A Lac Etchemin 129.43 15 P 15 09 33.5
baz=338
D63A Stockholm 129.45 13 P 15 09 33.4
baz=341
F60A Warwick 129.45 17 P 15 09 33.4
baz=336
H57A Richville 129.71 20 P 15 09 34.5
baz=331
L53A Girard 129.90 26 P 15 09 34.1
baz=324
ACSO Alum Creek Sta 129.98 30 P 15 09 34.7
baz=320
I57A Carthage 130.07 21 P 15 09 34.8
baz=330
H58A Gabriels 130.16 19 P 15 09 35.1
baz=332
J56A Wolcott 130.19 22 P 15 09 34.8
baz=329
G61A St-Isidore-de- 130.20 17 P 15 09 35.0
baz=336
WVT Waverly 130.28 37 P 15 09 35.0
baz=312
OXF Oxford 130.36 40 P 15 09 35.5
baz=310
J57A Williamstown 130.40 22 P 15 09 35.3
baz=330
F63A Nahmakanta, Br 130.47 14 P 15 09 35.3
baz=339
F64A Sherman 130.50 14 P 15 09 35.8
baz=340
M54A Oil Creek Stat 130.52 26 **PKPdf 15 09 34.1 -1.1**
M54A Oil Creek Stat 130.52 26 P 15 09 36.7
baz=324
I58A Old Forge 130.53 21 P 15 09 35.9
baz=331
KIC Kosan Boka 130.73 280 *e*PKIKP **PKiKP 15 09 38.4 +1.1**
comp=Z,38nm,1.6s
H61A Lyndonville 130.77 17 P 15 09 36.5
baz=335
K57A Scipio Center 130.79 22 P 15 09 36.9
baz=329
DBIC Dimbokro 130.80 281 PKP **PKiKP 15 09 37.9 +0.5**
comp=Z,3.2nm,0.6s,baz=100,slow=3.0,SNR=5.9
P52A Corning 130.86 29 P 15 09 36.9
baz=321
J59A Piesco 130.89 20 P 15 09 36.7
baz=332
I60A Shoreham 130.96 19 P 15 09 36.9
baz=333
TIC Toumodi 130.96 281 *e*PKIKP **PKiKP 15 09 38.7 +1.0**
LIC Lamto 131.03 280 *e*PKIKP **PKiKP 15 09 38.5 +0.6**
comp=Z,14nm,0.5s
K58A Earlville 131.09 22 P 15 09 37.8
baz=330
M56A Emporium 131.17 25 P 15 09 37.9
baz=326
L57A Andrews Acres 131.28 23 P 15 09 37.1
baz=328
H65A Eastbrook 131.62 14 P 15 09 37.9
baz=340
M57A Sunshine Farm, 131.73 24 P 15 09 38.8
baz=328
MCWV Mont Chateau 131.93 28 P 15 09 38.2
baz=323
O56A Blue Knob Stat 132.01 26 P 15 09 39.2
baz=325
N57A Milroy 132.04 25 P 15 09 37.6
baz=327
N58A Sunbury 132.32 24 P 15 09 39.6
baz=328
L61B Northampton 132.41 19 P 15 09 39.8
baz=334
O57A Amberson 132.46 25 P 15 09 40.2
baz=326
P56A Dayton Farm, R 132.51 27 P 15 09 40.1
baz=324
R54A Victor 132.55 30 P 15 09 40.1
baz=321
K63A Dunstable 132.56 18 P 15 09 40.2
baz=335
N59A State Game Lan 132.63 23 P 15 09 40.3
baz=329
S54A Dingess, Beckl 132.68 30 P 15 09 40.5
baz=321
O58A Lewisberry 132.84 25 P 15 09 40.8
baz=327
LRAL Lakeview Retre 132.84 39 P 15 09 41.0
baz=311
P57A Homestead Farm 132.90 26 P 15 09 41.2
baz=325
N60A Cedar Hill Far 132.93 23 P 15 09 39.8
baz=330
M61A Granite Spring 133.04 21 P 15 09 40.3
baz=332
Q58A Fox Den Farm, 133.49 26 P 15 09 41.4
baz=326
R57A Stanardsville 133.64 28 P 15 09 42.5
baz=324
T56A Rocky Mt 133.92 30 P 15 09 42.0
baz=322
R58B Mineral 134.20 27 P 15 09 40.9
baz=325
V57A Coltrane Farms 134.94 31 P 15 09 44.4
baz=321
PLCA Paso Flores 138.47 160 PKhKP PKPpre 15 09 42.8
comp=Z,1.3nm,0.7s,baz=220,slow=5.7,SNR=6.2
PLCA PKP **PKPdf 15 09 51.1 +0.9**
comp=Z,5.8nm,0.9s,baz=228,slow=3.2,SNR=6.4
RFA San Rafael 144.53 158 *i* P **PKPdf 15 10 00.9 -0.4**
MT02 Curacav 144.76 154 **PKPdf 15 10 01.6 0.0**
BOAB BOACO BROADBAND 144.86 65 **PKPdf 15 10 02.1 -0.1**
PEL Peldehue 145.06 154 PKIKP **PKPab 15 10 01.9 +0.2**
PEL Peldehue 145.06 154 **PKPab 15 10 01.9 +0.2**
VA03 San Esteban 145.44 154 **PKPab 15 10 03.5 +0.4**
AVIZ Vizcacheras 145.66 157 *i* P **PKPab 15 10 05.6 +1.7**
AAGR Agrelo 145.88 157 *i* P **PKPab 15 10 06.1 +1.4**
ARCO CERRO ARCO 146.05 156 *i* P **PKPab 15 10 06.5 +0.9**
CBCY The Bluff, Cay 146.26 49 PKPbc **PKPdf 15 10 04.7 +0.2**
JTS Las Juntas de 146.27 68 PKIKP **PKPdf 15 10 04.1 -0.6**
JTS Las Juntas de 146.27 68 **PKPdf 15 10 04.1 -0.6**
JTS Las Juntas de 146.27 68 *e*P **PKPab 15 10 07.5 +0.8**
ASAL Salagasta 146.31 156 *i* P **PKPab 15 10 06.7 +0.3**
AUSP Uspallata 146.40 155 *i* P **PKPab 15 10 08.0 +1.0**
CO02 Combarbal 146.55 152 **PKPbc 15 10 06.6 +0.3**
CO03 El Pedregal 147.00 152 **PKPdf 15 10 06.2 +0.6**
RTCV Cerro Valdivia 147.07 156 *i* P **PKPab 15 10 08.8 -0.5**
ZON Zonda 147.29 155 PKP2 **PKPbc 15 10 07.7 -0.7**
ZON Zonda 147.29 155 **PKPbc 15 10 07.7 -0.7**
GO04 Tololo Observa 147.50 151 **PKPdf 15 10 07.5 +0.9**
GO04 Tololo Observa 147.50 151 *i* P **PKPbc 15 10 10.1 +0.8**
RTLL Cerro Villicun 147.56 155 *i* P PKPdf 15 09 53.8 -13
MRA San Martin 147.63 160 *i* P **PKPbc 15 10 10.4 +1.1**
CO01 Juntas del Tor 148.00 152 **PKPdf 15 10 08.7 +1.2**
CO01 PKPab **PKiKP 15 10 12.1 -0.4**
RIOS Rincon, Osa 148.13 70 PKPbc **PKPbc 15 10 09.6 -1.4**
RIOS **PKiKP 15 10 12.8 0.0**
PRVC Isla de Provid 148.30 60 *e*P **PKPbc 15 10 11.7 +0.2**
LCO Las Campanas 148.51 150 PKIKP **PKPdf 15 10 10.2 +1.8**
LCO Las Campanas 148.51 150 **PKPdf 15 10 10.2 +1.8**
AVFE Valle Fertil 148.57 156 *i* P **PKPdf 15 10 09.6 +1.4**
MTDJ Mount Denham 148.84 49 PKPab **PKiKP 15 10 14.6 +0.3**
MTDJ Mount Denham 148.84 49 *e*P **PKiKP 15 10 14.1 -0.2**
AC05 El Transito 148.86 150 PKPab **PKiKP 15 10 14.0 -0.1**
AC04 Llanos de Chal 148.97 149 PKPab **PKiKP 15 10 14.1 0.0**
GTBY Guantanamo Bay 149.49 43 *e*P **PKiKP 15 10 15.1 -0.3**
ACLC CERRO LA CRUZ 149.86 156 *i* P **PKiKP 15 10 16.4 +0.2**
AC01 Pan de Azucar 150.87 147 PKPbc **PKPbc 15 10 16.8 -0.8**
BCIP Isla Barro Col 151.39 67 *e*P **PKPbc 15 10 19.3 +0.3**
SDDR Presa de Saban 152.68 39 *e*P **PKPbc 15 10 21.7 -0.2**
NNA Nana 154.73 114 PKIKP **PKPbc 15 10 23.1 -3.3**
NNA Nana 154.73 114 PKPbc **PKPbc 15 10 23.1 -3.3**
SJCC San Jacinto, C 155.27 61 *e*P **PKPdf 15 10 20.0 +1.4**
MOTC Monteria, Cord 155.33 64 *e*P **PKPdf 15 10 19.1 +0.4**
CPUP Villa Florida 155.55 171 PKP **PKPdf 15 10 19.6 +1.0**
comp=Z,1.8nm,0.7s,baz=289,slow=3.4,SNR=3.7
CPUP PKPab **PKPab 15 10 45.0 +0.6**
comp=Z,14nm,0.9s,baz=203,slow=4.7,SNR=11
CPUP Villa Florida 155.55 171 PKIKP **PKPdf 15 10 17.3 -1.3**
CPUP Villa Florida 155.55 171 PKPdf **PKPdf 15 10 17.3 -1.3**
ZARC Zaragoza, Cauc 156.58 66 *e*P **PKPdf 15 10 21.0 +0.7**
MNMC Minye Minye 156.75 138 PKPdf **PKPdf 15 10 18.6 -2.1**
BETC Betania 157.46 78 *e*P **PKPdf 15 10 22.8 +1.3**
PAMC Pamplona, Colo 158.59 64 *e*P **PKPdf 15 10 22.8 -0.6**
LPAZ La Paz 159.72 135 PKP **PKPdf 15 10 26.1 +1.3**
comp=Z,4.1nm,1.1s,baz=298,slow=3.2,SNR=9.4
LPAZ PKPab **PKPab 15 11 04.5 +1.0**
comp=Z,2.9nm,0.8s,baz=163,slow=6.9,SNR=5.0
LPAZ La Paz 159.72 135 *e*P **PKPdf 15 10 25.2 +0.4**
PTGC Puerto Gaitan, 160.26 72 *e*P **PKPdf 15 10 24.5 -0.3**
BDFB Brasilia 165.48 201 PKP **PKPdf 15 10 31.2 +1.3**
comp=Z,2.0nm,0.6s,baz=126,slow=2.4,SNR=4.9
BDFB PKPab **PKPab 15 11 29.8 +1.8**
comp=Z,7.6nm,0.8s,baz=132,slow=3.6,SNR=7.4
SAML Samuel 168.07 126 *e*P **PKPdf 15 10 32.1 +0.4**

IDC 24 15:08:21.4±2.5, 2.90S×147.91E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/24, mbtmp3.7/5, Error ellipse:

s-maj=92.9km s-min=24.0km az=109.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.51**	**217**	P	P	15 13 11.8	-0.3
	2.0nm,0.8s,baz=43,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.69**	**212**	P	P	15 13 44.7	+0.2
	1.4nm,0.8s,baz=38,slow=7.1,SNR=15						
FITZ	**Fitzroy Crossi**	**26.54**	**234**	P	P	15 14 01.3	+0.1
	4.1nm,1.0s,baz=74,slow=9.4,SNR=3.5						
H11S3	**WAKE ISLAND Hy**	**28.18**	**40**	T	T	15 43 49.7	
	baz=222,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.18**	**40**	T	T	15 43 50.8	
	baz=222,slow=76						
H11S1	**WAKE ISLAND Hy**	**28.19**	**40**	T	T	15 43 50.7	
	baz=222,slow=76						
H11N1	**WAKE ISLAND Hy**	**29.20**	**39**	T	T	15 45 07.7	
	baz=219,slow=76						
H11N3	**WAKE ISLAND Hy**	**29.22**	**39**	T	T	15 45 09.4	
	baz=219,slow=76						
H11N2	**WAKE ISLAND Hy**	**29.22**	**39**	T	T	15 45 09.6	
	baz=219,slow=76						
PETK	**Petropavlovsk-**	**56.41**	**7**	P	P	15 18 04.8	+0.2
	2.0nm,1.0s,baz=167,slow=8.9,SNR=1.9						
SONM	**Songino Array**	**62.17**	**330**	P	P	15 18 44.4	-0.4
	0.2nm,0.6s,baz=112,slow=4.8,SNR=1.7						

WEL 24 15:22:46.7±1.0, 35°S±9′×178°0E±1′4, h33km, M3.7/15, ML3.9/15, MLv3.7/15, Error ellipse: s-maj=0.0km s-min=0.0km az=115.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.76**	**208**	P	Pn	15 23 29.1	+0.4
WMGZ	**Waiomatatini S**	**2.95**	**204**	P	Pn	15 23 32.3	+1.0
WMGZ				S	Sn	15 24 07.8	+2.2
PKGZ	**Pakihiroa**	**3.14**	**208**	P	Pn	15 23 34.4	+0.5
PKGZ				S	Sn	15 24 11.6	+1.3
HAZ	**Te Kaha**	**3.15**	**213**	P	Pn	15 23 35.3	+1.3
HAZ				S	Sn	15 24 13.2	+2.8
PUZ	**Puketiti**	**3.23**	**204**	P	Pn	15 23 35.3	+0.1
RUGZ	**Raukumara Rang**	**3.37**	**212**	P	Pn	15 23 37.4	+0.2
RUGZ				S	Sn	15 24 17.4	+1.4
TWGZ	**Tauwhareparae**	**3.43**	**207**	P	Pn	15 23 38.1	+0.3
TWGZ				S	Sn	15 24 20.0	+2.7
CNGZ	**Carnagh Statio**	**3.62**	**202**	P	Pn	15 23 40.6	+0.1
TKGZ	**Te Karaka**	**3.71**	**207**	P	Pn	15 23 41.0	-0.6
TKGZ				S	Sn	15 24 25.2	+1.1
MWZ	**Matawai**	**3.74**	**211**	P	Pn	15 23 41.8	-0.3
MWZ				S	Sn	15 24 25.4	+0.3
KUZ	**Kuaotunu**	**3.79**	**244**	P	Pn	15 23 43.4	+0.6
URZ	**Urewera**	**3.87**	**215**	P	Pn	15 23 43.4	-0.4
URZ				S	Sn	15 24 27.6	-0.5
RIGZ	**Rimuhau**	**3.97**	**206**	P	Pn	15 23 43.2	-2.2
RIGZ				S	Sn	15 24 32.0	+1.1
PRGZ	**Paritu Road**	**4.13**	**203**	P	Pn	15 23 46.4	-1.1
PRGZ				S	Sn	15 24 34.1	-0.5
SNGZ	**Shannon Statio**	**4.20**	**209**	P	Pn	15 23 47.8	-0.6
SNGZ				S	Sn	15 24 36.4	0.0
MUGZ	**Murupara**	**4.20**	**216**	P	Pn	15 23 47.6	-0.9
MUGZ				S	Sn	15 24 35.6	-0.8
RTZ	**Ruatahuna**	**4.21**	**214**	P	Pn	15 23 48.0	-0.8
RTZ				S	Sn	15 24 36.3	-0.5
KMRZ	**Kaimai**	**4.21**	**229**	P	Pn	15 23 50.3	+1.6
MTHZ	**Maungataniwha**	**4.47**	**213**	P	Pn	15 23 52.2	0.0
MTHZ				S	Sn	15 24 43.3	+0.2
ARHZ	**Aropaoanui**	**4.75**	**209**	P	Pn	15 23 54.9	-1.0
ARHZ				S	Sn	15 24 49.2	-0.7

IDC 24 15:24:32.9±3.1, 32°83S×178°42W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/38, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=72.5km s-min=46.3km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.53**	**213**	Pn	Pn	15 26 09.2	-1.0
	1.3nm,0.3s,baz=120,slow=23,SNR=6.4						
URZ				Sn	Sn	15 27 20.7	-4.7
	1.1nm,0.3s,baz=121,slow=23,SNR=1.7						
ASAR	**Alice Springs**	**42.68**	**270**	P	P	15 32 31.7	0.0
	0.2nm,0.4s,baz=112,slow=7.9,SNR=9.0						
WRA	**Warramunga Arr**	**43.89**	**275**	P	P	15 32 41.4	0.0
	0.5nm,0.4s,baz=114,slow=8.0,SNR=14						
FINES	**FINESS Array B**	**147.28**	**338**	PKPbc	PKPbc	15 44 16.7	-0.8
	1.4nm,0.8s,baz=35,slow=3.4,SNR=5.4						

ANF ***24*** *15:31:51.1±0.5, 37°.11N×97°.66W, h3km±3km, ML4.6/23, Error ellipse: s-maj=2.2km s-min=1.9km az=75.0*

NEIC ***24*** *15:31:51.3, 37°.11N×97°.65W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.25; $M_{\theta\theta}$=0.73; $M_{\phi\phi}$=0.98; $M_{r\theta}$=0.32; $M_{r\phi}$=4.33; $M_{\theta\phi}$=0.17; Fault plane solution: M_w=4.43000×10^{14} NP1:ϕ_s275.54000°, δ88.53000°, λ-4.20000°. NP2:ϕ_s5.65000°, δ85.80000°, λ-178.52000°. Principal axes: T 4.2915, Plg2.0000°, Azm321.0000°; N 0.2689, Plg86.0000°, Azm76.0000°; P -4.5604, Plg4.0000°, Azm231.0000°;*

NEIC ***24*** *15:31:51.5±0.5, 37°.11N±0°.01×97°.65W±0°.01, h6km±4km, mb_Lg3.8/142, Mwr3.7/20 Error ellipse: s-maj=1.8km s-min=1.3km az=197.0*

IDC ***24*** *15:31:52.1±1.5, 37°.20N×97°.92W, h0km, mb3.4/2, mb1 3.8/6, mb1mx3.5/60, mbtmp3.5/6, ML4.3/2, MS2.3/1, Ms1 2.3/1, ms1mx2.2/31, Error ellipse: s-maj=23.6km s-min=10.8km az=105.0*

ISC 24 15:31:51.2±0.8, 37°.10N±0°.03×97°.65W±0°.02, h8km±6km, n160, σ0°85/125, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN09	**Caldwell North**	**0.05**	**37**		**Pg**	**15 31 52.8**	**-0.1**
KAN01	**Argonia South**	**0.10**	**303**		**Pg**	**15 31 53.7**	**0.0**
KAN13	**South Haven SW**	**0.17**	**121**		**Pg**	**15 31 55.1**	**+0.4**
KAN13				Sg	**Sg**	**15 31 57.5**	**+0.5**
KAN05	**Bluff City Nor**	**0.17**	**273**		**Pg**	**15 31 55.1**	**+0.2**
KAN05				Sg	**Sg**	**15 31 57.3**	**-0.1**
KAN08	**Anthony NE Sta**	**0.28**	**297**		**Pg**	**15 31 57.1**	**+0.2**
KAN08				Sg	**Sg**	**15 32 00.8**	**+0.1**
KAN14	**Manchester OK**	**0.28**	**240**		**Pg**	**15 31 57.1**	**+0.2**
GC02	**Grant County #**	**0.30**	**214**		**Pg**	**15 31 57.3**	**+0.2**
KAN12	**Harper NE Stat**	**0.34**	**306**		**Pg**	**15 31 58.1**	**+0.2**
KAN12				Sg	**Sg**	**15 32 02.5**	**+0.1**
KAN10	**Anthony SW Sta**	**0.35**	**274**		**Pg**	**15 31 58.5**	**+0.2**
OK032	**Salt Plains WL**	**0.53**	**237**	Pg	**Pg**	**15 32 01.7**	**+0.1**
CROK	**Carrier**	**0.65**	**204**		**Pg**	**15 32 03.8**	**+0.1**
CROK				Sg	**Sg**	**15 32 12.4**	**+0.2**
T35A	**Sooner Cattle**	**0.93**	**101**		**Pg**	**15 32 09.0**	**-0.2**
T35B	**Sooner Cattle**	**0.93**	**101**	P	**Pg**	**15 32 09.1**	**0.0**
	baz=282,SNR=386						
T35B				S	**Sg**	**15 32 21.6**	**+0.3**
	baz=282						
T35B	**Sooner Cattle**	**0.93**	**101**	P		15 32 09.1	
	baz=282,SNR=386						
T35B				S		15 32 21.6	
	baz=282						
QUOK	**Quay**	**1.20**	**140**	Pg	**Pg**	**15 32 13.9**	**-0.3**
U32A	**Winter Ranch,**	**1.30**	**237**		**Pg**	**15 32 15.4**	**-0.7**
U32A	**Winter Ranch,**	**1.30**	**237**	P	**Pg**	**15 32 15.5**	**-0.7**
	baz=56,SNR=145						
U32A				S	**Sb**	**15 32 33.9**	**+1.2**
	baz=56						
U32A	**Winter Ranch,**	**1.30**	**237**	P		15 32 15.5	
	baz=56,SNR=145						
U32A				S		15 32 33.9	
	baz=56						
OK029	**Liberty Lake**	**1.31**	**173**		**Pg**	**15 32 15.9**	**-0.5**
OK031	**S. Brethren Rd**	**1.32**	**150**		**Pg**	**15 32 15.9**	**-0.6**
OK030	**Cody Creek RV**	**1.36**	**149**		**Pn**	**15 32 16.6**	**0.0**
BCOK	**Bluff Creek, N**	**1.44**	**179**		**Pn**	**15 32 18.1**	**+0.4**
OK025	**Westminster Rd**	**1.54**	**170**		**Pn**	**15 32 19.3**	**+0.4**
R32A	**Long Quarter,**	**1.56**	**328**		**Pn**	**15 32 20.0**	**+0.7**
R32A	**Long Quarter,**	**1.56**	**328**	P	**Pn**	**15 32 20.1**	**+0.7**
	baz=147,SNR=772						
R32A				S	**Sb**	**15 32 41.1**	**+0.7**
	baz=147						
R32A	**Long Quarter,**	**1.56**	**328**	P		15 32 20.1	
	baz=147,SNR=772						
R32A				S		15 32 41.1	
	baz=147						
OKCFA	**Oklahoma City**	**1.69**	**174**	Pn	**Pn**	**15 32 21.8**	**+0.8**
OKCFA	**Oklahoma City**	**1.69**	**174**	S	**Sb**	**15 32 45.3**	**+1.3**
	baz=355						
OKCFA	**Oklahoma City**	**1.69**	**174**	S		15 32 45.3	
	baz=355						
OKCSW	**OKLAHOMA CITY**	**1.70**	**174**		**Pn**	**15 32 21.9**	**+0.7**
FNO	**Franklin**	**1.85**	**174**		**Pn**	**15 32 24.4**	**+1.2**
FNO				IAmb_Lg		15 32 55.4	
	comp=Z,496nm,0.7s						
TUL1	**Leonard**	**1.91**	**128**	Sb	**Sb**	**15 32 51.9**	**+1.5**
	baz=309						
TUL1	**Leonard**	**1.91**	**128**	S		15 32 51.6	
	baz=309						
TUL1	**Leonard**	**1.91**	**128**	Sb		15 32 51.9	
	baz=309						
KSU1	**Kansas State U**	**2.16**	**22**		**Pn**	**15 32 28.4**	**+0.8**
KSU1	**Kansas State U**	**2.16**	**22**	P	**Pn**	**15 32 28.3**	**+0.7**
	baz=203,SNR=40						
KSU1				Sb	**Sb**	**15 32 58.6**	**+1.0**
	baz=203						
KSU1	**Kansas State U**	**2.16**	**22**	P		15 32 28.9	
	baz=203						
KSU1				S		15 32 58.3	
	baz=203						
KSU1	**Kansas State U**	**2.16**	**22**	P		15 32 28.3	
	baz=203,SNR=40						
KSU1				Sb		15 32 58.6	
	baz=203						
CBKS	**Cedar Bluff**	**2.38**	**317**	Pn	**Pn**	**15 32 31.4**	**+0.9**
CBKS				IAmb_Lg		15 33 09.2	
	comp=Z,394nm,0.8s						
CBKS	**Cedar Bluff**	**2.38**	**317**	P	**Pn**	**15 32 31.4**	**+0.9**
	baz=135,SNR=145						
CBKS				Sb	**Sb**	**15 33 05.1**	**+1.2**
	baz=135						
CBKS	**Cedar Bluff**	**2.38**	**317**	P		15 32 31.5	
	baz=135						
CBKS				S		15 33 04.8	
	baz=135						
CBKS	**Cedar Bluff**	**2.38**	**317**	P		15 32 31.4	
	baz=135,SNR=145						
CBKS				Sb		15 33 05.1	
	baz=135						
WMOK	**Wichita Mounta**	**2.53**	**202**	Pn	**Pn**	**15 32 33.2**	**+0.6**
WMOK	**Wichita Mounta**	**2.53**	**202**	P	**Pn**	**15 32 33.3**	**+0.7**
	baz=21,SNR=90						
WMOK	**Wichita Mounta**	**2.53**	**202**	P		15 32 33.3	
	baz=21						
WMOK	**Wichita Mounta**	**2.53**	**202**	P		15 32 33.3	
	baz=21,SNR=90						
U38A	**Gravette**	**2.71**	**103**	IAmb_Lg		15 33 18.3	
	comp=Z,303nm,0.8s						
U38A	**Gravette**	**2.71**	**103**	P	**Pn**	**15 32 36.3**	**+1.2**
	baz=285,SNR=24						
U38A	**Gravette**	**2.71**	**103**	P		15 32 36.3	
	baz=285,SNR=24						
HHAR	**Hobbs**	**3.09**	**104**	Pn	**Pn**	**15 32 40.7**	**+0.3**
HHAR				IAmb_Lg		15 33 30.1	
	comp=Z,172nm,0.9s						
X37A	**Clayton**	**3.12**	**143**	IAmb_Lg		15 33 37.5	
	comp=Z,301nm,0.8s						
X37A	**Clayton**	**3.12**	**143**	P	**Pn**	**15 32 41.6**	**+0.9**
	baz=324,SNR=32						
X37A	**Clayton**	**3.12**	**143**	P		15 32 41.6	
	baz=324,SNR=32						
S39A	**Bolivar**	**3.50**	**79**		**Pn**	**15 32 46.2**	**+0.2**
S39A	**Bolivar**	**3.50**	**79**	P	**Pn**	**15 32 46.5**	**+0.5**
	baz=262,SNR=36						
S39A	**Bolivar**	**3.50**	**79**	P		15 32 46.5	
	baz=262,SNR=36						
N33B	**J Bar K, Exete**	**3.64**	**2**	S	**Sn**	**15 33 31.9**	**+0.9**
	baz=182						
N33B	**J Bar K, Exete**	**3.64**	**2**	S		15 33 31.9	
	baz=182						
N33A	**J Bar K, Exete**	**3.64**	**2**	IAmb_Lg		15 33 51.6	
	comp=Z,260nm,0.9s						
W39A	**Magazine**	**3.66**	**120**		**Pn**	**15 32 48.5**	**+0.4**
W39A				IAmb_Lg		15 33 54.2	
	comp=Z,370nm,1.0s						
W39A	**Magazine**	**3.66**	**120**	P		15 32 49.7	
	baz=303						
Z35A	**Perchaven, San**	**3.77**	**175**	P	**Pn**	**15 32 51.1**	**+1.3**
	baz=355,SNR=8.9						
Z35A				S	**Sn**	**15 33 35.8**	**+1.5**
	baz=355						
Z35A	**Perchaven, San**	**3.77**	**175**	P		15 32 51.1	
	baz=355,SNR=8.9						
Z35A				S		15 33 35.8	
	baz=355						
U40A	**Yellville**	**3.93**	**99**		**Pn**	**15 32 52.1**	**+0.3**
U40A				IAmb_Lg		15 33 59.2	
	comp=Z,317nm,0.8s						
U40A	**Yellville**	**3.93**	**99**	P	**Pn**	**15 32 52.3**	**+0.4**
	baz=282,SNR=46						
U40A	**Yellville**	**3.93**	**99**	P		15 32 52.9	
	baz=282						
U40A				S		15 33 39.0	
	baz=282						
U40A	**Yellville**	**3.93**	**99**	P		15 32 52.3	
	baz=282,SNR=46						
U40A				P		15 32 52.3	
	baz=282,SNR=46						
AMTX	**Amarillo**	**3.94**	**237**	Pn	**Pn**	**15 32 52.4**	**+0.3**
AMTX	**Amarillo**	**3.94**	**237**	Sb		15 33 54.7	
	baz=54						
N35A	**Tabor**	**4.07**	**22**		**Pn**	**15 32 53.9**	**+0.1**
P38A	**Dawn**	**4.11**	**51**	Pn	**Pn**	**15 32 54.5**	**+0.3**
P38A				IAmb_Lg		15 34 01.4	
	comp=Z,185nm,0.9s						
P38A	**Dawn**	**4.11**	**51**	P	**Pn**	**15 32 55.0**	**+0.7**
	baz=233,SNR=18						
P38A	**Dawn**	**4.11**	**51**	P		15 32 55.0	
	baz=233,SNR=18						
MIAR	**Mount Ida**	**4.18**	**126**		**Pn**	**15 32 55.0**	**-0.3**
MIAR				IAmb_Lg		15 34 06.1	
	comp=Z,352nm,1.1s						
MIAR	**Mount Ida**	**4.18**	**126**	P	**Pn**	**15 32 56.6**	**+1.3**
	baz=309,SNR=13						
MIAR	**Mount Ida**	**4.18**	**126**	P		15 32 56.6	
	baz=309						
MIAR				Sb		15 34 02.9	
	baz=309						
MIAR	**Mount Ida**	**4.18**	**126**	P		15 32 56.6	
	baz=309,SNR=13						
MGMO	**Mountain Grove**	**4.30**	**88**	IAmb_Lg		15 34 10.4	
	comp=Z,187nm,0.7s						
BGNE	**Belgrade**	**4.32**	**355**	Pn	**Pn**	**15 32 57.5**	**+0.2**
BGNE	**Belgrade**	**4.32**	**355**	P	**Pn**	**15 32 57.9**	**+0.6**
	baz=175,SNR=50						
BGNE	**Belgrade**	**4.32**	**355**	P		15 32 58.3	
	baz=175						
BGNE	**Belgrade**	**4.32**	**355**	P		15 32 57.9	
	baz=175,SNR=50						
KSCO	**Kaye Shedlock'**	**4.37**	**297**	Pn	**Pn**	**15 32 58.4**	**+0.5**
KSCO				IAmb_Lg		15 34 15.3	
	comp=Z,220nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.37**	**297**	P	**Pn**	**15 32 59.1**	**+1.1**
	baz=114,SNR=13						
KSCO	**Kaye Shedlock'**	**4.37**	**297**	P		15 32 59.2	
	baz=114						
KSCO	**Kaye Shedlock'**	**4.37**	**297**	P		15 32 59.1	
	baz=114,SNR=13						
Z38A	**Mt. Pleasant**	**4.41**	**150**	Pn	**Pn**	**15 32 59.1**	**+0.6**
R40A	**Maddies Statio**	**4.43**	**73**		**Pn**	**15 32 59.5**	**+0.7**
R40A				IAmb_Lg		15 34 11.4	
	comp=Z,255nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.62**	**103**		**Pn**	**15 33 01.8**	**+0.5**
FCAR				IAmb_Lg		15 34 18.1	
	comp=Z,202nm,0.8s						
WHAR	**Wooly Hollow**	**4.70**	**111**	Pn	**Pn**	**15 33 02.5**	**+0.1**
WHAR				IAmb_Lg		15 34 21.1	
	comp=Z,208nm,0.9s						
X40A	**Basin Creek Fa**	**4.70**	**122**	IAmb_Lg		15 34 22.0	
	comp=Z,135nm,0.8s						
X40A	**Basin Creek Fa**	**4.70**	**122**	P		15 33 04.3	
	baz=305						
ABTX	**Abilene, Hawle**	**4.75**	**201**	Pn	**Pn**	**15 33 03.5**	**+0.2**
W41B	**Gary Mavity, V**	**4.78**	**112**	Sb		15 34 18.7	
	baz=296						
L34A	**Svendsen Farm,**	**4.96**	**11**	Pn	**Pn**	**15 33 06.2**	**+0.1**
L34A	**Svendsen Farm,**	**4.96**	**11**	P	**Pn**	**15 33 06.1**	**+0.1**
	baz=192						
L34A	**Svendsen Farm,**	**4.96**	**11**	P		15 33 06.1	
	baz=192						
P40A	**Paris**	**5.03**	**59**	Pn	**Pn**	**15 33 07.2**	**+0.1**
P40A				IAmb_Lg		15 34 35.3	
	comp=Z,242nm,1.2s						
WLAR	**White Oak Lake**	**5.03**	**131**	IAmb_Lg		15 34 37.0	
	comp=Z,119nm,0.7s						
N38A	**Joes South For**	**5.05**	**42**		**Pn**	**15 33 07.6**	**+0.3**
N38A				IAmb_Lg		15 34 37.1	
	comp=Z,161nm,0.8s						
N38A	**Joes South For**	**5.05**	**42**	P	**Pn**	**15 33 07.8**	**+0.6**
	baz=224,SNR=14						
N38A	**Joes South For**	**5.05**	**42**	P		15 33 07.8	
	baz=224,SNR=14						
WHTX	**Lake Whitney,**	**5.10**	**178**	P		15 33 08.6	
	baz=358						
WHTX	**Lake Whitney,**	**5.10**	**178**	P		15 33 08.5	
	baz=358,SNR=37						
WHTX	**Lake Whitney,**	**5.10**	**178**		**Pn**	**15 33 08.4**	**+0.5**
WHTX	**Lake Whitney,**	**5.10**	**178**	P	**Pn**	**15 33 08.5**	**+0.5**
	baz=358,SNR=37						
OGNE	**Ogallala**	**5.14**	**320**	IAmb_Lg		15 34 43.2	
	comp=Z,278nm,0.8s						
OGNE	**Ogallala**	**5.14**	**320**	P	**Pn**	**15 33 10.4**	**+1.9**
	baz=137,SNR=11						
OGNE	**Ogallala**	**5.14**	**320**	P		15 33 10.4	
	baz=137						
OGNE	**Ogallala**	**5.14**	**320**	P		15 33 10.4	
	baz=137,SNR=11						
CCM	**Cathedral Cave**	**5.18**	**77**	IAmb_Lg		15 34 39.9	
	comp=Z,145nm,0.7s						
CCM	**Cathedral Cave**	**5.18**	**77**	P		15 33 10.4	
	baz=261						
T42A	**Van Buren**	**5.25**	**89**	Pn	**Pn**	**15 33 10.5**	**+0.6**
T42A				IAmb_Lg		15 34 46.7	
	comp=Z,136nm,0.9s						
T42A	**Van Buren**	**5.25**	**89**	P	**Pn**	**15 33 11.0**	**+1.0**
	baz=273,SNR=9.4						
T42A	**Van Buren**	**5.25**	**89**	P		15 33 11.0	
	baz=273,SNR=9.4						
237A	**Washetta, Mont**	**5.31**	**163**	Pn	**Pn**	**15 33 11.7**	**+0.9**
237A	**Washetta, Mont**	**5.31**	**163**	P	**Pn**	**15 33 11.9**	**+1.1**
	baz=344,SNR=8.6						
237A	**Washetta, Mont**	**5.31**	**163**	P		15 33 11.9	
	baz=344,SNR=8.6						
T25A	**Trinidad**	**5.40**	**272**	Pn	**Pn**	**15 33 13.4**	**+1.1**
T25A	**Trinidad**	**5.40**	**272**	P		15 33 13.7	
	baz=88						
K31A	**O'Neill**	**5.58**	**352**	Pn	**Pn**	**15 33 15.9**	**+1.3**
CCAR	**Cane Creek**	**5.75**	**122**	IAmb_Lg		15 35 00.7	
	comp=Z,154nm,1.0s						
FVM	**French Village**	**5.81**	**79**	Pn	**Pn**	**15 33 18.0**	**+0.3**
FVM				IAmb_Lg		15 34 57.8	
	comp=Z,87nm,0.7s						
HBAR	**Harrisburg**	**5.86**	**103**	IAmb_Lg		15 35 00.7	
	comp=Z,226nm,0.9s						
NATX	**Nacogdoches**	**5.87**	**154**	IAmb_Lg		15 35 07.5	
	comp=Z,125nm,1.0s						
SCIA	**State Center**	**5.90**	**34**	IAmb_Lg		15 35 04.9	
	comp=Z,177nm,0.7s						
SLM	**Saint Louis**	**6.07**	**73**	IAmb_Lg		15 35 06.2	
	comp=Z,187nm,0.8s						
Q24A	**Divide**	**6.20**	**290**	P		15 33 23.9	
	baz=105						
435B	**Jarrell**	**6.30**	**179**	Pn	**Pn**	**15 33 23.9**	**-0.6**
435B				IAmb_Lg		15 35 22.3	
	comp=Z,198nm,0.8s						
N41A	**Harden Midland**	**6.41**	**54**	IAmb_Lg		15 35 22.6	
	comp=Z,122nm,0.8s						
CPRX	**Cap Rock**	**6.51**	**233**	Pn	**Pn**	**15 33 27.7**	**+0.2**
MET	**Memphis--Engin**	**6.55**	**105**	IAmb_Lg		15 35 35.5	
	comp=Z,188nm,0.8s						
ECSD	**EROS Data Cent**	**6.67**	**6**	Pn	**Pn**	**15 33 29.2**	**-0.4**
ECSD				IAmb_Lg		15 35 27.6	
	comp=Z,89nm,0.8s						
ECSD	**EROS Data Cent**	**6.67**	**6**	P	**Pn**	**15 33 29.6**	**0.0**
	baz=187,SNR=20						
ECSD	**EROS Data Cent**	**6.67**	**6**	P		15 33 30.0	
	baz=187						
ECSD	**EROS Data Cent**	**6.67**	**6**	P		15 33 29.6	
	baz=187,SNR=20						
K38A	**Parkersburg**	**6.69**	**33**	IAmb_Lg		15 35 38.9	
	comp=Z,118nm,0.7s						
S44A	**Carbondale**	**6.71**	**82**	Pn	**Pn**	**15 33 31.0**	**+0.9**
S44A				IAmb_Lg		15 35 26.3	
	comp=Z,171nm,0.8s						
SIUC	**Southern Illin**	**6.74**	**82**	IAmb_Lg		15 35 25.8	
	comp=Z,153nm,0.7s						
143A	**Socs Landing,**	**6.75**	**129**	IAmb_Lg		15 35 42.0	
	comp=Z,83nm,0.9s						
JCT	**Junction City**	**6.84**	**196**	Pn	**Pn**	**15 33 31.8**	**-0.1**
P43A	**Skaggs, Pawnee**	**6.88**	**66**	Pn	**Pn**	**15 33 32.2**	**-0.1**
L40A	**Anamosa**	**7.02**	**43**		**Pn**	**15 33 34.1**	**-0.2**
L40A				IAmb_Lg		15 35 48.5	
	comp=Z,87nm,0.8s						
Y45A	**Yeager Farm, C**	**7.36**	**114**	IAmb_Lg		15 35 58.8	
	comp=Z,112nm,1.0s						
PHWY	**Pilot Hill**	**7.37**	**307**	IAmb_Lg		15 35 50.1	
	comp=Z,113nm,1.1s						
HDIL	**Hopedale**	**7.38**	**60**	Pn	**Pn**	**15 33 39.5**	**+0.3**
HDIL				IAmb_Lg		15 35 55.0	
	comp=Z,158nm,0.7s						
ANMO	**Albuquerque**	**7.45**	**256**	Pn	**Pn**	**15 33 41.7**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=75,slow=12,SNR=1.8						
ANMO				Lg	Lg	15 35 42.9	
	comp=Z,4.5nm,0.3s,baz=336,slow=20,SNR=8.4						
ANMO				LR	LR	15 37 05.1	
	comp=Z,27nm,21.7s,baz=65,slow=43						
SMCO	**Snowmass**	**7.63**	**289**	IAmb_Lg		15 36 16.3	
	comp=Z,59nm,1.0s						
O44A	**Mansfield**	**7.81**	**64**	IAmb_Lg		15 36 07.0	
	comp=Z,127nm,0.8s						
L42A	**Oliver, Polo**	**7.88**	**49**	IAmb_Lg		15 36 03.4	
	comp=Z,109nm,0.9s						
WVT	**Waverly**	**7.96**	**94**	Pn	**Pn**	**15 33 47.2**	**-0.1**
WVT				IAmb_Lg		15 36 03.3	
	comp=Z,63nm,0.7s						
JFWS	**Jewell Farm**	**8.12**	**42**	Pn	**Pn**	**15 33 49.1**	**-0.3**
JFWS				IAmb_Lg		15 36 24.2	
	comp=Z,70nm,0.8s						
JFWS	**Jewell Farm**	**8.12**	**42**	P	**Pn**	**15 33 49.4**	**-0.1**
	baz=227,SNR=6.7						
JFWS	**Jewell Farm**	**8.12**	**42**	P		15 33 49.4	
	baz=227,SNR=6.7						
735A	**Kenedy**	**8.22**	**181**	IAmb_Lg		15 36 28.0	
	comp=Z,104nm,1.0s						
MNTX

baz=31,SNR=8.6
TX31 Lajitas Ar. Si 9.23 215 P 15 34 04.1
baz=31,SNR=8.6
TX32 Lajitas Array 9.23 215 Pn **Pn 15 34 03.7 -1.1**
TXAR Lajitas Array 9.23 215 Pn **Pn 15 34 04.1 -0.7**
comp=Z,0.4nm,0.3s,baz=46,slow=11,SNR=30
TXAR Pg 15 34 34.7
comp=Z,0.6nm,0.3s,baz=32,slow=14,SNR=5.1
TXAR Lg Lg 15 36 38.3
comp=Z,1.3nm,0.3s,baz=38,slow=26,SNR=2.4
TXAR Lajitas Array 9.23 215 Pn **Pn 15 34 03.4 -1.5**
F36A Milaca 9.29 18 Pn **Pn 15 34 05.2 -0.1**
F36A IAmb_Lg 15 36 48.8
comp=Z,57nm,1.1s
I42A Draeger Farm, 9.50 42 Pn **Pn 15 34 07.9 -0.5**
U49A Red Boiling Sp 9.54 90 IAmb_Lg 15 36 53.1
comp=Z,43nm,0.9s
LRAL Lakeview Retre 9.63 112 IAmb_Lg 15 37 06.8
comp=Z,69nm,1.2s
Y49A Blount Mountai 9.72 106 IAmb_Lg 15 37 08.2
comp=Z,51nm,0.8s
E28A Huff 9.74 348 IAmb_Lg 15 37 16.3
comp=Z,83nm,0.8s
P48A Milroy 9.90 73 IAmb_Lg 15 37 16.6
comp=Z,100nm,0.9s
R49A Shelbyville 9.96 79 IAmb_Lg 15 37 20.4
comp=Z,52nm,1.1s
BW06 Boulder Array 10.75 305 Pn **Pn 15 34 24.7 -0.9**
PD31 Pinedale Array 10.75 305 Pn **Pn 15 34 24.4 -1.2**
PDAR Pinedale Array 10.75 305 Pn **Pn 15 34 25.0 -0.6**
comp=Z,0.4nm,0.3s,baz=117,slow=15,SNR=8.5
PDAR Lg Lg 15 37 20.7
comp=Z,0.7nm,0.3s,baz=122,slow=18,SNR=2.1
PDAR Pinedale Array 10.75 305 Pn **Pn 15 34 25.2 -0.5**
S51A Beattyville 11.20 83 **Pn 15 34 32.1 +0.4**
EYMN Ely 11.75 21 Pn **Pn 15 34 37.4 -1.7**
D41A Chassel 12.02 31 **Pn 15 34 40.6 -2.1**
G45A Suttons Bay 12.03 45 **Pn 15 34 41.1 -1.8**
E43A Lone Tree Farm 12.21 37 Pn **Pn 15 34 43.7 -1.7**
DGMT Dagmar 12.33 339 Pn **Pn 15 34 46.0 -1.1**
ULM Lac du Bonnet 13.21 5 Pn **Pn 15 34 55.3 -3.7**
comp=Z,0.4nm,0.3s,baz=185,slow=14,SNR=3.6
ULM Sn Sn 15 37 14.6 -11
comp=Z,0.7nm,0.3s,baz=86,slow=16,SNR=3.3
ULM Lg Lg 15 38 41.1
comp=Z,0.6nm,0.3s,baz=102,slow=21,SNR=7.0
SADO Sadowa 15.93 55 Lg Lg 15 40 07.2
comp=Z,0.6nm,0.3s,baz=354,slow=6.3,SNR=7.4
YKA Yellowknife Ar 27.50 343 P **P 15 37 37.6 -0.1**
comp=Z,0.1nm,0.3s,baz=143,slow=9.6,SNR=3.7
ILAR Eielson Array 39.97 330 P **P 15 39 26.8 +1.0**
comp=Z,0.7nm,0.8s,baz=109,slow=8.1,SNR=1.4

*IDC **24** 15:35:29.9±1.2,2°.78S×139°.33E,h0km,mb3.6/4, mb1 4.0/7,mb1mx3.7/38,mbtmp3.9/7,ML4.0/3,MS3.7/1, Ms1 3.7/1,ms1mx2.6/35,Error ellipse: s-maj=28.5km s-min=13.2km az=162.0*

ISC 24 15:35:30.8±0.9,3.01S±0°.10×139°.32E±0°.10,h10km,n9, σ3s08/11,mb3.5/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.47**	**71**	Pg	**Pb**		**15 35 56.5**	**-1.7**
	9.1nm,0.3s,baz=247,slow=9.2,SNR=29							
JAY				Lg	Lg		15 36 14.2	
	14nm,0.3s,baz=233,slow=17,SNR=13							
SIJI	**Sorong**	**8.33**	**285**	Pn	**Pn**		**15 37 31.1**	**-0.6**
	1.1nm,0.3s,baz=1.4,slow=23,SNR=2.8							
BATI	**Baumata**	**17.11**	**245**	P	**P**		**15 39 34.0**	**+2.0**
	2.3nm,0.3s,baz=176,slow=0.6,SNR=6.4							
WRA	**Warramunga Arr**	**17.52**	**196**	P	**P**		**15 39 37.9**	**+1.4**
	0.3nm,0.3s,baz=15,slow=14,SNR=15							
WRA				S		**Sn**	**15 42 46.1**	**-4.6**
	0.1nm,0.3s,baz=18,slow=23,SNR=3.8							
FITZ	**Fitzroy Crossi**	**20.12**	**221**	P	**P**		**15 40 06.6**	**+1.6**
	1.8nm,0.7s,baz=56,slow=7.3,SNR=2.3							
FITZ				S		**S**	**15 43 46.1**	**-5.1**
	2.8nm,0.8s,baz=123,slow=7.9,SNR=3.8							
ASAR	**Alice Springs**	**21.20**	**194**	P	**P**		**15 40 19.4**	**+2.7**
	1.6nm,0.7s,baz=23,slow=10,SNR=27							
ASAR				S		**S**	**15 44 14.4**	**+1.8**
	0.4nm,0.8s,baz=16,slow=23,SNR=2.5							
NWAO	**Narrogin (SRO)**	**36.25**	**212**	LR	LR		15 59 02.0	
	comp=Z,111nm,18.4s,baz=130,slow=39							
MKAR	**Makanchi Array**	**70.40**	**322**	P	**P**		**15 46 44.4**	**-0.8**
	0.3nm,0.7s,baz=99,slow=7.5,SNR=2.9							
VNDA	**Vanda**	**75.43**	**175**	P	**P**		**15 47 17.0**	**+2.5**
	1.0nm,0.7s,baz=326,slow=7.0,SNR=6.7							

*JMA **24** 15:42:10.6±0.2,27°.91N×129°.49E,h42km±4km,M3.6*
JMA Felt I J1.
*IDC **24** 15:42:11.2±1.6,27°.91N×129°.46E,h47km±17km,mb3.3/6, mb1 3.5/8,mb1mx3.2/64,mbtmp3.5/8,ML3.0/2,MS2.7/2, Ms1 2.7/2,ms1mx2.3/33,Error ellipse: s-maj=24.9km s-min=9.1km az=112.0*

ISC 24 15:42:09.3±1.1,27.82N±0°.03×129°.61E±0°.04,h32km±9km, n35,σ0s89/55,mb4.1/11,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.57**	**318**	P		**Pb**	**15 42 20.6**	**-0.4**
JAMN				*e*S		**Sb**	**15 42 28.6**	**-0.4**
JTK	**Tokunoshima**	**0.58**	**267**	P		**Pb**	**15 42 21.3**	**+0.1**
JTK				*e*S		**Sb**	**15 42 29.5**	**+0.2**
JAM	**Amami Oshima**	**0.59**	**360**	P		**Pn**	**15 42 21.2**	**-0.4**
JAM				*e*S		**Sb**	**15 42 29.7**	**+0.1**
JZK	**Kikaishima**	**0.59**	**33**	P		**Pn**	**15 42 22.8**	**+1.2**
JZK				S		**Sn**	**15 42 33.0**	**+2.8**
JOKE	**Okinoerabujima**	**1.02**	**244**	P		**Pn**	**15 42 28.2**	**+0.7**
JYRO	**Yoronjima**	**1.29**	**233**	P		**Pn**	**15 42 32.0**	**+0.8**
JYRO				*e*S		**Sn**	**15 42 48.3**	**+0.9**
JTAJ	**Takarajima**	**1.38**	**345**	P		**Pn**	**15 42 32.4**	**0.0**
JTAJ				*e*S		**Sn**	**15 42 49.7**	**+0.1**
JOW	**Kunigami**	**1.54**	**231**	P		**Pn**	**15 42 35.4**	**+0.8**
	75nm,0.3s,baz=104,slow=26,SNR=118							
JOW				S		**Sn**	**15 42 54.1**	**+0.7**
	76nm,0.3s,baz=57,slow=27,SNR=12							
JOW	**Kunigami**	**1.54**	**231**	P		**Pn**	**15 42 35.4**	**+0.8**
JOW				*e*S		**Sn**	**15 42 54.2**	**+0.7**
JIH	**Iheya**	**1.65**	**242**	P		**Pn**	**15 42 36.7**	**+0.6**
JIH				*e*S		**Sn**	**15 42 56.5**	**+0.2**
JNTH	**Nagotoyohara**	**1.91**	**228**	P		**Pn**	**15 42 40.6**	**+0.9**
JNTH				*e*S		**Sn**	**15 43 03.2**	**+0.5**
JNN	**Nakanoshima**	**2.03**	**7**	P		**Pn**	**15 42 42.0**	**+0.6**
JNN				*e*S		**Sn**	**15 43 05.6**	**-0.1**
JJT3	**Tamagusuku3**	**2.33**	**225**	P		**Pn**	**15 42 46.0**	**+0.6**
JJT3				*e*S		**Sn**	**15 43 14.1**	**+1.1**
JKDJ	**Kitadaitoujima**	**2.39**	**141**	P		**Pn**	**15 42 46.4**	**+0.1**
JKDJ				*e*S		**Sn**	**15 43 13.8**	**-0.8**
JAGN	**Aguni-jima**	**2.43**	**240**	P		**Pn**	**15 42 47.6**	**+0.7**
JAGN				*e*S		**Sn**	**15 43 15.9**	**+0.3**
JMZ	**Minamidaito 2**	**2.46**	**144**	P		**Pn**	**15 42 47.2**	**0.0**
JMZ				*e*S		**Sn**	**15 43 14.9**	**-1.2**
JYAK	**Yakushimahirau**	**2.54**	**18**	P		**Pn**	**15 42 48.9**	**+0.5**
JYAK				*e*S		**Sn**	**15 43 18.6**	**+0.4**
JKC	**Kuchinoerabu**	**2.69**	**11**	P		**Pn**	**15 42 51.3**	**+0.9**
JKC				*e*S		**Sn**	**15 43 22.2**	**+0.4**
JMTN	**Minamitane**	**2.81**	**23**	P		**Pn**	**15 42 53.0**	**+0.9**
JMTN				*e*S		**Sn**	**15 43 25.9**	**+1.0**
JKE	**Kume jima 2**	**2.92**	**240**	P		**Pn**	**15 42 54.0**	**+0.4**
JKE				*e*S		**Sn**	**15 43 27.6**	**0.0**
JTN	**Tanegashima 3**	**3.07**	**23**	P		**Pn**	**15 42 56.7**	**+1.0**
JTN				*e*S		**Sn**	**15 43 32.0**	**+0.6**
JNU	**Nakatsue**	**5.40**	**11**	P		**Pn**	**15 43 29.8**	**+2.0**
	0.7nm,0.3s,baz=204,slow=8.0,SNR=5.2							
JNU				S		**Sn**	**15 44 28.9**	**+0.1**
	1.1nm,0.3s,baz=151,slow=20,SNR=1.0							
KSRS	**Korea Array**	**9.72**	**352**	P		**Pn**	**15 44 25.5**	**-1.4**
	0.1nm,0.3s,baz=173,slow=14,SNR=1.8							
KSRS				LR		LR	15 48 22.4	
	comp=Z,64nm,19.9s,baz=192,slow=39							
MJAR	**Matsushiro Arr**	**11.34**	**38**	LR		LR	15 49 41.6	
	comp=Z,22nm,19.2s,baz=215,slow=40							
SONM	**Songino Array**	**26.94**	**324**	P		**P**	**15 47 45.5**	**-2.4**
	0.2nm,0.4s,baz=143,slow=9.0,SNR=1.4							
ODAN	**Odare**	**37.38**	**279**	*e*P		**P**	**15 49 19.2**	**-0.5**
	14nm,0.4s							
GUN	**Gumba**	**38.50**	**281**	*e*P		**P**	**15 49 29.6**	**+0.4**
	6.3nm,0.3s							
PKI	**Pulchoki**	**38.97**	**280**	*e*P		**P**	**15 49 33.0**	**-0.2**
	4.2nm,0.3s							
PKIN	**Phulchoki**	**38.98**	**280**	*e*P		**P**	**15 49 33.0**	**-0.2**
	7.9nm,0.3s							
KKN	**Kakani**	**39.05**	**281**	*e*P		**P**	**15 49 33.5**	**-0.2**
	9.8nm,0.6s							
MKAR	**Makanchi Array**	**41.42**	**310**	P		**P**	**15 49 51.6**	**-1.3**
	0.2nm,0.7s,baz=99,slow=8.9,SNR=2.2							
WRA	**Warramunga Arr**	**47.70**	**174**	P		**P**	**15 50 43.4**	**+0.3**
	0.7nm,0.6s,baz=353,slow=8.3,SNR=5.3							
CTA	**Charters Tower**	**50.27**	**160**	P		**P**	**15 51 03.6**	**+0.8**
	1.3nm,0.6s,baz=275,slow=12,SNR=2.3							
ASAR	**Alice Springs**	**51.35**	**175**	P		**P**	**15 51 11.9**	**+1.0**
	0.3nm,0.9s,baz=8.2,slow=14,SNR=8.4							
FINES	**FINESS Array B**	**72.09**	**331**	P		**P**	**15 53 30.3**	**+0.1**
	0.8nm,0.4s,baz=80,slow=6.5,SNR=6.7							

IDC 24 15:42:11.5±1.6,3.66N×126.93E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.4/54,mbtmp3.4/5,Error ellipse: s-maj=114.2km s-min=21.5km az=72.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.66**	**183**	P	P		15 47 04.8	+1.1
	1.6nm,0.8s,baz=5.5,slow=10,SNR=1.0							
WRA	**Warramunga Arr**	**24.56**	**163**	P	P		15 47 32.8	-0.4
	0.4nm,0.4s,baz=342,slow=10,SNR=7.1							
ASAR	**Alice Springs**	**28.00**	**166**	P	P		15 48 04.3	0.0
	0.2nm,0.7s,baz=342,slow=6.8,SNR=0.9							
SONM	**Songino Array**	**47.43**	**341**	P	P		15 50 48.6	+0.7
	0.2nm,0.4s,baz=159,slow=8.6,SNR=2.2							
MKAR	**Makanchi Array**	**57.73**	**325**	P	P		15 52 03.5	-0.7
	0.4nm,0.6s,baz=119,slow=8.9,SNR=5.8							

*TIF **24** 15:42:24.2,41°.14N×43°.64E,h16km*
*DDA **24** 15:42:24.3,41°.09N×43°.53E,h7km±2km,ML2.2*
*NORS **24** 15:42:25.5±0.0,41°.31N×43°.70E,h1km,MPVA3.2*

ISC 24 15:42:23.9±0.9,41°.11N±0°.02×43°.61E±0°.02,h16km±7km, n29,σ0s72/56,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.15**	**358**	P		**Pg**	**15 42 28.3**	**+0.1**
BGD				S		**Sg**	**15 42 31.4**	**+0.3**
AKH	**Akhalkalaki**	**0.31**	**344**	P		**Pb**	**15 42 30.9**	**-0.4**
AKH				S		**Sb**	**15 42 35.6**	**-0.5**
EAK	**Akyaka**	**0.42**	**180**	*i* P		**Pg**	**15 42 31.7**	**-0.8**
EAK				*i* S		**Sg**	**15 42 37.3**	**-1.0**
EAK				IAML			15 42 38.0	
	comp=N,358nm,0.3s							
EAK				IAML			15 42 40.0	
	comp=E,286nm,0.3s							
DMNI	**Dmanisi**	**0.49**	**63**	P		**Pg**	**15 42 33.8**	**+0.1**
DMNI				S		**Sg**	**15 42 40.8**	**+0.4**
BRNG	**Burnasheti**	**0.54**	**18**	P		**Pb**	**15 42 35.1**	**0.0**
BRNG				S		**Sb**	**15 42 43.2**	**+0.5**
TRLG	**Trialeti**	**0.57**	**41**	P		**Pg**	**15 42 35.2**	**-0.1**
TRLG				S		**Sg**	**15 42 43.0**	**+0.2**
BKRG	**Bakuriani**	**0.65**	**355**	P		**Pb**	**15 42 37.2**	**+0.2**
BKRG				S		**Sb**	**15 42 45.9**	**-0.1**
KZRT	**Kazreti**	**0.66**	**65**	P		**Pg**	**15 42 36.7**	**-0.2**
KZRT				S		**Sg**	**15 42 45.5**	**-0.1**
DIGO	**Kars**	**0.72**	**194**	*i* P		**Pg**	**15 42 37.2**	**-0.7**
DIGO				*i* S		**Sg**	**15 42 47.8**	**+0.4**
DIGO				IAML			15 42 50.0	
	comp=E,140nm,0.5s							
DIGO				IAML			15 42 56.0	
	comp=N,146nm,0.6s							
EPOS	**Posof**	**0.77**	**301**	*i* P		**Pg**	**15 42 38.5**	**-0.4**
EPOS				*i* S		**Sb**	**15 42 49.5**	**+0.3**
EPOS				IAML			15 42 50.0	
	comp=N,242nm,0.4s							
EPOS				IAML			15 42 51.0	
	comp=E,58nm,0.4s							
ABS	**Abastumani**	**0.88**	**318**	P		**Pb**	**15 42 41.5**	**+0.6**
ABS				S		**Sn**	**15 42 53.9**	**-0.4**
BTNK	**Botanikuri**	**1.06**	**57**	P		**Pg**	**15 42 44.0**	**-0.5**
BTNK	**Botanikuri**	**1.06**	**57**	*i* P		**Pg**	**15 42 43.9**	**-0.5**
BTNK				*i* S		**Sg**	**15 42 57.7**	**-0.7**
BTNK				IAML			15 43 03.0	
	comp=E,43nm,0.3s							
TKB	**Tkibuli**	**1.32**	**340**	P		**Pg**	**15 42 49.2**	**-0.2**
TKB				S		**Sn**	**15 43 07.1**	**+2.1**
DBAD	**Bademkaya**	**1.45**	**267**	*i* P		**Pg**	**15 42 51.4**	**-0.4**
DBAD				*i* S		**Sg**	**15 43 10.1**	**-0.5**
DBAD				IAML			15 43 13.0	
	comp=E,48nm,0.4s							
DBAD				IAML			15 43 19.0	
	comp=N,36nm,1.1s							
DBOC	**Borcka**	**1.48**	**280**	*i* P		**Pg**	**15 42 51.9**	**-0.5**
DBOC				*i* S		**Sg**	**15 43 11.5**	**-0.2**
ONI	**Oni**	**1.48**	**356**	P		**Pg**	**15 42 51.8**	**-0.6**
ONI				S		**Sg**	**15 43 11.2**	**-0.6**
ONI	**Oni**	**1.48**	**356**	*i* Pg		**Pg**	**15 42 51.9**	**-0.6**
ONI				*e*Sg		**Sg**	**15 43 12.2**	**+0.4**
BATM	**Batumi**	**1.52**	**290**	P		**Pg**	**15 42 52.5**	**-0.7**
BATM				S		**Sg**	**15 43 13.4**	**+0.5**
HOMI	**Horasan**	**1.68**	**231**	*i* P		**Pg**	**15 42 56.9**	**+0.8**
HOMI				*i* S		**Sg**	**15 43 17.7**	**-0.2**
HOMI				IAML			15 43 20.0	
	comp=E,22nm,0.7s							
HOMI				IAML			15 43 25.0	
	comp=N,20nm,0.4s							
ZEI	**Tsey**	**1.69**	**7**	*e*Pg		**Pg**	**15 42 56.0**	**-0.5**
ZEI				*e*Sg		**Sg**	**15 43 20.0**	**+1.5**
PNSH	**Pansheti**	**1.70**	**26**	P		**Pb**	**15 42 55.6**	**+0.7**
PNSH				S		**Sg**	**15 43 17.5**	**-1.2**
MTEO	**Meteo**	**1.71**	**23**	P		**Pg**	**15 42 56.3**	**-0.6**
MTEO				S		**Sb**	**15 43 16.7**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.79**	**359**	*e*Pg		**Pg**	**15 42 57.9**	**-0.4**
DIGR				*e*Sg		**Sg**	**15 43 22.2**	**+0.6**
LACR	**Lac**	**1.79**	**16**	*e*Pg		**Pg**	**15 42 57.4**	**-1.0**
LACR				*e*Sg		**Sg**	**15 43 21.2**	**-0.4**
DDFL	**Dedoflistskaro**	**1.92**	**79**	P		**Pg**	**15 43 00.7**	**-0.1**
LGD	**Lagodekhi**	**2.11**	**69**	P		**Pb**	**15 43 02.2**	**+0.5**
LGD				S		**Sg**	**15 43 30.3**	**-1.4**
NEY	**Neytrino**	**2.24**	**343**	*e*Pg		**Pg**	**15 43 05.3**	**-1.5**
NEY				*e*Sg		**Sg**	**15 43 34.6**	**-1.2**
SHA1	**Shidzhatmaz**	**2.72**	**345**	*e*Pn		**Pg**	**15 43 15.0**	**-1.1**
SHA1				*e*Sn		**Sg**	**15 43 50.9**	**-0.4**

*DNK **24** 15:45:56.7±0.3,58°.72N×18°.54E,h0km,ML2.4(UPP), Explosion*
*UPP **24** 15:45:56.2±0.2,58°.73N×18°.56E,h0km,ML2.4,Explosion*
*HEL **24** 15:45:57.3±0.0,58°.73N×18°.52E,h0km,ML2.4(UPP), Explosion*
*IDC **24** 15:46:01.0±1.2,59°.02N×18°.58E,h0km,mb1 3.1/4, mb1mx2.9/59,mbtmp2.9/4,ML2.4/4,Error ellipse: s-maj=15.4km s-min=11.1km az=161.0*

ISC 24 15:45:55.7±0.9,58.73N±0°.03×18°.55E±0°.04,h0km,n41, σ0s90/45,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.40**	**315**	P		**Pg**	**15 46 04.0**	**+0.7**
NYNU				S		**Sg**	**15 46 09.0**	**+0.7**
NYNU	**Nynaeshamn**	**0.40**	**315**	P		**Pg**	**15 46 04.0**	**+0.7**
NYNU				S		**Sg**	**15 46 09.0**	**+0.7**
NYNU	**Nynaeshamn**	**0.40**	**315**	*i* P		**Pg**	**15 46 04.0**	**+0.7**
NYNU				*i* S		**Sg**	**15 46 09.0**	**+0.7**
NRTU	**Norrtaelje**	**0.95**	**3**	P		**Pg**	**15 46 14.2**	**+0.3**
NRTU	**Norrtaelje**	**0.95**	**3**	P		**Pg**	**15 46 14.2**	**+0.3**
NRTU	**Norrtaelje**	**0.95**	**3**	*e*P		**Pg**	**15 46 14.2**	**+0.3**
VIKU	**Vikbolandet**	**0.99**	**258**	P		**Pg**	**15 46 14.9**	**+0.2**
VIKU	**Vikbolandet**	**0.99**	**258**	P		**Pg**	**15 46 14.9**	**+0.2**
VIKU	**Vikbolandet**	**0.99**	**258**	*e*P		**Pg**	**15 46 14.9**	**+0.2**
GOTU	**Gotland**	**1.05**	**179**	P		**Pg**	**15 46 15.6**	**-0.1**
GOTU	**Gotland**	**1.05**	**179**	P		**Pg**	**15 46 15.6**	**-0.1**
GOTU	**Gotland**	**1.05**	**179**	*e*P		**Pg**	**15 46 15.6**	**-0.1**
GOTU				*e*S		**Sg**	**15 46 29.6**	**+0.4**
ESKU	**Eskilstuna**	**1.22**	**295**	P		**Pg**	**15 46 18.9**	**-0.2**
ESKU	**Eskilstuna**	**1.22**	**295**	P		**Pg**	**15 46 18.9**	**-0.2**
ESKU	**Eskilstuna**	**1.22**	**295**	*e*P		**Pg**	**15 46 18.9**	**-0.2**
UPP	**Uppsala**	**1.23**	**338**	P		**Pg**	**15 46 19.2**	**+0.1**
UPP	**Uppsala**	**1.23**	**338**	*e*P		**Pg**	**15 46 19.2**	**+0.1**
FIBU	**Brunna**	**1.33**	**333**	P		**Pg**	**15 46 21.0**	**-0.1**
FIBU	**Brunna**	**1.33**	**333**	P		**Pg**	**15 46 21.0**	**-0.1**
BACU	**Backbrunna**	**1.35**	**327**	P		**Pg**	**15 46 21.4**	**-0.1**
BACU	**Backbrunna**	**1.35**	**327**	P		**Pg**	**15 46 21.4**	**-0.1**
BACU	**Backbrunna**	**1.35**	**327**	*e*P		**Pg**	**15 46 21.4**	**-0.1**
FLYU	**Flymyra**	**1.45**	**347**	P		**Pn**	**15 46 23.0**	**0.0**
FLYU	**Flymyra**	**1.45**	**347**	P		**Pn**	**15 46 23.0**	**0.0**
FLYU	**Flymyra**	**1.45**	**347**	*e*P		**Pn**	**15 46 23.0**	**0.0**
GRAU	**Graesoe**	**1.61**	**360**	P		**Pn**	**15 46 25.8**	**+0.5**
GRAU	**Graesoe**	**1.61**	**360**	P		**Pn**	**15 46 25.8**	**+0.5**
GRAU	**Graesoe**	**1.61**	**360**	*e*P		**Pn**	**15 46 25.8**	**+0.5**
AAL	**Aland**	**1.63**	**26**	P		**Pn**	**15 46 26.0**	**+0.4**
AAL	**Aland**	**1.63**	**26**	*e*P		**Pn**	**15 46 26.1**	**+0.6**
RAF	**Rauma**	**2.82**	**34**	*e*P		**Pb**	**15 46 45.3**	**-1.4**
HFC2	**Hagfors New Ar**	**2.85**	**302**	*e*P		**Pn**	**15 46 43.8**	**+1.4**
HFC2				*e*S		**Sn**	**15 47 16.4**	**-1.0**
ARNU	**Arnoeviken**	**3.03**	**349**	*e*P		**Pn**	**15 46 45.2**	**+0.4**
BSD	**Bornholm Skovb**	**4.13**	**210**	*i* P		**Pn**	**15 47 00.3**	**+0.4**
BSD	**Bornholm Skovb**	**4.13**	**210**	*e*P		**Pn**	**15 47 00.4**	**+0.4**
BSD				IAML			15 48 17.3	
	comp=Z,4.7nm,0.3s							
NOA	**NORSAR Array B**	**4.36**	**305**	Pn		**Pn**	**15 47 04.2**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=110,slow=14,SNR=2.4							
NOA				Lg	Lg		15 48 13.1	
	comp=Z,0.1nm,0.3s,baz=338,slow=3.8,SNR=4.0							
FIA0	**FINESS Array S**	**4.65**	**51**	*e*P		**Pn**	**15 47 09.7**	**+2.7**
FINES	**FINESS Array B**	**4.65**	**51**	Pn		**Pn**	**15 47 09.5**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=241,slow=12,SNR=8.2							
FINES				Lg	Lg		15 48 19.8	
	comp=Z,1.3nm,0.3s,baz=240,slow=25,SNR=14							
KAF	**Kangasniemi**	**5.13**	**45**	*e*P		**Pn**	**15 47 15.6**	**+2.0**
GERES	**GERESS Array B**	**10.30**	**198**	Pn		Pn	15 48 31.9	+7.2
	comp=Z,0.1nm,0.3s,baz=9.8,slow=12,SNR=2.0							
ARCES	**ARCESS Array B**	**11.26**	**13**	Pn		**Pn**	**15 48 35.4**	**-2.2**
	baz=193,slow=14,SNR=9.6							

*DJA **24** 15:49:17.9±0.4,5°.5S×151°.14E±°,h129km±9km,M4.6/9, mB4.7/3,mb4.5/9,MLv4.7/3,Mw(mB)4.0/3*
*NEIC **24** 15:49:17.5±0.8,5°.24S×151°.14E±0°.06,h124km±7km, mb4.6/38,Error ellipse: s-maj=9.5km s-min=9.1km az=46.0*
*IDC **24** 15:49:17.2±0.6,5°.27S×151°.13E,h120km±5km,mb3.8/24, mb1 4.0/27,mb1mx3.9/56,mbtmp4.2/27,MS3.1/6, Ms1 3.2/6,ms1mx2.8/38,Error ellipse: s-maj=11.8km s-min=8.0km az=106.0*

ISC 24 15:49:15.8±0.4,5°.23S±0°.05×151°.14E±0°.05,h100km,n89, σ1s65/97,mb4.4/42,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.46**	**45**			**Pn**	**15 49 43.8**	**+2.2**
RABL	**Rabaul**	**1.46**	**45**	P		**Pn**	**15 49 44.0**	**+2.4**
MANU	**Manus Island**	**4.92**	**310**			**Pn**	**15 50 30.7**	**+3.2**
PMG	**Port Moresby**	**5.72**	**223**	P		**Pn**	**15 50 40.4**	**+2.0**
	21nm,0.3s,baz=57,slow=6.7,SNR=97							
PMG				S		**Sn**	**15 51 44.1**	**+1.4**
	91nm,0.3s,baz=328,slow=20,SNR=12							
PMG	**Port Moresby**	**5.72**	**223**	Pn		**Pn**	**15 50 40.3**	**+1.9**
PMG	**Port Moresby**	**5.72**	**223**	P		**Pn**	**15 50 41.6**	**+3.2**
HNR	**Honiara**	**9.68**	**116**	P		**Pn**	**15 51 33.7**	**+1.4**
	1.3nm,0.3s,baz=152,slow=7.7,SNR=8.3							
HNR				S		**Sn**	**15 53 21.2**	**+2.0**
	1.0nm,0.3s,baz=325,slow=18,SNR=1.4							
HNR	**Honiara**	**9.68**	**116**	Pn		**Pn**	**15 51 32.1**	**-0.2**
HNR	**Honiara**	**9.68**	**116**	P		**Pn**	**15 51 35.4**	**+3.1**
	65nm,0.9s							
JAY	**Jayapura**	**10.75**	**284**	P		**Pn**	**15 51 48.9**	**+1.9**
	0.2nm,0.3s,baz=328,slow=6.8,SNR=3.9							
COEN	**Coen**	**11.69**	**222**			**Pn**	**15 52 00.8**	**+1.3**
CTA	**Charters Tower**	**15.51**	**197**	P		**P**	**15 52 53.5**	**+2.2**
	1.1nm,0.3s,baz=22,slow=13,SNR=38							
CTAO	**Charters Tower**	**15.51**	**197**			**P**	**15 52 51.8**	**+0.4**
CTAO				IAmb	IAmb		15 52 54.9	
	comp=Z,23nm,0.8s							
SANVU	**Saraoutou**	**18.77**	**124**			**Pn**	**15 53 29.1**	**+0.3**
SANVU	**Saraoutou**	**18.77**	**124**	P		**Pn**	**15 53 29.5**	**+0.7**
EIDS	**Eidsvold**	**20.02**	**180**			**P**	**15 53 41.4**	**+0.6**
EIDS				IAmb	IAmb		15 53 46.4	
	comp=Z,21nm,0.8s							
WB0	**Warramunga Arr**	**21.78**	**227**	P		**P**	**15 53 59.4**	**-0.4**
WB0				IAmb	IAmb		15 54 21.3	
	comp=Z,42nm,1.3s							
WR0	**Warramunga Arr**	**21.80**	**226**	P		**P**	**15 53 59.5**	**-0.4**
WR0				IAmb	IAmb		15 54 21.4	
	comp=Z,31nm,1.2s							
WRAB	**Tennant Creek**	**21.92**

MLZ	**Mavora Lakes**	**42.63**	**162**	P		**P**	**15 57 02.4**	**+0.1**
JNU	**Nakatsue**	**42.71**	**335**	P		**P**	**15 57 03.3**	**+0.2**
	comp=Z,19nm,1.0s,baz=115,slow=6.2,SNR=4.5							
JNU	**Nakatsue**	**42.71**	**335**	P		**P**	**15 57 03.9**	**+0.8**
MJAR	**Matsushiro Arr**	**43.28**	**345**	LR		LR	16 14 13.1	
	comp=Z,15nm,18.2s,baz=140,slow=35							
KSRS	**Korea Array**	**47.66**	**335**	P		**P**	**15 57 43.3**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=157,slow=9.4,SNR=10							
KSRS				LR		LR	16 18 14.1	
	comp=Z,10nm,18.1s,baz=150,slow=36							
NJ2	**Nanjing**	**48.16**	**322**	*e*P		**P**	**15 57 47.5**	**+1.4**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**52.14**	**343**	P		**P**	**15 58 16.1**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=176,slow=9.5,SNR=4.4							
CN2	**Changchun**	**54.03**	**337**	*e*P		**P**	**15 58 32.1**	**+2.2**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**56.57**	**296**	LR		LR	16 23 20.7	
	comp=Z,48nm,18.3s,baz=196,slow=36							
KLR	**Kul'dur**	**56.81**	**345**	P		**P**	**15 58 48.4**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=180,slow=6.1,SNR=2.6							
PEA0B	**Petropavlovsk-**	**58.39**	**5**	P		**P**	**15 58 60.0**	**-0.7**
PETK	**Petropavlovsk-**	**58.39**	**5**	P		**P**	**15 59 00.4**	**-0.3**
PETK				LR		LR	16 21 12.3	
	comp=Z,4.3nm,0.6s,baz=157,slow=6.9,SNR=21							
PETK				LR		LR	16 21 12.3	
	comp=Z,17nm,19.3s,baz=151,slow=33							
PETK	**Petropavlovsk-**	**58.39**	**5**	P		**P**	**15 58 59.9**	**-0.8**
HHC	**Hu-ho-hao-te**	**58.45**	**325**	*e*P		**P**	**15 59 02.9**	**+1.4**
HHC				pmax		pmax		
	comp=Z,9.0nm,1.1s							
HHC				pmax		pmax		
	comp=Z,58nm,5.3s							
MA2	**Magadan**	**64.61**	**360**	P		**P**	**15 59 41.3**	**-1.1**
	comp=Z,2.7nm,0.5s,baz=157,slow=6.5,SNR=12							
MA2	**Magadan**	**64.61**	**360**	P		**P**	**15 59 41.4**	**-1.1**
MA2				IAmb		IAmb	15 59 42.6	
	comp=Z,3.5nm,0.7s							
SONM	**Songino Array**	**65.82**	**329**	P		**P**	**15 59 51.1**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=142,slow=5.6,SNR=9.5							
SONM				pP		**PcP**	**16 00 20.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=152,slow=4.7,SNR=2.4							
SONM	**Songino Array**	**65.82**	**329**	P		**P**	**15 59 49.9**	**-0.7**
SEY	**Seymchan**	**67.98**	**1**	P		**P**	**16 00 03.2**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=261,slow=19,SNR=8.9							
VNDA	**Vanda**	**72.46**	**178**	P		**P**	**16 00 31.0**	**0.0**
	comp=Z,0.6nm,0.9s,baz=330,slow=8.2,SNR=3.8							
BILL	**Bilibino**	**73.88**	**6**	P		**P**	**16 00 38.4**	**-1.0**
WMQ	**Urumqi**	**74.94**	**318**	*e*P		**P**	**16 00 47.3**	**+1.1**
WMQ				pmax		pmax		
	comp=Z,13nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,180nm,5.7s							
SVW2	**Sparrevohn**	**77.87**	**23**	P		**P**	**16 01 01.5**	**-0.8**
TIXI	**Tiksi**	**78.11**	**353**	P		**P**	**16 01 02.3**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=136,slow=4.7,SNR=4.7							
TIXI	**Tiksi**	**78.11**	**353**	IAmb		IAmb	16 01 05.1	
	comp=Z,2.9nm,1.1s							
CNPM	**China Poot**	**78.82**	**26**	P		**P**	**16 01 06.5**	**-1.1**
BRLK	**Bradley Lake**	**79.10**	**26**	P		**P**	**16 01 08.5**	**-0.6**
BRLK				IAmb		IAmb	16 01 15.2	
	comp=Z,22nm,1.2s							
MKAR	**Makanchi Array**	**79.57**	**319**	P		**P**	**16 01 10.7**	**-1.2**
	comp=Z,0.5nm,1.0s,baz=97,slow=8.9,SNR=4.1							
MKAR				pP		**pP**	**16 01 41.8**	**+4.2**
	comp=Z,0.7nm,1.0s,baz=101,slow=2.5,SNR=3.5							
ZALV	**Zalesovo Beam**	**80.60**	**327**	P		**P**	**16 01 15.7**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=313,slow=20,SNR=4.2							
MLY	**Manley**	**81.88**	**21**	P		**P**	**16 01 21.9**	**-2.0**
KURBB	**Kurchatov Arra**	**83.12**	**322**	P		**P**	**16 01 29.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=86,slow=4.7,SNR=1.2							
IL31		**83.19**	**22**	P		**P**	**16 01 28.1**	**-2.4**
ILAR	**Eielson Array**	**83.19**	**22**	P		**P**	**16 01 28.0**	**-2.6**
	comp=Z,1.3nm,0.6s,baz=248,slow=5.3,SNR=22							
BVAR	**Borovoye Array**	**88.60**	**323**	P		**P**	**16 01 56.2**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=125,slow=7.6,SNR=2.0							
NVAR	**Mina Array Bea**	**93.65**	**52**	P		**P**	**16 02 21.2**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=245,slow=6.3,SNR=4.7							
YKA	**Yellowknife Ar**	**96.58**	**28**	P		**P**	**16 02 33.0**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=269,slow=4.2,SNR=5.2							
PDAR	**Pinedale Array**	**100.36**	**48**	P		**Pdif**	**16 02 50.4**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=169,slow=2.3,SNR=4.8							
TORD	**Torodi Ar. Bea**	**148.85**	**287**	PKPbc		**PKPdf**	**16 08 50.2**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=32,slow=2.1,SNR=3.2							
TORD				pPKPbc		**pPKPab**	**16 09 22.1**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=78,slow=3.3,SNR=2.0							

NEIC ***24*** *15:58:22.5±1.2, 18°.93N±0°.09×145°.4E±0°.1, h234km±8km, mb4.3/20, Error ellipse: s-maj=17.2km s-min=11.3km az=62.0*

IDC ***24*** *15:58:29.2±4.3, 19°.01N×145°.34E, h301km±43km, mb3.2/16, mb1 3.4/18, mb1mx3.2/61, mbtmp3.9/18, Error ellipse: s-maj=22.1km s-min=10.7km az=92.0*

ISC 24 15:58:20.5±0.5, 19°.01N±0°.06×145°.4E±0°.1, h214km, n47, σ0s93/46, mb4.0/25, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.67**	**174**	Pn		**Pn**	**15 59 08.4**	**+1.2**
GUMO	**Guam**	**5.42**	**186**	Pn		**Pn**	**15 59 43.8**	**+3.2**
JOW	**Kunigami**	**17.61**	**299**	P		**Pn**	**16 02 14.7**	**+1.3**
	3.8nm,0.3s,baz=117,slow=13,SNR=5.3							
JOW	**Kunigami**	**17.61**	**299**	IAmb		IAmb	16 02 16.1	
	comp=Z,46nm,1.2s							
JGF	**Kuroka**	**18.01**	**338**	P		**Pn**	**16 02 18.0**	**+0.1**
MJAR	**Matsushiro Arr**	**18.59**	**341**	P		**Pn**	**16 02 24.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=164,slow=11,SNR=2.5							
MJAR	**Matsushiro Arr**	**18.59**	**341**	IAmb		IAmb	16 02 33.6	
	comp=Z,4.8nm,1.2s							
LUWI	**Luwuk**	**29.88**	**231**	P		**P**	**16 04 07.0**	**-1.4**
HNR	**Honiara**	**31.68**	**152**	P		**P**	**16 04 23.9**	**-0.2**
HNR				IAmb		IAmb	16 04 35.0	
	comp=Z,18nm,1.1s							
KLR	**Kul'dur**	**32.10**	**343**	P		**P**	**16 04 27.8**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=162,slow=15,SNR=2.0							
COEN	**Coen**	**32.84**	**184**	P		**P**	**16 04 33.9**	**-0.3**
COEN				IAmb		IAmb	16 04 38.8	
	comp=Z,4.3nm,1.1s							
MTN	**Manton Dam**	**34.65**	**205**	P		**P**	**16 04 50.4**	**+0.5**
PETK	**Petropavlovsk-**	**35.34**	**13**	P		**P**	**16 04 57.3**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=189,slow=8.6,SNR=2.2							
WB0	**Warramunga Arr**	**40.03**	**196**	P		**P**	**16 05 35.1**	**+0.1**
WB0				IAmb		IAmb	16 05 35.8	
	comp=Z,16nm,1.5s							
WR0	**Warramunga Arr**	**40.18**	**196**	P		**P**	**16 05 36.5**	**+0.3**
WR0				IAmb		IAmb	16 05 38.2	
	comp=Z,8.3nm,1.2s							
WRAB	**Tennant Creek**	**40.20**	**196**	P		**P**	**16 05 36.7**	**+0.4**
WRAB				IAmb		IAmb	16 06 02.4	
	comp=Z,16nm,1.5s							
WB2	**Warramunga Arr**	**40.21**	**196**	P		**P**	**16 05 36.5**	**+0.1**
WB2				IAmb		IAmb	16 05 37.4	
	comp=Z,4.6nm,0.8s							
WRA	**Warramunga Arr**	**40.21**	**196**	P		**P**	**16 05 36.9**	**+0.4**
	comp=Z,2.1nm,0.4s,baz=18,slow=8.3,SNR=40							
WRA				PcP		**PcP**	**16 07 35.7**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=13,slow=3.2,SNR=1.8							
WRA	**Warramunga Arr**	**40.21**	**196**	P		**P**	**16 05 36.3**	**-0.2**
SANVU	**Saraoutou**	**40.39**	**147**	P		**P**	**16 05 37.3**	**-0.6**
SANVU				IAmb		IAmb	16 06 03.1	
	comp=Z,16nm,1.0s							
FITZ	**Fitzroy Crossi**	**41.69**	**209**	P		**P**	**16 05 48.9**	**+0.4**
	comp=Z,2.4nm,0.3s,baz=26,slow=7.3,SNR=30							
SONM	**Songino Array**	**42.75**	**321**	P		**P**	**16 05 56.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=142,slow=7.5,SNR=4.0							
SONM	**Songino Array**	**42.75**	**321**	P		**P**	**16 05 56.5**	**-0.4**
AS31	**Alice Springs**	**43.88**	**195**	P		**P**	**16 06 05.3**	**-0.8**
ASAR	**Alice Springs**	**43.88**	**195**	P		**P**	**16 06 06.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=16,slow=5.8,SNR=39							
ASAR	**Alice Springs**	**43.88**	**195**	P		**P**	**16 06 05.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**43.94**	**277**	P		**P**	**16 06 07.2**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=70,slow=6.5,SNR=5.0							
STKA	**Stephens Creek**	**50.73**	**184**	P		**P**	**16 06 58.2**	**-0.4**
MKAR	**Makanchi Array**	**58.07**	**314**	P		**P**	**16 07 51.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=90,slow=10,SNR=5.0							
KURK	**Kurchatov**	**60.88**	**318**	P		**P**	**16 08 10.2**	**-0.2**
KURBB	**Kurchatov Arra**	**60.93**	**318**	P		**P**	**16 08 10.2**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=94,slow=7.7,SNR=4.8							
IMAR	**Indian Mountai**	**61.03**	**24**	P		**P**	**16 08 12.5**	**+1.2**
ILAR	**Eielson Array**	**63.48**	**26**	P		**P**	**16 08 26.7**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=265,slow=5.7,SNR=2.3							
MCARA	**McCarthy VSAT**	**64.66**	**30**	P		**P**	**16 08 35.3**	**+0.1**
MCARA				IAmb		IAmb	16 08 50.7	
	comp=Z,16nm,1.5s							
BKZ	**Black Stump Fm**	**64.76**	**154**	P		**P**	**16 08 34.9**	**-1.2**
BKZ				IAmb		IAmb	16 08 36.4	
	comp=Z,14nm,1.4s							
BVAR	**Borovoye Array**	**66.08**	**320**	P		**P**	**16 08 43.6**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=204,slow=9.8,SNR=8.2							
KKAR	**Karatay Array**	**66.38**	**309**	P		**P**	**16 08 46.4**	**-0.2**
C36M	**Paulatuk**	**72.55**	**22**	P		**P**	**16 09 24.0**	**+0.2**
ABKAR	**Akbulak array**	**72.95**	**317**	P		**P**	**16 09 25.7**	**-0.8**
ABKAR	**Akbulak array**	**72.95**	**317**	P		**P**	**16 09 25.9**	**-0.6**
ABKAR				IAmb		IAmb	16 09 33.0	
	comp=Z,1.8nm,1.2s							
EUNU	**Eureka**	**77.45**	**8**	P		**P**	**16 09 52.1**	**+0.4**
YKA	**Yellowknife Ar**	**77.83**	**28**	P		**P**	**16 09 54.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=292,slow=5.0,SNR=3.9							
ARCES	**ARCESS Array B**	**82.12**	**342**	P		**P**	**16 10 16.8**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=33,slow=6.9,SNR=1.7							
NVAR	**Mina Array Bea**	**83.14**	**52**	P		**P**	**16 10 24.1**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=274,slow=6.1,SNR=7.8							
NVAR	**Mina Array Bea**	**83.14**	**52**	P		**P**	**16 10 23.5**	**+0.5**
FINES	**FINESS Array B**	**86.50**	**335**	P		**P**	**16 10 36.5**	**-2.4**
	comp=Z,1.4nm,0.4s,baz=50,slow=3.2,SNR=15							
PDAR	**Pinedale Array**	**87.78**	**45**	P		**P**	**16 10 44.8**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=297,slow=6.9,SNR=2.0							

IDC ***24*** *16:00:53.4±0.7, 41°.03N×43°.91E, h0km, mb3.7/11, mb1 3.7/18, mb1mx3.6/45, mbtmp3.7/18, ML3.0/7, MS3.5/8, Ms1 3.5/8, ms1mx2.8/57, Error ellipse: s-maj=14.5km s-min=6.6km az=57.0*

NSSP ***24*** *16:00:53.3, 41°.03N×43°.85E, h9km, Ms3.8*

DDA ***24*** *16:00:53.1, 41°.08N×43°.89E, h12km±2km, MW3.9*

MOS ***24*** *16:00:54.0±1.2, 41°.03N×43°.92E, h9km, mb4.3/6, Error ellipse: s-maj=5.9km s-min=3.3km az=93.1*

NORS ***24*** *16:00:55.0±0.0, 41°.30N×43°.74E, h1km, MPVA4.6*

TIF ***24*** *16:01:01.5, 41°.10N×43°.90E, h15km*

ISC 24 16:00:53.7±1.0, 41°.05N±0°.01×43°.89E±0°.01, h1km±7km, n159, σ1s36/238, mb3.9/13, MS3.7/6, 17C-11D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGD	**Bogdanovka**	**0.31**	**315**	P		**Pg**	**16 01 00.2**	**+0.5**
BGD				S		**Sg**	**16 01 05.0**	**+1.3**
BGD	**Bogdanovka**	**0.31**	**315**	PG		**Pg**	**16 01 00.2**	**+0.5**
BGD				S		**Sg**	**16 01 05.0**	**+1.3**
DMNI	**Dmanisi**	**0.36**	**39**	P		**Pg**	**16 01 00.6**	**-0.1**
DMNI				S		**Sg**	**16 01 05.6**	**+0.2**
DMNI	**Dmanisi**	**0.36**	**39**	PG		**Pg**	**16 01 00.6**	**-0.1**
DMNI				S		**Sg**	**16 01 05.6**	**+0.2**
STE	**Stepanavan**	**0.37**	**97**	⇑*i*P		**Pb**	**16 01 02.2**	**-1.0**
STE				⇑*i*S		**Sb**	**16 01 08.0**	**-1.4**
EAK	**Akyaka**	**0.42**	**211**	*i* P		**Pg**	**16 01 01.6**	**-0.2**
EAK				*i* S		**Sg**	**16 01 07.6**	**+0.4**
EAK				IAML			16 01 12.0	
	comp=E,13μm,0.5s							
EAK				IAML			16 01 16.0	
	comp=N,9μm,0.4s							
AKH	**Akhalkalaki**	**0.47**	**320**	P		**Pg**	**16 01 02.7**	**-0.1**
AKH				S		**Sg**	**16 01 09.0**	**+0.2**
AKH	**Akhalkalaki**	**0.47**	**320**	*e*PG		**Pg**	**16 01 02.7**	**-0.1**
KZRT	**Kazreti**	**0.51**	**49**	P		**Pg**	**16 01 00.2**	**-0.3**
KZRT				S		**Sg**	**16 01 10.0**	**-0.2**
KZRT	**Kazreti**	**0.51**	**49**	*i* P		**Pg**	**16 01 03.1**	**-0.4**
KZRT				*i* S		**Sg**	**16 01 09.8**	**-0.4**
KZRT	**Kazreti**	**0.51**	**49**	PG		**Pg**	**16 01 03.2**	**-0.3**
KZRT				S		**Sg**	**16 01 10.0**	**-0.2**
TRLG	**Trialeti**	**0.52**	**18**	P		**Pg**	**16 01 03.2**	**-0.5**
TRLG				S		**Sg**	**16 01 10.0**	**-0.4**
TRLG	**Trialeti**	**0.52**	**18**	PG		**Pg**	**16 01 03.2**	**-0.5**
TRLG				S		**Sg**	**16 01 10.0**	**-0.4**
BRNG	**Burnasheti**	**0.58**	**355**	P		**Pg**	**16 01 04.6**	**-0.2**
BRNG				S		**Sg**	**16 01 12.8**	**+0.6**
DIGO	**Kars**	**0.74**	**212**	*i* P		**Pg**	**16 01 07.6**	**-0.4**
DIGO				*i* S		**Sg**	**16 01 17.7**	**+0.1**
DIGO				IAML			16 01 20.0	
	comp=E,7μm,0.4s							
DIGO				IAML			16 01 22.0	
	comp=N,5μm,0.5s							
BKRG	**Bakuriani**	**0.76**	**339**	P		**Pg**	**16 01 08.1**	**-0.3**
BKRG				S		**Sg**	**16 01 18.5**	**+0.2**
BKRG	**Bakuriani**	**0.76**	**339**	PG		**Pg**	**16 01 08.1**	**-0.3**
BKRG				S		**Sg**	**16 01 18.5**	**+0.2**
METS	**Metsamor**	**0.91**	**171**	*i* P		**Pb**	**16 01 11.8**	**-0.5**
METS				*i* S		**Sn**	**16 01 25.1**	**-2.5**
BTNK	**Botanikuri**	**0.93**	**47**	P		**Pg**	**16 01 10.6**	**-1.0**
BTNK				S		**Sg**	**16 01 23.3**	**-0.4**
BTNK	**Botanikuri**	**0.93**	**47**	*i* P		**Pg**	**16 01 10.6**	**-1.0**
BTNK				IAML			16 01 23.0	
	comp=E,5μm,0.9s							
BTNK				*i* S		**Sg**	**16 01 23.2**	**-0.5**
BTNK				IAML			16 01 27.0	
	comp=N,1.7nm,0.9s							
BTNK	**Botanikuri**	**0.93**	**47**	PG		**Pg**	**16 01 10.6**	**-1.0**
BTNK				S		**Sg**	**16 01 23.3**	**-0.5**
VNNZ	**Vanand**	**0.95**	**183**	⇓*i*P		**Pb**	**16 01 12.4**	**-0.6**
VNNZ				⇑*i*S		**Sn**	**16 01 26.0**	**-2.5**
KAPZ	**Kaputan**	**0.95**	**139**	⇑*i*P		**Pb**	**16 01 12.2**	**-1.0**
KAPZ				⇓*i*S		**Sb**	**16 01 25.6**	**-0.7**
EPOS	**Posof**	**0.99**	**298**	*i* P		**Pg**	**16 01 11.4**	**-1.3**
EPOS				*i* S		**Sg**	**16 01 23.7**	**-1.7**
EPOS				IAML			16 01 26.0	
	comp=N,3μm,0.7s							
EPOS				IAML			16 01 26.0	
	comp=E,788nm,0.4s							
SEAG	**Tbilisi Sea**	**0.99**	**44**	P		**Pg**	**16 01 12.7**	**-0.1**
SEAG				S		**Sg**	**16 01 26.4**	**+0.8**
SEAG	**Tbilisi Sea**	**0.99**	**44**	PG		**Pg**	**16 01 12.7**	**-0.1**
SEAG				S		**Sg**	**16 01 26.4**	**+0.8**
ABS	**Abastumani**	**1.07**	**311**	P		**Pg**	**16 01 13.6**	**-0.8**
ABS				S		**Sg**	**16 01 28.2**	**-0.1**
ABS	**Abastumani**	**1.07**	**311**	PG		**Pg**	**16 01 13.6**	**-0.8**
ABS				S		**Sg**	**16 01 28.2**	**-0.1**
GNI	**Garni**	**1.11**	**144**	Pg		**Pn**	**16 01 15.5**	**-1.1**
	comp=E,121nm,0.3s,baz=314,slow=5.4,SNR=328							
GNI				Lg		Lg	16 01 30.6	
	comp=E,241nm,0.3s,baz=134,slow=24,SNR=12							
GNI				LR		LR	16 01 59.3	
	comp=E,447nm,21.0s,baz=338,slow=61							
GNI	**Garni**	**1.11**	**144**	⇑*i*P		**Pn**	**16 01 15.5**	**-1.1**
GNI				⇑*i*S		**Sn**	**16 01 31.2**	**-1.4**
IGDI	**IGDIR**	**1.19**	**173**	*i* P		**Pb**	**16 01 15.8**	**-1.3**
IGDI				*i* S		**Sn**	**16 01 32.1**	**-2.3**
IGDI				IAML			16 01 33.0	
	comp=N,1μm,0.4s							
NRKZ	**NAREK**	**1.20**	**150**	⇑*i*P		**Pn**	**16 01 16.6**	**-1.1**
NRKZ				⇓*i*S		**Sn**	**16 01 33.3**	**-1.5**
KOTA	**Agri, Merkez-K**	**1.35**	**203**	*i* P		**Pg**	**16 01 21.3**	**+1.7**
TKB	**Tkibuli**	**1.46**	**333**	P		**Pn**	**16 01 20.5**	**-0.9**
TKB				S		**Sn**	**16 01 39.7**	**-1.5**
TKB	**Tkibuli**	**1.46**	**333**	PG		**Pn**	**16 01 20.5**	**-0.9**
TKB				S		**Sn**	**16 01 39.7**	**-1.5**
GUDG	**Gudauri**	**1.48**	**17**	P		**Pn**	**16 01 21.3**	**-0.4**
GUDG				S		**Sb**	**16 01 41.4**	**-0.2**
GUDG	**Gudauri**	**1.48**	**17**	PG		**Pn**	**16 01 21.3**	**-0.4**
GUDG				S		**Sb**	**16 01 41.4**	**-0.2**
DYDN	**Diyadin**	**1.51**	**186**	*i* P		**Pg**	**16 01 23.2**	**+0.5**
DYDN				IAML			16 01 52.0	
	comp=E,444nm,0.6s							
DYDN				IAML			16 01 56.0	
	comp=N,607nm,0.8s							
ONI	**Oni**	**1.57**	**348**	P		**Pn**	**16 01 22.1**	**-0.8**
ONI				S		**Sn**	**16 01 43.1**	**-0.9**
ONI	**Oni**	**1.57**	**348**	⇓*i*PG		**Pn**	**16 01 22.3**	**-0.6**
ONI				*e*S		**Sn**	**16 01 43.4**	**-0.6**
ONI	**Oni**	**1.57**	**348**	*i* Pg		**Pn**	**16 01 22.3**	**-0.6**
ONI				*e*Sg		**Sn**	**16 01 43.4**	**-0.6**
EATA	**Eleskirt**	**1.59**	**222**	*i* P		**Pb**	**16 01 23.7**	**-0.5**
EATA				IAML			16 01 57.0	
	comp=N,542nm,1.4s							
EATA				IAML			16 01 58.0	
	comp=E,798nm,0.9s							
DBAD	**Bademkaya**	**1.66**	**270**	*i* P		**Pn**	**16 01 23.8**	**-0.3**
DBAD				*i* S		**Sb**	**16 01 46.2**	**-0.4**
DBAD				IAML			16 01 49.0	
	comp=E,1μm,0.5s							
PNSH	**Pansheti**	**1.68**	**19**	P		**Pn**	**16 01 24.0**	**-0.4**
PNSH				S		**Sn**	**16 01 45.9**	**-0.8**
PNSH	**Pansheti**	**1.68**	**19**	PN		**Pn**	**16 01 24.0**	**-0.4**
PNSH				S		**Sn**	**16 01 45.9**	**-0.8**
MTEO	**Meteo**	**1.70**	**16**	P		**Pn**	**16 01 24.8**	**-0.2**
MTEO				S		**Sb**	**16 01 47.4**	**-0.7**
DBOC	**Borcka**	**1.70**	**281**	*i* P		**Pn**	**16 01 24.7**	**+0.1**
DDFL	**Dedoflistskaro**	**1.73**	**76**	P		**Pg**	**16 01 26.4**	**-0.4**
DDFL				S		**Sg**	**16 01 51.3**	**+2.1**
DDFL	**Dedoflistskaro**	**1.73**	**76**	*i* P		**Pg**	**16 01 26.5**	**-0.4**
DDFL	**Dedoflistskaro**	**1.73**	**76**	PN		**Pg**	**16 01 26.4**	**-0.4**
DDFL				S		**Sg**	**16 01 51.3**	**+2.1**
ZEI	**Tsey**	**1.74**	**0**	⇓*i*PN		**Pn**	**16 01 25.5**	**+0.2**
ZEI				*e*S		**Sb**	**16 01 49.0**	**0.0**
ZEI	**Tsey**	**1.74**	**0**	*i* Pg		**Pn**	**16 01 25.4**	**+0.2**
ZEI				*e*Sg		**Sb**	**16 01 49.0**	**0.0**
BATM	**Batumi**	**1.75**	**289**	P		**Pn**	**16 01 25.5**	**+0.4**
BATM				S		**Sn**	**16 01 47.8**	**-0.2**
BATM	**Batumi**	**1.75**	**289**	*i* P		**Pn**	**16 01 25.6**	**+0.4**
BATM				*i* S		**Sn**	**16 01 47.1**	**-1.0**
BATM	**Batumi**	**1.75**	**289**	*e*PN		**Pn**	**16 01 25.5**	**+0.4**
LACR	**Lac**	**1.80**	**10**	*e*PN		**Pn**	**16 01 25.9**	**-0.2**
LACR	**Lac**	**1.80**	**10**	*e*Pg		**Pn**	**16 01 25.9**	**-0.2**
LACR				*e*Sg		**Sb**	**16 01 49.8**	**-1.0**
HOMI	**Horasan**	**1.81**	**237**	*i* P		**Pb**	**16 01 26.8**	**-1.1**
DIGR	**Digorskoe uzhe**	**1.86**	**353**	*e*PN		**Pn**	**16 01 27.7**	**+0.7**
DIGR				*e*S		**Sb**	**16 01 52.7**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.86**	**353**	*e*Pg		**Pn**	**16 01 27.7**	**+0.7**
DIGR				*e*Sg		**Sb**	**16 01 52.7**	**+0.1**
CLDR	**Caldiran**	**1.90**	**179**	*i* P		**Pb**	**16 01 29.0**	**-0.4**
LGD	**Lagodekhi**	**1.94**	**65**	P		**Pn**	**16 01 27.8**	**0.0**
LGD				S		**Sb**	**16 01 54.1**	**-0.4**
LGD	**Lagodekhi**	**1.94**	**65**	PN		**Pn**	**16 01 27.8**	**0.0**
LGD				S		**Sb**	**16 01 54.1**	**-0.4**
KORR	**Kora**	**2.04**	**4**	*e*PN		**Pb**	**16 01 31.8**	**+0.1**
KORR				*e*S		**Sg**	**16 02 00.0**	**+0.7**
KORR	**Kora**	**2.04**	**4**	*e*Pg		**Pb**	**16 01 31.8**	**+0.1**
KORR				*e*Sg		**Sg**	**16 02 00.0**	**+0.7**
VMUR	**Van-Muradiye**	**2.07**	**187**	*i* P		**Pg**	**16 01 32.9**	**-0.6**
VMUR				IAML			16 02 15.0	
	comp=E,192nm,1.2s							
VMUR				IAML			16 02 15.0	
	comp=N,138nm,1.0s							
VLKR	**Vladikavkaz**	**2.08**	**16**	*e*PN		**Pb**	**16 01 32.5**	**+0.2**
VLKR				*e*S		**Sg**	**16 02 01.6**	**+1.0**
VLKR	**Vladikavkaz**	**2.08**	**16**	*e*Pg		**Pb**	**16 01 32.5**	**+0.2**
VLKR				*e*Pg		**Pg**	**16 01 32.6**	**-1.0**
VLKR				*e*Sg		**Sg**	**16 02 01.6**	**+1.0**
VLKR				*e*Sg		**Sb**	**16 02 02.0**	**+3.3**
KMGR	**Komgaron**	**2.13**	**20**	*e*PN		**Pb**	**16 01 33.5**	**+0.3**
KMGR				*e*S		**Sg**	**16 02 03.1**	**+0.8**
KMGR	**Komgaron**	**2.13**	**20**	*e*Pg		**Pb**	**16 01 33.5**	**+0.3**
KMGR				*e*Sg		**Sg**	**16 02 03.1**	**+0.8**
CHVG	**Ch'k'vale

SOC	**Sochi**	**4.00**	**311**	*e*PN	**Pn**	**16 01 59.0**	**+2.9**
SOC				*e*		16 02 46.1	
SOC				pmax	pmax		
	comp=Z,35nm,0.4s						
SOC				smax	smax		
	comp=N,82nm,0.6s						
SOC				smax	smax		
	comp=E,227nm,1.1s						
SOC				MLR	MLR		
	comp=Z,289nm,11.0s						
GOF	**Gofitskoye**	**4.05**	**351**⇑	*e*PN	**Pg**	**16 02 10.0**	**-1.4**
GOF				*e*S	**Sg**	**16 03 04.6**	**+0.6**
GOF				pmax	pmax		
	comp=Z,45nm,0.6s						
GOF				smax	smax		
	comp=E,83nm,0.7s						
GOF				smax	smax		
	comp=N,194nm,0.8s						
GUZR	**Guzeripl'**	**4.05**	**318**⇓	*e*PN	**Pn**	**16 01 59.1**	**+2.1**
GUZR				*e*S	**Sb**	**16 02 51.0**	**-4.5**
GUZR				pmax	pmax		
	comp=Z,33nm,0.5s						
GUZR				smax	smax		
	comp=E,84nm,1.1s						
SUSE	**Susehri**	**4.41**	**261**	*i* P	**Pb**	**16 02 11.1**	**-1.0**
ANN	**Anapa**	**6.04**	**310**	*e*P	**Pn**	**16 02 25.8**	**+1.6**
ANN				*e*S	**Sn**	**16 03 37.2**	**+3.2**
ANN				pmax	pmax		
	comp=Z,43nm,1.3s						
SUDU	**Sudak**	**7.56**	**303**	*e*P	**Pn**	**16 02 49.2**	**+4.1**
SUDU				*e*S	**Sn**	**16 04 15.7**	**+4.3**
ALU	**Alushta**	**7.86**	**301**	*e*P	**Pn**	**16 02 50.3**	**+1.2**
ALU				*e*S	**Sn**	**16 04 16.8**	**-1.8**
BRTR	**Keskin Array B**	**7.94**	**264**	Pn	**Pn**	**16 02 52.8**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=46,slow=12,SNR=1.9						
SEV	**Sevastopol'**	**8.29**	**298**	*e*P	**Pn**	**16 02 58.5**	**+3.5**
SEV				*e*S	**Sn**	**16 04 31.2**	**+2.0**
GEYT	**Alibeck**	**11.43**	**101**	Pn	**Pn**	**16 03 36.8**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=292,slow=15,SNR=4.2						
BELG	**Belogornoye**	**11.63**	**11**⇓	*e*P	**Pn**	**16 03 41.9**	**+1.1**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTO	**Aktyubinsk**	**13.60**	**42**	Pn	**Pn**	**16 04 04.7**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=240,slow=13,SNR=4.5						
AKTO				LR	LR	16 11 02.3	
	comp=Z,24nm,18.3s,baz=226,slow=45						
MLR	**Muntele Rosu**	**13.80**	**295**	LR	LR	16 11 22.1	
	comp=Z,91nm,19.1s,baz=82,slow=46						
AKASG	**Malin Array Be**	**14.03**	**318**	Pn	**Pn**	**16 04 12.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=122,slow=11,SNR=1.2						
OBN	**Obninsk**	**14.89**	**343**	*e*P	**Pn**	**16 04 26.2**	**+1.0**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KOLS	**Kolonicke sedl**	**17.16**	**305**	*e*P	**P**	**16 04 59.4**	**+2.9**
KOLS	**Kolonicke sedl**	**17.16**	**305**	*e*P	**P**	**16 04 59.3**	**+2.8**
CRVS	**Cervenica-Dubn**	**17.66**	**304**	*e*P	**P**	**16 05 04.4**	**+2.4**
CRVS	**Cervenica-Dubn**	**17.66**	**304**	*e*P	**P**	**16 05 04.4**	**+2.4**
ARU	**Arti**	**18.12**	**27**	P	**P**	**16 05 06.4**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=207,slow=11,SNR=1.6						
ARU	**Arti**	**18.12**	**27***c*	*i*P	**P**	**16 05 09.1**	**+2.2**
ARU				S	**S**	**16 08 35.4**	**+0.4**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KLMR	**Klimovskoe**	**20.01**	**354**	*e*P	**P**	**16 05 26.7**	**-0.9**
KLMR				pmax	pmax		
	comp=Z,14nm,1.3s						
KLMR	**Klimovskoe**	**20.01**	**354**	*e*Pn	**P**	**16 05 26.8**	**-0.9**
KLMR				AMP		16 05 29.9	
	comp=Z,14nm,1.3s						
PRGR	**Permogore**	**20.64**	**2**	*e*P	**P**	**16 05 32.6**	**-1.9**
PRGR				pmax	pmax		
	comp=Z,12nm,0.6s						
BRVK	**Borovoye**	**21.49**	**47**⇓	*i*P	**P**	**16 05 43.9**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVAR	**Borovoye Array**	**21.53**	**47**	P	**P**	**16 05 44.0**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=241,slow=15,SNR=8.4						
GERES	**GERESS Array B**	**22.63**	**300**	P	**P**	**16 05 56.9**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=288,slow=38,SNR=2.9						
AAK	**Ala-Archa**	**22.80**	**76**	P	**P**	**16 05 57.8**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=291,slow=8.6,SNR=4.4						
AAK	**Ala-Archa**	**22.80**	**76**⇑	*e*P	**P**	**16 06 00.6**	**+2.6**
AAK				pmax	pmax		
	comp=Z,24nm,1.1s						
VAE	**Valguarnera**	**23.05**	**271**	LR	LR	16 16 43.0	
	comp=Z,302nm,18.9s,baz=160,slow=41						
FINES	**FINESS Array B**	**23.11**	**338**	P	**P**	**16 06 01.8**	**+1.0**
	comp=Z,5.4nm,0.9s,baz=177,slow=12,SNR=4.7						
CLL	**Collm**	**23.55**	**306**	*e*P	P	16 06 14.0	+8.6
KURBB	**Kurchatov Arra**	**25.75**	**56**	P	**P**	**16 06 24.8**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=268,slow=9.7,SNR=6.1						
KURK	**Kurchatov**	**25.82**	**56**	P	**P**	**16 06 24.8**	**-1.6**
HFS	**Hagfors**	**26.68**	**326**	P	**P**	**16 06 33.4**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=137,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**28.05**	**65**	P	**P**	**16 06 46.6**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=268,slow=11,SNR=2.3						
ZALV	**Zalesovo Beam**	**30.07**	**51**	P	**P**	**16 07 04.2**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=358,slow=10,SNR=2.6						
ZALV	**Zalesovo Beam**	**30.07**	**51**	*i*P	P	16 07 08.8	+4.5
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SPITS	**Spitsbergen Ar**	**38.88**	**351**	P	**P**	**16 08 18.1**	**-2.1**
	comp=Z,6.4nm,1.0s,baz=168,slow=7.4,SNR=8.0						
SONM	**Songino Array**	**44.05**	**59**	P	**P**	**16 09 02.5**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=282,slow=7.6,SNR=1.7						
SONM				LR	LR	16 29 37.2	
	comp=Z,73nm,18.6s,baz=293,slow=39						
ULN	**Ulaanbaatar**	**44.47**	**59**⇑	*e*P	**P**	**16 09 07.8**	**+1.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**51.90**	**99**	P	**P**	**16 10 04.2**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=297,slow=8.0,SNR=2.4						
PETK	**Petropavlovsk-**	**70.25**	**36**	LR	LR	16 48 59.1	
	comp=Z,37nm,19.8s,baz=134,slow=41						
DAV	**Davao City (W)**	**79.14**	**90**	LR	LR	16 52 46.7	
	comp=Z,54nm,21.1s,baz=324,slow=39						
ELK	**Elko**	**96.41**	**344**	LR	LR	16 58 10.4	
	comp=Z,22nm,18.4s,baz=254,slow=36						
NVAR	**Mina Array Bea**	**99.24**	**346**	LR	LR	17 04 57.5	
	comp=Z,28nm,18.3s,baz=195,slow=39						

*NNC **24** 16:13:02.2±7.6, 37.°19N×69.°74E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=73.2km s-min=51.4km az=141.0*

ISC 24 16:12:60.0±1.3, **36.°8N**±0.°1×**71.°4E**±0.°2, **h200**km, **n15, σ1°21/16, 2C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.62**	**18**	P		**Pn**	**16 14 23.4**	**+0.9**
	SNR=19							
THN	**Thein Dam**	**5.64**	**139**	*e*S		**Sn**	**16 15 27.5**	**-0.3**
EKS2	**Erkin-Say**	**6.14**	**17**	P		**Pn**	**16 14 30.2**	**+1.2**
	SNR=12							
KK31	**Karatay Array**	**6.33**	**354**	P		**Pn**	**16 14 31.6**	**+0.2**
	1.7nm,0.2s,baz=175,slow=13,SNR=139							
KK31					⇓	**Sn**	**16 15 41.1**	**-2.7**
	5.5nm,0.4s,baz=186,slow=24,SNR=13							
KBK	**Karagaybulak**	**6.46**	**24**	P		**Pn**	**16 14 34.7**	**+1.4**
	SNR=6.8							
ULHL	**Ulahol**	**6.61**	**33**	P		**Pn**	**16 14 36.0**	**+0.8**
	SNR=8.0							
TKM2	**Tokmak 2**	**6.92**	**27**	P		**Pn**	**16 14 40.4**	**+1.2**
	SNR=5.1							
GKN	**Gorkha**	**14.22**	**124**	*e*P		**P**	**16 16 14.1**	**-0.3**
	7.5nm,0.3s							
AB31	**Akbulak array**	**14.97**	**330**	⇑P		**P**	**16 16 23.6**	**+1.3**
	1.0nm,0.6s,baz=144,slow=12,SNR=16							
PKIN	**Phulchoki**	**15.00**	**124**	*e*P		**P**	**16 16 23.4**	**+0.2**
	2.1nm,0.2s							
PKI	**Pulchoki**	**15.02**	**124**	*e*P		**P**	**16 16 23.3**	**-0.1**
	3.0nm,0.2s							
GUN	**Gumba**	**15.11**	**122**	*e*P		**Pn**	**16 16 23.6**	**-0.3**
	5.3nm,0.4s							
RAMN	**Ramite**	**16.22**	**123**	*e*P		**P**	**16 16 35.4**	**-1.2**
	4.3nm,0.3s							
AKTO	**Aktyubinsk**	**16.67**	**329**	⇑P		**Pn**	**16 16 41.8**	**-0.4**
	1.0nm,0.5s							
TAPN	**Taplejung**	**16.73**	**120**	*e*P		**P**	**16 16 40.9**	**-1.3**
	3.1nm,0.5s							

*ATH **24** 16:33:23.7, 38.°42N×20.°55E, h10km±1km, ML2.6/7, Error ellipse: s-maj=1.8km s-min=0.6km az=287.0*
*THE **24** 16:33:23.7, 38.°43N×20.°52E, h11km, ML2.9/5, Error ellipse: s-maj=0.8km s-min=0.3km az=285.0*

ISC 24 16:33:22.9±0.8, **38.°43N**±0.°02×**20.°52E**±0.°03, **h14**km±4km, **n53, σ0°82/89, Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VSK1	**VASILIKIADES**	**0.04**	**117**	P		**Pg**	**16 33 25.6**	**+0.1**
VSK1				S		**Sg**	**16 33 26.9**	**-0.4**
FSK	**Fiskardo**	**0.05**	**44**	P		**Pg**	**16 33 25.5**	**-0.2**
FSK				S		**Sg**	**16 33 26.4**	**-1.0**
FSK				AML	AML		16 33 26.8	
	comp=N,24501μm,0.2s							
FSK				AML	AML		16 33 27.0	
	comp=E,34092μm,0.1s							
FSK	**Fiskardo**	**0.05**	**44**	P		**Pg**	**16 33 25.4**	**-0.2**
FSK				S		**Sg**	**16 33 26.8**	**-0.6**
	comp=E,15μm,0.1s							
KEF5	**Kardakata, Kep**	**0.15**	**196**	P		**Pg**	**16 33 27.2**	**+0.4**
KEF5				S		**Sg**	**16 33 29.6**	**+0.2**
KEF5	**Kardakata, Kep**	**0.15**	**196**	P		**Pg**	**16 33 27.2**	**+0.4**
KEF5				S		**Sg**	**16 33 30.1**	**+0.7**
KEF4	**Livadi, Kephal**	**0.18**	**204**	P		**Pg**	**16 33 27.8**	**+0.5**
KEF4				S		**Sg**	**16 33 31.0**	**+0.8**
KEF4	**Livadi, Kephal**	**0.18**	**204**	P		**Pg**	**16 33 27.8**	**+0.5**
KEF4				S		**Sg**	**16 33 31.2**	**+1.1**
DMLN	**Damoulianata-K**	**0.22**	**212**	P		**Pg**	**16 33 28.3**	**+0.4**
DMLN				S		**Sg**	**16 33 31.7**	**+0.5**
DMLN	**Damoulianata-K**	**0.22**	**212**	P		**Pg**	**16 33 28.4**	**+0.6**
DMLN				S		**Sg**	**16 33 31.9**	**+0.7**
	comp=E,1μm,0.3s							
EVGI	**Lefkada island**	**0.22**	**28**	P		**Pg**	**16 33 28.5**	**+0.6**
EVGI				S		**Sg**	**16 33 31.5**	**+0.3**
EVGI	**Lefkada island**	**0.22**	**28**	P		**Pg**	**16 33 28.5**	**+0.6**
EVGI				S		**Sg**	**16 33 32.0**	**+0.8**
LXRA	**Lixouri, Kepha**	**0.23**	**196**	P		**Pg**	**16 33 28.6**	**+0.5**
LXRA				S		**Sg**	**16 33 32.3**	**+0.8**
ARGA	**Argostoli. Kep**	**0.25**	**188**	P		**Pg**	**16 33 28.8**	**+0.4**
ARGA				S		**Sg**	**16 33 32.6**	**+0.6**
VLS	**Valsamata**	**0.25**	**168**	P		**Pg**	**16 33 28.7**	**+0.4**
VLS				S		**Sg**	**16 33 31.8**	**-0.3**
VLS				AML	AML		16 33 33.3	
	comp=E,19808μm,0.2s							
VLS				AML	AML		16 33 33.4	
	comp=N,10861μm,0.1s							
VLS	**Valsamata**	**0.25**	**168**	P		**Pg**	**16 33 28.8**	**+0.4**
VLS				S		**Sg**	**16 33 33.1**	**+1.0**
	comp=N,8μm,0.1s							
KEF3	**Kipouria, Keph**	**0.26**	**211**	P		**Pg**	**16 33 28.4**	**0.0**
KEF3				S		**Sg**	**16 33 32.4**	**+0.1**
KEF3	**Kipouria, Keph**	**0.26**	**211**	P		**Pg**	**16 33 28.5**	**0.0**
KEF3				S		**Sg**	**16 33 33.0**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.32**	**171**	P		**Pg**	**16 33 29.8**	**+0.3**
PSDA				S		**Sg**	**16 33 34.2**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.32**	**171**	P		**Pg**	**16 33 29.9**	**+0.4**
PSDA				S		**Sg**	**16 33 35.1**	**+1.2**
NYDR	**Nydri-Lefkada**	**0.32**	**26**	P		**Pg**	**16 33 30.0**	**+0.5**
NYDR				S		**Sg**	**16 33 33.8**	**-0.2**
NYDR	**Nydri-Lefkada**	**0.32**	**26**	P		**Pg**	**16 33 30.0**	**+0.5**
NYDR				S		**Sg**	**16 33 35.2**	**+1.2**
LKD2	**Lefkada island**	**0.38**	**16**	P		**Pg**	**16 33 30.9**	**+0.4**
LKD2				S		**Sg**	**16 33 36.0**	**+0.2**
LKD2				AML	AML		16 33 40.1	
	comp=E,767μm,0.5s							
LKD2				AML	AML		16 33 43.0	
	comp=N,935μm,0.4s							
LKD2	**Lefkada island**	**0.38**	**16**	P		**Pg**	**16 33 31.0**	**+0.4**
LKD2				S		**Sg**	**16 33 36.9**	**+1.1**
TSLK	**Tsoukalades, L**	**0.41**	**15**	P		**Pg**	**16 33 31.7**	**+0.4**
TSLK				S		**Sg**	**16 33 38.3**	**+1.5**
TSLK				AML	AML		16 33 39.3	
	comp=N,1332μm,0.5s							
TSLK				AML	AML		16 33 39.4	
	comp=E,865μm,0.3s							
TSLK	**Tsoukalades, L**	**0.41**	**15**	P		**Pg**	**16 33 31.8**	**+0.6**
TSLK				S		**Sg**	**16 33 38.3**	**+1.5**
PDO	**Prodromos**	**0.55**	**71**	P		**Pg**	**16 33 34.2**	**+0.5**
PDO	**Prodromos**	**0.55**	**71**	P		**Pg**	**16 33 34.2**	**+0.5**
PDO				S		**Sb**	**16 33 42.5**	**+0.5**
	comp=E,898nm,0.4s							
VLMS	**Volimes, Zakyn**	**0.56**	**168**	P		**Pg**	**16 33 34.3**	**+0.4**
VLMS				S		**Sg**	**16 33 41.6**	**+0.2**
VLMS				AML	AML		16 33 47.4	
	comp=E,3466μm,0.3s							
VLMS				AML	AML		16 33 48.1	
	comp=N,2968μm,0.3s							
VLMS	**Volimes, Zakyn**	**0.56**	**168**	P		**Pg**	**16 33 34.3**	**+0.4**
VLMS				S		**Sb**	**16 33 43.3**	**+0.9**
	comp=N,1μm,0.3s							
AXS	**Araxos**	**0.71**	**109**	P		**Pg**	**16 33 37.1**	**+0.4**
AXS				S		**Sg**	**16 33 46.8**	**+0.7**
AXS				AML	AML		16 33 49.6	
	comp=N,363μm,0.8s							
AXS				AML	AML		16 33 50.4	
	comp=E,285μm,0.2s							
LTHK	**Lithakia**	**0.76**	**161**	P		**Pg**	**16 33 37.5**	**-0.2**
LTHK				S		**Sg**	**16 33 47.7**	**+0.1**
LTHK	**Lithakia**	**0.76**	**161**	P		**Pg**	**16 33 37.5**	**-0.2**
LTHK				S		**Sb**	**16 33 49.9**	**+1.9**
PVO	**Paravola**	**0.81**	**76**	P		**Pg**	**16 33 39.4**	**+0.7**
PVO	**Paravola**	**0.81**	**76**	P		**Pg**	**16 33 39.4**	**+0.7**
RLS	**Riolos of Patr**	**0.83**	**116**	P		**Pg**	**16 33 39.1**	**+0.1**
RLS				S		**Sg**	**16 33 50.1**	**+0.1**
DRO	**Drossia**	**1.05**	**116**	P		**Pg**	**16 33 43.1**	**-0.1**
DRO				S		**Sg**	**16 33 56.9**	**0.0**
DRO				AML	AML		16 34 04.8	
	comp=N,467μm,0.3s							
DRO				AML	AML		16 34 06.3	
	comp=E,570μm,0.2s							
DRO	**Drossia**	**1.05**	**116**	P		**Pg**	**16 33 43.1**	**-0.1**
ANX	**Ano Chora**	**1.11**	**81**	P		**Pb**	**16 33 44.1**	**+0.1**
IGT	**Igoumenitsa**	**1.11**	**352**	P		**Pb**	**16 33 44.5**	**+0.5**
LAKA	**Lakka**	**1.16**	**99**	P		**Pb**	**16 33 44.5**	**-0.3**
LAKA	**Lakka**	**1.16**	**99**	P		**Pb**	**16 33 44.6**	**-0.2**
SERG	**Sergoula**	**1.21**	**90**	P		**Pb**	**16 33 45.5**	**-0.1**
SERG	**Sergoula**	**1.21**	**90**	P		**Pb**	**16 33 45.2**	**-0.4**
TRIZ	**Trizonia**	**1.22**	**92**	P		**Pn**	**16 33 45.4**	**-0.1**
TRIZ	**Trizonia**	**1.22**	**92**	P		**Pn**	**16 33 45.5**	**-0.1**
KALE	**Kalithea**	**1.27**	**91**	P		**Pn**	**16 33 46.3**	**-0.1**
KALE	**Kalithea**	**1.27**	**91**	P		**Pn**	**16 33 46.3**	**-0.1**
KLV	**Kalavryta, Ach**	**1.34**	**106**	P		**Pn**	**16 33 47.3**	**0.0**
KLV	**Kalavryta, Ach**	**1.34**	**106**	P		**Pn**	**16 33 47.6**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.39**	**65**	P		**Pb**	**16 33 49.4**	**+0.7**
KIJV	**Kijevo**	**6.38**	**332**	*e*Pn		**Pn**	**16 34 57.2**	**+0.8**
KIJV				Sn		**Sn**	**16 36 07.2**	**-1.9**
ZIRJ	**Zirje**	**6.39**	**326**	*i* Pn		**Pn**	**16 34 56.0**	**-0.7**
ZIRJ				Sn		**Sn**	**16 36 05.5**	**-3.9**
MORI	**Morici**	**6.54**	**328**	*e*Pn		**Pn**	**16 34 59.3**	**+0.7**
MORI				Sn		**Sn**	**16 36 10.2**	**-2.7**

*UPP **24** 16:40:55.1±0.2, 58.°72N×18.°51E, h4km±4km, ML2.4, Explosion*
*DNK **24** 16:40:55.4±0.3, 58.°72N×18.°49E, h0km, ML2.4(UPP), Explosion*
*HEL **24** 16:40:55.8±0.0, 58.°72N×18.°48E, h0km, ML2.4(UPP), Explosion*
*NAO **24** 16:40:58.7±2.2, 58.°97N×18.°41E, ML2.2*
*BER **24** 16:40:59.3±4.0, 58.°97N×18.°55E, h0km, ML2.2(NAO), Suspected explosion*
*IDC **24** 16:41:00.4±1.9, 59.°16N×18.°33E, h0km, mb1 3.0/4, mb1mx2.8/74, mbtmp2.9/4, ML2.1/4, Error ellipse: s-maj=24.9km s-min=7.1km az=178.0*

ISC 24 16:40:55.1±0.9, **58.°71N**±0.°02×**18.°45E**±0.°03, **h0**km, **n58, σ1°26/70, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.37**	**322**	P		**Pg**	**16 41 02.4**	**+0.2**
NYNU				S		**Sg**	**16 41 07.3**	**+0.2**
NYNU	**Nynaeshamn**	**0.37**	**322**	P		**Pg**	**16 41 02.4**	**+0.2**
NYNU				S		**Sg**	**16 41 07.3**	**+0.2**
NYNU	**Nynaeshamn**	**0.37**	**322**	*i* P		**Pg**	**16 41 02.4**	**+0.2**
NYNU				*i* S		**Sg**	**16 41 07.3**	**+0.2**
VIKU	**Vikbolandet**	**0.94**	**258**	P		**Pg**	**16 41 13.2**	**+0.2**
VIKU	**Vikbolandet**	**0.94**	**258**	P		**Pg**	**16 41 13.2**	**+0.2**
VIKU	**Vikbolandet**	**0.94**	**258**	*e*P		**Pg**	**16 41 13.2**	**+0.2**
NRTU	**Norrtaelje**	**0.97**	**6**	P		**Pg**	**16 41 12.9**	**-0.8**
NRTU	**Norrtaelje**	**0.97**	**6**	P		**Pg**	**16 41 12.9**	**-0.8**
NRTU	**Norrtaelje**	**0.97**	**6**	*e*P		**Pg**	**16 41 12.9**	**-0.8**
GOTU	**Gotland**	**1.03**	**176**	P		**Pg**	**16 41 14.2**	**-0.5**
GOTU	**Gotland**	**1.03**	**176**	P		**Pg**	**16 41 14.2**	**-0.5**
GOTU	**Gotland**	**1.03**	**176**	*e*P		**Pg**	**16 41 14.3**	**-0.5**
GOTU				*e*S		**Sg**	**16 41 26.3**	**-1.8**
ESKU	**Eskilstuna**	**1.18**	**297**	P		**Pg**	**16 41 17.4**	**-0.4**
ESKU	**Eskilstuna**	**1.18**	**297**	P		**Pg**	**16 41 17.4**	**-0.4**
ESKU	**Eskilstuna**	**1.18**	**297**	*e*P		**Pg**	**16 41 17.4**	**-0.4**
UPP	**Uppsala**	**1.23**	**340**	P		**Pg**	**16 41 17.9**	**-0.7**
UPP	**Uppsala**	**1.23**	**340**	*e*P		**Pg**	**16 41 17.9**	**-0.7**
FIBU	**Brunna**	**1.32**	**335**	P		**Pg**	**16 41 19.6**	**-0.8**
FIBU	**Brunna**	**1.32**	**335**	P		**Pg**	**16 41 19.6**	**-0.8**
BACU	**Backbrunna**	**1.34**	**330**	P		**Pg**	**16 41 19.8**	**-0.9**
BACU	**Backbrunna**	**1.34**	**330**	P		**Pg**	**16 41 19.8**	**-0.9**
BACU	**Backbrunna**	**1.34**	**330**	*e*P		**Pg**	**16 41 19.8**	**-0.9**
FLYU	**Flymyra**	**1.45**	**349**	P		**Pn**	**16 41 21.6**	**-0.9**
FLYU	**Flymyra**	**1.45**	**349**	P		**Pn**	**16 41 21.6**	**-0.9**
FLYU	**Flymyra**	**1.45**	**349**	*e*P		**Pn**	**16 41 21.6**	**-0.9**
VSTU	**Vaestervik**	**1.46**	**225**	P		**Pn**	**16 41 22.3**	**-0.4**
VSTU	**Vaestervik**	**1.46**	**225**	P		**Pn**	**16 41 22.3**	**-0.4**
VSTU	**Vaestervik**	**1.46**	**225**	*e*P		**Pn**	**16 41 22.3**	**-0.4**
GRAU	**Graesoe**	**1.63**	**2**	P		**Pn**	**16 41 24.6**	**-0.4**
GRAU	**Graesoe**	**1.63**	**2**	P		**Pn**	**16 41 24.6**	**-0.4**
GRAU	**Graesoe**	**1.63**	**2**	*e*P		**Pn**	**16 41 24.6**	**-0.4**
OSTU	**Oestervaala**	**1.67**	**337**	P		**Pn**	**16 41 25.5**	**0.0**
OSTU	**Oestervaala**	**1.67**	**337**	P		**Pn**	**16 41 25.5**	**0.0**
OSTU	**Oestervaala**	**1.67**	**337**	*e*P		**Pn**	**16 41 25.5**	**0.0**
AAL	**Aland**	**1.67**	**28**	*e*P		**Pn**	**16 41 24.9**	**-0.7**
SLIT	**Slitere, Latvi**	**2.31**	**116**	*e*P		**Pn**	**16 41 34.6**	**+0.3**
MTSE	**Matsula**	**2.80**	**88**	*e*P		**Pn**	**16 41 41.4**	**+0.4**
HFS	**Hagfors**	**2.82**	**302**	Pn		**Pn**	**16 41 42.4**	**+1.1**
	0.6nm,0.3s,baz=111,slow=14,SNR=23							
HFS				Lg		Lg	16 42 19.8	
	1.4nm,0.3s,baz=112,slow=32,SNR=9.6							
HFS	**Hagfors**	**2.82**	**302**	Pn		**Pn**	**16 41 42.4**	**+1.1**
	baz=120,slow=16							
HFS				Lg		Lg	16 42 21.6	
	baz=118,slow=37							
HFS	**Hagfors**	**2.82**	**302**	Pn		**Pn**	**16 41 42.4**	**+1.1**
	baz=120,slow=16							
HFS				Sg		**Sb**	**16 42 21.6**	**+0.4**
	baz=118,slow=37							
RAF	**Rauma**	**2.86**	**34**	*e*P		**Pn**	**16 41 42.6**	**+0.8**
ARNU	**Arnoeviken**	**3.04**	**350**	*e*P		**Pn**	**16 41 43.7**	**-0.6**
NRA0	**NORESS Array S**	**4.04**	**303**	Pn		**Pn**	**16 41 58.9**	**+0.8**
	baz=119,slow=11							
NRA0				Sn		**Sn**	**16 42 48.4**	**+2.3**
	baz=105,slow=28							
NRA0				Lg		Lg	16 43 02.4	
	baz=126,slow=28							
NRA0	**NORESS Array S**	**4.04**	**303**	Pn		**Pn**	**16 41 58.9**	**+0.8**
	baz=119,slow=11							
NRA0				Sn		**Sn**	**16 42 48.4**	**+2.3**
	baz=105,slow=28							
NRA0				Sg		**Sg**	**16 43 02.4**	**-2.4**
	baz=126,slow=28							
NB2	**NORSAR Subarra**	**4.33**	**306**	Pn		**Pn**	**16 42 02.9**	**+0.8**
	baz=125,slow=14							
NB2				Lg		Lg	16 43 11.0	
	baz=117,slow=37							
NB2	**NORSAR Subarra**	**4.33**	**306**	Pn		**Pn**	**16 42 02.9**	**+0.8**
	baz=125,slow=14							
NB2				Sg		**Sg**	**16 43 11.0**	**-3.0**
	baz=117,slow=37							
NOA	**NORSAR Array B**	**4.33**	**306**	Pn		**Pn**	**16 42 02.6**	**+0.5**
	0.0nm,0.3s,baz=112,slow=13,SNR=7.1							
NOA				Lg		Lg	16 43 04.8	
	0.1nm,0.3s,baz=279,slow=8.0,SNR=8.1							
FIA0	**FINESS Array S**	**4.70**	**51**	Pn		**Pn**	**16 42 08.4**	**+1.2**
	baz=250,slow=14							
FIA0				Sn		**Sn**	**16 43 02.5**	**+0.2**
	baz=243,slow=18							
FIA0				Lg		Lg	16 43 19.2	
	baz=234,slow=28							
FIA0	**FINESS Array S**	**4.70**	**51**	Pn		**Pn**	**16 42 08.4**	**+1.2**
	baz=250,slow=14							
FIA0				Sg		**Sb**	**16 43 19.2**	**+3.8**
	baz=234,slow=28							
FIA0	**FINESS Array S**	**4.70**	**51**	*e*P		**Pn**	**16 42 08.0**	**+0.8**
FINES	**FINESS Array B**	**4.70**	**51**	Pn		**Pn**	**16 42 08.4**	**+1.2**
	0.

ARNU	**Arnoeviken**	**3.04**	**350**	*e*P		**Pn**	16 56 40.5	**-0.4**
NRA0	**NORESS Array S**	**4.06**	**303**	Pn		**Pn**	**16 56 55.1**	**+0.2**
	baz=107,slow=12							
NRA0				Lg		Lg	16 57 58.8	
	baz=120,slow=28							
NRA0	**NORESS Array S**	**4.06**	**303**	Pn		**Pn**	**16 56 55.1**	**+0.2**
	baz=107,slow=12							
NRA0				Sg		**Sg**	**16 57 58.8**	**-3.0**
	baz=120,slow=28							
BSD	**Bornholm Skovb**	**4.10**	**210**	*e*P		**Pn**	**16 56 55.6**	**+0.2**
NB2	**NORSAR Subarra**	**4.34**	**306**	Pn		**Pn**	**16 56 59.0**	**+0.2**
	baz=120,slow=14							
NB2				Lg		Lg	16 58 06.9	
	baz=117,slow=37							
NB2	**NORSAR Subarra**	**4.34**	**306**	Pn		**Pn**	**16 56 59.0**	**+0.2**
	baz=120,slow=14							
NB2				Sg		**Sb**	**16 58 06.9**	**+5.3**
	baz=117,slow=37							
NOA	**NORSAR Array B**	**4.34**	**306**	Pn		**Pn**	**16 56 57.7**	**-1.1**
	0.0nm,0.3s,baz=111,slow=13,SNR=6.4							
NOA				Pg		**Pb**	**16 57 08.3**	**-0.4**
	0.0nm,0.3s,baz=110,slow=13,SNR=7.3							
NOA				Lg		Lg	16 57 59.1	
	0.1nm,0.3s,baz=335,slow=21,SNR=1.9							
FIA0	**FINESS Array S**	**4.69**	**51**	Pn		**Pn**	**16 57 03.8**	**+0.3**
	baz=218,slow=11							
FIA0				Lg		Lg	16 58 16.5	
	baz=235,slow=28							
FIA0	**FINESS Array S**	**4.69**	**51**	Pn		**Pn**	**16 57 03.8**	**+0.3**
	baz=218,slow=11							
FIA0				Sg		**Sb**	**16 58 16.5**	**+5.1**
	baz=235,slow=28							
FINES	**FINESS Array B**	**4.69**	**51**	Pn		**Pn**	**16 57 04.6**	**+1.1**
	0.3nm,0.3s,baz=235,slow=12,SNR=11							
FINES				Pg		**Pb**	**16 57 13.8**	**-0.8**
	0.3nm,0.3s,baz=240,slow=12,SNR=6.0							
FINES				Lg		Lg	16 58 13.9	
	1.1nm,0.3s,baz=257,slow=25,SNR=13							
ARA0	**ARCESS Array S**	**11.28**	**13**	Pn		**Pn**	**16 58 31.1**	**-2.7**
	baz=193,slow=16							
ARA0	**ARCESS Array S**	**11.28**	**13**	Pn		**Pn**	**16 58 31.1**	**-2.7**
	baz=193,slow=16							
ARCES	**ARCESS Array B**	**11.28**	**13**	Pn		**Pn**	**16 58 30.9**	**-2.9**
	baz=193,slow=14,SNR=9.1							

UPP ***24*** *16:56:00.6±0.2,58.°73N×18.°48E, h0km, ML2.6, Explosion*
DNK ***24*** *16:56:01.3±0.4,58.°73N×18.°46E, h0km, ML2.6(UPP), Explosion*
ISC 24 16:55:59.9±1.4, 58.°72N±0.°05×18.°52E±0.°07, h0km, n19, σ0s32/21, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.39**	**317**	P		**Pg**	**16 56 07.8**	**+0.5**
NYNU				S		**Sg**	**16 56 12.8**	**+0.5**
NYNU	**Nynaeshamn**	**0.39**	**317**	P		**Pg**	**16 56 07.8**	**+0.5**
NYNU				S		**Sg**	**16 56 12.8**	**+0.5**
NRTU	**Norrtaelje**	**0.96**	**4**	P		**Pg**	**16 56 18.5**	**+0.2**
NRTU	**Norrtaelje**	**0.96**	**4**	P		**Pg**	**16 56 18.5**	**+0.2**
VIKU	**Vikbolandet**	**0.97**	**258**	P		**Pg**	**16 56 18.5**	**-0.1**
VIKU	**Vikbolandet**	**0.97**	**258**	P		**Pg**	**16 56 18.5**	**-0.1**
ESKU	**Eskilstuna**	**1.21**	**296**	P		**Pg**	**16 56 22.7**	**-0.4**
ESKU	**Eskilstuna**	**1.21**	**296**	P		**Pg**	**16 56 22.7**	**-0.4**
FIBU	**Brunna**	**1.32**	**334**	P		**Pb**	**16 56 25.5**	**-0.2**
FIBU	**Brunna**	**1.32**	**334**	P		**Pb**	**16 56 25.5**	**-0.2**
BACU	**Backbrunna**	**1.35**	**328**	P		**Pg**	**16 56 25.4**	**-0.3**
BACU	**Backbrunna**	**1.35**	**328**	P		**Pg**	**16 56 25.4**	**-0.3**
FLYU	**Flymyra**	**1.45**	**347**	P		**Pn**	**16 56 27.2**	**-0.1**
FLYU	**Flymyra**	**1.45**	**347**	P		**Pn**	**16 56 27.2**	**-0.1**
VSTU	**Vaestervik**	**1.49**	**225**	P		**Pn**	**16 56 28.2**	**+0.2**
VSTU	**Vaestervik**	**1.49**	**225**	P		**Pn**	**16 56 28.2**	**+0.2**
GRAU	**Graesoe**	**1.62**	**0**	P		**Pb**	**16 56 30.4**	**-0.3**
GRAU	**Graesoe**	**1.62**	**0**	P		**Pb**	**16 56 30.4**	**-0.3**
AAL	**Aland**	**1.65**	**27**	P		**Pb**	**16 56 30.9**	**-0.2**

LDG ***24*** *16:59:06.9±0.1,47.°01N×8.°71E, h2km, Ml2.1/8, Error ellipse: s-maj=1.5km s-min=1.3km az=99.0*
STR ***24*** *16:59:06.3±0.6,47.°N±2.°×±.°, h12km±2km, MLv1.8/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
ZUR 24 16:59:06.0, 47.°04N×8.°71E, h-0km±1km, MLh1.9/29, 4C, Error ellipse: s-maj=2.4km s-min=0.5km az=263.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MUO	**Muotathal**	**0.09**	**216**	⇑Pg		Pg	16 59 08.4	+0.7
	0.3nm,SNR=5.9							
MUO				⇑Pg		Pg	16 59 08.4	+0.7
MUO				Sg		Sg	16 59 09.8	+1.1
SALTS	**Altdorf, Kanto**	**0.16**	**198**	Sg		Sg	16 59 12.4	+1.2
SLTM2	**Linthal, Matt**	**0.23**	**120**	Pg		Pg	16 59 11.3	+0.9
	0.2nm,SNR=2.1							
SLTM2				Pg		Pg	16 59 11.3	+0.9
SLTM2				Sg		Sg	16 59 14.8	+1.5
BNALP	**Bannalp**	**0.26**	**230**	Pg		Pg	16 59 11.6	+0.7
	0.1nm,SNR=2.3							
BNALP				Pg		Pg	16 59 11.6	+0.7
BNALP				Sg		Sg	16 59 16.3	+2.1
LLS	**Linth-Limmern**	**0.28**	**133**	Sg		Sg	16 59 16.3	+1.3
EWZT2	**Wettswil, ZR**	**0.34**	**334**	Sg		Sb	16 59 19.4	-1.4
ZUR	**Degenried**	**0.34**	**345**	Sg		Sb	16 59 19.5	-1.6
ZUR	**Degenried**	**0.34**	**345**	Sg		Sb	16 59 19.5	-1.6
ZUR	**Degenried**	**0.34**	**345**	Pg		Pb	16 59 14.0	-1.1
ZUR	**Degenried**	**0.34**	**345**	Sg		Sb	16 59 19.5	-1.6
PANIX	**Pigniu (Panix)**	**0.35**	**127**	Pg		Pg	16 59 13.2	+0.6
PANIX				Pg		Pg	16 59 13.2	+0.6
	SNR=1.0							
PANIX				Sg		Sg	16 59 18.3	+1.2
HAMIK	**Hmikon, Dlik**	**0.37**	**305**	Pg		Pg	16 59 14.2	+1.2
	0.3nm,SNR=0.9							
HAMIK				Sg		Sb	16 59 20.0	-1.7
WILA	**Wila**	**0.40**	**19**	⇑Pg		Pb	16 59 15.1	-1.0
WILA				⇑Pg		Pb	16 59 15.1	-1.0
	0.1nm,SNR=1.4							
WILA				Sg		Sb	16 59 21.6	-1.2
PLONS	**Plons/SG**	**0.46**	**88**	Pg		Pg	16 59 15.8	+1.1
	0.1nm,SNR=1.5							
PLONS				Pg		Pg	16 59 15.8	+1.1
PLONS				Sg		Sg	16 59 22.3	+1.6
STIEG	**Stiegenhof Hun**	**0.46**	**355**	Sg		Sb	16 59 23.2	-1.4
HASLI	**Hasliberg/Brie**	**0.47**	**234**	Pg		Pg	16 59 16.0	+0.9
HASLI				Pg		Pg	16 59 16.0	+0.9
	SNR=1.1							
HASLI				Sg		Sg	16 59 22.9	+1.7
DAGMA	**Lutertal, Dagm**	**0.52**	**292**	Sg		Sb	16 59 24.6	-1.4
SGT04	**Schlatt-Haslen**	**0.54**	**54**	Pg		Pb	16 59 17.7	-0.7
	0.1nm,SNR=1.2							
SGT04				Pg		Pb	16 59 17.7	-0.7
SGT04				Sg		Sb	16 59 26.0	-0.7
SULZ	**Cheisacher**	**0.64**	**321**	Sg		Sb	16 59 28.7	-0.9
SULZ	**Cheisacher**	**0.64**	**321**	Pg		Pb	16 59 19.3	-0.8
SULZ	**Cheisacher**	**0.64**	**321**	Sg		Sb	16 59 28.7	-0.9
SLE	**Schleitheim**	**0.74**	**349**	Pg		Pb	16 59 21.2	-0.7
SLE	**Schleitheim**	**0.74**	**349**	Sg		Sb	16 59 31.5	-1.1
BALST	**Balsthal**	**0.76**	**294**	Pg		Pb	16 59 21.8	-0.3
BALST	**Balsthal**	**0.76**	**294**	Sg		Sb	16 59 32.1	-0.9
DAVA	**Damuels**	**0.84**	**72**	*e*Pg		Pb	16 59 24.1	+0.5
	3.2nm,0.1s							
DAVA				*e*Sg		Sb	16 59 36.0	+0.7
	12nm,0.1s							
EMBD	**Embd, Matterta**	**1.02**	**217**	Pg		Pb	16 59 26.3	-0.3
KIZ	**Kirchzarten**	**1.07**	**330**	Pg		Pb	16 59 27.0	-0.4
KIZ	**Kirchzarten**	**1.07**	**330**	Sg		Sb	16 59 42.0	+0.1
BOURR	**Bourrignon**	**1.07**	**290**	Sg		Sb	16 59 42.4	+0.4
BOURR	**Bourrignon**	**1.07**	**290**	Pg		Pb	16 59 27.5	0.0
TORNY	**Torny/Romont**	**1.23**	**258**	Pg		Pn	16 59 30.5	0.0
TORNY	**Torny/Romont**	**1.23**	**258**	Sg		Sn	16 59 47.5	-0.4
MOF	**Molkenrain**	**1.35**	**308**	Pg		Pb	16 59 32.7	+0.5
MOF	**Molkenrain**	**1.35**	**308**	Pn		Pg	16 59 31.3	-0.5
MOF	**Molkenrain**	**1.35**	**308**	Sn		Sg	16 59 49.6	+0.3
MOF				Sg		Sn	16 59 51.0	+0.2
MOF	**Molkenrain**	**1.35**	**308**	Pg		Pb	16 59 32.7	+0.5
FETA	**Feichten**	**1.38**	**90**	*e*Pg		Pb	16 59 33.6	+0.8
	0.5nm,0.1s							
FETA				*e*Sg		Sn	16 59 53.2	+1.4
	1.3nm,0.2s							
CHMF	**Charmoille**	**1.42**	**279**	Pn		Pn	16 59 32.4	-0.8
CHMF				Pg		Pb	16 59 34.0	+0.5
CHMF				Sn		Sb	16 59 52.0	-0.1
HINF	**Hinteralfeld**	**1.48**	**302**	*e*Pn		Pn	16 59 32.9	-1.1
HINF	**Hinteralfeld**	**1.48**	**302**	*e*Pg		Pn	16 59 34.1	+0.1
HINF				*e*Sn		Sg	16 59 51.2	-2.5
HINF				*e*Sg		Sb	16 59 53.4	-0.5
	4.7nm,0.3s							
OPP	**Oppenau**	**1.50**	**347**	Pg		Pg	16 59 35.1	+0.3
OPP				Sg		Sn	16 59 55.0	+0.4
MOTA	**Moosalm**	**1.66**	**78**	*e*Pg		Pg	16 59 38.3	+0.4
	0.5nm,0.1s							
MOTA				*e*Sg		Sg	17 00 01.6	+2.2
	3.6nm,0.2s							
CDF	**Champ du Feu**	**1.68**	**325**	*e*Pn		Pn	16 59 35.5	-1.3
CDF	**Champ du Feu**	**1.68**	**325**	*e*Pg		Pb	16 59 38.0	+0.1
CDF				*e*Sg		Sn	16 59 59.3	+0.2
	2.8nm,0.4s							
SQTA	**Sankt Quirin**	**1.71**	**83**	*e*Pg		Pb	16 59 38.6	+0.2
	3.6nm,0.3s							
SQTA				*e*Sg		Sg	17 00 03.4	+2.3
	7.2nm,0.4s							
CABF	**La Chapelle**	**1.85**	**258**	*e*Pn		Pn	16 59 37.4	-1.7
CABF	**La Chapelle**	**1.85**	**258**	*e*Pg		Pg	16 59 41.2	-0.3
CABF				*e*Sg		Sg	17 00 05.0	-0.5
	2.6nm,0.2s							
HAU	**Haudompre**	**1.87**	**302**	*e*Pn		Pn	16 59 37.9	-1.4
HAU	**Haudompre**	**1.87**	**302**	*e*Pg		Pg	16 59 41.5	-0.4
HAU				*e*Sn		Sn	17 00 00.8	-2.9
HAU				*e*Sg		Sb	17 00 05.0	-0.1
	4.6nm,0.3s							
LPL	**La Plagne**	**2.05**	**223**	*e*P		Pn	16 59 41.9	0.0
LPL	**La Plagne**	**2.05**	**223**	*e*Pg		Pb	16 59 44.4	+0.2
LPL				*e*Sn		Sn	17 00 04.9	-3.4
LPL				*e*Sg		Sb	17 00 10.3	0.0
	3.5nm,0.6s							
LPG	**La Plagne**	**2.05**	**222**	*e*P		Pn	16 59 42.4	+0.3
LPG	**La Plagne**	**2.05**	**222**	*e*Pg		Pg	16 59 45.1	-0.3
LPG				*e*Sn		Sn	17 00 04.7	-3.8
LPG				*e*Sg		Sg	17 00 11.6	-0.4
	3.3nm,0.5s							
MBDF	**Montbardon**	**2.68**	**211**	*e*Pg		Pg	16 59 56.7	-0.6
MBDF				*e*Sg		Sg	17 00 30.6	-1.4
	1.2nm,0.3s							
ORIF	**Oris-en-Rattie**	**2.90**	**224**	*e*Pg		Pg	17 00 00.5	-1.0
ORIF				*e*Sg		Sg	17 00 37.3	-1.7
	2.0nm,0.6s							
SMF	**Signal de Mont**	**3.37**	**265**	*e*Sg		Sg	17 00 52.1	-2.0

CRAAG ***24*** *17:04:53.8, 35.°75N×5.°70E, Ml4.2*
IDC ***24*** *17:04:54.6±1.0, 35.°71N×5.°78E, h0km, mb3.7/12, mb1 3.9/17, mb1mx3.6/51, mbtmp3.7/17, ML4.0/5, MS2.9/7, Ms1 2.9/7, ms1mx2.8/35, Error ellipse: s-maj=22.0km s-min=18.1km az=163.0*
NEIC ***24*** *17:04:58.1±1.7, 35.°68N±0.°03×5.°68E±0.°06, h21km±5km, mb4.2/11, ML3.8(ALG), Error ellipse: s-maj=7.1km s-min=3.7km az=90.0*
MDD ***24*** *17:04:58.2±0.8, 35.°85N×5.°70E, h0km, mb4.7/24, Error ellipse: s-maj=11.2km s-min=3.9km az=2.0, PRXIMO*
LDG ***24*** *17:05:00.0±0.4, 35.°95N×5.°29E, h10km, Ml3.2/12, Error ellipse: s-maj=8.5km s-min=4.7km az=144.0*
ISC 24 17:04:56.7±0.6, 35.°87N±0.°05×5.°69E±0.°03, h10km, n126, σ2s70/161, mb4.0/17, MS2.8/5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CKHR	**Kef el Ahmar**	**0.21**	**315**	P		**Pg**	**17 05 01.3**	**+0.2**
CKHR	**Kef el Ahmar**	**0.21**	**315**	P		**Pg**	**17 05 01.3**	**+0.2**
SET	**Setif**	**0.41**	**324**	P		**Pg**	**17 05 05.0**	**+0.3**
SET	**Setif**	**0.41**	**324**	P		**Pg**	**17 05 05.0**	**+0.3**
CTEI	**Djebel Teioual**	**0.61**	**71**	P		**Pg**	**17 05 08.1**	**-0.4**
CTEI	**Djebel Teioual**	**0.61**	**71**	P		**Pg**	**17 05 08.1**	**-0.4**
DFRA	**Djebel Bou Aff**	**0.69**	**12**	P		**Pn**	**17 05 13.6**	**+1.0**
DFRA	**Djebel Bou Aff**	**0.69**	**12**	P		**Pn**	**17 05 13.6**	**+1.0**
CASM	**Ain Smara**	**0.75**	**59**	P		**Pb**	**17 05 12.2**	**+0.3**
CASM	**Ain Smara**	**0.75**	**59**	P		**Pb**	**17 05 12.2**	**+0.3**
CKFL	**Kef-Lekhel**	**0.98**	**57**	P		**Pn**	**17 05 17.4**	**+0.7**
CKFL	**Kef-Lekhel**	**0.98**	**57**	P		**Pn**	**17 05 17.4**	**+0.7**
CAEH	**'Ain El Ouahch**	**1.30**	**45**	P		**Pg**	**17 05 21.9**	**+0.2**
CAEH	**'Ain El Ouahch**	**1.30**	**45**	P		**Pg**	**17 05 21.9**	**+0.2**
ABSA	**Djebel Ababsia**	**1.50**	**74**	P		**Pn**	**17 05 24.5**	**+0.7**
CABS	**Djebel Ababsia**	**1.50**	**74**	P		**Pn**	**17 05 24.5**	**+0.7**
CMAH	**Djebel Manchou**	**1.59**	**61**	P		**Pb**	**17 05 26.7**	**+0.6**
CMAH	**Djebel Manchou**	**1.59**	**61**	P		**Pb**	**17 05 26.7**	**+0.6**
KEST	**Kesra**	**2.97**	**92**	Pn		**Pn**	**17 05 44.1**	**+0.1**
	10nm,0.3s,baz=244,slow=5.4,SNR=38							
KEST				Sn		**Sn**	**17 06 19.0**	**-0.7**
	4.4nm,0.3s,baz=329,slow=6.5,SNR=5.5							
KEST	**Kesra**	**2.97**	**92**			**Pn**	**17 05 44.4**	**+0.4**
EBNR	**Beni Rached**	**3.40**	**278**	P		**Pb**	**17 05 58.1**	**+1.1**
ECHA	**Ech Chlef**	**3.52**	**276**	P		**Pb**	**17 05 57.3**	**-1.7**
ECHF	**Ech Chlef**	**3.54**	**276**	P		**Pb**	**17 05 57.3**	**-2.1**
ETRT	**Tiaret**	**3.61**	**264**	P		**Pn**	**17 05 57.4**	**+4.6**
ETRT	**Tiaret**	**3.61**	**264**	P		**Pn**	**17 05 57.4**	**+4.6**
EANR	**'Ain N'Sour**	**3.73**	**273**	P		**Pn**	**17 05 56.1**	**+1.7**
EANR	**'Ain N'Sour**	**3.73**	**273**	P		**Pn**	**17 05 56.1**	**+1.7**
OKGL	**Djebel Kef Gue**	**4.10**	**274**	P		**Pn**	**17 05 60.0**	**+0.5**
	9.7nm,0.1s,SNR=7.9							
OKGL				S		**Sn**	**17 06 45.9**	**-1.6**
	88nm,0.3s,SNR=4.0							
OKGL	**Djebel Kef Gue**	**4.10**	**274**			**Pn**	**17 05 60.0**	**+0.5**
OKGL						**Sn**	**17 06 45.9**	**-1.6**
MAHO	**Mahon**	**4.17**	**345**	P		**Pn**	**17 06 02.3**	**+1.9**
MAHO	**Mahon**	**4.17**	**345**	*e*P		**Pn**	**17 06 02.3**	**+1.9**
ETOS	**Mallorca**	**4.51**	**331**	P		**Pn**	**17 06 08.1**	**+3.0**
	13nm,0.3s,SNR=15							
ETOS				S		**Sn**	**17 06 58.3**	**+0.8**
	12nm,0.4s							
ETOS	**Mallorca**	**4.51**	**331**			**Pn**	**17 06 07.6**	**+2.5**
ETOS						**Sn**	**17 06 58.3**	**+0.8**
VSL	**Villasalto**	**4.65**	**38**	Pn		**Pn**	**17 06 09.7**	**+2.7**
VSL				Sn		**Sn**	**17 07 01.0**	**-0.1**
EIBI	**Ibiza**	**4.68**	**314**	P		**Pn**	**17 06 10.6**	**+3.2**
	44nm,0.4s,SNR=21							
EIBI				S		**Sn**	**17 07 02.7**	**+0.9**
	87nm,0.9s							
EIBI	**Ibiza**	**4.68**	**314**			**Pn**	**17 06 12.0**	**+4.6**
EIBI						**Sn**	**17 07 02.7**	**+0.9**
EBEN2	**Beniarda presa**	**5.46**	**303**	P		**Pn**	**17 06 21.2**	**+3.0**
	52nm,0.6s,SNR=7.9							
EBEN2				S		**Sn**	**17 07 20.8**	**-0.3**
	5.3nm,0.2s,SNR=7.9							
EBEN2	**Beniarda presa**	**5.46**	**303**			**Pn**	**17 06 21.6**	**+3.5**
EBEN2						**Sn**	**17 07 20.8**	**-0.3**
CART	**Cartagena**	**5.64**	**290**	P		**Pn**	**17 06 21.4**	**+0.8**
CART	**Cartagena**	**5.64**	**290**	*e*P		**Pn**	**17 06 21.4**	**+0.8**
CART	**Cartagena**	**5.64**	**290**	Pn		**Pn**	**17 06 21.8**	**+1.2**
AFON	**Font Roja**	**5.70**	**301**	P		**Pn**	**17 06 24.5**	**+3.0**
	17nm,0.6s,SNR=5.6							
AFON				S		**Sn**	**17 07 25.6**	**-1.5**
	22nm,0.7s							
AFON	**Font Roja**	**5.70**	**301**			**Pn**	**17 06 25.2**	**+3.7**
AFON						**Sn**	**17 07 25.6**	**-1.5**
EMUR	**La Murta**	**5.90**	**292**	P		**Pn**	**17 06 25.4**	**+1.2**
	12nm,0.4s,SNR=9.6							
EMUR				S		**Sn**	**17 07 31.8**	**0.0**
	17nm,0.8s,SNR=7.9							
EMUR	**La Murta**	**5.90**	**292**			**Pn**	**17 06 25.4**	**+1.2**
EMUR						**Sn**	**17 07 31.8**	**0.0**
TLOR	**Lorca, Murcia**	**6.19**	**289**			**Pn**	**17 06 28.4**	**+0.3**
TLOR						**Sn**	**17 07 36.1**	**-2.8**
ETOB	**Tobarra**	**6.40**	**298**	P		**Pn**	**17 06 33.9**	**+2.7**
	11nm,0.4s,SNR=16							
ETOB				S		**Sn**	**17 07 43.9**	**-0.4**
	0.5nm,0.3s,SNR=6.2							
ETOB	**Tobarra**	**6.40**	**298**			**Pn**	**17 06 33.9**	**+2.7**
ECHE	**Chera**	**6.45**	**307**	P		**Pn**	**17 06 36.2**	**+4.4**
	16nm,0.7s,SNR=7.9							
ECHE				S		**Sn**	**17 07 39.8**	**-5.7**
	1.1nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**6.46**	**282**	P		**Pn**	**17 06 32.1**	**+0.1**
	17nm,0.6s,SNR=7.9							
ENIJ				S		**Sn**	**17 07 43.9**	**-1.8**
	1.9nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**6.59**	**322**	P		**Pn**	**17 06 35.9**	**+2.2**
	3.5nm,0.4s,SNR=7.9							
ERTA				S		**Sn**	**17 07 47.7**	**-1.2**
	0.4nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**6.61**	**315**	P		**Pn**	**17 06 37.0**	**+2.9**
	7.9nm,0.4s,SNR=6.5							
EMOS				S		**Sn**	**17 07 49.4**	**-0.2**
	2.0nm,0.5s,SNR=7.9							
EMIR	**Miracle**	**6.85**	**333**	P		**Pn**	**17 06 40.7**	**+3.4**
	10nm,0.3s,SNR=7.9							
EMIR				S		**Sn**	**17 07 56.8**	**+1.4**
	29nm,0.7s,SNR=7.9							
SJAF	**Saint Jean de**	**6.96**	**343**			**Pn**	**17 06 42.1**	**+3.5**
SESP	**Santiago Espad**	**6.96**	**291**	P		**Pn**	**17 06 42.1**	**+3.2**
	152nm,1.0s,SNR=7.9							
SESP				S		**Sn**	**17 07 56.0**	**-2.3**
	1.2nm,0.2s,SNR=7.9							
EBER	**Berja**	**7.00**	**281**	P		**Pn**	**17 06 39.4**	**0.0**
	16nm,0.6s,SNR=7.1							
EBER				S		**Sn**	**17 07 54.3**	**-4.9**
	1.7nm,0.3s,SNR=7.9							
RAFF	**Raffo Rosso**	**7.11**	**77**	Pn		**Pn**	**17 06 42.2**	**+1.5**
PGF	**Pioggiola**	**7.14**	**20**	P		**Pn**	**17 06 42.6**	**+1.3**
PGF				S		**Sn**	**17 08 00.8**	**-1.8**
	2.4nm,0.6s							
PGF	**Pioggiola**	**7.14**	**20**	*e*Pn		**Pn**	**17 06 42.6**	**+1.3**
PGF				*e*Sn		**Sn**	**17 08 00.8**	**-1.8**
	4.8nm,0.6s							
CLLI	**Llivia**	**7.20**	**338**	P		**Pn**	**17 06 45.2**	**+3.0**
	1.7nm,0.3s,SNR=7.9							
CLLI	**Llivia**	**7.20**	**338**			**Pn**	**17 06 45.2**	**+3.0**
EQES	**Quesada**	**7.29**	**288**	P		**Pn**	**17 06 45.8**	**+2.5**
	22nm,0.6s,SNR=20							
EQES				S		**Sn**	**17 08 06.1**	**-0.1**
	0.2nm,0.2s,SNR=7.9							
CSOR	**Sort**	**7.40**	**333**	P		**Pn**	**17 06 47.9**	**+3.1**
	3.7nm,0.4s,SNR=9.3							
CSOR				S		**Sn**	**17 08 08.6**	**-0.2**
	0.5nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**7.47**	**283**	P		**Pn**	**17 06 47.9**	**+2.0**
	10nm,0.4s,SNR=14							
ELGU	**Los Guajares,**	**7.58**	**280**	P		**Pn**	**17 06 48.6**	**+1.3**
	6.3nm,0.4s,SNR=7.9							
FRF	**La Foret Royal**	**7.72**	**5**	S		**Sn**	**17 08 11.0**	**-5.5**
	2.3nm,0.5s							
FRF	**La Foret Royal**	**7.72**	**5**	*e*Sn		**Sn**	**17 08 11.0**	**-5.5**
	4.7nm,0.5s							
ETOR	**Torete**	**7.84**	**311**	P		Pn	17 06 57.5	+6.7
	6.6nm,0.3s,SNR=7.9							
ETOR				S		**Sn**	**17 08 19.4**	**-0.3**
	1.3nm,0.4s,SNR=7.9							
MTLF	**Montolieu**	**7.93**	**341**	P		**Pn**	**17 06 54.7**	**+2.7**
MTLF				S		**Sn**	**17 08 14.4**	**-7.3**
	0.8nm,0.3s							
MTLF	**Montolieu**	**7.93**	**341**	*e*P		**Pn**	**17 06 54.7**	**+2.7**
MTLF				*e*Sn		**Sn**	**17 08 14.4**	**-7.3**
	1.5nm,0.3s							
EGOR	**Sierra Gorda,**	**7.99**	**282**	P		**Pn**	**17 06 55.2**	**+2.2**
	6.5nm,0.5s,SNR=7.9							
EGOR				S		**Sn**	**17 08 21.6**	**-1.9**
	0.2nm,0.2s,SNR=7.9							
SBF	**Sospel**	**8.10**	**9**	P		**Pn**	**17 06 53.9**	**-0.4**
SBF				S		**Sn**	**17 08 20.5**	**-5.4**
	1.7nm,0.4s							
SBF	**Sospel**	**8.10**	**9**	*e*Pn		**Pn**	**17 06 53.9**	**-0.4**
SBF				*e*Sn		**Sn**	**17 08 20.5**	**-5.4**
	3.4nm,0.4s							
SMRF	**Simiane la Rot**	**8.10**	**359**	S		**Sn**	**17 08 21.6**	**-4.3**
	3.5nm,0.5s							
SMRF	**Simiane la Rot**	**8.10**	**359**	*e*Sn		**Sn**	**17 08 21.6**	**-4.3**
	3.5nm,0.5s							
EPF	**Esparros**	**8.26**	**332**	P		**Pn**	**17 07 00.7**	**+4.1**
EPF				S		Sn	17 08 21.5	-8.5
	0.6nm,0.3s							
EPF	**Esparros**	**8.26**	**332**	*e*P		**Pn**	**17 07 00.7**	**+4.1**
EPF				*e*Sn		Sn	17 08 21.5	-8.5
	1.1nm,0.3s							
LASF	**Ste Croix**	**8.32**	**351**	P		**Pn**	**17 07 01.7**	**+4.4**
LASF		

KKAR	Karatay Array	49.44	61	P		P	17 13 47.2	+0.4
ZALV	Zalesovo Beam	55.87	45	P		P	17 14 33.8	-0.4
	comp=Z,0.8nm,0.5s,baz=297,slow=9.5,SNR=1.8							
MK31	Makanchi Array	56.41	53	P		P	17 14 38.7	+0.4
MK31				IAmb		IAmb	17 14 41.6	
	comp=Z,1.0nm,0.7s							
MKAR	Makanchi Array	56.41	53	P		P	17 14 38.3	0.0
	comp=Z,1.3nm,0.7s,baz=283,slow=6.7,SNR=16							
G62A	West of Eustis	56.68	305	P		P	17 14 41.1	+0.9
YKA	Yellowknife Ar	70.95	335	P		P	17 16 14.9	+1.0
	comp=Z,0.3nm,0.7s,baz=53,slow=6.5,SNR=7.3							
YKA				LR		LR	17 45 04.7	
	comp=Z,22nm,21.5s,baz=0.0,slow=34							
ILAR	Eielson Array	77.40	348	P		P	17 16 52.0	+0.5
	comp=Z,0.8nm,1.1s,baz=46,slow=3.9,SNR=2.4							
CMAR	Chiang Mai Arr	81.96	73	P		P	17 17 16.0	-1.1
	comp=Z,0.3nm,0.7s,baz=316,slow=5.0,SNR=2.3							

IDC ***24*** *17:22:54.0±0.9, 66°.37N×135°.75W, h0km, mb3.5/5, mb1 3.9/7, mb1mx3.5/41, mbtmp3.6/7, ML4.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/27, Error ellipse: s-maj=22.2km s-min=12.3km az=0.0*

AEIC ***24*** *17:22:57±2.5, 66°.26N±0°.04×135°.9W±0°.1, h55km±7km, Error ellipse: s-maj=9.0km s-min=1.8km az=130.0*

NEIC ***24*** *17:22:57.4, 66°.20N×135°.55W, h34km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.34; Mθθ-5.01; Mϕϕ4.67; Mrθ-0.65; Mθϕ3.29; Mϕr-1.36; Fault plane solution: M₀8.05000×10¹⁴ NP1:ϕs243.03000°, δ81.23000°, λ11.86000°. NP2:ϕs151.19000°, δ78.28000°, λ171.04000°. Principal axes: T 6.0665, Plg15.0000°, Azm107.0000°; N -0.0386, Plg75.0000°, Azm279.0000°; P -6.0279, Plg2.0000°, Azm17.0000°;*

PGC ***24*** *17:22:58.0, 66°.22N×135°.52W, h20km, ML3.6/5, 143km southwest of Fort McPherson, Nt Northern Yukon Territory, Canada*

NEIC ***24*** *17:22:58.4±2.4, 66°.22N±0°.04×135°.6W±0°.1, h33km±7km, mb3.8/7, ML4.1/27, Mwr3.8/10, ML3.6(OTT), ML4.0/62(AEIC), Error ellipse: s-maj=6.0km s-min=5.8km az=134.0*

ANF ***24*** *17:23:01.1±0.6, 66°.20N×136°.13W, h34km±4km, ML4.2/8, Error ellipse: s-maj=8.3km s-min=3.3km az=52.0, Hypocentre not reviewed by the ISC*

ISC 24 17:22:58.0±0.6, 66°.25N±0°.04×135°.55W±0°.04, h35km, n147, σ1§57/170, mb3.5/6, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EPYK	Eagle Plains	0.49	285	Pn		Pn	17 23 08.1	-0.4
EPYK						Sn	17 23 15.4	-0.4
EPYK				IAML			17 23 15.9	
	comp=N,20μm,0.5s							
EPYK	Eagle Plains	0.49	285	P			17 23 08.3	
	baz=106,SNR=1000							
EPYK				S			17 23 15.5	
	baz=106							
INK	Inuvik	2.21	20	Pn		Pn	17 23 33.1	+1.0
INK				Sn		Sn	17 23 59.9	+1.6
INK	Inuvik	2.21	20			Pn	17 23 32.9	+0.8
INK				Sn		Sn	17 23 59.5	+1.2
INK				IAML			17 24 13.3	
	comp=E,930nm,0.7s							
MAYO	Mayo, Yukon	2.67	183	Pn		Pn	17 23 38.8	+0.4
DAWY	Dawson	2.72	218	Pn		Pn	17 23 39.2	0.0
DAWY				Sn		Sn	17 24 11.7	+0.8
DAWY	Dawson	2.72	218	Pn		Pn	17 23 39.1	-0.2
DAWY				IAML			17 24 29.6	
	comp=E,1μm,0.3s							
EGAK	Eagle	2.76	240			Pn	17 23 39.0	-0.7
EGAK	Eagle	2.76	240			Sn	17 24 09.8	-1.9
EGAK	Eagle	2.76	240	IAML			17 24 10.6	
	comp=E,919nm,0.4s							
EGAK				IAML			17 24 28.6	
	comp=E,661nm,0.6s							
EGAK	Eagle	2.76	240	P			17 23 39.2	
	baz=56,SNR=48							
EGAK				S			17 24 09.9	
	baz=56							
K27K	Chicken	3.54	234			Pn	17 23 49.5	-0.9
K27K						Sn	17 24 28.1	-2.9
K27K	Chicken	3.54	234	IAML			17 24 42.2	
	comp=N,432nm,0.6s							
K27K				IAML			17 24 42.7	
	comp=E,426nm,0.7s							
BMAR	Burnt Mountain	3.76	293			Pn	17 23 53.7	+0.3
BM03	Burnt Mountain	3.77	292			Pn	17 23 53.8	+0.3
FYU	Fort Yukon	3.91	279	Pn		Pn	17 23 54.7	-0.7
FYU				IAML			17 25 11.7	
	comp=N,467nm,0.9s							
FYU				IAML			17 25 16.3	
	comp=E,327nm,0.7s							
MMPY	Sheldon Lake,	4.09	151	Pn		Pn	17 23 58.7	+0.7
FARO	Faro, Yukon	4.15	166	Pn		Pn	17 23 59.6	+0.9
PRP	Porcupine Dome	4.16	264	Pn		Pn	17 23 57.8	-1.2
PRP				IAML			17 25 12.2	
	comp=E,180nm,0.8s							
PRP	Porcupine Dome	4.16	264	P			17 23 58.2	
	baz=76,SNR=23							
PRP				S			17 24 44.2	
	baz=76							
BC03		4.17	223			Pn	17 23 58.8	-0.2
BCAR	Beaver Creek A	4.17	223			Pn	17 23 58.5	-0.6
SCRK	Sand Creek	4.23	241			Pn	17 23 59.3	-0.7
SCRK				IAML			17 25 16.4	
	comp=N,209nm,0.8s							
SCRK				IAML			17 25 19.9	
	comp=E,168nm,0.8s							
SCRK	Sand Creek	4.23	241	P			17 23 59.2	
	baz=54,SNR=17							
SCRK				S			17 24 46.1	
	baz=54							
DOT	Dot Lake	4.46	238	Pn		Pn	17 24 03.3	+0.3
DOT	Dot Lake	4.46	238	Pn		Pn	17 24 03.1	+0.1
BVCY	Beaver Creek	4.49	213	Pn		Pn	17 24 03.7	+0.2
BVCY				Sn		Sn	17 24 52.5	-1.8
BVCY	Beaver Creek	4.49	213			Pn	17 24 03.6	+0.2
MENT	Mentasta	4.84	230			Pn	17 24 07.4	-0.8
IL31		4.94	258			Pn	17 24 08.8	-0.8
ILAR	Eielson Array	4.94	258	Pn		Pn	17 24 08.9	-0.7
	comp=E,1.2nm,0.3s,baz=71,slow=13,SNR=33							
ILAR				Sn		Sn	17 25 03.2	-2.3
	comp=E,5.4nm,0.3s,baz=55,slow=28,SNR=2.8							
ILAR				Lg		Lg	17 25 28.2	
	comp=E,9.9nm,0.3s,baz=86,slow=23,SNR=7.3							
ILAR	Eielson Array	4.94	258			Pn	17 24 08.6	-1.1
YUK3	Moose Creek	4.98	208	Pn		Pn	17 24 10.7	+0.3
YUK3				Sn		Sn	17 25 03.3	-3.4
YUK3	Moose Creek	4.98	208			Pn	17 24 10.5	+0.2
PS08	TAPS Pump Stn8	5.01	255			Pn	17 24 10.0	-0.6
POKR	Poker Plat Res	5.04	262			Pn	17 24 10.7	-0.3
POKR				IAML			17 25 44.0	
	comp=E,103nm,0.8s							
POKR	Poker Plat Res	5.04	262	P			17 24 10.4	
	baz=72							
POKR				S			17 25 05.1	
	baz=72							
YUK2	White River	5.04	210	Pn		Pn	17 24 11.3	+0.2
YUK2				Sn		Sn	17 25 05.7	-2.4
YUK2	White River	5.04	210			Pn	17 24 11.3	+0.2
HDA	Harding Lake	5.12	254	P			17 24 11.3	
	baz=64,SNR=8.0							
HDA				P			17 24 11.3	
	baz=64,SNR=8.0							
COLA	College	5.29	261	Pn		Pn	17 24 14.2	-0.2
COLA	College	5.29	261	P			17 24 14.2	
	baz=70							
TCOL	CIGO, UAF Yank	5.29	261	Pn		Pn	17 24 14.1	-0.3
C36M	Paulatuk	5.35	49	Pn		Pn	17 24 15.9	+0.8
C36M				Sn		Sn	17 25 12.9	-2.5
C36M	Paulatuk	5.35	49			Pn	17 24 15.4	+0.3
CCB	Clear Creek Bu	5.36	258			Pn	17 24 14.4	-0.9
PAX	Paxson	5.38	237	Pn		Pn	17 24 15.9	+0.1
PAX				Sn		Sn	17 25 13.7	-2.9
PAX	Paxson	5.38	237			Pn	17 24 15.8	0.0
PAX	Paxson	5.39	237	P			17 24 15.9	
	baz=48,SNR=22							
PAX				S			17 25 13.9	
	baz=48							
MDM	Murphy Dome	5.41	262	Pn		Pn	17 24 15.7	-0.4
MDM				IAML			17 25 56.1	
	comp=E,122nm,1.0s							
MDM				IAML			17 26 08.8	
	comp=N,86nm,0.8s							
WRH	Wood River Hil	5.54	257			Pn	17 24 17.3	-0.5
WHY	Whitehorse	5.62	177	Pn		Pn	17 24 19.7	+0.7
WHY				Sn		Sn	17 25 20.1	-2.2
WHY	Whitehorse	5.62	177			Pn	17 24 19.7	+0.7
PS06	TAPS Pump Stn6	5.79	273			Pn	17 24 21.0	-0.3
I23K	Minto, Yukon-K	5.81	265			Pn	17 24 20.9	-0.5
I23K	Minto, Yukon-K	5.81	265	P			17 24 20.9	
	baz=73							
BARN	Barnard Glacie	5.87	210			Pn	17 24 23.6	+1.0
NEA2	Nenana	5.88	260			Pn	17 24 21.8	-0.7
NEA2	Nenana	5.88	260	P			17 24 21.6	
	baz=68							
NEA2				S			17 25 24.1	
	baz=68							
COLD	Coldfoot	5.89	286	Pn		Pn	17 24 23.2	+0.6
COLD				Sn		Sn	17 25 27.3	-1.4
COLD	Coldfoot	5.89	286			Pn	17 24 23.0	+0.5
COLD	Coldfoot	5.89	286	P			17 24 23.1	
	baz=93							
COLD				S			17 25 27.7	
	baz=93							
CTGM	Chitina Glacie	5.89	209	Pn		Pn	17 24 23.8	+1.0
CTGM				Sn		Sn	17 25 28.0	-1.1
CTGM	Chitina Glacie	5.89	209			Pn	17 24 23.7	+0.9
MCARA	McCarthy VSAT	5.89	218			Pn	17 24 23.3	+0.6
MCARA	McCarthy VSAT	5.89	218	P			17 24 23.3	
	baz=31,SNR=14							
MCARA				S			17 25 28.0	
	baz=31							
CTG	Chitna Glacier	5.89	209	P			17 24 23.6	
	baz=24,SNR=7.0							
CTG				S			17 25 28.4	
	baz=24							
TOLK	Toolik Lake Re	5.90	300			Pn	17 24 24.4	+1.6
TOLK	Toolik Lake Re	5.90	300	P			17 24 24.4	
	baz=108,SNR=23							
TOLK				S			17 25 29.2	
	baz=108							
PTPK	Patty Peak	5.93	214	Pn		Pn	17 24 24.2	+0.8
PTPK				Sn		Sn	17 25 28.6	-1.5
PTPK	Patty Peak	5.93	214			Pn	17 24 24.0	+0.6
LOGN	Logan Glacier	5.96	207	Pn		Pn	17 24 25.1	+1.3
LOGN				Sn		Sn	17 25 30.2	-0.6
LOGN	Logan Glacier	5.96	207			Pn	17 24 24.8	+1.0
BALM	Baldy	6.04	213	Pn		Pn	17 24 25.5	+0.7
GLB	Gilahina Butte	6.04	221			Pn	17 24 25.3	+0.5
N25K	Chitina, Valde	6.13	225			Pn	17 24 26.5	+0.6
N25K	Chitina, Valde	6.13	225	P			17 24 26.5	
	baz=37							
VRDI	Verde Repeater	6.13	218			Pn	17 24 26.7	+0.5
KIAG	Kiagna River	6.14	213	Pn		Pn	17 24 27.1	+0.8
KIAG				Sn		Sn	17 25 38.3	+3.0
GRNC	Granite Creek	6.19	209	Pn		Pn	17 24 26.4	-0.6
GRNC				Sn		Sn	17 25 37.6	+1.1
GRNC	Granite Creek	6.19	209			Pn	17 24 24.9	-2.1
MCK	McKinley	6.21	252	Pn		Pn	17 24 27.7	+0.6
MCK	McKinley	6.21	252	P			17 24 27.2	
	baz=60							
M24K	Tolsona, Glenn	6.22	233			Pn	17 24 27.8	+0.5
M24K	Tolsona, Glenn	6.22	233	S			17 25 34.8	
	baz=44							
TABL	Table Mountain	6.35	206	Pn		Pn	17 24 31.2	+2.1
TABL				Sn		Sn	17 25 40.2	-0.1
TABL	Table Mountain	6.35	206			Pn	17 24 28.9	-0.2
RND	Reindeer	6.35	249			Pn	17 24 29.4	+0.4
TGL	Tana Glacier	6.40	214			Pn	17 24 30.7	+0.9
MLY	Manley	6.40	266			Pn	17 24 28.6	-1.1
MLY	Manley	6.40	266	P			17 24 28.8	
	baz=72							
DHRN	Dharma Camp	6.43	76	Pn		Pn	17 24 29.7	-0.2
DHRN				Sn		Sn	17 25 38.2	-3.8
WAT6	Susitna Watana	6.43	241			Pn	17 24 30.7	+0.5
WAT6	Susitna Watana	6.43	241	P			17 24 30.5	
	baz=50,SNR=5.8							
WAT6				S			17 25 40.4	
	baz=50							
CRQE	Cirque	6.46	215	P			17 24 31.8	
	baz=28							
CRQM	Cirque	6.47	215			Pn	17 24 31.8	+1.1
WAT2	Susitna Watana	6.50	246			Pn	17 24 31.9	+0.8
WAT2	Susitna Watana	6.50	246	P			17 24 31.4	
	baz=54,SNR=5.6							
PCA	Pinnacle	6.53	201	Pn		Pn	17 24 33.0	+1.5
PCA				Sn		Sn	17 25 46.7	+2.0
PCA	Pinnacle	6.53	201			Pn	17 24 33.7	+2.2
YAH	Yahtse	6.53	208			Pn	17 24 33.5	+1.9
PINM	Pinnacle	6.53	201	P			17 24 33.2	
	baz=17							
WAT1	Susitna Watana	6.56	245			Pn	17 24 32.6	+0.7
SAMH	Samovar Hills	6.58	203	Pn		Pn	17 24 35.8	+3.6
SAMH				Sn		Sn	17 25 49.9	+4.0
BCPM	Bancas Point	6.58	198	Pn		Pn	17 24 33.9	+1.7
KLU	Klutina	6.61	229			Pn	17 24 33.5	+0.9
BMRM	Bremner River	6.65	221			Pn	17 24 33.8	+0.6
BMRM	Bremner River	6.66	221	P			17 24 34.3	
	baz=34							
WAT7	Susitna Watana	6.67	245			Pn	17 24 34.3	+0.8
KHIT	Khitrov Hills	6.77	214			Pn	17 24 37.1	+2.3
SCM	Sheep Creek Mo	6.80	235			Pn	17 24 37.5	+2.3
SKAG	Skagway	6.81	179			Pn	17 24 36.8	+1.5
SKAG	Skagway	6.81	179	P			17 24 37.0	
	baz=359							
PLBC	Pleasant Camp	6.83	183	Pn		Pn	17 24 37.3	+1.8
PLBC	Pleasant Camp	6.83	183			Pn	17 24 36.9	+1.4
KULT	Kultieth River	6.83	212			Pn	17 24 37.4	+1.7
BPAW	Bear Paw Mtn.	6.84	259	Pn		Pn	17 24 35.8	+0.1
TRF	Thorofare Moun	6.87	253			Pn	17 24 36.4	+0.1
TRF	Thorofare Moun	6.87	253	P			17 24 36.5	
	baz=60,SNR=5.5							
BERG	Berg Lake	6.92	216			Pn	17 24 38.0	+1.1
KTH	Kantishna Hill	7.07	255			Pn	17 24 38.6	-0.3
HMT	Hamilton	7.11	218	Pn		Pn	17 24 42.1	+2.7
RAGM	Ragged Mountai	7.17	219			Pn	17 24 41.7	+1.5
SUCK	Suckling Hills	7.22	215	Pn		Pn	17 24 42.6	+1.6
FID	Port Fidalgo	7.36	227	Pn		Pn	17 24 44.0	+1.1
GHO	Glory Hole Cre	7.38	239			Pn	17 24 44.5	+1.3
IM03		7.39	276			Pn	17 24 42.6	-0.5
IMAR	Indian Mountai	7.39	276			Pn	17 24 43.3	+0.2
GLI	Glacier Island	7.44	229	Pn		Pn	17 24 45.3	+1.4
KNK	Knik Glacier	7.48	236	P			17 24 45.1	
	baz=44,SNR=6.6							
HIN	Hinchinbrook I	7.65	225	Pn		Pn	17 24 48.6	+1.8
BESE	Bessie Mountai	7.70	177	Pn		Pn	17 24 48.8	+1.2
BESE				Sn		Sn	17 26 09.0	-4.5
BESE	Bessie Mountai	7.70	177			Pn	17 24 49.0	+1.4
PWL	Port Wells	7.85	232	Pn		Pn	17 24 48.8	-0.7
PPLA	Purkeypile	7.90	253			Pn	17 24 48.2	-2.1
JIS	Juneau Island	8.02	176			Pn	17 24 51.3	-0.5
RC01	Rabbit Creek A	8.14	237	Pn		Pn	17 24 54.5	+1.0
KUKN	Kugluktuk,NWT	8.14	70	Pn		Pn	17 24 53.2	-0.3
KUKN				Sn		Sn	17 26 18.1	-6.0
SKT	Skwentna	8.19	246			Pn	17 24 53.5	-0.6
SUA	Susitna One	8.23	241			Pn	17 24 57.0	+2.1
DLBC	Dease Lake	8.24	159	Pn		Pn	17 24 55.8	+0.8
DLBC	Dease Lake	8.24	159			Pn	17 24 54.0	-1.0
MID	Middleton Isla	8.42	221	Pn		Pn	17 24 54.3	-3.1
NBC2	NorthernBC 2	8.78	131	Pn		Pn	17 25 03.4	+1.1
NBC2				Sn		Sn	17 26 36.1	-3.8
SEW	Seward	8.78	232	Pn		Pn	17 25 05.2	+2.9
A21K	Barrow	9.13	313			Pn	17 25 07.8	+0.8
SIT	Sitka	9.22	179	Pn		Pn	17 25 10.3	+2.0
FNBB	Fort Nelson	9.36	139	Pn		Pn	17 25 12.5	+2.3
NBC3	NorthernBC 3	9.46	127	Pn		Pn	17 25 13.1	+1.5
BRLK	Bradley Lake	9.51	234	Pn		Pn	17 25 14.3	+2.0
YKA	Yellowknife Ar	9.80	103	Pn		Pn	17 25 15.1	-1.1
	comp=N,3.5nm,0.3s,baz=298,slow=12,SNR=94							
YKA				Sn		Sn	17 26 56.9	-7.9
	comp=N,3.0nm,0.3s,baz=303,slow=22,SNR=6.9							
CNPM	China Poot	9.81	234	Pn		Pn	17 25 18.2	+1.8
WRAK	Wrangell Islan	9.98	170	Pn		Pn	17 25 17.4	-1.3
NBC6	NorthernBC 6	10.10	133	Pn		Pn	17 25 20.7	+0.4
NBC6				Sn		Sn	17 27 08.4	-3.8
SVW2	Sparrevohn	10.25	249	Pn		Pn	17 25 22.9	+0.5
RDOG	Red Dog Mine	10.74	292			Pn	17 25 29.8	+0.7
DIB	Dawson Inlet,	13.18	172	Pn		Pn	17 26 03.5	+1.2
RES	Resolute Bay	15.62	40	Pn		Pn	17 26 32.5	-2.5
RES	Resolute Bay	15.62	40			Pn	17 26 32.5	-2.5
RES				IAmb		IAmb	17 27 00.0	
	comp=Z,5.4nm,0.8s							
BLBC	Blue River	16.43	142	P		P	17 26 49.7	+1.4
MNB	Mounoet Dainar	16.50	140	P		Pn	17 26 48.7	+1.9
EDM	Edmonton	17.05	129	P		Pn	17 26 55.0	+1.7
EUNU	Eureka	18.84	24	P		Pn	17 27 16.0	+0.9
EUNU				IAmb		IAmb	17 27 39.2	
	comp=Z,4.9nm,0.9s							
FFC	Flin Flon	19.86	109	P		P	17 27 25.7	0.0
FFC				IAmb		IAmb	17 27 53.6	
	comp=Z,4.2nm,0.9s							
FCC	Fort Churchill	20.20	92	P		P	17 27 29.0	-0.3
FCC				IAmb		IAmb	17 28 12.2	
	comp=Z,8.6nm,1.4s							
EGMT	Eagleton	22.71	131	P		P	17 27 55.9	-0.5
HLID	Hailey	25.51	143	P		P	17 28 25.9	+2.9
HLID				IAmb		IAmb	17 28 43.3	
	comp=Z,3.2nm,1.5s							
PDAR	Pinedale Array	27.54	136	P		P	17 28 43.0	+1.6
	comp=Z,0.4nm,0.7s,baz=22,slow=4.4,SNR=5.2							
TXAR	Lajitas Array	41.76	136	P		P	17 30 45.7	+2.0
	comp=Z,0.2nm,0.6s,baz=347,slow=7.7,SNR=3.0							
FINES	FINESS Array B	51.90	11	P		P	17 32 03.0	+0.7
	comp=Z,1.1nm,0.5s,baz=339,slow=10,SNR=11							
KSRS	Korea Array	58.87	293	LR		LR	17 59 49.7	
	comp=Z,18nm,20.4s,baz=100,slow=38							
AKASG	Malin Array Be	62.80	11	P		P	17 33 19.0	-0.3
	comp=Z,0.4nm,0.4s,baz=355,slow=7.2,SNR=4.3							
MKAR	Makanchi Array	63.61	332	P		P	17 33 25.2	+0.5
	comp=Z,0.1nm,0.4s,baz=3.8,slow=6.5,SNR=2.0							

IDC ***24*** *17:29:17.3±0.9, 2°.75S×139°.36E, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.8/35, mbtmp3.8/8, ML3.8/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/37, Error ellipse: s-maj=22.0km s-min=17.9km az=153.0*

DJA ***24*** *17:29:19.9±2.9, 2°.5S×139°.9E±°, h18km±33km, M4.6/5, mb5.2/1, MLv4.4/5*

NEIC ***24*** *17:29:23.2±2.1, 2°.81S±0°.09×139°.29E±0°.07, h43km±10km, mb4.2/12, Error ellipse: s-maj=14.0km s-min=9.5km az=202.0*

ISC 24 17:29:22.6±0.6, 2°.69S±0°.07×139°.33E±0°.05, h35km, n34, σ1§64/34, mb3.8/7, MS3.2/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GENI	Genyem	0.84	83	P		Pn	17 29 37.6	-0.4
GENI				S		Sn	17 29 50.3	+1.1
WAMI	Wamena	1.33	207	P		Pn	17 29 47.5	+2.7
WAMI				S		Sn	17 30 09.1	+7.8
JAY	Jayapura	1.39	83	Pn		Pn	17 29 44.4	-1.2
	29nm,0.3s,baz=233,slow=10,SNR=114							
JAY				Sn		Sn	17 30 01.8	-0.9
	55nm,0.3s,baz=280,slow=19,SNR=11							
JAY				LR		LR	17 30 32.3	
	comp=Z,299nm,18.9s,baz=54,slow=55							
SRPI	Serui, Papua	3.19	285	P		Pn	17 30 08.9	-1.4
SRPI				S		Sn	17 30 48.2	+1.0
BAKI	Biak	3.55	295	P		Pn	17 30 11.0	-4.2
MMPI	Merauke	5.83	170	P		Pn	17 30 49.7	+3.1
FAKI	Fak Fak	7.07	268	Pn		Pn	17 31 04.6	+0.8
SIJI	Sorong	8.26	283	Pn		Pn	17 31 20.7	+0.7
	1.4nm,0.3s,baz=180,slow=22,SNR=7.7							
SIJI				LR		LR	17 35 19.0	
	comp=Z,121nm,18.7s,baz=147,slow=44							
PMG	Port Moresby	10.25	131	Pn		Pn	17 31 48.7	+1.4
	0.3nm,0.3s,baz=286,slow=10,SNR=1.6							
PMG	Port Moresby	10.25	131			Pn	17 31 47.3	0.0
COEN	Coen	11.82	161	Pn		Pn	17 32 07.8	-1.0
MTN	Manton Dam	12.94	218	Pn		Pn	17 32 21.9	-2.3
SOEI	Soe	16.53	244	P		Pn	17 33 12.8	+0.8
BATI	Baumata	17.25	244	P		P	17 33 23.8	+1.6
	2.5nm,0.3s,baz=164,slow=1.3,SNR=10							
WB0	Warramunga Arr	17.64	196	Pn		Pn	17 33 23.0	-2.8
WB0				IAmb		IAmb	17 33 59.8	
	comp=Z,12nm,1.1s							
WR0	Warramunga Arr	17.79	195	P		Pn	17 33 25.3	-2.3
WR0				IAmb		IAmb	17 33 38.7	
	comp=Z,6.9nm,0.8s							
WB2	Warramunga Arr	17.82	195			Pn	17 33 26.1	-1.9
WB2				IAmb		IAmb	17 33 52.6	
	comp=Z,6.6nm,0.7s							
WRA	Warramunga Arr	17.82	196	P		Pn	17 33 26.4	-1.7
	comp=Z,0.4nm,0.3s,baz=16,slow=12,SNR=17							
WRA				LR		LR	17 40 51.0	
	comp=Z,141nm,19.8s,baz=10.0,slow=39							
WRA	Warramunga Arr	17.82	196	P		Pn	17 33 25.7	-2.3
FITZ	Fitzroy Crossi	20.36	220	P		P	17 33 54.3	-2.0
	comp=Z,1.5nm,0.6s,baz=38,slow=16,SNR=7.0							
FITZ	Fitzroy Crossi	20.36	220	P		P	17 33 53.6	-2.7
FITZ				IAmb		IAmb	17 34 39.3	
	comp=Z,39nm,1.9s							
AS31	Alice Springs	21.50	194	P		P	17 34 07.7	-0.9
ASAR	Alice Springs	21.50	194	P		P	17 34 06.8	-1.7
	comp=Z,0.9nm,0.4s,baz=20,slow=10,SNR=26							
ASAR				LR		LR	17 43 15.5	
	comp=Z,102nm,20.1s,baz=9.5,slow=39							
ASAR	Alice Springs	21.50	194	P		P	17 34 07.2	-1.3
EIDS	Eidsvold	25.23	154	P		P	17 34 44.6	-0.8
EIDS				IAmb		IAmb	17 35 18.2	
	comp=Z,18nm,1.4s							
PSA00	Pilbara Seismi	26.67	224	P		P	17 34 58.1	-0.3
STKA	Stephens Creek	29.11	176	LR		LR	17 48 18.7	
	comp=Z,101nm,19.2s,baz=31,slow=39							

PEL					IAML			17 31 45.6	
	comp=N,6µm,0.4s								
PEL	**Peldehue**	**1.39**	**133**			**Pn**		**17 31 26.2**	**+0.2**
PEL					Sn	**Sn**		**17 31 44.0**	**-0.8**
PEL	**Peldehue**	**1.39**	**133**	*eP*		**Pb**		**17 31 26.3**	**+0.1**
PEL				*eS*		**Sn**		**17 31 45.4**	**+0.7**
VA05	**Santo Domingo**	**1.47**	**171**	*eP*		**Pn**		**17 31 28.1**	**+1.1**
VA05				*i* S		**Sn**		**17 31 47.8**	**+1.1**
VA05					IAML			17 31 54.2	
	comp=E,6µm,0.5s								
MT05	**Renca**	**1.53**	**141**	⇓ *iP*		**Pn**		**17 31 28.4**	**+0.4**
MT05				*i* S		**Sg**		**17 31 48.5**	**-0.6**
MT05					IAML			17 31 51.8	
	comp=N,6µm,0.2s								
MT05	**Renca**	**1.53**	**141**			**Pn**		**17 31 28.4**	**+0.4**
MT05					Sn	**Sg**		**17 31 48.5**	**-0.6**
CO03	**El Pedregal**	**1.71**	**37**	*eP*		**Pb**		**17 31 32.2**	**+0.4**
CO03				*i* S		**Sg**		**17 31 54.5**	**-0.1**
CO03					IAML			17 31 59.2	
	comp=E,3µm,0.3s								
CO03	**El Pedregal**	**1.71**	**37**			**Pb**		**17 31 32.1**	**+0.4**
CO03					Sn	**Sg**		**17 31 54.1**	**-0.4**
MT03	**Universidad Ad**	**1.73**	**138**	⇑ *iP*		**Pn**		**17 31 31.7**	**+0.9**
MT03				*i* S		**Sb**		**17 31 53.8**	**-0.6**
MT03					IAML			17 31 57.4	
	comp=E,7µm,0.3s								
MT09	**Talagante**	**1.74**	**154**	⇑ *iP*		**Pn**		**17 31 31.6**	**+0.7**
MT09				*i* S		**Sb**		**17 31 54.8**	**+0.1**
MT09					IAML			17 32 00.2	
	comp=N,3µm,0.3s								
AUSP	**Uspallata**	**2.13**	**91**	*eP*		**Pg**		**17 31 40.2**	**-0.3**
AUSP				*eS*		**Sg**		**17 32 09.5**	**+1.4**
LMEL	**Las Melosas**	**2.17**	**140**	⇓ *iP*		**Pn**		**17 31 38.1**	**+1.3**
LMEL				*i* S		**Sb**		**17 32 05.7**	**-1.3**
LMEL					IAML			17 32 12.2	
	comp=N,2µm,0.2s								
GO04	**Tololo Observa**	**2.23**	**25**	*eP*		**Pb**		**17 31 41.1**	**+0.3**
GO04				*i* S		**Sg**		**17 32 11.1**	**-0.4**
GO04	**Tololo Observa**	**2.23**	**25**			**Pn**		**17 31 39.0**	**+1.2**
GO04	**Tololo Observa**	**2.23**	**25**	*eP*		**Pb**		**17 31 39.7**	**-1.1**
GO04				*eS*		**Sg**		**17 32 12.2**	**+0.7**
BO03	**Pichilemu**	**2.29**	**181**	⇑ *iP*		**Pn**		**17 31 37.6**	**-0.6**
BO03				*i* S		**Sb**		**17 32 12.0**	**+1.8**
ARCO	**CERRO ARCO**	**2.58**	**105**	*eP*		**Pb**		**17 31 45.4**	**-1.3**
ARCO					IAML			17 32 26.0	
	comp=Z,480nm,0.5s								
ASAL	**Salagasta**	**2.62**	**99**	*eP*		**Pb**		**17 31 47.7**	**+0.5**
ASAL				*eS*		**Sg**		**17 32 26.3**	**+2.5**
ASAL					IAML			17 32 28.8	
	comp=Z,324nm,0.6s								
AAGR	**Agrelo**	**2.73**	**110**	*eP*		**Pb**		**17 31 49.1**	**-0.1**
AAGR				*eS*		**Sg**		**17 32 29.6**	**+2.1**
AAGR					IAML			17 32 33.2	
	comp=Z,374nm,0.4s								
BO02	**Sierra Bellavi**	**2.74**	**160**		IAML			17 32 26.6	
	comp=N,2µm,0.3s								
BO02	**Sierra Bellavi**	**2.74**	**160**			**Pn**		**17 31 45.2**	**+0.5**
ZON	**Zonda**	**2.81**	**77**			**Pb**		**17 31 49.6**	**-1.0**
ZON	**Zonda**	**2.81**	**77**	*eP*		**Pb**		**17 31 50.2**	**-0.4**
ZON				*eS*		**Sg**		**17 32 33.3**	**+3.2**
ZON					IAML			17 32 45.2	
	comp=Z,303nm,0.9s								
RTCV	**Cerro Valdivia**	**2.87**	**84**	*eP*		**Pb**		**17 31 49.7**	**-1.9**
RTCV					IAML			17 32 38.7	
	comp=Z,242nm,0.8s								
RTLL	**Cerro Villicun**	**3.04**	**74**	*eP*		**Pb**		**17 31 52.8**	**-1.7**
RTLL				*eS*		**Sg**		**17 32 36.1**	**-1.3**
RTLL					IAML			17 32 40.7	
	comp=Z,349nm,0.6s								
LCO	**Las Campanas**	**3.34**	**18**			**Pn**		**17 31 53.9**	**+0.9**
COIS	**El Sosneado**	**3.47**	**147**	*eP*		**Pn**		**17 31 58.2**	**+3.5**
AC05	**El Transito**	**3.64**	**23**			**Pn**		**17 31 58.9**	**+2.0**
RFA	**San Rafael**	**3.84**	**133**	*eP*		**Pn**		**17 32 02.6**	**+2.9**
AC04	**Llanos de Chal**	**4.05**	**10**			**Pn**		**17 32 02.6**	**0.0**
BI02	**San Fabin de**	**4.48**	**174**			**Pn**		**17 32 08.4**	**0.0**
VCA	**Vinchina**	**4.70**	**44**	*eP*		Pn		17 32 16.5	+4.9
VCA				*eS*		**Sg**		**17 33 29.1**	**-1.6**
VCA					IAML			17 33 37.9	
	comp=Z,390nm,0.7s								
GO03	**Copiap**	**4.82**	**18**			**Pn**		**17 32 14.0**	**+0.8**
GO03	**Copiap**	**4.82**	**18**	*eP*		Pn		17 32 19.3	+6.2
GO03				*eS*		**Sg**		**17 33 33.0**	**-1.4**
APLL	**PUNTA DE LOS L**	**4.94**	**70**	*eP*		Pn		17 32 19.2	+4.4
APLL					IAML			17 33 25.1	
	comp=Z,181nm,1.4s								
ACLC	**CERRO LA CRUZ**	**5.07**	**58**	*eP*		Pn		17 32 21.7	+4.9
ACLC					IAML			17 33 34.4	
	comp=Z,204nm,0.7s								
AC02	**Maricunga**	**5.87**	**25**	Pn		**Pn**		**17 32 29.6**	**+1.6**
AC01	**Pan de Azucar**	**6.14**	**11**	Pn		**Pn**		**17 32 31.4**	**+0.1**
GO02	**Mina Guanaco**	**7.30**	**17**			**Pn**		**17 32 48.9**	**+1.4**
PB14	**IPOC Station P**	**7.66**	**10**			**Pn**		**17 32 54.8**	**+2.3**
PLCA	**Paso Flores**	**8.58**	**173**	Pn		**Pn**		**17 33 03.5**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=336,slow=11,SNR=33								
PLCA				Sn		**Sn**		**17 34 38.0**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=10,slow=11,SNR=1.4								
PLCA				Lg		Lg		17 35 12.1	
	baz=288,slow=19,SNR=1.4								
PLCA	**Paso Flores**	**8.58**	**173**	Pn		**Pn**		**17 33 05.3**	**+0.5**
PB10	**IPOC Station P**	**8.74**	**8**	Pn		**Pn**		**17 33 07.8**	**+0.9**
PB15	**IPOC Station P**	**9.21**	**14**			**Pn**		**17 33 15.0**	**+1.4**
PB06	**IPOC Station P**	**9.68**	**13**			**Pn**		**17 33 20.9**	**+0.9**
LVC	**Limon Verde**	**9.92**	**16**			**Pn**		**17 33 22.9**	**-0.5**
CPUP	**Villa Florida**	**13.99**	**69**	Pn		**Pn**		**17 34 16.1**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=220,slow=11,SNR=2.0								
CPUP				Lg		Lg		17 37 59.4	
	comp=Z,0.2nm,0.3s,baz=148,slow=19,SNR=3.0								
LPAZ	**La Paz**	**16.21**	**13**	Pn		**Pn**		**17 34 50.6**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=123,slow=4.2,SNR=2.6								
LPAZ				LR		LR		17 42 15.7	
	comp=Z,59nm,21.9s,baz=200,slow=42								
LPAZ	**La Paz**	**16.21**	**13**	P		**Pn**		**17 34 51.0**	**+1.9**
EFI	**East Falkland**	**21.94**	**157**	P		**P**		**17 35 52.8**	**-1.3**
EFI				IAmb		IAmb		17 36 24.9	
	comp=Z,66nm,1.6s								
BCIP	**Isla Barro Col**	**41.83**	**348**	P		**P**		**17 38 52.3**	**+1.5**
VNA3	**Neumayer Olymp**	**50.98**	**158**	P		**P**		**17 40 02.5**	**+0.4**
VNA1	**Neumayer--Stat**	**51.28**	**157**	P		**P**		**17 40 05.3**	**+1.0**
VNA2	**Neumayer--Watz**	**51.62**	**158**	P		**P**		**17 40 07.4**	**+0.4**
	baz=282,slow=8.9								
SNAA	**Sanae**	**53.20**	**158**	P		**P**		**17 40 18.6**	**-0.1**
SNAA	**Sanae**	**53.20**	**158**	P		**P**		**17 40 18.6**	**-0.1**
SNAA				IAmb		IAmb		17 40 36.4	
	comp=Z,13nm,1.4s								
QSPA	**South Pole Qui**	**58.03**	**180**	P		**P**		**17 40 54.3**	**+0.7**
QSPA				IAmb		IAmb		17 41 19.9	
	comp=Z,6.8nm,1.3s								
TXAR	**Lajitas Array**	**68.23**	**330**	P		**P**		**17 42 04.0**	**+2.3**
	comp=Z,0.1nm,0.4s,baz=140,slow=7.1,SNR=1.4								
DBIC	**Dimbokro**	**74.50**	**72**	P		**P**		**17 42 38.9**	**-0.9**
	comp=Z,4.8nm,0.7s,baz=210,slow=6.1,SNR=4.7								
TORD	**Torodi Ar. Bea**	**83.49**	**70**	P		**P**		**17 43 28.6**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=267,slow=3.9,SNR=7.4								
TORD	**Torodi Ar. Bea**	**83.49**	**70**	P		**P**		**17 43 28.9**	**-0.2**
TORD					IAmb	IAmb		17 43 29.5	
	comp=Z,2.1nm,0.8s								
ZALV	**Zalesovo Beam**	**152.63**	**31**	PKPbc		**PKPbc**		**17 50 57.1**	**0.0**
	comp=Z,1.2nm,0.4s,baz=292,slow=4.0,SNR=7.1								
MKAR	**Makanchi Array**	**155.47**	**46**	PKPab		**PKPab**		**17 51 19.2**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=283,slow=3.2,SNR=8.5								

*KRNET **24** 17:31:25.1±0.1, 39°.55N×72°.11E, h10km, mb2.6*
*ISU **24** 17:31:28, 40°.70N×71°.60E, h5km*
ISC 24 17:31:24.5±1.5, **39°.54N**±0°.08×**72°.12E**±0°.05, **h6**km±11km, **n15**, σ**2**s**16**/**26**, **23C**, **Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.25**	**256**	⇑ *iP*		**Pg**	**17 31 29.8**	**+0.3**
	baz=53							
DRK				⇑ *iS*		**Sg**	**17 31 33.6**	**+0.7**
	baz=53							
OHH	**Osh**	**1.11**	**27**	⇑ *iP*		**Pg**	**17 31 46.2**	**+0.4**
	baz=28							
OHH				⇑ *iS*		**Sn**	**17 32 01.5**	**-0.8**
	baz=28							
OHH	**Osh**	**1.11**	**27**	*eP*		**Pn**	**17 31 47.0**	**+0.4**
OHH				*eS*		**Sg**	**17 32 00.0**	**-0.2**
BTK	**Batken**	**1.13**	**298**	⇑ *iP*		**Pn**	**17 31 46.9**	**0.0**
	baz=97							
BTK				⇑ *iS*		**Sn**	**17 32 01.8**	**-0.9**
	baz=97							
BTK	**Batken**	**1.13**	**298**	*eP*		**Pb**	**17 31 45.0**	**-1.4**
BTK				*i* S		**Sg**	**17 32 01.0**	**+0.3**
SFK	**Sufi-Kurgan**	**1.17**	**66**	*eP*		Pn	17 31 59.0	+11
SFK				*eS*		Sn	17 32 27.0	+23
ARSB	**Arslanbob**	**1.90**	**20**	⇑ *iP*		**Pb**	**17 32 00.3**	**+0.6**
	baz=20							
ARSB				⇑ *iS*		**Sg**	**17 32 26.4**	**+0.8**
	baz=20							
TRKS	**Terek-Say**	**2.12**	**340**	⇑ *iP*		**Pb**	**17 32 03.0**	**-0.5**
	baz=40							
TRKS				⇑ *iS*		**Sb**	**17 32 30.5**	**+0.4**
	baz=40							
AML	**Almayashu**	**2.85**	**24**	⇑ *iP*		**Pb**	**17 32 14.2**	**-1.8**
	baz=25							
AML				⇑ *iS*		**Sb**	**17 32 49.9**	**-1.4**
	baz=25							
MNAS	**Manas**	**2.96**	**6**	⇑ *iP*		**Pb**	**17 32 15.4**	**-2.3**
	baz=6.0							
MNAS				⇑ *iS*		**Sb**	**17 32 52.3**	**-1.9**
	baz=6.0							
UCH	**Uchtor**	**3.24**	**33**	⇑ *iP*		**Pb**	**17 32 19.6**	**-3.1**
	baz=34							
UCH				⇑ *iS*		**Sb**	**17 32 59.4**	**-3.2**
	baz=34							
EKS2	**Erkin-Say**	**3.36**	**21**	⇑ *iP*		**Pn**	**17 32 20.8**	**+3.1**
	baz=22							
EKS2				⇑ *iS*		**Sb**	**17 33 02.0**	**-3.7**
	baz=22							
KK31	**Karatay Array**	**3.76**	**342**	Pn		**Pn**	**17 32 26.0**	**+3.0**
	0.6nm,0.3s,baz=155,slow=15,SNR=32							
KK31				⇑ Lg		Lg	17 33 24.2	
	1.1nm,0.4s,baz=157,slow=30							
KBK	**Karagaybulak**	**3.78**	**34**	⇑ *eP*		**Pn**	**17 32 26.8**	**+3.4**
	baz=34							
KBK				⇑ *iS*		**Sn**	**17 33 12.1**	**+3.8**
	baz=34							
TKM2	**Tokmak 2**	**4.28**	**37**	⇑ Pn		**Pb**	**17 32 38.2**	**-1.9**
	1.1nm,0.6s							
TKM2				⇑ Lg		Lg	17 33 39.0	
	2.3nm,0.5s							

*IDC **24** 17:33:21.4±1.3, 5°.59N×127°.08E, h0km, mb3.8/6,*
mb1 4.0/7, mb1mx3.7/44, mbtmp3.8/7, ML3.6/1, Error
ellipse: s-maj=87.7km s-min=18.6km az=68.0
*MAN **24** 17:33:27.5, 6°.01N×127°.34E, h3km, mb4.6, ML3.5, MS3.4*
ISC 24 17:33:21.9±0.8, **5°.86N**±0°.08×**127°.73E**±0°.08, **h10**km, **n12**, σ**1**s**90**/**17**, **mb3.7**/**6**, **1C**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.82**	**307**	*eP*		**Pn**	**17 33 53.6**	**+0.3**
MATI				*eS*		**Sn**	**17 34 13.8**	**-2.6**
DDMP	**Don Marcelino,**	**2.02**	**277**	*eP*		**Pn**	**17 33 57.3**	**+1.2**
DDMP				*eS*		**Sn**	**17 34 18.9**	**-2.4**
SKMP	**Bagumbayan, Su**	**3.23**	**282**	*eP*		**Pn**	**17 34 13.6**	**+0.9**
SKMP				*eS*		**Sn**	**17 34 51.9**	**+0.5**
CGP	**Cagayan de Oro**	**3.96**	**311**	⇑ *eP*		**Pn**	**17 34 25.1**	**+2.3**
CGP				*eS*		**Sn**	**17 35 08.5**	**-0.8**
GLSP	**General Luna,**	**4.21**	**338**	*eP*		Pg	17 34 50.5	+7.8
GLSP				*eS*		**Sn**	**17 35 12.1**	**-3.3**
SIJI	**Sorong**	**7.56**	**152**	Pn		**Pn**	**17 35 13.9**	**+1.6**
	0.9nm,0.3s,baz=178,slow=22,SNR=13							
SIJI				Sn		**Sn**	**17 36 34.8**	**-3.3**
	0.4nm,0.3s,baz=83,slow=21,SNR=1.6							
FITZ	**Fitzroy Crossi**	**23.89**	**185**	P		**P**	**17 38 34.7**	**-1.3**
	4.0nm,0.9s,baz=23,slow=8.3,SNR=2.0							
WRA	**Warramunga Arr**	**26.45**	**166**	P		**P**	**17 39 00.1**	**+0.8**
	0.9nm,0.6s,baz=342,slow=11,SNR=4.6							
ASAR	**Alice Springs**	**29.96**	**169**	P		**P**	**17 39 30.4**	**-0.3**
	0.4nm,0.4s,baz=352,slow=7.4,SNR=8.3							
STKA	**Stephens Creek**	**39.79**	**161**	P		**P**	**17 40 55.2**	**0.0**
	3.7nm,0.4s,baz=339,slow=10,SNR=25							
SONM	**Songino Array**	**45.63**	**340**	P		**P**	**17 41 44.1**	**+1.4**
	0.2nm,0.5s,baz=144,slow=5.4,SNR=2.1							
MKAR	**Makanchi Array**	**56.41**	**324**	P		**P**	**17 43 03.3**	**-0.4**
	0.6nm,0.6s,baz=116,slow=6.8,SNR=7.2							

*IGIL **24** 17:55:37.0, 42°.88N×14°.59W, h12km, ML3.0*
*MDD **24** 17:55:37.4±1.5, 42°.77N×14°.25W, h0km, mb4.5/12, Error*
ellipse: s-maj=13.9km s-min=9.8km az=107.0, PRXIMO
*LDG **24** 17:55:38.8±0.3, 42°.87N×14°.28W, h10km, Ml3.5/11, Error*
ellipse: s-maj=5.1km s-min=3.0km az=98.0
*INMG **24** 17:55:39.9±1.0, 42°.87N×14°.63W, h10km, ML2.7, Error*
ellipse: s-maj=5.7km s-min=4.0km az=100.0
ISC 24 17:55:36.2±2.6, **42°.88N**±0°.04×**14°.0W**±0°.1, **h10**km, **n90**, σ**2**s**74**/**152**, **1D**, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.66**	**87**	P		**Pn**	**17 56 36.5**	**+3.6**
	1.5nm,0.1s,SNR=7.9							
EMAZ				S		**Sn**	**17 57 19.5**	**+3.3**
	7.4nm,0.1s,SNR=7.9							
EZAM	**Zamans**	**3.96**	**99**	P		**Pn**	**17 56 41.3**	**+4.3**
	3.5nm,0.1s,SNR=7.9							
EZAM				S		**Sn**	**17 57 27.6**	**+4.1**
	5.6nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**4.31**	**100**	P		**Pn**	**17 56 46.6**	**+4.7**
PGAV				S		**Sn**	**17 57 36.0**	**+3.7**
	7.3nm,0.2s							
PGAV	**Gavieira, Arco**	**4.31**	**100**	*ePn*		**Pn**	**17 56 46.6**	**+4.7**
PGAV				*eSn*		**Sn**	**17 57 36.0**	**+3.7**
PGAV				A		A	17 57 41.1	
	7.3nm,0.2s							
EAGO	**Agolada(Pontev**	**4.32**	**89**	P		**Pn**	**17 56 45.8**	**+3.9**
	1.7nm,0.2s,SNR=7.9							
EAGO				S		**Sn**	**17 57 35.9**	**+3.6**
	4.3nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**4.48**	**101**	P		**Pn**	**17 56 48.5**	**+4.2**
	4.2nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**17 57 40.5**	**+4.0**
	3.1nm,0.1s,SNR=7.9							
POLO	**Lamas de Olo**	**4.82**	**106**	P		**Pn**	**17 56 52.9**	**+3.9**
POLO				S		**Sn**	**17 57 48.4**	**+3.4**
	2.2nm,0.3s							
POLO	**Lamas de Olo**	**4.82**	**106**	*ePn*		**Pn**	**17 56 52.9**	**+3.9**
POLO				*eSn*		**Sn**	**17 57 48.4**	**+3.4**
POLO				A		A	17 57 55.4	
	2.2nm,0.3s							
PVRL	**Vila Real**	**4.91**	**107**	P		**Pn**	**17 56 54.0**	**+3.8**
PVRL				S		**Sn**	**17 57 51.1**	**+4.0**
	5.6nm,0.3s							
PVRL	**Vila Real**	**4.91**	**107**	*ePn*		**Pn**	**17 56 54.0**	**+3.8**
PVRL				*eSn*		**Sn**	**17 57 51.1**	**+4.0**
PVRL				A		A	17 57 54.4	
	11nm,0.3s							
PCAS	**Casmilo, Conde**	**4.98**	**123**	P		**Pn**	**17 56 54.1**	**+3.0**
PCAS	**Casmilo, Conde**	**4.98**	**123**	*ePn*		**Pn**	**17 56 54.1**	**+3.0**
EPON	**Pontenova**	**5.00**	**83**	P		**Pn**	**17 56 55.9**	**+4.5**
	2.2nm,0.1s,SNR=11							
EPON				S		**Sn**	**17 57 51.4**	**+2.1**
	13nm,0.2s,SNR=13							
PVIS	**Viseu**	**5.02**	**113**	P		**Pn**	**17 56 55.4**	**+3.7**
PVIS				S		**Sn**	**17 57 51.6**	**+1.8**
	4.6nm,0.1s							
PVIS	**Viseu**	**5.02**	**113**	*ePn*		**Pn**	**17 56 55.4**	**+3.7**
PVIS				*eSn*		**Sn**	**17 57 51.6**	**+1.8**
PVIS				A		A	17 57 57.0	
	9.2nm,0.1s							
PSBE	**So Bento**	**5.14**	**129**	*ePn*		**Pn**	**17 56 56.0**	**+2.7**
PSBE				*eSn*		**Sn**	**17 57 52.7**	**-0.1**
PSBE				A		A	17 58 03.7	
	14nm,0.6s							
PMAFR	**Mafra**	**5.28**	**136**	P		**Pn**	**17 56 56.8**	**+1.6**
	17nm,0.2s,SNR=7.9							
PMAFR				S		**Sn**	**17 57 55.6**	**-0.6**
	32nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**5.28**	**136**	*ePn*		**Pn**	**17 56 57.5**	**+2.3**
PMAFR				*eSn*		**Sn**	**17 57 55.6**	**-0.6**
PMAFR				A		A	17 57 58.9	
	21nm,0.2s							
MTE	**Manteigas**	**5.41**	**115**	P		**Pn**	**17 56 59.6**	**+2.6**
MTE				S		**Sn**	**17 58 00.9**	**+1.6**
MTE	**Manteigas**	**5.41**	**115**	*ePn*		**Pn**	**17 56 59.6**	**+2.6**
MTE				*eSn*		**Sn**	**17 58 00.9**	**+1.6**
ECAL	**Calabor**	**5.43**	**98**	P		**Pn**	**17 57 01.8**	**+4.6**
	SNR=7.9							
ECAL				S		**Sn**	**17 58 03.5**	**+3.7**
	4.5nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**5.44**	**106**	P		**Pn**	**17 57 01.0**	**+3.6**
	6.3nm,0.1s,SNR=13							
MVO				S		**Sn**	**17 58 02.4**	**+2.4**
	4.6nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.44**	**106**	*ePn*		**Pn**	**17 57 01.1**	**+3.6**
MVO				*eSn*		**Sn**	**17 58 02.3**	**+2.2**
MVO				A		A	17 58 06.8	
	4.7nm,0.2s							
PBRG	**Braganca**	**5.46**	**99**	P		**Pn**	**17 57 02.3**	**+4.7**
PBRG				S		**Sn**	**17 58 03.9**	**+3.4**
	1.2nm,0.6s							
PBRG	**Braganca**	**5.46**	**99**	*ePn*		**Pn**	**17 57 02.3**	**+4.7**
PBRG				*eSn*		**Sn**	**17 58 03.9**	**+3.4**
PBRG				A		A	17 58 11.9	
	2.5nm,0.6s							
PCBR	**Castelo Branco**	**5.74**	**120**	P		**Pn**	**17 57 04.2**	**+2.7**
PCBR				S		**Sn**	**17 58 08.5**	**+1.0**
	1.2nm,0.5s							
PCBR	**Castelo Branco**	**5.74**	**120**	*ePn*		**Pn**	**17 57 04.2**	**+2.7**
PCBR				*eSn*		**Sn**	**17 58 08.5**	**+1.0**
PCBR				A		A	17 58 22.5	
	2.3nm,0.5s							
PMTG	**Montargil**	**5.77**	**129**	P		**Pn**	**17 57 04.3**	**+2.4**
PMTG				S		**Sn**	**17 58 07.8**	**-0.4**
	4.6nm,0.6s							
PMTG	**Montargil**	**5.77**	**129**	*ePn*		**Pn**	**17 57 04.3**	**+2.4**
PMTG				*eSn*		**Sn**	**17 58 07.8**	**-0.4**
PMTG				A		A	17 58 24.2	
	4.6nm,0.6s							
PMRV	**Marv??o**	**6.04**	**123**	P		**Pn**	**17 57 08.1**	**+2.5**
PMRV				S		**Sn**	**17 58 14.9**	**+0.1**
	4.0nm,0.3s							
PMRV	**Marv??o**	**6.04**	**123**	*ePn*		**Pn**	**17 57 08.1**	**+2.5**
PMRV				*eSn*		**Sn**	**17 58 14.9**	**+0.1**
PMRV				A		A	17 58 18.8	
	4.0nm,0.3s							
EVO	**Evora**	**6.27**	**132**	P		**Pn**	**17 57 11.2**	**+2.5**
EVO				S		**Sn**	**17 58 18.9**	**-1.5**
EVO	**Evora**	**6.27**	**132**	*ePn*		**Pn**	**17 57 11.2**	**+2.5**
EVO				*eSn*		**Sn**	**17 58 18.9**	**-1.5**
PESTR	**Estremoz**	**6.27**	**128**	*ePn*		**Pn**	**17 57 09.3**	**+0.5**
PESTR				*eSn*		**Sn**	**17 58 19.3**	**-1.3**
PESTR				A		A	17 58 27.4	
	3.1nm,0.5s							
PNCL	**Nicolau / Gran**	**6.31**	**137**	P		**Pn**	**17 57 11.3**	**+2.0**
PNCL				S		**Sn**	**17 58 19.9**	**-1.5**
	4.6nm,0.8s							
PNCL	**Nicolau / Gran**	**6.31**	**137**	*ePn*		**Pn**	**17 57 11.3**	**+2.0**
PNCL				*eSn*		**Sn**	**17 58 19.9**	**-1.5**
PNCL				A		A	17 58 34.3	
	4.6nm,0.8s							
EARI	**Arriondas**	**6.42**	**83**	P		**Pn**	**17 57 15.4**	**+4.6**
	0.8nm,0.1s,SNR=5.6							
EARI				S		**Sn**	**17 58 27.0**	**+2.8**
	1.6nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**6.55**	**113**	P		**Pn**	**17 57 16.0**	**+3.3**
	0.9nm,0.1s,SNR=5.5							
EPLA				S		**Sn**	**17 58 28.8**	**+1.3**
	2.6nm,0.2s,SNR=7.9							
PTEO	**Sao Teotonio**	**6.67**	**141**	P		**Pn**	**17 57 16.1**	**+1.9**
PTEO				S		**Sn**	**17 58 28.9**	**-1.3**
	6.2nm,0.8s							
PTEO	**Sao Teotonio**	**6.67**	**141**	*ePn*		**Pn**	**17 57 16.1**	**+1.9**
PTEO				*eSn*		**Sn**	**17 58 28.9**	**-1.3**
PTEO				A		A	17 58 47.4	
	12nm,0.8s							
MESJ	**Messejana**	**6.67**	**137**	*eP*		**Pn**	**17 57 16.4**	**+2.2**
MESJ				*eS*		**Sn**	**17 58 29.2**	**-1.2**
MESJ					AML	AML	17 58 33.1	
	comp=N,8.3nm,0.4s							
MESJ	**Messejana**	**6.67**	**137**	P		**Pn**	**17 57 16.8**	**+2.5**
MESJ				S		**Sn**	**17 58 29.2**	**-1.2**
	comp=N,6.4nm,0.5s							
MESJ	**Messejana**	**6.67**	**137**	*ePn*		**Pn**	**17 57 16.8**	**+2.5**
MESJ				*eSn*		**Sn**	**17 58 29.2**	**-1.2**
MESJ				A		A	17 58 33.0	
	comp=N,6.4nm,0.5s							
PBEJ	**Beja**	**6.71**	**134**	P		Pn	17 57 10.5	-4.4
PBEJ				S		**Sn**	**17 58 33.5**	**+2.1**
PBEJ	**Beja**	**6.71**	**134**	*ePn*		Pn	17 57 10.5	-4.4
PBEJ				*eSn*		**Sn**

LFF	**La Frestale**	**10.80**	**74**	*e*Sn		**Sn**	**18 00 09.9**	**-1.9**
	comp=N,2.9nm,0.3s							
RJF	**Les Rejaudoux**	**11.39**	**72**	S		**Sn**	**18 00 23.7**	**-2.5**
	comp=N,1.4nm,0.3s							
RJF	**Les Rejaudoux**	**11.39**	**72**	*e*Sn		**Sn**	**18 00 23.7**	**-2.5**
	comp=N,2.7nm,0.3s							
CAF	**Calviac**	**11.74**	**74**	S		**Sn**	**18 00 31.3**	**-3.5**
	comp=N,0.5nm,0.2s							
CAF	**Calviac**	**11.74**	**74**	*e*Sn		**Sn**	**18 00 31.3**	**-3.5**
	comp=N,1.0nm,0.2s							
MTLF	**Montolieu**	**11.84**	**82**	S		**Sn**	**18 00 34.6**	**-2.5**
	comp=N,0.6nm,0.3s							
MTLF	**Montolieu**	**11.84**	**82**	*e*Sn		**Sn**	**18 00 34.6**	**-2.5**
	comp=N,1.2nm,0.3s							
LASF	**Ste Croix**	**13.00**	**79**	S		**Sn**	**18 01 02.5**	**-3.0**
	comp=N,0.0nm,0.2s							
LASF	**Ste Croix**	**13.00**	**79**	*e*Sn		**Sn**	**18 01 02.5**	**-3.0**
	comp=N,1.0nm,0.2s							
VIVF	**Saint-Julien-l**	**13.59**	**75**	S		**Sn**	**18 01 16.0**	**-4.0**
	comp=N,0.3nm,0.2s							
VIVF	**Saint-Julien-l**	**13.59**	**75**	*e*Sn		**Sn**	**18 01 16.0**	**-4.0**
	comp=N,0.6nm,0.2s							

*NEIC **24** 17:57:41.7±1.8, 57.64N±0.07×156.7W±0.1, h143km±7km, Error ellipse: s-maj=11.3km s-min=9.1km az=123.0*

AEIC 24 17:57:43±2.6, 57.61N±0.06×156.7W±0.1, h134km±6km, ML3.5, ML3.4/23(NEIC), Error ellipse: s-maj=10.8km s-min=8.5km az=116.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBL	**Peulik Blue Cr**	**0.12**	**318**		Pn	17 58 01.5	+0.3
PLBL					Sn	17 58 15.0	-0.1
PLK1	**Peulik 1**	**0.20**	**10**		Pn	17 58 01.6	+0.2
PLK3	**Peulik 3**	**0.23**	**70**		Pn	17 58 01.9	+0.5
PLK3					Sn	17 58 16.5	+1.0
PLK2	**Peulik 2**	**0.24**	**50**		Pn	17 58 01.7	+0.2
PLK5	**Peulik 5**	**0.40**	**344**		Pn	17 58 02.2	+0.1
KJL	**Kejulik**	**0.74**	**52**		Pn	17 58 04.2	+0.1
KJL					Sn	17 58 20.4	+0.2
CAHL	**Cahill**	**0.86**	**58**		Pn	17 58 05.2	+0.2
KABU	**Katmai Buttres**	**0.99**	**48**		Pn	17 58 06.7	+0.4
KABU					Sn	17 58 24.5	+0.4
KABR	**Katmai Barrier**	**1.05**	**59**		Pn	17 58 06.9	+0.1
KABR					Sn	17 58 24.9	0.0
KVTA	**Katmai Vly 10**	**1.06**	**43**		Pn	17 58 07.1	+0.3
KAHC	**Katmai Hardscr**	**1.36**	**40**		Pn	17 58 10.2	+0.2
SII	**Sitkinak Islan**	**1.72**	**127**		Pn	17 58 14.0	+0.1
SII				Sn	Sn	17 58 37.6	+0.2
OHAK	**Old Harbor**	**1.87**	**101**		Pn	17 58 15.5	-0.1
KDAK	**Kodiak Island**	**2.20**	**84**		Pn	17 58 19.8	+0.2
KDAK				IAML		17 58 47.7	
	77nm,0.4s						
IVE	**Iliamna Volcan**	**3.07**	**37**		Pn	17 58 30.6	0.0
SDPT	**Sand Point**	**3.10**	**225**		Pn	17 58 30.2	-0.7
SDPT	**Sand Point**	**3.10**	**225**	IAML		17 59 05.8	
	comp=E,83nm,0.6s						
SDPT				IAML		17 59 44.3	
	comp=N,79nm,3.3s						
HOM	**Homer**	**3.33**	**50**	Pn	Pn	17 58 30.7	-3.3
HOM				IAML		17 59 18.2	
	comp=E,169nm,1.0s						
CNPM	**China Poot**	**3.43**	**54**	Pn	Pn	17 58 35.3	0.0
CNPM				IAML		17 59 14.1	
	comp=N,75nm,0.4s						
CNPM				IAML		17 59 15.4	
	comp=E,44nm,0.6s						
RSO	**Redoubt South**	**3.50**	**34**	Pn	Pn	17 58 36.4	0.0
SVW2	**Sparrevohn**	**3.54**	**9**		Pn	17 58 35.9	-0.8
DFR	**Drift River**	**3.63**	**33**		Pn	17 58 37.8	-0.2
BRLK	**Bradley Lake**	**3.71**	**52**	Pn	Pn	17 58 38.1	-0.8
BRLK				IAML		17 59 21.0	
	comp=E,40nm,0.6s						
BRLK				IAML		17 59 21.6	
	comp=N,49nm,0.3s						
BRSE	**Bradley Lake S**	**3.76**	**53**		Pn	17 58 38.7	-0.9
BRSE					Sn	17 59 20.5	-3.0
SLKM	**Skilak Lake**	**4.42**	**46**		Pn	17 58 47.8	-0.5
SEW	**Seward**	**4.50**	**53**		Pn	17 58 48.5	-0.9
Q22K	**Cooper Landing**	**4.60**	**48**		Pn	17 58 50.5	-0.1
STLK	**Strandline Lak**	**4.61**	**30**		Pn	17 58 51.0	+0.1
SUA	**Susitna One**	**4.90**	**35**		Pn	17 58 54.4	-0.4
SUA				IAML		17 59 50.0	
	comp=E,55nm,0.7s						
SUA				IAML		17 59 51.2	
	comp=N,38nm,1.0s						
RC01	**Rabbit Creek A**	**4.97**	**43**		Pn	17 58 54.5	-1.2
RC01				IAML		17 59 51.6	
	comp=N,44nm,0.4s						
SKT	**Skwentna**	**5.09**	**28**		Pn	17 58 57.0	-0.2
SKT				IAML		17 59 58.6	
	comp=N,12nm,0.6s						
SKT				IAML		18 01 18.6	
	comp=E,11nm,3.7s						
TT01	**Tatalina**	**5.32**	**3**		Pn	17 59 00.0	-0.3
PWL	**Port Wells**	**5.38**	**49**		Pn	17 58 59.6	-1.4
PMR	**Palmer**	**5.53**	**41**		Pn	17 59 00.5	-2.5
KNK	**Knik Glacier**	**5.66**	**44**	Pn	Pn	17 59 03.8	-1.0
Q23K	**Middleton Isla**	**5.71**	**67**	Pn	Pn	17 59 05.2	-0.3
MID	**Middleton Isla**	**5.71**	**67**	Pn	Pn	17 59 03.9	-1.7
GHO	**Glory Hole Cre**	**5.72**	**40**		Pn	17 59 04.0	-1.8
PPLA	**Purkeypile**	**5.75**	**21**	Pn	Pn	17 59 07.0	+0.8
CUT	**Chulitna**	**5.78**	**31**	Pn	Pn	17 59 05.9	-0.5
GLI	**Glacier Island**	**5.90**	**52**	Pn	Pn	17 59 06.3	-1.8
HIN	**Hinchinbrook I**	**5.95**	**58**	Pn	Pn	17 59 08.1	-0.7
SML	**Sawmill**	**5.96**	**42**	Pn	Pn	17 59 06.6	-2.3
FID	**Port Fidalgo**	**6.11**	**55**	Pn	Pn	17 59 08.9	-2.0
AKSA	**Akutan Strait**	**6.16**	**239**		Pn	17 59 11.1	-0.4
AKLV	**Akutan Long Va**	**6.26**	**240**		Pn	17 59 12.0	-1.0
SCM	**Sheep Creek Mo**	**6.34**	**44**	Pn	Pn	17 59 12.4	-1.6
EYAK	**Cordova Ski Ar**	**6.35**	**58**	Pn	Pn	17 59 13.0	-1.1
WAT7	**Susitna Watana**	**6.53**	**33**		Pn	17 59 14.5	-2.0
DIV	**Divide**	**6.59**	**53**		Pn	17 59 15.9	-1.4
KTH	**Kantishna Hill**	**6.60**	**23**	Pn	Pn	17 59 16.9	-0.5
WAT1	**Susitna Watana**	**6.61**	**34**		Pn	17 59 15.3	-2.3
TRF	**Thorofare Moun**	**6.65**	**26**	Pn	Pn	17 59 17.6	-0.7
WAT6	**Susitna Watana**	**6.69**	**38**		Pn	17 59 16.2	-2.6
WAT2	**Susitna Watana**	**6.70**	**33**		Pn	17 59 16.6	-2.3
KLU	**Klutina**	**6.70**	**50**		Pn	17 59 17.8	-1.2
MNAT	**Makushin Natee**	**6.77**	**241**		Pn	17 59 18.1	-1.7
KAIM	**Kayak Island**	**6.78**	**65**	Pn	Pn	17 59 19.8	-0.1
RAGM	**Ragged Mountai**	**6.79**	**61**	Pn	Pn	17 59 19.7	-0.3
MSW	**Makushin Switc**	**6.80**	**241**		Pn	17 59 18.5	-1.7
MAPS	**Pakushin South**	**6.94**	**241**		Pn	17 59 20.5	-1.6
M24K	**Tolsona, Glenn**	**6.94**	**45**	Pn	Pn	17 59 20.8	-1.3
HMT	**Hamilton**	**6.97**	**62**		Pn	17 59 22.2	-0.3
RND	**Reindeer**	**6.97**	**30**	Pn	Pn	17 59 20.2	-2.3
BMRM	**Bremner River**	**7.03**	**56**	Pn	Pn	17 59 22.3	-1.1
BPAW	**Bear Paw Mtn.**	**7.07**	**21**	Pn	Pn	17 59 23.5	-0.3
MCK	**McKinley**	**7.22**	**28**	Pn	Pn	17 59 24.2	-1.6
BERG	**Berg Lake**	**7.25**	**62**		Pn	17 59 25.2	-1.0
N25K	**Chitina, Valde**	**7.31**	**52**	Pn	Pn	17 59 26.2	-0.8
KHIT	**Khitrov Hills**	**7.48**	**62**		Pn	17 59 28.4	-1.0
GLB	**Gilahina Butte**	**7.58**	**54**	Pn	Pn	17 59 29.4	-1.2
CRQM	**Cirque**	**7.63**	**60**	Pn	Pn	17 59 30.7	-0.8
VRDI	**Verde Repeater**	**7.65**	**56**	Pn	Pn	17 59 30.6	-1.2
PAX	**Paxson**	**7.73**	**41**	Pn	Pn	17 59 32.0	-0.6
TGL	**Tana Glacier**	**7.77**	**60**	Pn	Pn	17 59 32.2	-1.1
MCARA	**McCarthy VSAT**	**7.90**	**56**	Pn	Pn	17 59 33.4	-1.5
NEA2	**Nenana**	**7.91**	**25**	Pn	Pn	17 59 32.0	-2.9
MLY	**Manley**	**7.97**	**18**	Pn	Pn	17 59 34.3	-1.5
WRH	**Wood River Hil**	**8.04**	**28**	Pn	Pn	17 59 33.8	-2.9
KIAG	**Kiagna River**	**8.04**	**60**		Pn	17 59 36.3	-0.7
PTPK	**Patty Peak**	**8.08**	**58**		Pn	17 59 37.1	-0.4
BALM	**Baldy**	**8.09**	**59**		Pn	17 59 36.6	-0.9
YAH	**Yahtse**	**8.19**	**64**	Pn	Pn	17 59 38.6	-0.4
CCB	**Clear Creek Bu**	**8.25**	**28**	Pn	Pn	17 59 36.7	-2.9
GRNC	**Granite Creek**	**8.27**	**62**		Pn	17 59 39.2	-0.9
I23K	**Minto, Yukon-K**	**8.33**	**22**	Pn	Pn	17 59 37.7	-2.9
MDM	**Murphy Dome**	**8.41**	**25**	Pn	Pn	17 59 38.2	-3.5
BARN	**Barnard Glacie**	**8.41**	**59**	Pn	Pn	17 59 40.0	-1.9
PS08	**TAPS Pump Stn8**	**8.43**	**30**		Pn	17 59 38.4	-3.5
TABL	**Table Mountain**	**8.49**	**64**		Pn	17 59 41.0	-2.1
IM03		**8.52**	**8**		Pn	17 59 42.6	-0.4
CTGM	**Chitina Glacie**	**8.54**	**60**	Pn	Pn	17 59 43.2	-0.3
IL31		**8.59**	**29**		Pn	17 59 41.4	-2.6
ILAR	**Eielson Array**	**8.59**	**29**	Pn	Pn	17 59 41.8	-2.3
DOT	**Dot Lake**	**8.65**	**40**	Pn	Pn	17 59 42.2	-2.8
LOGN	**Logan Glacier**	**8.65**	**62**	Pn	Pn	17 59 40.6	-4.5
POKR	**Poker Plat Res**	**8.73**	**27**	Pn	Pn	17 59 43.1	-2.9
PCA	**Pinnacle**	**8.86**	**67**	Pn	Pn	17 59 44.6	-3.2
SCRK	**Sand Creek**	**8.89**	**39**	Pn	Pn	17 59 44.6	-3.6
YUK2	**White River**	**9.02**	**56**		Pn	17 59 49.8	-0.2
BCPM	**Bancas Point**	**9.15**	**68**	Pn	Pn	17 59 50.6	-1.1
YUK3	**Moose Creek**	**9.19**	**56**		Pn	17 59 52.3	0.0
PRP	**Porcupine Dome**	**9.53**	**29**	Pn	Pn	17 59 55.0	-1.8
K27K	**Chicken**	**9.58**	**42**	Pn	Pn	17 59 56.1	-1.3
COLD	**Coldfoot**	**10.10**	**14**	Pn	Pn	18 00 05.4	+1.1
SIT	**Sitka**	**11.54**	**84**	Pn	Pn	18 00 22.6	-0.8
BESE	**Bessie Mountai**	**11.57**	**76**	Pn	Pn	18 00 21.5	-2.5
WHY	**Whitehorse**	**11.58**	**66**	Pn	Pn	18 00 22.5	-1.7

IDC 24 18:04:06.9±4.0, 3.49S×105.93E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/52, mbtmp3.3/3, Error ellipse: s-maj=229.1km s-min=30.6km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.18**	**123**	P	P	18 10 36.6	-0.2
	0.6nm,1.0s,baz=298,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**33.66**	**129**	P	P	18 10 49.9	+0.1
	0.3nm,0.5s,baz=300,slow=8.1,SNR=14						
MKAR	**Makanchi Array**	**54.24**	**340**	P	P	18 13 34.5	-0.1
	0.4nm,0.9s,baz=133,slow=6.1,SNR=2.7						

*IDC **24** 18:06:09.0±0.8, 67.07N×21.05E, h0km, mb1 2.7/4, mb1mx2.6/42, mbtmp2.6/4, ML1.9/4, Error ellipse: s-maj=9.6km s-min=4.2km az=145.0*
*NAO **24** 18:06:09.7±0.9, 67.06N×21.07E, ML2.6*
*HEL **24** 18:06:09.8±0.2, 67.10N×21.10E, h0km, ML2.2, Explosion*
*BER **24** 18:06:11.8±3.6, 67.02N×20.96E, h0km, ML1.8, ML2.6(NAO), Suspected explosion*

ISC 24 18:06:08.5±0.8, 67.06N±0.03×20.91E±0.04, h0km, n45, σ1s27/64, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.86**	**91**	PG	**Pg**	**18 06 24.5**	**-0.6**
LANU	**Lannavaara**	**1.08**	**22**	PG	**Pg**	**18 06 28.5**	**-0.6**
LANU				SG	**Sg**	**18 06 39.4**	**-3.6**
TOF	**Tornio**	**1.68**	**124**	PG	**Pn**	**18 06 39.3**	**+0.2**
TOF				MSG		18 06 59.0	
	comp=Z,21nm,0.2s						
HEF	**Hetta**	**1.71**	**36**	*e*P	**Pn**	**18 06 39.5**	**-0.1**
HEF				*e*S	**Sn**	**18 07 01.9**	**-0.2**
HEF	**Hetta**	**1.71**	**36**	PG	**Pn**	**18 06 39.0**	**-0.6**
	baz=213						
HEF				MSG		18 06 58.8	
	comp=Z,14nm,0.2s						
HEF				SN	**Sn**	**18 07 02.7**	**+0.6**
KIF	**Kilpisjarvi**	**1.95**	**359**	Pn	**Pb**	**18 06 44.5**	**-0.4**
KIF				Sn	**Sg**	**18 07 11.2**	**0.0**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P	**Pg**	**18 06 46.4**	**+0.4**
KIF				*e*S	**Sg**	**18 07 11.1**	**-0.1**
KIF	**Kilpisjarvi**	**1.95**	**359**	PG	**Pb**	**18 06 44.5**	**-0.4**
KIF				MSG		18 07 08.1	
	comp=Z,42nm,0.2s						
KIF				SG	**Sg**	**18 07 11.8**	**+0.6**
RNF	**Rovaniemi**	**2.07**	**100**	PG	**Pn**	**18 06 45.4**	**+0.9**
KTK1	**Kautokeino**	**2.15**	**23**	Pn	**Pb**	**18 06 47.8**	**-0.4**
KTK1				Sn	**Sb**	**18 07 15.1**	**-0.2**
KTK1	**Kautokeino**	**2.15**	**23**	*e*P	**Pb**	**18 06 47.5**	**-0.7**
KTK1				IAML		18 07 20.3	
	comp=Z,12nm,0.2s						
I37NO	**I37NO**	**2.20**	**338**	*i*		18 21 00.0	
	baz=155,slow=321,SNR=2.7						
SGF	**Sodankyl**	**2.22**	**77**	PG	**Pn**	**18 06 47.4**	**+1.0**
	baz=260						
BURU	**Burvik**	**2.50**	**175**	PN	**Pn**	**18 06 51.8**	**+1.5**
	baz=358						
JETT	**Jettan, Norway**	**2.52**	**356**	Pn	**Pb**	**18 06 53.3**	**-1.2**
JETT				Sn	**Sn**	**18 07 23.6**	**+1.6**
MOR8	**Moi Rana**	**2.73**	**254**	*e*P	**Pn**	**18 06 54.7**	**+1.1**
OUL	**Oulu**	**2.84**	**132**	PB	**Pn**	**18 06 57.6**	**+2.6**
OBF0	**Syolatti, Pyha**	**2.92**	**150**	PB	**Pn**	**18 06 58.9**	**+2.9**
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**18 06 58.0**	**+0.5**
	baz=217,slow=16						
ARA0				Sn	**Sn**	**18 07 35.4**	**+1.1**
	baz=219,slow=28						
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**18 06 58.0**	**+0.5**
	baz=217,slow=16						
ARA0				Sn	**Sn**	**18 07 35.4**	**+1.1**
	baz=219,slow=28						
ARA0				IAML		18 07 48.6	
	comp=Z,6.8nm,0.1s						
ARA0	**ARCESS Array S**	**3.02**	**32**	PN	**Pn**	**18 06 58.0**	**+0.5**
	baz=211						
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**18 06 57.8**	**+0.3**
	baz=211,slow=13,SNR=26						
ARCES				Pg	**Pg**	**18 07 06.4**	**+0.2**
	baz=211,slow=17,SNR=3.0						
ARCES				Sn	**Sn**	**18 07 33.5**	**-0.8**
	baz=218,slow=23,SNR=9.6						
ARCES				Lg	Lg	18 07 42.0	
	baz=218,slow=28,SNR=3.6						
OUF	**Merijarvi**	**3.13**	**148**	PN	**Pn**	**18 07 00.0**	**+1.0**
OUF				MSG		18 07 41.5	
	comp=Z,2.7nm,0.2s						
UMAU	**Umeaa**	**3.19**	**182**	PN	**Pn**	**18 07 01.3**	**+1.4**
VRF	**Varrio**	**3.43**	**74**	PB	**Pn**	**18 07 05.4**	**+2.3**
OLKF	**Oulanka, Finla**	**3.46**	**98**	PN	**Pn**	**18 07 04.3**	**+0.7**
OLKF				SG	**Sb**	**18 07 55.9**	**+2.9**
MSF	**Maaselka**	**3.46**	**106**	PN	**Pn**	**18 07 04.2**	**+0.7**
	baz=290						
KEV	**Kevo**	**3.52**	**37**	*e*P	**Pn**	**18 07 05.4**	**+1.0**
KEV	**Kevo**	**3.52**	**37**	PN	**Pn**	**18 07 05.4**	**+1.0**
KU6	**Riekki**	**3.74**	**102**	PN	**Pn**	**18 07 08.6**	**+1.2**
	baz=289						
HUSU	**Husum**	**3.80**	**192**	PN	**Pn**	**18 07 09.4**	**+1.2**
HUSU				SN	**Sn**	**18 07 54.7**	**+1.2**
VAF	**Ylistaro**	**4.10**	**169**	PN	**Pn**	**18 07 14.0**	**+1.6**
	baz=356						
APA0	**Apatity Array**	**4.71**	**78**	Pn	**Pn**	**18 07 21.1**	**+0.5**
	baz=265,slow=11						
APA0				Sn	**Sn**	**18 08 14.4**	**-1.5**
	baz=243,slow=28						
APA0	**Apatity Array**	**4.71**	**78**	Pn	**Pn**	**18 07 21.1**	**+0.5**
	baz=265,slow=11						
APA0				Sn	**Sn**	**18 08 14.4**	**-1.5**
	baz=243,slow=28						
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 07 40.8**	**+1.4**
	baz=347,slow=16						
FIA0				Sn	**Sn**	**18 08 48.8**	**-0.6**
	baz=340,slow=28						
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 07 40.8**	**+1.4**
	baz=347,slow=16						
FIA0				Sn	**Sn**	**18 08 48.8**	**-0.6**
	baz=340,slow=28						
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**18 07 40.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=350,slow=14,SNR=10						
FINES				Sn	**Sn**	**18 08 49.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=256,slow=36,SNR=1.5						
FINES				Lg	Lg	18 09 15.0	
	comp=Z,0.3nm,0.3s,baz=354,slow=27,SNR=2.5						
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn	**Pn**	**18 07 56.8**	**-0.7**
	baz=30,slow=16						
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn	**Pn**	**18 07 56.8**	**-0.7**
	baz=30,slow=16						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**18 07 56.9**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=254,slow=17,SNR=4.1						
NOA				Lg	Lg	18 10 04.8	
	comp=Z,0.0nm,0.3s,baz=316,slow=15,SNR=1.3						
NRA0	**NORESS Array S**	**7.57**	**217**	Pn	**Pn**	**18 08 00.6**	**+0.7**
	baz=32,slow=14						
NRA0	**NORESS Array S**	**7.57**	**217**	Pn	**Pn**	**18 08 00.6**	**+0.7**
	baz=32,slow=14						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 08 01.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=5.3						
HFS				Sn	**Sn**	**18 09 24.6**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=28,slow=22,SNR=2.0						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 08 01.2**	**+0.1**
	baz=30,slow=14						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 08 01.2**	**+0.1**
	baz=30,slow=14						

*ISK **24** 18:13:08.3, 36.08N×31.09E, h8km, ML2.4/15*
*DDA **24** 18:13:09.7, 36.16N×31.20E, h29km, ML2.2*
*NIC **24** 18:13:10.4±0.0, 36.04N×31.11E, h22km±2km, Ml2.6/2*

ISC 24 18:13:09.1±1.3, 36.08N±0.03×31.13E±0.02, h14km±10km, n41, σ1s29/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.68**	**291**	*i* P	**Pb**	**18 13 24.2**	**+1.5**
AKUM				*i* S	**Sn**	**18 13 35.0**	**+0.4**
AKUM				IAML		18 13 39.0	
	comp=E,108nm,0.5s						
ALAN	**Alanya-ANTALYA**	**0.87**	**57**	PG	**Pg**	**18 13 25.9**	**-0.1**
KEPZ	**Antalya-Kepez**	**0.90**	**25**	*i* P	**Pb**	**18 13 25.8**	**-0.7**
KEPZ				*i* S	**Sg**	**18 13 37.8**	**-0.6**
GAZI	**Gazipasa**	**0.97**	**81**	PG	**Pb**	**18 13 27.8**	**+0.1**
GAZI	**Gazipasa**	**0.97**	**81**	*i* P	**Pb**	**18 13 27.5**	**-0.2**
GAZI				*i* S	**Sb**	**18 13 37.0**	**-3.4**
GAZI				IAML		18 13 40.0	
	comp=N,65nm,0.2s						
GAZI				IAML		18 13 40.0	
	comp=E,60nm,0.3s						
KORT	**Korkueli**	**1.11**	**326**	PN	**Pb**	**18 13 30.2**	**+0.1**
KORT				SN	**Sb**	**18 13 45.4**	**+0.9**
KORT	**Korkueli**	**1.11**	**326**	*i* P	**Pb**	**18 13 30.2**	**+0.1**
KORT				*i* S	**Sn**	**18 13 47.8**	**+2.3**
ELL	**Elmali**	**1.19**	**304**	PN	**Pn**	**18 13 31.1**	**-0.3**
ELL	**Elmali**	**1.19**	**304**	P	**Pn**	**18 13 32.0**	**+0.7**
ELL				S	**Sg**	**18 13 48.1**	**+0.6**
AKAS	**Kas**	**1.24**	**277**	PN	**Pn**	**18 13 30.9**	**-1.2**
AKAS	**Kas**	**1.24**	**277**	*i* P	**Pn**	**18 13 30.1**	**-2.0**
KSL	**Kastellorizon**	**1.25**	**273**	P	**Pn**	**18 13 32.1**	**-0.1**
KSL				S	**Sn**	**18 13 49.3**	**+0.6**
AKMS	**Akamas**	**1.45**	**137**	P	**Pn**	**18 13 34.7**	**-0.2**
AKMS				S	**Sn**	**18 13 54.0**	**+0.3**
AKMS				AML	AML	18 14 03.7	
	comp=E,0.3nm,0.6s						
AKMS				AML	AML	18 14 03.7	
	comp=E,0.3nm,0.6s						
AKMS				AML	AML	18 14 06.0	
	comp=E,0.4nm,0.4s						
AKMS				AML	AML	18 14 06.0	
	comp=E,0.4nm,0.4s						
SEDI	**Konya, Seydise**	**1.46**	**20**	*i* P	**Pn**	**18 13 34.7**	**-0.3**
SEDI				*i* S	**Sn**	**18 13 52.4**	**-1.6**
ALFC	**Alefka**	**1.51**	**127**	P	**Pn**	**18 13 34.8**	**-1.0**
ALFC				S	**Sn**	**18 13 55.8**	**+0.5**
ALFC				AML	AML	18 14 02.1	
	comp=E,0.3nm,0.3s						
ALFC				AML	AML	18 14 02.1	
	comp=E,0.3nm,0.3s						
ALFC				AML	AML	18 14 03.5	
	comp=E,0.2nm,0.4s						
ALFC				AML	AML	18 14 03.5	
	comp=E,0.2nm,0.4s						
ERMK	**Ermenek**	**1.54**	**68**	*i* P	**Pn**	**18 13 37.9**	**+1.6**
TEKE	**Tekeli-Mersin**	**1.61**	**87**	PN	**Pn**	**18 13 38.2**	**+1.2**
GOLH	**Golhisar**	**1.71**	**313**	*i* P	**Pb**	**18 13 40.6**	**+0.4**
BERE	**Bereket-Mersin**	**1.71**	**81**	PN	**Pn**	**18 13 39.7**	**+1.1**
FETY	**Fethiye**	**1.74**	**289**	PN	**Pn**	**18 13 38.5**	**-0.4**
KKBE	**Karaman, Kazim**	**1.85**	**52**	*i* P	**Pn**	**18 13 41.6**	**+1.1**
KKBE				*i* S	**Sn**	**18 14 04.5**	**+0.9**
KMER	**Konya-Meram**	**1.95**	**30**	*i* P	**Pn**	**18 13 42.6**	**+0.7**
GULN	**MERSIN_Gulnar**	**1.96**	**86**	*i* P	**Pn**	**18 13 42.2**	**+0.4**
GULN				*i* S	**Sn**	**18 14 06.4**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.96**	**87**	PN	**Pn**	**18 13 43.3**	**+1.4**
KRMN	**Karaman**	**2.03**	**57**	PN	**Pn**	**18 13 44.2**	**+1.2**
DOGA	**KONYA_Doganhis**	**2.06**	**12**	*i* P	**Pn**	**18 13 43.9**	**+0.5**
DOGA				*i* S	**Sn**	**18 14 08.9**	**-0.1**
DOGA				IAML		18 14 10.0	
	comp=N,36nm,0.6s						
DOGA				IAML		18 14 10.0	
	comp=E,20nm,0.5s						
IKL	**Isikli**	**2.08**	**85**	PN	**Pn**	**18 13 44.9**	**+1.5**
KONT	**Konya--Tatoy**	**2.10**	**28**	PN	**Pn**	**18 13 44.7**	**+0.8**
KONT	**Konya--Tatoy**	**2.10**	**28**	*i* P	**Pn**	**18 13 44.4**	**+0.5**
YVAC	**Isparta, Yalva**	**2.19**	**2**	*i* P	**Pn**	**18 13 45.4**	**+0.3**
YVAC				*i* S	**Sn**	**18 14 09.1**	**-2.9**
TAVA	**DENIZLI_Tavas**	**2.25**	**308**	*i* P	**Pb**	**18 13 49.5**	**0.0**
TAVA				*i* S	**Sn**	**18 14 12.5**	**-1.1**
MVOU	**Mavrovouni**	**2.30**	**117**	P	**Pn**	**18 13 45.5**	**-1.1**
LADK	**

THZ	**Tophouse**	**24.90**	**196**	P	**P**	**18 56 41.4**	**-0.6**
THZ				IAmb	IAmb	18 57 09.4	
	comp=Z,15nm,1.2s						
LTZ	**Lake Taylor**	**26.01**	**196**	P	**P**	**18 56 50.3**	**-1.5**
WKZ	**Wanaka**	**28.82**	**199**	P	**P**	**18 57 14.7**	**-1.6**
EIDS	**Eidsvold**	**29.28**	**250**	P	**P**	**18 57 18.6**	**-2.0**
EIDS				IAmb	IAmb	18 57 20.6	
	comp=Z,9.8nm,0.8s						
ARMA	**Armidale**	**29.95**	**240**	P	**P**	**18 57 26.6**	**+0.2**
WHZ	**Wether Hill Ro**	**30.11**	**199**	P	**P**	**18 57 27.0**	**-0.4**
RABL	**Rabaul**	**31.90**	**292**	P	**P**	**18 57 44.1**	**+1.0**
CTA	**Charters Tower**	**33.47**	**261**	P	**P**	**18 57 55.8**	**-0.6**
	comp=Z,9.7nm,0.6s,baz=93,slow=11,SNR=21						
CTAO	**Charters Tower**	**33.47**	**261**	P	**P**	**18 57 55.6**	**-0.6**
CTAO				IAmb	IAmb	18 57 56.5	
	comp=Z,11nm,0.7s						
CAN	**Canberra**	**33.71**	**233**	P	**P**	**18 57 58.2**	**0.0**
PMG	**Port Moresby**	**34.49**	**280**	P	**P**	**18 58 05.4**	**+0.5**
	comp=Z,32nm,0.8s,baz=80,slow=5.9,SNR=16						
PMG	**Port Moresby**	**34.49**	**280**	P	**P**	**18 58 04.7**	**-0.2**
JOHN	**Johnston Islan**	**35.53**	**15**	P	**P**	**18 58 13.5**	**+0.1**
COEN	**Coen**	**37.13**	**270**	P	**P**	**18 58 26.8**	**+0.1**
MANU	**Manus Island**	**37.13**	**291**	P	**P**	**18 58 27.2**	**+0.5**
MANU				IAmb	IAmb	18 58 28.2	
	comp=Z,10nm,0.9s						
TOO	**Toolangi**	**37.17**	**231**	P	**P**	**18 58 27.2**	**+0.5**
TOO				IAmb	IAmb	18 58 27.8	
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**18 58 38.8**	**+0.1**
	comp=Z,9.0nm,0.5s,baz=91,slow=9.7,SNR=20						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**18 58 39.0**	**+0.3**
JAY	**Jayapura**	**42.94**	**286**	P	**P**	**18 59 12.6**	**-0.5**
	comp=Z,14nm,0.7s,baz=133,slow=3.4,SNR=9.9						
BBOO	**Buckleboo**	**43.42**	**241**	P	**P**	**18 59 16.2**	**-0.2**
BBOO				IAmb	IAmb	18 59 16.6	
	comp=Z,10nm,0.6s						
WR0	**Warramunga Arr**	**44.46**	**260**	P	**P**	**18 59 23.4**	**-1.4**
WR0				IAmb	IAmb	18 59 43.8	
	comp=Z,14nm,1.3s						
WB0	**Warramunga Arr**	**44.62**	**260**	P	**P**	**18 59 24.8**	**-1.2**
WB2	**Warramunga Arr**	**44.64**	**260**	P	**P**	**18 59 24.9**	**-1.2**
WRA	**Warramunga Arr**	**44.65**	**260**	P	**P**	**18 59 24.9**	**-1.3**
	comp=Z,9.9nm,0.6s,baz=93,slow=7.1,SNR=171						
WRA	**Warramunga Arr**	**44.65**	**260**	P	**P**	**18 59 24.0**	**-2.2**
AS31	**Alice Springs**	**44.81**	**254**	P	**P**	**18 59 26.8**	**-0.6**
ASAR	**Alice Springs**	**44.81**	**254**	P	**P**	**18 59 26.9**	**-0.5**
	comp=Z,61nm,0.6s,baz=88,slow=8.5,SNR=1132						
ASAR				PcP	**PcP**	**19 00 56.0**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=95,slow=4.2,SNR=3.4						
ASAR	**Alice Springs**	**44.81**	**254**	P	**P**	**18 59 26.5**	**-0.9**
FORT	**Forrest**	**50.02**	**245**	P	**P**	**19 00 05.1**	**-1.1**
FAKI	**Fak Fak**	**50.61**	**281**	P	**P**	**19 00 10.3**	**-0.4**
FAKI				IAmb	IAmb	19 00 39.6	
	comp=Z,19nm,0.9s						
FITZ	**Fitzroy Crossi**	**53.05**	**261**	P	**P**	**19 00 27.9**	**-0.3**
FITZ				IAmb	IAmb	19 00 53.5	
	comp=Z,19nm,1.6s						
SOEI	**Soe**	**56.10**	**270**	P	**P**	**19 00 50.4**	**+0.7**
PSA00	**Pilbara Seismi**	**57.93**	**255**	P	**P**	**19 01 01.2**	**-0.8**
PSA00				IAmb	IAmb	19 01 01.7	
	comp=Z,12nm,0.7s						
PSA00	**Pilbara Seismi**	**57.93**	**255**	P	**P**	**19 01 00.7**	**-1.2**
PSA00				IAmb	IAmb	19 01 21.3	
	comp=Z,2.7nm,0.8s						
MMRI	**Maumere**	**58.32**	**271**	P	**P**	**19 01 04.1**	**-0.6**
MMRI				IAmb	IAmb	19 01 05.4	
	comp=Z,20nm,0.8s						
NWAO	**Narrogin (SRO)**	**59.22**	**242**	P	**P**	**19 01 09.6**	**-0.8**
NWAO				IAmb	IAmb	19 01 38.1	
	comp=Z,28nm,1.4s						
NWAO	**Narrogin (SRO)**	**59.22**	**242**	P	**P**	**19 01 09.6**	**-0.8**
NWAO				IAmb	IAmb	19 01 38.1	
	comp=Z,25nm,1.4s						
MORW	**Morawa**	**60.49**	**246**	P	**P**	**19 01 17.6**	**-1.3**
MORW				IAmb	IAmb	19 01 36.6	
	comp=Z,36nm,1.4s						
TOLI2	**Tolitoli**	**62.75**	**281**	P	**P**	**19 01 34.3**	**+0.5**
GIRL	**Giralia**	**62.91**	**253**	P	**P**	**19 01 35.4**	**+0.6**
JAGI	**Jajag, Banyuwa**	**66.06**	**269**	P	**P**	**19 01 53.3**	**-1.5**
UGM	**Wanagama**	**69.67**	**268**	P	**P**	**19 02 16.2**	**-0.5**
SSLB	**Suanglung**	**72.27**	**303**	P	**P**	**19 02 30.6**	**-1.0**
TPUB	**Ta-pu**	**72.29**	**302**	P	**P**	**19 02 31.0**	**-0.8**
KSM	**Kuching**	**72.71**	**277**	P	**P**	**19 02 35.0**	**+0.6**
KSM				IAmb	IAmb	19 02 35.7	
	comp=Z,13nm,0.8s						
PEA0B	**Petropavlovsk-**	**73.71**	**345**	P	**P**	**19 02 40.1**	**+0.9**
PEA0B				IAmb	IAmb	19 02 47.0	
	comp=Z,19nm,1.4s						
PETK	**Petropavlovsk-**	**73.71**	**345**	P	**P**	**19 02 39.2**	**0.0**
	comp=Z,1.4nm,0.7s,baz=86,slow=9.1,SNR=5.0						
PETK	**Petropavlovsk-**	**73.71**	**345**	P	**P**	**19 02 40.0**	**+0.8**
KMRM	**Mail Ridge**	**77.02**	**40**	P	**P**	**19 03 00.1**	**+2.2**
YBH	**Yreka Blue Hor**	**78.53**	**39**	P	**P**	**19 03 07.5**	**+1.4**
	comp=Z,2.5nm,0.6s,baz=214,slow=1.5,SNR=5.5						
YBH	**Yreka Blue Hor**	**78.53**	**39**	P	**P**	**19 03 07.3**	**+1.2**
YBH				IAmb	IAmb	19 03 30.5	
	comp=Z,17nm,1.5s						
SLBS	**Sierra La Lagu**	**78.55**	**60**	P	**P**	**19 03 08.9**	**+2.4**
SLBS				IAmb	IAmb	19 03 10.0	
	comp=Z,20nm,1.5s						
WAKR	**Walker**	**78.72**	**43**	P	**P**	**19 03 09.2**	**+1.9**
BEKR	**Beckworth**	**78.89**	**42**	P	**P**	**19 03 09.7**	**+1.5**
HUMO	**Hull Mountain**	**78.90**	**38**	P	**P**	**19 03 10.0**	**+2.0**
HUMO				IAmb	IAmb	19 03 19.4	
	comp=Z,18nm,1.6s						
PNTR	**Pine Nut**	**78.94**	**43**	P	**P**	**19 03 10.2**	**+1.7**
PNTR				IAmb	IAmb	19 03 10.9	
	comp=Z,8.8nm,0.9s						
YERR	**Yerington**	**79.11**	**43**	P	**P**	**19 03 11.1**	**+1.7**
YERR				IAmb	IAmb	19 03 11.1	
	comp=Z,4.9nm,0.6s						
PIX	**Pinacate**	**79.33**	**52**	P	**P**	**19 03 12.0**	**+1.6**
CN2	**Changchun**	**80.06**	**322**	*eP*	**P**	**19 03 14.8**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MOD	**Modoc Plateau**	**80.09**	**40**	P	**P**	**19 03 15.6**	**+1.2**
MOD				IAmb	IAmb	19 03 16.5	
	comp=Z,5.4nm,0.7s						
K05A	**Summer Lake**	**80.20**	**39**	P	**P**	**19 03 16.7**	**+1.7**
K05A				IAmb	IAmb	19 03 17.1	
	comp=Z,7.3nm,0.7s						
CNPM	**China Poot**	**80.30**	**14**	P	**P**	**19 03 15.4**	**+0.5**
BRLK	**Bradley Lake**	**80.59**	**14**	P	**P**	**19 03 16.4**	**0.0**
H04A	**Detroit Lake**	**80.60**	**37**	P	**P**	**19 03 17.6**	**+0.8**
H04A				IAmb	IAmb	19 03 40.4	
	comp=Z,33nm,1.6s						
W13A	**Hualapai Mount**	**80.74**	**49**	P	**P**	**19 03 19.8**	**+1.8**
PINE	**Pine Mountain**	**80.79**	**38**	P	**P**	**19 03 19.4**	**+1.4**
PINE				IAmb	IAmb	19 03 20.1	
	comp=Z,8.7nm,0.9s						
SVW2	**Sparrevohn**	**80.86**	**11**	P	**P**	**19 03 17.7**	**0.0**
SVW2				IAmb	IAmb	19 03 39.7	
	comp=Z,10nm,1.3s						
PRN	**Pahroc Range**	**81.07**	**46**	P	**P**	**19 03 21.1**	**+1.5**
NLWA	**Neilton Lookou**	**81.32**	**34**	P	**P**	**19 03 21.9**	**+1.5**
NLWA				IAmb	IAmb	19 03 27.6	
	comp=Z,16nm,1.2s						
I07A	**Izee**	**81.81**	**39**	P	**P**	**19 03 24.7**	**+1.5**
BELA	**Belgrano 2**	**82.14**	**173**	P	**P**	**19 03 23.9**	**-0.3**
SUA	**Susitna One**	**82.15**	**13**	P	**P**	**19 03 24.3**	**-0.1**
PWL	**Port Wells**	**82.15**	**14**	P	**P**	**19 03 24.0**	**-0.4**
PWL				IAmb	IAmb	19 03 25.3	
	comp=Z,8.4nm,1.0s						
HIN	**Hinchinbrook I**	**82.20**	**15**	P	**P**	**19 03 24.7**	**+0.1**
CCUT	**Cedar City**	**82.31**	**47**	P	**P**	**19 03 27.6**	**+1.6**
SPR3	**Spring Creek 3**	**82.37**	**45**	P	**P**	**19 03 27.0**	**+0.6**
319A	**Douglas**	**82.42**	**54**			**19 03 28.3**	**+1.8**
319A				IAmb	IAmb	19 03 29.7	
	comp=Z,5.1nm,0.8s						
KNB	**Kanab**	**82.42**	**47**	P	**P**	**19 03 27.5**	**+1.0**
IPM	**Ipoh**	**82.45**	**277**	P	**P**	**19 03 26.7**	**-0.2**
IPM				IAmb	IAmb	19 03 27.6	
	comp=Z,5.6nm,0.6s						
PSUT	**Pine Spring**	**82.46**	**46**	P	**P**	**19 03 27.8**	**+1.2**
ELK	**Elko**	**82.66**	**43**	P	**P**	**19 03 27.6**	**-0.1**
	comp=Z,1.4nm,0.6s						
ELK	**Elko**	**82.66**	**43**	P	**P**	**19 03 28.2**	**+0.5**
WUAZ	**Wupatki**	**82.74**	**49**	P	**P**	**19 03 29.5**	**+1.4**
GHO	**Glory Hole Cre**	**82.82**	**14**	P	**P**	**19 03 27.8**	**0.0**
GHO				IAmb	IAmb	19 03 28.5	
	comp=Z,8.9nm,0.7s						
PPLA	**Purkeypile**	**83.15**	**12**	P	**P**	**19 03 29.7**	**+0.2**
PPLA				IAmb	IAmb	19 03 37.9	
	comp=Z,20nm,1.6s						

BMRM	**Bremner River**	**83.17**	**16**	P	**P**	**19 03 29.8**	**+0.3**
BMRM				IAmb	IAmb	19 03 48.4	
	comp=Z,8.1nm,1.3s						
SCM	**Sheep Creek Mo**	**83.24**	**14**	P	**P**	**19 03 30.0**	**+0.1**
SCM				IAmb	IAmb	19 03 30.6	
	comp=Z,8.2nm,0.7s						
KLU	**Klutina**	**83.29**	**15**	P	**P**	**19 03 29.4**	**-0.7**
TGL	**Tana Glacier**	**83.47**	**17**	P	**P**	**19 03 30.4**	**-0.6**
TGL				IAmb	IAmb	19 03 44.5	
	comp=Z,6.5nm,1.1s						
TABL	**Table Mountain**	**83.68**	**18**	P	**P**	**19 03 31.7**	**-0.5**
TABL				IAmb	IAmb	19 03 33.4	
	comp=Z,4.9nm,0.7s						
VRDI	**Verde Repeater**	**83.69**	**16**	P	**P**	**19 03 32.5**	**+0.3**
VRDI				IAmb	IAmb	19 03 38.4	
	comp=Z,14nm,1.6s						
N25K	**Chitina, Valde**	**83.72**	**16**	P	**P**	**19 03 32.7**	**+0.4**
N25K				IAmb	IAmb	19 03 32.9	
	comp=Z,4.8nm,0.7s						
GRNC	**Granite Creek**	**83.75**	**17**	P	**P**	**19 03 33.0**	**+0.4**
M24K	**Tolsona, Glenn**	**83.75**	**15**	P	**P**	**19 03 33.0**	**+0.7**
M24K				IAmb	IAmb	19 03 41.7	
	comp=Z,18nm,1.4s						
GLB	**Gilahina Butte**	**83.78**	**16**	P	**P**	**19 03 32.9**	**+0.4**
KTH	**Kantishna Hill**	**83.99**	**12**	P	**P**	**19 03 32.6**	**-1.0**
KTH				IAmb	IAmb	19 03 51.1	
	comp=Z,14nm,1.7s						
TRF	**Thorofare Moun**	**84.03**	**12**	P	**P**	**19 03 33.4**	**-0.4**
TRF				IAmb	IAmb	19 03 34.7	
	comp=Z,6.2nm,0.8s						
LOGN	**Logan Glacier**	**84.03**	**17**	P	**P**	**19 03 34.3**	**+0.4**
LOGN				IAmb	IAmb	19 04 01.6	
	comp=Z,8.0nm,1.1s						
BARN	**Barnard Glacie**	**84.04**	**17**	P	**P**	**19 03 34.3**	**+0.3**
BARN				IAmb	IAmb	19 03 35.7	
	comp=Z,8.4nm,1.3s						
CTGM	**Chitina Glacie**	**84.06**	**17**	P	**P**	**19 03 34.4**	**+0.4**
F10A	**Beach Ranch, E**	**84.20**	**38**	P	**P**	**19 03 35.2**	**+0.2**
F10A				IAmb	IAmb	19 03 36.6	
	comp=Z,4.7nm,0.8s						
RND	**Reindeer**	**84.29**	**13**	P	**P**	**19 03 34.7**	**-0.2**
RND				IAmb	IAmb	19 03 35.7	
	comp=Z,4.6nm,0.7s						
HLID	**Hailey**	**84.63**	**41**	P	**P**	**19 03 38.8**	**+1.5**
GSI	**Gunungsitoli**	**84.73**	**273**		**P**	**19 03 38.8**	**+0.6**
GSI				IAmb	IAmb	19 03 39.8	
	comp=Z,13nm,1.0s						
CCB	**Clear Creek Bu**	**85.60**	**13**	P	**P**	**19 03 40.1**	**-1.1**
CCB				IAmb	IAmb	19 03 41.5	
	comp=Z,7.1nm,1.3s						
ILAR	**Eielson Array**	**85.90**	**13**	P	**P**	**19 03 42.0**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=222,slow=5.1,SNR=11						
TX31	**Lajitas Ar. Si**	**85.98**	**58**	P	**P**	**19 03 44.5**	**+0.4**
TX32	**Lajitas Array**	**85.98**	**58**	P	**P**	**19 03 44.3**	**+0.3**
TX32				IAmb	IAmb	19 03 47.2	
	comp=Z,5.7nm,1.0s						
TXAR	**Lajitas Array**	**85.99**	**58**	P	**P**	**19 03 45.2**	**+1.2**
	comp=Z,3.3nm,0.8s,baz=219,slow=6.0,SNR=31						
HHC	**Hu-ho-hao-te**	**87.31**	**314**	*eP*	**P**	**19 03 47.8**	**-2.2**
HHC				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC				pmax	pmax		
	comp=Z,45nm,5.6s						
PD31	**Pinedale Array**	**87.35**	**43**	P	**P**	**19 03 50.0**	**-0.3**
PDAR	**Pinedale Array**	**87.35**	**43**	P	**P**	**19 03 50.9**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=218,slow=3.4,SNR=22						
PDAR	**Pinedale Array**	**87.35**	**43**	P	**P**	**19 03 50.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**88.92**	**290**	P	**P**	**19 03 58.2**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=129,slow=1.2,SNR=6.5						
INK	**Inuvik**	**91.90**	**15**	P	**P**	**19 04 10.3**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=210,slow=5.3,SNR=4.5						
YKA	**Yellowknife Ar**	**94.34**	**25**	P	**P**	**19 04 21.3**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=233,slow=4.1,SNR=6.1						
BRTR	**Keskin Array B**	**144.82**	**315**	PKP	**PKPdf**	**19 10 35.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=28,slow=3.4,SNR=2.1						
CLL	**Collm**	**145.49**	**347**	*e*PKPbc	**PKPbc**	**19 10 38.0**	**+0.1**
GERES	**GERESS Array B**	**147.64**	**345**	PKPbc	**PKPbc**	**19 10 43.9**	**0.0**
	comp=Z,0.8nm,0.7s,baz=34,slow=5.0,SNR=6.6						

NNC 24 19:17:42.1±7.8, 37.06N×71.19E, h0km, mb3.8, mpv3.5, 2C, Error ellipse: s-maj=80.1km s-min=50.7km az=141.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.06**	**355**	P		19 19 14.1	+1.2
	3.7nm,0.4s,baz=179,slow=14,SNR=144			⇑S			
KK31					Sn	19 20 25.5	+2.5
	1.2nm,0.3s,baz=186,slow=25,SNR=7.1						
AAK	**Ala-Archa**	**6.12**	**24**	⇑P		19 19 14.2	+0.3
	1.0nm,0.3s						
AAK				S			
	1.4nm,0.5s						
AB31	**Akbulak array**	**14.67**	**330**	P		19 21 06.9	-3.9
	0.3nm,0.4s,baz=132,slow=12,SNR=12						

*UCR **24** 19:19:50.5±1.9, 7.14N×81.93W, h31km±24km, mb4.8(NEIC)*
*UPA **24** 19:19:51.4±2.4, 7.61N×81.87W, h0km±5km, MW5.5*
*IDC **24** 19:19:51.4±0.6, 7.65N×81.76W, h0km, mb4.2/23, mb1 4.4/29, mb1mx4.4/46, mbtmp4.3/29, ML4.1/6, MS4.4/25, Ms1 4.4/25, ms1mx4.2/39, Error ellipse: s-maj=20.6km s-min=10.6km az=46.0*
*NEIC **24** 19:19:52.9±1.6, 7.64N±0.06×81.87W±0.05, h10km±1km, mb4.8/120, Error ellipse: s-maj=11.0km s-min=7.6km az=200.0*
*BJI **24** 19:19:52.5±0.0, 7.60N×81.80W, h15km, Ms4.9/1, Ms7 4.7/2*
*BGR **24** 19:19:53.1±0.0, 7.22N×81.28W, h10km, mb4.9, Ms4.4*
*GCMT **24** 19:19:55.9±0.1, 7.70N±0.01×81.85W±0.01, h12km, MW5.1/130, Moment Tensor Solution. s54,c76; s130,c203; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.83±.09; Mθθ 1.72±.10; Mϕϕ 0.10±.11; Mrθ 1.39±.27; Mθϕ 4.67±.07; Mrϕ 0.54±.26; Best double couple: Mo 4.92900×10^16 NP1:ϕs 5.00000°, δ 73.00000°, λ -177.00000°. NP2:ϕs 274.00000°, δ 87.00000°, λ -17.00000°. Principal axes: T 5.9120, Plg 10.0000°, Azm 320.0000°; N -1.9670, Plg 72.0000°, Azm 85.0000°; P -3.9460, Plg 14.0000°, Azm 228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 19:19:52.3±1.1, 7.60N±0.03×81.87W±0.02, h9km±7km, n401,σ1§30/420, mb4.8/79, MS4.3/20, 14C-45D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REME3	**Remedios, Chir**	**0.63**	**3**	*i*P	**Pg**	**19 20 04.8**	**+0.3**
REME3				*i* S	**Sn**	**19 20 16.0**	**-1.6**
GMAL	**Guarumal, Vera**	**0.65**	**75**	*i*P	**Pg**	**19 20 03.9**	**-1.1**
GMAL				*i* S	**Sb**	**19 20 14.6**	**-0.5**
NANC3	**Nancito, Chiri**	**0.65**	**12**	*i*P	**Pg**	**19 20 04.4**	**-0.5**
NANC3				*i* S	**Sb**	**19 20 14.6**	**-0.6**
RSUS3	**Rio de Jesus,**	**0.80**	**61**	*i*P	**Pg**	**19 20 07.0**	**-0.8**
RSUS3				*i* S	**Sb**	**19 20 19.5**	**+0.1**
MESA3	**La Mesa, Verag**	**0.87**	**51**	*i*P	**Pg**	**19 20 08.1**	**-0.9**
MESA3				*i* S	**Sb**	**19 20 21.7**	**+0.3**
MARI3	**Mariato, Verag**	**0.87**	**87**	*e*P	**Pg**	**19 20 08.4**	**-0.7**
MARI3				*i* S	**Sn**	**19 20 22.9**	**-0.8**
CHIR3	**Chiriqui UPA,**	**0.91**	**330**	*i*P	**Pg**	**19 20 09.0**	**-1.0**
CHIR3				*i* S	**Sb**	**19 20 22.9**	**+0.3**
PEDE3	**Pedregal, Chir**	**0.95**	**325**	*i*P	**Pg**	**19 20 09.7**	**-0.9**
LOCO3	**Loma Colorada,**	**0.97**	**326**	*i*P	**Pg**	**19 20 10.0**	**-1.0**
LOMA3	**Las Lomas, Chi**	**0.98**	**328**	*i*P	**Pg**	**19 20 10.3**	**-0.8**
CNAZ3	**Canazas, Verag**	**0.99**	**41**	*i*P	**Pg**	**19 20 09.5**	**-1.9**
CNAZ3				*i* S	**Sb**	**19 20 24.6**	**-0.3**
DVD	**David**	**1.01**	**325**	⇑*i*P	**Pg**	**19 20 10.7**	**-1.1**
DVD				*i* S	**Sb**	**19 20 25.7**	**+0.2**
STIA3	**Santiago, Vera**	**1.02**	**61**	⇑*i*P	**Pg**	**19 20 10.8**	**-1.1**
STIA3				*i* S	**Sn**	**19 20 26.0**	**-1.3**
GUAL3	**Gualaca, Chiri**	**1.02**	**335**	⇑*e*P	**Pg**	**19 20 10.6**	**-1.3**
CACAO	**El Cacao, Vera**	**1.03**	**104**	⇑*e*P	**Pg**	**19 20 10.8**	**-1.3**
CACAO				*i* S	**Sn**	**19 20 26.6**	**-1.0**
SFRA3	**San Francisco,**	**1.10**	**54**	*i* P	**Pg**	**19 20 11.8**	**-1.7**
SFRA3				*e*S	**Sn**	**19 20 28.4**	**-0.9**
LIMO3	**Limones**	**1.11**	**297**	*i*P	**Pb**	**19 20 12.4**	**-1.2**
PSOM3	**Paja de Sombre**	**1.17**	**337**	*i*P	**Pb**	**19 20 12.9**	**-1.9**
PSOM3				*e*S	**Sb**	**19 20 30.0**	**-0.1**
SAFE3	**Santa Fe, Vera**	**1.20**	**41**	*i*P	**Pb**	**19 20 13.2**	**-2.1**
SBAR3	**San Bartolo, C**	**1.23**	**306**	*e*P	**Pn**	**19 20 14.1**	**-1.7**

CALO3	**Calobre, Verag**	**1.25**	**55**	⇑*e*P	**Pn**	**19 20 14.0**	**-1.9**
CALO3				*i* S	**Sn**	**19 20 32.4**	**-0.5**
PESE3	**Pese, Herrera**	**1.28**	**76**	⇓*i*P	**Pn**	**19 20 14.8**	**-1.7**
PESE3				*i* S	**Sn**	**19 20 33.2**	**-0.6**
BCO2	**Palmira**	**1.29**	**330**	⇓*i*P	**Pn**	**19 20 15.4**	**-1.4**
BCO2				*i* S	**Sn**	**19 20 35.2**	**+0.9**
LNBQ3	**Los Naranjos,**	**1.31**	**335**	⇓*e*P	**Pn**	**19 20 15.3**	**-1.7**
LNBQ3				*i* S	**Sg**	**19 20 36.7**	**+2.0**
CCOL	**Caracol de Cor**	**1.36**	**306**	*e*P	**Pn**	**19 20 17.0**	**-0.5**
CHGR2	**Aguacate**	**1.36**	**348**	⇓*e*P	**Pn**	**19 20 16.3**	**-1.2**
CHGR2				*e*S	**Sg**	**19 20 36.4**	**+0.3**
CDITO	**Canoas**	**1.39**	**314**	⇑*e*P	**Pn**	**19 20 15.7**	**-2.3**
BC3P	**Paso Ancho**	**1.42**	**329**	⇓*e*P	**Pn**	**19 20 16.9**	**-1.5**
BRU2	**Volcan**	**1.44**	**326**	⇓*i*P	**Pn**	**19 20 18.0**	**-0.7**
BRU2				*i* S	**Sg**	**19 20 39.1**	**+0.4**
BRU2	**Volcan**	**1.44**	**326**	*e*P	**Pn**	**19 20 18.1**	**-0.7**
CHIT3	**Chitre**	**1.48**	**76**	⇓*i*P	**Pn**	**19 20 17.8**	**-1.4**
MLIR3	**Monte Lirio, C**	**1.52**	**322**	⇓*e*P	**Pn**	**19 20 18.9**	**-0.9**
AZU	**Azuero**	**1.59**	**83**	⇓*i*P	**Pn**	**19 20 19.5**	**-1.2**
AZU				*i* S	**Sb**	**19 20 42.1**	**-0.1**
AZU	**Azuero**	**1.59**	**83**	*e*P	**Pn**	**19 20 18.9**	**-1.9**
AZU				*e*S	**Sn**	**19 20 41.1**	**-0.3**
AZU	**Azuero**	**1.59**	**83**	⇓*i*P	**Pn**	**19 20 19.5**	**-1.2**
AZU				*e*S	**Sb**	**19 20 41.4**	**-0.8**
EDSV	**San Vito**	**1.63**	**318**	*e*P	**Pb**	**19 20 22.3**	**-0.4**
EDSV				*e*S	**Sg**	**19 20 47.4**	**+2.5**
ACHO3	**Achotines, Los**	**1.69**	**96**	⇓*i*P	**Pn**	**19 20 21.4**	**-0.7**
ACHO3				*i* S	**Sg**	**19 20 45.8**	**-1.0**
PTJ1	**Puerto Jimnez**	**1.70**	**303**	*e*P	**Pn**	**19 20 21.4**	**-0.7**
PTJ1	**Puerto Jimnez**	**1.70**	**303**	*e*P	**Pn**	**19 20 21.8**	**-0.4**
PCRI3	**Pocri, Los San**	**1.74**	**88**	⇓*e*P	**Pn**	**19 20 22.0**	**-0.7**
PCRI3				*i* S	**Sg**	**19 20 47.3**	**-0.9**
PNME	**Penonome**	**1.76**	**60**	⇓*i*P	**Pn**	**19 20 22.2**	**-0.8**
PNME				*i* S	**Sb**	**19 20 46.7**	**-0.4**
PNME	**Penonome**	**1.76**	**60**	⇓*e*P	**Pn**	**19 20 22.3**	**-0.8**
LPLA	**Las Palmas La**	**1.81**	**322**	*e*P	**Pn**	**19 20 22.9**	**-1.0**
LPLA				*e*S	**Sb**	**19 20 49.0**	**+0.2**
POTG	**Potrero Grande**	**1.90**	**320**	*e*P	**Pn**	**19 20 24.0**	**-1.0**
POTG				*e*S	**Sg**	**19 20 52.9**	**-0.7**
CNI2	**El Empalme, Bo**	**1.91**	**342**	⇓*e*P	**Pn**	**19 20 25.7**	**+0.6**
RIOS	**Rincon, Osa**	**1.96**	**304**	*e*P	**Pn**	**19 20 24.1**	**-1.7**
RIOS	**Rincon, Osa**	**1.96**	**304**		**Pn**	**19 20 23.8**	**-2.0**
RIOS					Sn	**19 20 51.8**	**+1.2**
VTON	**El Valle, Cocl**	**2.01**	**60**	⇑*i*P	**Pn**	**19 20 26.8**	**+0.3**
VTON				*i* S	**Sb**	**19 20 53.5**	**-0.8**
EDPN	**Palmar Norte**	**2.08**	**311**	*e*P	**Pn**	**19 20 26.9**	**-0.4**
EDBA	**Buenos Aires**	**2.09**	**318**	*e*P	**Pn**	**19 20 28.1**	**+0.6**
DRK0	**Durika**	**2.14**	**321**	⇓*e*P	**Pn**	**19 20 28.3**	**-0.2**
DRK0	**Durika**	**2.14**	**321**	*e*P	**Pn**	**19 20 28.3**	**-0.2**
DRK0				*e*S	**Sb**	**19 20 58.7**	**+0.5**
PEZE	**Perez Zeledon,**	**2.52**	**315**	*e*P	**Pn**	**19 20 33.1**	**-0.4**
PEZE	**Perez Zeledon,**	**2.52**	**315**		**Pn**	**19 20 33.2**	**-0.4**
PEZE					Sn	**19 21 05.2**	**+0.7**
SPIL	**Cristobal, Col**	**2.53**	**49**	⇓*e*P	**Pn**	**19 20 35.4**	**+1.7**
BCIP	**Isla Barro Col**	**2.54**	**52**	⇓*i*P	**Pn**	**19 20 33.9**	**0.0**
BCIP	**Isla Barro Col**	**2.54**	**52**	*e*P	**Pn**	**19 20 33.8**	**0.0**
BCIP	**Isla Barro Col**	**2.54**	**52**		**Pn**	**19 20 34.2**	**+0.3**
BCIP					Sn	**19 21 08.4**	**-1.2**
BCIP	**Isla Barro Col**	**2.54**	**52**	⇓*i*P	**Pn**	**19 20 33.9**	**0.0**
BCIP				*e*S	**Sb**	**19 21 08.3**	**-1.3**
EDDO	**Dominical**	**2.57**	**310**	*e*P	**Pn**	**19 20 32.6**	**-1.6**
ARRA3	**Arraijan, Pana**	**2.58**	**58**	⇑*i*P	**Pn**	**19 20 35.6**	**+1.3**
ARRA3

NORC	Norcasia	7.24	106	*e*P		Pn	19 21 40.1	+1.6	
PTBC	PUERTO BERRIO,	7.43	98	*e*P		Pn	19 21 43.1	+2.1	
ORTC	Ortega, Tolima	7.54	119	*e*P		Pn	19 21 42.9	+0.3	
SOTA	Rioblanco	7.54	136	*e*P		Pn	19 21 44.2	+1.1	
MARP	Paez Belalcaza	7.55	128	*e*P		Pn	19 21 46.9	+3.9	
PCON	Cinco Dias	7.56	134	*e*P		Pn	19 21 45.6	+2.3	
GCUF	Volcan Galeras	7.77	144	*e*P		Pn	19 21 47.2	+1.0	
SMLC	San Martn de	7.81	81	*e*P		Pn	19 21 56.3	+10	
SPBC	San Pablo de B	7.98	104	*e*P		Pn	19 21 51.7	+3.0	
ROSC	El Rosal	7.99	110	Pn		Pn	19 21 50.5	+1.5	
	3.5nm,0.3s,baz=107,slow=3.9,SNR=25								
ROSC				Sn		Sn	19 23 20.1	+0.3	
	1.3nm,0.3s,baz=311,slow=22,SNR=1.1								
ROSC				LR		LR	19 24 31.0		
	comp=Z,6µm,20.7s,baz=278,slow=35								
ROSC	El Rosal	7.99	110			Pn	19 21 51.3	+2.2	
ROSC	El Rosal	7.99	110	*e*P		Pn	19 21 53.2	+4.1	
BETC	Betania	8.05	127	*e*P		Pn	19 21 50.2	+0.5	
OTAV	Otavalo	8.07	155			Pn	19 21 50.9	+0.7	
OTAV	Otavalo	8.07	155	*e*P		Pn	19 21 50.1	-0.1	
OTAV	Otavalo	8.07	155	*e*P		Pn	19 21 50.9	+0.7	
BRRC	Barranca, Sant	8.11	93	*e*P		Pn	19 21 50.5	+0.2	
GARC	Garzon, Huila	8.32	130	*e*P		Pn	19 21 54.1	+0.7	
TGUH	Tegucigalpa,Un	8.33	321			Pn	19 21 56.4	+2.9	
TGUH	Tegucigalpa,Un	8.33	321	*e*P		Pn	19 21 59.5	+6.0	
SMRC	Santa Marta, M	8.33	64	*e*P		Pn	19 21 44.8	-8.7	
OCAC	Ocana	8.49	85	*e*P		Pn	19 21 57.9	+2.1	
BARC	Barichara	8.68	96	*e*P		Pn	19 22 00.0	+1.6	
VILC	Villavicencio,	8.84	113	*e*P		Pn	19 22 05.0	+4.5	
RUSC	La Rusia	8.89	100	*e*P		Pn	19 22 04.4	+2.9	
PAMC	Pamplona, Colo	9.10	91	*e*P		Pn	19 22 05.1	+0.7	
CRJC	Cerrejon, Guaj	9.50	68	*e*P		Pn	19 22 09.1	-0.5	
MACC	Macarena, Meta	9.65	124	*e*P		Pn	19 22 14.1	+2.5	
MTO3	Montecristo	9.99	313			Pn	19 22 16.4	+0.1	
TAMC	Tame, Arauca	10.07	96	*e*P		Pn	19 22 19.9	+2.6	
PTGC	Puerto Gaitan,	10.26	109	*e*P		Pn	19 22 20.4	+0.6	
GUVC	San Jose del G	10.48	118	*e*P		Pn	19 22 22.7	-0.3	
URIC	Uribia, Colomb	10.56	67	*e*P		Pn	19 22 24.0	+0.1	
APG	El Apazote	11.19	312	Pn		Pn	19 22 35.6	+2.8	
	1.1nm,0.3s,baz=171,slow=10,SNR=10								
SDV	Santo Domingo	11.19	83	Pn		Pn	19 22 33.3	+0.5	
	1.7nm,0.3s,baz=262,slow=8.5,SNR=11								
SDV				Sn		Sn	19 24 36.8	-1.6	
	2.3nm,0.3s,baz=44,slow=18,SNR=2.3								
SDV				LR		LR	19 28 11.8		
	comp=Z,3µm,18.2s,baz=262,slow=45								
SDV	Santo Domingo	11.19	83			Pn	19 22 32.1	-0.8	
SDV	Santo Domingo	11.19	83	*e*P		Pn	19 22 34.9	+2.0	
SDV	Santo Domingo	11.19	83	*e*P		Pn	19 22 33.9	+1.0	
MTDJ	Mount Denham	11.38	21			Pn	19 22 34.7	-0.6	
MTDJ	Mount Denham	11.38	21	*e*P		Pn	19 22 34.4	-0.8	
FSCY	Frank Sound, G	11.66	3	Pn		Pn	19 22 40.4	+1.3	
WBCY	West Bay, Gran	11.72	2			Pn	19 22 41.4	+1.6	
LCCY	Blossom Villag	12.12	8			Pn	19 22 44.9	-0.5	
CBCY	The Bluff, Cay	12.24	9	Pn		Pn	19 22 47.5	+0.5	
CCIG	Comitan	13.24	312	Pn		Pn	19 23 01.4	+0.6	
GTBY	Guantanamo Bay	13.90	27			Pn	19 23 10.7	+1.1	
GTBY	Guantanamo Bay	13.90	27	*e*P		Pn	19 23 11.0	+1.4	
JAKH	Jacmel	13.95	40	Pn		Pn	19 23 09.5	-0.9	
TEIG	Tepich	14.01	334	LR		LR	19 28 39.7		
	comp=Z,2µm,19.3s,baz=148,slow=38								
LGNH	Logne	14.10	39	Pn		Pn	19 23 11.2	-1.2	
ATAH	Atahualpa	15.04	167	Pn		P	19 23 28.8	-2.3	
	0.5nm,0.3s,baz=338,slow=14,SNR=6.3								
ATAH				LR		LR	19 28 37.0		
	comp=Z,4µm,19.6s,baz=346,slow=35								
SOR	Soroa	15.15	356	P		P	19 23 30.6	-1.2	
SOR				IAmb		IAmb	19 23 42.0		
	comp=Z,98nm,1.8s								
SDDR	Presa de Saban	15.29	41			Pn	19 23 28.5	-0.1	
SDDR	Presa de Saban	15.29	41	*e*P		Pn	19 23 30.3	+1.8	
BANI	Banica	15.51	45			Pn	19 23 31.3	-0.3	
CMIG	Matias Romero	15.82	308	Pn		P	19 23 38.1	-1.3	
	comp=Z,0.4nm,0.3s,baz=117,slow=8.0,SNR=6.2								
SC01	Santiago de lo	15.97	41			P	19 23 42.3	+1.2	
DR12	Loma Pena Alta	16.46	46	P		Pn	19 23 42.4	-1.4	
PCRV	Puerto La Cruz	17.22	80	P		Pn	19 23 52.5	-0.8	
	comp=Z,0.7nm,0.3s,baz=285,slow=6.6,SNR=4.3								
GRTK	Grand Turk	17.29	36	P		P	19 23 56.2	+0.7	
MLPR	Magueyes Islan	17.74	53	P		Pn	19 23 59.3	-0.4	
MLPR				IAmb		IAmb	19 24 13.1		
	comp=Z,219nm,1.9s								
CZSB	Cruzeiro do Su	17.76	149	*e*P		P	19 24 01.2	+0.4	
ICMP	Isla Caja de M	18.11	54			Pn	19 24 02.1	-2.2	
ICMP				IAmb		IAmb	19 24 09.1		
	comp=Z,72nm,1.2s								
OBIP	Obispado Ponce	18.13	54	P		P	19 24 04.5	-0.4	
AOPR	Arecibo Observ	18.18	53	P		Pn	19 24 04.8	-0.4	
061Z	Ochoppi	18.19	3	P		Pn	19 24 05.0	-0.3	
061Z				IAmb		IAmb	19 24 22.5		
	comp=Z,62nm,0.9s								
IGPR	InterUniversit	18.49	55	P		Pn	19 24 09.1	+0.1	
SJG	San Juan	18.53	54	P		Pn	19 24 09.9	+0.4	
	comp=Z,4.2nm,0.3s,baz=232,slow=8.1,SNR=8.1								
SJG				LR		LR	19 30 55.9		
	comp=Z,541nm,21.7s,baz=240,slow=36								
SJG	San Juan	18.53	54	P		Pn	19 24 09.8	+0.3	
SJG	San Juan	18.53	54	*e*P		P	19 24 06.5	-2.8	
PDPR	Patillas Dam,	18.59	55	P		P	19 24 09.4	-0.5	
GCPR	Guaynabo City	18.69	54	P		Pn	19 24 11.3	-0.2	
GCPR				IAmb		IAmb	19 24 17.0		
	comp=Z,105nm,1.2s								
HUMP	Col San Antoni	18.79	55	P		Pn	19 24 12.4	-0.3	
CBYP	Canovanas	18.85	54	P		P	19 24 12.5	-0.4	
CBYP				IAmb		IAmb	19 24 15.9		
	comp=Z,131nm,1.9s								
MTP	Monte Pirata	19.01	55	P		Pn	19 24 14.7	-0.5	
TLIG	Tlapa	19.05	303	P		P	19 24 15.2	0.0	
CUPR	Culebra, Puert	19.33	55			P	19 24 18.1	-0.1	
CUPR				IAmb		IAmb	19 24 26.5		
	comp=Z,67nm,1.2s								
CDVI	St. Croix	19.48	57	P		P	19 24 19.2	-0.5	
CDVI				IAmb		IAmb	19 24 36.4		
	comp=Z,72nm,0.9s								
NNA	Nana	20.09	166	P		P	19 24 26.6	+0.1	
	comp=Z,7.1nm,0.6s,baz=280,slow=11,SNR=2.1								
NNA				LR		LR	19 31 27.4		
	comp=Z,935nm,21.8s,baz=326,slow=35								
NNA	Nana	20.09	166	P		P	19 24 26.0	-0.5	
NNA				IAmb		IAmb	19 24 32.5		
	comp=Z,83nm,1.8s								
GRGR	Grenville	20.41	76	P		Pn	19 24 31.3	-0.8	
SVB	Belmont	21.04	73	P		P	19 24 38.3	+1.5	
DLPL	La Plaine	21.61	67	P		P	19 24 42.2	-0.7	
ANWB	Willy Bob	21.98	61	P		P	19 24 46.6	-0.3	
MOIG	Morelia	22.25	305	P		P	19 24 50.2	+0.1	
ETMB	Extrema	23.29	138	*e*P		P	19 25 01.1	+0.4	
PTGA	Pitinga	23.36	110	P		P	19 25 02.7	+1.3	
	comp=Z,11nm,0.8s,baz=298,slow=12,SNR=13								
PTGA				LR		LR	19 34 15.2		
	comp=Z,2µm,18.7s,baz=293,slow=37								
PTGA	Pitinga	23.36	110	P		P	19 25 02.2	+0.8	
SAML	Samuel	24.84	131	P		P	19 25 13.7	-1.6	
SAML				IAmb		IAmb	19 25 33.5		
	comp=Z,22nm,0.9s								
SAML	Samuel	24.84	131	*e*P		P	19 25 15.1	-0.3	
SAML	Samuel	24.84	131	*e*P		P	19 25 15.3	0.0	
152A	Waverly Hall	25.09	354	P		P	19 25 18.7	+1.3	
GOGA	Godfrey	25.73	357	P		P	19 25 24.5	+1.3	
LPAZ	La Paz	27.35	150	P		P	19 25 40.9	+2.2	
	comp=Z,1.8nm,0.8s,baz=318,slow=7.3,SNR=7.5								
LPAZ				LR		LR	19 38 22.5		
	comp=Z,1µm,20.8s,baz=322,slow=41								
LPAZ	La Paz	27.35	150	P		P	19 25 40.6	+1.9	
MDP	Montagnes des	29.15	93	LR		LR	19 37 56.8		
	comp=Z,2µm,18.9s,baz=272,slow=37								
WHAR	Wooly Hollow	29.17	342	P		P	19 25 53.9	-0.2	
WHAR				IAmb		IAmb	19 25 57.1		
	comp=Z,49nm,1.6s								
MNMC	Minye Minye	29.19	156	P		P	19 25 55.2	+0.5	
W39A	Magazine	29.57	340	P		P	19 25 58.0	+0.4	
LCAR	Lake Charles	29.58	345	P		P	19 25 56.1	-1.6	
LCAR				IAmb		IAmb	19 26 01.1		
	comp=Z,13nm,0.8s								
FCAR	Ozark Folk Cen	29.68	343	P		P	19 25 58.5	-0.2	
FCAR				IAmb		IAmb	19 26 01.0		
	comp=Z,37nm,1.6s								
TXAR	Lajitas Array	29.80	319	P		P	19 26 02.3	+2.4	
	comp=Z,0.6nm,0.8s,baz=117,slow=7.2,SNR=5.3								
TXAR				LR		LR	19 39 40.0		
	comp=Z,483nm,20.9s,baz=0.0,slow=40								
S54A	Dingess, Beckl	30.07	1	P		P	19 26 03.2	+1.1	
S54A				IAmb		IAmb	19 26 42.9		
	comp=Z,18nm,1.1s								
NPGB	Novo Progresso	30.18	118	*e*P		P	19 26 02.9	-0.4	
U40A	Yellville	30.33	342	P		P	19 26 05.0	+0.6	
T42A	Van Buren	30.48	345	P		P	19 26 04.9	-0.7	
T42A				IAmb		IAmb	19 26 09.2		
	comp=Z,8.7nm,0.8s								
R53A	Hurricane	30.60	360	P		P	19 26 06.6	-0.1	
PB01	IPOC Station P	30.95	157	P		P	19 26 10.5	+0.4	
PB01				IAmb		IAmb	19 26 14.6		
	comp=Z,12nm,1.1s								
PB07	IPOC Station P	31.43	158	P		P	19 26 14.7	+0.3	
PB07				IAmb		IAmb	19 26 22.4		
	comp=Z,17nm,1.3s								
CCM	Cathedral Cave	31.49	346	P		P	19 26 14.4	-0.1	
CCM				IAmb		IAmb	19 26 18.1		
	comp=Z,11nm,0.8s								
S39A	Bolivar	31.71	343	P		P	19 26 17.1	+0.6	
S39A				IAmb		IAmb	19 27 21.3		
	comp=Z,26nm,1.5s								
PB09	IPOC Station P	31.73	157	P		P	19 26 18.3	+1.3	
PB09				IAmb		IAmb	19 26 25.5		
	comp=Z,14nm,1.1s								
PTLB	Pontes e Lacer	32.12	136	*e*P		P	19 26 19.8	-0.5	
MNTX	Cornudas Mount	32.48	321	P		P	19 26 23.2	-0.2	
MNTX				IAmb		IAmb	19 26 36.5		
	comp=Z,18nm,1.8s								
LVC	Limon Verde	32.59	157	P		P	19 26 25.5	+0.7	
LVC				IAmb		IAmb	19 26 28.8		
	comp=Z,16nm,1.3s								
LVC	Limon Verde	32.59	157	*e*P		P	19 26 26.1	+1.2	
MVL	Millersville	32.64	8	P		P	19 26 25.0	+0.4	
MVL				IAmb		IAmb	19 26 32.2		
	comp=Z,16nm,1.0s								
LUPA	Lehigh Univers	33.37	9	P		P	19 26 32.4	+1.3	
LUPA				IAmb		IAmb	19 26 39.4		
	comp=Z,21nm,1.0s								
M57A	Sunshine Farm,	33.86	6	P		P	19 26 36.6	+1.3	
M56A	Emporium	33.90	5	P		P	19 26 35.9	+0.2	
TRNY	Table Rock, Ra	34.09	10	P		P	19 26 38.0	+0.7	
KSPA	Keystone Colle	34.25	8	P		P	19 26 39.7	+1.1	
KSPA				IAmb		IAmb	19 26 50.5		
	comp=Z,27nm,1.2s								
GO02	Mina Guanaco	34.69	160	P		P	19 26 43.8	+0.8	
GO02				IAmb		IAmb	19 26 48.3		
	comp=Z,13nm,1.1s								
M63A	Gales Ferry	34.78	13	P		P	19 26 45.0	+1.8	
319A	Douglas	34.84	316	P		P	19 26 46.9	+2.9	
BINY	Binghamton	34.85	8	P		P	19 26 44.6	+0.7	
ANMO	Albuquerque	35.37	324	P		P	19 26 49.1	+0.4	
	comp=Z,1.8nm,0.7s,baz=131,slow=6.5,SNR=3.1								
K58A	Earlville	35.45	8	P		P	19 26 49.9	+0.9	
K58A				IAmb		IAmb	19 26 54.8		
	comp=Z,14nm,0.9s								
J56A	Wolcott	35.81	6	IAmb		IAmb	19 27 00.4		
	comp=Z,14nm,1.0s								
J57A	Williamstown	36.04	7	P		P	19 26 54.7	+0.7	
SNDB	Serra Nova Dou	36.09	122	*e*P		P	19 26 54.6	-0.3	
J59A	Piesco	36.30	9	IAmb		IAmb	19 27 05.9		
	comp=Z,20nm,1.2s								
AC02	Maricunga	36.39	161	P		P	19 26 59.2	+1.4	
AC02				IAmb		IAmb	19 27 05.1		
	comp=Z,22nm,1.1s								
PECO	Prince Edward	36.45	6	IAmb		IAmb	19 27 06.9		
	comp=Z,18nm,1.2s								
SADO	Sadowa	37.10	3	P		P	19 27 01.8	-1.4	
	comp=Z,2.8nm,0.5s,baz=299,slow=19,SNR=5.5								
SADO	Sadowa	37.10	3	IAmb		IAmb	19 27 11.9		
	comp=Z,27nm,1.6s								
VT1	Waterbury	37.45	11	P		P	19 27 06.3	+0.3	
214A	Organ Pipe Nat	37.63	314	P		P	19 27 09.0	+1.2	
214A				IAmb		IAmb	19 27 14.4		
	comp=Z,32nm,1.7s								
AC05	El Transito	37.91	163	P		P	19 27 11.0	+0.7	
AC05				IAmb		IAmb	19 27 14.8		
	comp=Z,16nm,1.0s								
AQDB	Aquidauana	37.95	138	*e*P		P	19 27 10.3	-0.3	
PEXB	Peixe	38.69	120	*e*P		P	19 27 17.8	+0.8	
G62A	West of Eustis	38.75	13	IAmb		IAmb	19 27 24.3		
	comp=Z,20nm,1.1s								
GO04	Tololo Observa	39.03	165	P		P	19 27 20.4	+0.6	
GO04				IAmb		IAmb	19 27 24.7		
	comp=Z,28nm,1.1s								
ROSB	Rosrio	39.08	104	*e*P		P	19 27 20.8	+0.6	
CO03	El Pedregal	39.69	165	IAmb		IAmb	19 27 30.1		
	comp=Z,25nm,1.1s								
CO02	Combarbal	39.96	165	IAmb		IAmb	19 27 31.8		
	comp=Z,32nm,0.9s								
PQI	Presque Isle	40.71	15	P		P	19 27 33.6	+0.3	
PQI				IAmb		IAmb	19 27 38.8		
	comp=Z,36nm,1.4s								
BDFB	Brasilia	40.72	125	P		P	19 27 33.3	-0.6	
	comp=Z,2.3nm,0.7s,baz=254,slow=12,SNR=2.4								
BDFB				LR		LR	19 45 02.8		
	comp=Z,2µm,18.3s,baz=300,slow=37								
LMN	Caledonia Moun	40.86	18	IAmb		IAmb	19 27 39.8		
	comp=Z,17nm,0.9s								
ZON	Zonda	40.92	163	P		P	19 27 36.5	+1.2	
ZON				IAmb		IAmb	19 27 40.3		
	comp=Z,44nm,1.6s								
XPFO	Pion Flat	41.11	314	P		P	19 27 37.5	+0.5	
XPFO				IAmb		IAmb	19 27 42.8		
	comp=Z,32nm,1.6s								
PFO	Pinyon Flats O	41.11	314	P		P	19 27 39.0	+1.9	
	comp=Z,3.9nm,0.7s,baz=91,slow=7.8,SNR=6.1								
PFO	Pinyon Flats O	41.11	314	P		P	19 27 37.7	+0.6	
PFO				IAmb		IAmb	19 27 42.8		
	comp=Z,28nm,1.6s								
CPUP	Villa Florida	41.29	146	P		P	19 27 36.8	-1.6	
	comp=Z,2.7nm,0.9s,baz=327,slow=11,SNR=3.5								
CPUP				LR		LR	19 47 41.4		
	comp=Z,989nm,19.0s,baz=322,slow=40								
VA03	San Esteban	41.56	166	P		P	19 27 41.1	+0.5	
VA03				IAmb		IAmb	19 27 45.0		
	comp=Z,26nm,1.1s								
BATG	Bathurst New B	41.78	16	P		P	19 27 42.7	+0.6	
IPMB	Ipameri, GO	41.84	128	*e*P		P	19 27 42.1	-1.0	
PDAR	Pinedale Array	42.67	330	P		P	19 27 50.0	+0.2	
	comp=Z,0.2nm,0.4s,baz=63,slow=36,SNR=3.7								
PDAR				LR		LR	19 47 53.5		
	comp=Z,372nm,21.0s,baz=134,slow=39								
PDAR	Pinedale Array	42.67	330	P		P	19 27 48.9	-0.9	
BO02	Sierra Bellavi	43.44	167	P		P	19 27 56.5	+0.7	
ISA	Isabella, Lake	43.59	315	P		P	19 27 56.4	-0.8	
ISA				IAmb		IAmb	19 28 02.9		
	comp=Z,26nm,1.5s								
ULM	Lac du Bonnet	44.09	347	P		P	19 28 00.1	-0.7	
	comp=Z,6.4nm,0.5s,baz=174,slow=8.1,SNR=7.4								
ULM				LR		LR	19 47 45.2		
	comp=Z,276nm,18.7s,baz=150,slow=38								
ULM	Lac du Bonnet	44.09	347	IAmb		IAmb	19 28 02.3		
	comp=Z,13nm,1.0s								
NBPB	Pedra_Branca-C	44.16	106	*e*P		P	19 28 01.1	-0.8	
ITQB	Itaqui	44.30	148	*e*P		P	19 28 03.1	+0.3	
ELK	Elko	44.40	323	P		P	19 28 05.3	+1.5	
	comp=Z,1.7nm,0.9s,baz=92,slow=7.5,SNR=4.3								
NV11	Mina Array Sit	44.85	319	IAmb		IAmb	19 28 13.8		
	comp=Z,29nm,1.8s								
NVAR	Mina Array Bea	44.95	319	P		P	19 28 09.2	+1.0	
	comp=Z,1.7nm,0.6s,baz=128,slow=6.8,SNR=11								
NVAR				LR		LR	19 51 26.2		
	comp=Z,395nm,18.3s,baz=134,slow=42								
NVAR	Mina Array Bea	44.95	319	P		P	19 28 09.4	+1.2	
BI02	San Fabin de	45.14	168	P		P	19 28 09.8	+0.4	
BI02				IAmb		IAmb	19 28 18.7		
	comp=Z,9.6nm,0.8s								
DRLN	Deer Lake	46.30	22	P		P	19 28 19.0	+0.6	
CPSB	Cacapava Do Su	46.60	146	*e*P		P	19 28 20.3	-0.8	
PLTB	Pedras Altas	47.55	147	*e*P		P	19 28 28.7	+0.3	
PLCA	Paso Flores	49.21	169	P		P	19 28 40.8	-0.3	
	comp=Z,8.0nm,1.0s,baz=340,slow=9.6,SNR=14								
PLCA	Paso Flores	49.21	169	P		P	19 28 41.2	+0.1	
PLCA				IAmb		IAmb	19 28 43.7		
	comp=Z,18nm,1.2s								
PLCA	Paso Flores	49.21	169	*e*P		P	19 28 41.2	+0.1	
NEW	Newport	50.31	330	LR		LR	19 52 24.8		
	comp=Z,335nm,21.4s,baz=130,slow=39								
FCC	Fort Churchill	51.90	352	P		P	19 29 00.8	-0.3	
BBB	Bella Bella	58.29	328	LR		LR	19 57 50.1		
	comp=Z,242nm,20.0s,baz=144,slow=39								
YKA	Yellowknife Ar	59.77	343	P		P	19 29 56.2	-1.3	
	comp=Z,2.5nm,0.7s,baz=135,slow=7.4,SNR=32								
DLBC	Dease Lake	62.64	334	P		P	19 30 17.7	+0.5	
	comp=Z,2.5nm,1.0s,baz=83,slow=6.9,SNR=4.6								
BCPM	Bancas Point	67.69	333	P		P	19 30 51.0	+1.2	
INK	Inuvik	69.48	342	P		P	19 31 00.6	-0.2	
	comp=Z,2.7nm,0.9s,baz=126,slow=6.0,SNR=5.9								
INK	Inuvik	69.48	342	P		P	19 31 01.1	+0.3	
INK				IAmb		IAmb	19 31 27.1		
	comp=Z,14nm,1.2s								
BCAR	Beaver Creek A	69.93	335	P		P	19 31 04.2	+0.5	
HMT	Hamilton	69.97	332	P		P	19 31 06.0	+2.0	
EGAK	Eagle	70.39	337	P		P	19 31 07.6	+1.1	
EGAK				IAmb		IAmb	19 31 39.7		
	comp=Z,8.5nm,1.1s								
K27K	Chicken	70.44	336	P		P	19 31 08.6	+1.8	
K27K				IAmb		IAmb	19 31 50.4		
	comp=Z,19nm,1.8s								
DOT	Dot Lake	71.10	335	P		P	19 31 12.2	+1.3	
DOT				IAmb		IAmb	19 31 26.0		
	comp=Z,12nm,1.0s								
SCRK	Sand Creek	71.19	336	P		P	19 31 12.5	+0.9	
SCRK				IAmb		IAmb	19 31 33.9		
	comp=Z,6.0nm,0.9s								
ILAR	Eielson Array	72.66	336	P		P	19 31 20.7	+0.5	
	comp=Z,1.0nm,0.8s,baz=110,slow=4.4,SNR=7.1								
ILAR				PP		PP	19 33 59.7	-2.0	
	comp=Z,0.4nm,0.6s,baz=116,slow=6.5,SNR=4.0								
ILAR	Eielson Array	72.66	336	P		P	19 31 20.2	0.0	
BMAR	Burnt Mountain	72.75	339	P		P	19 31 20.5	-0.3	
RND	Reindeer	73.04	334	P		P	19 31 23.2	+0.6	
RND				IAmb		IAmb	19 31 34.4		
	comp=Z,12nm,1.0s								
NEA2	Nenana	73.49	335	P		P	19 31 25.0	-0.1	
NEA2				IAmb		IAmb	19 31 40.2		
	comp=Z,5.1nm,0.6s								
I23K	Minto, Yukon-K	73.77	336	P		P	19 31 26.1	-0.6	
I23K				IAmb		IAmb	19 31 41.3		
	comp=Z,9.9nm,1.1s								
BPAW	Bear Paw Mtn.	74.15	335	P		P	19 31 29.3	+0.2	
MLY	Manley	74.30	336	P		P	19 31 30.3	+0.4	
COLD	Coldfoot	74.72	338	P		P	19 31 32.1	-0.2	
IMAR	Indian Mountai	75.76	336	P		P	19 31 37.4	-0.9	
ESDC	Sonseca Array	75.89	51	P		P	19 31 40.0	+0.4	
	comp=Z,3.9nm,0.8s,baz=272,slow=5.5,SNR=6.3								
ESDC				LR		LR	20 02 36.0		
	comp=Z,90nm,19.4s,baz=270,slow=34								
ESDC	Sonseca Array	75.89	51	P		P	19 31 39.5	-0.1	
ESDC				IAmb		IAmb	19 31 45.5		
	comp=Z,9.7nm,1.3s								
TIC	Toumodi	76.16	85	*e*P		P	19 31 46.7	+5.1	
LIC	Lamto	76.20	85	*e*P		P	19 31 42.8	+1.0	
	comp=Z,43nm,1.2s								
DBIC	Dimbokro	76.32	85	P		P	19 31 42.5	+0.1	
	comp=Z,7.7nm,0.9s,baz=279,slow=4.8,SNR=4.8								
DBIC				LR		LR	20 02 52.5		
	comp=Z,164nm,21.6s,baz=246,slow=34								
DBIC	Dimbokro	76.32	85	IAmb		IAmb	19 31 44.8		
	comp=Z,18nm,1.1s								
KIC	Kosan Boka	76.47	85	*e*P		P	19 31 44.6	+1.2	
	comp=Z,27nm,1.2s								
CLF	Chambon-Foret	80.48	43	P		P	19 32 04.3	-0.5	
TOA0	Torodi Ar. Sit	82.07	78	P		P	19 32 14.3	+0.4	
TORD	Torodi Ar. Bea	82.07	78	P		P	19 32 13.4	-0.5	
	comp=Z,1.4nm,0.7s,baz=299,slow=6.3,SNR=4.9								
TORD				LR		LR	20 07 31.7		
	comp=Z,112nm,21.1s,baz=275,slow=35								
TORD	Torodi Ar. Bea	82.07	78	P

σ0.97/55, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**52**		**Pn**	**19 21 29.9**	**-1.0**
K22A	**Casper**	**1.37**	**230**		**Pg**	**19 21 35.2**	**-0.8**
K22A				IAML		19 21 59.3	
	comp=E,346nm,0.3s						
PHWY	**Pilot Hill**	**2.25**	**187**		**Pb**	**19 21 50.4**	**-1.1**
RWWY	**Rawlins**	**2.42**	**221**		**Pn**	**19 21 51.4**	**+0.6**
RWWY				IAML		19 22 27.0	
	comp=E,246nm,1.2s						
RWWY				IAML		19 22 28.6	
	comp=E,176nm,0.7s						
LAO	**LASA Array**	**3.25**	**346**	Pn	**Pn**	**19 22 02.7**	**+0.5**
PD31	**Pinedale Array**	**3.35**	**258**	Pn	**Pn**	**19 22 03.5**	**-0.2**
PDAR	**Pinedale Array**	**3.35**	**258**	Pn	**Pn**	**19 22 03.7**	**0.0**
	comp=E,2.5nm,0.3s,baz=77,slow=18,SNR=59						
PDAR				Pg	**Pb**	**19 22 09.7**	**-0.7**
	comp=E,7.3nm,0.3s,baz=70,slow=18,SNR=29						
PDAR				Lg	Lg	19 22 50.6	
	comp=E,9.4nm,0.3s,baz=92,slow=23,SNR=10						
PDAR	**Pinedale Array**	**3.35**	**258**	Pn	**Pn**	**19 22 03.9**	**+0.2**
BW06	**Boulder Array**	**3.36**	**258**		**Pn**	**19 22 03.6**	**-0.1**
RLMT	**Red Lodge**	**3.39**	**299**	Pn	**Pn**	**19 22 03.8**	**-0.4**
RLMT				IAML		19 23 07.5	
	comp=E,49nm,0.8s						
YNE	**Yellowstone No**	**3.83**	**294**		**Pn**	**19 22 09.6**	**-0.6**
YNE				IAML		19 23 12.7	
	comp=E,53nm,0.5s						
YNE				IAML		19 23 13.0	
	comp=N,52nm,0.4s						
YMP	**Mirror Lake Pl**	**3.84**	**290**		**Pn**	**19 22 10.2**	**-0.2**
YMP				IAML		19 23 26.3	
	comp=E,76nm,1.3s						
LKWY	**Lake**	**3.96**	**287**		**Pn**	**19 22 13.3**	**+1.2**
LKWY				IAML		19 23 33.8	
	comp=E,53nm,1.5s						
LKWY				IAML		19 23 34.0	
	comp=E,42nm,1.5s						
GCMT	**Greycliff**	**3.97**	**306**		**Pn**	**19 22 11.9**	**-0.2**
LOHW	**Long Hollow**	**4.00**	**273**		**Pn**	**19 22 14.0**	**+1.4**
H17A	**Grant Village**	**4.05**	**284**		**Pn**	**19 22 14.8**	**+1.5**
H17A				IAML		19 23 17.7	
	comp=N,46nm,1.2s						
H17A				IAML		19 23 18.1	
	comp=E,37nm,1.4s						
FLWY	**Flagg Ranch**	**4.09**	**280**		**Pn**	**19 22 15.0**	**+1.1**
FLWY				IAML		19 23 24.9	
	comp=E,34nm,2.2s						
SNOW	**Snow King Moun**	**4.12**	**271**	Pn	**Pn**	**19 22 14.9**	**+0.7**
SNOW				IAML		19 23 41.2	
	comp=E,63nm,0.5s						
O20A	**White River Ci**	**4.13**	**216**		**Pn**	**19 22 14.9**	**+0.5**
O20A				IAML		19 23 41.9	
	comp=N,54nm,2.3s						
O20A				IAML		19 23 55.6	
	comp=E,51nm,1.1s						
YPP	**Pitchstone Pla**	**4.19**	**282**		**Pn**	**19 22 15.5**	**+0.2**
YPP				IAML		19 23 26.7	
	comp=E,27nm,2.3s						
YPP				IAML		19 23 29.3	
	comp=N,34nm,1.5s						
REDW	**Red Top Meadow**	**4.20**	**270**		**Pn**	**19 22 14.7**	**-0.6**
YHH	**Holmes Hill**	**4.33**	**289**		**Pn**	**19 22 17.9**	**+0.7**
E28A	**Huff**	**4.36**	**44**		**Pn**	**19 22 18.9**	**+1.6**
RDMU	**Red Mountain**	**4.46**	**230**		**Pn**	**19 22 20.3**	**+1.4**
RDMU				IAML		19 23 34.4	
	comp=E,39nm,1.4s						
RDMU				IAML		19 23 43.1	
	comp=N,29nm,1.2s						
AHID	**Auburn Hatcher**	**4.46**	**262**		**Pn**	**19 22 19.0**	**+0.1**
AHID				IAML		19 23 32.6	
	comp=N,47nm,1.2s						
AHID				IAML		19 23 42.4	
	comp=E,42nm,1.2s						
YHB	**Horse Butte**	**4.56**	**288**		**Pn**	**19 22 20.6**	**+0.3**
YHL	**Hebgen Lake**	**4.57**	**289**	Pn	**Pn**	**19 22 20.4**	**-0.2**
YHL				IAML		19 23 43.9	
	comp=N,36nm,1.4s						
YHL				IAML		19 23 52.6	
	comp=E,27nm,1.1s						
SMCO	**Snowmass**	**4.58**	**199**		**Pn**	**19 22 21.2**	**+0.6**
SMCO				IAML		19 23 43.0	
	comp=E,32nm,1.3s						
SMCO				IAML		19 23 43.8	
	comp=E,41nm,1.5s						
ECR	**Eagle Creek**	**4.61**	**266**		**Pn**	**19 22 21.8**	**+0.9**
K31A	**O'Neill**	**4.73**	**99**	Pn	**Pn**	**19 22 23.5**	**+1.0**
DGMT	**Dagmar**	**4.98**	**7**	Pn	**Pn**	**19 22 26.4**	**+0.5**
BOZ	**Bozeman (W)**	**5.11**	**296**		**Pn**	**19 22 26.6**	**-1.1**
BOZ				IAML		19 23 50.9	
	comp=E,14nm,1.9s						
HWUT	**Hardware Ranch**	**5.15**	**250**	Pn	**Pn**	**19 22 28.4**	**+0.1**
HWUT				IAML		19 24 01.2	
	comp=E,18nm,1.6s						
HWUT				IAML		19 24 27.0	
	comp=E,22nm,1.4s						
EGMT	**Eagleton**	**5.55**	**326**		**Pn**	**19 22 34.1**	**+0.3**
JLU	**Jordanelle**	**5.56**	**240**		**Pn**	**19 22 33.8**	**-0.3**
DLMT	**Dillon**	**5.67**	**291**		**Pn**	**19 22 35.8**	**+0.2**
PV22	**Blue Mesa, Par**	**5.72**	**210**		**Pn**	**19 22 36.5**	**+0.3**
LRM	**Limekiln Ridge**	**5.72**	**296**		**Pn**	**19 22 36.5**	**+0.2**
HRY	**Holter Researc**	**5.73**	**306**		**Pn**	**19 22 36.1**	**-0.1**
MDND	**Maddock**	**5.78**	**40**		**Pn**	**19 22 38.1**	**+1.3**
PV15	**Paradox Valley**	**5.79**	**207**		**Pn**	**19 22 38.6**	**+1.5**
PV20	**West Nyswonger**	**5.96**	**211**		**Pn**	**19 22 41.8**	**+2.3**
PV11	**David Mesa, Pa**	**5.96**	**210**		**Pn**	**19 22 41.1**	**+1.6**
PV16	**Nyswonger Mesa**	**5.96**	**210**		**Pn**	**19 22 41.5**	**+1.9**
PV03	**Paradox Valley**	**5.99**	**210**		**Pn**	**19 22 39.9**	**0.0**
PV02	**Paradox Valley**	**5.99**	**209**		**Pn**	**19 22 41.8**	**+1.8**
SRU	**San Rafael Swe**	**6.02**	**225**		**Pn**	**19 22 40.9**	**+0.6**
ECSD	**EROS Data Cent**	**6.16**	**85**		**Pn**	**19 22 42.7**	**+0.7**
PV05	**Paradox Valley**	**6.24**	**210**		**Pn**	**19 22 41.9**	**-1.4**
TMUT	**Trail Mountain**	**6.25**	**229**		**Pn**	**19 22 42.9**	**-0.7**
Q16A	**Castle Valley**	**6.50**	**227**		**Pn**	**19 22 46.5**	**-0.4**
ELK	**Elko**	**8.04**	**253**	Pn	Pn	19 23 03.6	-4.4
	comp=E,0.1nm,0.3s,baz=117,slow=17,SNR=3.1						
ELK				Lg	Lg	19 25 17.5	
	comp=E,0.1nm,0.3s,baz=166,slow=18,SNR=1.4						
ULM	**Lac du Bonnet**	**9.21**	**40**	Pn	**Pn**	**19 23 23.1**	**-0.8**
	comp=E,0.6nm,0.3s,baz=233,slow=10.0,SNR=5.3						
ULM				Pg		19 23 59.3	
	comp=E,0.6nm,0.3s,baz=224,slow=16,SNR=2.3						
ULM				Lg	Lg	19 26 02.5	
	comp=E,0.5nm,0.3s,baz=326,slow=18,SNR=4.2						
ULM	**Lac du Bonnet**	**9.21**	**40**		**Pn**	**19 23 23.4**	**-0.5**
I56US	**NEWPORT INFRAS**	**9.63**	**304**	*i*		20 24 50.0	
	baz=119,slow=309,SNR=3.5						
YKA	**Yellowknife Ar**	**19.80**	**347**	P	**Pn**	**19 25 44.9**	**+2.0**
	comp=E,0.2nm,0.4s,baz=156,slow=11,SNR=4.1						
DLBC	**Dease Lake**	**21.47**	**323**	LR	LR	19 35 43.7	
	comp=E,33nm,18.6s,baz=284,slow=40						

*IDC **24** 19:24:25.4±1.0, 1.°67S×151.°84E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.1/33, mbtmp4.1/12, ML4.1/1, MS3.3/6, Ms1 3.3/6, ms1mx2.9/31, Error ellipse: s-maj=35.0km s-min=15.1km az=108.0*

*BJI **24** 19:24:27.3±0.0, 1.°92S×152.°02E, h32km, mB4.9/17, mb4.5/28, Ms4.4/2, Ms7 4.1/1*

*NEIC **24** 19:24:30.2±2.4, 1.°69S±0.°04×151.°84E±0.°08, h33km±5km, mb4.8/37, Error ellipse: s-maj=11.7km s-min=5.7km az=93.0*

ISC 24 19:24:30.4±0.5, **1.°71S**±0.°06×**151.°87E**±0.°08, **h35**km, **n77**, σ1.**924/68**, **mb4.7**/34, **MS3.2**/6, **1C-1D**, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.48**	**173**		**Pn**	**19 25 07.3**	**-1.2**
MANU	**Manus Island**	**4.52**	**266**		**Pn**	**19 25 34.6**	**-1.8**
PMG	**Port Moresby**	**8.97**	**211**	Pn	**Pn**	**19 26 38.8**	**+1.2**
PATS	**Pohnpei**	**10.64**	**37**		**Pn**	**19 26 58.1**	**-2.4**
HNR	**Honiara**	**11.11**	**134**	LR	LR	19 31 44.0	
	comp=Z,89nm,18.2s,baz=162,slow=39						
HNR	**Honiara**	**11.11**	**134**	Pn	**Pn**	**19 27 08.7**	**+1.8**
COEN	**Coen**	**14.90**	**215**	Pn	**Pn**	**19 27 59.1**	**+0.4**
GUMO	**Guam**	**16.71**	**336**	Pn	**Pn**	**19 28 20.7**	**-1.3**
GUMO				IAmb	IAmb	19 28 52.2	
	comp=Z,152nm,1.1s						
CTA	**Charters Tower**	**19.08**	**196**	P	**Pn**	**19 28 51.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=10,slow=11,SNR=8.6						
CTAO	**Charters Tower**	**19.08**	**196**		**Pn**	**19 28 52.3**	**+1.2**
FAKI	**Fak Fak**	**19.65**	**266**	P	**P**	**19 28 56.9**	**+0.5**
FAKI				IAmb	IAmb	19 28 59.3	
	comp=Z,35nm,1.1s						
MTN	**Manton Dam**	**23.33**	**241**	P	**P**	**19 29 34.9**	**-0.9**
MTN				IAmb	IAmb	19 29 35.6	
	comp=Z,20nm,0.9s						
DZM	**Mont Dzumac**	**24.71**	**146**	LR	LR	19 38 35.0	
	comp=Z,92nm,19.7s,baz=106,slow=34						
WB0	**Warramunga Arr**	**24.79**	**222**	P	**P**	**19 29 48.9**	**-0.4**
WB0				IAmb	IAmb	19 29 51.1	
	comp=Z,34nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**24.81**	**35**	T	T	19 55 55.9	
	baz=220,slow=74,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**24.82**	**35**	T	T	19 55 55.0	
	baz=348,slow=74,SNR=3.2						
WR0	**Warramunga Arr**	**24.82**	**222**	P	**P**	**19 29 49.1**	**-0.6**
H11S1	**WAKE ISLAND Hy**	**24.83**	**35**	T	T	19 55 53.1	
WRAB	**Tennant Creek**	**24.93**	**222**	P	**P**	**19 29 50.1**	**-0.5**
WB2	**Warramunga Arr**	**24.94**	**222**	P	**P**	**19 29 50.3**	**-0.4**
WRA	**Warramunga Arr**	**24.95**	**222**	P	**P**	**19 29 50.7**	**0.0**
	comp=Z,45nm,0.5s,baz=46,slow=10,SNR=435						
WRA				LR	LR	19 40 42.9	
	comp=Z,72nm,19.5s,baz=90,slow=39						
WRA	**Warramunga Arr**	**24.95**	**222**	P	**P**	**19 29 50.0**	**-0.8**
H11N1	**WAKE ISLAND Hy**	**25.89**	**34**	T	T	19 57 11.5	
H11N3	**WAKE ISLAND Hy**	**25.91**	**34**	T	T	19 57 12.6	
	baz=57,slow=74,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**25.91**	**34**	T	T	19 57 05.1	
	baz=217,slow=74,SNR=4.6						
AS31	**Alice Springs**	**27.92**	**217**	P	**P**	**19 30 16.6**	**-0.9**
ASAR	**Alice Springs**	**27.92**	**217**	P	**P**	**19 30 17.2**	**-0.4**
	comp=Z,6.8nm,0.6s,baz=53,slow=8.2,SNR=113						
ASAR				LR	LR	19 40 54.0	
	comp=Z,53nm,18.1s,baz=132,slow=35						
ASAR	**Alice Springs**	**27.92**	**217**	P	**P**	**19 30 16.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**30.47**	**236**	P	**P**	**19 30 39.3**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=54,slow=7.1,SNR=13						
FITZ	**Fitzroy Crossi**	**30.47**	**236**	P	**P**	**19 30 39.3**	**-0.9**
FITZ				IAmb	IAmb	19 31 16.1	
	comp=Z,14nm,1.5s						
STKA	**Stephens Creek**	**31.54**	**197**	P	**P**	**19 30 49.1**	**-0.3**
	comp=Z,6.6nm,0.6s,baz=30,slow=13,SNR=22						
STKA				LR	LR	19 42 29.1	
	comp=Z,35nm,21.6s,baz=47,slow=34						
STKA	**Stephens Creek**	**31.54**	**197**	P	**P**	**19 30 48.8**	**-0.7**
BBOO	**Buckleboo**	**34.33**	**204**	P	**P**	**19 31 12.5**	**-1.4**
FORT	**Forrest**	**36.67**	**216**	P	**P**	**19 31 32.6**	**-1.4**
FORT				IAmb	IAmb	19 31 34.6	
	comp=Z,18nm,0.8s						
NACB	**Ninganchiao**	**39.07**	**313**	P	**P**	**19 31 54.0**	**-0.3**
YHNB	**Yeheng**	**39.53**	**313**	P	**P**	**19 31 58.8**	**+0.5**
KSRS	**Korea Array**	**44.84**	**333**	P	**P**	**19 32 39.4**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=149,slow=6.7,SNR=4.3						
NJ2	**Nanjing**	**45.89**	**320**	*e*P	**P**	**19 32 51.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WHZ	**Wether Hill Ro**	**46.21**	**164**	P	**P**	**19 32 51.4**	**-0.6**
ODZ	**Otahua Downs**	**46.23**	**162**	P	**P**	**19 32 49.9**	**-2.3**
ODZ				IAmb	IAmb	19 33 19.2	
	comp=Z,26nm,1.3s						
WHN	**Wuhan**	**48.01**	**315**	⇓P	**P**	**19 33 02.3**	**-4.0**
CN2	**Changchun**	**51.12**	**336**	*e*P	**P**	**19 33 33.1**	**+3.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**54.52**	**303**	*e*P	**P**	**19 33 57.1**	**+1.6**
KMI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PEA0B	**Petropavlovsk-**	**54.84**	**4**	P	**P**	**19 33 56.9**	**-0.1**
PEA0B				IAmb	IAmb	19 34 19.9	
	comp=Z,18nm,1.2s						
PETK	**Petropavlovsk-**	**54.84**	**4**	P	**P**	**19 33 56.8**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=169,slow=6.1,SNR=7.8						
PETK	**Petropavlovsk-**	**54.84**	**4**	P	**P**	**19 33 57.0**	**0.0**
CMAR	**Chiang Mai Arr**	**55.77**	**294**	P	**P**	**19 34 04.8**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=112,slow=5.4,SNR=12						
CMAR	**Chiang Mai Arr**	**55.77**	**294**	P	**P**	**19 34 05.6**	**+1.3**
HHC	**Hu-ho-hao-te**	**56.02**	**324**	*e*P	**P**	**19 34 07.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,5.5s						
LZH	**Lanzhou**	**58.39**	**315**	*e*P	**P**	**19 34 24.0**	**+1.2**
LZH				sP	sP	19 34 35.4	-0.8
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
GTA	**Gaotai**	**62.78**	**317**	⇑P	**P**	**19 34 54.3**	**+1.6**
GTA				pP	sP	19 35 04.8	-1.3
GTA				sP	pwP	19 35 08.8	+2.2
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,43nm,5.6s						
GTA				LR	LR		
	comp=Z,70nm,19.6s						
GTA				LR	LR		
	comp=Z,81nm,18.2s						
SONM	**Songino Array**	**63.23**	**327**	P	**P**	**19 34 55.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=136,slow=7.9,SNR=5.9						
SONM	**Songino Array**	**63.23**	**327**	P	**P**	**19 34 56.5**	**+1.0**
WMQ	**Urumqi**	**72.86**	**317**	*e*P	**P**	**19 35 56.0**	**0.0**
WMQ				pP	pP	19 36 05.8	0.0
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,5.9s						
CNPM	**China Poot**	**75.35**	**26**	P	**P**	**19 36 11.9**	**+1.7**
SUA	**Susitna One**	**76.54**	**25**	P	**P**	**19 36 18.0**	**+1.1**
SUA				IAmb	IAmb	19 36 44.0	
	comp=Z,21nm,1.7s						
MK31	**Makanchi Array**	**77.40**	**319**	P	**P**	**19 36 21.5**	**-0.6**
MKAR	**Makanchi Array**	**77.40**	**319**	P	**P**	**19 36 22.9**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=101,slow=6.0,SNR=8.1						
MKAR	**Makanchi Array**	**77.40**	**319**	P	**P**	**19 36 22.0**	**0.0**
KTH	**Kantishna Hill**	**77.53**	**23**	P	**P**	**19 36 22.1**	**-0.3**
KTH				IAmb	IAmb	19 36 38.8	
	comp=Z,13nm,1.5s						
TRF	**Thorofare Moun**	**77.72**	**23**	P	**P**	**19 36 24.4**	**+0.8**
TRF				IAmb	IAmb	19 36 52.1	
	comp=Z,20nm,1.7s						
MLY	**Manley**	**78.35**	**21**	P	**P**	**19 36 28.0**	**+1.0**
MLY				IAmb	IAmb	19 36 28.2	
	comp=Z,12nm,1.8s						
I23K	**Minto, Yukon-K**	**78.92**	**22**	P	**P**	**19 36 31.2**	**+1.3**
I23K				IAmb	IAmb	19 36 33.6	
	comp=Z,13nm,1.7s						
WRH	**Wood River Hil**	**79.07**	**22**	P	**P**	**19 36 31.0**	**+0.1**
CCB	**Clear Creek Bu**	**79.26**	**22**	P	**P**	**19 36 31.6**	**-0.3**
ILAR	**Eielson Array**	**79.67**	**22**	P	**P**	**19 36 34.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=146,slow=16,SNR=4.3						
CTGM	**Chitina Glacie**	**80.43**	**27**	P	**P**	**19 36 38.4**	**-0.1**
CTGM				IAmb	IAmb	19 36 57.5	
	comp=Z,12nm,1.3s						
EGAK	**Eagle**	**81.90**	**23**	P	**P**	**19 36 48.6**	**+2.6**
EGAK				IAmb	IAmb	19 37 16.3	
	comp=Z,8.8nm,1.7s						
KK31	**Karatay Array**	**84.85**	**313**	P	**P**	**19 37 01.6**	**-0.1**
KK31				IAmb	IAmb	19 37 03.7	
	comp=Z,3.8nm,0.8s						
KKAR	**Karatay Array**	**84.85**	**313**	P	**P**	**19 37 01.6**	**-0.1**
KKAR				IAmb	IAmb	19 37 03.7	
	comp=Z,3.8nm,0.8s						
KKAR	**Karatay Array**	**84.85**	**313**	P	**P**	**19 37 02.8**	**+1.1**
DLBC	**Dease Lake**	**85.22**	**31**	P	**P**	**19 37 01.8**	**-1.6**
DLBC				IAmb	IAmb	19 37 19.6	
	comp=Z,6.5nm,0.9s						
INK	**Inuvik**	**85.92**	**21**	P	**P**	**19 37 06.5**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=232,slow=5.8,SNR=3.0						
YKA	**Yellowknife Ar**	**93.14**	**28**	P	**P**	**19 37 41.8**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=267,slow=4.3,SNR=8.9						
AKTO	**Aktyubinsk**	**93.77**	**320**	LR	LR	20 22 06.3	
	comp=Z,36nm,20.5s,baz=331,slow=37						
RDMU	**Red Mountain**	**97.61**	**49**	P	**P**	**19 38 01.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**148.37**	**293**	PKPbc	**PKPbc**	**19 44 14.7**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=76,slow=2.0,SNR=4.4						

*TUL **24** 19:48:28.9±1.6, 36.°78N±0.°02×98.°03W±0.°02, h7km±6km, ML4.0, mb_Lg3.8/135(NEIC), Error ellipse: s-maj=3.0km s-min=2.1km az=122.0*

*IDC **24** 19:48:28.1±0.8, 36.°86N×98.°13W, h0km, mb3.2/2, mb1 3.8/9, mb1mx3.6/43, mbtmp3.5/9, ML4.1/5, Error ellipse: s-maj=12.2km s-min=10.2km az=158.0*

*ANF **24** 19:48:29.1±0.1, 36.°75N×98.°01W, h7km, ML4.8/25, Error ellipse: s-maj=1.7km s-min=1.6km az=152.0*

*NEIC **24** 19:48:29.0±1.3, 36.°75N±0.°02×98.°01W±0.°02, h7km±6km,*

Error ellipse: s-maj=2.9km s-min=2.2km az=129.0

ISC 24 19:48:28.8±0.8, **36.°76N**±0.°02×**98.°02W**±0.°02, **h11**km±6km, **n161**, σ0.**995**/142, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.15**	**54**		**Pg**	**19 48 32.5**	**+0.2**
GC02				Sg	**Sg**	**19 48 35.1**	**+0.3**
OK032	**Salt Plains WL**	**0.16**	**285**		**Pg**	**19 48 32.3**	**-0.2**
OK032				Sg	**Sg**	**19 48 34.8**	**-0.3**
KAN14	**Manchester OK**	**0.20**	**12**		**Pg**	**19 48 33.2**	**0.0**
KAN14				Sg	**Sg**	**19 48 36.1**	**0.0**
CROK	**Carrier**	**0.26**	**174**		**Pg**	**19 48 34.5**	**+0.4**
CROK				Sg	**Sg**	**19 48 38.6**	**+1.0**
KAN05	**Bluff City Nor**	**0.37**	**18**	Pg	**Pg**	**19 48 36.2**	**+0.1**
KAN05				Sg	**Sg**	**19 48 41.3**	**+0.3**
KAN10	**Anthony SW Sta**	**0.37**	**350**		**Pg**	**19 48 36.2**	**0.0**
KAN10				Sg	**Sg**	**19 48 41.4**	**+0.3**
KAN08	**Anthony NE Sta**	**0.47**	**4**		**Pg**	**19 48 38.1**	**+0.1**
KAN08				Sg	**Sg**	**19 48 44.3**	**+0.1**
KAN09	**Caldwell North**	**0.49**	**40**		**Pg**	**19 48 38.6**	**+0.2**
KAN09				Sg	**Sg**	**19 48 45.3**	**+0.3**
KAN13	**South Haven SW**	**0.50**	**60**		**Pg**	**19 48 38.8**	**+0.3**
KAN13				Sg	**Sg**	**19 48 45.7**	**+0.5**
KAN12	**Harper NE Stat**	**0.54**	**1**		**Pg**	**19 48 39.4**	**+0.1**
U32A	**Winter Ranch,**	**0.88**	**245**		**Pg**	**19 48 45.5**	**-0.3**
U32A				Sg	**Sg**	**19 48 57.5**	**+0.3**
U32A	**Winter Ranch,**	**0.88**	**245**	P	**Pg**	**19 48 45.5**	**-0.3**
	baz=63,SNR=249						
U32A				S	**Sg**	**19 48 57.6**	**+0.3**
	baz=63						
U32A	**Winter Ranch,**	**0.88**	**245**	P		19 48 45.5	
	baz=63,SNR=249						
U32A				S		19 48 57.6	
	baz=63						
OK029	**Liberty Lake**	**1.06**	**155**		**Pg**	**19 48 49.1**	**-0.1**
OK029				Sg	**Sg**	**19 49 03.4**	**+0.3**
BCOK	**Bluff Creek, N**	**1.15**	**163**		**Pg**	**19 48 50.4**	**-0.5**
BCOK				Sg	**Sg**	**19 49 06.4**	**+0.5**
QUOK	**Quay**	**1.21**	**119**		**Pg**	**19 48 51.8**	**-0.2**
QUOK				Sg	**Sg**	**19 49 07.7**	**0.0**
T35A	**Sooner Cattle**	**1.22**	**82**		**Pg**	**19 48 51.8**	**-0.4**
T35A				Sg	**Sg**	**19 49 07.5**	**-0.5**
T35B	**Sooner Cattle**	**1.22**	**82**	P	**Pg**	**19 48 51.8**	**-0.4**
	baz=264,SNR=292						
T35B				S	**Sg**	**19 49 07.8**	**-0.2**
	baz=264						
T35B	**Sooner Cattle**	**1.22**	**82**	P		19 48 51.8	
	baz=264,SNR=292						
T35B				S		19 49 07.8	
	baz=264						
OK031	**S. Brethren Rd**	**1.25**	**130**		**Pn**	**19 48 52.3**	**+0.1**
OK031				Sg	**Sg**	**19 49 09.2**	**+0.3**
OK030	**Cody Creek RV**	**1.30**	**130**		**Pn**	**19 48 53.2**	**+0.4**
OK025	**Westminster Rd**	**1.30**	**155**		**Pn**	**19 48 53.4**	**+0.5**
OKCFA	**Oklahoma City**	**1.42**	**161**	Pn	**Pn**	**19 48 55.0**	**+0.5**
OKCFA				IAmb_Lg		19 49 15.9	
	comp=Z,300nm,0.8s						
OKCFA	**Oklahoma City**	**1.42**	**161**	P	**Pn**	**19 48 55.2**	**+0.6**
	baz=341,SNR=22						
OKCFA				S	**Sn**	**19 49 14.6**	**+1.4**
	baz=341						
OKCFA	**Oklahoma City**	**1.42**	**161**	P		19 48 55.2	
	baz=341,SNR=22						
OKCFA				S		19 49 14.6	
	baz=341						
OKCSW	**OKLAHOMA CITY**	**1.43**	**161**		**Pn**	**19 48 55.4**	**+0.7**
FNO	**Franklin**	**1.58**	**161**		**Pn**	**19 48 58.1**	**+1.3**
R32A	**Long Quarter,**	**1.75**	**342**		**Pb**	**19 49 00.6**	**-0.4**
R32A	**Long Quarter,**	**1.75**	**342**	P	**Pb**	**19 49 00.5**	**-0.4**
	baz=162,SNR=255						
R32A				S	**Sb**	**19 49 23.6**	**+0.7**
	baz=162						
R32A	**Long Quarter,**	**1.75**	**342**	P		19 49 00.5	
	baz=162,SNR=255						
R32A				S		19 49 23.6	
	baz=162						
WMOK	**Wichita Mounta**	**2.11**	**197**	Pn	**Pn**	**19 49 05.3**	**+1.2**
WMOK				IAmb_Lg		19 49 34.6	
	comp=Z,322nm,0.8s						
WMOK	**Wichita Mounta**	**2.11**	**197**	P	**Pn**	**19 49 04.8**	**+0.7**
	baz=16,SNR=553						
WMOK	**Wichita Mounta**	**2.11**	**197**	P		19 49 05.2	
	baz=16						
WMOK				Sb		19 49 33.5	
	baz=16						
WMOK	**Wichita Mounta**	**2.11**	**197**	P		19 49 04.8	
	baz=16,SNR=553						
CBKS	**Cedar Bluff**	**2.46**	**327**	Pn	**Pn**	**19 49 10.2**	**+1.2**
CBKS	**Cedar Bluff**	**2.46**	**327**	P	**Pn**	**19 49 10.2**	**+1.2**
	baz=146,SNR=38						
CBKS				S	**Sn**	**19 49 41.0**	**+2.0**
	baz=146						
CBKS	**Cedar Bluff**	**2.46**	**327**	P		19 49 10.1	
	baz=146						
CBKS				S		19 49

	baz=277,SNR=34								
U40A					P			19 49 33.3	
	baz=277,SNR=34								
MIAR	**Mount Ida**	**4.24**	**120**			**Pn**		**19 49 34.2**	**+0.9**
MIAR					IAmb_Lg			19 50 46.3	
	comp=Z,265nm,0.8s								
MIAR	**Mount Ida**	**4.24**	**120**		P	**Pn**		**19 49 34.5**	**+1.2**
	baz=303,SNR=28								
MIAR	**Mount Ida**	**4.24**	**120**		P			19 49 34.1	
	baz=303,SNR=9.5								
MIAR					S			19 50 25.0	
	baz=303								
MIAR	**Mount Ida**	**4.24**	**120**		P			19 49 34.5	
	baz=303,SNR=28								
KSCO	**Kaye Shedlock'**	**4.28**	**303**			**Pn**		**19 49 35.5**	**+1.4**
KSCO					IAmb_Lg			19 50 48.7	
	comp=Z,217nm,0.8s								
KSCO	**Kaye Shedlock'**	**4.28**	**303**		P			19 49 35.8	
	baz=120,SNR=12								
KSCO					S			19 50 27.3	
	baz=120								
Z38A	**Mt. Pleasant**	**4.29**	**144**			**Pn**		**19 49 34.6**	**+0.7**
ABTX	**Abilene, Hawle**	**4.34**	**198**			**Pn**		**19 49 35.1**	**+0.4**
ABTX					IAmb_Lg			19 50 48.5	
	comp=Z,160nm,0.9s								
ABTX	**Abilene, Hawle**	**4.34**	**198**		Pb			19 49 44.0	
	baz=17								
N35A	**Tabor**	**4.49**	**24**			**Pn**		**19 49 37.4**	**+0.6**
N35A	**Tabor**	**4.49**	**24**		P	**Pn**		**19 49 38.0**	**+1.2**
	baz=205,SNR=13								
N35A	**Tabor**	**4.49**	**24**		P			19 49 38.0	
	baz=205,SNR=13								
P38A	**Dawn**	**4.54**	**50**			**Pn**		**19 49 38.3**	**+0.8**
P38A					IAmb_Lg			19 51 02.1	
	comp=Z,308nm,1.0s								
P38A	**Dawn**	**4.54**	**50**		P	**Pn**		**19 49 38.6**	**+1.1**
	baz=233,SNR=17								
P38A	**Dawn**	**4.54**	**50**		P			19 49 38.6	
	baz=233,SNR=17								
MGMO	**Mountain Grove**	**4.62**	**83**			**Pn**		**19 49 39.6**	**+1.0**
MGMO					IAmb_Lg			19 51 03.7	
	comp=Z,149nm,0.8s								
BGNE	**Belgrade**	**4.64**	**359**		IAmb_Lg			19 51 03.6	
	comp=Z,219nm,0.7s								
BGNE	**Belgrade**	**4.64**	**359**		P	**Pn**		**19 49 39.2**	**+0.3**
	baz=179								
BGNE	**Belgrade**	**4.64**	**359**		P			19 49 39.3	
	baz=179,SNR=9.9								
BGNE					S			19 50 38.3	
	baz=179								
BGNE	**Belgrade**	**4.64**	**359**		P			19 49 39.2	
	baz=179								
WHTX	**Lake Whitney,**	**4.78**	**174**		IAmb_Lg			19 51 04.2	
	comp=Z,107nm,0.9s								
WHTX	**Lake Whitney,**	**4.78**	**174**		P	**Pn**		**19 49 41.7**	**+0.9**
	baz=354,SNR=65								
WHTX	**Lake Whitney,**	**4.78**	**174**		P			19 49 41.6	
	baz=354								
WHTX					S			19 50 36.3	
	baz=354								
WHTX	**Lake Whitney,**	**4.78**	**174**		P			19 49 41.7	
	baz=354,SNR=65								
MSTX	**Muleshoe**	**4.78**	**236**		Pn	**Pn**		**19 49 41.0**	**+0.1**
MSTX					IAmb_Lg			19 51 03.4	
	comp=Z,109nm,0.7s								
MSTX	**Muleshoe**	**4.78**	**236**		P	**Pn**		**19 49 42.2**	**+1.4**
	baz=53,SNR=7.3								
MSTX	**Muleshoe**	**4.78**	**236**		P			19 49 41.5	
	baz=53								
MSTX	**Muleshoe**	**4.78**	**236**		P			19 49 42.2	
	baz=53,SNR=7.3								
X40A	**Basin Creek Fa**	**4.79**	**117**		IAmb_Lg			19 51 03.3	
	comp=Z,306nm,0.8s								
X40A	**Basin Creek Fa**	**4.79**	**117**		P	**Pn**		**19 49 42.2**	**+1.3**
	baz=300,SNR=14								
X40A	**Basin Creek Fa**	**4.79**	**117**		P			19 49 41.9	
	baz=300,SNR=8.8								
X40A	**Basin Creek Fa**	**4.79**	**117**		P			19 49 42.2	
	baz=300,SNR=14								
X40A					P			19 49 42.2	
	baz=300,SNR=14								
R40A	**Maddies Statio**	**4.82**	**70**		IAmb_Lg			19 51 04.8	
	comp=Z,245nm,0.9s								
R40A	**Maddies Statio**	**4.82**	**70**		P	**Pn**		**19 49 41.9**	**+0.7**
	baz=253,SNR=22								
R40A	**Maddies Statio**	**4.82**	**70**		P			19 49 41.9	
	baz=253,SNR=22								
FCAR	**Ozark Folk Cen**	**4.83**	**99**		IAmb_Lg			19 51 07.3	
	comp=Z,172nm,0.9s								
WHAR	**Wooly Hollow**	**4.87**	**106**		Pn	**Pn**		**19 49 42.0**	**0.0**
WHAR					IAmb_Lg			19 51 12.4	
	comp=Z,186nm,0.8s								
W41B	**Gary Mavity, V**	**4.94**	**107**		P	**Pn**		**19 49 43.3**	**+0.4**
	baz=291,SNR=12								
W41B	**Gary Mavity, V**	**4.94**	**107**		P			19 49 43.3	
	baz=291								
W41B					S			19 50 41.6	
	baz=291								
W41B	**Gary Mavity, V**	**4.94**	**107**		P			19 49 43.3	
	baz=291,SNR=12								
WLAR	**White Oak Lake**	**5.05**	**126**			**Pn**		**19 49 45.2**	**+0.8**
WLAR					IAmb_Lg			19 51 13.5	
	comp=Z,178nm,0.8s								
237A	**Washetta, Mont**	**5.09**	**158**		IAmb_Lg			19 51 20.8	
	comp=Z,243nm,1.1s								
237A	**Washetta, Mont**	**5.09**	**158**		P	**Pn**		**19 49 45.4**	**+0.4**
	baz=340,SNR=6.6								
237A	**Washetta, Mont**	**5.09**	**158**		P			19 49 45.4	
	baz=340,SNR=6.6								
T25A	**Trinidad**	**5.14**	**276**		Pn	**Pn**		**19 49 47.7**	**+1.9**
T25A					IAmb_Lg			19 51 15.5	
	comp=Z,209nm,0.8s								
T25A	**Trinidad**	**5.14**	**276**		P			19 49 47.7	
	baz=92								
OGNE	**Ogallala**	**5.22**	**324**			**Pn**		**19 49 48.8**	**+1.8**
OGNE	**Ogallala**	**5.22**	**324**		P	**Pn**		**19 49 48.9**	**+2.0**
	baz=142,SNR=27								
OGNE	**Ogallala**	**5.22**	**324**		P			19 49 49.1	
	baz=142,SNR=5.7								
OGNE					S			19 50 48.6	
	baz=142								
OGNE	**Ogallala**	**5.22**	**324**		P			19 49 48.9	
	baz=142,SNR=27								
L34A	**Svendsen Farm,**	**5.35**	**13**		P	**Pn**		**19 49 49.0**	**+0.4**
	baz=194,SNR=8.7								
L34A	**Svendsen Farm,**	**5.35**	**13**		P			19 49 49.0	
	baz=194,SNR=8.7								
P40A	**Paris**	**5.46**	**58**		IAmb_Lg			19 51 27.4	
	comp=Z,264nm,0.8s								
P40A	**Paris**	**5.46**	**58**		P	**Pn**		**19 49 50.8**	**+0.8**
	baz=242,SNR=6.4								
P40A	**Paris**	**5.46**	**58**		P			19 49 50.8	
	baz=242,SNR=6.4								
N38A	**Joes South For**	**5.49**	**41**		P	**Pn**		**19 49 50.9**	**+0.4**
	baz=224,SNR=22								
N38A	**Joes South For**	**5.49**	**41**		P			19 49 50.9	
	baz=224,SNR=22								
Z41A	**Richland Creek**	**5.52**	**128**		S			19 50 52.5	
	baz=311								
CCM	**Cathedral Cave**	**5.54**	**74**		Pn	**Pn**		**19 49 51.5**	**+0.2**
CCM					IAmb_Lg			19 51 26.7	
	comp=Z,156nm,0.7s								
CCM	**Cathedral Cave**	**5.54**	**74**		P	**Pn**		**19 49 51.6**	**+0.4**
	baz=259								
CCM	**Cathedral Cave**	**5.54**	**74**		P			19 49 51.6	
	baz=259								
CCM	**Cathedral Cave**	**5.54**	**74**		P			19 49 51.6	
	baz=259								
T42A	**Van Buren**	**5.55**	**85**		P	**Pn**		**19 49 52.4**	**+1.0**
	baz=270,SNR=10								
T42A	**Van Buren**	**5.55**	**85**		P			19 49 52.4	
	baz=270,SNR=10								
LCAR	**Lake Charles**	**5.58**	**95**		IAmb_Lg			19 51 26.7	
	comp=Z,98nm,0.8s								
NATX	**Nacogdoches**	**5.71**	**150**		S			19 50 57.9	
	baz=332								
CCAR	**Cane Creek**	**5.84**	**117**		IAmb_Lg			19 51 46.2	
	comp=Z,150nm,0.8s								
435B	**Jarrell**	**5.97**	**176**		IAmb_Lg			19 51 50.1	
	comp=Z,178nm,1.0s								
435B	**Jarrell**	**5.97**	**176**		P			19 49 57.8	
	baz=357								
435B					S			19 51 04.6	
	baz=357								
Q24A	**Divide**	**6.06**	**293**		S			19 51 08.6	
	baz=109								
PBMO	**Poplar Bluff**	**6.09**	**88**		IAmb_Lg			19 51 49.2	
	comp=Z,142nm,0.7s								
FVM	**French Village**	**6.17**	**76**		IAmb_Lg			19 51 48.7	
	comp=Z,195nm,0.9s								
LPAR	**Lepanto**	**6.35**	**98**		IAmb_Lg			19 52 03.4	
	comp=Z,192nm,0.9s								
JCT	**Junction City**	**6.44**	**194**		IAmb_Lg			19 52 12.4	
	comp=Z,149nm,0.8s								
JCT	**Junction City**	**6.44**	**194**		P	**Pn**		**19 50 04.0**	**+0.4**
	baz=13,SNR=16								
JCT	**Junction City**	**6.44**	**194**		P			19 50 03.7	
	baz=13								
JCT					S			19 51 16.3	
	baz=13								
JCT	**Junction City**	**6.44**	**194**		P			19 50 04.0	
	baz=13,SNR=16								
SLM	**Saint Louis**	**6.45**	**71**		IAmb_Lg			19 51 56.0	
	comp=Z,170nm,0.8s								
143A	**Socs Landing,**	**6.78**	**125**		IAmb_Lg			19 52 16.3	
	comp=Z,114nm,0.7s								
ECSD	**EROS Data Cent**	**7.05**	**8**		Pn	**Pn**		**19 50 11.0**	**-0.9**
ECSD	**EROS Data Cent**	**7.05**	**8**		P			19 50 11.4	
	baz=189								
S44A	**Carbondale**	**7.05**	**80**		IAmb_Lg			19 52 14.1	
	comp=Z,178nm,0.7s								
HALT	**Halls**	**7.05**	**94**		IAmb_Lg			19 52 15.0	
	comp=Z,161nm,0.8s								
SIUC	**Southern Illin**	**7.08**	**80**		IAmb_Lg			19 52 19.2	
	comp=Z,140nm,0.8s								
ANMO	**Albquerque**	**7.09**	**258**		Pn	**Pn**		**19 50 14.2**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=88,slow=12,SNR=2.0								
ANMO					Pg	Pg		19 50 39.3	-5.3
	comp=Z,2.0nm,0.3s,baz=73,slow=16,SNR=9.9								
ANMO					Lg	Lg		19 52 08.1	
	comp=Z,5.4nm,0.3s,baz=350,slow=21,SNR=6.2								
342A	**Flagon Creek P**	**7.15**	**137**		IAmb_Lg			19 52 21.0	
	comp=Z,80nm,1.3s								
PHWY	**Pilot Hill**	**7.36**	**310**		IAmb_Lg			19 52 36.6	
	comp=Z,93nm,0.8s								
OXF	**Oxford**	**7.36**	**105**		IAmb_Lg			19 52 27.4	
	comp=Z,134nm,1.1s								
OXF	**Oxford**	**7.36**	**105**		P	**Pn**		**19 50 16.9**	**+0.7**
	baz=290,SNR=5.8								
OXF	**Oxford**	**7.36**	**105**		P			19 50 16.8	
	baz=290								
OXF	**Oxford**	**7.36**	**105**		P			19 50 16.9	
	baz=290,SNR=5.8								
L40A	**Anamosa**	**7.46**	**43**		IAmb_Lg			19 52 29.7	
	comp=Z,99nm,0.8s								
BNM	**Barren Site**	**7.50**	**252**		Pn	**Pn**		**19 50 18.8**	**+0.5**
Y45A	**Yeager Farm, C**	**7.50**	**110**		IAmb_Lg			19 52 44.8	
	comp=Z,93nm,0.8s								
VBMS	**Vicksburg**	**7.67**	**124**		IAmb_Lg			19 52 54.1	
	comp=Z,58nm,1.0s								
SUSD	**Miller**	**7.71**	**355**		IAmb_Lg			19 52 41.2	
	comp=Z,149nm,1.2s								
HDIL	**Hopedale**	**7.80**	**58**		P	**Pn**		**19 50 23.0**	**+0.8**
	baz=244,SNR=9.0								
HDIL	**Hopedale**	**7.80**	**58**		P			19 50 23.1	
	baz=244								
HDIL	**Hopedale**	**7.80**	**58**		P			19 50 23.0	
	baz=244,SNR=9.0								
735A	**Kenedy**	**7.88**	**179**		IAmb_Lg			19 52 53.7	
	comp=Z,104nm,1.0s								
MNTX	**Cornudas Mount**	**7.92**	**233**		IAmb_Lg			19 52 56.4	
	comp=Z,64nm,0.9s								
MNTX	**Cornudas Mount**	**7.92**	**233**		P			19 50 24.3	
	baz=48								
344A	**Westbrook Farm**	**8.03**	**129**		IAmb_Lg			19 53 06.0	
	comp=Z,49nm,1.1s								
I37A	**Lemond, Waseca**	**8.05**	**24**		IAmb_Lg			19 52 47.6	
	comp=Z,86nm,0.8s								
WVT	**Waverly**	**8.23**	**91**		P			19 50 28.1	
	baz=278								
USIN	**University of**	**8.33**	**79**		IAmb_Lg			19 52 58.0	
	comp=Z,149nm,1.0s								
MVCO	**Mesa Verde**	**8.40**	**276**		Pn	**Pn**		**19 50 31.3**	**+0.6**
146A	**Union**	**8.45**	**117**		IAmb_Lg			19 53 08.2	
	comp=Z,42nm,0.7s								
JFWS	**Jewell Farm**	**8.57**	**42**			**Pn**		**19 50 32.1**	**-0.7**
JFWS					IAmb_Lg			19 53 04.5	
	comp=Z,142nm,0.8s								
JFWS	**Jewell Farm**	**8.57**	**42**		P			19 50 32.4	
	baz=227								
RSSD	**Black Hills**	**8.66**	**330**			**Pn**		**19 50 35.0**	**+0.7**
RSSD					IAmb_Lg			19 53 11.4	
	comp=Z,66nm,0.8s								
RSSD	**Black Hills**	**8.66**	**330**		P			19 50 36.4	
	baz=146								
RWWY	**Rawlins**	**8.67**	**307**		Pn	**Pn**		**19 50 34.4**	**0.0**
RWWY					IAmb_Lg			19 53 13.8	
	comp=Z,84nm,0.8s								
O20A	**White River Ci**	**8.70**	**296**		Pn	**Pn**		**19 50 33.6**	**-1.2**
PV13	**Radium Mtn., P**	**8.71**	**282**		Pn	**Pn**		**19 50 33.4**	**-1.4**
PV12	**Saucer Basin,**	**8.71**	**284**		Pn	**Pn**		**19 50 34.3**	**-0.6**
PV22	**Blue Mesa, Par**	**8.73**	**285**		Pn	**Pn**		**19 50 37.5**	**+2.4**
PV03	**Paradox Valley**	**8.74**	**283**		Pn	**Pn**		**19 50 35.8**	**+0.5**
T47A	**Sharon Grove**	**8.75**	**85**		Pn	**Pn**		**19 50 35.5**	**+0.3**
T47A					IAmb_Lg			19 53 16.2	
	comp=Z,87nm,1.1s								
PV11	**David Mesa, Pa**	**8.76**	**283**		Pn	**Pn**		**19 50 36.9**	**+1.3**
PV18	**Skein Mesa, Pa**	**8.78**	**283**		Pn	**Pn**		**19 50 35.2**	**-0.7**
TX31	**Lajitas Ar. Si**	**8.79**	**214**			**Pn**		**19 50 36.1**	**+0.2**
TXAR	**Lajitas Array**	**8.79**	**214**		Pn	**Pn**		**19 50 35.9**	**0.0**
	comp=Z,0.4nm,0.3s,baz=36,slow=9.8,SNR=29								
TXAR					Pg	Pg		19 51 07.4	-10
	comp=Z,1.2nm,0.3s,baz=46,slow=14,SNR=4.8								
TXAR					Lg	Lg		19 53 00.6	
	comp=Z,2.4nm,0.3s,baz=68,slow=16,SNR=4.1								
TXAR	**Lajitas Array**	**8.79**	**214**			**Pn**		**19 50 35.7**	**-0.3**
K22A	**Casper**	**8.81**	**315**		IAmb_Lg			19 53 14.8	
	comp=Z,122nm,0.8s								
346A	**Big Creek Wild**	**8.89**	**125**		Pn	**Pn**		**19 50 38.9**	**+1.7**
Z47A	**Carrollton**	**8.90**	**111**		Pn	**Pn**		**19 50 37.0**	**-0.3**
Z47A					IAmb_Lg			19 53 21.2	
	comp=Z,48nm,1.0s								
PV05	**Paradox Valley**	**8.92**	**282**		Pn	**Pn**		**19 50 37.2**	**-0.6**
P46A	**Rosedale**	**8.97**	**68**			**Pn**		**19 50 38.5**	**+0.2**
M44A	**Midewin, Midew**	**9.03**	**56**		Pn	**Pn**		**19 50 38.8**	**-0.2**
M44A					IAmb_Lg			19 53 17.4	
	comp=Z,100nm,0.8s								
121A	**Cookes Peak, D**	**9.09**	**245**		Pn	**Pn**		**19 50 41.2**	**+1.1**
121A					IAmb_Lg			19 53 22.6	
	comp=Z,55nm,0.9s								
I40A	**Norwalk**	**9.09**	**36**		Pn	**Pn**		**19 50 40.1**	**+0.2**
I40A					IAmb_Lg			19 53 32.8	
	comp=Z,58nm,1.0s								
V48A	**Smith Brothers**	**9.10**	**93**		Pn	**Pn**		**19 50 40.8**	**+0.8**
V48A					IAmb_Lg			19 53 15.9	
	comp=Z,38nm,0.8s								
F33A	**5 Mile Ranch,**	**9.16**	**8**		Pn	**Pn**		**19 50 41.0**	**+0.1**
F33A					IAmb_Lg			19 53 32.0	
	comp=Z,46nm,1.0s								
X48A	**Hartselle**	**9.23**	**101**		IAmb_Lg			19 53 22.8	
	comp=Z,70nm,1.1s								
SFIN	**Lafayette**	**9.28**	**64**		IAmb_Lg			19 53 23.0	
	comp=Z,116nm,0.8s								
SFIN	**Lafayette**	**9.28**	**64**		P			19 50 44.0	
	baz=251								
SPMN	**Marine on St.**	**9.33**	**23**			**Pn**		**19 50 42.3**	**-0.8**
SPMN					IAmb_Lg			19 53 37.3	
	comp=Z,47nm,0.8s								
BLO	**Bloomington**	**9.39**	**72**			**Pn**		**19 50 44.8**	**+0.8**
WCI	**Wyandotte Cave**	**9.43**	**78**		IAmb_Lg			19 53 28.9	
	comp=Z,81nm,0.8s								
WCI	**Wyandotte Cave**	**9.43**	**78**		P			19 50 45.2	
	baz=265								
Y49A	**Blount Mountai**	**9.91**	**104**		IAmb_Lg			19 53 50.9	
	comp=Z,40nm,0.7s								
I42A	**Draeger Farm,**	**9.95**	**41**			**Pn**		**19 50 51.0**	**-0.6**
I42A					IAmb_Lg			19 53 55.0	
	comp=Z,80nm,0.8s								
E28A	**Huff**	**10.01**	**349**		IAmb_Lg			19 54 03.2	
	comp=Z,64nm,0.9s								
G40A	**Rib Lake**	**10.34**	**32**			**Pn**		**19 50 55.7**	**-1.4**
PD31	**Pinedale Array**	**10.71**	**308**			**Pn**		**19 51 04.3**	**+1.9**
PDAR	**Pinedale Array**	**10.71**	**308**		Pn	**Pn**		**19 51 02.3**	**0.0**
	comp=Z,0.4nm,0.3s,baz=110,slow=16,SNR=14								
PDAR					Pg			19 51 45.9	
	comp=Z,0.5nm,0.3s,baz=109,slow=17,SNR=5.0								
PDAR					Lg	Lg		19 53 58.0	
	comp=Z,1.0nm,0.3s,baz=100,slow=23,SNR=3.9								
PDAR	**Pinedale Array**	**10.71**	**308**		Pn	**Pn**		**19 51 01.8**	**-0.6**
R50A	**Paris**	**10.98**	**78**			**Pn**		**19 51 05.6**	**-0.2**
CPCT	**Cooper Cave**	**11.00**	**93**			**Pn**		**19 51 05.4**	**-0.6**
V51A	**Loudon**	**11.07**	**91**			**Pn**		**19 51 06.5**	**-0.6**
TKL	**Tuckaleechee C**	**11.56**	**91**		Pn	**Pn**		**19 51 14.1**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=228,slow=8.2,SNR=6.8								
TKL					Lg	Lg		19 54 26.8	
	comp=Z,1.8nm,0.3s,baz=192,slow=22,SNR=6.2								
ULM	**Lac du Bonnet**	**13.57**	**6**		Pn	**Pn**		19 51 36.7	-4.4
	comp=Z,0.3nm,0.3s,baz=182,slow=12,SNR=2.7								
ULM					Lg	Lg		19 55 27.9	
	comp=Z,0.4nm,0.3s,baz=194,slow=11,SNR=1.9								
NVAR	**Mina Array Bea**	**16.17**	**282**		Pn	**Pn**		**19 52 13.9**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=94,slow=10,SNR=2.7								
SADO	**Sadowa**	**16.36**	**55**		Pn	**Pn**		**19 52 14.9**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=300,slow=22,SNR=6.0								
SADO					Lg	Lg		19 56 57.7	
	comp=Z,1.0nm,0.3s,baz=338,slow=13,SNR=6.1								
YKA	**Yellowknife Ar**	**27.73**	**343**		P	**P**		**19 54 15.8**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=142,slow=9.4,SNR=1.9								
ILAR	**Eielson Array**	**40.11**	**330**		P	**P**		**19 56 05.0**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=112,slow=6.3,SNR=4.1								

GCMT ***24*** *19:55:49.8±0.2, 48°.58S±0°.02×87°.34W±0°.02, h12km, MW5.0/107, Moment Tensor Solution. s52,c64; s107,c139; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}3.17±.08; $M_{\theta\theta}$-0.43±.07; $M_{\phi\phi}$-2.74±.07; $M_{r\theta}$1.20±.27; $M_{\theta\phi}$0.07±.07; $M_{\phi r}$1.05±.23; Best double couple: M_o3.31300×10¹⁶ NP1:ϕ_s165.00000°, δ37.00000°, λ64.00000°. NP2:ϕ_s17.00000°, δ57.00000°, λ108.00000°. Principal axes: T 3.6970, Plg71.0000°, Azm330.0000°; N -0.7640, Plg15.0000°, Azm186.0000°; P -2.9290, Plg10.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***24*** *19:55:49.7±0.4, 48°.43S×87°.15W, h0km, mb4.7/19, mb1 4.7/20, mb1mx4.7/23, mbtmp4.6/20, ML3.3/1, MS4.2/18, Ms1 4.2/18, ms1mx4.2/21 Error ellipse: s-maj=17.5km s-min=13.1km az=106.0*

BJI ***24*** *19:55:49.1±0.0, 48°.69S×87°.33W, h10km, mB5.0/5, Ms5.3/5, Ms7 5.0/5*

MOS ***24*** *19:55:50.2±1.0, 48°.30S×87°.27W, h10km, mb5.3/6, Error ellipse: s-maj=18.0km s-min=8.4km az=76.5*

NEIC ***24*** *19:55:51.9±1.1, 48°.35S±0°.08×87°.3W±0°.1, h15km±2km, mb5.3/235, Error ellipse: s-maj=13.0km s-min=11.6km az=97.0*

ISC 24 19:55:50.8±0.2,**48°.38S**±0°.06×**87°.28W**±0°.06,**h10km**,**n452,** σ0**s90**/398,**mb5.3**/139,**MS4.4**/22,**14C-16D,Southern Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO09	**Cerro Castillo**	**10.09**	**112**			**Pn**	**19 58 16.8**	**+1.2**
GO10	**Punta Arenas**	**11.33**	**121**		Pn	**Pn**	**19 58 33.8**	**+1.1**
LL01	**San Ignacio de**	**12.05**	**66**		Pn	**Pn**	**19 58 44.5**	**+2.1**
PLCA	**Paso Flores**	**14.15**	**64**		Pn	**Pn**	**19 59 12.5**	**+1.3**
	0.0nm,0.3s,baz=235,slow=12,SNR=8.1							
PLCA					LR	LR	20 03 37.5	
	comp=Z,2μm,18.0s,baz=242,slow=33							
PLCA	**Paso Flores**	**14.15**	**64**	*eP*		**Pn**	**19 59 14.0**	**+2.8**
PLCA	**Paso Flores**	**14.15**	**64**	P		**Pn**	**19 59 14.0**	**+2.8**
PLCA	**Paso Flores**	**14.15**	**64**	Pn		**Pn**	**19 59 13.9**	**+2.8**
BI03	**Tigo**	**15.56**	**47**	Pn		**Pn**	**19 59 30.3**	**+0.2**
H03S1	**Juan Fernandez**	**15.82**	**26**	T		T	20 15 42.0	
	baz=199,slow=74,SNR=5.0							
H03S2	**Juan Fernandez**	**15.82**	**26**	T		T	20 15 37.6	
	baz=199,slow=74,SNR=5.5							
H03S3	**Juan Fernandez**	**15.83**	**26**	T		T	20 15 40.6	
	baz=199,slow=74,SNR=6.0							
VA04	**Juan Fernndez**	**16.03**	**26**	Pn		**Pn**	**19 59 36.0**	**-0.2**
BI02	**San Fabin de**	**16.58**	**51**	*eP*		**P**	**19 59 45.9**	**0.0**
BI02	**San Fabin de**	**16.58**	**51**	Pn		**Pn**	**19 59 43.5**	**+0.1**
BO03	**Pichilemu**	**17.96**	**45**	*eP*		**P**	**20 00 00.8**	**-0.2**
BO02	**Sierra Bellavi**	**18.29**	**48**	*eP*		**P**	**20 00 06.4**	**+1.6**
BO02	**Sierra Bellavi**	**18.29**	**48**			**Pn**	**20 00 04.4**	**-0.3**
EFI	**East Falkland**	**19.00**	**111**	*d iP*		**Pn**	**20 00 14.4**	**+1.3**
EFI				pmax		pmax		
	comp=Z,26nm,1.0s							
EFI	**East Falkland**	**19.00**	**111**	P		**Pn**	**20 00 13.5**	**+0.4**
MT09	**Talagante**	**19.01**	**46**	*eP*		**P**	**20 00 12.9**	**+0.1**
LMEL	**Las Melosas**	**19.33**	**48**	*eP*		**Pn**	**20 00 17.5**	**+0.1**
MT02	**Curacav**	**19.36**	**45**	*eP*		**Pn**	**20 00 17.2**	**-0.4**
MT02	**Curacav**	**19.36**	**45**	P		**P**	**20 00 16.5**	**0.0**
MT05	**Renca**	**19.44**	**46**	P		**P**	**20 00 17.3**	**-0.2**
MT05				IAmb		IAmb	20 00 21.5	
	comp=Z,267nm,1.6s							
PEL	**Peldehue**	**19.67**	**45**	*eP*		**Pn**	**20 00 20.9**	**-0.4**
PEL	**Peldehue**	**19.67**	**45**	P		**P**	**20 00 20.5**	**+0.6**
PEL				pmax		pmax		
	comp=Z

BELA Belgrano 2 35.52 163 P **P** **20 02 48.3 +1.0**
LPAZ La Paz 35.65 33 P **P** **20 02 50.6 +1.0**
comp=Z,20nm,1.2s,baz=189,slow=6.8,SNR=23
LPAZ LR LR 20 15 10.4
comp=Z,78nm,21.7s,baz=157,slow=33
LPAZ La Paz 35.65 33 P **P** **20 02 50.2 +0.6**
LPAZ pmax pmax
comp=Z,58nm,1.5s
LPAZ La Paz 35.65 33 P **P** **20 02 50.2 +0.6**
LPAZ lAmb lAmb 20 02 53.0
comp=Z,58nm,1.4s
NNA Nana 37.31 17 P **P** **20 03 03.2 0.0**
NNA pmax pmax
comp=Z,54nm,1.7s
NNA Nana 37.31 17 P **P** **20 03 03.2 0.0**
SPB Sao Paulo 39.99 66 P **P** **20 03 26.0 +0.5**
VNA3 Neumayer Olymp 41.28 151 P **P** **20 03 37.1 +1.3**
VNA1 Neumayer--Stat 41.84 151 P **P** **20 03 41.8 +1.5**
VNA2 Neumayer--Watz 42.07 151 P **P** **20 03 43.6 +1.4**
baz=272,slow=8.0
SNAA Sanae 43.33 153 P **P** **20 03 53.4 +0.9**
SNAA Sanae 43.33 153 P **P** **20 03 53.0 +0.5**
comp=Z,18nm,1.0s,baz=268,slow=5.9,SNR=15
SNAA Sanae 43.33 153 *de*P **P** **20 03 53.4 +0.9**
SNAA pmax pmax
comp=Z,41nm,1.3s
SNAA Sanae 43.33 153 P **P** **20 03 52.9 +0.5**
SAML Samuel 44.24 35 P **P** **20 04 00.1 -0.2**
SAML pmax pmax
comp=Z,23nm,1.6s
SAML Samuel 44.24 35 P **P** **20 04 00.1 -0.2**
BDFB Brasilia 45.81 58 P **P** **20 04 13.4 +0.4**
comp=Z,7.2nm,0.8s,baz=196,slow=2.6,SNR=10
BDFB LR LR 20 23 54.6
comp=Z,593nm,18.2s,baz=187,slow=37
BDFB Brasilia 45.81 58 P **P** **20 04 13.2 +0.2**
BDFB pmax pmax
comp=Z,19nm,1.1s
BDFB Brasilia 45.81 58 P **P** **20 04 13.2 +0.2**
SBA Scott Base 46.41 196 P **P** **20 04 17.0 +0.2**
SBA pmax pmax
comp=Z,66nm,1.8s
SBA Scott Base 46.41 196 P **P** **20 04 17.0 +0.2**
SBA lAmb lAmb 20 04 20.8
comp=Z,66nm,1.8s
VNDA Vanda 47.48 196 P **P** **20 04 26.2 +1.0**
comp=Z,2.4nm,0.7s,baz=114,slow=6.1,SNR=11
VNDA PcP **PcP** **20 05 55.5 +0.3**
comp=Z,4.8nm,1.1s,baz=161,slow=1.7,SNR=5.2
VNDA LR LR 20 21 04.7
comp=Z,438nm,20.8s,baz=142,slow=32
VNDA Vanda 47.48 196 P **P** **20 04 25.8 +0.5**
PAYG Puerto Ayora 47.59 356 P **P** **20 04 26.0 -0.7**
NVL N'Iazarevskaya 48.07 154 *e*P **P** **20 04 28.6 -1.3**
NVL pmax pmax
comp=Z,60nm,1.5s
OTAV Otavalo 49.02 12 P **P** **20 04 39.0 +0.7**
OTAV pmax pmax
comp=Z,82nm,1.5s
OTAV Otavalo 49.02 12 P **P** **20 04 39.0 +0.7**
PTGA Pitinga 53.00 35 P **P** **20 05 07.4 -0.3**
ROSC El Rosal 54.20 16 P **P** **20 05 18.9 +1.9**
comp=Z,7.9nm,0.3s,baz=100,slow=4.4,SNR=12
ROSC LR LR 20 25 35.1
comp=Z,239nm,20.5s,baz=226,slow=33
ROSC El Rosal 54.20 16 P **P** **20 05 16.9 0.0**
ROSC pmax pmax
comp=Z,99nm,1.7s
ROSC El Rosal 54.20 16 P **P** **20 05 16.9 0.0**
TBI Tubuai 54.57 274 *e*S **S** **20 13 01.7 +3.1**
comp=Z,162nm,27.5s
TBI *e*LR LR 20 21 07.1
comp=Z,1μm,27.5s,baz=139
SYO Syowa Base 56.56 160‖ *e*P **P** **20 05 29.2 -3.6**
SYO Syowa Base 56.56 160‖ *e*pP pP 20 05 33.9 -0.7
RIOS Rincon, Osa 56.92 4 P **P** **20 05 36.1 0.0**
RIOS lAmb lAmb 20 05 38.2
comp=Z,42nm,1.3s
JTS Las Juntas de 58.44 3 P **P** **20 05 47.9 +1.1**
comp=Z,1.8nm,0.5s,baz=227,slow=5.1,SNR=6.6
JTS Las Juntas de 58.44 3‖ *e*P **P** **20 05 48.4 +1.6**
JTS pmax pmax
comp=Z,30nm,1.8s
JTS Las Juntas de 58.44 3 P **P** **20 05 47.3 +0.5**
JTS lAmb lAmb 20 05 50.2
comp=Z,37nm,1.6s
PPTF Pamatai, Papee 58.69 279 P **P** **20 05 48.8 +0.1**
PPT2 Papeete2 58.70 279 *e*S **S** **20 13 55.9 +2.4**
comp=Z,213nm,26.0s
PPT2 *e*LR LR 20 23 09.7
comp=Z,930nm,24.0s,baz=150
PPT Papeete 58.71 279 P **P** **20 05 50.5 +1.8**
comp=Z,6.7nm,0.3s,baz=109,slow=8.9,SNR=4.1
PPT LR LR 20 24 50.3
comp=Z,448nm,18.6s,baz=156,slow=30
SDV Santo Domingo 58.88 19 P **P** **20 05 48.6 -1.4**
SDV lAmb lAmb 20 05 51.2
comp=Z,53nm,1.6s
COVE Coope Vega, Sa 58.89 3 P **P** **20 05 50.4 +0.6**
TAOE Nuku Hiva Isla 59.22 294 *e*LR LR 20 23 20.6
comp=Z,883nm,25.4s
ACON Acoyapa 60.10 2 P **P** **20 05 57.5 -0.6**
ACON lAmb lAmb 20 07 36.9
comp=Z,15nm,0.9s
ESPN Las Esperanzas 60.36 3 P **P** **20 05 59.4 -0.5**
ESPN lAmb lAmb 20 06 02.7
comp=Z,43nm,1.4s
BOAB BOACO BROADBAND 60.57 2 P **P** **20 06 00.5 -0.9**
TGUH Tegucigalpa,Un 62.15 0 P **P** **20 06 11.2 -1.1**
MAW Mawson 62.17 168 P **P** **20 06 12.3 +0.7**
comp=Z,14nm,0.9s,baz=192,slow=7.7,SNR=5.6
MAW LR LR 20 32 15.9
comp=Z,168nm,19.4s,baz=240,slow=35
MAW Mawson 62.17 168 P **P** **20 06 12.1 +0.5**
MAW pmax pmax
comp=Z,6.0nm,1.1s
MAW Mawson 62.17 168 P **P** **20 06 12.1 +0.5**
MTO3 Montecristo 62.52 358 P **P** **20 06 14.8 0.0**
MTO3 lAmb lAmb 20 06 16.6
comp=Z,33nm,1.5s
APG El Apazote 63.16 357 P **P** **20 06 20.1 +1.1**
comp=Z,2.8nm,0.3s,baz=234,slow=10.0,SNR=10
CCIG Comitan 64.51 355 P **P** **20 06 28.0 +0.1**
BFZ Birch Farm 64.73 237 P **P** **20 06 29.2 +0.2**
TUWZ Tuamarina 65.49 235 P **P** **20 06 34.6 +0.6**
CMIG Matias Romero 65.52 352 P **P** **20 06 34.8 +0.5**
BKZ Black Stump Fm 65.63 238 P **P** **20 06 36.5 +1.6**
BKZ lAmb lAmb 20 06 37.7
comp=Z,31nm,1.3s
MXZ Matakaoa Point 65.69 240 P **P** **20 06 36.8 +1.5**
THZ Tophouse 65.82 234 P **P** **20 06 35.0 -1.2**
PYZ Puysegur Point 65.93 227 P **P** **20 06 35.1 -1.5**
TLIG Tlapa 66.41 348 P **P** **20 06 41.6 +1.5**
TLIG lAmb lAmb 20 06 43.8
comp=Z,32nm,1.4s
QRZ Quartz Range 66.68 234 P **P** **20 06 41.4 -0.2**
QRZ lAmb lAmb 20 07 31.7
comp=Z,39nm,1.3s
MTDJ Mount Denham 66.87 10 P **P** **20 06 42.3 -0.7**
MTDJ lAmb lAmb 20 06 45.4
comp=Z,56nm,1.6s
HIZ Hauiti 67.00 238 P **P** **20 06 43.6 -0.1**
LCCY Blossom Villag 68.04 7 P **P** **20 06 49.7 -0.5**
CBCY The Bluff, Cay 68.14 8 P **P** **20 06 50.4 -0.4**
CBCY lAmb lAmb 20 06 51.9
comp=Z,29nm,1.1s
MLPR Magueyes Islan 68.48 21 P **P** **20 06 52.3 -0.7**
OBIP Obispado Ponce 68.65 21 P **P** **20 06 52.4 -1.7**
PDPR Patillas Dam, 68.77 22 P **P** **20 06 53.0 -1.9**
PDPR lAmb lAmb 20 06 54.9
comp=Z,55nm,1.8s
GTBY Guantanamo Bay 68.86 12 P **P** **20 06 55.5 +0.2**
H06S1 SOCORRO T 70.08 336 T T 21 24 01.4
SNR=31
ZAIG Zacatecas 72.13 345 P **P** **20 07 17.7 +2.0**
ZAIG lAmb lAmb 20 07 20.0
comp=Z,32nm,1.4s
833A Chaparral WMA, 77.12 349 P 20 07 45.6
baz=172
HKT Hockley 78.34 352‖ *i*P **P** **20 07 52.1 +1.3**
HKT pmax pmax
comp=Z,26nm,1.5s
HKT Hockley 78.34 352 P **P** **20 07 52.2 +1.3**
HKT lAmb lAmb 20 07 53.4
comp=Z,43nm,1.6s

TX31 Lajitas Ar. Si 78.74 345 P **P** **20 07 53.5 +0.2**
TX32 Lajitas Array 78.74 345 P **P** **20 07 54.0 +0.7**
TX32 lAmb lAmb 20 07 57.0
comp=Z,36nm,1.4s
TXAR Lajitas Array 78.74 345 P **P** **20 07 55.0 +1.7**
comp=Z,10.0nm,1.1s,baz=167,slow=6.3,SNR=46
TXAR LR LR 20 37 02.1
comp=Z,65nm,18.3s,baz=0.0,slow=31
TXAR Lajitas Array 78.74 345 P **P** **20 07 54.1 +0.9**
TXAR Lajitas Array 78.74 345 P **P** **20 07 54.1 +0.9**
BRAL Brewton 79.18 0 P 20 07 56.5
baz=180
JCT Junction City 79.29 349 P 20 07 56.9
baz=172,SNR=6.5
JCT Junction City 79.30 349 P **P** **20 07 56.5 +0.3**
JCT pmax pmax
comp=Z,18nm,1.0s
JCT Junction City 79.30 349 P **P** **20 07 56.5 +0.3**
435B Jarrell 79.34 351 P 20 07 57.5
baz=173
NATX Nacogdoches 80.04 354 P 20 08 01.3
baz=175
WHTX Lake Whitney, 80.52 351 P 20 08 03.3
baz=173
LRAL Lakeview Retre 81.04 0 P 20 08 05.7
baz=180
LRAL Lakeview Retre 81.04 0 P **P** **20 08 05.6 +0.1**
LRAL lAmb lAmb 20 08 07.8
comp=Z,40nm,1.4s
Z47A Carrollton 81.21 359 P **P** **20 08 06.6 +0.3**
Z47A lAmb lAmb 20 08 08.8
comp=Z,39nm,1.1s
MNTX Cornudas Mount 81.34 344 P 20 08 07.6
baz=168
MNTX Cornudas Mount 81.34 344 P **P** **20 08 06.8 -0.3**
NHSC New Hope 81.36 6 P 20 08 08.7
baz=185
ABTX Abilene, Hawle 81.39 349 P 20 08 07.8
baz=172
ABTX Abilene, Hawle 81.39 349 lAmb lAmb 20 08 09.5
comp=Z,29nm,1.4s
GOGA Godfrey 81.49 3 P 20 08 08.4
baz=183
GOGA Godfrey 81.49 3 P **P** **20 08 08.1 +0.2**
GOGA pmax pmax
comp=Z,47nm,1.4s
GOGA Godfrey 81.49 3 P **P** **20 08 08.1 +0.2**
GOGA lAmb lAmb 20 08 10.2
comp=Z,47nm,1.4s
Y52A Lilburn 81.92 3 P **P** **20 08 10.1 0.0**
Y52A lAmb lAmb 20 08 11.8
comp=Z,18nm,1.0s
BOSA Boshof 82.51 125 P **P** **20 08 13.9 +0.1**
comp=Z,4.0nm,0.9s,baz=215,slow=8.0,SNR=5.6
BOSA LR LR 20 42 44.4
comp=Z,170nm,18.0s,baz=188,slow=34
BOSA Boshof 82.51 125 lAmb lAmb 20 08 48.1
comp=Z,29nm,1.6s
FPAL Fort Paine 82.56 1 P **P** **20 08 13.7 +0.2**
FPAL lAmb lAmb 20 08 15.5
comp=Z,34nm,1.2s
121A Cookes Peak, D 82.61 343 P 20 08 14.8
baz=166
X40A Basin Creek Fa 82.64 355 P 20 08 15.8
baz=176
MIAR Mount Ida 82.74 355 P 20 08 13.9
baz=176
PAULI Pauline 82.97 5 lAmb lAmb 20 08 17.4
comp=Z,33nm,1.3s
PLAL Pickwick Lake 82.99 359 P **P** **20 08 15.0 -0.7**
TUC Tucson 83.03 340 P 20 08 17.3
baz=164
TUC Tucson 83.03 340 P **P** **20 08 16.6 +0.5**
TUC pmax pmax
comp=Z,13nm,1.3s
TUC Tucson 83.03 340 P **P** **20 08 16.6 +0.5**
BG3 Lake Jocassee 83.09 4 lAmb lAmb 20 08 18.1
comp=Z,17nm,1.2s
MSTX Muleshoe 83.14 347 P 20 08 17.3
baz=170
MSTX Muleshoe 83.14 347 lAmb lAmb 20 08 18.9
comp=Z,26nm,1.4s
214A Organ Pipe Nat 83.17 338 P 20 08 17.8
baz=163
214A Organ Pipe Nat 83.17 338 P **P** **20 08 17.7 +0.9**
W50A Signal Mountai 83.22 2 lAmb lAmb 20 08 19.0
comp=Z,37nm,1.2s
SWET Sewanee 83.23 1 P **P** **20 08 17.2 +0.2**
W41B Gary Mavity, V 83.29 356 P 20 08 17.1
baz=177
KMSC Kings Mountain 83.31 5 P 20 08 17.9
baz=184
WMOK Wichita Mounta 83.38 350 P 20 08 18.0
baz=172,SNR=5.8
WMOK Wichita Mounta 83.38 350 P **P** **20 08 18.0 +0.2**
WMOK pmax pmax
comp=Z,17nm,0.4s
WMOK Wichita Mounta 83.38 350 P **P** **20 08 18.0 +0.2**
W39A Magazine 83.40 355 P 20 08 18.0
baz=176
W39A Magazine 83.40 355 lAmb lAmb 20 08 19.8
comp=Z,36nm,1.3s
CPCT Cooper Cave 83.49 2 P **P** **20 08 18.3 0.0**
CPCT lAmb lAmb 20 08 19.3
comp=Z,29nm,1.3s
AMTX Amarillo 83.88 348 P 20 08 21.3
baz=170
AMTX Amarillo 83.88 348 lAmb lAmb 20 08 23.0
comp=Z,46nm,1.4s
DZM Mont Dzumac 83.96 244 *e*LR LR 20 34 44.7
comp=Z,201nm,22.4s
FCAR Ozark Folk Cen 84.00 356 P **P** **20 08 20.9 0.0**
FCAR lAmb lAmb 20 08 22.6
comp=Z,26nm,1.2s
V56A Mocksville 84.03 6 P 20 08 20.6
baz=184
CLTN Cedars of Leba 84.10 1 lAmb lAmb 20 08 23.0
comp=Z,29nm,1.2s
WVT Waverly 84.13 360 P 20 08 21.0
baz=180
WVT Waverly 84.13 360 P **P** **20 08 21.3 -0.2**
WVT pmax pmax
comp=Z,19nm,0.9s
WVT Waverly 84.13 360 P **P** **20 08 21.3 -0.2**
WVT lAmb lAmb 20 10 06.4
comp=Z,19nm,0.9s
LCAR Lake Charles 84.14 357 lAmb lAmb 20 08 23.2
comp=Z,18nm,1.1s
V59A Middlesex 84.15 7 P 20 08 20.7
baz=186
V57A Coltrane Farms 84.16 6 P 20 08 20.4
baz=185
U40A Yellville 84.50 355 P 20 08 22.9
baz=176
U40A Yellville 84.50 355 P **P** **20 08 23.4 0.0**
U40A lAmb lAmb 20 08 24.7
comp=Z,17nm,1.2s
U56A King 84.57 6 P 20 08 23.3
baz=185
U56A King 84.57 6 lAmb lAmb 20 08 25.4
comp=Z,31nm,1.1s
U54A Nelsons Funny 84.66 4 P 20 08 23.3
baz=184
U38A Gravette 84.68 354 lAmb lAmb 20 08 25.6
comp=Z,21nm,1.3s
ANMO Albuquerque 84.70 344 P 20 08 25.7
baz=167
ANMO Albuquerque 84.70 344 *c i*P **P** **20 08 25.9 +1.2**
ANMO pmax pmax
comp=Z,14nm,1.3s
ANMO Albuquerque 84.70 344 P **P** **20 08 26.2 +1.5**
ANMO lAmb lAmb 20 08 27.7
comp=Z,22nm,1.5s
GLA Glamis 84.72 337 P 20 08 23.6
baz=162
U57A Blanch 84.73 6 P 20 08 23.6
baz=185
U58A Oxford 84.75 7 P 20 08 23.3
baz=186
PBMO Poplar Bluff 84.83 357 lAmb lAmb 20 08 25.9
comp=Z,28nm,1.4s
SWSC Sam W. Stewart 84.88 336 P 20 08 25.4
baz=161
X18A Snowflake 84.98 341 P **P** **20 08 27.8 +1.6**
X18A lAmb lAmb 20 08 29.4
comp=Z,38nm,1.4s
T47A Sharon Grove 84.99 0 P **P** **20 08 25.6 -0.2**

MONP2 Monument Peak 85.00 336 P 20 08 24.9
baz=161
T50A Nancy 85.05 2 lAmb lAmb 20 08 26.9
comp=Z,27nm,1.4s
T42A Van Buren 85.10 357 lAmb lAmb 20 08 27.1
comp=Z,29nm,1.4s
109C Camp Elliot, M 85.19 335 P 20 08 27.6
baz=161
T56A Rocky Mt 85.27 6 P 20 08 26.6
baz=185
T58A Grand View Acr 85.30 7 P 20 08 27.1
baz=186
BLA Blacksburg 85.43 5 P 20 08 27.6
baz=185
BC3 Big Chuckawall 85.46 337 P 20 08 29.0
baz=162
KAN14 Manchester OK 85.49 351 P **P** **20 08 28.7 +0.3**
W18A Petrified Fore 85.51 342 P 20 08 29.7
baz=165
W18A Petrified Fore 85.51 342 lAmb lAmb 20 08 31.6
comp=Z,36nm,1.5s
LBTB Lobatse 85.52 123 P **P** **20 08 29.7 +0.5**
LBTB pmax pmax
comp=Z,48nm,1.6s
LBTB Lobatse 85.52 123 P **P** **20 08 29.7 +0.5**
LBTB lAmb lAmb 20 08 31.0
comp=Z,48nm,1.6s
TPFO Pinon Flats 85.68 336 P 20 08 30.3
baz=161
XPFO Pion Flat 85.69 336 P **P** **20 08 31.4 +1.8**
PFO Pinyon Flats O 85.69 336 P 20 08 30.4
baz=161
PFO Pinyon Flats O 85.69 336 P **P** **20 08 31.6 +2.0**
PFO pmax pmax
comp=Z,10.0nm,1.3s
PFO Pinyon Flats O 85.69 336 P **P** **20 08 31.6 +2.0**
S51A Beattyville 85.70 3 lAmb lAmb 20 08 30.4
comp=Z,36nm,1.2s
PDMCI Parker Dam,Lak 85.74 338 P 20 08 30.7
baz=162
IRM Iron Mountain 85.86 337 P 20 08 31.5
baz=162
S39A Bolivar 85.86 355 lAmb lAmb 20 08 31.8
comp=Z,27nm,1.2s
MURC Murrieta 85.88 335 P 20 08 31.5
baz=161
BELC Belle Mtn. Jos 85.93 336 P 20 08 32.5
baz=161
S56A Natural Bridge 85.95 6 P 20 08 30.2
baz=185
S54A Dingess, Beckl 85.96 5 P 20 08 32.4
baz=184
S58A Poland Farm, P 86.00 7 P 20 08 31.7
baz=186
FVM French Village 86.03 358 lAmb lAmb 20 08 32.6
comp=Z,30nm,1.6s
CIS Catalina Islan 86.04 334 P 20 08 32.5
baz=160
S57A Dark Hollow, R 86.08 7 P **P** **20 08 30.7**
baz=186
S57A Dark Hollow, R 86.08 7 P **P** **20 08 30.5 -0.7**
S57A lAmb lAmb 20 08 31.8
comp=Z,28nm,1.4s
CCM Cathedral Cave 86.12 357 P 20 08 31.3
baz=177
CCM Cathedral Cave 86.13 357 P **P** **20 08 31.3 -0.2**
CCM pmax pmax
comp=Z,39nm,1.3s
CCM Cathedral Cave 86.13 357 P **P** **20 08 31.3 -0.2**
CCM lAmb lAmb 20 08 33.3
comp=Z,38nm,1.2s
S59A Mechanicsville 86.22 8 P 20 08 31.4
baz=187
SNCC San Nicolas Is 86.22 333 P 20 08 31.5
baz=159
S60A Water View 86.22 8 P 20 08 31.7
baz=187
WCI Wyandotte Cave 86.23 1 P 20 08 31.3
baz=181
WCI Wyandotte Cave 86.23 1 P **P** **20 08 31.0 -1.0**
WCI pmax pmax
comp=Z,25nm,1.2s
WCI Wyandotte Cave 86.23 1 P **P** **20 08 31.0 -1.0**
WCI lAmb lAmb 20 08 33.0
comp=Z,25nm,1.1s
WUAZ Wupatki 86.24 341 P 20 08 33.7
baz=164
WUAZ Wupatki 86.25 341 lAmb lAmb 20 08 35.3
comp=Z,18nm,1.4s
R49A Shelbyville 86.31 2 lAmb lAmb 20 08 33.5
comp=Z,38nm,1.5s
R50A Paris 86.32 2 P **P** **20 08 32.2 -0.2**
R50A lAmb lAmb 20 11 43.0
comp=Z,35nm,1.4s
R54A Victor 86.36 5 P 20 08 33.1
baz=184
R58B Mineral 86.37 7 P 20 08 32.5
baz=186
R58B Mineral 86.37 7 lAmb lAmb 20 08 34.3
comp=Z,28nm,1.1s
R53A Hurricane 86.46 4 P **P** **20 08 32.9 -0.2**
T25A Trinidad 86.49 346 P 20 08 34.5
baz=169
T25A Trinidad 86.50 346 lAmb lAmb 20 08 37.8
comp=Z,57nm,1.9s
R55A Marlinton 86.51 6 P 20 08 33.1
baz=185
GMRC Granite Mounta 86.58 337 P 20 08 34.7
baz=162
BFSC Mount Baldy Ra 86.61 335 P 20 08 34.7
baz=160
R57A Stanardsville 86.64 7 P 20 08 34.0
baz=186
CBN Corbin Frederi 86.65 8 P 20 08 33.2
baz=187
R59A King George, V 86.67 8 P 20 08 33.6
baz=187
R56A Bull Pasture M 86.69 6 P 20 08 33.8
baz=185
R58A Rapidan 86.69 7 P 20 08 33.1
baz=186
Q44A Meyer Farm, Va 86.91 359 P **P** **20 08 35.7 +0.4**
Q53A Leroy 87.00 4 P 20 08 36.7
baz=184
Q51A Peebles 87.09 3 lAmb lAmb 20 08 37.6
comp=Z,33nm,1.4s
BLO Bloomington 87.17 1 P **P** **20 08 36.4 -0.2**
BLO pmax pmax
comp=Z,269nm,0.5s
BLO Bloomington 87.17 1 P **P** **20 08 36.4 -0.2**
MVCO Mesa Verde 87.28 343 P 20 08 38.9
baz=166
MVCO Mesa Verde 87.28 343 lAmb lAmb 20 08 40.4
comp=Z,33nm,1.5s
EDW2 Edwards Air Fo 87.31 335 P 20 08 38.4
baz=160
Q58A Fox Den Farm, 87.35 7 P 20 08 38.5
baz=186
GSC Goldstone, Bar 87.37 336 P 20 08 39.2
baz=161
GSC Goldstone, Bar 87.38 336 P **P** **20 08 38.9 +1.1**
GSC pmax pmax
comp=Z,18nm,1.6s
GSC Goldstone, Bar 87.38 336 P **P** **20 08 38.9 +1.1**
GSC lAmb lAmb 20 08 40.4
comp=Z,18nm,1.6s
Q57A Strasburg 87.39 7 P 20 08 38.2
baz=186
P48A Milroy 87.47 1 lAmb lAmb 20 08 38.9
comp=Z,29nm,1.1s
KSU1 Kansas State U 87.49 353 P 20 08 39.5
baz=174
S22A 4UR Ranch, Cre 87.49 345 P 20 08 40.0
baz=167
CBKS Cedar Bluff 87.51 350 P 20 08 39.4
baz=172
P49A Miami Univ. Ec 87.56 2 P 20 08 39.9
baz=182
P40A Paris 87.63 356 P **P** **20 08 38.6 -0.2**
P40A lAmb lAmb 20 08 39.7
comp=Z,28nm,1.3s
P43A Skaggs, Pawnee 87.66 358 P **P** **20 08 38.8 -0.1**
P43A lAmb lAmb 20 08 39.7
comp=Z,33nm,1.2s
P52A Corning 87.75 4 P 20 08 39.5
baz=183
LRMC Laurel Mtn Rad 87.78 336 P 20 08 40.4

baz=160
P38A Dawn 87.80 355 P P 20 08 38.6 -1.0
P38A IAmb IAmb 20 08 41.0
comp=Z,23nm,1.2s
SHOC Shoshone, Teco 87.80 337 P 20 08 39.7
baz=161
KSCO Kaye Shedlock' 88.07 348 P 20 08 42.0
baz=170
P59A Jarrettsville 88.13 8 P 20 08 41.7
baz=187
O44A Mansfield 88.15 359 P P 20 08 41.4 +0.1
ISA Isabella, Lake 88.17 335 P 20 08 42.5
baz=160
PV01 Paradox Valley 88.19 343 IAmb IAmb 20 08 44.6
comp=Z,21nm,1.2s
O49A Covington 88.22 2 P P 20 08 41.2 -0.4
PV05 Paradox Valley 88.24 343 P P 20 08 42.2 +0.2
PV13 Radium Mtn., P 88.26 343 IAmb IAmb 20 08 45.6
comp=Z,20nm,1.5s
MPMC Manual Prospec 88.27 336 P 20 08 42.7
baz=160
PV02 Paradox Valley 88.29 343 P P 20 08 42.6 +0.3
PV02 IAmb IAmb 20 08 45.7
comp=Z,12nm,1.1s
ACSO Alum Creek Sta 88.31 3 P 20 08 41.5
baz=183
PV03 Paradox Valley 88.36 343 IAmb IAmb 20 08 45.1
comp=Z,22nm,1.5s
PV18 Skein Mesa, Pa 88.36 343 IAmb IAmb 20 08 45.1
comp=Z,24nm,1.6s
SFIN Lafayette 88.37 0 P 20 08 41.4
baz=180
SFIN Lafayette 88.37 0 P P 20 08 41.9 -0.4
Q24A Divide 88.40 346 P 20 08 43.8
baz=168
O53A New Philadelph 88.41 5 P 20 08 41.8
baz=184
O53A New Philadelph 88.41 5 P P 20 08 41.8 -0.7
P60A Greenville 88.41 9 P 20 08 41.7
baz=186
PV12 Saucer Basin, 88.41 343 IAmb IAmb 20 08 45.7
comp=Z,25nm,1.5s
PV16 Nyswonger Mesa 88.43 343 IAmb IAmb 20 08 45.5
comp=Z,13nm,1.3s
PV20 West Nyswonger 88.47 343 IAmb IAmb 20 08 45.6
comp=Z,19nm,1.4s
FURC Furnace Creek, 88.49 337 P 20 08 43.3
baz=161
MVL Millersville 88.53 8 P P 20 08 42.9 -0.1
MVL IAmb IAmb 20 08 44.9
comp=Z,31nm,1.2s
WUPA West Chester U 88.54 9 IAmb IAmb 20 08 45.0
comp=Z,18nm,1.3s
HDIL Hopedale 88.57 358 P 20 08 42.7
baz=179
O58A Lewisberry 88.59 8 P 20 08 43.2
baz=187
O56A Blue Knob Stat 88.60 7 P 20 08 43.0
baz=186
O56A Blue Knob Stat 88.60 7 P P 20 08 43.0 -0.5
O56A IAmb IAmb 20 08 45.0
comp=Z,30nm,1.4s
O57A Amberson 88.62 7 P 20 08 44.2
baz=186
PV22 Blue Mesa, Par 88.62 343 IAmb IAmb 20 08 46.5
comp=Z,20nm,1.5s
SZCU Shurtz Canyon 88.62 340 P P 20 08 44.8 +0.9
SZCU IAmb IAmb 20 08 46.9
comp=Z,27nm,1.6s
CCUT Cedar City 88.64 340 P P 20 08 43.7 -0.3
TPNV Topopah Spring 88.78 337 P 20 08 44.8
baz=161
MTPU Mount Pierson 88.85 341 IAmb IAmb 20 08 47.8
comp=Z,19nm,1.5s
O59A Robesonia 88.85 8 P 20 08 44.6
baz=187,SNR=5.8
SMCO Snowmass 88.91 345 P P 20 08 45.5 +0.1
SMCO IAmb IAmb 20 08 48.6
comp=Z,26nm,1.4s
PRN Pahroc Range 88.91 338 IAmb IAmb 20 08 48.4
comp=Z,20nm,1.6s
STKA Stephens Creek 88.93 220 LR LR 20 40 22.2
comp=Z,222nm,21.4s,baz=194,slow=30
O60A Telford 88.94 9 P 20 08 44.4
baz=188
N49A Columbus Grove 88.96 2 P P 20 08 44.1 -0.9
N49A IAmb IAmb 20 08 46.1
comp=Z,31nm,1.2s
N51A Ashland 89.02 4 P P 20 08 44.8 -0.5
N51A IAmb IAmb 20 08 46.4
comp=Z,24nm,1.1s
GRAC Grapevine Rang 89.12 336 P 20 08 46.3
baz=161
N57A Milroy 89.17 7 P 20 08 45.5
baz=186
N54A Moraine State 89.19 6 P 20 08 45.6
baz=185
N54A Moraine State 89.19 6 IAmb IAmb 20 08 47.6
comp=Z,22nm,1.1s
N56A West Decatur 89.27 7 P 20 08 45.4
baz=186
N58A Sunbury 89.32 8 P 20 08 46.0
baz=187
N58A Sunbury 89.33 8 P P 20 08 46.1 -0.6
Q16A Castle Valley 89.47 342 IAmb IAmb 20 08 51.3
comp=Z,31nm,1.2s
N61A South Mountain 89.49 10 P 20 08 47.8
baz=189
N59A State Game Lan 89.49 9 P 20 08 47.5
baz=188,SNR=6.6
N59A State Game Lan 89.49 9 P P 20 08 47.2 -0.4
N60A Cedar Hill Far 89.52 9 P 20 08 47.8
baz=188,SNR=6.4
M53A WI Miller and 89.62 5 P 20 08 47.2
baz=184
M53A WI Miller and 89.62 5 IAmb IAmb 20 08 49.4
comp=Z,40nm,1.4s
PSUT Pine Spring 89.70 339 P P 20 08 48.9 +0.1
M54A Oil Creek Stat 89.75 6 P 20 08 49.2
baz=185
M55A Ridgway 89.78 6 IAmb IAmb 20 08 49.5
comp=Z,23nm,1.2s
M57A Sunshine Farm, 89.78 8 P 20 08 48.8
baz=187,SNR=5.7
ODNJ Ogdensburg 89.78 10 IAmb IAmb 20 08 50.6
comp=Z,23nm,1.2s
M57A Sunshine Farm, 89.78 8 IAmb IAmb 20 08 50.6
comp=Z,32nm,1.2s
PAL Palisades 89.78 10 P 20 08 47.9
baz=189
M56A Emporium 89.84 7 P 20 08 48.7
baz=186,SNR=6.5
M56A Emporium 89.84 7 P P 20 08 49.3 +0.2
TMUT Trail Mountain 89.84 342 IAmb IAmb 20 08 53.0
comp=Z,30nm,1.4s
M58A Price's Panora 89.88 8 P 20 08 49.0
baz=187,SNR=8.1
TRNY Table Rock, Ra 89.89 10 IAmb IAmb 20 08 51.2
comp=Z,35nm,1.2s
BGNE Belgrade 89.92 352 P 20 08 50.1
baz=173
DBIC Dimbokro 89.93 80 P P 20 08 49.7 -0.6
comp=Z,8.4nm,1.0s,baz=273,slow=13,SNR=4.1
DBIC LR LR 20 46 29.0
comp=Z,98nm,18.4s,baz=212,slow=34
R11A Troy Canyon, C 89.94 338 P 20 08 50.0
baz=162
L48A N Adams 89.97 2 P P 20 08 49.1 -0.6
M60A Port Jervis 90.02 10 P 20 08 49.9
baz=188
M61A Granite Spring 90.10 10 P 20 08 50.6
baz=189
M59A Waymart 90.14 9 P 20 08 50.3
baz=188
L53A Girard 90.16 5 P 20 08 50.3
baz=185
M62A Hamden 90.33 11 P 20 08 51.6
baz=190
ERPA Erie 90.34 5 P 20 08 50.9
baz=185
M63A Gales Ferry 90.41 11 P 20 08 51.1
baz=190
L57A Andrews Acres 90.46 8 P 20 08 51.6
baz=187,SNR=6.8
M66A Nantucket 90.53 13 P 20 08 51.9
baz=191
L56A Greenwood 90.54 7 P 20 08 51.8
baz=186,SNR=6.5
L56A Greenwood 90.54 7 P P 20 08 51.8 -0.7
L56A IAmb IAmb 20 08 54.1
comp=Z,32nm,1.1s
KSCT Kent School, K 90.55 10 IAmb IAmb 20 08 54.2
comp=Z,28nm,1.2s
L58A Harry Jones Me 90.60 8 P 20 08 52.8
baz=188
NLU North Lily Min 90.66 341 P P 20 08 53.5 +0.2
NLU IAmb IAmb 20 08 56.8
comp=Z,24nm,1.3s
M64A Tiverton 90.66 12 P 20 08 52.7
baz=191
L60A Shokan 90.72 10 P 20 08 53.2
baz=189
NVAR Mina Array Bea 90.72 336 P P 20 08 54.8 +1.2
comp=Z,0.7nm,0.9s,baz=123,slow=5.5,SNR=6.7
NVAR Mina Array Bea 90.72 336 P P 20 08 54.1 +0.4
WVNY West Valley, N 90.72 6 IAmb IAmb 20 08 54.9
comp=Z,27nm,1.1s
BINY Binghamton 90.74 8 P 20 08 52.9
baz=188
L59A Walton 90.83 9 P 20 08 53.2
baz=188
L63A North Scituate 90.92 12 P 20 08 54.1
baz=190
JFWS Jewell Farm 90.94 358 P 20 08 53.9
baz=178
JFWS Jewell Farm 90.94 358 P P 20 08 53.9 -0.4
JFWS pmax pmax
comp=Z,19nm,1.2s
JFWS Jewell Farm 90.94 358 P P 20 08 53.9 -0.4
JFWS IAmb IAmb 20 08 55.7
comp=Z,19nm,1.1s
RYN Ryan 90.97 336 IAmb IAmb 20 08 58.5
comp=Z,25nm,1.7s
L61A Hillsdale 1, H 91.00 10 P 20 08 55.3
baz=189
DUG Dugway, Tooele 91.05 341 P 20 08 55.3
baz=163
DUG Dugway, Tooele 91.05 341 IAmb IAmb 20 08 58.2
comp=Z,21nm,1.4s
L64A Middleborough 91.09 12 P 20 08 54.8
baz=191
K56A Middlesex 91.11 7 P 20 08 54.5
baz=187
K31A O'Neill 91.18 352 P P 20 08 55.8 +0.4
K57A Scipio Center 91.22 8 P 20 08 54.7
baz=187
K58A Earlville 91.33 9 P 20 08 55.7
baz=188
K58A Earlville 91.33 9 P P 20 08 56.3 +0.2
L61B Northampton 91.36 11 P 20 08 56.6
baz=190
K59A Cooperstown 91.43 9 P 20 08 56.4
baz=188
K61A Williamstown 91.50 10 P 20 08 56.2
baz=189
HRV Adam Dziewonsk 91.56 12 P 20 08 57.0
baz=190
K62A Royalston 91.62 11 P 20 08 57.7
baz=190
J56A Wolcott 91.73 8 P 20 08 57.3
baz=187
J57A Williamstown 91.94 8 P 20 08 58.8
baz=188
J57A Williamstown 91.94 8 IAmb IAmb 20 09 00.2
comp=Z,20nm,1.2s
AFDM Forest Hills D 91.95 334 IAmb IAmb 20 09 02.2
comp=Z,24nm,1.8s
I51A Listowel 91.96 5 P 20 08 58.8
baz=184
SPUT South Promonto 92.03 341 P P 20 08 59.8 +0.2
J60A Lant Hill Farm 92.05 10 P 20 08 59.2
baz=189
ECSD EROS Data Cent 92.09 353 P 20 08 59.5
baz=174
ECSD EROS Data Cent 92.09 353 IAmb IAmb 20 09 01.5
comp=Z,30nm,1.6s
ELK Elko 92.13 339 P P 20 09 01.0 +0.9
ELK pmax pmax
comp=Z,7.0nm,0.8s
ELK Elko 92.13 339 P P 20 09 01.0 +0.9
ELK IAmb IAmb 20 11 58.6
comp=Z,6.7nm,0.8s
ACCN Adirondack Com 92.16 10 IAmb IAmb 20 09 01.5
comp=Z,29nm,1.6s
K22A Casper 92.22 346 P P 20 09 01.0 +0.6
J62A Henniker 92.23 11 P 20 09 00.3
baz=190
J61A Chester 92.25 11 P 20 09 00.3
baz=190
I58A Old Forge 92.32 9 P 20 09 00.2
baz=188
J63A Strafford 92.38 12 P 20 09 00.6
baz=191
I57A Carthage 92.50 8 P 20 09 01.2
baz=188
I60A Shoreham 92.66 10 P 20 09 02.1
baz=189
ORV Oroville 92.66 334 IAmb IAmb 20 09 06.0
comp=Z,28nm,1.9s
BW06 Boulder Array 92.86 344 P 20 09 04.3
baz=165
BW06 Boulder Array 92.86 344 IAmb IAmb 20 11 23.5
comp=Z,18nm,1.1s
PD31 Pinedale Array 92.86 344 P P 20 09 03.6 +0.1
PD31 IAmb IAmb 20 11 23.4
comp=Z,17nm,1.1s
PDAR Pinedale Array 92.86 344 P P 20 09 03.8 +0.3
comp=Z,3.5nm,1.1s,baz=160,slow=4.7,SNR=16
PDAR Pinedale Array 92.86 344 P P 20 09 03.3 -0.1
H57A Richville 93.04 8 P 20 09 04.6
baz=188
H58A Gabriels 93.12 9 P 20 09 04.7
baz=189
LONY Lake Ozonia 93.28 9 P 20 09 05.5
baz=188
LONY Lake Ozonia 93.28 9 IAmb IAmb 20 09 06.5
comp=Z,28nm,1.5s
G40A Rib Lake 93.30 358 P P 20 09 04.0 -1.1
H59A Cadyville 93.40 10 P 20 09 05.8
baz=189
H60A Morristown 93.43 10 P 20 09 05.4
baz=190
O03E Paynes Creek 93.43 334 P 20 09 06.2
baz=158
H61A Lyndonville 93.50 11 P 20 09 06.1
baz=190
G57A Newington 93.72 9 P 20 09 07.3
baz=188
G54A Lake Saint Pet 93.73 6 P 20 09 06.2
baz=186
ALGO Algonquin Park 94.29 6 P 20 09 09.1
baz=186
FLWY Flagg Ranch 94.35 343 IAmb IAmb 20 11 45.7
comp=Z,22nm,1.4s
MOD Modoc Plateau 94.51 336 IAmb IAmb 20 09 13.5
comp=Z,14nm,1.4s
HLID Hailey 94.61 341 P 20 09 12.1
baz=162
YMR Madison River 94.96 343 P P 20 09 13.2 +0.2
RLMT Red Lodge 95.09 345 P P 20 09 13.0 -0.6
RLMT IAmb IAmb 20 11 20.7
comp=Z,16nm,1.1s
E60A Ste Agathe de 95.37 11 P 20 09 13.3
baz=190
E63A Oxbow 95.84 13 P 20 09 15.0
baz=192
D58A Chemin du LacG 95.91 10 P 20 09 16.1
baz=190
D63A Stockholm 96.48 13 P 20 09 17.8
baz=193
J01E Myrtle Point 96.69 334 P 20 09 20.3
baz=156
ULM Lac du Bonnet 98.52 354 P P 20 09 28.5 -0.3
comp=Z,0.7nm,0.4s,baz=190,slow=3.9,SNR=3.1
ULM LR LR 20 49 30.5
comp=Z,67nm,21.5s,baz=134,slow=33
TORD Torodi Ar. Bea 99.03 80 P Pdif 20 09 31.5 -0.4
comp=Z,1.6nm,0.9s,baz=257,slow=5.9,SNR=4.7
TORD LR LR 20 51 56.0
comp=Z,97nm,18.5s,baz=195,slow=34
ASAR Alice Springs 99.36 218 P Pdif 20 09 32.9 -0.6
comp=Z,1.0nm,1.0s,baz=164,slow=3.8,SNR=5.0
ASAR LR LR 20 48 01.8
comp=Z,135nm,19.0s,baz=162,slow=32
H11S2 WAKE ISLAND Hyl 14.17 271 T T 22 18 39.7
baz=136,slow=76,SNR=15
H11S3 WAKE ISLAND Hyl 14.19 271 T T 22 18 42.4
baz=136,slow=76,SNR=12
H11S1 WAKE ISLAND Hyl 14.19 271 T T 22 18 45.4
baz=136,slow=76,SNR=8.6
H11N3 WAKE ISLAND Hyl 14.90 272 T T 22 19 32.6
baz=139,slow=75,SNR=12
H11N1 WAKE ISLAND Hyl 14.91 272 T T 22 19 33.3
H11N2 WAKE ISLAND Hyl 14.92 272 T T 22 19 34.9
baz=135,slow=75,SNR=12
BCAR Beaver Creek A 119.16 335 PKPdf 20 14 38.5 -0.2
EGAK Eagle 120.33 336 P 20 14 41.3
baz=141
SCRK Sand Creek 120.49 335 P 20 14 42.1
baz=140
WAT6 Susitna Watana 120.56 332 P 20 14 42.0
baz=138
SUA Susitna One 120.71 330 P 20 14 42.1
baz=136
SKT Skwentna 121.34 330 P 20 14 42.6
baz=135
MCK McKinley 121.77 333 P 20 14 44.4
baz=136
ILAR Eielson Array 121.92 334 PKP PKPdf 20 14 43.9 -0.1
comp=Z,4.8nm,1.1s,baz=176,slow=1.5,SNR=17
ILAR Eielson Array 121.92 334 PKIKP PKPdf 20 14 43.6 -0.3
ILAR Eielson Array 121.92 334 PKPdf PKPdf 20 14 43.6 -0.3
TRF Thorsdare Moun 121.99 332 P 20 14 44.7
baz=136
PRP Porcupine Dome 122.09 335 P 20 14 44.8
baz=138
COLA College 122.28 334 *d i* **PKIKP PKiKP 20 14 44.8 +0.1**
MDM Murphy Dome 122.45 334 PKPdf PKPdf 20 14 44.6 -0.4
BPAW Bear Paw Mtn. 122.67 332 P 20 14 45.7
baz=135
CHUM Lake Minchumin 122.94 331 P 20 14 45.7
baz=134
MLY Manley 123.25 333 P 20 14 47.0
baz=134
BMAR Burnt Mountain 123.26 337 PKiKP 20 14 46.7 0.0
COLD Coldfoot 124.63 335 P 20 14 49.5
baz=134
IMAR Indian Mountai 124.82 333 PKiKP 20 14 49.8 0.0
DAVA Damuels 127.05 58 *i* **P PKiKP 20 14 55.5 +0.5**
comp=Z,6.0nm,1.0s
FETA Feichten 127.38 58 *i* **P PKiKP 20 14 56.3 +0.6**
comp=Z,6.4nm,1.1s
RETA Reutte 127.66 58 *i* **P PKiKP 20 14 56.6 +0.5**
comp=Z,8.9nm,1.3s
SQTA Sankt Quirin 127.77 59 *i* **P PKiKP 20 14 57.0 +0.6**
comp=Z,6.3nm,1.0s
MOTA Moosalm 127.78 58 *i* **P PKiKP 20 14 57.0 +0.5**
comp=Z,7.9nm,1.0s
ANM Nome 127.79 328 P 20 14 55.6
baz=124
WTTA Wattenberg 128.03 59 *e* **P PKiKP 20 14 57.4 +0.3**
comp=Z,10nm,1.2s
WATA Walderalm 128.04 59 *i* **P PKiKP 20 14 57.2 +0.2**
comp=Z,3.9nm,1.0s
ABTA Abfaltersbach 128.25 60 *e* **P PKiKP 20 14 57.2 -0.1**
comp=Z,8.2nm,1.3s
MYKA Terra Mystica 128.84 60 *i* **P PKiKP 20 14 58.4 -0.1**
comp=Z,2.7nm,0.7s
RDOG Red Dog Mine 128.93 332 P 20 14 58.1
baz=124,SNR=10.0
A21K Barrow 129.03 337 PKiKP 20 14 57.9 -0.1
OBKA Obir 129.30 61 *e* **P PKiKP 20 14 59.9 +0.5**
comp=Z,7.9nm,1.1s
GERES GERESS Array B 130.05 58 PKP PKPdf 20 14 59.1 -1.0
comp=Z,1.0nm,0.7s,baz=184,slow=2.1,SNR=11
GERES GERESS Array B 130.05 58 PKIKP PKPdf 20 14 59.5 -0.6
GERES GERESS Array B 130.05 58 PKPdf PKPdf 20 14 59.5 -0.6
ARSA Arzberg 130.26 61 *e* **P PKiKP 20 15 01.2 -0.1**
comp=Z,13nm,1.4s
CLL Collm 130.91 55 *e* **PKPdf PKiKP 20 15 02.0 -0.4**
CLL comp=Z,7.0nm,1.3s Lm MLR 21 09 00.0
comp=Z,100nm,21.0s
CLL Collm 130.91 55 *e* **PKIKP PKiKP 20 15 02.0 -0.4**
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL MLR MLR
comp=Z,300nm,20.8s
MODS Modra-Piesok 131.85 60 *e* **PKIKP PKiKP 20 15 05.5 +1.1**
MODS Modra-Piesok 131.85 60 *e* **PKP PKiKP 20 15 05.5 +1.1**
KOLS Kolonicke sedl 135.03 62 *e* **PKIKP PKPdf 20 15 09.7 +0.3**
KOLS Kolonicke sedl 135.03 62 *e* **PKP PKPdf 20 15 09.7 +0.3**
BRTR Keskin Array B 137.62 79 PKP PKPdf 20 15 15.1 +0.4
comp=Z,4.3nm,1.0s,baz=220,slow=4.8,SNR=7.1
BRTR Keskin Array B 137.62 79 PKIKP PKPdf 20 15 14.0 -0.7
BRTR Keskin Array B 137.62 79 PKPdf PKPdf 20 15 13.9 -0.7
ILGA Ilgaz 138.36 77 PKPdf 20 15 16.1 0.0
BILL Bilibino 139.60 326 *e* **PKIKP PKPdf 20 15 18.0 +0.8**
BILL *e* 20 18 13.7
BILL *e* PPP PPP 20 21 15.8
BILL pmax pmax
comp=Z,2.0nm,1.3s
BILL Bilibino 139.60 326 PKPdf 20 15 18.2 +1.0
AKASG Malin Array Be 139.86 62 PKP PKPdf 20 15 18.4 +0.2
comp=Z,0.7nm,0.5s,baz=259,slow=2.6,SNR=7.6
AKBB Malin Array Si 139.86 62‖ *e* **PKIKP PKPdf 20 15 18.5 +0.3**
PEA0B Petropavlovsk- 139.87 302‖ *e* **PKIKP PKPdf 20 15 19.0 +0.8**
PETK Petropavlovsk- 139.87 302 PKP PKPdf 20 15 19.0 +0.8
comp=Z,11nm,1.0s,baz=121,slow=5.5,SNR=10
PETK Petropavlovsk- 139.87 302 PKIKP PKPdf 20 15 18.5 +0.4
PETK Petropavlovsk- 139.87 302 PKPdf PKPdf 20 15 18.5 +0.4
NACGM Naroch 139.95 55 *i* PKP **PKPdf 20 15 18.5 +0.3**
NACGM *i* PKP **PKPdf 20 15 18.5 +0.3**
NACGM *i* PKP **PKPdf 20 15 18.5 +0.3**
NACGM *i* PP PP 20 18 54.5 +39
NACGM *i* PPP PPP 20 22 18.0
NACGM *i* SKKS 20 25 30.4
NACGM *i* PS 20 29 33.6
NACGM *i* SS SS 20 37 22.1 +45
NACGM *i* SSS SSS 20 43 04.4
NACGM *i* LQ LQ 21 06 46.9
NACGM *i* LR LR 21 17 56.9
SEY Seymchan 144.76 317‖ *e* **PKIKP PKPab 20 15 24.9 -0.6**
MJAR Matsushiro Arr 144.91 267 PKP PKPab 20 15 26.7 -0.1
comp=Z,13nm,1.0s,baz=158,slow=4.1,SNR=18
MJAR Matsushiro Arr 144.91 267 PKIKP PKPbc 20 15 27.0 +0.1
MJAR Matsushiro Arr 144.91 267 PKPdf PKPbc 20 15 27.0 +0.1
MAJO Matsushiro 144.91 267‖ *e* **PKIKP PKPab 20 15 26.4 -0.5**
MAJO Matsushiro 144.91 267 PKPab 20 15 26.8 0.0
MAT Matsushiro 144.91 267 PKP PKPab 20 15 26.5 -0.4
JOW Kunigami 145.01 245 PKPbc PKPdf 20 15 28.4 +0.2
comp=Z,84nm,1.0s,baz=149,slow=3.1,SNR=6.8
INU Inuyama 145.02 265 PKPdf 20 15 27.9 +0.1
GNI Garni 145.16 85 PKPbc PKPab 20 15 27.9 0.0
comp=Z,31nm,1.0s,baz=184,slow=2.9,SNR=25
GNI Garni 145.16 85 PKIKP PKPbc 20 15 27.8 0.0
GNI Garni 145.16 85 PKPbc 20 15 27.8 0.0
MA2 Magadan 145.20 311 *c i* **PKP2 PKPbc 20 15 26.3 -0.8**
MA2 Magadan 145.20 311 PKPbc 20 15 27.0 -0.1
NEY Neytrino 145.29 79 *de* **PKIKP PKPdf 20 15 28.9 +0.6**
UBPT Khong Chiam 145.36 202 PKPdf 20 15 29.4 +0.4
LVZ Lovozero 145.42 34‖ *i* **PKIKP PKPdf 20 15 27.0 -0.6**
LVZ Lovozero 145.42 34 PKPab 20 15 27.8 0.0
OBN Obninsk 145.43 57 *e* **PKIKP PKPdf 20 15 27.6 -0.3**
OBN *e* 20 18 48.7
OBN *e* PPP PPP 20 22 11.6
OBN pmax pmax
comp=Z,72nm,1.2s
KIV Kislovodsk 145.57 78 *e* **PKIKP PKPbc 20 15 29.0 +0.1**
KIV pmax pmax
comp=Z,56nm,1.1s
KIV Kislovodsk 145.57 78 PKPdf PKPbc 20 15 29.0 +0.1
KVAR Kislovodsk Arr 145.58 78 PKPbc PKPab 20 15 29.2 0.0
comp=Z,3.1nm,0.9s,baz=264,slow=22,SNR=2.7
KBZ Khabaz 145.61 79 PKPbc PKPdf 20 15 28.6 0.0
comp=Z,8.2nm,1.0s,baz=258,slow=2.8,SNR=14
KBZ Khabaz 145.61 79‖ *i* **PKIKP PKPdf 20 15 28.2 -0.4**
SRDT SRDT 145.66 191 P PKPbc 20 15 29.9 +0.1
ZEI Tsey 145.86 81 *i* **PKIKP PKPdf 20 15 28.8 -0.6**
ZEI pmax pmax
comp=Z,39nm,1.2s
NCK Nalchik 145.97 79‖ *i* **PKP2 PKPbc 20 15 30.3 +0.2**
MOS Moscow 146.15 56 *i* **PKIKP PKPdf 20 15 28.3 -0.8**
MOS pmax pmax
comp=Z,76nm,1.5s
LPSR Galich'ya Gora 146.19 62 *e* **PKIKP PKPdf 20 15 28.7 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
GOF Gofitskoye 146.26 77‖ *e* **PKIKP PKPdf 20 15 29.7 0.0**
GOF pmax pmax

comp=Z,41nm,0.8s
YSS Yuzh-Sakhalins 146.75 287|| *e*PKHKP PKPpre 20 15 27.8
HYB Hyderabad 147.03 155 *i* PKP PKPdf 20 15 23.0 -8.9
GROC Groznyy 147.29 81 *e*PKIKP PKPdf 20 15 32.2 +0.7
GROC *e* 20 19 03.3
GROC *e* 20 22 37.8
GROC pmax pmax
comp=Z,38nm,1.2s
VRH Novokhopyorsk 147.49 65 *e*PKP2 PKPbc 20 15 33.2 -0.9
VRH pmax pmax
comp=Z,40nm,1.1s
UMPA Umpang Tak 147.52 191 P PKPab 20 15 37.0 -0.3
KLMR Klimovskoe 147.72 47 *e*PKIKP PKPdf 20 15 30.5 -1.0
KLMR pmax pmax
comp=Z,83nm,1.3s
KLMR Klimovskoe 147.72 47 *e*PKPdf PKPdf 20 15 30.6 -1.0
KLMR AMP 20 15 36.0
comp=Z,83nm,1.3s
TYV Tymovskoe 148.04 294 *e*PKP2 PKPbc 20 15 35.7 +0.1
TYV pmax pmax
comp=Z,200nm,3.1s
TYV pmax pmax
comp=Z,22nm,1.2s
SUKH Sukhothai 148.67 193 P PKiKP 20 15 39.3 -0.4
UTTA Uttaradit 148.79 195 P PKiKP 20 15 39.5 -0.5
MHMT Maesarieng 149.58 190 P PKiKP 20 15 41.2 -0.4
CM05 Chiang Mai Arr 149.68 192 P PKiKP 20 15 41.7 -0.1
CM01 Chiang Mai Arr 149.69 192 P PKiKP 20 15 41.9 +0.1
LAMP Lampang 149.70 193 P PKiKP 20 15 42.1 +0.2
CM13 Chiang Mai Arr 149.70 192 P PKiKP 20 15 41.5 -0.4
CM09 Chiang Mai Arr 149.71 192 P PKiKP 20 15 42.0 +0.1
CM15 Chiang Mai Arr 149.73 192 P PKiKP 20 15 41.5 -0.4
CM31 Chiang Mai Arr 149.73 192 P PKiKP 20 15 42.0 0.0
CMAR Chiang Mai Arr 149.73 192 PKP PKPdf 20 15 35.8 -0.5
comp=Z,3.0nm,1.1s,baz=230,slow=3.1,SNR=16
CMAR PKPbc **PKPbc 20 15 41.5 +0.5**
comp=Z,13nm,1.0s,baz=218,slow=2.9,SNR=30
CMAR Chiang Mai Arr 149.73 192 PKIKP PKPdf 20 15 35.1 -1.1
CMAR 20 15 41.1
CMAR Chiang Mai Arr 149.73 192 PKPdf PKPdf 20 15 35.1 -1.1
CMAR PKPbc **PKPbc 20 15 41.1 +0.2**
CM35 Chiang Mai Arr 149.92 192 P PKPdf 20 15 38.0 +1.5
CHTO Chiang Mai 150.08 192 PKIKP PKPab 20 15 47.8 +0.3
CHTO Chiang Mai 150.08 192 PKPdf PKPdf 20 15 36.9 +0.1
CHTO PKPbc **PKPbc 20 15 41.9 +0.1**
CHTO **PKPab 20 15 47.8 +0.3**
PAYA Payao 150.48 194 P PKiKP 20 15 43.7 +0.2
PRGR Permogore 150.65 46 *e*PKIKP PKPdf 20 15 34.2 -2.1
PRGR pmax pmax
comp=Z,63nm,1.1s
BELG Belogornoye 151.33 65 PKP PKPdf 20 15 37.7 +0.1
comp=Z,13nm,0.8s,baz=4.6,slow=1.5,SNR=3.6
BELG PKPbc **PKPbc 20 15 43.2 -0.4**
comp=Z,52nm,1.0s,baz=34,slow=1.0,SNR=9.0
BELG Belogornoye 151.33 65*c* *i*PKIKP PKPbc 20 15 42.6 -1.0
TIXI Tiksi 151.34 337|| *e*PKIKP PKPdf 20 15 32.5 -4.6
TIXI Tiksi 151.34 337 PKPdf PKPdf 20 15 35.0 -2.0
TIXI PKPbc **PKPbc 20 15 42.4 -0.7**
TJN Taejon 151.98 258*c* *i*PKIKP PKPbc 20 15 43.4 -2.3
KSRS Korea Array 152.23 260 PKP PKPdf 20 15 40.1 +0.7
comp=Z,0.5nm,0.4s,baz=68,slow=9.2,SNR=4.3
KSRS PKPbc **PKiKP 20 15 46.6 +0.1**
comp=Z,3.7nm,0.9s,baz=152,slow=1.5,SNR=15
KSAR Wonju Array Be 152.25 260 PKIKP PKPbc 20 15 46.3 0.0
KSAR Wonju Array Be 152.25 260 PKPbc 20 15 46.2 0.0
KSAR PKPab **pPKPab 20 15 57.8 -0.2**
USA0B Ussuriysk Arra 152.75 276 ⇑ *i*PKIKP PKPbc 20 15 47.1 0.0
USRK Ussuriysk Ar. 152.75 276 PKPbc PKPbc 20 15 47.1 -0.1
comp=Z,3.7nm,0.9s,baz=135,slow=0.5,SNR=6.4
USRK Ussuriysk Ar. 152.75 276 PKIKP PKPbc 20 15 47.1 -0.1
USRK 20 15 57.6
USRK Ussuriysk Ar. 152.75 276 PKPbc 20 15 47.1 -0.1
USRK PKPab **PKPab 20 15 57.6 -0.5**
KIRV Kirov 152.75 52|| *e*PKIKP PKPdf 20 15 41.1 +1.6
GEYT Alibeck 152.90 100 PKP PKPdf 20 15 41.0 +0.5
comp=Z,1.5nm,0.5s,baz=57,slow=11,SNR=3.1
GEYT PKPbc **PKPbc 20 15 47.6 -0.1**
comp=Z,4.0nm,0.9s,baz=222,slow=15,SNR=7.3
HRA Herat 153.41 110 PKPdf PKPdf 20 15 41.5 -0.2
HRA PKPbc **PKPbc 20 15 48.3 -0.9**
HRA PKPab **PKPab 20 16 01.5 +0.1**
NJ2 Nanjing 154.41 240 *e*PKPbc PKPdf 20 15 42.9 +0.1
KLR Kul'dur 154.47 287|| *e*PKIKP PKPdf 20 15 42.3 0.0
YAK Yakutsk 155.29 317 *e*PKP2 PKPab 20 16 07.9 -0.4
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.2s
CN2 Changchun 156.95 271 *e*PKP PKPdf 20 15 46.5 +0.7
AKTO Aktyubinsk 157.45 72 PKP PKPdf 20 15 46.3 +0.1
comp=E,2.1nm,1.0s,baz=215,slow=1.7,SNR=6.1
AKTO PKPab **PKPab 20 16 17.9 -0.1**
comp=E,1.5nm,0.7s,baz=232,slow=6.7,SNR=4.5
ZEA Zeya 157.79 297 *e*PKP2 PKPab 20 16 20.1 +0.7
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ARU Arti 157.85 56 PKPab PKPab 20 16 19.2 -0.4
comp=Z,0.6nm,0.7s,baz=315,slow=3.6,SNR=3.9
ARU Arti 157.85 56 *i* PKIKP PKPdf 20 15 46.9 +0.4
ARU Arti 157.85 56 PKPdf PKPdf 20 15 46.5 0.0
ABKAR Akbulak array 158.49 75 PKPdf PKPdf 20 15 46.8 -0.8
XAN Xi'an 161.25 226 P PKPab 20 16 36.5 +1.5
XAN pP sPKPab 20 16 41.6 +4.1
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN Xi'an 161.25 226 PKP2 PKPab 20 16 35.8 +0.8
XAN 21 15 51.3
XAN Xi'an 161.25 226 PKPdf PKPdf 20 15 51.3 0.0
XAN **PKPab 20 16 35.8 +0.8**
KKAR Karatay Array 163.65 101 PKP2 PKPab 20 16 44.2 -1.2
KKAR Karatay Array 163.65 101 PKPdf PKPdf 20 15 53.8 +0.5
KKAR PKPab **PKPab 20 16 44.2 -1.2**
BOD Bodaibo 164.16 315 *e*PKP2 PKPab 20 16 43.6 -3.5
BOD pmax pmax
comp=Z,20nm,1.6s
HHC Hu-ho-hao-te 164.64 248 *e*PKP PKPdf 20 15 56.4 +2.0
BRVK Borovoye 165.06 63 PKIKP PKPdf 20 15 54.4 +0.2
BRVK Borovoye 165.06 63 PKPdf 20 15 54.4 +0.2
KSH Kashi 165.06 120 PKP PKPdf 20 15 55.6 +0.8
KSH AMB AMB
comp=Z,250nm,4.3s
BVAR Borovoye Array 165.13 63 PKP PKPdf 20 15 54.8 +0.5
comp=Z,0.8nm,0.8s,baz=272,slow=8.8,SNR=10.0
LZH Lanzhou 165.23 218 *e*PKP PKPdf 20 15 54.9 -0.2
AAK Ala-Archa 166.00 107⇑ *e*PKIKP PKPdf 20 15 54.7 -0.9
GTA Gaotai 169.68 212 ⇑PKP PKPdf 20 15 57.6 -0.6
GTA pPKP sPKPdf 20 16 04.5 +3.7
GTA LR LR
comp=Z,140nm,19.3s
GTA LR LR
comp=Z,92nm,19.6s
GTA LR LR
comp=Z,150nm,19.3s
ULN Ulaanbaatar 170.39 272 || *i*PKIKP PKPdf 20 15 56.8 -1.5
SONM Songino Array 170.83 272 PKP PKPdf 20 15 57.2 -1.4
comp=Z,1.1nm,1.1s,baz=144,slow=2.8,SNR=5.3
SONM PKPab **PKPab 20 17 17.2 +0.1**
comp=Z,0.5nm,0.7s,baz=104,slow=3.1,SNR=4.5
SONM Songino Array 170.83 272 PKIKP PKPdf 20 15 56.4 -2.1
SONM Songino Array 170.83 272 PKPdf 20 15 56.4 -2.1
ZALV Zalesovo Beam 172.53 39 PKP PKPdf 20 15 57.1 -1.8
comp=Z,3.7nm,0.8s,baz=249,slow=2.5,SNR=11
ZALV PKPab **PKPab 20 17 23.7 -0.5**
comp=Z,1.3nm,0.4s,baz=319,slow=5.9,SNR=4.2
ZALV Zalesovo Beam 172.53 39 PKP2 PKPab 20 17 23.9 -0.3
ZALV 21 15 57.0
ZALV Zalesovo Beam 172.53 39 PKPdf 20 15 57.0 -2.0
ZALV **PKPab 20 17 23.9 -0.3**
MAKZ Makanchi 172.57 98 PKP2 PKPab 20 17 23.8 -0.9
MAKZ 21 15 57.4
MAKZ Makanchi 172.57 98 PKPdf 20 15 57.4 -1.9
MAKZ PKPab **PKPab 20 17 23.8 -0.9**
MK31 Makanchi Array 172.77 99*d* *i*PKIKP PKPdf 20 15 58.9 -0.5
MK31 Makanchi Array 172.77 99 PKPdf 20 15 58.5 -0.9
MK31 PKPab **PKPab 20 17 24.3 -1.3**
MKAR Makanchi Array 172.77 99 PKP PKPdf 20 15 58.1 -1.2
comp=Z,4.7nm,1.2s,baz=338,slow=1.3,SNR=16
MKAR PKPab **PKPab 20 17 23.9 -1.8**
comp=Z,1.8nm,1.1s,baz=248,slow=6.4,SNR=5.5
MKAR Makanchi Array 172.77 99 PKP2 PKPab 20 17 24.2 -1.5
MKAR 21 15 58.0
MKAR Makanchi Array 172.77 99 PKPab PKPdf 20 15 58.0 -1.3
MKAR PKPab **PKPab 20 17 24.1 -1.5**
WMQ Urumqi 174.26 141 *e*PKP PKPdf 20 16 00.8 +0.7
WMQ LR LR
comp=Z,280nm,25.9s
WMQ LR LR
comp=Z,420nm,22.3s
WMQ LR LR
comp=Z,300nm,23.1s
DGZ Jazzator, Alta 176.28 67 || *i*PKIKP PKPdf 20 16 00.3 -0.2

VAO 24 19:56:22.5±0.8, 4°.92S×73°.34W, h10km, mbR3.9, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.87**	**167**	***e***P		Pn		19 57 08.4	+0.1
CZSB				*e*S		Sn		19 57 43.7	+0.8
ETMB	**Extrema**	**8.58**	**125**	***e***P		Pn		19 58 27.1	+0.2
ETMB				*e*S		Sn		20 00 05.0	+1.1
LPAZ	**La Paz**	**12.40**	**156**	***e***P		Pn		19 59 19.1	-0.7
LPAZ				*e*S		Sn		20 01 38.9	+0.3
MACA	**Manacapuru-AM**	**12.74**	**83**	***e***P		Pn		19 59 23.4	-0.6
BOAV	**Boa Vista**	**14.72**	**61**	***e***P		Pn		19 59 51.6	+0.6
VILB	**Vilhena**	**15.23**	**122**	***e***P		Pn		19 59 58.4	+0.5
PTLB	**Pontes e Lacer**	**17.45**	**128**	***e***P		Pn		20 00 26.6	+0.4
LVC	**Limon Verde**	**18.11**	**167**	***e***P		Pn		20 00 33.6	-1.0
CLDB	**Colider**	**18.35**	**110**	***e***P		Pn		20 00 36.9	-0.5

*NEIC **24** 20:04:55.4±2.1, 22°.22N±0°.07×143°.8E±0°.1, h90km±7km, mb4.5/28, Error ellipse: s-maj=18.4km s-min=10.0km az=78.0*
*IDC **24** 20:05:02.3±0.8, 22°.30N×143°.62E, h155km±6km, mb3.6/17, mb1 3.8/17, mb1mx3.5/50, mbtmp4.1/17, MS3.4/1, Ms1 3.4/1, ms1mx2.6/46, Error ellipse: s-maj=17.8km s-min=10.4km az=90.0*

ISC 24 20:04:58.6±0.5, 22°.31N±0°.06×143°.71E±0°.10, h118km, n60, σ1s62/57, mb4.2/29, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.96**	**344**	**P**		**Pn**		**20 06 12.7**	**+1.7**
JCJ	12nm,0.3s,baz=288,slow=20,SNR=1.8			S		Sn		20 07 05.5	-1.8
	24nm,0.3s,baz=264,slow=22,SNR=8.8								
JCJ	**Chichijima**	**4.96**	**344**	Pn		**Pn**		**20 06 08.5**	**-2.5**
ANA2	**Anatahan**	**6.23**	**162**	Pn		Pn		20 06 21.1	-7.1
JHJ	**Hachijo jima 2**	**11.31**	**343**	LR		LR		20 11 42.5	
	comp=Z,212nm,20.4s,baz=193,slow=36								
KSRS	**Korea Array**	**20.33**	**321**	P		Pn		20 09 29.6	+1.1
	1.6nm,0.6s,baz=145,slow=8.4,SNR=11								
SSLB	**Suanglung**	**20.99**	**278**	P		**P**		**20 09 33.6**	**+1.0**
SSLB				IAmb		IAmb		20 09 44.7	
	comp=Z,40nm,1.2s								
TPUB	**Ta-pu**	**21.30**	**277**	P		**P**		**20 09 38.5**	**+2.6**
H11N1	**WAKE ISLAND Hy**	**21.79**	**93**	T		T		20 32 31.9	
	baz=281								
H11N2	**WAKE ISLAND Hy**	**21.80**	**92**	T		T		20 32 37.3	
	baz=281								
H11N3	**WAKE ISLAND Hy**	**21.81**	**93**	T		T		20 32 31.5	
	baz=281								
H11S3	**WAKE ISLAND Hy**	**21.86**	**96**	T		T		20 32 36.4	
	baz=283,slow=75,SNR=7.9								
H11S1	**WAKE ISLAND Hy**	**21.87**	**96**	T		T		20 32 37.1	
	baz=283,slow=75,SNR=3.5								
H11S2	**WAKE ISLAND Hy**	**21.88**	**96**	T		T		20 32 37.9	
	baz=283,slow=75,SNR=3.7								
KLR	**Kul'dur**	**28.49**	**343**	P		**P**		**20 10 43.2**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=146,slow=9.5,SNR=3.8								
KLR				pP		**pwP**		**20 11 16.1**	**+3.0**
	comp=Z,0.8nm,0.6s,baz=107,slow=13,SNR=1.8								
MYLDM	**Lahad Datu**	**29.74**	**239**	P		**P**		**20 10 56.1**	**+2.1**
MYLDM				IAmb		IAmb		20 10 58.0	
	comp=Z,12nm,1.1s								
KKM	**Kota Kinabalu**	**31.08**	**243**	P		**P**		**20 11 06.3**	**+0.3**
KKM				IAmb		IAmb		20 11 08.0	
	comp=Z,18nm,1.2s								
COEN	**Coen**	**36.05**	**181**	P		**P**		**20 11 49.2**	**+0.4**
COEN				IAmb		IAmb		20 12 01.9	
	comp=Z,9.6nm,1.6s								
MTN	**Manton Dam**	**37.05**	**201**	P		**P**		**20 11 56.1**	**-1.2**
BATI	**Baumata**	**37.82**	**213**	P		**P**		**20 12 04.4**	**+0.5**
	comp=Z,4.0nm,0.5s,baz=99,slow=4.5,SNR=4.1								
SONM	**Songino Array**	**39.18**	**320**	P		**P**		**20 12 15.0**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=132,slow=7.9,SNR=11								
SONM				pP		**sP**		**20 12 50.0**	**-3.4**
	comp=Z,0.2nm,0.5s,baz=124,slow=7.6,SNR=1.8								
CMAR	**Chiang Mai Arr**	**42.02**	**273**	P		**P**		**20 12 38.0**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=62,slow=7.0,SNR=4.7								
CTA	**Charters Tower**	**42.21**	**176**	P		**P**		**20 12 40.0**	**0.0**
	comp=Z,1.4nm,0.4s,baz=358,slow=13,SNR=2.8								
CTAO	**Charters Tower**	**42.21**	**176**	P		**P**		**20 12 40.0**	**0.0**
CTAO				IAmb		IAmb		20 12 43.5	
	comp=Z,5.6nm,1.1s								
WB0	**Warramunga Arr**	**42.80**	**193**	P		**P**		**20 12 43.4**	**-1.4**
WB0				IAmb		IAmb		20 13 07.0	
	comp=Z,11nm,1.4s								
WR0	**Warramunga Arr**	**42.96**	**193**	P		**P**		**20 12 45.5**	**-0.5**
WR0				IAmb		IAmb		20 13 02.7	
	comp=Z,5.1nm,1.1s								
WRA	**Warramunga Arr**	**42.98**	**193**	P		**P**		**20 12 45.9**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=14,slow=8.5,SNR=49								
FITZ	**Fitzroy Crossi**	**43.88**	**205**	P		**P**		**20 12 52.8**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=20,slow=6.6,SNR=15								
FITZ	**Fitzroy Crossi**	**43.88**	**205**	IAmb		IAmb		20 12 59.6	
	comp=Z,9.0nm,1.3s								
ATKA	**Atka Island**	**43.91**	**37**	P		**P**		**20 12 57.8**	**+4.4**
KULM	**Kulim**	**44.90**	**254**	P		**P**		**20 13 02.2**	**+0.5**
KULM				IAmb		IAmb		20 13 24.8	
	comp=Z,13nm,1.3s								
AS31	**Alice Springs**	**46.69**	**192**	P		**P**		**20 13 15.5**	**-0.1**
ASAR	**Alice Springs**	**46.69**	**192**	P		**P**		**20 13 14.9**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=16,slow=8.9,SNR=28								
LSA	**Lhasa**	**47.48**	**290**	P		**P**		**20 13 22.8**	**+0.5**
PSI	**Prapat**	**47.56**	**252**	P		**P**		**20 13 22.2**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=360,slow=4.9,SNR=2.1								
EIDS	**Eidsvold**	**47.93**	**171**	P		**P**		**20 13 24.8**	**-0.4**
EIDS				IAmb		IAmb		20 14 02.8	
	comp=Z,7.1nm,1.2s								
GSI	**Gunungsitoli**	**49.45**	**252**	P		**P**		**20 13 36.2**	**-0.9**
GSI				IAmb		IAmb		20 14 10.7	
	comp=Z,9.1nm,0.9s								
WMQ	**Urumqi**	**50.57**	**309**	P		**P**		**20 13 43.2**	**-2.0**
STKA	**Stephens Creek**	**53.92**	**182**	P		**P**		**20 14 08.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=1.3,slow=7.6,SNR=3.9								
MKAR	**Makanchi Array**	**54.64**	**312**	P		**P**		**20 14 15.0**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=86,slow=9.0,SNR=12								
MKAR				pP		**pwP**		**20 14 50.6**	**+4.3**
	comp=Z,0.4nm,0.4s,baz=87,slow=9.8,SNR=3.7								
MKAR				PcP		**PcP**		**20 15 16.6**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=91,slow=5.9,SNR=2.4								
MAKZ	**Makanchi**	**54.86**	**312**	P		**P**		**20 14 16.9**	**+0.2**
FORT	**Forrest**	**54.88**	**196**	P		**P**		**20 14 17.3**	**+0.4**
BBOO	**Buckleboo**	**55.30**	**188**	P		**P**		**20 14 19.6**	**-0.3**
PWL	**Port Wells**	**60.05**	**32**	P		**P**		**20 14 53.3**	**+0.4**
ILAR	**Eielson Array**	**61.27**	**27**	P		**P**		**20 15 00.6**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=258,slow=5.4,SNR=4.9								
DOT	**Dot Lake**	**62.36**	**29**	P		**P**		**20 15 08.4**	**0.0**
DOT				IAmb		IAmb		20 15 15.5	
	comp=Z,7.1nm,1.1s								
BVAR	**Borovoye Array**	**62.52**	**319**	P		**P**		**20 15 08.6**	**-1.0**
	comp=Z,2.2nm,0.4s,baz=67,slow=13,SNR=41								
BVAR				pP		**pwP**		**20 15 44.5**	**+2.9**
	comp=Z,0.6nm,0.5s,baz=207,slow=9.3,SNR=3.4								
BRVK	**Borovoye**	**62.59**	**319**	P		**P**		**20 15 09.5**	**-0.5**
BRVK				IAmb		IAmb		20 15 10.4	
	comp=Z,2.3nm,0.8s								
BMAR	**Burnt Mountain**	**62.59**	**24**	P		**P**		**20 15 10.0**	**+0.1**
KK31	**Karatay Array**	**63.06**	**308**	P		**P**		**20 15 12.6**	**-0.8**
KKAR	**Karatay Array**	**63.06**	**308**	P		**P**		**20 15 13.0**	**-0.4**
BCAR	**Beaver Creek A**	**63.34**	**29**	P		**P**		**20 15 15.7**	**+0.8**
CTGM	**Chitina Glacie**	**63.47**	**32**	P		**P**		**20 15 15.8**	**-0.2**
CTGM				IAmb		IAmb		20 15 49.1	
	comp=Z,9.9nm,1.2s								
ARU	**Arti**	**69.06**	**324**	P		**P**		**20 15 47.6**	**-3.9**
	comp=Z,0.5nm,0.5s,baz=164,slow=4.7,SNR=7.4								
ABKAR	**Akbulak array**	**69.45**	**316**	P		**P**		**20 15 53.3**	**-0.7**
YKA	**Yellowknife Ar**	**75.69**	**28**	P		**P**		**20 16 30.0**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=291,slow=5.3,SNR=6.2								
YKA				pP		**sP**		**20 17 07.9**	**-3.8**
	comp=Z,0.3nm,0.5s,baz=294,slow=5.2,SNR=2.9								
ARCES	**ARCESS Array B**	**78.50**	**342**	P		**P**		**20 16 45.9**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=66,slow=9.0,SNR=5.1								
NVAR	**Mina Array Bea**	**82.38**	**52**	P		**P**		**20 17 08.3**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=272,slow=6.1,SNR=4.8								
FINES	**FINESS Array B**	**82.84**	**335**	P		**P**		**20 17 08.1**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=58,slow=5.0,SNR=19								
PLCA	**Paso Flores**	**145.79**	**130**	PKPbc		**PKPab**		**20 24 24.4**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=232,slow=5.0,SNR=11								
LPAZ	**La Paz**	**149.40**	**84**	PKPbc		**PKiKP**		**20 24 35.9**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=2.8,slow=5.8,SNR=2.3								

*ATH **24** 20:09:49.9, 39°.32N×27°.63E, h55km±21km, ML3.5/4, Error ellipse: s-maj=22.5km s-min=2.2km az=264.0*
*DDA **24** 20:09:51.6, 39°.33N×27°.50E, h8km±2km, ML3.6*
*ISK **24** 20:09:51.4, 39°.33N×27°.49E, h4km, ML3.5/64*
*THE **24** 20:09:53.5, 39°.30N×27°.51E, h11km±2km, ML3.3/3, Error ellipse: s-maj=2.8km s-min=0.6km az=69.0*

ISC 24 20:09:51.9±0.9, 39°.33N±0°.01×27°.51E±0°.01, h13km±6km, n136, σ0s97/185, 12C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.17**	**73**	*i* P		**Pg**		**20 09 55.8**	**0.0**
STEP				*i* S		**Sg**		**20 09 58.5**	**0.0**
STEP				IAML				20 09 59.0	
	comp=N,11μm,0.4s								
BUHA	**Balikesir, Bur**	**0.38**	**297**	*i* P		**Pb**		**20 10 00.0**	**-0.4**
BUHA				*i* S		**Sg**		**20 10 04.9**	**+0.3**
BALY	**Balya**	**0.42**	**11**	*i* P		**Pg**		**20 09 59.6**	**-0.7**
BALY				*i* S		**Sg**		**20 10 05.8**	**0.0**
ZEDA	**zmir-Bergama**	**0.50**	**223**	*i* P		**Pg**		**20 10 01.5**	**-0.1**
ZEDA				*i* S		**Sg**		**20 10 08.6**	**+0.3**
DKL	**Dikili**	**0.54**	**242**	PG		**Pg**		**20 10 02.3**	**-0.1**
DKL				SG		**Sg**		**20 10 10.1**	**-0.7**
GOMA	**Golmarmara-Man**	**0.70**	**153**	PG		**Pb**		**20 10 05.8**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.85**	**299**	*i* P		**Pb**		**20 10 08.5**	**-0.1**
BAYC				*i* S		**Sn**		**20 10 21.8**	**-0.1**
BAYC				IAML				20 10 23.0	
	comp=N,2μm,0.5s								
BAYC				IAML				20 10 23.0	
	comp=E,2μm,0.2s								
FOCM	**Foa**	**0.87**	**225**	PG		**Pb**		**20 10 08.7**	**0.0**
FOCM				SG		**Sb**		**20 10 21.1**	**+0.9**
DST	**Dursunbey**	**0.90**	**72**	PG		**Pb**		**20 10 09.3**	**0.0**
PRK	**Paraskevi**	**0.97**	**265**	P		**Pb**		**20 10 10.3**	**-0.2**
PRK				S		**Sn**		**20 10 25.4**	**+0.7**
BLCB	**Balcova**	**1.01**	**202**	P		**Pn**		**20 10 11.6**	**-0.1**
BLCB				S		**Sn**		**20 10 25.8**	**0.0**
BLCB	**Balcova**	**1.01**	**202**	PG		**Pb**		**20 10 11.3**	**+0.1**
BLCB				SG		**Sn**		**20 10 25.9**	**+0.1**
EZN	**Ezine**	**1.04**	**299**	P		**Pn**		**20 10 12.6**	**+0.4**
EZN				S		**Sn**		**20 10 27.8**	**+1.2**
	comp=E,962nm,0.5s								
EZN	**Ezine**	**1.04**	**299**	PG		**Pg**		**20 10 11.8**	**-0.2**
EZN				SG		**Sn**		**20 10 26.7**	**+0.1**
KRBN	**Karaburun**	**1.05**	**226**	PG		**Pn**		**20 10 12.1**	**-0.1**
EDC	**Edincik**	**1.05**	**15**	PG		**Pb**		**20 10 11.8**	**-0.1**
EDC				SG		**Sn**		**20 10 26.9**	**+0.1**
KRBG	**Karabiga-Canak**	**1.07**	**351**	PG		**Pg**		**20 10 12.3**	**-0.3**
KOCA	**Canakkale, Ayv**	**1.08**	**280**	*i* P		**Pn**		**20 10 13.1**	**+0.5**
KOCA				*i* S		**Sn**		**20 10 27.3**	**-0.2**
KOCA				IAML				20 10 33.0	
	comp=N,984nm,0.4s								
KCTX	**Karacabey (Bur**	**1.14**	**34**	PN		**Pb**		**20 10 13.3**	**-0.1**
KCTX				SN		**Sn**		**20 10 30.3**	**+1.3**
SMAA	**Simav-Kutahya**	**1.16**	**101**	PN		**Pg**		**20 10 14.7**	**+0.5**
SIMA	**Simav-Kutahya**	**1.17**	**102**	PN		**Pg**		**20 10 14.1**	**-0.2**
MANT	**Manisa**	**1.17**	**135**	*i* P		**Pg**		**20 10 14.7**	**+0.3**
MANT				*i* S		**Sg**		**20 10 29.3**	**-0.3**
LPK	**Lapseki**	**1.19**	**331**	PN		**Pn**		**20 10 14.3**	**+0.1**
URLA	**Izmir**	**1.21**	**217**	PN		**Pn**		**20 10 14.0**	**-0.4**
URLA				SN		**Sn**		**20 10 31.7**	**+1.1**
KULA	**Kula-Manisa**	**1.21**	**132**	P		**Pg**		**20 10 15.0**	**-0.1**
KULA	**Kula-Manisa**	**1.21**	**132**	PN		**Pg**		**20 10 15.2**	**+0.1**
BOZC	**Bozcaada**	**1.24**	**295**	PN		**Pg**		**20 10 15.5**	**-0.2**
BOZC				SN		**Sn**		**20 10 32.9**	**+1.5**
ECEA	**Canakkale, Ece**	**1.26**	**305**	*i* P		**Pb**		**20 10 15.3**	**-0.1**
ECEA				*i* S		**Sg**		**20 10 33.5**	**+1.1**
ECEA				IAML				20 10 35.0	
	comp=N,1μm,0.3s								
MRMT	**Marmara Adasi**	**1.27**	**3**	PN		**Pg**		**20 10 16.5**	**+0.1**
MRMT				SN		**Sg**		**20 10 34.9**	**+1.9**
ORLT	**Orhaneli**	**1.28**	**56**	PN		**Pb**		**20 10 15.9**	**0.0**
SIGR	**SIGRI**	**1.29**	**265**	P		**Pb**		**20 10 15.9**	**-0.1**
SIGR				S		**Sg**		**20 10 33.6**	**0.0**
SIGR				AML	AML			20 10 35.8	
	comp=N,4231μm,0.5s								
SIGR				AML	AML			20 10 36.0	
	comp=E,2857μm,0.3s								
SIGR	**SIGRI**	**1.29**	**265**	P		**Pb**		**20 10 16.0**	**0.0**
SIGR				S		**Sg**		**20 10 33.7**	**+0.1**
	comp=E,2μm,0.4s								
SIGR	**SIGRI**	**1.29**	**265**	PN		**Pg**		**20 10 16.2**	**-0.5**
SIGR				SN		**Sg**		**20 10 33.7**	**+0.1**
USAK	**Uak-Merkez**	**1.32**	**117**	*i* P		**Pg**		**20 10 17.0**	**-0.3**
USAK				*i* S

DDIM				*i* S		**Sg**	**20 10 52.8**	**+0.4**
LIA	**Limnos Island**	**1.89**	**288**	P		**Pb**	**20 10 24.9**	**-1.3**
YLV	**Yalova**	**1.89**	**49**	PN		**Pn**	**20 10 24.5**	**+0.6**
AVCI	**Avcilar-stanb**	**1.90**	**29**	PN		**Pb**	**20 10 25.6**	**-0.8**
SMTH	**Samothraki Isl**	**1.91**	**307**	P		**Pn**	**20 10 25.0**	**+1.0**
SMTH	**Samothraki Isl**	**1.91**	**307**	P		**Pn**	**20 10 24.8**	**+0.8**
CFTB	**Yalova**	**1.91**	**45**	PN		**Pb**	**20 10 25.8**	**-0.8**
ALN	**Alexandroupoli**	**1.93**	**325**	P		**Pn**	**20 10 25.5**	**+1.2**
ALN				AML	AML		20 10 55.1	
	comp=N,851µm,0.4s							
ALN				AML	AML		20 10 55.4	
	comp=E,1226µm,0.3s							
ALN	**Alexandroupoli**	**1.93**	**325**	P		**Pn**	**20 10 25.5**	**+1.2**
ALN	**Alexandroupoli**	**1.93**	**325**	PN		**Pb**	**20 10 25.6**	**-1.3**
SLVT	**Silivri**	**1.97**	**15**	PN		**Pb**	**20 10 26.4**	**-1.2**
CAVI	**Cavuskoy**	**2.00**	**63**	PN		**Pb**	**20 10 26.9**	**-1.1**
BILE	**Bilecik/Merkez**	**2.00**	**65**	*i* P		**Pn**	**20 10 24.7**	**-0.7**
BILE				*i* S		**Sn**	**20 10 51.1**	**+0.8**
AUBOZ	**BOZOYUK**	**2.03**	**73**	PN		**Pb**	**20 10 27.5**	**-1.1**
ADVT	**Abdulvahap**	**2.04**	**57**	PN		**Pb**	**20 10 27.7**	**-1.0**
MLSB	**Milas**	**2.04**	**174**	PN		**Pb**	**20 10 27.5**	**-1.3**
CTKS	**Kestanelik-??a**	**2.05**	**21**	PN		**Pn**	**20 10 27.3**	**+1.3**
BGKT	**Bogazkoy**	**2.08**	**27**	PN		**Pb**	**20 10 28.5**	**-1.0**
KAVV	**Kandilli-Istan**	**2.10**	**34**	PN		**Pb**	**20 10 28.7**	**-1.0**
ISK	**Istanbul-Kandi**	**2.10**	**34**	P		**Pn**	**20 10 26.9**	**+0.2**
ISK	**Istanbul-Kandi**	**2.10**	**34**	PN		**Pb**	**20 10 28.3**	**-1.5**
TAVA	**DENIZLI_Tavas**	**2.16**	**149**	*i* P		**Pn**	**20 10 28.2**	**+0.5**
CTYL	**Yalikoy Yolu**	**2.22**	**15**	PN		**Pn**	**20 10 28.9**	**+0.5**
HRT	**Hereke**	**2.23**	**47**	PN		**Pn**	**20 10 29.9**	**+1.4**
KLYT	**Kilyos**	**2.25**	**31**	PN		**Pb**	**20 10 30.7**	**-1.6**
BODT	**Bodrum**	**2.27**	**184**	PN		**Pn**	**20 10 30.7**	**+1.6**
YER	**Yerkesik**	**2.27**	**164**	P		**Pn**	**20 10 29.3**	**+0.2**
YER	**Yerkesik**	**2.27**	**164**	PN		**Pn**	**20 10 29.4**	**+0.3**
BORA	**Eskisehir**	**2.34**	**75**	PN		**Pb**	**20 10 32.2**	**-1.7**
RDO	**Rodhopi**	**2.36**	**321**	P		**Pn**	**20 10 31.8**	**+1.5**
RDO	**Rodhopi**	**2.36**	**321**	PN		**Pn**	**20 10 31.9**	**+1.6**
BASM	**Basmaki-Afyon**	**2.43**	**125**	PN		**Pn**	**20 10 32.8**	**+1.4**
SILT	**Sile**	**2.44**	**41**	PN		**Pn**	**20 10 33.5**	**+2.1**
KIRK	**Kırklareli**	**2.47**	**353**	*i* P		**Pn**	**20 10 31.9**	**+0.1**
SHUT	**Suhut-Afyon**	**2.49**	**107**	PN		**Pn**	**20 10 34.2**	**+2.0**
SRCK	**Saricakaya, Es**	**2.50**	**73**	PN		**Pn**	**20 10 34.4**	**+2.1**
GULT	**Gulveren**	**2.56**	**64**	PN		**Pn**	**20 10 35.2**	**+2.1**
SAUV	**Serdivan-Sakar**	**2.58**	**56**	PN		**Pb**	**20 10 35.6**	**-2.3**
BRDR	**BURDUR-Merkez**	**2.58**	**128**	*i* P		**Pn**	**20 10 33.5**	**+0.1**
EDRB	**Edirne**	**2.58**	**347**	P		**Pn**	**20 10 34.3**	**+0.9**
EDRB	**Edirne**	**2.58**	**347**	PN		**Pn**	**20 10 34.2**	**+0.9**
SGAZ	**Eskisehir, Sey**	**2.58**	**85**	*i* P		**Pn**	**20 10 34.6**	**+1.2**
KOSK	**Kos Island**	**2.61**	**190**	PN		**Pn**	**20 10 35.4**	**+1.7**
TURN	**Turunc**	**2.61**	**167**	PN		**Pn**	**20 10 33.7**	**-0.1**
DALY	**Dalyan (Mula)**	**2.67**	**160**	PN		**Pn**	**20 10 36.4**	**+2.0**
NIS1	**Nisyros Isl.**	**2.74**	**186**	PN		**Pn**	**20 10 37.4**	**+1.9**
APE	**Apeiranthos**	**2.75**	**215**	⇑P		**Pg**	**20 10 42.7**	**-1.8**
APE				⇑S		**Sg**	**20 11 20.7**	**+0.7**
APE	**Apeiranthos**	**2.75**	**215**	PN		**Pn**	**20 10 37.4**	**+1.8**
OUR	**Ouranopolis**	**2.90**	**291**	PN		**Pn**	**20 10 38.3**	**+0.6**
FETY	**Fethiye**	**2.96**	**155**	PN		**Pn**	**20 10 38.9**	**+0.3**
ARG	**Arkhangelos**	**3.15**	**171**	PN		**Pn**	**20 10 43.1**	**+2.0**
NVR	**Nevrokopi**	**3.44**	**307**	P		**Pn**	**20 10 46.4**	**+1.2**
PLVB	**Pleven**	**4.60**	**333**	⇓P		**Pn**	**20 11 03.0**	**+1.9**
PLVB				⇓S		**Sn**	**20 11 52.4**	**-2.0**
VTS	**Vitosha**	**4.61**	**317**	⇑P		**Pn**	**20 11 03.5**	**+2.1**
VTS				⇑S		**Sn**	**20 11 54.1**	**-0.8**
STIP	**Stip**	**4.70**	**302**	*i* Pn		**Pn**	**20 11 02.6**	**+0.2**
TIRR	**Tirgusor**	**5.17**	**7**	⇓P		**Pn**	**20 11 10.0**	**+1.2**
TIRR				⇓S		**Sn**	**20 12 06.7**	**-1.6**
BLKB	**Belogradchik**	**5.62**	**321**	⇓S		**Sn**	**20 12 18.0**	**-1.6**
CFR	**Carcaliu**	**5.86**	**4**	⇓P		**Pn**	**20 11 19.3**	**+0.9**
CFR				⇑S		**Sn**	**20 12 23.9**	**-1.5**
MLR	**Muntele Rosu**	**6.27**	**350**	⇑P		**Pn**	**20 11 25.2**	**+1.2**
VOIR		**6.37**	**344**	⇓P		**Pn**	**20 11 27.2**	**+1.7**
ARR	**Arges**	**6.40**	**341**	⇑P		**Pn**	**20 11 27.2**	**+1.4**
ARR				⇓S		**Sn**	**20 12 38.1**	**-0.7**
PLOR	**Plostina**	**6.55**	**355**	⇓P		**Pn**	**20 11 29.7**	**+1.8**
VRI	**Vrincioaia**	**6.56**	**355**	⇓P		**Pn**	**20 11 27.6**	**-0.3**
HERR	**Herculane**	**6.72**	**327**	⇑P		**Pn**	**20 11 30.5**	**+0.4**
HERR				⇓S		**Sn**	**20 12 44.1**	**-2.4**
DOPR	**Dopca**	**6.82**	**347**	⇓P		**Pn**	**20 11 32.7**	**+1.2**
DOPR				⇓S		**Sn**	**20 12 47.5**	**-1.4**
GZR	**Gura Zlata**	**7.00**	**331**	⇓P		**Pn**	**20 11 35.2**	**+1.1**
GZR				⇑S		**Sn**	**20 12 51.8**	**-1.8**
TESR	**Tescani**	**7.21**	**355**	⇑P		**Pn**	**20 11 38.2**	**+1.9**
BZS	**Buzias**	**7.64**	**327**	⇑P		**Pn**	**20 11 44.2**	**+1.3**
DRGR		**8.24**	**336**	⇑P		**Pn**	**20 11 52.4**	**+1.2**

*IDC **24** 20:23:58.6±0.9,50°.84N×30°.01W,h0km,mb3.6/11, mb1 3.8/12,mb1mx3.7/41,mbtmp3.6/12,ML3.9/1,MS3.6/20, Ms1 3.6/20,ms1mx3.4/48,Error ellipse: s-maj=32.8km s-min=18.1km az=15.0*

*NEIC **24** 20:24:01.7±1.9,50°.76N±0°.10×30°.0W±0°.2,h20km±4km, mb4.5/14,Error ellipse: s-maj=17.3km s-min=10.5km az=225.0*

ISC 24 20:24:00.8±0.8,**50°.8N**±0°.1×**29°.98W**±0°.09,**h14**km,**n52**, σ0**91**/34,**mb3.8**/18,**MS3.6**/18,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**11.10**	**185**	T	T	20 37 28.6	
	SNR=5.9						
NRS	**Narsarsuaq**	**13.49**	**326**	Pn	**Pn**	**20 27 13.4**	**+1.9**
BORG	**Borgarnes**	**14.74**	**15**	LR	LR	20 31 07.3	
	comp=Z,83nm,18.9s,baz=186,slow=29						
ESK	**Eskdalemuir**	**16.68**	**64**		**P**	**20 27 57.8**	**+1.7**
ESK				IAmb	IAmb	20 28 15.1	
	comp=Z,99nm,1.9s						
EKA	**Eskdalemuir Ar**	**16.71**	**64**	Pn	**Pn**	**20 27 54.4**	**+0.2**
	baz=266,slow=12,SNR=4.0						
SFJD	**Kangerlussuaq**	**19.29**	**335**	LR	LR	20 34 16.5	
	comp=Z,125nm,19.0s,baz=132,slow=32						
SCO	**Scoresbysund**	**20.14**	**8**	P	**P**	**20 28 32.1**	**-1.9**
SCO				IAmb	IAmb	20 28 50.1	
	comp=Z,36nm,2.0s						
ESDC	**Sonseca Array**	**21.30**	**111**	LR	LR	20 35 39.3	
	comp=Z,128nm,18.7s,baz=275,slow=33						
JMIC	**Jan Mayen**	**22.56**	**18**	LR	LR	20 35 28.1	
	comp=Z,110nm,19.8s,baz=225,slow=31						
BATG	**Bathurst New B**	**23.77**	**276**	P	**P**	**20 29 12.8**	**+0.2**
BATG				IAmb	IAmb	20 29 13.9	
	comp=Z,37nm,2.0s						
FRB	**Frobisher Bay**	**24.12**	**317**	LR	LR	20 36 30.3	
	comp=Z,97nm,18.5s,baz=46,slow=31						
NOA	**NORSAR Array B**	**24.85**	**50**	LR	LR	20 37 38.7	
	comp=Z,83nm,20.9s,baz=260,slow=33						
G65A	**Princeton**	**25.57**	**272**	P	**P**	**20 29 30.5**	**+1.5**
G65A				IAmb	IAmb	20 30 00.4	
	comp=Z,27nm,1.4s						
E63A	**Oxbow**	**25.59**	**275**	P	**P**	**20 29 29.9**	**+0.6**
E63A				IAmb	IAmb	20 29 44.7	
	comp=Z,8.9nm,0.9s						
HFS	**Hagfors**	**26.02**	**52**	LR	LR	20 39 04.9	
	comp=Z,178nm,18.1s,baz=269,slow=35						
DAVOX	**Davos/Dischmat**	**26.34**	**83**	LR	LR	20 39 59.6	
	comp=Z,114nm,18.2s,baz=256,slow=36						
CLL	**Collm**	**26.75**	**72**	*e*P	**P**	**20 29 39.0**	**-0.7**
GERES	**GERESS Array B**	**27.95**	**77**	P	**P**	**20 29 50.5**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=256,slow=5.4,SNR=3.4						
GERES				LR	LR	20 40 51.0	
	comp=Z,150nm,18.3s,baz=308,slow=36						
VRAC	**Vranov**	**29.57**	**74**	LR	LR	20 41 53.2	
	comp=Z,136nm,18.3s,baz=296,slow=36						
FINES	**FINESS Array B**	**32.02**	**49**	LR	LR	20 41 28.4	
	comp=Z,75nm,21.9s,baz=284,slow=33						
EUNU	**Eureka**	**34.74**	**345**	P	**P**	**20 30 50.1**	**+0.2**
BURAR	**Bucovina Array**	**35.50**	**73**	P	**P**	**20 30 57.1**	**+0.2**
AKASG	**Malin Array Be**	**36.59**	**66**	P	**P**	**20 31 05.0**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=289,slow=9.0,SNR=5.0						
AKASG				LR	LR	20 46 39.6	
	comp=Z,130nm,18.1s,baz=300,slow=37						
YKA	**Yellowknife Ar**	**44.62**	**319**	P	**P**	**20 32 11.6**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=64,slow=8.9,SNR=7.5						
YKA				PcP	**PP**	**20 33 55.0**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=68,slow=4.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	**45.49**	**134**	P	**P**	**20 32 19.6**	**0.0**
	comp=Z,1.3nm,1.1s,baz=337,slow=7.6,SNR=4.0						
BELG	**Belogornoye**	**46.05**	**56**	LR	LR	20 50 43.7	
	comp=Z,61nm,19.4s,baz=183,slow=35						
KBZ	**Khabaz**	**48.11**	**69**	P	P	20 32 44.5	+4.7
	comp=Z,1.5nm,0.9s,baz=335,slow=6.4,SNR=3.7						
INK	**Inuvik**	**48.56**	**331**	P	**P**	**20 32 41.7**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=64,slow=5.4,SNR=2.0						
ARU	**Arti**	**49.36**	**47**	LR	LR	20 52 43.3	
	comp=Z,58nm,19.4s,baz=176,slow=35						
GNI	**Garni**	**51.36**	**71**	LR	LR	20 55 45.3	
	comp=Z,34nm,19.6s,baz=309,slow=37						
AKTO	**Aktyubinsk**	**52.55**	**54**	LR	LR	20 54 53.7	
	comp=Z,63nm,19.2s,baz=310,slow=35						
PDAR	**Pinedale Array**	**52.61**	**294**	P	**P**	**20 33 13.2**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=28,slow=4.1,SNR=2.0						
ABKAR	**Akbulak array**	**54.26**	**54**	P	**P**	**20 33 25.5**	**-0.4**
BCAR	**Beaver Creek A**	**54.53**	**329**	P	**P**	**20 33 28.1**	**+0.4**
SCRK	**Sand Creek**	**54.60**	**330**	P	**P**	**20 33 28.8**	**+0.5**
SCRK				IAmb	IAmb	20 33 29.8	
	comp=Z,3.5nm,0.9s						
ILAR	**Eielson Array**	**54.92**	**332**	P	**P**	**20 33 30.7**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=48,slow=5.5,SNR=7.4						
TGL	**Tana Glacier**	**56.51**	**327**	P	**P**	**20 33 42.1**	**0.0**
BRVK	**Borovoye**	**56.80**	**45**	P	**P**	**20 33 43.9**	**-0.2**
BRVK				IAmb	IAmb	20 34 06.9	
	comp=Z,13nm,2.0s						
TIXI	**Tiksi**	**56.97**	**8**	P	**P**	**20 33 45.7**	**+0.7**
TIXI				IAmb	IAmb	20 33 47.6	
	comp=Z,3.2nm,1.0s						
TXAR	**Lajitas Array**	**57.84**	**278**	LR	LR	20 59 03.5	
	comp=Z,74nm,18.4s,baz=0.0,slow=36						
SKT	**Skwentna**	**58.40**	**332**	P	**P**	**20 33 55.1**	**-0.2**
ROSC	**El Rosal**	**58.85**	**234**	LR	LR	20 56 15.4	
	comp=Z,74nm,21.2s,baz=6.5,slow=33						
KVN	**Kaiserville**	**59.94**	**296**	P	**P**	**20 34 05.7**	**-0.9**
NVAR	**Mina Array Bea**	**60.48**	**296**	P	**P**	**20 34 09.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=58,slow=7.5,SNR=3.6						
GEYT	**Ailbeck**	**60.69**	**65**	P	**P**	**20 34 12.1**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=347,slow=5.9,SNR=1.9						
MKAR	**Makanchi Array**	**66.67**	**44**	P	**P**	**20 34 50.8**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=322,slow=6.2,SNR=4.8						
MKAR				LR	LR	21 04 37.6	
	comp=Z,39nm,18.6s,baz=304,slow=37						
SONM	**Songino Array**	**74.86**	**29**	P	**P**	**20 35 40.8**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=302,slow=6.6,SNR=2.6						
USRK	**Ussuriysk Ar.**	**84.12**	**13**	LR	LR	21 12 53.3	
	comp=Z,131nm,19.4s,baz=140,slow=35						
WRA	**Warramunga Arr**	**146.83**	**28**	PKPbc	**PKPbc**	**20 43 41.4**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=341,slow=3.2,SNR=9.6						
ASAR	**Alice Springs**	**150.19**	**31**	PKPbc	**PKPbc**	**20 43 50.4**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=341,slow=2.0,SNR=15						
ASAR	**Alice Springs**	**150.19**	**31**		**PKPbc**	**20 43 49.9**	**-1.3**
VNDA	**Vanda**	**152.77**	**186**	PKPbc	**PKiKP**	**20 43 56.7**	**+1.0**
	comp=Z,1.1nm,1.0s,baz=264,slow=3.3,SNR=4.5						

*ANF **24** 20:25:04.9±0.3,36°.33N×97°.52W,h6km,ML4.4/17,Error ellipse: s-maj=3.6km s-min=2.9km az=130.0*

*TUL **24** 20:25:04.9±1.3,36°.33N±0°.01×97°.52W±0°.02, h7km±7km, mb_Lg3.5/128(NEIC),Error ellipse: s-maj=2.9km s-min=1.6km az=71.0*

*IDC **24** 20:25:04.0±2.0,36°.34N×97°.29W,h0km,mb3.3/1, mb1 3.6/5,mb1mx3.4/41,mbtmp3.2/5,ML3.3/4,Error ellipse: s-maj=29.3km s-min=12.8km az=106.0*

*NEIC **24** 20:25:05.0±1.4,36°.34N±0°.01×97°.503W±0°.009,h6km±7km, Error ellipse: s-maj=1.7km s-min=0.8km az=159.0*

ISC 24 20:25:04.8±1.0,**36°.34N**±0°.02×**97°.52W**±0°.02,**h6**km±9km, **n152,** σ0**84**/149,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.41**	**294**		**Pg**	**20 25 13.1**	**+0.3**
CROK					**Sg**	**20 25 19.0**	**+0.8**
OK029	**Liberty Lake**	**0.54**	**175**		**Pg**	**20 25 15.4**	**+0.2**
OK029				Sg	**Sg**	**20 25 22.9**	**+0.7**
GC02	**Grant County #**	**0.58**	**332**		**Pg**	**20 25 16.2**	**+0.2**
GC02				Sg	**Sg**	**20 25 24.4**	**+0.8**
OK031	**S. Brethren Rd**	**0.67**	**125**		**Pg**	**20 25 17.8**	**+0.2**
OK031				Sg	**Sg**	**20 25 26.9**	**+0.6**
QUOK	**Quay**	**0.67**	**104**		**Pg**	**20 25 17.9**	**+0.1**
QUOK				Sg	**Sg**	**20 25 26.8**	**+0.3**
KAN13	**South Haven SW**	**0.68**	**3**		**Pg**	**20 25 18.0**	**+0.2**
KAN13				Sg	**Sg**	**20 25 26.0**	**-0.6**
BCOK	**Bluff Creek, N**	**0.68**	**186**		**Pg**	**20 25 18.0**	**+0.1**
BCOK				Sg	**Sg**	**20 25 27.2**	**+0.5**
KAN14	**Manchester OK**	**0.72**	**330**		**Pg**	**20 25 18.6**	**+0.1**
KAN14				Sg	**Sg**	**20 25 28.4**	**+0.5**
OK030	**Cody Creek RV**	**0.72**	**124**		**Pg**	**20 25 18.8**	**+0.2**
OK030				Sg	**Sg**	**20 25 28.6**	**+0.7**
OK032	**Salt Plains WL**	**0.73**	**310**	Pg	**Pg**	**20 25 18.9**	**+0.1**
OK032				Sg	**Sg**	**20 25 28.9**	**+0.7**
OK025	**Westminster Rd**	**0.77**	**169**		**Pg**	**20 25 19.7**	**+0.1**
OK025				Sg	**Sg**	**20 25 30.0**	**+0.6**
KAN09	**Caldwell North**	**0.80**	**354**	Pg	**Pg**	**20 25 20.4**	**+0.2**
KAN09				Sg	**Sg**	**20 25 31.3**	**+0.6**
KAN05	**Bluff City Nor**	**0.82**	**340**		**Pg**	**20 25 20.8**	**+0.2**
KAN05				Sg	**Sg**	**20 25 32.1**	**+0.8**
KAN10	**Anthony SW Sta**	**0.91**	**330**		**Pg**	**20 25 22.3**	**0.0**
KAN10				Sg	**Sg**	**20 25 34.8**	**+0.6**
OKCFA	**Oklahoma City**	**0.92**	**177**	Pg	**Pg**	**20 25 22.2**	**-0.2**
OKCFA				Sg	**Sb**	**20 25 35.4**	**-0.3**
OKCFA	**Oklahoma City**	**0.92**	**177**	P	**Pg**	**20 25 22.2**	**-0.2**
	baz=357,SNR=23						
OKCFA	**Oklahoma City**	**0.92**	**177**	P		20 25 22.2	
	baz=357,SNR=23						
OKCSW	**OKLAHOMA CITY**	**0.93**	**176**		**Pg**	**20 25 22.5**	**-0.1**
OKCSW				Sg	**Sb**	**20 25 35.6**	**-0.4**
KAN08	**Anthony NE Sta**	**0.96**	**338**		**Pg**	**20 25 23.3**	**0.0**
KAN08				Sg	**Sg**	**20 25 36.4**	**+0.7**
T35A	**Sooner Cattle**	**0.99**	**54**		**Pg**	**20 25 23.8**	**-0.1**
T35A				Sg	**Sg**	**20 25 36.9**	**+0.2**
T35B	**Sooner Cattle**	**0.99**	**54**	P	**Pg**	**20 25 23.8**	**-0.1**
	baz=234,SNR=205						
T35B				S	**Sg**	**20 25 36.8**	**0.0**
	baz=234						
T35B	**Sooner Cattle**	**0.99**	**54**	P		20 25 23.8	
	baz=234,SNR=205						
T35B				S		20 25 36.8	
	baz=234						
KAN12	**Harper NE Stat**	**1.03**	**338**		**Pg**	**20 25 24.5**	**-0.2**
KAN12				Sg	**Sg**	**20 25 38.7**	**+0.6**
FNO	**Franklin**	**1.08**	**175**		**Pg**	**20 25 25.7**	**+0.2**
FNO				Sg	**Sb**	**20 25 40.5**	**+0.2**
U32A	**Winter Ranch,**	**1.20**	**272**		**Pg**	**20 25 27.0**	**-0.8**
U32A	**Winter Ranch,**	**1.20**	**272**	P	**Pg**	**20 25 27.1**	**-0.8**
	baz=91,SNR=191						
U32A				S	**Sg**	**20 25 43.3**	**-0.1**
	baz=91						
U32A	**Winter Ranch,**	**1.20**	**272**	P		20 25 27.1	
	baz=91,SNR=191						
U32A				S		20 25 43.3	
	baz=91						
WMOK	**Wichita Mounta**	**1.90**	**213**		**Pn**	**20 25 38.4**	**+0.5**
WMOK	**Wichita Mounta**	**1.90**	**213**	P	**Pn**	**20 25 38.3**	**+0.5**
	baz=32,SNR=167						
WMOK				S	**Sb**	**20 26 03.6**	**-0.2**
	baz=32						
WMOK	**Wichita Mounta**	**1.90**	**213**	P		20 25 38.2	
	baz=32						
WMOK				S		20 26 03.5	
	baz=32						
WMOK	**Wichita Mounta**	**1.90**	**213**	P		20 25 38.3	
	baz=32,SNR=167						
WMOK				S		20 26 03.6	
	baz=32						
R32A	**Long Quarter,**	**2.29**	**336**		**Pb**	**20 25 45.4**	**-1.2**
R32A	**Long Quarter,**	**2.29**	**336**	S	**Sb**	**20 26 15.6**	**+0.5**
	baz=155						
R32A	**Long Quarter,**	**2.29**	**336**	S		20 26 15.6	
	baz=155						
X37A	**Clayton**	**2.47**	**134**		**Pn**	**20 25 46.5**	**+0.9**
X37A	**Clayton**	**2.47**	**134**	P	**Pn**	**20 25 46.3**	**+0.7**
	baz=316,SNR=49						
X37A	**Clayton**	**2.47**	**134**	P		20 25 46.3	
	baz=316,SNR=49						
U38A	**Gravette**	**2.53**	**87**		**Pn**	**20 25 47.0**	**+0.6**
U38A	**Gravette**	**2.53**	**87**	P	**Pn**	**20 25 47.1**	**+0.7**
	baz=269,SNR=75						
U38A	**Gravette**	**2.53**	**87**	P		20 25 47.1	
	baz=269,SNR=75						
KSU1	**Kansas State U**	**2.85**	**14**		**Pn**	**20 25 51.1**	**+0.3**
KSU1				IAmb_Lg		20 26 42.6	
	comp=Z,108nm,0.8s						
KSU1	**Kansas State U**	**2.85**	**14**	P		20 25 52.0	
	baz=195						
HHAR	**Hobbs**	**2.89**	**90**		**Pn**	**20 25 51.1**	**-0.2**
Z35A	**Perchaven, San**	**3.01**	**176**		**Pn**	**20 25 53.9**	**+0.9**
Z35A	**Perchaven, San**	**3.01**	**176**	P	**Pn**	**20 25 53.9**	**+0.9**
	baz=356,SNR=7.8						
Z35A				S	**Sn**	**20 26 31.0**	**+1.6**
	baz=356						
Z35A	**Perchaven, San**	**3.01**	**176**	P		20 25 53.9	
	baz=356,SNR=7.8						
Z35A				S		20 26 31.0	
	baz=356						
CBKS	**Cedar Bluff**	**3.04**	**325**		**Pn**	**20 25 54.6**	**+1.2**
CBKS	**Cedar Bluff**	**3.04**	**325**	Pb		20 26 01.0	
	baz=144						
W39A	**Magazine**	**3.24**	**109**		**Pn**	**20 25 56.8**	**+0.6**
W39A				IAmb_Lg		20 26 53.9	
	comp=Z,139nm,0.7s						
W39A	**Magazine**	**3.24**	**109**	P		20 25 56.9	
	baz=292						
S39A	**Bolivar**	**3.62**	**67**		**Pn**	**20 26 00.7**	**-0.7**
S39A				IAmb_Lg		20 27 03.4	
	comp=Z,172nm,0.7s						
S39A	**Bolivar**	**3.62**	**67**	P	**Pn**	**20 26 02.1**	**+0.7**
	baz=249,SNR=24						
S39A	**Bolivar**	**3.62**	**67**	P		20 26 02.1	
	baz=249,SNR=24						
MIAR	**Mount Ida**	**3.68**	**118**		**Pn**	**20 26 03.0**	**+0.8**
MIAR				IAmb_Lg		20 27 05.0	
	comp=Z,135nm,0.8s						
MIAR	**Mount Ida**	**3.68**	**118**	P	**Pn**	**20 26 03.1**	**+0.8**
	baz=300,SNR=25						
MIAR	**Mount Ida**	**3.68**	**118**	P		20 26 03.1	
	baz=300						
MIAR	**Mount Ida**	**3.68**	**118**	P		20 26 03.1	
	baz=300,SNR=25						
AMTX	**Amarillo**	**3.69**	**248**		**Pn**	**20 26 04.4**	**+2.0**
AMTX				IAmb_Lg		20 27 05.1	
	comp=Z,208nm,0.8s						
AMTX	**Amarillo**	**3.69**	**248**	Sb		20 26 59.6	
	baz=66						
Z38A	**Mt. Pleasant**	**3.71**	**145**		**Pn**	**20 26 02.6**	**0.0**
U40A	**Yellville**	**3.76**	**88**		**Pn**	**20 26 03.2**	**-0.2**
U40A				IAmb_Lg		20 27 08.9	
	comp=Z,115nm,0.7s						
U40A	**Yellville**	**3.76**	**88**	P	**Pn**	**20 26 03.2**	**-0.2**
	baz=271,SNR=30						
U40A	**Yellville**	**3.76**	**88**	P		20 26 03.2	
	baz=271						
U40A	**Yellville**	**3.76**	**88**	P		20 26 03.2	
	baz=271,SNR=30						
U40A				P		20 26 03.2	
	baz=271,SNR=30						
ABTX	**Abilene, Hawle**	**4.10**	**206**		**Pn**	**20 26 09.9**	**+1.9**
ABTX				IAmb_Lg		20 27 21.8	
	comp=Z,74nm,0.7s						
X40A	**Basin Creek Fa**	**4.25**	**114**		**Pn**	**20 26 11.1**	**+1.1**
X40A				IAmb_Lg		20 27 29.6	
	comp=Z,163nm,0.7s						
X40A	**Basin Creek Fa**	**4.25**	**114**	P	**Pn**	**20 26 10.3**	**+0.3**
	baz=297,SNR=10						
X40A	**Basin Creek Fa**	**4.25**	**114**	P		20 26 11.0	
	baz=297						
X40A	**Basin Creek Fa**	**4.25**	**114**	P		20 26 10.3	
	baz=297,SNR=10						
X40A				P		20 26 10.3	
	baz=297,SNR=10						
MGMO	**Mountain Grove**	**4.29**	**77**		**Pn**	**20 26 11.4**	**+0.8**
MGMO				IAmb_Lg		20 27 32.2	
	comp=Z,63nm,0.8s						
WHTX	**Lake Whitney,**	**4.33**	**179**		**Pn**	**20 26 11.5**	**+0.3**
WHTX	**Lake Whitney,**	**4.33**	**179**	P	**Pn**	**20 26 11.6**	**+0.3**
	baz=360,SNR=12						
WHTX	**Lake Whitney,**	**4.33**	**179**	P		20 26 11.6	
	baz=360						
WHTX	**Lake Whitney,**	**4.33**	**179**	P		20 26 11.6	
	baz=360,SNR=12						
WHAR

JCT	**Junction City**	**6.15**	**199**	P			20 26 36.3			
	baz=18									
PEBM	**Pemiscott Bayo**	**6.19**	**90**	IAmb_Lg			20 28 33.0			
	comp=Z,91nm,0.8s									
143A	**Socs Landing,**	**6.21**	**124**	IAmb_Lg			20 28 25.7			
	comp=Z,82nm,0.8s									
SLM	**Saint Louis**	**6.23**	**66**	Pn		**Pn**	**20 26 35.8**	**-1.5**		
PARMO	**Parma**	**6.26**	**85**	Pn		**Pn**	**20 26 36.4**	**-1.3**		
K31A	**O'Neill**	**6.35**	**352**	Pn		**Pn**	**20 26 39.0**	**+0.1**		
HENM	**Henderson Moun**	**6.49**	**84**	IAmb_Lg			20 28 48.8			
	comp=Z,102nm,0.7s									
SCIA	**State Center**	**6.49**	**30**			**Pn**	**20 26 38.9**	**-2.0**		
SCIA				IAmb_Lg			20 28 32.4			
	comp=Z,110nm,0.7s									
LNXT	**Lenox**	**6.49**	**90**	IAmb_Lg			20 28 28.8			
	comp=Z,113nm,0.7s									
S44A	**Carbondale**	**6.75**	**76**	Pn		**Pn**	**20 26 44.4**	**0.0**		
SIUC	**Southern Illin**	**6.78**	**76**	Pn		**Pn**	**20 26 43.3**	**-1.5**		
N41A	**Harden Midland**	**6.80**	**48**			**Pn**	**20 26 46.3**	**+1.1**		
OXF	**Oxford**	**6.86**	**103**	Pn		**Pn**	**20 26 44.7**	**-1.2**		
OXF				IAmb_Lg			20 28 48.0			
	comp=Z,40nm,0.8s									
W45A	**Hickory Valley**	**6.88**	**97**	Pn		**Pn**	**20 26 47.2**	**+1.1**		
W45A				IAmb_Lg			20 28 47.3			
	comp=Z,62nm,0.8s									
Y45A	**Yeager Farm, C**	**6.98**	**108**	IAmb_Lg			20 28 59.6			
	comp=Z,40nm,0.7s									
GDL2	**Guadalupe Moun**	**7.01**	**236**	Pn		**Pn**	**20 26 48.2**	**+0.1**		
VBMS	**Vicksburg**	**7.10**	**123**	Pn		**Pn**	**20 26 48.1**	**-1.1**		
P43A	**Skaggs, Pawnee**	**7.12**	**60**			**Pn**	**20 26 49.6**	**+0.1**		
Q44A	**Meyer Farm, Va**	**7.21**	**67**	Pn		**Pn**	**20 26 50.1**	**-0.7**		
K38A	**Parkersburg**	**7.29**	**29**	Pn		**Pn**	**20 26 52.2**	**+0.3**		
ANMO	**Albuquerque**	**7.41**	**262**			**Pn**	**20 26 55.1**	**+1.4**		
ECSD	**EROS Data Cent**	**7.42**	**5**	Pn		**Pn**	**20 26 52.8**	**-0.8**		
ECSD	**EROS Data Cent**	**7.42**	**5**	P		**Pn**	**20 26 52.6**	**-1.0**		
	baz=186,SNR=21									
ECSD	**EROS Data Cent**	**7.42**	**5**	P			20 26 52.6			
	baz=186									
ECSD	**EROS Data Cent**	**7.42**	**5**	P			20 26 52.6			
	baz=186,SNR=21									
735A	**Kenedy**	**7.46**	**182**	IAmb_Lg			20 28 57.8			
	comp=Z,47nm,0.8s									
L40A	**Anamosa**	**7.52**	**39**	Pn		**Pn**	**20 26 53.2**	**-1.7**		
L40A				IAmb_Lg			20 29 07.5			
	comp=Z,80nm,0.8s									
HDIL	**Hopedale**	**7.70**	**54**	Pn		**Pn**	**20 26 58.5**	**+1.0**		
BNM	**Barren Site**	**7.77**	**256**	Pn		**Pn**	**20 27 00.1**	**+1.5**		
PLAL	**Pickwick Lake**	**7.80**	**97**	IAmb_Lg			20 29 18.7			
	comp=Z,31nm,1.0s									
146A	**Union**	**7.90**	**115**	Pn		**Pn**	**20 26 59.4**	**-0.8**		
PHWY	**Pilot Hill**	**7.94**	**311**	Pn		**Pn**	**20 27 01.3**	**+0.3**		
PHWY				IAmb_Lg			20 29 24.3			
	comp=Z,61nm,1.0s									
MNTX	**Cornudas Mount**	**8.00**	**237**			**Pn**	**20 27 02.6**	**+1.0**		
MNTX				IAmb_Lg			20 29 40.9			
	comp=Z,32nm,0.8s									
SMCO	**Snowmass**	**8.01**	**294**			**Pn**	**20 27 02.3**	**+0.2**		
Y22D	**IRIS PASSCAL I**	**8.02**	**256**	IAmb_Lg			20 29 40.2			
	comp=Z,65nm,0.8s									
USIN	**University of**	**8.03**	**75**	IAmb_Lg			20 29 27.1			
	comp=Z,89nm,1.2s									
LENM	**Lemitar**	**8.04**	**257**			**Pn**	**20 27 03.4**	**+1.1**		
SUSD	**Miller**	**8.17**	**353**			**Pn**	**20 27 03.7**	**-0.2**		
SUSD				IAmb_Lg			20 29 31.5			
	comp=Z,57nm,0.8s									
I37A	**Lemond, Waseca**	**8.29**	**21**			**Pn**	**20 27 06.0**	**+0.5**		
I37A				IAmb_Lg			20 29 37.4			
	comp=Z,50nm,0.7s									
L42A	**Oliver, Polo**	**8.31**	**45**	Pn		**Pn**	**20 27 05.0**	**-0.9**		
L42A				IAmb_Lg			20 29 36.8			
	comp=Z,81nm,0.8s									
JFWS	**Jewell Farm**	**8.63**	**38**			**Pn**	**20 27 08.1**	**-2.1**		
JFWS				IAmb_Lg			20 29 37.2			
	comp=Z,78nm,0.7s									
V48A	**Smith Brothers**	**8.68**	**91**	IAmb_Lg			20 29 50.1			
	comp=Z,25nm,1.0s									
TX31	**Lajitas Ar. Si**	**8.69**	**218**			**Pn**	**20 27 10.2**	**-0.9**		
TXAR	**Lajitas Array**	**8.69**	**218**	Pn		**Pn**	**20 27 10.4**	**-0.8**		
	comp=Z,0.2nm,0.3s,baz=37,slow=12,SNR=4.7									
TXAR				Pg		Pg	20 27 37.4	-14		
	comp=Z,0.5nm,0.3s,baz=43,slow=10,SNR=5.7									
TXAR				Lg		Lg	20 29 37.4			
	comp=Z,1.5nm,0.3s,baz=143,slow=11,SNR=4.3									
TXAR	**Lajitas Array**	**8.69**	**218**	Pn		**Pn**	**20 27 10.1**	**-1.0**		
TX32	**Lajitas Array**	**8.69**	**218**			**Pn**	**20 27 10.2**	**-1.0**		
P46A	**Rosedale**	**8.77**	**65**	Pn		**Pn**	**20 27 12.6**	**+0.4**		
MVCO	**Mesa Verde**	**8.86**	**279**			**Pn**	**20 27 12.3**	**-1.2**		
MVCO				IAmb_Lg			20 29 51.7			
	comp=Z,27nm,1.3s									
M44A	**Midewin, Midew**	**8.94**	**53**	Pn		**Pn**	**20 27 13.0**	**-1.5**		
CLTN	**Cedars of Leba**	**9.04**	**88**	IAmb_Lg			20 29 55.5			
	comp=Z,22nm,0.9s									
SFIN	**Lafayette**	**9.12**	**61**	IAmb_Lg			20 29 51.3			
	comp=Z,70nm,0.8s									
WCI	**Wyandotte Cave**	**9.14**	**75**	IAmb_Lg			20 29 54.5			
	comp=Z,43nm,0.9s									
I40A	**Norwalk**	**9.21**	**33**	IAmb_Lg			20 30 09.2			
	comp=Z,53nm,1.1s									
RSSD	**Black Hills**	**9.23**	**329**	IAmb_Lg			20 30 18.2			
	comp=Z,26nm,0.9s									
RWWY	**Rawlins**	**9.24**	**308**	IAmb_Lg			20 30 09.4			
	comp=Z,40nm,0.9s									
O20A	**White River Ci**	**9.25**	**297**	IAmb_Lg			20 30 17.0			
	comp=Z,29nm,1.2s									
PV11	**David Mesa, Pa**	**9.26**	**286**	IAmb_Lg			20 30 09.9			
	comp=Z,23nm,0.9s									
121A	**Cookes Peak, D**	**9.29**	**249**	IAmb_Lg			20 30 07.2			
	comp=Z,23nm,1.0s									
K22A	**Casper**	**9.39**	**315**	IAmb_Lg			20 30 25.4			
	comp=Z,66nm,1.0s									
U49A	**Red Boiling Sp**	**9.46**	**85**	IAmb_Lg			20 30 13.2			
	comp=Z,25nm,0.9s									
SWET	**Sewanee**	**9.48**	**93**	IAmb_Lg			20 30 03.4			
	comp=Z,32nm,1.1s									
K43A	**Burlington**	**9.52**	**45**	IAmb_Lg			20 30 12.6			
	comp=Z,58nm,0.8s									
F33A	**5 Mile Ranch,**	**9.54**	**5**	IAmb_Lg			20 30 20.2			
	comp=Z,22nm,0.9s									
SPMN	**Marine on St.**	**9.57**	**20**	IAmb_Lg			20 30 09.5			
	comp=Z,30nm,0.8s									
W50A	**Signal Mountai**	**9.98**	**93**	IAmb_Lg			20 30 34.9			
	comp=Z,42nm,0.8s									
PDAR	**Pinedale Array**	**11.29**	**308**	Pn		**Pn**	**20 27 48.2**	**+1.3**		
	comp=Z,0.1nm,0.3s,baz=117,slow=17,SNR=1.8									
PDAR				Pg			20 28 33.5			
	comp=Z,0.3nm,0.3s,baz=118,slow=17,SNR=9.4									
PDAR				Sn		Sn	20 29 41.6	-12		
	comp=Z,0.4nm,0.3s,baz=108,slow=15,SNR=8.5									
PDAR				Lg		Lg	20 31 00.4			
	comp=Z,0.7nm,0.3s,baz=107,slow=35,SNR=4.1									
PDAR	**Pinedale Array**	**11.29**	**308**	Pn		**Pn**	**20 27 45.9**	**-1.0**		
ULM	**Lac du Bonnet**	**13.96**	**4**	Pn		Pn	20 28 17.9	-5.1		
	comp=Z,0.2nm,0.3s,baz=162,slow=14,SNR=2.0									
ULM				Sn		Sn	20 30 46.0	-12		
	comp=Z,0.2nm,0.3s,baz=282,slow=22,SNR=1.6									
ULM				Lg		Lg	20 32 15.9			
	comp=Z,0.2nm,0.3s,baz=288,slow=20,SNR=1.5									
NVAR	**Mina Array Bea**	**16.66**	**283**	Pn		**P**	**20 29 03.2**	**+1.7**		
	comp=Z,0.2nm,0.3s,baz=91,slow=12,SNR=1.8									
NVAR				Lg		Lg	20 33 55.9			
	comp=Z,0.1nm,0.3s,baz=114,slow=20,SNR=1.8									
ILAR	**Eielson Array**	**40.68**	**330**	P		**P**	**20 32 46.9**	**+1.2**		
	comp=Z,0.3nm,0.7s,baz=112,slow=6.4,SNR=5.3									

SKO **24** *20:37:48.6,41.°97N×23.°16E,h15km*
SOF **24** *20:37:50.3,41.°97N×23.°26E,h14km,MD3.1*
ATH **24** *20:37:51.1,41.°97N×23.°25E,h10km±4km, ML2.9/12, Error ellipse: s-maj=5.8km s-min=2.3km az=174.0*
BEO **24** *20:37:51.8±0.3,41.°96N×23.°19E,h9km±2km, ML2.8/15*
THE **24** *20:37:52.4,41.°89N×23.°21E,h3km, ML2.8/7, Error ellipse: s-maj=1.3km s-min=0.6km az=183.0*
ISK **24** *20:37:54.1,41.°69N×23.°26E,h10km, ML3.3/17*
ISC 24 20:37:51.1±0.9, 41.°93N±0.°01×23.°14E±0.°02, h7km±7km, n113, σ1§24/159, 12C-11D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KKB	**Krupnik**	**0.08**	**211**	*i* Pg		**Pg**	**20 37 54.4**	**+1.4**
MMB	**Musomiste**	**0.56**	**128**	*i* Pg		**Pg**	**20 38 02.2**	**+0.3**
VTS	**Vitosha**	**0.69**	**6**	*e*Pg		**Pg**	**20 38 03.6**	**-0.8**
VTS				*e*Sg		**Sg**	**20 38 12.3**	**-1.1**
VTS	**Vitosha**	**0.69**	**6**	⇑P		**Pg**	**20 38 03.8**	**-0.6**
VTS				⇓S		**Sg**	**20 38 12.6**	**-0.8**
VTS	**Vitosha**	**0.69**	**6**	*i* Pg		**Pg**	**20 38 03.5**	**-0.8**
VTS	**Vitosha**	**0.69**	**6**	*i* Pg		**Pg**	**20 38 03.6**	**-0.8**
VTS				*i* Sg		**Sg**	**20 38 12.2**	**-1.1**
BOSS	**Bosilegrad**	**0.74**	**319**	*e*Pg		**Pg**	**20 38 05.4**	**0.0**
BOSS				*e*Sg		**Sg**	**20 38 15.6**	**+0.5**
STIP	**Stip**	**0.75**	**252**	*i* Pg		**Pg**	**20 38 02.4**	**-3.1**
STIP				*i* Sg		**Sg**	**20 38 11.1**	**-4.2**
STIP				*e*Lg		Lg	20 38 12.5	
	comp=N,198nm,0.2s							
KNT	**Kendrikon**	**0.79**	**193**	P		**Pb**	**20 38 06.8**	**-0.4**
KNT				AML		AML	20 38 18.3	
	comp=E,940μm,0.1s							
KNT				AML		AML	20 38 22.7	
	comp=N,880μm,0.3s							
KNT	**Kendrikon**	**0.79**	**193**	P		**Pb**	**20 38 06.9**	**-0.3**
KNT				S		**Sb**	**20 38 17.4**	**-0.7**
	comp=N,395nm,0.1s							
KNT	**Kendrikon**	**0.79**	**193**	*i* Pg		**Pb**	**20 38 07.0**	**-0.3**
KNT				*i* Sg		**Sb**	**20 38 18.1**	**0.0**
NVR	**Nevrokopi**	**0.80**	**137**	P		**Pg**	**20 38 06.2**	**-0.2**
NVR				S		**Sg**	**20 38 16.4**	**-0.4**
NVR				AML		AML	20 38 16.6	
	comp=E,1856μm,0.1s							
NVR				AML		AML	20 38 16.9	
	comp=N,1665μm,0.2s							
NVR	**Nevrokopi**	**0.80**	**137**	P		**Pg**	**20 38 06.2**	**-0.2**
NVR				S		**Sg**	**20 38 16.4**	**-0.4**
	comp=N,880nm,0.2s							
SRS	**Serrai**	**0.88**	**157**	P		**Pg**	**20 38 08.1**	**0.0**
SRS				S		**Sb**	**20 38 20.4**	**-0.5**
SRS				AML		AML	20 38 22.2	
	comp=N,1174μm,0.3s							
SRS				AML		AML	20 38 23.9	
	comp=E,913μm,0.2s							
SRS	**Serrai**	**0.88**	**157**	P		**Pg**	**20 38 08.1**	**0.0**
SRS				S		**Sb**	**20 38 20.2**	**-0.6**
	comp=E,578nm,0.3s							
SRS	**Serrai**	**0.88**	**157**	*e*Pg		**Pg**	**20 38 08.1**	**0.0**
SRS				*e*Sg		**Sb**	**20 38 20.3**	**-0.5**
SRS	**Serrai**	**0.88**	**157**	*i* Pg		**Pg**	**20 38 08.1**	**0.0**
SRS				*i* Sg		**Sb**	**20 38 20.8**	**0.0**
PGB	**Panagyurishte**	**0.98**	**51**	*i* Pg		**Pg**	**20 38 08.2**	**-1.8**
GRG	**Griva**	**1.12**	**210**	P		**Pn**	**20 38 13.3**	**0.0**
GRG				AML		AML	20 38 29.5	
	comp=N,1138μm,0.6s							
GRG				AML		AML	20 38 29.7	
	comp=E,1509μm,0.5s							
GRG	**Griva**	**1.12**	**210**	P		**Pn**	**20 38 13.2**	**0.0**
GRG				S		**Sn**	**20 38 29.1**	**+0.1**
	comp=E,655nm,0.5s							
GRG	**Griva**	**1.12**	**210**	*i* Pg		**Pn**	**20 38 13.1**	**-0.1**
GRG				*i* Sg		**Sn**	**20 38 29.0**	**+0.1**
SOH	**Sokhos**	**1.12**	**172**	P		**Pg**	**20 38 12.6**	**-0.1**
SOH				AML		AML	20 38 29.6	
	comp=E,816μm,0.4s							
SOH				AML		AML	20 38 29.7	
	comp=N,1161μm,0.3s							
SOH	**Sokhos**	**1.12**	**172**	P		**Pb**	**20 38 12.7**	**-0.1**
SOH				S		**Sb**	**20 38 27.9**	**+0.2**
	comp=N,395nm,0.4s							
SOH	**Sokhos**	**1.12**	**172**	*i* Pg		**Pb**	**20 38 12.8**	**-0.1**
SOH				*i* Sg		**Sn**	**20 38 28.5**	**-0.5**
PLD	**Plovdiv**	**1.18**	**81**	*e*Pg		**Pg**	**20 38 12.0**	**-1.7**
PLD				*e*Sg		**Sg**	**20 38 28.5**	**-0.5**
PLD	**Plovdiv**	**1.18**	**81**	*i* Pg		**Pg**	**20 38 12.4**	**-1.3**
PLD	**Plovdiv**	**1.18**	**81**	*i* Pg		**Pg**	**20 38 12.4**	**-1.3**
PLD				*i* Sg		**Sg**	**20 38 28.6**	**-0.5**
RZN	**Rozhen**	**1.21**	**101**	*i* Pg		**Pg**	**20 38 12.8**	**-1.4**
SKO	**Skopje**	**1.27**	**272**	*e*Pg		**Pg**	**20 38 15.9**	**+0.5**
SKO				*e*Sg		**Sn**	**20 38 34.5**	**+2.0**
SKO	**Skopje**	**1.27**	**272**	*e*Pg		**Pn**	**20 38 14.0**	**-1.2**
SKO				*i* Sg		**Sn**	**20 38 35.4**	**+2.8**
SKO				*e*Lg		Lg	20 38 36.4	
	comp=E,2.3nm,0.5s							
THE	**Thessaloniki**	**1.31**	**186**	P		**Pg**	**20 38 16.4**	**+0.3**
THE				AML		AML	20 38 36.2	
	comp=N,436μm,0.2s							
THE				AML		AML	20 38 36.9	
	comp=E,490μm,0.4s							
THE	**Thessaloniki**	**1.31**	**186**	P		**Pg**	**20 38 16.5**	**+0.3**
THE	**Thessaloniki**	**1.31**	**186**	*i* Pg		**Pg**	**20 38 16.2**	**+0.1**
THE				*i* Sg		**Sn**	**20 38 35.5**	**+2.1**
BARS	**Barje**	**1.32**	**313**	*e*Pg		**Pn**	**20 38 15.8**	**-0.2**
BARS	**Barje**	**1.32**	**313**	*e*Pn		**Sb**	**20 38 28.8**	**-4.5**
BARS				*e*Sg		**Sb**	**20 38 32.9**	**-0.4**
BARS				*e*Sn		Sn	20 38 58.2	+24
BARS	**Barje**	**1.32**	**313**	*i* Pg		**Pn**	**20 38 15.8**	**-0.2**
BARS				*i* Sg		**Sb**	**20 38 33.0**	**-0.4**
HORT	**Hortiatis**	**1.33**	**181**	P		**Pg**	**20 38 16.7**	**0.0**
HORT				AML		AML	20 38 37.6	
	comp=N,479μm,0.7s							
HORT				AML		AML	20 38 37.6	
	comp=E,352μm,0.3s							
HORT	**Hortiatis**	**1.33**	**181**	P		**Pg**	**20 38 16.8**	**+0.1**
GJIK	**Gjilan**	**1.37**	**293**	*i* Pg		**Pg**	**20 38 17.6**	**+0.2**
ZAPS	**Zavoj**	**1.39**	**345**	*e*Pg		**Pg**	**20 38 17.9**	**+0.1**
ZAPS				*e*Sg		**Sg**	**20 38 36.2**	**+0.4**
KAVA	**Kavala**	**1.40**	**132**	P		**Pn**	**20 38 16.9**	**0.0**
KAVA				S		**Sb**	**20 38 34.8**	**-0.7**
KAVA				AML		AML	20 38 37.7	
	comp=E,3032μm,0.3s							
KAVA				AML		AML	20 38 38.4	
	comp=N,2385μm,0.5s							
KAVA	**Kavala**	**1.40**	**132**	P		**Pn**	**20 38 17.0**	**0.0**
PLG	**Polygyros**	**1.57**	**171**	P		**Pb**	**20 38 20.1**	**-0.5**
PLG				AML		AML	20 38 44.0	
	comp=E,248μm,0.3s							
PLG				AML		AML	20 38 44.9	
	comp=N,378μm,0.6s							
PLG	**Polygyros**	**1.57**	**171**	P		**Pn**	**20 38 19.8**	**+0.3**
PLG				S		**Sg**	**20 38 41.5**	**-0.2**
	comp=N,160nm,0.5s							
OUR	**Ouranopolis**	**1.72**	**158**	P		**Pn**	**20 38 21.4**	**0.0**
OUR				AML		AML	20 38 46.7	
	comp=E,1781μm,0.4s							
OUR				AML		AML	20 38 47.3	
	comp=N,2247μm,0.5s							
OUR	**Ouranopolis**	**1.72**	**158**	P		**Pn**	**20 38 21.5**	**0.0**
OUR	**Ouranopolis**	**1.72**	**158**	PN		**Pn**	**20 38 21.2**	**-0.2**
BLKB	**Belogradchik**	**1.72**	**349**	⇑S		**Sb**	**20 38 45.3**	**+0.3**
KDZ	**Kurdzhali**	**1.73**	**99**	P		**Pb**	**20 38 22.6**	**-0.6**
KDZ				SN		**Sn**	**20 38 43.4**	**-0.5**
THAS	**Thassos island**	**1.78**	**137**	P		**Pn**	**20 38 22.0**	**-0.3**
THAS	**Thassos island**	**1.78**	**137**	P		**Pn**	**20 38 21.9**	**-0.4**
THAS				S		**Sn**	**20 38 45.8**	**+0.6**
	comp=N,340nm,0.4s							
DIM	**Dimitrovgrad**	**1.79**	**85**	*i* Pg		**Pb**	**20 38 23.5**	**-0.7**
PLVB	**Pleven**	**1.82**	**36**	⇑P		**Pb**	**20 38 25.0**	**+0.3**
PLVB				⇑S		**Sg**	**20 38 49.4**	**-0.2**
LIT	**Litokhoron**	**1.89**	**195**	P		**Pn**	**20 38 23.6**	**-0.3**
OHR	**Ohrid**	**1.94**	**246**	*i* Pn		**Pg**	**20 38 28.9**	**+0.7**
OHR				*i* Sn		**Sg**	**20 38 55.9**	**+2.5**
OHR				*e*Lg		Lg	20 38 56.0	
	comp=N,30nm,0.5s							
RDO	**Rodhopi**	**1.97**	**113**	P		**Pn**	**20 38 25.1**	**+0.2**
RDO				AML		AML	20 38 55.5	
	comp=N,1219μm,0.4s							
RDO				AML		AML	20 38 55.7	
	comp=E,862μm,0.2s							
RDO	**Rodhopi**	**1.97**	**113**	P		**Pn**	**20 38 24.8**	**0.0**
RDO	**Rodhopi**	**1.97**	**113**	PN		**Pb**	**20 38 26.2**	**-1.0**
SELS	**Selova**	**1.97**	**311**	*e*Pn		**Pn**	**20 38 25.0**	**+0.1**
SELS				*e*Sn		**Sn**	**20 38 50.3**	**+0.4**
ZAGS	**Zajecar**	**1.99**	**341**	*e*Pn		**Pn**	**20 38 25.9**	**+0.7**
ZAGS				*e*Sn		**Sn**	**20 38 50.6**	**+0.2**
BOVS	**Bovan**	**2.00**	**329**	*e*Pn		**Pn**	**20 38 26.6**	**+1.3**
BOVS				*e*Sn		**Sn**	**20 38 50.0**	**-0.6**
BOVS	**Bovan**	**2.00**	**329**	⇑P		**Pb**	**20 38 27.4**	**-0.5**
BOVS				⇓S		**Sb**	**20 38 52.5**	**-0.5**
PAIG	**Paliouri**	**2.04**	**168**	P		**Pn**	**20 38 26.0**	**0.0**
PAIG	**Paliouri**	**2.04**	**168**	P		**Pn**	**20 38 25.9**	**0.0**
SMTH	**Samothraki Isl**	**2.32**	**128**	P		**Pn**	**20 38 29.3**	**-0.5**
ALN	**Alexandroupoli**	**2.42**	**114**	P		**Pn**	**20 38 32.4**	**+1.3**
ALN				AML		AML	20 39 11.9	
	comp=N,208μm,0.7s							
ALN				AML		AML	20 39 14.1	
	comp=E,244μm,0.4s							
ALN	**Alexandroupoli**	**2.42**	**114**	P		**Pn**	**20 38 31.4**	**+0.3**
ALN	**Alexandroupoli**	**2.42**	**114**	PN		**Pn**	**20 38 32.5**	**+1.4**
ALN				SN		**Sn**	**20 39 00.4**	**-0.6**
LIA	**Limnos Island**	**2.56**	**142**	P		**Pn**	**20 38 32.6**	**-0.4**
XOR	**Xorichti**	**2.56**	**179**	P		**Pn**	**20 38 33.4**	**+0.3**
ENEZ	**Enez**	**2.57**	**117**	PN		**Pn**	**20 38 34.4**	**+1.3**
GRUS	**Gruza**	**2.64**	**319**	*e*Pn		**Pn**	**20 38 34.3**	**+0.1**
GRUS				*e*Sn		**Sn**	**20 39 07.5**	**+1.0**
COPA	**Copaceanca**	**2.68**	**34**	⇓S		**Sn**	**20 39 10.0**	**+2.7**
SJES	**Sjenica**	**2.69**	**301**	*e*Pn		**Pn**	**20 38 36.0**	**+1.1**
SJES				*e*Sn		**Sn**	**20 39 08.2**	**+0.5**
EDRB	**Edirne**	**2.69**	**91**	PN		**Pb**	**20 38 37.8**	**-1.9**
KUBS	**Kucevo**	**2.70**	**337**	*e*Pn		**Pn**	**20 38 34.2**	**-0.8**
KUBS				*e*Sn		**Sn**	**20 39 07.2**	**-0.7**
GADA	**Gvkgeada**	**2.72**	**129**	P		**Pn**	**20 38 34.8**	**-0.4**
GADA	**Gvkgeada**	**2.72**	**129**	PN		**Pn**	**20 38 36.0**	**+0.8**
SVIS	**Svilajnac**	**2.72**	**330**	*e*Pn		**Pn**	**20 38 37.0**	**+1.7**
SVIS				*e*Sn		**Sn**	**20 39 09.5**	**+1.1**
SRE	**Strehaia**	**2.73**	**1**	⇓P		**Pn**	**20 38 37.3**	**+1.9**
SRE				⇑S		**Sn**	**20 39 10.9**	**+2.3**
IVAS	**Ivanjica**	**2.74**	**308**	*e*Pn		**Pn**	**20 38 35.6**	**0.0**
IVAS				*e*Sn		**Sn**	**20 39 10.4**	**+1.3**
ERIK	**Erikli-Kesan**	**2.84**	**115**	PN		**Pn**	**20 38 38.4**	**+1.6**
GELI	**Tayfur-Gelibol**	**2.95**	**120**	PN		**Pn**	**20 38 39.6**	**+1.2**
RAZG	**Razgrad**	**2.97**	**56**	⇓S		**Sb**	**20 39 18.7**	**-2.2**
HERR	**Herculane**	**2.99**	**350**	⇓P		**Pn**	**20 38 39.8**	**+0.8**
MDVR	**Moldovita**	**3.03**	**340**	⇑P		**Pn**	**20 38 40.6**	**+1.1**
TRUS	**Trudelj**	**3.04**	**320**	*e*Pn		**Pn**	**20 38 39.3**	**-0.3**
TRUS				*e*Sn		**Sn**	**20 39 16.5**	**+0.2**
BOZC	**Bozcaada**	**3.04**	**132**	PN		**Pn**	**20 38 40.5**	**+0.9**
SGRR	**Singureni**	**3.09**	**41**	⇓P		**Pn**	**20 38 42.4**	**+2.0**
SGRR				⇓S		**Sn**	**20 39 20.5**	**+3.0**
LPK	**Lapseki**	**3.15**	**118**	PN		**Pn**	**20 38 42.6**	**+1.5**
DIVS	**Divibare**	**3.16**	**314**	*e*Pn		**Pn**	**20 38 41.7**	**+0.3**
DIVS				*e*Sn		**Sn**	**20 39 18.8**	**-0.6**
EZN	**Ezine**	**3.21**	**130**	PN		**Pn**	**20 38 42.9**	**+1.0**
RKY	**Sarkoy-Tekirda**	**3.29**	**111**	PN		**Pn**	**20 38 44.9**	**+1.8**
MAR4	**Marsite Statio**	**3.34**	**109**	PN		**Pn**	**20 38 45.7**	**+1.9**
MAR6	**Marsite Statio**	**3.34**	**110**	PN		**Pn**	**20 38 45.5**	**+1.7**
MAR3	**Marsite Statio**	**3.35**	**109**	PN		**Pn**	**20 38 45.9**	**+2.0**
BBLS	**Lazići**	**3.35**	**306**	*e*Pn		**Pn**	**20 38 45.1**	**+1.1**
BBLS				*e*Sn		**Sn**	**20 39 24.9**	**+0.8**
GZKV	**Gazikoy-Tekird**	**3.37**	**109**	PN		**Pn**	**20 38 46.1**	**+2.0**
MAR2	**Marsite Statio**	**3.37**	**110**	PN		**Pn**	**20 38 46.1**	**+1.9**
SIGR	**SIGRI**	**3.42**	**142**	P		**Pn**	**20 38 45.2**	**+0.4**
SIGR	**SIGRI**	**3.42**	**142**	PN		**Pn**	**20 38 45.6**	**+0.8**
GZR	**Gura Zlata**	**3.47**	**356**	⇓P		**Pn**	**20 38 47.4**	**+1.8**
KRBG	**Karabiga-Canak**	**3.50**	**115**	PN		**Pn**	**20 38 47.8**	**+1.9**
SULR		**3.57**	**39**	⇓S		**Sn**	**20 39 31.2**	**+2.0**
MRMT	**Marmara Adasi**	**3.61**	**110**	PN		**Pn**	**20 38 49.4**	**+1.8**
VOIR		**3.77**	**21**	⇑P		**Pn**	**20 38 50.4**	**+0.7**
BZS	**Buzias**	**3.84**	**344**	⇑S		**Sn**	**20

AKTO	Aktyubinsk	22.62	340	P		P	20 50 49.8	-0.3	
	comp=N,0.7nm,0.6s,baz=159,slow=8.6,SNR=1.7								
BVAR	Borovoye Array	23.34	1	P		P	20 50 57.2	-0.4	
	comp=N,2.2nm,0.8s,baz=161,slow=14,SNR=16								
ZALV	Zalesovo Beam	26.56	20	P		P	20 51 27.1	-0.1	
	comp=N,1.1nm,0.3s,baz=220,slow=15,SNR=1.9								
CMAR	Chiang Mai Arr	28.62	106	P		P	20 51 46.0	-0.1	
	comp=N,0.7nm,0.9s,baz=310,slow=11,SNR=5.1								
SONM	Songimo Array	33.30	47	P		P	20 52 29.6	+2.4	
	comp=N,0.5nm,0.8s,baz=262,slow=9.3,SNR=5.1								
AKASG	Malin Array Be	36.94	316	P		P	20 52 58.5	+0.3	
	comp=N,0.2nm,0.3s,baz=97,slow=6.9,SNR=1.5								
KMBO	Kilima Mbogo	43.74	231	P		P	20 53 55.9	+0.6	
	comp=N,0.4nm,0.4s,baz=66,slow=10.0,SNR=2.1								
ARCES	ARCESS Array B	47.21	340	P		P	20 54 20.7	-1.1	
	comp=N,1.5nm,0.7s,baz=133,slow=5.3,SNR=5.4								
KSRS	Korea Array	48.26	65	P		P	20 54 30.9	+0.6	
	comp=N,0.6nm,0.4s,baz=273,slow=8.6,SNR=2.1								
NOA	NORSAR Array B	49.47	327	P		P	20 54 40.3	+0.8	
	comp=N,0.5nm,0.9s,baz=80,slow=19,SNR=2.5								
NOA				LR		LR	21 17 37.6		
	comp=N,44nm,18.5s,baz=225,slow=39								
TORD	Torodi Ar. Bea	64.85	271	P		P	20 56 29.6	+0.7	
	comp=N,0.7nm,0.7s,baz=55,slow=6.2,SNR=2.7								
SFJD	Kangerlussuaq	73.82	339	LR		LR	21 29 14.1		
	comp=N,12nm,18.8s,baz=92,slow=35								
WRA	Warramunga Arr	79.20	120	P		P	20 57 55.3	+0.5	
	comp=N,0.7nm,0.8s,baz=318,slow=5.3,SNR=7.7								
ASAR	Alice Springs	81.13	124	P		P	20 58 05.7	+0.5	
	comp=N,0.7nm,0.7s,baz=298,slow=4.7,SNR=6.4								
YKA	Yellowknife Ar	88.09	2	P		P	20 58 40.1	+0.4	
	comp=N,0.1nm,0.4s,baz=354,slow=5.0,SNR=2.6								

RSNC ***24*** *20:52:27.9± 1.0, 6.80N×73.15W, h154km±4km, ML4.5, Mw4.5, Fault plane solution: NP1:φ≤49.00000°, δ74.00000°, λ158.00000°.*
NEIC ***24*** *20:52:27.5± 2.9, 6.83N± 0.08×73.03W± 0.08, h161km± 7km, mb4.3/17, Error ellipse: s-maj=14.2km s-min=8.8km az=131.0*
IDC ***24*** *20:52:27.6± 0.6, 6.70N×72.99W, h167km± 5km, mb3.6/11, mb1 3.8/11,mb1mx3.6/30, mbtmp4.0/11, Error ellipse: s-maj=15.6km s-min=10.3km az=108.0*
VAO ***24*** *20:52:28.0± 0.4, 6.86N×73.02W, h165km± 4km, mb4.1*
ISC 24 20:52:27.3± 0.4, **6.82N**± 0.03×**73.11W**± 0.03, **h160**km± 4km, **h161**km:**pP-P, n130,** σ1**36**/164, **mb4.1**/18, **11C-11D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**198**↓	*eP*		**Pn**	**20 52 48.6**	**-0.7**
BARC				*eS*		**Sn**	**20 53 04.0**	**-2.0**
BARC				*i*			20 53 06.5	
	comp=Z,5μm,0.3s							
PAMC	**Pamplona, Colo**	**0.65**	**38**↓	*iP*		**Pn**	**20 52 51.4**	**+0.2**
PAMC				*eS*		**Sn**	**20 53 08.8**	**-0.7**
PAMC				*i*			20 53 10.7	
	comp=Z,4μm,0.5s							
BRRC	**Barranca, Sant**	**0.66**	**295**↓	*iP*		**Pn**	**20 52 50.5**	**-0.2**
BRRC				*eS*		**Sn**	**20 53 07.8**	**-0.8**
BRRC				*i*			20 53 08.6	
	comp=Z,3μm,0.1s							
RUSC	**La Rusia**	**0.92**	**179**↑	*iP*		**Pn**	**20 52 52.4**	**-0.7**
RUSC				*eS*		**Sn**	**20 53 11.5**	**-1.3**
RUSC				*i*			20 53 13.5	
	comp=Z,4μm,0.4s							
TAMC	**Tame, Arauca**	**1.36**	**106**↓	*iP*		**Pn**	**20 52 56.8**	**+0.4**
TAMC				*eS*		**Sn**	**20 53 18.5**	**-0.1**
TAMC				*i*			20 53 19.3	
	comp=Z,1μm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.37**	**258**↑	*iP*		**Pn**	**20 52 55.0**	**-1.4**
PTBC				*eS*		**Sn**	**20 53 16.2**	**-2.5**
PTBC				*i*			20 53 23.8	
	comp=Z,5μm,0.4s							
OCAC	**Ocana**	**1.42**	**352**↑	*eP*		**Pn**	**20 52 56.7**	**-0.4**
OCAC				*eS*		**Sn**	**20 53 19.0**	**-1.1**
OCAC				*i*			20 53 23.6	
	comp=Z,7μm,0.3s							
SPBC	**San Pablo de B**	**1.51**	**220**↑	*iP*		**Pn**	**20 52 57.3**	**-0.5**
SPBC				*eS*		**Sn**	**20 53 19.5**	**-1.8**
SPBC				*i*			20 53 26.3	
	comp=Z,5μm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.86**	**291**↓	*iP*		**Pn**	**20 53 00.8**	**-0.8**
ZARC				*eS*		**Sn**	**20 53 26.7**	**-1.2**
ZARC				*i*			20 53 33.4	
	comp=Z,4μm,0.4s							
NORC	**Norcasia**	**2.15**	**235**↑	*iP*		**Pn**	**20 53 04.2**	**-0.7**
NORC				*eS*		**Sn**	**20 53 32.2**	**-1.7**
NORC				*i*			20 53 37.8	
	comp=Z,3μm,0.4s							
SMLC	**San Martn de**	**2.19**	**334**	*eP*		**Pn**	**20 53 04.9**	**-0.4**
SMLC				*eS*		**Sn**	**20 53 33.5**	**-1.1**
SMLC				*i*			20 53 40.7	
	comp=Z,2μm,0.5s							
ROSC	**El Rosal**	**2.31**	**212**	P		**Pn**	**20 53 08.2**	**+1.1**
	comp=Z,590nm,0.3s,baz=118,slow=5.8,SNR=302							
ROSC				S		**Sn**	**20 53 38.2**	**+0.4**
	comp=Z,762nm,0.3s,baz=18,slow=23,SNR=24							
ROSC	**El Rosal**	**2.31**	**212**			**Pn**	**20 53 07.9**	**+0.8**
ROSC					Sn	**Sn**	**20 53 37.7**	**-0.1**
ROSC	**El Rosal**	**2.31**	**212**↑	*iP*		**Pn**	**20 53 07.9**	**+0.8**
ROSC				*eS*		**Sn**	**20 53 37.9**	**+0.1**
ROSC				*i*			20 53 44.1	
	comp=Z,3μm,0.5s							
HELC	**Santa Helena**	**2.49**	**256**	*eP*		**Pn**	**20 53 08.5**	**-0.6**
HELC				*eS*		**Sn**	**20 53 40.4**	**-1.0**
HELC				*i*			20 53 47.1	
	comp=Z,2μm,0.3s							
UREC	**San Jos de Ur**	**2.58**	**291**	*eP*		**Pn**	**20 53 08.2**	**-1.7**
UREC				*eS*		**Sn**	**20 53 40.0**	**-2.8**
UREC				*i*			20 53 52.7	
	comp=Z,1μm,0.3s							
VILC	**Villavicencio,**	**2.75**	**192**↑	*iP*		**Pn**	**20 53 11.5**	**-0.7**
VILC				*eS*		**Sn**	**20 53 44.9**	**-2.2**
VILC				*i*			20 53 55.4	
	comp=Z,2μm,0.5s							
PTGC	**Puerto Gaitan,**	**2.78**	**160**↑	*iP*		**Pn**	**20 53 11.4**	**-1.0**
PTGC				*eS*		**Sn**	**20 53 44.8**	**-2.5**
PTGC				*i*			20 53 46.5	
	comp=Z,1μm,0.8s							
CBOC	**Ciudad Bolivar**	**3.04**	**252**↓	*iP*		**Pn**	**20 53 15.8**	**+0.1**
CBOC				*eS*		**Sn**	**20 53 51.3**	**-2.0**
CBOC				*i*			20 54 06.4	
	comp=Z,879nm,0.7s							
DBBC	**Dabeiba**	**3.09**	**274**↓	*iP*		**Pn**	**20 53 16.1**	**-0.2**
DBBC				*eS*		**Sn**	**20 53 51.3**	**-2.9**
MOTC	**Monteria, Cord**	**3.19**	**308**↓	*iP*		**Pn**	**20 53 15.7**	**-1.8**
MOTC				*eS*		**Sn**	**20 53 54.9**	**-1.7**
MOTC				*i*			20 54 11.5	
	comp=Z,486nm,0.4s							
SDV	**Santo Domingo**	**3.20**	**50**	Pn		**Pn**	**20 53 17.9**	**+0.2**
SDV					Sn	**Sn**	**20 53 54.8**	**-2.1**
SDV	**Santo Domingo**	**3.20**	**50**↓	*iP*		**Pn**	**20 53 17.9**	**+0.2**
SDV				*eS*		**Sn**	**20 53 55.3**	**-1.6**
SDV				*i*			20 53 57.8	
	comp=Z,574nm,0.5s							
SDV	**Santo Domingo**	**3.20**	**50**	*eP*		**Pn**	**20 53 18.1**	**+0.3**
SDV				*eS*		**Sn**	**20 53 55.5**	**-1.4**
ARGC	**Ariguani, Magd**	**3.22**	**340**	*eP*		**Pn**	**20 53 18.8**	**+0.9**
ARGC				*eS*		**Sn**	**20 53 58.7**	**+1.5**
ARGC				*i*			20 54 05.2	
	comp=Z,466nm,0.4s							
ORTC	**Ortega, Tolima**	**3.59**	**216**↑	*iP*		**Pn**	**20 53 22.1**	**-0.6**
ORTC				*eS*		**Sn**	**20 54 04.3**	**-1.5**
ORTC				*i*			20 54 11.7	
	comp=Z,1μm,0.7s							
SJCC	**San Jacinto, C**	**3.68**	**326**↓	*eP*		**Pn**	**20 53 22.4**	**-1.4**
SJCC				*eS*		**Sn**	**20 54 04.2**	**-3.6**
SJCC				*i*			20 54 12.2	
	comp=Z,615nm,0.4s							
PLMC	**San Jos del P**	**3.69**	**239**↓	*eP*		**Pn**	**20 53 24.0**	**0.0**
PLMC				*i*			20 54 12.6	
	comp=Z,1μm,0.4s							
LCBC	**Los crdobas,**	**3.81**	**302**	*eP*		**Pn**	**20 53 24.4**	**-1.1**
YOTC	**Yotoco, Valle**	**4.28**	**229**	*eP*		**Pn**	**20 53 30.7**	**-1.0**
SOLC	**Bahia Solano**	**4.32**	**262**	*eP*		**Pn**	**20 53 31.6**	**-0.4**
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*		**Pn**	**20 53 33.5**	**-0.2**
SMRC				*eS*		**Sn**	**20 54 22.0**	**-3.7**
SMRC				*i*			20 54 24.9	
	comp=Z,244nm,0.4s							
CAPC	**Capurgana**	**4.58**	**293**	*eP*		**Pn**	**20 53 32.8**	**-2.6**
PIZC	**Pizarro, Choco**	**4.62**	**247**	*eP*		**Pn**	**20 53 37.1**	**+1.2**
MACC	**Macarena, Meta**	**4.70**	**189**↑	*eP*		**Pn**	**20 53 35.1**	**-2.0**
BETC	**Betania**	**4.72**	**210**	*eP*		**Pn**	**20 53 35.6**	**-1.8**
MARP	**Paez Belalcaza**	**4.87**	**216**	*eP*		**Pn**	**20 53 38.8**	**-0.7**
URIC	**Uribia, Colomb**	**4.97**	**13**↑	*eP*		**Pn**	**20 53 38.9**	**-1.6**
MALC	**Bahia Malaga**	**5.05**	**237**	*eP*		**Pn**	**20 53 42.6**	**+1.0**
GARC	**Garzon, Huila**	**5.18**	**207**	*eP*		**Pn**	**20 53 42.2**	**-1.4**
PCON	**Cinco Dias**	**5.54**	**216**	*eP*		**Pn**	**20 53 48.9**	**+0.3**
POPC	**Popayan, Colom**	**5.54**	**220**	*eP*		**Pn**	**20 53 48.3**	**0.0**
SOTA	**Rioblanco**	**5.82**	**217**	*eP*		**Pn**	**20 53 52.7**	**+0.5**
BBAC	**Balboa, Cauca**	**6.31**	**221**	*eP*		**Pn**	**20 53 59.2**	**+0.8**
GCUF	**Volcan Galeras**	**6.98**	**217**	*eP*		**Pn**	**20 54 08.1**	**+0.4**
BCIP	**Isla Barro Col**	**7.06**	**290**	Pn		**Pn**	**20 54 06.2**	**-2.1**
BCIP				Sn		**Sn**	**20 55 24.1**	**-3.5**
OTAV	**Otavalo**	**8.44**	**219**	Pn		**Pn**	**20 54 27.9**	**+0.9**
OTAV	**Otavalo**	**8.44**	**219**	*eP*		**Pn**	**20 54 28.9**	**+1.9**
PEZE	**Perez Zeledon,**	**10.77**	**284**	Pn		**Pn**	**20 54 59.4**	**+1.9**
HDC	**Heredia**	**11.34**	**287**	Pn		**Pn**	**20 55 06.8**	**+1.8**
LGNH	**Logne**	**11.63**	**2**	Pn		**Pn**	**20 55 07.3**	**-1.2**
COVE	**Coope Vega, Sa**	**11.81**	**290**	Pn		**Pn**	**20 55 11.6**	**+0.6**
MTDJ	**Mount Denham**	**12.13**	**340**	Pn		**Pn**	**20 55 16.5**	**+1.4**
JTS	**Las Juntas de**	**12.21**	**287**	Pn		**Pn**	**20 55 16.9**	**+0.8**
SDDR	**Presa de Saban**	**12.22**	**8**			**Pn**	**20 55 16.4**	**+0.2**
ESPN	**Las Esperanzas**	**12.26**	**297**			**Pn**	**20 55 16.2**	**-0.5**
GRGR	**Grenville**	**12.47**	**64**	Pn		**Pn**	**20 55 20.3**	**+0.9**
MLPR	**Magueyes Islan**	**12.56**	**28**	Pn		**Pn**	**20 55 18.4**	**-2.2**
MPR	**Mayaguez**	**12.73**	**27**	Pn		**Pn**	**20 55 20.8**	**-2.0**
ICMP	**Isla Caja de M**	**12.73**	**30**	Pn		**Pn**	**20 55 21.3**	**-1.5**
ACON	**Acoyapa**	**12.95**	**294**	P		**P**	**20 55 29.7**	**-0.5**
AOPR	**Arecibo Observ**	**13.02**	**28**	Pn		**Pn**	**20 55 24.2**	**-2.3**
PDPR	**Patillas Dam,**	**13.10**	**31**			**Pn**	**20 55 26.1**	**-1.4**
SJG	**San Juan**	**13.11**	**31**			**Pn**	**20 55 27.1**	**-0.6**
GTBY	**Guantanamo Bay**	**13.17**	**352**	P		**P**	**20 55 30.8**	**-1.8**
EMPR	**Esperanza - Ma**	**13.24**	**28**	P		**Pn**	**20 55 30.2**	**+1.0**
BOAV	**Boa Vista**	**13.29**	**109**	*eP*		**Pn**	**20 55 28.4**	**-1.5**
HUMP	**Col San Antoni**	**13.29**	**32**	P		**Pn**	**20 55 28.8**	**-1.2**
GCPR	**Guaynabo City**	**13.31**	**30**	P		**Pn**	**20 55 29.4**	**-0.8**
SVB	**Belmont**	**13.31**	**60**	P		**Pn**	**20 55 28.5**	**-1.8**
CBYP	**Canovanas**	**13.40**	**31**	P		**Pn**	**20 55 30.4**	**-0.9**
MTP	**Monte Pirata**	**13.41**	**33**	P		**Pn**	**20 55 29.2**	**-2.2**
CDVI	**St. Croix**	**13.57**	**36**			**Pn**	**20 55 32.5**	**-1.0**
BOAB	**BOACO BROADBAN**	**13.58**	**295**	P		**Pn**	**20 55 33.5**	**-0.2**
CUPR	**Culebra, Puert**	**13.73**	**33**	P		**Pn**	**20 55 33.7**	**-1.7**
MCLT	**Moule a Chique**	**13.79**	**59**	P		**P**	**20 55 40.6**	**+1.1**
CBCY	**The Bluff, Cay**	**14.37**	**334**			**P**	**20 55 46.3**	**+0.4**
LCCY	**Blossom Villag**	**14.46**	**333**	P		**P**	**20 55 48.6**	**+1.8**
FSCY	**Frank Sound, G**	**14.69**	**328**	P		**P**	**20 55 50.2**	**+0.7**
GRTK	**Grand Turk**	**14.73**	**7**	P		**Pn**	**20 55 48.5**	**+0.6**
WBCY	**West Bay, Gran**	**14.86**	**328**	P		**P**	**20 55 53.5**	**+2.3**
PTGA	**Pitinga**	**15.11**	**119**	P		**P**	**20 55 55.5**	**+1.3**
PTGA	**Pitinga**	**15.11**	**119**	*eP*		**Pn**	**20 55 51.4**	**-1.3**
TGUH	**Tegucigalpa,Un**	**15.67**	**298**	P		**Pn**	**20 56 00.3**	**+0.6**
MTO3	**Montecristo**	**17.65**	**297**	P		**P**	**20 56 23.0**	**+0.6**
MTO3				IAmb		IAmb	20 56 27.1	
	comp=Z,19nm,0.7s							
ETMB	**Extrema**	**17.90**	**157**	*eP*		**P**	**20 56 24.5**	**-0.4**
SAML	**Samuel**	**18.53**	**148**	P		**P**	**20 56 31.2**	**-0.5**
SAML				IAmb		IAmb	20 56 32.2	
	comp=Z,7.2nm,0.5s							
SAML	**Samuel**	**18.53**	**148**	*eP*		**P**	**20 56 31.4**	**-0.3**
PAYG	**Puerto Ayora**	**18.69**	**247**	P		**Pn**	**20 56 35.8**	**0.0**
ITTB	**Itaituba**	**20.60**	**122**	*eP*		Pn	20 56 55.5	-3.0
MALB	**Monte Alegre**	**20.69**	**114**	*eP*		**P**	**20 56 55.5**	**+0.4**
NPGB	**Novo Progresso**	**22.43**	**128**	*eP*		**P**	**20 57 13.3**	**+0.2**
VILB	**Vilhena**	**23.46**	**147**	*eP*		**P**	**20 57 22.3**	**-0.3**
LPAZ	**La Paz**	**23.48**	**168**	P		**P**	**20 57 22.6**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=352,slow=11,SNR=6.5							
LPAZ				pP		**pP**	**20 57 53.3**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=356,slow=13,SNR=6.8							
LPAZ	**La Paz**	**23.48**	**168**	P		**P**	**20 57 22.4**	**-1.0**
LPAZ	**La Paz**	**23.48**	**168**	*eP*		**P**	**20 57 22.6**	**-0.8**
CLDB	**Colider**	**24.62**	**135**	*eP*		**P**	**20 57 32.3**	**-0.8**
PTLB	**Pontes e Lacer**	**26.10**	**148**	*eP*		**P**	**20 57 46.7**	**+0.3**
LVC	**Limon Verde**	**29.54**	**172**	*eP*		**P**	**20 58 18.0**	**+0.6**
ARAG	**Araguaiana, MT**	**30.75**	**137**	*eP*		**P**	**20 58 27.1**	**-0.7**
PEXB	**Peixe**	**31.02**	**127**	*eP*		**P**	**20 58 29.9**	**-0.2**
PEXB				*epP*		**pP**	**20 59 04.2**	**-0.2**
SDBA	**SAO DESIDERIO**	**33.93**	**124**	*eP*		**P**	**20 58 55.1**	**-0.5**
TXAR	**Lajitas Array**	**36.47**	**312**	P		**P**	**20 59 18.1**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=126,slow=9.1,SNR=29							
G62A	**West of Eustis**	**38.31**	**3**	P		**P**	**20 59 34.3**	**+2.0**
G62A				IAmb		IAmb	20 59 35.2	
	comp=Z,8.7nm,0.8s							
MNTX	**Cornudas Mount**	**38.98**	**314**	P		**P**	**20 59 39.2**	**+1.1**
MNTX				IAmb		IAmb	20 59 40.9	
	comp=Z,5.0nm,0.8s							
LMN	**Caledonia Moun**	**39.54**	**9**	P		**P**	**20 59 43.4**	**+0.8**
PQI	**Presque Isle**	**39.94**	**5**	P		**P**	**20 59 47.9**	**+2.1**
PQI				IAmb		IAmb	21 00 14.5	
	comp=Z,14nm,1.5s							
BATG	**Bathurst New B**	**40.76**	**7**	P		**P**	**20 59 53.6**	**+1.1**
EYMN	**Ely**	**43.87**	**342**	P		**P**	**21 00 18.3**	**+0.6**
EYMN				IAmb		IAmb	21 00 18.9	
	comp=Z,4.8nm,0.7s							
W18A	**Petrified Fore**	**43.87**	**315**	P		**P**	**21 00 19.9**	**+1.8**
W18A				IAmb		IAmb	21 00 21.1	
	comp=Z,5.2nm,0.8s							
PV13	**Radium Mtn., P**	**44.91**	**319**	P		**P**	**21 00 28.0**	**+1.6**
PV13				IAmb		IAmb	21 00 28.9	
	comp=Z,4.4nm,0.5s							
WUAZ	**Wupatki**	**45.23**	**315**	P		**P**	**21 00 30.8**	**+1.9**
WUAZ				IAmb		IAmb	21 00 32.1	
	comp=Z,6.1nm,0.8s							
KNB	**Kanab**	**46.99**	**316**	P		**P**	**21 00 44.6**	**+1.9**
ULM	**Lac du Bonnet**	**47.29**	**340**	P		**P**	**21 00 44.5**	**0.0**
	comp=Z,2.7nm,0.4s,baz=142,slow=6.8,SNR=11							
ULM	**Lac du Bonnet**	**47.29**	**340**	IAmb		IAmb	21 00 45.9	
	comp=Z,5.1nm,1.0s							
MSU	**Marysvale**	**47.31**	**318**	P		**P**	**21 00 47.3**	**+2.1**
PLCA	**Paso Flores**	**47.38**	**177**	P		**P**	**21 00 42.7**	**-2.6**
	comp=Z,1.3nm,1.0s,baz=7.1,slow=8.1,SNR=2.0							
NVAR	**Mina Array Bea**	**51.49**	**315**	P		**P**	**21 01 18.0**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=110,slow=7.8,SNR=1.2							
YKA	**Yellowknife Ar**	**63.27**	**340**	P		**P**	**21 02 39.1**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=128,slow=7.5,SNR=27							
YKA				pP		**pP**	**21 03 19.7**	**+3.1**
	comp=Z,2.8nm,1.1s,baz=128,slow=7.5,SNR=2.0							
DBIC	**Dimbokro**	**67.72**	**86**	P		**P**	**21 03 06.8**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=281,slow=10,SNR=1.7							
SUMG	**Summit**	**68.98**	**11**	*i* P		**P**	**21 03 16.0**	**+0.7**
SUMG	**Summit**	**68.98**	**11**	*i* P		**P**	**21 03 16.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**73.72**	**78**	P		**P**	**21 03 42.8**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=289,slow=6.4,SNR=1.7							
TORD				pP		**pP**	**21 04 24.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=296,slow=7.7,SNR=2.5							
ILAR	**Eielson Array**	**76.97**	**335**	P		**P**	**21 04 02.6**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=123,slow=6.6,SNR=4.6							
ILAR				pP		**pP**	**21 04 42.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=108,slow=5.8,SNR=1.9							
NOA	**NORSAR Array B**	**81.32**	**29**	P		**P**	**21 04 25.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=272,slow=5.2,SNR=2.3							
ARCES	**ARCESS Array B**	**86.67**	**20**	P		**P**	**21 04 52.2**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=306,slow=2.1,SNR=3.9							
MKAR	**Makanchi Array**	**122.32**	**20**	PKP		**PKPdf**	**21 11 03.0**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=300,slow=2.6,SNR=11							
SONM	**Songino Array**	**125.58**	**0**	PKP		**PKPdf**	**21 11 09.3**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=232,slow=3.5,SNR=2.4							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc		**PKPbc**	**21 11 57.0**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=116,slow=3.6,SNR=26							
ASAR				pPKPbc		**pPKPbc**	**21 12 39.6**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=115,slow=3.8,SNR=1.8							
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc		**PKPbc**	**21 12 00.2**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=110,slow=2.8,SNR=24							
WRA				pPKPbc		**pPKPbc**	**21 12 43.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=108,slow=2.7,SNR=2.1							

SKO ***24*** *21:04:07.2, 39.99N×21.43E, h10km*
IDC ***24*** *21:04:07.1± 1.1, 40.15N×21.29E, h0km, mb3.6/9, mb1 3.7/13,mb1mx3.5/47,mbtmp3.6/13,ML3.8/4,MS3.4/1, Ms1 3.4/1,ms1mx2.3/48, Error ellipse: s-maj=21.4km s-min=17.6km az=125.0*
TIR ***24*** *21:04:07.1, 40.13N×21.73E, h13km± 2km, Md3.4, Ml3.4*
SOF ***24*** *21:04:08.2, 40.23N×21.62E, h2km, MD3.3*
ATH ***24*** *21:04:08.9, 40.12N×21.55E, h12km± 2km, ML3.4/10, Error ellipse: s-maj=2.1km s-min=0.9km az=287.0*
THE ***24*** *21:04:08.9, 40.12N×21.56E, h0km± 1km, ML3.2/11, Error ellipse: s-maj=1.6km s-min=0.4km az=158.0*
BEO ***24*** *21:04:09.5± 0.6, 40.16N×21.73E, h0km± 4km, ML2.9/6*
ISC 24 21:04:09.1± 0.8, **40.13N**± 0.02×**21.56E**± 0.01, **h12**km± 5km, **n162,** σ1**22**/211, **mb3.5**/8, **12C-15D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KPRO	**Kipourio**	**0.23**	**221**	P		**Pg**	**21 04 13.4**	**-0.6**
KPRO				S		**Sg**	**21 04 16.6**	**-0.7**
KPRO				AML		AML	21 04 18.3	
	comp=E,27597μm,0.3s							
KPRO				AML		AML	21 04 21.9	
	comp=N,24827μm,0.3s							
KPRO	**Kipourio**	**0.23**	**221**	P		**Pg**	**21 04 13.4**	**-0.6**
KPRO				S		**Sg**	**21 04 16.7**	**-0.6**
	comp=N,11μm,0.4s							
KZN	**Kozani**	**0.24**	**42**	P		**Pg**	**21 04 14.3**	**+0.1**
KZN				S		**Sg**	**21 04 17.9**	**+0.2**
KZN				AML		AML	21 04 18.4	
	comp=E,38266μm,0.3s							
KZN				AML		AML	21 04 18.6	
	comp=N,29284μm,0.2s							
KZN	**Kozani**	**0.24**	**42**	P		**Pg**	**21 04 14.2**	**+0.1**
KZN				S		**Sg**	**21 04 18.2**	**+0.6**
	comp=N,17μm,0.2s							
PENT	**Pentalofos**	**0.33**	**282**	P		**Pg**	**21 04 15.4**	**-0.5**
PENT				S		**Sg**	**21 04 19.6**	**-0.7**
PENT				AML		AML	21 04 24.4	
	comp=N,18478μm,0.6s							
PENT				AML		AML	21 04 25.1	
	comp=E,11838μm,0.6s							
PENT	**Pentalofos**	**0.33**	**282**	P		**Pg**	**21 04 15.3**	**-0.5**
PENT				S		**Sg**	**21 04 20.7**	**+0.4**
	comp=E,8μm,0.6s							
NEST	**Nestorio**	**0.48**	**306**	P		**Pg**	**21 04 18.1**	**-0.5**
NEST				AML		AML	21 04 31.9	
	comp=E,11906μm,0.3s							
NEST				AML		AML	21 04 33.5	
	comp=N,7889μm,0.3s							
NEST	**Nestorio**	**0.48**	**306**	P		**Pg**	**21 04 18.4**	**-0.2**
NEST				S		**Sg**	**21 04 25.2**	**+0.1**
	comp=N,4μm,0.4s							
THL	**Klokotos Trika**	**0.66**	**148**	P		**Pg**	**21 04 20.7**	**-1.2**
THL				S		**Sg**	**21 04 31.2**	**+0.5**
THL				AML		AML	21 04 35.6	
	comp=E,4399μm,0.6s							
THL				AML		AML	21 04 35.6	
	comp=N,5556μm,0.5s							
THL	**Klokotos Trika**	**0.66**	**148**	P		**Pg**	**21 04 21.0**	**-1.0**
FNA	**Florina**	**0.67**	**348**	P		**Pg**	**21 04 21.7**	**-0.5**
FNA				S		**Sg**	**21 04 30.2**	**-0.8**
FNA				AML		AML	21 04 33.9	
	comp=N,7933μm,0.5s							
FNA				AML		AML	21 04 34.3	
	comp=E,6240μm,0.5s							
FNA	**Florina**	**0.67**	**348**	P		**Pg**	**21 04 21.6**	**-0.5**
FNA				S		**Sb**	**21 04 31.1**	**-1.0**
	comp=E,3μm,0.3s							
FNA	**Florina**	**

TIR	Tirane	1.77	314	⇓P		Pb	21 04 41.8	+0.2
KALE	Kalithea	1.79	165	P		Pn	21 04 40.3	+0.4
ATAL	Atalanti	1.83	141	P		Pn	21 04 40.2	-0.1
SRS	Serrai	1.83	57	P		Pn	21 04 40.6	+0.2
SRS	Serrai	1.83	57	P		Pn	21 04 40.6	+0.2
SRS	Serrai	1.83	57	*e*Pn		Pn	21 04 40.4	-0.1
SRS				*e*Sn		Sn	21 05 03.8	+0.2
SRS	Serrai	1.83	57	*i* Pn		Pn	21 04 40.6	+0.2
SKO	Skopje	1.84	357	*e*Pn		Pn	21 04 41.7	+1.1
SKO				*e*Sn		Sg	21 05 07.1	-1.3
SKO	Skopje	1.84	357	*i* Pn		Pb	21 04 41.9	-0.9
LKR	Lokris	1.85	142	P		Pn	21 04 41.0	+0.4
LKR	Lokris	1.85	142	P		Pn	21 04 41.0	+0.4
OUR	Ouranopolis	1.86	85	P		Pn	21 04 41.2	+0.4
DSF	Desfina	1.87	156	P		Pn	21 04 41.3	+0.3
KKB	Krupnik	2.08	33	*e*P		Pn	21 04 44.5	+0.6
NVR	Nevrokopi	2.13	54	P		Pn	21 04 45.0	+0.4
PRZK	Prizren	2.17	344	*i* Pn		Pb	21 04 47.0	-1.3
MMB	Musomiste	2.20	48	*e*P		Pn	21 04 45.9	+0.4
GJIK	Gjilan	2.33	358	*i* Pn		Pn	21 04 49.0	+1.6
KAVA	Kavala	2.41	68	P		Pn	21 04 48.3	-0.1
BOSS	Bosilegrad	2.46	16	*e*Pn		Pn	21 04 49.9	+0.8
BOSS				*e*Sn		Sn	21 05 19.5	+0.3
BARS	Barje	2.69	4	*e*Pn		Pn	21 04 52.8	+0.6
BARS				*e*Sn		Sn	21 05 25.0	+0.2
DRME	Dracevica, Mon	2.73	320	*e*Pn		Pn	21 04 54.8	+2.1
VTS	Vitosha	2.79	26	*e*Pn		Pn	21 04 54.7	+1.0
VTS				*e*Sn		Sn	21 05 26.2	-1.2
VTS	Vitosha	2.79	26	⇓P		Pn	21 04 54.7	+1.0
VTS	Vitosha	2.79	26	*e*P		Pn	21 04 54.5	+0.8
RZN	Rozhen	2.85	56	*e*P		Pn	21 04 55.4	+0.8
PDG	Podgorica	2.88	324	⇓P		Pn	21 04 56.5	+1.7
PDG				⇓S		Sn	21 05 31.7	+2.3
PDG	Podgorica	2.88	324	*e*Pn		Pn	21 04 57.2	+2.4
SELS	Selova	3.11	354	*e*Pn		Pn	21 04 58.5	+0.5
ZAPS	Zavoj	3.24	14	*e*Pn		Pn	21 05 01.6	+1.7
HCY	Herceg Novi	3.27	316	*e*Pn		Pn	21 04 59.9	-0.3
SJES	Sjenica	3.35	340	*e*Pn		Pn	21 05 03.9	+2.5
BOVS	Bovan	3.50	2	*e*Pn		Pn	21 05 03.8	+0.4
TREB	Trebinje	3.54	318	*e*Pn		Pn	21 05 01.3	-2.5
BRY	Bratogost	3.58	322	*e*Pn		Pn	21 05 06.4	+1.8
BLKB	Belogradchik	3.59	13	⇑S		Sn	21 05 47.2	+0.2
IVAS	Ivanjica	3.60	343	*e*Pn		Pn	21 05 05.9	+1.1
UPM	Unac-Piva	3.66	328	*e*Pn		Pn	21 05 06.6	+0.9
GRUS	Gruza	3.81	351	*e*Pn		Pn	21 05 09.0	+1.4
TIP	Timpagrande	3.83	257	⇑P		Pn	21 05 09.1	+1.2
TIP				⇑S		Sb	21 05 59.7	-3.2
PLVB	Pleven	3.98	34	⇓P		Pn	21 05 10.3	+0.4
STON	Ston	3.99	315	*e*Pn		Pn	21 05 10.0	-0.1
STON				Sn		Sn	21 05 55.6	-1.1
BBLS	Lazi?i	4.07	337	*e*Pn		Pn	21 05 14.8	+3.6
BBLS	Lazi?i	4.07	337	*e*Pn		Pn	21 05 13.7	+2.5
DIVS	Divibare	4.13	344	*e*Pn		Pn	21 05 14.1	+2.0
DIVS	Divibare	4.13	344	*e*Pn		Pn	21 05 13.9	+1.8
TRUS	Trudelj	4.18	349	*e*Pn		Pn	21 05 13.8	+1.1
HAPS	Han Pijesak,Bl	4.41	335	*e*Pn		Pn	21 05 16.4	+0.5
MAKA	Makarska	4.64	314	*e*Pn		Pn	21 05 19.6	+0.7
MAKA				Sn		Sn	21 06 14.1	+1.4
RICI	Ricice	4.72	317	*e*Pn		Pn	21 05 21.8	+1.7
RICI				Sn		Sn	21 06 16.3	+1.6
HERR	Herculane	4.79	7	⇓P		Pn	21 05 21.9	+0.9
HERR				⇓S		Sn	21 06 16.4	-0.1
HVAR	Hvar	4.89	310	*e*Pn		Pn	21 05 22.1	-0.3
HVAR				Sn		Sn	21 06 18.3	-0.7
FRGS	Fruska Gora	5.19	346	*e*Pn		Pn	21 05 28.2	+1.7
FRGS	Fruska Gora	5.19	346	⇑P		Pn	21 05 28.2	+1.7
FRGS				⇑S		Sn	21 06 26.5	+0.1
FRGS	Fruska Gora	5.19	346	*e*Pn		Pn	21 07 27.9	+1.3
GZR	Gura Zlata	5.34	9	⇓P		Pn	21 05 29.3	+0.7
GZR				⇓S		Sn	21 06 30.6	+0.6
MGRS	Mrkonjic Grad	5.42	324	*e*Pn		Pn	21 05 32.2	+2.5
KIJV	Kijevo	5.45	317	*i* Pn		Pn	21 05 30.9	+0.8
KIJV				Sn		Sn	21 06 33.3	+0.5
BZS	Buzias	5.49	0	⇑P		Pn	21 05 31.2	+0.6
BZS				⇑S		Sn	21 06 32.7	-0.9
IDI	Anoyia	5.51	150	Pn		Pn	21 05 32.6	+1.7
	comp=E,0.5nm,0.3s,baz=12,slow=17,SNR=1.3							
IDI				Sn		Sn	21 06 35.9	+1.6
	comp=E,0.9nm,0.3s,baz=303,slow=17,SNR=2.0							
IDI	Anoyia	5.51	150	⇓P		Pn	21 05 34.2	+3.2
LOT	Lotru	5.56	16	⇓S		Sn	21 06 34.5	-1.1
BLY	Banja Luka	5.64	326	*e*Pn		Pn	21 05 33.9	+1.2
ZIRJ	Zirje	5.65	311	*e*Pn		Pn	21 05 33.3	+0.5
ARR	Arges	5.70	22	⇓P		Pn	21 05 34.7	+1.0
MORI	Morici	5.74	312	*e*Pn		Pn	21 05 34.7	+0.6
VOIR		5.89	25	⇑P		Pn	21 05 37.7	+1.4
UDBI	Udbina	6.14	318	*i* Pn		Pn	21 05 41.4	+1.7
UDBI				Sn		Sn	21 06 51.4	+1.5
DUGI	Dugi Otok	6.19	311	*e*Pn		Pn	21 05 40.7	+0.4
MLR	Muntele Rosu	6.25	30	Pn		Pn	21 05 43.6	+2.3
	comp=E,1.7nm,0.3s,baz=208,slow=11,SNR=26							
MLR				Sn		Sn	21 06 53.2	+0.5
	baz=281,slow=18,SNR=0.9							
MLR	Muntele Rosu	6.25	30	⇑P		Pn	21 05 42.0	+0.7
NEHR	Nehoiu	6.34	32	⇓P		Pn	21 05 43.7	+1.3
MORH	Mrgy, Hungar	6.45	342	⇓P		Pn	21 05 45.2	+1.4
MORH	Mrgy, Hungar	6.45	342	*e*Pn		Pn	21 05 44.7	+0.9
NVLJ	Novalja	6.65	314	*e*Pn		Pn	21 05 47.6	+1.1
PLOR	Plostina	6.83	31	⇑P		Pn	21 05 49.1	0.0
VRI	Vrincioaia	6.87	32	⇓P		Pn	21 05 50.8	+1.1
CRES	Cresnjev	7.24	324	*e*Pn		Pn	21 05 55.2	+0.5
CEY	Cerknica	7.67	319	*e*Pn		Pn	21 06 00.3	-0.3
PSZ	Piszkesteto	7.88	352	⇑P		Pn	21 06 05.1	+1.5
VYHS	Vyhne	8.59	348	*e*PN		Pn	21 06 15.7	+2.5
VYHS				*e*SN		Sn	21 07 51.3	+1.3
GERES	GERESS Array B	10.36	330	Pn		Pn	21 06 42.2	+4.7
	baz=145,slow=14,SNR=2.4							
MMAI	Mount Meron Ar	13.19	118	Pn		Pn	21 07 20.5	+4.3
	comp=E,0.2nm,0.3s,baz=300,slow=9.8,SNR=1.7							
ESDC	Sonseca Array	19.57	277	P		P	21 08 34.8	-2.1
	comp=E,0.1nm,0.3s,baz=70,slow=8.7,SNR=2.3							
HFS	Hagfors	20.62	349	P		P	21 08 47.1	-1.0
	comp=E,1.1nm,0.6s,baz=156,slow=11,SNR=10							
FINES	FINESS Array B	21.52	6	P		P	21 08 57.5	-0.2
	comp=E,2.5nm,1.0s,baz=177,slow=8.4,SNR=3.7							
BELG	Belogornoye	21.66	47	P		P	21 08 59.5	+0.2
	comp=E,4.1nm,0.7s,baz=270,slow=4.0,SNR=2.3							
BELG				LR		LR	21 19 05.1	
	comp=E,86nm,18.2s,baz=343,slow=41							
NB2	NORSAR Subarra	21.89	346	P		P	21 09 00.5	-1.2
	comp=Z,1.1nm,0.7s,baz=162,slow=11							
NOA	NORSAR Array B	21.89	346	P		P	21 09 00.6	-1.2
	comp=Z,1.3nm,0.7s,baz=157,slow=10,SNR=6.6							
EKA	Eskdalemuir Ar	22.36	321	P		P	21 09 05.1	-1.7
	comp=Z,1.0nm,0.6s,baz=118,slow=9.0,SNR=4.6							
ARCES	ARCESS Array B	29.54	3	P		P	21 10 12.5	-0.7
	comp=Z,5.4nm,1.1s,baz=201,slow=9.1,SNR=5.7							
TORD	Torodi Ar. Bea	32.05	219	P		P	21 10 34.3	-1.5
	comp=Z,0.4nm,0.5s,baz=27,slow=9.7,SNR=2.7							
MKAR	Makanchi Array	43.61	60	P		P	21 12 13.4	+0.2
	comp=Z,0.3nm,0.6s,baz=282,slow=6.7,SNR=6.3							
YKA	Yellowknife Ar	71.83	340	P		P	21 15 31.3	0.0
	comp=Z,0.1nm,0.3s,baz=43,slow=6.2,SNR=1.9							

*IDC **24** 21:04:58.6±0.6,9.°99N×126.°82E,h0km,mb4.0/20,*
mb1 4.1/20,mb1mx3.9/44,mbtmp4.0/20,Error ellipse:
s-maj=29.2km s-min=13.3km az=76.0
*MAN **24** 21:05:01.4,9.°92N×126.°88E,h26km,mb5.0,ML4.0,MS4.0*
ISC 24 21:05:02.2±1.8,9.°95N±0.°04×126.°86E±0.°07,h25km±12km,
n44,σ1s71/49,mb4.0/26,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	General Luna,	0.74	258	*e*P	Pb	21 05 15.4	-1.1
GLSP				*e*S	Sb	21 05 24.8	-1.4
BUTP	Butuan	1.56	232	*e*P	Pn	21 05 28.0	-0.3
BUTP				*e*S	Sn	21 05 49.3	+1.6
MSLP	Maasin	1.98	276	*e*P	Pn	21 05 34.5	+0.4
MSLP				*e*S	Sn	21 05 59.4	+1.3
BESP	Borongan	2.16	320	*e*P	Pn	21 05 35.9	-0.7
BESP				*e*S	Sn	21 06 02.8	+0.3
CGP	Cagayan de Oro	2.60	235	⇑*e*P	Pn	21 05 43.0	+0.3
CGP				⇑S	Sn	21 06 13.3	-0.2
LLP	Lapu-Lapu	2.87	278	⇑*i*P	Pn	21 05 48.1	+1.7
LLP				*i* S	Sn	21 06 20.7	+0.5
MATI	Mati	3.04	191	*e*P	Pn	21 05 48.4	-0.3
DAV	Davao City (W)	3.12	204	Sn	Sn	21 06 31.2	+4.8
	baz=56,slow=18						
DDMP	Don Marcelino,	3.98	197	*e*P	Pb	21 06 12.3	+0.6
CNOP	Candoni, Negro	4.16	269	*e*P	Pn	21 06 05.9	+1.8

GUIM	Jordan	4.26	280	*e*P		Pn	21 06 06.5	+1.0
GUIM				*e*S		Sn	21 06 22.2	-32
RCP	Roxas	4.35	292	⇓*e*P		Pn	21 06 08.2	+1.5
RCP				*e*S		Sn	21 06 59.4	+2.7
BATI	Baumata	20.27	189	P		P	21 09 37.5	+1.4
	44nm,0.8s,baz=290,slow=1.3,SNR=15							
BATI				S		S	21 13 14.9	-7.6
	3.7nm,0.4s,baz=271,slow=22,SNR=1.2							
KSRS	Korea Array	27.41	2	P		P	21 10 45.8	0.0
	0.8nm,0.6s,baz=178,slow=7.9,SNR=2.1							
FITZ	Fitzroy Crossi	27.89	182	P		P	21 10 52.5	+2.2
	2.8nm,0.9s,baz=7.1,slow=8.1,SNR=2.2							
CMAR	Chiang Mai Arr	28.32	290	P		P	21 10 53.3	-0.9
	1.0nm,0.4s,baz=100,slow=7.3,SNR=5.1							
PSI	Prapat	28.64	258	P		P	21 10 57.0	-0.3
	3.9nm,0.8s,baz=180,slow=19,SNR=1.7							
XAN	Xi'an	29.08	328	P		P	21 11 00.4	-0.5
XAN				pmax	pmax			
	comp=Z,8.0nm,0.6s							
WRA	Warramunga Arr	30.60	166	P		P	21 11 13.2	-1.2
	comp=Z,0.5nm,0.5s,baz=348,slow=9.4,SNR=5.4							
ASAR	Alice Springs	34.11	168	P		P	21 11 44.6	-0.5
	comp=Z,0.4nm,0.5s,baz=351,slow=7.1,SNR=9.7							
GTA	Gaotai	37.98	325	P		P	21 12 19.9	+1.7
GTA				pP	sP		21 12 26.8	+1.8
GTA				sP	pP		21 12 29.4	+6.4
GTA				pmax	pmax			
	comp=Z,1.0nm,1.2s							
H11N1	WAKE ISLAND Hy	39.81	71	T	T		21 56 17.3	
	baz=264,slow=74,SNR=3.7							
H11N2	WAKE ISLAND Hy	39.81	71	T	T		21 56 16.8	
	baz=264,slow=74,SNR=4.0							
H11N3	WAKE ISLAND Hy	39.83	71	T	T		21 56 08.8	
	baz=264,slow=74,SNR=4.4							
TAPN	Taplejung	40.72	301	*e*P	P		21 12 40.7	-0.8
	comp=Z,2.4nm,0.4s							
ODAN	Odare	40.84	300	*e*P	P		21 12 41.6	-0.9
	comp=Z,14nm,1.0s							
SONM	Songino Array	41.53	339	P	P		21 12 47.4	-0.2
	comp=Z,0.6nm,0.7s,baz=153,slow=9.3,SNR=5.8							
RAMN	Ramite	41.55	300	*e*P	P		21 12 47.3	-1.0
	comp=Z,5.8nm,0.7s							
GUN	Gumba	42.43	301	*e*P	P		21 12 53.9	-1.7
	comp=Z,10nm,0.8s							
PKIN	Phulchoki	42.75	300	*e*P	P		21 12 56.8	-1.3
	comp=Z,1.7nm,0.4s							
STKA	Stephens Creek	43.91	162	P	P		21 13 07.7	+0.7
	comp=Z,3.9nm,0.8s,baz=339,slow=11,SNR=5.8							
PETK	Petropavlovsk-	49.70	24	P	P		21 13 51.9	-0.1
	comp=Z,1.7nm,0.9s,baz=243,slow=9.4,SNR=2.0							
MKAR	Makanchi Array	52.64	323	P	P		21 14 14.5	+0.3
	comp=Z,0.8nm,0.5s,baz=126,slow=8.0,SNR=13							
ZALV	Zalesovo Beam	55.19	331	P	P		21 14 33.5	+0.8
	comp=Z,0.9nm,0.3s,baz=115,slow=6.5,SNR=1.9							
ARU	Arti	69.81	327	P	P		21 16 10.7	+0.2
	comp=Z,0.3nm,0.3s,baz=286,slow=15,SNR=2.1							
KBZ	Khabaz	78.85	313	P	P		21 17 03.5	+0.2
	comp=Z,0.9nm,0.8s,baz=59,slow=10,SNR=2.6							
ARCES	ARCESS Array B	84.70	340	P	P		21 17 34.0	+0.3
	comp=Z,3.2nm,0.9s,baz=75,slow=5.3,SNR=5.9							
FINES	FINESS Array B	86.45	332	P	P		21 17 43.0	+0.5
	comp=Z,1.8nm,0.4s,baz=74,slow=4.8,SNR=26							
AKASG	Malin Array Be	87.18	321	P	P		21 17 46.4	+0.1
	comp=Z,0.2nm,0.3s,baz=60,slow=4.8,SNR=4.2							
HFS	Hagfors	92.60	333	P	P		21 18 11.4	-0.1
	comp=Z,0.8nm,0.6s,baz=72,slow=9.5,SNR=4.6							
NOA	NORSAR Array B	93.30	334	P	P		21 18 13.4	-1.4
	comp=Z,0.4nm,0.8s,baz=80,slow=5.4,SNR=1.9							
YKA	Yellowknife Ar	93.81	24	P	P		21 18 16.7	-0.3
	comp=Z,0.1nm,0.3s,baz=286,slow=3.7,SNR=3.7							
TORD	Torodi Ar. Bea	120.93	292	PKP	PKPdf		21 23 53.4	-0.1
	comp=Z,0.6nm,0.9s,baz=89,slow=2.1,SNR=1.6							
PLCA	Paso Flores	145.68	156	PKPbc	PKPab		21 24 41.2	+1.7
	comp=Z,1.8nm,0.8s,baz=260,slow=5.4,SNR=5.7							

*NIC **24** 21:21:12.4±0.0,35.°31N×26.°93E,h13km±1km,MI3.6/3*
*ISK **24** 21:21:12.9,35.°44N×26.°82E,h10km,ML3.0/22*
*ATH **24** 21:21:12.9,35.°32N×26.°93E,h17km±3km,ML3.1/4,Error*
ellipse: s-maj=5.0km s-min=1.0km az=148.0
*THE **24** 21:21:12.8,35.°32N×26.°91E,h1km±1km,ML3.2/2,Error ellipse:*
s-maj=2.9km s-min=0.6km az=146.0
*DDA **24** 21:21:14.1,35.°44N×26.°97E,h6km±2km,ML2.8*
ISC 24 21:21:13.1±0.9,35.°35N±0.°04×26.°89E±0.°03,h15km±7km,
n86,σ0s98/107,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.30	48	P	Pg	21 21 19.1	-0.3
KARP				S	Sg	21 21 23.9	+0.2
KARP				AML	AML	21 21 25.0	
	comp=N,26295μm,0.1s						
KARP				AML	AML	21 21 25.5	
	comp=E,26112μm,0.2s						
KARP	Karpathos	0.30	48	P	Pg	21 21 19.1	-0.3
KARP				S	Sg	21 21 24.0	+0.3
	comp=E,13μm,0.1s						
KARP	Karpathos	0.30	48	PG	Pg	21 21 18.7	-0.7
KARP				SG	Sb	21 21 24.2	-0.8
KARP	Karpathos	0.30	48	P	Pg	21 21 19.0	-0.4
KARP				S	Sg	21 21 24.0	+0.3
KARP				AML	AML	21 21 24.6	
	comp=E,26nm,0.1s						
KARP				AML	AML	21 21 24.6	
	comp=E,26nm,0.1s						
KARP				AML	AML	21 21 25.1	
	comp=E,26nm,0.2s						
KARP				AML	AML	21 21 25.1	
	comp=E,26nm,0.2s						
ZKR	Zakros	0.60	247	P	Pg	21 21 24.5	-0.4
ZKR				S	Sg	21 21 33.6	+0.8
ZKR				AML	AML	21 21 34.8	
	comp=E,5656μm,0.4s						
ZKR				AML	AML	21 21 36.1	
	comp=N,2174μm,0.4s						
ZKR	Zakros	0.60	247	P	Pg	21 21 24.5	-0.4
ZKR				S	Sb	21 21 33.9	+0.3
	comp=N,2μm,0.4s						
ZKR	Zakros	0.60	247	PG	Pg	21 21 24.7	-0.2
ZKR				SG	Sg	21 21 33.7	+0.8
ZKR	Zakros	0.60	247	P	Pg	21 21 24.4	-0.5
ZKR				S	Sg	21 21 33.7	+0.8
STIA	Sitia Lasithi	0.67	258	P	Pg	21 21 25.8	-0.4
STIA				S	Sb	21 21 36.6	+0.9
FRMA	Ierapetra Chan	1.00	251	P	Pg	21 21 30.1	-2.4
NPS	Neapolis	1.05	266	P	Pg	21 21 33.0	-0.4
NPS				AML	AML	21 21 51.6	
	comp=E,1857μm,0.4s						
NPS				AML	AML	21 21 52.5	
	comp=N,1328μm,0.4s						
NPS	Neapolis	1.05	266	P	Pg	21 21 33.0	-0.4
LAST	Lasithi	1.17	261	P	Pb	21 21 34.7	-0.5
LAST				AML	AML	21 22 00.6	
	comp=N,761μm,0.5s						
LAST				AML	AML	21 22 02.0	
	comp=E,706μm,0.7s						
LAST	Lasithi	1.17	261	P	Pb	21 21 34.9	-0.2
NIS1	Nisyros Isl.	1.27	10	P	Pn	21 21 36.7	+0.3
NIS1	Nisyros Isl.	1.27	10	PN	Pn	21 21 36.3	-0.1
NISR	Nisiros	1.27	9	P	Pn	21 21 36.2	-0.2
NISR	Nisiros	1.27	9	P	Pn	21 21 36.2	-0.2
ARG	Arkhangelos	1.33	49	P	Pn	21 21 37.4	+0.3
ARG	Arkhangelos	1.33	49	P	Pn	21 21 37.2	+0.1
ARG	Arkhangelos	1.33	49	PN	Pb	21 21 37.9	+0.2
ARG				SN	Sg	21 21 56.1	+0.2
ARG	Arkhangelos	1.33	49	P	Pn	21 21 37.5	+0.3
ARG				S	Sb	21 21 54.8	+0.3
KOSK	Kos Island	1.40	3	P	Pn	21 21 37.9	-0.3
KOSK	Kos Island	1.40	3	PN	Pn	21 21 37.9	-0.3
KOSK				SN	Sn	21 21 56.1	-0.3
KSTL	Kastelli Herak	1.49	269	P	Pn	21 21 36.7	-2.7
DATC	Datca-Mugla	1.54	24	PN	Pn	21 21 40.4	+0.3
SANT	Santorini	1.55	312	P	Pn	21 21 40.5	+0.3
SANT	Santorini	1.55	312	PN	Pn	21 21 39.8	-0.4
SANT	Santorini	1.55	312	*i* P	Pn	21 21 41.7	+1.4
THR8	Santorini-Mono	1.56	313	P	Pn	21 21 40.6	+0.3
THR6	Thira Island,	1.57	310	P	Pn	21 21 40.8	+0.2
THR9	Santorini-Faro	1.60	309	P	Pn	21 21 41.3	+0.4
THR3	Thira Island,	1.61	312	P	Pn	21 21 41.4	+0.4
THT2	Imerovigli	1.61	313	PN	Pn	21 21 40.7	-0.4
IDI	Anoyia	1.64	268	P	Pn	21 21 42.4	+0.9
IDI	Anoyia	1.64	268	P	Pn	21 21 42.0	+0.5
MRSB	Marmaris-Mugla	1.73	37	PN	Pn	21 21 43.3	+0.6
SIVA	Sivas	1.74	260	P	Pb	21 21 45.7	+1.0

BODT	Bodrum	1.74	11	P		Pn	21 21 42.5	-0.4
BODT	Bodrum	1.74	11	PN		Pn	21 21 42.7	-0.2
BDRM	Kayabasi	1.77	14	*i* P		Pn	21 21 43.3	0.0
BDRM				*i* S		Sb	21 22 08.8	+1.4
TURN	Turunc	1.80	37	PN		Pn	21 21 44.1	+0.5
TURN	Turunc	1.80	37	*i* P		Pn	21 21 43.8	+0.2
TURN				*i* S		Sg	21 22 10.9	-0.1
TURN				IAML			21 22 13.0	
	comp=N,68nm,0.3s							
TURN				IAML			21 22 15.0	
	comp=E,85nm,0.3s							
APE	Apeiranthos	2.04	328	PN		Pn	21 21 46.8	-0.2
APE	Apeiranthos	2.04	328	*i* P		Pn	21 21 48.0	+1.0
APE				*i* S		Sn	21 22 11.5	-0.8
APE	Apeiranthos	2.04	328	P		Pn	21 21 47.3	+0.3
DALY	Dalyan (Mula)	2.05	44	PN		Pn	21 21 48.5	+1.5
DALY	Dalyan (Mula)	2.05	44	*i* P		Pb	21 21 49.3	-0.7
MLSB	Milas	2.07	20	PN		Pn	21 21 47.9	+0.5
YER	Yerkesik	2.11	32	P		Pn	21 21 48.6	+0.6
YER	Yerkesik	2.11	32	PN		Pn	21 21 48.6	+0.6
FETY	Fethiye	2.19	54	P		Pn	21 21 49.8	+0.7
FETY	Fethiye	2.19	54	PN		Pn	21 21 50.3	+1.2
FETY	Fethiye	2.19	54	*i* P		Pn	21 21 49.6	+0.5
FETY				*i* S		Sb	21 22 20.9	+1.3
VAM	Vamos	2.20	272	P		Pn	21 21 49.4	+0.2
MULA	Mugla, Merkez-	2.23	31	*i* P		Pn	21 21 50.1	+0.5
KSL	Kastellorizon	2.33	69	P		Pn	21 21 52.6	+1.6
KSL	Kastellorizon	2.33	69	P		Pn	21 21 51.7	+0.7
GCAM	G?zelcaml?	2.36	7	PN		Pn	21 21 51.8	+0.4
GCAM	G?zelcaml?	2.36	7	*i* P		Pn	21 21 51.7	+0.3
AKAS	Kas	2.38	67	PN		Pn	21 21 53.4	+1.7
AKAS	Kas	2.38	67	*i* P		Pn	21 21 52.1	+0.4
AKAS				*i* S		Sn	21 22 21.9	+1.2
AYDN	Tasoluk	2.44	19	*i* P		Pn	21 21 53.2	+0.7
CAEL	Denizli, Camel	2.64	47	*i* P		Pb	21 21 58.9	-1.5
CAEL				*i* S		Sg	21 22 38.8	+0.7
CAEL				IAML			21 22 49.0	
	comp=E,77nm,0.7s							
CAEL				IAML			21 22 53.0	
	comp=N,120nm,0.6s							
TAVA	DENIZLI_Tavas	2.67	37	*i* P		Pn	21 21 58.3	+2.6
TAVA				*i* S		Sn	21 22 26.6	-1.2
TAVA				IAML			21 22 38.0	
	comp=N,40nm,0.9s							
AYDB	Zeytinkoy-Aydi	2.71	17	PN		Pn	21 21 56.9	+0.5
ELL	Elmali	2.82	59	PN		Pn	21 21 59.4	+1.6
GOLH	Golhisar	2.86	48	*i* P		Pn	21 22 01.4	+3.0
GOLH				*i* S		Sb	21 22 38.0	-0.9
GOLH				IAML			21 22 49.0	
	comp=N,37nm,1.1s							
AKUM	Antalya-Kumluc	2.97	70	*i* P		Pn	21 22 00.1	+0.4
AKUM				*i* S		Sn	21 22 34.6	-0.5
URLA	Izmir	3.02	356	PN		Pn	21 22 00.7	+0.3
BLCB	Balcova	3.03	2	PN		Pn	21 22 01.2	+0.6
CHOS	Chios island	3.11	348	PN		Pn	21 22 02.1	+0.4
KORT	Korkueli	3.25	58	PN		Pn	21 22 03.7	+2.0
KORT	Korkueli	3.25	58	*i* P		Pn	21 22 03.9	+0.2
KHAL	Karahalli	3.67	34	*i* P

TKGZ	**Te Karaka**	**2.59**	**186**	P	Pn	21 59 01.6	**0.0**
TKGZ				S	S	21 59 37.5	+0.9
CNGZ	**Carnagh Statio**	**2.62**	**180**	P	Pn	21 59 02.3	+0.4
WIAZ	**Waiheke Island**	**2.66**	**249**	P	Pn	21 59 02.3	-0.2
MKAZ	**Moumakai**	**2.76**	**242**	P	Pn	21 59 04.1	+0.6
MUGZ	**Murupara**	**2.85**	**204**	P	Pn	21 59 05.0	+0.3
MUGZ				S	S	21 59 42.5	+0.5
RIGZ	**Rimuhau**	**2.86**	**187**	P	Pn	21 59 04.6	-0.2
RIGZ				S	S	21 59 42.9	+0.7
SNGZ	**Shannon Statio**	**3.00**	**193**	P	Pn	21 59 06.8	+0.5
SNGZ				S	S	21 59 46.9	+1.9
PRGZ	**Paritu Road**	**3.06**	**185**	P	Pn	21 59 07.4	+0.3
RAHZ	**Arahi**	**3.18**	**196**	P	Pn	21 59 08.7	+0.3
RAHZ				S	S	21 59 50.1	+1.3
MTHZ	**Maungataniwha**	**3.18**	**200**	P	Pn	21 59 08.8	+0.3
MTHZ				S	S	21 59 50.2	+1.3
KNZ	**Kokohu**	**3.18**	**188**	P	Pn	21 59 08.0	-0.4
WHHZ	**Waihua**	**3.30**	**193**	P	Pn	21 59 09.8	-0.1
WHHZ				S	S	21 59 53.4	+1.9
NMHZ	**Naumai**	**3.42**	**199**	P	Pn	21 59 11.8	+0.4
NMHZ				S	S	21 59 55.4	+1.4
ARHZ	**Aropaoanui**	**3.53**	**196**	P	Pn	21 59 12.5	-0.2
ARHZ				S	S	21 59 57.4	+1.0
BKZ	**Black Stump Fm**	**3.57**	**202**	P	Pn	21 59 14.0	+0.8
BKZ				S	S	21 59 58.8	+1.5
HIZ	**Hauiti**	**3.77**	**224**	P	Pn	21 59 18.2	+2.7
MCHZ	**McNeill Hill**	**3.77**	**198**	P	Pn	21 59 14.5	-1.1
MCHZ				S	S	22 00 03.1	+1.4
KWHZ	**Kaweka Forest**	**3.83**	**201**	P	Pn	21 59 16.3	-0.1
KWHZ				S	S	22 00 03.2	+0.1
CKHZ	**Cape Kidnapper**	**3.89**	**193**	P	Pn	21 59 16.7	-0.4
CKHZ				S	S	22 00 04.7	+0.3
KRHZ	**Kereru**	**4.05**	**201**	P	Pn	21 59 18.1	-0.9
KRHZ				S	S	22 00 07.3	-0.6
PXZ	**Pawanui**	**4.30**	**194**	P	Pn	21 59 20.9	-1.1
PXZ				S	S	22 00 11.3	-2.1
DVHZ	**Dannevirke**	**4.71**	**199**	P	Pn	21 59 25.0	-2.3
HOWZ	**Holdsworth Sta**	**5.46**	**202**	P	Pn	21 59 34.6	-2.1
HOWZ				S	S	22 00 36.6	-3.4
OGWZ	**Otaki Gorge**	**5.50**	**205**	P	Pn	21 59 35.4	-1.8
OGWZ				S	S	22 00 38.7	-2.2
KIW	**Kapiti Island**	**5.63**	**207**	P	Pn	21 59 36.8	-2.1
KIW				S	S	22 00 40.7	-3.2
MTW	**Mount Morrison**	**5.70**	**201**	P	Pn	21 59 37.3	-2.5
MTW				S	S	22 00 42.2	-3.5
CAW	**Cannon Point**	**5.79**	**204**	P	Pn	21 59 38.7	-2.3
CAW				S	S	22 00 45.2	-2.6
TRWZ	**Traveller**	**5.87**	**199**	P	Pn	21 59 39.9	-2.2
TRWZ				S	S	22 00 45.8	-3.8
DUWZ	**D'Urville Isla**	**5.98**	**213**	P	Pn	21 59 41.1	-2.3
DUWZ				S	S	22 00 51.2	-1.0
MSWZ	**Moikau Station**	**6.01**	**202**	P	Pn	21 59 41.3	-2.6
MSWZ				S	S	22 00 48.2	-4.7
PLWZ	**Palliser**	**6.15**	**201**	P	Pn	21 59 42.8	-2.8
PLWZ				S	S	22 00 51.1	-5.2
TCW	**Tory Channel**	**6.17**	**209**	P	Pn	21 59 43.2	-2.7
TCW				S	S	22 00 52.8	-3.8
QRZ	**Quartz Range**	**6.67**	**220**	P	Pn	21 59 50.1	-2.3
QRZ				S	S	22 01 06.3	-2.1
THZ	**Tophouse**	**7.20**	**214**	P	Pn	21 59 57.2	-2.1
THZ				S	S	22 01 17.1	-4.0
KHZ	**Kahutara**	**7.49**	**208**	P	Pn	22 00 00.4	-2.4
KHZ				S	S	22 01 21.8	-5.7

*IDC **24** 22:06:13.4±0.9, 37.07N×28.70E, h0km, mb3.8/7, mb1 4.0/14, mb1mx3.7/40, mbtmp3.8/14, ML3.9/6, MS3.0/9, Ms1 3.0/9, ms1mx2.6/57, Error ellipse: s-maj=18.3km s-min=13.9km az=157.0*
*DDA **24** 22:06:14.1, 37.09N×28.64E, h11km±1km, MW3.9*
*NIC **24** 22:06:14.0±0.0, 37.10N×28.62E, h0km±1km, Ml3.9/4*
*ISK **24** 22:06:14.3, 37.08N×28.63E, h7km, ML3.9/32*
*ATH **24** 22:06:15.5, 37.08N×28.62E, h2km±4km, ML3.7/4, Error ellipse: s-maj=4.9km s-min=1.6km az=185.0*
*HLW **24** 22:06:15.2, 36.98N×28.78E, h3km±7km, Md4.0, Ml4.5*

ISC 24 22:06:15.1±0.9, 37.07N±0.02×28.64E±0.02, h11km±6km, n148, σ1°15/182, mb3.7/7, MS3.1/3, 13C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**0.26**	**177**	PG	**Pg**	**22 06 19.9**	**-0.4**
DALY				SG	**Sg**	**22 06 24.0**	**+0.2**
DALY	**Dalyan (Mula)**	**0.26**	**177**	*i* P	**Pg**	**22 06 19.9**	**-0.4**
DALY				*i* S	**Sb**	**22 06 25.2**	**-1.0**
DALY				IAML		22 06 28.0	
	comp=E,9μm,0.8s						
YER	**Yerkesik**	**0.29**	**282**	PG	**Pg**	**22 06 20.7**	**-0.3**
YER				SG	**Sb**	**22 06 25.5**	**-1.7**
MULA	**Mugla, Merkez-**	**0.31**	**306**	*i* P	**Pg**	**22 06 20.7**	**-0.6**
MULA				*i* S	**Sg**	**22 06 25.1**	**-0.5**
MULA				IAML		22 06 26.0	
	comp=N,9μm,0.3s						
MULA				IAML		22 06 26.0	
	comp=E,16μm,0.4s						
TURN	**Turunc**	**0.43**	**227**	PG	**Pg**	**22 06 22.9**	**-0.7**
TURN				SG	**Sg**	**22 06 29.6**	**+0.3**
TURN	**Turunc**	**0.43**	**227**	*i* P	**Pg**	**22 06 22.8**	**-0.8**
TURN				*i* S	**Sb**	**22 06 30.1**	**-1.1**
TURN				IAML		22 06 35.0	
	comp=E,4μm,0.6s						
TURN				IAML		22 06 36.0	
	comp=N,10μm,0.6s						
TAVA	**DENIZLI_Tavas**	**0.45**	**29**	*i* P	**Pg**	**22 06 22.6**	**-1.4**
MRSB	**Marmaris-Mugla**	**0.50**	**225**	PG	**Pg**	**22 06 24.5**	**-0.4**
MRSB				SG	**Sg**	**22 06 31.8**	**+0.3**
CAEL	**Denizli, Camel**	**0.55**	**85**	*i* P	**Pg**	**22 06 24.9**	**-0.9**
FETY	**Fethiye**	**0.57**	**140**	PG	**Pg**	**22 06 25.2**	**-0.9**
FETY				SG	**Sg**	**22 06 34.1**	**+0.5**
GOLH	**Golhisar**	**0.76**	**77**	*i* P	**Pg**	**22 06 28.7**	**-1.0**
GOLH				*i* S	**Sn**	**22 06 43.3**	**0.0**
GOLH				IAML		22 06 48.0	
	comp=N,2μm,1.0s						
GOLH				IAML		22 06 52.0	
	comp=E,519nm,1.1s						
AYDN	**Tasoluk**	**0.84**	**314**	*i* P	**Pg**	**22 06 30.6**	**-0.7**
AYDN				*i* S	**Sg**	**22 06 41.9**	**-0.4**
AYDN				IAML		22 06 43.0	
	comp=E,3μm,0.4s						
AYDN				IAML		22 06 49.0	
	comp=N,2μm,0.8s						
DATC	**Datca-Mugla**	**0.84**	**248**	PG	**Pg**	**22 06 30.9**	**-0.4**
ARG	**Arkhangelos**	**0.95**	**206**	P	**Pg**	**22 06 32.5**	**-0.8**
ARG				S	**Sb**	**22 06 47.4**	**+1.3**
ARG				AML	AML	22 06 53.3	
	comp=E,8963μm,0.4s						
ARG				AML	AML	22 06 53.5	
	comp=N,5377μm,0.4s						
ARG	**Arkhangelos**	**0.95**	**206**	PG	**Pg**	**22 06 32.9**	**-0.4**
ARG	**Arkhangelos**	**0.95**	**206**	⇑P	**Pg**	**22 06 32.9**	**-0.4**
ARG				S	**Sn**	**22 06 48.7**	**+0.8**
BDRM	**Kayabasi**	**0.95**	**270**	*i* P	**Pg**	**22 06 32.9**	**-0.6**
BDRM				*i* P	**Pb**	**22 06 33.9**	**+0.3**
BDRM				*i* S	**Sb**	**22 06 47.5**	**+1.2**
BDRM				*i* S	**Sb**	**22 06 47.5**	**+1.2**
BDRM				IAML		22 06 49.0	
	comp=N,7μm,0.5s						
BDRM				IAML		22 06 52.0	
	comp=E,2μm,0.4s						
BDRM				IAML		22 06 52.0	
	comp=E,2μm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**1.05**	**326**	PG	**Pg**	**22 06 34.6**	**-0.8**
BODT	**Bodrum**	**1.06**	**270**	PG	**Pg**	**22 06 34.5**	**-1.0**
BODT				SG	**Sn**	**22 06 50.7**	**0.0**
ELL	**Elmali**	**1.07**	**107**	PG	**Pb**	**22 06 35.7**	**0.0**
ELL	**Elmali**	**1.07**	**107**	P	**Pb**	**22 06 35.6**	**-0.1**
ELL				S	**Sn**	**22 06 52.6**	**+1.6**
YKAV	**Yalikavak-Bodr**	**1.08**	**273**	PN	**Pb**	**22 06 35.7**	**-0.1**
AKAS	**Kas**	**1.15**	**137**	PN	**Pb**	**22 06 36.9**	**-0.1**
AKAS	**Kas**	**1.15**	**137**	*i* P	**Pg**	**22 06 36.0**	**-1.2**
DIDI	**Didim-Aydin**	**1.15**	**286**	PN	**Pb**	**22 06 36.9**	**-0.1**
DDIM	**Aydin, Didim**	**1.18**	**289**	*i* P	**Pn**	**22 06 37.7**	**+0.2**
DDIM				*i* S	**Sn**	**22 06 53.7**	**+0.2**
DDIM				IAML		22 07 04.0	
	comp=E,3μm,0.9s						
KSL	**Kastellorizon**	**1.20**	**140**	P	**Pb**	**22 06 37.8**	**0.0**
KSL				AML	AML	22 07 01.1	
	comp=N,5054μm,0.6s						
KSL				AML	AML	22 07 04.4	
	comp=E,5575μm,0.6s						
KSL	**Kastellorizon**	**1.20**	**140**	P	**Pb**	**22 06 37.7**	**0.0**
NIS1	**Nisyros Isl.**	**1.26**	**248**	P	**Pn**	**22 06 38.8**	**+0.2**
NIS1				S	**Sn**	**22 06 55.9**	**+0.3**
NIS1	**Nisyros Isl.**	**1.26**	**248**	PN	**Pn**	**22 06 38.8**	**+0.2**
GCAM	**G?zelcaml?**	**1.28**	**300**	PN	**Pn**	**22 06 39.3**	**+0.4**
GCAM				SN	**Sn**	**22 06 57.0**	**+1.0**
GCAM	**G?zelcaml?**	**1.28**	**300**	*i* P	**Pg**	**22 06 38.8**	**-0.9**
GCAM				*i* S	**Sn**	**22 06 57.7**	**+1.6**
GCAM				IAML		22 07 01.0	
	comp=N,2μm,0.4s						
GCAM				IAML		22 07 02.0	
	comp=E,2μm,0.5s						
BRDR	**BURDUR-Merkez**	**1.29**	**61**	*i* P	**Pn**	**22 06 39.6**	**+0.4**
NISR	**Nisiros**	**1.29**	**250**	P	**Pb**	**22 06 40.2**	**+0.8**
NISR				AML	AML	22 07 02.3	
	comp=N,5859μm,0.8s						
NISR				AML	AML	22 07 04.9	
	comp=E,10974μm,0.7s						
KOSK	**Kos Island**	**1.37**	**257**	PN	**Pn**	**22 06 40.2**	**+0.1**
KOSK				SN	**Sn**	**22 06 59.5**	**+1.3**
KORT	**Korkueli**	**1.37**	**93**	PN	**Pb**	**22 06 40.7**	**-0.2**
BASM	**Basmaki-Afyon**	**1.41**	**53**	PN	**Pg**	**22 06 41.3**	**-0.8**
MANT	**Manisa**	**1.42**	**358**	*i* P	**Pg**	**22 06 41.1**	**-1.1**
MANT				*i* S	**Sb**	**22 06 59.8**	**-0.1**
MANT				IAML		22 07 03.0	
	comp=E,469nm,0.7s						
MANT				IAML		22 07 09.0	
	comp=N,378nm,0.5s						
KHL	**Karahalli**	**1.43**	**29**	PN	**Pb**	**22 06 41.5**	**-0.3**
KULA	**Kula-Manisa**	**1.44**	**1**	PN	**Pn**	**22 06 41.2**	**0.0**
KULA				SN	**Sn**	**22 07 00.9**	**+0.8**
KHAL	**Karahalli**	**1.46**	**27**	*i* P	**Pn**	**22 06 41.5**	**0.0**
KHAL				*i* S	**Sb**	**22 07 00.7**	**-0.3**
KHAL				IAML		22 07 03.0	
	comp=N,261nm,0.5s						
KHAL				IAML		22 07 04.0	
	comp=E,410nm,0.5s						
BUCA	**Burdur, Bucak-**	**1.56**	**80**	*i* P	**Pg**	**22 06 45.0**	**+0.1**
AKUM	**Antalya-Kumluc**	**1.56**	**118**	*i* P	**Pg**	**22 06 46.6**	**+1.5**
SMG	**Samos**	**1.57**	**294**	P	**Pn**	**22 06 42.6**	**-0.3**
SMG				AML	AML	22 07 12.0	
	comp=N,3587μm,0.9s						
SMG				AML	AML	22 07 14.3	
	comp=E,3126μm,0.5s						
BCK	**Bucak**	**1.61**	**76**	PN	**Pn**	**22 06 43.8**	**+0.3**
USAK	**Uak-Merkez**	**1.67**	**10**	*i* P	**Pn**	**22 06 44.7**	**+0.5**
ISP	**Isparta**	**1.68**	**63**	P	**Pb**	**22 06 46.1**	**0.0**
ISP	**Isparta**	**1.68**	**63**	PN	**Pn**	**22 06 45.1**	**+0.6**
KZIL	**AFYON_Kizioren**	**1.68**	**45**	*i* P	**Pb**	**22 06 45.3**	**-0.8**
GMLD	**Gumuldur**	**1.69**	**307**	PN	**Pn**	**22 06 45.1**	**+0.5**
DGB	**zmir**	**1.70**	**306**	*i* P	**Pn**	**22 06 44.4**	**-0.3**
DGB				*i* S	**Sn**	**22 07 06.0**	**-0.4**
DGB				IAML		22 07 17.0	
	comp=N,420nm,0.7s						
GOMA	**Golmarmara-Man**	**1.73**	**341**	PN	**Pn**	**22 06 45.7**	**+0.7**
BLCB	**Balcova**	**1.82**	**316**	PN	**Pn**	**22 06 46.2**	**-0.1**
AKHS	**Akhisar**	**1.92**	**340**	*i* P	**Pn**	**22 06 47.2**	**-0.4**
KARP	**Karpathos**	**1.93**	**218**	P	**Pb**	**22 06 49.3**	**-1.0**
KARP	**Karpathos**	**1.93**	**218**	⇑P	**Pn**	**22 06 49.2**	**+1.2**
KARP				S	**Sb**	**22 07 15.2**	**+0.7**
KARP				AML	AML	22 07 23.2	
	comp=N,4.0nm,0.5s						
KARP				AML	AML	22 07 23.2	
	comp=N,4.0nm,0.5s						
KARP				AML	AML	22 07 27.8	
	comp=N,4.1nm,0.6s						
KARP				AML	AML	22 07 27.8	
	comp=N,4.1nm,0.6s						
BAGO	**Egridir - ISPA**	**1.94**	**61**	*i* P	**Pb**	**22 06 50.4**	**-0.1**
DEMI	**Demirci**	**1.97**	**2**	*i* P	**Pn**	**22 06 48.8**	**+0.3**
SIMA	**Simav-Kutahya**	**2.02**	**8**	PN	**Pn**	**22 06 49.0**	**-0.2**
SMAA	**Simav-Kutahya**	**2.04**	**8**	PN	**Pn**	**22 06 50.2**	**+0.7**
ZEYE	**Izmir, Urla-Ze**	**2.05**	**305**	*i* P	**Pn**	**22 06 49.2**	**-0.4**
ZEYE				*i* S	**Sb**	**22 07 17.2**	**-0.7**
ZEYE				IAML		22 07 27.0	
	comp=N,504nm,0.8s						
GEDZ	**Gediz**	**2.06**	**17**	PN	**Pn**	**22 06 50.4**	**+0.7**
URLA	**Izmir**	**2.06**	**309**	PN	**Pn**	**22 06 50.3**	**+0.6**
SHUT	**Suhut-Afyon**	**2.12**	**45**	PN	**Pn**	**22 06 51.3**	**+0.8**
AFYO	**Afyonkarahisar**	**2.16**	**37**	*i* P	**Pb**	**22 06 54.6**	**+0.4**
FOCM	**Foa**	**2.22**	**318**	PN	**Pn**	**22 06 52.5**	**+0.6**
KRBN	**Karaburun**	**2.24**	**313**	PN	**Pn**	**22 06 52.9**	**+0.8**
ZEDA	**zmir-Bergama**	**2.25**	**327**	*i* P	**Pn**	**22 06 52.3**	**0.0**
ZEDA				*i* S	**Sn**	**22 07 20.8**	**+0.7**
ZEDA				IAML		22 07 42.0	
	comp=N,311nm,0.7s						
KEPZ	**Antalya-Kepez**	**2.38**	**93**	*i* P	**Pg**	**22 06 59.3**	**-1.4**
KEPZ				*i* S	**Sb**	**22 07 28.3**	**+0.8**
YVAC	**Isparta, Yalva**	**2.39**	**59**	*i* P	**Pn**	**22 06 55.4**	**+1.2**
STEP	**BALIKESIR_Sava**	**2.41**	**343**	*i* P	**Pn**	**22 06 54.6**	**+0.1**
DKL	**Dikili**	**2.42**	**326**	PN	**Pn**	**22 06 54.4**	**-0.1**
CHOS	**Chios island**	**2.43**	**303**	P	**Pn**	**22 06 54.8**	**0.0**
CHOS	**Chios island**	**2.43**	**303**	PN	**Pn**	**22 06 55.6**	**+0.8**
TVSB	**Tavsanli**	**2.46**	**15**	PN	**Pn**	**22 06 55.3**	**+0.1**
APE	**Apeiranthos**	**2.48**	**271**	P	**Pn**	**22 06 55.6**	**+0.1**
APE	**Apeiranthos**	**2.48**	**271**	⇑P	**Pn**	**22 06 55.5**	**0.0**
APE				⇑S	**Sb**	**22 07 30.7**	**+0.3**
APE	**Apeiranthos**	**2.48**	**271**	PN	**Pn**	**22 06 56.0**	**+0.5**
APE	**Apeiranthos**	**2.48**	**271**	⇑P	**Pn**	**22 06 55.6**	**+0.1**
SEDI	**Konya, Seydise**	**2.52**	**80**	*i* P	**Pb**	**22 06 58.9**	**-1.4**
DURS	**Dursunbey**	**2.53**	**357**	*i* P	**Pn**	**22 06 56.0**	**-0.2**
SANT	**Santorini**	**2.65**	**256**	⇓P	**Pn**	**22 06 59.9**	**+2.2**
SANT				⇓S	**Sb**	**22 07 34.2**	**-0.8**
BUHA	**Balikesir, Bur**	**2.72**	**334**	*i* P	**Pn**	**22 06 58.8**	**+0.2**
ZKR	**Zakros**	**2.77**	**226**	P	**Pn**	**22 07 01.3**	**+1.9**
ZKR	**Zakros**	**2.77**	**226**	P	**Pn**	**22 07 01.2**	**+1.9**
ZKR				AML	AML	22 07 51.1	
	comp=N,1.4nm,0.6s						
ZKR				AML	AML	22 07 55.1	
	comp=N,0.7nm,0.8s						
BALY	**Balya**	**2.78**	**344**	*i* P	**Pn**	**22 06 58.2**	**-1.4**
PRK	**Paraskevi**	**2.86**	**320**	P	**Pn**	**22 07 01.8**	**+1.2**
NPS	**Neapolis**	**3.04**	**234**	P	**Pn**	**22 07 03.6**	**+0.5**
SIGR	**SIGRI**	**3.06**	**315**	P	**Pn**	**22 07 03.7**	**+0.4**
SIGR	**SIGRI**	**3.06**	**315**	PN	**Pn**	**22 07 03.9**	**+0.6**
GAZI	**Gazipasa**	**3.08**	**105**	*i* P	**Pn**	**22 07 06.0**	**+2.4**
KOCA	**Canakkale, Ayv**	**3.12**	**322**	*i* P	**Pn**	**22 07 03.2**	**-1.0**
BAYC	**CANAKKALE_Bayr**	**3.13**	**329**	*i* P	**Pn**	**22 07 04.1**	**-0.2**
LAST	**Lasithi**	**3.19**	**234**	P	**Pn**	**22 07 06.1**	**+0.9**
EZN	**Ezine**	**3.29**	**327**	PN	**Pn**	**22 07 06.8**	**+0.3**
IDI	**Anoyia**	**3.52**	**241**	Pn	**Pn**	**22 07 10.6**	**+0.9**
	comp=N,7.1nm,0.3s,baz=54,slow=15,SNR=60						
IDI				Sn	**Sn**	**22 07 53.5**	**+2.2**
	comp=N,14nm,0.3s,baz=131,slow=6.2,SNR=9.5						
IDI				LR	LR	22 08 51.4	
	comp=N,157nm,20.9s,baz=92,slow=44						
IDI	**Anoyia**	**3.52**	**241**	P	**Pn**	**22 07 10.6**	**+0.9**
IDI	**Anoyia**	**3.52**	**241**	⇑P	**Pn**	**22 07 11.5**	**+1.8**
AKMS	**Akamas**	**3.63**	**123**	P	**Pn**	**22 07 12.3**	**+1.0**
AKMS				AML	AML	22 07 56.4	
	comp=N,0.5nm,0.8s						
AKMS				AML	AML	22 07 56.4	
	comp=N,0.5nm,0.8s						
AKMS				AML	AML	22 07 57.3	
	comp=N,0.6nm,0.6s						
AKMS				AML	AML	22 07 57.3	
	comp=N,0.6nm,0.6s						
AKMS				S	**Sn**	**22 07 57.5**	**+3.3**
ALFC	**Alefka**	**3.74**	**120**	⇑P	**Pn**	**22 07 13.9**	**+1.2**
ALFC				AML	AML	22 08 03.3	
	comp=N,0.6nm,0.6s						
ALFC				AML	AML	22 08 03.7	
	comp=N,0.3nm,0.6s						
GOKA	**anakkale-Gk**	**3.77**	**326**	*i* P	**Pn**	**22 07 14.0**	**+0.8**
BUY	**Buyukada**	**3.79**	**6**	*i* P	Pn	22 06 53.7	-20
NATA	**Nata**	**3.93**	**124**	P	**Pn**	**22 07 16.6**	**+1.2**
LEF	**Lefka**	**3.96**	**118**	⇑P	**Pn**	**22 07 16.6**	**+0.9**
SZAC	**Souni**	**4.15**	**123**	⇑P	**Pn**	**22 07 19.4**	**+1.0**
OSC1	**CSNet OBS 1**	**4.17**	**148**	P	**Pn**	**22 07 19.0**	**+0.4**
CSS	**Mathiatis**	**4.35**	**118**	⇑P	**Pn**	**22 07 22.7**	**+1.6**
ASGA	**Asgata**	**4.38**	**120**	P	**Pn**	**22 07 22.9**	**+1.3**
MVOU	**Mavrovouni**	**4.54**	**115**	⇑P	**Pn**	**22 07 24.2**	**+0.5**
BRTR	**Keskin Array B**	**4.74**	**55**	Pn	**Pn**	**22 07 28.6**	**+2.1**
	comp=N,4.0nm,0.3s,baz=234,slow=16,SNR=75						
BRTR				Sn	**Sn**	**22 08 23.2**	**+1.6**
	comp=N,0.9nm,0.3s,baz=238,slow=25,SNR=3.6						
BRTR				LR	LR	22 09 49.4	
	comp=N,360nm,18.0s,baz=238,slow=46						
SLUM	**Salum**	**6.25**	**208**	P	**Pn**	**22 07 48.0**	**+0.8**
	baz=210						
SLUM				AMP		22 08 00.0	
	baz=210						
SLUM				S	**Sn**	**22 08 55.4**	**-3.2**
	baz=210						
HWQ	**Hawqa**	**6.57**	**113**	*e*P	**Pn**	**22 07 53.0**	**+1.3**
DQRL	**Deir Qamar**	**6.58**	**119**	*e*P	**Pn**	**22 07 52.5**	**+0.5**
QRWL	**Qaraoun**	**6.75**	**119**	*e*P	**Pn**	**22 07 54.3**	**+0.1**
STIP	**Stip**	**6.80**	**315**	*i* Pn	**Pn**	**22 07 55.2**	**+0.4**
MMAI	**Mount Meron Ar**	**6.87**	**124**	Pn	**Pn**	**22 07 55.6**	**-0.2**
	comp=N,8.2nm,0.3s,baz=305,slow=12,SNR=30						
MMAI				Sn	**Sn**	**22 09 12.2**	**-1.9**
	comp=N,6.4nm,0.3s,baz=307,slow=24,SNR=6.3						
MMAI				LR	LR	22 11 21.9	
	comp=N,40nm,19.4s,baz=45,slow=45						
VTS	**Vitosha**	**6.92**	**325**	⇓P	**Pn**	**22 07 58.0**	**+1.4**
HSAF	**As Saff**	**7.83**	**161**	P	**Pn**	**22 08 08.9**	**0.0**
	baz=161						
GLL	**Jalalah**	**7.91**	**160**	P	**Pn**	**22 08 08.8**	**-1.2**
	baz=160						
SWA2		**8.25**	**200**	P	**Pn**	**22 08 15.1**	**+0.4**
	baz=201						
BOVS	**Bovan**	**8.42**	**323**	⇓P	**Pn**	**22 08 18.1**	**+1.1**
MLR	**Muntele Rosu**	**8.65**	**347**	Pn	**Pn**	**22 08 21.3**	**+1.1**
	comp=N,0.3nm,0.3s,baz=318,slow=14,SNR=7.7						
MLR				Sn	**Sn**	**22 10 01.1**	**+3.3**
	baz=144,slow=19						
MLR	**Muntele Rosu**	**8.65**	**347**	⇓P	**Pn**	**22 08 22.0**	**+1.8**
NBNS	**Bani Suef**	**8.72**	**164**	P	**Pn**	**22 08 20.7**	**-0.4**
	baz=165						
PLOR	**Plostina**	**8.89**	**351**	⇑P	**Pn**	**22 08 25.1**	**+1.6**
VRI	**Vrincioaia**	**8.90**	**351**	⇓P	**Pn**	**22 08 24.6**	**+1.1**
EIL	**Elat**	**9.08**	**143**	Pn	**Pn**	**22 08 26.5**	**+0.5**
	comp=N,3.4nm,0.3s,baz=285,slow=3.1,SNR=24						
EIL				Sn	**Sn**	**22 10 01.3**	**-6.9**
	comp=N,0.8nm,0.3s,baz=21,slow=8.6,SNR=2.2						
GZR	**Gura Zlata**	**9.41**	**334**	⇑P	**Pn**	**22 08 31.6**	**+1.0**
NUB	**Nuweibaa**	**9.48**	**146**	P	**Pn**	**22 08 31.3**	**-0.2**
	baz=146						
TAMRE	**El Minia**	**9.56**	**168**	P	**Pn**	**22 08 32.2**	**-0.5**
	baz=168						
HKAT	**Jabal Katrina**	**9.64**	**151**	P	**Pn**	**22 08 33.6**	**-0.4**
	baz=151						
DRGR		**10.66**	**337**	⇓P	**Pn**	**22 08 49.7**	**+1.9**
HHRG	**Al Ghardaqah**	**10.68**	**156**	P	**Pn**	**22 08 50.4**	**+2.4**
	baz=156						
BURAR	**Bucovina Array**	**10.83**	**348**	⇓P	**Pn**	**22 08 52.6**	**+2.5**
KBZ	**Khabaz**	**12.73**	**54**	Pn	**Pn**	**22 09 18.8**	**+2.8**
	comp=N,0.0nm,0.3s,baz=244,slow=9.0,SNR=2.6						
GNI	**Garni**	**12.97**	**71**	LR	LR	22 15 22.8	
	comp=N,92nm,18.7s,baz=260,slow=42						
VRAC	**Vranov**	**15.03**	**328**	LR	LR	22 15 55.5	
	comp=N,30nm,21.1s,baz=79,slow=39						
GERES	**GERESS Array B**	**16.02**	**322**	Pn	**P**	**22 10 02.4**	**-1.4**
	comp=N,0.1nm,0.3s,baz=134,slow=13,SNR=9.9						
DAVOX	**Davos/Dischmat**	**16.96**	**311**	LR	LR	22 16 55.4	
	comp=N,46nm,18.3s,baz=84,slow=38						
FINES	**FINESS Array B**	**24.45**	**357**	P	**P**	**22 11 34.2**	**+0.6**
	comp=N,1.6nm,0.6s,baz=157,slow=10,SNR=7.3						
AKTO	**Aktyubinsk**	**24.88**	**48**	P	**P**	**22 11 37.3**	**-0.4**
	comp=N,1.2nm,0.7s,baz=256,slow=14,SNR=3.9						
HFS	**Hagfors**	**24.98**	**342**	LR	LR	22 23 01.4	
	comp=N,62nm,18.6s,baz=276,slow=40						
ESDC	**Sonseca Array**	**25.61**	**286**	P	**P**	**22 11 44.6**	**+0.1**
	comp=N,1.6nm,1.0s,baz=81,slow=9.8,SNR=4.7						
NOA	**NORSAR Array B**	**26.39**	**341**	LR	LR	22 22 10.4	
	comp=N,19nm,21.3s,baz=150,slow=36						
TORD	**Torodi Ar. Bea**	**33.88**	**232**	P	**P**	**22 12 57.9**	**0.0**
	comp=N,2.0nm,0.5s,baz=36,slow=9.2,SNR=15						
MKAR	**Makanchi Array**	**40.38**	**59**	P	**P**	**22 13 51.7**	**-1.2**
	comp=N,0.4nm,0.7s,baz=282,slow=7.7,SNR=4.5						
MKAR				PcP	**PcP**	**22 15 55.9**	**0.0**
	comp=N,0.2nm,0.7s,baz

ISC 24 22:45:16.2±3.3, 41°.4N±0°.1×79°.23E±0°.07, h1^{km}±17^{km}, n21, σ0^{s}91/38, 2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**1.76**	**355**	*eP*	**Pb**	**22 45 48.5**	**-0.9**
	3.9nm,0.3s						
UZB				*eS*	**Sb**	**22 46 12.8**	**+0.6**
	2.8nm,0.3s						
UZB	**Uzynbulak**	**1.76**	**355**	P	**Pb**	**22 45 49.3**	**-0.2**
	3.9nm,0.3s						
UZB				S	**Sb**	**22 46 11.3**	**-0.8**
	2.8nm,0.3s						
SHLS	**Shalkode**	**1.77**	**5**	*eP*	**Pg**	**22 45 50.3**	**+0.1**
	1.1nm,0.3s						
SHLS				*eS*	**Sg**	**22 46 15.6**	**+2.4**
	23nm,0.4s						
SHLS	**Shalkode**	**1.77**	**5**	P	**Pg**	**22 45 49.7**	**-0.5**
	0.7nm,0.1s						
SHLS				S	**Sb**	**22 46 12.0**	**-0.5**
	23nm,0.4s						
SATY	**Saty**	**1.78**	**340**	*eP*	**Pb**	**22 45 49.2**	**-0.5**
	0.3nm,0.1s						
SATY				*eS*	**Sg**	**22 46 13.9**	**+0.5**
	4.5nm,0.2s						
SATY	**Saty**	**1.78**	**340**	P	**Pg**	**22 45 50.4**	**+0.2**
	0.3nm,0.1s						
SATY				S	**Sb**	**22 46 12.9**	**+0.3**
	4.5nm,0.2s						
ZHN	**Zhinishke**	**1.87**	**342**	*eP*	**Pb**	**22 45 49.8**	**-1.5**
	1.6nm,0.2s						
ZHN				*eS*	**Sb**	**22 46 14.8**	**-0.4**
	3.2nm,0.2s						
ZHN	**Zhinishke**	**1.87**	**342**	P	**Pb**	**22 45 51.3**	**+0.1**
	102nm,0.3s						
ZHN				S	**Sb**	**22 46 14.5**	**-0.7**
	3.2nm,0.2s						
KPKS	**Kokpek**	**2.12**	**349**	*eP*	**Pb**	**22 45 55.2**	**-0.2**
	11nm,0.1s						
KPKS				*eS*	**Sg**	**22 46 24.0**	**-0.1**
	7.8nm,0.2s						
TNSS	**Tian-Shan**	**2.37**	**315**	*eP*	**Pb**	**22 46 00.4**	**+0.6**
	0.5nm,0.1s						
TNSS				*eS*	**Sg**	**22 46 33.0**	**+0.8**
	2.7nm,0.2s						
TNSS	**Tian-Shan**	**2.37**	**315**	Pg	**Pg**	**22 46 01.9**	**+0.4**
	0.5nm,0.1s						
TNSS				Lg	Lg	22 46 32.8	
	2.7nm,0.2s						
MDOK	**Medeo**	**2.40**	**318**	⇓Pn	**Pg**	**22 46 01.5**	**-0.8**
	0.8nm,0.2s						
MDOK				⇓Sn	**Sg**	**22 46 33.5**	**+0.2**
	1.3nm,0.2s						
KOTS	**Kotyrbulak**	**2.42**	**320**	*eP*	**Pb**	**22 46 01.1**	**+0.4**
	4.0nm,0.3s						
KOTS				*eS*	**Sg**	**22 46 34.0**	**0.0**
	3.8nm,0.3s						
IZV	**Izvestkoviy**	**2.55**	**311**	*eP*	**Pg**	**22 46 04.1**	**-0.9**
	4.3nm,0.3s						
IZV				*eS*	**Sg**	**22 46 39.2**	**+1.2**
	7.6nm,0.1s						
MTBS	**Maitube**	**2.71**	**311**	*eP*	**Pb**	**22 46 06.8**	**+1.2**
	0.6nm,0.1s						
MTBS				*eS*	**Sg**	**22 46 43.9**	**+0.5**
	5.0nm,0.2s						
MTBS	**Maitube**	**2.71**	**311**	Pg	**Pg**	**22 46 08.3**	**+0.1**
	0.6nm,0.1s						
MTBS				Lg	Lg	22 46 43.5	
	5.0nm,0.2s						
MNBS	**Baschi**	**2.76**	**347**	*eP*	**Pb**	**22 46 05.5**	**-0.8**
	0.8nm,0.2s						
MNBS				*eS*	**Sb**	**22 46 41.7**	**+1.0**
	5.1nm,0.3s						
MNBS	**Baschi**	**2.76**	**347**	Pg	**Pb**	**22 46 07.4**	**+1.1**
	0.8nm,0.2s						
MNBS				Lg	Lg	22 46 42.4	
	5.1nm,0.3s						
KST	**Kastek**	**2.94**	**305**	*eP*	**Pg**	**22 46 11.1**	**-1.4**
	5.1nm,0.5s						
KST				*eS*	**Sg**	**22 46 51.1**	**+0.5**
	5.5nm,0.4s						
KUU	**Kurty**	**3.29**	**320**	*eP*	**Pb**	**22 46 16.2**	**+0.8**
	0.3nm,0.1s						
KUU				*eS*	**Sg**	**22 46 59.9**	**-1.9**
	3.0nm,0.3s						
KUU	**Kurty**	**3.29**	**320**	Pg	**Pg**	**22 46 18.1**	**-1.1**
	0.3nm,0.1s						
KUU				Lg	Lg	22 47 00.3	
	3.0nm,0.3s						

*SJA **24** 22:46:48.9±0.7, 20°.67S×70°.84W, h22^{km}±3^{km}, ML5.0, MW5.2*

*IDC **24** 22:46:49.9±0.5, 20°.49S×70°.55W, h0^{km}, mb4.7/19, mb1 4.7/24, mb1mx4.7/32, mbtmp4.7/24, ML4.2/5, MS4.5/19, Ms1 4.4/19, ms1mx4.3/27, Error ellipse: s-maj=16.3km s-min=12.0km az=61.0*

*BJI **24** 22:46:50.1±0.0, 21°.26S×70°.51W, h10^{km}, mB5.1/7, Ms5.2/5, Ms7 5.1/6*

*NEIC **24** 22:46:51.8±1.3, 20°.69S±0°.04×70°.70W±0°.04, h16^{km}±3^{km}, Error ellipse: s-maj=5.9km s-min=4.7km az=161.0*

*GUC **24** 22:46:52.9±0.7, 20°.68S×70°.79W, h16^{km}±6^{km}, ML4.8*

*VAO **24** 22:46:52.0±0.2, 20°.61S×70°.52W, h10^{km}, mb4.9*

*NEIC **24** 22:46:52, 20°.68S×70°.79W, h21^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}3.32; $M_{\theta\theta}$0.32; $M_{\phi\phi}$-3.64; $M_{r\theta}$0.59; $M_{\theta\phi}$0.52; $M_{\phi r}$-2.12; Fault plane solution: M_o4.16000×10^{16} NP1:ϕ_s167.85000°, δ61.08000°, λ84.91000°. NP2:ϕ_s358.29000°, δ29.32000°, λ99.12000°. Principal axes: T 3.9621, Plg73.0000°, Azm65.0000°; N 0.3645, Plg4.0000°, Azm170.0000°; P -4.3265, Plg16.0000°, Azm262.0000°;*

*MOS **24** 22:46:53.9±1.4, 20°.50S×70°.59W, h34^{km}, mb5.2/8 Error ellipse: s-maj=12.0km s-min=7.4km az=104.9*

*NEIC **24** 22:46:56, 20°.62S×70°.88W, h26^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}4.50; $M_{\theta\theta}$0.40; $M_{\phi\phi}$-4.89; $M_{r\theta}$1.86; $M_{\theta\phi}$0.74; $M_{\phi r}$-6.27; Fault plane solution: M_o8.09000×10^{16} NP1:ϕ_s1.00000°, δ18.00000°, λ105.00000°. NP2:ϕ_s165.00000°, δ72.00000°, λ85.00000°. Principal axes: T 7.8791, Plg63.0000°, Azm67.0000°; N 0.4125, Plg5.0000°, Azm166.0000°; P -8.2916, Plg27.0000°, Azm259.0000°;*

*GCMT **24** 22:46:57.0±0.2, 20°.58S±0°.01×70°.94W±0°.01, h21^{km}, MW5.1/110, Moment Tensor Solution. s68,c81; s110,c157; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.27±.16; $M_{\theta\theta}$0.20±.10; $M_{\phi\phi}$-5.47±.13; $M_{r\theta}$0.25±.17; $M_{\theta\phi}$1.04±.07; $M_{\phi r}$-3.46±.20; Best double couple: M_o6.47200×10^{16} NP1:ϕ_s346.00000°, δ29.00000°, λ84.00000°. NP2:ϕ_s173.00000°, δ61.00000°, λ93.00000°. Principal axes: T 6.2890, Plg74.0000°, Azm92.0000°; N 0.3610, Plg3.0000°, Azm352.0000°; P -6.6550, Plg16.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 22:46:52.2±0.3, 20°.65S±0°.02×70°.75W±0°.04, h21^{km}±2^{km}, n425, σ1^{s}56/435, mb5.1/70, MS4.7/23, 13C-20D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA01	**Diego Aracena**	**0.54**	**81**	⇓*iP*	**Pb**	**22 47 02.6**	**-0.5**
TA01				*eS*	**Sb**	**22 47 10.9**	**+0.4**
TA01				IAML		22 47 12.5	
	comp=N,60μm,0.2s						
TA01	**Diego Aracena**	**0.54**	**81**	Pg	**Pg**	**22 47 02.5**	**-0.6**
TA01					**Sb**	**22 47 08.8**	**-1.7**
TA02	**Huaiquique**	**0.70**	**57**	⇓*iP*	**Pb**	**22 47 05.5**	**-0.1**
TA02				*i* S	**Sn**	**22 47 15.2**	**-1.8**
TA02				IAML		22 47 17.5	
	comp=N,140μm,0.6s						
PSGC	**Pisagua**	**1.21**	**30**	⇑*iP*	**Pb**	**22 47 13.6**	**-0.8**
PSGC				*i* S	**Sn**	**22 47 29.8**	**0.0**
PSGC				IAML		22 47 34.1	
	comp=N,58μm,0.4s						
PSGCX	**Pisagua**	**1.21**	**30**		**Pn**	**22 47 13.0**	**-0.9**
PSGCX	**Pisagua**	**1.21**	**30**	*eP*	**Pn**	**22 47 13.1**	**-0.9**
PSGCX				*eS*	**Sn**	**22 47 30.1**	**+0.4**
PB01	**IPOC Station P**	**1.25**	**108**	⇓*iP*	**Pn**	**22 47 14.1**	**-0.4**
PB01				*i* S	**Sn**	**22 47 30.6**	**-0.1**
PB01	**IPOC Station P**	**1.25**	**108**		**Pn**	**22 47 13.8**	**-0.7**
PB01				Sn	**Sn**	**22 47 30.4**	**-0.3**
PB01	**IPOC Station P**	**1.25**	**108**	*eP*	**Pn**	**22 47 14.1**	**-0.4**
PB01				*eS*	**Sn**	**22 47 32.2**	**+1.5**
PB01				IAML		22 47 33.7	
	comp=Z,49μm,0.6s						
PB07	**IPOC Station P**	**1.34**	**143**	⇑*iP*	**Pn**	**22 47 15.3**	**-0.6**
PB07				*eS*	**Sn**	**22 47 32.9**	**-0.3**
PB07				IAML		22 47 39.1	
	comp=E,17μm,0.5s						
PB07	**IPOC Station P**	**1.34**	**143**		**Pn**	**22 47 15.2**	**-0.6**
PB07	**IPOC Station P**	**1.34**	**143**	*eP*	**Pn**	**22 47 15.3**	**-0.6**
PB07				*eS*	**Sb**	**22 47 34.7**	**+1.2**
PB07				IAML		22 47 38.8	
	comp=Z,17μm,1.0s						
PB08	**IPOC Station P**	**1.59**	**72**	*eP*	**Pb**	**22 47 20.1**	**-0.9**
PB08				*i* S	**Sb**	**22 47 41.2**	**+0.4**
PB08				IAML		22 47 43.5	
	comp=E,32μm,0.5s						
PB08	**IPOC Station P**	**1.59**	**72**		**Pn**	**22 47 19.6**	**+0.2**
PB08	**IPOC Station P**	**1.59**	**72**	*eP*	**Pb**	**22 47 19.8**	**-1.2**
PB08				*eS*	**Sb**	**22 47 41.8**	**+1.0**
PB08				IAML		22 47 43.4	
	comp=Z,29μm,0.8s						
PB03	**IPOC Station P**	**1.67**	**146**	⇑*iP*	**Pn**	**22 47 20.2**	**-0.2**
PB03				*i* S	**Sn**	**22 47 42.1**	**+0.8**
PB03				IAML		22 48 03.3	
	comp=N,12μm,0.8s						
PB03	**IPOC Station P**	**1.67**	**146**	*eP*	**Pn**	**22 47 19.9**	**-0.5**
PB03				*eS*	Sn	22 47 30.9	-10
PB03				IAML		22 47 49.9	
	comp=Z,11μm,0.6s						
PB04	**IPOC Station P**	**1.76**	**161**	*eP*	**Pn**	**22 47 20.8**	**-1.0**
PB04				*eS*	**Sn**	**22 47 42.3**	**-1.3**
PB04	**IPOC Station P**	**1.76**	**161**		**Pn**	**22 47 20.7**	**-1.0**
PB04	**IPOC Station P**	**1.76**	**161**	*eP*	**Pn**	**22 47 20.7**	**-1.0**
PB04				*eS*	Sn	22 47 32.3	-11
PB04				IAML		22 47 57.5	
	comp=Z,13μm,0.5s						
PB09	**IPOC Station P**	**1.81**	**129**	⇑*iP*	**Pb**	**22 47 23.5**	**-1.3**
PB09				*i* S	**Sb**	**22 47 42.7**	**+0.1**
PB09				IAML		22 47 57.1	
	comp=E,22μm,0.5s						
PB09	**IPOC Station P**	**1.81**	**129**		**Pn**	**22 47 23.2**	**+0.9**
PB09	**IPOC Station P**	**1.81**	**129**	*eP*	**Pb**	**22 47 23.4**	**-1.3**
PB09				*eS*	**Sb**	**22 47 48.8**	**+1.7**
PB09				IAML		22 47 56.3	
	comp=Z,22μm,0.6s						
MNMC	**Minye Minye**	**1.87**	**36**	*iP*	**Pn**	**22 47 23.7**	**+0.5**
MNMC				*i* S	**Sb**	**22 47 48.2**	**-0.5**
MNMC	**Minye Minye**	**1.87**	**36**	Pn	**Pn**	**22 47 23.3**	**+0.1**
MNMCX	**Minye Minye**	**1.87**	**36**	*eP*	**Pn**	**22 47 23.2**	**0.0**
MNMCX				*eS*	**Sb**	**22 47 49.0**	**+0.3**
PB05	**IPOC Station P**	**2.25**	**167**	⇑*iP*	**Pn**	**22 47 27.2**	**-1.1**
PB05				*i* S	**Sn**	**22 47 54.6**	**-0.9**
PB05	**IPOC Station P**	**2.25**	**167**	*eP*	**Pn**	**22 47 27.2**	**-1.1**
PB05				*eS*	Sn	22 47 39.0	-17
PB05				IAML		22 48 17.4	
	comp=Z,5μm,0.6s						
AP01	**Chacalluta**	**2.30**	**10**	*eP*	**Pb**	**22 47 33.2**	**+0.1**
AP01				*i* S	**Sb**	**22 48 01.9**	**+0.8**
AP01	**Chacalluta**	**2.30**	**10**		**Pn**	**22 47 30.0**	**+1.1**
PB06	**IPOC Station P**	**2.32**	**152**		**Pn**	**22 47 28.7**	**-0.6**
PB06	**IPOC Station P**	**2.32**	**152**	*eP*	**Pn**	**22 47 28.9**	**-0.4**
PB06				*eS*	**Sb**	**22 48 05.7**	**+4.0**
PB06				IAML		22 48 10.0	
	comp=Z,14μm,1.0s						
LVC	**Limon Verde**	**2.59**	**139**	Pn	**Pn**	**22 47 34.7**	**+1.4**
	comp=Z,99nm,0.3s,baz=332,slow=9.6,SNR=763						
LVC				LR	LR	22 48 06.2	
	comp=Z,2μm,21.5s,baz=319,slow=29						
LVC				Sn	**Sn**	**22 48 06.7**	**+2.3**
	comp=Z,361nm,0.3s,baz=27,slow=21,SNR=7.9						
LVC				Lg	Lg	22 48 12.4	
	comp=Z,634nm,0.3s,baz=92,slow=19,SNR=6.8						
LVC	**Limon Verde**	**2.59**	**139**	P	**Pn**	**22 47 34.5**	**+1.2**
LVC	**Limon Verde**	**2.59**	**139**	Pn	**Pn**	**22 47 34.5**	**+1.2**
PB15	**IPOC Station P**	**2.81**	**155**	*eP*	**Pn**	**22 47 35.5**	**-0.5**
PB15				*eS*	**Sn**	**22 48 12.1**	**+2.6**
PB15	**IPOC Station P**	**2.81**	**155**		**Pn**	**22 47 35.3**	**-0.8**
PB15	**IPOC Station P**	**2.81**	**155**	*eP*	**Pn**	**22 47 35.7**	**-0.4**
PB15				*eS*	**Sb**	**22 48 22.4**	**+6.6**
PB15				IAML		22 48 25.8	
	comp=Z,8μm,1.2s						
PB10	**IPOC Station P**	**2.85**	**176**	⇓*iP*	**Pn**	**22 47 35.1**	**-1.4**
PB10				IAML		22 48 35.5	
	comp=N,2μm,0.6s						
PB10	**IPOC Station P**	**2.85**	**176**		**Pn**	**22 47 34.9**	**-1.6**
PB10	**IPOC Station P**	**2.85**	**176**	*eP*	**Pn**	**22 47 34.9**	**-1.6**
PB14	**IPOC Station P**	**3.97**	**175**	Pn	**Pn**	**22 47 50.3**	**-1.8**
PB14	**IPOC Station P**	**3.97**	**175**	*eP*	**Pn**	**22 47 51.4**	**-0.7**
PB14				*eS*	**Sn**	**22 48 35.2**	**-3.0**
PB14				IAML		22 49 15.5	
	comp=Z,1μm,1.0s						
GO02	**Mina Guanaco**	**4.62**	**167**	Pn	**Pn**	**22 48 00.3**	**-0.7**
LPAZ	**La Paz**	**5.00**	**30**	Pn	**Pn**	**22 48 10.5**	**+3.8**
	comp=Z,9.1nm,0.3s,baz=204,slow=4.7,SNR=41						
LPAZ				Lg	Lg	22 49 22.0	
	baz=36,slow=25,SNR=1.4						
LPAZ	**La Paz**	**5.00**	**30**	P	**Pn**	**22 48 09.6**	**+2.9**
LPAZ	**La Paz**	**5.00**	**30**	Pn	**Pn**	**22 48 09.6**	**+2.9**
YJA	**Yavi**	**5.11**	**108**	*eP*	**Pn**	**22 48 12.0**	**+4.0**
AC01	**Base de Azucar**	**5.47**	**179**	Pn	**Pn**	**22 48 10.0**	**-2.5**
AC02	**Maricunga**	**6.33**	**167**		**Pn**	**22 48 25.0**	**+0.2**
GO03	**Copiap**	**6.93**	**176**		**Pn**	**22 48 30.7**	**-1.8**
FSA	**Cafayete**	**6.98**	**142**	*eP*	Pn	22 48 38.3	+4.9
AC04	**Llanos de Chal**	**7.52**	**182**	Pn	**Pn**	**22 48 37.9**	**-2.8**
GO04	**Tololo Observa**	**9.48**	**180**		**Pn**	**22 49 07.7**	**0.0**
SIV	**San Ignacio**	**10.30**	**65**	Pn	**Pn**	**22 49 16.6**	**-2.2**
	comp=Z,6.1nm,0.3s,baz=259,slow=12,SNR=139						
SIV				Sn	**Sn**	**22 51 14.2**	**+0.5**
	baz=249,slow=9.4,SNR=1.2						
SIV				LR	LR	22 54 02.6	
	comp=Z,4μm,18.7s,baz=264,slow=43						
NNA	**Nana**	**10.41**	**325**	Pn	**Pn**	**22 49 20.4**	**+0.1**
	comp=Z,2.1nm,0.3s,baz=209,slow=16,SNR=2.3						
NNA				Sn	**Sn**	**22 51 15.6**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=308,slow=9.6,SNR=1.7						
NNA				Lg	Lg	22 52 05.7	
	comp=Z,1.1nm,0.3s,baz=252,slow=13,SNR=9.8						
NNA				LR	LR	22 53 37.8	
	comp=Z,1μm,18.5s,baz=162,slow=39						
ETMB	**Extrema**	**11.63**	**23**	*eP*	**Pn**	**22 49 37.6**	**+0.5**
PTLB	**Pontes e Lacer**	**12.20**	**67**	*eP*	**Pn**	**22 49 42.5**	**-2.3**
MT02	**Curaev**	**12.56**	**181**	Pn	**Pn**	**22 49 49.4**	**-0.3**
VILB	**Vilhena**	**12.67**	**54**	*eP*	**Pn**	**22 49 50.4**	**-1.0**
CZSB	**Cruzeiro do Su**	**12.99**	**351**	*eP*	**Pn**	**22 49 56.2**	**+0.6**
CPUP	**Villa Florida**	**13.55**	**117**	Pn	**Pn**	**22 50 02.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=304,slow=12,SNR=14						
CPUP				Lg	Lg	22 53 45.5	
	baz=243,slow=6.6,SNR=2.1						
CPUP				LR	LR	22 55 57.6	
	comp=Z,2μm,19.8s,baz=296,slow=41						
CPUP	**Villa Florida**	**13.55**	**117**	*eP*	**Pn**	**22 50 02.3**	**-0.9**
SAML	**Samuel**	**13.74**	**33**	P	**Pn**	**22 50 04.0**	**-1.9**
SAML	**Samuel**	**13.74**	**33**	Pn	**Pn**	**22 50 04.0**	**-1.9**
SAML	**Samuel**	**13.74**	**33**	*eP*	**Pn**	**22 50 04.1**	**-1.8**
H03N1	**Juan Fernandez**	**14.65**	**208**	Pn	**Pn**	**22 50 15.3**	**-2.8**
	baz=111,slow=14,SNR=32						
H03N1				T	T	23 05 34.2	
	baz=33,slow=72,SNR=2018						
H03N2	**Juan Fernandez**	**14.66**	**208**	Pn	**Pn**	**22 50 15.6**	**-2.6**
	baz=111,slow=14,SNR=20						
H03N2				T	T	23 05 27.7	
	baz=33,slow=72,SNR=802						
H03N3	**Juan Fernandez**	**14.67**	**208**	Pn	**Pn**	**22 50 15.2**	**-3.2**
	baz=111,slow=14,SNR=38						
H03N3				T	T	23 05 26.9	
	baz=33,slow=72,SNR=498						
VA04	**Juan Fernndez**	**14.79**	**207**	Pn	**Pn**	**22 50 19.6**	**-0.5**
H03S3	**Juan Fernandez**	**14.98**	**207**	Pn	**Pn**	**22 50 19.0**	**-3.5**
	baz=249						
H03S1	**Juan Fernandez**	**15.00**	**207**	Pn	**Pn**	**22 50 19.0**	**-3.6**
	baz=249						
H03S2	**Juan Fernandez**	**15.00**	**207**	Pn	**Pn**	**22 50 20.0**	**-2.7**
	baz=249						
PP1B	**Ponte de Pedra**	**15.31**	**81**	*eP*	**Pn**	**22 50 26.8**	**-0.3**
ATAH	**Atahualpa**	**15.34**	**330**	Pn	**Pn**	**22 50 29.6**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=172,slow=15,SNR=1.9						
ITQB	**Itaqui**	**15.62**	**128**	*eP*	**Pn**	**22 50 30.8**	**-0.3**
BI02	**San Fabin de**	**15.96**	**182**		**Pn**	**22 50 35.0**	**-0.5**
BI03	**Tigo**	**16.25**	**187**	Pn	**Pn**	**22 50 39.3**	**0.0**
CLDB	**Colider**	**17.36**	**58**	*eP*	**Pn**	**22 50 52.8**	**-0.5**
PTGB	**Pitanga**	**17.71**	**107**	*eP*	**Pn**	**22 50 57.2**	**-0.6**
LPA	**La Plata**	**18.15**	**144**	*eP*	**Pn**	**22 50 56.5**	**-6.4**
LPA				PP	**sP**	**22 51 11.4**	**+0.2**
LPA				PPP	PPP	22 52 09.6	
LPA				S	**Sn**	**22 54 19.0**	**-6.0**
LPA				SS	**SnSn**	**22 54 48.6**	**+10**
LPA				PCP	**PcP**	**22 55 34.5**	**-1.5**
LPA				SSS	SSS	22 56 06.1	
PCMB	**Pacaembu**	**18.21**	**96**	*eP*	**Pn**	**22 51 02.4**	**-1.4**
ITAB	**Concordia**	**18.23**	**115**	*eP*	**Pn**	**22 51 02.6**	**-1.4**
CPSB	**Cacapava Do Su**	**18.38**	**125**	*eP*	**P**	**22 51 03.2**	**-2.5**
ARAG	**Araguaiana, MT**	**18.65**	**78**	*eP*	**P**	**22 51 07.2**	**-1.7**
PLTB	**Pedras Altas**	**18.93**	**129**	*eP*	**Pn**	**22 51 12.0**	**-0.4**
ITRB	**Iturama**	**19.17**	**91**	*eP*	**Pn**	**22 51 14.7**	**-0.8**
FRTB	**Fartura**	**19.83**	**102**	*eP*	**P**	**22 51 20.7**	**-1.1**
MACA	**Manacapuru-AM**	**19.96**	**31**	*eP*	**P**	**22 51 23.2**	**0.0**
PLCA	**Paso Flores**	**20.02**	**180**	P	Pn	22 51 25.3	-0.2
	comp=Z,23nm,1.0s,baz=359,slow=13,SNR=31						
PLCA	**Paso Flores**	**20.02**	**180**	P	**P**	**22 51 23.0**	**-0.7**
PLCA				pmax	pmax		
	comp=Z,31nm,1.0s						
PLCA	**Paso Flores**	**20.02**	**180**	P	**P**	**22 51 23.0**	**-0.7**
PLCA	**Paso Flores**	**20.02**	**180**	*eP*	Pn	22 51 25.9	+0.4
NPGB	**Novo Progresso**	**20.13**	**50**	*eP*	**P**	**22 51 24.0**	**-1.0**
TIJ01	**Guaruva-PR**	**20.55**	**107**	*eP*	**P**	**22 51 28.8**	**-0.8**
SNDB	**Serra Nova Dou**	**20.56**	**68**	*eP*	**P**	**22 51 27.4**	**-2.3**
BB19B	**Bebedouro**	**20.77**	**95**	*eP*	**P**	**22 51 30.1**	**-2.0**
TER01	**Tubaro-SC**	**21.15**	**116**	*eP*	**P**	**22 51 35.5**	**-0.5**
IPMB	**Ipameri, GO**	**21.44**	**87**	*eP*	**P**	**22 51 38.0**	**-1.2**
LL01	**San Ignacio de**	**21.70**	**183**	P	**P**	**22 51 41.6**	**-0.1**
SPB	**Sao Paulo**	**21.80**	**102**	P	**P**	**22 51 42.1**	**-0.9**
SPB	**Sao Paulo**	**21.80**	**102**	*eP*	**P**	**22 51 43.2**	**+0.2**
ITTB	**Itatuba**	**21.81**	**44**	*eP*	**P**	**22 51 40.7**	**-2.4**
PET01	**Itanhaem-SP**	**21.99**	**104**	*eP*	**P**	**22 51 43.0**	**-2.1**
OTAV	**Otavalo**	**22.09**	**339**	P	**P**	**22 51 47.7**	**+1.1**
OTAV				pmax	pmax		
	comp=Z,108nm,1.7s						
OTAV	**Otavalo**	**22.09**	**339**	P	**P**	**22 51 47.7**	**+1.1**
OTAV				IAmb	IAmb	22 52 24.4	
	comp=Z,108nm,1.7s						
OTAV	**Otavalo**	**22.09**	**339**	*eP*	**P**	**22 51 50.5**	**+3.9**
OTAV	**Otavalo**	**22.09**	**339**	*eP*	**P**	**22 51 49.5**	**+2.9**
BDFB	**Brasilia**	**22.17**	**81**	P	**P**	**22 51 45.8**	**-1.4**
	comp=Z,8.2nm,0.7s,baz=262,slow=14,SNR=8.2						
BDFB				LR	LR	23 01 51.0	
	comp=Z,5μm,18.2s,baz=263,slow=41						
BDFB	**Brasilia**	**22.17**	**81**	P	**P**	**22 51 45.7**	**-1.4**
BDFB				pmax	pmax		
	comp=Z,37nm,1.1s						
BDFB	**Brasilia**	**22.17**	**81**	P	**P**	**22 51 45.7**	**-1.4**
VAO	**Valinhos**	**22.20**	**100**	*eP*	**P**	**22 51 45.9**	**-1.6**
PTGA	**Pitinga**	**22.43**	**29**	P	**P**	**22 51 47.9**	**-1.9**
	comp=Z,53nm,0.7s,baz=209,slow=11,SNR=65						
PTGA	**Pitinga**	**22.43**	**29**	P	**P**	**22 51 48.9**	**-0.9**
PTGA				IAmb	IAmb	22 51 52.2	
	comp=Z,93nm,1.1s						
PTGA	**Pitinga**	**22.43**	**29**	*eP*	**P**	**22 51 49.6**	**-0.2**
GCUF	**Volcan Galeras**	**22.68**	**343**	*eP*	**P**	**22 51 57.6**	**+4.5**
PEXB	**Peixe**	**23.14**	**72**	*eP*	**P**	**22 51 55.7**	**-1.6**
GARC	**Garzon, Huila**	**23.17**	**348**	*eP*	**P**	**22 51 57.0**	**-0.8**
SOTA	**Rioblanco**	**23.36**	**345**	*eP*	**P**	**22 52 03.4**	**+3.4**
BBAC	**Balboa, Cauca**	**23.42**	**343**	*eP*	**P**	**22 52 02.5**	**+2.3**
PARB	**Paraibuna**	**23.45**	**101**	*eP*	**P**	**22 51 59.7**	**-0.7**
PCON	**Cinco Dias**	**23.50**	**346**	*eP*	**P**	**22 52 04.4**	**+3.0**
BETC	**Betania**	**23.64**	**348**	*eP*	**P**	**22 52 05.3**	**+3.1**
POPC	**Popayan, Colom**	**23.77**	**345**	*eP*	**P**	**22 52 05.3**	**+1.6**
MARP	**Paez Belalcaza**	**23.90**	**347**	*eP*	P	22 52 12.3	+7.3
BSCB	**Bom Sucesso**	**24.28**	**95**	*eP*	**P**	**22 52 07.2**	**-1.1**
ESAR	**Angra dos Reis**	**24.53**	**100**	*eP*	**P**	**22 52 08.6**	**-1.9**
MALB	**Monte Alegre**	**24.66**	**43**	*eP*	**P**	**22 52 11.1**	**-0.6**
PTGC	**Puerto Gaitan,**	**24.73**	**357**	*eP*	**P**	**22 52 13.3**	**+0.9**
VILC	**Villavicencio,**	**24.78**	**353**	*eP*	**P**	**22 52 14.4**	**+1.6**
ORTC	**Ortega, Tolima**	**24.80**	**349**	*eP*	**P**	**22 52 15.3**	**+2.3**
PRPB	**Paraguapebas**	**24.89**	**58**	*eP*	**P**	**22 52 13.3**	**-0.6**
MAN01	**Angra dos Reis**	**24.97**	**100**	*eP*	**P**	**22 52 14.1**	**-0.4**
BOAV	**Boa Vista**	**25.01**	**25**	*eP*	**P**	**22 52 15.3**	**+0.5**
YOTC	**Yotoco, Valle**	**25.09**	**347**	*eP*	**P**	**22 52 19.4**	**+3.7**
SMTB

CBCY IAmb IAmb 22 54 37.5
comp=Z,44nm,1.2s
PMSA Palmer Station 44.32 176 P **P** **22 55 02.3 +1.9**
comp=Z,40nm,0.8s,baz=22,slow=5.4,SNR=1.6
PMSA Palmer Station 44.32 176 P **P** **22 55 01.8 +1.4**
SOR Soroa 44.81 344 P **P** **22 55 05.1 +0.4**
SOR pmax pmax
comp=Z,25nm,1.1s
SOR Soroa 44.81 344 P **P** **22 55 05.1 +0.4**
SOR IAmb IAmb 22 55 07.0
comp=Z,25nm,1.1s
TLIG Tlapa 46.76 322 P **P** **22 55 21.5 +1.1**
DWPF Disney Wildern 49.56 348 P 22 55 42.4
baz=167
ZAIG Zacatecas 53.16 323 P **P** **22 56 10.4 +1.2**
BRAL Brewton 53.85 343 P 22 56 13.9
baz=161
X60A Albert Glenn T 55.35 353 P 22 56 24.6
baz=172
LRAL Lakeview Retre 55.59 343 P 22 56 26.7
baz=162
342A Flagon Creek P 55.72 338 P **P** **22 56 28.5 +1.2**
HKT Hockley 55.81 334‖ *e*P **P** **22 56 30.1 +2.3**
HKT pmax pmax
comp=Z,12nm,1.8s
HKT Hockley 55.81 334 P **P** **22 56 28.3 +0.4**
833A Chaparral WMA, 56.00 329 P 22 56 30.4
baz=147
W56A Indian Trail 56.26 350 P 22 56 31.5
baz=169
KMSC Kings Mountain 56.39 350 P 22 56 32.7
baz=168
V59A Middlesex 56.55 353 P 22 56 33.9
baz=172
V57A Coltrane Farms 56.88 351 P 22 56 36.0
baz=170
V56A Mocksville 56.91 351 P 22 56 36.3
baz=169
U61A Possum Corner 56.93 355 P 22 56 36.1
baz=174
U60A Pendleton 57.13 354 P 22 56 37.9
baz=173
U58A Oxford 57.21 353 P 22 56 38.8
baz=171
U57A Blanch 57.35 352 P 22 56 39.8
baz=170
SWET Sewanee 57.40 345 P **P** **22 56 39.6 +0.4**
SWET IAmb IAmb 22 56 40.2
comp=Z,18nm,1.0s
U56A King 57.42 351 P 22 56 40.7
baz=169
Z41A Richland Creek 57.59 338 P 22 56 41.5
baz=156
OXF Oxford 57.66 342 P 22 56 41.4
baz=159
T59A Double "B" Far 57.67 354 P **P** **22 56 42.0 +0.9**
T58A Grand View Acr 57.76 353 P 22 56 42.7
baz=171,SNR=6.2
T56A Rocky Mt 58.03 351 P 22 56 44.1
baz=170
WLAR White Oak Lake 58.09 338 P **P** **22 56 45.6 +1.6**
S58A Poland Farm, P 58.36 353 P 22 56 46.8
baz=172
S56A Natural Bridge 58.61 352 P 22 56 47.6
baz=170
S57A Dark Hollow, R 58.61 352 P 22 56 48.6
baz=171
R58B Mineral 58.69 353 P 22 56 49.3
baz=172,SNR=7.0
R58B Mineral 58.69 353 P **P** **22 56 48.9 +0.8**
WVT Waverly 58.74 344 P 22 56 48.1
baz=161
WVT Waverly 58.74 344 P **P** **22 56 47.8 -0.7**
WVT pmax pmax
comp=Z,15nm,1.1s
WVT Waverly 58.74 344 P **P** **22 56 47.8 -0.7**
WVT IAmb IAmb 22 56 49.1
comp=Z,15nm,1.1s
R59A King George, V 58.84 354 P 22 56 50.5
baz=173
CBN Corbin Frederi 58.87 354 P 22 56 50.1
baz=173
TXAR Lajitas Array 58.96 326 P **P** **22 56 50.3 0.0**
comp=Z,2.1nm,0.9s,baz=148,slow=7.8,SNR=15
TXAR LR LR 23 19 40.4
comp=Z,155nm,19.7s,baz=0.0,slow=33
TXAR Lajitas Array 58.96 326 P **P** **22 56 51.3 +0.9**
TXAR Lajitas Array 58.96 326 P **P** **22 56 51.3 +0.9**
TX32 Lajitas Array 58.96 326 P **P** **22 56 51.4 +1.0**
S54A Dingess, Beckl 58.98 350 P 22 56 50.6
baz=168
MIAR Mount Ida 59.03 338 P 22 56 51.4
baz=155
MIAR Mount Ida 59.03 338 P **P** **22 56 51.4 +0.8**
MIAR pmax pmax
comp=Z,26nm,1.2s
MIAR Mount Ida 59.03 338 P **P** **22 56 51.4 +0.8**
MIAR IAmb IAmb 22 56 52.5
comp=Z,26nm,1.2s
R58A Rapidan 59.03 353 P 22 56 51.4
baz=172
R57A Stanardsville 59.09 353 P 22 56 52.3
baz=172,SNR=7.4
W41B Gary Mavity, V 59.15 340 P 22 56 51.9
baz=157
RKT Rikitea 59.21 255 *e*S **S** **23 04 56.9 -2.3**
comp=Z,840nm,26.0s
RKT *e*LR LR 23 14 18.9
comp=Z,1µm,28.5s
WHAR Wooly Hollow 59.27 340 P **P** **22 56 52.8 +0.6**
WHAR IAmb IAmb 22 56 53.8
comp=Z,16nm,1.1s
R55A Marlinton 59.28 351 P 22 56 53.2
baz=170
R54A Victor 59.30 351 P 22 56 52.6
baz=169
T47A Sharon Grove 59.37 345 P **P** **22 56 53.0 +0.1**
Q58A Fox Den Farm, 59.63 354 P 22 56 55.3
baz=172
W39A Magazine 59.69 338 P 22 56 56.3
baz=155
W39A Magazine 59.69 338 P **P** **22 56 56.2 +1.1**
W39A IAmb IAmb 22 56 57.6
comp=Z,15nm,1.0s
X37A Clayton 59.72 337 P **P** **22 56 56.3 +0.9**
X37A IAmb IAmb 22 57 15.8
comp=Z,32nm,1.3s
ABTX Abilene, Hawle 59.75 332 P 22 56 56.4
baz=149
ABTX Abilene, Hawle 59.75 332 P **P** **22 56 56.6 +0.9**
ABTX IAmb IAmb 22 57 20.6
comp=Z,15nm,1.2s
Q57A Strasburg 59.80 353 P 22 56 57.1
baz=172,SNR=9.3
BELA Belgrano 2 59.83 172 P **P** **22 56 55.6 -0.1**
BELA IAmb IAmb 22 56 58.8
comp=Z,16nm,1.3s
Q56A Snyder Ridge, 59.90 352 P 22 56 57.7
baz=171,SNR=7.6
Q56A Snyder Ridge, 59.90 352 P **P** **22 56 57.6 +1.0**
Q53A Leroy 60.05 350 P 22 56 57.5
baz=168
P59A Jarrettsville 60.18 355 P 22 56 59.2
baz=174,SNR=5.5
P57A Homestead Farm 60.20 354 P 22 56 59.6
baz=172,SNR=5.6
P56A Dayton Farm, R 60.32 353 P 22 57 00.7
baz=171,SNR=5.3
P60A Greenville 60.32 356 P 22 56 60.0
baz=175
WCI Wyandotte Cave 60.36 346 P 22 56 59.3
baz=163
U40A Yellville 60.43 340 P 22 56 60.0
baz=156
U40A Yellville 60.43 340 P **P** **22 57 00.7 +0.4**
U40A IAmb IAmb 22 57 01.7
comp=Z,12nm,0.9s
O61A Allentown 60.53 357 P 22 57 01.1
baz=176
MVL Millersville 60.56 355 P **P** **22 57 02.0 +1.0**
MVL IAmb IAmb 22 57 03.8
comp=Z,13nm,1.0s
MCWV Mont Chateau 60.59 352 P 22 57 01.9
baz=170
O58A Lewisberry 60.73 355 P 22 57 03.1
baz=173
O60A Telford 60.81 356 P 22 57 03.4
baz=175
O57A Amberson 60.89 354 P 22 57 04.0
baz=173,SNR=6.7
P52A Corning 60.91 350 P 22 57 04.0
baz=168
O56A Blue Knob Stat 61.04 353 P 22 57 05.1
baz=172,SNR=8.6
O56A Blue Knob Stat 61.04 353 P **P** **22 57 05.6 +1.2**
O56A IAmb IAmb 22 57 06.9
comp=Z,23nm,1.0s
TUL1 Leonard 61.05 337 P 22 57 05.2
baz=153
N61A South Mountain 61.18 357 P 22 57 06.7
baz=176
FVM French Village 61.19 342 P **P** **22 57 05.7 +0.3**
FVM pmax pmax
comp=Z,25nm,1.1s
FVM French Village 61.19 342 P **P** **22 57 05.7 +0.3**
FVM IAmb IAmb 22 57 06.7
comp=Z,25nm,1.1s
P49A Miami Univ. Ec 61.28 348 P 22 57 06.1
baz=165
N60A Cedar Hill Far 61.34 356 P 22 57 06.9
baz=175
N57A Milroy 61.42 354 P 22 57 07.5
baz=173,SNR=7.1
N58A Sunbury 61.43 355 P 22 57 08.0
VNA3 Neumayer Olymp 61.43 161 P **P** **22 57 08.4 +1.7**
N59A State Game Lan 61.43 356 P 22 57 08.0
baz=175
CCM Cathedral Cave 61.49 342 P 22 57 07.8
baz=158
CCM Cathedral Cave 61.49 342 P **P** **22 57 07.0 -0.4**
CCM pmax pmax
comp=Z,15nm,1.1s
CCM Cathedral Cave 61.49 342 P **P** **22 57 07.0 -0.4**
CCM IAmb IAmb 22 57 09.2
comp=Z,16nm,1.1s
WSPT Westport, CT 61.55 358 P **P** **22 57 08.3 +0.6**
ACSO Alum Creek Sta 61.63 349 P 22 57 09.0
baz=167,SNR=6.7
ACSO Alum Creek Sta 61.63 349 P **P** **22 57 08.4 +0.1**
ACSO IAmb IAmb 22 57 09.3
comp=Z,25nm,1.1s
N56A West Decatur 61.65 354 P 22 57 09.1
baz=172,SNR=5.2
VNA1 Neumayer--Stat 61.66 160 P **P** **22 57 09.7 +1.6**
M61A Granite Spring 61.71 357 P 22 57 10.4
baz=177
MNTX Cornudas Mount 61.74 327 P 22 57 10.4
baz=143
MNTX Cornudas Mount 61.74 327 P **P** **22 57 09.9 +0.6**
M63A Gales Ferry 61.75 359 P 22 57 09.9
baz=179
M60A Port Jervis 61.77 357 P 22 57 09.3
baz=176
S39A Bolivar 61.80 340 P **P** **22 57 10.1 +0.6**
S39A IAmb IAmb 22 57 11.0
comp=Z,20nm,1.1s
M62A Hamden 61.81 358 P 22 57 10.4
baz=178
M64A Tiverton 61.89 360 P 22 57 10.9
baz=180
N54A Moraine State 61.90 352 P 22 57 10.9
baz=170
N54A Moraine State 61.90 352 P **P** **22 57 10.7 +0.6**
N54A IAmb IAmb 22 57 12.2
comp=Z,21nm,1.1s
M58A Price's Panora 61.93 355 P 22 57 10.9
baz=174,SNR=7.9
M57A Sunshine Farm, 61.95 355 P 22 57 11.8
baz=173,SNR=6.8
VNA2 Neumayer--Watz 62.02 161 P **P** **22 57 12.3 +1.8**
baz=288,slow=7.2
M59A Waymart 62.03 356 P 22 57 11.8
baz=175,SNR=6.6
M56A Emporium 62.20 354 P 22 57 12.7
baz=172,SNR=9.3
L63A North Scituate 62.20 359 P 22 57 12.8
baz=179,SNR=10
L63A North Scituate 62.20 359 P **P** **22 57 12.8 +0.8**
L64A Middleborough 62.27 360 P 22 57 13.1
baz=180
MSTX Muleshoe 62.30 330 P 22 57 13.2
baz=146
M54A Oil Creek Stat 62.39 352 P 22 57 13.9
baz=171,SNR=5.9
L60A Shokan 62.41 357 P 22 57 14.1
baz=176
M53A WI Miller and 62.46 352 P 22 57 13.9
baz=170
N49A Columbus Grove 62.52 349 P **P** **22 57 14.4 +0.2**
L58A Harry Jones Me 62.56 356 P 22 57 15.5
baz=175,SNR=6.5
L61A Hillsdale 1, H 62.58 358 P 22 57 15.3
baz=177
L57A Andrews Acres 62.59 355 P 22 57 14.8
baz=174
SFIN Lafayette 62.60 346 P 22 57 14.7
baz=163
L59A Walton 62.65 356 P 22 57 15.9
baz=176,SNR=7.8
L59A Walton 62.65 356 P **P** **22 57 16.0 +0.9**
L59A IAmb IAmb 22 57 17.6
comp=Z,19nm,0.9s
BINY Binghamton 62.72 356 P 22 57 16.3
baz=174,SNR=5.8
N47A Urbana 62.77 347 P **P** **22 57 15.5 -0.4**
L56A Greenwood 62.79 354 P 22 57 17.1
baz=173,SNR=5.8
L56A Greenwood 62.79 354 P **P** **22 57 16.9 +0.9**
L56A IAmb IAmb 22 57 18.2
comp=Z,18nm,1.0s
L61B Northampton 62.81 358 P 22 57 16.7
baz=178,SNR=5.4
HRV Adam Dziewonsk 62.84 359 P 22 57 17.0
baz=179
HRV Adam Dziewonsk 62.85 359 P **P** **22 57 17.6 +1.3**
HRV pmax pmax
comp=Z,32nm,1.1s
HRV Adam Dziewonsk 62.85 359 P **P** **22 57 17.6 +1.3**
L53A Girard 62.91 352 P 22 57 17.3
baz=170,SNR=5.0
K63A Dunstable 63.03 359 P 22 57 18.7
baz=179
ERPA Erie 63.03 352 P 22 57 18.6
baz=170
K61A Williamstown 63.05 358 P 22 57 19.1
baz=177
P40A Paris 63.09 342 P **P** **22 57 18.4 +0.3**
P40A IAmb IAmb 22 57 19.2
comp=Z,23nm,1.2s
WVNY West Valley, N 63.16 353 P **P** **22 57 19.4 +0.9**
K59A Cooperstown 63.22 357 P 22 57 19.8
baz=176,SNR=11
K58A Earlville 63.26 356 P 22 57 20.2
baz=175,SNR=7.3
K57A Scipio Center 63.29 355 P 22 57 19.8
baz=174
HDIL Hopedale 63.29 344 P 22 57 19.5
baz=161
K56A Middlesex 63.32 355 P 22 57 20.1
baz=173
J62A Henniker 63.57 359 P 22 57 22.2
baz=179
J63A Strafford 63.61 360 P 22 57 22.8
baz=180
J60A Lant Hill Farm 63.62 358 P 22 57 22.3
baz=177
SNAA Sanae 63.64 161 P **P** **22 57 22.6 +1.2**
SNAA Sanae 63.64 161‖ *e*P **P** **22 57 22.7 +1.2**
SNAA pmax pmax
comp=Z,41nm,1.7s
SNAA Sanae 63.64 161 P **P** **22 57 21.6 +0.2**
121A Cookes Peak, D 63.65 325 P 22 57 23.3
baz=141
J61A Chester 63.70 359 P 22 57 23.5
baz=178
J56A Wolcott 63.86 355 P 22 57 23.6
baz=174,SNR=8.5
J59A Piesco 63.89 357 P 22 57 24.0
baz=176,SNR=8.3
J59A Piesco 63.89 357 P **P** **22 57 24.6 +1.2**
J57A Williamstown 63.92 356 P 22 57 23.7
baz=175,SNR=5.5
J57A Williamstown 63.93 356 P **P** **22 57 24.2 +0.7**
J57A IAmb IAmb 22 57 25.3
comp=Z,13nm,1.0s
I58A Old Forge 64.14 357 P 22 57 25.6
baz=176,SNR=5.9
I62A Tamworth 64.21 360 P 22 57 26.0
baz=179
I60A Shoreham 64.22 358 P 22 57 26.3
baz=177,SNR=7.0
I63A Otisfield 64.38 0 P 22 57 27.4
baz=180
I57A Carthage 64.43 356 P 22 57 27.4
baz=175
LBNH Lisbon 64.58 359 P 22 57 29.4
baz=179,SNR=6.1
I51A Listowel 64.83 352 P 22 57 29.6
baz=169,SNR=5.9
H58A Gabriels 64.83 357 P 22 57 30.0
baz=176,SNR=8.1
ANMO Albuquerque 64.86 328 P 22 57 30.6
baz=143
ANMO Albuquerque 64.86 328‖ *e*P **P** **22 57 32.2 +2.1**
ANMO pmax pmax
comp=Z,3.0nm,1.7s
ANMO Albuquerque 64.86 328 P **P** **22 57 30.6 +0.5**
H61A Lyndonville 64.88 359 P 22 57 30.8
baz=179
H62A Milan 64.91 360 P 22 57 30.7
baz=180
H57A Richville 64.93 356 P 22 57 30.3
baz=175,SNR=7.1
H64A Troy 64.99 1 P 22 57 31.0
baz=182
H63A New Sharon 65.00 1 P 22 57 32.0
baz=181
H59A Cadyville 65.03 358 P 22 57 31.1
baz=177,SNR=8.5
LONY Lake Ozonia 65.05 357 P 22 57 30.9
baz=176
H65A Eastbrook 65.07 2 P 22 57 30.7
baz=183
CBKS Cedar Bluff 65.09 335 P 22 57 30.9
baz=150
H66A Whiting 65.19 3 P 22 57 31.1
baz=184
L40A Anamosa 65.21 343 P **P** **22 57 32.4 +0.4**
L40A IAmb IAmb 22 57 33.5
comp=Z,20nm,1.2s
FRNY Flat Rock 65.22 358 P **P** **22 57 32.0 0.0**
FRNY IAmb IAmb 22 57 34.3
comp=Z,20nm,1.1s
H53A Bobcaygeon 65.30 354 P 22 57 32.8
baz=172,SNR=7.1
G60A Masonville 65.45 359 P 22 57 34.3
baz=178
G57A Newington 65.55 357 P 22 57 35.0
baz=176
G58A Ormstown 65.55 357 P 22 57 34.9
baz=177
G62A West of Eustis 65.55 0 P 22 57 35.0
baz=180,SNR=8.3
G62A West of Eustis 65.55 0 P **P** **22 57 35.0 +0.9**
G62A IAmb IAmb 22 57 37.4
comp=Z,24nm,1.1s
G65A Princeton 65.60 2 P 22 57 35.1
baz=183
G64A Maxfield 65.61 2 P 22 57 35.4
baz=182
PKME Peaks-Kenny Pk 65.61 1 P 22 57 35.1
baz=182
PKME Peaks-Kenny Pk 65.61 1 P **P** **22 57 34.2 -0.2**
PKME IAmb IAmb 22 57 36.7
comp=Z,23nm,1.2s
G61A St-Isidore-de- 65.62 359 P 22 57 35.9
baz=179,SNR=5.1
JFWS Jewell Farm 65.75 344 P 22 57 35.8
baz=160
214A Organ Pipe Nat 66.02 321 P 22 57 38.9
baz=137
214A Organ Pipe Nat 66.02 321 P **P** **22 57 39.5 +2.0**
G54A Lake Saint Pet 66.07 354 P 22 57 38.1
baz=172
F64A Sherman 66.23 2 P 22 57 39.1
baz=182
F64A Sherman 66.23 2 **P** **22 57 39.0 +0.5**
F61A St Evariste 66.31 360 P 22 57 39.7
baz=180
F60A Warwick 66.31 359 P 22 57 39.2
baz=179
I42A Draeger Farm, 66.35 346 P **P** **22 57 39.6 +0.4**
I42A IAmb IAmb 22 57 40.5
comp=Z,22nm,1.3s
LMN Caledonia Moun 66.41 5 P **P** **22 57 39.6 +0.1**
LMN IAmb IAmb 22 57 41.2
comp=Z,13nm,1.0s
ALGO Algonquin Park 66.62 354 P 22 57 41.5
baz=173
TRQ Mont Tremblant 66.65 357 P **P** **22 57 41.7 +0.5**
E60A Ste Agathe de 66.70 359 P 22 57 42.4
baz=179
E58A La Victoria 66.74 358 P 22 57 42.3
baz=178
BGNE Belgrade 66.77 338 P 22 57 42.3
baz=152
E63A Oxbow 66.79 2 P 22 57 42.6
baz=182
E64A Bridgewater 66.80 2 P 22 57 42.9
baz=183
E56A St. Veronique 66.99 357 P 22 57 43.7
baz=176,SNR=6.5
D60A Saint Jean D'O 67.25 360 P 22 57 46.2
baz=180
D63A Stockholm 67.41 2 P 22 57 46.9
baz=183
D62A Allapoint, All 67.43 1 P **P** **22 57 46.5 +0.4**
D62A IAmb IAmb 22 57 48.9
comp=Z,14nm,1.0s
D58A Chemin du LacG 67.46 358 P 22 57 47.1
baz=178,SNR=7.2
D56A ZEC Mazanza, M 67.48 357 P 22 57 46.8
baz=176
D55A Sainte-Anne-du 67.49 357 P 22 57 46.7
baz=175,SNR=5.2
D61A St Aubert, Com 67.54 0 P 22 57 48.0
baz=181
MVCO Mesa Verde 67.66 328 P 22 57 49.1
baz=142
LATQ La Tuque 67.74 359 P 22 57 49.1
baz=178
BATG Bathurst New B 67.74 3 P **P** **22 57 48.8 +0.8**
BATG IAmb IAmb 22 57 50.1
comp=Z,14nm,1.1s
WUAZ Wupatki 67.84 325 P 22 57 50.4
baz=139
NVL N'lazarevskaya 68.23 159 *e*P P 22 57 45.5 -5.4
NVL pmax pmax
comp=Z,35nm,1.3s
ECSD EROS Data Cent 68.33 340 P 22 57 51.8
baz=154
ECSD EROS Data Cent 68.33 340 P **P** **22 57 52.4 +0.6**
ECSD IAmb IAmb 22 57 53.4
comp=Z,21nm,1.4s
IKP In-Ko-Pah, Jac 68.47 320 P 22 57 53.9
baz=134
PDMCI Parker Dam,Lak 68.49 322 P 22 57 54.9
baz=136
SMCO Snowmass 68.49 330 P **P** **22 57 54.3 +0.9**
PV13 Radium Mtn., P 68.56 329 P **P** **22 57 54.8 +1.1**
SPMN Marine on St. 68.57 343 P 22 57 53.4
baz=158
BC3 Big Chuckawall 68.79 321 P 22 57 57.5
baz=135
IRM Iron Mountain 68.96 322 P 22 57 58.2
baz=136
TPFO Pinon Flats 69.35 320 P 22 58 00.7
baz=134
BELC Belle Mtn. Jos 69.35 321 P 22 58 00.6
baz=135
N23A Red Feather La 69.42 332 P 22 58 00.6
baz=145
QSPA South Pole Qui 69.53 180 P **P** **22 58 00.6 +1.3**
QSPA IAmb IAmb 22 58 02.6
comp=Z,23nm,1.2s
GMRC Granite Mounta 69.71 322 P 22 58 02.0
baz=135
LIC Lamto 69.82 75 *e*P **P** **22 57 59.3 -2.4**
comp=Z,151nm,2.4s
O20A White River Ci 69.84 330 P 22 58 03.1

	baz=143								
TIC	**Toumodi**	**70.00**	**75**	*e*P		**P**		**22 58 01.9**	**-1.0**
KIC	**Kosan Boka**	**70.14**	**75**	*e*P		**P**		**22 58 02.7**	**-1.0**
	comp=Z,22nm,0.8s								
DBIC	**Dimbokro**	**70.16**	**75**	P		**P**		**22 58 03.4**	**-0.4**
	comp=Z,14nm,0.9s,baz=213,slow=6.1,SNR=8.1								
DBIC				LR		LR		23 27 28.2	
	comp=Z,721nm,19.8s,baz=220,slow=35								
DBIC	**Dimbokro**	**70.16**	**75**	P		**P**		**22 58 03.1**	**-0.7**
DBIC				pmax		pmax			
	comp=Z,21nm,0.9s								
DBIC	**Dimbokro**	**70.16**	**75**	P		**P**		**22 58 03.1**	**-0.7**
DBIC				IAmb		IAmb		22 58 40.3	
	comp=Z,21nm,0.9s								
MATQ	**Matagami**	**70.36**	**355**	P				22 58 05.2	
	baz=173								
DRLN	**Deer Lake**	**70.59**	**9**	P		**P**		**22 58 05.9**	**+0.3**
EYMN	**Ely**	**70.78**	**345**	P				22 58 07.8	
	baz=160								
EDW2	**Edwards Air Fo**	**71.15**	**320**	P				22 58 11.3	
	baz=134								
FURC	**Furnace Creek,**	**71.58**	**322**	P				22 58 14.5	
	baz=135								
MPMC	**Manual Prospec**	**71.66**	**322**	P				22 58 14.6	
	baz=134								
ISA	**Isabella, Lake**	**71.97**	**321**	P				22 58 17.2	
	baz=133								
DUG	**Dugway, Tooele**	**72.11**	**327**	P				22 58 17.1	
	baz=139								
TBI	**Tubuai**	**72.14**	**251**	*e*S		**S**		**23 07 32.0**	**-5.2**
	comp=Z,254nm,28.5s								
TBI	**Tubuai**	**72.14**	**251**	*e*LR		LR		23 20 19.6	
	comp=Z,596nm,28.0s,baz=99								
R11A	**Troy Canyon, C**	**72.21**	**324**	P				22 58 18.2	
	baz=136								
AGMN	**Agassiz Nation**	**72.23**	**343**	P				22 58 16.5	
	baz=155								
GRAC	**Grapevine Rang**	**72.24**	**322**	P				22 58 18.7	
	baz=135								
CWC	**Cottonwood Cre**	**72.27**	**322**	P				22 58 18.6	
	baz=134								
PDAR	**Pinedale Array**	**72.53**	**331**	P		**P**		**22 58 18.1**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=140,slow=9.7,SNR=5.1								
PDAR				LR		LR		23 32 53.7	
	comp=Z,85nm,18.8s,baz=125,slow=38								
PDAR	**Pinedale Array**	**72.53**	**331**	P		**P**		**22 58 18.5**	**+0.7**
MDND	**Maddock**	**72.94**	**340**	P				22 58 20.9	
	baz=152								
NVAR	**Mina Array Bea**	**73.78**	**323**	P		**P**		**22 58 27.5**	**+2.2**
	comp=Z,1.8nm,0.9s,baz=131,slow=5.8,SNR=7.1								
NVAR				LR		LR		23 29 10.7	
	comp=Z,91nm,18.1s,baz=107,slow=34								
NVAR	**Mina Array Bea**	**73.78**	**323**	P		**P**		**22 58 26.8**	**+1.5**
PPT2	**Papeete2**	**73.83**	**257**	*e*S		**SKiKP**		**23 07 50.5**	**-3.8**
	comp=Z,267nm,24.5s								
PPT2	**Papeete2**	**73.83**	**257**	*e*LR		LR		23 21 09.6	
	comp=Z,561nm,24.5s,baz=118								
PPT	**Papeete**	**73.84**	**257**	LR		LR		23 23 16.2	
	comp=Z,123nm,21.3s,baz=122,slow=30								
ULM	**Lac du Bonnet**	**74.01**	**344**	P		**P**		**22 58 26.4**	**+0.3**
	comp=Z,4.2nm,0.9s,baz=166,slow=5.4,SNR=6.1								
ULM				LR		LR		23 33 12.4	
	comp=Z,220nm,20.8s,baz=142,slow=38								
ULM	**Lac du Bonnet**	**74.01**	**344**	||*i*P	**P**		**22 58 26.1**	**+0.1**
ULM	**Lac du Bonnet**	**74.01**	**344**	P		**P**		**22 58 26.3**	**+0.3**
KVN	**Kaiserville**	**74.09**	**323**	P		**P**		**22 58 28.5**	**+1.4**
KVN				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KVN	**Kaiserville**	**74.09**	**323**	P		**P**		**22 58 28.5**	**+1.4**
RLMT	**Red Lodge**	**74.27**	**333**	P				22 58 29.6	
	baz=143								
RLMT	**Red Lodge**	**74.27**	**333**	P		**P**		**22 58 28.7**	**+0.7**
KOWA	**Kowa**	**74.28**	**68**	P		**P**		**22 58 28.0**	**-0.4**
KOWA				IAmb		IAmb		22 59 00.0	
	comp=Z,25nm,1.5s								
YNE	**Yellowstone No**	**74.50**	**332**	P		**P**		**22 58 30.7**	**+1.3**
YNE				IAmb		IAmb		22 58 45.9	
	comp=Z,14nm,0.9s								
DGMT	**Dagmar**	**75.03**	**338**	P				22 58 33.6	
	baz=148								
HLID	**Hailey**	**75.42**	**329**	P				22 58 36.7	
	baz=138								
BOZ	**Bozeman (W)**	**75.67**	**332**	P				22 58 37.7	
	baz=141								
VNDA	**Vanda**	**77.38**	**190**	P		**P**		**22 58 48.2**	**+3.1**
	comp=Z,3.2nm,1.0s,baz=101,slow=0.5,SNR=9.4								
VNDA	**Vanda**	**77.38**	**190**	P		**P**		**22 58 46.3**	**+1.2**
VNDA				pmax		pmax			
	comp=Z,7.0nm,1.2s								
VNDA	**Vanda**	**77.38**	**190**	P		**P**		**22 58 46.3**	**+1.2**
MSO	**Missoula**	**77.65**	**331**	P				22 58 48.8	
	baz=139								
N02D	**Trinity Center**	**77.99**	**322**	P				22 58 51.4	
	baz=131								
L04D	**Klamath Falls**	**78.59**	**324**	P				22 58 53.0	
	baz=132								
TOA0	**Torodi Ar. Sit**	**78.71**	**71**	P		**P**		**22 58 52.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**78.71**	**71**	P		**P**		**22 58 52.7**	**-0.9**
	comp=Z,29nm,0.9s,baz=254,slow=5.2,SNR=66								
TORD				LR		LR		23 33 04.2	
	comp=Z,1μm,19.1s,baz=240,slow=35								
TORD	**Torodi Ar. Bea**	**78.71**	**71**	P		**P**		**22 58 52.4**	**-1.1**
TORD				IAmb		IAmb		22 58 54.0	
	comp=Z,25nm,0.9s								
J05D	**Fort Rock, OR**	**78.72**	**325**	P				22 58 55.3	
	baz=133								
FFC	**Flin Flon**	**79.69**	**342**	P		**P**		**22 58 58.8**	**+0.8**
FFC				pmax		pmax			
	comp=Z,12nm,1.4s								
FFC	**Flin Flon**	**79.69**	**342**	P		**P**		**22 58 58.8**	**+0.8**
SUR	**Sutherland**	**80.49**	**121**	P		**P**		**22 59 02.9**	**-0.4**
FCC	**Fort Churchill**	**81.44**	**348**	P		**P**		**22 59 08.2**	**+1.0**
FCC				pmax		pmax			
	comp=Z,13nm,1.2s								
FCC	**Fort Churchill**	**81.44**	**348**	P		**P**		**22 59 08.2**	**+1.0**
TSUM	**Tsumeb**	**81.93**	**107**	P		**P**		**22 59 11.9**	**+0.9**
TSUM				IAmb		IAmb		22 59 13.3	
	comp=Z,24nm,1.0s								
B05A	**Bryant**	**82.53**	**328**	P				22 59 14.1	
	baz=133								
BOSA	**Boshof**	**85.36**	**119**	P		**P**		**22 59 28.6**	**+0.1**
	comp=Z,8.5nm,0.9s,baz=249,slow=5.4,SNR=8.8								
BOSA				LR		LR		23 34 04.0	
	comp=Z,370nm,20.2s,baz=216,slow=33								
BOSA	**Boshof**	**85.36**	**119**	P		**P**		**22 59 28.7**	**+0.1**
BOSA				IAmb		IAmb		22 59 31.2	
	comp=Z,9.5nm,0.9s								
MAW	**Mawson**	**85.62**	**164**	LR		LR		23 37 59.9	
	comp=Z,200nm,18.7s,baz=236,slow=36								
TAM	**Tamanrasset**	**85.99**	**64**	P		**P**		**22 59 32.4**	**+0.7**
TAM				pmax		pmax			
	comp=Z,26nm,1.2s								
TAM	**Tamanrasset**	**85.99**	**64**	P		**P**		**22 59 32.4**	**+0.7**
TAM				IAmb		IAmb		22 59 33.9	
	comp=Z,26nm,1.2s								
ESDC	**Sonseca Array**	**86.45**	**45**	P		**P**		**22 59 33.5**	**+0.1**
	comp=Z,3.5nm,1.1s,baz=268,slow=4.5,SNR=6.5								
ESDC				LR		LR		23 34 08.9	
	comp=Z,260nm,22.0s,baz=230,slow=33								
ESDC	**Sonseca Array**	**86.45**	**45**	P		**P**		**22 59 33.4**	**-0.1**
ESDC				IAmb		IAmb		22 59 35.5	
	comp=Z,21nm,1.4s								
LBTB	**Lobatse**	**86.94**	**115**	P		**P**		**22 59 36.5**	**+0.2**
LBTB				pmax		pmax			
	comp=Z,41nm,2.0s								
LBTB	**Lobatse**	**86.94**	**115**	P		**P**		**22 59 36.5**	**+0.2**
YKA	**Yellowknife Ar**	**89.83**	**341**	P		**P**		**22 59 49.7**	**+0.8**
	comp=Z,5.5nm,0.9s,baz=135,slow=5.3,SNR=48								
YKA				LR		LR		23 42 38.5	
	comp=Z,182nm,21.8s,baz=0.0,slow=37								
KEST	**Kesra**	**94.18**	**53**	LR		LR		23 42 47.1	
	comp=Z,421nm,19.9s,baz=229,slow=36								
AFI	**Afiamalu**	**95.17**	**253**	LR		LR		23 32 46.8	
	comp=Z,130nm,20.7s,baz=102,slow=29								
CLL	**Collm**	**102.07**	**40**	*e*SKSac		**SKSac**		**23 11 26.0**	**+3.0**
CLL				*e*Sdif		**Sdif**		**23 12 36.0**	**+10**
CLL				*e*PS		PS		23 14 09.0	+6.7
CLL				*e*PPS		PPS		23 14 56.0	
CLL				*e*SSS		SSS		23 23 30.0	
CLL				Lm		MLR		23 43 00.0	
	comp=Z,300nm,20.8s								
HDA	**Harding Lake**	**102.64**	**334**	P				23 00 47.3	
	baz=111								
HDA				P				23 00 47.3	
	baz=111								
TRF	**Thorofare Moun**	**103.70**	**333**	P				23 00 52.4	
	baz=109								
BPAW	**Bear Paw Mtn.**	**104.20**	**333**	P				23 00 54.5	
	baz=108								
TOLK	**Toolik Lake Re**	**105.05**	**338**	P				23 05 13.0	
	baz=108								
DZM	**Mont Dzumac**	**109.85**	**236**	*e*LR		LR		23 37 42.5	
	comp=Z,291nm,23.3s								
AKBB	**Malin Array Si**	**111.95**	**42**	||*i*PKIKP	**PKiKP**		**23 05 26.7**	**+1.1**
KLMR	**Klimovskoe**	**117.69**	**31**	*e*PKIKP		**PKiKP**		**23 05 34.4**	**-1.8**
KLMR				pmax		pmax			
	comp=Z,11nm,1.3s								
KLMR	**Klimovskoe**	**117.69**	**31**	*e*PKPdf		**PKPdf**		**23 05 34.5**	**-1.8**
KLMR				AMP				23 05 38.6	
	comp=Z,11nm,1.3s								
KIV	**Kislovodsk**	**120.77**	**50**	*i* PKIKP		**PKPdf**		**23 05 42.0**	**-0.9**
KIV				pmax		pmax			
	comp=Z,9.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,199nm,22.0s								
NEY	**Neytrino**	**120.80**	**51**	||*i*PKIKP	**PKPdf**		**23 05 41.5**	**-1.6**
KBZ	**Khabaz**	**120.92**	**51**	PKP		**PiKiKP**		**23 05 43.2**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=170,slow=2.8,SNR=6.4								
KBZ	**Khabaz**	**120.92**	**51**	⎍*i*PKIKP		**PKiKP**		**23 05 44.7**	**+1.6**
BILL	**Bilibino**	**121.11**	**338**	*i* PKIKP		**PKiKP**		**23 05 43.4**	**+0.6**
BILL				*e*				23 07 10.0	
BILL				*e*PPP		PPP		23 09 46.7	
BILL				pmax		pmax			
	comp=Z,1.0nm,1.0s								
NCK	**Nalchik**	**121.43**	**51**	||*i*PKIKP	**PKPdf**		**23 05 43.0**	**-1.1**
KIRV	**Kirov**	**123.04**	**33**	||*i*PKIKP	**PKiKP**		**23 05 47.4**	**+0.6**
BELG	**Belogornoye**	**123.36**	**40**	||*i*PKIKP	**PKiKP**		**23 05 47.7**	**0.0**
H11S2	**WAKE ISLAND Hy**	**126.06**	**278**	T		T		01 24 57.9	
	baz=102,slow=74,SNR=233								
H11S1	**WAKE ISLAND Hy**	**126.07**	**278**	T		T		01 24 55.6	
	baz=102,slow=74,SNR=132								
H11S3	**WAKE ISLAND Hy**	**126.08**	**278**	T		T		01 24 58.0	
	baz=102,slow=74,SNR=134								
H11N3	**WAKE ISLAND Hy**	**126.12**	**280**	T		T		01 25 28.5	
	baz=102,slow=75,SNR=56								
H11N2	**WAKE ISLAND Hy**	**126.14**	**280**	T		T		01 25 15.8	
	baz=102,slow=75,SNR=41								
H11N1	**WAKE ISLAND Hy**	**126.14**	**280**	T		T		01 25 10.1	
	baz=102,slow=75,SNR=39								
TIXI	**Tiksi**	**127.73**	**352**	⎍*i*PKIKP		**PKPdf**		**23 05 54.2**	**-1.1**
ARU	**Arti**	**128.40**	**33**	PKP		**PKiKP**		**23 05 57.6**	**0.0**
	comp=Z,0.8nm,0.7s,baz=307,slow=2.3,SNR=6.6								
ARU	**Arti**	**128.40**	**33**	*i* PKIKP		**PKiKP**		**23 05 58.4**	**+0.8**
ARU								23 08 04.8	
ARU								23 13 07.8	
ARU				SS		SS		23 25 09.2	-7.2
ARU	**Arti**	**128.40**	**33**	PKPdf		**PKiKP**		**23 05 58.3**	**+0.6**
SEY	**Seymchan**	**128.64**	**336**	PKP		**PKiKP**		**23 05 58.2**	**+0.3**
	comp=Z,5.9nm,0.9s,baz=155,slow=1.6,SNR=12								
SEY	**Seymchan**	**128.64**	**336**	||*i*PKIKP	**PKiKP**		**23 05 57.9**	**0.0**
ASAR	**Alice Springs**	**129.82**	**210**	PKP		**PKiKP**		**23 06 01.7**	**0.0**
	comp=Z,2.4nm,1.0s,baz=158,slow=2.5,SNR=11								
ASAR	**Alice Springs**	**129.82**	**210**	PKIKP		**PKiKP**		**23 06 01.3**	**-0.4**
ASAR	**Alice Springs**	**129.82**	**210**	PKPdf		**PKiKP**		**23 06 01.3**	**-0.4**
AKTO	**Aktyubinsk**	**130.14**	**41**	PKP		**PKiKP**		**23 06 00.8**	**-0.5**
	comp=Z,3.5nm,1.1s,baz=292,slow=2.2,SNR=7.5								
MA2	**Magadan**	**131.20**	**333**	⎍*i*PKIKP		**PKiKP**		**23 06 04.0**	**+0.8**
ABKAR	**Akbulak array**	**131.68**	**42**			**PKiKP**		**23 06 04.7**	**+0.2**
WRA	**Warramunga Arr**	**132.76**	**213**	PKP		**PKiKP**		**23 06 07.6**	**0.0**
	comp=Z,2.3nm,0.9s,baz=147,slow=1.5,SNR=31								
WRA	**Warramunga Arr**	**132.76**	**213**	PKIKP		**PKiKP**		**23 06 07.3**	**-0.3**
WRA	**Warramunga Arr**	**132.76**	**213**			**PKiKP**		**23 06 07.3**	**-0.3**
WRAB	**Tennant Creek**	**132.77**	**213**	*d* PKIKP		**PKiKP**		**23 06 07.6**	**0.0**
BRVK	**Borovoye**	**135.98**	**33**	||*i*PKIKP	**PKiKP**		**23 06 12.4**	**-0.6**
YAK	**Yakutsk**	**136.30**	**346**	*ce*PKIKP		**PKPdf**		**23 06 11.8**	**+0.1**
KURBB	**Kurchatov Arra**	**141.55**	**32**	PKhKP		PKPpre		23 06 17.7	
	comp=Z,1.7nm,1.1s,baz=309,slow=3.0,SNR=7.1								
ZALV	**Zalesovo Beam**	**141.89**	**23**	PKhKP		PKPpre		23 06 17.6	
	comp=Z,6.1nm,0.9s,baz=307,slow=5.2,SNR=7.9								
ZALV	**Zalesovo Beam**	**141.89**	**23**			**PKiKP**		**23 06 23.2**	**+1.0**
ZALV	**Zalesovo Beam**	**141.89**	**23**					**23 06 23.2**	**+1.0**
SEM	**Semipalatinsk**	**142.52**	**31**	*e*PKP		**PKPdf**		**23 06 22.0**	**-1.8**
	baz=31								
SEM	**Semipalatinsk**	**142.52**	**31**	*e*PKIKP		**PKPdf**		**23 06 21.9**	**-1.8**
AAK	**Ala-Archa**	**143.56**	**45**	PKP		**PKPdf**		**23 06 26.1**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=252,slow=1.8,SNR=5.8								
AAK	**Ala-Archa**	**143.56**	**45**	⎍*e*PKIKP		PKPbc		23 06 23.4	+0.3
KUU	**Kurty**	**144.16**	**42**	*e*PKP		PKPbc		23 06 25.2	+0.6
	comp=Z,18nm,1.2s,baz=42								
KUU	**Kurty**	**144.16**	**42**	*e*PKIKP		PKPbc		23 06 25.2	+0.5
KUU				pmax		pmax			
	comp=Z,18nm,1.2s								
CHKK	**Chushkaly**	**144.59**	**42**	*e*PKP		PKPbc		23 06 26.4	+0.3
	baz=42								
CHKK	**Chushkaly**	**144.59**	**42**	*e*PKIKP		PKPbc		23 06 26.3	+0.3
TDK	**Taldyqorghan**	**144.84**	**39**	*e*PKP		**PKPdf**		**23 06 27.3**	**-0.4**
	comp=Z,22nm,0.9s,baz=39								
TDK	**Taldyqorghan**	**144.84**	**39**	*e*PKIKP		**PKPdf**		**23 06 27.3**	**-0.4**
TDK				pmax		pmax			
	comp=Z,22nm,0.9s								
AAA	**Alma-Ata**	**144.87**	**43**	*e*PKP		**PKPdf**		**23 06 27.9**	**0.0**
	baz=43								
AAA	**Alma-Ata**	**144.87**	**43**	*e*PKIKP		**PKPdf**		**23 06 27.9**	**0.0**
NIL	**Nilore**	**145.63**	**60**	PKIKP		**PKPab**		**23 06 29.7**	**-0.3**
NIL	**Nilore**	**145.63**	**60**	PKPdf		**PKPab**		**23 06 29.7**	**-0.3**
KPKS	**Kokpek**	**145.84**	**41**	*e*PKP		**PKPdf**		**23 06 29.4**	**-0.3**
	comp=Z,23nm,1.2s,baz=41								
KPKS	**Kokpek**	**145.84**	**41**	*e*PKP2		**PKPdf**		**23 06 29.3**	**-0.3**
KPKS				pmax		pmax			
	comp=Z,23nm,1.2s								
KSH	**Kashi**	**145.88**	**49**	PKPbc		**PKPab**		**23 06 31.3**	**+0.4**
KSH				PP		**PP**		**23 09 56.8**	**+5.0**
KSH				AMB		AMB			
	comp=Z,98nm,4.8s								
MK31	**Makanchi Array**	**145.93**	**34**	*c i*PKP2		**PKPab**		**23 06 30.4**	**-0.3**
MKAR	**Makanchi Array**	**145.93**	**34**	PKPbc		**PKPab**		**23 06 30.5**	**-0.2**
	comp=Z,14nm,0.8s,baz=319,slow=2.9,SNR=111								
MKAR	**Makanchi Array**	**145.93**	**34**	PKP2		**PKPab**		**23 06 31.3**	**+0.6**
MKAR	**Makanchi Array**	**145.93**	**34**			**PKPab**		**23 06 31.3**	**+0.6**
BATI	**Baumata**	**146.21**	**206**	PKPbc		**PKPbc**		**23 06 32.0**	**+0.1**
	comp=Z,7.9nm,0.3s,baz=272,slow=15,SNR=4.2								
UZB	**Uzynbulak**	**146.22**	**42**	*e*PKPbc		**PKPdf**		**23 06 30.1**	**-0.3**
	comp=Z,11nm,1.3s,baz=42								
UZB	**Uzynbulak**	**146.22**	**42**	*e*PKIKP		**PKPdf**		**23 06 30.0**	**-0.3**
UZB				pmax		pmax			
	comp=Z,11nm,1.3s								
DGZ	**Jazzator, Alta**	**146.22**	**26**	*c i*PKP2		**PKPab**		**23 06 32.3**	**+0.4**
KLR	**Kul'dur**	**146.30**	**333**	*c i*PKP2		**PKPab**		**23 06 32.1**	**+0.1**
SHLS	**Shalkode**	**146.49**	**41**	*e*PKPbc		**PKPbc**		**23 06 32.1**	**-0.1**
	comp=Z,12nm,1.2s,baz=41								
SHLS	**Shalkode**	**146.49**	**41**	*e*PKP2		**PKPbc**		**23 06 32.0**	**-0.1**
SHLS				pmax		pmax			
	comp=Z,12nm,1.2s								
IRK	**Irkutsk**	**148.23**	**6**	*e*PKP2		**PKiKP**		**23 06 37.7**	**-0.5**
IRK				pmax		pmax			
	comp=Z,38nm,1.9s								
MOY	**Mondy**	**148.38**	**10**	*e*PKP2		**PKiKP**		**23 06 38.9**	**+0.2**
MOY				pmax		pmax			
	comp=Z,38nm,2.0s								
TLY	**Talaya**	**148.72**	**7**	PKPbc		**PKiKP**		**23 06 38.5**	**-0.8**
	comp=Z,2.7nm,0.5s,baz=330,slow=23,SNR=4.3								
TLY	**Talaya**	**148.72**	**7**	*i* PKP2		**PKPab**		**23 06 40.2**	**-1.3**
TLY				pmax		pmax			
	comp=Z,32nm,1.3s								
TLY	**Talaya**	**148.72**	**7**			**PKPbc**		**23 06 36.0**	**-1.8**
PALK	**Pallekele**	**149.34**	**112**	PKPbc		**PKiKP**		**23 06 41.1**	**-0.6**
	comp=Z,10nm,1.1s,baz=318,slow=5.3,SNR=5.0								
PALK	**Pallekele**	**149.34**	**112**	PKP2		**PKiKP**		**23 06 41.5**	**-0.2**
PALK	**Pallekele**	**149.34**	**112**			**PKiKP**		**23 06 41.5**	**-0.2**
USRK	**Ussuriysk Ar.**	**149.86**	**326**	PKPbc		**PKiKP**		**23 06 41.8**	**0.0**
	comp=Z,10.0nm,0.9s,baz=34,slow=1.4,SNR=19								
USRK	**Ussuriysk Ar.**	**149.86**	**326**	PKP2		**PKiKP**		**23 06 42.4**	**+0.6**
USRK	**Ussuriysk Ar.**	**149.86**	**326**			**PKiKP**		**23 06 42.4**	**+0.6**
ZAK	**Zakamensk**	**149.96**	**8**	*e*PKP2		**PKPbc**		**23 06 40.9**	**-0.2**
ZAK				pmax		pmax			
	comp=Z,12nm,1.3s								
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.2s								
MJAR	**Matsushiro Arr**	**150.20**	**308**	PKPbc		**PKiKP**		**23 06 42.7**	**-0.1**
	comp=Z,8.4nm,1.0s,baz=87,slow=1.7,SNR=12								
MAJO	**Matsushiro**	**150.20**	**308**	||*i*PKIKP	**PKiKP**		**23 06 42.7**	**-0.1**
MAT	**Matsushiro**	**150.20**	**308**	PKP		**PKiKP**		**23 06 43.6**	**+0.8**
WMQ	**Urumqi**	**150.74**	**33**	*e*PKPbc		**PKPdf**		**23 06 37.0**	**-0.5**
WMQ				LR		LR			
	comp=Z,370nm,16.9s								
WMQ				LR		LR			
	comp=Z,410nm,23.1s								
HYB	**Hyderabad**	**150.83**	**91**	*i* PKP		**PKiKP**		**23 06 45.0**	**+0.4**
SONM	**Songino Array**	**152.79**	**4**	PKP		**PKPdf**		**23 06 41.7**	**+1.1**
	comp=Z,2.2nm,1.1s,baz=162,slow=0.6,SNR=12								
SONM				PKPbc		**sPKPdf**		**23 06 48.8**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=310,slow=0.9,SNR=18								
SONM				PKPab		**PKPab**		**23 06 58.0**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=327,slow=1.7,SNR=7.0								
SONM	**Songino Array**	**152.79**	**4**	PKIKP		**PKPdf**		**23 06 41.9**	**+1.3**
SONM								23 06 49.2	
SONM	**Songino Array**	**152.79**	**4**			**PKPdf**		**23 06 41.9**	**+1.3**
SONM				PKPbc		**sPKPdf**		**23 06 49.2**	**+0.4**
ULN	**Ulaanbaatar**	**152.79**	**3**	||*e*PKIKP	**PKPdf**		**23 06 42.4**	**+1.8**
CN2	**Changchun**	**153.25**	**333**	*e*PKPbc		**PKPdf**		**23 06 37.4**	**-3.8**
GKN	**Gorkha**	**156.44**	**67**	*e*P		**PKPab**		**23 07 15.2**	**+0.3**
	comp=Z,72nm,1.2s								
DMN	**Daman**	**156.93**	**68**	*e*P		**PKPab**		**23 07 17.6**	**+0.5**
	comp=Z,39nm,1.1s								
KKN	**Kakani**	**157.04**	**67**	*e*P		**PKPab**		**23 07 17.9**	**+0.4**
PKI	**Pulchoki**	**157.20**	**68**	*e*P		**PKPab**		**23 07 18.3**	**-0.1**
	comp=Z,22nm,1.1s								
GUN	**Gumba**	**157.53**	**67**	*e*P		**PKPab**		**23 07 20.2**	**+0.4**
	comp=Z,72nm,1.3s								
RAMN	**Ramite**	**158.37**	**69**	*e*P		**PKPab**		**23 07 23.3**	**0.0**
	comp=Z,26nm,1.0s								
ODAN	**Odare**	**159.08**	**69**	*e*P		**PKPab**		**23 07 26.4**	**0.0**
	comp=Z,27nm,1.1s								
TAPN	**Taplejung**	**159.24**	**67**	*e*P		**PKPab**		**23 07 27.7**	**+0.5**
GTA	**Gaotai**	**159.62**	**21**	||PKP	**PKPdf**		**23 06 51.4**	**+1.6**
GTA				pPKP		PKPab		23 07 18.1	-10
GTA				sPKP				23 07 29.3	
GTA				LR		LR			
	comp=N,90nm,18.9s								
GTA				LR		LR			
	comp=E,150nm,20.4s								
GTA				LR		LR			
	comp=Z,140nm,21.4s								
GTA	**Gaotai**	**159.62**	**21**	*e*P		PKPab		23 07 40.1	+12
GTA				pP		sPKPab		23 07 47.9	+11
GTA				sP		pPKPab		23 07 50.9	+16
GTA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
HHC	**Hu-ho-hao-te**	**159.77**	**355**	*e*PKP		**PKPdf**		**23 06 51.6**	**+1.7**
NJ2	**Nanjing**	**165.76**	**325**	*e*PKP		**PKPdf**		**23 06 54.8**	**-1.1**
XAN	**Xi'an**	**166.66**	**1**	PKP		**PKPdf**		**23 06 58.5**	**+1.9**
CD2	**Chengdu**	**168.66**	**25**	PKP		**PKPdf**		**23 06 56.5**	**-1.6**
CMAR	**Chiang Mai Arr**	**170.04**	**101**	PKP		**PKPdf**		**23 07 00.2**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=287,slow=3.5,SNR=4.2								
CMAR				PKPab		**PKPab**		**23 08 14.5**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=271,slow=7.5,SNR=4.9								

IDC 24 22:48:17.1±23.0, 12°.93N × 143°.25E, h285km±237km, mb3.0/6, mb1 3.1/6, mb1mx2.9/46, mbtmp3.6/6, MS3.5/1, Ms1 3.5/1, ms1mx2.7/13, Error ellipse: s-maj=218.4km s-min=34.1km az=80.0, South of Mariana Islands

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

RTLS				*e*S		**Sn**	**23 19 34.3 +2.1**		
RTLS				IAML			23 19 36.6		
	comp=Z,1μm,0.5s								
RFA	**San Rafael**	**2.29**	**201**	*e*P		**Pn**	**23 19 17.3 -0.7**		
RFA				*e*S		**Sb**	**23 19 50.2 +0.1**		
RFA				IAML			23 19 52.0		
	comp=Z,670nm,0.4s								
APLL	**PUNTA DE LOS L**	**2.37**	**21**	*e*P		**Pn**	**23 19 20.0 +1.0**		
VA03	**San Esteban**	**2.59**	**266**			**Pn**	**23 19 23.6 +1.5**		
LAMA	**Las Malvinas**	**2.72**	**211**	*e*P		**Pn**	**23 19 23.1 -0.7**		
PEL	**Peldehue**	**2.74**	**258**			**Pn**	**23 19 24.8 +0.7**		
PEL	**Peldehue**	**2.74**	**258**	*e*P		**Pn**	**23 19 26.1 +2.0**		
PEL				*e*S		**Sb**	**23 20 02.4 -0.6**		
TCA	**Tanti**	**2.77**	**63**	*e*P		**Pb**	**23 19 27.4 -3.0**		
TCA				*e*S		Sb	23 20 16.1 +12		
TCA				IAML			23 20 17.6		
	comp=Z,1μm,0.6s								
MT05	**Renca**	**2.84**	**253**	Pn		**Pn**	**23 19 28.0 +2.5**		
COIS	**El Sosneado**	**3.04**	**215**	*e*P		**Pn**	**23 19 27.8 -0.3**		
MT02	**Curacav**	**3.13**	**257**	Pn		**Pn**	**23 19 29.8 +0.3**		
ACLC	**CERRO LA CRUZ**	**3.22**	**8**	*e*P		**Pn**	**23 19 33.9 +3.0**		
ACLC				IAML			23 20 28.4		
	comp=Z,595nm,0.3s								
CO03	**El Pedregal**	**3.26**	**302**	Pn		**Pn**	**23 19 33.8 +2.5**		
PUMA	**Malargue**	**3.30**	**209**	*e*P		**Pn**	**23 19 31.7 -0.1**		
CO02	**Combarbal**	**3.31**	**294**			**Pn**	**23 19 33.5 +1.5**		
BO02	**Sierra Bellavi**	**3.50**	**231**	Pn		**Pn**	**23 19 38.4 +3.9**		
EDS3	**Malargue**	**3.52**	**206**	*e*P		**Pn**	**23 19 37.2 +2.3**		
EDS3				*e*S		**Sb**	**23 20 29.9 +4.4**		
GO04	**Tololo Observa**	**3.74**	**310**			**Pn**	**23 19 40.0 +2.0**		
GO04	**Tololo Observa**	**3.74**	**310**	*e*P		**Pn**	**23 19 40.3 +2.2**		
GO04				*e*S		**Sb**	**23 20 34.7 +2.8**		
VCA	**Vinchina**	**3.92**	**351**	*e*P		**Pn**	**23 19 43.2 +2.7**		
VCA				*e*S		**Sb**	**23 20 42.7 +5.6**		
VCA				IAML			23 20 47.3		
	comp=Z,746nm,0.3s								
AC05	**El Transito**	**4.47**	**327**	Pn		**Pn**	**23 19 51.1 +3.1**		
LCO	**Las Campanas**	**4.54**	**322**	Pn		**Pn**	**23 19 51.0 +2.0**		
BI02	**San Fabin de**	**5.10**	**217**	Pn		**Pn**	**23 20 00.2 +3.7**		
AC04	**Llanos de Chal**	**5.38**	**324**	Pn		**Pn**	**23 20 01.6 +1.2**		
GO03	**Copiap**	**5.55**	**334**	Pn		**Pn**	**23 20 04.2 +1.4**		
GO03	**Copiap**	**5.55**	**334**	*e*P		**Pn**	**23 20 06.2 +3.4**		
AC02	**Maricunga**	**5.94**	**346**	Pn		**Pn**	**23 20 11.8 +3.2**		
AHML	**Horco Molle**	**6.11**	**18**	*e*P		**Pn**	**23 20 12.3 +1.8**		
AHML				*e*S		**Sb**	**23 21 33.7 -6.3**		
AHML				IAML			23 22 04.3		
	comp=Z,74nm,1.7s								
FSA	**Cafayete**	**6.62**	**12**	*e*P		**Pn**	**23 20 19.8 +2.2**		
AC01	**Pan de Azucar**	**7.00**	**336**	Pn		**Pn**	**23 20 23.5 +0.8**		
GO02	**Mina Guanaco**	**7.66**	**346**	Pn		**Pn**	**23 20 34.0 +2.1**		
PLCA	**Paso Flores**	**8.46**	**196**	Pn		**Pn**	**23 20 47.1 +4.4**		
	comp=Z,0.1nm,0.3s,baz=44,slow=13,SNR=1.6								
PLCA				Lg		Lg	23 23 01.2		
	comp=Z,0.5nm,0.3s,baz=67,slow=14,SNR=2.5								
PLCA	**Paso Flores**	**8.46**	**196**			**Pn**	**23 20 46.7 +4.0**		
PB15	**IPOC Station P**	**9.54**	**349**			**Pn**	**23 20 58.6 +0.9**		
PB06	**IPOC Station P**	**10.05**	**349**	Pn		**Pn**	**23 21 04.7 +0.1**		
LVC	**Limon Verde**	**10.05**	**352**	Pn		**Pn**	**23 21 04.5 -0.4**		
	comp=Z,0.2nm,0.3s,baz=264,slow=9.9,SNR=1.6								
LVC				Lg		Lg	23 23 55.6		
	comp=Z,0.2nm,0.3s,baz=326,slow=19,SNR=2.8								
LVC				LR		LR	23 24 49.6		
	comp=Z,80nm,19.2s,baz=135,slow=36								
LVC	**Limon Verde**	**10.05**	**352**	Pn		**Pn**	**23 21 05.9 +1.1**		
CPUP	**Villa Florida**	**10.84**	**57**			**Pn**	**23 21 14.3 -1.1**		
	comp=Z,0.1nm,0.3s,baz=264,slow=8.1,SNR=3.4								
CPUP				Lg		Lg	23 24 18.6		
	comp=Z,1.0nm,0.3s,baz=161,slow=10,SNR=3.6								
PB09	**IPOC Station P**	**10.90**	**351**	Pn		**Pn**	**23 21 17.2 +0.9**		
PB07	**IPOC Station P**	**11.06**	**348**	Pn		**Pn**	**23 21 16.7 -1.8**		
PB01	**IPOC Station P**	**11.67**	**351**	Pn		**Pn**	**23 21 25.2 -1.6**		
AP01	**Chacalluta**	**14.42**	**349**	P		**P**	**23 22 09.9 -1.0**		
LPAZ	**La Paz**	**16.27**	**358**	Pn		**Pn**	**23 22 29.8 +0.5**		
	comp=Z,0.1nm,0.3s,baz=81,slow=6.2,SNR=2.7								
LPAZ	**La Paz**	**16.27**	**358**	P		**P**	**23 22 34.0 +1.8**		
SIV	**San Ignacio**	**17.55**	**21**	P		**Pn**	**23 22 44.9 +0.1**		
	comp=Z,0.4nm,0.3s,baz=198,slow=8.8,SNR=8.0								
EFI	**East Falkland**	**20.25**	**163**	P		Pn	23 23 21.9 +4.8		
EFI				IAmb		IAmb	23 23 22.6		
	comp=Z,12nm,0.9s								
BDFB	**Brasilia**	**24.46**	**51**	P		**P**	**23 23 58.1 -0.9**		
	comp=Z,1.6nm,0.5s,baz=207,slow=2.3,SNR=2.1								
SNAA	**Sanae**	**51.44**	**159**	P		**P**	**23 27 43.0 -1.6**		
	comp=Z,2.2nm,0.9s,baz=283,slow=12,SNR=6.2								
SNAA	**Sanae**	**51.44**	**159**	P		**P**	**23 27 44.5 0.0**		
TXAR	**Lajitas Array**	**70.53**	**327**	P		**P**	**23 29 54.5 -0.1**		
	comp=Z,0.3nm,0.7s,baz=153,slow=8.1,SNR=2.0								
TXAR				pP		**pP**	**23 30 02.6 +0.4**		
	comp=Z,0.3nm,0.6s,baz=157,slow=9.4,SNR=2.9								
BOSA	**Boshof**	**77.28**	**116**	P		**P**	**23 30 33.1 -1.4**		
	comp=Z,1.4nm,0.7s,baz=295,slow=3.3,SNR=3.9								
BOSA				pP		**sP**	**23 30 43.2 -1.5**		
	comp=Z,3.2nm,0.9s,baz=159,slow=6.0,SNR=3.4								
TORD	**Torodi Ar. Bea**	**80.16**	**68**	P		**P**	**23 30 49.5 -0.7**		
	comp=Z,1.1nm,0.6s,baz=291,slow=7.1,SNR=8.3								
TORD				pP		**sP**	**23 30 59.6 -0.9**		
	comp=Z,1.2nm,0.8s,baz=269,slow=5.4,SNR=4.7								
TORD	**Torodi Ar. Bea**	**80.16**	**68**	P		**P**	**23 30 50.4 +0.2**		
TORD				IAmb		IAmb	23 30 51.2		
	comp=Z,1.5nm,0.8s								
PDAR	**Pinedale Array**	**84.36**	**330**	P		**P**	**23 31 10.7 -1.1**		
	comp=Z,0.3nm,0.8s,baz=139,slow=5.6,SNR=2.2								
ZALV	**Zalesovo Beam**	**150.98**	**34**	PKPbc		**PKPbc**	**23 38 32.0 +0.1**		
	comp=Z,4.9nm,0.5s,baz=298,slow=3.1,SNR=24								
ZALV				pPKPbc		**PKPab**	**23 38 39.0 -0.4**		
	comp=Z,5.1nm,0.5s,baz=314,slow=2.4,SNR=11								
MKAR	**Makanchi Array**	**152.98**	**50**	PKPbc		**PKPbc**	**23 38 36.2 -0.5**		
	comp=Z,0.5nm,0.6s,baz=291,slow=1.6,SNR=7.7								
MKAR				pPKPbc		**pPKPbc**	**23 38 44.7 +0.2**		
	comp=Z,0.5nm,0.6s,baz=264,slow=2.3,SNR=5.0								

*MAN **24** 23:30:28.7,8.°99N×126.°50E,h17km,mb4.6,ML3.4,MS3.3*
*NEIC **24** 23:30:32.2±1.0,9.°0N±0.°1×126.°3E±0.°2,h72km±8km,*
mb4.2/12,Error ellipse: s-maj=25.8km s-min=14.5km
az=95.0
*IDC **24** 23:30:34.1±1.9,8.°84N×126.°00E,h107km±18km,mb3.7/12,*
mb1 3.8/12,mb1mx3.5/49,mbtmp4.0/12,Error ellipse:
s-maj=38.2km s-min=13.5km az=79.0

ISC 24 23:30:30.1±1.2,**9.°03N**±0.°04×**126.°51E**±0.°08,**h55**km±11km,
n48,σ**1s96**/54,**mb4.1**/16,**1C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.84**	**334**	*e*P	**Pn**	**23 30 45.0**	**-0.8**
GLSP				*e*S	**Sn**	**23 30 56.4**	**-1.1**
BUTP	**Butuan**	**0.88**	**266**	*e*P	**Pn**	**23 30 44.6**	**-1.7**
BUTP				*e*S	**Sn**	**23 30 56.5**	**-1.7**
CGP	**Cagayan de Oro**	**1.88**	**253**	*e*P	**Pn**	**23 30 59.5**	**-0.4**
CGP				*e*S	**Sn**	**23 31 24.3**	**+1.8**
MSLP	**Maasin**	**1.96**	**304**	*e*P	**Pn**	**23 31 02.2**	**+1.3**
MSLP				*e*S	**Sn**	**23 31 28.9**	**+4.4**
MATI	**Mati**	**2.08**	**187**	*e*P	**Pn**	**23 31 02.1**	**-0.6**
MATI				*e*S	**Sn**	**23 31 28.6**	**+1.2**
DAV	**Davao City (W)**	**2.15**	**205**	P	**Pn**	**23 31 05.6**	**+2.0**
	40nm,0.3s,baz=78,slow=5.6,SNR=7.3						
DAV				S	**Sn**	**23 31 27.9**	**-1.2**
	107nm,0.3s,baz=65,slow=20,SNR=6.0						
DAV	**Davao City (W)**	**2.15**	**205**		**Pn**	**23 31 05.0**	**+1.4**
BESP	**Borongan**	**2.77**	**338**	*e*P	**Pn**	**23 31 15.3**	**+3.3**
LLP	**Lapu-Lapu**	**2.81**	**297**	*e*P	**Pn**	**23 31 14.0**	**+1.4**
LLP				*e*S	**Sn**	**23 31 48.1**	**+2.7**
DDMP	**Don Marcelino,**	**3.01**	**195**	*e*P	**Pn**	**23 31 16.1**	**+0.8**
DDMP				*e*S	**Sn**	**23 31 57.2**	**+7.0**
PAGZ	**Pagadian**	**3.31**	**249**	*e*P	**Pn**	**23 31 20.7**	**+1.4**
RCP	**Roxas**	**4.48**	**305**	*e*P	**Pn**	**23 31 37.2**	**+1.8**
SBUM	**Sibu**	**15.64**	**246**	P	**P**	**23 34 12.0**	**+1.8**
KSM	**Kuching**	**17.78**	**246**	P	**P**	**23 34 33.6**	**-0.4**
KSM				IAmb	IAmb	23 34 36.5	
	comp=Z,19nm,1.3s						
BATI	**Baumata**	**19.32**	**188**	P	**Pn**	**23 34 52.0**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=331,slow=2.6,SNR=7.6						
MTN	**Manton Dam**	**22.21**	**168**	P	**P**	**23 35 22.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**26.97**	**182**	P	**P**	**23 36 03.9**	**-2.7**
	comp=Z,2.6nm,0.4s,baz=9.8,slow=7.0,SNR=17						
FITZ	**Fitzroy Crossi**	**26.97**	**182**	P	**P**	**23 36 06.9**	**+0.3**
FITZ				IAmb	IAmb	23 36 08.2	
	comp=Z,8.1nm,0.9s						
KSRS	**Korea Array**	**28.33**	**2**	P	**P**	**23 36 19.4**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=181,slow=8.5,SNR=4.9						
WB0	**Warramunga Arr**	**29.65**	**165**	P	**P**	**23 36 29.9**	**-0.7**
WB0				IAmb	IAmb	23 36 38.1	
	comp=Z,8.8nm,1.4s						
WRA	**Warramunga Arr**	**29.80**	**165**	P	**P**	**23 36 30.4**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=40,slow=8.2,SNR=6.3						
WRA	**Warramunga Arr**	**29.80**	**165**	P	**P**	**23 36 31.4**	**-0.6**
WB2	**Warramunga Arr**	**29.81**	**165**	P	**P**	**23 36 32.7**	**+0.7**
WB2				IAmb	IAmb	23 36 40.1	
	comp=Z,4.3nm,1.1s						
WR0	**Warramunga Arr**	**29.87**	**165**	P	**P**	**23 36 33.0**	**+0.4**
WR0				IAmb	IAmb	23 36 50.8	
	comp=Z,7.2nm,1.4s						
ASAR	**Alice Springs**	**33.29**	**168**	P	**P**	**23 37 01.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=18,slow=9.8,SNR=9.1						
ASAR	**Alice Springs**	**33.29**	**168**	P	**P**	**23 37 02.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**35.36**	**7**	P	**P**	**23 37 21.2**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=201,slow=7.7,SNR=5.0						
FORT	**Forrest**	**39.61**	**178**	P	**P**	**23 37 57.1**	**+0.8**
H11N1	**WAKE ISLAND Hy**	**40.44**	**70**	T	T	00 21 42.9	
	baz=265,slow=74,SNR=21						
H11N2	**WAKE ISLAND Hy**	**40.45**	**70**	T	T	00 21 50.0	
	baz=265,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.46**	**70**	T	T	00 21 44.3	
	baz=265,slow=74,SNR=21						
BBOO	**Buckleboo**	**42.59**	**168**	P	**P**	**23 38 22.3**	**+1.5**
STKA	**Stephens Creek**	**43.16**	**161**	P	**P**	**23 38 23.2**	**-2.2**
	comp=Z,1.1nm,0.3s,baz=331,slow=10,SNR=2.3						
STKA	**Stephens Creek**	**43.16**	**161**	P	**P**	**23 38 25.9**	**+0.4**
MK31	**Makanchi Array**	**53.15**	**323**	P	**P**	**23 39 42.2**	**-0.3**
MK31				IAmb	IAmb	23 39 42.7	
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**53.15**	**323**	P	**P**	**23 39 39.0**	**-3.5**
	comp=Z,1.7nm,0.7s,baz=122,slow=8.2,SNR=16						
MKAR				PcP	**PcP**	**23 40 48.7**	**-1.3**
	comp=Z,1.1nm,0.9s,baz=102,slow=4.2,SNR=3.6						
MKAR	**Makanchi Array**	**53.15**	**323**	P	**P**	**23 39 42.1**	**-0.3**
ZALV	**Zalesovo Beam**	**55.82**	**332**	P	**P**	**23 39 59.7**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=131,slow=4.2,SNR=1.8						
KKAR	**Karatay Array**	**59.29**	**315**	P	**P**	**23 40 25.6**	**-0.6**
ILAR	**Eielson Array**	**80.45**	**26**	P	**P**	**23 42 36.3**	**+0.6**
	comp=Z,0.6nm,1.0s,baz=251,slow=5.4,SNR=6.2						
ILAR	**Eielson Array**	**80.45**	**26**	P	**P**	**23 42 37.1**	**+1.4**
BMAR	**Burnt Mountain**	**81.31**	**23**	P	**P**	**23 42 44.1**	**+3.7**
ARCES	**ARCESS Array B**	**85.43**	**340**	P	**P**	**23 42 59.0**	**-2.4**
	comp=Z,10nm,1.1s,baz=79,slow=6.5,SNR=3.2						
FINES	**FINESS Array B**	**87.09**	**332**	P	**P**	**23 43 07.2**	**-2.5**
	comp=Z,1.0nm,0.8s,baz=85,slow=4.7,SNR=1.1						
FINES	**FINESS Array B**	**87.09**	**332**	P	**P**	**23 43 08.9**	**-0.8**
YKA	**Yellowknife Ar**	**94.79**	**24**	P	**P**	**23 43 45.7**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=299,slow=4.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**120.94**	**291**	PKP	**PKPdf**	**23 49 16.3**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=77,slow=3.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**120.94**	**291**		**PKPdf**	**23 49 16.8**	**-0.6**

*IDC **24** 23:56:40.2±1.3,0.°44N×124.°96E,h0km,mb3.5/4,*
mb1 3.7/4,mb1mx3.5/33,mbtmp3.6/4,Error ellipse:
s-maj=148.3km s-min=21.6km az=66.0
*DJA **24** 23:56:49.4±1.0,1.°N±3.°×12.°6E±.°,h18km±8km,M4.4/9,*
mb5.5/1,MLv3.8/9

ISC 24 23:56:51.0±1.3,**0.°70N**±0.°07×**126.°11E**±0.°04,**h44**km,**n15,**
σ**2s14/16,mb3.4/4,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.26**	**87**	P	**Pn**	**23 57 14.6**	**+2.4**
TNTI	**Ternate**	**1.26**	**87**	P	**Pn**	**23 57 12.1**	**-0.1**
TNTI				S	**Sn**	**23 57 29.3**	**+1.3**
KMSI	**Cibinong**	**2.13**	**267**	P	**Pn**	**23 57 24.0**	**-0.1**
KMSI	**Cibinong**	**2.13**	**267**	P	**Pn**	**23 57 24.2**	**+0.1**
KMSI				S	**Sn**	**23 57 51.4**	**+2.1**
SANI	**Sanana**	**2.73**	**182**	P	**Pn**	**23 57 33.5**	**+1.1**
SANI				S	**Sn**	**23 58 05.0**	**+0.8**
SANI	**Sanana**	**2.73**	**182**	P	**Pn**	**23 57 33.4**	**+1.1**
GTOI	**Gorontalo**	**3.10**	**269**	P	**Pn**	**23 57 39.2**	**+1.9**
GTOI	**Gorontalo**	**3.10**	**269**	P	**Pn**	**23 57 39.3**	**+1.9**
NLAI	**Namlea**	**4.04**	**166**	P	**Pn**	**23 57 52.2**	**+1.9**
NLAI	**Namlea**	**4.04**	**166**	P	**Pn**	**23 57 52.1**	**+1.8**
MSAI	**Masohi**	**4.91**	**145**	P	**Pn**	**23 58 04.2**	**+1.9**
WRA	**Warramunga Arr**	**22.04**	**159**	P	**P**	**00 01 38.2**	**-3.8**
	0.3nm,0.3s,baz=334,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**25.38**	**163**	P	**P**	**00 02 10.8**	**-3.5**
	0.3nm,0.3s,baz=337,slow=9.1,SNR=5.5						
SONM	**Songino Array**	**49.97**	**343**	P	P	00 05 35.4	-5.5
	0.2nm,0.5s,baz=147,slow=8.1,SNR=1.7						
MKAR	**Makanchi Array**	**59.70**	**327**	P	P	00 06 43.7	-7.4
	1.0nm,0.3s,baz=121,slow=8.4,SNR=33						

*ANF **25** 00:10:57.7±0.3,36.°76N×98.°02W,h7km,ML3.6/13,Error*
ellipse: s-maj=2.8km s-min=2.5km az=172.0
*TUL **25** 00:10:57.3±1.1,36.°78N±0.°02×98.°03W±0.°03,h7km±7km,*
ML3.2,mb_Lg3.0/73(NEIC),Error ellipse: s-maj=3.7km
s-min=2.2km az=137.0
*NEIC **25** 00:10:57.6±1.0,36.°75N±0.°01×98.°00W±0.°02,h4km±7km,*
Error ellipse: s-maj=2.8km s-min=2.0km az=111.0

ISC 25 00:10:57.7±1.0,**36.°76N**±0.°02×**98.°01W**±0.°02,**h6**km±8km,
n91,σ**0s65/87,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.15**	**52**		**Pg**	**00 11 01.0**	**+0.2**
GC02				Sg	**Sg**	**00 11 03.5**	**+0.6**
OK032	**Salt Plains WL**	**0.17**	**287**	Pg	**Pg**	**00 11 00.8**	**-0.2**
OK032				Sg	**Sg**	**00 11 03.3**	**0.0**
KAN14	**Manchester OK**	**0.20**	**11**		**Pg**	**00 11 01.7**	**-0.1**
KAN14				Sg	**Sg**	**00 11 04.6**	**+0.1**
CROK	**Carrier**	**0.25**	**175**		**Pg**	**00 11 03.0**	**+0.4**
CROK				Sg	**Sg**	**00 11 07.1**	**+1.2**
KAN05	**Bluff City Nor**	**0.37**	**17**		**Pg**	**00 11 04.7**	**-0.2**
KAN05				Sg	**Sg**	**00 11 09.8**	**0.0**
KAN10	**Anthony SW Sta**	**0.37**	**350**		**Pg**	**00 11 04.7**	**-0.3**
KAN08	**Anthony NE Sta**	**0.47**	**4**		**Pg**	**00 11 06.5**	**-0.3**
KAN09	**Caldwell North**	**0.49**	**40**		**Pg**	**00 11 07.1**	**-0.1**
KAN09				Sg	**Sg**	**00 11 13.8**	**+0.1**
KAN13	**South Haven SW**	**0.50**	**59**		**Pg**	**00 11 07.3**	**0.0**
KAN13				Sg	**Sg**	**00 11 14.1**	**+0.3**
KAN12	**Harper NE Stat**	**0.54**	**1**		**Pg**	**00 11 07.8**	**-0.3**
U32A	**Winter Ranch,**	**0.88**	**245**	Pg	**Pg**	**00 11 13.8**	**-0.7**
U32A				Sg	**Sg**	**00 11 26.1**	**+0.1**
U32A	**Winter Ranch,**	**0.88**	**245**	P	**Pg**	**00 11 14.0**	**-0.6**
	baz=63,SNR=45						
U32A				S	**Sg**	**00 11 26.4**	**+0.4**
	baz=63						
U32A	**Winter Ranch,**	**0.88**	**245**	P		00 11 14.0	
	baz=63,SNR=45						
U32A				S		00 11 26.4	
	baz=63						
OK029	**Liberty Lake**	**1.06**	**155**		**Pg**	**00 11 17.6**	**-0.3**
BCOK	**Bluff Creek, N**	**1.14**	**163**		**Pg**	**00 11 18.9**	**-0.7**
QUOK	**Quay**	**1.20**	**119**		**Pg**	**00 11 20.3**	**-0.5**
QUOK				Sg	**Sg**	**00 11 36.1**	**-0.2**
T35A	**Sooner Cattle**	**1.21**	**82**		**Pg**	**00 11 20.3**	**-0.7**
T35A				Sg	**Sg**	**00 11 36.1**	**-0.6**
T35B	**Sooner Cattle**	**1.21**	**82**	P	**Pg**	**00 11 20.3**	**-0.6**
	baz=264,SNR=139						
T35B				S	**Sg**	**00 11 36.2**	**-0.5**
	baz=264						
T35B	**Sooner Cattle**	**1.21**	**82**	P		00 11 20.3	
	baz=264,SNR=139						
T35B				S		00 11 36.2	
	baz=264						
OK031	**S. Brethren Rd**	**1.24**	**130**		**Pb**	**00 11 20.8**	**-0.7**
OK030	**Cody Creek RV**	**1.29**	**129**		**Pn**	**00 11 21.6**	**-0.6**
OK025	**Westminster Rd**	**1.29**	**155**		**Pn**	**00 11 21.9**	**-0.5**
OKCFA	**Oklahoma City**	**1.41**	**161**	Pn	**Pn**	**00 11 23.4**	**-0.5**
OKCFA	**Oklahoma City**	**1.41**	**161**	P	**Pn**	**00 11 23.6**	**-0.3**
	baz=341,SNR=8.0						
OKCFA				S	**Sg**	**00 11 43.6**	**+0.5**
	baz=341						
OKCFA	**Oklahoma City**	**1.41**	**161**	P		00 11 23.6	
	baz=341,SNR=8.0						
OKCFA				S		00 11 43.6	
	baz=341						
OKCSW	**OKLAHOMA CITY**	**1.43**	**161**	Pn	**Pn**	**00 11 23.7**	**-0.4**
R32A	**Long Quarter,**	**1.75**	**342**	Pn	**Pn**	**00 11 29.0**	**+0.3**
R32A	**Long Quarter,**	**1.75**	**342**	P	**Pn**	**00 11 29.1**	**+0.3**
	baz=162,SNR=87						
R32A				S	**Sb**	**00 11 52.2**	**-0.5**
	baz=162						
R32A	**Long Quarter,**	**1.75**	**342**	P		00 11 29.1	
	baz=162,SNR=87						
R32A				S		00 11 52.2	
	baz=162						
TUL1	**Leonard**	**1.98**	**115**	P	**Pn**	**00 11 31.7**	**-0.1**
	baz=296,SNR=54						
TUL1				S	**Sb**	**00 11 59.7**	**+0.6**
	baz=296						
TUL1	**Leonard**	**1.98**	**115**	P		00 11 31.9	
	baz=296						
TUL1				S		00 11 59.9	
	baz=296						
TUL1	**Leonard**	**1.98**	**115**	P		00 11 31.7	
	baz=296,SNR=54						
TUL1				S		00 11 59.7	
	baz=296						
WMOK	**Wichita Mounta**	**2.11**	**198**	Pn	**Pn**	**00 11 33.7**	**+0.2**
WMOK	**Wichita Mounta**	**2.11**	**198**	P	**Pn**	**00 11 33.7**	**+0.2**
	baz=16,SNR=132						
WMOK	**Wichita Mounta**	**2.11**	**198**	P		00 11 34.0	
	baz=16						
WMOK				S		00 12 03.0	
	baz=16						
WMOK	**Wichita Mounta**	**2.11**	**198**	P		00 11 33.7	
	baz=16,SNR=132						
CBKS	**Cedar Bluff**	**2.47**	**327**	S	**Sn**	**00 12 10.1**	**+1.0**
	baz=146						
CBKS	**Cedar Bluff**	**2.47**	**327**	S		00 12 10.1	
	baz=146						
CBKS	**Cedar Bluff**	**2.47**	**327**	S		00 12 10.1	
	baz=146						
KSU1	**Kansas State U**	**2.59**	**25**		**Pn**	**00 11 41.1**	**+0.9**
KSU1				IAmb_Lg		00 12 23.5	
	comp=Z,42nm,0.8s						
KSU1	**Kansas State U**	**2.59**	**25**	Sb		00 12 16.9	
	baz=206						
U38A	**Gravette**	**2.94**	**95**		**Pn**	**00 11 45.3**	**+0.4**
U38A	**Gravette**	**2.94**	**95**	P	**Pn**	**00 11 45.2**	**+0.3**
	baz=278,SNR=15						
U38A	**Gravette**	**2.94**	**95**	P		00 11 45.2	
	baz=278,SNR=15						
X37A	**Clayton**	**3.05**	**134**		**Pn**	**00 11 47.0**	**+0.5**
X37A				IAmb_Lg		00 12 42.6	
	comp=Z,41nm,0.8s						
X37A	**Clayton**	**3.05**	**134**	P	**Pn**	**00 11 46.8**	**+0.3**
	baz=316,SNR=28						
X37A	**Clayton**	**3.05**	**134**	P		00 11 46.8	
	baz=316,SNR=28						
HHAR	**Hobbs**	**3.31**	**97**	Pn	**Pn**	**00 11 50.4**	**+0.3**
Z35A	**Perchaven, San**	**3.47**	**169**		**Pn**	**00 11 52.2**	**0.0**
Z35A				IAmb_Lg		00 12 54.2	
	comp=Z,30nm,1.1s						
Z35A	**Perchaven, San**	**3.47**	**169**	S	**Sn**	**00 12 34.9**	**+1.1**
	baz=350						
Z35A	**Perchaven, San**	**3.47**	**169**	S		00 12 34.9	
	baz=350						
AMTX	**Amarillo**	**3.52**	**239**		**Pn**	**00 11 54.1**	**+1.1**
AMTX				IAmb_Lg		00 12 55.2	
	comp=Z,46nm,0.9s						
AMTX	**Amarillo**	**3.52**	**239**	Pb		00 12 01.5	
	baz=56						
AMTX				Sb		00 12 47.8	
	baz=56						
W39A	**Magazine**	**3.77**	**113**		**Pn**	**00 11 57.1**	**+0.8**
W39A				IAmb_Lg		00 13 04.1	
	comp=Z,56nm,1.0s						
W39A	**Magazine**	**3.77**	**113**	Pb		00 12 05.4	
	baz=296						
S39A	**Bolivar**	**3.86**	**75**	Pn	**Pn**	**00 11 57.9**	**+0.3**
S39A				IAmb_Lg		00 13 04.7	
	comp=Z,41nm,0.8s						
S39A	**Bol

HDIL	**Hopedale**	**7.80**	**58**		**Pn**		**00 12 52.1**	**+0.3**
JFWS	**Jewell Farm**	**8.57**	**42**		**Pn**		**00 13 02.6**	**+0.3**
JFWS	comp=Z,18nm,0.8s			IAmb_Lg			00 15 32.9	
RWWY	**Rawlins**	**8.67**	**307**	IAmb_Lg			00 15 39.5	
TX31	comp=Z,10nm,0.9s **Lajitas Ar. Si**	**8.79**	**214**	Pn	**Pn**		**00 13 05.3**	**-0.1**
TX32	**Lajitas Array**	**8.79**	**214**		**Pn**		**00 13 05.3**	**-0.1**
K22A	**Casper**	**8.81**	**315**	IAmb_Lg			00 15 56.7	
SFIN	comp=Z,16nm,0.8s **Lafayette**	**9.28**	**64**	IAmb_Lg			00 15 50.1	
WCI	comp=Z,17nm,0.8s **Wyandotte Cave**	**9.43**	**78**	IAmb_Lg			00 16 01.4	
I42A	comp=Z,11nm,0.7s **Draeger Farm,**	**9.95**	**41**	IAmb_Lg			00 16 23.3	
	comp=Z,12nm,0.8s							

TUL ***25*** *00:15:26.9±1.6,36.°60N±0.°01×97.°63W±0.°02,h5km±1km, ML3.6,mb3.7/3(NEIC),mb_Lg3.6/135(NEIC), Mwr3.4/41(NEIC),Error ellipse: s-maj=2.7km s-min=1.7km az=69.0*

ANF ***25*** *00:15:27.2±0.2,36.°58N×97.°63W,h5km,ML4.4/16,Error ellipse: s-maj=2.1km s-min=1.8km az=140.0*

NEIC ***25*** *00:15:27.1,36.°59N×97.°63W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.38; $M_{\theta\theta}$=0.34; $M_{\phi\phi}$=0.04; $M_{r\theta}$=-0.52; $M_{\theta\phi}$=-1.66; $M_{r\phi}$=0.27; Fault plane solution: M_0=1.79000×10^{14} NP1:ϕ_s=267.38000°, δ=86.57000°,λ=164.42000°. NP2:ϕ_s=358.33000°, δ=74.45000°, λ=3.56000°. Principal axes: T 1.9843, Plg13.0000°, Azm222.0000°; N -0.4862, Plg74.0000°, Azm75.0000°; P -1.4981, Plg8.0000°, Azm314.0000°:*

NEIC ***25*** *00:15:27.1±1.3,36.°59N±0.°01×97.°63W±0.°02,h1km±7km Error ellipse: s-maj=2.8km s-min=1.8km az=69.0*

IDC ***25*** *00:15:28.8±2.4,36.°77N×97.°98W,h0km,mb3.3/1, mb1 3.6/4,mb1mx3.3/38,mbtmp3.1/4,ML3.6/3,MS3.3/1, Ms1 3.3/1,ms1mx2.3/27,Error ellipse: s-maj=29.6km s-min=16.5km az=91.0*

ISC 25 00:15:27.3±1.1,36.°59N±0.°02×97.°62W±0.°02, h3km±9km, n155,σ0.80/140, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CROK	**Carrier**	**0.31**	**254**			**Pg**	**00 15 33.1**	**-0.1**
CROK				Sg		**Sg**	**00 15 37.6**	**+0.4**
GC02	**Grant County #**	**0.33**	**323**			**Pg**	**00 15 33.5**	**-0.1**
GC02				Sg		**Sg**	**00 15 38.2**	**+0.3**
KAN13	**South Haven SW**	**0.44**	**15**			**Pg**	**00 15 35.6**	**-0.1**
KAN14	**Manchester OK**	**0.46**	**323**			**Pg**	**00 15 35.9**	**-0.2**
KAN14				Sg		**Sg**	**00 15 42.3**	**+0.2**
OK032	**Salt Plains WL**	**0.52**	**294**			**Pg**	**00 15 37.0**	**-0.4**
KAN09	**Caldwell North**	**0.55**	**360**			**Pg**	**00 15 37.6**	**-0.2**
KAN09				Sg		**Sg**	**00 15 45.0**	**+0.2**
KAN05	**Bluff City Nor**	**0.56**	**338**			**Pg**	**00 15 37.7**	**-0.2**
KAN10	**Anthony SW Sta**	**0.66**	**324**			**Pg**	**00 15 39.5**	**-0.4**
KAN10				Sg		**Sg**	**00 15 48.5**	**0.0**
KAN08	**Anthony NE Sta**	**0.70**	**336**			**Pg**	**00 15 40.3**	**-0.3**
KAN12	**Harper NE Stat**	**0.77**	**337**			**Pg**	**00 15 41.7**	**-0.3**
KAN12				Sg		**Sg**	**00 15 51.8**	**-0.2**
OK029	**Liberty Lake**	**0.80**	**171**	Pg		**Pg**	**00 15 42.4**	**-0.3**
OK029				Sg		**Sg**	**00 15 53.4**	**+0.3**
QUOK	**Quay**	**0.84**	**119**	Pg		**Pg**	**00 15 43.2**	**-0.2**
OK031	**S. Brethren Rd**	**0.89**	**135**			**Pg**	**00 15 44.1**	**-0.2**
OK031	comp=Z,372nm,0.7s			IAmb_Lg			00 15 55.6	
BCOK	**Bluff Creek, N**	**0.93**	**180**			**Pg**	**00 15 44.7**	**-0.4**
BCOK				Sg		**Sg**	**00 15 57.5**	**+0.3**
OK030	**Cody Creek RV**	**0.94**	**134**			**Pg**	**00 15 45.0**	**-0.3**
OK030	comp=Z,364nm,0.7s			IAmb_Lg			00 15 58.7	
T35A	**Sooner Cattle**	**0.94**	**69**			**Pg**	**00 15 45.0**	**-0.4**
T35A				Sg		**Sg**	**00 15 57.6**	**0.0**
T35B	**Sooner Cattle**	**0.94**	**69**	P		**Pg**	**00 15 45.0**	**-0.4**
T35B	baz=251,SNR=183			S		**Sg**	**00 15 57.7**	**+0.1**
T35B	baz=251 **Sooner Cattle**	**0.94**	**69**	P			00 15 45.0	
T35B	baz=251,SNR=183			S			00 15 57.7	
OK025	baz=251 **Westminster Rd**	**1.03**	**167**			**Pg**	**00 15 46.6**	**-0.4**
OK025				Sg		**Sg**	**00 16 00.7**	**+0.3**
U32A	**Winter Ranch,**	**1.14**	**260**			**Pg**	**00 15 48.0**	**-1.0**
U32A				Sg		**Sg**	**00 16 03.2**	**-0.6**
U32A	**Winter Ranch,**	**1.14**	**260**	P		**Pg**	**00 15 48.0**	**-1.0**
U32A	baz=78,SNR=61			S		**Sg**	**00 16 03.5**	**-0.3**
U32A	baz=78 **Winter Ranch,**	**1.14**	**260**	P			00 15 48.0	
U32A	baz=78,SNR=61			S			00 16 03.5	
OKCFA	baz=78 **Oklahoma City**	**1.18**	**173**	Pg		**Pg**	**00 15 49.1**	**-0.7**
OKCFA	**Oklahoma City**	**1.18**	**173**	P		**Pg**	**00 15 49.2**	**-0.7**
OKCFA	baz=353,SNR=10			S		**Sb**	**00 16 06.0**	**+0.1**
OKCFA	baz=353 **Oklahoma City**	**1.18**	**173**	P			00 15 49.2	
OKCFA	baz=353,SNR=10			S			00 16 06.0	
OKCSW	baz=353 **OKLAHOMA CITY**	**1.19**	**173**			**Pg**	**00 15 49.4**	**-0.7**
FNO	**Franklin**	**1.34**	**172**			**Pn**	**00 15 52.5**	**-0.4**
TUL1	**Leonard**	**1.62**	**114**	P		**Pn**	**00 15 56.5**	**-0.3**
TUL1	baz=296,SNR=241			S		**Sb**	**00 16 18.7**	**+0.1**
TUL1	baz=296 **Leonard**	**1.62**	**114**	P			00 15 56.5	
TUL1	baz=296			S			00 16 18.6	
TUL1	baz=296 **Leonard**	**1.62**	**114**	P			00 15 56.5	
TUL1	baz=296,SNR=241			S			00 16 18.7	
R32A	baz=296 **Long Quarter,**	**2.03**	**335**			**Pn**	**00 16 02.9**	**+0.6**
R32A				IAmb_Lg			00 16 32.8	
R32A	comp=Z,278nm,0.8s **Long Quarter,**	**2.03**	**335**	P		**Pn**	**00 16 02.9**	**+0.6**
R32A	baz=154,SNR=91			S		**Sb**	**00 16 30.4**	**0.0**
R32A	baz=154 **Long Quarter,**	**2.03**	**335**	P			00 16 02.9	
R32A	baz=154,SNR=91			S			00 16 30.4	
WMOK	baz=154 **Wichita Mounta**	**2.08**	**208**	Pn		**Pn**	**00 16 03.1**	**+0.1**
WMOK				IAmb_Lg			00 16 33.9	
WMOK	comp=Z,505nm,1.0s **Wichita Mounta**	**2.08**	**208**	P		**Pn**	**00 16 02.8**	**-0.2**
WMOK	baz=26,SNR=204			S		**Sn**	**00 16 30.2**	**+0.8**
WMOK	baz=26 **Wichita Mounta**	**2.08**	**208**	P			00 16 03.0	
WMOK	baz=26			S			00 16 31.2	
WMOK	baz=26 **Wichita Mounta**	**2.08**	**208**	P			00 16 02.8	
WMOK	baz=26,SNR=204			S			00 16 30.2	
U38A	baz=26 **Gravette**	**2.61**	**92**			**Pn**	**00 16 10.8**	**+0.5**
U38A				IAmb_Lg			00 16 48.6	
KSU1	comp=Z,189nm,0.9s **Kansas State U**	**2.63**	**17**	Pn		**Pn**	**00 16 10.6**	**0.0**
KSU1				IAmb_Lg			00 16 54.1	
KSU1	comp=Z,131nm,0.9s **Kansas State U**	**2.63**	**17**	P		**Pn**	**00 16 10.7**	**+0.1**
KSU1	baz=198,SNR=33 **Kansas State U**	**2.63**	**17**	Pb			00 16 16.3	
KSU1	baz=198 **Kansas State U**	**2.63**	**17**	P			00 16 10.7	
X37A	baz=198,SNR=33 **Clayton**	**2.71**	**137**			**Pn**	**00 16 12.1**	**+0.4**
X37A	**Clayton**	**2.71**	**137**	P		**Pn**	**00 16 11.9**	**+0.3**
X37A	baz=318,SNR=60 **Clayton**	**2.71**	**137**	P			00 16 11.9	
CBKS	baz=318,SNR=60 **Cedar Bluff**	**2.79**	**323**	Pn		**Pn**	**00 16 12.8**	**0.0**
CBKS	**Cedar Bluff**	**2.79**	**323**	Pb			00 16 18.8	
HHAR	baz=142 **Hobbs**	**2.98**	**95**	Pn		**Pn**	**00 16 15.8**	**+0.3**
Z35A	**Perchaven, San**	**3.27**	**175**			**Pn**	**00 16 20.1**	**+0.8**
Z35A	**Perchaven, San**	**3.27**	**175**	S		**Sn**	**00 16 59.6**	**+1.0**
Z35A	baz=355 **Perchaven, San**	**3.27**	**175**	S			00 16 59.6	
W39A	baz=355 **Magazine**	**3.41**	**113**			**Pn**	**00 16 21.5**	**+0.2**
W39A	comp=Z,244nm,0.8s			IAmb_Lg			00 17 18.4	
S39A	**Bolivar**	**3.60**	**71**			**Pn**	**00 16 24.1**	**+0.1**
S39A	comp=Z,246nm,0.8s			IAmb_Lg			00 17 25.4	
S39A	**Bolivar**	**3.60**	**71**	P		**Pn**	**00 16 23.7**	**-0.3**
S39A	baz=254,SNR=25 **Bolivar**	**3.60**	**71**	P			00 16 23.7	
AMTX	baz=254,SNR=25 **Amarillo**	**3.72**	**244**	Pn		**Pn**	**00 16 25.9**	**+0.3**
AMTX	comp=Z,166nm,0.8s			IAmb_Lg			00 17 31.8	
AMTX	**Amarillo**	**3.72**	**244**	P		**Pn**	**00 16 25.7**	**0.0**
AMTX	baz=61,SNR=16 **Amarillo**	**3.72**	**244**	P			00 16 26.3	
AMTX	baz=61			Sb			00 17 22.9	
AMTX	**Amarillo**	**3.72**	**244**	P			00 16 25.7	
U40A	baz=61,SNR=16 **Yellville**	**3.85**	**92**			**Pn**	**00 16 27.8**	**+0.5**
U40A	**Yellville**	**3.85**	**92**	P		**Pn**	**00 16 27.4**	**0.0**
U40A	baz=275,SNR=24 **Yellville**	**3.85**	**92**	P			00 16 27.4	
U40A	baz=275 **Yellville**	**3.85**	**92**	P			00 16 27.4	
U40A	baz=275,SNR=24			P			00 16 27.4	
MIAR	baz=275,SNR=24 **Mount Ida**	**3.87**	**121**			**Pn**	**00 16 28.4**	**+0.8**
MIAR	comp=Z,153nm,0.9s			IAmb_Lg			00 17 35.8	
MIAR	**Mount Ida**	**3.87**	**121**	P		**Pn**	**00 16 27.9**	**+0.2**
MIAR	baz=303,SNR=15 **Mount Ida**	**3.87**	**121**	Pb			00 16 36.8	
MIAR	baz=303 **Mount Ida**	**3.87**	**121**	P			00 16 27.9	
N33A	baz=303,SNR=15 **J Bar K, Exete**	**4.14**	**2**	Pn		**Pn**	**00 16 31.5**	**+0.1**
N33A	comp=Z,78nm,0.8s			IAmb_Lg			00 17 48.4	
ABTX	**Abilene, Hawle**	**4.29**	**203**	Pn		**Pn**	**00 16 33.1**	**-0.4**
ABTX	comp=Z,106nm,1.1s			IAmb_Lg			00 17 43.1	
MGMO	**Mountain Grove**	**4.32**	**81**	Pn		**Pn**	**00 16 34.6**	**+0.7**
P38A	**Dawn**	**4.42**	**46**	Pn		**Pn**	**00 16 36.1**	**+0.9**
P38A	comp=Z,120nm,0.8s			IAmb_Lg			00 17 48.9	
X40A	**Basin Creek Fa**	**4.43**	**117**	Pn		**Pn**	**00 16 35.6**	**+0.3**
X40A	comp=Z,104nm,0.7s			IAmb_Lg			00 17 49.5	
FCAR	**Ozark Folk Cen**	**4.49**	**97**	Pn		**Pn**	**00 16 37.3**	**+1.1**
FCAR	comp=Z,86nm,0.7s			IAmb_Lg			00 17 58.9	
WHAR	**Wooly Hollow**	**4.51**	**105**	Pn		**Pn**	**00 16 36.0**	**-0.5**
WHAR	comp=Z,168nm,0.7s			IAmb_Lg			00 18 00.9	
N35A	**Tabor**	**4.54**	**19**			**Pn**	**00 16 37.0**	**+0.2**
N35A	**Tabor**	**4.54**	**19**	P		**Pn**	**00 16 36.9**	**+0.1**
N35A	baz=201,SNR=13 **Tabor**	**4.54**	**19**	P			00 16 36.9	
R40A	baz=201,SNR=13 **Maddies Statio**	**4.58**	**67**	Pn		**Pn**	**00 16 37.2**	**-0.2**
R40A	comp=Z,90nm,0.7s			IAmb_Lg			00 17 59.2	
R40A	**Maddies Statio**	**4.58**	**67**	P		**Pn**	**00 16 37.3**	**-0.2**
R40A	baz=250,SNR=20 **Maddies Statio**	**4.58**	**67**	P			00 16 37.3	
WHTX	baz=250,SNR=20 **Lake Whitney,**	**4.59**	**178**	Pn		**Pn**	**00 16 37.2**	**-0.3**
WHTX	**Lake Whitney,**	**4.59**	**178**	P		**Pn**	**00 16 37.4**	**-0.1**
WHTX	baz=358,SNR=9.7 **Lake Whitney,**	**4.59**	**178**	P			00 16 37.6	
WHTX	baz=358 **Lake Whitney,**	**4.59**	**178**	P			00 16 37.4	
KSCO	baz=358,SNR=9.7 **Kaye Shedlock'**	**4.65**	**303**	Pn		**Pn**	**00 16 38.8**	**+0.4**
KSCO	**Kaye Shedlock'**	**4.65**	**303**	P			00 16 39.6	
WLAR	baz=120 **White Oak Lake**	**4.69**	**127**	Pn		**Pn**	**00 16 39.1**	**+0.2**
WLAR	comp=Z,73nm,0.7s			IAmb_Lg			00 18 06.0	
237A	**Washetta, Mont**	**4.81**	**161**	Pn		**Pn**	**00 16 40.4**	**-0.3**
237A	comp=Z,87nm,0.8s			IAmb_Lg			00 17 58.0	
BGNE	**Belgrade**	**4.83**	**355**	Pn		**Pn**	**00 16 40.5**	**-0.4**
BGNE	comp=Z,218nm,0.8s			IAmb_Lg			00 18 02.9	
BGNE	**Belgrade**	**4.83**	**355**	P		**Pn**	**00 16 40.5**	**-0.4**
BGNE	baz=175 **Belgrade**	**4.83**	**355**	P			00 16 40.5	
BGNE	baz=175 **Belgrade**	**4.83**	**355**	P			00 16 40.5	
MSTX	baz=175 **Muleshoe**	**4.96**	**240**	Pn		**Pn**	**00 16 42.7**	**-0.1**
LCAR	**Lake Charles**	**5.24**	**94**	Pn		**Pn**	**00 16 45.8**	**-0.7**
LCAR	comp=Z,160nm,0.8s			IAmb_Lg			00 18 15.4	
T42A	**Van Buren**	**5.25**	**83**	Pn		**Pn**	**00 16 47.6**	**+0.9**
T42A	comp=Z,145nm,0.8s			IAmb_Lg			00 18 19.8	
P40A	**Paris**	**5.28**	**55**			**Pn**	**00 16 46.5**	**-0.5**
P40A	comp=Z,153nm,0.8s			IAmb_Lg			00 18 15.2	
CCM	**Cathedral Cave**	**5.29**	**72**			**Pn**	**00 16 47.6**	**+0.5**
NATX	**Nacogdoches**	**5.40**	**152**	IAmb_Lg			00 18 27.2	
N38A	comp=Z,60nm,0.8s **Joes South For**	**5.42**	**38**	Pn		**Pn**	**00 16 48.9**	**-0.1**
N38A	comp=Z,162nm,0.8s			IAmb_Lg			00 18 33.2	
N38A	**Joes South For**	**5.42**	**38**	P		**Pn**	**00 16 48.8**	**-0.1**
N38A	baz=221 **Joes South For**	**5.42**	**38**	P			00 16 48.8	
L34A	baz=221 **Svendsen Farm,**	**5.46**	**10**	Pn		**Pn**	**00 16 49.2**	**-0.2**
CCAR	**Cane Creek**	**5.47**	**117**	IAmb_Lg			00 18 30.2	
T25A	comp=Z,104nm,0.8s **Trinidad**	**5.48**	**278**	Pn		**Pn**	**00 16 50.5**	**+0.6**
T25A	comp=Z,105nm,0.8s			IAmb_Lg			00 18 30.5	
T25A	**Trinidad**	**5.48**	**278**	P			00 16 51.0	
T25A	baz=94			Sb			00 18 16.8	
OGNE	baz=94 **Ogallala**	**5.55**	**323**			**Pn**	**00 16 50.7**	**-0.1**
OGNE	comp=Z,201nm,0.9s			IAmb_Lg			00 18 32.4	
PBMO	**Poplar Bluff**	**5.78**	**86**	IAmb_Lg			00 18 37.6	
435B	comp=Z,156nm,0.8s **Jarrell**	**5.79**	**180**	IAmb_Lg			00 18 40.8	
FVM	comp=Z,112nm,0.7s **French Village**	**5.90**	**74**	Pn		**Pn**	**00 16 54.6**	**-0.9**
SLM	**Saint Louis**	**6.20**	**69**	IAmb_Lg			00 18 44.0	
SCIA	comp=Z,154nm,0.7s **State Center**	**6.31**	**31**	Pn		**Pn**	**00 17 00.9**	**-0.3**
SCIA	comp=Z,120nm,0.8s			IAmb_Lg			00 18 51.7	
SCIA	**State Center**	**6.31**	**31**	P		**Pn**	**00 17 01.3**	**+0.1**
SCIA	baz=214 **State Center**	**6.31**	**31**	P			00 17 01.3	
JCT	baz=214 **Junction City**	**6.36**	**197**	IAmb_Lg			00 18 55.0	
143A	comp=Z,134nm,0.9s **Socs Landing,**	**6.42**	**125**	Pn		**Pn**	**00 17 03.2**	**+0.5**
143A	comp=Z,51nm,0.7s			IAmb_Lg			00 18 59.8	
N41A	**Harden Midland**	**6.70**	**50**	Pn		**Pn**	**00 17 07.8**	**+1.3**
N41A	comp=Z,156nm,0.8s			IAmb_Lg			00 19 00.5	
W45A	**Hickory Valley**	**6.99**	**99**	Pn		**Pn**	**00 17 11.4**	**+0.9**
W45A	comp=Z,136nm,0.7s			IAmb_Lg			00 19 16.8	
OXF	**Oxford**	**7.00**	**105**	Pn		**Pn**	**00 17 09.8**	**-0.8**
OXF	comp=Z,94nm,0.7s			IAmb_Lg			00 19 14.2	
ISCO	**Idaho Springs**	**7.07**	**299**	Pn		**Pn**	**00 17 12.3**	**+0.5**
K38A	**Parkersburg**	**7.11**	**30**	Pn		**Pn**	**00 17 11.8**	**-0.3**
K38A	comp=Z,94nm,0.8s			IAmb_Lg			00 19 29.7	
Y45A	**Yeager Farm, C**	**7.14**	**110**	IAmb_Lg			00 19 27.6	
	comp=Z,115nm,0.8s							
ECSD	**EROS Data Cent**	**7.18**	**6**	Pn		**Pn**	**00 17 11.6**	**-1.4**
ECSD	comp=Z,41nm,0.8s			IAmb_Lg			00 19 18.0	
Q44A	**Meyer Farm, Va**	**7.19**	**69**	Pn		**Pn**	**00 17 12.3**	**-1.0**
ANMO	**Albuquerque**	**7.37**	**260**	Pn		**Pn**	**00 17 17.5**	**+1.6**
ANMO	comp=Z,0.1nm,0.3s,baz=94,slow=14,SNR=1.6			Pg		**Pb**	**00 17 37.9**	**+1.9**
ANMO	comp=Z,0.4nm,0.3s,baz=77,slow=15,SNR=3.7			Lg		Lg	00 19 13.8	
L40A	comp=Z,1.0nm,0.3s,baz=35,slow=12,SNR=3.8 **Anamosa**	**7.38**	**40**			**Pn**	**00 17 15.5**	**-0.3**
L40A	comp=Z,59nm,0.8s			IAmb_Lg			00 19 24.4	
HDIL	**Hopedale**	**7.63**	**56**	Pn		**Pn**	**00 17 18.1**	**-1.1**
PHWY	**Pilot Hill**	**7.71**	**310**	Pn		**Pn**	**00 17 21.1**	**+0.4**
735A	**Kenedy**	**7.71**	**181**	IAmb_Lg			00 19 47.9	
WVT	comp=Z,80nm,1.1s **Waverly**	**7.91**	**90**	Pn		**Pn**	**00 17 22.8**	**-0.3**
WVT	comp=Z,42nm,0.8s			IAmb_Lg			00 19 36.9	
SUSD	**Miller**	**7.91**	**353**	IAmb_Lg			00 19 48.8	
PLAL	comp=Z,92nm,1.0s **Pickwick Lake**	**7.92**	**99**	IAmb_Lg			00 19 43.3	
Y22D	comp=Z,48nm,0.7s **IRIS PASSCAL I**	**8.01**	**254**	IAmb_Lg			00 19 58.3	
O44A	comp=Z,109nm,0.9s **Mansfield**	**8.02**	**61**			**Pn**	**00 17 24.9**	**+0.4**
O44A	comp=Z,103nm,0.8s			IAmb_Lg			00 19 51.5	
MNTX	**Cornudas Mount**	**8.07**	**235**			**Pn**	**00 17 25.1**	**-0.3**
146A	**Union**	**8.08**	**117**	IAmb_Lg			00 20 04.0	
I37A	comp=Z,39nm,0.9s **Lemond, Waseca**	**8.09**	**22**	IAmb_Lg			00 19 46.8	
L42A	comp=Z,54nm,0.8s **Oliver, Polo**	**8.20**	**46**			**Pn**	**00 17 26.3**	**-0.7**
L42A	comp=Z,102nm,0.8s			IAmb_Lg			00 19 54.1	
T47A	**Sharon Grove**	**8.44**	**84**	IAmb_Lg			00 20 02.0	
JFWS	comp=Z,102nm,1.1s **Jewell Farm**	**8.49**	**40**	Pn		**Pn**	**00 17 30.4**	**-0.7**
Z47A	**Carrollton**	**8.54**	**111**	IAmb_Lg			00 20 21.8	
P46A	comp=Z,60nm,1.0s **Rosedale**	**8.74**	**67**	Pn		**Pn**	**00 17 36.2**	**+1.7**
V48A	**Smith Brothers**	**8.77**	**92**	IAmb_Lg			00 20 09.4	
TXAR	comp=Z,56nm,0.8s **Lajitas Array**	**8.84**	**217**	Pn		**Pn**	**00 17 35.4**	**-0.6**
TXAR	comp=Z,0.3nm,0.3s,baz=33,slow=10.0,SNR=3.0			Pg		Pg	00 18 01.9	-15
TXAR	comp=Z,0.4nm,0.3s,baz=35,slow=11,SNR=2.9			Lg		Lg	00 20 04.5	
TXAR	comp=Z,1.0nm,0.3s,baz=40,slow=23,SNR=5.4 **Lajitas Array**	**8.84**	**217**	Pn		**Pn**	**00 17 35.6**	**-0.4**
X48A	**Hartselle**	**8.88**	**101**	IAmb_Lg			00 20 07.8	
RSSD	comp=Z,63nm,1.1s **Black Hills**	**8.97**	**329**	Pn		**Pn**	**00 17 38.9**	**+0.9**
RSSD	comp=Z,35nm,0.8s			IAmb_Lg			00 20 28.1	
RWWY	**Rawlins**	**9.02**	**307**	IAmb_Lg			00 20 32.0	
I40A	comp=Z,33nm,1.1s **Norwalk**	**9.04**	**34**			**Pn**	**00 17 38.3**	**-0.3**
SFIN	**Lafayette**	**9.07**	**62**	IAmb_Lg			00 20 17.7	
PV22	comp=Z,84nm,0.8s **Blue Mesa, Par**	**9.08**	**286**	Pn		**Pn**	**00 17 39.6**	**+0.2**
CLTN	**Cedars of Leba**	**9.12**	**90**	IAmb_Lg			00 20 18.3	
BLO	comp=Z,98nm,1.1s **Bloomington**	**9.14**	**70**			**Pn**	**00 17 41.8**	**+1.8**
PV04	**Paradox Valley**	**9.15**	**285**	IAmb_Lg			00 20 28.1	
K22A	comp=Z,30nm,1.1s **Casper**	**9.15**	**314**	IAmb_Lg			00 20 29.1	
WCI	comp=Z,49nm,0.9s **Wyandotte Cave**	**9.16**	**76**	Pn		**Pn**	**00 17 42.3**	**+2.1**
HQIL	**Hanson Quary C**	**9.19**	**53**	IAmb_Lg			00 20 35.9	
F33A	comp=Z,63nm,0.9s **5 Mile Ranch,**	**9.29**	**6**	IAmb_Lg			00 20 31.4	
121A	comp=Z,44nm,0.9s **Cookes Peak, D**	**9.31**	**247**	IAmb_Lg			00 20 28.1	
SPMN	comp=Z,29nm,1.0s **Marine on St.**	**9.36**	**21**	IAmb_Lg			00 20 22.5	
K43A	comp=Z,31nm,0.9s **Burlington**	**9.41**	**47**	Pn		**Pn**	**00 17 43.6**	**0.0**
K43A	comp=Z,56nm,0.8s			IAmb_Lg			00 20 26.4	
LRAL	**Lakeview Retre**	**9.42**	**109**	IAmb_Lg			00 20 43.1	
U49A	comp=Z,33nm,1.1s **Red Boiling Sp**	**9.53**	**87**	IAmb_Lg			00 20 26.8	
Y49A	comp=Z,44nm,0.8s **Blount Mountai**	**9.56**	**103**	IAmb_Lg			00 20 39.2	
SWET	comp=Z,50nm,0.9s **Sewanee**	**9.58**	**95**	IAmb_Lg			00 20 41.5	
F36A	comp=Z,41nm,0.8s **Milaca**	**9.76**	**17**	Pn		**Pn**	**00 17 46.9**	**-1.6**
P48A	**Milroy**	**10.04**	**70**	Pn		**Pn**	**00 17 50.9**	**-1.4**
G40A	**Rib Lake**	**10.32**	**31**	Pn		**Pn**	**00 17 55.4**	**-0.8**
R50A	**Paris**	**10.70**	**77**	Pn		**Pn**	**00 18 02.6**	**+1.2**
E38A	**The Farm, Brul**	**10.98**	**22**	Pn		**Pn**	**00 18 04.1**	**-1.1**
O49A	**Covington**	**11.03**	**67**	Pn		**Pn**	**00 18 05.1**	**-0.7**
PDAR	**Pinedale Array**	**11.07**	**308**	Pn		**Pn**	**00 18 04.4**	**-2.3**
PDAR	comp=Z,0.1nm,0.3s,baz=118,slow=15,SNR=1.4			Pg			00 18 47.5	
PDAR	comp=Z,0.3nm,0.3s,baz=116,slow=14,SNR=4.1			Lg		Lg	00 21 05.9	
S51A	comp=Z,0.2nm,0.3s,baz=117,slow=28,SNR=2.6 **Beattyville**	**11.25**	**80**	Pn		**Pn**	**00 18 10.3**	**+1.5**
L48A	**N Adams**	**11.53**	**58**	Pn		**Pn**	**00 18 11.9**	**-0.8**
E43A	**Lone Tree Farm**	**12.60**	**36**	Pn		**Pn**	**00 18 25.3**	**-2.0**
U54A	**Nelsons Funny**	**12.71**	**86**	Pn		**Pn**	**00 18 29.2**	**+0.3**
GLMI	**Grayling**	**12.83**	**46**	Pn		**Pn**	**00 18 28.4**	**-2.0**
ULM	**Lac du Bonnet**	**13.71**	**5**	Lg		Lg	00 22 33.3	
E46A	comp=Z,0.5nm,0.3s,baz=103,slow=20,SNR=3.1 **Sault Ste Mari**	**13.94**	**41**	Pn		**Pn**	**00 18 43.0**	**-2.6**
M55A	**Ridgway**	**15.43**	**66**	Pn		**Pn**	**00 19 04.3**	**-1.6**
M55A	comp=Z,5.4nm,0.8s			IAmb		IAmb	00 19 13.9	
PFO	**Pinyon Flats O**	**15.71**	**265**	P		**P**	**00 19 14.1**	**+0.3**
PFO	comp=Z,3.8nm,1.1s			IAmb		IAmb	00 19 31.8	
SADO	**Sadowa**	**16.20**	**54**	Lg		Lg	00 23 54.2	
L56A	comp=Z,0.2nm,0.3s,baz=182,slow=22,SNR=6.0 **Greenwood**	**16.46**	**64**	P		**P**	**00 19 21.2**	**-0.8**
L56A	comp=Z,5.0nm,0.9s			IAmb		IAmb	00 19 22.8	
NVAR	**Mina Array Bea**	**16.52**	**283**	Pn		**Pn**	**00 19 17.5**	**-2.6**
ILAR	comp=Z,0.1nm,0.3s,baz=94,slow=12,SNR=1.7 **Eielson Array**	**40.42**	**330**	P		**P**	**00 23 07.2**	**+0.8**
PTGA	comp=Z,0.2nm,0.5s,baz=111,slow=7.6,SNR=4.8 **Pitinga**	**50.97**	**128**	LR		LR	00 48 37.8	
	comp=Z,29nm,18.3s,baz=194,slow=39							

IDC 25 00:17:10.9±1.4,30.°26N×104.°13E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.3/44,mbtmp3.3/4,ML2.9/1,Error ellipse: s-maj=91.3km s-min=25.5km az=62.0,Sichuan

| Code | Station Name | Δ° | AZ° | Phase | ID | ISC | Time | Res |

IGIL ***25*** *00:26:33.7, 35˚.36N×6˚.37W, h27km, ML2.1*
INMG ***25*** *00:26:34.1±1.7, 35˚.32N×6˚.37W, h31km±10km, ML2.3, Error ellipse: s-maj=4.3km s-min=3.1km az=50.0*
SFS ***25*** *00:26:34.0, 35˚.63N×6˚.32W, ML2.5, GOLFO DE CADIZ*
MDD ***25*** *00:26:35.2±1.2, 35˚.63N×6˚.31W, h84km±9km, mb3.1/4, Error ellipse: s-maj=8.6km s-min=3.4km az=14.0, PRXIMO*
ISC 25 00:26:35.2±1.4, 35˚.56N±0˚.05×6˚.31W±0˚.03, h74km±14km, n65, σ1§04/110, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECEU	**Ceuta**	**0.83**	**66**	P	**Pn**	**00 26 51.3**	**-0.6**
	4.9nm,0.2s,SNR=7.9						
CEU	**Ceuta**	**0.83**	**66**	P	**Pn**	**00 26 51.5**	**-0.4**
CEU				S	**Sn**	**00 27 05.4**	**+1.0**
CEU	**Ceuta**	**0.83**	**66**	*i* P	**Pn**	**00 26 51.5**	**-0.4**
CEU				*e*S	**Sn**	**00 27 05.4**	**+1.0**
EJIF	**Jimena Fronter**	**1.12**	**37**	P	**Pn**	**00 26 56.1**	**+0.7**
	SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.13**	**323**	P	**Pn**	**00 27 08.4**	**-0.3**
PBDV				S	**Sn**	**00 27 33.3**	**-0.9**
	5.1nm,0.6s						
PBDV	**Barranco-do-Ve**	**2.13**	**323**	*e*Pn	**Pn**	**00 27 08.4**	**-0.3**
PBDV				*e*Sn	**Sn**	**00 27 33.3**	**-0.9**
PBDV				A	A	00 27 35.9	
	5.1nm,0.6s						
PVAQ	**Vaqueiros**	**2.16**	**329**	P	**Pn**	**00 27 08.8**	**-0.3**
PVAQ				S	**Sn**	**00 27 35.0**	**0.0**
	10.0nm,1.3s						
PVAQ	**Vaqueiros**	**2.16**	**329**	*e*Pn	**Pn**	**00 27 08.8**	**-0.3**
PVAQ				*e*Sn	**Sn**	**00 27 35.0**	**0.0**
PVAQ				A	A	00 27 36.6	
	10.0nm,1.3s						
EGRO	**El Granado**	**2.18**	**335**	P	**Pn**	**00 27 09.4**	**-0.1**
	2.3nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**00 27 35.3**	**-0.2**
	7.8nm,0.1s,SNR=6.4						
EMIN	**Mina Concepcio**	**2.22**	**353**	P	**Pn**	**00 27 09.9**	**-0.1**
	0.6nm,0.1s,SNR=7.5						
EMIN				S	**Sn**	**00 27 36.2**	**-0.3**
	2.4nm,0.1s,SNR=11						
IFR	**Ifrane**	**2.26**	**154**	*e*P	**Pn**	**00 27 13.8**	**+3.1**
IFR				*e*S	**Sn**	**00 27 34.2**	**-3.5**
EGOR	**Sierra Gorda,**	**2.35**	**48**	P	**Pn**	**00 27 12.9**	**+1.0**
	0.5nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**00 27 41.2**	**+1.3**
	0.7nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**2.49**	**327**	P	**Pn**	**00 27 13.5**	**-0.1**
PCVE				S	**Sn**	**00 27 42.7**	**-0.3**
	3.6nm,0.3s						
PCVE	**Castro Verde**	**2.49**	**327**	*e*Pn	**Pn**	**00 27 13.5**	**-0.1**
PCVE				*e*Sn	**Sn**	**00 27 42.7**	**-0.3**
PCVE				A	A	00 27 47.9	
	3.6nm,0.3s						
ELGU	**Los Guajares,**	**2.53**	**58**	P	**Pn**	**00 27 12.6**	**-1.5**
	0.7nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**00 27 43.0**	**-1.0**
	4.0nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.57**	**308**	S	**Sn**	**00 27 44.5**	**-0.2**
	13nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.57**	**308**	*e*Sn	**Sn**	**00 27 45.4**	**+0.6**
MORF	**Marmelete**	**2.57**	**313**	*e*S	**Sn**	**00 27 42.9**	**-2.0**
MORF				AML	AML	00 27 44.2	
	comp=E,6.7nm,0.2s						
MORF	**Marmelete**	**2.57**	**313**	S	**Sn**	**00 27 43.4**	**-1.5**
	comp=E,7.8nm,0.8s						
MORF	**Marmelete**	**2.57**	**313**	*e*Sn	**Sn**	**00 27 43.4**	**-1.5**
MORF				A	A	00 27 48.9	
	comp=E,7.8nm,0.8s						
ECAB	**El Cabril**	**2.61**	**16**	P	**Pn**	**00 27 15.3**	**+0.1**
	comp=E,0.4nm,0.1s,SNR=12						
ECAB				S	**Sn**	**00 27 46.3**	**+0.5**
	comp=E,0.8nm,0.1s,SNR=5.9						
PBAR	**Barrancos**	**2.67**	**348**	P	**Pn**	**00 27 16.3**	**+0.3**
PBAR				S	**Sn**	**00 27 46.8**	**-0.6**
	comp=E,4.9nm,0.4s						
PBAR	**Barrancos**	**2.67**	**348**	*e*Pn	**Pn**	**00 27 16.3**	**+0.3**
PBAR				*e*Sn	**Sn**	**00 27 46.8**	**-0.6**
PBAR				A	A	00 27 49.3	
	comp=E,4.9nm,0.4s						
MESJ	**Messejana**	**2.74**	**327**	*e*P	**Pn**	**00 27 16.6**	**-0.4**
MESJ				*e*S	**Sn**	**00 27 47.9**	**-1.2**
MESJ				AML	AML	00 27 51.0	
	comp=E,8.9nm,0.2s						
MESJ	**Messejana**	**2.74**	**327**	P	**Pn**	**00 27 16.8**	**-0.2**
MESJ				S	**Sn**	**00 27 48.7**	**-0.4**
	comp=E,3.6nm,0.2s						
MESJ	**Messejana**	**2.74**	**327**	*e*Pn	**Pn**	**00 27 16.8**	**-0.2**
MESJ				*e*Sn	**Sn**	**00 27 48.7**	**-0.4**
MESJ				A	A	00 27 54.2	
	comp=E,3.6nm,0.2s						
PBEJ	**Beja**	**2.76**	**334**	P	**Pn**	**00 27 18.6**	**+1.4**
PBEJ				S	**Sn**	**00 27 49.6**	**+0.1**
	comp=E,4.0nm,0.5s						
PBEJ	**Beja**	**2.76**	**334**	*e*Pn	**Pn**	**00 27 18.6**	**+1.4**
PBEJ				*e*Sn	**Sn**	**00 27 49.6**	**+0.1**
PBEJ				A	A	00 27 53.4	
	comp=E,7.9nm,0.5s						
PTEO	**Sao Teotonio**	**2.77**	**316**	P	**Pn**	**00 27 16.6**	**-0.8**
PTEO				S	**Sn**	**00 27 48.8**	**-1.0**
	comp=E,4.0nm,0.9s						
PTEO	**Sao Teotonio**	**2.77**	**316**	*e*Pn	**Pn**	**00 27 16.6**	**-0.8**
PTEO				*e*Sn	**Sn**	**00 27 48.8**	**-1.0**
PTEO				A	A	00 27 51.9	
	comp=E,8.0nm,0.9s						
EADA	**Adamuz**	**2.95**	**28**	P	**Pn**	**00 27 20.5**	**+0.7**
	comp=E,3.2nm,0.2s,SNR=18						
EADA				S	**Sn**	**00 27 53.8**	**-0.3**
	comp=E,0.8nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.07**	**63**	P	**Pn**	**00 27 20.0**	**-1.6**
	comp=E,0.2nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**00 27 56.9**	**-0.4**
	SNR=7.9						
PNCL	**Nicolau / Gran**	**3.11**	**326**	P	**Pn**	**00 27 23.0**	**+1.1**
PNCL				S	**Sn**	**00 27 58.0**	**+0.1**
	comp=E,3.2nm,0.9s						
PNCL	**Nicolau / Gran**	**3.11**	**326**	*e*Pn	**Pn**	**00 27 23.0**	**+1.1**
PNCL				*e*Sn	**Sn**	**00 27 58.0**	**+0.1**
PNCL				A	A	00 28 01.0	
	comp=E,3.2nm,0.9s						
EVO	**Evora**	**3.26**	**336**	P	**Pn**	**00 27 23.4**	**-0.6**
EVO				S	**Sn**	**00 28 00.9**	**-0.8**
	comp=E,8.7nm,0.1s						
EVO	**Evora**	**3.26**	**336**	*e*Pn	**Pn**	**00 27 23.4**	**-0.6**
EVO				*e*Sn	**Sn**	**00 28 00.9**	**-0.8**
EVO				A	A	00 28 03.1	
	comp=E,8.7nm,0.1s						
EQES	**Quesada**	**3.43**	**48**	P	**Pn**	**00 27 26.6**	**+0.1**
	comp=E,0.4nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**00 28 05.6**	**-0.5**
	comp=E,0.6nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**3.45**	**343**	*e*Pn	**Pn**	**00 27 27.4**	**+0.8**
PESTR				*e*Sn	**Sn**	**00 28 05.8**	**-0.6**
PESTR				A	A	00 28 10.6	
	comp=E,7.8nm,0.6s						
PMTG	**Montargil**	**3.82**	**337**	P	**Pn**	**00 27 32.2**	**+0.6**
PMTG				S	**Sn**	**00 28 15.0**	**-0.3**
	comp=E,4.4nm,0.5s						
PMTG	**Montargil**	**3.82**	**337**	*e*Pn	**Pn**	**00 27 32.2**	**+0.6**
PMTG				*e*Sn	**Sn**	**00 28 15.0**	**-0.3**
PMTG				A	A	00 28 20.9	
	comp=E,4.4nm,0.5s						
PMRV	**Marv??o**	**3.95**	**348**	P	**Pn**	**00 27 34.5**	**+1.0**
PMRV				S	**Sn**	**00 28 19.1**	**+0.5**
	comp=E,10nm,0.6s						
PMRV	**Marv??o**	**3.95**	**348**	*e*Pn	**Pn**	**00 27 34.5**	**+1.0**
PMRV				*e*Sn	**Sn**	**00 28 19.1**	**+0.5**
PMRV				A	A	00 28 23.2	
	comp=E,10nm,0.6s						
SESP	**Santiago Espad**	**3.95**	**49**	P	**Pn**	**00 27 33.6**	**0.0**
	comp=E,0.4nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**00 28 18.1**	**-0.7**
	comp=E,1.1nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**4.27**	**21**	P	**Pn**	**00 27 38.2**	**+0.4**
	comp=E,0.5nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**00 28 25.3**	**-1.2**
	comp=E,0.2nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.37**	**348**	P	**Pn**	**00 27 40.0**	**+0.9**
PCBR				S	**Sn**	**00 28 28.9**	**+0.2**
	comp=E,1.9nm,0.1s						
PCBR	**Castelo Branco**	**4.37**	**348**	*e*Pn	**Pn**	**00 27 40.0**	**+0.9**
PCBR				*e*Sn	**Sn**	**00 28 28.9**	**+0.2**
PCBR				A	A	00 28 29.6	
	comp=E,3.7nm,0.1s						
PSBE	**So Bento**	**4.41**	**334**	*e*Sn	**Sn**	**00 28 29.8**	**0.0**
EPLA	**Plasencia**	**4.50**	**2**	P	**Pn**	**00 27 42.2**	**+1.3**
	comp=E,3.6nm,0.2s,SNR=15						
EPLA				S	**Sn**	**00 28 31.4**	**-0.5**
	comp=E,2.0nm,0.2s,SNR=7.6						
ESDC	**Sonseca Array**	**4.51**	**24**	P	**Pn**	**00 27 41.5**	**+0.4**
	comp=E,0.7nm,0.2s,baz=209,slow=13,SNR=6.1						
ESDC				S	**Sn**	**00 28 27.6**	**-4.6**
	comp=E,0.4nm,0.2s,baz=81,slow=38,SNR=4.3						
PCAS	**Casmilo, Conde**	**4.81**	**340**	S	**Sn**	**00 28 38.3**	**-1.1**
PCAS	**Casmilo, Conde**	**4.81**	**340**	*e*Sn	**Sn**	**00 28 38.3**	**-1.1**
ETOB	**Tobarra**	**4.89**	**50**	P	**Pn**	**00 27 46.0**	**-0.4**
	comp=E,0.7nm,0.2s,SNR=11						
ETOB				S	**Sn**	**00 28 39.6**	**-2.1**
	comp=E,0.2nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**4.93**	**349**	S	**Sn**	**00 28 42.4**	**-0.1**
MTE	**Manteigas**	**4.93**	**349**	*e*Sn	**Sn**	**00 28 42.4**	**-0.1**
PVIS	**Viseu**	**5.29**	**347**	S	**Sn**	**00 28 51.2**	**-0.2**
PVIS	**Viseu**	**5.29**	**347**	*e*Sn	**Sn**	**00 28 51.2**	**-0.2**
AFON	**Font Roja**	**5.55**	**54**	P	**Pn**	**00 27 57.8**	**+2.4**
	comp=E,2.4nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.62**	**354**	P	**Pn**	**00 27 58.0**	**+1.7**
	comp=E,0.8nm,0.1s,SNR=7.0						
MVO				S	**Sn**	**00 28 58.4**	**-1.1**
	SNR=7.9						
MVO	**Moncorvo**	**5.62**	**354**	*e*Pn	**Pn**	**00 27 58.1**	**+1.8**
MVO				*e*Sn	**Sn**	**00 28 59.6**	**+0.1**
PVRL	**Vila Real**	**5.81**	**349**	S	**Sn**	**00 29 03.9**	**-0.1**
PVRL	**Vila Real**	**5.81**	**349**	*e*Sn	**Sn**	**00 29 03.9**	**-0.1**
ECHE	**Chera**	**5.84**	**45**	P	**Pn**	**00 27 59.0**	**-0.3**
	comp=E,0.3nm,0.1s,SNR=7.9						
POLO	**Lamas de Olo**	**5.92**	**349**	S	**Sn**	**00 29 06.1**	**-0.7**
POLO	**Lamas de Olo**	**5.92**	**349**	*e*Sn	**Sn**	**00 29 06.1**	**-0.7**
ETOR	**Torete**	**6.23**	**31**	P	**Pn**	**00 28 05.2**	**+0.7**
	comp=E,3.6nm,0.1s,SNR=6.6						
ETOR				S	**Sn**	**00 29 14.8**	**+0.5**
	comp=E,2.2nm,0.1s,SNR=7.9						

BJI ***25*** *00:34:25.0±0.0, 42˚.25N×143˚.04E, h53km, mB5.2/50, mb5.4/73, Ms4.4/66, Ms7 4.2/68*
IDC ***25*** *00:34:26.7±1.4, 42˚.41N×143˚.05E, h48km±11km, mb4.9/33, mb1 5.0/38, mb1mx5.0/42, mbtmp5.1/38, ML4.5/4, MS3.9/28, Ms1 3.9/28, ms1mx3.8/37, Error ellipse: s-maj=11.3km s-min=10.2km az=110.0*
MOS ***25*** *00:34:27.0±0.9, 42˚.32N×143˚.02E, h66km, mb5.5/76, Error ellipse: s-maj=5.3km s-min=3.6km az=106.3*
NEIC ***25*** *00:34:28.0±1.6, 42˚.27N±0˚.05×143˚.08E±0˚.09, h61km±2km, mb5.1/455, Mwr4.9/17, Mww4.9, Error ellipse: s-maj=10.6km s-min=7.2km az=111.0*
SKHL ***25*** *00:34:27.7±0.3, 42˚.20N×143˚.10E, h70km±4km, mb5.5/15, ms4.1/5*
NIED ***25*** *00:34:28.7, 42˚.35N×143˚.10E, h50km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr2.34; Mθθ-1.02; Mϕϕ-1.32; Mrθ 0.46; Mθϕ-0.98; Mϕr2.60; Fault plane solution: M0 3.45000×10^16 NP1:ϕs19.00000°, δ70.00000°, λ77.00000°. NP2:ϕs234.00000°, δ24.00000°, λ122.00000°.*
NEIC ***25*** *00:34:28.2, 42˚.27N×143˚.05E, h45km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr1.13; Mθθ 0.28; Mϕϕ-1.41; Mrθ 0.71; Mθϕ 0.25; Mϕr2.29; Fault plane solution: M0 2.74000×10^16 NP1:ϕs147.61000°, δ18.50000°, λ44.78000°. NP2:ϕs14.35000°, δ77.08000°, λ103.36000°. Principal axes: T 2.7047, Plg56.0000°, Azm301.0000°; N 0.0597, Plg13.0000°, Azm191.0000°; P -2.7644, Plg31.0000°, Azm93.0000°;*
JMA ***25*** *00:34:28.7±0.1, 42˚.35N×143˚.10E, h50km±1km, M5.0 Broadband fault plane solution: P waves. NP1: ϕs251.00000°, δ29.00000°, λ131.00000°. NP2: ϕs26.00000°, δ69.00000°, λ70.00000°. Principal axes: T Plg61.0000°, Azm266.0000°; N Plg19.0000°, Azm34.0000°; P Plg21.0000°, Azm131.0000°;*
JMA Felt III J1.
GCMT ***25*** *00:34:29.0±0.3, 42˚.28N±0˚.02×143˚.13E±0˚.02, h64km±1km, MW5.0/97, Moment Tensor Solution. s59,c80; s97,c144; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.84±.13; Mθθ-1.51±.10; Mϕϕ-1.33±.10; Mrθ 0.46±.08; Mθϕ-1.90±.08; Mϕr1.60±.07; Best double couple: M0 3.52000×10^16 NP1:ϕs243.00000°, δ35.00000°, λ117.00000°. NP2: ϕs31.00000°, δ59.00000°, λ73.00000°. Principal axes: T 3.3900, Plg70.0000°, Azm263.0000°; N 0.2600, Plg15.0000°, Azm40.0000°; P -3.6500, Plg13.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***25*** *00:34:29.6±0.0, 42˚.46N×143˚.51E, h57km±1km, mb5.3, Ms4.2*
NEIC ***25*** *00:34:31, 42˚.30N×143˚.05E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr3.10; Mθθ-0.35; Mϕϕ-2.75; Mrθ 0.36; Mθϕ-0.99; Mϕr0.55; Fault plane solution: M0 3.17000×10^16 NP1:ϕs197.00000°, δ39.00000°, λ86.00000°. NP2:ϕs22.00000°, δ51.00000°, λ93.00000°. Principal axes: T 3.1694, Plg84.0000°, Azm315.0000°; N -0.0032, Plg3.0000°, Azm200.0000°; P -3.1662, Plg6.0000°, Azm110.0000°;*
ISC 25 00:34:27.2±0.3, 42˚.31N±0˚.03×143˚.08E±0˚.03, h56km±2km, h55km: pP-P, n1213, σ1§37/1166, mb5.2/462, MS4.2/51, 244C-132D, Fault plane solution: NP1:ϕs20.10412°, δ74.52258°, λ67.25302°. NP2:ϕs257.62820°, δ27.27995°, λ144.39246°. Principal axes: T Plg54.8013°, Azm261.7882°; N Plg21.8785°, Azm26.4882°; P Plg26.0888°, Azm127.8279°; Fault plane solution: NP1:ϕs132.60860°, δ38.52675°, λ20.23047°. NP2: ϕs26.52585°, δ77.56158°, λ126.76269°. Principal axes: T Plg44.8688°, Azm333.1909°; N Plg35.7644°, Azm197.3845°; P Plg23.6331°, Azm89.0130°; Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTHR	**Tokachihiroo**	**0.17**	**96**	⇑P	**Pn**	**00 34 36.8**	**+0.8**
JNBK	**Urakawa-nobuka**	**0.24**	**263**	⇓P	**Pn**	**00 34 37.4**	**+1.0**
JNBK				*e*S	**Sn**	**00 34 44.6**	**+1.6**
JEM	**Erimo**	**0.30**	**168**	⇑P	**Pn**	**00 34 38.4**	**+1.5**
ERM	**Erimo**	**0.30**	**169**	PN	**Pn**	**00 34 38.6**	**+1.7**
ERM						00 34 46.5	
ERM	**Erimo**	**0.30**	**169**	Pn	**Pn**	**00 34 38.6**	**+1.7**
ERM				Sn	**Sn**	**00 34 46.5**	**+2.7**
JCH	**Churui**	**0.37**	**35**	⇑P	**Pn**	**00 34 38.0**	**+0.5**
JCH				*e*S	**Sn**	**00 34 45.3**	**+0.4**
JSHD	**Hidakashinhida**	**0.46**	**283**	⇓P	**Pn**	**00 34 39.9**	**+1.5**
JBT2	**Biratori 2**	**0.70**	**312**	⇓P	**Pn**	**00 34 42.5**	**+1.2**
JOB	**Onbets**	**0.82**	**43**	⇑P	**Pn**	**00 34 44.0**	**+1.3**
JOB				*e*S	**Sn**	**00 34 55.5**	**+1.5**
JIAM	**Iburiatsuma**	**0.91**	**290**	⇓P	**Pn**	**00 34 46.6**	**+2.7**
JFR	**Furan**	**0.93**	**338**	⇓P	**Pn**	**00 34 43.9**	**-0.2**
JAR	**Ashorobuto**	**1.11**	**27**	⇑P	**Pn**	**00 34 47.1**	**+0.5**
JAR				*e*S	**Sn**	**00 35 01.1**	**+0.2**
JEW	**Eniwo**	**1.31**	**294**	⇓P	**Pn**	**00 34 51.2**	**+1.9**
JEW	**Eniwo**	**1.31**	**294**	Pn	**Pn**	**00 34 51.2**	**+1.9**
JEW				Sn	**Sn**	**00 35 07.6**	**+1.9**
JAB	**Ashibetsu**	**1.35**	**333**	⇓P	**Pn**	**00 34 51.4**	**+1.6**
JAK	**Akkeshi**	**1.38**	**60**	⇑P	**Pn**	**00 34 50.6**	**+0.5**
JAK				*e*S	**Sn**	**00 35 08.2**	**+0.9**
JAHD	**Aomorihigashid**	**1.67**	**232**	⇑P	**Pn**	**00 34 55.7**	**+1.6**
JTKR	**Abashiri--Toko**	**1.77**	**20**	⇓P	**Pn**	**00 34 56.7**	**+1.3**
JKA	**Kamikawa-asahi**	**1.84**	**349**	Pn	**Pn**	**00 34 57.9**	**+1.5**
JKA	**Kamikawa-asahi**	**1.84**	**349**	*e*P	**Pn**	**00 34 57.9**	**+1.5**
ASAJ	**Asahikawa**	**1.84**	**349**	P	**Pn**	**00 34 57.5**	**+1.1**
	432nm,0.3s,baz=205,slow=12,SNR=608						
ASAJ				S	**Sn**	**00 35 15.2**	**-3.3**
	735nm,0.3s,baz=218,slow=18,SNR=8.4						
ASAJ				LR	LR	00 35 40.8	
	comp=Z,3μm,21.2s,baz=188,slow=42						
ASAJ	**Asahikawa**	**1.84**	**349**	PN	**Pn**	**00 34 57.9**	**+1.5**
JTM	**Tenmabayashi**	**2.14**	**225**	⇑P	**Pn**	**00 35 01.9**	**+1.4**
JTM	**Tenmabayashi**	**2.14**	**225**	Pn	**Pn**	**00 35 02.1**	**+1.6**
NMR	**Nemuro--Hokkai**	**2.22**	**61**	⇓*i* PN	**Pn**	**00 35 01.2**	**-0.4**
NMR				*i* S	**Sn**	**00 35 26.5**	**-1.3**
NMR	**Nemuro--Hokkai**	**2.22**	**61**	*i* P	**Pn**	**00 35 01.2**	**-0.4**
NMR				*i* S	**Sn**	**00 35 26.5**	**-1.3**
GLVR	**Golovnino**	**2.29**	**51**	⇑*i* PN	**Pn**	**00 35 04.1**	**+1.6**
GLVR				*i* S	**Sn**	**00 35 31.6**	**+2.1**
GLVR				pmax	pmax		
	comp=N,498nm,0.1s						
GLVR				pmax	pmax		
	comp=E,260nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,978nm,0.1s						
GLVR				smax	smax		
	comp=E,6μm,0.2s						
GLVR				smax	smax		
	comp=N,21μm,0.3s						
GLVR	**Golovnino**	**2.29**	**51**	*i* P	**Pn**	**00 35 04.1**	**+1.6**
GLVR				AMB	AMB	00 35 05.0	
	comp=N,980nm,0.3s						
GLVR				*i* S	**Sn**	**00 35 31.6**	**+2.1**
GLVR				A	A	00 35 32.0	
	comp=N,21μm,0.5s						
GLVR				A	A	00 35 32.0	
	comp=N,6μm,0.5s						
RUSJ	**Misakicho**	**2.40**	**41**	⇓*i* PN	**Pn**	**00 35 06.0**	**+2.0**
RUSJ				*i* S	**Sn**	**00 35 35.4**	**+3.3**
GRPR	**Tuman**	**2.59**	**49**	⇑*i* PN	**Pn**	**00 35 08.7**	**+2.0**
GRPR				*i* S	**Sn**	**00 35 38.2**	**+1.2**
GRPR				pmax	pmax		
	comp=Z,603nm,0.3s						
GRPR				pmax	pmax		
	comp=E,213nm,0.2s						
GRPR				pmax	pmax		
	comp=N,301nm,0.1s						
GRPR				smax	smax		
	comp=E,3μm,0.4s						
GRPR				smax	smax		
	comp=N,5μm,0.3s						
GRPR	**Tuman**	**2.59**	**49**	*i* P	**Pn**	**00 35 08.7**	**+2.0**
GRPR				AMB	AMB	00 35 09.0	
	comp=N,600nm,0.3s						
GRPR				*i* S	**Sn**	**00 35 38.2**	**+1.2**
GRPR				A	A	00 35 41.0	
	comp=N,5μm,0.4s						
GRPR				A	A	00 35 41.0	
	comp=N,3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.67**	**49**	*c i* PN	**Pn**	**00 35 09.2**	**+1.5**
YUK				*i* S	**Sn**	**00 35 40.1**	**+1.3**
YUK				pmax	pmax		
	comp=E,159nm,0.1s						
YUK				pmax	pmax		
	comp=Z,922nm,0.1s						
YUK				smax	smax		
	comp=E,7μm,0.4s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK				MLR	MLR		
	comp=E,5μm,18.0s						
YUK				MLR	MLR		
	comp=Z,4μm,18.0s						
YUK				MLR	MLR		
	comp=N,5μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**2.67**	**49**	*i* P	**Pn**	**00 35 09.3**	**+1.5**
YUK				AMB	AMB	00 35 10.0	
	comp=N,920nm,0.3s						
YUK				*i* S	**Sn**	**00 35 40.1**	**+1.3**
YUK				A	A	00 35 43.0	
	comp=N,2μm,0.4s						
YUK				A	A	00 35 43.0	
	comp=N,7μm,0.4s						
YUK				AMS	AMS	00 36 08.6	
	comp=N,5μm,18.0s						
YUK				AMS	AMS	00 36 08.6	
	comp=N,5μm,18.0s						
YUK				AMS	AMS	00 36 08.6	
	comp=N,4μm,18.0s						
KUR	**Kuril'sk**	**4.54**	**48**	*e*PN	**Pn**	**00 35 36.0**	**+2.7**
KUR				*e*S	**Sn**	**00 36 28.0**	**+3.4**
KUR				pmax	pmax		
	comp=N,189nm,0.6s						
KUR				pmax	pmax		
	comp=E,442nm,0.6s						
KUR				pmax	pmax		
	comp=Z,493nm,0.6s						
KUR				smax	smax		
	comp=E,797nm,0.8s						
KUR				smax	smax		
	comp=N,669nm,0.9s						
KUR				smax	smax		
	comp=N,6μm,1.9s						
KUR				smax	smax		
	comp=E,3μm,2.0s						
KUR	**Kuril'sk**	**4.54**	**48**	*e*P	**Pn**	**00 35 35.6**	**+2.3**
KUR				AMB	AMB	00 35 39.0	
	comp=E,350nm,0.4s						
KUR				*e*S	**Sn**	**00 36 26.7**	**+2.1**
KUR				A	A	00 36 35.0	
	comp=E,2μm,0.8s						
KUR				A	A	00 36 35.0	
	comp=E,1μm,0.8s						
KUR				A	A	00 36 49.3	
	comp=E,6μm,2.0s						
KUR				A	A	00 36 49.3	
	comp=E,2μm,2.0s						
YSS	**Yuzh-Sakhalins**	**4.65**	**357**	*α i* PN	**Pn**	**00 35 37.7**	**+2.9**
YSS				*e*S	**Sn**	**00 36 30.6**	**+3.2**
YSS				pmax	pmax		
	comp=Z,300nm,1.1s						
YSS				smax	smax		
	comp=N,900nm,3.1s						
YSS				MLR	MLR		
	comp=Z,1μm,11.0s						
YSS				MLR	MLR		
	comp=E,1μm,13.0s						
YSS	**Yuzh-Sakhalins**	**4.65**	**357**	Pn	**Pn**	**00 35 37.5**	**+2.6**
YSS	**Yuzh-Sakhalins**	**4.65**	**357**	*i* P	**Pn**	**00 35 37.0**	**+2.2**
YSS				AMB	AMB	00 35 40.1	
	comp=E,900nm,3.0s						
YSS				*e*S	**Sn**	**00 36 30.6**	**+3.2**
YSS				A	A	00 36 31.8	
	comp=E,900nm,3.0s						
YSS				A	A	00 36 33.9	
	comp=E,220nm,0.9s						
YSS				AMS	AMS	00 37 52.0	
	comp=E,1μm,12.0s						
YSS				AMS	AMS	00 37 52.0	
	comp=E,1μm,12.0s						
JMM	**Marumori**	**4.77**	**202**		**Pn**	**00 35 36.8**	**+0.3**
TEY	**Ternei**	**5.43**	**302**	⇑*e*PN	**Pn**	**00 35 46.5**	**+1.0**
TEY				pmax	pmax		
	comp=N,60nm,1.0s						
TEY				pmax	pmax		
	comp=E,120nm,1.0s						
TEY				pmax	pmax		
	comp=Z,110nm,1.0s						
TEY	**Ternei**	**5.43**	**302**	*e*P	**Pn**	**00 35 47.2**	**+1.7**
TEY				AMB	AMB	00 35 47.8	
	comp=Z,110nm,0.7s						
JSD	**Sado**	**5.64**	**222**

MAJO Matsushiro 6.88 215 *c i* PN **Pn 00 36 06.7 +1.2**
MAJO pmax pmax
comp=Z,85nm,0.6s
MAJO Matsushiro 6.88 215 Pn **Pn 00 36 06.9 +1.4**
MAT Matsushiro 6.88 215 P **Pn 00 36 06.4 +0.9**
MAT S **Sn 00 37 25.3 +2.9**
MAT Matsushiro 6.88 215 P **Pn 00 36 07.0 +1.5**
MJAR Matsushiro Arr 6.88 215 P **Pn 00 36 06.3 +0.8**
comp=Z,2.7nm,0.3s,baz=27,slow=15,SNR=61
MJAR LR LR 00 38 26.3
comp=Z,472nm,21.3s,baz=35,slow=34
MJAR Matsushiro Arr 6.88 215 PN **Pn 00 36 06.6 +1.1**
MJAR Matsushiro Arr 6.88 215 **Pn 00 36 06.6 +1.1**
JNG Nsakai 7.04 215 P **Pn 00 36 09.4 +1.6**
JRY Ryogami san 7.07 209 P **Pn 00 36 08.4 +0.3**
JRY S **Sn 00 37 24.8 -2.3**
JSGW Sagamiharawaka 7.34 205 P **Pn 00 36 11.9 +0.1**
JKUC kamogawauchiur 7.48 198 P **Pn 00 36 13.3 -0.4**
JNT Takato 7.48 212 P **Pn 00 36 17.3 +3.5**
JGN Niukaw 7.54 218 P **Pn 00 36 17.1 +2.5**
BSO4 Boso 4 7.62 197 P **Pn 00 36 14.7 -0.7**
JYN Shimob 7.66 209 P **Pn 00 36 16.2 0.0**
JOD2 Odawara 2 7.69 205 P **Pn 00 36 15.0 -1.6**
JOD2 S **Sn 00 37 38.3 -4.0**
AJI Ajiro2 7.89 205 P **Pn 00 36 17.8 -1.5**
JHTM Izuhatsuma 8.00 205 P **Pn 00 36 19.4 -1.4**
JHTM S **Sn 00 37 47.1 -2.7**
JGF Kuroka 8.04 215 P **Pn 00 36 23.3 +1.9**
JGF Kuroka 8.04 215 **Pn 00 36 22.8 +1.4**
JNY Yasuok 8.04 212 P **Pn 00 36 22.9 +1.4**
JIM2 Oshima 3 8.10 202 P **Pn 00 36 19.6 -2.6**
JIM2 S **Sn 00 37 45.8 -6.5**
SHZ3 Shizuoka 3 8.17 209 P **Pn 00 36 25.2 +2.0**
JIZS Izushimoda 8.26 205 P **Pn 00 36 22.5 -1.9**
USRK Ussuriysk Ar. 8.31 287 P **Pn 00 36 27.0 +2.0**
baz=93,slow=14,SNR=80
USRK Ussuriysk Ar. 8.31 287 **Pn 00 36 27.1 +2.2**
USA0B Ussuriysk Arra 8.31 287 *c e* PN **Pn 00 36 28.1 +3.1**
USA0B Ussuriysk Arra 8.31 287 **Pn 00 36 27.0 +2.0**
JYTA Yamagatataniai 8.33 218 P **Pn 00 36 27.1 +1.9**
INU Inuyama 8.40 216 **Pn 00 36 27.5 +1.2**
JYZW Yoshizawa 8.41 212 P **Pn 00 36 26.2 -0.2**
JSG Sagara 8.53 208 **Pn 00 36 30.0 +2.0**
TYV Tymovskoe 8.56 358 *e* PN **Pn 00 36 31.7 +3.3**
TYV *e* S **Sn 00 38 10.5 +7.1**
TYV pmax pmax
comp=Z,111nm,0.9s
TYV smax smax
comp=N,35nm,1.7s
TYV Tymovskoe 8.56 358 *e* P **Pn 00 36 31.7 +3.3**
TYV AMB AMB 00 36 32.0
comp=N,110nm,0.9s
TYV *e* S **Sn 00 38 04.5 +1.1**
TYV A A 00 38 11.0
comp=N,30nm,2.0s
MSHR Mys Shultsa 8.82 276 *c e* PN **Pn 00 36 34.6 +2.7**
MSHR pmax pmax
comp=Z,229nm,1.3s
JWT Wachi 9.22 223 **Pn 00 36 39.2 +1.7**
JIE Ise 9.35 214 P **Pn 00 36 39.6 +0.3**
JHJ Hachijo jima 2 9.54 197 P **Pn 00 36 40.0 -1.8**
comp=Z,87nm,0.3s,baz=319,slow=20,SNR=17
JHJ S **Sn 00 38 19.1 -8.4**
comp=Z,96nm,0.3s,baz=83,slow=24,SNR=3.1
JHJ2 Mitsune 9.54 197 PN **Pn 00 36 39.6 -2.2**
GRNR Gornyy 9.62 334 ⇓ *i* PN **Pn 00 36 46.8 +3.9**
GRNR *e* S **Sn 00 38 37.6 +8.2**
GRNR pmax pmax
comp=N,210nm,0.7s
GRNR pmax pmax
comp=E,190nm,0.7s
GRNR pmax pmax
comp=Z,260nm,0.7s
GRNR smax smax
comp=N,5.0nm,0.7s
GRNR MLR MLR
comp=E,510nm,20.0s
GRNR MLR MLR
comp=N,480nm,19.0s
GRNR MLR MLR
comp=Z,500nm,17.0s
GRNR Gornyy 9.62 334 *e* P **Pn 00 36 46.8 +3.9**
GRNR AMB AMB 00 36 47.5
comp=Z,260nm,0.7s
GRNR AMS AMS 00 40 06.0
comp=Z,500nm,18.0s
GRNR AMS AMS 00 40 06.0
comp=Z,500nm,18.0s
GRNR AMS AMS 00 40 06.0
comp=Z,500nm,18.0s
MDJ Mudanjiang 10.07 288 P **Pn 00 36 49.0 -0.1**
MDJ PP 00 36 57.6
MDJ S **Sn 00 38 42.0 +1.5**
MDJ SS **SnSn 00 38 53.4 +1.0**
MDJ pmax pmax
comp=Z,28nm,0.9s
MDJ pmax pmax
comp=Z,520nm,3.3s
MDJ LR LR
comp=Z,600nm,8.4s
MDJ LR LR
comp=Z,1μm,13.7s
MDJ LR LR
comp=Z,2μm,19.8s
MDJ Mudanjiang 10.07 288 **Pn 00 36 51.9 +2.8**
KLR Kul'dur 10.50 315 P **Pn 00 36 57.0 +2.1**
comp=Z,1.0nm,0.3s,baz=122,slow=14,SNR=48
KLR LR LR 00 41 14.8
comp=Z,882nm,20.8s,baz=136,slow=39
KLR Kul'dur 10.50 315 *c i* PN **Pn 00 36 56.8 +1.9**
KLR pmax pmax
comp=Z,135nm,1.4s
KLR Kul'dur 10.50 315 *e* P **Pn 00 36 56.8 +1.9**
JHS Saijyo 10.67 230 **Pn 00 36 59.2 +1.9**
NKL Nikolayevsk 10.97 352 *e* P **Pn 00 37 04.8 +3.6**
NKL AMB AMB 00 37 07.0
comp=Z,140nm,1.0s
JMN Monobe 11.22 223 Pn **Pn 00 37 04.8 0.0**
OKH Okha 11.25 360 *e* P **Pn 00 37 08.7 +3.7**
OKH AMB AMB 00 37 17.6
OKH *e* S **Sn 00 39 11.1 +2.0**
OKH A A 00 39 21.4
OKH AMS AMS 00 42 46.1
SKR Severo-Kuril's 12.27 42 *e* PN Pn 00 37 12.5 -6.5
SKR pmax pmax
comp=Z,200nm,2.0s
SKR MLR MLR
comp=Z,300nm,11.0s
SKR Severo-Kuril's 12.27 42 *e* P **Pn 00 37 19.2 +0.2**
SKR *e* S **Sn 00 39 28.5 -5.5**
KSRS Korea Array 12.61 252 P **Pn 00 37 25.3 +1.6**
comp=Z,1.2nm,0.3s,baz=65,slow=13,SNR=138
KSRS S Sn 00 39 52.4 +10
comp=Z,2.0nm,0.3s,baz=66,slow=23,SNR=7.6
KSRS LR LR 00 42 10.6
comp=Z,326nm,21.7s,baz=72,slow=37
KSRS PcP **PcP 00 43 00.0 +2.0**
comp=Z,0.2nm,0.3s,baz=105,slow=1.5,SNR=7.2
KS19 Wonju Array Si 12.62 253 **Pn 00 37 25.2 +1.3**
KSAR Wonju Array Be 12.64 252 PN **Pn 00 37 24.5 +0.4**
KSAR Wonju Array Be 12.64 252 **Pn 00 37 24.5 +0.4**
EKMR Ekimchan 12.73 331 *e* P **Pn 00 37 25.5 +0.2**
EKMR AMB AMB 00 37 40.5
comp=Z,50nm,0.9s
CN2 Changchun 12.98 283 ⇓ *i* P **Pn 00 37 30.0 +1.2**
CN2 *e* S **Sn 00 39 48.0 -3.5**
CN2 pmax pmax
comp=Z,70nm,0.8s
CN2 pmax pmax
comp=Z,400nm,7.0s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,18.0s
PAU Pauzhetka 13.10 41 *e* P **Pn 00 37 30.3 0.0**
PAU AMB AMB 00 37 41.5
comp=Z,140nm,0.7s
PAU *e* S **Sn 00 39 49.5 -4.8**
PAU A A 00 39 51.4
comp=Z,50nm,0.8s
PAU A A 00 39 51.4
comp=Z,40nm,0.8s

JTU Tsushima 13.23 239 Pn **Pn 00 37 34.5 +2.2**
JNU Nakatsue 13.30 230 P **Pn 00 37 32.8 -0.5**
comp=Z,2.3nm,0.3s,baz=45,slow=5.0,SNR=23
TJN Taejon 13.52 249 *c i* PN **Pn 00 37 38.1 +1.9**
PEA0B Petropavlovsk- 14.58 37 ⇓ *e* P **Pn 00 37 50.9 +0.7**
PEA0B Petropavlovsk- 14.58 37 **Pn 00 37 49.5 -0.8**
PETK Petropavlovsk- 14.58 37 P **Pn 00 37 47.6 -2.6**
comp=Z,0.3nm,0.3s,baz=213,slow=7.2,SNR=8.0
PETK Petropavlovsk- 14.58 37 Pn **Pn 00 37 47.4 -2.8**
JSU Suzuyama 14.75 227 Pn **Pn 00 37 52.1 -0.5**
JCJ Chichijima 15.20 183 P **Pn 00 37 55.3 -3.0**
comp=Z,9.0nm,0.3s,baz=277,slow=16,SNR=2.3
JCJ S Sn 00 40 31.4 -14
comp=Z,14nm,0.3s,baz=308,slow=20,SNR=1.6
JCJ Chichijima 15.20 183 **Pn 00 37 55.2 -3.1**
JCJ IAmb IAmb 00 38 45.3
comp=Z,213nm,1.0s
ZEA Zeya 15.54 323 *e* P **Pn 00 38 03.2 +0.6**
ZEA *e* 00 41 00.3
ZEA pmax pmax
comp=E,40nm,0.7s
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=Z,80nm,0.8s
ZEA pmax pmax
comp=E,100nm,3.8s
ZEA pmax pmax
comp=Z,200nm,5.5s
ZEA MLR MLR
comp=E,300nm,16.0s
ZEA MLR MLR
comp=N,200nm,15.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
ZEA Zeya 15.54 323 *e* P **Pn 00 38 02.7 +0.1**
ZEA AMB AMB 00 38 07.1
comp=Z,80nm,0.8s
ZEA AMS AMS 00 44 12.0
comp=Z,200nm,15.0s
ZEA AMS AMS 00 44 12.0
comp=Z,300nm,15.0s
ZEA AMS AMS 00 44 12.0
comp=Z,400nm,15.0s
KROS Kirovskiy 16.13 324 *e* P **Pn 00 38 10.2 +0.2**
KROS AMB AMB 00 38 13.7
comp=Z,80nm,0.8s
DL2 Dalian 16.63 265 P **Pn 00 38 16.4 -0.1**
DL2 sP **sP 00 38 35.1 -2.2**
DL2 S **Sn 00 41 23.5 +3.3**
DL2 pmax pmax
comp=Z,120nm,0.7s
DL2 pmax pmax
comp=Z,360nm,5.2s
DL2 LR LR
comp=Z,420nm,13.5s
DL2 LR LR
comp=Z,600nm,16.9s
DL2 LR LR
comp=Z,560nm,19.1s
HIA Hailar 17.66 301 P **Pn 00 38 28.0 -1.1**
HIA pmax pmax
comp=Z,34nm,0.8s
HIA Hailar 17.66 301 **Pn 00 38 28.0 -1.1**
MA2 Magadan 17.93 13 P **P 00 38 28.3 -4.0**
comp=Z,6.0nm,0.3s,baz=194,slow=9.7,SNR=43
MA2 Magadan 17.93 13 P **P 00 38 31.4 -0.9**
MA2 pmax pmax
comp=Z,115nm,1.4s
MA2 Magadan 17.93 13 P **P 00 38 31.4 -0.9**
JOW Kunigami 19.62 223 P **P 00 38 49.9 -1.2**
comp=Z,3.8nm,0.3s,baz=15,slow=9.8,SNR=4.5
BJI Beijing 20.35 273 P **P 00 38 57.8 -1.1**
BJI S **S 00 42 46.8 +3.1**
BJI pmax pmax
comp=Z,50nm,0.9s
BJI pmax pmax
comp=Z,180nm,3.9s
BJI LR LR
comp=Z,520nm,17.3s
BJI LR LR
comp=Z,340nm,28.2s
BJI LR LR
comp=Z,720nm,29.8s
BJT Baijiatuau 20.36 273 IAmb IAmb 00 39 00.5
comp=Z,49nm,0.7s
TIA Tai'an 20.95 262 P **P 00 39 03.4 -2.1**
TIA pmax pmax
comp=Z,64nm,0.8s
TIA pmax pmax
comp=Z,93nm,5.0s
TIA LR LR
comp=Z,170nm,9.3s
TIA LR LR
comp=Z,450nm,15.7s
TIA LR LR
comp=Z,440nm,12.8s
YAK Yakutsk 21.31 343 P **P 00 39 07.3 -1.6**
comp=Z,33nm,0.4s,baz=138,slow=4.6,SNR=22
YAK S **S 00 42 56.1 -6.3**
comp=Z,13nm,0.5s,baz=168,slow=23,SNR=5.8
YAK Yakutsk 21.31 343 *e* P **P 00 39 06.1 -2.9**
YAK *e* S **S 00 42 55.9 -6.4**
YAK *e* 00 50 20.3
YAK pmax pmax
comp=Z,116nm,0.8s
YAK pmax pmax
comp=N,23nm,0.9s
YAK pmax pmax
comp=E,16nm,1.0s
YAK smax smax
comp=E,136nm,2.3s
YAK smax smax
comp=N,251nm,2.0s
YAK Yakutsk 21.31 343 P **P 00 39 06.3 -2.6**
SEY Seymchan 21.37 12 P **P 00 39 07.0 -2.6**
comp=N,46nm,0.7s,baz=184,slow=6.5,SNR=135
SEY S **S 00 43 00.1 -3.6**
comp=N,1.1nm,0.3s,baz=73,slow=19,SNR=5.5
SEY Seymchan 21.37 12 ⇑ *e* P **P 00 39 07.5 -2.2**
NJ2 Nanjing 21.78 250 *e* P **P 00 39 14.3 0.0**
NJ2 pP **pP 00 39 25.3 -1.3**
NJ2 sP **sP 00 39 32.8 -0.7**
NJ2 pmax pmax
comp=N,34nm,0.8s
NJ2 LR LR
comp=N,970nm,16.2s
NJ2 LR LR
comp=N,630nm,18.0s
NJ2 LR LR
comp=N,810nm,19.4s
HHC Hu-ho-hao-te 23.55 277 *e* P **P 00 39 33.3 +0.7**
HHC S **S 00 43 39.1 -3.5**
HHC sS sS 00 44 04.0 -2.1
HHC pmax pmax
comp=N,33nm,1.0s
HHC pmax pmax
comp=N,190nm,5.2s
HHC LR LR
comp=N,380nm,14.2s
HHC LR LR
comp=N,560nm,15.4s
HHC LR LR
comp=N,730nm,19.2s
BOD Bodaibo 24.01 320 *e* P **P 00 39 33.1 -3.4**
BOD pmax pmax
comp=Z,28nm,0.9s
BTO Baotou 24.75 277 P **P 00 39 43.3 -0.3**
BTO pmax pmax
comp=Z,120nm,0.5s
YHNB Yeheng 25.12 232 P **P 00 39 47.0 -0.1**
YHNB IAmb IAmb 00 39 51.8
comp=Z,71nm,1.0s
NACB Ninganchiao 25.38 231 P **P 00 39 48.0 -1.2**
WHN Wuhan 25.80 252 ⇓ P **P 00 39 51.0 -2.0**
WHN S **S 00 44 19.0 +0.6**
WHN LR LR
comp=Z,1μm,16.3s
ULN Ulaanbaatar 25.87 295 *c i* P **P 00 39 53.8 +0.1**
ULN pmax pmax
comp=Z,62nm,0.8s
ULN Ulaanbaatar 25.87 295 P **P 00 39 53.9 +0.1**
ULN IAmb IAmb 00 39 55.0
comp=Z,84nm,1.1s
ULN Ulaanbaatar 25.87 295 *e* P **P 00 39 53.8 +0.1**
SONM Songino Array 26.31 295 P **P 00 39 57.3 -0.4**
comp=Z,59nm,0.7s,baz=79,slow=8.5,SNR=414
SONM PcP **PcP 00 43 22.9 +0.4**
comp=Z,2.7nm,0.7s,baz=131,slow=3.6,SNR=4.1
SONM ScP **ScP 00 46 55.7 -1.7**
comp=Z,0.4nm,0.7s,baz=103,slow=1.9,SNR=2.5
SONM LR LR 00 51 16.0
comp=Z,679nm,19.0s,baz=89,slow=38
SONM Songino Array 26.31 295 P **P 00 39 57.7 0.0**
SONM IAmb IAmb 00 39 59.1
comp=Z,62nm,0.9s
IRK Irkutsk 27.83 304 *e* P **P 00 40 11.3 +0.2**
IRK pmax pmax
comp=Z,76nm,2.5s
XAN Xi'an 27.95 264 P **P 00 40 12.1 -0.3**
XAN pP pP 00 40 26.3 0.0
XAN sP sP 00 40 33.0 +0.1
XAN S **S 00 44 54.6 +2.2**
XAN pmax pmax
comp=Z,42nm,0.8s
XAN pmax pmax
comp=Z,200nm,4.6s
XAN LR LR
comp=Z,360nm,14.1s
XAN LR LR
comp=Z,430nm,17.9s
XAN LR LR
comp=Z,480nm,20.9s
XAN Xi'an 27.95 264 IAmb IAmb 00 40 16.4
comp=Z,29nm,0.8s
TLY Talaya 28.17 303 P **P 00 40 13.6 -0.6**
comp=Z,52nm,0.7s,baz=92,slow=4.0,SNR=26
TLY Talaya 28.17 303 *e* P **P 00 40 14.9 +0.7**
TLY *e* 00 41 23.7
TLY *e* S **S 00 44 59.3 +3.7**
TLY pmax pmax
comp=Z,148nm,0.8s
TLY MLR MLR
comp=Z,940nm,17.0s
TLY Talaya 28.17 303 P **P 00 40 14.8 +0.7**
TLY IAmb IAmb 00 40 15.9
comp=Z,60nm,0.8s
TLY Talaya 28.17 303 P **P 00 40 15.2 +1.0**
TLY Talaya 28.17 303 *e* P **P 00 40 14.9 +0.7**
ZAK Zakamensk 28.35 300 *e* P **P 00 40 15.8 -0.1**
ZAK pmax pmax
comp=Z,38nm,1.3s
BILL Bilibino 28.61 18 ⇓ *e* P **P 00 40 17.7 -0.2**
BILL *e* 00 41 08.2
BILL *e* S **S 00 44 59.6 -2.5**
BILL pmax pmax
comp=Z,12nm,1.0s
BILL MLR MLR
comp=Z,178nm,15.0s
BILL Bilibino 28.61 18 P **P 00 40 18.2 +0.3**
BILL Bilibino 28.61 18 *e* P **P 00 40 17.7 -0.2**
MOY Mondy 29.82 303 *e* P **P 00 40 29.2 +0.3**
MOY pmax pmax
comp=Z,117nm,1.5s
MOY Mondy 29.82 303 *e* P **P 00 40 29.2 +0.3**
H11N2 WAKE ISLAND Hy 30.20 131 T T 01 12 01.0
baz=324,slow=75,SNR=1451
H11N1 WAKE ISLAND Hy 30.21 131 T T 01 12 12.8
baz=324,slow=75,SNR=1147
H11N3 WAKE ISLAND Hy 30.21 131 T T 01 12 03.4
baz=324,slow=75,SNR=1742
TIXI Tiksi 30.24 351 ⇑ *i* P **P 00 40 29.9 -2.3**
TIXI pmax pmax
comp=Z,14nm,0.7s
TIXI Tiksi 30.24 351 P **P 00 40 29.7 -2.5**
LZH Lanzhou 30.83 272 ⇓ *i* P **P 00 40 38.9 +0.9**
LZH pP pP 00 40 51.9 -0.1
LZH sP sP 00 41 01.8 +3.2
LZH PP **PP 00 41 45.3 -3.0**
LZH *e* S **S 00 45 39.3 +1.5**
LZH pmax pmax
comp=Z,110nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.6s
LZH LR LR
comp=Z,1μm,12.7s
LZH LR LR
comp=Z,1μm,13.3s
LZH LR LR
comp=Z,1μm,13.3s
H11S1 WAKE ISLAND Hy 31.07 133 T T 01 13 07.2
baz=325,slow=76,SNR=1061
H11S3 WAKE ISLAND Hy 31.08 133 T T 01 13 08.1
baz=325,slow=76,SNR=1255
H11S2 WAKE ISLAND Hy 31.09 133 T T 01 13 15.2
baz=325,slow=76,SNR=1710
GTA Gaotai 32.59 280 ⇑ P **P 00 40 54.3 +0.9**
GTA pP pP 00 41 08.9 +1.4
GTA sP sP 00 41 16.4 +2.3
GTA PcP **PcP 00 43 40.1 +1.5**
GTA PcS **PcS 00 47 24.6 +0.7**
GTA ScS ScS 00 51 16.9 -0.5
GTA pmax pmax
comp=Z,70nm,0.9s
GTA pmax pmax
comp=Z,210nm,6.2s
GTA LR LR
comp=Z,190nm,17.8s
GTA LR LR
comp=Z,400nm,16.7s
GTA LR LR
comp=Z,400nm,17.8s
CD2 Chengdu 33.28 263 ⇓ *i* P **P 00 40 58.9 -0.5**
CD2 pP pP 00 41 12.3 -1.2
CD2 sP sP 00 41 19.9 -0.2
CD2 S **S 00 46 15.0 -0.8**
CD2 pmax pmax
comp=Z,90nm,0.9s
CD2 pmax pmax
comp=Z,420nm,4.8s
CD2 LR LR
comp=Z,900nm,9.8s
CD2 LR LR
comp=Z,670nm,7.4s
CD2 LR LR
comp=Z,860nm,24.6s
NIKH Nikolski High 33.50 55 P 00 41 01.3
baz=271
GYA Guiyang 33.66 254 ⇓ P **P 00 41 03.1 +0.2**
GYA PcP **PcP 00 43 43.0 +1.2**
GYA pmax pmax
comp=Z,31nm,0.9s
GYA LR LR
comp=Z,290nm,22.5s
QIZ Qiongzhong 36.46 241 P **P 00 41 27.6 +0.8**
QIZ S **S 00 47 04.1 -0.7**
QIZ LR LR
comp=Z,430nm,18.6s
QIZ LR LR
comp=Z,280nm,15.7s
QIZ LR LR
comp=Z,380nm,25.0s
ANM Nome 36.48 35 P **P 00 41 27.1 +0.6**
ANM pmax pmax
comp=Z,12nm,1.0s
ANM Nome 36.48 35 P **P 00 41 27.1 +0.6**
ANM Nome 36.48 35 P 00 41 26.6
baz=258,SNR=8.1
KMI Kunming 37.28 256 ⇑ P **P 00 41 34.8 +0.8**
KMI S **S 00 47 10.0 -7.6**
KMI SS **SnSn 00 49 46.9 -11**
KMI pmax pmax
comp=Z,99nm,0.8s
KMI LR LR
comp=Z,150nm,12.6s
KMI LR LR
comp=Z,220nm,21.8s
KMI LR LR
comp=Z,270nm,17.7s
RDOG Red Dog Mine 38.25 29 P **P 00 41 41.0 -0.5**
RDOG Red Dog Mine 38.25 29 P 00 41 41.3
baz=256
DGZ Jazzator, Alta 38.57 301 *c i* P **P 00 41 45.8 +1.2**
DGZ pmax pmax
comp=Z,136nm,1.0s
SLVN Son La 38.86 250 P **P 00 41 48.2 +1.0**
ZAA0 Zalesovo Array 39.50 308 P **P 00 41 52.1 0.0**
ZAA0 PcP **PcP 00 43 59.7 +1.0**
ZALV Zalesovo Beam 39.50 308 P **P 00 41 51.6 -0.5**
comp=Z,128nm,0.8s,baz=87,slow=7.7,SNR=344
ZALV PcP **PcP 00 43 59.4 +0.7**
comp=Z,33nm,0.7s,baz=87,slow=3.3,SNR=14

ZALV ScP **ScP** **00 47 43.0 +0.5**
comp=Z,1.5nm,0.6s,baz=88,slow=4.7,SNR=4.1
ZALV LR LR 00 59 22.6
comp=Z,352nm,19.0s,baz=107,slow=38
ZALV Zalesovo Beam 39.50 308 P **P** **00 41 52.1 0.0**
ZALV **PcP** **00 43 59.1 +0.4**
WMQ Urumqi 39.85 292 P **P** **00 41 56.3 +1.1**
WMQ sP sP 00 42 16.8 +0.5
WMQ pmax pmax
comp=Z,140nm,0.9s
WMQ pmax pmax
comp=Z,380nm,4.9s
WMQ LR LR
comp=Z,750nm,23.9s
WMQ LR LR
comp=Z,860nm,25.5s
WMQ LR LR
comp=Z,1μm,22.1s
SVW2 Sparrevohn 40.62 41 P **P** **00 42 02.5 +1.2**
A21K Barrow 41.12 25 P **P** **00 42 03.9 -1.4**
A21K Barrow 41.12 25 P 00 42 04.4
baz=258,SNR=27
NONG Nongkai 41.60 247 P **P** **00 42 11.2 +1.4**
comp=Z,105nm,0.8s
SII Sitkinak Islan 41.70 48 P 00 42 09.7
baz=278
CHUM Lake Minchumin 42.08 37 P 00 42 14.5
baz=271,SNR=11
OHAK Old Harbor 42.10 47 P **P** **00 42 13.3 -0.1**
OHAK IAmb IAmb 00 43 41.4
comp=Z,72nm,1.4s
OHAK Old Harbor 42.10 47 P 00 42 13.1
baz=278
PPLA Purkeypile 42.17 38 P **P** **00 42 15.3 +1.2**
PPLA IAmb IAmb 00 42 38.0
comp=Z,74nm,1.6s
PPLA Purkeypile 42.17 38 P 00 42 15.3
baz=272,SNR=9.0
SPCR Spurr Chakacha 42.25 41 P 00 42 15.5
baz=274
SKT Skwentna 42.52 39 P 00 42 17.0
baz=274
MK31 Makanchi Array 42.60 298*c iP* **P** **00 42 17.8 +0.1**
MK31 Makanchi Array 42.60 298 P **P** **00 42 18.1 +0.3**
MK31 **PcP** **00 44 09.8 +0.7**
MKAR Makanchi Array 42.60 298 P **P** **00 42 17.8 0.0**
comp=Z,55nm,0.6s,baz=82,slow=9.6,SNR=544
MKAR PcP **PcP** **00 44 09.2 +0.1**
comp=Z,12nm,0.8s,baz=57,slow=4.5,SNR=4.7
MKAR ScP **ScP** **00 47 56.0 +1.0**
comp=Z,0.4nm,0.6s,baz=136,slow=4.0,SNR=3.0
MKAR LR LR 01 00 59.6
comp=Z,198nm,19.0s,baz=85,slow=37
MKAR Makanchi Array 42.60 298 P **P** **00 42 18.0 +0.2**
MKAR PcP **PcP** **00 44 09.5 +0.5**
MKAR Makanchi Array 42.60 298 *eP* **P** **00 42 18.0 +0.2**
DLV T Lat 42.65 235 IAmb IAmb 00 42 21.5
comp=Z,47nm,0.8s
BPAW Bear Paw Mtn. 42.66 36 P 00 42 18.7
baz=272,SNR=14
KTH Kantishna Hill 42.71 37 IAmb IAmb 00 42 33.9
comp=Z,44nm,0.9s
MLY Manley 42.75 35 P 00 42 19.2
baz=271,SNR=12
MAKZ Makanchi 42.81 298 P **P** **00 42 19.7 +0.3**
MAKZ pmax pmax
comp=Z,89nm,0.8s
MAKZ Makanchi 42.81 298 P **P** **00 42 19.7 +0.3**
SEM Semipalatinsk 42.93 303 *i P* **P** **00 42 20.3 -0.3**
comp=Z,49nm,0.8s,baz=303
SEM Semipalatinsk 42.93 303 *i P* **P** **00 42 20.2 -0.3**
SEM pmax pmax
comp=Z,49nm,0.8s
SUA Susitna One 42.93 40 P 00 42 20.4
baz=275
COLD Coldfoot 42.96 32 P 00 42 20.2
baz=269,SNR=12
PAYA Payao 42.99 251 P **P** **00 42 22.8 +1.7**
comp=Z,620nm,0.8s
TRF Thorofare Moun 43.00 37 P 00 42 21.3
baz=273,SNR=8.5
KHON Khomkaen 43.03 245 P **P** **00 42 22.0 +0.6**
comp=Z,3μmcomp=Z,235nm,0.7s
CUT Chulitna 43.08 39 P 00 42 21.5
baz=274
TOLK Toolik Lake Re 43.22 30 P **P** **00 42 21.9 -0.6**
TOLK Toolik Lake Re 43.23 30 P 00 42 22.2
baz=268,SNR=19
LSA Lhasa 43.23 270 P **P** **00 42 25.3 +1.8**
LSA pmax pmax
comp=Z,97nm,0.9s
LSA Lhasa 43.23 270 *i P* **P** **00 42 25.2 +1.6**
SNR=7.3
LSA Lhasa 43.23 270 IAmb IAmb 00 42 30.8
comp=Z,34nm,0.7s
KKM Kota Kinabalu 43.26 221 P **P** **00 42 25.0 +1.6**
KKM IAmb IAmb 00 42 26.4
comp=Z,29nm,1.0s
I23K Minto, Yukon-K 43.33 35 P 00 42 23.9
baz=272,SNR=10
RC01 Rabbit Creek A 43.45 41 IAmb IAmb 00 42 43.9
comp=Z,33nm,1.2s
RC01 Rabbit Creek A 43.46 41 P 00 42 24.6
baz=276
NEA2 Nenana 43.48 36 P **P** **00 42 25.1 +0.6**
NEA2 IAmb IAmb 00 42 27.5
comp=Z,42nm,0.6s
NEA2 Nenana 43.48 36 P 00 42 25.2
baz=273,SNR=48
O22K Cooper Landing 43.53 42 P 00 42 24.7
baz=277
MCK McKinley 43.59 37 P **P** **00 42 26.2 +0.7**
MCK pmax pmax
comp=Z,29nm,1.1s
MCK McKinley 43.59 37 P **P** **00 42 26.1 +0.7**
MCK IAmb IAmb 00 42 40.6
comp=Z,30nm,1.1s
MCK McKinley 43.59 37 P 00 42 25.5
baz=274,SNR=10
UTTA Uttaradit 43.60 249 P **P** **00 42 27.0 +1.0**
comp=Z,936nmcomp=Z,107nm,0.8s
PMR Palmer 43.69 40 P 00 42 26.1
baz=276
SEW Seward 43.71 42 P 00 42 26.6
baz=278
GHO Glory Hole Cre 43.77 40 P **P** **00 42 27.0 0.0**
GHO IAmb IAmb 00 42 30.8
comp=Z,25nm,0.6s
WAT2 Susitna Watana 43.81 38 P 00 42 26.9
baz=275,SNR=12
MDM Murphy Dome 43.81 35 IAmb IAmb 00 42 31.5
comp=Z,25nm,0.8s
CM34 Chiang Mai Arr 43.84 252 P **P** **00 42 29.0 +1.1**
KURBB Kurchatov Arra 43.94 304 P **P** **00 42 28.6 +0.2**
TCOL CIGO, UAF Yank 43.98 35 P 00 42 29.2
baz=274,SNR=8.2
COLA College 43.98 35*μ eP* **P** **00 42 28.9 +0.4**
COLA pmax pmax
comp=Z,47nm,0.8s
COLA College 43.98 35 P **P** **00 42 29.0 +0.4**
COLA College 43.98 35 P 00 42 29.2
baz=274
CHTO Chiang Mai 44.01 252 P **P** **00 42 30.3 +1.0**
CHTO pmax pmax
comp=Z,38nm,0.7s
CHTO Chiang Mai 44.01 252 P **P** **00 42 30.3 +1.0**
CHTO IAmb IAmb 00 42 31.4
comp=Z,38nm,0.7s
KNK Knik Glacier 44.03 40 IAmb IAmb 00 42 52.4
comp=Z,38nm,1.2s
KNK Knik Glacier 44.03 40 P 00 42 29.2
baz=277,SNR=6.7
SML Sawmill 44.05 39 IAmb IAmb 00 42 49.2
comp=Z,31nm,0.8s
SML Sawmill 44.05 39 P 00 42 29.5
baz=277,SNR=13
PHIT Phitsanulok 44.08 249 P **P** **00 42 31.4 +1.5**
comp=Z,195nm,0.8s
POKR Poker Plat Res 44.14 35 P **P** **00 42 30.8 +1.0**
POKR IAmb IAmb 00 42 51.6
comp=Z,27nm,0.8s
POKR Poker Plat Res 44.14 35 P 00 42 30.6
baz=274,SNR=15
PWL Port Wells 44.16 41 P **P** **00 42 29.9 -0.1**
PWL IAmb IAmb 00 42 50.9
comp=Z,33nm,1.2s
CM32 Chiang Mai Arr 44.18 252 P **P** **00 42 32.0 +1.3**

CM09 Chiang Mai Arr 44.22 251 P **P** **00 42 32.0 +1.0**
comp=Z,257nmcomp=Z,26nm,0.9s
WAT6 Susitna Watana 44.23 38 P 00 42 30.6
baz=276,SNR=7.5
CM31 Chiang Mai Arr 44.24 251 P **P** **00 42 32.4 +1.2**
comp=Z,9μmcomp=Z,906nm,0.6s
CM31 Chiang Mai Arr 44.24 251 IAmb IAmb 00 42 33.1
comp=Z,21nm,0.6s
CMAR Chiang Mai Arr 44.24 251 P **P** **00 42 32.5 +1.3**
comp=Z,18nm,0.8s,baz=43,slow=7.3,SNR=73
CMAR PcP **PP** **00 44 15.9 +0.8**
comp=Z,3.2nm,0.6s,baz=356,slow=1.8,SNR=5.5
CMAR ScP **ScP** **00 48 04.1 +2.0**
comp=Z,0.8nm,0.3s,baz=42,slow=4.2,SNR=2.5
CMAR LR LR 01 00 50.2
comp=Z,206nm,21.0s,baz=82,slow=36
CMAR Chiang Mai Arr 44.24 251 P **P** **00 42 31.9 +0.7**
CMAR 00 44 15.9
CMAR Chiang Mai Arr 44.24 251 P **P** **00 42 31.9 +0.7**
CMAR **PP** **00 44 15.9 +0.8**
CM01 Chiang Mai Arr 44.26 251 P **P** **00 42 32.8 +1.5**
comp=Z,208nmcomp=Z,23nm,0.8s
CM02 Chiang Mai Arr 44.26 251 P **P** **00 42 32.0 +0.7**
comp=Z,198nmcomp=Z,23nm,0.8s
CM04 Chiang Mai Arr 44.26 251 P **P** **00 42 32.8 +1.4**
comp=Z,282nmcomp=Z,27nm,0.7s
CM15 Chiang Mai Arr 44.26 251 P **P** **00 42 32.0 +0.7**
comp=Z,23nm,0.8s
CM05 Chiang Mai Arr 44.28 251 P **P** **00 42 32.9 +1.4**
comp=Z,202nmcomp=Z,20nm,0.7s
CM13 Chiang Mai Arr 44.29 251 P **P** **00 42 32.9 +1.2**
comp=Z,195nmcomp=Z,22nm,0.8s
SPMM Sapulut 44.30 220 P **P** **00 42 34.0 +2.3**
IL31 44.40 35 IAmb IAmb 00 42 46.8
comp=Z,35nm,1.0s
ILAR Eielson Array 44.40 35 P **P** **00 42 31.2 -0.7**
comp=Z,21nm,0.8s,baz=264,slow=5.9,SNR=145
ILAR PcP **PcP** **00 44 14.5 -0.3**
comp=Z,1.3nm,0.5s,baz=283,slow=3.7,SNR=1.0
ILAR ScP **ScP** **00 47 59.6 -2.3**
comp=Z,0.4nm,0.8s,baz=306,slow=3.5,SNR=2.8
ILAR Eielson Array 44.40 35 P **P** **00 42 31.5 -0.4**
HDA Harding Lake 44.41 36 P 00 42 32.0
baz=275,SNR=13
HDA P 00 42 32.0
baz=275,SNR=13
SUKH Sukhothai 44.42 250 P **P** **00 42 33.9 +1.3**
comp=Z,874nmcomp=Z,86nm,0.7s
SCM Sheep Creek Mo 44.52 39 IAmb IAmb 00 42 39.8
comp=Z,21nm,0.8s
GLI Glacier Island 44.76 41 P 00 42 34.8
baz=279
PRP Porcupine Dome 44.91 34 P **P** **00 42 36.8 +0.7**
PRP IAmb IAmb 00 42 39.2
comp=Z,36nm,0.7s
PRP Porcupine Dome 44.91 34 P 00 42 36.8
baz=275,SNR=75
FYU Fort Yukon 44.94 33 IAmb IAmb 00 42 57.4
comp=Z,23nm,0.9s
SHL Shillong 44.95 265 P **P** **00 42 36.5 -0.5**
SHL pmax pmax
comp=Z,21nm,0.6s
SHL Shillong 44.95 265 P **P** **00 42 36.5 -0.5**
SHL IAmb IAmb 00 42 38.3
comp=Z,21nm,0.6s
SHL Shillong 44.95 265 P **P** **00 42 37.7 +0.7**
SNR=8.6
M24K Tolsona, Glenn 45.02 39 IAmb IAmb 00 43 09.6
comp=Z,42nm,0.9s
M24K Tolsona, Glenn 45.02 39 P 00 42 37.6
baz=278
MHMT Maesarieng 45.14 252 P **P** **00 42 38.0 -0.4**
comp=Z,1μmcomp=Z,129nm,0.8s
SRAK Srakaew 45.22 244 P **P** **00 42 37.2 -1.7**
comp=Z,9μmcomp=Z,992nm,0.7s
PAX Paxson 45.22 38 P **P** **00 42 39.9 +1.3**
PAX pmax pmax
comp=Z,7.0nm,0.7s
PAX Paxson 45.22 38 P **P** **00 42 39.9 +1.3**
PAX PcP **PcP** **00 44 18.5 +0.8**
PAX Paxson 45.22 38 P 00 42 39.2
baz=278
KLU Klutina 45.23 40 IAmb IAmb 00 43 01.3
comp=Z,29nm,1.0s
KLU Klutina 45.23 40 P 00 42 39.3
baz=279,SNR=11
GTOI Gorontalo 45.24 209 P **P** **00 42 39.7 +0.6**
comp=Z,276nmcomp=Z,32nm,1.0s
EYAK Cordova Ski Ar 45.47 41 P **P** **00 42 40.8 +0.5**
EYAK IAmb IAmb 00 42 47.5
comp=Z,16nm,0.8s
EYAK Cordova Ski Ar 45.47 41 P 00 42 41.2
baz=280
TOLI2 Tolitoli 45.65 212 IAmb IAmb 00 42 44.1
comp=Z,12nm,0.7s
SHLS Shalkode 45.71 294 *i P* **P** **00 42 40.6 -2.1**
comp=Z,27nm,0.7s,baz=293
SHLS Shalkode 45.71 294 *i P* **P** **00 42 40.6 -2.1**
SHLS pmax pmax
comp=Z,27nm,0.7s
SCRK Sand Creek 45.74 36 P **P** **00 42 42.2 -0.5**
SCRK IAmb IAmb 00 42 44.0
comp=Z,26nm,0.7s
SCRK Sand Creek 45.74 36 P 00 42 42.5
baz=278,SNR=44
TDK Taldyqorghan 45.75 296*e P* **P** **00 42 43.8 +0.8**
comp=Z,55nm,0.5s,baz=296
TDK Taldyqorghan 45.75 296*e P* **P** **00 42 43.7 +0.8**
TDK pmax pmax
comp=Z,55nm,0.5s
MRSI Marisa 45.78 210 P **P** **00 42 44.7 +1.3**
comp=Z,1μmcomp=Z,122nm,0.8s
UMPA Umpang Tak 45.83 249 P **P** **00 42 46.0 +2.2**
comp=Z,6μmcomp=Z,72nm,1.0s
N25K Chitina, Valde 45.84 39 P 00 42 44.2
baz=280
UTHA Uthaitani 45.88 248 P **P** **00 42 46.0 +1.9**
comp=Z,416nmcomp=Z,46nm,0.7s
BMRM Bremner River 45.94 40 P **P** **00 42 45.3 +1.1**
BMRM IAmb IAmb 00 43 12.8
comp=Z,25nm,1.0s
BMRM PcP **PcP** **00 44 21.9 +1.6**
BMRM Bremner River 45.95 40 P 00 42 44.9
baz=280
UZB Uzynbulak 46.01 294 *i P* **P** **00 42 45.2 0.0**
comp=Z,17nm,1.0s,baz=294
UZB Uzynbulak 46.01 294 *i P* **P** **00 42 45.1 0.0**
UZB pmax pmax
comp=Z,17nm,1.0s
MENT Mentasta 46.02 37 IAmb IAmb 00 43 06.0
comp=Z,12nm,0.7s
FAKI Fak Fak 46.08 195 P **P** **00 42 45.9 +0.3**
FAKI Fak Fak 46.08 195 P **P** **00 42 46.3 +0.6**
comp=Z,76nm,0.8s
KPKS Kokpek 46.12 294 *i P* **P** **00 42 46.4 +0.4**
comp=Z,61nm,1.2s,baz=294
KPKS Kokpek 46.12 294 *i P* **P** **00 42 46.3 +0.4**
KPKS pmax pmax
comp=Z,61nm,1.2s
KAIM Kayak Island 46.23 42 P 00 42 46.9
baz=282
GLB Gilahina Butte 46.24 40 IAmb IAmb 00 43 15.8
comp=Z,17nm,1.0s
VRDI Verde Repeater 46.45 40 IAmb IAmb 00 42 58.0
comp=Z,14nm,0.8s
SATY Saty 46.46 294 *i P* **P** **00 42 49.1 +0.4**
comp=Z,23nm,1.0s,baz=294
SATY Saty 46.46 294 *i P* **P** **00 42 49.1 +0.4**
SATY pmax pmax
comp=Z,23nm,1.0s
BERG Berg Lake 46.49 41 IAmb IAmb 00 43 14.5
comp=Z,26nm,0.8s
K27K Chicken 46.57 36 P **P** **00 42 49.4 +0.4**
K27K IAmb IAmb 00 43 10.8
comp=Z,40nm,1.0s
K27K Chicken 46.57 36 P 00 42 49.9
baz=280,SNR=39
MCARA McCarthy VSAT 46.62 40 P **P** **00 42 51.0 +1.6**
MCARA IAmb IAmb 00 43 13.1
comp=Z,31nm,0.8s
MCARA PcP **PcP** **00 44 24.4 +1.9**
MCARA McCarthy VSAT 46.62 40 P 00 42 50.6
baz=281,SNR=8.2
CRQM Cirque 46.69 40 IAmb IAmb 00 43 15.4
comp=Z,30nm,0.9s
CRQE Cirque 46.71 40 P 00 42 51.4
baz=282,SNR=6.7

SANI Sanana 46.78 204 P **P** **00 42 50.6 -0.6**
comp=Z,38nm,0.9s
PATY Pattaya 46.79 244 P **P** **00 42 53.5 +2.2**
comp=Z,11μmcomp=Z,85nm,0.7s
EGAK Eagle 46.83 35 IAmb IAmb 00 43 12.0
comp=Z,22nm,0.8s
EGAK Eagle 46.83 35 P 00 42 51.1
baz=280,SNR=34
TGL Tana Glacier 46.84 40 P **P** **00 42 52.2 +0.9**
TGL IAmb IAmb 00 43 17.9
comp=Z,27nm,1.0s
L27K Beaver Creek, 46.85 37 P 00 42 52.5
baz=281
TAPN Taplejung 47.04 270 *eP* **P** **00 42 54.6 +1.0**
comp=Z,131nm,0.6s
CHKK Chushkaly 47.12 296 *i P* **P** **00 42 53.6 0.0**
baz=295
CHKK Chushkaly 47.12 296 *i P* **P** **00 42 53.6 0.0**
BARN Barnard Glacie 47.33 40 IAmb IAmb 00 43 15.2
comp=Z,18nm,0.7s
MDOK Medeo 47.34 295 *eP* **P** **00 42 56.1 +0.6**
baz=294
MDOK Medeo 47.34 295 *eP* **P** **00 42 56.1 +0.6**
GRNC Granite Creek 47.36 40 IAmb IAmb 00 43 00.6
comp=Z,21nm,0.8s
AAA Alma-Ata 47.41 295 *eP* **P** **00 42 56.0 -0.1**
comp=Z,55nm,1.0s,baz=294
AAA Alma-Ata 47.41 295 *eP* **P** **00 42 55.9 -0.1**
AAA pmax pmax
comp=Z,55nm,1.0s
AAA Alma-Ata 47.41 295 *eP* **P** **00 42 55.9 -0.1**
YAH Yahtse 47.45 41 IAmb IAmb 00 43 03.3
comp=Z,21nm,0.6s
TNSS Tian-Shan 47.46 294 *eP* **P** **00 42 57.6 +0.9**
baz=294
TNSS Tian-Shan 47.46 294 *eP* **P** **00 42 57.6 +0.9**
CTG Chitna Glacier 47.51 40 P 00 42 57.4
baz=283,SNR=14
CTGM Chitina Glacie 47.51 40 P **P** **00 42 57.3 +0.7**
CTGM IAmb IAmb 00 43 24.8
comp=Z,19nm,0.7s
KUU Kurty 47.53 296*μ i P* **P** **00 42 56.6 -0.3**
comp=Z,41nm,0.7s,baz=296
KUU Kurty 47.53 296*c i P* **P** **00 42 56.6 -0.3**
KUU pmax pmax
comp=Z,41nm,0.7s
ODAN Odare 47.55 270 *eP* **P** **00 42 58.2 +0.7**
comp=Z,104nm,0.8s
PHET Kaeng Krachan 47.62 245 P **P** **00 42 59.0 +1.2**
comp=Z,2μmcomp=Z,208nm,0.7s
BRZS Berezniki 47.71 305 *i P* **P** **00 42 58.4 +0.2**
comp=Z,22nm,0.3s,baz=304
BRZS Berezniki 47.71 305 *i P* **P** **00 42 58.3 +0.2**
BRZS pmax pmax
comp=Z,22nm,0.3s
TABL Table Mountain 47.72 41 P **P** **00 42 59.0 +0.7**
TABL IAmb IAmb 00 43 30.1
comp=Z,18nm,1.0s
RAMN Ramite 48.09 270 *eP* **P** **00 43 02.3 +0.7**
comp=Z,434nm,0.9s
GUN Gumba 48.09 272 *eP* **P** **00 43 02.5 +0.7**
comp=Z,167nm,0.3s
BRVK Borovoye 48.15 309*c iP* **P** **00 43 02.0 +0.5**
BRVK pmax pmax
comp=Z,113nm,1.2s
BRVK Borovoye 48.15 309 P **P** **00 43 02.1 +0.5**
BRVK PcP **PcP** **00 44 29.5 +1.4**
BRVK Borovoye 48.15 309 *eP* **P** **00 43 02.0 +0.5**
PINM Pinnacle 48.23 41 P 00 43 02.9
baz=285
ULHL Ulahol 48.25 294 P **P** **00 43 04.5 +1.8**
SNR=9.7
SBUM Sibu 48.34 223 P **P** **00 43 05.0 +1.7**
EPYK Eagle Plains 48.35 32 IAmb IAmb 00 43 05.3
comp=Z,40nm,1.0s
EPYK Eagle Plains 48.35 32 P 00 43 03.6
baz=282,SNR=36
TKM2 Tokmak 2 48.41 295 P **P** **00 43 04.8 +0.9**
SNR=61
TKM2 Tokmak 2 48.41 295 P **P** **00 43 04.4 +0.5**
KKN Kakani 48.60 272 *eP* **P** **00 43 06.2 +0.6**
comp=Z,202nm,0.8s
PKI Pulchoki 48.63 272 *eP* **P** **00 43 06.2 +0.3**
PKIN Phulchoki 48.63 272 *eP* **P** **00 43 06.3 +0.4**
comp=Z,44nm,0.3s
DMN Daman 48.83 272 *eP* **P** **00 43 08.0 +0.6**
comp=Z,166nm,0.8s
SGDS Sogindy 48.85 296 *i P* **P** **00 43 07.3 +0.2**
comp=Z,22nm,1.3s,baz=296
SGDS Sogindy 48.85 296 *i P* **P** **00 43 07.3 +0.2**
SGDS pmax pmax
comp=Z,22nm,1.3s
CHMS Chumysh 48.95 295 P **P** **00 43 08.2 +0.4**
SNR=11
KBK Karagaybulak 48.96 295 P **P** **00 43 08.8 +0.7**
SNR=87
GKN Gorkha 48.97 273 *eP* **P** **00 43 08.7 +0.4**
comp=Z,111nm,0.5s
USP Ospenovka 49.01 296 P **P** **00 43 08.7 +0.4**
SNR=24
INK Inuvik 49.13 29 P **P** **00 43 08.8 0.0**
INK pmax pmax
comp=Z,13nm,0.8s
INK Inuvik 49.13 29 P **P** **00 43 08.8 0.0**
INK IAmb IAmb 00 43 29.6
comp=Z,13nm,0.8s
AAK Ala-Archa 49.27 295 *i P* **P** **00 43 10.7 +0.3**
SNR=24
AAK Ala-Archa 49.27 295*c iP* **P** **00 43 10.6 +0.2**
AAK pmax pmax
comp=Z,131nm,1.7s
AAK Ala-Archa 49.27 295 P **P** **00 43 10.2 -0.3**
AAK IAmb IAmb 00 43 11.3
comp=Z,17nm,0.7s
AAK Ala-Archa 49.27 295 *eP* **P** **00 43 10.6 +0.2**
UCH Uchtor 49.43 294 P **P** **00 43 12.6 +0.7**
SNR=10
KSH Kashi 49.59 291 P **P** **00 43 16.5 +3.6**
KSH pmax pmax
comp=Z,41nm,1.2s
KSH pmax pmax
comp=Z,320nm,3.1s
KSH LR LR
comp=Z,680nm,11.2s
KSH LR LR
comp=Z,690nm,13.7s
KSH LR LR
comp=Z,1μm,14.4s
EKS2 Erkin-Say 49.74 295 P **P** **00 43 14.3 +0.3**
SNR=22
MTKI Muara Teweh, K 50.00 218 P **P** **00 43 16.9 +0.9**
comp=Z,97nm,0.8s
AML Almayashu 50.02 295 P **P** **00 43 17.0 +0.6**
SNR=19
KSM Kuching 50.16 225 P **P** **00 43 19.0 +1.8**
WHY Whitehorse 50.63 39 IAmb IAmb 00 43 26.1
comp=Z,13nm,0.8s
SPSI Sidrap Palu 50.69 211 P **P** **00 43 21.3 +0.2**
comp=Z,16nm,1.1s
BNSI Bone 50.96 210 P **P** **00 43 24.2 +1.0**
comp=Z,36nm,1.1s
DZA Taraz 51.28 297 *i P* **P** **00 43 25.7 +0.3**
comp=Z,21nm,0.7s,baz=296
DZA Taraz 51.28 297 *i P* **P** **00 43 25.7 +0.3**
DZA pmax pmax
comp=Z,21nm,0.7s
KRAB Krabi 51.35 241 P **P** **00 43 28.5 +2.2**
PMG Port Moresby 51.60 175 LR LR 01 01 24.0
comp=Z,49nm,21.7s,baz=267,slow=31
KAPI Kappang 51.66 210 P **P** **00 43 28.6 +0.1**
KAPI pmax pmax
comp=Z,29nm,1.1s
KAPI Kappang 51.66 210 **P** **00 43 28.6 +0.1**
KAPI IAmb IAmb 00 43 30.7
comp=Z,29nm,1.1s
JIS Juneau Island 51.66 42 IAmb IAmb 00 43 55.0
comp=Z,16nm,1.0s
KK31 Karatay Array 51.73 297 P **P** **00 43 28.6 -0.2**
KKAR Karatay Array 51.73 297 P **P** **00 43 28.5 -0.3**
KKAR Karatay Array 51.73 297 **P** **00 43 28.5 -0.3**
KKAR Karatay Array 51.73 297 IAmb IAmb 00 43 29.8
comp=Z,80nm,1.4s
C36M Paulatuk 52.12 27 IAmb IAmb 00 43 51.5
comp=Z,14nm,0.8s
C36M Paulatuk 52.13 27 P 00 43 31.2
baz=290,SNR=27
SVE Sverdlovsk 52.13 316*d iP* **P** **00 43 32.0 +0.5**

SVE pmax pmax
comp=Z,250nm,0.8s
SVE Sverdlovsk 52.13 316 *e*P **P 00 43 32.0 +0.5**
BBKI Banjar Baru 52.26 217 P **P 00 43 33.4 +0.5**
comp=Z,79nm,0.8s
IUG Iuzhnay 52.47 296 *e*P **P 00 43 34.3 -0.2**
comp=Z,23nm,1.5s,baz=296
IUG Iuzhnay 52.47 296 *e*P **P 00 43 34.2 -0.2**
IUG pmax pmax
comp=Z,23nm,1.5s
JRMM Jerantut 52.62 235 P **P 00 43 38.0 +2.3**
KULM Kulim 52.65 238 **P 00 43 37.3 +1.4**
KULM Kulim 52.65 238 P **P 00 43 38.0 +2.1**
IPM Ipoh 53.05 237 P **P 00 43 40.0 +1.2**
PBKI Pangkalan Bun 53.06 221 P **P 00 43 39.9 +1.0**
comp=Z,171nm,1.0s
ARU Arti 53.34 316*c i*P **P 00 43 40.5 0.0**
ARU *PP **pP 00 43 55.5 -0.1**
ARU 00 44 45.5
ARU S **S 00 51 09.9 +2.0**
ARU SS **SS 00 54 41.8 -5.9**
ARU pmax pmax
comp=Z,164nm,0.8s
ARU Arti 53.34 316 **P 00 43 40.3 -0.2**
ARU PcP **PcP 00 44 47.5 +0.3**
ARU Arti 53.34 316 *e*P **P 00 43 40.5 0.0**
CRAG Craig 53.35 45 P 00 43 42.0
baz=293
MYKOM **Kota Tinggi 53.48 232** P **P 00 43 44.0 +2.1**
DLBC Dease Lake 53.73 41 LR LR 01 09 19.0
comp=Z,58nm,18.7s,baz=293,slow=39
DLBC Dease Lake 53.73 41 **P 00 43 45.4 +2.0**
HNR Honiara 53.76 159 LR LR 01 04 38.4
comp=Z,66nm,20.5s,baz=322,slow=34
MMRI Maumere 54.17 206 P **P 00 43 47.8 +0.9**
comp=Z,57nm,0.8s
NIL Nilore 54.32 285 P **P 00 43 48.5 +0.5**
NIL pmax pmax
comp=Z,78nm,0.7s
NIL Nilore 54.32 285 P **P 00 43 48.5 +0.5**
EDFI Ende, Flores 54.45 206 P **P 00 43 48.4 -0.7**
comp=Z,12nm,1.1s
SOEI Soe 54.60 203 P **P 00 43 50.3 +0.1**
comp=Z,52nm,1.2s
EUNU Eureka 54.78 9 P **P 00 43 49.8 -0.9**
EUNU IAmb IAmb 00 43 51.1
comp=Z,21nm,0.7s
TPI Tanjungpandan 55.13 225 P **P 00 43 54.9 +1.0**
comp=Z,46nm,0.9s
BATI Baumata 55.21 203 P **P 00 43 54.9 +0.4**
comp=Z,22nm,0.6s
HOPEN **Hopen 55.25 345** *e*P **P 00 43 54.1 +0.1**
PPBI Pangkal Pinang 55.44 227 P **P 00 43 57.6 +1.5**
comp=Z,20µmcomp=Z,73nm,0.9s
SPA0 Spitsbergen Ar 55.61 348 **P 00 43 55.6 -1.0**
SPA0 Spitsbergen Ar 55.61 348 *e*P **P 00 43 56.1 -0.5**
AB31 Akbulak array 55.62 308 P **P 00 43 57.3 +0.2**
ABKAR **Akbulak array 55.62 308** **P 00 43 57.2 +0.1**
ABKAR **Akbulak array 55.62 308** IAmb IAmb 00 43 58.4
comp=Z,78nm,0.9s
KBS Kingsbay 55.69 350 P **P 00 43 57.0 -0.2**
KBS pmax pmax
comp=Z,43nm,1.0s
KBS Kingsbay 55.69 350 **P 00 43 57.0 -0.2**
KBS Kingsbay 55.69 350 *e*P **P 00 43 57.3 +0.1**
KBS Kingsbay 55.69 350 *i*P **P 00 43 57.2 +0.1**
KBS IAmb IAmb 00 43 57.9
comp=Z,103nm,1.0s
KMMI Kalianget 55.84 216 P **P 00 43 59.7 +0.7**
comp=Z,42nm,1.0s
NOR Nord 55.87 356⇑*i*P **P 00 43 57.5 -0.9**
comp=Z,24nm,1.0s
NOR Nord 55.87 356⇑*i*P **P 00 43 57.5 -0.9**
NOR Nord 55.87 356⇑*i*P **P 00 43 57.6 -0.9**
NOR IAmb IAmb 00 43 58.2
comp=Z,24nm,1.0s
COEN Coen 55.99 180 **P 00 44 01.5 +1.5**
COEN IAmb IAmb 00 44 18.1
comp=Z,16nm,0.9s
TWSI Taliwang, Sumb 56.17 212 P **P 00 44 00.9 -0.4**
comp=Z,21nm,1.1s
SRBI Singaraja 56.25 214 P **P 00 44 02.9 +1.0**
comp=Z,76nm,0.9s
BKNI Bangkinang 56.31 234 P **P 00 44 03.5 +1.1**
comp=Z,167nm,0.8s
ABJI Asem Bagus 56.40 215 P **P 00 44 03.7 +0.8**
comp=Z,26nm,1.2s
HSPB Hornsund (broa 56.57 348 *e*P **P 00 44 03.2 -0.2**
SBSI Sibolga 56.65 237 P **P 00 44 03.8 -1.1**
MNSI Mandailing Nat 56.82 235 P **P 00 44 05.5 -0.5**
KBL Kabul 56.84 289 P **P 00 44 05.0 -1.3**
KBL pmax pmax
comp=Z,32nm,0.6s
KBL Kabul 56.84 289 **P 00 44 05.0 -1.3**
KBL Kabul 56.84 289 P **P 00 44 05.8 -0.5**
SNR=16
KIRV Kirov 56.87 321*c i*P **P 00 44 05.8 0.0**
JAGI Jajag, Banyuwa 57.04 215 P **P 00 44 07.8 +0.3**
comp=Z,37nm,1.6s
SDSI Sungai Dareh 57.09 232 P **P 00 44 09.5 +1.6**
comp=Z,82nm,1.1s
PRGR Permogore 57.09 326⇑*i*P **P 00 44 07.0 -0.3**
PRGR pmax pmax
comp=Z,62nm,0.7s
SMRI Semarang 57.44 219 P **P 00 44 11.1 +0.7**
comp=Z,107nm,0.9s
BBB Bella Bella 57.45 47 LR LR 01 07 26.9
comp=Z,18nm,19.3s,baz=303,slow=34
GSI Gunungsitoli 57.66 238 P **P 00 44 11.9 -0.1**
comp=Z,3µmcomp=Z,60nm,1.4s
BJO1 Bjornoya 57.71 345 *e*P **P 00 44 10.6 -0.9**
UGM Wanagama 58.15 219 P **P 00 44 15.1 -0.3**
comp=Z,105nm,1.1s
LHSI Lahat 58.25 228 P **P 00 44 17.3 +1.2**
comp=Z,106nm,1.2s
KLSI 58.31 227 P **P 00 44 17.4 +0.9**
comp=Z,224nmcomp=Z,18nm,1.1s
APA Apatity 58.43 335⇓*i*P **P 00 44 12.4 -4.3**
APA pmax pmax
comp=Z,11nm,0.5s
APA MLR MLR
comp=Z,500nm,17.0s
BLSI Bandar Lampung 58.60 226 P **P 00 44 19.0 +0.5**
comp=Z,90nm,0.4s
LEM Lembang 58.62 222 P **P 00 44 19.1 +0.3**
comp=Z,2µmcomp=Z,31nm,1.0s
YKA Yellowknife Ar 58.63 32 P **P 00 44 17.7 -0.4**
comp=Z,11nm,1.0s,baz=306,slow=6.2,SNR=119
YKA PcP **PcP 00 45 08.3 +0.6**
comp=Z,1.4nm,0.7s,baz=311,slow=5.5,SNR=1.8
YKA ScP **ScP 00 49 03.0 -0.2**
comp=Z,0.1nm,0.3s,baz=309,slow=3.9,SNR=3.6
YKA LR LR 01 13 26.8
comp=Z,54nm,18.2s,baz=0.0,slow=40
LWLI Liwa 58.95 227 P **P 00 44 20.6 -0.4**
comp=Z,61nm,0.6s
KEV Kevo 58.99 339 P **P 00 44 20.3 -0.2**
KEV pmax pmax
comp=Z,144nm,1.8s
KEV Kevo 58.99 339 P **P 00 44 20.3 -0.2**
KASI Kota Agung 59.13 226 P **P 00 44 21.0 -1.2**
comp=Z,33nm,0.8s
CISI Cisompet, Garu 59.14 222 P **P 00 44 22.3 0.0**
HAMF Hammerfest 59.28 340 *e*P **P 00 44 22.3 -0.2**
ARA0 ARCESS Array S 59.53 339 *e*P **P 00 44 23.5 -0.8**
ARCES **ARCESS Array B 59.53 339** P **P 00 44 23.3 -1.0**
comp=Z,7.6nm,0.7s,baz=43,slow=7.0,SNR=26
ARCES LR LR 01 14 35.3
comp=Z,117nm,18.5s,baz=95,slow=40
ARCES **ARCESS Array B 59.53 339** P **P 00 44 24.0 -0.3**
ARCES IAmb IAmb 00 44 26.1
comp=Z,8.6nm,0.8s
TULEG **Thule 59.70 8** *i*P **P 00 44 24.4 -1.0**
TULEG IAmb IAmb 00 44 25.0
comp=Z,45nm,0.9s
HYB Hyderabad 59.73 266 *i*P **P 00 44 26.0 -0.4**
comp=Z,65nm,0.8s
HYB *ePcP **PcP 00 45 12.5 -0.3**
KLMR Klimovskoe 60.02 327 *e*P **P 00 44 25.4 -2.3**
KLMR pmax pmax
comp=Z,80nm,1.2s
KLMR Klimovskoe 60.02 327 *e*P **P 00 44 25.4 -2.3**
KLMR AMP 00 44 28.3
comp=Z,80nm,1.2s
KTK1 Kautokeino 60.48 339 *e*P **P 00 44 30.5 -0.3**

DAG Danmarks Havn 60.63 355⇑*i*P **P 00 44 31.1 -0.6**
comp=Z,19nm,0.7s
DAG Danmarks Havn 60.63 355⇑*i*P **P 00 44 31.1 -0.6**
DAG Danmarks Havn 60.63 355⇑*i*P **P 00 44 31.1 -0.6**
DAG IAmb IAmb 00 44 31.4
comp=Z,19nm,0.7s
JETT Jettan, Norway 60.84 340 *e*P **P 00 44 33.7 +0.4**
BELG Belogornoye 60.87 316*c i*P **P 00 44 33.9 +0.3**
BELG pmax pmax
comp=Z,30nm,0.9s
TRO Tromso 61.16 341 *e*P **P 00 44 35.0 -0.3**
HRA Herat 61.66 292 P **P 00 44 40.1 +0.6**
A04D Lummi Island 62.20 48 P 00 44 43.8
baz=303
WB0 Warramunga Arr 62.28 189 P **P 00 44 43.2 -0.2**
WRAB Tennant Creek 62.45 189*ce*P **P 00 44 44.6 0.0**
WRAB pmax pmax
comp=Z,11nm,0.9s
WR0 Warramunga Arr 62.45 189 IAmb IAmb 00 45 01.0
comp=Z,18nm,0.8s
WB2 Warramunga Arr 62.46 189 IAmb IAmb 00 45 01.5
comp=Z,21nm,0.8s
WRA Warramunga Arr 62.46 189 P **P 00 44 44.1 -0.5**
comp=Z,6.7nm,0.7s,baz=7.6,slow=6.8,SNR=47
WRA LR LR 01 13 04.9
comp=Z,28nm,18.9s,baz=230,slow=37
WRA PKP2bc 01 13 57.0
comp=Z,1.0nm,0.8s,baz=197,slow=2.9,SNR=6.2
WRA Warramunga Arr 62.46 189 *i*P **P 00 44 44.7 0.0**
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 62.46 189 P **P 00 44 43.9 -0.8**
WRA PcP **PcP 00 45 24.3 +0.8**
GEYT Alibeck 62.48 297 P **P 00 44 44.8 0.0**
comp=Z,48nm,0.7s,baz=18,slow=2.3,SNR=75
GEYT LR LR 01 14 04.1
comp=Z,352nm,18.8s,baz=40,slow=38
GEYT Alibeck 62.48 297 P **P 00 44 45.0 +0.2**
POO Poona 62.52 271 *e*P **P 00 44 42.0 -3.3**
KULLO Kullorsuaq 62.61 6 *i*P **P 00 44 44.1 -0.9**
comp=Z,28nm,0.6s
KULLO Kullorsuaq 62.61 6 *i*P **P 00 44 44.1 -0.9**
KULLO Kullorsuaq 62.61 6 *i*P **P 00 44 44.2 -0.9**
KULLO IAmb IAmb 00 44 44.5
comp=Z,28nm,0.6s
D03D Eldon 62.64 50 P 00 44 46.5
baz=304
B05A Bryant 62.79 48 P 00 44 47.5
baz=304
B06A Marblemount 62.99 48 IAmb IAmb 00 44 50.2
comp=Z,19nm,1.1s
DBG Daneborg 63.13 355 *i*P **P 00 44 47.8 -0.6**
DBG IAmb IAmb 00 44 48.5
comp=Z,9.1nm,0.7s
E04D Cinebar 63.48 50 P 00 44 52.0
baz=304
F04D Rainier, OR 63.49 51 P 00 44 51.7
baz=304
LOF Lofoten 63.58 341 *e*P **P 00 44 51.8 +0.2**
C06D Leavenworth 63.65 48 P 00 44 53.2
baz=305
MOS Moscow 63.81 323 *e*P **P 00 44 51.4 -1.8**
MOS *e*PP **sP 00 45 14.6 -0.4**
MOS *e*S **S 00 53 23.1 -0.8**
MOS pmax pmax
comp=Z,68nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.6s
G03D McMinnville, O 63.84 52 P 00 44 54.3
baz=304
NBB08 Skaug oppvekst 63.89 340 *e*P **P 00 44 53.5 0.0**
N2VA Vr,y 64.15 341 *e*P **P 00 44 55.5 +0.3**
B08A Colville Reser 64.25 47 IAmb IAmb 00 45 12.3
comp=Z,24nm,1.6s
NBB05 Inndyr 64.31 340 *e*P **P 00 44 56.2 -0.1**
N2RO R,st 64.40 341 *e*P **P 00 44 58.0 +1.1**
UPNV Upernavik 64.43 6 *i*P **P 00 44 56.2 -0.9**
UPNV IAmb IAmb 00 44 56.9
comp=Z,38nm,1.1s
NBB30 Finnes 64.43 340 *e*P **P 00 44 57.2 +0.1**
F05D White Salmon 64.50 50 P 00 44 58.6
baz=305
NBB17 Glomfjord B¥r 64.50 340 *e*P **P 00 44 57.7 +0.1**
VRH Novokhopyorsk 64.57 317 *e*P **P 00 44 57.3 -1.0**
VRH pmax pmax
comp=Z,60nm,0.8s
I03D Drain, OR 64.65 53 P 00 45 00.4
baz=305
OBN Obninsk 64.67 322*c i*P **P 00 44 58.1 -0.8**
OBN *e 00 45 31.3
OBN *e 00 47 24.5
OBN *eS **PnS 00 54 00.0 +0.9**
OBN pmax pmax
comp=Z,80nm,1.1s
OBN MLR MLR
comp=Z,218nm,20.0s
OBN Obninsk 64.67 322 P **P 00 44 58.3 -0.5**
OBN Obninsk 64.67 322 *e*P **P 00 44 58.1 -0.8**
FINES FINESS Array B 64.76 332 P **P 00 44 58.6 -0.8**
comp=Z,36nm,0.4s,baz=54,slow=7.0,SNR=522
FINES LR LR 01 15 22.4
comp=Z,238nm,21.3s,baz=26,slow=38
FINES FINESS Array B 64.76 332 *i*P **P 00 44 58.9 -0.5**
FINES pmax pmax
comp=Z,36nm,0.4s
H04A Detroit Lake 64.77 52 IAmb IAmb 00 45 16.0
comp=Z,13nm,0.8s
PALK Pallekele 64.81 256 P **P 00 45 00.3 -0.2**
PALK pmax pmax
comp=Z,32nm,0.8s
PALK Pallekele 64.81 256 P **P 00 45 00.3 -0.2**
PALK IAmb IAmb 00 45 02.0
comp=Z,32nm,0.8s
MOR8 Moi Rana 64.87 339 *e*P **P 00 44 58.7 -1.4**
G05D Wamic, OR 64.95 51 P 00 45 02.0
baz=306
E07A Sunnyside 65.01 49 IAmb IAmb 00 45 03.7
comp=Z,14nm,0.9s
LPSR Galich'ya Gora 65.11 319 *e*P **P 00 45 01.2 -0.6**
LPSR pmax pmax
comp=Z,80nm,0.9s
I04A Tendick Farm, 65.15 53 P 00 45 03.3
baz=306
F07A Phinny Hill Vi 65.36 50 IAmb IAmb 00 45 21.3
comp=Z,17nm,0.6s
SUMG Summit 65.41 1⇑*i*P **P 00 45 04.4 +0.5**
comp=Z,68nm,0.9s
SUMG Summit 65.41 1⇑*i*P **P 00 45 04.4 +0.5**
SUMG Summit 65.41 1 P **P 00 45 03.8 -0.2**
SUMG Summit 65.41 1⇑*i*P **P 00 45 04.4 +0.5**
SUMG IAmb IAmb 00 45 05.1
comp=Z,68nm,0.9s
NEW Newport 65.51 46 P 00 45 05.2
baz=307,SNR=13
J04D Umpqua Nationa 65.65 53 P 00 45 06.8
baz=306
VSR Storozhevoye 65.84 318 *e*P **P 00 45 06.2 -0.3**
VSR pmax pmax
comp=Z,80nm,0.8s
NUUG Nuugaatsiaq 65.87 6 *i*P **P 00 45 05.8 -0.5**
NUUG IAmb IAmb 00 45 06.8
comp=Z,17nm,0.9s
VORD Divnogorie 65.93 318 *e*P **P 00 45 06.5 -0.6**
VORD pmax pmax
comp=Z,30nm,0.5s
PINE Pine Mountain 66.01 52 P **P 00 45 10.0 +1.9**
PINE IAmb IAmb 00 45 24.8
comp=Z,16nm,0.8s
L04D Klamath Falls 66.13 54 P 00 45 09.8
baz=306
J05D Fort Rock, OR 66.14 53 P 00 45 10.5
baz=306
ASAR Alice Springs 66.19 189 P **P 00 45 09.6 +0.6**
comp=Z,4.2nm,0.8s,baz=12,slow=6.4,SNR=22
ASAR LR LR 01 13 21.3
comp=Z,54nm,21.6s,baz=342,slow=35
ASAR Alice Springs 66.19 189 P **P 00 45 08.9 -0.1**
MAK Makhachkala 66.26 307 *e*P **P 00 45 12.5 +3.1**
MAK *e 00 47 36.6
MAK *eS **S 00 53 59.5 +5.2**
MAK pmax pmax
comp=Z,225nm,1.2s
M02C Callahan 66.29 55 P 00 45 11.3
baz=306
VSU Vasula 66.58 329 *e*P **P 00 45 11.2 +0.2**

VSU Vasula 66.58 329*c i*P **P 00 45 10.9 -0.2**
VSU pmax pmax
comp=Z,194nm,0.9s
N02D Trinity Center 66.62 55 P 00 45 13.6
baz=306
M04C Macdoel 66.67 54 P 00 45 13.6
baz=306
K05A Summer Lake 66.67 53 IAmb IAmb 00 45 38.3
comp=Z,17nm,1.0s
WALA Waterton Lakes 66.72 44 IAmb IAmb 00 45 14.6
comp=Z,13nm,0.8s
MBWA Marble Bar 66.73 204 P **P 00 45 13.0 +0.5**
NSS Namsos 66.81 339 *e*P **P 00 45 12.2 -0.3**
SCO Scoresbysund 66.99 355 *i*P **P 00 45 14.1 +0.6**
comp=Z,24nm,1.2s
SCO Scoresbysund 66.99 355 *i*P **P 00 45 14.1 +0.6**
SCO Scoresbysund 66.99 355 P **P 00 45 13.7 +0.1**
SCO IAmb IAmb 00 45 15.5
comp=Z,15nm,1.0s
SCO Scoresbysund 66.99 355 *i*P **P 00 45 14.2 +0.6**
SCO IAmb IAmb 00 45 15.1
comp=Z,24nm,1.2s
AKT Akhty 67.01 306⇑*i*P **P 00 45 14.7 +0.4**
AKT *e*PP **pP 00 45 28.6 -1.3**
AKT *e*SP **sP 00 45 36.5 +0.2**
AKT *e 00 45 41.1
AKT pmax pmax
comp=Z,52nm,0.8s
O02D Mt. Diablo Mer 67.05 56 P 00 45 16.0
baz=307
GROC Groznyy 67.12 308 *e*P **P 00 45 14.0 -0.9**
GROC *e*SP **sP 00 45 39.0 +2.2**
GROC *eS **S 00 54 02.7 -2.0**
GROC pmax pmax
comp=Z,14nm,0.6s
JTMT Jette 67.33 46 P **P 00 45 17.3 +1.0**
JTMT IAmb IAmb 00 45 19.5
comp=Z,15nm,0.8s
MTSE Matsula 67.49 330 *e*P **P 00 45 13.7 -3.1**
GOF Gofitskoye 67.57 311⇑*i*P **P 00 45 18.4 +0.7**
GOF *eS **S 00 54 17.1 +7.0**
GOF pmax pmax
comp=Z,197nm,0.7s
O03E Paynes Creek 67.58 55 P 00 45 18.5
baz=307,SNR=6.2
DZM Mont Dzumac 67.60 157 *e*LR LR 01 05 45.5
comp=Z,195nm,23.6s
AAL Aland 67.76 333 *e*P **P 00 45 18.0 -0.6**
MSO Missoula 68.09 46 P 00 45 21.5
baz=309,SNR=5.7
NCK Nalchik 68.22 309⇑*e*P **P 00 45 22.4 +0.6**
NCK pmax pmax
comp=Z,50nm,1.0s
TBLU Trondheim 68.29 339 *e*P **P 00 45 19.7 -2.1**
KIV Kislovodsk 68.45 310⇑*i*P **P 00 45 24.5 +1.2**
KIV Kislovodsk 68.45 310 *i*P **P 00 45 24.3 +1.0**
SNR=25
KIV Kislovodsk 68.45 310 *e*P **P 00 45 24.1 +0.7**
KIV pmax pmax
comp=Z,386nm,0.9s
KIV Kislovodsk 68.45 310 P **P 00 45 23.9 +0.6**
KIV Kislovodsk 68.45 310 P **P 00 45 24.4 +1.0**
KIV Kislovodsk 68.45 310 *e*P **P 00 45 24.1 +0.7**
KBZ Khabaz 68.47 310 P **P 00 45 23.4 +0.1**
comp=Z,48nm,0.8s,baz=52,slow=4.6,SNR=158
KBZ LR LR 01 19 17.4
comp=Z,180nm,19.6s,baz=40,slow=39
KBZ Khabaz 68.47 310*c i*P **P 00 45 24.2 +0.9**
KBZ pmax pmax
comp=Z,55nm,0.8s
KBZ Khabaz 68.47 310 *e*P **P 00 45 24.2 +0.9**
ZEI Tsey 68.48 309 *e*P **P 00 45 22.6 -1.1**
ZEI pmax pmax
comp=Z,28nm,0.9s
FFC Flin Flon 68.60 34 P **P 00 45 24.2 +0.2**
FFC pmax pmax
comp=Z,18nm,0.9s
FFC Flin Flon 68.60 34 P **P 00 45 24.2 +0.2**
FFC IAmb IAmb 00 45 25.4
comp=Z,18nm,0.8s
FCC Fort Churchill 68.73 28 P **P 00 45 24.5 -0.1**
FCC pmax pmax
comp=Z,21nm,1.2s
FCC Fort Churchill 68.73 28 P **P 00 45 24.5 -0.1**
FCC IAmb IAmb 00 45 25.7
comp=Z,21nm,1.1s
IDID Didziasalis 68.77 327 *e*P **P 00 45 24.9 -0.1**
UPP Uppsala 68.78 334 *e*P **P 00 45 24.7 -0.2**
SLIT Slītere, Latvi 68.83 330 *e*P **P 00 45 25.1 -0.2**
ISAL Salakas 68.84 327 *e*P **P 00 45 25.7 +0.3**
MNK Minsk 68.86 326⇓*i*P **P 00 45 25.0 -0.6**
MNK pmax pmax
comp=Z,230nm,1.0s
MNK Minsk 68.86 326 *i*P **P 00 45 24.8 -0.8**
comp=E,5.0nm,0.9s
MNK *i*P **P 00 45 24.8 -0.8**
comp=N,41nm,1.2s
MNK *i*P **P 00 45 24.8 -0.8**
comp=Z,75nm,0.8s
MNK *i*pP **pP 00 45 41.1 0.0**
MNK *i*PcP **PcP 00 45 48.8 -1.0**
MNK *i*PP **PP 00 47 57.1 -0.5**
MNK *i*PPP PPP 00 49 37.3
MNK *i*S **S 00 54 24.3 -0.8**
MNK *i*sS **sS 00 54 52.6 +1.1**
MNK *i*SS **SS 00 58 50.2 +0.1**
MNK *i*SSS SSS 01 02 08.5
MNK *i*LQ LQ 01 10 52.8
MNK *i*LR LR 01 16 07.1
MNK *i*LRM MLR 01 18 51.2
comp=N,160nm,18.7s
MNK *i*LRM MLR 01 18 51.9
comp=E,12nm,16.1s
MNK *i*LRM MLR 01 18 57.0
comp=Z,118nm,18.1s
NEY Neytrino 68.87 310⇓*e*P **P 00 45 27.1 +1.0**
NEY pmax pmax
comp=Z,6.0nm,0.8s
IIGN Ignalina 68.95 327 *e*P **P 00 45 26.3 +0.2**
NACGM **Naroch 69.04 326** *i*P **P 00 45 26.5 -0.2**
NACGM *i*P **P 00 45 26.5 -0.2**
NACGM *i*P **P 00 45 26.5 -0.2**
NACGM *i*PcP **PcP 00 45 55.6 +5.2**
NACGM *i*PP PP 00 47 47.3 -12
NACGM *i*PPP PPP 00 49 45.1
NACGM *i*S **S 00 54 25.1 -2.1**
NACGM *i*PS **PnS 00 55 00.3 +1.9**
NACGM *i*SS SS 00 59 17.3 +24
NACGM *i*SSS SSS 01 02 33.1
NACGM *i*LQ LQ 01 10 49.8
NACGM *i*LR LR 01 15 05.8
RUBR Rubicon Trail 69.34 56 IAmb IAmb 00 45 31.8
comp=Z,18nm,0.9s
EGMT Eagleton 69.51 43 IAmb IAmb 00 45 32.4
comp=Z,22nm,0.8s
EGMT Eagleton 69.51 43 P 00 45 30.5
baz=311,SNR=6.5
MOL Molde 69.56 340 *e*P **P 00 45 29.0 -0.7**
CHVG Ch'k'valeri 69.57 309⇓*i*P **P 00 45 31.3 +1.2**
AKH Akhalkalaki 69.57 308⇑*i*P **P 00 45 31.5 +1.1**
DOMB Dombas 69.60 339 *e*P **P 00 45 30.0 -0.1**
GNI Garni 69.62 306 P **P 00 45 32.2 +1.4**
GNI Garni 69.62 306*c i*P **P 00 45 32.3 +1.6**
GNI pmax pmax
comp=Z,36nm,0.9s
GNI Garni 69.62 306 P **P 00 45 31.7 +1.0**
GNI IAmb IAmb 00 45 40.9
comp=Z,27nm,0.8s
MNCI Minicoy 69.70 263 P **P 00 45 31.3 -0.1**
PABE Paberze 69.74 328 *e*P **P 00 45 31.3 +0.3**
HFS Hagfors 69.81 336 P **P 00 45 30.9 -0.5**
comp=Z,28nm,0.4s,baz=52,slow=7.7,SNR=300
NB2 NORSAR Subarra 69.82 337 P **P 00 45 30.9 -0.5**
comp=Z,48nm,1.1s,baz=34,slow=6.5
NB2 NORSAR Subarra 69.82 337 P **P 00 45 30.9 -0.5**
baz=34,slow=6.5
NOA NORSAR Array B 69.82 337 P **P 00 45 31.0 -0.5**
comp=Z,21nm,0.8s,baz=35,slow=6.2,SNR=117
NOA LR LR 01 19 52.7
comp=Z,115nm,19.0s,baz=40,slow=39
NOA NORSAR Array B 69.82 337 P **P 00 45 31.0 -0.5**
CMB Columbia Colle 69.83 57 P **P 00 45 32.7 +0.8**
CMB Columbia Colle 69.83 57 P **P 00 45 32.7 +0.8**
HLID Hailey 69.89 49 P 00 45 32.9

baz=310
YERR **Yerington** 69.94 55 P P 00 45 33.7 +0.9
YERR IAmb IAmb 00 45 35.1
comp=Z,13nm,0.8s
NC602 **NORSAR Array S** 69.97 337 eP P 00 45 31.7 -0.6
AKN **Aaknes** 70.03 340 eP P 00 45 32.9 +0.2
BOZ **Bozeman (W)** 70.11 46 P P 00 45 34.0 +0.3
BOZ pmax pmax
comp=Z,12nm,0.8s
BOZ **Bozeman (W)** 70.11 46 P P 00 45 34.0 +0.3
BOZ IAmb IAmb 00 45 35.6
comp=Z,12nm,0.8s
BOZ **Bozeman (W)** 70.11 46 P 00 45 34.5
baz=310,SNR=5.1
PBUR **Paburge** 70.15 329 eP P 00 45 33.6 +0.1
SOC **Sochi** 70.36 311 eP P 00 45 35.1 +0.1
SOC ePPP PPP 00 49 59.0
SOC eS S 00 54 42.8 -0.2
SOC pmax pmax
comp=Z,30nm,0.6s
SOC MLR MLR
comp=Z,214nm,18.0s
SFJD **Kangerlussuaq** 70.52 6 iP P 00 45 34.8 -0.7
comp=Z,13nm,0.9s
SFJD **Kangerlussuaq** 70.52 6 P P 00 45 35.4 -0.2
SFJD pmax pmax
comp=Z,22nm,1.0s
SFJD **Kangerlussuaq** 70.52 6 P P 00 45 35.4 -0.2
SFJD IAmb IAmb 00 45 35.9
comp=Z,22nm,0.9s
SFJD **Kangerlussuaq** 70.52 6 iP P 00 45 34.9 -0.7
SFJD IAmb IAmb 00 45 36.1
comp=Z,13nm,0.9s
BANOM **Banah** 70.78 288 iP P 00 45 38.4 +0.5
SNR=7.8
BANOM **Banah** 70.78 288 P P 00 45 38.6 +0.7
SHME **Shamm** 70.82 288 iP P 00 45 38.2 +0.2
SNR=11
LHV **Little Huntoon** 70.85 56 P P 00 45 39.8 +1.8
LHV IAmb IAmb 00 45 41.1
comp=Z,18nm,0.8s
OSL **Oslo** 70.86 337 eP P 00 45 37.8 +0.1
NVAR **Mina Array Bea** 70.86 55 P P 00 45 39.4 +1.0
comp=Z,7.7nm,0.7s,baz=289,slow=5.9,SNR=39
NVAR LR LR 01 16 11.0
comp=Z,28nm,18.8s,baz=268,slow=35
JLN **Jalan Bani Buh** 70.90 283 P P 00 45 39.6 +1.0
SNR=5.5
AKASG **Malin Array Be** 70.92 322 P P 00 45 37.9 -0.4
comp=Z,16nm,0.5s,baz=43,slow=6.4,SNR=120
AKASG LR LR 01 19 25.2
comp=Z,188nm,18.1s,baz=70,slow=38
AKASG **Malin Array Be** 70.92 322 P P 00 45 37.8 -0.5
WBK **Wadi Bani Khal** 70.93 283 P P 00 45 40.1 +1.3
SNR=5.1
SKAR **Skarslia** 70.93 338 eP P 00 45 38.3 0.0
BIDO **Bidbid** 70.97 285 P P 00 45 40.5 +1.5
SNR=5.3
FOO **Floro** 71.01 340 eP P 00 45 38.7 +0.1
HYA **Hoyanger** 71.09 340 eP P 00 45 39.3 +0.2
SUW **Suwalki** 71.14 327 eP P 00 45 39.1 -0.5
SUW **Suwalki** 71.14 327 eP P 00 45 39.5 -0.1
SUW **Suwalki** 71.14 327 IAmb IAmb 00 45 40.1
comp=Z,51nm,1.2s
MDH **Madha** 71.17 287 P P 00 45 40.5 +0.3
MASF **Masafi** 71.22 287 P P 00 45 41.2 +0.6
MSFE **Esma-Masafi** 71.23 287 iP P 00 45 41.0 +0.3
SNR=9.6
SMDO **Samad** 71.31 284 P P 00 45 41.6 +0.4
PAGB **Antelope Grade** 71.35 59 IAmb IAmb 00 45 44.1
comp=Z,20nm,0.9s
YNE **Yellowstone No** 71.36 46 P P 00 45 41.9 +0.5
KONO **Kongsberg** 71.42 337 P P 00 45 41.3 +0.1
KONO pmax pmax
comp=Z,21nm,1.1s
KONO **Kongsberg** 71.42 337 P P 00 45 41.3 +0.1
KONO IAmb IAmb 00 45 42.0
comp=Z,21nm,1.1s
KONO **Kongsberg** 71.42 337 eP P 00 45 41.3 +0.1
UOSS **Minazif** 71.46 287 iP P 00 45 42.0 0.0
SNR=22
UOSS **Minazif** 71.46 287 P P 00 45 41.9 -0.1
UOSS **Minazif** 71.46 287 P P 00 45 42.2 +0.3
H17A **Grant Village** 71.46 47 P 00 45 44.5
baz=311
HOQ **Hoqain** 71.52 285 P P 00 45 43.0 +0.6
SNR=6.3
SUE **Sulen** 71.55 340 eP P 00 45 42.3 +0.5
HATD **Hatta, Dubai** 71.58 287 iP P 00 45 43.0 +0.3
SNR=27
HATD **Hatta, Dubai** 71.58 287 P P 00 45 44.0 +1.2
SNR=9.4
RLMT **Red Lodge** 71.68 45 P 00 45 44.4
baz=312
JMDO **Jabal Madar** 71.70 284 P P 00 45 44.1 +0.6
SNR=6.3
ASHO **Ashiyiah** 71.72 287 iP P 00 45 43.7 +0.1
SNR=15
ASHO **Ashiyiah** 71.72 287 P P 00 45 44.1 +0.5
SNR=8.6
SOHO **SOHO** 71.73 286 iP P 00 45 43.4 -0.1
SNR=18
GEVA **Gevas** 71.79 305 IAmb IAmb 00 45 46.0
comp=Z,14nm,0.6s
NAZ **Nazwa, Dubai** 71.81 287 P P 00 45 44.4 +0.3
ASK **Askoy** 71.93 340 eP P 00 45 44.6 +0.4
DGMT **Dagmar** 71.95 40 IAmb IAmb 00 46 00.1
comp=Z,24nm,0.7s
DGMT **Dagmar** 71.95 40 P 00 45 44.9
baz=314
BER **Bergen** 71.98 339 eP P 00 45 44.8 +0.4
KTUT **Trabzon** 72.01 309 ⇑P P 00 45 45.4 +0.4
FAQ **Al Faqa, Dubai** 72.02 287 iP P 00 45 45.4 +0.2
SNR=12
FAQ **Al Faqa, Dubai** 72.02 287 P P 00 45 45.5 +0.2
VES **Vestal, Richgr** 72.02 58 P 00 45 45.8
baz=310
ODD1 **Odda** 72.03 339 eP P 00 45 45.0 +0.1
BSY **Bisya** 72.12 285 P P 00 45 46.8 +0.8
SNR=8.8
PKM **Mcpherson Peak** 72.16 59 P 00 45 47.3
baz=310
LAO **LASA Array** 72.19 43 P 00 45 47.0
baz=313
KOPT **Kop Dagi** 72.21 308 IAmb IAmb 00 45 51.5
comp=Z,20nm,0.8s
ARQ **Araqi** 72.23 286 P P 00 45 47.3 +0.6
SNR=5.5
CWC **Cottonwood Cre** 72.26 57 P 00 45 47.7
baz=310
ASUD **Al Ashush, Dub** 72.28 287 iP P 00 45 47.3 +0.4
SNR=9.2
ALNE **Al Ain** 72.33 287 iP P 00 45 47.5 +0.2
SNR=24
ALNE **Al Ain** 72.33 287 P P 00 45 47.8 +0.6
SNR=10
GRAC **Grapevine Rang** 72.35 56 P 00 45 48.7
baz=310,SNR=25
SIM **Simferopol'** 72.48 315*d* iP P 00 45 47.1 -0.6
BLS5 **Blasjo** 72.50 338 eP P 00 45 47.9 +0.3
ISA **Isabella, Lake** 72.51 58 P 00 45 48.6
baz=310
R11A **Troy Canyon, C** 72.56 54 P P 00 45 49.5 +0.9
R11A **Troy Canyon, C** 72.56 54 P 00 45 49.5
baz=310,SNR=12
BORG **Borgarnes** 72.58 353 P P 00 45 48.2 +0.3
comp=Z,18nm,0.8s,baz=12,slow=2.3,SNR=1.4
MHTO **MHTO** 72.67 283 P P 00 45 50.2 +0.9
SNR=28
MPMC **Manual Prospec** 72.87 57 P 00 45 51.7
baz=310,SNR=16
HOMB **Homborsund** 72.89 337 eP P 00 45 49.9 0.0
HOMB **Homborsund** 72.89 337 iP P 00 45 49.8 -0.1
DUG **Dugway, Tooele** 72.99 51 P 00 45 52.4
baz=311,SNR=6.0
FURC **Furnace Creek,** 73.00 56 P 00 45 52.2
baz=310,SNR=7.7
KMY **Karmoy** 73.00 339 eP P 00 45 51.1 +0.5
TPNV **Topopah Spring** 73.06 55 IAmb IAmb 00 45 53.8
comp=Z,14nm,0.8s
TPNV **Topopah Spring** 73.06 55 P 00 45 52.7
baz=310,SNR=16
PDAR **Pinedale Array** 73.10 47 P P 00 45 52.0 +0.3
comp=Z,4.6nm,0.7s,baz=257,slow=1.3,SNR=14
PDAR **Pinedale Array** 73.10 47 P P 00 45 51.9 +0.1
LRMC **Laurel Mtn Rad** 73.12 57 P 00 45 52.5
baz=310,SNR=6.1
SNART **Snartemo** 73.20 337 iP P 00 45 51.7 -0.1
NUUK **Nuuk** 73.21 7 iP P 00 45 52.0 +0.3
NUUK IAmb IAmb 00 45 52.9
comp=Z,43nm,0.8s
EDW2 **Edwards Air Fo** 73.31 58 P 00 45 54.0
baz=310,SNR=7.1
SNCC **San Nicolas Is** 73.39 60 P 00 45 54.5
baz=310
BSD **Bornholm Skovb** 73.41 332 iP P 00 45 52.7 -0.3
comp=Z,24nm,0.8s
BSD **Bornholm Skovb** 73.41 332 eP P 00 45 53.0 0.0
BSD **Bornholm Skovb** 73.41 332 iP P 00 45 52.7 -0.3
BSD **Bornholm Skovb** 73.41 332 iP P 00 45 52.8 -0.3
BSD IAmb IAmb 00 45 53.3
comp=Z,24nm,0.8s
PRN **Pahroc Range** 73.49 54 P P 00 45 55.2 +1.2
GID **Gilleleje** 73.52 334 iP P 00 45 53.7 0.0
GID IAmb IAmb 00 45 54.5
comp=Z,48nm,0.8s
GOET **G??ttrup** 73.70 336 iP P 00 45 55.6 +0.9
GOET **G??ttrup** 73.70 336 IAmb IAmb 00 45 55.5
comp=Z,42nm,0.9s
GOET iP P 00 45 55.7 +0.9
KIS **Kishinev** 73.72 319 eP P 00 45 54.6 -0.4
comp=Z,40nm,0.6s
KIS **Kishinev** 73.72 319 ⇓P P 00 45 55.2 +0.1
KIS **Kishinev** 73.72 319 eP P 00 45 54.6 -0.4
KIS pmax pmax
comp=Z,40nm,0.6s
SHOC **Shoshone, Teco** 73.73 56 P 00 45 56.2
baz=311
BEL **Belsk** 73.73 327 eP P 00 45 55.8 +0.8
MPU **Maple Canyon** 73.78 50 P P 00 45 56.7 +0.9
GSC **Goldstone, Bar** 73.79 57 P 00 45 56.7
baz=311
COP **Copenhagen** 73.79 333 iP P 00 45 55.7 +0.5
comp=Z,33nm,0.7s
COP **Copenhagen** 73.79 333 iP P 00 45 55.7 +0.5
COP **Copenhagen** 73.79 333 iP P 00 45 55.7 +0.5
COP IAmb IAmb 00 45 56.2
comp=Z,33nm,0.7s
MARD **Mardin** 73.81 306 P P 00 45 57.0 +1.1
STKA **Stephens Creek** 73.83 181 P P 00 45 56.0 +0.4
comp=Z,3.3nm,0.8s,baz=335,slow=11,SNR=4.5
STKA LR LR 01 23 12.8
comp=Z,32nm,19.1s,baz=23,slow=40
MZWR **Madinat Zayed** 73.84 287 P P 00 45 55.7 -0.4
LVV **L'vov** 73.88 324 eP P 00 45 56.0 +0.1
BFSC **Mount Baldy Ra** 73.94 58 P 00 45 57.4
baz=310,SNR=5.8
GKP **Gorka Klasztor** 74.02 330 eP P 00 45 56.8 +0.2
GKP **Gorka Klasztor** 74.02 330 eP P 00 45 57.1 +0.5
FORT **Forrest** 74.03 193 P P 00 45 57.2 +0.4
FORT IAmb IAmb 00 45 58.8
comp=Z,36nm,1.1s
DIKM **Dikmen** 74.10 312 ⇑P P 00 45 58.4 +1.0
LLD **Lille Linde** 74.15 333 iP P 00 45 57.2 -0.1
LLD **Lille Linde** 74.15 333 iP P 00 45 57.2 -0.1
LLD **Lille Linde** 74.15 333 iP P 00 45 57.3 -0.1
IAS **Iasi** 74.18 320 ⇓P P 00 45 58.1 +0.4
MUD **Monsted U'grnd** 74.20 335 iP P 00 45 57.5 -0.1
comp=Z,14nm,0.8s
MUD **Monsted U'grnd** 74.20 335 iP P 00 45 57.5 -0.1
MUD **Monsted U'grnd** 74.20 335 iP P 00 45 57.5 -0.1
MUD IAmb IAmb 00 45 58.1
comp=Z,14nm,0.8s
TOKA **Tokat** 74.32 310 P P 00 45 59.6 +0.9
TOKA IAmb IAmb 00 46 00.6
comp=Z,19nm,0.8s
HEC **Hector,Ludlow** 74.39 57 P 00 46 00.3
baz=311,SNR=8.6
UMR **Umm Al-Rimmam** 74.41 296 eP 00 45 58.2
ULM **Lac du Bonnet** 74.42 35 P P 00 45 58.8 -0.2
comp=Z,9.2nm,0.5s,baz=316,slow=6.9,SNR=27
ULM LR LR 01 20 35.6
comp=Z,57nm,19.0s,baz=322,slow=37
ULM **Lac du Bonnet** 74.42 35 IAmb IAmb 00 46 00.2
comp=Z,11nm,0.6s
VASR **Vaslui** 74.47 320 ⇑P P 00 46 00.2 +0.8
MIB **Mutribah** 74.50 296 eP 00 45 58.9
MDND **Maddock** 74.55 38 IAmb IAmb 00 46 02.1
comp=Z,32nm,0.8s
MDND **Maddock** 74.55 38 P 00 46 00.7
baz=317
BZK **Bozkurt** 74.58 313 ⇑P P 00 46 00.8 +0.7
RDMU **Red Mountain** 74.58 49 IAmb IAmb 00 46 02.6
comp=Z,22nm,0.8s
KWP **Kalwaria Pacla** 74.59 324 eP P 00 46 00.9 +0.8
MURC **Murrieta** 74.65 59 P 00 46 01.4
baz=311
P17A **Butcher Ranch,** 74.66 50 IAmb IAmb 00 46 03.0
comp=Z,12nm,0.7s
PRAR **RASCA** 74.69 321 ⇓P P 00 46 01.0 +0.3
MTPU **Mount Pierson** 74.78 52 P P 00 46 03.5 +1.7
QRN **Al-Qurain** 74.80 295 eP 00 46 00.8
K22A **Casper** 74.81 46 P 00 46 02.3
baz=314
BIR **Birlad** 74.82 320 ⇑P P 00 46 02.9 +1.4
GMRC **Granite Mounta** 74.83 57 P 00 46 03.1
baz=311,SNR=11
RDF **Al-Radifah** 74.93 295 eP 00 46 01.3
RST **Umm Al-Ruwaisa** 74.93 296 eP 00 46 01.5
BUR08 **Bucovina Ar. S** 74.96 322 P P 00 46 02.8 +0.4
BUR08 IAmb IAmb 00 46 03.7
comp=Z,27nm,0.7s
BURAR **Bucovina Array** 74.97 322 ⇑P P 00 46 02.9 +0.4
BURAR **Bucovina Array** 74.97 322 P P 00 46 02.5 +0.1
TLCR 75.01 318 ⇓P P 00 46 03.3 +0.7
BIZ **Bicaz** 75.05 321 ⇑P P 00 46 03.5 +0.7
GHRR 75.07 319 ⇑P P 00 46 04.6 +1.7
RSSD **Black Hills** 75.08 43 P P 00 46 03.6 +0.3
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD **Black Hills** 75.08 43 P P 00 46 03.6 +0.3
RSSD **Black Hills** 75.08 43 P 00 46 03.5
baz=315
PFO **Pinyon Flats O** 75.10 58 P P 00 46 04.1 +0.6
PFO pmax pmax
comp=Z,7.0nm,0.8s
PFO **Pinyon Flats O** 75.10 58 P P 00 46 04.1 +0.6
PFO **Pinyon Flats O** 75.10 58 P 00 46 04.2
baz=311
XPFO **Pion Flat** 75.11 58 P P 00 46 04.2 +0.8
TESR **Tescani** 75.11 320 ⇓P P 00 46 03.3 +0.2
RWWY **Rawlins** 75.11 47 IAmb IAmb 00 46 19.3
comp=Z,21nm,1.1s
TPFO **Pinon Flats** 75.11 58 P 00 46 04.1
baz=311
BELC **Belle Mtn. Jos** 75.14 58 P 00 46 04.2
baz=311,SNR=5.2
109C **Camp Elliot, M** 75.17 59 P 00 46 04.8
baz=311
SLWR **Salwarpe** 75.19 289 P P 00 46 03.6 -0.3
KOLS **Kolonicke sedl** 75.31 324 eP P 00 46 04.3 +0.1
KOLS pmax pmax
comp=Z,11nm,0.8s
KOLS **Kolonicke sedl** 75.31 324 eP P 00 46 04.3 +0.1
CFR **Carcaliu** 75.35 318 ⇑P P 00 46 04.9 +0.4
OJC **Ojcow** 75.37 326 eP P 00 46 05.2 +0.6
OJC **Ojcow** 75.37 326 P P 00 46 05.0 +0.4
OJC pmax pmax
comp=Z,63nm,0.9s
OJC **Ojcow** 75.37 326 P P 00 46 05.0 +0.4
TPGR **Topolog** 75.44 318 ⇓P P 00 46 06.0 +0.9
ODBI **Odobesti** 75.46 319 ⇓P P 00 46 07.2 +2.1
NEE2 **Needles Airpor** 75.49 56 P 00 46 06.3
baz=312
UZH **Uzhgorod** 75.52 324 eP P 00 46 05.3 -0.1
UZH *i* 00 46 13.7
UZH *e* 00 46 27.7
VRI **Vrincioaia** 75.54 320 ⇑P P 00 46 06.4 +0.7
IRM **Iron Mountain** 75.57 57 P 00 46 07.1
baz=312
SKMB **Sankelmark Bun** 75.57 334 eP P 00 46 06.6 +1.1
comp=Z,51nm,0.9s,baz=34,slow=5.5
PLOR **Plostina** 75.59 320 ⇓P P 00 46 06.8 +0.8
MONP2 **Monument Peak** 75.60 59 P 00 46 07.2
baz=311
O20A **White River Ci** 75.61 49 P 00 46 07.1
baz=314
CRVS **Cervenica-Dubn** 75.68 325 eP P 00 46 06.9 +0.5
CRVS pmax pmax
comp=Z,23nm,0.7s
CRVS **Cervenica-Dubn** 75.68 325 eP P 00 46 06.9 +0.5
BC3 **Big Chuckawall** 75.71 58 P 00 46 07.6
baz=312,SNR=5.6
TIRR **Tirgusor** 75.73 318 ⇑P P 00 46 06.9 +0.2
TIRR **Tirgusor** 75.73 318 ⇑P P 00 46 06.9 +0.2
ARCR **ARCALIA** 75.76 322 ⇓P P 00 46 08.4 +1.6
NIE **Niedzica** 75.78 325 eP P 00 46 08.0 +1.0
OZUR 75.82 320 ⇓P P 00 46 07.2 -0.1
TLBR **Topalu** 75.85 318 ⇓P P 00 46 07.8 +0.4
AGMN **Agassiz Nation** 75.90 36 P 00 46 07.1
baz=319,SNR=8.2
RUE **Ruedersdorf** 75.92 331 eP P 00 46 08.1 +0.6
comp=Z,45nm,0.8s,baz=34,slow=5.5
MFTR **Murfatlar** 75.93 318 ⇓P P 00 46 08.5 +0.7
BSEG **Bad Segeberg** 75.93 333 eP P 00 46 08.2 +0.6
comp=Z,36nm,0.8s,baz=34,slow=5.5
IKP **In-Ko-Pah, Jac** 75.95 59 P 00 46 08.9
baz=311
GAZ **Gaziantep** 76.02 308 P P 00 46 09.8 +1.2
GAZ IAmb IAmb 00 46 10.9
comp=Z,35nm,0.8s
NEHR **Nehoiu** 76.07 320 ⇓P P 00 46 09.1 +0.5
PDMCI **Parker Dam,Lak** 76.09 56 P 00 46 10.1
baz=312,SNR=14
DOPR **Dopca** 76.10 320 ⇑P P 00 46 09.9 +1.1
PGOR **Pogoanele** 76.11 319 ⇓P P 00 46 10.4 +1.6
AMRR **Amara** 76.16 318 ⇓P P 00 46 10.4 +1.3
ISR **Istrita** 76.17 319 ⇑P P 00 46 10.6 +1.3
MLR **Muntele Rosu** 76.19 320 P P 00 46 09.4 -0.1
comp=Z,3.7nm,0.4s,baz=332,slow=1.7,SNR=22
MLR **Muntele Rosu** 76.19 320 ⇑P P 00 46 10.1 +0.6
MLR **Muntele Rosu** 76.19 320 IAmb IAmb 00 46 11.2
comp=Z,44nm,1.7s
SHAO **Shalim** 76.25 282 iP P 00 46 10.2 +0.1
SNR=14
SHAO **Shalim** 76.25 282 P P 00 46 10.4 +0.4
ICOR **Ion Corvin** 76.28 318 ⇑P P 00 46 11.1 +1.3
KSP **Ksiaz** 76.29 328 eP P 00 46 10.4 +0.7
BR131 **Keskin Array S** 76.32 312 IAmb IAmb 00 46 11.7
comp=Z,29nm,0.8s
BRTR **Keskin Array B** 76.32 312 P P 00 46 09.5 -0.8
comp=Z,17nm,0.7s,baz=82,slow=3.4,SNR=92
BRTR PP PP 00 48 57.5 -4.2
comp=Z,3.3nm,0.8s,baz=101,slow=3.9,SNR=3.6
BRTR LR LR 01 26 44.5
comp=Z,99nm,18.3s,baz=52,slow=41
BRTR **Keskin Array B** 76.32 312 iP P 00 46 10.6 +0.3
BRTR pmax pmax
comp=Z,17nm,0.7s
BRTR **Keskin Array B** 76.32 312 P P 00 46 10.7 +0.3
LANS **Liptovska Anna** 76.33 326 eP P 00 46 11.3 +1.2
LANS pmax pmax
comp=Z,10.0nm,0.8s
LANS **Liptovska Anna** 76.33 326 eP P 00 46 11.3 +1.2
N23A **Red Feather La** 76.35 47 P 00 46 11.6
baz=315
PV10 **Paradox Valley** 76.37 50 P P 00 46 12.1 +1.3
CJR **Cluj-Napoca** 76.38 322 ⇑P P 00 46 11.6 +1.1
PV14 **Lion Creek, Pa** 76.38 50 IAmb IAmb 00 46 12.8
comp=Z,18nm,0.6s
PV22 **Blue Mesa, Par** 76.41 50 IAmb IAmb 00 46 12.9
comp=Z,15nm,0.8s
PV04 **Paradox Valley** 76.44 50 IAmb IAmb 00 46 13.3
comp=Z,14nm,0.8s
PV20 **West Nyswonger** 76.44 50 IAmb IAmb 00 46 13.2
comp=Z,15nm,0.8s
PV19 **Morning Glory** 76.45 50 P P 00 46 12.1 +0.9
PV19 IAmb IAmb 00 46 13.3
comp=Z,22nm,0.7s
SECR 76.46 319 ⇑P P 00 46 12.0 +1.1
PV17 **East Wray Mesa** 76.48 50 IAmb IAmb 00 46 13.4
comp=Z,27nm,0.7s
PV16 **Nyswonger Mesa** 76.49 50 IAmb IAmb 00 46 13.5
comp=Z,13nm,0.8s
GLA **Glamis** 76.50 58 P 00 46 12.6
baz=312
HLG **Helgoland** 76.51 335 eP P 00 46 11.4 +0.5
comp=Z,73nm,0.9s,baz=34,slow=5.5
PV11 **David Mesa, Pa** 76.52 50 IAmb IAmb 00 46 13.7
comp=Z,15nm,0.7s
RASA **Rasa** 76.53 318 ⇓P P 00 46 12.3 +1.1
PV18 **Skein Mesa, Pa** 76.54 50 P P 00 46 12.4 +0.8
PV18 IAmb IAmb 00 46 13.7
comp=Z,15nm,0.7s
OSTC **Ostas** 76.55 328 eP P 00 46 12.0 +0.7
PV03 **Paradox Valley** 76.57 50 IAmb IAmb 00 46 13.9
comp=Z,11nm,0.7s
CHVC **Chvalec** 76.58 328 eP P 00 46 12.2 +0.7
SULR 76.63 319 ⇓P P 00 46 11.6 -0.2
MORC **Moravsky Berou** 76.64 327 ⇓P P 00 46 12.3 +0.5
MORC **Moravsky Berou** 76.64 327 eP P 00 46 12.3 +0.5
MORC **Moravsky Berou** 76.64 327 P P 00 46 12.3 +0.5
MORC pmax pmax
comp=Z,30nm,0.7s
MORC **Moravsky Berou** 76.64 327 P P 00 46 12.3 +0.5
MORC IAmb IAmb 00 46 13.4
comp=Z,30nm,0.7s
PV13 **Radium Mtn., P** 76.65 50 P P 00 46 13.2 +0.8
PV13 IAmb IAmb 00 46 14.5
comp=Z,14nm,0.8s
VOIR 76.65 320 ⇑P P 00 46 12.6 +0.6
UPC **Upice** 76.66 328 eP P 00 46 12.8 +0.9
UPC **Upice** 76.66 328 eP P 00 46 12.8 +0.9
DPC **Dobruska-Polom** 76.67 328 eP P 00 46 12.7 +0.7
DPC **Dobruska-Polom** 76.67 328 eP P 00 46 12.7 +0.7
KRLC **Kraliky** 76.70 328 eP P 00 46 12.9 +0.7
KRLC **Kraliky** 76.70 328 eP P 00 46 12.9 +0.7
BR231 **Keskin MP Arra** 76.71 312 P P 00 46 13.3 +0.8
DRGR 76.72 322 ⇓P P 00 46 13.1 +0.7
B35A **Bob, Littlefor** 76.77 35 IAmb IAmb 00 46 13.3
comp=Z,24nm,0.8s
ARR **Arges** 76.90 320 ⇑P P 00 46 14.6 +1.2
FLTG **Flechtingen** 76.94 332 eP P 00 46 13.3 -0.1
comp=Z,58nm,0.7s,baz=34,slow=5.5
FLTG *es*P **sP** 00 46 36.0 +0.4
baz=33,slow=5.6
DOK **Doka** 76.95 283 P P 00 46 14.1 +0.1
SNR=9.0
WUAZ **Wupatki** 76.96 54 P 00 46 15.4
baz=313,SNR=5.7
PSZ **Piszkesteto** 77.11 325 ⇓P P 00 46 15.5 +1.0
PSZ **Piszkesteto** 77.11 325 P P 00 46 15.1 +0.6
PSZ pmax pmax
comp=Z,13nm,0.8s
PSZ **Piszkesteto** 77.11 325 P P 00 46 15.1 +0.6
PSZ IAmb IAmb 00 46 15.8
comp=Z,13nm,0.8s
SGRR **Singureni** 77.11 319 ⇑P P 00 46 14.6 +0.1
VYHS **Vyhne** 77.11 326 eP P 00 46 15.3 +0.8
VYHS pmax pmax
comp=Z,11nm,0.8s
VYHS **Vyhne** 77.11 326 eP P 00 46 15.3 +0.8
CLL **Collm** 77.15 330 ⇑iP P 00 46 14.7 +0.1
comp=Z,49nm,0.7s
CLL *i* sP **sP** 00 46 36.9 +0.1
CLL *e*PPS PPS 00 57 00.0
CLL *e* 01 02 18.0
CLL Lm MLR 01 22 00.0
comp=N,100nm,19.7s
CLL Lm MLR 01 22 00.0
comp=E,100nm,21.5s
CLL Lm MLR 01 22 00.0
comp=Z,200nm,21.5s
CLL **Collm** 77.15 330 ⇑iP P 00 46 14.7 +0.1
CLL *i* *SP **sP** 00 46 36.9 +0.1
CLL pmax pmax
comp=Z,49nm,0.7s
CLL **Collm** 77.15 330 P P 00 46 14.3 -0.3
CLL **Collm** 77.15 330 eP P 00 46 14.7 +0.1
comp=Z,49nm,0.7s,baz=34,slow=5.5
CLL *es*P **sP** 00 46 37.3 +0.6
baz=33,slow=5.6
BRG **Berggiesshubel** 77.16 330 iP P 00 46 14.8 +0.1
BRG Amp 00 46 15.5
comp=Z,12nm,0.7s
BRG **Berggiesshubel** 77.16 330 eP P 00 46 15.0 +0.3
comp=Z,12nm,0.7s,baz=34,slow=5.5
NRDL **Niedersach Rie** 77.20 333 eP P 00 46 15.2 +0.5
comp=Z,12nm,0.8s,baz=34,slow=5.5
PVCC **Panska Ves** 77.20 329 eP P 00 46 15.6 +0.7
PVCC **Panska Ves** 77.20 329 eP P 00 46 15.6 +0.7
ISCO **Idaho Springs** 77.30 47 P 00 46 17.1
baz=315,SNR=5.9
JAVC **Velka Javorina** 77.30 327 eP P 00 46 17.1 +1.5
ASSE **Asse, Remlinge** 77.31 332 eP P 00 46 15.9 +0.5
comp=Z,16nm,0.9s,baz=34,slow=5.5

DEV	Deva	77.32	322	⇓P		P	00 46 16.9	+1.3
RAZG	Razgrad	77.33	318	⇑P		P	00 46 15.9	+0.2
FBE	Freiberg	77.34	330	*e*P		P	00 46 16.2	+0.5
	comp=Z,26nm,0.7s,baz=34,slow=5.5							
HUMR	Humele	77.36	320	⇑P		P	00 46 15.8	-0.1
SUSD	Miller	77.36	40	P			00 46 16.3	
	baz=318							
VRAC	Vranov	77.39	327	P		P	00 46 16.4	+0.4
	comp=Z,17nm,0.6s,baz=47,slow=5.2,SNR=41							
VRAC	Vranov	77.39	327	⇓P		P	00 46 16.9	+0.8
VRAC	Vranov	77.39	327	*e*P		P	00 46 16.8	+0.8
MVCO	Mesa Verde	77.49	51	P			00 46 18.2	
	baz=314,SNR=7.8							
COPA	Copaceanca	77.54	319	⇓P		P	00 46 16.9	0.0
F33A	5 Mile Ranch,	77.56	38	IAmb	IAmb		00 46 18.1	
	comp=Z,13nm,0.8s							
GOPC	GO Pecny, Ondr	77.61	329	*e*P		P	00 46 17.9	+0.6
GOPC	GO Pecny, Ondr	77.61	329	*e*P		P	00 46 17.9	+0.6
RBK	Rabkut	77.62	282	P		P	00 46 17.4	-0.4
	SNR=5.8							
PRA	Prague	77.62	329	*e*P		P	00 46 18.0	+0.7
PRA	Prague	77.62	329	*e*P		P	00 46 18.0	+0.7
PRU	Pruhonice	77.65	329	*e*P		P	00 46 17.9	+0.5
PRU				MLR	MLR			
	comp=Z,200nm,16.5s							
PRU	Pruhonice	77.65	329	*e*P		P	00 46 17.9	+0.5
PRU				AMS	AMS		01 22 00.0	
	comp=Z,200nm,16.5s							
CLZ	Clausthal	77.65	332	*e*P		P	00 46 18.1	+0.6
	comp=Z,42nm,0.7s,baz=34,slow=5.5							
CLZ				*es*P		sP	00 46 40.3	+0.7
	baz=33,slow=5.6							
KRUC	Moravsky	77.66	327	*e*P		P	00 46 18.1	+0.6
WHFO	Wadi Hawf	77.66	283	P		P	00 46 17.6	-0.5
	SNR=7.5							
SMOL	Smolenice	77.67	326	*e*P		P	00 46 19.0	+1.4
SMOL				pmax	pmax			
	comp=Z,12nm,0.7s							
SMOL	Smolenice	77.67	326	*e*P		P	00 46 19.0	+1.4
NEUB	Neuenburg	77.68	331	*e*P		P	00 46 17.8	+0.3
	comp=Z,50nm,0.8s,baz=34,slow=5.5							
GZR	Gura Zlata	77.75	321	⇓P		P	00 46 18.5	+0.3
ZIMR		77.82	319	⇑P		P	00 46 19.1	+0.7
MODS	Modra-Piesok	77.85	326	*e*P		P	00 46 19.9	+1.3
MODS				pmax	pmax			
	comp=Z,17nm,0.9s							
MODS	Modra-Piesok	77.85	326	*e*P		P	00 46 19.9	+1.3
SRO	Srobarova	77.86	326	*e*P		P	00 46 20.1	+1.4
SRO	Srobarova	77.86	326	*e*P		P	00 46 20.0	+1.4
VLAD	Vladila	78.03	320	⇓P		P	00 46 19.9	+0.3
EYMN	Ely	78.03	34	IAmb	IAmb		00 46 20.4	
	comp=Z,24nm,0.8s							
EYMN	Ely	78.03	34	P			00 46 19.4	
	baz=322,SNR=8.4							
GTTG	Gottingen	78.04	332	*e*P		P	00 46 20.0	+0.5
	comp=Z,39nm,0.8s,baz=34,slow=5.5							
ZST	Bratislava	78.06	326	*e*P		P	00 46 21.0	+1.3
ZST	Bratislava	78.06	326	*e*P		P	00 46 21.0	+1.3
S22A	4UR Ranch, Cre	78.06	50	P			00 46 21.7	
	baz=315,SNR=8.7							
TANN	Tannenbergstha	78.08	330	*e*P		P	00 46 20.1	+0.2
	comp=Z,9.1nm,0.8s,baz=34,slow=5.5							
SRE	Strehaia	78.10	321	⇓P		P	00 46 21.1	+1.0
BZS	Buzias	78.11	322	⇑P		P	00 46 20.1	0.0
WERD	Werda	78.11	330	*e*P		P	00 46 20.2	+0.2
	comp=Z,5.9nm,0.8s,baz=34,slow=5.5							
PLN	Plauen	78.14	330	*e*P		P	00 46 20.4	+0.3
	comp=Z,12nm,0.7s,baz=34,slow=5.5							
IBBN	Ibbenburen	78.14	334	*e*P		P	00 46 20.3	+0.3
	comp=Z,36nm,0.7s,baz=34,slow=5.5							
Q24A	Divide	78.14	48	P			00 46 21.6	
	baz=315							
GUNZ	Gunzen	78.17	330	*e*P		P	00 46 20.7	+0.4
	comp=Z,16nm,0.7s,baz=34,slow=5.5							
GUNZ				*es*P		sP	00 46 43.7	+1.1
	baz=33,slow=5.6							
MOX	Moxa	78.20	331	*e*P		P	00 46 20.8	+0.3
	comp=Z,16nm,0.7s,baz=34,slow=5.5							
MOX				*e*L		L	01 22 52.6	
	comp=Z,129nm,21.0s							
W18A	Petrified Fore	78.21	53	P		P	00 46 22.4	+1.4
WERN	Wernitzgruen	78.22	330	*e*P		P	00 46 21.1	+0.5
	comp=Z,21nm,0.6s,baz=34,slow=5.5							
NKC	Novy Kostel	78.23	330	*e*P		P	00 46 21.3	+0.6
NKC	Novy Kostel	78.23	330	*e*P		P	00 46 21.3	+0.6
HERR	Herculane	78.30	321	⇑P		P	00 46 20.9	-0.2
ABTO	Aybut	78.37	283	P		P	00 46 21.8	-0.2
	SNR=7.8							
PLVB	Pleven	78.38	319	⇑P		P	00 46 22.0	+0.4
OGNE	Ogallala	78.39	45	P		P	00 46 23.1	+1.3
OGNE				IAmb	IAmb		00 46 23.9	
	comp=Z,31nm,0.9s							
OGNE	Ogallala	78.39	45	P			00 46 22.4	
	baz=317							
214A	Organ Pipe Nat	78.49	57	P			00 46 23.3	
	baz=313							
BAIL	Bailesti	78.52	320	⇓P		P	00 46 23.5	+1.2
PUNG	Punghina	78.52	321	⇑P		P	00 46 22.8	+0.5
MANZ	Manzenberg	78.56	330	*e*P		P	00 46 22.9	+0.4
	comp=Z,14nm,0.7s,baz=34,slow=5.5							
EKA	Eskdalemuir Ar	78.58	341	P		P	00 46 22.0	-0.4
	comp=Z,9.4nm,0.6s,baz=25,slow=5.2,SNR=55							
ESK	Eskdalemuir	78.60	341	P		P	00 46 22.3	-0.3
ESK				pmax	pmax			
	comp=Z,96nm,1.8s							
ESK	Eskdalemuir	78.60	341	P		P	00 46 22.3	-0.3
UBBA	Unterbreizbach	78.63	332	*e*P		P	00 46 23.4	+0.7
	comp=Z,8.3nm,0.6s,baz=34,slow=5.5							
CKRC	Cesky Krumlov	78.68	328	*e*P		P	00 46 23.6	+0.4
MDVR	Moldovita	78.70	322	⇓P		P	00 46 23.7	+0.3
ROTZ	Rotzenmuhle	78.71	330	*e*P		P	00 46 24.1	+0.8
	comp=Z,19nm,0.9s,baz=34,slow=5.5							
KHC	Kasperske Hory	78.71	329	*e*P		P	00 46 23.9	+0.5
KHC				*e*			00 46 33.7	
KHC	Kasperske Hory	78.71	329	*e*P		P	00 46 23.9	+0.5
KHC				*e*PCP		PcP	00 46 33.7	+1.6
CONA	Conrad Observa	78.78	327	*i* P		P	00 46 24.7	+0.9
	comp=Z,8.7nm,0.6s,SNR=7.9							
K31A	O'Neill	78.81	42	P		P	00 46 24.1	+0.1
KASTN	Kahler Asten	78.86	333	*e*P		P	00 46 24.4	+0.3
	comp=Z,19nm,0.8s,baz=34,slow=5.5							
GEC2	GERESS Array S	78.89	329	P		P	00 46 24.5	0.0
GEC2	GERESS Array S	78.89	329	*e*P		P	00 46 24.7	+0.2
	comp=Z,11nm,0.7s,baz=34,slow=5.5							
GERES	GERESS Array B	78.89	329	P		P	00 46 24.3	-0.2
	comp=Z,7.2nm,0.5s,baz=40,slow=6.3,SNR=82							
GERES				LR		LR	01 23 19.6	
	comp=Z,170nm,21.8s,baz=48,slow=37							
GERES	GERESS Array B	78.89	329	P		P	00 46 24.1	-0.4
WET	Wettzell	78.97	329	*e*P		P	00 46 25.6	+0.8
	comp=Z,22nm,0.8s,baz=34,slow=5.5							
WET				*es*P		sP	00 46 47.7	+0.8
	baz=33,slow=5.6							
MORH	Mrgy, Hungar	78.97	324	⇑P		P	00 46 24.8	+0.1
MORH	Mrgy, Hungar	78.97	324	⇑*i*P		P	00 46 24.4	-0.3
ECSD	EROS Data Cent	79.01	40	IAmb	IAmb		00 46 26.2	
	comp=Z,17nm,0.8s							
ECSD	EROS Data Cent	79.01	40	P			00 46 25.1	
	baz=319,SNR=18							
BUG	Bochum--Univer	79.04	334	*e*P		P	00 46 25.1	+0.1
	comp=Z,32nm,0.8s,baz=34,slow=5.5							
E38A	The Farm, Brul	79.06	35	IAmb	IAmb		00 46 25.9	
	comp=Z,24nm,0.8s							
GRF	Grafenberg Arr	79.13	330	*e*P		P	00 46 26.5	+0.9
	comp=Z,51nm,0.7s,baz=34,slow=5.5							
GRF				*e*L		L	01 23 21.4	
	comp=Z,125nm,22.0s							
GRFO	Grafenberg	79.13	330	P		P	00 46 25.6	0.0
GRFO				pmax	pmax			
	comp=Z,46nm,0.7s							
GRFO	Grafenberg	79.13	330	P		P	00 46 25.6	0.0
FRGS	Fruska Gora	79.28	323	⇓P		P	00 46 26.5	0.0
FRGS	Fruska Gora	79.28	323	⇑*i*P		P	00 46 26.6	0.0
ARSA	Arzberg	79.46	327	*e*P		P	00 46 28.2	+0.7
	comp=Z,8.2nm,0.7s							
KSCO	Kaye Shedlock'	79.48	46	P			00 46 28.6	
	baz=317							
MOA	Molln	79.48	328	*i* P		P	00 46 28.2	+0.6
	comp=Z,8.6nm,0.8s							
TUC	Tucson	79.50	56	P		P	00 46 28.9	+0.8
TUC				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TUC	Tucson	79.50	56	P		P	00 46 28.9	+0.8
TUC	Tucson	79.51	56	P			00 46 28.9	
	baz=314							

ALN	Alexandroupoli	79.52	317	IAmb	IAmb		00 46 29.3	
	comp=Z,24nm,0.8s							
BEHE	Becsehely	79.56	326	⇑*i*P		P	00 46 30.0	+2.0
BOVS	Bovan	79.58	321	⇑P		P	00 46 27.4	-0.7
SPMN	Marine on St.	79.61	37	P			00 46 27.8	
	baz=321,SNR=5.1							
VTS	Vitosha	79.63	319	⇑P		P	00 46 29.5	+0.9
TNS	Taunus Mts	79.67	332	*e*P		P	00 46 28.9	+0.3
	comp=Z,16nm,0.9s,baz=34,slow=5.5							
MILB	Miltenberg	79.71	332	*e*P		P	00 46 29.0	+0.3
	comp=Z,16nm,0.8s,baz=34,slow=5.5							
RAYN	Ar Rayn	79.84	292	*i* P		P	00 46 30.1	+0.1
	SNR=44							
RAYN	Ar Rayn	79.84	292	P		P	00 46 30.1	+0.1
RAYN				pmax	pmax			
	comp=Z,22nm,0.7s							
RAYN	Ar Rayn	79.84	292	P		P	00 46 30.1	+0.1
RAYN				IAmb	IAmb		00 46 30.8	
	comp=Z,22nm,0.7s							
T25A	Trinidad	79.85	49	IAmb	IAmb		00 46 31.9	
	comp=Z,14nm,0.8s							
T25A	Trinidad	79.85	49	P			00 46 30.9	
	baz=316,SNR=15							
AHRW	Bad Neuenahr-A	79.87	333	*e*P		P	00 46 30.0	+0.5
	comp=Z,22nm,1.1s,baz=34,slow=5.5							
D41A	Chassel	79.94	33	IAmb	IAmb		00 46 31.0	
	comp=Z,17nm,0.8s							
LEF	Lefka	79.97	309	⇓P		P	00 46 30.7	+0.3
KALN	Kalnik	79.97	325	*i* P		P	00 46 29.8	-0.5
DIVS	Divibare	80.02	322	⇑*i*P		P	00 46 30.5	-0.1
DIVS	Divibare	80.02	322	IAmb	IAmb		00 46 31.6	
	comp=Z,14nm,0.9s							
BGNE	Belgrade	80.02	42	IAmb	IAmb		00 46 31.6	
	comp=Z,27nm,0.8s							
BGNE	Belgrade	80.02	42	P			00 46 31.1	
	baz=319							
GROS	Grobnik	80.10	326	*i* P		P	00 46 31.1	0.0
	comp=Z,50nm,0.7s							
BEBN	Eben Emael	80.11	334	*bP*		P	00 46 30.8	-0.1
SOKA	Soboth	80.12	327	*i* P		P	00 46 31.6	+0.5
	comp=Z,33nm,0.8s,SNR=18							
BTNL	Ternell	80.14	334	*d*P		P	00 46 31.0	-0.1
	comp=Z,22nm,1.0s							
RJOB	Jochberg	80.15	328	*e*P		P	00 46 32.2	+0.9
	comp=Z,100nm,0.8s,baz=34,slow=5.5							
MEM	Membach	80.16	334	*d*P		P	00 46 31.1	-0.1
	comp=Z,20nm,0.8s							
ANMO	Albuquerque	80.25	51	*ce*P		P	00 46 33.6	+1.4
ANMO				pmax	pmax			
	comp=Z,7.0nm,1.1s							
ANMO	Albuquerque	80.25	51	P		P	00 46 33.3	+1.1
ANMO	Albuquerque	80.25	51	P			00 46 33.3	
	baz=315							
I37A	Lemond, Waseca	80.28	38	IAmb	IAmb		00 46 33.3	
	comp=Z,33nm,0.8s							
BSTI	Sart Tilman	80.33	334	*d*P		P	00 46 32.2	+0.1
PTJ	Puntijarka	80.35	326	P		P	00 46 32.2	-0.2
FUR	Furstenfeldbru	80.38	330	*e*P		P	00 46 33.1	+0.7
	comp=Z,51nm,0.8s,baz=34,slow=5.5							
BHOU	Houvegnez	80.38	334	*d*P		P	00 46 32.5	+0.1
OBKA	Obir	80.45	327	*i* P		P	00 46 33.1	+0.2
	comp=Z,21nm,0.6s,SNR=10.0							
BBLS	Lazići	80.46	322	⇑*i*P		P	00 46 33.4	+0.4
L34A	Svendsen Farm,	80.47	41	IAmb	IAmb		00 46 35.0	
	comp=Z,33nm,0.8s							
KBA	Koelnbreinsper	80.47	328	*i* P		P	00 46 33.5	+0.3
	comp=Z,27nm,1.0s,SNR=11							
ELL	Elmali	80.50	312	P		P	00 46 33.5	+0.1
ELL				pmax	pmax			
	comp=Z,112nm,0.9s							
ELL	Elmali	80.50	312	P		P	00 46 33.5	+0.1
HAPS	Han Pijesak,Bl	80.50	323	⇑*i*P		P	00 46 32.5	-0.8
LENM	Lemitar	80.50	52	P		P	00 46 35.1	+1.5
BCLA	Clavier	80.55	334	*d*P		P	00 46 33.1	-0.2
CRES	Cresnjev	80.63	326	⇑*i*P		P	00 46 33.6	-0.2
STU	Stuttgart	80.63	331	IAmb	IAmb		00 46 34.9	
	comp=Z,38nm,0.8s							
STU	Stuttgart	80.63	331	*e*P		P	00 46 34.1	+0.3
	comp=Z,37nm,0.8s,baz=34,slow=5.5							
STU				*es*P		sP	00 46 56.8	+0.8
	baz=33,slow=5.6							
BGES	Gesves	80.65	334	*bP*		P	00 46 33.6	-0.3
RUDO	Rudo	80.67	322	*e*P		P	00 46 33.9	-0.2
MYKA	Terra Mystica	80.72	327	*i* P		P	00 46 34.2	-0.1
	comp=Z,14nm,0.6s,SNR=7.1							
BLY	Banja Luka	80.75	324	⇑*i*P		P	00 46 34.2	-0.3
OZLJ	Ozalj	80.79	326	*i* P		P	00 46 34.7	0.0
SNF	Seneffe	80.80	335	*d*P		P	00 46 34.5	-0.1
BMRD	Maredsous	80.83	334	*bP*		P	00 46 34.5	-0.2
	comp=Z,30nm,1.0s							
LJU	Ljubljana	80.84	327	*i* P		P	00 46 34.7	-0.2
	comp=Z,29nm,0.6s							
STIP	Stip	80.84	319	*i* P		P	00 46 34.5	-0.4
PLE	Pljevlja	80.89	322	⇑*i*P		P	00 46 35.8	+0.4
WLF	Walferdange	80.93	333	IAmb	IAmb		00 46 38.2	
	comp=Z,27nm,1.3s							
WLF	Walferdange	80.93	333	*e*P		P	00 46 35.6	+0.3
	comp=Z,17nm,1.1s,baz=34,slow=5.5							
WATA	Walderalm	80.95	329	*i* P		P	00 46 36.1	+0.4
	comp=Z,18nm,0.5s,SNR=13							
SKO	Skopje	80.98	320	*i* P		P	00 46 37.0	+1.2
WTTA	Wattenberg	80.98	329	*i* P		P	00 46 36.4	+0.5
	comp=Z,30nm,0.6s,SNR=14							
IVA	Berane	81.02	321	⇑*i*P		P	00 46 36.3	+0.3
AKAS	Kas	81.04	311	IAmb	IAmb		00 46 36.8	
	comp=Z,22nm,0.9s							
MGRS	Mrkonjic Grad	81.06	324	⇑*i*P		P	00 46 37.0	+0.8
DOU	Dourbes	81.06	334	*bP*		P	00 46 35.6	-0.4
ABTA	Abfaltersbach	81.07	328	*e*P		P	00 46 36.3	0.0
	comp=Z,10nm,0.9s							
CBKS	Cedar Bluff	81.15	45	P			00 46 36.7	
	baz=318							
121A	Cookes Peak, D	81.17	54	P			00 46 38.7	
	baz=315,SNR=8.8							
SQTA	Sankt Quirin	81.18	329	*i* P		P	00 46 37.4	+0.5
	comp=Z,22nm,0.6s,SNR=11							
KOME	Kolasin	81.21	322	⇑*i*P		P	00 46 36.9	-0.1
UPM	Unac-Piva	81.21	322	*e*P		P	00 46 36.8	-0.4
UPM	Unac-Piva	81.21	322	⇑*i*P		P	00 46 36.8	-0.4
UBR	Ueberruh	81.22	330	*e*P		P	00 46 37.1	+0.1
	comp=Z,11nm,0.8s,baz=34,slow=5.5							
SOCY	Socotra	81.25	278	P		P	00 46 35.6	-2.0
SOCY				IAmb	IAmb		00 46 37.2	
	comp=Z,35nm,0.8s							
BFO	Black Forest	81.31	331	P		P	00 46 37.2	-0.2
BFO				pmax	pmax			
	comp=Z,13nm,0.8s							
BFO	Black Forest	81.31	331	P		P	00 46 37.2	-0.2
BFO				IAmb	IAmb		00 46 40.0	
	comp=Z,13nm,0.8s							
BFO	Black Forest	81.31	331	*e*P		P	00 46 37.3	-0.1
	comp=Z,15nm,0.9s,baz=34,slow=5.5							
TRI	Trieste	81.42	327	IAmb	IAmb		00 46 38.0	
	comp=Z,29nm,0.7s							
RIY	Rijeka	81.44	326	P		P	00 46 37.4	-0.7
NKME	Niksic	81.53	322	⇑*i*P		P	00 46 38.3	-0.4
FETA	Feichten	81.53	329	*i* P		P	00 46 39.2	+0.4
	comp=Z,21nm,0.8s,SNR=9.2							
UDBI	Udbina	81.54	325	*i* P		P	00 46 38.3	-0.5
BRY	Bratogost	81.61	322	⇑*i*P		P	00 46 38.7	-0.5
BRY	Bratogost	81.61	322	⇑*i*P		P	00 46 38.8	-0.5
MATQ	Magagnni	81.61	25	P			00 46 38.5	
	baz=331,SNR=5.3							
I40A	Norwalk	81.61	36	IAmb	IAmb		00 46 40.2	
	comp=Z,18nm,0.9s							
DAVA	Damuels	81.63	330	*i* P		P	00 46 39.6	+0.3
	comp=Z,33nm,0.8s,SNR=11							
PDG	Podgorica	81.65	322	⇓P		P	00 46 39.1	-0.2
PDG	Podgorica	81.65	322	⇑*i*P		P	00 46 39.2	-0.1
PDG	Podgorica	81.65	322	P		P	00 46 39.1	-0.1
TTG	Podgorica	81.65	322	⇑*i*P		P	00 46 39.3	-0.1
N35A	Tabor	81.67	41	IAmb	IAmb		00 46 41.6	
	comp=Z,32nm,0.8s							
KIJV	Kijevo	81.69	324	*i* P		P	00 46 39.3	-0.2
CEME	Cevo	81.72	322	⇑*i*P		P	00 46 39.3	-0.4
RICI	Ricice	81.77	323	P		P	00 46 39.6	-0.4
ECH	Echery	81.82	332	IAmb	IAmb		00 46 40.9	
	comp=Z,18nm,0.8s							

TREB	Trebinje	81.84	322	⇑*i*P		P	00 46 39.4	-0.9
DRME	Dracevica, Mon	81.88	321	⇑*i*P		P	00 46 40.7	+0.2
DRME	Dracevica, Mon	81.88	321	⇑*i*P		P	00 46 40.6	+0.1
NVLJ	Novalja	81.89	325	*i* P		P	00 46 39.6	-0.8
LIT	Litokhoron	81.91	318	IAmb	IAmb		00 46 41.3	
	comp=Z,24nm,0.8s							
BUM	Brajici-Budva	81.92	322	⇑*i*P		P	00 46 40.5	-0.3
FNA	Florina	81.93	319	P		P	00 46 40.4	-0.4
FNA				pmax	pmax			
	comp=Z,21nm,0.8s							
FNA	Florina	81.93	319	P		P	00 46 40.4	-0.4
FNA				IAmb	IAmb		00 46 42.4	
	comp=Z,21nm,0.8s							
OHR	Ohrid	81.95	320	*i* P		P	00 46 41.3	+0.3
CTI	Castel Tesino	81.98	328	IAmb	IAmb		00 46 41.0	
	comp=Z,27nm,0.6s							
HCY	Herceg Novi	81.99	322	*e*P		P	00 46 40.5	-0.6
HCY	Herceg Novi	81.99	322	⇑*i*P		P	00 46 40.4	-0.6
SCIA	State Center	82.01	39	P			00 46 41.6	
	baz=322							
STON	Ston	82.01	323	*i* P		P	00 46 39.0	-2.1
ULC	Ulcinj	82.02	321	⇑*i*P		P	00 46 41.0	-0.3
DAVOX	Davos/Dischmat	82.05	330	P		P	00 46 41.2	-0.3
	comp=Z,15nm,0.5s,baz=30,slow=2.8,SNR=51							
MORI	Morici	82.10	325	*i* P		P	00 46 40.9	-0.6
TIR	Tirane	82.21	321	⇓P		P	00 46 42.9	+0.7
TIR	Tirane	82.21	321	P		P	00 46 42.3	+0.1
TIR				pmax	pmax			
	comp=Z,57nm,0.7s							
TIR	Tirane	82.21	321	P		P	00 46 42.3	+0.1
DUGI	Dugi Otok	82.27	325	*i* P		P	00 46 41.8	-0.7
ZIRJ	Zirje	82.30	324	*i* P		P	00 46 41.9	-0.7
I42A	Draeger Farm,	82.35	35	IAmb	IAmb		00 46 43.9	
	comp=Z,11nm,0.8s							
H43A	Windswept, Lux	82.36	34	IAmb	IAmb		00 46 44.4	
	comp=Z,22nm,0.8s							
TUE	Stuetta	82.51	330	IAmb	IAmb		00 46 45.2	
	comp=Z,27nm,0.7s							
KSU1	Kansas State U	82.53	43	P		P	00 46 43.8	-0.2
KSU1				IAmb	IAmb		00 46 44.5	
	comp=Z,22nm,1.0s							
KSU1	Kansas State U	82.53	43	P			00 46 43.9	
	baz=320							
JFWS	Jewell Farm	82.56	36	P			00 46 43.6	
	baz=323							
G45A	Suttons Bay	82.75	32	IAmb	IAmb		00 46 45.8	
	comp=Z,20nm,0.8s							
SALO	Salr	82.78	329	P		P	00 46 44.6	-0.5
L40A	Anamosa	82.80	38	IAmb	IAmb		00 46 46.3	
	comp=Z,22nm,0.8s							
N38A	Joes South For	82.87	40	IAmb	IAmb		00 46 47.4	
	comp=Z,33nm,0.9s							
KARP	Karpathos	82.89	312	IAmb	IAmb		00 46 48.1	
	comp=Z,38nm,0.9s							
AMTX	Amarillo	83.01	49	P			00 46 47.3	
	baz=318							
MSTX	Muleshoe	83.06	50	P			00 46 47.3	
	baz=317							
VLDQ	Val d'Or	83.11	26	P		P	00 46 45.6	-1.1
VLDQ				IAmb	IAmb		00 46 46.7	
	comp=Z,24nm,0.8s							
MNTX	Cornudas Mount	83.19	53	P		P	00 46 48.2	+0.7
MNTX	Cornudas Mount	83.19	53	P			00 46 48.5	
	baz=316,SNR=6.5							
GLMI	Grayling	83.35	32	P			00 46 48.4	
	baz=327							
U32A	Winter Ranch,	83.35	46	IAmb	IAmb		00 46 51.2	
	comp=Z,11nm,0.8s							
SENIN	Lac Senin/Sane	83.36	331	P		P	00 46 48.2	-0.1
SENIN				IAmb	IAmb		00 46 49.9	
	comp=Z,19nm,0.7s							
GDL2	Guadalupe Moun	83.43	52	P		P	00 46 50.0	+1.1
P38A	Dawn	83.64	40	IAmb	IAmb		00 46 51.5	
	comp=Z,26nm,0.8s							
ZCCA	Zocca	83.66	328	IAmb	IAmb		00 47 00.1	
	comp=Z,25nm,0.8s							
SGRT	San Giovanni R	83.78	323	P		P	00 46 50.0	-0.4
NRCA	Norcia	84.04	325	P		P	00 46 52.2	+0.5
N41A	Harden Midland	84.05	38	IAmb	IAmb		00 46 52.8	
	comp=Z,18nm,0.9s							
L44A	Lake County Fo	84.17	35	P			00 46 52.2	
	baz=325							
MATE	Matera	84.23	322	⇓P		P	00 46 52.9	+0.3
OSSC	Osservatorio P	84.24	327	IAmb	IAmb		00 46 53.1	
	comp=Z,20nm,0.6s							
T35A	Sooner Cattle	84.25	44	IAmb	IAmb		00 46 54.5	
	comp=Z,23nm,0.9s							
AQU	L'Aquila	84.31	325	P		P	00 46 53.7	+0.6
AQU				pmax	pmax			
	comp=Z,30nm,0.8s							
AQU	L'Aquila	84.31	325	⇑*i*P		P	00 46 53.

comp=Z,0.9nm,0.7s,baz=153,slow=6.1,SNR=15
TXAR Lajitas Array 85.92 54 P **P** **00 47 02.0 +0.5**
TXAR Lajitas Array 85.92 54 P **P** **00 47 01.8 +0.4**
PPT2 Papeete2 85.92 118 *e*LR LR 01 14 21.4
comp=Z,432nm,27.5s,baz=323
PPT2 Papeete2 85.92 118 *e*T T 02 21 32.4
comp=Z,6.7nm,0.3s
PLVO Plevna 85.93 27 IAmb IAmb 00 47 01.6
comp=Z,15nm,0.8s
E58A La Victoria 85.97 24 P 00 47 01.0
baz=334,SNR=7.9
CCM Cathedral Cave 85.98 40 P **P** **00 47 01.3 -0.1**
CCM pmax pmax
comp=Z,21nm,0.9s
CCM Cathedral Cave 85.98 40 P **P** **00 47 01.3 -0.1**
CCM IAmb IAmb 00 47 02.6
comp=Z,21nm,0.8s
CCM Cathedral Cave 85.98 40 P 00 47 01.8
baz=323
SFIN Lafayette 85.99 36 IAmb IAmb 00 47 02.5
comp=Z,18nm,0.9s
SFIN Lafayette 86.00 36 P 00 47 01.5
baz=325
HHAR Hobbs 86.05 43 IAmb IAmb 00 47 03.6
comp=Z,8.7nm,0.8s
D61A St Aubert, Com 86.12 22 P 00 47 01.9
baz=336
D60A Saint Jean D'O 86.18 23 P 00 47 01.8
baz=336,SNR=5.9
N47A Urbana 86.18 35 IAmb IAmb 00 47 03.2
comp=Z,22nm,0.9s
MGMO Mountain Grove 86.20 41 IAmb IAmb 00 47 03.9
comp=Z,11nm,0.8s
DELO Deloro Mine 86.20 28 IAmb IAmb 00 47 03.1
comp=Z,10nm,0.9s
TAOE Nuku Hiva Isla 86.27 105 *e*T T 02 22 03.4
comp=Z,37nm,0.2s
Q44A Meyer Farm, Va 86.34 38 IAmb IAmb 00 47 04.3
comp=Z,14nm,0.9s
FVM French Village 86.42 40 P **P** **00 47 03.9 +0.3**
FVM pmax pmax
comp=Z,10.0nm,0.9s
FVM French Village 86.42 40 P **P** **00 47 03.9 +0.3**
FVM IAmb IAmb 00 47 04.8
comp=Z,10.0nm,0.8s
E60A Ste Agathe de 86.52 23 P 00 47 03.7
baz=335
U40A Yellville 86.54 42 IAmb IAmb 00 47 05.3
comp=Z,25nm,0.9s
U40A Yellville 86.54 42 P 00 47 04.3
baz=322,SNR=18
D62A Allapoint, All 86.54 21 P 00 47 03.9
baz=337
G57A Newington 86.57 26 P 00 47 03.8
baz=333,SNR=7.7
F59A Saint Guillaume 86.59 24 P 00 47 04.0
baz=334
E61A Lac Etchemin 86.74 23 P 00 47 05.1
baz=336
N49A Columbus Grove 86.78 34 IAmb IAmb 00 47 07.0
comp=Z,16nm,0.8s
G58A Ormstown 86.83 25 P 00 47 05.2
baz=333,SNR=7.5
D63A Stockholm 86.84 21 P 00 47 05.3
baz=337
M50A Fremont 86.84 33 IAmb IAmb 00 47 07.1
comp=Z,16nm,0.8s
T42A Van Buren 86.87 41 P **P** **00 47 05.7 -0.2**
T42A IAmb IAmb 00 47 07.0
comp=Z,12nm,0.9s
PECO Prince Edward 86.93 28 IAmb IAmb 00 47 06.5
comp=Z,9.2nm,1.0s
W39A Magazine 86.98 43 P 00 47 06.3
baz=322
H57A Richville 87.00 26 P 00 47 05.9
baz=333,SNR=5.7
F61A St Evariste 87.01 23 P 00 47 06.7
baz=336,SNR=5.7
LONY Lake Ozonia 87.13 26 IAmb IAmb 00 47 50.8
comp=Z,19nm,1.6s
LONY Lake Ozonia 87.13 26 P 00 47 06.8
baz=333
BATG Bathurst New B 87.13 19 P **P** **00 47 07.2 +0.3**
BATG IAmb IAmb 00 47 08.3
comp=Z,19nm,0.7s
PQI Presque Isle 87.20 21 IAmb IAmb 00 47 07.9
comp=Z,16nm,0.9s
J55A Hilton 87.22 29 IAmb IAmb 00 47 28.9
comp=Z,11nm,0.8s
M51A Elyria 87.25 32 P 00 47 07.8
baz=328
FCAR Ozark Folk Cen 87.27 42 IAmb IAmb 00 47 08.6
comp=Z,15nm,1.0s
E63A Oxbow 87.32 21 IAmb IAmb 00 47 08.5
comp=Z,12nm,0.8s
E63A Oxbow 87.32 21 P 00 47 07.5
baz=337,SNR=5.6
JCT Junction City 87.33 50 P 00 47 08.5
baz=319
I57A Carthage 87.38 27 P 00 47 07.5
baz=332
H59A Cadyville 87.39 25 P 00 47 07.7
baz=334,SNR=5.1
M52A Chesterland 87.39 32 P **P** **00 47 08.9 +0.6**
M52A IAmb IAmb 00 47 09.8
comp=Z,20nm,0.8s
G60A Masonville 87.41 24 P 00 47 08.3
baz=335
H58A Gabriels 87.44 26 P 00 47 08.2
baz=333,SNR=8.5
L53A Girard 87.46 31 P 00 47 08.9
baz=329,SNR=6.9
E64A Bridgewater 87.48 21 P 00 47 08.5
baz=338,SNR=5.5
G61A St-Isidore-de- 87.48 24 P 00 47 09.2
baz=335,SNR=7.1
WHTX Lake Whitney, 87.51 48 P 00 47 09.5
baz=320
J56A Wolcott 87.55 28 IAmb IAmb 00 47 09.6
comp=Z,12nm,0.9s
J56A Wolcott 87.55 28 P 00 47 08.6
baz=332,SNR=6.1
MIAR Mount Ida 87.59 44 P **P** **00 47 09.9 +0.5**
MIAR pmax pmax
comp=Z,14nm,1.0s
MIAR Mount Ida 87.59 44 P **P** **00 47 09.8 +0.5**
MIAR IAmb IAmb 00 47 11.0
comp=Z,14nm,1.0s
MIAR Mount Ida 87.59 44 P 00 47 09.8
baz=322,SNR=7.9
WHAR Wooly Hollow 87.66 42 IAmb IAmb 00 47 10.8
comp=Z,15nm,0.8s
P49A Miami Univ. Ec 87.72 35 P 00 47 09.8
baz=327,SNR=5.9
J57A Williamstown 87.73 27 IAmb IAmb 00 47 10.7
comp=Z,9.6nm,0.9s
J57A Williamstown 87.73 27 P 00 47 09.8
baz=332
M53A WI Miller and 87.75 31 IAmb IAmb 00 47 11.5
comp=Z,23nm,1.0s
M53A WI Miller and 87.75 31 P 00 47 10.2
baz=329,SNR=5.2
W41B Gary Mavity, V 87.77 42 P 00 47 10.2
baz=322
H60A Morristown 87.78 25 P 00 47 10.2
baz=334
F63A Nahmakanta, Br 87.80 22 P 00 47 10.3
baz=337
NCB Newcomb 87.82 26 P **P** **00 47 10.0 -0.3**
I58A Old Forge 87.83 27 P 00 47 10.1
baz=333
G62A West of Eustis 87.83 23 IAmb IAmb 00 47 11.9
comp=Z,10nm,1.0s
G62A West of Eustis 87.83 23 P 00 47 10.5
baz=336
F64A Sherman 87.85 21 P **P** **00 47 10.0 -0.4**
F64A IAmb IAmb 00 47 11.3
comp=Z,7.9nm,0.8s
F64A Sherman 87.86 21 P 00 47 10.6
baz=337
ACSO Alum Creek Sta 87.86 33 P 00 47 10.8
baz=328
K56A Middlesex 87.90 29 P 00 47 10.8
baz=331
VT1 Waterbury 87.97 25 IAmb IAmb 00 47 12.3
comp=Z,9.1nm,0.7s
X40A Basin Creek Fa 88.02 43 P 00 47 11.8
baz=322
H61A Lyndonville 88.04 24 P 00 47 12.0
baz=335,SNR=6.6
M54A Oil Creek Stat 88.07 31 IAmb IAmb 00 47 13.0
comp=Z,14nm,0.7s
M54A Oil Creek Stat 88.07 31 P 00 47 11.9
baz=330,SNR=6.3
I59A Olmsteadville 88.09 26 P 00 47 11.6
baz=334
WCI Wyandotte Cave 88.11 37 P **P** **00 47 12.3 +0.5**
WCI pmax pmax
comp=Z,15nm,0.8s
WCI Wyandotte Cave 88.11 37 P **P** **00 47 12.3 +0.5**
WCI IAmb IAmb 00 47 13.2
comp=Z,15nm,0.8s
WCI Wyandotte Cave 88.12 37 P 00 47 12.0
baz=326
PKME Peaks-Kenny Pk 88.15 22 P 00 47 12.1
baz=337
K57A Scipio Center 88.15 28 P 00 47 12.1
baz=332
J59A Piesco 88.18 26 IAmb IAmb 00 47 12.9
comp=Z,14nm,0.8s
J59A Piesco 88.18 26 P 00 47 12.0
baz=333,SNR=7.8
G63A Kingsbury 88.19 22 P 00 47 12.3
baz=336
H62A Milan 88.24 24 P **P** **00 47 12.1 -0.2**
H62A Milan 88.24 24 P 00 47 12.9
baz=335,SNR=14
I60A Shoreham 88.24 25 P 00 47 12.3
baz=334,SNR=6.5
L56A Greenwood 88.30 29 IAmb IAmb 00 47 13.3
comp=Z,6.6nm,0.7s
L56A Greenwood 88.31 29 P 00 47 12.8
baz=331
G64A Maxfield 88.31 22 P 00 47 12.9
baz=337
LBNH Lisbon 88.31 24 P 00 47 12.9
baz=335
O52A Adamsville 88.42 33 IAmb IAmb 00 47 14.4
comp=Z,18nm,0.8s
K58A Earlville 88.42 27 P **P** **00 47 13.1 -0.1**
K58A IAmb IAmb 00 47 14.3
comp=Z,14nm,0.8s
N54A Moraine State 88.42 31 P 00 47 13.6
baz=330,SNR=8.7
K58A Earlville 88.42 27 P 00 47 13.3
baz=332,SNR=6.3
H63A New Sharon 88.49 23 P 00 47 13.6
baz=336
ACCN Adirondack Com 88.53 26 IAmb IAmb 00 47 14.8
comp=Z,11nm,0.9s
O53A New Philadelph 88.55 32 P **P** **00 47 14.1 +0.3**
O53A New Philadelph 88.56 32 P 00 47 14.2
baz=329,SNR=7.6
M56A Emporium 88.65 30 IAmb IAmb 00 47 15.6
comp=Z,13nm,0.8s
M56A Emporium 88.65 30 P 00 47 14.5
baz=331,SNR=5.3
L57A Andrews Acres 88.68 29 P 00 47 14.6
baz=332
G65A Princeton 88.68 21 P 00 47 14.2
baz=338
K59A Cooperstown 88.68 27 P 00 47 14.6
baz=333,SNR=9.8
P52A Corning 88.71 33 IAmb IAmb 00 47 15.6
comp=Z,19nm,1.1s
P52A Corning 88.71 33 P 00 47 14.4
baz=328
Q51A Peebles 88.72 34 P **P** **00 47 14.9 +0.3**
J60A Lant Hill Farm 88.73 26 P 00 47 14.8
baz=334
H64A Troy 88.74 22 P 00 47 14.8
baz=337
LMN Caledonia Moun 88.77 19 P **P** **00 47 14.8 0.0**
LMN IAmb IAmb 00 47 15.7
comp=Z,13nm,0.8s
BINY Binghamton 88.80 28 IAmb IAmb 00 47 17.1
comp=Z,10nm,0.9s
BINY Binghamton 88.81 28 P 00 47 14.9
baz=332
I62A Tamworth 88.82 24 P 00 47 15.4
baz=335
I63A Otisfield 88.89 24 P 00 47 16.2
baz=336,SNR=5.8
J61A Chester 88.92 25 P 00 47 16.0
baz=334,SNR=5.2
R50A Paris 88.93 35 IAmb IAmb 00 47 17.1
comp=Z,14nm,0.9s
H65A Eastbrook 88.96 22 P 00 47 15.6
baz=337
L58A Harry Jones Me 88.99 28 P 00 47 16.2
baz=332,SNR=6.0
N56A West Decatur 89.10 30 P 00 47 16.9
baz=331,SNR=11
P53A Whipple 89.13 33 IAmb IAmb 00 47 18.0
comp=Z,19nm,0.9s
L59A Walton 89.14 27 P 00 47 16.9
baz=333,SNR=7.2
WVT Waverly 89.14 39 P **P** **00 47 16.9 +0.2**
WVT pmax pmax
comp=Z,7.0nm,0.8s
WVT Waverly 89.14 39 P **P** **00 47 16.9 +0.2**
WVT IAmb IAmb 00 47 17.7
comp=Z,7.4nm,0.8s
WVT Waverly 89.14 39 P 00 47 16.9
baz=325
K60A Five Rivers En 89.14 26 P 00 47 16.8
baz=334
M57A Sunshine Farm, 89.16 29 P 00 47 17.2
baz=332,SNR=18
Q52A Bidwell 89.22 34 IAmb IAmb 00 47 18.1
comp=Z,18nm,1.1s
J62A Henniker 89.26 25 P 00 47 17.5
baz=335
I64A Boothbay 89.28 23 P 00 47 17.5
baz=336
K61A Williamstown 89.30 26 P 00 47 17.6
baz=334,SNR=5.8
M58A Price's Panora 89.37 29 P 00 47 18.0
baz=332,SNR=11
J63A Strafford 89.44 24 P 00 47 18.1
baz=336
KSPA Keystone Colle 89.45 28 IAmb IAmb 00 47 19.2
comp=Z,14nm,0.8s
N57A Milroy 89.52 30 P 00 47 18.9
baz=331,SNR=19
O56A Blue Knob Stat 89.56 31 P **P** **00 47 18.4 -0.2**
O56A Blue Knob Stat 89.56 31 P 00 47 19.2
baz=331,SNR=13
M59A Waymart 89.58 28 P 00 47 18.9
baz=333,SNR=6.4
L60A Shokan 89.59 27 P 00 47 19.1
baz=333
MCWV Mont Chateau 89.60 32 IAmb IAmb 00 47 20.7
comp=Z,10nm,0.8s
MCWV Mont Chateau 89.60 32 P 00 47 19.2
baz=330
Q53A Leroy 89.62 33 P 00 47 19.4
baz=329,SNR=7.0
L61A Hillsdale 1, H 89.63 26 P 00 47 19.1
baz=335
K62A Royalston 89.64 25 P 00 47 19.2
baz=335
L61B Northampton 89.69 26 P 00 47 19.4
baz=334
OXF Oxford 89.70 41 P 00 47 19.5
baz=324
N58A Sunbury 89.74 29 P **P** **00 47 19.6 +0.2**
N58A Sunbury 89.75 29 P 00 47 19.8
baz=332,SNR=13
T50A Nancy 89.76 36 IAmb IAmb 00 47 20.9
comp=Z,16nm,0.8s
U49A Red Boiling Sp 89.76 37 IAmb IAmb 00 47 21.0
comp=Z,16nm,0.8s
S51A Beattyville 89.78 35 IAmb IAmb 00 47 20.8
comp=Z,10nm,0.9s
Q54A Coxs Mills 89.79 33 P **P** **00 47 20.5 +0.8**
K63A Dunstable 89.83 25 P **P** **00 47 20.4 +0.7**
K63A IAmb IAmb 00 47 21.6
comp=Z,18nm,0.9s
K63A Dunstable 89.83 25 P 00 47 20.3
baz=335
CLTN Cedars of Leba 89.86 38 IAmb IAmb 00 47 21.5
comp=Z,8.1nm,0.9s
V48A Smith Brothers 89.93 38 IAmb IAmb 00 47 21.6
comp=Z,11nm,1.1s
HKT Hockley 89.96 48⇓ *i*P **P** **00 47 19.5 -1.0**
HKT pmax pmax
comp=Z,6.0nm,1.0s
O57A Amberson 89.96 30 P 00 47 20.9
baz=331
HRV Adam Dziewonsk 89.99 25 P **P** **00 47 21.4 +0.9**
HRV pmax pmax
comp=Z,17nm,1.0s
HRV Adam Dziewonsk 89.99 25 P **P** **00 47 21.4 +0.9**
HRV IAmb IAmb 00 47 22.3
comp=Z,17nm,0.9s
HRV Adam Dziewonsk 89.99 25 P 00 47 20.9
baz=335
N59A State Game Lan 90.02 28 P 00 47 21.3
baz=332,SNR=9.8
M60A Port Jervis 90.05 27 P 00 47 20.5
baz=333
P56A Dayton Farm, R 90.12 31 P 00 47 21.8
baz=330,SNR=6.8
TBI Tubuai 90.17 122 *e*LR LR 01 15 48.7
comp=Z,182nm,33.0s
TBI Tubuai 90.17 122 *e*T T 02 26 48.4
comp=Z,11nm,0.2s
ODNJ Ogdensburg 90.27 28 IAmb IAmb 00 47 22.9
comp=Z,10nm,0.8s
N60A Cedar Hill Far 90.29 28 P 00 47 22.2
baz=333,SNR=6.0
O58A Lewisberry 90.30 30 P 00 47 22.3
baz=332,SNR=5.3
TRNY Table Rock, Ra 90.35 27 P **P** **00 47 21.8 -0.4**
M61A Granite Spring 90.35 27 P 00 47 22.6
baz=334,SNR=8.5
R54A Victor 90.41 33 P 00 47 22.8
baz=329
P57A Homestead Farm 90.45 31 P 00 47 22.9
baz=331
M62A Hamden 90.52 26 P 00 47 23.1
baz=334
L63A North Scituate 90.56 25 P 00 47 23.4
baz=335
PAL Palisades 90.58 27 P 00 47 23.5
baz=334
WSPT Westport, CT 90.62 27 IAmb IAmb 00 47 25.0
comp=Z,11nm,1.0s
N61A South Mountain 90.67 27 P 00 47 23.3
baz=333
O60A Telford 90.67 28 P 00 47 24.1
baz=333
R55A Marlinton 90.68 33 P 00 47 24.3
baz=330
L64A Middleborough 90.73 25 P **P** **00 47 24.6 +0.7**
L64A Middleborough 90.73 25 P 00 47 24.1
baz=336
SWET Sewanee 90.77 38 IAmb IAmb 00 47 25.2
comp=Z,8.6nm,0.8s
N62A Caumsett State 90.79 27 P 00 47 24.4
baz=334
M63A Gales Ferry 90.83 26 IAmb IAmb 00 47 26.0
comp=Z,14nm,0.9s
M63A Gales Ferry 90.83 26 P 00 47 24.4
baz=335
R56A Bull Pasture M 90.85 32 P 00 47 24.1
baz=330
P59A Jarrettsville 90.93 29 P 00 47 24.9
baz=332
M64A Riverton 90.97 25 P 00 47 24.1
baz=335
P60A Greenville 91.04 29 IAmb IAmb 00 47 27.1
comp=Z,14nm,0.9s
P60A Greenville 91.04 29 P 00 47 25.8
baz=332
CPCT Cooper Cave 91.21 37 IAmb IAmb 00 47 48.2
comp=Z,12nm,1.0s
R57A Stanardsville 91.29 32 P 00 47 27.2
baz=331
BLA Blacksburg 91.48 33 P 00 47 27.6
baz=329
R58A Rapidan 91.49 31 P 00 47 27.5
baz=331
KEST Kesra 91.56 324 LR LR 01 33 29.8
comp=Z,155nm,18.9s,baz=249,slow=39
M66A Nantucket 91.56 24 P 00 47 27.3
baz=336
PBRG Braganca 91.95 338 *e*P **P** **00 47 29.4 -0.3**
comp=Z,40nm,1.5s
S58A Poland Farm, P 92.07 32 P 00 47 30.2
baz=331
U56A King 92.23 34 P 00 47 31.4
baz=329
U57A Blanch 92.59 33 P 00 47 32.9
baz=330
MVO Moncorvo 92.62 338 *e*P **P** **00 47 32.7 -0.1**
comp=Z,31nm,1.7s
POLO Lamas de Olo 92.64 338 *e*P **P** **00 47 32.1 -0.8**
comp=Z,22nm,2.4s
PVRL Vila Real 92.71 338 *e*P **P** **00 47 33.1 -0.1**
comp=Z,56nm,1.8s
U58A Oxford 92.94 32 P 00 47 34.0
baz=330
ESDC Sonseca Array 93.09 335 P **P** **00 47 34.7 -0.3**
comp=Z,6.1nm,0.8s,baz=15,slow=4.0,SNR=20
ESDC LR LR 01 33 54.4
comp=Z,55nm,18.7s,baz=15,slow=38
ESDC Sonseca Array 93.09 335 P **P** **00 47 34.7 -0.3**
ESDC IAmb IAmb 00 47 35.7
comp=Z,12nm,0.9s
MTE Manteigas 93.48 338 *e*P **P** **00 47 35.5 -1.3**
comp=Z,32nm,1.9s
V59A Middlesex 93.61 33 P 00 47 37.5
baz=331
MDT Midelt 99.56 333 P **Pdif** **00 48 04.3 -0.3**
comp=Z,2.7nm,0.6s,baz=354,slow=1.3,SNR=7.7
RKT Rikitea 99.57 112 *e*LR LR 01 20 38.6
comp=Z,434nm,33.8s
KMBO Kilima Mbogo 102.44 280 P **Pdif** **00 48 17.7 -0.1**
comp=Z,1.3nm,0.7s,baz=29,slow=10,SNR=6.5
KMBO Kilima Mbogo 102.44 280 *i* P **Pdif** **00 48 17.2 -0.5**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 114.39 318 PKP **PKiKP** **00 53 00.4 -0.7**
comp=Z,1.6nm,0.6s,baz=16,slow=1.6,SNR=13
TORD Torodi Ar. Bea 114.39 318 **PKiKP** **00 53 00.8 -0.4**
KOWA Kowa 115.87 324 PKP **PKiKP** **00 53 03.9 -0.1**
comp=Z,4.3nm,0.7s,baz=77,slow=2.0,SNR=10
LSZ Lusaka 118.48 275 PKIKP **PKiKP** **00 53 09.1 0.0**
LSZ Lusaka 118.48 275 **PKiKP** **00 53 09.1 0.0**
VNDA Vanda 120.12 175 PKP **PKPdf** **00 53 10.0 -0.2**
comp=Z,1.2nm,0.8s,baz=330,slow=2.9,SNR=7.7
VNDA Vanda 120.12 175 PKIKP **PKPdf** **00 53 10.0 -0.2**
VNDA Vanda 120.12 175 **PKPdf** **00 53 10.0 -0.2**
SDV Santo Domingo 120.45 40 PKPdf **PKPdf** **00 53 13.0 -0.1**
SDV Santo Domingo 120.45 40 *e*P **PKiKP** **00 53 15.9 +2.8**
DBIC Dimbokro 123.16 321 PKP **PKPdf** **00 53 16.8 -1.3**
comp=Z,5.0nm,0.5s,baz=354,slow=3.3,SNR=7.9
DBIC Dimbokro 123.16 321 PKIKP **PKPdf** **00 53 17.8 -0.3**
DBIC Dimbokro 123.16 321 **PKPdf** **00 53 17.8 -0.3**
TIC Toumodi 123.26 321 *e*PKIKP **PKPdf** **00 53 18.0 -0.3**
KIC Kosan Boka 123.38 321 *e*PKIKP **PKPdf** **00 53 18.0 -0.5**
comp=Z,16nm,0.7s
OTAV Otavalo 123.54 53 *e*P **PKiKP** **00 53 22.1 +2.5**
LIC Lamto 123.63 321 *e*PKIKP **PKPdf** **00 53 18.5 -0.5**
comp=Z,52nm,1.4s
MAW Mawson 124.83 207 PKP **PKiKP** **00 53 19.9 +0.1**
comp=Z,8.4nm,0.7s,baz=126,slow=0.6,SNR=6.2
MAW Mawson 124.83 207 **PKiKP** **00 53 21.2 +1.4**
BOSA Boshof 126.60 264 PKP **PKPdf** **00 53 27.4 -0.7**
comp=Z,2.3nm,0.7s,baz=118,slow=1.5,SNR=7.9
BOSA PP **PP** **00 55 33.8 -1.0**
comp=Z,1.9nm,0.8s,baz=62,slow=9.0,SNR=3.5
CZSB Cruzeiro do Su 133.31 53 *e*P **PKiKP** **00 53 40.0 +1.5**
PTGA Pitinga 133.71 33 PKP **PKPdf** **00 53 36.6 -1.6**
comp=Z,2.4nm,0.5s,baz=349,slow=1.5,SNR=7.1
PTGA Pitinga 133.71 33 *e*P **PKiKP** **00 53 41.0 +1.6**
MACA Manacapuru-AM 135.61 35 *e*P **PKiKP** **00 53 44.5 +1.2**
MCPB Macapa, AP 136.07 22 *e*P **PKiKP** **00 53 45.1 +0.9**
MALB Monte Alegre 136.82 26 *e*P **PKiKP** **00 53 47.0 +1.3**
ITTB Itaituba 138.66 29 *e*P **PKiKP** **00 53 49.7 +0.2**
ETMB Extrema 138.69 47 *e*P **PKiKP** **00 53 50.3 +0.9**
TMAB Tom-Au,PA,Br 138.99 17 *e*P **PKiKP** **00 53 50.1 0.0**
ROSB Rosrio 140.23 11 *e*P **PKiKP** **00 53 53.0 +0.4**
NBMO Morrinhos-CE 141.07 5 *e*P **PKiKP** **00 53 53.9 -0.5**
NPGB Novo Progresso 141.28 30 *e*P **PKiKP** **00 53 54.7 -0.1**
NBPS Pedro II - PI 142.03 7 *e*P **PKiKP** **00 53 55.3 -1.1**
NBCL Cascavel-CE 142.06 2 *e*P **PKiKP** **00 53 55.8 -0.6**
PRPB Parauapebas 142.24 21 *e*P **PKiKP** **00 53 56.0 -0.8**
LPAZ La Paz 142.77 55 PKP **PKPdf** **00 53 52.9 -2.5**
comp=Z,2.0nm,0.6s,baz=4.5,slow=4.3,SNR=9.5
LPAZ La Paz 142.77 55 *e*P **PKiKP** **00 53 57.6 -0.9**

NBPB	**Pedra_Branca-C**	**143.31**	**4**	*eP*		**PKiKP**	**00 53 58.1**	**-0.9**
NBPA	**Parau_RN**	**143.59**	**0**	*eP*		**PKiKP**	**00 53 58.4**	**-1.2**
NBPV	**Pedro Velho**	**144.23**	**357**	*eP*		**PKiKP**	**00 53 59.7**	**-1.1**
VILB	**Vilhena**	**144.45**	**42**	*eP*		**PKiKP**	**00 54 00.4**	**-0.9**
CLDB	**Colider**	**144.60**	**33**	*eP*		**PKiKP**	**00 54 00.6**	**-1.0**
PB08	**IPOC Station P**	**145.00**	**61**			**PKPdf**	**00 53 58.7**	**-0.1**
NBMA	**Muriti-CE**	**145.16**	**3**	*eP*		**PKiKP**	**00 54 01.1**	**-1.7**
NBLI	**Livramento-PB**	**145.20**	**0**	*eP*		**PKPdf**	**00 54 00.9**	**+1.8**
SMTB	**Santa Maria do**	**145.39**	**19**	*eP*		**PKPab**	**00 54 00.8**	**+1.4**
H03N2	**Juan Fernandez** baz=300,slow=74	**145.97**	**89**	T		T	03 37 04.9	
H03N3	**Juan Fernandez** baz=300,slow=74	**145.98**	**89**	T		T	03 37 07.8	
H03N1	**Juan Fernandez** baz=300	**145.98**	**89**	T		T	03 37 03.2	
SNAA	**Sanae**	**146.16**	**199**	PKPdf		**PKPab**	**00 54 00.6**	**-0.2**
SNAA	**Sanae**	**146.16**	**199**	PKP2		**PKPbc**	**00 53 59.8**	**-0.2**
SNAA	**Sanae**	**146.16**	**199**	PKPdf		**PKPbc**	**00 53 59.8**	**-0.2**
PB10	**IPOC Station P**	**146.41**	**67**			**PKPbc**	**00 54 02.5**	**+0.5**
NBRF	**Rio Formoso -**	**146.47**	**357**	*eP*		**PKPbc**	**00 54 02.9**	**+0.4**
SIV	**San Ignacio** comp=Z,40nm,0.7s,baz=327,slow=2.2,SNR=12	**146.57**	**46**	PKPbc		**PKPbc**	**00 54 02.4**	**-0.4**
LVC	**Limon Verde** comp=Z,14nm,0.8s,baz=289,slow=3.8,SNR=26	**146.90**	**64**	PKPbc		**PKPbc**	**00 54 03.2**	**-0.7**
LVC	**Limon Verde**	**146.90**	**64**	PKP2		**PKPbc**	**00 54 03.7**	**-0.3**
LVC	**Limon Verde**	**146.90**	**64**			**PKPbc**	**00 54 03.7**	**-0.3**
LVC	**Limon Verde**	**146.90**	**64**	*eP*		**PKPbc**	**00 54 04.2**	**+0.2**
NBTA	**Tacaratu-PE**	**146.93**	**2**	*eP*		**PKPbc**	**00 54 03.9**	**+0.1**
PTLB	**Pontes e Lacer**	**147.11**	**42**	*eP*		**PKPbc**	**00 54 04.6**	**+0.4**
SNDB	**Serra Nova Dou**	**147.28**	**27**	*eP*		**PKPbc**	**00 54 04.6**	**-0.1**
NBAN	**Anadia - AL**	**147.48**	**359**	*eP*		**PKPbc**	**00 54 05.5**	**+0.1**
VNA2	**Neumayer--Watz**	**147.73**	**198**	PKPbc		**PKPbc**	**00 54 05.3**	**+0.9**
VNA3	**Neumayer Olymp**	**147.99**	**196**	PKPbc		**PKPbc**	**00 54 05.7**	**+0.6**
AC01	**Pan de Azucar**	**148.08**	**70**			**PKPbc**	**00 54 07.1**	**+0.5**
VNA1	**Neumayer--Stat**	**148.13**	**198**	PKPbc		**PKiKP**	**00 54 06.4**	**-0.7**
PEXB	**Peixe**	**148.32**	**22**	*eP*		**PKPbc**	**00 54 07.1**	**-0.4**
NBPN	**Ponto Novo - B**	**148.53**	**6**	*eP*		**PKPbc**	**00 54 06.7**	**-1.4**
NBLA	**Lagarto - SE**	**148.79**	**2**	*eP*		**PKPbc**	**00 54 07.5**	**-1.3**
SDBA	**SAO DESIDERIO**	**149.41**	**15**	*eP*		**PKPbc**	**00 54 08.3**	**-2.1**
LCO	**Las Campanas**	**149.73**	**75**	PKP2		**PKiKP**	**00 54 12.0**	**-0.1**
LCO	**Las Campanas**	**149.73**	**75**	PKPbc		**PKiKP**	**00 54 12.0**	**-0.1**
ARAG	**Araguaiana, MT**	**150.56**	**30**	*eP*		**PKPbc**	**00 54 10.4**	**-2.7**
CO02	**Combarbal**	**150.72**	**79**	PKPbc		**PKPbc**	**00 54 13.3**	**+0.1**
PP1B	**Ponte de Pedra**	**150.99**	**37**	*eP*		**PKPdf**	**00 54 11.0**	**+2.7**
GDU01	**Guandu, BA**	**151.42**	**5**	*eP*		**PKPdf**	**00 54 11.2**	**+2.2**
MT02	**Curacav**	**151.65**	**83**	PKPbc		**PKPbc**	**00 54 15.2**	**+0.1**
BDFB	**Brasilia** comp=Z,19nm,0.8s,baz=254,slow=1.3,SNR=31	**151.76**	**23**	PKPbc		**PKiKP**	**00 54 16.6**	**+0.2**
BDFB				PKPab		**PKPab**	**00 54 25.8**	**+0.8**
	comp=Z,15nm,0.8s,baz=324,slow=6.2,SNR=8.5							
BDFB	**Brasilia**	**151.76**	**23**	PKIKP		**PKiKP**	**00 54 16.7**	**+0.3**
BDFB	**Brasilia**	**151.76**	**23**	PKPbc		**PKiKP**	**00 54 16.7**	**+0.3**
BDFB				PKPab		**PKPab**	**00 54 25.4**	**+0.4**
MT05	**Renca**	**152.00**	**83**	PKPbc		**PKiKP**	**00 54 16.6**	**+0.2**
JANB	**Januaria**	**152.11**	**15**	*eP*		**PKPdf**	**00 54 12.6**	**+2.5**
BO02	**Sierra Bellavi**	**152.61**	**85**	PKPbc		**PKiKP**	**00 54 17.9**	**+0.3**
NBIT	**Itapeh - BA**	**152.63**	**5**	*eP*		**PKPdf**	**00 54 12.7**	**+1.9**
PMSA	**Palmer Station** comp=Z,46nm,0.9s,baz=92,slow=17,SNR=1.8	**152.73**	**155**	PKPbc		**PKPbc**	**00 54 15.8**	**-0.7**
PMSA				PKPab		**PKPab**	**00 54 29.5**	**+1.9**
	comp=Z,58nm,0.7s,baz=349,slow=17,SNR=5.6							
PMSA	**Palmer Station**	**152.73**	**155**			**PKPab**	**00 54 30.0**	**+2.4**
BI02	**San Fabin de**	**153.02**	**89**	PKPbc		**PKiKP**	**00 54 18.5**	**+0.1**
AQDB	**Aquidauana**	**153.09**	**42**	*eP*		**PKPdf**	**00 54 13.7**	**+2.4**
IPMB	**Ipameri, GO**	**153.91**	**25**	*eP*		**PKPdf**	**00 54 15.0**	**+2.3**
ITRB	**Iturama**	**154.76**	**31**	*eP*		**PKPdf**	**00 54 15.8**	**+2.1**
PLCA	**Paso Flores** comp=Z,1.8nm,0.9s,baz=260,slow=9.5,SNR=3.0	**154.86**	**98**	PKP		**PKPdf**	**00 54 13.4**	**+0.1**
PLCA				PKPbc		**PKiKP**	**00 54 23.3**	**+1.2**
	comp=Z,1.7nm,0.9s,baz=312,slow=3.2,SNR=4.3							
PLCA				PKPab		**PKPab**	**00 54 37.3**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=229,slow=4.2,SNR=4.4							
DIAM	**Diamantina, MG**	**155.38**	**16**	*eP*		**PKPdf**	**00 54 17.3**	**+2.5**
CPUP	**Villa Florida** comp=Z,1.0nm,0.7s,baz=284,slow=4.2,SNR=1.8	**156.89**	**53**	PKP		**PKPdf**	**00 54 14.4**	**-2.0**
CPUP				PKPab		**PKPab**	**00 54 46.8**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=320,slow=5.4,SNR=3.9							
CPUP	**Villa Florida**	**156.89**	**53**			**PKPdf**	**00 54 15.0**	**-1.4**

*SJA **25** 00:37:40.8±0.6,21°.41S×66°.74W,h232km±4km,ML4.0, MW3.7*
*IDC **25** 00:37:41.8±0.9,21°.38S×66°.79W,h213km±16km,mb3.6/3, mb1 3.5/7,mb1mx3.3/33,mbtmp4.0/7,Error ellipse: s-maj=29.0km s-min=12.8km az=109.0*
*GUC **25** 00:37:42.8±0.4,21°.44S×66°.99W,h245km±5km,ML4.3*
*VAO **25** 00:37:43.0±0.4,21°.28S×66°.86W,h222km±7km,mb3.8*

ISC 25 00:37:42.1±0.6,21°.41S±0'.04×66°.84W±0'.05,h222km±7km, n66,σ1§41/94,mb4.0/3,2C-1D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.45**	**122**	*eP*	**Pn**	**00 38 18.0**	**+0.1**
YJA				*eS*	**S**	**00 38 44.9**	**-0.9**
LVC	**Limon Verde** 2.6nm,0.3s,baz=45,slow=8.7,SNR=30	**2.26**	**238**	P	**Pn**	**00 38 25.9**	**+0.5**
LVC				S	**S**	**00 38 58.7**	**-0.3**
	23nm,0.3s,baz=66,slow=20,SNR=50						
LVC	**Limon Verde**	**2.26**	**238**	*eP*	**Pn**	**00 38 26.1**	**+0.7**
LVC				*i* S	**S**	**00 38 59.4**	**+0.3**
LVC	**Limon Verde**	**2.26**	**238**	*eP*	**Pn**	**00 38 26.3**	**+0.9**
LVC	**Limon Verde**	**2.26**	**238**	*eP*	**Pn**	**00 38 26.1**	**+0.7**
LVC				*eS*	**S**	**00 38 59.4**	**+0.3**
PB09	**IPOC Station P**	**2.27**	**260**	*eP*	**Pn**	**00 38 26.0**	**+0.7**
PB09				*i* S	**S**	**00 38 59.0**	**+0.3**
PB09	**IPOC Station P**	**2.27**	**260**	*eP*	**Pn**	**00 38 26.2**	**+0.9**
PB09				*eS*	**S**	**00 38 59.6**	**+0.8**
PB09				IAML		00 39 03.2	
	comp=Z,182nm,0.4s						
PB01	**IPOC Station P**	**2.50**	**278**	*eP*	**Pn**	**00 38 27.8**	**+0.2**
PB01				*i* S	**S**	**00 39 02.2**	**-0.8**
PB01	**IPOC Station P**	**2.50**	**278**	*eP*	**Pn**	**00 38 28.2**	**+0.7**
PB01				*eS*	**S**	**00 39 03.3**	**+0.4**
PB01				IAML		00 39 05.3	
	comp=Z,283nm,0.2s						
PB08	**IPOC Station P**	**2.51**	**300**	*eP*	**Pn**	**00 38 28.9**	**+0.9**
PB08				*i* S	**S**	**00 39 04.2**	**+0.5**
PB08	**IPOC Station P**	**2.51**	**300**	*eP*	**Pn**	**00 38 28.3**	**+0.3**
PB08				*eS*	**S**	**00 39 05.4**	**+1.7**
PB03	**IPOC Station P**	**2.78**	**256**	*eP*	**Pn**	**00 38 30.8**	**0.0**
PB03				*i* S	**S**	**00 39 07.4**	**-1.2**
PB03				IAML		00 39 08.1	
	comp=N,734nm,0.2s						
PB03	**IPOC Station P**	**2.78**	**256**	*eP*	**Pn**	**00 38 31.2**	**+0.5**
PB03				*eS*	**S**	**00 39 07.6**	**-1.0**
PB03				IAML		00 39 09.9	
	comp=Z,580nm,0.4s						
PB06	**IPOC Station P**	**2.84**	**243**	*eP*	**Pn**	**00 38 32.0**	**+0.6**
PB06				*i* S	**S**	**00 39 09.3**	**-0.5**
PB06				IAML		00 39 10.7	
	comp=E,287nm,0.1s						
PB06	**IPOC Station P**	**2.84**	**243**	*eP*	**Pn**	**00 38 32.4**	**+1.0**
PB06				*eS*	**S**	**00 39 09.4**	**-0.5**
PB06				IAML		00 39 15.6	
	comp=Z,161nm,0.3s						
PB07	**IPOC Station P**	**2.85**	**263**	*eP*	**Pn**	**00 38 32.1**	**+0.5**
PB07				*i* S	**S**	**00 39 08.6**	**-1.4**
PB07				IAML		00 39 11.0	
	comp=E,669nm,0.2s						
PB07	**IPOC Station P**	**2.85**	**263**	*eP*	**Pn**	**00 38 32.1**	**+0.5**
PB07				*eS*	**S**	**00 39 09.0**	**-1.1**
PB07				IAML		00 39 09.1	
	comp=Z,340nm,0.2s						
PB15	**IPOC Station P**	**3.02**	**233**	*eP*	**Pn**	**00 38 33.9**	**+0.4**
PB15				*i* S	**S**	**00 39 13.1**	**-0.4**
PB15	**IPOC Station P**	**3.02**	**233**	*eP*	**Pn**	**00 38 34.3**	**+0.8**
PB15				*eS*	**S**	**00 39 13.3**	**-0.3**
PB04	**IPOC Station P**	**3.21**	**253**	*eP*	**Pn**	**00 38 35.2**	**-0.4**
PB04				*i* S	**S**	**00 39 15.5**	**-1.9**
PB04	**IPOC Station P**	**3.21**	**253**	*eP*	**Pn**	**00 38 36.1**	**+0.6**
PB04				*eS*	**S**	**00 39 16.3**	**-1.1**
PB04				IAML		00 39 20.1	
	comp=Z,260nm,0.2s						
TA01	**Diego Aracena**	**3.24**	**284**	*eP*	**Pn**	**00 38 35.6**	**-0.1**
TA01				*eS*	**S**	**00 39 15.4**	**-2.2**
TA01				IAML		00 39 18.0	
	comp=E,203nm,0.1s						
PB05	**IPOC Station P**	**3.43**	**245**	*eP*	**Pn**	**00 38 38.6**	**+0.4**
PB05				*i* S	**S**	**00 39 19.8**	**-2.2**
PB05	**IPOC Station P**	**3.43**	**245**	*eP*	**Pn**	**00 38 38.7**	**+0.6**
PB05				*eS*	**S**	**00 39 19.6**	**-2.4**
MNMC	**Minye Minye**	**3.44**	**311**	*eP*	**Pn**	**00 38 39.2**	**+0.8**
MNMC				*eS*	**S**	**00 39 23.1**	**+0.7**
SLA	**San Lorenzo**	**3.52**	**160**	*eP*	**Pn**	**00 38 40.0**	**+0.9**
PSGC	**Pisagua**	**3.57**	**300**	*eP*	**Pn**	**00 38 38.9**	**-0.9**
PSGC				*i* S	**S**	**00 39 22.6**	**-2.3**
PSGC				IAML		00 39 25.6	
	comp=N,239nm,0.5s						
PB10	**IPOC Station P**	**4.02**	**238**	*eP*	**Pn**	**00 38 45.2**	**+0.1**
PB10				*eS*	**S**	**00 39 31.3**	**-3.2**
PB10				IAML		00 39 34.4	
	comp=Z,93nm,0.2s						
PB14	**IPOC Station P**	**4.59**	**225**	*eS*	**S**	**00 39 44.1**	**-3.4**
PB14				IAML		00 39 47.3	
	comp=Z,180nm,0.4s						
FSA	**Cafayete**	**4.74**	**171**	*eP*	**Pn**	**00 38 55.4**	**+1.3**
LPAZ	**La Paz**	**5.24**	**346**	P	**Pn**	**00 39 01.9**	**+1.0**
	comp=Z,4.9nm,0.3s,baz=152,slow=11,SNR=81						
LPAZ				S	**S**	**00 40 02.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=248,slow=19,SNR=2.0						
GO03	**Copiap**	**6.89**	**206**	*eP*	**Pn**	**00 39 19.7**	**-1.4**
GO03				*eS*	**S**	**00 40 35.4**	**-4.7**
VCA	**Vinchina**	**7.40**	**189**	*eP*	**Pn**	**00 39 29.0**	**+1.2**
SIV	**San Ignacio** comp=Z,3.7nm,0.3s,baz=236,slow=12,SNR=46	**7.67**	**46**	P	**Pn**	**00 39 29.7**	**-1.6**
SIV				S	**S**	**00 40 52.1**	**-6.5**
	comp=Z,0.2nm,0.3s,baz=144,slow=22,SNR=1.3						
ACLC	**CERRO LA CRUZ**	**7.98**	**181**	*eP*	**Pn**	**00 39 34.2**	**-1.1**
ACLC				IAML		00 41 12.8	
	comp=Z,5.2nm,3.3s						
PTLB	**Pontes e Lacer**	**9.41**	**52**	*eP*	**Pn**	**00 39 52.0**	**-1.6**
VILB	**Vilhena**	**10.53**	**38**	*eP*	**Pn**	**00 40 07.8**	**-0.2**
ETMB	**Extrema**	**11.54**	**3**	*eP*	**Pn**	**00 40 20.5**	**-0.3**
ITQB	**Itaqui**	**12.35**	**134**	*eP*	**Pn**	**00 40 32.4**	**+1.6**
PCMB	**Pacaembu**	**14.50**	**94**	*eP*	**P**	**00 41 00.7**	**+2.6**
CZSB	**Cruzeiro do Su**	**14.73**	**337**	*eP*	**Pn**	**00 40 59.9**	**-0.4**
CPSB	**Cacapava Do Su**	**15.01**	**129**	*eP*	**P**	**00 41 05.4**	**+1.7**
FRTB	**Frutal**	**16.09**	**100**	*eP*	**Pn**	**00 41 17.8**	**+1.2**
TIJ01	**Guaruva-PR**	**16.83**	**107**	*eP*	**Pn**	**00 41 26.8**	**+1.3**
BB19B	**Bebedouro**	**17.07**	**92**	*eP*	**P**	**00 41 28.2**	**+1.6**
TER01	**Tubaro-SC**	**17.54**	**117**	*eP*	**P**	**00 41 32.3**	**+0.7**
SNDB	**Serra Nova Dou**	**17.59**	**60**	*eP*	**P**	**00 41 33.2**	**+1.1**
IPMB	**Ipameri, GO**	**17.86**	**82**	*eP*	**P**	**00 41 36.7**	**+1.5**
NPGB	**Novo Progresso**	**18.09**	**40**	*eP*	**P**	**00 41 37.3**	**-0.3**
VAO	**Valinhos**	**18.47**	**99**	*eP*	**P**	**00 41 42.1**	**+0.3**
BDFB	**Brasilia** comp=Z,0.4nm,0.3s,baz=261,slow=9.8,SNR=3.4	**18.74**	**75**	P	**P**	**00 41 45.2**	**+0.5**
MACA	**Manacapuru-AM**	**19.10**	**19**	*eP*	**P**	**00 41 48.4**	**-0.2**
PEXB	**Peixe**	**20.00**	**65**	*eP*	**P**	**00 41 58.7**	**+0.6**
ITTB	**Itaituba**	**20.08**	**34**	*eP*	**P**	**00 41 58.6**	**-0.4**
BSCB	**Bom Sucesso**	**20.57**	**93**	*eP*	**P**	**00 42 05.2**	**+0.8**
PTGA	**Pitinga** comp=Z,1.2nm,0.3s,baz=148,slow=18,SNR=1.8	**21.62**	**19**	P	**P**	**00 42 13.7**	**-1.3**
PTGA	**Pitinga**	**21.62**	**19**	*eP*	**P**	**00 42 13.7**	**-1.3**
DIAM	**Diamantina, MG**	**22.00**	**86**	*eP*	**P**	**00 42 18.8**	**-0.1**
JANB	**Januaria**	**22.30**	**77**	*eP*	**P**	**00 42 20.9**	**-0.5**
PRPB	**Parauapebas**	**22.38**	**50**	*eP*	**P**	**00 42 21.1**	**-1.1**
MALB	**Monte Alegre**	**22.98**	**34**	*eP*	**P**	**00 42 28.0**	**+0.5**
OTAV	**Otavalo**	**24.32**	**331**	*eP*	**P**	**00 42 39.8**	**-0.5**
TAOE	**Nuku Hiva Isla** comp=Z,168nm,27.2s	**71.34**	**268**	*eLR*	LR	00 48 50.5	
TORD	**Torodi Ar. Bea** comp=Z,2.4nm,0.6s,baz=254,slow=5.4,SNR=17	**75.51**	**69**	P	**P**	**00 49 02.6**	**+0.1**
BOSA	**Boshof** comp=Z,1.1nm,0.5s,baz=260,slow=1.1,SNR=5.8	**81.78**	**117**	P	**P**	**00 49 37.5**	**+0.8**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.6s,baz=319,slow=3.5,SNR=9.7	**144.41**	**37**	PKP	**PKPdf**	**00 56 52.8**	**+1.0**

*IDC **25** 00:50:18.9±0.9,51°.49N×176°.94W,h0km,mb3.7/9, mb1 4.0/11,mb1mx3.8/43,mbtmp3.8/11,ML3.8/2,Error ellipse: s-maj=30.5km s-min=17.8km az=171.0*
*AEIC **25** 00:50:24.2±0.2,51°.37N±0'.05×176°.88W±0'.07,h36km±6km, Error ellipse: s-maj=8.4km s-min=3.5km az=137.0*
*NEIC **25** 00:50:26.8±2.3,51°.58N±0'.09×176°.98W±0'.06,h53km±6km, mb3.9/42,ML3.8(AEIC),Error ellipse: s-maj=13.6km s-min=5.2km az=178.0*

ISC 25 00:50:26.0±0.6,51°.50N±0'.09×176°.95W±0'.04,h48km,n99, σ1§11/92,mb3.9/10,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIMD	**Kanaga Island**	**0.32**	**327**		**Pn**	**00 50 34.6**	**-0.5**
KIKV	**Kanaga Island**	**0.41**	**341**		**Pn**	**00 50 36.0**	**0.0**
KIRH	**Kanaga Island**	**0.41**	**348**		**Pn**	**00 50 36.2**	**+0.1**
ADK	**Adak**	**0.42**	**23**		**Pn**	**00 50 35.4**	**-0.8**
ADK					**Sn**	**00 50 43.7**	**+0.3**
KICM	**Kanaga Island**	**0.45**	**340**		**Pn**	**00 50 36.7**	**+0.2**
ETKA	**Kagalaska Isla**	**0.50**	**43**		**Pn**	**00 50 36.2**	**-0.9**
ADAG	**Mount Adagdak**	**0.53**	**24**		**Pn**	**00 50 37.8**	**+0.3**
GSCK	**Great Sitkin C**	**0.71**	**43**		**Pn**	**00 50 39.3**	**-0.5**
GSTD	**Great Sitkin T**	**0.75**	**42**		**Pn**	**00 50 40.2**	**-0.2**
TASE	**Tanaga Southea**	**0.76**	**297**		**Pn**	**00 50 40.6**	**+0.2**
TAFP	**Tanaga Falls P**	**0.76**	**303**		**Pn**	**00 50 40.4**	**0.0**
GSMY	**Great Sitkin M**	**0.78**	**45**		**Pn**	**00 50 40.4**	**-0.4**
GSTR	**Great Sitkin T**	**0.82**	**43**		**Pn**	**00 50 41.3**	**+0.1**
GALAA	**Gareloi Lava P**	**1.16**	**284**		**Pn**	**00 50 46.2**	**+0.3**
ATKA	**Atka Island**	**1.85**	**66**		**Pn**	**00 50 54.0**	**-1.2**
KOWE	**Korovin West**	**1.89**	**61**		**Pn**	**00 50 56.3**	**+0.5**
KOFP	**Korovin Flat P**	**1.93**	**65**		**Pn**	**00 50 56.0**	**-0.4**
CERAA	**Semis' Rag'd T**	**2.13**	**282**		**Pn**	**00 50 59.5**	**+0.5**
CESW	**Semis' Southwe**	**2.21**	**282**		**Pn**	**00 51 00.4**	**+0.3**
CEAP	**Semis' Anvil P**	**2.21**	**285**		**Pn**	**00 51 00.7**	**+0.4**
AMKA	**Amchitka**	**2.35**	**269**	Pn	**Pn**	**00 51 01.6**	**-0.4**
LSPA	**Little Sitkin**	**2.82**	**281**		**Pn**	**00 51 09.6**	**+1.1**
LSNW	**Little Sitkin**	**2.86**	**281**		**Pn**	**00 51 09.3**	**+0.3**
NIKH	**Nikolski High**	**5.19**	**70**	Pn	**Pn**	**00 51 40.2**	**-0.8**
OKSP	**Okmok Steeple**	**5.59**	**68**		**Pn**	**00 51 47.1**	**+0.6**
MAPS	**Pakushin South**	**6.52**	**65**		**Pn**	**00 52 01.1**	**+1.9**
MGOD	**Makushin Gods**	**6.55**	**66**		**Pn**	**00 52 00.6**	**+0.9**
MREP	**Makushin Rep't**	**6.63**	**66**		**Pn**	**00 52 02.5**	**+1.7**
MNAT	**Makushin Natee**	**6.69**	**65**		**Pn**	**00 52 02.9**	**+1.4**
OHAK	**Old Harbor**	**14.89**	**58**	Pn	**Pn**	**00 53 49.3**	**-3.9**
SVW2	**Sparrevohn**	**15.19**	**42**	P	**P**	**00 54 02.1**	**+0.8**
SVW2				IAmb	IAmb	00 54 14.1	
	comp=Z,20nm,1.4s						
KDAK	**Kodiak Island**	**15.39**	**56**	Pn	**Pn**	**00 53 56.7**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=253,slow=16,SNR=13						
KDAK	**Kodiak Island**	**15.39**	**56**	Pn	**Pn**	**00 53 58.5**	**-1.2**
CNPM	**China Poot**	**16.55**	**51**	Pn	**Pn**	**00 54 13.6**	**-0.8**
BRLK	**Bradley Lake**	**16.79**	**50**	Pn	**Pn**	**00 54 17.1**	**-0.4**
SKT	**Skwentna**	**17.32**	**43**	P	**P**	**00 54 27.4**	**+2.5**
SKT				IAmb	IAmb	00 54 28.1	
	comp=Z,5.6nm,0.8s						
PPLA	**Purkeypile**	**17.48**	**40**	P	**P**	**00 54 31.2**	**+4.4**
PPLA				IAmb	IAmb	00 54 45.8	
	comp=Z,16nm,1.4s						
SEW	**Seward**	**17.58**	**50**	P	**Pn**	**00 54 25.7**	**-1.4**
KTH	**Kantishna Hill**	**18.30**	**39**	P	**P**	**00 54 36.9**	**+1.2**
KTH				IAmb	IAmb	00 54 37.8	
	comp=Z,5.1nm,0.8s						
GHO	**Glory Hole Cre**	**18.37**	**45**	P	**Pn**	**00 54 37.9**	**+1.0**
GHO				IAmb	IAmb	00 54 40.3	
	comp=Z,18nm,1.4s						
TRF	**Thorofare Moun**	**18.50**	**39**	P	**P**	**00 54 38.7**	**+0.7**
BPAW	**Bear Paw Mtn.**	**18.55**	**37**	P	**P**	**00 54 39.7**	**+1.3**
BPAW				IAmb	IAmb	00 54 47.1	
	comp=Z,8.2nm,1.3s						
RND	**Reindeer**	**19.06**	**40**	P	**P**	**00 54 43.7**	**-0.3**
RND				IAmb	IAmb	00 54 49.0	
	comp=Z,5.5nm,0.8s						
SCM	**Sheep Creek Mo**	**19.11**	**46**	P	**P**	**00 54 45.6**	**+1.0**
SCM				IAmb	IAmb	00 54 54.9	
	comp=Z,11nm,1.2s						
MLY	**Manley**	**19.13**	**35**	P	**P**	**00 54 46.3**	**+1.6**
MCK	**McKinley**	**19.17**	**40**	P	**P**	**00 54 46.6**	**+1.4**
MCK				IAmb	IAmb	00 54 58.8	
	comp=Z,9.8nm,1.4s						
FID	**Port Fidalgo**	**19.18**	**49**	P	**P**	**00 54 44.5**	**-0.7**
FID				IAmb	IAmb	00 55 03.0	
	comp=Z,8.6nm,1.0s						
NEA2	**Nenana**	**19.52**	**37**	P	**P**	**00 54 48.5**	**-0.4**
KLU	**Klutina**	**19.64**	**47**	P	**P**	**00 54 51.9**	**+1.5**
KLU				IAmb	IAmb	00 55 09.3	
	comp=Z,14nm,1.5s						
WRH	**Wood River Hil**	**19.84**	**38**	P	**P**	**00 54 52.6**	**+0.3**
WRH				IAmb	IAmb	00 55 08.6	
	comp=Z,5.1nm,1.2s						
SEY	**Seymchan**	**19.94**	**317**	P	**P**	**00 54 53.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=111,slow=9.0,SNR=6.9						
MDM	**Murphy Dome**	**20.01**	**37**	P	**P**	**00 54 55.4**	**+1.1**
MDM				IAmb	IAmb	00 55 03.6	
	comp=Z,3.3nm,0.8s						
CCB	**Clear Creek Bu**	**20.02**	**38**	P	**P**	**00 54 54.4**	**0.0**
N25K	**Chitina, Valde**	**20.28**	**48**	P	**P**	**00 54 59.2**	**+1.8**
N25K				IAmb	IAmb	00 55 05.9	
	comp=Z,7.1nm,1.4s						
IL31		**20.43**	**38**	P	**P**	**00 55 00.9**	**+2.1**
IL31				IAmb	IAmb	00 55 12.9	
	comp=Z,8.3nm,1.4s						
ILAR	**Eielson Array**	**20.43**	**38**	P	**P**	**00 54 57.4**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=236,slow=8.0,SNR=9.0						
ILAR				PcP	**PcP**	**00 59 08.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=276,slow=2.5,SNR=2.3						
ILAR	**Eielson Array**	**20.43**	**38**	P	Pn	00 55 01.9	+0.5
VRDI	**Verde Repeater**	**20.72**	**49**	P	**P**	**00 55 04.6**	**+2.4**
VRDI				IAmb	IAmb	00 55 10.8	
	comp=Z,11nm,1.4s						
DOT	**Dot Lake**	**21.13**	**42**	P	**P**	**00 55 06.6**	**+0.1**
SCRK	**Sand Creek**	**21.28**	**41**	P	**P**	**00 55 06.9**	**-1.2**
L27K	**Beaver Creek,**	**21.91**	**45**	P	**P**	**00 55 16.1**	**+1.3**
BCAR	**Beaver Creek A**	**21.93**	**45**	P	**P**	**00 55 16.0**	**+1.0**
K27K	**Chicken**	**22.09**	**42**	P	**P**	**00 55 17.2**	**+0.5**
EGAK	**Eagle**	**22.70**	**40**	P	**P**	**00 55 22.4**	**-0.9**
DAWY	**Dawson**	**23.23**	**43**	P	**P**	**00 55 30.4**	**+1.7**
H11N2	**WAKE ISLAND Hy** baz=18,slow=76,SNR=835	**34.15**	**208**	T	T	01 33 24.9	
H11N3	**WAKE ISLAND Hy** baz=18,slow=76,SNR=666	**34.16**	**208**	T	T	01 33 30.9	
H11N1	**WAKE ISLAND Hy** baz=18,slow=76,SNR=736	**34.17**	**208**	T	T	01 33 31.7	
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.8s,baz=296,slow=1.6,SNR=4.5	**34.31**	**47**	PcP	**PcP**	**00 59 43.2**	**+0.9**
USRK	**Ussuriysk Ar.** comp=Z,1.3nm,0.6s,baz=78,slow=7.9,SNR=2.6	**34.42**	**278**	P	**P**	**00 57 08.1**	**-0.4**
H11S1	**WAKE ISLAND Hy** baz=18,slow=76,SNR=232	**35.37**	**207**	T	T	01 34 56.1	
H11S2	**WAKE ISLAND Hy** baz=18,slow=76,SNR=240	**35.38**	**207**	T	T	01 34 60.0	
H11S3	**WAKE ISLAND Hy** baz=18,slow=76,SNR=222	**35.38**	**207**	T	T	01 35 03.7	
NEW	**Newport** comp=Z,2.4nm,1.0s	**37.76**	**71**	P	**P**	**00 57 38.7**	**+1.7**
NEW				IAmb	IAmb	00 57 39.

KOZT				SN		Sb	02 17 39.6	+0.3	
MERS	**Mersin**	**1.25**	**298**	PN		**Pn**	**02 17 23.9**	**-0.8**	
MERS				SN		**Sg**	**02 17 41.7**	**+0.8**	
HCB	**Kahramanmara**	**1.33**	**37**	*i* P		**Pn**	**02 17 25.4**	**-0.4**	
HCB				*i* S		**Sn**	**02 17 43.7**	**0.0**	
HCB				IAML			02 17 46.0		
	comp=E,452nm,0.3s								
ANDN	**Andirin**	**1.34**	**15**	*i* P		**Pn**	**02 17 25.4**	**-0.5**	
ANDN				*i* S		**Sn**	**02 17 44.7**	**+0.6**	
ANDN				IAML			02 17 49.0		
	comp=E,426nm,0.3s								
GAZ	**Gaziantep**	**1.38**	**50**	PN		**Pn**	**02 17 25.9**	**-0.5**	
GAZ	**Gaziantep**	**1.38**	**50**	P		**Pn**	**02 17 25.4**	**-1.0**	
GAZ				S		**Sn**	**02 17 44.8**	**-0.1**	
GAZ				AML	AML		02 17 48.3		
	comp=E,2.0nm,0.6s								
GAZ				AML	AML		02 17 48.3		
	comp=E,2.0nm,0.6s								
GAZ				AML	AML		02 17 49.1		
	comp=E,2.4nm,0.3s								
GAZ				AML	AML		02 17 49.1		
	comp=E,2.4nm,0.3s								
KIZK	**Mersin**	**1.43**	**278**	PN		**Pn**	**02 17 26.9**	**-0.2**	
KIZK	**Mersin**	**1.43**	**278**	*i* P		**Pn**	**02 17 27.0**	**0.0**	
KIZK				*i* S		**Sb**	**02 17 45.5**	**-0.6**	
KIZK				IAML			02 17 51.0		
	comp=E,283nm,0.4s								
KMRS	**Kahramanmaras**	**1.46**	**33**	PN		**Pn**	**02 17 27.8**	**+0.3**	
KHMN	**Narli-Kahraman**	**1.49**	**42**	PN		**Pn**	**02 17 28.6**	**+0.6**	
KAHM	**Kahramanmaras,**	**1.50**	**35**	*i* P		**Pn**	**02 17 28.9**	**+0.7**	
KAHM				*i* S		**Sn**	**02 17 47.2**	**-0.9**	
CMRD	**Camardi-Nigde**	**1.55**	**332**	PN		**Pn**	**02 17 29.2**	**+0.3**	
CMRD				SN		**Sb**	**02 17 50.3**	**+0.5**	
SLFK	**Silifke-Mersin**	**1.58**	**274**	PN		**Pn**	**02 17 29.1**	**0.0**	
EREN	**Erenkoy**	**1.59**	**242**	PN		**Pb**	**02 17 29.6**	**-0.9**	
EREN	**Erenkoy**	**1.59**	**242**	*i* P		**Pn**	**02 17 29.4**	**0.0**	
SILI	**Silifke-Mersin**	**1.60**	**273**	PN		**Pn**	**02 17 29.3**	**-0.1**	
SAIM	**ADANA**	**1.69**	**5**	*i* P		**Pn**	**02 17 31.2**	**+0.4**	
GZT	**Gaziantep**	**1.71**	**51**	*i* P		**Pb**	**02 17 33.7**	**+1.1**	
GZT				*i* S		**Sn**	**02 17 54.0**	**+0.8**	
KARG	**Kargicak-Mersi**	**1.77**	**268**	PN		**Pn**	**02 17 31.8**	**0.0**	
IKL	**Isikli**	**1.79**	**269**	PN		**Pn**	**02 17 32.4**	**+0.4**	
TISA	**Tisan-Mersin**	**1.80**	**267**	PN		**Pn**	**02 17 32.5**	**+0.3**	
KERG	**Konya-Eregli**	**1.81**	**309**	*i* P		**Pn**	**02 17 33.1**	**+0.6**	
KERG				*i* S		**Sb**	**02 17 56.7**	**-0.7**	
YESI	**Yesilovacik-Me**	**1.83**	**268**	PN		**Pn**	**02 17 32.3**	**-0.2**	
YAHY	**KAYSERI_Yahyal**	**1.85**	**347**	*i* P		**Pn**	**02 17 33.7**	**+0.6**	
AKKU	**Akkuyu-Mersin**	**1.90**	**267**	PN		**Pn**	**02 17 33.9**	**+0.3**	
TEPK	**Tepekoy-MERSIN**	**1.90**	**269**	PN		**Pn**	**02 17 33.7**	**+0.1**	
AKK2	**Akkuyu-Mersin**	**1.91**	**266**	PN		**Pn**	**02 17 33.9**	**+0.3**	
GULN	**MERSIN_Gulnar**	**1.91**	**268**	*i* P		**Pb**	**02 17 34.5**	**-1.3**	
GULN				*i* S		**Sn**	**02 17 56.5**	**-1.4**	
AKK1	**Akkuyu-Mersin**	**1.91**	**266**	PN		**Pn**	**02 17 33.8**	**+0.1**	
NIDE	**Nigde/Merkez-G**	**1.93**	**333**	*i* P		**Pn**	**02 17 35.4**	**+1.3**	
NIDE				*i* S		**Sb**	**02 18 01.1**	**+0.4**	
NIDE				IAML			02 18 05.0		
	comp=E,321nm,0.3s								
OREN	**Orenkoy-Mersin**	**1.98**	**268**	PN		**Pn**	**02 17 34.9**	**+0.3**	
TEVE	**Tevekalti-Mers**	**1.99**	**275**	PN		**Pn**	**02 17 35.3**	**+0.5**	
HWQ	**Hawqa**	**2.01**	**179**	*eP*		**Pn**	**02 17 35.4**	**+0.3**	
YORU	**Yoruktepe-Mers**	**2.02**	**267**	PN		**Pn**	**02 17 35.5**	**+0.3**	
NIG	**Nigde**	**2.09**	**331**	PN		**Pn**	**02 17 36.7**	**+0.3**	
SARI	**SarD1z-Kayseri**	**2.16**	**11**	PN		**Pn**	**02 17 37.0**	**-0.2**	
BERE	**Bereket-Mersin**	**2.16**	**272**	PN		**Pn**	**02 17 37.7**	**+0.4**	
MVOU	**Mavrovouni**	**2.24**	**236**	⇑P		**Pn**	**02 17 37.7**	**-0.5**	
MVOU				AML	AML		02 18 16.7		
	comp=E,0.4nm,0.5s								
MVOU				AML	AML		02 18 22.8		
	comp=E,0.6nm,0.8s								
TEKE	**Tekeli-Mersin**	**2.26**	**267**	PN		**Pn**	**02 17 38.3**	**-0.2**	
ELBS	**KAHRAMANMARAS**	**2.26**	**25**	*i* P		**Pn**	**02 17 38.8**	**+0.1**	
KRMN	**Karaman**	**2.29**	**293**	PN		**Pn**	**02 17 38.9**	**-0.2**	
BHL	**Bhannes**	**2.39**	**185**	*eP*		**Pn**	**02 17 40.5**	**+0.2**	
ERMK	**Ermenek**	**2.43**	**279**	*i* P		**Pn**	**02 17 42.6**	**+1.5**	
ERMK				*i* S		**Sb**	**02 18 14.0**	**-1.2**	
ERMK				IAML			02 18 20.0		
	comp=N,186nm,0.3s								
ERMK				IAML			02 18 20.0		
	comp=E,188nm,0.3s								
GULA	**Gulagac**	**2.44**	**328**	PN		**Pn**	**02 17 42.0**	**+0.9**	
CSS	**Mathiatis**	**2.48**	**238**	⇑P		**Pn**	**02 17 41.6**	**+0.1**	
KKBE	**Karaman, Kazim**	**2.55**	**292**	*i* P		**Pb**	**02 17 45.3**	**-1.6**	
KKBE				*i* S		**Sn**	**02 18 15.7**	**+1.6**	
BNN	**Bunyan**	**2.56**	**359**	PN		**Pn**	**02 17 42.8**	**0.0**	
DQRL	**Deir Qamar**	**2.59**	**186**	*eP*		**Pn**	**02 17 44.6**	**+1.4**	
DARE	**Darende-Malaty**	**2.60**	**28**	PN		**Pn**	**02 17 43.9**	**+0.6**	
URFA	**Urfa**	**2.61**	**63**	PN		**Pn**	**02 17 43.8**	**+0.4**	
ASGA	**Asgata**	**2.63**	**236**	P		**Pn**	**02 17 44.6**	**+1.0**	
ASGA				AML	AML		02 18 28.2		
	comp=E,0.3nm,0.9s								
ASGA				AML	AML		02 18 30.6		
	comp=E,0.4nm,0.7s								
AVNS	**Nevsehir-Avano**	**2.65**	**342**	*i* P		**Pn**	**02 17 44.3**	**+0.3**	
QRWL	**Qaraoun**	**2.74**	**184**	*eP*		**Pn**	**02 17 45.4**	**+0.3**	
MALT	**Malatya**	**2.85**	**44**	PN		**Pn**	**02 17 47.5**	**+0.7**	
GAZI	**Gazipasa**	**2.90**	**270**	*i* P		**Pn**	**02 17 49.2**	**+1.9**	
SZAC	**Souni**	**2.90**	**239**	⇑P		**Pn**	**02 17 47.9**	**+0.6**	
SZAC				AML	AML		02 18 32.5		
	comp=E,0.5nm,0.4s								
SZAC				AML	AML		02 18 33.3		
	comp=E,0.5nm,0.7s								
ALFC	**Alefka**	**2.91**	**248**	S		**Sn**	**02 18 22.6**	**-0.2**	
CUALT	**Altinyayla-SIV**	**3.06**	**13**	*i* P		**Pn**	**02 17 49.1**	**-0.5**	
AKMS	**Akamas**	**3.17**	**247**	P		**Pn**	**02 17 51.3**	**+0.3**	
KEPZ	**Antalya-Kepez**	**3.51**	**281**	*i* P		**Pn**	**02 17 59.0**	**+3.2**	
DOGA	**KONYA_Doganhis**	**3.83**	**300**	*i* P		**Pn**	**02 18 03.1**	**+2.8**	
MMLI	**Mount Malkishu**	**3.86**	**186**	P		**Pn**	**02 18 01.6**	**+1.1**	
MMLI				S		**Sn**	**02 18 46.4**	**+0.2**	
OSC2	**CSNet OBS 4**	**4.38**	**224**	P		**Pn**	**02 18 07.8**	**+0.1**	
KZIT	**Kziot**	**5.51**	**194**	P		**Pn**	**02 18 24.2**	**+1.0**	

IDC 25 02:18:02.2±14.0, 65°83S×174°99W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/12, mbtmp3.6/2, Error ellipse: s-maj=1065.0km s-min=70.7km az=13.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**53.08**	**297**	P	P	02 27 21.5	+0.4
	0.4nm,0.8s,baz=158,slow=7.2,SNR=4.3						
WRA	**Warramunga Arr**	**56.33**	**299**	P	P	02 27 44.0	-0.6
	1.3nm,1.0s,baz=159,slow=5.9,SNR=4.0						
H03S2	**Juan Fernandez**	**62.04**	**110**	T	T	03 35 57.8	
	baz=206,slow=74,SNR=7.0						
H03S1	**Juan Fernandez**	**62.04**	**110**	T	T	03 35 57.7	
	baz=206,slow=74,SNR=6.6						
H03S3	**Juan Fernandez**	**62.05**	**110**	T	T	03 35 56.2	
	baz=206,slow=74,SNR=8.1						
ILAR	**Eielson Array**	**131.89**	**16**	PKP	PKPdf	02 37 15.2	-0.3
	1.1nm,1.0s,baz=207,slow=3.0,SNR=5.7						

*IDC **25** 02:35:28.9±0.9, 39°.88N×69°.18E, h0km, mb3.7/10, mb1 3.9/19,mb1mx3.7/45,mbtmp3.7/19,ML3.5/8,MS2.7/3, Ms1 2.8/3,ms1mx2.4/41,Error ellipse: s-maj=18.7km s-min=10.7km az=164.0*

*KRNET **25** 02:35:30.9±0.1, 39°.98N×69°.16E, mb4.7*

*NNC **25** 02:35:30.8±4.0, 39°.98N×69°.01E, h2km±17km, mb4.1, mpv4.0,Error ellipse: s-maj=25.3km s-min=11.0km az=26.0*

*BJI **25** 02:35:30.0±0.0, 40°.20N×68°.80E, h16km, mB4.3/2, mb4.4/6, ML3.9/1, Ms3.8/1*

*ISU **25** 02:35:30, 39°.87N×69°.20E, h5km*

*SOME **25** 02:35:31.8, 39°.92N×69°.27E, h5km, MS3.4*

*NEIC **25** 02:35:34.6±2.4, 40°.08N±0°.06×69°.12E±0°.10, h24km±4km, mb4.2/6, Error ellipse: s-maj=11.2km s-min=7.5km az=110.0*

ISC 25 02:35:32.1±1.0, 39°.93N±0°.03×69°.04E±0°.02, h11km±6km, n92, σ1$80/120, mb3.9/14, 18C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZI	**Dzhizak**	**0.95**	**282**	*eP*	**Pg**	**02 35 50.0**	**-0.4**
DZI				*eS*	**Sn**	**02 36 05.0**	**0.0**
BTK	**Batken**	**1.38**	**84**	⇑*i*P	**Pn**	**02 35 54.9**	**-2.4**
	baz=86						
BTK				⇑*i*S	**Sb**	**02 36 13.1**	**-2.5**
	baz=86						
BTK	**Batken**	**1.38**	**84**	*i* P	**Pn**	**02 35 55.0**	**-2.4**
BTK				*i* S	**Sb**	**02 36 13.0**	**-2.5**
TAS	**Tashkent**	**1.41**	**8**	*eP*	**Pn**	**02 35 57.0**	**-0.8**
TAS				*eS*	**Sb**	**02 36 17.0**	**+0.5**
CHMG	**Chimgan**	**1.78**	**24**	*eP*	**Pn**	**02 36 03.0**	**0.0**
CHMG				*eS*	**Sn**	**02 36 26.0**	**+0.3**
CHRV	**Charvak**	**1.85**	**22**	*eP*	**Pn**	**02 36 04.0**	**+0.2**
CHRV				*eS*	**Sn**	**02 36 27.0**	**-0.2**
SHAK	**Shakhimardan**	**2.08**	**88**	*eP*	**Pn**	**02 36 07.0**	**-0.1**
SHAK				*eS*	**Sg**	**02 36 39.0**	**+0.1**
DRK	**Karamyk**	**2.18**	**101**	⇓*i*P	**Pn**	**02 36 09.4**	**+0.8**
	baz=3.0						
DRK				⇑*i*S	**Sb**	**02 36 37.5**	**-1.3**
	baz=3.0						
FRG	**Fergana**	**2.25**	**68**	*eP*	**Pn**	**02 36 08.0**	**-1.3**
FRG				*eS*	**Sb**	**02 36 39.0**	**-1.7**
TRKS	**Terek-Say**	**2.26**	**44**	⇓*i*P	**Pn**	**02 36 09.5**	**-0.1**
	baz=45						
TRKS				⇓*i*S	**Sn**	**02 36 37.9**	**+0.3**
	baz=45						
NAM	**Namangan**	**2.27**	**61**	*eP*	**Pn**	**02 36 10.0**	**+0.5**
NAM				*eS*	**Sb**	**02 36 41.0**	**-0.1**
IUG	**Iuzhnay**	**2.34**	**18**	*eP*	**Pb**	**02 36 13.3**	**-1.0**
	165nm,0.7s						
IUG				*eS*	**Sb**	**02 36 43.3**	**-0.1**
	1μm,0.7s						
CHM	**Chimkent**	**2.43**	**10**	*eP*	**Pg**	**02 36 19.2**	**+0.6**
	6.9nm,0.3s						
CHM				*eS*	**Sg**	**02 36 52.6**	**+2.5**
	2μm,0.6s						
NUT	**Nurota**	**2.64**	**285**	*eP*	**Pb**	**02 36 19.0**	**-0.5**
NUT				*eS*	**Sb**	**02 36 50.0**	**-1.9**
ANR	**Andizhan**	**2.67**	**71**	*eP*	**Pn**	**02 36 16.0**	**+0.9**
ANR				*eS*	**Sn**	**02 36 50.0**	**+2.5**
OHH	**Osh**	**2.93**	**77**	⇓*i*P	**Pn**	**02 36 19.4**	**+0.7**
	baz=78						
OHH				⇓*i*S	**Sn**	**02 36 54.4**	**+0.4**
	baz=78						
OHH	**Osh**	**2.93**	**77**	*eP*	**Pn**	**02 36 18.0**	**-0.7**
OHH				*eS*	**Sn**	**02 36 55.0**	**+1.0**
BRLS	**Boroldav**	**3.16**	**11**	*eP*	**Pn**	**02 36 23.6**	**+1.8**
	39nm,0.4s						
BRLS				*eS*	**Sn**	**02 37 00.6**	**+1.1**
	424nm,0.5s						
ARSB	**Arslanbob**	**3.31**	**64**	⇑*i*P	**Pn**	**02 36 25.0**	**+1.0**
	baz=64						
ARSB				⇑*i*S	**Sn**	**02 37 04.0**	**+0.5**
	baz=64						
KK31	**Karatay Array**	**3.36**	**19**	⇓Pn	**Pn**	**02 36 24.2**	**-0.4**
	1.1nm,0.3s,baz=164,slow=7.9,SNR=44						
KK31				⇑Pg	**Pb**	**02 36 31.6**	**-0.1**
	21nm,0.5s,baz=207,slow=16,SNR=20						
KK31				⇓Lg	Lg	02 37 14.7	
	169nm,0.5s,baz=198,slow=28,SNR=18						
KK31	**Karatay Array**	**3.36**	**19**		**Pn**	**02 36 24.0**	**-0.6**
KKAR	**Karatay Array**	**3.36**	**19**		**Pn**	**02 36 22.9**	**-1.7**
KKAR	**Karatay Array**	**3.36**	**19**		**Pn**	**02 36 24.0**	**-0.5**
DZA	**Taraz**	**3.43**	**29**	*eP*	**Pb**	**02 36 33.9**	**+1.0**
	35nm,0.2s						
DZA				*eS*	**Sb**	**02 37 17.4**	**+2.8**
	799nm,0.4s						
SFK	**Sufi-Kurgan**	**3.44**	**87**	⇑*i*P	**Pn**	**02 36 26.6**	**+0.8**
	baz=88						
SFK				⇑*i*S	**Sn**	**02 37 06.8**	**+0.2**
	baz=88						
MNAS	**Manas**	**3.66**	**45**	⇑*i*P	**Pn**	**02 36 29.2**	**+0.4**
	baz=44						
MNAS				⇑*i*S	**Sn**	**02 37 12.5**	**+0.5**
	baz=44						
AML	**Almayashu**	**4.16**	**56**	P	**Pn**	**02 36 34.5**	**-1.4**
	SNR=18						
EKS2	**Erkin-Say**	**4.50**	**51**	P	**Pn**	**02 36 41.7**	**+1.4**
	SNR=14						
AAK	**Ala-Archa**	**4.92**	**55**	Pn	**Pn**	**02 36 44.8**	**-1.3**
	8.0nm,0.3s,baz=202,slow=3.9,SNR=70						
AAK				Sn	**Sn**	**02 37 47.0**	**+3.7**
	6.8nm,0.3s,baz=19,slow=19,SNR=5.5						
AAK				Lg	Lg	02 38 04.2	
	19nm,0.3s,baz=19,slow=22,SNR=4.4						
AAK	**Ala-Archa**	**4.92**	**55**		**Pn**	**02 36 45.6**	**-0.5**
KBK	**Karagaybulak**	**5.22**	**57**	P	**Pn**	**02 36 51.2**	**+0.9**
	SNR=34						
CHMS	**Chumysh**	**5.28**	**53**	P	**Pn**	**02 36 52.6**	**+1.6**
	SNR=9.6						
USP	**Ospennovka**	**5.28**	**49**	P	**Sg**	**02 38 19.4**	**-2.3**
	SNR=6.0						
KBL	**Kabul**	**5.38**	**180**	Pn	**Pn**	**02 36 56.5**	**+4.1**
TKM2	**Tokmak 2**	**5.77**	**57**	P	**Pn**	**02 36 58.2**	**+0.4**
	SNR=12						
TKM2	**Tokmak 2**	**5.77**	**57**	⇑Pn	**Pn**	**02 36 57.0**	**-0.8**
	13nm,0.5s						
TKM2				⇓Lg	Lg	02 38 33.1	
	72nm,0.8s						
KST	**Kastek**	**6.06**	**57**	*eP*	**Pb**	**02 37 19.5**	**+1.7**
	14nm,0.7s						
KST				*eS*	**Sb**	**02 38 36.6**	**+6.2**
	71nm,0.4s						
KNDC	**Almaty**	**6.79**	**58**	⇓Pn	**Pn**	**02 37 09.8**	**-1.9**
	26nm,0.6s						
KNDC				⇓Lg	Lg	02 39 04.0	
	68nm,0.5s						
MDOK	**Medeo**	**6.83**	**59**	⇑Pn	**Pn**	**02 37 11.9**	**-0.4**
	33nm,0.8s						
MDOK				⇑Lg	Lg	02 39 07.0	
	68nm,0.7s						
NIL	**Nilore**	**7.12**	**150**	Pn	Pn	02 37 21.6	+5.4
HRA	**Herat**	**7.74**	**227**	Pn	**Pn**	**02 37 28.6**	**+3.7**
GEYT	**Alibeck**	**8.74**	**260**	Pn	**Pn**	**02 37 37.9**	**-0.5**
	0.3nm,0.3s,baz=12,slow=15,SNR=2.4						
GEYT				Sn	**Sn**	**02 39 18.7**	**+1.7**
	0.7nm,0.3s,baz=342,slow=24,SNR=2.3						
GEYT				LR	LR	02 41 52.0	
	comp=Z,46nm,20.2s,baz=230,slow=43						
GEYT	**Alibeck**	**8.74**	**260**	Pn	**Pn**	**02 37 40.9**	**+2.5**
AB31	**Akbulak array**	**11.35**	**328**	⇓Pn	**Pn**	**02 38 11.2**	**-2.8**
	1.4nm,0.4s,baz=155,slow=12,SNR=31						
AB31				⇓Sn	**Sn**	**02 40 21.1**	**+0.3**
	2.1nm,0.5s,baz=239,slow=40,SNR=3.3						
ABKAR	**Akbulak array**	**11.35**	**328**		**Pn**	**02 38 11.1**	**-3.0**
ABKAR	**Akbulak array**	**11.35**	**328**		**Pn**	**02 38 11.6**	**-2.5**
MAKZ	**Makanchi**	**11.65**	**50**	⇑Pn	**Pn**	**02 38 18.0**	**-0.3**
	1.0nm,0.7s						
MAKZ				⇑Lg	Lg	02 41 45.3	
	9.1nm,0.8s						
MAKZ	**Makanchi**	**11.65**	**50**		**Pn**	**02 38 18.1**	**-0.2**
MK31	**Makanchi Array**	**11.83**	**50**	Pn	**Pn**	**02 38 19.8**	**-0.9**
	1.2nm,0.6s,baz=231,slow=13,SNR=19						
MK31				⇓Lg	Lg	02 41 48.7	
	8.3nm,0.8s,baz=237,slow=21,SNR=4.2						
MK31	**Makanchi Array**	**11.83**	**50**		**Pn**	**02 38 19.8**	**-0.9**
MKAR	**Makanchi Array**	**11.83**	**50**	Pn	**Pn**	**02 38 18.2**	**-2.5**
	0.4nm,0.3s,baz=235,slow=14,SNR=18						
MKAR				Lg	Lg	02 41 43.6	
	0.3nm,0.3s,baz=244,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	**11.83**	**50**		**Pn**	**02 38 19.8**	**-0.9**
KURBB	**Kurchatov Arra**	**12.60**	**29**	Pn	**Pn**	**02 38 27.6**	**-3.6**
	0.1nm,0.3s,baz=218,slow=13,SNR=4.4						
KURBB				Lg	Lg	02 42 02.0	
	0.1nm,0.3s,baz=219,slow=28,SNR=4.1						
KURBB	**Kurchatov Arra**	**12.60**	**29**	⇑Pn	**Pn**	**02 38 34.6**	**+3.5**
	1.2nm,0.9s						
KURBB				⇑Lg	Lg	02 42 10.1	
	30nm,0.8s						
AKTO	**Aktyubinsk**	**13.05**	**327**	Pn	**Pn**	**02 38 34.0**	**-3.3**
	0.2nm,0.3s,baz=135,slow=11,SNR=3.9						
AKTO				LR	LR	02 43 01.4	
	comp=Z,20nm,19.3s,baz=88,slow=34						
AKTO	**Aktyubinsk**	**13.05**	**327**	⇓Pn	**Pn**	**02 38 37.2**	**-0.2**
	1.6nm,0.7s						
AKTO				⇓Sn	**Sn**	**02 41 01.8**	**-0.7**
	6.0nm,0.8s						
BVAR	**Borovoye Array**	**13.14**	**4**	Pn	**Pn**	**02 38 33.9**	**-4.5**
	baz=182,slow=19,SNR=0.8						
WMQ	**Urumqi**	**14.43**	**68**	P	**P**	**02 39 01.9**	**-1.4**
GKN	**Gorkha**	**17.55**	**128**	*eP*	**P**	**02 39 38.1**	**+0.2**
	37nm,0.7s						
ZAA0	**Zalesovo Array**	**17.63**	**32**	P	**Pn**	**02 39 36.1**	**-1.3**
ZALV	**Zalesovo Beam**	**17.63**	**32**	P	**Pn**	**02 39 35.0**	**-2.5**
	0.8nm,0.3s,baz=219,slow=10,SNR=5.6						
ZALV	**Zalesovo Beam**	**17.63**	**32**	P	**Pn**	**02 39 36.3**	**-1.2**
KKN	**Kakani**	**18.09**	**127**	*eP*	**P**	**02 39 44.1**	**+0.1**
DMN	**Daman**	**18.12**	**128**	*eP*	**P**	**02 39 44.8**	**+0.5**
	16nm,0.8s						
PKIN	**Phulchoki**	**18.32**	**127**	*eP*	**P**	**02 39 47.2**	**+0.7**
PKI	**Pulchoki**	**18.33**	**127**	*eP*	**P**	**02 39 47.6**	**+0.9**
GUN	**Gumba**	**18.38**	**126**	*eP*	**P**	**02 39 47.3**	**0.0**
BELG	**Belogornoye**	**19.29**	**317**	P	**P**	**02 39 55.7**	**-1.0**
	0.3nm,0.3s,baz=150,slow=20,SNR=2.8						
RAMN	**Ramite**	**19.51**	**126**	*eP*	**P**	**02 39 59.3**	**-0.3**
	18nm,0.6s						
KBZ	**Khabaz**	**19.81**	**290**	P	**P**	**02 40 03.3**	**+0.8**
	0.1nm,0.3s,baz=104,slow=8.3,SNR=4.8						
TAPN	**Taplejung**	**19.93**	**123**	*eP*	**P**	**02 40 03.1**	**-1.1**
SONM	**Songino Array**	**27.85**	**61**	P	**P**	**02 41 21.1**	**-0.5**
	0.3nm,0.6s,baz=304,slow=10,SNR=2.3						
AKASG	**Malin Array Be**	**29.66**	**305**	P	**P**	**02 41 35.6**	**-1.9**
	0.3nm,0.3s,baz=65,slow=2.2,SNR=1.8						
KMI	**Kunming**	**31.81**	**107**	⇓*eP*	**P**	**02 42 01.0**	**+4.0**
KMI				pP	sP	02 42 03.8	+1.6
KMI				sP	pP	02 42 05.5	+4.8
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJT	**Baijiatuau**	**35.79**	**74**	P	**P**	**02 42 32.7**	**+1.5**
ARCES	**ARCESS Array B**	**37.39**	**336**	P	**P**	**02 42 44.4**	**-0.2**
	3.8nm,1.0s,baz=108,slow=8.6,SNR=2.4						
DPC	**Dobruska-Polom**	**37.88**	**304**	*eP*	**P**	**02 42 52.4**	**+3.4**
GERES	**GERESS Array B**	**39.75**	**302**	P	**P**	**02 43 05.1**	**+0.4**
	0.6nm,0.7s,baz=64,slow=6.1,SNR=6.0						
GERES	**GERESS Array B**	**39.75**	**302**	P	**P**	**02 43 08.4**	**+3.7**
KHC	**Kasperske Hory**	**39.79**	**302**	*eP*	**P**	**02 43 04.8**	**-0.1**
KHC				*epP*	**pP**	**02 43 08.4**	**-0.2**
KHC	**Kasperske Hory**	**39.79**	**302**	P	**P**	**02 43 06.1**	**+1.2**
KHC				IAmb	IAmb	02 43 09.2	
	comp=Z,2.3nm,0.8s						
CLL	**Collm**	**39.88**	**306**	*eP*	**P**	**02 43 08.0**	**+2.3**
NB2	**NORSAR Subarra**	**40.73**	**321**	P	**P**	**02 43 14.2**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=94,slow=8.6						
NOA	**NORSAR Array B**	**40.73**	**321**	P	**P**	**02 43 12.7**	**0.0**
	comp=Z,0.7nm,0.8s,baz=95,slow=8.2,SNR=3.9						
NOA				LR	LR	03 01 10.9	
	comp=Z,19nm,18.1s,baz=20,slow=38						
TIXI	**Tiksi**	**43.22**	**24**	P	**P**	**02 43 30.9**	**-1.8**
TIXI				IAmb	IAmb	02 43 36.7	
	comp=Z,2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**64.34**	**266**	P	**P**	**02 46 07.5**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=53,slow=5.0,SNR=4.0						
IMAR	**Indian Mountai**	**69.37**	**17**	P	**P**	**02 46 38.6**	**-0.8**
ILAR	**Eielson Array**	**71.90**	**15**	P	**P**	**02 46 51.6**	**-3.2**
	comp=Z,0.4nm,0.9s,baz=333,slow=5.4,SNR=3.3						
LBTB	**Lobatse**	**76.24**	**220**	P	**P**	**02 47 21.9**	**+1.1**
LBTB				IAmb	IAmb	02 47 24.6	
	comp=Z,5.0nm,1.1s						
YKA	**Yellowknife Ar**	**77.89**	**2**	P	**P**	**02 47 28.2**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=357,slow=5.8,SNR=13						
WRA	**Warramunga Arr**	**85.09**	**121**	P	**P**	**02 48 06.0**	**-2.2**
	comp=Z,0.5nm,0.6s,baz=336,slow=4.9,SNR=7.6						
ASAR	**Alice Springs**	**87.46**	**124**	P	**P**	**02 48 18.1**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=319,slow=4.5,SNR=6.3						

DDA 25 02:49:37.3, 38°.48N×26°.55E, h6km±2km, ML1.3, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.12**	**162**	*i* P	Pg	02 49 37.9	-2.0
URLA				*i* S	Sg	02 49 42.0	+0.4
ZEYE	**Izmir, Urla-Ze**	**0.24**	**189**	*i* P	Pg	02 49 42.0	+0.9
ZEYE				*i* S	Sg	02 49 46.5	+1.3
ZEYE				IAML		02 49 49.0	
	comp=N,41nm,0.7s						
DGB	**zmir**	**0.50**	**148**	*i* P	Pg	02 49 47.3	+0.4
DGB				*i* S	Sb	02 49 55.2	-0.7
BUHA	**Balikesir, Bur**	**1.10**	**22**	*i* P	Pg	02 49 57.2	-1.2
BUHA				IAML		02 50 08.0	
	comp=E,7.7nm,1.7s						
BUHA				*i* S

	baz=286							
TUL1				S		**Sb**	**03 15 59.1**	**-0.5**
	baz=286							
TUL1	**Leonard**	**1.33**	**105**	P			03 15 41.1	
	baz=286,SNR=70							
TUL1				S			03 15 59.5	
	baz=286							
TUL1	**Leonard**	**1.33**	**105**	P			03 15 41.1	
	baz=286							
TUL1				S			03 15 59.1	
	baz=286							
WMOK	**Wichita Mounta**	**1.92**	**217**	Pn		**Pn**	**03 15 49.7**	**-0.4**
WMOK	**Wichita Mounta**	**1.92**	**217**	P		**Pn**	**03 15 50.4**	**+0.3**
	baz=36							
WMOK				S		**Sb**	**03 16 16.0**	**-0.4**
	baz=36							
WMOK	**Wichita Mounta**	**1.92**	**217**	P			03 15 50.4	
	baz=36,SNR=70							
WMOK				S			03 16 16.2	
	baz=36							
WMOK	**Wichita Mounta**	**1.92**	**217**	P			03 15 50.4	
	baz=36							
WMOK				S			03 16 16.0	
	baz=36							
X37A	**Clayton**	**2.34**	**135**			**Pn**	**03 15 55.8**	**-0.2**
X37A				IAmb_Lg			03 16 33.3	
	comp=Z,206nm,0.8s							
X37A	**Clayton**	**2.34**	**135**	P		**Pn**	**03 15 56.8**	**+0.8**
	baz=316,SNR=56							
X37A	**Clayton**	**2.34**	**135**	P			03 15 56.8	
	baz=316,SNR=56							
R32A	**Long Quarter,**	**2.40**	**334**			**Pn**	**03 15 56.4**	**-0.3**
R32A				IAmb_Lg			03 16 31.3	
	comp=Z,136nm,0.8s							
R32A	**Long Quarter,**	**2.40**	**334**	P		**Pn**	**03 15 58.6**	**+1.8**
	baz=153,SNR=82							
R32A				S		**Sn**	**03 16 27.4**	**+1.1**
	baz=153							
R32A	**Long Quarter,**	**2.40**	**334**	P			03 15 58.6	
	baz=153,SNR=82							
R32A				S			03 16 27.4	
	baz=153							
U38A	**Gravette**	**2.42**	**85**			**Pn**	**03 15 57.0**	**0.0**
U38A				IAmb_Lg			03 16 34.6	
	comp=Z,129nm,0.8s							
U38A	**Gravette**	**2.42**	**85**	P		**Pn**	**03 15 58.4**	**+1.4**
	baz=267,SNR=99							
U38A	**Gravette**	**2.42**	**85**	P			03 15 58.4	
	baz=267,SNR=99							
HHAR	**Hobbs**	**2.77**	**89**	Pn		**Pn**	**03 16 01.8**	**-0.1**
HHAR	**Hobbs**	**2.77**	**89**	P		**Pn**	**03 16 02.8**	**+0.9**
	baz=271,SNR=15							
HHAR	**Hobbs**	**2.77**	**89**	P			03 16 02.8	
	baz=271,SNR=15							
KSU1	**Kansas State U**	**2.89**	**12**	Pn		**Pn**	**03 16 03.6**	**+0.1**
KSU1				IAmb_Lg			03 16 55.9	
	comp=Z,64nm,0.8s							
KSU1	**Kansas State U**	**2.89**	**12**	P			03 16 04.5	
	baz=192							
KSU1				Sb			03 16 47.1	
	baz=192							
Z35A	**Perchaven, San**	**2.94**	**178**			**Pn**	**03 16 04.0**	**-0.2**
Z35A	**Perchaven, San**	**2.94**	**178**	P		**Pn**	**03 16 04.8**	**+0.6**
	baz=358,SNR=6.7							
Z35A	**Perchaven, San**	**2.94**	**178**	P			03 16 04.8	
	baz=358,SNR=6.7							
W39A	**Magazine**	**3.11**	**109**			**Pn**	**03 16 06.5**	**0.0**
W39A				IAmb_Lg			03 17 04.3	
	comp=Z,128nm,0.7s							
W39A	**Magazine**	**3.11**	**109**	P		**Pn**	**03 16 07.1**	**+0.6**
	baz=291							
W39A	**Magazine**	**3.11**	**109**	P			03 16 06.7	
	baz=291,SNR=17							
W39A				S			03 16 45.2	
	baz=291							
W39A	**Magazine**	**3.11**	**109**	P			03 16 07.1	
	baz=291							
CBKS	**Cedar Bluff**	**3.16**	**324**	Pn		**Pn**	**03 16 07.2**	**0.0**
CBKS				IAmb_Lg			03 17 01.4	
	comp=Z,121nm,0.8s							
CBKS	**Cedar Bluff**	**3.16**	**324**	P		**Pn**	**03 16 07.9**	**+0.7**
	baz=143							
CBKS	**Cedar Bluff**	**3.16**	**324**	P			03 16 07.8	
	baz=143,SNR=13							
CBKS	**Cedar Bluff**	**3.16**	**324**	P			03 16 07.9	
	baz=143							
S39A	**Bolivar**	**3.54**	**65**			**Pn**	**03 16 12.5**	**+0.1**
S39A				IAmb_Lg			03 17 09.5	
	comp=Z,52nm,0.8s							
S39A	**Bolivar**	**3.54**	**65**	P		**Pn**	**03 16 12.7**	**+0.3**
	baz=248,SNR=28							
S39A	**Bolivar**	**3.54**	**65**	P			03 16 12.7	
	baz=248,SNR=28							
MIAR	**Mount Ida**	**3.55**	**118**			**Pn**	**03 16 12.7**	**+0.2**
MIAR				IAmb_Lg			03 17 11.7	
	comp=Z,56nm,0.9s							
MIAR	**Mount Ida**	**3.55**	**118**	P		**Pn**	**03 16 13.5**	**+1.0**
	baz=300,SNR=41							
MIAR				S		**Sn**	**03 16 56.2**	**+1.6**
	baz=300							
MIAR	**Mount Ida**	**3.55**	**118**	P			03 16 13.3	
	baz=300,SNR=7.4							
MIAR				S			03 16 55.4	
	baz=300							
MIAR	**Mount Ida**	**3.55**	**118**	P			03 16 13.5	
	baz=300,SNR=41							
MIAR				S			03 16 56.2	
	baz=300							
Z38A	**Mt. Pleasant**	**3.59**	**146**	Pn		**Pn**	**03 16 13.1**	**0.0**
Z38A	**Mt. Pleasant**	**3.59**	**146**	P		**Pn**	**03 16 13.5**	**+0.4**
	baz=328							
Z38A	**Mt. Pleasant**	**3.59**	**146**	P			03 16 13.5	
	baz=328							
U40A	**Yellville**	**3.65**	**87**			**Pn**	**03 16 13.7**	**-0.2**
U40A				IAmb_Lg			03 17 17.7	
	comp=Z,101nm,0.8s							
U40A	**Yellville**	**3.65**	**87**	P		**Pn**	**03 16 15.0**	**+1.0**
	baz=270,SNR=24							
U40A	**Yellville**	**3.65**	**87**	P			03 16 14.0	
	baz=270							
U40A	**Yellville**	**3.65**	**87**	P			03 16 15.0	
	baz=270,SNR=24							
U40A				P			03 16 15.0	
	baz=270,SNR=24							
AMTX	**Amarillo**	**3.78**	**250**			**Pn**	**03 16 16.1**	**+0.3**
AMTX				IAmb_Lg			03 17 17.1	
	comp=Z,60nm,0.8s							
AMTX	**Amarillo**	**3.78**	**250**	P			03 16 16.4	
	baz=67							
AMTX				S			03 17 01.8	
	baz=67							
ABTX	**Abilene, Hawle**	**4.09**	**208**	Pn		**Pn**	**03 16 20.0**	**-0.1**
ABTX	**Abilene, Hawle**	**4.09**	**208**	P			03 16 20.4	
	baz=26							
X40A	**Basin Creek Fa**	**4.11**	**114**	Pn		**Pn**	**03 16 20.5**	**+0.2**
X40A				IAmb_Lg			03 17 34.9	
	comp=Z,77nm,0.8s							
X40A	**Basin Creek Fa**	**4.11**	**114**	P			03 16 21.2	
	baz=297							
X40A				S			03 17 08.7	
	baz=297							
MGMO	**Mountain Grove**	**4.19**	**76**			**Pn**	**03 16 21.3**	**-0.1**
MGMO				IAmb_Lg			03 17 31.7	
	comp=Z,60nm,0.7s							
WHAR	**Wooly Hollow**	**4.25**	**102**			**Pn**	**03 16 21.8**	**-0.3**
WHAR				IAmb_Lg			03 17 40.8	
	comp=Z,67nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.27**	**94**	IAmb_Lg			03 17 32.3	
	comp=Z,62nm,0.9s							
WHTX	**Lake Whitney,**	**4.27**	**181**			**Pn**	**03 16 22.2**	**-0.3**
WHTX	**Lake Whitney,**	**4.27**	**181**	P		**Pn**	**03 16 22.4**	**-0.1**
	baz=0.8,SNR=30							
WHTX	**Lake Whitney,**	**4.27**	**181**	P			03 16 22.2	
	baz=0.8,SNR=7.7							
WHTX				S			03 17 13.9	
	baz=0.8							
WHTX	**Lake Whitney,**	**4.27**	**181**	P			03 16 22.4	
	baz=0.8,SNR=30							
W41B	**Gary Mavity, V**	**4.31**	**103**	P		**Pn**	**03 16 23.4**	**+0.3**
	baz=286,SNR=31							
W41B	**Gary Mavity, V**	**4.31**	**103**	P			03 16 23.2	
	baz=286							
W41B				S			03 17 13.1	
	baz=286							
W41B	**Gary Mavity, V**	**4.31**	**103**	P			03 16 23.4	
	baz=286,SNR=31							
WLAR	**White Oak Lake**	**4.34**	**125**			**Pn**	**03 16 23.5**	**0.0**
WLAR				IAmb_Lg			03 17 45.0	
	comp=Z,92nm,1.1s							
237A	**Washetta, Mont**	**4.45**	**163**	P			03 16 24.8	
	baz=344							
237A				S			03 17 16.9	
	baz=344							
237A	**Washetta, Mont**	**4.45**	**163**			**Pn**	**03 16 24.6**	**-0.3**
237A	**Washetta, Mont**	**4.45**	**163**	P		**Pn**	**03 16 24.8**	**-0.2**
	baz=344							
237A				S		**Sn**	**03 17 16.9**	**-0.1**
	baz=344							
N33A	**J Bar K, Exete**	**4.46**	**359**	IAmb_Lg			03 17 48.5	
	comp=Z,42nm,0.9s							
P38A	**Dawn**	**4.52**	**41**	Pn		**Pn**	**03 16 25.6**	**-0.3**
P38A				IAmb_Lg			03 17 45.9	
	comp=Z,74nm,0.7s							
R40A	**Maddies Statio**	**4.54**	**62**			**Pn**	**03 16 26.0**	**-0.2**
R40A				IAmb_Lg			03 17 39.0	
	comp=Z,73nm,1.0s							
R40A	**Maddies Statio**	**4.54**	**62**	P		**Pn**	**03 16 26.5**	**+0.3**
	baz=245,SNR=21							
R40A	**Maddies Statio**	**4.54**	**62**	P			03 16 26.5	
	baz=245,SNR=21							
N35A	**Tabor**	**4.78**	**16**			**Pn**	**03 16 29.2**	**-0.3**
N35A				IAmb_Lg			03 17 54.6	
	comp=Z,83nm,0.7s							
N35A	**Tabor**	**4.78**	**16**	P		**Pn**	**03 16 29.8**	**+0.4**
	baz=197							
N35A	**Tabor**	**4.78**	**16**	P			03 16 29.8	
	baz=197							
Z41A	**Richland Creek**	**4.81**	**127**	S		**Sn**	**03 17 24.3**	**-1.5**
	baz=310							
Z41A	**Richland Creek**	**4.81**	**127**	P			03 16 30.0	
	baz=310							
Z41A				S			03 17 24.5	
	baz=310							
Z41A	**Richland Creek**	**4.81**	**127**	S			03 17 24.3	
	baz=310							
Z41A				S			03 17 24.3	
	baz=310							
KSCO	**Kaye Shedlock'**	**4.99**	**305**			**Pn**	**03 16 32.1**	**-0.3**
KSCO				IAmb_Lg			03 18 05.5	
	comp=Z,67nm,0.9s							
KSCO	**Kaye Shedlock'**	**4.99**	**305**	P			03 16 32.6	
	baz=122							
MSTX	**Muleshoe**	**4.99**	**244**			**Pn**	**03 16 32.1**	**-0.3**
MSTX	**Muleshoe**	**4.99**	**244**	P			03 16 32.3	
	baz=61							
NATX	**Nacogdoches**	**5.03**	**153**	IAmb_Lg			03 18 03.4	
	comp=Z,50nm,0.8s							
LCAR	**Lake Charles**	**5.03**	**90**	IAmb_Lg			03 17 55.7	
	comp=Z,36nm,0.8s							
T42A	**Van Buren**	**5.11**	**80**	IAmb_Lg			03 18 08.7	
	comp=Z,75nm,0.7s							
CCAR	**Cane Creek**	**5.16**	**115**	IAmb_Lg			03 18 12.4	
	comp=Z,50nm,0.8s							
BGNE	**Belgrade**	**5.16**	**353**	Pn		**Pn**	**03 16 34.5**	**-0.3**
BGNE				IAmb_Lg			03 18 07.8	
	comp=Z,48nm,0.7s							
BGNE	**Belgrade**	**5.16**	**353**	P		**Pn**	**03 16 34.9**	**+0.1**
	baz=173							
BGNE	**Belgrade**	**5.16**	**353**	P			03 16 34.8	
	baz=173,SNR=16							
BGNE	**Belgrade**	**5.16**	**353**	P			03 16 34.9	
	baz=173							
CCM	**Cathedral Cave**	**5.21**	**68**	Pn		**Pn**	**03 16 35.2**	**-0.1**
CCM				IAmb_Lg			03 18 02.8	
	comp=Z,61nm,0.8s							
CCM	**Cathedral Cave**	**5.21**	**68**	P			03 16 35.3	
	baz=252							
P40A	**Paris**	**5.32**	**51**	IAmb_Lg			03 18 03.6	
	comp=Z,70nm,0.7s							
435B	**Jarrell**	**5.48**	**182**			**Pn**	**03 16 38.8**	**-0.3**
435B	**Jarrell**	**5.48**	**182**	P			03 16 38.9	
	baz=1.7							
N38A	**Joes South For**	**5.56**	**34**			**Pn**	**03 16 40.0**	**-0.1**
N38A				IAmb_Lg			03 18 20.7	
	comp=Z,81nm,0.7s							
PBMO	**Poplar Bluff**	**5.61**	**83**	IAmb_Lg			03 18 15.8	
	comp=Z,53nm,0.7s							
T25A	**Trinidad**	**5.72**	**281**			**Pn**	**03 16 42.1**	**-0.5**
T25A				IAmb_Lg			03 18 27.8	
	comp=Z,42nm,0.9s							
T25A	**Trinidad**	**5.72**	**281**	P			03 16 42.3	
	baz=97							
L34A	**Svendsen Farm,**	**5.74**	**7**	IAmb_Lg			03 18 23.9	
	comp=Z,54nm,0.8s							
OGNE	**Ogallala**	**5.92**	**323**	IAmb_Lg			03 18 37.4	
	comp=Z,61nm,0.7s							
OGNE	**Ogallala**	**5.92**	**323**	P			03 16 46.1	
	baz=141							
143A	**Socs Landing,**	**6.08**	**124**	IAmb_Lg			03 18 44.6	
	comp=Z,36nm,0.9s							
JCT	**Junction City**	**6.12**	**200**	IAmb_Lg			03 18 32.6	
	comp=Z,72nm,1.1s							
K31A	**O'Neill**	**6.43**	**351**	Pn		**Pn**	**03 16 52.2**	**0.0**
K31A				IAmb_Lg			03 18 48.8	
	comp=Z,63nm,0.7s							
SCIA	**State Center**	**6.49**	**29**			**Pn**	**03 16 52.7**	**-0.2**
SCIA				IAmb_Lg			03 19 01.0	
	comp=Z,63nm,0.8s							
SCIA	**State Center**	**6.49**	**29**	P			03 16 53.0	
	baz=211							
OXF	**Oxford**	**6.74**	**103**	IAmb_Lg			03 19 09.1	
	comp=Z,49nm,1.1s							
W45A	**Hickory Valley**	**6.75**	**97**	IAmb_Lg			03 18 54.9	
	comp=Z,52nm,0.9s							
Y45A	**Yeager Farm, C**	**6.85**	**108**	IAmb_Lg			03 19 08.4	
	comp=Z,32nm,1.0s							
ISCO	**Idaho Springs**	**7.39**	**301**	P			03 17 05.6	
	baz=116							
ECSD	**EROS Data Cent**	**7.47**	**4**			**Pn**	**03 17 06.2**	**-0.3**
ECSD	**EROS Data Cent**	**7.47**	**4**	P			03 17 05.7	
	baz=185							
ANMO	**Albuquerque**	**7.52**	**263**	Pn		**Pn**	**03 17 04.7**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=235,slow=1.6,SNR=1.7							
ANMO				Pg		**Pb**	**03 17 32.0**	**+4.1**
	comp=Z,0.6nm,0.3s,baz=84,slow=17,SNR=7.4							
ANMO				Lg		Lg	03 19 07.7	
	comp=Z,0.8nm,0.3s,baz=325,slow=21,SNR=5.9							
PLAL	**Pickwick Lake**	**7.68**	**97**	IAmb_Lg			03 19 24.6	
	comp=Z,24nm,0.9s							
146A	**Union**	**7.76**	**115**	IAmb_Lg			03 19 35.9	
	comp=Z,25nm,1.1s							
USIN	**University of**	**7.94**	**75**	IAmb_Lg			03 19 32.8	
	comp=Z,45nm,0.8s							
MNTX	**Cornudas Mount**	**8.06**	**238**	Pn		**Pn**	**03 17 14.3**	**-0.3**
MNTX	**Cornudas Mount**	**8.06**	**238**	P			03 17 14.9	
	baz=53							
PHWY	**Pilot Hill**	**8.06**	**311**	IAmb_Lg			03 19 50.2	
	comp=Z,23nm,0.7s							
SUSD	**Miller**	**8.25**	**352**	IAmb_Lg			03 19 48.1	
	comp=Z,20nm,0.8s							
I37A	**Lemond, Waseca**	**8.31**	**20**	IAmb_Lg			03 19 50.4	
	comp=Z,29nm,0.9s							
JFWS	**Jewell Farm**	**8.61**	**37**	IAmb_Lg			03 20 00.1	
	comp=Z,31nm,0.7s							
JFWS	**Jewell Farm**	**8.61**	**37**	P			03 17 21.6	
	baz=222							
TXAR	**Lajitas Array**	**8.71**	**219**	Pn		**Pn**	**03 17 22.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=40,slow=12,SNR=10							
TXAR				Pg		Pg	03 17 48.1	-16
	comp=Z,0.3nm,0.3s,baz=64,slow=17,SNR=5.2							
TXAR				Lg		Lg	03 19 45.6	
	comp=Z,1.0nm,0.3s,baz=42,slow=28,SNR=10.0							
WCI	**Wyandotte Cave**	**9.05**	**74**	IAmb_Lg			03 20 14.3	
	comp=Z,39nm,1.0s							
SFIN	**Lafayette**	**9.05**	**60**	IAmb_Lg			03 20 02.4	
	comp=Z,38nm,0.8s							
I40A	**Norwalk**	**9.20**	**32**	IAmb_Lg			03 20 14.1	
	comp=Z,23nm,0.7s							
SWET	**Sewanee**	**9.36**	**93**	IAmb_Lg			03 20 16.4	
	comp=Z,17nm,1.0s							
K22A	**Casper**	**9.52**	**315**	IAmb_Lg			03 20 32.4	
	comp=Z,37nm,1.1s							
W50A	**Signal Mountai**	**9.86**	**93**	IAmb_Lg			03 20 39.4	
	comp=Z,18nm,0.9s							
R49A	**Shelbyville**	**9.93**	**75**	IAmb_Lg			03 20 34.7	
	comp=Z,23nm,1.2s							
I42A	**Draeger Farm,**	**9.99**	**38**	IAmb_Lg			03 20 38.2	
	comp=Z,27nm,0.8s							
TKL	**Tuckaleeches C**	**11.04**	**89**	Lg		Lg	03 21 00.2	
	comp=Z,0.4nm,0.3s,baz=11,slow=19,SNR=2.6							
PDAR	**Pinedale Array**	**11.42**	**308**	Pn		**Pn**	**03 17 59.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=124,slow=14,SNR=3.2							
PDAR				Pg			03 18 42.7	
	comp=Z,0.1nm,0.3s,baz=118,slow=19,SNR=2.8							
PDAR				Lg		Lg	03 21 08.3	
	comp=Z,0.2nm,0.3s,baz=104,slow=11,SNR=3.8							
ULM	**Lac du Bonnet**	**14.01**	**4**	Pn		**Pn**	**03 18 31.4**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=188,slow=13,SNR=2.0							
ULM				Sn		Sn	03 20 57.5	-14
	comp=Z,0.2nm,0.3s,baz=254,slow=7.4,SNR=2.1							
ULM				Lg		Lg	03 22 29.0	
	comp=Z,0.0nm,0.3s,baz=277,slow=19,SNR=1.9							
SADO	**Sadowa**	**16.23**	**53**	Lg		Lg	03 23 40.9	
	comp=Z,0.3nm,0.3s,baz=291,slow=17,SNR=3.1							
ILAR	**Eielson Array**	**40.79**	**330**	P		**P**	**03 23 00.2**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=99,slow=6.6,SNR=6.5							

TRN 25 03:33:39.1, 16.46N × 61.95W, h156km, MD3.7, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLYT	**Lee's Yard**	**0.35**	**319**	*e*P	Pn	03 34 00.7	+0.1
ABD	**La Joyeuse, An**	**0.45**	**88**	*e*P	Pn	03 34 02.3	+1.4
ABD				*e*S	Sn	03 34 18.7	+1.2
CBE	**Ff, Capester**	**0.51**	**139**	*e*S	Sn	03 34 20.2	+2.0
BPA	**Boggy Peak**	**0.59**	**9**	*e*P	Pn	03 34 03.0	+1.3
BPA				*e*S	Sn	03 34 19.0	-0.1
ANBD	**Bethesda, Anti**	**0.61**	**17**	*e*P	Pn	03 34 03.1	+1.3
ANBD				*e*S	Sn	03 34 19.4	+0.3
TBG	**Guadaloupe-3**	**0.67**	**154**	*e*P	Pn	03 34 03.5	+1.3
TDBA	**Terre de Bas,**	**0.68**	**153**	*e*P	Pn	03 34 03.3	+1.1
MAGL	**Barre de l'ile**	**0.82**	**128**	*e*P	Pn	03 34 04.2	+1.2
MAGL				*e*S	Sn	03 34 22.5	+1.0
DSLB	**Salisbury**	**1.14**	**153**	*e*P	Pn	03 34 06.4	+0.7
ANWB	**Willy Bob**	**1.22**	**8**	*e*P	Pn	03 34 08.3	+2.0
ANWB				*e*S	Sn	03 34 28.2	+0.9
BIM	**Bigot**	**2.11**	**156**	*e*P	Pn	03 34 16.6	+0.7
MPOM	**Morne Pois Mar**	**2.26**	**152**	*e*P	Pn	03 34 18.1	+0.5
MPOM				*e*S	Sn	03 34 48.4	+0.9
SLBI	**Saint Lucia, B**	**2.60**	**159**	*e*P	Pn	03 34 21.9	+0.1

IDC 25 04:12:55.3±11.0, 5.40N × 91.88E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.4/58, mbtmp3.8/4, ML4.2/2, Error ellipse: s-maj=204.5km s-min=38.4km az=162.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.27**	**280**	P	Pn	04 15 38.4	+0.7
	0.5nm,0.3s,baz=195,slow=21,SNR=1.9						
PALK				Sn	Sn	04 17 43.3	-1.2
	2.5nm,0.3s,baz=292,slow=14,SNR=6.6						
CMAR	**Chiang Mai Arr**	**14.70**	**27**	Pn	Pn	04 16 24.2	-0.5
	0.7nm,0.3s,baz=215,slow=14,SNR=1.6						
H08S3	**Diego Garcia H**	**23.28**	**236**	T	T	04 43 01.8	
	baz=61,slow=76,SNR=29						
H08S2	**Diego Garcia H**	**23.28**	**236**	T	T	04 43 06.8	
	baz=61,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**23.30**	**236**	T	T	04 43 07.7	
	baz=61,slow=76,SNR=5.8						
MKAR	**Makanchi Array**	**42.06**	**350**	P	P	04 20 47.3	-1.5
	0.4nm,0.6s,baz=170,slow=9.1,SNR=6.2						
ZALV	**Zalesovo Beam**	**48.74**	**354**	P	P	04 21 43.4	+1.8
	0.8nm,0.4s,baz=156,slow=7.6,SNR=2.1						

IDC ***25*** *04:18:40.9±1.5, 8.51S × 110.79E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/37, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=67.0km s-min=21.4km az=38.0*
DJA ***25*** *04:18:44.2±0.6, 9.52S × 111.02E±, h10km, M3.9/6, mb3.8/1, MLv3.9/6*
ISC 25 04:18:42.1±1.2, 9.23S±0.08 × 110.29E±0.06, h10km, n9, σ1°83/14, mb3.4/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.32**	**10**	P	**Pg**	**04 19 07.3**	**-0.2**
UGM				S	**Sn**	**04 19 23.9**	**-0.5**
SMRI	**Semarang**	**2.17**	**4**	P	**Pb**	**04 19 21.4**	**0.0**
SMRI				S	**Sb**	**04 19 49.1**	**+0.7**
CISI	**Cisompet, Garu**	**2.96**	**304**	P	**Pn**	**04 19 30.1**	**+0.9**
CISI				S	**Sn**	**04 20 03.0**	**-1.8**
LEM	**Lembang**	**3.56**	**312**	Pn	**Pn**	**04 19 39.3**	**+1.7**
	6.7nm,0.3s,baz=121,slow=22,SNR=1.9						
LEM				Sn	**Sn**	**04 20 21.3**	**+1.4**
	10nm,0.3s,baz=123,slow=23,SNR=2.5						
JAGI	**Jajag, Banyuwa**	**3.89**	**79**	P	**Pn**	**04 19 44.1**	**+2.1**
JAGI				S	**Sn**	**04 20 26.0**	**-1.8**
TWSI	**Taliwang, Sumb**	**6.53**	**86**	P	**Pn**	**04 20 20.5**	**+2.2**
WRA	**Warramunga Arr**	**25.56**	**117**	P	**P**	**04 24 10.3**	**-1.2**
	1.0nm,1.1s,baz=290,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**26.75**	**125**	P	**P**	**04 24 23.7**	**+1.4**
	0.2nm,0.5s,baz=307,slow=9.2,SNR=1.5						
MKAR	**Makanchi Array**	**61.11**	**338**	P	**P**	**04 28 53.1**	**-3.3**
	0.8nm,0.3s,baz=152,slow=7.3,SNR=18						

NAO ***25*** *04:33:01.6±0.7, 64.63N × 21.44E, ML2.5*
IDC ***25*** *04:33:02.7±0.9, 64.60N × 21.75E, h0km, mb1 2.7/4, mb1mx2.7/43, mbtmp2.7/4, ML1.5/4, Error ellipse: s-maj=11.0km s-min=8.3km az=100.0*
UPP ***25*** *04:33:03.7±0.1, 64.63N × 21.32E, h13km±1km, ML3.0, Confirmed Earthquake*
HEL ***25*** *04:33:04.2±0.1, 64.62N × 21.31E, h10km, ML2.1, ML3.0(UPP), Confirmed Earthquake*
BER ***25*** *04:33:06.4±4.5, 64.63N × 21.39E, h15km±7km, ML2.1, ML3.0(UPP), Confirmed Earthquake*
ISC 25 04:33:03.6±0.7, 64.63N±0.02 × 21.39E±0.02, h16km±4km, n65, σ1°86/139, 8C-8D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BURU	**Burvik**	**0.04**	**184**	↑↑P	**Pg**	**04 33 06.0**	**-0.5**
BURU				S	**Sg**	**04 33 07.6**	**-0.8**
BURU	**Burvik**	**0.04**	**184**	↑↑P	**Pg**	**04 33 06.0**	**-0.5**
BURU				S	**Sg**	**04 33 07.6**	**-0.8**
BURU	**Burvik**	**0.04**	**184**	*e*P	**Pg**	**04 33 06.0**	**-0.5**
BURU				*e*S	**Sg**	**04 33 07.7**	**-0.8**
ODEU	**Stanfors**	**0.36**	**233**	↓↓P	**Pg**	**04 33 10.1**	**-0.9**
ODEU				S	**Sg**	**04 33 14.8**	**-1.4**
ODEU	**Stanfors**	**0.36**	**233**	↓↓P	**Pg**	**04 33 10.1**	**-0.9**
ODEU				S	**Sg**	**

HARU	**Harads**	**1.55**	**354**	⇑	*eP*		**Pn**	**04 33 31.2**	**+0.7**
HARU					*eS*		**Sg**	**04 33 52.2**	**-1.4**
HUSU	**Husum**	**1.61**	**217**		P		**Pn**	**04 33 31.8**	**+0.5**
HUSU					S		**Sn**	**04 33 51.8**	**+0.2**
HUSU	**Husum**	**1.61**	**217**		P		**Pn**	**04 33 31.8**	**+0.5**
HUSU					S		**Sn**	**04 33 51.8**	**+0.2**
HUSU	**Husum**	**1.61**	**217**		*eP*		**Pn**	**04 33 31.8**	**+0.5**
HUSU					*eS*		**Sn**	**04 33 51.8**	**+0.2**
OBF4	**Vikkela, Lumij**	**1.61**	**82**		*eP*		**Pb**	**04 33 32.2**	**-0.6**
OBF4					*eS*		**Sg**	**04 33 53.5**	**-1.8**
OBF4					MSG			04 33 55.5	
	comp=Z,13nm,0.1s								
OBF4	**Vikkela, Lumij**	**1.61**	**82**		*eP*		**Pb**	**04 33 32.2**	**-0.6**
OBF4					*eS*		**Sg**	**04 33 53.5**	**-1.8**
OBF4					MSG			04 33 55.5	
	comp=Z,13nm,0.1s								
VAF	**Ylistaro**	**1.69**	**160**		*eP*		**Pb**	**04 33 33.6**	**-0.6**
VAF					*eS*		**Sn**	**04 33 55.2**	**+1.5**
VAF	**Ylistaro**	**1.69**	**160**		*eP*		**Pb**	**04 33 33.6**	**-0.6**
VAF					*eS*		**Sn**	**04 33 55.2**	**+1.5**
TOF	**Tornio**	**1.91**	**39**		*eP*		**Pb**	**04 33 37.6**	**-0.4**
TOF					*eSG*		**Sg**	**04 34 03.0**	**-1.9**
TOF					MSG			04 34 03.9	
	comp=Z,17nm,0.1s								
TOF	**Tornio**	**1.91**	**39**		*eP*		**Pb**	**04 33 37.6**	**-0.4**
TOF					*eSG*		**Sg**	**04 34 03.0**	**-1.9**
TOF					MSG			04 34 03.9	
	comp=Z,17nm,0.1s								
OUL	**Oulu**	**1.98**	**75**		Pn		**Pn**	**04 33 37.3**	**+0.9**
OUL					Pg		**Pb**	**04 33 38.6**	**-0.6**
OUL					Sn		**Sn**	**04 34 00.8**	**0.0**
OUL					Lg		Lg	04 34 04.5	
OUL	**Oulu**	**1.98**	**75**		Pn		**Pn**	**04 33 37.3**	**+0.9**
OUL					MSG			04 34 07.1	
	comp=Z,16nm,0.1s								
OUL	**Oulu**	**1.98**	**75**		*eP*		**Pn**	**04 33 37.4**	**+1.0**
OUL					*ePB*		**Pb**	**04 33 39.0**	**-0.2**
OUL					*eSB*		**Sg**	**04 34 04.9**	**-2.3**
OUL					MSG			04 34 07.1	
	comp=Z,16nm,0.1s								
RNF	**Rovaniemi**	**2.77**	**42**		*eP*		**Pn**	**04 33 48.0**	**+0.8**
RNF					*eS*		**Sn**	**04 34 21.3**	**+1.1**
RNF					*eSB*		**Sb**	**04 34 27.3**	**+1.1**
RNF					MSG			04 34 30.1	
	comp=Z,11nm,0.1s								
RNF	**Rovaniemi**	**2.77**	**42**		*eP*		**Pn**	**04 33 48.0**	**+0.8**
RNF					*eS*		**Sn**	**04 34 21.3**	**+1.1**
RNF					*eSB*		**Sb**	**04 34 27.3**	**+1.1**
RNF					MSG			04 34 30.1	
	comp=Z,11nm,0.1s								
FAUS	**Fauske**	**3.72**	**321**		*eP*		**Pn**	**04 34 02.2**	**+1.9**
FAUS					*eS*		**Sn**	**04 34 44.3**	**+0.7**
FAUS					IAML			04 35 04.8	
	comp=Z,20nm,0.6s								
FIA0	**FINESS Array S**	**3.84**	**144**		Pn		**Pn**	**04 34 03.1**	**+1.1**
	baz=334,slow=12								
FIA0					Sn		**Sn**	**04 34 46.6**	**-0.1**
	baz=334,slow=22								
FIA0					Lg		Lg	04 35 00.7	
	baz=331,slow=37								
FIA0	**FINESS Array S**	**3.84**	**144**		Pn		**Pn**	**04 34 03.1**	**+1.1**
	baz=334,slow=12								
FIA0					Sn		**Sn**	**04 34 46.6**	**-0.1**
	baz=334,slow=22								
FIA0					Sg		**Sb**	**04 35 00.7**	**+3.6**
	baz=331,slow=37								
FINES	**FINESS Array B**	**3.84**	**144**		Pn		**Pn**	**04 34 03.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=334,slow=12,SNR=0.9								
FINES					Sn		**Sn**	**04 34 46.0**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=334,slow=19,SNR=5.7								
FINES					Lg		Lg	04 34 58.9	
	comp=Z,0.7nm,0.3s,baz=328,slow=27,SNR=4.2								
HEF	**Hetta**	**3.91**	**12**		*eP*		**Pn**	**04 34 03.4**	**+0.6**
HEF					*eS*		**Sn**	**04 34 47.3**	**-0.9**
NSS	**Namsos**	**4.06**	**273**		*eP*		**Pn**	**04 34 06.4**	**+1.4**
NSS					*eS*		**Sn**	**04 34 50.6**	**-1.4**
NSS					*eSg*		**Sb**	**04 35 08.2**	**+4.7**
NSS					IAML			04 35 09.8	
	comp=Z,13nm,0.4s								
NSS	**Namsos**	**4.06**	**273**		*eP*		**Pn**	**04 34 06.8**	**+1.8**
NSS					*eS*		**Sn**	**04 34 52.0**	**-0.1**
STEI	**Steigen**	**4.14**	**326**		*eP*		**Pn**	**04 34 07.2**	**+1.1**
STEI					*eS*		**Sn**	**04 34 53.4**	**-0.6**
KIF	**Kilpisjarvi**	**4.40**	**357**		Pn		**Pn**	**04 34 11.3**	**+1.7**
KIF					Pg		**Pb**	**04 34 21.9**	**+1.5**
KIF					Sn		**Sn**	**04 35 02.1**	**+1.6**
KIF					Lg		Lg	04 35 20.2	
KIF	**Kilpisjarvi**	**4.40**	**357**		*eP*		**Pn**	**04 34 11.3**	**+1.7**
KIF					*eS*		**Sn**	**04 35 00.5**	**0.0**
KTK1	**Kautokeino**	**4.46**	**9**		*eP*		**Pn**	**04 34 11.2**	**+0.7**
KTK1					*eSg*		**Sb**	**04 35 19.6**	**+4.6**
KTK1					IAML			04 35 28.8	
	comp=Z,5.6nm,0.6s								
JETT	**Jettan, Norway**	**4.97**	**356**		*eP*		**Pn**	**04 34 18.2**	**+0.8**
JETT					*eS*		**Sn**	**04 35 13.5**	**-0.9**
ARA0	**ARCESS Array S**	**5.18**	**16**		Pn		**Pn**	**04 34 20.1**	**-0.3**
	baz=196,slow=14								
ARA0					Sn		**Sn**	**04 35 15.9**	**-3.9**
	baz=201,slow=22								
ARA0					Lg		Lg	04 35 40.8	
	baz=192,slow=28								
ARA0	**ARCESS Array S**	**5.18**	**16**		Pn		**Pn**	**04 34 20.1**	**-0.3**
	baz=196,slow=14								
ARA0					Sn		**Sn**	**04 35 15.9**	**-3.9**
	baz=201,slow=22								
ARA0					Sg		**Sb**	**04 35 40.8**	**+5.1**
	baz=192,slow=28								
ARA0					IAML			04 35 46.6	
	comp=Z,4.3nm,0.8s								
ARCES	**ARCESS Array B**	**5.18**	**16**		Pn		**Pn**	**04 34 20.1**	**-0.2**
	baz=194,slow=14,SNR=19								
ARCES					Sn		**Sn**	**04 35 16.8**	**-3.0**
	baz=191,slow=23,SNR=5.2								
ARCES					Lg		Lg	04 35 40.1	
	baz=194,slow=29,SNR=3.6								
APA0	**Apatity Array**	**5.58**	**52**		Pn		**Pn**	**04 34 25.6**	**-0.2**
APA0					Sn		**Sn**	**04 35 25.9**	**-3.5**
	baz=240,slow=22								
APA0					Lg		Lg	04 35 51.2	
	baz=236,slow=28								
APA0	**Apatity Array**	**5.58**	**52**		Pn		**Pn**	**04 34 25.6**	**-0.2**
APA0					Sn		**Sn**	**04 35 25.9**	**-3.5**
	baz=240,slow=22								
APA0					Sg		**Sb**	**04 35 51.2**	**+4.2**
	baz=236,slow=28								
KEV	**Kevo**	**5.59**	**20**		*eP*		**Pn**	**04 34 26.3**	**+0.4**
KEV					*eS*		**Sn**	**04 35 27.6**	**-2.2**
HFS	**Hagfors**	**5.75**	**222**		Pn		**Pn**	**04 34 28.9**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=40,slow=12,SNR=1.4								
HFS					Sn		**Sn**	**04 35 31.5**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=45,slow=23,SNR=6.8								
HFS	**Hagfors**	**5.75**	**222**		Pn		**Pn**	**04 34 28.2**	**0.0**
	baz=37,slow=12								
HFS					Sn		**Sn**	**04 35 31.8**	**-2.0**
	baz=29,slow=28								
HFS					Lg		Lg	04 35 58.8	
	baz=48,slow=37								
HFS	**Hagfors**	**5.75**	**222**		Pn		**Pn**	**04 34 28.2**	**0.0**
	baz=37,slow=12								
HFS					Sn		**Sn**	**04 35 31.8**	**-2.0**
	baz=29,slow=28								
HFS					Sg		**Sb**	**04 35 58.8**	**+6.8**
	baz=48,slow=37								
NB2	**NORSAR Subarra**	**5.88**	**237**		Pn		**Pn**	**04 34 29.8**	**-0.3**
	baz=48,slow=14								
NB2					Lg		Lg	04 36 06.0	
	baz=54,slow=37								
NB2	**NORSAR Subarra**	**5.88**	**237**		Pn		**Pn**	**04 34 29.8**	**-0.3**
	baz=48,slow=14								
NB2					Sg		**Sg**	**04 36 06.0**	**-6.2**
	baz=54,slow=37								
NOA	**NORSAR Array B**	**5.88**	**237**		Pn		**Pn**	**04 34 30.5**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=37,slow=17,SNR=3.3								
NOA					Sn		**Sn**	**04 35 38.6**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=41,slow=19,SNR=2.3								
NOA					Lg		Lg	04 36 01.8	
	comp=Z,0.1nm,0.3s,baz=59,slow=19,SNR=8.7								
NRA0	**NORESS Array S**	**5.98**	**234**		Pn		**Pn**	**04 34 31.1**	**-0.2**
NRA0					Sn		**Sn**	**04 35 36.3**	**-3.0**
	baz=53,slow=22								
NRA0					Lg		Lg	04 36 06.5	
	baz=53,slow=37								
NRA0	**NORESS Array S**	**5.98**	**234**		Pn		**Pn**	**04 34 31.1**	**-0.2**
NRA0					Sn		**Sn**	**04 35 36.3**	**-3.0**
	baz=53,slow=22								
NRA0					Sg		**Sb**	**04 36 06.5**	**+8.0**
	baz=53,slow=37								

DDA ***25*** *04:38:00.7,35°.55N×27°.20E,h7km±3km, ML2.2*
ISK ***25*** *04:38:02.3,35°.40N×27°.51E,h31km, ML2.3/10*
ATH ***25*** *04:38:04.6,35°.78N×27°.27E,h33km±6km, ML2.6/2, Error ellipse: s-maj=9.0km s-min=1.3km az=150.0*
THE ***25*** *04:38:05.2,35°.56N×27°.45E,h29km±2km, ML2.4/4, Error ellipse: s-maj=2.7km s-min=0.9km az=314.0*

ISC 25 04:38:03.8±1.2,35.52N±0.05×27.51E±0.04,h33km±8km, n33,σ0°84/51,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.28**	**276**			P	**Pb**	**04 38 11.2**	**-0.2**
KARP						S	**Sn**	**04 38 16.7**	**-0.1**
KARP						AML	AML	04 38 16.7	
	comp=N,2254µm,0.3s								
KARP						AML	AML	04 38 18.6	
	comp=E,2228µm,0.1s								
KARP	**Karpathos**	**0.28**	**276**			P	**Pb**	**04 38 11.2**	**-0.2**
KARP						S	**Sn**	**04 38 16.7**	**-0.1**
	comp=E,1µm,0.2s								
KARP	**Karpathos**	**0.28**	**276**			PG	**Pb**	**04 38 10.8**	**-0.6**
KARP						SG	**Sn**	**04 38 16.7**	**-0.1**
ARG	**Arkhangelos**	**0.86**	**36**			P	**Pn**	**04 38 20.4**	**+0.8**
ARG						S	**Sn**	**04 38 31.2**	**+0.1**
ARG						AML	AML	04 38 34.0	
	comp=N,1513µm,0.5s								
ARG						AML	AML	04 38 35.1	
	comp=E,694µm,0.5s								
ARG	**Arkhangelos**	**0.86**	**36**			P	**Pn**	**04 38 20.4**	**+0.8**
ARG						S	**Sn**	**04 38 31.2**	**+0.1**
	comp=E,295nm,0.3s								
ARG	**Arkhangelos**	**0.86**	**36**			PG	**Pn**	**04 38 20.2**	**+0.6**
ARG						SG	**Sb**	**04 38 32.6**	**+1.1**
NIS1	**Nisyros Isl.**	**1.11**	**346**			P	**Pn**	**04 38 22.9**	**-0.3**
NIS1						S	**Sn**	**04 38 37.2**	**-0.2**
	comp=E,215nm,0.4s								
NIS1	**Nisyros Isl.**	**1.11**	**346**			PN	**Pn**	**04 38 23.9**	**+0.7**
NIS1						SN	**Sb**	**04 38 39.6**	**+0.8**
ZKR	**Zakros**	**1.13**	**250**			P	**Pn**	**04 38 24.3**	**+1.0**
ZKR	**Zakros**	**1.13**	**250**			P	**Pn**	**04 38 24.4**	**+1.0**
ZKR						S	**Sn**	**04 38 37.7**	**0.0**
	comp=E,80nm,0.5s								
STIA	**Sitia Lasithi**	**1.20**	**255**			P	**Pn**	**04 38 24.5**	**+0.2**
STIA						S	**Sn**	**04 38 39.0**	**-0.5**
DATC	**Datca-Mugla**	**1.25**	**6**			PN	**Pn**	**04 38 25.8**	**+0.9**
KOSK	**Kos Island**	**1.30**	**341**			PN	**Pn**	**04 38 26.6**	**+0.9**
KOSK						SN	**Sb**	**04 38 44.3**	**+0.2**
TURN	**Turunc**	**1.39**	**25**			PN	**Pn**	**04 38 27.7**	**+0.8**
BDRM	**Kayabasi**	**1.55**	**358**		*i*	P	**Pn**	**04 38 28.0**	**-0.3**
BDRM					*i*	S	**Sn**	**04 38 47.0**	**-1.1**
DALY	**Dalyan (Mula)**	**1.59**	**35**			PN	**Pn**	**04 38 30.4**	**+0.7**
DALY	**Dalyan (Mula)**	**1.59**	**35**		*i*	P	**Pn**	**04 38 30.7**	**+1.0**
DALY					*i*	S	**Sb**	**04 38 53.4**	**+1.0**
DALY						IAML		04 39 01.0	
	comp=N,26nm,0.6s								
FETY	**Fethiye**	**1.69**	**48**			PN	**Pn**	**04 38 31.7**	**+0.6**
YER	**Yerkesik**	**1.73**	**21**			PN	**Pn**	**04 38 32.5**	**+0.8**
AKAS	**Kas**	**1.85**	**67**			PN	**Pn**	**04 38 33.3**	**0.0**
AKAS	**Kas**	**1.85**	**67**		*i*	P	**Pn**	**04 38 32.2**	**-1.2**
MULA	**Mugla, Merkez-**	**1.85**	**20**		*i*	P	**Pn**	**04 38 34.5**	**+1.1**
MULA					*i*	S	**Sn**	**04 38 57.7**	**+1.9**
MULA						IAML		04 39 09.0	
	comp=E,21nm,0.5s								
AYDN	**Tasoluk**	**2.16**	**8**		*i*	P	**Pn**	**04 38 38.4**	**+0.8**
AYDN					*i*	S	**Sn**	**04 39 02.5**	**-0.8**
CAEL	**Denizli, Camel**	**2.17**	**42**		*i*	P	**Pn**	**04 38 38.6**	**+0.8**
CAEL					*i*	S	**Sb**	**04 39 09.0**	**-0.1**
CAEL						IAML		04 39 18.0	
	comp=E,35nm,0.5s								
GCAM	**G?zelcaml?**	**2.19**	**354**		*i*	P	**Pn**	**04 38 37.1**	**-0.8**
APE	**Apeiranthos**	**2.23**	**315**			P	**Pn**	**04 38 38.3**	**-0.2**
APE	**Apeiranthos**	**2.23**	**315**			P	**Pn**	**04 38 38.3**	**-0.2**
APE	**Apeiranthos**	**2.23**	**315**			PN	**Pn**	**04 38 39.0**	**+0.5**
TAVA	**DENIZLI_Tavas**	**2.25**	**30**		*i*	P	**Pn**	**04 38 39.0**	**+0.1**
TAVA					*i*	S	**Sb**	**04 39 11.6**	**+0.3**
TAVA						IAML		04 39 17.0	
	comp=N,12nm,0.4s								
GOLH	**Golhisar**	**2.38**	**43**		*i*	P	**Pn**	**04 38 41.5**	**+0.8**
GOLH					*i*	S	**Sb**	**04 39 13.6**	**-1.6**
GOLH						IAML		04 39 30.0	
	comp=N,13nm,0.8s								
AYDB	**Zeytinkoy-Aydi**	**2.44**	**7**			PN	**Pn**	**04 38 42.3**	**+0.8**
KHAL	**Karahalli**	**3.26**	**29**		*i*	P	**Pn**	**04 38 51.1**	**-1.7**
USAK	**Uak-Merkez**	**3.41**	**20**		*i*	P	**Pn**	**04 38 52.8**	**-2.0**

IDC ***25*** *04:43:35.1±1.2,28°.44N×105°.11E,h0km,mb3.5/4, mb1 3.6/6,mb1mx3.3/63,mbtmp3.4/6,ML3.7/2,MS3.5/2, Ms1 3.6/2,ms1mx2.6/47, Error ellipse: s-maj=36.4km s-min=23.0km az=74.0*

ISC 25 04:43:38.0±1.1,28.5N±0.1×105.1E±0.2,h19km,n7, σ0°57/6,mb3.5/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.49**	**211**			Pn	**Pn**	**04 46 21.5**	**+0.4**
	0.3nm,0.3s,baz=19,slow=11,SNR=4.2								
CMAR						LR	LR	04 51 05.8	
	comp=Z,65nm,19.6s,baz=156,slow=39								
SONM	**Songino Array**	**19.34**	**3**			P	**Pn**	**04 48 03.4**	**0.0**
	0.1nm,0.3s,baz=209,slow=8.3,SNR=1.5								
KSRS	**Korea Array**	**21.06**	**59**			P	**P**	**04 48 21.6**	**+0.6**
	1.1nm,0.6s,baz=242,slow=11,SNR=2.2								
MKAR	**Makanchi Array**	**25.56**	**322**			P	**P**	**04 49 05.4**	**-0.3**
	0.4nm,0.6s,baz=129,slow=11,SNR=6.1								
WRA	**Warramunga Arr**	**55.81**	**146**			P	**P**	**04 53 13.6**	**-0.6**
	0.4nm,0.5s,baz=335,slow=8.5,SNR=8.7								
ASAR	**Alice Springs**	**58.80**	**149**			P	**P**	**04 53 35.0**	**-0.2**
	0.3nm,0.5s,baz=332,slow=6.9,SNR=4.8								
HFS	**Hagfors**	**66.44**	**327**			LR	LR	05 24 16.2	
	comp=Z,123nm,19.2s,baz=318,slow=37								

NEIC ***25*** *04:51:50.2±1.6,20°.68S±0°.01×70°.89W±0°.07,h18km±5km, Error ellipse: s-maj=9.7km s-min=1.5km az=92.0*
GUC ***25*** *04:51:53.5±0.8,20°.68S×70°.77W,h26km±4km, ML4.0*
IDC ***25*** *04:51:58.4±3.5,20°.62S×70°.59W,h60km±28km,mb3.7/4, mb1 3.9/8,mb1mx3.5/42,mbtmp3.9/8,ML3.7/4,MS3.0/3, Ms1 3.0/3,ms1mx2.9/20, Error ellipse: s-maj=41.6km s-min=15.3km az=84.0*

ISC 25 04:51:51.2±1.1,20.69S±0°.03×70.78W±0°.06,h22km±8km, n53,σ1°02/58,mb4.0/4,8C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.57**	**78**	⇓	*eP*		**Pn**	**04 52 03.2**	**-0.8**
TA01					*i*	S	**Sb**	**04 52 10.8**	**+0.5**
TA01	**Diego Aracena**	**0.57**	**78**				**Pn**	**04 52 03.2**	**-0.8**
TA01							**Sn**	**04 52 12.7**	**-0.1**
PSGC	**Pisagua**	**1.25**	**30**	⇑	*eP*		**Pb**	**04 52 14.1**	**0.0**
PSGC					*i*	S	**Sb**	**04 52 29.7**	**0.0**
PSGC						IAML		04 52 32.2	
	comp=E,4µm,0.5s								
PSGCX	**Pisagua**	**1.25**	**30**			Pn	**Pb**	**04 52 14.0**	**-0.1**
PSGCX						Sn	**Sb**	**04 52 29.5**	**-0.2**
PB01	**IPOC Station P**	**1.26**	**107**	⇓	*eP*		**Pb**	**04 52 14.8**	**+0.5**
PB01					*i*	S	**Sb**	**04 52 30.8**	**+0.7**
PB01						IAML		04 52 33.4	
	comp=N,9µm,0.3s								
PB01	**IPOC Station P**	**1.26**	**107**				**Pb**	**04 52 14.2**	**-0.1**
PB01						Sn	**Sb**	**04 52 30.9**	**+0.8**
PB07	**IPOC Station P**	**1.33**	**141**	⇑	*eP*		**Pb**	**04 52 16.0**	**+0.5**
PB07					*i*	S	**Sb**	**04 52 33.1**	**+0.9**
PB07	**IPOC Station P**	**1.33**	**141**				**Pb**	**04 52 15.8**	**+0.3**
PB07						Sn	**Sn**	**04 52 32.0**	**+0.3**
PB08	**IPOC Station P**	**1.62**	**71**	⇓	*eP*		**Pb**	**04 52 20.4**	**-0.1**
PB08					*i*	S	**Sb**	**04 52 41.7**	**+1.0**
PB08	**IPOC Station P**	**1.62**	**71**				**Pn**	**04 52 19.1**	**+0.3**
PB08						Sn	**Sb**	**04 52 41.4**	**+0.7**
PB03	**IPOC Station P**	**1.66**	**145**	⇑	*iP*		**Pb**	**04 52 20.8**	**-0.4**
PB03					*i*	S	**Sb**	**04 52 42.0**	**+0.3**
PB03						IAML		04 52 53.8	
	comp=E,1µm,0.5s								
PB04	**IPOC Station P**	**1.74**	**160**	⇑	*eP*		**Pn**	**04 52 21.7**	**+1.4**
PB04					*i*	S	**Sn**	**04 52 42.5**	**+0.6**
PB04						IAML		04 52 56.0	
	comp=E,3µm,0.4s								
PB04	**IPOC Station P**	**1.74**	**160**				**Pn**	**04 52 21.3**	**+1.1**
PB04						Sn	**Sn**	**04 52 42.1**	**+0.3**
PB09	**IPOC Station P**	**1.81**	**128**	⇑	*eP*		**Pb**	**04 52 23.7**	**0.0**
PB09					*i*	S	**Sb**	**04 52 47.3**	**+1.3**
PB09						IAML		04 52 58.9	
	comp=E,2µm,0.4s								
PB09	**IPOC Station P**	**1.81**	**128**				**Pb**	**04 52 23.8**	**+0.1**
PB09						Sn	**Sb**	**04 52 45.0**	**-1.0**
MNMC	**Minye Minye**	**1.91**	**36**	⇑	*eP*		**Pb**	**04 52 24.4**	**-1.1**
MNMC					*i*	S	**Sb**	**04 52 49.1**	**+0.1**
MNMC						IAML		04 52 56.4	
	comp=N,4µm,0.4s								
MNMC	**Minye Minye**	**1.91**	**36**				**Pn**	**04 52 23.1**	**+0.5**
PB05	**IPOC Station P**	**2.22**	**166**	⇑	*eP*		**Pn**	**04 52 27.9**	**+1.1**
PB05					*i*	S	**Sn**	**04 52 53.2**	**-0.5**
PB05						IAML		04 53 14.6	
	comp=E,811nm,0.4s								
PB06	**IPOC Station P**	**2.30**	**151**				**Pn**	**04 52 28.3**	**+0.4**
AP01	**Chacalluta**	**2.34**	**10**			IAML		04 53 11.4	
	comp=E,3µm,0.4s								
AP01	**Chacalluta**	**2.34**	**10**				**Pn**	**04 52 27.9**	**-0.4**
LVC	**Limon Verde**	**2.58**	**138**			P	**Pb**	**04 52 35.5**	**-1.6**
	comp=E,29nm,0.3s,baz=325,slow=9.7,SNR=158								
LVC						S	**Sb**	**04 53 08.1**	**-0.5**
	comp=E,67nm,0.3s,baz=37,slow=20,SNR=13								
LVC						LR	LR	04 53 49.0	
	comp=E,378nm,21.0s,baz=320,slow=44								
LVC	**Limon Verde**	**2.58**	**138**				**Pn**	**04 52 31.4**	**-0.7**
PB15	**IPOC Station P**	**2.79**	**154**				**Pn**	**04 52 34.6**	**-0.1**
PB10	**IPOC Station P**	**2.82**	**176**				**Pn**	**04 52 35.0**	**+0.1**
PB14	**IPOC Station P**	**3.94**	**175**			Pn	**Pn**	**04 52 50.3**	**-0.3**
GO02	**Mina Guanaco**	**4.59**	**166**	⇑	*eP*		**Pn**	**04 52 57.1**	**-2.5**
GO02					*i*	S	Sn	04 53 28.9	-23
GO02	**Mina Guanaco**	**4.59**	**166**			Pn	**Pn**	**04 52 57.3**	**-2.2**
LPAZ	**La Paz**	**5.04**	**30**			P	**Pn**	04 53 11.9	+5.8
	comp=E,1.0nm,0.3s,baz=317,slow=4.1,SNR=21								
LPAZ						LR	LR	04 55 28.1	
	comp=E,246nm,18.6s,baz=248,slow=43								
LPAZ	**La Paz**	**5.04**	**30**			Pn	**Pn**	**04 53 06.2**	**+0.1**
LPAZ							Pb	04 53 14.2	-5.0
AC01	**Pan de Azucar**	**5.44**	**178**			Pn	**Pn**	**04 53 10.7**	**-0.2**
SIV	**San Ignacio**	**10.33**	**65**			P	**Pn**	**04 54 19.9**	**+1.8**
	comp=E,1.3nm,0.3s,baz=274,slow=9.7,SNR=31								
NNA	**Nana**	**10.42**	**325**			LR	LR	04 57 57.4	
	comp=E,36nm,20.3s,baz=178,slow=34								
CPUP	**Villa Florida**	**13.55**	**117**			P	**P**	**04 55 07.8**	**-3.2**
	comp=E,0.1nm,0.3s,baz=330,slow=9.9,SNR=2.9								
H03N1	**Juan Fernandez**	**14.62**	**208**			T	T	05 10 25.6	
	baz=33,slow=72,SNR=133								
H03N2	**Juan Fernandez**	**14.62**	**208**			T	T	05 10 25.9	
	baz=33,slow=72,SNR=115								
H03N3	**Juan Fernandez**	**14.63**	**208**			T	T	05 10 25.9	
	baz=33,slow=72,SNR=405								
PLCA	**Paso Flores**	**19.98**	**179**			P	Pn	04 56 26.4	+2.5
	comp=E,2.1nm,0.8s,baz=5.6,slow=16,SNR=5.0								
PLCA	**Paso Flores**	**19.98**	**179**			P	**P**	**04 56 21.2**	**-1.0**
PTGA	**Pitinga**	**22.47**	**29**			P	**P**	**04 56 50.8**	**+1.7**
	comp=E,3.5nm,0.5s,baz=197,slow=12,SNR=7.1								
PTGA	**Pitinga**	**22.47**	**29**			P	**P**	**04 56 49.1**	**0.0**
PTGA						IAmb	IAmb	04 56 59.4	
	comp=Z,8.6nm,1.1s								
QSPA	**South Pole Qui**	**69.50**	**180**			P	**P**	**05 02 57.8**	**0.0**
QSPA						IAmb	IAmb	05 03 12.0	
	comp=Z,0.4nm,0.5s								
TORD	**Torodi Ar. Bea**	**78.74**	**71**			P	**P**	**05 03 53.5**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=248,slow=5.3,SNR=12								
TORD	**Torodi Ar. Bea**	**78.74**	**71**			P	**P**	**05 03 53.6**	**+1.2**
YKA	**Yellowknife Ar**	**89.85**	**341**			P	**P**	**05 04 49.9**	**+2.2**
	comp=Z,0.5nm,0.9s,baz=140,slow=5.5,SNR=7.0								
H11S2	**WAKE ISLAND Hyl**	**26.04**	**278**			T	T	07 29 44.1	
	baz=102,slow=74,SNR=119								
H11S1	**WAKE ISLAND Hyl**	**

az=105.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.42**	**348**	P	Pn	06 16 56.8	+0.2
NNZ	**Nelson**	**0.56**	**88**	P	Pn	06 16 57.3	+0.2
THZ	**Tophouse**	**0.56**	**160**	P	Pn	06 16 57.4	+0.2
DSZ	**Denniston Nort**	**0.81**	**231**	P	Pn	06 16 58.0	-0.5
TUWZ	**Tuamarina**	**1.00**	**101**	P	Pn	06 17 00.2	+0.5
BSWZ	**Blackbirch Sta**	**1.04**	**118**	P	Pn	06 17 00.5	+0.4
DUWZ	**D'Urville Isla**	**1.06**	**66**	P	Pn	06 17 00.6	+0.3
DUWZ				S	Sn	06 17 22.0	+0.1
TCW	**Tory Channel**	**1.23**	**89**	P	Pn	06 17 02.1	+0.5
TCW				S	Sn	06 17 23.7	-0.7
KHZ	**Kahutara**	**1.35**	**151**	P	Pn	06 17 03.0	+0.3
KHZ				S	Sn	06 17 25.1	-1.2
LTZ	**Lake Taylor**	**1.57**	**190**	P	Pn	06 17 04.6	-0.1
LTZ				S	Sn	06 17 27.2	-2.9
WEL	**Wellington**	**1.60**	**92**	P	Pn	06 17 05.1	+0.1
BHW	**Baring Head**	**1.69**	**97**	P	Pn	06 17 05.8	0.0
BHW				S	Sn	06 17 30.3	-1.6
INZ	**Inchbonnie**	**1.73**	**211**	P	Pn	06 17 05.5	-0.9
INZ				S	Sn	06 17 29.9	-3.0
GVZ	**Greta Valley S**	**1.75**	**171**	P	Pn	06 17 06.5	-0.1
KIW	**Kapiti Island**	**1.75**	**78**	P	Pn	06 17 06.7	+0.2
KIW				S	Sn	06 17 32.5	-0.8
CAW	**Cannon Point**	**1.83**	**87**	P	Pn	06 17 07.4	0.0
CAW				S	Sn	06 17 33.6	-1.0
AMCZ	**Amberley**	**1.94**	**180**	P	Pn	06 17 08.2	-0.2
OGWZ	**Otaki Gorge**	**1.96**	**78**	P	Pn	06 17 08.9	+0.2
MSWZ	**Moikau Station**	**1.97**	**96**	P	Pn	06 17 08.8	-0.1
MSWZ				S	Sn	06 17 35.5	-1.8
PLWZ	**Palliser**	**1.99**	**100**	P	Pn	06 17 09.0	-0.1
NMEZ	**Namu Road**	**2.05**	**28**	P	Pn	06 17 10.1	+0.4
PAWZ	**Paruwai Farm**	**2.10**	**65**	P	Pn	06 17 10.2	-0.1
OXZ	**Oxford**	**2.13**	**192**	P	Pn	06 17 09.7	-0.9
MTW	**Mount Morrison**	**2.16**	**89**	P	Pn	06 17 10.8	-0.1
NBEZ	**Newall Road No**	**2.18**	**26**	P	Pn	06 17 11.4	+0.2
HOWZ	**Holdsworth Sta**	**2.20**	**82**	P	Pn	06 17 11.3	-0.1
KHEZ	**Kahui Hut**	**2.21**	**29**	P	Pn	06 17 11.5	0.0
PREZ	**Palmer Road**	**2.22**	**32**	P	Pn	06 17 10.1	-1.6
LREZ	**Lake Rotokare**	**2.23**	**38**	P	Pn	06 17 11.8	+0.1
NEZ	**North Egmont**	**2.26**	**30**	P	Pn	06 17 11.8	-0.4
OHWZ	**Ohakea**	**2.28**	**64**	P	Pn	06 17 12.4	+0.2
PKE	**Pukeiti**	**2.29**	**27**	P	Pn	06 17 12.5	0.0
MRZ	**Mangatainoka R**	**2.30**	**76**	P	Pn	06 17 12.1	-0.4
TRWZ	**Traveller**	**2.30**	**95**	P	Pn	06 17 12.6	+0.1
WVZ	**Waitaha Valley**	**2.32**	**217**	P	Pn	06 17 11.4	-1.3
WAZ	**Wanganui**	**2.32**	**51**	P	Pn	06 17 13.1	+0.3
TMWZ	**Te Maipa**	**2.45**	**88**	P	Pn	06 17 14.3	0.0
MQZ	**McQueen's Vall**	**2.47**	**180**	P	Pn	06 17 12.9	-1.4
OKZ	**Okains Bay**	**2.50**	**173**	P	Pn	06 17 13.9	-0.9
MHEZ	**Mangahewa**	**2.51**	**31**	P	Pn	06 17 15.2	+0.2
RACZ	**Rakaia**	**2.52**	**188**	P	Pn	06 17 13.9	-1.0
POWZ	**Post Office Ro**	**2.52**	**71**	P	Pn	06 17 14.6	-0.4
PRWZ	**Pori Road**	**2.61**	**76**	P	Pn	06 17 16.2	0.0
AKCZ	**Akaroa Harbour**	**2.64**	**176**	P	Pn	06 17 15.2	-1.2
GCSZ	**Gaunt Creek Bo**	**2.70**	**219**	P	Pn	06 17 15.5	-1.6
CPWZ	**Castlepoint**	**2.71**	**84**	P	Pn	06 17 17.7	+0.5
RPZ	**Rata Peaks**	**2.74**	**205**	P	Pn	06 17 16.4	-1.2
WACZ	**Wakanui South**	**2.77**	**192**	P	Pn	06 17 16.9	-0.9
BFZ	**Birch Farm**	**2.78**	**80**	P	Pn	06 17 18.0	-0.1
TSZ	**Takapari Road**	**2.79**	**66**	P	Pn	06 17 17.6	-0.6
DVHZ	**Dannevirke**	**2.83**	**72**	P	Pn	06 17 18.1	-0.7
PKVZ	**Pokaka**	**2.84**	**48**	P	Pn	06 17 18.5	-0.4
MTVZ	**Mangateitei**	**2.84**	**50**	P	Pn	06 17 18.4	-0.6
ARCZ	**Arundel**	**2.92**	**201**	P	Pn	06 17 18.2	-1.5
TRVZ	**Turoa**	**2.95**	**50**	P	Pn	06 17 19.7	-0.7
WNVZ	**Wahianoa**	**2.96**	**51**	P	Pn	06 17 19.6	-0.8
FWVZ	**Far West T-bar**	**2.98**	**49**	P	Pn	06 17 20.1	-0.7
WHVZ	**Whangaehu Hut**	**2.98**	**50**	P	Pn	06 17 20.4	-0.4
MOVZ	**Moawhango**	**3.00**	**53**	P	Pn	06 17 19.7	-1.1
ANWZ	**Angora Road**	**3.01**	**76**	P	Pn	06 17 20.7	-0.1
PNHZ	**Pukenui**	**3.01**	**65**	P	Pn	06 17 20.2	-0.8
TUVZ	**Tukino**	**3.03**	**50**	P	Pn	06 17 20.7	-0.6
TWVZ	**Taurewa**	**3.04**	**46**	P	Pn	06 17 20.3	-1.2
NGZ	**Ngauruhoe**	**3.06**	**49**	P	Pn	06 17 21.2	-0.5
WTVZ	**West Tongariro**	**3.10**	**48**	P	Pn	06 17 20.9	-1.2
FOZ	**Fox Glacier**	**3.11**	**222**	P	Pn	06 17 19.9	-2.0
OTVZ	**Oturere**	**3.11**	**49**	P	Pn	06 17 21.3	-1.0
KRVZ	**Karewarewa**	**3.14**	**48**	P	Pn	06 17 21.3	-1.4
BHHZ	**Black Hill Sta**	**3.14**	**57**	P	Pn	06 17 21.4	-1.2
ETVZ	**East Tongariro**	**3.15**	**49**	P	Pn	06 17 21.8	-1.0
TMVZ	**Te Maari**	**3.16**	**49**	P	Pn	06 17 22.0	-0.9
PRHZ	**Porangahau**	**3.18**	**74**	P	Pn	06 17 22.7	-0.3
HIZ	**Hauiti**	**3.21**	**33**	P	Pn	06 17 22.1	-1.3
KATZ	**Kakaramea**	**3.25**	**47**	P	Pn	06 17 22.9	-1.1
KRHZ	**Kereru**	**3.26**	**65**	P	Pn	06 17 22.9	-1.1
TMZ	**Timaru**	**3.37**	**200**	P	Pn	06 17 23.8	-1.5
RATZ	**Rangitukua**	**3.37**	**46**	P	Pn	06 17 24.4	-1.0
KWHZ	**Kaweka Forest**	**3.41**	**59**	P	Pn	06 17 24.6	-1.3
PXZ	**Pawanui**	**3.43**	**71**	P	Pn	06 17 25.9	-0.1
KAHZ	**Kahuranaki**	**3.53**	**67**	P	Pn	06 17 26.7	-0.7
HATZ	**Hinemaiaia**	**3.54**	**50**	P	Pn	06 17 25.5	-1.9
MCHZ	**McNeill Hill**	**3.58**	**61**	P	Pn	06 17 27.1	-0.9
LBZ	**Lake Benmore**	**3.63**	**209**	P	Pn	06 17 26.6	-1.9
MRHZ	**Matea Rd**	**3.76**	**52**	P	Pn	06 17 28.2	-2.1
ARHZ	**Aropaoanui**	**3.87**	**61**	P	Pn	06 17 30.3	-1.3
MTHZ	**Maungataniwha**	**4.01**	**55**	P	Pn	06 17 31.4	-2.0
JCZ	**Jackson Bay**	**4.01**	**224**	P	Pn	06 17 31.3	-2.1
ODZ	**Otahua Downs**	**4.08**	**200**	P	Pn	06 17 32.5	-1.6
RAHZ	**Arahi**	**4.12**	**57**	P	Pn	06 17 33.3	-1.5
WHHZ	**Waihua**	**4.13**	**60**	P	Pn	06 17 33.4	-1.5
MUGZ	**Murupara**	**4.21**	**50**	P	Pn	06 17 33.7	-2.2
KNZ	**Kokohu**	**4.45**	**62**	P	Pn	06 17 36.9	-2.0
WKZ	**Wanaka**	**4.46**	**215**	P	Pn	06 17 36.5	-2.7
MHGZ	**Mahia Peninsul**	**4.54**	**64**	P	Pn	06 17 38.7	-1.4
URZ	**Urewera**	**4.55**	**51**	P	Pn	06 17 37.3	-2.9
PRGZ	**Paritu Road**	**4.64**	**62**	P	Pn	06 17 39.6	-1.9
RIGZ	**Rimuhau**	**4.67**	**59**	P	Pn	06 17 40.1	-1.9
EAZ	**Earnscleugh**	**4.68**	**210**	P	Pn	06 17 39.0	-2.8
MWZ	**Matawai**	**4.75**	**54**	P	Pn	06 17 40.2	-2.7
RUGZ	**Raukumara Rang**	**5.08**	**52**	P	Pn	06 17 43.8	-3.4
CNGZ	**Carnagh Statio**	**5.09**	**59**	P	Pn	06 17 45.5	-1.8
TWGZ	**Tauwhareparae**	**5.13**	**55**	P	Pn	06 17 46.0	-1.8
HAZ	**Te Kaha**	**5.28**	**50**	P	Pn	06 17 46.0	-3.7
PUZ	**Puketiti**	**5.36**	**56**	P	Pn	06 17 47.8	-3.1
WMGZ	**Waiomatatini S**	**5.62**	**54**	P	Pn	06 17 51.2	-2.9
WHZ	**Wether Hill Ro**	**5.77**	**215**	P	Pn	06 17 53.4	-2.7
APZ	**The Paps**	**6.52**	**209**	P	Pn	06 18 03.6	-2.3

JMA 25 06:22:16.3±0.3, 24°.24N×123°.72E, h21km±2km, M1.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**6**	P	Pb	06 22 20.3	-0.1
IRIF				S	Sb	06 22 22.9	-0.2
HATJ	**Hateruma jima**	**0.20**	**157**	P	Pb	06 22 21.1	-1.1
HATJ				S	Sb	06 22 25.1	-1.2
JKRS	**Kuro-shima**	**0.26**	**90**	P	Pb	06 22 22.4	-0.2
JKRS				S	Sb	06 22 26.6	-0.3
JIJ	**Ishigaki jima**	**0.41**	**72**	P	Pb	06 22 24.6	0.0
JIJ				S	Sb	06 22 29.7	-0.6

TAP 25 06:22:24.6, 24°.84N×121°.98E, h8km, ML2.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng** baz=276	**0.13**	**276**	P	Pg	06 22 28.5	+1.0
NTC				S	Sg	06 22 30.9	+1.5
TWB1	**Santiao Chiao** baz=6.0	**0.17**	**4**	P	Pg	06 22 28.9	+0.8
TWB1				*e*S	Sg	06 22 31.6	+1.1
TWC	**Suao** baz=204	**0.26**	**207**	*e*P	Pb	06 22 30.7	-0.8
TWC				*e*S	Sg	06 22 34.2	+1.0
WFSB	**Wu-fen Shan** baz=322	**0.29**	**322**	*e*P	Pg	06 22 30.7	+0.3
WFSB				S	Sb	06 22 36.6	-0.5
TWE	**Neicheng** baz=245	**0.30**	**247**	*e*P	Pb	06 22 31.9	-0.4
TWE				*e*S	Sb	06 22 36.3	-1.1
NDS	**Dongshan** baz=229	**0.31**	**229**	*e*P	Pb	06 22 31.9	-0.6
NDS				*e*S	Sb	06 22 38.1	+0.4
TNOU	**National Taiwa** baz=328	**0.36**	**329**	*e*P	Pg	06 22 32.4	+0.7
TNOU				*e*S	Sb	06 22 38.1	-0.9
TWA	**Mucha** baz=291	**0.38**	**291**	*e*P	Pb	06 22 33.5	-0.2
TWA				*e*S	Sb	06 22 38.9	-0.8
ENTT	**Nioudou** baz=241	**0.42**	**242**	*e*P	Pb	06 22 34.1	-0.3
ENTT				*e*S	Sb	06 22 40.5	-0.4
NHDH	**Xindian Distri** baz=286	**0.43**	**287**	*e*P	Pb	06 22 33.9	-0.5
NHDH				*e*S	Sb	06 22 40.5	-0.6
EWUT	**Wuta** baz=204	**0.43**	**205**	*e*P	Pg	06 22 33.6	+0.6
EWUT				*e*S	Sb	06 22 41.2	0.0
NWLT	**Wulai** baz=261	**0.43**	**262**	P	Pb	06 22 34.1	-0.5
NWLT				*e*S	Sb	06 22 41.1	-0.1
ENA	**Nanau** baz=206	**0.46**	**208**	*e*P	Pb	06 22 34.6	-0.4
ENA				*e*S	Sb	06 22 41.5	-0.5
TATO	**Taipei** baz=286	**0.46**	**287**	*e*P	Pb	06 22 35.7	+0.6
TATO				*e*S	Sb	06 22 41.2	-0.8
YM01	**YM01** baz=309	**0.48**	**310**	*e*P	Pg	06 22 34.3	+0.4
YM01				*e*S	Sg	06 22 41.2	+1.0
NDT	**Datong Townshi** baz=240	**0.48**	**241**	*e*P	Pb	06 22 35.1	-0.3
NDT				*e*S	Sb	06 22 41.9	-0.8
YM11	**YM11** baz=311	**0.49**	**312**	*e*P	Pb	06 22 35.9	+0.4
YM11				*e*S	Sb	06 22 43.0	+0.1
YM10	**YM10** baz=309	**0.49**	**310**	*e*P	Pb	06 22 35.7	+0.2
YM10				*e*S	Sb	06 22 42.7	-0.2
YM08	**YM08** baz=314	**0.49**	**315**	*e*P	Pb	06 22 35.7	+0.2
YM08				*e*S	Sb	06 22 42.7	-0.2
YM04	**YM04** baz=308	**0.51**	**308**	*e*P	Pb	06 22 36.0	+0.2
YM04				*e*S	Sb	06 22 43.5	+0.1
YHNB	**Yeheng** baz=252	**0.57**	**253**	P	Pb	06 22 36.5	-0.4
YHNB				*e*S	Sb	06 22 46.1	+0.8
NSK	**Sanguang** baz=253	**0.58**	**254**	*e*P	Pb	06 22 36.7	-0.4
NSK				*e*S	Sb	06 22 45.4	-0.2
NNSB	**Datong** baz=232	**0.68**	**233**	*e*P	Pb	06 22 38.5	-0.2
NNSB				*e*S	Sn	06 22 50.7	-0.8
NNSH	**Datong** baz=232	**0.68**	**233**	*e*P	Pb	06 22 38.8	0.0
NACB	**Ninganchiao** baz=207	**0.75**	**208**	P	Pb	06 22 40.3	+0.4
NACB				*e*S	Sb	06 22 50.2	0.0
ETLH	**Xiulin Townshi** baz=215	**0.78**	**216**	P	Pg	06 22 39.9	+0.4
ETLH				*e*S	Sb	06 22 52.2	+1.1
FUSS	**Fushou** baz=228	**0.89**	**229**	*e*P	Pb	06 22 42.5	+0.1
FUSS				*e*S	Sn	06 22 55.9	-1.0
TWT	**Tachien** baz=231	**0.93**	**231**	*e*P	Pn	06 22 44.1	-0.1
TWT				*e*S	Sn	06 22 58.0	+0.1
TDCB	**Techi** baz=231	**0.95**	**232**	*e*P	Pb	06 22 43.7	+0.3
TDCB				*e*S	Sb	06 22 56.0	-0.2
WHF	**Hehuan Shan** baz=222	**0.95**	**223**	*e*P	Pb	06 22 43.5	-0.1
WHF				*e*S	Sn	06 22 57.6	-0.9
CHGB	**Renai** baz=223	**1.07**	**223**	*e*P	Pb	06 22 45.4	0.0
CHGB				*e*S	Sn	06 23 02.0	+0.8
VWDT	**VWDT** baz=215	**1.32**	**215**	*e*P	Pb	06 22 49.8	+0.1
VWDT				*e*S	Sn	06 23 08.4	+1.3

TAP ***25*** *06:24:54.8, 24°.83N×121°.97E, h7km, ML3.2, B*
JMA ***25*** *06:24:55.9, 24°.83N×121°.91E, h35km, M2.2*

ISC 25 06:24:55.6±0.9, 24°.84N±0°.02×121°.98E±0°.02, h10km±6km, n68, σ0s66/129, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng** baz=278	**0.14**	**277**	P	**Pg**	**06 24 58.8**	**0.0**
NTC				S	**Sg**	**06 25 00.9**	**-0.1**
TWB1	**Santiao Chiao** baz=8.0	**0.17**	**3**	*i* P	**Pg**	**06 24 59.2**	**-0.2**
TWB1				S	**Sg**	**06 25 01.5**	**-0.5**
ILA	**Ilan** baz=250	**0.22**	**251**	*e*P	**Pg**	**06 25 00.6**	**+0.4**
ILA				*e*S	**Sg**	**06 25 04.3**	**+1.0**
TWC	**Suao** baz=203	**0.26**	**208**	P	**Pg**	**06 25 00.7**	**-0.1**
TWC				S	**Sg**	**06 25 04.0**	**-0.3**
NWF	**Wu-fen Shan** baz=324	**0.29**	**322**	*e*P	**Pg**	**06 25 02.0**	**+0.4**
NWF				*e*S	**Sg**	**06 25 06.6**	**+1.0**
WFSB	**Wu-fen Shan** baz=324	**0.29**	**322**	P	**Pg**	**06 25 02.0**	**+0.4**
WFSB				S	**Sg**	**06 25 06.6**	**+1.1**
NDS	**Dongshan** baz=229	**0.31**	**230**	P	**Pg**	**06 25 01.8**	**-0.1**
NDS				*e*S	**Sg**	**06 25 07.3**	**+1.2**
TNOU	**National Taiwa** baz=329	**0.36**	**329**	P	**Pg**	**06 25 03.2**	**+0.3**
TNOU				S	**Sg**	**06 25 08.1**	**+0.4**
TWA	**Mucha** baz=292	**0.39**	**292**	P	**Pg**	**06 25 03.5**	**+0.3**
TWA				S	**Sg**	**06 25 09.1**	**+0.7**
ENTT	**Nioudou** baz=241	**0.42**	**243**	P	**Pg**	**06 25 04.0**	**+0.1**
ENTT				*e*S	**Sg**	**06 25 10.8**	**+1.2**
EWUT	**Wuta** baz=204	**0.43**	**205**	*e*P	**Pg**	**06 25 04.1**	**+0.1**
EWUT				*e*S	**Sg**	**06 25 10.8**	**+1.0**
NHDH	**Xindian Distri** baz=287	**0.43**	**287**	*e*P	**Pg**	**06 25 04.6**	**+0.5**
NHDH				S	**Sg**	**06 25 10.3**	**+0.5**
NWLT	**Wulai** baz=262	**0.44**	**262**	P	**Pg**	**06 25 04.3**	**+0.1**
NWLT				S	**Sg**	**06 25 09.8**	**-0.2**
ENA	**Nanau** baz=206	**0.46**	**208**	P	**Pg**	**06 25 04.5**	**-0.1**
ENA				*e*S	**Sg**	**06 25 11.3**	**+0.6**
TATO	**Taipei** baz=287	**0.47**	**287**	P	**Pg**	**06 25 05.0**	**+0.3**
TATO				S	**Sg**	**06 25 11.2**	**+0.2**
TAP	**Taipei** baz=296	**0.47**	**295**	*e*S	**Sg**	**06 25 12.2**	**+1.0**
YM01	**YM01** baz=310	**0.48**	**310**	P	**Pg**	**06 25 04.8**	**-0.2**
YM01				*e*S	**Sg**	**06 25 11.0**	**-0.4**
NDT	**Datong Townshi** baz=240	**0.48**	**241**	P	**Pg**	**06 25 05.0**	**-0.1**
NDT				*e*S	**Sg**	**06 25 12.8**	**+1.3**
YM11	**YM11** baz=312	**0.49**	**312**	P	**Pg**	**06 25 06.1**	**+0.9**
YM11				*e*S	**Sb**	**06 25 13.6**	**-0.1**
YM10	**YM10** baz=310	**0.49**	**310**	P	**Pg**	**06 25 06.0**	**+0.7**
YM10				*e*S	**Sg**	**06 25 12.8**	**+0.9**
YM08	**YM08** baz=315	**0.50**	**315**	P	**Pg**	**06 25 05.4**	**+0.1**
YM08				S	**Sg**	**06 25 11.6**	**-0.3**
YM04	**YM04** baz=308	**0.51**	**308**	P	**Pg**	**06 25 06.0**	**+0.5**
YM04				*e*S	**Sb**	**06 25 13.6**	**-0.5**
YM03	**YM03** baz=311	**0.53**	**311**	P	**Pg**	**06 25 06.0**	**+0.2**
YM03				*e*S	**Sb**	**06 25 15.1**	**+0.5**
ANP	**Anpu** baz=310	**0.54**	**310**	*e*P	**Pg**	**06 25 06.3**	**+0.1**
TWY	**Chenhua** baz=323	**0.56**	**322**	*e*P	**Pg**	**06 25 06.7**	**+0.2**
TWY				*e*S	**Sb**	**06 25 15.2**	**-0.2**
TWS1	**Kuangyinshan** baz=298	**0.57**	**297**	*e*P	**Pg**	**06 25 06.6**	**-0.1**
TWS1				*e*S	**Sb**	**06 25 15.7**	**-0.2**
YHNB	**Yeheng** baz=253	**0.57**	**253**	P	**Pg**	**06 25 06.5**	**-0.2**
YHNB				*e*S	**Sb**	**06 25 15.8**	**-0.2**
NTST	**Danshui** baz=304	**0.58**	**304**	*e*P	**Pb**	**06 25 07.9**	**+0.1**
NTST				*e*S	**Sb**	**06 25 16.1**	**0.0**
NSK	**Sanguang** baz=253	**0.59**	**254**	P	**Pg**	**06 25 06.4**	**-0.6**
NTY	**Taoyuan** baz=285	**0.64**	**285**	*e*P	**Pg**	**06 25 08.1**	**+0.1**
NNSH	**Datong** baz=232	**0.68**	**233**	P	**Pg**	**06 25 08.9**	**+0.1**
NNSH				*e*S	**Sg**	**06 25 17.8**	**+0.1**
NNS	**Nan Shan** baz=233	**0.68**	**235**	P	**Pg**	**06 25 08.8**	**+0.1**
NNS				*e*S	**Sb**	**06 25 19.1**	**0.0**
NNSB	**Datong** baz=232	**0.68**	**233**	P	**Pg**	**06 25 08.4**	**-0.4**
NNSB				*e*S	**Sg**	**06 25 18.9**	**+1.2**
NCU	**National Centr** baz=280	**0.73**	**281**	*e*S	**Sn**	**06 25 21.8**	**-1.3**
NCUH	**Zhongli** baz=280	**0.73**	**280**	*e*P	**Pb**	**06 25 09.8**	**-0.6**
NCUH				*e*S	**Sg**	**06 25 21.0**	**+1.6**
NACB	**Ninganchiao** baz=207	**0.75**	**208**	P	**Pb**	**06 25 09.9**	**-0.7**
NACB				S	**Sb**	**06 25 20.2**	**-0.6**
ETLH	**Xiulin Townshi** baz=215	**0.77**	**216**	*e*P	**Pb**	**06 25 10.4**	**-0.7**
ETLH				*e*S	**Sb**	**06 25 21.8**	**+0.1**
PCYT	**Pengchaiyu** baz=7.0	**0.79**	**6**	*e*P	**Pb**	**06 25 11.5**	**+0.1**
PCYT				*e*S	**Sg**	**06 25 22.8**	**+1.5**
TWD	**Chiawan** baz=203	**0.83**	**205**	*e*P	**Pb**	**06 25 11.3**	**-0.8**
TWD				*e*S	**Sb**	**06 25 22.4**	**-0.9**
NHW	**Xinwu Township** baz=281	**0.86**	**282**	*e*P	**Pb**	**06 25 11.9**	**-0.7**
NHW				*e*S	**Sn**	**06 25 26.4**	**0.0**
HSN1	**Hsinchu** baz=266	**0.88**	**266**	*e*P	**Pb**	**06 25 12.4**	**-0.5**
HSN1				*e*S	**Sg**	**06 25 24.9**	**+1.0**
FUSS	**Fushou** baz=228	**0.89**	**229**	P	**Pb**	**06 25 12.6**	**-0.7**
FUSS				*e*S	**Sg**	**06 25 25.6**	**+1.2**
LIOB	**Emei** baz=257	**0.90**	**258**	*e*P	**Pb**	**06 25 12.7**	**-0.6**
LIOB				*e*S	**Sg**	**06 25 25.9**	**+1.3**
NSTT	**Nanjuang** baz=256	**0.91**	**257**	*e*P	**Pg**	**06 25 14.1**	**+0.9**
NSTT				*e*S	**Sn**	**06 25 26.7**	**-0.9**
HSN	**Hsinchu** baz=269	**0.92**	**268**	*e*P	**Pb**	**06 25 11.8**	**-1.8**
HSN				*e*S	**Sb**	**06 25 25.1**	**-0.7**
TWT	**Tachien** baz=231	**0.94**	**232**	*e*P	**Pb**	**06 25 13.9**	**0.0**
TWT				*e*S	**Sg**	**06 25 26.8**	**+1.0**
TDCB	**Techi** baz=231	**0.95**	**232**	*e*P	**Pb**	**06 25 13.6**	**-0.5**
TDCB				*e*S	**Sg**	**06 25 27.2**	**+1.0**
WHF	**Hehuan Shan** baz=222	**0.95**	**224**	P	**Pb**	**06 25 13.1**	**-1.2**
WHF				*e*S	**Sg**	**06 25 27.3**	**+1.0**
JYNG	**Yonagunijimaku**	**0.96**	**113**	P	**Pb**	**06 25 14.2**	**0.0**
JYNG				*e*S	**Sb**	**06 25 26.9**	**-0.1**
YOJ	**Yonaguni jima** baz=111	**1.01**	**111**	*e*P	**Pb**	**06 25 15.2**	**+0.1**
YOJ				*e*S	**Sb**	**06 25 28.8**	**+0.3**
YOJ	**Yonaguni jima**	**1.01**	**111**	P	**Pb**	**06 25 14.6**	**-0.5**
YOJ				*e*S	**Sb**	**06 25 28.2**	**-0.2**
CHGB	**Renai** baz=223	**1.07**	**224**	*e*P	**Pb**	**06 25 15.7**	**-0.6**
CHGB				*e*S	**Sn**	**06 25 31.9**	**+0.2**
WHP	**Taichung City** baz=239	**1.09**	**240**	*e*P	**Pb**	**06 25 16.4**	**-0.2**
WHP				*e*S	**Sg**	**06 25 32.2**	**+1.4**
NMLH	**Miaoli** baz=254	**1.12**	**255**	*e*P	**Pn**	**06 25 16.5**	**-0.8**
NMLH				*e*S	**Sg**	**06 25 33.2**	**+1.4**
ESL	**Shilin** baz=205	**1.13**	**206**	*e*P	**Pn**	**06 25 16.9**	**-0.6**
ESL				*e*S	**Sn**	**06 25 33.0**	**-0.1**
WCS	**Beigang Elemen** baz=231	**1.25**	**232**	*e*P	**Pn**	**06 25 18.8**	**-0.2**
WCS				*e*S	**Sn**	**06 25 36.0**	**+0.2**
VWDT	**VWDT** baz=215	**1.32**	**216**	*e*P	**Pb**	**06 25 20.5**	**+0.1**
VWDT				*e*S	**Sg**	**06 25 38.7**	**+0.5**
SMLT	**Sun Moon Lake** baz=225	**1.37**	**226**	*e*P	**Pb**	**06 25 21.8**	**+0.5**
SMLT				*e*S	**Sb**	**06 25 39.0**	**+0.1**
SSLB	**Suanglung** baz=221	**1.40**	**222**	*e*P	**Pn**	**06 25 21.5**	**+0.3**
SSLB				*e*S	**Sb**	**06 25 39.8**	**0.0**

HGSD	**Ruisui**	**1.43**	**201**	*e*P		**Pn**	**06 25 21.7**	**+0.1**
	baz=200								
HGSD				*e*S		**Sb**	**06 25 41.0**	**+0.4**
	baz=200								
YULB	**Yu-li**	**1.57**	**204**	*e*P		**Pn**	**06 25 23.1**	**-0.4**
	baz=203								
YULB				*e*S		**Sb**	**06 25 44.6**	**+0.1**
	baz=203								
TWF1	**Yuli**	**1.60**	**203**	*e*P		**Pn**	**06 25 24.2**	**+0.3**
	baz=202								
TWF1				*e*S		**Sn**	**06 25 44.9**	**+0.2**
	baz=202								
YUS	**Yu-Shan**	**1.64**	**215**	*e*P		**Pn**	**06 25 25.0**	**+0.2**
	baz=214								
YUS				*e*S		**Sn**	**06 25 45.9**	**-0.2**
	baz=214								
ALS	**Alishan**	**1.70**	**219**	*e*P		**Pn**	**06 25 25.8**	**+0.2**
	baz=218								
ALS				*e*S		**Sn**	**06 25 47.6**	**+0.1**
	baz=218								
CHN5	**Tsauling**	**1.71**	**224**	*e*P		**Pn**	**06 25 26.1**	**+0.5**
	baz=223								
CHN5				*e*S		**Sn**	**06 25 47.6**	**+0.1**
	baz=223								
FULB	**Fuli**	**1.75**	**201**	*e*P		**Pn**	**06 25 26.8**	**+0.9**
	baz=200								
JKRS	**Kuro-shima**	**1.94**	**107**	P		**Pn**	**06 25 27.7**	**-0.9**
CHN4	**Tsaushan**	**1.95**	**221**	*e*P		**Pn**	**06 25 28.3**	**-0.4**
	baz=220								
CHN4				*e*S		**Sb**	**06 25 54.2**	**-1.3**
	baz=220								

MOS ***25*** *06:30:00.0±0.9,43˚.71N×145˚.93E,h125km,mb3.9/6,Error ellipse: s-maj=11.7km s-min=7.2km az=68.1*
SKHL ***25*** *06:30:01.1±0.1,43˚.70N×146˚.00E,h124km±7km,mb5.8/3, msha6.3/3*
NEIC ***25*** *06:30:01.4±1.7,43˚.69N±0˚.09×146˚.0E±0˚.1,h121km±7km, mb4.3/48,Error ellipse: s-maj=14.8km s-min=11.7km az=122.0*
IDC ***25*** *06:30:01.4±0.8,43˚.73N×145˚.92E,h119km±6km,mb3.6/13, mb1 3.8/18,mb1mx3.6/59,mbtmp4.0/18,Error ellipse: s-maj=14.4km s-min=9.1km az=164.0*
JMA ***25*** *06:30:02.3±0.2,43˚.66N×145˚.91E,h115km±2km,M3.9*
JMA Felt II J1.
NIED ***25*** *06:30:02.3,43˚.66N×145˚.91E,h115km,MW4.1,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-0.91; Mθθ-0.12; Mφφ1.03; Mrθ0.77; Mθφ-0.59; Mφr-0.26; Fault plane solution: M₀1.40000×10¹⁵ NP1: φs310.00000°,δ65.00000°,λ-122.00000°. NP2: φs185.00000°,δ40.00000°,λ-42.00000°.*
ISC 25 06:30:01.1±0.5,43˚.69N±0˚.05×145˚.93E±0˚.05,h120km±4km, n137,σ0ᵍ96/150,mb4.3/42,12C-7D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GRPR	**Tuman**	**0.33**	**340**	⇓*i*	P	**Pn**	**06 30 18.7**	**+0.6**
GRPR				*i*	S	**Sn**	**06 30 30.8**	**-0.1**
GRPR					pmax	pmax		
	comp=E,930nm,0.3s							
GRPR					pmax	pmax		
	comp=Z,5μm,0.3s							
GRPR					smax	smax		
	comp=N,2μm,0.2s							
GRPR					smax	smax		
	comp=E,10μm,0.2s							
GRPR	**Tuman**	**0.33**	**340**	*i*	P	**Pn**	**06 30 18.7**	**+0.6**
GRPR					AMB	AMB	06 30 19.0	
	comp=E,5μm,0.3s							
GRPR				*i*	S	**Sn**	**06 30 31.8**	**+0.9**
GRPR					A	A	06 30 32.0	
	comp=E,2μm,0.3s							
GRPR					A	A	06 30 32.0	
	comp=E,10μm,0.3s							
NEM2	**Nemuro 2**	**0.35**	**202**	⇓	P	**Pn**	**06 30 18.6**	**+0.4**
NEM2					eS	**Sn**	**06 30 30.8**	**-0.2**
NMR	**Nemuro--Hokkai**	**0.35**	**204**	⇓*i*	PN	**Pn**	**06 30 18.6**	**+0.4**
NMR				*i*	S	**Sn**	**06 30 30.8**	**-0.2**
NMR	**Nemuro--Hokkai**	**0.35**	**204**	*i*	P	**Pn**	**06 30 18.6**	**+0.4**
NMR				*i*	S	**Sn**	**06 30 30.8**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**0.35**	**352**	*d i*	PN	**Pn**	**06 30 18.4**	**+0.3**
YUK				*i*	S	**Sn**	**06 30 31.5**	**+0.5**
YUK					pmax	pmax		
	comp=N,804nm,0.2s							
YUK					pmax	pmax		
	comp=E,719nm,0.2s							
YUK					pmax	pmax		
	comp=Z,7μm,0.2s							
YUK					smax	smax		
	comp=N,5μm,0.2s							
YUK					smax	smax		
	comp=E,4μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**0.35**	**352**	*i*	P	**Pn**	**06 30 18.5**	**+0.3**
YUK					AMB	AMB	06 30 19.0	
	comp=E,7μm,0.3s							
YUK				*i*	S	**Sn**	**06 30 31.6**	**+0.5**
YUK					A	A	06 30 34.0	
	comp=E,5μm,0.3s							
YUK					A	A	06 30 34.0	
	comp=E,4μm,0.3s							
JRA	**Rausu**	**0.63**	**294**	⇓	P	**Pn**	**06 30 20.5**	**+0.7**
JRA					eS	**Sn**	**06 30 34.7**	**+0.7**
RUSJ	**Misakicho**	**0.64**	**311**	⇓*i*	PN	**Pn**	**06 30 20.7**	**+0.8**
RUSJ				*i*	S	**Sn**	**06 30 35.1**	**+0.9**
JNSB	**Nemuroshibetsu**	**0.67**	**278**	⇓	P	**Pn**	**06 30 21.2**	**+1.1**
JKHN	**Kushirohamanak**	**0.82**	**223**	⇑	P	**Pn**	**06 30 22.1**	**+0.7**
JNK	**Nakash**	**0.88**	**264**	⇑	P	**Pn**	**06 30 22.6**	**+0.7**
JAK	**Akkeshi**	**1.13**	**233**	⇑	P	**Pn**	**06 30 24.9**	**+0.5**
JAK					eS	**Sn**	**06 30 42.4**	**+0.4**
JTKR	**Abashiri--Toko**	**1.49**	**282**	⇑	P	**Pn**	**06 30 29.0**	**+0.7**
JTKR					eS	**Sn**	**06 30 49.2**	**+0.2**
JAR	**Ashorobuto**	**1.62**	**257**	⇑	P	**Pn**	**06 30 31.0**	**+1.2**
JOB	**Onbets**	**1.72**	**244**	⇑	P	**Pn**	**06 30 32.1**	**+1.1**
JOB					eS	**Sn**	**06 30 54.4**	**+0.6**
JMP	**Maruseppu**	**1.88**	**281**	⇑	P	**Pn**	**06 30 33.8**	**+0.7**
JMP					eS	**Sn**	**06 30 58.2**	**+0.7**
KUR	**Kuril'sk**	**2.08**	**41**	*e*	PN	**Pn**	**06 30 36.4**	**+1.0**
KUR				*i*	S	**Sn**	**06 31 02.9**	**+1.2**
KUR					pmax	pmax		
	comp=Z,198nm,0.4s							
KUR					pmax	pmax		
	comp=E,55nm,0.3s							
KUR					pmax	pmax		
	comp=N,33nm,0.4s							
KUR					smax	smax		
	comp=N,1μm,0.2s							
KUR					smax	smax		
	comp=E,880nm,0.3s							
KUR	**Kuril'sk**	**2.08**	**41**	*i*	P	**Pn**	**06 30 36.4**	**+1.0**
KUR					AMB	AMB	06 30 36.9	
	comp=E,220nm,0.2s							
KUR				*i*	S	**Sn**	**06 31 02.9**	**+1.2**
KUR					A	A	06 31 04.0	
	comp=E,1μm,0.3s							
KUR					A	A	06 31 04.0	
	comp=E,1μm,0.3s							
JCH	**Churui**	**2.16**	**241**	⇑	P	**Pn**	**06 30 37.1**	**+0.6**
JKK2	**Kamakawa 2**	**2.31**	**276**	⇑	P	**Pn**	**06 30 39.4**	**+1.0**
JKA	**Kamikawa-asahi**	**2.44**	**281**	Pn		**Pn**	**06 30 40.9**	**+0.9**
JKA	**Kamikawa-asahi**	**2.44**	**281**	*e*P		**Pn**	**06 30 41.5**	**+1.4**
ASAJ	**Asahikawa**	**2.44**	**281**	P		**Pn**	**06 30 41.5**	**+1.4**
	comp=E,56nm,0.3s,baz=90,slow=12,SNR=236							
ASAJ				S		**Sn**	**06 31 10.7**	**+0.6**
	comp=E,11nm,0.3s,baz=354,slow=25,SNR=7.9							
ERM	**Erimo**	**2.63**	**232**	*c*	PN	**Pn**	**06 30 44.1**	**+1.6**
ERM	**Erimo**	**2.63**	**232**			**Pn**	**06 30 44.2**	**+1.6**
JEM	**Erimo**	**2.63**	**232**	Pn		**Pn**	**06 30 44.0**	**+1.4**
JEW	**Eniwo**	**3.38**	**257**			**Pn**	**06 30 53.4**	**+1.1**
YSS	**Yuzh-Sakhalins**	**3.96**	**327**	*e*	PN	**Pn**	**06 31 01.0**	**+1.0**
YSS				*e*			06 31 47.6	
YSS					pmax	pmax		
	comp=Z,20nm,0.5s							
YSS	**Yuzh-Sakhalins**	**3.96**	**327**	*e*P		**Pn**	**06 31 01.0**	**+1.0**
YSS					AMB	AMB	06 31 01.0	
	comp=Z,20nm,0.5s							
YSS					eS	**Sn**	**06 31 47.1**	**+1.5**
YSS					A	A	06 31 48.3	
	comp=Z,50nm,0.6s							
JTM	**Tenmabayashi**	**4.63**	**233**	Pn		**Pn**	**06 31 08.2**	**-0.7**
JMM	**Marumori**	**7.00**	**216**			**Pn**	**06 31 39.9**	**-1.0**
JSD	**Sado**	**8.10**	**228**	Pn		**Pn**	**06 31 54.9**	**-0.9**
MJA0	**Matsu Arr-Jizo**	**9.24**	**222**	*e*	PN	**Pn**	**06 32 10.9**	**-0.5**
MAJO	**Matsushiro**	**9.26**	**222**	*i*	PN	**Pn**	**06 32 11.3**	**-0.3**
MAJO	**Matsushiro**	**9.26**	**222**		Pn	**Pn**	**06 32 10.7**	**-0.9**
MJAR	**Matsushiro Arr**	**9.26**	**222**		P	**Pn**	**06 32 11.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=19							
MJAR	**Matsushiro Arr**	**9.26**	**222**		PN	**Pn**	**06 32 11.9**	**+0.3**
MJAR	**Matsushiro Arr**	**9.26**	**222**			**Pn**	**06 32 11.9**	**+0.3**
USA0B	**Ussuriysk Arra**	**10.07**	**278**		PN	**Pn**	**06 32 22.0**	**-0.4**
USA0B	**Ussuriysk Arra**	**10.07**	**278**			**Pn**	**06 32 21.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.07**	**278**		P	**Pn**	**06 32 21.7**	**-0.7**
	baz=92,slow=13,SNR=16							
USRK	**Ussuriysk Ar.**	**10.07**	**278**		PN	**Pn**	**06 32 22.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.07**	**278**			**Pn**	**06 32 22.0**	**-0.4**
JGF	**Kuroka**	**10.43**	**222**		Pn	**Pn**	**06 32 27.2**	**-0.2**
KLR	**Kul'dur**	**11.23**	**305**		P	**Pn**	**06 32 39.6**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=112,slow=18,SNR=2.9							
KLR	**Kul'dur**	**11.23**	**305**	*i*	PN	**Pn**	**06 32 37.5**	**-0.5**
KLR					pmax	pmax		
	comp=Z,4.0nm,1.3s							
KLR	**Kul'dur**	**11.23**	**305**	*e*	P	**Pn**	**06 32 37.5**	**-0.5**
PEA0B	**Petropavlovsk-**	**12.23**	**35**		PN	**Pn**	**06 32 48.7**	**-2.4**
PEA0B	**Petropavlovsk-**	**12.23**	**35**		Pn	**Pn**	**06 32 48.7**	**-2.4**
PETK	**Petropavlovsk-**	**12.23**	**35**		P	**Pn**	**06 32 49.2**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=200,slow=12,SNR=9.5							
HIA	**Hailar**	**18.83**	**296**			pP	06 34 40.3	+7.3
SEY	**Seymchan**	**19.64**	**9**	P		**P**	**06 34 16.5**	**-3.6**
	baz=150,slow=9.4,SNR=4.0							
BILL	**Bilibino**	**26.67**	**17**	⇑	*e*P	**P**	**06 35 30.5**	**+2.1**
BILL					*e*PP	**pP**	**06 35 55.4**	**+1.3**
BILL					*e*		06 36 19.0	
BILL					eS	**S**	**06 39 55.8**	**+1.3**
BILL					pmax	pmax		
	comp=Z,1.0nm,0.9s							
BILL	**Bilibino**	**26.67**	**17**	*e*	P	**P**	**06 35 30.5**	**+2.1**
SONM	**Songino Array**	**27.68**	**293**	P		**P**	**06 35 38.3**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=81,slow=8.2,SNR=3.6							
TIXI	**Tiksi**	**29.25**	**349**	*i*	P	**P**	**06 35 47.6**	**-3.6**
H11N2	**WAKE ISLAND Hy**	**29.65**	**137**		T	T	07 07 02.6	
	baz=328,slow=75,SNR=694							
H11N1	**WAKE ISLAND Hy**	**29.66**	**137**		T	T	07 07 08.7	
	baz=328,slow=75,SNR=458							
H11N3	**WAKE ISLAND Hy**	**29.66**	**137**		T	T	07 07 08.2	
	baz=328,slow=75,SNR=494							
H11S1	**WAKE ISLAND Hy**	**30.59**	**139**		T	T	07 08 15.1	
	baz=330,slow=76,SNR=1021							
H11S3	**WAKE ISLAND Hy**	**30.60**	**139**		T	T	07 08 10.2	
	baz=330,slow=76,SNR=687							
H11S2	**WAKE ISLAND Hy**	**30.61**	**139**		T	T	07 08 14.3	
	baz=330,slow=76,SNR=684							
NIKH	**Nikolski High**	**31.00**	**56**		P	**P**	**06 36 08.0**	**+1.1**
ANM	**Nome**	**34.15**	**35**		P	**P**	**06 36 33.0**	**-1.2**
ANM					pmax	pmax		
	comp=Z,2.0nm,0.8s							
ANM	**Nome**	**34.15**	**35**		P	**P**	**06 36 33.0**	**-1.2**
A21K	**Barrow**	**38.98**	**26**		P	**P**	**06 37 13.8**	**-1.3**
IMAR	**Indian Mountai**	**39.20**	**34**		P	**P**	**06 37 17.3**	**+0.3**
KDAK	**Kodiak Island**	**39.94**	**47**		P	**P**	**06 37 23.3**	**+0.1**
	comp=Z,19nm,1.2s,baz=289,slow=8.0,SNR=8.3							
KDAK	**Kodiak Island**	**39.94**	**47**		P	**P**	**06 37 23.0**	**-0.2**
KTH	**Kantishna Hill**	**40.35**	**38**		P	**P**	**06 37 26.8**	**+0.2**
KTH					lAmb	lAmb	06 37 28.7	
	comp=Z,9.0nm,1.0s							
CNPM	**China Poot**	**40.45**	**44**		P	**P**	**06 37 27.6**	**+0.2**
SUA	**Susitna One**	**40.52**	**41**		P	**P**	**06 37 27.9**	**-0.2**
SUA					lAmb	lAmb	06 37 45.5	
	comp=Z,12nm,1.2s							
TRF	**Thorofare Moun**	**40.63**	**38**		P	**P**	**06 37 30.0**	**+0.9**
TRF					lAmb	lAmb	06 37 45.4	
	comp=Z,10nm,1.3s							
COLD	**Coldfoot**	**40.68**	**32**		P	**P**	**06 37 29.0**	**-0.2**
TOLK	**Toolik Lake Re**	**40.99**	**30**		P	**P**	**06 37 31.6**	**-0.1**
TOLK					lAmb	lAmb	06 37 48.5	
	comp=Z,5.3nm,1.2s							
I23K	**Minto, Yukon-K**	**40.99**	**36**		P	**P**	**06 37 32.6**	**+0.8**
I23K					lAmb	lAmb	06 37 33.6	
	comp=Z,3.1nm,0.7s							
RND	**Reindeer**	**41.28**	**38**		P	**P**	**06 37 33.8**	**-0.5**
RND					pmax	pmax		
	comp=Z,5.0nm,1.1s							
RND	**Reindeer**	**41.28**	**38**		P	**P**	**06 37 33.8**	**-0.5**
RND					lAmb	lAmb	06 37 35.1	
	comp=Z,4.9nm,1.1s							
SEW	**Seward**	**41.28**	**43**		P	**P**	**06 37 34.1**	**0.0**
MDM	**Murphy Dome**	**41.48**	**36**		P	**P**	**06 37 36.1**	**+0.3**
MDM					lAmb	lAmb	06 37 37.5	
	comp=Z,5.4nm,0.8s							
WRH	**Wood River Hil**	**41.56**	**37**		P	**P**	**06 37 36.9**	**+0.5**
COLA	**College**	**41.64**	**36**		P	**P**	**06 37 38.5**	**+1.4**
COLA					pmax	pmax		
	comp=Z,10.0nm,0.8s							
COLA	**College**	**41.64**	**36**		P	**P**	**06 37 38.5**	**+1.4**
SML	**Sawmill**	**41.65**	**41**		P	**P**	**06 37 37.9**	**+0.7**
CCB	**Clear Creek Bu**	**41.67**	**36**		P	**P**	**06 37 36.8**	**-0.6**
PWL	**Port Wells**	**41.75**	**42**		P	**P**	**06 37 38.2**	**+0.2**
PWL					lAmb	lAmb	06 37 49.8	
	comp=Z,11nm,1.1s							
IL31		**42.06**	**36**		P	**P**	**06 37 40.7**	**+0.3**
IL31					lAmb	lAmb	06 37 42.2	
	comp=Z,12nm,1.2s							
ILAR	**Eielson Array**	**42.06**	**36**		P	**P**	**06 37 40.7**	**+0.2**
	comp=Z,2.0nm,0.4s,baz=274,slow=8.0,SNR=42							
ILAR					pP	**pP**	**06 38 07.8**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=284,slow=9.0,SNR=3.3							
PRP	**Porcupine Dome**	**42.59**	**35**		P	**P**	**06 37 45.8**	**+0.9**
FYU	**Fort Yukon**	**42.65**	**33**		P	**P**	**06 37 45.8**	**+0.7**
FYU					lAmb	lAmb	06 37 49.5	
	comp=Z,6.3nm,1.1s							
BMAR	**Burnt Mountain**	**42.86**	**32**		P	**P**	**06 37 47.4**	**+0.4**
SCRK	**Sand Creek**	**43.39**	**37**		P	**P**	**06 37 51.4**	**+0.1**
SCRK					lAmb	lAmb	06 37 52.2	
	comp=Z,4.8nm,0.6s							
DOT	**Dot Lake**	**43.40**	**38**		P	**P**	**06 37 50.9**	**-0.4**
MKAR	**Makanchi Array**	**43.83**	**297**		P	**P**	**06 37 55.0**	**0.0**
	comp=Z,1.1nm,0.8s,baz=50,slow=9.7,SNR=4.9							
MKAR	**Makanchi Array**	**43.83**	**297**	*i*	P	**P**	**06 37 55.5**	**+0.5**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**43.83**	**297**	*e*	P	**P**	**06 37 55.5**	**+0.5**
VRDI	**Verde Repeater**	**44.04**	**41**		P	**P**	**06 37 57.2**	**+0.5**
VRDI					lAmb	lAmb	06 38 16.9	
	comp=Z,6.9nm,1.2s							
K27K	**Chicken**	**44.22**	**37**		lAmb	lAmb	06 37 59.8	
	comp=Z,5.9nm,0.8s							
L27K	**Beaver Creek,**	**44.48**	**38**		lAmb	lAmb	06 38 03.5	
	comp=Z,4.8nm,0.7s							
BCAR	**Beaver Creek A**	**44.50**	**38**		P	**P**	**06 38 01.4**	**+1.3**
EGAK	**Eagle**	**44.50**	**36**		lAmb	lAmb	06 38 01.6	
	comp=Z,14nm,1.4s							
CTGM	**Chitina Glacie**	**45.10**	**41**		P	**P**	**06 38 05.9**	**+0.8**
CTGM					lAmb	lAmb	06 38 07.5	
	comp=Z,10.0nm,1.4s							
DAWY	**Dawson**	**45.38**	**37**		P	**P**	**06 38 07.5**	**+0.5**
EPYK	**Eagle Plains**	**46.06**	**33**		P	**P**	**06 38 12.9**	**+0.5**
EPYK					lAmb	lAmb	06 38 13.8	
	comp=Z,4.2nm,0.7s							
INK	**Inuvik**	**46.90**	**30**		P	**P**	**06 38 18.9**	**0.0**
	comp=Z,1.9nm,0.6s,baz=290,slow=9.3,SNR=12							
INK	**Inuvik**	**46.90**	**30**		P	**P**	**06 38 19.1**	**+0.2**
INK					pmax	pmax		
	comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**46.90**	**30**		P	**P**	**06 38 19.1**	**+0.2**
INK					lAmb	lAmb	06 38 19.5	
	comp=Z,2.0nm,0.6s							
WHY	**Whitehorse**	**48.24**	**40**		P	**P**	**06 38 31.0**	**+1.5**
WHY					lAmb	lAmb	06 38 42.6	
	comp=Z,6.1nm,1.2s							
C36M	**Paulatuk**	**49.95**	**28**		P	**P**	**06 38 41.6**	**-0.6**
DLBC	**Dease Lake**	**51.32**	**42**		P	**P**	**06 38 54.6**	**+1.8**
DLBC					lAmb	lAmb	06 39 18.2	
	comp=Z,3.1nm,1.1s							
RES	**Resolute Bay**	**55.28**	**16**		P	**P**	**06 39 20.2**	**-1.1**
RES					pmax	pmax		
	comp=Z,9.0nm,0.7s							
RES	**Resolute Bay**	**55.28**	**16**		P	**P**	**06 39 20.2**	**-1.1**
YKA	**Yellowknife Ar**	**56.34**	**33**		P	**P**	**06 39 29.2**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=303,slow=6.3,SNR=24							
YKA					pP	**pP**	**06 39 57.4**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=305,slow=6.4,SNR=4.0							
ABKAR	**Akbulak array**	**56.41**	**308**		P	**P**	**06 39 29.6**	**-0.2**
ABKAR	**Akbulak array**	**56.41**	**308**		P	**P**	**06 39 29.4**	**-0.3**
ABKAR					lAmb	lAmb	06 39 47.0	
	comp=Z,1.4nm,0.8s							
COEN	**Coen**	**57.42**	**183**		P	**P**	**06 39 38.3**	**+1.1**
COEN					lAmb	lAmb	06 39 57.6	
	comp=Z,5.2nm,1.2s							
MTN	**Manton Dam**	**57.86**	**197**		P	**P**	**06 39 41.4**	**+1.1**
SUMG	**Summit**	**64.00**	**1**		P	**P**	**06 40 21.4**	**-0.2**
SUMG					pmax	pmax		
	comp=Z,4.0nm,1.0s							
SUMG	**Summit**	**64.00**	**1**		P	**P**	**06 40 21.4**	**-0.2**
SUMG					lAmb	lAmb	06 40 50.0	
	comp=Z,4.0nm,1.0s							
WB0	**Warramunga Arr**	**64.02**	**192**		P	**P**	**06 40 21.8**	**-0.1**
WR0	**Warramunga Arr**	**64.19**	**192**		P	**P**	**06 40 22.0**	**-0.9**
WR0					lAmb	lAmb	06 40 24.2	
	comp=Z,8.6nm,1.2s							
WB2	**Warramunga Arr**	**64.20**	**192**		P	**P**	**06 40 23.9**	**+0.9**
WB2					lAmb	lAmb	06 40 24.3	
	comp=Z,3.8nm,0.9s							
WRA	**Warramunga Arr**	**64.20**	**192**		P	**P**	**06 40 23.3**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=14,slow=6.8,SNR=9.5							
WRA					PcP	**PcP**	**06 40 57.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=3.7,slow=4.1,SNR=5.1							
WRA	**Warramunga Arr**	**64.20**	**192**		P	**P**	**06 40 22.9**	**-0.1**
FINES	**FINESS Array B**	**64.52**	**333**		P	**P**	**06 40 24.5**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=67,slow=6.4,SNR=6.1							
FCC	**Fort Churchill**	**66.52**	**29**		P	**P**	**06 40 37.3**	**-0.2**
FCC					pmax	pmax		
	comp=Z,2.0nm,0.7s							
FCC	**Fort Churchill**	**66.52**	**29**		P	**P**	**06 40 37.2**	**-0.2**
BOZ	**Bozeman (W)**	**67.64**	**48**		P	**P**	**06 40 46.3**	**+1.2**
BOZ					pmax	pmax		
	comp=Z,1.0nm,0.7s							
BOZ	**Bozeman (W)**	**67.64**	**48**		P	**P**	**06 40 46.3**	**+1.2**
ASAR	**Alice Springs**	**67.93**	**192**		P	**P**	**06 40 47.8**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=13,slow=6.9,SNR=15							
ASAR	**Alice Springs**	**67.93**	**192**		P	**P**	**06 40 47.3**	**+0.5**
NOA	**NORSAR Array B**	**69.34**	**338**		P	**P**	**06 40 55.0**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=32,slow=6.2,SNR=3.7							
NOA	**NORSAR Array B**	**69.34**	**338**	*e*	P	**P**	**06 40 55.4**	**+0.2**
PDAR	**Pinedale Array**	**70.62**	**49**		P	**P**	**06 41 03.9**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=235,slow=1.8,SNR=6.2							
AKASG	**Malin Array Be**	**71.10**	**323**		P	**P**	**06 41 05.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=40,slow=6.6,SNR=1.9							
TXAR	**Lajitas Array**	**83.42**	**55**		P	**P**	**06 42 16.3**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=292,slow=3.9,SNR=4.0							
TXAR					pP	**pP**	**06 42 46.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=290,slow=3.2,SNR=4.5							

IDC ***25*** *06:34:24.5±0.8,39˚.38N×73˚.76E,h0km,mb3.9/14, mb1 4.0/22,mb1mx3.9/55,mbtmp3.9/22,ML3.3/8,Error ellipse: s-maj=15.1km s-min=13.7km az=162.0*
KRNET ***25*** *06:34:25.7±0.1,39˚.53N×73˚.75E,h10km,mb4.1*
SOME ***25*** *06:34:25.4,39˚.62N×73˚.75E,h15km*
MOS ***25*** *06:34:27.8±2.7,38˚.82N×73˚.35E,h33km,mb4.2/5,Error ellipse: s-maj=10.3km s-min=4.9km az=80.6*
BJI ***25*** *06:34:27.0±0.0,39˚.80N×73˚.50E,h33km,mB4.5/2, mb4.0/5,ML3.9/5*
NNC ***25*** *06:34:38.6±3.4,40˚.12N×73˚.65E,h30km±22km,mb4.3, mpv3.9,Error ellipse: s-maj=25.4km s-min=13.9km az=176.0*
ISC 25 06:34:27.2±1.3,39˚.65N±0˚.05×73˚.89E±0˚.02,h15km±7km, n118,σ2ᵍ12/170,mb3.8/15,39C-20D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.47**	**321**	⇓*i*	P	**Pg**	**06 34 35.4**	**-1.3**
	baz=39							
SFK				⇓*i*	S	**Sb**	**06 34 44.0**	**-0.3**
	baz=39							
OHH	**Osh**	**1.22**	**316**	⇑*i*	P	**Pn**	**06 34 48.9**	**-0.9**
	baz=24							
OHH				⇑*i*	S	**Sg**	**06 35 06.6**	**-0.1**
	baz=24							
KSH	**Kashi**	**1.61**	**94**		Pg	**Pn**	**06 34 53.5**	**-1.7**
KSH					Sg	**Sn**	**06 35 14.3**	**-1.5**
KSH					smax	smax		
	comp=N,3μm,0.7s							
KSH					smax	smax		
	comp=E,1μm,0.5s							
DRK	**Karamyk**	**1.63**	**265**	⇑*i*	P	**Pn**	**06 34 54.1**	**-1.5**
	baz=69							
DRK				⇑*i*	S	**Sn**	**06 35 15.2**	**-1.2**
	baz=69							
ARSB	**Arslanbob**	**1.81**	**338**	⇑*i*	P	**Pb**	**06 35 00.9**	**+0.7**
	baz=42							
ARSB				⇑*i*	S	**Sg**	**06 35 26.3**	**+0.7**
	baz=42							
ARLS	**Aral**	**2.24**	**8**	⇑*i*	P	**Pb**	**06 35 07.9**	**+0.5**
	baz=11							
ARLS				⇑*i*	S	**Sg**	**06 35 39.1**	**0.0**
	baz=11							
BTK	**Batken**	**2.40**	**281**	⇑*i*	P	**Pn**	**

TKM2	**Tokmak 2**	3.51	21	P	Pb	06 35 27.1	-2.1
	SNR=23						
TKM2	**Tokmak 2**	3.51	21	⇓Pn	Pb	06 35 26.8	-2.4
	12nm,0.6s						
TKM2				⇑Pg	Pg	06 35 38.3	+3.8
	36nm,0.6s						
TKM2				⇓Lg	Lg	06 36 21.3	
	127nm,0.7s						
TKM2	**Tokmak 2**	3.51	21	PN	Pb	06 35 26.7	-2.4
KDJ	**Kajisay**	3.52	44⇑	*e*P	Pb	06 35 26.4	-2.8
	baz=44						
KDJ				⇑*i*S	Sb	06 36 10.5	-1.2
	baz=44						
USP	**Ospenovka**	3.65	7⇑	*e*P	Pb	06 35 27.5	-3.8
	baz=8.0						
USP				⇑*i*S	Sb	06 36 12.6	-2.8
	baz=8.0						
USP	**Ospenovka**	3.65	7	P	Pb	06 35 28.1	-3.2
	SNR=11						
KST	**Kastek**	3.73	24	*e*P	Pg	06 35 36.4	-2.3
	29nm,0.5s						
KST				*e*S	Sg	06 36 28.5	+1.4
	212nm,0.7s						
KST	**Kastek**	3.73	24	*e*PN	Pg	06 35 36.4	-2.3
SGDS	**Sogindy**	3.84	8	*e*PN	Pg	06 35 38.3	-2.5
IUG	**Iuzhnay**	3.85	312	*e*P	Pb	06 35 36.0	+1.2
	35nm,0.4s						
IUG				*e*S	Sg	06 36 27.1	-3.6
	366nm,0.6s						
IUG	**Iuzhnay**	3.85	312	*e*PN	Pb	06 35 36.0	+1.2
IUG				*e*S	Sg	06 36 27.1	-3.6
DGS	**Degeres**	3.86	21	*e*P	Pg	06 35 38.8	-2.3
	30nm,0.5s						
DGS				*e*S	Sg	06 36 32.0	+0.9
	136nm,0.6s						
DGS	**Degeres**	3.86	21	*e*PN	Pg	06 35 38.8	-2.3
IZV	**Izvestkoviy**	3.96	30	*e*P	Pg	06 35 40.1	-2.9
	8.1nm,0.4s						
IZV				*e*S	Sg	06 36 34.7	+0.5
	127nm,0.6s						
IZV	**Izvestkoviy**	3.96	30	*e*PN	Pg	06 35 40.1	-2.9
MTBS	**Maitube**	3.97	28	*e*P	Pg	06 35 41.2	-2.0
	14nm,0.4s						
MTBS				*e*S	Sg	06 36 36.2	+1.6
	58nm,0.4s						
MTBS	**Maitube**	3.97	28	*e*PN	Pg	06 35 41.2	-2.0
TNSS	**Tian-Shan**	4.09	33	*e*P	Pg	06 35 43.6	-2.0
	11nm,0.4s						
TNSS				*e*S	Sg	06 36 40.1	+1.5
	66nm,0.5s						
TNSS	**Tian-Shan**	4.09	33	*e*PN	Pg	06 35 43.6	-2.0
MDOK	**Medeo**	4.24	33	*e*P	Pg	06 35 46.5	-1.8
	10nm,1.1s						
MDOK				*e*S	Sg	06 36 45.8	+2.5
	85nm,0.8s						
MDOK	**Medeo**	4.24	33	⇓Pn	Pb	06 35 36.9	-4.6
	10nm,0.5s						
MDOK				⇑Pg	Pg	06 35 48.7	+0.3
	27nm,0.6s						
MDOK				⇑Lg	Lg	06 36 44.4	
	71nm,0.7s						
MDOK	**Medeo**	4.24	33	*e*PN	Pg	06 35 46.5	-1.8
MDOK				*e*S	Sg	06 36 45.8	+2.5
KNDC	**Almaty**	4.25	32	⇑Pg	Pg	06 35 50.0	+1.5
	36nm,0.4s						
KNDC				⇑Lg	Lg	06 36 45.5	
	162nm,0.5s						
KNDC	**Almaty**	4.25	32	PN	Pg	06 35 50.0	+1.5
KRBS	**Karabastau**	4.26	18	*e*P	Pg	06 35 45.2	-3.5
	14nm,0.3s						
KRBS				*e*S	Sg	06 36 43.1	-0.8
	55nm,0.6s						
KRBS	**Karabastau**	4.26	18	*e*PN	Pg	06 35 45.2	-3.5
KK31	**Karatay Array**	4.29	325	Pn	Pn	06 35 34.7	+2.7
	5.4nm,0.3s,baz=134,slow=13,SNR=105						
KK31				⇓Lg	Lg	06 36 41.5	
	52nm,0.5s,baz=138,slow=30,SNR=8.5						
KK31	**Karatay Array**	4.29	325	*e*PN	Pn	06 35 34.6	+2.7
BRLS	**Borolday**	4.56	319	*e*P	Pb	06 35 47.3	+0.5
	32nm,0.5s						
BRLS				*e*S	Sb	06 36 46.6	+5.1
	140nm,0.5s						
BRLS	**Borolday**	4.56	319	*e*PN	Pb	06 35 47.3	+0.5
BRLS				*e*S	Sb	06 36 46.6	+5.1
KTBS	**Karatobe**	4.57	26	*e*P	Pg	06 35 52.3	-2.3
	7.0nm,0.6s						
KTBS				*e*S	Sg	06 36 55.0	+1.3
	125nm,0.8s						
KTBS	**Karatobe**	4.57	26	*e*PN	Pg	06 35 52.3	-2.3
KTBS				*e*S	Sg	06 36 55.0	+1.3
KUU	**Kurty**	4.62	23	*e*P	Pg	06 35 52.2	-3.4
	8.4nm,0.6s						
KUU				*e*S	Sg	06 36 54.8	-0.7
	62nm,0.9s						
KUU	**Kurty**	4.62	23	*e*PN	Pg	06 35 52.2	-3.4
KUU				*e*S	Sg	06 36 54.8	-0.7
CHKK	**Chushkaly**	4.80	28	*e*P	Pg	06 35 55.6	-3.4
	6.1nm,0.6s						
CHKK				*e*S	Sg	06 37 00.7	-0.5
	59nm,0.7s						
CHKK	**Chushkaly**	4.80	28	*e*PN	Pg	06 35 55.6	-3.4
CHKK				*e*S	Sg	06 37 00.7	-0.5
SATY	**Saty**	4.81	43	*e*P	Pg	06 35 56.9	-2.4
	15nm,0.8s						
SATY				*e*S	Sg	06 37 03.7	+2.1
	49nm,0.8s						
SATY	**Saty**	4.81	43	*e*PN	Pg	06 35 56.9	-2.4
SATY				*e*S	Sg	06 37 03.7	+2.1
KURS	**Kuram**	5.00	38	*e*P	Pg	06 36 00.6	-2.3
	11nm,1.1s						
KURS				*e*S	Sg	06 37 09.6	+1.9
	22nm,1.2s						
KURS	**Kuram**	5.00	38	*e*PN	Pg	06 36 00.6	-2.3
KURS				*e*S	Sg	06 37 09.6	+1.9
BTLS	**Baital**	5.39	1	*e*P	Pg	06 36 06.4	-4.0
	3.4nm,0.6s						
BTLS				*e*S	Sg	06 37 19.5	-0.7
	33nm,0.6s						
BTLS	**Baital**	5.39	1	*e*PN	Pg	06 36 06.4	-4.0
BTLS				*e*S	Sg	06 37 19.5	-0.7
MAKZ	**Makanchi**	9.27	37	⇓Pn	Pn	06 36 48.4	+8.1
	1.7nm,0.9s						
MAKZ				⇑Lg	Lg	06 39 22.8	
	4.9nm,0.8s						
MK31	**Makanchi Array**	9.41	38	Pn	Pn	06 36 48.8	+6.6
	2.5nm,1.1s,baz=208,slow=4.4,SNR=5.6						
MK31				⇑Lg	Lg	06 39 30.9	
	4.9nm,0.8s,baz=240,slow=10,SNR=3.9						
MK31	**Makanchi Array**	9.41	38	*i* P	Pn	06 36 48.7	+6.6
MKAR	**Makanchi Array**	9.41	38	Pn	Pn	06 36 47.5	+5.3
	0.1nm,0.3s,baz=238,slow=14,SNR=5.9						
MKAR				Lg	Lg	06 39 23.8	
	0.2nm,0.3s,baz=225,slow=30,SNR=3.6						
MKAR	**Makanchi Array**	9.41	38	*e*P	Pn	06 36 48.9	+6.8
WMQ	**Urumqi**	11.12	64	*e*P	Pn	06 37 09.8	+4.1
KURBB	**Kurchatov Arra**	11.45	15	Pn	Pn	06 37 12.6	+2.6
	0.0nm,0.3s,baz=204,slow=11,SNR=6.7						
KURBB				Lg	Lg	06 40 28.9	
	0.1nm,0.3s,baz=205,slow=29,SNR=6.1						
KURBB	**Kurchatov Arra**	11.45	15	⇑Lg	Lg	06 40 32.5	
	19nm,0.6s						
KURK	**Kurchatov**	11.56	15	P	Pn	06 37 12.6	+1.1
GEYT	**Alibeck**	12.43	267	Pn	Pn	06 37 21.4	-2.2
	0.6nm,0.3s,baz=121,slow=13,SNR=2.1						
BVAR	**Borovoye Array**	13.60	351	Pn	Pn	06 37 39.6	+0.3
	0.3nm,0.3s,baz=153,slow=17,SNR=11						
BVAR				Lg	Lg	06 41 36.5	
	0.2nm,0.3s,baz=158,slow=28,SNR=3.4						
BRVK	**Borovoye**	13.64	351	*i* P	Pn	06 37 41.7	+1.7
AB31	**Akbulak array**	13.82	319	⇓Pn	Pn	06 37 41.2	-1.2
	2.2nm,0.6s,baz=127,slow=14,SNR=44						
AB31				⇑Sn	Sn	06 40 09.9	-5.6
	0.7nm,0.4s						
AB31	**Akbulak array**	13.82	319	*e*P	Pn	06 37 41.8	-0.6
DGZ	**Jazzator, Alta**	13.90	39	*i* P	P	06 37 51.5	-0.3
AKTO	**Aktyubinsk**	15.53	319	Pn	Pn	06 38 04.2	-1.2
	0.3nm,0.3s,baz=123,slow=13,SNR=9.8						
AKTO				Sn	Sn	06 40 52.6	-4.6
	0.1nm,0.3s,baz=153,slow=6.8,SNR=1.4						
AKTO	**Aktyubinsk**	15.53	319	⇑Pn	P	06 38 09.6	-0.2
	8.7nm,0.8s						
AKTO				⇑Sn	Sn	06 40 55.2	-2.0
	3.3nm,1.1s						
ZALV	**Zalesovo Beam**	16.11	24	Pn	P	06 38 16.4	+0.2
	0.4nm,0.3s,baz=208,slow=12,SNR=9.6						
ZALV	**Zalesovo Beam**	16.11	24	*e*P	P	06 38 17.3	+1.1

ARU	**Arti**	19.60	334	P	Pn	06 38 56.7	+0.8
	0.0nm,0.3s,baz=131,slow=19,SNR=5.2						
ARU	**Arti**	19.60	334	*c i*P	Pn	06 38 57.8	+1.9
ARU						06 39 12.5	
ARU				S	Sn	06 42 35.7	+0.2
ARU				SS	SnSn	06 42 50.3	+0.6
ARU				pmax	pmax		
	comp=Z,15nm,2.2s						
GTA	**Gaotai**	19.98	82	*e*P	Pn	06 39 02.3	+1.5
GTA				pP	sP	06 39 07.3	+0.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MAK	**Makhachkala**	20.07	288	*e*P	P	06 39 00.4	+0.6
MAK				*e*S	S	06 42 40.6	-4.2
MAK				pmax	pmax		
	comp=Z,194nm,1.5s						
MAK				MLR	MLR		
	comp=Z,244nm,14.0s						
BELG	**Belogornoye**	22.11	314	P	P	06 39 23.6	+1.9
	comp=Z,21nm,0.9s,baz=111,slow=8.6,SNR=5.9						
BELG	**Belogornoye**	22.11	314	*i* P	P	06 39 23.8	+2.1
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	23.43	290	P	P	06 39 35.5	-0.1
	comp=Z,0.4nm,0.3s,baz=150,slow=9.1,SNR=4.1						
KBZ	**Khabaz**	23.43	290	*i* P	P	06 39 35.8	+0.2
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIV	**Kislovodsk**	23.58	291	*e*P	P	06 39 37.1	-0.2
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	24.72	60	P	P	06 39 49.8	+1.9
	comp=Z,0.3nm,0.4s,baz=273,slow=10.0,SNR=5.8						
SONM	**Songino Array**	24.72	60	*e*P	P	06 39 53.0	+5.1
BRTR	**Keskin Array B**	30.80	283	P	P	06 40 42.8	+0.5
	comp=Z,1.0nm,0.6s,baz=91,slow=5.5,SNR=2.4						
MNK	**Minsk**	34.01	311	*i* P	P	06 41 09.4	-0.7
MNK				*i* P	P	06 41 09.4	-0.7
MNK				*i* P	P	06 41 09.4	-0.7
MNK				*i* PP	PnPn	06 42 21.1	-2.1
MNK				*i* PPP	PPP	06 42 32.7	
MNK				*i* PcP	PcP	06 43 49.7	+2.0
MNK				*i* S	S	06 46 29.6	-5.0
MNK				*i* SSS	SSS	06 48 50.9	
MNK				*i* LQ	LQ	06 51 33.9	
MNK				*i* LR	LR	06 54 42.1	
MNK				*i* LRM	MLR	06 55 40.8	
MNK				*i* LRM	MLR	06 55 42.7	
MNK				*i* LRM	MLR	06 56 07.6	
FINES	**FINESS Array B**	36.25	323	P	P	06 41 30.4	+1.0
	comp=Z,1.9nm,0.6s,baz=108,slow=9.4,SNR=7.0						
ARCES	**ARCESS Array B**	39.17	335	P	P	06 41 55.3	+1.3
	comp=Z,3.1nm,0.7s,baz=99,slow=7.5,SNR=14						
ARCES	**ARCESS Array B**	39.17	335	*e*P	P	06 41 55.2	+1.2
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	43.06	303	P	P	06 42 26.7	+0.3
	comp=Z,0.2nm,0.2s,baz=65,slow=7.7,SNR=2.1						
CLL	**Collm**	43.07	307	*i* P	P	06 42 26.5	+0.2
CLL	**Collm**	43.07	307	*i* P	P	06 42 26.5	+0.2
NB2	**NORSAR Subarra**	43.31	321	P	P	06 42 28.1	0.0
	comp=Z,2.5nm,0.7s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	43.31	321	P	P	06 42 28.4	+0.3
	comp=Z,1.4nm,0.7s,baz=91,slow=7.9,SNR=6.4						
COCO	**West Island**	55.81	153	*i* P	P	06 44 12.4	+8.6
ESDC	**Sonseca Array**	58.03	297	P	P	06 44 19.0	-0.5
	comp=Z,0.4nm,0.6s,baz=65,slow=6.3,SNR=1.7						
TORD	**Torodi Ar. Bea**	68.06	269	P	P	06 45 25.0	-1.4
	comp=Z,0.8nm,0.5s,baz=44,slow=5.1,SNR=6.5						
ILAR	**Eielson Array**	71.12	17	P	P	06 45 45.1	+0.6
	comp=Z,0.7nm,0.8s,baz=308,slow=4.1,SNR=7.1						
YKA	**Yellowknife Ar**	77.98	4	P	P	06 46 25.2	+0.9
	comp=Z,0.5nm,0.6s,baz=353,slow=5.1,SNR=7.8						
WRA	**Warramunga Arr**	81.79	124	P	P	06 46 45.3	-0.2
	comp=Z,0.5nm,0.5s,baz=324,slow=4.7,SNR=12						
ASAR	**Alice Springs**	84.25	127	P	P	06 46 57.8	-0.5
	comp=Z,0.2nm,0.5s,baz=315,slow=5.3,SNR=1.8						

TIR ***25*** *06:35:24.3, 42.˚72N×18.˚71E, h22km, Md3.3, Ml3.5*
RHSSO ***25*** *06:35:26.6±0.2, 42.˚69N×18.˚84E, h8km±1km, ML3.1/11*
BEO ***25*** *06:35:26.4±0.3, 42.˚66N×18.˚82E, h10km±2km, ML2.9/18*
PDG ***25*** *06:35:26.5±0.1, 42.˚68N×18.˚82E, h15km, MD3.2/11, ML3.2/12, Error ellipse: s-maj=0.1km s-min=0.3km az=0.0*
PRU ***25*** *06:35:27.8±0.0, 42.˚79N×18.˚98E, h0km*
ISC 25 06:35:26.7±0.8, 42.˚70N±0.˚01×18.˚82E±0.˚01, h13km±5km, n99, σ1.˚08/175, 31C-19D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NKME	**Niksic**	0.12	55	⇑*i* Pg	Pg		06 35 30.0	-0.1
NKME				*i* Sg	Sg		06 35 33.1	+0.6
CEME	**Cevo**	0.17	154	⇑*i* Pg	Pg		06 35 30.4	-0.3
CEME				*i* Sg	Sg		06 35 33.3	-0.2
NKY	**Niksic**	0.17	48	⇓*i* Pg	Pg		06 35 31.0	+0.1
NKY				*i* Sg	Sg		06 35 34.4	+0.6
BRY	**Bratogost**	0.29	315	⇑*i* Pg	Pg		06 35 32.6	-0.3
BRY				*e*Sg	Sb		06 35 37.7	-1.0
BRY	**Bratogost**	0.29	315	⇑*i* Pg	Pg		06 35 32.6	-0.3
BRY				*i* Sg	Sg		06 35 37.6	+0.6
HCY	**Herceg Novi**	0.34	224	⇓*i* Pg	Pg		06 35 33.0	-0.7
HCY				*e*Sg	Sg		06 35 38.8	+0.3
HCY	**Herceg Novi**	0.34	224	⇓*i* Pg	Pg		06 35 33.0	-0.7
HCY				*e*Sg	Sg		06 35 38.8	+0.3
TREB	**Trebinje**	0.35	274	*e*Pg	Pg		06 35 33.1	-0.7
TREB				*e*Sg	Sb		06 35 40.2	+0.1
TREB	**Trebinje**	0.35	274	⇑*i* Pg	Pg		06 35 33.2	-0.6
TREB				*e*Sg	Sb		06 35 39.5	-0.6
BUM	**Brajici-Budva**	0.40	172	⇑*i* Pg	Pg		06 35 33.8	-0.9
BUM				*i* Sg	Sg		06 35 40.1	0.0
PDG	**Podgorica**	0.42	129	*e*Pg	Pg		06 35 34.2	-0.9
PDG				*e*Sg	Sg		06 35 40.5	-0.2
PDG	**Podgorica**	0.42	129	⇑P	Pg		06 35 34.2	-0.9
PDG				⇑S	Sg		06 35 40.9	+0.2
PDG	**Podgorica**	0.42	129	⇑*i* Pg	Pg		06 35 34.1	-0.9
PDG				*e*Sg	Sg		06 35 40.7	0.0
TTG	**Podgorica**	0.42	129	⇑*i* Pg	Pg		06 35 34.1	-0.9
TTG				*i* Sg	Sg		06 35 40.9	+0.2
UPM	**Unac-Piva**	0.51	7	⇓*i* Pg	Pg		06 35 36.2	-0.7
UPM				*e*Sg	Sg		06 35 43.9	+0.2
UPM	**Unac-Piva**	0.51	7	⇓*i* Pg	Pg		06 35 36.2	-0.7
UPM				*i* Sg	Sb		06 35 45.2	+0.1
KOME	**Kolasin**	0.54	73	⇑*i* Pg	Pg		06 35 36.5	-0.8
KOME				*i* Sg	Sb		06 35 45.4	-0.3
DRME	**Dracevica, Mon**	0.58	152	⇑*i* Pg	Pg		06 35 36.9	-1.1
DRME				*e*Sg	Sb		06 35 46.2	-0.5
DRME	**Dracevica, Mon**	0.58	152	⇑*i* Pg	Pg		06 35 37.1	-0.9
DRME				*i* Sg	Sb		06 35 46.2	-0.5
PLE	**Pljevlja**	0.76	33	⇓*i* Pg	Pg		06 35 41.1	-0.4
PLE				*i* Sg	Sb		06 35 53.7	+1.6
ULC	**Ulcinj**	0.80	157	⇑*i* Pg	Pg		06 35 40.8	-1.4
ULC				*i* Sg	Sb		06 35 53.3	+0.2
IVA	**Berane**	0.81	77	⇓*i* Pg	Pg		06 35 41.7	-0.8
IVA				*e*Sg	Sb		06 35 54.3	+0.7
SDA	**Shkodra**	0.82	142	P	Pg		06 35 41.5	-1.1
	baz=138							
SDA				S	Sn		06 35 55.4	-0.4
	baz=138							
STON	**Ston**	0.84	282	*i* Pg	Pg		06 35 40.6	-2.4
STON				Sg	Sg		06 35 54.0	0.0
PVY	**Plav**	0.85	97	⇓*i* Pg	Pg		06 35 42.3	-0.9
PVY				*i* Sg	Sb		06 35 56.0	+1.3
BCI	**Bajram Curri**	0.98	109	P	Pg		06 35 44.5	-1.2
	baz=108							
BCI				S	Sb		06 35 58.7	+0.3
	baz=108							
BCI				AMP				
	comp=N,3.7nm,0.8s,baz=108							
RUDO	**Rudo**	1.01	23	⇓*i* Pg	Pg		06 35 44.3	-1.8
RUDO				*e*Sg	Sg		06 35 58.6	-0.7
SJES	**Sjenica**	1.02	56	*e*Pg	Pg		06 35 45.4	-1.0
SJES				*e*Sg	Sb		06 36 00.3	+0.7
PUK	**Puka**	1.03	129	P	Pg		06 35 45.7	-0.9
	baz=127							
PUK				S	Sn		06 36 01.5	+0.3
	baz=127							
PUK				AMP				
	comp=N,4.3nm,0.4s,baz=127							
BBLS	**Lazići**	1.25	20	*e*Pg	Pn		06 35 49.6	-0.3
BBLS				*e*Sg	Sn		06 36 08.1	+1.6
BBLS	**Lazići**	1.25	20	*e*Pg	Pn		06 35 49.4	-0.5
BBLS				*e*Sg	Sb		06 36 05.9	-0.2
LACI	**Lac**	1.25	148	P	Pn		06 35 49.4	-0.4
	baz=144							
LACI				S	Sn		06 36 07.5	+1.0
	baz=144							
IVAS	**Ivanjica**	1.31	48	*e*Pg	Pn		06 35 50.3	-0.5
IVAS				*e*Sg	Sb		06 36 07.9	-0.2
HAPS	**Han Pijesak,Bl**	1.39	4	*e*Pg	Pn		06 35 51.3	-0.6
HAPS				*e*Sg	Sg		06 36 11.2	-0.4
HAPS	**Han Pijesak,Bl**	1.39	4⇑	*i* Pg	Pn		06 35 51.3	-0.6
HAPS				*e*Sg	Sn		06 36 11.0	+0.8
MAKA	**Makarska**	1.45	295	*i* Pn	Pn		06 35 52.6	+0.1
MAKA				Sn	Sg		06 36 12.9	-0.4
RICI	**Ricice**	1.47	303	*i* Pn	Pn		06 35 53.1	+0.2
RICI				Sn	Sg		06 36 13.7	-0.3
TIR	**Tirane**	1.56	150	⇑P	Pb		06 35 55.7	+0.3
TIR				⇑S	Sg		06 36 17.7	+0.9
TIR	**Tirane**	1.56	150	P	Pn		06 35 54.6	+0.6
	baz=147							
TIR				S	Sg		06 36 17.3	+0.5
	baz=147							
PHP	**Peshkopia**	1.57	129	P	Pb		06 35 55.4	-0.3
	baz=128							
PHP				S	Sg		06 36 18.1	+0.7
	baz=128							
PHP				AMP				
	comp=N,2.2nm,0.6s,baz=128							
DIVS	**Divibare**	1.64	31	*e*Pn	Pn		06 35 55.1	-0.2
DIVS				*e*Sn	Sb		06 36 18.0	+0.5
DIVS	**Divibare**	1.64	31⇓	*i* Pn	Pn		06 35 54.9	-0.4
DIVS				*e*Sn	Sn		06 36 16.5	+0.2
SELS	**Selova**	1.77	72	*e*Pn	Pn		06 35 57.0	0.0
SELS				*e*Sn	Sn		06 36 19.4	0.0
HVAR	**Hvar**	1.81	286	*e*Pn	Pn		06 35 57.4	-0.1
HVAR				Sn	Sb		06 36 21.9	-0.2
GRUS	**Gruza**	1.83	49	*e*Pn	Pn		06 35 57.8	0.0
GRUS				*e*Sn	Sn		06 36 21.6	+0.8
TRUS	**Trudelj**	1.92	37	*e*Pn	Pn		06 35 58.7	+0.3
TEKS	**Tekeris**	1.92	15	*e*Pn	Pn		06 35 58.8	-0.3
TEKS				*e*Sn	Sn		06 36 24.5	+1.3
TEKS	**Tekeris**	1.92	15	*e*Pn	Pn		06 35 59.1	0.0
TEKS				*e*Sn	Sn		06 36 24.1	+0.9
SKO	**Skopje**	2.07	110	*i* Pn	Pb		06 36 02.8	-1.4
MGRS	**Mrkonjic Grad**	2.13	324	*e*Pn	Pn		06 36 02.3	+0.3
MGRS				*e*Sn	Sn		06 36 29.3	+0.9
OHR	**Ohrid**	2.17	136	*i* Pn	Pb		06 36 05.3	-0.5
KIJV	**Kijevo**	2.19	307	*e*Pn	Pn		06 36 04.2	+1.4
KIJV				Sn	Sb		06 36 33.7	+0.4
BARS	**Barje**	2.21	86	*e*Pn	Pn		06 36 02.8	-0.3
BARS	**Barje**	2.21	86	*e*Pn	Pg		06 36 10.8	+1.7
BARS				*e*Sn	Sn		06 36 29.7	-0.6
BARS				*e*Sn	Sg		06 36 44.0	+6.2
BOVS	**Bovan**	2.31	65	*e*Pn	Pn		06 36 04.2	-0.2
BOVS				*e*Sn	Sn		06 36 33.2	+0.5
BOVS	**Bovan**	2.31	65	⇑P	Pn		06 36 04.1	-0.4
BOVS				⇑S	Sn		06 36 32.2	-0.5
BLY	**Banja Luka**	2.37	331	*e*Pn	Pn		06 36 06.4	+1.2
BLY				*e*Sn	Sn		06 36 35.1	+1.0
ZIRJ	**Zirje**	2.51	293	*e*Pn	Pn		06 36 08.1	+0.9
ZIRJ				Sn	Sn		06 36 38.6	+1.0
MORI	**Morici**	2.56	298	*e*Pn	Pb		06 36 10.2	-2.1
MORI				Sn	Sn		06 36 41.3	+2.6
FRGS	**Fruska Gora**	2.56	16	*e*Pn	Pn		06 36 07.3	-0.6
FRGS	**Fruska Gora**	2.56	16	⇓P	Pn		06 36 07.3	-0.6
FRGS				⇓S	Sn		06 36 38.0	-0.9
FRGS	**Fruska Gora**	2.56	16	*e*Pn	Pn		06 36 08.0	+0.1
FRGS				*e*Sn	Sn		06 36 39.2	+0.2
MATE	**Matera**	2.59	218	⇓P	Pn		06 36 10.3	+2.1
STIP	**Stip**	2.69	111	*i* Pn	Pb		06 36 12.7	-2.1
BOSS	**Bosilegrad**	2.71	93	*e*Pn	Pn		06 36 10.1	+0.1
BOSS				*e*Sn	Sn		06 36 42.6	0.0
ZAGS	**Zajecar**	2.73	65	*e*Pn	Pn		06 36 11.4	+1.2
ZAGS				*e*Sn	Sn		06 36 43.9	+0.8
ZAPS	**Zavoj**	2.86	77	*e*Pn	Pn		06 36 12.7	+0.7
ZAPS				*e*Sn	Sn		06 36 47.6	+1.3
UDBI	**Udbina**	2.88	311	*e*Pn	Pn		06 36 14.5	+2.3
SRN	**Sarande**	2.95	162	P	Pn		06 36 14.7	+1.5
	baz=160							
SRN				S	Sb		06 36 53.3	-1.8
	baz=160							
MDVR	**Moldovita**	2.96	44	⇓S	Sn		06 36 48.4	-0.4
BLKB	**Belogradchik**	2.97	71	⇑S	Sn		06 36 48.5	-0.5
DUGI	**Dugi Otok**	3.03	297	*e*Pn	Pn		06 36 15.4	+1.0
VTS	**Vitosha**	3.26	90	*e*P

1.5000, Plg64.0000°, Azm284.0000°; N 0.5560, Plg22.0000°, Azm71.0000°; P -2.0560, Plg13.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

IDC ***25*** *06:41:32.2±0.6, 36°51'N×71°41'E, h121km±5km, mb4.1/23, mb1 4.2/29, mb1mx4.1/41, mbtmp4.5/29, MS3.4/6, Ms1 3.3/6, ms1mx3.0/29 Error ellipse: s-maj=11.5km s-min=9.8km az=36.0*

ISC 25 06:41:31.4±0.4, 36°53'N±0'.04×71°43'E±0'.03, h116km±3km, h116km:pP-P,n405,σ1991/454, mb4.8/130, 43C-28D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.77**	**225**	PN		**Pn**	**06 42 15.7**	**+0.9**
KBL	**Kabul**	**2.77**	**225**	Pn		**Pn**	**06 42 15.7**	**+0.9**
KBL	**Kabul**	**2.77**	**225**	S		**Sn**	**06 42 49.5**	**+1.3**
NIL	**Nilore**	**3.24**	**152**	Pn		**Pn**	**06 42 22.6**	**+1.9**
NIL				Sn		**Sn**	**06 43 01.4**	**+2.6**
NIL	**Nilore**	**3.24**	**152**	P		**Pn**	**06 42 22.7**	**+1.9**
NIL				S		**Sn**	**06 42 59.0**	**+0.2**
SRNI	**Srinagar**	**3.70**	**130**	*e*P		Pn	06 42 21.0	-5.8
SRNI				*e*S		**Sn**	**06 43 11.0**	**+1.2**
THW	**Thamme Wali**	**3.73**	**176**	P		**Pn**	**06 42 28.0**	**+0.7**
SARP	**Sargodha**	**4.71**	**167**	P		**Pn**	**06 42 39.8**	**-0.6**
TAS	**Tashkent**	**5.07**	**342**	PN		**Pn**	**06 42 45.4**	**+0.2**
TAS	**Tashkent**	**5.07**	**342**	Pn		**Pn**	**06 42 45.4**	**+0.2**
THN	**Thein Dam**	**5.41**	**138**	*e*P		**Pn**	**06 42 50.0**	**+0.2**
THN				*e*S		**Sn**	**06 43 48.5**	**-2.3**
IUG	**Iuzhnay** baz=349	**5.71**	**350**	*e*P		**Pn**	**06 42 53.8**	**-0.2**
IUG	baz=349			*e*S		**Sn**	**06 43 57.9**	**-0.5**
IUG	**Iuzhnay**	**5.71**	**350**	*e*PN		**Pn**	**06 42 53.8**	**-0.2**
AML	**Almayashu** SNR=605	**5.87**	**17**	P		**Pn**	**06 42 56.6**	**+0.3**
DHRM	**DHARAMSHALA**	**5.87**	**135**	*e*P		**Pn**	**06 42 55.8**	**-0.4**
DHRM				*e*S		Sn	06 43 45.1	-17
DHRM	comp=E,1μm,0.0s			IAML			06 44 00.6	
CHM	**Chimkent** baz=346	**5.95**	**347**	*e*P		**Pn**	**06 42 57.1**	**0.0**
CHM	**Chimkent**	**5.95**	**347**	*e*PN		**Pn**	**06 42 57.1**	**0.0**
UCH	**Uchtor** SNR=87	**6.17**	**22**	P		**Pn**	**06 43 01.0**	**+0.5**
EKS2	**Erkin-Say** SNR=153	**6.39**	**16**	P		**Pn**	**06 43 03.6**	**+0.5**
AAK	**Ala-Archa** comp=E,25nm,0.3s,baz=209,slow=12,SNR=186	**6.55**	**20**	P		**Pn**	**06 43 05.9**	**+0.7**
AAK	comp=E,10nm,0.3s,baz=328,slow=20,SNR=8.5			S		**Sn**	**06 44 17.9**	**-0.6**
AAK	**Ala-Archa** SNR=177	**6.55**	**20**	P		**Pn**	**06 43 06.0**	**+0.7**
AAK	**Ala-Archa** comp=E,167nm,0.8s	**6.55**	**20**	⇓P		**Pn**	**06 43 05.7**	**+0.4**
AAK	comp=E,255nm,1.0s			S		**Sn**	**06 44 17.6**	**-1.0**
AAK	**Ala-Archa**	**6.55**	**20**	P		**Pn**	**06 43 05.9**	**+0.7**
AAK				S		**Sn**	**06 44 18.1**	**-0.5**
BHK	**Bhakra**	**6.57**	**139**	*e*P		**Pn**	**06 43 03.4**	**-2.1**
BHK				*e*S		**Sn**	**06 44 15.2**	**-3.8**
KK31	**Karatay Array** comp=E,140nm,0.5s,baz=182,slow=13,SNR=1557	**6.61**	**354**	⇑P		**Pn**	**06 43 05.8**	**-0.1**
KK31	comp=E,61nm,0.5s,baz=175,slow=18,SNR=5.6			⇑S		**Sn**	**06 44 15.3**	**-4.5**
KK31	**Karatay Array**	**6.61**	**354**	*e*PN		**Pn**	**06 43 05.6**	**-0.3**
KK31	**Karatay Array**	**6.61**	**354**	Pn		**Pn**	**06 43 05.6**	**-0.3**
KKAR	**Karatay Array**	**6.61**	**354**	PN		**Pn**	**06 43 05.6**	**-0.3**
KKAR	**Karatay Array**	**6.61**	**354**			**Pn**	**06 43 05.6**	**-0.3**
KKAR	**Karatay Array**	**6.61**	**354**	Pn		**Pn**	**06 43 05.4**	**-0.6**
KBK	**Karagaybulak** SNR=21	**6.70**	**23**	P		**Pn**	**06 43 08.1**	**+0.8**
ULHL	**Ulahol** SNR=17	**6.82**	**32**	P		**Pn**	**06 43 10.3**	**+1.3**
CHMS	**Chumysh** SNR=116	**6.95**	**21**	P		**Pn**	**06 43 11.0**	**+0.4**
USP	**Ospenovka** SNR=32	**7.13**	**18**	P		**Pn**	**06 43 13.0**	**-0.1**
TKM2	**Tokmak 2** SNR=10	**7.15**	**25**	P		**Pn**	**06 43 14.2**	**+0.7**
TKM2	**Tokmak 2** comp=E,211nm,1.1s	**7.15**	**25**	⇓P		**Pn**	**06 43 13.7**	**+0.2**
TKM2	comp=E,129nm,1.4s			⇓S		**Sn**	**06 44 33.6**	**+0.4**
TKM2	**Tokmak 2**	**7.15**	**25**	PN		**Pn**	**06 43 13.6**	**+0.2**
SMLA	**Simla**	**7.20**	**137**	*e*P		**Pn**	**06 43 13.8**	**-0.2**
SMLA				*e*S		**Sn**	**06 44 28.5**	**-5.6**
SMLA	comp=E,388nm,0.4s			IAML			06 44 40.3	
SGDS	**Sogindy** comp=E,18nm,0.4s,baz=18	**7.34**	**19**	*i* P		**Pn**	**06 43 15.3**	**-0.7**
SGDS	**Sogindy**	**7.34**	**19**	*i* PN		**Pn**	**06 43 15.2**	**-0.7**
SGDS	comp=Z,18nm,0.4s			pmax	pmax			
TNSS	**Tian-Shan** baz=32	**7.77**	**31**	⇓*i* P		**Pn**	**06 43 21.9**	**-0.2**
TNSS	**Tian-Shan**	**7.77**	**31**	⇓*i* PN		**Pn**	**06 43 21.8**	**-0.2**
HRA	**Herat**	**7.79**	**257**	Pn		**Pn**	**06 43 23.1**	**+1.0**
AAA	**Alma-Ata** baz=31	**7.89**	**31**	*e*P		**Pn**	**06 43 23.4**	**0.0**
AAA	**Alma-Ata**	**7.89**	**31**	*e*PN		**Pn**	**06 43 23.4**	**0.0**
MDOK	**Medeo** baz=32	**7.91**	**31**	*e*P		**Pn**	**06 43 23.9**	**+0.1**
MDOK	**Medeo** comp=Z,61nm,1.0s	**7.91**	**31**	P		**Pn**	**06 43 23.9**	**+0.1**
MDOK	**Medeo**	**7.91**	**31**	*e*PN		**Pn**	**06 43 23.8**	**+0.1**
KNDC	**Almaty** comp=Z,163nm,1.0s	**7.92**	**31**	⇑P		**Pn**	**06 43 23.9**	**+0.1**
KUU	**Kurty** comp=Z,53nm,1.0s,baz=26	**8.26**	**26**	⇑*i* P		**Pn**	**06 43 27.3**	**-1.0**
KUU	**Kurty**	**8.26**	**26**	*c i* PN		**Pn**	**06 43 27.3**	**-1.0**
KUU	comp=Z,53nm,1.0s			pmax	pmax			
DDI	**Dehra Dun**	**8.30**	**136**	*e*P		**Pn**	**06 43 28.3**	**-0.7**
DDI				*e*S		**Sn**	**06 44 58.3**	**-2.9**
DDI	comp=N,586nm,1.7s			IAML			06 45 10.9	
DDI	comp=E,471nm,0.7s			IAML			06 45 11.4	
SATY	**Saty** comp=E,17nm,1.1s,baz=38	**8.45**	**37**	*e*P		**Pn**	**06 43 30.4**	**-0.6**
SATY	**Saty**	**8.45**	**37**	*e*PN		**Pn**	**06 43 30.3**	**-0.6**
SATY	comp=Z,17nm,1.1s			pmax	pmax			
CHKK	**Chushkaly** baz=29	**8.46**	**28**	*e*P		**Pn**	**06 43 30.0**	**-1.1**
CHKK	**Chushkaly**	**8.46**	**28**	*e*PN		**Pn**	**06 43 30.0**	**-1.1**
BTLS	**Baital** baz=12	**8.73**	**12**	⇓*i* P		**Pn**	**06 43 33.5**	**-1.2**
BTLS	**Baital**	**8.73**	**12**	*d i* PN		**Pn**	**06 43 33.5**	**-1.2**
UZB	**Uzynbulak** baz=39	**8.82**	**39**	*i* P		**Pn**	**06 43 35.3**	**-0.8**
UZB	**Uzynbulak**	**8.82**	**39**	*i* PN		**Pn**	**06 43 35.2**	**-0.8**
KPKS	**Kokpek** baz=37	**8.89**	**37**	⇓*i* P		**Pn**	**06 43 36.6**	**-0.3**
KPKS	**Kokpek**	**8.89**	**37**	*d i* PN		**Pn**	**06 43 36.5**	**-0.3**
NDI	**New Delhi**	**9.22**	**146**	*e*P		**Pn**	**06 43 39.0**	**-2.4**
TDK	**Taldyqorghan** baz=30	**9.98**	**30**	*e*P		**Pn**	**06 43 51.2**	**-0.4**
TDK	**Taldyqorghan**	**9.98**	**30**	*e*P		**Pn**	**06 43 51.1**	**-0.4**
AJM	**Ajmer**	**10.39**	**164**	⇓*i* P		**Pn**	**06 43 54.0**	**-3.2**
AJM				*i* S		**Sn**	**06 45 44.0**	**-7.7**
GEYT	**Alibeck** comp=Z,3.0nm,0.3s,baz=111,slow=11,SNR=23	**10.70**	**281**	P		**Pn**	**06 43 57.8**	**-3.6**
GEYT	comp=Z,16nm,0.3s,baz=111,slow=21,SNR=6.9			S		Sn	06 45 50.2	-9.1
GEYT	comp=Z,91nm,19.2s,baz=35,slow=46			LR		LR	06 49 44.1	
GEYT	**Alibeck**	**10.70**	**281**	Pn		**Pn**	**06 43 57.6**	**-3.8**
GYA0B	**ALIBECK ARRAY**	**10.70**	**281**	⇑P		**Pn**	**06 43 57.6**	**-3.9**
GYA0B				⇑S		**Sn**	**06 45 53.1**	**-6.1**
GYA0B	**ALIBECK ARRAY**	**10.70**	**281**	Pn		**Pn**	**06 43 58.2**	**-3.2**
MAKZ	**Makanchi** comp=Z,27nm,0.9s	**12.94**	**34**	⇓P		**Pn**	**06 44 28.2**	**-2.6**
MAKZ	**Makanchi**	**12.94**	**34**	P		**Pn**	**06 44 29.7**	**-1.2**
MAKZ	**Makanchi**	**12.94**	**34**	Pn		**Pn**	**06 44 29.7**	**-1.2**
MK31	**Makanchi Array** comp=Z,24nm,1.1s,baz=207,slow=10,SNR=61	**13.07**	**35**	⇑P		**Pn**	**06 44 30.9**	**-1.7**
MK31	**Makanchi Array**	**13.07**	**35**	*c i* P		**Pn**	**06 44 31.3**	**-1.3**
MK31	**Makanchi Array**	**13.07**	**35**			**Pn**	**06 44 31.6**	**-1.0**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.3s,baz=224,slow=11,SNR=35	**13.07**	**35**	*i* P		**Pn**	**06 44 31.7**	**-0.8**
MKAR	**Makanchi Array**	**13.07**	**35**	*i* P		**Pn**	**06 44 31.3**	**-1.3**
MKAR	comp=Z,12nm,0.9s			pmax	pmax			
MKAR	**Makanchi Array**	**13.07**	**35**	Pn		**Pn**	**06 44 31.2**	**-1.4**
GKN	**Gorkha**	**14.03**	**124**	*e*P		**Pn**	**06 44 41.8**	**-3.5**
BHPL	**Bhopal**	**14.22**	**157**	*e*P		**Pn**	**06 44 43.8**	**-3.8**
BHPL				*i* x		x	06 44 51.2	
BHPL				*ex*		x	06 47 08.0	
BHPL	comp=N,43nm,1.2s			IAML			06 47 17.5	
BHPL	comp=E,44nm,1.0s			IAML			06 47 31.9	
BHPL	comp=N,37nm,0.3s			IAML			06 47 35.6	
BHPL	comp=E,66nm,1.6s			IAML			06 47 40.8	
WMQ	**Urumqi**	**14.40**	**55**	*e*P		**P**	**06 44 51.3**	**-2.0**
WMQ	comp=E,21nm,0.9s			pmax	pmax			
WMQ	comp=E,140nm,6.1s			pmax	pmax			
DMN	**Daman**	**14.60**	**124**	*e*P		**Pn**	**06 44 49.5**	**-3.1**
PKIN	**Phulchoki**	**14.82**	**123**	*e*P		**Pn**	**06 44 51.9**	**-3.5**
PKI	**Pulchoki**	**14.83**	**123**	*e*P		**Pn**	**06 44 52.0**	**-3.6**
GUN	**Gumba**	**14.94**	**121**	*e*P		**Pn**	**06 44 53.4**	**-3.5**
KURBB	**Kurchatov Arra** comp=E,0.1nm,0.3s,baz=208,slow=11,SNR=10	**14.99**	**18**	⇑P		**Pn**	**06 44 53.6**	**-3.4**
KURBB	**Kurchatov Arra** comp=E,16nm,0.7s	**14.99**	**18**	⇑P		**Pn**	**06 44 52.9**	**-4.2**
KURK	**Kurchatov**	**15.10**	**18**	P		**Pn**	**06 44 53.7**	**-4.7**
KURK	**Kurchatov**	**15.10**	**18**	P		**Pn**	**06 44 53.6**	**-4.7**
AB31	**Akbulak array** comp=E,22nm,0.5s,baz=141,slow=10,SNR=375	**15.23**	**330**	P		**Pn**	**06 44 58.0**	**-2.1**
AB31	comp=E,33nm,0.7s,baz=144,slow=20,SNR=10			⇑S		**Sn**	**06 47 41.3**	**-7.1**
AB31	**Akbulak array**	**15.23**	**330**	*i* P		**Pn**	**06 44 57.9**	**-2.1**
ABKAR	**Akbulak array**	**15.23**	**330**			**Pn**	**06 44 57.4**	**-2.7**
ABKAR	comp=Z,52nm,0.7s			IAmb		IAmb	06 45 01.1	
ABKAR	**Akbulak array**	**15.23**	**330**	Pn		**Pn**	**06 44 57.8**	**-2.3**
RAMN	**Ramite** comp=E,166nm,0.8s	**16.04**	**122**	*e*P		**Pn**	**06 45 08.1**	**-2.5**
BVAR	**Borovoye Array** comp=Z,1.5nm,0.3s,baz=164,slow=18,SNR=26	**16.51**	**358**	P		**Pn**	**06 45 15.4**	**-0.5**
BRVK	**Borovoye** comp=Z,31nm,0.9s	**16.55**	**358**	⇓P		**Pn**	**06 45 16.0**	**-0.4**
BRVK	**Borovoye** comp=Z,45nm,1.3s	**16.55**	**358**	*d i* P		**Pn**	**06 45 14.3**	**-2.1**
BRVK	**Borovoye**	**16.55**	**358**			**Pn**	**06 45 14.8**	**-1.5**
BRVK	comp=Z,28nm,0.8s			IAmb		IAmb	06 45 20.2	
BRVK	**Borovoye**	**16.55**	**358**	P		**Pn**	**06 45 14.3**	**-2.1**
TAPN	**Taplejung** comp=Z,218nm,0.8s	**16.56**	**119**	*e*P		**Pn**	**06 45 15.5**	**-1.5**
ODAN	**Odare** comp=Z,232nm,1.1s	**16.64**	**121**	*e*P		**Pn**	**06 45 16.3**	**-1.6**
BANOM	**Banah**	**16.68**	**235**	P		**Pn**	**06 45 18.6**	**+0.3**
AKTO	**Aktyubinsk** comp=E,1.9nm,0.3s,baz=143,slow=14,SNR=26	**16.93**	**329**	P		**Pn**	**06 45 20.5**	**-0.6**
AKTO	comp=Z,0.8nm,0.3s,baz=113,slow=22,SNR=6.0			S		Sn	06 48 13.9	-15
AKTO	**Aktyubinsk** comp=Z,57nm,0.9s	**16.93**	**329**	⇓P		**Pn**	**06 45 19.7**	**-1.4**
AKTO	comp=Z,82nm,1.3s			⇓S		**Sn**	**06 48 21.4**	**-7.9**
WSAR	**Wadi Sarin** comp=Z,0.4nm,0.3s,baz=69,slow=8.6,SNR=5.6	**17.25**	**223**	P		**P**	**06 45 24.6**	**-0.3**
UOSS	**Minazif**	**17.42**	**233**	P		**P**	**06 45 26.4**	**-0.4**
UOSS	**Minazif**	**17.42**	**233**	P		**P**	**06 45 27.6**	**+0.8**
DGZ	**Jazzator, Alta**	**17.55**	**36**	*c i* P		**P**	**06 45 28.0**	**-0.2**
ASHO	**Ashiyiah**	**17.70**	**232**	P		**Pn**	**06 45 31.4**	**+0.8**
BOK	**Bokaro**	**17.79**	**132**	*ex*		**P**	**06 45 29.6**	**-1.1**
BOK	comp=Z,23nm,0.8s			IAmb		IAmb	06 45 35.5	
AKT	**Akhty**	**19.05**	**292**	*e*P		**Pn**	**06 45 46.4**	**-0.2**
AKT				*e*S		**S**	**06 49 15.0**	**+0.5**
AKT	comp=Z,26nm,0.6s			pmax	pmax			
AKT	comp=N,31nm,0.5s			smax	smax			
AKT	comp=E,68nm,0.6s			smax	smax			
MAK	**Makhachkala**	**19.45**	**297**	*e*P		**P**	**06 45 50.0**	**+1.2**
MAK				*e*S		**S**	**06 49 25.4**	**+3.2**
MAK	comp=Z,119nm,1.0s			pmax	pmax			
ZAA0	**Zalesovo Array** comp=Z,4.9nm,0.9s	**19.75**	**24**	⇑P		**P**	**06 45 50.5**	**-1.4**
ZAA0	**Zalesovo Array** comp=Z,2.2nm,0.8s	**19.75**	**24**	IAmb		IAmb	06 45 54.0	
ZALV	**Zalesovo Beam** comp=Z,2.5nm,0.3s,baz=223,slow=9.3,SNR=38	**19.75**	**24**	P		**P**	**06 45 51.8**	**-0.2**
ZALV	**Zalesovo Beam**	**19.75**	**24**	P		**P**	**06 45 51.1**	**-0.8**
HYB	**Hyderabad** comp=Z,100nm,1.0s	**20.05**	**160**	*i* P		**P**	**06 45 55.0**	**-0.5**
HYB	**Hyderabad**	**20.05**	**160**	*ex*		x	06 45 54.9	
GROC	**Groznyy**	**20.73**	**297**	*e*P		**P**	**06 46 04.2**	**+1.7**
GROC				*e*PP		**pP**	**06 46 25.0**	**+0.6**
GROC				*e*S		**S**	**06 49 54.2**	**+6.8**
GROC				*e*SS		**sS**	**06 50 26.4**	**+1.3**
GROC	comp=Z,67nm,0.7s			pmax	pmax			
GNI	**Garni** comp=Z,68nm,1.1s,baz=104,slow=4.2,SNR=29	**21.21**	**288**	P		**P**	**06 46 11.4**	**+3.4**
GNI	**Garni**	**21.21**	**288**	*e*P		**P**	**06 46 09.5**	**+1.6**
GNI	comp=Z,157nm,1.7s			pmax	pmax			
GNI	**Garni**	**21.21**	**288**	P		**P**	**06 46 10.1**	**+2.2**
GNI	**Garni**	**21.21**	**288**	P		**P**	**06 46 10.4**	**+2.5**
MIB	**Mutribah**	**21.22**	**259**	*e*P			06 46 07.6	
RDF	**Al-Radifah**	**21.43**	**256**	*e*P			06 46 10.0	
SVE	**Sverdlovsk**	**21.56**	**344**	*e*P		**P**	**06 46 12.1**	**+0.8**
RST	**Umm Al-Ruwaisa**	**21.62**	**258**	*e*P			06 46 11.6	
ARU	**Arti** comp=Z,2.8nm,0.4s,baz=148,slow=9.2,SNR=14	**21.72**	**340**	P		**P**	**06 46 13.9**	**+0.9**
ARU	**Arti**	**21.72**	**340**	*c i* P		**P**	**06 46 11.9**	**-1.1**
ARU							06 46 51.1	
ARU				S		**S**	**06 50 06.7**	**+0.6**
ARU				SS		**SnSn**	**06 50 48.6**	**+6.4**
ARU	comp=Z,26nm,1.4s			pmax	pmax			
ARU	**Arti**	**21.72**	**340**	P		**P**	**06 46 12.8**	**-0.2**
ARU	comp=Z,57nm,1.2s			IAmb		IAmb	06 46 24.1	
ZEI	**Tsey** comp=Z,29nm,1.0s	**22.04**	**295**	*e*P		**P**	**06 46 18.7**	**+2.0**
AKH	**Akhalkalaki**	**22.21**	**291**	⇑P		**P**	**06 46 21.5**	**+3.0**
NCK	**Nalchik**	**22.36**	**297**	*e*P		**P**	**06 46 20.7**	**+0.9**
NCK	comp=Z,61nm,0.6s			pmax	pmax			
GTA	**Gaotai**	**22.53**	**74**	⇓P		**P**	**06 46 24.5**	**+2.8**
GTA	comp=Z,8.0nm,1.1s			pmax	pmax			
GTA	comp=Z,100nm,7.1s			pmax	pmax			
KBZ	**Khabaz** comp=Z,17nm,0.9s,baz=115,slow=7.8,SNR=32	**22.89**	**297**	P		**P**	**06 46 25.8**	**+0.8**
KBZ	comp=Z,71nm,19.9s,baz=72,slow=40			LR		LR	06 56 58.9	
KBZ	**Khabaz**	**22.89**	**297**	⇓*i* P		**P**	**06 46 26.0**	**+1.0**
KBZ	comp=Z,25nm,1.0s			pmax	pmax			
NEY	**Neytrino**	**22.95**	**296**	⇑*i* P		**P**	**06 46 27.8**	**+1.9**
NEY	comp=Z,7.0nm,1.0s			pmax	pmax			
GOF	**Gofitskoye**	**23.02**	**301**	⇓*i* P		**P**	**06 46 28.6**	**+2.3**
GOF	comp=Z,91nm,0.8s			pmax	pmax			
KVAR	**Kislovodsk Arr** comp=Z,2.9nm,0.4s,baz=0.0,slow=8.1,SNR=1.6	**23.07**	**298**	P		**P**	**06 46 28.1**	**+1.2**
KIV	**Kislovodsk**	**23.08**	**298**	⇑P		**P**	**06 46 29.1**	**+2.1**
KIV	**Kislovodsk**	**23.08**	**298**	*e*P		**P**	**06 46 28.9**	**+2.0**
KIV				*e*PP		**pP**	**06 46 52.3**	**+2.4**
KIV				*e*SP		**sP**	**06 47 07.2**	**+2.5**
KIV				*e*S		**S**	**06 50 31.7**	**+2.7**
KIV	comp=Z,48nm,1.0s			pmax	pmax			
KIV	comp=Z,97nm,14.0s			MLR	MLR			
KIV	**Kislovodsk**	**23.08**	**298**	P		**P**	**06 46 28.4**	**+1.6**
KIV	comp=Z,48nm,1.2s			IAmb		IAmb	06 46 53.3	
KIV	**Kislovodsk**	**23.08**	**298**	P		**P**	**06 46 28.5**	**+1.6**
KIV				S		S	06 50 42.8	+14
BELG	**Belogornoye** comp=Z,27nm,0.8s,baz=270,slow=4.0,SNR=9.4	**23.08**	**321**	P		**P**	**06 46 27.6**	**+0.9**
BELG	**Belogornoye**	**23.08**	**321**	*c i* P		**P**	**06 46 27.7**	**+0.9**
BELG	comp=Z,9.0nm,1.0s			pmax	pmax			
CHVG	**Ch'k'valeri**	**23.36**	**294**	⇓P		**P**	**06 46 32.9**	**+3.4**
DOK	**Doka**	**23.46**	**225**	P		**P**	**06 46 30.9**	**+0.4**
DMTO	**DMTO**	**23.73**	**222**	P		**P**	**06 46 33.9**	**+0.9**
WHFO	**Wadi Hawf**	**24.22**	**225**	P		**P**	**06 46 37.4**	**0.0**
SOC	**Sochi**	**25.17**	**296**	*e*P		**P**	**06 46 45.2**	**-0.6**
SOC				*e*			06 47 24.8	
SOC				*e*			06 50 16.2	
SOC				*e*S		**S**	**06 51 02.1**	**-0.1**
SOC	comp=Z,22nm,0.7s			pmax	pmax			
VRH	**Novokhopyorsk**	**25.73**	**314**	*e*P		**P**	**06 46 52.5**	**+1.7**
VRH	comp=Z,40nm,1.6s			pmax	pmax			
RAYN	**Ar Rayn**	**25.82**	**247**	P		**P**	**06 46 53.5**	**+1.5**
RAYN	comp=Z,8.0nm,1.0s			pmax	pmax			
RAYN	**Ar Rayn**	**25.82**	**247**	P		**P**	**06 46 53.5**	**+1.5**
LZH	**Lanzhou**	**26.07**	**81**	*e*P		**P**	**06 47 00.3**	**+6.1**
LZH				pP		pP	06 47 24.3	+4.0
LZH	comp=Z,11nm,1.1s			pmax	pmax			
KIRV	**Kirov** comp=Z,18nm,0.7s,baz=154,slow=2.9,SNR=7.3	**26.37**	**334**	P		**P**	**06 46 57.2**	**+0.8**
KIRV	comp=Z,45nm,0.7s,baz=144,slow=4.6,SNR=6.9			pP		**pP**	**06 47 22.6**	**+0.3**
KIRV	**Kirov**	**26.37**	**334**	*de*P		**P**	**06 46 58.7**	**+2.3**
ANN	**Anapa** comp=Z,14nm,0.7s	**26.92**	**298**	*e*P		**P**	**06 47 01.7**	**+0.1**
ANN				pmax	pmax			
VORD	**Divnogorie**	**27.07**	**312**	*e*P		**P**	**06 47 03.0**	**+0.1**
VORD	comp=Z,10.0nm,1.1s			pmax	pmax			
VSR	**Storozhevoye** comp=Z,10.0nm,0.5s	**27.23**	**313**	*e*P		**P**	**06 47 03.7**	**-0.6**
VSR				pmax	pmax			
CD2	**Chengdu**	**27.39**	**92**	P		**P**	**06 47 08.5**	**+2.5**
LPSR	**Galich'ya Gora** comp=Z,10.0nm,0.6s	**27.87**	**315**	*e*P		**P**	**06 47 10.6**	**+0.6**
LPSR				pmax	pmax			
SONM	**Songino Array** comp=Z,0.3nm,0.4s,baz=280,slow=8.2,SNR=3.8	**28.04**	**55**	P		**P**	**06 47 13.2**	**+1.5**
SONM	**Songino Array**	**28.04**	**55**	P		**P**	**06 47 13.0**	**+1.3**
BRTR	**Keskin Array B** comp=Z,1.8nm,0.9s,baz=76,slow=10,SNR=5.1	**29.75**	**288**	P		**P**	**06 47 28.3**	**+1.3**
BRTR	**Keskin Array B**	**29.75**	**288**	*i* P		**P**	**06 47 29.0**	**+2.0**
BRTR	comp=Z,2.0nm,0.9s			pmax	pmax			
OBN	**Obninsk** comp=Z,4.7nm,0.4s,baz=7.3,slow=7.9,SNR=4.2	**30.14**	**319**	P		**P**	**06 47 31.0**	**+1.0**
OBN	**Obninsk**	**30.14**	**319**	*de*P		**P**	**06 47 31.2**	**+1.2**
OBN				*e*PP		**pP**	**06 48 00.9**	**+4.8**
OBN				*e*			06 48 36.7	
OBN				*e*S		**S**	**06 52 19.9**	**-0.3**
OBN	comp=Z,16nm,0.6s			pmax	pmax			
OBN	**Obninsk** comp=Z,22nm,0.6s	**30.14**	**319**	IAmb		IAmb	06 47 32.8	
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.3s,baz=305,slow=8.2,SNR=10	**30.17**	**119**	P		**P**	**06 47 31.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.17**	**119**	*i* P		**P**	**06 47 32.7**	**+2.0**
CMAR	comp=Z,2.0nm,0.3s			pmax	pmax			
CMAR	**Chiang Mai Arr**	**30.17**	**119**	P		**P**	**06 47 32.5**	**+1.8**
HHC	**Hu-ho-hao-te**	**31.43**	**70**	*e*P		**P**	**06 47 45.8**	**+4.1**
HHC	comp=Z,11nm,1.0s			pmax	pmax			
HHC	comp=Z,120nm,6.0s			pmax	pmax			
KLMR	**Klimovskoe**	**31.63**	**330**	*e*P		**P**	**06 47 42.4**	**-0.6**
KLMR				*e**PP		**pP**	**06 48 08.5**	**-0.8**
KLMR	comp=Z,25nm,1.2s			pmax	pmax			
KLMR	**Klimovskoe**	**31.63**	**330**	*e*P		**P**	**06 47 42.5**	**-0.6**
KLMR				AMP			06 47 45.7	
KLMR	comp=Z,25nm,1.2s			*e*pP		**pP**	**06 48 08.6**	**-0.8**
AKASG	**Malin Array Be** comp=Z,29nm,0.7s,baz=81,slow=6.9,SNR=66	**33.20**	**309**	P		**P**	**06 47 57.3**	**+0.4**
AKASG				LR		LR	07 02 00.6	
AKASG	**Malin Array Be**	**33.20**	**309**	*i* P		**P**	**06 47 58.2**	**+1.4**
AKASG	comp=Z,29nm,0.7s			pmax	pmax			
AKBB	**Malin Array Si** comp=Z,29nm,0.8s	**33.20**	**309**	*ce*P		**P**	**06 47 57.9**	**+1.1**
AKBB				pmax	pmax			
AKBB	**Malin Array Si**	**33.20**	**309**	P		**P**	**06 47 57.5**	**+0.7**
AKBB	comp=Z,24nm,0.8s			IAmb		IAmb	06 47 58.8	
TPGR	**Topolog**	**33.33**	**298**	⇑P		**P**	**06 48 00.4**	**+2.3**
CFR	**Carcaliu**	**33.53**	**299**	⇑P		**P**	**06 48 01.1**	**+1.3**
VRI	**Vrincioaia**	**34.51**	**300**	⇑P		**P**	**06 48 10.7**	**+2.3**
PLOR	**Plostina**	**34.56**	**300**	⇑P		**P**	**06 48 11.0**	**+2.1**
TESR	**Tescani**	**34.56**	**301**	⇑P		**P**	**06 48 10.4**	**+1.6**
ISR	**Istrita**	**34.65**	**299**	⇑P		**P**	**06 48 12.7**	**+3.0**
MNK	**Minsk** comp=E,1.0nm,0.5s	**34.72**	**315**	*i* P		**P**	**06 48 07.7**	**-2.3**
MNK	comp=N,18nm,0.7s			*i* P		**P**	**06 48 07.7**	**-2.3**
MNK	comp=Z,18nm,0.8s			*i* P		**P**	**06 48 07.7**	**-2.3**
MNK				*i* pP		**pP**	**06 48 34.2**	**-2.2**
MNK				*i* PP		**PnPn**	**06 49 27.1**	**-2.8**
MNK				*i* PcP		**PcP**	**06 50 40.0**	**-1.1**
MNK				*i* S		**S**	**06 53 27.9**	**-3.5**
MNK				*i* sS		**ScP**	**06 54 14.7**	**-1.0**
MNK				*i* SS		**SnSn**	**06 55 53.3**	**

BZS	**Buzias**	**38.10 300**	⇑P	**P**	**06 48 41.2 +2.4**	
NIE	**Niedzica**	**38.84 306**	*e*P	**P**	**06 48 47.3 +2.4**	
NJ2	**Nanjing**	**39.13 82**	*e*P	**P**	**06 48 49.0 +1.4**	
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.5s					
PSZ	**Piszkesteto**	**39.14 303**	⇑P	**P**	**06 48 50.0 +2.4**	
PSZ	**Piszkesteto**	**39.14 303**	P	**P**	**06 48 49.1 +1.5**	
PSZ			pmax	pmax		
	comp=Z,13nm,1.0s					
PSZ	**Piszkesteto**	**39.14 303**	P	**P**	**06 48 49.1 +1.5**	
PSZ			IAmb	IAmb	06 48 50.6	
	comp=Z,13nm,1.0s					
OJC	**Ojcow**	**39.16 307**	*e*P	**P**	**06 48 49.0 +1.4**	
OJC	**Ojcow**	**39.16 307**	P	**P**	**06 48 49.1 +1.4**	
OJC			pmax	pmax		
	comp=Z,32nm,1.0s					
OJC	**Ojcow**	**39.16 307**	P	**P**	**06 48 49.1 +1.4**	
OJC			IAmb	IAmb	06 48 50.5	
	comp=Z,32nm,1.0s					
VYHS	**Vyhne**	**39.82 304**	*e*P	**P**	**06 48 55.7 +2.5**	
VYHS			pmax	pmax		
	comp=Z,15nm,1.2s					
VYHS	**Vyhne**	**39.82 304**	*e*P	**P**	**06 48 55.7 +2.5**	
MORH	**Mrgy, Hungar**	**40.11 301**	⇑P	**P**	**06 48 57.6 +2.1**	
SRO2	**Moca**	**40.16 303**	*e*P	**P**	**06 48 57.8 +1.9**	
SRO2			pmax	pmax		
	comp=Z,33nm,0.7s					
SRO2	**Moca**	**40.16 303**	*e*P	**P**	**06 48 57.8 +1.9**	
SRO	**Srobarova**	**40.21 303**	*e*P	**P**	**06 48 59.2 +2.9**	
SRO			pmax	pmax		
	comp=Z,35nm,0.9s					
SRO	**Srobarova**	**40.21 303**	*e*P	**P**	**06 48 59.1 +2.8**	
JAVC	**Velka Javorina**	**40.58 305**	*e*P	**P**	**06 49 01.9 +2.5**	
MORC	**Moravsky Berou**	**40.62 306**	⇑P	**P**	**06 49 01.6 +1.8**	
MORC	**Moravsky Berou**	**40.62 306**	*e*P	**P**	**06 49 01.5 +1.7**	
MORC	**Moravsky Berou**	**40.62 306**	P	**P**	**06 49 01.5 +1.7**	
MORC			pmax	pmax		
	comp=Z,19nm,0.9s					
MORC	**Moravsky Berou**	**40.62 306**	P	**P**	**06 49 01.5 +1.7**	
MORC			IAmb	IAmb	06 49 02.6	
	comp=Z,19nm,0.9s					
MODS	**Modra-Piesok**	**40.87 304**	*e*P	**P**	**06 49 03.5 +1.7**	
MODS			pmax	pmax		
	comp=Z,10.0nm,1.1s					
MODS	**Modra-Piesok**	**40.87 304**	*e*P	**P**	**06 49 03.5 +1.7**	
KRLC	**Kraliky**	**41.10 307**	*e*P	**P**	**06 49 05.4 +1.7**	
KRLC	**Kraliky**	**41.10 307**	*e*P	**P**	**06 49 05.4 +1.7**	
ARA0	**ARCESS Array S**	**41.25 337**	*e*P	**P**	**06 49 03.9 -0.7**	
ARCES	**ARCESS Array B**	**41.25 337**	P	**P**	**06 49 05.6 +1.0**	
	comp=Z,14nm,0.8s,baz=116,slow=8.0,SNR=23					
ARCES			LR	LR	07 06 37.2	
	comp=Z,75nm,20.0s,baz=65,slow=36					
ARCES	**ARCESS Array B**	**41.25 337**	P	**P**	**06 49 05.2 +0.6**	
VRAC	**Vranov**	**41.26 306**	*e*P	**P**	**06 49 07.1 +2.1**	
DPC	**Dobruska-Polom**	**41.39 307**	*e*P	**P**	**06 49 07.9 +1.9**	
DPC	**Dobruska-Polom**	**41.39 307**	*e*P	**P**	**06 49 07.9 +1.9**	
KRUC	**Moravsky**	**41.41 305**	*e*P	**P**	**06 49 08.0 +1.9**	
OSTC	**Ostas**	**41.45 308**	*e*P	**P**	**06 49 08.9 +2.4**	
CHVC	**Chvalec**	**41.55 308**	*e*P	**P**	**06 49 09.4 +2.1**	
UPC	**Upice**	**41.58 308**	*e*P	**P**	**06 49 09.7 +2.2**	
UPC	**Upice**	**41.58 308**	*e*P	**P**	**06 49 09.7 +2.2**	
KTK1	**Kautokeino**	**41.73 336**	*e*P	**P**	**06 49 09.5 +1.0**	
CONA	**Conrad Observa**	**41.85 304**	*i* P	**P**	**06 49 12.0 +2.1**	
	comp=Z,27nm,1.0s,SNR=14					
ARSA	**Arzberg**	**42.14 303**	*e*P	**P**	**06 49 14.1 +1.9**	
	comp=Z,12nm,1.3s					
BSD	**Bornholm Skovb**	**42.23 315**	*i* P	**P**	**06 49 13.5 +0.8**	
	comp=Z,8.3nm,0.7s					
BSD	**Bornholm Skovb**	**42.23 315**	*i* P	**P**	**06 49 13.5 +0.8**	
BSD	**Bornholm Skovb**	**42.23 315**	*i* P	**P**	**06 49 13.5 +0.8**	
BSD			IAmb	IAmb	06 49 14.4	
	comp=Z,8.3nm,0.7s					
HAMF	**Hammerfest**	**42.33 338**	*e*P	**P**	**06 49 15.3 +2.0**	
CRES	**Cresnjev**	**42.37 301**	*i* P	**P**	**06 49 15.5 +1.5**	
GOPC	**GO Pecny, Ondr**	**42.40 307**	*e*P	**P**	**06 49 16.3 +2.1**	
GOPC	**GO Pecny, Ondr**	**42.40 307**	*e*P	**P**	**06 49 16.3 +2.1**	
PERS	**Pernice**	**42.49 302**	*e*P	**P**	**06 49 16.5 +1.4**	
SOKA	**Soboth**	**42.55 302**	*e*P	**P**	**06 49 17.1 +1.6**	
	comp=Z,23nm,1.0s,SNR=8.1					
PRU	**Pruhonice**	**42.55 307**	*e*P	**P**	**06 49 17.3 +1.9**	
PRU	**Pruhonice**	**42.55 307**	*e*P	**P**	**06 49 17.3 +1.9**	
CKRC	**Cesky Krumlov**	**42.80 305**	*e*P	**P**	**06 49 19.8 +2.3**	
JETT	**Jettan, Norway**	**42.87 336**	*e*P	**P**	**06 49 19.6 +1.9**	
BRG	**Berggiesshubel**	**42.88 308**	*i* P	**P**	**06 49 19.9 +1.9**	
BRG			Amp		06 49 20.9	
	comp=Z,30nm,0.8s					
BRG			*ex*	x	06 49 33.6	
BRG			Amp		06 49 35.3	
	comp=Z,7.5nm,1.0s					
BRG	**Berggiesshubel**	**42.88 308**	*e*P	**P**	**06 49 19.6 +1.6**	
	comp=Z,30nm,0.8s,baz=85,slow=7.9					
OBKA	**Obir**	**42.90 302**	*e*P	**P**	**06 49 20.8 +2.4**	
	comp=Z,16nm,1.4s					
RUE	**Ruedersdorf**	**42.90 311**	*e*P	**P**	**06 49 19.4 +1.2**	
	comp=Z,51nm,1.1s,baz=85,slow=7.9					
MOA	**Molln**	**42.92 304**	*i* P	**P**	**06 49 19.7 +1.2**	
	comp=Z,15nm,0.9s,SNR=5.4					
GEC2	**GERESS Array S**	**43.19 305**	*e*P	**P**	**06 49 22.2 +1.4**	
	comp=Z,6.0nm,1.0s,baz=85,slow=7.9					
GERES	**GERESS Array B**	**43.19 305**	P	**P**	**06 49 22.1 +1.4**	
	comp=Z,2.6nm,0.8s,baz=90,slow=7.2,SNR=15					
GERES	**GERESS Array B**	**43.19 305**	P	**P**	**06 49 21.3 +0.5**	
FBE	**Freiberg**	**43.24 308**	*e*P	**P**	**06 49 22.9 +1.9**	
	comp=Z,36nm,0.8s,baz=85,slow=7.9					
KHC	**Kasperske Hory**	**43.25 306**	*e*P	**P**	**06 49 23.1 +2.0**	
KHC	**Kasperske Hory**	**43.25 306**	*e*P	**P**	**06 49 23.1 +2.0**	
KHC			*ex*	x	06 49 34.0	
KHC	**Kasperske Hory**	**43.25 306**	P	**P**	**06 49 22.2 +1.1**	
KHC			IAmb	IAmb	06 49 23.8	
	comp=Z,9.9nm,1.1s					
CLL	**Collm**	**43.44 309**	*i* P	**P**	**06 49 23.3 +0.7**	
	comp=Z,22nm,1.0s					
CLL			*ep*P	**pP**	**06 49 50.0 0.0**	
CLL			*es*P	**sP**	**06 50 04.0 +0.6**	
CLL			*e*PP	**PP**	**06 51 05.0 -0.6**	
CLL	**Collm**	**43.44 309**	*i* P	**P**	**06 49 23.3 +0.7**	
CLL			*e**PP	**pP**	**06 49 50.0 0.0**	
CLL			*e**SP	**sP**	**06 50 04.0 +0.6**	
CLL			pmax	pmax		
	comp=Z,22nm,1.0s					
CLL	**Collm**	**43.44 309**	P	**P**	**06 49 22.4 -0.1**	
CLL			IAmb	IAmb	06 49 24.7	
	comp=Z,18nm,1.0s					
CLL	**Collm**	**43.44 309**	*e*P	**P**	**06 49 24.1 +1.6**	
	comp=Z,22nm,1.0s,baz=85,slow=7.9					
KBA	**Koelnbreinsper**	**43.64 303**	*e*P	**P**	**06 49 26.1 +1.7**	
	comp=Z,8.0nm,0.9s					
COP	**Copenhagen**	**43.66 315**	*i* P	**P**	**06 49 26.4 +2.2**	
	comp=Z,32nm,0.8s					
COP	**Copenhagen**	**43.66 315**	*e*P	**P**	**06 49 26.4 +2.2**	
COP	**Copenhagen**	**43.66 315**	*e*P	**P**	**06 49 26.4 +2.2**	
COP			IAmb	IAmb	06 49 26.7	
	comp=Z,32nm,0.8s					
WET	**Wettzell**	**43.70 306**	*e*P	**P**	**06 49 26.1 +1.4**	
	comp=Z,16nm,1.6s,baz=85,slow=7.9					
YAK	**Yakutsk**	**43.75 35**	*ce*P	**P**	**06 49 25.8 +1.0**	
YAK			pmax	pmax		
	comp=Z,10.0nm,0.5s					
TANN	**Tannenbergstha**	**43.85 308**	*e*P	**P**	**06 49 27.4 +1.5**	
	comp=Z,20nm,1.2s,baz=85,slow=7.9					
WERN	**Wernitzgruen**	**43.91 308**	*e*P	**P**	**06 49 28.1 +1.6**	
	comp=Z,11nm,1.1s,baz=85,slow=7.9					
RJOB	**Jochberg**	**43.92 304**	*e*P	**P**	**06 49 27.6 +1.1**	
	comp=Z,45nm,0.9s,baz=85,slow=7.9					
GUNZ	**Gunzen**	**43.94 308**	*e*P	**P**	**06 49 28.4 +1.8**	
	comp=Z,13nm,1.0s,baz=85,slow=7.9					
FAUS	**Fauske**	**43.94 332**	*e*P	**P**	**06 49 26.9 +0.6**	
WERD	**Werda**	**43.95 308**	*e*P	**P**	**06 49 28.1 +1.5**	
	comp=Z,6.0nm,0.8s,baz=85,slow=7.9					
MOR8	**Moi Rana**	**43.96 331**	*e*P	**P**	**06 49 26.2 -0.3**	
PLN	**Plauen**	**44.04 308**	*e*P	**P**	**06 49 28.7 +1.4**	
	comp=Z,12nm,0.9s,baz=85,slow=7.9					
ROTZ	**Rotzenmuhle**	**44.07 307**	*e*P	**P**	**06 49 29.6 +2.0**	
	comp=Z,27nm,1.3s,baz=85,slow=7.9					
STEI	**Steigen**	**44.10 333**	*e*P	**P**	**06 49 29.8 +2.2**	
MANZ	**Manzenberg**	**44.12 307**	*e*P	**P**	**06 49 29.9 +1.9**	
	comp=Z,19nm,1.1s,baz=85,slow=7.9					
NEUB	**Neuenburg**	**44.22 309**	*e*P	**P**	**06 49 30.2 +1.4**	
	comp=Z,40nm,1.0s,baz=85,slow=7.9					
ABTA	**Abfaltersbach**	**44.25 302**	*e*P	**P**	**06 49 30.1 +0.9**	
	comp=Z,10nm,1.3s					
MOX	**Moxa**	**44.37 308**	*e*P	**P**	**06 49 31.7 +1.7**	
	comp=Z,18nm,1.1s,baz=85,slow=7.9					
NC602	**NORSAR Array S**	**44.38 323**	*e*P	**P**	**06 49 30.4 +0.5**	
FLTG	**Flechtingen**	**44.47 311**	*e*P	**P**	**06 49 31.6 +0.9**	
	comp=Z,52nm,0.8s,baz=85,slow=7.9					
KSRS	**Korea Array**	**44.55 71**	P	**P**	**06 49 32.5 +0.9**	
	comp=Z,1.6nm,0.6s,baz=284,slow=5.0,SNR=5.6					
NB2	**NORSAR Subarra**	**44.56 323**	P	**P**	**06 49 31.6 +0.1**	
	comp=Z,32nm,0.8s,baz=93,slow=7.9					
NB2	**NORSAR Subarra**	**44.56 323**	P	**P**	**06 49 31.6 +0.1**	
	baz=93,slow=7.9					
NOA	**NORSAR Array B**	**44.56 323**	P	**P**	**06 49 32.0 +0.6**	
	comp=Z,23nm,0.7s,baz=96,slow=7.8,SNR=99					
NAO01	**NORSAR Array S**	**44.71 323**	P	**P**	**06 49 32.7 +0.1**	
GRF	**Grafenberg Arr**	**44.72 307**	*e*P	**P**	**06 49 35.1 +2.3**	
	comp=Z,41nm,1.4s,baz=85,slow=7.9					
OSL	**Oslo**	**44.73 321**	*e*P	**P**	**06 49 32.9 +0.2**	
WTTA	**Wattenberg**	**44.77 303**	*e*P	**P**	**06 49 34.4 +0.9**	
	comp=Z,18nm,1.1s					
NBO00	**NORSAR Array S**	**44.78 323**	P	**P**	**06 49 33.5 +0.4**	
WATA	**Walderalm**	**44.80 303**	*e*P	**P**	**06 49 34.5 +0.9**	
	comp=Z,16nm,1.3s					
NC204	**NORSAR Array S**	**44.80 323**	P	**P**	**06 49 33.7 +0.3**	
ASSE	**Asse, Remlinge**	**44.83 310**	*e*P	**P**	**06 49 34.5 +0.9**	
	comp=Z,12nm,1.4s,baz=85,slow=7.9					
KLR	**Kul'dur**	**44.85 54**	*ce*P	**P**	**06 49 34.6 +0.8**	
KLR			pmax	pmax		
	comp=Z,3.0nm,1.4s					
BSEG	**Bad Segeberg**	**44.92 313**	*e*P	**P**	**06 49 36.1 +1.8**	
	comp=Z,38nm,0.8s,baz=85,slow=7.9					
CLZ	**Clausthal**	**45.04 310**	*e*P	**P**	**06 49 36.9 +1.6**	
	comp=Z,33nm,1.3s,baz=85,slow=7.9					
SQTA	**Sankt Quirin**	**45.06 303**	*e*P	**P**	**06 49 36.6 +0.9**	
	comp=Z,16nm,1.1s					
MOTA	**Moosalm**	**45.11 303**	*e*P	**P**	**06 49 36.7 +0.5**	
	comp=Z,16nm,1.0s					
NRDL	**Niedersach Rie**	**45.15 311**	*e*P	**P**	**06 49 37.6 +1.6**	
	comp=Z,26nm,0.9s,baz=85,slow=7.9					
KONO	**Kongsberg**	**45.28 321**	*ce*P	**P**	**06 49 36.5 -0.6**	
KONO			pmax	pmax		
	comp=Z,69nm,2.5s					
KONO	**Kongsberg**	**45.28 321**	P	**P**	**06 49 37.3 +0.3**	
KONO			IAmb	IAmb	06 49 39.2	
	comp=Z,25nm,0.9s					
KONO	**Kongsberg**	**45.28 321**	*e*P	**P**	**06 49 37.6 +0.5**	
GTTG	**Gottingen**	**45.32 310**	*e*P	**P**	**06 49 39.1 +1.6**	
	comp=Z,43nm,0.9s,baz=85,slow=7.9					
RETA	**Reutte**	**45.32 304**	*e*P	**P**	**06 49 38.6 +0.9**	
	comp=Z,4.0nm,0.6s					
UBBA	**Unterbreizbach**	**45.37 308**	*e*P	**P**	**06 49 39.2 +1.4**	
	comp=Z,8.1nm,1.0s,baz=85,slow=7.9					
FETA	**Feichten**	**45.42 303**	*e*P	**P**	**06 49 39.4 +0.9**	
	comp=Z,16nm,1.3s					
YOJ	**Yonaguni jima**	**45.56 90**	P	**P**	**06 49 38.2 -1.6**	
YOJ			pmax	pmax		
	comp=Z,291nm,1.5s					
YOJ	**Yonaguni jima**	**45.56 90**	P	**P**	**06 49 38.2 -1.6**	
TIXI	**Tiksi**	**45.62 22**	*i* P	**P**	**06 49 39.9 +0.3**	
DOMB	**Dombas**	**45.67 324**	*e*P	**P**	**06 49 40.1 -0.1**	
UBR	**Ueberruh**	**45.73 304**	*e*P	**P**	**06 49 41.8 +1.0**	
	comp=Z,25nm,1.2s,baz=85,slow=7.9					
MILB	**Miltenberg**	**45.94 307**	*e*P	**P**	**06 49 43.9 +1.4**	
	comp=Z,17nm,0.8s,baz=85,slow=7.9					
DAVA	**Damuels**	**45.94 304**	*i* P	**P**	**06 49 43.8 +1.1**	
	comp=Z,37nm,0.9s,SNR=7.3					
SKAR	**Skarslia**	**45.96 322**	*e*P	**P**	**06 49 44.6 +2.1**	
STU	**Stuttgart**	**46.16 306**	*e*P	**P**	**06 49 45.5 +1.4**	
	comp=Z,25nm,1.0s,baz=85,slow=7.9					
KASTN	**Kahler Asten**	**46.32 309**	*e*P	**P**	**06 49 46.5 +1.1**	
	comp=Z,22nm,1.6s,baz=85,slow=7.9					
HLG	**Helgoland**	**46.34 313**	*e*P	**P**	**06 49 47.2 +1.8**	
	comp=Z,180nm,1.1s,baz=85,slow=7.9					
TNS	**Taus Mts**	**46.43 308**	*e*P	**P**	**06 49 47.9 +1.6**	
	comp=Z,32nm,1.4s,baz=85,slow=7.9					
SNART	**Snartemo**	**46.51 319**	*e*P	**P**	**06 49 48.7 +2.0**	
IBBN	**Ibbenburen**	**46.60 311**	*e*P	**P**	**06 49 49.1 +1.6**	
	comp=Z,51nm,1.0s,baz=85,slow=7.9					
BFO	**Black Forest**	**46.80 305**	*e*P	**P**	**06 49 49.8 +0.6**	
	comp=Z,23nm,1.3s,baz=85,slow=7.9					
BUG	**Bochum--Univer**	**47.00 310**	*e*P	**P**	**06 49 52.0 +1.4**	
	comp=Z,22nm,0.9s,baz=85,slow=7.9					
SPA0	**Spitsbergen Ar**	**47.54 347**	P	**P**	**06 49 54.7 +0.2**	
SPA0			IAmb	IAmb	06 50 12.5	
	comp=Z,45nm,1.4s					
SPA0	**Spitsbergen Ar**	**47.54 347**	*e*P	**P**	**06 49 57.4 +2.9**	
BTNL	**Ternell**	**47.84 309**	*d*P	**P**	**06 49 58.5 +1.3**	
SENIN	**Lac Senin/Sane**	**47.86 303**	P	**P**	**06 49 58.3 +0.7**	
SENIN			IAmb	IAmb	06 49 59.2	
	comp=Z,15nm,0.9s					
MEM	**Membach**	**47.91 309**	*d*P	**P**	**06 49 59.1 +1.4**	
	comp=Z,15nm,1.0s					
WLF	**Walferdange**	**47.98 307**	*d*P	**P**	**06 50 00.6 +2.3**	
WLF	**Walferdange**	**47.98 307**	*e*P	**P**	**06 50 00.1 +1.8**	
	comp=Z,37nm,1.0s,baz=85,slow=7.9					
BMRD	**Maredsous**	**48.75 308**	*d*P	**P**	**06 50 06.0 +1.9**	
DOU	**Dourbes**	**48.89 308**	*d*P	**P**	**06 50 06.8 +1.6**	
SNF	**Seneffe**	**49.01 309**	*d*P	**P**	**06 50 05.7 -0.4**	
LRW	**Lerwick**	**50.68 322**	*e*P	**P**	**06 50 18.6 0.0**	
WACR	**West Acre**	**50.84 312**	*e*P	**P**	**06 50 20.2 +0.3**	
JWT	**Wachi**	**50.96 71**	P	**P**	**06 50 22.1 +1.0**	
EDMD	**Edmundbyers**	**51.93 315**	*e*P	**P**	**06 50 28.9 +0.8**	
EDMD			IAmb	IAmb	06 50 30.5	
	comp=Z,40nm,1.1s					
ESY	**Stoneypath**	**52.09 317**	*e*P	**P**	**06 50 30.0 +0.9**	
LBWR	**Ladybower, Pea**	**52.09 313**	*e*P	**P**	**06 50 29.6 +0.3**	
LBWR			IAmb	IAmb	06 50 31.7	
	comp=Z,23nm,1.0s					
MCD	**Coleburn Disti**	**52.12 319**	*e*P	**P**	**06 50 30.1 +0.7**	
ESK	**Eskdalemuir**	**52.53 316**	*e*P	**P**	**06 50 32.6 +0.2**	
ESK			IAmb	IAmb	06 50 34.9	
	comp=Z,46nm,1.4s					
INVG	**Invergeldie, C**	**52.77 318**	*e*P	**P**	**06 50 34.1 -0.1**	
PGBU	**Glenifferbraes**	**53.14 317**	*e*P	**P**	**06 50 36.9 0.0**	
PGBU			IAmb	IAmb	06 50 40.9	
	comp=Z,85nm,1.5s					
NEWG	**New Galloway**	**53.15 316**	*e*P	**P**	**06 50 37.4 +0.4**	
NEWG			IAmb	IAmb	06 50 38.6	
	comp=Z,32nm,0.9s					
MCH1	**Michaelchurch**	**53.16 312**	*e*P	**P**	**06 50 37.2 +0.1**	
MCH1			IAmb	IAmb	06 50 38.8	
	comp=Z,46nm,0.8s					
KAC	**Achnashellach**	**53.22 319**	*e*P	**P**	**06 50 38.3 +0.8**	
KPL	**Plockton**	**53.44 319**	*e*P	**P**	**06 50 39.4 +0.4**	
DAG	**Danmarks Havn**	**54.80 344**	*i* P	**P**	**06 50 49.1 +0.4**	
	comp=Z,14nm,0.9s					
DAG	**Danmarks Havn**	**54.80 344**	*i* P	**P**	**06 50 49.1 +0.4**	
DAG	**Danmarks Havn**	**54.80 344**	*i* P	**P**	**06 50 49.1 +0.4**	
DAG			IAmb	IAmb	06 50 51.2	
	comp=Z,14nm,0.9s					
ESDC	**Sonseca Array**	**57.75 298**	P	**P**	**06 51 10.6 +0.4**	
	comp=Z,0.8nm,0.7s,baz=63,slow=6.8,SNR=6.3					
ESDC			pP	**pP**	**06 51 38.7 -0.1**	
	comp=Z,2.9nm,0.9s,baz=64,slow=6.5,SNR=6.9					
SUMG	**Summit**	**61.15 341**	P	**P**	**06 51 34.9 +1.4**	
SUMG			pmax	pmax		
	comp=Z,17nm,0.8s					
SUMG	**Summit**	**61.15 341**	P	**P**	**06 51 34.9 +1.4**	
SUMG			IAmb	IAmb	06 51 36.7	
	comp=Z,17nm,0.8s					
LSZ	**Lusaka**	**65.72 226**	P	**P**	**06 52 03.6 -0.4**	
LSZ			pmax	pmax		
	comp=Z,562nm,0.2s					
LSZ	**Lusaka**	**65.72 226**	P	**P**	**06 52 03.6 -0.4**	
TOA0	**Torodi Ar. Sit**	**66.06 269**	P	**P**	**06 52 04.3 -1.8**	
TOA0			IAmb	IAmb	06 52 04.7	
	comp=Z,5.2nm,0.8s					
TORD	**Torodi Ar. Bea**	**66.06 269**	P	**P**	**06 52 04.4 -1.7**	
	comp=Z,4.1nm,0.5s,baz=49,slow=5.9,SNR=43					
TORD	**Torodi Ar. Bea**	**66.06 269**	P	**P**	**06 52 04.2 -1.9**	
TORD			IAmb	IAmb	06 52 05.0	
	comp=Z,4.4nm,0.6s					
KOWA	**Kowa**	**69.91 273**	P	**P**	**06 52 29.3 -0.9**	
TOLK	**Toolik Lake Re**	**70.81 15**	P	**P**	**06 52 35.8 +0.8**	
TOLK			IAmb	IAmb	06 52 36.5	
	comp=Z,8.0nm,1.1s					
IMAR	**Indian Mountai**	**72.04 18**	P	**P**	**06 52 42.0 -0.3**	
BMAR	**Burnt Mountain**	**72.83 14**	P	**P**	**06 52 48.1 +1.1**	
FYU	**Fort Yukon**	**73.46 14**	IAmb	IAmb	06 52 53.0	
	comp=Z,22nm,1.3s					
C36M	**Paulatuk**	**73.82 6**	P	**P**	**06 52 52.4 -0.3**	
C36M			IAmb	IAmb	06 52 53.8	
	comp=Z,6.0nm,0.6s					
INK	**Inuvik**	**73.82 9**	P	**P**	**06 52 53.5 +0.8**	
INK			pmax	pmax		
	comp=Z,10.0nm,1.1s					
INK	**Inuvik**	**73.82 9**	P	**P**	**06 52 53.5 +0.8**	
INK			IAmb	IAmb	06 52 54.5	
	comp=Z,10nm,1.1s					
ILAR	**Eielson Array**	**74.66 16**	P	**P**	**06 52 57.9 +0.3**	
	comp=Z,2.5nm,1.0s,baz=318,slow=5.0,SNR=19					
ILAR	**Eielson Array**	**74.66 16**	P	**P**	**06 52 57.7 0.0**	
LBTB	**Lobatse**	**74.93 222**	P	**P**	**06 53 00.3 +0.5**	
LBTB			pmax	pmax		
	comp=Z,6.0nm,0.8s					
LBTB	**Lobatse**	**74.93 222**	P	**P**	**06 53 00.3 +0.5**	
LBTB			IAmb	IAmb	06 53 00.8	
	comp=Z,5.8nm,0.8s					
DBIC	**Dimbokro**	**75.04 267**	P	**P**	**06 52 59.8 -0.9**	
	comp=Z,4.1nm,0.7s,baz=58,slow=7.6,SNR=4.3					
DBIC	**Dimbokro**	**75.04 267**	IAmb	IAmb	06 53 08.2	
	comp=Z,17nm,1.4s					
SCRK	**Sand Creek**	**75.98 15**	P	**P**	**06 53 05.4 0.0**	
DAWY	**Dawson**	**76.82 13**	P	**P**	**06 53 11.1 +1.0**	
BCAR	**Beaver Creek A**	**77.25 15**	P	**P**	**06 53 12.9 +0.5**	
BOSA	**Boshof**	**77.99 220**	P	**P**	**06 53 17.0 0.0**	
	comp=Z,2.5nm,0.5s,baz=27,slow=6.2,SNR=8.5					
YKA	**Yellowknife Ar**	**81.20 3**	P	**P**	**06 53 34.3 +0.5**	
	comp=Z,6.0nm,0.9s,baz=353,slow=4.9,SNR=66					
YKA			pP	**pP**	**06 54 05.1 +0.6**	
	comp=Z,2.9nm,0.8s,baz=354,slow=5.0,SNR=6.5					
YKA			LR	LR	07 36 27.5	
	comp=Z,25nm,18.1s,baz=0.0,slow=41					
WRA	**Warramunga Arr**	**81.72 122**	P	**P**	**06 53 37.0 -0.2**	
	comp=Z,2.0nm,0.9s,baz=324,slow=4.9,SNR=7.2					
WRA			pP	**pP**	**06 54 09.4 +1.0**	
	comp=Z,2.8nm,0.9s,baz=323,slow=5.2,SNR=6.7					
WRA	**Warramunga Arr**	**81.72 122**	IAmb	IAmb	06 53 37.4	
	comp=Z,0.1nm,1.0s					
ASAR	**Alice Springs**	**83.99 125**	P	**P**	**06 53 48.9 0.0**	
	comp=Z,1.5nm,0.9s,baz=329,slow=5.6,SNR=10					
ASAR			pP	**pP**	**06 54 20.3 +0.1**	
	comp=Z,2.2nm,0.9s,baz=320,slow=5.4,SNR=5.9					
FCC	**Fort Churchill**	**84.30 352**	IAmb	IAmb	06 53 51.8	
	comp=Z,15nm,1.1s					
FFC	**Flin Flon**	**88.94 356**	P	**P**	**06 54 13.3 +0.7**	
FFC			pmax	pmax		
	comp=Z,9.0nm,1.0s					
FFC	**Flin Flon**	**88.94 356**	P	**P**	**06 54 13.3 +0.7**	
FFC			IAmb	IAmb	06 54 14.1	
	comp=Z,8.8nm,1.0s					
VLDQ	**Val d'Or**	**91.28 340**	IAmb	IAmb	06 54 26.3	
	comp=Z,7.5nm,1.1s					
ULM	**Lac du Bonnet**	**92.87 352**	P	**P**	**06 54 30.7 -0.2**	
	comp=Z,0.6nm,0.4s,baz=353,slow=3.8,SNR=6.3					
ULM			LR	LR	07 40 36.6	
	comp=Z,32nm,18.3s,baz=330,slow=38					
ULM	**Lac du Bonnet**	**92.87 352**	P	**P**	**06 54 30.9 0.0**	
ULM			pmax	pmax		
	comp=Z,5.0nm,1.0s					
ULM	**Lac du Bonnet**	**92.87 352**	P	**P**	**06 54 30.9 0.0**	
ULM			IAmb	IAmb	06 54 31.6	
	comp=Z,5.0nm,1.0s					

IDC ***25*** *06:57:44.5±4.6, 13°.53N×92°.21W, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.5/37, mbtmp3.5/5, ML3.7/3, MS2.5/2, Ms1 2.5/2, ms1mx2.3/28, Error ellipse: s-maj=72.2km s-min=28.0km az=177.0*
SNET ***25*** *06:57:49.1±1.3, 13°.74N×92°.29W, h34km±691km, ML3.6*
GCG ***25*** *06:57:50.9±0.7, 13°.65N×92°.06W, h16km±7km, MD4.1*
MEX ***25*** *06:57:51.9±1.3, 13°.91N×92°.37W, h15km±236km, MD3.7*
ISC 25 06:57:47.1±2.2, 13°90N±0°08×92°23W±0°05, h7km±12km, n23, σ1s70/36, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERG	**Entre ros, C**	**0.84**	**50**	*e*P	**Pn**	**06 58 07.5**	**+2.2**
ERG				*e*S	**Sn**	**06 58 20.4**	**+2.4**
THIG		**1.00**	**358**	*i* P	**Pn**	**06 58 08.2**	**+0.5**
THIG				*e*S	**Sb**	**06 58 19.6**	**-0.7**
FUG	**Fuego 3**	**1.45**	**68**	*e*P	**Pg**	**06 58 15.0**	**-0.1**
FUG				*e*S	**Sg**	**06 58 36.1**	**+2.2**
PCG	**Pacaya**	**1.65**	**73**	*e*P	**Pg**	**06 58

TKGZ				S	S	07 03 04.3	-1.5
RTZ	**Ruatahuna**	**1.63 179**		P	Pn	07 02 36.1	-0.2
RTZ				S	S	07 03 03.7	-2.4
MBAZ	**Motutapu North**	**1.65 277**		P	Pn	07 02 37.0	+0.6
CNGZ	**Carnagh Statio**	**1.80 146**		P	Pn	07 02 38.3	+0.6
SNGZ	**Shannon Statio**	**1.82 170**		P	Pn	07 02 38.0	+0.1
SNGZ				S	S	07 03 07.2	-1.8
RIGZ	**Rimuhau**	**1.84 159**		P	Pn	07 02 38.3	+0.3
RIGZ				S	S	07 03 08.1	-1.2
MTHZ	**Maungataniwha**	**1.87 182**		P	Pn	07 02 38.1	-0.3
MRHZ	**Matea Rd**	**1.89 192**		P	Pn	07 02 38.7	+0.1
RAHZ	**Arahi**	**1.93 177**		P	Pn	07 02 39.2	+0.3
RAHZ				S	S	07 03 09.0	-1.8
HATZ	**Hinemaiaia**	**2.02 199**		P	Pn	07 02 39.8	+0.1
PRGZ	**Paritu Road**	**2.07 159**		P	Pn	07 02 40.9	+0.6
RATZ	**Rangitukua**	**2.09 206**		P	Pn	07 02 41.0	+0.6
WHHZ	**Waihua**	**2.10 174**		P	Pn	07 02 40.7	+0.2
WHHZ				S	S	07 03 12.4	-1.2
NMHZ	**Naumai**	**2.11 183**		P	Pn	07 02 41.2	+0.5
KNZ	**Kokohu**	**2.11 164**		P	Pn	07 02 40.2	-0.3
KNZ				S	S	07 03 11.2	-2.5
BKZ	**Black Stump Fm**	**2.21 189**		P	Pn	07 02 40.9	-0.6
HIZ	**Hauiti**	**2.25 227**		P	Pn	07 02 43.6	+1.7
ARHZ	**Aropaoanui**	**2.27 179**		P	Pn	07 02 42.3	+0.2
MHGZ	**Mahia Peninsul**	**2.29 161**		P	Pn	07 02 42.7	+0.3
WCZ	**Waipu Caves**	**2.34 296**		P	Pn	07 02 42.8	0.0
TMVZ	**Te Maari**	**2.34 204**		P	Pn	07 02 43.5	+0.5
ETVZ	**East Tongariro**	**2.36 204**		P	Pn	07 02 43.3	+0.2
WTVZ	**West Tongariro**	**2.38 206**		P	Pn	07 02 44.1	+0.7
OTVZ	**Oturere**	**2.40 204**		P	Pn	07 02 43.9	+0.3
TWVZ	**Taurewa**	**2.40 209**		P	Pn	07 02 44.2	+0.7
NGZ	**Ngauruhoe**	**2.43 205**		P	Pn	07 02 44.8	+0.9
MCHZ	**McNeill Hill**	**2.46 184**		P	Pn	07 02 44.4	+0.3
KWHZ	**Kaweka Forest**	**2.47 189**		P	Pn	07 02 44.1	-0.1
FWVZ	**Far West T-bar**	**2.52 205**		P	Pn	07 02 45.4	+0.5
TRVZ	**Turoa**	**2.56 205**		P	Pn	07 02 45.8	+0.5
WNVZ	**Wahianoa**	**2.57 204**		P	Pn	07 02 45.3	0.0
BHHZ	**Black Hill Sta**	**2.59 195**		P	Pn	07 02 44.9	-0.6
CKHZ	**Cape Kidnapper**	**2.67 178**		P	Pn	07 02 45.9	-0.3
KRHZ	**Kereru**	**2.69 189**		P	Pn	07 02 46.1	-0.4
VRZ	**Vera Road**	**2.74 218**		P	Pn	07 02 48.6	+1.6
KAHZ	**Kahuranaki**	**2.81 181**		P	Pn	07 02 47.4	-0.3
PNHZ	**Pukenui**	**2.98 191**		P	Pn	07 02 48.8	-0.9
WPHZ	**Waipukurau**	**3.10 187**		P	Pn	07 02 50.5	-0.4
TSZ	**Takapari Road**	**3.16 194**		P	Pn	07 02 51.0	-0.7
OUZ	**Omahuta**	**3.23 302**		P	Pn	07 02 52.7	+0.2
PRHZ	**Porangahau**	**3.29 184**		P	Pn	07 02 52.0	-1.1
DVHZ	**Dannevirke**	**3.36 190**		P	Pn	07 02 52.6	-1.4
POWZ	**Post Office Ro**	**3.52 195**		P	Pn	07 02 55.1	-0.7
PRWZ	**Peri Road**	**3.64 192**		P	Pn	07 02 56.1	-1.1
BFZ	**Birch Farm**	**3.73 188**		P	Pn	07 02 57.6	-0.6
MRZ	**Mangatainoka R**	**3.82 196**		P	Pn	07 02 57.7	-1.6
HOWZ	**Holdsworth Sta**	**4.06 195**		P	Pn	07 03 00.3	-1.9
OGWZ	**Otaki Gorge**	**4.07 199**		P	Pn	07 03 00.7	-1.5
KIW	**Kapiti Island**	**4.18 202**		P	Pn	07 03 01.8	-1.8
TMWZ	**Te Maipa**	**4.20 191**		P	Pn	07 03 02.6	-1.2
MTW	**Mount Morrison**	**4.31 195**		P	Pn	07 03 03.5	-1.7
CAW	**Cannon Point**	**4.37 199**		P	Pn	07 03 03.7	-2.1
DUWZ	**D'Urville Isla**	**4.48 211**		P	Pn	07 03 05.6	-1.7
MSWZ	**Moikau Station**	**4.62 196**		P	Pn	07 03 06.9	-1.9
BHW	**Baring Head**	**4.70 199**		P	Pn	07 03 07.4	-2.5
TCW	**Tory Channel**	**4.70 205**		P	Pn	07 03 08.2	-1.7
PLWZ	**Palliser**	**4.76 195**		P	Pn	07 03 08.6	-2.1
TUWZ	**Tuamarina**	**5.01 207**		P	Pn	07 03 12.2	-1.5
NNZ	**Nelson**	**5.05 212**		P	Pn	07 03 11.8	-2.4
QRZ	**Quartz Range**	**5.15 221**		P	Pn	07 03 13.4	-2.0
THZ	**Tophouse**	**5.70 212**		P	Pn	07 03 21.8	-1.1
DSZ	**Dennistoun Nort**	**6.20 218**		P	Pn	07 03 26.6	-2.1
GVZ	**Greta Valley S**	**6.68 205**		P	Pn	07 03 32.9	-1.8
LTZ	**Lake Taylor**	**6.81 210**		P	Pn	07 03 34.1	-2.3
INZ	**Inchbonnie**	**7.12 215**		P	Pn	07 03 38.5	-1.8
OXZ	**Oxford**	**7.36 209**		P	Pn	07 03 40.2	-3.1
MQZ	**McQueen's Vall**	**7.47 205**		P	Pn	07 03 41.2	-3.5
TMZ	**Timaru**	**8.65 210**		P	Pn	07 03 57.2	-2.6
ODZ	**Otahua Downs**	**9.35 209**		P	Pn	07 04 06.7	-1.9

IDC 25 07:10:44.5±3.1, 55°64N×86°10E, h0km, mb1 2.9/2, mb1mx2.8/38, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=26.5km s-min=23.1km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85 204**		*i*		07 23 20.0	
	baz=25,slow=329,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.85 204**		Pg	Pn	07 11 16.7	-0.7
	4.2nm,0.3s,baz=24,slow=17,SNR=29						
ZALV				Lg	Lg	07 11 42.6	
	3.9nm,0.3s,baz=20,slow=26,SNR=8.8						
KURBB	**Kurchatov Arra**	**6.78 225**		Pn	Pn	07 12 25.2	+0.1
	0.1nm,0.3s,baz=41,slow=14,SNR=8.0						
KURBB				Lg	Lg	07 14 20.9	
	0.1nm,0.3s,baz=45,slow=31,SNR=7.6						
MKAR	**Makanchi Array**	**9.17 197**		Pn	Pn	07 12 57.9	0.0
	0.1nm,0.3s,baz=19,slow=13,SNR=6.1						
MKAR				Sn	Sn	07 14 40.4	-1.4
	0.0nm,0.3s,baz=26,slow=20,SNR=1.8						
MKAR				Lg	Lg	07 15 36.5	
	0.1nm,0.3s,baz=9.0,slow=38,SNR=5.2						

*JMA **25** 07:14:51.9, 24°.82N×122°.37E, h0km, M2.6*
*TAP **25** 07:14:52.5, 24°.89N×122°.33E, h14km, ML3.3, C*
ISC 25 07:14:51.5±1.0, 24°84N±0°.02×122°41E±0°.02, h15km±8km, n62, σ0°60/117, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.42 294**		P	**Pg**	**07 14 59.9**	**-0.1**
	baz=282						
TWB1				S	**Sg**	**07 15 05.0**	**-0.7**
	baz=282						
NTC	**Toucheng**	**0.53 272**		*e*P	**Pb**	**07 15 02.3**	**-0.2**
	baz=276						
NTC				*e*S	**Sg**	**07 15 09.2**	**+0.2**
	baz=276						
TWC	**Suao**	**0.56 246**		P	**Pb**	**07 15 02.9**	**-0.1**
	baz=236						
TWC				*e*S	**Sb**	**07 15 11.3**	**+0.5**
	baz=236						
ILA	**Ilan**	**0.61 263**		*e*P	**Pg**	**07 15 03.4**	**-0.1**
	baz=244						
ILA				*e*S	**Sg**	**07 15 11.7**	**+0.2**
	baz=244						
NWF	**Wu-fen Shan**	**0.62 292**		P	**Pb**	**07 15 04.1**	**+0.1**
	baz=289						
NWF				S	**Sb**	**07 15 13.0**	**+0.4**
	baz=289						
WFSB	**Wu-fen Shan**	**0.62 292**		P	**Pb**	**07 15 04.1**	**+0.1**
	baz=289						
WFSB				S	**Sg**	**07 15 11.3**	**-0.5**
	baz=289						
JYNG	**Yonagunijimaku**	**0.62 128**		P	**Pn**	**07 15 04.9**	**-0.9**
JYNG				S	**Sn**	**07 15 14.0**	**-1.4**
TNOU	**National Taiwa**	**0.66 298**		*e*P	**Pg**	**07 15 04.4**	**0.0**
	baz=296						
TNOU				*e*S	**Sg**	**07 15 12.4**	**-0.7**
	baz=296						
YOJ	**Yonaguni jima**	**0.66 124**		*e*P	**Pn**	**07 15 05.5**	**-0.8**
	baz=113						
YOJ				*e*S	**Sn**	**07 15 17.6**	**+1.2**
	baz=113						
YOJ	**Yonaguni jima**	**0.66 124**		P	**Pn**	**07 15 05.5**	**-0.8**
YOJ				*e*S	**Sn**	**07 15 15.2**	**-1.3**
NDS	**Dongshan**	**0.66 252**		*e*P	**Pb**	**07 15 04.8**	**0.0**
	baz=238						
NDS				*e*S	**Sb**	**07 15 14.0**	**+0.2**
	baz=238						
TWE	**Neicheng**	**0.69 260**		P	**Pg**	**07 15 04.8**	**-0.2**
	baz=244						
TWE				S	**Sb**	**07 15 14.5**	**+0.1**
	baz=244						
EWUT	**Wuta**	**0.69 236**		*e*P	**Pn**	**07 15 06.5**	**-0.3**
	baz=228						
EWUT				*e*S	**Sg**	**07 15 14.5**	**+0.2**
	baz=228						
ENA	**Nanau**	**0.73 236**		*e*P	**Pb**	**07 15 06.2**	**+0.2**
	baz=228						
ENA				*e*S	**Sg**	**07 15 15.6**	**+0.1**
	baz=228						
TWA	**Mucha**	**0.76 281**		*e*P	**Pb**	**07 15 06.8**	**+0.3**
	baz=277						
TWA				S	**Sg**	**07 15 16.6**	**+0.1**
	baz=277						
ENTT	**Nioudou**	**0.79 256**		P	**Pb**	**07 15 07.3**	**+0.3**
	baz=249						
ENTT				S	**Sb**	**07 15 17.9**	**+0.3**
	baz=249						
NHDH	**Xindian Distri**	**0.81 279**		*e*P	**Pb**	**07 15 07.7**	**+0.3**
	baz=275						
NHDH				*e*S	**Sg**	**07 15 17.7**	**-0.4**
	baz=275						
YM01	**YM01**	**0.82 292**		*e*P	**Pg**	**07 15 06.5**	**-1.0**
	baz=290						
YM01				*e*S	**Sg**	**07 15 17.2**	**-1.2**
	baz=290						
YM08	**YM08**	**0.82 295**		*e*P	**Pg**	**07 15 06.7**	**-0.9**
	baz=293						
YM08				*e*S	**Sg**	**07 15 17.4**	**-1.0**
	baz=293						
NWLT	**Wulai**	**0.83 266**		P	**Pb**	**07 15 07.9**	**+0.3**
	baz=261						
NWLT				S	**Sb**	**07 15 19.1**	**+0.5**
	baz=261						
YM11	**YM11**	**0.83 294**		*e*P	**Pb**	**07 15 08.0**	**+0.4**
	baz=291						
YM11				*e*S	**Sb**	**07 15 19.3**	**+0.6**
	baz=291						
YM10	**YM10**	**0.83 293**		*e*P	**Pb**	**07 15 08.3**	**+0.6**
	baz=290						
YM10				*e*S	**Sg**	**07 15 19.1**	**+0.4**
	baz=290						
PCYT	**Pengchaiyu**	**0.85 339**		*e*P	**Pg**	**07 15 08.3**	**+0.3**
	baz=342						
PCYT				*e*S	**Sn**	**07 15 20.5**	**-0.6**
	baz=342						
NDT	**Datong Townshi**	**0.85 254**		*e*P	**Pn**	**07 15 08.7**	**-0.3**
	baz=249						
NDT				*e*S	**Sg**	**07 15 19.2**	**0.0**
	baz=249						
TATO	**Taipei**	**0.85 280**		P	**Pb**	**07 15 08.0**	**+0.1**
	baz=276						
TATO				S	**Sb**	**07 15 18.9**	**-0.3**
	baz=276						
YM04	**YM04**	**0.85 292**		*e*P	**Pg**	**07 15 08.5**	**+0.4**
	baz=289						
YM04				*e*S	**Sg**	**07 15 19.4**	**0.0**
	baz=289						
TWY	**Chenhua**	**0.86 301**		P	**Pg**	**07 15 08.5**	**+0.4**
	baz=299						
TWY				S	**Sb**	**07 15 19.3**	**0.0**
	baz=299						
YM03	**YM03**	**0.86 294**		P	**Pb**	**07 15 08.2**	**0.0**
	baz=291						
YM03				*e*S	**Sb**	**07 15 20.1**	**+0.5**
	baz=291						
ANP	**Anpu**	**0.88 294**		*e*P	**Pg**	**07 15 08.8**	**+0.1**
	baz=291						
ANP				*e*S	**Sb**	**07 15 20.3**	**+0.2**
	baz=291						
TWS1	**Kuangyinshan**	**0.94 286**		*e*P	**Pn**	**07 15 10.9**	**+0.8**
	baz=294						
TWS1				*e*S	**Sb**	**07 15 21.9**	**+0.2**
	baz=294						
NSK	**Sanguang**	**0.97 261**		*e*P	**Pg**	**07 15 10.4**	**+0.1**
	baz=272						
NSK				S	**Sb**	**07 15 23.1**	**+0.4**
	baz=272						
NACB	**Ninganchiao**	**0.99 229**		P	**Pn**	**07 15 10.8**	**-0.1**
	baz=223						
NACB				*e*S	**Sb**	**07 15 23.3**	**0.0**
	baz=223						
NNSB	**Datong**	**1.02 247**		P	**Pg**	**07 15 11.3**	**0.0**
	baz=232						
NNSB				S	**Sb**	**07 15 24.4**	**+0.2**
	baz=232						
NNSH	**Datong**	**1.02 247**		*e*P	**Pg**	**07 15 11.2**	**0.0**
	baz=232						
NNSH				*e*S	**Sn**	**07 15 25.2**	**-0.3**
	baz=232						
NNS	**Nan Shan**	**1.02 248**		*e*P	**Pn**	**07 15 11.5**	**+0.1**
	baz=233						
NNS				*e*S	**Sg**	**07 15 24.8**	**0.0**
	baz=233						
ETLH	**Xiulin Townshi**	**1.05 234**		P	**Pg**	**07 15 12.0**	**+0.1**
	baz=228						
ETLH				S	**Sb**	**07 15 25.3**	**+0.2**
	baz=228						
TWD	**Chiawan**	**1.06 225**		*e*P	**Pg**	**07 15 12.5**	**+0.5**
	baz=228						
TWD				*e*S	**Sg**	**07 15 25.7**	**-0.1**
	baz=228						
FUSS	**Fushou**	**1.21 241**		*e*P	**Pb**	**07 15 14.6**	**+0.2**
	baz=237						
FUSS				*e*S	**Sn**	**07 15 30.5**	**0.0**
	baz=237						
WHF	**Hehuan Shan**	**1.25 237**		*e*P	**Pg**	**07 15 15.6**	**-0.1**
	baz=232						
WHF				*e*S	**Sg**	**07 15 31.9**	**-0.2**
	baz=232						
TWT	**Tachien**	**1.27 243**		*e*P	**Pg**	**07 15 15.9**	**-0.1**
	baz=230						
TWT				*e*S	**Sg**	**07 15 34.9**	**+2.4**
	baz=230						
TDCB	**Techi**	**1.28 243**		*e*P	**Pg**	**07 15 15.8**	**-0.4**
	baz=230						
TDCB				*e*S	**Sn**	**07 15 32.3**	**+0.3**
	baz=230						
LIOB	**Emei**	**1.28 262**		*e*P	**Pg**	**07 15 16.0**	**-0.3**
	baz=259						
NSTT	**Nanjuang**	**1.30 261**		*e*P	**Pb**	**07 15 16.1**	**+0.5**
	baz=258						
NSTT				*e*S	**Sn**	**07 15 32.7**	**+0.5**
	baz=258						
IRIF	**Iriomote-Funau**	**1.30 112**		P	**Pg**	**07 15 17.3**	**+0.7**
IRIF				S	**Sg**	**07 15 34.3**	**+0.8**
CHGB	**Renai**	**1.37 236**		*e*P	**Pg**	**07 15 18.1**	**+0.2**
	baz=232						
CHGB				*e*S	**Sg**	**07 15 37.2**	**+1.5**
	baz=232						
WHP	**Taichung City**	**1.45 248**		*e*P	**Pg**	**07 15 19.5**	**+0.1**
	baz=244						
WHP				*e*S	**Sg**	**07 15 37.9**	**-0.2**
	baz=244						
HATJ	**Hateruma jima**	**1.49 121**		*e*S	**Sg**	**07 15 39.9**	**+0.3**
JKRS	**Kuro-shima**	**1.57 112**		P	**Pg**	**07 15 22.4**	**+0.6**
VWDT	**VWDT**	**1.58 227**		*e*P	**Pb**	**07 15 20.8**	**+0.4**
	baz=223						
VWDT				*e*S	**Sb**	**07 15 41.2**	**+0.9**
	baz=223						
HGSD	**Ruisui**	**1.61 214**		*e*P	**Pg**	**07 15 22.3**	**-0.3**
	baz=196						
JIJ	**Ishigaki jima**	**1.65 106**		*e*S	**Sg**	**07 15 44.5**	**-0.1**
EHY	**Hungye**	**1.66 217**		*e*P	**Pb**	**07 15 22.3**	**+0.6**
	baz=213						
EHY				*e*S	**Sg**	**07 15 44.2**	**-0.6**
	baz=213						
SMLT	**Sun Moon Lake**	**1.67 236**		*e*P	**Pg**	**07 15 22.9**	**-0.8**
	baz=232						
SMLT				*e*S	**Sb**	**07 15 43.2**	**+0.2**
	baz=232						
SSLB	**Suanglung**	**1.69 232**		*e*P	**Pb**	**07 15 22.9**	**+0.6**
	baz=236						
SSLB				*e*S	**Sb**	**07 15 44.0**	**+0.5**
	baz=236						
TYC	**Yuchr**	**1.69 237**		*e*P	**Pb**	**07 15 22.4**	**+0.1**
	baz=234						
TYC				*e*S	**Sb**	**07 15 44.7**	**+1.2**
	baz=234						
YULB	**Yu-li**	**1.76 216**		*e*P	**Pb**	**07 15 22.9**	**-0.6**
	baz=212						
YULB				*e*S	**Sb**	**07 15 44.6**	**-0.8**
	baz=212						
TWF1	**Yuli**	**1.79 215**		*e*P	**Pg**	**07 15 25.3**	**-0.7**
	baz=211						
YUS	**Yu-Shan**	**1.89 225**		*e*P	**Pb**	**07 15 25.5**	**-0.5**
	baz=221						
YUS				*e*S	**Sb**	**07 15 49.2**	**-0.4**
	baz=221						
ALS	**Alishan**	**1.97 228**		*e*P	**Pb**	**07 15 26.8**	**-0.6**
	baz=207						
ALS				*e*S	**Sb**	**07 15 53.3**	**+1.5**
	baz=207						
CHN5	**Tsauling**	**2.01 232**		*e*P	**Pb**	**07 15 26.8**	**-1.0**
	baz=229						
CHN5				*e*S	**Sg**	**07 15 54.7**	**-1.5**
	baz=229						
ELDTW	**Lidau**	**2.08 218**		*e*P	**Pn**	**07 15 26.7**	**+0.7**
	baz=201						
CHN4	**Tsaushan**	**2.22 229**		*e*P	**Pb**	**07 15 31.4**	**-0.1**
	baz=225						
CHN4				*e*S	**Sb**	**07 15 58.7**	**-0.1**
	baz=225						

IDC 25 07:17:42.6±3.2, 55°75N×86°30E, h0km, mb1 2.9/2, mb1mx2.8/44, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=30.8km s-min=24.6km az=83.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.99 206**		*i*		07 30 42.5	
	baz=26,slow=321,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.99 206**		Pn	Pn	07 18 17.2	-0.2
	7.4nm,0.3s,baz=28,slow=15,SNR=41						
ZALV				Lg	Lg	07 18 44.9	
	3.2nm,0.3s,baz=28,slow=25,SNR=10						
KURBB	**Kurchatov Arra**	**6.93 225**		Pn	Pn	07 19 24.6	-0.7
	0.1nm,0.3s,baz=45,slow=14,SNR=5.6						
MKAR	**Makanchi Array**	**9.31 197**		Pn	Pn	07 19 58.3	+0.4
	0.1nm,0.3s,baz=18,slow=13,SNR=7.5						
MKAR				Sn	Sn	07 21 42.3	-1.0
	0.1nm,0.3s,baz=28,slow=25,SNR=3.5						
MKAR				Lg	Lg	07 22 38.1	
	0.2nm,0.3s,baz=31,slow=31,SNR=6.5						

*TRN **25** 07:24:26.1, 10°.80N×62°.35W, h68km, MD3.4*
*FUNV **25** 07:24:27.2, 10°.78N×62°.14W, h23km, MW3.5*
ISC 25 07:24:26.1±1.4, 10°80N±0°.04×62°20W±0°.04, h94km±14km, n19, σ1°907/36, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.80 101**		*e*P	**Pn**	**07 24 44.8**	**+0.9**
TRN	**Trinidad (W)**	**0.80 101**		*e*	Pn	07 24 53.3	+9.4
TRN				*e*S	**Sn**	**07 24 56.6**	**-0.7**
CRUV	**Carupano**	**1.02 263**		*e*P	**Pn**	**07 24 47.5**	**+1.2**
CRUV				*e*S	**Sn**	**07 25 00.1**	**-1.4**
GRGR	**Grenville**	**1.43 22**		*e*P	**Pn**	**07 24 51.5**	**+0.3**
GRGR				*e*S	**Sn**	**07 25 09.6**	**-0.6**
GRGR	**Grenville**	**1.43 22**		*e*P	**Pn**	**07 24 51.5**	**+0.3**
GRGR				*e*S	**Sn**	**07 25 09.2**	**-1.0**
GCMP	**Grenada, Carri**	**1.84 24**		*e*P	**Pn**	**07 24 56.6**	**+0.2**
GCMP				*e*S	**Sn**	**07 25 18.4**	**-1.1**
PCRV	**Puerto La Cruz**	**2.47 256**		*e*P	**Pn**	**07 25 06.2**	**+1.6**
PCRV				*e*S	**Sn**	**07 25 33.8**	**-0.4**
SVOC	**Richmond Hill,**	**2.53 22**		*e*P	**Pn**	**07 25 05.5**	**+0.1**
SVOC				*e*S	**Sn**	**07 25 35.4**	**-0.2**
SVB	**Belmont**	**2.63 21**		*e*P	**Pn**	**07 25 06.7**	**-0.1**
SVB				*e*S	**Sn**	**07 25 38.2**	**+0.2**
SVV	**Soufriere Volc**	**2.68 21**		*e*P	**Pn**	**07 25 07.8**	**+0.3**
SVV				*e*S	**Sn**	**07 25 39.2**	**-0.2**
RIOV	**Rio Grande**	**2.74 172**		*e*P	**Pn**	**07 25 09.0**	**+0.7**
RIOV				*e*S	**Sn**	**07 25 39.7**	**-0.9**
MCLT	**Moule a Chique**	**3.15 23**		*e*P	**Pn**	**07 25 15.0**	**+1.3**
MCLT				*e*S	**Sn**	**07 25 50.3**	**-0.1**
SLBI	**Saint Lucia, B**	**3.42 20**		*e*P	**Pn**	**07 25 18.2**	**+0.8**
SLBI				*e*S	**Sn**	**07 25 56.2**	**-0.8**
BIRV	**Birongo**	**4.01 266**		*e*P	**Pn**	**07 25 27.2**	**+1.9**
BIRV				*e*S	**Sn**	**07 26 10.4**	**-0.9**
MERV	**Las Mercedes**	**4.31 249**		*e*P	**Pn**	**07 25 30.8**	**+1.3**
MERV				*e*S	**Sn**	**07 26 17.5**	**-1.2**
TACV	**Tcata**	**4.79 263**		*e*P	**Pn**	**07 25 37.0**	**+1.0**
TACV				*e*S	**Sn**	**07 26 30.4**	**+0.1**
TURV	**Turiamo**	**5.55 267**		*e*P	**Pn**	**07 25 47.6**	**+1.4**
TURV				*e*S	**Sn**	**07 26 47.6**	**-1.2**
BAUV	**El Baul**	**6.04 253**		*e*P	**Pn**	**07 25 52.9**	**0.0**
BAUV				*e*S	**Sn**	**07 26 58.6**	**-2.1**
MAPV	**Macapo**	**6.23 262**		*e*P	**Pn**	**07 25 56.1**	**+0.6**
MAPV				*e*S	**Sn**	**07 27 03.0**	**-2.4**

IDC 25 07:25:38.8±3.4, 54°26N×87°40E, h0km, mb1 2.8/2, mb1mx2.7/45, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=27.9km s-min=19.7km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.55 259**		*i*		07 36 01.7	
	baz=78,slow=316,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.55 259**		Pg	Pn	07 26 05.8	-1.8
	2.2nm,0.3s,baz=80,slow=12,SNR=20						
ZALV				Lg	Lg	07 26 28.3	
	2.1nm,0.3s,baz=76,slow=26,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.53 240**		Pn	Pn	07 27 16.8	+0.8
	0.0nm,0.3s,baz=56,slow=14,SNR=4.8						
KURBB				Lg	Lg	07 29 06.2	
	0.0nm,0.3s,baz=58,slow=33,SNR=1.6						
MKAR	**Makanchi Array**	**8.15 206**		Pn	Pn	07 27 39.6	+1.3
	0.1nm,0.3s,baz=24,slow=16,SNR=2.0						
MKAR				Lg	Lg	07 29 56.2	
	0.0nm,0.3s,baz=37,slow=29,SNR=6.7						

*IDC **25** 07:26:04.2±1.6, 36°.43N×140°.63E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.6/47, mbtmp3.9/7, ML4.0/2, MS2.3/1, Ms1 2.3/1, ms1mx2.0/42, Error ellipse: s-maj=45.4km s-min=19.1km az=65.0*
*JMA **25** 07:26:14.6±0.1, 36°.13N×139°.83E, h50km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕ_s251.00000°, δ14.00000°, λ132.00000°. NP2: ϕ_s28.00000°, δ80.00000°, λ81.00000°. Principal axes: T Plg54.0000°, Azm287.0000°; N Plg9.0000°, Azm30.0000°; P Plg34.0000°, Azm126.0000°;*
JMA Felt III J1.
*NEIC **25** 07:26:14.1±1.7, 36°.16N±0°.06×139°.91E±0°.08, h59km±5km, mb4.2/8 Error ellipse: s-maj=9.4km s-min=8.1km az=125.0*
ISC 25 07:26:13.9±0.8, 36°15N±0°.04×139°87E±0°.05, h55km±7km, n52, σ1°909/53, mb4.1/9, 2C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.28 73**		⇑P	**Pn**	**07 26 23.8**	**+0.5**
JYT				S	**Sn**	**07 26 30.4**	**+0.3**
JYT	**Yasato**	**0.28 73**		Pn	**Pn**	**07 26 23.7**	**+0.4**
JYT				Sn	**Sn**	**07 26 30.4**	**+0.3**
JAG	**Ashikaga**	**0.43 310**		⇓P	**Pn**	**07 26 24.9**	**+0.1**
JAG				S	**Sn**	**07 26 32.1**	**-0.6**
JRY	**Ryogami san**	**0.79 261**		⇓P	**Pn**	**07 26 29.0**	**-0.1**
JRY				S	**Sn**	**07 26 39.6**	**-0.7**
JKT	**Katashina**	**0.80 321**

baz=312,slow=75,SNR=22
H11S1 WAKE ISLAND Hy 29.46 119 T T 08 03 13.4
baz=314,slow=75,SNR=23
H11S3 WAKE ISLAND Hy 29.46 119 T T 08 03 12.4
baz=314,slow=75,SNR=19
H11S2 WAKE ISLAND Hy 29.48 119 T T 08 03 10.5
baz=314,slow=75,SNR=14
ZALV Zalesovo Beam 41.60 313 P **P** **07 33 56.0 -0.2**
1.2nm,0.3s,baz=86,slow=7.8,SNR=6.2
ZALV Zalesovo Beam 41.60 313 P **P** **07 33 56.2 0.0**
MK31 Makanchi Array 43.54 303 P **P** **07 34 12.9 +0.7**
MK31 IAmb IAmb 07 34 13.6
comp=Z,1.4nm,0.9s
MKAR Makanchi Array 43.54 303 P **P** **07 34 12.4 +0.3**
comp=Z,0.5nm,0.5s,baz=90,slow=9.3,SNR=8.7
MKAR Makanchi Array 43.54 303 P **P** **07 34 12.6 +0.5**
KURK Kurchatov 45.51 309 P **P** **07 34 27.9 +0.2**
KURBB Kurchatov Arra 45.57 308 P **P** **07 34 27.9 -0.3**
baz=84,slow=7.9
KKAR Karatay Array 52.49 300 P **P** **07 35 21.1 -0.2**
FITZ Fitzroy Crossi 55.60 196 P **P** **07 35 44.9 +0.8**
FITZ IAmb IAmb 07 35 59.5
comp=Z,6.1nm,1.4s
WB0 Warramunga Arr 55.85 186 P **P** **07 35 45.4 -0.4**
WB0 IAmb IAmb 07 35 51.7
comp=Z,7.7nm,1.4s
WB2 Warramunga Arr 56.03 186 P **P** **07 35 46.5 -0.5**
WR0 Warramunga Arr 56.03 186 P **P** **07 35 46.7 -0.4**
WRA Warramunga Arr 56.03 186 P **P** **07 35 46.7 -0.4**
comp=Z,0.8nm,0.4s,baz=1.1,slow=7.6,SNR=23
WRA Warramunga Arr 56.03 186 P **P** **07 35 47.2 +0.1**
ABKAR Akbulak array 57.56 310 P **P** **07 35 57.2 -0.5**
ABKAR IAmb IAmb 07 35 58.2
comp=Z,1.2nm,0.7s
ASAR Alice Springs 59.76 186 P **P** **07 36 13.5 +0.3**
comp=Z,0.3nm,0.5s,baz=14,slow=11,SNR=5.0
ASAR Alice Springs 59.76 186 P **P** **07 36 17.1 +3.9**
AKASG Malin Array Be 74.23 322 P **P** **07 37 43.9 -0.9**
comp=Z,0.3nm,0.3s,baz=52,slow=5.4,SNR=2.3
AKASG Malin Array Be 74.23 322 IAmb IAmb 07 37 44.6
comp=Z,0.4nm,0.8s

*KRNET **25** 07:32:38.9±0.1, 40°.93N×70°.72E, h15km, mb2.6*
ISC 25 07:32:39.5±1.1, 40.77N±0°.06×70.54E±0°.04, h10km, n7, σ1§12/12, 9C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.74**	**163**	⇓*i*P	**Pn**	**07 32 55.7**	**-0.4**
	baz=75						
BTK				⇓*i*S	**Sn**	**07 33 07.9**	**+0.4**
	baz=75						
TAS	**Tashkent**	**1.09**	**301**	⇑*i*P	**Pg**	**07 33 00.7**	**+0.2**
	baz=91						
TAS				⇑*i*S	**Sn**	**07 33 16.6**	**+0.5**
	baz=91						
OHH	**Osh**	**1.73**	**97**	⇑*i*P	**Pn**	**07 33 09.3**	**-0.3**
	baz=4.0						
OHH				⇑*i*S	**Sb**	**07 33 31.8**	**-1.3**
	baz=4.0						
ARSB	**Arslanbob**	**1.93**	**73**	⇓*i*P	**Pn**	**07 33 11.7**	**-0.8**
	baz=76						
ARSB				⇓*i*S	**Sn**	**07 33 35.1**	**-1.8**
	baz=76						
MNAS	**Manas**	**2.26**	**40**	⇑*i*P	**Pn**	**07 33 16.5**	**-0.6**
	baz=40						
MNAS				⇑*i*S	**Sn**	**07 33 44.5**	**-0.6**
	baz=40						
KK31	**Karatay Array**	**2.33**	**359**	⇓Pn	Pg	07 33 41.3	+17
	0.3nm,0.3s,baz=191,slow=15,SNR=20						
KK31				⇑Sn	Sg	07 34 10.4	+16
	0.8nm,0.2s,baz=184,slow=30,SNR=11						
TKM2	**Tokmak 2**	**4.34**	**59**	⇑Pn	**Pg**	**07 34 04.8**	**+2.1**
	1.1nm,0.6s						
TKM2				⇑Sn	**Sg**	**07 34 59.6**	**+0.6**
	0.8nm,0.6s						

*INMG **25** 07:42:44.5±1.4, 34°.63N×5°.52W, h21km±7km, ML2.4, Error ellipse: s-maj=5.3km s-min=2.3km az=87.0*
*IGIL **25** 07:42:44.0, 34°.55N×5°.60W, h17km, ML2.6*
*MDD **25** 07:42:44.4±1.5, 34°.52N×5°.63W, h97km±31km, mb2.8/8, Error ellipse: s-maj=16.1km s-min=8.7km az=7.0, PRXIMO*
*SFS **25** 07:42:45.0, 34°.56N×5°.76W, h71km, ML3.6, HAD KOURT (MARRUECOS)*
ISC 25 07:42:42.6±1.7, 34°.53N±0°.06×5°.59W±0°.04, h98km±17km, n55, σ1§55/95, 2C, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IFR	**Ifrane**	**1.08**	**159**	*e*P	**Pn**	**07 43 04.1**	**+0.1**
IFR				*e*S	**Sn**	**07 43 19.6**	**-0.4**
PVLZ	**Peæn de**	**1.24**	**58**	*e*P	**Pn**	**07 43 05.7**	**+0.1**
PVLZ				*e*S	**Sn**	**07 43 21.2**	**-1.7**
ECEU	**Ceuta**	**1.38**	**7**	P	**Pn**	**07 43 08.6**	**+1.3**
	5.0nm,0.1s,SNR=7.9						
CEU	**Ceuta**	**1.38**	**7**	*e*P	**Pn**	**07 43 07.6**	**+0.4**
CEU				*e*S	**Sn**	**07 43 27.1**	**+1.2**
EJIF	**Jimena Fronter**	**1.92**	**3**	P	**Pn**	**07 43 16.1**	**+2.0**
	SNR=7.9						
AVE	**Averroes**	**1.95**	**231**	*e*P	Pn	07 43 22.0	+7.5
AVE				*e*S	Sn	07 43 48.3	+10
ESPR	**Espera**	**2.34**	**355**	P	**Pn**	**07 43 20.5**	**+0.9**
	0.8nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**07 43 47.3**	**-0.6**
	4.2nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**2.83**	**34**	P	**Pn**	**07 43 27.9**	**+1.8**
	1.5nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**07 44 00.3**	**+0.8**
	9.2nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.23**	**42**	P	**Pn**	**07 43 32.9**	**+1.4**
	2.0nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**07 44 10.3**	**+1.0**
	0.8nm,0.3s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**3.31**	**326**	P	**Pn**	**07 43 33.1**	**+0.6**
PBDV				S	**Sn**	**07 44 10.3**	**-0.6**
	5.8nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.31**	**326**	*e*Pn	**Pn**	**07 43 33.1**	**+0.6**
PBDV				*e*Sn	**Sn**	**07 44 10.3**	**-0.6**
PBDV				A	A	07 44 20.4	
	5.8nm,0.6s						
PVAQ	**Vaqueiros**	**3.35**	**330**	P	**Pn**	**07 43 33.7**	**+0.8**
PVAQ				S	**Sn**	**07 44 10.9**	**-0.9**
	24nm,0.2s						
PVAQ	**Vaqueiros**	**3.35**	**330**	⇑*e*Pn	**Pn**	**07 43 33.7**	**+0.8**
PVAQ				*e*Sn	**Sn**	**07 44 10.9**	**-0.9**
PVAQ				A	A	07 44 12.1	
	24nm,0.2s						
EMIN	**Mina Concepcio**	**3.35**	**345**	P	**Pn**	**07 43 33.1**	**+0.1**
	1.0nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**07 44 10.2**	**-1.7**
	0.6nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.37**	**333**	⇑P	**Pn**	**07 43 34.0**	**+0.8**
	9.1nm,0.1s,SNR=18						
EGRO				S	**Sn**	**07 44 10.2**	**-2.1**
	4.0nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.54**	**2**	P	**Pn**	**07 43 36.7**	**+1.0**
	1.4nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**07 44 14.3**	**-2.3**
	1.2nm,0.2s,SNR=7.9						
PCVE	**Castro Verde**	**3.68**	**328**	P	**Pn**	**07 43 38.4**	**+1.0**
PCVE				S	**Sn**	**07 44 19.0**	**-0.8**
	7.2nm,0.5s						
PCVE	**Castro Verde**	**3.68**	**328**	*e*Pn	**Pn**	**07 43 38.4**	**+1.0**
PCVE				*e*Sn	**Sn**	**07 44 19.0**	**-0.8**
PCVE				A	A	07 44 20.1	
	7.2nm,0.5s						
PFVI	**Vila Bisbo**	**3.70**	**316**	P	**Pn**	**07 43 38.2**	**+0.5**
	11nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**07 44 16.4**	**-3.8**
	3.0nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.70**	**316**	*e*Pn	**Pn**	**07 43 38.4**	**+0.8**
PFVI				*e*Sn	**Sn**	**07 44 20.2**	**0.0**
PFVI				A	A	07 44 29.1	
	21nm,0.5s						
MORF	**Marmelete**	**3.72**	**319**	*e*P	**Pn**	**07 43 39.0**	**+1.0**
MORF	**Marmelete**	**3.72**	**319**	P	**Pn**	**07 43 39.0**	**+1.0**
EADA	**Adamuz**	**3.72**	**12**	P	**Pn**	**07 43 38.5**	**+0.4**
	0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**07 44 18.6**	**-2.4**
	0.8nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**3.82**	**343**	P	**Pn**	**07 43 39.8**	**+0.5**
PBAR				S	**Sn**	**07 44 22.1**	**-1.2**
	4.2nm,0.4s						
PBAR	**Barrancos**	**3.82**	**343**	*e*Pn	**Pn**	**07 43 39.8**	**+0.5**
PBAR				*e*Sn	**Sn**	**07 44 22.1**	**-1.2**
PBAR				A	A	07 44 23.3	
	4.2nm,0.4s						
EQES	**Quesada**	**3.85**	**31**	P	**Pn**	**07 43 41.8**	**+1.9**
	0.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**07 44 24.4**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
MESJ	**Messejana**	**3.93**	**328**	*e*P	**Pn**	**07 43 41.6**	**+0.8**
MESJ				*e*S	**Sn**	**07 44 23.8**	**-2.1**
MESJ				AML	AML	07 44 27.8	
	comp=N,14nm,0.3s						
MESJ	**Messejana**	**3.93**	**328**	P	**Pn**	**07 43 41.6**	**+0.8**
MESJ				S	**Sn**	**07 44 25.4**	**-0.4**
	comp=N,7.4nm,0.7s						
MESJ	**Messejana**	**3.93**	**328**	*e*Pn	**Pn**	**07 43 41.6**	**+0.8**
MESJ				*e*Sn	**Sn**	**07 44 25.4**	**-0.4**
MESJ				A	A	07 44 30.9	
	comp=N,7.4nm,0.7s						
PTEO	**Sao Teotonio**	**3.94**	**321**	P	**Pn**	**07 43 41.9**	**+1.0**
PTEO				S	**Sn**	**07 44 25.6**	**-0.4**
	comp=N,4.6nm,0.9s						
PTEO	**Sao Teotonio**	**3.94**	**321**	*e*Pn	**Pn**	**07 43 41.9**	**+1.0**
PTEO				*e*Sn	**Sn**	**07 44 25.6**	**-0.4**
PTEO				A	A	07 44 27.5	
	comp=N,9.1nm,0.9s						
PBEJ	**Beja**	**3.94**	**333**	P	**Pn**	**07 43 42.8**	**+1.8**
PBEJ				S	**Sn**	**07 44 25.1**	**-1.1**
PBEJ	**Beja**	**3.94**	**333**	*e*Pn	**Pn**	**07 43 42.8**	**+1.8**
PBEJ				*e*Sn	**Sn**	**07 44 25.1**	**-1.1**
PNCL	**Nicolau / Gran**	**4.29**	**327**	P	**Pn**	**07 43 46.9**	**+1.2**
PNCL				S	**Sn**	**07 44 34.0**	**-0.6**
	comp=N,4.3nm,0.2s						
PNCL	**Nicolau / Gran**	**4.29**	**327**	*e*Pn	**Pn**	**07 43 46.9**	**+1.2**
PNCL				*e*Sn	**Sn**	**07 44 34.0**	**-0.6**
PNCL				A	A	07 44 34.7	
	comp=N,4.3nm,0.2s						
EVO	**Evora**	**4.45**	**335**	P	**Pn**	**07 43 50.0**	**+2.2**
EVO				S	**Sn**	**07 44 37.3**	**-1.1**
	comp=N,7.2nm,0.2s						
EVO	**Evora**	**4.45**	**335**	*e*Pn	**Pn**	**07 43 50.0**	**+2.2**
EVO				*e*Sn	**Sn**	**07 44 37.3**	**-1.1**
EVO				A	A	07 44 46.9	
	comp=N,7.2nm,0.2s						
PESTR	**Estremoz**	**4.62**	**340**	*e*Pn	**Pn**	**07 43 51.6**	**+1.5**
PESTR				*e*Sn	**Sn**	**07 44 42.5**	**-0.1**
PESTR				A	A	07 45 03.6	
	comp=N,3.7nm,0.6s						
PMTG	**Montargil**	**5.00**	**336**	P	**Pn**	**07 43 57.3**	**+2.0**
PMTG				S	**Sn**	**07 44 50.7**	**-1.1**
	comp=N,4.3nm,0.8s						
PMTG	**Montargil**	**5.00**	**336**	*e*Pn	**Pn**	**07 43 57.3**	**+2.0**
PMTG				*e*Sn	**Sn**	**07 44 50.7**	**-1.1**
PMTG				A	A	07 45 04.7	
	comp=N,4.3nm,0.8s						
PMRV	**Marv??o**	**5.10**	**344**	P	**Pn**	**07 43 58.0**	**+1.4**
PMRV				S	**Sn**	**07 44 52.3**	**-1.9**
	comp=N,2.9nm,0.5s						
PMRV	**Marv??o**	**5.10**	**344**	*e*Pn	**Pn**	**07 43 58.0**	**+1.4**
PMRV				*e*Sn	**Sn**	**07 44 52.3**	**-1.9**
PMRV				A	A	07 44 54.8	
	comp=N,2.9nm,0.5s						
PAB	**San Pablo**	**5.11**	**11**	P	**Pn**	**07 43 57.9**	**+1.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**07 44 50.4**	**-4.2**
	comp=N,0.3nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**5.51**	**345**	P	**Pn**	**07 44 03.9**	**+1.7**
PCBR	**Castelo Branco**	**5.51**	**345**	*e*Pn	**Pn**	**07 44 03.9**	**+1.7**
EPLA	**Plasencia**	**5.54**	**356**	P	**Pn**	**07 44 03.8**	**+1.2**
	comp=N,1.0nm,0.1s,SNR=7.9						
PSBE	**So Bento**	**5.60**	**334**	*e*Pn	**Pn**	**07 44 04.9**	**+1.5**
PSBE				*e*Sn	**Sn**	**07 45 05.9**	**-0.5**
MTE	**Manteigas**	**6.06**	**346**	P	**Pn**	**07 44 12.3**	**+2.5**
MTE	**Manteigas**	**6.06**	**346**	*e*Pn	**Pn**	**07 44 12.3**	**+2.5**
MVO	**Moncorvo**	**6.72**	**351**	P	**Pn**	**07 44 20.1**	**+1.4**
	comp=N,1.1nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**07 45 30.2**	**-3.6**
	comp=N,0.4nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.72**	**351**	*e*Pn	**Pn**	**07 44 20.2**	**+1.4**
ETOR	**Torete**	**6.88**	**23**	P	**Pn**	**07 44 21.7**	**+0.8**
	comp=N,2.7nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**07 45 34.2**	**-3.5**
	comp=N,1.5nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**7.32**	**353**	P	**Pn**	**07 44 25.2**	**-1.7**
PBRG	**Braganca**	**7.32**	**353**	*e*Pn	**Pn**	**07 44 25.2**	**-1.7**
PGAV	**Gavieira, Arco**	**7.72**	**345**	*e*Sn	**Sn**	**07 46 01.9**	**+3.8**

*IDC **25** 07:59:26.8±0.7, 13°.56S×166°.67E, h0km, mb4.4/17, mb1 4.5/19, mb1mx4.3/35, mbtmp4.4/19, ML4.3/2, MS3.7/7, Ms1 3.7/7, ms1mx3.4/26, Error ellipse: s-maj=23.5km s-min=15.0km az=98.0*
*NEIC **25** 07:59:34.2±2.4, 13°.58S±0°.09×166°.6E±0°.1, h58km±7km, mb4.5/26, Error ellipse: s-maj=18.8km s-min=10.2km az=59.0*
ISC 25 07:59:32.7±0.5, 13°.61S±0°.06×166°.62E±0°.09, h39km, n69, σ1§28/67, mb4.5/33, MS3.8/6, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.91**	**163**	Pn	**Pn**	**08 00 03.2**	**+0.5**
HNR	**Honiara**	**7.75**	**302**	Pn	**Pn**	**08 01 22.0**	**-0.9**
	15nm,0.3s,baz=184,slow=2.5,SNR=6.8						
HNR				Sn	**Sn**	**08 02 46.3**	**-3.2**
	15nm,0.3s,baz=204,slow=20,SNR=2.3						
HNR				LR	LR	08 04 02.1	
	comp=Z,330nm,19.6s,baz=159,slow=36						
HNR	**Honiara**	**7.75**	**302**	Pn	**Pn**	**08 01 25.2**	**+2.2**
DZM	**Mont Dzumac**	**8.42**	**181**	Pn	**Pn**	**08 01 32.7**	**+0.5**
	0.8nm,0.3s,baz=7.7,slow=2.8,SNR=15						
DZM				LR	LR	08 04 28.2	
	comp=Z,349nm,21.1s,baz=20,slow=36						
DZM	**Mont Dzumac**	**8.42**	**181**	*e*Pn	**Pn**	**08 01 33.5**	**+1.3**
	24nm,0.3s						
DZM				*e*Sn	**Sn**	**08 03 01.5**	**-4.5**
	11nm,0.2s						
DZM				*e*LR	LR	08 03 28.0	
	comp=Z,411nm,22.5s						
DZM	**Mont Dzumac**	**8.42**	**181**	Pn	**Pn**	**08 01 34.0**	**+1.8**
EIDS	**Eidsvold**	**18.72**	**229**		**Pn**	**08 03 50.5**	**+1.8**
PMG	**Port Moresby**	**19.52**	**280**	LR	LR	08 10 14.8	
	comp=Z,74nm,21.2s,baz=105,slow=33						
CTA	**Charters Tower**	**20.52**	**249**	P	**P**	**08 04 08.7**	**+0.9**
	3.4nm,0.9s,baz=78,slow=10.0,SNR=6.3						
CTAO	**Charters Tower**	**20.52**	**249**	P	Pn	08 04 09.6	-0.5
ARMA	**Armidale**	**21.70**	**217**	P	**P**	**08 04 21.6**	**+1.1**
ARMA				IAmb	IAmb	08 04 37.1	
	comp=Z,14nm,0.9s						
OUZ	**Omahuta**	**22.42**	**165**	P	**P**	**08 04 28.6**	**+0.6**
OUZ				IAmb	IAmb	08 04 32.9	
	comp=Z,30nm,1.5s						
STKA	**Stephens Creek**	**29.26**	**227**	P	**P**	**08 05 31.4**	**+0.2**
	comp=Z,3.5nm,0.5s,baz=48,slow=10,SNR=10						
STKA				LR	LR	08 17 31.4	
	comp=Z,245nm,18.2s,baz=52,slow=37						
STKA	**Stephens Creek**	**29.26**	**227**	P	**P**	**08 05 31.5**	**+0.3**
RPZ	**Rata Peaks**	**30.24**	**174**	P	**P**	**08 05 40.7**	**+1.0**
	comp=Z,4.7nm,0.7s,baz=221,slow=11,SNR=2.2						
RPZ	**Rata Peaks**	**30.24**	**174**	IAmb	IAmb	08 05 52.1	
	comp=Z,16nm,1.1s						
TOO	**Toolangi**	**30.39**	**214**	P	**P**	**08 05 42.2**	**+1.0**
TOO				IAmb	IAmb	08 05 51.7	
	comp=Z,13nm,1.1s						
WR0	**Warramunga Arr**	**31.32**	**254**	P	**P**	**08 05 48.2**	**-1.4**
WR0				IAmb	IAmb	08 05 59.2	
	comp=Z,6.8nm,1.1s						
WB0	**Warramunga Arr**	**31.44**	**254**	P	**P**	**08 05 49.2**	**-1.4**
WB0				IAmb	IAmb	08 06 00.3	
	comp=Z,7.9nm,0.8s						
WB2	**Warramunga Arr**	**31.50**	**254**	P	**P**	**08 05 48.5**	**-2.6**
WB2				IAmb	IAmb	08 05 56.9	
	comp=Z,9.9nm,1.2s						
WRA	**Warramunga Arr**	**31.51**	**254**	P	**P**	**08 05 49.9**	**-1.3**
	comp=Z,3.0nm,0.9s,baz=86,slow=9.1,SNR=18						
WRA				PcP	**PcP**	**08 08 43.7**	**0.0**
	comp=Z,1.3nm,0.9s,baz=73,slow=2.9,SNR=5.3						
WRA				LR	LR	08 18 18.0	
	comp=Z,311nm,18.0s,baz=95,slow=36						
WRA	**Warramunga Arr**	**31.51**	**254**	P	**P**	**08 05 49.2**	**-2.0**
ASAR	**Alice Springs**	**32.50**	**247**	P	**P**	**08 05 58.9**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=68,slow=9.3,SNR=17						
ASAR				PcP	**PcP**	**08 08 46.3**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=70,slow=4.1,SNR=4.5						
ASAR				LR	LR	08 19 31.8	
	comp=Z,155nm,18.1s,baz=114,slow=37						
BBOO	**Buckleboo**	**33.78**	**230**	P	**P**	**08 06 11.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**39.62**	**258**	P	**P**	**08 06 59.7**	**-1.1**
FITZ				IAmb	IAmb	08 07 06.3	
	comp=Z,5.8nm,1.0s						
TBI	**Tubuai**	**42.62**	**110**	*e*LR	LR	08 19 15.6	
	comp=Z,110nm,26.0s						
UGM	**Wanagama**	**55.31**	**270**	P	**P**	**08 09 02.6**	**-0.3**
MJAR	**Matsushiro Arr**	**56.63**	**333**	P	**P**	**08 09 10.9**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=162,slow=6.1,SNR=5.2						
MJAR	**Matsushiro Arr**	**56.63**	**333**	IAmb	IAmb	08 09 13.0	
	comp=Z,2.7nm,0.9s						
JTM	**Tenmabayashi**	**59.08**	**338**	P	**P**	**08 09 28.7**	**-0.2**
ASAJ	**Asahikawa**	**61.48**	**341**	P	**P**	**08 09 45.9**	**+0.5**
	comp=Z,9.6nm,0.6s,baz=184,slow=4.5,SNR=9.3						
KSRS	**Korea Array**	**62.47**	**326**	P	**P**	**08 09 52.3**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=138,slow=7.6,SNR=5.5						
VNDA	**Vanda**	**63.96**	**181**	P	**P**	**08 10 02.3**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=350,slow=8.0,SNR=6.8						
VNDA	**Vanda**	**63.96**	**181**	P	**P**	**08 10 02.4**	**+0.9**
VNDA				IAmb	IAmb	08 10 30.5	
	comp=Z,6.0nm,1.4s						
SBA	**Scott Base**	**64.25**	**180**	P	**P**	**08 10 04.1**	**+0.8**
SBA				IAmb	IAmb	08 10 06.3	
	comp=Z,8.1nm,1.1s						
CASY	**Casey**	**64.32**	**202**	P	**P**	**08 10 03.9**	**-0.1**
NJ2	**Nanjing**	**64.44**	**316**	*e*P	**P**	**08 10 07.0**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**65.61**	**333**	P	**P**	**08 10 13.7**	**+1.1**
USRK	**Ussuriysk Ar.**	**65.61**	**333**	P	**P**	**08 10 13.4**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=130,slow=6.5,SNR=19						
USRK	**Ussuriysk Ar.**	**65.61**	**333**	P	**P**	**08 10 12.5**	**-0.1**
MDJ	**Mudanjiang**	**67.00**	**332**	P	**P**	**08 10 22.5**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,20nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,150nm,5.4s						
CN2	**Changchun**	**68.37**	**329**	*e*P	**P**	**08 10 30.5**	**+0.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
KLR	**Kul'dur**	**69.74**	**336**	P	**P**	**08 10 39.3**	**+0.8**
	comp=Z,5.7nm,0.7s,baz=137,slow=2.6,SNR=26						
BJI	**Beijing**	**71.00**	**321**	P	**P**	**08 10 47.3**	**+0.8**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,90nm,4.2s						
KMI	**Kunming**	**73.19**	**302**	⇓P	**P**	**08 11 03.0**	**+2.8**
KMI				pP	sP	08 11 14.8	+0.2
KMI				sP	PcP	08 11 18.3	+1.7
KMI				pmax	pmax		
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.92**	**294**	P	**P**	**08 11 05.3**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=124,slow=4.7,SNR=8.2						
HHC	**Hu-ho-hao-te**	**74.33**	**320**	*e*P	**P**	**08 11 07.5**	**+1.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,66nm,5.6s						
QSPA	**South Pole Qui**	**76.41**	**180**	P	**P**	**08 11 18.2**	**+0.2**
SONM	**Songino Array**	**81.23**	**324**	P	**P**	**08 11 44.9**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=129,slow=4.7,SNR=9.7						
SONM	**Songino Array**	**81.23**	**324**	P	**P**	**08 11 42.7**	**-2.0**
BILL	**Bilibino**	**81.43**	**360**	P	**P**	**08 11 44.1**	**-1.0**
BILL				IAmb	IAmb	08 12 05.2	
	comp=Z,6.9nm,1.2s						
GTA	**Gaotai**	**81.44**	**314**	⇑P	**P**	**08 11 47.0**	**+1.0**
GTA				pP	pwP	08 12 00.8	-0.5
GTA				sP	sP	08 12 05.8	+4.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,98nm,6.7s						
GTA				LR	LR		
	comp=N,120nm,16.7s						
GTA				LR	LR		
	comp=E,150nm,16.7s						
GTA				LR	LR		
	comp=Z,170nm,17.4s						
ILAR	**Eielson Array**	**85.66**	**18**	P	**P**	**08 12 05.4**	**-1.5**
	comp=Z,1.7nm,0.4s,baz=236,slow=5.0,SNR=28						
BELA	**Belgrano 2**	**87.88**	**176**	P	**P**	**08 12 17.2**	**-0.5**
BELA				IAmb	IAmb	08 12 18.7	
	comp=Z,5.8nm,0.9s						
WMQ	**Urumqi**	**91.50**	**315**	*e*P	**P**	**08 12 36.0**	**+0.7**
SNAA	**Sanae**	**94.62**	**183**	P	**P**	**08 12 48.4**	**-0.8**
SNAA	**Sanae**	**94.62**	**183**	P	**P**	**08 12 48.3**	**-0.9**
PDAR	**Pinedale Array**	**94.65**	**47**	LR	LR	08 54 04.6	
	comp=Z,32nm,18.2s,baz=210,slow=35						
VNA3	**Neumayer Olymp**	**95.31**	**181**	P	**P**	**08 12 51.7**	**-0.6**
VNA2	**Neumayer--Watz**	**95.57**	**182**	P	**P**	**08 12 53.2**	**-0.2**
	baz=158,slow=5.8						
MKAR	**Makanchi Array**	**95.96**	**317**	P	**P**	**08 12 55.8**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=94,slow=6.4,SNR=13						
ZALV	**Zalesovo Beam**	**96.12**	**324**	P	**P**	**08 12 55.3**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=103,slow=6.7,SNR=8.0						
ZALV	**Zalesovo Beam**	**96.12**	**324**	P	**P**	**08 12 54.6**	**-1.5**
YKA	**Yellowknife Ar**	**96.85**	**27**	P	**P**	**08 12 58.6**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=258,slow=3.9,SNR=4.8						
ARCES	**ARCESS Array B**	**119.02**	**345**	PKP	**PKPdf**	**08 18 15.8**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=78,slow=2.0,SNR=16						
FINES	**FINESS Array B**	**124.46**	**338**	PKP	**PKPdf**	**08 18 26.9**	**-0.3**
	comp=Z,2.2nm,

TUMR S Sn 08 00 40.7 +1.1
TUMR Tumrok 1.92 331 *e*P Pn 08 00 16.6 +1.1
TUMR *e*S Sn 08 00 40.7 +1.1
PET Petropavlovsk 1.96 254 *e*PN Pn 08 00 16.3 +0.4
PET *e*S Sn 08 00 41.5 +1.2
PET smax smax
comp=N,2μm,0.6s
PET smax smax
comp=E,3μm,0.5s
PET Petropavlovsk 1.96 254 Pn Pn 08 00 16.3 +0.4
GNL Ganaly 2.28 274 PN Pn 08 00 22.0 +1.6
GNL Ganaly 2.28 274 *e*P Pn 08 00 22.0 +1.6
RUS Russkaya 2.29 240 PN Pn 08 00 21.1 +0.6
RUS Russkaya 2.29 240 *e*P Pn 08 00 21.1 +0.6
KMNR Kamenistaya 2.32 338 PN Pb 08 00 23.3 -1.5
KMNR Kamenistaya 2.32 338 *e*P Pb 08 00 23.3 -1.5
KRMR Karymshinskiy 2.32 252 PN Pb 08 00 23.1 -1.6
KRMR S Sb 08 00 51.7 -1.6
KRMR Karymshinskiy 2.32 252 *e*P Pb 08 00 23.1 -1.6
KRMR *e*S Sb 08 00 51.7 -1.6
BZGR Bezymyannyi-Gr 2.41 346 PN Pn 08 00 24.1 +1.8
BZGR Bezymyannyi-Gr 2.41 346 *e*P Pn 08 00 24.1 +1.8
BZMR Bezymyannaya 2.44 343 PN Pn 08 00 23.6 +0.9
BZMR Bezymyannaya 2.44 343 *e*P Pn 08 00 23.6 +0.9
MTVR Mutnovka 2.44 244 PN Pn 08 00 24.3 +1.6
MTVR Mutnovka 2.44 244 *e*P Pn 08 00 24.3 +1.6
BZWR Bezymyannyi-We 2.47 343 PN Pb 08 00 25.7 -1.6
BZWR Bezymyannyi-We 2.47 343 *e*P Pb 08 00 25.7 -1.6
GRL Gorelyy 2.47 246 PN Pn 08 00 24.8 +1.7
GRL Gorelyy 2.47 246 *e*P Pn 08 00 24.8 +1.7
ZLN Zelenaya 2.47 347 PN Pn 08 00 24.9 +1.8
ZLN Zelenaya 2.47 347 *e*P Pn 08 00 24.9 +1.8
KIRR Kirishev 2.48 341 PN Pn 08 00 25.3 +2.0
KIRR Kirishev 2.48 341 *e*P Pn 08 00 25.3 +2.0
PEA0B Petropavlovsk- 2.49 260 *d i*PN Pn 08 00 24.4 +1.2
PEA0B Petropavlovsk- 2.49 260 Pn 08 00 24.8 +1.6
PETK Petropavlovsk- 2.49 260 Pn Pn 08 00 24.2 +1.0
comp=E,91nm,0.3s,baz=78,slow=18,SNR=512
PETK Sn Sn 08 00 55.4 +2.0
comp=E,101nm,0.3s,baz=267,slow=16,SNR=9.7
PETK LR LR 08 00 56.9
comp=E,308nm,21.0s,baz=127,slow=31
PETK Petropavlovsk- 2.49 260 Pn Pn 08 00 24.7 +1.4
LGNR Loginova 2.55 346 PN Pb 08 00 26.9 -1.9
LGNR Loginova 2.55 346 P Pb 08 00 26.9 -1.9
CIRR Tsirk 2.57 347 PN Pn 08 00 26.5 +2.0
CIRR Tsirk 2.57 347 *e*P Pn 08 00 26.5 +2.0
ASAK Asacha 2.64 244 PN Pn 08 00 26.7 +1.3
ASAK Asacha 2.64 244 *e*P Pn 08 00 26.7 +1.3
KBTR Krutoberegovo 2.67 13 PN Pn 08 00 26.3 +0.6
KBTR Krutoberegovo 2.67 13 *e*P Pn 08 00 26.3 +0.6
KOZ Kozyrevsk 2.68 337 PN Pb 08 00 28.5 -2.4
KOZ Kozyrevsk 2.68 337 *e*P Pb 08 00 28.5 -2.4
KRSR Krestovskiy 2.70 346 PN Pn 08 00 28.4 +2.2
KRSR Krestovskiy 2.70 346 *e*P Pn 08 00 28.4 +2.2
KBG Krutoberegovo 2.70 11 PN Pn 08 00 27.1 +1.0
KBG S Sn 08 00 59.7 +1.0
KBG Krutoberegovo 2.70 11 *e*P Pn 08 00 27.1 +1.0
KBG *e*S Sn 08 00 59.7 +1.0
KLY Klyuchi 2.78 347 PN Pn 08 00 28.8 +1.6
KLY S Sn 08 01 02.3 +1.7
KLY Klyuchi 2.78 347 *e*P Pn 08 00 28.8 +1.6
KLY *e*S Sn 08 01 02.3 +1.7
APC Apacha 2.85 258 PN Pb 08 00 31.1 -2.6
APC Apacha 2.85 258 *e*P Pb 08 00 31.1 -2.6
KDTR Khodutka, Kamc 2.88 233 PN Pn 08 00 29.2 +0.6
KDTR Khodutka, Kamc 2.88 233 *e*P Pn 08 00 29.2 +0.6
ESO Esso 2.92 324 PN Pn 08 00 31.1 +2.0
ESO S Sn 08 01 06.5 +2.4
ESO Esso 2.92 324 *e*P Pn 08 00 31.1 +2.0
ESO *e*S Sn 08 01 06.5 +2.4
BKI Bering 2.93 55 PN Pn 08 00 28.2 -1.1
BKI Bering 2.93 55 *e*P Pn 08 00 28.2 -1.1
BKI *e*S Sn 08 00 59.9 -4.4
SRDR Sredinnyy 2.95 337 PN Pn 08 00 31.5 +1.8
SRDR Sredinnyy 2.95 337 *e*P Pn 08 00 31.5 +1.8
BDR Baidarnaya 2.98 354 PN Pn 08 00 32.1 +2.1
BDR Baidarnaya 2.98 354 *e*P Pn 08 00 32.1 +2.1
SMKR Semkarok 2.98 357 PN Pn 08 00 32.3 +2.3
SMKR Semkarok 2.98 357 *e*P Pn 08 00 32.3 +2.3
SRKR Sorokina 3.07 354 PN Pn 08 00 33.3 +2.1
SRKR S Sn 08 01 10.3 +2.5
SRKR Sorokina 3.07 354 *e*P Pn 08 00 33.3 +2.1
SRKR *e*S Sn 08 01 10.3 +2.5
MIPR Malaya Ipel'ka 3.31 248 PN Pn 08 00 37.3 +2.7
MIPR Malaya Ipel'ka 3.31 248 *e*P Pn 08 00 37.3 +2.7
PAU Pauzhetka 3.71 237 PN Pn 08 00 42.4 +2.4
PAU Pauzhetka 3.71 237 *e*P Pn 08 00 42.4 +2.4
SKR Severo-Kuril's 4.55 232 *e*PN Pn 08 00 53.1 +1.6
SKR *e*S Sn 08 01 49.9 +5.7
SKR smax smax
comp=N,318nm,0.6s
SKR smax smax
comp=E,196nm,0.5s
SKR MLR MLR
comp=Z,400nm,12.0s
SKR Severo-Kuril's 4.55 232 *e*P Pn 08 00 54.6 +3.1
ALID Alaid 4.71 237 PN Pn 08 00 55.9 +2.1
ALID Alaid 4.71 237 *e*P Pn 08 00 55.9 +2.1
PALN Palana 5.58 350 PN Pn 08 01 07.6 +2.0
PALN Palana 5.58 350 *e*P Pn 08 01 07.6 +2.0
OSSR Ossora 5.70 7 PN Pn 08 01 10.4 +3.2
OSSR Ossora 5.70 7 *e*P Pn 08 01 10.4 +3.2
TILK Tilichiki 7.25 17 PN Pn 08 01 30.2 +1.6
TILK Tilichiki 7.25 17 *e*P Pn 08 01 30.2 +1.6
SMY Shemya 7.47 92 PN Pn 08 01 31.7 +0.1
SMY Shemya 7.47 92 Pn Pn 08 01 31.6 +0.1
MA2 Magadan 8.51 319 Pn Pn 08 01 48.5 +2.7
comp=Z,1.9nm,0.3s,baz=128,slow=10,SNR=25
MA2 LR LR 08 05 35.4
comp=Z,422nm,19.0s,baz=156,slow=42
MA2 Magadan 8.51 319 *ce*PN Pn 08 01 48.8 +3.0
MA2 pmax pmax
comp=Z,27nm,0.8s
SEY Seymchan 10.55 336 Pn Pn 08 02 15.8 +2.0
comp=Z,0.1nm,0.3s,baz=116,slow=15,SNR=4.5
SEY Seymchan 10.55 336 *i*PN Pn 08 02 15.3 +1.5
BILL Bilibino 14.63 7 *ce*P Pn 08 03 11.4 +1.9
BILL *e*S Sn 08 05 56.1 +4.8
BILL pmax pmax
comp=Z,19nm,1.5s
BILL MLR MLR
comp=Z,125nm,16.0s
BILL Bilibino 14.63 7 Pn Pn 08 03 12.4 +2.9
ASAJ Asahikawa 15.74 241 Pn Pn 08 03 24.6 +0.2
comp=Z,0.9nm,0.3s,baz=84,slow=20,SNR=5.1
ASAJ LR LR 08 09 33.4
comp=Z,215nm,19.8s,baz=16,slow=38
ERM Erimo 16.99 234 P Pn 08 03 39.3 -0.9
ERM pmax pmax
comp=Z,40nm,0.7s
ERM Erimo 16.99 234 Pn Pn 08 03 39.3 -0.9
ERM IAmb IAmb 08 03 47.2
comp=Z,40nm,0.7s
TEY Ternei 18.43 252 *e*P Pn 08 04 06.3 +8.3
TEY pmax pmax
comp=E,30nm,0.7s
TEY pmax pmax
comp=Z,30nm,0.7s
YAK Yakutsk 18.87 309 LR LR 08 12 10.1
comp=Z,221nm,20.6s,baz=89,slow=40
YAK Yakutsk 18.87 309 *e*P P 08 03 59.6 -3.0
YAK *e*S Sn 08 07 28.5 -5.4
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=Z,155nm,3.3s
YAK pmax pmax
comp=N,38nm,3.5s
YAK pmax pmax
comp=E,17nm,1.3s
YAK smax smax
comp=N,89nm,3.7s
YAK smax smax
comp=E,34nm,2.7s
YAK MLR MLR
comp=Z,484nm,21.0s
YAK MLR MLR
comp=N,175nm,18.0s
YAK MLR MLR
comp=E,318nm,20.0s
KLR Kul'dur 19.14 269 P Pn 08 04 06.8 +0.1
comp=E,0.3nm,0.3s,baz=68,slow=8.2,SNR=8.4
KLR LR LR 08 12 20.6
comp=E,253nm,18.6s,baz=66,slow=40
ANM Nome 19.86 44 P Pn 08 04 16.0 +0.9
ANM pmax pmax
comp=Z,4.0nm,0.8s
ANM Nome 19.86 44 P Pn 08 04 16.0 +0.9
USRK Ussuriysk Ar. 21.57 256 P P 08 04 32.8 +0.6
comp=Z,1.3nm,0.5s,baz=54,slow=9.3,SNR=6.5
USRK LR LR 08 13 30.7
comp=Z,192nm,18.1s,baz=59,slow=38
RDOG Red Dog Mine 22.04 35 P P 08 04 39.6 +2.7
TIXI Tiksi 23.04 334 P P 08 04 46.7 -0.8
comp=Z,7.0nm,0.6s,baz=118,slow=11,SNR=12
TIXI LR LR 08 15 13.9
comp=Z,248nm,18.1s,baz=89,slow=41
TIXI Tiksi 23.04 334 *e*P P 08 04 47.2 -0.3
MJAR Matsushiro Arr 23.66 233 P P 08 04 54.8 +0.7
comp=Z,9.3nm,1.0s,baz=23,slow=9.7,SNR=11
MJAR LR LR 08 15 06.2
comp=Z,97nm,21.9s,baz=90,slow=39
MJAR Matsushiro Arr 23.66 233 P P 08 04 59.0 +4.9
MJAR IAmb IAmb 08 05 09.3
comp=Z,12nm,0.7s
MAJO Matsushiro 23.66 233 *i*P P 08 04 54.3 +0.3
MAJO pmax pmax
comp=Z,18nm,0.7s
MAJO Matsushiro 23.66 233 P P 08 04 56.4 +2.4
MAT Matsushiro 23.66 233 P P 08 04 55.2 +1.2
IMAR Indian Mountai 24.94 43 P P 08 05 05.7 +0.1
PPLA Purkeypile 25.40 50 P P 08 05 11.2 +1.3
PPLA IAmb IAmb 08 05 21.8
comp=Z,25nm,1.5s
JWT Wachi 26.03 236 P P 08 05 18.6 +2.8
JWT IAmb IAmb 08 05 33.8
comp=Z,25nm,1.1s
HIA Hailar 26.26 278 *i*P P 08 05 17.4 -0.4
HIA pmax pmax
comp=Z,6.0nm,0.7s
HIA Hailar 26.26 278 P P 08 05 17.7 -0.1
HIA IAmb IAmb 08 05 30.8
comp=Z,9.1nm,1.0s
COLD Coldfoot 26.51 40 P P 08 05 20.8 +1.0
BOD Bodaibo 26.77 298 *e*P P 08 05 19.3 -3.0
BOD pmax pmax
comp=Z,6.0nm,1.2s
TOLK Toolik Lake Re 26.94 37 P P 08 05 22.1 -1.7
WRH Wood River Hil 27.22 47 P P 08 05 26.8 +0.6
WRH IAmb IAmb 08 05 39.9
comp=Z,8.0nm,1.1s
COLA College 27.32 46 *i*P P 08 05 27.7 +0.6
COLA pmax pmax
comp=Z,3.0nm,1.1s
IL31 27.73 46 P P 08 05 31.4 +0.7
IL31 IAmb IAmb 08 05 50.9
comp=Z,6.5nm,1.2s
ILAR Eielson Array 27.73 46 P P 08 05 31.1 +0.3
comp=Z,2.1nm,0.8s,baz=262,slow=8.2,SNR=19
ILAR LR LR 08 18 00.1
comp=Z,49nm,19.0s,baz=200,slow=40
KSRS Korea Array 28.34 249 P P 08 05 37.1 +0.6
comp=Z,1.6nm,0.6s,baz=42,slow=9.6,SNR=6.7
KSRS LR LR 08 18 21.5
comp=Z,115nm,18.7s,baz=44,slow=40
L27K Beaver Creek, 30.10 49 P P 08 05 53.6 +1.6
L27K IAmb IAmb 08 05 54.2
comp=Z,5.2nm,0.8s
BCAR Beaver Creek A 30.12 49 P P 08 05 53.3 +1.2
EGAK Eagle 30.18 46 P P 08 05 52.8 +0.2
INK Inuvik 32.84 38 P P 08 06 16.2 +0.3
comp=Z,2.2nm,0.6s,baz=294,slow=7.0,SNR=10.0
WHY Whitehorse 33.84 52 P P 08 06 26.6 +1.8
WHY IAmb IAmb 08 06 40.1
comp=Z,8.4nm,1.4s
H11N2 WAKE ISLAND Hy 34.05 171 T T 08 44 00.3
baz=355,slow=76,SNR=108
H11N3 WAKE ISLAND Hy 34.07 171 T T 08 44 00.7
baz=355,slow=76,SNR=108
H11N1 WAKE ISLAND Hy 34.07 171 T T 08 43 57.4
baz=355,slow=76,SNR=123
TLY Talaya 34.47 291 *i*P P 08 06 31.0 +0.7
TLY pmax pmax
comp=Z,10.0nm,2.8s
SONM Songino Array 34.75 283 P P 08 06 32.7 -0.2
comp=Z,0.8nm,0.6s,baz=55,slow=7.6,SNR=2.7
SONM PcP PcP 08 09 06.7 +0.5
comp=Z,1.8nm,0.6s,baz=60,slow=0.9,SNR=6.8
SONM LR LR 08 22 01.7
comp=Z,213nm,18.0s,baz=62,slow=39
SONM Songino Array 34.75 283 PcP 08 09 07.0 +0.8
H11S1 WAKE ISLAND Hy 35.25 172 T T 08 44 27.5
baz=352
H11S3 WAKE ISLAND Hy 35.26 172 T T 08 44 28.0
baz=352,SNR=2.6
H11S2 WAKE ISLAND Hy 35.27 172 T T 08 44 26.9
baz=352
HHC Hu-ho-hao-te 35.65 270 *e*P P 08 06 42.3 +1.6
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,120nm,6.3s
C36M Paulatuk 36.04 35 P P 08 06 43.5 -0.1
C36M IAmb IAmb 08 06 44.6
comp=Z,4.4nm,0.9s
NJ2 Nanjing 37.37 252 *e*P P 08 06 54.8 -0.5
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
EUNU Eureka 41.20 14 P P 08 07 27.8 +1.0
EUNU IAmb IAmb 08 07 28.4
comp=Z,9.2nm,0.7s
YKA Yellowknife Ar 42.10 43 P P 08 07 34.6 +0.3
comp=Z,0.6nm,0.6s,baz=302,slow=7.7,SNR=13
RES Resolute Bay 42.46 23 P P 08 07 37.8 +0.8
RES pmax pmax
comp=Z,2.0nm,1.0s
RES Resolute Bay 42.46 23 P P 08 07 37.8 +0.8
ZALV Zalesovo Beam 43.34 303 P P 08 07 43.6 -0.8
comp=Z,0.8nm,0.2s,baz=64,slow=9.8,SNR=3.8
ZALV LR LR 08 27 08.9
comp=Z,173nm,18.1s,baz=54,slow=38
LZH Lanzhou 43.34 270 *e*P P 08 07 46.5 +1.6
LZH pP pwP 08 07 57.0 +4.8
LZH sP sP 08 08 01.5 +13
LZH pmax pmax
comp=Z,14nm,1.3s
GTA Gaotai 43.54 277 *e*P P 08 07 47.0 +0.6
GTA pP pwP 08 07 58.0 +4.3
GTA sP sP 08 08 03.0 +13
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,80nm,5.7s
GTA LR LR
comp=N,130nm,17.1s
GTA LR LR
comp=E,180nm,18.5s
GTA LR LR
comp=Z,200nm,14.2s
DGZ Jazzator, Alta 44.33 297 *i*P P 08 07 51.8 -0.9
DGZ pmax pmax
comp=Z,2.0nm,0.6s
SPA0 Spitsbergen Ar 46.78 351 P P 08 08 11.3 -0.2
WMQ Urumqi 47.74 290 *e*P P 08 08 21.0 +1.5
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ pmax pmax
comp=Z,140nm,6.3s
WMQ LR LR
comp=N,210nm,19.7s
WMQ LR LR
comp=Z,460nm,16.5s
MK31 Makanchi Array 48.83 296 P P 08 08 24.8 -3.0
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 48.83 296 P P 08 08 24.8 -3.0
MK31 IAmb IAmb 08 08 26.7
comp=Z,1.6nm,0.6s
MKAR Makanchi Array 48.83 296 P P 08 08 24.9 -2.9
comp=Z,1.8nm,0.6s,baz=56,slow=7.8,SNR=24
MKAR Makanchi Array 48.83 296 P P 08 08 24.7 -3.1
MKAR Makanchi Array 48.83 296 P P 08 08 24.6 -3.1
MAKZ Makanchi 48.98 296 P P 08 08 26.0 -3.0
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 48.98 296 P P 08 08 26.0 -3.0
MAKZ IAmb IAmb 08 08 39.3
comp=Z,1.9nm,0.8s
DAG Danmarks Havn 49.88 0 *i*P P 08 08 34.6 -0.8
DAG Danmarks Havn 49.88 0 *i*P P 08 08 34.6 -0.8
DAG Danmarks Havn 49.88 0 *i*P P 08 08 34.6 -0.8
DAG IAmb IAmb 08 08 35.6
comp=Z,652nm,4.6s
K05A Summer Lake 50.27 69 P P 08 08 39.9 +0.8
K05A IAmb IAmb 08 08 55.7
comp=Z,6.1nm,1.3s
BRVK Borovoye 50.87 309 *ce*P P 08 08 41.9 -1.3
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 50.87 309 P P 08 08 40.8 -2.4
BRVK IAmb IAmb 08 08 42.8
comp=Z,3.8nm,0.7s
MOD Modoc Plateau 51.14 70 P P 08 08 45.7 +0.1
MOD IAmb IAmb 08 08 47.8
comp=Z,2.4nm,0.7s
KMI Kunming 51.90 261 P P 08 08 50.3 -1.2
KMI pmax pmax
comp=Z,9.0nm,1.2s
DBG Daneborg 52.36 1 *i*P P 08 08 53.4 -0.6
DBG IAmb IAmb 08 08 54.6
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 53.10 342 P P 08 08 58.6 -1.0
comp=Z,3.6nm,0.8s,baz=45,slow=9.0,SNR=7.7
ARCES LR LR 08 35 08.9
comp=Z,38nm,19.1s,baz=50,slow=40
ARCES ARCESS Array B 53.10 342 P P 08 08 58.0 -1.6
ARCES ARCESS Array B 53.10 342 P P 08 08 58.0 -1.6
SUMG Summit 53.32 7 *i*P P 08 09 01.9 +0.3
comp=Z,20nm,1.1s
SUMG Summit 53.32 7 P P 08 09 01.5 -0.1
SUMG pmax pmax
comp=Z,17nm,1.0s
SUMG Summit 53.32 7 P P 08 09 01.5 -0.1
SUMG Summit 53.32 7 *i*P P 08 09 01.0 -0.6
SUMG *i*P P 08 09 01.9 +0.3
SUMG IAmb IAmb 08 09 03.8
comp=Z,20nm,1.1s
ARU Arti 53.69 318 *d i*P P 08 09 03.2 -0.8
ARU S S 08 16 34.4 -2.9
ARU pmax pmax
comp=Z,10.0nm,0.6s
YERR Yerington 53.71 72 P P 08 09 05.6 +0.8
WAKR Walker 53.93 72 P P 08 09 07.4 +1.1
KVN Kaiserville 54.31 71 P P 08 09 10.7 +1.6
KVN pmax pmax
comp=Z,3.0nm,1.1s
KVN Kaiserville 54.31 71 P P 08 09 10.7 +1.6
KVN IAmb IAmb 08 09 37.1
comp=Z,3.4nm,1.1s
NVAR Mina Array Bea 54.62 72 P P 08 09 13.0 +1.5
comp=Z,1.2nm,0.6s,baz=302,slow=7.5,SNR=8.9
NVAR Mina Array Bea 54.62 72 P P 08 09 13.1 +1.7
NV11 Mina Array Sit 54.71 71 P P 08 09 13.4 +1.5
NV11 IAmb IAmb 08 09 30.5
comp=Z,5.1nm,1.3s
KIRV Kirov 55.56 324 *ce*P P 08 09 17.6 0.0
AAK Ala-Archa 55.74 297 *ce*P P 08 09 18.9 -0.4
AAK pmax pmax
comp=Z,6.0nm,0.7s
PDAR Pinedale Array 56.39 62 P P 08 09 25.3 +1.2
comp=Z,0.9nm,0.8s,baz=328,slow=2.2,SNR=8.6
PDAR Pinedale Array 56.39 62 P P 08 09 24.9 +0.8
KLMR Klimovskoe 57.00 330 *e*P P 08 09 26.7 -1.0
KLMR pmax pmax
comp=Z,12nm,0.9s
KLMR Klimovskoe 57.00 330 *e*P P 08 09 26.8 -1.0
KLMR AMP 08 09 28.5
comp=Z,12nm,0.9s
KKAR Karatay Array 57.50 300 P P 08 09 29.0 -2.7
KKAR Karatay Array 57.50 300 P P 08 09 29.0 -2.7
ABKAR Akbulak array 58.21 311 P P 08 09 34.5 -2.0
ABKAR Akbulak array 58.21 311 P P 08 09 35.0 -1.6
ABKAR IAmb IAmb 08 09 36.0
comp=Z,2.2nm,0.6s
SRU San Rafael Swe 58.46 66 P P 08 09 36.9 -1.8
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 58.46 66 P P 08 09 36.9 -1.8
SRU IAmb IAmb 08 10 03.7
comp=Z,2.6nm,0.8s
CHTO Chiang Mai 58.99 259 P P 08 09 42.0 -0.3
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CHTO Chiang Mai 58.99 259 P P 08 09 42.0 -0.3
TAPN Taplejung 59.16 275 *e*P P 08 09 43.2 -0.6
comp=Z,19nm,0.6s
CMAR Chiang Mai Arr 59.27 259 P P 08 09 45.1 +0.9
comp=Z,5.1nm,0.7s,baz=25,slow=6.8,SNR=17
CMAR Chiang Mai Arr 59.27 259 *ce*P P 08 09 45.7 +1.4
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 59.27 259 P P 08 09 44.0 -0.3
GUN Gumba 59.83 277 *e*P P 08 09 48.3 -0.2
comp=Z,7.9nm,0.4s
FINES FINESS Array B 60.03 337 P P 08 09 48.7 -0.3
comp=Z,12nm,0.7s,baz=37,slow=6.7,SNR=35
FINES LR LR 08 39 55.4
comp=Z,56nm,18.1s,baz=12,slow=40
FINES FINESS Array B 60.03 337 P P 08 09 48.0 -1.0
FINES FINESS Array B 60.03 337 P P 08 09 48.0 -1.0
RAMN Ramite 60.12 276 *e*P P 08 09 49.8 -0.6
comp=Z,22nm,0.6s
PKI Pulchoki 60.36 277 *e*P P 08 09 51.7 -0.4
comp=Z,18nm,0.7s
PKIN Phulchoki 60.36 277 *e*P P 08 09 51.9 -0.2
comp=Z,23nm,0.6s
GKN Gorkha 60.50 278 *e*P P 08 09 53.0 +0.2
DMN Daman 60.51 277 *e*P P 08 09 53.1 0.0
comp=Z,19nm,0.8s
BELG Belogornoye 60.97 320 *i*P P 08 09 54.6 -0.8
BELG pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 62.61 328 *e*P P 08 10 06.5 +0.1
OBN *e* 08 10 44.5
OBN *e* 08 12 26.5
OBN *e*S S 08 18 33.7 0.0
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,94nm,17.0s
NC204 NORSAR Array S 63.16 345 P P 08 10 08.0 -2.2
NB201 NORSAR Array S 63.29 344 P P 08 10 09.7 -1.3
NB2 NORSAR Subarra 63.31 344 P P 08 10 10.0 -1.1
comp=Z,3.9nm,0.5s,baz=20,slow=6.9
NOA NORSAR Array B 63.31 344 P P 08 10 10.7 -0.5
comp=Z,5.5nm,0.7s,baz=20,slow=6.6,SNR=22
NOA LR LR 08 40 49.1
comp=Z,29nm,19.1s,baz=10.0,slow=39
ANMO Albuquerque 63.72 66 *i*P P 08 10 14.7 +0.3
NACGM Naroch 65.64 333 *i*P P 08 10 25.6 -0.7
NACGM *i*P P 08 10 25.6 -0.7
NACGM *i*P P 08 10 25.6 -0.7
NACGM *i*PcP PcP 08 10 49.1 -8.7
NACGM *i*PP PP 08 12 58.5 +8.3
NACGM *i*PPP PPP 08 14 39.2
NACGM *i*S S 08 19 29.7 +18
NACGM *i*PS 08 20 31.3
NACGM *i*SS SS 08 23 51.8 +28
NACGM *i*SSS SSS 08 27 13.4
NACGM *i*LR LR 08 42 17.7
MNK Minsk 65.70 333 *i*P P 08 10 27.5 +0.7
comp=E,4.0nm,0.9s
MNK *i*P P 08 10 27.5 +0.7
comp=N,19nm,0.7s
MNK *i*P P 08 10 27.5 +0.7
comp=Z,16nm,0.7s
MNK *i*PcP PcP 08 10 54.0 -4.1
MNK *i*PP PP 08 12 51.5 +0.8
MNK *i*PPP PPP 08 14 32.9
MNK *i*S S 08 19 08.1 -4.0
MNK *i*ScS SKSac 08 20 19.3 -2.4
MNK *i*SS SS 08 23 33.4 +8.2
MNK *i*SSS SSS 08 26 58.7
MNK *i*LQ LQ 08 32 56.5
MNK *i*LR LR 08 36 50.3
MNK *i*LRM MLR 08 41 32.0
MNK *i*LRM MLR 08 41 32.0
MNK *i*LRM MLR 08 41 32.0

GEYT	**Alibeck**	**67.64**	**304**	P		**P**	**08 10 39.2**	**-0.3**
	comp=Z,5.8nm,0.6s,baz=23,slow=4.8,SNR=8.5							
GEYT				LR		LR	08 42 40.3	
	comp=Z,88nm,18.2s,baz=50,slow=38							
GEYT	**Alibeck**	**67.64**	**304**	P		**P**	**08 10 38.1**	**-1.4**
GEYT				IAmb		IAmb	08 10 39.9	
	comp=Z,4.8nm,0.7s							
WMOK	**Wichita Mounta**	**67.98**	**61**	P		**P**	**08 10 41.6**	**0.0**
WMOK				pmax		pmax		
	comp=Z,4.0nm,1.1s							
WMOK	**Wichita Mounta**	**67.98**	**61**	P		**P**	**08 10 41.6**	**0.0**
WMOK				IAmb		IAmb	08 10 43.6	
	comp=Z,3.5nm,1.1s							
AKASG	**Malin Array Be**	**68.67**	**330**	P		**P**	**08 10 45.0**	**-0.7**
	comp=Z,6.3nm,0.7s,baz=28,slow=6.2,SNR=14							
AKASG				LR		LR	08 44 46.1	
	comp=Z,108nm,18.6s,baz=30,slow=39							
AKASG	**Malin Array Be**	**68.67**	**330**	*ceP*		**P**	**08 10 44.7**	**-1.0**
AKASG				pmax		pmax		
	comp=Z,6.0nm,0.7s							
AKBB	**Malin Array Si**	**68.67**	**330**	*ceP*		**P**	**08 10 45.2**	**-0.5**
AKBB	**Malin Array Si**	**68.67**	**330**	P		**P**	**08 10 45.0**	**-0.6**
TX31	**Lajitas Ar. Si**	**69.51**	**68**	P		**P**	**08 10 52.4**	**+1.0**
TX31				IAmb		IAmb	08 10 52.8	
	comp=Z,4.4nm,0.7s							
TX32	**Lajitas Array**	**69.51**	**68**	IAmb		IAmb	08 10 52.8	
	comp=Z,1.5nm,0.7s							
TXAR	**Lajitas Array**	**69.51**	**68**	P		**P**	**08 10 52.3**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=297,slow=4.2,SNR=26							
TXAR	**Lajitas Array**	**69.51**	**68**	P		**P**	**08 10 52.1**	**+0.7**
TXAR	**Lajitas Array**	**69.51**	**68**	P		**P**	**08 10 52.1**	**+0.7**
KIV	**Kislovodsk**	**69.73**	**318**	*eP*		**P**	**08 10 50.3**	**-2.2**
KIV				pmax		pmax		
	comp=Z,20nm,0.9s							
KIV				MLR		MLR		
	comp=Z,234nm,17.0s							
KBZ	**Khabaz**	**69.84**	**317**	P		**P**	**08 10 52.8**	**-0.2**
	comp=Z,5.3nm,0.8s,baz=108,slow=7.8,SNR=13							
KBZ				LR		LR	08 45 32.3	
	comp=Z,134nm,18.6s,baz=24,slow=39							
KBZ	**Khabaz**	**69.84**	**317**	*ceP*		**P**	**08 10 53.7**	**+0.7**
CLL	**Collm**	**72.22**	**340**	*eP*		**P**	**08 11 08.0**	**+0.7**
KOLS	**Kolonicke sedl**	**72.24**	**333**	*eP*		**P**	**08 11 08.2**	**+0.7**
KOLS				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KOLS	**Kolonicke sedl**	**72.24**	**333**	*eP*		**P**	**08 11 08.2**	**+0.7**
DPC	**Dobruska-Polom**	**72.40**	**338**	*eP*		**P**	**08 11 08.8**	**+0.3**
DPC	**Dobruska-Polom**	**72.40**	**338**	*eP*		**P**	**08 11 08.8**	**+0.3**
BUR08	**Bucovina Ar. S**	**72.59**	**331**	P		**P**	**08 11 09.6**	**-0.2**
BUR08				IAmb		IAmb	08 11 10.9	
	comp=Z,5.9nm,0.8s							
BURAR	**Bucovina Array**	**72.62**	**331**	⇑P		**P**	**08 11 09.7**	**-0.2**
BURAR	**Bucovina Array**	**72.62**	**331**	⇑P		**P**	**08 11 09.7**	**-0.2**
BURAR	**Bucovina Array**	**72.62**	**331**	P		**P**	**08 11 09.9**	**-0.1**
MORC	**Moravsky Berou**	**72.65**	**337**	⇑P		**P**	**08 11 11.0**	**+1.0**
MORC	**Moravsky Berou**	**72.65**	**337**	⇑P		**P**	**08 11 11.0**	**+1.0**
BIZ	**Bicaz**	**72.96**	**330**	⇑P		**P**	**08 11 11.7**	**-0.1**
VRAC	**Vranov**	**73.31**	**337**	⇑P		**P**	**08 11 15.2**	**+1.3**
VRAC	**Vranov**	**73.31**	**337**	⇑P		**P**	**08 11 15.2**	**+1.3**
CFR	**Carcaliu**	**73.92**	**328**	⇑P		**P**	**08 11 17.2**	**-0.3**
CFR	**Carcaliu**	**73.92**	**328**	⇑P		**P**	**08 11 17.2**	**-0.3**
DRGR		**74.08**	**332**	⇑P		**P**	**08 11 18.3**	**-0.2**
DRGR		**74.08**	**332**	⇑P		**P**	**08 11 18.3**	**-0.2**
TPGR	**Topolog**	**74.11**	**327**	⇑P		**P**	**08 11 19.0**	**+0.3**
KHC	**Kasperske Hory**	**74.16**	**339**	*eP*		**P**	**08 11 19.8**	**+0.9**
KHC	**Kasperske Hory**	**74.16**	**339**	*eP*		**P**	**08 11 19.8**	**+0.9**
MEM	**Membach**	**74.17**	**344**	*dP*		**P**	**08 11 17.9**	**-0.9**
	comp=Z,14nm,0.8s							
MLR	**Muntele Rosu**	**74.32**	**329**	⇑P		**P**	**08 11 20.7**	**+0.7**
MLR	**Muntele Rosu**	**74.32**	**329**	⇑P		**P**	**08 11 20.7**	**+0.7**
GERES	**GERESS Array B**	**74.40**	**339**	P		**P**	**08 11 20.4**	**0.0**
	comp=Z,1.9nm,0.6s,baz=36,slow=5.0,SNR=16							
GERES				LR		LR	08 49 52.7	
	comp=Z,78nm,18.2s,baz=64,slow=40							
GERES	**GERESS Array B**	**74.40**	**339**	P		**P**	**08 11 20.2**	**-0.2**
GERES	**GERESS Array B**	**74.40**	**339**	P		**P**	**08 11 20.2**	**-0.2**
CTA	**Charters Tower**	**74.61**	**195**	P		**P**	**08 11 22.2**	**+0.6**
	comp=Z,2.4nm,0.9s,baz=21,slow=7.7,SNR=3.9							
VOIR		**74.64**	**330**	⇑P		**P**	**08 11 22.3**	**+0.5**
VOIR		**74.64**	**330**	⇑P		**P**	**08 11 22.3**	**+0.5**
CONA	**Conrad Observa**	**74.78**	**337**	*eP*		**P**	**08 11 23.3**	**+0.7**
	comp=Z,3.1nm,0.7s							
ARR	**Arges**	**74.82**	**330**	⇑P		**P**	**08 11 23.5**	**+0.6**
GZR	**Gura Zlata**	**75.34**	**331**	⇑P		**P**	**08 11 25.3**	**-0.5**
GZR	**Gura Zlata**	**75.34**	**331**	⇑P		**P**	**08 11 25.3**	**-0.5**
HERR	**Herculane**	**75.91**	**331**	⇑P		**P**	**08 11 28.9**	**-0.1**
SOKA	**Soboth**	**76.15**	**337**	*eP*		**P**	**08 11 31.3**	**+0.8**
	comp=Z,3.3nm,0.6s							
KBA	**Koelnbreinsper**	**76.15**	**338**	*eP*		**P**	**08 11 31.7**	**+1.1**
	comp=Z,7.1nm,0.5s							
MOTA	**Moosalm**	**76.37**	**340**	*eP*		**P**	**08 11 32.6**	**+0.8**
	comp=Z,5.0nm,0.8s							
ABTA	**Abfaltersbach**	**76.64**	**339**	*eP*		**P**	**08 11 34.3**	**+1.0**
	comp=Z,6.0nm,0.8s							
FETA	**Feichten**	**76.76**	**340**	*eP*		**P**	**08 11 35.1**	**+1.1**
	comp=Z,3.2nm,0.7s							
BRTR	**Keskin Array B**	**76.85**	**321**	P		**P**	**08 11 34.5**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=153,slow=0.3,SNR=7.6							
BRTR				LR		LR	08 51 01.6	
	comp=Z,64nm,18.5s,baz=20,slow=40							
WRA	**Warramunga Arr**	**76.98**	**206**	P		**P**	**08 11 35.4**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=20,slow=6.1,SNR=7.7							
WRA	**Warramunga Arr**	**76.98**	**206**	*i* P		**P**	**08 11 34.7**	**-0.6**
WRA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
TUE	**Stuetta**	**77.56**	**341**	P		**P**	**08 11 38.8**	**+0.2**
VTS	**Vitosha**	**77.74**	**330**	⇑P		**P**	**08 11 37.8**	**-1.8**
VTS	**Vitosha**	**77.74**	**330**	⇑P		**P**	**08 11 37.8**	**-1.8**
VTS	**Vitosha**	**77.74**	**330**	P		**P**	**08 11 39.3**	**-0.3**
VTS				IAmb		IAmb	08 11 39.7	
	comp=Z,3.5nm,0.8s							
PDG	**Podgorica**	**79.05**	**333**	⇑P		**P**	**08 11 46.0**	**-0.6**
ASAR	**Alice Springs**	**80.65**	**206**	P		**P**	**08 11 56.2**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=18,slow=5.3,SNR=9.7							
ESDC	**Sonseca Array**	**86.27**	**349**	P		**P**	**08 12 24.5**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=0.1,slow=4.5,SNR=3.7							

*IDC **25** 08:04:49.3±0.7,6.76N×72.97W,h164km±7km,mb3.7/6, mb1 4.0/11,mb1mx3.6/32,mbtmp4.3/11,MS3.5/1, Ms1 3.5/1,ms1mx2.5/32,Error ellipse: s-maj=17.8km s-min=7.7km az=133.0*

*RSNC **25** 08:04:49.3±1.6,6.83N×73.13W,h152km±6km,ML3.8, Mw4.1,Fault plane solution: NP1:ϕ=3.00000°,δ37.00000°, λ-42.00000°.*

*NEIC **25** 08:04:50.1±1.3,6.76N±0.09×72.97W±0.10,h173km±7km, mb4.3/67,Error ellipse: s-maj=15.0km s-min=10.9km az=125.0*

ISC 25 08:04:48.6±0.6,6.84N±0.03×73.09W±0.03,h155km±5km, n136,σ1°63/182,mb4.3/39,16C-6D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BARC	**Barichara**	**0.26**	**199**	↓*i*P		**Pn**	**08 05 10.1**	**+0.2**
BARC				*e*S		**Sn**	**08 05 24.8**	**-1.4**
BARC				*i*			08 05 27.0	
	comp=Z,2μm,0.4s							
PAMC	**Pamplona, Colo**	**0.63**	**38**	⇑*i*P		Pn	08 05 12.9	+1.2
PAMC				*e*S		**Sn**	**08 05 29.7**	**+0.3**
PAMC				*i*			08 05 33.4	
	comp=Z,1μm,0.6s							
BRRC	**Barranca, Sant**	**0.67**	**293**	⇑*i*P		**Pn**	**08 05 11.9**	**+0.6**
BRRC				*e*S		**Sn**	**08 05 28.9**	**+0.2**
BRRC				*i*			08 05 33.2	
	comp=Z,2μm,0.2s							
RUSC	**La Rusia**	**0.94**	**179**	↓*i*P		**Pn**	**08 05 14.0**	**+0.1**
RUSC				*e*S		**Sn**	**08 05 32.1**	**-1.1**
RUSC				*i*			08 05 33.9	
	comp=Z,802nm,0.2s							
TAMC	**Tame, Arauca**	**1.36**	**107**	⇑*i*P		Pn	08 05 18.5	+1.5
TAMC				*e*S		**Sn**	**08 05 39.2**	**+0.4**
TAMC				*e*S			08 05 39.5	
TAMC				*i*			08 05 39.6	
	comp=Z,738nm,0.4s							
PTBC	**PUERTO BERRIO,**	**1.39**	**258**	*eP*		**Pn**	**08 05 16.6**	**-0.7**
PTBC				*e*S		**Sn**	**08 05 38.1**	**-1.3**
PTBC				*i*			08 05 45.2	
	comp=Z,762nm,0.2s							
OCAC	**Ocana**	**1.41**	**351**	⇑*i*P		**Pn**	**08 05 18.1**	**+0.5**
OCAC				*e*S		**Sn**	**08 05 40.2**	**+0.1**
OCAC				*i*			08 05 43.9	
	comp=Z,2μm,0.2s							
SPBC	**San Pablo de B**	**1.53**	**219**	*eP*		**Pn**	**08 05 18.8**	**-0.1**
SPBC				*e*S		**Sn**	**08 05 40.6**	**-1.6**
SPBC				*i*			08 05 45.7	
	comp=Z,2μm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*eP*		**Pn**	**08 05 22.3**	**-0.2**
ZARC				*e*S		**Sn**	**08 05 47.4**	**-1.1**
ZARC				*i*			08 05 53.6	
	comp=Z,1μm,0.4s							
SMLC	**San Martn de**	**2.17**	**334**	⇑*e*P		**Pn**	**08 05 25.7**	**-0.3**
SMLC				*e*S		**Sn**	**08 05 54.7**	**-0.2**
SMLC				*i*			08 05 57.3	
	comp=Z,818nm,0.3s							
NORC	**Norcasia**	**2.17**	**234**	⇑*e*P		**Pn**	**08 05 25.8**	**-0.3**
NORC				*e*S		**Sn**	**08 05 53.5**	**-1.5**
NORC				*i*			08 06 03.8	
	comp=Z,874nm,0.4s							
ROSC	**El Rosal**	**2.33**	**212**	P		**Pn**	**08 05 29.7**	**+1.4**
	comp=Z,117nm,0.3s,baz=70,slow=9.3,SNR=642							
ROSC				S		**Sn**	**08 06 00.9**	**+1.9**
	comp=Z,638nm,0.3s,baz=345,slow=19,SNR=16							
ROSC	**El Rosal**	**2.33**	**212**			**Pn**	**08 05 29.8**	**+1.5**
ROSC	**El Rosal**	**2.33**	**212**	↓*i*P		**Pn**	**08 05 29.8**	**+1.4**
ROSC				*e*S		**Sn**	**08 05 58.6**	**-0.3**
HELC	**Santa Helena**	**2.50**	**255**	*eP*		**Pn**	**08 05 28.0**	**-2.3**
HELC				*e*S		**Sn**	**08 06 01.1**	**-1.4**
HELC				*i*			08 06 08.3	
	comp=Z,437nm,0.3s							
UREC	**San Jos de Ur**	**2.58**	**291**	*eP*		**Pn**	**08 05 29.9**	**-1.1**
UREC				*e*S		**Sn**	**08 06 00.8**	**-2.9**
UREC				*i*			08 06 12.4	
	comp=Z,482nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.77**	**235**	*eP*		**Pn**	**08 05 34.0**	**+0.2**
GUY2C				*e*S		**Sn**	**08 06 12.5**	**+3.9**
GUY2C				*i*			08 06 16.6	
	comp=Z,786nm,0.4s							
VILC	**Villavicencio,**	**2.78**	**192**	↓*e*P		**Pn**	**08 05 33.4**	**-0.2**
VILC				*e*S		**Sn**	**08 06 07.4**	**-0.8**
PTGC	**Puerto Gaitan,**	**2.79**	**160**	↓*i*P		**Pn**	**08 05 33.3**	**-0.3**
PTGC				*e*S		**Sn**	**08 06 06.6**	**-1.8**
PTGC				*i*			08 06 09.6	
	comp=Z,272nm,0.5s							
RREF	**El Recreo**	**2.96**	**229**	*eP*		**Pn**	**08 05 36.4**	**+0.2**
RREF				*e*S		**Sn**	**08 06 12.2**	**-0.7**
RREF				*i*			08 06 22.2	
	comp=Z,851nm,0.4s							
CMAN1	**Manizales, Cal**	**2.99**	**234**	*e*S		**Sn**	**08 06 17.2**	**+4.1**
CBOC	**Ciudad Bolivar**	**3.06**	**252**	⇑*e*P		**Pn**	**08 05 37.3**	**+0.3**
CBOC				*e*S		**Sn**	**08 06 12.9**	**-1.6**
CBOC				*i*			08 06 20.0	
	comp=Z,202nm,0.6s							
DBBC	**Dabeiba**	**3.10**	**273**	*eP*		**Pn**	**08 05 37.4**	**-0.1**
DBBC				*e*S		**Sn**	**08 06 13.9**	**-1.4**
SDV	**Santo Domingo**	**3.17**	**50**	P		Pn	08 05 39.6	+1.0
	comp=Z,115nm,0.3s,baz=170,slow=12,SNR=374							
SDV				S		**Sn**	**08 06 17.8**	**+0.7**
	comp=Z,35nm,0.3s,baz=100,slow=22,SNR=7.0							
SDV	**Santo Domingo**	**3.17**	**50**	⇑*i*P		Pn	08 05 39.5	+1.0
SDV				*e*S		**Sn**	**08 06 16.0**	**-1.1**
SDV				*i*			08 06 20.4	
	comp=Z,122nm,0.4s							
MOTC	**Monteria, Cord**	**3.19**	**307**	*eP*		**Pn**	**08 05 37.0**	**-1.5**
MOTC				*e*S		**Sn**	**08 06 14.9**	**-2.3**
MOTC				*i*			08 06 30.9	
	comp=Z,291nm,0.6s							
ARGC	**Ariguani, Magd**	**3.21**	**339**	*eP*		**Pn**	**08 05 40.1**	**+1.4**
ARGC				*e*S		**Sn**	**08 06 18.2**	**+0.6**
ARGC				*i*			08 06 28.4	
	comp=Z,169nm,0.5s							
ORTC	**Ortega, Tolima**	**3.62**	**216**	⇑*e*P		**Pn**	**08 05 43.9**	**-0.2**
ORTC				*e*S		**Sn**	**08 06 25.8**	**-1.3**
ORTC				*i*			08 06 31.6	
	comp=Z,317nm,0.4s							
CVALL	**Valledupar, Ce**	**3.65**	**357**	*eP*		**Pn**	**08 05 44.0**	**-0.4**
CVALL				*e*S		**Sn**	**08 06 28.1**	**+0.2**
CVALL				*i*			08 06 32.9	
	comp=Z,321nm,0.6s							
SJCC	**San Jacinto, C**	**3.67**	**326**	*eP*		**Pn**	**08 05 43.7**	**-1.0**
SJCC				*e*S		**Sn**	**08 06 24.4**	**-4.0**
SJCC				*i*			08 06 40.0	
	comp=Z,226nm,0.6s							
PLMC	**San Jos del P**	**3.71**	**239**	⇑*e*P		**Pn**	**08 05 45.3**	**0.0**
PLMC				*e*S		**Sn**	**08 06 28.2**	**-1.2**
PLMC				*i*			08 06 33.9	
	comp=Z,120nm,0.7s							
LCBC	**Los crdobas,**	**3.81**	**302**	*eP*		**Pn**	**08 05 45.8**	**-0.7**
LCBC				*e*S		**Sn**	**08 06 30.8**	**-0.8**
LCBC				*i*			08 06 36.0	
	comp=Z,201nm,0.2s							
GUVC	**San Jose del G**	**4.29**	**174**	*eP*		**Pn**	**08 05 52.1**	**-0.7**
GUVC				*e*S		**Sn**	**08 06 41.4**	**-1.6**
GUVC				*i*			08 06 45.8	
	comp=Z,230nm,0.3s							
YOTC	**Yotoco, Valle**	**4.31**	**229**	⇑*e*P		**Pn**	**08 05 52.3**	**-0.8**
YOTC				*e*S		**Sn**	**08 06 42.1**	**-1.2**
YOTC				*i*			08 06 56.3	
	comp=Z,68nm,0.9s							
SOLC	**Bahia Solano**	**4.33**	**262**	*eP*		**Pn**	**08 05 53.1**	**-0.2**
SOLC				*e*S		**Sn**	**08 06 41.9**	**-1.8**
SOLC				*i*			08 07 01.5	
	comp=Z,40nm,0.5s							
SMRC	**Santa Marta, M**	**4.44**	**346**	*eP*		**Pn**	**08 05 55.6**	**+0.9**
SMRC				*e*S		**Sn**	**08 06 43.4**	**-2.8**
SMRC				*i*			08 06 45.8	
	comp=Z,123nm,0.4s							
CAPC	**Capurgana**	**4.58**	**293**	*eP*		**Pn**	**08 05 56.0**	**-0.5**
CAPC				*e*S		**Sn**	**08 06 45.9**	**-3.7**
CAPC				*i*			08 06 50.1	
	comp=Z,83nm,0.2s							
PTAC	**Punta Ardita,**	**4.69**	**274**	*eP*		**Pn**	**08 05 57.2**	**-0.7**
MACC	**Macarena, Meta**	**4.73**	**189**	↓*e*P		**Pn**	**08 05 56.9**	**-1.6**
MACC				*e*S		**Sn**	**08 06 48.5**	**-4.6**
MACC				*i*			08 06 54.5	
	comp=Z,140nm,0.6s							
BETC	**Betania**	**4.75**	**210**	*eP*		**Pn**	**08 05 58.2**	**-0.7**
BETC				*e*S		**Sn**	**08 06 46.9**	**-6.8**
MARP	**Paez Belalcaza**	**4.89**	**216**	*eP*		**Pn**	**08 06 00.8**	**-0.2**
MARP				*e*S		**Sn**	**08 06 57.0**	**-0.4**
MARP				*i*			08 07 01.9	
	comp=Z,35nm,0.4s							
URIC	**Uribia, Colomb**	**4.95**	**13**	⇑*e*P		**Pn**	**08 06 00.4**	**-1.0**
URIC				*e*S		**Sn**	**08 06 52.8**	**-5.5**
URIC				*i*			08 07 02.0	
	comp=Z,66nm,0.8s							
MALC	**Bahia Malaga**	**5.07**	**237**	*eP*		**Pn**	**08 06 03.9**	**+0.8**
MALC				*e*P		**Pn**	**08 06 03.9**	**+0.8**
MALC				*e*S		**Sn**	**08 07 04.3**	**+3.1**
MALC				*e*S		**Sn**	**08 07 04.3**	**+3.1**
GARC	**Garzon, Huila**	**5.21**	**207**	*eP*		**Pn**	**08 06 04.2**	**-0.9**
GARC				*e*P		**Pn**	**08 06 04.2**	**-0.9**
GARC				*e*S		**Sn**	**08 07 00.3**	**-4.5**
GARC				*e*S		**Sn**	**08 07 00.3**	**-4.5**
GARC				*i*			08 07 06.9	
	comp=Z,142nm,0.3s							
GARC				*i*			08 07 06.9	
	comp=Z,142nm,0.3s							
PCON	**Cinco Dias**	**5.56**	**216**	*eP*		**Pn**	**08 06 09.5**	**-0.6**
PCON				*e*P		**Pn**	**08 06 09.5**	**-0.6**
PCON				*i*			08 07 19.9	
	comp=Z,49nm,0.6s							
PCON				*i*			08 07 19.9	
	comp=Z,49nm,0.6s							
POPC	**Popayan, Colom**	**5.57**	**220**	⇑*i*P		**Pn**	**08 06 09.5**	**-0.4**
POPC				⇑*i*P		**Pn**	**08 06 09.5**	**-0.4**
POPC				*e*S		**Sn**	**08 07 08.9**	**-4.5**
POPC				*e*S		**Sn**	**08 07 08.9**	**-4.5**
POPC				*i*			08 07 18.9	
	comp=Z,25nm,0.4s							
POPC				*i*			08 07 18.9	
	comp=Z,25nm,0.4s							
SOTA	**Rioblanco**	**5.84**	**217**	⇑*e*P		**Pn**	**08 06 14.3**	**+0.5**
SOTA				⇑*e*P		**Pn**	**08 06 14.3**	**+0.5**
SOTA				*e*S		Sn	08 07 11.3	-9.0
SOTA				*e*S		Sn	08 07 11.3	-9.0
SOTA				*i*			08 07 31.7	
	comp=Z,39nm,0.5s							
SOTA				*i*			08 07 31.7	
	comp=Z,39nm,0.5s							
BBAC	**Balboa, Cauca**	**6.33**	**221**	*eP*		**Pn**	**08 06 19.6**	**-0.4**
BBAC				*e*P		**Pn**	**08 06 19.6**	**-0.4**
BBAC				*e*S		**Sn**	**08 07 29.9**	**-1.7**
BBAC				*e*S		**Sn**	**08 07 29.9**	**-1.7**
BBAC				*i*			08 07 35.5	
	comp=Z,22nm,0.4s							
BBAC				*i*			08 07 35.5	
	comp=Z,22nm,0.4s							
GCUF	**Volcan Galeras**	**7.01**	**217**	*eP*		**Pn**	**08 06 29.4**	**+0.1**
GCUF				*eP*		**Pn**	**08 06 29.4**	**+0.1**
GCUF				*e*S		**Sn**	**08 07 47.2**	**-1.0**
GCUF				*e*S		**Sn**	**08 07 47.2**	**-1.0**
GCUF				*i*			08 07 54.5	
	comp=Z,9.6nm,0.4s							
GCUF				*i*			08 07 54.5	
	comp=Z,9.6nm,0.4s							
BCIP	**Isla Barro Col**	**7.07**	**290**	Pn		**Pn**	**08 06 29.5**	**0.0**
OTAV	**Otavalo**	**8.46**	**219**	Pn		**Pn**	**08 06 47.7**	**-0.9**
PCRV	**Puerto La Cruz**	**9.00**	**68**	P		**Pn**	**08 06 56.0**	**+0.7**
	comp=Z,2.1nm,0.3s,baz=203,slow=11,SNR=11							
PLCV	**Puerto La Cruz**	**9.04**	**68**			**Pn**	**08 06 56.0**	**+0.2**
MTDJ	**Mount Denham**	**12.11**	**339**			**P**	**08 07 38.6**	**-4.0**
SDDR	**Presa de Saban**	**12.19**	**8**			**P**	**08 07 40.5**	**-2.9**
PDPR	**Patillas Dam,**	**13.07**	**31**	Pn		**Pn**	**08 07 47.2**	**-1.4**
GTBY	**Guantanamo Bay**	**13.15**	**352**	Pn		**P**	**08 07 53.4**	**-0.6**
LCCY	**Blossom Villag**	**14.44**	**333**	P		**P**	**08 08 09.8**	**+1.5**
FSCY	**Frank Sound, G**	**14.68**	**328**	P		**P**	**08 08 12.8**	**+1.8**
WBCY	**West Bay, Gran**	**14.85**	**328**	P		**P**	**08 08 13.3**	**+0.5**
PTGA	**Pitinga**	**15.11**	**119**	P		**Pn**	**08 08 13.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=307,slow=20,SNR=1.2							
PTGA				S		**Sn**	**08 11 00.3**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=358,slow=7.7,SNR=4.3							
MTO3	**Montecristo**	**17.65**	**296**	P		**Pn**	**08 08 45.4**	**+0.1**
PAYG	**Puerto Ayora**	**18.71**	**247**	P		**Pn**	**08 08 57.7**	**+0.1**
PAYG				IAmb		IAmb	08 09 24.4	
	comp=Z,26nm,1.2s							
TEIG	**Tepich**	**19.84**	**314**	P		**Pn**	**08 09 10.0**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=153,slow=14,SNR=16							
TEIG	**Tepich**	**19.84**	**314**	IAmb		IAmb	08 09 13.1	
	comp=Z,13nm,0.6s							
LPAZ	**La Paz**	**23.50**	**168**	P		**P**	**08 09 44.6**	**-0.7**
HODGE	**Hodges**	**28.54**	**344**	P		**P**	**08 10 31.5**	**+1.7**
HODGE				IAmb		IAmb	08 10 53.2	
	comp=Z,14nm,1.3s							
Y49A	**Blount Mountai**	**29.57**	**337**	P		**P**	**08 10 39.9**	**+1.0**
PLAL	**Pickwick Lake**	**31.22**	**336**	P		**P**	**08 10 54.4**	**+1.0**
PLAL				IAmb		IAmb	08 10 56.4	
	comp=Z,6.5nm,0.9s							
V48A	**Smith Brothers**	**31.40**	**338**	P		**P**	**08 10 56.2**	**+1.2**
WVT	**Waverly**	**32.12**	**337**	P		**P**	**08 11 02.4**	**+1.1**
WVT				IAmb		IAmb	08 11 04.5	
	comp=Z,6.1nm,1.0s							
LCAR	**Lake Charles**	**33.46**	**333**	P		**P**	**08 11 13.7**	**+0.7**
LCAR				IAmb		IAmb	08 11 15.0	
	comp=Z,3.8nm,0.7s							
P52A	**Corning**	**33.65**	**347**	P		**P**	**08 11 15.8**	**+1.3**
P52A				IAmb		IAmb	08 11 20.6	
	comp=Z,7.7nm,1.0s							
PBMO	**Poplar Bluff**	**33.74**	**334**	P		**P**	**08 11 17.0**	**+1.7**
PBMO				IAmb		IAmb	08 11 17.5	
	comp=Z,8.5nm,0.8s							
FCAR	**Ozark Folk Cen**	**33.77**	**332**	P		**P**	**08 11 16.5**	**+0.9**
FCAR				IAmb		IAmb	08 11 16.7	
	comp=Z,4.2nm,0.6s							
T42A	**Van Buren**	**34.24**	**334**	P		**P**	**08 11 20.6**	**+1.0**
T42A				IAmb		IAmb	08 11 21.4	
	comp=Z,8.3nm,1.1s							
BLO	**Bloomington**	**34.39**	**341**	P		**P**	**08 11 22.6**	**+1.7**
U40A	**Yellville**	**34.49**	**331**	P		**P**	**08 11 23.1**	**+1.2**
KSPA	**Keystone Colle**	**34.65**	**356**	P		**P**	**08 11 24.8**	**+1.7**
KSPA				IAmb		IAmb	08 11 26.0	
	comp=Z,7.7nm,1.2s							
CCM	**Cathedral Cave**	**35.16**	**335**	P		**P**	**08 11 27.6**	**0.0**
SFIN	**Lafayette**	**35.67**	**342**	P		**P**	**08 11 33.3**	**+1.5**
S39A	**Bolivar**	**35.79**	**332**	P		**P**	**08 11 33.2**	**+0.3**
S39A				IAmb		IAmb	08 11 34.9	
	comp=Z,3.0nm,0.6s							
R40A	**Maddies Statio**	**35.80**	**334**	P		**P

SUA	**Susitna One**	**78.12**	**331**	P	**P**	**08**	**16**	**31.5 +1.0**
SUA				IAmb	IAmb	08	16	56.1
	comp=Z,12nm,1.3s							
PPLA	**Purkeypile**	**78.97**	**333**	P	**P**	**08**	**16**	**35.9 +0.7**
ARCES	**ARCESS Array B**	**86.64**	**20**	P	**P**	**08**	**17**	**14.4 +0.1**
	comp=Z,6.0nm,1.1s,baz=267,slow=3.6,SNR=2.4							
ARCES	**ARCESS Array B**	**86.64**	**20**	IAmb	IAmb	08	17	17.2
	comp=Z,19nm,1.4s							
MKAR	**Makanchi Array**	**122.29**	**20**	PKP	**PKPdf**	**08**	**23**	**24.6 -0.9**
	comp=Z,0.2nm,0.3s,baz=338,slow=1.5,SNR=5.3							
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**08**	**24**	**18.8 -0.9**
	comp=Z,0.9nm,0.7s,baz=120,slow=3.4,SNR=9.0							
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**08**	**24**	**22.0 -0.6**
	comp=Z,0.5nm,0.4s,baz=108,slow=2.9,SNR=15							

NNC 25 08:49:23.2±2.7, 53.77N×90.52E, h0km, mb3.6, mpv3.3, 4C-7D, Error ellipse: s-maj=20.4km s-min=13.4km az=61.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.38**	**275**	⇓Pg	Pb	08 50 24.0	+0.1
	2.2nm,0.6s						
ZAA0				⇑Lg	Lg	08 51 11.1	
	16nm,0.9s						
KURBB	**Kurchatov Arra**	**8.01**	**252**	⇓Pn	Pn	08 51 21.9	+1.2
	3.0nm,0.4s						
KURBB				⇑Sn	Sn	08 52 53.7	+1.8
	20nm,0.9s						
KURBB				⇓Lg	Lg	08 53 36.9	
	85nm,1.0s						
MK31	**Makanchi Array**	**8.74**	**220**	⇓Pn	Pn	08 51 31.0	+0.2
	0.6nm,0.6s,baz=37,slow=11,SNR=39						
MK31				⇑Sn	Sn	08 53 12.5	+2.6
	2.2nm,0.7s,baz=44,slow=20,SNR=3.8						
MK31				⇓Lg	Lg	08 54 02.0	
	27nm,1.2s,baz=40,slow=34,SNR=6.3						
MAKZ	**Makanchi**	**8.85**	**222**	⇓Pn	Pn	08 51 32.2	0.0
	0.5nm,0.5s						
MAKZ				⇑Sn	Sn	08 53 11.7	-0.9
	1.5nm,0.6s						
MAKZ				⇓Lg	Lg	08 54 04.0	
	18nm,1.2s						

IDC 25 09:00:54.9±2.3, 2.07N×127.33E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/40, mbtmp3.4/3, Error ellipse: s-maj=171.1km s-min=28.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.93**	**163**	P	P	09 06 00.3	-0.5
	1.5nm,0.8s,baz=342,slow=11,SNR=10						
ASAR	**Alice Springs**	**26.36**	**166**	P	P	09 06 33.4	+0.4
	0.3nm,0.6s,baz=346,slow=12,SNR=6.7						
MKAR	**Makanchi Array**	**59.26**	**326**	P	P	09 10 58.3	-0.1
	0.1nm,0.4s,baz=133,slow=6.1,SNR=2.4						

*IDC **25** 09:13:20.3±1.0, 28.41N×143.27E, h0km, mb3.5/5, mb1 3.9/7, mb1mx3.6/36, mbtmp3.6/7, ML2.9/1, Error ellipse: s-maj=38.0km s-min=18.7km az=108.0*
*JMA **25** 09:13:23.3±0.1, 28.57N×142.73E, h14km±3km, M4.1*
ISC 25 09:13:25.2±0.8, 28.52N±0.05×142.9E±0.1, h34km, n14, σ2.250/18, mb3.6/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.56**	**205**	P	**Pn**	**09 13 50.7**	**+0.1**
CBIJ				*e*S	**Sn**	**09 14 10.5**	**+0.8**
JCJ	**Chichijima**	**1.56**	**205**	Pn	**Pn**	**09 13 50.8**	**+0.2**
	15nm,0.3s,baz=88,slow=23,SNR=28						
JCJ				Sn	**Sn**	**09 14 07.7**	**-2.0**
	42nm,0.3s,baz=105,slow=24,SNR=11						
JHH2	**Haha-jima-NKT2**	**2.00**	**200**	P	**Pn**	**09 13 57.2**	**+0.6**
JHH2				S	**Sn**	**09 14 22.2**	**+1.9**
JHJ	**Hachijo jima 2**	**5.32**	**330**	Pn	**Pn**	**09 14 43.6**	**+1.3**
	baz=240,slow=20						
JHJ				Sn	**Sn**	**09 15 42.6**	**+0.2**
	6.5nm,0.3s,baz=90,slow=11,SNR=1.4						
JRY	**Ryogami san**	**8.21**	**337**	P	**Pn**	**09 15 24.3**	**+2.3**
JHO	**Hitachi**	**8.31**	**347**	P	**Pn**	**09 15 23.2**	**-0.1**
MJAR	**Matsushiro Arr**	**8.93**	**335**	Pn	**Pn**	**09 15 34.0**	**+2.1**
	0.1nm,0.3s,baz=149,slow=12,SNR=2.5						
JFK	**Kawauchi**	**8.99**	**349**	S	**Sn**	**09 17 06.3**	**-6.4**
PETK	**Petropavlovsk-**	**26.88**	**20**	S	**S**	**09 23 42.6**	**+5.6**
	6.0nm,1.1s,baz=213,slow=16,SNR=4.2						
WRA	**Warramunga Arr**	**48.89**	**191**	P	**P**	**09 22 07.3**	**-0.6**
	0.8nm,0.5s,baz=13,slow=8.5,SNR=18						
ASAR	**Alice Springs**	**52.61**	**190**	P	**P**	**09 22 35.2**	**-0.7**
	0.2nm,0.6s,baz=6.7,slow=8.8,SNR=1.7						
ILAR	**Eielson Array**	**56.15**	**29**	P	**P**	**09 23 00.6**	**-0.6**
	0.4nm,0.6s,baz=252,slow=5.6,SNR=6.5						
NVAR	**Mina Array Bea**	**79.13**	**52**	P	**P**	**09 25 27.4**	**+0.5**
	0.1nm,0.4s,baz=277,slow=8.1,SNR=2.0						
TXAR	**Lajitas Array**	**94.23**	**53**	P	**P**	**09 26 40.6**	**-0.8**
	0.3nm,0.8s,baz=319,slow=2.4,SNR=3.8						

IDC 25 09:22:43.6±3.2, 55.64S×27.79W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/25, mbtmp3.9/2, Error ellipse: s-maj=120.5km s-min=55.0km az=175.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**49.86**	**306**	P	P	09 31 39.1	-0.1
	1.4nm,0.6s,baz=196,slow=3.7,SNR=5.9						
TORD	**Torodi Ar. Bea**	**72.86**	**30**	P	P	09 34 14.2	0.0
	0.7nm,0.7s,baz=194,slow=8.3,SNR=2.2						
YKA	**Yellowknife Ar**	**135.64**	**318**	PKP	PKPdf	09 42 03.4	-0.9
	0.1nm,0.6s,baz=76,slow=2.6,SNR=4.7						
ILAR	**Eielson Array**	**149.59**	**312**	PKPbc	PKPbc	09 42 33.1	-0.3
	0.8nm,0.7s,baz=132,slow=2.8,SNR=9.3						

IDC 25 09:27:26.7±2.8, 6.70S×129.67E, h134km±40km, mb3.2/1, mb1 3.3/5, mb1mx3.1/28, mbtmp3.7/5, Error ellipse: s-maj=72.9km s-min=21.0km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.01**	**15**	P	Pn	09 28 53.5	+0.1
	4.4nm,0.3s,baz=38,slow=22,SNR=39						
SIJI				S	Sn	09 29 56.1	-5.0
	1.6nm,0.3s,baz=242,slow=23,SNR=2.4						
FITZ	**Fitzroy Crossi**	**11.99**	**199**	P	Pn	09 30 13.8	+0.4
	0.6nm,0.3s,baz=23,slow=11,SNR=18						
FITZ				S	Sn	09 32 22.1	-3.6
	0.5nm,0.3s,baz=142,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**13.92**	**161**	P	Pn	09 30 36.4	-2.0
	0.1nm,0.3s,baz=342,slow=12,SNR=2.8						
WRA				S	Sn	09 33 01.7	-11
	0.7nm,0.3s,baz=332,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.35**	**167**	P	Pn	09 31 21.2	+0.4
	0.2nm,0.3s,baz=342,slow=10,SNR=14						
ASAR				S	S	09 34 27.0	-7.2
	0.1nm,0.3s,baz=354,slow=28,SNR=2.0						
MKAR	**Makanchi Array**	**67.80**	**327**	P	P	09 38 10.2	-0.1
	0.3nm,0.5s,baz=123,slow=7.4,SNR=4.5						

*DDA **25** 09:49:16.6, 40.66N×46.54E, h5km±4km, MW3.6*
*NSSP **25** 09:49:17.7, 40.70N×46.22E, h12km, Ms3.6*
*IDC **25** 09:49:17.4±1.0, 40.73N×46.18E, h0km, mb3.5/6, mb1 3.6/9, mb1mx3.5/46, mbtmp3.6/9, ML3.0/3, Error ellipse: s-maj=14.6km s-min=11.2km az=160.0*
*AZER **25** 09:49:17.8±0.0, 40.69N×46.34E, h16km, ml3.7/32, Error ellipse: s-maj=1.0km s-min=0.5km az=252.0*
*MOS **25** 09:49:18.1±0.9, 40.57N×46.46E, h15km, mb3.8/1, Error ellipse: s-maj=7.4km s-min=4.1km az=104.2*
*TEH **25** 09:49:18.5, 40.64N×46.40E, h14km, ML3.6*
*IASPEI **25** 09:49:19.0±0.8, 40.69N±0.03×46.36E±0.03, h17km±5km, mb3.6/5, Error ellipse: s-maj=4.7km s-min=3.2km az=30.6, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*DRS **25** 09:49:23.0±0.0, 40.72N×46.13E, h22km, ML3.3/8*

*TIF **25** 09:49:34.4, 40.70N×46.35E, h11km*
ISC 25 09:49:19.2±0.7, 40.70N±0.02×46.38E±0.01, h17km±5km, n161, σ1°46/256, mb3.6/5, 9C-11D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GANJ	**Ganja**	**0.07**	**220**	P	**Pg**	**09 49 22.2**	**-0.4**
	SNR=5045						
GANJ				S	**Sg**	**09 49 24.5**	**-0.2**
GANJ	**Ganja**	**0.07**	**220**	*e*Pg	**Pg**	**09 49 22.1**	**-0.4**
GDB	**GEDABAY**	**0.48**	**273**	P	**Pg**	**09 49 28.0**	**-0.9**
	SNR=4452						
GDB				S	**Sg**	**09 49 34.6**	**-0.9**
GDB	**GEDABAY**	**0.48**	**273**	*e*Pg	**Pg**	**09 49 28.0**	**-0.9**
MNGR	**Mingechevir, A**	**0.54**	**82**	P	**Pb**	**09 49 30.6**	**+0.4**
	SNR=42						
MNGR				S	**Sn**	**09 49 40.4**	**-0.4**
MNGR	**Mingechevir, A**	**0.54**	**82**	*e*Pg	**Pb**	**09 49 30.6**	**+0.4**
BRDA	**Brd**	**0.75**	**126**	P	**Pg**	**09 49 34.1**	**+0.3**
	SNR=99						
BRDA				S	**Sn**	**09 49 47.0**	**+1.1**
BRDA	**Brd**	**0.75**	**126**	*e*Pg	**Pg**	**09 49 34.1**	**+0.3**
DDFL	**Dedoflistskaro**	**0.77**	**345**	P	**Pn**	**09 49 35.9**	**+0.4**
DDFL				S	**Sn**	**09 49 49.9**	**+3.2**
DDFL	**Dedoflistskaro**	**0.77**	**345**	*i* P	**Pn**	**09 49 35.9**	**+0.4**
DDFL	**Dedoflistskaro**	**0.77**	**345**	PG	**Pn**	**09 49 35.9**	**+0.4**
DDFL				S	**Sn**	**09 49 49.9**	**+3.2**
DDFL	**Dedoflistskaro**	**0.77**	**345**	P	**Pn**	**09 49 35.8**	**+0.4**
DDFL				S	**Sn**	**09 49 47.7**	**+1.0**
DDFL	**Dedoflistskaro**	**0.77**	**345**	*e*Pg	**Pn**	**09 49 35.7**	**+0.3**
SEKA	**Sheki**	**0.80**	**50**	Pg	**Pb**	**09 49 34.4**	**-0.4**
	SNR=73						
SEKA				Sg	**Sn**	**09 49 46.6**	**-0.7**
SEKA	**Sheki**	**0.80**	**50**	*e*Pg	**Pb**	**09 49 34.3**	**-0.4**
AGDM	**Agdam**	**0.81**	**137**	P	**Pb**	**09 49 34.5**	**-0.4**
	SNR=331						
AGDM				S	**Sn**	**09 49 46.8**	**-0.8**
QZX	**Qazax, Azerbai**	**0.85**	**295**	P	**Pb**	**09 49 34.4**	**-1.1**
	SNR=168						
QZX				S	**Sb**	**09 49 46.2**	**-0.4**
QZX	**Qazax, Azerbai**	**0.85**	**295**	*e*Pg	**Pb**	**09 49 34.4**	**-1.1**
ZKTA	**Zakatala**	**0.95**	**11**	P	**Pb**	**09 49 37.2**	**-0.2**
	SNR=39						
ZKTA				S	**Sn**	**09 49 51.3**	**+0.2**
ZKT	**Zaqatala**	**0.97**	**13**	*e*Pg	**Pb**	**09 49 37.1**	**-0.6**
ZRD	**Zardab**	**1.08**	**113**	P	**Pn**	**09 49 39.5**	**0.0**
	SNR=63						
ZRD				S	**Sg**	**09 49 56.8**	**+2.6**
ZRD	**Zardab**	**1.08**	**113**	*e*Pn	**Pn**	**09 49 39.8**	**+0.3**
QBL	**Gabala**	**1.13**	**77**	P	**Pb**	**09 49 40.0**	**-0.3**
	SNR=15						
QBL				S	**Sg**	**09 49 56.3**	**+0.4**
QBL	**Gabala**	**1.13**	**77**	*e*Pg	**Pb**	**09 49 40.0**	**-0.3**
LGD	**Lagodekhi**	**1.14**	**355**	P	**Pn**	**09 49 40.2**	**-0.2**
LGD				S	**Sg**	**09 49 56.7**	**+0.6**
LGD	**Lagodekhi**	**1.14**	**355**	PG	**Pn**	**09 49 40.2**	**-0.2**
LGD				S	**Sg**	**09 49 56.7**	**+0.6**
LGD	**Lagodekhi**	**1.14**	**355**	P	**Pn**	**09 49 40.2**	**-0.2**
LGD				S	**Sg**	**09 49 56.7**	**+0.6**
AKT	**Akhty**	**1.28**	**52**	*e*PG	**Pn**	**09 49 42.7**	**+0.2**
AKT				*e*		09 49 59.9	
AKT				pmax	pmax		
	comp=Z,77nm,0.2s						
AKT				smax	smax		
	comp=N,356nm,0.2s						
AKT				smax	smax		
	comp=E,973nm,0.3s						
AKT				smax	smax		
	comp=E,772nm,0.3s						
AKT	**Akhty**	**1.28**	**52**	*e*Pg	**Pn**	**09 49 42.7**	**+0.2**
	comp=E,155nm,0.2s						
AKT				*e*Sg	**Sn**	**09 49 59.9**	**+0.5**
	comp=E,499nm,0.5s						
BLQ	**Beylaqan**	**1.33**	**137**	Pn	**Pn**	**09 49 42.5**	**-0.6**
	SNR=32						
BLQ				Sn	**Sb**	**09 50 00.5**	**+0.1**
BLQ	**Beylaqan**	**1.33**	**137**	*e*Pg	**Pn**	**09 49 42.4**	**-0.6**
KAPZ	**Kaputan**	**1.34**	**254**	⇑*i* P	**Pn**	**09 49 43.2**	**-0.1**
KAPZ				⇑*i* S	**Sn**	**09 50 01.2**	**+0.3**
IML	**Ismayilli**	**1.37**	**86**	Pn	**Pn**	**09 49 43.5**	**-0.1**
	SNR=18						
IML				Sn	**Sg**	**09 50 02.7**	**-0.8**
IML	**Ismayilli**	**1.37**	**86**	*e*Pg	**Pn**	**09 49 43.5**	**-0.1**
GNI	**Garni**	**1.37**	**247**	Pg	**Pn**	**09 49 44.2**	**+0.5**
	comp=E,37nm,0.3s,baz=338,slow=19,SNR=50						
GNI				Lg	Lg	09 50 02.6	
	comp=E,190nm,0.3s,baz=288,slow=16,SNR=14						
GNI	**Garni**	**1.37**	**247**	⇑*i* P	**Pn**	**09 49 43.9**	**+0.2**
GNI				⇑*i* S	**Sb**	**09 50 02.6**	**+0.8**
GNI	**Garni**	**1.37**	**247**	*c i* PG	**Pn**	**09 49 43.9**	**+0.2**
GNI				pmax	pmax		
	comp=Z,152nm,0.8s						
GNI	**Garni**	**1.37**	**247**	*e*Pg	**Pn**	**09 49 43.9**	**+0.2**
KDMR	**Kurdemir**	**1.41**	**103**	Pn	**Pn**	**09 49 44.5**	**+0.3**
	SNR=4.2						
KDMR				Sn	**Sg**	**09 50 05.0**	**+0.2**
KDMR	**Kurdemir**	**1.41**	**103**	*e*Pg	**Pn**	**09 49 44.4**	**+0.3**
XNQ	**Khinaliq**	**1.41**	**70**	Pn	**Pn**	**09 49 44.3**	**-0.1**
	SNR=131						
XNQ				Sn	**Sg**	**09 50 03.9**	**-1.0**
XNQ	**Khinaliq**	**1.41**	**70**	*e*Pn	**Pn**	**09 49 44.2**	**-0.1**
QRD	**Qoradiz**	**1.43**	**150**	Pn	**Pn**	**09 49 43.9**	**-0.5**
	SNR=64						
QRD				Sn	**Sb**	**09 50 03.4**	**0.0**
QRD	**Qoradiz**	**1.43**	**150**	*e*Pg	**Pn**	**09 49 43.9**	**-0.5**
SBZ	**Shahbuz**	**1.45**	**206**	Pn	**Pn**	**09 49 45.3**	**+0.4**
	SNR=50						
SBZ				Sn	**Sb**	**09 50 04.7**	**+0.6**
SBZ	**Shahbuz**	**1.45**	**206**	*e*Pg	**Pn**	**09 49 45.2**	**+0.4**
NRKZ	**NAREK**	**1.49**	**243**	*i* P	**Pn**	**09 49 46.0**	**+0.7**
NRKZ				*i* S	**Sb**	**09 50 06.4**	**+1.1**
HYR	**Heyderabad**	**1.53**	**231**	Pn	**Pn**	**09 49 46.6**	**+0.7**
	SNR=12						
HYR				Sn	**Sb**	**09 50 07.6**	**+1.3**
HYR	**Heyderabad**	**1.53**	**231**	*e*Pg	**Pn**	**09 49 46.5**	**+0.7**
BTNK	**Botanikuri**	**1.55**	**310**	P	**Pn**	**09 49 45.9**	**-0.2**
BTNK				S	**Sn**	**09 50 06.7**	**+1.0**
BTNK	**Botanikuri**	**1.55**	**310**	*i* P	**Pn**	**09 49 46.0**	**-0.1**
BTNK				IAML		09 50 07.0	
	comp=E,4μm,0.1s						
BTNK	**Botanikuri**	**1.55**	**310**	PN	**Pn**	**09 49 45.9**	**-0.1**
BTNK	**Botanikuri**	**1.55**	**310**	Pn	**Pn**	**09 49 45.9**	**-0.1**
BTNK				Sn	**Sn**	**09 50 06.6**	**+0.8**
STE	**Stepanavan**	**1.56**	**282**	*i* P	**Pn**	**09 49 45.8**	**-0.5**
STE				⇓*i* S	**Sn**	**09 50 05.5**	**-0.7**
SEAG	**Tbilisi Sea**	**1.60**	**312**	P	**Pn**	**09 49 47.8**	**+1.0**
SEAG				S	**Sb**	**09 50 09.2**	**+1.0**
SEAG	**Tbilisi Sea**	**1.60**	**312**	PN	**Pn**	**09 49 47.8**	**+1.0**
TBLG	**Delisi**	**1.61**	**310**	*e*PN	**Pg**	**09 49 51.3**	**+1.1**
QSAR	**Qusar**	**1.64**	**60**	Pn	**Pb**	**09 49 49.1**	**+0.1**
	SNR=26						
QSAR				Sn	**Sg**	**09 50 12.2**	**+0.2**
QSAR	**Qusar**	**1.64**	**60**	*e*Pn	**Pb**	**09 49 49.0**	**+0.1**
QUB	**Quba**	**1.64**	**65**	*e*Pn	**Pg**	**09 49 50.4**	**-0.4**
KZRT	**Kazreti**	**1.65**	**295**	P	**Pn**	**09 49 46.8**	**-0.7**
KZRT				S	**Sn**	**09 50 08.1**	**-0.3**
KZRT	**Kazreti**	**1.65**	**295**	*i* P	**Pn**	**09 49 46.9**	**-0.7**
KZRT				*i* S	**Sn**	**09 50 07.9**	**-0.5**
KZRT	**Kazreti**	**1.65**	**295**	PN	**Pn**	**09 49 46.8**	**-0.7**
NAX	**Nakhchivan**	**1.67**	**204**	Pg	**Pn**	**09 49 47.5**	**-0.3**
	SNR=8.1						
NAX				Sg	**Sb**	**09 50 12.1**	**+1.8**
NAX	**Nakhchivan**	**1.67**	**204**	*e*Pn	**Pn**	**09 49 47.5**	**-0.3**
PQL	**Pirkuli**	**1.68**	**86**	Pn	**Pn**	**09 49 48.3**	**+0.3**
	SNR=4.8						
PQL				Sn	**Sb**	**09 50 11.1**	**+0.4**
PQL	**Pirkuli**	**1.68**	**86**	*e*Pn	**Pn**	**09 49 48.3**	**+0.3**
QUBA	**Quba, Azerbaij**	**1.72**	**67**	Pn	**Pb**	**09 49 50.6**	**+0.1**
	SNR=31						
QUBA				Sn	**Sb**	**09 50 13.2**	**+1.3**
URKR	**Urkarakh**	**1.74**	**32**	⇓*e*PN	**Pb**	**09 49 51.6**	**+0.8**
URKR				*e*		09 50 14.9	
URKR				pmax	pmax		
	comp=Z,102nm,0.5s						
URKR				smax	smax		
	comp=N,375nm,0.4s						
URKR	**Urkarakh**	**1.74**	**32**	*e*Pg	**Pb**	**09 49 51.6**	**+0.8**
	comp=N,102nm,0.6s						
URKR				*e*Sg	**Sg**	**09 50 15.0**	**-0.3**
	comp=N,375nm,0.4s						
GNBR	**Gunib**	**1.74**	**14**	⇓*i* PN	**Pb**	**09 49 50.7**	**-0.1**
GNBR				pmax	pmax		
	comp=Z,164nm,0.5s						
GNBR	**Gunib**	**1.74**	**14**	*i* Pg	**Pb**	**09 49 50.7**	**-0.1**
	comp=Z,164nm,0.5s						
GNBR				*e*Sg	**Sg**	**09 50 14.2**	**-1.2**
	comp=Z,349nm,0.5s						
SAAT	**Saatly**	**1.77**	**118**	Pn	**Pn**	**09 49 49.3**	**+0.2**
	SNR=8.3						
SAAT				Sn	**Sn**	**09 50 11.1**	**0.0**
SAAT	**Saatly**	**1.77**	**118**	*e*Pn	**Pn**	**09 49 49.3**	**+0.2**
DMNI	**Dmanisi**	**1.77**	**291**	P	**Pn**	**09 49 49.9**	**+0.6**
DMNI				S	**Sn**	**09 50 12.1**	**+0.6**
DMNI	**Dmanisi**	**1.77**	**291**	PN	**Pn**	**09 49 50.0**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.79**	**247**	*e*Pn	**Pn**	**09 49 50.8**	**+1.4**
ORD	**Ordubad**	**1.80**	**190**	Pn	**Pn**	**09 49 50.5**	**+1.0**
	SNR=123						
ORD				Sn	**Sb**	**09 50 13.5**	**-0.5**
ORD	**Ordubad**	**1.80**	**190**	*e*Pn	**Pn**	**09 49 50.5**	**+1.0**
ARUZ	**Aruch**	**1.80**	**257**	⇓*i* P	**Pb**	**09 49 51.2**	**-0.6**
ARUZ				⇑*i* S	**Sb**	**09 50 14.6**	**+0.5**
METS	**Metsamor**	**1.84**	**253**	*i* P	**Pn**	**09 49 51.2**	**+1.0**
METS				*i* S	**Sn**	**09 50 14.7**	**+1.6**
TRLG	**Trialeti**	**1.92**	**297**	P	**Pn**	**09 49 51.2**	**-0.1**
TRLG				S	**Sn**	**09 50 15.7**	**+0.7**
TRLG	**Trialeti**	**1.92**	**297**	PN	**Pn**	**09 49 51.2**	**-0.1**
SIZA	**Siyzn**	**1.94**	**78**	Pn	**Pb**	**09 49 53.5**	**-0.7**
	SNR=24						
SIZA				Sn	**Sb**	**09 50 18.8**	**+0.6**
ATGJ	**Altiaghaj**	**1.95**	**84**	Pn	**Pb**	**09 49 53.2**	**-1.1**
	SNR=5.3						
ATGJ				Sn	**Sg**	**09 50 20.6**	**-1.3**
IGDI	**IGDIR**	**1.95**	**245**	*i* P	**Pn**	**09 49 51.1**	**-0.5**
IGDI				*i* S	**Sb**	**09 50 18.4**	**-0.1**
IGDI				IAML		09 50 21.0	
	comp=N,108nm,0.4s						
IGDI				IAML		09 50 22.0	
	comp=E,129nm,0.5s						
IGDI	**IGDIR**	**1.95**	**245**	*e*Pn	**Pn**	**09 49 51.1**	**-0.5**
ARKR	**Arakani**	**1.95**	**13**	⇓*e*PN	**Pb**	**09 49 53.8**	**-0.6**
ARKR				*e*		09 50 20.8	
ARKR				pmax	pmax		
	comp=Z,116nm,0.7s						
ARKR				smax	smax		
	comp=N,213nm,0.5s						
ARKR	**Arakani**	**1.95**	**13**	*e*Pg	**Pb**	**09 49 53.9**	**-0.6**
	comp=N,116nm,0.7s						
ARKR				*e*Sg	**Sg**	**09 50 20.8**	**-1.3**
	comp=N,213nm,0.5s						
GBS	**Qobustan**	**1.95**	**94**	Pn	**Pn**	**09 49 52.6**	**+1.0**
GBS				Sn	**Sb**	**09 50 18.9**	**+0.3**
BTLR	**Botlikh**	**1.96**	**357**	⇓*e*PN	**Pb**	**09 49 54.1**	**-0.5**
BTLR				pmax	pmax		
	comp=Z,126nm,0.2s						
BTLR	**Botlikh**	**1.96**	**357**	*e*Pg	**Pb**	**09 49 54.1**	**-0.5**
	comp=Z,126nm,0.2s						
BTLR				*e*Sg	**Sb**	**09 50 20.6**	**+1.8**
	comp=Z,101nm,0.6s						
SGKR	**Sergokala**	**2.00**	**28**	⇓*e*PN	**Pb**	**09 49 55.7**	**+0.6**
SGKR				*e*		09 50 22.9	
SGKR				pmax	pmax		
	comp=Z,97nm,0.5s						
SGKR				smax	smax		
	comp=N,349nm,0.8s						
SGKR	**Sergokala**	**2.00**	**28**	*e*Pg	**Pb**	**09 49 55.8**	**+0.6**
	comp=N,97nm,0.5s						
SGKR				*e*Sg	**Sg**	**09 50 22.9**	**-0.7**
	comp=N,349nm,0.8s						
VNNZ	**Vanand**	**2.04**	**254**	*i* P	**Pb**	**09 49 55.1**	**-0.9**
VNNZ				*i* S	**Sb**	**09 50 22.6**	**+1.5**
IMRD	**Marand**	**2.05**	**195**	*e*Pn	**Pn**	**09 49 54.0**	**+0.8**
IMRD				*e*		09 50 01.5	
	comp=Z,99nm,0.2s						
EAK	**Akyaka**	**2.11**	**270**	*i* P	**Pn**	**09 49 55.1**	**+1.2**
EAK				*i* S	**Sb**	**09 50 23.3**	**+0.2**
EAK				IAML		09 50 24.0	
	comp=E,358nm,0.6s						
EAK				IAML		09 50 27.0	
	comp=N,343nm,0.5s						
GLBA	**Clilabad**	**2.12**	**133**	Pn	**Pn**	**09 49 54.1**	**+0.1**
	SNR=7.3						
GLBA				Sn	**Sb**	**09 50 22.0**	**-1.3**
ALIB	**Äli-Bayra**	**2.14**	**109**	Pn	**Pn**	**09 49 55.8**	**+1.6**
ALIB				Sn	**Sn**	**09 50 21.7**	**+1.4**
BRNG	**Burnasheti**	**2.14**	**296**	P	**Pn**	**09 49 55.6**	**+1.3**
BRNG				S	**Sb**	**09 50 24.0**	**+0.1**
KRNR	**Karanay**	**2.16**	**10**	⇑*i* PN	**Pn**	**09 49 56.4**	**+1.9**
KRNR				*e*		09 50 24.9	
KRNR				pmax	pmax		
	comp=Z,31nm,0.4s						
KRNR				smax	smax		
	comp=E,141nm,0.4s						
KRNR	**Karanay**	**2.16**	**10**	*i* Pg	**Pn**	**09 49 56.5**	**+1.9**
	comp=E,31nm,0.4s						
KRNR				*e*Sg	**Sb**	**09 50 25.0**	**+0.5**
	comp=E,141nm,0.3s						
BGD	**Bogdanovka**	**2.18**	**286**	P	**Pb**	**09 49 57.5**	**-0.9**
BGD				S	**Sb**	**09 50 24.3**	**-1.0**
BGD	**Bogdanovka**	**2.18**	**286**	PN	**Pb**	**09 49 57.5**	**-0.9**
BGD				S	**Sb**	**09 50 24.3**	**-1.0**
DVE	**Vedeno**	**2.26**	**355**	*e*PN	**Pb**	**09 49 58.3**	**-1.4**
DVE				pmax	pmax	

comp=Z,77nm,2.0s
LRK Lerik 2.55 143 Pn **Pn** 09 50 00.8 +0.8
SNR=44
LRK Sn **Sb** 09 50 33.9 -1.9
LKRN Lenkeran, Azer 2.71 136 Pn **Pn** 09 50 03.1 +1.1
LKRN Sn **Sn** 09 50 35.3 +0.9
ZEI Tsey 2.79 319 *i* PN **Pb** 09 50 07.0 -1.8
ZEI pmax pmax
comp=Z,77nm,0.5s
ASTR Astara 2.83 138 Pn **Pn** 09 50 04.1 +0.4
SNR=11
ASTR Sn **Sn** 09 50 38.5 +1.1
EPOS Posof 2.88 287 *i* P **Pb** 09 50 08.2 -1.9
EPOS IAML 09 50 48.0
comp=E,29nm,0.3s
EPOS IAML 09 50 52.0
comp=N,77nm,0.8s
ABS Abastumani 2.89 293 P **Pn** 09 50 08.1 +3.4
ABS S **Sb** 09 50 46.9 +1.3
ABS Abastumani 2.89 293 PN **Pn** 09 50 08.1 +3.4
ABS S **Sb** 09 50 46.9 +1.3
ONI Oni 2.90 312 P **Pn** 09 50 06.3 +1.7
ONI S **Sb** 09 50 43.8 -1.8
ONI Oni 2.90 312 PN **Pn** 09 50 06.3 +1.7
ONI S **Sb** 09 50 43.8 -1.8
TKB Tkibuli 3.03 304 P **Pn** 09 50 10.0 +3.5
TKB S **Sb** 09 50 48.8 -0.7
TKB Tkibuli 3.03 304 PN **Pn** 09 50 10.0 +3.5
TKB S **Sb** 09 50 48.8 -0.7
DIGR Digorskoe uzhe 3.04 317 *e*PN **Pn** 09 50 08.9 +2.2
DIGR *e*S **Sb** 09 50 51.4 +1.6
DIGR pmax pmax
comp=Z,20nm,0.4s
DIGR smax smax
comp=E,22nm,0.4s
ISRB Sarab 3.04 160 *e* 09 50 12.9
comp=Z,99nm,0.4s
ISRB *e*PN **Pn** 09 50 08.4 +1.6
DBAD Bademkaya 3.57 277 *i* P **Pb** 09 50 23.6 +1.6
DBAD *i* S **Sb** 09 51 07.3 +2.2
DBOC Borcka 3.63 282 *i* P **Pb** 09 50 22.9 +0.1
CHVG Ch'k'valeri 3.80 303 P **Pb** 09 50 25.3 -0.5
CHVG S **Sb** 09 51 09.1 -2.4
CHVG Ch'k'valeri 3.80 303 PN **Pb** 09 50 25.3 -0.5
CHVG S **Sb** 09 51 09.1 -2.4
KBZ Khabaz 3.98 321 Pn **Pn** 09 50 22.5 +3.1
comp=Z,0.2nm,0.3s,baz=135,slow=5.7,SNR=2.6
KBZ Pg **Pb** 09 50 27.9 -1.0
comp=Z,1.0nm,0.3s,baz=240,slow=6.0,SNR=13
KBZ Lg Lg 09 51 22.1
comp=Z,1.3nm,0.3s,baz=280,slow=17,SNR=2.2
SHA1 Shidzhatmaz 4.11 319 *i* PN **Pn** 09 50 23.0 +1.6
KVAR Kislovodsk Arr 4.25 321 Lg Lg 09 51 31.5
baz=87,slow=21,SNR=2.3
KIV Kislovodsk 4.25 321 *e*PN **Pn** 09 50 26.6 +3.3
KIV pmax pmax
comp=Z,25nm,1.1s
GOF Gofitskoye 5.00 332⇑ *e*PN **Pg** 09 50 55.0 +0.1
GOF pmax pmax
comp=Z,37nm,0.6s
GEYT Alibeck 9.51 103 Pn **Pn** 09 51 36.1 +0.8
comp=Z,1.0nm,0.3s,baz=280,slow=17,SNR=1.8
BELG Belogornoye 11.73 4 *i* P **Pn** 09 52 08.3 +2.7
BELG pmax pmax
comp=Z,3.0nm,0.9s
AKTO Aktyubinsk 12.68 36 Pn **Pn** 09 52 19.7 +1.0
comp=Z,0.1nm,0.3s,baz=108,slow=19,SNR=1.1
AKTO Sn **Sn** 09 54 32.1 -7.3
comp=Z,0.1nm,0.3s,baz=51,slow=18,SNR=1.5
AKTO Aktyubinsk 12.68 36⇑ Pn **Pn** 09 52 20.9 +2.2
comp=Z,1.8nm,0.5s
AKTO ⇓Sn **Sn** 09 54 32.4 -7.0
comp=Z,1.3nm,0.8s
AB31 Akbulak array 12.84 44 Pn **Pn** 09 52 22.3 +1.5
comp=Z,0.1nm,0.3s,baz=230,slow=13,SNR=17
AB31 ⇓Sn **Sn** 09 54 37.5 -5.8
comp=Z,0.2nm,0.3s,baz=229,slow=23,SNR=2.6
OBN Obninsk 15.83 339 *de*P **P** 09 53 03.7 -1.1
OBN *e*S **Sn** 09 56 00.4 +4.5
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,62nm,14.0s
ARU Arti 17.64 23 *i* P **P** 09 53 25.7 +0.9
ARU pmax pmax
comp=Z,2.0nm,0.9s
MNK Minsk 18.53 324 *i* P **P** 09 53 33.2 -1.4
comp=E,1.0nm,0.6s
MNK *i* P **P** 09 53 33.2 -1.4
comp=N,16nm,0.8s
MNK *i* P **P** 09 53 33.2 -1.4
comp=Z,9.0nm,0.8s
MNK *i* PP **PnPn** 09 53 45.1 -1.4
MNK *i* PPP PPP 09 53 52.8
MNK *i* S **Sn** 09 56 58.9 -2.5
MNK *i* SS **SnSn** 09 57 15.3 +0.2
MNK *i* SSS SSS 09 57 28.1
MNK *i* PcP **PcP** 09 58 03.3 -0.5
MNK *i* LQ LQ 09 59 04.2
MNK *i* LR LR 10 00 21.8
MNK *i* LRM MLR 10 01 43.7
comp=Z,43nm,15.4s
MNK *i* LRM MLR 10 01 49.6
comp=E,5.0nm,15.4s
MNK *i* LRM MLR 10 02 01.3
comp=N,58nm,17.6s
BVAR Borovoye Array 20.41 45 P **P** 09 53 55.2 -0.1
comp=N,0.1nm,0.3s,baz=213,slow=4.5,SNR=2.0
AAK Ala-Archa 21.05 75 P **P** 09 54 04.5 +2.1
comp=N,2.2nm,0.7s,baz=186,slow=21,SNR=6.4
FINES FINESS Array B 24.17 336 P **P** 09 54 32.7 -1.6
comp=N,2.0nm,0.7s,baz=175,slow=26,SNR=1.7
KURBB Kurchatov Arra 24.38 55 P **P** 09 54 38.4 +2.0
comp=N,1.1nm,0.5s,baz=262,slow=9.5,SNR=2.7
KURK Kurchatov 24.46 55 P **P** 09 54 38.4 +1.3
MKAR Makanchi Array 26.48 65 P **P** 09 54 58.0 +2.6
comp=N,0.7nm,0.8s,baz=269,slow=8.5,SNR=3.9
YKA Yellowknife Ar 76.02 351 P **P** 10 01 05.0 0.0
comp=N,0.2nm,0.5s,baz=13,slow=5.8,SNR=4.3

IDC 25 09:55:54.4±3.5,**54°.59N**×**87°.27E**,**h0**km,**mb1 3.2**/2, **mb1mx3.0**/61,**mbtmp3.2**/2,**ML2.5**/2,**Error ellipse: s-maj=29.9km s-min=20.8km az=42.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**247**	*i*			10 05 48.2	
baz=69,slow=326,SNR=4.9								
ZALV	**Zalesovo Beam**	**1.57**	**247**	Pg		Pn	09 56 22.5	-1.0
1.1nm,0.3s,baz=64,slow=16,SNR=7.6								
ZALV				Lg		Lg	09 56 44.2	
1.1nm,0.3s,baz=67,slow=26,SNR=6.5								
KURBB	**Kurchatov Arra**	**6.64**	**237**	Pn		Pn	09 57 32.3	-0.7
0.1nm,0.3s,baz=51,slow=13,SNR=4.0								
MKAR	**Makanchi Array**	**8.41**	**204**	Pn		Pn	09 57 59.5	+2.0
0.1nm,0.3s,baz=23,slow=14,SNR=4.7								
MKAR				Lg		Lg	10 00 24.8	
0.1nm,0.3s,baz=27,slow=29,SNR=5.5								

*IDC **25** 09:58:06.8±2.8,53°.54N×87°.89E,h0km,mb1 2.8/2, mb1mx2.8/59,mbtmp2.8/2,ML2.3/2,Error ellipse: s-maj=22.9km s-min=15.4km az=64.0*
*NNC **25** 09:58:06.3±1.9,53°.52N×87°.90E,h0km,mb2.7,mpv2.4, Error ellipse: s-maj=17.1km s-min=7.1km az=59.0, Suspected Mining explosion.*
ISC 25 09:58:07.5±3.8,**53°.6N**±0°.1×**87°.8E**±0°.2,**h0**km,**n7**,σ**0**s**88**/11, **6C-1D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**284**	*i*			10 11 01.7	
baz=95,slow=316,SNR=2.5								
ZAA0	**Zalesovo Array**	**1.81**	**284**	⇑Pn		**Pn**	**09 58 39.5**	**-0.3**
0.3nm,0.3s								
ZAA0				⇑Sn		**Sb**	**09 59 05.2**	**+0.7**
4.4nm,0.8s								
ZALV	**Zalesovo Beam**	**1.81**	**284**	Pn		**Pn**	**09 58 39.6**	**-0.2**
1.4nm,0.3s,baz=100,slow=17,SNR=17								
ZALV				Lg		Lg	09 59 06.8	
4.3nm,0.3s,baz=101,slow=26,SNR=22								
KURBB	**Kurchatov Arra**	**6.41**	**247**	Pn		**Pn**	**09 59 44.1**	**+1.0**
0.0nm,0.3s,baz=62,slow=14,SNR=3.6								
KURBB				Sn		**Sn**	**10 00 56.0**	**-0.9**
0.0nm,0.3s,baz=52,slow=34,SNR=1.6								
KURBB				Lg		Lg	10 01 29.6	
0.1nm,0.3s,baz=64,slow=33,SNR=4.1								
MK31	**Makanchi Array**	**7.63**	**210**	⇑Pn		**Pn**	**10 00 00.4**	**+0.6**
0.1nm,0.3s,baz=30,slow=14,SNR=7.0								
MK31				Sn		**Sn**	**10 01 26.5**	**-0.4**
0.3nm,0.7s,baz=70,slow=54,SNR=4.0								
MK31				⇓Lg		Lg	10 02 07.9	
1.7nm,0.8s,baz=34,slow=31,SNR=3.6								
MKAR	**Makanchi Array**	**7.63**	**210**	Pn		**Pn**	**10 00 00.8**	**+1.0**
0.1nm,0.3s,baz=26,slow=14,SNR=8.2								
MKAR				Sn		**Sn**	**10 01 25.7**	**-1.2**
0.1nm,0.3s,baz=27,slow=26,SNR=2.5								
MKAR				Lg		Lg	10 02 08.4	
0.1nm,0.3s,baz=38,slow=28,SNR=5.6								
MAKZ	**Makanchi**	**7.71**	**211**	⇑Pn		**Pn**	**10 00 00.0**	**-0.9**
0.3nm,0.5s								
MAKZ				⇑Sn		**Sn**	**10 01 28.9**	**0.0**
0.6nm,0.8s								
MAKZ				⇑Lg		Lg	10 02 14.8	
1.1nm,0.8s								

*SJA **25** 10:03:02.8±0.6,20°.70S×70°.80W,h20km±3km,ML4.4, MW4.6*
*IDC **25** 10:03:03.5±0.6,20°.49S×70°.51W,h0km,mb4.3/18, mb1 4.4/20,mb1mx4.4/34,mbtmp4.3/20,ML4.3/2,MS3.9/10, Ms1 3.9/10,ms1mx3.6/20,Error ellipse: s-maj=19.2km s-min=14.4km az=61.0*
*NEIC **25** 10:03:05.3,20°.67S×70°.77W,h21km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr6.33; Mθθ0.14; Mϕϕ-6.46; Mrθ0.86; Mrϕ 1.36; Mθϕ-4.47; Fault plane solution: M₀7.97000×10¹⁵ NP1:ϕ₁169.01000°, δ62.44000°, λ,90.19000°. NP2:ϕ₂348.59000°, δ27.56000°, λ,89.63000°. Principal axes: T 7.7567, Plg73.0000°, Azm79.0000°; N 0.4053, Plg0.0000°, Azm349.0000°; P -8.1620, Plg17.0000°, Azm259.0000°;*
*NEIC **25** 10:03:05.4±1.5,20°.64S±0°.04×70°.76W±0°.04,h18km±3km Error ellipse: s-maj=6.0km s-min=5.1km az=88.0*
*GUC **25** 10:03:07.8±0.8,20°.66S×70°.69W,h24km±6km,ML4.2*
*VAO **25** 10:03:09.7±0.7,20°.58S×70°.63W,h45km±5km,mb4.4*
ISC 25 10:03:03.6±1.3,**20°.69S**±0°.02×**70°.79W**±0°.04,**h7**km±8km, **n217**,σ1§**41**/233,**mb4.8**/44,**MS3.9**/8,**15C-7D**,**Fault plane solution: NP1:**ϕ₁184.13159°,δ67.06986°,λ100.61189°. **NP2:**ϕ₂338.44907°,δ25.14583°,λ66.47566°. **Principal axes:** T Plg66.2894°, Azm113.0263°; N Plg9.7648°, Azm359.9566°; P Plg21.3829°, Azm266.0928°; **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.58**	**78**	⇓	*iP*	**Pb**	**10 03 16.2**	**+0.1**
TA01					*i* S	**Sg**	**10 03 22.5**	**+0.2**
TA01					IAML		10 03 26.5	
comp=N,12μm,0.4s								
TA01	**Diego Aracena**	**0.58**	**78**			**Pb**	**10 03 16.4**	**+0.3**
PSGC	**Pisagua**	**1.25**	**30**	⇑	*iP*	**Pg**	**10 03 26.9**	**-0.7**
PSGC					*i* S	**Sg**	**10 03 42.5**	**-1.4**
PSGC					IAML		10 03 46.6	
comp=E,5μm,0.3s								
PSGCX	**Pisagua**	**1.25**	**30**	Pn		**Pg**	**10 03 27.4**	**-0.2**
PSGCX	**Pisagua**	**1.25**	**30**	*eP*		**Pg**	**10 03 26.9**	**-0.7**
PSGCX				*eS*		**Sg**	**10 03 43.0**	**-0.9**
PB01	**IPOC Station P**	**1.27**	**106**	⇓	*iP*	**Pn**	**10 03 28.0**	**+0.1**
PB01					*i* S	**Sg**	**10 03 43.3**	**-1.0**
PB01					IAML		10 03 46.3	
comp=N,17μm,0.5s								
PB01	**IPOC Station P**	**1.27**	**106**			**Pn**	**10 03 28.2**	**+0.4**
PB01					Sn	**Sb**	**10 03 44.5**	**+0.1**
PB01	**IPOC Station P**	**1.27**	**106**	*eP*		**Pn**	**10 03 27.9**	**+0.1**
PB01				*eS*		**Sb**	**10 03 44.9**	**+0.5**
PB01					IAML		10 03 46.5	
comp=Z,6μm,0.3s								
PB07	**IPOC Station P**	**1.33**	**141**	⇑	*iP*	**Pb**	**10 03 29.5**	**+0.4**
PB07				*eS*		**Sn**	**10 03 46.3**	**-0.6**
PB07					IAML		10 03 52.0	
comp=E,5μm,0.4s								
PB07	**IPOC Station P**	**1.33**	**141**			**Pb**	**10 03 29.7**	**+0.7**
PB07	**IPOC Station P**	**1.33**	**141**	*eS*		Sg	10 03 29.5	-17
PB07					IAML		10 03 52.7	
comp=Z,6μm,1.0s								
PB08	**IPOC Station P**	**1.63**	**71**	⇓	*iP*	**Pn**	**10 03 33.4**	**+0.4**
PB08					*i* S	**Sn**	**10 03 53.7**	**-0.8**
PB08					IAML		10 03 58.8	
comp=E,3μm,0.3s								
PB08	**IPOC Station P**	**1.63**	**71**			**Pn**	**10 03 33.5**	**+0.5**
PB08	**IPOC Station P**	**1.63**	**71**	*eP*		**Pn**	**10 03 33.4**	**+0.4**
PB08				*eS*		**Sb**	**10 03 55.6**	**+0.6**
PB08					IAML		10 04 06.1	
comp=Z,4μm,1.9s								
PB04	**IPOC Station P**	**1.74**	**160**	⇑	*eP*	**Pb**	**10 03 35.0**	**-1.1**
PB04					*i* S	**Sn**	**10 03 56.8**	**-0.2**
PB04					IAML		10 04 08.1	
comp=E,5μm,0.5s								
PB04	**IPOC Station P**	**1.74**	**160**			**Pb**	**10 03 34.9**	**-1.1**
PB04	**IPOC Station P**	**1.74**	**160**	*eP*		**Pb**	**10 03 34.9**	**-1.1**
PB04				*eS*		**Sb**	**10 03 57.5**	**-0.7**
PB04					IAML		10 04 08.4	
comp=Z,5μm,0.4s								
PB09	**IPOC Station P**	**1.81**	**128**			**Pg**	**10 03 37.5**	**-0.9**
MNMC	**Minye Minye**	**1.91**	**36**	⇑	*iP*	**Pn**	**10 03 36.9**	**0.0**
MNMC				*eS*		**Sn**	**10 04 01.9**	**+0.5**
MNMC					IAML		10 04 10.6	
comp=E,6μm,0.4s								
MNMC	**Minye Minye**	**1.91**	**36**			**Pn**	**10 03 37.1**	**+0.2**
MNMCX	**Minye Minye**	**1.91**	**36**	*eP*		**Pn**	**10 03 36.9**	**0.0**
MNMCX				*eS*		**Sb**	**10 04 03.6**	**+0.4**
PB05	**IPOC Station P**	**2.22**	**166**	⇑	*iP*	**Pn**	**10 03 41.1**	**+0.1**
PB05	**IPOC Station P**	**2.22**	**166**	*eP*		**Pn**	**10 03 41.1**	**+0.1**
PB05				*eS*		**Sn**	**10 04 07.4**	**-1.4**
PB05					IAML		10 04 31.7	
comp=Z,2μm,1.2s								
PB06	**IPOC Station P**	**2.30**	**151**	⇑	*iP*	**Pn**	**10 03 42.8**	**+0.6**
PB06					IAML		10 04 23.3	
comp=E,3μm,0.5s								
PB06	**IPOC Station P**	**2.30**	**151**			**Pn**	**10 03 42.7**	**+0.6**
PB06	**IPOC Station P**	**2.30**	**151**	*eP*		**Pn**	**10 03 42.6**	**+0.5**
PB06				*eS*		Sn	10 03 53.1	-18
PB06					IAML		10 04 23.4	
comp=Z,3μm,0.9s								
AP01	**Chacalluta**	**2.34**	**10**	⇑	*iP*	**Pb**	**10 03 45.3**	**-0.9**
AP01					IAML		10 04 28.8	
comp=N,6μm,0.8s								
AP01	**Chacalluta**	**2.34**	**10**			**Pn**	**10 03 42.2**	**-0.4**
LVC	**Limon Verde**	**2.59**	**138**	Pn		**Pb**	**10 03 48.7**	**-1.9**
comp=N,90nm,0.3s,baz=340,slow=9.6,SNR=708								
LVC					Sn	**Sb**	**10 04 22.8**	**0.0**
comp=N,272nm,0.3s,baz=25,slow=20,SNR=17								
LVC	**Limon Verde**	**2.59**	**138**	*eP*		**Pb**	**10 03 48.7**	**-1.9**
LVC	**Limon Verde**	**2.59**	**138**	*eP*		**Pb**	**10 03 48.3**	**-2.3**
LVC	**Limon Verde**	**2.59**	**138**	*eP*		**Pb**	**10 03 48.7**	**-1.9**
LVC				*eS*		**Sg**	**10 04 26.7**	**-0.1**
LVC					IAML		10 04 32.7	
comp=Z,1μm,1.4s								
PB15	**IPOC Station P**	**2.79**	**154**	⇑	*eP*	**Pn**	**10 03 49.5**	**+0.5**
PB15				*eS*		**Sb**	**10 04 25.1**	**-3.3**
PB15	**IPOC Station P**	**2.79**	**154**			**Pn**	**10 03 49.8**	**+0.9**
PB15	**IPOC Station P**	**2.79**	**154**	*eP*		**Pn**	**10 03 49.4**	**+0.5**
PB15				*eS*		**Sg**	**10 04 37.2**	**+4.0**
PB15					IAML		10 04 38.6	
comp=Z,3μm,0.3s								
PB10	**IPOC Station P**	**2.82**	**176**	⇓	*eP*	**Pn**	**10 03 49.0**	**-0.2**
PB10				*eS*		**Sn**	**10 04 22.1**	**-1.3**
PB10					IAML		10 04 42.4	
comp=E,441nm,0.5s								
PB10	**IPOC Station P**	**2.82**	**176**	Pn		**Pn**	**10 03 49.5**	**+0.4**
PB10	**IPOC Station P**	**2.82**	**176**	*eP*		**Pn**	**10 03 49.1**	**0.0**
PB10				*eS*		**Sn**	**10 04 23.2**	**-0.2**
PB14	**IPOC Station P**	**3.94**	**175**	Pn		**Pn**	**10 04 06.0**	**+1.2**
PB14	**IPOC Station P**	**3.94**	**175**	*eP*		**Pn**	**10 04 04.6**	**-0.2**
PB14				*eS*		**Sn**	**10 04 48.1**	**-3.3**
PB14					IAML		10 05 32.5	
comp=Z,394nm,1.1s								
GO02	**Mina Guanaco**	**4.59**	**166**	Pn		**Pn**	**10 04 14.6**	**+0.9**
LPAZ	**La Paz**	**5.05**	**30**	Pn		**Pn**	**10 04 24.9**	**+4.6**
LPAZ					Lg	Lg	10 05 45.0	
baz=360,slow=11,SNR=1.8								
LPAZ	**La Paz**	**5.05**	**30**	Pn		**Pn**	**10 04 20.8**	**+0.4**
LPAZ	**La Paz**	**5.05**	**30**	*eP*		**Pn**	**10 04 21.3**	**+1.0**
YJA	**Yavi**	**5.13**	**108**	*eP*		**Pn**	**10 04 25.4**	**+4.1**
AC01	**Pan de Azucar**	**5.44**	**178**			**Pn**	**10 04 24.7**	**-0.4**
GO03	**Copiap**	**6.89**	**176**			**Pn**	**10 04 45.3**	**+0.1**
CO03	**El Pedregal**	**10.11**	**180**			**Pn**	**10 05 29.6**	**+0.3**
SIV	**San Ignacio**	**10.34**	**65**	Pn		**Pn**	**10 05 32.1**	**-0.4**
comp=Z,2.4nm,0.3s,baz=267,slow=11,SNR=36								
SIV				Sn		**Sn**	**10 07 28.9**	**+0.1**
baz=261,slow=15,SNR=2.0								
SIV				LR		LR	10 10 06.3	
comp=Z,671nm,19.7s,baz=264,slow=42								
NNA	**Nana**	**10.42**	**325**	Pn		**Pn**	**10 05 36.7**	**+3.1**
comp=Z,0.7nm,0.3s,baz=190,slow=12,SNR=1.6								
NNA				Sn		**Sn**	**10 07 25.3**	**-5.5**
comp=Z,0.5nm,0.3s,baz=227,slow=23,SNR=1.9								
NNA				LR		LR	10 09 32.5	
comp=Z,244nm,20.7s,baz=160,slow=37								
ETMB	**Extrema**	**11.67**	**23**	*eP*		**Pn**	**10 05 51.1**	**+0.4**
PTLB	**Pontes e Lacer**	**12.24**	**67**	*eP*		**Pn**	**10 05 59.7**	**+1.2**
VILB	**Vilhena**	**12.72**	**54**	*eP*		**Pn**	**10 06 05.8**	**+0.7**
CZSB	**Cruzeiro do Su**	**13.02**	**352**	*eP*		**Pn**	**10 06 11.3**	**+2.2**
CPUP	**Villa Florida**	**13.56**	**117**	Pn		**Pn**	**10 06 15.7**	**-0.7**
comp=Z,0.3nm,0.3s,baz=25,slow=19,SNR=2.5								
CPUP	**Villa Florida**	**13.56**	**117**	Pn		**Pn**	**10 06 16.6**	**+0.1**
AQDB	**Aquidauana**	**14.13**	**92**	*eP*		**Pn**	**10 06 25.6**	**+1.3**
H03N1	**Juan Fernandez**	**14.61**	**208**	Pn		**Pn**	**10 06 29.1**	**-1.4**
baz=112,slow=14,SNR=21								
H03N1				T		T	10 21 37.9	
baz=34,slow=72,SNR=381								
H03N2	**Juan Fernandez**	**14.62**	**208**	Pn		**Pn**	**10 06 29.3**	**-1.4**
baz=112,slow=14,SNR=9.3								
H03N2				T		T	10 21 47.1	
baz=34,slow=72,SNR=218								
H03N3	**Juan Fernandez**	**14.63**	**208**	Pn		**Pn**	**10 06 29.1**	**-1.8**
baz=112,slow=14,SNR=19								
H03N3				T		T	10 21 40.6	
baz=34,slow=72,SNR=248								
H03S3	**Juan Fernandez**	**14.94**	**207**	Pn		**Pn**	**10 06 33.5**	**-1.5**
H03S1	**Juan Fernandez**	**14.95**	**207**	Pn		**Pn**	**10 06 33.4**	**-1.8**
H03S2	**Juan Fernandez**	**14.95**	**207**	Pn		**Pn**	**10 06 33.6**	**-1.6**
PP1B	**Ponte de Pedra**	**15.34**	**81**	*eP*		**Pn**	**10 06 41.1**	**+0.4**
ITQB	**Itaqui**	**15.62**	**128**	*eP*		**Pn**	**10 06 46.0**	**+1.7**
BI02	**San Fabin de**	**15.92**	**181**	P		**P**	**10 06 52.1**	**+0.2**
CLDB	**Colider**	**17.40**	**58**	*eP*		**Pn**	**10 07 06.3**	**-0.8**
PTGB	**Pitanga**	**17.73**	**107**	*eP*		**P**	**10 07 13.2**	**+1.1**
PCMB	**Pacamebu**	**18.24**	**96**	*eP*		**P**	**10 07 18.6**	**+0.9**
ITAB	**Concordia**	**18.24**	**115**	*eP*		**P**	**10 07 17.7**	**+0.1**
CPSB	**Cacapava Do Su**	**18.38**	**125**	*eP*		**P**	**10 07 20.9**	**+1.7**
ARAG	**Araguaiana, MT**	**18.69**	**78**	*eP*		**P**	**10 07 22.8**	**+0.1**
PLTB	**Pedras Altas**	**18.93**	**129**	*eP*		**Pn**	**10 07 27.0**	**+1.2**
ITRB	**Iturama**	**19.20**	**91**	*eP*		**P**	**10 07 28.2**	**0.0**
FRTB	**Fartura**	**19.85**	**102**	*eP*		**P**	**10 07 35.2**	**-0.2**
PLCA	**Paso Flores**	**19.98**	**179**	P		**Pn**	**10 07 39.4**	**+1.1**
comp=Z,6.3nm,0.9s,baz=359,slow=12,SNR=13								
PLCA	**Paso Flores**	**19.98**	**179**	P		**Pn**	**10 07 38.5**	**+0.1**
PLCA	**Paso Flores**	**19.98**	**179**	*eP*		**Pn**	**10 07 39.3**	**+0.9**
NPGB	**Novo Progresso**	**20.18**	**50**	*eP*		**P**	**10 07 37.3**	**-1.6**
TIJ01	**Guaruva-PR**	**20.57**	**107**	*eP*		**P**	**10 07 42.6**	**-0.6**
TER01	**Tubaro-SC**	**21.16**	**116**	*eP*		**P**	**10 07 50.6**	**+1.1**
IPMB	**Ipameri, GO**	**21.47**	**87**	*eP*		**P**	**10 07 53.0**	**+0.8**
OTAV	**Otavalo**	**22.11**	**339**	P		**P**	**10 08 01.8**	**+1.6**
BDFB	**Brasilia**	**22.20**	**81**	P		**P**	**10 07 58.0**	**-2.9**
comp=Z,2.3nm,0.6s,baz=197,slow=14,SNR=2.2								
BDFB				LR		LR	10 18 04.1	
comp=Z,907nm,18.9s,baz=276,slow=41								
PTGA	**Pitinga**	**22.48**	**29**	P		**P**	**10 08 01.4**	**-2.3**
comp=Z,16nm,0.7s,baz=209,slow=12,SNR=27								
PTGA				LR		LR	10 17 14.9	
comp=Z,342nm,18.9s,baz=206,slow=38								
PTGA	**Pitinga**	**22.48**	**29**	P		**P**	**10 08 02.7**	**-1.0**
PTGA				IAmb		IAmb	10 08 05.5	
comp=Z,24nm,0.9s								
PTGA	**Pitinga**	**22.48**	**29**	*eP*		**P**	**10 08 02.5**	**-1.2**
GCUF	**Volcan Galeras**	**22.71**	**343**	*eP*		**P**	**10 08 12.3**	**+5.7**
PEXB	**Peixe**	**23.18**	**72**	*eP*		**P**	**10 08 10.8**	**-0.2**
SOTA	**Rioblanco**	**23.39**	**345**	*eP*		**P**	**10 08 14.5**	**+0.8**
BBAC	**Balboa, Cauca**	**23.44**	**344**	*eP*		**P**	**10 08 16.7**	**+2.8**
PARB	**Paraibuna**	**23.47**	**101**	*eP*		**P**	**10 08 14.1**	**0.0**
PCON	**Cinco Dias**	**23.53**	**346**	*eP*		**P**	**10 08 21.7**	**+6.6**
POPC	**Popayan, Colom**	**23.80**	**345**	*eP*		**P**	**10 08 17.4**	**0.0**
BSCB	**Bom Sucesso**	**24.31**	**95**	*eP*		**P**	**10 08 20.9**	**-1.2**
PTGC	**Puerto Gaitan,**	**24.77**	**357**	*eP*		**P**	**10 08 24.6**	**-1.6**
VILC	**Villavicencio,**	**24.81**	**353**	*eP*		**P**	**10 08 26.8**	**+0.1**
ORTC	**Ortega, Tolima**	**24.83**	**349**	*eP*		**P**	**10 08 30.4**	**+3.6**
PRPB	**Paraupebas**	**24.93**	**58**	*eP*		**P**	**10 08 27.4**	**-0.3**
BOAV	**Boa Vista**	**25.05**	**25**	*eP*		**P**	**10 08 28.4**	**-0.3**
SMTB	**Santa Maria do**	**25.28**	**66**	*eP*		**P**	**10 08 31.8**	**+0.9**
ROSC	**El Rosal**	**25.61**	**352**	P		**P**	**10 08 35.2**	**+1.1**
comp=Z,7.7nm,0.4s,baz=292,slow=7.5,SNR=4.0								
ROSC				LR		LR	10 19 41.7	
comp=Z,269nm,21.6s,baz=218,slow=39								
ROSC	**El Rosal**	**25.61**	**352**	P		**P**	**10 08 34.7**	**+0.5**
DIAM	**Diamantina, MG**	**25.66**	**89**	*eP*		**P**	**10 08 34.5**	**+0.1**
JANB	**Januaria**	**25.79**	**82**	*eP*		**P**	**10 08 35.2**	**-0.4**
RREF	**El Recreo**	**25.82**	**350**	*eP*		**P**	**10 08 42.6**	**+6.2**
PLMC	**San Jos del P**	**26.00**	**347**	*eP*		**P**	**10 08 38.3**	**+0.9**
SDBA	**SAO DESIDERIO**	**26.11**	**76**	*eP*		**P**	**10 08 37.0**	**-1.4**
GUY2C	**Guyana, Caldas**	**26.14**	**350**	*eP*		**P**	**10 08 41.2**	**+2.1**
SPBC	**San Pablo de B**	**26.37**	**353**	*eP*		**P**	**10 08 41.9**	**+1.1**
NORC	**Norcasia**	**26.39**	**351**	*eP*		**P**	**10 08 41.9**	**+1.0**
RUSC	**La Rusia**	**26.51**	**355**	*eP*		**P**	**10 08 42.6**	**+0.2**
TAMC	**Tame, Arauca**	**26.97**	**358**	*eP*	

comp=Z,6.0nm,0.9s
ABTX Abilene, Hawle 59.76 332 P **P** 10 13 09.3 -0.1
ABTX IAmb IAmb 10 13 19.6
comp=Z,6.3nm,0.8s
PBMO Poplar Bluff 60.09 342 P **P** 10 13 10.4 -1.1
PBMO IAmb IAmb 10 13 12.1
comp=Z,11nm,1.1s
U40A Yellville 60.45 340 P **P** 10 13 13.3 -0.7
U40A IAmb IAmb 10 13 25.5
comp=Z,5.7nm,0.9s
O56A Blue Knob Stat 61.07 353 P **P** 10 13 18.2 0.0
O56A IAmb IAmb 10 13 20.1
comp=Z,11nm,0.9s
VNA3 Neumayer Olymp 61.40 161 P **P** 10 13 21.4 +1.3
MNTX Cornudas Mount 61.75 327 P **P** 10 13 23.3 +0.3
S39A Bolivar 61.82 340 P **P** 10 13 22.4 -0.9
S39A IAmb IAmb 10 13 24.2
comp=Z,9.7nm,1.1s
VNA2 Neumayer--Watz 61.99 161 P **P** 10 13 24.8 +0.7
baz=279,slow=7.8
M56A Emporium 62.23 354 P **P** 10 13 25.9 -0.1
L63A North Scituate 62.24 359 P **P** 10 13 26.2 +0.2
M55A Ridgway 62.28 353 P **P** 10 13 26.1 -0.2
M55A IAmb IAmb 10 13 27.7
comp=Z,11nm,0.8s
BRYW Bryant College 62.29 359 P **P** 10 13 26.1 -0.2
MSTX Muleshoe 62.31 330 P **P** 10 13 26.3 -0.5
MSTX IAmb IAmb 10 13 36.9
comp=Z,6.2nm,1.0s
P43A Skaggs, Pawnee 62.52 344 P **P** 10 13 26.9 -1.0
N49A Columbus Grove 62.55 349 P **P** 10 13 27.8 -0.3
N49A IAmb IAmb 10 13 28.9
comp=Z,13nm,0.9s
KAN08 Anthony NE Sta 63.05 336 P **P** 10 13 31.2 -0.3
KAN08 IAmb IAmb 10 13 32.8
comp=Z,12nm,1.1s
TRY Troy 63.16 358 P **P** 10 13 32.3 +0.2
WVNY West Valley, N 63.19 354 P **P** 10 13 32.4 +0.1
319A Douglas 63.59 324 P **P** 10 13 34.6 -0.8
319A IAmb IAmb 10 13 46.9
comp=Z,6.9nm,0.9s
SNAA Sanae 63.62 161 P **P** 10 13 36.4 +1.4
SNAA Sanae 63.62 161 P **P** 10 13 35.9 +0.9
SNAA IAmb IAmb 10 13 37.3
comp=Z,12nm,1.0s
N41A Harden Midland 63.87 343 P **P** 10 13 36.9 0.0
N41A IAmb IAmb 10 13 37.5
comp=Z,10nm,1.0s
SADO Sadowa 65.58 353 P **P** 10 13 47.8 -0.1
SADO IAmb IAmb 10 13 54.9
comp=Z,14nm,1.4s
SMCO Snowmass 68.51 330 P **P** 10 14 05.7 -1.5
DBIC Dimbokro 70.20 75 P **P** 10 14 16.6 -1.1
comp=Z,4.3nm,0.7s,baz=158,slow=11,SNR=3.9
DBIC LR LR 10 43 51.3
comp=Z,141nm,19.7s,baz=196,slow=35
DBIC Dimbokro 70.20 75 P **P** 10 14 17.2 -0.5
DBIC IAmb IAmb 10 14 25.9
comp=Z,20nm,1.3s
DRLN Deer Lake 70.63 9 P **P** 10 14 20.1 +0.6
TMUT Trail Mountain 70.64 328 P **P** 10 14 20.0 -0.2
TMUT IAmb IAmb 10 14 29.8
comp=Z,11nm,0.9s
PDAR Pinedale Array 72.55 331 P **P** 10 14 32.2 +0.6
comp=Z,0.2nm,0.6s,baz=144,slow=7.8,SNR=1.9
NVAR Mina Array Bea 73.78 323 P **P** 10 14 39.4 +0.4
comp=Z,0.4nm,0.7s,baz=134,slow=7.7,SNR=4.6
ULM Lac du Bonnet 74.03 344 P **P** 10 14 39.1 -0.8
comp=Z,1.0nm,0.5s,baz=56,slow=2.7,SNR=3.6
ULM LR LR 10 49 24.5
comp=Z,53nm,20.5s,baz=130,slow=38
ULM Lac du Bonnet 74.03 344 P **P** 10 14 38.9 -0.9
FLWY Flagg Ranch 74.09 331 P **P** 10 14 40.6 -0.1
KOWA Kowa 74.32 68 P **P** 10 14 41.2 -1.1
KOWA IAmb IAmb 10 14 42.1
comp=Z,11nm,1.2s
YNE Yellowstone No 74.51 332 P **P** 10 14 42.5 -0.7
YNE IAmb IAmb 10 14 57.5
comp=Z,9.7nm,1.0s
ORV Oroville 76.37 322 P **P** 10 14 53.4 -0.3
HRY Holter Researc 76.64 332 P **P** 10 14 53.6 -1.5
VNDA Vanda 77.34 190 P **P** 10 15 00.9 +2.4
comp=Z,1.3nm,1.0s,baz=58,slow=2.8,SNR=5.0
TOA0 Torodi Ar. Sit 78.75 71 P **P** 10 15 06.4 -1.0
TOA0 IAmb IAmb 10 15 07.4
comp=Z,16nm,1.0s
TORD Torodi Ar. Bea 78.75 71 P **P** 10 15 06.2 -1.2
comp=Z,5.0nm,0.5s,baz=253,slow=5.3,SNR=3.9
TORD LR LR 10 49 26.3
comp=Z,180nm,19.3s,baz=225,slow=36
TORD Torodi Ar. Bea 78.75 71 P **P** 10 15 06.5 -0.9
TORD IAmb IAmb 10 15 07.4
comp=Z,8.8nm,0.9s
FCC Fort Churchill 81.47 348 P **P** 10 15 21.1 +0.1
RAR Rarotonga 81.85 250 P **P** 10 15 26.3 +2.2
comp=Z,7.4nm,0.5s,baz=20,slow=15,SNR=1.7
BOSA Boshof 85.37 119 P **P** 10 15 42.4 +0.1
comp=Z,3.7nm,0.9s,baz=245,slow=6.8,SNR=3.9
BOSA LR LR 10 48 26.4
comp=Z,21nm,20.1s,baz=183,slow=32
ESDC Sonseca Array 86.50 45 LR LR 10 52 32.6
comp=Z,62nm,18.9s,baz=205,slow=34
YKA Yellowknife Ar 89.85 341 P **P** 10 16 03.2 +0.5
comp=Z,2.0nm,0.9s,baz=137,slow=5.4,SNR=23
H11S2 WAKE ISLAND Hyl 26.03 278 T T 12 40 57.5
baz=102,slow=74,SNR=182
H11S1 WAKE ISLAND Hyl 26.04 278 T T 12 40 59.4
baz=102,slow=74,SNR=118
H11S3 WAKE ISLAND Hyl 26.05 278 T T 12 41 00.0
baz=102,slow=74,SNR=126
H11N3 WAKE ISLAND Hyl 26.10 280 T T 12 41 16.4
baz=102,slow=75,SNR=62
H11N2 WAKE ISLAND Hyl 26.11 280 T T 12 41 19.0
baz=102,slow=75,SNR=48
H11N1 WAKE ISLAND Hyl 26.11 280 T T 12 41 22.0
baz=102,slow=75,SNR=31
ASAR Alice Springs 129.78 210 PKP **PKiKP** 10 22 15.5 +0.2
comp=Z,1.1nm,0.9s,baz=167,slow=2.0,SNR=5.9
ASAR Alice Springs 129.78 210 **PKPdf** 10 22 14.6 0.0
WRA Warramunga Arr 132.72 213 PKP **PKiKP** 10 22 21.4 +0.1
comp=Z,1.2nm,0.8s,baz=157,slow=1.8,SNR=6.9
BVAR Borovoye Array 136.10 33 PKP **PKPdf** 10 22 25.5 +0.1
comp=Z,0.7nm,0.7s,baz=114,slow=1.8,SNR=3.6
KURBB Kurchatov Arra 141.60 32 PKP **PKiKP** 10 22 37.4 -1.0
comp=Z,1.4nm,0.9s,baz=294,slow=2.5,SNR=2.2
ZALV Zalesovo Beam 141.94 23 PKP **PKPdf** 10 22 35.1 -0.9
comp=Z,1.4nm,0.6s,baz=20,slow=4.6,SNR=1.4
KSH Kashi 145.93 49 PKPbc **PKPab** 10 22 45.5 +0.7
KSH PP **PP** 10 26 05.8 +0.1
KSH AMB AMB
comp=Z,59nm,5.2s
MKAR Makanchi Array 145.97 34 PKPbc **PKPbc** 10 22 44.0 -0.1
comp=Z,5.6nm,0.8s,baz=317,slow=2.4,SNR=27
MKAR Makanchi Array 145.97 34 **PKPab** 10 22 44.6 0.0
TLY Talaya 148.76 7 PKPbc **PKiKP** 10 22 52.8 -0.4
comp=Z,1.6nm,0.6s,baz=235,slow=16,SNR=2.0
USRK Ussuriysk Ar. 149.88 326 PKPbc **PKiKP** 10 22 56.1 +0.5
comp=Z,6.3nm,1.0s,baz=36,slow=2.7,SNR=8.3
MJAR Matsushiro Arr 150.19 308 PKPbc **PKPbc** 10 22 56.1 +0.4
comp=Z,4.7nm,1.0s,baz=172,slow=1.4,SNR=7.1
SONM Songino Array 152.82 4 PKP **PKPdf** 10 22 56.0 +1.6
comp=Z,0.6nm,0.7s,baz=17,slow=1.5,SNR=2.9
SONM PKPbc **PKiKP** 10 23 02.0 +0.2
comp=Z,1.6nm,0.7s,baz=328,slow=1.7,SNR=6.8
SONM Songino Array 152.82 4 **PKPdf** 10 22 55.3 +0.9
SONM **PKPbc** 10 23 01.8 +0.2

*IDC **25** 10:04:28.9±1.5, 2°.71S×139°.41E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.3/41, mbtmp3.4/4, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/16 Error ellipse: s-maj=33.4km s-min=19.4km az=154.0, Near north coast of Irian Jaya*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.31**	**81**	Pn	Pn	10 04 55.0	+0.5
	7.8nm,0.3s,baz=238,slow=9.8,SNR=30						
JAY				Sn	Sb	10 05 12.1	+0.2
	10nm,0.3s,baz=297,slow=18,SNR=7.6						
WRA	**Warramunga Arr**	**17.82**	**196**	P	P	10 08 40.0	+0.6
	0.1nm,0.3s,baz=17,slow=13,SNR=7.7						
WRA				S	Sn	10 11 47.5	-11
	0.1nm,0.3s,baz=19,slow=24,SNR=2.0						
FITZ	**Fitzroy Crossi**	**20.39**	**220**	P	P	10 09 06.4	-1.1
	1.9nm,0.9s,baz=24,slow=12,SNR=2.1						
FITZ				LR	LR	10 17 07.6	
	comp=Z,103nm,19.5s,baz=215,slow=37						
ASAR	**Alice Springs**	**21.50**	**194**	P	P	10 09 19.4	-0.1
	0.5nm,0.5s,baz=21,slow=9.7,SNR=3.9						
MKAR	**Makanchi Array**	**70.22**	**322**	P	P	10 15 44.0	+0.1
	0.1nm,0.6s,baz=116,slow=8.4,SNR=1.9						

*IDC **25** 10:13:07.0±0.7, 13°.37N×91°.93E, h0km, mb4.0/16, mb1 4.1/19, mb1mx3.9/49, mbtmp4.0/19, ML3.9/3, MS3.4/5, Ms1 3.4/5, ms1mx3.0/44, Error ellipse: s-maj=23.1km s-min=13.4km az=52.0*
*NEIC **25** 10:13:10.7±0.9, 13°.47N±0°.02×91°.92E±0°.09, h29km±6km, mb4.3/21, Error ellipse: s-maj=13.2km s-min=3.2km az=83.0*
*NDI **25** 10:13:10.2±3.7, 13°.44N×91°.83E, h30km±34km, mb4.2, ML4.6, mb4.3(NEIC)*
ISC 25 10:13:11.9±0.4, 13°.51N±0°.06×91°.96E±0°.05, h35km, n87, σ1°.73/76, mb4.2/25, MS3.4/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**1.00**	**109**	*e*P	**Pn**	**10 13 30.2**	**+0.8**
DGPR				*e*S	**Sn**	**10 13 44.9**	**+2.6**
PBA	**Port Blair**	**1.99**	**157**	*e*P	Pn	10 13 42.1	-1.0
PBA				*i* x	x	10 13 44.5	
PBA				*e*S	Sn	10 14 07.2	+0.3
PBA				IAML		10 14 12.9	
	comp=N,8μm,0.2s						
PBA	**Port Blair**	**1.99**	**157**		Pn	10 13 42.1	-1.0
CMBY	**CAMPBELL BAY**	**6.74**	**163**	*e*S	Sn	10 15 51.1	-13
MHMT	**Maesarieng**	**7.38**	**50**	P	Pn	10 15 06.0	+8.8
	comp=N,3μm,comp=N,35nm,0.7s						
CM05	**Chiang Mai Arr**	**8.29**	**53**	P	**Pn**	**10 15 14.2**	**+4.5**
	comp=N,115nm,comp=N,11nm,0.7s						
CM02	**Chiang Mai Arr**	**8.31**	**53**	P	Pn	10 15 25.6	+16
CM04	**Chiang Mai Arr**	**8.32**	**53**	P	**Pn**	**10 15 14.0**	**+3.9**
	comp=N,166nm,comp=N,13nm,0.9s						
CMAR	**Chiang Mai Arr**	**8.32**	**53**	Pn	**Pn**	**10 15 10.9**	**+0.8**
	comp=N,0.7nm,0.3s,baz=243,slow=15,SNR=12						
CMAR				Sn	**Sn**	**10 16 36.1**	**-6.9**
	comp=N,0.7nm,0.3s,baz=229,slow=18,SNR=1.3						
CMAR				LR	LR	10 18 47.5	
	comp=N,89nm,18.0s,baz=327,slow=40						
CMAR	**Chiang Mai Arr**	**8.32**	**53**		**Pn**	**10 15 09.7**	**-0.5**
CM09	**Chiang Mai Arr**	**8.35**	**53**	P	Pn	10 15 15.7	+5.1
	comp=N,112nm,comp=N,10nm,0.6s						
SUKH	**Sukhothai**	**8.38**	**61**	P	Pn	10 15 24.7	+14
	comp=N,18nm,0.7s						
CHTO	**Chiang Mai**	**8.53**	**51**		**Pn**	**10 15 14.1**	**+1.0**
SAIH	**SAIHA**	**8.98**	**6**	*e*P	**Pn**	**10 15 18.4**	**-0.9**
VIS	**Vishakhapatnam**	**9.31**	**298**	*e*P	**Pn**	**10 15 22.1**	**-1.6**
VIS				*i* x	x	10 15 30.9	
VIS				*e*S	Sn	10 16 56.1	-11
PAYA	**Payao**	**9.56**	**51**	P	**Pn**	**10 15 31.2**	**+4.1**
	comp=N,217nm,0.9s						
MDRS	**Chennai**	**11.41**	**269**	*ex*	x	10 15 58.9	
MDRS				*e*S	Sn	10 17 42.4	-16
BOK	**Bokaro**	**11.74**	**332**	*e*P	**Pn**	**10 15 55.9**	**-1.1**
BOK				IAmb	IAmb	10 15 58.4	
	comp=Z,32nm,0.4s						
BOK				*e*S	Sn	10 17 55.6	-11
KULM	**Kulim**	**11.84**	**133**	Pn	**Pn**	**10 15 57.8**	**-0.5**
SHL	**Shillong**	**11.99**	**360**	*e*P	**Pn**	**10 15 57.6**	**-3.1**
SHL	**Shillong**	**11.99**	**360**	Pn	**Pn**	**10 15 58.4**	**-2.2**
KOHI	**KOHIMA**	**12.31**	**9**	*e*P	**Pn**	**10 16 02.5**	**-2.5**
KOHI				IAmb	IAmb	10 16 07.6	
	comp=Z,25nm,0.9s						
IPM	**Ipoh**	**12.67**	**134**	Pn	**Pn**	**10 16 07.6**	**-2.1**
PSI	**Prapat**	**12.67**	**147**	Pn	**Pn**	**10 16 07.6**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=180,slow=22,SNR=6.2						
PSI				Sn	**Sn**	**10 18 31.6**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=180,slow=21,SNR=5.1						
PALK	**Pallekele**	**12.69**	**242**	Pn	**Pn**	**10 16 08.5**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=167,slow=11,SNR=5.0						
PALK				Sn	Sn	10 18 15.2	-15
	comp=Z,3.5nm,0.3s,baz=195,slow=7.7,SNR=6.7						
RPSI	**Rantau Prapat**	**12.76**	**147**	Pn	**Pn**	**10 16 10.2**	**-0.8**
HYB	**Hyderabad**	**13.50**	**288**	*i* P	**Pn**	**10 16 21.5**	**+0.5**
HYB				*e*S	**Sn**	**10 18 51.0**	**+1.1**
HYB	**Hyderabad**	**13.50**	**288**	*ex*	x	10 15 45.9	
HYB				*i* x	x	10 15 54.4	
ODAN	**Odare**	**13.96**	**343**	*e*P	**Pn**	**10 16 25.3**	**-2.2**
RAMN	**Ramite**	**14.28**	**340**	*e*P	**Pn**	**10 16 30.2**	**-1.7**
TAPN	**Taplejung**	**14.33**	**345**	*e*P	**Pn**	**10 16 30.7**	**-2.0**
JIRN	**Jiri**	**15.08**	**340**	*e*P	**Pn**	**10 16 41.2**	**-1.5**
PKI	**Pulchoki**	**15.27**	**337**	*e*P	**Pn**	**10 16 43.7**	**-1.6**
PKIN	**Phulchoki**	**15.28**	**337**	*e*P	**Pn**	**10 16 44.1**	**-1.2**
	comp=Z,51nm,0.4s						
GUN	**Gumba**	**15.41**	**339**	*e*P	**Pn**	**10 16 45.6**	**-1.5**
DMN	**Daman**	**15.42**	**337**	*e*P	**Pn**	**10 16 45.9**	**-1.3**
	comp=Z,41nm,0.5s						
GKN	**Gorkha**	**15.96**	**336**	*e*P	**Pn**	**10 16 53.2**	**-0.8**
	comp=Z,44nm,0.3s						
LSA	**Lhasa**	**16.13**	**357**		**Pn**	**10 16 56.2**	**-0.3**
LSA				IAmb	IAmb	10 17 12.5	
	comp=Z,22nm,0.6s						
BHPL	**Bhopal**	**16.84**	**307**	*e*P	**Pn**	**10 17 04.1**	**-1.0**
BHPL				IAmb	IAmb	10 17 06.6	
	comp=Z,15nm,0.8s						
KSM	**Kuching**	**21.74**	**122**	P	**P**	**10 17 58.6**	**-1.9**
KSM				IAmb	IAmb	10 18 26.2	
	comp=Z,15nm,1.2s						
SBUM	**Sibu**	**22.85**	**117**	P	**P**	**10 18 10.5**	**-1.8**
SBUM				IAmb	IAmb	10 18 23.6	
	comp=Z,10nm,1.2s						
ENH	**Enshi**	**23.24**	**41**	P	**P**	**10 18 16.4**	**+0.2**
DHRM	**DHARAMSHALA**	**23.53**	**325**	*ex*	**P**	**10 18 19.9**	**+0.7**
DHRM				*i* x	x	10 18 26.3	
XAN	**Xi'an**	**25.59**	**34**	P	**P**	**10 18 38.0**	**+0.1**
XAN				IAmb	IAmb	10 18 40.0	
	comp=Z,5.7nm,0.6s						
NIL	**Nilore**	**26.30**	**323**	P	**P**	**10 18 43.5**	**-0.8**
NIL				IAmb	IAmb	10 19 00.5	
	comp=Z,6.6nm,0.8s						
DGAR	**Diego Garcia**	**28.41**	**224**	P	**P**	**10 19 01.4**	**-2.0**
H08S3	**Diego Garcia H**	**28.55**	**224**	T	T	10 48 55.7	
	baz=43,slow=75,SNR=28						
H08S2	**Diego Garcia H**	**28.56**	**224**	T	T	10 48 44.6	
	baz=43,slow=75,SNR=16						
H08S1	**Diego Garcia H**	**28.57**	**224**	T	T	10 48 45.8	
	baz=43,slow=75,SNR=7.6						
LUWI	**Luwuk**	**33.79**	**113**	P	**P**	**10 19 50.5**	**-0.3**
MK31	**Makanchi Array**	**34.16**	**348**	P	**P**	**10 19 53.7**	**-0.1**
MK31				IAmb	IAmb	10 20 13.8	
	comp=Z,2.7nm,0.9s						
MKAR	**Makanchi Array**	**34.16**	**348**	P	**P**	**10 19 55.8**	**+2.1**
	comp=Z,1.1nm,0.7s,baz=175,slow=7.6,SNR=13						
MKAR	**Makanchi Array**	**34.16**	**348**	P	**P**	**10 19 53.9**	**+0.2**
MAKZ	**Makanchi**	**34.24**	**348**	P	**P**	**10 19 54.6**	**+0.2**
MAKZ				IAmb	IAmb	10 20 15.7	
	comp=Z,2.2nm,0.8s						
KK31	**Karatay Array**	**34.80**	**332**	P	**P**	**10 19 59.4**	**0.0**
KKAR	**Karatay Array**	**34.80**	**332**	P	**P**	**10 19 59.3**	**-0.1**
SONM	**Songino Array**	**36.27**	**16**	P	**P**	**10 20 12.2**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=198,slow=9.6,SNR=5.9						
SONM	**Songino Array**	**36.27**	**16**	P	**P**	**10 20 11.9**	**-0.1**
KURBB	**Kurchatov Arra**	**38.60**	**346**	P	**P**	**10 20 33.6**	**+2.1**
	comp=Z,0.6nm,0.3s,baz=163,slow=8.2,SNR=4.5						
GEYT	**Alibeck**	**38.66**	**315**	P	**P**	**10 20 34.1**	**+1.9**
	comp=Z,2.8nm,0.5s,baz=79,slow=9.0,SNR=2.5						
KURK	**Kurchatov**	**38.66**	**346**	P	**P**	**10 20 33.6**	**+1.6**
KSRS	**Korea Array**	**39.91**	**47**	P	**P**	**10 20 43.7**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=244,slow=8.6,SNR=1.9						
KSRS				LR	LR	10 40 09.5	
	comp=Z,62nm,18.4s,baz=212,slow=41						
ZALV	**Zalesovo Beam**	**40.74**	**354**	P	**P**	**10 20 51.9**	**+2.7**
	comp=Z,0.7nm,0.6s,baz=181,slow=11,SNR=4.0						
ZALV				LR	LR	10 40 05.2	
	comp=Z,49nm,18.6s,baz=223,slow=40						
ZALV	**Zalesovo Beam**	**40.74**	**354**	P	**P**	**10 20 49.8**	**+0.6**
ABKAR	**Akbulak array**	**44.30**	**330**	P	**P**	**10 21 19.3**	**+1.1**
ABKAR	**Akbulak array**	**44.30**	**330**	P	**P**	**10 21 18.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**45.72**	**133**	P	**P**	**10 21 28.8**	**-1.1**
	baz=313,slow=9.2,SNR=2.1						
FITZ	**Fitzroy Crossi**	**45.72**	**133**	P	**P**	**10 21 29.5**	**-0.4**
AKTO	**Aktyubinsk**	**46.02**	**330**	P	**P**	**10 21 32.4**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=106,slow=7.4,SNR=2.7						
JHJ	**Hachijo jima 2**	**47.60**	**57**	LR	LR	10 43 31.0	
	comp=Z,32nm,18.3s,baz=270,slow=38						
WB0	**Warramunga Arr**	**53.27**	**128**	P	**P**	**10 22 27.3**	**-0.3**
WB0				IAmb	IAmb	10 22 28.1	
	comp=Z,5.8nm,0.8s						
WRA	**Warramunga Arr**	**53.33**	**128**	P	**P**	**10 22 28.0**	**0.0**
	comp=Z,4.2nm,0.7s,baz=305,slow=8.2,SNR=38						
WB2	**Warramunga Arr**	**53.33**	**128**	P	**P**	**10 22 27.8**	**-0.3**
WB2				IAmb	IAmb	10 22 28.7	
	comp=Z,5.2nm,0.7s						
WR0	**Warramunga Arr**	**53.49**	**128**	P	**P**	**10 22 28.5**	**-0.7**
WR0				IAmb	IAmb	10 22 29.8	
	comp=Z,5.1nm,0.8s						
AS31	**Alice Springs**	**55.20**	**132**	P	**P**	**10 22 41.7**	**+0.1**
ASAR	**Alice Springs**	**55.20**	**132**	P	**P**	**10 22 41.8**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=310,slow=6.8,SNR=33						
ASAR	**Alice Springs**	**55.20**	**132**	P	**P**	**10 22 42.1**	**+0.5**
FORT	**Forrest**	**56.07**	**142**	P	**P**	**10 22 47.2**	**-0.4**
BRTR	**Keskin Array B**	**57.20**	**309**	P	**P**	**10 22 55.8**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=128,slow=8.0,SNR=4.3						
MA2	**Magadan**	**62.86**	**29**	P	**P**	**10 23 34.9**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=147,slow=17						
CTA	**Charters Tower**	**62.98**	**121**	P	**P**	**10 23 36.6**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=270,slow=14,SNR=1.9						
FINES	**FINESS Array B**	**66.76**	**331**	P	**P**	**10 23 59.0**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=104,slow=10,SNR=1.7						
ARCES	**ARCESS Array B**	**69.27**	**340**	LR	LR	10 56 50.0	
	comp=Z,39nm,19.7s,baz=265,slow=38						
GERES	**GERESS Array B**	**72.24**	**317**	P	**P**	**10 24 34.7**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=59,slow=5.9,SNR=2.5						
NOA	**NORSAR Array B**	**73.81**	**330**	P	**P**	**10 24 42.8**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=98,slow=9.0,SNR=1.6						
TORD	**Torodi Ar. Bea**	**87.25**	**283**	P	**P**	**10 25 56.5**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=81,slow=4.7,SNR=1.3						
TXAR	**Lajitas Array**	**134.81**	**19**	PKhKP	PKPpre	10 32 23.0	
	comp=Z,0.5nm,1.1s,baz=302,slow=5.2,SNR=2.3						

JMA 25 10:53:46.9±0.1, 24°.04N×123°.57E, h22km±2km, M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.21**	**86**	P	Pb	10 53 52.3	-0.3
HATJ				S	Sb	10 53 56.4	-0.2
IRIF	**Iriomote-Funau**	**0.33**	**26**	P	Pb	10 53 54.1	0.0
IRIF				S	Sb	10 53 59.0	0.0
JKRS	**Kuro-shima**	**0.45**	**64**	P	Pb	10 53 56.2	+0.1
JKRS				S	Sb	10 54 02.9	+0.6
JIJ	**Ishigaki jima**	**0.61**	**58**	P	Pb	10 53 58.5	-0.5
JIJ				S	Sb	10 54 07.1	-0.2
YOJ	**Yonaguni jima**	**0.66**	**310**	P	Pb	10 53 59.5	-0.3
YOJ				*e*S	Sb	10 54 08.4	-0.2
JYNG	**Yonagunijimaku**	**0.70**	**306**	P	Pb	10 54 00.7	+0.2
JYNG				S	Sb	10 54 10.4	+0.7
JISG	**Ishigakijimahi**	**0.87**	**51**	P	Pb	10 54 02.7	-0.6
JISG				S	Sb	10 54 14.2	-0.3
JTJ	**Tarama**	**1.19**	**60**	P	Pb	10 54 09.5	+0.7
JTJ				*e*S	Sb	10 54 24.6	+0.8

TAP 25 10:54:40.3, 24°.82N×121°.96E, h15km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.12**	**287**	*e*P	Pg	10 54 43.9	0.0
	baz=287						
TIPB	**Shuangxi**	**0.19**	**322**	P	Pg	10 54 45.0	+0.1
	baz=322						
TIPB				S	Sg	10 54 47.9	-0.1
	baz=322						
TWC	**Suao**	**0.23**	**205**	P	Pg	10 54 45.5	0.0
	baz=199						
TWC				*e*S	Sg	10 54 48.5	-0.4
	baz=199						
TWE	**Neicheng**	**0.28**	**249**	P	Pg	10 54 46.5	+0.2
	baz=242						
TWE				S	Sg	10 54 50.8	+0.5
	baz=242						
NDS	**Dongshan**	**0.29**	**230**	*e*S	Sg	10 54 50.2	-0.3
	baz=224						
ENTT	**Nioudou**	**0.40**	**243**	P	Pb	10 54 48.9	-0.2
	baz=241						
ENTT				*e*S	Sg	10 54 54.2	+0.4
	baz=241						
NWLT	**Wulai**	**0.41**	**264**	P	Pg	10 54 48.9	+0.3
	baz=263						
NWLT				*e*S	Sg	10 54 54.1	-0.2
	baz=263						
ENA	**Nanau**	**0.44**	**207**	*e*S	Sg	10 54 54.5	-0.5
	baz=204						
NDT	**Datong Townshi**	**0.46**	**242**	*e*P	Pb	10 54 49.9	-0.2
	baz=241						
NDT				*e*S	Sg	10 54 55.9	+0.2
	baz=241						
YHNB	**Yeheng**	**0.55**	**254**	*e*P	Pg	10 54 51.4	+0.2
	baz=261						
NSK	**Sanguang**	**0.56**	**255**	*e*P	Pg	10 54 51.6	+0.2
	baz=262						
NACB	**Ninganchiao**	**0.72**	**207**	*e*P	Pb	10 54 54.6	-0.1
	baz=206						
NACB				*e*S	Sg	10 55 04.0	+0.1
	baz=206						

NNC 25 10:57:53.3±14.0, 36°.92N×69°.86E, h0km, mb3.5, mpv3.1, 2C-2D, Error ellipse: s-maj=115.0km s-min=101.6km az=168.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.20**	**4**	⇑P	Pn	10 59 24.7	-1.4
	0.5nm,0.3s,baz=184,slow=14,SNR=12						
KK31				⇓S	Sn	11 00 36.1	-1.6
	3.2nm,0.6s,baz=176,slow=29,SNR=8.4						
AAK	**Ala-Archa**	**6.74**	**31**	P	Pn	10 59 33.4	-0.2
	1.3nm,0.8s						
AAK				S	Sn	11 00 55.2	+4.1
	1.3nm,0.8s						
TKM2	**Tokmak 2**	**7.44**	**35**	⇑P	Pn	10 59 43.7	+0.4
	0.8nm,0.6s						
TKM2				⇓S	Sn	11 01 11.5	+3.0
	1.2nm,0.6s						

*IDC **25** 11:05:57.5±1.1, 31°.79N×49°.19E, h0km, mb3.9/18, mb1 4.0/20, mb1mx3.8/55, mbtmp3.9/20, ML3.8/2, MS3.5/1, Ms1 3.7/1, ms1mx2.3/47, Error ellipse: s-maj=25.3km s-min=16.2km az=5.0*
*THR **25** 11:05:59.6±0.3, 31°.79N×49°.09E, h14km±5km, ML3.7*
*TEH **25** 11:05:59.1, 31°.82N×49°.05E, h8km, ML3.9*
ISC 25 11:06:00.4±0.6, 31°.76N±0°.04×49°.05E±0°.05, h20km, n67, σ1°.67/66, mb3.6/17, Western Iran

QRN	Al-Qurain	3.16	198	*e*P			11 06 52.1		
IALM	Almabolaq	3.18	347	*e*Pn		Pn	**11 06 51.1**	**+1.6**	
IGHG	Ghaleghazi	3.30	322	*e*Pn		Pn	**11 06 52.8**	**+1.7**	
IGHG				*e*			11 07 59.9		
	comp=Z,99nm,0.8s								
GHVR	GHOM	3.30	34	*e*Sg		Sb	**11 07 40.4**	**+2.2**	
NASN	Na'in	3.35	71	*e*Pn		Pn	**11 06 53.3**	**+1.4**	
NASN	Na'in	3.35	71	*e*Pn		Pn	**11 06 53.3**	**+1.4**	
KRSH	Karshahi	3.41	49	*e*Pn		Pn	**11 06 54.6**	**+2.1**	
AHBU	AHRAM	3.48	145	*e*Pn		Pn	**11 06 55.3**	**+1.9**	
IQOM	Qom	3.51	28	*e*Pn		Pn	**11 06 55.4**	**+1.4**	
SNGE	Sanandaj	3.62	337	IAML			11 07 40.6		
	comp=N,107nm,0.4s								
IRAZ	Razeghan	3.71	11	*e*Pn		Pn	**11 06 58.7**	**+2.0**	
ISFB	Sefidab	3.73	45	*e*Pn		Pn	**11 06 58.0**	**+1.2**	
IVRN	Varamin	3.93	34	*e*Pn		Pn	**11 07 01.2**	**+1.6**	
QABG	Abgarm-Qazvin	3.96	6	*e*Pn		Pn	**11 06 59.8**	**-0.4**	
IMHD	Mahdasht	4.14	19	*e*Pn		Pn	**11 07 04.1**	**+1.5**	
ANAR	Anarak	4.21	69	*e*Pn		Pn	**11 07 05.3**	**+1.8**	
IGZV	Ghazvin	4.72	12	*e*Pn		Pn	**11 07 11.5**	**+0.9**	
QALM	Alamut, Qazvin	4.85	15	*e*Pn		Pn	**11 07 12.7**	**+0.3**	
ILAS	Lasjerd	4.87	41	*e*Pn		Pn	**11 07 14.1**	**+1.4**	
IPRN	Peran	5.24	31	*e*Pn		Pn	**11 07 19.8**	**+2.1**	
IGLO	Ghaloghah	6.17	39	*e*Pn		Pn	**11 07 32.5**	**+1.9**	
TNSJ	Nastanj	6.73	69	*e*Pn		Pn	**11 07 39.1**	**+0.9**	
TKDS	Koohdasht(Taba	7.05	73	*e*Pn		Pn	**11 07 43.9**	**+1.3**	
SBZV	Sabzevar	8.47	55	*e*Pn		Pn	**11 08 02.9**	**+0.8**	
GEYT	Alibeck	9.66	48	Pn		Pn	**11 08 20.3**	**+2.0**	
	comp=N,0.2nm,0.3s,baz=235,slow=18,SNR=2.1								
WSAR	Wadi Sarin	12.01	133	Pn		Pn	**11 08 49.5**	**-0.9**	
	comp=N,0.8nm,0.3s,baz=320,slow=11,SNR=6.4								
KBZ	Khabaz	12.89	340	Pn		P	**11 09 11.9**	**-1.1**	
	comp=N,0.1nm,0.3s,baz=31,slow=5.9,SNR=2.8								
BRTR	Keskin Array B	14.81	307	Pn		Pn	**11 09 29.8**	**+1.0**	
	comp=N,0.1nm,0.3s,baz=134,slow=15,SNR=1.3								
AKTO	Aktyubinsk	19.82	17	P		P	**11 10 29.2**	**-0.3**	
	comp=N,0.2nm,0.3s,baz=202,slow=13,SNR=5.5								
IDI	Anoyia	20.43	286	P		Pn	11 10 38.6	0.0	
	comp=N,10nm,0.8s,baz=217,slow=20,SNR=1.9								
BELG	Belogornoye	20.65	358	P		P	**11 10 39.2**	**+0.7**	
	comp=N,30nm,0.7s,baz=232,slow=1.6,SNR=4.6								
MLR	Muntele Rosu	22.56	314	P		P	**11 11 01.4**	**+2.0**	
	comp=N,1.6nm,0.7s,baz=258,slow=9.3,SNR=2.1								
AAK	Ala-Archa	22.91	55	P		P	**11 10 58.6**	**-4.5**	
	comp=N,0.3nm,0.3s,baz=234,slow=19,SNR=1.9								
AKASG	Malin Array Be	23.96	328	P		P	**11 11 13.5**	**+0.3**	
	comp=N,0.4nm,0.4s,baz=135,slow=9.2,SNR=2.0								
BVAR	Borovoye Array	26.27	30	P		P	**11 11 32.7**	**-1.4**	
	comp=N,0.2nm,0.3s,baz=195,slow=16,SNR=1.9								
KURBB	Kurchatov Arra	28.82	41	P		P	**11 11 57.7**	**+0.6**	
	comp=N,0.2nm,0.5s,baz=249,slow=9.1,SNR=9.0								
MKAR	Makanchi Array	29.53	50	P		P	**11 12 03.9**	**+0.5**	
	comp=N,0.7nm,0.8s,baz=251,slow=7.8,SNR=8.2								
VRAC	Vranov	29.95	315	P		P	**11 12 07.9**	**+0.9**	
	comp=N,2.9nm,0.5s,baz=157,slow=7.7,SNR=1.8								
GERES	GERESS Array B	31.54	313	P		P	**11 12 23.6**	**+2.3**	
	comp=N,0.4nm,0.5s,baz=125,slow=8.6,SNR=1.9								
FINES	FINESS Array B	33.26	340	P		P	**11 12 35.1**	**-0.9**	
	comp=N,1.5nm,0.6s,baz=133,slow=11,SNR=6.2								
ZALV	Zalesovo Beam	33.80	38	P		P	**11 12 38.4**	**-2.4**	
	comp=N,0.8nm,0.5s,baz=239,slow=11,SNR=4.6								
HFS	Hagfors	36.76	331	P		P	**11 13 06.9**	**+0.8**	
	comp=N,1.5nm,0.5s,baz=106,slow=11,SNR=5.1								
SONM	Songino Array	45.84	52	P		P	**11 14 19.7**	**-1.4**	
	comp=N,0.3nm,0.3s,baz=263,slow=9.9,SNR=2.1								
CMAR	Chiang Mai Arr	46.71	94	P		P	**11 14 28.3**	**+0.1**	
	comp=N,0.8nm,0.3s,baz=281,slow=7.2,SNR=4.7								
CMAR				LR		LR	11 39 37.7		
	comp=N,47nm,18.1s,baz=217,slow=43								
TORD	Torodi Ar. Bea	47.11	258	P		P	**11 14 31.8**	**+0.5**	
	comp=N,1.2nm,0.7s,baz=59,slow=7.6,SNR=6.3								
SPITS	Spitsbergen Ar	48.67	351	P		P	**11 14 42.6**	**0.0**	
	comp=N,8.9nm,1.0s,baz=160,slow=17,SNR=2.0								
ILAR	Eielson Array	82.39	7	P		P	**11 18 22.6**	**-1.1**	
	comp=N,0.2nm,0.7s,baz=329,slow=4.6,SNR=2.6								
YKA	Yellowknife Ar	85.16	352	P		P	**11 18 34.1**	**-0.7**	
	comp=N,0.4nm,0.9s,baz=7.9,slow=5.1,SNR=5.9								

SJA ***25*** *11:21:02.1±0.5,21.˝68S×68.˝56W,h137km±3km, ML4.4, MW4.3*
VAO ***25*** *11:21:02.7±0.5,21.˝59S×68.˝35W,h123km±5km, mb4.7*
NEIC ***25*** *11:21:02.9±1.7,21.˝62S±0.˝04×68.˝39W±0.˝08,h122km±4km, Error ellipse: s-maj=10.3km s-min=6.1km az=82.0*
IDC ***25*** *11:21:04.0±0.6,21.˝62S×68.˝31W,h128km±5km, mb4.1/14, mb1 4.1/18, mb1mx4.0/30, mbtmp4.5/18, MS3.3/3, Ms1 3.3/3, ms1mx2.9/20, Error ellipse: s-maj=16.7km s-min=12.4km az=49.0*
GUC ***25*** *11:21:03.8±0.6,21.˝67S×68.˝45W,h120km±5km, ML4.5*
ISC 25 11:21:02.8±0.4,**21.˝62S**±0.˝03×**68.˝45W**±0.˝04,**h124**km±4km, **n202,σ1°49/238, mb4.5**/44,**5C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.76	257		Pn	11 21 23.4	+0.1
LVC	Limon Verde	1.07	203	P	Pn	11 21 26.9	+0.6
	191nm,0.3s,baz=17,slow=7.4,SNR=1665						
LVC				S	Sn	11 21 43.5	-0.6
	962nm,0.3s,baz=70,slow=3.6,SNR=24						
LVC	Limon Verde	1.07	203	*e*P	Pn	11 21 26.5	+0.2
LVC				*e*S	Sn	11 21 43.6	-0.6
LVC	Limon Verde	1.07	203		Pn	11 21 26.6	+0.2
LVC				Sn	Sn	11 21 44.0	-0.1
LVC	Limon Verde	1.07	203	*e*P	Pn	11 21 26.8	+0.5
LVC	Limon Verde	1.07	203	*e*P	Pn	11 21 26.5	+0.2
LVC				*e*S	Sn	11 21 44.5	+0.4
PB01	IPOC Station P	1.13	301	⇑*i*P	Pn	11 21 26.9	+0.3
PB01				*i* S	Sn	11 21 44.6	+0.1
PB01				IAML		11 21 46.2	
	comp=E,12μm,0.3s						
PB01	IPOC Station P	1.13	301		Pn	11 21 26.9	+0.3
PB01				Sn	Sn	11 21 44.7	+0.1
PB01	IPOC Station P	1.13	301	*e*P	Pn	11 21 26.9	+0.3
PB01				*e*S	Sn	11 21 45.5	+0.9
PB01				IAML		11 21 46.9	
	comp=Z,5μm,0.2s						
PB07	IPOC Station P	1.34	265	⇑*i*P	Pn	11 21 29.0	+0.1
PB07				*e*S	Sn	11 21 48.4	-0.3
PB07				IAML		11 21 49.9	
	comp=N,13μm,0.1s						
PB07	IPOC Station P	1.34	265		Pn	11 21 28.4	-0.5
PB07	IPOC Station P	1.34	265	*e*P	Pn	11 21 28.8	-0.1
PB07				*e*S	Sn	11 21 48.8	0.0
PB07				IAML		11 21 50.9	
	comp=Z,8μm,0.3s						
PB06	IPOC Station P	1.50	224	⇑*i*P	Pn	11 21 30.9	+0.2
PB06				*e*S	Sn	11 21 51.5	-0.4
PB06				IAML		11 21 52.7	
	comp=N,7μm,0.4s						
PB06	IPOC Station P	1.50	224		Pn	11 21 30.6	-0.1
PB06				Sn	Sn	11 21 51.5	-0.4
PB06	IPOC Station P	1.50	224	*e*P	Pn	11 21 30.8	+0.1
PB06				*e*S	Sn	11 21 51.6	-0.4
PB06				IAML		11 21 52.9	
	comp=Z,3μm,0.2s						
PB08	IPOC Station P	1.61	336	⇓*i*P	Pn	11 21 33.6	+1.4
PB08				*e*S	Sn	11 21 56.0	+1.3
PB08				IAML		11 21 58.7	
	comp=N,4μm,0.2s						
PB08	IPOC Station P	1.61	336		Pn	11 21 33.2	+0.9
PB08				Sn	Sn	11 21 55.9	+1.3
PB08	IPOC Station P	1.61	336	*e*P	Pn	11 21 33.4	+1.1
PB08				*e*S	Sn	11 21 56.6	+2.0
PB08				IAML		11 22 00.6	
	comp=Z,2μm,0.5s						
PB04	IPOC Station P	1.73	246	⇑*i*P	Pn	11 21 33.2	-0.2
PB04				IAML		11 22 02.6	
	comp=N,5μm,0.3s						
PB04	IPOC Station P	1.73	246		Pn	11 21 33.0	-0.4
PB04	IPOC Station P	1.73	246	*e*P	Pn	11 21 33.2	-0.2
PB04				*e*S	Sn	11 21 56.0	-0.7
PB04				IAML		11 21 58.0	
	comp=Z,5μm,0.2s						
PB15	IPOC Station P	1.84	211	*e*P	Pn	11 21 34.8	+0.1
PB15	IPOC Station P	1.84	211		Pn	11 21 34.9	+0.1
PB15				Sn	Sn	11 21 58.9	-0.2
PB15	IPOC Station P	1.84	211	*e*P	Pn	11 21 35.1	+0.3
PB15				*e*S	Sn	11 21 59.7	+0.6
TA01	Diego Aracena	1.93	303	*e*P	Pn	11 21 35.5	-0.1
TA01				IAML		11 22 02.3	
	comp=N,7μm,0.4s						
TA01	Diego Aracena	1.93	303	Pn	Pn	11 21 35.5	-0.1
TA01				Sn	Sn	11 21 59.6	-1.1
PB05	IPOC Station P	2.04	233	⇑*i*P	Pn	11 21 36.6	-0.4
PB05				IAML		11 22 08.9	
	comp=E,3μm,0.4s						
PB05	IPOC Station P	2.04	233	*e*P	Pn	11 21 36.6	-0.4
PB05				*e*S	Sn	11 22 02.1	-1.1
PB05				IAML		11 22 03.5	
	comp=Z,2μm,0.3s						
PSGC	Pisagua	2.55	322	⇓*e*P	Pn	11 21 42.8	-0.8
PSGC				IAML		11 22 20.3	
	comp=E,2μm,0.4s						
PSGCX	Pisagua	2.55	322	Pn	Pn	11 21 42.7	-0.9
PSGCX	Pisagua	2.55	322	*e*P	Pn	11 21 42.7	-0.9
PSGCX				*e*P		11 21 42.8	
MNMC	Minye Minye	2.70	336	*e*P	Pn	11 21 46.3	+0.6
MNMC	Minye Minye	2.70	336	Pn	Pn	11 21 46.1	+0.4
MNMCX	Minye Minye	2.70	336	*e*P	Pn	11 21 46.0	+0.3
PB10	IPOC Station P	2.71	226	*e*P	Pn	11 21 44.6	-0.8
PB10				IAML		11 22 27.3	
	comp=N,1μm,0.3s						
PB10	IPOC Station P	2.71	226	Pn	Pn	11 21 44.2	-1.3
PB10	IPOC Station P	2.71	226	*e*P	Pn	11 21 44.8	-0.7
PB10				*e*S	Sn	11 22 16.0	-2.3
PB10				IAML		11 22 30.7	
	comp=Z,848nm,0.4s						
YJA	Yavi	2.78	102	*e*P	Pn	11 21 49.2	+2.5
YJA				*e*S	Sn	11 22 24.4	+3.9
PB14	IPOC Station P	3.49	211	*e*P	Pn	11 21 55.4	-0.6
PB14	IPOC Station P	3.49	211	Pn	Pn	11 21 55.8	-0.2
PB14	IPOC Station P	3.49	211	*e*P	Pn	11 21 55.3	-0.7
PB14				*e*P		11 21 59.7	
PB14				*e*S	Sn	11 22 33.7	-3.3
PB14				IAML		11 22 50.4	
	comp=Z,711nm,0.8s						
GO02	Mina Guanaco	3.68	196	*e*P	Pn	11 21 57.6	-0.8
GO02	Mina Guanaco	3.68	196	Pn	Pn	11 21 57.5	-1.0
AP01	Chacalluta	3.69	331	Pn	Pn	11 21 56.4	-2.0
SLA	San Lorenzo	4.10	139	*e*P	Pn	11 22 06.0	+2.1
SLA				*e*S	Sn	11 22 54.8	+3.3
AC01	Pan de Azucar	4.92	203	*e*P	Pn	11 22 12.2	-2.5
AC01	Pan de Azucar	4.92	203	Pn	Pn	11 22 12.8	-1.9
LPAZ	La Paz	5.32	3	P	Pn	11 22 22.4	+1.7
	comp=Z,8.2nm,0.3s,baz=186,slow=7.1,SNR=95						
LPAZ				S	Sn	11 23 18.4	-2.8
	comp=Z,2.2nm,0.3s,baz=205,slow=13,SNR=4.9						
LPAZ				LR	LR	11 24 24.2	
	comp=Z,63nm,21.4s,baz=122,slow=38						
LPAZ	La Paz	5.32	3		Pn	11 22 21.9	+1.2
AHML	Horco Molle	5.87	152	*e*P	Pn	11 22 28.3	+0.7
GO03	Copiap	6.16	195		Pn	11 22 28.3	-3.2
GO03	Copiap	6.16	195	*e*P	Pn	11 22 28.8	-2.7
GO03				*e*S	Sn	11 23 36.3	-4.5
AC04	Llanos de Chal	6.97	199		Pn	11 22 41.1	-1.3
LCO	Las Campanas	7.63	195		Pn	11 22 47.8	-3.8
GO04	Tololo Observa	8.77	193		Pn	11 23 03.8	-3.1
SIV	San Ignacio	8.95	53	P	Pn	11 23 06.4	-2.8
	comp=Z,5.4nm,0.3s,baz=251,slow=12,SNR=115						
SIV				S	Sn	11 24 40.2	-8.2
	comp=Z,1.5nm,0.3s,baz=313,slow=23,SNR=6.8						
CO03	El Pedregal	9.40	192		Pn	11 23 15.8	+0.7
PTLB	Pontes e Lacer	10.75	57	*e*P	Pn	11 23 30.5	-2.9
CPUP	Villa Florida	11.19	117	P	Pn	11 23 36.4	-2.8
	comp=Z,0.2nm,0.3s,baz=291,slow=13,SNR=4.5						
CPUP				S	Sn	11 25 30.5	-12
	comp=Z,0.3nm,0.3s,baz=317,slow=14,SNR=2.2						
VA03	San Esteban	11.25	189	Pn	Pn	11 23 38.5	-1.6
VILB	Vilhena	11.67	44	*e*P	Pn	11 23 44.5	-1.2
ETMB	Extrema	11.93	11	*e*P	Pn	11 23 46.8	-2.2
AQDB	Aquidauana	11.96	87	*e*P	Pn	11 23 46.8	-2.5
NNA	Nana	12.50	319	P	Pn	11 23 57.9	+1.4
	comp=Z,0.7nm,0.3s,baz=220,slow=16,SNR=1.6						
NNA				S	Sn	11 26 10.6	-3.8
	comp=Z,1.3nm,0.3s,baz=198,slow=15,SNR=1.6						
BO02	Sierra Bellavi	13.28	188	Pn	Pn	11 24 06.8	+0.2
PP1B	Ponte de Pedra	13.39	75	*e*P	Pn	11 24 07.8	-0.3
BI02	San Fabin de	15.19	189		Pn	11 24 30.0	-0.8
BI02				IAmb	IAmb	11 24 31.6	
	comp=Z,12nm,0.8s						
PTGB	Pitanga	15.38	105	*e*P	P	11 24 33.4	-1.8
ITAB	Concordia	15.87	114	*e*P	P	11 24 39.0	-1.5
PCMB	Pacaembu	15.98	93	*e*P	P	11 24 40.4	-1.4
CPSB	Cacapava Do Su	16.07	126	*e*P	Pn	11 24 40.3	-1.3
CLDB	Colider	16.17	51	*e*P	Pn	11 24 42.6	-0.4
PLTB	Pedras Altas	16.65	130	*e*P	Pn	11 24 46.8	-2.1
ARAG	Araguaiana, MT	16.82	72	*e*P	P	11 24 50.9	-0.2
ITRB	Iturama	17.04	87	*e*P	Pn	11 24 53.2	-0.5
ATAH	Atahualpa	17.31	325	P	Pn	11 24 58.5	+1.1
	comp=Z,0.2nm,0.3s,baz=185,slow=8.6,SNR=3.9						
FRTB	Fartura	17.54	99	*e*P	P	11 24 57.9	-1.0
TIJ01	Guaruva-PR	18.21	105	*e*P	P	11 25 06.2	-0.2
BB19B	Bebedouro	18.57	92	*e*P	P	11 25 09.8	-0.4
TER01	Tubaro-SC	18.79	115	*e*P	P	11 25 11.5	-1.1
SNDB	Serra Nova Dou	19.00	62	*e*P	P	11 25 14.1	-0.9
PLCA	Paso Flores	19.14	185	P	Pn	11 25 17.4	-1.1
	comp=Z,0.2nm,0.3s,baz=359,slow=11,SNR=6.7						
PLCA	Paso Flores	19.14	185		P	11 25 16.9	+0.6
NPGB	Novo Progresso	19.23	43	*e*P	P	11 25 16.0	-1.5
IPMB	Ipameri, GO	19.38	83	*e*P	P	11 25 18.2	-1.0
SPB	Sao Paulo	19.50	100	P	P	11 25 20.7	+0.4
SPB				IAmb	IAmb	11 25 22.1	
	comp=Z,19nm,0.9s						
SPB	Sao Paulo	19.50	100	*e*P	P	11 25 20.2	-0.1
PET01	Itanhaem-SP	19.68	102	*e*P	P	11 25 21.8	-0.4
VAO	Valinhos	19.92	98	*e*P	P	11 25 23.9	-1.1
BDFB	Brasilia	20.25	76	P	P	11 25 27.1	-1.5
	comp=Z,5.7nm,0.4s,baz=266,slow=10,SNR=9.1						
BDFB	Brasilia	20.25	76	P	P	11 25 27.6	-1.0
BDFB				IAmb	IAmb	11 25 30.5	
	comp=Z,23nm,1.3s						
ITTB	Itaituba	21.13	38	*e*P	P	11 25 36.6	-1.3
PARB	Paraibuna	21.16	99	*e*P	P	11 25 36.9	-1.4
PEXB	Peixe	21.45	67	*e*P	P	11 25 39.8	-1.6
BSCB	Bom Sucesso	22.06	93	*e*P	P	11 25 47.1	-0.8
PTGA	Pitinga	22.35	23	P	P	11 25 48.2	-2.5
	comp=Z,1.5nm,0.3s,baz=298,slow=23,SNR=5.1						
PTGA				S	S	11 29 42.5	-5.2
	comp=Z,1.3nm,0.3s,baz=304,slow=23,SNR=1.8						
PTGA	Pitinga	22.35	23	P	P	11 25 50.5	-0.2
DIAM	Diamantina, MG	23.51	86	*e*P	P	11 26 00.4	-1.5
PRPB	Parauapebas	23.68	52	*e*P	P	11 26 01.9	-1.4
SMTB	Santa Maria do	23.75	61	*e*P	P	11 26 03.4	-0.5
JANB	Januaria	23.80	78	*e*P	P	11 26 02.6	-1.9
MALB	Monte Alegre	24.02	37	*e*P	P	11 26 05.8	-0.6
SDBA	SAO DESIDERIO	24.28	72	*e*P	P	11 26 07.0	-1.8
RIB01	Linhares ES	26.37	90	*e*P	P	11 26 26.9	-0.8
MCPB	Macapa, AP	26.50	39	*e*P	P	11 26 29.1	+0.2
NAN01	Guarapari, ES	26.91	87	*e*P	P	11 26 31.8	-0.6
NBIT	Itapeh - BA	28.31	81	*e*P	P	11 26 44.4	-0.6
GDU01	Guandu, BA	28.57	79	*e*P	P	11 26 45.0	-2.4
NBLA	Lagarto - SE	31.20	75	*e*P	P	11 27 08.1	-2.5
NBAN	Anadia - AL	33.10	74	*e*P	P	11 27 26.9	-0.3
RCBR	Riachuelo	35.18	68	P	P	11 27 44.2	-1.0
	comp=Z,14nm,0.7s,baz=230,slow=11,SNR=8.4						
RCBR	Riachuelo	35.18	68	P	P	11 27 44.8	-0.4
V55A	Taylorsville	58.43	348	P	P	11 30 46.8	+1.4
X48A	Hartselle	58.50	342	P	P	11 30 46.5	+0.5
BELA	Belgrano 2	58.57	172	P	P	11 30 47.0	+1.1
BELA				IAmb	IAmb	11 30 47.7	
	comp=Z,5.0nm,1.2s						
V53A	Saluda	58.58	346	P	P	11 30 47.6	+1.0
W50A	Signal Mountai	58.73	344	P	P	11 30 48.4	+0.8
W50A				IAmb	IAmb	11 30 48.7	
	comp=Z,6.5nm,0.7s						
TKL	Tuckaleechee C	58.79	345	P	P	11 30 48.8	+0.8
TKL				IAmb	IAmb	11 30 49.4	
	comp=Z,7.9nm,0.9s						
SWET	Sewanee	58.91	343	P	P	11 30 49.2	+0.3
SWET				IAmb	IAmb	11 30 49.7	
	comp=Z,7.0nm,0.8s						
V48A	Smith Brothers	59.65	343	P	P	11 30 54.1	+0.3
VNA3	Neumayer Olymp	59.82	161	P	P	11 30 55.6	+0.9
JCT	Junction City	59.93	329	P	P	11 30 56.8	+0.8
U49A	Red Boiling Sp	60.10	344	P	P	11 30 57.2	+0.3
U49A				IAmb	IAmb	11 30 57.4	
	comp=Z,12nm,1.4s						
WVT	Waverly	60.30	342	P	P	11 30 58.1	-0.1
S54A	Dingess, Beckl	60.33	348	P	P	11 30 59.4	+0.8
T50A	Nancy	60.34	345	P	P	11 30 58.7	+0.1
T50A				IAmb	IAmb	11 30 58.9	
	comp=Z,4.7nm,0.7s						
VNA2	Neumayer--Watz	60.39	161	P	P	11 30 59.5	+0.9
	baz=286,slow=8.1						
TXAR	Lajitas Array	60.98	325	P	P	11 31 04.0	+0.8
	comp=Z,0.7nm,0.7s,baz=149,slow=8.8,SNR=10						
TXAR				pP	pP	11 31 35.3	+0.8
	comp=Z,0.6nm,0.7s,baz=140,slow=8.7,SNR=6.9						
TXAR	Lajitas Array	60.98	325	P	P	11 31 04.3	+1.1
TX31	Lajitas Ar. Si	60.98	325	P	P	11 31 04.1	+0.9
TX31				IAmb	IAmb	11 31 15.4	
	comp=Z,4.0nm,1.2s						
TX32	Lajitas Array	60.98	325	P	P	11 31 04.5	+1.3
FCAR	Ozark Folk Cen	61.44	338	P	P	11 31 06.4	+0.4
FCAR				IAmb	IAmb	11 31 06.7	
	comp=Z,5.9nm,1.2s						
PBMO	Poplar Bluff	61.68	340	P	P	11 31 08.2	+0.6
SNAA	Sanae	62.02	161	P	P	11 31 10.4	+0.7
SNAA	Sanae	62.02	161	P	P	11 31 10.3	+0.7
SNAA				IAmb	IAmb	11 31 11.3	
	comp=Z,7.1nm,0.9s						
U40A	Yellville	62.11	338	P	P	11 31 11.2	+0.6
U40A				IAmb	IAmb	11 31 11.4	
	comp=Z,2.4nm,0.6s						
S44A	Carbondale	62.17	341	P	P	11 31 10.9	0.0
MGMO	Mountain Grove	62.63	339	P	P	11 31 14.5	+0.5
MGMO				IAmb	IAmb	11 31 18.3	
	comp=Z,5.0nm,1.1s						
P49A	Miami Univ. Ec	62.71	346	P	P	11 31 14.2	-0.2
FVM	French Village	62.79	341	P	P	11 31 15.5	+0.5
CCM	Cathedral Cave	63.11	340	P	P	11 31 17.6	+0.4
CCM				IAmb	IAmb	11 31 18.0	
	comp=Z,4.9nm,0.8s						
R40A	Maddies Statio	63.66	339	P	P	11 31 21.1	+0.4
R40A				IAmb	IAmb	11 31 21.4	
	comp=Z,4.8nm,0.6s						
N49A	Columbus Grove	63.92	347	P	P	11 31 22.7	+0.4
N49A				IAmb	IAmb	11 31 23.0	
	comp=Z,5.7nm,0.7s						
MSTX	Muleshoe	64.22	329	P	P	11 31 24.7	0.0
MSTX				IAmb	IAmb	11 31 26.6	
	comp=Z,8.2nm,1.0s						
P38A	Dawn	65.28	339	P	P	11 31 31.9	+0.6
P38A				IAmb	IAmb	11 31 32.1	
	comp=Z,3.1nm,0.6s						
BNM	Barren Site	66.31	326	P	P	11 31 40.1	+1.9
K43A	Burlington	66.58	344	P	P	11 31 39.4	-0.1
I42A	Draeger Farm,	67.84	344	P	P	11 31 47.7	+0.2
LIC	Lamto	68.01	74	*e*P	P	11 31 48.5	-0.7
	comp=Z,80nm,1.4s						
214A	Organ Pipe Nat	68.13	320	P	P	11 31 49.3	-0.3
TIC	Toumodi	68.20	73	*e*P	P	11 31 49.6	-0.8
KIC	Kosan Boka	68.32	74	*e*P	P	11 31 50.8	-0.3
	comp=Z,57nm,0.9s						
L34A	Svendsen Farm,	68.34	338	P	P	11 31 50.8	+0.2
L34A				IAmb	IAmb	11 31 51.6	
	comp=Z,7.1nm,0.6s						
DBIC	Dimbokro	68.36	73	P	P	11 31 51.1	-0.2
	comp=Z,14nm,0.8s,baz=217,slow=7.8,SNR=13						
DBIC	Dimbokro	68.36	73	P	P	11 31 51.3	-0.1
BGNE	Belgrade	68.50	336	P	P	11 31 52.3	+0.7
QSPA	South Pole Qui	68.57	180	P	P	11 31 52.6	+0.6
MVCO	Mesa Verde	69.63	327	P	P	11 32 01.9	+2.9
MVCO				IAmb	IAmb	11 32 07.4	
	comp=Z,2.8nm,0.6s						
VLDQ	Val d'Or	69.88	354	P	P	11 32 01.0	+1.1
VLDQ				IAmb	IAmb	11 32 01.1	
	comp=Z,2.7nm,0.6s						
PV01	Paradox Valley	70.38	327	P	P	11 32 06.1	+2.5
SMCO	Snowmass	70.41	329	P	P

*DDA **25** 11:35:04.1, 39°.98N×24°.02E, h6^{km}×2^{km}, ML3.4*
*ISK **25** 11:35:06.7, 39°.99N×24°.22E, h14^{km}, ML3.5/29*
*THE **25** 11:35:07.2, 40°.02N×24°.28E, h7^{km}±1^{km}, ML3.3/10, Error ellipse: s-maj=1.0km s-min=0.5km az=317.0*
*SOF **25** 11:35:07.7, 40°.16N×24°.35E, h13^{km}, MD3.5*
*ATH **25** 11:35:07.3, 40°.03N×24°.28E, h16^{km}±2^{km}, ML3.4/5, Error ellipse: s-maj=2.1km s-min=0.9km az=329.0*
*BEO **25** 11:35:08.6±0.8, 40°.05N×24°.19E, h6^{km}±4^{km}, ML3.1/5*

ISC 25 11:35:07.4±1.0, **40°.02N**±0°.02×**24°.27E**±0°.02, **h11**^{km}±8^{km}, **n121**, σ0§82/152, **2C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.38**	**325**	P	**Pg**	**11 35 15.2**	**+0.3**
OUR				S	**Sg**	**11 35 20.2**	**+0.2**
OUR				AML	AML	11 35 20.5	
	comp=E,13254μm,0.3s						
OUR				AML	AML	11 35 22.8	
	comp=N,15380μm,0.2s						
OUR	**Ouranopolis**	**0.38**	**325**	P	**Pg**	**11 35 15.2**	**+0.3**
OUR				S	**Sg**	**11 35 20.2**	**+0.2**
	comp=N,7μm,0.3s						
OUR	**Ouranopolis**	**0.38**	**325**	PG	**Pg**	**11 35 15.0**	**+0.1**
OUR				SG	**Sg**	**11 35 20.9**	**+0.9**
PAIG	**Paliouri**	**0.46**	**258**	P	**Pg**	**11 35 16.4**	**-0.1**
PAIG				S	**Sg**	**11 35 23.4**	**+0.7**
PAIG				AML	AML	11 35 24.4	
	comp=E,6096μm,0.3s						
PAIG				AML	AML	11 35 24.6	
	comp=N,6342μm,0.2s						
PAIG	**Paliouri**	**0.46**	**258**	P	**Pg**	**11 35 16.4**	**-0.1**
PAIG				S	**Sg**	**11 35 23.4**	**+0.7**
	comp=N,3μm,0.2s						
THAS	**Thassos island**	**0.68**	**30**	P	**Pg**	**11 35 19.9**	**-0.5**
THAS				S	**Sg**	**11 35 29.7**	**+0.3**
THAS				AML	AML	11 35 31.7	
	comp=E,7548μm,0.2s						
THAS				AML	AML	11 35 32.4	
	comp=N,5893μm,0.3s						
THAS	**Thassos island**	**0.68**	**30**	P	**Pg**	**11 35 19.9**	**-0.5**
THAS				S	**Sg**	**11 35 29.6**	**+0.3**
	comp=N,3μm,0.2s						
LIA	**Limnos Island**	**0.71**	**100**	P	**Pg**	**11 35 20.9**	**-0.3**
LIA				S	**Sg**	**11 35 30.4**	**-0.1**
LIA				AML	AML	11 35 33.2	
	comp=E,20884μm,0.4s						
LIA				AML	AML	11 35 33.5	
	comp=N,25261μm,0.4s						
LIA	**Limnos Island**	**0.71**	**100**	P	**Pg**	**11 35 20.9**	**-0.3**
LIA				S	**Sg**	**11 35 30.4**	**-0.1**
	comp=N,12μm,0.4s						
PLG	**Polygyros**	**0.72**	**299**	P	**Pg**	**11 35 21.1**	**-0.3**
PLG				S	**Sg**	**11 35 30.8**	**0.0**
PLG				AML	AML	11 35 34.5	
	comp=E,5548μm,0.4s						
PLG				AML	AML	11 35 34.9	
	comp=N,5003μm,0.4s						
PLG	**Polygyros**	**0.72**	**299**	P	**Pg**	**11 35 21.1**	**-0.3**
PLG				S	**Sg**	**11 35 30.8**	**0.0**
	comp=N,3μm,0.4s						
KAVA	**Kavala**	**0.99**	**11**	P	**Pg**	**11 35 26.0**	**-0.4**
KAVA	**Kavala**	**0.99**	**11**	P	**Pg**	**11 35 26.0**	**-0.4**
KAVA				S	**Sn**	**11 35 40.7**	**-0.5**
	comp=N,2μm,0.2s						
SOH	**Sokhos**	**1.06**	**319**	P	**Pb**	**11 35 27.4**	**-0.4**
SOH	**Sokhos**	**1.06**	**319**	P	**Pb**	**11 35 27.4**	**-0.4**
XOR	**Xorichti**	**1.06**	**232**	P	**Pb**	**11 35 27.1**	**-0.7**
XOR	**Xorichti**	**1.06**	**232**	P	**Pb**	**11 35 27.1**	**-0.7**
SMTH	**Samothraki Isl**	**1.06**	**65**	P	**Pb**	**11 35 26.5**	**-1.3**
SMTH	**Samothraki Isl**	**1.06**	**65**	P	**Pb**	**11 35 26.5**	**-1.3**
HORT	**Hortiatis**	**1.06**	**303**	P	**Pb**	**11 35 27.0**	**-0.8**
HORT	**Hortiatis**	**1.06**	**303**	P	**Pb**	**11 35 27.0**	**-0.8**
HORT				S	**Sn**	**11 35 42.6**	**-0.6**
	comp=N,1μm,0.4s						
HORT	**Hortiatis**	**1.06**	**303**	PG	**Pb**	**11 35 26.9**	**-1.0**
HORT				SG	**Sb**	**11 35 42.0**	**+0.2**
NEO	**Neokhori**	**1.08**	**229**	P	**Pb**	**11 35 27.4**	**-0.7**
NEO	**Neokhori**	**1.08**	**229**	P	**Pb**	**11 35 27.4**	**-0.7**
SKY	**Skiros Island**	**1.17**	**169**	P	**Pb**	**11 35 28.7**	**-0.8**
SKY	**Skiros Island**	**1.17**	**169**	P	**Pb**	**11 35 28.7**	**-0.8**
THE	**Thessaloniki**	**1.17**	**302**	P	**Pb**	**11 35 28.9**	**-0.7**
THE	**Thessaloniki**	**1.17**	**302**	P	**Pb**	**11 35 28.9**	**-0.7**
SRS	**Serrai**	**1.21**	**335**	P	**Pn**	**11 35 29.5**	**-0.7**
SRS	**Serrai**	**1.21**	**335**	P	**Pn**	**11 35 29.5**	**-0.7**
SRS	**Serrai**	**1.21**	**335**	*e*Pg	**Pn**	**11 35 29.4**	**-0.9**
SRS				*e*Sg	**Sb**	**11 35 45.6**	**-0.3**
GADA	**Gvkgeada**	**1.26**	**82**	P	**Pn**	**11 35 30.0**	**-0.9**
GADA				S	**Sg**	**11 35 48.1**	**+0.2**
	comp=N,2μm,0.5s						
GADA	**Gvkgeada**	**1.26**	**82**	PN	**Pb**	**11 35 31.0**	**-0.1**
GADA				SN	**Sg**	**11 35 48.7**	**+0.8**
GOKA	**anakkale-Gk**	**1.27**	**82**	*i* P	**Pn**	**11 35 30.3**	**-0.8**
GOKA				*i* S	**Sg**	**11 35 49.3**	**+1.1**
NVR	**Nevrokopi**	**1.36**	**347**	P	**Pn**	**11 35 31.7**	**-0.6**
NVR	**Nevrokopi**	**1.36**	**347**	P	**Pn**	**11 35 31.8**	**-0.6**
LIT	**Litokhoron**	**1.37**	**274**	P	**Pn**	**11 35 31.5**	**-0.9**
LIT	**Litokhoron**	**1.37**	**274**	P	**Pn**	**11 35 31.5**	**-0.9**
LIT				S	**Sg**	**11 35 51.3**	**-0.1**
	comp=N,308nm,0.4s						
BOZC	**Bozcaada**	**1.38**	**97**	PN	**Pn**	**11 35 31.9**	**-0.7**
BOZC	**Bozcaada**	**1.38**	**97**	*i* P	**Pn**	**11 35 31.2**	**-1.4**
BOZC				*i* P	**Pb**	**11 35 33.0**	**-0.3**
BOZC				IAML		11 35 53.0	
	comp=N,681nm,0.8s						
BOZC				IAML		11 35 53.0	
	comp=E,798nm,0.5s						
ECEA	**Canakkale, Ece**	**1.46**	**89**	*i* S	**Sg**	**11 35 54.5**	**+0.1**
SIGR	**SIGRI**	**1.47**	**123**	PN	**Pn**	**11 35 33.7**	**-0.1**
RDO	**Rodhopi**	**1.48**	**40**	P	**Pn**	**11 35 32.9**	**-1.0**
RDO	**Rodhopi**	**1.48**	**40**	P	**Pn**	**11 35 32.9**	**-1.0**
RDO	**Rodhopi**	**1.48**	**40**	PN	**Pn**	**11 35 32.7**	**-1.2**
KOCA	**Canakkale, Ayv**	**1.53**	**109**	*i* P	**Pn**	**11 35 34.2**	**-0.4**
KOCA				*i* S	**Sg**	**11 35 56.1**	**-0.5**
KOCA				IAML		11 36 02.0	
	comp=N,321nm,0.5s						
KOCA				IAML		11 36 03.0	
	comp=E,270nm,0.7s						
KNT	**Kendrikon**	**1.54**	**318**	P	**Pn**	**11 35 34.9**	**0.0**
KNT	**Kendrikon**	**1.54**	**318**	P	**Pn**	**11 35 34.9**	**0.0**
KNT	**Kendrikon**	**1.54**	**318**	PN	**Pn**	**11 35 34.6**	**-0.3**
KNT				SN	**Sn**	**11 35 54.7**	**-0.2**
EZN	**Ezine**	**1.59**	**96**	PN	**Pn**	**11 35 35.7**	**+0.2**
CAVK	**Edirne/Enez-Ca**	**1.59**	**65**	*i* P	**Pn**	**11 35 35.1**	**-0.4**
CAVK				*i* S	**Sg**	**11 35 59.0**	**+0.3**
CAVK				IAML		11 36 03.0	
	comp=E,486nm,0.4s						
CAVK				IAML		11 36 06.0	
	comp=N,337nm,0.5s						
ENEZ	**Enez**	**1.60**	**63**	P	**Pn**	**11 35 34.7**	**-1.0**
ALN	**Alexandroupoli**	**1.61**	**57**	P	**Pn**	**11 35 34.3**	**-1.4**
ALN				S	**Sb**	**11 35 57.4**	**-0.1**
	comp=N,372nm,0.8s						
ALN	**Alexandroupoli**	**1.61**	**57**	PN	**Pn**	**11 35 34.9**	**-0.8**
MMB	**Musomiste**	**1.62**	**345**	*i* P	**Pn**	**11 35 35.1**	**-0.8**
EREA	**Eretria**	**1.62**	**189**	P	**Pn**	**11 35 34.8**	**-1.2**
RZN	**Rozhen**	**1.70**	**11**	*i* P	**Pn**	**11 35 36.8**	**-0.3**
GRG	**Griva**	**1.70**	**304**	P	**Pn**	**11 35 37.4**	**+0.3**
GRG	**Griva**	**1.70**	**304**	P	**Pn**	**11 35 37.4**	**+0.3**
GRG	**Griva**	**1.70**	**304**	PN	**Pn**	**11 35 36.5**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.73**	**77**	PN	**Pn**	**11 35 37.8**	**+0.4**
PRK	**Paraskevi**	**1.73**	**116**	P	**Pn**	**11 35 37.6**	**+0.2**
PRK	**Paraskevi**	**1.73**	**116**	P	**Pn**	**11 35 37.6**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**1.77**	**98**	*i* P	**Pn**	**11 35 37.4**	**-0.6**
BAYC				IAML		11 36 06.0	
	comp=N,214nm,0.5s						
BAYC				IAML		11 36 07.0	
	comp=E,243nm,0.6s						
AGG	**Agios Georgios**	**1.80**	**237**	P	**Pn**	**11 35 38.2**	**-0.3**
AGG	**Agios Georgios**	**1.80**	**237**	PN	**Pn**	**11 35 37.7**	**-0.8**
ERIK	**Erikli-Kesan**	**1.83**	**69**	PN	**Pn**	**11 35 39.2**	**+0.4**
LPK	**Lapseki**	**1.94**	**79**	PN	**Pn**	**11 35 40.8**	**+0.5**
AYVA	**Ayvalik**	**2.00**	**110**	*i* P	**Pn**	**11 35 41.0**	**-0.1**
AYVA				IAML		11 36 14.0	
	comp=E,185nm,0.9s						
AYVA				IAML		11 36 22.0	
	comp=N,206nm,0.7s						
KESN	**Edirne-Kesan**	**2.01**	**66**	*i* P	**Pn**	**11 35 40.7**	**-0.8**
KESN				IAML		11 36 15.0	
	comp=N,244nm,0.4s						
KESN				IAML		11 36 17.0	
	comp=E,246nm,0.3s						
KKB	**Krupnik**	**2.05**	**334**	*i* P	**Pn**	**11 35 41.8**	**0.0**
PLD	**Plovdiv**	**2.10**	**9**	*e*Pn	**Pn**	**11 35 43.2**	**+0.7**
PLD				*e*Sn	**Sb**	**11 36 12.2**	**+0.5**
PLD	**Plovdiv**	**2.10**	**9**	PN	**Pn**	**11 35 42.9**	**+0.4**
PLD	**Plovdiv**	**2.10**	**9**	*i* P	**Pn**	**11 35 42.9**	**+0.4**
CHOS	**Chios island**	**2.14**	**139**	PN	**Pn**	**11 35 43.0**	**-0.2**
BUHA	**Balikesir, Bur**	**2.23**	**103**	*i* P	**Pn**	**11 35 45.6**	**+1.4**
BUHA				IAML		11 36 21.0	
	comp=N,194nm,0.4s						
BUHA				IAML		11 36 22.0	
	comp=E,284nm,0.5s						
DIM	**Dimitrovgrad**	**2.24**	**25**	*i* P	**Pn**	**11 35 44.2**	**-0.2**
DKL	**Dikili**	**2.25**	**114**	*i* PN	**Pn**	**11 35 44.9**	**+0.4**
STIP	**Stip**	**2.30**	**317**	*i* Pn	**Pn**	**11 35 44.6**	**-0.6**
STIP				*e*Sn	**Sb**	**11 36 16.9**	**-0.4**
RKY	**Sarkoy-Tekirda**	**2.32**	**72**	PN	**Pn**	**11 35 46.4**	**+0.9**
FNA	**Florina**	**2.34**	**290**	*e*Pn	**Pn**	**11 35 46.3**	**+0.5**
FNA				*e*Sn	**Sn**	**11 36 14.2**	**-0.3**
FNA	**Florina**	**2.34**	**290**	PN	**Pn**	**11 35 45.3**	**-0.5**
KRBG	**Karabiga-Canak**	**2.35**	**80**	PN	**Pn**	**11 35 46.9**	**+1.0**
MAR6	**Marsite Statio**	**2.39**	**73**	PN	**Pn**	**11 35 47.3**	**+0.9**
ZEDA	**zmir-Bergama**	**2.42**	**115**	*i* P	**Pn**	**11 35 46.6**	**-0.2**
MAR3	**Marsite Statio**	**2.42**	**72**	PN	**Pn**	**11 35 47.9**	**+1.0**
MAR4	**Marsite Statio**	**2.44**	**71**	PN	**Pn**	**11 35 47.6**	**+0.4**
GZKV	**Gazikoy-Tekird**	**2.44**	**72**	PN	**Pn**	**11 35 48.4**	**+1.2**
URLA	**Izmir**	**2.46**	**132**	PN	**Pn**	**11 35 46.7**	**-0.7**
URLA	**Izmir**	**2.46**	**132**	*i* P	**Pn**	**11 35 45.9**	**-1.5**
URLA				*i* S	**Sn**	**11 36 18.3**	**+0.9**
PGB	**Panagyurishte**	**2.52**	**358**	*i* P	**Pg**	**11 35 54.3**	**-1.5**
EDRB	**Edirne**	**2.61**	**45**	PN	**Pn**	**11 35 50.4**	**+0.5**
BLCB	**Balcova**	**2.70**	**126**	PN	**Pn**	**11 35 51.3**	**+0.5**
VTS	**Vitosha**	**2.71**	**344**	⇑P	**Pn**	**11 35 51.5**	**+0.6**
VTS	**Vitosha**	**2.71**	**344**	*i* P	**Pn**	**11 35 51.3**	**+0.3**
STEP	**BALIKESIR_Sava**	**2.74**	**103**	*i* P	**Pn**	**11 35 51.9**	**+0.6**
STEP				IAML		11 36 42.0	
	comp=E,159nm,0.5s						
STEP				IAML		11 36 44.0	
	comp=N,206nm,0.7s						
KIRK	**Kırklareli**	**2.77**	**50**	*i* P	**Pn**	**11 35 52.5**	**+0.8**
EDC	**Edincik**	**2.77**	**82**	PN	**Pn**	**11 35 52.7**	**+1.0**
BOSS	**Bosilegrad**	**2.81**	**332**	*e*Pn	**Pn**	**11 35 53.2**	**+0.9**
BOSS				*e*Sn	**Sn**	**11 36 27.3**	**+1.0**
ARMN	**Kirklareli, Me**	**3.02**	**51**	*i* P	**Pn**	**11 35 54.5**	**-0.6**
IGT	**Igoumenitsa**	**3.07**	**262**	*e*Pn	**Pn**	**11 35 58.4**	**+2.5**
IGT				*e*Sn	**Sn**	**11 36 32.8**	**+0.1**
APE	**Apeiranthos**	**3.11**	**161**	PN	**Pn**	**11 35 55.9**	**-0.6**
KCTX	**Karacabey (Bur**	**3.14**	**84**	PN	**Pn**	**11 35 57.7**	**+0.9**
BARS	**Barje**	**3.34**	**327**	*e*Pn	**Pn**	**11 36 00.2**	**+0.6**
BARS				*e*Sn	**Sn**	**11 36 41.0**	**+1.6**
PLVB	**Pleven**	**3.37**	**4**	⇑P	**Pn**	**11 36 00.1**	**+0.2**
CTYL	**Yalikoy Yolu**	**3.38**	**63**	PN	**Pn**	**11 36 01.8**	**+1.7**
ITM	**Ithomi**	**3.38**	**214**	PN	**Pn**	**11 36 00.8**	**+0.7**
CTKS	**Kestanelik-??a**	**3.44**	**68**	PN	**Pn**	**11 36 02.9**	**+2.0**
ZAPS	**Zavoj**	**3.47**	**340**	*e*Pn	**Pn**	**11 36 02.7**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**3.50**	**125**	PN	**Pn**	**11 36 02.4**	**+0.5**
KULA	**Kula-Manisa**	**3.73**	**112**	PN	**Pn**	**11 36 06.6**	**+1.7**
USAK	**Uak-Merkez**	**3.91**	**108**	*i* P	**Pn**	**11 36 08.1**	**+0.8**
YLV	**Yalova**	**3.94**	**80**	PN	**Pn**	**11 36 09.9**	**+2.1**
SELS	**Selova**	**3.97**	**325**	*e*Pn	**Pn**	**11 36 08.3**	**+0.1**
TVSB	**Tavsanli**	**4.04**	**97**	PN	**Pn**	**11 36 11.3**	**+2.0**
SILT	**Sile**	**4.24**	**73**	PN	**Pn**	**11 36 14.3**	**+2.4**
SJES	**Sjenica**	**4.56**	**317**	*e*Pn	**Pn**	**11 36 17.7**	**+1.2**
GRUS	**Gruza**	**4.68**	**327**	*e*Pn	**Pn**	**11 36 18.7**	**+0.7**
IVAS	**Ivanjica**	**4.70**	**320**	*e*Pn	**Pn**	**11 36 18.8**	**+0.5**
DIVS	**Divibare**	**5.17**	**323**	*e*Pn	**Pn**	**11 36 25.0**	**+0.3**
BBLS	**Lazići**	**5.28**	**318**	*e*Pn	**Pn**	**11 36 27.1**	**+0.8**

*STR **25** 12:11:39.6±0.7, 44°.N×3°.°E, h15^{km}±2^{km}, MLv1.9/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*LDG **25** 12:11:39.6±0.1, 43°.84N×7°.77E, h7^{km}, Md2.6/2, Ml2.5/10, Error ellipse: s-maj=1.7km s-min=1.4km az=23.0*
*ROM **25** 12:11:40.2±0.2, 43°.94N±0°.01×7°.74E±0°.01, h5^{km}±1^{km}, ML1.8/6, Error ellipse: s-maj=1.5km s-min=0.7km az=197.0*
*GEN **25** 12:11:40.5, 43°.89N×7°.76E, h7^{km}±2^{km}, Ml1.5*

ISC 25 12:11:39.3±0.8, **43°.85N**±0°.02×**7°.80E**±0°.02, **h15**^{km}±5^{km}, **n50**, σ0§81/81, **1C-2D, Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMI	**Imperia**	**0.09**	**49**	P	**Pg**	**12 11 42.8**	**+0.3**
IMI				S	**Sg**	**12 11 44.8**	**+0.1**
IMI	**Imperia**	**0.09**	**49**	⇑P	**Pg**	**12 11 42.8**	**+0.3**
IMI				S	**Sg**	**12 11 44.7**	**+0.1**
IMI				AML	AML		
	comp=N,1042μm,1.3s						
IMI				AML	AML		
	comp=E,1060μm,1.1s						
SAOF	**Saorge**	**0.22**	**307**	Pg	**Pg**	**12 11 43.9**	**-0.4**
SAOF				Sg	**Sg**	**12 11 47.0**	**-0.7**
SAOF	**Saorge**	**0.22**	**307**	P	**Pg**	**12 11 43.9**	**-0.4**
SAOF				S	**Sg**	**12 11 46.8**	**-0.9**
SAOF	**Saorge**	**0.22**	**307**	AML	AML		
	comp=N,598μm,0.6s						
SAOF				AML	AML		
	comp=E,726μm,0.4s						
SBF	**Sospel**	**0.26**	**273**	*e*Pg	**Pg**	**12 11 44.9**	**-0.1**
SBF	**Sospel**	**0.26**	**273**	*e*P	**Pb**	**12 11 45.8**	**0.0**
SBF				*e*Sg	**Sg**	**12 11 48.4**	**-0.5**
ESCA	**l'Escarene**	**0.31**	**266**	Pg	**Pg**	**12 11 46.0**	**+0.3**
ESCA				Sg	**Sg**	**12 11 50.6**	**+0.5**
TURF	**col de Turini**	**0.32**	**293**	Pg	**Pg**	**12 11 45.9**	**-0.1**
TURF				Sg	**Sg**	**12 11 50.1**	**-0.4**
RORO	**Rocca Rossa**	**0.32**	**37**	P	**Pb**	**12 11 46.9**	**+0.1**
RORO				S	**Sg**	**12 11 51.3**	**+0.7**
RORO	**Rocca Rossa**	**0.32**	**37**	P	**Pb**	**12 11 46.8**	**0.0**
RORO				S	**Sg**	**12 11 51.4**	**+0.7**
RORO				AML	AML		
	comp=E,162μm,0.4s						
RORO				AML	AML		
	comp=N,288μm,0.1s						
RORO				AML	AML		
	comp=E,162μm,0.4s						
ENR	**Entracque**	**0.46**	**324**	P	**Pg**	**12 11 48.6**	**0.0**
ENR	**Entracque**	**0.46**	**324**	⇓P	**Pg**	**12 11 48.6**	**0.0**
ENR				S	**Sg**	**12 11 54.3**	**-0.6**
ENR				AML	AML		
	comp=E,272μm,0.7s						
ENR				AML	AML		
	comp=N,218μm,0.9s						
STV	**Sant Anna di V**	**0.52**	**319**	P	**Pg**	**12 11 49.5**	**-0.1**
STV				S	**Sg**	**12 11 55.7**	**-0.9**
STV	**Sant Anna di V**	**0.52**	**319**	⇓P	**Pg**	**12 11 49.6**	**-0.1**
STV				S	**Sg**	**12 11 55.8**	**-0.9**
QLNO	**Quiliano**	**0.61**	**40**	P	**Pb**	**12 11 52.3**	**+0.5**
QLNO				AML	AML		
	comp=E,98μm,1.6s						
QLNO				AML	AML		
	comp=N,118μm,0.3s						
QLNO				AML	AML		
	comp=E,98μm,1.6s						
ISO	**Isola**	**0.63**	**302**	Pg	**Pg**	**12 11 51.8**	**0.0**
ISO				Sg	**Sg**	**12 11 59.1**	**-1.0**
CALF	**Calern**	**0.64**	**261**	Pg	**Pg**	**12 11 52.3**	**+0.3**
CALF				Sg	**Sb**	**12 12 01.4**	**+0.3**
PZZ	**Stroppo**	**0.82**	**323**	P	**Pb**	**12 11 55.1**	**-0.2**
PZZ				S	**Sg**	**12 12 05.9**	**-0.1**
PCP	**Piancastagn**	**0.87**	**38**	P	**Pn**	**12 11 57.4**	**+0.2**
PCP				AML	AML		
	comp=N,105μm,0.3s						
PCP				AML	AML		
	comp=E,95μm,1.5s						
FRF	**La Foret Royal**	**0.89**	**251**	*e*Pg	**Pb**	**12 11 56.2**	**-0.2**
FRF	**La Foret Royal**	**0.89**	**251**	*e*Pn	**Pb**	**12 11 56.5**	**+0.1**
FRF	**La Foret Royal**	**0.89**	**251**	*e*P	**Pn**	**12 11 57.4**	**+0.2**
FRF				*e*Sg	**Sb**	**12 12 07.1**	**-0.9**
SURF	**Saint Ours**	**0.95**	**312**	Pg	**Pb**	**12 11 57.6**	**+0.1**
SURF				Sg	**Sb**	**12 12 09.3**	**-0.8**
BHB	**Bricherasio**	**1.06**	**339**	P	**Pb**	**12 11 58.5**	**-0.9**
BHB				S	**Sb**	**12 12 12.1**	**-1.1**
LMR	**La Mourre**	**1.07**	**242**	*e*Pg	**Pb**	**12 11 59.3**	**-0.2**
LMR	**La Mourre**	**1.07**	**242**	*e*P	**Pg**	**12 12 00.8**	**+0.8**
LMR				*e*Sg	**Sb**	**12 12 12.8**	**-0.5**
	comp=E,18nm,0.2s						
OGAG	**Argentiere**	**1.09**	**304**	Pg	**Pg**	**12 12 03.6**	**+3.2**
OGDI	**Digne**	**1.11**	**284**	Pn	**Pg**	**12 12 01.4**	**+0.6**
OGDI				Sn	**Sn**	**12 12 16.3**	**+0.8**
MBDF	**Montbardon**	**1.14**	**320**	*e*Pg	**Pb**	**12 12 00.6**	**-0.3**
MBDF	**Montbardon**	**1.14**	**320**	*e*P	**Pg**	**12 12 02.3**	**+0.9**
MBDF				*e*Sg	**Sb**	**12 12 15.8**	**+0.2**
	comp=E,11nm,0.3s						
ARTF	**Artigues**	**1.47**	**260**	Pg	**Pb**	**12 12 07.0**	**+0.7**
ARTF				Sg	**Sg**	**12 12 26.4**	**-0.2**
MLYF	**Mely**	**1.47**	**276**	Pg	**Pb**	**12 12 06.5**	**0.0**
MLYF				Sg	**Sg**	**12 12 26.5**	**-0.3**
BSTF	**la Bastide-des**	**1.56**	**272**	Pn	**Pn**	**12 12 07.4**	**+0.9**
BSTF				Sn	**Sn**	**12 12 26.5**	**+0.1**
PGF	**Pioggiola**	**1.57**	**146**	*e*Pn	**Pn**	**12 12 06.1**	**-0.7**
PGF	**Pioggiola**	**1.57**	**146**	*e*P	**Pb**	**12 12 08.1**	**0.0**
PGF	**Pioggiola**	**1.57**	**146**	*e*Pg	**Pb**	**12 12 09.0**	**+0.9**
PGF				*e*Sn	**Sn**	**12 12 25.4**	**-1.5**
	comp=E,2.2nm,0.3s						
PGF				*e*Sg	**Sb**	**12 12 29.1**	**+1.2**
PGF	**Pioggiola**	**1.57**	**146**	Pn	**Pn**	**12 12 05.7**	**-1.1**
PGF	**Pioggiola**	**1.57**	**146**	Sn	**Sn**	**12 12 24.8**	**-2.1**
ASEAF	**Site Antares,**	**1.59**	**229**	Pn	**Pn**	**12 12 07.4**	**+0.8**
SMRF	**Simiane la Rot**	**1.61**	**275**	*e*Pg	**Pb**	**12 12 09.5**	**+0.7**
SMRF				*e*Sg	**Sb**	**12 12 29.9**	**+0.9**
	comp=E,24nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.74**	**308**	*e*Pn	**Pn**	**12 12 08.8**	**-0.3**
ORIF	**Oris-en-Rattie**	**1.74**	**308**	*e*Pg	**Pb**	**12 12 11.7**	**+0.7**
ORIF				*e*Sg	**Sg**	**12 12 34.4**	**-0.9**
	comp=E,20nm,0.5s						
ORIF	**Oris-en-Rattie**	**1.74**	**308**	Pn	**Pn**	**12 12 09.3**	**+0.2**
ORIF	**Oris-en-Rattie**	**1.74**	**308**	Sn	**Sn**	**12 12 30.0**	**-1.1**
LPL	**La Plagne**	**1.83**	**336**	*e*Pn	**Pn**	**12 12 10.4**	**0.0**
LPL	**La Plagne**	**1.83**	**336**	*e*P	**Pn**	**12 12 11.6**	**+1.2**
LPL	**La Plagne**	**1.83**	**336**	*e*Pg	**Pb**	**12 12 13.6**	**+1.0**
LPL				*e*Sg	**Sg**	**12 12 38.0**	**-0.2**
	comp=E,8.9nm,0.4s						
VIVF	**Saint-Julien-l**	**2.46**	**295**	*e*Pg	**Pb**	**12 12 24.4**	**+1.2**
VIVF				*e*Sn	**Sn**	**12 12 48.0**	**-0.7**
VIVF				*e*Sg	**Sg**	**12 12 56.8**	**-1.4**
	comp=E,2.8nm,0.4s						
LASF	**Ste Croix**	**2.85**	**276**	*e*P	**Pn**	**12 12 25.7**	**+1.4**
LASF				*e*Sn	**Sn**	**12 12 56.9**	**-1.6**
	comp=E,1.8nm,0.2s						

*NEIC **25** 12:18:23.7±0.9, 4°.25N±0°.09×127°.12E±0°.08, h41^{km}±11^{km}, mb4.2/18, Error ellipse: s-maj=16.9km s-min=3.6km az=219.0*
*DJA **25** 12:18:25.8±0.5, 4°N±4°×12°7E±°, h42^{km}±7^{km}, M4.2/13, mb4.5/7, mB4.6/5, MLv4.3/13, Mw(mB)3.8/5*
*IDC **25** 12:18:26.1±3.7, 3°.89N×126°.35E, h51^{km}±36^{km}, mb3.8/13, mb1 4.0/15, mb1mx3.8/37, mbtmp4.1/15, ML4.2/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/36, Error ellipse: s-maj=32.8km s-min=13.3km az=72.0*

ISC 25 12:18:26.0±0.5, **3°.90N**±0°.04×**126°.55E**±0°.05, **h45**^{km}, **n58**, σ1§64/58, **mb4.1**/19, **1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.04**	**258**	P	**Pn**	**12 18 44.5**	**+0.3**
SGSI				S	**Sn**	**12 18 58.4**	**+0.9**
DDMP	**Don Marcelino,**	**2.34**	**339**	*e*P	Pn	12 18 56.5	-5.6
MATI	**Mati**	**3.04**	**355**	*e*P	Pn	12 19 19.9	+8.2
MATI				*e*S	**Sn**	**12 19 49.2**	**+2.4**
TNTI	**Ternate**	**3.21**	**165**	Pn	**Pn**	**12 19 15.3**	**+1.3**
TNTI	**Ternate**	**3.21**	**165**	P	**Pn**	**12 19 15.4**	**+1.3**
TNTI				S	**Sn**	**12 19 52.2**	**+1.1**
SKMP	**Bagumbayan, Su**	**3.28**	**323**	*e*P	**Pn**	**12 19 15.3**	**+0.3**
SKMP				*e*S	**Sn**	**12 19 52.5**	**-0.2**
KCP	**Kidapawan**	**3.41**	**335**⇑	*e*P	**Pn**	**12 19 21.5**	**+4.6**
KCP				*i* S	**Sn**	**12 20 00.1**	**+4.0**
KMSI	**Cibinong**

YKA	Yellowknife Ar	99.42	24	P	Pdif	12 32 04.3	+0.6	
	comp=Z,0.1nm,0.5s,baz=297,slow=3.4,SNR=2.3							

*IDC **25** 12:48:16.9±5.2,5°.37S×146°.82E±0°.3,h202km±55km,mb3.3/3, mb1 3.5/5,mb1mx3.1/32,mbtmp3.8/5, Error ellipse: s-maj=75.3km s-min=26.5km az=136.0*

ISC 25 12:48:16.3±1.5,5°.3S±0°.1×146°.8E±0°.3,h195km,n6, σ1§43/6,mb3.6/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.12**	**174**	P	**Pn**	**12 49 21.0**	**+1.6**
	1.9nm,0.3s,baz=36,slow=7.1,SNR=9.3						
PMG				S	**Sn**	**12 50 07.3**	**-1.8**
	1.4nm,0.3s,baz=215,slow=18,SNR=1.9						
WRA	**Warramunga Arr**	**18.93**	**219**	P	**P**	**12 52 22.7**	**+0.1**
	0.5nm,0.3s,baz=44,slow=9.7,SNR=30						
ASAR	**Alice Springs**	**22.08**	**213**	P	**P**	**12 52 55.9**	**+0.1**
	1.4nm,0.6s,baz=45,slow=7.9,SNR=23						
FITZ	**Fitzroy Crossi**	**24.24**	**237**	P	**P**	**12 53 15.2**	**-0.3**
	1.1nm,0.3s,baz=72,slow=16,SNR=26						
MKAR	**Makanchi Array**	**76.79**	**320**	P	P	12 59 52.5	+6.1
	0.9nm,1.0s,baz=104,slow=3.6,SNR=2.9						
ILAR	**Eielson Array**	**84.92**	**23**	P	**P**	**13 00 28.6**	**-0.5**
	0.4nm,0.8s,baz=239,slow=10,SNR=4.4						

*MAN **25** 12:49:53.8,19°.31N×120°.52E,h11km,MS4.1*

*IDC **25** 12:49:55.9±0.8,18°.86N×120°.85E,h0km,mb3.7/10, mb1 3.9/12,mb1mx3.7/44,mbtmp3.7/12,ML3.6/2,MS3.4/16, Ms1 3.5/16,ms1mx3.3/39, Error ellipse: s-maj=28.0km s-min=16.2km az=79.0*

ISC 25 12:49:58.5±0.6,19°.10N±0°.04×120°.70E±0°.07,h10km,n33, σ2§09/29,mb3.6/10,MS3.3/14,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.33**	**157**	*eP*	**Pn**	**12 50 20.6**	**-2.6**
APYP				*eS*	**Sg**	**12 50 43.3**	**+1.8**
ABRA	**Dolores**	**1.44**	**180**	*eP*	**Pn**	**12 50 22.1**	**-2.5**
ABRA				*eS*	**Sb**	**12 50 44.4**	**+0.5**
SGCP	**Mt. Cagua**	**1.54**	**124**	*eP*	**Pn**	**12 50 24.6**	**-1.3**
SGCP				*eS*	**Sg**	**12 50 48.9**	**+1.0**
CVP	**Callao Caves**	**1.75**	**142**	*iP*	**Pn**	**12 50 28.7**	**-0.2**
CVP				*i S*	**Sg**	**12 50 56.3**	**+1.5**
CAUP	**Cauayan**	**2.40**	**153**	*eP*	**Pn**	**12 50 37.7**	**-0.1**
CAUP				*eS*	**Sg**	**12 51 20.1**	**+4.6**
BOLP	**Bolinao**	**2.81**	**196**	*eP*	**Pn**	**12 50 42.9**	**-0.6**
BOLP				*eS*	**Sb**	**12 51 25.6**	**+2.5**
SMPP	**San Manuel, Pa**	**2.93**	**180**	*eP*	**Pn**	**12 50 43.4**	**-1.8**
SMPP				*eS*	**Sn**	**12 51 20.2**	**-0.3**
TGY	**Tagaytay City**	**4.97**	**177**	Pn	**Pn**	**12 51 16.8**	**+3.5**
	63nm,0.3s,baz=198,slow=16,SNR=1.7						
JOW	**Kunigami**	**10.38**	**41**	Pn	**Pn**	**12 52 30.4**	**+2.9**
	0.7nm,0.3s,baz=202,slow=16,SNR=1.9						
JNU	**Nakatsue**	**16.67**	**31**	Pn	**P**	**12 53 53.1**	**-1.6**
	0.2nm,0.3s,baz=165,slow=20,SNR=2.2						
JNU				LR	LR	12 59 43.9	
	comp=Z,139nm,18.4s,baz=257,slow=35						
KSRS	**Korea Array**	**19.35**	**18**	P	**Pn**	**12 54 25.4**	**+0.2**
	0.2nm,0.3s,baz=199,slow=11,SNR=6.9						
KSRS				LR	LR	13 02 22.5	
	comp=Z,41nm,20.9s,baz=205,slow=38						
CMAR	**Chiang Mai Arr**	**20.61**	**272**	P	**P**	**12 54 39.1**	**+1.1**
	1.7nm,0.4s,baz=84,slow=8.7,SNR=20						
CMAR				LR	LR	13 03 01.2	
	comp=Z,87nm,18.2s,baz=129,slow=38						
JCJ	**Chichijima**	**21.29**	**64**	LR	LR	13 02 16.7	
	comp=Z,91nm,19.7s,baz=31,slow=35						
JHJ	**Hachijo jima 2**	**22.05**	**47**	LR	LR	13 02 03.9	
	comp=Z,104nm,18.4s,baz=294,slow=33						
MJAR	**Matsushiro Arr**	**23.21**	**38**	P	P	12 55 12.8	+7.2
	1.2nm,0.8s,baz=222,slow=9.5,SNR=3.1						
KAPI	**Kappang**	**23.98**	**182**	LR	LR	13 06 28.0	
	comp=Z,44nm,18.5s,baz=352,slow=42						
USRK	**Ussuriysk Ar.**	**26.75**	**18**	LR	LR	13 08 21.4	
	comp=Z,76nm,18.0s,baz=176,slow=41						
PSI	**Prapat**	**26.76**	**235**	LR	LR	13 05 40.6	
	comp=Z,110nm,18.3s,baz=281,slow=35						
LEM	**Lembang**	**28.81**	**208**	LR	LR	13 07 28.0	
	comp=Z,82nm,21.6s,baz=203,slow=37						
SONM	**Songino Array**	**30.94**	**341**	P	**P**	**12 56 17.5**	**+1.8**
	0.5nm,0.7s,baz=157,slow=7.5,SNR=4.0						
SONM				LR	LR	13 10 38.6	
	comp=Z,110nm,18.5s,baz=150,slow=40						
FITZ	**Fitzroy Crossi**	**37.28**	**172**	P	**P**	**12 57 07.8**	**-2.9**
	0.7nm,0.5s,baz=4.9,slow=7.1,SNR=1.4						
WRA	**Warramunga Arr**	**41.04**	**160**	P	**P**	**12 57 38.4**	**-3.8**
	0.7nm,0.7s,baz=342,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**41.80**	**320**	P	**P**	**12 57 49.4**	**+1.1**
	0.4nm,0.7s,baz=113,slow=10,SNR=4.3						
ZALV	**Zalesovo Beam**	**44.34**	**330**	P	**P**	**12 58 08.9**	**+0.2**
	0.9nm,0.7s,baz=114,slow=9.3,SNR=5.2						
ZALV				LR	LR	13 15 35.4	
	comp=Z,10nm,22.0s,baz=124,slow=34						
PETK	**Petropavlovsk-**	**44.37**	**31**	P	**P**	**12 58 09.4**	**+0.4**
	2.2nm,0.8s,baz=209,slow=4.8,SNR=2.2						
PETK				LR	LR	13 16 54.4	
	comp=Z,36nm,18.8s,baz=204,slow=36						
ASAR	**Alice Springs**	**44.42**	**163**	P	**P**	**12 58 06.8**	**-2.8**
	0.5nm,0.5s,baz=340,slow=7.0,SNR=12						
STKA	**Stephens Creek**	**54.50**	**158**	LR	LR	13 24 45.8	
	comp=Z,53nm,18.6s,baz=202,slow=38						
ILAR	**Eielson Array**	**73.93**	**26**	P	**P**	**13 01 33.0**	**-0.6**
	0.2nm,0.7s,baz=297,slow=6.0,SNR=2.2						
ARCES	**ARCESS Array B**	**74.08**	**339**	LR	LR	13 39 01.0	
	comp=Z,47nm,18.2s,baz=70,slow=40						
NOA	**NORSAR Array B**	**82.49**	**332**	LR	LR	13 41 35.4	
	comp=Z,53nm,18.7s,baz=60,slow=37						
YKA	**Yellowknife Ar**	**87.81**	**22**	P	**P**	**13 02 47.7**	**-0.1**
	0.3nm,0.8s,baz=314,slow=4.4,SNR=2.8						
KEST	**Kesra**	**95.22**	**310**	LR	LR	13 53 31.5	
	comp=Z,64nm,18.1s,baz=312,slow=40						
TXAR	**Lajitas Array**	**115.58**	**43**	PKP	**PKiKP**	**13 08 40.8**	**-0.9**
	0.2nm,0.7s,baz=328,slow=3.2,SNR=1.8						

*FUNV **25** 13:09:15.3,9°.97N×69°.99W,h5km,MW3.9*

ISC 25 13:09:15.2±1.1,9°.97N±0°.03×69°.97W±0°.03,h13km±9km, n38,σ1§10/56,1C,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANV	**Sanarito**	**0.64**	**137**	*eP*	**Pg**	**13 09 27.2**	**-0.4**
SANV				*eS*	**Sg**	**13 09 35.5**	**-0.6**
SIQV	**Siquisique**	**0.69**	**13**	*eP*	**Pg**	**13 09 28.2**	**-0.4**
SIQV				*eS*	**Sb**	**13 09 38.9**	**+0.3**
DABV	**Dabajuro**	**1.15**	**325**	*eP*	**Pb**	**13 09 37.0**	**+0.2**
DABV				*eS*	**Sg**	**13 09 52.2**	**-0.1**
SDV	**Santo Domingo**	**1.26**	**211**	*iP*	**Pn**	**13 09 37.5**	**-1.2**
SDV				*eS*	**Sb**	**13 09 53.7**	**-1.4**
SDV				*i*		13 09 56.1	
	comp=Z,250nm,0.5s						
MAPV	**Macapo**	**1.50**	**95**	*eP*	**Pb**	**13 09 43.0**	**+0.2**
MAPV				*eS*	**Sg**	**13 10 03.1**	**-0.4**
JACV	**Jacura**	**1.58**	**45**	*eP*	**Pn**	**13 09 43.7**	**+0.8**
JACV				*eS*	**Sb**	**13 10 04.8**	**+0.6**
SOCV	**Socops**	**1.89**	**208**	*eP*	**Pn**	**13 09 48.2**	**+1.0**
SOCV				*eS*	**Sn**	**13 10 11.6**	**+0.6**
MONV	**Montecano**	**1.97**	**0**	*eP*	**Pn**	**13 09 48.3**	**0.0**
MONV				*eS*	**Sn**	**13 10 13.3**	**+0.4**
TURV	**Turiamo**	**2.15**	**77**	*eP*	**Pn**	**13 09 50.7**	**0.0**
TURV				*eS*	**Sn**	**13 10 17.3**	**-0.1**
BAUV	**El Baul**	**2.16**	**118**	*eP*	**Pn**	**13 09 51.7**	**+0.8**
BAUV				*eS*	**Sn**	**13 10 18.3**	**+0.7**
MCQV	**Machiques**	**2.53**	**272**	*eP*	**Pn**	**13 09 56.6**	**+0.7**
MCQV				*eS*	**Sn**	**13 10 24.8**	**-1.8**
URIC	**Uribia, Colomb**	**2.63**	**311**	*eP*	**Pn**	**13 09 56.6**	**-0.7**
TACV	**Tcata**	**2.91**	**86**	*eP*	**Pn**	**13 10 01.9**	**+0.7**
TACV				*eS*	**Sn**	**13 10 35.3**	**-0.7**
ELOV	**Elorza**	**2.99**	**171**	*eP*	**Pn**	**13 10 03.2**	**+0.9**
ELOV				*eS*	**Sn**	**13 10 37.9**	**-0.2**
CRJC	**Cerrejon, Guaj**	**3.05**	**290**	*eP*	**Pn**	**13 10 03.2**	**+0.1**
CRJC				*i*		13 10 41.2	
	comp=Z,166nm,0.3s						
CAPV	**Capacho**	**3.12**	**228**	*eP*	**Pn**	**13 10 04.3**	**0.0**
CAPV				*eS*	**Sn**	**13 10 40.7**	**-0.9**
FUNV	**FUNVISIS**	**3.15**	**81**	*eP*	**Pn**	**13 10 05.2**	**+0.6**
FUNV				*eS*	**Sn**	**13 10 42.0**	**-0.2**
CVALL	**Valledupar, Ce**	**3.28**	**280**	*eP*	**Pn**	**13 10 06.5**	**+0.2**
BIRV	**Birongo**	**3.68**	**82**	*eP*	**Pn**	**13 10 12.4**	**+0.6**
BIRV				*eS*	**Sn**	**13 10 54.5**	**-0.6**
MERV	**Las Mercedes**	**3.69**	**101**	*eP*	**Pn**	**13 10 12.5**	**+0.5**
MERV				*eS*	**Sn**	**13 10 54.3**	**-1.1**
OCAC	**Ocana**	**3.73**	**243**	*eP*	**Pn**	**13 10 13.7**	**+1.1**
PAMC	**Pamplona, Colo**	**3.76**	**226**	*eP*	**Pn**	**13 10 14.7**	**+1.4**
TAMC	**Tame, Arauca**	**3.95**	**207**	*eP*	**Pb**	**13 10 27.1**	**+2.4**
SMLC	**San Martn de**	**4.21**	**254**	*eP*	**Pn**	**13 10 19.4**	**+0.3**
SMLC				*eS*	**Sn**	**13 11 06.8**	**-1.4**
SMLC				*i*		13 11 27.4	
	comp=Z,78nm,0.5s						
ARGC	**Ariguani, Magd**	**4.21**	**269**	*eP*	**Pn**	**13 10 19.9**	**+0.8**
BARC	**Barichara**	**4.62**	**224**	*eP*	**Pn**	**13 10 26.6**	**+1.6**
BRRC	**Barranca, Sant**	**4.67**	**233**	*eP*	**Pn**	**13 10 28.2**	**+2.8**
PAYV	**Puerto Ayacuch**	**5.07**	**153**	*eP*	**Pn**	**13 10 30.5**	**-0.5**
PAYV				*eS*	**Sn**	**13 11 26.1**	**-3.3**
RUSC	**La Rusia**	**5.09**	**217**	*eP*	**Pn**	**13 10 32.4**	**+0.8**
SJCC	**San Jacinto, C**	**5.13**	**270**	*eP*	**Pn**	**13 10 33.5**	**+1.7**
ZARC	**Zaragoza, Cauc**	**5.42**	**243**	*eP*	**Pn**	**13 10 35.6**	**-0.2**
PTBC	**PUERTO BERRIO,**	**5.60**	**233**	*eP*	**Pn**	**13 10 37.3**	**-0.9**
MOTC	**Monteria, Cord**	**5.74**	**259**	*eP*	**Pn**	**13 10 39.7**	**-0.5**
SPBC	**San Pablo de B**	**5.91**	**224**	*eP*	**Pn**	**13 10 42.5**	**-0.1**
UREC	**San Jos de Ur**	**5.92**	**249**	*eP*	**Pn**	**13 10 43.0**	**+0.3**
NORC	**Norcasia**	**6.54**	**228**	*eP*	**Pn**	**13 10 50.3**	**-0.8**
DBBC	**Dabeiba**	**6.83**	**245**	*eP*	Pn	13 11 02.4	+7.2
GUY2C	**Guyana, Caldas**	**7.13**	**229**	*eP*	**Pn**	**13 11 02.1**	**+2.5**

WEL 25 13:33:10.3±1.2,34°.5S±27°×18°.0W±3°.2,h225km±35km, M3.9/13,mB4.4/2,ML3.9/7,MLv3.9/13,Mw(mB)3.5/2, Error ellipse: s-maj=0.1km s-min=0.0km az=128.5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.09**	**202**	P	Pn	13 34 15.1	+1.1
WMGZ				S	S	13 35 04.2	-0.2
HAZ	**Te Kaha**	**4.26**	**208**	P	Pn	13 34 15.8	-0.2
HAZ				S	S	13 35 11.9	+4.0
PKGZ	**Pakihiroa**	**4.27**	**205**	P	Pn	13 34 15.2	-1.1
PKGZ				S	S	13 35 09.0	+0.7
PUZ	**Puketiti**	**4.38**	**202**	P	Pn	13 34 17.6	+0.1
PUZ				S	S	13 35 08.8	-1.9
RUGZ	**Raukumara Rang**	**4.48**	**208**	P	Pn	13 34 19.6	+0.7
RUGZ				S	S	13 35 13.0	-0.2
CNGZ	**Carnagh Statio**	**4.77**	**200**	P	Pn	13 34 21.8	-0.6
TKGZ	**Te Karaka**	**4.84**	**204**	P	Pn	13 34 23.0	-0.2
TKGZ				S	S	13 35 20.6	-0.4
MWZ	**Matawai**	**4.86**	**207**	P	Pn	13 34 22.3	-1.3
MWZ				S	S	13 35 23.9	+2.3
URZ	**Urewera**	**4.96**	**211**	P	Pn	13 34 25.3	+0.6
URZ				S	S	13 35 22.7	-1.0
MUGZ	**Murupara**	**5.29**	**212**	P	Pn	13 34 26.9	-2.0
MUGZ				S	S	13 35 31.2	0.0
SNGZ	**Shannon Statio**	**5.32**	**206**	P	Pn	13 34 30.5	+1.2
SNGZ				S	S	13 35 33.6	+1.6
KNZ	**Kokohu**	**5.43**	**202**	P	Pn	13 34 31.6	+1.0
MTHZ	**Maungataniwha**	**5.58**	**209**	P	Pn	13 34 32.9	+0.4
MTHZ				S	S	13 35 36.3	-1.5
ARHZ	**Aropaoanui**	**5.88**	**206**	P	Pn	13 34 36.7	+0.5
ARHZ				S	S	13 35 46.3	+1.7
BKZ	**Black Stump Fm**	**5.99**	**210**	P	Pn	13 34 37.2	-0.5
BKZ				S	S	13 35 48.0	+0.7

*NEIC **25** 13:55:02.2±1.1,10°.78S±0°.09×166°.32E±0°.08,h130km±8km, mb4.3/18,Error ellipse: s-maj=13.6km s-min=10.3km az=204.0*

*IDC **25** 13:55:05.2±3.0,10°.87S×166°.24E,h156km±26km, mb3.7/12,mb1 3.8/15,mb1mx3.6/49,mbtmp4.2/15,MS3.3/1, Ms1 3.3/1,ms1mx2.7/35,Error ellipse: s-maj=20.8km s-min=19.3km az=105.0*

*NOU **25** 13:56:04.1,15°.57S×167°.61E,h0km,MLv4.3,Vanuatu Islands*

ISC 25 13:55:03.8±0.6,10°.89S±0°.07×166°.31E±0°.08,h146km,n52, σ1§48/43,mb4.0/19,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.61**	**169**		**Pn**	**13 56 11.9**	**-0.1**
SANVU	**Saraoutou**	**4.61**	**169**	P	**Pn**	**13 56 12.1**	**+0.1**
HNR	**Honiara**	**6.43**	**282**	P	**Pn**	**13 56 35.6**	**-0.6**
	8.1nm,0.3s,baz=77,slow=14,SNR=11						
HNR				S	**Sn**	**13 57 49.4**	**+0.8**
	4.9nm,0.3s,baz=357,slow=22,SNR=1.2						
HNR	**Honiara**	**6.43**	**282**		**Pn**	**13 56 35.0**	**-1.2**
LIFNC	**LIFOU**	**9.87**	**175**	P	**Pn**	**13 57 21.9**	**-0.3**
MARNC	**Mare, Loyalty**	**10.66**	**171**	P	**Pn**	**13 57 32.4**	**-0.2**
DZM	**Mont Dzumac**	**11.12**	**179**	P	**Pn**	**13 57 40.7**	**+1.9**
	8.3nm,0.3s,baz=314,slow=13,SNR=163						
DZM				S	**Sn**	**13 59 36.5**	**-5.2**
	0.2nm,0.3s,baz=313,slow=20,SNR=1.1						
DZM	**Mont Dzumac**	**11.12**	**179**	P	**Pn**	**13 57 41.5**	**+2.7**
YATNC	**Mamie plateau,**	**11.12**	**177**	P	**Pn**	**13 57 40.5**	**+1.8**
ONTNC	**Ouen Toro**	**11.36**	**179**	P	**Pn**	**13 57 45.5**	**+3.7**
OUENC	**Ouen Island, N**	**11.48**	**178**	P	**Pn**	**13 57 46.0**	**+2.7**
PINNC	**Pines Island,**	**11.71**	**175**	P	**Pn**	**13 57 49.1**	**+2.7**
MSVF	**Nonsavu**	**13.25**	**122**	LR	LR	14 02 18.8	
	comp=Z,133nm,19.2s,baz=201,slow=32						
PMG	**Port Moresby**	**18.91**	**273**	P	**Pn**	**13 59 15.3**	**-0.3**
	0.4nm,0.3s,baz=82,slow=5.7,SNR=3.9						
PMG	**Port Moresby**	**18.91**	**273**	IAmb	IAmb	13 59 18.8	
	comp=Z,10nm,1.1s						
KWAJ	**Kwajalein Atol**	**19.61**	**4**	P	**P**	**13 59 19.0**	**-1.9**
EIDS	**Eidsvold**	**20.39**	**223**	P	**P**	**13 59 30.1**	**+0.9**
EIDS				IAmb	IAmb	13 59 31.4	
	comp=Z,6.1nm,0.7s						
CTA	**Charters Tower**	**21.36**	**242**	P	**P**	**13 59 40.3**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=70,slow=12,SNR=6.6						
CTAO	**Charters Tower**	**21.36**	**242**	P	**P**	**13 59 40.0**	**+0.2**
CTAO				IAmb	IAmb	14 00 05.0	
	comp=Z,10nm,1.4s						
COEN	**Coen**	**22.80**	**260**	P	**P**	**13 59 54.2**	**0.0**
ARMA	**Armidale**	**23.75**	**213**	P	**P**	**14 00 03.7**	**+0.8**
ARMA				IAmb	IAmb	14 00 14.7	
	comp=Z,24nm,1.4s						
JAY	**Jayapura**	**26.74**	**286**	S	S	14 04 39.0	-16
	comp=Z,13nm,0.7s,baz=52,slow=18,SNR=2.1						
URZ	**Urewera**	**28.92**	**162**	P	**P**	**14 00 50.4**	**+1.4**
URZ				IAmb	IAmb	14 01 12.2	
	comp=Z,12nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**29.20**	**1**	T	T	14 31 38.9	
	baz=181,slow=76,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**29.20**	**1**	T	T	14 31 40.5	
	baz=181,slow=76,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**29.21**	**1**	T	T	14 31 42.6	
	baz=181,slow=76,SNR=5.2						
BKZ	**Black Stump Fm**	**29.59**	**164**	P	**P**	**14 00 56.2**	**+1.2**
BKZ				IAmb	IAmb	14 00 59.1	
	comp=Z,21nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**30.42**	**1**	T	T	14 33 07.3	
	baz=182,slow=76,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**30.42**	**1**	T	T	14 33 07.6	
	baz=182,slow=76,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**30.43**	**1**	T	T	14 33 08.9	
	baz=182,slow=76,SNR=4.6						
WR0	**Warramunga Arr**	**31.88**	**250**	P	**P**	**14 01 15.1**	**-0.3**
WR0				IAmb	IAmb	14 01 33.8	
	comp=Z,6.7nm,1.4s						
WB0	**Warramunga Arr**	**31.97**	**250**	P	**P**	**14 01 16.0**	**-0.3**
WB0				IAmb	IAmb	14 01 16.7	
	comp=Z,5.0nm,0.7s						
WB2	**Warramunga Arr**	**32.05**	**250**	P	**P**	**14 01 16.7**	**-0.3**
WB2				IAmb	IAmb	14 01 19.7	
	comp=Z,3.4nm,0.8s						
WRA	**Warramunga Arr**	**32.06**	**250**	P	**P**	**14 01 16.6**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=82,slow=8.9,SNR=19						
WRA	**Warramunga Arr**	**32.06**	**250**	P	**P**	**14 01 16.1**	**-0.9**
ASAR	**Alice Springs**	**33.36**	**243**	P	**P**	**14 01 27.5**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=75,slow=10.0,SNR=9.1						
FAKI	**Fak Fak**	**34.70**	**281**	P	**P**	**14 01 39.8**	**-0.2**
BBOO	**Buckleboo**	**35.34**	**227**	P	**P**	**14 01 45.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**72.56**	**293**	P	**P**	**14 06 15.9**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=125,slow=4.7,SNR=9.4						
YAK	**Yakutsk**	**78.11**	**343**	P	**P**	**14 06 45.5**	**-0.7**
	comp=Z,7.0nm,0.5s,baz=90,slow=1.2,SNR=2.1						
YAK	**Yakutsk**	**78.11**	**343**	IAmb	IAmb	14 06 49.6	
	comp=Z,13nm,0.5s						
BILL	**Bilibino**	**78.72**	**360**	P	**P**	**14 06 50.0**	**+0.5**
BILL				IAmb	IAmb	14 06 51.4	
	comp=Z,3.1nm,1.0s						
SONM	**Songino Array**	**78.87**	**324**	P	**P**	**14 06 50.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=141,slow=5.1,SNR=4.1						
SONM	**Songino Array**	**78.87**	**324**	IAmb	IAmb	14 06 53.2	
	comp=Z,0.7nm,0.8s						
QSPA	**South Pole Qui**	**79.11**	**180**	P	**P**	**14 06 52.5**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=301,slow=7.7,SNR=1.6						
QSPA	**South Pole Qui**	**79.11**	**180**	P	**P**	**14 06 52.7**	**+0.7**
ILAR	**Eielson Array**	**83.19**	**18**	P	**P**	**14 07 13.6**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=237,slow=5.1,SNR=24						
NVAR	**Mina Array Bea**	**85.50**	**50**	P	**P**	**14 07 27.2**	**+1.4**
	comp=Z,0.9nm,1.1s,baz=230,slow=8.9,SNR=5.8						
NVAR	**Mina Array Bea**	**85.50**	**50**	P	**P**	**14 07 25.1**	**-0.7**
ZALV	**Zalesovo Beam**	**93.76**	**324**	P	**P**	**14 08 03.8**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=73,slow=2.0,SNR=1.8						
MKAR	**Makanchi Array**	**93.79**	**317**	P	**P**	**14 08 04.6**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=93,slow=6.4,SNR=15						
YKA	**Yellowknife Ar**	**94.58**	**27**	P	**P**	**14 08 07.1**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=255,slow=4.0,SNR=7.9						

*BJI **25** 13:59:26.6±0.0,7°.60S×129°.54E,h184km,mB4.8/39, mb4.9/67*

*NEIC **25** 13:59:32.3±1.5,7°.06S±0°.06×129°.23E±0°.07,h181km±5km, mb4.9/110,Error ellipse: s-maj=10.0km s-min=8.7km az=51.0*

*GCMT **25** 13:59:32.3±0.4,7°.22S±0°.03×129°.21E±0°.03,h179km±5km, MW4.9/61,Moment Tensor Solution. s17,c21; s61,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.05±.14; Mθθ0.47±.15; Mφφ-0.52±.17; Mrθ1.78±.10; Mrφ2.23±.14; Mθφ0.92±.12; Best double couple: M◎2.91000×10^16 NP1:φ◎1.00000°,δ58.00000°,λ167.00000°; NP2: φ◎97.00000°,δ79.00000°,λ32.00000°. Principal axes: T 3.4130, Plg30.0000°, Azm324.0000°; N -1.0040, Plg56.0000°, Azm114.0000°; P -2.4080, Plg14.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **25** 13:59:32.9±0.1,7°.5±2°×12°9E±°,h175km±2km,M4.9/77, mB5.4/42,mb5.0/77,MLv5.5/17,Mw(mB)4.8/42, MwMwp4.6/2,Mwp5.0/2*

*IDC **25** 13:59:32.2±0.6,7°.06S×129°.25E,h172km±5km,mb4.6/29, mb1 4.6/34,mb1mx4.4/47,mbtmp5.0/34,MS3.4/5, Ms1 3.4/5,ms1mx3.0/34,Error ellipse: s-maj=10.7km s-min=7.0km az=81.0*

*KLM **25** 13:59:33,7°.23S×129°.33E,h180km,mb5.1*

ISC 25 13:59:32.1±0.4,7°.16S±0°.03×129°.25E±0°.04,h178km±4km, h179km:pP-P,n339,σ1§41/376,mb5.0/119,4C-4D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.19**	**112**	Pn	**Pn**	**14 00 12.1**	**+0.9**
SAUI	**Saumlaki**	**2.19**	**112**	P	**Pn**	**14 00 11.9**	**+0.8**
SAUI				S	**Sn**	**14 00 40.9**	**-0.6**
BNDI	**Bandanaira**	**2.70**	**14**	P	**Pn**	**14 00 18.7**	**+1.6**
BNDI				S	**Sn**	**14 00 52.6**	**+0.4**
MSAI	**Masohi**	**3.80**	**355**	P	**Pn**	**14 00 31.0**	**+0.3**
MSAI				S	**Sn**	**14 01 16.7**	**+0.1**
NLAI	**Namlea**	**4.45**	**331**	P	**Pn**	**14 00 40.9**	**+2.0**
FAKI	**Fak Fak**	**5.17**	**35**	Pn	**Pn**	**14 00 45.9**	**-2.4**
FAKI	**Fak Fak**	**5.17**	**35**	P	**Pn**	**14 00 46.6**	**-1.6**
	7.8nm26µm468nm,0.7s						
SOEI	**Soe**	**5.56**	**242**	Pn	**Pn**	**14 00 53.9**	**+0.5**
SOEI	**Soe**	**5.56**	**242**	P	**Pn**	**14 00 54.1**	**+0.7**
	4.6nm6µm719nm,0.8s						
MTN	**Manton Dam**	**5.94**	**162**	P	**Pn**	**14 00 58.1**	**-0.3**
	baz=5.9,SNR=1000						
MTN	**Manton Dam**	**5.94**	**162**	Pn	**Pn**	**14 00 58.0**	**-0.3**
SANI	**Sanana**	**6.03**	**327**	P	**Pn**	**14 01 01.4**	**+1.9**
	1.0nm3µm362nm,0.8s						
BATI	**Baumata**	**6.29**	**241**	P	**Pn**	**14 01 03.9**	**+0.9**
	68nm,0.3s,baz=123,slow=2.4,SNR=84						
BATI				S	**Sn**	**14 02 12.2**	**-2.4**
	130nm,0.3s,baz=248,slow=24,SNR=8.8						
BATI	**Baumata**	**6.29**	**241**	P	**Pn**	**14 01 03.2**	**+0.2**
	2.0nm3µm301nm,0.7s						
KDU	**Kak

AS31 Alice Springs 17.01 165 P **Pn** **14 03 20.0 +0.3**
ASPA Alice Springs 17.01 165 P **Pn** **14 03 20.5 +0.9**
baz=17
ASAR Alice Springs 17.01 165 P **Pn** **14 03 20.3 +0.6**
comp=Z,26nm,0.3s,baz=342,slow=9.8,SNR=1701
ASAR pP **pP** **14 03 48.8 +0.7**
comp=Z,8.2nm,0.3s,baz=344,slow=11,SNR=5.2
ASAR S **S** **14 06 18.0 -8.9**
comp=Z,3.0nm,0.3s,baz=343,slow=21,SNR=3.3
ASAR ScP **ScP** **14 11 12.4 -0.4**
comp=Z,1.8nm,0.3s,baz=349,slow=2.1,SNR=8.7
ASAR Alice Springs 17.01 165 P **Pn** **14 03 20.1 +0.4**
ASAR **ScP** **14 11 11.9 -0.9**
SPMM Sapulut 17.37 312 P **P** **14 03 23.0 +0.3**
WRKA Warakurna 17.80 183 P **Pn** **14 03 28.8 -0.1**
baz=18,SNR=398
PMG Port Moresby 17.86 98 P **P** **14 03 28.1 +0.2**
comp=Z,0.7nm,0.3s,baz=348,slow=16,SNR=2.7
PMG S **S** **14 06 43.0 -1.1**
comp=Z,1.8nm,0.3s,baz=192,slow=22,SNR=6.8
PMG Port Moresby 17.86 98 P **P** **14 03 28.2 +0.2**
PMG IAmb IAmb 14 03 41.6
comp=Z,73nm,1.1s
PMG Port Moresby 17.86 98 P **Pn** **14 03 30.2 +0.4**
PBKI Pangkalan Bun 18.06 283 P **Pn** **14 03 32.9 +0.8**
comp=Z,4µmcomp=Z,457nm,1.0s
MTSU Mount Surprise 18.29 128 P **Pn** **14 03 34.5 -0.2**
baz=18,SNR=145
KKM Kota Kinabalu 18.47 315 P **P** **14 03 34.6 -0.1**
MANU Manus Island 18.76 75 P **P** **14 03 38.8 +1.1**
STKI Sintang 19.12 291 P **Pn** **14 03 43.6 -1.0**
SBUM Sibu 19.49 299 P **P** **14 03 45.9 +0.2**
SBUM IAmb IAmb 14 03 51.1
comp=Z,71nm,0.9s
KSM Kuching 20.75 294 P **P** **14 03 58.4 -0.8**
KSM Kuching 20.75 294 P Pn 14 04 02.0 -2.4
CTA Charters Tower 20.91 130 P **P** **14 04 02.6 +1.8**
comp=Z,18nm,0.7s,baz=309,slow=11,SNR=28
CTAO Charters Tower 20.91 130 P **P** **14 04 01.6 +0.8**
CTAO IAmb IAmb 14 04 05.2
comp=Z,25nm,0.8s
GIRL Giralia 21.12 222 P **P** **14 04 03.3 +0.4**
baz=21,SNR=15
GIRL Giralia 21.12 222 P **P** **14 04 04.0 +1.0**
CISI Cisompet, Garu 21.26 268 P **P** **14 04 03.8 -0.9**
CISI Cisompet, Garu 21.26 268 P **P** **14 04 05.7 +1.0**
comp=Z,119nm,0.8s
LEM Lembang 21.47 270 P **P** **14 04 07.9 +0.9**
comp=Z,55nm,0.8s,baz=354,slow=18,SNR=9.6
LEM Lembang 21.47 270 P **P** **14 04 08.7 +1.7**
comp=Z,34nm,0.8s
TPI Tanjungpandan 21.95 280 P **P** **14 04 13.1 +1.4**
comp=Z,26nm,0.8s
CBJI Citeko 22.25 271 P **P** **14 04 17.4 +2.7**
FORT Forrest 23.52 183 P **P** **14 04 27.0 +1.0**
baz=24,SNR=183
FORT Forrest 23.52 183 P **P** **14 04 26.5 +0.4**
PPBI Pangkal Pinang 23.56 281 P **P** **14 04 28.4 +1.8**
comp=Z,73nm,0.9s
QLP Quilpie 24.01 145 P **P** **14 04 32.0 +1.4**
baz=24,SNR=9.5
KLSI 24.51 274 P **P** **14 04 38.1 +2.9**
comp=Z,4.6nm,0.7s
KMBL Kambalda 25.05 195 P **P** **14 04 40.7 +0.8**
baz=25,SNR=19
MORW Morawa 25.10 208 P **P** **14 04 40.7 +0.2**
baz=25,SNR=14
MORW Morawa 25.10 208 P **P** **14 04 40.6 +0.1**
MORW IAmb IAmb 14 04 44.1
comp=Z,38nm,0.8s
GUMO Guam 25.80 37 P **P** **14 04 45.5 -1.3**
LHSI Lahat 25.82 276 P **P** **14 04 49.5 +2.4**
comp=Z,39nm,0.8s
BLDU Ballidu 26.13 205 P **P** **14 04 50.2 +0.5**
baz=26,SNR=10
BBOO Buckleboo 26.30 167 P **P** **14 04 51.9 +0.7**
baz=26,SNR=69
BBOO Buckleboo 26.30 167 P **P** **14 04 51.4 +0.3**
KLBR Kellerberrin 26.57 202 P **P** **14 04 54.5 +0.9**
baz=27,SNR=9.4
RMQ Roma 26.72 138 P **P** **14 04 56.5 +1.5**
baz=27,SNR=9.4
KSI Kapahiang 26.76 276 P **P** **14 04 57.5 +1.9**
MYKOM Kota Tinggi 26.86 288 P **P** **14 04 56.7 +0.3**
MYKOM IAmb IAmb 14 05 01.4
comp=Z,24nm,0.8s
MYKOM Kota Tinggi 26.86 288 P **P** **14 04 59.0 +2.6**
STKA Stephens Creek 27.16 157 P **P** **14 04 59.8 +0.9**
comp=Z,31nm,0.8s,baz=330,slow=9.0,SNR=57
STKA pP **pP** **14 05 34.6 -0.5**
comp=Z,38nm,0.9s,baz=335,slow=9.9,SNR=5.6
STKA LR LR 14 17 17.0
comp=Z,301nm,19.0s,baz=324,slow=39
STKA Stephens Creek 27.16 157 P **P** **14 04 59.8 +0.9**
baz=27,SNR=54
STKA Stephens Creek 27.16 157 IAmb IAmb 14 05 00.7
comp=Z,12nm,1.2s
MUN Mundaring 27.52 205 P **P** **14 05 02.7 +0.6**
baz=28,SNR=5.6
EIDS Eidsvold 27.61 133 P **P** **14 05 03.8 +0.8**
HTT Hallett 27.64 162 P **P** **14 05 04.4 +1.2**
baz=28,SNR=27
NWAO Narrogin (SRO) 27.96 202 P **P** **14 05 07.1 +1.1**
comp=Z,23nm,0.8s,baz=28,slow=7.8,SNR=7.4
NWAO Narrogin (SRO) 27.96 202 P **P** **14 05 06.9 +0.9**
baz=28,SNR=5.8
NWAO Narrogin (SRO) 27.96 202 P **P** **14 05 07.0 +1.1**
NWAO IAmb IAmb 14 05 07.8
comp=Z,30nm,0.9s
NWAO Narrogin (SRO) 27.96 202 IAmb IAmb 14 05 07.9
comp=Z,24nm,0.9s
CMSA Cobar Meteorol 28.71 150 P **P** **14 05 13.9 +1.3**
baz=29,SNR=32
JRMM Jerantut 28.89 292 P **P** **14 05 17.0 +2.6**
IPM Ipoh 30.45 292 P **P** **14 05 27.3 -0.9**
IPM IAmb IAmb 14 05 30.9
comp=Z,18nm,0.8s
IPM Ipoh 30.45 292 P **P** **14 05 30.0 +1.8**
KULM Kulim 31.10 293 P **P** **14 05 31.6 -2.3**
KULM IAmb IAmb 14 05 36.6
comp=Z,39nm,1.5s
KULM Kulim 31.10 293 P **P** **14 05 34.0 0.0**
ARMA Armidale 31.24 141 P **P** **14 05 37.0 +1.9**
baz=31,SNR=16
ARMA Armidale 31.24 141 P **P** **14 05 36.5 +1.3**
ARMA IAmb IAmb 14 05 38.2
comp=Z,20nm,1.1s
TPUB Ta-pu 31.43 345 P **P** **14 05 34.2 -2.4**
ARPS Mount Arapiles 31.63 161 P **P** **14 05 40.2 +1.9**
baz=32,SNR=83
RPSI Rantau Prapat 31.81 287 P **P** **14 05 39.3 -0.8**
RPSI IAmb IAmb 14 05 42.4
comp=Z,22nm,0.8s
RPSI Rantau Prapat 31.81 287 P **P** **14 05 41.1 +1.0**
PSI Prapat 31.84 287 P **P** **14 05 41.1 +0.5**
comp=Z,18nm,0.7s,baz=180,slow=2.5,SNR=26
YOJ Yonaguni jima 32.01 349 P **P** **14 05 40.6 -1.2**
NACB Ninganchiao 32.03 347 P **P** **14 05 39.6 -2.2**
YNG Young 32.27 149 P **P** **14 05 46.1 +2.1**
baz=32,SNR=6.8
QIZ Qiongzhong 32.30 324 P **P** **14 05 43.5 -0.8**
QIZ IAmb IAmb 14 05 49.3
comp=Z,45nm,1.3s
YHNB Yeheng 32.55 347 P **P** **14 05 44.4 -2.2**
GSI Gunungsitoli 32.70 284 P **P** **14 05 47.3 -0.7**
GSI IAmb IAmb 14 05 49.1
comp=Z,32nm,1.1s
GSI Gunungsitoli 32.70 284 P **P** **14 05 48.9 +0.9**
comp=Z,28nm,1.0s
CAN Canberra 33.38 150 P **P** **14 05 55.5 +1.8**
CAN IAmb IAmb 14 05 57.0
comp=Z,38nm,1.1s
TOO Toolangi 33.68 156 P **P** **14 05 58.2 +2.1**
baz=34,SNR=48
TOO Toolangi 33.68 156 P **P** **14 05 58.6 +2.5**
TOO IAmb IAmb 14 06 00.1
comp=Z,22nm,0.7s
JOW Kunigami 33.80 358 P **P** **14 05 57.0 -0.3**
comp=Z,66nm,0.7s,baz=198,slow=7.4,SNR=12
JOW Kunigami 33.80 358 P **P** **14 05 56.8 -0.5**
LHMI Lhok Sumawe 34.50 290 P **P** **14 06 03.8 +0.2**
KHON Khomkaen 35.06 312 P **P** **14 06 09.5 +1.3**
comp=Z,4µmcomp=Z,30nm,0.4s
CHAI Chaiyaphum 35.41 310 P **P** **14 06 11.3 +0.1**
comp=Z,30nm,0.7s
NONG Nongkai 35.95 315 P **P** **14 06 15.7 0.0**
comp=Z,7µmcomp=Z,65nm,0.9s
UTHA Uthaitani 37.16 308 P **P** **14 06 26.8 +0.7**
comp=Z,270nmcomp=Z,35nm,0.9s
PHIT Phitsanulok 37.38 311 P **P** **14 06 29.2 +1.2**
comp=Z,198nm,1.0s
UTTA Uttaradit 37.62 311 P **P** **14 06 30.4 +0.4**
comp=Z,770nmcomp=Z,97nm,0.8s
SLVN Son La 37.69 319 P **P** **14 06 30.6 0.0**
SLVN IAmb IAmb 14 06 32.0
comp=Z,26nm,0.9s
SANVU Saraoutou 38.07 106 P **P** **14 06 35.0 +1.3**
SANVU Saraoutou 38.07 106 P **P** **14 06 35.5 +1.8**
SUKH Sukhothai 38.16 310 P **P** **14 06 35.2 +0.8**
comp=Z,83nm,0.9s
JSU Suzuyama 38.47 2 P **P** **14 06 36.1 -0.7**
JSU IAmb IAmb 14 06 37.0
comp=Z,34nm,0.9s
DZM Mont Dzumac 38.79 116 P **P** **14 06 39.7 -0.1**
LAMP Lampang 38.79 312 P **P** **14 06 40.0 +0.3**
comp=Z,666nmcomp=Z,83nm,0.8s
PAYA Payao 39.14 313 P **P** **14 06 42.0 -0.6**
comp=Z,5µmcomp=Z,555nm,0.7s
CM04 Chiang Mai Arr 39.20 311 P **P** **14 06 43.0 -0.2**
comp=Z,371nmcomp=Z,44nm,1.0s
CM09 Chiang Mai Arr 39.22 311 P **P** **14 06 44.1 +0.8**
comp=Z,296nmcomp=Z,40nm,0.9s
CM05 Chiang Mai Arr 39.23 311 P **P** **14 06 44.0 +0.6**
comp=Z,290nmcomp=Z,33nm,0.9s
CM01 Chiang Mai Arr 39.23 311 P **P** **14 06 44.1 +0.8**
comp=Z,366nmcomp=Z,44nm,0.9s
CM35 Chiang Mai Arr 39.24 311 P **P** **14 06 44.0 +0.5**
CM02 Chiang Mai Arr 39.25 311 P **P** **14 06 44.2 +0.7**
comp=Z,264nmcomp=Z,36nm,0.9s
CM31 Chiang Mai Arr 39.27 311 P **P** **14 06 44.4 +0.8**
comp=Z,935nm,0.9s
CM31 Chiang Mai Arr 39.27 311 P **P** **14 06 42.8 -0.8**
CM31 IAmb IAmb 14 06 45.2
comp=Z,36nm,0.9s
CMAR Chiang Mai Arr 39.27 311 P **P** **14 06 44.1 +0.5**
comp=Z,26nm,0.8s,baz=142,slow=7.4,SNR=106
CMAR PcP **PcP** **14 08 50.5 +1.5**
comp=Z,3.4nm,0.7s,baz=166,slow=2.8,SNR=7.0
CMAR ScP **ScP** **14 12 21.5 +0.7**
comp=Z,3.4nm,0.9s,baz=158,slow=3.6,SNR=14
CMAR LR LR 14 23 34.3
comp=Z,17nm,20.4s,baz=160,slow=37
CMAR Chiang Mai Arr 39.27 311 P **P** **14 06 42.5 -1.2**
CM13 Chiang Mai Arr 39.27 311 P **P** **14 06 44.0 +0.3**
comp=Z,290nmcomp=Z,34nm,0.9s
CM15 Chiang Mai Arr 39.28 311 P **P** **14 06 44.4 +0.6**
comp=Z,40nm,0.9s
CM34 Chiang Mai Arr 39.35 312 P **P** **14 06 44.0 -0.4**
CM32 Chiang Mai Arr 39.46 311 P **P** **14 06 45.0 -0.2**
CMMT Chiang Mai 39.48 311 P **P** **14 06 45.0 -0.4**
comp=Z,8µmcomp=Z,36nm,0.9s
CHTO Chiang Mai 39.48 311 P **P** **14 06 45.1 -0.4**
CM33 Chiang Mai Arr 39.48 311 P **P** **14 06 45.0 -0.5**
MHMT Maesarieng 39.87 310 P **P** **14 06 49.3 +0.7**
GYA Guiyang 39.96 328 ⇓P **P** **14 06 49.3 -0.1**
GYA pmax pmax
comp=Z,20nm,0.8s
JNU Nakatsue 40.09 2 P **P** **14 06 49.6 -0.7**
comp=Z,14nm,0.7s,baz=34,slow=5.7,SNR=6.8
JNU Nakatsue 40.09 2 P **P** **14 06 49.2 -1.0**
JNU IAmb IAmb 14 06 52.2
comp=Z,18nm,0.8s
WHN Wuhan 40.12 340 ⇓P **P** **14 06 51.0 +0.5**
NJ2 Nanjing 40.23 346 ⇑P **P** **14 06 51.5 +0.1**
NJ2 pmax pmax
comp=Z,38nm,0.6s
JMN Monobe 40.90 6 P **P** **14 06 56.9 0.0**
JMN IAmb IAmb 14 06 57.5
comp=Z,18nm,0.6s
KMI Kunming 41.18 322 ⇑P **P** **14 07 00.3 +0.8**
KMI pP pP 14 07 39.5 +3.0
KMI sP sP 14 07 58.0 +1.9
KMI pmax pmax
comp=Z,27nm,1.1s
JTU Tsushima 41.46 0 P **P** **14 07 00.4 -1.0**
JTU IAmb IAmb 14 07 29.1
comp=Z,63nm,1.5s
ENH Enshi 41.77 334 P **P** **14 07 02.9 -1.2**
JHS Saijyo 42.09 5 P **P** **14 07 06.4 -0.1**
JHS IAmb IAmb 14 07 19.3
comp=Z,39nm,1.2s
JWT Wachi 42.61 7 P **P** **14 07 10.4 -0.3**
JWT IAmb IAmb 14 07 11.6
comp=Z,57nm,0.9s
INU Inuyama 42.91 9 P **P** **14 07 13.1 0.0**
MJAR Matsushiro Arr 44.28 10 P **P** **14 07 22.6 -1.4**
comp=Z,22nm,0.8s,baz=190,slow=9.4,SNR=28
MJAR pP **pP** **14 08 01.0 -0.7**
comp=Z,4.1nm,0.8s,baz=188,slow=6.4,SNR=2.7
MAJO Matsushiro 44.28 10 P **P** **14 07 22.6 -1.4**
MAJO IAmb IAmb 14 07 23.6
comp=Z,32nm,0.8s
MAT Matsushiro 44.28 10 P **P** **14 07 22.6 -1.4**
JYT Yasato 44.37 13 P **P** **14 07 23.9 -0.8**
KSAR Wonju Array Be 44.39 358 P **P** **14 07 24.5 -0.4**
KSRS Korea Array 44.40 358 P **P** **14 07 25.2 +0.3**
comp=Z,8.0nm,0.6s,baz=174,slow=8.9,SNR=54
KSRS PcP **PcP** **14 09 06.3 +0.7**
comp=Z,1.3nm,0.6s,baz=185,slow=3.5,SNR=4.2
KSRS LR LR 14 27 42.1
comp=Z,18nm,18.6s,baz=175,slow=38
KS19 Wonju Array Si 44.45 358 P **P** **14 07 24.8 -0.6**
CD2 Chengdu 45.05 328 ⇓P **P** **14 07 29.5 -0.8**
CD2 S **S** **14 13 56.0 +0.3**
CD2 pmax pmax
comp=Z,60nm,0.5s
CD2 pmax pmax
comp=Z,540nm,5.5s
CD2 LR LR
comp=Z,460nm,6.5s
CD2 LR LR
comp=Z,800nm,11.6s
CD2 LR LR
comp=Z,850nm,13.1s
XAN Xi'an 45.28 336 P **P** **14 07 30.8 -1.2**
XAN pP pP 14 08 09.0 -0.7
XAN sP sP 14 08 29.3 +0.2
XAN S **S** **14 13 51.5 -7.4**
XAN pmax pmax
comp=Z,29nm,0.8s
XAN pmax pmax
comp=Z,180nm,4.3s
XAN Xi'an 45.28 336 P **P** **14 07 29.7 -2.4**
JSD Sado 45.74 10 P **P** **14 07 34.4 -1.1**
JSD IAmb IAmb 14 07 49.8
comp=Z,84nm,1.4s
JMM Marumori 46.07 13 P **P** **14 07 37.4 -0.7**
JMM IAmb IAmb 14 07 38.8
comp=Z,36nm,0.7s
DL2 Dalian 46.38 352 P **P** **14 07 40.0 -0.4**
DL2 pmax pmax
comp=Z,37nm,0.8s
TIY Taiyuan 47.32 342 eP **P** **14 07 47.5 -0.4**
TIY pmax pmax
comp=Z,20nm,0.8s
BJT Baijiatuau 48.47 347 P **P** **14 07 55.5 -1.1**
BJI Beijing 48.49 347 P **P** **14 07 56.3 -0.5**
BJI PcP **PcP** **14 09 21.5 +1.5**
BJI pmax pmax
comp=Z,42nm,0.6s
SHL Shillong 48.76 313 P **P** **14 07 58.3 -1.1**
JTM Tenmabayashi 48.94 12 P **P** **14 07 59.1 -1.0**
LZH Lanzhou 49.20 333 eP **P** **14 08 02.8 +0.4**
LZH pP pP 14 08 40.0 -0.7
LZH sP sP 14 08 59.3 -0.6
LZH pmax pmax
comp=Z,29nm,1.2s
DCZ Deep Cove 50.28 146 P **P** **14 08 12.1 +1.8**
DCZ IAmb IAmb 14 08 34.1
comp=Z,32nm,1.3s
HHC Hu-ho-hao-te 50.47 343 eP **P** **14 08 13.5 +1.6**
HHC pmax pmax
comp=Z,8.0nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.4s
PALK Pallekele 50.50 285 P **P** **14 08 13.0 +0.6**
comp=Z,4.0nm,0.7s,baz=188,slow=5.2,SNR=5.3
PALK Pallekele 50.50 285 IAmb IAmb 14 08 14.8
comp=Z,6.5nm,0.8s
FOZ Fox Glacier 50.71 142 P **P** **14 08 15.0 +1.5**
FOZ IAmb IAmb 14 08 22.8
comp=Z,80nm,1.4s
MLZ Mavora Lakes 50.77 145 P **P** **14 08 15.4 +1.4**
CN2 Changchun 50.84 356 eP **P** **14 08 13.8 -0.6**
CN2 pmax pmax
comp=Z,20nm,0.6s
WHZ Wether Hill Ro 50.99 146 P **P** **14 08 16.9 +1.3**
JEW Eniwo 50.99 12 P **P** **14 08 15.8 +0.3**
USRK Ussuriysk Ar. 51.18 3 P **P** **14 08 17.0 +0.1**
comp=Z,18nm,0.7s,baz=184,slow=6.8,SNR=38
LBZ Lake Benmore 51.41 143 P **P** **14 08 20.0 +1.2**
LBZ IAmb IAmb 14 08 21.0
comp=Z,39nm,1.0s
MDJ Mudanjiang 51.54 0 P **P** **14 08 20.5 +0.9**
MDJ pP pP 14 09 00.3 +1.9
MDJ sP sP 14 09 17.8 +0.2
MDJ PP **PP** **14 10 22.8 +3.8**
MDJ S **S** **14 15 25.5 -0.7**
MDJ SS **SS** **14 19 05.5 +0.5**
MDJ pmax pmax
comp=Z,27nm,1.0s
MDJ pmax pmax
comp=Z,80nm,5.4s
MDJ Mudanjiang 51.54 0 P **P** **14 08 19.2 -0.4**
MDJ IAmb IAmb 14 08 20.9
comp=Z,47nm,1.4s
RPZ Rata Peaks 51.57 142 P **P** **14 08 21.7 +1.7**
THZ Tophouse 51.74 139 P **P** **14 08 22.5 +1.2**
LSA Lhasa 51.80 317 P **P** **14 08 22.8 +0.4**
LSA pmax pmax
comp=Z,73nm,1.1s
LSA Lhasa 51.80 317 P **P** **14 08 22.3 -0.1**
LSA IAmb IAmb 14 08 27.4
comp=Z,14nm,0.6s
ODZ Otahua Downs 52.04 144 P **P** **14 08 24.6 +1.1**
TUWZ Tuamarina 52.26 138 P **P** **14 08 26.0 +0.9**
ASAJ Asahikawa 52.45 12 P **P** **14 08 26.7 +0.4**
comp=Z,15nm,0.6s,baz=222,slow=10,SNR=7.7
JKA Kamikawa-asahi 52.45 12 P **P** **14 08 26.7 +0.4**
JKA Kamikawa-asahi 52.45 12 IAmb IAmb 14 08 27.5
comp=Z,19nm,0.7s
KHZ Kahutara 52.47 139 P **P** **14 08 27.6 +1.0**
KHZ IAmb IAmb 14 08 28.7
comp=Z,23nm,0.8s
MQZ McQueen's Vall 52.55 141 P **P** **14 08 28.1 +0.9**
ODAN Odare 52.80 312 eP **P** **14 08 29.5 -0.1**
comp=Z,124nm,0.5s
TAPN Taplejung 52.84 312 eP **P** **14 08 29.9 0.0**
comp=Z,91nm,0.4s
BHW Baring Head 52.87 138 P **P** **14 08 29.9 +0.3**
BKZ Black Stump Fm 53.02 134 P **P** **14 08 31.4 +0.7**
BKZ IAmb IAmb 14 08 32.6
comp=Z,17nm,0.7s
URZ Urewera 53.10 133 P **P** **14 08 31.9 +0.6**
RAMN Ramite 53.44 311 eP **P** **14 08 34.6 +0.4**
comp=Z,282nm,0.6s
GTA Gaotai 53.76 332 ⇑P **P** **14 08 36.3 +0.1**
GTA pP pP 14 09 15.0 -0.1
GTA sP sP 14 09 35.0 +0.8
GTA PcP **PcP** **14 09 40.3 +0.5**
GTA pmax pmax
comp=Z,15nm,0.7s
JIRN Jiri 54.13 312 eP **P** **14 08 39.4 0.0**
comp=Z,99nm,0.6s
GUN Gumba 54.50 312 eP **P** **14 08 42.0 0.0**
comp=Z,247nm,0.6s
PKI Pulchoki 54.67 311 eP **P** **14 08 42.8 -0.4**
comp=Z,65nm,0.5s
PKIN Phulchoki 54.68 311 eP **P** **14 08 42.8 -0.4**
comp=Z,77nm,0.6s
DMN Daman 54.91 311 eP **P** **14 08 44.8 -0.1**
comp=Z,49nm,0.6s
GKN Gorkha 55.47 311 eP **P** **14 08 48.6 -0.2**
comp=Z,130nm,0.5s
KLR Kul'dur 56.20 2 P **P** **14 08 53.5 +0.2**
comp=Z,10nm,0.8s,baz=208,slow=4.4,SNR=24
ULN Ulaanbaatar 58.19 343 P **P** **14 09 07.6 +0.1**
ULN IAmb IAmb 14 09 09.1
comp=Z,11nm,0.7s
SONM Songino Array 58.36 342 P **P** **14 09 09.1 +0.4**
comp=Z,6.9nm,0.5s,baz=156,slow=6.4,SNR=40
SONM pP **pP** **14 09 48.6 +0.3**
comp=Z,1.8nm,0.7s,baz=148,slow=8.7,SNR=1.8
SONM ScP **ScP** **14 13 41.0 0.0**
comp=Z,1.5nm,0.9s,baz=154,slow=4.9,SNR=5.1
SONM Songino Array 58.36 342 P **P** **14 09 08.0 -0.6**
SONM **ScP** **14 13 40.1 -0.9**
CASY Casey 60.43 189 P **P** **14 09 23.5 +1.1**
CASY IAmb IAmb 14 09 24.0
comp=Z,15nm,0.7s
TLY Talaya 62.60 342 P **P** **14 09 38.0 +0.9**
comp=Z,5.0nm,0.5s,baz=195,slow=6.3,SNR=9.9
WMQ Urumqi 63.12 327 P **P** **14 09 41.0 +0.1**
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ pmax pmax
comp=Z,150nm,4.9s
WMQ Urumqi 63.12 327 P **P** **14 09 40.2 -0.6**
WMQ IAmb IAmb 14 09 42.1
comp=Z,14nm,0.9s
PETK Petropavlovsk- 64.71 19 P **P** **14 09 51.6 +0.7**
comp=Z,17nm,0.6s,baz=171,slow=3.6,SNR=78
PETK Petropavlovsk- 64.71 19 P **P** **14 09 51.2 +0.3**
NIL Nilore 66.76 311 P **P** **14 10 03.7 -0.8**
ZSN Zaisan 67.02 329 eP **P** **14 10 05.4 -0.5**
baz=329
SHLS Shalkode 67.39 323 eP **P** **14 10 06.8 -1.6**
baz=323
KSH Kashi 67.64 318 P **P** **14 10 11.0 +1.0**
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH pmax pmax
comp=Z,62nm,3.8s
UZB Uzynbulak 67.65 323 eP **P** **14 10 09.9 -0.2**
baz=322
MK31 Makanchi Array 67.95 327 P **P** **14 10 11.9 +0.2**
MK31 IAmb IAmb 14 10 12.9
comp=Z,12nm,0.7s
MKAR Makanchi Array 67.95 327 P **P** **14 10 12.0 +0.2**
comp=Z,16nm,0.6s,baz=127,slow=7.8,SNR=204
MKAR PcP **PcP** **14 10 37.1 +0.3**
comp=Z,7.6nm,0.6s,baz=129,slow=4.8,SNR=8.6
MKAR Makanchi Array 67.95 327 P **P** **14 10 11.9 +0.2**
SATY Saty 67.97 322 eP **P** **14 10 12.1 0.0**
baz=322
KPKS Kokpek 68.03 323 eP **P** **14 10 12.2 -0.2**
comp=Z,6.6nm,1.0s,baz=323
MAKZ Makanchi 68.13 327 P **P** **14 10 12.9 +0.1**
MAKZ IAmb IAmb 14 10 13.9
comp=Z,12nm,0.7s
MA2 Magadan 68.70 12 P **P** **14 10 17.0 +1.0**
comp=Z,17nm,0.8s,baz=185,slow=5.7,SNR=28
MA2 Magadan 68.70 12 P **P** **14 10 16.6 +0.6**
MA2 IAmb IAmb 14 10 18.0
comp=Z,25nm,0.9s
TNSS Tian-Shan 68.86 322 eP **P** **14 10 18.2 +0.3**
baz=322
MDOK Medeo 68.86 322 eP **P** **14 10 17.4 -0.2**
baz=322
AAA Alma-Ata 68.97 322 eP **P** **14 10 18.4 +0.2**
comp=Z,5.1nm,0.4s,baz=322
YAK Yakutsk 68.99 0 P **P** **14 10 17.8 +0.1**
comp=Z,20nm,0.3s,baz=31,slow=0.3,SNR=31
YAK Yakutsk 68.99 0 P **P** **14 10 17.8 +0.1**
TDK Taldyqorghan 69.07 324 eP **P** **14 10 18.5 -0.1**
comp=Z,5.2nm,0.5s,baz=324
CHKK Chushkaly 69.28 322 eP **P** **14 10 19.6 -0.3**
baz=322
TKM2 Tokmak 2 69.64 321 P **P** **14 10 22.9 +0.5**
SNR=7.6
KUU Kurty 69.69 322 eP **P** **14 10 22.3 -0.2**
comp=Z,14nm,0.5s,baz=322
UCH Uchtor 69.97 320 P **P** **14 10 25.7 +1.0**
SNR=13
AAK Ala-Archa 70.19 320 P **P** **14 10 26.7 +1.0**
SNR=12
AAK Ala-Archa 70.19 320 P **P** **14 10 25.6 -0.1**
KBL Kabul 70.30 310 P **P** **14 10 25.9 -0.7**
KBL IAmb IAmb 14 10 28.8
comp=Z,11nm,0.7s
AML Almayashu 70.44 319 P **P** **14 10 28.4 +0.8**
SNR=26
USP Ospenovka 70.50 321 P **P** **14 10 28.1 +0.7**
SNR=22
SGDS Sogindy 70.52 321 eP **P** **14 10 27.5 -0.1**
baz=321
EKS2 Erkin-Say 70.65 320 P **P** **14 10 29.6 +1.1**

SNR=19
SEM Semipalatinsk 71.25 329 *e*P P 14 10 31.2 -0.9
baz=329
ZALV Zalesovo Beam 71.40 334 P P 14 10 31.9 -0.6
comp=Z,14nm,0.5s,baz=125,slow=5.0,SNR=58
ZALV pP pP 14 11 13.7 0.0
comp=Z,1.6nm,0.5s,baz=192,slow=14,SNR=1.3
BTLS Baital 71.69 322 *e*P P 14 10 34.3 -0.3
baz=322
SEY Seymchan 72.10 11 P P 14 10 37.5 +1.0
comp=Z,41nm,0.6s,baz=196,slow=4.7,SNR=220
VNDA Vanda 72.38 173 P P 14 10 38.6 +0.6
comp=Z,5.1nm,0.8s,baz=319,slow=6.2,SNR=29
VNDA Vanda 72.38 173 P P 14 10 38.7 +0.6
SBA Scott Base 73.28 172 P P 14 10 45.0 +1.7
MAW Mawson 74.53 201 P P 14 10 52.4 +1.6
comp=Z,9.1nm,0.6s,baz=72,slow=5.3,SNR=13
MAW Mawson 74.53 201 P P 14 10 52.5 +1.8
baz=74,SNR=11
BRZS Berezniki 75.03 326 *e*P P 14 10 53.5 -0.4
baz=326
WSAR Wadi Sarin 75.27 296 P P 14 10 56.4 +0.5
comp=Z,7.8nm,0.5s,baz=141,slow=6.1,SNR=12
HRA Herat 75.47 308 P P 14 10 57.0 0.0
SOCY Socotra 77.24 284 P P 14 11 06.6 -0.6
BRVK Borovoye 77.88 328 P P 14 11 09.6 -0.2
TIXI Tiksi 78.65 360 P P 14 11 13.5 -0.2
comp=Z,17nm,0.5s,baz=158,slow=4.3,SNR=21
TIXI Tiksi 78.65 360 P P 14 11 12.7 -1.0
TIXI IAmb IAmb 14 11 14.4
comp=Z,17nm,0.6s
NIKH Nikolski High 79.39 33 P P 14 11 16.9 -1.2
BILL Bilibino 79.44 13 P P 14 11 18.0 -0.1
GEYT Alibeck 79.75 310 P P 14 11 20.0 -0.5
comp=Z,1.6nm,0.5s,baz=191,slow=6.0,SNR=4.4
GEYT Alibeck 79.75 310 IAmb IAmb 14 11 21.5
comp=Z,2.7nm,0.7s
ABKAR Akbulak array 82.17 322 P P 14 11 32.0 -0.9
SYO Syowa Base 83.24 201⇓ *e*P P 14 11 39.4 +1.3
SYO Syowa Base 83.24 201⇑ *e*pP pP 14 12 23.0 +2.1
ARU Arti 85.45 328 P P 14 11 48.5 -0.9
ARU IAmb IAmb 14 11 50.2
comp=Z,24nm,0.8s
RAYN Ar Rayn 87.13 294 P P 14 11 58.0 -0.4
A21K Barrow 91.71 18 P P 14 12 18.3 -0.5
A21K IAmb IAmb 14 12 19.7
comp=Z,17nm,1.5s
MLY Manley 92.24 25 P P 14 12 20.9 -0.5
RND Reindeer 92.73 26 P P 14 12 22.5 -1.2
RND IAmb IAmb 14 12 23.7
comp=Z,13nm,0.8s
I23K Minto, Yukon-K 92.84 25 P P 14 12 23.7 -0.3
I23K IAmb IAmb 14 12 25.0
comp=Z,9.8nm,0.9s
COLD Coldfoot 92.90 23 P P 14 12 24.2 -0.1
WRH Wood River Hil 93.25 25 P P 14 12 24.8 -1.2
WRH IAmb IAmb 14 12 25.9
comp=Z,7.2nm,0.9s
CCB Clear Creek Bu 93.40 25 P P 14 12 25.3 -1.4
CCB IAmb IAmb 14 12 26.4
comp=Z,9.2nm,0.9s
ILAR Eielson Array 93.81 25 P P 14 12 27.1 -1.5
comp=Z,2.0nm,0.8s,baz=272,slow=4.7,SNR=18
ILAR Eielson Array 93.81 25 P P 14 12 26.3 -2.3
BELA Belgrano 2 94.62 183 P P 14 12 32.1 0.0
BELA IAmb IAmb 14 12 33.2
comp=Z,6.8nm,0.7s
SNAA Sanae 95.33 194 P P 14 12 36.5 +0.9
L27K Beaver Creek, 95.84 27 P P 14 12 38.1 +0.2
L27K IAmb IAmb 14 12 39.3
comp=Z,5.2nm,0.8s
VNA2 Neumayer--Watz 96.91 193 P P 14 12 43.7 +1.0
baz=157,slow=3.3
DAWY Dawson 96.98 26 P P 14 12 41.6 -1.5
DAWY IAmb IAmb 14 12 45.0
comp=Z,6.5nm,1.2s
VNA3 Neumayer Olymp 97.17 192 P P 14 12 43.0 -0.8
INK Inuvik 99.29 22 P Pdif 14 12 52.6 -0.6
comp=Z,2.0nm,0.4s,baz=202,slow=7.8,SNR=3.4
INK Inuvik 99.29 22 IAmb IAmb 14 13 17.2
comp=Z,5.7nm,1.4s
ARCES ARCESS Array B 101.47 340 P Pdif 14 13 01.9 -1.0
comp=Z,6.9nm,0.7s,baz=78,slow=6.5,SNR=24
ARCES PKKPbc **PKKPbc** 14 29 10.4 -3.2
comp=Z,2.7nm,0.8s,baz=292,slow=3.3,SNR=5.5
MNK Minsk 102.39 324 *i* P Pdif 14 13 07.9 +0.5
comp=E,2.0nm,0.8s
MNK *i* P Pdif 14 13 07.9 +0.5
comp=N,28nm,1.0s
MNK *i* P Pdif 14 13 07.9 +0.5
comp=Z,8.0nm,0.7s
MNK *i* pP pPdif 14 13 55.2 +4.0
MNK *i* PP PP 14 17 23.1 +1.0
MNK *i* PPP PPP 14 19 34.3
MNK *i* S SKSac 14 23 28.9 -0.9
MNK *i* sS pS 14 24 56.2 -36
MNK *i* SS SS 14 31 48.1 +2.1
MNK *i* SSS SSS 14 35 38.4
MNK *i* LRM MLR 15 00 02.2
comp=Z,97nm,26.2s
MNK *i* LRM MLR 15 00 12.0
comp=E,5.0nm,15.8s
MNK *i* LRM MLR 15 00 24.5
comp=N,155nm,17.1s
FINES FINESS Array B 102.55 331 P Pdif 14 13 06.9 -0.9
comp=N,2.0nm,0.8s,baz=49,slow=5.8,SNR=5.4
NACGM Naroch 102.99 325 *i* P Pdif 14 13 10.0 0.0
NACGM *i* P Pdif 14 13 10.0 0.0
NACGM *i* P Pdif 14 13 10.0 0.0
NACGM *i* PP PP 14 17 08.6 -18
NACGM *i* PPP PPP 14 19 10.6
NACGM *i* SKS 14 21 57.7
NACGM *i* SS SS 14 31 17.1 -37
NACGM *i* SSS SSS 14 34 39.3
NACGM *i* LQ LQ 14 52 15.2
NACGM *i* LR LR 15 00 36.2
YKA Yellowknife Ar 108.22 26 Pdiff Pdif 14 13 33.4 +0.2
comp=N,0.2nm,0.6s,baz=295,slow=3.9,SNR=3.2
YKA PKiKP **PKiKP** 14 17 38.8 +0.2
comp=N,0.2nm,0.6s,baz=300,slow=1.1,SNR=3.2
YKA PKKPbc **PKKPbc** 14 28 50.5 -2.5
comp=N,0.4nm,0.8s,baz=104,slow=3.5,SNR=7.0
GERES GERESS Array B 112.06 320 PKiKP **PKiKP** 14 17 46.7 +0.3
comp=N,0.5nm,0.4s,baz=90,slow=2.9,SNR=3.6
PDAR Pinedale Array 117.53 45 PKP **PKiKP** 14 17 57.9 +0.6
comp=N,0.4nm,0.8s,baz=2.7,slow=3.1,SNR=2.8
PDAR PKKPbc **PKKPab** 14 28 22.9 -1.1
comp=N,0.2nm,0.5s,baz=182,slow=2.2,SNR=4.8
TXAR Lajitas Array 125.65 59 PKP **PKiKP** 14 18 14.3 +0.8
comp=N,0.2nm,0.5s,baz=182,slow=2.2,SNR=4.8
ESDC Sonseca Array 127.09 315 PP PP 14 20 16.1 0.0
comp=N,1.5nm,0.9s,baz=53,slow=6.8,SNR=5.3
TORD Torodi Ar. Bea 128.11 281 PKP **PKiKP** 14 18 18.4 -0.2
comp=N,2.0nm,0.6s,baz=101,slow=2.3,SNR=12
DBIC Dimbokro 134.45 272 PKP **PKiKP** 14 18 31.1 -0.4
comp=N,1.4nm,0.4s,baz=295,slow=8.2,SNR=3.6
DBIC SKPbc **SKPbc** 14 21 42.7 -0.7
comp=N,9.4nm,0.7s,baz=72,slow=3.5,SNR=9.5
LVC Limon Verde 145.48 149 PKPbc **PKPab** 14 18 52.6 +1.7
comp=N,15nm,0.7s,baz=249,slow=4.0,SNR=19
CPUP Villa Florida 146.10 169 PKPbc **PKPab** 14 18 52.6 -0.1
comp=N,14nm,0.9s,baz=184,slow=2.4,SNR=25
CPUP SKPbc **SKPbc** 14 22 13.4 -0.8
comp=N,5.5nm,0.6s,baz=67,slow=0.6,SNR=5.1
CPUP Villa Florida 146.10 169 **PKPbc** 14 18 52.3 +0.4
NNA Nana 147.83 126 PKPbc **PKiKP** 14 18 58.6 -0.3
comp=N,13nm,0.4s,baz=263,slow=7.2,SNR=7.3
ATAH Atahualpa 148.99 117 PKPbc **PKiKP** 14 19 01.2 -0.6
comp=N,10.0nm,0.5s,baz=223,slow=2.5,SNR=7.0
LPAZ La Paz 151.04 144 PKP **PKPdf** 14 19 00.9 +1.2
comp=N,4.1nm,0.4s,baz=107,slow=1.0,SNR=5.3
LPAZ PKPbc **PKiKP** 14 19 07.1 +0.9
comp=N,4.3nm,0.4s,baz=359,slow=2.9,SNR=29
LPAZ PKPab **PKPab** 14 19 15.4 +1.7
comp=N,8.5nm,0.5s,baz=201,slow=4.2,SNR=18
SIV San Ignacio 154.83 156 PKPbc **PKiKP** 14 19 14.3 +1.0
comp=N,0.5nm,0.3s,baz=180,slow=4.8,SNR=5.8
SIV PKPab **PKPab** 14 19 30.3 +1.4
comp=N,4.9nm,0.6s,baz=222,slow=4.6,SNR=18

*GUC **25** 14:14:53.8±0.7,36°.26S×73°.77W,h34km±8km,ML4.6*
*NEIC **25** 14:14:54.2±1.5,36°.26S±0°.06×73°.7W±0°.1,h27km±10km,*
Error ellipse: s-maj=15.4km s-min=7.9km az=83.0
ISC 25 14:14:55.1±1.5,**36°.35S**±0°.05×**73°.8W**±0°.1,**h62**km±10km,
n32,σ2**s42**/39,**4C**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.78**	**129⇑**	*e*P		P	**Pn**	**14 15 09.7**	**-0.9**
BI03				*i* S		S	**Sn**	**14 15 20.0**	**-1.9**
BI03				IAML				14 15 23.9	
	comp=N,109µm,0.7s								
BI03	**Tigo**	**0.78**	**129**			P	**Pn**	**14 15 09.7**	**-0.9**
BI03					Sn	S	**Sn**	**14 15 20.9**	**-0.9**
LAJA	**Laja**	**1.27**	**137**	*e*P		P	**Pn**	**14 15 15.8**	**-0.9**
LAJA				*i* S		S	**Sn**	**14 15 32.7**	**-0.1**
BI02	**San Fabin de**	**2.05**	**99⇑**	*e*P		P	**Pn**	**14 15 27.0**	**-0.3**
BI02				*e*S		S	**Sn**	**14 15 52.1**	**+0.3**
BI02				IAML				14 15 56.0	
	comp=E,3µm,0.4s								
BI02	**San Fabin de**	**2.05**	**99**	Pn		P	**Pn**	**14 15 26.8**	**-0.5**
BO03	**Pichilemu**	**2.38**	**39**	*e*P		P	**Pn**	**14 15 29.6**	**-2.2**
BO03				*e*S		S	**Sn**	**14 16 01.1**	**+1.3**
BO02	**Sierra Bellavi**	**2.90**	**58⇑**	*e*P		P	**Pn**	**14 15 38.0**	**-1.0**
BO02				*i* S		S	**Sn**	**14 16 10.8**	**-1.9**
BO02				IAML				14 16 28.1	
	comp=N,3µm,0.5s								
BO02	**Sierra Bellavi**	**2.90**	**58**	Pn		P	**Pn**	**14 15 38.0**	**-1.0**
MT09	**Talagante**	**3.44**	**43⇑**	*e*P		P	**Pn**	**14 15 45.2**	**-1.2**
MT09				*e*S		S	**Sn**	**14 16 24.0**	**-2.1**
MT09				IAML				14 16 42.6	
	comp=N,968nm,0.4s								
MT02	**Curacav**	**3.78**	**36**	*e*P		P	**Pn**	**14 15 48.4**	**-2.4**
MT02				*i* S		S	**Sn**	**14 16 40.5**	**+6.5**
MT02	**Curacav**	**3.78**	**36**			P	**Pn**	**14 15 48.5**	**-2.4**
MT05	**Renca**	**3.87**	**41**	Pn		P	**Pn**	**14 15 51.2**	**-1.0**
PEL	**Peldehue**	**4.09**	**39**			P	**Pn**	**14 15 54.2**	**-1.1**
VA03	**San Esteban**	**4.46**	**38**			P	**Pn**	**14 15 58.7**	**-1.7**
PLCA	**Paso Flores**	**5.05**	**151**	Pn		P	**Pn**	**14 16 09.4**	**+0.9**
CO02	**Combarbal**	**5.63**	**25**			P	**Pn**	**14 16 14.4**	**-2.0**
CO03	**El Pedregal**	**6.07**	**26**	Pn		P	**Pn**	**14 16 20.5**	**-2.0**
LL01	**San Ignacio de**	**6.11**	**170**	Pn		P	**Pn**	**14 16 24.7**	**+1.9**
ZON	**Zonda**	**6.40**	**43**			P	**Pn**	**14 16 26.1**	**-0.7**
GO04	**Tololo Observa**	**6.65**	**23**			P	**Pn**	**14 16 28.3**	**-2.1**
LCO	**Las Campanas**	**7.77**	**20**	Pn		P	**Pn**	**14 16 44.0**	**-1.8**
AC04	**Llanos de Chal**	**8.44**	**17**	Pn		P	**Pn**	**14 16 53.0**	**-1.7**
GO03	**Copiap**	**9.24**	**20**	Pn		P	**Pn**	**14 17 03.9**	**-1.8**
MNMC	**Minye Minye**	**17.55**	**13**	P		P	**Pn**	**14 18 56.7**	**+0.6**
MNMC				IAmb		IAmb		14 19 00.1	
	comp=Z,37nm,0.7s								
EFI	**East Falkland**	**18.97**	**149**			P	**Pn**	**14 19 13.2**	**+0.7**
EFI				IAmb		IAmb		14 19 35.8	
	comp=Z,25nm,1.2s								
VNA3	**Neumayer Olymp**	**47.74**	**157**	P		P		14 23 31.1	+5.7
VNA3	**Neumayer Olymp**	**47.74**	**157**	ScP		**ScP**		**14 28 35.8**	**-6.7**
VNA2	**Neumayer--Watz**	**48.42**	**156**	P		P		**14 23 34.2**	**+3.6**
	baz=293,slow=7.5								
VNA2	**Neumayer--Watz**	**48.42**	**156**	ScP		**ScP**		**14 28 41.1**	**-4.3**
	baz=282,slow=8.1								
SNAA	**Sanae**	**49.97**	**157**	P		P		**14 23 43.1**	**+0.6**
SNAA	**Sanae**	**49.97**	**157**	ScP		**ScP**		**14 28 52.2**	**+0.2**
SNAA	**Sanae**	**49.97**	**157**	P		P		**14 23 46.7**	**+4.2**

*IDC **25** 14:17:00.2±0.9,36°.22S×73°.22W,h0km,mb4.1/9,*
mb1 4.3/10,mb1mx4.1/31,mbtmp4.2/10,ML3.9/1,MS4.2/3,
Ms1 4.2/3,ms1mx3.7/23,Error ellipse: s-maj=37.9km
s-min=17.2km az=71.0
*NEIC **25** 14:17:03.2±2.4,36°.15S±0°.06×73°.5W±0°.1,h19km±1km,*
mb4.5/12,ML4.7(GUC),Error ellipse: s-maj=14.8km
s-min=7.9km az=81.0
*GUC **25** 14:17:03.3±0.8,36°.30S×73°.68W,h41km±4km,ML4.8*
ISC 25 14:17:03.1±1.4,**36°.18S**±0°.04×**73°.50W**±0°.08,**h19**km±5km,
n57,σ1**s28**/55,**mb4.4**/12,**MS4.1**/3,**2C**,**Near coast of**
central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.76**	**150**	*e*P		P	**Pb**	**14 17 17.3**	**-0.4**
BI03				*e*S		S	**Sg**	**14 17 27.6**	**-0.5**
BI03				IAML				14 17 30.2	
	comp=N,131µm,0.4s								
BI03	**Tigo**	**0.76**	**150**				**Pb**	**14 17 17.3**	**-0.4**
LAJA	**Laja**	**1.27**	**150⇑**	*e*P		P	**Pn**	**14 17 24.5**	**-1.2**
LAJA				*e*S		S	**Sb**	**14 17 40.9**	**-1.3**
BI02	**San Fabin de**	**1.86**	**106**	*e*P		P	**Pn**	**14 17 34.6**	**+0.7**
BI02				*e*S		S	**Sb**	**14 17 58.7**	**-0.6**
BI02				IAML				14 18 02.9	
	comp=E,5µm,0.5s								
BI02	**San Fabin de**	**1.86**	**106**	Pn		P	**Pn**	**14 17 34.5**	**+0.6**
BO03	**Pichilemu**	**2.10**	**37⇑**	*e*P		P	**Pn**	**14 17 37.7**	**+0.5**
BO03				*e*S		S	**Sn**	**14 18 01.2**	**-1.6**
BO03				IAML				14 18 18.1	
	comp=N,3µm,0.5s								
BO02	**Sierra Bellavi**	**2.62**	**59**	*e*P		P	**Pn**	**14 17 46.2**	**+1.8**
BO02				*i* S		S	**Sn**	**14 18 18.4**	**+2.7**
BO02				IAML				14 18 31.8	
	comp=E,4µm,0.6s								
BO02	**Sierra Bellavi**	**2.62**	**59**	Pn		P	**Pn**	**14 17 45.6**	**+1.3**
MT02	**Curacav**	**3.51**	**34**	Pn		P	**Pn**	**14 17 55.9**	**-0.6**
LMEL	**Las Melosas**	**3.57**	**50**	*e*P		P	**Pn**	**14 17 59.5**	**+2.0**
LMEL				*e*S		S	**Sn**	**14 18 42.0**	**+2.7**
LMEL				IAML				14 19 02.9	
	comp=N,2µm,0.7s								
MT05	**Renca**	**3.59**	**40**	Pn		P	**Pn**	**14 17 58.0**	**+0.2**
PEL	**Peldehue**	**3.82**	**38**	Pn		P	**Pn**	**14 18 02.0**	**+1.1**
VA03	**San Esteban**	**4.19**	**36**	Pn		P	**Pn**	**14 18 06.8**	**+0.8**
H03S1	**Juan Fernandez**	**5.01**	**296**	T		T		14 23 15.3	
	baz=117,slow=74								
H03S3	**Juan Fernandez**	**5.02**	**296**	T		T		14 23 24.6	
	baz=117,slow=74								
H03S2	**Juan Fernandez**	**5.03**	**296**	T		T		14 23 23.4	
	baz=117,slow=74								
PLCA	**Paso Flores**	**5.10**	**154**	Pn		P	**Pn**	**14 18 18.2**	**-0.2**
	comp=N,1.0nm,0.3s,baz=89,slow=18,SNR=0.8								
PLCA				Lg		Lg		14 19 39.7	
	comp=N,2.8nm,0.3s,baz=250,slow=16,SNR=2.3								
PLCA	**Paso Flores**	**5.10**	**154**	Pn		P	**Pn**	**14 18 20.4**	**+2.0**
H03N1	**Juan Fernandez**	**5.22**	**300**	T		T		14 23 39.3	
	baz=124,slow=73								
H03N3	**Juan Fernandez**	**5.22**	**300**	T		T		14 23 41.8	
	baz=124,slow=73								
H03N2	**Juan Fernandez**	**5.24**	**300**	T		T		14 23 40.6	
	baz=124,slow=73								
CO02	**Combarbal**	**5.39**	**23**	Pn		P	**Pn**	**14 18 22.3**	**-0.2**
CO03	**El Pedregal**	**5.83**	**25**	Pn		P	**Pn**	**14 18 28.9**	**+0.5**
LL01	**San Ignacio de**	**6.24**	**173**	Pn		P	**Pn**	**14 18 33.9**	**-0.1**
GO04	**Tololo Observa**	**6.41**	**21**	Pn		P	**Pn**	**14 18 37.0**	**+0.4**
LCO	**Las Campanas**	**7.53**	**19**	Pn		P	**Pn**	**14 18 51.3**	**-0.7**
AC04	**Llanos de Chal**	**8.22**	**15**	Pn		P	**Pn**	**14 18 59.8**	**-1.5**
GO03	**Copiap**	**9.00**	**19**	Pn		P	**Pn**	**14 19 11.2**	**-0.9**
PB01	**IPOC Station P**	**15.49**	**14**	P		P		**14 20 46.8**	**+1.9**
PB01				IAmb		IAmb		14 20 57.1	
	comp=Z,46nm,1.5s								
CPUP	**Villa Florida**	**16.94**	**59**	Pn		P	**Pn**	**14 20 56.9**	**-2.1**
PB16	**IPOC Station P**	**18.13**	**12**	P		P	**Pn**	**14 21 14.2**	**-0.2**
EFI	**East Falkland**	**19.00**	**149**	Pn		P	**Pn**	**14 21 25.2**	**+1.0**
EFI				IAmb		IAmb		14 21 28.1	
	comp=Z,20nm,1.1s								
LPAZ	**La Paz**	**20.39**	**15**	P		P	Pn	14 21 44.6	+3.1
	comp=Z,5.9nm,0.8s,baz=184,slow=9.4,SNR=4.7								
LPAZ				LR		LR		14 29 56.5	
	comp=Z,745nm,18.6s,baz=168,slow=38								
LPAZ	**La Paz**	**20.39**	**15**	P		P		**14 21 38.4**	**-1.0**
SIV	**San Ignacio**	**22.96**	**32**	P		P		**14 22 06.4**	**0.0**
	comp=Z,12nm,1.0s,baz=227,slow=12,SNR=11								
PTGA	**Pitinga**	**37.45**	**23**	P		P		**14 24 15.2**	**0.0**
	comp=Z,1.2nm,0.4s,baz=316,slow=22,SNR=2.4								
PTGA				LR		LR		14 42 17.5	
	comp=Z,232nm,19.9s,baz=178,slow=41								
PTGA	**Pitinga**	**37.45**	**23**	P		P		**14 24 14.7**	**-0.6**
PTGA				IAmb		IAmb		14 24 16.1	
	comp=Z,8.7nm,1.2s								
ROSC	**El Rosal**	**40.82**	**359**	LR		LR		14 39 50.9	
	comp=Z,305nm,19.2s,baz=276,slow=34								
SDV	**Santo Domingo**	**44.91**	**4**	P		P		**14 25 13.9**	**-2.9**
	comp=Z,1.6nm,0.3s,baz=186,slow=9.2,SNR=1.9								
SNAA	**Sanae**	**50.03**	**157**	P		P		**14 25 54.3**	**-1.6**
	comp=Z,6.3nm,0.9s,baz=287,slow=5.5,SNR=6.8								
SNAA	**Sanae**	**50.03**	**157**	P		P		**14 25 56.6**	**+0.7**
QSPA	**South Pole Qui**	**54.06**	**180**	P		P		**14 26 27.3**	**+1.3**
QSPA				IAmb		IAmb		14 26 53.4	
	comp=Z,4.7nm,0.9s								
TEIG	**Tepich**	**57.82**	**344**	P		P		**14 26 54.2**	**+1.0**
	comp=Z,5.4nm,0.7s,baz=180,slow=2.0,SNR=2.2								
TXAR	**Lajitas Array**	**71.08**	**332**	P		P		**14 28 21.2**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=152,slow=8.1,SNR=7.3								
TX31	**Lajitas Ar. Si**	**71.08**	**332**	P		P		**14 28 21.1**	**+1.1**
TX31				IAmb		IAmb		14 28 44.1	
	comp=Z,5.2nm,1.0s								
CPCT	**Cooper Cave**	**72.00**	**351**	P		P		**14 28 24.3**	**-1.0**
V48A	**Smith Brothers**	**72.62**	**349**	P		P		**14 28 29.4**	**+0.4**
NVAR	**Mina Array Bea**	**85.01**	**326**	P		P		**14 29 39.1**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=152,slow=6.7,SNR=3.9								
PDAR	**Pinedale Array**	**85.19**	**334**	P		P		**14 29 39.6**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=158,slow=5.8,SNR=2.1								
TORD	**Torodi Ar. Bea**	**86.07**	**71**	P		P		**14 29 41.3**	**-1.5**
	comp=Z,1.3nm,0.9s,baz=255,slow=5.7,SNR=3.8								
TORD	**Torodi Ar. Bea**	**86.07**	**71**	IAmb		IAmb		14 30 04.8	
	comp=Z,3.1nm,1.1s								
ULM	**Lac du Bonnet**	**88.30**	**346**	P		P		**14 29 52.2**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=140,slow=5.4,SNR=4.6								
BVAR	**Borovoye Array**	**149.68**	**45**	PKPbc		**PKPbc**		**14 36 50.2**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=303,slow=2.9,SNR=3.5								
ZALV	**Zalesovo Beam**	**156.71**	**34**	PKPab		**PKPab**		**14 37 25.0**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=305,slow=3.1,SNR=4.4								
MKAR	**Makanchi Array**	**159.07**	**52**	PKP		**PKPdf**		**14 36 59.3**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=11,slow=2.9,SNR=3.1								
MKAR				PKPab		**PKPab**		**14 37 34.5**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=267,slow=2.4,SNR=3.5								
MKAR	**Makanchi Array**	**159.07**	**52**	PKPdf		**PKPdf**		**14 36 59.4**	**-0.1**
SONM	**Songino Array**	**168.36**	**0**	PKPab		**PKPab**		**14 38 17.9**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=349,slow=6.0,SNR=4.2								

*IDC **25** 14:23:44.9±1.9,36°.23S×73°.43W,h0km,mb3.5/3,*
mb1 3.8/4,mb1mx3.6/33,mbtmp3.6/4,ML3.8/1,Error
ellipse: s-maj=56.1km s-min=21.4km az=74.0
*NEIC **25** 14:23:45.9±1.7,36°.23S±0°.05×73°.62W±0°.05,h21km±6km,*
mb4.3/7,ML4.0(GUC),Error ellipse: s-maj=8.2km
s-min=4.2km az=207.0
*GUC **25** 14:23:46.2±0.7,36°.19S×73°.60W,h33km±9km,ML4.0*
ISC 25 14:23:45.2±1.6,**36°.19S**±0°.04×**73°.59W**±0°.06,**h11**km±10km,
n45,σ1**s05**/49,**mb4.4**/4,**3C**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.80**	**145⇑**	*i*P		P	**Pg**	**14 24 00.7**	**0.0**
BI03				*i* S		S	**Sg**	**14 24 11.3**	**+0.1**
BI03	**Tigo**	**0.80**	**145**			P	**Pg**	**14 24 00.5**	**-0.2**
BI03					Sg	S	**Sg**	**14 24 11.3**	**+0.1**
LAJA	**Laja**	**1.30**	**147**	*e*P		P	**Pn**	**14 24 08.0**	**-1.4**
LAJA				*i* S		S	**Sb**	**14 24 24.3**	**-2.1**
BI02	**San Fabin de**	**1.93**	**105**	*e*P		P	**Pn**	**14 24 17.9**	**-0.1**
BI02				*i* S		S	**Sn**	**14 24 41.8**	**-0.6**
BI02				IAML				14 24 46.0	
	comp=E,1µm,0.3s								
BI02	**San Fabin de**	**1.93**	**105**	Pn		P	**Pn**	**14 24 17.8**	**-0.3**
BO03	**Pichilemu**	**2.15**	**39**	*e*P		P	**Pn**	**14 24 20.4**	**-0.6**
BO03				*i* S		S	**Sn**	**14 24 46.6**	**-1.0**
BI04	**Isla Mocha**	**2.24**	**186**	*e*P		P	**Sn**	**14 24 49.2**	**-0.5**
BO02	**Sierra Bellavi**	**2.68**	**60**	*e*P		P	**Pn**	**14 24 28.8**	**+0.4**
BO02				*i* S		S	**Sn**	**14 25 00.1**	**-0.8**
BO02				IAML				14 25 14.3	
	comp=N,858nm,0.1s								
BO02	**Sierra Bellavi**	**2.68**	**60**	Pn		P	**Pn**	**14 24 29.0**	**+0.6**
MT09	**Talagante**	**3.21**	**42**	*e*P		P	**Pn**	**14 24 36.2**	**+0.4**
MT09				*i* S		S	**Sn**	**14 25 13.1**	**-1.1**
MT09				IAML				14 25 35.8	
	comp=E,332nm,0.6s								
MT02	**Curacav**	**3.55**	**35⇑**	*e*P		P	**Pn**	**14 24 39.5**	**-0.8**
MT02				IAML				14 25 43.4	
	comp=E,84nm,0.3s								
MT02	**Curacav**	**3.55**	**35**				**Pn**	**14 24 39.4**	**-0.8**
LMEL	**Las Melosas**	**3.63**	**51⇑**	*e*P		P	**Pn**	**14 24 41.3**	**-0.2**
LMEL				*e*S		S	**Sn**	**14 25 23.1**	**-1.3**
LMEL				IAML				14 25 48.8	
	comp=E,215nm,0.3s								
MT05	**Renca**	**3.64**	**41**	Pn		P	**Pn**	**14 24 41.7**	**+0.1**
PEL	**Peldehue**	**3.87**	**39**			P	**Pn**	**14 24 44.9**	**+0.3**
VA03	**San Esteban**	**4.24**	**37**			P	**Pn**	**14 24 49.7**	**-0.1**
H03S1	**Juan Fernandez**	**4.95**	**297**	T		T		14 30 03.3	
	baz=116,slow=75								
H03S3	**Juan Fernandez**	**4.96**	**297**	T		T		14 30 05.4	
	baz=116,slow=75								
H03S2	**Juan Fernandez**	**4.97**	**297**	T		T		14 30 03.1	
	baz=116,slow=75								
VA04	**Juan Fernndez**	**5.00**	**299**	Pn		P	**Pn**	**14 24 59.8**	**-0.4**
PLCA	**Paso Flores**	**5.13**	**153**	Pn		P	**Pn**	**14 25 03.1**	**+1.1**
	comp=E,0.8nm,0.3s,baz=329,slow=14,SNR=2.3								
PLCA				Lg		Lg		14 26 23.4	
	comp=E,1.2nm,0.3s,baz=252,slow=17,SNR=2.4								
PLCA	**Paso Flores**	**5.13**	**153**	Pn		P	**Pn**	**14 25 02.5**	**+0.5**
CO02	**Combarbal**	**5.42**	**24**	Pn		P	**Pn**	**14 25 05.4**	**-0.7**
CO03	**El Pedregal**	**5.86**	**25**			P	**Pn**	**14 25 11.6**	**-0.5**
ZON	**Zonda**	**6.17**	**43**	Pn		P	**Pn**	**14 25 16.5**	**+0.2**
LL01	**San Ignacio de**	**6.25**	**172**	Pn		P	**Pn**	**14 25 17.1**	**-0.3**
GO04	**Tololo Observa**	**6.44**	**22**	Pn		P	**Pn**	**14 25 20.0**	**-0.2**
LCO	**Las Campanas**	**7.56**	**20**	Pn		P	**Pn**	**14 25 35.3**	**-0.2**
AC04	**Llanos de Chal**	**8.24**

mb4.3/13,ML4.4(GUC),Error ellipse: s-maj=13.3km s-min=6.5km az=102.0

ISC 25 14:28:02.0±0.7,36°24S±0'04×73°77W±0'09,h21km±5km, n67,σ1?88/58,mb4.3/6,6C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.85**	**136**	⇑*eP*	**Pb**	**14 28 16.2**	**-1.9**
BI03				*i* S	**Sb**	**14 28 27.3**	**-1.8**
BI03	**Tigo**	**0.85**	**136**	Pn	**Pb**	**14 28 16.3**	**-1.9**
LAJA	**Laja**	**1.34**	**141**	⇑*eP*	Pn	14 28 23.7	-1.9
LAJA				*i* S	**Sn**	**14 28 39.9**	**-2.9**
LAJA				IAML		14 28 45.1	
	comp=N,2μm,0.3s						
BI02	**San Fabin de**	**2.06**	**103**	⇑*eP*	Pn	14 28 33.5	-2.0
BI02				*eS*	**Sn**	**14 28 57.3**	**-3.2**
BI02				IAML		14 29 05.0	
	comp=E,2μm,0.3s						
BI02	**San Fabin de**	**2.06**	**103**	Pn	**Pn**	**14 28 33.8**	**-1.6**
BO03	**Pichilemu**	**2.28**	**41**	⇑*eP*	Pn	14 28 36.1	-2.4
BO03				*i* S	**Sn**	**14 29 01.5**	**-4.4**
BO03				IAML		14 29 17.1	
	comp=N,673nm,0.4s						
CANA	**Caviahue**	**2.72**	**128**	*i* P	**Pn**	**14 28 45.4**	**+0.7**
CANA				IAML		14 29 32.4	
	comp=Z,436nm,0.6s						
BO02	**Sierra Bellavi**	**2.83**	**60**	⇑*eP*	Pn	14 28 43.6	-2.6
BO02				*i* S	**Sn**	**14 29 14.0**	**-5.7**
BO02				IAML		14 29 36.2	
	comp=N,929nm,0.3s						
BO02	**Sierra Bellavi**	**2.83**	**60**	Pn	**Pn**	**14 28 44.6**	**-1.5**
MT09	**Talagante**	**3.35**	**44**	IAML		14 29 53.2	
	comp=E,522nm,0.6s						
EDS3	**Malargue**	**3.57**	**84**	*i* P	**Pn**	**14 28 56.9**	**+0.5**
COIS	**El Sosneado**	**3.58**	**73**	*i* P	**Pn**	**14 28 55.6**	**-0.8**
COIS				*eS*	**Sb**	**14 29 49.9**	**+2.2**
PUMA	**Malargue**	**3.58**	**79**	*i* P	**Pn**	**14 28 59.0**	**+2.6**
PUMA				*eS*	**Sb**	**14 29 52.2**	**+4.4**
MT02	**Curacav**	**3.68**	**37**	Pn	Pn	14 28 55.1	-2.6
LMEL	**Las Melosas**	**3.77**	**52**	⇑*eP*	**Pn**	**14 28 59.0**	**-0.2**
LMEL				*eS*	**Sn**	**14 29 40.9**	**-2.1**
LMEL				IAML		14 30 04.5	
	comp=N,349nm,0.4s						
MT05	**Renca**	**3.78**	**42**	Pn	**Pn**	**14 28 57.8**	**-1.4**
LAMA	**Las Malvinas**	**3.94**	**72**	*i* P	**Pn**	**14 29 02.8**	**+1.6**
PEL	**Peldehue**	**4.00**	**40**	Pn	**Pn**	**14 29 01.1**	**-1.0**
PEL	**Peldehue**	**4.00**	**40**	*i* P	**Pn**	**14 29 01.2**	**-0.9**
PEL				*eS*	**Sb**	**14 30 01.9**	**+2.3**
VA03	**San Esteban**	**4.37**	**38**	Pn	**Pn**	**14 29 05.9**	**-1.4**
RFA	**San Rafael**	**4.57**	**73**	*i* P	**Pn**	**14 29 09.9**	**-0.1**
RFA				*eS*	**Sb**	**14 30 20.6**	**+4.5**
RFA				*eS*		14 30 20.8	
H03S1	**Juan Fernandez**	**4.84**	**298**	T	T	14 34 22.6	
	baz=118,slow=75,SNR=723						
H03S3	**Juan Fernandez**	**4.86**	**298**	T	T	14 34 24.7	
	baz=118,slow=75,SNR=673						
H03S2	**Juan Fernandez**	**4.86**	**298**	T	T	14 34 22.7	
	baz=118,slow=75,SNR=706						
H03N1	**Juan Fernandez**	**5.07**	**302**	T	T	14 34 38.8	
	baz=110,slow=75,SNR=6.1						
H03N3	**Juan Fernandez**	**5.07**	**302**	T	T	14 34 43.6	
	baz=110,slow=75,SNR=8.4						
H03N2	**Juan Fernandez**	**5.08**	**302**	T	T	14 34 48.6	
	baz=110,slow=75,SNR=7.7						
AAGR	**Agrelo**	**5.14**	**54**	*i* P	**Pn**	**14 29 18.8**	**+0.8**
PLCA	**Paso Flores**	**5.15**	**152**	Pn	**Pn**	**14 29 18.7**	**+0.7**
	comp=N,2.0nm,0.3s,baz=332,slow=12,SNR=20						
PLCA				Lg	Lg	14 30 39.8	
	comp=N,3.1nm,0.3s,baz=79,slow=21,SNR=5.2						
PLCA				LR	LR	14 31 20.4	
	comp=N,451nm,20.4s,baz=318,slow=40						
PLCA	**Paso Flores**	**5.15**	**152**		**Pn**	**14 29 18.4**	**+0.4**
AUSP	**Uspallata**	**5.40**	**43**	*i* P	**Pn**	**14 29 22.1**	**+0.4**
ASAL	**Salagasta**	**5.46**	**50**	*i* P	**Pn**	**14 29 23.0**	**+0.7**
CO02	**Combarbal**	**5.52**	**25**	Pn	Pn	14 29 21.0	-2.2
RTLS	**Leoncito**	**5.78**	**41**	*i* P	**Pn**	**14 29 27.1**	**+0.3**
RTLS				IAML		14 31 08.2	
	comp=Z,48nm,1.1s						
CO03	**El Pedregal**	**5.97**	**26**	Pn	**Pn**	**14 29 27.6**	**-1.7**
RTCV	**Cerro Valdivia**	**6.15**	**46**	*i* P	**Pn**	**14 29 31.4**	**-0.4**
RTCV				IAML		14 31 15.8	
	comp=Z,40nm,2.3s						
LL01	**San Ignacio de**	**6.22**	**171**		**Pn**	**14 29 32.4**	**-0.2**
ZON	**Zonda**	**6.31**	**44**	Pn	**Pn**	**14 29 33.2**	**-0.8**
ZON	**Zonda**	**6.31**	**44**	*i* P	**Pn**	**14 29 33.0**	**-0.9**
ZON				IAML		14 31 14.4	
	comp=Z,18nm,0.9s						
GO04	**Tololo Observa**	**6.54**	**23**	Pn	**Pn**	**14 29 35.3**	**-1.9**
RTLL	**Cerro Villicun**	**6.59**	**44**	*i* P	**Pn**	**14 29 37.0**	**-0.8**
RTLL				IAML		14 31 19.1	
	comp=Z,34nm,0.7s						
LCO	**Las Campanas**	**7.66**	**21**	Pn	**Pn**	**14 29 52.1**	**-0.5**
MRA	**San Martin**	**7.67**	**63**	*i* P	**Pn**	**14 29 51.8**	**-0.8**
MRA				IAML		14 31 08.7	
	comp=Z,6.4nm,0.7s						
AC04	**Llanos de Chal**	**8.33**	**17**	Pn	Pn	14 29 58.6	-3.0
APLL	**PUNTA DE LOS L**	**8.40**	**48**	*i* P	Pn	14 29 59.8	-2.9
PB15	**IPOC Station P**	**13.51**	**17**	Pn	**Pn**	**14 31 13.0**	**+0.3**
PB09	**IPOC Station P**	**14.92**	**17**		**P**	**14 31 35.8**	**-1.7**
PB01	**IPOC Station P**	**15.59**	**15**		**P**	**14 31 43.8**	**-1.1**
TA01	**Diego Aracena**	**15.93**	**12**	Pn	**Pn**	**14 31 46.3**	**+1.3**
TA01				IAmb	IAmb	14 32 13.8	
	comp=Z,17nm,1.2s						
MNMC	**Minye Minye**	**17.43**	**13**		**P**	**14 32 06.6**	**+1.2**
EFI	**East Falkland**	**19.07**	**149**	P	**P**	**14 32 22.6**	**-0.3**
EFI				IAmb	IAmb	14 32 26.7	
	comp=Z,18nm,1.1s						
LPAZ	**La Paz**	**20.49**	**16**	P	Pn	14 32 43.2	+1.7
	comp=Z,1.3nm,0.7s,baz=184,slow=7.6,SNR=5.3						
LPAZ	**La Paz**	**20.49**	**16**	Pn	Pn	14 32 42.7	+1.1
PMSA	**Palmer Station**	**29.16**	**171**	P	P	14 33 57.8	-3.7
BELA	**Belgrano 2**	**44.95**	**169**	P	**P**	**14 36 15.9**	**+0.9**
BELA				IAmb	IAmb	14 36 26.5	
	comp=Z,5.2nm,1.5s						
VNA3	**Neumayer Olymp**	**47.85**	**157**	P	**P**	**14 36 39.1**	**+1.2**
VNA2	**Neumayer--Watz**	**48.52**	**156**	P	**P**	**14 36 44.3**	**+1.2**
PTCN	**Pitcairn Islan**	**49.12**	**267**	P	**P**	**14 36 47.6**	**-0.6**
SNAA	**Sanae**	**50.07**	**157**	P	**P**	**14 36 56.2**	**+1.2**
SNAA	**Sanae**	**50.07**	**157**	P	**P**	**14 36 55.9**	**+0.9**
	comp=Z,3.7nm,0.9s,baz=272,slow=7.1						
SNAA	**Sanae**	**50.07**	**157**	IAmb	IAmb	14 37 11.7	
	comp=Z,5.0nm,1.1s						
QSPA	**South Pole Qui**	**54.00**	**180**	P	**P**	**14 37 26.1**	**+1.7**
QSPA				IAmb	IAmb	14 37 37.6	
	comp=Z,6.6nm,1.4s						
TX32	**Lajitas Array**	**71.03**	**333**	P	**P**	**14 39 18.6**	**+0.1**
TX32				IAmb	IAmb	14 39 18.9	
	comp=Z,2.6nm,1.4s						
TXAR	**Lajitas Array**	**71.03**	**333**	P	**P**	**14 39 20.8**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=150,slow=7.3,SNR=5.3						
TXAR	**Lajitas Array**	**71.03**	**333**	P	**P**	**14 39 18.5**	**0.0**
TX31	**Lajitas Ar. Sí**	**71.03**	**333**	P	**P**	**14 39 18.5**	**+0.1**
TX31				IAmb	IAmb	14 39 18.9	
	comp=Z,7.6nm,1.4s						
CCM	**Cathedral Cave**	**75.67**	**346**	P	**P**	**14 39 45.2**	**-0.3**

IDC 25 14:35:13.0±2.1,36°24S×73°40W,h0km,mb3.2/3, mb1 3.6/4,mb1mx3.5/28,mbtmp3.3/4,ML3.8/1,Error ellipse: s-maj=61.1km s-min=21.4km az=74.0

NEIC 25 14:35:15.4±2.0,36°32S±0'06×73°6W±0'1,h25km±4km, mb4.2/3,ML3.8(GUC),Error ellipse: s-maj=16.1km s-min=8.6km az=91.0

GUC 25 14:35:16.9±0.7,36°28S×73°56W,h34km±12km,ML3.7

ISC 25 14:35:16.3±1.1,36°29S±0'05×73°42W±0'09,h27km,n26, σ0?88/22,mb3.5/3,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.63**	**150**	⇑*eP*	**Pn**	**14 35 29.7**	**+0.1**
BI03				*i* S	**Sn**	**14 35 39.1**	**+0.4**
BI03				IAML		14 35 44.9	
	comp=E,14μm,0.3s						
BI03	**Tigo**	**0.63**	**150**	Pn	**Pn**	**14 35 29.6**	**+0.1**
LAJA	**Laja**	**1.14**	**150**	⇑*eP*	**Pb**	**14 35 37.4**	**0.0**
LAJA				*i* S	**Sb**	**14 35 53.1**	**+1.4**
BI02	**San Fabin de**	**1.77**	**103**	⇑*iP*	**Pb**	**14 35 47.2**	**-0.9**
BI02				*i* S	**Sb**	**14 36 11.1**	**+1.2**
BI02				IAML		14 36 15.4	
	comp=E,516nm,0.3s						
BI02	**San Fabin de**	**1.77**	**103**	Pn	**Pb**	**14 35 46.9**	**-1.2**
BO02	**Sierra Bellavi**	**2.62**	**56**	IAML		14 36 47.4	
	comp=N,330nm,0.5s						
BO02	**Sierra Bellavi**	**2.62**	**56**	Pn	**Pn**	**14 35 58.2**	**+1.2**
MT09	**Talagante**	**3.21**	**39**	IAML		14 37 04.1	
	comp=N,164nm,0.4s						
MT02	**Curacav**	**3.56**	**32**	Pn	**Pn**	**14 36 10.2**	**+0.4**
MT05	**Renca**	**3.64**	**38**	Pn	**Pn**	**14 36 12.2**	**+1.3**
PEL	**Peldehue**	**3.86**	**36**	Pn	**Pn**	**14 36 14.0**	**0.0**
VA03	**San Esteban**	**4.24**	**35**	Pn	**Pn**	**14 36 18.7**	**-0.6**
PLCA	**Paso Flores**	**4.97**	**154**	Pn	**Pn**	**14 36 28.9**	**-0.4**
	comp=N,0.8nm,0.3s,baz=325,slow=16,SNR=3.9						
PLCA				Lg	Lg	14 37 53.1	
	comp=N,0.5nm,0.3s,baz=351,slow=8.2,SNR=4.0						
PLCA	**Paso Flores**	**4.97**	**154**		**Pn**	**14 36 28.5**	**-0.8**
H03S1	**Juan Fernandez**	**5.12**	**297**	T	T	14 41 25.6	
	baz=118,slow=74						
H03S3	**Juan Fernandez**	**5.13**	**297**	T	T	14 41 23.8	
	baz=118,slow=74						
H03S2	**Juan Fernandez**	**5.14**	**297**	T	T	14 41 23.1	
	baz=118,slow=74						
LL01	**San Ignacio de**	**6.13**	**173**	Pn	**Pn**	**14 36 44.1**	**-0.9**
GO04	**Tololo Observa**	**6.49**	**20**	Pn	**Pn**	**14 36 48.8**	**-1.5**
LCO	**Las Campanas**	**7.61**	**18**	Pn	**Pn**	**14 37 05.1**	**-0.7**
EFI	**East Falkland**	**18.87**	**149**	P	**Pn**	**14 39 34.8**	**-0.3**
EFI				IAmb	IAmb	14 39 38.6	
	comp=Z,38nm,1.4s						
LPAZ	**La Paz**	**20.47**	**15**	P	Pn	14 39 53.3	-1.6
	comp=Z,0.3nm,0.4s,baz=202,slow=11,SNR=1.3						
LPAZ	**La Paz**	**20.47**	**15**	IAmb	IAmb	14 39 58.2	
	comp=Z,1.6nm,0.9s						
SIV	**San Ignacio**	**23.01**	**32**	P	**P**	**14 40 18.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=184,slow=8.3,SNR=2.1						
BELA	**Belgrano 2**	**44.84**	**169**	P	**P**	**14 43 27.4**	**-0.2**
BELA				IAmb	IAmb	14 43 34.3	
	comp=Z,6.5nm,1.5s						
TXAR	**Lajitas Array**	**71.21**	**332**	P	**P**	**14 46 33.7**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=143,slow=9.1,SNR=2.7						

SJA 25 14:41:29.1±0.6,36°70S×75°65W,h10km,ML4.3,MW4.3

IDC 25 14:41:52.6±2.1,36°28S×73°67W,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.7/20,mbtmp3.6/3,ML3.8/1,MS3.7/1, Ms1 3.7/1,ms1mx3.2/10,Error ellipse: s-maj=79.5km s-min=21.5km az=69.0

NEIC 25 14:41:54.4±2.0,36°18S±0'05×73°59W±0°07,h23km±7km, mb4.4/9,ML4.5(GUC),Error ellipse: s-maj=10.8km s-min=4.8km az=49.0

GUC 25 14:41:54.9±0.8,36°25S×73°61W,h37km±9km,ML4.5

ISC 25 14:41:52.0±3.2,36°26S±0'04×73°79W±0°07,h5km±21km, n63,σ2?16/67,mb4.3/4,5C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.85**	**134**	⇓*eP*	**Pb**	**14 42 08.7**	**-0.6**
BI03				⇑*iP*	**Pb**	**14 42 08.9**	**-0.4**
BI03				*i* S	**Sb**	**14 42 19.1**	**-1.9**
BI03				IAML		14 42 21.4	
	comp=N,62μm,0.7s						
BI03	**Tigo**	**0.85**	**134**		**Pb**	**14 42 08.9**	**-0.4**
LAJA	**Laja**	**1.34**	**140**	*eP*	**Pn**	**14 42 16.3**	**-1.1**
LAJA				*eS*	**Sn**	**14 42 32.0**	**-3.6**
BI02	**San Fabin de**	**2.07**	**102**	⇑*iP*	**Pn**	**14 42 25.9**	**-1.7**
BI02				*i* S	**Sn**	**14 42 50.1**	**-3.7**
BI02	**San Fabin de**	**2.07**	**102**		**Pn**	**14 42 25.9**	**-1.7**
BO03	**Pichilemu**	**2.31**	**41**	⇑*iP*	**Pn**	**14 42 27.9**	**-2.8**
BO03				*i* S	**Sn**	**14 43 00.3**	**+0.7**
CANA	**Caviahue**	**2.72**	**127**	*i* P	**Pn**	**14 42 36.6**	**+0.1**
CANA				*eS*	**Sb**	**14 43 17.9**	**+2.9**
CANA				IAML		14 43 24.8	
	comp=Z,924nm,1.0s						
BO02	**Sierra Bellavi**	**2.86**	**60**	⇓*eP*	**Pn**	**14 42 36.5**	**-1.9**
BO02				*eS*	**Sn**	**14 43 09.1**	**-4.2**
BO02				IAML		14 43 24.2	
	comp=E,2μm,0.3s						
BO02	**Sierra Bellavi**	**2.86**	**60**		**Pn**	**14 42 36.4**	**-2.0**
MT09	**Talagante**	**3.38**	**44**	⇑*eP*	**Pn**	**14 42 44.1**	**-1.5**
MT09				*eS*	**Sn**	**14 43 22.2**	**-4.0**
MT09				IAML		14 43 42.1	
	comp=N,949nm,0.5s						
PUMA	**Malargue**	**3.61**	**79**	*i* P	**Pb**	**14 42 54.6**	**-1.8**
PUMA				*eS*	**Sb**	**14 43 44.4**	**+4.0**
MT02	**Curacav**	**3.71**	**37**		**Pn**	**14 42 46.8**	**-3.2**
MT05	**Renca**	**3.81**	**42**		**Pn**	**14 42 49.7**	**-1.7**
LAMA	**Las Malvinas**	**3.96**	**72**	*i* P	**Pn**	**14 42 54.9**	**+1.4**
LAMA				*eS*	**Sb**	**14 43 54.8**	**+4.2**
PEL	**Peldehue**	**4.03**	**40**		**Pn**	**14 42 53.0**	**-1.4**
PEL	**Peldehue**	**4.03**	**40**	*i* P	**Pn**	**14 42 53.3**	**-1.2**
PEL				*eS*	**Sb**	**14 43 56.1**	**+3.5**
VA03	**San Esteban**	**4.40**	**38**		**Pn**	**14 42 57.3**	**-2.3**
H03S1	**Juan Fernandez**	**4.84**	**298**	T	T	14 48 16.3	
	baz=118,slow=76,SNR=331						
H03S3	**Juan Fernandez**	**4.85**	**299**	T	T	14 48 17.5	
	baz=118,slow=76,SNR=369						
H03S2	**Juan Fernandez**	**4.86**	**298**	T	T	14 48 14.7	
	baz=118,slow=76,SNR=342						
H03N1	**Juan Fernandez**	**5.06**	**302**	T	T	14 48 32.7	
	baz=136,slow=77,SNR=15						
H03N3	**Juan Fernandez**	**5.06**	**302**	T	T	14 48 31.9	
	baz=136,slow=77,SNR=11						
H03N2	**Juan Fernandez**	**5.08**	**302**	T	T	14 48 33.7	
	baz=136,slow=77,SNR=11						
PLCA	**Paso Flores**	**5.14**	**151**	Pn	**Pn**	**14 43 11.2**	**+1.5**
	comp=N,0.8nm,0.3s,baz=327,slow=12,SNR=20						
PLCA				Lg	Lg	14 44 32.5	
	comp=N,3.8nm,0.3s,baz=236,slow=18,SNR=5.7						
PLCA	**Paso Flores**	**5.14**	**151**		**Pn**	**14 43 10.6**	**+0.9**
AAGR	**Agrelo**	**5.17**	**54**	*i* P	**Pn**	**14 43 10.3**	**+0.1**
AAGR				IAML		14 45 00.8	
	comp=Z,83nm,1.6s						
ARCO	**CERRO ARCO**	**5.26**	**51**	*i* P	**Pn**	**14 43 11.0**	**-0.5**
ARCO				IAML		14 44 53.5	
	comp=Z,74nm,1.4s						
AUSP	**Uspallata**	**5.43**	**43**	*i* P	**Pn**	**14 43 13.8**	**-0.2**
AUSP				*eS*	**Sb**	**14 44 34.6**	**+1.3**
ASAL	**Salagasta**	**5.49**	**50**	*i* P	**Pn**	**14 43 14.7**	**+0.1**
ASAL				IAML		14 45 13.6	
	comp=Z,32nm,1.6s						
CO02	**Combarbal**	**5.55**	**26**		**Pn**	**14 43 13.0**	**-2.5**
RTLS	**Leoncito**	**5.81**	**41**	*i* P	**Pn**	**14 43 19.0**	**-0.1**
RTLS				*eS*	**Sb**	**14 44 49.2**	**+5.2**
RTLS				IAML		14 44 58.4	
	comp=Z,28nm,0.8s						
CO03	**El Pedregal**	**6.00**	**26**		**Pn**	**14 43 19.3**	**-2.2**
RTCV	**Cerro Valdivia**	**6.18**	**46**	*i* P	**Pn**	**14 43 22.9**	**-1.1**
RTCV				IAML		14 45 35.0	
	comp=Z,46nm,2.2s						
LL01	**San Ignacio de**	**6.20**	**170**		**Pn**	**14 43 24.8**	**+0.6**
ZON	**Zonda**	**6.34**	**44**		**Pn**	**14 43 23.5**	**-2.7**
ZON	**Zonda**	**6.34**	**44**	*i* P	**Pn**	**14 43 23.8**	**-2.4**
ZON				IAML		14 45 31.5	
	comp=Z,33nm,2.1s						
GO04	**Tololo Observa**	**6.57**	**23**		**Pn**	**14 43 27.4**	**-2.1**
GO04	**Tololo Observa**	**6.57**	**23**	*i* P	**Pn**	**14 43 27.8**	**-1.8**
RTLL	**Cerro Villicun**	**6.62**	**43**	*i* P	**Pn**	**14 43 28.7**	**-1.3**
RTLL				IAML		14 45 41.0	
	comp=Z,25nm,0.9s						
LCO	**Las Campanas**	**7.69**	**21**	Pn	**Pn**	**14 43 43.3**	**-1.6**
AC04	**Llanos de Chal**	**8.36**	**17**	Pn	**Pn**	**14 43 51.5**	**-2.4**
GO03	**Copiap**	**9.15**	**20**	Pn	**Pn**	**14 44 02.1**	**-2.7**
GO02	**Mina Guanaco**	**11.64**	**19**	Pn	**Pn**	**14 44 34.7**	**-4.4**
PB15	**IPOC Station P**	**13.54**	**17**	Pn	**Pn**	**14 45 04.3**	**-0.7**
PB06	**IPOC Station P**	**14.00**	**16**	Pn	**Pn**	**14 45 10.0**	**-1.3**
PB07	**IPOC Station P**	**14.88**	**14**	P	**Pn**	**14 45 25.7**	**+2.4**
PB01	**IPOC Station P**	**15.62**	**15**	Pn	**Pn**	**14 45 32.1**	**-0.9**
TA01	**Diego Aracena**	**15.96**	**12**	Pn	**Pn**	**14 45 36.4**	**-0.8**
TA01				IAmb	IAmb	14 46 01.2	
	comp=Z,28nm,1.4s						
PB08	**IPOC Station P**	**16.57**	**15**	P	**P**	**14 45 46.8**	**-1.4**
CPUP	**Villa Florida**	**17.18**	**59**	LR	LR	14 52 58.9	
	comp=Z,240nm,19.7s,baz=217,slow=39						
EFI	**East Falkland**	**19.05**	**149**	P	**Pn**	**14 46 15.6**	**-0.1**
EFI				IAmb	IAmb	14 46 24.9	
	comp=Z,31nm,1.4s						
LPAZ	**La Paz**	**20.52**	**16**	P	Pn	14 46 32.9	-1.1
	comp=Z,2.1nm,0.8s,baz=177,slow=8.2,SNR=7.7						
PMSA	**Palmer Station**	**29.14**	**171**	P	**P**	**14 47 54.5**	**+0.9**
BELA	**Belgrano 2**	**44.92**	**169**	P	**P**	**14 50 08.4**	**+1.1**
BELA				IAmb	IAmb	14 50 20.7	
	comp=Z,6.1nm,1.4s						
ORTG	**Ortega, Santa**	**47.66**	**344**	P	**P**	**14 50 29.9**	**+0.4**
VNA3	**Neumayer Olymp**	**47.83**	**157**	P	**P**	**14 50 31.5**	**+1.2**
VNA1	**Neumayer--Stat**	**48.18**	**156**	P	P	14 50 46.9	+14
VNA2	**Neumayer--Watz**	**48.51**	**156**	P	**P**	**14 50 36.6**	**+1.2**
	baz=281,slow=9.2						
SNAA	**Sanae**	**50.05**	**157**	P	**P**	**14 50 48.5**	**+1.2**
SNAA	**Sanae**	**50.05**	**157**	P	**P**	**14 50 48.1**	**+0.7**
SNAA				IAmb	IAmb	14 50 49.4	
	comp=Z,10nm,1.1s						
QSPA	**South Pole Qui**	**53.98**	**180**	P	**P**	**14 51 16.5**	**-0.2**
QSPA				IAmb	IAmb	14 51 41.9	
	comp=Z,2.8nm,1.1s						
TXAR	**Lajitas Array**	**71.04**	**333**	P	**P**	**14 53 12.7**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=144,slow=7.8,SNR=2.8						
TXAR	**Lajitas Array**	**71.04**	**333**	P	**P**	**14 53 11.1**	**0.0**

IDC 25 14:43:39.9±6.7,6°81S×154°61E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.5/27,mbtmp3.6/3,MS3.5/2,Ms1 3.5/2, ms1mx2.9/28,Error ellipse: s-maj=144.6km s-min=46.0km az=98.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.89**	**117**	LR	LR	14 47 13.7	
	comp=Z,108nm,19.3s,baz=270,slow=36						
WRA	**Warramunga Arr**	**23.61**	**234**	P	P	14 48 53.5	+0.7
	1.3nm,0.6s,baz=60,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**26.01**	**228**	P	P	14 49 14.1	-0.8
	0.4nm,0.5s,baz=58,slow=9.5,SNR=12						
CMAR	**Chiang Mai Arr**	**60.36**	**296**	P	P	14 53 51.5	+0.1
	0.3nm,0.3s,baz=110,slow=5.0,SNR=4.2						
GEYT	**Alibeck**	**99.26**	**307**	LR	LR	15 45 20.4	
	comp=Z,62nm,18.1s,baz=205,slow=37						

NEIC 25 14:58:36.1±1.2,36°21S±0'05×73°72W±0°07,h29km±8km, mb4.4/4,ML4.1(GUC),Error ellipse: s-maj=9.5km s-min=5.4km az=121.0

GUC 25 14:58:36.4±0.7,36°21S×73°65W,h36km±9km,ML4.1

ISC 25 14:58:36.5±1.0,36°21S±0'05×73°74W±0°08,h35km,n30, σ0?82/34,5C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.85**	**138**	⇑*eP*	**Pn**	**14 58 51.3**	**-0.8**
BI03				*i* S	**Sn**	**14 59 01.6**	**-1.8**
BI03				IAML		14 59 03.7	
	comp=N,33μm,0.2s						
BI03	**Tigo**	**0.85**	**138**	Pn	**Pn**	**14 58 51.3**	**-0.8**
LAJA	**Laja**	**1.35**	**142**	⇑*eP*	**Pn**	**14 58 58.4**	**-0.4**
LAJA				*i* S	**Sn**	**14 59 14.9**	**-0.7**
BI02	**San Fabin de**	**2.04**	**103**	⇑*iP*	**Pn**	**14 59 08.4**	**-0.1**
BI02				*i* S	**Sn**	**14 59 32.2**	**-0.6**
BI02				IAML		14 59 38.5	
	comp=N,1μm,0.3s						
BI02	**San Fabin de**	**2.04**	**103**	Pn	**Pn**	**14 59 08.3**	**-0.1**
BO03	**Pichilemu**	**2.25**	**41**	⇓*iP*	**Pn**	**14 59 11.0**	**-0.2**
BO03				IAML		14 59 48.0	
	comp=N,585nm,0.4s						
BO02	**Sierra Bellavi**	**2.80**	**60**	*eP*	**Pn**	**14 59 19.1**	**+0.2**
BO02				IAML		15 00 05.2	
	comp=N,2μm,0.1s						
BO02	**Sierra Bellavi**	**2.80**	**60**	Pn	**Pn**	**14 59 19.1**	**+0.2**
MT09	**Talagante**	**3.32**	**44**	*eP*	**Pn**	**14 59 26.3**	**+0.1**
MT02	**Curacav**	**3.64**	**37**	⇓*iP*	**Pn**	**14 59 29.9**	**-0.5**
MT02	**Curacav**	**3.64**	**37**	Pn	**Pn**	**14 59 29.6**	**-0.9**
LMEL	**Las Melosas**	**3.74**	**52**	⇑*eP*	**Pn**	**14 59 31.9**	**0.0**
LMEL				*eS*	**Sn**	**15 00 13.5**	**-1.3**
LMEL				IAML		15 00 35.4	
	comp=N,226nm,0.4s						
MT05	**Renca**	**3.75**	**42**	*eP*	**Pn**	**14 59 31.8**	**-0.1**
MT05	**Renca**	**3.75**	**42**	Pn	**Pn**	**14 59 31.8**	**-0.1**
MT03	**Universidad Ad**	**3.80**	**45**	⇑*iP*	**Pn**	**14 59 32.9**	**+0.2**
PEL	**Peldehue**	**3.96**	**40**	Pn	**Pn**	**14 59 35.1**	**+0.2**
VA03	**San Esteban**	**4.33**	**38**	Pn	**Pn**	**14 59 40.3**	**+0.3**
VA04	**Juan Fernndez**	**4.90**	**300**	Pn	**Pn**	**14 59 47.2**	**-0.6**
PLCA	**Paso Flores**	**5.16**	**152**	Pn	**Pn**	**14 59 52.9**	**+1.5**
CO02	**Combarbal**	**5.49**	**25**	Pn	**Pn**	**14 59 56.1**	**+0.1**
CO03	**El Pedregal**	**5.94**	**26**	Pn	**Pn**	**15 00 02

ERM	**Erimo**	**12.79**	**4**	Pn	**Pn**	**15 01 50.5**	**-3.8**
TJN	**Taejon**	**14.29**	**304**	*ce*P	**Pn**	**15 02 16.8**	**+2.0**
KSRS	**Korea Array**	**14.41**	**308**	Pn	**Pn**	**15 02 17.8**	**+1.5**
	0.1nm,0.3s,baz=119,slow=12,SNR=5.7						
KSRS				LR	LR	15 07 53.7	
	comp=Z,286nm,18.2s,baz=124,slow=38						
KSAR	**Wonju Array Be**	**14.43**	**308**	P	**P**	**15 02 22.7**	**-0.4**
KSAR	**Wonju Array Be**	**14.43**	**308**	P	**P**	**15 02 22.7**	**-0.4**
ASAJ	**Asahikawa**	**14.87**	**1**	Pn	Pn	15 02 16.7	-5.8
	0.5nm,0.3s,baz=222,slow=14,SNR=8.2						
ASAJ				Sn	Sn	15 04 54.4	-12
	0.4nm,0.3s,baz=4.6,slow=33,SNR=6.1						
JKA	**Kamikawa-asahi**	**14.87**	**1**		Pn	15 02 16.7	-5.8
INCN	**Inchon**	**15.32**	**307**	P	**P**	**15 02 31.4**	**-1.6**
INCN				pmax	pmax		
	comp=Z,33nm,1.2s						
INCN	**Inchon**	**15.32**	**307**		**P**	**15 02 31.4**	**-1.6**
INCN				IAmb	IAmb	15 02 35.7	
	comp=Z,33nm,1.2s						
USRK	**Ussuriysk Ar.**	**16.98**	**334**	P	**Pn**	**15 02 48.4**	**-1.4**
	baz=105,slow=11,SNR=2.1						
USRK	**Ussuriysk Ar.**	**16.98**	**334**	P	**Pn**	**15 02 47.8**	**-1.9**
USRK	**Ussuriysk Ar.**	**16.98**	**334**	Pn	**Pn**	**15 02 47.8**	**-1.9**
YSS	**Yuzh-Sakhalins**	**17.71**	**1**	*e*P	**Pn**	**15 02 56.6**	**-2.1**
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS				MLR	MLR		
	comp=E,200nm,14.0s						
MDJ	**Mudanjiang**	**18.30**	**330**	P	**Pn**	**15 03 06.0**	**0.0**
MDJ				pP	P	15 03 08.8	+2.9
MDJ				sP	pP	15 03 11.0	-2.1
MDJ				PP	**sP**	**15 03 16.0**	**-0.5**
MDJ				S	**S**	**15 06 36.5**	**+3.0**
MDJ				SS	**SnSn**	**15 06 51.0**	**+7.7**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.3s						
MDJ				LR	LR		
	comp=N,280nm,12.4s						
MDJ				LR	LR		
	comp=E,400nm,12.8s						
MDJ				LR	LR		
	comp=Z,510nm,16.9s						
MDJ	**Mudanjiang**	**18.30**	**330**		**P**	**15 03 05.9**	**0.0**
YHNB	**Yeheng**	**19.02**	**261**	Pn	**Pn**	**15 03 15.4**	**+0.4**
YHNB				IAmb	IAmb	15 03 25.8	
	comp=Z,66nm,1.1s						
YULB	**Yu-li**	**19.53**	**258**		**Pn**	**15 03 21.7**	**+0.7**
YULB				IAmb	IAmb	15 03 25.3	
	comp=Z,34nm,1.1s						
CN2	**Changchun**	**19.72**	**322**	*e*P	**Pn**	**15 03 23.0**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=N,300nm,14.0s						
CN2				LR	LR		
	comp=E,300nm,14.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
TPUB	**Ta-pu**	**20.13**	**258**	Pn	Pn	15 03 27.7	-0.5
NJ2	**Nanjing**	**20.20**	**284**	*e*P	**P**	**15 03 26.3**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
KLR	**Kul'dur**	**21.49**	**341**	P	**P**	**15 03 40.4**	**-0.3**
	comp=Z,5.6nm,0.9s,baz=112,slow=8.0,SNR=8.2						
KLR	**Kul'dur**	**21.49**	**341**	*ce*P	**P**	**15 03 39.3**	**-1.3**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**24.42**	**107**	T	T	15 29 50.3	
	baz=297,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**24.42**	**107**	T	T	15 29 50.5	
	baz=297,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**24.44**	**107**	T	T	15 29 51.8	
	baz=297,slow=75,SNR=22						
TGY	**Tagaytay City**	**24.70**	**237**	P	**P**	**15 04 12.6**	**-0.6**
	comp=Z,56nm,0.4s,baz=137,slow=22,SNR=1.0						
H11S3	**WAKE ISLAND Hy**	**24.84**	**110**	T	T	15 30 15.4	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**24.84**	**110**	T	T	15 30 16.1	
	baz=304						
H11S2	**WAKE ISLAND Hy**	**24.86**	**110**	T	T	15 30 18.0	
	baz=304						
HIA	**Hailar**	**26.29**	**326**	P	**P**	**15 04 27.6**	**+0.3**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HIA	**Hailar**	**26.29**	**326**	P	**P**	**15 04 27.6**	**+0.3**
HIA				IAmb	IAmb	15 04 28.8	
	comp=Z,8.2nm,0.7s						
PEA0B	**Petropavlovsk-**	**26.48**	**21**	P	**P**	**15 04 30.7**	**+1.8**
PEA0B				pmax	pmax		
	comp=Z,32nm,1.4s						
PEA0B	**Petropavlovsk-**	**26.48**	**21**	P	**P**	**15 04 30.7**	**+1.8**
PEA0B				IAmb	IAmb	15 04 39.6	
	comp=Z,32nm,1.4s						
ZEA	**Zeya**	**26.79**	**340**	*e*P	**P**	**15 04 31.7**	**0.0**
ZEA				pmax	pmax		
	comp=N,10.0nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**27.43**	**303**	*e*P	**P**	**15 04 40.0**	**+2.3**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,160nm,5.6s						
HHC				LR	LR		
	comp=N,220nm,14.5s						
HHC				LR	LR		
	comp=E,380nm,15.2s						
HHC				LR	LR		
	comp=Z,430nm,15.0s						
XAN	**Xi'an**	**28.58**	**288**	P	**P**	**15 04 48.8**	**+0.8**
XAN				pP	pP	15 04 53.3	-2.6
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
XAN				LR	LR		
	comp=N,280nm,12.5s						
XAN				LR	LR		
	comp=E,320nm,14.4s						
XAN				LR	LR		
	comp=Z,310nm,15.4s						
MA2	**Magadan**	**30.92**	**9**	P	**P**	**15 05 07.7**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=208,slow=8.1,SNR=2.7						
SIJI	**Sorong**	**31.67**	**201**	P	**P**	**15 05 15.0**	**-0.4**
	comp=Z,4.5nm,0.4s,baz=0.0,slow=12,SNR=5.1						
ULN	**Ulaanbaatar**	**32.76**	**314**	*ce*P	**P**	**15 05 24.0**	**-0.9**
ULN				pmax	pmax		
	comp=Z,12nm,1.7s						
ULN	**Ulaanbaatar**	**32.76**	**314**	P	**P**	**15 05 23.1**	**-1.8**
ULN				IAmb	IAmb	15 05 27.5	
	comp=Z,8.2nm,1.1s						
LZH	**Lanzhou**	**32.78**	**292**	*e*P	**P**	**15 05 24.5**	**-0.7**
LZH				pP	pP	15 05 30.0	-3.1
LZH				sP	sP	15 05 33.8	-2.6
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH				LR	LR		
	comp=N,220nm,12.7s						
LZH				LR	LR		
	comp=E,340nm,11.7s						
LZH				LR	LR		
	comp=Z,290nm,13.3s						
CD2	**Chengdu**	**33.12**	**283**	*e*P	**P**	**15 05 25.5**	**-2.6**
CD2				LR	LR		
	comp=N,530nm,9.2s						
CD2				LR	LR		
	comp=E,690nm,10.2s						
CD2				LR	LR		
	comp=Z,680nm,10.5s						
SONM	**Songino Array**	**33.16**	**314**	P	**P**	**15 05 28.6**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=118,slow=8.8,SNR=14						
SONM				LR	LR	15 19 36.9	
	comp=Z,132nm,18.4s,baz=96,slow=38						
SONM	**Songino Array**	**33.16**	**314**	P	**P**	**15 05 26.9**	**-1.5**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**33.16**	**314**	P	**P**	**15 05 26.9**	**-1.5**
YAK	**Yakutsk**	**33.82**	**349**	LR	LR	15 19 09.5	
	comp=Z,61nm,21.1s,baz=264,slow=36						
YAK	**Yakutsk**	**33.82**	**349**	*i* P	**P**	**15 05 33.5**	**-0.2**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SEY	**Seymchan**	**34.37**	**8**	P	**P**	**15 05 37.6**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=202,slow=11,SNR=8.6						
SEY	**Seymchan**	**34.37**	**8**	*i* P	**P**	**15 05 38.1**	**-0.4**
BOD	**Bodaibo**	**34.62**	**334**	*e*P	**P**	**15 05 40.1**	**-0.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LUWI	**Luwuk**	**35.32**	**215**	P	**P**	**15 05 46.0**	**-1.1**
ZAK	**Zakamensk**	**35.99**	**317**	*e*P	**P**	**15 05 52.6**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA	**Gaotai**	**36.09**	**298**	*e*P	**P**	**15 05 55.0**	**+1.2**
GTA				pP	pP	15 05 59.3	-2.4
GTA				PcP	**PcP**	**15 08 20.0**	**+0.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,82nm,5.3s						
GTA				LR	LR		
	comp=N,140nm,16.0s						
GTA				LR	LR		
	comp=E,150nm,17.1s						
GTA				LR	LR		
	comp=Z,190nm,16.0s						
TLY	**Talaya**	**36.27**	**319**	LR	LR	15 21 25.1	
	comp=Z,171nm,18.7s,baz=116,slow=37						
TLY	**Talaya**	**36.27**	**319**	*e*P	**P**	**15 05 56.9**	**+1.9**
TLY				pmax	pmax		
	comp=Z,17nm,0.9s						
TLY				MLR	MLR		
	comp=Z,685nm,18.0s						
MOY	**Mondy**	**37.80**	**318**	*e*P	**P**	**15 06 08.6**	**+0.5**
MOY				pmax	pmax		
	comp=Z,12nm,1.8s						
CHTO	**Chiang Mai**	**40.57**	**265**	P	**P**	**15 06 30.7**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,13nm,1.1s						
CHTO	**Chiang Mai**	**40.57**	**265**	P	**P**	**15 06 30.7**	**-0.8**
CHTO				IAmb	IAmb	15 06 42.9	
	comp=Z,12nm,1.1s						
CM31	**Chiang Mai Arr**	**40.71**	**265**	P	**P**	**15 06 32.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**40.71**	**265**	P	**P**	**15 06 32.8**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=61,slow=6.7,SNR=13						
CMAR				LR	LR	15 23 50.2	
	comp=Z,122nm,20.2s,baz=152,slow=37						
CMAR	**Chiang Mai Arr**	**40.71**	**265**	P	**P**	**15 06 32.1**	**-0.6**
BILL	**Bilibino**	**41.41**	**13**	*e*P	**P**	**15 06 36.6**	**-1.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,49nm,15.0s						
BILL	**Bilibino**	**41.41**	**13**	P	**P**	**15 06 37.5**	**-0.3**
COEN	**Coen**	**42.94**	**178**	P	**P**	**15 06 51.4**	**+0.6**
BATI	**Baumata**	**43.05**	**207**	P	**P**	**15 06 50.3**	**-1.4**
	comp=Z,5.3nm,0.3s,baz=73,slow=4.4,SNR=2.0						
TIXI	**Tiksi**	**43.09**	**354**	P	**P**	**15 06 52.0**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI	**Tiksi**	**43.09**	**354**	P	**P**	**15 06 52.0**	**+0.6**
MTN	**Manton Dam**	**43.14**	**196**	P	**P**	**15 06 51.7**	**-0.7**
MTN				IAmb	IAmb	15 06 54.3	
	comp=Z,14nm,0.7s						
WMQ	**Urumqi**	**45.30**	**304**	*e*P	**P**	**15 07 10.3**	**+0.7**
WMQ				sP	pP	15 07 17.3	-0.5
WMQ				pmax	pmax		
	comp=Z,13nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.1s						
WMQ				LR	LR		
	comp=E,220nm,20.7s						
WMQ				LR	LR		
	comp=Z,140nm,26.9s						
DGZ	**Jazzator, Alta**	**45.77**	**312**	*i* P	**P**	**15 07 13.5**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KULM	**Kulim**	**45.83**	**247**	P	**P**	**15 07 12.8**	**-1.2**
ZAA0	**Zalesovo Array**	**47.85**	**318**	P	**P**	**15 07 27.9**	**-1.5**
ZAA0				IAmb	IAmb	15 07 30.4	
	comp=Z,11nm,1.2s						
ZALV	**Zalesovo Beam**	**47.85**	**318**	P	**P**	**15 07 29.5**	**+0.2**
	comp=Z,18nm,1.3s,baz=99,slow=6.8,SNR=15						
ZALV				LR	LR	15 28 25.9	
	comp=Z,137nm,18.0s,baz=115,slow=37						
ZALV	**Zalesovo Beam**	**47.85**	**318**	P	**P**	**15 07 28.0**	**-1.3**
ZALV	**Zalesovo Beam**	**47.85**	**318**	P	**P**	**15 07 28.0**	**-1.3**
ANM	**Nome**	**48.10**	**27**	P	**P**	**15 07 30.6**	**-0.5**
ANM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ANM	**Nome**	**48.10**	**27**	P	**P**	**15 07 30.6**	**-0.5**
ANM				IAmb	IAmb	15 07 37.4	
	comp=Z,3.3nm,0.6s						
PSI	**Prapat**	**48.68**	**246**	P	**P**	**15 07 37.2**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=360,slow=23,SNR=1.9						
LEM	**Lembang**	**48.85**	**228**	P	**P**	**15 07 37.3**	**-0.4**
	comp=Z,14nm,0.6s,baz=75,slow=7.9,SNR=4.0						
MK31	**Makanchi Array**	**49.09**	**308**	*d* iP	**P**	**15 07 38.9**	**-0.2**
MK31	**Makanchi Array**	**49.09**	**308**	P	**P**	**15 07 38.3**	**-0.8**
MKAR	**Makanchi Array**	**49.09**	**308**	P	**P**	**15 07 39.0**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=84,slow=10,SNR=28						
MKAR				LR	LR	15 29 25.3	
	comp=Z,113nm,18.0s,baz=93,slow=37						
MKAR	**Makanchi Array**	**49.09**	**308**	P	**P**	**15 07 38.3**	**-0.8**
MKAR	**Makanchi Array**	**49.09**	**308**	P	**P**	**15 07 38.3**	**-0.8**
WB0	**Warramunga Arr**	**49.27**	**190**	P	**P**	**15 07 39.5**	**-1.0**
MAKZ	**Makanchi**	**49.30**	**308**	P	**P**	**15 07 40.2**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAKZ	**Makanchi**	**49.30**	**308**	P	**P**	**15 07 40.2**	**-0.5**
MAKZ				IAmb	IAmb	15 07 44.6	
	comp=Z,3.2nm,0.6s						
CHGN	**Chignik**	**49.41**	**39**	P	**P**	**15 07 42.0**	**+0.7**
WR0	**Warramunga Arr**	**49.44**	**189**	P	**P**	**15 07 40.9**	**-0.9**
WR0				IAmb	IAmb	15 07 49.5	
	comp=Z,9.7nm,0.8s						
WRAB	**Tennant Creek**	**49.44**	**190**	*ce*P	**P**	**15 07 41.3**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,12nm,1.3s						
WRAB	**Tennant Creek**	**49.44**	**190**	P	**P**	**15 07 41.2**	**-0.6**
WB2	**Warramunga Arr**	**49.45**	**190**	P	**P**	**15 07 41.3**	**-0.7**
WRA	**Warramunga Arr**	**49.45**	**190**	P	**P**	**15 07 41.5**	**-0.4**
	comp=Z,9.2nm,0.8s,baz=10,slow=6.9,SNR=61						
WRA	**Warramunga Arr**	**49.45**	**190**	P	**P**	**15 07 40.1**	**-1.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**49.45**	**190**	P	**P**	**15 07 40.1**	**-1.9**
FITZ	**Fitzroy Crossi**	**49.66**	**201**	P	**P**	**15 07 42.3**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=227,slow=23,SNR=2.1						
FITZ	**Fitzroy Crossi**	**49.66**	**201**	P	**P**	**15 07 42.4**	**-1.2**
FITZ				IAmb	IAmb	15 08 02.6	
	comp=Z,12nm,1.5s						
KURBB	**Kurchatov Arra**	**51.52**	**313**	P	**P**	**15 07 57.1**	**-0.2**
RSO	**Redoubt South**	**52.84**	**34**	P	**P**	**15 08 08.6**	**+1.3**
AS31	**Alice Springs**	**53.17**	**189**	P	**P**	**15 08 09.1**	**-0.8**
ASAR	**Alice Springs**	**53.17**	**189**	P	**P**	**15 08 09.3**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=4.9,slow=6.2,SNR=59						
ASAR				LR	LR	15 31 50.6	
	comp=Z,102nm,18.1s,baz=186,slow=37						
ASAR	**Alice Springs**	**53.17**	**189**	P	**P**	**15 08 09.1**	**-0.8**
ASAR	**Alice Springs**	**53.17**	**189**	P	**P**	**15 08 09.1**	**-0.8**
PPLA	**Purkeypile**	**53.38**	**31**	P	**P**	**15 08 11.2**	**+0.1**
PPLA				IAmb	IAmb	15 08 18.5	
	comp=Z,15nm,1.3s						
NEA2	**Nenana**	**54.94**	**29**	P	**P**	**15 08 24.2**	**+1.9**
NEA2				IAmb	IAmb	15 08 33.2	
	comp=Z,3.9nm,0.8s						
EIDS	**Eidsvold**	**54.96**	**170**	P	**P**	**15 08 23.3**	**+0.5**
EIDS				IAmb	IAmb	15 08 27.1	
	comp=Z,6.1nm,1.1s						
AAK	**Ala-Archa**	**55.01**	**304**	P	**P**	**15 08 22.3**	**-1.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK	**Ala-Archa**	**55.01**	**304**	P	**P**	**15 08 22.3**	**-1.0**
TOLK	**Toolik Lake Re**	**55.23**	**24**	P	**P**	**15 08 24.4**	**0.0**
TOLK				IAmb	IAmb	15 08 42.2	
	comp=Z,6.8nm,1.1s						
MDM	**Murphy Dome**	**55.33**	**29**	P	**P**	**15 08 24.8**	**-0.4**
IL31		**55.89**	**29**	P	**P**	**15 08 28.4**	**-0.7**
ILAR	**Eielson Array**	**55.89**	**29**	P	**P**	**15 08 28.1**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=258,slow=5.9,SNR=8.9						
ILAR	**Eielson Array**	**55.89**	**29**	P	**P**	**15 08 28.3**	**-0.9**
BRVK	**Borovoye**	**56.51**	**317**	*ce*P	**P**	**15 08 33.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRVK	**Borovoye**	**56.51**	**317**	P	**P**	**15 08 33.9**	**+0.2**
BRVK				IAmb	IAmb	15 08 46.3	
	comp=Z,12nm,0.9s						
GLB	**Gilahina Butte**	**57.24**	**33**	P	**P**	**15 08 39.4**	**+0.5**
GLB				IAmb	IAmb	15 08 58.5	
	comp=Z,8.0nm,1.1s						
SDHHI	**Sand Hill**	**57.31**	**85**	P	**P**	**15 08 41.3**	**+1.2**
STKA	**Stephens Creek**	**60.77**	**180**	P	**P**	**15 09 04.9**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=320,slow=22,SNR=2.1						
INK	**Inuvik**	**61.13**	**25**	P	**P**	**15 09 04.5**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=258,slow=5.1,SNR=3.4						
INK	**Inuvik**	**61.13**	**25**	P	**P**	**15 09 05.0**	**-0.6**
INK				IAmb	IAmb	15 09 08.6	
	comp=Z,6.6nm,1.4s						
FORT	**Forrest**	**61.15**	**194**	P	**P**	**15 09 04.9**	**-1.1**
ARU	**Arti**	**62.71**	**322**	*ci* P	**P**	**15 09 16.3**	**-0.1**
ARU						15 11 30.8	
ARU				S	**S**	**15 17 46.5**	**+3.6**
ARU				SS	**SS**	**15 21 43.5**	**-3.7**
ARU				pmax	pmax		
	comp=Z,12nm,0.9s						
ARU	**Arti**	**62.71**	**322**	P	**P**	**15 09 16.3**	**-0.1**
AB31	**Akbulak array**	**63.57**	**314**	*i* P	**P**	**15 09 22.1**	**-0.1**
ABKAR	**Akbulak array**	**63.57**	**314**	P	**P**	**15 09 22.2**	**0.0**
ABKAR	**Akbulak array**	**63.57**	**314**	P	**P**	**15 09 22.2**	**0.0**
ABKAR				IAmb	IAmb	15 09 26.9	
	comp=Z,9.9nm,1.1s						
AKTO	**Aktyubinsk**	**64.47**	**315**	LR	LR	15 39 00.2	
	comp=Z,116nm,18.4s,baz=34,slow=37						
AKTO	**Aktyubinsk**	**64.47**	**315**	P	**P**	**15 09 27.9**	**-0.2**
KIRV	**Kirov**	**66.90**	**325**	*ce*P	**P**	**15 09 44.4**	**+0.8**
PRGR	**Permogore**	**67.69**	**329**	*e*P	**P**	**15 09 47.8**	**-0.7**
PRGR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
GEYT	**Alibeck**	**68.30**	**302**	P	**P**	**15 09 53.0**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=218,slow=8.4,SNR=3.7						
GEYT	**Alibeck**	**68.30**	**302**	IAmb	IAmb	15 10 12.6	
	comp=Z,3.2nm,1.0s						
BELG	**Belogornoye**	**70.00**	**319**	*i* P	**P**	**15 10 03.5**	**+0.4**
BELG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
YKA	**Yellowknife Ar**	**70.31**	**29**	P	**P**	**15 10 04.1**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=294,slow=5.3,SNR=12						
YKA	**Yellowknife Ar**	**70.31**	**29**	*ce*P	**P**	**15 10 06.9**	**+2.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**71.52**	**341**	P	**P**	**15 10 12.4**	**+0.3**
	comp=Z,4.1nm,1.0s,baz=32,slow=5.0,SNR=4.5						
OBN	**Obninsk**	**74.75**	**325**	*de*P	**P**	**15 10 31.7**	**+0.4**
OBN				*e*		15 10 43.9	
OBN				*e*		15 13 20.0	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,116nm,16.0s						
YBH	**Yreka Blue Hor**	**74.75**	**51**	P	**P**	**15 10 32.2**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=31,slow=1.2,SNR=2.7						
PINE	**Pine Mountain**	**75.03**	**48**	P	**P**	**15 10 33.9**	**+0.4**
PINE				IAmb	IAmb	15 10 43.7	
	comp=Z,8.0nm,1.1s						
NEW	**Newport**	**75.39**	**43**	P	**P**	**15 10 35.0**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=293,slow=13,SNR=2.6						
FIA1	**FINESS Array S**	**76.01**	**334**	P	**P**	**15 10 38.6**	**+0.2**
FINES	**FINESS Array B**	**76.02**	**334**	P	**P**	**15 10 38.3**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=71,slow=4.2,SNR=9.8						
ZEI	**Tsey**	**76.30**	**311**	*e*P	P	15 10 49.5	+8.7
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KBZ	**Khabaz**	**76.52**	**313**	P	**P**	**15 10 42.0**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=83,slow=3.2,SNR=22						
KBZ	**Khabaz**	**76.52**	**313**	*ce*P	**P**	**15 10 42.7**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIV	**Kislovodsk**	**76.55**	**313**	*e*P	**P**	**15 10 42.5**	**+0.5**
KIV				pmax	pmax		
	comp=Z,30nm,1.1s						
KIV				MLR	MLR		
	comp=Z,146nm,18.0s						
SHA1	**Shidzhatmaz**	**76.67**	**313**	*i* P	**P**	**15 10 42.4**	**-0.5**
BEKR	**Beckworth**	**77.18**	**51**	P	**P**	**15 10 44.9**	**-0.9**
BEKR				IAmb	IAmb	15 10 54.6	
	comp=Z,4.3nm,0.9s						
KVN	**Kaiserville**	**79.11**	**51**	P	**P**	**15 10 56.2**	**-0.3**
KVN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KVN	**Kaiserville**	**79.11**	**51**	P	**P**	**15 10 56.2**	**-0.3**
KVN				IAmb	IAmb	15 11 08.6	
	comp=Z,4.9nm,1.0s						
NVAR	**Mina Array Bea**	**79.26**	**52**	P	**P**	**15 10 57.3**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=287,slow=5.5,SNR=5.9						
NVAR				LR	LR	15 41 57.9	
	comp=Z,51nm,20.1s,baz=218,slow=33						
NVAR	**Mina Array Bea**	**79.26**	**52**	P	**P**	**15 10 56.4**	**-1.0**
LRM	**Limekiln Ridge**	**79.37**	**43**	P	**P**	**15 10 57.9**	**0.0**
NACGM	**Naroch**	**79.59**	**328**	*i* P	**P**	**15 10 56.8**	**-1.8**
NACGM				*i* P	**P**	**15 10 56.8**	**-1.8**
NACGM				*i* P	**P**	**15 10 56.8**	**-1.8**
NACGM				*i* PP	PP	15 13 31.9	-27
NACGM				*i* PPP	PPP	15 15 49.0	
NACGM				*i* S	**S**	**15 21 04.4**	**+6.0**
NACGM				*i* PS	**PnS**	**15 21 46.0**	**+1.9**
NACGM				*i* SS	SS	15 25 27.5	-38
NACGM				*i* SSS	SSS	15 30 09.0	
NACGM				*i* LQ	LQ	15 39 12.9	
NACGM				*i* LR	LR	15 47 27.7	
AKASG	**Malin Array Be**	**80.87**	**324**	P	**P**	**15 11 04.6**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=47,slow=5.8,SNR=4.1						
AKASG				LR	LR	15 49 18.8	
	comp=Z,126nm,19.8s,baz=65,slow=37						
AKASG	**Malin Array Be**	**80.87**	**324**	*ce*P	**P**	**15 11 06.5**	**+1.0**
NB2	**NORSAR Subarra**	**81.61**	**338**	P	**P**	**15 11 08.5**	**-0.9**
	comp=Z,10.0nm,1.4s,baz=45,slow=5.1						
NOA	**NORSAR Array B**	**81.61**	**338**	P	**P**	**15 11 08.4**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=30,slow=6.7,SNR=2.1						
NOA				LR	LR	15 51 51.1	
	comp=Z,31nm,18.6s,baz=50,slow=39						
RLMT	**Red Lodge**	**81.64**	**43**	P	**P**	**15 11 10.7**	**+0.6**
RLMT				IAmb	IAmb	15 11 21.1	
	comp=Z,7.4nm,1.4s						
PDAR	**Pin

LUWI	Luwuk	3.03 218	P	Pn	15 06 30.8	-1.5
SANI	Sanana	3.66 158	P	Pn	15 06 36.4	-3.2
APSI	Ampana	3.74 233	P	Pn	15 06 39.3	-1.2
TOLI2	Tolitoli	3.85 266		Pn	15 06 40.3	-1.5
NLAI	Namlea	5.20 152	P	Pn	15 06 57.3	-1.0
	0.9nm2µm38nm,0.6s					
SPSI	Sidrap Palu	7.18 222	P	Pn	15 07 40.5	+17
BNDI	Bandanaira	7.88 138	P	Pn	15 07 31.2	-1.0
	0.5nm82nm,1.7s					
SOEI	Soe	11.06 182	Pn	Pn	15 08 13.8	+1.1
BATI	Baumata	11.54 185	P	P	15 08 23.6	+0.8
	8.3nm,0.3s,baz=26,slow=2.5,SNR=14					
BATI			S	S	15 10 39.1	+12
	0.7nm,0.3s,baz=57,slow=18,SNR=3.5					
BATI	Baumata	11.54 185	P	P	15 08 25.7	+2.8
SBUM	Sibu	12.44 275	P	P	15 08 34.9	+2.0
MTN	Manton Dam	15.53 156	P	P	15 09 07.1	0.0
MTN			IAmb	IAmb	15 09 22.0	
	comp=Z,22nm,1.2s					
JAY	Jayapura	16.53 103	P	P	15 09 18.8	+0.5
	comp=Z,1.2nm,0.3s,baz=229,slow=11,SNR=8.3					
SZP	Santa	16.59 346	P	Pn	15 09 20.8	+0.5
KNRA	Kununurra	17.42 167	P	P	15 09 29.3	+1.4
DLV	T Lat	19.15 304	P	P	15 09 47.3	+0.6
DLV			IAmb	IAmb	15 09 59.8	
	comp=Z,24nm,1.2s					
FITZ	Fitzroy Crossi	19.37 177	P	P	15 09 47.9	-0.9
	comp=Z,1.2nm,0.3s,baz=6.4,slow=8.0,SNR=18					
FITZ	Fitzroy Crossi	19.37 177	P	P	15 09 48.4	-0.5
YULB	Yu-li	22.13 352	P	P	15 10 15.6	-1.4
TPUB	Ta-pu	22.14 350	P	P	15 10 14.6	-2.5
TPUB			IAmb	IAmb	15 10 18.2	
	comp=Z,37nm,1.0s					
MANU	Manus Island	22.99 98	P	P	15 10 26.9	+1.9
MANU			IAmb	IAmb	15 10 27.4	
	comp=Z,7.5nm,0.8s					
WB0	Warramunga Arr	23.09 156	P	P	15 10 25.9	+0.1
WRAB	Tennant Creek	23.22 156	P	P	15 10 26.9	0.0
WRA	Warramunga Arr	23.23 156	P	P	15 10 26.7	-0.3
	comp=Z,21nm,0.4s,baz=336,slow=10,SNR=95					
WRA			S	S	15 14 18.6	-2.6
	comp=Z,0.6nm,0.7s,baz=339,slow=16,SNR=2.8					
WRA	Warramunga Arr	23.23 156	P	P	15 10 26.2	-0.8
WB2	Warramunga Arr	23.23 156	P	P	15 10 27.2	+0.2
PSA00	Pilbara Seismi	23.27 191	P	P	15 10 27.4	0.0
PSA00			IAmb	IAmb	15 10 42.7	
	comp=Z,15nm,1.2s					
WR0	Warramunga Arr	23.32 156	P	P	15 10 27.9	+0.1
WR0			IAmb	IAmb	15 10 29.5	
	comp=Z,21nm,1.0s					
YHNB	Yeheng	23.38 353	P	P	15 10 29.2	+0.9
COEN	Coen	23.87 130	P	P	15 10 33.0	+0.1
PMG	Port Moresby	24.87 116	P	P	15 10 42.5	+0.6
	comp=Z,8.8nm,0.8s,baz=284,slow=4.7,SNR=7.4					
AS31	Alice Springs	26.47 161	P	P	15 10 56.1	-0.1
ASAR	Alice Springs	26.47 161	P	P	15 10 56.5	+0.2
	comp=Z,4.1nm,0.5s,baz=336,slow=7.3,SNR=57					
ASAR			PcP	PcP	15 14 15.2	+0.2
	comp=Z,0.7nm,0.4s,baz=348,slow=2.2,SNR=6.4					
ASAR			ScP	ScP	15 17 33.6	+1.0
	comp=Z,0.4nm,0.7s,baz=342,slow=2.8,SNR=5.0					
TPTI		27.48 274	P	P	15 11 05.5	+0.1
	comp=Z,9.6nm,0.9s					
LHMI	Lhok Sumawe	27.89 279	P	P	15 11 09.2	+0.2
	comp=Z,107nm,1.0s					
RABL	Rabaul	28.07 101	P	P	15 11 13.7	+3.1
FORT	Forrest	32.14 174	P	P	15 11 46.5	+0.4
FORT			IAmb	IAmb	15 11 47.3	
	comp=Z,22nm,0.8s					
JMN	Monobe	33.34 14	P	P	15 11 57.8	+1.2
JHS	Saijyo	34.38 12	P	P	15 12 07.8	+2.3
JHS			IAmb	IAmb	15 12 19.0	
	comp=Z,18nm,1.2s					
BBOO	Buckleboo	35.67 163	P	P	15 12 16.6	+0.2
BBOO			IAmb	IAmb	15 12 26.8	
	comp=Z,35nm,1.3s					
STKA	Stephens Creek	36.77 155	P	P	15 12 26.4	+0.6
	comp=Z,3.0nm,0.4s,baz=340,slow=8.0,SNR=17					
STKA	Stephens Creek	36.77 155	P	P	15 12 26.6	+0.8
MJAR	Matsushiro Arr	37.19 18	P	P	15 12 27.9	-1.3
	comp=Z,3.2nm,0.7s,baz=190,slow=8.9,SNR=7.7					
ARMA	Armidale	40.76 143	P	P	15 13 00.8	+1.8
ARMA			IAmb	IAmb	15 13 16.9	
	comp=Z,9.8nm,1.2s					
CAN	Canberra	43.03 150	P	P	15 13 19.5	+2.3
CAN			IAmb	IAmb	15 13 34.5	
	comp=Z,40nm,1.5s					
USRK	Ussuriysk Ar.	43.15 8	P	P	15 13 17.6	-0.3
	comp=Z,1.8nm,0.4s,baz=194,slow=7.5,SNR=7.6					
USRK	Ussuriysk Ar.	43.15 8	P	P	15 13 17.8	-0.1
MDJ	Mudanjiang	43.29 5	P	P	15 13 19.5	+0.5
TOO	Toolangi	43.30 156	P	P	15 13 18.9	-0.4
TOO			IAmb	IAmb	15 13 31.2	
	comp=Z,17nm,1.2s					
KLR	Kul'dur	48.07 6	P	P	15 13 55.5	-0.7
	comp=Z,2.7nm,0.5s,baz=202,slow=8.3,SNR=16					
SONM	Songino Array	48.91 344	P	P	15 14 01.4	-1.4
	comp=Z,3.4nm,0.7s,baz=158,slow=7.7,SNR=17					
SONM	Songino Array	48.91 344	P	P	15 14 03.8	+0.9
TLY	Talaya	53.15 344	P	P	15 14 34.9	+0.7
	comp=Z,3.2nm,0.6s,baz=216,slow=5.7,SNR=9.9					
TLY	Talaya	53.15 344	P	P	15 14 35.3	+1.1
TLY			IAmb	IAmb	15 14 35.9	
	comp=Z,4.4nm,0.7s					
MK31	Makanchi Array	58.33 327	P	P	15 15 09.9	-1.1
MK31			IAmb	IAmb	15 15 11.8	
	comp=Z,4.3nm,0.5s					
MKAR	Makanchi Array	58.33 327	P	P	15 15 09.6	-1.4
	comp=Z,5.5nm,0.4s,baz=123,slow=7.8,SNR=70					
MKAR			PcP	PcP	15 15 58.5	-0.9
	comp=Z,0.9nm,0.6s,baz=110,slow=4.3,SNR=3.8					
PETK	Petropavlovsk-	58.40 23	P	P	15 15 11.6	+0.3
	comp=Z,1.9nm,0.6s,baz=195,slow=4.5,SNR=2.7					
PETK	Petropavlovsk-	58.40 23	P	P	15 15 12.1	+0.7
MAKZ	Makanchi	58.51 327	P	P	15 15 11.0	-1.2
MAKZ			IAmb	IAmb	15 15 12.9	
	comp=Z,5.7nm,0.6s					
QRZ	Quartz Range	60.45 140	P	P	15 15 27.3	+1.7
QRZ			IAmb	IAmb	15 15 46.0	
	comp=Z,28nm,1.2s					
LBZ	Lake Benmore	60.97 144	P	P	15 15 30.1	+1.2
LBZ			IAmb	IAmb	15 15 31.7	
	comp=Z,7.9nm,1.1s					
MA2	Magadan	61.50 15	P	P	15 15 32.7	+0.5
	comp=Z,4.0nm,0.6s,baz=187,slow=6.3,SNR=7.5					
MA2	Magadan	61.50 15	P	P	15 15 32.8	+0.6
MA2			IAmb	IAmb	15 15 33.3	
	comp=Z,4.1nm,0.7s					
TUWZ	Tuamarina	61.68 140	P	P	15 15 34.7	+1.0
ZAA0	Zalesovo Array	61.76 335	P	P	15 15 33.8	-0.2
ZALV	Zalesovo Beam	61.76 335	P	P	15 15 31.0	-3.1
	comp=Z,1.7nm,0.4s,baz=120,slow=6.0,SNR=9.9					
ZALV	Zalesovo Beam	61.76 335	P	P	15 15 32.1	-2.0
KHZ	Kahutara	61.93 141	P	P	15 15 36.0	+0.6
KHZ			IAmb	IAmb	15 15 39.6	
	comp=Z,19nm,1.3s					
BHW	Baring Head	62.27 139	P	P	15 15 37.5	-0.1
KURBB	Kurchatov Arra	62.62 329	P	P	15 15 38.1	-1.7
	comp=Z,5.2nm,0.4s,baz=134,slow=6.7,SNR=67					
KURK	Kurchatov	62.63 329	P	P	15 15 38.1	-1.8
SEY	Seymchan	64.80 14	P	P	15 15 55.6	+1.8
	comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=4.2					
BVAR	Borovoye Array	68.17 328	P	P	15 16 13.7	-1.6
	comp=Z,1.7nm,0.7s,baz=160,slow=17,SNR=6.7					
BRVK	Borovoye	68.24 328	P	P	15 16 16.1	+0.3
BRVK			IAmb	IAmb	15 16 16.5	
	comp=Z,3.6nm,0.6s					
GEYT	Alibeck	70.75 310	P	P	15 16 31.5	+0.1
	comp=Z,1.0nm,0.5s,baz=156,slow=11,SNR=2.3					
ABKAR	Akbulak array	72.66 322	P	P	15 16 40.8	-1.7
RAYN	Ar Rayn	79.48 294	P	P	15 17 21.8	+0.3
VNDA	Vanda	81.37 172	P	P	15 17 30.7	+0.3
	comp=Z,0.6nm,0.6s,baz=312,slow=8.0,SNR=6.2					
VNDA	Vanda	81.37 172	P	P	15 17 31.1	+0.7
ARCES	ARCESS Array B	91.92 340	P	P	15 18 20.1	-1.7
	comp=Z,1.2nm,0.8s,baz=54,slow=6.2,SNR=4.2					

*JMA **25** 15:11:21.7±0.2,29.37N×142.64E,h48km,M3.9*
*IDC **25** 15:11:21.2±0.8,29.21N×142.26E,h0km,mb3.8/15,*
mb1 3.9/17,mb1mx3.7/63,mbtmp3.8/17,ML3.3/3,Error
ellipse: s-maj=27.2km s-min=13.8km az=80.0
*NEIC **25** 15:11:24.4±1.1,29.21N×0.06×142.1E±0.2,h20km±5km,*
mb4.4/13,Error ellipse: s-maj=21.3km s-min=8.5km

az=78.0

ISC 25 15:11:26.4±0.6,29.23N×0.06×142.2E±0.1,h35km,n47,
σ1812/46,mb4.0/21,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.13	179	Pn		Pn	Pn	15 11 58.3	-1.1
	12nm,0.3s,baz=292,slow=21,SNR=5.7								
JCJ				Sn		Sn	Sn	15 12 25.0	+0.4
	27nm,0.3s,baz=277,slow=23,SNR=7.7								
JCJ	Chichijima	2.13	179			Pn		15 11 59.0	-0.5
JHJ2	Mitsune	4.36	333	P		Pn		15 12 28.6	-1.4
JHJ2	Mitsune	4.36	333	Pn		Pn		15 12 29.9	-0.2
JHJ	Hachijo jima 2	4.38	333	Pn		Pn		15 12 29.1	-1.3
	4.9nm,0.3s,baz=72,slow=19,SNR=2.0								
JHJ				Sn		Sn		15 13 18.9	-1.2
	6.8nm,0.3s,baz=77,slow=22,SNR=2.9								
JHU	Hanno	7.03	341	eS		Sn		15 14 23.2	-2.3
JRY	Ryogami san	7.30	339	P		Pn		15 13 09.8	-0.7
JAG	Ashikaga	7.52	343	P		Pn		15 13 10.8	-2.8
MJAR	Matsushiro Arr	8.01	337	Pn		Pn		15 13 19.6	-0.6
	0.3nm,0.3s,baz=161,slow=16,SNR=11								
MAJO	Matsushiro	8.01	337	Pn		Pn		15 13 20.3	0.0
ANA2	Anatahan	13.24	165	Pn		Pn		15 14 29.6	-2.4
KSRS	Korea Array	14.44	308	Pn		P		15 14 53.8	-0.7
	0.2nm,0.3s,baz=118,slow=12,SNR=4.0								
KLR	Kul'dur	21.50	341	P		P		15 16 12.0	+0.1
	0.6nm,0.5s,baz=185,slow=15,SNR=2.3								
H11N2	WAKE ISLAND Hy	24.38	107	T		T		15 42 25.1	
	baz=302								
H11N1	WAKE ISLAND Hy	24.38	107	T		T		15 42 18.0	
	baz=302								
H11N3	WAKE ISLAND Hy	24.39	107	T		T		15 42 09.7	
	baz=302								
SONM	Songino Array	33.19	314	P		P		15 18 01.1	+1.3
	0.5nm,0.5s,baz=113,slow=7.7,SNR=3.7								
CMAR	Chiang Mai Arr	40.75	265	P		P		15 19 04.0	-0.2
	0.5nm,0.7s,baz=50,slow=7.5,SNR=6.0								
CMAR	Chiang Mai Arr	40.75	265	P		P		15 19 02.2	-2.0
MTN	Manton Dam	43.16	196	P		P		15 19 23.3	-0.4
ZAA0	Zalesovo Array	47.88	318	P		P		15 20 01.2	+0.5
ZAA0				IAmb		IAmb		15 20 02.5	
	comp=Z,2.9nm,1.1s								
ZALV	Zalesovo Beam	47.88	318	P		P		15 20 00.9	+0.2
	comp=Z,0.4nm,0.4s,baz=76,slow=16,SNR=3.8								
ZALV	Zalesovo Beam	47.88	318	P		P		15 20 00.6	-0.1
ANM	Nome	48.07	27	P		P		15 20 03.7	+1.6
ANM				IAmb		IAmb		15 20 18.9	
	comp=Z,4.4nm,1.4s								
MK31	Makanchi Array	49.12	308	P		P		15 20 11.1	+0.6
MKAR	Makanchi Array	49.12	308	P		P		15 20 10.4	0.0
	comp=Z,0.7nm,0.7s,baz=90,slow=9.7,SNR=6.8								
WB0	Warramunga Arr	49.29	190	P		P		15 20 11.7	-0.2
WR0	Warramunga Arr	49.45	189	P		P		15 20 12.9	-0.2
WR0				IAmb		IAmb		15 20 13.7	
	comp=Z,4.4nm,0.8s								
WB2	Warramunga Arr	49.47	190	P		P		15 20 13.1	-0.1
WRA	Warramunga Arr	49.47	190	P		P		15 20 13.2	-0.1
	comp=Z,4.1nm,0.8s,baz=97,slow=8.0,SNR=30								
WRA	Warramunga Arr	49.47	190	P		P		15 20 13.2	-0.1
KURBB	Kurchatov Arra	51.55	313	P		P		15 20 28.9	+0.2
	comp=Z,1.9nm,0.7s,baz=90,slow=7.4,SNR=25								
IMAR	Indian Mountai	53.16	27	P		P		15 20 40.7	+0.3
AS31	Alice Springs	53.19	189	P		P		15 20 41.1	0.0
ASAR	Alice Springs	53.19	189	P		P		15 20 40.9	-0.3
	comp=Z,0.6nm,0.4s,baz=3.8,slow=5.3,SNR=32								
RND	Reindeer	54.91	31	P		P		15 20 52.4	-0.9
RND				IAmb		IAmb		15 21 00.3	
	comp=Z,3.6nm,1.1s								
ILAR	Eielson Array	55.86	29	P		P		15 20 58.5	-1.5
	comp=Z,0.2nm,0.7s,baz=268,slow=6.4,SNR=5.2								
BVAR	Borovoye Array	56.47	317	P		P		15 21 05.1	+0.5
	comp=Z,0.9nm,0.7s,baz=210,slow=8.6,SNR=5.4								
ARU	Arti	62.73	322	P		P		15 21 47.7	0.0
	comp=Z,0.5nm,0.3s,baz=87,slow=2.4,SNR=4.6								
ARU	Arti	62.73	322	P		P		15 21 48.3	+0.6
ARU				IAmb		IAmb		15 21 48.5	
	comp=Z,2.8nm,0.7s								
ABKAR	Akbulak array	63.60	314	P		P		15 21 54.1	+0.6
ABKAR				IAmb		IAmb		15 21 54.8	
	comp=Z,1.5nm,0.6s								
AKTO	Aktyubinsk	64.50	315	P		P		15 22 02.1	+2.7
	comp=Z,1.0nm,0.7s,baz=62,slow=11,SNR=5.2								
FINES	FINESS Array B	76.03	334	P		P		15 23 10.1	+0.4
	comp=Z,0.5nm,0.5s,baz=64,slow=4.4,SNR=4.1								
FINES	FINESS Array B	76.03	334	P		P		15 23 09.9	+0.2
KBZ	Khabaz	76.54	313	P		P		15 23 14.8	+1.9
	comp=Z,2.0nm,0.7s,baz=30,slow=6.0,SNR=7.5								
NVAR	Mina Array Bea	79.22	52	P		P		15 23 29.5	+1.2
	comp=Z,0.3nm,0.6s,baz=297,slow=2.4,SNR=3.7								
RAYN	Ar Rayn	84.27	294	P		P		15 23 56.2	+1.2
RAYN				IAmb		IAmb		15 23 56.8	
	comp=Z,3.0nm,0.8s								

*ANF **25** 15:21:38.1±0.2,59.33N×138.25W,h0km,ML4.0/15,Error*
ellipse: s-maj=6.3km s-min=2.0km az=32.0,Hypocentre
not reviewed by the ISC
*AEIC **25** 15:21:38.1±1.9,59.44N±0.05×138.22W±0.04,h1km±6km,*
ML3.6,ML3.5(OTT),ML3.8/71(NEIC),Error ellipse:
s-maj=7.9km s-min=2.1km az=198.0
*PGC **25** 15:21:38.2±0.0,59.22N×138.34W,h1km,ML3.5/7,65km*
east of Yakutat, Ak Southeastern Alaska
*NEIC **25** 15:21:40.2±2.0,59.37N±0.05×138.27W±0.04,h10km±2km,*
Error ellipse: s-maj=8.1km s-min=3.0km az=196.0
*IDC **25** 15:21:40.5±1.9,59.45N×138.11W,h0km,mb3.2/1,*
mb1 3.4/3,mb1mx3.1/50,mbtmp3.0/3,ML2.9/2,MS2.8/1,
Ms1 2.9/1,ms1mx2.6/14,Error ellipse: s-maj=30.5km
s-min=18.1km az=32.0

ISC 25 15:21:39.5±0.8,59.35N±0.05×138.29W±0.02,h10km,
n131,σ1933/162,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNL	Peninsula	0.65	300			Pg		15 21 51.2	-0.8
PNL						Sg		15 22 00.0	-0.5
BCPM	Bancas Point	0.91	312			Pg		15 21 55.3	-1.7
BCPM						Sg		15 22 07.5	-1.3
BCPM				IAML				15 22 13.8	
	comp=N,3µm,0.5s								
PLBC	Pleasant Camp	0.99	83	P		Pg		15 21 56.6	-1.9
PLBC				S		Sg		15 22 09.6	-1.8
PLBC	Pleasant Camp	0.99	83			Pg		15 21 56.6	-1.9
PLBC						Sg		15 22 09.6	-1.8
PINM	Pinnacle	1.24	308	P				15 22 01.3	
	baz=122,SNR=59								
PINM				S				15 22 19.4	
	baz=122								
PCA	Pinnacle	1.25	308	P		Pn		15 22 01.0	-2.0
PCA				Sn		Sb		15 22 19.1	-0.1
PCA	Pinnacle	1.25	308			Pn		15 22 01.4	-1.6
PCA	Pinnacle	1.25	308			Sb		15 22 19.5	+0.3
SAMH	Samovar Hills	1.48	303	Pn		Pn		15 22 05.6	-0.7
SAMH				Sn		Sg		15 22 27.5	+0.4
SAMH	Samovar Hills	1.48	303	Pn		Pn		15 22 05.6	-0.7
SAMH				Sn		Sg		15 22 27.5	+0.4
SKAG	Skagway	1.52	85			Pn		15 22 05.7	-1.0
SKAG						Sn		15 22 25.1	-1.4
SKAG				IAML				15 22 28.9	
	comp=N,1µm,0.8s								
SKAG	Skagway	1.52	85	P				15 22 05.9	
	baz=270,SNR=119								
SKAG				S				15 22 25.5	
	baz=270								
CHX	Chaix Hills	1.60	298			Pn		15 22 08.0	+0.1
TABL	Table Mountain	1.80	308	Pn		Pn		15 22 10.2	-0.6
TABL				Sn		Sb		15 22 35.4	0.0
TABL	Table Mountain	1.80	308			Pn		15 22 09.9	-0.9
TABL						Sn		15 22 34.8	+1.0
TABL				IAML				15 22 36.4	
	comp=E,659nm,0.6s								
TABL				IAML				15 22 40.8	
	comp=N,842nm,0.7s								
RKAV	Rock Avalanche	1.81	303	Pn		Pn		15 22 11.0	+0.1
RKAV				Sn		Sn		15 22 33.2	-0.8
RKAV				Sg		Sg		15 22 37.2	-0.5
RKAV	Rock Avalanche	1.81	303	Pn		Pn		15 22 11.0	+0.1
RKAV				Sn		Sn		15 22 33.2	-0.8
RKAV				Sg		Sg		15 22 37.2	-0.5
BESE	Bessie Mountai	1.94	112	Pn		Pn		15 22 11.6	-1.0
BESE				Sg		Sb		15 22 39.0	-0.2
BESE	Bessie Mountai	1.94	112			Pn		15 22 12.4	-0.2
LOGN	Logan Glacier	2.01	319	Pn		Pn		15 22 13.3	-0.2
LOGN							Sn		15 22 39.6	+0.8
LOGN	Logan Glacier	2.01	319			Pn		15 22 13.3	-0.2
LOGN							Sn		15 22 39.5	+0.7
LOGN				IAML				15 22 43.1	
	comp=N,792nm,0.7s								
LOGN				IAML				15 22 44.8	
	comp=E,535nm,0.6s								
YAH	Yahtse	2.02	302				Pn		15 22 14.2	+0.4
YAH				IAML				15 22 45.5	
	comp=E,740nm,0.7s								
YAH				IAML				15 22 46.0	
	comp=N,584nm,0.7s								
WHY	Whitehorse	2.16	51	Pn		Pn		15 22 15.8	+0.2
WHY				Sn		Sn		15 22 44.2	+1.8
WHY	Whitehorse	2.16	51				Pn		15 22 15.8	+0.2
WHY				IAML				15 22 48.5	
	comp=E,700nm,0.9s								
WHY				IAML				15 22 48.7	
	comp=N,668nm,0.5s								
CTGM	Chitina Glacie	2.22	318	Pn		Pn		15 22 16.5	0.0
CTGM				Sn		Sn		15 22 45.3	+1.3
CTGM	Chitina Glacie	2.22	318			Pn		15 22 16.2	-0.2
CTGM						Sn		15 22 45.0	+0.9
CTGM				IAML				15 22 49.0	
	comp=E,550nm,0.9s								
CTGM				IAML				15 22 49.8	
	comp=N,449nm,0.7s								
GRNC	Granite Creek	2.22	310	Pn		Pn		15 22 16.5	-0.1
GRNC				Sn		Sn		15 22 44.9	+0.8
GRNC	Granite Creek	2.22	310				Pn		15 22 16.5	-0.1
GRNC				IAML				15 22 48.1	
	comp=N,674nm,0.5s								
CTG	Chitna Glacier	2.22	318	P				15 22 16.2	
	baz=133,SNR=79								
CTG				S				15 22 45.7	
	baz=133								
CYK	Cape Yakataga	2.25	291				Pn		15 22 16.9	+0.2
JIS	Juneau Island	2.30	116				Pn		15 22 17.7	+0.3
JIS				Sn			Sn		15 22 46.2	+0.5
BARN	Barnard Glacie	2.40	317				Pn		15 22 19.6	+0.6
BARN				IAML				15 22 53.2	
	comp=N,383nm,0.4s								
KULT	Kultieth River	2.41	294				Pn		15 22 19.1	+0.1
SNH	Sunshine Point	2.44	292				Pn		15 22 19.9	+0.4
SNH							Sn		15 22 51.2	+1.8
KIAG	Kiagna River	2.57	310	Pn			Pn		15 22 21.6	+0.2
KIAG				Sn			Sn		15 22 54.4	+1.6
KIAG	Kiagna River	2.57	310	Pn			Pn		15 22 21.6	+0.2
KIAG				Sn			Sn		15 22 54.4	+1.6
BALM	Baldy	2.64	312	Pn			Pn		15 22 22.6	+0.5
BALM				Sn			Sb		15 22 57.9	-1.4
BALM	Baldy	2.64	312				Pn		15 22 22.5	+0.4
BALM							Sn		15 22 56.2	+2.0
BGLC	Bering Glacier	2.64	289				Pn		15 22 22.9	+0.8
BGLC	Bering Glacier	2.64	289	Sb				15 23 01.6	
	baz=103								
YUK3	Moose Creek	2.66	337	Pn			Pn		15 22 22.9	+0.4
YUK3				Sg			Sg		15 23 03.7	-1.1
YUK3	Moose Creek	2.66	337				Pn		15 22 22.9	+0.4
YUK3	Moose Creek	2.66	337	Pn			Pn		15 22 22.9	+0.4
TGL	Tana Glacier	2.68	304				Pn		15 22 23.4	+0.7
TGL	Tana Glacier	2.68	304	IAML				15 23 00.9	
	comp=E,254nm,0.9s								
TGL				IAML				15 23 01.8	
	comp=N,283nm,0.8s								
GRIN	Grindle Hills	2.71	292				Pn		15 22 23.5	+0.5
KHIT	Khitrov Hills	2.73	296				Pn		15 22 23.9	+0.6
KHIT							Sn		15 22 58.4	+2.0
YUK2	White River	2.75	334	Pn			Pn		15 22 24.0	+0.3
YUK2	White River	2.75	334				Pn		15 22 24.0	+0.3
YUK2	White River	2.75	334	Pn			Pn		15 22 24.0	+0.3
PTPK	Patty Peak	2.78	313	Pn			Pn		15 22 25.1	+1.0
PTPK				Sn			Sb		15 23 01.1	-2.3
PTPK	Patty Peak	2.78	313	Pn			Pn		15 22 25.1	+1.0
PTPK				Sn			Sb		15 23 01.1	-2.3
CRQE	Cirque	2.79	302	P				15 22 24.6	
	baz=116,SNR=22								
CRQE				S				15 22 59.9	
	baz=116								
SIT	Sitka	2.79	144				Pn		15 22 25.6	+1.5
SIT	Sitka	2.79	144	Sb				15 23 04.6	
	baz=329								
CRQM	Cirque	2.81	302				Pn		15 22 24.6	0.0
CRQM				IAML				15 23 08.1	
	comp=N,363nm,0.7s								
CRQM				IAML				15 23 09.6	
	comp=E,290nm,0.7s								
SUCK	Suckling Hills	2.87	287	Pn			Pn		15 22 26.3	+1.0
SUCK				IAML				15 23 40.1	
	comp=N,216nm,1.0s								
BERG	Berg Lake	2.92	293				Sn		15 23 02.6	+1.5
BERG	Berg Lake	2.92	293	Pn			Pn		15 22 25.9	-0.1
MCARA	McCarthy VSAT	3.11	313				Pn		15 22 28.9	+0.4
MCARA				IAML				15 23 20.4	
	comp=E,312nm,0.7s								
MCARA				IAML				15 23

GLI	**Glacier Island**	**4.66**	**293**	Pn	**Pn**	**15 22 50.2**	**+0.4**
GLI				IAML		15 24 13.7		
	comp=E,59nm,0.7s							
GLI	**Glacier Island**	**4.66**	**293**	P		15 22 50.1		
	baz=104							
GLI				S		15 23 43.6		
	baz=104							
M24K	**Tolsona, Glenn**	**4.75**	**309**		**Pn**	**15 22 52.2**	**+1.0**
M24K	**Tolsona, Glenn**	**4.75**	**309**	IAML		15 24 24.8		
	comp=E,92nm,1.8s							
M24K				IAML		15 24 39.9		
	comp=N,79nm,1.9s							
DAWY	**Dawson**	**4.76**	**354**	Pn	**Pn**	**15 22 52.6**	**+1.3**
DAWY				Sn	**Sn**	**15 23 46.8**	**+0.4**
DAWY	**Dawson**	**4.76**	**354**	Pn	**Pn**	**15 22 52.3**	**+1.1**
PAX	**Paxson**	**5.02**	**319**	Pn	**Pn**	**15 22 58.3**	**+3.3**
PAX	**Paxson**	**5.02**	**319**	Pn	**Pn**	**15 22 57.2**	**+2.3**
K27K	**Chicken**	**5.03**	**341**	Pn	**Pn**	**15 22 56.8**	**+2.0**
K27K				IAML		15 24 22.3		
	comp=E,59nm,0.9s							
SCM	**Sheep Creek Mo**	**5.10**	**303**		**Pn**	**15 22 57.7**	**+1.7**
SCM				IAML		15 24 14.6		
	comp=E,51nm,1.1s							
SCM				IAML		15 24 25.6		
	comp=N,54nm,1.0s							
DOT	**Dot Lake**	**5.12**	**330**	Pn	**Pn**	**15 22 58.5**	**+2.4**
DOT	**Dot Lake**	**5.12**	**330**		**Pn**	**15 22 58.9**	**+2.7**
PWL	**Port Wells**	**5.25**	**291**		**Pn**	**15 22 58.3**	**+0.4**
PWL				IAML		15 24 02.2		
	comp=E,36nm,1.3s							
PWL				IAML		15 24 39.7		
	comp=N,45nm,1.3s							
SCRK	**Sand Creek**	**5.37**	**332**	Pn	**Pn**	**15 23 01.2**	**+1.4**
KNK	**Knik Glacier**	**5.45**	**297**		**Pn**	**15 23 01.7**	**+1.0**
SML	**Sawmill**	**5.53**	**301**		**Pn**	**15 23 02.9**	**+1.1**
EGAK	**Eagle**	**5.61**	**347**		**Pn**	**15 23 03.1**	**+0.3**
EGAK	**Eagle**	**5.61**	**347**	P		15 23 03.6		
	baz=164,SNR=13							
WAT6	**Susitna Watana**	**5.62**	**309**		**Pn**	**15 23 03.8**	**+0.6**
WAT6	**Susitna Watana**	**5.62**	**309**	P		15 23 03.6		
	baz=120							
SEW	**Seward**	**5.70**	**282**	Pn	**Pn**	**15 23 03.5**	**-0.6**
GHO	**Glory Hole Cre**	**5.78**	**299**		**Pn**	**15 23 06.2**	**+0.9**
PMR	**Palmer**	**5.81**	**297**	Pn	**Pn**	**15 23 06.4**	**+0.8**
RC01	**Rabbit Creek A**	**5.96**	**292**		**Pn**	**15 23 08.0**	**+0.3**
RC01	**Rabbit Creek A**	**5.96**	**292**	P		15 23 08.1		
	baz=101							
SLKM	**Skilak Lake**	**6.11**	**286**		**Pn**	**15 23 09.7**	**-0.1**
BRSE	**Bradley Lake S**	**6.34**	**279**		**Pn**	**15 23 13.9**	**+0.9**
RND	**Reindeer**	**6.50**	**313**		**Pn**	**15 23 17.0**	**+1.9**
SUA	**Susitna One**	**6.52**	**294**		**Pn**	**15 23 16.9**	**+1.4**
CNPM	**China Poot**	**6.61**	**277**		**Pn**	**15 23 17.5**	**+1.0**
MCK	**McKinley**	**6.72**	**315**	Pn	**Pn**	**15 23 20.2**	**+2.2**
IL31		**6.77**	**327**	Pn	**Pn**	**15 23 20.5**	**+1.8**
ILAR	**Eielson Array**	**6.77**	**327**	Pn	**Pn**	**15 23 19.9**	**+1.2**
	comp=N,0.1nm,0.3s,baz=154,slow=12,SNR=2.4							
ILAR				Lg	Lg	15 25 15.4		
	comp=N,0.4nm,0.3s,baz=137,slow=29,SNR=4.1							
ILAR				LR	LR	15 26 15.0		
	comp=N,79nm,19.0s,baz=67,slow=41							
ILAR	**Eielson Array**	**6.77**	**327**		**Pn**	**15 23 20.2**	**+1.5**
WRH	**Wood River Hil**	**6.91**	**322**	Pn	**Pn**	**15 23 22.5**	**+1.9**
CCB	**Clear Creek Bu**	**6.94**	**324**	Pn	**Pn**	**15 23 24.4**	**+3.3**
DIB	**Dawson Inlet,**	**6.96**	**150**	Pn	**Pn**	**15 23 23.1**	**+1.8**
SKT	**Skwentna**	**7.02**	**298**	Pn	**Pn**	**15 23 23.2**	**+1.0**
STLK	**Strandline Lak**	**7.04**	**294**		**Pn**	**15 23 23.4**	**+0.9**
EPYK	**Eagle Plains**	**7.08**	**5**	Pn	**Pn**	**15 23 25.7**	**+2.7**
RSO	**Redoubt South**	**7.36**	**285**	Pn	**Pn**	**15 23 27.9**	**+0.9**
KTH	**Kantishna Hill**	**7.37**	**310**		**Pn**	**15 23 29.0**	**+1.9**
PPLA	**Purkeypile**	**7.60**	**304**		**Pn**	**15 23 32.0**	**+1.7**
KDAK	**Kodiak Island**	**7.64**	**264**		**Pn**	**15 23 31.1**	**+0.4**
BPAW	**Bear Paw Mtn.**	**7.67**	**314**		**Pn**	**15 23 32.6**	**+1.4**
I23K	**Minto, Yukon-K**	**7.77**	**323**		**Pn**	**15 23 34.2**	**+1.7**
FNBB	**Fort Nelson**	**7.88**	**87**	Pg	Pb	15 23 03.2	+7.2
FNBB	**Fort Nelson**	**7.88**	**87**	Pg	Pb	15 24 03.2	+7.2
NBC2	**NorthernBC 2**	**8.04**	**80**	P	**Pn**	**15 23 37.3**	**+1.1**
MLY	**Manley**	**8.13**	**320**	Pn	**Pn**	**15 23 40.0**	**+2.6**
OHAK	**Old Harbor**	**8.18**	**261**	Pn	**Pn**	**15 23 37.1**	**-1.0**
BMAR	**Burnt Mountain**	**8.58**	**344**		**Pn**	**15 23 44.8**	**+1.2**
SVW2	**Sparrevohn**	**8.78**	**289**	Pn	**Pn**	**15 23 47.1**	**+0.8**
IMAR	**Indian Mountai**	**9.71**	**320**	Pn	**Pn**	**15 24 00.4**	**+1.4**
TOLK	**Toolik Lake Re**	**10.53**	**337**	Pn	**Pn**	**15 24 14.1**	**+3.7**
DHRN	**Dharma Camp**	**11.41**	**40**	P	**Pn**	**15 24 19.9**	**-2.3**
C36M	**Paulatuk**	**11.73**	**25**	P	**Pn**	**15 24 27.5**	**+1.0**
YKA	**Yellowknife Ar**	**11.92**	**65**	Pn	**Pn**	**15 24 26.3**	**-2.9**
	comp=N,0.1nm,0.3s,baz=262,slow=11,SNR=4.4							
YKA				Lg	Lg	15 27 50.7		
	comp=N,0.1nm,0.3s,baz=264,slow=6,SNR=3.0							
NVAR	**Mina Array Bea**	**24.53**	**140**	P	**P**	**15 27 02.0**	**+2.8**
	comp=N,0.6nm,0.8s,baz=316,slow=10.0,SNR=4.1							

*IDC **25** 15:45:59.4±0.8, 12°.99N×121°.84E, h0km, mb3.8/12, mb1 4.0/12, mb1mx3.7/49, mbtmp3.8/12, MS3.1/4, Ms1 3.2/4, ms1mx2.8/48, Error ellipse: s-maj=26.9km s-min=13.3km az=68.0*

*MAN **25** 15:46:01.6, 13°.01N×121°.71E, h17km, MS3.5*

MAN INTENSITY IV - CONCEPCION.

*NEIC **25** 15:46:02.1±1.6, 12°.91N±0°.07×121°.7E±0°.1, h21km±6km, mb4.1/12, Error ellipse: s-maj=18.6km s-min=8.8km az=74.0*

ISC 25 15:46:00.8±1.3, 13°.03N±0°.03×121°.73E±0°.03, h6km±8km, n65, σ1°.973/77, mb4.0/23, MS3.0/3, 1C-4D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOAC	**Boac**	**0.44**	**15**	*eP*	**Pb**	**15 46 10.6**	**-0.3**
BOAC				*eS*	**Sb**	**15 46 19.3**	**+1.5**
OTRP	**Odiongan**	**0.72**	**157**	*eP*	**Pg**	**15 46 15.1**	**+0.4**
SJMP	**San Jose**	**0.82**	**226**	*eP*	**Pg**	**15 46 17.4**	**+0.8**
SJMP				*eS*	**Sb**	**15 46 29.8**	**+1.0**
PGP	**Puerto Galera**	**0.89**	**302**	⇓*eP*	**Pg**	**15 46 18.3**	**+0.4**
PGP				*i* S	**Sb**	**15 46 30.4**	**-0.4**
LQP	**Lukban**	**1.09**	**350**	⇓*eP*	**Pn**	**15 46 22.6**	**-0.1**
LQP				*i* S	**Sn**	**15 46 39.2**	**+1.0**
GQP	**Guinayangan**	**1.11**	**39**	⇓*eP*	**Pb**	**15 46 22.2**	**-0.3**
GQP				*eS*	**Sn**	**15 46 37.7**	**-0.8**
TGY	**Tagaytay City**	**1.31**	**324**	Pn	**Pg**	**15 46 26.7**	**+0.7**
	528nm,0.3s,baz=160,slow=2.0,SNR=39						
TGY				Sn	**Sn**	**15 46 47.4**	**+3.8**
	1μm,0.3s,baz=156,slow=19,SNR=7.3						
JCNP	**Jose Panganiba**	**1.56**	**37**	*eP*	**Pn**	**15 46 28.1**	**-1.0**
JCNP				*eS*	**Sg**	**15 46 50.3**	**-0.8**
LUBP	**Lubang**	**1.60**	**296**	*eP*	**Pn**	**15 46 28.7**	**-1.0**
LUBP				*eS*	**Sg**	**15 46 52.4**	**0.0**
RCP	**Roxas**	**1.77**	**146**	⇓*eP*	**Pn**	**15 46 32.0**	**+0.1**
RCP				*i* S	**Sn**	**15 46 55.6**	**+0.8**
BUSP	**Coron**	**1.81**	**236**	*eP*	**Pn**	**15 46 32.2**	**-0.3**
BUSP				*eS*	**Sn**	**15 46 55.2**	**-0.6**
SCSP	**San Jose Seism**	**1.85**	**70**	*eP*	**Pn**	**15 46 33.5**	**+0.5**
SCSP				*eS*	**Sb**	**15 46 58.8**	**+0.4**
ENPP	**El Nido**	**2.90**	**231**	*eP*	**Pn**	**15 46 46.6**	**-0.8**
CNOP	**Candoni, Negro**	**3.31**	**164**	*eP*	**Pn**	**15 46 53.0**	**-0.1**
CNOP				*eS*	**Sn**	**15 47 30.8**	**-1.9**
LLP	**Lapu-Lapu**	**3.48**	**141**	⇑*iP*	**Pn**	**15 46 52.9**	**-2.5**
LLP				*i* S	**Sn**	**15 47 36.3**	**-0.6**
MSLP	**Maasin**	**4.21**	**133**	*eP*	**Pn**	**15 47 09.6**	**+4.1**
MSLP				*eS*	**Sn**	**15 47 55.0**	**0.0**
SZP	**Santa**	**4.66**	**345**	Pn	**Pb**	**15 47 20.1**	**-2.8**
ABRA	**Dolores**	**4.69**	**348**	*eP*	**Pb**	**15 47 19.3**	**-4.2**
PAGZ	**Pagadian**	**5.40**	**162**	*eP*	**Pn**	**15 47 22.5**	**+0.6**
BATP	**Bataraza**	**5.71**	**223**	*eP*	**Pn**	**15 47 25.5**	**-0.6**
BATP				*eS*	**Sn**	15 48 21.7	-1.0
MYLDM	**Lahad Datu**	**8.43**	**203**	Pn	**Pn**	**15 48 05.9**	**+2.4**
LUWI	**Luwuk**	**14.02**	**176**	Pn	**Pn**	**15 49 20.9**	**+0.8**
KAPI	**Kappang**	**18.04**	**186**	LR	LR	15 56 53.1	
	comp=Z,64nm,20.8s,baz=318,slow=36						
CHAI	**Chaiyaphum**	**19.33**	**281**	P	**Pn**	**15 50 29.6**	**+1.6**
	42nm,0.9s						
SUKH	**Sukhothai**	**21.77**	**284**	P	**P**	**15 50 56.6**	**+3.2**
	13nm,0.9s						
CM36	**Chiang Mai Arr**	**22.45**	**287**	P	**P**	**15 51 03.0**	**+2.3**
CM04	**Chiang Mai Air**	**22.53**	**287**	P	**P**	**15 51 05.7**	**+4.0**
	5.1nm,0.8s						
CM01	**Chiang Mai Arr**	**22.55**	**287**	P	**P**	**15 51 07.5**	**+5.7**
	4.3nm,1.0s						
CM02	**Chiang Mai Arr**	**22.57**	**287**	P	**P**	**15 51 05.8**	**+3.8**
	6.0nm,0.9s						
CM31	**Chiang Mai Arr**	**22.58**	**287**	P	**P**	**15 51 03.1**	**+1.0**
CM31				IAmb	IAmb	15 51 04.6	
	comp=Z,7.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**22.58**	**287**	P	**P**	**15 51 03.6**	**+1.5**
	comp=Z,2.6nm,0.8s,baz=96,slow=7.7,SNR=16						
CMAR				LR	LR	15 59 30.7	
	comp=Z,62nm,18.3s,baz=254,slow=36						
CMAR	**Chiang Mai Arr**	**22.58**	**287**	P	**P**	**15 51 03.1**	**+1.0**
CM15	**Chiang Mai Arr**	**22.59**	**287**	P	**P**	**15 51 04.0**	**+1.7**
CM13	**Chiang Mai Arr**	**22.60**	**287**	P	**P**	**15 51 06.0**	**+3.6**
	comp=Z,4.3nm,0.9s						
BATI	**Baumata**	**23.17**	**175**	P	**P**	**15 51 08.7**	**+0.4**
	comp=Z,21nm,0.9s,baz=3.0,slow=2.8,SNR=6.9						
KSAR	**Wonju Array Be**	**24.92**	**12**	P	**P**	**15 51 24.9**	**+0.3**
KSRS	**Korea Array**	**24.94**	**12**	P	**P**	**15 51 25.0**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=180,slow=11,SNR=4.7						
KSRS				LR	LR	15 59 59.5	
	comp=Z,44nm,21.8s,baz=156,slow=34						
JHJ	**Hachijo jima 2**	**25.91**	**37**	LR	LR	16 00 57.1	
	comp=Z,43nm,19.2s,baz=110,slow=35						
USRK	**Ussuriysk Ar.**	**32.28**	**14**	P	**P**	**15 52 31.1**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=213,slow=6.6,SNR=4.7						
USRK	**Ussuriysk Ar.**	**32.28**	**14**	P	**P**	**15 52 30.6**	**+0.3**
WRA	**Warramunga Arr**	**35.04**	**159**	P	**P**	**15 52 52.5**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=340,slow=9.3,SNR=8.1						
WB2	**Warramunga Arr**	**35.04**	**159**	P	**P**	**15 52 52.6**	**-2.0**
SONM	**Songino Array**	**36.98**	**343**	P	**P**	**15 53 11.4**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=157,slow=10,SNR=20						
SONM	**Songino Array**	**36.98**	**343**	P	**P**	**15 53 11.1**	**+0.1**
AS31	**Alice Springs**	**38.37**	**162**	P	**P**	**15 53 20.7**	**-2.2**
ASAR	**Alice Springs**	**38.37**	**162**	P	**P**	**15 53 21.8**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=338,slow=6.7,SNR=17						
MK31	**Makanchi Array**	**47.16**	**323**	P	**P**	**15 54 33.9**	**-0.2**
MK31				IAmb	IAmb	15 54 34.8	
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**47.16**	**323**	P	**P**	**15 54 34.2**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=126,slow=8.9,SNR=14						
MKAR	**Makanchi Array**	**47.16**	**323**	P	**P**	**15 54 33.5**	**-0.6**
MAKZ	**Makanchi**	**47.35**	**323**	P	**P**	**15 54 35.3**	**-0.3**
MAKZ				IAmb	IAmb	15 54 35.6	
	comp=Z,1.6nm,1.1s						
ZALV	**Zalesovo Beam**	**50.11**	**332**	P	**P**	**15 54 55.0**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=142,slow=8.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**50.11**	**332**	P	**P**	**15 54 54.8**	**-1.8**
SEY	**Semchan**	**54.35**	**17**	P	**P**	**15 55 28.8**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=184,slow=14,SNR=2.1						
BRVK	**Borovoye**	**56.96**	**326**	P	**P**	**15 55 46.1**	**-0.8**
BRVK				IAmb	IAmb	15 55 47.2	
	comp=Z,3.3nm,1.1s						
ABKAR	**Akbulak array**	**61.89**	**319**	P	**P**	**15 56 19.8**	**-1.3**
BPAW	**Bear Paw Mtn.**	**77.20**	**27**	P	**P**	**15 57 55.9**	**+0.5**
TOLK	**Toolik Lake Re**	**77.49**	**22**	P	**P**	**15 57 58.6**	**+1.6**
WRH	**Wood River Hil**	**78.43**	**26**	P	**P**	**15 58 02.0**	**-0.1**
WRH				IAmb	IAmb	15 58 15.6	
	comp=Z,4.8nm,1.4s						
CCB	**Clear Creek Bu**	**78.53**	**26**	P	**P**	**15 58 02.5**	**-0.3**
CCB				IAmb	IAmb	15 58 10.3	
	comp=Z,1.9nm,1.0s						
ILAR	**Eielson Array**	**78.91**	**26**	P	**P**	**15 58 04.2**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=257,slow=5.0,SNR=5.1						
ILAR	**Eielson Array**	**78.91**	**26**	P	**P**	**15 58 04.4**	**-0.4**
BMAR	**Burnt Mountain**	**79.48**	**23**	P	**P**	**15 58 09.0**	**+1.0**
CTGM	**Chitina Glacie**	**82.06**	**29**	P	**P**	**15 58 22.6**	**+0.5**
BURAR	**Bucovina Array**	**84.83**	**318**	P	**P**	**15 58 35.6**	**-0.9**
YKA	**Yellowknife Ar**	**93.00**	**23**	P	**P**	**15 59 13.8**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=308,slow=4.0,SNR=4.5						

*IDC **25** 15:55:32.3±1.5, 36°.20S×73°.54W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/20, mbtmp3.5/4, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.8/18, Error ellipse: s-maj=54.2km s-min=19.2km az=68.0*

*NEIC **25** 15:55:33.5±1.3, 36°.17S±0°.06×73°.6W±0°.1, h12km±11km, Error ellipse: s-maj=14.7km s-min=6.3km az=61.0*

*GUC **25** 15:55:34.3±0.6, 36°.27S×73°.65W, h38km±8km, ML4.1*

ISC 25 15:55:36.2±1.1, 36°.25S±0°.05×73°.6W±0°.1, h35km, n25, σ1°.50/26, mb3.5/3, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.74**	**143**	⇑*iP*	**Pn**	**15 55 48.3**	**-2.0**
BI03				*i* S	**Sn**	**15 55 58.5**	**-1.8**
BI03				IAML		15 56 01.3	
	comp=N,59μm,0.5s						
BI03	**Tigo**	**0.74**	**143**	Pn	**Pn**	**15 55 48.8**	**-1.5**
BI03				Sn	**Sn**	**15 55 59.6**	**-0.8**
LAJA	**Laja**	**1.25**	**146**	*eP*	**Pn**	**15 55 55.9**	**-1.2**
LAJA				*i* S	**Sn**	**15 56 11.8**	**-1.0**
BI02	**San Fabin de**	**1.91**	**103**	⇑*iP*	**Pn**	**15 56 05.8**	**-0.6**
BI02				*i* S	**Sn**	**15 56 29.9**	**+0.7**
BI02				IAML		15 56 36.3	
	comp=N,2μm,0.9s						
BI02	**San Fabin de**	**1.91**	**103**		**Pn**	**15 56 05.7**	**-0.6**
BO03	**Pichilemu**	**2.19**	**38**	*eP*	**Pn**	**15 56 07.9**	**-2.3**
BO02	**Sierra Bellavi**	**2.71**	**58**	*eP*	**Pn**	**15 56 16.8**	**-0.6**
BO02				IAML		15 57 05.6	
	comp=N,616nm,0.3s						
BO02	**Sierra Bellavi**	**2.71**	**58**		**Pn**	**15 56 16.6**	**-0.8**
MT09	**Talagante**	**3.25**	**42**	⇑*eP*	**Pn**	**15 56 23.9**	**-1.0**
MT09				IAML		15 57 23.9	
	comp=E,188nm,0.6s						
MT02	**Curacav**	**3.59**	**35**		**Pn**	**15 56 27.0**	**-2.5**
MT05	**Renca**	**3.68**	**40**	Pn	**Pn**	**15 56 29.7**	**-1.0**
PEL	**Peldehue**	**3.91**	**38**		**Pn**	**15 56 31.3**	**-2.5**
VA03	**San Esteban**	**4.28**	**37**		**Pn**	**15 56 37.8**	**-1.2**
H03S1	**Juan Fernandez**	**4.98**	**297**	T	T	16 01 54.6	
	baz=118,slow=75,SNR=282						
H03S3	**Juan Fernandez**	**4.99**	**297**	T	T	16 01 55.2	
	baz=118,slow=75,SNR=295						
H03S2	**Juan Fernandez**	**5.00**	**297**	T	T	16 01 53.1	
	baz=118,slow=75,SNR=351						
PLCA	**Pan de Flores**	**5.01**	**153**	Pn	**Pn**	**15 56 51.0**	**+1.1**
	comp=E,0.9nm,0.3s,baz=331,slow=13,SNR=15						
PLCA				Pg		15 57 03.5	
	comp=E,1.0nm,0.3s,baz=308,slow=18,SNR=7.0						
PLCA				Lg	Lg	15 58 14.6	
	comp=E,2.0nm,0.3s,baz=57,slow=21,SNR=3.5						
PLCA				LR	LR	15 58 46.0	
	comp=E,179nm,22.0s,baz=330,slow=38						
CO02	**Combarbal**	**5.47**	**24**		**Pn**	**15 56 53.3**	**-2.0**
CO03	**El Pedregal**	**5.91**	**25**		**Pn**	**15 56 59.7**	**-1.6**
LL01	**San Ignacio de**	**6.19**	**172**	Pn	**Pn**	**15 57 05.3**	**+0.2**
ZON	**Zondo**	**6.21**	**42**	Pn	**Pn**	**15 57 05.9**	**+0.4**
GO04	**Tololo Observa**	**6.49**	**22**	Pn	**Pn**	**15 57 07.7**	**-1.8**
SIV	**San Ignacio**	**23.05**	**32**	P	**P**	**16 00 38.6**	**+0.1**
	comp=E,0.7nm,0.5s,baz=234,slow=12,SNR=4.2						
TXAR	**Lajitas Array**	**71.11**	**332**	P	**P**	**16 06 52.5**	**+1.4**
	comp=E,0.2nm,0.4s,baz=161,slow=8.0,SNR=4.1						
NVAR	**Mina Array Bea**	**85.03**	**326**	P	**P**	**16 08 09.6**	**+1.4**
	comp=E,0.2nm,0.3s,baz=139,slow=7.0,SNR=2.4						

*TAP **25** 16:03:02.8, 23°.71N×121°.68E, h37km, ML3.4, C*

*JMA **25** 16:03:02.1±0.1, 23°.70N×121°.73E, h35km±2km, M2.7*

ISC 25 16:02:59.6±1.0, 23°.65N±0°.01×121°.87E±0°.02, h20km±5km, n110, σ0°.84/201, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.41**	**273**	*i* P	**Pn**	**16 03 10.4**	**+0.1**
	baz=270						
EGFH				*i* S	**Sb**	**16 03 15.7**	**+1.7**
	baz=270						
HWA	**Hwalien**	**0.41**	**324**	*i* P	**Pn**	**16 03 10.8**	**+0.5**
	baz=352						
HWA				S	**Sn**	**16 03 16.3**	**-1.2**
	baz=352						
ESL	**Shilin**	**0.43**	**293**	⇑*iP*	**Pn**	**16 03 10.2**	**-0.5**
	baz=286						
ESL				*i* S	**Sb**	**16 03 15.4**	**+0.7**
	baz=286						
HGSD	**Ruisui**	**0.44**	**249**	P	**Pn**	**16 03 11.4**	**+0.6**
	baz=224						
HGSD				S	**Sn**	**16 03 18.2**	**0.0**
	baz=224						
TWD	**Chiawan**	**0.50**	**330**	*i* P	**Pn**	**16 03 11.6**	**-0.1**
	baz=356						
TWD				S	**Sb**	**16 03 18.2**	**+1.7**
	baz=356						
EHY	**Hungye**	**0.52**	**255**	*i* P	**Pn**	**16 03 11.7**	**-0.2**
	baz=249						
EHY				S	**Sb**	**16 03 17.9**	**+0.7**
	baz=249						
NACB	**Ninganchiao**	**0.58**	**334**	P	**Pn**	**16 03 12.6**	**-0.2**
	baz=353						
NACB				S	**Sb**	**16 03 20.1**	**+1.1**
	baz=353						
YULB	**Yu-li**	**0.58**	**244**	P	**Pn**	**16 03 12.9**	**0.0**
	baz=239						
YULB				S	**Sb**	**16 03 19.8**	**+0.9**
	baz=239						
EYUL	**Yuli**	**0.59**	**240**	*i* P	**Pn**	**16 03 13.4**	**+0.5**
	baz=235						
EYUL				S	**Sn**	**16 03 21.4**	**-0.5**
	baz=235						
TWF1	**Yuli**	**0.60**	**241**	*i* P	**Pn**	**16 03 13.3**	**+0.2**
	baz=236						
TWF1				S	**Sb**	**16 03 20.7**	**+1.2**
	baz=236						
ETLH	**Xiulin Townshi**	**0.66**	**328**	P	**Pn**	**16 03 13.7**	**-0.3**
	baz=331						
ETLH				S	**Sg**	**16 03 21.0**	**-0.7**
	baz=331						
VWDT	**VWDT**	**0.68**	**279**	P	**Pb**	**16 03 13.7**	**+1.0**
	baz=275						
VWDT				S	**Sg**	**16 03 21.2**	**-0.9**
	baz=275						
FULB	**Fuli**	**0.69**	**230**	*i* P	**Pn**	**16 03 15.5**	**+1.2**
	baz=229						
FULB				S	**Sn**	**16 03 25.2**	**+0.7**
	baz=229						
CHKT	**Chengkung**	**0.71**	**220**	*i* P	**Pn**	**16 03 15.3**	**+0.7**
	baz=195						
CHKT				*i* S	**Sn**	**16 03 24.5**	**-0.5**
	baz=195						
WHF	**Hehuan Shan**	**0.74**	**312**	*i* P	**Pb**	**16 03 14.5**	**+0.3**
	baz=312						
WHF				S	**Sg**	**16 03 23.1**	**-1.3**
	baz=312						
CHGB	**Renai**	**0.76**	**303**	P	**Pb**	**16 03 14.8**	**+0.6**
	baz=307						
CHGB				S	**Sg**	**16 03 23.2**	**-1.6**
	baz=307						
EWUT	**Wuta**	**0.80**	**354**	*i* P	**Pn**	**16 03 16.5**	**+0.7**
	baz=6.0						
EWUT				S	**Sg**	**16 03 26.7**	**+0.7**
	baz=6.0						
FUSS	**Fushou**	**0.83**	**316**	*i* P	**Pg**	**16 03 16.1**	**+0.1**
	baz=324						
FUSS				*i* S	**Sb**	**16 03 25.2**	**-1.1**
	baz=324						
EDH	**Donghe**	**0.85**	**218**	*i* P	**Pn**	**16 03 17.4**	**+1.0**
	baz=198						
EDH				*i* S	**Sg**	**16 03 28.1**	**+0.5**
	baz=198						
SSLB	**Suanglung**	**0.85**	**280**	P	**Pb**	**16 03 15.7**	**0.0**
	baz=277						
SSLB				S	**Sb**	**16 03 24.6**	**-2.2**
	baz=277						
YUS	**Yu-Shan**	**0.86**	**260**	*i* P	**Pn**	**16 03 17.1**	**0.0**
	baz=252						
YUS				S	**Sb**	**16 03 26.4**	**-1.0**
	baz=252						
TDCB	**Techi**	**0.89**	**313**	P	**Pg**	**16 03 17.0**	**0.0**
	baz=315						
TDCB				S	**Sb**	**16 03 26.4**	**-1.5**
	baz=315						
NNSB	**Datong**	**0.90**	**330**	P	**Pg**	**16 03 17.3**	**+0.1**
	baz=340						
NNSB				S	**Sb**	**16 03 26.9**	**-1.3**
	baz=340						
NNSH	**Datong**	**0.90**	**330**	*i* P	**Pn**	**16 03 17.4**	**+0.1**
	baz=339						
NNSH				*i* S	**Sb**	**16 03 27.0**	**-1.2**
	baz=339						
ELDTW	**Lidau**	**0.91**	**240**	*i* P	**Pg**	**16 03 17.3**	**0.0**
	baz=230						
ELDTW				*i* S	**Sb**	**16 03 27.8**	**-0.7**
	baz=230						
NNS	**Nan Shan**	**0.91**	**330**	*i* P	**Pg**	**16 03 17.6**	**+0.1**
	baz=340						
NNS				*i* S	**Sb**	**16 03 27.7**	**-0.9**
	baz=340						
WPL	**Puli Township**	**0.91**	**294**	P	**Pb**	**16 03 16.9**	**+0.1**
	baz=300						
WPL				S	**Sb**	**16 03 27.2**	**-1.3**
	baz=300						
SMLT	**Sun Moon Lake**	**0.92**	**285**	*i* P	**Pb**	**16 03 17.0**	**0.0**
	baz=289						
SMLT				S	**Sb**	**16 03 27.6**	**-1.2**
	baz=289						
WHYT	**Xinyi Township**	**0.93**	**273**	*i* P	**Pg**	**16 03 17.7**	**-0.1**
	baz=264						
WHYT				S	**

NWLT				*i* S	**Sb**	**16 03 35.2**	**-0.9**
	baz=346							
TPUB	**Ta-pu**	**1.19**	**253**	P	**Pg**	**16 03 22.3**	**-0.4**
	baz=248							
TPUB				S	**Sb**	**16 03 37.2**	**+0.7**
	baz=248							
WGK	**Gukeng**	**1.20**	**272**	P	**Pb**	**16 03 21.9**	**+0.2**
	baz=269							
WGK				S	**Sb**	**16 03 36.2**	**-0.6**
	baz=269							
TCU	**Taichung**	**1.20**	**295**	P	**Pb**	**16 03 22.2**	**+0.5**
	baz=297							
TCU				*i* S	**Sn**	**16 03 37.7**	**+0.7**
	baz=297							
NTC	**Toucheng**	**1.20**	**358**	*e*P	**Pg**	**16 03 23.9**	**+0.9**
	baz=15							
NTC				S	**Sg**	**16 03 39.1**	**+0.4**
	baz=15							
CHN4	**Tsaushan**	**1.21**	**256**	*i* P	**Pg**	**16 03 23.1**	**0.0**
	baz=251							
CHN4				*i* S	**Sn**	**16 03 38.3**	**+1.1**
	baz=251							
WTP	**Ta-pu**	**1.22**	**251**	*i* P	**Pg**	**16 03 23.2**	**-0.1**
	baz=245							
WTP				*i* S	**Sb**	**16 03 37.9**	**+0.4**
	baz=245							
WDLH	**Douliu**	**1.22**	**272**	*i* P	**Pb**	**16 03 22.2**	**+0.2**
	baz=270							
WDLH				*i* S	**Sb**	**16 03 37.2**	**-0.2**
	baz=270							
NSTT	**Nanjuang**	**1.26**	**321**	*i* P	**Pg**	**16 03 23.5**	**-0.5**
	baz=314							
NSTT				*i* S	**Sb**	**16 03 37.5**	**-1.1**
	baz=314							
LIOB	**Emei**	**1.26**	**322**	*i* P	**Pg**	**16 03 23.8**	**-0.4**
	baz=314							
LIOB				*i* S	**Sb**	**16 03 37.7**	**-1.0**
	baz=314							
JYNG	**Yonaguni jima**	**1.27**	**51**	*e*S	**Sg**	**16 03 42.8**	**+2.0**
WCHH	**Zhanghua**	**1.28**	**290**	P	**Pb**	**16 03 23.4**	**+0.5**
	baz=290							
WCHH				S	**Sb**	**16 03 38.4**	**-0.5**
	baz=290							
NJD	**Zhudong**	**1.30**	**327**	P	**Pg**	**16 03 24.8**	**0.0**
	baz=334							
NJD				S	**Sb**	**16 03 39.5**	**-0.1**
	baz=334							
SLGT	**Liugui**	**1.30**	**240**	*i* P	**Pg**	**16 03 24.8**	**0.0**
	baz=240							
SLGT				S	**Sn**	**16 03 40.4**	**+0.9**
	baz=240							
SGST	**Jiashian**	**1.31**	**245**	*i* P	**Pb**	**16 03 23.8**	**+0.2**
	baz=239							
SGST				S	**Sn**	**16 03 40.4**	**+0.6**
	baz=239							
CHN1	**Nanshi**	**1.31**	**250**	*i* P	**Pg**	**16 03 24.6**	**-0.4**
	baz=244							
CHN1				*i* S	**Sb**	**16 03 40.6**	**+0.5**
	baz=244							
TIPB	**Shuangxi**	**1.32**	**358**	*i* P	**Pg**	**16 03 25.2**	**+0.1**
	baz=356							
TIPB				S	**Sg**	**16 03 42.1**	**-0.4**
	baz=356							
YOJ	**Yonaguni jima**	**1.32**	**52**	S	**Sg**	**16 03 44.1**	**+1.6**
	baz=56							
YOJ	**Yonaguni jima**	**1.32**	**52**	P	**Pg**	**16 03 26.7**	**+1.5**
WDJ	**Dajia District**	**1.32**	**302**	*i* P	**Pb**	**16 03 23.8**	**0.0**
	baz=305							
WDJ				*i* S	**Sn**	**16 03 39.7**	**-0.3**
	baz=305							
TWK	**Hsinying**	**1.32**	**254**	*i* P	**Pb**	**16 03 24.6**	**+0.7**
	baz=249							
TWK				*i* S	**Sn**	**16 03 40.4**	**+0.2**
	baz=249							
NMLH	**Miaoli**	**1.33**	**312**	*i* P	**Pb**	**16 03 23.8**	**0.0**
	baz=316							
NMLH				S	**Sn**	**16 03 38.9**	**-1.2**
	baz=316							
SNST	**Tainan City**	**1.33**	**252**	*i* P	**Pg**	**16 03 24.9**	**-0.4**
	baz=247							
SNST				*i* S	**Sn**	**16 03 40.9**	**+0.7**
	baz=247							
CHY	**Chiayi**	**1.33**	**264**	P	**Pb**	**16 03 24.6**	**+0.6**
	baz=260							
CHY				*i* S	**Sn**	**16 03 39.6**	**-0.7**
	baz=260							
ECL	**Taimali**	**1.34**	**219**	*i* P	**Pn**	**16 03 23.8**	**+0.6**
	baz=211							
ECL				S	**Sn**	**16 04 00.0**	**-0.5**
	baz=211							
NHDH	**Xindian Distri**	**1.35**	**347**	*e*P	**Pg**	**16 03 25.4**	**-0.3**
	baz=355							
NHDH				S	**Sn**	**16 03 41.0**	**+0.3**
	baz=355							
TWA	**Mucha**	**1.35**	**349**	S	**Sb**	**16 03 42.0**	**+0.8**
	baz=349							
WTK	**Tuku**	**1.36**	**272**	*i* P	**Pn**	**16 03 24.3**	**+0.8**
	baz=270							
WTK				*i* S	**Sn**	**16 03 40.4**	**-0.5**
	baz=270							
TWB1	**Santiao Chiao**	**1.36**	**5**	P	**Pg**	**16 03 26.5**	**+0.6**
	baz=12							
TWB1				S	**Sb**	**16 03 42.5**	**+1.1**
	baz=12							
TATO	**Taipei**	**1.37**	**345**	*e*P	**Pb**	**16 03 25.2**	**+0.7**
	baz=353							
TATO				S	**Sn**	**16 03 41.3**	**+0.1**
	baz=353							
HSN1	**Hsinchu**	**1.37**	**326**	*e*P	**Pg**	**16 03 26.1**	**0.0**
	baz=320							
HSN1				S	**Sb**	**16 03 42.7**	**+1.0**
	baz=320							
WRL	**Guolierlin Hig**	**1.39**	**281**	P	**Pb**	**16 03 25.1**	**+0.1**
	baz=280							
WRL				*i* S	**Sn**	**16 03 41.6**	**-0.1**
	baz=280							
SBCB	**Hsinchu**	**1.40**	**325**	P	**Pb**	**16 03 25.3**	**+0.3**
	baz=332							
SBCB				S	**Sg**	**16 03 44.2**	**-0.7**
	baz=332							
HSN	**Hsinchu**	**1.41**	**325**	*e*S	**Sb**	**16 03 43.4**	**+0.4**
	baz=334							
WFSB	**Wu-fen Shan**	**1.42**	**357**	P	**Pb**	**16 03 26.2**	**+0.8**
	baz=353							
WFSB				S	**Sg**	**16 03 44.6**	**-1.0**
	baz=353							
NTY	**Taoyuan**	**1.44**	**339**	*e*S	**Sb**	**16 03 44.4**	**+0.6**
	baz=354							
SSD	**Sandimen**	**1.45**	**232**	*i* P	**Pb**	**16 03 26.3**	**+0.4**
	baz=226							
SSD				*i* S	**Sb**	**16 03 45.4**	**+1.4**
	baz=226							
NCUH	**Zhongli**	**1.46**	**335**	*e*S	**Sb**	**16 03 44.8**	**+0.7**
	baz=343							
TSMG	**Majia**	**1.47**	**231**	*i* P	**Pg**	**16 03 27.4**	**-0.5**
	baz=224							
TSMG				*i* S	**Sb**	**16 03 45.4**	**+0.9**
	baz=224							
WTCT	**Ta-ch'eng**	**1.47**	**279**	*i* P	**Pn**	**16 03 25.7**	**+0.7**
	baz=278							
WTCT				*i* S	**Sn**	**16 03 44.0**	**+0.3**
	baz=278							
SCST	**Cishan**	**1.48**	**239**	P	**Pg**	**16 03 28.1**	**0.0**
	baz=247							
SCST				S	**Sg**	**16 03 47.1**	**-0.3**
	baz=247							
CHN3	**Shinhua**	**1.50**	**248**	*e*P	**Pg**	**16 03 28.2**	**-0.3**
	baz=243							
CHN3				S	**Sb**	**16 03 46.0**	**+0.7**
	baz=243							
TWS1	**Kuangyinshan**	**1.50**	**344**	*e*P	**Pg**	**16 03 28.5**	**-0.1**
	baz=353							
TWS1				*e*S	**Sb**	**16 03 46.1**	**+0.5**
	baz=353							
WSF	**Szhu**	**1.51**	**270**	*i* S	**Sn**	**16 03 43.4**	**-1.3**
	baz=268							
YM01	**YM01**	**1.52**	**350**	P	**Pb**	**16 03 26.8**	**-0.4**
	baz=357							
YM10	**YM10**	**1.53**	**349**	P	**Pn**	**16 03 26.8**	**+0.9**
	baz=357							
YM10				*e*S	**Sn**	**16 03 46.2**	**+1.0**
	baz=357							
YM04	**YM04**	**1.53**	**349**	P	**Pn**	**16 03 26.0**	**+0.1**
	baz=355							
YM05	**YM05**	**1.54**	**350**	P	**Pb**	**16 03 27.3**	**-0.1**
	baz=358							
YM05				S	**Sn**	**16 03 45.8**	**+0.4**
	baz=358							
YM11	**YM11**	**1.54**	**350**	*e*P	**Pn**	**16 03 27.0**	**+1.0**
	baz=357							
CHN8	**Yiju**	**1.55**	**259**	P	**Pn**	**16 03 26.6**	**+0.5**
	baz=256							
CHN8				*i* S	**Sn**	**16 03 45.4**	**-0.3**
	baz=256							
TWM1	**Shoushan**	**1.56**	**239**	P	**Pg**	**16 03 29.4**	**-0.4**
	baz=246							
TWM1				S	**Sg**	**16 03 49.7**	**-0.5**
	baz=246							
HATJ	**Hateruma jima**	**1.82**	**77**	P	**Pg**	**16 03 33.7**	**-0.9**
HATJ				*e*S	**Sg**	**16 03 58.0**	**-0.3**
IRIF	**Iriomote-Funau**	**1.83**	**68**	*e*S	**Sg**	**16 03 58.3**	**-0.5**
JKRS	**Kuro-shima**	**2.04**	**73**	*e*S	**Sg**	**16 04 03.8**	**-1.7**
JIJ	**Ishigaki jima**	**2.20**	**71**	P	**Pb**	**16 03 39.4**	**+0.7**
JIJ				S	**Sb**	**16 04 06.2**	**+0.7**
JISG	**Ishigakijimahi**	**2.42**	**67**	P	**Pb**	**16 03 42.3**	**-0.2**
JISG				S	**Sb**	**16 04 10.9**	**-1.0**
JTJ	**Tarama**	**2.77**	**68**	*e*S	**Sb**	**16 04 20.4**	**-1.6**
JIRB	**Irabujima**	**3.24**	**68**	*e*S	**Sb**	**16 04 32.4**	**-3.0**
JIKM	**Ikemajima**	**3.33**	**67**	P	**Pb**	**16 03 56.3**	**-1.8**
JMJ2	**Miyako jima3**	**3.34**	**70**	*e*S	**Sb**	**16 04 34.6**	**-3.8**

*IDC **25** 16:09:30.1±16.0, 41.57N×142.76E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/30, mbtmp3.5/3, ML2.2/1, Error ellipse: s-maj=336.3km s-min=45.4km az=94.0*
*JMA **25** 16:09:34.8±0.2, 41.23N×142.62E, h30km±5km, M3.2*
ISC 25 16:09:32.2±1.4, 41.27N±0.04×142.69E±0.05, h14km±10km, n27, σ1°24/29, 1C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.82**	**25**	P	**Pn**	**16 09 50.7**	**+1.3**
JEM				*e*S	**Sn**	**16 10 01.8**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.01**	**3**	P	**Pg**	**16 09 53.6**	**+1.9**
JNBK				*e*S	**Sn**	**16 10 07.4**	**+1.4**
JAHD	**Aomorihigashid**	**1.02**	**270**	⇓P	**Pg**	**16 09 52.3**	**+0.4**
JAHD				S	**Sb**	**16 10 03.8**	**-1.1**
JARK	**Aomorirokkasho**	**1.03**	**256**	⇓P	**Pg**	**16 09 52.5**	**+0.3**
JARK				S	**Sb**	**16 10 05.1**	**-0.2**
JOT	**Ohata**	**1.24**	**276**	⇓P	**Pg**	**16 09 55.5**	**-0.6**
JOT				*e*S	**Sb**	**16 10 10.5**	**-0.8**
JANG	**Nango**	**1.27**	**225**	P	**Pb**	**16 09 55.4**	**-0.5**
JTM	**Tenmabayashi**	**1.32**	**249**	⇓P	**Pg**	**16 09 57.1**	**-0.5**
JTM				S	**Sb**	**16 10 13.3**	**-0.2**
JKB	**Kayabe**	**1.39**	**297**	⇑P	**Pb**	**16 09 57.5**	**-0.4**
JCH	**Churui**	**1.43**	**20**	P	**Pg**	**16 10 00.2**	**+0.4**
JCH				*e*S	**Sg**	**16 10 18.6**	**+0.2**
JIAM	**Iburiatsuma**	**1.47**	**337**	⇓P	**Pg**	**16 10 00.9**	**+0.5**
JBT2	**Biratori 2**	**1.52**	**351**	P	**Pg**	**16 10 01.3**	**-0.2**
JNB	**Noboribetsu**	**1.72**	**315**	P	**Pb**	**16 10 02.3**	**-1.3**
JSR	**Shiriuchi**	**1.73**	**279**	P	**Pb**	**16 10 03.1**	**-0.6**
JEW	**Eniwo**	**1.82**	**330**	⇓P	**Pb**	**16 10 05.1**	**-0.2**
JOB	**Onbets**	**1.84**	**27**	P	**Pg**	**16 10 05.8**	**-1.7**
JFR	**Furan**	**1.89**	**358**	P	**Pg**	**16 10 06.7**	**-1.8**
JAH	**Hinai**	**1.90**	**236**	P	**Pb**	**16 10 05.7**	**-1.0**
JAH				*e*S	**Sb**	**16 10 28.4**	**-1.8**
JOM	**Ohasama**	**2.09**	**211**	P	**Pb**	**16 10 08.8**	**-1.1**
MJAR	**Matsushiro Arr**	**5.87**	**218**	Pn	**Pn**	**16 11 02.2**	**+3.4**
	0.1nm,0.3s,baz=36,slow=13,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**29.75**	**129**	T	T	16 46 57.7	
	baz=322,slow=75,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**29.77**	**129**	T	T	16 47 06.9	
	baz=322,slow=75,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**29.77**	**129**	T	T	16 47 09.9	
	baz=322,slow=75,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**30.60**	**131**	T	T	16 48 10.1	
	baz=324,slow=76,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**30.61**	**131**	T	T	16 48 18.1	
	baz=324,slow=76,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**30.62**	**131**	T	T	16 48 10.7	
	baz=324,slow=76,SNR=3.5						
ZALV	**Zalesovo Beam**	**39.91**	**309**	P	**P**	**16 17 04.7**	**-0.9**
	0.6nm,0.3s,baz=102,slow=6.1,SNR=1.5						
MKAR	**Makanchi Array**	**42.84**	**299**	P	**P**	**16 17 28.4**	**-1.3**
	0.3nm,0.6s,baz=88,slow=9.1,SNR=5.8						

*IDC **25** 16:24:26.4±0.8, 17.74S×176.49W, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.1/46, mbtmp4.0/16, ML4.7/1, MS4.2/36, Ms1 4.2/36, ms1mx4.1/46, Error ellipse: s-maj=34.0km s-min=16.8km az=149.0*
*NEIC **25** 16:24:28.0±1.3, 17.7S±0.2×176.4W±0.1, h10km±1km, mb4.6/11, Error ellipse: s-maj=29.8km s-min=14.8km az=155.0*
*GCMT **25** 16:24:34.0±0.3, 17.83S±0.02×176.43W±0.01, h17km±1km, MW4.9/98, Moment Tensor Solution. s29,c32; s98,c134; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.20±.12; Mθθ=2.70±.10; Mϕϕ=2.91±.10; Mrθ=-0.03±.28; Mϕθ=0.84±.09; Mϕr=1.32±.28; Best double couple: Mo=3.16800×10^16 NP1:ϕs=55.00000°, δ=72.00000°, λ=10.00000°. NP2: ϕs=322.00000°, δ=80.00000°, λ=162.00000°. Principal axes: T 3.4920, Plg=19.0000°, Azm=278.0000°; N -0.6410, Plg=70.0000°, Azm=114.0000°; P -2.8440, Plg=5.0000°, Azm=10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 16:24:30.1±0.6, 17.7S±0.1×176.44W±0.10, h24km, n76, σ1°30/49, mb4.2/20, MS4.2/36, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.25**	**269**	Pn	**Pn**	**16 25 46.6**	**-0.7**
	0.9nm,0.3s,baz=118,slow=15,SNR=9.8						
MSVF				LR	LR	16 27 38.0	
	comp=Z,9μm,18.2s,baz=119,slow=37						
MSVF	**Nonsavu**	**5.25**	**269**		**Pn**	**16 25 47.4**	**+0.1**
AFI	**Afiamalu**	**5.85**	**51**	Pn	**Pn**	**16 25 53.7**	**-1.8**
RAO	**Raoul Island**	**11.59**	**186**	LR	LR	16 30 58.5	
	comp=Z,3μm,20.1s,baz=23,slow=34						
RAR	**Rarotonga**	**16.10**	**105**	LR	LR	16 32 58.9	
	comp=Z,67nm,20.1s,baz=288,slow=32						
DZM	**Mont Dzumac**	**16.68**	**252**	Pn	**P**	**16 28 23.8**	**-0.9**
	0.2nm,0.3s,baz=33,slow=16,SNR=4.0						
DZM				LR	LR	16 33 40.5	
	comp=Z,2μm,19.3s,baz=78,slow=33						
DZM	**Mont Dzumac**	**16.68**	**252**	*e*P	**P**	**16 28 23.7**	**-0.9**
	74nm,1.5s						
DZM				*e*LR	LR	16 32 03.7	
	comp=Z,2μm,23.9s						
DZM	**Mont Dzumac**	**16.68**	**252**	P	**P**	**16 28 24.5**	**-0.2**
DZM				IAmb	IAmb	16 28 31.4	
	comp=Z,29nm,1.2s						
URZ	**Urewera**	**21.26**	**194**	LR	LR	16 36 19.0	
	comp=Z,1μm,20.2s,baz=31,slow=34						
BFZ	**Birch Farm**	**23.77**	**194**	P	**P**	**16 29 41.5**	**+0.8**
PPT2	**Papeete2**	**25.59**	**94**	*e*LR	LR	16 36 15.6	
	comp=Z,2μm,27.2s,baz=258						
PPT	**Papeete**	**25.59**	**94**	LR	LR	16 37 21.4	
	comp=Z,522nm,20.0s,baz=268,slow=30						
TBI	**Tubuai**	**25.86**	**107**	*e*LR	LR	16 36 26.4	
	comp=Z,1μm,29.0s,baz=289						
LTZ	**Lake Taylor**	**26.79**	**199**	P	**P**	**16 30 09.2**	**+0.8**
CTA	**Charters Tower**	**35.33**	**260**	P	**P**	**16 31 22.5**	**-1.4**
	comp=Z,7.9nm,0.9s,baz=94,slow=11,SNR=5.9						
CTAO	**Charters Tower**	**35.33**	**260**	P	**P**	**16 31 23.8**	**-0.1**
CTAO				IAmb	IAmb	16 31 28.7	
	comp=Z,19nm,0.9s						
PMG	**Port Moresby**	**36.28**	**278**	LR	LR	16 44 25.2	
	comp=Z,423nm,19.2s,baz=86,slow=33						
TAOE	**Nuku Hiva Isla**	**36.34**	**81**	*e*LR	LR	16 41 17.1	
	comp=Z,504nm,25.6s						
COEN	**Coen**	**38.98**	**270**		**P**	**16 31 55.4**	**+0.5**
COEN				IAmb	IAmb	16 31 59.0	
	comp=Z,6.1nm,1.1s						
RKT	**Rikitea**	**39.14**	**105**	*e*LR	LR	16 42 28.0	
	comp=Z,1μm,26.8s						
STKA	**Stephens Creek**	**40.38**	**241**	P	**P**	**16 32 07.5**	**+1.2**
	comp=Z,3.3nm,1.0s,baz=75,slow=12,SNR=2.5						
JAY	**Jayapura**	**44.66**	**285**	LR	LR	16 51 29.3	
	comp=Z,215nm,18.2s,baz=127,slow=36						
WR0	**Warramunga Arr**	**46.33**	**259**	P	**P**	**16 32 54.5**	**0.0**
WR0				IAmb	IAmb	16 33 04.9	
	comp=Z,4.9nm,1.1s						
WB2	**Warramunga Arr**	**46.51**	**259**	P	**P**	**16 32 56.7**	**+0.8**
WB2				IAmb	IAmb	16 33 06.4	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**46.52**	**259**	P	**P**	**16 32 54.5**	**-1.6**
	comp=Z,3.3nm,0.9s,baz=94,slow=7.5,SNR=14						
WRA				LR	LR	16 51 53.5	
	comp=Z,346nm,18.7s,baz=105,slow=36						
WRA	**Warramunga Arr**	**46.52**	**259**	P	**P**	**16 32 56.5**	**+0.5**
AS31	**Alice Springs**	**46.66**	**254**	P	**P**	**16 32 55.4**	**-1.7**
AS31				IAmb	IAmb	16 33 00.5	
	comp=Z,5.1nm,0.8s						
ASAR	**Alice Springs**	**46.66**	**254**	P	**P**	**16 32 54.9**	**-2.2**
	comp=Z,14nm,0.8s,baz=105,slow=8.8,SNR=20						
ASAR				LR	LR	16 50 46.4	
	comp=Z,197nm,21.0s,baz=93,slow=34						
SIJI	**Serong**	**54.02**	**282**	LR	LR	16 55 18.5	
	comp=Z,246nm,21.6s,baz=138,slow=34						
FITZ	**Fitzroy Crossi**	**54.91**	**260**	P	**P**	**16 33 59.3**	**-0.1**
	comp=Z,4.0nm,1.1s,baz=83,slow=9.1,SNR=3.7						
FITZ				LR	LR	16 56 47.7	
	comp=Z,391nm,18.6s,baz=124,slow=35						
BATI	**Baumata**	**58.41**	**269**	LR	LR	16 58 06.3	
	comp=Z,196nm,21.2s,baz=142,slow=35						
PSA00	**Pilbara Seismi**	**59.78**	**255**	P	**P**	**16 34 33.4**	**-0.3**
VNDA	**Vanda**	**60.83**	**185**	P	**P**	**16 34 39.9**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=354,slow=5.7,SNR=2.2						
NWAO	**Narrogin (SRO)**	**60.97**	**242**	LR	LR	17 00 49.3	
	comp=Z,235nm,18.4s,baz=132,slow=36						
MJAR	**Matsushiro Arr**	**68.87**	**322**	P	**P**	**16 35 33.1**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=145,slow=6.1,SNR=6.0						
QSPA	**South Pole Qui**	**72.37**	**180**	P	**P**	**16 35 53.7**	**-0.3**
QSPA				IAmb	IAmb	16 35 56.9	
	comp=Z,15nm,1.3s						
PETK	**Petropavlovsk-**	**73.96**	**344**	LR	LR	17 05 43.4	
	comp=Z,84nm,19.0s,baz=142,slow=34						
LEM	**Lembang**	**74.60**	**268**	LR	LR	17 08 53.1	
	comp=Z,126nm,20.6s,baz=136,slow=36						
KSRS	**Korea Array**	**75.80**	**317**	P	**P**	**16 36 15.5**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=118,slow=7.0,SNR=2.9						
KSRS				LR	LR	17 05 60.0	
	comp=Z,28nm,20.0s,baz=135,slow=33						
PFO	**Pinyon Flats O**	**76.61**	**48**	LR	LR	17 04 22.5	
	comp=Z,156nm,19.3s,baz=245,slow=31						
LPIG	**La Paz**	**76.71**	**59**	LR	LR	17 02 07.8	
	comp=Z,112nm,19.4s,baz=202,slow=30						
YBH	**Yreka Blue Hor**	**77.18**	**38**	LR	LR	17 01 20.7	
	comp=Z,191nm,21.8s,baz=231,slow=29						
KDAK	**Kodiak Island**	**77.76**	**13**	LR	LR	17 06 16.1	
	comp=Z,113nm,18.2s,baz=232,slow=32						
NVAR	**Mina Array Bea**	**77.97**	**43**	P	**P**	**16 36 27.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=243,slow=9.0,SNR=3.5						
NVAR				LR	LR	17 05 27.3	
	comp=Z,146nm,18.2s,baz=246,slow=32						
ELK	**Elko**	**81.22**	**42**	P	**P**	**16 36 44.4**	**0.0**
	comp=Z,1.6nm,1.1s,baz=305,slow=7.2,SNR=2.5						
ELK				LR	LR	17 06 22.1	
	comp=Z,70nm,19.3s,baz=236,slow=31						
BBB	**Bella Bella**	**81.24**	**28**	LR	LR	17 05 14.8	
	comp=Z,128nm,19.8s,baz=246,slow=30						
SEY	**Seymchan**	**84.00**	**346**	P	**P**	**16 36 58.3**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=97,slow=9.8,SNR=5.1						
NEW	**Newport**	**84.24**	**35**	LR	LR	17 08 15.4	
	comp=Z,85nm,18.7s,baz=224,slow=31						
TXAR	**Lajitas Array**	**84.30**	**57**	P	**P**	**16 37 02.2**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=244,slow=3.9,SNR=1.9						
TXAR				LR	LR	17 06 59.8	
	comp=Z,78nm,20.2s,baz=0.0,slow=30						
ANMO	**Albuquerque**	**84.50**	**51**	LR	LR	17 05 49.9	
	comp=Z,98nm,21.8s,baz=243,slow=29						
MAW	**Mawson**	**84.69**	**199**	LR	LR	17 13 48.7	
	comp=Z,280nm,18.4s,baz=234,slow=35						
DLBC	**Dease Lake**	**84.90**	**22**	LR	LR	17 07 20.0	
	comp=Z,182nm,20.8s,baz=238,slow=30						
ILAR	**Eielson Array**	**85.26**	**12**	P	**P**	**16 37 04.1**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=209,slow=6.2,SNR=4.1						
ILAR				LR	LR	17 07 24.2	
	comp=Z,98nm,20.8s,baz=210,slow=30						
PSI	**Prapat**	**85.74**	**274**	LR	LR	17 17 26.1	
	comp=Z,127nm,18.5s,baz=94,slow=37						
PDAR	**Pinedale Array**	**85.91**	**43**	P	**P**	**16 37 07.6**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=247,slow=6.7,SNR=3.2						
PDAR				LR	LR	17 09 51.1	
	comp=Z,94nm,19.3s,baz=228,slow=32						
INK	**Inuvik**	**91.19**	**15**	LR	LR	17 10 57.8	
	comp=Z,102nm,21.1s,baz=206,slow=31						
YKA	**Yellowknife Ar**	**93.36**	**24**	P	**P**	**16 37 42.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=230,slow=4.2,SNR=3.7						
YKA				LR	LR	17 11 06.8	
	comp=Z,108nm,21.5s,baz=0.0,slow=30						
TEIG	**Tepich**	**94.31**	**70**	LR	LR	17 11 54.6	
	comp=Z,74nm,19.5s,baz=114,slow=30						
ULM	**Lac du Bonnet**	**97.54**	**40**	LR	LR	17 17 34.9	
	comp=Z,112nm,18.2s,baz=275,slow=33						
BURAR	**Bucovina Array**	**145.27**	**334**		**PKPdf**	**16 44 06.3**	**+0.3**
CLL	**Collm**	**145.63**	**349**	*e*PKPbc	**PKPab**	**16 44 07.0**	**+0.1**
	comp=Z,6.0nm,1.0s						
CLL				*e*PKiKP	**PKiKP**	**16 44 11.0**	**+0.6**
	comp=Z,7.0nm,1.0s						
BR131	**Keskin Array S**	**145.94**	**316**	PKPbc	**PKPab**	**16 44 08.8**	**+0.1**
BRTR	**Keskin Array B**	**145.94**	**316**	PKPbc	**PKPab**	**16 44 08.8**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=72,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**145.94**	**316**		**PKPab**	**16 44 08.6**	**0.0**
GERES	**GERESS Array B**	**147.85**	**347**	PKPbc	**PKPbc**	**16 44 13.6**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=72,slow=0.4,SNR=4.0						
GERES	**GERESS Array B**	**147.85**	**347**		**PKiKP**	**16 44 13.9**	**-1.3**
CONA	**Conrad Observa**	**148.20**	**344**	*e*P	**PKPab**	**16 44 19.5**	**+2.4**
	comp=Z,7.7nm,1.0s						
ARSA	**Arzberg**	**148.92**	**344**	*e*P	**PKPab**	**16 44 23.6**	**+3.7**
	comp=Z,11nm,1.7s						
SOKA	**Soboth**	**149.57**	**344**	*e*P	**PKPab**	**16 44 26.0**	**+3.3**
	comp=Z,9.2nm,1.2s						
WATA	**Walderalm**	**149.71**	**349**	*e*P	**PKPab**	**16 44 21.8**	**-1.5**
	comp=Z,9.4nm,1.2s					

	32nm,0.6s								
SZAC	**Souni**		**0.65**	**148**	⇑	P		**Pn**	**16 27 29.8 +0.8**
SZAC						S		**Sn**	**16 27 40.7 +1.5**
SZAC						AML	AML		16 27 42.0
	9.6nm,0.4s								
SZAC						AML	AML		16 27 42.0
	9.6nm,0.4s								
SZAC						AML	AML		16 27 42.0
	16nm,0.4s								
SZAC						AML	AML		16 27 42.0
	16nm,0.4s								
CSS	**Mathiatis**		**0.79**	**115**		PG		**Pn**	**16 27 31.7 +1.1**
CSS						SG		**Sn**	**16 27 43.1 +1.0**
CSS	**Mathiatis**		**0.79**	**115**	⇓	P		**Pn**	**16 27 31.2 +0.6**
CSS						S		**Sn**	**16 27 43.2 +1.0**
CSS	**Mathiatis**		**0.79**	**115**		P		**Pn**	**16 27 31.1 +0.5**
ASGA	**Asgata**		**0.83**	**129**	⇑	P		**Pn**	**16 27 31.9 +0.8**
ASGA						S		**Sn**	**16 27 44.6 +1.7**
ASGA						AML	AML		16 27 45.8
	11nm,0.4s								
ASGA						AML	AML		16 27 45.8
	11nm,0.4s								
ASGA						AML	AML		16 27 47.2
	8.9nm,0.2s								
ASGA						AML	AML		16 27 47.2
	8.9nm,0.2s								
AKIN	**Akıncılar- Kıb**		**0.87**	**109**		PG		**Pn**	**16 27 32.7 +1.1**
BOZY	**Bozyazi-Mersin**		**0.90**	**28**		PG		**Pn**	**16 27 32.1 +0.1**
GAZI	**Gazipasa**		**0.93**	**353**		PG		**Pn**	**16 27 32.6 +0.2**
GAZI	**Gazipasa**		**0.93**	**353**	*i*	P		**Pn**	**16 27 32.5 +0.2**
GAZI					*i*	S		Sn	16 27 39.7 -5.6
GAZI						IAML			16 27 45.0
	comp=N,412nm,0.5s								
GAZI						IAML			16 27 45.0
	comp=E,544nm,0.3s								
TEKE	**Tekeli-Mersin**		**0.99**	**32**		PG		**Pn**	**16 27 33.9 +0.8**
TEKE						SG		**Sn**	**16 27 46.8 +0.3**
MVOU	**Mavrovouni**		**1.00**	**106**		P		**Pn**	**16 27 34.0 +0.7**
MVOU						S		**Sn**	**16 27 48.4 +1.6**
MVOU						AML	AML		16 27 52.8
	comp=E,3.5nm,0.5s								
MVOU						AML	AML		16 27 52.8
	comp=E,3.5nm,0.5s								
MVOU						AML	AML		16 27 54.6
	comp=E,3.4nm,0.4s								
MVOU						AML	AML		16 27 54.6
	comp=E,3.4nm,0.4s								
YORU	**Yoruktepe-Mers**		**1.14**	**42**		PN		**Pn**	**16 27 35.8 +0.7**
BERE	**Bereket-Mersin**		**1.21**	**31**		PN		**Pn**	**16 27 37.2 +1.1**
OREN	**Orenkoy-Mersin**		**1.21**	**42**		PN		**Pn**	**16 27 36.6 +0.6**
AKK1	**Akkuyu-Mersin**		**1.21**	**46**		PN		**Pn**	**16 27 36.9 +0.9**
AKK2	**Akkuyu-Mersin**		**1.21**	**47**		PN		**Pn**	**16 27 36.9 +0.9**
AKKU	**Akkuyu-Mersin**		**1.23**	**46**		PN		**Pn**	**16 27 37.1 +0.9**
GULN	**MERSIN_Gulnar**		**1.24**	**45**	*i*	P		**Pn**	**16 27 37.1 +0.7**
GULN					*i*	S		**Sn**	**16 27 49.7 -2.7**
GULN						IAML			16 27 57.0
	comp=E,226nm,0.4s								
GULN						IAML			16 27 58.0
	comp=N,165nm,0.2s								
TEPK	**Tepekoy-MERSIN**		**1.27**	**44**		PN		**Pn**	**16 27 37.9 +1.1**
ALAN	**Alanya-ANTALYA**		**1.29**	**345**		PN		**Pn**	**16 27 37.5 +0.4**
TISA	**Tisan-Mersin**		**1.31**	**49**		PN		**Pn**	**16 27 37.9 +0.7**
YESI	**Yesilovacik-Me**		**1.31**	**47**		PN		**Pn**	**16 27 38.6 +1.4**
KARG	**Kargicak-Mersi**		**1.35**	**48**		PN		**Pn**	**16 27 39.1 +1.2**
IKL	**Isikli**		**1.36**	**47**		PN		**Pn**	**16 27 39.0 +1.0**
TEVE	**Tevekalti-Mers**		**1.38**	**35**		PN		**Pn**	**16 27 39.6 +1.3**
ERMK	**Ermenek**		**1.38**	**15**	*i*	P		**Pn**	**16 27 40.2 +1.7**
ERMK					*i*	S		**Sn**	**16 27 55.4 -0.6**
ERMK						IAML			16 28 02.0
	comp=E,322nm,0.4s								
ERMK						IAML			16 28 04.0
	comp=N,468nm,0.3s								
EREN	**Erenkoy**		**1.41**	**80**		PN		**Pn**	**16 27 40.2 +1.6**
EREN	**Erenkoy**		**1.41**	**80**	*i*	P		**Pn**	**16 27 40.5 +1.8**
EREN					*i*	S		**Sn**	**16 27 53.8 -2.6**
EREN						IAML			16 28 06.0
	comp=E,218nm,0.5s								
EREN						IAML			16 28 09.0
	comp=N,221nm,0.5s								
SILI	**Silifke-Mersin**		**1.59**	**48**		PN		**Pn**	**16 27 42.5 +1.5**
SLFK	**Silifke-Mersin**		**1.62**	**48**		PN		**Pn**	**16 27 42.6 +1.2**
KEPZ	**Antalya-Kepez**		**1.74**	**337**	*i*	P		**Pn**	**16 27 44.3 +1.2**
KEPZ					*i*	S		**Sn**	**16 27 60.0 -4.2**
KEPZ						IAML			16 28 05.0
	comp=E,168nm,0.6s								
KEPZ						IAML			16 28 06.0
	comp=N,145nm,0.3s								
KIZK	**Mersin**		**1.80**	**49**		PN		**Pn**	**16 27 45.6 +1.8**
KIZK	**Mersin**		**1.80**	**49**	*i*	P		**Pn**	**16 27 45.9 +2.0**
KIZK						IAML			16 28 09.0
	comp=E,218nm,0.2s								
KIZK						IAML			16 28 10.0
	comp=N,269nm,0.7s								
KKBE	**Karaman, Kazim**		**1.95**	**11**	*i*	P		**Pn**	**16 27 48.6 +2.6**
KKBE						IAML			16 28 14.0
	comp=N,116nm,0.6s								
KKBE						IAML			16 28 15.0
	comp=E,127nm,0.9s								
KRMN	**Karaman**		**1.97**	**19**		PN		**Pn**	**16 27 49.2 +2.9**
AKUM	**Antalya-Kumluc**		**2.00**	**301**	*i*	P		**Pn**	**16 27 50.5 +4.0**
AKUM					*i*	S		**Sn**	**16 28 08.8 -1.6**
AKUM						IAML			16 28 23.0
	comp=N,125nm,0.8s								
AKUM						IAML			16 28 24.0
	comp=E,114nm,0.6s								
SEDI	**Konya, Seydise**		**2.21**	**345**	*i*	P		**Pn**	**16 27 52.6 +3.0**
SEDI						IAML			16 28 23.0
	comp=E,143nm,0.8s								
SEDI						IAML			16 28 26.0
	comp=N,102nm,0.5s								
MERS	**Mersin**		**2.28**	**46**		PN		**Pn**	**16 27 52.5 +2.0**
KORT	**Korkueli**		**2.40**	**315**		PN		**Pn**	**16 27 54.5 +2.4**
KORT	**Korkueli**		**2.40**	**315**	*i*	P		**Pn**	**16 27 56.8 +4.6**
KORT					*i*	S		Sn	16 28 13.7 -6.8
KORT						IAML			16 28 35.0
	comp=E,86nm,0.5s								
KORT						IAML			16 28 36.0
	comp=N,46nm,0.4s								
KMER	**Konya-Meram**		**2.46**	**358**	*i*	P		**Pn**	**16 27 56.1 +3.2**
KMER					*i*	S		**Sn**	**16 28 24.7 +2.8**
KMER						IAML			16 28 33.0
	comp=N,67nm,0.3s								
KMER						IAML			16 28 33.0
	comp=E,83nm,0.5s								
KERG	**Konya-Eregli**		**2.50**	**32**	*i*	P		**Pn**	**16 27 56.8 +3.3**
KERG					*i*	S		**Sn**	**16 28 17.1 -5.7**
KERG						IAML			16 28 28.0
	comp=N,327nm,0.4s								
KERG						IAML			16 28 28.0
	comp=E,176nm,0.3s								
DED	**Mersin**		**2.51**	**48**	*i*	P		**Pn**	**16 27 55.6 +2.1**
DED					*i*	S		**Sn**	**16 28 15.8 -7.3**
DED						IAML			16 28 26.0
	comp=E,113nm,0.5s								
DED						IAML			16 28 32.0
	comp=N,72nm,0.4s								
ELL	**Elmali**		**2.52**	**306**		PN		**Pn**	**16 27 56.3 +2.6**
BUCA	**Burdur, Bucak-**		**2.54**	**323**	*i*	P		**Pn**	**16 27 57.2 +3.3**
BUCA					*i*	S		Sn	16 28 17.5 -6.2
BUCA						IAML			16 28 32.0
	comp=E,42nm,0.6s								
BUCA						IAML			16 28 33.0
	comp=N,42nm,0.5s								
KONT	**Konya--Tatoy**		**2.63**	**358**		PN		**Pn**	**16 27 57.7 +2.5**
KONT	**Konya--Tatoy**		**2.63**	**358**	*i*	P		**Pn**	**16 27 58.3 +3.0**
KONT						IAML			16 28 39.0
	comp=E,39nm,0.7s								
KONT						IAML			16 28 47.0
	comp=N,30nm,0.6s								
KRTS	**Karatas**		**2.68**	**61**		PN		**Pn**	**16 27 57.9 +2.1**
KRTD	**Karatas-Adana**		**2.72**	**61**		PN		**Pn**	**16 27 58.5 +2.2**
KARA	**Karaisali**		**2.86**	**46**		PN		**Pn**	**16 28 00.8 +2.5**
DOGA	**KONYA_Doganhis**		**2.87**	**347**	*i*	P		**Pn**	**16 28 01.4 +3.0**
DOGA						IAML			16 28 44.0
	comp=E,49nm,0.9s								
DOGA						IAML			16 28 45.0
	comp=N,51nm,0.6s								
LADK	**Ladik-KONYA**		**2.89**	**359**		PN		**Pn**	**16 28 00.9 +2.1**
ISP	**Isparta**		**2.96**	**329**		PN		**Pn**	**16 28 02.4 +2.7**
BAGO	**Egridir - ISPA**		**3.00**	**334**	*i*	P		**Pn**	**16 28 03.4 +3.2**
BAGO						IAML			16 28 44.0
	comp=E,11nm,0.4s								
BAGO						IAML			16 28 46.0
	comp=N,14nm,0.4s								

ALIN	**Konya, Altinte**		**3.00**	**6**	*i*	P		**Pn**	**16 28 02.5 +2.1**
ALIN						IAML			16 28 57.0
	comp=E,16nm,1.3s								
ALIN						IAML			16 29 00.0
	comp=N,10nm,1.5s								
DQRL	**Deir Qamar**		**3.02**	**121**	*e*	P		**Pn**	**16 28 01.9 +1.3**
GOLH	**Golhisar**		**3.03**	**310**	*i*	P		**Pn**	**16 28 03.4 +2.7**
GOLH						IAML			16 28 41.0
	comp=E,33nm,0.5s								
GOLH						IAML			16 28 45.0
	comp=N,94nm,0.5s								
HWQ	**Hawqa**		**3.05**	**109**	*e*	P		**Pn**	**16 28 02.5 +1.5**
CMRD	**Camardi-Nigde**		**3.11**	**40**		PN		**Pn**	**16 28 04.5 +2.7**
YVAC	**Isparta, Yalva**		**3.12**	**342**	*i*	P		**Pn**	**16 28 04.0 +2.2**
YVAC					*i*	S		Sn	16 28 30.3 -7.6
YVAC						IAML			16 28 45.0
	comp=N,11nm,0.6s								
YVAC						IAML			16 28 47.0
	comp=E,13nm,0.5s								
CEYT	**Ceyhan**		**3.16**	**56**		PN		**Pn**	**16 28 04.9 +2.6**
QRWL	**Qaraoun**		**3.19**	**122**	*e*	P		**Pn**	**16 28 03.6 +0.7**
TAHT	**Tahtakopru-Hat**		**3.21**	**70**		PN		**Pn**	**16 28 05.9 +2.9**
NIDE	**Nigde/Merkez-G**		**3.27**	**34**	*i*	P		**Pn**	**16 28 07.2 +3.2**
NIDE						IAML			16 28 51.0
	comp=E,84nm,0.3s								
NIDE						IAML			16 28 55.0
	comp=N,48nm,0.3s								
CHBY	**Cihanbeyli**		**3.29**	**6**		PN		**Pn**	**16 28 06.8 +2.6**
RCY	**Rachaya**		**3.32**	**122**	*e*	P		**Pn**	**16 28 05.4 +0.7**
MMA0B	**Mount Meron ar**		**3.34**	**132**		Pn		**Pn**	**16 28 05.6 +0.7**
MMA0B						Sn		**Sn**	**16 28 42.7 -0.8**
GEM	**Giv'at Ha'Em**		**3.38**	**127**		Pn		**Pn**	**16 28 06.0 +0.7**
GEM						Sn		**Sn**	**16 28 43.0 -1.2**
GEM	**Giv'at Ha'Em**		**3.38**	**127**		P		**Pn**	**16 28 05.0 -0.3**
NATI	**Neve Ativ**		**3.39**	**126**		Pn		**Pn**	**16 28 06.5 +1.0**
NATI						Sn		**Sn**	**16 28 43.0 -1.6**
NATI	**Neve Ativ**		**3.39**	**126**		P		**Pn**	**16 28 05.0 -0.5**
OFRI	**`Ofer**		**3.40**	**141**		Pn		**Pn**	**16 28 06.0 +0.3**
OFRI						Sn		**Sn**	**16 28 43.0 -1.9**
OFRI	**`Ofer**		**3.40**	**141**		P		**Pn**	**16 28 06.4 +0.7**
BLGI	**Bet Lehem HaGe**		**3.42**	**138**		Pn		**Pn**	**16 28 07.1 +1.1**
BLGI	**Bet Lehem HaGe**		**3.42**	**138**		P		**Pn**	**16 28 06.4 +0.4**
DALY	**Dalyan (Mula)**		**3.43**	**297**	*i*	P		**Pn**	**16 28 06.7 +0.6**
DALY						IAML			16 28 46.0
	comp=N,91nm,0.3s								
DALY						IAML			16 28 46.0
	comp=E,76nm,0.2s								
KOZT	**Kozan**		**3.48**	**50**		PN		**Pn**	**16 28 09.3 +2.6**
TAVA	**DENIZLI_Tavas**		**3.58**	**308**	*i*	P		**Pn**	**16 28 09.8 +1.6**
TAVA						IAML			16 28 50.0
	comp=N,38nm,0.4s								
TAVA						IAML			16 28 54.0
	comp=E,38nm,0.5s								
KSHT	**Keshet**		**3.62**	**129**		Pn		**Pn**	**16 28 09.9 +1.2**
YAHY	**KAYSERI_Yahyal**		**3.63**	**39**	*i*	P		**Pn**	**16 28 12.3 +3.4**
YAHY						IAML			16 28 59.0
	comp=N,23nm,0.4s								
YAHY						IAML			16 29 01.0
	comp=E,22nm,0.5s								
SLTI	**Sal'it**		**3.74**	**144**		Pn		**Pn**	**16 28 10.7 +0.4**
SHMJ	**Saham**		**3.76**	**132**		P		**Pn**	**16 28 11.3 +0.7**
MMLI	**Mount Malkishu**		**3.78**	**138**		Pn		**Pn**	**16 28 11.9 +1.1**
KHAL	**Karahalli**		**3.88**	**323**	*i*	P		**Pn**	**16 28 12.7 +0.4**
KHAL						IAML			16 28 59.0
	comp=N,12nm,0.2s								
KHAL						IAML			16 29 02.0
	comp=E,19nm,0.4s								
KAMA	**Osmaniye**		**3.88**	**60**	*i*	P		**Pn**	**16 28 14.4 +2.1**
KAMA						IAML			16 29 01.0
	comp=N,22nm,0.6s								
KAMA						IAML			16 29 01.0
	comp=E,21nm,0.5s								
HMDT	**Nahal Hemdat**		**3.97**	**139**		Pn		**Pn**	**16 28 14.8 +1.3**
HMDT						Sn		**Sn**	**16 28 58.1 -0.7**
HMDT	**Nahal Hemdat**		**3.97**	**139**		P		**Pn**	**16 28 14.7 +1.3**
HCB	**Kahramanmara**		**4.13**	**59**	*i*	P		**Pn**	**16 28 17.1 +1.5**
HCB						IAML			16 29 06.0
	comp=N,36nm,0.7s								
HCB						IAML			16 29 59.0
	comp=E,23nm,2.9s								
AMAZ	**Amatzia**		**4.29**	**151**		Pn		**Pn**	**16 28 18.4 +0.6**
KARP	**Karpathos**		**4.33**	**275**		P		**Pn**	**16 28 17.5 -0.9**
AYDN	**Tasoluk**		**4.38**	**304**	*i*	P		**Pn**	**16 28 19.8 +0.8**
AYDN						IAML			16 29 08.0
	comp=N,15nm,0.2s								
AYDN						IAML			16 29 08.0
	comp=E,13nm,0.3s								
DSI	**Dead Sea**		**4.46**	**146**		Pn		**Pn**	**16 28 21.0 +0.9**
DSI						Sn		**Sn**	**16 29 09.9 -0.7**
DSI	**Dead Sea**		**4.46**	**146**		P		**Pn**	**16 28 20.3 +0.2**
BRTR	**Keskin Array B**		**4.51**	**12**		P		**Pn**	**16 28 23.3 +2.4**
	comp=E,0.7nm,0.3s,baz=190,slow=13,SNR=17								
BRTR						S		**Sn**	**16 29 15.2 +3.1**
	comp=E,0.3nm,0.3s,baz=193,slow=31,SNR=1.7								
YTIR	**Yattir**		**4.52**	**150**		Pn		**Pn**	**16 28 22.2 +1.2**
YTIR						Sn		**Sn**	**16 29 11.4 -0.9**
YTIR	**Yattir**		**4.52**	**150**		P		**Pn**	**16 28 22.3 +1.2**
WALJ	**Wala**		**4.67**	**142**		P		**Pn**	**16 28 24.4 +1.4**
KZIT	**Kziot**		**4.68**	**159**		Pn		**Pn**	**16 28 23.7 +0.5**
KZIT	**Kziot**		**4.68**	**159**		P		**Pn**	**16 28 23.7 +0.5**
LISJ	**El Lisan**		**4.78**	**147**		P		**Pn**	**16 28 25.1 +0.6**
HHAG	**Hagoal**		**5.35**	**183**		P		**Pn**	**16 28 33.0 +0.7**
	baz=185								
HHAG						S		**Sn**	**16 29 31.1 -1.5**
	baz=185								
PRNI	**Paran**		**5.38**	**156**		Pn		**Pn**	**16 28 33.5 +0.7**
PRNI	**Paran**		**5.38**	**156**		P		**Pn**	**16 28 32.0 -0.8**
	comp=E,0.3nmcomp=E,2umcomp=E,34nm,0.5s								
KOT	**Kottamia**		**5.39**	**186**		P		**Pn**	**16 28 33.1 +0.2**
	baz=187								
SUZ	**Suez**		**5.46**	**177**		P		**Pn**	**16 28 34.2 +0.4**
	baz=177								
KRMI	**Paran Flat**		**5.51**	**159**		Pn		**Pn**	**16 28 35.3 +0.7**
KRMI	**Paran Flat**		**5.51**	**159**		P		**Pn**	**16 28 33.4 -1.2**
	comp=E,0.2nmcomp=E,2umcomp=E,25nm,0.6s								
HRFI	**Mount Harif**		**5.69**	**157**		Pn		**Pn**	**16 28 37.5 +0.6**
HRFI	**Mount Harif**		**5.69**	**157**		P		**Pn**	**16 28 37.6 +0.6**
	comp=E,0.1nmcomp=E,855nmcomp=E,16nm,0.5s								
HSAF	**As Saff**		**5.72**	**188**		P		**Pn**	**16 28 37.5 0.0**
	baz=189								
GLL	**Jalalah**		**5.75**	**187**		P		**Pn**	**16 28 38.0 +0.2**
	baz=188								
HNAT	**Natroun**		**5.87**	**196**		P		**Pn**	**16 28 40.5 +1.1**
	baz=197								
MBRI	**Mt Berech**		**5.87**	**159**		Pn		**Pn**	**16 28 40.7 +1.1**
MBRI	**Mt Berech**		**5.87**	**159**		P		**Pn**	**16 28 39.6 0.0**
	comp=E,0.4nmcomp=E,2umcomp=E,67nm,0.6s								
EIL	**Elat**		**6.00**	**159**		Pn		**Pn**	**16 28 42.3 +1.0**
EIL	**Elat**		**6.00**	**159**		P		**Pn**	**16 28 41.7 +0.4**
	comp=E,0.1nmcomp=E,21nm,0.5s								
IDI	**Anoyia**		**6.19**	**272**		P		**Pn**	**16 28 44.2 +0.3**
NBNS	**Bani Suef**		**6.74**	**189**		P		**Pn**	**16 28 51.1 -0.2**
	baz=190								
HKAT	**Jabal Katrina**		**6.89**	**169**		P		**Pn**	**16 28 53.1 -0.4**
	baz=169								
SLUM	**Salum**		**7.16**	**240**		P		**Pn**	**16 28 57.2 +0.2**
	baz=239								
HHRG	**Al Ghardaqah**		**8.12**	**173**		P		**Pn**	**16 29 12.3 +2.0**
	baz=173								
AKASG	**Malin Array Be**		**15.56**	**352**		P		**Pn**	**16 30 49.3 -1.1**
	comp=E,0.4nm,0.3s,baz=175,slow=10,SNR=1.4								
FINES	**FINESS Array B**		**26.47**	**353**		P		**P**	**16 32 45.6 -0.3**
	comp=E,3.0nm,1.0s,baz=153,slow=10,SNR=7.6								
ARCES	**ARCESS Array B**		**34.50**	**356**		P		**P**	**16 33 56.9 +0.3**
	comp=E,2.6nm,0.9s,baz=168,slow=8.9,SNR=2.0								

*IDC **25** 16:29:34.2±1.1, 43°27N×105°35W, h0km, mb3.0/2, mb1 3.5/5, mb1mx3.3/46, mbtmp3.2/5, ML3.5/3, Error ellipse: s-maj=21.4km s-min=9.2km az=155.0*

*NEIC **25** 16:29:37.5±1.9, 43°58N±0°05×105°30W±0°04, h0km±2km, ML3.4/40, Error ellipse: s-maj=9.4km s-min=3.1km az=208.0*

ISC 25 16:29:36.4±0.8, 43°56N±0°05×105°34W±0°06, h0km, n42, σ1°63/41, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.10**	**59**		**Pb**	**16 29 57.7**	**-0.7**
K22A	**Casper**	**1.26**	**224**	Pg	**Pg**	**16 29 59.5**	**-0.9**
PHWY	**Pilot Hill**	**2.25**	**182**		**Pn**	**16 30 16.1**	**+0.9**
RWWY	**Rawlins**	**2.32**	**217**		**Pb**	**16 30 18.2**	**-1.1**
RWWY				IAML		16 30 51.0	
	215nm,1.6s						
RWWY				IAML		16 30 51.6	
	227nm,0.7s						
BW06	**Boulder Array**	**3.19**	**257**	Pn	**Pn**	**16 30 28.9**	**+0.9**
PD31	**Pinedale Array**	**3.19**	**257**	Pn	**Pn**	**16 30 29.8**	**+1.8**
PDAR	**Pinedale Array**	**3.19**	**257**	Pn	**Pn**	**16 30 28.4**	**+0.5**
	6.0nm,0.3s,baz=78,slow=18,SNR=21						
PDAR				Lg	Lg	16 31 11.6	
	9.6nm,0.3s,baz=72,slow=33,SNR=9.1						
LAO	**LASA Array**	**3.19**	**349**	Pn	**Pn**	**16 30 28.0**	**+0.1**
LAO				IAML		16 31 38.4	
	173nm,0.8s						
RLMT	**Red Lodge**	**3.23**	**300**		**Pn**	**16 30 29.6**	**+1.1**
RLMT				IAML		16 31 26.1	
	62nm,0.8s						
OGNE	**Ogallala**	**3.58**	**136**	Pn	**Pn**	**16 30 34.5**	**+1.3**
YNE	**Yellowstone No**	**3.66**	**295**		**Pn**	**16 30 35.6**	**+1.2**
YNE				IAML		16 31 36.6	
	comp=N,86nm,0.7s						
YNE				IAML		16 31 37.1	
	comp=E,71nm,0.7s						
YMP	**Mirror Lake Pl**	**3.67**	**290**		**Pn**	**16 30 36.2**	**+1.6**
ISCO	**Idaho Springs**	**3.76**	**183**	Pn	**Pn**	**16 30 37.6**	**+1.7**
LKWY	**Lake**	**3.79**	**287**		**Pn**	**16 30 35.2**	**-1.1**
LKWY				IAML		16 31 46.1	
	comp=E,64nm,0.9s						
LKWY				IAML		16 31 47.8	
	comp=E,33nm,1.1s						
GCMT	**Greycliff**	**3.81**	**307**		**Pn**	**16 30 38.2**	**+1.7**
H17A	**Grant Village**	**3.87**	**284**		**Pn**	**16 30 40.3**	**+2.9**
H17A				IAML		16 31 42.2	
	comp=E,31nm,1.7s						
H17A				IAML		16 31 45.0	
	comp=N,49nm,2.4s						
FLWY	**Flagg Ranch**	**3.92**	**280**	Pn	**Pn**	**16 30 38.7**	**+0.7**
FLWY				IAML		16 31 49.0	
	comp=N,98nm,1.9s						
FLWY				IAML		16 31 50.7	
	comp=N,48nm,1.1s						
YHH	**Holmes Hill**	**4.15**	**289**	Pn	**Pn**	**16 30 41.7**	**+0.4**
YHH				IAML		16 31 52.5	
	comp=N,25nm,0.9s						
YHH				IAML		16 32 01.2	
	comp=E,25nm,0.9s						
YHB	**Horse Butte**	**4.38**	**288**	Pn	**Pn**	**16 30 48.6**	**+4.2**
YHB				IAML		16 32 00.0	
	comp=N,26nm,2.2s						
YHB				IAML		16 32 10.1	
	comp=E,27nm,0.9s						
E28A	**Huff**	**4.46**	**46**		**Pn**	**16 30 46.7**	**+1.4**
DGMT	**Dagmar**	**4.98**	**9**	Pn	**Pn**	**16 30 54.5**	**+2.1**
KSCO	**Kaye Shedlock'**	**4.98**	**155**	Pn	**Pn**	**16 30 53.3**	**+0.8**
HWUT	**Hardware Ranch**	**5.00**	**249**	Pn	**Pn**	**16 30 53.5**	**+0.7**
HWUT				IAML		16 32 22.5	
	comp=E,29nm,1.6s						
HWUT				IAML		16 32 34.1	
	comp=E,31nm,0.8s						
TCUT	**Toone Canyon**	**5.12**	**244**	Pn	**Pn**	**16 30 55.9**	**+1.4**
EGMT	**Eagleton**	**5.43**	**327**	Pn	**Pn**	**16 30 59.3**	**+0.7**
HRY	**Holter Researc**	**5.57**	**307**		**Pn**	**16 31 02.7**	**+2.0**
PV22	**Blue Mesa, Par**	**5.65**	**209**		**Pn**	**16 31 04.5**	**+2.6**
P17A	**Butcher Ranch,**	**5.75**	**227**		**Pn**	**16 31 04.6**	**+1.4**
BCYI	**Bear Canyon**	**5.88**	**280**		**Pn**	**16 31 08.8**	**+3.9**
SRU	**San Rafael Swe**	**5.91**	**223**		**Pn**	**16 31 05.9**	**+0.5**
PV05	**Paradox Valley**	**6.17**	**209**		**Pn**	**16 31 09.7**	**+0.7**
ECSD	**EROS Data Cent**	**6.33**	**85**		**Pn**	**16 31 13.2**	**+2.2**
Q16A	**Castle Valley**	**6.39**	**225**		**Pn**	**16 31 13.4**	**+1.5**
MTPU	**Mount Pierson**	**7.57**	**226**		**Pn**	**16 31 29.8**	**+1.5**
AMTX	**Amarillo**	**9.11**	**161**		**Pn**	**16 31 29.6**	**+0.4**
ULM	**Lac du Bonnet**	**9.31**	**41**		**Pn**	**16 31 50.2**	**-1.5**
	comp=E,0.9nm,0.3s,baz=225,slow=10,SNR=9.1						
ULM				Lg	Lg	16 34 27.6	
	comp=E,0.5nm,0.3s,baz=325,slow=18,SNR=3.2						
ULM	**Lac du Bonnet**	**9.31**	**41**		**Pn**	**16 31 50.5**	**-1.3**
B35A	**Bob, Littlefor**	**9.40**	**55**	Pn	**Pn**	**16 31 52.6**	**-0.5**
EYMN	**Ely**	**10.62**	**61**	Pn	**Pn**	**16 32 09.6**	**-0.1**
TXAR	**Lajitas Array**	**14.26**	**174**	Pn	Pn	16 32 54.3	-5.3
	comp=E,0.0nm,0.3s,baz=328,slow=15,SNR=2.3						
YKA	**Yellowknife Ar**	**19.73**	**347**	P	**P**	**16 34 06.7**	**-0.6**
	comp=E,0.1nm,0.3s,baz=153,slow=13,SNR=6.5						
MKAR	**Makanchi

mb1 3.1/6,mb1mx2.9/46,mbtmp3.3/6,Error ellipse: s-maj=83.8km s-min=20.7km az=4.0

ISC 25 17:04:07.0±0.8,**51.8N**±0.2×**178.22E**±0.05,**h124**km±5km, **n37,σ0⁰90/44,mb3.2/7,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.21**	**58**		**Pn**	**17 04 24.6**	**+0.3**
LSSA					**Sn**	**17 04 37.6**	**+0.3**
LSNW	**Little Sitkin**	**0.23**	**53**		**Pn**	**17 04 24.6**	**+0.4**
LSNW					**Sn**	**17 04 37.6**	**+0.4**
LSSE	**Little Sitkin**	**0.24**	**65**		**Pn**	**17 04 24.8**	**+0.6**
LSSE					**Sn**	**17 04 37.5**	**+0.2**
LSPA	**Little Sitkin**	**0.25**	**61**		**Pn**	**17 04 24.7**	**+0.4**
LSPA					**Sn**	**17 04 37.4**	**0.0**
CETU	**Semis' Tuman**	**0.80**	**80**		**Pn**	**17 04 27.7**	**+0.1**
AMKA	**Amchitka**	**0.81**	**124**		**Pn**	**17 04 28.2**	**+0.5**
AMKA					**Sn**	**17 04 43.4**	**+0.1**
CESW	**Semis' Southwe**	**0.84**	**85**		**Pn**	**17 04 27.6**	**-0.3**
CESW					**Sn**	**17 04 43.1**	**-0.5**
CEAP	**Semis' Anvil P**	**0.86**	**78**		**Pn**	**17 04 28.0**	**0.0**
CERB	**Semis' Cerberu**	**0.88**	**83**		**Pn**	**17 04 28.4**	**+0.2**
CERB					**Sn**	**17 04 45.3**	**+1.0**
CERAA	**Semis' Rag'd T**	**0.91**	**85**		**Pn**	**17 04 28.4**	**-0.1**
TASE	**Tanaga Southea**	**2.32**	**89**		**Pn**	**17 04 44.4**	**-0.3**
TASE					**Sn**	**17 05 12.1**	**-1.5**
SMY	**Shemya**	**2.69**	**291**		**Pn**	**17 04 50.5**	**+1.3**
KIMD	**Kanaga Island**	**2.82**	**90**		**Pn**	**17 04 50.5**	**-0.6**
ADK	**Adak**	**3.16**	**87**		**Pn**	**17 04 54.8**	**-0.7**
PETK	**Petropavlovsk-**	**12.57**	**284**	P	**P**	**17 07 05.2**	**-2.6**
	0.1nm,0.3s,baz=87,slow=16,SNR=9.6						
PETK				S	**Sn**	**17 09 16.9**	**-2.9**
	0.1nm,0.3s,baz=140,slow=14,SNR=1.6						
CNPM	**China Poot**	**18.72**	**54**	P	**P**	**17 08 15.9**	**+0.2**
BRLK	**Bradley Lake**	**18.94**	**53**	P	**P**	**17 08 17.7**	**-0.4**
SKT	**Skwentna**	**19.20**	**46**	P	**P**	**17 08 20.9**	**0.0**
SKT				IAmb	IAmb	17 08 49.1	
	comp=Z,13nm,1.4s						
PPLA	**Purkeypile**	**19.22**	**43**	P	**P**	**17 08 21.1**	**-0.1**
PPLA				IAmb	IAmb	17 08 28.4	
	comp=Z,23nm,1.5s						
SUA	**Susitna One**	**19.41**	**48**	P	**P**	**17 08 23.4**	**+0.2**
SUA				IAmb	IAmb	17 08 35.6	
	comp=Z,35nm,1.2s						
KTH	**Kantishna Hill**	**20.00**	**42**	P	**P**	**17 08 29.1**	**-0.5**
IMAR	**Indian Mountai**	**20.00**	**34**	P	**P**	**17 08 29.4**	**-0.1**
GHO	**Glory Hole Cre**	**20.33**	**48**	P	**P**	**17 08 33.1**	**+0.1**
GHO				IAmb	IAmb	17 08 58.7	
	comp=Z,17nm,1.3s						
PWL	**Port Wells**	**20.40**	**51**	P	**P**	**17 08 33.9**	**0.0**
KNK	**Knik Glacier**	**20.46**	**49**	P	**P**	**17 08 34.3**	**-0.1**
KNK				IAmb	IAmb	17 09 03.2	
	comp=Z,21nm,1.4s						
SCM	**Sheep Creek Mo**	**21.08**	**48**	P	**P**	**17 08 40.5**	**-0.6**
SCM				IAmb	IAmb	17 08 51.7	
	comp=Z,25nm,1.3s						
CTGM	**Chitina Glacie**	**23.81**	**52**	P	**P**	**17 09 09.5**	**+1.2**
CTGM				IAmb	IAmb	17 09 17.9	
	comp=Z,4.7nm,1.0s						
L27K	**Beaver Creek,**	**23.82**	**46**	P	**P**	**17 09 09.5**	**+1.2**
BCAR	**Beaver Creek A**	**23.84**	**46**	P	**P**	**17 09 09.7**	**+1.2**
YKA	**Yellowknife Ar**	**36.26**	**46**	P	**P**	**17 10 58.0**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=285,slow=8.0,SNR=3.7						
SONM	**Songino Array**	**44.77**	**295**	P	**P**	**17 12 08.4**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=56,slow=5.9,SNR=1.5						
NVAR	**Mina Array Bea**	**45.33**	**81**	P	**P**	**17 12 13.6**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=291,slow=7.7,SNR=2.2						
GCMT	**Greycliff**	**46.08**	**68**	P	**P**	**17 12 20.0**	**+1.6**
TCRU	**Three Creeks R**	**48.78**	**77**		pP	17 13 08.3	+0.2
CCUT	**Cedar City**	**48.90**	**79**		pP	17 13 07.7	-1.4
MKAR	**Makanchi Array**	**58.28**	**307**	P	**P**	**17 13 48.9**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=45,slow=7.0,SNR=5.0						
TXAR	**Lajitas Array**	**60.41**	**79**	P	**P**	**17 14 03.1**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=312,slow=7.2,SNR=1.9						

*NOU **25** 17:08:09.7,37.58S×179.21E,h0km,MLv4.0,Off E. Coast of N. Island, N.Z.*

WEL 25 17:08:19.9,37.3S×17.8E±°,h42km±3km,M3.3/18, ML3.6/18,MLv3.3/18,Error ellipse: s-maj=0.0km s-min=0.0km az=163.5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.11**	**159**	P	Pn	17 08 27.1	+0.3
MXZ				S	Sn	17 08 32.2	+0.5
WMGZ	**Waiomatatini S**	**0.38**	**161**	P	Pn	17 08 29.6	+0.3
WMGZ				S	Sn	17 08 37.4	+1.5
PKGZ	**Pakihiroa**	**0.45**	**198**	P	Pn	17 08 29.9	-0.3
PKGZ				S	Sn	17 08 36.8	-0.7
HAZ	**Te Kaha**	**0.48**	**231**	P	Pn	17 08 31.1	+0.6
PUZ	**Puketiti**	**0.61**	**180**	P	Pn	17 08 32.3	0.0
PUZ				S	Sn	17 08 41.8	+0.7
RUGZ	**Raukumara Rang**	**0.68**	**222**	P	Pn	17 08 34.0	+0.7
RUGZ				S	Sn	17 08 44.2	+1.2
TWGZ	**Tauwhareparae**	**0.75**	**197**	P	Pn	17 08 34.9	+0.8
TWGZ				S	Sn	17 08 46.4	+2.0
CNGZ	**Carnagh Statio**	**1.03**	**182**	P	Pn	17 08 38.0	+0.2
CNGZ				S	Sn	17 08 52.0	+1.9
TKGZ	**Te Karaka**	**1.03**	**198**	P	Pn	17 08 38.6	+0.7
MWZ	**Matawai**	**1.05**	**213**	P	Pn	17 08 38.9	+0.7
URZ	**Urewera**	**1.21**	**228**	P	Pn	17 08 41.1	+0.8
URZ				S	Sn	17 08 56.9	+1.4
RAGZ	**Rawiri**	**1.23**	**212**	P	Pn	17 08 41.5	+0.7
RAGZ				S	Sn	17 08 57.2	+1.0
RIGZ	**Rimuhau**	**1.31**	**197**	P	Pn	17 08 41.6	-0.1
EDRZ	**Edgecumbe**	**1.36**	**241**	P	Pn	17 08 43.6	+1.0
OPRZ	**Ohinepanea**	**1.40**	**254**	P	Pn	17 08 43.4	+0.4
OPRZ				S	Sn	17 09 00.7	+0.4
PRGZ	**Paritu Road**	**1.49**	**191**	P	Pn	17 08 43.7	-0.6
SNGZ	**Shannon Statio**	**1.51**	**208**	P	Pn	17 08 44.9	+0.4
RTZ	**Ruatahuna**	**1.53**	**221**	P	Pn	17 08 45.5	+0.6
MUGZ	**Murupara**	**1.55**	**229**	P	Pn	17 08 46.0	+0.9
TARZ	**Mount Tarawera**	**1.59**	**240**	P	Pn	17 08 47.2	+1.6
KNZ	**Kokohu**	**1.63**	**196**	P	Pn	17 08 45.0	-1.1
RRRZ	**Republican Roa**	**1.64**	**237**	P	Pn	17 08 47.6	+1.4
KARZ	**Kaharoa**	**1.69**	**250**	P	Pn	17 08 48.3	+1.3
MHGZ	**Mahia Peninsul**	**1.71**	**189**	P	Pn	17 08 46.3	-1.0
RAHZ	**Arahi**	**1.72**	**212**	P	Pn	17 08 48.6	+1.1
MTHZ	**Maungataniwha**	**1.78**	**218**	P	Pn	17 08 49.3	+1.0
WHHZ	**Waihua**	**1.81**	**206**	P	Pn	17 08 48.8	+0.2
NMHZ	**Naumai**	**2.00**	**214**	P	Pn	17 08 52.1	+0.9
ARHZ	**Aropaoanui**	**2.06**	**208**	P	Pn	17 08 52.4	+0.4
KUZ	**Kuaotunu**	**2.15**	**289**	P	Pn	17 08 54.8	+1.6
BKZ	**Black Stump Fm**	**2.20**	**219**	P	Pn	17 08 54.5	+0.5
MCHZ	**McNeill Hill**	**2.33**	**211**	P	Pn	17 08 55.9	+0.2
CKHZ	**Cape Kidnapper**	**2.38**	**202**	P	Pn	17 08 55.6	-0.9
RATZ	**Rangitukua**	**2.41**	**234**	P	Pn	17 09 00.7	+3.8
KWHZ	**Kaweka Forest**	**2.44**	**216**	P	Pn	17 08 57.1	-0.1
MKAZ	**Moumakai**	**2.49**	**277**	P	Pn	17 08 59.7	+1.8
KATZ	**Kakaramea**	**2.52**	**232**	P	Pn	17 08 59.9	+1.4
KAHZ	**Kahuranaki**	**2.57**	**204**	P	Pn	17 08 58.0	-1.1
TMVZ	**Te Maari**	**2.60**	**230**	P	Pn	17 09 00.4	+0.8
ETVZ	**East Tongariro**	**2.61**	**229**	P	Pn	17 09 00.4	+0.7
KRVZ	**Karewarewa**	**2.63**	**231**	P	Pn	17 09 01.0	+1.0
KRHZ	**Kereru**	**2.64**	**214**	P	Pn	17 08 59.3	-0.7
OTVZ	**Oturere**	**2.66**	**229**	P	Pn	17 09 01.1	+0.7
BHHZ	**Black Hill Sta**	**2.66**	**220**	P	Pn	17 09 00.5	+0.2
NGZ	**Ngauruhoe**	**2.70**	**230**	P	Pn	17 09 01.9	+0.9
MOVZ	**Moawhango**	**2.77**	**225**	P	Pn	17 09 01.9	+0.1
MBAZ	**Motutapu North**	**2.77**	**283**	P	Pn	17 09 03.6	+1.9
FWVZ	**Far West T-bar**	**2.78**	**229**	P	Pn	17 09 03.0	+0.9
PXZ	**Pawanui**	**2.79**	**203**	P	Pn	17 09 00.0	-2.0
WNVZ	**Wahianoa**	**2.80**	**227**	P	Pn	17 09 02.9	+0.5
HIZ	**Hauiti**	**2.89**	**248**	P	Pn	17 09 05.6	+2.2
AWAZ	**Awhitu Peninsu**	**2.91**	**277**	P	Pn	17 09 06.3	+2.6
PNHZ	**Pukenui**	**2.93**	**213**	P	Pn	17 09 02.7	-1.4
WPHZ	**Waipukurau**	**2.96**	**208**	P	Pn	17 09 02.8	-1.7
RVAZ	**Riverhead Bore**	**3.02**	**282**	P	Pn	17 09 07.9	+2.7
PRHZ	**Porangahau**	**3.08**	**204**	P	Pn	17 09 03.9	-2.1
TSZ	**Takapari Road**	**3.16**	**214**	P	Pn	17 09 05.5	-1.7
VRZ	**Vera Road**	**3.22**	**208**	P	Pn	17 09 10.1	+2.2
DVHZ	**Dannevirke**	**3.27**	**209**	P	Pn	17 09 06.3	-2.4
ANWZ	**Angora Road**	**3.30**	**204**	P	Pn	17 09 07.4	-1.7
WAZ	**Wanganui**	**3.44**	**227**	P	Pn	17 09 11.9	+0.9
WCZ	**Waipu Caves**	**3.49**	**295**	P	Pn	17 09 14.9	+3.3
PRWZ	**Pori Road**	**3.57**	**209**	P	Pn	17 09 10.5	-2.3
BFZ	**Birch Farm**	**3.58**	**205**	P	Pn	17 09 10.4	-2.5
MRZ	**Mangatainoka R**	**3.82**	**212**	P	Pn	17 09 13.4	-2.8
OUZ	**Omahuta**	**4.37**	**299**	P	Pn	17 09 27.3	+3.5
CTZ	**Chatham Island**	**7.38**	**150**	P	Pn	17 10 05.3	+0.2
JCZ	**Jackson Bay**	**9.76**	**224**	P	Pn	17 10 39.6	+1.8

*NEIC **25** 17:27:52.8±1.5,3.46N±0.09×126.75E±0.06,h63km±10km, mb4.1/12,Error ellipse: s-maj=13.6km s-min=7.9km az=173.0*

*IDC **25** 17:27:52.2±4.0,3.51N×126.71E,h54km±41km,mb3.7/11, mb1 3.8/12,mb1mx3.6/33,mbtmp4.0/12,ML4.0/1,Error ellipse: s-maj=33.0km s-min=14.8km az=74.0*

ISC 25 17:27:52.4±0.6,**3.50N**±0.07×**126.72E**±0.09,**h53**km,**n32,** σ1⁰**08/33,mb4.0/14,1C,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.79**	**167**	Pn	**Pn**	**17 28 35.3**	**+0.7**
KCP	**Kidapawan**	**3.84**	**335**	eP	**Pn**	**17 28 49.9**	**+0.8**
LUWI	**Luwuk**	**6.00**	**221**	Pn	Pn	17 29 23.8	+5.2
SIJI	**Sorong**	**6.29**	**134**	P	**Pn**	**17 29 21.8**	**-0.8**
	3.4nm,0.3s,baz=338,slow=13,SNR=9.8						
SIJI				S	**Sn**	**17 30 34.3**	**+1.2**
	0.6nm,0.3s,baz=167,slow=22,SNR=1.2						
TOLI2	**Tolitoli**	**6.39**	**248**	Pn	**Pn**	**17 29 23.4**	**-0.6**
MYLDM	**Lahad Datu**	**8.37**	**282**	Pn	**Pn**	**17 29 54.2**	**+3.2**
FAKI	**Fak Fak**	**8.44**	**139**	Pn	**Pn**	**17 29 51.3**	**-0.8**
KSM	**Kuching**	**16.52**	**263**	Pn	**Pn**	**17 31 40.0**	**-0.7**
KSM				IAmb	IAmb	17 31 42.1	
	comp=Z,14nm,1.1s						
MTN	**Manton Dam**	**16.82**	**165**		**Pn**	**17 31 44.6**	**+0.2**
MTN				IAmb	IAmb	17 31 45.4	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.49**	**183**	P	**P**	**17 32 37.6**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=16,slow=11,SNR=6.6						
WB0	**Warramunga Arr**	**24.32**	**162**	P	**P**	**17 33 04.4**	**-0.9**
WB0				IAmb	IAmb	17 33 18.9	
	comp=Z,9.7nm,0.9s						
WRA	**Warramunga Arr**	**24.47**	**162**	P	**P**	**17 33 05.8**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=343,slow=10,SNR=26						
WRA	**Warramunga Arr**	**24.47**	**162**	P	**P**	**17 33 06.2**	**-0.5**
WB2	**Warramunga Arr**	**24.48**	**162**	P	**P**	**17 33 05.8**	**-0.9**
WR0	**Warramunga Arr**	**24.55**	**162**	P	**P**	**17 33 07.3**	**-0.1**
WR0				IAmb	IAmb	17 33 14.7	
	comp=Z,8.2nm,0.8s						
ASAR	**Alice Springs**	**27.90**	**166**	P	**P**	**17 33 36.9**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=340,slow=10,SNR=19						
ASAR	**Alice Springs**	**27.90**	**166**	P	**P**	**17 33 40.8**	**+3.2**
CMAR	**Chiang Mai Arr**	**30.98**	**301**	P	**P**	**17 34 04.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=122,slow=8.2,SNR=4.9						
KSRS	**Korea Array**	**33.81**	**2**	P	**P**	**17 34 28.3**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=183,slow=9.7,SNR=5.0						
BJT	**Baijiatuan**	**37.58**	**347**	P	**P**	**17 35 01.8**	**+0.1**
STKA	**Stephens Creek**	**37.92**	**159**	P	**P**	**17 35 04.9**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=330,slow=9.1,SNR=7.4						
STKA	**Stephens Creek**	**37.92**	**159**	P	**P**	**17 35 04.8**	**+0.1**
STKA				IAmb	IAmb	17 35 13.3	
	comp=Z,2.2nm,1.1s						
SONM	**Songino Array**	**47.51**	**341**	P	**P**	**17 36 22.2**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=157,slow=8.1,SNR=6.8						
SONM				PcP	**PcP**	**17 37 52.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=179,slow=3.0,SNR=3.0						
SONM	**Songino Array**	**47.51**	**341**	P	**P**	**17 36 22.1**	**-0.3**
PETK	**Petropavlovsk-**	**55.64**	**22**	P	**P**	**17 37 23.4**	**+0.6**
	comp=Z,2.1nm,1.1s,baz=203,slow=6.3,SNR=5.4						
MK31	**Makanchi Array**	**57.73**	**325**	P	**P**	**17 37 37.2**	**-0.7**
MK31				IAmb	IAmb	17 37 39.5	
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**57.73**	**325**	P	**P**	**17 37 37.5**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=120,slow=7.6,SNR=31						
MKAR	**Makanchi Array**	**57.73**	**325**	P	**P**	**17 37 37.0**	**-0.9**
MAKZ	**Makanchi**	**57.92**	**325**	P	**P**	**17 37 38.9**	**-0.3**
ZALV	**Zalesovo Beam**	**60.78**	**333**	P	**P**	**17 37 58.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=114,slow=3.5,SNR=2.1						
ABKAR	**Akbulak array**	**72.32**	**321**	P	**P**	**17 39 12.5**	**+0.1**
ARCES	**ARCESS Array B**	**90.66**	**340**	P	**P**	**17 40 47.3**	**-1.6**
	comp=Z,1.7nm,0.6s,baz=74,slow=5.2,SNR=9.9						

IDC 25 17:38:21.1±2.2,**2.10N**×126.23E,**h0**km,**mb3.2**/3, **mb1 3.4**/3,**mb1mx3.2**/29,**mbtmp3.2**/3,**MS3.1**/1,**Ms1 3.1**/1, **ms1mx2.4**/19,**Error ellipse: s-maj=185.2km s-min=28.4km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.30**	**160**	P	P	17 43 30.1	-0.9
	0.4nm,0.4s,baz=339,slow=11,SNR=10						
ASAR	**Alice Springs**	**26.68**	**164**	P	P	17 44 03.2	+1.1
	0.2nm,0.5s,baz=348,slow=14,SNR=2.2						
USRK	**Ussuriysk Ar.**	**42.23**	**6**	LR	LR	18 05 08.0	
	comp=Z,24nm,19.4s,baz=89,slow=38						
MKAR	**Makanchi Array**	**58.61**	**326**	P	P	17 48 19.9	-0.2
	0.1nm,0.5s,baz=133,slow=6.3,SNR=2.2						

*IDC **25** 18:04:00.8±1.3,37.77N×21.75E,h0km,mb3.8/9, mb1 3.8/10,mb1mx3.6/42,mbtmp3.8/10,ML3.0/1,Error ellipse: s-maj=25.4km s-min=23.4km az=59.0*

*ATH **25** 18:04:01.8,37.70N×21.81E,h1km±1km,ML3.3/16,Error ellipse: s-maj=1.4km s-min=0.6km az=227.0*

*THE **25** 18:04:02.0,37.69N×21.82E,h6km±1km,ML3.3/15,Error ellipse: s-maj=1.1km s-min=0.4km az=275.0*

ISC 25 18:04:02.1±0.8,**37.70N**±0.02×**21.81E**±0.02,**h11**km±6km, **n106,σ0⁰67/145,mb3.8/9,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.19**	**205**	P	**Pg**	**18 04 05.9**	**-0.2**
AMT				S	**Sg**	**18 04 08.5**	**-0.5**
AMT				AML	AML	18 04 09.9	
	comp=N,35951μm,0.2s						
AMT				AML	AML	18 04 14.2	
	comp=E,32416μm,0.6s						
AMT	**Artemida-Makis**	**0.19**	**205**	P	**Pg**	**18 04 05.9**	**-0.2**
AMT				S	**Sg**	**18 04 09.0**	**+0.1**
	comp=E,24μm,0.6s						
DRO	**Drossia**	**0.26**	**343**	P	**Pg**	**18 04 07.4**	**-0.1**
DRO				S	**Sg**	**18 04 11.0**	**0.0**
DRO	**Drossia**	**0.26**	**343**	P	**Pg**	**18 04 07.3**	**-0.1**
DRO				S	**Sg**	**18 04 11.6**	**+0.6**
	comp=E,58μm,0.2s						
KLV	**Kalavryta, Ach**	**0.43**	**39**	P	**Pg**	**18 04 10.4**	**-0.3**
KLV				S	**Sg**	**18 04 16.3**	**-0.1**
KLV				AML	AML	18 04 19.0	
	comp=E,5794μm,0.3s						
KLV				AML	AML	18 04 19.0	
	comp=N,5355μm,0.2s						
KLV	**Kalavryta, Ach**	**0.43**	**39**	P	**Pg**	**18 04 10.2**	**-0.5**
KLV				S	**Sg**	**18 04 17.4**	**+1.0**
	comp=N,3μm,0.2s						
RLS	**Riolos of Patr**	**0.45**	**323**	P	**Pg**	**18 04 10.3**	**-0.6**
RLS	**Riolos of Patr**	**0.45**	**323**	P	**Pg**	**18 04 10.2**	**-0.6**
RLS				S	**Sg**	**18 04 17.7**	**+1.0**
	comp=N,7μm,0.4s						
ITM	**Ithomi**	**0.53**	**170**	P	**Pg**	**18 04 12.1**	**-0.4**
ITM	**Ithomi**	**0.53**	**170**	P	**Pg**	**18 04 11.6**	**-0.9**
ITM				S	**Sg**	**18 04 19.1**	**-0.4**
	comp=N,2μm,0.6s						
VTN	**Vitineika**	**0.54**	**293**	P	**Pg**	**18 04 12.7**	**+0.1**
VTN				S	**Sg**	**18 04 20.2**	**+0.5**
VTN	**Vitineika**	**0.54**	**293**	P	**Pb**	**18 04 13.4**	**-0.1**
LAKA	**Lakka**	**0.55**	**14**	P	**Pg**	**18 04 12.4**	**-0.4**
LAKA				S	**Sg**	**18 04 20.2**	**0.0**
LAKA	**Lakka**	**0.55**	**14**	P	**Pg**	**18 04 12.1**	**-0.8**
LAKA				S	**Sb**	**18 04 21.2**	**-0.6**
	comp=N,20μm,0.4s						
VLX	**Vlachokerasia**	**0.56**	**126**	P	**Pg**	**18 04 12.4**	**-0.7**
VLX				S	**Sg**	**18 04 20.6**	**+0.1**
VLX				AML	AML	18 04 21.5	
	comp=N,2931μm,0.5s						
VLX				AML	AML	18 04 22.5	
	comp=E,3732μm,0.3s						
VLX	**Vlachokerasia**	**0.56**	**126**	P	**Pg**	**18 04 12.4**	**-0.7**
VLX				S	**Sg**	**18 04 20.6**	**+0.1**
	comp=E,2μm,0.5s						
UPR	**University Cam**	**0.58**	**358**	P	**Pg**	**18 04 13.3**	**-0.1**
AXS	**Araxos**	**0.60**	**325**	P	**Pg**	**18 04 12.6**	**-1.1**
AXS				S	**Sb**	**18 04 22.6**	**-0.5**
AXS				AML	AML	18 04 25.6	
	comp=N,5666μm,0.4s						
AXS				AML	AML	18 04 26.8	
	comp=E,3133μm,0.3s						
AXS	**Araxos**	**0.60**	**325**	P	**Pg**	**18 04 12.8**	**-0.9**
AXS				S	**Sb**	**18 04 23.0**	**-0.1**
	comp=E,2μm,0.4s						
ALIK	**Aliki, Aigiali**	**0.60**	**23**	P	**Pg**	**18 04 13.4**	**-0.5**
ALIK				S	**Sb**	**18 04 22.9**	**-0.4**
TRIZ	**Trizonia**	**0.69**	**17**	P	**Pg**	**18 04 15.0**	**-0.5**
TRIZ				S	**Sg**	**18 04 24.3**	**-0.3**
TRIZ	**Trizonia**	**0.69**	**17**	P	**Pg**	**18 04 14.6**	**-0.9**
TRIZ				S	**Sb**	**18 04 26.1**	**+0.3**
	comp=E,3μm,0.3s						
KALE	**Kalithea**	**0.73**	**21**	P	**Pg**	**18 04 15.5**	**-0.8**
KALE				S	**Sg**	**18 04 26.1**	**+0.1**
KALE				AML	AML	18 04 28.7	
	comp=E,6011μm,0.3s						
KALE				AML	AML	18 04 31.5	
	comp=N,9043μm,0.3s						
KALE	**Kalithea**	**0.73**	**21**	P	**Pg**	**18 04 15.5**	**-0.8**
KALE				S	**Sb**	**18 04 27.5**	**+0.4**
	comp=N,4μm,0.3s						
SERG	**Sergoula**	**0.73**	**15**	P	**Pg**	**18 04 15.5**	**-0.8**
SERG				S	**Sg**	**18 04 26.2**	**+0.2**
SERG				AML	AML	18 04 28.9	
	comp=E,7842μm,0.3s						
SERG				AML	AML	18 04 29.4	
	comp=N,8581μm,0.3s						
SERG	**Sergoula**	**0.73**	**15**	P	**Pg**	**18 04 15.6**	**-0.8**
SERG				S	**Sb**	**18 04 27.8**	**+0.7**
	comp=N,4μm,0.2s						
THAL	**Thalero**	**0.75**	**64**	P	**Pg**	**18 04 15.7**	**-0.9**
THAL				S	**Sb**	**18 04 27.0**	**-0.5**
THAL				AML	AML	18 04 28.0	
	comp=N,7845μm,0.5s						
THAL				AML	AML	18 04 35.5	
	comp=E,9825μm,0.3s						
THAL	**Thalero**	**0.75**	**64**	P	**Pg**	**18 04 15.9**	**-0.8**
LTHK	**Lithakia**	**0.77**	**271**	P	**Pg**	**18 04 16.6**	**-0.4**
LTHK				S	**Sg**	**18 04 26.2**	**-0.9**
LTHK				AML	AML	18 04 36.4	
	comp=E,4446μm,0.4s						
LTHK				AML	AML	18 04 36.8	
	comp=N,4408μm,0.3s						
LTHK	**Lithakia**	**0.77**	**271**	P	**Pg**	**18 04 16.8**	**-0.2**
LTHK				S	**Sg**	**18 04 27.2**	**+0.2**
	comp=N,2μm,0.5s						
PYL	**PYLOS**	**0.81**	**184**	P	**Pg**	**18 04 16.6**	**-1.1**
PYL	**PYLOS**	**0.81**	**184**	P	**Pg**	**18 04 16.6**	**-1.1**
PYL				S	**Sb**	**18 04 29.0**	**-0.1**
ANX	**Ano Chora**	**0.89**	**6**	P	**Pg**	**18 04 18.8**	**-0.6**
ANX				S	**Sb**	**18 04 31.6**	**0.0**
ANX				AML	AML	18 04 35.6	
	comp=N,6398μm,0.3s						
ANX				AML	AML	18 04 37.9	
	comp=E,7086μm,0.8s						
ANX	**Ano Chora**	**0.89**	**6**	P	**Pg**	**18 04 18.5**	**-0.8**
ANX				S	**Sb**	**18 04 31.9**	**+0.2**
	comp=E,3μm,0.9s						
DSF	**Desfina**	**0.91**	**39**	P	**Pg**	**18 04 18.0**	**-1.6**
DSF				S	**Sb**	**18 04 31.9**	**-0.1**
DSF				AML	AML	18 04 35.6	
	comp=N,2898μm,0.3s						
DSF				AML	AML	18 04 36.9	
	comp=E,1797μm,0.3s						
DSF	**Desfina**	**0.91**	**39**	P	**Pg**	**18 04 18.2**	**-1.4**
VLMS	**Volimes, Zakyn**	**0.92**	**281**	P	**Pg**	**18 04 19.1**	**-0.8**
PVO	**Paravola**	**0.94**	**346**	P	**Pg**	**18 04 19.6**	**-0.6**
PVO				S	**Sb**	**18 04 33.0**	**+0.1**
PVO				AML	AML	18 04 40.2	
	comp=N,2701μm,0.4s						
PVO				AML	AML	18 04 42.4	
	comp=E,2162μm,0.3s						
PVO	**Paravola**	**0.94**	**346**	P	**Pg**	**18 04 19.7**	**-0.5**
LOUT	**Loutraki**	**0.97**	**73**	P	**Pb**	**18 04 20.7**	**-0.2**
LOUT	**Loutraki**	**0.97**	**73**	P	**Pg**	**18 04 20.3**	**-0.4**
LTK	**Loutraki**	**0.97**	**71**	P	**Pg**	**18 04 20.0**	**-0.8**
LTK	**Loutraki**	**0.97**	**71**	P	**Pg**	**18 04 19.8**	**-1.0**
AST1	**Astakos**	**1.01**	**326**	P	**Pb**	**18 04 22.0**	**+0.4**
PDO	**Prodromos**	**1.02**	**331**	P	**Pg**	**18 04 21.3**	**-0.4**
PDO				S	**Sg**	**18 04 34.8**	**-0.2**
PDO

NOA	**NORSAR Array B**	**24.29**	**347**	P		**P**		**18 09 18.4**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=156,slow=7.2,SNR=4.8								
EKA	**Eskdalemuir Ar**	**24.40**	**324**	P		**P**		**18 09 20.6**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=128,slow=9.6,SNR=4.3								
TORD	**Torodi Ar. Bea**	**30.33**	**222**	P		**P**		**18 10 14.1**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=19,slow=9.2,SNR=1.8								
ARCES	**ARCESS Array B**	**31.95**	**2**	P		**P**		**18 10 26.9**	**-0.7**
	comp=Z,2.5nm,1.0s,baz=196,slow=9.4,SNR=2.0								
MKAR	**Makanchi Array**	**44.68**	**58**	P		**P**		**18 12 14.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=274,slow=7.8,SNR=10								
ZALV	**Zalesovo Beam**	**45.25**	**48**	P		**P**		**18 12 18.9**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=261,slow=9.5,SNR=9.0								
SONM	**Songino Array**	**59.97**	**51**	P		**P**		**18 14 10.6**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=306,slow=7.8,SNR=3.2								

IDC 25 18:33:54.1±10.0, 20.17S×179.93W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/41, mbtmp3.9/3, Error ellipse: s-maj=322.9km s-min=88.0km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**42.83**	**257**	P		P	18 41 54.4	+0.2
	1.1nm,0.6s,baz=88,slow=8.0,SNR=28							
WRA	**Warramunga Arr**	**42.85**	**262**	P		P	18 41 53.6	-0.8
	0.7nm,0.3s,baz=98,slow=6.1,SNR=25							
CMAR	**Chiang Mai Arr**	**88.30**	**290**	P		P	18 46 48.6	+0.5
	0.6nm,0.7s,baz=96,slow=5.9,SNR=4.7							

IDC 25 18:40:27.1±1.7, 3.59N×125.71E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/36, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=94.6km s-min=26.4km az=59.0

ISC 25 18:40:28.3±1.2, 3.8N±0.2×126.0E±0.3, h10km, n5, σ0.38/5, mb3.4/3, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KCP	**Kidapawan**	**3.34**	**345**	*e*P		**Pg**	**18 41 32.1**	**-0.2**
SIJI	**Sorong**	**7.01**	**131**	P		**Pn**	**18 42 11.2**	**+0.1**
	0.9nm,0.3s,baz=322,slow=19,SNR=1.8							
WRA	**Warramunga Arr**	**24.95**	**161**	P		**P**	**18 45 52.0**	**-0.1**
	0.7nm,0.6s,baz=337,slow=11,SNR=11							
ASAR	**Alice Springs**	**28.34**	**165**	P		**P**	**18 46 22.4**	**-0.3**
	0.3nm,0.6s,baz=342,slow=7.4,SNR=2.3							
MKAR	**Makanchi Array**	**57.10**	**326**	P		**P**	**18 50 15.3**	**+0.4**
	0.2nm,0.6s,baz=130,slow=8.0,SNR=4.1							

SJA 25 18:43:06.5±0.8, 35.94S×74.38W, h10km, ML4.8, MW4.6
NEIC 25 18:43:12.9±1.2, 36.15S±0.04×73.58W±0.06, h11km±4km, Error ellipse: s-maj=8.0km s-min=5.0km az=50.0
IDC 25 18:43:12.7±0.7, 36.18S×73.34W, h0km, mb4.5/12, mb1 4.6/13, mb1mx4.5/24, mbtmp4.5/13, ML4.3/1, MS4.0/10, Ms1 3.9/10, ms1mx3.8/26, Error ellipse: s-maj=24.6km s-min=14.4km az=77.0
BJI 25 18:43:13.0±0.0, 36.20S×73.60W, h10km, Ms5.2/1, Ms7 4.9/1
GUC 25 18:43:14.5±0.7, 36.14S×73.55W, h21km±8km, ML5.0
VAO 25 18:43:14.0±0.4, 36.15S×73.20W, h0km, mb4.8

ISC 25 18:43:12.0±0.8, 36.13S±0.03×73.59W±0.04, h3km±5km, n220, σ1.913/232, mb4.8/34, MS4.1/7, 7C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BI03	**Tigo**	**0.85**	**148**	⇑*i*P		**Pb**	**18 43 29.2**	**-0.2**
BI03				*i* S		**Sg**	**18 43 39.8**	**+0.5**
BI03				IAML			18 43 42.9	
	comp=N,91μm,0.5s							
BI03	**Tigo**	**0.85**	**148**			**Pb**	**18 43 29.1**	**-0.2**
BI03						**Sg**	**18 43 39.1**	**-0.2**
LAJA	**Laja**	**1.35**	**149**	*e*P		**Pn**	**18 43 36.4**	**-1.4**
LAJA				*i* S		**Sg**	**18 43 53.2**	**-2.2**
BI02	**San Fabin de**	**1.95**	**107**	⇑*i*P		**Pn**	**18 43 46.1**	**+0.1**
BI02				*i* S		**Sn**	**18 44 10.4**	**-0.7**
BI02	**San Fabin de**	**1.95**	**107**	Pn		**Pn**	**18 43 46.2**	**+0.1**
BO03	**Pichilemu**	**2.10**	**40**	⇑*i*P		**Pn**	**18 43 48.4**	**+0.3**
BO03				*e*S		**Sn**	**18 44 15.1**	**+0.3**
BO03				IAML			18 44 26.3	
	comp=E,13μm,0.5s							
BO02	**Sierra Bellavi**	**2.65**	**61**	⇑*i*P		**Pn**	**18 43 56.3**	**+0.5**
BO02				*e*S		**Sn**	**18 44 28.3**	**-0.2**
BO02				IAML			18 44 46.3	
	comp=E,9μm,0.5s							
BO02	**Sierra Bellavi**	**2.65**	**61**	Pn		**Pn**	**18 43 56.0**	**+0.2**
CANA	**Caviahue**	**2.68**	**132**	*e*P		**Pb**	**18 44 00.6**	**-0.2**
CANA				IAML			18 44 45.1	
	comp=Z,5μm,0.9s							
VA05	**Santo Domingo**	**2.95**	**34**	*e*P		**Pn**	**18 43 59.7**	**0.0**
VA05				IAML			18 44 58.0	
	comp=E,4μm,0.6s							
MT09	**Talagante**	**3.17**	**43**	*e*P		**Pn**	**18 44 03.7**	**+0.7**
MT09				*e*S		**Sn**	**18 44 41.9**	**+0.5**
MT09				IAML			18 45 01.7	
	comp=N,6μm,0.5s							
COIS	**El Sosneado**	**3.41**	**74**	*e*P		**Pb**	**18 44 11.4**	**-1.7**
EDS3	**Malargue**	**3.42**	**85**	*e*P		**Pb**	**18 44 11.8**	**-1.6**
EDS3				*e*S		**Sg**	**18 45 04.8**	**+2.8**
PUMA	**Malargue**	**3.43**	**81**	*e*P		**Pb**	**18 44 12.1**	**-1.2**
MT02	**Curacav**	**3.50**	**36**	⇑*i*P		**Pn**	**18 44 07.3**	**-0.1**
MT02				IAML			18 45 14.6	
	comp=E,2μm,0.5s							
MT02	**Curacav**	**3.50**	**36**			**Pn**	**18 44 07.1**	**-0.3**
LMEL	**Las Melosas**	**3.59**	**52**	*e*P		**Pn**	**18 44 09.7**	**+0.9**
LMEL				*e*S		**Sn**	**18 44 52.6**	**+0.8**
LMEL				IAML			18 45 13.3	
	comp=E,3μm,0.7s							
MT05	**Renca**	**3.60**	**42**	*e*P		**Pn**	**18 44 09.7**	**+0.9**
MT05	**Renca**	**3.60**	**42**	Pn		**Pn**	**18 44 09.3**	**+0.5**
MT03	**Universidad Ad**	**3.65**	**45**	*e*P		**Pn**	**18 44 10.6**	**+1.1**
PEL	**Peldehue**	**3.82**	**40**	⇑*e*P		**Pn**	**18 44 12.8**	**+1.0**
PEL				*e*S		**Sn**	**18 44 57.1**	**-0.1**
PEL	**Peldehue**	**3.82**	**40**			**Pn**	**18 44 12.5**	**+0.7**
PEL	**Peldehue**	**3.82**	**40**	*e*P		**Pn**	**18 44 13.2**	**+1.4**
PEL				*e*S		**Sn**	**18 44 58.0**	**+0.7**
VA03	**San Esteban**	**4.19**	**38**	⇑*i*P		**Pn**	**18 44 17.9**	**+1.0**
VA03				*e*S		**Sn**	**18 45 06.3**	**-0.2**
VA03	**San Esteban**	**4.19**	**38**			**Pn**	**18 44 17.6**	**+0.7**
RFA	**San Rafael**	**4.40**	**74**	*e*P		Pn	18 44 24.7	+4.9
RFA				*e*S		**Sg**	**18 45 33.5**	**+0.2**
RFA				IAML			18 45 39.3	
	comp=Z,1μm,0.8s							
H03S1	**Juan Fernandez**	**4.92**	**296**	Pn		**Pn**	**18 44 27.2**	**+0.7**
	baz=79,slow=13,SNR=12							
H03S1				T		T	18 49 34.9	
	baz=117,slow=75,SNR=964							
H03S3	**Juan Fernandez**	**4.93**	**296**	Pn		**Pn**	**18 44 27.9**	**+1.2**
	baz=79,slow=13,SNR=10							
H03S3				T		T	18 49 36.1	
	baz=117,slow=75,SNR=1073							
H03S2	**Juan Fernandez**	**4.94**	**296**	Pn		**Pn**	**18 44 27.6**	**+0.8**
	baz=79,slow=13,SNR=17							
H03S2				T		T	18 49 34.9	
	baz=117,slow=75,SNR=823							
AAGR	**Agrelo**	**4.96**	**54**	*e*P		**Pn**	**18 44 30.8**	**+3.2**
AAGR				IAML			18 46 19.9	
	comp=Z,416nm,2.2s							
VA04	**Juan Fernndez**	**4.97**	**298**	*e*P		**Pn**	**18 44 28.6**	**+1.1**
VA04	**Juan Fernndez**	**4.97**	**298**			**Pn**	**18 44 27.5**	**+0.1**
ARCO	**CERRO ARCO**	**5.05**	**51**	*e*P		**Pn**	**18 44 32.0**	**+3.1**
ARCO				IAML			18 46 03.4	
	comp=Z,359nm,1.6s							
H03N1	**Juan Fernandez**	**5.13**	**300**	Pn		**Pn**	**18 44 30.9**	**+1.4**
	baz=138,slow=25,SNR=69							
H03N1				T		T	18 49 54.8	
	SNR=45							
H03N3	**Juan Fernandez**	**5.13**	**300**	Pn		**Pn**	**18 44 31.1**	**+1.5**
	baz=138,slow=25,SNR=44							
H03N3				T		T	18 49 56.3	
	SNR=52							
H03N2	**Juan Fernandez**	**5.15**	**300**	Pn		**Pn**	**18 44 31.3**	**+1.6**
	baz=138,slow=25,SNR=27							
H03N2				T		T	18 50 03.6	
	SNR=50							
PLCA	**Paso Flores**	**5.18**	**153**	Pn		**Pn**	**18 44 30.9**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=325,slow=12,SNR=75							
PLCA				Pg		**Pb**	**18 44 45.4**	**+2.1**
	comp=Z,5.5nm,0.3s,baz=334,slow=14,SNR=14							
PLCA				Lg		Lg	18 45 52.3	
	comp=Z,7.3nm,0.3s,baz=236,slow=21,SNR=4.4							
PLCA				LR		LR	18 45 58.1	
	comp=Z,254nm,21.5s,baz=327,slow=33							
PLCA	**Paso Flores**	**5.18**	**153**	Pn		**Pn**	**18 44 28.2**	**-2.3**
PLCA	**Paso Flores**	**5.18**	**153**	*e*P		**Pn**	**18 44 31.1**	**+0.6**
ASAL	**Salagasta**	**5.29**	**49**	*e*P		**Pn**	**18 44 34.3**	**+2.4**
ASAL				IAML			18 46 10.5	
	comp=Z,214nm,1.3s							
CO02	**Combarbal**	**5.37**	**24**			**Pn**	**18 44 33.0**	**-0.1**
RTLS	**Leoncito**	**5.60**	**41**	*e*P		**Pn**	**18 44 37.7**	**+1.2**
RTLS				IAML			18 46 20.0	
	comp=Z,370nm,0.9s							
RTCV	**Cerro Valdivia**	**5.97**	**46**	*e*P		**Pn**	**18 44 43.4**	**+2.0**
RTCV				*e*S		**Sn**	**18 45 53.0**	**+2.6**
RTCV				IAML			18 46 38.3	
	comp=Z,235nm,2.8s							
ZON	**Zonda**	**6.13**	**43**	Pn		**Pn**	**18 44 44.2**	**+0.6**
ZON	**Zonda**	**6.13**	**43**	*i* P		**Pn**	**18 44 45.6**	**+2.1**
ZON				*e*P		**Pn**	**18 44 46.0**	**+2.4**
ZON				*e*S		**Sn**	**18 45 57.0**	**+2.8**
ZON				IAML			18 46 47.5	
	comp=Z,279nm,1.5s							
LL01	**San Ignacio de**	**6.31**	**172**	Pn		**Pn**	**18 44 45.1**	**-0.8**
GO04	**Tololo Observa**	**6.38**	**22**			**Pn**	**18 44 47.1**	**-0.1**
RTLL	**Cerro Villicun**	**6.41**	**43**	*i* P		**Pn**	**18 44 48.7**	**+1.4**
RTLL				*e*P		**Pn**	**18 44 48.9**	**+1.6**
RTLL				*e*S		**Sn**	**18 46 02.5**	**+1.4**
RTLL				IAML			18 46 30.0	
	comp=Z,196nm,0.9s							
LCO	**Las Campanas**	**7.50**	**20**	Pn		**Pn**	**18 45 02.0**	**-0.6**
AC04	**Llanos de Chal**	**8.18**	**16**	Pn		**Pn**	**18 45 11.7**	**0.0**
GO03	**Copiap**	**8.97**	**19**	Pn		**Pn**	**18 45 22.0**	**-0.5**
AC01	**Pan de Azucar**	**10.27**	**15**	Pn		**Pn**	**18 45 40.1**	**-0.2**
GO02	**Mina Guanaco**	**11.46**	**19**	Pn		**Pn**	**18 45 55.9**	**-0.9**
PB15	**IPOC Station P**	**13.36**	**17**	Pn		**Pn**	**18 46 21.8**	**-0.9**
LVC	**Limon Verde**	**14.07**	**18**	Pn		**Pn**	**18 46 29.9**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=243,slow=6.8,SNR=1.6							
LVC				Lg		Lg	18 50 25.9	
	comp=Z,0.5nm,0.3s,baz=5.4,slow=20,SNR=5.7							
LVC				LR		LR	18 52 19.1	
	comp=Z,781nm,19.6s,baz=207,slow=39							
LVC	**Limon Verde**	**14.07**	**18**	Pn		**Pn**	**18 46 32.8**	**+0.2**
PB07	**IPOC Station P**	**14.71**	**14**	Pn		**Pn**	**18 46 41.5**	**+0.3**
PB09	**IPOC Station P**	**14.78**	**16**	P		**P**	**18 46 48.1**	**-0.2**
GO09	**Cerro Castillo**	**15.16**	**177**	P		**P**	**18 46 51.0**	**-1.2**
PB01	**IPOC Station P**	**15.45**	**15**	Pn		**Pn**	**18 46 50.9**	**-0.1**
ITQB	**Itaqui**	**15.63**	**71**	*e*P		**Pn**	**18 46 51.7**	**-1.5**
PSGCX	**Pisagua**	**16.75**	**11**	P		**P**	**18 47 10.3**	**+0.2**
CPUP	**Villa Florida**	**16.98**	**59**	Pn		**Pn**	**18 47 07.0**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=255,slow=6.8,SNR=3.9							
CPUP				Lg		Lg	18 52 12.9	
	comp=Z,0.4nm,0.3s,baz=181,slow=20,SNR=2.3							
CPUP				LR		LR	18 53 41.6	
	comp=Z,326nm,21.9s,baz=236,slow=37							
CPUP	**Villa Florida**	**16.98**	**59**	P		**P**	**18 47 12.3**	**-0.2**
PLTB	**Pedras Altas**	**17.14**	**81**	*e*P		**Pn**	**18 47 09.6**	**-3.1**
MNMC	**Minye Minye**	**17.29**	**13**	P		**P**	**18 47 16.0**	**-0.4**
CPSB	**Cacapava Do Su**	**17.78**	**77**	*e*P		**Pn**	**18 47 19.2**	**-1.3**
EFI	**East Falkland**	**19.09**	**149**	Pn		**P**	**18 47 34.9**	**-0.7**
ITAB	**Concordia**	**20.27**	**70**	*e*P		**P**	**18 47 48.0**	**-0.7**
LPAZ	**La Paz**	**20.35**	**15**	P		Pn	18 47 52.8	+0.5
	comp=Z,8.9nm,0.8s,baz=180,slow=7.8,SNR=21							
LPAZ	**La Paz**	**20.35**	**15**	P		**P**	**18 47 49.4**	**-0.9**
LPAZ	**La Paz**	**20.35**	**15**	*e*P		Pn	18 47 51.8	-0.5
PTGB	**Pitanga**	**21.72**	**64**	*e*P		**P**	**18 48 04.4**	**-0.1**
TER01	**Tubaro-SC**	**21.98**	**77**	*e*P		**P**	**18 48 05.3**	**-1.8**
AQDB	**Aquidauana**	**22.11**	**50**	*e*P		**P**	**18 48 09.1**	**+0.5**
SIV	**San Ignacio**	**22.95**	**32**	P		**P**	**18 48 18.0**	**+0.4**
	comp=Z,21nm,0.9s,baz=230,slow=11,SNR=50							
SIV				LR		LR	18 58 53.6	
	comp=Z,958nm,18.2s,baz=226,slow=41							
TIJ01	**Guaruva-PR**	**23.66**	**70**	*e*P		**P**	**18 48 20.3**	**-4.5**
NNA	**Nana**	**24.21**	**352**	P		**P**	**18 48 31.3**	**+1.2**
	comp=Z,7.2nm,0.5s,baz=153,slow=4.6,SNR=4.4							
NNA				LR		LR	18 55 56.5	
	comp=Z,214nm,19.1s,baz=177,slow=31							
PCMB	**Pacaembu**	**24.25**	**59**	*e*P		**P**	**18 48 29.8**	**-0.6**
PTLB	**Pontes e Lacer**	**24.30**	**36**	*e*P		**P**	**18 48 31.6**	**+0.8**
PP1B	**Ponte de Pedra**	**24.80**	**47**	*e*P		**P**	**18 48 36.2**	**+0.8**
PET01	**Itanhaem-SP**	**25.54**	**70**	*e*P		**P**	**18 48 41.9**	**-0.1**
SPB	**Sao Paulo**	**25.81**	**68**	P		**P**	**18 48 43.7**	**-0.8**
SPB				IAML		IAmb	18 48 46.7	
	comp=Z,29nm,1.0s							
SPB	**Sao Paulo**	**25.81**	**68**	*e*P		**P**	**18 48 44.3**	**-0.2**
VILB	**Vilhena**	**26.04**	**31**	*e*P		**P**	**18 48 47.0**	**+0.4**
ITRB	**Iturama**	**26.15**	**57**	*e*P		**P**	**18 48 47.3**	**-0.3**
VAO	**Valinhos**	**26.50**	**68**	*e*P		**P**	**18 48 50.1**	**-0.7**
BB19B	**Bebedouro**	**26.53**	**62**	*e*P		**P**	**18 48 51.0**	**0.0**
ETMB	**Extrema**	**27.04**	**16**	*e*P		**P**	**18 48 57.5**	**+1.9**
PARB	**Paraibuna**	**27.32**	**70**	*e*P		**P**	**18 48 58.3**	**+0.1**
ARAG	**Araguaiana, MT**	**28.12**	**49**	*e*P		**P**	**18 49 05.9**	**+0.6**
IPMB	**Ipameri, GO**	**28.80**	**58**	*e*P		**P**	**18 49 11.6**	**+0.1**
ATAH	**Atahualpa**	**29.19**	**350**	LR		LR	18 58 19.1	
	comp=Z,158nm,20.4s,baz=182,slow=31							
PMSA	**Palmer Station**	**29.25**	**172**	LR		LR	19 01 01.6	
	comp=Z,414nm,18.4s,baz=348,slow=37							
PMSA	**Palmer Station**	**29.25**	**172**	*e*P		**P**	**18 49 16.2**	**+1.4**
BSCB	**Bom Sucesso**	**29.32**	**67**	*e*P		**P**	**18 49 15.9**	**-0.2**
VAS01	**Vassouras-RJ**	**29.58**	**70**	*e*P		**P**	**18 49 18.7**	**+0.4**
DUB01	**Friburgo-RJ**	**30.51**	**71**	*e*P		**P**	**18 49 26.1**	**-0.4**
BDFB	**Brasilia**	**30.59**	**55**	P		**P**	**18 49 26.1**	**-1.3**
	comp=Z,12nm,1.0s,baz=221,slow=6.2,SNR=9.6							
BDFB				LR		LR	19 04 07.9	
	comp=Z,343nm,18.6s,baz=247,slow=41							
BDFB	**Brasilia**	**30.59**	**55**	P		**P**	**18 49 26.4**	**-0.9**
BDFB				IAmb		IAmb	18 49 28.8	
	comp=Z,22nm,1.2s							
DIAM	**Diamantina, MG**	**31.81**	**64**	*e*P		**P**	**18 49 37.4**	**-0.7**
ALF01	**Guarapari-ES**	**32.60**	**71**	*e*P		**P**	**18 49 45.0**	**+0.1**
PEXB	**Peixe**	**33.05**	**50**	*e*P		**P**	**18 49 49.0**	**+0.2**
SJMB	**Sao Joao De Ma**	**33.39**	**67**	*e*P		**P**	**18 49 51.6**	**-0.2**
NPGB	**Novo Progresso**	**33.41**	**34**	*e*P		**P**	**18 49 52.2**	**+0.1**
JANB	**Januaria**	**33.51**	**59**	*e*P		**P**	**18 49 53.0**	**0.0**
BSFB	**Barra de Sao F**	**33.56**	**68**	*e*P		**P**	**18 49 52.9**	**-0.5**
SDBA	**SAO DESIDERIO**	**35.00**	**55**	*e*P		**P**	**18 50 05.9**	**0.0**
ITTB	**Itaituba**	**35.63**	**32**	*e*P		**P**	**18 50 11.6**	**+0.3**
SMTB	**Santa Maria do**	**36.01**	**47**	*e*P		**P**	**18 50 15.2**	**+0.7**
NBIT	**Itapeh - BA**	**37.07**	**64**	*e*P		**P**	**18 50 23.9**	**+0.4**
PTGA	**Pitinga**	**37.42**	**23**	*e*P		**P**	**18 50 27.2**	**+0.7**
GDU01	**Guandu, BA**	**37.77**	**63**	*e*P		**P**	**18 50 29.1**	**-0.4**
NBPN	**Ponto Novo - B**	**39.31**	**59**	*e*P		**P**	**18 50 42.4**	**-0.1**
BOAV	**Boa Vista**	**40.22**	**20**	*e*P		**P**	**18 50 50.4**	**+0.4**
MCPB	**Macapa, AP**	**40.82**	**34**	*e*P		**P**	**18 50 55.3**	**+0.4**
NBLA	**Lagarto - SE**	**40.90**	**61**	*e*P		**P**	**18 50 55.5**	**-0.1**
NBTA	**Tacaratu-PE**	**42.01**	**59**	*e*P		**P**	**18 51 04.9**	**+0.2**
NBMA	**Muriti-CE**	**42.78**	**57**	*e*P		**P**	**18 51 11.8**	**+0.6**
NBAN	**Anadia - AL**	**42.88**	**61**	*e*P		**P**	**18 51 12.1**	**+0.2**
NBPS	**Pedro II - PI**	**43.27**	**51**	*e*P		**P**	**18 51 15.9**	**+0.8**
NBPB	**Pedra_Branca-C**	**43.59**	**54**	*e*P		**P**	**18 51 18.4**	**+0.8**
NBLI	**Livramento-PB**	**44.02**	**58**	*e*P		**P**	**18 51 21.6**	**+0.5**
NBRF	**Rio Formoso -**	**44.38**	**62**	*e*P		**P**	**18 51 23.9**	**0.0**
SDV	**Santo Domingo**	**44.86**	**4**	*e*P		**P**	**18 51 29.0**	**+1.1**
BELA	**Belgrano 2**	**45.02**	**169**	P		**P**	**18 51 29.1**	**+0.7**
BELA				IAmb		IAmb	18 51 30.9	
	comp=Z,24nm,1.4s							
NBPA	**Parau_RN**	**45.08**	**57**	*e*P		**P**	**18 51 30.5**	**+1.0**
NBCL	**Cascavel-CE**	**45.42**	**54**	*e*P		**P**	**18 51 33.2**	**+1.0**
RIOS	**Rincon, Osa**	**45.56**	**346**	P		**P**	**18 51 32.4**	**-0.8**
RIOS				IAmb		IAmb	18 51 52.8	
	comp=Z,11nm,0.9s							
NBPV	**Pedro Velho**	**45.85**	**59**	*e*P		**P**	**18 51 37.1**	**+1.5**
RCBR	**Riachuelo**	**45.85**	**58**	P		**P**	**18 51 36.5**	**+0.8**
	comp=Z,6.9nm,0.6s,baz=216,slow=12,SNR=6.5							
RCBR	**Riachuelo**	**45.85**	**58**	P		**P**	**18 51 33.5**	**-2.1**
RCBR	**Riachuelo**	**45.85**	**58**	*e*P		**P**	**18 51 36.8**	**+1.1**
VNA3	**Neumayer Olymp**	**47.89**	**157**	P		**P**	**18 51 51.5**	**+0.5**
VNA1	**Neumayer--Stat**	**48.24**	**156**	P		**P**	**18 51 54.1**	**+0.5**
VNA2	**Neumayer--Watz**	**48.56**	**156**	P		**P**	**18 51 56.5**	**+0.3**
	baz=285,slow=8.8							
BOAB	**BOACO BROADBAND**	**50.64**	**344**	P		**P**	**18 52 03.6**	**-1.4**
SNAA	**Sanae**	**50.11**	**157**	P		**P**	**18 52 08.3**	**+0.3**
SNAA	**Sanae**	**50.11**	**157**	P		**P**	**18 52 07.2**	**-0.9**
SVB	**Belmont**	**50.50**	**16**	P		**P**	**18 52 11.1**	**-0.4**
SOR	**Soroa**	**59.27**	**350**	P		**P**	**18 53 15.4**	**+0.6**
VNDA	**Vanda**	**61.77**	**192**	P		**P**	**18 53 33.4**	**+2.0**
	comp=Z,1.4nm,0.9s,baz=120,slow=4.0,SNR=4.4							
VNDA	**Vanda**	**61.77**	**192**	IAmb		IAmb	18 53 57.9	
	comp=Z,7.6nm,1.3s							
SYO	**Syowa Base**	**64.36**	**158**	*e*P		P	18 53 43.2	-5.4
Z47A	**Carrollton**	**70.28**	**347**	P		**P**	**18 54 25.8**	**-0.7**
TX31	**Lajitas Ar. Si**	**71.00**	**332**	P		**P**	**18 54 31.1**	**0.0**
TX31				IAmb		IAmb	18 54 34.3	
	comp=Z,8.1nm,0.9s							
TXAR	**Lajitas Array**	**71.00**	**332**	P		**P**	**18 54 33.5**	**+2.4**
	comp=Z,1.9nm,0.9s,baz=144,slow=9.2,SNR=13							
TXAR	**Lajitas Array**	**71.00**	**332**	P		**P**	**18 54 31.3**	**+0.3**
W50A	**Signal Mountai**	**71.80**	**350**	P		**P**	**18 54 36.7**	**+1.0**
W50A				IAmb		IAmb	18 54 38.1	
	comp=Z,10nm,0.8s							
SWET	**Sewanee**	**71.91**	**349**	P		**P**	**18 54 37.0**	**+0.6**
SWET				IAmb		IAmb	18 54 38.7	
	comp=Z,18nm,1.0s							
V48A	**Smith Brothers**	**72.55**	**349**	P		**P**	**18 54 40.9**	**+0.7**
WVT	**Waverly**	**73.10**	**348**	P		**P**	**18 54 43.2**	**-0.2**
WVT				IAmb		IAmb	18 54 45.5	
	comp=Z,11nm,1.1s							
W39A	**Magazine**	**73.41**	**343**	P		**P**	**18 54 45.3**	**0.0**
W39A				IAmb		IAmb	18 54 48.1	
	comp=Z,8.8nm,0.9s							
U40A	**Yellville**	**74.31**	**344**	P		**P**	**18 54 50.0**	**-0.5**
CCM	**Cathedral Cave**	**75.60**	**346**	P		**P**	**18 54 58.7**	**+0.8**
CCM				IAmb		IAmb	18 55 00.2	
	comp=Z,8.5nm,0.8s							
LIC	**Lamto**	**76.65**	**72**	*e*P		**P**	**18 55 04.7**	**+0.2**
	comp=Z,60nm,1.2s							
TIC	**Toumodi**	**76.92**	**72**	*e*P		**P**	**18 55 06.4**	**+0.3**
N54A	**Moraine State**	**76.94**	**355**	P		**P**	**18 55 04.9**	**-0.6**
N54A				IAmb		IAmb	18 55 31.2	
	comp=Z,15nm,1.2s							
KIC	**Kosan Boka**	**76.96**	**72**	*e*P		**P**	**18 55 06.9**	**+0.6**
	comp=Z,52nm,1.1s							
ANMO	**Albuquerque**	**77.06**	**333**	P		**P**	**18 55 06.0**	**-0.6**
DBIC	**Dimbokro**	**77.06**	**72**	P		**P**	**18 55 07.3**	**+0.4**
	comp=Z,11nm,0.9s,baz=186,slow=6.7,SNR=10							
DBIC				LR		LR	19 27 59.2	
	comp=Z,118nm,18.3s,baz=186,slow=35							
DBIC	**Dimbokro**	**77.06**	**72**	P		**P**	**18 55 06.7**	**-0.1**
DBIC				IAmb		IAmb	18 55 08.1	
	comp=Z,11nm,0.8s							
P40A	**Paris**	**77.19**	**345**	P		**P**	**18 55 06.4**	**-0.5**
P38A	**Dawn**	**77.59**	**344**	P		**P**	**18 55 09.7**	**+0.5**
P38A				IAmb		IAmb	18 55 23.6	
	comp=Z,7.0nm,0.8s							
L56A	**Greenwood**	**77.97**	**357**	P		**P**	**18 55 11.2**	**-0.1**
L56A				IAmb		IAmb	18 55 13.7	
	comp=Z,14nm,1.1s							
T25A	**Trinidad**	**78.30**	**335**	P		**P**	**18 55 12.5**	**-1.0**
T25A				IAmb		IAmb	18 55 30.7	
	comp=Z,12nm,1.2s							
ESJX	**Sierra Juarez**	**78.54**	**324**	P		**P**	**18 55 12.7**	**-2.2**
ESJX				IAmb		IAmb	18 55 14.0	
	comp=Z,7.2nm,0.9s							
N38A	**Joes South For**	**78.64**	**345**	P		**P**	**18 55 15.2**	**+0

Mw4.9,Mw4.7/34,172km west of Gold R., Bc Vancouver Island, Canada Region

MOS ***25*** *19:22:43.2±0.9, 49°.33N×128°.24W, h17km, mb5.1/34, MS4.4/9, Error ellipse: s-maj=8.0km s-min=3.4km az=110.4*

NEIC ***25*** *19:22:44.2, 49°.42N×128°.15W, h13km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.17; Mθθ=-2.42; Mϕϕ=2.25; Mrθ=-0.69; Mrϕ=-1.15; Mθϕ=-0.16; Fault plane solution: Mw=2.70000×10¹⁶ NP1:ϕs=31.13000°, δ=80.64000°, λ=-9.30000°. NP2:ϕs=122.66000°, δ=80.83000°, λ=-170.52000°. Principal axes: T 2.5159, Plg=0.0000°, Azm=257.0000°; N 0.3373, Plg=77.0000°, Azm=166.0000°; P -2.8532, Plg=13.0000°, Azm=347.0000°;*

NEIC ***25*** *19:22:44.7, 49°.24N×128°.39W, h10km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.37; Mθθ=-1.20; Mϕϕ=2.63; Mrθ=-0.79; Mrϕ=-1.13; Mθϕ=-0.06; Fault plane solution: Mw=2.50000×10¹⁶ NP1:ϕs=123.00000°, δ=73.00000°, λ=-158.00000°. NP2:ϕs=27.00000°, δ=69.00000°, λ=-18.00000°. Principal axes: T 2.5898, Plg=3.0000°, Azm=254.0000°; N -0.3368, Plg=63.0000°, Azm=159.0000°; P -2.2530, Plg=27.0000°, Azm=346.0000°;*

NEIC ***25*** *19:22:44.6±1.4, 49°.42N±0°.06×128°.2W±0°.1, h13km±4km, mb5.0/230, Mwr4.9/11, Mww5.1, Mwr4.9(OTT) Error ellipse: s-maj=11.7km s-min=6.5km az=49.0*

GCMT ***25*** *19:22:45.6±0.2, 49.21N±0.01°×128.42W±0.02, h25km±1km, MW5.2/131, Moment Tensor Solution. s54,c68; s131,c206; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.88±.17; Mθθ=4.68±.14; Mϕϕ=5.57±.15; Mrθ=-1.84±.34; Mθϕ=-3.64±.13; Mrr=1.64±.32; Best double couple: Mw=6.72500×10¹⁶ NP1:ϕs=28.00000°, δ=69.00000°, λ=0.00000°. NP2:ϕs=298.00000°, δ=90.00000°, λ=159.00000°. Principal axes: T 7.2900, Plg=15.0000°, Azm=251.0000°; N -1.1220, Plg=69.0000°, Azm=117.0000°; P -6.1600, Plg=14.0000°, Azm=345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***25*** *19:22:45.8±0.0, 50°.06N×128°.94W, h13km, mB5.1/30, mb4.7/46, Ms4.8/14, Ms7 4.5/13*

NEIC ***25*** *19:22:51, 49°.45N×128°.13W, h18km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=1.90; Mθθ=-3.20; Mϕϕ=5.11; Mrθ=-2.84; Mϕϕ=-2.81; Mrϕ=0.95; Fault plane solution: Mw=6.07000×10¹⁶ NP1:ϕs=24.00000°, δ=56.00000°, λ=-16.00000°. NP2:ϕs=123.00000°, δ=76.00000°, λ=-145.00000°. Principal axes: T 6.3615, Plg=13.0000°, Azm=250.0000°; N -0.6301, Plg=53.0000°, Azm=143.0000°; P -5.7314, Plg=34.0000°, Azm=349.0000°;*

BGR ***25*** *19:22:51.8±0.0, 49.67N×127.97W, h33km, mb5.0, Ms4.5*

ISC 25 19:22:45.0±0.7, 49°.45N±0°.03×128°.12W±0°.03, h13km±4km, n869, σ1°.34/899, mb4.9/178, MS4.4/49, 45C-17D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.78**	**56**	P	**Pb**	**19 23 00.8**	**+0.4**
EDB				S	**Sn**	**19 23 13.7**	**+0.3**
FHRB	**Fair Harbour**	**0.89**	**46**	P	**Pg**	**19 23 02.7**	**+0.5**
FHRB				S	**Sn**	**19 23 17.3**	**+1.4**
ETB	**Estevan Point**	**1.03**	**93**	P	**Pb**	**19 23 03.8**	**-1.0**
MAYB	**Maynard**	**1.14**	**32**	P	**Pb**	**19 23 06.3**	**-0.3**
MAYB				S	**Sn**	**19 23 23.8**	**+1.4**
HOLB	**Holberg**	**1.20**	**360**	P	**Pn**	**19 23 06.3**	**-1.2**
HOLB				S	**Sb**	**19 23 22.6**	**-0.4**
PHC	**Port Hardy**	**1.34**	**19**	Pn	**Pn**	**19 23 08.9**	**-0.5**
PHC				Sn	**Sn**	**19 23 27.8**	**+0.7**
GDR	**Gold River**	**1.40**	**75**	Pn	**Pn**	**19 23 09.2**	**-1.0**
TOFB	**Tofino**	**1.48**	**101**	Pn	**Pn**	**19 23 09.2**	**-2.1**
TOFB				Sn	**Sn**	**19 23 28.2**	**-2.2**
BTB	**Buttle Lake**	**1.69**	**88**	Pn	**Pn**	**19 23 13.2**	**-1.3**
BTB				Sn	**Sn**	**19 23 35.9**	**-0.3**
B012	**Ucluelet**	**1.77**	**106**	Pn	**Pn**	**19 23 13.2**	**-2.1**
B012				Sn	**Sn**	**19 23 34.7**	**-2.9**
OZB	**Mount Ozzard**	**1.79**	**105**	Pn	**Pn**	**19 23 13.3**	**-2.3**
OZB				Sn	**Sn**	**19 23 35.2**	**-3.0**
CBB	**Campbell River**	**1.88**	**71**	Pn	**Pn**	**19 23 16.9**	**0.0**
BFSB	**Bamfield**	**2.05**	**106**	Sn	**Sn**	**19 23 41.4**	**-3.2**
B928	**Bamfield**	**2.05**	**106**	Pn	**Pn**	**19 23 17.1**	**-2.1**
B928				Sn	**Sn**	**19 23 41.2**	**-3.4**
B927	**Port Alberni**	**2.17**	**95**	Pn	**Pn**	**19 23 19.6**	**-1.2**
B927				Sn	**Sn**	**19 23 46.3**	**-1.3**
MGB	**Mount Grey**	**2.29**	**100**	Pn	**Pn**	**19 23 20.7**	**-1.9**
MGB				Sn	**Sn**	**19 23 49.0**	**-1.8**
TXB	**Texada**	**2.41**	**83**	Pn	**Pn**	**19 23 23.7**	**-0.5**
GHNB	**Nanoose**	**2.54**	**92**	Pn	**Pn**	**19 23 25.6**	**-0.3**
GHNB				Sn	**Sn**	**19 23 57.2**	**+0.5**
OCP	**Olym-Cheeka Pk**	**2.58**	**115**	Pn	**Pn**	**19 23 24.1**	**-2.4**
B926	**Mesachie Lake**	**2.69**	**102**	Pn	**Pn**	**19 23 26.5**	**-1.6**
B926				Sn	**Sn**	**19 23 58.8**	**-1.7**
NLLB	**Nanaimo Lost L**	**2.71**	**93**	Pn	**Pn**	**19 23 28.0**	**-0.2**
BBB	**Bella Bella**	**2.74**	**0**	Pn	**Pn**	**19 23 28.8**	**0.0**
	356nm,0.3s,baz=198,slow=13,SNR=3786						
BBB				LR	LR	19 23 57.2	
	comp=Z,1μm,19.9s,baz=280,slow=26						
BBB				Sn	**Sn**	**19 24 00.8**	**-0.9**
	555nm,0.3s,baz=272,slow=18,SNR=25						
BBB				Lg	Lg	19 24 11.2	
	369nm,0.3s,baz=235,slow=19,SNR=5.3						
BBB	**Bella Bella**	**2.74**	**0**	Pn	**Pn**	**19 23 28.2**	**-0.5**
BBB				Sn	**Sn**	**19 24 00.9**	**-0.8**
BBB	**Bella Bella**	**2.74**	**0**		**Pn**	**19 23 28.2**	**-0.5**
BBB				Sn	**Sn**	**19 24 00.8**	**-0.9**
SHB	**Sechelt**	**2.77**	**85**	Pn	**Pn**	**19 23 28.7**	**-0.5**
OBC	**Olympics--Boni**	**3.02**	**116**	Pn	**Pn**	**19 23 31.2**	**-1.5**
GOBB	**Galiano Island**	**3.06**	**98**	Pn	**Pn**	**19 23 33.5**	**+0.4**
BIB	**Bowen Island**	**3.14**	**89**	Pn	**Pn**	**19 23 33.6**	**-0.5**
B010	**North Saanich**	**3.17**	**103**	Pn	**Pn**	**19 23 33.8**	**-0.8**
B010				Sn	**Sn**	**19 24 11.8**	**-0.5**
B009	**North Saanich**	**3.17**	**103**	Pn	**Pn**	**19 23 33.8**	**-0.8**
B009				Sn	**Sn**	**19 24 11.7**	**-0.6**
PGC	**Sidney**	**3.17**	**103**	Pn	**Pn**	**19 23 33.9**	**-0.7**
PGC				Sn	**Sn**	**19 24 11.6**	**-0.7**
PGC	**Sidney**	**3.17**	**103**		**Pn**	**19 23 33.9**	**-0.7**
PGC				Sn	**Sn**	**19 24 11.5**	**-0.7**
PA12	**PA12 Sannich**	**3.17**	**103**	Pn	**Pn**	**19 23 33.9**	**-0.7**
PA12				Sn	**Sn**	**19 24 11.7**	**-0.6**
B011	**North Saanich**	**3.17**	**103**	Pn	**Pn**	**19 23 33.9**	**-0.8**
B011				Sn	**Sn**	**19 24 11.8**	**-0.5**
WPB	**Watts Point**	**3.20**	**84**	Pn	**Pn**	**19 23 35.4**	**+0.4**
STW	**Striped Peak**	**3.21**	**112**	Pn	**Pn**	**19 23 33.4**	**-1.8**
SNB	**Saturna Island**	**3.32**	**100**	Pn	**Pn**	**19 23 36.4**	**-0.3**
VGZ	**Gonzales**	**3.32**	**106**	Pn	**Pn**	**19 23 35.2**	**-1.5**
VGZ				Sn	**Sn**	**19 24 15.0**	**-1.0**
WSLR	**Whistler**	**3.44**	**77**	Pn	**Pn**	**19 23 38.9**	**+0.6**
HG4B	**Hotspring**	**3.46**	**327**	Pn	**Pn**	**19 23 37.0**	**-1.5**
HG4B				Sn	**Sn**	**19 24 17.0**	**-2.3**
NLWA	**Neilton Lookou**	**3.50**	**124**		**Pn**	**19 23 37.1**	**-2.1**
MCW	**Mount Constitu**	**3.56**	**100**	Pn	**Pn**	**19 23 40.2**	**+0.2**
A04D	**Lummi Island**	**3.63**	**99**	P		19 23 39.9	
	baz=283						
BLN	**Blyn Mountain**	**3.70**	**111**	Pn	**Pn**	**19 23 40.5**	**-1.4**
WISH	**Wishkah**	**3.72**	**127**	Pn	**Pn**	**19 23 42.3**	**+0.1**
WISH				Sn	**Sn**	**19 24 21.4**	**-4.5**
HDW	**Hoodsport**	**3.81**	**116**	Pn	**Pn**	**19 23 42.3**	**-1.3**
D03D	**Eldon**	**3.85**	**118**	P		19 23 43.3	
	baz=301						
VDB	**Vedder Mountai**	**3.96**	**94**	Pn	**Pn**	**19 23 45.6**	**+0.1**
A05A	**Maple Falls**	**3.98**	**94**	Pn	**Pn**	**19 23 46.1**	**+0.4**
A05A	**Maple Falls**	**3.98**	**94**		**Pn**	**19 23 44.8**	**-0.9**
GNW	**Green Mountain**	**3.99**	**116**	Pn	**Pn**	**19 23 46.4**	**+0.5**
CMW	**Cultus Mountai**	**4.08**	**102**	Pn	**Pn**	**19 23 48.1**	**+0.9**
MBW	**Mount Baker**	**4.14**	**97**	Pn	**Pn**	**19 23 48.6**	**+0.6**
B05A	**Bryant**	**4.15**	**104**	P		19 23 47.8	
	baz=288,SNR=22						
LLLB	**Lillooet**	**4.18**	**71**	Pn	**Pn**	**19 23 49.3**	**+0.7**
E03A	**Lebam**	**4.21**	**132**	Pn	**Pn**	**19 23 47.9**	**-1.1**
E03A	**Lebam**	**4.21**	**132**		**Pn**	**19 23 47.5**	**-1.5**
JCW	**Jim Creek**	**4.28**	**105**	Pn	**Pn**	**19 23 49.3**	**-0.6**
UBRB	**Upper Baezaeko**	**4.28**	**35**	Pn	**Pn**	**19 23 51.3**	**+1.3**
HG1B	**Mitchell Dam**	**4.31**	**326**	Pn	**Pn**	**19 23 49.8**	**-0.5**
BNAB	**Bonilla**	**4.35**	**340**	Pn	**Pn**	**19 23 49.5**	**-1.2**
HOPB	**Hope**	**4.37**	**88**	Pn	**Pn**	**19 23 51.5**	**+0.4**
MOBC	**Moresby Island**	**4.42**	**328**	Pn	**Pn**	**19 23 49.8**	**-2.1**
RPW	**Rockport**	**4.46**	**100**	Pn	**Pn**	**19 23 52.7**	**+0.3**
B06A	**Marblemount**	**4.46**	**99**	Pn	**Pn**	**19 23 52.7**	**+0.3**
B06A	**Marblemount**	**4.46**	**99**		**Pn**	**19 23 51.4**	**-1.0**
J28D	**J28D**	**4.47**	**171**	S	**Sn**	**19 24 39.2**	**-4.4**
J28D				P	**Pn**	**19 23 54.2**	**+2.1**
GRNB	**Grenville Isla**	**4.55**	**346**	Pn	**Pn**	**19 23 53.0**	**-0.7**
GRNB				Sn	**Sn**	**19 24 45.1**	**-1.3**
C05A	**Tolt Reservoir**	**4.61**	**110**	Pn	**Pn**	**19 23 53.8**	**-0.7**
DIB	**Dawson Inlet,**	**4.65**	**326**	Pn	**Pn**	**19 23 52.9**	**-2.0**
DIB	**Dawson Inlet,**	**4.65**	**326**		**Pn**	**19 23 53.5**	**-1.4**
H02S1	**DAWSON INLET T**	**4.65**	**326**	Pn	**Pn**	**19 23 52.7**	**-2.2**
H02S1				Sn	**Sn**	**19 24 47.0**	**-1.7**
KITB	**Kitimat**	**4.65**	**356**	Pn	**Pn**	**19 23 55.6**	**+0.7**
KITB				Sn	**Sn**	**19 24 49.7**	**+1.0**
D05A	**Enumclaw**	**4.67**	**117**	Pn	**Pn**	**19 23 56.4**	**+1.1**
D05A	**Enumclaw**	**4.67**	**117**		**Pn**	**19 23 55.9**	**+0.6**
E04D	**Cinebar**	**4.71**	**126**	P		19 23 56.2	
	baz=310						
J27D	**J27D**	**4.76**	**164**	S	**Sn**	**19 24 55.9**	**+5.0**
J27D				P	**Pn**	**19 23 56.4**	**+0.2**
GPW	**Glacier Peak**	**4.80**	**103**	Pn	**Pn**	**19 23 57.5**	**+0.2**
FMW	**Mount Fremont**	**4.99**	**118**	Pn	**Pn**	**19 24 00.3**	**+0.5**
LON	**Longmire**	**5.01**	**120**	Pn	**Pn**	**19 23 58.2**	**-1.8**
LON	**Longmire**	**5.01**	**120**	P	**Pn**	**19 23 58.5**	**-1.5**
LON	**Longmire**	**5.01**	**120**		**Pn**	**19 23 58.5**	**-1.5**
C06D	**Leavenworth**	**5.02**	**105**	P		19 23 58.8	
	baz=290						
RUBB	**Prince Rupert**	**5.06**	**346**	Pn	**Pn**	**19 24 00.1**	**-0.5**
J20D	**J20D**	**5.13**	**172**	S	**Sn**	**19 24 59.2**	**-0.9**
J20D				P	**Pn**	**19 24 02.5**	**+1.3**
MASB	**Masset**	**5.18**	**334**	Pn	**Pn**	**19 24 01.4**	**-0.8**
G03D	**McMinnville, O**	**5.37**	**140**	P		19 24 03.7	
	baz=324						
J19D	**J19D**	**5.42**	**166**	S	**Sn**	**19 25 09.4**	**+2.2**
J19D				P	**Pn**	**19 24 04.3**	**-0.8**
LTY	**Liberty**	**5.42**	**111**	Pn	**Pn**	**19 24 05.5**	**-0.1**
LTY	**Liberty**	**5.42**	**111**		**Pn**	**19 24 05.4**	**-0.3**
PNT	**Penticton**	**5.55**	**88**	Pn	**Pn**	**19 24 07.6**	**+0.2**
FSB	**Fort Saint Jam**	**5.56**	**23**	Pn	**Pn**	**19 24 09.0**	**+1.6**
LIB	**Langara Island**	**5.71**	**329**	Pn	**Pn**	**19 24 09.0**	**-0.4**
F05D	**White Salmon**	**5.74**	**126**	P		19 24 11.0	
	baz=310,SNR=9.0						
COR	**Corvallis**	**5.87**	**144**	P	**Pn**	**19 24 10.9**	**-0.8**
COR	**Corvallis**	**5.87**	**144**		**Pn**	**19 24 10.9**	**-0.8**
B08A	**Colville Reser**	**5.89**	**97**	Pn	**Pn**	**19 24 12.3**	**+0.2**
B08A	**Colville Reser**	**5.89**	**97**		**Pn**	**19 24 11.1**	**-1.0**
J11D	**J11D**	**6.03**	**168**	S	**Sn**	**19 25 24.6**	**+2.5**
J11D				P	**Pn**	**19 24 13.8**	**+0.3**
I02D	**Swisshome**	**6.09**	**150**	P		19 24 14.4	
	baz=332,SNR=7.1						
H04D	**Lebanon**	**6.15**	**141**	P		19 24 15.2	
	baz=325,SNR=21						
BLBC	**Blue River**	**6.21**	**62**	Pn	**Pn**	**19 24 18.2**	**+1.7**
G05D	**Wamic, OR**	**6.25**	**130**	P		19 24 14.9	
	baz=314						
E07A	**Sunnyside**	**6.25**	**114**		**Pn**	**19 24 15.2**	**-1.7**
H04A	**Detroit Lake**	**6.25**	**137**		**Pn**	**19 24 15.4**	**-1.6**
F07A	**Phinny Hill Vi**	**6.57**	**120**		**Pn**	**19 24 20.3**	**-1.0**
D08A	**Wollman Farm,**	**6.59**	**108**		**Pn**	**19 24 20.8**	**-0.8**
I03D	**Drain, OR**	**6.62**	**148**	P		19 24 21.9	
	baz=332,SNR=10						
SLEB	**Sale Mountain**	**6.62**	**71**	Pn	**Pn**	**19 24 23.9**	**+1.6**
C09A	**Chrisman Ranch**	**6.73**	**100**	Pn	**Pn**	**19 24 23.7**	**+0.2**
C09A	**Chrisman Ranch**	**6.73**	**100**		**Pn**	**19 24 23.0**	**-0.5**
MNB	**Mounoet Dainar**	**6.75**	**62**	P	**Pn**	**19 24 26.0**	**+1.9**
E08A	**Dider Farm, El**	**6.76**	**112**		**Pn**	**19 24 23.3**	**-0.6**
CRAG	**Craig**	**6.76**	**335**		**Pn**	**19 24 23.1**	**-0.8**
CRAG	**Craig**	**6.76**	**335**	P		19 24 22.7	
	baz=151						
G37D	**G37D**	**6.84**	**175**	S	**Sn**	**19 25 48.6**	**+6.4**
G37D				P	Pn	19 24 30.1	+5.4
I05D	**Terrebonne, OR**	**6.90**	**135**	P		19 24 25.3	
	baz=320						
J01E	**Myrtle Point**	**6.92**	**154**	P		19 24 25.7	
	baz=336,SNR=9.8						
G35D	**G35D**	**6.99**	**170**	S	**Sn**	**19 25 52.6**	**+6.6**
G35D				P	Pn	19 24 31.2	+4.5
G36D	**G36D**	**7.04**	**173**	P	**Pn**	**19 24 29.1**	**+1.8**
G36D				S	**Sn**	**19 25 45.0**	**-1.8**
KEBM	**Edson Butte**	**7.08**	**157**		**Pn**	**19 24 27.8**	**-0.6**
G29D	**G29D**	**7.24**	**177**	S	Sn	19 26 00.6	+8.6
G29D				P	**Pn**	**19 24 31.6**	**+1.5**
NEW	**Newport**	**7.35**	**95**	Pn	**Pn**	**19 24 32.0**	**-0.1**
	5.4nm,0.3s,baz=295,slow=13,SNR=40						
NEW				Sn	**Sn**	**19 25 56.7**	**+1.4**
	1.6nm,0.3s,baz=312,slow=18,SNR=3.5						
NEW				Lg	Lg	19 26 37.9	
	0.8nm,0.3s,baz=240,slow=20,SNR=2.1						
NEW				LR	LR	19 27 31.2	
	comp=Z,2μm,19.4s,baz=278,slow=38						
NEW	**Newport**	**7.35**	**95**		**Pn**	**19 24 31.9**	**-0.2**
NEW	**Newport**	**7.35**	**95**	P		19 24 31.2	
	baz=283,SNR=28						
K02D	**Willamette Mer**	**7.42**	**154**	P		19 24 32.7	
	baz=337,SNR=15						
WRAK	**Wrangell Islan**	**7.44**	**342**		**Pn**	**19 24 33.2**	**+0.1**
WRAK	**Wrangell Islan**	**7.44**	**342**	P		19 24 33.0	
	baz=158,SNR=17						
J04D	**Umpqua Nationa**	**7.47**	**144**	P		19 24 34.1	
	baz=328,SNR=64						
G08A	**Pilot Rock**	**7.48**	**120**		**Pn**	**19 24 33.2**	**-0.7**
PINE	**Pine Mountain**	**7.51**	**136**		**Pn**	**19 24 34.0**	**-0.4**
BMBC	**Bull Mountain**	**7.54**	**26**	Pn	**Pn**	**19 24 37.6**	**+3.0**
HUMO	**Hull Mountain**	**7.72**	**150**		**Pn**	**19 24 36.9**	**-0.3**
NBC4	**NorthernBC 4**	**7.72**	**33**	Pn	**Pn**	**19 24 41.7**	**+4.6**
KBO	**Bosley Butte**	**7.73**	**158**		**Pn**	**19 24 36.9**	**-0.4**
J05D	**Fort Rock, OR**	**7.78**	**140**	P		19 24 37.9	
	baz=325,SNR=31						
L02E	**Cave Junction**	**7.94**	**155**	P		19 24 41.1	
	baz=338,SNR=22						
I07A	**Izee**	**7.98**	**129**		**Pn**	**19 24 40.6**	**-0.2**
G22D	**G22D**	**8.01**	**179**	S	Sn	19 26 20.9	+10
G22D				P	**Pn**	**19 24 43.6**	**+2.9**
G22D				PP	**Pg**	**19 25 20.9**	**+2.6**
G20D	**G20D**	**8.04**	**173**	S	Sn	19 26 21.3	+10
G20D				P	**Pn**	**19 24 42.1**	**+1.0**
F10A	**Beach Ranch, E**	**8.12**	**111**		**Pn**	**19 24 41.6**	**-1.1**
K04D	**Chiloquin, OR**	**8.13**	**145**	P		19 24 43.9	
	baz=329,SNR=14						
L04D	**Klamath Falls**	**8.29**	**149**	P		19 24 45.8	
	baz=333,SNR=25						
G21D	**G21D**	**8.34**	**177**	S	Sn	19 26 31.1	+12
G21D				P	**Pn**	**19 24 46.5**	**+1.4**
K05A	**Summer Lake**	**8.38**	**141**		**Pn**	**19 24 45.5**	**-0.9**
KRMB	**Red Mountain**	**8.46**	**158**		**Pn**	**19 24 46.8**	**-0.5**
YBH	**Yreka Blue Hor**	**8.59**	**152**	Pn	**Pn**	**19 24 50.7**	**+1.5**
	0.6nm,0.3s,baz=332,slow=14,SNR=33						
YBH	**Yreka Blue Hor**	**8.59**	**152**	P	**Pn**	**19 24 48.6**	**-0.5**
YBH	**Yreka Blue Hor**	**8.59**	**152**		**Pn**	**19 24 48.6**	**-0.5**
BMO	**Blue Mountains**	**8.68**	**118**	P	**Pn**	**19 24 50.2**	**-0.2**
BMO	**Blue Mountains**	**8.68**	**118**		**Pn**	**19 24 50.2**	**-0.2**
G13D	**G13D**	**8.70**	**179**	S	Sn	19 26 40.2	+12
G13D				P	**Pn**	**19 24 51.5**	**+1.4**
NBC5	**NorthernBC 5**	**8.71**	**20**	Pn	**Pn**	**19 24 53.1**	**+2.3**
SIT	**Sitka**	**8.76**	**333**	P	**Pn**	**19 24 51.1**	**-0.1**
SIT	**Sitka**	**8.76**	**333**	Pn	**Pn**	**19 24 51.1**	**-0.1**
M04C	**Macdoel**	**8.83**	**148**	P		19 24 54.0	
	baz=332,SNR=47						
G10D	**G10D**	**8.84**	**167**	S	Sn	19 26 50.0	+19
G10D				P	Pn	19 25 02.5	+10
M02C	**Callahan**	**8.86**	**153**	P		19 24 54.8	
	baz=337,SNR=30						
BHMT	**Big Hole Peak**	**8.88**	**97**	Pn	**Pn**	**19 24 53.0**	**-0.2**
J08A	**Circle Bar Ran**	**9.02**	**129**		**Pn**	**19 24 56.4**	**+1.3**
DLBC	**Dease Lake**	**9.08**	**354**	Pn	**Pn**	**19 24 58.4**	**+2.6**
	7.6nm,0.3s,baz=189,slow=12,SNR=162						
DLBC				Sn	**Sn**	**19 26 38.5**	**+0.7**
	1.9nm,0.3s,baz=255,slow=21,SNR=2.0						
DLBC				Lg	Lg	19 27 23.8	
	0.3nm,0.3s,baz=143,slow=20,SNR=3.2						
DLBC				LR	LR	19 28 39.0	
	comp=Z,2μm,21.2s,baz=170,slow=39						
DLBC	**Dease Lake**	**9.08**	**354**	Pn	**Pn**	**19 24 58.7**	**+2.9**
DLBC	**Dease Lake**	**9.08**	**354**		**Pn**	**19 24 58.2**	**+2.5**
JCC	**Jacoby Creek,**	**9.10**	**160**		**Pn**	**19 24 56.0**	**0.0**
KHMM	**Horse Mountain**	**9.11**	**159**		**Pn**	**19 24 57.2**	**+0.9**
N02D	**Trinity Center**	**9.29**	**154**	P		19 25 00.6	
	baz=337,SNR=51						
WALA	**Waterton Lakes**	**9.30**	**87**	Pn	**Pn**	**19 25 00.3**	**+1.4**
WALA	**Waterton Lakes**	**9.30**	**87**		**Pn**	**19 24 59.8**	**+0.9**
G05D7	**G05D7**	**9.30**	**179**	S	Sn	19 27 02.7	+20
MOD	**Modoc Plateau**	**9.31**	**141**		**Pn**	**19 25 01.1**	**+2.0**
JTMT	**Jette**	**9.33**	**95**		**Pn**	**19 24 59.1**	**-0.2**
G04D	**G04D**	**9.34**	**174**	P	Pn	19 25 10.8	+12
G04D				S	Sn	19 27 04.5	+21
G03D7	**G03D7**	**9.49**	**171**	S	Sn	19 27 09.6	+23
G03D7				P	Pn	19 25 10.8	+10
JIS	**Juneau Island**	**9.59**	**340**		**Pn**	**19 25 02.8**	**+0.2**
WVOR	**Wild Horse Val**	**9.63**	**133**	P	**Pn**	**19 25 03.9**	**+0.5**
WVOR	**Wild Horse Val**	**9.63**	**133**		**Pn**	**19 25 03.9**	**+0.5**
WDC	**Whiskeytown Da**	**9.70**	**154**	P	**Pn**	**19 25 05.2**	**+1.0**
WDC	**Whiskeytown Da**	**9.70**	**154**		**Pn**	**19 25 05.2**	**+1.0**
KMRM	**Mail Ridge**	**9.74**	**160**		**Pn**	**19 25 05.0**	**+0.2**
MSO	**Missoula**	**9.83**	**100**		**Pn**	**19 25 05.1**	**-1.1**
MSO	**Missoula**	**9.83**	**100**	P		19 25 06.1	
	baz=290,SNR=9.5						
FNBB	**Fort Nelson**	**9.92**	**16**	Pn	**Pn**	**19 25 09.2**	**+1.9**
BESE	**Bessie Mountai**	**9.97**	**339**		**Pn**	**19 25 07.7**	**-0.2**
NBC6	**NorthernBC 6**	**9.98**	**21**	Pn	**Pn**	**19 25 12.0**	**+4.0**
EDM	**Edmonton**	**9.98**	**62**	Pn	**Pn**	**19 25 09.2**	**+1.1**
O02D	**Mt. Diablo Mer**	**10.01**	**156**	P		19 25 10.5	
	baz=340,SNR=54						
O03E	**Paynes Creek**	**10.18**	**152**	P		19 25 11.8	
	baz=336,SNR=27						
KCPM	**Cahto Peak**	**10.28**	**160**		**Pn**	**19 25 12.3**	**+0.1**
MFID	**Camas Ranch**	**10.40**	**121**		**Pn**	**19 25 13.5**	**-0.5**
NBC2	**NorthernBC 2**	**10.85**	**15**	P	**Pn**	**19 25 21.5**	**+1.6**
SKAG	**Skagway**	**10.87**	**340**		**Pn**	**19 25 20.2**	**+0.1**
SKAG	**Skagway**	**10.87**	**340**	P		19 25 22.3	
	baz=154,SNR=13						
ORV	**Oroville**	**10.95**	**152**	P	**Pn**	**19 25 21.5**	**+0.1**
ORV	**Oroville**	**10.95**	**152**		**Pn**	**19 25 21.5**	**+0.1**
BEKR	**Beckworth**	**11.05**	**147**	Pn	**Pn**	**19 25 24.0**	**+1.1**
HOPS	**Hopland Field**	**11.05**	**159**		**Pn**	**19 25 22.5**	**-0.3**
NBC3	**NorthernBC 3**	**11.08**	**20**	P	**Pn**	**19 25 25.3**	**+2.2**
PLBC	**Pleasant Camp**	**11.11**	**338**	P	**Pn**	**19 25 24.2**	**+0.8**
HLID	**Hailey**	**11.12**	**117**		**Pn**	**19 25 23.6**	**-0.2**
HLID	**Hailey**	**11.12**	**117**	P		19 25 26.1	
	baz=307,SNR=5.7						
LRM	**Limekiln Ridge**	**11.17**	**103**		**Pn**	**19 25 24.2**	**-0.5**
HRY	**Holter Researc**	**11.23**	**98**		**Pn**	**19 25 24.5**	**-0.8**
DLMT	**Dillon**	**11.28**	**105**		**Pn**	**19 25 24.9**	**-1.1**
GDXM	**Geysers**	**11.30**	**158**	Pn	**Pn**	**19 25 25.0**	**-1.2**
MCMT	**McKenzie Canyo**	**11.38**	**108**		**Pn**	**19 25 26.5**	**-0.9**
PAHR	**Pah Rah Range**	**11.55**	**144**		**Pn**	**19 25 30.3**	**+0.6**
AFDM	**Forest Hills D**	**11.67**	**151**		**Pn**	**19 25 32.0**	**+0.7**
BOZ	**Bozeman (W)**	**11.79**	**103**	P	**Pn**	**19 25 32.2**	**-0.6**
BOZ	**Bozeman (W)**	**11.79**	**103**		**Pn**	**19 25 32.4**	**-0.6**
BOZ	**Bozeman (W)**	**11.79**	**103**	P		19 25 32.8	
	baz=295,SNR=6.2						
VCNR	**Virginia City**	**11.81**	**146**		**Pn**	**19 25 34.8**	**+1.5**
RUBR	**Rubicon Trail**	**11.85**	**148**		**Pn**	**19 25 34.6**	**+0.8**
WHY	**Whitehorse**	**11.88**	**344**	P	**Pn**	**19 25 36.2**	**+2.1**
WHY	**Whitehorse**	**11.88**	**344**		**Pn**	**19 25 34.5**	**+0.4**
PNTR	**Pine Nut**	**12.01**	**146**		**Pn**	**19 25 36.3**	**+0.2**
EGMT	**Eagleton**	**12.21**	**90**		**Pn**	**19 25 39.3**	**+0.7**
EGMT	**Eagleton**	**12.21**	**90**	P		19 25 39.2	
	baz=284,SNR=9.6						
YERR	**Yerington**

baz=334
PSUT Pine Spring 14.95 132 Pn Pn 19 26 15.6 -0.6
EYAK Cordova Ski Ar 14.97 325 Pn 19 26 16.0 -0.1
EYAK Cordova Ski Ar 14.97 325 P 19 26 16.4
baz=130
YKA Yellowknife Ar 15.06 25 Pn **Pn 19 26 16.9 -0.4**
0.5nm,0.3s,baz=210,slow=12,SNR=52
YKA Sn **Sn 19 28 57.0 -6.7**
0.1nm,0.3s,baz=210,slow=17,SNR=1.6
YKA Lg Lg 19 30 36.1
baz=197,slow=29,SNR=3.6
YKA LR LR 19 31 30.1
comp=Z,673nm,20.9s,baz=0.0,slow=35
VES Vestal, Richgr 15.12 151 P 19 26 18.0
baz=337
HIN Hinchinbrook I 15.17 323 P **Pn 19 26 19.1 +0.3**
TPNV Topopah Spring 15.17 141 P **Pn 19 26 18.8 -0.3**
TPNV pmax pmax
comp=Z,85nm,1.1s
TPNV Topopah Spring 15.17 141 Pn 19 26 18.8 -0.3
TPNV IAmb IAmb 19 26 33.9
comp=Z,85nm,1.1s
TPNV Topopah Spring 15.17 141 P 19 26 19.8
baz=329,SNR=21
N25K Chitina, Valde 15.28 329 Pn 19 26 19.7 -0.7
N25K IAmb IAmb 19 26 29.0
comp=Z,83nm,1.0s
N25K Chitina, Valde 15.28 329 P 19 26 21.5
baz=136,SNR=19
PRN Pahroc Range 15.30 137 Pn 19 26 20.0 -0.7
SMMC Simmler 15.33 154 P 19 26 21.2
baz=340
FURC Furnace Creek, 15.34 144 P 19 26 21.8
baz=331
FID Port Fidalgo 15.38 324 P **Pn 19 26 20.9 -0.7**
FID IAmb IAmb 19 26 29.6
comp=Z,118nm,1.0s
MPMC Manual Prospec 15.47 146 P 19 26 24.1
baz=333,SNR=37
ISA Isabella, Lake 15.48 149 P **Pn 19 26 22.3 -0.8**
ISA pmax pmax
comp=Z,96nm,1.1s
ISA Isabella, Lake 15.48 149 Pn 19 26 22.3 -0.8
ISA IAmb IAmb 19 26 36.8
comp=Z,96nm,1.1s
ISA Isabella, Lake 15.48 149 P 19 26 24.9
baz=336,SNR=12
BCAR Beaver Creek A 15.57 336 Pn **Pn 19 26 24.8 +0.7**
L27K Beaver Creek, 15.57 336 Pn **Pn 19 26 25.1 +0.9**
L27K IAmb IAmb 19 26 32.4
comp=Z,166nm,1.4s
KLU Klutina 15.66 327 Pn **Pn 19 26 24.8 -0.5**
KLU IAmb IAmb 19 26 33.0
comp=Z,95nm,0.9s
KLU Klutina 15.66 327 P 19 26 24.8
baz=132,SNR=21
GLI Glacier Island 15.70 324 Pn **Pn 19 26 24.8 -0.9**
GLI IAmb IAmb 19 26 32.7
comp=Z,89nm,1.0s
GLI Glacier Island 15.70 324 P 19 26 25.2
baz=128,SNR=5.7
DGMT Dagmar 15.73 84 Pn **Pn 19 26 24.8 -1.5**
DGMT IAmb IAmb 19 26 33.7
comp=Z,65nm,1.0s
DGMT Dagmar 15.73 84 P 19 26 25.5
baz=282,SNR=11
PKM Mcpherson Peak 15.78 154 P 19 26 25.7
baz=340
RDMU Red Mountain 15.80 117 Pn **Pn 19 26 27.3 -0.1**
MSU Marysvale 15.81 128 P **Pn 19 26 27.1 -0.4**
MSU Marysvale 15.81 128 Pn **Pn 19 26 27.1 -0.4**
ARVC Arvin 15.85 151 P 19 26 27.7
baz=337
DAWY Dawson 15.86 342 P **Pn 19 26 29.2 +1.3**
DAWY Dawson 15.86 342 Pn **Pn 19 26 27.9 0.0**
DAWY IAmb IAmb 19 26 35.5
comp=Z,90nm,1.1s
P17A Butcher Ranch, 15.88 122 Pn **Pn 19 26 27.5 -0.8**
LRMC Laurel Mtn Rad 15.92 147 P 19 26 29.2
baz=334
CCUT Cedar City 15.96 133 Pn **Pn 19 26 27.5 -2.0**
MENT Mentasta 16.00 333 Pn 19 26 29.7 +0.1
MENT IAmb IAmb 19 26 37.2
comp=Z,101nm,1.2s
SHPR Sheep Range 16.00 139 Pn **Pn 19 26 29.3 -0.7**
Q16A Castle Valley 16.04 125 Pn **Pn 19 26 29.9 -0.6**
SZCU Shurtz Canyon 16.06 132 Pn **Pn 19 26 29.6 -1.1**
SHOC Shoshone, Teco 16.07 143 P 19 26 31.0
baz=331,SNR=14
MTPU Mount Pierson 16.16 129 Pn **Pn 19 26 30.6 -1.5**
PWL Port Wells 16.17 323 Pn **Pn 19 26 30.1 -1.7**
PWL IAmb IAmb 19 26 38.1
comp=Z,67nm,1.0s
M24K Tolsona, Glenn 16.17 328 P 19 26 33.1
baz=134
SEW Seward 16.21 319 P 19 26 31.5
baz=122
SBC Santa Barbara 16.23 154 P 19 26 32.1
baz=340
SRU San Rafael Swe 16.25 123 P **Pn 19 26 32.5 -0.7**
SRU pmax pmax
comp=Z,21nm,0.9s
SRU San Rafael Swe 16.25 123 Pn **Pn 19 26 32.5 -0.7**
EDW2 Edwards Air Fo 16.35 149 P 19 26 33.6
baz=336,SNR=12
OSI Osito Audit: C 16.36 151 Pn **Pn 19 26 33.7 -0.7**
OSI IAmb IAmb 19 26 58.0
comp=Z,109nm,1.4s
OSI Osito Audit: C 16.36 151 P 19 26 34.6
baz=338
SCM Sheep Creek Mo 16.39 326 P **Pn 19 26 34.7 0.0**
SCM pmax pmax
comp=Z,104nm,1.0s
SCM Sheep Creek Mo 16.39 326 Pn **Pn 19 26 34.7 0.0**
SCM IAmb IAmb 19 26 44.8
comp=Z,104nm,1.0s
GSC Goldstone, Bar 16.39 145 P 19 26 35.8
baz=333,SNR=12
K22A Casper 16.43 106 Pn **Pn 19 26 34.6 -0.8**
K22A IAmb IAmb 19 26 49.3
comp=Z,110nm,1.2s
K22A Casper 16.43 106 P 19 26 33.5
baz=302,SNR=15
K27K Chicken 16.44 338 Pn **Pn 19 26 35.5 +0.3**
LCMT Little Creek M 16.45 133 Pn **Pn 19 26 35.3 -0.4**
O22K Cooper Landing 16.52 320 P 19 26 36.4
baz=122
RWWY Rawlins 16.53 110 Pn **Pn 19 26 36.0 -0.8**
RWWY IAmb IAmb 19 26 50.9
comp=Z,73nm,1.1s
KNK Knik Glacier 16.55 324 P 19 26 35.4
baz=127,SNR=47
PAX Paxson 16.55 331 P **Pn 19 26 35.7 -1.0**
PAX pmax pmax
comp=Z,88nm,1.2s
PAX Paxson 16.55 331 Pn **Pn 19 26 35.7 -1.0**
PAX IAmb IAmb 19 26 40.6
comp=Z,88nm,1.2s
PAX Paxson 16.55 331 P 19 26 38.0
baz=137,SNR=37
PKCU Pink Cliffs 16.56 130 Pn **Pn 19 26 36.2 -1.0**
BRSE Bradley Lake S 16.59 317 P 19 26 37.0
baz=119
KNB Kanab 16.65 133 P **Pn 19 26 37.2 -1.0**
KNB pmax pmax
comp=Z,52nm,1.4s
KNB Kanab 16.65 133 Pn **Pn 19 26 37.1 -1.0**
DOT Dot Lake 16.65 335 Pn **Pn 19 26 38.2 +0.3**
DOT IAmb IAmb 19 26 41.6
comp=Z,93nm,1.1s
BRLK Bradley Lake 16.66 317 Pn **Pn 19 26 37.7 -0.3**
KDAK Kodiak Island 16.67 309 LR LR 19 31 12.5
comp=Z,976nm,20.6s,baz=130,slow=31
KDAK Kodiak Island 16.67 309 *i* P **Pn 19 26 38.0 -0.1**
KDAK pmax pmax
comp=Z,49nm,1.1s
SCZ2 Santa Cruz Isl 16.67 155 P 19 26 39.3
baz=340,SNR=5.5
CNPM China Poot 16.71 316 Pn **Pn 19 26 38.2 -0.4**
SML Sawmill 16.74 325 Pn **Pn 19 26 38.5 -0.6**
SML IAmb IAmb 19 26 45.0
comp=Z,120nm,1.3s
SML Sawmill 16.74 325 P 19 26 39.0
baz=129,SNR=8.5
OHAK Old Harbor 16.85 307 P 19 26 40.0
baz=107

FFC Flin Flon 16.86 62 P **Pn 19 26 38.5 -2.1**
FFC pmax pmax
comp=Z,394nm,0.8s
FFC Flin Flon 16.86 62 Pn **Pn 19 26 38.5 -2.1**
O20A White River Ci 16.86 116 Pn **Pn 19 26 40.0 -0.9**
O20A IAmb IAmb 19 26 53.8
comp=Z,91nm,1.4s
O20A White River Ci 16.86 116 P 19 26 38.4
baz=310
RC01 Rabbit Creek A 16.86 322 Pn **Pn 19 26 40.3 -0.3**
RC01 IAmb IAmb 19 26 46.0
comp=Z,122nm,1.4s
RC01 Rabbit Creek A 16.86 322 P 19 26 40.2
baz=124,SNR=6.4
EGAK Eagle 16.86 341 P **P 19 26 42.5 -0.1**
EGAK IAmb IAmb 19 26 44.2
comp=Z,102nm,1.1s
EGAK Eagle 16.86 341 P 19 26 41.4
baz=150,SNR=39
SCRK Sand Creek 16.89 335 P **P 19 26 42.3 -0.7**
SCRK Sand Creek 16.89 335 P 19 26 42.6
baz=142,SNR=43
PMR Palmer 16.91 324 P **P 19 26 42.8 -0.3**
PMR pmax pmax
comp=Z,88nm,1.3s
PMR Palmer 16.91 324 P **P 19 26 42.8 -0.3**
PMR Palmer 16.91 324 P 19 26 43.2
baz=127,SNR=6.4
MWC Mount Wilson 16.93 150 P **Pn 19 26 41.0 -0.8**
MWC pmax pmax
comp=Z,99nm,1.1s
MWC Mount Wilson 16.93 150 Pn **Pn 19 26 41.0 -0.8**
MWC IAmb IAmb 19 26 52.7
comp=Z,99nm,1.1s
PASC Pasadena Art C 16.94 151 P **P 19 26 42.8 -0.8**
PASC IAmb IAmb 19 26 51.7
comp=Z,77nm,0.9s
GHO Glory Hole Cre 16.94 325 P **P 19 26 43.1 -0.5**
HEC Hector,Ludlow 16.99 145 P 19 26 43.2
baz=333,SNR=23
WAT6 Susitna Watana 17.03 328 P 19 26 42.6
baz=132,SNR=22
BFSC Mount Baldy Ra 17.05 149 P 19 26 43.6
baz=336,SNR=15
BBRC Big Bear Solar 17.28 147 P 19 26 45.3
baz=335
GMRC Granite Mounta 17.29 143 P 19 26 46.6
baz=332,SNR=19
RSSD Black Hills 17.30 99 P **Pn 19 26 45.8 -0.6**
RSSD pmax pmax
comp=Z,50nm,0.9s
RSSD Black Hills 17.30 99 Pn **Pn 19 26 45.8 -0.6**
RSSD Black Hills 17.30 99 P 19 26 44.9
baz=296
SNCC San Nicolas Is 17.40 155 P 19 26 48.2
baz=341
SUA Susitna One 17.48 322 P **P 19 26 49.1 -0.4**
SUA IAmb IAmb 19 26 53.4
comp=Z,100nm,1.0s
SUA Susitna One 17.48 322 P 19 26 47.6
baz=123,SNR=17
EPYK Eagle Plains 17.55 348 P **P 19 26 50.1 0.0**
EPYK Eagle Plains 17.55 348 P 19 26 49.8
baz=161,SNR=61
WAT2 Susitna Watana 17.57 328 P 19 26 49.5
baz=131,SNR=17
CIS Catalina Islan 17.58 152 P 19 26 50.4
baz=339
PV22 Blue Mesa, Par 17.62 121 Pn 19 26 49.9 -0.5
PV04 Paradox Valley 17.66 122 Pn **Pn 19 26 50.1 -0.7**
PV17 East Wray Mesa 17.70 122 Pn **Pn 19 26 50.5 -0.9**
PV16 Nyswonger Mesa 17.71 122 Pn **Pn 19 26 50.4 -1.1**
NEE2 Needles Airpor 17.72 141 P 19 26 51.2
baz=330
PV11 David Mesa, Pa 17.74 122 Pn 19 26 51.0 -0.8
W13A Hualapai Mount 17.74 139 Pn **Pn 19 26 50.5 -1.5**
PV12 Saucer Basin, 17.77 121 Pn **Pn 19 26 51.0 -1.2**
N23A Red Feather La 17.77 110 P 19 26 51.1
baz=306,SNR=5.5
PV05 Paradox Valley 17.77 123 Pn 19 26 51.7 -0.6
MURC Murrieta 17.79 149 P 19 26 52.1
baz=336
RSO Redoubt South 17.82 318 P **Pn 19 26 52.3 -0.3**
CUT Chulitna 17.83 325 P 19 26 53.2
baz=127,SNR=12
PHWY Pilot Hill 17.83 109 Pn **Pn 19 26 52.0 -1.1**
PHWY IAmb IAmb 19 27 05.2
comp=Z,65nm,0.9s
BELC Belle Mtn. Jos 17.85 145 P 19 26 52.4
baz=333,SNR=28
PV13 Radium Mtn., P 17.87 122 P **P 19 26 53.5 -0.6**
PV02 Paradox Valley 17.88 122 P **P 19 26 53.8 -0.4**
PV15 Paradox Valley 17.93 121 P **P 19 26 54.1 -0.7**
SCI2 San Clemente I 17.93 153 P 19 26 53.8
baz=339
SPCR Spurr Chakacha 17.94 320 P 19 26 53.7
baz=120
RND Reindeer 17.96 329 P **Pn 19 26 54.3 +0.1**
RND pmax pmax
comp=Z,124nm,1.3s
RND Reindeer 17.96 329 P **Pn 19 26 54.3 +0.1**
RND IAmb IAmb 19 26 58.2
comp=Z,124nm,1.3s
PV01 Paradox Valley 18.02 121 P **Pn 19 26 55.1 -0.3**
PFO Pinyon Flats O 18.03 147 P **P 19 26 56.7 +0.9**
comp=Z,0.3nm,0.3s,baz=348,slow=9.2,SNR=5.4
PFO LR LR 19 33 20.4
comp=Z,500nm,18.8s,baz=328,slow=35
PFO Pinyon Flats O 18.03 147 *i* P **P 19 26 57.4 +1.6**
PFO pmax pmax
comp=Z,24nm,0.9s
PFO Pinyon Flats O 18.03 147 P **P 19 26 55.1 -0.8**
PFO Pinyon Flats O 18.03 147 P 19 26 55.0
baz=335
XPFO Pion Flat 18.03 147 P **P 19 26 55.2 -0.7**
IRM Iron Mountain 18.04 143 P 19 26 53.6
baz=332,SNR=14
TPFO Pinon Flats 18.04 147 P 19 26 55.3
baz=335
HDA Harding Lake 18.06 333 P 19 26 53.7
baz=137,SNR=16
HDA P 19 26 53.7
baz=137,SNR=16
SKT Skwentna 18.07 323 P **P 19 26 56.3 +0.3**
SKT Skwentna 18.07 323 P 19 26 54.0
baz=123,SNR=9.8
DHRN Dharma Camp 18.18 11 P **P 19 26 57.7 +0.7**
MCK McKinley 18.20 330 P 19 26 54.7
baz=132,SNR=16
IL31 18.31 334 P **Pn 19 26 57.1 -1.3**
ILAR Eielson Array 18.31 334 P **P 19 26 59.9 +1.3**
comp=Z,0.6nm,0.3s,baz=150,slow=10,SNR=109
ILAR PcP **PcP 19 31 28.7 -0.8**
comp=Z,0.1nm,0.3s,baz=198,slow=1.6,SNR=6.7
ILAR Lg Lg 19 32 34.4
comp=Z,0.1nm,0.3s,baz=125,slow=31,SNR=1.2
ILAR LR LR 19 33 20.3
comp=Z,893nm,21.9s,baz=144,slow=35
ILAR Eielson Array 18.31 334 P **Pn 19 26 57.5 -1.0**
ILAR Eielson Array 18.31 334 P **Pn 19 26 57.5 -1.0**
PDMCI Parker Dam,Lak 18.32 140 P 19 26 59.3
baz=330
BC3 Big Chuckawall 18.36 145 P 19 26 59.7
baz=333,SNR=8.8
WRH Wood River Hil 18.45 332 P **P 19 26 59.7 -0.3**
TRF Thorofare Moun 18.48 328 P 19 27 01.5
baz=132,SNR=28
CCB Clear Creek Bu 18.49 333 P **P 19 26 60.0 -0.5**
CCB IAmb IAmb 19 27 04.4
comp=Z,119nm,1.3s
E28A Huff 18.53 88 P **P 19 26 59.4 -1.8**
E28A IAmb IAmb 19 27 09.0
comp=Z,228nm,1.4s
WUAZ Wupatki 18.55 132 P 19 27 01.2
baz=324,SNR=6.9
ISCO Idaho Springs 18.63 113 P **P 19 27 02.3 -0.3**
ISCO pmax pmax
comp=Z,27nm,1.2s
ISCO Idaho Springs 18.63 113 P **P 19 27 02.3 -0.3**
ISCO Idaho Springs 18.63 113 P 19 27 02.9
baz=309,SNR=8.3
COLA College 18.67 333 *d* P **Pn 19 27 03.7 +0.9**
COLA pmax pmax
comp=Z,50nm,1.2s
COLA College 18.67 333 P **P 19 27 02.4 -0.1**
COLA IAmb IAmb 19 27 06.6
comp=Z,168nm,1.4s
COLA College 18.67 333 P 19 27 03.0
baz=137
TCOL CIGO, UAF Yank 18.67 333 P **P 19 27 02.5 +0.1**
TCOL IAmb IAmb 19 27 06.6
comp=Z,154nm,1.4s
TCOL CIGO, UAF Yank 18.67 333 P 19 27 03.2
baz=137
MONP2 Monument Peak 18.70 148 P 19 27 01.7
baz=336,SNR=22
POKR Poker Plat Res 18.72 334 P 19 27 04.3
baz=138,SNR=29
MVCO Mesa Verde 18.73 123 P **Pn 19 27 03.4 -0.6**
MVCO Mesa Verde 18.73 123 P 19 27 03.1
baz=317
KTH Kantishna Hill 18.77 327 P **P 19 27 03.5 -0.2**
KTH IAmb IAmb 19 27 11.2
comp=Z,155nm,1.2s
NEA2 Nenana 18.84 331 P **P 19 27 04.6 +0.3**
NEA2 IAmb IAmb 19 27 09.4
comp=Z,213nm,1.4s
NEA2 Nenana 18.84 331 P 19 27 03.0
baz=134,SNR=37
PPLA Purkeypile 18.84 325 P **P 19 27 04.7 +0.1**
PPLA IAmb IAmb 19 27 11.1
comp=Z,161nm,1.4s
MDM Murphy Dome 18.84 333 P **P 19 27 04.7 +0.3**
MDM IAmb IAmb 19 27 08.8
comp=Z,215nm,1.5s
PPLA Purkeypile 18.84 325 P 19 27 04.6
baz=125,SNR=5.5
MDND Maddock 18.86 84 P **P 19 27 04.5 -0.3**
MDND IAmb IAmb 19 27 06.8
comp=Z,147nm,1.2s
MDND Maddock 18.86 84 P 19 27 01.6
baz=286
SWSC Sam W. Stewart 18.87 146 P 19 27 05.0
baz=334,SNR=6.0
IKP In-Ko-Pah, Jac 19.02 147 P 19 27 05.6
baz=335,SNR=20
INK Inuvik 19.11 354 P **Pn 19 27 08.8 +0.7**
comp=Z,0.6nm,0.3s,baz=164,slow=11,SNR=99
INK Lg Lg 19 32 36.6
comp=Z,0.0nm,0.3s,baz=236,slow=23,SNR=1.3
INK LR LR 19 35 02.7
comp=Z,2μm,19.2s,baz=170,slow=38
INK Inuvik 19.11 354 P **Pn 19 27 08.5 +0.5**
INK Inuvik 19.11 354 P **P 19 27 07.9 +0.6**
INK pmax pmax
comp=Z,113nm,1.1s
INK Inuvik 19.11 354 P **P 19 27 07.9 +0.6**
INK IAmb IAmb 19 27 11.4
comp=Z,113nm,1.1s
BPAW Bear Paw Mtn. 19.13 329 P 19 27 06.9 -0.7
BPAW Bear Paw Mtn. 19.13 329 P 19 27 07.8
baz=129,SNR=66
GLA Glamis 19.14 144 P **P 19 27 07.2 -0.7**
GLA pmax pmax
comp=Z,36nm,0.9s
GLA Glamis 19.14 144 P **P 19 27 07.2 -0.7**
GLA Glamis 19.14 144 P 19 27 07.2
baz=333
CBX Cerro Bola 19.14 149 P **P 19 27 07.3 -0.7**
S22A 4UR Ranch, Cre 19.28 119 P 19 27 07.2
baz=314
I23K Minto, Yukon-K 19.31 332 P **Pn 19 27 10.4 -0.1**
I23K IAmb IAmb 19 27 18.6
comp=Z,98nm,1.5s
I23K Minto, Yukon-K 19.31 332 P 19 27 10.6
baz=134,SNR=16
SVW2 Sparrevohn 19.34 317 P **P 19 27 10.0 +0.1**
SVW2 IAmb IAmb 19 27 13.0
comp=Z,58nm,1.0s
CHUM Lake Minchumin 19.46 327 P 19 27 12.1
baz=127,SNR=76
KUKN Kugluktuk,NWT 19.55 15 P **Pn 19 27 14.4 +0.9**
MLY Manley 19.66 331 P **P 19 27 13.7 +0.3**
MLY Manley 19.66 331 P 19 27 14.9
baz=132,SNR=85
ESJX Sierra Juarez 19.67 148 P **P 19 27 11.7 -2.1**
ESJX IAmb IAmb 19 27 22.4
comp=Z,42nm,0.9s
C36M Paulatuk 20.06 4 P Pn 19 27 19.0 -0.5
C36M Paulatuk 20.06 4 P **P 19 27 17.6 0.0**
C36M Paulatuk 20.06 4 P 19 27 17.4
baz=188,SNR=44
OGNE Ogallala 20.17 105 P **P 19 27 19.0 -0.2**
OGNE IAmb IAmb 19 27 31.4
comp=Z,80nm,1.1s
SUSD Miller 20.46 93 P **P 19 27 22.3 +0.1**
SUSD IAmb IAmb 19 27 32.5
comp=Z,89nm,1.1s
SPX San Pedro Mart 20.72 148 P **P 19 27 23.9 -1.5**
SPX IAmb IAmb 19 27 34.1
comp=Z,75nm,1.0s
ULM Lac du Bonnet 20.73 75 P **P 19 27 25.3 +0.3**
comp=Z,54nm,0.5s,baz=288,slow=11,SNR=80
ULM Lg Lg 19 33 32.5
comp=Z,0.9nm,0.4s,baz=202,slow=19,SNR=1.2
ULM LR LR 19 35 43.3
comp=Z,2μm,19.1s,baz=284,slow=37
ULM Lac du Bonnet 20.73 75 P **P 19 27 25.1 +0.1**
ULM Lac du Bonnet 20.73 75 *i* P **P 19 27 25.7 +0.7**
ULM Lac du Bonnet 20.73 75 P **P 19 27 24.2 -0.8**
ULM IAmb IAmb 19 27 28.2
comp=Z,123nm,1.2s
214A Organ Pipe Nat 20.90 141 P **P 19 27 26.9 -0.2**
214A IAmb IAmb 19 27 35.6
comp=Z,38nm,0.9s
214A Organ Pipe Nat 20.90 141 P 19 27 28.6
baz=331,SNR=18
SFX San Felipe 20.93 147 P **P 19 27 26.7 -0.7**
SFX IAmb IAmb 19 27 35.6
comp=Z,45nm,0.9s
KSCO Kaye Shedlock' 20.94 110 P **P 19 27 27.3 -0.3**
KSCO Kaye Shedlock' 20.94 110 P 19 27 28.0
baz=308,SNR=10
COLD Coldfoot 21.04 336 P **P 19 27 29.3 +0.9**
COLD IAmb IAmb 19 27 32.3
comp=Z,101nm,1.3s
COLD Coldfoot 21.05 336 P 19 27 30.3
baz=137,SNR=54
T25A Trinidad 21.09 117 P **P 19 27 29.3 0.0**
T25A IAmb IAmb 19 27 52.0
comp=Z,43nm,1.1s
T25A Trinidad 21.09 117 P 19 27 27.3
baz=313,SNR=8.6
AGMN Agassiz Nation 21.16 81 P **P 19 27 29.1 -0.7**
AGMN IAmb IAmb 19 27 33.3
comp=Z,62nm,0.9s
AGMN Agassiz Nation 21.17 81 P 19 27 29.6
baz=285,SNR=25
IMAR Indian Mountai 21.23 331 P **P 19 27 29.9 -0.5**
K31A O'Neill 21.40 97 P **P 19 27 32.0 -0.4**
K31A IAmb IAmb 19 27 54.2
comp=Z,87nm,0.8s
TUC Tucson 21.47 136 P **P 19 27 33.6 +0.3**
TUC pmax pmax
comp=Z,39nm,0.9s
TUC Tucson 21.47 136 P **P 19 27 33.6 +0.3**
TUC IAmb IAmb 19 27 42.1
comp=Z,39nm,0.8s
TUC Tucson 21.47 136 P 19 27 33.7
baz=328
ANMO Albuquerque 21.51 124 P **P 19 27 34.0 +0.2**
comp=Z,2.6nm,0.8s,baz=315,slow=11,SNR=8.8
ANMO LR LR 19 36 15.7
comp=Z,460nm,19.9s,baz=310,slow=38
ANMO Albuquerque 21.51 124 *ce* P **P 19 27 34.9 +1.1**
ANMO pmax pmax
comp=Z,19nm,2.5s
ANMO Albuquerque 21.51 124 P **P 19 27 33.0 -0.8**
ANMO Albuquerque 21.51 124 P 19 27 34.6
baz=319
F33A 5 Mile Ranch, 21.65 87 P **P 19 27 33.5 -1.6**
F33A IAmb IAmb 19 27 43.4
comp=Z,86nm,1.1s
FCC Fort Churchill 21.80 52 P **P 19 27 38.1 +1.7**
FCC Fort Churchill 21.80 52 P **P 19 27 37.1 +0.6**
FCC pmax pmax
comp=Z,139nm,0.9s
FCC Fort Churchill 21.80 52 P **P 19 27 37.1 +0.6**
LENM Lemitar 21.83 126 P **P 19 27 35.6 -1.7**
TOLK Toolik Lake Re 21.95 339 P **P 19 27 39.5 +1.3**
TOLK Toolik Lake Re 21.95 339 P 19 27 39.7
baz=140,SNR=70

BNM	**Barren Site**	**22.03**	**126**	P		**P**		**19 27 38.8**	**-0.6**	
EPLO	**Experimental L**	**22.20**	**76**	P		**P**		**19 27 40.8**	**-0.1**	
ECSD	**EROS Data Cent**	**22.29**	**93**	P		**P**		**19 27 41.8**	**-0.1**	
ECSD	**EROS Data Cent**	**22.29**	**93**	P				19 27 41.6		
	baz=296,SNR=62									
BGNE	**Belgrade**	**22.40**	**100**	P		**P**		**19 27 43.3**	**+0.1**	
BGNE	**Belgrade**	**22.40**	**100**	P				19 27 43.0		
	baz=301									
B35A	**Bob, Littlefor**	**22.52**	**80**	P		**P**		**19 27 43.7**	**-0.6**	
B35A				IAmb		IAmb		19 27 51.7		
	comp=Z,44nm,0.7s									
121A	**Cookes Peak, D**	**22.71**	**131**	P				19 27 46.5		
	baz=324									
CBKS	**Cedar Bluff**	**22.84**	**107**	P		**P**		**19 27 47.6**	**-0.3**	
CBKS				pmax		pmax				
	comp=Z,100nm,1.3s									
CBKS	**Cedar Bluff**	**22.84**	**107**	P		**P**		**19 27 47.6**	**-0.3**	
CBKS				IAmb		IAmb		19 28 05.5		
	comp=Z,100nm,1.2s									
CBKS	**Cedar Bluff**	**22.84**	**107**	P				19 27 46.8		
	baz=307									
319A	**Douglas**	**22.94**	**135**	P		**P**		**19 27 48.3**	**-0.7**	
319A				IAmb		IAmb		19 28 06.1		
	comp=Z,44nm,1.1s									
SOLO	**Sioux Lookout**	**23.16**	**75**	P		**P**		**19 27 51.0**	**0.0**	
N33A	**J Bar K, Exete**	**23.20**	**100**	P		**P**		**19 27 51.2**	**-0.3**	
L34A	**Svendsen Farm,**	**23.26**	**97**	P		**P**		**19 27 51.9**	**-0.2**	
F36A	**Milaca**	**23.45**	**86**	P		**P**		**19 27 54.0**	**0.0**	
F36A				IAmb		IAmb		19 28 15.7		
	comp=Z,57nm,0.9s									
R32A	**Long Quarter,**	**23.72**	**107**	P		**P**		**19 27 56.7**	**-0.1**	
R32A				IAmb		IAmb		19 28 05.6		
	comp=Z,39nm,0.8s									
ATKO	**Atikokan Iron**	**23.76**	**77**	P		**P**		**19 27 57.4**	**+0.5**	
PKLO	**Pickle Lake**	**23.95**	**71**	P		**P**		**19 27 58.3**	**-0.4**	
EYMN	**Ely**	**24.07**	**79**	P		**P**		**19 27 58.9**	**-1.0**	
EYMN	**Ely**	**24.07**	**79**	P				19 27 58.3		
	baz=287,SNR=19									
SPMN	**Marine on St.**	**24.16**	**87**	P				19 27 59.6		
	baz=293,SNR=10									
AMTX	**Amarillo**	**24.24**	**117**	P		**P**		**19 28 00.6**	**-1.2**	
AMTX				IAmb		IAmb		19 28 21.1		
	comp=Z,32nm,0.9s									
I37A	**Lemond, Waseca**	**24.26**	**90**	P		**P**		**19 28 01.2**	**-0.6**	
I37A				IAmb		IAmb		19 28 16.0		
	comp=Z,66nm,1.2s									
N35A	**Tabor**	**24.30**	**98**	P		**P**		**19 28 02.5**	**+0.4**	
E38A	**The Farm, Brul**	**24.46**	**83**	P		**P**		**19 28 02.9**	**-0.7**	
E38A				IAmb		IAmb		19 28 30.6		
	comp=Z,87nm,1.4s									
MNTX	**Cornudas Mount**	**24.59**	**128**	P		**P**		**19 28 04.3**	**-0.6**	
MNTX				IAmb		IAmb		19 28 28.8		
	comp=Z,29nm,1.4s									
MNTX	**Cornudas Mount**	**24.59**	**128**	P				19 28 04.4		
	baz=323									
KSU1	**Kansas State U**	**24.65**	**103**	P		**P**		**19 28 05.3**	**0.0**	
KSU1	**Kansas State U**	**24.65**	**103**	P				19 28 05.2		
	baz=305,SNR=5.8									
ANM	**Nome**	**24.81**	**321**	P		**P**		**19 28 06.7**	**+0.2**	
ANM				pmax		pmax				
	comp=Z,26nm,1.0s									
ANM	**Nome**	**24.81**	**321**	P		**P**		**19 28 06.7**	**+0.2**	
ANM				IAmb		IAmb		19 28 09.6		
	comp=Z,26nm,1.0s									
ANM	**Nome**	**24.81**	**321**	P				19 28 06.6		
	baz=110,SNR=17									
U32A	**Winter Ranch,**	**24.83**	**111**	P		**P**		**19 28 06.9**	**-0.1**	
U32A				IAmb		IAmb		19 28 16.7		
	comp=Z,56nm,1.1s									
TBO	**Thunder Bay**	**25.20**	**77**	P		**P**		**19 28 11.5**	**+1.3**	
SRIG	**Santa Rosalia**	**25.25**	**145**	P		**P**		**19 28 09.4**	**-1.3**	
K38A	**Parkersburg**	**25.28**	**92**	P		**P**		**19 28 09.8**	**-1.1**	
SCIA	**State Center**	**25.35**	**94**	P				19 28 09.5		
	baz=299									
CROK	**Carrier**	**25.37**	**109**	P		**P**		**19 28 10.9**	**-0.9**	
RDOG	**Red Dog Mine**	**25.37**	**330**	P		**P**		**19 28 11.0**	**-0.5**	
RDOG	**Red Dog Mine**	**25.37**	**330**	P				19 28 11.4		
	baz=120,SNR=15									
NIKH	**Nikolski High**	**25.52**	**294**	P				19 28 14.4		
	baz=82									
A21K	**Barrow**	**25.57**	**339**	P				19 28 14.1		
	baz=134,SNR=9.6									
G40A	**Rib Lake**	**25.84**	**85**	P		**P**		**19 28 16.4**	**+0.4**	
G40A				IAmb		IAmb		19 28 38.3		
	comp=Z,51nm,1.0s									
N38A	**Joes South For**	**25.90**	**96**	P		**P**		**19 28 16.9**	**+0.4**	
T35A	**Sooner Cattle**	**26.02**	**107**	P		**P**		**19 28 17.6**	**-0.1**	
T35A				IAmb		IAmb		19 28 34.4		
	comp=Z,43nm,0.9s									
WMOK	**Wichita Mounta**	**26.06**	**113**	P		**P**		**19 28 17.8**	**-0.3**	
WMOK				pmax		pmax				
	comp=Z,17nm,1.1s									
WMOK	**Wichita Mounta**	**26.06**	**113**	P		**P**		**19 28 17.8**	**-0.3**	
WMOK	**Wichita Mounta**	**26.06**	**113**	P				19 28 19.2		
	baz=313									
I40A	**Norwalk**	**26.13**	**88**	P		**P**		**19 28 18.9**	**+0.2**	
COWI	**Conover**	**26.21**	**82**	P		**P**		**19 28 19.5**	**+0.1**	
D41A	**Chassel**	**26.24**	**80**	P		**P**		**19 28 20.7**	**+1.2**	
P38A	**Dawn**	**26.33**	**99**	P		**P**		**19 28 20.4**	**-0.1**	
P38A				IAmb		IAmb		19 28 41.6		
	comp=Z,37nm,0.9s									
QUOK	**Quay**	**26.37**	**108**	P		**P**		**19 28 20.9**	**0.0**	
QUOK				IAmb		IAmb		19 28 39.0		
	comp=Z,48nm,1.3s									
GTO	**Geraldton**	**26.44**	**73**	P		**P**		**19 28 23.0**	**+1.6**	
JFWS	**Jewell Farm**	**26.81**	**90**	P				19 28 25.0		
	baz=297,SNR=20									
F42A	**Maple Grove Fa**	**26.99**	**82**	P		**P**		**19 28 25.9**	**-0.4**	
ABTX	**Abilene, Hawle**	**27.04**	**118**	P		**P**		**19 28 26.8**	**-0.2**	
ABTX				IAmb		IAmb		19 28 42.5		
	comp=Z,28nm,1.4s									
PNPO	**Pukaskwa Natio**	**27.20**	**76**	P		**P**		**19 28 29.4**	**+1.2**	
I42A	**Draeger Farm,**	**27.24**	**87**	P		**P**		**19 28 28.2**	**-0.5**	
P40A	**Paris**	**27.34**	**97**	P		**P**		**19 28 29.4**	**-0.2**	
P40A				IAmb		IAmb		19 28 36.6		
	comp=Z,61nm,1.2s									
TX31	**Lajitas Ar. Si**	**27.37**	**128**	P		**P**		**19 28 29.8**	**-0.2**	
TX31				IAmb		IAmb		19 28 51.8		
	comp=Z,29nm,1.1s									
TX32	**Lajitas Array**	**27.37**	**128**	P		**P**		**19 28 30.0**	**0.0**	
TXAR	**Lajitas Array**	**27.37**	**128**	P		**P**		**19 28 31.6**	**+1.6**	
	comp=Z,3.3nm,1.0s,baz=330,slow=7.2,SNR=19									
TXAR				LR		LR		19 39 40.1		
	comp=Z,202nm,18.5s,baz=0.0,slow=37									
TXAR	**Lajitas Array**	**27.37**	**128**	P		**P**		**19 28 29.8**	**-0.2**	
TXAR	**Lajitas Array**	**27.37**	**128**	P		**P**		**19 28 29.8**	**-0.2**	
N41A	**Harden Midland**	**27.49**	**94**	P		**P**		**19 28 30.4**	**-0.5**	
E43A	**Lone Tree Farm**	**27.49**	**81**	P		**P**		**19 28 29.9**	**-1.0**	
S39A	**Bolivar**	**27.57**	**102**	P		**P**		**19 28 30.7**	**-1.0**	
U38A	**Gravette**	**27.65**	**105**	P		**P**		**19 28 31.4**	**-1.1**	
U38A				IAmb		IAmb		19 28 49.4		
	comp=Z,18nm,0.9s									
VIMO	**Victor Mine**	**27.71**	**66**	P		**P**		**19 28 34.3**	**+1.6**	
R40A	**Maddies Statio**	**27.89**	**100**	P		**P**		**19 28 34.1**	**-0.4**	
R40A				IAmb		IAmb		19 28 48.2		
	comp=Z,32nm,0.9s									
JCT	**Junction City**	**28.55**	**121**	P		**P**		**19 28 39.0**	**-1.5**	
JCT				pmax		pmax				
	comp=Z,12nm,1.0s									
JCT	**Junction City**	**28.55**	**121**	P		**P**		**19 28 39.0**	**-1.5**	
JCT	**Junction City**	**28.55**	**121**	P				19 28 39.9		
	baz=320									
MGMO	**Mountain Grove**	**28.56**	**102**	P		**P**		**19 28 39.3**	**-1.2**	
HDIL	**Hopedale**	**28.58**	**93**	P				19 28 40.1		
	baz=301,SNR=12									
U40A	**Yellville**	**28.67**	**104**	P		**P**		**19 28 40.9**	**-0.7**	
U40A				IAmb		IAmb		19 28 52.2		
	comp=Z,47nm,1.1s									
U40A	**Yellville**	**28.67**	**104**	P				19 28 41.5		
	baz=308,SNR=6.1									
CCM	**Cathedral Cave**	**28.69**	**99**	P		**P**		**19 28 40.9**	**-0.7**	
CCM				pmax		pmax				
	comp=Z,32nm,1.0s									
CCM	**Cathedral Cave**	**28.69**	**99**	P		**P**		**19 28 40.9**	**-0.7**	
CCM				IAmb		IAmb		19 28 49.5		
	comp=Z,32nm,1.0s									
CCM	**Cathedral Cave**	**28.69**	**99**	P				19 28 41.8		
	baz=305									
WHTX	**Lake Whitney,**	**28.77**	**116**	P				19 28 41.5		
	baz=316									
W39A	**Magazine**	**28.82**	**107**	P				19 28 41.6		
	baz=310									
LPIG	**La Paz**	**28.89**	**145**	LR		LR		19 39 21.6		
	comp=Z,371nm,18.8s,baz=330,slow=35									
RES	**Resolute Bay**	**28.90**	**18**	P		**P**		**19 28 44.5**	**+1.4**	
	comp=Z,16nm,0.8s,baz=231,slow=9.9,SNR=48									
RES				LR		LR		19 39 52.2		
	comp=Z,249nm,20.1s,baz=244,slow=35									
RES	**Resolute Bay**	**28.90**	**18**	P		**P**		**19 28 44.2**	**+1.1**	
RES	**Resolute Bay**	**28.90**	**18**	P		**P**		**19 28 43.6**	**+0.5**	
RES				pmax		pmax				
	comp=Z,19nm,0.9s									
RES	**Resolute Bay**	**28.90**	**18**	P		**P**		**19 28 43.6**	**+0.5**	
RES				IAmb		IAmb		19 28 45.3		
	comp=Z,19nm,0.8s									
M44A	**Midewin, Midew**	**28.98**	**91**	P		**P**		**19 28 43.5**	**-0.6**	
FVM	**French Village**	**29.26**	**99**	P		**P**		**19 28 46.5**	**-0.2**	
FVM				pmax		pmax				
	comp=Z,23nm,0.7s									
FVM	**French Village**	**29.26**	**99**	P		**P**		**19 28 46.5**	**-0.2**	
FVM				IAmb		IAmb		19 28 55.5		
	comp=Z,23nm,0.7s									
KAPO	**Kapuskasing**	**29.31**	**72**	P		**P**		**19 28 50.5**	**+3.5**	
MIAR	**Mount Ida**	**29.37**	**107**	P		**P**		**19 28 47.5**	**-0.2**	
MIAR				pmax		pmax				
	comp=Z,39nm,1.5s									
MIAR	**Mount Ida**	**29.37**	**107**	P		**P**		**19 28 47.5**	**-0.2**	
MIAR				IAmb		IAmb		19 28 59.6		
	comp=Z,39nm,1.4s									
MIAR	**Mount Ida**	**29.37**	**107**	P				19 28 48.0		
	baz=311									
T42A	**Van Buren**	**29.39**	**101**	P		**P**		**19 28 48.3**	**+0.5**	
SFIN	**Lafayette**	**30.11**	**92**	P				19 28 51.9		
	baz=301									
S44A	**Carbondale**	**30.18**	**98**	P		**P**		**19 28 54.7**	**-0.1**	
S44A				IAmb		IAmb		19 29 08.7		
	comp=Z,33nm,0.9s									
SIUC	**Southern Illin**	**30.19**	**98**	P		**P**		**19 28 54.6**	**-0.3**	
ADK	**Adak**	**30.43**	**293**	P		**P**		**19 28 56.3**	**-0.6**	
ADK				pmax		pmax				
	comp=Z,56nm,1.2s									
ADK	**Adak**	**30.43**	**293**	P		**P**		**19 28 56.3**	**-0.6**	
833A	**Chaparral WMA,**	**30.43**	**123**	P				19 28 56.5		
	baz=322									
SUNO	**Sudbury Onapin**	**31.01**	**77**	P		**P**		**19 29 04.1**	**+2.0**	
HKT	**Hockley**	**31.21**	**117**	P		**P**		**19 29 04.8**	**+0.8**	
HKT	**Hockley**	**31.21**	**117**	P		**P**		**19 29 04.8**	**+0.8**	
KILO	**Kirkland Lake**	**31.35**	**73**	P		**P**		**19 29 07.2**	**+2.1**	
P48A	**Milroy**	**31.68**	**92**	P		**P**		**19 29 06.4**	**-1.7**	
WCI	**Wyandotte Cave**	**31.80**	**95**	P				19 29 08.6		
	baz=304									
O49A	**Covington**	**32.01**	**90**	P		**P**		**19 29 10.7**	**-0.3**	
O49A				IAmb		IAmb		19 29 25.4		
	comp=Z,21nm,0.9s									
OXF	**Oxford**	**32.02**	**103**	P		**P**		**19 29 10.1**	**-0.9**	
OXF				pmax		pmax				
	comp=Z,98nm,1.0s									
OXF	**Oxford**	**32.02**	**103**	P		**P**		**19 29 10.1**	**-0.9**	
OXF	**Oxford**	**32.02**	**103**	P				19 29 09.4		
	baz=310									
WVT	**Waverly**	**32.02**	**99**	P				19 29 10.0		
	baz=307									
P49A	**Miami Univ. Ec**	**32.11**	**91**	P				19 29 10.1		
	baz=302									
VLDQ	**Val d'Or**	**32.90**	**73**	P		**P**		**19 29 19.6**	**+0.9**	
R50A	**Paris**	**33.05**	**93**	P		**P**		**19 29 19.0**	**-1.0**	
LG4Q	**La Grande 4**	**33.18**	**62**	P		**P**		**19 29 22.8**	**+1.8**	
SADO	**Sadowa**	**33.18**	**79**	P		**P**		**19 29 24.8**	**+3.6**	
SADO	**Sadowa**	**33.18**	**79**	P		**P**		**19 29 21.7**	**+0.5**	
P51A	**Williamsport**	**33.22**	**90**	P		**P**		**19 29 21.9**	**+0.4**	
ALGO	**Algonquin Park**	**33.38**	**77**	P				19 29 21.1		
	baz=295									
G54A	**Lake Saint Pet**	**33.59**	**77**	P				19 29 24.8		
	baz=295									
H53A	**Bobcaygeon**	**33.63**	**79**	P				19 29 23.7		
	baz=296									
P52A	**Corning**	**33.74**	**89**	P		**P**		**19 29 25.5**	**-0.6**	
P52A				IAmb		IAmb		19 29 48.2		
	comp=Z,20nm,0.9s									
P52A	**Corning**	**33.74**	**89**	P				19 29 25.7		
	baz=302									
M53A	**WI Miller and**	**33.76**	**85**	P		**P**		**19 29 26.4**	**+0.2**	
CRLO	**Chalk River**	**33.77**	**76**	P		**P**		**19 29 29.6**	**+3.3**	
L53A	**Girard**	**33.77**	**84**	P				19 29 24.6		
	baz=300									
EUNU	**Eureka**	**33.82**	**12**	P		**P**		**19 29 28.9**	**+2.5**	
EUNU	**Eureka**	**33.82**	**12**	P		**P**		**19 29 28.0**	**+1.6**	
EUNU				IAmb		IAmb		19 29 30.1		
	comp=Z,22nm,1.1s									
O53A	**New Philadelph**	**34.01**	**88**	P				19 29 27.1		
	baz=302									
DELO	**Deloro Mine**	**34.27**	**79**	P		**P**		**19 29 30.4**	**-0.3**	
DELO				IAmb		IAmb		19 29 51.1		
	comp=Z,32nm,1.1s									
FRB	**Frobisher Bay**	**34.35**	**43**	P		**P**		**19 29 33.4**	**+2.3**	
M54A	**Oil Creek Stat**	**34.38**	**85**	P				19 29 29.1		
	baz=300									
GRQ	**Grand Remous**	**34.49**	**74**	P		**P**		**19 29 34.1**	**+1.6**	
D55A	**Sainte-Anne-du**	**34.56**	**73**	P				19 29 32.5		
	baz=294,SNR=5.9									
WVNY	**West Valley, N**	**34.62**	**82**	P		**P**		**19 29 33.2**	**-0.6**	
WVNY				IAmb		IAmb		19 29 44.1		
	comp=Z,24nm,0.8s									
VABQ	**Val Des Bois**	**34.94**	**75**	P		**P**		**19 29 38.0**	**+1.6**	
D56A	**ZEC Mazanza, M**	**35.00**	**73**	P				19 29 36.7		
	baz=294									
GAC	**Glen Almond**	**35.11**	**76**	P		**P**		**19 29 39.1**	**+1.2**	
KGNO	**Kingston**	**35.12**	**78**	P		**P**		**19 29 38.3**	**+0.3**	
J56A	**Wolcott**	**35.33**	**80**	P				19 29 36.8		
	baz=298									
M56A	**Emporium**	**35.35**	**84**	P		**P**		**19 29 40.5**	**+0.4**	
M56A				IAmb		IAmb		19 30 01.7		
	comp=Z,18nm,0.9s									
TULEG	**Thule**	**35.45**	**20**	P		**P**		**19 29 41.4**	**+0.9**	
TULEG				IAmb		IAmb		19 29 43.4		
	comp=Z,38nm,1.5s									
TRQ	**Mont Tremblant**	**35.47**	**74**	P		**P**		**19 29 41.4**	**+0.3**	
V53A	**Saluda**	**35.55**	**95**	P		**P**		**19 29 41.9**	**+0.1**	
N56A	**West Decatur**	**35.57**	**85**	P				19 29 40.7		
	baz=301									
G57A	**Newington**	**35.69**	**76**	P				19 29 42.5		
	baz=296									
H57A	**Richville**	**35.72**	**77**	P				19 29 43.4		
	baz=297									
R55A	**Marlinton**	**35.79**	**90**	P		**P**		**19 29 44.6**	**+0.7**	
R55A	**Marlinton**	**35.79**	**90**	P				19 29 43.2		
	baz=304,SNR=7.3									
Q56A	**Snyder Ridge,**	**35.98**	**88**	P		**P**		**19 29 44.8**	**-0.7**	
Q56A				IAmb		IAmb		19 30 07.7		
	comp=Z,16nm,0.8s									
152A	**Waverly Hall**	**36.20**	**101**	P		**P**		**19 29 47.6**	**+0.3**	
152A				IAmb		IAmb		19 30 08.6		
	comp=Z,17nm,1.0s									
K58A	**Earlville**	**36.36**	**80**	P		**P**		**19 29 49.3**	**+0.7**	
K58A				IAmb		IAmb		19 30 09.5		
	comp=Z,27nm,1.1s									
DPQ	**Saint Jean**	**36.39**	**73**	P		**P**		**19 29 50.2**	**+1.4**	
BILL	**Bilibino**	**36.55**	**325**	*c*	*i*	**P**		**19 29 50.4**	**+0.5**	
BILL					*e*			19 31 11.3		
BILL						*eS*		**S**	**19 35 38.9**	**+7.2**
BILL						pmax		pmax		
	comp=Z,38nm,2.5s									
BILL						MLR		MLR		
	comp=Z,174nm,14.0s									
BILL	**Bilibino**	**36.55**	**325**	P		**P**		**19 29 49.9**	**-0.1**	
BILL				IAmb		IAmb		19 29 51.8		
	comp=Z,16nm,1.1s									
U56A	**King**	**36.73**	**93**	P		**P**		**19 29 51.7**	**-0.2**	
U56A	**King**	**36.73**	**93**	P				19 29 50.2		
	baz=306									
J59A	**Piesco**	**36.75**	**78**	P		**P**		**19 29 52.1**	**+0.1**	
KMSC	**Kings Mountain**	**36.83**	**95**	P				19 29 51.6		
	baz=308									
MOQ	**Mont Orford**	**37.32**	**74**	P		**P**		**19 29 59.1**	**+2.2**	
MOQ	**Mont Orford**	**37.32**	**74**	P		**P**		**19 29 56.9**	**+0.1**	
U57A	**Blanch**	**37.36**	**92**	P				19 29 55.8		
	baz=306									
A54	**Misere**	**37.52**	**70**	P		**P**		**19 30 03.0**	**+4.5**	
LMQ	**La Malbaie**	**37.54**	**70**	P		**P**		**19 30 01.2**	**+2.6**	
A21	**Saint Andre**	**37.86**	**70**	P		**P**		**19 30 02.9**	**+1.6**	
SMQ	**Clarke City**	**38.62**	**65**	P		**P**		**19 30 10.8**	**+3.1**	
BATG	**Bathurst New B**	**40.26**	**69**	P		**P**		**19 30 24.3**	**+2.9**	
BATG	**Bathurst New B**	**40.26**	**69**	P		**P**		**19 30 22.7**	**+1.3**	
BATG				IAmb		IAmb		19 30 38.9		
	comp=Z,28nm,0.9s									
SFJD	**Kangerlussuaq**	**41.22**	**36**	P		**P**		**19 30 31.3**	**+2.3**	
	comp=Z,15nm,1.0s,baz=296,slow=6.8,SNR=6.2									
SFJD	**Kangerlussuaq**	**41.22**	**36**	P		**P**		**19 30 30.4**	**+1.4**	
SFJD				pmax		pmax				
	comp=Z,24nm,1.1s									
SFJD	**Kangerlussuaq**	**41.22**	**36**	P		**P**		**19 30 30.4**	**+1.4**	
SFJD				IAmb		IAmb		19 30 32.3		
	comp=Z,24nm,1.1s									
ELNB	**Elgin, New Bru**	**41.48**	**70**	P		**P**		**19 30 36.0**	**+4.6**	
LMN	**Caledonia Moun**	**41.69**	**70**	P		**P**		**19 30 35.6**	**+2.4**	
LMN	**Caledonia Moun**	**41.69**	**70**	P		**P**		**19 30 34.6**	**+1.4**	
LMN				IAmb		IAmb		19 30 54.1		
	comp=Z,49nm,1.0s									
SEY	**Seymchan**	**43.27**	**319**	P		**P**		**19 30 45.6**	**-0.2**	
	comp=Z,8.7nm,0.7s,baz=96,slow=6.6,SNR=29									
SUMG	**Summit**	**43.65**	**26**	*i*	P		**P**	**19 30 50.6**	**+1.4**	
	comp=Z,59nm,1.2s									
SUMG	**Summit**	**43.65**	**26**	P		**P**		**19 30 50.1**	**+0.8**	
SUMG				pmax		pmax				
	comp=Z,47nm,1.1s									
SUMG	**Summit**	**43.65**	**26**	P		**P**		**19 30 50.1**	**+0.8**	
SUMG				IAmb		IAmb		19 30 52.0		
	comp=Z,47nm,1.1s									
SUMG	**Summit**	**43.65**	**26**	*i*	P		**P**	**19 30 50.7**	**+1.4**	
SUMG				IAmb		IAmb		19 30 51.7		
	comp=Z,59nm,1.2s									
GBN	**Guysborough**	**43.92**	**69**	P		**P**		**19 30 54.0**	**+2.8**	
DRLN	**Deer Lake**	**44.41**	**62**	P		**P**		**19 30 57.1**	**+1.9**	
DRLN	**Deer Lake**	**44.41**	**62**	P		**P**		**19 30 54.7**	**-0.5**	
DRLN				IAmb		IAmb		19 31 16.1		
	comp=Z,32nm,1.1s									
PEA0B	**Petropavlovsk-**	**44.63**	**304**	P		**P**		**19 30 56.0**	**-0.9**	
PEA0B				pmax		pmax				
	comp=Z,32nm,1.2s									
PEA0B	**Petropavlovsk-**	**44.63**	**304**	P		**P**		**19 30 56.0**	**-0.9**	
PEA0B				IAmb		IAmb		19 31 17.4		
	comp=Z,32nm,1.2s									
PETK	**Petropavlovsk-**	**44.63**	**304**	P		**P**		**19 30 56.1**	**-0.8**	
	comp=Z,5.0nm,0.7s,baz=84,slow=9.0,SNR=9.0									
MA2	**Magadan**	**45.29**	**315**	P		**P**		**19 31 02.0**	**-0.1**	
	comp=Z,5.8nm,0.8s,baz=113,slow=11,SNR=6.1									
MA2	**Magadan**	**45.29**	**315**	*ce*		**P**		**19 31 02.8**	**+0.7**	
MA2				pmax		pmax				
	comp=Z,19nm,2.5s									
MA2	**Magadan**	**45.29**	**315**	P		**P**		**19 31 01.3**	**-0.7**	
MA2				IAmb		IAmb		19 31 03.3		
	comp=Z,12nm,1.1s									
DAG	**Danmarks Havn**	**46.59**	**17**	*i*	P		**P**	**19 31 12.0**	**-0.1**	
	comp=Z,11nm,0.9s									
DAG	**Danmarks Havn**	**46.59**	**17**	*i*	P		**P**	**19 31 12.2**	**+0.1**	
DAG	**Danmarks Havn**	**46.59**	**17**	*i*	P		**P**	**19 31 12.0**	**-0.1**	
DAG				*i*	P		**P**	**19 31 12.2**	**+0.1**	
DAG				IAmb		IAmb		19 31 13.6		
	comp=Z,11nm,0.9s									
DBG	**Daneborg**	**47.59**	**21**	*i*	P		**P**	**19 31 20.9**	**+1.0**	
DBG				IAmb		IAmb		19 31 21.9		
	comp=Z,19nm,1.0s									
TIXI	**Tiksi**	**47.77**	**335**	P		**P**		**19 31 21.5**	**+0.2**	
	comp=Z,6.4nm,0.8s,baz=70,slow=8.0,SNR=12									
TIXI	**Tiksi**	**47.77**	**335**	*ce*		**P**		**19 31 21.5**	**+0.2**	
TIXI				pmax		pmax				
	comp=Z,122nm,2.5s									
TIXI	**Tiksi**	**47.77**	**335**	P		**P**		**19 31 20.4**	**-0.9**	
TIXI				IAmb		IAmb		19 31 21.9		
	comp=Z,12nm,1.0s									
YAK	**Yakutsk**	**52.91**	**325**	LR		LR		19 54 24.8		
	comp=Z,174nm,19.3s,baz=77,slow=36									
YAK	**Yakutsk**	**52.91**	**325**	*e*	P		**P**	**19 31 59.5**	**-0.8**	
YAK				*e*	*PP		**pwP**	**19 32 05.4**	**-1.4**	
YAK				*e*				19 33 08.3		
YAK				*e*				19 33 58.6		
YAK				*eS*		**S**		**19 39 29.7**	**+1.1**	
YAK				*eSS		sS		19 39 51.5	+17	
YAK				*eSS		**SS**		**19 43 09.5**	**+2.7**	
YAK				*eSSS		SSS		19 44 51.4		
YAK				pmax		pmax				
	comp=Z,28nm,1.1s									
YAK				pmax

comp=Z,0.9nm,0.7s,baz=47,slow=5.3,SNR=5.5
MJAR LR LR 20 00 37.2
comp=Z,66nm,21.2s,baz=45,slow=35
MJAR Matsushiro Arr 65.45 298 P **P 19 33 25.7 -1.9**
MJAR pmax pmax
comp=Z,3.0nm,1.2s
EKA Eskdalemuir Ar 65.92 31 P **P 19 33 30.7 +0.4**
comp=Z,2.0nm,0.7s,baz=315,slow=5.1,SNR=8.0
CN2 Changchun 67.12 311 *eP* **P 19 33 36.3 -1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
FIA1 FINESS Array S 67.54 13 P **P 19 33 40.3 -0.1**
FINES FINESS Array B 67.54 13 P **P 19 33 40.7 +0.3**
comp=Z,12nm,0.8s,baz=353,slow=4.8,SNR=23
FINES LR LR 20 02 01.1
comp=Z,124nm,18.1s,baz=347,slow=35
FINES FINESS Array B 67.54 13 P **P 19 33 40.1 -0.3**
FINES FINESS Array B 67.54 13 P **P 19 33 40.1 -0.3**
PRGR Permogore 69.16 3 *eP* **P 19 33 50.0 -0.6**
PRGR *e* 19 33 57.9
PRGR pmax pmax
comp=Z,38nm,0.9s
IRK Irkutsk 69.36 329 *eP* **P 19 33 51.0 -1.0**
IRK pmax pmax
comp=Z,41nm,2.2s
PPT Papeete 69.38 202 LR LR 19 57 31.5
comp=Z,159nm,21.0s,baz=14,slow=30
PPT2 Papeete2 69.40 202 *e*LR LR 19 54 52.0
comp=Z,295nm,26.5s
KLMR Klimovskoe 69.60 6 *eP* **P 19 33 51.8 -1.5**
KLMR pmax pmax
comp=Z,72nm,1.3s
KLMR Klimovskoe 69.60 6 *eP* **P 19 33 51.8 -1.5**
KLMR AMP 19 33 54.8
comp=Z,72nm,1.3s
TLY Talaya 70.04 329 *eP* **P 19 33 56.3 0.0**
TLY *eS* **S 19 42 59.9 -6.4**
TLY *e* 19 43 58.7
TLY *e*SS **SS 19 47 35.1 +0.5**
TLY pmax pmax
comp=Z,37nm,0.9s
TLY MLR MLR
comp=Z,266nm,14.0s
TLY Talaya 70.04 329 P **P 19 33 56.2 0.0**
TLY IAmb IAmb 19 33 57.4
comp=Z,12nm,0.8s
VSU Vasula 70.49 14 *eP* **P 19 33 58.0 -0.8**
KSRS Korea Array 70.52 305 P **P 19 33 58.4 -1.0**
comp=Z,1.9nm,1.0s,baz=60,slow=7.5,SNR=5.4
KSAR Wonju Array Be 70.55 305 P **P 19 33 58.2 -1.4**
KSAR Wonju Array Be 70.55 305 P **P 19 33 58.2 -1.4**
MOY Mondy 70.93 330 *eP* **P 19 34 02.0 +0.2**
MOY pmax pmax
comp=Z,31nm,2.1s
ZAK Zakamensk 71.26 328 *eP* **P 19 34 01.3 -2.5**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
RGN Rugen 71.43 23 P **P 19 34 05.5 +0.9**
IBBN Ibbenburen 71.92 27 *eP* **P 19 34 09.0 +1.5**
comp=Z,32nm,1.2s,baz=340,slow=5.2
ULN Ulaanbaatar 71.99 324 *ceP* **P 19 34 08.0 -0.4**
ULN pmax pmax
comp=Z,6.0nm,1.3s
ULN Ulaanbaatar 71.99 324 P **P 19 34 07.8 -0.6**
SONM Songino Array 72.27 325 P **P 19 34 09.7 -0.2**
comp=Z,3.7nm,0.8s,baz=47,slow=4.9,SNR=25
SONM LR LR 20 05 29.5
comp=Z,223nm,21.5s,baz=28,slow=36
SONM Songino Array 72.27 325 P **P 19 34 08.6 -1.3**
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 72.27 325 P **P 19 34 08.6 -1.3**
KIRV Kirov 72.31 1 *ceP* **P 19 34 10.1 +0.3**
NRDL Niedersach Rie 72.43 25 *eP* **P 19 34 11.5 +1.0**
comp=Z,9.6nm,0.9s,baz=340,slow=5.2
BUG Bochum--Univer 72.54 27 *eP* **P 19 34 11.9 +0.7**
comp=Z,13nm,1.0s,baz=340,slow=5.2
BMRD Maredsous 72.75 29 *dP* **P 19 34 13.7 +1.1**
BSTI Sart Tilman 72.76 29 *dx* P 19 34 18.6 +6.0
BGES Gesves 72.78 29 *dP* **P 19 34 13.7 +0.9**
PABE Paberze 72.84 16 *eP* **P 19 34 13.0 -0.1**
FLTG Flechtingen 72.89 25 *eP* **P 19 34 13.6 +0.3**
comp=Z,11nm,1.0s,baz=340,slow=5.2
CLZ Clausthal 73.08 25 *eP* **P 19 34 15.5 +0.8**
comp=Z,19nm,1.2s,baz=340,slow=5.2
ISAL Salakas 73.16 15 *eP* **P 19 34 15.1 +0.2**
GTTG Gottingen 73.23 26 *eP* **P 19 34 16.4 +0.9**
comp=Z,31nm,1.5s,baz=340,slow=5.2
AHRW Bad Neuenahr-A 73.27 28 *eP* **P 19 34 17.1 +1.5**
comp=Z,13nm,0.9s,baz=340,slow=5.2
ZAA0 Zalesovo Array 73.30 340 P **P 19 34 14.4 -1.4**
ZALV Zalesovo Beam 73.30 340 P **P 19 34 15.2 -0.6**
comp=Z,2.7nm,0.8s,baz=33,slow=5.7,SNR=15
ZALV LR LR 20 10 15.5
comp=Z,174nm,19.3s,baz=348,slow=39
ZALV Zalesovo Beam 73.30 340 P **P 19 34 14.1 -1.7**
ZALV Zalesovo Beam 73.30 340 P **P 19 34 14.1 -1.7**
IIGN Ignalina 73.39 15 *eP* **P 19 34 16.2 -0.1**
IDID Didziasalis 73.51 15 *eP* **P 19 34 16.5 -0.5**
SVE Sverdlovsk 73.84 355 *eP* **P 19 34 18.5 -0.4**
SVE pmax pmax
comp=Z,36nm,1.2s
NACGM Naroch 73.91 15 *i* P **P 19 34 19.4 0.0**
NACGM *i* P **P 19 34 19.4 0.0**
NACGM *i* P **P 19 34 19.4 0.0**
NACGM *i* PcP **PcP 19 34 34.1 -0.6**
NACGM *i* PP **PP 19 37 04.7 +1.2**
NACGM *i* PPP PPP 19 38 49.8
NACGM *i* S **S 19 43 54.9 +4.4**
NACGM *i* SS SS 19 49 03.6 +30
NACGM *i* SS SS 19 49 11.2 +38
NACGM *i* SSS SSS 19 52 51.5
NACGM *i* LQ LQ 20 01 57.3
NACGM *i* LR LR 20 05 44.1
TNS Taunus Mts 73.97 27 *eP* **P 19 34 20.6 +0.8**
comp=Z,7.6nm,0.8s,baz=340,slow=5.2
NEUB Neuenburg 74.04 25 *eP* **P 19 34 21.2 +1.1**
comp=Z,28nm,1.5s,baz=340,slow=5.2
SUW Suwalki 74.11 17 *eP* **P 19 34 20.6 +0.1**
SUW Suwalki 74.11 17 P **P 19 34 20.3 -0.3**
SUW pmax pmax
comp=Z,50nm,1.1s
SUW Suwalki 74.11 17 P **P 19 34 20.2 -0.3**
CLL Collm 74.28 24 *i* P **P 19 34 22.0 +0.4**
comp=Z,16nm,1.4s
CLL *e*SSSS 19 53 48.0
CLL LmV 20 08 00.0
comp=Z,300nm,19.3s
CLL Collm 74.28 24 P **P 19 34 21.6 0.0**
CLL pmax pmax
comp=Z,19nm,1.5s
CLL Collm 74.28 24 P **P 19 34 21.6 0.0**
CLL IAmb IAmb 19 34 23.5
comp=Z,19nm,1.5s
CLL Collm 74.28 24 *eP* **P 19 34 21.8 +0.2**
comp=Z,11nm,1.2s,baz=340,slow=5.2
ARU Arti 74.35 356 P **P 19 34 21.4 -0.4**
comp=Z,8.5nm,0.8s,baz=356,slow=4.3,SNR=26
ARU Arti 74.35 356 *c iP* **P 19 34 21.3 -0.6**
ARU 19 34 38.1
ARU 19 37 04.2
ARU S **S 19 43 56.7 +1.3**
ARU SS **SS 19 48 38.7 -1.3**
ARU pmax pmax
comp=Z,41nm,1.1s
ARU Arti 74.35 356 P **P 19 34 21.5 -0.4**
MNK Minsk 74.48 14 *i* P **P 19 34 18.1 -4.6**
comp=E,2.0nm,0.7s
MNK *i* P **P 19 34 18.1 -4.6**
comp=N,7.0nm,0.6s
MNK *i* P **P 19 34 18.1 -4.6**
comp=Z,16nm,0.7s
MNK *i* PcP **pwP 19 34 32.5 +3.2**
MNK *i* PP **PP 19 37 04.0 -4.3**
MNK *i* PPP PPP 19 38 49.3
MNK *i* S **SKiKP 19 43 52.1 +3.9**
MNK *i* SS **SS 19 48 40.3 -1.7**
MNK *i* SSS SSS 19 51 56.9
MNK *i* LR LR 20 02 29.8
MNK *i* LRM MLR 20 07 37.0
comp=E,15nm,15.9s
MNK *i* LRM MLR 20 08 33.4
comp=N,245nm,16.6s
MNK *i* LRM MLR 20 08 36.3
comp=Z,111nm,20.3s

MOX Moxa 74.50 25 *eP* **P 19 34 23.2 +0.3**
comp=Z,9.6nm,0.8s,baz=340,slow=5.2
MOX *e*L L 20 09 42.8
comp=Z,257nm,18.7s
MILB Miltenberg 74.57 27 *eP* **P 19 34 23.9 +0.6**
comp=Z,86nm,2.4s,baz=340,slow=5.2
FBE Freiberg 74.73 24 *eP* **P 19 34 24.8 +0.6**
comp=Z,9.6nm,0.8s,baz=340,slow=5.2
WERD Werda 74.87 25 *eP* **P 19 34 26.0 +0.9**
comp=Z,17nm,1.6s,baz=340,slow=5.2
TBI Tubuai 74.92 200 *e*LR LR 19 57 28.2
comp=Z,217nm,29.2s
BRG Berggiesshubel 74.93 24 *i* P **P 19 34 26.6 +1.2**
BRG Amp 19 34 28.4
comp=Z,23nm,1.5s
BRG Berggiesshubel 74.93 24 *eP* **P 19 34 25.9 +0.5**
comp=Z,18nm,1.4s,baz=340,slow=5.2
OBN Obninsk 75.02 9 *ceP* **P 19 34 25.9 +0.1**
OBN *e* 19 34 40.4
OBN *e* 19 37 16.1
OBN pmax pmax
comp=Z,33nm,1.3s
OBN MLR MLR
comp=Z,195nm,19.0s
OBN Obninsk 75.02 9 P **P 19 34 25.7 0.0**
WERN Wernitzgruen 75.04 25 *eP* **P 19 34 26.9 +0.8**
comp=Z,16nm,1.6s,baz=340,slow=5.2
MANZ Manzenberg 75.24 25 *eP* **P 19 34 28.1 +0.9**
comp=Z,4.5nm,1.1s,baz=340,slow=5.2
GRF Grafenberg Arr 75.25 26 *eP* **P 19 34 28.4 +1.1**
comp=Z,26nm,1.6s,baz=340,slow=5.2
GRF *e*L L 20 04 54.7
comp=Z,299nm,21.5s
ROTZ Rotzenmuhle 75.46 25 *eP* **P 19 34 29.6 +1.2**
comp=Z,22nm,1.8s,baz=340,slow=5.2
BFO Black Forest 75.61 28 P **P 19 34 29.8 +0.5**
BFO pmax pmax
comp=Z,15nm,1.1s
BFO Black Forest 75.61 28 P **P 19 34 29.8 +0.5**
BFO IAmb IAmb 19 34 31.4
comp=Z,15nm,1.1s
BFO Black Forest 75.61 28 *eP* **P 19 34 29.8 +0.5**
comp=Z,19nm,1.2s,baz=340,slow=5.2
CHVC Chvalec 75.73 23 *eP* **P 19 34 31.0 +1.0**
UPC Upice 75.80 23 AMS AMS 20 06 40.0
comp=Z,300nm,16.4s
PRU Pruhonice 75.89 24 AMS AMS 20 05 10.0
comp=Z,500nm,24.8s
HHC Hu-ho-hao-te 75.90 318 *eP* **P 19 34 34.3 +3.1**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,32nm,5.5s
DPC Dobruska-Polom 76.02 23 *eP* **P 19 34 32.9 +1.2**
DPC Dobruska-Polom 76.02 23 *eP* **P 19 34 32.9 +1.2**
WET Wettzell 76.21 25 *eP* **P 19 34 33.5 +0.7**
comp=Z,12nm,1.5s,baz=340,slow=5.2
KRLC Kraliky 76.39 22 *eP* **P 19 34 34.9 +1.1**
KRLC MLR MLR
comp=Z,300nm,23.9s
KRLC Kraliky 76.39 22 *eP* **P 19 34 34.9 +1.1**
KRLC AMS AMS 20 05 30.0
comp=Z,300nm,23.9s
KHC Kasperske Hory 76.42 25 P **P 19 34 33.9 -0.1**
KHC pmax pmax
comp=Z,14nm,1.3s
KHC Kasperske Hory 76.42 25 *eP* **P 19 34 34.1 +0.1**
KHC AMS AMS 20 08 30.0
comp=Z,300nm,18.4s
KHC Kasperske Hory 76.42 25 P **P 19 34 33.9 -0.1**
KHC IAmb IAmb 19 34 36.5
comp=Z,14nm,1.3s
BRVK Borovoye 76.69 349 *ceP* **P 19 34 35.4 0.0**
BRVK pmax pmax
comp=Z,27nm,1.7s
BRVK Borovoye 76.69 349 P **P 19 34 34.8 -0.6**
BRVK IAmb IAmb 19 34 36.3
comp=Z,13nm,0.9s
BVAR Borovoye Array 76.71 349 P **P 19 34 34.3 -1.2**
comp=Z,3.4nm,0.9s,baz=306,slow=4.8,SNR=11
GEC2 GERESS Array S 76.71 25 P **P 19 34 36.2 +0.4**
GEC2 IAmb IAmb 19 34 37.6
comp=Z,11nm,1.2s
GEC2 GERESS Array S 76.71 25 *eP* **P 19 34 35.9 +0.2**
comp=Z,16nm,1.5s,baz=340,slow=5.2
GERES GERESS Array B 76.71 25 P **P 19 34 36.1 +0.4**
comp=Z,2.1nm,0.9s,baz=0.0,slow=4.3,SNR=13
GERES LR LR 20 09 03.2
comp=Z,199nm,18.2s,baz=334,slow=36
GERES GERESS Array B 76.71 25 P **P 19 34 35.9 +0.2**
GERES GERESS Array B 76.71 25 P **P 19 34 35.9 +0.2**
UBR Ueberruh 76.73 28 *eP* **P 19 34 36.3 +0.5**
comp=Z,14nm,1.1s,baz=340,slow=5.2
MORC Moravsky Berou 76.85 22 *eP* **P 19 34 37.4 +1.0**
MORC Moravsky Berou 76.85 22 P **P 19 34 36.5 +0.1**
MORC pmax pmax
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 76.85 22 P **P 19 34 36.5 +0.1**
CKRC Cesky Krumlov 76.90 24 *eP* **P 19 34 37.3 +0.6**
CKRC AMS AMS 20 09 30.0
comp=Z,400nm,18.2s
OKC Ostrava-Krasne 76.94 22 AMS AMS 20 16 30.0
comp=Z,300nm,21.2s
OJC Ojcow 76.97 21 P **P 19 34 37.4 +0.3**
OJC pmax pmax
comp=Z,8.0nm,0.9s
OJC Ojcow 76.97 21 P **P 19 34 37.4 +0.3**
OJC IAmb IAmb 19 34 38.3
comp=Z,8.1nm,0.9s
DAVA Damuels 77.01 28 *eP* **P 19 34 37.4 -0.1**
comp=Z,17nm,1.3s
VRAC Vranov 77.05 23 P **P 19 34 38.8 +1.3**
comp=Z,8.5nm,0.9s,baz=340,slow=7.8,SNR=9.2
VRAC Vranov 77.05 23 ⇑P **P 19 34 36.8 -0.7**
VRAC Vranov 77.05 23 *eP* **P 19 34 38.7 +1.2**
VRAC Vranov 77.05 23 ⇑P **P 19 34 36.8 -0.7**
RETA Reutte 77.10 27 *eP* **P 19 34 38.9 +1.0**
comp=Z,12nm,1.4s
KRUC Moravsky 77.23 23 *eP* **P 19 34 39.4 +0.9**
MOTA Moosalm 77.33 27 *eP* **P 19 34 37.3 -2.0**
comp=Z,12nm,1.3s
DAVOX Davos/Dischmat 77.46 28 P **P 19 34 41.8 +1.7**
comp=Z,5.5nm,1.0s,baz=314,slow=7.3,SNR=5.3
SQTA Sant Quirin 77.47 27 *eP* **P 19 34 41.3 +1.3**
comp=Z,11nm,1.2s
WATA Walderalm 77.48 27 *eP* **P 19 34 41.7 +1.6**
comp=Z,13nm,1.2s
FETA Feichten 77.51 27 *eP* **P 19 34 42.0 +1.7**
comp=Z,11nm,1.2s
WTTA Wattenberg 77.56 27 *eP* **P 19 34 41.7 +1.1**
comp=Z,6.1nm,0.7s
SEM Semipalatinsk 77.60 342 *eP* **P 19 34 39.0 -1.9**
SEM baz=342 *i* S **S 19 44 31.9 0.0**
SEM baz=342 *i* LR LR 20 09 41.5
SEM baz=342 *i* LRM MLR 20 10 59.2
baz=342
SEM Semipalatinsk 77.60 342 *eP* **P 19 34 38.9 -1.9**
KURK Kurchatov 77.63 343 P **P 19 34 40.6 -0.1**
KURK Kurchatov 77.63 343 P **P 19 34 40.6 -0.1**
JAVC Velka Javorina 77.73 22 *eP* **P 19 34 43.5 +2.1**
KURBB Kurchatov Arra 77.73 343 P **P 19 34 40.6 -0.7**
comp=Z,2.6nm,0.6s,baz=17,slow=5.2,SNR=22
LPSR Galich'ya Gora 77.74 8 *eP* **P 19 34 39.7 -1.5**
LPSR pmax pmax
comp=Z,8.0nm,0.6s
LANS Liptovska Anna 77.90 21 *eP* **P 19 34 44.2 +1.9**
LANS pmax pmax
comp=Z,5.0nm,1.1s
LANS Liptovska Anna 77.90 21 *eP* **P 19 34 44.2 +1.9**
SMOL Smolenice 77.99 23 *eP* **P 19 34 44.7 +1.9**
SMOL Smolenice 77.99 23 *eP* **P 19 34 44.7 +1.9**
MODS Modra-Piesok 78.09 23 *eP* **P 19 34 45.1 +1.8**
MODS pmax pmax
comp=Z,21nm,1.3s
MODS Modra-Piesok 78.09 23 *eP* **P 19 34 45.1 +1.8**
CONA Conrad Observa 78.13 24 *eP* **P 19 34 44.7 +1.0**
comp=Z,13nm,1.4s
KBA Koelnbreinsper 78.22 26 *eP* **P 19 34 45.5 +1.2**
comp=Z,10nm,1.2s
LVV L'vov 78.26 18 *eP* **P 19 34 44.2 0.0**
ABTA Abfaltersbach 78.28 26 *eP* **P 19 34 45.3 +0.8**
comp=Z,6.7nm,0.8s
VYHS Vyhne 78.36 22 *eP* **P 19 34 45.3 +0.5**

VYHS Vyhne 78.36 22 *eP* **P 19 34 45.3 +0.5**
AKASG Malin Array Be 78.36 14 P **P 19 34 44.6 -0.2**
comp=Z,7.2nm,0.7s,baz=348,slow=5.2,SNR=26
AKASG LR LR 20 09 17.2
comp=Z,209nm,18.8s,baz=5.0,slow=36
AKASG Malin Array Be 78.36 14 *i* P **P 19 34 44.4 -0.4**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 78.36 14 P **P 19 34 43.1 -1.6**
AKBB Malin Array Si 78.36 14 *ceP* **P 19 34 44.6 -0.2**
AKBB Malin Array Si 78.36 14 P **P 19 34 43.0 -1.8**
AKBB IAmb IAmb 19 34 45.5
comp=Z,16nm,1.1s
BELG Belogornoye 78.47 3 P **P 19 34 45.1 -0.1**
comp=Z,19nm,1.0s,baz=321,slow=5.4,SNR=7.4
ESDC Sonseca Array 78.52 41 P **P 19 34 46.5 +0.6**
comp=Z,5.1nm,1.0s,baz=317,slow=5.2,SNR=16
ESDC LR LR 20 08 23.6
comp=Z,148nm,19.2s,baz=325,slow=35
ESDC Sonseca Array 78.52 41 P **P 19 34 46.1 +0.1**
CRVS Cervenica-Dubn 78.59 20 *eP* **P 19 34 47.5 +1.4**
CRVS pmax pmax
comp=Z,27nm,1.6s
CRVS Cervenica-Dubn 78.59 20 *eP* **P 19 34 47.5 +1.4**
ZOU Zoufplan 78.59 26 P **P 19 34 46.7 +0.4**
ARSA Arzberg 78.67 24 *eP* **P 19 34 46.6 0.0**
comp=Z,10nm,1.2s
MYKA Terra Mystica 78.71 26 *eP* **P 19 34 46.3 -0.5**
comp=Z,12nm,1.5s
KOLS Kolonicke sedl 78.73 19 *eP* **P 19 34 48.0 +1.1**
KOLS pmax pmax
comp=Z,9.0nm,1.3s
KOLS Kolonicke sedl 78.73 19 *eP* **P 19 34 48.0 +1.1**
UZH Uzhgorod 79.03 19 *eP* **P 19 34 44.1 -4.3**
UZH *i* 19 34 47.7
UZH *i* 19 34 51.9
SOKA Soboth 79.06 25 *eP* **P 19 34 49.1 +0.3**
comp=Z,19nm,1.3s
OBKA Obir 79.08 25 *eP* **P 19 34 48.4 -0.5**
comp=Z,20nm,1.1s
VSR Storozhevoye 79.13 8 *eP* **P 19 34 48.2 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.3s
PSZ Piszkesteto 79.15 21 ⇓P **P 19 34 50.8 +1.5**
PSZ Piszkesteto 79.15 21 ⇓P **P 19 34 50.8 +1.5**
PSZ Piszkesteto 79.15 21 P **P 19 34 50.3 +1.0**
PSZ IAmb IAmb 19 34 51.8
comp=Z,34nm,1.5s
ZSN Zaisan 79.35 338 *eP* **P 19 34 49.6 -0.7**
comp=Z,4.5nm,0.9s,baz=338
ZSN Zaisan 79.35 338 *eP* **P 19 34 49.6 -0.7**
ZSN pmax pmax
comp=Z,4.0nm,0.9s
VRH Novokhopyorsk 79.36 6 *eP* **P 19 34 49.0 -1.2**
VRH pmax pmax
comp=Z,20nm,1.7s
BRZS Berezniki 79.36 347 *eP* **P 19 34 48.9 -1.4**
comp=Z,11nm,1.8s,baz=347
BRZS Berezniki 79.36 347 *eP* **P 19 34 48.9 -1.4**
BRZS pmax pmax
comp=Z,11nm,1.8s
VORD Divnogorie 79.39 8 *eP* **P 19 34 49.0 -1.4**
VORD pmax pmax
comp=Z,10.0nm,0.6s
NJ2 Nanjing 79.44 307 *eP* **P 19 34 50.8 -0.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
MSSA Maissana 79.56 29 P **P 19 34 51.3 -0.3**
AKTO Aktyubinsk 80.36 356 P **P 19 34 55.2 -0.4**
comp=Z,11nm,0.9s,baz=359,slow=4.5,SNR=24
MORH Mrgy, Hungar 80.44 23 ⇓P **P 19 34 57.3 +1.2**
BUR08 Bucovina Ar. S 80.57 18 P **P 19 34 56.9 -0.1**
BUR08 IAmb IAmb 19 35 04.6
comp=Z,16nm,1.5s
MK31 Makanchi Array 80.58 339 P **P 19 34 55.5 -1.5**
MK31 pmax pmax
comp=Z,10.0nm,1.5s
MK31 Makanchi Array 80.58 339 P **P 19 34 55.5 -1.5**
MKAR Makanchi Array 80.58 339 P **P 19 34 55.6 -1.4**
comp=Z,1.4nm,0.7s,baz=23,slow=4.3,SNR=19
MKAR LR LR 20 14 30.9
comp=Z,139nm,18.9s,baz=21,slow=38
MKAR Makanchi Array 80.58 339 P **P 19 34 55.1 -1.9**
MKAR Makanchi Array 80.58 339 P **P 19 34 55.1 -1.9**
BURAR Bucovina Array 80.60 18 ⇑P **P 19 34 58.3 +1.1**
BURAR Bucovina Array 80.60 18 ⇑P **P 19 34 58.3 +1.1**
BURAR Bucovina Array 80.60 18 P **P 19 34 57.6 +0.5**
MAKZ Makanchi 80.64 340 P **P 19 34 56.0 -1.3**
MAKZ pmax pmax
comp=Z,32nm,1.5s
MAKZ Makanchi 80.64 340 P **P 19 34 56.0 -1.3**
MAKZ IAmb IAmb 19 34 57.6
comp=Z,32nm,1.5s
DRGR 80.86 20 ⇓P **P 19 34 59.0 +0.5**
DRGR 80.86 20 ⇓P **P 19 34 59.0 +0.5**
ARCR ARCALIA 80.93 19 ⇑P **P 19 35 00.1 +1.3**
SIRR Siria 81.11 21 ⇑P **P 19 35 00.9 +1.1**
BIZ Bicaz 81.43 18 ⇑P **P 19 35 02.9 +1.5**
ABKAR Akbulak array 81.44 355 P **P 19 35 00.7 -0.7**
ABKAR IAmb IAmb 19 35 02.3
comp=Z,30nm,1.3s
FRGS Fruska Gora 81.72 22 ⇑P **P 19 35 03.9 +0.9**
BZS Buzias 81.72 21 ⇑P **P 19 35 03.9 +0.9**
BZS Buzias 81.72 21 ⇑P **P 19 35 03.9 +0.9**
GTA Gaotai 81.94 324 ⇑P **P 19 35 03.8 -0.6**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,78nm,5.5s
GTA LR LR
comp=Z,180nm,21.1s
GTA LR LR
comp=Z,130nm,19.3s
TESR Tescani 81.94 17 ⇓P **P 19 35 04.6 +0.4**
WMQ Urumqi 81.97 335 *eP* **P 19 35 04.8 +0.3**
WMQ pP pwP 19 35 10.5 -0.6
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,190nm,5.1s
WMQ LR LR
comp=Z,190nm,26.9s
WMQ LR LR
comp=Z,180nm,27.7s
OZUR 82.17 18 ⇓P **P 19 35 06.4 +0.9**
GZR Gura Zlata 82.20 20 ⇑P **P 19 35 06.4 +0.8**
GZR Gura Zlata 82.20 20 ⇑P **P 19 35 06.4 +0.8**
LOT Lotru 82.36 20 ⇑P **P 19 35 06.6 0.0**
PLOR Plostina 82.58 17 ⇓P **P 19 35 08.3 +0.7**
PLOR Plostina 82.58 17 ⇓P **P 19 35 08.3 +0.7**
VRI Vrincioaia 82.58 17 ⇑P **P 19 35 08.7 +1.2**
VRI Vrincioaia 82.58 17 ⇑P **P 19 35 08.7 +1.2**
HERR Herculane 82.60 21 ⇑P **P 19 35 08.3 +0.7**
ARR Arges 82.63 19 ⇑P **P 19 35 09.0 +1.1**
VOIR 82.65 19 ⇑P **P 19 35 08.8 +0.8**
VOIR 82.65 19 ⇑P **P 19 35 08.8 +0.8**
XAN Xi'an 82.69 315 P **P 19 35 07.0 -1.4**
XAN pmax pmax
comp=Z,11nm,1.0s
MLR Muntele Rosu 82.78 18 P **P 19 35 09.7 +1.0**
comp=Z,1.7nm,0.7s,baz=253,slow=17,SNR=3.5
MLR Muntele Rosu 82.78 18 ⇑P **P 19 35 09.9 +1.1**
MLR Muntele Rosu 82.78 18 ⇑P **P 19 35 09.9 +1.1**
TDK Taldyqorghan 83.13 341 *eP* **P 19 35 09.6 -0.8**
comp=Z,5.0nm,0.6s,baz=341
TDK Taldyqorghan 83.13 341 *eP* **P 19 35 09.6 -0.8**
TDK pmax pmax
comp=Z,5.0nm,0.6s
LZH Lanzhou 83.19 320 *eP* **P 19 35 09.0 -2.1**
LZH pP pP 19 35 14.5 0.0
LZH sP pwP 19 35 18.3 +0.6
LZH pmax pmax
comp=Z,15nm,1.0s
HUMR Humele 83.50 19 ⇓P **P 19 35 08.4 -3.9**
CFR Carcaliu 83.51 17 ⇑P **P 19 35 06.7 -5.6**
CFR Carcaliu 83.51 17 ⇑P **P 19 35 06.7 -5.6**
TLCR 83.63 16 ⇓P **P 19 35 13.9 +1.0**
TLCR 83.63 16 ⇓P **P 19 35 13.9 +1.0**
TPGR Topolog 83.87 17 ⇑P **P 19 35 14.9 +0.7**
BTLS Baital 83.93 344 *eP* **P 19 35 13.4 -1.1**
comp=Z,4.2nm,1.2s,baz=344
BTLS Baital 83.93 344 *eP* **P 19 35 13.4 -1.1**
BTLS pmax pmax
comp=Z,4.0nm,1.2s

LPAZ	La Paz	84.12	123		LR	LR	20 17 43.0		
	comp=Z,105nm,18.1s,baz=338,slow=39								
PLVB	Pleven	84.51	20	⇑P	P	P	19 35 17.5	0.0	
CHKK	Chushkaly	84.52	342	*i* P	P	P	19 35 16.9	-0.7	
	baz=342								
KPKS	Kokpek	84.54	341	*i* P	P	P	19 35 17.0	-0.8	
	baz=341								
KUU	Kurty	84.61	343	*e*P	P	P	19 35 16.2	-1.8	
	baz=343								
KUU	Kurty	84.61	343	*e*P	P	P	19 35 16.2	-1.8	
SHLS	Shalkode	84.66	340	*e*P	P	P	19 35 16.9	-1.5	
	comp=Z,6.5nm,1.2s,baz=340								
SHLS	Shalkode	84.66	340	*e*P	P	P	19 35 16.9	-1.5	
SHLS				pmax	pmax				
	comp=Z,7.0nm,1.2s								
UZB	Uzynbulak	84.77	340	*i* P	P	P	19 35 18.1	-0.9	
	baz=340								
VTS	Vitosha	84.93	21	⇑P	P	P	19 35 20.2	+0.4	
VTS	Vitosha	84.93	21	⇑P	P	P	19 35 20.2	+0.4	
VTS	Vitosha	84.93	21	P	P	P	19 35 19.3	-0.5	
VTS				IAmb	IAmb		19 35 20.4		
	comp=Z,10nm,0.9s								
SATY	Saty	84.99	341	*e*P	P	P	19 35 19.0	-1.1	
	comp=Z,5.0nm,1.2s,baz=341								
SATY	Saty	84.99	341	*e*P	P	P	19 35 18.9	-1.1	
SATY				pmax	pmax				
	comp=Z,5.0nm,1.2s								
AAA	Alma-Ata	85.15	342	*e*P	P	P	19 35 20.1	-0.8	
	comp=Z,4.8nm,0.8s,baz=342								
AAA	Alma-Ata	85.15	342	*e*P	P	P	19 35 20.0	-0.8	
AAA				pmax	pmax				
	comp=Z,5.0nm,0.8s								
MDOK	Medeo	85.17	342	*e*P	P	P	19 35 19.4	-1.6	
	baz=342								
MDOK	Medeo	85.17	342	*e*P	P	P	19 35 19.4	-1.6	
ANN	Anapa	85.29	10	*e*P	P	P	19 35 17.7	-3.6	
ANN				*e*S	S	S	19 45 41.6	-10	
ANN				pmax	pmax				
	comp=Z,11nm,0.7s								
ANN				MLR	MLR				
	comp=Z,240nm,14.0s								
TNSS	Tian-Shan	85.31	342	*e*P	P	P	19 35 20.9	-1.1	
	baz=342								
TNSS	Tian-Shan	85.31	342	*e*P	P	P	19 35 20.9	-1.1	
SGDS	Sogindy	85.36	344	*e*P	P	P	19 35 20.8	-1.1	
	comp=Z,6.9nm,1.6s,baz=344								
SGDS	Sogindy	85.36	344	*e*P	P	P	19 35 20.7	-1.1	
SGDS				pmax	pmax				
	comp=Z,7.0nm,1.6s								
GOF	Gofitskoye	85.56	6	⇑*e*P	P	P	19 35 22.5	-0.2	
HNR	Honiara	85.62	250		LR	LR	20 06 02.2		
	comp=Z,211nm,21.1s,baz=36,slow=30								
AAK	Ala-Archa	86.17	343	*ce*P	P	P	19 35 26.5	+0.5	
AAK				pmax	pmax				
	comp=Z,24nm,2.5s								
AAK	Ala-Archa	86.17	343	P	P	P	19 35 25.0	-1.0	
DZA	Taraz	86.47	346	*e*P	P	P	19 35 26.5	-0.9	
	baz=346								
DZA	Taraz	86.47	346	*e*P	P	P	19 35 26.4	-0.9	
KIV	Kislovodsk	86.63	7	⇓P	P	P	19 35 28.4	+0.2	
KIV	Kislovodsk	86.63	7	*e*P	P	P	19 35 27.7	-0.5	
KIV				pmax	pmax				
	comp=Z,27nm,1.1s								
KIV				MLR	MLR				
	comp=Z,451nm,20.0s								
KIV	Kislovodsk	86.63	7	P	P	P	19 35 27.5	-0.7	
KIV				IAmb	IAmb		19 35 29.1		
	comp=Z,6.8nm,0.9s								
KBZ	Khabaz	86.88	7	P	P	P	19 35 29.3	+0.1	
	comp=Z,5.3nm,0.8s,baz=273,slow=4.4,SNR=21								
KBZ				LR	LR	LR	20 17 08.0		
	comp=Z,120nm,18.6s,baz=345,slow=38								
KBZ	Khabaz	86.88	7	*ce*P	P	P	19 35 29.7	+0.5	
KEST	Kesra	87.18	33	LR	LR	LR	20 14 51.8		
	comp=Z,205nm,18.9s,baz=325,slow=36								
IUG	Iuzhnay	87.41	347	*e*P	P	P	19 35 31.2	-0.8	
	comp=Z,5.5nm,1.3s,baz=347								
IUG	Iuzhnay	87.41	347	*e*P	P	P	19 35 31.2	-0.8	
IUG				pmax	pmax				
	comp=Z,6.0nm,1.3s								
KSH	Kashi	88.90	342	P	P	P	19 35 41.3	+2.2	
KSH				S	S	S	19 46 28.3	+1.7	
KSH				pmax	pmax				
	comp=Z,15nm,1.1s								
KSH				pmax	pmax				
	comp=Z,160nm,6.8s								
KSH				LR	LR				
	comp=Z,170nm,5.9s								
KSH				LR	LR				
	comp=Z,290nm,11.3s								
BRTR	Keskin Array B	89.76	14	P	P	P	19 35 42.8	-0.3	
	comp=Z,2.7nm,0.9s,baz=15,slow=6.0,SNR=7.6								
BRTR				LR	LR	LR	20 19 10.0		
	comp=Z,127nm,18.0s,baz=349,slow=38								
BRTR	Keskin Array B	89.76	14	*i* P	P	P	19 35 43.4	+0.2	
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
GNI	Garni	90.56	5	*ce*P	P	P	19 35 49.5	+2.5	
GNI				pmax	pmax				
	comp=Z,23nm,1.7s								
DZM	Mont Dzumac	91.80	238	*e*LR	LR	LR	20 05 12.2		
	comp=Z,331nm,21.3s								
GEYT	Alibeck	92.83	355	P	P	P	19 35 57.5	+0.2	
	comp=Z,2.1nm,0.8s,baz=278,slow=5.2,SNR=5.5								
GEYT				LR	LR	LR	20 22 45.0		
	comp=Z,78nm,19.0s,baz=195,slow=39								
BDFB	Brasilia	95.45	108	LR	LR	LR	20 24 18.8		
	comp=Z,124nm,18.4s,baz=26,slow=39								
CPUP	Villa Florida	98.13	121	LR	LR	LR	20 26 37.5		
	comp=Z,80nm,18.1s,baz=326,slow=39								
CMAR	Chiang Mai Arr	100.58	315	P	Pdif	P	19 36 32.6	0.0	
	comp=Z,0.5nm,0.7s,baz=15,slow=4.7,SNR=4.8								
WRA	Warramunga Arr	109.72	262	PKiKP	PKiKP	PKiKP	19 41 13.4	-2.3	
	comp=Z,0.6nm,0.7s,baz=37,slow=1.8,SNR=5.4								
ASAR	Alice Springs	112.67	260	PKiKP	PKiKP	PKiKP	19 41 18.7	-2.5	
	comp=Z,0.3nm,0.8s,baz=110,slow=2.4,SNR=2.1								
ASAR				PKKPbc	PKKPbc	PKKPbc	19 52 10.6	+2.6	
	comp=Z,0.1nm,0.4s,baz=225,slow=3.3,SNR=4.7								
COCO	West Island	127.63	299	*i* PKiKP	PKiKP		19 42 00.5	+10	
KMBO	Kilima Mbogo	130.26	19	PKP	PKiKP	PKiKP	19 41 56.9	+0.5	
	comp=Z,0.8nm,0.5s,baz=55,slow=16,SNR=2.6								
BOSA	Boshof	150.92	54	PKPbc	PKPbc	PKPbc	19 42 36.9	-0.5	
	comp=Z,6.5nm,0.7s,baz=307,slow=2.9,SNR=7.5								
BOSA				PKPab	PKPab	PKPab	19 42 43.4	-1.3	
	comp=Z,6.7nm,0.9s,baz=352,slow=4.6,SNR=3.9								
SYO	Syowa Base	159.48	167	⇑*e*PKPdf	PKPdf	PKPdf	19 42 43.2	+1.4	
SYO	Syowa Base	159.48	167	⇑*e*PKPab	PKPab	PKPab	19 43 20.4	+0.5	

VAO **25** *19:29:02.8±0.8,29°.51S×69°.40W,h10km,mb4.8*
SJA **25** *19:29:09.4±0.7,29°.46S×69°.53W,h137km±5km,ML4.6, MW4.3*
GUC **25** *19:29:11.1±0.6,29°.50S×69°.68W,h117km±11km,ML5.0*
NEIC **25** *19:29:11.6±1.4,29°.48S±0°.05×69°.42W±0°.08,h113km±4km, mb4.9/369,Mwr4.7/14,Md4.7(SJA),ML5.0(GUC),Error ellipse: s-maj=10.9km s-min=7.3km az=80.0*
BJI **25** *19:29:11.0±0.0,29°.50S×69°.40W,h100km,mB5.1/3*
NEIC **25** *19:29:11,29°.46S×69°.39W,h120km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=1.18; Mθθ=0.00; Mφφ=1.18; Mrθ=-0.08; Mrφ=-0.06; Mθφ=-0.04; Fault plane solution: Mo=1.19000×10^16 NP1:φs=0.75000°, δ=45.95000°,λ=-84.70000°. NP2:φs=173.15000°,δ=44.30000°, λ=-95.45000°. Principal axes: T 1.1845, Plg1.0000°, Azm87.0000°; N 0.0053, Plg4.0000°, Azm177.0000°; P -1.1899, Plg86.0000°, Azm345.0000°;*
IDC **25** *19:29:12.6±0.5,29°.46S×69°.39W,h118km±4km,mb4.6/26, mb1 4.6/28,mb1mx4.5/38,mbtmp4.9/28 Error ellipse: s-maj=13.8km s-min=9.7km az=70.0*
ISC 25 19:29:11.2±0.4,29°.46S±0°.03×69°.47W±0°.04,h110km±3km, n600,σ1§14/636,mb4.9/203,12C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	1.17	292	*e*S		Sn	19 29 52.3	+0.4
LCO	Las Campanas	1.17	292	Pn		Pn	19 29 35.0	+0.6
GO04	Tololo Observa	1.36	238	⇓*i*P		Pn	19 29 36.3	-0.2
GO04				*i* S		Sn	19 29 55.3	-0.5
GO04				IAML			19 29 58.6	
	comp=N,56μm,0.4s							
GO04	Tololo Observa	1.36	238			Pn	19 29 36.5	+0.1
GO04	Tololo Observa	1.36	238	*e*P		Pn	19 29 36.6	+0.1
GO04				*e*S		Sn	19 29 57.3	+1.6
AC04	Llanos de Chal	1.89	311	⇓*e*P		Pn	19 29 42.9	+0.2
AC04				*e*S		Sn	19 30 06.2	-0.6
AC04				IAML			19 30 07.2	
	comp=E,14μm,0.2s							
AC04	Llanos de Chal	1.89	311	Pn		Pn	19 29 43.2	+0.5
GO03	Copiap	1.98	340	⇓*e*P		Pn	19 29 44.7	+0.6
GO03				*e*S		Sn	19 30 09.3	+0.3
GO03				IAML			19 30 10.8	
	comp=N,12μm,0.3s							
GO03	Copiap	1.98	340			Pn	19 29 44.8	+0.8
GO03	Copiap	1.98	340	*e*P		Pn	19 29 44.6	+0.6
GO03				*e*S		Sn	19 30 09.9	+0.9
RTLL	Cerro Villicun	2.05	155	*e*P		Pn	19 29 45.3	+0.5
RTLL				*i* S		Sn	19 30 10.8	+0.3
RTLL	Cerro Villicun	2.05	155	*e*P		Pn	19 29 45.6	+0.8
RTLL				*e*S		Sn	19 30 12.0	+1.4
RTLL				IAML			19 30 15.6	
	comp=Z,2μm,0.3s							
CO02	Combarbal	2.18	217	⇑*i*P		Pn	19 29 46.1	-0.5
CO02				*i* S		Sn	19 30 13.1	-0.6
CO02				IAML			19 30 14.7	
	comp=N,14μm,0.3s							
CO02	Combarbal	2.18	217			Pn	19 29 46.1	-0.5
ZON	Zonda	2.19	162	Pn		Pn	19 29 47.0	+0.4
ZON	Zonda	2.19	162	*e*P		Pn	19 29 47.2	+0.6
ZON				*e*S		Sn	19 30 14.9	+1.2
ZON				IAML			19 30 22.3	
	comp=Z,965nm,0.5s							
RTLS	Leoncito	2.33	176	*e*P		Pn	19 29 49.7	+1.0
RTLS				*e*S		Sn	19 30 19.4	+1.9
RTLS				IAML			19 30 22.9	
	comp=Z,754nm,0.4s							
RTCV	Cerro Valdivia	2.52	162	*e*P		Pn	19 29 51.9	+1.0
RTCV				*e*S		Sn	19 30 22.8	+1.3
RTCV				IAML			19 30 24.4	
	comp=Z,805nm,1.1s							
APLL	PUNTA DE LOS L	2.72	111	*e*P		Pn	19 29 54.2	+0.7
AUSP	Uspallata	2.75	179	*e*P		Pn	19 29 55.2	+1.0
AUSP				*e*S		Sn	19 30 27.1	-0.2
VA03	San Esteban	3.42	195	⇑*i*P		Pn	19 30 02.6	-0.2
VA03				*e*S		Sn	19 30 42.6	-0.2
VA03				IAML			19 30 45.5	
	comp=E,2μm,0.5s							
VA03	San Esteban	3.42	195			Pn	19 30 02.5	-0.4
AC01	Pan de Azucar	3.45	343	⇑*i*P		Pn	19 30 03.4	+0.2
AC01				*i* S		Sn	19 30 41.8	-1.6
AC01				IAML			19 30 54.3	
	comp=N,2μm,0.6s							
AC01	Pan de Azucar	3.45	343	Pn		Pn	19 30 03.2	0.0
PEL	Peldehue	3.82	196	⇑*e*P		Pn	19 30 07.0	-1.1
PEL	Peldehue	3.82	196			Pn	19 30 06.8	-1.2
PEL	Peldehue	3.82	196	*e*P		Pn	19 30 07.4	-0.7
PEL				*e*S		Sn	19 30 51.0	-1.2
MT02	Curacav	4.05	200	⇑*i*P		Pn	19 30 08.7	-2.4
MT02	Curacav	4.05	200			Pn	19 30 08.7	-2.4
MT05	Renca	4.07	195	⇑*e*P		Pn	19 30 10.1	-1.4
MT05	Renca	4.07	195	Pn		Pn	19 30 09.7	-1.7
MT03	Universidad Ad	4.12	192	⇑*i*P		Pn	19 30 11.4	-0.8
GO02	Mina Guanaco	4.28	359	⇑*i*P		Pn	19 30 14.9	+0.2
GO02				*e*S		Sn	19 31 02.3	-1.6
GO02	Mina Guanaco	4.28	359	Pn		Pn	19 30 14.7	+0.1
MRA	San Martin	4.37	133	*e*P		Pn	19 30 15.5	0.0
MRA				*e*S		Sn	19 31 02.5	-3.0
MRA				IAML			19 31 25.5	
	comp=Z,212nm,0.6s							
MT09	Talagante	4.49	196	⇑*i*P		Pn	19 30 14.8	-2.5
VA05	Santo Domingo	4.57	203	⇑*e*P		Pn	19 30 14.7	-3.4
PB14	IPOC Station P	4.89	350	*e*P		Pn	19 30 20.9	-1.9
PB14	IPOC Station P	4.89	350	Pn		Pn	19 30 20.6	-2.2
RFA	San Rafael	5.36	171	*e*P		Pn	19 30 28.6	-0.3
RFA				IAML			19 32 05.5	
	comp=Z,294nm,0.5s							
BO02	Sierra Bellavi	5.43	191	Pn		Pn	19 30 26.7	-3.1
COIS	El Sosneado	5.63	181	*e*P		Pn	19 30 31.6	-1.0
SLA	San Lorenzo	5.90	38	⇑*i*P		Pn	19 30 36.9	+0.6
PUMA	Malargue	6.02	180	*e*P		Pn	19 30 37.5	-0.3
PB15	IPOC Station P	6.23	360			Pn	19 30 39.3	-1.5
PB15	IPOC Station P	6.23	360	*e*P		Pn	19 30 40.0	-0.9
PB15				*e*S		Sn	19 31 48.9	-1.9
PB15				IAML			19 32 06.1	
	comp=Z,583nm,0.2s							
PB06	IPOC Station P	6.73	359			Pn	19 30 45.1	-2.5
PB06	IPOC Station P	6.73	359	*e*P		Pn	19 30 46.3	-1.3
PB06				*e*S		Sn	19 31 58.8	-4.1
PB06				IAML			19 32 31.9	
	comp=Z,257nm,0.8s							
LVC	Limon Verde	6.84	4	P		Pn	19 30 47.8	-1.6
	comp=Z,18nm,0.3s,baz=169,slow=10,SNR=115							
LVC				S		Sn	19 32 01.0	-4.9
	comp=Z,28nm,0.3s,baz=198,slow=20,SNR=7.3							
LVC	Limon Verde	6.84	4	Pn		Pn	19 30 47.4	-1.9
PB04	IPOC Station P	7.12	355			Pn	19 30 49.3	-3.7
PB04	IPOC Station P	7.12	355	*e*P		Pn	19 30 49.7	-3.3
PB04				*e*P			19 30 51.4	
PB04				IAML			19 32 36.3	
	comp=Z,237nm,0.7s							
BI02	San Fabin de	7.34	191	Pn		Pn	19 30 51.8	-4.0
PB09	IPOC Station P	7.63	2			Pn	19 30 57.9	-2.0
PB09	IPOC Station P	7.63	2	*e*P		Pn	19 30 58.1	-1.8
PB09				IAML			19 32 57.9	
	comp=Z,222nm,0.8s							
PB07	IPOC Station P	7.71	357			Pn	19 30 57.2	-3.7
BI03	Tigo	7.94	201	Pn		Pn	19 31 02.2	-1.6
PB01	IPOC Station P	8.38	360			Pn	19 31 06.3	-3.6
VA04	Juan Fernndez	9.01	240	Pn		Pn	19 31 15.8	-2.5
PB08	IPOC Station P	9.28	2			Pn	19 31 16.9	-3.6
PSGCX	Pisagua	9.84	356	Pn		Pn	19 31 23.9	-5.8
MNMC	Minye Minye	10.29	359			Pn	19 31 30.3	-5.7
CPUP	Villa Florida	11.18	77	P		Pn	19 31 44.5	-3.3
	comp=Z,3.6nm,0.3s,baz=252,slow=13,SNR=37							
CPUP	Villa Florida	11.18	77	Pn		Pn	19 31 42.4	-5.3
ITQB	Itaqui	11.19	94	*e*P		Pn	19 31 43.8	-4.0
PLCA	Paso Flores	11.28	184	P		Pn	19 31 46.7	-2.3
	comp=Z,0.2nm,0.3s,baz=355,slow=13,SNR=7.0							
LPAZ	La Paz	13.17	6	P		Pn	19 32 14.0	-0.6
	comp=Z,3.4nm,0.3s,baz=189,slow=8.0,SNR=42							
LPAZ	La Paz	13.17	6	Pn		Pn	19 32 12.4	-2.2
PLTB	Pedras Altas	13.86	104	*e*P		Pn	19 32 19.2	-3.7
CPSB	Capapava Do Su	13.93	98	*e*P		Pn	19 32 20.3	-3.6
AQDB	Aquidauana	15.35	57	*e*P		Pn	19 32 39.4	-2.5
ITAB	Concordia	15.43	86	*e*P		Pn	19 32 40.7	-2.1
SIV	San Ignacio	15.47	32	P		Pn	19 32 41.6	-1.9
	comp=Z,1.4nm,0.3s,baz=224,slow=11,SNR=44							
PTGB	Pitanga	16.20	77	*e*P		Pn	19 32 51.4	-1.2
PTLB	Pontes e Lacer	16.89	37	*e*P		Pn	19 32 60.0	-0.9
TER01	Tubaro-SC	17.82	92	*e*P		P	19 33 10.7	-0.7
PP1B	Ponte de Pedra	17.82	52	*e*P		P	19 33 10.8	-0.6
PCMB	Pacaembu	18.18	69	*e*P		P	19 33 15.2	-0.3
VILB	Vilhena	18.54	30	*e*P		Pn	19 33 20.6	-0.4
NNA	Nana	18.69	337	P		Pn	19 33 22.3	-0.4
	comp=Z,1.6nm,0.3s,baz=204,slow=10.0,SNR=1.8							
ETMB	Extrema	19.78	10	*e*P		Pn	19 33 34.6	-0.8
ITRB	Itarama	19.88	65	*e*P		P	19 33 34.2	+0.2
PET01	Itanhaem-SP	20.45	81	*e*P		P	19 33 40.0	+0.1
SPB	Sao Paulo	20.55	79	P		P	19 33 39.5	-1.6
SPB				IAmb		IAmb	19 33 45.7	
	comp=Z,39nm,0.9s							
SPB	Sao Paulo	20.55	79	*e*P		P	19 33 41.2	+0.1
BB19B	Bebedouro	20.68	71	*e*P		P	19 33 42.1	-0.4
VAO	Valinhos	21.17	78	*e*P		P	19 33 47.4	-0.4
SAML	Samuel	21.24	17	P		P	19 33 47.2	-1.3
SAML				IAmb		IAmb	19 33 55.5	
	comp=Z,53nm,1.1s							
SAML	Samuel	21.24	17	*e*P		P	19 33 50.4	+1.9
SAML	Samuel	21.24	17	*e*P		P	19 33 50.8	+2.3
ARAG	Araguaiana, MT	21.25	54	*e*P		P	19 33 46.3	-0.3
CZSB	Cruzeiro do Su	21.83	351	*e*P		P	19 33 56.6	+1.8
GO09	Cerro Castillo	21.89	185	P		P	19 33 55.2	0.0
PARB	Paraibuna	22.19	80	*e*P		P	19 33 57.2	-1.5
CLDB	Colider	22.47	37	*e*P		P	19 34 01.8	+0.3
IPMB	Ipameri, GO	22.52	64	*e*P		P	19 34 01.2	-0.9
ESAR	Ángra dos Reis	23.32	80	*e*P		P	19 34 11.7	+2.1
GO10	Punta Arenas	23.70	182	P		P	19 34 13.3	+0.5
EFI	East Falkland	23.77	162	P		P	19 34 12.9	-0.4
MAN01	Angra dos Reis	23.79	80	*e*P		P	19 34 15.0	+1.0
BSCB	Bom Sucesso	23.84	75	*e*P		P	19 34 15.0	+0.5
BDFB	Brasilia	24.06	60	P		P	19 34 16.8	+0.2
	comp=Z,13nm,0.5s,baz=228,slow=9.4,SNR=12							
BDFB	Brasilia	24.06	60	P		P	19 34 14.7	-1.8
VAS01	Vassouras-RJ	24.45	79	*e*P		P	19 34 21.5	+1.6
USHA	Ushuaia	25.36	179	P		P	19 34 28.9	+1.1
	comp=Z,28nm,0.5s,baz=354,slow=17,SNR=7.7							
DIAM	Diamantina, MG	26.02	70	*e*P		P	19 34 35.4	+1.1
CAM01	Campos-RJ	26.16	80	*e*P		P	19 34 37.1	+1.8
PEXB	Peixe	26.19	53	*e*P		P	19 34 36.9	+1.3
JANB	Januaria	27.26	64	*e*P		P	19 34 46.0	+0.6
ALF01	Guarapari-ES	27.43	78	*e*P		P	19 34 49.3	+2.5
MACA	Manacapuru-AM	27.45	19	*e*P		P	19 34 50.2	+3.2
SJMB	Sao Joao De Ma	27.88	74	*e*P		P	19 34 52.1	+1.3
BSFB	Barra de Sao F	28.11	74	*e*P		P	19 34 53.2	+0.4
ITTB	Itaituba	28.15	30	*e*P		P	19 34 54.7	+1.6
SDBA	SAO DESIDERIO	28.44	59	*e*P		P	19 34 56.6	+0.8
SMTB	Santa Maria do	29.00	49	*e*P		P	19 35 01.2	+0.4
PRPB	Parauapebas	29.67	42	*e*P		P	19 35 07.4	+0.7
PTGA	Pitinga	29.97	19	P		P	19 35 09.2	-0.1
	comp=Z,6.6nm,0.7s,baz=207,slow=8.0,SNR=8.0							
PTGA	Pitinga	29.97	19	*e*P		P	19 35 09.5	+0.2
OTAV	Otavalo	30.75	342	*e*P		P	19 35 19.6	+2.8
MALB	Monte Alegre	31.04	31	*e*P		P	19 35 22.2	+3.6
NBIT	Itapeh - BA	31.23	69	*e*P		P	19 35 20.8	+0.3
SOTA	Rioblanco	32.15	347	*e*P		P	19 35 31.8	+2.7
BBAC	Balboa, Cauca	32.18	345	*e*P		P	19 35 31.2	+2.2
PCON	Cinco Dias	32.30	347	*e*P		P	19 35 33.2	+2.8
POPC	Popayan, Colom	32.56	347	*e*P		P	19 35 33.2	+0.8
MCPB	Macapa, AP	33.37	33	*e*P		P	19 35 42.0	+2.9
ORTC	Ortega, Tolima	33.64	350	*e*P		P	19 35 43.8	+2.3
TMAB	Tom-Au,PA,Br	33.74	41	*e*P		P	19 35 45.1	+2.8
YOTC	Yotoco, Valle	33.90	348	*e*P		P	19 35 43.1	-0.8
HOPE	Hope Point	34.38	146	P		P	19 35 47.5	+0.1
ROSC	El Rosal	34.42	351	P		P	19 35 50.8	+2.2
	comp=Z,15nm,0.4s,baz=5.2,slow=13,SNR=4.7							
ROSC	El Rosal	34.42	351	IAmb		IAmb	19 35 53.5	
	comp=Z,16nm,0.6s							
NBLA	Lagarto - SE	34.77	65	*e*P		P	19 35 53.9	+2.6
PLMC	San Jos del P	34.79	348	*e*P		P	19 35 53.2	+1.8
GUY2C	Guyana, Caldas	34.95	350	*e*P		P	19 35 54.8	+1.5
SPBC	San Pablo de B	35.19	352	*e*P		P	19 35 55.5	+0.6
NORC	Norcasia	35.21	351	*e*P		P	19 35 55.2	+0.2
RUSC	La Rusia	35.32	354	*e*P		P	19 35 57.6	+1.1
CBOC	Ciudad Bolivar	35.68	349	*e*P		P	19 35 60.0	+0.8
ROSB	Rosrio	35.73	47	*e*P		P	19 36 02.6	+3.1
HELC	Santa Helena	35.92	350	*e*P		P	19 36 02.5	+1.0
PTBC	PUERTO BERRIO,	36.11	352	*e*P		P	19 36 01.6	-1.1
NBMA	Muriti-CE	36.29	59	*e*P		P	19 36 07.1	+2.8
DBBC	Dabeiba	36.84	349	*e*P		P	19 36 10.5	+1.5
ZARC	Zaragoza, Cauc	37.10	351	*e*P		P	19 36 10.4	-0.7
MDP	Montagnes des	37.98	28	P		P	19 36 18.3	-0.2
	comp=Z,12nm,0.9s,baz=203,slow=9.6,SNR=4.5							
SDV	Santo Domingo	38.14	358	P		P	19 36 19.6	-0.5
	comp=Z,17nm,0.8s,baz=189,slow=10,SNR=10							
SDV	Santo Domingo	38.14	358	P		P	19 36 18.9	-1.1
SDV				IAmb		IAmb	19 36 20.9	
	comp=Z,15nm,0.7s							
SMLC	San Martn de	38.30	353	*e*P		P	19 36 19.5	-1.7
RCBR	Riachuelo	39.44	60	P		P	19 36 31.7	+0.9
	comp=Z,2.7nm,0.5s,baz=219,slow=6.5,SNR=1.5							
SJCC	San Jacinto, C	39.51	351	*e*P		P	19 36 31.2	-0.1
BCIP	Isla Barro Col	39.68	344	P		P	19 36 33.8	+1.1
BCIP				IAmb		IAmb	19 36 50.1	
	comp=Z,26nm,0.9s							
RIOS	Rincon, Osa	40.28	338	P		P	19 36 39.4	+1.7
JTS	Las Juntas de	42.25	337	P		P	19 36 56.0	+2.2
	comp=Z,11nm,0.5s,baz=240,slow=8.1,SNR=3.7							
JTS	Las Juntas de	42.25	337	P		P	19 36 55.7	+1.9
JTS				IAmb		IAmb	19 36 56.6	
	comp=Z,12nm,0.7s							
FDF	Fort de France	44.66	11	P		P	19 37 12.5	-0.6
TGUH	Tegucigalpa,

V58A Windy Hill, Pi 65.54 351 P **P** **19 39 42.9 0.0**
V58A IAmb IAmb 19 39 43.9
comp=Z,18nm,0.8s
SLBS Sierra La Lagu 65.63 319 P **P** **19 39 45.3 +1.6**
SLBS IAmb IAmb 19 39 46.7
comp=Z,12nm,0.7s
W52A Murphy 65.64 347 P **P** **19 39 43.6 +0.1**
W52A IAmb IAmb 19 39 44.5
comp=Z,14nm,0.9s
X48A Hartselle 65.70 344 P **P** **19 39 43.9 0.0**
V57A Coltrane Farms 65.72 351 P 19 39 43.9
baz=170
V56A Mocksville 65.75 350 P 19 39 44.4
baz=169
Y45A Yeager Farm, C 65.79 342 P **P** **19 39 44.8 +0.4**
V55A Taylorsville 65.90 350 P **P** **19 39 45.1 0.0**
V55A IAmb IAmb 19 39 46.0
comp=Z,15nm,0.7s
V53A Saluda 65.99 348 P **P** **19 39 45.4 -0.4**
V53A IAmb IAmb 19 39 46.3
comp=Z,14nm,0.6s
W50A Signal Mountai 66.03 346 P **P** **19 39 45.8 -0.2**
237A Washetta, Mont 66.05 336 P **P** **19 39 45.8 -0.4**
CPCT Cooper Cave 66.11 347 P **P** **19 39 46.2 -0.2**
CPCT IAmb IAmb 19 39 47.3
comp=Z,14nm,0.6s
TKL Tuckaleechee C 66.16 347 P **P** **19 39 46.7 -0.1**
comp=Z,16nm,0.6s,baz=165,slow=8.2,SNR=16
TKL Tuckaleechee C 66.16 347 P **P** **19 39 46.7 -0.1**
SWET Sewanee 66.18 345 P **P** **19 39 46.8 -0.2**
U57A Blanch 66.20 351 P 19 39 47.4
baz=170
JCT Junction City 66.24 332 P 19 39 48.7
baz=151,SNR=8.5
JCT Junction City 66.24 332 P **P** **19 39 48.2 +0.7**
U56A King 66.26 350 P 19 39 48.2
baz=170
U56A King 66.26 350 P **P** **19 39 47.8 +0.3**
V52A Sevierville 66.30 347 P **P** **19 39 47.2 -0.5**
OXF Oxford 66.36 342 P 19 39 47.8
baz=161
OXF Oxford 66.36 342 P **P** **19 39 47.8 -0.3**
V51A Loudon 66.41 347 P **P** **19 39 48.3 -0.1**
V51A IAmb IAmb 19 39 49.0
comp=Z,13nm,0.7s
PLAL Pickwick Lake 66.46 343 P **P** **19 39 48.4 -0.4**
PLAL IAmb IAmb 19 39 49.3
comp=Z,15nm,0.9s
CCAR Cane Creek 66.47 340 P **P** **19 39 49.2 +0.4**
T58A Grand View Acr 66.60 352 P 19 39 50.3
baz=171,SNR=6.6
WHTX Lake Whitney, 66.65 334 P 19 39 51.0
baz=154
WHTX Lake Whitney, 66.65 334 P **P** **19 39 50.3 +0.3**
WHTX IAmb IAmb 19 39 51.4
comp=Z,13nm,0.6s
U54A Nelsons Funny 66.65 349 P 19 39 49.9
baz=168,SNR=5.1
U54A Nelsons Funny 66.65 349 P **P** **19 39 49.6 -0.5**
WLAR White Oak Lake 66.67 339 P **P** **19 39 51.1 +1.0**
T56A Rocky Mt 66.88 351 P 19 39 51.8
baz=170,SNR=5.1
V48A Smith Brothers 66.88 345 P **P** **19 39 51.1 -0.3**
TX31 Lajitas Ar. Si 66.96 328 P **P** **19 39 52.6 +0.4**
TX31 IAmb IAmb 19 39 54.0
comp=Z,15nm,0.7s
TX32 Lajitas Array 66.96 328 P **P** **19 39 52.9 +0.7**
TXAR Lajitas Array 66.96 328 P **P** **19 39 53.4 +1.2**
comp=Z,4.3nm,0.6s,baz=153,slow=8.7,SNR=35
TXAR pP **pP** **19 40 20.7 0.0**
comp=Z,2.0nm,0.6s,baz=160,slow=7.8,SNR=5.2
TXAR Lajitas Array 66.96 328 P **P** **19 39 52.7 +0.5**
CLTN Cedars of Leba 67.11 345 P **P** **19 39 52.8 -0.1**
BLA Blacksburg 67.11 351 P **P** **19 39 53.1 +0.2**
BLA IAmb IAmb 19 39 58.3
comp=Z,14nm,0.8s
S58A Poland Farm, P 67.21 353 P **P** **19 39 54.1 +0.7**
S58A IAmb IAmb 19 39 55.2
comp=Z,21nm,0.9s
JSRW J. Sargeant Re 67.27 353 P **P** **19 39 54.5 +0.8**
U49A Red Boiling Sp 67.39 346 P **P** **19 39 54.2 -0.4**
S57A Dark Hollow, R 67.46 352 P 19 39 55.8
baz=171
S57A Dark Hollow, R 67.46 352 P **P** **19 39 54.9 -0.1**
S57A IAmb IAmb 19 39 56.5
comp=Z,19nm,0.9s
WVT Waverly 67.49 344 P 19 39 55.1
baz=163
WVT Waverly 67.49 344 P **P** **19 39 54.8 -0.5**
R58B Mineral 67.53 353 P 19 39 56.5
baz=172
R58B Mineral 67.53 353 P **P** **19 39 55.9 +0.5**
R58B IAmb IAmb 19 39 57.5
comp=Z,22nm,0.9s
MIAR Mount Ida 67.61 339 P 19 39 56.6
baz=157
MIAR Mount Ida 67.61 339 P **P** **19 39 55.8 -0.2**
T50A Nancy 67.69 347 P **P** **19 39 55.9 -0.5**
Z35A Perchaven, San 67.77 335 P **P** **19 39 57.1 +0.1**
W41B Gary Mavity, V 67.78 340 P 19 39 57.5
baz=159,SNR=6.8
S54A Dingess, Beckl 67.82 350 P 19 39 57.3
baz=169
S54A Dingess, Beckl 67.82 350 P **P** **19 39 57.1 -0.2**
S54A IAmb IAmb 19 39 58.1
comp=Z,14nm,0.8s
WHAR Wooly Hollow 67.90 340 P **P** **19 39 58.0 +0.1**
R57A Stanardsville 67.94 352 P 19 39 58.6
baz=171
S51A Beattyville 68.05 348 P **P** **19 39 58.5 -0.2**
S51A IAmb IAmb 19 39 59.0
comp=Z,11nm,0.7s
ABTX Abilene, Hawle 68.06 333 P 19 39 59.6
baz=152
ABTX Abilene, Hawle 68.06 333 P **P** **19 39 59.0 +0.1**
ABTX IAmb IAmb 19 40 00.9
comp=Z,26nm,0.9s
R55A Marlinton 68.12 351 P 19 40 00.1
baz=170
T47A Sharon Grove 68.14 345 P **P** **19 39 58.9 -0.4**
T47A IAmb IAmb 19 40 00.6
comp=Z,22nm,1.1s
HICK Hickman 68.23 343 P **P** **19 39 60.0 +0.1**
X37A Clayton 68.24 337 P **P** **19 40 00.4 +0.5**
W39A Magazine 68.28 339 P 19 40 01.2
baz=157,SNR=8.4
W39A Magazine 68.28 339 P **P** **19 40 00.6 +0.4**
W39A IAmb IAmb 19 40 02.4
comp=Z,27nm,1.1s
LCAR Lake Charles 68.30 341 P **P** **19 40 00.5 +0.2**
Q58A Fox Den Farm, 68.48 353 P 19 40 02.1
baz=172
PARMO Parma 68.48 343 P **P** **19 40 02.0 +0.6**
Q57A Strasburg 68.65 353 P 19 40 03.9
baz=172
Q56A Snyder Ridge, 68.75 352 P 19 40 04.2
baz=171
PBMO Poplar Bluff 68.77 342 P **P** **19 40 03.4 +0.2**
SDMD Soldier's Deli 68.86 354 P **P** **19 40 03.9 +0.2**
Q53A Leroy 68.89 350 P 19 40 05.0
baz=169
Q54A Coxs Mills 68.91 351 P **P** **19 40 03.9 -0.1**
Q54A IAmb IAmb 19 40 04.7
comp=Z,14nm,0.8s
VNDA Vanda 68.96 190 P **P** **19 40 04.9 +1.0**
comp=Z,2.8nm,0.7s,baz=126,slow=5.4,SNR=18
VNDA Vanda 68.96 190 P **P** **19 40 04.8 +0.8**
R49A Shelbyville 68.98 347 P **P** **19 40 03.8 -0.7**
P59A Jarrettsville 69.02 354 P 19 40 06.1
baz=173,SNR=11
P57A Homestead Farm 69.05 353 P 19 40 06.1
baz=172,SNR=5.2
P57A Homestead Farm 69.05 353 P **P** **19 40 06.0 +1.1**
P57A IAmb IAmb 19 40 07.2
comp=Z,28nm,0.9s
U40A Yellville 69.06 340 P 19 40 05.3
baz=158,SNR=10.0
U40A Yellville 69.06 340 P **P** **19 40 05.2 +0.1**
U40A IAmb IAmb 19 40 06.4
comp=Z,12nm,0.7s
Q52A Bidwell 69.11 349 P **P** **19 40 05.3 0.0**
Q52A IAmb IAmb 19 40 07.5
comp=Z,19nm,0.8s
WCI Wyandotte Cave 69.15 346 P **P** **19 40 04.8 -0.8**
WCI IAmb IAmb 19 40 05.8
comp=Z,13nm,0.7s
P56A Dayton Farm, R 69.16 352 P 19 40 06.9
baz=171
T42A Van Buren 69.19 342 P **P** **19 40 05.6 -0.2**
USIN University of 69.20 345 P **P** **19 40 05.2 -0.6**
WUPA West Chester U 69.28 355 P **P** **19 40 06.9 +0.6**
SYO Syowa Base 69.28 159‖ *e*P **P** **19 40 01.6 -4.4**
HHAR Hobbs 69.33 339 P **P** **19 40 07.0 +0.3**
HHAR IAmb IAmb 19 40 08.1
comp=Z,14nm,0.9s
S44A Carbondale 69.33 343 P **P** **19 40 06.2 -0.5**
SIUC Southern Illin 69.34 343 P **P** **19 40 06.3 -0.3**
Q51A Peebles 69.35 348 P **P** **19 40 06.5 -0.3**
Q51A IAmb IAmb 19 40 07.5
comp=Z,18nm,1.1s
MVL Millersville 69.40 354 P **P** **19 40 07.4 +0.4**
MVL IAmb IAmb 19 40 09.1
comp=Z,20nm,1.0s
MCWV Mont Chateau 69.44 351 P 19 40 07.8
baz=170
P53A Whipple 69.49 350 P **P** **19 40 07.6 0.0**
P53A IAmb IAmb 19 40 08.8
comp=Z,22nm,1.1s
O58A Lewisberry 69.58 354 P 19 40 09.1
baz=173
TUL1 Leonard 69.58 337 P 19 40 08.6
baz=156,SNR=5.4
WMOK Wichita Mounta 69.59 335 P 19 40 08.4
baz=153,SNR=6.7
WMOK Wichita Mounta 69.59 335 P **P** **19 40 07.9 -0.5**
U38A Gravette 69.61 339 P **P** **19 40 07.8 -0.7**
MGMO Mountain Grove 69.63 341 P **P** **19 40 08.3 -0.2**
MGMO IAmb IAmb 19 40 10.0
comp=Z,25nm,1.2s
O60A Telford 69.64 355 P 19 40 09.6
baz=174
PAGS Pennsylvania G 69.66 354 P **P** **19 40 08.7 +0.1**
PAGS IAmb IAmb 19 40 10.4
comp=Z,18nm,0.8s
O59A Robesonia 69.70 355 P 19 40 09.8
baz=174,SNR=5.1
GDL2 Guadalupe Moun 69.70 329 P **P** **19 40 10.4 +1.1**
O57A Amberson 69.73 353 P 19 40 10.2
baz=172
MNTX Cornudas Mount 69.74 328 P 19 40 09.5
baz=147,SNR=14
P52A Corning 69.74 350 P 19 40 08.9
baz=168
P52A Corning 69.75 350 P **P** **19 40 08.7 -0.5**
P52A IAmb IAmb 19 40 09.8
comp=Z,19nm,0.9s
MNTX Cornudas Mount 69.75 328 P **P** **19 40 09.2 -0.1**
MNTX IAmb IAmb 19 40 10.5
comp=Z,12nm,0.8s
OK025 Westminster Rd 69.82 336 P **P** **19 40 09.6 -0.2**
O56A Blue Knob Stat 69.89 353 P 19 40 10.9
baz=172
O56A Blue Knob Stat 69.89 353 P **P** **19 40 10.5 +0.4**
O56A IAmb IAmb 19 40 11.9
comp=Z,14nm,0.8s
FVM French Village 69.90 342 P **P** **19 40 10.2 0.0**
OK030 Cody Creek RV 69.94 337 P **P** **19 40 10.5 0.0**
BRNJ Basking Ridge 69.95 356 P **P** **19 40 11.3 +0.9**
BRNJ IAmb IAmb 19 40 12.5
comp=Z,22nm,0.8s
O54A Avella 70.03 351 P **P** **19 40 10.3 -0.6**
OK029 Liberty Lake 70.06 336 P **P** **19 40 11.2 +0.1**
BLO Bloomington 70.11 346 P **P** **19 40 10.3 -1.1**
QUOK Quay 70.13 337 P **P** **19 40 11.9 +0.2**
QUOK IAmb IAmb 19 40 13.1
comp=Z,24nm,1.0s
P48A Milroy 70.16 347 P **P** **19 40 10.5 -1.3**
P48A IAmb IAmb 19 40 14.3
comp=Z,12nm,0.7s
N60A Cedar Hill Far 70.17 355 P 19 40 12.7
baz=175,SNR=6.0
O52A Adamsville 70.17 350 P **P** **19 40 11.4 -0.3**
O52A IAmb IAmb 19 40 12.5
comp=Z,13nm,0.6s
CCM Cathedral Cave 70.19 342 P 19 40 12.4
baz=160
CCM Cathedral Cave 70.19 342 P **P** **19 40 11.7 -0.2**
N57A Milroy 70.26 353 P 19 40 13.1
baz=172
N59A State Game Lan 70.27 355 P 19 40 13.6
baz=174,SNR=7.0
N59A State Game Lan 70.27 355 P **P** **19 40 13.0 +0.6**
N59A IAmb IAmb 19 40 14.6
comp=Z,19nm,0.8s
N58A Sunbury 70.27 354 P 19 40 13.3
baz=173,SNR=6.0
N58A Sunbury 70.27 354 P **P** **19 40 12.8 +0.5**
N58A IAmb IAmb 19 40 14.3
comp=Z,19nm,0.9s
ODNJ Ogdensburg 70.35 356 P **P** **19 40 13.6 +0.8**
ODNJ IAmb IAmb 19 40 14.8
comp=Z,15nm,0.9s
HSIG 70.36 322 P **P** **19 40 14.2 +1.0**
HSIG IAmb IAmb 19 40 15.3
comp=Z,16nm,0.8s
WSPT Westport, CT 70.37 357 P **P** **19 40 13.7 +0.8**
WSPT IAmb IAmb 19 40 14.8
comp=Z,12nm,0.8s
Q44A Meyer Farm, Va 70.42 344 P **P** **19 40 12.4 -0.8**
Q44A IAmb IAmb 19 40 13.1
comp=Z,12nm,0.8s
S39A Bolivar 70.44 340 P **P** **19 40 13.6 +0.1**
S39A IAmb IAmb 19 40 14.9
comp=Z,23nm,0.8s
ACSO Alum Creek Sta 70.47 349 P 19 40 13.5
baz=168
ACSO Alum Creek Sta 70.47 349 P **P** **19 40 13.2 -0.4**
ACSO IAmb IAmb 19 40 14.3
comp=Z,21nm,0.8s
N56A West Decatur 70.50 353 P 19 40 14.5
baz=172
MSTX Muleshoe 70.51 331 P 19 40 14.9
baz=150
MSTX Muleshoe 70.51 331 P **P** **19 40 14.1 0.0**
M60A Port Jervis 70.59 356 P 19 40 15.4
baz=175,SNR=6.4
M62A Hamden 70.62 357 P 19 40 15.4
baz=177,SNR=5.2
O49A Covington 70.66 348 P **P** **19 40 14.0 -0.7**
O49A IAmb IAmb 19 40 15.5
comp=Z,19nm,1.1s
M64A Tiverton 70.67 359 P 19 40 17.2
baz=178
P46A Rosedale 70.68 346 P **P** **19 40 13.8 -1.0**
P46A IAmb IAmb 19 40 15.2
comp=Z,26nm,0.9s
R40A Maddies Statio 70.69 341 P **P** **19 40 15.0 0.0**
T35A Sooner Cattle 70.74 337 P **P** **19 40 15.7 +0.4**
N54A Moraine State 70.74 352 P 19 40 15.7
baz=170
N54A Moraine State 70.74 352 P **P** **19 40 15.6 +0.3**
N54A IAmb IAmb 19 40 16.7
comp=Z,18nm,0.8s
AMTX Amarillo 70.85 332 P 19 40 16.8
baz=150
AMTX Amarillo 70.85 332 P **P** **19 40 16.1 0.0**
AMTX IAmb IAmb 19 40 19.9
comp=Z,13nm,0.8s
M59A Waymart 70.86 355 P 19 40 16.8
baz=174,SNR=10
KSPA Keystone Colle 70.90 355 P **P** **19 40 16.6 +0.5**
KSPA IAmb IAmb 19 40 18.1
comp=Z,25nm,1.3s
KSCT Kent School, K 70.93 357 P **P** **19 40 16.9 +0.6**
UCCT U. Connecticut 70.95 358 P **P** **19 40 16.5 +0.1**
L63A North Scituate 71.00 358 P 19 40 17.8
baz=178
L63A North Scituate 71.00 358 P **P** **19 40 17.0 +0.3**
L63A IAmb IAmb 19 40 18.6
comp=Z,17nm,0.7s
M56A Emporium 71.05 353 P 19 40 17.5
baz=172
M56A Emporium 71.05 353 P **P** **19 40 17.1 0.0**
M56A IAmb IAmb 19 40 19.2
comp=Z,45nm,1.4s
BRYW Bryant College 71.05 358 P **P** **19 40 17.4 +0.4**
BRYW IAmb IAmb 19 40 19.0
comp=Z,15nm,0.8s
L64A Middleborough 71.05 359 P 19 40 18.0
baz=179
L64A Middleborough 71.05 359 P **P** **19 40 17.7 +0.6**
M55A Ridgway 71.10 353 P **P** **19 40 17.7 +0.3**
U32A Winter Ranch, 71.13 335 P **P** **19 40 18.3 +0.6**
KAN13 South Haven SW 71.16 337 P **P** **19 40 18.8 +0.9**
L60A Shokan 71.23 356 P 19 40 19.0
baz=176
P43A Skaggs, Pawnee 71.24 344 P **P** **19 40 17.7 -0.5**
M54A Oil Creek Stat 71.24 352 P 19 40 18.4
baz=171
M54A Oil Creek Stat 71.24 352 P **P** **19 40 18.5 +0.3**
M54A IAmb IAmb 19 40 19.4
comp=Z,28nm,1.2s
LIC Lamto 71.25 71 *e*P **P** **19 40 19.0 0.0**
comp=Z,68nm,1.0s
M53A WI Miller and 71.30 351 P 19 40 19.0
baz=170
KAN09 Caldwell North 71.32 337 P **P** **19 40 19.4 +0.6**
N49A Columbus Grove 71.34 348 P **P** **19 40 18.4 -0.5**
319A Douglas 71.37 325 P **P** **19 40 21.1 +1.8**
SFIN Lafayette 71.39 346 P 19 40 18.4
baz=164
SFIN Lafayette 71.39 346 P **P** **19 40 18.3 -0.8**
SFIN IAmb IAmb 19 40 19.2
comp=Z,26nm,1.1s
L58A Harry Jones Me 71.39 355 P 19 40 20.0
baz=174,SNR=7.3
L61A Hillsdale 1, H 71.40 357 P 19 40 19.9
baz=176
M51A Elyria 71.41 350 P 19 40 19.2
baz=168
L57A Andrews Acres 71.43 354 P 19 40 20.1
baz=173
QUA2 Belchertown 71.43 358 P **P** **19 40 19.9 +0.5**
O44A Mansfield 71.47 345 P **P** **19 40 18.9 -0.7**
O44A IAmb IAmb 19 40 19.8
comp=Z,16nm,0.6s
L59A Walton 71.48 356 P 19 40 20.8
baz=175,SNR=6.2
L59A Walton 71.48 356 P **P** **19 40 20.5 +0.8**
L59A IAmb IAmb 19 40 21.8
comp=Z,17nm,0.8s
TIC Toumodi 71.49 71 *e*P **P** **19 40 20.4 0.0**
M52A Chesterland 71.50 351 P **P** **19 40 19.7 -0.1**
WES Weston 71.51 359 P **P** **19 40 19.1 -0.7**
WES IAmb IAmb 19 40 38.0
comp=Z,20nm,1.3s
BINY Binghamton 71.56 355 P 19 40 20.9
baz=174
KIC Kosan Boka 71.57 71 *e*P **P** **19 40 21.1 +0.3**
comp=Z,40nm,0.8s
121A Cookes Peak, D 71.57 326 P 19 40 22.6
baz=145,SNR=14
121A Cookes Peak, D 71.57 326 P **P** **19 40 20.9 +0.2**
121A IAmb IAmb 19 40 23.7
comp=Z,25nm,0.8s
L61B Northampton 71.61 357 P 19 40 21.2
baz=177,SNR=6.0
M50A Fremont 71.62 349 P **P** **19 40 19.7 -0.7**
M50A IAmb IAmb 19 40 21.2
comp=Z,23nm,0.8s
L56A Greenwood 71.63 354 P 19 40 21.2
baz=172
L56A Greenwood 71.63 354 P **P** **19 40 20.9 +0.2**
L56A IAmb IAmb 19 40 22.2
comp=Z,22nm,0.8s
HRV Adam Dziewonsk 71.64 358 P 19 40 21.7
baz=178
HRV Adam Dziewonsk 71.64 358 P **P** **19 40 21.1 +0.5**
HRV IAmb IAmb 19 40 22.6
comp=Z,16nm,1.1s
DBIC Dimbokro 71.64 71 P **P** **19 40 21.5 +0.2**
comp=Z,17nm,0.5s,baz=207,slow=6.3,SNR=38
DBIC pP **pP** **19 40 51.9 +1.9**
comp=Z,12nm,0.9s,baz=225,slow=8.7,SNR=4.2
DBIC Dimbokro 71.64 71 P **P** **19 40 20.9 -0.4**
DBIC IAmb IAmb 19 40 22.1
comp=Z,20nm,0.7s
L53A Girard 71.75 352 P 19 40 21.2
baz=170
P40A Paris 71.79 342 P **P** **19 40 21.5 0.0**
K62A Royalston 71.81 358 P 19 40 22.5
baz=177
K61A Williamstown 71.86 357 P 19 40 23.0
baz=176
ERPA Erie 71.88 352 P 19 40 22.3
baz=170
ERPA Erie 71.88 352 P **P** **19 40 22.1 0.0**
ERPA IAmb IAmb 19 40 23.2
comp=Z,27nm,0.9s
TRY Troy 71.94 357 P **P** **19 40 23.5 +1.2**
TRY IAmb IAmb 19 40 24.6
comp=Z,23nm,1.0s
WVNY West Valley, N 72.01 353 P **P** **19 40 23.3 +0.5**
K59A Cooperstown 72.05 356 P 19 40 23.9
baz=175,SNR=5.5
HDIL Hopedale 72.05 344 P 19 40 23.0
baz=162
HDIL Hopedale 72.05 344 P **P** **19 40 22.7 -0.4**
HDIL IAmb IAmb 19 40 23.7
comp=Z,19nm,0.8s
K58A Earlville 72.09 355 P 19 40 23.9
baz=174,SNR=7.4
K58A Earlville 72.09 355 P **P** **19 40 23.8 +0.5**
K58A IAmb IAmb 19 40 25.0
comp=Z,18nm,0.8s
K57A Scipio Center 72.13 355 P 19 40 23.8
baz=174
K56A Middlesex 72.17 354 P 19 40 24.1
baz=173
MMNY Mt. Morris Dam 72.26 353 P **P** **19 40 24.6 +0.3**
MMNY IAmb IAmb 19 40 25.7
comp=Z,20nm,0.7s
P38A Dawn 72.29 341 P **P** **19 40 24.4 -0.1**
P38A IAmb IAmb 19 40 25.2
comp=Z,15nm,0.5s
J62A Henniker 72.36 358 P 19 40 26.2
baz=178,SNR=6.1
BNM Barren Site 72.36 328 P **P** **19 40 26.3 +0.9**
L48A N Adams 72.38 348 P **P** **19 40 24.7 -0.3**
L48A IAmb IAmb 19 40 25.5
comp=Z,20nm,0.7s
J61A Chester 72.50 358 P 19 40 26.8
baz=177
LENM Lemitar 72.54 328 P **P** **19 40 27.5 +1.1**
N41A Harden Midland 72.58 343 P **P** **19 40 25.6 -0.6**
N41A IAmb IAmb 19 40 26.5
comp=Z,21nm,0.8s
J56A Wolcott 72.70 354 P 19 40 26.9
baz=173
J56A Wolcott 72.70 354 P **P** **19 40 26.6 -0.2**
J56A IAmb IAmb 19 40 27.9
comp=Z,24nm,0.8s
J59A Piesco 72.72 356 P 19 40 27.6
baz=175
J59A Piesco 72.72 356 P **P** **19 40 27.2 +0.2**
J59A IAmb IAmb 19 40 28.8
comp=Z,17nm,1.1s
J57A Williamstown 72.76 355 P 19 40 27.7
baz=174
J57A Williamstown 72.76 355 P **P** **19 40 27.4 +0.2**
J57A IAmb IAmb 19 40 28.6
comp=Z,17nm,0.8s
HNH Hanover 72.86 358 P **P** **19 40 28.6 +0.9**
HNH IAmb IAmb 19 40 30.2
comp=Z,18nm,0.9s
TUC Tucson 72.88 324 P 19 40 29.8
baz=143
TUC Tucson 72.88 324 P **P** **19 40 28.7 +0.3**
K50A Casco 72.89 350 P **P** **19 40 27.6 -0.4**
ANMO Albuquerque 72.95 329 P 19 40 30.5
baz=147
ANMO Albuquerque 72.95 329 P **P** **19 40 28.6 -0.2**
I58A Old Forge 72.97 356 P 19 40 29.0
baz=175
I62A Tamworth 73.00 359 P 19 40 30.2
baz=178
I64A Boothbay 73.02 360 P 19 40 30.0
baz=180
I60A Shoreham 73.03 357 P 19 40 29.6
baz=176
I63A Otisfield 73.16 359 P 19 40 31.0
baz=179
I63A Otisfield 73.16 359 P **P** **19 40 30.2 +0.6**
I63A IAmb IAmb 19 40 32.2
comp=Z,28nm,1.1s
NCB Newcomb 73.20 356 P **P** **19 40 30.4 +0.5**
I57A Carthage 73.26 355 P 19 40 30.5

baz=174
N38A Joes South For 73.29 341 P P 19 40 30.2 -0.2
N38A IAmb IAmb 19 40 32.1
comp=Z,16nm,0.8s
PECO Prince Edward 73.36 354 P P 19 40 30.8 +0.1
PECO IAmb IAmb 19 40 32.0
comp=Z,15nm,0.8s
LBNH Lisbon 73.38 358 P 19 40 32.0
baz=178,SNR=5.0
LBNH Lisbon 73.38 358 P P 19 40 31.7 +0.8
L42A Oliver, Polo 73.51 344 P P 19 40 31.4 -0.4
CBKS Cedar Bluff 73.56 336 P 19 40 33.2
baz=153
H58A Gabriels 73.65 356 P 19 40 33.0
baz=176
214A Organ Pipe Nat 73.66 323 P 19 40 35.0
baz=142,SNR=21
214A Organ Pipe Nat 73.66 323 P P 19 40 33.7 +0.9
H61A Lyndonville 73.67 358 P 19 40 33.9
baz=178,SNR=9.4
I51A Listowel 73.67 351 P 19 40 32.8
baz=169,SNR=5.1
PIX Pinacate 73.70 322 P P 19 40 33.5 +0.5
J47A Sunmer 73.70 348 P P 19 40 31.6 -1.2
J47A IAmb IAmb 19 40 32.9
comp=Z,19nm,0.8s
H64A Troy 73.74 0 P 19 40 34.2
baz=180
H57A Richville 73.76 356 P 19 40 33.6
baz=174
H63A New Sharon 73.77 360 P 19 40 34.6
baz=179
H65A Eastbrook 73.81 1 P 19 40 34.2
baz=181,SNR=6.5
EMMW East Machias 73.84 1 P P 19 40 34.3 +0.8
EMMW IAmb IAmb 19 40 35.5
comp=Z,18nm,0.7s
H59A Cadyville 73.85 357 P 19 40 34.2
baz=176
T25A Trinidad 73.91 332 P 19 40 36.1
baz=149,SNR=9.5
T25A Trinidad 73.91 332 P P 19 40 34.9 +0.5
T25A IAmb IAmb 19 40 37.2
comp=Z,20nm,1.0s
H66A Whiting 73.92 2 P 19 40 35.2
baz=182
L40A Anamosa 73.95 343 P P 19 40 34.0 -0.3
FRNY Flat Rock 74.03 357 P P 19 40 34.6 -0.1
FRNY IAmb IAmb 19 40 36.3
comp=Z,13nm,0.9s
N35A Tabor 74.05 340 P P 19 40 34.7 -0.2
H53A Bobcaygeon 74.15 353 P 19 40 35.6
baz=172
G63A Kingsbury 74.22 360 P 19 40 36.9
baz=180
X18A Snowflake 74.24 326 P P 19 40 37.3 +0.9
X18A IAmb IAmb 19 40 39.3
comp=Z,12nm,0.8s
G60A Masonville 74.25 358 P 19 40 37.1
baz=177
GGN Saint George 74.26 2 P P 19 40 36.9 +1.0
GGN IAmb IAmb 19 40 38.1
comp=Z,17nm,0.7s
SCIA State Center 74.32 342 P P 19 40 36.5 +0.1
G65A Princeton 74.32 1 P 19 40 37.4
baz=182
G65A Princeton 74.33 1 P P 19 40 37.3 +1.0
G65A IAmb IAmb 19 40 38.5
comp=Z,14nm,0.7s
G62A West of Eustis 74.33 359 P 19 40 37.7
baz=179,SNR=7.1
G62A West of Eustis 74.33 359 P P 19 40 36.8 +0.3
G62A IAmb IAmb 19 40 38.6
comp=Z,20nm,0.7s
G64A Maxfield 74.36 1 P 19 40 37.5
baz=181,SNR=6.7
PKME Peaks-Kenny Pk 74.37 0 P 19 40 37.8
baz=180
PKME Peaks-Kenny Pk 74.37 0 P P 19 40 36.8 +0.2
PKME IAmb IAmb 19 40 38.5
comp=Z,13nm,0.7s
G57A Newington 74.38 356 P 19 40 37.2
baz=175,SNR=5.1
SPX San Pedro Mart 74.40 320 P P 19 40 38.1 +0.6
SADO Sadowa 74.40 353 P P 19 40 36.8 0.0
SADO IAmb IAmb 19 40 37.3
comp=Z,11nm,0.7s
G61A St-Isidore-de- 74.41 358 P 19 40 38.1
baz=178
MOQ Mont Orford 74.46 358 P P 19 40 37.2 0.0
PLVO Plevna 74.47 354 P P 19 40 37.2 0.0
N33A J Bar K, Exete 74.51 338 P P 19 40 37.5 -0.1
JFWS Jewell Farm 74.51 344 P 19 40 37.4
baz=161
JFWS Jewell Farm 74.51 344 P P 19 40 37.4 -0.1
JFWS IAmb IAmb 19 40 38.5
comp=Z,28nm,1.1s
W18A Petrified Fore 74.61 327 P 19 40 40.4
baz=144,SNR=7.2
W18A Petrified Fore 74.62 327 P P 19 40 39.5 +1.0
W18A IAmb IAmb 19 40 41.4
comp=Z,30nm,0.9s
F63A Nahmakanta, Br 74.81 0 P 19 40 40.4
baz=180
F63A Nahmakanta, Br 74.81 0 P P 19 40 39.5 +0.4
KSCO Kaye Shedlock' 74.81 334 P 19 40 40.9
baz=150
KSCO Kaye Shedlock' 74.81 334 P P 19 40 40.3 +0.8
KSCO IAmb IAmb 19 40 42.1
comp=Z,32nm,1.2s
GBN Guysborough 74.86 6 P P 19 40 39.9 +0.5
GBN IAmb IAmb 19 40 58.9
comp=Z,24nm,1.5s
K38A Parkersburg 74.89 342 P P 19 40 39.4 -0.3
K38A IAmb IAmb 19 40 40.1
comp=Z,20nm,0.6s
G54A Lake Saint Pet 74.91 354 P 19 40 40.1
baz=172
F64A Sherman 74.97 1 P 19 40 41.3
baz=181,SNR=9.3
F64A Sherman 74.97 1 P P 19 40 40.7 +0.6
F64A IAmb IAmb 19 40 42.1
comp=Z,19nm,0.7s
LMN Caledonia Moun 75.08 3 P P 19 40 41.0 +0.3
LMN IAmb IAmb 19 40 42.4
comp=Z,27nm,0.9s
F61A St Evariste 75.09 359 P 19 40 41.4
baz=178
SUR Sutherland 75.10 119 P P 19 40 42.3 +0.7
SUR IAmb IAmb 19 40 43.4
comp=Z,13nm,0.7s
F60A Warwick 75.11 358 P 19 40 41.3
baz=178
I42A Draeger Farm, 75.14 346 P P 19 40 41.3 +0.2
I42A IAmb IAmb 19 40 42.1
comp=Z,15nm,0.7s
L34A Svendsen Farm, 75.29 340 P P 19 40 41.9 -0.1
BGNE Belgrade 75.34 338 P 19 40 43.1
baz=154
BGNE Belgrade 75.34 338 P P 19 40 42.6 +0.3
S22A 4UR Ranch, Cre 75.45 330 P 19 40 45.1
baz=147
H43A Windswept, Lux 75.45 347 P P 19 40 43.0 +0.2
H43A IAmb IAmb 19 40 50.4
comp=Z,38nm,1.1s
ALGO Algonquin Park 75.46 354 P 19 40 43.0
baz=172,SNR=9.1
TRQ Mont Tremblant 75.47 356 P P 19 40 42.3 -0.7
E60A Ste Agathe de 75.49 359 P 19 40 43.8
baz=178
E63A Oxbow 75.53 1 P 19 40 44.4
baz=181,SNR=6.1
E63A Oxbow 75.53 1 P P 19 40 44.0 +0.7
E63A IAmb IAmb 19 40 44.9
comp=Z,15nm,0.6s
E64A Bridgewater 75.54 1 P 19 40 44.3
baz=181,SNR=5.8
E61A Lac Etchemin 75.54 359 P 19 40 44.2
baz=179
E58A La Victoria 75.55 357 P 19 40 43.9
baz=176,SNR=5.0
GLA Glamis 75.58 322 P 19 40 45.5
baz=140
GLA Glamis 75.58 322 P P 19 40 45.0 +1.0
GLA IAmb IAmb 19 40 46.5
comp=Z,9.5nm,0.6s

WUAZ Wupatki 75.73 326 P 19 40 47.0
baz=143,SNR=15
WUAZ Wupatki 75.73 326 P P 19 40 46.4 +1.5
WUAZ IAmb IAmb 19 40 48.0
comp=Z,26nm,0.9s
MVCO Mesa Verde 75.75 329 P 19 40 46.7
baz=146,SNR=7.1
MVCO Mesa Verde 75.75 329 P P 19 40 45.8 +0.8
MVCO IAmb IAmb 19 40 47.6
comp=Z,22nm,0.8s
Q24A Divide 75.77 332 P 19 40 46.9
baz=148,SNR=20
PQI Presque Isle 75.79 1 P P 19 40 45.4 +0.7
PQI IAmb IAmb 19 40 46.7
comp=Z,16nm,0.7s
E56A St. Veronique 75.81 356 P 19 40 45.1
baz=175,SNR=5.4
IKP In-Ko-Pah, Jac 75.97 321 P 19 40 47.9
baz=139
SWSC Sam W. Stewart 76.03 321 P 19 40 48.2
baz=140
D60A Saint Jean D'O 76.03 359 P 19 40 47.0
baz=179,SNR=6.1
D63A Stockholm 76.15 1 P 19 40 47.9
baz=181,SNR=12
D58A Chemin du LacG 76.26 358 P 19 40 48.1
baz=177,SNR=15
D56A ZEC Mazanza, M 76.30 356 P 19 40 47.9
baz=175
BAR Barrett 76.31 320 P P 19 40 49.2 +1.2
BAR IAmb IAmb 19 40 50.8
comp=Z,14nm,0.9s
D61A St Aubert, Com 76.31 359 P 19 40 48.7
baz=179
D55A Sainte-Anne-du 76.31 356 P 19 40 47.9
baz=174,SNR=8.4
MONP2 Monument Peak 76.33 321 P 19 40 50.0
baz=139
I37A Lemond, Waseca 76.33 342 P P 19 40 47.7 -0.2
BC3 Big Chuckawall 76.38 322 P 19 40 50.1
baz=140,SNR=7.3
BATG Bathurst New B 76.44 2 P P 19 40 48.6 +0.1
BATG IAmb IAmb 19 40 50.4
comp=Z,14nm,0.8s
PV01 Paradox Valley 76.54 329 P P 19 40 50.5 +1.0
PV01 IAmb IAmb 19 40 52.4
comp=Z,34nm,1.4s
LATQ La Tuque 76.55 358 P 19 40 49.6
baz=177
LATQ La Tuque 76.55 358 P P 19 40 48.9 -0.1
IRM Iron Mountain 76.59 322 P 19 40 51.3
baz=140
K31A O'Neill 76.63 338 P P 19 40 50.2 +0.5
E46A Sault Ste Mari 76.66 349 P P 19 40 49.4 -0.3
E46A IAmb IAmb 19 40 50.5
comp=Z,22nm,0.8s
W13A Hualapai Mount 76.66 324 P P 19 40 51.5 +1.2
W13A IAmb IAmb 19 40 53.1
comp=Z,12nm,0.8s
ISCO Idaho Springs 76.67 332 P 19 40 51.7
baz=148,SNR=14
ISCO Idaho Springs 76.67 332 P P 19 40 51.0 +0.7
PV15 Paradox Valley 76.67 329 P P 19 40 51.6 +1.3
PV15 IAmb IAmb 19 40 53.2
comp=Z,18nm,1.0s
PV13 Radium Mtn., P 76.67 329 P P 19 40 51.4 +1.1
PV02 Paradox Valley 76.67 329 P P 19 40 51.4 +1.1
PV02 IAmb IAmb 19 40 52.9
comp=Z,22nm,1.1s
SMCO Snowmass 76.71 331 P P 19 40 51.8 +1.1
SMCO IAmb IAmb 19 40 53.6
comp=Z,19nm,0.7s
PV05 Paradox Valley 76.73 329 P P 19 40 51.6 +1.0
PV05 IAmb IAmb 19 40 53.0
comp=Z,24nm,0.7s
G40A Rib Lake 76.73 345 P P 19 40 50.1 0.0
KOWA Kowa 76.75 65 P P 19 40 51.0 +0.1
KOWA IAmb IAmb 19 40 52.2
comp=Z,20nm,0.7s
F42A Maple Grove Fa 76.76 347 P P 19 40 50.7 +0.4
PV03 Paradox Valley 76.76 329 P P 19 40 51.9 +1.2
PV18 Skein Mesa, Pa 76.78 329 P P 19 40 52.1 +1.2
PV18 IAmb IAmb 19 40 53.3
comp=Z,19nm,0.7s
PV12 Saucer Basin, 76.79 329 P P 19 40 52.2 +1.3
PV12 IAmb IAmb 19 40 53.5
comp=Z,14nm,0.7s
PV11 David Mesa, Pa 76.81 329 P P 19 40 51.5 +0.5
PV11 IAmb IAmb 19 41 06.3
comp=Z,10nm,0.5s
PV07 Paradox Valley 76.82 329 P P 19 40 52.4 +1.3
PV17 East Wray Mesa 76.83 329 P P 19 40 52.2 +1.0
PV17 IAmb IAmb 19 40 53.5
comp=Z,19nm,0.7s
PV16 Nyswonger Mesa 76.84 329 P P 19 40 52.2 +1.1
PV19 Morning Glory 76.87 329 P P 19 40 52.3 +0.9
TPFO Pinon Flats 76.88 321 P 19 40 53.1
baz=139
MAW Mawson 76.89 163 P P 19 40 51.2 +0.4
comp=Z,12nm,0.6s,baz=208,slow=6.8,SNR=18
MAW Mawson 76.89 163 P P 19 40 50.7 -0.1
PV20 West Nyswonger 76.89 329 P P 19 40 52.2 +0.8
XPFO Pion Flat 76.89 321 P P 19 40 52.7 +1.2
PFO Pinyon Flats O 76.89 321 P 19 40 53.2
baz=139
PFO Pinyon Flats O 76.89 321 P P 19 40 52.5 +1.0
PV04 Paradox Valley 76.90 329 P P 19 40 52.1 +0.6
PV04 IAmb IAmb 19 40 54.0
comp=Z,34nm,1.5s
BELC Belle Mtn. Jos 76.93 322 P 19 40 53.4
baz=140
PV10 Paradox Valley 76.95 329 P P 19 40 52.6 +0.8
PV10 IAmb IAmb 19 40 53.8
comp=Z,25nm,0.8s
PV22 Blue Mesa, Par 76.97 329 P P 19 40 52.6 +0.8
PV22 IAmb IAmb 19 40 54.5
comp=Z,13nm,0.8s
ECSD EROS Data Cent 76.97 340 P 19 40 51.8
baz=156,SNR=23
ECSD EROS Data Cent 76.97 340 P P 19 40 51.4 -0.1
E43A Lone Tree Farm 77.13 348 P P 19 40 52.6 +0.2
E43A IAmb IAmb 19 40 53.4
comp=Z,16nm,0.9s
MURC Murrieta 77.28 321 P 19 40 55.6
baz=139
COWI Conover 77.29 346 P P 19 40 53.2 -0.1
SPMN Marine on St. 77.31 343 P 19 40 53.4
baz=159
SPMN Marine on St. 77.31 343 P P 19 40 53.0 -0.3
SPMN IAmb IAmb 19 40 53.9
comp=Z,43nm,1.4s
GMRC Granite Mounta 77.35 322 P 19 40 55.8
baz=140,SNR=12
VLDQ Val d'Or 77.55 355 P P 19 40 54.9 +0.3
VLDQ IAmb IAmb 19 40 56.5
comp=Z,16nm,1.1s
KNB Kanab 77.63 326 P P 19 40 56.7 +1.1
PKCU Pink Cliffs 77.72 326 P P 19 40 57.4 +1.1
PKCU IAmb IAmb 19 40 59.0
comp=Z,20nm,0.8s
N23A Red Feather La 77.73 333 P 19 40 57.7
baz=148,SNR=7.1
HEC Hector,Ludlow 77.74 322 P 19 40 58.0
baz=139,SNR=5.7
LCMT Little Creek M 77.83 325 P P 19 40 57.1 +0.4
PHWY Pilot Hill 77.88 333 P P 19 40 57.5 +0.5
PHWY IAmb IAmb 19 40 59.2
comp=Z,12nm,0.8s
BFSC Mount Baldy Ra 78.02 321 P 19 40 59.3
baz=136
O20A White River Ci 78.05 331 P 19 40 59.3
baz=146,SNR=10
O20A White River Ci 78.05 331 P P 19 40 58.7 +0.9
O20A IAmb IAmb 19 41 00.5
comp=Z,22nm,0.9s
F36A Milaca 78.08 343 P P 19 40 57.1 -0.6
F36A IAmb IAmb 19 40 58.4
comp=Z,17nm,0.8s
D41A Chassel 78.09 347 P P 19 40 58.3 +0.7
MTPU Mount Pierson 78.13 327 P P 19 40 59.6 +1.1
MTPU IAmb IAmb 19 41 01.1
comp=Z,17nm,0.9s
RRX Edison Barstow 78.13 322 P 19 41 00.1
baz=139
SZCU Shurtz Canyon 78.22 326 P P 19 41 00.4 +1.5
SZCU IAmb IAmb 19 41 01.9
comp=Z,18nm,1.2s
SRU San Rafael Swe 78.22 329 P P 19 40 59.6 +0.8
SRU IAmb IAmb 19 41 00.9
comp=Z,20nm,0.7s
MWC Mount Wilson 78.23 321 P P 19 40 60.0 +1.0
E38A The Farm, Brul 78.31 345 P P 19 40 58.6 -0.2
CCUT Cedar City 78.32 326 P P 19 41 01.2 +1.8
CCUT IAmb IAmb 19 41 02.8
comp=Z,26nm,0.8s
TSUM Tsumeb 78.33 105 P P 19 40 60.0 +0.1
TSUM IAmb IAmb 19 41 01.5
comp=Z,18nm,0.8s
GSC Goldstone, Bar 78.35 322 P 19 41 01.4
baz=139
GSC Goldstone, Bar 78.35 322 P P 19 41 00.9 +1.4
Q16A Castle Valley 78.36 328 P P 19 41 00.8 +1.2
Q16A IAmb IAmb 19 41 02.3
comp=Z,22nm,1.1s
SHPR Sheep Range 78.41 324 P P 19 41 00.9 +1.1
MSU Marysvale 78.50 327 P P 19 41 01.7 +1.3
P17A Butcher Ranch, 78.61 329 P P 19 41 01.9 +1.0
P17A IAmb IAmb 19 41 03.3
comp=Z,22nm,1.0s
EDW2 Edwards Air Fo 78.68 321 P 19 41 02.6
baz=138,SNR=6.1
TMUT Trail Mountain 78.68 328 P P 19 41 02.1 +0.6
TCRU Three Creeks R 78.71 327 P P 19 41 02.8 +1.2
TCRU IAmb IAmb 19 41 24.4
comp=Z,12nm,0.4s
RWWY Rawlins 78.91 332 P P 19 41 03.4 +0.8
SCZ2 Santa Cruz Isl 78.94 319 P 19 41 04.1
baz=137
LRMC Laurel Mtn Rad 78.96 322 P 19 41 04.4
baz=139
RDMU Red Mountain 78.98 330 P P 19 41 03.7 +0.7
RDMU IAmb IAmb 19 41 05.2
comp=Z,22nm,0.8s
PRN Pahroc Range 79.05 325 P P 19 41 04.7 +1.4
PRN IAmb IAmb 19 41 06.4
comp=Z,22nm,1.0s
DRLN Deer Lake 79.09 8 P P 19 41 03.0 0.0
MATQ Matagami 79.20 355 P 19 41 03.6
baz=173
MPMC Manual Prospec 79.28 322 P 19 41 05.9
baz=139,SNR=5.7
TPNV Topopah Spring 79.31 324 P 19 41 06.8
baz=140,SNR=14
TPNV Topopah Spring 79.31 324 P P 19 41 05.7 +0.9
PSUT Pine Spring 79.33 326 P P 19 41 06.2 +1.3
PSUT IAmb IAmb 19 41 07.6
comp=Z,13nm,0.9s
MPU Maple Canyon 79.45 328 P P 19 41 06.3 +0.8
ISA Isabella, Lake 79.52 321 P 19 41 07.7
baz=138,SNR=6.5
ISA Isabella, Lake 79.52 321 P P 19 41 06.8 +1.0
EYMN Ely 79.55 345 P 19 41 05.7
baz=160
EYMN Ely 79.56 345 P P 19 41 05.5 -0.2
NLU North Lily Min 79.61 328 P P 19 41 07.0 +0.6
PKM Mcpherson Peak 79.69 320 P 19 41 08.8
baz=137,SNR=6.8
RSSD Black Hills 79.76 335 P 19 41 08.1
baz=150
RSSD Black Hills 79.76 335 P P 19 41 07.2 +0.1
RSSD IAmb IAmb 19 41 09.0
comp=Z,14nm,0.7s
JLU Jordanelle 79.84 329 P P 19 41 08.3 +0.6
CWC Cottonwood Cre 79.89 322 P 19 41 09.7
baz=138
GRAC Grapevine Rang 79.92 323 P 19 41 09.8
baz=139
VES Vestal, Richgr 79.99 321 P 19 41 09.9
baz=138
R11A Troy Canyon, C 80.04 325 P 19 41 10.4
baz=140,SNR=9.7
R11A Troy Canyon, C 80.04 325 P P 19 41 09.0 +0.3
SMMC Simmler 80.11 320 P 19 41 10.9
baz=137
DUG Dugway, Tooele 80.14 328 P 19 41 10.4
baz=143
DUG Dugway, Tooele 80.14 328 P P 19 41 09.9 +0.8
BOSA Boshof 80.21 117 P P 19 41 09.8 -0.2
comp=Z,17nm,0.6s,baz=253,slow=3.6,SNR=68
BOSA Boshof 80.21 117 P P 19 41 09.2 -0.9
BOSA IAmb IAmb 19 41 10.2
comp=Z,17nm,0.6s
TCUT Toone Canyon 80.24 329 P P 19 41 10.4 +0.6
TIN Tinemaha, Big 80.42 322 P 19 41 12.5
baz=138
B35A Bob, Littlefor 80.46 344 P P 19 41 10.2 -0.3
B35A IAmb IAmb 19 41 11.5
comp=Z,22nm,0.8s
TOA0 Torodi Ar. Sit 80.58 69 P P 19 41 11.6 -0.3
TORD Torodi Ar. Bea 80.58 69 P P 19 41 12.1 +0.2
comp=Z,34nm,0.6s,baz=276,slow=5.5,SNR=273
TORD pP **pP 19 41 42.7 +1.6**
comp=Z,7.9nm,0.8s,baz=260,slow=5.2,SNR=3.6
TORD Torodi Ar. Bea 80.58 69 P P 19 41 11.5 -0.4
TPH Tonopah 80.66 324 P P 19 41 12.1 0.0
HWUT Hardware Ranch 80.70 329 P P 19 41 12.5 +0.3
HWUT IAmb IAmb 19 41 14.0
comp=Z,15nm,0.7s
BW06 Boulder Array 80.78 331 P 19 41 13.3
baz=145,SNR=9.8
BW06 Boulder Array 80.78 331 P P 19 41 12.8 +0.2
PD31 Pinedale Array 80.78 331 P P 19 41 12.7 0.0
PDAR Pinedale Array 80.78 331 P P 19 41 13.3 +0.7
comp=Z,3.9nm,0.4s,baz=130,slow=7.2,SNR=62
PDAR PKKPbc **PKKPbc 19 59 50.1 -2.8**
comp=Z,0.5nm,0.5s,baz=122,slow=1.2,SNR=7.9
PDAR Pinedale Array 80.78 331 P P 19 41 12.7 0.0
BGU Big Grassy Mou 80.82 328 P P 19 41 12.8 0.0
AGMN Agassiz Nation 80.94 343 P 19 41 13.3
baz=157,SNR=7.4
AGMN Agassiz Nation 80.94 343 P P 19 41 13.2 +0.1
AGMN IAmb IAmb 19 41 14.2
comp=Z,18nm,0.7s
MLAC Mammoth, Mammo 81.18 322 P 19 41 16.4
baz=138
HVU Hansel Valley 81.38 329 P P 19 41 15.9 +0.1
NV11 Mina Array Sit 81.42 323 P P 19 41 16.4 +0.3
AHID Auburn Hatcher 81.43 330 P P 19 41 16.4 +0.4
AHID IAmb IAmb 19 41 17.4
comp=Z,9.8nm,0.6s
LHV Little Huntoon 81.46 323 P P 19 41 17.3 +1.3
LHV IAmb IAmb 19 41 18.8
comp=Z,12nm,0.7s
NVAR Mina Array Bea 81.49 323 P P 19 41 17.9 +1.4
comp=Z,7.5nm,0.9s,baz=159,slow=6.4,SNR=35
NVAR PKKPbc **PKKPbc 19 59 49.5 -1.4**
comp=Z,0.1nm,0.3s,baz=312,slow=4.7,SNR=3.6
MDND Maddock 81.58 340 P 19 41 17.2
baz=154
MDND Maddock 81.58 340 P P 19 41 17.2 +0.7
ELK Elko 81.72 327 P P 19 41 18.8 +1.1
comp=Z,7.3nm,0.8s,baz=133,slow=3.4,SNR=31
ELK pP **pP 19 41 50.0 +2.7**
comp=Z,3.1nm,0.8s,baz=172,slow=3.1,SNR=4.0
ELK Elko 81.72 327 P P 19 41 18.0 +0.3
RYN Ryan 81.75 323 P P 19 41 18.6 +0.8
REDW Red Top Meadow 81.81 331 P P 19 41 18.4 +0.3
KVN Kaiserville 81.85 324 P P 19 41 18.9 +0.5
LOHW Long Hollow 81.91 331 P P 19 41 18.8 +0.2
WAKR Walker 82.14 323 P P 19 41 20.5 +0.6
LBTB Lobatse 82.19 114 P P 19 41 19.6 -0.9
FLWY Flagg Ranch 82.33 331 P P 19 41 21.1 +0.3
FLWY IAmb IAmb 19 41 23.0
comp=Z,17nm,0.7s
YERR Yerington 82.39 323 P P 19 41 22.1 +0.9
YERR IAmb IAmb 19 41 23.3
comp=Z,10.0nm,0.6s
H17A Grant Village 82.53 332 P 19 41 23.4
baz=145
RLMT Red Lodge 82.60 333 P 19 41 23.2
baz=146,SNR=33
RLMT Red Lodge 82.60 333 P P 19 41 22.7 +0.6
YMP Mirror Lake Pl 82.64 332 P P 19 41 23.4 +1.0
YMP IAmb IAmb 19 41 39.0
comp=Z,11nm,0.8s
PNTR Pine Nut 82.66 323 P P 19 41 23.8 +1.1
ULM Lac du Bonnet 82.75 343 P P 19 41 22.2 -0.2
comp=Z,11nm,0.8s,baz=145,slow=4.7,SNR=19
ULM PKKPbc **PKKPbc 19 59 45.1 -3.4**
comp=Z,1.1nm,0.5s,baz=271,slow=2.7,SNR=3.9
ULM Lac du Bonnet 82.75 343 P P 19 41 22.2 -0.2

ULM				IAmb	IAmb	19 41 23.4		
	comp=Z,16nm,0.9s							
LAO	**LASA Array**	**82.76 335**		P		19 41 23.4		
	baz=148							
LAO	**LASA Array**	**82.76 335**		P	**P**	**19 41 22.9**	**+0.2**	
LAO				IAmb	IAmb	19 41 24.4		
	comp=Z,24nm,1.1s							
YNE	**Yellowstone No**	**82.80 332**		P	**P**	**19 41 23.9**	**+0.7**	
YMR	**Madison River**	**82.92 332**		P	**P**	**19 41 24.7**	**+0.9**	
YHH	**Holmes Hill**	**82.97 332**		P	**P**	**19 41 24.9**	**+0.8**	
PAHR	**Pah Rah Range**	**83.00 324**		P	**P**	**19 41 25.2**	**+0.9**	
PAHR				IAmb	IAmb	19 41 26.8		
	comp=Z,15nm,1.0s							
YHL	**Hebgen Lake**	**83.16 332**		P	**P**	**19 41 26.2**	**+1.1**	
QLMT	**Earthquake Lak**	**83.25 331**		P	**P**	**19 41 26.5**	**+1.0**	
AFDM	**Forest Hills D**	**83.28 322**		P	**P**	**19 41 26.4**	**+0.8**	
HLID	**Hailey**	**83.53 329**		P		19 41 28.3		
	baz=142,SNR=15							
HLID	**Hailey**	**83.53 329**		P	**P**	**19 41 27.8**	**+0.8**	
HLID				IAmb	IAmb	19 41 29.3		
	comp=Z,16nm,1.2s							
DGMT	**Dagmar**	**83.58 338**		P		19 41 27.8		
	baz=150,SNR=12							
DGMT	**Dagmar**	**83.58 338**		P	**P**	**19 41 27.6**	**+0.7**	
BEKR	**Beckworth**	**83.63 323**		P	**P**	**19 41 28.1**	**+0.6**	
MCMT	**McKenzie Canyo**	**83.84 331**		P	**P**	**19 41 29.0**	**+0.4**	
BOZ	**Bozeman (W)**	**83.95 332**		P		19 41 29.6		
	baz=144,SNR=5.4							
BOZ	**Bozeman (W)**	**83.95 332**		P	**P**	**19 41 29.1**	**+0.2**	
ORV	**Oroville**	**84.00 322**		P	**P**	**19 41 29.7**	**+0.5**	
MFID	**Camas Ranch**	**84.06 328**		P	**P**	**19 41 30.1**	**+0.5**	
DLMT	**Dillon**	**84.16 331**		P	**P**	**19 41 31.0**	**+1.0**	
LRM	**Limekiln Ridge**	**84.47 331**		P	**P**	**19 41 32.2**	**+0.5**	
CASY	**Casey**	**84.57 180**		P	**P**	**19 41 32.0**	**+0.3**	
WVOR	**Wild Horse Val**	**84.65 326**		P	**P**	**19 41 32.9**	**+0.3**	
O03E	**Paynes Creek**	**84.70 323**		P		19 41 32.7		
	baz=136,SNR=5.2							
MOD	**Modoc Plateau**	**85.09 324**		P	**P**	**19 41 35.5**	**+0.7**	
O02D	**Mt. Diablo Mer**	**85.14 322**		P		19 41 36.0		
	baz=135							
EGMT	**Eagleton**	**85.19 334**		P		19 41 35.3		
	baz=146							
EGMT	**Eagleton**	**85.19 334**		P	**P**	**19 41 35.2**	**+0.2**	
WDC	**Whiskeytown Da**	**85.30 322**		P	**P**	**19 41 35.4**	**-0.3**	
N02D	**Trinity Center**	**85.66 323**		P		19 41 37.8		
	baz=136							
M04C	**Macdoel**	**85.79 324**		P		19 41 39.2		
	baz=136							
BMO	**Blue Mountains**	**85.85 328**		P	**P**	**19 41 38.5**	**0.0**	
MSO	**Missoula**	**85.90 331**		P		19 41 40.0		
	baz=142							
MSO	**Missoula**	**85.90 331**		P	**P**	**19 41 39.4**	**+0.7**	
K05A	**Summer Lake**	**85.99 325**		P	**P**	**19 41 40.1**	**+0.8**	
K05A				IAmb	IAmb	19 41 41.9		
	comp=Z,18nm,1.0s							
M02C	**Callahan**	**86.04 323**		P		19 41 40.6		
	baz=136							
YBH	**Yreka Blue Hor**	**86.21 323**		P	**P**	**19 41 39.9**	**-0.4**	
	comp=Z,3.4nm,0.7s,baz=85,slow=3.6,SNR=9.6							
YBH	**Yreka Blue Hor**	**86.21 323**		P	**P**	**19 41 39.9**	**-0.4**	
I07A	**Izee**	**86.31 326**		P	**P**	**19 41 41.5**	**+0.8**	
I07A				IAmb	IAmb	19 41 42.9		
	comp=Z,12nm,0.9s							
L04D	**Klamath Falls**	**86.34 324**		P		19 41 41.6		
	baz=136							
J05D	**Fort Rock, OR**	**86.57 325**		P		19 41 43.2		
	baz=137,SNR=6.9							
F10A	**Beach Ranch, E**	**86.67 329**		P	**P**	**19 41 42.6**	**+0.2**	
F10A				IAmb	IAmb	19 41 45.9		
	comp=Z,13nm,1.4s							
JTMT	**Jette**	**86.77 332**		P	**P**	**19 41 43.1**	**+0.2**	
PINE	**Pine Mountain**	**86.79 325**		P	**P**	**19 41 44.2**	**+1.0**	
G08A	**Pilot Rock**	**86.95 327**		P	**P**	**19 41 44.3**	**+0.5**	
J04D	**Umpqua Nationa**	**86.98 324**		P		19 41 45.0		
	baz=136							
L02E	**Cave Junction**	**86.98 323**		P		19 41 45.2		
	baz=135							
I05D	**Terrebonne, OR**	**87.39 326**		P		19 41 47.3		
	baz=137,SNR=6.2							
K02D	**Willamette Mer**	**87.39 323**		P		19 41 47.3		
	baz=135,SNR=5.1							
WALA	**Waterton Lakes**	**87.65 333**		P	**P**	**19 41 47.5**	**+0.4**	
J01E	**Myrtle Point**	**87.86 323**		P		19 41 49.1		
	baz=135							
I03D	**Drain, OR**	**87.94 324**		P		19 41 49.4		
	baz=135							
G05D	**Wamic, OR**	**88.03 326**		P		19 41 50.3		
	baz=137							
H04A	**Detroit Lake**	**88.06 325**		P	**P**	**19 41 49.1**	**+0.1**	
H04D	**Lebanon**	**88.22 325**		P		19 41 50.9		
	baz=136							
NEW	**Newport**	**88.37 330**		P	**P**	**19 41 49.8**	**-0.7**	
	comp=Z,2.2nm,0.7s,baz=104,slow=9.7,SNR=2.5							
NEW	**Newport**	**88.37 330**		IAmb	IAmb	19 41 54.7		
	comp=Z,2.9nm,0.9s							
FFC	**Flin Flon**	**88.39 342**		P	**P**	**19 41 50.3**	**0.0**	
C09A	**Chrisman Ranch**	**88.52 330**		P	**P**	**19 41 51.7**	**+0.6**	
TAM	**Tamanrasset**	**88.86 63**		P	**P**	**19 41 53.5**	**0.0**	
TAM				IAmb	IAmb	19 41 54.8		
	comp=Z,5.8nm,0.7s							
LTY	**Liberty**	**89.20 328**		P	**P**	**19 41 54.8**	**+0.4**	
LTY				IAmb	IAmb	19 41 55.7		
	comp=Z,7.2nm,0.8s							
FCC	**Fort Churchill**	**90.25 347**		P	**P**	**19 41 59.0**	**+0.1**	
FCC				IAmb	IAmb	19 42 00.4		
	comp=Z,11nm,1.1s							
B05A	**Bryant**	**90.59 328**		P		19 42 01.5		
	baz=136							
ESDC	**Sonseca Array**	**91.84 45**		P	**P**	**19 42 07.3**	**+0.5**	
	comp=Z,0.8nm,0.7s,baz=232,slow=6.1,SNR=5.1							
YKA	**Yellowknife Ar**	**98.50 341**		P	**P**	**19 42 36.3**	**-0.2**	
	comp=Z,1.8nm,0.8s,baz=136,slow=4.8,SNR=28							
YKA				pP	**pP**	**19 43 07.5**	**+0.9**	
	comp=Z,0.3nm,0.6s,baz=132,slow=4.0,SNR=2.3							
YKA				PKKPbc	**PKKPbc**	**19 59 05.5**	**-2.8**	
	comp=Z,0.2nm,0.4s,baz=335,slow=3.0,SNR=5.9							
ILAR	**Eielson Array**	**111.14 333**		PKiKP	**PKiKP**	**19 47 31.5**	**+0.5**	
	comp=Z,0.1nm,0.3s,baz=194,slow=3.4,SNR=1.8							
ILAR				PKKPab	**PKKPab**	**19 58 37.0**	**+1.4**	
	comp=Z,0.4nm,0.5s,baz=255,slow=6.1,SNR=5.4							
HOM	**Homer**	**111.18 327**		P		19 47 32.2		
	baz=112							
SUA	**Susitna One**	**111.45 329**		P		19 47 32.6		
	baz=112							
COLD	**Coldfoot**	**113.33 335**		P		19 47 36.3		
	baz=110							
TOLK	**Toolik Lake Re**	**113.60 337**		P		19 47 36.9		
	baz=110							
AKASG	**Malin Array Be**	**117.48 45**		PKP	**PKPdf**	**19 47 41.4**	**-2.2**	
	comp=Z,0.6nm,0.4s,baz=261,slow=2.7,SNR=7.3							
AKASG	**Malin Array Be**	**117.48 45**		PKPdf	**PKPdf**	**19 47 41.0**	**-2.5**	
FINES	**FINESS Array B**	**118.01 33**		PKKPbc	PKKPbc	19 58 06.2	+0.3	
	comp=Z,1.3nm,0.6s,baz=60,slow=4.6,SNR=6.2							
ARCES	**ARCESS Array B**	**118.99 24**		PKP	**PKPdf**	**19 47 45.9**	**-0.1**	
	comp=Z,1.2nm,0.8s,baz=228,slow=3.5,SNR=1.4							
ARCES				PKKPbc	**PKKPab**	**19 58 01.0**	**0.0**	
	comp=Z,0.5nm,0.4s,baz=50,slow=3.8,SNR=7.5							
ARCES	**ARCESS Array B**	**118.99 24**			**PKPdf**	**19 47 44.2**	**-1.8**	
ASAR	**Alice Springs**	**122.59 206**		PKP	**PKPdf**	**19 47 53.5**	**-1.0**	
	comp=Z,1.6nm,0.5s,baz=132,slow=1.7,SNR=29							
ASAR				pPKP	**pPKPdf**	**19 48 25.1**	**-0.7**	
	comp=Z,0.6nm,0.7s,baz=142,slow=1.8,SNR=2.5							
ASAR				PKKPbc	**PKKPbc**	**19 57 48.2**	**-0.1**	
	comp=Z,0.8nm,0.5s,baz=336,slow=3.5,SNR=16							
KBZ	**Khabaz**	**125.28 55**		PKP	**PKiKP**	**19 47 59.3**	**+0.1**	
	comp=Z,1.9nm,1.0s,baz=214,slow=3.6,SNR=5.7							
WRA	**Warramunga Arr**	**125.78 208**		PKP	**PKPdf**	**19 48 00.1**	**-0.5**	
	comp=Z,3.7nm,0.4s,baz=161,slow=1.7,SNR=127							
WRA				pPKP	**pPKPdf**	**19 48 32.3**	**+0.4**	
	comp=Z,1.8nm,0.6s,baz=166,slow=1.5,SNR=4.5							
GEYT	**Alibeck**	**136.07 65**		PKP	**PKPdf**	**19 48 19.7**	**+0.2**	
	comp=Z,1.1nm,0.5s,baz=356,slow=2.1,SNR=3.2							
SEY	**Seymchan**	**137.08 333**		PKhKP	PKPpre	19 48 11.9		
	comp=Z,1.7nm,0.6s,baz=27,slow=4.5,SNR=4.7							
SEY				PKP	**PKiKP**	**19 48 21.8**	**-0.5**	
	comp=Z,3.7nm,0.7s,baz=100,slow=2.9,SNR=5.7							
PETK	**Petropavlovsk-**	**138.41 318**		PKhKP	PKPpre	19 48 16.3		
	comp=Z,1.2nm,0.6s,baz=103,slow=6.4,SNR=2.3							
PETK				PKP	**PKPdf**	**19 48 24.2**	**+0.9**	
	comp=Z,3.5nm,0.8s,baz=73,slow=5.0,SNR=4.2							
PETK	**Petropavlovsk-**	**138.41 318**			PKPpre	19 48 16.1		
MA2	**Magadan**	**139.47 330**		PKhKP	PKPpre	19 48 19.4		
	comp=Z,2.9nm,0.8s,baz=137,slow=5.8,SNR=3.8							
YAK	**Yakutsk**	**145.08 344**		PKPbc	**PKPab**	**19 48 34.6**	**-0.1**	
	comp=Z,39nm,0.8s,baz=40,slow=0.4,SNR=36							
YAK	**Yakutsk**	**145.08 344**			**PKPbc**	**19 48 34.2**	**-0.4**	

EKS2	**Erkin-Say**	**147.76**	**56**	P	**PKiKP**	**19 48 44.4**	**-0.7**	
	SNR=24							
AML	**Almayashu**	**147.80**	**57**	P	**PKiKP**	**19 48 44.7**	**-0.9**	
	SNR=16							
USP	**Ospenovka**	**148.14**	**54**	P	**PKPbc**	**19 48 44.9**	**+0.7**	
	SNR=11							
AAK	**Ala-Archa**	**148.28**	**56**	P	**PKiKP**	**19 48 45.8**	**-0.4**	
	SNR=18							
UCH	**Uchtor**	**148.38**	**56**	P	**PKiKP**	**19 48 46.5**	**-0.4**	
	SNR=19							
CHMS	**Chumysh**	**148.38**	**55**	P	**PKiKP**	**19 48 45.6**	**-0.7**	
	SNR=17							
KBK	**Karagaybulak**	**148.60**	**55**	P	**PKiKP**	**19 48 46.5**	**-0.4**	
	SNR=14							
TKM2	**Tokmak 2**	**149.00**	**55**	P	**PKiKP**	**19 48 47.2**	**-0.5**	
	SNR=15							
ZALV	**Zalesovo Beam**	**149.22**	**30**	PKP	**PKPdf**	**19 48 42.4**	**+0.4**	
	comp=Z,26nm,0.4s,baz=288,slow=2.7,SNR=15							
ZALV				PKPbc	**PKiKP**	**19 48 47.1**	**-0.5**	
	comp=Z,26nm,0.4s,baz=314,slow=3.4,SNR=95							
ZALV				PKPab	**PKPab**	**19 48 52.0**	**+0.8**	
	comp=Z,8.6nm,0.6s,baz=315,slow=6.1,SNR=7.5							
ZALV				pPKPbc	**pPKPbc**	**19 49 18.8**	**+1.4**	
	comp=Z,8.0nm,0.6s,baz=304,slow=3.6,SNR=3.3							
ULHL	**Ulahol**	**149.63**	**56**	P	**PKiKP**	**19 48 49.4**	**+0.3**	
	SNR=8.5							
JKA	**Kamikawa-asahi**	**150.66**	**309**		**PKiKP**	**19 48 50.5**	**-0.3**	
ASAJ	**Asahikawa**	**150.66**	**309**	PKPbc	**PKiKP**	**19 48 50.9**	**0.0**	
	comp=Z,20nm,0.8s,baz=32,slow=6.0,SNR=10							
MKAR	**Makanchi Array**	**152.06**	**44**	PKP	**PKPdf**	**19 48 46.3**	**-0.4**	
	comp=Z,0.6nm,0.7s,baz=28,slow=1.0,SNR=7.6							
MKAR				PKPbc	**PKPbc**	**19 48 53.4**	**0.0**	
	comp=Z,9.4nm,0.7s,baz=302,slow=1.9,SNR=78							
MKAR				PKPab	**PKPab**	**19 49 04.0**	**+0.7**	
	comp=Z,10.0nm,0.6s,baz=275,slow=4.1,SNR=30							
MKAR				pPKPbc	**pPKPbc**	**19 49 24.3**	**-0.1**	
	comp=Z,4.8nm,0.7s,baz=308,slow=2.2,SNR=5.1							
KLR	**Kul'dur**	**154.48**	**327**	PKPbc	**PKiKP**	**19 48 58.9**	**+0.3**	
	comp=Z,1.9nm,0.5s,baz=91,slow=4.9,SNR=6.7							
MJAR	**Matsushiro Arr**	**155.79**	**294**	PKP	**PKPdf**	**19 48 52.7**	**+0.4**	
	comp=Z,0.4nm,0.5s,baz=166,slow=5.0,SNR=3.2							
MJAR				PKPbc	PKPab	19 49 05.3	-14	
	comp=Z,1.1nm,0.4s,baz=77,slow=0.6,SNR=4.4							
MJAR				PKPab	**pPKPdf**	**19 49 20.0**	**-3.9**	
	comp=Z,3.7nm,0.7s,baz=105,slow=3.1,SNR=7.6							
MAT	**Matsushiro**	**155.79**	**294**	*e*PKP	PKPdf	19 49 00.1	+7.8	
WMQ	**Urumqi**	**156.84**	**46**	*e*PKP	**PKPdf**	**19 48 53.5**	**0.0**	
TLY	**Talaya**	**157.22**	**11**	PKP	**PKPdf**	**19 48 54.8**	**+1.1**	
	comp=Z,1.1nm,0.2s,baz=79,slow=10,SNR=4.5							
TLY				PKPab	**pPKPdf**	**19 49 26.7**	**+1.7**	
	comp=Z,2.9nm,0.6s,baz=14,slow=7.2,SNR=6.8							
GKN	**Gorkha**	**157.26**	**87**	*e*P	**PKPab**	**19 49 25.3**	**-1.0**	
	comp=Z,26nm,0.7s							
USRK	**Ussuriysk Ar.**	**157.48**	**317**	PKPab	**PKPab**	**19 49 27.2**	**+0.8**	
	comp=Z,3.1nm,0.8s,baz=76,slow=1.6,SNR=6.4							
USRK	**Ussuriysk Ar.**	**157.48**	**317**		**PKPab**	**19 49 26.9**	**+0.4**	
DMN	**Daman**	**157.60**	**89**	*e*P	**PKPab**	**19 49 27.2**	**-0.7**	
	comp=Z,35nm,0.9s							
KKN	**Kakani**	**157.78**	**88**	*e*P	**PKPab**	**19 49 27.9**	**-0.7**	
	comp=Z,33nm,0.7s							
PKIN	**Phulchoki**	**157.84**	**89**	*e*P	**PKPab**	**19 49 27.6**	**-1.4**	
	comp=Z,15nm,0.8s							
PKI	**Pulchoki**	**157.85**	**89**	*e*P	**PKPab**	**19 49 27.9**	**-1.2**	
	comp=Z,16nm,0.8s							
GUN	**Gumba**	**158.32**	**88**	*e*P	**PKPab**	**19 49 30.3**	**-0.8**	
	comp=Z,18nm,0.8s							
JIRN	**Jiri**	**158.55**	**89**	*e*P	**PKPab**	**19 49 31.3**	**-0.9**	
	comp=Z,13nm,0.7s							
RAMN	**Ramite**	**158.77**	**91**	*e*P	**PKPab**	**19 49 32.4**	**-0.6**	
	comp=Z,10nm,0.6s							
ODAN	**Odare**	**159.44**	**92**	*e*P	**PKPab**	**19 49 35.3**	**-0.6**	
TAPN	**Taplejung**	**159.82**	**90**	*e*P	**PKPab**	**19 49 37.4**	**-0.2**	
SONM	**Songino Array**	**161.38**	**9**	PKP	**PKPdf**	**19 48 59.1**	**+0.3**	
	comp=Z,1.5nm,0.8s,baz=347,slow=0.9,SNR=9.1							
SONM				PKPab	**PKPab**	**19 49 44.1**	**+0.7**	
	comp=Z,2.0nm,0.8s,baz=322,slow=4.1,SNR=11							
CMAR	**Chiang Mai Arr**	**164.78**	**133**	PKP	**PKPdf**	**19 49 03.2**	**+0.5**	
	comp=Z,0.7nm,0.4s,baz=251,slow=2.8,SNR=11							
CMAR				PKPab	**PKPab**	**19 49 58.2**	**-0.7**	
	comp=Z,1.3nm,0.8s,baz=234,slow=5.1,SNR=7.1							
GTA	**Gaotai**	**166.72**	**39**	⇑PKP	**PKPdf**	**19 49 05.0**	**+1.1**	
GTA				pPKP	pPKPdf	19 49 31.5	-4.1	
GTA				sPKP		19 49 43.0		
GTA				PKPab	**PKPab**	**19 50 08.3**	**+1.1**	
HHC	**Hu-ho-hao-te**	**168.61**	**356**	*e*PKP	**PKPdf**	**19 49 05.5**	**+0.4**	
LZH	**Lanzhou**	**171.32**	**39**	*e*PKP	**PKPdf**	**19 49 10.8**	**+3.9**	
NJ2	**Nanjing**	**172.39**	**292**	*e*PKP	**PKPdf**	**19 49 06.8**	**-0.5**	

KRSC 25 19:31:19.8±1.9, 50°.06N×156°.70E, h96km±26km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.73**	**329**	*e*P	Pn	19 31 38.0	+1.0
SKR				*e*S	Sn	19 31 50.8	+1.0
ALID	**Alaid**	**1.09**	**318**	*e*P	Pn	19 31 40.7	-0.3
PAU	**Pauzhetka**	**1.41**	**3**	P	Pn	19 31 47.7	+3.1
PAU				*e*S	Sn	19 32 05.4	+2.0
KDTR	**Khodutka, Kamc**	**1.96**	**26**	S	Sn	19 32 17.6	+1.9
MIPR	**Malaya Ipel'ka**	**2.22**	**1**	*e*P	Pn	19 31 56.8	+1.8
ASAK	**Asacha**	**2.44**	**18**	*e*P	Pn	19 32 00.6	+2.6
MTVR	**Mutnovka**	**2.60**	**20**	*e*P	Pn	19 32 03.0	+2.9
MTVR				*e*S	Sn	19 32 33.9	+2.8
RUS	**Russkaya**	**2.63**	**25**	*e*P	Pn	19 32 02.0	+1.6
RUS				*e*S	Sn	19 32 33.1	+1.4
GRL	**Gorelyy**	**2.64**	**19**	*e*P	Pn	19 32 03.5	+2.8
UGLR	**Uglovaya**	**3.42**	**22**	P	Pn	19 32 12.8	+1.7
AVH	**Avacha**	**3.45**	**21**	P	Pn	19 32 14.5	+3.0
KOK	**Koryaka**	**3.45**	**20**	P	Pn	19 32 14.5	+3.0
KRER	**Koryakskii**	**3.49**	**21**	P	Pn	19 32 15.1	+3.0
SDLR	**Sedlovina**	**3.50**	**22**	*e*P	Pn	19 32 14.4	+2.3
KRX	**Arik**	**3.52**	**19**	P	Pn	19 32 15.1	+2.7
SPN	**Mys Shipunski**	**3.68**	**33**	P	Pn	19 32 16.5	+2.0
SPN				S	Sn	19 32 57.8	+1.0
MKZ	**Mys Kozlova**	**5.46**	**32**	P	Pn	19 32 39.0	+0.5
KBTR	**Krutoberegovo**	**7.17**	**28**	P	Pn	19 33 04.6	+2.8

IDC 25 20:12:04.0±7.3, 6°.42S×149°.86E, h147km±45km, mb2.9/2, mb1 3.1/3, mb1mx2.7/48, mbtmp3.4/3, Error ellipse: s-maj=113.4km s-min=57.5km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.00**	**222**	P	Pn	20 13 06.1	+2.0
	3.3nm,0.3s,baz=30,slow=11,SNR=5.6						
PMG				S	Sn	20 13 50.2	-0.7
	1.8nm,0.3s,baz=317,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**20.20**	**227**	P	P	20 16 27.1	-0.3
	0.6nm,0.3s,baz=54,slow=10,SNR=12						
ASAR	**Alice Springs**	**23.01**	**220**	P	P	20 16 57.5	+1.2
	0.3nm,0.6s,baz=51,slow=9.2,SNR=7.0						
TORD	**Torodi Ar. Bea**	**147.94**	**284**	PKPbc	PKPdf	20 31 31.1	+1.3
	0.2nm,0.4s,baz=122,slow=2.0,SNR=1.8						

IDC 25 20:18:41.8±1.4, 24°.66N×102°.24E, h0km, mb3.4/5, mb1 3.4/6, mb1mx3.2/57, mbtmp3.3/6, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/34, Error ellipse: s-maj=38.3km s-min=18.3km az=94.0

ISC 25 20:18:42.4±1.0, 24°.53N±0°.08×102°.4E±0°.1, h10km, n22, σ2s45/20, mb3.3/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CM34	**Chiang Mai Arr**	**6.42**	**209**	P	**Pg**	**20 20 42.0**	**-3.3**
LAMP	**Lampang**	**6.52**	**204**	P	**Pg**	**20 20 46.9**	**-0.3**
	0.1nm12nm,0.6s						
CM33	**Chiang Mai Arr**	**6.54**	**210**	P	**Pg**	**20 20 46.0**	**-1.6**
CM35	**Chiang Mai Arr**	**6.57**	**208**	P	**Pg**	**20 20 45.0**	**-3.2**
CM32	**Chiang Mai Arr**	**6.72**	**210**	P	**Pg**	**20 20 48.0**	**-3.2**
CM36	**Chiang Mai Arr**	**6.73**	**208**	P	Pg	20 20 55.0	+3.6
CM09	**Chiang Mai Arr**	**6.84**	**208**	P	**Pg**	**20 20 53.1**	**-0.4**
	0.1nm77nm8.5nm,0.7s						
CM31	**Chiang Mai Arr**	**6.85**	**209**	P	**Pg**	**20 20 51.0**	**-2.7**
	1.8nm227nm,0.6s						
CMAR	**Chiang Mai Arr**	**6.85**	**209**	Pn	**Pn**	**20 20 25.9**	**+2.8**
	0.1nm,0.3s,baz=22,slow=11,SNR=5.2						
CMAR				Pg	**Pg**	**20 20 49.3**	**-4.4**
	0.3nm,0.3s,baz=14,slow=17,SNR=12						
CMAR				Lg	Lg	20 22 17.0	
	0.5nm,0.3s,baz=40,slow=32,SNR=7.2						
CM15	**Chiang Mai Arr**	**6.87**	**209**	P	Pg	20 20 58.0	+4.1
CM02	**Chiang Mai Arr**	**6.87**	**209**	P	**Pg**	**20 20 55.0**	**+0.9**
	0.1nm81nm7.3nm,0.7s						
CM01	**Chiang Mai Arr**	**6.88**	**208**	P	**Pg**	**20 20 55.5**	**+1.3**
	0.1nm84nm7.4nm,0.7s						
CM04	**Chiang Mai Arr**	**6.89**	**208**	P	**Pg**	**20 20 51.1**	**-3.2**
	0.1nm80nm7.0nm,0.7s						
CM05	**Chiang Mai Arr**	**6.90**	**209**	P	**Pg**	**20 20 55.6**	**+1.0**
	0.1nm63nm5.4nm,0.7s						
CM13	**Chiang Mai Arr**	**6.90**	**209**	P	**Pg**	**20 20 52.1**	**-2.5**
	0.1nm63nm9.2nm,0.8s						
PANO	**Nakornpanom**	**7.63**	**164**	P	**Pg**	**20 21 06.0**	**-2.6**
SONM	**Songino Array**	**23.47**	**7**	P	**P**	**20 23 52.0**	**-0.2**
	0.4nm,0.5s,baz=197,slow=8.6,SNR=2.5						
KSRS	**Korea Array**	**25.29**	**53**	LR	LR	20 34 23.6	
	comp=Z,31nm,19.2s,baz=230,slow=37						
MKAR	**Makanchi Array**	**27.43**	**329**	P	**P**	**20 24 28.5**	**+0.2**
	0.2nm,0.5s,baz=140,slow=9.7,SNR=2.4						
KURBB	**Kurchatov Arra**	**31.92**	**331**	P	**P**	**20 25 07.2**	**-0.8**
	0.2nm,0.5s,baz=139,slow=9.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**32.19**	**340**	P	**P**	**20 25 09.1**	**-1.3**
	0.3nm,0.3s,baz=146,slow=10,SNR=1.9						
WRA	**Warramunga Arr**	**54.04**	**142**	P	**P**	**20 28 09.1**	**+1.8**
	0.3nm,0.7s,baz=331,slow=8.5,SNR=1.8						

IDC 25 20:30:17.4±1.4, 36°.11S×73°.25W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.8/22, mbtmp3.8/8, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/24, Error ellipse: s-maj=44.2km s-min=19.6km az=71.0
GUC 25 20:30:18.2±0.7, 36°.24S×73°.72W, h41km±4km, ML4.2
NEIC 25 20:30:19.4±1.8, 36°.21S±0°.05×73°.6W±0°.1, h35km±7km, Error ellipse: s-maj=15.0km s-min=7.3km az=104.0

ISC 25 20:30:20.9±0.8, 36°.23S±0°.05×73°.5W±0°.1, h35km, n45, σ1s33/43, mb3.9/7, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI03	**Tigo**	**0.74**	**147**	*e*P	**Pn**	**20 30 33.1**	**-1.7**
BI03				*i* S	**Sn**	**20 30 44.2**	**-0.7**
BI03	**Tigo**	**0.74**	**147**		**Pn**	**20 30 33.6**	**-1.2**
LAJA	**Laja**	**1.24**	**148**	*e*P	**Pn**	**20 30 40.8**	**-1.0**
LAJA				*i* S	**Sn**	**20 30 57.0**	**-0.2**
BI02	**San Fabin de**	**1.87**	**104**	⇑*i*P	**Pn**	**20 30 50.6**	**+0.1**
BI02				*i* S	**Sn**	**20 31 14.5**	**+1.5**
BI02				IAML		20 31 18.7	
	comp=E,2μm,0.4s						
BI02	**San Fabin de**	**1.87**	**104**		**Pn**	**20 30 50.6**	**+0.1**
BO03	**Pichilemu**	**2.15**	**37**	*e*P	**Pn**	**20 30 53.0**	**-1.3**
BO03				IAML		20 31 31.9	
	comp=N,924nm,0.5s						
BO02	**Sierra Bellavi**	**2.66**	**58**	*e*P	**Pn**	**20 31 00.9**	**-0.5**
BO02				IAML		20 31 44.0	
	comp=N,2μm,0.3s						
BO02	**Sierra Bellavi**	**2.66**	**58**	Pn	**Pn**	**20 31 00.9**	**-0.5**
MT09	**Talagante**	**3.21**	**41**	*e*P	**Pn**	**20 31 08.6**	**-0.5**
MT09				IAML		20 32 05.7	
MT02	**Curacav**	**3.56**	**34**	*e*P	**Pn**	**20 31 11.9**	**-1

SIVA						AML	AML	21 17 25.1			
	comp=E,31362µm,0.4s										
SIVA	**Sivas**		**0.15**	**354**		P	**Pb**	**21 17 18.2**	**+2.6**		
SIVA						S	**Sb**	**21 17 23.5**	**+4.2**		
	comp=E,16µm,0.6s										
TMBK	**Timbaki Herakl**		**0.21**	**346**		P	**Pb**	**21 17 18.7**	**+2.7**		
TMBK						S	**Sb**	**21 17 24.4**	**+4.5**		
	comp=E,3µm,0.5s										
IDI	**Anoyia**		**0.42**	**7**		LR	LR	21 17 12.6			
	comp=E,40nm,19.6s,baz=64,slow=15										
IDI						Pn	**Pb**	**21 17 21.0**	**+1.9**		
	comp=E,75nm,0.3s,baz=195,slow=13,SNR=91										
IDI						Sn	**Sb**	**21 17 27.4**	**+2.3**		
	comp=E,226nm,0.3s,baz=15,slow=18,SNR=55										
IDI	**Anoyia**		**0.42**	**7**		P	**Pb**	**21 17 21.0**	**+1.9**		
IDI						S	**Sb**	**21 17 27.3**	**+2.3**		
IDI						AML	AML	21 17 29.1			
	comp=N,11519µm,0.6s										
IDI						AML	AML	21 17 30.4			
	comp=E,4992µm,0.6s										
IDI	**Anoyia**		**0.42**	**7**		P	**Pb**	**21 17 21.0**	**+1.9**		
IDI						S	**Sb**	**21 17 28.1**	**+3.0**		
	comp=E,4µm,0.6s										
KSTL	**Kastelli Herak**		**0.48**	**24**		P	**Pn**	**21 17 23.9**	**+2.1**		
HRKL	**Herakleio**		**0.50**	**27**		P	**Pb**	**21 17 23.1**	**+2.8**		
HRKL						S	**Sn**	**21 17 31.2**	**+1.2**		
	comp=E,4µm,0.5s										
LAST	**Lasithi**		**0.61**	**61**		P	**Pb**	**21 17 24.7**	**+2.4**		
LAST						S	**Sb**	**21 17 34.0**	**+3.4**		
LAST						AML	AML	21 17 35.0			
	comp=N,1596µm,0.6s										
LAST						AML	AML	21 17 40.3			
	comp=E,1869µm,0.7s										
LAST	**Lasithi**		**0.61**	**61**		P	**Pb**	**21 17 24.7**	**+2.4**		
GVDS	**Gavdos**		**0.61**	**268**		P	**Pn**	**21 17 25.0**	**+1.4**		
GVDS						S	**Sn**	**21 17 35.0**	**+2.3**		
	comp=E,3µm,0.6s										
GVD	**Gavdhos**		**0.61**	**268**		P	**Pn**	**21 17 24.3**	**+0.7**		
GVD						AML	AML	21 17 40.5			
	comp=N,9834µm,0.3s										
GVD						AML	AML	21 17 41.9			
	comp=E,11061µm,0.7s										
GVD	**Gavdhos**		**0.61**	**268**		P	**Pn**	**21 17 24.5**	**+0.9**		
GVD						S	**Sn**	**21 17 35.6**	**+2.8**		
	comp=E,5µm,0.6s										
VAM	**Vamos**		**0.75**	**316**		P	**Pb**	**21 17 26.2**	**+1.7**		
VAM						AML	AML	21 17 40.7			
	comp=E,4659µm,0.6s										
VAM						AML	AML	21 17 44.5			
	comp=N,4766µm,0.6s										
VAM	**Vamos**		**0.75**	**316**		P	**Pb**	**21 17 26.4**	**+1.8**		
NPS	**Neapolis**		**0.75**	**58**		P	**Pb**	**21 17 26.6**	**+1.9**		
NPS						AML	AML	21 17 42.4			
	comp=N,1335µm,0.6s										
NPS						AML	AML	21 17 53.1			
	comp=E,1857µm,0.5s										
NPS	**Neapolis**		**0.75**	**58**		P	**Pb**	**21 17 27.0**	**+2.3**		
IMMV	**Iera Moni Meta**		**0.91**	**311**		P	**Pb**	**21 17 28.7**	**+1.3**		
IMMV						AML	AML	21 17 46.0			
	comp=E,6955µm,0.4s										
IMMV						AML	AML	21 17 46.5			
	comp=N,3871µm,0.5s										
IMMV	**Iera Moni Meta**		**0.91**	**311**		P	**Pb**	**21 17 28.8**	**+1.3**		
ZKR	**Zakros**		**1.17**	**77**		P	**Pb**	**21 17 34.5**	**+2.8**		
ZKR						AML	AML	21 17 59.0			
	comp=E,1574µm,0.7s										
ZKR						AML	AML	21 18 07.2			
	comp=N,499µm,0.8s										
ANKY	**Antikythira Is**		**1.60**	**309**		P	**Pb**	**21 17 42.1**	**+3.0**		
MMAI	**Mount Meron Ar**		**8.98**	**99**		Pn	**Pn**	**21 19 17.8**	**-0.9**		
	comp=N,0.8nm,0.3s,baz=267,slow=12,SNR=2.1										
EIL	**Elat**		**10.01**	**118**		Pn	**Pn**	**21 19 32.0**	**-0.7**		
	comp=N,0.3nm,0.3s,baz=350,slow=22,SNR=2.6										
EIL						Sn	Sn	21 21 15.8	-8.6		
	comp=N,0.2nm,0.3s,baz=222,slow=18,SNR=2.3										
AKASG	**Malin Array Be**		**16.15**	**10**		Pn	**Pn**	**21 20 55.0**	**-0.6**		
	comp=N,0.9nm,0.3s,baz=198,slow=11,SNR=5.5										
GERES	**GERESS Array B**		**16.22**	**333**		Pn	**Pn**	**21 20 55.7**	**-1.0**		
	comp=N,0.2nm,0.3s,baz=160,slow=12,SNR=3.3										
KBZ	**Khabaz**		**16.52**	**52**		Pn	**Pn**	**21 21 02.5**	**+2.0**		
	comp=N,0.1nm,0.3s,baz=255,slow=6.7,SNR=12										
BELG	**Belogornoye**		**23.90**	**36**		P	**P**	**21 22 21.5**	**-0.7**		
	comp=N,4.8nm,0.7s,baz=134,slow=22,SNR=2.6										
HFS	**Hagfors**		**26.30**	**347**		P	**P**	**21 22 42.0**	**-1.9**		
	comp=N,2.2nm,0.9s,baz=137,slow=11,SNR=1.6										
FINES	**FINESS Array B**		**26.61**	**1**		P	**P**	**21 22 44.2**	**-2.5**		
	comp=N,2.5nm,1.0s,baz=198,slow=8.7,SNR=1.0										
TORD	**Torodi Ar. Bea**		**30.09**	**230**		P	**P**	**21 23 18.2**	**0.0**		
	comp=N,0.9nm,0.6s,baz=34,slow=9.3,SNR=4.6										
ARCES	**ARCESS Array B**		**34.73**	**0**		P	**P**	**21 23 55.5**	**-2.8**		
	comp=N,3.2nm,1.1s,baz=186,slow=8.2,SNR=3.6										
DBIC	**Dimbokro**		**39.17**	**351**		P	**P**	**21 24 35.4**	**-1.2**		
	comp=N,2.2nm,0.7s,baz=301,slow=2.9,SNR=1.8										
MKAR	**Makanchi Array**		**44.16**	**56**		P	**P**	**21 25 16.1**	**-1.1**		
	comp=N,0.6nm,0.6s,baz=268,slow=7.6,SNR=11										
ZALV	**Zalesovo Beam**		**45.40**	**46**		P	**P**	**21 25 24.7**	**-2.2**		
	comp=N,0.9nm,0.5s,baz=267,slow=8.6,SNR=6.3										
SONM	**Songino Array**		**59.88**	**50**		P	**P**	**21 27 13.7**	**-0.7**		
	comp=N,0.3nm,0.5s,baz=292,slow=6.6,SNR=4.1										
YKA	**Yellowknife Ar**		**77.64**	**342**		P	**P**	**21 29 03.2**	**-1.3**		
	comp=N,0.2nm,0.4s,baz=36,slow=5.7,SNR=2.8										

IDC 25 21:23:51.9±1.0, 22.58S×83.00E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.6/48, mbtmp3.8/7, MS3.4/1, Ms1 3.4/1, ms1mx2.8/28, Error ellipse: s-maj=29.3km s-min=26.5km az=50.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
H08S2	**Diego Garcia H**	**17.97**	**324**	T		T	21	46	33.8	
	baz=147,slow=74,SNR=3.6									
H08S1	**Diego Carcia H**	**17.98**	**324**	T		T	21	46	31.8	
	baz=147									
H08S3	**Diego Garcia H**	**17.99**	**324**	T		T	21	46	31.5	
	baz=147,slow=74,SNR=8.0									
PALK	**Pallekele**	**29.76**	**355**	LR		LR	21	41	31.1	
	comp=Z,72nm,18.7s,baz=300,slow=36									
CMAR	**Chiang Mai Arr**	**43.66**	**22**	P		P	21	31	59.7	+1.1
	0.4nm,0.3s,baz=207,slow=7.6,SNR=1.9									
ASAR	**Alice Springs**	**46.62**	**102**	P		P	21	32	21.9	-0.4
	1.1nm,0.6s,baz=265,slow=7.4,SNR=13									
WRA	**Warramunga Arr**	**47.73**	**97**	P		P	21	32	31.0	+0.1
	2.0nm,0.8s,baz=263,slow=8.0,SNR=14									
BOSA	**Boshof**	**52.01**	**251**	P		P	21	33	03.7	+0.2
	0.8nm,0.9s,baz=71,slow=6.3,SNR=3.5									
VNDA	**Vanda**	**65.70**	**166**	P		P	21	34	37.9	+0.1
	0.9nm,0.8s,baz=287,slow=9.6,SNR=4.2									
MKAR	**Makanchi Array**	**69.05**	**359**	P		P	21	34	59.0	-0.3
	0.3nm,0.7s,baz=180,slow=6.6,SNR=3.6									
ZALV	**Zalesovo Beam**	**76.23**	**1**	P		P	21	35	41.2	-0.6
	0.5nm,0.5s,baz=197,slow=4.4,SNR=3.7									

*IDC **25** 21:28:30.6±0.7, 35.69N×140.85E, h0km, mb3.9/15, mb1 4.1/20, mb1mx3.9/45, mbtmp3.9/20, ML3.4/4, MS3.2/5, Ms1 3.3/5, ms1mx2.9/36, Error ellipse: s-maj=18.9km s-min=14.0km az=96.0*

*JMA **25** 21:28:32.5±0.2, 35.78N×140.92E, h13km±1km, M4.2*
JMA Felt III J1.

*NEIC **25** 21:28:32.8±2.3, 35.79N±0.03×140.89E±0.05, h10km±5km, mb4.4/14, Error ellipse: s-maj=5.3km s-min=4.4km az=103.0*

*NIED **25** 21:28:32.6, 35.79N×140.92E, h13km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr=0.58; Mθθ=0.40; Mφφ=0.99; Mrθ=0.54; Mθφ=0.07; Mφr=0.66; Fault plane solution: M0 1.21000×10^15 NP1: φs=212.00000°, δ=72.00000°, λ=-60.00000°. NP2: φs=330.00000°, δ=34.00000°, λ=-147.00000°.*

ISC 25 21:28:32.6±0.9, 35.77N±0.03×140.90E±0.05, h11km±5km, n86, σ1s01/84, mb4.1/23, MS3.3/4, 6C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CHOJ	**Chosi**	**0.07**	**206**	⇓P		**Pg**	**21**	**28**	**35.4**	**+0.3**
CHOJ				S		**Sg**	**21**	**28**	**37.0**	**+0.1**
JIHU	**Itakohorinouch**	**0.36**	**303**	⇑P		**Pb**	**21**	**28**	**40.5**	**-0.5**
JIHU				S		**Sb**	**21**	**28**	**46.3**	**-0.4**
JSMT	**Sammumatsuo**	**0.39**	**251**	⇑P		**Pb**	**21**	**28**	**41.1**	**-0.4**
JHYU	**Hitachinakayam**	**0.62**	**336**	P		**Pb**	**21**	**28**	**44.8**	**-0.7**
JHYU				S		**Sb**	**21**	**28**	**53.2**	**-1.1**
JCN	**Nagara**	**0.67**	**239**	⇑P		**Pb**	**21**	**28**	**46.7**	**+0.4**
JCN				S		**Sn**	**21**	**28**	**57.3**	**-1.1**
JYT	**Yasato**		**0.73**	**309**	⇑P		**Pg**	**21**	**28**	**46.1**	**-0.7**
JYT					S		**Sg**	**21**	**28**	**56.0**	**-0.4**
JYT	**Yasato**		**0.73**	**309**			**Pg**	**21**	**28**	**46.0**	**-0.9**
JYT						Sg	**Sg**	**21**	**28**	**56.1**	**-0.3**
JHO	**Hitachi**		**0.88**	**342**	⇑P		**Pg**	**21**	**28**	**48.3**	**-1.4**
BSO4	**Boso 4**		**0.90**	**211**	P		**Pb**	**21**	**28**	**50.5**	**+0.3**
BSO3	**Boso 3**		**1.02**	**198**	⇓P		**Pg**	**21**	**28**	**51.7**	**-0.5**
BSO1	**Boso 1**		**1.11**	**177**	⇓P		**Pb**	**21**	**28**	**52.1**	**-1.5**
JMM	**Marumori**		**2.10**	**358**			**Pn**	**21**	**29**	**05.9**	**-1.7**
MJAR	**Matsushiro Arr**		**2.31**	**290**	Pn		**Pn**	**21**	**29**	**09.4**	**-1.2**
	3.9nm,0.3s,baz=93,slow=8.3,SNR=116										
MJAR	**Matsushiro Arr**		**2.31**	**290**			**Pn**	**21**	**29**	**08.9**	**-1.7**
MAJO	**Matsushiro**		**2.31**	**290**			**Pn**	**21**	**29**	**09.9**	**-0.8**
MAT	**Matsushiro**		**2.31**	**290**	P		**Pn**	**21**	**29**	**09.7**	**-0.9**
MAT						eS	**Sn**	**21**	**29**	**39.0**	**0.0**
MJB9	**Matsu-Tunnel**		**2.31**	**290**			**Pn**	**21**	**29**	**09.8**	**-0.8**
JSG	**Sagara**		**2.48**	**245**	Pn		**Pn**	**21**	**29**	**13.6**	**+0.8**
JHJ2	**Mitsune**		**2.80**	**199**			**Pn**	**21**	**29**	**17.3**	**0.0**
JHJ	**Hachijo jima 2**		**2.80**	**200**	Pn		**Pn**	**21**	**29**	**15.9**	**-1.4**
	18nm,0.3s,baz=122,slow=23,SNR=11										
JHJ						Sn	**Sn**	**21**	**29**	**48.7**	**-2.3**
	71nm,0.3s,baz=221,slow=22,SNR=9.5										
JGF	**Kuroka**		**2.89**	**268**			**Pn**	**21**	**29**	**20.2**	**+1.6**
JSD	**Sado**		**3.10**	**318**			**Pn**	**21**	**29**	**20.7**	**-0.7**
INU	**Inuyama**		**3.19**	**264**	Pn		**Pn**	**21**	**29**	**23.7**	**+1.0**
JWT	**Wachi**		**4.51**	**265**	Pn		**Pn**	**21**	**29**	**42.2**	**+1.4**
JTM	**Tenmabayashi**		**5.01**	**1**	Pn		**Pn**	**21**	**29**	**48.2**	**+0.5**
JHS	**Saijyo**		**6.40**	**265**	Pn		**Pn**	**21**	**30**	**09.0**	**+2.1**
ERM	**Erimo**		**6.48**	**15**	Pn		**Pn**	**21**	**30**	**08.1**	**+0.3**
ASAJ	**Asahikawa**		**8.44**	**8**	Pn		**Pn**	**21**	**30**	**33.4**	**-1.4**
	0.9nm,0.3s,baz=232,slow=9.2,SNR=8.1										
JKA	**Kamikawa-asahi**		**8.44**	**8**	Pn		**Pn**	**21**	**30**	**34.5**	**-0.3**
KSRS	**Korea Array**		**10.57**	**283**	Pn		**Pn**	**21**	**31**	**05.8**	**+1.8**
	0.1nm,0.3s,baz=51,slow=35,SNR=1.3										
KSRS						LR	LR	21 34 49.4			
	comp=Z,61nm,20.1s,baz=124,slow=36										
USRK	**Ussuriysk Ar.**		**10.84**	**324**	Pn		**Pn**	**21**	**31**	**08.8**	**+1.2**
	baz=149,slow=15,SNR=3.0										
USRK	**Ussuriysk Ar.**		**10.84**	**324**	Pn		**Pn**	**21**	**31**	**09.0**	**+1.4**
CN2	**Changchun**		**14.32**	**309**	eP		**P**	**21**	**32**	**03.5**	**+1.1**
CN2						pmax	pmax				
	comp=Z,10.0nm,0.6s										
KLR	**Kul'dur**		**15.03**	**336**	Pn		**Pn**	**21**	**32**	**04.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=201,slow=7.5,SNR=1.9										
BJT	**Baijiatuan**		**19.95**	**290**	P		**P**	**21**	**33**	**02.2**	**-2.4**
PETK	**Petropavlovsk-**		**20.99**	**29**	P		**P**	**21**	**33**	**15.6**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=214,slow=44,SNR=2.1										
MA2	**Magadan**		**24.68**	**12**	P		**P**	**21**	**33**	**54.3**	**+1.1**
	comp=Z,2.5nm,0.5s,baz=191,slow=11,SNR=4.4										
H11N2	**WAKE ISLAND Hy**		**27.89**	**118**	T		T	22 03 19.1			
	baz=310,slow=75,SNR=181										
H11N1	**WAKE ISLAND Hy**		**27.90**	**118**	T		T	22 03 22.2			
	baz=310,slow=75,SNR=146										
H11N3	**WAKE ISLAND Hy**		**27.91**	**118**	T		T	22 03 26.4			
	baz=310,slow=75,SNR=142										
SONM	**Songino Array**		**28.17**	**306**	P		**P**	**21**	**34**	**24.4**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=103,slow=9.4,SNR=9.0										
SONM	**Songino Array**		**28.17**	**306**	P		**P**	**21**	**34**	**24.3**	**-0.7**
H11S1	**WAKE ISLAND Hy**		**28.55**	**120**	T		T	22 04 11.9			
	baz=312,slow=75,SNR=482										
H11S3	**WAKE ISLAND Hy**		**28.55**	**120**	T		T	22 04 11.9			
	baz=312,slow=75,SNR=479										
H11S2	**WAKE ISLAND Hy**		**28.57**	**120**	T		T	22 04 09.2			
	baz=312,slow=75,SNR=310										
GTA	**Gaotai**		**32.56**	**289**	⇑P		**P**	**21**	**35**	**04.5**	**+0.6**
GTA						pP	sP	21 35 09.5	+0.7		
GTA						sP	pP	21 35 12.0	+4.6		
GTA						pmax	pmax				
	comp=Z,2.0nm,0.9s										
CMAR	**Chiang Mai Arr**		**40.78**	**256**	LR		LR	21 54 08.1			
	comp=Z,14nm,19.7s,baz=110,slow=38										
ZALV	**Zalesovo Beam**		**42.47**	**313**	P		**P**	**21**	**36**	**27.5**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=94,slow=6.9,SNR=5.9										
ZALV	**Zalesovo Beam**		**42.47**	**313**	P		**P**	**21**	**36**	**28.0**	**+0.6**
MK31	**Makanchi Array**		**44.45**	**303**	P		**P**	**21**	**36**	**43.6**	**+0.1**
MK31						lAmb	lAmb	21 36 52.0			
	comp=Z,2.1nm,0.9s										
MKAR	**Makanchi Array**		**44.45**	**303**	P		**P**	**21**	**36**	**43.5**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=89,slow=8.2,SNR=13										
MKAR						LR	LR	21 55 07.7			
	comp=Z,33nm,21.8s,baz=186,slow=36										
MKAR	**Makanchi Array**		**44.45**	**303**	P		**P**	**21**	**36**	**43.9**	**+0.3**
MAKZ	**Makanchi**		**44.66**	**303**	P		**P**	**21**	**36**	**45.6**	**+0.4**
MAKZ						lAmb	lAmb	21 36 49.0			
	comp=Z,2.8nm,0.9s										
PPLA	**Purkeypile**		**48.44**	**34**	P		**P**	**21**	**37**	**16.2**	**+1.4**
MDM	**Murphy Dome**		**50.21**	**32**	P		**P**	**21**	**37**	**29.7**	**+1.6**
MDM						lAmb	lAmb	21 37 34.5			
	comp=Z,6.0nm,0.8s										
ILAR	**Eielson Array**		**50.78**	**32**	P		**P**	**21**	**37**	**33.0**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=268,slow=6.4,SNR=13										
ILAR	**Eielson Array**		**50.78**	**32**	P		**P**	**21**	**37**	**32.9**	**+0.4**
BMAR	**Burnt Mountain**		**51.64**	**28**	P		**P**	**21**	**37**	**40.6**	**+1.8**
BCAR	**Beaver Creek A**		**53.17**	**34**	P		**P**	**21**	**37**	**51.9**	**+1.6**
EPYK	**Eagle Plains**		**54.83**	**29**	P		**P**	**21**	**38**	**04.1**	**+1.7**
FITZ	**Fitzroy Crossi**		**55.49**	**198**	P		**P**	**21**	**38**	**08.2**	**+0.7**
FITZ						lAmb	lAmb	21 38 18.3			
	comp=Z,3.4nm,1.1s										
WB0	**Warramunga Arr**		**55.58**	**187**	P		**P**	**21**	**38**	**06.5**	**-1.6**
WB0						lAmb	lAmb	21 38 21.2			
	comp=Z,4.3nm,0.8s										
WB2	**Warramunga Arr**		**55.75**	**187**	P		**P**	**21**	**38**	**08.6**	**-0.9**
WB2						lAmb	lAmb	21 38 16.6			
	comp=Z,9.1nm,1.4s										
WRA	**Warramunga Arr**		**55.75**	**187**	P		**P**	**21**	**38**	**08.2**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=5.8,slow=7.6,SNR=17										
WRA	**Warramunga Arr**		**55.75**	**187**	P		**P**	**21**	**38**	**08.5**	**-1.0**
ARU	**Arti**		**57.04**	**319**	P		**P**	**21**	**38**	**19.2**	**+0.9**
ARU						lAmb	lAmb	21 38 23.1			
	comp=Z,3.8nm,0.7s										
ABKAR	**Akbulak array**		**58.44**	**311**	P		**P**	**21**	**38**	**27.9**	**-0.3**
ABKAR	**Akbulak array**		**58.44**	**311**	P		**P**	**21**	**38**	**27.9**	**-0.3**
ABKAR						lAmb	lAmb	21 38 33.1			
	comp=Z,2.5nm,1.0s										
ASAR	**Alice Springs**		**59.48**	**187**	P		**P**	**21**	**38**	**34.6**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=18,slow=10,SNR=9.5										
ASAR	**Alice Springs**		**59.48**	**187**	P		**P**	**21**	**38**	**36.0**	**+0.3**
RES	**Resolute Bay**		**63.93**	**14**	P		**P**	**21**	**39**	**05.2**	**+0.2**
ARCES	**ARCESS Array B**		**65.03**	**339**	P		**P**	**21**	**39**	**12.9**	**+0.6**
	comp=Z,4.8nm,1.0s,baz=41,slow=8.4,SNR=1.5										
YKA	**Yellowknife Ar**		**65.11**	**30**	P		**P**	**21**	**39**	**12.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=298,slow=5.9,SNR=5.8										
FINES	**FINESS Array B**		**69.74**	**332**	P		**P**	**21**	**39**	**41.9**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=76,slow=8.0,SNR=4.7										
FINES	**FINESS Array B**		**69.74**	**332**	P		**P**	**21**	**39**	**42.3**	**+0.1**
AKASG	**Malin Array Be**		**75.04**	**322**	P		**P**	**21**	**40**	**13.8**	**-0.3**
AKASG						LR	LR	22 16 19.3			
	comp=Z,44nm,18.4s,baz=200,slow=38										
NB2	**NORSAR Subarra**		**75.19**	**337**	P		**P**	**21**	**40**	**14.7**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=40,slow=5.9										
NOA	**NORSAR Array B**		**75.19**	**337**	P		**P**	**21**	**40**	**14.8**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=40,slow=5.7,SNR=4.6										
NOA						LR	LR	22 16 16.5			
	comp=Z,21nm,18.5s,baz=295,slow=38										
NVAR	**Mina Array Bea**		**76.08**	**53**	P		**P**	**21**	**40**	**21.2**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=316,slow=7.6,SNR=2.6										
PDAR	**Pinedale Array**		**78.85**	**45**	P		**P**	**21**	**40**	**36.7**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=222,slow=2.0,SNR=3.9										
PDAR	**Pinedale Array**		**78.85**	**45**	P		**P**	**21**	**40**	**36.2**	**+0.2**
BURAR	**Bucovina Array**		**79.04**	**322**	P		**P**	**21**	**40**	**37.8**	**+1.0**
H03N2	**Juan Fernandez**		**147.28**	**98**	T		T	00 32 49.4			
	baz=289,slow=76,SNR=34										
H03N3	**Juan Fernandez**		**147.30**	**98**	T		T	00 32 50.5			
	baz=289,slow=76,SNR=34										
H03N1	**Juan Fernandez**		**147.30**	**98**	T		T	00 32 50.6			
	baz=289,slow=76,SNR=46										
LPAZ	**La Paz**		**147.68**	**61**	PKPbc		**PKPbc**	**21**	**48**	**18.2**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=6.1,slow=6.5,SNR=6.9										

*ATH **25** 22:15:36.9, 36.59N×25.61E, h28km±2km, ML3.2/10, Error ellipse: s-maj=2.5km s-min=1.0km az=252.0*

*ISK **25** 22:15:37.5, 36.64N×25.48E, h16km, ML3.2/20*

*THE **25** 22:15:37.6, 36.61N×25.67E, h5km±1km, ML3.5/8, Error ellipse: s-maj=1.7km s-min=0.4km az=261.0*

*DDA **25** 22:15:46.6, 36.71N×26.28E, h7km±7km, ML2.6*

ISC 25 22:15:37.5±0.8, 36.62N±0.02×25.63E±0.02, h16km±7km, n81, σ1s09/104, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
THR8	**Santorini-Mono**	**0.24**	**211**	P		**Pg**	**22**	**15**	**42.7**	**-0.3**
THR8	**Santorini-Mono**	**0.24**	**211**	P		**Pg**	**22**	**15**	**42.6**	**-0.3**
THT2	**Imerovigli**	**0.25**	**223**	P		**Pg**	**22**	**15**	**43.1**	**+0.1**
THT2				S		**Sg**	**22**	**15**	**46.9**	**+0.2**
THT2	**Imerovigli**	**0.25**	**223**	P		**Pg**	**22**	**15**	**43.1**	**+0.1**
THT2	**Imerovigli**	**0.25**	**223**	PG		**Pg**	**22**	**15**	**42.7**	**-0.3**
THT2				SG		**Sg**	**22**	**15**	**46.6**	**-0.1**
SAP4	**Santorini-Oia**	**0.25**	**236**	P		**Pg**	**22**	**15**	**43.3**	**+0.3**
SAP4				S		**Sg**	**22**	**15**	**47.6**	**+0.8**
SAP4	**Santorini-Oia**	**0.25**	**236**	P		**Pg**	**22**	**15**	**43.3**	**+0.3**
SAP4				S		**Sg**	**22**	**15**	**47.4**	**+0.6**
	21µm,0.3s									
SFIR	**Foira Santorin**	**0.25**	**220**	P		**Pg**	**22**	**15**	**43.3**	**+0.2**
SFIR				S		**Sg**	**22**	**15**	**46.9**	**0.0**
	21µm,0.2s									
THR7	**Fira-Santorini**	**0.25**	**220**	P		**Pg**	**22**	**15**	**43.3**	**+0.2**
THR7	**Fira-Santorini**	**0.25**	**220**	P		**Pg**	**22**	**15**	**43.1**	**0.0**
SNT1	**Gialos, Santor**	**0.26**	**220**	P		**Pg**	**22**	**15**	**43.1**	**-0.1**
SNT1				S		**Sg**	**22**	**15**	**47.1**	**+0.2**
SNT1	**Gialos, Santor**	**0.26**	**220**	P		**Pg**	**22**	**15**	**43.1**	**-0.1**
SNT1				S		**Sg**	**22**	**15**	**47.3**	**+0.3**
	6µm,0.5s									
THR3	**Thira Island,**	**0.28**	**222**	P		**Pg**	**22**	**15**	**43.4**	**-0.1**
THR3	**Thira Island,**	**0.28**	**222**	P		**Pg**	**22**	**15**	**43.5**	**0.0**
SANT	**Santorini**	**0.28**	**210**	P		**Pg**	**22**	**15**	**43.3**	**-0.3**
SANT				S		**Sg**	**22**	**15**	**47.8**	**+0.1**
SANT					AML	AML	22 15 49.9			
	comp=N,6427µm,0.3s									
SANT					AML	AML	22 15 50.5			
	comp=E,14788µm,0.3s									
SANT	**Santorini**	**0.28**	**210**	P		**Pg**	**22**	**15**	**43.5**	**0.0**
SANT				S		**Sg**	**22**	**15**	**47.9**	**+0.2**
	comp=E,6µm,0.4s									
SANT	**Santorini**	**0.28**	**210**	PG		**Pg**	**22**	**15**	**43.6**	**0.0**
SNT5	**Nea Kammeni, S**	**0.28**	**222**	P		**Pg**	**22**

AKAS	**Kas**	**3.23**	**96**	PN	**Pn**	**22 16 30.4**	**+2.7**
ELL	**Elmali**	**3.44**	**87**	PN	**Pn**	**22 16 34.0**	**+3.3**
TVSB	**Tavsanli**	**4.14**	**46**	PN	**Pn**	**22 16 43.2**	**+2.9**

SOME ***25*** *22:27:58.6, 43.°10N × 78.°52E, h15km*
NNC ***25*** *22:27:58.3±0.4, 43.°10N × 78.°51E, h2km, ±2km, mb3.8, mpv3.7, Error ellipse: s-maj=3.6km s-min=2.1km az=167.0*
KRNET ***25*** *22:27:58.4±0.1, 43.°12N × 78.°51E, h16km, mb3.4*
ISC 25 22:27:58.6±0.8, **43.°16N**±0.°02 × **78.°52E**±0.°01, **h7**km±4km, **n84, σ1s28**/158, **20C-10D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZHN	**Zhinishke** baz=10.0	**0.07**	**277**	*eP*	**Pg**	**22 28 00.7**	**+0.2**
ZHN				*eS*	**Sg**	**22 28 02.1**	**+0.2**
ZHN	**Zhinishke** 182nm,0.1s baz=10.0	**0.07**	**277**	*eP*	**Pg**	**22 28 00.7**	**+0.2**
ZHN				*eS*	**Sg**	**22 28 02.2**	**+0.2**
ZHN	**Zhinishke** 182nm,0.1s 2μm,0.2s	**0.07**	**277**	P	**Pg**	**22 28 00.7**	**+0.2**
ZHN				S	**Sg**	**22 28 02.2**	**+0.2**
SATY	**Saty** baz=31	**0.13**	**220**	*eP*	**Pg**	**22 28 00.8**	**-0.7**
SATY				*eS*	**Sg**	**22 28 02.6**	**-0.9**
SATY	**Saty** 2μm,0.1s baz=31	**0.13**	**220**	*eP*	**Pg**	**22 28 00.8**	**-0.7**
SATY				*eS*	**Sg**	**22 28 02.6**	**-0.9**
SATY	**Saty** 2μm,0.1s 11μm,0.1s	**0.13**	**220**	P	**Pg**	**22 28 00.8**	**-0.7**
SATY				S	**Sg**	**22 28 02.6**	**-0.9**
KPKS	**Kokpek** baz=20	**0.33**	**21**	*eP*	**Pb**	**22 28 06.0**	**-0.8**
KPKS				*eS*	**Sb**	**22 28 11.3**	**-1.0**
KPKS	**Kokpek** 168nm,0.1s baz=20	**0.33**	**21**	*eP*	**Pb**	**22 28 06.0**	**-0.8**
KPKS				*eS*	**Sb**	**22 28 11.3**	**-1.0**
UZB	**Uzynbulak** baz=86	**0.36**	**92**	*eP*	**Pb**	**22 28 05.9**	**-1.6**
UZB				*eS*	**Sb**	**22 28 11.1**	**-2.3**
UZB	**Uzynbulak** 109nm,0.1s baz=86	**0.36**	**92**	*eP*	**Pb**	**22 28 05.9**	**-1.6**
UZB				*eS*	**Sb**	**22 28 11.1**	**-2.3**
UZB	**Uzynbulak** 109nm,0.1s 456nm,0.2s	**0.36**	**92**	P	**Pb**	**22 28 05.9**	**-1.6**
UZB				S	**Sb**	**22 28 11.1**	**-2.3**
KURS	**Kuram** baz=26	**0.42**	**322**	*eP*	**Pb**	**22 28 07.3**	**-1.1**
KURS				*eS*	**Sb**	**22 28 13.6**	**-1.3**
KURS	**Kuram** 4.7nm,0.2s baz=26	**0.42**	**322**	*eP*	**Pb**	**22 28 07.3**	**-1.1**
KURS				*eS*	**Sb**	**22 28 13.6**	**-1.3**
KURS	**Kuram** 4.7nm,0.2s 74nm,0.2s	**0.42**	**322**	P	**Pb**	**22 28 07.3**	**-1.1**
KURS				S	**Sb**	**22 28 13.6**	**-1.3**
PRZ	**Przheval'sk** baz=88	**0.68**	**188**	⇑*iP*	**Pb**	**22 28 11.4**	**-1.5**
PRZ				⇑*iS*	**Sg**	**22 28 19.3**	**-1.4**
SHLS	**Shalkode** baz=87	**0.69**	**90**	*eP*	**Pn**	**22 28 17.4**	**+2.6**
SHLS				*eS*	**Sn**	**22 28 31.1**	**+5.3**
SHLS	**Shalkode** 30nm,0.2s baz=87	**0.69**	**90**	*eP*	**Pn**	**22 28 17.4**	**+2.6**
SHLS				*eS*	**Sn**	**22 28 31.1**	**+5.3**
SHLS	**Shalkode** 30nm,0.2s 52nm,0.3s	**0.69**	**90**	P	**Pn**	**22 28 17.4**	**+2.6**
SHLS				S	**Sn**	**22 28 31.1**	**+5.3**
ANVS	**Anan'yevo** baz=42	**0.73**	**239**	⇑*iP*	**Pg**	**22 28 11.6**	**-1.1**
ANVS				⇑*iS*	**Sg**	**22 28 21.1**	**-1.2**
MNBS	**Baschi** 18nm,0.2s baz=42	**0.92**	**355**	*eP*	**Pn**	**22 28 17.2**	**-0.9**
MNBS				*eS*	**Sn**	**22 28 30.3**	**-1.3**
MNBS	**Baschi** 18nm,0.2s 43nm,0.3s	**0.92**	**355**	P	**Pn**	**22 28 17.2**	**-0.9**
MNBS				S	**Sn**	**22 28 30.3**	**-1.3**
KOTS	**Kotyrbulak** baz=77	**1.03**	**275**	*eP*	**Pg**	**22 28 18.1**	**-0.4**
KOTS				*eS*	**Sg**	**22 28 32.1**	**+0.1**
KOTS	**Kotyrbulak** 109nm,0.2s baz=77	**1.03**	**275**	*eP*	**Pg**	**22 28 18.1**	**-0.4**
KOTS				*eS*	**Sg**	**22 28 32.0**	**+0.1**
KOTS	**Kotyrbulak** 109nm,0.2s 53nm,0.2s	**1.03**	**275**	P	**Pg**	**22 28 18.1**	**-0.4**
KOTS				S	**Sg**	**22 28 32.0**	**+0.1**
MDOK	**Medeo** baz=73	**1.08**	**271**	*eP*	**Pg**	**22 28 18.0**	**-1.3**
MDOK				*eS*	**Sg**	**22 28 32.1**	**-1.2**
MDOK	**Medeo** 17nm,0.2s baz=73	**1.08**	**271**	*eP*	**Pg**	**22 28 18.0**	**-1.3**
MDOK				*eS*	**Sg**	**22 28 32.1**	**-1.2**
MDOK	**Medeo** 17nm,0.2s 23nm,0.4s	**1.08**	**271**	Pg	**Pg**	**22 28 18.0**	**-1.3**
MDOK				Lg	Lg	22 28 32.1	
TNSS	**Tian-Shan** baz=67	**1.16**	**264**	*eP*	**Pg**	**22 28 19.7**	**-1.2**
TNSS				*eS*	**Sg**	**22 28 35.0**	**-1.0**
TNSS	**Tian-Shan** 24nm,0.2s baz=67	**1.16**	**264**	*eP*	**Pg**	**22 28 19.7**	**-1.2**
TNSS				*eS*	**Sg**	**22 28 35.1**	**-1.0**
TNSS	**Tian-Shan** 24nm,0.2s 24nm,0.3s	**1.16**	**264**	P	**Pg**	**22 28 19.7**	**-1.2**
TNSS				S	**Sg**	**22 28 35.1**	**-1.0**
ARXS	**Arharly** 15nm,0.2s	**1.17**	**335**	*eP*	**Pn**	**22 28 20.9**	**-0.5**
ARXS				*eS*	**Sn**	**22 28 37.0**	**-0.6**
ARXS	**Arharly** 15nm,0.2s 28nm,0.2s	**1.17**	**335**	P	**Pn**	**22 28 20.9**	**-0.5**
ARXS				S	**Sn**	**22 28 37.0**	**-0.6**
AAA	**Alma-Ata** baz=75	**1.18**	**273**	*eP*	**Pb**	**22 28 20.9**	**-0.4**
AAA				*eS*	**Sb**	**22 28 36.8**	**+0.1**
AAA	**Alma-Ata** 50nm,0.2s 3.3nm,0.1s	**1.18**	**273**	*eP*	**Pb**	**22 28 20.9**	**-0.4**
AAA				*eS*	**Sb**	**22 28 36.8**	**+0.1**
AAA	**Alma-Ata** 50nm,0.2s 3.3nm,0.1s	**1.18**	**273**	P	**Pb**	**22 28 20.9**	**-0.4**
AAA				S	**Sb**	**22 28 36.8**	**+0.1**
CHKK	**Chushkaly** baz=4.0	**1.31**	**302**	*eP*	**Pn**	**22 28 23.0**	**-0.4**
CHKK				*eS*	**Sb**	**22 28 40.5**	**-0.2**
CHKK	**Chushkaly** 14nm,0.2s baz=4.0	**1.31**	**302**	*eP*	**Pn**	**22 28 23.0**	**-0.4**
CHKK				*eS*	**Sb**	**22 28 40.5**	**-0.2**
CHKK	**Chushkaly** 14nm,0.2s 69nm,0.3s	**1.31**	**302**	P	**Pn**	**22 28 23.0**	**-0.4**
CHKK				S	**Sb**	**22 28 40.5**	**-0.2**
KTMS	**Ketmen** baz=76	**1.36**	**77**	*eP*	**Pg**	**22 28 23.8**	**-1.0**
KTMS				*eS*	**Sn**	**22 28 41.9**	**-0.7**
KTMS	**Ketmen** 0.8nm,0.1s 44nm,0.2s	**1.36**	**77**	*eP*	**Pg**	**22 28 23.8**	**-1.0**
KTMS				*eS*	**Sn**	**22 28 41.9**	**-0.7**
KTMS	**Ketmen** 0.8nm,0.1s 44nm,0.2s	**1.36**	**77**	P	**Pg**	**22 28 23.8**	**-1.0**
KTMS				S	**Sn**	**22 28 41.9**	**-0.7**
IZV	**Izvestkoviy** baz=67	**1.41**	**266**	*eP*	**Pb**	**22 28 24.6**	**-0.6**
IZV				*eS*	**Sb**	**22 28 43.2**	**-0.2**
IZV	**Izvestkoviy** 22nm,0.2s baz=67	**1.41**	**266**	*eP*	**Pb**	**22 28 24.6**	**-0.6**
IZV				*eS*	**Sb**	**22 28 43.2**	**-0.2**
IZV	**Izvestkoviy** 22nm,0.2s 40nm,0.2s	**1.41**	**266**	P	**Pb**	**22 28 24.5**	**-0.6**
IZV				S	**Sb**	**22 28 43.2**	**-0.2**
KDJ	**Kajisay** baz=25	**1.43**	**224**	⇑*iP*	**Pn**	**22 28 24.3**	**-0.8**
KDJ				⇑*iS*	**Sb**	**22 28 42.7**	**-1.4**
KTBS	**Karatobe** baz=95	**1.45**	**293**	*eP*	**Pb**	**22 28 25.4**	**-0.5**
KTBS				*eS*	**Sb**	**22 28 44.6**	**+0.1**
KTBS	**Karatobe** 21nm,0.2s baz=95	**1.45**	**293**	*eP*	**Pb**	**22 28 25.4**	**-0.5**
KTBS				*eS*	**Sb**	**22 28 44.6**	**+0.1**
KTBS	**Karatobe** 21nm,0.2s 42nm,0.4s	**1.45**	**293**	P	**Pb**	**22 28 25.4**	**-0.5**
KTBS				S	**Sb**	**22 28 44.6**	**+0.1**
DJR	**Jarkent** 13nm,0.1s	**1.49**	**38**	*eP*	**Pg**	**22 28 27.1**	**0.0**
DJR				*eS*	**Sg**	**22 28 47.5**	**+1.0**
DJR	**Jarkent** 13nm,0.1s 63nm,0.2s	**1.49**	**38**	P	**Pg**	**22 28 27.1**	**0.0**
DJR				S	**Sg**	**22 28 47.5**	**+1.0**
MTBS	**Maitube** baz=71	**1.53**	**270**	*eP*	**Pg**	**22 28 27.3**	**-0.7**
MTBS				*eS*	**Sg**	**22 28 48.1**	**+0.2**
MTBS	**Maitube** 13nm,0.2s baz=71	**1.53**	**270**	*eP*	**Pg**	**22 28 27.3**	**-0.7**
MTBS				*eS*	**Sg**	**22 28 48.0**	**+0.2**
MTBS	**Maitube** 13nm,0.2s 35nm,0.2s	**1.53**	**270**	P	**Pg**	**22 28 27.3**	**-0.7**
MTBS				S	**Sg**	**22 28 48.0**	**+0.2**
KUU	**Kurty** baz=97	**1.75**	**296**	*eP*	**Pb**	**22 28 30.6**	**-0.4**
KUU				*eS*	**Sb**	**22 28 53.8**	**+0.6**
KUU	**Kurty** 20nm,0.2s baz=97	**1.75**	**296**	*eP*	**Pb**	**22 28 30.6**	**-0.4**
KUU				*eS*	**Sb**	**22 28 53.8**	**+0.6**
KUU	**Kurty** 20nm,0.2s 37nm,0.2s	**1.75**	**296**	P	**Pb**	**22 28 30.6**	**-0.4**
KUU				S	**Sb**	**22 28 53.8**	**+0.6**
TDK	**Taldyqorghan** 30nm,0.3s	**1.84**	**357**	*eP*	**Pg**	**22 28 33.4**	**-0.5**
TDK				*eS*	**Sg**	**22 28 58.3**	**+0.5**
TDK	**Taldyqorghan** 30nm,0.3s 60nm,0.2s	**1.84**	**357**	P	**Pg**	**22 28 33.4**	**-0.5**
TDK				S	**Sg**	**22 28 58.3**	**+0.5**
KST	**Kastek** baz=68	**1.88**	**267**	*eP*	**Pb**	**22 28 33.0**	**-0.3**
KST				*eS*	**Sg**	**22 28 58.1**	**-0.9**
KST	**Kastek** 11nm,0.3s baz=68	**1.88**	**267**	*eP*	**Pb**	**22 28 33.0**	**-0.3**
KST				*eS*	**Sg**	**22 28 58.1**	**-0.9**
KST	**Kastek** 11nm,0.3s 11nm,0.4s	**1.88**	**267**	P	**Pb**	**22 28 33.0**	**-0.3**
KST				S	**Sg**	**22 28 58.1**	**-0.9**
ULHL	**Ulahol** baz=43	**1.91**	**242**	⇑*iP*	**Pb**	**22 28 33.1**	**-0.8**
ULHL				⇑*iS*	**Sb**	**22 28 58.1**	**0.0**
ULHL	**Ulahol** SNR=49 baz=43	**1.91**	**242**	P	**Pb**	**22 28 32.7**	**-1.3**
DGS	**Degeres** baz=74	**2.01**	**273**	*eP*	**Pb**	**22 28 35.2**	**-0.4**
DGS				*eS*	**Sb**	**22 29 01.8**	**+0.9**
DGS	**Degeres** 25nm,0.3s baz=74	**2.01**	**273**	*eP*	**Pb**	**22 28 35.2**	**-0.4**
DGS				*eS*	**Sb**	**22 29 01.8**	**+0.9**
DGS	**Degeres** 25nm,0.3s 44nm,0.3s	**2.01**	**273**	Pg	**Pb**	**22 28 35.2**	**-0.4**
DGS				Lg	Lg	22 29 01.8	
BOOM	**Boomskoye usch** baz=52	**2.02**	**251**	⇓*eP*	**Pb**	**22 28 34.6**	**-1.0**
BOOM				⇓*iS*	**Sb**	**22 29 00.4**	**-0.5**
TKM2	**Tokmak 2** baz=66	**2.16**	**265**	⇓*iP*	**Pb**	**22 28 36.8**	**-1.3**
TKM2				⇓*iS*	**Sb**	**22 29 04.4**	**-0.7**
TKM2	**Tokmak 2** SNR=23 baz=66	**2.16**	**265**	P	**Pb**	**22 28 37.7**	**-0.4**
KBK	**Karagaybulak** baz=61	**2.67**	**260**	⇑*eP*	**Pn**	**22 28 43.7**	**+1.5**
KBK				⇑*iS*	**Sn**	**22 29 16.6**	**+1.7**
KBK	**Karagaybulak** SNR=28 baz=61	**2.67**	**260**	P	**Pb**	**22 28 46.7**	**-0.2**
CHMS	**Chumysh** baz=69	**2.77**	**268**	⇑*iP*	**Pn**	**22 28 45.0**	**+1.7**
CHMS				⇑*iS*	**Sn**	**22 29 18.9**	**+1.9**
SGDS	**Sogindy** 2.4nm,0.3s baz=69	**2.86**	**277**	Pg	**Pb**	**22 28 50.8**	**+0.9**
SGDS				Lg	Lg	22 29 28.1	
FRU1	**Bishkek** 9.5nm,0.3s baz=66	**2.88**	**264**	⇑*iP*	**Pn**	**22 28 46.9**	**+2.0**
FRU1				⇑*iS*	**Sn**	**22 29 21.7**	**+1.9**
USP	**Ospenovka** baz=74	**2.94**	**273**	⇑*iP*	**Pn**	**22 28 47.5**	**+1.7**
USP				⇑*iS*	**Sn**	**22 29 23.5**	**+2.2**
USP	**Ospenovka** SNR=7.2 baz=74	**2.94**	**273**	P	**Pb**	**22 28 50.1**	**-1.3**
AAK	**Ala-Archa** baz=62	**3.01**	**261**	⇓*iP*	**Pn**	**22 28 48.1**	**+1.4**
AAK				⇓*iS*	**Sn**	**22 29 24.6**	**+1.5**
AAK	**Ala-Archa** SNR=7.7 baz=62	**3.01**	**261**	P	**Pb**	**22 28 52.2**	**-0.3**
UCH	**Uchtor** baz=55	**3.10**	**254**	⇓*iP*	**Pn**	**22 28 49.7**	**+1.4**
UCH				⇓*iS*	**Sn**	**22 29 27.0**	**+1.2**
UCH	**Uchtor** SNR=5.6 baz=55	**3.10**	**254**	P	**Pb**	**22 28 52.6**	**-1.7**
ARLS	**Aral** baz=49	**3.37**	**249**	⇑*eP*	**Pn**	**22 28 53.2**	**+1.5**
ARLS				⇑*iS*	**Sn**	**22 29 32.9**	**+1.0**
EKS2	**Erkin-Say** baz=64	**3.52**	**263**	⇑*iP*	**Pn**	**22 28 55.5**	**+1.7**
EKS2				⇑*iS*	**Sn**	**22 29 37.1**	**+1.4**
EKS2	**Erkin-Say** SNR=6.9 baz=64	**3.52**	**263**	P	**Pb**	**22 29 01.9**	**+0.6**
AML	**Almayashu** baz=56	**3.71**	**256**	⇓*iP*	**Pn**	**22 28 58.4**	**+1.8**
AML				⇓*iS*	**Sn**	**22 29 41.5**	**+0.8**

IDC 25 22:34:10.8±1.3, **1.°26N** × **125.°53E, h0**km, **mb3.5**/4, **mb1 3.7**/4, **mb1mx3.4**/29, **mbtmp3.5**/4, **Error ellipse: s-maj=139.9km s-min=20.9km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 2.0nm,0.7s,baz=337,slow=11,SNR=22	**22.77**	**158**	P	P	22 39 13.7	-1.4
ASAR	**Alice Springs** 0.8nm,0.7s,baz=347,slow=13,SNR=12	**26.08**	**162**	P	P	22 39 47.5	+1.1
SONM	**Songino Array** 0.3nm,0.8s,baz=147,slow=6.4,SNR=1.2	**49.27**	**343**	P	P	22 43 02.5	+1.0
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=121,slow=7.7,SNR=10.0	**58.92**	**327**	P	P	22 44 11.0	-0.8

KRNET ***25*** *22:55:00.9±0.1, 38.°38N × 70.°45E, mb3.9*
SOME ***25*** *22:55:13.8, 39.°27N × 70.°92E, h5km*
ISC 25 22:55:07.3±2.8, **38.°6N**±0.°1 × **70.°51E**±0.°06, **h10**km, **n20, σ2s88**/31, **14C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk** baz=43	**1.35**	**48**	⇑*iP*	**Pn**	**22 55 29.8**	**-2.7**
DRK				⇑*iS*	**Sg**	**22 55 50.9**	**+0.1**
OHH	**Osh** baz=39	**2.62**	**42**	⇑*eP*	**Pn**	**22 55 49.3**	**-0.4**
OHH				⇑*iS*	**Sb**	**22 56 24.7**	**-1.9**
SFK	**Sufi-Kurgan** baz=54	**2.73**	**57**	⇑*iP*	**Pn**	**22 55 50.5**	**-0.9**
SFK				⇑*iS*	**Sn**	**22 56 26.5**	**+1.9**
TAS	**Tashkent** baz=44	**2.89**	**342**	⇑*iP*	**Pn**	**22 55 53.2**	**-0.2**
TAS				⇑*iS*	**Sn**	**22 56 31.3**	**+3.0**
TRKS	**Terek-Say** baz=10.0	**2.98**	**9**	⇑*iP*	**Pn**	**22 55 54.2**	**-0.6**
TRKS				⇑*iS*	**Sn**	**22 56 32.8**	**+2.1**
ARSB	**Arslanbob** baz=33	**3.33**	**34**	⇑⇑*eP*	**Pn**	**22 56 00.3**	**+0.7**
ARSB				⇑*iS*	**Sn**	**22 56 41.8**	**+2.4**
IUG	**Iuzhnay** 46nm,0.4s 216nm,0.5s	**3.58**	**354**	*eP*	**Pb**	**22 56 08.2**	**-2.5**
IUG				*eS*	**Sn**	**22 56 47.0**	**+1.6**
CHM	**Chimkent** 5.2nm,0.5s 158nm,0.5s	**3.80**	**350**	*eP*	**Pb**	**22 56 11.8**	**-2.5**
CHM				*eS*	**Sn**	**22 56 53.7**	**+3.2**
MNAS	**Manas** baz=20	**4.19**	**21**	⇑*iP*	**Pn**	**22 56 11.8**	**+0.5**
MNAS				⇑*iS*	**Sn**	**22 57 02.1**	**+1.7**
AML	**Almayashu** SNR=81	**4.30**	**33**	P	**Pn**	**22 56 16.0**	**+2.9**
BRLS	**Boroldaу** 16nm,0.5s 56nm,0.5s	**4.47**	**354**	*eP*	Pn	22 56 21.5	+6.3
BRLS				*eS*	**Sn**	**22 57 10.8**	**+3.6**
UCH	**Uchtor** SNR=67	**4.76**	**39**	P	**Pn**	**22 56 22.9**	**+3.5**
EKS2	**Erkin-Say** SNR=17	**4.78**	**30**	P	**Pn**	**22 56 22.5**	**+3.1**
AAK	**Ala-Archa** SNR=15	**5.06**	**36**	P	**Pn**	**22 56 26.8**	**+3.5**
KBK	**Karagaybulak** SNR=105	**5.29**	**38**	P	**Pn**	**22 56 30.8**	**+4.3**
CHMS	**Chumysh** SNR=28	**5.46**	**35**	P	**Pn**	**22 56 31.9**	**+3.2**
USP	**Ospenovka** SNR=29	**5.57**	**32**	P	**Pn**	**22 56 33.2**	**+2.9**
TKM2	**Tokmak 2** SNR=11	**5.81**	**40**	P	**Pn**	**22 56 37.5**	**+3.9**
KST	**Kastek** 4.0nm,0.4s 4.8nm,0.8s	**6.08**	**41**	*eP*	**Pb**	**22 56 54.4**	**+1.0**
KST				*eS*	**Sb**	**22 58 06.8**	**+0.5**
DGS	**Degeres** 2.7nm,0.4s 5.8nm,0.7s	**6.13**	**39**	*eP*	**Pb**	**22 56 51.0**	**-3.2**
DGS				*eS*	**Sb**	**22 58 00.5**	**-7.1**

ANF ***25*** *23:08:50.8±0.3, 42.°21N × 88.°36W, h5km, ±2km, ML3.5/13, Error ellipse: s-maj=2.0km s-min=1.8km az=24.0*
NEIC ***25*** *23:08:51.0±0.6, 42.°19N±0.°02 × 88.°37W±0.°02, h6km±7km, mb_Lg2.9/100, Error ellipse: s-maj=2.8km s-min=1.8km az=215.0*
ISC 25 23:08:51.0±1.1, **42.°19N**±0.°02 × **88.°36W**±0.°02, **h7**km±10km, **n84, σ0s34/56, Wisconsin**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
L44A	**Lake County Fo**	**0.33**	**92**	Pg	**Pg**	**23 08 57.7**	**+0.2**
L44A				Sg	**Sg**	**23 09 02.0**	**+0.1**
L44A	**Lake County Fo** baz=272,SNR=43	**0.33**	**92**	P	**Pg**	**23 08 57.7**	**+0.2**
L44A				S	**Sg**	**23 09 01.9**	**0.0**
L44A	**Lake County Fo** baz=272,SNR=43	**0.33**	**92**	P		23 08 57.7	
L44A				S		23 09 01.9	
K43A	**Burlington** baz=272	**0.52**	**2**	Pg	**Pg**	**23 09 01.1**	**+0.1**
K43A				Sg	**Sg**	**23 09 07.5**	**-0.1**
K43A	**Burlington** baz=183,SNR=252	**0.52**	**2**	P	**Pg**	**23 09 01.0**	**+0.1**
K43A				S	**Sg**	**23 09 07.7**	**0.0**
K43A	**Burlington** baz=183,SNR=252	**0.52**	**2**	P		23 09 01.0	
K43A				S		23 09 07.7	
HQIL	**Hanson Quary C**	**0.54**	**136**	Pg	**Pg**	**23 09 01.4**	**0.0**
HQIL				Sg	**Sg**	**23 09 08.5**	**0.0**
M44A	**Midewin, Midew** baz=343	**0.83**	**163**	Pg	**Pg**	**23 09 06.8**	**-0.2**
M44A				Sg	**Sg**	**23 09 17.5**	**-0.3**
M44A	**Midewin, Midew** baz=343	**0.83**	**163**	P	**Pg**	**23 09 06.7**	**-0.3**
M44A	**Midewin, Midew** baz=343	**0.83**	**163**	P		23 09 06.7	
L42A	**Oliver, Polo** baz=79	**0.99**	**260**		**Pg**	**23 09 09.7**	**-0.3**
L42A				Sg	**Sg**	**23 09 22.6**	**-0.2**
L42A	**Oliver, Polo** baz=79	**0.99**	**260**	P	**Pg**	**23 09 09.6**	**-0.3**
L42A				S	**Sg**	**23 09 22.6**	**-0.2**
L42A	**Oliver, Polo** baz=79	**0.99**	**260**	P		23 09 09.6	
L42A				S		23 09 22.6	
L46A	**Eue Claire** baz=277	**1.55**	**96**	Pn	**Pn**	**23 09 18.4**	**-0.5**
L46A	**Eue Claire** baz=277	**1.55**	**96**	S	**Sn**	**23 09 39.0**	**-0.2**
L46A	**Eue Claire** baz=277	**1.55**	**96**	S		23 09 39.0	
L46A				S		23 09 39.0	
JFWS	**Jewell Farm** baz=117,SNR=48	**1.57**	**298**		**Pn**	**23 09 19.2**	**-0.1**
JFWS	**Jewell Farm** baz=117,SNR=48	**1.57**	**298**	P	**Pn**	**23 09 19.4**	**+0.2**
JFWS				S	**Sn**	**23 09 40.2**	**+0.3**
JFWS	**Jewell Farm** baz=117,SNR=48	**1.57**	**298**	P		23 09 19.4	
JFWS				S		23 09 40.2	
I42A	**Draeger Farm,** baz=167,SNR=96	**1.75**	**347**		**Pn**	**23 09 21.5**	**-0.2**
I42A	**Draeger Farm,** baz=167,SNR=96	**1.75**	**347**	P	**Pn**	**23 09 21.3**	**-0.4**
I42A	**Draeger Farm,** baz=167,SNR=96	**1.75**	**347**	P		23 09 21.3	
HDIL	**Hopedale** baz=23,SNR=20	**1.78**	**204**	Pn	**Pn**	**23 09 22.6**	**+0.6**
HDIL	**Hopedale** baz=23,SNR=20	**1.78**	**204**	P	**Pn**	**23 09 22.6**	**+0.6**
HDIL				S	**Sb**	**23 09 46.6**	**+0.3**
HDIL	**Hopedale** baz=23,SNR=20	**1.78**	**204**	P		23 09 22.6	

HDIL				S		23 09 46.6	
	baz=23						
O44A	**Mansfield**	**2.04 182**		Pn	**Pn**	**23 09 26.0**	**+0.3**
O44A	**Mansfield**	**2.04 182**		P	**Pn**	**23 09 25.9**	**+0.3**
	baz=2.1,SNR=14						
O44A				S	**Sb**	**23 09 53.5**	**-0.3**
	baz=2.1						
O44A	**Mansfield**	**2.04 182**		P		23 09 25.9	
	baz=2.1,SNR=14						
O44A				S		23 09 53.5	
	baz=2.1						
SFIN	**Lafayette**	**2.04 152**		Pn	**Pn**	**23 09 26.4**	**+0.6**
SFIN	**Lafayette**	**2.04 152**		P	**Pn**	**23 09 26.3**	**+0.6**
	baz=333,SNR=71						
SFIN	**Lafayette**	**2.04 152**		P		23 09 26.3	
	baz=333,SNR=71						
L40A	**Anamosa**	**2.13 268**			**Pn**	**23 09 27.3**	**+0.4**
L40A	**Anamosa**	**2.13 268**		P	**Pn**	**23 09 27.5**	**+0.5**
	baz=86,SNR=31						
L40A	**Anamosa**	**2.13 268**		P		23 09 27.5	
	baz=86,SNR=31						
H43A	**Windswept, Lux**	**2.32 11**		Pn	**Pn**	**23 09 29.8**	**+0.2**
H43A				IAmb_Lg		23 10 04.6	
	comp=Z,50nm,0.8s						
I40A	**Norwalk**	**2.37 317**			**Pn**	**23 09 30.6**	**+0.3**
I40A	**Norwalk**	**2.37 317**		P	**Pn**	**23 09 30.5**	**+0.2**
	baz=135,SNR=10						
I40A	**Norwalk**	**2.37 317**		P		23 09 30.5	
	baz=135,SNR=10						
N41A	**Harden Midland**	**2.39 233**			**Pn**	**23 09 31.1**	**+0.6**
N41A				IAmb_Lg		23 10 05.3	
	comp=Z,34nm,0.7s						
N41A	**Harden Midland**	**2.39 233**		P	**Pn**	**23 09 31.1**	**+0.6**
	baz=51,SNR=9.5						
N41A	**Harden Midland**	**2.39 233**		P		23 09 31.1	
	baz=51,SNR=9.5						
N47A	**Urbana**	**2.39 122**			**Pn**	**23 09 30.8**	**+0.3**
P43A	**Skaggs, Pawnee**	**2.69 199**			**Pn**	**23 09 34.3**	**-0.4**
P43A				IAmb_Lg		23 10 16.3	
	comp=Z,52nm,0.9s						
P46A	**Rosedale**	**2.71 161**			**Pn**	**23 09 35.0**	**0.0**
P46A				IAmb_Lg		23 10 20.9	
	comp=Z,52nm,0.7s						
J47A	**Sunmer**	**2.81 67**			**Pn**	**23 09 36.7**	**+0.4**
L48A	**N Adams**	**2.94 93**		IAmb_Lg		23 10 28.8	
	comp=Z,43nm,0.7s						
K38A	**Parkersburg**	**3.30 279**		IAmb_Lg		23 10 43.9	
	comp=Z,26nm,0.7s						
Q44A	**Meyer Farm, Va**	**3.32 189**		IAmb_Lg		23 10 39.5	
	comp=Z,26nm,0.8s						
N49A	**Columbus Grove**	**3.38 111**			**Pn**	**23 09 44.3**	**+0.2**
N49A				IAmb_Lg		23 10 41.3	
	comp=Z,31nm,0.8s						
P48A	**Milroy**	**3.52 140**		Pn	**Pn**	**23 09 46.3**	**+0.2**
P48A				IAmb_Lg		23 10 45.2	
	comp=Z,32nm,0.7s						
P49A	**Miami Univ. Ec**	**3.83 133**		Pn	**Pn**	**23 09 50.3**	**0.0**
P40A	**Paris**	**3.86 228**			**Pn**	**23 09 51.2**	**+0.5**
P40A				IAmb_Lg		23 10 55.3	
	comp=Z,29nm,0.7s						
N38A	**Joes South For**	**3.92 251**			**Pn**	**23 09 51.9**	**+0.4**
N38A				IAmb_Lg		23 10 56.4	
	comp=Z,26nm,0.8s						
COWI	**Conover**	**3.95 352**		Pn	**Pn**	**23 09 51.9**	**-0.1**
I37A	**Lemond, Waseca**	**4.12 298**		IAmb_Lg		23 11 10.4	
	comp=Z,29nm,0.8s						
WCI	**Wyandotte Cave**	**4.26 158**		Pn	**Pn**	**23 09 56.3**	**+0.1**
WCI				IAmb_Lg		23 11 10.6	
	comp=Z,22nm,0.7s						
E43A	**Lone Tree Farm**	**4.30 13**		Pn	**Pn**	**23 09 56.5**	**-0.2**
E43A				IAmb_Lg		23 11 06.9	
	comp=Z,22nm,0.9s						
E43A	**Lone Tree Farm**	**4.30 13**		P	**Pn**	**23 09 56.2**	**-0.5**
	baz=194,SNR=9.8						
E43A	**Lone Tree Farm**	**4.30 13**		P		23 09 56.2	
	baz=194,SNR=9.8						
SPMN	**Marine on St.**	**4.42 315**		IAmb_Lg		23 11 08.7	
	comp=Z,21nm,0.8s						
FVM	**French Village**	**4.49 201**		IAmb_Lg		23 11 16.7	
	comp=Z,22nm,1.0s						
ACSO	**Alum Creek Sta**	**4.50 114**		IAmb_Lg		23 11 15.6	
	comp=Z,28nm,0.8s						
SIUC	**Southern Illin**	**4.52 189**		IAmb_Lg		23 11 16.2	
	comp=Z,20nm,0.9s						
S44A	**Carbondale**	**4.54 189**		IAmb_Lg		23 11 17.0	
	comp=Z,23nm,0.9s						
R49A	**Shelbyville**	**4.59 147**		Pn	**Pn**	**23 10 00.4**	**-0.4**
P38A	**Dawn**	**4.68 239**		IAmb_Lg		23 11 18.9	
	comp=Z,17nm,0.8s						
CCM	**Cathedral Cave**	**4.68 209**			**Pn**	**23 10 01.7**	**-0.3**
CCM				IAmb_Lg		23 11 21.2	
	comp=Z,26nm,0.8s						
D41A	**Chassel**	**4.87 358**		IAmb_Lg		23 11 36.0	
	comp=Z,17nm,0.8s						
Q51A	**Peebles**	**4.95 128**		IAmb_Lg		23 11 36.6	
	comp=Z,22nm,0.9s						
R50A	**Paris**	**4.97 140**		Pn	**Pn**	**23 10 06.2**	**+0.1**
E46A	**Sault Ste Mari**	**5.09 33**		IAmb_Lg		23 11 38.4	
	comp=Z,28nm,1.1s						
O52A	**Adamsville**	**5.34 111**		IAmb_Lg		23 11 40.2	
	comp=Z,21nm,0.7s						
P52A	**Corning**	**5.36 116**		IAmb_Lg		23 11 43.8	
	comp=Z,22nm,0.9s						
PBMO	**Poplar Bluff**	**5.63 197**		IAmb_Lg		23 11 48.5	
	comp=Z,14nm,0.8s						
Q52A	**Bidwell**	**5.65 123**		IAmb_Lg		23 11 55.5	
	comp=Z,21nm,0.8s						
N53A	**Lisbon**	**5.82 101**		IAmb_Lg		23 11 54.4	
	comp=Z,19nm,0.9s						
T50A	**Nancy**	**5.83 151**		Pn	**Pn**	**23 10 17.5**	**-0.4**
MGMO	**Mountain Grove**	**5.86 212**		IAmb_Lg		23 12 02.1	
	comp=Z,18nm,0.8s						
S39A	**Bolivar**	**5.89 222**		IAmb_Lg		23 12 00.9	
	comp=Z,16nm,0.8s						
L34A	**Svendsen Farm,**	**5.97 271**		IAmb_Lg		23 12 00.8	
	comp=Z,25nm,0.8s						
ALLY	**Alegheny Colle**	**6.15 92**		IAmb_Lg		23 12 12.1	
	comp=Z,25nm,0.8s						
O54A	**Avella**	**6.35 106**		IAmb_Lg		23 12 23.6	
	comp=Z,19nm,0.9s						
N54A	**Moraine State**	**6.40 98**		IAmb_Lg		23 12 18.3	
	comp=Z,16nm,0.8s						
LCAR	**Lake Charles**	**6.49 200**		IAmb_Lg		23 12 16.9	
	comp=Z,20nm,1.1s						
Q54A	**Coxs Mills**	**6.56 117**		IAmb_Lg		23 12 28.2	
	comp=Z,15nm,0.9s						
U40A	**Yellville**	**6.79 212**		IAmb_Lg		23 12 32.8	
	comp=Z,15nm,0.8s						
HHAR	**Hobbs**	**7.32 218**		IAmb_Lg		23 12 39.9	
	comp=Z,12nm,0.9s						
WHAR	**Wooly Hollow**	**7.54 205**		IAmb_Lg		23 12 55.2	
	comp=Z,17nm,1.1s						
M56A	**Emporium**	**7.63 92**		IAmb_Lg		23 12 48.5	
	comp=Z,17nm,1.0s						
OXF	**Oxford**	**7.71 186**		IAmb_Lg		23 13 06.1	
	comp=Z,12nm,0.8s						
AGMN	**Agassiz Nation**	**8.08 322**		IAmb_Lg		23 13 01.4	
	comp=Z,9.0nm,1.2s						
X51A	**Calhoun**	**8.09 159**		IAmb_Lg		23 13 10.6	
	comp=Z,14nm,1.0s						
T35A	**Sooner Cattle**	**8.21 233**		IAmb_Lg		23 13 10.4	
	comp=Z,14nm,1.0s						
X40A	**Basin Creek Fa**	**8.45 206**		IAmb_Lg		23 13 20.6	
	comp=Z,8.2nm,0.7s						
S57A	**Dark Hollow, R**	**8.47 118**		IAmb_Lg		23 13 27.3	
	comp=Z,12nm,1.2s						
MIAR	**Mount Ida**	**8.66 210**		IAmb_Lg		23 13 31.6	
	comp=Z,16nm,1.1s						
QUOK	**Quay**	**8.84 230**		IAmb_Lg		23 13 37.8	
	comp=Z,12nm,0.8s						
K58A	**Earlville**	**9.41 82**		IAmb_Lg		23 13 51.6	
	comp=Z,8.2nm,1.0s						

*ROM **25** 23:30:12.7±0.1, 41.˚718N±0.˚006×15.˚834E±0.˚008, h20km±1km, ML2.5/5, Error ellipse: s-maj=0.7km s-min=0.5km az=40.0*

ISC 25 23:30:12.7±0.8, **41.˚72N**±0.˚03×**15.˚83E**±0.˚03, **h20**km±4km, **n23,** σ0**°58**/40, **Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAG	**Monte S. Angel**	**0.06**	**100**	P	**Pg**	**23 30 16.7**	**+0.2**
MSAG				S	**Sg**	**23 30 19.5**	**+0.5**
MSAG				AML	AML		
	comp=E,1825μm,0.1s						
MSAG				AML	AML		
	comp=E,2085μm,0.1s						
MSAG				AML	AML		
	comp=E,1820μm,0.1s						
MSAG				AML	AML		
	comp=N,3795μm,1.6s						
MSAG				AML	AML		
	comp=N,4000μm,1.6s						
SGRT	**San Giovanni R**	**0.07**	**296**	P	**Pg**	**23 30 16.4**	**-0.2**
SGRT				S	**Sg**	**23 30 19.0**	**-0.2**
SGRT				AML	AML		
	comp=N,11350μm,0.1s						
SGRT				AML	AML		
	comp=E,7205μm,0.1s						
TREM	**Isole Tremiti**	**0.47**	**329**	P	**Pg**	**23 30 22.7**	**+0.3**
TREM				S	**Sb**	**23 30 30.0**	**+1.1**
MELA	**Melanico ??? S**	**0.53**	**269**	P	**Pb**	**23 30 22.9**	**-0.5**
MELA				S	**Sb**	**23 30 30.5**	**-0.1**
MELA				AML	AML		
	comp=E,644μm,0.4s						
MELA				AML	AML		
	comp=N,449μm,0.4s						
MOCO	**Biccari - m.te**	**0.62**	**236**	P	**Pb**	**23 30 24.4**	**-0.5**
SGTA	**Sant Agata di**	**0.68**	**211**	P	**Pb**	**23 30 25.4**	**-0.6**
SGTA				S	**Sg**	**23 30 35.8**	**+0.3**
SGTA				AML	AML		
	comp=N,304μm,0.6s						
SGTA				AML	AML		
	comp=E,322μm,1.2s						
CIGN	**Sant'Elia a Pi**	**0.70**	**265**	P	**Pb**	**23 30 26.3**	**0.0**
CIGN				S	**Sg**	**23 30 36.1**	**+0.1**
MRVN	**Minervino Murg**	**0.71**	**157**	P	**Pb**	**23 30 25.9**	**-0.7**
MRVN				S	**Sg**	**23 30 36.1**	**-0.3**
MRVN				AML	AML		
	comp=E,198μm,1.2s						
MRVN				AML	AML		
	comp=N,198μm,0.6s						
PALZ	**Palazzo San Ge**	**0.78**	**173**	P	**Pb**	**23 30 27.2**	**-0.4**
PALZ				S	**Sg**	**23 30 38.5**	**0.0**
VULT	**Monte Vulture**	**0.78**	**192**	P	**Pb**	**23 30 27.7**	**0.0**
VULT				S	**Sg**	**23 30 38.7**	**+0.1**
CAFE	**Carife**	**0.83**	**213**	P	**Pb**	**23 30 28.2**	**-0.3**
CAFE				S	**Sg**	**23 30 40.4**	**+0.4**
ACER	**Acerenza**	**0.94**	**175**	P	**Pb**	**23 30 30.0**	**-0.4**
ACER				S	**Sn**	**23 30 43.8**	**+0.1**
BSSO	**Busso**	**0.95**	**260**	P	**Pb**	**23 30 30.6**	**+0.1**
BSSO				S	**Sg**	**23 30 43.4**	**-0.3**
TRIV	**Trivento**	**0.96**	**273**	P	**Pb**	**23 30 30.4**	**-0.4**
TRIV				S	**Sg**	**23 30 44.2**	**0.0**
MATE	**Matera**	**1.26**	**148**	P	**Pb**	**23 30 35.8**	**0.0**
RNI2	**Rionero Sannit**	**1.26**	**270**	P	**Pn**	**23 30 35.3**	**0.0**
AG51	**Grumento Nova**	**1.43**	**179**	P	**Pb**	**23 30 38.2**	**-0.5**
HVAR	**Hvar**	**1.52**	**17**	*i* Pg	**Pg**	**23 30 43.0**	**+0.8**
HVAR				Sg	**Sg**	**23 31 01.0**	**-1.1**
RICI	**Ricice**	**2.01**	**28**	*i* Pn	**Pn**	**23 30 45.4**	**-0.2**
RICI				Sn	**Sn**	**23 31 09.5**	**-0.8**
MORI	**Morici**	**2.15**	**358**	*e* Pn	**Pn**	**23 30 47.1**	**-0.2**
MORI				Sn	**Sn**	**23 31 12.5**	**-0.9**
KIJV	**Kijevo**	**2.32**	**10**	*i* Pn	**Pn**	**23 30 50.5**	**+0.7**
KIJV				Sn	**Sn**	**23 31 19.2**	**+1.4**
DUGI	**Dugi Otok**	**2.34**	**346**	Sn	**Sn**	**23 31 16.9**	**-1.4**
NVLJ	**Novalja**	**2.93**	**346**	Sn	**Sn**	**23 31 32.5**	**-0.2**

*NEIC **25** 23:50:25.8±0.7, 45.˚85N±0.˚04×106.˚54W±0.˚05, h0km±1km, ML3.1/44, Error ellipse: s-maj=8.4km s-min=4.6km az=143.0*

*IDC **25** 23:50:26.3±1.1, 45.˚77N×106.˚73W, h0km, mb1 3.3/3, mb1mx3.1/33, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=34.6km s-min=9.4km az=128.0*

ISC 25 23:50:25.6±1.0, **45.˚87N**±0.˚05×**106.˚54W**±0.˚06, **h0**km, **n30,** σ0**°81**/28, **Montana**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAO	**LASA Array**	**0.84**	**15**		**Pg**	**23 50 42.7**	**+0.8**
RLMT	**Red Lodge**	**2.06**	**250**		**Pn**	**23 51 02.0**	**+0.4**
RLMT				IAML		23 51 30.3	
	122nm,0.4s						
RLMT				IAML		23 51 31.6	
	102nm,0.8s						
RSSD	**Black Hills**	**2.50**	**134**		**Pn**	**23 51 07.3**	**-0.4**
YNE	**Yellowstone No**	**2.59**	**252**		**Pn**	**23 51 08.8**	**-0.2**
YNE				IAML		23 51 47.8	
	comp=E,128nm,0.9s						
YMP	**Mirror Lake Pl**	**2.79**	**247**		**Pn**	**23 51 11.6**	**-0.2**
LKWY	**Lake**	**3.02**	**246**		**Pn**	**23 51 14.7**	**-0.3**
LKWY				IAML		23 52 10.6	
	comp=E,50nm,0.7s						
LKWY				IAML		23 52 30.5	
	comp=E,37nm,1.2s						
DGMT	**Dagmar**	**3.05**	**31**		**Pn**	**23 51 14.9**	**-0.3**
EGMT	**Eagleton**	**3.08**	**316**		**Pn**	**23 51 16.4**	**+0.8**
YNR	**Norris Junctio**	**3.14**	**250**		**Pn**	**23 51 16.9**	**+0.3**
YNR				IAML		23 52 15.8	
	comp=E,31nm,0.7s						
YNR				IAML		23 52 17.6	
	comp=N,33nm,0.9s						
H17A	**Grant Village**	**3.21**	**244**		**Pn**	**23 51 17.6**	**0.0**
K22A	**Casper**	**3.22**	**180**		**Pn**	**23 51 17.6**	**0.0**
K22A				IAML		23 52 07.7	
	comp=E,48nm,0.6s						
YHH	**Holmes Hill**	**3.23**	**252**		**Pn**	**23 51 18.4**	**+0.6**
YHH				IAML		23 52 41.8	
	comp=N,33nm,1.1s						
YPP	**Pitchstone Pla**	**3.42**	**244**		**Pn**	**23 51 20.1**	**-0.3**
YHL	**Hebgen Lake**	**3.43**	**254**		**Pn**	**23 51 20.4**	**-0.2**
YHL				IAML		23 52 20.6	
	comp=E,65nm,1.1s						
YHL				IAML		23 52 25.4	
	comp=N,59nm,0.9s						
FLWY	**Flagg Ranch**	**3.45**	**240**		**Pn**	**23 51 20.6**	**-0.2**
FLWY				IAML		23 52 30.3	
	comp=N,47nm,1.3s						
YHB	**Horse Butte**	**3.47**	**253**		**Pn**	**23 51 21.2**	**+0.1**
YHB				IAML		23 52 19.3	
	comp=E,33nm,1.1s						
YHB				IAML		23 52 20.8	
	comp=N,37nm,1.0s						
BOZ	**Bozeman (W)**	**3.57**	**267**	Pn	**Pn**	**23 51 23.3**	**+0.8**
BOZ				IAML		23 52 19.6	
	comp=N,42nm,2.0s						
LOHW	**Long Hollow**	**3.67**	**233**	Pn	**Pn**	**23 51 24.1**	**+0.2**
LOHW				IAML		23 52 32.5	
	comp=N,22nm,0.8s						
HRY	**Holter Researc**	**3.76**	**285**		**Pn**	**23 51 24.9**	**-0.1**
PD31	**Pinedale Array**	**3.79**	**216**		**Pn**	**23 51 25.9**	**+0.5**
PDAR	**Pinedale Array**	**3.79**	**216**	Pn	**Pn**	**23 51 26.9**	**+1.4**
	comp=N,0.7nm,0.3s,baz=42,slow=12,SNR=20						
PDAR				Pg	**Pb**	**23 51 34.0**	**+0.5**
	comp=N,2.5nm,0.3s,baz=40,slow=18,SNR=14						
PDAR				Lg	Lg	23 52 19.2	
	comp=N,2.7nm,0.3s,baz=40,slow=28,SNR=2.5						
PDAR	**Pinedale Array**	**3.79**	**216**		**Pn**	**23 51 25.2**	**-0.2**
REDW	**Red Top Meadow**	**3.97**	**232**	IAML		23 52 39.4	
	comp=N,21nm,1.4s						
REDW				IAML		23 52 49.9	
	comp=N,20nm,1.4s						
RWWY	**Rawlins**	**4.21**	**187**		**Pn**	**23 51 31.0**	**-0.3**
PHWY	**Pilot Hill**	**4.64**	**170**	Pn	**Pn**	**23 51 37.3**	**+0.1**
SPUT	**South Promonto**	**6.26**	**225**		**Pn**	**23 51 60.0**	**+0.6**
NEW	**Newport**	**7.61**	**292**	Lg	Lg	23 54 24.4	
	comp=N,0.2nm,0.3s,baz=167,slow=22,SNR=3.9						
I56US	**NEWPORT INFRAS**	**7.61**	**292**	*i*		00 32 20.0	
	baz=109,slow=314,SNR=1.6						
ULM	**Lac du Bonnet**	**8.38**	**55**	Pn	**Pn**	**23 52 29.3**	**+1.1**
	comp=N,0.2nm,0.3s,baz=226,slow=7.9,SNR=2.8						
ULM				Pg	Pg	23 52 59.0	-7.0
	comp=N,0.3nm,0.3s,baz=244,slow=9.8,SNR=2.3						
ULM				Lg	Lg	23 54 49.0	
	comp=N,0.3nm,0.3s,baz=340,slow=23,SNR=3.0						
YKA	**Yellowknife Ar**	**17.28**	**347**	Pn	**Pn**	**23 54 25.1**	**-3.0**
	comp=N,0.0nm,0.3s,baz=163,slow=13,SNR=3.7						

*IDC **26** 00:07:59.2±0.9, 17.˚88N×148.˚19E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/47, mbtmp3.8/11, Error ellipse: s-maj=28.5km s-min=21.1km az=90.0*

*NEIC **26** 00:08:03.8±1.2, 17.˚65N±0.˚06×148.˚2E±0.˚1, h35km±7km, mb4.2/8, Error ellipse: s-maj=15.9km s-min=4.4km az=119.0*

ISC 26 00:08:03.5±0.7, **17.˚71N**±0.˚09×**148.˚23E**±0.˚10, **h35**km, **n29,** σ0**°97**/29, **mb4.0**/13, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.77**	**241**	Pn	**Pn**	**00 08 45.2**	**-0.2**
ANA2				Sn	**Sn**	**00 09 16.1**	**-1.6**
GUMO	**Guam**	**5.22**	**219**	Pn	**Pn**	**00 09 20.0**	**+0.9**
PATS	**Pohnpei**	**14.61**	**136**	Pn	**Pn**	**00 11 26.4**	**-1.3**
JGF	**Kuroka**	**20.27**	**334**	P	Pn	00 12 37.8	-0.4
JGF				IAmb	IAmb	00 12 54.7	
	comp=Z,10nm,0.9s						
MJAR	**Matsushiro Arr**	**20.75**	**337**	P	**P**	**00 12 40.6**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=127,slow=11,SNR=1.4						
KSRS	**Korea Array**	**26.56**	**322**	P	**P**	**00 13 37.4**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=145,slow=8.9,SNR=1.4						
WB2	**Warramunga Arr**	**39.82**	**201**	P	**P**	**00 15 34.6**	**+1.0**
WB2				IAmb	IAmb	00 15 40.9	
	comp=Z,6.5nm,1.4s						
WRA	**Warramunga Arr**	**39.83**	**201**	P	**P**	**00 15 35.7**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=19,slow=9.0,SNR=4.8						
ASAR	**Alice Springs**	**43.44**	**199**	P	**P**	**00 16 04.7**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=24,slow=7.1,SNR=2.3						
SONM	**Songino Array**	**45.42**	**321**	P	**P**	**00 16 19.1**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=138,slow=8.0,SNR=9.1						
SONM	**Songino Array**	**45.42**	**321**	P	**P**	**00 16 19.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**46.74**	**279**	P	**P**	**00 16 29.1**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=68,slow=6.1,SNR=5.3						
CMAR	**Chiang Mai Arr**	**46.74**	**279**	P	**P**	**00 16 29.8**	**+0.1**
ZALV	**Zalesovo Beam**	**60.26**	**322**	P	**P**	**00 18 08.3**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=122,slow=5.6,SNR=5.8						
ZALV	**Zalesovo Beam**	**60.26**	**322**	P	**P**	**00 18 08.1**	**-0.1**
MK31	**Makanchi Array**	**60.88**	**314**	P	**P**	**00 18 12.7**	**+0.1**
MKAR	**Makanchi Array**	**60.88**	**314**	P	**P**	**00 18 13.3**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=87,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**60.88**	**314**	P	**P**	**00 18 12.7**	**0.0**
MAKZ	**Makanchi**	**61.09**	**314**	P	**P**	**00 18 14.7**	**+0.6**
MAKZ				IAmb	IAmb	00 18 28.8	
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**63.47**	**26**	P	**P**	**00 18 29.0**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=270,slow=6.6,SNR=5.0						
BMAR	**Burnt Mountain**	**65.06**	**23**	P	**P**	**00 18 42.2**	**+2.1**
BRVK	**Borovoye**	**68.83**	**321**	P	**P**	**00 19 04.7**	**+0.5**
KKAR	**Karatay Array**	**69.25**	**310**	P	**P**	**00 19 07.6**	**+0.5**
ARU	**Arti**	**75.26**	**325**	P	**P**	**00 19 42.8**	**+0.1**
ARU				IAmb	IAmb	00 19 59.3	
	comp=Z,2.8nm,1.0s						
ABKAR	**Akbulak array**	**75.70**	**317**	P	**P**	**00 19 45.1**	**-0.2**
ABKAR	**Akbulak array**	**75.70**	**317**	P	**P**	**00 19 45.0**	**-0.3**
YKA	**Yellowknife Ar**	**77.72**	**28**	P	**P**	**00 19 56.7**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=286,slow=4.9,SNR=9.4						
FINES	**FINESS Array B**	**88.77**	**336**	P	**P**	**00 20 52.1**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=250,slow=34,SNR=1.1						
LPAZ	**La Paz**	**145.23**	**93**	PKPbc	**PKiKP**	**00 27 41.6**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=318,slow=5.6,SNR=3.6						

DDA 26 00:14:19.8, 40.˚73N×29.˚32E, h11km±1km**, ML1.5, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUY	**Buyukada**	**0.19**	**309**	*i* P	Pg	00 14 24.4	+0.4
BUY				*i* S	Sg	00 14 26.8	0.0
BUY				IAML		00 14 28.0	
	comp=N,302nm,0.5s						
KAND	**Kocaeli-Kandir**	**0.76**	**61**	*i* P	Pg	00 14 34.2	-0.2
KAND				*i* S	Sg	00 14 41.6	-2.7
KAND				IAML		00 14 45.0	
	comp=N,15nm,1.5s						
KAND				IAML		00 14 45.0	
	comp=E,15nm,1.7s						
ELBA	**Catalca**	**0.79**	**302**	*i* P	Pg	00 14 34.9	-0.1
ELBA				*i* S	Sg	00 14 42.7	-2.7

ISK 26 00:14:57.6, 40.˚74N×29.˚33E, h5km**, ML1.6**/11**, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFTB	**Yalova**	**0.08**	**198**	PG	Pg	00 14 59.7	+0.4
CFTB				SG	Sg	00 15 01.4	+0.9
YLV	**Yalova**	**0.18**	**170**	PG	Pg	00 15 02.1	+1.0
YLV				SG	Sg	00 15 04.5	+1.0
TRML	**Termal-Yalova**	**0.18**	**223**	PG	Pg	00 15 01.7	+0.6
TRML				SG	Sg	00 15 05.1	+1.6
HRT	**Hereke**	**0.27**	**72**	PG	Pg	00 15 03.6	+0.8
HRT				SG	Sg	00 15 07.6	+1.2
KAVV	**Kandilli-Istan**	**0.38**	**328**	PG	Pg	00 15 05.8	+0.8
KAVV				SG	Sb	00 15 11.6	-1.5
ISK	**Istanbul-Kandi**	**0.39**	**328**	PG	Pg	00 15 05.7	+0.7
ISK				SG	Sg	00 15 10.9	+0.8
ADVT	**Abdulvahap**	**0.44**	**135**	PG	Pg	00 15 06.4	+0.4
SILT	**Sile**	**0.47**	**30**	PG	Pg	00 15 07.6	+0.8
MDNY	**Mudanya-Bursa**	**0.50**	**223**	PG	Pg	00 15 07.8	+0.5
MDNY				SG	Sb	00 15 15.3	-1.2
SAUV	**Serdivan-Sakar**	**0.76**	**90**	PG	Pg	00 15 12.6	+0.5
GULT	**Gulveren**	**0.95**	**108**	PG	Pb	00 15 16.3	-0.3
EDC	**Edincik**	**1.19**	**251**	PN	Pg	00 15 19.5	-0.8
SRCK	**Saricakaya, Es**	**1.21**	**125**	PN	Pb	00 15 20.9	-0.1
BORA	**Eskisehir**	**1.21**	**135**	PN	Pb	00 15 21.2	+0.1

*NEIC **26** 00:38:21.6±1.5, 9.˚52S±0.˚07×117.˚63E±0.˚05, h70km±7km, mb4.5/33, Error ellipse: s-maj=10.5km s-min=6.2km az=158.0*

*IDC **26** 00:38:21.2±0.7, 9.˚32S×117.˚75E, h52km±5km, mb4.2/13, mb1 4.4/16, mb1mx4.1/34, mbtmp4.5/16, MS3.5/20, Ms1 3.5/20, ms1mx3.4/33, Error ellipse: s-maj=19.9km s-min=10.7km az=44.0*

*DJA **26** 00:38:23.1±0.3, 10.˚5S±4.˚×11.˚8E±.˚, h46km±6km, M4.8/20, mB5.1/8, mb4.8/17

LUWI	Luwuk	9.83	31	P		Pn	00 40 43.0	+3.3	
	69nm,1.1s								
CISI	Cisompet, Garu	10.00	281	Pn		Pn	00 40 40.5	-1.6	
LEM	Lembang	10.37	284	LR		LR	00 45 16.2		
	comp=Z,75nm,21.1s,baz=64,slow=40								
TOLI2	Tolitoli	11.02	16	Pn		Pn	00 40 56.7	+0.8	
SANI	Sanana	11.09	48	P		Pn	00 40 59.3	+2.4	
	741nm43nm,1.2s								
NLAI	Namlea	11.22	57	P		Pn	00 41 11.2	+12	
FITZ	Fitzroy Crossi	11.46	139	P		Pn	00 41 00.9	-1.0	
	0.7nm,0.3s,baz=330,slow=13,SNR=28								
FITZ				S		Sn	00 43 01.4	-7.0	
	1.3nm,0.3s,baz=157,slow=20,SNR=6.5								
FITZ				LR		LR	00 45 43.8		
	comp=Z,197nm,20.8s,baz=314,slow=38								
FITZ	Fitzroy Crossi	11.46	139	Pn		Pn	00 41 00.8	-1.1	
PSA00	Pilbara Seismi	12.13	171	Pn		Pn	00 41 09.1	-2.0	
KNRA	Kununurra	12.37	121	Pn		Pn	00 41 13.5	-0.9	
SBUM	Sibu	13.12	335	P		P	00 41 31.0	-2.0	
GIRL	Giralia	13.45	194	Pn		Pn	00 41 26.9	-2.2	
TNTI	Ternate	14.04	44	Pn		Pn	00 41 37.7	+0.6	
LHSI	Lahat	15.20	291	P		P	00 42 12.4	+16	
KKM	Kota Kinabalu	15.56	354			Pn	00 41 58.8	+1.8	
KKM				IAmb		IAmb	00 42 10.5		
	comp=Z,32nm,0.9s								
FAKI	Fak Fak	15.86	66	Pn		Pn	00 41 58.7	-2.1	
FAKI				IAmb		IAmb	00 42 14.5		
	comp=Z,40nm,1.2s								
SWI	Sorong	15.99	58	P		P	00 42 16.1	+11	
SIJI	Sorong	15.99	58	P		Pn	00 42 00.5	-2.0	
	comp=Z,0.6nm,0.3s,baz=205,slow=3.6,SNR=7.8								
MYKOM	Kota Tinggi	17.83	308	P		Pn	00 42 29.0	+3.8	
WB0	Warramunga Arr	19.04	124	P		P	00 42 39.3	+0.7	
WRA	Warramunga Arr	19.08	125	P		P	00 42 39.3	+0.3	
	comp=Z,0.4nm,0.3s,baz=302,slow=14,SNR=28								
WRA				S		S	00 46 01.2	-11	
	comp=Z,0.2nm,0.3s,baz=292,slow=23,SNR=4.2								
WRA				LR		LR	00 50 46.4		
	comp=Z,129nm,18.7s,baz=210,slow=39								
AS31	Alice Springs	20.88	134	P		P	00 42 59.6	+1.0	
ASAR	Alice Springs	20.88	134	P		P	00 43 00.3	+1.7	
	comp=Z,19nm,0.8s,baz=319,slow=12,SNR=76								
ASAR				S		S	00 46 44.4	-4.0	
	comp=Z,2.0nm,0.8s,baz=315,slow=22,SNR=4.4								
ASAR				PcP		PcP	00 47 07.0	+1.8	
	comp=Z,2.3nm,0.5s,baz=305,slow=1.6,SNR=8.5								
ASAR				LR		LR	00 51 04.2		
	comp=Z,131nm,18.5s,baz=258,slow=36								
PSI	Prapat	22.39	302	LR		LR	00 52 39.2		
	comp=Z,138nm,18.3s,baz=98,slow=39								
NWAO	Narrogin (SRO)	23.27	181	P		P	00 43 32.4	+8.7	
	comp=Z,3.4nm,0.7s,baz=3.4,slow=17,SNR=1.2								
NWAO				LR		LR	00 52 06.8		
	comp=Z,116nm,21.5s,baz=317,slow=35								
JAY	Jayapura	23.88	74	LR		LR	00 55 23.8		
	comp=Z,50nm,19.2s,baz=211,slow=43								
COEN	Coen	25.29	102	P		P	00 43 43.6	+1.3	
BBOO	Buckleboo	28.68	147	P		P	00 44 12.0	-0.6	
PMG	Port Moresby	29.03	92	LR		LR	00 57 02.8		
	comp=Z,133nm,20.8s,baz=273,slow=39								
CTA	Charters Tower	29.45	114	P		P	00 44 21.5	+1.8	
	comp=Z,5.7nm,0.7s,baz=271,slow=14,SNR=9.4								
CTA				PcP		PcP	00 47 26.3	+1.9	
	comp=Z,2.3nm,0.7s,baz=92,slow=2.5,SNR=3.9								
CTAO	Charters Tower	29.45	114	P		P	00 44 20.5	+0.8	
CTAO				IAmb		IAmb	00 44 23.0		
	comp=Z,9.9nm,0.9s								
STKA	Stephens Creek	31.35	139	P		P	00 44 38.2	+1.9	
	comp=Z,8.7nm,0.6s,baz=308,slow=9.6,SNR=16								
STKA				LR		LR	00 57 04.8		
	comp=Z,94nm,19.9s,baz=259,slow=36								
STKA	Stephens Creek	31.35	139	P		P	00 44 37.5	+1.3	
CMAR	Chiang Mai Arr	33.44	326	P		P	00 44 54.1	-0.5	
	comp=Z,0.9nm,0.3s,baz=154,slow=6.9,SNR=9.7								
CMAR				PcP		PcP	00 47 35.7	+0.7	
	comp=Z,0.7nm,0.3s,baz=174,slow=2.5,SNR=8.1								
CMAR				ScP		ScP	00 51 14.7	-0.1	
	comp=Z,1.4nm,0.4s,baz=175,slow=3.1,SNR=9.7								
CMAR				LR		LR	00 58 42.7		
	comp=Z,71nm,18.8s,baz=196,slow=37								
CMAR	Chiang Mai Arr	33.44	326	P		P	00 44 53.9	-0.7	
EIDS	Eidsvold	35.36	121	P		P	00 45 11.7	+0.5	
EIDS				IAmb		IAmb	00 45 14.6		
	comp=Z,4.2nm,0.8s								
TOO	Toolangi	37.48	143	P		P	00 45 31.6	+2.4	
ARMA	Armidale	37.80	128	P		P	00 45 34.0	+1.9	
ARMA				IAmb		IAmb	00 45 36.8		
	comp=Z,12nm,1.1s								
WHN	Wuhan	39.99	355	⇑P		P	00 45 52.0	+1.8	
CD2	Chengdu	42.40	342	P		P	00 46 09.8	-0.2	
CD2				pmax		pmax			
	comp=Z,20nm,0.8s								
SHL	Shillong	43.03	325	P		P	00 46 13.5	-1.9	
JTU	Tsushima	45.20	14	P		P	00 46 33.0	+0.5	
JHS	Saijyo	46.64	17	P		P	00 46 44.0	+0.2	
LSA	Lhasa	46.66	328	P		P	00 46 43.6	-1.0	
LSA				IAmb		IAmb	00 46 45.2		
	comp=Z,8.4nm,1.2s								
KSRS	Korea Array	47.72	11	P		P	00 46 51.1	-1.0	
	comp=Z,8.3nm,0.9s,baz=190,slow=9.2,SNR=27								
KSRS				LR		LR	01 09 43.6		
	comp=Z,22nm,18.2s,baz=180,slow=40								
MJAR	Matsushiro Arr	49.73	22	P		P	00 47 06.2	-1.3	
	comp=Z,9.1nm,0.9s,baz=192,slow=7.9,SNR=13								
MJAR				LR		LR	01 07 11.9		
	comp=Z,37nm,21.2s,baz=220,slow=35								
CN2	Changchun	53.56	7	eP		P	00 47 40.5	+4.5	
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
MDJ	Mudanjiang	54.97	10	P		P	00 47 45.4	-0.8	
USA0B	Ussuriysk Arra	55.03	12	P		P	00 47 45.7	-1.0	
USRK	Ussuriysk Ar.	55.03	12	P		P	00 47 46.1	-0.6	
	comp=Z,11nm,0.8s,baz=181,slow=6.0,SNR=23								
USRK	Ussuriysk Ar.	55.03	12	P		P	00 47 45.9	-0.8	
ULN	Ulaanbaatar	57.94	352	P		P	00 48 06.1	-1.4	
ULN				IAmb		IAmb	00 48 07.5		
	comp=Z,4.1nm,0.8s								
SONM	Songino Array	58.01	351	P		P	00 48 07.2	-0.7	
	comp=Z,5.1nm,0.7s,baz=168,slow=8.5,SNR=22								
SONM				LR		LR	01 14 28.7		
	comp=Z,49nm,18.5s,baz=168,slow=38								
SONM	Songino Array	58.01	351	P		P	00 48 06.7	-1.2	
SONM				IAmb		IAmb	00 48 07.9		
	comp=Z,4.4nm,0.8s								
TLY	Talaya	62.18	350	P		P	00 48 35.3	-1.0	
TLY				IAmb		IAmb	00 48 54.2		
	comp=Z,3.3nm,0.6s								
KBL	Kabul	63.60	316	P		P	00 48 44.0	-2.4	
KBL				IAmb		IAmb	00 48 45.4		
	comp=Z,4.3nm,0.8s								
MK31	Makanchi Array	64.38	334	P		P	00 48 49.4	-1.6	
MK31				IAmb		IAmb	00 48 50.5		
	comp=Z,3.4nm,0.8s								
MKAR	Makanchi Array	64.38	334	P		P	00 48 49.6	-1.4	
	comp=Z,3.1nm,0.7s,baz=146,slow=7.7,SNR=34								
MKAR				pP		pP	00 49 05.9	0.0	
	comp=Z,2.0nm,0.8s,baz=142,slow=7.0,SNR=5.0								
MKAR				LR		LR	01 18 48.3		
	comp=Z,21nm,18.5s,baz=154,slow=38								
MKAR	Makanchi Array	64.38	334	P		P	00 48 49.5	-1.5	
MAKZ	Makanchi	64.53	334	P		P	00 48 50.6	-1.3	
KBK	Karagaybulak	64.99	326	P		P	00 48 54.8	-0.4	
	SNR=6.2								
AAK	Ala-Archa	65.22	326	P		P	00 48 55.7	-1.1	
	SNR=6.5								
AAK	Ala-Archa	65.22	326	P		P	00 48 55.6	-1.1	
AAK				IAmb		IAmb	00 48 56.7		
	comp=Z,5.3nm,0.9s								
AML	Almayashu	65.33	325	P		P	00 48 57.1	-0.7	
	SNR=8.2								
EKS2	Erkin-Say	65.64	326	P		P	00 48 59.3	0.0	
	SNR=7.3								
USP	Ospenovka	65.64	327	P		P	00 48 57.7	-1.6	
	SNR=5.4								
KKAR	Karatay Array	67.76	324	P		P	00 49 11.6	-1.2	
ZAA0	Zalesovo Array	69.11	340	P		P	00 49 18.8	-2.1	
ZAA0				IAmb		IAmb	00 49 19.7		
	comp=Z,11nm,1.4s								
ZALV	Zalesovo Beam	69.11	340	P		P	00 49 18.7	-2.2	
	comp=Z,3.4nm,0.5s,baz=146,slow=5.2,SNR=19								
ZALV				pP		pP	00 49 35.4	-0.6	
	comp=Z,2.6nm,0.6s,baz=145,slow=5.7,SNR=4.5								
PETK	Petropavlovsk-	71.08	24	P		P	00 49 32.3	-0.7	
	comp=Z,2.5nm,0.8s,baz=196,slow=8.5,SNR=3.9								
PETK				LR		LR	01 24 19.8		
	comp=Z,26nm,18.2s,baz=140,slow=39								
YAK	Yakutsk	71.96	6	P		P	00 49 36.7	-1.4	
BRVK	Borovoye	74.26	332	P		P	00 49 50.8	-1.1	
SYO	Syowa Base	76.89	201	⇓eP		P	00 49 58.4	-8.3	
ABKAR	Akbulak array	77.29	325	P		P	00 50 07.8	-1.5	
ABKAR	Akbulak array	77.29	325	P		P	00 50 07.7	-1.5	
ABKAR				IAmb		IAmb	00 50 09.7		
	comp=Z,4.4nm,1.0s								
RAYN	Ar Rayn	77.82	297	P		P	00 50 11.2	-1.6	
MIB	Mutribah	78.10	303	eP			00 50 12.3		
RST	Umm Al-Ruwaisa	78.28	303	eP			00 50 13.3		
NRIK	Noril'sk	81.45	350	P		P	00 50 31.2	-0.3	
	comp=Z,0.8nm,0.3s,baz=162,slow=5.1,SNR=3.7								
NRIK	Noril'sk	81.45	350	P		P	00 50 30.6	-0.9	
KBZ	Khabaz	85.78	315	P		P	00 50 55.0	+0.9	
	comp=Z,0.7nm,0.9s,baz=180,slow=5.1,SNR=2.4								
KBZ				pP		pP	00 51 10.4	+0.8	
	comp=Z,1.3nm,0.8s,baz=66,slow=3.7,SNR=4.2								
LSZ	Lusaka	87.09	255	P		P	00 51 03.1	+1.7	
LSZ				IAmb		IAmb	00 51 04.7		
	comp=Z,8.9nm,1.3s								
BOSA	Boshof	87.64	242	LR		LR	01 24 27.0		
	comp=Z,108nm,19.0s,baz=171,slow=32								
BOSA	Boshof	87.64	242	P		P	00 51 04.8	+0.9	
BOSA				IAmb		IAmb	00 51 21.1		
	comp=Z,10.0nm,1.3s								
BRTR	Keskin Array B	91.52	310	LR		LR	01 37 19.3		
	comp=Z,30nm,18.1s,baz=153,slow=39								
FINES	FINESS Array B	99.10	331	LR		LR	01 40 46.0		
	comp=Z,48nm,18.4s,baz=234,slow=38								
ARCES	ARCESS Array B	99.65	339	LR		LR	01 40 31.1		
	comp=Z,31nm,18.2s,baz=315,slow=38								
YKA	Yellowknife Ar	115.20	24	PKP		PKiKP	00 56 55.8	+0.2	
	comp=Z,1.1nm,0.9s,baz=307,slow=1.2,SNR=10								
TORD	Torodi Ar. Bea	117.32	280	PKP		PKiKP	00 57 01.9	+0.9	
	comp=Z,0.5nm,0.9s,baz=29,slow=1.7,SNR=1.9								
TORD	Torodi Ar. Bea	117.32	280			PKPdf	00 57 00.7	-0.3	
NVAR	Mina Array Bea	122.33	50	PKP		PKiKP	00 57 11.7	+1.1	
	comp=Z,1.3nm,0.8s,baz=248,slow=2.4,SNR=8.0								
NVAR	Mina Array Bea	122.33	50			PKPdf	00 57 10.6	+0.3	
PDAR	Pinedale Array	127.17	43	PKP		PKiKP	00 57 20.4	+0.4	
	comp=Z,0.1nm,0.5s,baz=256,slow=3.6,SNR=1.9								
TXAR	Lajitas Array	136.59	57	PKP		PKPdf	00 57 38.0	+0.5	
	comp=Z,0.6nm,1.0s,baz=205,slow=5.5,SNR=3.7								
CPUP	Villa Florida	144.02	188	PKP	PKPbc		00 57 50.0	+1.2	
	comp=Z,2.0nm,0.6s,baz=181,slow=4.9,SNR=6.9								
BDFB	Brasilia	151.26	210	PKPbc		PKiKP	00 58 10.6	+0.8	
	comp=Z,1.2nm,0.4s,baz=47,slow=10,SNR=3.7								
LPAZ	La Paz	153.69	167	PKPbc		PKiKP	00 58 16.7	+1.3	
	comp=Z,1.4nm,0.8s,baz=60,slow=5.8,SNR=4.8								
LPAZ				pPKPbc		PKPab	00 58 31.1	+3.3	
	comp=Z,3.1nm,0.9s,baz=76,slow=5.1,SNR=6.2								

*ISK **26** 01:33:15.8,34˚.40N×32˚.17E,h10km,ML2.8/14*
*NIC **26** 01:33:16.8±0.0,34˚.45N×32˚.07E,h28km,Ml3.2/5*
*GII **26** 01:33:18.7±0.0,34˚.31N×32˚.29E,h10km,Mm3.0/2*
*DDA **26** 01:33:26.3,35˚.29N×32˚.47E,h12km±2km,ML2.0*
ISC 26 01:33:15.7±1.5,34˚.45N±0˚.03×32˚.14E±0˚.05,h11km±10km, n52,σ2ᵖ31/74,5C-1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NATA	Nata	0.48	46	⇑P			Pb	01 33 28.0	+1.8
NATA					AML	AML		01 33 38.2	
	4.5nm,0.3s								
NATA					AML	AML		01 33 41.9	
	6.2nm,0.4s								
AKMS	Akamas	0.59	15	⇑P			Pg	01 33 29.1	+1.9
AKMS				S			Sb	01 33 38.4	+2.0
AKMS					AML	AML		01 33 38.6	
	5.5nm,0.2s								
AKMS					AML	AML		01 33 38.6	
	5.5nm,0.2s								
AKMS					AML	AML		01 33 39.5	
	4.2nm,0.2s								
AKMS					AML	AML		01 33 39.5	
	4.2nm,0.2s								
SZAC	Souni	0.68	63	⇑P			Pb	01 33 31.0	+1.4
SZAC				S			Sn	01 33 42.2	+0.3
SZAC					AML	AML		01 33 42.3	
	5.2nm,0.2s								
SZAC					AML	AML		01 33 42.3	
	5.2nm,0.2s								
SZAC					AML	AML		01 33 43.0	
	4.8nm,0.2s								
SZAC					AML	AML		01 33 43.0	
	4.8nm,0.2s								
ALFC	Alefka	0.80	28	P			Pg	01 33 32.2	+1.0
ALFC				S			Sb	01 33 44.4	+1.9
ALFC					AML	AML		01 33 44.5	
	2.2nm,0.3s								
ALFC					AML	AML		01 33 44.5	
	2.2nm,0.3s								
ALFC					AML	AML		01 33 44.5	
	3.4nm,0.3s								
ALFC					AML	AML		01 33 44.5	
	3.4nm,0.3s								
LEF	Lefka	0.91	42	PG			Pg	01 33 34.2	+0.9
LEF				SG			Sb	01 33 46.2	+0.6
LEF	Lefka	0.91	42	*i* P			Pg	01 33 33.6	+0.4
LEF				*i* S			Sg	01 33 39.2	-5.9
ASGA	Asgata	0.97	69	⇑P			Pg	01 33 35.0	+0.6
ASGA				S			Sn	01 33 49.1	+0.1
ASGA					AML	AML		01 33 49.7	
	2.3nm,0.7s								
ASGA					AML	AML		01 33 49.7	
	2.3nm,0.7s								
ASGA					AML	AML		01 33 50.0	
	1.9nm,0.3s								
ASGA					AML	AML		01 33 50.0	
	1.9nm,0.3s								
AKDN	Akdeniz- Kıbrı	1.09	38	PN			Pb	01 33 37.1	+0.6
AKDN				SN			Sn	01 33 53.6	+1.8
CSS	Mathiatis	1.10	62	PN			Pg	01 33 37.2	+0.2
CSS				SN			Sn	01 33 52.6	+0.3
CSS	Mathiatis	1.10	62	⇑P			Pg	01 33 36.9	0.0
CSS				S			Sn	01 33 52.3	0.0
OSC1	CSNet OBS 1	1.19	218	P			Pn	01 33 36.8	-1.4
AKIN	Akıncılar- Kıb	1.23	62	PN			Pb	01 33 39.5	+0.6
MVOU	Mavrovouni	1.35	65	⇓P			Pn	01 33 40.8	+0.4
OSC2	CSNet OBS 4	1.37	176	P			Pn	01 33 39.4	-1.3
GAZI	Gazipasa	1.79	4	*i* P			Pn	01 33 45.8	-0.8
GAZI				*i* S			Sn	01 33 58.1	-11
EREN	Erenkoy	1.98	56	PN			Pn	01 33 50.8	+1.6
EREN	Erenkoy	1.98	56	*i* P			Pn	01 33 51.7	+2.6
EREN				*i* S			Sn	01 34 05.6	-8.3
EREN					IAML			01 34 11.0	
	comp=E,32nm,0.6s								
EREN					IAML			01 34 46.0	
	comp=N,39nm,1.2s								
AKKU	Akkuyu-Mersin	2.06	34	PN			Pn	01 33 51.8	+1.6
GULN	MERSİN_Gulnar	2.08	33	*i* P			Pn	01 33 52.1	+1.7
GULN				*i* S			Sn	01 34 07.7	-8.6
BERE	Bereket-Mersin	2.09	25	PN			Pn	01 33 52.2	+1.4
IKL	Isikli	2.19	35	PN			Pn	01 33 53.8	+1.8
TEVE	Tevekalti-Mers	2.25	28	PN			Pn	01 33 54.8	+1.9
ERMK	Ermenek	2.28	16	*i* P			Pn	01 33 56.1	+2.6
ERMK				*i* S			Sn	01 34 13.9	-7.7
ERMK					IAML			01 34 46.0	
	comp=N,20nm,0.7s								
KKBE	Karaman, Kazim	2.84	13	*i* P			Pn	01 34 02.8	+1.7
KKBE				*i* S			Sn	01 34 28.8	-6.5
ELL	Elmali	2.93	322	PN			Pn	01 34 03.8	+1.5
KORT	Korkueli	2.94	331	PN			Pn	01 34 04.2	+1.8
OFRI	`Ofer	2.99	127	Pn			Pn	01 34 03.8	+0.7
SEDI	Konya, Seydise	3.02	354	*i* P			Pn	01 34 05.2	+1.7
SEDI				*i* S			Sn	01 34 32.0	-7.6
SEDI					IAML			01 35 00.0	
	comp=N,7.3nm,0.9s								
SEDI					IAML			01 35 01.0	
	comp=E,7.8nm,0.8s								
MMA0B	Mount Meron ar	3.07	117	Pn			Pn	01 34 04.7	+0.5
MMA0B				Sn			Sn	01 34 39.6	-1.3
MERS	Mersin	3.10	38	PN			Pn	01 34 06.6	+2.1
GEM	Giv'at Ha'Em	3.18	112	Pn			Pn	01 34 06.3	+0.7
GEM				Sn			Sn	01 34 42.6	-0.9
NATI	Neve Ativ	3.21	111	Pn			Pn	01 34 07.1	+1.0
NATI				Sn			Sn	01 34 43.4	-0.9
SLTI	Sal'it	3.27	131	Pn			Pn	01 34 07.9	+1.0
FETY	Fethiye	3.32	312	*i* P			Pn	01 34 06.5	-1.0
FETY				*i* S			Sn	01 34 33.4	-14
KERG	Konya-Eregli	3.37	28	*i* P			Pn	01 34 11.0	+2.7
KERG				*i* S			Sn	01 34 44.2	-4.3
KERG					IAML			01 34 54.0	
	comp=E,9.0nm,0.3s								
KERG					IAML			01 34 55.0	
	comp=N,11nm,0.3s								
MMLI	Mount Malkishu	3.39	125	Pn			Pn	01 34 09.5	+0.9
MMLI				Sn			Sn	01 34 47.9	-1.0
GOLH	Golhisar	3.49	324	*i* P			Pn	01 34 12.8	+2.8
GOLH				*i* S			Sn	01 34 43.0	-8.3
GOLH					IAML			01 35 01.0	
	comp=N,23nm,0.3s								
HMDT	Nahal Hemdat	3.58	127	Pn			Pn	01 34 11.9	+0.8
HMDT				Sn			Sn	01 34 53.0	-0.3
KARA	Karaisali	3.67	39	PN			Pn	01 34 14.8	+2.4
TAHT	Tahtakopru-Hat	3.82	59	PN			Pn	01 34 16.7	+2.3
DSI	Dead Sea	3.95	136	Pn			Pn	01 34 17.2	+1.0
CMRD	Camardi-Nigde	3.95	35	PN			Pn	01 34 18.6	+2.2
YTIR	Yattir	3.96	140	Pn			Pn	01 34 17.0	+0.5
YTIR				Sn			Sn	01 35 02.1	-0.9
KZIT	Kziot	4.01	151	Pn			Pn	01 34 17.2	+0.2
KZIT				Sn			Sn	01 35 03.1	-0.9
PRNI	Paran	4.75	149	Pn			Pn	01 34 27.3	+0.1
PRNI				Sn			Sn	01 35 20.4	-1.8
KRMI	Paran Flat	4.84	152	Pn			Pn	01 34 29.7	+1.2
HRFI	Mount Harif	5.03	150	Pn			Pn	01 34 31.8	+0.7
HRFI				Sn			Sn	01 35 27.2	-2.1
MBRI	Mt Berech	5.20	152	Pn			Pn	01 34 34.6	+1.1
EIL	Elat	5.33	153	Pn			Pn	01 34 36.0	+0.9
EIL				Sn			Sn	01 35 35.7	-0.7

*IDC **26** 01:42:44.9±1.3,26˚.84N×129˚.76E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.3/38,mbtmp3.4/4,Error ellipse: s-maj=30.2km s-min=21.3km az=28.0*
*JMA **26** 01:42:47.0,26˚.84N×129˚.87E,h54km,MJ3.5*
*NIED **26** 01:42:47.0,26˚.84N×129˚.87E,h54km,MW3.8,Moment Tensor Solution. s1 Moment tensor: Scale 10¹⁴Nm; Mrr-6.20; Mθθ1.08; Mφφ5.12; Mrθ-0.64; Mθφ1.88; Mφr1.61; Fault plane solution: M0 6.26000×10¹⁴ NP1: φs192.00000°,δ52.00000°,λ-102.00000°. NP2: φs31.00000°,δ40.00000°,λ-75.00000°.*
ISC 26 01:42:44.6±1.5,26.85N±0.03×129.85E±0.03,h5km±10km, n23,σ1ᵖ36/39,mb3.5/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	1.23	319	P			Pb	01 43 08.6	+0.3
JTK				eS			Sb	01 43 25.1	+0.6
JOKE	Okinoerabujima	1.25	294	P			Pg	01 43 09.0	+0.4
JOKE				eS			Sg	01 43 23.9	-0.9
JYRO	Yoronjima	1.26	278	P			Pg	01 43 08.9	+0.1
JYRO				S			Sg	01 43 24.5	-0.8
JOW	Kunigami	1.41	270	Pn			Pn	01 43 10.7	-0.2
	55nm,0.3s,baz=111,slow=13,SNR=15								
JOW				Sn			Sb	01 43 28.1	-1.5
	184nm,0.3s,baz=90,slow=20,SNR=26								
JOW	Kunigami	1.41	270	P			Pn	01 43 11.2	+0.3
JOW				eS			Sb	01 43 28.5	-1.2
JZK	Kikaishima	1.46	4	P			Pb	01 43 12.1	-0.2
JZK				S			Sb	01 43 31.3	+0.1
JAMN	Amaminishikomi	1.51	337	P			Pn	01 43 12.2	-0.1
JAMN				eS			Sn	01 43 30.4	-1.9
JAM	Amami Oshima	1.57	352	P			Pn	01 43 13.1	0.0
JAM				eS			Sn	01 43 31.2	-2.6
JKDJ	Kitadaitoujima	1.57	124	P			Pn	01 43 12.9	-0.2
JKDJ				S			Sn	01 43 31.8	-2.1
JMZ	Minamidaito 2	1.60	130	P			Pn	01 43 13.1	-0.4
JMZ				S			Sn	01 43 31.9	-2.6
JNTH	Nagotoyohara	1.67	259	P			Pn	01 43 14.5	0.0
JNTH				S			Sn	01 43 33.9	-2.4
JIH	Iheya	1.69	277	P			Pn	01 43 15.2	+0.4
JIH				S			Sn	01 43 35.7	-1.1
JJT3	Tamagusuku3	1.98	250	P			Pn	01 43 18.8	0.0
JJT3				eS			Sn	01 43 42.6	-1.4
JAGN	Aguni-jima	2.35	264	P			Pn	01 43 24.5	+0.7
JAGN				S			Sn	01 43 51.1	-1.9
JTAJ	Takarajima	2.37	346	P			Pn	01 43 23.8	-0.2
JTAJ				eS			Sn	01 43 50.6	-2.8
JKE	Kume jima 2	2.80	260	P			Pn	01 43 29.9	0.0
JKE				S			Sn	01 44 02.

AKMS					AML	AML	01 44 02.8		
	comp=E,0.3nm,0.9s								
AKMS					AML	AML	01 44 02.8		
	comp=E,0.3nm,0.9s								
ALFC	**Alefka**	**1.81**	**122**		S	**Sb**	**01 43 57.2**	**+2.9**	
ALFC					AML	AML	01 44 00.6		
	comp=E,0.2nm,0.3s								
ERMK	**Ermenek**	**1.85**	**73**	*i* P		**Pb**	**01 43 32.2**	**-0.5**	
ERMK				*i* S		**Sb**	**01 43 54.2**	**-1.3**	
ERMK					IAML		01 44 06.0		
	comp=E,27nm,0.3s								
ERMK					IAML		01 44 11.0		
	comp=N,31nm,0.6s								
TEKE	**Tekeli-Mersin**	**1.94**	**89**		PN	**Pn**	**01 43 31.4**	**+0.1**	
TEKE					SN	**Sn**	**01 43 55.4**	**+0.4**	
NATA	**Nata**	**2.02**	**131**		P	**Pb**	**01 43 35.1**	**-0.6**	
NATA					S	**Sb**	**01 44 00.9**	**+0.5**	
NATA					AML	AML	01 44 05.8		
	comp=N,0.5nm,0.5s								
NATA					AML	AML	01 44 05.8		
	comp=N,0.5nm,0.5s								
NATA					AML	AML	01 44 15.7		
	comp=N,0.5nm,0.9s								
NATA					AML	AML	01 44 15.7		
	comp=N,0.5nm,0.9s								
LEF	**Lefka**	**2.04**	**119**		PN	**Pn**	**01 43 33.3**	**+0.7**	
BERE	**Bereket-Mersin**	**2.04**	**83**		PN	**Pn**	**01 43 33.1**	**+0.3**	
BERE					SN	**Sn**	**01 43 58.4**	**+0.7**	
KMER	**Konya-Meram**	**2.11**	**38**	*i* P		**Pb**	**01 43 36.8**	**-0.3**	
KMER				*i* S		**Sn**	**01 43 57.8**	**-1.6**	
KMER					IAML		01 44 12.0		
	comp=N,21nm,0.6s								
DOGA	**KONYA_Doganhis**	**2.12**	**21**	*i* P		**Pb**	**01 43 37.1**	**-0.2**	
DOGA				*i* S		**Sn**	**01 43 59.6**	**0.0**	
DOGA					IAML		01 44 10.0		
	comp=N,23nm,0.7s								
DOGA					IAML		01 44 10.0		
	comp=E,15nm,0.8s								
YVAC	**Isparta, Yalva**	**2.18**	**11**	*i* P		**Pb**	**01 43 36.3**	**-2.1**	
YVAC				*i* S		**Sn**	**01 43 59.8**	**-1.4**	
SZAC	**Souni**	**2.23**	**127**		P	**Pb**	**01 43 39.4**	**+0.2**	
KONT	**Konya--Tatoy**	**2.24**	**35**		PN	**Pb**	**01 43 37.4**	**-2.0**	
AKKU	**Akkuyu-Mersin**	**2.29**	**88**		PN	**Pn**	**01 43 37.2**	**+1.1**	
AKKU					SN	**Sn**	**01 44 04.3**	**+0.5**	
KRMN	**Karaman**	**2.30**	**62**		PN	**Pn**	**01 43 37.4**	**+1.1**	
IKL	**Isikli**	**2.41**	**86**		PN	**Pn**	**01 43 38.7**	**+1.0**	
CSS	**Mathiatis**	**2.43**	**118**		PN	**Pn**	**01 43 39.3**	**+1.3**	
CSS	**Mathiatis**	**2.43**	**118**		P	**Pb**	**01 43 41.3**	**-1.2**	
LADK	**Ladik-KONYA**	**2.45**	**32**		PN	**Pb**	**01 43 40.7**	**-2.3**	
OSC1	**CSNet OBS 1**	**2.66**	**170**		S	**Sn**	**01 44 14.2**	**+1.5**	
KIZK	**Mersin**	**2.79**	**82**		PN	**Pn**	**01 43 44.4**	**+1.4**	

JMA ***26*** *01:46:33.3±0.1, 37.71N×141.75E, h36km±2km, M3.8*
JMA Felt II J1.
IDC ***26*** *01:46:46.3±2.5, 37.21N×140.45E, h118km±22km, mb3.1/5, mb1 3.3/7, mb1mx3.1/39, mbtmp3.6/7, MS2.4/1, Ms1 2.4/1, ms1mx2.1/21, Error ellipse: s-maj=33.8km s-min=20.1km az=69.0*

ISC 26 01:46:32.5±1.6**, 37.71N**±0.04×**141.78E**±0.07**, h29**km±11km**, n29**, σ1§12/33**, mb3.5**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.65**	**337**	P	**Pb**	**01 46 45.9**	**+0.6**
JIKH				S	**Sn**	**01 46 54.1**	**-0.9**
JMST	**Minamisoumatoc**	**0.71**	**271**	P	**Pb**	**01 46 46.5**	**+0.2**
JMST				S	**Sb**	**01 46 55.3**	**-0.4**
JMM	**Marumori**	**0.80**	**281**	P	**Pb**	**01 46 47.9**	**+0.1**
JMM				S	**Sn**	**01 46 58.0**	**-0.7**
JFK	**Kawauchi**	**0.80**	**245**	P	**Pn**	**01 46 47.6**	**-0.3**
JFK				S	**Sb**	**01 46 57.9**	**-0.5**
JIO	**Ouri**	**0.81**	**335**	P	**Pb**	**01 46 48.3**	**+0.2**
JIO				S	**Sn**	**01 46 58.3**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.99**	**232**	P	**Pn**	**01 46 50.4**	**-0.1**
ONAJ				S	**Sn**	**01 47 02.3**	**-1.3**
JOU	**Okura**	**1.10**	**307**	P	**Pb**	**01 46 52.7**	**-0.1**
JOU				S	**Sb**	**01 47 06.4**	**-0.4**
JKMT	**Kesennumamotoy**	**1.12**	**348**	P	**Pn**	**01 46 52.8**	**+0.5**
JFT	**Otama**	**1.16**	**261**	P	**Pn**	**01 46 53.8**	**+0.9**
JFT				S	**Sb**	**01 47 08.2**	**-0.5**
JMK	**Ichinoseki**	**1.31**	**341**	P	**Pn**	**01 46 55.7**	**+0.8**
JMK				eS	**Sb**	**01 47 12.2**	**-0.7**
JYS	**Shirataka**	**1.45**	**291**	P	**Pn**	**01 46 57.8**	**+1.0**
JYS				eS	**Sb**	**01 47 15.2**	**-1.6**
JYK	**Kaneyama**	**1.64**	**317**	P	**Pn**	**01 47 00.3**	**+0.9**
JFY	**Yanaizu**	**1.68**	**260**	P	**Pn**	**01 47 00.8**	**+0.9**
JFY				eS	**Sn**	**01 47 21.2**	**+0.7**
MJAR	**Matsushiro Arr**	**3.08**	**249**	P	**Pn**	**01 47 19.5**	**+0.2**
	1.1nm,0.3s,baz=89,slow=16,SNR=15						
MJAR				LR	LR	01 48 03.8	
	comp=Z,13nm,19.1s,baz=50,slow=41						
MAT	**Matsushiro**	**3.09**	**249**	P	**Pn**	**01 47 21.4**	**+2.1**
MAT				eS	**Sn**	**01 47 57.6**	**+2.3**
JHJ	**Hachijo jima 2**	**4.87**	**200**	P	**Pn**	**01 47 45.5**	**+1.8**
	13nm,0.3s,baz=56,slow=21,SNR=5.6						
JHJ				S	**Sn**	**01 48 37.0**	**-2.1**
	19nm,0.3s,baz=253,slow=19,SNR=2.2						
USRK	**Ussuriysk Ar.**	**9.84**	**314**	P	Pn	01 48 58.7	+6.8
	baz=119,slow=15,SNR=2.9						
KSRS	**Korea Array**	**11.00**	**273**	LR	LR	01 52 54.4	
	comp=Z,21nm,21.5s,baz=155,slow=37						
SONM	**Songino Array**	**27.66**	**303**	P	**P**	**01 52 18.7**	**+0.9**
	0.5nm,0.5s,baz=104,slow=9.2,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**28.25**	**122**	T	T	02 22 39.3	
	baz=315,slow=75,SNR=142						
H11N1	**WAKE ISLAND Hy**	**28.26**	**122**	T	T	02 22 43.3	
	baz=315,slow=75,SNR=159						
H11N3	**WAKE ISLAND Hy**	**28.27**	**122**	T	T	02 22 40.5	
	baz=315,slow=75,SNR=136						
H11S1	**WAKE ISLAND Hy**	**28.99**	**124**	T	T	02 23 44.1	
	baz=317,slow=76,SNR=47						
H11S3	**WAKE ISLAND Hy**	**28.99**	**124**	T	T	02 23 37.1	
	baz=317,slow=76,SNR=74						
H11S2	**WAKE ISLAND Hy**	**29.01**	**124**	T	T	02 23 45.3	
	baz=317,slow=76,SNR=58						
ZALV	**Zalesovo Beam**	**41.68**	**312**	P	**P**	**01 54 18.9**	**+0.7**
	0.5nm,0.6s,baz=106,slow=11,SNR=2.2						
MKAR	**Makanchi Array**	**44.01**	**302**	P	**P**	**01 54 35.2**	**-2.1**
	0.2nm,0.5s,baz=84,slow=10,SNR=5.0						
ILAR	**Eielson Array**	**48.76**	**33**	P	P	01 55 26.6	+12
	0.3nm,0.7s,baz=265,slow=6.1,SNR=4.1						
WRA	**Warramunga Arr**	**57.77**	**188**	P	**P**	**01 56 20.9**	**-0.1**
	0.3nm,0.4s,baz=5.5,slow=7.4,SNR=5.6						

IDC ***26*** *01:48:28.1±3.6, 18.25N×144.97E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/38, mbtmp3.6/6, Error ellipse: s-maj=142.4km s-min=22.2km az=82.0*

ISC 26 01:48:30.7±3.2**, 18.2N**±0.2×**144.7E**±0.9**, h10**km**, n6**, σ1§68/6**, mb3.5**/5**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**24.15**	**326**	P	**P**	**01 53 48.6**	**+1.6**
	1.1nm,0.6s,baz=149,slow=9.6,SNR=5.2						
KLR	**Kul'dur**	**32.66**	**344**	P	**P**	**01 55 02.5**	**-0.3**
	0.8nm,0.7s,baz=165,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**39.24**	**195**	P	**P**	**01 55 58.0**	**-1.5**
	0.4nm,0.5s,baz=20,slow=8.1,SNR=4.9						
SONM	**Songino Array**	**42.91**	**322**	P	**P**	**01 56 29.0**	**-0.7**
	0.3nm,0.3s,baz=126,slow=7.3,SNR=2.9						
ASAR	**Alice Springs**	**42.92**	**195**	P	**P**	**01 56 31.5**	**+1.7**
	0.2nm,0.4s,baz=12,slow=10.0,SNR=1.9						
MKAR	**Makanchi Array**	**58.09**	**314**	P	**P**	**01 58 24.1**	**-0.2**
	0.7nm,0.8s,baz=97,slow=10.0,SNR=6.0						

SOME ***26*** *02:01:05.7, 43.93N×76.98E, h15km*
NNC ***26*** *02:01:05.1±0.4, 43.95N×76.99E, h0km, mb3.2, mpv3.7, Error ellipse: s-maj=2.8km s-min=2.0km az=145.0*
KRNET ***26*** *02:01:05.5±0.1, 43.96N×76.99E, h20km, mb3.4*
KNET ***26*** *02:01:06.4±0.6, 43.86N×76.82E, h5km±5km, ml2.5, Error ellipse: s-maj=3.9km s-min=3.4km az=131.0*

ISC 26 02:01:06.2±0.8**, 43.94N**±0.02×**76.98E**±0.01**, h13**km±5km**, n87**, σ1§05/165**, 32C-19D**, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKK	**Chushkaly**	**0.08**	**175**	*e*P	**Pg**	**02 01 09.1**	**+0.1**
	baz=75						
CHKK				*e*S	**Sg**	**02 01 11.4**	**+0.4**
	4µm,0.2s						
CHKK	**Chushkaly**	**0.08**	**175**	P	**Pg**	**02 01 09.1**	**+0.1**
	341nm,0.1s						
CHKK				S	**Sg**	**02 01 11.3**	**+0.4**
	4µm,0.2s						
KTBS	**Karatobe**	**0.31**	**224**	*e*P	**Pg**	**02 01 12.5**	**-0.1**
	baz=22						
KTBS				*e*S	**Sg**	**02 01 17.2**	**+0.4**
	baz=22						
KTBS	**Karatobe**	**0.31**	**224**	*e*P	**Pg**	**02 01 12.5**	**-0.1**
	127nm,0.1s						
KTBS				*e*S	**Sg**	**02 01 17.2**	**+0.4**
	1µm,0.2s						
KTBS	**Karatobe**	**0.31**	**224**	P	**Pg**	**02 01 12.5**	**-0.1**
	127nm,0.1s						
KTBS				S	**Sg**	**02 01 17.2**	**+0.4**
	1µm,0.2s						
KUU	**Kurty**	**0.46**	**265**	*e*P	**Pg**	**02 01 14.8**	**-0.6**
	baz=62						
KUU				*e*S	**Sg**	**02 01 21.3**	**-0.3**
	baz=62						
KUU	**Kurty**	**0.46**	**265**	*e*P	**Pg**	**02 01 14.8**	**-0.6**
	96nm,0.1s						
KUU				*e*S	**Sg**	**02 01 21.2**	**-0.3**
	232nm,0.2s						
KUU	**Kurty**	**0.46**	**265**	P	**Pg**	**02 01 14.8**	**-0.6**
	96nm,0.1s						
KUU				S	**Sg**	**02 01 21.2**	**-0.3**
	232nm,0.2s						
ARXS	**Arharly**	**0.67**	**65**	*e*P	**Pg**	**02 01 18.5**	**-0.8**
	115nm,0.1s						
ARXS				*e*S	**Sg**	**02 01 27.6**	**-0.5**
	150nm,0.2s						
ARXS	**Arharly**	**0.67**	**65**	P	**Pg**	**02 01 18.5**	**-0.8**
	115nm,0.1s						
ARXS				S	**Sg**	**02 01 27.7**	**-0.5**
	150nm,0.2s						
KOTS	**Kotyrbulak**	**0.71**	**172**	*e*P	**Pg**	**02 01 19.6**	**-0.4**
	baz=73						
KOTS				*e*S	**Sb**	**02 01 29.7**	**-0.6**
	baz=73						
KOTS	**Kotyrbulak**	**0.71**	**172**	*e*P	**Pg**	**02 01 19.6**	**-0.4**
	69nm,0.1s						
KOTS				*e*S	**Sb**	**02 01 29.7**	**-0.6**
	62nm,0.2s						
KOTS	**Kotyrbulak**	**0.71**	**172**	P	**Pg**	**02 01 19.6**	**-0.4**
	69nm,0.1s						
KOTS				S	**Sb**	**02 01 29.7**	**-0.6**
	62nm,0.2s						
AAA	**Alma-Ata**	**0.73**	**184**	*e*P	**Pg**	**02 01 20.2**	**-0.1**
	baz=84						
AAA				*e*S	**Sb**	**02 01 30.7**	**-0.1**
	baz=84						
AAA	**Alma-Ata**	**0.73**	**184**	*e*P	**Pg**	**02 01 20.2**	**-0.1**
	92nm,0.1s						
AAA				*e*S	**Sb**	**02 01 30.7**	**-0.1**
	61nm,0.1s						
AAA	**Alma-Ata**	**0.73**	**184**	P	**Pg**	**02 01 20.2**	**-0.1**
	92nm,0.1s						
AAA				S	**Sb**	**02 01 30.7**	**-0.1**
	61nm,0.1s						
MDOK	**Medeo**	**0.78**	**176**	*e*P	**Pg**	**02 01 20.6**	**-0.7**
	baz=77						
MDOK				*e*S	**Sg**	**02 01 31.2**	**-0.2**
	baz=77						
MDOK	**Medeo**	**0.78**	**176**	*e*P	**Pg**	**02 01 20.6**	**-0.7**
	19nm,0.1s						
MDOK				*e*S	**Sg**	**02 01 31.1**	**-0.2**
	26nm,0.2s						
MDOK	**Medeo**	**0.78**	**176**	⇑P	**Pg**	**02 01 20.1**	**-1.1**
	10nm,0.4s						
MDOK				⇑S	**Sg**	**02 01 31.3**	**-0.1**
	15nm,0.4s						
MDOK	**Medeo**	**0.78**	**176**	Pg	**Pg**	**02 01 20.6**	**-0.7**
	19nm,0.1s						
MDOK				Lg	Lg	02 01 31.1	
	26nm,0.2s						
MTBS	**Maitube**	**0.90**	**207**	*e*P	**Pb**	**02 01 22.9**	**-0.9**
	baz=6.0						
MTBS				*e*S	**Sb**	**02 01 35.1**	**-0.6**
	baz=6.0						
MTBS	**Maitube**	**0.90**	**207**	*e*P	**Pb**	**02 01 22.9**	**-0.9**
	14nm,0.1s						
MTBS				*e*S	**Sb**	**02 01 35.1**	**-0.6**
	251nm,0.1s						
MTBS	**Maitube**	**0.90**	**207**	P	**Pb**	**02 01 22.9**	**-0.9**
	14nm,0.1s						
MTBS				S	**Sb**	**02 01 35.1**	**-0.6**
	251nm,0.1s						
IZV	**Izvestkoviy**	**0.94**	**197**	*e*P	**Pb**	**02 01 23.5**	**-0.9**
	baz=97						
IZV				*e*S	**Sb**	**02 01 36.3**	**-0.6**
	baz=97						
IZV	**Izvestkoviy**	**0.94**	**197**	*e*P	**Pb**	**02 01 23.5**	**-0.9**
	16nm,0.1s						
IZV				*e*S	**Sb**	**02 01 36.3**	**-0.6**
	54nm,0.3s						
IZV	**Izvestkoviy**	**0.94**	**197**	P	**Pb**	**02 01 23.5**	**-0.9**
	16nm,0.1s						
IZV				S	**Sb**	**02 01 36.3**	**-0.6**
	54nm,0.3s						
KRBS	**Karabastau**	**0.97**	**256**	*e*P	**Pb**	**02 01 23.8**	**-1.2**
	baz=55						
KRBS				*e*S	**Sb**	**02 01 36.7**	**-1.1**
	baz=55						
KRBS	**Karabastau**	**0.97**	**256**	*e*P	**Pb**	**02 01 23.8**	**-1.2**
	28nm,0.2s						
KRBS				*e*S	**Sb**	**02 01 36.7**	**-1.1**
	41nm,0.2s						
KRBS	**Karabastau**	**0.97**	**256**	P	**Pb**	**02 01 23.7**	**-1.3**
	28nm,0.2s						
KRBS				S	**Sb**	**02 01 36.7**	**-1.1**
	41nm,0.2s						
KURS	**Kuram**	**0.97**	**117**	*e*P	**Pb**	**02 01 24.1**	**-0.9**
	baz=18						
KURS				*e*S	**Sb**	**02 01 36.9**	**-0.9**
	baz=18						
KURS	**Kuram**	**0.97**	**117**	*e*P	**Pb**	**02 01 24.1**	**-0.9**
	12nm,0.1s						
KURS				*e*S	**Sb**	**02 01 36.9**	**-0.9**
	63nm,0.4s						
KURS	**Kuram**	**0.97**	**117**	P	**Pb**	**02 01 24.1**	**-0.9**
	12nm,0.1s						
KURS				S	**Sb**	**02 01 36.9**	**-0.9**
	63nm,0.4s						
MNBS	**Baschi**	**1.04**	**82**	*e*P	**Pb**	**02 01 25.3**	**-0.9**
	50nm,0.1s						
MNBS				*e*S	**Sg**	**02 01 39.2**	**-0.5**
	60nm,0.3s						
MNBS	**Baschi**	**1.04**	**82**	P	**Pb**	**02 01 25.3**	**-0.9**
	50nm,0.1s						
MNBS				S	**Sg**	**02 01 39.2**	**-0.5**
	60nm,0.3s						
DGS	**Degeres**	**1.12**	**232**	*e*P	**Pb**	**02 01 26.3**	**-1.2**
	baz=31						
DGS				*e*S	**Sb**	**02 01 41.2**	**-0.8**
	baz=31						
DGS	**Degeres**	**1.12**	**232**	*e*P	**Pb**	**02 01 26.2**	**-1.2**
	32nm,0.2s						
DGS				*e*S	**Sb**	**02 01 41.2**	**-0.8**
	66nm,0.3s						
DGS	**Degeres**	**1.12**	**232**	P	**Pb**	**02 01 26.2**	**-1.2**
	32nm,0.2s						
DGS				S	**Sb**	**02 01 41.2**	**-0.8**
	66nm,0.3s						
KST	**Kastek**	**1.16**	**220**	*e*P	**Pn**	**02 01 27.1**	**-1.2**
	baz=19						
KST				*e*S	**Sb**	**02 01 42.4**	**-0.8**
	baz=19						
KST	**Kastek**	**1.16**	**220**	*e*P	**Pn**	**02 01 27.1**	**-1.2**
	23nm,0.1s						
KST				*e*S	**Sb**	**02 01 42.4**	**-0.8**
	55nm,0.2s						
KST	**Kastek**	**1.16**	**220**	P	**Pn**	**02 01 27.1**	**-1.2**
	23nm,0.1s						
KST				S	**Sb**	**02 01 42.4**	**-0.8**
	55nm,0.2s						
ANVS	**Anan'yevo**	**1.26**	**156**	⇑*i*P		**Pn**	**02 01 28.9**	**-0.8**
	baz=57						
ANVS				⇑*i*S		**Sn**	**02 01 46.0**	**-0.6**
	baz=57						
ZHN	**Zhinishke**	**1.31**	**125**	*e*P		**Pn**	**02 01 29.7**	**-0.6**
	baz=26						
ZHN				*e*S		**Sb**	**02 01 46.8**	**-0.7**
	baz=26						
ZHN	**Zhinishke**	**1.31**	**125**	*e*P		**Pn**	**02 01 29.7**	**-0.6**
	2.5nm,0.1s						
ZHN				*e*S		**Sb**	**02 01 46.8**	**-0.7**
	38nm,0.1s						
ZHN	**Zhinishke**	**1.31**	**125**	P		**Pn**	**02 01 29.7**	**-0.6**
	2.5nm,0.1s						
ZHN				S		**Sb**	**02 01 46.8**	**-0.7**
	38nm,0.1s						
KPKS	**Kokpek**	**1.32**	**110**	*e*P		**Pn**	**02 01 30.0**	**-0.5**
	baz=11						
KPKS				*e*S		**Sn**	**02 01 47.4**	**-0.7**
	baz=11						
KPKS	**Kokpek**	**1.32**	**110**	*e*P		**Pn**	**02 01 30.0**	**-0.5**
	30nm,0.1s						
KPKS				*e*S		**Sn**	**02 01 47.5**	**-0.7**
	84nm,0.2s						
SATY	**Saty**	**1.36**	**130**	*e*P		**Pb**	**02 01 30.8**	**-0.8**
	baz=30						
SATY				*e*S		**Sb**	**02 01 48.9**	**-0.1**
	baz=30						
SATY	**Saty**	**1.36**	**130**	*e*P		**Pb**	**02 01 30.8**	**-0.8**
	18nm,0.1s						
SATY				*e*S		**Sb**	**02 01 48.9**	**-0.1**
	214nm,0.1s						
SATY	**Saty**	**1.36**	**130**	P		**Pb**	**02 01 30.8**	**-0.8**
	18nm,0.1s						
SATY				S		**Sb**	**02 01 48.9**	**-0.1**
	214nm,0.1s						
TKM2	**Tokmak 2**	**1.43**	**225**	⇑*i*P		**Pn**	**02 01 32.0**	**-0.1**
	baz=25						
TKM2				⇑*i*S		**Sb**	**02 01 51.2**	**+0.1**
	baz=25						
TKM2	**Tokmak 2**	**1.43**	**225**	⇓P		**Pn**	**02 01 31.9**	**-0.1**
	5.6nm,0.1s,SNR=54						
TKM2				⇑S		**Sb**	**02 01 51.0**	**-0.1**
	147nm,0.1s						
TDK	**Taldyqorghan**	**1.48**	**43**	*e*P		**Pb**	**02 01 32.4**	**-1.2**
	25nm,0.1s						
TDK				*e*S		**Sb**	**02 01 51.4**	**-0.9**
	96nm,0.3s						
TDK	**Taldyqorghan**	**1.48**	**43**	P		**Pb**	**02 01 32.4**	**-1.2**
	25nm,0.1s						
TDK				S		**Sb**	**02 01 51.4**	**-0.9**
	96nm,0.3s						
BOOM	**Boomskoye usch**	**1.63**	**208**	⇓*i*P		**Pb**	**02 01 35.6**	**-0.7**
	baz=8.0						
BOOM				⇓*i*S		**Sb**	**02 01 57.3**	**+0.4**
	baz=8.0						
UZB	**Uzynbulak**	**1.68**	**117**	*e*P		**Pb**	**02 01 36.0**	**-1.1**
	baz=18						
UZB				*e*S		**Sb**	**02 01 58.0**	**-0.3**
	baz=18						
UZB	**Uzynbulak**	**1.68**	**117**	*e*P		**Pb**	**02 01 36.0**	**-1.1**
	10.0nm,0.3s						
UZB				*e*S		**Sb**	**02 01 58.0**	**-0.3**
	50nm,0.1s						
UZB	**Uzynbulak**	**1.68**	**117**	P		**Pb**	**02 01 36.0**	**-1.1**
	10.0nm,0.3s						
UZB				S		**Sb**	**02 01 58.0**	**-0.3**
	50nm,0.1s						
ULHL	**Ulahol**	**1.77**	**198**	⇓*i*P		**Pb**	**02 01 38.2**	**-0.5**
	baz=98						
ULHL				⇓*i*S		**Sb**	**02 02 01.8**	**+0.8**
	baz=98						
ULHL	**Ulahol**	**1.77**	**198**	⇓P		**Pb**	**02 01 38.2**	**-0.5**
	5.0nm,0.1s,SNR=48						
ULHL				⇓S		**Sb**	**02 02 01.7**	**+0.7**
	10nm,0.1s						
PRZ	**Przheval'sk**	**1.79**	**144**	⇓*i*P		**Pb**	**02 01 38.4**	**-0.5**
	baz=44						
PRZ				⇓*i*S		**Sg**	**02 02 02.7**	**-1.0**
	baz=44						
KDJ	**Kajisay**	**1.81**	**175**	⇑*i*P		**Pb**	**02 01 39.1**	**-0.3**
	baz=75						
KDJ				⇑*i*S		**Sg**	**02 02 03.7**	**-0.8**
	baz=75						
CHMS	**Chumysh**	**1.87**	**241**	⇑*i*P		**Pb**	**02 01 39.3**	**-1.0**
	baz=40						
CHMS				⇑*i*S		**Sb**	**02 02 04.2**	**+0.5**
	baz=40						
CHMS	**Chumysh**	**1.87**	**241**	⇓P		**Pb**	**02 01 38.8**	**-1.5**
	14nm,0.2s,SNR=7.2						
CHMS				⇑S		**Sb**	**02 02 04.0**	**+0.3**
	89nm,0.2s						
USP	**Ospenovka**	**1.92**	**250**	⇓*i*P		**Pb**	**02 01 40.0**	**-1.1**
	baz=50						
USP				⇓*i*S		**Sb**	**02 02 05.4**	**+0.3**
	baz=50						
USP	**Ospenovka**	**1.92**	**250**	⇑P		**Pn**	**02 01 39.3**	**+0.6**
	34nm,0.3s,SNR=37						
USP				⇑S		**Sb**	**02 02 05.0**	**-0.1**
	50nm,0.2s						
KBK	**Karagaybulak**	**1.96**	**230**	⇑*i*P		**Pb**	**02 01 40.9**	**-1.0**
	baz=30						
KBK				⇑*i*S		**Sb**	**02 02 06.8**	**+0.5**
	baz=30						
KBK	**Karagaybulak**	**1.96**	**230**	⇑P		**Pb**	**02 01 40.1**	**-1.7**
	6.4nm,0.2s,SNR=18						
KBK				⇓S		**Sb**	**02 02 07.4**	**+1.2**
	144nm,0.3s						
SHLS	**Shalkode**	**1.97**	**112**	*e*P		**Pg**	**02 01 46.3**	**+2.3**
	4.0nm,0.1s						
SHLS				*e*S		**Sg**	**02 02 15.2**	**+5.7**
	17nm,0.2s						
SHLS	**Shalkode**	**1.97**	**112**	Pg		**Pg**	**02 01 46.3**	**+2.3**
	4.0nm,0.1s						
SHLS				Lg		Lg	02 02 15.2	
	17nm,0.2s						
DJR	**Jarkent**	**2.06**	**78**	*e*P		**Pb**	**02 01 42.5**	**-1.1**
	12nm,0.2s						
DJR				*e*S		**Sb**	**02 02 09.4**	**+0.2**
	29nm,0.4s						
DJR	**Jarkent**	**2.06**	**78**	Pg		**Pb**	**02 01 42.5**	**-1.1**
	12nm,0.2s						
DJR				Lg		Lg	02 02 09.4	
	29nm,0.4s						
AAK	**Ala-Archa**	**2.23**	**235**	⇑*i*P		**Pb**	**02 01 44.4**	**-2.1**
	baz=35						
AAK				⇑*i*S		**Sb**	**02 02 13.4**	**-0.7**
	baz=35						
AAK	**Ala-Archa**	**2.23**	**235**	⇑P		**Pb**	**02 01 45.3**	**-1.2**
	5.2nm,0.3s,SNR=7.9						
AAK				⇑S		**Sb**	**02 02 15.3**	**+1.2**
	19nm,0.3s						
BTLS	**Baital**	**2.37**	**299**	*e*P		**Pb**	**02 01 48.4**	**-0.4**
	2.3nm,0.1s						
BTLS				*e*S		**Sb**	**02 02 18.8**	**+0.8**
	6.9nm,0.1s						
BTLS	**Baital**	**2.37**	**299**	Pg		**Pb**	**02 01 48.3**	**-0.5**
	2.3nm,0.1s						
BTLS				Lg		Lg	02 02 18.5	
	6.9nm,0.1s						
UCH	**Uchtor**	**2.48**	**227**	⇑*i*P		**Pb**	**02 01 48.8**	**-2.2**
	baz=27						
UCH	

MK31				⇓Lg		Lg	02 03 33.4	
	0.5nm,0.4s,baz=225,slow=25,SNR=4.0							
KK31	**Karatay Array**	**4.78**	**262**	⇑Pg		**Pb**	**02 02 31.6**	**+1.8**
	0.6nm,0.3s							
KK31				⇑Lg		Lg	02 03 33.9	
	3.9nm,0.6s							
KURBB	**Kurchatov Arra**	**6.77**	**8**	⇓Lg		Lg	02 04 38.4	
	5.4nm,0.8s							

IDC ***26*** *02:08:28.2±3.3,4°.59S×129°.49E,h94km±35km,mb3.7/4, mb1 3.9/8,mb1mx3.4/53,mbtmp4.1/8,Error ellipse: s-maj=46.9km s-min=17.8km az=77.0*
DJA ***26*** *02:08:32.5±0.8,4°.5±7°×13°.0E±°,h104km±7km,M4.2/6, mb4.5/1,MLv4.1/6*

ISC 26 02:08:29.2±0.8,**4°.63S**±0°.07×**129°.95E**±0°.08,**h127**km±8km, **n15**,σ2§**94**/**18**,**mb3.8**/4,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.12**	**336**	P	**Pn**	**02 08 48.2**	**+1.6**
BNDI				S	**Sn**	**02 09 00.6**	**+1.0**
FAKI	**Fak Fak**	**2.85**	**53**	P	**Pn**	**02 09 16.3**	**+2.5**
NLAI	**Namlea**	**3.17**	**296**	P	**Pn**	**02 09 16.7**	**-1.2**
SIJI	**Sorong**	**3.96**	**19**	P	**Pn**	**02 09 28.8**	**+0.3**
	10nm,0.3s,baz=257,slow=23,SNR=49						
SIJI				S	**Sn**	**02 10 11.1**	**-3.3**
	29nm,0.3s,baz=212,slow=22,SNR=7.0						
SWI	**Sorong**	**3.96**	**19**	P	**Pn**	**02 09 29.0**	**+0.5**
SANI	**Sanana**	**4.72**	**303**	P	**Pn**	**02 09 36.0**	**-2.5**
SPSI	**Sidrap Palu**	**10.18**	**273**	P	**Pn**	**02 10 53.5**	**+1.5**
FITZ	**Fitzroy Crossi**	**14.03**	**197**	P	**Pn**	**02 11 42.0**	**-0.5**
	0.4nm,0.3s,baz=36,slow=8.8,SNR=9.0						
WRA	**Warramunga Arr**	**15.81**	**165**	P	**Pn**	**02 12 05.8**	**+0.9**
	1.0nm,0.3s,baz=343,slow=13,SNR=24						
WRA				S	**Sn**	**02 14 53.2**	**-7.2**
	1.1nm,0.3s,baz=342,slow=21,SNR=5.2						
ASAR	**Alice Springs**	**19.30**	**169**	P	**Pn**	**02 12 48.2**	**+1.4**
	3.0nm,0.3s,baz=347,slow=11,SNR=168						
CTA	**Charters Tower**	**22.09**	**135**	P	**P**	**02 13 19.5**	**+5.2**
	2.7nm,0.5s,baz=319,slow=13,SNR=4.7						
HNR	**Honiara**	**30.14**	**101**	P	**P**	**02 14 25.0**	**-2.4**
MKAR	**Makanchi Array**	**66.24**	**326**	P	**P**	**02 19 04.7**	**+1.1**
	1.8nm,0.6s,baz=125,slow=7.9,SNR=23						
ZALV	**Zalesovo Beam**	**69.45**	**333**	P	**P**	**02 19 24.3**	**+0.8**
	0.8nm,0.7s,baz=131,slow=5.9,SNR=3.2						
BVAR	**Borovoye Array**	**76.05**	**328**	P	**P**	**02 20 03.5**	**+0.9**
	0.7nm,0.6s,baz=157,slow=8.0,SNR=3.8						

IDC ***26*** *02:09:58.8±1.0,3°.06S×129°.50E,h0km,mb3.9/4, mb1 4.3/7,mb1mx3.7/55,mbtmp4.1/7,ML4.2/3,MS3.4/6, Ms1 3.4/6,ms1mx2.9/49,Error ellipse: s-maj=39.2km s-min=20.3km az=78.0*
DJA ***26*** *02:10:05.3±1.3,3°.5±5°×13°.0E±°,h25km±14km,M4.3/9, mb4.8/3,mB4.9/2,MLv4.1/9,Mw(mB)4.2/2*

ISC 26 02:10:00.5±0.7,**2°.88S**±0°.06×**129°.79E**±0°.07,**h10**km,**n21**, σ1§**42**/**20**,**mb3.9**/4,**MS3.6**/3,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.98**	**242**	P	**Pn**	**02 10 21.3**	**+1.0**
MSAI				S	**Sn**	**02 10 34.1**	**-0.1**
BNDI	**Bandanaira**	**1.63**	**176**	P	**Pg**	**02 10 33.7**	**+1.9**
FAKI	**Fak Fak**	**2.45**	**91**	P	**Pb**	**02 10 45.9**	**+1.2**
SIJI	**Sorong**	**2.48**	**36**	Pn	**Pb**	**02 10 45.8**	**+0.5**
	37nm,0.3s,baz=233,slow=23,SNR=12						
SIJI				Sn	**Sb**	**02 11 15.5**	**-0.4**
	74nm,0.3s,baz=192,slow=22,SNR=13						
SWI	**Sorong**	**2.49**	**36**	P	**Pb**	**02 10 45.7**	**+0.4**
NLAI	**Namlea**	**2.71**	**262**	P	**Pn**	**02 10 45.5**	**+1.4**
SANI	**Sanana**	**3.89**	**282**	P	**Pn**	**02 10 59.7**	**-0.7**
GTOI	**Gorontalo**	**7.63**	**297**	P	**Pn**	**02 11 54.3**	**+2.5**
	0.1nm507nm27nm,0.7s						
APSI	**Ampana**	**8.37**	**283**	P	**Pn**	**02 12 02.8**	**+0.8**
	912nm80nm,0.6s						
MRSI	**Marisa**	**8.53**	**293**	P	**Pn**	**02 12 04.0**	**-0.1**
BATI	**Baumata**	**9.48**	**220**	LR	LR	02 15 50.2	
	comp=Z,144nm,19.5s,baz=234,slow=38						
FITZ	**Fitzroy Crossi**	**15.66**	**195**	Pn	**Pn**	**02 13 39.3**	**-2.0**
	0.5nm,0.3s,baz=17,slow=11,SNR=6.1						
FITZ				LR	LR	02 20 28.0	
	comp=Z,120nm,18.5s,baz=201,slow=41						
WRA	**Warramunga Arr**	**17.53**	**166**	P	**Pn**	**02 14 02.0**	**-3.2**
	1.2nm,0.3s,baz=346,slow=12,SNR=9.0						
WRA				LR	LR	02 21 05.7	
	comp=Z,76nm,18.7s,baz=200,slow=38						
ASAR	**Alice Springs**	**21.04**	**169**	P	**P**	**02 14 43.5**	**-1.2**
	15nm,0.5s,baz=348,slow=11,SNR=36						
ASAR				PcP	**PcP**	**02 18 50.5**	**-1.2**
	0.5nm,0.5s,baz=359,slow=1.1,SNR=4.1						
CTA	**Charters Tower**	**23.46**	**138**	P	**P**	**02 15 10.8**	**+0.5**
	1.8nm,0.4s,baz=314,slow=14,SNR=3.7						
SONM	**Songino Array**	**54.50**	**341**	P	**P**	**02 19 29.1**	**+0.5**
	0.4nm,0.4s,baz=153,slow=6.9,SNR=2.3						
MKAR	**Makanchi Array**	**64.71**	**326**	P	**P**	**02 20 38.7**	**-0.2**
	0.4nm,0.7s,baz=116,slow=8.0,SNR=3.9						
AKTO	**Aktyubinsk**	**80.72**	**322**	LR	LR	03 01 09.6	
	comp=Z,14nm,18.9s,baz=242,slow=38						
KIRV	**Kirov**	**87.43**	**329**	LR	LR	03 04 05.5	
	comp=Z,40nm,19.5s,baz=252,slow=37						
BELG	**Belogornoye**	**87.48**	**323**	LR	LR	03 06 10.6	
	comp=Z,21nm,19.2s,baz=175,slow=39						
CPUP	**Villa Florida**	**150.15**	**167**	PKPbc	**PKPbc**	**02 29 51.9**	**-0.6**
	1.1nm,0.5s,baz=170,slow=3.5,SNR=4.3						

IASPEI ***26*** *02:14:31.8±0.9,38°.91N±0°.03×35°.55E±0°.03,h6km±8km, mb3.3/6,Error ellipse: s-maj=4.3km s-min=3.7km az=21.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
DDA ***26*** *02:14:31.9,38°.89N×35°.60E,h9km,MW3.9*
ISK ***26*** *02:14:31.4,38°.89N×35°.60E,h5km,ML3.8/21*
IDC ***26*** *02:14:33.1±1.0,38°.99N×35°.57E,h0km,mb3.5/6, mb1 3.5/12,mb1mx3.4/57,mbtmp3.4/12,ML3.4/5,MS3.5/2, Ms1 3.5/2,ms1mx2.5/41,Error ellipse: s-maj=15.8km s-min=9.3km az=6.0*

ISC 26 02:14:31.7±0.9,**38°.90N**±0°.02×**35°.59E**±0°.02,**h5**km±6km, **n90**,σ1§**98**/105,**mb3.3**/6,**4C-5D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUNE	**Kayseri**	**0.03**	**79**	*i* P	**Pg**	**02 14 34.1**	**+1.2**
GUNE				*i* S	**Sg**	**02 14 35.1**	**+1.4**
BNN	**Bunyan**	**0.20**	**103**	PG	**Pg**	**02 14 35.7**	**-0.1**
BNN				SG	**Sg**	**02 14 39.6**	**+1.1**
SIRC	**Yozgat**	**0.56**	**322**	*i* P	**Pb**	**02 14 43.4**	**-0.7**
SIRC				*i* S	**Sg**	**02 14 48.0**	**-1.8**
AVNS	**Nevsehir-Avano**	**0.59**	**261**	*i* P	**Pb**	**02 14 43.7**	**-0.9**
AVNS				*i* S	**Sg**	**02 14 48.9**	**-1.8**
KOZK	**Kozakli-Nevseh**	**0.64**	**299**	PG	**Pb**	**02 14 45.0**	**-0.5**
CUSAR	**Sarkisla-SIVAS**	**0.73**	**44**	*i* P	**Pg**	**02 14 45.9**	**+0.2**
CUSAR				*i* S	**Sg**	**02 14 51.0**	**-4.1**
HACI	**Hacifakili, Ak**	**0.81**	**8**	*i* P	**Pb**	**02 14 47.7**	**-0.7**
HACI				*i* S	**Sg**	**02 14 53.4**	**-4.5**
YAHY	**KAYSERI_Yahyal**	**0.82**	**193**	*i* P	**Pb**	**02 14 47.8**	**-0.7**
YAHY				*i* S	**Sg**	**02 14 54.7**	**-3.4**
CUALT	**Altinyayla-SIV**	**0.98**	**67**	*i* P	**Pb**	**02 14 50.7**	**-0.6**
CUALT				*i* S	**Sg**	**02 15 00.9**	**-2.4**
SAIM	**ADANA**	**1.00**	**157**	*i* P	**Pb**	**02 14 50.9**	**-0.7**
SAIM				*i* S	**Sg**	**02 14 59.1**	**-4.6**
NIG	**Nigde**	**1.10**	**225**	PN	**Pn**	**02 14 53.5**	**-0.5**
NIG				SN	**Sn**	**02 15 09.7**	**0.0**
NIDE	**Nigde/Merkez-G**	**1.10**	**216**	*i* P	**Pn**	**02 14 52.8**	**-1.1**
NIDE				*i* S	**Sg**	**02 15 02.7**	**-4.4**
CKRK	**Yozgat, Cekere**	**1.18**	**357**	*i* P	**Pg**	**02 14 54.4**	**+0.1**
CKRK				*i* S	**Sb**	**02 15 05.1**	**-5.1**
CDAG	**Cicekdag**	**1.19**	**308**	*i* P	**Pg**	**02 14 54.7**	**+0.1**
CDAG				*i* S	**Sb**	**02 15 05.8**	**-4.9**
CMRD	**Camardi-Nigde**	**1.32**	**201**	PN	**Pg**	**02 14 57.3**	**+0.3**
CMRD				SN	**Sg**	**02 15 17.2**	**+3.0**
CUGUR	**Gurin_SVAS**	**1.32**	**97**	*i* P	**Pg**	**02 14 58.7**	**+1.5**
CUGUR				*i* S	**Sb**	**02 15 11.5**	**-3.0**
KIRS	**Kırehir-Merke**	**1.32**	**281**	*i* P	**Pb**	**02 14 56.6**	**-0.6**
KIRS				*i* S	**Sb**	**02 15 10.7**	**-3.8**
ELBS	**KAHRAMANMARAS**	**1.34**	**115**	*i* P	**Pg**	**02 14 56.8**	**-0.6**
ELBS				*i* S	**Sb**	**02 15 10.3**	**-4.5**
YAYX	**Yaylak**	**1.39**	**272**	PN	**Pg**	**02 14 58.7**	**+0.4**
KOZT	**Kozan**	**1.43**	**172**	PN	**Pg**	**02 14 59.2**	**+0.1**
KOZT				SN	**Sg**	**02 15 19.5**	**+1.9**
COAL	**Corum-Alaca**	**1.43**	**341**	*i* P	**Pg**	**02 14 59.6**	**+0.3**
ANDN	**Andirin**	**1.44**	**155**	*i* P	**Pg**	**02 15 00.2**	**+0.9**
AKSY	**AKSARAY - Alti**	**1.45**	**261**	*i* P	**Pg**	**02 14 59.5**	**0.0**
CORM	**Corum**	**1.48**	**330**	PN	**Pg**	**02 14 59.7**	**-0.4**
CORM				SN	**Sg**	**02 15 21.4**	**+2.1**
SVSK	**Karacayir**	**1.49**	**47**	PN	**Pg**	**02 15 00.4**	**+0.1**
SVSK				SN	**Sg**	**02 15 21.6**	**+1.9**
DARE	**Darende-Malaty**	**1.52**	**102**	PN	**Pg**	**02 15 00.7**	**-0.1**
CUKAN	**kangal_SIVAS**	**1.52**	**73**	*i* P	**Pg**	**02 15 00.9**	**0.0**
KAMT	**Kaman**	**1.53**	**288**	PN	**Pg**	**02 15 01.7**	**+0.6**
KAMT				SN	**Sg**	**02 15 22.5**	**+1.5**
TOKA	**Tokat**	**1.58**	**25**	*i* P	**Pb**	**02 15 01.1**	**-0.3**
SERE	**Sereflikochisa**	**1.58**	**272**	PN	**Pg**	**02 15 01.8**	**-0.2**
SERE				SN	**Sg**	**02 15 24.5**	**+1.9**
TOKT	**Tokat**	**1.60**	**27**	PN	**Pg**	**02 15 02.2**	**-0.2**
TOKT				SN	**Sg**	**02 15 25.2**	**+2.0**
KARA	**Karaisali**	**1.69**	**195**	PN	**Pg**	**02 15 03.4**	**-0.7**
KARA				SN	**Sg**	**02 15 26.5**	**+0.6**
DELI	**KIRIKKALE**	**1.70**	**311**	*i* P	**Pg**	**02 15 03.9**	**-0.4**
BRTR	**Keskin Array B**	**1.73**	**299**	Pg	**Pg**	**02 15 04.1**	**-0.7**
	51nm,0.3s,baz=123,slow=16,SNR=691						
BRTR				Lg	Lg	02 15 28.8	
	105nm,0.3s,baz=151,slow=32,SNR=8.0						
KMRS	**Kahramanmaras**	**1.73**	**143**	PN	**Pb**	**02 15 03.7**	**-0.3**
KMRS				SN	**Sg**	**02 15 27.4**	**+0.1**
KAHM	**Kahramanmaras,**	**1.76**	**141**	*i* P	**Pg**	**02 15 05.5**	**-0.1**
CTAK	**Corum_Osmancik**	**1.85**	**341**	*i* P	**Pg**	**02 15 06.8**	**-0.4**
HCB	**Kahramanmara**	**1.87**	**146**	*i* P	**Pg**	**02 15 08.5**	**+1.0**
KAMA	**Osmaniye**	**1.91**	**153**	*i* P	**Pg**	**02 15 08.6**	**+0.3**
CUZAR	**Zara_SIVAS**	**1.96**	**59**	*i* P	**Pg**	**02 15 09.3**	**0.0**
ERBA	**Erbaa**	**2.00**	**26**	*i* P	**Pb**	**02 15 08.6**	**0.0**
KUPE	**Kupecik-Ladik(**	**2.01**	**10**	PN	**Pb**	**02 15 08.0**	**-0.8**
RSDY	**Resadiye-TOKAT**	**2.01**	**41**	PN	**Pb**	**02 15 08.2**	**-0.6**
BBAL	**Bala**	**2.02**	**289**	*i* P	**Pb**	**02 15 09.2**	**+0.1**
KULU	**Kulu**	**2.02**	**275**	PN	**Pb**	**02 15 08.2**	**-0.8**
DED	**Mersin**	**2.03**	**198**	*i* P	**Pg**	**02 15 09.7**	**-1.0**
YARM	**Yarimca-Ladik(**	**2.03**	**5**	PN	**Pb**	**02 15 08.6**	**-0.6**
AFSR	**Afar-Bala (An**	**2.03**	**286**	PN	**Pb**	**02 15 07.8**	**-1.4**
KKUL	**Konya-Kulu**	**2.10**	**278**	*i* P	**Pb**	**02 15 09.9**	**-0.5**
CHBY	**Cihanbeyli**	**2.13**	**262**	PN	**Pb**	**02 15 09.8**	**-1.2**
GAZ	**Gaziantep**	**2.15**	**143**	PN	**Pb**	**02 15 09.6**	**-1.5**
GZT	**Gaziantep**	**2.19**	**134**	*i* P	**Pb**	**02 15 10.2**	**-1.7**
MERS	**Mersin**	**2.19**	**203**	PN	**Pb**	**02 15 10.3**	**-1.7**
KVT	**Kavak**	**2.21**	**9**	PN	**Pb**	**02 15 10.6**	**-1.6**
MALT	**Malatya**	**2.30**	**104**	PN	**Pb**	**02 15 12.1**	**-1.6**
ILIC	**Ilic-Erzincan**	**2.38**	**76**	PN	**Pb**	**02 15 13.1**	**-2.0**
LOD	**Lodumlu**	**2.40**	**295**	PN	**Pb**	**02 15 13.9**	**-1.6**
SUSE	**Susehri**	**2.41**	**56**	*i* P	**Pb**	**02 15 13.2**	**-2.5**
KRMN	**Karaman**	**2.52**	**228**	PN	**Pb**	**02 15 15.1**	**-2.4**
TAHT	**Tahtakopru-Hat**	**2.56**	**169**	PN	**Pb**	**02 15 15.7**	**-2.5**
DIKM	**Dikmen**	**2.76**	**355**	⇓P	**Pb**	**02 15 19.2**	**-2.3**
ALUC	**Giresun/Alucra**	**2.85**	**59**	*i* P	**Pb**	**02 15 22.6**	**-0.5**
CMDR	**Camlidere-ANKA**	**2.88**	**305**	*i* P	**Pb**	**02 15 20.9**	**-2.8**
KELT	**Kelkit**	**3.10**	**65**	*i* P	**Pb**	**02 15 24.6**	**-2.8**
KIBS	**BOLU**	**3.26**	**299**	*i* P	**Pn**	**02 15 26.0**	**+2.3**
BZK	**Bozkurt**	**3.29**	**339**	⇑P	**Pb**	**02 15 27.7**	**-2.9**
BCAM	**Yenicaga**	**3.32**	**306**	*i* P	**Pn**	**02 15 27.1**	**+2.6**
DEVR	**Zonguldak/Devr**	**3.57**	**310**	*i* P	**Pb**	**02 15 31.0**	**-4.3**
YIGI	**Dzce**	**3.79**	**304**	*i* P	**Pn**	**02 15 33.4**	**+2.5**
KTUT	**Trabzon**	**3.83**	**56**	⇑P	**Pg**	**02 15 43.4**	**-1.6**
MMAI	**Mount Meron Ar**	**5.87**	**182**	Pn	**Pn**	**02 16 02.0**	**+2.6**
	1.7nm,0.3s,baz=8.0,slow=13,SNR=14						
CHVG	**Ch'k'valeri**	**6.23**	**50**	⇓P	Pn	02 16 08.8	+4.5
KBZ	**Khabaz**	**7.32**	**46**	Pn	**Pn**	**02 16 22.6**	**+3.4**
	0.1nm,0.3s,baz=222,slow=13,SNR=5.4						
KVAR	**Kislovodsk Arr**	**7.35**	**44**	Pn	Pn	02 16 24.4	+4.6
	baz=250,slow=18,SNR=4.1						
TLBR	**Topalu**	**7.98**	**317**	⇑P	Pn	02 16 36.2	+8.0
VRI	**Vrincioaia**	**9.56**	**320**	⇓P	Pn	02 16 57.1	+7.0
PLOR	**Plostina**	**9.59**	**319**	⇑P	Pn	02 17 00.6	+10
MLR	**Muntele Rosu**	**9.72**	**316**	Pn	**Pn**	**02 16 55.2**	**+2.9**
	baz=156,slow=19						
MLR	**Muntele Rosu**	**9.72**	**316**	⇓P	Pn	02 17 00.0	+7.7
BURAR	**Bucovina Array**	**11.53**	**322**	⇓P	Pn	02 17 23.4	+6.4
AKASG	**Malin Array Be**	**12.63**	**341**	Pn	**Pn**	**02 17 32.4**	**+0.4**
	0.5nm,0.3s,baz=166,slow=12,SNR=1.7						
AKTO	**Aktyubinsk**	**19.60**	**47**	P	**Pn**	**02 19 02.9**	**+1.0**
	0.1nm,0.3s,baz=236,slow=9.1,SNR=6.0						
DAVOX	**Davos/Dischmat**	**20.37**	**301**	LR	LR	02 29 17.4	
	comp=Z,54nm,19.0s,baz=109,slow=44						
ARU	**Arti**	**23.20**	**33**	P	**P**	**02 19 39.7**	**+0.4**
	0.4nm,0.3s,baz=80,slow=7.8,SNR=3.1						
FINES	**FINESS Array B**	**23.33**	**348**	P	**P**	**02 19 41.4**	**+0.9**
	1.3nm,0.7s,baz=153,slow=17,SNR=3.9						
MKAR	**Makanchi Array**	**34.71**	**61**	P	**P**	**02 21 23.7**	**+1.2**
	0.3nm,0.7s,baz=262,slow=7.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**39.44**	**239**	P	**P**	**02 22 04.9**	**+1.9**
	0.3nm,0.6s,baz=39,slow=9.3,SNR=1.7						
BOSA	**Boshof**	**67.85**	**190**	P	P	02 25 35.0	+4.0
	1.2nm,0.8s,baz=360,slow=4.7,SNR=3.7						
JNU	**Nakatsue**	**73.75**	**61**	LR	LR	03 03 11.6	
	comp=Z,64nm,21.7s,baz=32,slow=40						
YKA	**Yellowknife Ar**	**76.14**	**346**	P	**P**	**02 26 21.9**	**+1.7**
	0.1nm,0.4s,baz=30,slow=6.6,SNR=5.4						

DJA ***26*** *02:22:56.3±0.7,2°.N±6°×12°.5E±°,h271km±7km,M3.8/7, MLv3.8/7*
IDC ***26*** *02:23:03.2±3.8,1°.91N×124°.07E,h338km±38km,mb3.1/4, mb1 3.2/5,mb1mx2.8/46,mbtmp3.8/5,Error ellipse: s-maj=97.2km s-min=13.9km az=64.0*

ISC 26 02:22:59.6±1.3,**2°.0N**±0°.2×**124°.2E**±0°.2,**h300**km,**n7**, σ1§**18**/**8**,**mb3.4**/4,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**2.70**	**236**	P	**Pn**	**02 23 52.1**	**-0.3**
SANI	**Sanana**	**4.42**	**156**	P	Pn	02 24 03.6	-6.9
FITZ	**Fitzroy Crossi**	**20.03**	**176**	P	**P**	**02 27 11.9**	**+1.0**
	0.2nm,0.3s,baz=0.0,slow=12,SNR=1.8						
WRA	**Warramunga Arr**	**23.98**	**156**	P	**P**	**02 27 47.4**	**-0.3**
	2.0nm,0.5s,baz=333,slow=11,SNR=25						
WRA				S	**S**	**02 31 40.0**	**-2.2**
	0.3nm,0.6s,baz=330,slow=19,SNR=2.4						
ASAR	**Alice Springs**	**27.22**	**160**	P	**P**	**02 28 16.7**	**+0.1**
	0.3nm,0.5s,baz=339,slow=7.6,SNR=7.7						
STKA	**Stephens Creek**	**37.53**	**155**	P	**P**	**02 29 46.5**	**+0.9**
	3.4nm,0.3s,baz=324,slow=14,SNR=3.1						
MKAR	**Makanchi Array**	**57.56**	**327**	P	**P**	**02 32 18.2**	**-0.2**
	0.3nm,0.5s,baz=124,slow=7.9,SNR=7.4						
MKAR				PcP	**PcP**	**02 33 08.1**	**0.0**
	0.4nm,0.6s,baz=135,slow=5.1,SNR=4.6						

DDA ***26*** *02:23:06.9,38°.88N×35°.60E,h9km,MW3.8*
ISK ***26*** *02:23:06.4,38°.89N×35°.61E,h5km,ML3.5/13*
IDC ***26*** *02:23:07.5±3.0,38°.82N×35°.46E,h0km,mb3.1/1, mb1 3.3/3,mb1mx3.0/44,mbtmp3.2/3,ML2.8/2,Error ellipse: s-maj=44.9km s-min=11.5km az=10.0*

ISC 26 02:23:06.0±0.8,**38°.91N**±0°.02×**35°.61E**±0°.02,**h15**km±5km, **n44**,σ1§**83**/64,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUNE	**Kayseri**	**0.01**	**135**	*i* P	**Pg**	**02 23 09.2**	**+0.3**
GUNE				*i* S	**Sg**	**02 23 10.0**	**-0.9**
GUNE				IAML		02 23 11.0	
	comp=E,153μm,0.5s						
GUNE				IAML		02 23 12.0	
	comp=N,82μm,0.2s						
BNN	**Bunyan**	**0.19**	**108**	PG	**Pg**	**02 23 10.5**	**-0.2**
BNN				SG	**Sg**	**02 23 14.5**	**-0.3**
SIRC	**Yozgat**	**0.56**	**320**	*i* P	**Pb**	**02 23 18.4**	**+0.8**
SIRC				*i* S	**Sg**	**02 23 23.4**	**-1.2**
SIRC				IAML		02 23 28.0	
	comp=N,2μm,0.3s						
SIRC				IAML		02 23 29.0	
	comp=E,1μm,0.4s						
KOZK	**Kozakli-Nevseh**	**0.65**	**297**	PG	**Pb**	**02 23 20.1**	**+0.9**
CUSAR	**Sarkisla-SIVAS**	**0.70**	**44**	*i* P	**Pn**	**02 23 21.0**	**-0.6**
CUSAR				*i* S	**Sg**	**02 23 26.5**	**-2.7**
CUSAR				IAML		02 23 42.0	
	comp=N,1μm,0.5s						
SAIM	**ADANA**	**1.00**	**158**	*i* P	**Pn**	**02 23 26.0**	**+0.4**
SAIM				*i* S	**Sb**	**02 23 34.1**	**-4.1**
SAIM				IAML		02 23 42.0	
	comp=N,2μm,0.3s						
SAIM				IAML		02 23 44.0	
	comp=E,1μm,0.2s						
NIDE	**Nigde/Merkez-G**	**1.12**	**216**	*i* P	**Pg**	**02 23 28.0**	**+0.2**
NIDE				*i* S	**Sb**	**02 23 37.3**	**-4.3**
NIDE				IAML		02 23 45.0	
	comp=N,366nm,0.5s						
NIDE				IAML		02 23 50.0	
	comp=E,581nm,0.3s						
CKRK	**Yozgat, Cekere**	**1.16**	**356**	*i* P	**Pg**	**02 23 29.4**	**+0.9**
CKRK				*i* S	**Sb**	**02 23 40.6**	**-2.2**
CKRK				IAML		02 23 50.0	
	comp=N,2μm,0.4s						
CKRK				IAML		02 23 50.0	
	comp=E,2μm,0.3s						
CDAG	**Cicekdag**	**1.20**	**307**	*i* P	**Pg**	**02 23 29.8**	**+0.6**
CDAG				*i* S	**Sb**	**02 23 40.4**	**-3.4**
CDAG				IAML		02 23 50.0	
	comp=E,2μm,0.4s						
CDAG				IAML		02 23 51.0	
	comp=N,1μm,0.4s						
ELBS	**KAHRAMANMARAS**	**1.33**	**116**	*i* P	**Pg**	**02 23 31.8**	**+0.2**
ELBS				*i* S	**Sb**	**02 23 43.4**	**-4.0**
ELBS				IAML		02 23 56.0	
	comp=N,731nm,0.3s						
ELBS				IAML		02 23 59.0	
	comp=E,743nm,0.8s						
CMRD	**Camardi-Nigde**	**1.34**	**202**	PN	**Pg**	**02 23 32.3**	**+0.5**
CMRD				SN	**Sg**	**02 23 52.5**	**+3.2**
KIRS	**Kirehir-Merke**	**1.34**	**280**	*i* P	**Pg**	**02 23 31.6**	**-0.2**
KIRS				*i* S	**Sb**	**02 23 43.3**	**-4.6**
KIRS				IAML		02 23 51.0	
	comp=E,254nm,0.6s						
KIRS				IAML		02 23 58.0	
	comp=N,304nm,0.4s						
YAYX	**Yaylak**	**1.41**	**272**	PN	**Pg**	**02 23 33.9**	**+0.8**
KOZT	**Kozan**	**1.44**	**173**	PN	**Pg**	**02 23 34.3**	**+0.6**
KOZT				SN	**Sg**	**02 23 53.9**	**+1.5**
SVSK	**Karacayir**	**1.47**	**46**	PN	**Pg**	**02 23 35.2**	**+0.9**
SVSK				SN	**Sg**	**02 23 56.3**	**+2.9**
CORM	**Corum**	**1.48**	**329**	PN	**Pg**	**02 23 34.9**	**+0.4**
CORM				SN	**Sg**	**02 23 56.7**	**+3.0**
DARE	**Darende-Malaty**	**1.50**	**102**	PN	**Pg**	**02 23 35.3**	**+0.4**
DARE				SN	**Sg**	**02 23 57.0**	**+2.6**
KAMT	**Kaman**	**1.55**	**288**	PN	**Pg**	**02 23 35.5**	**-0.3**
KAMT				SN	**Sg**	**02 23 57.5**	**+1.6**
TOKT	**Tokat**	**1.58**	**27**	PN	**Pg**	**02 23 36.9**	**+0.5**
SERE	**Sereflikochisa**	**1.60**	**272**	PN	**Pg**	**02 23 36.9**	**+0.1**
SERE				SN	**Sg**	**02 23 59.2**	**+1.6**
KMRS	**Kahramanmaras**	**1.73**	**144**	PN	**Pg**	**02 23 38.8**	**-0.5**
KMRS				SN	**Sg**	**02 24 02.0**	**+0.2**
AMSY	**Amasya-Merkez**	**1.73**	**6**	*i* P	**Pg**	**02 23 40.2**	**+0.9**
AMSY				*i* S	**Sn**	**02 23 54.7**	**-2.8**
AMSY				IAML		02 24 05.0	
	comp=N,907nm,1.9s						
AMSY				IAML		02 24 11.0	
	comp=E,702nm,0.9s						
BRTR	**Keskin Array B**	**1.73**	**299**	Pg	**Pg**	**02 23 39.1**	**-0.3**
	comp=E,35nm,0.3s,baz=122,slow=16,SNR=412						
BRTR				Lg	Lg	02 24 03.5	
	comp=E,70nm,0.3s,baz=123,slow=27,SNR=18						
KAHM	**Kahramanmaras,**	**1.76**	**142**	*i* P	**Pg**	**02 23 40.5**	**+0.6**
KAHM				*i* S	**Sn**	**02 23 56.7**	**-1.5**
KAHM				IAML		02 24 08.0	
	comp=E,211nm,0.7s						
KAHM				I

WRA	**Warramunga Arr**	**44.12**	**274**	P	P	02 38 51.7	-0.3	
	0.8nm,0.4s,baz=114,slow=7.5,SNR=10							
FINES	**FINESS Array B**	**147.12**	**339**	PKPbc	PKPbc	02 50 25.0	-0.8	
	1.3nm,0.6s,baz=26,slow=3.8,SNR=12							

IDC 26 02:39:19.7±8.0, 30.98S×179.79W, h488km±103km, mb3.0/2, mb1 3.3/3, mb1mx2.9/29, mbtmp4.1/3, Error ellipse: s-maj=105.9km s-min=45.7km az=7.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.69**	**199**	P	P	02 41 12.9	+0.5
	6.5nm,0.3s,baz=268,slow=3.7,SNR=64						
URZ				S	S	02 42 44.5	-0.5
	5.6nm,0.3s,baz=280,slow=24,SNR=8.3						
ASAR	**Alice Springs**	**41.55**	**268**	P	P	02 46 24.1	+0.1
	0.4nm,0.4s,baz=105,slow=7.7,SNR=7.7						
WRA	**Warramunga Arr**	**42.59**	**274**	P	P	02 46 32.0	-0.2
	1.4nm,0.5s,baz=112,slow=7.6,SNR=16						
FINES	**FINESS Array B**	**145.14**	**338**	PKPbc	PKPdf	02 58 00.1	-0.2
	4.6nm,1.1s,baz=64,slow=3.2,SNR=3.6						

*NEIC **26** 02:51:43.9±1.6, 39.15N±0.04×141.00E±0.09, h136km±7km, mb4.1/9, Error ellipse: s-maj=10.7km s-min=5.0km az=81.0*
*MOS **26** 02:51:43.0±1.0, 39.27N×140.98E, h133km, mb4.2/6, Error ellipse: s-maj=11.5km s-min=5.8km az=74.5*
*IDC **26** 02:51:43.1±1.5, 39.11N×141.00E, h123km±15km, mb3.4/14, mb1 3.6/22, mb1mx3.4/59, mbtmp3.9/22, Error ellipse: s-maj=17.0km s-min=12.1km az=101.0*
*NIED **26** 02:51:45.0, 39.20N×140.93E, h138km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.24; Mθθ=1.25; Mrθ=-1.01; Mrφ=0.20; Mθφ=0.13; Mφφ=0.25; Fault plane solution: M0=1.19000×10^15 NP1: φs=137.00000°, δ85.00000°, λ-17.00000°. NP2: φs=229.00000°, δ73.00000°, λ-174.00000°.*
*JMA **26** 02:51:44.9±0.1, 39.20N×140.93E, h138km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=245.00000°, δ60.00000°, λ-146.00000°. NP2: φs=136.00000°, δ61.00000°, λ-35.00000°. Principal axes: T Plg1.0000°, Azm191.0000°; N Plg46.0000°, Azm282.0000°; P Plg44.0000°, Azm100.0000°;*
JMA Felt I J1.

ISC 26 02:51:44.2±0.6, 39.19N±0.04×141.02E±0.05, h143km±5km, n103, σ1°70/119, mb3.8/22, 13C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.28**	**146**	↓P	**Pn**	**02 52 04.0**	**+0.1**
JMK				S	**Sn**	**02 52 18.3**	**-0.5**
JOM	**Ohasama**	**0.35**	**37**	↓P	**Pn**	**02 52 04.5**	**+0.4**
JOM				S	**Sn**	**02 52 19.1**	**-0.2**
JRG	**Rokugo**	**0.36**	**305**	↓P	**Pn**	**02 52 04.2**	**0.0**
JRG				S	**Sn**	**02 52 18.8**	**-0.5**
JYK	**Kaneyama**	**0.58**	**242**	↓P	**Pn**	**02 52 05.2**	**0.0**
JYK				S	**Sn**	**02 52 20.7**	**-0.5**
JIO	**Ouri**	**0.78**	**161**	↑P	**Pn**	**02 52 06.9**	**+0.4**
JIO				S	**Sn**	**02 52 22.9**	**-0.6**
JOU	**Okura**	**0.87**	**199**	↑P	**Pn**	**02 52 07.7**	**+0.4**
JAH	**Hinai**	**1.04**	**344**	↑P	**Pn**	**02 52 08.9**	**+0.2**
JAH				S	**Sn**	**02 52 26.9**	**-0.5**
JYA	**Atsumi**	**1.18**	**240**	↓P	**Pn**	**02 52 09.8**	**-0.2**
JYA				S	**Sn**	**02 52 28.2**	**-1.4**
JANG	**Nango**	**1.24**	**18**	↑P	**Pn**	**02 52 10.8**	**+0.2**
JANG				S	**Sn**	**02 52 29.9**	**-0.9**
JMM	**Marumori**	**1.33**	**188**		**Pn**	**02 52 10.8**	**-0.8**
JMM				Sn	**Sn**	**02 52 31.1**	**-1.2**
JAW	**Awa shima**	**1.56**	**243**	↓P	**Pn**	**02 52 13.7**	**-0.2**
JAW				eS	**Sn**	**02 52 35.1**	**-1.5**
JTM	**Tenmabayashi**	**1.60**	**1**		**Pn**	**02 52 14.5**	**+0.2**
JFT	**Otama**	**1.75**	**198**	↑P	**Pn**	**02 52 16.5**	**+0.4**
JFT				eS	**Sn**	**02 52 40.0**	**-0.5**
JNS	**Sasagawa**	**1.91**	**225**	↑P	**Pn**	**02 52 17.9**	**0.0**
JNS				eS	**Sn**	**02 52 42.3**	**-1.4**
JOT	**Ohata**	**2.19**	**1**	↑P	**Pn**	**02 52 21.2**	**0.0**
JSD	**Sado**	**2.45**	**243**		**Pn**	**02 52 24.0**	**-0.3**
JYT	**Yasato**	**3.03**	**193**	Pn	**Pn**	**02 52 30.4**	**-1.3**
ERM	**Erimo**	**3.26**	**29**	*c iP*	**Pn**	**02 52 34.0**	**-0.6**
ERM	**Erimo**	**3.26**	**29**	Pn	**Pn**	**02 52 34.3**	**-0.2**
MJA0	**Matsu Arr-Jizo**	**3.43**	**221**	*eP*	**Pn**	**02 52 37.5**	**+0.5**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJB9	**Matsu-Tunnel**	**3.45**	**221**		**Pn**	**02 52 37.1**	**-0.1**
MAJO	**Matsushiro**	**3.45**	**221**	*c iP*	**Pn**	**02 52 37.3**	**+0.1**
MAJO	**Matsushiro**	**3.45**	**221**	Pn	**Pn**	**02 52 36.5**	**-0.7**
MAT	**Matsushiro**	**3.45**	**221**	P	**Pn**	**02 52 37.4**	**+0.2**
MAT				S	**Sn**	**02 53 16.1**	**-2.1**
MJAR	**Matsushiro Arr**	**3.45**	**221**	P	**Pn**	**02 52 36.5**	**-0.7**
	comp=Z,2.7nm,0.3s,baz=29,slow=13,SNR=134						
MJAR				S	**Sn**	**02 53 12.7**	**-5.5**
	baz=320,slow=16,SNR=1.2						
MJAR	**Matsushiro Arr**	**3.45**	**221**	P	**Pn**	**02 52 36.0**	**-1.2**
MJAR						02 53 12.7	
MJAR	**Matsushiro Arr**	**3.45**	**221**		**Pn**	**02 52 36.0**	**-1.2**
JEW	**Eniwo**	**3.66**	**5**	Pn	**Pn**	**02 52 39.7**	**-0.1**
JGF	**Kuroka**	**4.62**	**220**	Pn	**Pn**	**02 52 52.0**	**-0.5**
INU	**Inuyama**	**4.99**	**221**	Pn	**Pn**	**02 52 57.2**	**-0.1**
JSG	**Sagara**	**5.04**	**208**	Pn	**Pn**	**02 52 57.4**	**-0.8**
ASAJ	**Asahikawa**	**5.06**	**13**	P	**Pn**	**02 52 57.0**	**-1.3**
	comp=Z,11nm,0.3s,baz=217,slow=13,SNR=50						
ASAJ				S	**Sn**	**02 53 51.8**	**-4.2**
	comp=Z,2.3nm,0.3s,baz=59,slow=29,SNR=1.4						
ASAJ	**Asahikawa**	**5.06**	**13**	P	**Pn**	**02 52 57.9**	**-0.4**
JKA	**Kamikawa-asahi**	**5.06**	**13**	Pn	**Pn**	**02 52 57.9**	**-0.4**
NMR	**Nemuro--Hokkai**	**5.48**	**39**	↑P	**Pn**	**02 53 01.9**	**-1.9**
NMR				*i* S	**Sn**	**02 54 01.8**	**-4.1**
GLVR	**Golovnino**	**5.66**	**35**	*eP*	**Pn**	**02 53 05.1**	**-1.2**
GLVR				eS	**Sn**	**02 54 07.0**	**-3.3**
GLVR				pmax	pmax		
	comp=Z,564nm,0.6s						
GLVR				smax	smax		
	comp=N,753nm,0.3s						
GLVR				smax	smax		
	comp=E,233nm,0.3s						
RUSJ	**Misakicho**	**5.84**	**31**	*eP*	**Pn**	**02 53 08.1**	**-0.6**
RUSJ				eS	**Sn**	**02 54 13.5**	**-1.1**
JWT	**Wachi**	**5.94**	**231**	Pn	**Pn**	**02 53 09.5**	**-0.5**
GRPR	**Tuman**	**5.98**	**35**	*eP*	**Pn**	**02 53 08.9**	**-1.5**
GRPR				eS	**Sn**	**02 54 12.9**	**-5.0**
GRPR				pmax	pmax		
	comp=Z,314nm,0.2s						
GRPR				pmax	pmax		
	comp=E,200nm,0.3s						
GRPR				pmax	pmax		
	comp=N,118nm,0.1s						
GRPR				smax	smax		
	comp=E,196nm,0.3s						
GRPR				smax	smax		
	comp=N,637nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.05**	**35**	*eP*	**Pn**	**02 53 10.5**	**-0.9**
YUK				eS	**Sn**	**02 54 15.8**	**-3.8**
YUK				pmax	pmax		
	comp=N,243nm,0.2s						
YUK				pmax	pmax		
	comp=E,85nm,0.2s						
YUK				pmax	pmax		
	comp=Z,646nm,0.2s						
YUK				pmax	pmax		
	comp=Z,564nm,1.2s						
YUK				smax	smax		
	comp=N,762nm,0.4s						
YUK				smax	smax		
	comp=E,455nm,0.3s						
YUK				smax	smax		
	comp=N,906nm,1.3s						
YUK				smax	smax		
	comp=E,436nm,0.3s						
JHJ	**Hachijo jima 2**	**6.14**	**190**	P	**Pn**	**02 53 09.9**	**-2.8**
	comp=E,109nm,0.3s,baz=90,slow=21,SNR=10						
JHJ				S	**Sn**	**02 54 16.9**	**-5.0**
	comp=E,36nm,0.3s,baz=265,slow=22,SNR=2.0						
JHJ2	**Mitsune**	**6.14**	**189**	Pn	**Pn**	**02 53 11.4**	**-1.3**
TEY	**Ternei**	**6.70**	**332**	↑*eP*	**Pn**	**02 53 19.7**	**-0.4**
TEY				pmax	pmax		
	comp=E,10.0nm,0.9s						
TEY				pmax	pmax		
	comp=Z,20nm,0.8s						
TEY				pmax	pmax		
	comp=N,20nm,0.9s						
JHS	**Saijyo**	**7.57**	**239**	Pn	**Pn**	**02 53 30.8**	**-1.1**
YSS	**Yuzh-Sakhalins**	**7.86**	**9**	↑*eP*	**Pn**	**02 53 34.6**	**-1.1**
YSS				pmax	pmax		
	comp=Z,80nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.86**	**9**	Pn	**Pn**	**02 53 34.3**	**-1.4**
KUR	**Kuril'sk**	**7.89**	**38**	*d iP*	**Pn**	**02 53 35.8**	**-0.2**
KUR				*eS*	**Sn**	**02 55 01.7**	**-2.1**
KUR				pmax	pmax		
	comp=N,62nm,0.6s						
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				pmax	pmax		
	comp=E,34nm,0.7s						
KUR				smax	smax		
	comp=E,80nm,0.5s						
KUR				smax	smax		
	comp=N,56nm,0.4s						
USRK	**Ussuriysk Ar.**	**8.41**	**309**	P	**Pn**	**02 53 42.5**	**-0.5**
	baz=118,slow=14,SNR=4.5						
USRK	**Ussuriysk Ar.**	**8.41**	**309**	Pn	**Pn**	**02 53 40.8**	**-2.2**
KSRS	**Korea Array**	**10.44**	**265**	P	**Pn**	**02 54 11.5**	**+1.4**
	comp=N,0.4nm,0.3s,baz=79,slow=15,SNR=1.7						
KLR	**Kul'dur**	**12.03**	**330**	P	**Pn**	**02 54 30.3**	**-0.6**
	comp=N,0.2nm,0.3s,baz=136,slow=12,SNR=9.2						
KLR	**Kul'dur**	**12.03**	**330**	*i* P	**Pn**	**02 54 29.0**	**-1.9**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JCJ	**Chichijima**	**12.10**	**175**	P	**Pn**	**02 54 29.3**	**-2.7**
	comp=Z,18nm,0.3s,baz=288,slow=20,SNR=6.4						
JCJ	**Chichijima**	**12.10**	**175**		**Pn**	**02 54 29.7**	**-2.4**
ZEA	**Zeya**	**17.32**	**332**	*eP*	**P**	**02 55 34.8**	**-1.5**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PETK	**Petropavlovsk-**	**18.03**	**34**	P	**Pn**	**02 55 45.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=230,slow=11,SNR=2.2						
PETK	**Petropavlovsk-**	**18.03**	**34**	P	**Pn**	**02 55 45.0**	**-0.5**
MA2	**Magadan**	**21.32**	**14**	P	**P**	**02 56 21.2**	**+1.7**
	comp=Z,2.4nm,0.4s,baz=223,slow=10,SNR=4.0						
TPUB	**Ta-pu**	**23.47**	**234**	P	**P**	**02 56 40.9**	**0.0**
SEY	**Seynchan**	**24.75**	**12**	P	**P**	**02 56 54.0**	**+1.9**
	comp=Z,1.9nm,0.6s,baz=205,slow=7.4,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**29.56**	**124**	T	T	03 28 29.5	
	baz=317,slow=75,SNR=106						
H11N1	**WAKE ISLAND Hy**	**29.57**	**124**	T	T	03 28 35.4	
	baz=317,slow=75,SNR=160						
H11N3	**WAKE ISLAND Hy**	**29.57**	**124**	T	T	03 28 36.1	
	baz=317,slow=75,SNR=161						
H11S1	**WAKE ISLAND Hy**	**30.33**	**125**	T	T	03 29 16.9	
	baz=318,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**30.33**	**126**	T	T	03 29 18.3	
	baz=318,slow=76,SNR=70						
H11S2	**WAKE ISLAND Hy**	**30.34**	**125**	T	T	03 29 19.4	
	baz=318,slow=76,SNR=51						
TIXI	**Tiksi**	**33.12**	**353**	*i* P	**P**	**02 58 07.4**	**+1.3**
FALS	**False Pass**	**39.86**	**48**	P	**P**	**02 59 04.2**	**+0.7**
ZALV	**Zalesovo Beam**	**40.26**	**311**	P	**P**	**02 59 07.1**	**+0.3**
	comp=Z,1.4nm,0.2s,baz=75,slow=14,SNR=1.8						
MK31	**Makanchi Array**	**42.74**	**300**	P	**P**	**02 59 27.6**	**+0.5**
MK31				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MK31	**Makanchi Array**	**42.74**	**300**	P	**P**	**02 59 27.6**	**+0.5**
MKAR	**Makanchi Array**	**42.74**	**300**	P	**P**	**02 59 27.5**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=82,slow=7.0,SNR=5.1						
MKAR	**Makanchi Array**	**42.74**	**300**	P	**P**	**02 59 27.8**	**+0.6**
MKAR	**Makanchi Array**	**42.74**	**300**	P	**P**	**02 59 27.8**	**+0.6**
KURK	**Kurchatov**	**44.38**	**306**	P	**P**	**02 59 41.1**	**+0.9**
KURK	**Kurchatov**	**44.38**	**306**	P	**P**	**02 59 41.1**	**+0.9**
KURBB	**Kurchatov Arra**	**44.45**	**306**	P	**P**	**02 59 41.1**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=80,slow=8.3,SNR=8.9						
IMAR	**Indian Mountai**	**44.97**	**32**	P	**P**	**02 59 46.5**	**+1.9**
ILAR	**Eielson Array**	**47.86**	**33**	P	**P**	**03 00 07.5**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=265,slow=5.9,SNR=5.7						
ILAR	**Eielson Array**	**47.86**	**33**	*eP*	**P**	**03 00 08.5**	**+1.4**
ILAR	**Eielson Array**	**47.86**	**33**	P	**P**	**03 00 08.0**	**+0.9**
INK	**Inuvik**	**52.62**	**28**	P	**P**	**03 00 44.2**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=265,slow=7.0,SNR=3.2						
INK	**Inuvik**	**52.62**	**28**	P	**P**	**03 00 44.2**	**+1.3**
INK				IAmb	IAmb	03 01 02.3	
	comp=Z,1.5nm,0.7s						
ARU	**Arti**	**54.55**	**317**	*c iP*	P	03 00 50.3	-6.8
ARU				*PP	pP	03 01 21.0	-10
ARU				S	**S**	**03 08 17.5**	**-7.6**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.8s						
WB0	**Warramunga Arr**	**58.97**	**187**	P	**P**	**03 01 29.4**	**+0.7**
WR0	**Warramunga Arr**	**59.15**	**187**	P	**P**	**03 01 30.1**	**+0.2**
WR0				IAmb	IAmb	03 01 48.3	
	comp=Z,1.5nm,0.9s						
WB2	**Warramunga Arr**	**59.15**	**187**	P	**P**	**03 01 28.9**	**-1.0**
WB2				IAmb	IAmb	03 01 46.9	
	comp=Z,2.8nm,1.1s						
WRA	**Warramunga Arr**	**59.15**	**187**	P	**P**	**03 01 29.8**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=2.6,slow=7.4,SNR=5.7						
YKA	**Yellowknife Ar**	**62.11**	**31**	P	**P**	**03 01 51.2**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=312,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**62.88**	**187**	P	**P**	**03 01 55.0**	**0.0**
	comp=Z,0.2nm,0.5s,baz=4.4,slow=8.3,SNR=4.1						
ASAR	**Alice Springs**	**62.88**	**187**	P	**P**	**03 01 54.7**	**-0.3**
OBN	**Obninsk**	**66.19**	**323**	*i* P	**P**	**03 02 16.6**	**+0.5**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**66.77**	**332**	P	**P**	**03 02 22.9**	**+3.1**
	comp=Z,0.7nm,0.5s,baz=66,slow=4.6,SNR=6.2						
COR	**Corvallis**	**67.34**	**50**	P	**P**	**03 02 23.6**	**0.0**
COR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
COR	**Corvallis**	**67.34**	**50**	P	**P**	**03 02 23.6**	**0.0**
COR				IAmb	IAmb	03 02 30.6	
	comp=Z,7.3nm,1.1s						
KIV	**Kislovodsk**	**69.27**	**310**	*eP*	**P**	**03 02 36.2**	**+0.4**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
BOZ	**Bozeman (W)**	**73.42**	**44**	P	**P**	**03 03 02.5**	**+1.7**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BOZ	**Bozeman (W)**	**73.42**	**44**	P	**P**	**03 03 02.5**	**+1.7**
BOZ				IAmb	IAmb	03 03 03.6	
	comp=Z,2.2nm,0.8s						
NVAR	**Mina Array Bea**	**73.95**	**53**	P	**P**	**03 03 06.2**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=290,slow=5.6,SNR=5.3						
NVAR	**Mina Array Bea**	**73.95**	**53**	P	**P**	**03 03 04.5**	**+0.5**
PDAR	**Pinedale Array**	**76.38**	**46**	P	**P**	**03 03 19.8**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=278,slow=1.9,SNR=6.4						
TXAR	**Lajitas Array**	**89.05**	**52**	P	**P**	**03 04 25.5**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=298,slow=2.9,SNR=4.6						
LPAZ	**La Paz**	**145.81**	**56**	PKPbc	**PKPab**	**03 11 08.7**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=353,slow=6.8,SNR=6.6						

IDC 26 02:52:13.0±1.9, 4.58S×132.54E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/45, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=94.9km s-min=29.0km az=66.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.37**	**174**	Pn	Pn	02 55 49.8	-1.6
	0.2nm,0.3s,baz=356,slow=13,SNR=7.3						
WRA				Sn	Sn	02 58 34.7	-7.9
	0.2nm,0.3s,baz=358,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**19.02**	**176**	P	Pn	02 56 37.2	-0.1
	0.2nm,0.3s,baz=354,slow=12,SNR=9.5						
ASAR				S	Sn	03 00 06.5	-4.6
	0.1nm,0.3s,baz=359,slow=28,SNR=4.4						
CTA	**Charters Tower**	**20.39**	**140**	P	P	02 56 51.8	+0.1
	1.6nm,0.8s,baz=323,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**67.64**	**325**	P	P	03 03 11.9	-0.1
	0.2nm,0.5s,baz=116,slow=6.7,SNR=2.1						

*MAN **26** 02:53:28.2, 19.28N×120.65E, h1km, MS4.0*
*IDC **26** 02:53:43.5±4.8, 17.44N×121.87E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/52, mbtmp3.4/3, Error ellipse: s-maj=424.6km s-min=30.4km az=62.0*

ISC 26 02:53:26.4±4.7, 19.3N±0.2×120.6E±0.1, h5km±21km, n8, σ0°88/12, mb3.4/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.58**	**157**	*eP*	**Pn**	**02 53 54.9**	**-0.2**
APYP				*eS*	**Sg**	**02 54 17.1**	**-0.1**
ABRA	**Dolores**	**1.67**	**176**	*eP*	**Pn**	**02 53 57.4**	**+1.0**
ABRA				*eS*	**Sg**	**02 54 20.0**	**-0.1**
SGCP	**Mt. Cagua**	**1.75**	**128**	*eP*	**Pb**	**02 53 58.9**	**-0.2**
SGCP				*eS*	**Sg**	**02 54 22.4**	**-0.3**
CVP	**Callao Caves**	**1.99**	**144**	↓*eP*	**Pb**	**02 54 02.5**	**-0.6**
CVP				*i* S	**Sg**	**02 54 32.1**	**+1.7**
CAUP	**Cauayan**	**2.64**	**153**	*eP*	**Pb**	**02 54 13.0**	**-1.2**
CAUP				*eS*	**Sn**	**02 54 42.0**	**-0.1**
WRA	**Warramunga Arr**	**41.28**	**160**	P	**P**	**03 01 12.7**	**-0.3**
	0.5nm,0.7s,baz=342,slow=8.7,SNR=2.2						
MKAR	**Makanchi Array**	**41.56**	**320**	P	P	03 01 50.9	+36
	0.5nm,0.8s,baz=122,slow=9.5,SNR=2.9						
ASAR	**Alice Springs**	**44.66**	**163**	P	**P**	**03 01 40.8**	**+0.5**
	0.3nm,0.5s,baz=338,slow=6.5,SNR=4.2						

*IDC **26** 03:09:21.1±2.6, 51.35N×179.33W, h0km, mb3.3/6, mb1 3.7/6, mb1mx3.4/51, mbtmp3.3/6, Error ellipse: s-maj=67.3km s-min=30.8km az=10.0*
*NEIC **26** 03:09:26.5±1.2, 51.12N±0.3×179.19W±0.07, h28km±25km, Error ellipse: s-maj=37.0km s-min=6.1km az=181.0*
*AEIC **26** 03:09:26±1.0, 51.2N±0.2×179.18W±0.07, h26km±9km, ML3.4, Error ellipse: s-maj=26.1km s-min=6.1km az=181.0*

ISC 26 03:09:26.6±1.2, 51.3N±0.2×179.21W±0.04, h35km, n29, σ1°24/29, mb3.4/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.52**	**31**		**Pn**	**03 09 38.5**	**+0.9**
GAEA	**Gareloi East**	**0.55**	**31**		**Pn**	**03 09 38.8**	**+0.8**
TASE	**Tanaga Southea**	**0.90**	**54**		**Pn**	**03 09 43.4**	**+0.7**
CERAA	**Semis' Rag'd T**	**0.91**	**311**		**Pn**	**03 09 44.3**	**+1.4**
CERB	**Semis' Cerberu**	**0.95**	**311**		**Pn**	**03 09 44.9**	**+1.4**
TAFP	**Tanaga Falls P**	**0.96**	**52**		**Pn**	**03 09 44.5**	**+0.9**
CESW	**Semis' Southwe**	**0.97**	**308**		**Pn**	**03 09 44.8**	**+1.1**
CEAP	**Semis' Anvil P**	**1.02**	**313**		**Pn**	**03 09 46.0**	**+1.6**
CETU	**Semis' Tuman**	**1.04**	**309**		**Pn**	**03 09 46.3**	**+1.6**
KIMD	**Kanaga Island**	**1.31**	**69**		**Pn**	**03 09 48.8**	**+0.4**
KIKV	**Kanaga Island**	**1.39**	**65**		**Pn**	**03 09 50.8**	**+1.3**
KICM	**Kanaga Island**	**1.39**	**64**		**Pn**	**03 09 50.5**	**+1.0**
LSSE	**Little Sitkin**	**1.52**	**295**		**Pn**	**03 09 52.6**	**+1.3**
LSPA	**Little Sitkin**	**1.53**	**296**		**Pn**	**03 09 52.3**	**+0.9**
LSSA	**Little Sitkin**	**1.56**	**295**		**Pn**	**03 09 52.6**	**+0.8**
LSNW	**Little Sitkin**	**1.56**	**296**		**Pn**	**03 09 52.5**	**+0.6**
ADK	**Adak**	**1.67**	**69**		**Pn**	**03 09 53.5**	**+0.2**
ADAG	**Mount Adagdak**	**1.75**	**67**		**Pn**	**03 09 56.4**	**+1.9**
GSTD	**Great Sitkin T**	**2.04**	**68**		**Pn**	**03 10 00.3**	**+1.8**
GSMY	**Great Sitkin M**	**2.09**	**68**		**Pn**	**03 10 00.1**	**+0.9**
ATKA	**Atka Island**	**3.24**	**72**		**Pn**	**03 10 16.3**	**+1.5**
KOKL	**Mount Kliuchef**	**3.27**	**70**		**Pn**	**03 10 17.1**	**+1.7**
KOFP	**Korovin Flat P**	**3.31**	**71**		**Pn**	**03 10 17.8**	**+1.8**
ILAR	**Eielson Array**	**21.45**	**39**	P	**P**	**03 14 11.2**	**-0.3**
	0.1nm,0.3s,baz=234,slow=8.5,SNR=5.0						
YKA	**Yellowknife Ar**	**35.46**	**46**	P	**P**	**03 16 17.8**	**-1.3**
	0.1nm,0.3s,baz=281,slow=8.9,SNR=4.0						
PDAR	**Pinedale Array**	**46.57**	**72**	P	**P**	**03 17 50.8**	**-0.3**
	0.4nm,0.3s,baz=311,slow=4.3,SNR=8.3						
ARCES	**ARCESS Array B**	**58.11**	**350**	P	**P**	**03 19 16.0**	**+0.1**
	2.0nm,1.0s,baz=23,slow=9.8,SNR=1.2						
TXAR	**Lajitas Array**	**58.91**	**81**	P	**P**	**03 19 23.1**	**+0.8**
	0.2nm,0.6s,baz=300,slow=2.5,SNR=3.5						
MKAR	**Makanchi Array**	**59.87**	**308**	P	**P**	**03 19 27.2**	**-1.3**
	0.2nm,0.6s,baz=41,slow=4.7,SNR=2.2						

*IDC **26** 03:20:38.7±0.5, 7.50N×91.57E, h0km, mb4.4/19, mb1 4.5/22, mb1mx4.3/43, mbtmp4.4/22, ML4.4/3, MS3.6/11, Ms1 3.6/11, ms1mx3.2/44, Error ellipse: s-maj=22.6km s-min=12.4km az=48.0*
*NDI **26** 03:20:38.1±2.8, 7.47N×91.91E, h0km±33km, mb4.4, ML4.1, mb4.6(NEIC)*
*DJA **26** 03:20:39.5±3.3, 8°N±6°×9°2E±°, h16km±30km, M4.7/7, mB4.7/1, mb4.4/7, MLv4.8/3, Mw(mB)4.0/1*
*BJI **26** 03:20:41.2±0.0, 7.76N×91.48E, h9km, mB4.7/15, mb4.6/30, Ms4.4/3, Ms7 4.1/3*
*NEIC **26** 03:20:43.0±1.1, 7.52N±0.08×91.64E±0.09, h30km±5km, mb4.6/26, Error ellipse: s-maj=12.8km s-min=10.8km az=56.0*

ISC 26 03:20:40.1±0.4, 7.50N±0.06×91.69E±0.06, h10km, n141, σ1°10/130, mb4.6/42, MS3.7/10, 1C-11D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**2.27**	**102**	*eP*	Pn	03 21 12.9	-4.9
CMBY				*eS*	**Sn**	**03 21 40.6**	**-5.3**
CMBY				IAML		03 21 53.8	
	comp=E,3μm,0.3s						
PBA	**Port Blair**	**4.26**	**14**	*eP*	Pn	03 21 44.0	-1.1
PBA				eS	Sn	03 22 31.8	-3.1
PBA				IAML		03 22 43.6	
	comp=E,334nm,0.6s						
PBA	**Port Blair**	**4.26**	**14**	Pn	Pn	03 21 44.3	-0.8
PBA					Sn	03 22 33.8	-1.1
MLSI	**Meulaboh, Aceh**	**5.69**	**124**	P	**Pn**	**03 22 04.9**	**+0.2**
	comp=E,1.1nmcomp=E,71nm,0.4s						

baz=52,slow=75,SNR=5.9
CD2 Chengdu 25.89 24 P **P** **03 26 14.3 +1.9**
CD2 pmax pmax
comp=Z,30nm,1.0s
NIL Nilore 31.11 329 P **P** **03 26 58.5 -0.4**
NIL IAmb IAmb 03 27 00.5
comp=Z,14nm,0.8s
GTA Gaotai 32.60 12 P **P** **03 27 13.3 +1.2**
GTA pP pwP 03 27 24.8 +5.7
GTA pmax pmax
comp=Z,13nm,1.0s
UCH Uchtor 37.77 339 P **P** **03 27 58.3 +1.3**
SNR=11
AML Almayashu 37.99 338 P **P** **03 28 00.1 +1.4**
SNR=24
KBK Karagaybulak 38.00 340 P **P** **03 28 00.5 +1.9**
SNR=8.9
AAK Ala-Archa 38.14 339 P **P** **03 27 59.8 0.0**
AAK IAmb IAmb 03 28 03.1
comp=Z,8.5nm,1.1s
EKS2 Erkin-Say 38.42 339 P **P** **03 28 03.6 +1.6**
SNR=6.8
USP Ospenovka 38.69 340 P **P** **03 28 05.4 +1.2**
SNR=11
MK31 Makanchi Array 39.97 350 P **P** **03 28 15.2 +0.3**
MK31 IAmb IAmb 03 28 16.5
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 39.97 350 P **P** **03 28 15.5 +0.6**
comp=Z,7.4nm,0.8s,baz=168,slow=8.7,SNR=68
MKAR Makanchi Array 39.97 350 P **P** **03 28 15.0 +0.1**
MAKZ Makanchi 40.04 350 P **P** **03 28 15.8 +0.3**
KK31 Karatay Array 40.05 336 P **P** **03 28 15.5 -0.1**
KK31 IAmb IAmb 03 28 17.2
comp=Z,7.5nm,0.9s
KKAR Karatay Array 40.05 336 P **P** **03 28 15.7 +0.1**
KKAR IAmb IAmb 03 28 17.2
comp=Z,7.5nm,0.9s
KKAR Karatay Array 40.05 336 P **P** **03 28 16.0 +0.4**
FITZ Fitzroy Crossi 42.08 128 P **P** **03 28 33.6 +1.1**
comp=Z,16nm,0.8s,baz=308,slow=5.2,SNR=30
FITZ Fitzroy Crossi 42.08 128 P **P** **03 28 32.8 +0.2**
SONM Songino Array 42.10 15 P **P** **03 28 33.1 +0.6**
comp=Z,6.9nm,0.8s,baz=194,slow=8.5,SNR=46
SONM PcP **PcP** **03 30 27.9 +0.8**
comp=Z,1.6nm,0.8s,baz=199,slow=3.1,SNR=4.5
SONM Songino Array 42.10 15 P **P** **03 28 32.8 +0.3**
SONM IAmb IAmb 03 28 34.7
comp=Z,7.4nm,0.9s
GEYT Alibeck 42.89 320 P **P** **03 28 39.8 +0.8**
comp=Z,7.0nm,0.9s,baz=118,slow=16,SNR=9.5
GEYT Alibeck 42.89 320 P **P** **03 28 38.9 -0.1**
GEYT IAmb IAmb 03 28 41.6
comp=Z,9.0nm,1.1s
KSRS Korea Array 44.36 42 LR LR 03 49 52.0
comp=Z,27nm,19.9s,baz=278,slow=40
ZAA0 Zalesovo Array 46.65 354 P **P** **03 29 08.9 +0.3**
ZALV Zalesovo Beam 46.65 354 P **P** **03 29 09.4 +0.7**
comp=Z,13nm,0.8s,baz=160,slow=9.1,SNR=36
ZALV LR LR 03 51 58.1
comp=Z,39nm,19.3s,baz=293,slow=40
ZALV Zalesovo Beam 46.65 354 P **P** **03 29 09.0 +0.4**
RAYN Ar Rayn 47.03 295 P **P** **03 29 11.9 -0.4**
RAYN IAmb IAmb 03 29 14.2
comp=Z,5.8nm,1.1s
H01W3 Cape Leeuwin H 47.19 155 T T 04 19 59.6
baz=326
H01W2 Cape Leeuwin H 47.20 155 T T 04 19 51.0
baz=326,slow=74,SNR=3.5
H01W1 Cape Leeuwin H 47.20 155 T T 04 20 06.3
baz=326,slow=74,SNR=3.2
ATD Arta Tunnel 48.29 279 LR LR 03 45 50.0
comp=Z,36nm,19.8s,baz=144,slow=31
BRVK Borovoye 48.66 343 P **P** **03 29 24.4 +0.1**
BRVK IAmb IAmb 03 29 25.4
comp=Z,7.8nm,0.9s
ABKAR Akbulak array 49.42 333 P **P** **03 29 30.5 +0.3**
ABKAR IAmb IAmb 03 29 31.3
comp=Z,6.4nm,0.8s
ABKAR Akbulak array 49.42 333 P **P** **03 29 30.5 +0.3**
WRA Warramunga Arr 50.05 124 P **P** **03 29 36.1 +0.6**
comp=Z,2.4nm,0.7s,baz=302,slow=8.6,SNR=18
WRA Warramunga Arr 50.05 124 P **P** **03 29 35.5 +0.1**
MJAR Matsushiro Arr 51.22 49 PcP **PcP** **03 30 59.7 +0.3**
comp=Z,1.7nm,0.7s,baz=242,slow=3.6,SNR=6.9
MJAR LR LR 03 53 22.7
comp=Z,31nm,18.7s,baz=215,slow=38
ASAR Alice Springs 51.57 128 P **P** **03 29 47.9 +1.0**
comp=Z,4.3nm,0.7s,baz=302,slow=7.0,SNR=50
ASAR LR LR 03 52 45.5
comp=Z,59nm,18.2s,baz=183,slow=37
ASAR Alice Springs 51.57 128 P **P** **03 29 47.1 +0.2**
KMBO Kilima Mbogo 54.96 263 LR LR 03 49 39.8
comp=Z,95nm,19.7s,baz=91,slow=32
KBZ Khabaz 55.74 319 P **P** **03 30 17.4 +0.3**
comp=Z,3.2nm,0.8s,baz=157,slow=7.7,SNR=12
BRTR Keskin Array B 60.84 311 P **P** **03 30 52.2 -0.9**
comp=Z,1.6nm,0.7s,baz=140,slow=6.5,SNR=6.4
BRTR Keskin Array B 60.84 311 P **P** **03 30 52.4 -0.7**
STKA Stephens Creek 61.63 132 P **P** **03 30 59.1 +0.8**
comp=Z,5.9nm,0.8s,baz=317,slow=13,SNR=4.2
STKA Stephens Creek 61.63 132 P **P** **03 30 58.0 -0.4**
NRIK Noril'sk 61.82 358 P **P** **03 31 00.1 +1.1**
comp=Z,1.2nm,0.4s,baz=147,slow=5.9,SNR=4.4
ELL Elmali 63.01 307 P **P** **03 31 07.4 -0.3**
KLMR Klimovskoe 65.75 335 *eP* **P** **03 31 23.0 -2.0**
KLMR AMP 03 31 25.3
comp=Z,11nm,1.2s
AKASG Malin Array Be 66.95 322 P **P** **03 31 31.1 -1.8**
comp=Z,0.1nm,0.2s,baz=98,slow=4.5,SNR=6.0
VRI Vrincioaia 67.29 317 ||P **P** **03 31 35.8 +0.6**
PLOR Plostina 67.34 317 ||P **P** **03 31 35.8 +0.2**
MLR Muntele Rosu 67.75 316 ||P **P** **03 31 39.2 +0.9**
MLR Muntele Rosu 67.75 316 P **P** **03 31 37.8 -0.5**
BIZ Bicaz 67.96 318 ||P **P** **03 31 39.4 0.0**
TIXI Tiksi 68.09 12 P **P** **03 31 39.8 +0.1**
DOPR Dopca 68.23 317 ||P **P** **03 31 41.6 +0.5**
PLVB Pleven 68.26 314 ||P **P** **03 31 41.6 +0.3**
ARR Arges 68.62 316 ||P **P** **03 31 43.4 -0.3**
BURAR Bucovina Array 68.70 318 ||P **P** **03 31 44.4 +0.3**
BURAR Bucovina Array 68.70 318 P **P** **03 31 43.6 -0.6**
PETK Petropavlovsk- 69.73 36 LR LR 04 03 56.3
comp=Z,48nm,18.3s,baz=148,slow=37
GZR Gura Zlata 69.92 316 ||P **P** **03 31 47.8 -3.9**
HERR Herculane 70.08 315 ||P **P** **03 31 52.6 -0.1**
DRGR 70.21 317 ||P **P** **03 31 53.6 +0.1**
BZS Buzias 70.76 316 ||P P 03 31 42.2 -15
KOLS Kolonicke sedl 70.89 319 *eP* **P** **03 31 57.7 +0.2**
CRVS Cervenica-Dubn 71.41 319 *eP* **P** **03 32 01.5 +0.8**
FINES FINESS Array B 71.91 333 P **P** **03 32 02.9 -0.5**
comp=Z,5.6nm,0.7s,baz=123,slow=7.0,SNR=16
BOSA Boshof 73.33 237 P **P** **03 32 12.8 +0.2**
comp=Z,1.4nm,0.6s,baz=73,slow=5.7,SNR=6.2
BOSA LR LR 04 01 01.8
comp=Z,169nm,19.0s,baz=177,slow=33
BOSA Boshof 73.33 237 P **P** **03 32 12.1 -0.5**
MODS Modra-Piesok 74.08 318 *eP* **P** **03 32 16.8 +0.2**
KRLC Kraliky 74.60 320 *eP* **P** **03 32 19.8 +0.2**
ARCES ARCESS Array B 74.80 341 P **P** **03 32 19.6 -0.8**
comp=Z,1.5nm,0.7s,baz=108,slow=7.1,SNR=6.9
ARCES LR LR 04 08 19.6
comp=Z,46nm,20.9s,baz=50,slow=38
DPC Dobruska-Polom 74.93 320 *eP* **P** **03 32 21.7 +0.2**
OSTC Ostas 75.02 320 *eP* **P** **03 32 22.1 +0.1**
CHVC Chvalec 75.12 320 *eP* **P** **03 32 23.1 +0.5**
ARSA Arzberg 75.14 317 *eP* **P** **03 32 23.3 +0.5**
comp=Z,9.4nm,1.8s
SOKA Soboth 75.43 316 *eP* **P** **03 32 23.8 -0.7**
comp=Z,12nm,1.6s
OBKA Obir 75.75 316 *eP* **P** **03 32 24.9 -1.4**
comp=Z,12nm,1.7s
MYKA Terra Mystica 76.38 316 *eP* **P** **03 32 28.9 -1.0**
comp=Z,14nm,1.7s
GEC2 GERESS Array S 76.48 318 P **P** **03 32 29.8 -0.8**
GEC2 IAmb IAmb 03 32 31.7
comp=Z,10nm,1.1s
GERES GERESS Array B 76.48 318 P **P** **03 32 30.6 +0.1**
comp=Z,2.3nm,0.7s,baz=93,slow=5.5,SNR=20
GERES GERESS Array B 76.48 318 P **P** **03 32 29.7 -0.8**
BRG Berggiesshubel 76.49 320 *eP* **P** **03 32 30.9 +0.6**
BRG Amp 03 32 32.6
comp=Z,3.6nm,0.8s
KHC Kasperske Hory 76.59 319 *eP* **P** **03 32 30.3 -0.7**
CLL Collm 77.11 321 *eP* **P** **03 32 33.0 -0.8**
CLL LmH 12 08 00.0
comp=N,200nm,21.6s
CLL LmH 12 08 00.0
comp=E,300nm,20.1s
WTTA Wattenberg 77.78 317 *eP* **P** **03 32 36.3 -1.6**
comp=E,4.0nm,0.8s
SQTA Sankt Quirin 78.07 317 *eP* **P** **03 32 38.7 -0.8**
comp=E,7.4nm,0.9s
MOTA Moosalm 78.15 317 *eP* **P** **03 32 38.8 -1.2**
comp=E,8.4nm,1.0s
RETA Reutte 78.38 317 *eP* **P** **03 32 40.8 -0.3**
comp=E,10nm,1.4s
FETA Feichten 78.39 316 *eP* **P** **03 32 41.0 -0.4**
comp=E,6.8nm,1.1s
NB2 NORSAR Subarra 78.86 331 P **P** **03 32 42.0 -1.5**
comp=Z,3.2nm,0.9s,baz=94,slow=6.2
NOA NORSAR Array B 78.86 331 P **P** **03 32 42.4 -1.0**
comp=Z,2.1nm,0.8s,baz=93,slow=5.7,SNR=7.1
DAVA Damuels 78.98 317 *eP* **P** **03 32 43.2 -1.3**
comp=Z,6.3nm,0.8s
KEST Kesra 79.46 305 LR LR 04 14 12.0
comp=Z,40nm,18.4s,baz=301,slow=40
SENIN Lac Senin/Sane 80.75 316 P **P** **03 32 53.3 -1.0**
ESDC Sonseca Array 89.59 310 P **P** **03 33 38.1 -0.3**
comp=Z,1.8nm,1.1s,baz=61,slow=2.4,SNR=5.6
ESDC Sonseca Array 89.59 310 P **P** **03 33 37.9 -0.6**
ESDC IAmb IAmb 03 33 39.7
comp=Z,4.4nm,1.0s
ILAR Eielson Array 95.99 22 P **P** **03 34 06.5 -0.9**
comp=Z,0.6nm,0.7s,baz=301,slow=4.8,SNR=7.6
ULM Lac du Bonnet 122.11 6 PKP **PKPdf** **03 39 34.2 -1.1**
comp=Z,1.0nm,0.6s,baz=282,slow=0.6,SNR=3.5
PDAR Pinedale Array 126.36 19 PKP **PKPdf** **03 39 44.0 +0.1**
comp=Z,0.8nm,0.8s,baz=243,slow=1.0,SNR=6.4
NVAR Mina Array Bea 126.46 29 PKP **PKPdf** **03 39 43.9 -0.4**
comp=Z,1.2nm,0.8s,baz=288,slow=1.4,SNR=8.3
TXAR Lajitas Array 140.51 21 PKP **PKPdf** **03 40 11.1 +0.4**
comp=Z,0.4nm,0.6s,baz=86,slow=0.9,SNR=5.0
CPUP Villa Florida 145.09 234 PKP **PKPab** **03 40 18.1 0.0**
comp=Z,3.8nm,0.7s,baz=108,slow=3.8,SNR=12

*IDC **26** 03:43:32.9≈1.0, 59.˚58S×25.˚92W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/21, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=49.0km s-min=25.0km az=83.0*
ISC 26 03:43:38.7±0.9, **59.7S**±0.1×**25.8W**±0.3, **h40**km, **n12**, σ0=**86**/**12**, **mb3.7/4**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.20**	**154**	P	**Pn**	**03 46 43.2**	**-0.1**
VNA3	**Neumayer Olymp**	**13.36**	**157**	P	**Pn**	**03 46 44.9**	**-0.6**
VNA2	**Neumayer--Watz**	**13.60**	**154**	P	**Pn**	**03 46 48.3**	**-0.4**
	baz=313,slow=15						
SNAA	**Sanae**	**15.18**	**152**	P	**Pn**	**03 47 09.9**	**0.0**
SNAA	**Sanae**	**15.18**	**152**	Pn	**Pn**	**03 47 09.6**	**-0.4**
	0.8nm,0.3s,baz=340,slow=18,SNR=21						
SNAA				Sn	Sn	03 49 44.3	-12
	0.1nm,0.3s,baz=200,slow=11,SNR=1.6						
QSPA	**South Pole Qui**	**30.59**	**180**	P	**P**	**03 49 48.8**	**+0.3**
	1.9nm,1.1s,baz=32,slow=0.7,SNR=5.7						
VNDA	**Vanda**	**43.00**	**182**	P	**P**	**03 51 34.2**	**+0.8**
	0.7nm,0.8s,baz=199,slow=7.3,SNR=6.0						
LPAZ	**La Paz**	**53.07**	**306**	P	**P**	**03 52 52.9**	**+0.3**
	0.3nm,0.3s,baz=180,slow=7.1,SNR=2.0						
TORD	**Torodi Ar. Bea**	**75.88**	**28**	P	**P**	**03 55 21.5**	**+0.8**
	0.7nm,0.7s,baz=200,slow=6.2,SNR=5.1						
YKA	**Yellowknife Ar**	**139.28**	**315**	PKP	**PKPdf**	**04 02 59.2**	**-0.5**
	0.1nm,0.6s,baz=123,slow=2.3,SNR=1.7						
SONM	**Songino Array**	**150.05**	**92**	PKPbc	**PKPbc**	**04 03 23.7**	**-0.3**
	0.2nm,0.4s,baz=223,slow=3.5,SNR=4.9						
ILAR	**Eielson Array**	**152.95**	**306**	PKPbc	**PKPbc**	**04 03 27.9**	**-2.0**
	0.2nm,0.7s,baz=103,slow=1.9,SNR=2.1						

*ANF **26** 03:47:02.6≈0.2, 62.˚85N×150.˚71W, h98km±2km, ML4.2/40, Error ellipse: s-maj=2.0km s-min=1.6km az=84.0, Hypocentre not reviewed by the ISC*
*NEIC **26** 03:47:02.5≈0.9, 62.˚86N±0.˚03×150.˚77W±0.˚08, h103km±4km, Error ellipse: s-maj=5.1km s-min=4.5km az=79.0*
*NEIC **26** 03:47:02.5, 62.˚86N×150.˚78W, h108km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.57; $M_{\theta\theta}$=-0.02; $M_{\phi\phi}$=-0.55; $M_{r\theta}$=0.12; $M_{r\phi}$=0.41; $M_{\theta\phi}$=1.32; Fault plane solution: M_0=1.50000×10^{15} NP1:ϕ_s=124.32000°, δ=20.11000°, λ=34.94000°. NP2:ϕ_s=1.06000°, δ=78.64000°, λ=106.71000°. Principal axes: T 1.5127, Plg53.0000°, Azm291.0000°; N -0.0359, Plg16.0000°, Azm178.0000°; P -1.4768, Plg32.0000°, Azm77.0000°;*
*AEIC **26** 03:47:02±1.4, 62.˚87N±0.˚03×150.˚77W±0.˚07, h96km±4km, ML3.9, mb3.9/12(NEIC), ML4.2/80(NEIC), Mwr4.1/25(NEIC) Error ellipse: s-maj=4.9km s-min=3.6km az=58.0*
*IDC **26** 03:47:02.3≈0.7, 62.˚93N×150.˚90W, h99km±7km, mb3.7/17, mb1 3.9/22, mb1mx3.7/47, mbtmp4.1/22, MS3.3/3, Ms1 3.3/3, ms1mx2.7/45, Error ellipse: s-maj=11.1km s-min=8.7km az=109.0*
ISC 26 03:47:02.7±0.6, **62.˚86N**±0.˚03×**150.˚79W**±0.˚04, **h105**km±4km, **n155**, σ0=**76**/**164**, **mb4.0**/**21**, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUT	**Chulitna**	**0.52**	**152**	Pn	**Pn**	**03 47 18.8**	**-0.3**
CUT				Sn	**Sn**	**03 47 30.9**	**-0.5**
CUT	**Chulitna**	**0.52**	**152**	P		03 47 18.8	
	baz=334,SNR=316						
CUT				S		03 47 30.7	
	baz=334						
HUR	**Hurricane**	**0.54**	**77**		**Pn**	**03 47 18.9**	**-0.4**
HUR					**Sn**	**03 47 31.0**	**-0.8**
TRF	**Thorofare Moun**	**0.64**	**21**		**Pn**	**03 47 19.9**	**-0.3**
TRF				Sn	**Sn**	**03 47 32.7**	**-0.7**
TRF				IAML		03 47 33.6	
	comp=E,5μm,0.5s						
TRF				IAML		03 47 34.0	
	comp=N,4μm,0.4s						
TRF	**Thorofare Moun**	**0.64**	**21**	P		03 47 19.9	
	baz=201,SNR=493						
PPLA	**Purkeypile**	**0.64**	**274**	Pn	**Pn**	**03 47 20.2**	**0.0**
PPLA	**Purkeypile**	**0.64**	**274**		**Sn**	**03 47 32.8**	**-0.6**
PPLA	**Purkeypile**	**0.64**	**274**	P		03 47 20.1	
	baz=92,SNR=1000						
PPLA				S		03 47 32.8	
	baz=92						
KTH	**Kantishna Hill**	**0.70**	**355**		**Pn**	**03 47 20.3**	**-0.4**
KTH				Sn	**Sn**	**03 47 32.9**	**-1.3**
CAST	**Castle Rocks**	**0.81**	**314**		**Pn**	**03 47 21.4**	**-0.2**
WAT7	**Susitna Watana**	**0.89**	**91**		**Pn**	**03 47 22.1**	**-0.4**
WAT7					**Sn**	**03 47 36.4**	**-0.9**
SKT	**Skwentna**	**0.95**	**202**		**Pn**	**03 47 22.7**	**-0.3**
SKT				Sn	**Sn**	**03 47 37.2**	**-1.0**
SKT				IAML		03 47 38.3	
	comp=E,7μm,0.7s						
SKT	**Skwentna**	**0.95**	**202**	P		03 47 22.6	
	baz=21,SNR=506						
SKT				S		03 47 37.2	
	baz=21						
WAT2	**Susitna Watana**	**1.01**	**83**		**Pn**	**03 47 23.4**	**-0.4**
WAT2					**Sn**	**03 47 38.9**	**-0.8**
WAT2	**Susitna Watana**	**1.01**	**83**	P		03 47 23.3	
	baz=266,SNR=1000						
WAT2				S		03 47 38.7	
	baz=266						
WAT1	**Susitna Watana**	**1.03**	**91**		**Pn**	**03 47 23.4**	**-0.4**
WAT1					**Sn**	**03 47 39.1**	**-0.7**
RND	**Reindeer**	**1.04**	**57**		**Pn**	**03 47 23.7**	**-0.2**
RND				Sn	**Sn**	**03 47 39.0**	**-1.0**
RND				IAML		03 47 39.7	
	comp=E,5μm,0.4s						
RND				IAML		03 47 39.7	
	comp=N,4μm,0.4s						
MCK	**McKinley**	**1.21**	**43**		**Pn**	**03 47 25.7**	**-0.1**
MCK	**McKinley**	**1.21**	**43**		**Sn**	**03 47 43.0**	**-0.3**
MCK	**McKinley**	**1.21**	**43**	P		03 47 25.6	
	baz=224,SNR=90						
MCK				S		03 47 42.7	
	baz=224						
CHUM	**Lake Minchumin**	**1.24**	**327**		**Pn**	**03 47 25.9**	**-0.1**
CHUM	**Lake Minchumin**	**1.24**	**327**	P		03 47 26.0	
	baz=145,SNR=1000						
CHUM				S		03 47 43.0	
	baz=145						
BPAW	**Bear Paw Mtn.**	**1.25**	**356**		**Pn**	**03 47 25.8**	**-0.5**
BPAW	**Bear Paw Mtn.**	**1.25**	**356**		**Sn**	**03 47 42.7**	**-1.4**
BPAW	**Bear Paw Mtn.**	**1.25**	**356**	P		03 47 25.8	
	baz=175,SNR=277						
BPAW				S		03 47 42.8	
	baz=175						
GHO	**Glory Hole Cre**	**1.40**	**141**		**Pn**	**03 47 28.2**	**+0.2**
GHO				IAML		03 47 50.5	
	comp=N,4μm,0.7s						
GHO				IAML		03 47 52.1	
	comp=E,4μm,0.5s						
SUA	**Susitna One**	**1.40**	**179**		**Pn**	**03 47 28.0**	**-0.1**
SUA				IAML		03 47 50.7	
	comp=N,2μm,0.6s						
SUA				IAML		03 47 53.7	
	comp=E,2μm,1.0s						
SUA	**Susitna One**	**1.40**	**179**	P		03 47 27.9	
	baz=360,SNR=102						
SUA				S		03 47 47.3	
	baz=360						
WAT6	**Susitna Watana**	**1.43**	**100**		**Pn**	**03 47 28.0**	**-0.6**
WAT6	**Susitna Watana**	**1.43**	**100**	P		03 47 27.9	
	baz=283						
WAT6				S		03 47 46.9	
	baz=283						
STLK	**Strandline Lak**	**1.45**	**200**		**Pn**	**03 47 28.6**	**-0.1**
PMR	**Palmer**	**1.49**	**148**		**Pn**	**03 47 28.7**	**-0.3**
PMR				IAML		03 47 52.4	
	comp=E,2μm,0.3s						
PMR				IAML		03 47 54.4	
	comp=N,2μm,0.3s						
PMR	**Palmer**	**1.49**	**148**	P		03 47 28.6	
	baz=330						
PMR				S		03 47 48.5	
	baz=330						
SML	**Sawmill**	**1.56**	**132**		**Pn**	**03 47 29.7**	**-0.2**
SML	**Sawmill**	**1.56**	**132**	P		03 47 29.7	
	baz=314,SNR=131						
SPCP	**Crater Peak Br**	**1.72**	**202**		**Pn**	**03 47 31.9**	**-0.1**
FIS	**Fire Island**	**1.74**	**171**		**Pn**	**03 47 32.6**	**+0.5**
SPCN	**Chakachatna No**	**1.77**	**202**		**Pn**	**03 47 33.1**	**+0.7**
SPCR	**Spurr Chakacha**	**1.79**	**203**		**Pn**	**03 47 32.7**	**-0.1**
SPCR	**Spurr Chakacha**	**1.79**	**203**	P		03 47 32.7	
	baz=21,SNR=59						
SPCR				S		03 47 55.6	
	baz=21						
KNK	**Knik Glacier**	**1.82**	**142**	P		03 47 32.7	
	baz=325						
KNK				S		03 47 55.0	
	baz=325						
RC01	**Rabbit Creek A**	**1.84**	**164**		**Pn**	**03 47 33.0**	**-0.5**
RC01				IAML		03 48 04.5	
	comp=N,1μm,0.3s						
RC01	**Rabbit Creek A**	**1.84**	**164**	P		03 47 33.2	
	baz=345,SNR=56						
RC01				S		03 47 56.0	
	baz=345						
NEA2	**Nenana**	**1.90**	**23**		**Pn**	**03 47 33.8**	**-0.4**
NEA2	**Nenana**	**1.90**	**23**	P		03 47 33.8	
	baz=204						
NEA2				S		03 47 56.2	
	baz=204						
SCM	**Sheep Creek Mo**	**1.91**	**121**		**Pn**	**03 47 33.9**	**-0.5**
SCM				IAML		03 47 59.6	
	comp=E,2μm,0.9s						
SCM				IAML		03 48 00.0	
	comp=N,3μm,0.6s						
WRH	**Wood River Hil**	**2.02**	**35**	Pn	**Pn**	**03 47 35.3**	**-0.3**
MLY	**Manley**	**2.18**	**1**		**Pn**	**03 47 37.6**	**-0.2**
MLY	**Manley**	**2.18**	**1**	P		03 47 37.6	
	baz=180,SNR=114						
MLY				S		03 48 03.0	
	baz=180						
CCB	**Clear Creek Bu**	**2.23**	**35**		**Pn**	**03 47 37.9**	**-0.4**
M24K	**Tolsona, Glenn**	**2.27**	**107**	P		03 47 39.2	
	baz=292,SNR=120						
HDA	**Harding Lake**	**2.32**	**46**		**Pn**	**03 47 39.2**	**-0.2**
HDA	**Harding Lake**	**2.32**	**46**	P		03 47 39.0	
	baz=230						
HDA				P		03 47 39.0	
	baz=230						
HDA				S		03 48 06.1	
	baz=230						
HDA				S		03 48 06.1	
	baz=230						
PWL	**Port Wells**	**2.32**	**149**		**Pn**	**03 47 38.9**	**-0.6**
PWL	**Port Wells**	**2.32**	**149**	IAML		03 48 19.2	
	comp=N,2μm,0.7s						
SLKM	**Skilak Lake**	**2.37**	**173**		**Pn**	**03 47 40.0**	**-0.3**
I23K	**Minto, Yukon-K**	**2.38**	**15**	P		03 47 40.3	
	baz=196,SNR=144						
I23K				S		03 48 07.9	
	baz=196						
MDM	**Murphy Dome**	**2.39**	**27**	Pn	**Pn**	**03 47 40.2**	**-0.3**
TT01	**Tatalina**	**2.40**	**273**		**Pn**	**03 47 40.1**	**-0.4**
TCOL	**CIGO, UAF Yank**	**2.40**	**31**	P		03 47 40.6	
	baz=214,SNR=208						
TCOL				S		03 48 09.7	
	baz=214						
COLA	**College**	**2.41**	**31**		**Pn**	**03 47 40.6**	**0.0**
COLA				IAML		03 48 13.3	
	comp=N,1μm,0.6s						
COLA				IAML		03 48 20.5	
	comp=N,940nm,0.6s						
COLA	**College**	**2.41**	**31**	P		03 47 40.6	
	baz=214						
COLA				S		03 48 09.9	
	baz=214						
PAX	**Paxson**	**2.44**	**85**		**Pn**	**03 47 41.2**	**+0.1**
PAX	**Paxson**	**2.44**	**85**	P		03 47 41.5	
	baz=270,SNR=163						
PAX				S		03 48 10.1	
	baz=270						
O22K	**Cooper Landing**	**2.44**	**168**	P		03 47 40.9	
	baz=349,SNR=20						
PS08	**TAPS Pump Stn8**	**2.45**	**45**		**Pn**	**03 47 40.9**	**-0.3**
DFR	**Drift River**	**2.45**	**202**		**Pn**	**03 47 41.5**	**+0.3**
NCT	**North Crescent**	**2.52**	**205**		**Pn**	**03 47 42.8**	**+0.5**
RSO	**Redoubt South**	**2.58**	**202**		**Pn**	**03 47 43.4**	**+0.3**
IL31		**2.59**	**40**		**Pn**	**03 47 42.6**	**-0.3**
ILAR	**Eielson Array**	**2.59**	**40**	P	**Pn**	**03 47 42.5**	**-0.4**
	comp=N,22nm,0.3s,baz=220,slow=14,SNR=1133						
ILAR				S	**Sn**	**03 48 11.8**	**-2.2**
	comp=N,42nm,0.3s,baz=226,slow=18,SNR=6.4						
ILAR				LR	LR	03 49 02.4	
	comp=N,186nm,20.4s,baz=6.5,slow=47						
PS11	**TAPS Pump St11**	**2.59**	**105**		**Pn**	**03 47 43.6**	**+0.6**
RED	**Redoubt Volcan**	**2.62**	**202**		**Pn**	**03 47 44.0**	**+0.4**
GLI	**Glacier Island**	**2.65**	**137**	P		03 47 42.8	
	baz=321						
GLI				S		03 48 14.9	
	baz=321						
KLU	**Klutina**	**2.66**	**119**	P		03 47 43.0	
	baz=304						
KLU				S		03 48 14.7	
	baz=304						
JPK	**Jack Peak**	**2.68**	**131**		**Pn**	**03 47 43.3**	**-1.1**
PS07	**TAPS Pump Stn7**	**2.70**	**23**		**Pn**	**03 47 44.5**	**+0.1**
POKR	**Poker Plat Res**	**2.71**	**32**	P		03 47 44.7	
	baz=214,SNR=70						
POKR				S		03 48 16.2	
	baz=214						
SEW	**Seward**	**2.84**	**166**	Pn	**Pn**	**03 47 45.7**	**-0.6**
SEW	**Seward**	**2.84**	**166**	P		03 47 45.9	
	baz=348,SNR=7.6						
SEW				S		03 48 17.1	
	baz=348						
SVW2	**Sparrevohn**	**2.87**	**234**	Pn	**Pn**	**03 47 46.3**	**-0.5**
DIV	**Divide**	**2.94**	**124**		**Pn**	**03 47 46.5**	**-1.1**
PS12	**TAPS Pump St12**	**2.99**	**115**		**Pn**	**03 47 47.3**	**-1.0**
PS06	**TAPS Pump Stn6**	**3.04**	**8**		**Pn**	**03 47 49.1**	**+0.1**
IVE	**Iliamna Volcan**	**3.04**	**202**		**Pn**	**03 47 49.9**	**+0.7**
BRLK	**Bradley Lake**	**3.10**	**181**		**Pn**	**03 47 50.0**	**+0.1**
BRLK				IAML		03 48 35.9	
	comp=N,575nm,0.8s						
BRLK				IAML		03 48 37.2	
	comp=E,559nm,0.5s						
ILS	**Iliamna Low So**	**3.11**	**202**		**Pn**	**03 47 51.1**	**+1.1**
BRSE	**Bradley Lake S**	**3.13**	**180**		**Pn**	**03 47 50.2**	**0.0**
BRSE	**Bradley Lake S**	**3.13**	**180**	P		03 47 50.1	
	baz=360						
DOT	**Dot Lake**	**3.14**	**72**		**Pn**	**03 47 49.9**	**-0.5**
N25K	**Chitina, Valde**	**3.16**	**111**		**Pn**	**03 47 50.2**	**-0.5**
N25K	**Chitina, Valde**	**3.16**	**111**	IAML		03 48 29.5	
	comp=E,460nm,0.8s						
N25K				IAML		03 48 38.5	
	comp=N,488nm,

	baz=296							
HIN	**Hinchinbrook I**	**3.21**	**138**			**Pn**	**03 47 50.3**	**-1.0**
HOM	**Homer**	**3.24**	**188**			**Pn**	**03 47 52.8**	**+1.1**
HOM	**Homer**	**3.24**	**188**	P			03 47 52.7	
	baz=7.2							
MENT	**Mentasta**	**3.24**	**85**	Pn		**Pn**	**03 47 51.6**	**-0.1**
SCRK	**Sand Creek**	**3.26**	**67**	Pn		**Pn**	**03 47 51.8**	**-0.2**
SCRK				IAML			03 48 33.9	
	comp=N,575nm,0.8s							
SCRK	**Sand Creek**	**3.26**	**67**	P			03 47 51.9	
	baz=253,SNR=123							
SCRK				S			03 48 28.8	
	baz=253							
EYAK	**Cordova Ski Ar**	**3.34**	**132**	Pn		**Pn**	**03 47 52.3**	**-0.6**
EYAK	**Cordova Ski Ar**	**3.34**	**132**	P			03 47 52.3	
	baz=316,SNR=14							
EYAK				S			03 48 30.9	
	baz=316							
CNPM	**China Poot**	**3.35**	**184**			**Pn**	**03 47 53.5**	**+0.3**
CNPM	**China Poot**	**3.35**	**184**	IAML			03 48 43.0	
	comp=E,741nm,0.6s							
CNPM				IAML			03 48 43.9	
	comp=N,666nm,0.4s							
IM03		**3.39**	**339**			**Pn**	**03 47 53.5**	**0.0**
OPT	**Oil Point**	**3.43**	**201**			**Pn**	**03 47 55.3**	**+1.1**
BMRM	**Bremner River**	**3.49**	**120**	Pn		**Pn**	**03 47 53.7**	**-1.3**
BMRM				IAML			03 48 51.4	
	comp=E,567nm,0.8s							
BMRM				IAML			03 48 53.0	
	comp=N,731nm,1.0s							
BMRM	**Bremner River**	**3.49**	**120**	P			03 47 53.7	
	baz=306							
BMRM				S			03 48 33.5	
	baz=306							
GOAT	**Goat Mountain**	**3.68**	**126**			**Pn**	**03 47 56.6**	**-1.0**
MCARA	**McCarthy VSAT**	**3.94**	**109**	P			03 48 00.6	
	baz=296,SNR=12							
MCARA				S			03 48 45.1	
	baz=296							
PS05	**TAPS Pump Stn5**	**3.97**	**1**			**Pn**	**03 48 01.8**	**+0.4**
HMT	**Hamilton**	**4.01**	**126**			**Pn**	**03 48 02.3**	**+0.2**
Q23K	**Middleton Isla**	**4.06**	**146**			**Pn**	**03 48 02.8**	**+0.2**
Q23K	**Middleton Isla**	**4.06**	**146**	IAML			03 49 54.3	
	comp=E,454nm,2.6s							
K27K	**Chicken**	**4.09**	**69**	P			03 48 02.5	
	baz=257							
L27K	**Beaver Creek,**	**4.10**	**83**	P			03 48 02.6	
	baz=271							
BC03		**4.12**	**83**			**Pn**	**03 48 02.8**	**-0.6**
BCAR	**Beaver Creek A**	**4.12**	**83**			**Pn**	**03 48 02.4**	**-1.1**
PTPK	**Patty Peak**	**4.26**	**109**			**Pn**	**03 48 05.1**	**-0.5**
KHIT	**Khitrov Hills**	**4.33**	**121**			**Pn**	**03 48 05.5**	**-1.0**
BALM	**Baldy**	**4.39**	**111**			**Pn**	**03 48 06.3**	**-0.8**
COLD	**Coldfoot**	**4.39**	**3**	P			03 48 07.1	
	baz=183,SNR=42							
COLD				S			03 48 57.3	
	baz=183							
KIAG	**Kiagna River**	**4.44**	**112**			**Pn**	**03 48 06.8**	**-1.1**
KULT	**Kultieth River**	**4.66**	**121**			**Pn**	**03 48 10.0**	**-0.9**
EGAK	**Eagle**	**4.68**	**61**	Pn		**Pn**	**03 48 10.9**	**-0.1**
EGAK	**Eagle**	**4.68**	**61**	P			03 48 10.9	
	baz=250,SNR=31							
YUK2	**White River**	**4.76**	**99**			**Pn**	**03 48 12.2**	**0.0**
CTG	**Chitna Glacier**	**4.85**	**109**	P			03 48 13.0	
	baz=297,SNR=8.5							
YUK3	**Moose Creek**	**4.94**	**98**			**Pn**	**03 48 14.7**	**0.0**
YAH	**Yahtse**	**4.99**	**116**			**Pn**	**03 48 14.3**	**-1.1**
YAH	**Yahtse**	**4.99**	**116**	IAML			03 49 31.4	
	comp=N,204nm,0.8s							
YAH				IAML			03 49 34.9	
	comp=E,237nm,0.8s							
LOGN	**Logan Glacier**	**5.07**	**109**			**Pn**	**03 48 15.6**	**-0.8**
LOGN	**Logan Glacier**	**5.07**	**109**	IAML			03 49 22.2	
	comp=N,104nm,0.7s							
LOGN				IAML			03 49 42.2	
	comp=E,122nm,1.3s							
KDAK	**Kodiak Island**	**5.17**	**191**	P		**Pn**	**03 48 16.1**	**-1.5**
	comp=E,4.9nm,0.3s,baz=61,slow=6.9,SNR=34							
KDAK				S		**Sn**	**03 49 13.0**	**-2.9**
	comp=E,9.0nm,0.3s,baz=147,slow=23,SNR=9.4							
KDAK	**Kodiak Island**	**5.17**	**191**			**Pn**	**03 48 16.4**	**-1.3**
KDAK				IAML			03 49 50.8	
	comp=E,128nm,3.2s							
KDAK	**Kodiak Island**	**5.17**	**191**	P			03 48 16.0	
	baz=9.2							
KABR	**Katmai Barrier**	**5.17**	**205**			**Pn**	**03 48 18.2**	**+0.4**
TABL	**Table Mountain**	**5.20**	**113**			**Pn**	**03 48 17.8**	**-0.4**
TABL	**Table Mountain**	**5.20**	**113**	IAML			03 49 37.5	
	comp=E,150nm,1.1s							
DAWY	**Dawson**	**5.25**	**72**	Pn		**Pn**	**03 48 18.2**	**-0.6**
DAWY				IAML			03 49 49.5	
	comp=E,134nm,1.0s							
BM03	**Burnt Mountain**	**5.27**	**27**			**Pn**	**03 48 19.0**	**0.0**
BMAR	**Burnt Mountain**	**5.28**	**27**			**Pn**	**03 48 18.8**	**-0.4**
CAHL	**Cahill**	**5.31**	**207**			**Pn**	**03 48 20.4**	**+0.8**
KJL	**Kejulik**	**5.37**	**208**			**Pn**	**03 48 21.1**	**+0.7**
PCA	**Pinnacle**	**5.76**	**114**			**Pn**	**03 48 25.0**	**-0.7**
PINM	**Pinnacle**	**5.76**	**114**	P			03 48 24.8	
	baz=304							
OHAK	**Old Harbor**	**5.79**	**194**			**Pn**	**03 48 24.3**	**-1.7**
OHAK	**Old Harbor**	**5.79**	**194**	P			03 48 24.3	
	baz=12							
TOLK	**Toolik Lake Re**	**5.83**	**4**	Pn		**Pn**	**03 48 27.9**	**+1.3**
TOLK	**Toolik Lake Re**	**5.83**	**4**	P			03 48 26.9	
	baz=185							
BCPM	**Bancas Point**	**6.10**	**114**			**Pn**	**03 48 29.4**	**-0.8**
YUK6	**Outpost Mounta**	**6.18**	**103**			**Pn**	**03 48 30.7**	**-0.8**
YUK5	**Granite Creek**	**6.33**	**100**			**Pn**	**03 48 32.7**	**-0.8**
YUK7	**Dusty Glacier**	**6.45**	**106**			**Pn**	**03 48 34.4**	**-0.8**
HYT	**Haines Junctio**	**6.61**	**102**			**Pn**	**03 48 37.1**	**-0.2**
ANM	**Nome**	**6.70**	**291**	Pn		**Pn**	**03 48 39.3**	**+1.0**
ANM	**Nome**	**6.70**	**291**	P			03 48 38.9	
	baz=98							
EPYK	**Eagle Plains**	**6.99**	**54**	Pn		**Pn**	**03 48 42.4**	**+0.1**
EPYK	**Eagle Plains**	**6.99**	**54**	P			03 48 42.2	
	baz=246,SNR=69							
RDOG	**Red Dog Mine**	**7.25**	**321**	P			03 48 46.6	
	baz=130							
PLBC	**Pleasant Camp**	**7.76**	**110**			**Pn**	**03 48 52.2**	**-0.5**
WHY	**Whitehorse**	**7.86**	**99**			**Pn**	**03 48 52.8**	**-1.4**
TNA	**Tin City**	**7.94**	**297**	Pn		**Pn**	**03 48 56.3**	**+1.2**
TNA	**Tin City**	**7.94**	**297**	P			03 48 56.1	
	baz=102,SNR=8.1							
SKAG	**Skagway**	**8.21**	**108**			**Pn**	**03 48 58.4**	**-0.4**
BESE	**Bessie Mountai**	**8.90**	**112**			**Pn**	**03 49 07.2**	**-1.1**
INK	**Inuvik**	**8.97**	**45**	P		**Pn**	**03 49 09.6**	**+0.5**
	comp=E,0.9nm,0.3s,baz=233,slow=17,SNR=88							
INK				S		**Sn**	**03 50 48.2**	**+0.1**
	comp=E,0.4nm,0.3s,baz=206,slow=4.3,SNR=4.2							
JIS	**Juneau Island**	**9.28**	**112**			**Pn**	**03 49 12.4**	**-0.9**
GAMB	**Gambell**	**9.44**	**285**	P			03 49 16.4	
	baz=86							
SIT	**Sitka**	**9.68**	**120**			**Pn**	**03 49 18.4**	**-0.3**
DLBC	**Dease Lake**	**11.09**	**104**	P		**Pn**	**03 49 36.8**	**-1.1**
	comp=E,0.2nm,0.3s,baz=322,slow=12,SNR=4.5							
DLBC	**Dease Lake**	**11.09**	**104**			**Pn**	**03 49 37.0**	**-0.9**
YKA	**Yellowknife Ar**	**16.48**	**75**	P		**Pn**	**03 50 46.0**	**-1.2**
	comp=E,0.7nm,0.3s,baz=288,slow=9.6,SNR=52							
YKA				ScP		**ScP**	**03 58 56.7**	**+0.3**
	comp=E,0.0nm,0.3s,baz=304,slow=1.2,SNR=8.7							
RES	**Resolute Bay**	**22.33**	**35**	P		**P**	**03 51 50.7**	**-0.4**
	comp=E,1.3nm,0.4s,baz=260,slow=12,SNR=15							
RES	**Resolute Bay**	**22.33**	**35**	P		**P**	**03 51 50.8**	**-0.4**
RES				IAmb		IAmb	03 52 05.8	
	comp=Z,2.8nm,0.8s							
LTY	**Liberty**	**22.95**	**119**	P		**P**	**03 51 58.3**	**+0.5**
NEW	**Newport**	**23.62**	**112**	P		**P**	**03 52 04.1**	**+0.1**
	comp=Z,3.3nm,1.1s,baz=304,slow=9.7,SNR=3.7							
D08A	**Wollman Farm,**	**23.83**	**117**	P		**P**	**03 52 05.8**	**+0.1**
D08A				IAmb		IAmb	03 52 07.0	
	comp=Z,3.8nm,0.6s							
EUNU	**Eureka**	**24.55**	**22**	P		**P**	**03 52 12.7**	**+0.6**
SEY	**Seymchan**	**25.18**	**296**	P		**P**	**03 52 17.0**	**-0.8**
	comp=Z,6.2nm,0.8s,baz=94,slow=7.1,SNR=18							
JTMT	**Jette**	**25.24**	**110**	P		**P**	**03 52 19.0**	**+0.3**
JTMT				IAmb		IAmb	03 52 23.1	
	comp=Z,2.7nm,0.8s							
MSO	**Missoula**	**26.10**	**111**	P		**P**	**03 52 26.4**	**0.0**
MSO				IAmb		IAmb	03 52 27.5	
	comp=Z,2.3nm,0.5s							
EGMT	**Eagleton**	**27.02**	**104**	P		**P**	**03 52 35.3**	**+0.7**
EGMT				IAmb		IAmb	03 52 36.2	
	comp=Z,4.6nm,0.8s							
FCC	**Fort Churchill**	**27.17**	**73**	P		**P**	**03 52 36.5**	**+0.8**
LRM	**Limekiln Ridge**	**27.53**	**110**	P		**P**	**03 52 39.2**	**-0.1**
BOZ	**Bozeman (W)**	**28.06**	**110**	P		**P**	**03 52 43.6**	**-0.4**
PDAR	**Pinedale Array**	**31.22**	**111**	P		**P**	**03 53 13.5**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=306,slow=5.3,SNR=9.2							
PDAR				pP		**pP**	**03 53 36.5**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=324,slow=7.3,SNR=5.2							
PDAR				PcP		**PcP**	**03 56 04.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=105,slow=1.8,SNR=5.2							
PDAR				LR		LR	04 06 13.8	
	comp=Z,34nm,19.1s,baz=131,slow=37							
NVAR	**Mina Array Bea**	**31.36**	**126**	P		**P**	**03 53 14.8**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=315,slow=9.2,SNR=6.8							
NVAR				pP		**pP**	**03 53 38.1**	**+1.3**
	comp=Z,1.8nm,0.7s,baz=312,slow=8.4,SNR=9.8							
NVAR				sP		**sP**	**03 53 49.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=307,slow=8.8,SNR=3.7							
ULM	**Lac du Bonnet**	**31.73**	**87**	P		**P**	**03 53 17.0**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=307,slow=8.2,SNR=3.4							
ULM	**Lac du Bonnet**	**31.73**	**87**	P		**P**	**03 53 16.4**	**+0.3**
ULM				IAmb		IAmb	03 53 17.5	
	comp=Z,2.2nm,0.7s							
NRIK	**Noril'sk**	**41.81**	**333**	P		**P**	**03 54 41.1**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=61,slow=4.9,SNR=5.5							
NRIK	**Noril'sk**	**41.81**	**333**	P		**P**	**03 54 41.2**	**-0.1**
TXAR	**Lajitas Array**	**45.12**	**115**	P		**P**	**03 55 09.8**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=336,slow=6.6,SNR=10.0							
ARCES	**ARCESS Array B**	**47.86**	**2**	P		**P**	**03 55 28.2**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=345,slow=5.6,SNR=7.8							
ARCES	**ARCESS Array B**	**47.86**	**2**	P		**P**	**03 55 29.1**	**-0.1**
KSRS	**Korea Array**	**53.60**	**282**	P		**P**	**03 56 12.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=39,slow=8.2,SNR=5.5							
SONM	**Songino Array**	**53.98**	**306**	P		**P**	**03 56 16.5**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=25,slow=6.3,SNR=16							
ZALV	**Zalesovo Beam**	**55.69**	**324**	P		**P**	**03 56 26.7**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=17,slow=7.6,SNR=8.4							
FINES	**FINESS Array B**	**55.99**	**2**	P		**P**	**03 56 28.6**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=296,slow=6.1,SNR=5.3							
MKAR	**Makanchi Array**	**62.85**	**322**	P		**P**	**03 57 15.8**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=49,slow=6.1,SNR=13							
AKASG	**Malin Array Be**	**66.79**	**360**	P		**P**	**03 57 41.1**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=2.4,slow=6.4,SNR=12							
KBZ	**Khabaz**	**73.20**	**350**	P		**P**	**03 58 21.9**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=320,slow=4.1,SNR=10							
BRTR	**Keskin Array B**	**77.70**	**357**	P		**P**	**03 58 47.8**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=46,slow=4.2,SNR=3.9							
PALK	**Pallekele**	**99.88**	**308**	LR		LR	04 52 52.6	
	comp=Z,57nm,18.2s,baz=308,slow=40							
BOSA	**Boshof**	**145.65**	**6**	PKPbc		**PKPab**	**04 06 29.3**	**+0.2**
	comp=Z,3.5nm,1.0s,baz=82,slow=3.8,SNR=3.6							

*SOME **26** 03:48:00.8,42°.25N×81°.50E,h0km*
*NNC **26** 03:48:03.6±1.1,42°.26N×81°.51E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=9.4km s-min=4.1km az=157.0
ISC 26 03:48:02.2±2.2,42.08N±0°.10×81.38E±0.06,h5km±12km,
n39,σ1§71/62,3C-8D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
KTMS	**Ketmen**	**1.56**	**331**	*eP*		**Pn**	**03**	**48**	**30.5**	**-0.2**
	25nm,0.2s									
KTMS				*eS*		**Sn**	**03**	**48**	**51.4**	**0.0**
	46nm,0.3s									
SHLS	**Shalkode**	**1.77**	**308**	*eP*		**Pn**	**03**	**48**	**32.1**	**-1.6**
	28nm,0.4s									
SHLS				*eS*		**Sn**	**03**	**48**	**54.0**	**-2.7**
	73nm,0.4s									
UZB	**Uzynbulak**	**2.04**	**302**	*eP*		**Pg**	**03**	**48**	**41.3**	**0.0**
	13nm,0.3s									
UZB				*eS*		**Sg**	**03**	**49**	**09.7**	**+2.0**
	54nm,0.4s									
UZB	**Uzynbulak**	**2.04**	**302**	Pg		**Pg**	**03**	**48**	**41.3**	**0.0**
	13nm,0.3s									
UZB				Lg		Lg	03	49	09.7	
	54nm,0.4s									
SATY	**Saty**	**2.40**	**295**	*eP*		**Pg**	**03**	**48**	**48.5**	**+0.2**
	8.9nm,0.2s									
SATY				*eS*		**Sg**	**03**	**49**	**22.0**	**+2.7**
	42nm,0.1s									
SATY	**Saty**	**2.40**	**295**	Pg		**Pg**	**03**	**48**	**48.5**	**+0.2**
	8.9nm,0.2s									
SATY				Lg		Lg	03	49	22.0	
	42nm,0.1s									
KPKS	**Kokpek**	**2.42**	**306**	*eP*		**Pb**	**03**	**48**	**46.8**	**+0.5**
	18nm,0.2s									
KPKS				*eS*		**Sg**	**03**	**49**	**19.9**	**+0.1**
	120nm,0.3s									
ZHN	**Zhinishke**	**2.43**	**298**	*eP*		**Pg**	**03**	**48**	**48.9**	**+0.1**
	1.4nm,0.3s									
ZHN				*eS*		**Sg**	**03**	**49**	**22.4**	**+2.2**
	12nm,0.2s									
ZHN	**Zhinishke**	**2.43**	**298**	Pg		**Pg**	**03**	**48**	**48.7**	**0.0**
ZHN				Lg		Lg	03	49	22.4	
	1.9nm,0.2s									
DJR	**Jarkent**	**2.53**	**333**	*eP*		**Pb**	**03**	**48**	**46.8**	**-1.3**
	5.5nm,0.2s									
DJR				*eS*		**Sb**	**03**	**49**	**20.1**	**+0.5**
	65nm,0.4s									
KURS	**Kuram**	**2.75**	**302**	*eP*		**Pg**	**03**	**48**	**54.0**	**-0.8**
	5.8nm,0.4s									
KURS				*eS*		**Sg**	**03**	**49**	**31.5**	**+1.0**
	14nm,0.8s									
KURS	**Kuram**	**2.75**	**302**	Pg		**Pg**	**03**	**48**	**54.0**	**-0.8**
	5.8nm,0.4s									
KURS				Lg		Lg	03	49	31.5	
	14nm,0.8s									
MNBS	**Baschi**	**2.96**	**313**	*eP*		**Pb**	**03**	**48**	**54.4**	**-1.0**
	3.6nm,0.2s									
MNBS				*eS*		**Sb**	**03**	**49**	**33.0**	**+1.2**
	44nm,0.3s									
MNBS	**Baschi**	**2.96**	**313**	Pg		**Pb**	**03**	**48**	**54.4**	**-1.0**
	3.6nm,0.2s									
MNBS				Lg		Lg	03	49	33.0	
	44nm,0.3s									
KOTS	**Kotyrbulak**	**3.35**	**292**	*eP*		**Pb**	**03**	**49**	**02.9**	**+0.8**
	11nm,0.3s									
KOTS				*eS*		**Sg**	**03**	**49**	**46.9**	**-2.9**
	20nm,0.5s									
ARXS	**Arharly**	**3.36**	**311**	*eP*		**Pb**	**03**	**49**	**04.2**	**+1.9**
	7.3nm,0.4s									
ARXS				*eS*		**Sg**	**03**	**49**	**49.3**	**-0.8**
	16nm,0.4s									
MDOK	**Medeo**	**3.37**	**290**	*eP*		**Pb**	**03**	**49**	**04.4**	**+1.9**
	2.4nm,0.3s									
MDOK				*eS*		**Sg**	**03**	**49**	**49.5**	**-1.0**
	12nm,0.7s									
MDOK	**Medeo**	**3.37**	**290**	Pg		**Pb**	**03**	**49**	**04.4**	**+1.9**
	2.4nm,0.3s									
MDOK				Lg		Lg	03	49	49.5	
	12nm,0.7s									
TNSS	**Tian-Shan**	**3.41**	**288**	*eP*		**Pg**	**03**	**49**	**07.3**	**-0.3**
	3.3nm,0.3s									
TNSS				*eS*		**Sg**	**03**	**49**	**54.2**	**+2.5**
	5.2nm,0.3s									
TNSS	**Tian-Shan**	**3.41**	**288**	Pg		**Pg**	**03**	**49**	**07.3**	**-0.3**
	3.3nm,0.3s									
TNSS				Lg		Lg	03	49	54.3	
	5.2nm,0.3s									
CHKK	**Chushkaly**	**3.67**	**300**	*eP*		**Pb**	**03**	**49**	**09.4**	**+1.8**
	2.1nm,0.5s									
CHKK				*eS*		**Sg**	**03**	**49**	**58.3**	**-1.9**
	12nm,0.3s									
CHKK	**Chushkaly**	**3.67**	**300**	Pg		**Pb**	**03**	**49**	**09.4**	**+1.8**
	2.1nm,0.5s									
CHKK				Lg		Lg	03	49	58.3	
	12nm,0.3s									
KTBS	**Karatobe**	**3.81**	**297**	*eP*		**Pb**	**03**	**49**	**12.5**	**+2.5**
	1.9nm,0.6s									
KTBS				*eS*		**Sg**	**03**	**50**	**03.4**	**-1.3**
	19nm,0.4s									
KTBS	**Karatobe**	**3.81**	**297**	Pg		**Pb**	**03**	**49**	**12.5**	**+2.5**
	1.9nm,0.6s									
KTBS				Lg		Lg	03	50	03.4	
	19nm,0.4s									
KST	**Kastek**	**4.11**	**285**	*eP*		**Pg**	**03**	**49**	**19.5**	**-1.5**
	3.9nm,0.5s									
KST				*eS*		**Sg**	**03**	**50**	**16.0**	**+1.7**
	9.4nm,0.8s									
KST	**Kastek**	**4.11**	**285**	Pg		**Pg**	**03**	**49**	**19.5**	**-1.5**
	3.9nm,0.5s									
KST				Lg		Lg	03	50	16.0	
	9.4nm,0.8s									
KUU	**Kurty**	**4.12**	**298**	*eP*		**Pb**	**03**	**49**	**17.8**	**+2.7**
	1.3nm,0.4s									
KUU				*eS*		**Sg**	**03**	**50**	**12.4**	**-1.9**
	8.4nm,0.4s									
KUU	**Kurty**	**4.12**	**298**	Pg		**Pb**	**03**	**49**	**17.8**	**+2.7**
	1.3nm,0.4s									
KUU				Lg		Lg	03	50	12.4	
	8.4nm,0.4s									
DGS	**Degeres**	**4.29**	**288**	*eP*		**Pg**	**03**	**49**	**21.9**	**-2.5**
	2.6nm,0.5s									
DGS				*eS*		**Sg**	**03**	**50**	**19.9**	**-0.2**
	8.4nm,0.5s									
DGS	**Degeres**	**4.29**	**288**	Pg		**Pg**	**03**	**49**	**21.9**	**-2.5**
	2.6nm,0.5s									
DGS				Lg		Lg	03	50	19.9	
	8.4nm,0.5s									
TKM2	**Tokmak 2**	**4.36**	**283**	⇓Pg		**Pg**	**03**	**49**	**23.2**	**-2.5**
	2.0nm,0.6s									
TKM2				⇓Lg		Lg	03	50	28.8	
	4.7nm,0.5s									
KRBS	**Karabastau**	**4.49**	**293**	*eP*		**Pg**	**03**	**49**	**26.9**	**-1.3**
	1.4nm,0.3s									
KRBS				*eS*		**Sg**	**03**	**50**	**28.0**	**+1.6**
	5.6nm,0.5s									
KRBS	**Karabastau**	**4.49**	**293**	Pg		**Pg**	**03**	**49**	**26.9**	**-1.3**
	1.4nm,0.3s									
KRBS				Lg		Lg	03	50	28.0	
	5.6nm,0.5s									
MAKZ	**Makanchi**	**4.74**	**5**	⇑Pn		**Pn**	**03**	**49**	**14.4**	**+0.1**
	1.8nm,0.3s									
MAKZ				⇓Sn		**Sn**	**03**	**50**	**09.8**	**+0.1**
	1.7nm,0.5s									
MAKZ				⇓Lg		Lg	03	50	24.8	
	12nm,0.6s									
MK31	**Makanchi Array**	**4.76**	**8**	⇑Pn		**Pn**	**03**	**49**	**14.8**	**+0.2**
	0.3nm,0.2s,baz=186,slow=13,SNR=29									
MK31				⇓Pg		**Pb**	**03**	**49**	**25.6**	**-0.5**
	1.5nm,0.5s,baz=188,slow=17,SNR=6.1									
MK31				⇓Sn		**Sn**	**03**	**50**	**08.6**	**-1.4**
	0.4nm,0.2s,baz=179,slow=19,SNR=3.9									
MK31				⇓Lg		Lg	03	50	26.3	
	12nm,0.6s,baz=186,slow=30,SNR=11									
AAK	**Ala-Archa**	**5.13**	**279**	⇑Pg		**Pg**	**03**	**49**	**37.0**	**-3.5**
	1.4nm,0.6s									
AAK				⇓Lg		Lg	03	50	53.4	
	4.5nm,0.7s									
SGDS	**Sogindy**	**5.15**	**288**	Pg		**Pg**	**03**	**49**	**39.3**	**-1.6**
	2.8nm,0.8s									
SGDS				Lg		Lg	03	50	49.1	
	2.9nm,0.9s									
ZSN	**Zaisan**	**5.91**	**24**	*eP*		**Pb**	**03**	**49**	**46.0**	**+0.3**
	4.1nm,0.2s									
ZSN				*eS*		**Sb**	**03**	**51**	**00.6**	**+3.8**
	7.6nm,0.3s									
ZSN	**Zaisan**	**5.91**	**24**	Pg		**Pb**	**03**	**49**	**46.0**	**+0.3**
	4.1nm,0.2s									
ZSN				Lg		Lg	03	51	00.6	
	7.6nm,0.3s									

*SOME **26** 04:12:06.5,40°.02N×75°.33E,h5km*
*NNC **26** 04:12:08.2±0.8,40°.04N×75°.33E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=5.9km s-min=4.6km az=159.0
*KRNET **26** 04:12:08.3±0.1,39°.77N×75°.46E,mb2.9*
ISC 26 04:12:08.8±2.2,39°.8N±0°.1×75°.42E±0°.05,h10km,n35,
σ1§68/57,17C-9D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
ARSB	**Arslanbob**	**2.38**	**310**	⇑*iP*		**Pb**	**04**	**12**	**49.7**	**-2.3**
	baz=10.0									
ARSB				⇑*iS*		**Sn**	**04**	**13**	**19.1**	**+1.6**
	baz=10.0									
UCH	**Uchtor**	**2.50**	**344**	⇑*eP*		**Pn**	**04**	**12**	**50.7**	**+0.8**
	baz=44									
UCH				⇑*iS*		**Sn**	**04**	**13**	**22.3**	**+1.6**
	baz=44									
ULHL	**Ulahol**	**2.50**	**14**	⇑*iP*		**Pn**	**04**	**12**	**50.5**	**+0.8**
	baz=13									
ULHL				⇑*iS*		**Sn**	**04**	**13**	**21.7**	**+1.3**
	baz=13									
AML	**Almayashu**	**2.65**	**331**	⇑*iP*		**Pn**	**04**	**12**	**52.9**	**+0.9**
	baz=31									
AML				⇑*iS*		**Sn**	**04**	**13**	**26.1**	**+1.8**
	baz=31									
KDJ	**Kajisay**	**2.66**	**29**	⇑*iP*		**Pn**	**04**	**12**	**52.5**	**+0.6**

KRBS					Lg	Lg	04 14 04.2	
	4.2nm,0.3s							
SATY	**Saty**	**3.93**	**34**	*eP*	**Pb**	**04 13 18.0**	**-0.3**	
	0.8nm,0.1s							
SATY				*eS*	**Sb**	**04 14 09.5**	**+3.5**	
	4.3nm,0.2s							
SATY	**Saty**	**3.93**	**34**	Pg	**Pb**	**04 13 18.0**	**-0.3**	
	0.8nm,0.1s							
SATY				Lg	Lg	04 14 09.5		
	4.3nm,0.2s							
KTBS	**Karatobe**	**4.00**	**13**	*eP*	**Pb**	**04 13 17.8**	**-1.6**	
	1.4nm,0.2s							
KTBS				*eS*	**Sb**	**04 14 08.9**	**+1.2**	
	8.6nm,0.6s							
KTBS	**Karatobe**	**4.00**	**13**	Pg	**Pb**	**04 13 17.8**	**-1.6**	
	1.4nm,0.2s							
KTBS				Lg	Lg	04 14 08.9		
	8.6nm,0.6s							
KPKS	**Kokpek**	**4.38**	**33**	*eP*	**Pb**	**04 13 24.7**	**-1.3**	
	3.2nm,0.3s							
KPKS				*eS*	**Sb**	**04 14 21.1**	**+2.2**	
	12nm,0.5s							
SHLS	**Shalkode**	**4.50**	**41**	*eP*	**Pg**	**04 13 32.9**	**-2.2**	
	5.7nm,0.3s							
SHLS				*eS*	**Sg**	**04 14 34.9**	**+1.4**	
	9.0nm,0.5s							
SHLS	**Shalkode**	**4.50**	**41**	Pg	**Pg**	**04 13 32.9**	**-2.2**	
	5.7nm,0.3s							
SHLS				Lg	Lg	04 14 34.9		
	9.0nm,0.5s							
KK31	**Karatay Array**	**4.93**	**313**	⇑Pg	**Pb**	**04 13 35.4**	**+0.1**	
	0.4nm,0.3s							
KK31				⇓Lg	Lg	04 14 38.3		
	0.5nm,0.4s,baz=130,slow=28							

IDC ***26*** *04:43:16.7±1.4, 31°.28N×70°.23E, h0km, mb3.5/10, mb1 3.8/12, mb1mx3.5/55, mbtmp3.7/12, ML3.7/2, MS3.3/8, Ms1 3.3/8, ms1mx2.9/43, Error ellipse: s-maj=28.5km s-min=26.0km az=139.0*

NDI ***26*** *04:43:18.8±1.3, 31°.17N×70°.02E, h0km±44km, ML3.5*

ISC 26 04:43:18.1±0.8, 31°21N±0°.08×70°25E±0°.07, h10km, n33, σ2§62/33, mb3.6/9, MS3.3/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**5.26**	**77**	*eP*		**Pn**	**04 44 41.2**	**+4.2**
DHRM				*eS*		**Sn**	**04 45 42.1**	**+4.2**
DHRM				*eS*		**Sb**	**04 45 45.5**	**-8.1**
DHRM				IAML			04 45 55.0	
	comp=E,102nm,0.7s							
DHRM				IAML			04 46 06.5	
	comp=N,124nm,1.0s							
SMLA	**Simla**	**5.93**	**89**	*eP*		**Pn**	**04 44 50.7**	**+4.7**
SMLA				*eS*		**Sn**	**04 45 58.0**	**+4.0**
SMLA				IAML			04 46 07.9	
	comp=E,52nm,0.8s							
SMLA				IAML			04 46 09.7	
	comp=N,53nm,0.6s							
KUDL	**Kundal**	**6.23**	**118**	*eP*		**Pn**	**04 44 53.9**	**+3.8**
KUDL				*eS*		**Sn**	**04 46 02.2**	**+0.8**
SONA	**Sohna**	**6.64**	**115**	*ex*		**Sn**	**04 46 15.8**	**+4.5**
SONA				*ex*		x	04 47 02.3	
BHPL	**Bhopal**	**10.19**	**139**	*eS*		**Sn**	**04 47 35.4**	**-3.3**
AML	**Almayashu**	**11.24**	**13**	P		**Pn**	**04 45 58.2**	**-1.0**
	SNR=54							
UCH	**Uchtor**	**11.51**	**16**	P		**Pn**	**04 46 01.9**	**-1.0**
	SNR=37							
EKS2	**Erkin-Say**	**11.77**	**13**	P		**Pn**	**04 46 05.3**	**-0.9**
	SNR=9.7							
AAK	**Ala-Archa**	**11.90**	**15**	Pn		**Pn**	**04 46 07.4**	**-0.5**
	comp=N,1.2nm,0.3s,baz=190,slow=7.9,SNR=27							
AAK				LR		LR	04 51 19.1	
	comp=N,162nm,20.6s,baz=196,slow=41							
KBK	**Karagaybulak**	**12.03**	**17**	P		**Pn**	**04 46 10.8**	**+1.1**
	SNR=7.2							
CHMS	**Chumysh**	**12.30**	**16**	P		**Pn**	**04 46 12.4**	**-0.9**
	SNR=9.0							
KKN	**Kakani**	**13.53**	**101**	*eP*		**Pn**	**04 46 29.6**	**-0.7**
	comp=N,16nm,0.6s							
PKIN	**Phulchoki**	**13.70**	**102**	*eP*		**Pn**	**04 46 32.4**	**-0.2**
	comp=N,7.5nm,0.3s							
PKI	**Pulchoki**	**13.71**	**102**	*eP*		**Pn**	**04 46 31.4**	**-1.5**
	comp=N,9.4nm,0.6s							
GUN	**Gumba**	**14.00**	**100**	*eP*		**Pn**	**04 46 36.7**	**-0.2**
	comp=N,13nm,0.3s							
JIRN	**Jiri**	**14.34**	**100**	*eP*		**Pn**	**04 46 41.5**	**0.0**
	comp=N,20nm,0.6s							
RAMN	**Ramite**	**14.91**	**102**	*eP*		**Pn**	**04 46 48.6**	**-0.7**
	comp=N,8.8nm,0.5s							
TAPN	**Taplejung**	**15.72**	**100**	*eP*		**Pn**	**04 46 59.6**	**-0.3**
	comp=N,5.9nm,0.3s							
MKAR	**Makanchi Array**	**18.12**	**27**	P		**Pn**	**04 47 28.9**	**-1.0**
	comp=N,0.1nm,0.3s,baz=218,slow=14,SNR=19							
MKAR				LR		LR	04 55 19.2	
	comp=N,91nm,19.2s,baz=210,slow=40							
KURBB	**Kurchatov Arra**	**20.35**	**15**	P		**P**	**04 47 52.9**	**-1.6**
	comp=N,2.3nm,0.9s,baz=207,slow=10,SNR=10							
AKTO	**Aktyubinsk**	**21.27**	**338**	P		**P**	**04 48 04.5**	**+0.1**
	comp=N,3.7nm,1.0s,baz=157,slow=11,SNR=6.1							
BVAR	**Borovoye Array**	**21.80**	**0**	P		**P**	**04 48 08.7**	**-1.4**
	comp=N,1.4nm,0.6s,baz=150,slow=15,SNR=3.6							
ZALV	**Zalesovo Beam**	**25.03**	**21**	P		**P**	**04 48 41.8**	**-0.3**
	comp=N,0.8nm,0.4s,baz=232,slow=8.9,SNR=3.9							
ZALV				LR		LR	04 59 32.2	
	comp=N,65nm,18.9s,baz=138,slow=39							
CMAR	**Chiang Mai Arr**	**28.88**	**109**	LR		LR	05 03 08.5	
	comp=N,18nm,21.2s,baz=205,slow=41							
TLY	**Talaya**	**31.91**	**40**	LR		LR	05 04 32.8	
	comp=N,57nm,19.8s,baz=199,slow=40							
SONM	**Songino Array**	**32.09**	**48**	P		**P**	**04 49 45.7**	**+0.3**
	comp=N,0.5nm,0.8s,baz=243,slow=6.2,SNR=5.4							
SONM				LR		LR	05 05 03.4	
	comp=N,69nm,18.9s,baz=42,slow=41							
AKASG	**Malin Array Be**	**36.00**	**315**	P		**P**	**04 50 20.7**	**+1.6**
	comp=N,0.2nm,0.3s,baz=101,slow=7.1,SNR=4.0							
ARCES	**ARCESS Array B**	**45.83**	**340**	P		**P**	**04 51 39.8**	**-0.1**
	comp=N,1.9nm,1.0s,baz=111,slow=6.6,SNR=4.5							
NOA	**NORSAR Array B**	**48.32**	**326**	LR		LR	05 14 17.1	
	comp=N,34nm,18.8s,baz=105,slow=39							
KLR	**Kul'dur**	**48.90**	**50**	LR		LR	05 15 37.3	
	comp=N,50nm,19.0s,baz=286,slow=40							
TORD	**Torodi Ar. Bea**	**65.06**	**271**	P		**P**	**04 53 57.6**	**-1.4**
	comp=N,0.6nm,0.7s,baz=62,slow=6.3,SNR=2.4							
WRA	**Warramunga Arr**	**79.78**	**121**	P		**P**	**04 55 28.1**	**+1.3**
	comp=N,0.6nm,0.9s,baz=326,slow=5.4,SNR=2.7							
YKA	**Yellowknife Ar**	**86.54**	**2**	P		**P**	**04 56 00.3**	**-0.7**
	comp=N,0.2nm,0.6s,baz=356,slow=4.7,SNR=5.7							

IDC 26 05:09:08.4±2.1, 1°.10S×126°.47E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.1/38, mbtmp3.1/3, Error ellipse: s-maj=166.5km s-min=28.7km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.25**	**158**	P		P	05 13 45.6	+0.1
	0.2nm,0.3s,baz=336,slow=12,SNR=10							
ASAR	**Alice Springs**	**23.57**	**163**	P		P	05 14 20.8	-0.1
	0.4nm,0.4s,baz=350,slow=12,SNR=5.2							
MKAR	**Makanchi Array**	**61.39**	**327**	P		P	05 19 26.4	0.0
	0.1nm,0.3s,baz=132,slow=10,SNR=1.3							

DJA 26 05:11:27.5±0.6, 0°S±4°×12°3E±°, h119km±7km, M3.4/7, MLv3.4/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.02**	**199**	P		Pn	05 11 50.1	+0.5
LUWI				S		Sn	05 12 06.7	+0.3
MRSI	**Marisa**	**1.28**	**295**	P		Pn	05 11 52.5	+0.1
MRSI				S		Sn	05 12 11.1	-0.1
APSI	**Ampana**	**1.67**	**240**	P		Pn	05 11 57.9	+1.0
APSI				S		Sn	05 12 20.2	+0.9
SANI	**Sanana**	**3.49**	**124**	P		Pn	05 12 18.6	-1.7

KRNET ***26*** *05:42:22.5±0.1, 38°.77N×70°.73E, mb3.5*

NNC ***26*** *05:42:24.2±2.3, 39°.00N×70°.05E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=20.4km s-min=11.5km az=179.0*

ISC 26 05:42:26.5±2.1, 39°1N±0°.1×70°.54E±0°.06, h10km, n22, σ3§63/34, 16C-14D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.97**	**13**	⇑*iP*		**Pb**	**05 42 47.1**	**+1.6**
	baz=3.0							
BTK				⇑*iS*		**Sn**	**05 43 04.9**	**+4.7**
	baz=3.0							
DRK	**Karamyk**	**1.04**	**69**	⇑*iP*		**Pg**	**05 42 43.3**	**-3.3**
	baz=49							
DRK				⇑*iS*		**Sg**	**05 42 59.2**	**-1.0**
	baz=49							
TRKS	**Terek-Say**	**2.46**	**11**	⇑*iP*		**Pn**	**05 43 09.9**	**+3.0**
	baz=7.0							
TRKS				⇑*iS*		**Sg**	**05 43 44.8**	**-0.8**
	baz=7.0							
ARSB	**Arslanbob**	**2.90**	**39**	⇓*iP*		**Pn**	**05 43 15.1**	**+2.3**
	baz=33							
ARSB				⇓*iS*		**Sb**	**05 43 52.2**	**-1.7**
	baz=33							
MNAS	**Manas**	**3.69**	**23**	⇓*iP*		**Pn**	**05 43 27.0**	**+3.3**
	baz=19							
MNAS				⇓*iS*		**Sb**	**05 44 14.6**	**-2.1**
	baz=19							
AML	**Almayashu**	**3.85**	**37**	⇑*iP*		**Pn**	**05 43 28.6**	**+2.3**
	baz=33							
AML				⇑*iS*		**Sn**	**05 44 16.7**	**+4.9**
	baz=33							
AML	**Almayashu**	**3.85**	**37**	P		**Pn**	**05 43 29.4**	**+3.1**
	SNR=20							
KK31	**Karatay Array**	**3.99**	**360**	⇑Pn		**Pn**	**05 43 30.7**	**+3.0**
	3.7nm,0.5s,baz=199,slow=17,SNR=32							
KK31				⇑Sn		**Sn**	**05 44 17.2**	**+2.6**
	4.3nm,0.4s,baz=188,slow=54,SNR=4.0							
KK31				⇑Lg		Lg	05 44 36.8	
	3.2nm,0.3s							
EKS2	**Erkin-Say**	**4.31**	**34**	⇓*eP*		**Pn**	**05 43 34.9**	**+2.6**
	baz=30							
EKS2				⇓*iS*		**Sn**	**05 44 28.2**	**+5.5**
	baz=30							
EKS2	**Erkin-Say**	**4.31**	**34**	P		**Pn**	**05 43 36.4**	**+4.1**
	SNR=13							
UCH	**Uchtor**	**4.34**	**43**	⇓*iP*		**Pn**	**05 43 34.8**	**+1.9**
	baz=39							
UCH				⇓*iS*		**Sn**	**05 44 27.6**	**+3.8**
	baz=39							
UCH	**Uchtor**	**4.34**	**43**	P		**Pn**	**05 43 36.6**	**+3.6**
	SNR=34							
AAK	**Ala-Archa**	**4.62**	**39**	⇑*iP*		**Pn**	**05 43 38.7**	**+2.1**
	baz=35							
AAK				⇑*iS*		**Sn**	**05 44 34.7**	**+4.2**
	baz=35							
AAK	**Ala-Archa**	**4.62**	**39**	P		**Pn**	**05 43 40.5**	**+3.9**
	SNR=6.1							
AAK	**Ala-Archa**	**4.62**	**39**	⇓Pn		**Pn**	**05 43 39.8**	**+3.2**
	9.3nm,0.6s							
AAK				⇓Sn		**Sb**	**05 44 38.3**	**-5.4**
	7.7nm,0.9s							
AAK				⇓Lg		Lg	05 45 00.4	
	6.7nm,0.7s							
KBK	**Karagaybulak**	**4.87**	**42**	P		Pn	05 43 44.9	+4.9
	SNR=19							
CHMS	**Chumysh**	**5.02**	**38**	P		**Pn**	**05 43 45.5**	**+3.6**
	SNR=6.9							
USP	**Ospenovka**	**5.11**	**34**	P		**Pn**	**05 43 46.7**	**+3.5**
	SNR=10							
TKM2	**Tokmak 2**	**5.39**	**43**	P		**Pn**	**05 43 51.1**	**+3.9**
	SNR=5.8							
TKM2	**Tokmak 2**	**5.39**	**43**	⇓Pn		**Pn**	**05 43 50.5**	**+3.3**
	16nm,0.6s							
TKM2				⇑Sn		**Sb**	**05 44 59.1**	**-6.7**
	6.1nm,0.6s							
AB31	**Akbulak array**	**12.66**	**327**	⇑Pn		Pn	05 45 22.9	-3.7
	1.2nm,0.3s,baz=136,slow=13,SNR=70							
AB31				⇑Sn		**Sn**	**05 47 43.9**	**-3.7**
	1.2nm,0.6s,baz=135,slow=26,SNR=2.9							
AKTO	**Aktyubinsk**	**14.38**	**326**	⇓Pn		**Pn**	**05 45 48.9**	**-1.1**
	1.6nm,0.8s							
AKTO				⇓Sn		**Sn**	**05 48 26.0**	**-3.4**
	3.6nm,1.1s							

IDC ***26*** *05:45:15.2±1.4, 14°.13S×166°.67E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/29, mbtmp3.8/6, ML3.5/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/38, Error ellipse: s-maj=52.4km s-min=26.3km az=125.0*

ISC 26 05:45:20.4±1.2, 14°3S±0°.1×166°.8E±0°.2, h35km, n9, σ1§28/8, mb3.8/5, MS3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.71**	**182**	Pn		**Pn**	**05 47 11.7**	**+1.4**
	0.7nm,0.3s,baz=228,slow=21,SNR=5.8							
DZM				Sn		**Sn**	**05 48 34.7**	**-1.7**
	0.3nm,0.3s,baz=315,slow=20,SNR=2.4							
DZM				LR		LR	05 50 02.8	
	comp=Z,120nm,19.0s,baz=206,slow=36							
HNR	**Honiara**	**8.26**	**305**	LR		LR	05 49 57.2	
	comp=Z,90nm,20.4s,baz=187,slow=35							
STKA	**Stephens Creek**	**28.89**	**229**	P		**P**	**05 51 16.9**	**+0.9**
	1.5nm,0.4s,baz=44,slow=9.6,SNR=5.5							
STKA				LR		LR	06 02 17.2	
	comp=Z,66nm,20.5s,baz=124,slow=35							
WRA	**Warramunga Arr**	**31.45**	**255**	P		**P**	**05 51 38.5**	**-0.4**
	0.2nm,0.4s,baz=85,slow=8.7,SNR=1.3							
WRA				LR		LR	06 04 12.3	
	comp=Z,67nm,18.2s,baz=185,slow=36							
ASAR	**Alice Springs**	**32.36**	**248**	P		**P**	**05 51 45.8**	**-1.1**
	0.3nm,0.5s,baz=74,slow=8.9,SNR=6.7							
ILAR	**Eielson Array**	**86.30**	**18**	P		**P**	**05 57 57.6**	**-0.7**
	0.8nm,0.6s,baz=245,slow=4.9,SNR=14							
NVAR	**Mina Array Bea**	**87.38**	**49**	LR		LR	06 32 19.2	
	comp=Z,50nm,18.6s,baz=188,slow=32							
MKAR	**Makanchi Array**	**96.58**	**316**	P		**P**	**05 58 47.2**	**+0.6**
	0.2nm,0.6s,baz=102,slow=5.5,SNR=2.1							
ARCES	**ARCESS Array B**	**119.74**	**345**	PKP		**PKPdf**	**06 04 05.8**	**-0.4**
	2.3nm,0.9s,baz=56,slow=2.2,SNR=4.0							

IDC 26 05:58:03.7±7.2, 47°.40N×151°.57E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/56, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=179.3km s-min=31.7km az=162.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.94**	**32**	Pn		Pn	05 59 46.7	+0.1
	0.7nm,0.3s,baz=255,slow=4.3,SNR=2.2							
ILAR	**Eielson Array**	**36.71**	**39**	P		P	06 05 11.9	-0.1
	0.3nm,0.8s,baz=270,slow=8.8,SNR=5.1							
MKAR	**Makanchi Array**	**45.71**	**296**	P		P	06 06 26.8	+0.5
	0.3nm,0.6s,baz=70,slow=7.3,SNR=3.7							
KURBB	**Kurchatov Arra**	**46.22**	**302**	P		P	06 06 29.3	-0.9
	0.2nm,0.3s,baz=64,slow=8.7,SNR=2.4							

IDC 26 06:01:24.6±2.3, 6°.66S×128°.17E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.4/29, mbtmp3.4/4, ML3.4/3, MS3.4/2, Ms1 3.4/2, ms1mx2.6/24, Error ellipse: s-maj=110.4km s-min=28.7km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.63**	**192**	Pn		Pn	06 04 12.7	+0.7
	0.2nm,0.3s,baz=18,slow=16,SNR=10							
FITZ				Sn		Sn	06 06 08.0	-15
	0.2nm,0.3s,baz=133,slow=19,SNR=1.4							
WRA	**Warramunga Arr**	**14.49**	**156**	Pn		Pn	06 04 50.9	-0.3
	0.2nm,0.3s,baz=330,slow=12,SNR=7.3							
WRA				Sn		Sn	06 07 12.5	-20
	0.2nm,0.3s,baz=329,slow=23,SNR=3.4							
ASAR	**Alice Springs**	**17.78**	**163**	P		Pn	06 05 33.2	-0.5
	0.1nm,0.3s,baz=336,slow=10,SNR=7.2							
PMG	**Port Moresby**	**19.00**	**99**	LR		LR	06 13 40.0	
	comp=Z,80nm,18.3s,baz=207,slow=39							
JNU	**Nakatsue**	**39.65**	**4**	LR		LR	06 27 55.9	
	comp=Z,69nm,18.2s,baz=3.0,slow=40							
MKAR	**Makanchi Array**	**66.96**	**328**	P		P	06 12 19.2	+0.1
	0.3nm,0.7s,baz=134,slow=6.2,SNR=3.9							

IDC ***26*** *06:11:08.5±2.1, 1°.75N×127°.68E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/33, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=114.3km s-min=26.7km az=70.0*

DJA ***26*** *06:11:24.2±0.9, 1°N±6°×12°7E±°, h123km±9km, M4.1/6, MLv4.1/6*

ISC 26 06:11:23.3±1.8, 1°.5N±0°.2×127°.5E±0°.2, h128km, n6, σ0§53/6, mb3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**3.81**	**204**	P		**Pn**	**06 12 20.0**	**-0.5**
GTOI	**Gorontalo**	**4.58**	**260**	P		**Pn**	**06 12 30.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.53**	**185**	P		**P**	**06 15 41.1**	**+0.3**
	0.1nm,0.3s,baz=17,slow=11,SNR=5.1							
WRA	**Warramunga Arr**	**22.30**	**163**	P		**P**	**06 16 10.8**	**+0.4**
	2.6nm,0.5s,baz=342,slow=11,SNR=29							
ASAR	**Alice Springs**	**25.74**	**166**	P		**P**	**06 16 42.5**	**+0.4**
	0.9nm,0.5s,baz=350,slow=7.3,SNR=15							
MKAR	**Makanchi Array**	**59.86**	**326**	P		**P**	**06 21 15.1**	**-0.3**
	0.2nm,0.4s,baz=124,slow=8.4,SNR=3.1							

MAN ***26*** *06:25:01.7, 5°.95N×124°.75E, h16km, MS3.8*

MAN INTENSITY I - KIAMBA.

NEIC ***26*** *06:25:02.4±1.4, 5°.70N±0°.05×124°.61E±0°.08, h51km±10km, mb4.3/9, Error ellipse: s-maj=12.4km s-min=6.8km az=108.0*

DJA ***26*** *06:25:04.1±1.5, 6°N±13°×12°5E±°, h56km±25km, M5.0/4, mB5.9/3, mb5.3/3, MLv4.8/4, Mw(mB)5.5/3*

IDC ***26*** *06:25:07.1±2.0, 5°.79N×125°.06E, h87km±18km, mb3.6/9, mb1 3.7/9, mb1mx3.5/45, mbtmp3.9/9, MS3.1/7, Ms1 3.1/7, ms1mx2.9/33, Error ellipse: s-maj=41.7km s-min=13.1km az=82.0*

ISC 26 06:24:58.7±1.4, 5°.81N±0°.04×124°.62E±0°.05, h16km±9km, n42, σ1§21/44, mb4.0/12, MS3.1/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.71**	**354**	*eP*		**Pn**	**06 25 13.8**	**-0.3**
SKMP				*eS*		**Sn**	**06 25 25.1**	**+0.4**
DDMP	**Don Marcelino,**	**1.12**	**75**	*eP*		**Pn**	**06 25 19.3**	**-0.5**
DDMP				*eS*		**Sb**	**06 25 34.9**	**+0.7**
KCP	**Kidapawan**	**1.28**	**21**	⇑*iP*		**Pg**	**06 25 24.2**	**+0.8**
KCP				*iS*		**Sg**	**06 25 40.8**	**+0.7**
DAV	**Davao City (W)**	**1.57**	**37**	P		**Pg**	**06 25 29.4**	**+0.4**
	254nm,0.3s,baz=193,slow=1.0,SNR=20							
DAV				S		**Sg**	**06 25 49.5**	**+0.1**
	339nm,0.3s,baz=231,slow=24,SNR=7.0							
DAV				LR		LR	06 26 07.9	
	comp=Z,1μm,21.5s,baz=140,slow=44							
MATI	**Mati**	**1.98**	**55**	*eP*		**Pn**	**06 25 31.8**	**+0.1**
MATI				*eS*		**Sn**	**06 25 56.0**	**-0.1**
SGSI	**Sangihe**	**2.30**	**157**	P		**Pn**	**06 25 36.7**	**+0.7**
SGSI				S		**Sn**	**06 26 02.3**	**-1.7**
PAGZ	**Pagadian**	**2.37**	**329**	*eP*		**Pb**	**06 25 39.9**	**-1.1**
PAGZ				*eS*		**Sg**	**06 26 12.0**	**-2.9**
CGP	**Cagayan de Oro**	**2.63**	**2**	⇑*eP*		**Pg**	**06 25 49.1**	**-0.1**
CGP				*eS*		**Sb**	**06 26 19.2**	**+1.6**
GTOI	**Gorontalo**	**5.39**	**197**	P		**Pn**	**06 26 18.5**	**0.0**
	1.1nm4μm314nm,0.6s							
TNTI	**Ternate**	**5.71**	**151**			**Pn**	**06 26 23.1**	**+0.2**
MRSI	**Marisa**	**5.94**	**207**	P		**Pn**	**06 26 27.6**	**+1.6**
	3.3nm10μm809nm,0.6s							
TOLI2	**Tolitoli**	**6.04**	**220**			**Pn**	**06 26 26.9**	**-0.5**
MYLDM	**Lahad Datu**	**6.12**	**264**	Pn		**Pn**	**06 26 30.2**	**+1.6**
LUWI	**Luwuk**	**7.05**	**195**			**Pn**	**06 26 42.1**	**+0.7**
SPSI	**Sidrap Palu**	**10.85**	**207**	P		**Pn**	**06 27 35.0**	**+1.5**
	12nm,0.6s							
KAPI	**Kappang**	**11.80**	**204**	LR		LR	06 32 48.2	
	comp=Z,60nm,20.8s,baz=53,slow=38							
BATI	**Baumata**	**15.94**	**183**	LR		LR	06 35 07.9	
	comp=Z,56nm,19.4s,baz=283,slow=38							
FITZ	**Fitzroy Crossi**	**23.78**	**178**	P		**P**	**06 30 12.0**	**+1.2**
	2.1nm,0.5s,baz=4.8,slow=7.6,SNR=7.1							
FITZ	**Fitzroy Crossi**	**23.78**	**178**	P		**P**	**06 30 12.0**	**+1.2**
FITZ				IAmb		IAmb	06 30 13.4	
	comp=Z,16nm,1.4s							
WB0	**Warramunga Arr**	**27.18**	**160**	P		**P**	**06 30 40.6**	**-1.1**
WRA	**Warramunga Arr**	**27.32**	**160**	P		**P**	**06 30 42.2**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=328,slow=11,SNR=7.7							
WRA	**Warramunga Arr**	**27.32**	**160**	P		**P**	**06 30 41.6**	**-1.4**
WB2	**Warramunga Arr**	**27.32**	**160**	P		**P**	**06 30 42.2**	**-0.8**
WR0	**Warramunga Arr**	**27.41**	**159**	P		**P**	**06 30 43.4**	**-0.4**
WR0				IAmb		IAmb	06 31 22.0	
	comp=Z,29nm,1.9s							
CMAR	**Chiang Mai Arr**	**28.02**	**299**	LR		LR	06 42 12.8	
	comp=Z,27nm,20.6s,baz=140,slow=36							
JHJ	**Hachijo jima 2**	**30.62**	**26**	LR		LR	06 41 01.7	
	comp=Z,84nm,21.8s,baz=134,slow=31							
ASAR	**Alice Springs**	**30.67**	**163**	P		**P**	**06 31 12.9**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=350,slow=7.2,SNR=17							
KSRS	**Korea Array**	**31.64**	**5**	LR		LR	06 43 12.1	
	comp=Z,20nm,21.8s,baz=203,slow=34							
MJAR	**Matsushiro Arr**	**33.02**	**20**	LR		LR	06 45 01.7	
	comp=Z,36nm,19.8s,baz=210,slow=36							
STKA	**Stephens Creek**	**40.82**	**158**	P		**P**	**06 32 38.4**	**-1.4**
	comp=Z,4.1nm,0.9s,baz=311,slow=8.8,SNR=2.9							
STKA	**Stephens Creek**	**40.82**	**158**	P		**P**	**06 32 37.2**	**-2.5**
STKA				IAmb		IAmb	06 32 44.3	
	comp=Z,10nm,1.9s							
KLR	**Kul'dur**	**43.69**	**7**	P		**P**	**06 33 03.2**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=246,slow=6.1,SNR=4.2							
SONM	**Songino Array**	**44.68**	**343**	P		**P**	**06 33 12.7**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=133,slow=8.3,SNR=4.1							
SONM	**Songino Array**	**44.68**	**343**	P		**P**	**06 33 12.1**	**+1.1**
PETK	**Petropavlovsk-**	**54.35**	**24**	P		**P**	**06 34 24.4**	**-0.2**
	comp

	3.4nm,0.1s						
SHLS				Lg	Lg	07 28 19.3	
	26nm,0.3s						
SATY	**Saty**	**6.97**	**182**	Pg	Pg	07 26 51.1	-2.6
	0.6nm,0.1s						
SATY				Lg	Lg	07 28 21.4	
	9.7nm,0.6s						

IDC 26 07:25:06.2±2.9, 6.07S×130.24E, h105km±38km, mb3.6/1, mb1 3.6/5, mb1mx3.3/34, mbtmp3.9/5, Error ellipse: s-maj=73.8km s-min=21.2km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.27**	**11**	P	Pn	07 26 22.5	-0.2
	5.8nm,0.3s,baz=252,slow=23,SNR=22						
SIJI				S	Sn	07 27 17.4	-4.8
	3.5nm,0.3s,baz=219,slow=22,SNR=9.9						
FITZ	**Fitzroy Crossi**	**12.77**	**200**	P	Pn	07 28 05.2	+1.2
	0.3nm,0.3s,baz=20,slow=9.4,SNR=11						
FITZ				S	Sn	07 30 19.7	-4.7
	0.3nm,0.3s,baz=150,slow=14,SNR=1.9						
WRA	**Warramunga Arr**	**14.35**	**164**	P	Pn	07 28 23.3	-1.3
	0.5nm,0.3s,baz=345,slow=13,SNR=16						
WRA				S	Sn	07 30 52.0	-11
	0.3nm,0.3s,baz=336,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**17.85**	**169**	P	P	07 29 07.1	-0.1
	0.4nm,0.3s,baz=343,slow=12,SNR=26						
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	07 35 51.6	0.0
	0.5nm,0.4s,baz=115,slow=7.9,SNR=12						

*IDC **26** 07:26:02.3±3.2, 9.88S×75.28W, h38km±35km, mb3.3/2, mb1 3.6/6, mb1mx3.4/29, mbtmp3.6/6, ML3.6/5, Error ellipse: s-maj=37.1km s-min=25.9km az=27.0*

ISC 26 07:26:03.1±1.3, 9.7S±0.2×75.1W±0.2, h35km, n7, σ1°22/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.83**	**217**	Pn	Pn	07 26 41.1	-4.9
	53nm,0.3s,baz=14,slow=13,SNR=90						
NNA				Lg	Lg	07 27 14.8	
	77nm,0.3s,baz=287,slow=20,SNR=28						
ATAH	**Atahualpa**	**4.14**	**308**	Pn	**Pn**	**07 27 04.6**	**+0.3**
	2.9nm,0.3s,baz=145,slow=3.6,SNR=26						
ATAH				Lg	Lg	07 28 05.1	
	4.0nm,0.3s,baz=48,slow=15,SNR=4.4						
LPAZ	**La Paz**	**9.43**	**135**	Pn	**Pn**	**07 28 17.1**	**0.0**
	0.1nm,0.3s,baz=309,slow=7.7,SNR=5.3						
SIV	**San Ignacio**	**15.03**	**116**	Pn	**Pn**	**07 29 31.9**	**-1.2**
	0.1nm,0.3s,baz=312,slow=14,SNR=2.4						
SIV				Lg	Lg	07 33 50.8	
	0.1nm,0.3s,baz=236,slow=23,SNR=3.9						
PTGA	**Pitinga**	**17.51**	**60**	P	**Pn**	**07 30 04.9**	**+0.2**
	0.5nm,0.3s,baz=322,slow=20,SNR=1.7						
YKA	**Yellowknife Ar**	**78.19**	**342**	P	**P**	**07 37 57.5**	**-1.2**
	0.2nm,0.7s,baz=136,slow=6.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**79.55**	**75**	P	**P**	**07 38 08.4**	**+1.2**
	0.4nm,0.7s,baz=266,slow=4.7,SNR=1.3						

JMA 26 07:29:16.3, 34.94N×135.53E, h7km, M2.8, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHE	**Heguri**	**0.31**	**156**	P	Pg	07 29 22.6	+0.2
JHE				S	Sg	07 29 27.1	+0.5
JWT	**Wachi**	**0.36**	**343**	P	Pg	07 29 23.5	+0.2
JWT				S	Sg	07 29 28.2	+0.2
JKS	**Kasai**	**0.56**	**275**	P	Pg	07 29 27.3	+0.1
JKS				S	Sg	07 29 34.7	+0.1
JAWN	**Awajishima-nag**	**0.69**	**229**	P	Pg	07 29 29.7	+0.2
JAWN				S	Sg	07 29 38.8	+0.3
JWY	**Kouya**	**0.72**	**176**	P	Pg	07 29 30.1	-0.1
JWY				S	Sg	07 29 39.7	+0.1
TSUJ	**Tsu 2**	**0.77**	**107**	P	Pg	07 29 30.9	-0.1
TSUJ				S	Sg	07 29 40.9	-0.1
JKY	**Yasaka**	**0.77**	**333**	P	Pg	07 29 31.0	-0.1
JKY				S	Sg	07 29 41.1	-0.1
JKN2	**Miekihoku**	**0.93**	**139**	P	Pg	07 29 33.8	-0.4
JKN2				*i* S	Sg	07 29 45.9	-0.3
JKSM	**Kasumi**	**0.96**	**313**	P	Pg	07 29 34.3	-0.4
JKSM				S	Sg	07 29 46.8	-0.4
MAT	**Matsushiro**	**2.70**	**53**	P	Pb	07 30 03.4	-1.6
MAT				*e*S	Sb	07 30 35.9	-2.4

*IDC **26** 07:45:32.0±5.9, 25.40S×178.21W, h497km±74km, mb3.4/5, mb1 3.6/7, mb1mx3.2/43, mbtmp4.5/7, Error ellipse: s-maj=165.2km s-min=35.3km az=82.0*

ISC 26 07:45:31.2±3.2, 25.5S±0.1×178.1W±0.4, h500km, n7, σ1°03/8, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.56**	**334**	P	**P**	**07 47 32.9**	**-0.7**
	3.3nm,0.3s,baz=205,slow=5.1,SNR=21						
URZ	**Urewera**	**13.33**	**197**	P	**P**	**07 48 24.3**	**+0.7**
	9.5nm,0.3s,baz=123,slow=24,SNR=12						
URZ				S	**S**	**07 50 44.3**	**-1.6**
	3.1nm,0.3s,baz=124,slow=24,SNR=8.5						
CTA	**Charters Tower**	**33.27**	**272**	P	**P**	**07 51 26.5**	**-0.2**
	4.0nm,0.3s,baz=100,slow=9.2,SNR=13						
STKA	**Stephens Creek**	**35.79**	**250**	P	**P**	**07 51 48.2**	**+0.5**
	1.1nm,0.4s,baz=111,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**43.53**	**262**	P	**P**	**07 52 50.1**	**-0.1**
	2.2nm,0.4s,baz=90,slow=7.5,SNR=57						
WRA	**Warramunga Arr**	**44.07**	**267**	P	**P**	**07 52 53.8**	**-0.6**
	1.9nm,0.3s,baz=99,slow=7.2,SNR=30						
FITZ	**Fitzroy Crossi**	**52.47**	**266**	P	**P**	**07 53 58.2**	**+1.0**
	2.0nm,0.6s,baz=112,slow=5.4,SNR=2.3						

IDC 26 07:50:35.8±2.1, 3.27N×126.21E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/55, mbtmp3.6/5, Error ellipse: s-maj=219.3km s-min=21.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.41**	**161**	P	P	07 55 55.5	-0.7
	1.0nm,0.8s,baz=341,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**27.80**	**165**	P	P	07 56 27.9	+1.1
	0.3nm,0.7s,baz=336,slow=11,SNR=2.1						
MKAR	**Makanchi Array**	**57.64**	**326**	P	P	08 00 27.4	-0.5
	0.6nm,0.6s,baz=123,slow=8.3,SNR=7.4						
KURBB	**Kurchatov Arra**	**61.85**	**328**	P	P	08 00 56.8	0.0
	0.5nm,0.5s,baz=130,slow=6.4,SNR=5.5						
AKTO	**Aktyubinsk**	**73.70**	**322**	P	P	08 02 11.9	+0.3
	1.1nm,0.6s,baz=109,slow=7.8,SNR=4.2						

*JMA **26** 08:15:43.9±0.1, 24.13N×122.52E, h63km±2km, M2.4*
*TAP **26** 08:15:44.2, 24.18N×122.55E, h62km, ML3.2, D*

ISC 26 08:15:44.6±1.3, 24.15N±0.03×122.55E±0.02, h56km±11km, n69, σ1°03/131, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.47**	**50**	P	**Pn**	**08 15 56.3**	**+0.3**
JYNG				*e*S	**Sn**	**08 16 05.0**	**+0.8**
YOJ	**Yonaguni jima**	**0.52**	**53**	*e*P	**Pn**	**08 15 56.8**	**+0.2**
	baz=47						
YOJ				*e*S	**Sn**	**08 16 06.0**	**+0.7**
	baz=47						
YOJ	**Yonaguni jima**	**0.52**	**53**	P	**Pn**	**08 15 56.8**	**+0.2**
YOJ				*e*S	**Sn**	**08 16 05.8**	**+0.6**
EWUT	**Wuta**	**0.76**	**293**	*e*P	**Pn**	**08 15 59.6**	**+0.1**
	baz=291						
EWUT				*e*S	**Sn**	**08 16 10.3**	**0.0**
	baz=291						
TWC	**Suao**	**0.79**	**306**	P	**Pn**	**08 15 59.5**	**-0.2**
	baz=297						
TWC				*e*S	**Sn**	**08 16 10.7**	**-0.1**
	baz=297						
NACB	**Ninganchiao**	**0.87**	**272**	*e*P	**Pn**	**08 16 00.4**	**-0.5**
	baz=261						
NACB				*e*S	**Sn**	**08 16 12.4**	**-0.4**
	baz=261						
TWD	**Chiawan**	**0.87**	**266**	*e*P	**Pn**	**08 16 00.4**	**-0.5**
	baz=256						
TWD				*e*S	**Sn**	**08 16 12.4**	**-0.4**
	baz=256						
HWA	**Hwalien**	**0.88**	**259**	*e*S	**Sn**	**08 16 13.4**	**+0.5**
	baz=257						
NDS	**Dongshan**	**0.90**	**303**	*e*P	**Pn**	**08 16 01.6**	**+0.4**
	baz=296						
NDS				*e*S	**Sn**	**08 16 13.8**	**+0.3**
	baz=296						
ETLH	**Xiulin Townshi**	**0.98**	**274**	*e*P	**Pn**	**08 16 01.9**	**-0.4**
	baz=272						
ETLH				*e*S	**Sn**	**08 16 14.5**	**-0.9**
	baz=272						
TWE	**Neicheng**	**0.98**	**305**	*e*P	**Pn**	**08 16 02.8**	**+0.4**
	baz=312						
TWE				*e*S	**Sn**	**08 16 15.8**	**+0.4**
	baz=312						
ENTT	**Nioudou**	**1.02**	**299**	P	**Pn**	**08 16 03.1**	**+0.3**
	baz=297						
ENTT				*e*S	**Sn**	**08 16 16.4**	**+0.1**
	baz=297						
NDT	**Datong Townshi**	**1.05**	**296**	*e*P	**Pn**	**08 16 03.5**	**+0.3**
	baz=294						
NDT				*e*S	**Sn**	**08 16 16.8**	**-0.1**
	baz=294						
TIPB	**Shuangxi**	**1.05**	**321**	*e*P	**Pn**	**08 16 02.9**	**-0.4**
	baz=319						
TIPB				*e*S	**Sn**	**08 16 16.2**	**-0.8**
	baz=319						
ESL	**Shilin**	**1.07**	**252**	*e*P	**Pn**	**08 16 02.8**	**-0.7**
	baz=244						
ESL				*e*S	**Sn**	**08 16 17.0**	**-0.6**
	baz=244						
IRIF	**Iriomote-Funau**	**1.09**	**80**	P	**Pn**	**08 16 03.8**	**0.0**
IRIF				S	**Sn**	**08 16 18.3**	**+0.3**
NNSB	**Datong**	**1.10**	**285**	*e*P	**Pn**	**08 16 03.8**	**-0.2**
	baz=283						
NNSB				*e*S	**Sn**	**08 16 17.7**	**-0.7**
	baz=283						
NNSH	**Datong**	**1.10**	**285**	*e*P	**Pn**	**08 16 03.7**	**-0.3**
	baz=283						
NNSH				*e*S	**Sn**	**08 16 17.6**	**-0.8**
	baz=283						
EGFH	**Guangfu**	**1.13**	**245**	*e*P	**Pn**	**08 16 04.1**	**-0.2**
	baz=244						
EGFH				*e*S	**Sn**	**08 16 18.8**	**-0.2**
	baz=244						
NWLT	**Wulai**	**1.14**	**303**	*e*P	**Pn**	**08 16 04.8**	**+0.3**
	baz=309						
NWLT				*e*S	**Sn**	**08 16 19.2**	**+0.1**
	baz=309						
HATJ	**Hateruma jima**	**1.15**	**94**	P	**Pn**	**08 16 04.7**	**+0.2**
WFSB	**Wu-fen Shan**	**1.15**	**323**	*e*P	**Pn**	**08 16 04.4**	**-0.2**
	baz=321						
WFSB				*e*S	**Sn**	**08 16 17.2**	**-2.2**
	baz=321						
WHF	**Hehuan Shan**	**1.17**	**270**	*e*P	**Pn**	**08 16 05.1**	**-0.1**
	baz=260						
WHF				*e*S	**Sn**	**08 16 19.6**	**-1.0**
	baz=260						
FUSS	**Fushou**	**1.20**	**275**	*e*P	**Pn**	**08 16 05.7**	**+0.3**
	baz=266						
FUSS				*e*S	**Sn**	**08 16 20.3**	**-0.6**
	baz=266						
NSK	**Sanguang**	**1.21**	**296**	*e*P	**Pn**	**08 16 05.6**	**+0.2**
	baz=294						
NSK				*e*S	**Sn**	**08 16 20.4**	**-0.4**
	baz=294						
HGSD	**Ruisui**	**1.22**	**238**	*e*P	**Pn**	**08 16 05.5**	**0.0**
	baz=237						
HGSD				*e*S	**Sn**	**08 16 20.1**	**-1.0**
	baz=237						
CHGB	**Renai**	**1.26**	**266**	*e*P	**Pn**	**08 16 06.7**	**+0.5**
	baz=257						
CHGB				*e*S	**Sn**	**08 16 22.0**	**-0.3**
	baz=257						
EHY	**Hungye**	**1.29**	**241**	*e*P	**Pn**	**08 16 06.0**	**-0.5**
	baz=250						
EHY				*e*S	**Sn**	**08 16 20.8**	**-2.0**
	baz=250						
YM01	**YM01**	**1.33**	**318**	*e*P	**Pn**	**08 16 06.8**	**-0.3**
	baz=316						
YM01				*e*S	**Sn**	**08 16 22.7**	**-1.1**
	baz=316						
JKRS	**Kuro-shima**	**1.34**	**86**	P	**Pn**	**08 16 07.5**	**+0.5**
JKRS				S	**Sn**	**08 16 24.8**	**+1.0**
YM10	**YM10**	**1.35**	**318**	*e*P	**Pn**	**08 16 06.6**	**-0.6**
	baz=316						
YM10				*e*S	**Sn**	**08 16 23.1**	**-1.1**
	baz=316						
VWDT	**VWDT**	**1.35**	**253**	*e*P	**Pn**	**08 16 08.0**	**+0.8**
	baz=252						
VWDT				*e*S	**Sn**	**08 16 23.7**	**-0.4**
	baz=252						
YM04	**YM04**	**1.36**	**318**	*e*P	**Pn**	**08 16 08.2**	**+0.8**
	baz=316						
YM04				*e*S	**Sn**	**08 16 22.6**	**-1.8**
	baz=316						
YULB	**Yu-li**	**1.37**	**237**	*e*P	**Pn**	**08 16 07.2**	**-0.3**
	baz=248						
YULB				*e*S	**Sn**	**08 16 23.8**	**-1.0**
	baz=248						
EYUL	**Yuli**	**1.38**	**235**	*e*P	**Pn**	**08 16 08.1**	**+0.4**
	baz=228						
EYUL				*e*S	**Sn**	**08 16 24.5**	**-0.4**
	baz=228						
TWF1	**Yuli**	**1.40**	**236**	*e*P	**Pn**	**08 16 07.8**	**0.0**
	baz=247						
TWF1				*e*S	**Sn**	**08 16 25.4**	**+0.1**
	baz=247						
TWS1	**Kuangyinshan**	**1.40**	**313**	*e*P	**Pn**	**08 16 06.1**	**-1.8**
	baz=321						
TWS1				*e*S	**Sn**	**08 16 26.0**	**+0.7**
	baz=321						
JIJ	**Ishigaki jima**	**1.47**	**81**	P	**Pn**	**08 16 08.5**	**-0.3**
JIJ				S	**Sn**	**08 16 26.4**	**-0.6**
WHP	**Taichung City**	**1.47**	**275**	*e*P	**Pn**	**08 16 10.0**	**+1.1**
	baz=267						
WHP				*e*S	**Sn**	**08 16 27.4**	**+0.2**
	baz=267						
LIOB	**Emei**	**1.48**	**290**	*e*P	**Pn**	**08 16 09.8**	**+0.7**
	baz=288						
LIOB				*e*S	**Sn**	**08 16 28.1**	**+0.7**
	baz=288						
FULB	**Fuli**	**1.49**	**231**	*e*P	**Pn**	**08 16 08.6**	**-0.5**
	baz=222						
FULB				*e*S	**Sn**	**08 16 26.7**	**-0.9**
	baz=222						
NSTT	**Nanjuang**	**1.49**	**289**	*e*P	**Pn**	**08 16 09.9**	**+0.8**
	baz=287						
NSTT				*e*S	**Sn**	**08 16 28.3**	**+0.8**
	baz=287						
WCS	**Beigang Elemen**	**1.50**	**267**	*e*P	**Pn**	**08 16 10.8**	**+1.6**
	baz=262						
WCS				*e*S	**Sn**	**08 16 27.4**	**-0.3**
	baz=262						
SSLB	**Suanglung**	**1.50**	**256**	*e*P	**Pn**	**08 16 11.0**	**+1.7**
	baz=262						
SSLB				*e*S	**Sn**	**08 16 29.1**	**+1.2**
	baz=262						
SMLT	**Sun Moon Lake**	**1.53**	**260**	*e*P	**Pn**	**08 16 11.7**	**+1.9**
	baz=259						
SMLT				*e*S	**Sn**	**08 16 28.4**	**-0.3**
	baz=259						
TYC	**Yuchr**	**1.57**	**261**	*e*P	**Pn**	**08 16 11.5**	**+1.4**
	baz=260						
TYC				*e*S	**Sn**	**08 16 28.7**	**-0.7**
	baz=260						
YUS	**Yu-Shan**	**1.60**	**246**	*e*P	**Pn**	**08 16 11.5**	**+0.4**
	baz=245						
YUS				S	**Sn**	**08 16 29.9**	**-1.1**
	baz=245						
EDH	**Donghe**	**1.64**	**225**	*e*P	**Pn**	**08 16 10.9**	**-0.2**
	baz=220						
EDH				*e*S	**Sn**	**08 16 29.2**	**-1.9**
	baz=220						
JISG	**Ishigakijimahi**	**1.66**	**74**	P	**Pn**	**08 16 11.2**	**-0.2**
JISG				*e*S	**Sn**	**08 16 31.0**	**-0.7**
ELDTW	**Lidau**	**1.70**	**236**	*e*P	**Pn**	**08 16 11.6**	**-0.4**
	baz=236						
ELDTW				*e*S	**Sn**	**08 16 31.1**	**-1.7**
	baz=236						
ALS	**Alishan**	**1.72**	**249**	*e*P	**Pn**	**08 16 13.6**	**+1.1**
	baz=248						
ALS				S	**Sn**	**08 16 33.9**	**+0.3**
	baz=248						
WNT	**Mingjian**	**1.73**	**261**	*e*S	**Sn**	**08 16 35.3**	**+2.0**
	baz=252						
LDUT	**Ludao**	**1.77**	**214**	*e*P	**Pn**	**08 16 12.6**	**-0.4**
	baz=209						
LDUT				*e*S	**Sn**	**08 16 31.7**	**-2.7**
	baz=209						
LONT	**Longtian**	**1.80**	**227**	*e*P	**Pn**	**08 16 12.6**	**-0.7**
	baz=236						
LONT				*e*S	**Sn**	**08 16 33.8**	**-1.2**
	baz=236						
CHN5	**Tsauling**	**1.80**	**253**	*e*P	**Pn**	**08 16 14.9**	**+1.6**
	baz=252						
CHN5				*e*S	**Sn**	**08 16 37.0**	**+1.8**
	baz=252						
TWGBT	**Beinan**	**1.89**	**226**	*e*S	**Sn**	**08 16 35.7**	**-1.6**
	baz=235						
TWG	**Pinlang**	**1.90**	**226**	*e*P	**Pn**	**08 16 14.4**	**-0.2**
	baz=235						
TWG				*e*S	**Sn**	**08 16 36.0**	**-1.4**
	baz=235						
STYH	**Taoyuan**	**1.90**	**239**	*e*P	**Pn**	**08 16 16.9**	**+2.3**
	baz=239						
STYH				*e*S	**Sn**	**08 16 37.8**	**+0.4**
	baz=239						
WDLH	**Douliu**	**1.90**	**256**	*e*P	**Pn**	**08 16 15.7**	**+1.0**
	baz=256						
WDLH				*e*S	**Sn**	**08 16 40.3**	**+2.9**
	baz=256						
STYT	**Tauyuan**	**1.92**	**240**	*e*P	**Pn**	**08 16 15.7**	**+0.7**
	baz=239						
STYT				*e*S	**Sn**	**08 16 38.2**	**+0.3**
	baz=239						
TPUB	**Ta-pu**	**1.95**	**245**	P	**Pn**	**08 16 18.1**	**+2.7**
	baz=244						
TPUB				S	**Sn**	**08 16 41.2**	**+2.4**
	baz=244						
WTP	**Ta-pu**	**1.99**	**244**	*e*P	**Pn**	**08 16 17.8**	**+1.8**
	baz=243						
WTP				*e*S	**Sn**	**08 16 41.8**	**+2.0**
	baz=243						
WRL	**Guolierlin Hig**	**2.00**	**263**	*e*S	**Sn**	**08 16 40.8**	**+0.8**
	baz=263						
JTJ	**Tarama**	**2.02**	**76**	P	**Pn**	**08 16 16.4**	**+0.1**
CHY	**Chiayi**	**2.05**	**252**	*e*S	**Sn**	**08 16 42.9**	**+1.7**
	baz=251						
TWK	**Hsinying**	**2.08**	**245**	*e*P	**Pn**	**08 16 19.4**	**+2.1**
	baz=245						
TWK				*e*S	**Sn**	**08 16 44.0**	**+1.8**
	baz=245						
MASBT	**Mashibuluo**	**2.33**	**229**	*e*P	**Pn**	**08 16 21.7**	**+1.1**
	baz=229						
MASBT				*e*S	**Sn**	**08 16 47.5**	**-0.6**
	baz=229						
VWUC	**VWUC**	**2.94**	**287**	*e*P	**Pn**	**08 16 27.8**	**-1.1**
	baz=286						
VWUC				*e*S	**Sn**	**08 17 02.9**	**-0.2**
	baz=286						
PTMZ	**Houxiangcun**	**3.25**	**287**	*e*P	**Pn**	**08 16 32.5**	**-0.6**
	baz=286						
PTMZ				*e*S	**Sn**	**08 17 09.7**	**-0.7**
	baz=286						

*IDC **26** 08:36:13.6±2.0, 6.49S×130.08E, h160km±23km, mb3.5/3, mb1 3.5/8, mb1mx3.2/48, mbtmp4.0/8, Error ellipse: s-maj=27.6km s-min=16.2km az=75.0*

ISC 26 08:36:12.0±0.9, 6.61S±0.06×130.1E±0.1, h146km, n8, σ3°02/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.82**	**12**	P	**Pn**	**08 37 36.7**	**+0.3**
	1.7nm,0.3s,baz=35,slow=23,SNR=10						
SIJI				S	**Sn**	**08 38 38.6**	**-3.7**
	6.1nm,0.3s,baz=211,slow=23,SNR=12						
BATI	**Baumata**	**7.30**	**240**	P	**Pn**	**08 37 58.7**	**+2.5**
	6.2nm,0.3s,baz=53,slow=4.5,SNR=2.4						
FITZ	**Fitzroy Crossi**	**12.22**	**200**	P	**Pn**	**08 39 01.9**	**+0.7**
	0.4nm,0.3s,baz=15,slow=7.9,SNR=8.2						
FITZ				S	**Sn**	**08 41 11.4**	**-5.0**
	0.4nm,0.3s,baz=290,slow=15,SNR=2.7						
WRA	**Warramunga Arr**	**13.88**	**163**	P	**Pn**	**08 39 24.4**	**+1.8**
	1.4nm,0.3s,baz=345,slow=11,SNR=64						
WRA				S	**Sn**	**08 41 53.7**	**-2.6**
	0.9nm,0.3s,baz=337,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**17.35**	**168**	P	**Pn**	**08 40 07.9**	**+2.5**
	0.6nm,0.3s,baz=348,slow=10,SNR=36						
ASAR				S	**S**	**08 43 14.6**	**-3.3**
	0.1nm,0.3s,baz=349,slow=27,SNR=5.4						
CTA	**Charters Tower**	**20.62**	**132**	P	**P**	**08 40 42.9**	**+2.9**
	1.6nm,0.6s,baz=312,slow=11,SNR=3.2						
STKA	**Stephens Creek**	**27.33**	**158**	P	**P**	**08 41 44.0**	**+0.6**
	2.1nm,0.7s,baz=340,slow=15,SNR=1.8						
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**08 46 54.4**	**-0.8**
	1.1nm,0.5s,baz=116,slow=8.0,SNR=20						

*IDC **26** 08:41:12.2±0.8, 36.94N×141.55E, h0km, mb3.9/11, mb1 4.0/15, mb1mx3.8/49, mbtmp3.9/15, ML3.3/4, MS2.9/5, Ms1 2.9/5, ms1mx2.6/48, Error ellipse: s-maj=22.5km s-min=15.4km az=93.0*

*NIED **26** 08:41:14.1, 36.96N×141.53E, h43km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-5.75; $M_{\theta\theta}$0.45; $M_{\phi\phi}$5.30; $M_{r\theta}$-0.50; $M_{\theta\phi}$2.20; $M_{\phi r}$0.22; Fault plane solution: $M_0$5.98000×10^{14} NP1: ϕ_s195.00000°, δ45.00000°, λ-98.00000°. NP2:ϕ_s27.00000°, δ45.00000°, λ-82.00000°.*

*JMA **26** 08:41:14.0±0.1, 36.96N×141.53E, h43km±2km, M4.3*
JMA Felt I J1.

ISC 26 08:41:13.4±1.8, 36.96N±0.04×141.46E±0.06, h8km±10km, n40, σ0°79/38, mb4.0/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.55**	**285**	P	**Pb**	**08 41 25.9**	**+0.5**
ONAJ				*e*S	**Sn**	**08 41 34.7**	**-2.4**
JFK	**Kawauchi**	**0.62**	**311**	P	**Pb**	**08 41 26.7**	**+0.1**
JFK				S	**Sb**	**08 41 35.7**	**+0.2**
JFFD	**Fukushimafurud**	**0.73**	**281**	P	**Pb**	**08 41 28.6**	**+0.1**
JFFD				S	**Sb**	**08 41 39.0**	**+0.3**
JHO	**Hitachi**	**0.80**	**244**	P	**Pb**	**08 41 29.4**	**-0.2**
JMST	**Minamisoumatoc**	**0.89**	**329**	P	**Pg**	**08 41 30.6**	**0.0**
JMST				S	**Sg**	**08 41 42.5**	**+0.3**
JMM	**Marumori**	**1.05**	**330**	P	**Pg**	**08 41 33.3**	**-0.3**
JMM				*e*S	**Sg**	**08 41 47.1**	**-0.2**
JFT	**Otama**	**1.06**	**302**	P	**Pn**	**08 41 34.3**	**-0.3**
JFT				*e*S	**Sb**	**08 41 48.3**	**+0.2**
JFY	**Yanaizu**	**1.47**	**288**	P	**Pg**	**08 41 40.9**	**-0.8**
JIO	**Ouri**	**1.50**	**357**	P	**Pn**	**08 41 39.3**	**-1.3**
JOU	**Okura**	**1.54**	**336**	P	**Pn**	**08 41 41.3**	**0.0**
JOU				S	**Sn**	**08 42 01.1**	**-0.4**
JYS	**Shirataka**	**1.68**	**319**	P	**Pn**	**08 41 43.9**	**+0.7**
JAG	**Ashikaga**	**1.70**	**252**	P	**Pn**	**08 41 43.2**	**-0.2**
MJAR	**Matsushiro Arr**	**2.65**	**262**	Pn	**Pn**	**08 41 57.1**	**+0.7**
	1.2nm,0.3s,baz=89,slow=14,SNR=29						
MJAR				Sn	**Sb**	**08 42 31.8**	**-1.9**
	1.7nm,0.3s,baz=68,slow=13,SNR=3.2						
MJAR				LR	LR	08 42 37.4	
	comp=Z,53nm,19.6s,baz=200,slow=32						
MAT	**Matsushiro**	**2.65**	**262**	P	**Pn**	**08 41 58.0**	**+1.5**
MAT				S	**Sn**	**08 42 28.7**	**-0.1**
JHJ	**Hachijo jima 2**	**4.07**	**200**	Pn	**Pn**	**08 42 17.0**	**+1.0**
	16nm,0.3s,baz=260,slow=23,SNR=5.7						
JHJ				Sn	**Sn**

1.8nm,0.2s,baz=88,slow=7.5,SNR=10
MKAR Makanchi Array 44.19 302 P **P 08 49 22.8 0.0**
0.7nm,0.7s,baz=83,slow=9.9,SNR=6.0
KURBB Kurchatov Arra 46.08 308 P **P 08 49 37.3 -0.4**
1.9nm,0.7s,baz=85,slow=8.0,SNR=5.7
ILAR Eielson Array 49.54 32 P **P 08 50 04.5 +0.2**
1.4nm,0.7s,baz=267,slow=6.4,SNR=14
FITZ Fitzroy Crossi 56.76 198 P **P 08 50 58.4 +0.4**
2.7nm,0.8s,baz=19,slow=7.9,SNR=6.3
WRA Warramunga Arr 56.99 188 P **P 08 50 59.0 -0.6**
0.7nm,0.5s,baz=5.7,slow=7.5,SNR=18
ASAR Alice Springs 60.72 188 P **P 08 51 25.2 -0.3**
0.5nm,0.7s,baz=10,slow=6.0,SNR=7.6
YKA Yellowknife Ar 63.85 30 P **P 08 51 45.7 -0.3**
0.2nm,0.8s,baz=306,slow=6.2,SNR=4.3
ARCES ARCESS Array B 64.08 339 P **P 08 51 47.7 +0.2**
3.5nm,0.9s,baz=20,slow=3.9,SNR=4.5
NOA NORSAR Array B 74.27 337 P **P 08 52 50.8 -0.1**
1.3nm,0.9s,baz=39,slow=6.1,SNR=3.3
SADO Sadowa 90.75 28 LR LR 09 36 59.7
comp=Z,32nm,18.7s,baz=136,slow=37
H03N2 Juan Fernandez 146.98 96 T T 11 45 04.7
baz=291,slow=76,SNR=19
H03N3 Juan Fernandez 146.99 96 T T 11 45 11.4
baz=291,slow=76,SNR=18
H03N1 Juan Fernandez 146.99 96 T T 11 45 09.3
baz=291,slow=76,SNR=25

*ISK **26** 08:53:46.5,37.06N×28.37E,h3km,ML2.9/13*
*DDA **26** 08:53:47.4,37.06N×28.30E,h7km±4km,ML2.5*
ISC 26 08:53:47.4±0.9,37.06N±0.02×28.30E±0.02,h6km±7km, n29,σ1.5s26/47,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.07**	**347**		**PG**		**Pg**	**08 53 49.2**	**-0.1**
YER					SG		**Sg**	**08 53 50.7**	**+0.1**
MULA	**Mugla, Merkez-**	**0.19**	**4**	*iP*	**Pg**		**Pg**	**08 53 51.4**	**+0.1**
MULA				*i*S	**Sg**		**Sg**	**08 53 54.6**	**+0.7**
MULA				IAML				08 53 55.0	
	comp=E,2μm,0.2s								
TURN	**Turunc**	**0.29**	**189**	PG	**Pg**		**Pg**	**08 53 53.4**	**+0.3**
TURN				SG	**Sb**		**Sb**	**08 53 59.1**	**-1.0**
TURN	**Turunc**	**0.29**	**189**	*i*P	**Pg**		**Pg**	**08 53 53.3**	**+0.2**
TURN				*i*S	**Sb**		**Sb**	**08 53 58.5**	**-1.6**
TURN				IAML				08 54 02.0	
	comp=N,1μm,0.4s								
MRSB	**Marmaris-Mugla**	**0.36**	**194**	PG	**Pg**		**Pg**	**08 53 54.1**	**-0.3**
DALY	**Dalyan (Mula)**	**0.37**	**131**	PG	**Pg**		**Pg**	**08 53 54.3**	**-0.3**
DALY	**Dalyan (Mula)**	**0.37**	**131**	*i*P	**Pg**		**Pg**	**08 53 54.1**	**-0.5**
DALY				*i*S	**Sb**		**Sb**	**08 54 00.6**	**-1.8**
DALY				IAML				08 54 03.0	
	comp=N,468nm,0.9s								
DATC	**Datca-Mugla**	**0.60**	**240**	PG	**Pg**		**Pg**	**08 53 59.3**	**+0.4**
TAVA	**DENIZLI_Tavas**	**0.63**	**50**	*i*P	**Pg**		**Pg**	**08 53 59.2**	**-0.4**
TAVA				*i*S	**Sb**		**Sb**	**08 54 09.9**	**-0.1**
AYDN	**Tasoluk**	**0.69**	**331**	*i*P	**Pg**		**Pg**	**08 54 00.6**	**-0.1**
AYDN				*i*S	**Sg**		**Sg**	**08 54 10.1**	**+0.6**
AYDN				IAML				08 54 17.0	
	comp=E,200nm,0.3s								
BDRM	**Kayabasi**	**0.69**	**270**	*i*P			**Pb**	**08 54 01.6**	**-0.2**
BDRM				*i*S			**Sn**	**08 54 14.0**	**-0.8**
BDRM				IAML				08 54 16.0	
	comp=E,145nm,0.7s								
FETY	**Fethiye**	**0.76**	**124**	PG	**Pg**		**Pg**	**08 54 00.4**	**-1.6**
FETY	**Fethiye**	**0.76**	**124**	*i*P	**Pg**		**Pg**	**08 54 00.4**	**-1.6**
FETY				*i*S	**Sb**		**Sb**	**08 54 13.8**	**+0.2**
BODT	**Bodrum**	**0.80**	**270**	PG	**Pg**		**Pg**	**08 54 03.0**	**+0.3**
ARG	**Arkhangelos**	**0.86**	**190**	PG	**Pb**		**Pb**	**08 54 04.1**	**-0.6**
DDIM	**Aydin, Didim**	**0.93**	**295**	*i*P			**Pn**	**08 54 06.6**	**-0.5**
DDIM				*i*S			**Sn**	**08 54 24.0**	**+3.2**
DDIM				IAML				08 54 31.0	
	comp=E,220nm,1.2s								
AYDB	**Zeytinkoy-Aydi**	**0.94**	**340**	PG			**Pb**	**08 54 05.8**	**-0.4**
GOLH	**Golhisar**	**1.02**	**80**	*i*P			**Pn**	**08 54 07.6**	**-0.8**
GOLH				*i*S			**Sn**	**08 54 23.6**	**+0.6**
GCAM	**G?zelcaml?**	**1.06**	**307**	PN			**Pn**	**08 54 08.8**	**0.0**
GCAM	**G?zelcaml?**	**1.06**	**307**	*i*P			**Pb**	**08 54 08.4**	**+0.2**
GCAM				*i*S			**Sn**	**08 54 23.8**	**-0.1**
GCAM				IAML				08 54 27.0	
	comp=N,174nm,0.2s								
AKAS	**Kas**	**1.33**	**128**	PN			**Pb**	**08 54 12.3**	**-0.6**
AKAS	**Kas**	**1.33**	**128**	*i*P			**Pn**	**08 54 12.0**	**-0.7**
AKAS				*i*S			**Sn**	**08 54 34.9**	**+4.0**
AKAS				IAML				08 54 42.0	
	comp=E,81nm,0.6s								
MANT	**Manisa**	**1.44**	**8**	*i*P			**Pb**	**08 54 14.3**	**-0.5**
MANT				*i*S			**Sn**	**08 54 34.2**	**+0.6**
MANT				IAML				08 54 37.0	
	comp=E,52nm,0.4s								
KULA	**Kula-Manisa**	**1.48**	**11**	PN			**Pg**	**08 54 15.3**	**-0.4**
DGB	**zmir**	**1.50**	**312**	*i*P			**Pn**	**08 54 14.6**	**-0.2**
DGB				*i*S			**Sn**	**08 54 33.7**	**-1.0**
DGB				IAML				08 54 43.0	
	comp=N,40nm,0.7s								
KHAL	**Karahalli**	**1.61**	**35**	*i*P			**Pb**	**08 54 17.1**	**-0.5**
KHAL				*i*S			**Sg**	**08 54 38.8**	**-0.4**
KORT	**Korkueli**	**1.64**	**92**	*i*P			**Pg**	**08 54 19.4**	**+0.6**
KORT				*i*S			**Sg**	**08 54 44.7**	**+4.6**
KORT				IAML				08 54 53.0	
	comp=N,49nm,0.7s								
BLCB	**Balcova**	**1.66**	**323**	PN			**Pb**	**08 54 17.8**	**-0.5**
USAK	**Uak-Merkez**	**1.74**	**19**	*i*P			**Pn**	**08 54 18.4**	**+0.2**
USAK				*i*S			**Sn**	**08 54 40.8**	**0.0**
USAK				IAML				08 55 05.0	
	comp=E,88nm,1.3s								

IDC 26 09:27:35.5±2.5,48.54N×28.78W,h0km,mb3.6/3, mb1 3.6/3,mb1mx3.2/56,mbtmp3.6/3,Error ellipse: s-maj=87.0km s-min=44.3km az=82.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**43.38**	**134**	P	P		P	09 35 39.5	-0.2
	0.6nm,0.9s,baz=313,slow=7.2,SNR=3.0								
BVAR	**Borovoye Array**	**57.89**	**45**	P	P		P	09 37 28.7	-0.2
	0.5nm,0.7s,baz=224,slow=4.0,SNR=3.8								
MKAR	**Makanchi Array**	**67.75**	**44**	P	P		P	09 38 34.8	+0.1
	0.5nm,0.5s,baz=338,slow=6.1,SNR=7.4								
WRA	**Warramunga Arr**	**148.39**	**31**	PKPbc	PKPbc		PKPbc	09 47 23.1	-0.9
	0.6nm,0.8s,baz=347,slow=3.1,SNR=6.0								
ASAR	**Alice Springs**	**151.94**	**35**	PKPbc	PKPbc		PKPbc	09 47 31.8	0.0
	0.4nm,0.6s,baz=352,slow=1.7,SNR=10.0								

*TAP **26** 09:47:59.2,24.90N×122.45E,h15km,ML3.4,C*
*JMA **26** 09:47:59.1±0.1,24.83N×122.45E,h0km,M2.9*
ISC 26 09:47:59.4±1.1,24.87N±0.03×122.46E±0.03,h11km±12km, n69,σ0.8s48/81,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45**	**288**	P			**Pg**	**09 48 08.5**	**+0.3**
	baz=285								
TWB1				S			**Sb**	**09 48 15.2**	**-0.8**
	baz=285								
EGS		**0.48**	**267**	*i*P			**Pb**	**09 48 09.2**	**-0.6**
	baz=263								
NTC	**Toucheng**	**0.57**	**268**	P			**Pb**	**09 48 10.9**	**-0.5**
	baz=266								
TIPB	**Shuangxi**	**0.58**	**280**	P			**Pb**	**09 48 11.2**	**-0.5**
	baz=277								
TIPB				*e*S			**Sb**	**09 48 19.4**	**-0.5**
	baz=277								
JYNG	**Yonaguni jima**	**0.61**	**133**	P			**Pg**	**09 48 10.9**	**-0.3**
JYNG				S			**Sg**	**09 48 19.5**	**+0.2**
TWC	**Suao**	**0.61**	**245**	P			**Pg**	**09 48 11.2**	**-0.1**
	baz=242								
WFSB	**Wu-fen Shan**	**0.65**	**288**	P			**Pb**	**09 48 12.5**	**-0.2**
	baz=286								
WFSB				*e*S			**Sb**	**09 48 21.2**	**-0.5**
	baz=286								
YOJ	**Yonaguni jima**	**0.65**	**129**	*i*P			**Pg**	**09 48 12.1**	**+0.1**
	baz=130								
YOJ	**Yonaguni jima**	**0.65**	**129**	P			**Pg**	**09 48 11.7**	**-0.3**
YOJ				*e*S			**Sg**	**09 48 20.7**	**+0.2**
ILA	**Ilan**	**0.65**	**261**	*e*P			**Pb**	**09 48 12.2**	**-0.6**
	baz=258								
TNOU	**National Taiwa**	**0.68**	**294**	*e*P			**Pb**	**09 48 13.2**	**-0.1**
	baz=292								
NDS	**Dongshan**	**0.72**	**251**	P			**Pg**	**09 48 13.2**	**0.0**
	baz=240								
TWE	**Neicheng**	**0.73**	**258**	*i*P			**Pb**	**09 48 13.8**	**-0.4**
	baz=256								
TWE				S			**Sb**	**09 48 24.0**	**-0.3**
	baz=256								
EWUT	**Wuta**	**0.75**	**236**	P			**Pb**	**09 48 14.3**	**-0.1**
	baz=233								
EWUT				*e*S			**Sb**	**09 48 25.6**	**+0.8**
	baz=233								
NWRT	**Kuosheng**	**0.80**	**295**	*e*P			**Pb**	**09 48 15.3**	**+0.1**
	baz=293								
TWA	**Mucha**	**0.80**	**278**	P			**Pb**	**09 48 15.4**	**+0.1**
	baz=276								
PCYT	**Pengchaiyu**	**0.83**	**335**	*e*P			**Pg**	**09 48 14.8**	**-0.7**
	baz=327								
ENTT	**Nioudou**	**0.84**	**254**	P			**Pb**	**09 48 15.7**	**-0.3**
	baz=237								
ENTT				*e*S			**Sb**	**09 48 27.5**	**+0.1**
	baz=237								
YM08	**YM08**	**0.85**	**292**	*i*P			**Pb**	**09 48 15.9**	**-0.2**
	baz=290								
YM01	**YM01**	**0.85**	**289**	P			**Pg**	**09 48 15.6**	**-0.2**
	baz=287								
NHDH	**Xindian Distri**	**0.85**	**276**	P			**Pb**	**09 48 16.0**	**-0.2**
	baz=275								
YM11	**YM11**	**0.85**	**290**	*e*P			**Pb**	**09 48 16.6**	**+0.3**
	baz=289								
YM05	**YM05**	**0.86**	**290**	*e*P			**Pb**	**09 48 16.7**	**+0.3**
	baz=288								
YM10	**YM10**	**0.86**	**289**	*e*P			**Pb**	**09 48 16.8**	**+0.4**
	baz=288								
NWLT	**Wulai**	**0.87**	**264**	*e*P			**Pb**	**09 48 16.3**	**-0.3**
	baz=262								
YM04	**YM04**	**0.88**	**289**	*e*P			**Pb**	**09 48 16.9**	**+0.2**
	baz=287								
YM04				S			**Sb**	**09 48 28.2**	**-0.3**
	baz=287								
TATO	**Taipei**	**0.89**	**277**	*e*P			**Pb**	**09 48 16.6**	**-0.2**
	baz=275								
TATO				*e*S			**Sb**	**09 48 28.2**	**-0.5**
	baz=275								
YM03	**YM03**	**0.89**	**290**	*e*P			**Pb**	**09 48 16.8**	**0.0**
	baz=289								
NDT	**Datong Townshi**	**0.90**	**253**	P			**Pb**	**09 48 17.2**	**+0.1**
	baz=251								
ANP	**Anpu**	**0.91**	**290**	*e*P			**Pb**	**09 48 17.2**	**0.0**
	baz=289								
TWS1	**Kuangyinshan**	**0.97**	**284**	*e*P			**Pn**	**09 48 19.5**	**+0.5**
	baz=283								
YHNB	**Yeheng**	**1.00**	**259**	*e*P			**Pg**	**09 48 18.4**	**-0.3**
	baz=272								
NSK	**Sanguang**	**1.02**	**259**	*e*P			**Pg**	**09 48 18.8**	**-0.3**
	baz=258								
NACB	**Ninganchiao**	**1.05**	**229**	P			**Pb**	**09 48 19.4**	**-0.2**
	baz=238								
NACB				S			**Sb**	**09 48 33.1**	**-0.2**
	baz=238								
NNSB	**Datong**	**1.07**	**246**	*e*P			**Pb**	**09 48 19.8**	**-0.2**
	baz=245								
NNSH	**Datong**	**1.07**	**246**	*e*P			**Pb**	**09 48 20.0**	**-0.1**
	baz=236								
NNS	**Nan Shan**	**1.08**	**247**	*e*P			**Pb**	**09 48 19.9**	**-0.2**
	baz=235								
ETLH	**Xiulin Townshi**	**1.11**	**234**	P			**Pb**	**09 48 20.5**	**-0.1**
	baz=232								
TWD	**Chiawan**	**1.11**	**225**	*e*P			**Pb**	**09 48 20.7**	**+0.1**
	baz=234								
FUSS	**Fushou**	**1.27**	**241**	*e*P			**Pn**	**09 48 23.4**	**+0.1**
	baz=239								
FUSS				S			**Sb**	**09 48 40.2**	**+0.3**
	baz=239								
IRIF	**Iriomote-Funau**	**1.27**	**115**	P			**Pg**	**09 48 23.8**	**-0.1**
WHF	**Hehuan Shan**	**1.31**	**237**	*e*P			**Pb**	**09 48 24.4**	**+0.2**
	baz=235								
TWT	**Tachien**	**1.32**	**242**	*e*P			**Pg**	**09 48 24.9**	**+0.2**
	baz=232								
LIOB	**Emei**	**1.33**	**261**	*e*P			**Pg**	**09 48 26.0**	**+1.0**
	baz=259								
NSTT	**Nanjuang**	**1.35**	**260**	*e*P			**Pg**	**09 48 26.4**	**+1.2**
	baz=259								
ESL	**Shilin**	**1.41**	**222**	*e*P			**Pn**	**09 48 24.8**	**-0.2**
	baz=220								
CHGB	**Renai**	**1.42**	**236**	*e*P			**Pn**	**09 48 25.2**	**-0.2**
	baz=234								
HATJ	**Hateruma jima**	**1.47**	**123**	P			**Pn**	**09 48 25.9**	**+0.1**
WHP	**Taichung City**	**1.50**	**247**	*e*P			**Pn**	**09 48 26.4**	**+0.1**
	baz=246								
EGFH	**Guangfu**	**1.52**	**218**	*e*P			**Pb**	**09 48 27.5**	**-0.2**
	baz=201								
JKRS	**Kuro-shima**	**1.55**	**114**	P			**Pg**	**09 48 28.8**	**-0.3**
NMLH	**Miaoli**	**1.55**	**258**	*e*P			**Pg**	**09 48 29.7**	**+0.5**
	baz=271								
NSY	**Sanyi**	**1.61**	**254**	*e*P			**Pg**	**09 48 31.2**	**+0.9**
	baz=268								
JIJ	**Ishigaki jima**	**1.61**	**108**	P			**Pb**	**09 48 29.7**	**+0.5**
TWQ1	**Liyutan**	**1.62**	**252**	*e*P			**Pn**	**09 48 28.4**	**+0.5**
	baz=266								
WCS	**Beigang Elemen**	**1.63**	**240**	*e*P			**Pn**	**09 48 27.2**	**-0.7**
	baz=239								
DPDB	**Guoxing**	**1.63**	**239**	*e*P			**Pn**	**09 48 28.6**	**+0.6**
	baz=238								
VWDT	**VWDT**	**1.64**	**227**	*e*P			**Pb**	**09 48 29.0**	**-0.6**
	baz=209								
HGSD	**Ruisui**	**1.67**	**215**	*e*P			**Pn**	**09 48 29.2**	**+0.7**
	baz=199								
SMLT	**Sun Moon Lake**	**1.73**	**236**	*e*P			**Pg**	**09 48 31.9**	**-0.7**
	baz=221								
SSLB	**Suanglung**	**1.75**	**232**	*e*P			**Pn**	**09 48 29.6**	**-0.1**
	baz=214								
TYC	**Yuchr**	**1.75**	**237**	*e*P			**Pb**	**09 48 31.9**	**+0.4**
	baz=236								
YULB	**Yu-li**	**1.81**	**216**	*e*P			**Pn**	**09 48 31.5**	**+0.9**
	baz=215								
EYUL	**Yuli**	**1.84**	**215**	*e*P			**Pn**	**09 48 31.3**	**+0.4**
	baz=200								
TWF1	**Yuli**	**1.85**	**215**	*e*P			**Pb**	**09 48 33.3**	**+0.1**
	baz=214								
YUS	**Yu-Shan**	**1.95**	**225**	*e*P			**Pn**	**09 48 33.6**	**+0.8**
	baz=207								
FULB	**Fuli**	**1.98**	**213**	*e*P			**Pb**	**09 48 34.2**	**-1.2**
	baz=197								
ALS	**Alishan**	**2.03**	**228**	*e*P			**Pg**	**09 48 37.1**	**-1.2**
	baz=210								
CHN5	**Tsauling**	**2.06**	**232**	*e*P			**Pb**	**09 48 36.7**	**-0.2**
	baz=214								

*TAP **26** 09:48:24.0,24.94N×122.46E,h19km,ML3.7,C*
*JMA **26** 09:48:24.4±0.3,24.84N×122.47E,h0km±3km,M3.1*
ISC 26 09:48:24.5±1.1,24.87N±0.03×122.46E±0.02,h10km±10km, n44,σ0.9s43/64,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45**	**288**	P			**Pg**	**09 48 33.4**	**+0.1**
	baz=278								
TWB1				S			**Sg**	**09 48 39.5**	**+0.2**
	baz=278								
EGS		**0.48**	**267**	P			**Pg**	**09 48 34.2**	**+0.3**
	baz=257								
EGS				S			**Sb**	**09 48 41.5**	**-0.6**
	baz=257								
NTC	**Toucheng**	**0.57**	**268**	P			**Pg**	**09 48 36.0**	**+0.3**
	baz=261								
TIPB	**Shuangxi**	**0.58**	**280**	P			**Pb**	**09 48 36.5**	**-0.4**
	baz=273								
TIPB				*e*S			**Sb**	**09 48 44.5**	**-0.7**
	baz=273								
JYNG	**Yonaguni jima**	**0.61**	**133**	P			**Pg**	**09 48 36.3**	**0.0**
JYNG				S			**Sg**	**09 48 44.3**	**0.0**
TWC	**Suao**	**0.61**	**245**	P			**Pg**	**09 48 36.4**	**0.0**
	baz=239								
YOJ	**Yonaguni jima**	**0.65**	**129**	*i*P			**Pg**	**09 48 37.0**	**-0.1**
	baz=133								
YOJ	**Yonaguni jima**	**0.65**	**129**	P			**Pg**	**09 48 36.7**	**-0.3**
YOJ				*e*S			**Sg**	**09 48 45.6**	**+0.1**
WFSB	**Wu-fen Shan**	**0.65**	**288**	*e*P			**Pg**	**09 48 37.4**	**+0.4**
	baz=281								
WFSB				S			**Sg**	**09 48 46.0**	**+0.4**
	baz=281								
TNOU	**National Taiwa**	**0.68**	**294**	*e*P			**Pg**	**09 48 38.1**	**+0.4**
	baz=288								
TNOU				S			**Sg**	**09 48 46.5**	**-0.2**
	baz=288								
NDS	**Dongshan**	**0.72**	**251**	P			**Pg**	**09 48 38.7**	**+0.4**
	baz=239								
NDS				*e*S			**Sg**	**09 48 48.4**	**+0.6**
	baz=239								
TWE	**Neicheng**	**0.73**	**258**	P			**Pg**	**09 48 38.7**	**0.0**
	baz=252								
TWE				S			**Sb**	**09 48 49.1**	**-0.4**
	baz=252								
EWUT	**Wuta**	**0.75**	**236**	*e*P			**Pg**	**09 48 39.4**	**+0.4**
	baz=231								
EWUT				*e*S			**Sb**	**09 48 49.6**	**-0.4**
	baz=231								
NWRT	**Kuosheng**	**0.80**	**295**	*e*P			**Pb**	**09 48 40.6**	**+0.1**
	baz=290								
TWA	**Mucha**	**0.80**	**278**	*e*S			**Sg**	**09 48 50.1**	**-0.4**
	baz=272								
PCYT	**Pengchaiyu**	**0.83**	**335**	*e*P			**Pg**	**09 48 40.4**	**-0.2**
	baz=317								
ENTT	**Nioudou**	**0.84**	**254**	*e*P			**Pg**	**09 48 40.9**	**+0.1**
	baz=235								
ENTT				*e*S			**Sg**	**09 48 51.9**	**+0.1**
	baz=235								
YM08	**YM08**	**0.85**	**292**	*e*P			**Pb**	**09 48 41.4**	**0.0**
	baz=287								
YM01	**YM01**	**0.85**	**289**	*e*P			**Pg**	**09 48 40.0**	**-1.0**
	baz=270								
YM01				*e*S			**Sg**	**09 48 51.3**	**-0.8**
	baz=270								
NHDH	**Xindian Distri**	**0.85**	**276**	*e*P			**Pg**	**09 48 41.1**	**+0.2**
	baz=271								
YM11	**YM11**	**0.85**	**290**	*e*P			**Pb**	**09 48 41.5**	**0.0**
	baz=285								
YM10	**YM10**	**0.86**	**289**	*e*P			**Pb**	**09 48 41.8**	**+0.2**
	baz=285								
NWLT	**Wulai**	**0.87**	**264**	*e*P			**Pg**	**09 48 41.4**	**+0.1**
	baz=259								
NWLT				*e*S			**Sg**	**09 48 53.1**	**+0.4**
	baz=259								
YM04	**YM04**	**0.88**	**289**	*e*P			**Pb**	**09 48 42.1**	**+0.2**
	baz=284								
TATO	**Taipei**	**0.89**	**277**	*e*P			**Pg**	**09 48 41.5**	**-0.1**
	baz=272								
YM03	**YM03**	**0.89**	**290**	*e*P			**Pb**	**09 48 42.0**	**0.0**
	baz=286								
NDT	**Datong Townshi**	**0.90**	**253**	*e*P			**Pb**	**09 48 42.4**	**+0.1**
	baz=235								
NDT				*e*S			**Sb**	**09 48 55.9**	**+1.6**
	baz=235								
ANP	**Anpu**	**0.91**	**290**	*e*P			**Pg**	**09 48 42.3**	**+0.2**
	baz=286								
YHNB	**Yeheng**	**1.00**	**259**	*e*P			**Pg**	**09 48 43.9**	**0.0**
	baz=268								
YHNB				*e*S			**Sg**	**09 48 56.9**	**-0.1**
	baz=268								
NSK	**Sanguang**	**1.02**	**259**	*e*P			**Pg**	**09 48 44.0**	**-0.2**
	baz=268								
NSK				*e*S			**Sg**	**09 48 56.8**	**-0.6**
	baz=268								
NACB	**Ninganchiao**	**1.05**	**229**	*e*P			**Pg**	**09 48 44.5**	**-0.2**
	baz=236								
NACB				*e*S			**Sg**	**09 48 58.1**	**-0.2**
	baz=236								
NNSB	**Datong**	**1.07**	**246**	*e*P			**Pg**	**09 48 44.9**	**-0.3**
	baz=231								
NNSB				*e*S			**Sg**	**09 48 59.1**	**0.0**
	baz=231								
NNSH	**Datong**	**1.07**	**246**	*e*S			**Sb**	**09 48 59.8**	**+0.4**
	baz=242								
NNS	**Nan Shan**	**1.08**	**247**	*e*S			**Sg**	**09 48 59.0**	**-0.3**
	baz=231								
ETLH	**Xiulin Townshi**	**1.11**	**234**	*e*P			**Pg**	**09 48 45.2**	**-0.6**
	baz=230								
ETLH				*e*S			**Sg**	**09 49 00.1**	**-0.2**
	baz=230								
TWD	**Chiawan**	**1.11**	**225**	*e*P			**Pg**	**09 48 45.6**	**-0.3**
	baz=231								
TWD				*e*S			**Sg**	**09 49 00.5**	**+0.1**
	baz=231								
IRIF	**Iriomote-Funau**	**1.27**	**115**	P			**Pg**	**09 48 48.9**	**-0.1**
WHF	**Hehuan Shan**	**1.31**	**237**	*e*S			**Sg**	**09 49 06.1**	**-0.6**
	baz=233								
TWT	**Tachien**	**1.32**	**243**	*e*S			**Sn**	**09 49 07.8**	**+0.9**
	baz=239								
CHGB	**Renai**	**1.42**	**236**	*e*S			**Sg**	**09 49 09.3**	**-1.0**
	baz=244								
HATJ	**Hateruma jima**	**1.47**	**123**	P			**Pb**	**09 48 52.2**	**+0.3**
WHP	**Taichung City**	**1.50**	**247**	*e*S			**Sn**	**09 49 11.1**	**-0.1**
	baz=232								
WCS	**Beigang Elemen**	**1.63**	**240**	*e*S			**Sn**	**09 49 13.9**	**-0.3**
	baz=237								
SSLB	**Suanglung**	**1.75**	**232**	*e*S			**Sn**	**09 49 17.6**	**+0.4**
	baz=239								

*HEL **26** 09:59:10.4±0.1,64.76N×30.65E,h0km,ML2.1,Explosion*
*KOLA **26** 09:59:10.6,64.70N×30.71E,h0km,ML2.6,Kostomuksha, Karelia*
*BER **26** 09:59:11.4±1.6,64.75N×30.69E,h0km,ML1.9,Suspected explosion*
*IDC **26** 09:59:13.3±1.6,64.79N×30.34E,h0km,mb1 3.0/3, mb1mx2.9/30,mbtmp2.9/3,ML2.3/3,Error ellipse: s-maj=22.1km s-min=7.6km az=105.0*
*UPP **26** 09:59:24.4±2.6,65.13N×28.58E,h0km,ML1.6,Suspected explosion*
ISC 26 09:59:11.0±0.9,64.84N±0.02×30.63E±0.05,h0km,n40, σ1.3s73/66,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.23**	**346**		PG		**Pg**	**09 59 33.9**	**-0.6**
	baz=170								
KU6				MSG				09 59 49.8	
	comp=Z,10nm,0.2s								
KU6					SG		**Sg**	**09 59 50.7**	**+0.3**
MSF	**Maaselka**	**1.26**	**329**		PG		**Pg**	**09 59 34.5**	**-0.7**
	baz=148								
MSF					SG		**Sg**	**09 59 52.1**	**+0.5**
OLKF	**Oulanka, Finla**	**1.57**	**341**		PG		**Pn**	**09 59 40.0**	**-0.1**
OLKF					SN		**Sn**	**10 00 01.6**	**+0.5**
JOF	**Joensuu**	**1.96**	**171**		PG		**Pn**	**09 59 44.1**	**-1.3**
	baz=348								
JOF					SG		**Sn**	**10 00 10.3**	**-0.3**
**

FINES	**FINES Array B**	**3.99**	**213**	Pn	**Pn**	**10 00 13.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=30,slow=14,SNR=5.6						
FINES				Pg	**Pb**	**10 00 21.9**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=26,slow=16,SNR=8.9						
FINES				Sn	**Sn**	**10 00 59.5**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=33,slow=23,SNR=6.4						
FINES				Lg	Lg	10 01 13.8	
	comp=Z,1.9nm,0.3s,baz=32,slow=30,SNR=14						
HARU	**Harads**	**4.24**	**293**	P	**Pn**	**10 00 17.7**	**+1.1**
HARU				S	Sn	10 00 56.8	-10
MASU	**Masugnsbyn**	**4.38**	**311**	P	**Pn**	**10 00 21.0**	**+2.4**
HEF	**Hetta**	**4.53**	**325**	*e*P	**Pn**	**10 00 20.8**	**0.0**
HEF				*e*S	**Sn**	**10 01 11.9**	**-2.2**
HEF	**Hetta**	**4.53**	**325**	PN	**Pn**	**10 00 22.5**	**+1.8**
	baz=138						
HEF				SG	**Sb**	**10 01 30.6**	**+4.2**
VJF	**Virojoki**	**4.55**	**200**	SG	**Sb**	**10 01 29.6**	**+2.8**
LILU	**Lilltraesk**	**4.59**	**280**	P	**Pn**	**10 00 21.9**	**+0.4**
DUNU	**Dundret**	**4.71**	**304**	P	**Pn**	**10 00 24.2**	**+1.0**
LANU	**Lannavaara**	**4.73**	**317**	P	**Pn**	**10 00 24.7**	**+1.2**
KTK1	**Kautokeino**	**5.10**	**329**	*e*P	**Pn**	**10 00 27.7**	**-0.8**
KTK1				*e*S	**Sn**	**10 01 23.4**	**-4.5**
KTK1				IAML		10 01 56.5	
	comp=Z,3.4nm,0.5s						
ARA0	**ARCESS Array S**	**5.12**	**339**	*e*P	**Pn**	**10 00 28.6**	**-0.2**
ARA0				*e*S	**Sn**	**10 01 25.0**	**-3.5**
ARA0				IAML		10 01 51.6	
	comp=Z,3.3nm,0.4s						
ARCES	**ARCESS Array B**	**5.12**	**339**	Pn	**Pn**	**10 00 28.7**	**-0.1**
	baz=154,slow=13,SNR=69						
ARCES				Sn	**Sn**	**10 01 25.3**	**-3.2**
	baz=155,slow=26,SNR=8.8						
ARCES				Lg	Lg	10 01 49.0	
	baz=156,slow=33,SNR=18						
KEV	**Kevo**	**5.13**	**346**	*e*P	**Pn**	**10 00 29.1**	**+0.1**
KEV				*e*S	**Sn**	**10 01 25.8**	**-2.9**
KUA	**Kurravaara**	**5.18**	**312**	P	**Pn**	**10 00 31.0**	**+1.4**
KOVU	**Salmi**	**5.38**	**314**	P	**Pn**	**10 00 34.2**	**+1.8**
KIF	**Kilpisjarvi**	**5.69**	**322**	*e*P	**Pn**	**10 00 35.4**	**-1.2**
KIF				*e*S	**Sn**	**10 01 40.2**	**-2.2**
I37NO	**I37NO**	**6.34**	**317**	*i*		10 43 40.0	
	baz=128,slow=315,SNR=6.2						
NOA	**NORSAR Array B**	**9.62**	**256**	Pn	**Pn**	**10 01 28.9**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=60,slow=16,SNR=3.2						
NOA				Lg	Lg	10 04 13.9	
	comp=Z,0.0nm,0.3s,baz=58,slow=21,SNR=3.4						

IDC 26 10:05:22.6±3.3,**7.54N**×**91.73E**,**h0**km,**mb3.6**/6,**mb1 3.7**/6, **mb1mx3.5**/40,**mbtmp3.6**/6,**Error ellipse: s-maj=137.1km s-min=22.2km az=61.0**,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.94**	**350**	P	P	10 12 59.1	+0.5
	0.7nm,0.7s,baz=172,slow=8.4,SNR=8.7						
SONM	**Songino Array**	**42.05**	**15**	P	P	10 13 16.4	+0.3
	0.6nm,0.7s,baz=184,slow=8.9,SNR=3.7						
KURBB	**Kurchatov Arra**	**44.33**	**348**	P	P	10 13 34.0	-0.4
	0.6nm,0.6s,baz=173,slow=7.5,SNR=5.4						
ZALV	**Zalesovo Beam**	**46.61**	**354**	P	P	10 13 51.3	-1.1
	0.7nm,0.3s,baz=175,slow=8.2,SNR=2.0						
WRA	**Warramunga Arr**	**50.03**	**124**	P	P	10 14 19.6	+0.2
	0.4nm,0.7s,baz=305,slow=8.5,SNR=3.7						
ASAR	**Alice Springs**	**51.56**	**128**	P	P	10 14 30.5	-0.4
	0.4nm,0.6s,baz=308,slow=7.6,SNR=6.4						

DDA ***26*** *10:07:21.6,39.27N×24.68E,h13km±3km,ML3.6*
ISK ***26*** *10:07:22.5,39.27N×24.70E,h5km,ML3.7/21*
ATH ***26*** *10:07:24.5,39.28N×24.76E,h12km±1km,ML3.4/27,Error ellipse: s-maj=2.0km s-min=0.8km az=122.0*
THE ***26*** *10:07:24.2,39.29N×24.76E,h10km,ML3.4/14,Error ellipse: s-maj=0.9km s-min=0.4km az=104.0*

ISC 26 10:07:24.2±1.0,**39.28N**±0.02×**24.75E**±0.01,**h11**km±9km, **n141**,σ0**91**/183,**5C-8D**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKY	**Skiros Island**	**0.43**	**201**	P	**Pg**	**10 07 32.7**	**0.0**
SKY				S	**Sg**	**10 07 39.1**	**+0.7**
SKY				AML	AML	10 07 43.6	
	comp=N,20104μm,0.2s						
SKY				AML	AML	10 07 46.0	
	comp=E,14155μm,0.3s						
SKY	**Skiros Island**	**0.43**	**201**	P	**Pg**	**10 07 32.8**	**0.0**
SKY				S	**Sg**	**10 07 39.0**	**+0.6**
	comp=E,8μm,0.2s						
LIA	**Limnos Island**	**0.70**	**29**	P	**Pg**	**10 07 37.8**	**0.0**
LIA				S	**Sb**	**10 07 47.5**	**-0.6**
LIA				AML	AML	10 07 48.9	
	comp=N,6359μm,0.2s						
LIA				AML	AML	10 07 49.1	
	comp=E,4835μm,0.2s						
LIA	**Limnos Island**	**0.70**	**29**	P	**Pg**	**10 07 37.8**	**0.0**
LIA				S	**Sg**	**10 07 47.2**	**+0.2**
	comp=E,3μm,0.3s						
KYMI	**Kymi, Euboea I**	**0.82**	**218**	P	**Pg**	**10 07 39.8**	**-0.3**
KYMI				S	**Sb**	**10 07 52.2**	**+0.7**
KYMI				AML	AML	10 07 54.1	
	comp=E,8352μm,0.5s						
KYMI				AML	AML	10 07 55.0	
	comp=N,9188μm,0.5s						
KYMI	**Kymi, Euboea I**	**0.82**	**218**	P	**Pg**	**10 07 39.8**	**-0.3**
SIGR	**SIGRI**	**0.86**	**94**	P	**Pg**	**10 07 40.5**	**-0.4**
SIGR				S	**Sb**	**10 07 52.7**	**-0.1**
SIGR				AML	AML	10 07 55.8	
	comp=N,18655μm,0.5s						
SIGR				AML	AML	10 07 55.9	
	comp=E,7187μm,0.5s						
SIGR	**SIGRI**	**0.86**	**94**	P	**Pg**	**10 07 40.3**	**-0.6**
SIGR				S	**Sb**	**10 07 52.9**	**+0.1**
	comp=E,6μm,0.5s						
SIGR	**SIGRI**	**0.86**	**94**	PG	**Pg**	**10 07 40.5**	**-0.4**
SIGR				SG	**Sb**	**10 07 52.9**	**+0.1**
PAIG	**Paliouri**	**1.04**	**308**	P	**Pb**	**10 07 43.9**	**-0.4**
PAIG				S	**Sn**	**10 07 59.3**	**-0.1**
	comp=E,1μm,0.7s						
EREA	**Eretria**	**1.07**	**217**	P	**Pb**	**10 07 44.2**	**-0.5**
EREA				S	**Sb**	**10 07 58.8**	**0.0**
EREA				AML	AML	10 08 02.4	
	comp=N,5006μm,0.5s						
EREA				AML	AML	10 08 03.2	
	comp=E,5848μm,0.5s						
EREA	**Eretria**	**1.07**	**217**	P	**Pb**	**10 07 44.1**	**-0.7**
EREA				S	**Sn**	**10 07 59.6**	**-0.4**
	comp=E,3μm,0.5s						
KOCA	**Canakkale, Ayv**	**1.10**	**78**	*i* P	**Pb**	**10 07 44.7**	**-0.6**
KOCA				*i* S	**Sb**	**10 07 59.3**	**-0.3**
KOCA				IAML		10 08 07.0	
	comp=N,1μm,1.4s						
BOZC	**Bozcaada**	**1.16**	**61**	PN	**Pb**	**10 07 45.4**	**-0.8**
BOZC	**Bozcaada**	**1.16**	**61**	*i* P	**Pb**	**10 07 45.2**	**-1.0**
BOZC				*i* S	**Sb**	**10 08 00.0**	**-1.1**
BOZC				IAML		10 08 08.0	
	comp=N,1μm,0.9s						
NEO	**Neokhori**	**1.18**	**272**	P	**Pn**	**10 07 46.0**	**-0.7**
NEO				AML	AML	10 08 06.8	
	comp=N,2425μm,0.4s						
NEO				AML	AML	10 08 07.9	
	comp=E,2496μm,0.5s						
NEO	**Neokhori**	**1.18**	**272**	P	**Pn**	**10 07 46.0**	**-0.7**
NEO				S	**Sg**	**10 08 02.6**	**+0.3**
	comp=E,1μm,0.5s						
PRK	**Paraskevi**	**1.19**	**91**	P	**Pg**	**10 07 46.9**	**-0.1**
PRK				AML	AML	10 08 12.7	
	comp=E,9922μm,0.6s						
PRK				AML	AML	10 08 13.7	
	comp=N,9478μm,0.6s						
PRK	**Paraskevi**	**1.19**	**91**	P	**Pg**	**10 07 47.2**	**+0.2**
PRK				S	**Sn**	**10 08 04.0**	**+1.2**
OUR	**Ouranopolis**	**1.20**	**331**	P	**Pn**	**10 07 46.5**	**-0.4**
OUR				S	**Sb**	**10 08 02.0**	**-0.6**
OUR				AML	AML	10 08 08.2	
	comp=N,3523μm,0.6s						
OUR				AML	AML	10 08 09.0	
	comp=E,3148μm,1.0s						
OUR	**Ouranopolis**	**1.20**	**331**	P	**Pn**	**10 07 46.5**	**-0.4**
OUR				S	**Sb**	**10 08 02.6**	**0.0**
	comp=E,2μm,0.8s						
OUR	**Ouranopolis**	**1.20**	**331**	PN	**Pn**	**10 07 45.6**	**-1.4**
XOR	**Xorichti**	**1.21**	**274**	P	**Pn**	**10 07 46.1**	**-1.0**
XOR	**Xorichti**	**1.21**	**274**	P	**Pn**	**10 07 46.1**	**-1.0**
XOR				S	**Sb**	**10 08 02.4**	**-0.3**
	comp=E,632nm,0.5s						
SMIA	**Simia**	**1.26**	**252**	P	**Pn**	**10 07 47.5**	**-0.3**
SMIA				S	**Sb**	**10 08 03.5**	**-0.8**
SMIA				AML	AML	10 08 10.7	
	comp=N,16699μm,0.5s						
SMIA				AML	AML	10 08 13.1	
	comp=E,17295μm,0.7s						
SMIA	**Simia**	**1.26**	**252**	P	**Pn**	**10 07 47.4**	**-0.4**
SMIA				S	**Sg**	**10 08 05.3**	**+0.5**
	comp=E,8μm,0.8s						
GADA	**Gvkgeada**	**1.27**	**44**	P	**Pn**	**10 07 47.2**	**-0.7**
GADA	**Gvkgeada**	**1.27**	**44**	PN	**Pn**	**10 07 47.1**	**-0.8**
KARY	**Karystos**	**1.27**	**191**	P	**Pn**	**10 07 47.0**	**-0.9**
KARY	**Karystos**	**1.27**	**191**	P	**Pn**	**10 07 47.0**	**-0.9**
GOKA	**anakkale-Gk**	**1.27**	**44**	*i* P	**Pn**	**10 07 47.4**	**-0.6**
GOKA				*i* S	**Sg**	**10 08 05.2**	**-0.1**
GOKA				IAML		10 08 08.0	
	comp=E,2μm,0.5s						
THAS	**Thassos island**	**1.32**	**359**	P	**Pn**	**10 07 47.5**	**-1.1**
THAS				S	**Sb**	**10 08 04.5**	**-1.5**
THAS				AML	AML	10 08 08.7	
	comp=N,1239μm,0.5s						
THAS				AML	AML	10 08 11.2	
	comp=E,2480μm,0.5s						
THAS	**Thassos island**	**1.32**	**359**	P	**Pn**	**10 07 47.5**	**-1.1**
SMTH	**Samothraki Isl**	**1.33**	**27**	P	**Pn**	**10 07 47.4**	**-1.4**
SMTH				S	**Sn**	**10 08 06.3**	**-0.2**
SMTH				AML	AML	10 08 09.5	
	comp=E,1829μm,0.4s						
SMTH				AML	AML	10 08 09.8	
	comp=N,1693μm,1.4s						
SMTH	**Samothraki Isl**	**1.33**	**27**	P	**Pn**	**10 07 47.2**	**-1.6**
SMTH				S	**Sg**	**10 08 06.9**	**-0.2**
	comp=N,832nm,0.4s						
EZN	**Ezine**	**1.34**	**66**	P	**Pn**	**10 07 48.1**	**-0.7**
EZN				S	**Sb**	**10 08 05.5**	**-0.9**
EZN	**Ezine**	**1.34**	**66**	PN	**Pb**	**10 07 48.9**	**-0.4**
ECEA	**Canakkale, Ece**	**1.34**	**55**	*i* P	**Pn**	**10 07 48.2**	**-0.6**
ECEA				*i* S	**Sg**	**10 08 08.3**	**+0.9**
ECEA				IAML		10 08 15.0	
	comp=E,1μm,0.8s						
CHOS	**Chios island**	**1.36**	**131**	P	**Pn**	**10 07 48.7**	**-0.5**
CHOS				S	**Sb**	**10 08 06.8**	**-0.3**
CHOS				AML	AML	10 08 10.9	
	comp=N,5031μm,0.5s						
CHOS				AML	AML	10 08 11.9	
	comp=E,4956μm,0.6s						
CHOS	**Chios island**	**1.36**	**131**	P	**Pn**	**10 07 48.7**	**-0.5**
CHOS				S	**Sg**	**10 08 07.6**	**-0.4**
	comp=E,3μm,0.6s						
CHOS	**Chios island**	**1.36**	**131**	PN	**Pn**	**10 07 48.2**	**-1.0**
CHOS				SN	**Sg**	**10 08 07.9**	**-0.1**
DION	**Dionisos Attik**	**1.36**	**208**	P	**Pn**	**10 07 48.3**	**-0.9**
DION				AML	AML	10 08 13.4	
	comp=E,4139μm,0.4s						
DION				AML	AML	10 08 13.9	
	comp=N,4928μm,1.0s						
DION	**Dionisos Attik**	**1.36**	**208**	P	**Pn**	**10 07 48.1**	**-1.1**
PTL	**Penteli**	**1.41**	**209**	P	**Pn**	**10 07 48.8**	**-1.1**
PTL				AML	AML	10 08 12.2	
	comp=N,2440μm,0.7s						
PTL				AML	AML	10 08 13.2	
	comp=E,2166μm,0.6s						
PTL	**Penteli**	**1.41**	**209**	P	**Pn**	**10 07 48.9**	**-1.0**
PTL				S	**Sb**	**10 08 09.1**	**+0.5**
	comp=E,1μm,0.8s						
ATAL	**Atalanti**	**1.47**	**247**	P	**Pn**	**10 07 50.0**	**-0.6**
ATAL				AML	AML	10 08 17.5	
	comp=N,1430μm,0.6s						
ATAL				AML	AML	10 08 18.8	
	comp=E,1221μm,0.5s						
ATAL	**Atalanti**	**1.47**	**247**	P	**Pn**	**10 07 50.0**	**-0.6**
ATAL				S	**Sg**	**10 08 11.1**	**-0.3**
	comp=E,668nm,0.5s						
BAYC	**CANAKKALE_Bayr**	**1.47**	**71**	*i* P	**Pn**	**10 07 49.8**	**-0.8**
BAYC				*i* S	**Sn**	**10 08 09.6**	**-0.2**
BAYC				IAML		10 08 12.0	
	comp=N,705nm,0.7s						
PLG	**Polygyros**	**1.48**	**318**	P	**Pn**	**10 07 50.9**	**+0.1**
PLG				AML	AML	10 08 19.6	
	comp=N,956μm,0.9s						
PLG				AML	AML	10 08 19.6	
	comp=E,1141μm,0.8s						
PLG	**Polygyros**	**1.48**	**318**	P	**Pn**	**10 07 50.6**	**-0.2**
LKR	**Lokris**	**1.50**	**246**	P	**Pn**	**10 07 50.6**	**-0.4**
LKR	**Lokris**	**1.50**	**246**	P	**Pn**	**10 07 50.8**	**-0.2**
AYVA	**Ayvalik**	**1.51**	**88**	*i* P	**Pn**	**10 07 50.8**	**-0.3**
AYVA				*i* S	**Sg**	**10 08 12.8**	**0.0**
AYVA				IAML		10 08 22.0	
	comp=E,610nm,0.6s						
ATHU	**Athens Univers**	**1.52**	**210**	P	**Pn**	**10 07 50.4**	**-0.8**
ATHU				AML	AML	10 08 19.6	
	comp=N,1038μm,0.5s						
ATHU				AML	AML	10 08 20.4	
	comp=E,624μm,0.7s						
ATH	**Athens Observa**	**1.54**	**212**	P	**Pn**	**10 07 50.9**	**-0.6**
ATH				AML	AML	10 08 18.0	
	comp=N,2485μm,0.4s						
ATH				AML	AML	10 08 21.2	
	comp=E,2170μm,0.8s						
ATH	**Athens Observa**	**1.54**	**212**	P	**Pn**	**10 07 50.8**	**-0.7**
ATH				S	**Sb**	**10 08 12.5**	**+0.4**
	comp=E,1μm,0.6s						
VIL2	**Platees**	**1.57**	**228**	P	**Pn**	**10 07 51.5**	**-0.6**
VILL	**Villia**	**1.58**	**226**	P	**Pn**	**10 07 51.5**	**-0.7**
DKL	**Dikili**	**1.69**	**96**	PN	**Pn**	**10 07 53.8**	**+0.1**
AXAR	**Agios Charalam**	**1.71**	**253**	P	**Pb**	**10 07 54.9**	**-0.6**
URLA	**Izmir**	**1.71**	**122**	PN	**Pn**	**10 07 53.6**	**-0.4**
URLA	**Izmir**	**1.71**	**122**	*i* P	**Pn**	**10 07 53.0**	**-1.0**
URLA				*i* S	**Sg**	**10 08 20.2**	**+0.9**
KAVA	**Kavala**	**1.72**	**354**	P	**Pn**	**10 07 53.3**	**-0.8**
KAVA				AML	AML	10 08 20.7	
	comp=E,1617μm,0.5s						
KAVA				AML	AML	10 08 21.6	
	comp=N,1297μm,0.5s						
KAVA	**Kavala**	**1.72**	**354**	P	**Pn**	**10 07 53.2**	**-0.8**
ZEYE	**Izmir, Urla-Ze**	**1.73**	**127**	*i* P	**Pg**	**10 07 57.2**	**-0.1**
ZEYE				*i* S	**Sg**	**10 08 19.6**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.73**	**50**	PN	**Pn**	**10 07 53.9**	**-0.4**
CAVK	**Edirne/Enez-Ca**	**1.78**	**37**	*i* P	**Pb**	**10 07 56.8**	**-0.1**
CAVK				*i* S	**Sg**	**10 08 20.4**	**-1.1**
CAVK				IAML		10 08 42.0	
	comp=E,632nm,0.7s						
ENEZ	**Enez**	**1.81**	**36**	P	**Pn**	**10 07 54.2**	**-1.1**
BUHA	**Balikesir, Bur**	**1.82**	**82**	*i* P	**Pn**	**10 07 55.2**	**-0.2**
BUHA				*i* S	**Sg**	**10 08 22.3**	**-0.4**
HORT	**Hortiatis**	**1.82**	**317**	P	**Pn**	**10 07 55.8**	**+0.2**
HORT	**Hortiatis**	**1.82**	**317**	P	**Pn**	**10 07 55.4**	**-0.2**
HORT	**Hortiatis**	**1.82**	**317**	PN	**Pn**	**10 07 55.3**	**-0.3**
ZEDA	**zmir-Bergama**	**1.84**	**99**	*i* P	**Pn**	**10 07 55.6**	**-0.1**
ZEDA				*i* S	**Sg**	**10 08 23.7**	**+0.3**
SOH	**Sokhos**	**1.87**	**326**	P	**Pn**	**10 07 56.5**	**+0.3**
SOH				AML	AML	10 08 27.1	
	comp=E,2098μm,0.5s						
SOH				AML	AML	10 08 29.3	
	comp=N,1866μm,0.9s						
SOH	**Sokhos**	**1.87**	**326**	P	**Pn**	**10 07 56.2**	**0.0**
LTK	**Loutraki**	**1.88**	**228**	P	**Pn**	**10 07 55.9**	**-0.4**
LPK	**Lapseki**	**1.90**	**54**	PN	**Pn**	**10 07 55.7**	**-0.8**
AGG	**Agios Georgios**	**1.90**	**263**	P	**Pn**	**10 07 56.6**	**+0.1**
AGG				AML	AML	10 08 29.1	
	comp=E,818μm,0.9s						
AGG				AML	AML	10 08 31.2	
	comp=N,1274μm,1.4s						
AGG	**Agios Georgios**	**1.90**	**263**	P	**Pn**	**10 07 56.4**	**-0.1**
AGG				S	**Sg**	**10 08 24.2**	**-0.9**
ALN	**Alexandroupoli**	**1.90**	**31**	P	**Pn**	**10 07 55.3**	**-1.1**
ALN				AML	AML	10 08 26.4	
	comp=N,768μm,0.6s						
ALN				AML	AML	10 08 33.6	
	comp=E,757μm,0.5s						
ALN	**Alexandroupoli**	**1.90**	**31**	P	**Pn**	**10 07 55.4**	**-1.1**
ALN	**Alexandroupoli**	**1.90**	**31**	PN	**Pn**	**10 07 55.3**	**-1.1**
LOUT	**Loutraki**	**1.90**	**228**	P	**Pn**	**10 07 56.3**	**-0.3**
LOUT				AML	AML	10 08 27.9	
	comp=N,451μm,0.5s						
LOUT				AML	AML	10 08 35.8	
	comp=E,702μm,0.5s						
LOUT	**Loutraki**	**1.90**	**228**	P	**Pn**	**10 07 56.2**	**-0.3**
THE	**Thessaloniki**	**1.92**	**315**	P	**Pn**	**10 07 57.2**	**+0.3**
LIT	**Litokhoron**	**1.92**	**296**	P	**Pn**	**10 07 57.2**	**+0.3**
LIT				AML	AML	10 08 21.4	
	comp=N,442μm,0.4s						
LIT				AML	AML	10 08 22.1	
	comp=E,292μm,0.2s						
LIT	**Litokhoron**	**1.92**	**296**	P	**Pn**	**10 07 57.2**	**+0.3**
ERIK	**Erikli-Kesan**	**1.94**	**44**	PN	**Pn**	**10 07 57.9**	**+0.8**
RDO	**Rodhopi**	**1.96**	**18**	P	**Pn**	**10 07 56.5**	**-0.8**
RDO				AML	AML	10 08 27.3	
	comp=N,754μm,0.6s						
RDO				AML	AML	10 08 28.6	
	comp=E,584μm,0.7s						
RDO	**Rodhopi**	**1.96**	**18**	P	**Pn**	**10 07 55.9**	**-1.4**
RDO	**Rodhopi**	**1.96**	**18**	PN	**Pn**	**10 07 56.5**	**-0.8**
SRS	**Serrai**	**2.03**	**335**	P	**Pn**	**10 07 58.3**	**-0.1**
SRS	**Serrai**	**2.03**	**335**	P	**Pn**	**10 07 58.2**	**-0.2**
MAKR	**Makrakomi, Fth**	**2.05**	**263**	P	**Pn**	**10 07 59.1**	**+0.4**
MAKR				AML	AML	10 08 35.7	
	comp=N,4299μm,0.7s						
MAKR				AML	AML	10 08 38.1	
	comp=E,1284μm,0.9s						
MAKR	**Makrakomi, Fth**	**2.05**	**263**	P	**Pn**	**10 07 59.1**	**+0.4**
THL	**Klokotos Trika**	**2.13**	**278**	P	**Pn**	**10 07 59.9**	**+0.1**
THL	**Klokotos Trika**	**2.13**	**278**	P	**Pn**	**10 07 59.4**	**-0.3**
KESN	**Edirne-Kesan**	**2.14**	**43**	*i* P	**Pn**	**10 07 58.8**	**-1.4**
KESN				*i* S	**Sg**	**10 08 33.5**	**+0.4**
NVR	**Nevrokopi**	**2.17**	**342**	P	**Pn**	**10 08 00.2**	**-0.1**
NVR	**Nevrokopi**	**2.17**	**342**	P	**Pn**	**10 08 00.1**	**-0.2**
KRBG	**Karabiga-Canak**	**2.26**	**60**	PN	**Pn**	**10 08 01.9**	**+0.5**
BALY	**Balya**	**2.27**	**77**	*i* P	**Pn**	**10 08 00.7**	**-0.9**
BALY				*i* S	**Sb**	**10 08 33.9**	**+0.6**
APE	**Apeiranthos**	**2.30**	**164**	P	**Pn**	**10 08 01.1**	**-0.9**
STEP	**BALIKESIR_Sava**	**2.31**	**87**	*i* P	**Pn**	**10 08 02.7**	**+0.5**
STEP				*i* S	**Sg**	**10 08 38.0**	**-0.4**
STEP				IAML		10 08 50.0	
	comp=E,377nm,0.7s						
EVR	**Evrytania**	**2.31**	**262**	P	**Pn**	**10 08 03.1**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.34**	**52**	PN	**Pn**	**10 08 03.4**	**+0.8**
KNT	**Kendrikon**	**2.35**	**324**	P	**Pn**	**10 08 03.1**	**+0.3**
KNT	**Kendrikon**	**2.35**	**324**	P	**Pn**	**10 08 03.1**	**+0.3**
KNT	**Kendrikon**	**2.35**	**324**	PN	**Pn**	**10 08 02.8**	**0.0**
KLV	**Kalavryta, Ach**	**2.38**	**239**	P	**Pn**	**10 08 03.0**	**-0.2**
LAKA	**Lakka**	**2.40**	**245**	P	**Pn**	**10 08 03.7**	**+0.2**
MAR2	**Marsite Statio**	**2.44**	**53**	PN	**Pn**	**10 08 04.7**	**+0.8**
MAR3	**Marsite Statio**	**2.44**	**53**	PN	**Pn**	**10 08 05.2**	**+1.2**
GRG	**Griva**	**2.45**	**314**	P	**Pn**	**10 08 04.7**	**+0.5**
GZKV	**Gazikoy-Tekird**	**2.46**	**53**	PN	**Pn**	**10 08 04.9**	**+0.6**
MAR4	**Marsite Statio**	**2.47**	**52**	PN	**Pn**	**10 08 04.7**	**+0.2**
MRMT	**Marmara Adasi**	**2.56**	**58**	PN	**Pn**	**10 08 06.6**	**+0.9**
EDC	**Edincik**	**2.63**	**65**	PN	**Pn**	**10 08 07.3**	**+0.8**
VAY	**Valandovo**	**2.63**	**321**	*i* Pn	**Pn**	**10 08 08.2**	**+1.6**
MAR9	**Marsite Statio**	**2.64**	**59**	PN	**Pn**	**10 08 07.8**	**+1.2**
VLX	**Vlachokerasia**	**2.67**	**225**	P	**Pn**	**10 08 07.3**	**+0.1**
DRO	**Drossia**	**2.72**	**242**	P	**Pn**	**10 08 08.7**	**+0.8**
PLD	**Plovdiv**	**2.82**	**359**	PN	**Pn**	**10 08 09.7**	**+0.5**
KCTX	**Karacabey (Bur**	**2.95**	**69**	PN	**Pn**	**10 08 12.4**	**+1.4**
FNA	**Florina**	**2.99**	**301**	P	**Pn**	**10 08 12.2**	**+0.6**
SIMA	**Simav-Kutahya**	**3.30**	**92**	PN	**Pn**	**10 08 17.2**	**+1.3**
VTS	**Vitosha**	**3.52**	**342**	⇓P	**Pb**	**10 08 28.2**	**+1.6**
OHR	**Ohrid**	**3.53**	**302**	*i* Pn	**Pb**	**10 08 25.7**	**-1.0**
PLVB	**Pleven**	**4.10**	**359**	⇓P	**Pn**	**10 08 30.2**	**+3.4**
HERR	**Herculane**	**5.86**	**344**	⇓P	**Pn**	**10 08 48.4**	**-2.5**
ARR	**Arges**	**6.08**	**359**	⇑P	**Pn**	**10 08 54.5**	**+0.5**
LOT	**Lotru**	**6.20**	**354**	⇑P	**Pn**	**10 08 56.0**	**+0.2**
MLR	**Muntele Rosu**	**6.27**	**8**	⇑P	**Pn**	**10 09 01.4**	**+4.7**
GZR	**Gura Zlata**	**6.28**	**347**	⇓P	**Pn**	**10 08 56.7**	**0.0**
DOPR	**Dopca**	**6.70**	**4**	⇑P	**Pn**	**10 09 03.7**	**+1.2**
PLOR	**Plostina**	**6.71**	**11**	⇓P	Pn	10 09 09.0	+6.3
VRI	**Vrincioaia**	**6.74**	**12**	⇓P	**Pn**	**10 09 07.2**	**+4.1**
TESR	**Tescani**	**7.36**	**10**	⇓P	Pn	10 09 16.6	+5.1
BIZ	**Bicaz**	**7.72**	**7**	⇑P	**Pn**	**10 09 18.7**	**+2.3**
BURAR	**Bucovina Array**	**8.34**	**2**	⇓P	**Pn**	**10 09 26.8**	**+1.8**

IDC ***26*** *10:11:45.6*±2.3,*27.82S*±0.08×*176.85W*±0.06,*h10km*±*1km, mb4.4/30,Error ellipse: s-maj=14.6km s-min=6.5km az=154.0*
NEIC ***26*** *10:11:46.5*±2.3,*27.82S*±0.08×*176.85W*±0.06,*h10km*±*1km, mb4.4/30, mb1mx3.8/33,Error ellipse: s-maj=18.7km s-min=14.2km az=112.0*

ISC 26 10:11:47.6±0.5,**28.40S**±0.06×**176.47W**±0.07,**h29**km, **n158**,σ3$**42**/172,**mb4.4**/24,**MS4.0**/18,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.52**	**236**	Pn	**Pb**	**10 12 17.0**	**+1.9**
	2μm,0.3s,baz=198,slow=2.0,SNR=88						
RAO				Sn	**Sb**	**10 12 36.9**	**+2.8**
	4μm,0.3s,baz=95,slow=22,SNR=7.0						
RAO				LR	LR	10 12 58.9	
	comp=Z,3μ

WPHZ				S	**Sn**	**10 17 09.0**	**-5.4**
PRHZ	**Porangahau**	**13.12**	**204**	P	**Pn**	**10 14 49.1**	**-2.9**
PRHZ				S	**Sn**	**10 17 11.6**	**-5.4**
TSZ	**Takapari Road**	**13.20**	**206**	P	**Pn**	**10 14 53.6**	**+0.7**
TSZ				S	**Sn**	**10 17 12.7**	**-6.0**
DVHZ	**Dannevirke**	**13.32**	**205**	P	**Pn**	**10 14 52.6**	**-2.2**
DVHZ				S	**Sn**	**10 17 14.6**	**-7.3**
WAZ	**Wanganui**	**13.34**	**210**	P	**Pn**	**10 14 55.9**	**+1.0**
WAZ				S	**Sn**	**10 17 24.8**	**+2.5**
ANWZ	**Angora Road**	**13.35**	**204**	P	**Pn**	**10 14 52.1**	**-3.0**
ANWZ				S	**Sn**	**10 17 17.6**	**-4.9**
POWZ	**Post Office Ro**	**13.56**	**206**	P	**Pn**	**10 14 58.6**	**+0.7**
POWZ				S	**Sn**	**10 17 21.9**	**-5.6**
OHWZ	**Ohakea**	**13.58**	**208**	S	**Sn**	**10 17 24.0**	**-4.0**
PRWZ	**Pori Road**	**13.62**	**205**	P	**Pn**	**10 14 59.5**	**+0.7**
PRWZ				S	**Sn**	**10 17 23.2**	**-5.8**
BFZ	**Birch Farm**	**13.63**	**204**	P	**Pn**	**10 14 55.4**	**-3.4**
BFZ				S	**Sn**	**10 17 23.5**	**-5.8**
TIWZ	**Tintock**	**13.85**	**205**	P	**Pn**	**10 14 59.6**	**-2.2**
TIWZ				S	**Sn**	**10 17 26.8**	**-7.8**
CPWZ	**Castlepoint**	**13.85**	**204**	S	**Sn**	**10 17 28.8**	**-5.8**
MRZ	**Mangatainoka R**	**13.86**	**206**	P	Pn	10 14 55.1	-6.9
MRZ				S	Sn	10 17 25.7	-9.2
HOWZ	**Holdsworth Sta**	**14.09**	**206**	P	Pn	10 14 59.6	-5.5
HOWZ				S	Sn	10 17 30.7	-10
TMWZ	**Te Maipa**	**14.13**	**204**	P	**Pn**	**10 15 03.6**	**-2.1**
TMWZ				S	**Sn**	**10 17 33.8**	**-7.8**
OGWZ	**Otaki Gorge**	**14.15**	**207**	P	**Pn**	**10 15 01.4**	**-4.7**
OGWZ				S	**Sn**	**10 17 33.7**	**-8.4**
KIW	**Kapiti Island**	**14.30**	**207**	P	Pn	10 15 01.0	-7.0
KIW				S	Sn	10 17 36.3	-9.3
MTW	**Mount Morrison**	**14.32**	**205**	P	Pn	10 15 03.3	-5.0
MTW				S	**Sn**	**10 17 37.3**	**-8.8**
CAW	**Cannon Point**	**14.44**	**206**	P	Pn	10 15 02.8	-7.2
CAW				S	Sn	10 17 39.8	-9.4
TRWZ	**Traveller**	**14.46**	**204**	P	**Pn**	**10 15 10.3**	**0.0**
TRWZ				S	Sn	10 17 40.4	-9.1
PAWZ	**Paruwai Farm**	**14.54**	**205**	P	**Pn**	**10 15 11.1**	**-0.3**
PAWZ				S	Sn	10 17 42.1	-9.5
MSWZ	**Moikau Station**	**14.64**	**205**	Pn	**Pn**	**10 15 11.3**	**-1.3**
MSWZ	**Moikau Station**	**14.64**	**205**	P	**Pn**	**10 15 10.5**	**-2.2**
MSWZ				S	Sn	10 17 43.6	-10
DUWZ	**D'Urville Isla**	**14.67**	**210**	P	**Pn**	**10 15 10.9**	**-2.2**
DUWZ				S	**Sn**	**10 17 46.1**	**-8.5**
SNZO	**South Karori**	**14.76**	**207**	Pn	**Pn**	**10 15 11.8**	**-2.4**
PLWZ	**Palliser**	**14.77**	**205**	Pn	**Pn**	**10 15 13.4**	**-1.1**
PLWZ	**Palliser**	**14.77**	**205**	P	**Pn**	**10 15 12.0**	**-2.5**
PLWZ				S	Sn	10 17 46.0	-11
BHW	**Baring Head**	**14.78**	**206**	Pn	**Pn**	**10 15 11.9**	**-2.6**
BHW	**Baring Head**	**14.78**	**206**	P	**Pn**	**10 15 10.9**	**-3.6**
BHW				S	Sn	10 17 46.2	-11
TCW	**Tory Channel**	**14.85**	**208**	P	Pn	10 15 09.0	-6.5
TCW				S	Sn	10 17 49.4	-10
AFI	**Afiamalu**	**15.07**	**18**	Pn	**Pn**	**10 15 12.3**	**-6.3**
TUWZ	**Tuamarina**	**15.17**	**209**	Pn	**Pn**	**10 15 17.4**	**-2.3**
TUWZ	**Tuamarina**	**15.17**	**209**	P	**Pn**	**10 15 13.5**	**-6.3**
TUWZ				S	**Sn**	**10 17 56.8**	**-10**
NNZ	**Nelson**	**15.24**	**210**	Pn	**Pn**	**10 15 20.1**	**-0.6**
NNZ	**Nelson**	**15.24**	**210**	P	**Pn**	**10 15 16.8**	**-3.9**
NNZ				S	**Sn**	**10 18 01.4**	**-7.1**
QRZ	**Quartz Range**	**15.33**	**213**	Pn	**Pn**	**10 15 21.9**	**+0.1**
QRZ	**Quartz Range**	**15.33**	**213**	P	**Pn**	**10 15 18.1**	**-3.7**
QRZ				S	**Sn**	**10 18 04.5**	**-6.2**
BSWZ	**Blackbirch Sta**	**15.44**	**208**	Pn	**Pn**	**10 15 22.8**	**-0.5**
BSWZ	**Blackbirch Sta**	**15.44**	**208**	S	Sn	10 18 02.3	-11
THZ	**Tophouse**	**15.89**	**210**	Pn	**Pn**	**10 15 30.5**	**+1.3**
THZ				IAmb	IAmb	10 15 48.7	
	comp=Z,25nm,0.8s						
THZ	**Tophouse**	**15.89**	**210**	P	**Pn**	**10 15 25.3**	**-3.9**
THZ				S	**Sn**	**10 18 15.1**	**-9.4**
KHZ	**Kahutara**	**16.16**	**207**	Pn	**Pn**	**10 15 32.1**	**-0.4**
KHZ	**Kahutara**	**16.16**	**207**	P	**Pn**	**10 15 28.1**	**-4.5**
KHZ				S	Sn	10 18 18.7	-12
DZM	**Mont Dzumac**	**16.68**	**288**	Pn	**Pn**	**10 15 33.2**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=104,slow=9.6,SNR=3.4						
DZM				LR	LR	10 20 36.3	
	comp=Z,296nm,20.5s,baz=95,slow=33						
DZM	**Mont Dzumac**	**16.68**	**288**	*e*Pn	**P**	**10 15 46.7**	**+5.1**
	comp=Z,68nm,1.2s						
DZM				*e*LR	LR	10 19 44.3	
	comp=Z,588nm,25.1s						
DZM	**Mont Dzumac**	**16.68**	**288**	Pn	**Pn**	**10 15 33.5**	**-6.0**
DZM				IAmb	IAmb	10 15 34.4	
	comp=Z,36nm,1.5s						
RAR	**Rarotonga**	**16.76**	**68**	Pn	**Pn**	**10 15 40.1**	**-0.1**
	comp=Z,5.5nm,0.3s,baz=256,slow=11,SNR=9.6						
RAR				Sn	Sn	10 18 34.1	-12
	comp=Z,1.0nm,0.3s,baz=63,slow=15,SNR=3.1						
RAR	**Rarotonga**	**16.76**	**68**	Pn	**P**	**10 15 41.6**	**-0.6**
RAR				IAmb	IAmb	10 15 48.6	
	comp=Z,66nm,1.0s						
LTZ	**Lake Taylor**	**16.99**	**209**		**Pn**	**10 15 41.2**	**-1.9**
LTZ	**Lake Taylor**	**16.99**	**209**	P	**Pn**	**10 15 36.9**	**-6.2**
LTZ				S	Sn	10 18 36.1	-15
INZ	**Inchbonnie**	**17.32**	**211**	P	**Pn**	**10 15 40.0**	**-7.1**
INZ				S	Sn	10 18 45.1	-14
OXZ	**Oxford**	**17.53**	**209**	Pn	**Pn**	**10 15 46.1**	**-3.7**
OXZ				IAmb	IAmb	10 15 50.7	
	comp=Z,27nm,0.7s						
OXZ	**Oxford**	**17.53**	**209**	P	**Pn**	**10 15 45.9**	**-3.9**
OXZ				S	Sn	10 18 48.1	-16
MQZ	**McQueen's Vall**	**17.59**	**207**	Pn	**Pn**	**10 15 47.9**	**-2.6**
RPZ	**Rata Peaks**	**18.27**	**210**	P	**Pn**	**10 15 59.1**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=313,slow=1.8,SNR=9.6						
RPZ				LR	LR	10 23 04.0	
	comp=Z,818nm,21.5s,baz=32,slow=37						
RPZ	**Rata Peaks**	**18.27**	**210**		**P**	**10 15 57.7**	**-1.2**
RPZ				IAmb	IAmb	10 16 15.9	
	comp=Z,14nm,0.7s						
FOZ	**Fox Glacier**	**18.70**	**213**		**P**	**10 16 02.6**	**-0.9**
LBZ	**Lake Benmore**	**19.19**	**210**		**P**	**10 16 07.6**	**-1.3**
ODZ	**Otahua Downs**	**19.51**	**208**	P	**P**	**10 16 11.0**	**-1.5**
ODZ				IAmb	IAmb	10 16 18.1	
	comp=Z,15nm,1.1s						
WKZ	**Wanaka**	**20.05**	**211**	P	Pn	10 16 19.6	-0.7
WKZ				IAmb	IAmb	10 16 23.8	
	comp=Z,23nm,1.2s						
MLZ	**Mavora Lakes**	**20.88**	**212**	P	**P**	**10 16 28.4**	**+1.0**
MLZ				IAmb	IAmb	10 16 40.1	
	comp=Z,17nm,1.2s						
WHZ	**Wether Hill Ro**	**21.36**	**211**	P	**P**	**10 16 34.5**	**+2.0**
DCZ	**Deep Cove**	**21.41**	**213**	P	**P**	**10 16 33.9**	**+1.0**
DCZ				IAmb	IAmb	10 16 45.4	
	comp=Z,19nm,1.4s						
TBI	**Tubuai**	**24.80**	**84**	*e*LR	LR	10 23 17.2	
	comp=Z,679nm,27.8s,baz=252						
PAE	**Paea**	**26.90**	**72**	*e*T	T	10 45 11.8	
	comp=Z,9.9nm,0.3s						
PPT2	**Papeete2**	**26.94**	**72**	*e*LR	LR	10 24 19.0	
	comp=Z,970nm,26.8s,baz=238						
PPT2	**Papeete2**	**26.94**	**72**	*e*T	T	10 45 14.9	
	comp=Z,10nm,0.4s						
PPT	**Papeete**	**26.95**	**72**	LR	LR	10 25 25.1	
	comp=Z,198nm,21.9s,baz=271,slow=30						
EIDS	**Eidsvold**	**29.05**	**268**	P	**P**	**10 17 44.6**	**-0.8**
EIDS				IAmb	IAmb	10 17 45.9	
	comp=Z,8.8nm,1.3s						
CTA	**Charters Tower**	**34.87**	**275**	P	**P**	**10 18 35.5**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=85,slow=14,SNR=2.4						
CTAO	**Charters Tower**	**34.87**	**275**	P	**P**	**10 18 35.7**	**-0.8**
CTAO				IAmb	IAmb	10 18 51.5	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**36.27**	**254**	P	**P**	**10 18 49.0**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=119,slow=6.5,SNR=8.6						
STKA				LR	LR	10 31 38.9	
	comp=Z,269nm,20.0s,baz=47,slow=33						
STKA	**Stephens Creek**	**36.27**	**254**	P	**P**	**10 18 48.9**	**+0.4**
TAOE	**Nuku Hiva Isla**	**39.31**	**68**	*e*LR	LR	10 29 58.6	
	comp=Z,563nm,25.7s						
COEN	**Coen**	**40.07**	**282**	P	**P**	**10 19 19.5**	**-1.2**
AS31	**Alice Springs**	**44.59**	**264**	P	**P**	**10 19 57.0**	**-0.4**
ASAR	**Alice Springs**	**44.59**	**264**	P	**P**	**10 19 56.1**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=96,slow=6.9,SNR=29						
ASAR				LR	LR	10 37 36.7	
	comp=Z,250nm,18.6s,baz=116,slow=35						
ASAR	**Alice Springs**	**44.59**	**264**	P	**P**	**10 19 56.0**	**-1.4**
WR0	**Warramunga Arr**	**45.22**	**269**	P	**P**	**10 20 01.5**	**-1.0**
WR0				IAmb	IAmb	10 20 05.8	
	comp=Z,5.1nm,1.0s						
WB2	**Warramunga Arr**	**45.39**	**269**	P	**P**	**10 20 03.0**	**-0.8**
WB2				IAmb	IAmb	10 20 16.7	
	comp=Z,5.9nm,0.8s						
WRAB	**Tennant Creek**	**45.40**	**269**	P	**P**	**10 20 03.7**	**-0.1**
WRAB				IAmb	IAmb	10 20 15.0	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**45.40**	**269**	P	**P**	**10 20 02.3**	**-1.6**
	comp=Z,2.6nm,0.5s,baz=108,slow=7.5,SNR=2.4						
WRA				LR	LR	10 37 08.6	
	comp=Z,114nm,18.2s,baz=130,slow=34						
VNDA	**Vanda**	**50.21**	**186**	P	P	10 20 46.4	+6.0
	comp=Z,1.5nm,0.6s,baz=16,slow=6.4,SNR=20						
VNDA				LR	LR	10 39 33.6	
	comp=Z,87nm,20.5s,baz=356,slow=33						
FITZ	**Fitzroy Crossi**	**53.73**	**268**	LR	LR	10 43 33.3	
	comp=Z,138nm,18.1s,baz=127,slow=36						
NWAO	**Narrogin (SRO)**	**56.37**	**248**	LR	LR	10 44 23.4	
	comp=Z,118nm,18.0s,baz=134,slow=35						
SIJI	**Sorong**	**56.89**	**289**	P	**P**	**10 21 29.6**	**-0.5**
	comp=Z,9.0nm,0.7s,baz=67,slow=8.2,SNR=4.3						
BATI	**Baumata**	**58.76**	**275**	LR	LR	10 47 23.1	
	comp=Z,207nm,18.2s,baz=152,slow=37						
QSPA	**South Pole Qui**	**61.70**	**180**	P	P	10 22 08.7	+5.8
	comp=Z,5.0nm,0.7s,baz=348,slow=0.9,SNR=40						
QSPA	**South Pole Qui**	**61.70**	**180**	P	P	10 22 09.1	+6.2
MAW	**Mawson**	**74.64**	**200**	P	**P**	**10 23 27.7**	**+4.0**
	comp=Z,6.3nm,0.8s,baz=96,slow=4.9,SNR=5.5						
MAW				LR	LR	10 55 09.2	
	comp=Z,291nm,18.3s,baz=254,slow=35						
MAW	**Mawson**	**74.64**	**200**	IAmb	IAmb	10 23 45.2	
	comp=Z,3.7nm,1.2s						
MJAR	**Matsushiro Arr**	**77.39**	**324**	P	**P**	**10 23 38.7**	**-1.1**
	comp=Z,4.0nm,0.7s,baz=164,slow=8.4,SNR=4.5						
MJAR	**Matsushiro Arr**	**77.39**	**324**	IAmb	IAmb	10 23 44.0	
	comp=Z,2.4nm,0.7s						
MAT	**Matsushiro**	**77.39**	**324**	P	**P**	**10 23 43.0**	**+3.2**
JKA	**Kamikawa-asahi**	**81.31**	**331**	P	**P**	**10 23 58.8**	**-2.2**
JKA	**Kamikawa-asahi**	**81.31**	**331**	IAmb	IAmb	10 24 03.0	
	comp=Z,29nm,1.1s						
ASAJ	**Asahikawa**	**81.31**	**331**	P	**P**	**10 23 58.8**	**-2.2**
	comp=Z,10nm,0.8s,baz=265,slow=7.3,SNR=3.6						
PLCA	**Paso Flores**	**82.88**	**133**	P	P	10 24 15.6	+5.9
	comp=Z,1.4nm,0.9s,baz=245,slow=7.9,SNR=3.8						
KSRS	**Korea Array**	**83.71**	**319**	LR	LR	10 59 26.0	
	comp=Z,29nm,18.8s,baz=151,slow=34						
PETK	**Petropavlovsk-**	**84.23**	**345**	P	**P**	**10 24 16.2**	**+0.3**
	comp=Z,7.3nm,0.9s,baz=134,slow=6.4,SNR=11						
PETK				LR	LR	10 54 59.8	
	comp=Z,51nm,19.9s,baz=153,slow=31						
NVAR	**Mina Array Bea**	**85.87**	**42**	P	**P**	**10 24 27.6**	**+2.8**
	comp=Z,4.6nm,0.8s,baz=223,slow=9.0,SNR=39						
NVAR				LR	LR	10 54 23.8	
	comp=Z,188nm,21.9s,baz=204,slow=30						
USRK	**Ussuriysk Ar.**	**86.25**	**326**	P	**P**	**10 24 26.3**	**0.0**
	comp=Z,3.2nm,1.0s,baz=188,slow=3.9,SNR=4.2						
KLR	**Kul'dur**	**90.00**	**329**	P	**P**	**10 24 44.8**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=326,slow=3.0,SNR=5.2						
TXAR	**Lajitas Array**	**90.19**	**57**	P	**P**	**10 24 48.7**	**+3.2**
	comp=Z,1.5nm,0.8s,baz=224,slow=7.0,SNR=6.2						
TXAR				LR	LR	10 57 56.8	
	comp=Z,34nm,21.1s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**90.19**	**57**	P	**P**	**10 24 49.6**	**+4.1**
PDAR	**Pinedale Array**	**93.77**	**43**	P	**P**	**10 25 03.8**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=207,slow=3.0,SNR=13						
PDAR				LR	LR	11 00 11.6	
	comp=Z,92nm,20.5s,baz=270,slow=31						
PDAR	**Pinedale Array**	**93.77**	**43**	P	**P**	**10 25 04.4**	**+2.4**
SEY	**Seymchan**	**94.35**	**346**	P	**P**	**10 25 03.6**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=145,slow=7.3,SNR=6.6						
ILAR	**Eielson Array**	**95.69**	**12**	P	**P**	**10 25 09.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=222,slow=5.2,SNR=8.8						
YAK	**Yakutsk**	**99.92**	**337**	LR	LR	11 03 24.2	
	comp=Z,38nm,21.2s,baz=284,slow=31						
MKAR	**Makanchi Array**	**117.50**	**311**	PKP	**PKiKP**	**10 30 30.5**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=95,slow=1.5,SNR=6.6						
ARCES	**ARCESS Array B**	**136.91**	**349**	PKP	**PKiKP**	**10 31 08.8**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=349,slow=2.5,SNR=8.4						
FINES	**FINESS Array B**	**143.70**	**342**	PKP	**PKPdf**	**10 31 18.6**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=60,slow=3.6,SNR=12						
KBZ	**Khabaz**	**145.05**	**307**	PKP	**PKPdf**	**10 31 22.8**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=171,slow=3.6,SNR=3.7						
NB2	**NORSAR Subarra**	**146.96**	**353**	PKP	**PKPab**	**10 31 27.4**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=13,slow=2.9						
NOA	**NORSAR Array B**	**146.96**	**353**	PKPbc	**PKPbc**	**10 31 27.1**	**+0.4**
	comp=Z,5.7nm,0.9s,baz=14,slow=4.4,SNR=10						
AKASG	**Malin Array Be**	**150.46**	**326**	PKPbc	**PKiKP**	**10 31 36.6**	**-0.1**
	comp=Z,8.4nm,0.8s,baz=43,slow=3.2,SNR=27						
AKASG	**Malin Array Be**	**150.46**	**326**		**PKiKP**	**10 31 36.5**	**-0.3**
MMAI	**Mount Meron Ar**	**152.27**	**288**	PKPbc	**PKiKP**	**10 31 43.7**	**+2.5**
	comp=Z,2.4nm,0.3s,baz=76,slow=6.1,SNR=1.8						
BRTR	**Keskin Array B**	**152.74**	**302**	PKPbc	**PKiKP**	**10 31 44.5**	**+2.4**
	comp=Z,1.0nm,0.5s,baz=186,slow=4.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**164.72**	**173**	PKPab	**PKPab**	**10 32 49.2**	**+4.5**
	comp=Z,0.7nm,0.6s,baz=177,slow=5.8,SNR=2.9						

*SOME **26** 10:16:30.9,50˚.38N×86˚.45E,h15km*
*NNC **26** 10:16:36.2±3.2, 49˚.76N×87˚.47E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=27.4km s-min=16.6km az=61.0*

ISC 26 10:16:33.9±4.4, **49˚.8N**±0˚.1×**87˚.9E**±0˚.3, **h11**km, **n4**, σ1§**31**/8, **2C-7D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
ZSN	**Zaisan**	**3.09**	**221**	*e*P		**Pb**	**10 17 27.2**	**-1.6**
	4.0nm,0.2s							
ZSN				*e*S		**Sb**	**10 18 05.4**	**-1.1**
	24nm,0.4s							
MK31	**Makanchi Array**	**4.79**	**233**	⇑Pn		**Pn**	**10 17 47.0**	**+1.0**
	1.3nm,0.5s,baz=58,slow=13,SNR=36							
MK31				⇓Pg		**Pb**	**10 17 59.4**	**+1.6**
	1.0nm,0.3s,baz=55,slow=16,SNR=12							
MK31				⇓Lg		Lg	10 19 01.7	
	2.4nm,0.6s,baz=56,slow=30,SNR=6.4							
MAKZ	**Makanchi**	**4.94**	**235**	⇓Pn		**Pn**	**10 17 49.1**	**+1.0**
	1.3nm,0.7s							
MAKZ				⇑Pg		**Pb**	**10 18 00.5**	**+0.1**
	2.6nm,1.0s							
MAKZ				⇓Lg		Lg	10 19 05.1	
	2.3nm,0.5s							
KURBB	**Kurchatov Arra**	**6.04**	**281**	⇓Pn		**Pn**	**10 18 02.6**	**-0.5**
	4.2nm,0.5s							
KURBB				⇓Sn		**Sn**	**10 19 12.3**	**+0.1**
	7.6nm,0.6s							
KURBB				⇓Lg		Lg	10 19 38.7	
	16nm,0.7s							

*IDC **26** 10:27:43.8±1.8, 29˚.84N×66˚.05E, h0km, mb3.7/12, mb1 3.9/15, mb1mx3.7/57, mbtmp3.8/15, ML4.1/2, MS3.0/9, Ms1 3.1/9, ms1mx2.8/53, Error ellipse: s-maj=37.0km s-min=23.7km az=151.0*

ISC 26 10:27:43.9±0.8, **29.7N**±0˚.1×**66.12E**±0.08, **h10**km, **n21**, σ1§**50**/20, **mb3.7**/12, **MS3.0**/7, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
THW	**Thamme Wali**	**5.75**	**56**	P		**Pn**	**10 29 09.8**	**+0.4**
DHRM	**DHARAMSHALA**	**9.12**	**71**	*e*P		**Pn**	**10 29 53.3**	**-2.6**
DHRM				*e*S		**Sn**	**10 31 36.4**	**-2.3**
DHRM				IAML			10 31 41.4	
	comp=N,59nm,0.2s							
DHRM				IAML			10 31 49.8	
	comp=E,74nm,0.7s							
WSAR	**Wadi Sarin**	**9.26**	**228**	Pn		**Pn**	**10 29 58.6**	**+1.1**
	comp=E,0.8nm,0.3s,baz=73,slow=9.8,SNR=7.5							
WSAR				Sn		**Sn**	**10 31 38.5**	**-3.2**
	comp=E,1.1nm,0.3s,baz=11,slow=2.8,SNR=2.0							
SMLA	**Simla**	**9.66**	**78**	*e*P		**Pn**	**10 30 05.4**	**+2.5**
SMLA				*e*S		Sn	10 31 43.2	-8.3
SMLA				IAML			10 31 48.7	
	comp=E,32nm,0.2s							
SMLA				IAML			10 31 49.2	
	comp=N,36nm,0.7s							
GEYT	**Alibeck**	**10.60**	**323**	Pn		**Pn**	**10 30 16.0**	**+0.1**
	baz=152,slow=16,SNR=1.5							
GEYT				LR		LR	10 34 57.6	
	comp=N,34nm,20.1s,baz=160,slow=42							
AAK	**Ala-Archa**	**14.61**	**25**	Pn		**Pn**	**10 31 10.3**	**-0.5**
	comp=N,1.6nm,0.3s,baz=189,slow=5.8,SNR=12							
AAK				LR		LR	10 37 28.9	
	comp=N,54nm,18.3s,baz=220,slow=40							
MKAR	**Makanchi Array**	**21.25**	**32**	P		**P**	**10 32 29.9**	**-0.2**
	comp=N,2.4nm,0.7s,baz=212,slow=8.9,SNR=14							
MKAR				LR		LR	10 40 36.2	
	comp=N,24nm,21.0s,baz=234,slow=37							
AKTO	**Aktyubinsk**	**21.64**	**346**	P		**P**	**10 32 33.6**	**-0.7**
	comp=N,0.5nm,0.4s,baz=163,slow=15,SNR=1.5							
AKTO				LR		LR	10 42 10.3	
	comp=N,57nm,19.3s,baz=153,slow=40							
KURBB	**Kurchatov Arra**	**22.94**	**21**	P		**P**	**10 32 46.8**	**-1.3**
	comp=N,0.7nm,0.7s,baz=212,slow=8.7,SNR=4.4							
BVAR	**Borovoye Array**	**23.57**	**6**	P		**P**	**10 32 53.5**	**-1.0**
	comp=N,0.4nm,0.4s,baz=165,slow=17,SNR=3.6							
MMAI	**Mount Meron Ar**	**26.40**	**285**	LR		LR	10 45 23.1	
	comp=N,48nm,19.4s,baz=165,slow=40							
BELG	**Belogornoye**	**26.51**	**334**	P		**P**	**10 33 20.9**	**-0.5**
	comp=N,6.7nm,0.6s,baz=286,slow=3.1,SNR=4.4							
BELG				LR		LR	10 45 41.9	
	comp=N,36nm,21.7s,baz=25,slow=41							
ZALV	**Zalesovo Beam**	**27.83**	**24**	P		**P**	**10 33 33.5**	**+0.2**
	comp=N,0.4nm,0.3s,baz=214,slow=12,SNR=1.6							
BRTR	**Keskin Array B**	**28.40**	**299**	LR		LR	10 46 19.2	
	comp=N,51nm,19.7s,baz=147,slow=40							
SONM	**Songino Array**	**35.79**	**48**	P		**P**	**10 34 44.7**	**+1.3**
	comp=N,0.2nm,0.3s,baz=245,slow=3.0,SNR=2.4							
FINES	**FINESS Array B**	**41.25**	**332**	P		**P**	**10 35 29.0**	**+0.1**
	comp=N,2.4nm,0.9s,baz=99,slow=9.0,SNR=1.1							
GERES	**GERESS Array B**	**43.92**	**311**	P		**P**	**10 35 51.2**	**+0.3**
	comp=N,0.7nm,0.5s,baz=95,slow=8.0,SNR=4.3							
ARCES	**ARCESS Array B**	**46.12**	**341**	P		**P**	**10 36 07.4**	**-0.6**
	comp=N,2.4nm,0.9s,baz=129,slow=7.1,SNR=5.1							
ARCES				LR		LR	10 57 16.0	
	comp=N,45nm,18.1s,baz=170,slow=39							
NOA	**NORSAR Array B**	**47.66**	**327**	LR		LR	10 58 05.0	
	comp=N,16nm,20.5s,baz=225,slow=38							
ILAR	**Eielson Array**	**82.43**	**14**	P		**P**	**10 40 07.4**	**+1.4**
	comp=N,0.3nm,0.5s,baz=323,slow=4.2,SNR=7.8							
YKA	**Yellowknife Ar**	**88.18**	**0**	P		**P**	**10 40 35.5**	**+0.7**
	comp=N,0.5nm,0.7s,baz=357,slow=4.6,SNR=8.8							

*IDC **26** 10:33:08.0±1.9, 21˚.11S×178˚.65W, h574km±20km, mb3.4/11, mb1 3.5/14, mb1mx3.2/35, mbtmp4.3/14, Error ellipse: s-maj=23.0km s-min=17.8km az=71.0*

ISC 26 10:33:08.5±1.1, **21˚.1S**±0˚.1×**178˚.7W**±0˚.2, **h579**km, **n15**, σ0§**90**/15, **mb4.2**/11, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
MSVF	**Nonsavu**	**4.56**	**317**	P		**P**	**10 34 36.7**	**-0.2**
	7.2nm,0.3s,baz=237,slow=22,SNR=39							
DZM	**Mont Dzumac**	**13.83**	**263**	P		**P**	**10 36 05.2**	**-0.9**
	0.6nm,0.3s,baz=312,slow=18,SNR=1.8							
URZ	**Urewera**	**17.43**	**191**	P		**P**	**10 36 37.8**	**-1.9**
	1.2nm,0.3s,baz=122,slow=23,SNR=12							
CTA	**Charters Tower**	**32.76**	**265**	P		**P**	**10 38 55.8**	**+0.7**
	6.3nm,0.4s,baz=93,slow=12,SNR=15							
PMG	**Port Moresby**	**34.84**	**284**	P		**P**	**10 39 12.1**	**-0.4**
	10nm,0.7s,baz=119,slow=4.9,SNR=4.2							
JAY	**Jayapura**	**43.62**	**290**	P		**P**	**10 40 23.6**	**+0.6**
	5.0nm,0.4s,baz=127,slow=4.6,SNR=8.3							
ASAR	**Alice Springs**	**43.72**	**257**	P		**P**	**10 40 23.9**	**+0.2**
	4.3nm,0.6s,baz=95,slow=7.8,SNR=61							
ASAR				PcP		**PcP**	**10 41 57.8**	**+0.2**
	0.3nm,0.5s,baz=96,slow=5.4,SNR=4.5							
WRA	**Warramunga Arr**	**43.85**	**263**	P		**P**	**10 40 24

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.40**	**240**	Pn	**Pn**	**11 04 43.4**	**-1.5**
JAGI	**Jajag, Banyuwa**	**0.40**	**240**	P	**Pn**	**11 04 43.1**	**-1.8**
JAGI				S	**Sn**	**11 04 49.4**	**-1.9**
ABJI	**Asem Bagus**	**0.54**	**330**	P	**Pn**	**11 04 44.0**	**-2.8**
SRBI	**Singaraja**	**0.72**	**76**	P	**Pn**	**11 04 48.0**	**-1.4**
SRBI				S	**Sn**	**11 04 58.9**	**-0.4**
DNP	**Denpasar**	**0.81**	**120**	P	**Pn**	**11 04 49.9**	**-0.7**
KMMI	**Kalianget**	**1.32**	**336**	P	**Pn**	**11 04 57.9**	**+0.3**
TWSI	**Taliwang, Sumb**	**2.40**	**101**	P	**Pn**	**11 05 13.4**	**+0.9**
PLAI	**Plampang**	**3.29**	**100**	P	**Pn**	**11 05 25.8**	**+1.2**
UGM	**Wanagama**	**3.96**	**275**	P	**Pn**	**11 05 35.9**	**+2.0**
BBKI	**Banjar Baru**	**4.78**	**4**	P	**Pn**	**11 05 45.1**	**-0.2**
KAPI	**Kappang**	**6.13**	**59**	Pn	**Pn**	**11 06 02.6**	**-1.2**
	8.9nm,0.3s,baz=244,slow=15,SNR=5.3						
KAPI				LR	LR	11 09 06.2	
	comp=Z,95nm,19.3s,baz=269,slow=45						
CISI	**Cisompet, Garu**	**6.66**	**276**		**Pn**	**11 06 13.2**	**+2.1**
LEM	**Lembang**	**6.97**	**281**	LR	LR	11 09 35.7	
	comp=Z,285nm,19.1s,baz=81,slow=44						
MTKI	**Muara Teweh, K**	**7.29**	**3**	P	**Pn**	**11 06 19.4**	**-0.3**
SOEI	**Soe**	**9.76**	**99**	Pn	**Pn**	**11 06 51.8**	**-2.0**
FITZ	**Fitzroy Crossi**	**14.59**	**133**	Pn	**Pn**	**11 07 58.0**	**-1.7**
	0.2nm,0.3s,baz=320,slow=8.4,SNR=12						
MTN	**Manton Dam**	**16.97**	**107**	Pn	**Pn**	**11 08 28.3**	**-2.1**
MTN				IAmb	IAmb	11 08 52.1	
	comp=Z,44nm,1.3s						
FAKI	**Fak Fak**	**18.44**	**74**		**P**	**11 08 47.4**	**-0.9**
FAKI				IAmb	IAmb	11 09 06.9	
	comp=Z,21nm,1.2s						
WB0	**Warramunga Arr**	**22.40**	**123**	P	**P**	**11 09 31.1**	**-0.2**
WB0				IAmb	IAmb	11 09 38.4	
	comp=Z,4.6nm,0.8s						
WRA	**Warramunga Arr**	**22.44**	**123**	P	**P**	**11 09 31.4**	**-0.3**
	comp=Z,4.3nm,0.8s,baz=297,slow=12,SNR=25						
WRA	**Warramunga Arr**	**22.44**	**123**	P	**P**	**11 09 33.1**	**+1.4**
WB2	**Warramunga Arr**	**22.45**	**123**	P	**P**	**11 09 31.7**	**-0.1**
WB2				IAmb	IAmb	11 09 56.4	
	comp=Z,5.6nm,0.8s						
WR0	**Warramunga Arr**	**22.61**	**123**	P	**P**	**11 09 33.7**	**+0.1**
WR0				IAmb	IAmb	11 09 48.2	
	comp=Z,6.0nm,0.7s						
ASAR	**Alice Springs**	**24.08**	**132**	P	**P**	**11 09 49.0**	**+1.0**
	comp=Z,6.2nm,0.7s,baz=308,slow=8.7,SNR=103						
ASAR				PcP	**PcP**	**11 13 29.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=317,slow=1.6,SNR=4.2						
ASAR	**Alice Springs**	**24.08**	**132**		**P**	**11 09 48.9**	**+0.8**
AS31	**Alice Springs**	**24.08**	**132**	P	**P**	**11 09 49.5**	**+1.4**
NWAO	**Narrogin (SRO)**	**24.67**	**174**	LR	LR	11 20 00.2	
	comp=Z,84nm,19.2s,baz=296,slow=38						
NWAO	**Narrogin (SRO)**	**24.67**	**174**	P	**P**	**11 09 55.3**	**+2.0**
NWAO				IAmb	IAmb	11 10 15.6	
	comp=Z,17nm,1.1s						
FORT	**Forrest**	**25.73**	**152**	P	**P**	**11 10 04.2**	**+1.2**
COEN	**Coen**	**28.68**	**104**	P	**P**	**11 10 29.2**	**-0.5**
COEN				IAmb	IAmb	11 10 30.7	
	comp=Z,6.2nm,1.2s						
CMAR	**Chiang Mai Arr**	**30.67**	**330**	P	**P**	**11 10 47.4**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=156,slow=8.9,SNR=1.6						
BBOO	**Buckleboo**	**31.55**	**144**	P	**P**	**11 10 56.0**	**+1.2**
STKA	**Stephens Creek**	**34.44**	**137**	P	**P**	**11 11 21.7**	**+1.7**
	comp=Z,5.3nm,0.6s,baz=314,slow=8.9,SNR=9.0						
STKA	**Stephens Creek**	**34.44**	**137**	IAmb	IAmb	11 11 22.5	
	comp=Z,1.7nm,0.9s						
ARMA	**Armidale**	**41.09**	**128**	P	**P**	**11 12 16.2**	**-0.2**
ARMA				IAmb	IAmb	11 12 26.2	
	comp=Z,16nm,1.2s						
CAN	**Canberra**	**41.47**	**136**	P	**P**	**11 12 19.8**	**+0.4**
KSRS	**Korea Array**	**47.18**	**15**	LR	LR	11 33 45.9	
	comp=Z,16nm,21.0s,baz=165,slow=37						
USRK	**Ussuriysk Ar.**	**54.57**	**15**	P	**P**	**11 13 59.8**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=197,slow=4.5,SNR=2.5						
SONM	**Songino Array**	**56.31**	**353**	P	**P**	**11 14 13.5**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=163,slow=7.5,SNR=2.2						
MK31	**Makanchi Array**	**61.86**	**335**	P	**P**	**11 14 53.5**	**+2.1**
MK31				IAmb	IAmb	11 15 01.0	
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**61.86**	**335**	P	**P**	**11 14 51.4**	**0.0**
	comp=Z,0.9nm,0.5s,baz=146,slow=7.1,SNR=4.7						
MKAR	**Makanchi Array**	**61.86**	**335**	P	**P**	**11 14 50.2**	**-1.1**
ZALV	**Zalesovo Beam**	**66.85**	**341**	P	**P**	**11 15 23.7**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=152,slow=6.5,SNR=2.7						
CPUP	**Villa Florida**	**144.71**	**193**	PKP	**PKPdf**	**11 24 10.0**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=104,slow=4.2,SNR=4.2						

IDC 26 11:15:47.2±1.0, 55.17S×28.40W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.8/15, mbtmp3.8/4, Error ellipse: s-maj=45.0km s-min=31.3km az=95.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.42**	**183**	P	P	11 24 22.4	-0.2
	0.5nm,0.7s,baz=199,slow=6.2,SNR=6.1						
LPAZ	**La Paz**	**49.30**	**306**	P	P	11 24 38.3	-0.2
	0.9nm,0.7s,baz=180,slow=4.0,SNR=4.5						
DBIC	**Dimbokro**	**64.66**	**26**	P	P	11 26 25.7	-0.9
	2.2nm,0.7s,baz=190,slow=6.1,SNR=2.0						
TORD	**Torodi Ar. Bea**	**72.64**	**31**	P	P	11 27 17.2	+0.9
	0.7nm,0.7s,baz=202,slow=5.9,SNR=3.0						
YKA	**Yellowknife Ar**	**135.05**	**319**	PKP	PKPdf	11 35 06.7	-0.1
	0.1nm,0.6s,baz=119,slow=3.5,SNR=3.9						
ILAR	**Eielson Array**	**149.01**	**313**	PKPbc	PKPbc	11 35 35.1	-0.4
	1.3nm,0.7s,baz=126,slow=2.1,SNR=19						
SONM	**Songino Array**	**151.35**	**86**	PKPbc	PKPbc	11 35 41.7	-0.3
	0.7nm,0.8s,baz=202,slow=1.6,SNR=3.6						

*BEO **26** 12:00:38.3±0.6, 39.˚11N×24.˚95E, h0km, ML4.1/11*
*IDC **26** 12:00:40.5±0.7, 39.˚21N×24.˚78E, h0km, mb3.9/16, mb1 4.0/24, mb1mx3.9/44, mbtmp4.0/24, ML3.8/7, MS3.5/31, Ms1 3.5/31, ms1mx3.3/61, Error ellipse: s-maj=13.2km s-min=12.8km az=159.0*
*DDA **26** 12:00:40.3, 39.˚36N×24.˚75E, h26km±2km, MW4.3*
*ISK **26** 12:00:40.6, 39.˚32N×24.˚75E, h8km, ML4.2/20*
*THE **26** 12:00:41.6, 39.˚28N×24.˚75E, h6km, Mw4.2, Fault plane solution: NP1:φs147.00000°, δ87.00000°, λ-4.00000°. NP2:φs237.00000°, δ86.00000°, λ-17.00000°., Stations used: LIA,KYMI,PRK,THAS,KAVA,AGG*
*ATH **26** 12:00:41.4, 39.˚30N×24.˚71E, h17km±3km, ML4.1/17, Error ellipse: s-maj=3.6km s-min=1.2km az=80.0*
*NEIC **26** 12:00:42.6±2.7, 39.˚34N±0.˚03×24.˚78E±0.˚05, h13km±5km, mb4.4/5, ML4.3(ATH), Error ellipse: s-maj=7.7km s-min=1.0km az=126.0*

ISC 26 12:00:41.1±1.0, 39.30N±0.02×24.71E±0.02, h5km±7km, n285, σ1s53/302, mb3.9/17, MS3.5/21, 5C-18D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFSA	**Agios Efstrati**	**0.32**	**42**	P	**Pg**	**12 00 48.1**	**+0.9**
EFSA				S	**Sg**	**12 00 52.8**	**+1.3**
SKY	**Skiros Island**	**0.44**	**197**	P	**Pg**	**12 00 50.0**	**+0.4**
SKY				S	**Sg**	**12 00 56.0**	**+0.6**
	69µm,0.2s						
LIA	**Limnos Island**	**0.70**	**31**	P	**Pb**	**12 00 55.0**	**-0.7**
LIA				S	**Sg**	**12 01 03.9**	**+0.4**
LIA				AML	AML	12 01 05.5	
	comp=E,21240µm,0.2s						
LIA				AML	AML	12 01 06.2	
	comp=N,22405µm,0.3s						
LIA	**Limnos Island**	**0.70**	**31**	P	**Pb**	**12 00 55.0**	**-0.7**
LIA				S	**Sb**	**12 01 05.2**	**-0.4**
	comp=N,10µm,0.2s						
KYMI	**Kymi, Euboea I**	**0.82**	**216**	P	**Pb**	**12 00 57.0**	**-0.8**
KYMI				S	**Sn**	**12 01 09.3**	**-2.5**
	comp=N,42µm,0.5s						
SIGR	**SIGRI**	**0.89**	**95**	P	**Pb**	**12 00 57.5**	**-1.5**
SIGR				S	**Sb**	**12 01 10.2**	**-1.0**
	comp=N,21µm,0.6s						
SIGR	**SIGRI**	**0.89**	**95**	PG	**Pb**	**12 00 57.8**	**-1.2**
SIGR				SG	**Sb**	**12 01 09.9**	**-1.3**
PSRA	**Psara**	**1.01**	**139**	P	**Pb**	**12 01 00.4**	**-0.6**
PAIG	**Paliouri**	**1.01**	**308**	P	**Pg**	**12 01 01.0**	**+0.5**
PAIG	**Paliouri**	**1.01**	**308**	P	**Pg**	**12 01 00.9**	**+0.4**
PAIG				S	**Sn**	**12 01 16.1**	**-0.5**
	comp=N,8µm,0.8s						
EREA	**Eretria**	**1.07**	**215**	P	**Pb**	**12 01 01.3**	**-0.8**
EREA				AML	AML	12 01 19.6	
	comp=N,52293µm,0.3s						
EREA				AML	AML	12 01 20.3	
	comp=E,54179µm,0.3s						
EREA	**Eretria**	**1.07**	**215**	P	**Pb**	**12 01 01.3**	**-0.8**
EREA				S	**Sg**	**12 01 16.4**	**+0.9**
	comp=E,27µm,0.3s						
KOCA	**Canakkale, Ayv**	**1.12**	**79**	*i* P	**Pn**	**12 01 01.9**	**-1.5**
KOCA				*i* S	**Sn**	**12 01 17.5**	**-1.7**
NEO	**Neokhori**	**1.16**	**271**	P	**Pb**	**12 01 03.0**	**-0.5**
NEO	**Neokhori**	**1.16**	**271**	P	**Pb**	**12 01 03.0**	**-0.5**
BOZC	**Bozcaada**	**1.17**	**62**	PN	**Pn**	**12 01 02.6**	**-1.4**
BOZC				SN	**Sn**	**12 01 18.7**	**-1.6**
BOZC	**Bozcaada**	**1.17**	**62**	*i* P	**Pn**	**12 01 02.4**	**-1.7**
BOZC				*i* S	**Sb**	**12 01 16.6**	**-2.5**
OUR	**Ouranopolis**	**1.18**	**332**	P	**Pg**	**12 01 03.6**	**+0.1**
OUR				AML	AML	12 01 26.4	
	comp=E,17912µm,1.1s						
OUR				AML	AML	12 01 26.5	
	comp=N,15880µm,0.6s						
OUR	**Ouranopolis**	**1.18**	**332**	P	**Pg**	**12 01 03.7**	**+0.1**
OUR				S	**Sg**	**12 01 19.4**	**+0.5**
	comp=N,8µm,0.9s						
OUR	**Ouranopolis**	**1.18**	**332**	PN	**Pg**	**12 01 03.7**	**+0.1**
OUR				SN	**Sg**	**12 01 19.9**	**+1.0**
XOR	**Xorichti**	**1.18**	**274**	P	**Pn**	**12 01 03.2**	**-1.1**
XOR				AML	AML	12 01 24.3	
	comp=E,10218µm,0.5s						
XOR				AML	AML	12 01 24.5	
	comp=N,14001µm,0.4s						
XOR	**Xorichti**	**1.18**	**274**	P	**Pn**	**12 01 03.2**	**-1.1**
XOR				S	**Sg**	**12 01 20.0**	**+0.9**
	comp=N,6µm,0.4s						
PRK	**Paraskevi**	**1.21**	**92**	P	**Pg**	**12 01 04.4**	**+0.1**
SMIA	**Simia**	**1.25**	**251**	P	**Pb**	**12 01 04.4**	**-0.6**
SMIA				AML	AML	12 01 27.9	
SMIA				AML	AML	12 01 30.6	
SMIA	**Simia**	**1.25**	**251**	P	**Pb**	**12 01 04.5**	**-0.6**
SMIA				S	**Sg**	**12 01 21.7**	**+0.6**
GADA	**Gvkgeada**	**1.27**	**45**	P	**Pn**	**12 01 04.3**	**-1.2**
GADA				S	**Sn**	**12 01 21.8**	**-1.2**
	comp=N,4µm,1.5s						
GADA	**Gvkgeada**	**1.27**	**45**	PN	**Pn**	**12 01 04.3**	**-1.2**
GOKA	**anakkale-Gk**	**1.28**	**46**	*i* P	**Pn**	**12 01 04.7**	**-0.8**
KARY	**Karystos**	**1.29**	**190**	P	**Pn**	**12 01 04.2**	**-1.5**
KARY				AML	AML	12 01 25.0	
	comp=E,7466µm,0.5s						
KARY				AML	AML	12 01 26.6	
	comp=N,6436µm,0.4s						
KARY	**Karystos**	**1.29**	**190**	P	**Pn**	**12 01 04.2**	**-1.5**
KARY				S	**Sn**	**12 01 21.3**	**-2.0**
	comp=N,4µm,0.5s						
THAS	**Thassos island**	**1.30**	**0**	P	**Pn**	**12 01 04.8**	**-1.2**
THAS				AML	AML	12 01 26.6	
	comp=N,5142µm,0.7s						
THAS				AML	AML	12 01 28.5	
	comp=E,7864µm,1.0s						
THAS	**Thassos island**	**1.30**	**0**	P	**Pn**	**12 01 04.7**	**-1.2**
SMTH	**Samothraki Isl**	**1.33**	**28**	P	**Pn**	**12 01 04.5**	**-1.8**
SMTH				S	**Sg**	**12 01 24.4**	**+0.7**
	comp=E,2µm,0.6s						
ECEA	**Canakkale, Ece**	**1.35**	**56**	*i* P	**Pn**	**12 01 05.3**	**-1.2**
ECEA				*i* S	**Sn**	**12 01 21.2**	**-3.6**
EZN	**Ezine**	**1.35**	**67**	P	**Pn**	**12 01 04.9**	**-1.7**
EZN				S	**Sb**	**12 01 24.2**	**-0.2**
	comp=E,4µm,0.8s						
EZN	**Ezine**	**1.35**	**67**	PN	**Pb**	**12 01 06.2**	**-0.6**
DION	**Dionisos Attik**	**1.37**	**207**	P	**Pn**	**12 01 05.4**	**-1.4**
CHOS	**Chios island**	**1.39**	**131**	P	**Pn**	**12 01 06.0**	**-1.2**
CHOS				AML	AML	12 01 28.6	
	comp=N,23052µm,0.5s						
CHOS				AML	AML	12 01 38.8	
	comp=E,28091µm,0.6s						
CHOS	**Chios island**	**1.39**	**131**	P	**Pn**	**12 01 06.0**	**-1.2**
CHOS				S	**Sb**	**12 01 24.4**	**-1.2**
	comp=E,12µm,0.8s						
CHOS	**Chios island**	**1.39**	**131**	PN	**Pn**	**12 01 06.4**	**-0.8**
PTL	**Penteli**	**1.42**	**208**	P	**Pn**	**12 01 06.0**	**-1.5**
PLG	**Polygyros**	**1.45**	**318**	P	**Pn**	**12 01 07.2**	**-0.8**
ATAL	**Atalanti**	**1.45**	**246**	P	**Pn**	**12 01 07.2**	**-0.8**
ATAL				AML	AML	12 01 35.6	
	comp=E,9625µm,0.6s						
ATAL				AML	AML	12 01 39.3	
	comp=N,13998µm,0.8s						
ATAL	**Atalanti**	**1.45**	**246**	P	**Pn**	**12 01 07.2**	**-0.8**
ATAL				S	**Sg**	**12 01 28.0**	**+0.3**
	comp=N,6µm,0.5s						
BAYC	**CANAKKALE_Bayr**	**1.48**	**72**	*i* P	**Pn**	**12 01 07.0**	**-1.4**
BAYC				*i* S	**Sn**	**12 01 25.7**	**-2.5**
LKR	**Lokris**	**1.49**	**245**	P	**Pn**	**12 01 07.5**	**-0.9**
LKR	**Lokris**	**1.49**	**245**	P	**Pn**	**12 01 07.5**	**-0.9**
LKR				S	**Sb**	**12 01 27.3**	**-1.0**
	comp=N,5µm,0.5s						
ATHU	**Athens Univers**	**1.52**	**209**	P	**Pn**	**12 01 07.5**	**-1.4**
ATHU				AML	AML	12 01 33.0	
	comp=E,3912µm,0.4s						
ATHU				AML	AML	12 01 39.5	
	comp=N,7345µm,0.7s						
ATHU	**Athens Univers**	**1.52**	**209**	P	**Pn**	**12 01 07.5**	**-1.4**
ATHU				S	**Sb**	**12 01 27.5**	**-1.8**
	comp=N,3µm,0.5s						
AYVA	**Ayvalik**	**1.53**	**89**	*i* P	**Pn**	**12 01 07.7**	**-1.3**
AYVA				*i* S	**Sn**	**12 01 24.3**	**-5.1**
ATH	**Athens Observa**	**1.54**	**211**	P	**Pn**	**12 01 08.0**	**-1.2**
ATH				S	**Sb**	**12 01 28.4**	**-1.5**
	comp=N,10µm,0.3s						
AXAR	**Agios Charalam**	**1.69**	**252**	P	**Pn**	**12 01 10.7**	**-0.5**
AXAR				AML	AML	12 01 39.9	
	comp=E,20542µm,0.9s						
AXAR				AML	AML	12 01 47.9	
	comp=N,19550µm,0.7s						
AXAR	**Agios Charalam**	**1.69**	**252**	P	**Pb**	**12 01 11.1**	**-1.5**
KAVA	**Kavala**	**1.70**	**355**	P	**Pn**	**12 01 10.6**	**-0.8**
KAVA				AML	AML	12 01 37.7	
	comp=E,6797µm,0.9s						
KAVA				AML	AML	12 01 38.9	
	comp=N,4310µm,0.6s						
KAVA	**Kavala**	**1.70**	**355**	P	**Pn**	**12 01 10.4**	**-1.0**
DKL	**Dikili**	**1.72**	**97**	PN	**Pn**	**12 01 11.0**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.74**	**51**	PN	**Pn**	**12 01 11.3**	**-0.6**
URLA	**Izmir**	**1.74**	**122**	PN	**Pn**	**12 01 11.5**	**-0.5**
URLA	**Izmir**	**1.74**	**122**	*i* P	**Pn**	**12 01 10.6**	**-1.5**
URLA				*i* S	**Sg**	**12 01 37.1**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**1.76**	**127**	*i* P	**Pn**	**12 01 11.3**	**-0.8**
CAVK	**Edirne/Enez-Ca**	**1.78**	**38**	*i* P	**Pn**	**12 01 11.5**	**-1.0**
HORT	**Hortiatis**	**1.79**	**317**	P	**Pn**	**12 01 12.7**	**-0.1**
HORT				AML	AML	12 01 42.5	
	comp=N,3195µm,0.6s						
HORT				AML	AML	12 01 51.2	
	comp=E,2735µm,0.6s						
HORT	**Hortiatis**	**1.79**	**317**	P	**Pn**	**12 01 12.7**	**-0.1**
HORT				S	**Sb**	**12 01 35.1**	**-2.2**
	comp=E,1µm,0.8s						
HORT	**Hortiatis**	**1.79**	**317**	PN	**Pn**	**12 01 12.6**	**-0.1**
BUHA	**Balikesir, Bur**	**1.84**	**83**	*i* P	**Pn**	**12 01 12.2**	**-1.2**
BUHA				*i* S	**Sb**	**12 01 38.1**	**-0.5**
SOH	**Sokhos**	**1.84**	**326**	P	**Pb**	**12 01 13.5**	**-1.8**
SOH				AML	AML	12 01 45.8	
	comp=N,12069µm,0.6s						
SOH				AML	AML	12 01 51.3	
	comp=E,9380µm,0.8s						
SOH	**Sokhos**	**1.84**	**326**	P	**Pb**	**12 01 13.5**	**-1.8**
ZEDA	**zmir-Bergama**	**1.87**	**100**	*i* P	**Pn**	**12 01 12.6**	**-1.1**
ZEDA				*i* S	**Sn**	**12 01 34.4**	**-3.2**
AGG	**Agios Georgios**	**1.87**	**262**	P	**Pn**	**12 01 13.7**	**-0.1**
AGG				AML	AML	12 01 46.7	
	comp=E,8322µm,1.0s						
AGG				AML	AML	12 01 48.4	
	comp=N,10163µm,1.4s						
AGG	**Agios Georgios**	**1.87**	**262**	P	**Pn**	**12 01 13.7**	**-0.1**
AGG	**Agios Georgios**	**1.87**	**262**	PN	**Pn**	**12 01 13.8**	**0.0**
AGG	**Agios Georgios**	**1.87**	**262**		**Pb**	**12 01 14.0**	**-1.8**
THE	**Thessaloniki**	**1.89**	**315**	P	**Pb**	**12 01 14.1**	**-1.9**
THE	**Thessaloniki**	**1.89**	**315**	P	**Pb**	**12 01 14.1**	**-1.9**
ALN	**Alexandroupoli**	**1.89**	**32**	P	**Pn**	**12 01 12.4**	**-1.6**
ALN	**Alexandroupoli**	**1.89**	**32**	Pn	**Pn**	**12 01 12.7**	**-1.3**
LIT	**Litokhoron**	**1.89**	**296**	P	**Pn**	**12 01 14.1**	**+0.1**
LIT				AML	AML	12 01 38.5	
	comp=N,2761µm,0.6s						
LIT				AML	AML	12 01 39.1	
	comp=E,2356µm,0.7s						
LIT	**Litokhoron**	**1.89**	**296**	P	**Pn**	**12 01 14.0**	**-0.1**
LIT	**Litokhoron**	**1.89**	**296**		**Pn**	**12 01 14.1**	**+0.1**
LOUT	**Loutraki**	**1.89**	**227**	P	**Pn**	**12 01 13.1**	**-0.9**
LPK	**Lapseki**	**1.90**	**55**	PN	**Pn**	**12 01 12.9**	**-1.3**
ERIK	**Erikli-Kesan**	**1.94**	**45**	PN	**Pn**	**12 01 13.5**	**-1.2**
RDO	**Rodhopi**	**1.95**	**19**	P	**Pn**	**12 01 13.5**	**-1.2**
RDO	**Rodhopi**	**1.95**	**19**	PN	**Pn**	**12 01 13.6**	**-1.2**
SRS	**Serrai**	**2.01**	**335**	P	**Pn**	**12 01 15.6**	**0.0**
SRS				AML	AML	12 01 48.6	
	comp=E,2756µm,0.8s						
SRS				AML	AML	12 02 01.1	
	comp=N,3186µm,1.2s						
SRS	**Serrai**	**2.01**	**335**	P	**Pn**	**12 01 15.2**	**-0.4**
SRS	**Serrai**	**2.01**	**335**	*e*Pn	**Pn**	**12 01 15.8**	**+0.2**
SRS				*e*Sn	**Sg**	**12 01 44.9**	**-0.6**
BLCB	**Balcova**	**2.04**	**116**	PN	**Pn**	**12 01 15.8**	**-0.2**
DGB	**zmir**	**2.11**	**126**	*i* P	**Pn**	**12 01 16.4**	**-0.6**
DGB				*i* S	**Sg**	**12 01 49.1**	**+0.4**
THL	**Klokotos Trika**	**2.11**	**278**	P	**Pn**	**12 01 16.8**	**-0.2**
KESN	**Edirne-Kesan**	**2.14**	**44**	*i* P	**Pn**	**12 01 15.8**	**-2.0**
KALE	**Kalithea**	**2.21**	**246**	P	**Pn**	**12 01 18.2**	**-0.2**
TRIZ	**Trizonia**	**2.27**	**246**	P	**Pn**	**12 01 19.7**	**+0.6**
KRBG	**Karabiga-Canak**	**2.27**	**60**	PN	**Pn**	**12 01 18.5**	**-0.7**
KRND	**KRANIDI**	**2.28**	**213**	P	**Pn**	**12 01 17.7**	**-1.6**
BALY	**Balya**	**2.29**	**78**	*i* P	**Pn**	**12 01 18.3**	**-1.2**
EVR	**Evrytania**	**2.29**	**261**	P	**Pn**	**12 01 20.0**	**+0.4**
APE	**Apeiranthos**	**2.32**	**164**	P	**Pn**	**12 01 18.3**	**-1.7**
KNT	**Kendrikon**	**2.32**	**324**	PN	**Pn**	**12 01 20.1**	**+0.2**
STEP	**BALIKESIR_Sava**	**2.33**	**87**	*i* P	**Pn**	**12 01 19.3**	**-0.8**
RKY	**Sarkoy-Tekirda**	**2.34**	**53**	PN	**Pn**	**12 01 20.3**	**0.0**
SART	**Tekirdag**	**2.35**	**53**	*i* P	**Pn**	**12 01 18.3**	**-2.0**
KLV	**Kalavryta, Ach**	**2.37**	**239**	P	**Pn**	**12 01 20.0**	**-0.6**
LAKA	**Lakka**	**2.39**	**244**	P	**Pn**	**12 01 20.9**	**+0.1**
GRG	**Griva**	**2.42**	**314**	P	**Pn**	**12 01 21.9**	**+0.5**
GRG	**Griva**	**2.42**	**314**	PN	**Pn**	**12 01 21.6**	**+0.2**
AKHS	**Akhisar**	**2.45**	**99**	*i* P	**Pn**	**12 01 21.6**	**-0.1**
MAR3	**Marsite Statio**	**2.45**	**53**	PN	**Pn**	**12 01 21.7**	**0.0**
GZKV	**Gazikoy-Tekird**	**2.47**	**53**	PN	**Pn**	**12 01 21.7**	**-0.3**
MAR4	**Marsite Statio**	**2.48**	**52**	PN	**Pn**	**12 01 21.8**	**-0.4**
MRMT	**Marmara Adasi**	**2.57**	**59**	PN	**Pn**	**12 01 23.7**	**+0.3**
VAY	**Valandovo**	**2.60**	**322**	*i* Pn	**Pn**	**12 01 24.6**	**+0.9**
MAR9	**Marsite Statio**	**2.65**	**59**	PN	**Pn**	**12 01 24.8**	**+0.4**
DDIM	**Aydin, Didim**	**2.71**	**132**	*i* P	**Pb**	**12 01 26.8**	**-3.1**
DRO	**Drossia**	**2.71**	**241**	P	**Pn**	**12 01 25.4**	**+0.1**
PLD	**Plovdiv**	**2.80**	**360**	PN	**Pn**	**12 01 27.1**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.83**	**118**	PN	**Pn**	**12 01 27.0**	**-0.1**
PDO	**Prodromos**	**2.84**	**257**	P	**Pn**	**12 01 28.7**	**+1.6**
DURS	**Dursunbey**	**2.93**	**83**	*i* P	**Pn**	**12 01 27.8**	**-0.5**
VLI	**Velias**	**2.94**	**209**	P	**Pn**	**12 01 27.0**	**-1.4**
FNA	**Florina**	**2.96**	**301**	P	**Pn**	**12 01 29.6**	**+0.9**
FNA	**Florina**	**2.96**	**301**	*e*Pn	**Pn**	**12 01 29.4**	**+0.7**
FNA				*e*Sn	**Sb**	**12 02 08.7**	**-2.1**
FNA	**Florina**	**2.96**	**301**	PN	**Pn**	**12 01 29.2**	**+0.5**
FNA	**Florina**	**2.96**	**301**	Pn	**Pn**	**12 01 29.7**	**+0.9**
KCTX	**Karacabey (Bur**	**2.97**	**70**	PN	**Pn**	**12 01 28.6**	**-0.2**
AYDN	**Tasoluk**	**2.98**	**122**	*i* P	**Pn**	**12 01 28.6**	**-0.4**
ITM	**Ithomi**	**3.05**	**227**	P	**Pn**	**12 01 30.6**	**+0.6**
ITM	**Ithomi**	**3.05**	**227**	PN	**Pn**	**12 01 30.7**	**+0.7**
ITM	**Ithomi**	**3.05**	**227**		**Pn**	**12 01 31.2**	**+1.3**
MANT	**Manisa**	**3.11**	**104**	*i* P	**Pn**	**12 01 29.7**	**-1.2**
MANT	**Manisa**	**3.11**	**104**		**Pn**	**12 01 31.1**	**+0.2**
EVGI	**Lefkada island**	**3.24**	**259**	P	**Pb**	**12 01 35.4**	**-3.6**
KTHA	**Kythira Island**	**3.31**	**204**	P	**Pn**	**12 01 32.4**	**-1.1**
KTHR	**Kythira**	**3.33**	**205**	P	**Pn**	**12 01 32.7**	**-1.0**
IGT	**Igoumenitsa**	**3.40**	**275**	P	**Pb**	**12 01 37.8**	**-4.0**
IGT	**Igoumenitsa**	**3.40**	**275**	*e*Pn	**Pn**	**12 01 35.7**	**+0.9**
IGT				*e*Sn	**Sb**	**12 02 18.0**	**-5.5**
USAK	**Uak-Merkez**	**3.40**	**99**	*i* P	**Pn**	**12 01 34.6**	**-0.3**
VTS	**Vitosha**	**3.50**

comp=N,5.0nm,0.6s
ARSA eSn **Sn** **12 05 08.4 +1.0**
comp=N,3.9nm,0.5s
VOJS Vojsko 10.43 314 *i* Pn **Pn** **12 03 12.3 +1.1**
MMAI Mount Meron Ar 10.67 123 Pn **Pn** **12 03 14.8 +0.2**
comp=N,0.5nm,0.3s,baz=307,slow=12,SNR=1.5
MMAI LR LR 12 08 15.8
comp=N,180nm,18.2s,baz=290,slow=43
CONA Conrad Observa 10.74 326 Pn **Pn** **12 03 18.8 +3.2**
comp=N,9.5nm,1.1s
MYKA Terra Mystica 10.92 316 *e*Pn **Pn** **12 03 20.3 +2.3**
comp=N,4.0nm,0.8s
ZOU Zoufplan 11.25 314 **Pn** **12 03 23.4 +0.9**
KBA Koelnbreinsper 11.36 317 *e*Pn **Pn** **12 03 25.7 +1.6**
comp=N,38nm,1.2s
MOA Molln 11.41 322 *e*Pn **Pn** **12 03 28.0 +3.4**
comp=N,5.6nm,0.8s
OKC Ostrava-Krasne 11.52 338 AMS AMS 12 08 30.0
comp=N,700nm,10.9s
VRAC Vranov 11.56 333 LR LR 12 07 51.3
comp=N,102nm,20.4s,baz=140,slow=37
ABTA Abfaltersbach 11.62 314 *e*Pn **Pn** **12 03 28.2 +0.7**
comp=N,12nm,0.6s
AKASG Malin Array Be 11.83 14 Pn **Pn** **12 03 30.2 -0.2**
comp=N,0.0nm,0.3s,baz=199,slow=13,SNR=4.3
AKASG LR LR 12 08 39.1
comp=N,173nm,21.5s,baz=205,slow=40
TREC Trest 11.97 330 AMS AMS 12 09 20.0
comp=N,400nm,12.4s
KRLC Kraliky 12.15 335 AMS AMS 12 08 00.0
comp=N,300nm,15.7s
ASF Jabal al Asfar 12.18 122 LR LR 12 08 56.0
comp=N,6.8nm,21.2s,baz=197,slow=41
GERES GERESS Array B 12.38 324 Pn **Pn** **12 03 40.3 +2.3**
comp=N,0.2nm,0.3s,baz=155,slow=13,SNR=9.2
GERES LR LR 12 09 28.5
comp=N,128nm,20.5s,baz=142,slow=42
GERES GERESS Array B 12.38 324 **Pn** **12 03 38.9 +0.9**
WTTA Wattenberg 12.40 314 *e*Pn **Pn** **12 03 39.4 +1.1**
comp=N,8.5nm,0.8s
WATA Walderalm 12.48 314 *e*Pn Pn 12 03 43.0 +3.6
comp=N,13nm,1.0s
DPC Dobruska-Polom 12.54 334 AMS AMS 12 08 40.0
comp=N,300nm,13.2s
SQTA Sankt Quirin 12.62 313 *e*Pn **Pn** **12 03 42.5 +1.3**
comp=N,20nm,1.1s
KHC Kasperske Hory 12.65 325 *e*PN **Pn** **12 03 44.5 +2.9**
KHC AMS AMS 12 09 00.0
comp=N,500nm,12.7s
KEST Kesra 12.71 259 Pn **Pn** **12 03 44.1 +1.5**
comp=N,0.3nm,0.3s,baz=41,slow=11,SNR=2.1
KEST LR LR 12 09 56.6
comp=N,140nm,21.8s,baz=266,slow=44
KEST Kesra 12.71 259 Pn Pn 12 03 46.2 +3.7
MOTA Moosalm 12.75 314 *e*Pn **Pn** **12 03 44.3 +1.3**
comp=N,15nm,1.1s
OSTC Ostas 12.75 335 AMS AMS 12 08 50.0
comp=N,400nm,14.7s
UPC Upice 12.78 334 AMS AMS 12 08 50.0
comp=N,400nm,8.4s
FETA Feichten 12.78 312 *e*Pn **Pn** **12 03 45.2 +1.6**
comp=N,8.8nm,1.0s
CHVC Chvalec 12.83 334 AMS AMS 12 08 40.0
comp=N,300nm,15.7s
PRU Pruhonice 12.89 329 AMS AMS 12 08 40.0
comp=N,400nm,10.6s
PRA Prague 13.00 329 AMS AMS 12 09 20.0
comp=N,300nm,12.6s
DAVOX Davos/Dischmat 13.16 309 Pn **Pn** **12 03 50.9 +2.2**
DAVOX comp=N,0.4nm,0.3s,baz=127,slow=12,SNR=7.1 LR LR 12 09 03.8
comp=N,236nm,18.4s,baz=97,slow=38
PVCC Panska Ves 13.31 331 AMS AMS 12 09 00.0
comp=N,300nm,10.2s
NKC Novy Kostel 13.96 326 AMS AMS 12 09 50.0
comp=N,400nm,11.1s
BNI Bardonecchia 14.54 299 P **P** **12 04 10.5 -3.9**
GNI Garni 15.44 80 Pn **P** **12 04 22.0 -2.2**
GNI comp=N,1.0nm,0.3s,baz=62,slow=5.9,SNR=3.1 LR LR 12 10 13.9
comp=N,109nm,18.4s,baz=290,slow=37
OBN Obninsk 17.71 23 LR LR 12 11 52.2
comp=N,64nm,18.1s,baz=169,slow=38
BELG Belogorsnoye 20.53 43 P Pn 12 05 21.9 -0.2
comp=N,11nm,0.8s,baz=332,slow=4.2,SNR=4.6
BELG LR LR 12 14 35.4
comp=N,133nm,20.0s,baz=81,slow=41
HFS Hagfors 21.98 345 P **P** **12 05 38.4 +2.8**
comp=N,6.1nm,1.0s,baz=146,slow=11,SNR=4.4
HFS LR LR 12 15 42.8
comp=N,200nm,18.3s,baz=160,slow=41
ESBB Sonseca Array 22.10 280 P **P** **12 05 38.5 +1.3**
ESBB IAmb IAmb 12 05 44.8
comp=Z,14nm,1.0s
ESDC Sonseca Array 22.10 280 P **P** **12 05 38.0 +0.8**
comp=Z,7.0nm,0.9s,baz=75,slow=10,SNR=25
ESDC LR LR 12 13 40.4
comp=Z,77nm,21.5s,baz=110,slow=35
FINES FINESS Array B 22.18 2 P **P** **12 05 39.2 +1.4**
comp=Z,2.1nm,0.7s,baz=179,slow=9.2,SNR=5.4
FINES LR LR 12 14 55.8
comp=Z,234nm,18.7s,baz=196,slow=38
FINES FINESS Array B 22.18 2 P **P** **12 05 36.0 -1.8**
PAB San Pablo 22.41 280 P **P** **12 05 40.8 +0.2**
NB2 NORSAR Subarra 23.32 343 P **P** **12 05 49.8 0.0**
comp=Z,4.8nm,0.8s,baz=153,slow=10
NOA NORSAR Array B 23.32 343 P **P** **12 05 51.8 +2.0**
comp=Z,2.2nm,0.9s,baz=153,slow=11,SNR=6.7
NOA LR LR 12 15 10.8
comp=Z,58nm,19.2s,baz=155,slow=37
KLMR Klimovskoe 23.46 18 *e* **P** **12 05 52.8 +1.7**
KLMR AMP 12 05 58.7
comp=Z,17nm,1.2s
MDT Midelt 24.51 264 LR LR 12 16 06.7
comp=Z,53nm,18.7s,baz=8.5,slow=38
EKA Eskdalemuir Ar 24.55 320 P **P** **12 06 02.0 +0.5**
comp=Z,2.2nm,0.8s,baz=101,slow=9.0,SNR=2.3
KIRV Kirov 24.96 31 LR LR 12 16 19.1
comp=Z,139nm,19.6s,baz=233,slow=38
AKTO Aktyubinsk 25.88 54 P **P** **12 06 15.2 +1.6**
comp=Z,2.0nm,0.9s,baz=265,slow=11,SNR=4.3
AKTO LR LR 12 20 16.6
comp=Z,90nm,18.3s,baz=259,slow=45
GEYT Alibeck 26.06 82 P **P** **12 06 17.1 +1.8**
comp=Z,1.4nm,0.5s,baz=304,slow=10,SNR=2.0
GEYT LR LR 12 19 27.8
comp=Z,48nm,20.4s,baz=60,slow=43
ARU Arti 28.05 41 LR LR 12 18 37.4
comp=Z,95nm,21.9s,baz=280,slow=38
ARCES ARCESS Array B 30.30 1 P **P** **12 06 54.2 +1.4**
comp=Z,2.4nm,1.1s,baz=146,slow=5.5,SNR=1.4
ARCES LR LR 12 19 56.2
comp=Z,287nm,18.2s,baz=185,slow=38
TOA0 Torodi Ar. Sit 33.05 224 P **P** **12 07 17.4 -0.1**
TOA0 IAmb IAmb 12 07 22.5
comp=Z,4.2nm,0.8s
TORD Torodi Ar. Bea 33.05 224 P **P** **12 07 17.4 -0.1**
comp=Z,3.0nm,0.7s,baz=35,slow=9.3,SNR=12
TORD Torodi Ar. Bea 33.05 224 P **P** **12 07 19.3 +1.8**
KMBO Kilima Mbogo 41.85 161 LR LR 12 26 07.3
comp=Z,49nm,21.2s,baz=86,slow=37
MKAR Makanchi Array 41.91 60 P **P** **12 08 32.0 -0.3**
comp=Z,0.4nm,0.5s,baz=286,slow=5.8,SNR=7.3
DBIC Dimbokro 42.00 227 P **P** **12 08 33.3 -0.1**
comp=Z,2.7nm,0.6s,baz=37,slow=10,SNR=2.4
DBIC Dimbokro 42.00 227 P **P** **12 08 33.6 +0.2**
DBIC IAmb IAmb 12 08 56.8
comp=Z,9.7nm,1.1s
ZALV Zalesovo Beam 42.49 49 P **P** **12 08 37.4 +0.5**
comp=Z,0.6nm,0.3s,baz=292,slow=9.2,SNR=1.9
NRIK Noril'sk 44.32 27 LR LR 12 28 54.5
comp=Z,83nm,19.6s,baz=240,slow=38
SONM Songino Array 57.19 52 LR LR 12 37 51.8
comp=Z,47nm,18.2s,baz=250,slow=39
CMAR Chiang Mai Arr 66.50 85 P **P** **12 11 30.9 -1.2**
comp=Z,0.2nm,0.3s,baz=316,slow=6.4,SNR=1.9
CMAR LR LR 12 46 37.1
comp=Z,14nm,19.1s,baz=275,slow=42
BOSA Boshof 67.57 179 LR LR 12 41 47.3
comp=Z,103nm,18.3s,baz=174,slow=37
KLR Kul'dur 70.89 42 LR LR 12 45 22.6
comp=Z,29nm,19.2s,baz=319,slow=38
SADO Sadowa 71.92 313 LR LR 12 43 13.7
comp=Z,54nm,18.2s,baz=18,slow=36
YKA Yellowknife Ar 73.41 342 P **P** **12 12 13.1 -0.7**
comp=Z,0.3nm,0.8s,baz=38,slow=5.5,SNR=5.4
IMAR Indian Mountai 75.04 359 P **P** **12 12 22.4 -0.8**
KSRS Korea Array 76.06 53 P **P** **12 12 29.8 +0.3**
comp=Z,0.7nm,0.6s,baz=315,slow=4.6,SNR=2.3
KSRS LR LR 12 51 57.5
comp=Z,19nm,20.8s,baz=214,slow=40
PETK Petropavlovsk- 79.38 27 LR LR 12 52 40.6
comp=Z,45nm,18.8s,baz=309,slow=39
PDAR Pinedale Array 88.40 328 LR LR 12 57 10.7
comp=Z,35nm,18.4s,baz=145,slow=38

*IDC **26** 12:13:42.0±30.0, 33°.52N×86°.19E, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.0/45, mbtmp3.3/4, ML3.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.3/28, Error ellipse: s-maj=427.5km s-min=62.2km az=22.0*
ISC 26 12:13:42.7±1.1, 33°.25N±0°.09×85°.9E±0°.2, h35km, n14, σ1s16/13, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUN	**Gumba**	**5.32**	**180**	*e*P			**Pn**	**12 15 00.5**	**+0.5**
	20nm,0.5s								
GKN	**Gorkha**	**5.33**	**192**	*e*P			**Pn**	**12 15 00.7**	**+0.8**
KKN	**Kakani**	**5.46**	**185**	*e*P			**Pn**	**12 15 01.9**	**+0.1**
JIRN	**Jiri**	**5.58**	**177**	*e*P			**Pn**	**12 15 04.4**	**+0.9**
	10nm,0.3s								
DMN	**Daman**	**5.65**	**187**	*e*P			**Pn**	**12 15 04.8**	**+0.3**
	9.1nm,0.3s								
PKIN	**Phulchoki**	**5.66**	**184**	*e*P			**Pn**	**12 15 05.0**	**+0.4**
	9.2nm,0.3s								
PKI	**Pulchoki**	**5.67**	**184**	*e*P			**Pn**	**12 15 04.9**	**+0.1**
	10nm,0.3s								
KOLN	**Koldanda**	**5.79**	**200**	*e*P			**Pn**	**12 15 05.0**	**-1.3**
	10nm,0.3s								
RAMN	**Ramite**	**6.31**	**174**	*e*P			**Pn**	**12 15 11.7**	**-1.8**
	11nm,0.3s								
MKAR	**Makanchi Array**	**13.80**	**350**	Pn			**Pn**	**12 16 54.4**	**-1.4**
	0.0nm,0.3s,baz=169,slow=16,SNR=3.8								
KURBB	**Kurchatov Arra**	**18.18**	**345**	P			**Pn**	**12 17 53.9**	**+1.8**
	0.1nm,0.3s,baz=162,slow=11,SNR=1.9								
ZALV	**Zalesovo Beam**	**20.71**	**358**	P			**P**	**12 18 20.9**	**+1.1**
	0.8nm,0.6s,baz=187,slow=10,SNR=5.2								
SONM	**Songino Array**	**21.27**	**41**	P			**P**	**12 18 25.7**	**-0.3**
	0.2nm,0.4s,baz=232,slow=7.1,SNR=3.7								
JCJ	**Chichijima**	**48.60**	**82**	LR			LR	12 44 29.5	
	comp=Z,25nm,18.3s,baz=346,slow=38								

*TAP **26** 12:18:56.4, 24°.83N×122°.28E, h12km, ML2.9, C*
*JMA **26** 12:18:57.0±0.1, 24°.70N×122°.26E, h0km, M2.1*
ISC 26 12:18:56.7±1.0, 24°.76N±0°.02×122°.29E±0°.02, h8km±9km, n75, σ0s62/135, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGS		**0.34**	**285**	*i* P			**Pg**	**12 19 03.5**	**+0.2**
	baz=272								
EGS					S		**Sg**	**12 19 08.3**	**+0.5**
	baz=272								
TWB1	**Santiao Chiao**	**0.37**	**312**	*i* P			**Pg**	**12 19 03.4**	**-0.6**
	baz=304								
TWB1				*i* S			**Sg**	**12 19 07.7**	**-1.2**
	baz=304								
NTC	**Toucheng**	**0.43**	**283**	P			**Pg**	**12 19 05.0**	**-0.1**
	baz=274								
TWC	**Suao**	**0.43**	**250**	*i* P			**Pg**	**12 19 04.8**	**-0.2**
	baz=241								
TWC				*e*S			**Sb**	**12 19 12.1**	**-1.0**
	baz=241								
TIPB	**Shuangxi**	**0.47**	**297**	*i* P			**Pg**	**12 19 05.6**	**-0.2**
	baz=289								
ILA	**Ilan**	**0.49**	**271**	P			**Pg**	**12 19 06.8**	**+0.6**
	baz=252								
ILA				*e*S			**Sg**	**12 19 13.9**	**+1.2**
	baz=252								
NDS	**Dongshan**	**0.54**	**257**	P			**Pg**	**12 19 07.3**	**+0.2**
	baz=243								
NDS				S			**Sb**	**12 19 15.4**	**-0.9**
	baz=243								
WFSB	**Wu-fen Shan**	**0.56**	**304**	P			**Pb**	**12 19 08.5**	**-0.2**
	baz=297								
WFSB				S			**Sg**	**12 19 15.1**	**+0.3**
	baz=297								
EWUT	**Wuta**	**0.56**	**236**	*i* P			**Pg**	**12 19 07.7**	**+0.2**
	baz=231								
EWUT				S			**Sb**	**12 19 16.4**	**-0.5**
	baz=231								
TWE	**Neicheng**	**0.57**	**266**	*i* P			**Pg**	**12 19 07.2**	**-0.5**
	baz=252								
TWE				S			**Sg**	**12 19 15.8**	**+0.7**
	baz=252								
ENA	**Nanau**	**0.60**	**237**	*i* P			**Pg**	**12 19 08.4**	**+0.1**
	baz=231								
ENA				S			**Sb**	**12 19 17.5**	**-0.5**
	baz=231								
TNOU	**National Taiwa**	**0.61**	**310**	P			**Pg**	**12 19 08.3**	**-0.1**
	baz=303								
TNOU				S			**Sg**	**12 19 16.0**	**-0.4**
	baz=303								
ENTT	**Nioudou**	**0.67**	**260**	*i* P			**Pg**	**12 19 09.5**	**-0.1**
	baz=254								
ENTT				S			**Sb**	**12 19 20.1**	**0.0**
	baz=254								
JYNG	**Yonagunijimaku**	**0.67**	**117**	P			**Pb**	**12 19 10.3**	**-0.3**
JYNG				*e*S			**Sb**	**12 19 20.5**	**+0.4**
TWA	**Mucha**	**0.68**	**289**	*i* P			**Pg**	**12 19 09.9**	**+0.1**
	baz=283								
TWA				S			**Sg**	**12 19 19.5**	**+0.8**
	baz=283								
NWLT	**Wulai**	**0.72**	**272**	*i* P			**Pg**	**12 19 10.6**	**+0.1**
	baz=258								
NWLT				S			**Sg**	**12 19 20.2**	**+0.3**
	baz=258								
YOJ	**Yonaguni jima**	**0.72**	**114**	P			**Pb**	**12 19 11.4**	**0.0**
	baz=118								
YOJ				S			**Sb**	**12 19 21.9**	**+0.5**
	baz=118								
YOJ	**Yonaguni jima**	**0.72**	**114**	P			**Pb**	**12 19 11.1**	**-0.4**
YOJ				*e*S			**Sb**	**12 19 21.8**	**+0.3**
NHDH	**Xindian Distri**	**0.72**	**286**	P			**Pb**	**12 19 11.9**	**+0.4**
	baz=270								
NHDH				S			**Sb**	**12 19 21.5**	**-0.1**
	baz=270								
NDT	**Datong Townshi**	**0.72**	**258**	*i* P			**Pb**	**12 19 11.1**	**-0.5**
	baz=253								
NDT				S			**Sb**	**12 19 21.2**	**-0.5**
	baz=253								
YM01	**YM01**	**0.76**	**301**	P			**Pg**	**12 19 10.6**	**-0.7**
	baz=295								
YM01				S			**Sg**	**12 19 21.0**	**-0.2**
	baz=295								
TATO	**Taipei**	**0.76**	**287**	P			**Pb**	**12 19 12.3**	**+0.1**
	baz=271								
TATO				S			**Sb**	**12 19 22.6**	**-0.1**
	baz=271								
YM08	**YM08**	**0.77**	**304**	P			**Pg**	**12 19 11.3**	**-0.1**
	baz=299								
YM08				S			**Sg**	**12 19 21.6**	**+0.1**
	baz=299								
YM11	**YM11**	**0.77**	**302**	P			**Pg**	**12 19 11.8**	**+0.4**
	baz=297								
YM11				*e*S			**Sg**	**12 19 22.1**	**+0.7**
	baz=297								
YM05	**YM05**	**0.77**	**302**	*e*P			**Pg**	**12 19 11.5**	**0.0**
	baz=296								
YM05				*e*S			**Sg**	**12 19 22.1**	**+0.5**
	baz=296								
YM10	**YM10**	**0.77**	**301**	P			**Pg**	**12 19 11.8**	**+0.2**
	baz=296								
YM10				*e*S			**Sg**	**12 19 22.0**	**+0.5**
	baz=296								
YM04	**YM04**	**0.79**	**300**	P			**Pg**	**12 19 12.0**	**+0.2**
	baz=295								
TWY	**Chenhua**	**0.81**	**309**	*i* P			**Pg**	**12 19 12.4**	**+0.1**
	baz=305								
TWY				*i* S			**Sg**	**12 19 23.4**	**+0.5**
	baz=305								
ANP	**Anpu**	**0.82**	**301**	*i* P			**Pg**	**12 19 11.4**	**-1.1**
	baz=297								
YHNB	**Yeheng**	**0.84**	**264**	P			**Pg**	**12 19 12.3**	**-0.5**
	baz=254								
YHNB				S			**Sb**	**12 19 25.0**	**0.0**
	baz=254								
NSK	**Sanguang**	**0.85**	**265**	*i* P			**Pg**	**12 19 12.6**	**-0.5**
	baz=260								
NSK				*e*S			**Sg**	**12 19 24.6**	**+0.5**
	baz=260								
NACB	**Ninganchiao**	**0.86**	**228**	P			**Pb**	**12 19 13.4**	**-0.5**
	baz=226								
NACB				S			**Sg**	**12 19 24.8**	**+0.3**
	baz=226								
TWS1	**Kuangyinshan**	**0.86**	**293**	P			**Pb**	**12 19 13.8**	**-0.1**
	baz=288								
TWS1				S			**Sb**	**12 19 26.0**	**+0.4**
	baz=288								
PCYT	**Pengchaiyu**	**0.89**	**347**	P			**Pg**	**12 19 12.8**	**-1.0**
	baz=355								
PCYT				*e*S			**Sg**	**12 19 25.0**	**-0.3**
	baz=355								
NNSB	**Datong**	**0.89**	**248**	P			**Pg**	**12 19 13.6**	**-0.2**
	baz=248								
NNSB				S			**Sg**	**12 19 25.5**	**+0.1**
	baz=248								
NNSH	**Datong**	**0.89**	**248**	*i* P			**Pg**	**12 19 13.8**	**0.0**
	baz=237								
NNSH				S			**Sb**	**12 19 26.8**	**+0.2**
	baz=237								
NNS	**Nan Shan**	**0.89**	**249**	*i* P			**Pb**	**12 19 14.1**	**-0.4**
	baz=249								
NNS				S			**Sb**	**12 19 26.3**	**-0.4**
	baz=249								
ETLH	**Xiulin Townshi**	**0.92**	**233**	P			**Pb**	**12 19 15.0**	**0.0**
	baz=231								
ETLH				S			**Sb**	**12 19 27.7**	**+0.3**
	baz=231								
TWD	**Chiawan**	**0.93**	**223**	*i* P			**Pb**	**12 19 14.8**	**-0.2**
	baz=229								
TWD				S			**Sb**	**12 19 27.5**	**+0.1**
	baz=229								
FUSS	**Fushou**	**1.08**	**242**	*i* P			**Pg**	**12 19 17.4**	**0.0**
	baz=240								
FUSS				*i* S			**Sn**	**12 19 33.0**	**-0.7**
	baz=240								
WHF	**Hehuan Shan**	**1.12**	**237**	*i* P			**Pb**	**12 19 18.3**	**-0.2**
	baz=236								
WHF				*i* S			**Sb**	**12 19 33.5**	**+0.1**
	baz=236								
TWT	**Tachien**	**1.13**	**244**	P			**Pn**	**12 19 19.6**	**+0.6**
	baz=236								
TWT				*e*S			**Sn**	**12 19 36.4**	**+1.5**
	baz=236								
LIOB	**Emei**	**1.17**	**265**	*i* P			**Pn**	**12 19 19.4**	**+0.1**
	baz=262								
LIOB				S			**Sn**	**12 19 35.3**	**-0.1**
	baz=262								
NSTT	**Nanjuang**	**1.18**	**264**	P			**Pn**	**12 19 19.5**	**0.0**
	baz=261								
NSTT				*i* S			**Sn**	**12 19 36.3**	**+0.5**
	baz=261								
ESL	**Shilin**	**1.23**	**220**	*i* P			**Pg**	**12 19 20.5**	**+0.3**
	baz=197								
CHGB	**Renai**	**1.23**	**236**	P			**Pn**	**12 19 20.2**	**-0.2**
	baz=235								
CHGB				S			**Sb**	**12 19 36.5**	**0.0**
	baz=235								
WHP	**Taichung City**	**1.32**	**249**	*i* P			**Pg**	**12 19 21.9**	**-0.1**
	baz=247								
WHP				S			**Sn**	**12 19 39.6**	**+0.3**
	baz=247								
EGFH	**Guangfu**	**1.34**	**216**	*e*S			**Sg**	**12 19 41.4**	**+1.5**
	baz=236								
IRIF	**Iriomote-Funau**	**1.38**	**108**	P			**Pg**	**12 19 23.4**	**+0.3**
IRIF				*e*S			**Sg**	**12 19 41.6**	**+0.6**
NMLH	**Miaoli**	**1.38**	**261**	*e*P			**Pb**	**12 19 22.9**	**+0.2**
	baz=259								
NMLH				*e*S			**Sg**	**12 19 41.9**	**+0.7**
	baz=259								
WPL	**Puli Township**	**1.43**	**239**	P			**Pg**	**12 19 23.9**	**-0.2**
	baz=239								
WPL				S			**Sg**	**12 19 42.7**	**+0.1**
	baz=239								
NSY	**Sanyi**	**1.43**	**256**	*e*P			**Pg**	**12 19 24.9**	**+0.7**
	baz=273								
DPDB	**Guoxing**	**1.44**	**240**	P			**Pg**	**12 19 24.9**	**+0.6**
	baz=241								
TWQ1	**Liyutan**	**1.44**	**254**	P			**Pg**	**12 19 25.2**	**+0.9**
	baz=270								
TWQ1				*e*S			**Sg**	**12 19 43.6**	**+0.6**
	baz=270								
VWDT	**VWDT**	**1.45**	**227**	P			**Pg**	**12 19 24.5**	**0.0**
	baz=228								
VWDT				S			**Sg**	**12 19 44.5**	**+1.2**
	baz=228								
HGSD	**Ruisui**	**1.49**	**212**	P			**Pg**	**12 19 25.1**	**-0.2**
	baz=194								
EHY	**Hungye**	**1.53**	**216**	P			**Pg**	**12 19 25.4**	**-0.6**
	baz=217								
SMLT	**Sun Moon Lake**	**1.54**	**236**	P			**Pg**	**12 19 26.5**	**+0.2**
	baz=236								
SMLT				S			**Sg**	**12 19 46.9**	**+0.7**
	baz=236								
SSLB	**Suanglung**	**1.56**	**232**	P			**Pg**	**12 19 26.1**	**-0.5**
	baz=240								
SSLB				S			**Sb**	**12 19 45.5**	**-0.2**
	baz=240								
TYC	**Yuchr**	**1.56**	**237**	*i* P			**Pg**	**12 19 27.1**	**+0.4**
	baz=239								
YULB	**Yu-li**	**1.64**	**214**	P			**Pn**	**12 19 25.6**	**-0.1**
	baz=218								
YULB				S			**Sg**	**12 19 48.7**	**-0.6**
	baz=218								
EYUL	**Yuli**	**1.66**	**212**	*e*P			**Pg**	**12 19 28.0**	**-0.6**
	baz=195								
TWF1	**Yuli**	**1.67**	**213**	P			**Pn**	**12 19 26.2**	**0.0**
	baz=218								
WJS	**Zhushan**	**1.71**	**237**	*e*P			**Pg**	**12 19 28.8**	**-0.6**
	baz=239								
WJS				*e*S			**Sg**	**12 19 54.0**	**+2.5**
	baz=239								
FULB	**Fuli**	**1.80**	**211**	*e*P			**Pn**	**12 19 27.8**	**-0.3**
	baz=191								
ALS	**Alishan**	**1.84**	**228**	*i* P			**Pg**	**12 19 31.4**	**-0.6**
	baz=231								
ALS				*e*S			**Sg**	**12 19 56.3**	**+0.4**
	baz=231								
CHN5	**Tsauling**	**1.87**	**232**	*i* P			**Pg**	**12 19 32.0**	**-0.6**
	baz=235								
CHN5				S			**Sg**	**12 19 57.7**	**+0.8**
	baz=235								
ELDTW	**Lidau**	**1.95**	**217**	P			**Pn**	**12 19 31.0**	**+0.8**
	baz=201								
CHN4	**Tsaushan**	**2.09**	**228**	*i* P			**Pb**	**12 19 35.5**	**+0.6**
	baz=232								
CHN4				S			**Sg**	**12 20 03.6**	**-0.4**
	baz=232								
TPUB	**Ta-pu**	**2.10**	**227**	P			**Pb**	**12 19 34.4**	**-0.7**
	baz=231								
TPUB				*e*S			**Sg**	**12 20 03.3**	**-1.0**
	baz=231								
STYH	**Taoyuan**	**2.10**	**222**	P			**Pb**	**12 19 34.2**	**-0.9**
	baz=226								
STYH				*e*S			**Sb**	**12 20 02.0**	**+0.6**
	baz=226								
STYT	**Tauyuan**	**2.12**	**222**	*e*P			**Pb**	**12 19 34.2**	**-1.2**
	baz=226								
STYT				*e*S			**Sg**	**12 20 03.6**	**-1.2**
	baz=226								
WTP	**Ta-pu**	**2.15**	**226**	P			**Pb**	**12 19 34.6**	**-1.3**
	baz=214								
WTP				*e*S			**Sg**	**12 20 04.8**	**-1.0**
	baz=214								
TWK	**Hsinying**	**2.22**	**228**	P			**Pb**	**12 19 37.0**	**-0.1**
	baz=232								
TWK				S			**Sg**	**12 20 07.2**	**-0.9**
	baz=232								
CHN1	**Nanshi**	**2.25**	**226**	P			**Pb**	**12 19 36.5**	**-1.1**
	baz=230								
CHN1				S			**Sg**	**12 20 07.2**	**-1.8**
	baz=230								

*IDC **26** 12:37:24.7±5.2, 5°.00S×151°.72E, h137km, 39km, mb3.6/6, mb1 3.7/7, mb1mx3.4/42, mbtmp4.0/7, Error ellipse: s-maj=58.9km s-min=24.5km az=109.0*
ISC 26 12:37:25.8±1.5, 5°.0S±0°.2×151°.7E±0°.3, h150km, n8, σ0s77/11, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.28**	**226**	P			**Pn**	**12 38 56.3**	**+0.1**
	0.8nm,0.3s,baz=62,slow=17,SNR=2.3								
PMG				S			**Sn**	**12 40 06.8**	**-0.4**
	8.0nm,0.3s,baz=343,slow=22,SNR=11								
WRA	**Warramunga Arr**	**22.50**	**227**	P			**P**	**12 42 12.8**	**-0.2**
	5.0nm,0.4s,baz=50,slow=10.0,SNR=64								
WRA				PcP			**PcP**	**12 46 03.0**	**+1.1**
	0.3nm,0.5s,baz=43,slow=2.1,SNR=6.5								

ASAR	**Alice Springs**	**25.27**	**221**	P		**P**	**12 42 38.5**	**+0.1**
	1.3nm,0.4s,baz=53,slow=9.0,SNR=39								
ASAR				PcP		**PcP**	**12 46 08.7**	**+0.9**
	0.3nm,0.6s,baz=71,slow=1.9,SNR=4.8								
FITZ	**Fitzroy Crossi**	**28.61**	**241**	P		**P**	**12 43 08.1**	**-0.1**
	1.9nm,0.6s,baz=66,slow=10,SNR=11								
SONM	**Songino Array**	**65.95**	**328**	P		**P**	**12 47 57.0**	**+1.0**
	0.7nm,0.5s,baz=149,slow=6.0,SNR=6.7								
ZALV	**Zalesovo Beam**	**80.75**	**327**	P		**P**	**12 49 21.5**	**-0.8**
	0.6nm,0.3s,baz=99,slow=8.9,SNR=1.7								
ILAR	**Eielson Array**	**82.77**	**22**	P		**P**	**12 49 31.9**	**-0.8**
	0.2nm,0.6s,baz=240,slow=4.8,SNR=1.8								
TORD	**Torodi Ar. Bea**	**149.36**	**287**	PKPbc		**PKPbc**	**12 56 57.8**	**-0.3**
	1.4nm,0.8s,baz=106,slow=2.6,SNR=7.0								

*IDC **26** 12:40:39.1±2.1,59°.98N×153°.94W,h75^{km}±34^{km},mb3.5/3, mb1 3.6/8,mb1mx3.2/46,mbtmp3.7/8, Error ellipse: s-maj=31.6km s-min=10.9km az=105.0*

*ANF **26** 12:40:42.0±0.4,59°.84N×153°.24W,h128^{km}±6^{km},ML3.8/30, Error ellipse: s-maj=4.9km s-min=3.0km az=100.0, Hypocentre not reviewed by the ISC*

*AEIC **26** 12:40:42±1.3,59°.85N±0°.04×153°.40W±0°.09,h128^{km}±3^{km}, ML3.4,ML3.7/82(NEIC),Error ellipse: s-maj=6.3km s-min=5.3km az=103.0*

*NEIC **26** 12:40:42.0±1.2,59°.87N±0°.03×153°.41W±0°.09, h130^{km}±4^{km},Error ellipse: s-maj=6.3km s-min=3.9km az=97.0*

ISC 26 12:40:42.2±0.8,59°.85N±0°.04×153°.39W±0°.04, h133^{km}±5^{km},n154,σ0^{s}.99/157,mb3.4/3,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.19**	**57**			**Pn**		**12 40 59.9**	**-0.6**
OPT	**Oil Point**	**0.22**	**158**			**Pn**		**12 41 00.2**	**-0.3**
OPT						**Sn**		**12 41 13.9**	**-0.3**
IVE	**Iliamna Volcan**	**0.25**	**49**			**Pn**		**12 40 60.0**	**-0.7**
IVE						**Sn**		**12 41 13.6**	**-1.0**
AUL	**Augustine Lava**	**0.47**	**183**			**Pn**		**12 41 01.2**	**-0.2**
AUL						**Sn**		**12 41 15.6**	**-0.3**
AU22	**Augustine Moun**	**0.49**	**178**			**Pn**		**12 41 01.1**	**-0.4**
AU22						**Sn**		**12 41 15.6**	**-0.4**
AUW	**Augustine West**	**0.49**	**185**			**Pn**		**12 41 01.3**	**-0.2**
RED	**Redoubt Volcan**	**0.65**	**28**			**Pn**		**12 41 02.1**	**-0.5**
RED						**Sn**		**12 41 17.2**	**-0.8**
RDSO	**Redoubt South**	**0.69**	**28**			**Pn**		**12 41 02.4**	**-0.5**
RDSO						**Sn**		**12 41 17.6**	**-1.1**
RSO	**Redoubt South**	**0.69**	**27**			**Pn**		**12 41 02.2**	**-0.8**
NCT	**North Crescent**	**0.75**	**18**			**Pn**		**12 41 02.8**	**-0.5**
NCT						**Sn**		**12 41 18.7**	**-0.7**
HOM	**Homer**	**0.91**	**102**			**Pn**		**12 41 04.4**	**-0.1**
HOM						**Sn**		**12 41 21.4**	**0.0**
HOM	**Homer** comp=N,1µm,0.3s	**0.91**	**102**	IAML				12 41 23.5	
HOM	**Homer** baz=283,SNR=5.3	**0.91**	**102**	P				12 41 04.4	
HOM	baz=283			S				12 41 20.8	
CNPM	**China Poot**	**1.14**	**106**			**Pn**		**12 41 06.4**	**-0.3**
CNPM						**Sn**		**12 41 24.3**	**-1.1**
CNPM	**China Poot** comp=E,561nm,0.5s	**1.14**	**106**	IAML				12 41 26.2	
BRLK	**Bradley Lake**	**1.27**	**93**			**Pn**		**12 41 07.7**	**-0.4**
BRLK						**Sn**		**12 41 26.6**	**-1.0**
BRLK	**Bradley Lake** comp=N,576nm,0.3s	**1.27**	**93**	IAML				12 41 27.9	
BRSE	**Bradley Lake S**	**1.34**	**94**			**Pn**		**12 41 08.5**	**-0.3**
BRSE						**Sn**		**12 41 28.6**	**-0.5**
BRSE	**Bradley Lake S** baz=276	**1.34**	**94**	P				12 41 08.5	
BRSE	baz=276			S				12 41 27.7	
CAPN	**Captain Cook N**	**1.44**	**50**			**Pn**		**12 41 10.8**	**+1.0**
CAPN	**Captain Cook N** baz=231	**1.44**	**50**	P				12 41 11.0	
CAPN	baz=231			S				12 41 32.6	
KAHC	**Katmai Hardscr**	**1.47**	**215**			**Pn**		**12 41 09.7**	**-0.5**
SPCR	**Spurr Chakacha**	**1.47**	**23**			**Pn**		**12 41 10.1**	**-0.1**
SPCR	**Spurr Chakacha** baz=204	**1.47**	**23**	P				12 41 10.1	
SPCR	baz=204			S				12 41 30.7	
SPCN	**Chakachatna No**	**1.50**	**23**			**Pn**		**12 41 10.6**	**+0.1**
SPCP	**Crater Peak Br**	**1.54**	**23**			**Pn**		**12 41 11.3**	**+0.2**
SPCP						**Sn**		**12 41 32.9**	**-0.3**
SVW2	**Sparrevohn**	**1.65**	**320**			**Pn**		**12 41 11.3**	**-0.8**
SVW2						**Sn**		**12 41 33.1**	**-2.0**
SLKM	**Skilak Lake**	**1.72**	**66**			**Pn**		**12 41 12.8**	**-0.2**
SLKM						**Sn**		**12 41 35.2**	**-1.3**
KVTA	**Katmai Vly 10**	**1.77**	**214**			**Pn**		**12 41 13.4**	**-0.2**
KCG	**Knife Ck. Glac**	**1.79**	**211**			**Pn**		**12 41 13.6**	**-0.3**
STLK	**Strandline Lak**	**1.82**	**24**			**Pn**		**12 41 14.2**	**0.0**
KBM	**Katmai Bkd Mtn**	**1.84**	**211**			**Pn**		**12 41 14.5**	**+0.1**
KCE	**Katmai Mt Cerb**	**1.86**	**211**			**Pn**		**12 41 14.9**	**+0.2**
KABU	**Katmai Buttres**	**1.86**	**212**			**Pn**		**12 41 14.7**	**0.0**
KABU						**Sn**		**12 41 38.8**	**-0.9**
KABR	**Katmai Barrier**	**1.91**	**206**			**Pn**		**12 41 15.1**	**-0.2**
O22K	**Cooper Landing**	**1.94**	**69**			**Pn**		**12 41 15.6**	**+0.1**
O22K						**Sn**		**12 41 40.1**	**-0.9**
O22K	**Cooper Landing** baz=252,SNR=8.1	**1.94**	**69**	P				12 41 15.5	
O22K	baz=252			S				12 41 38.7	
SEW	**Seward**	**2.00**	**81**			**Pn**		**12 41 16.1**	**-0.1**
SEW	**Seward** baz=264	**2.00**	**81**	P				12 41 15.9	
SEW	baz=264			S				12 41 40.7	
FIS	**Fire Island**	**2.04**	**49**	Pn		**Pn**		**12 41 17.3**	**+0.7**
FIS						**Sn**		**12 41 44.9**	**+1.8**
FIS	comp=E,618nm,0.6s			IAML				12 41 50.3	
FIS	comp=N,592nm,0.7s			IAML				12 41 52.2	
CAHL	**Cahill**	**2.06**	**210**			**Pn**		**12 41 17.1**	**0.0**
SUA	**Susitna One**	**2.08**	**38**			**Pn**		**12 41 17.4**	**+0.1**
SUA						**Sn**		**12 41 44.0**	**-0.2**
SUA	**Susitna One** comp=E,552nm,0.7s	**2.08**	**38**	IAML				12 41 46.0	
SUA	comp=N,307nm,0.5s			IAML				12 41 47.3	
SUA	**Susitna One** baz=220,SNR=54	**2.08**	**38**	P				12 41 17.4	
SUA	baz=220			S				12 41 44.0	
KDAK	**Kodiak Island** comp=N,7.2nm,0.3s,baz=39,slow=8.8,SNR=62	**2.12**	**168**	P		**Pn**		**12 41 16.4**	**-1.3**
KDAK	comp=N,98nm,0.3s,baz=172,slow=21,SNR=103			S		**Sn**		**12 41 42.8**	**-2.2**
KDAK	**Kodiak Island** comp=N,457nm,0.4s	**2.12**	**168**	IAML				12 41 44.2	
KDAK	comp=N,583nm,0.4s			IAML				12 41 44.7	
KDAK	**Kodiak Island** baz=349	**2.12**	**168**	P				12 41 16.4	
KDAK	baz=349			S				12 41 42.6	
RC01	**Rabbit Creek A**	**2.19**	**54**			**Pn**		**12 41 18.4**	**-0.3**
RC01						**Sn**		**12 41 45.2**	**-1.4**
RC01	**Rabbit Creek A** comp=N,600nm,0.3s	**2.19**	**54**	IAML				12 41 46.5	
RC01	**Rabbit Creek A** baz=237,SNR=15	**2.19**	**54**	P				12 41 18.3	
RC01	baz=237			S				12 41 45.2	
SKT	**Skwentna**	**2.32**	**22**			**Pn**		**12 41 20.1**	**-0.1**
SKT	**Skwentna** baz=204,SNR=19	**2.32**	**22**	P				12 41 20.1	
SKT	baz=204			S				12 41 48.3	
PLK2	**Peulik 2**	**2.59**	**217**			**Pn**		**12 41 24.0**	**+0.4**
PLK5	**Peulik 5**	**2.59**	**226**			**Pn**		**12 41 24.0**	**+0.3**
PLK3	**Peulik 3**	**2.64**	**216**			**Pn**		**12 41 24.6**	**+0.4**
OHAK	**Old Harbor**	**2.64**	**179**			**Pn**		**12 41 22.6**	**-1.7**
OHAK	**Old Harbor** comp=N,158nm,0.5s	**2.64**	**179**	IAML				12 41 55.1	
OHAK	**Old Harbor** baz=359	**2.64**	**179**	P				12 41 22.5	
OHAK	baz=359			S				12 41 52.7	
PLK1	**Peulik 1**	**2.65**	**220**			**Pn**		**12 41 24.8**	**+0.5**
PWL	**Port Wells**	**2.71**	**66**			**Pn**		**12 41 25.5**	**+0.4**
PWL	**Port Wells** comp=N,390nm,0.5s	**2.71**	**66**	IAML				12 41 58.1	
PWL	comp=E,281nm,0.4s			IAML				12 41 60.0	
PMR	**Palmer**	**2.73**	**48**			**Pn**		**12 41 25.4**	**+0.1**
PMR	**Palmer** comp=N,140nm,0.3s	**2.73**	**48**	IAML				12 41 57.0	
PMR	comp=E,174nm,0.5s			IAML				12 41 57.4	
PMR	**Palmer** baz=232	**2.73**	**48**	P				12 41 24.3	
PMR	baz=232			S				12 41 55.6	
KNK	**Knik Glacier**	**2.89**	**55**			**Pn**		**12 41 26.5**	**-1.0**
KNK	**Knik Glacier** comp=E,311nm,0.4s	**2.89**	**55**	IAML				12 42 02.1	
KNK	comp=N,311nm,0.5s			IAML				12 42 03.6	
KNK	**Knik Glacier** baz=239	**2.89**	**55**	P				12 41 26.3	
KNK	baz=239			S				12 41 59.7	
GHO	**Glory Hole Cre**	**2.92**	**47**			**Pn**		**12 41 26.5**	**-1.3**
GHO	**Glory Hole Cre** comp=E,194nm,0.3s	**2.92**	**47**	IAML				12 42 02.7	
GHO	comp=N,214nm,0.3s			IAML				12 42 02.9	
CUT	**Chulitna**	**2.98**	**29**			**Pn**		**12 41 28.9**	**+0.4**
CUT	**Chulitna** baz=212,SNR=24	**2.98**	**29**	P				12 41 28.3	
CUT	baz=212			S				12 42 02.6	
PPLA	**Purkeypile**	**3.11**	**10**			**Pn**		**12 41 31.3**	**+0.9**
PPLA	**Purkeypile** baz=191,SNR=12	**3.11**	**10**	P				12 41 30.9	
PPLA	baz=191			S				12 42 08.1	
SML	**Sawmill**	**3.16**	**49**			**Pn**		**12 41 29.6**	**-1.4**
SML	**Sawmill** comp=N,116nm,0.7s	**3.16**	**49**	IAML				12 42 06.5	
SML	comp=E,116nm,0.8s			IAML				12 42 14.9	
SML	**Sawmill** baz=234	**3.16**	**49**	P				12 41 29.6	
SML	baz=234			S				12 42 05.7	
GLI	**Glacier Island**	**3.29**	**69**			**Pn**		**12 41 32.7**	**+0.1**
GLI	**Glacier Island** comp=N,129nm,0.5s	**3.29**	**69**	IAML				12 42 12.7	
GLI	comp=E,222nm,0.4s			IAML				12 42 13.7	
GLI	**Glacier Island** baz=254	**3.29**	**69**	P				12 41 31.2	
GLI	baz=254			S				12 42 08.1	
TT01	**Tatalina**	**3.31**	**339**			**Pn**		**12 41 32.1**	**-0.7**
SII	**Sitkinak Islan**	**3.33**	**188**			**Sn**		**12 42 09.9**	**-2.7**
SII	comp=N,228nm,0.8s			IAML				12 42 11.9	
SII	**Sitkinak Islan**	**3.33**	**188**			**Pn**		**12 41 31.5**	**-1.7**
SII	**Sitkinak Islan** baz=6.8	**3.33**	**188**	P				12 41 31.3	
SII	baz=6.8			S				12 42 08.8	
HIN	**Hinchinbrook I**	**3.49**	**78**			**Sn**		**12 42 14.1**	**-2.2**
HIN	comp=E,186nm,0.4s			IAML				12 42 16.9	
HIN	comp=N,230nm,0.5s			IAML				12 42 18.2	
HIN	**Hinchinbrook I**	**3.49**	**78**			**Pn**		**12 41 35.1**	**-0.2**
FID	**Port Fidalgo**	**3.56**	**72**			**Pn**		**12 41 35.3**	**-0.8**
SCM	**Sheep Creek Mo**	**3.57**	**54**			**Pn**		**12 41 35.5**	**-0.9**
SCM	**Sheep Creek Mo** comp=E,146nm,0.5s	**3.57**	**54**	IAML				12 42 18.6	
SCM	comp=N,175nm,0.7s			IAML				12 42 20.2	
JPK	**Jack Peak**	**3.58**	**67**			**Pn**		**12 41 36.6**	**+0.3**
Q23K	**Middleton Isla** baz=280	**3.60**	**94**	P				12 41 35.8	
WAT7	**Susitna Watana**	**3.71**	**34**			**Pn**		**12 41 37.6**	**-0.6**
WAT7						**Sn**		**12 42 18.7**	**-2.7**
WAT1	**Susitna Watana**	**3.79**	**36**			**Pn**		**12 41 38.5**	**-0.6**
WAT6	**Susitna Watana**	**3.87**	**43**			**Pn**		**12 41 39.5**	**-0.8**
WAT6	**Susitna Watana** baz=228,SNR=12	**3.87**	**43**	P				12 41 39.2	
WAT6	baz=228			S				12 42 22.2	
EYAK	**Cordova Ski Ar**	**3.88**	**76**			**Pn**		**12 41 40.0**	**-0.3**
EYAK	**Cordova Ski Ar** baz=263	**3.88**	**76**	P				12 41 39.3	
EYAK	baz=263			S				12 42 22.2	
WAT2	**Susitna Watana**	**3.88**	**34**			**Pn**		**12 41 39.7**	**-0.7**
WAT2	**Susitna Watana** baz=219,SNR=27	**3.88**	**34**	P				12 41 39.7	
WAT2	baz=219			S				12 42 22.4	
KTH	**Kantishna Hill**	**3.89**	**17**			**Pn**		**12 41 40.5**	**-0.1**
TRF	**Thorofare Moun**	**3.90**	**21**			**Pn**		**12 41 40.4**	**-0.4**
TRF	**Thorofare Moun** comp=N,61nm,0.4s	**3.90**	**21**	IAML				12 42 26.3	
TRF	**Thorofare Moun** baz=204,SNR=15	**3.90**	**21**	P				12 41 40.2	
TRF	baz=204			S				12 42 23.1	
DIV	**Divide**	**3.98**	**68**			**Pn**		**12 41 41.9**	**+0.2**
KLU	**Klutina**	**4.03**	**63**			**Pn**		**12 41 41.5**	**-0.8**
KLU	**Klutina** comp=E,104nm,0.5s	**4.03**	**63**	IAML				12 42 29.6	
KLU	**Klutina** baz=249	**4.03**	**63**	P				12 41 40.9	
KLU	baz=249			S				12 42 25.7	
CHUM	**Lake Minchumin**	**4.08**	**7**			**Pn**		**12 41 43.1**	**+0.2**
CHUM	**Lake Minchumin** baz=188,SNR=20	**4.08**	**7**	P				12 41 43.0	
CHUM	baz=188			S				12 42 29.6	
RND	**Reindeer**	**4.17**	**29**			**Pn**		**12 41 43.7**	**-0.5**
M24K	**Tolsona, Glenn**	**4.18**	**54**			**Pn**		**12 41 43.9**	**-0.4**
M24K	**Tolsona, Glenn** comp=E,125nm,1.1s	**4.18**	**54**	IAML				12 43 00.1	
M24K	**Tolsona, Glenn** baz=240	**4.18**	**54**	P				12 41 42.8	
M24K	baz=240			S				12 42 31.4	
PS12	**TAPS Pump St12**	**4.37**	**65**			**Pn**		**12 41 46.6**	**-0.2**
GOAT	**Goat Mountain**	**4.38**	**77**			**Pn**		**12 41 47.1**	**+0.1**
BPAW	**Bear Paw Mtn.**	**4.41**	**14**			**Pn**		**12 41 46.7**	**-0.7**
BPAW	**Bear Paw Mtn.** baz=196,SNR=10	**4.41**	**14**	P				12 41 46.4	
BPAW	baz=196			S				12 42 35.3	
MCK	**McKinley**	**4.43**	**27**			**Pn**		**12 41 47.7**	**0.0**
MCK	**McKinley** baz=210,SNR=14	**4.43**	**27**	P				12 41 46.8	
MCK	baz=210			S				12 42 35.0	
PS11	**TAPS Pump St11**	**4.46**	**57**			**Pn**		**12 41 47.8**	**-0.1**
BMRM	**Bremner River**	**4.50**	**72**			**Pn**		**12 41 48.5**	**-0.1**
BMRM	**Bremner River**	**4.50**	**72**			**Sn**		**12 42 37.7**	**-2.5**
BMRM	**Bremner River** baz=259	**4.50**	**72**	P				12 41 48.1	
BMRM	baz=259			S				12 42 37.3	
HMT	**Hamilton**	**4.60**	**80**	Pn		**Pn**		**12 41 50.0**	**+0.2**
N25K	**Chitina, Valde**	**4.66**	**64**			**Pn**		**12 41 50.0**	**-0.8**
N25K	**Chitina, Valde** comp=N,71nm,0.4s	**4.66**	**64**	IAML				12 42 43.8	
N25K	comp=E,60nm,0.5s			IAML				12 42 46.4	
N25K	**Chitina, Valde** baz=252	**4.66**	**64**	P				12 41 50.0	
N25K	baz=252			S				12 42 40.9	
BERG	**Berg Lake**	**4.88**	**79**			**Sn**		**12 42 46.6**	**-2.6**
PAX	**Paxson**	**4.92**	**47**			**Pn**		**12 41 53.7**	**-0.6**
PAX	**Paxson** baz=234	**4.92**	**47**	P				12 41 53.5	
PAX	baz=234			S				12 42 47.3	
GLB	**Gilahina Butte**	**4.98**	**67**			**Pn**		**12 41 55.1**	**+0.2**
GLB	**Gilahina Butte** comp=E,46nm,0.8s	**4.98**	**67**	IAML				12 42 51.7	
GLB	comp=N,53nm,0.9s			IAML				12 42 52.0	
VRDI	**Verde Repeater**	**5.10**	**70**			**Pn**		**12 41 56.7**	**0.0**
VRDI	**Verde Repeater** comp=E,34nm,0.5s	**5.10**	**70**	IAML				12 42 55.5	
KHIT	**Khitrov Hills**	**5.10**	**79**			**Pn**		**12 41 56.2**	**-0.5**
NEA2	**Nenana**	**5.17**	**21**			**Pn**		**12 41 56.6**	**-0.8**
NEA2	**Nenana** baz=205,SNR=16	**5.17**	**21**	P				12 41 56.2	
CRQM	**Cirque**	**5.18**	**76**			**Pn**		**12 41 57.9**	**+0.1**
WRH	**Wood River Hil**	**5.26**	**26**			**Pn**		**12 41 57.7**	**-0.9**
TGL	**Tana Glacier**	**5.33**	**76**			**Sn**		**12 42 58.1**	**-2.0**
TGL	**Tana Glacier**	**5.33**	**76**			**Pn**		**12 41 59.8**	**0.0**
MCARA	**McCarthy VSAT**	**5.33**	**69**			**Sn**		**12 42 59.5**	**-0.5**
MCARA	**McCarthy VSAT**	**5.33**	**69**			**Pn**		**12 41 59.9**	**+0.2**
MLY	**Manley**	**5.34**	**12**			**Pn**		**12 41 58.8**	**-1.0**
MLY	**Manley** baz=195,SNR=7.9	**5.34**	**12**	P				12 41 58.7	
CCB	**Clear Creek Bu**	**5.47**	**26**			**Pn**		**12 42 00.5**	**-1.0**
HDA	**Harding Lake**	**5.48**	**31**			**Pn**		**12 42 00.9**	**-0.7**
HDA	**Harding Lake** baz=216,SNR=20	**5.48**	**31**	P				12 42 00.8	
HDA	baz=216,SNR=20			P				12 42 00.8	
PTPK	**Patty Peak**	**5.56**	**71**			**Pn**		**12 42 03.5**	**+0.6**
KIAG	**Kiagna River**	**5.58**	**74**			**Pn**		**12 42 03.2**	**+0.1**
MENT	**Mentasta**	**5.58**	**52**			**Pn**		**12 42 03.7**	**+0.6**
BALM	**Baldy**	**5.60**	**73**			**Pn**		**12 42 03.5**	**+0.2**
PS08	**TAPS Pump Stn8**	**5.62**	**30**			**Pn**		**12 42 02.6**	**-0.9**
I23K	**Minto, Yukon-K**	**5.63**	**18**			**Pn**		**12 42 03.2**	**-0.4**
I23K	**Minto, Yukon-K** baz=201,SNR=18	**5.63**	**18**	P				12 42 02.8	
MDM	**Murphy Dome**	**5.66**	**23**			**Pn**		**12 42 03.4**	**-0.6**
TCOL	**CIGO, UAF Yank**	**5.66**	**25**			**Pn**		**12 42 03.2**	**-0.7**
TCOL	**CIGO, UAF Yank** baz=210,SNR=15	**5.66**	**25**	P				12 42 03.2	
COLA	**College**	**5.66**	**25**			**Pn**		**12 42 03.4**	**-0.5**
COLA	**College** baz=210	**5.66**	**25**	P				12 42 03.1	
IL31		**5.79**	**29**			**Pn**		**12 42 04.7**	**-1.0**
ILAR	**Eielson Array** comp=E,3.8nm,0.3s,baz=215,slow=14,SNR=278	**5.79**	**29**	P		**Pn**		**12 42 04.1**	**-1.7**
ILAR	comp=E,2.4nm,0.3s,baz=218,slow=21,SNR=7.0			S		**Sn**		**12 43 06.2**	**-4.8**
ILAR	**Eielson Array**	**5.79**	**29**	Pn		**Pn**		**12 42 03.7**	**-2.1**
DOT	**Dot Lake**	**5.84**	**45**			**Pn**		**12 42 06.3**	**-0.2**
YAH	**Yahtse**	**5.85**	**80**			**Pn**		**12 42 07.5**	**+0.7**
GRNC	**Granite Creek**	**5.86**	**76**			**Pn**		**12 42 07.2**	**+0.4**
SDPT	**Sand Point**	**5.91**	**223**			**Pn**		**12 42 07.5**	**+0.1**
BARN	**Barnard Glacie**	**5.93**	**73**			**Pn**		**12 42 08.4**	**+0.5**
POKR	**Poker Plat Res**	**5.96**	**25**			**Pn**		**12 42 07.5**	**-0.6**
POKR	**Poker Plat Res** baz=210	**5.96**	**25**	P				12 42 07.2	
PS07	**TAPS Pump Stn7**	**5.96**	**21**			**Pn**		**12 42 07.8**	**-0.3**
SCRK	**Sand Creek**	**6.07**	**43**			**Pn**		**12 42 08.8**	**-0.9**
SCRK	**Sand Creek** baz=231,SNR=8.0	**6.07**	**43**	P				12 42 08.3	
CTGM	**Chitina Glacie**	**6.08**	**74**			**Pn**		**12 42 10.1**	**+0.3**
TABL	**Table Mountain**	**6.15**	**79**			**Pn**		**12 42 11.0**	**+0.2**
IM03		**6.16**	**359**			**Pn**		**12 42 10.7**	**+0.1**
LOGN	**Logan Glacier**	**6.23**	**76**	Pn		**Pn**		**12 42 11.5**	**-0.3**
BC03		**6.43**	**55**			**Pn**		**12 42 13.6**	**-0.7**
YUK2	**White River**	**6.44**	**67**			**Pn**		**12 42 14.9**	**+0.3**
PCA	**Pinnacle**	**6.60**	**82**			**Pn**		**12 42 17.3**	**+0.6**
YUK1	**Moose Creek**	**6.61**	**68**			**Pn**		**12 42 17.1**	**0.0**
K27K	**Nicken**	**6.78**	**47**			**Pn**		**12 42 18.4**	**-0.7**
PNL	**Peninsula**	**7.07**	**85**			**Pn**		**12 42 22.4**	**-0.6**
ANM	**Nome** baz=125	**7.32**	**315**	P				12 42 27.8	
COLD	**Coldfoot**	**7.54**	**10**			**Pn**		**12 42 29.3**	**+0.1**
COLD	**Coldfoot** baz=192	**7.54**	**10**	P				12 42 28.7	
BM03	**Burnt Mountain**	**8.53**	**23**			**Pn**		**12 42 41.1**	**-1.4**
BMAR	**Burnt Mountain**	**8.54**	**23**	Pn		**Pn**		**12 42 41.1**	**-1.6**
PLBC	**Pleasant Camp**	**8.63**	**85**			**Pn**		**12 42 44.1**	**+0.2**
TOLK	**Toolik Lake Re**	**8.98**	**9**			**Pn**		**12 42 48.3**	**-0.2**
TOLK	**Toolik Lake Re** baz=192	**8.98**	**9**	P				12 42 48.9	
DLBC	**Dease Lake** comp=E,0.6nm,0.3s,baz=286,slow=7.1,SNR=22	**12.06**	**87**	P		**Pn**		**12 43 33.1**	**+3.4**
DLBC	comp=E,0.1nm,0.3s,baz=226,slow=18,SNR=1.5			S		**Sn**		**12 45 42.8**	**+0.3**
INK	**Inuvik** comp=E,0.3nm,0.3s,baz=240,slow=15,SNR=8.4	**12.07**	**37**	P		**Pn**		**12 43 29.9**	**+0.3**
YKA	**Yellowknife Ar** comp=E,0.1nm,0.3s,baz=278,slow=9.9,SNR=4.6	**18.69**	**65**	P		**Pn**		**12 44 54.1**	**+2.3**
PETK	**Petropavlovsk-** comp=E,0.3nm,0.3s,baz=74,slow=14,SNR=11	**27.28**	**278**	P		**P**		**12 46 13.9**	**+0.1**
SONM	**Songino Array** comp=E,0.2nm,0.3s,baz=38,slow=7.3,SNR=2.1	**54.72**	**306**	P		**P**		**12 49 57.7**	**+0.2**
ZALV	**Zalesovo Beam** comp=E,1.3nm,0.4s,baz=35,slow=6.5,SNR=4.4	**57.37**	**323**	P		**P**		**12 50 16.4**	**+0.4**

IDC 26 12:48:47.4±655.0,66°.68N×39°.39E,h0^{km},Error ellipse: s-maj=243.0km s-min=38.6km az=116.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I37NO	**I37NO** baz=97,slow=326,SNR=1.8	**8.19**	**296**	*i*				13 40 40.0	
I31KZ	**AKTYUBINSK INF** baz=336,slow=325,SNR=1.0	**18.86**	**141**	*i*				14 46 10.0	
I18DK	**QAANAAQ INFRAS** baz=50,slow=338,SNR=1.3	**29.84**	**335**	*i*				16 06 00.0	

*NAO **26** 13:01:30.6±1.9,75°.59N×7°.20E,ML2.8*

*BER **26** 13:01:32.9±2.9,75°.56N×7°.70E,h10^{km},ML2.0, ML2.0(DNK),Confirmed Earthquake*

*IDC **26** 13:01:34.3±1.1,75°.63N×7°.79E,h0^{km},mb3.5/5,mb1 3.7/8, mb1mx3.4/46,mbtmp3.5/8,ML3.0/3,MS3.2/25,Ms1 3.2/25, ms1mx3.1/49,Error ellipse: s-maj=23.5km s-min=13.8km az=74.0*

ISC 26 13:01:35.0±0.9,75°.58N±0°.05×8°.93E±0°.08,h10^{km},n57, σ2^{s}.36/43,mb3.3/5,MS3.3/17,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.12**	**45**			Pn	**Pn**	**13 02 10.3**	**-0.1**
HSPB						Sn	**Sb**	**13 02 37.7**	**-2.2**
HSPB	**Hornsund (broa**	**2.12**	**45**	*e*P			**Pn**	**13 02 10.4**	**-0.1**
HSPB				*e*S			**Sn**	**13 02 36.1**	**-0.7**
HSPB	comp=Z,7.9nm,0.6s			IAML				13 02 47.0	
BRBA	**Barentsburg A**	**2.77**	**23**			Pn	**Pn**	**13 02 18.3**	**-1.1**
BRBA	**Barentsburg A**	**2.77**	**23**	*e*P			**Pn**	**13 02 18.0**	**-1.4**
BRBB	**Barentsburg B**	**2.80**	**23**	Pn		Pn	**Pn**	**13 02 18.6**	**-1.1**
BRBB	**Barentsburg B**	**2.80**	**23**	*e*P			**Pn**	**13 02 18.8**	**-0.9**
BJO1	**Bjornoya**	**2.83**	**108**	Pn

KIF	Kilpisjarvi	7.51	145	*e*P		Pn	13 03 26.0	+1.6
KIF				*e*S		Sn	13 04 45.0	-4.4
DBG	Daneborg	7.64	275	Pn		Pn	13 03 15.9	-10
DBG				Sn		Sn	13 04 31.9	-21
DBG	Daneborg	7.64	275	*e*P		Pn	13 03 16.0	-10
DBG				*e*S		Sn	13 04 32.3	-20
DBG				IAML			13 04 37.1	
	comp=Z,0.8nm,0.4s							
DBG	Daneborg	7.64	275	*e*		Pn	13 03 12.2	-14
	baz=69,slow=11							
DBG				*i* P		Pn	13 03 16.1	-10
DBG				*i* S		Sn	13 04 31.8	-21
DBG				IAML			13 04 37.1	
	comp=Z,0.8nm,0.4s							
ARA0	ARCESS Array S	7.81	132	Pn		Pn	13 03 28.8	+0.2
	baz=331,slow=12							
ARA0				Sn		Sn	13 04 53.0	-4.0
	baz=330,slow=22							
ARA0	ARCESS Array S	7.81	132	Pn		Pn	13 03 28.8	+0.2
	baz=331,slow=12							
ARA0				Sn		Sn	13 04 53.0	-4.0
	baz=330,slow=22							
ARCES	ARCESS Array B	7.81	132	Pn		Pn	13 03 31.4	+2.8
	baz=324,slow=12,SNR=24							
ARCES				Sn		Sn	13 04 54.2	-2.8
	baz=328,slow=20,SNR=5.5							
ARCES				LR		LR	13 06 43.4	
	comp=Z,101nm,20.4s,baz=330,slow=38							
KTK1	Kautokeino	7.88	139	*e*P		Pn	13 03 32.7	+3.3
KTK1				IAML			13 04 59.7	
	comp=Z,1.5nm,1.0s							
SCO	Scoresbysund	10.24	256	*i* P		Pn	13 03 51.0	-11
SCO				*i* S		Sn	13 05 36.1	-20
SCO	Scoresbysund	10.24	256	*i* P		Pn	13 03 51.0	-11
SCO				*i* S		Sn	13 05 36.2	-20
SCO				IAML			13 05 40.6	
	comp=Z,1.9nm,0.4s							
SCO	Scoresbysund	10.24	256	*i* P		Pn	13 03 51.0	-11
SCO				*i* S		Sn	13 05 36.2	-20
SCO				IAML			13 05 40.6	
	comp=Z,1.9nm,0.4s							
APA0	Apatity Array	10.92	124	Pn		Pn	13 04 11.4	+0.4
APA0	Apatity Array	10.92	124	Pn		Pn	13 04 11.4	+0.4
NOA	NORSAR Array B	14.63	176	LR		LR	13 09 54.5	
	comp=Z,31nm,20.0s,baz=355,slow=34							
BORG	Borgarnes	14.68	239	LR		LR	13 09 03.9	
	comp=Z,81nm,18.4s,baz=356,slow=31							
FINES	FINESS Array B	15.41	148	Pn		Pn	13 05 14.1	+2.1
	comp=Z,0.1nm,0.3s,baz=344,slow=19,SNR=2.0							
FINES				LR		LR	13 11 31.9	
	comp=Z,65nm,19.3s,baz=329,slow=38							
HFS	Hagfors	15.61	171	LR		LR	13 10 37.2	
	comp=Z,53nm,19.1s,baz=321,slow=35							
SFJD	Kangerlussuaq	19.93	276	LR		LR	13 12 35.0	
	comp=Z,87nm,18.7s,baz=30,slow=34							
KIRV	Kirov	22.41	117	LR		LR	13 15 15.6	
	comp=Z,89nm,21.8s,baz=326,slow=36							
NRIK	Noril'sk	22.69	64	LR		LR	13 17 22.1	
	comp=Z,49nm,20.0s,baz=10.0,slow=41							
OBN	Obninsk	23.09	137	LR		LR	13 15 56.9	
	comp=Z,16nm,21.6s,baz=10.0,slow=37							
AKASG	Malin Array Be	26.29	150	LR		LR	13 18 07.9	
	comp=Z,12nm,21.9s,baz=35,slow=38							
ARU	Arti	26.48	108	LR		LR	13 18 19.7	
	comp=Z,50nm,19.8s,baz=346,slow=38							
VRAC	Vranov	26.56	169	LR		LR	13 16 57.7	
	comp=Z,40nm,18.8s,baz=322,slow=35							
GERES	GERESS Array B	26.91	173	P		P	13 07 17.4	+1.5
	comp=Z,0.3nm,0.5s,baz=8.9,slow=9.5,SNR=4.0							
FRB	Frobisher Bay	26.97	287	LR		LR	13 17 24.9	
	comp=Z,117nm,18.0s,baz=112,slow=36							
BELG	Belogornoye	27.77	125	LR		LR	13 18 40.5	
	comp=Z,58nm,21.1s,baz=326,slow=37							
ZALV	Zalesovo Beam	35.22	84	LR		LR	13 26 52.7	
	comp=Z,61nm,18.3s,baz=26,slow=43							
YKA	Yellowknife Ar	37.52	321	P		P	13 08 48.1	-0.3
	comp=Z,0.6nm,1.0s,baz=19,slow=8.1,SNR=2.8							
BRTR	Keskin Array B	37.65	148	LR		LR	13 25 56.8	
	comp=Z,45nm,19.1s,baz=10.0,slow=39							
ILAR	Eielson Array	39.04	344	P		P	13 09 01.1	-0.1
	comp=Z,0.7nm,1.1s,baz=14,slow=7.6,SNR=4.9							
MKAR	Makanchi Array	41.17	91	P		P	13 09 23.1	+3.9
	comp=Z,0.1nm,0.5s,baz=2.9,slow=8.7,SNR=1.8							
MKAR				LR		LR	13 30 23.9	
	comp=Z,82nm,19.6s,baz=324,slow=42							
AAK	Ala-Archa	43.13	101	LR		LR	13 29 23.7	
	comp=Z,36nm,18.9s,baz=318,slow=38							
USRK	Ussuriysk Ar.	54.95	47	LR		LR	13 38 43.3	
	comp=Z,31nm,19.5s,baz=105,slow=40							
PDAR	Pinedale Array	55.46	308	LR		LR	13 35 18.3	
	comp=Z,42nm,18.3s,baz=132,slow=37							
KSRS	Korea Array	60.69	53	LR		LR	13 40 50.8	
	comp=Z,8.4nm,19.4s,baz=240,slow=39							
NVAR	Mina Array Bea	61.30	315	LR		LR	13 38 21.0	
	comp=Z,44nm,21.6s,baz=189,slow=36							
TORD	Torodi Ar. Bea	62.55	188	P		P	13 11 58.5	-0.2
	comp=Z,1.2nm,1.0s,baz=352,slow=6.6,SNR=3.7							
TXAR	Lajitas Array	67.18	299	LR		LR	13 42 44.6	
	comp=Z,54nm,21.1s,baz=0.0,slow=37							

WEL ***26*** *13:12:00,42°.56S×172°.87E,h6km,ML4.1,Mw3.9, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; M_{rr}-5.34; $M_{\theta\theta}$7.79; $M_{\phi\phi}$-2.45; $M_{r\theta}$3.06; $M_{\theta\phi}$-1.40; $M_{\phi r}$2.94; Fault plane solution: M_o8.21000×10^{14} NP1: ϕ_s127.00000°,δ43.00000°,λ-41.00000°. NP2: ϕ_s250.00000°,δ63.00000°,λ-125.00000°. Principal axes: T 85.2400, Plg11.0000°, Azm4.0000°; N -78.9000, Plg31.0000°, Azm267.0000°; P -6.3500, Plg57.0000°, Azm112.0000°;*

IDC ***26*** *13:12:35.4±1.0,42°.34S×172°.87E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.6/34,mbtmp3.6/4,ML3.8/1,MS3.2/2, Ms1 3.3/2,ms1mx2.9/16 Error ellipse: s-maj=29.9km s-min=22.7km az=119.0*

WEL ***26*** *13:12:37.1,43°.S±1°×17°.3E±°,h9km±1km,M4.2/12, ML4.5/12,MLv4.2/12,Error ellipse: s-maj=0.0km s-min=0.0km az=46.6*

NEIC ***26*** *13:12:37.5±1.6,42°.56S±0°.04×172°.87E±0°.05,h13km±6km, mb4.3/6,Error ellipse: s-maj=6.2km s-min=4.5km az=151.0*

NOU ***26*** *13:12:38.2,42°.72S×173°.13E,h21km,MLv4.3,South Island, New Zealand*

ISC 26 13:12:37.8±1.3, 42°.56S±0°.02×172°.89E±0°.02, h14km±9km, n170, σ1§40/196, mb3.8/6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GVZ	Greta Valley S	0.42	165	P		Pb	13 12 47.9	+0.8
GVZ				S		Sb	13 12 55.4	+2.0
KHZ	Kahutara	0.50	74	Pg		Pb	13 12 48.3	0.0
KHZ	Kahutara	0.50	74	P		Pb	13 12 48.4	0.0
KHZ				S		Sb	13 12 55.6	+0.2
LTZ	Lake Taylor	0.51	243	Pg		Pb	13 12 47.8	-0.7
LTZ	Lake Taylor	0.51	243	P		Pb	13 12 47.8	-0.7
LTZ				S		Sb	13 12 54.8	-1.0
AMCZ	Amberley	0.64	196	P		Pn	13 12 51.9	-0.6
AMCZ				S		Sn	13 13 03.3	+0.8
THZ	Tophouse	0.79	1	Pg		Pg	13 12 52.2	-0.9
THZ	Tophouse	0.79	1	P		Pg	13 12 52.3	-0.9
OXZ	Oxford	0.99	219			Pn	13 12 57.2	-0.1
OXZ	Oxford	0.99	219	P		Pn	13 12 57.2	-0.1
OXZ				S		Sn	13 13 11.1	0.0
INZ	Inchbonnie	1.08	261	P		Pb	13 12 57.6	-0.6
BSWZ	Blackbirch Sta	1.12	41	P		Pb	13 12 58.9	0.0
DSZ	Denniston Nort	1.14	315	P		Pb	13 12 59.0	-0.3
DSZ				S		Sn	13 13 15.2	+0.3
MQZ	McQueen's Vall	1.16	188			Pb	13 12 59.2	-0.3
MQZ	McQueen's Vall	1.16	188	P		Pb	13 12 59.3	-0.3
MQZ				S		Sb	13 13 14.7	+0.2
OKCZ	Okains Bay	1.17	174	P		Pn	13 12 60.0	+0.2
OKCZ				S		Sn	13 13 16.3	+0.7
CMWZ	Cape Campbell	1.27	51			Pg	13 13 02.5	+0.3
CMWZ	Cape Campbell	1.27	51	P		Pg	13 13 02.6	+0.3
CMWZ				S		Sn	13 13 21.9	+3.9
RACZ	Rakaia	1.29	205	P		Pn	13 13 01.1	-0.3
RACZ				S		Sn	13 13 18.6	+0.1
AKCZ	Akaroa Harbour	1.31	179	P		Pn	13 13 01.7	-0.1
AKCZ				S		Sb	13 13 19.1	+0.1
TUWZ	Tuamarina	1.37	35			Pn	13 13 02.5	+0.1
TUWZ	Tuamarina	1.37	35	P		Pn	13 13 02.6	+0.1
TUWZ				S		Sg	13 13 23.7	+1.7
NNZ	Nelson	1.39	15	Pn		Pn	13 13 02.6	-0.2
NNZ	Nelson	1.39	15	P		Pn	13 13 02.5	-0.2
NNZ				S		Sn	13 13 21.1	+0.4
WACZ	Wakanui South	1.58	209	P		Pn	13 13 05.1	-0.3
WVZ	Waitaha Valley	1.67	251	P		Pb	13 13 07.4	-0.8
TCW	Tory Channel	1.70	38	P		Pn	13 13 07.5	+0.6
TCW				S		Sn	13 13 29.4	+0.9
QRZ	Quartz Range	1.75	351			Pb	13 13 08.7	-0.9
QRZ	Quartz Range	1.75	351	P		Pn	13 13 08.2	+0.5
QRZ				S		Sb	13 13 31.4	0.0
RPZ	Rata Peaks	1.77	229	Pn		Pn	13 13 07.7	-0.3
	25nm,0.3s,baz=81,slow=1.8,SNR=119							
RPZ				Sn		Sn	13 13 30.3	-0.1
	58nm,0.3s,baz=140,slow=23,SNR=28							
RPZ	Rata Peaks	1.77	229	P		Pn	13 13 07.8	-0.2
RPZ				S		Sn	13 13 30.0	-0.4
SNZO	South Karori	1.84	48			Pn	13 13 09.2	+0.3
ARCZ	Arundel	1.87	221	P		Pn	13 13 08.9	-0.4
ARCZ				S		Sn	13 13 32.1	-0.7
BHW	Baring Head	1.87	53			Pn	13 13 09.3	-0.1
BHW	Baring Head	1.87	53	P		Pn	13 13 09.4	+0.1
WEL	Wellington	1.89	48	P		Pn	13 13 10.0	+0.4
WEL				S		Sn	13 13 32.8	-0.4
DUWZ	D'Urville Isla	1.92	24	P		Pn	13 13 10.8	+0.8
PLWZ	Palliser	2.02	62			Pn	13 13 10.8	-0.6
PLWZ	Palliser	2.02	62	P		Pn	13 13 10.9	-0.6
GCSZ	Gaunt Creek Bo	2.03	247	P		Pn	13 13 12.4	+0.9
GCSZ				S		Sn	13 13 37.1	+0.5
MSWZ	Moikau Station	2.10	58			Pn	13 13 11.9	-0.6
MSWZ	Moikau Station	2.10	58	P		Pn	13 13 12.1	-0.4
MSWZ				S		Sn	13 13 37.1	-1.2
CAW	Cannon Point	2.18	49	P		Pn	13 13 13.6	+0.1
PAWZ	Paruwai Farm	2.23	59	P		Pn	13 13 13.6	-0.7
KIW	Kapiti Island	2.27	42	P		Pn	13 13 15.4	+0.6
TMZ	Timaru	2.28	216	P		Pn	13 13 14.6	-0.4
TRWZ	Traveller	2.39	62	P		Pn	13 13 15.6	-0.8
MTW	Mount Morrison	2.40	55	P		Pn	13 13 15.9	-0.7
OGWZ	Otaki Gorge	2.44	45	P		Pn	13 13 17.3	+0.2
FOZ	Fox Glacier	2.46	246	Pn		Pn	13 13 18.5	+1.2
FOZ	Fox Glacier	2.46	246	P		Pn	13 13 18.8	+1.5
HOWZ	Holdsworth Sta	2.57	51	P		Pn	13 13 18.4	-0.6
HOWZ				S		Sn	13 13 48.0	-2.1
TMWZ	Te Maipa	2.67	58	P		Pn	13 13 19.3	-1.1
LBZ	Lake Benmore	2.69	226	Pn		Pn	13 13 20.2	-0.3
LBZ	Lake Benmore	2.69	226	P		Pn	13 13 20.4	-0.2
MRZ	Mangatainoka R	2.77	48	P		Pn	13 13 21.2	-0.4
MRZ				S		Sn	13 13 52.9	-1.9
TIWZ	Tintock	2.87	53	P		Pn	13 13 22.3	-0.7
TIWZ				S		Sn	13 13 55.9	-1.5
ODZ	Otahua Downs	2.97	212	Pn		Pn	13 13 23.9	-0.5
ODZ	Otahua Downs	2.97	212	P		Pn	13 13 23.9	-0.5
OHWZ	Ohakea	2.98	39	P		Pn	13 13 25.8	+1.3
CPWZ	Castlepoint	2.98	58	P		Pn	13 13 24.5	0.0
PRWZ	Pori Road	3.06	50	P		Pn	13 13 24.8	-0.8
POWZ	Post Office Ro	3.06	46	P		Pn	13 13 25.3	-0.4
BFZ	Birch Farm	3.14	54	Pn		Pn	13 13 25.4	-1.4
BFZ	Birch Farm	3.14	54	P		Pn	13 13 25.6	-1.1
WAZ	Wanganui	3.22	30	P		Pn	13 13 30.0	+2.2
NMEZ	Namu Road	3.23	14	P		Pn	13 13 31.2	+3.2
LREZ	Lake Rotokare	3.30	21	P		Pb	13 13 32.6	-3.5
DVHZ	Dannevirke	3.34	49	P		Pn	13 13 28.2	-1.4
PREZ	Palmer Road	3.35	17	P		Pn	13 13 33.0	+3.2
JCZ	Jackson Bay	3.36	242	P		Pn	13 13 30.2	+0.3
NBEZ	Newall Road No	3.37	13	P		Pn	13 13 32.6	+2.7
KHEZ	Kahui Hut	3.37	15	P		Pn	13 13 33.1	+3.1
TSZ	Takapari Road	3.40	44	P		Pn	13 13 29.8	-0.6
NEZ	North Egmont	3.41	16	P		Pn	13 13 33.3	+2.8
ANWZ	Angora Road	3.41	53	P		Pn	13 13 29.4	-1.2
PKE	Pukeiti	3.46	14	P		Pn	13 13 34.0	+2.8
WKZ	Wanaka	3.61	230	P		Pn	13 13 32.5	-0.8
PRHZ	Porangahau	3.63	52	P		Pn	13 13 32.1	-1.4
PNHZ	Pukenui	3.63	45	P		Pn	13 13 32.7	-1.0
MHEZ	Mangahewa	3.64	18	P		Pn	13 13 36.8	+3.1
WPHZ	Waipukurau	3.66	48	P		Pn	13 13 32.8	-1.1
WPHZ				S		Sn	13 14 15.8	-0.9
VRZ	Vera Road	3.71	23	P		Pn	13 13 37.0	+2.4
HHSZ	Highcliff Hill	3.71	206	P		Pn	13 13 33.8	-0.9
EAZ	Earnscleugh	3.72	223	P		Pn	13 13 33.8	-0.9
EAZ				S		Sn	13 14 16.4	-2.0
MTVZ	Mangateitei	3.72	33	P		Pn	13 13 36.6	+1.8
MOVZ	Moawhango	3.82	36	P		Pn	13 13 36.5	+0.2
WNVZ	Wahianoa	3.82	33	P		Pn	13 13 37.6	+1.2
TRVZ	Turoa	3.83	33	P		Pn	13 13 37.6	+1.2
WHVZ	Whangaehu Hut	3.86	33	P		Pn	13 13 38.0	+1.1
FWVZ	Far West T-bar	3.87	32	P		Pn	13 13 38.1	+1.1
BHHZ	Black Hill Sta	3.89	39	P		Pn	13 13 37.5	+0.3
TUVZ	Tukino	3.90	33	P		Pn	13 13 38.4	+1.1
PXZ	Pawanui	3.92	51	P		Pn	13 13 35.6	-1.9
KRHZ	Kereru	3.92	43	P		Pn	13 13 36.3	-1.3
NGZ	Ngauruhoe	3.95	32	P		Pn	13 13 39.2	+1.1
TWVZ	Taurewa	3.98	30	P		Pn	13 13 39.9	+1.4
OTVZ	Oturere	3.99	33	P		Pn	13 13 39.6	+0.9
WTVZ	West Tongariro	4.00	32	P		Pn	13 13 39.9	+1.1
ETVZ	East Tongariro	4.03	33	P		Pn	13 13 40.0	+0.8
KRVZ	Karewarewa	4.04	32	P		Pn	13 13 40.3	+1.0
TMVZ	Te Maari	4.05	33	P		Pn	13 13 40.2	+0.8
KAHZ	Kahuranaki	4.08	49	P		Pn	13 13 38.3	-1.5
KWHZ	Kaweka Forest	4.12	42	P		Pn	13 13 39.5	-0.8
TUZ	Tuapeka	4.12	213	P		Pn	13 13 39.7	-0.6
KATZ	Kakaramea	4.16	32	P		Pn	13 13 41.4	+2.1
RITZ	Rihia Road	4.23	33	P		Pn	13 13 45.7	+4.0
MCHZ	McNeill Hill	4.24	44	P		Pn	13 13 40.5	-1.4
RATZ	Rangitukua	4.29	32	P		Pn	13 13 47.3	+4.7
HIZ	Hauiti	4.31	21	P		Pn	13 13 44.5	+1.7
BKZ	Black Stump Fm	4.35	40	P		Pn	13 13 42.2	-1.3
HATZ	Hinemaiaia	4.40	35	P		Pn	13 13 43.9	-0.1
WATZ	Wairara	4.41	30	P		Pn	13 13 47.3	+3.0
MLZ	Mavora Lakes	4.44	229	P		Pn	13 13 43.6	-1.1
ARHZ	Aropaoanui	4.53	45	P		Pn	13 13 46.1	+0.3
NMHZ	Naumai	4.56	42	P		Pn	13 13 46.3	-0.1
MRHZ	Matea Rd	4.58	37	P		Pn	13 13 45.5	-1.2
KUTZ	Kaahu Road	4.64	30	P		Pn	13 13 47.4	0.0
TLZ	Tolley Road	4.68	26	P		Pn	13 13 48.9	+0.9
WPRZ	Whakapapatarin	4.74	33	P		Pn	13 13 49.9	+1.1
MTHZ	Maungataniwha	4.76	40	P		Pn	13 13 48.6	-0.6
WHHZ	Waihua	4.79	45	P		Pn	13 13 49.4	0.0
SYZ	Scrubby Hill	4.80	213	P		Pn	13 13 49.1	-0.4
RAHZ	Arahi	4.84	43	P		Pn	13 13 48.7	-1.4
PRRZ	Plateau Road	4.85	35	P		Pn	13 13 49.8	-0.5
WHZ	Wether Hill Ro	4.87	225	P		Pn	13 13 48.4	-2.2
RTZ	Ruatahuna	5.02	40	P		Pn	13 13 53.2	+0.5
MUGZ	Murupara	5.04	37	P		Pn	13 13 50.9	-1.9
KNZ	Kokohu	5.07	47	P		Pn	13 13 52.3	-0.9
SNGZ	Shannon Statio	5.07	43	P		Pn	13 13 52.9	-0.4
MHGZ	Mahia Peninsul	5.10	50	P		Pn	13 13 53.8	+0.1
KARZ	Kaharoa	5.21	31	P		Pn	13 14 00.1	+4.9
TOZ	Tahuroa Road	5.22	23	P		Pn	13 13 55.9	+0.6
PRGZ	Paritu Road	5.25	48	P		Pn	13 13 55.6	-0.2
RAGZ	Rawiri	5.32	42	P		Pn	13 13 55.9	-1.0
RIGZ	Rimuhau	5.34	46	P		Pn	13 13 55.4	-1.7
URZ	Urewera	5.37	38	Pn		Pn	13 13 54.8	-2.6
	3.3nm,0.3s,baz=119,slow=24,SNR=30							
URZ				Sn		Sn	13 14 55.5	-3.4
	16nm,0.3s,baz=91,slow=23,SNR=8.6							
URZ				LR		LR	13 15 54.8	
	comp=Z,88nm,18.4s,baz=211,slow=38							
TGRZ	Tauranga	5.47	29	P		Pn	13 13 59.3	+0.5
APZ	The Paps	5.52	218	P		Pn	13 13 59.7	+0.2
TKGZ	Te Karaka	5.58	44	P		Pn	13 13 58.4	-2.0
AWAZ	Awhitu Peninsu	5.65	14	P		Pn	13 14 03.3	+2.0
MKAZ	Moumakai	5.72	19	P		Pn	13 14 03.5	+1.3
WTAZ	Waiatarua	5.76	14	P		Pn	13 14 05.7	+2.9
ETAZ	East Tamaki Re	5.81	16	P		Pn	13 14 05.3	+1.8
TWGZ	Tauwhareparae	5.85	43	P		Pn	13 14 03.4	-0.7
RUGZ	Raukumara Rang	5.87	40	P		Pn	13 14 02.1	-2.2
RVAZ	Riverhead Bore	5.92	13	P		Pn	13 14 07.1	+2.0
MBAZ	Motutapu North	5.98	16	P		Pn	13 14 07.9	+2.1
WIAZ	Waiheke Island	6.01	17	P		Pn	13 14 07.9	+1.7
PUZ	Puketiti	6.07	44	P		Pn	13 14 05.7	-1.4
HAZ	Te Kaha	6.08	40	P		Pn	13 14 05.4	-1.8
ABAZ	Army Bay	6.13	15	P		Pn	13 14 10.0	+2.1
KUZ	Kuaotunu	6.20	22	P		Pn	13 14 09.5	+0.6
WMGZ	Waiomatatini S	6.35	44	P		Pn	13 14 09.2	-1.6
WCZ	Waipu Caves	6.70	10	P		Pn	13 14 18.0	+2.3
OUZ	Omahuta	7.35	5	P		Pn	13 14 26.2	+1.7
CTZ	Chatham Island	7.77	102	P		Pn	13 14 29.4	-0.9
NIUE	Niue	27.56	37	P		P	13 18 24.2	0.0
VNDA	Vanda	35.37	184	LR		LR	13 31 58.0	
	comp=Z,90nm,19.1s,baz=212,slow=33							
AS31	Alice Springs	37.29	288	P		P	13 19 48.0	-1.4
AS31				IAmb		IAmb	13 19 57.7	
	comp=Z,0.5nm,0.8s							
ASAR	Alice Springs	37.29	288	P		P	13 19 49.0	-0.4
	comp=Z,0.3nm,0.7s,baz=128,slow=7.5,SNR=7.5							
ASAR				PcP		PcP	13 22 07.5	-1.3
	comp=Z,0.5nm,0.8s,baz=124,slow=4.2,SNR=4.6							
FORT	Forrest	37.43	273	P		P	13 19 49.9	-0.5
FORT				IAmb		IAmb	13 20 26.4	
	comp=Z,28nm,1.1s							
WB2	Warramunga Arr	39.45	293	P		P	13 20 04.3	-3.2
WB2				IAmb		IAmb	13 20 23.5	
	comp=Z,9.1nm,1.4s							
WRA	Warramunga Arr	39.46	293	P		P	13 20 07.3	-0.3
	comp=Z,0.4nm,0.9s,baz=135,slow=7.1,SNR=4.6							
WRA	Warramunga Arr	39.46	293	P		P	13 20 07.9	+0.3
QSPA	South Pole Qui	47.57	180	P		P	13 21 15.3	+2.7
	comp=Z,0.9nm,0.5s,baz=351,slow=1.5,SNR=12							
QSPA	South Pole Qui	47.57	180	P		P	13 21 15.0	+2.3
QSPA				IAmb		IAmb	13 21 48.1	
	comp=Z,4.8nm,1.3s							
ARCES	ARCESS Array B	148.18	339	PKPbc		PKPdf	13 32 20.1	+1.4
	comp=Z,2.6nm,0.9s,baz=29,slow=2.1,SNR=3.8							
BRTR	Keskin Array B	149.39	279	PKPbc		PKPbc	13 32 25.4	-0.7
	comp=Z,1.9nm,0.8s,baz=157,slow=6.6,SNR=5.7							
TORD	Torodi Ar. Bea	149.72	197	PKPbc		PKPbc	13 32 27.1	-0.3
	comp=Z,0.8nm,0.4s,baz=152,slow=2.2,SNR=12							

IDC 26 13:14:01.9±2.2, 1.74N×125°.95E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/43, mbtmp3.1/3, Error ellipse: s-maj=190.1km s-min=28.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	Warramunga Arr	23.07	159	P		P	13 19 08.3	-1.0
	0.2nm,0.3s,baz=338,slow=10,SNR=6.7							
ASAR	Alice Springs	26.42	163	P		P	13 19 41.3	+0.8
	0.2nm,0.8s,baz=348,slow=11,SNR=4.4							
MKAR	Makanchi Array	58.75	326	P		P	13 24 01.8	0.0
	0.1nm,0.3s,baz=114,slow=7.9,SNR=1.6							

IDC ***26*** *13:16:29.6±1.9,37°.55N×142°.83E,h0km,mb3.5/4, mb1 3.6/7,mb1mx3.4/52,mbtmp3.5/7,ML2.7/3,MS2.3/2, Ms1 2.3/2,ms1mx2.0/46,Error ellipse: s-maj=48.1km s-min=23.5km az=71.0*

JMA ***26*** *13:16:35.2±0.2,37°.73N×142°.31E,h30km±3km,M3.6*

NIED ***26*** *13:16:35.2,37°.73N×142°.31E,h30km,MW3.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.13; $M_{\theta\theta}$-0.00; $M_{\phi\phi}$0.13; $M_{r\theta}$0.91; $M_{\theta\phi}$-0.09; $M_{\phi r}$1.36; Fault plane solution: M_o1.64000×10^{14} NP1: ϕ_s213.00000°,δ89.00000°,λ-87.00000°. NP2: ϕ_s324.00000°,δ4.00000°,λ-159.00000°.*

ISC 26 13:16:34.5±1.3, 37.74N±0°.05×142°.29E±0°.08, h21km, n27, σ1§57/27, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIKH	Ishinomakikobu	0.86	311	P		Pn	13 16 51.4	0.0
JIO	Ouri	1.03	314	P		Pn	13 16 53.9	+0.2
JIO				*e*S		Sb	13 17 07.1	+0.5
JMST	Minamisoumatoc	1.11	270	P		Pn	13 16 54.9	+0.1
JMST				S		Sb	13 17 09.1	+0.1
JFK	Kawauchi	1.19	252	P		Pb	13 16 56.1	-0.2
JMM	Marumori	1.19	276	P		Pn	13 16 55.8	-0.1
JMM				*e*

DHRM					IAML			13 37 48.6
	comp=E,195nm,0.6s							
BHK	**Bhakra**	**5.90**	**94**	*ex*		**Sn**		**13 37 46.0 +1.7**
SMLA	**Simla**	**6.57**	**95**	*eP*		**Pn**		**13 36 48.4 +1.2**
SMLA				*eS*		**Sn**		**13 38 03.9 +3.0**
SMLA					IAML			13 38 05.6
	comp=N,87nm,0.2s							
SMLA					IAML			13 38 07.8
	comp=E,87nm,0.4s							
NDI	**New Delhi**	**7.41**	**114**	*eP*		**Pn**		**13 36 57.7 -0.9**
NDI				*eP*				13 37 01.0
NDI				*eS*		**Sn**		**13 38 16.0 -5.5**
SONA	**Sohna**	**7.52**	**118**	*eP*		**Pn**		**13 37 02.0 +1.8**
SONA				*eS*		**Sn**		**13 38 22.8 -1.4**
AML	**Almayashu**	**10.67**	**17**	P		**Pn**		**13 37 43.5 -0.2**
	SNR=22							
UCH	**Uchtor**	**10.98**	**20**	P		**Pn**		**13 37 46.8 -1.2**
	SNR=14							
GEYT	**Alibeck**	**11.09**	**306**	Pn		**Pn**		**13 37 49.5 +0.5**
	comp=E,0.5nm,0.3s,baz=134,slow=6.2,SNR=1.6							
GEYT					LR	LR		13 43 18.1
	comp=E,25nm,18.5s,baz=135,slow=44							
KK31	**Karatay Array**	**11.14**	**4**	⇓P		**Pn**		**13 37 48.4 -1.4**
	comp=E,1.5nm,0.3s,baz=178,slow=13							
KK31				⇑S		**Sn**		**13 39 50.4 -2.7**
	comp=E,3.3nm,0.5s,baz=188,slow=26							
BHPL	**Bhopal**	**11.16**	**139**	*eP*		**Pn**		**13 37 51.8 +1.7**
BHPL				*eS*		**Sn**		**13 39 50.9 -2.8**
BHPL					IAML			13 40 02.2
	comp=N,31nm,0.5s							
EKS2	**Erkin-Say**	**11.19**	**16**	P		**Pn**		**13 37 51.0 +0.4**
	SNR=10							
AAK	**Ala-Archa**	**11.36**	**19**	Pn		**Pn**		**13 37 51.9 -0.9**
	comp=N,3.1nm,0.3s,baz=195,slow=6.8,SNR=28							
AAK					LR	LR		13 43 01.3
	comp=N,46nm,18.1s,baz=218,slow=42							
AAK	**Ala-Archa**	**11.36**	**19**	P		**Pn**		**13 37 51.9 -0.9**
	SNR=15							
AAK	**Ala-Archa**	**11.36**	**19**	⇓P		**Pn**		**13 37 51.5 -1.3**
	comp=N,7.1nm,0.7s							
AAK				S		**Sn**		**13 39 55.6 -2.9**
	comp=N,5.5nm,0.8s							
CHMS	**Chumysh**	**11.76**	**19**	P		**Pn**		**13 37 57.2 -1.1**
	SNR=6.6							
TKM2	**Tokmak 2**	**11.94**	**22**	P		**Pn**		**13 37 59.8 -1.1**
	SNR=16							
TKM2	**Tokmak 2**	**11.94**	**22**	⇓P		**Pn**		**13 38 00.4 -0.5**
	comp=N,13nm,0.9s							
MDOK	**Medeo**	**12.66**	**26**	P		**Pn**		**13 38 12.1 +1.5**
	comp=N,3.9nm,0.6s							
WSAR	**Wadi Sarin**	**12.99**	**231**	LR		LR		13 43 59.9
	comp=N,43nm,18.4s,baz=214,slow=41							
GKN	**Gorkha**	**13.68**	**103**	*eP*		**Pn**		**13 38 22.5 -2.1**
KKN	**Kakani**	**14.29**	**103**	*eP*		**Pn**		**13 38 30.5 -2.5**
	comp=N,43nm,0.6s							
PKIN	**Phulchoki**	**14.46**	**104**	*eP*		**Pn**		**13 38 32.3 -3.1**
	comp=N,24nm,0.5s							
PKI	**Pulchoki**	**14.47**	**104**	*eP*		**Pn**		**13 38 32.5 -3.1**
	comp=N,29nm,0.5s							
GUN	**Gumba**	**14.74**	**102**	*eP*		**Pn**		**13 38 36.6 -2.7**
	comp=N,75nm,0.5s							
JIRN	**Jiri**	**15.09**	**102**	*eP*		**Pn**		**13 38 41.3 -2.6**
	comp=N,20nm,0.3s							
RAMN	**Ramite**	**15.69**	**104**	*eP*		**Pn**		**13 38 47.6 -4.0**
	comp=N,31nm,0.5s							
ODAN	**Odare**	**16.37**	**104**	*eP*		**Pn**		**13 38 57.2 -3.2**
TAPN	**Taplejung**	**16.46**	**102**	*eP*		**Pn**		**13 38 59.2 -2.4**
	comp=N,21nm,0.4s							
MKAR	**Makanchi Array**	**17.75**	**30**	P		**Pn**		**13 39 15.2 -2.1**
	comp=N,0.3nm,0.3s,baz=204,slow=10,SNR=30							
AB31	**Akbulak array**	**18.71**	**340**	⇑P		**Pn**		**13 39 28.7 -0.2**
	comp=N,0.9nm,0.5s,baz=161,slow=11,SNR=20							
KURBB	**Kurchatov Arra**	**19.80**	**17**	P		**P**		**13 39 37.9 -2.3**
	comp=N,0.1nm,0.3s,baz=209,slow=9.8,SNR=13							
AKTO	**Aktyubinsk**	**20.34**	**338**	P		**P**		**13 39 45.9 -0.2**
	comp=N,3.0nm,0.7s,baz=196,slow=7.7,SNR=9.9							
AKTO					LR	LR		13 48 15.6
	comp=N,25nm,18.1s,baz=163,slow=39							
AKTO	**Aktyubinsk**	**20.34**	**338**	⇑P		**P**		**13 39 47.1 +1.0**
	comp=N,7.3nm,1.1s							
BVAR	**Borovoye Array**	**21.05**	**1**	P		**P**		**13 39 52.8 -1.0**
	comp=N,1.0nm,0.4s,baz=134,slow=8.5,SNR=12							
ZALV	**Zalesovo Beam**	**24.55**	**22**	P		**P**		**13 40 28.4 -0.9**
	comp=N,2.9nm,0.3s,baz=225,slow=10.0,SNR=11							
ARU	**Arti**	**25.62**	**346**	P		**P**		**13 40 39.7 +0.7**
	comp=N,0.6nm,0.3s,baz=204,slow=9.0,SNR=4.8							
BELG	**Belogornoye**	**25.89**	**328**	P		**P**		**13 40 43.0 +1.6**
	comp=N,1.5nm,0.9s,baz=155,slow=5.3,SNR=3.7							
PALK	**Pallekele**	**26.69**	**155**	LR		LR		13 52 35.8
	comp=N,67nm,19.5s,baz=54,slow=39							
SONM	**Songino Array**	**32.06**	**50**	P		**P**		**13 41 37.4 +0.9**
	comp=N,0.9nm,0.8s,baz=242,slow=8.9,SNR=6.0							
SONM					LR	LR		13 56 30.8
	comp=N,45nm,18.3s,baz=232,slow=40							
AKASG	**Malin Array Be**	**35.03**	**314**	LR		LR		13 59 07.2
	comp=N,34nm,20.0s,baz=80,slow=41							
NRIK	**Norilsk**	**38.79**	**10**	P		**P**		**13 42 34.1 +0.2**
	comp=N,1.1nm,0.3s,baz=166,slow=3.2,SNR=4.3							
ARCES	**ARCESS Array B**	**44.91**	**340**	P		**P**		**13 43 23.6 -0.3**
	comp=N,1.2nm,0.7s,baz=85,slow=2.8,SNR=4.2							
HFS	**Hagfors**	**45.97**	**325**	LR		LR		14 06 16.7
	comp=N,44nm,18.8s,baz=89,slow=41							
NOA	**NORSAR Array B**	**47.35**	**326**	P		**P**		**13 43 42.6 -0.6**
	comp=N,0.4nm,0.5s,baz=106,slow=7.9,SNR=3.6							
NOA					LR	LR		14 07 02.7
	comp=N,20nm,18.4s,baz=200,slow=40							
ESDC	**Sonseca Array**	**58.57**	**300**	P		**P**		**13 45 07.0 +0.7**
	comp=N,0.6nm,0.6s,baz=70,slow=6.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**64.44**	**270**	P		**P**		**13 45 45.4 -0.8**
	comp=N,2.1nm,0.8s,baz=48,slow=5.8,SNR=7.8							
DBIC	**Dimbokro**	**73.26**	**267**	P		**P**		**13 46 41.0 0.0**
	comp=N,2.8nm,0.8s,baz=58,slow=9.5,SNR=1.9							
BOSA	**Boshof**	**73.50**	**220**	P		**P**		**13 46 44.6 +2.4**
	comp=N,3.2nm,0.8s,baz=289,slow=4.7,SNR=4.5							
ILAR	**Eielson Array**	**79.46**	**15**	P		**P**		**13 47 15.4 0.0**
	comp=N,1.1nm,0.8s,baz=317,slow=5.7,SNR=8.3							
WRA	**Warramunga Arr**	**80.70**	**120**	P		**P**		**13 47 23.4 +0.7**
	comp=N,1.9nm,0.7s,baz=320,slow=5.0,SNR=29							
YKA	**Yellowknife Ar**	**85.81**	**2**	P		**P**		**13 47 49.3 +0.9**
	comp=N,1.0nm,0.5s,baz=358,slow=5.0,SNR=29							

*NOU **26** 13:41:05.3, 17.36S×168.68E, h21km, MLv4.5, Vanuatu Islands*
*IDC **26** 13:41:07.0±0.9, 17.36S×167.73E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.0/26, mbtmp4.1/9, ML4.2/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/34, Error ellipse: s-maj=30.1km s-min=21.4km az=109.0*
*NEIC **26** 13:41:09.5±0.6, 17.39S±0.06×167.75E±0.3, h16km±9km, mb4.4/9, Error ellipse: s-maj=35.3km s-min=8.2km az=90.0*

ISC 26 13:41:09.5±0.6,**17.48S**±0.05×**167.74E**±0.08,**h19**km,**n34,**
σ1s**25**/34,**mb4.3**/12,**MS3.2**/3,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DVP	**Devils Point**	**0.49**	**119**	P		**Pb**	**13 41 17.8**	**-1.7**
SANVU	**Saraoutou**	**2.09**	**346**			**Pn**	**13 41 42.9**	**-0.6**
SANVU	**Saraoutou**	**2.09**	**346**	P		**Pn**	**13 41 43.1**	**-0.4**
MARNC	**Mare, Loyalty**	**3.99**	**176**	P		**Pn**	**13 42 06.9**	**-2.7**
YATNC	**Mamie plateau,**	**4.62**	**190**	P		**Pn**	**13 42 18.2**	**-0.1**
DZM	**Mont Dzumac**	**4.72**	**195**	Pn		**Pn**	**13 42 20.1**	**+0.3**
	11nm,0.3s,baz=48,slow=18,SNR=83							
DZM					Sn	**Sn**	**13 43 13.1**	**-1.0**
	7.3nm,0.3s,baz=144,slow=23,SNR=10.0							
DZM	**Mont Dzumac**	**4.72**	**195**	*e*Pn		**Pn**	**13 42 20.1**	**+0.3**
	59nm,0.3s							
DZM				*e*Sn		**Sn**	**13 43 14.7**	**+0.5**
	55nm,0.3s							
DZM				*e*LR		LR	13 43 16.7	
	comp=Z,243nm,23.7s							
DZM	**Mont Dzumac**	**4.72**	**195**			**Pn**	**13 42 20.4**	**+0.6**
ONTNC	**Ouen Toro**	**4.95**	**194**	P		**Pn**	**13 42 24.1**	**+1.3**
OUENC	**Ouen Island, N**	**4.98**	**190**	P		**Pn**	**13 42 23.9**	**+0.6**
PINNC	**Pines Island,**	**5.11**	**183**	P		**Pn**	**13 42 25.1**	**+0.1**
MSVF	**Nonsavu**	**9.84**	**93**	Pn		**Pn**	**13 43 32.7**	**+2.7**
	0.4nm,0.3s,baz=245,slow=12,SNR=4.9							
HNR	**Honiara**	**11.02**	**316**	LR		LR	13 47 13.3	
	comp=Z,121nm,21.2s,baz=243,slow=34							
PMG	**Port Moresby**	**21.55**	**289**	LR		LR	13 52 15.4	
	comp=Z,81nm,21.3s,baz=102,slow=31							
URZ	**Urewera**	**22.27**	**160**	P		**P**	**13 46 07.4**	**+2.0**
	16nm,1.1s,baz=122,slow=23,SNR=6.8							
URZ	**Urewera**	**22.27**	**160**	P		**P**	**13 46 05.7**	**+0.3**
BKZ	**Black Stump Fm**	**22.91**	**162**	P		**P**	**13 46 11.7**	**-0.6**
BKZ					IAmb	IAmb	13 46 15.0	
	comp=Z,25nm,1.2s							
STKA	**Stephens Creek**	**27.65**	**234**	P		**P**	**13 46 58.5**	**+2.3**
	comp=Z,2.0nm,0.6s,baz=75,slow=13,SNR=3.4							
STKA					LR	LR	13 57 35.5	
	comp=Z,54nm,18.7s,baz=97,slow=36							
STKA	**Stephens Creek**	**27.65**	**234**	P		**P**	**13 46 55.6**	**-0.6**
WB0	**Warramunga Arr**	**31.65**	**261**	P		**P**	**13 47 30.1**	**-1.7**
WB0					IAmb	IAmb	13 47 32.8	
	comp=Z,6.1nm,1.1s							
WB2	**Warramunga Arr**	**31.69**	**260**	P		P	13 47 23.9	-8.2
WB2					IAmb	IAmb	13 47 40.2	
	comp=Z,11nm,1.5s							
WRAB	**Tennant Creek**	**31.69**	**260**	P		**P**	**13 47 30.6**	**-1.5**
WRA	**Warramunga Arr**	**31.70**	**260**	P		**P**	**13 47 32.4**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=85,slow=8.3,SNR=8.9							
AS31	**Alice Springs**	**32.21**	**253**	P		**P**	**13 47 35.5**	**-1.3**
ASAR	**Alice Springs**	**32.22**	**253**	P		**P**	**13 47 37.5**	**+0.7**
	comp=Z,3.7nm,0.6s,baz=79,slow=8.9,SNR=78							
ASAR					PcP	**PcP**	**13 50 24.0**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=96,slow=2.8,SNR=4.3							
ASAR					LR	LR	14 00 12.9	
	comp=Z,166nm,18.8s,baz=128,slow=36							
ASAR	**Alice Springs**	**32.22**	**253**	P		**P**	**13 47 35.5**	**-1.3**
FITZ	**Fitzroy Crossi**	**40.03**	**262**	P		**P**	**13 48 42.9**	**-0.7**
FITZ					IAmb	IAmb	13 49 32.1	
	comp=Z,9.7nm,1.2s							
PETK	**Petropavlovsk-**	**70.83**	**354**	P		**P**	**13 52 25.5**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=171,slow=5.2,SNR=6.8							
CMAR	**Chiang Mai Arr**	**76.49**	**294**	P		**P**	**13 52 59.0**	**+0.4**
	comp=Z,9.9nm,0.3s,baz=133,slow=5.4,SNR=4.7							
SONM	**Songino Array**	**84.97**	**324**	P		**P**	**13 53 43.3**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=142,slow=5.0,SNR=7.9							
SONM	**Songino Array**	**84.97**	**324**	P		**P**	**13 53 43.8**	**+0.2**
SONM					IAmb	IAmb	13 53 47.7	
	comp=Z,1.6nm,1.0s							
ILAR	**Eielson Array**	**89.00**	**18**	P		**P**	**13 54 01.0**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=239,slow=5.0,SNR=6.6							
ARCES	**ARCESS Array B**	**123.02**	**345**	PKP		**PKiKP**	**14 00 05.5**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=67,slow=2.1,SNR=14							
FINES	**FINESS Array B**	**128.43**	**338**	PKP		**PKiKP**	**14 00 16.1**	**+0.9**
	comp=Z,3.4nm,1.0s,baz=193,slow=33,SNR=3.4							

*IDC **26** 13:55:33.6±0.8, 59.48S×25.93W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/32, mbtmp4.2/7, ML4.6/1, Error ellipse: s-maj=33.9km s-min=22.0km az=87.0*
*NEIC **26** 13:55:39.3±2.3, 59.6S±0.1×25.9W±0.2, h43km±9km, mb4.4/16, Error ellipse: s-maj=21.7km s-min=13.0km az=45.0*

ISC 26 13:55:39.2±0.7,**59.69S**±0.10×**25.8W**±0.1,**h40**km,**n31,**
σ1s**89**/32,**mb4.2**/10,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**7.96**	**308**	Pn		**Pn**	**13 57 34.0**	**+1.9**
VNA1	**Neumayer--Stat**	**13.16**	**154**	P		**Pn**	**13 58 44.2**	**+1.1**
VNA3	**Neumayer Olymp**	**13.32**	**157**	P		**Pn**	**13 58 45.9**	**+0.5**
VNA2	**Neumayer--Watz**	**13.56**	**154**	P		**Pn**	**13 58 49.1**	**+0.5**
	baz=312,slow=16							
SNAA	**Sanae**	**15.14**	**152**	P		**Pn**	**13 59 10.5**	**+0.7**
SNAA	**Sanae**	**15.14**	**152**	Pn		**Pn**	**13 59 10.0**	**+0.2**
	2.7nm,0.3s,baz=308,slow=15,SNR=70							
SNAA					Sn	**Sn**	**14 01 49.9**	**-6.2**
	0.4nm,0.3s,baz=337,slow=19,SNR=2.3							
SNAA	**Sanae**	**15.14**	**152**			**Pn**	**13 59 08.3**	**-1.5**
SNAA					IAmb	IAmb	13 59 12.0	
	comp=Z,13nm,0.5s							
BELA	**Belgrano 2**	**18.51**	**186**	P		P	**13 59 51.6**	**0.0**
EFI	**East Falkland**	**19.71**	**280**	P		**Pn**	**14 00 04.0**	**-2.5**
EFI					IAmb	IAmb	14 00 56.9	
	comp=Z,44nm,1.3s							
GO10	**Punta Arenas**	**25.44**	**265**	P		**P**	**14 01 02.7**	**-0.2**
QSPA	**South Pole Qui**	**30.55**	**180**	P		**P**	**14 01 50.5**	**+1.9**
	comp=Z,2.4nm,0.7s,baz=201,slow=9.2,SNR=5.6							
QSPA	**South Pole Qui**	**30.55**	**180**	P		**P**	**14 01 49.8**	**+1.2**
QSPA					IAmb	IAmb	14 02 41.6	
	comp=Z,9.3nm,1.4s							
BI02	**San Fabin de**	**37.03**	**288**	P		**P**	**14 02 44.4**	**-0.5**
BI02					IAmb	IAmb	14 03 52.5	
	comp=Z,5.3nm,1.1s							
SBA	**Scott Base**	**42.49**	**184**	P		**P**	**14 03 33.1**	**+3.4**
SBA					IAmb	IAmb	14 04 53.9	
	comp=Z,8.0nm,1.5s							
VNDA	**Vanda**	**42.97**	**182**	P		**P**	**14 03 36.5**	**+2.9**
	comp=Z,2.0nm,0.7s,baz=186,slow=6.8,SNR=17							
VNDA	**Vanda**	**42.97**	**182**	P		**P**	**14 03 36.0**	**+2.4**
LVC	**Limon Verde**	**47.81**	**302**	P		**P**	**14 04 11.5**	**-1.4**
LVC					IAmb	IAmb	14 04 31.8	
	comp=Z,7.3nm,1.2s							
PB06	**IPOC Station P**	**48.01**	**301**	P		**P**	**14 04 12.6**	**-1.6**
PB09	**IPOC Station P**	**48.67**	**302**	P		**P**	**14 04 18.2**	**-1.1**
PB07	**IPOC Station P**	**49.01**	**301**	P		**P**	**14 04 20.2**	**-1.7**
PB01	**IPOC Station P**	**49.44**	**302**	P		**P**	**14 04 22.9**	**-2.2**
PB01					IAmb	IAmb	14 04 30.0	
	comp=Z,11nm,1.1s							
LPAZ	**La Paz**	**53.11**	**306**	P		**P**	**14 04 52.7**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=124,slow=10							
LPAZ	**La Paz**	**53.11**	**306**	P		**P**	**14 04 51.8**	**-1.4**
LPAZ					IAmb	IAmb	14 05 16.5	
	comp=Z,4.4nm,1.4s							
LSZ	**Lusaka**	**59.10**	**65**	P		**P**	**14 05 36.4**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=203,slow=7.6,SNR=3.9							
TOA0	**Torodi Ar. Sit**	**75.90**	**28**	P		**P**	**14 07 21.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**75.90**	**28**	P		**P**	**14 07 21.1**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=202,slow=6.2,SNR=6.8							
TORD	**Torodi Ar. Bea**	**75.90**	**28**	P		**P**	**14 07 20.8**	**-0.5**
ASAR	**Alice Springs**	**95.29**	**161**	P		**P**	**14 08 58.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=182,slow=4.0,SNR=18							
YKA	**Yellowknife Ar**	**139.32**	**315**	PKP		**PKPdf**	**14 14 59.5**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=123,slow=2.9,SNR=5.9							
SONM	**Songino Array**	**150.04**	**92**	PKPbc		**PKiKP**	**14 15 25.0**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=213,slow=2.7,SNR=12							
ILAR	**Eielson Array**	**152.99**	**306**	PKPbc		**PKPbc**	**14 15 29.2**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=131,slow=1.1,SNR=6.5							

*NEIC **26** 13:56:39.0±2.9, 30.36S±0.07×177.2W±0.1, h35km±2km, mb4.4/10, Error ellipse: s-maj=22.0km s-min=8.1km az=63.0*
*IDC **26** 13:56:38.5±2.7, 30.15S×177.64W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/24, mbtmp4.1/4, ML3.3/1, Error ellipse: s-maj=57.1km s-min=19.1km az=100.0*

ISC 26 13:56:39.2±1.1,**30.26S**±0.08×**177.2W**±0.1,**h35**km,**n19,**
σ1s**46**/21,**mb4.2**/9,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.19**	**327**	Pn		**Pn**	**13 56 59.6**	**+0.3**
	200nm,0.3s,baz=180,slow=22,SNR=12							
RAO					Sn	**Sn**	**13 57 11.7**	**-2.6**
	808nm,0.3s,baz=44,slow=19,SNR=13							
RAO	**Raoul Island**	**1.19**	**327**			**Pn**	**13 57 00.2**	**+0.8**
URZ	**Urewera**	**9.27**	**209**	Pn		**Pn**	**13 58 50.9**	**+0.6**
	0.3nm,0.3s,baz=122,slow=24,SNR=1.3							
URZ					Sn	**Sn**	**14 00 33.0**	**-0.2**
	0.6nm,0.3s,baz=119,slow=22,SNR=1.5							
SNZO	**South Karori**	**12.83**	**209**	Pn		**Pn**	**13 59 36.1**	**-3.0**
EIDS	**Eidsvold**	**28.43**	**272**	P		**P**	**14 02 29.7**	**-1.0**
EIDS					IAmb	IAmb	14 02 51.9	
	comp=Z,6.8nm,1.2s							
CTAO	**Charters Tower**	**34.47**	**278**	P		**P**	**14 03 25.8**	**+1.9**
CTAO					IAmb	IAmb	14 03 37.3	
	comp=Z,9.0nm,1.4s							
STKA	**Stephens Creek**	**35.20**	**257**	P		**P**	**14 03 32.5**	**+2.4**
	comp=Z,1.7nm,0.5s,baz=101,slow=12,SNR=5.1							
STKA	**Stephens Creek**	**35.20**	**257**	P		**P**	**14 03 31.6**	**+1.6**
BBOO	**Buckleboo**	**39.68**	**254**	P		**P**	**14 04 07.7**	**-0.3**
TAOE	**Nuku Hiva Isla**	**40.61**	**66**	P		**P**	**14 04 15.9**	**0.0**
AS31	**Alice Springs**	**43.82**	**266**	P		**P**	**14 04 41.0**	**-1.0**
ASAR	**Alice Springs**	**43.82**	**266**	P		**P**	**14 04 43.0**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=104,slow=7.5,SNR=30							
ASAR	**Alice Springs**	**43.82**	**266**	P		**P**	**14 04 41.3**	**-0.8**
WR0	**Warramunga Arr**	**44.62**	**272**	P		**P**	**14 04 49.4**	**+1.0**
WR0					IAmb	IAmb	14 05 11.7	
	comp=Z,11nm,1.5s							
WB2	**Warramunga Arr**	**44.79**	**272**	P		**P**	**14 04 51.0**	**+1.2**
WB2					IAmb	IAmb	14 05 08.9	
	comp=Z,9.2nm,1.4s							
WRA	**Warramunga Arr**	**44.80**	**272**	P		**P**	**14 04 50.7**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=110,slow=8.0,SNR=23							
WB0	**Warramunga Arr**	**44.82**	**272**	P		**P**	**14 04 51.3**	**+1.2**
WB0					IAmb	IAmb	14 05 08.3	
	comp=Z,4.0nm,1.1s							
FITZ	**Fitzroy Crossi**	**53.06**	**269**	P		**P**	**14 05 53.2**	**0.0**
FITZ					IAmb	IAmb	14 05 55.3	
	comp=Z,6.1nm,1.1s							
FINES	**FINESS Array B**	**145.25**	**341**	PKPbc		**PKiKP**	**14 16 15.2**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=66,slow=4.7,SNR=10							

*THE **26** 14:06:06.9, 39.37N×18.79E, h10km±1km, ML2.5/7, Error ellipse: s-maj=2.3km s-min=0.8km az=313.0*

ISC 26 14:06:05.5±1.7,**39.41N**±0.10×**18.87E**±0.06,**h4**km±16km,
n16,σ1s**29**/29,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KEK	**Kerkira**	**0.78**	**67**	P		**Pn**	**14 06 22.9**	**-0.4**
KEK				S		**Sn**	**14 06 35.4**	**-0.1**
	220nm,0.4s							
SRN	**Sarande**	**0.99**	**61**	P		**Pn**	**14 06 27.3**	**+1.1**
SRN				S		**Sn**	**14 06 42.4**	**+1.7**
	152nm,0.5s							
IGT	**Igoumenitsa**	**1.14**	**83**	P		**Pn**	**14 06 28.7**	**+0.5**
IGT				S		**Sn**	**14 06 45.8**	**+1.5**
	112nm,0.5s							
TSLK	**Tsoukalades, L**	**1.50**	**112**	P		**Pg**	**14 06 33.9**	**-0.4**
TSLK				S		**Sg**	**14 06 54.3**	**+0.5**
	178nm,0.8s							
LKD2	**Lefkada island**	**1.52**	**113**	P		**Pb**	**14 06 33.8**	**-0.5**
LKD2				S		**Sg**	**14 06 55.5**	**+1.2**
	140nm,0.4s							
NYDR	**Nydri-Lefkada**	**1.58**	**115**	P		**Pb**	**14 06 34.8**	**-0.5**
NYDR				S		**Sg**	**14 06 56.4**	**+0.1**
	132nm,0.7s							
EVGI	**Lefkada island**	**1.60**	**119**	P		**Pb**	**14 06 34.8**	**-0.8**
EVGI				S		**Sg**	**14 06 56.9**	**+0.1**
FSK	**Fiskardo**	**1.62**	**125**	P		**Pn**	**14 06 34.8**	**-0.1**
FSK				S		**Sg**	**14 06 57.8**	**+0.2**
	155nm,0.4s							
OHR	**Ohrid**	**2.25**	**40**	*i* Pn		**Pn**	**14 06 41.6**	**-2.0**
STON	**Ston**	**3.57**	**346**	*e*Pn		**Pn**	**14 07 01.9**	**+0.2**
STON						Sn	**14 07 43.3**	**-1.1**
HVAR	**Hvar**	**4.19**	**335**	*e*Pn		**Pn**	**14 07 13.3**	**+3.2**
HVAR						Sn	**14 07 57.7**	**-1.8**
RICI	**Ricice**	**4.29**	**343**	*e*Pn		**Pn**	**14 07 13.4**	**+1.9**
RICI						Sn	**14 08 02.6**	**+0.6**
ZIRJ	**Zirje**	**4.89**	**331**			Sn	**14 08 15.0**	**-1.7**
KLIV	**Kijevo**	**4.95**	**339**	*e*Pn		**Pn**	**14 07 22.4**	**+1.7**
MORI	**Morici**	**5.05**	**333**	*i* Pn		**Pn**	**14 07 22.9**	**+1.0**
MORI						Sn	**14 08 20.8**	**+0.1**
DUGI	**Dugi Otok**	**5.40**	**329**	*e*Pn		**Pn**	**14 07 27.2**	**+0.4**
DUGI						Sn	**14 08 27.9**	**-1.5**

*IDC **26** 14:21:56.0±0.6, 60.37S×46.97W, h0km, mb4.3/13, mb1 4.4/14, mb1mx4.3/22, mbtmp4.3/14, ML4.4/1, MS3.7/8, Ms1 3.8/8, ms1mx3.5/27, Error ellipse: s-maj=21.5km s-min=15.6km az=61.0*
*NEIC **26** 14:21:58.3±1.7, 60.31S±0.09×46.82W±0.08, h10km±1km, mb4.7/21, Error ellipse: s-maj=14.6km s-min=6.5km az=170.0*

ISC 26 14:21:58.0±0.4,**60.28S**±0.07×**46.88W**±0.08,**h10**km,**n55,**
σ1s**07**/50,**mb4.5**/17,**MS3.8**/7,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**8.22**	**48**	Pn		**Pn**	**14 23 57.5**	**+0.3**
PMSA	**Palmer Station**	**9.11**	**233**	Pn		**Pn**	**14 24 07.3

CMAR	**Chiang Mai Arr**	**131.62**	**134**	PKP	**PKPdf**	14 41 10.2	**-0.5**
	comp=Z,0.8nm,0.4s,baz=235,slow=3.5,SNR=6.7						
YKA	**Yellowknife Ar**	**132.86**	**324**	PKP	**PKPdf**	14 41 11.1	**-0.5**
	comp=Z,0.4nm,0.7s,baz=124,slow=3.0,SNR=7.4						
FINES	**FINESS Array B**	**133.64**	**39**	PKP	**PKPdf**	14 41 12.2	**-0.9**
	comp=Z,1.5nm,0.6s,baz=132,slow=2.8,SNR=4.5						
ARCES	**ARCESS Array B**	**139.34**	**31**	PKhKP	PKPpre	14 41 14.0	
	comp=Z,5.5nm,1.1s,baz=270,slow=2.4,SNR=5.0						
ILAR	**Eielson Array**	**145.13**	**312**	PKPbc	**PKPbc**	14 41 33.1	**-0.4**
	comp=Z,7.4nm,0.8s,baz=146,slow=1.8,SNR=63						
ILAR	**Eielson Array**	**145.13**	**312**		**PKPbc**	14 41 33.0	**-0.5**
MKAR	**Makanchi Array**	**147.80**	**92**	PKPbc	**PKPbc**	14 41 41.0	**-1.0**
	comp=Z,4.3nm,0.7s,baz=234,slow=2.2,SNR=45						
ZALV	**Zalesovo Beam**	**153.54**	**82**	PKPbc	**PKPbc**	14 41 53.1	**-2.2**
	comp=Z,0.8nm,0.3s,baz=251,slow=4.5,SNR=4.4						
KSRS	**Korea Array**	**156.92**	**169**	PKPab	**PKPab**	14 42 22.2	**-0.5**
	comp=Z,0.3nm,0.4s,baz=193,slow=2.4,SNR=5.0						
SONM	**Songino Array**	**160.14**	**117**	PKPab	**PKPab**	14 42 35.4	**-1.3**
	comp=Z,0.9nm,0.9s,baz=199,slow=3.4,SNR=4.1						

*MAN **26** 14:33:31.2, 13.26N× 124.35E, h5km, MS3.1*
*IDC **26** 14:33:33.3±2.4, 13.06N× 125.11E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/43, mbtmp3.8/4, Error ellipse: s-maj=97.9km s-min=24.7km az=54.0*

ISC 26 14:33:31.4±2.8, 13°21'N±0'08×124°3E±0°1, h6km±16km, n13, σ1§37/18, mb3.9/4, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCSP	**San Jose Seism**	**0.86**	**301**	*eP*		**Pb**	**14 33 48.5**	**-0.3**
SCSP				*eS*		**Sb**	**14 34 00.2**	**-0.4**
MMPH	**Masbate**	**1.06**	**217**	*eP*		**Pg**	**14 33 51.4**	**-0.5**
MMPH				*i* S		**Sg**	**14 34 04.6**	**-1.0**
JCNP	**Jose Panganiba**	**1.87**	**305**	*eP*		**Pn**	**14 34 04.8**	**+0.7**
JCNP				*eS*		**Sn**	**14 34 28.6**	**+0.5**
GQP	**Guinayangan**	**1.91**	**291**	*eP*		**Pb**	**14 34 06.0**	**-0.7**
GQP				*i* S		**Sg**	**14 34 33.6**	**+0.6**
BESP	**Borongan**	**1.96**	**145**	*eP*		**Pn**	**14 34 05.2**	**-0.1**
BESP				*eS*		**Sn**	**14 34 30.8**	**+0.6**
OCLP	**Ormoc**	**2.17**	**171**	*eP*		**Pn**	**14 34 09.1**	**+0.8**
OCLP				*eS*		**Sn**	**14 34 32.9**	**-2.6**
RCP	**Roxas**	**2.22**	**223**	*eP*		**Pg**	**14 34 15.4**	**+1.3**
RCP				*eS*		Sg	14 34 54.4	+11
LQP	**Lukban**	**2.81**	**289**	*eP*		**Pb**	**14 34 21.3**	**-0.9**
MSLP	**Maasin**	**3.11**	**169**	*eP*		**Pn**	**14 34 23.1**	**+2.0**
MSLP				*eS*		**Sn**	**14 35 01.5**	**+2.8**
CMAR	**Chiang Mai Arr**	**24.91**	**285**	P		P	14 39 05.7	+10
	0.6nm,0.7s,baz=99,slow=7.5,SNR=5.5							
ASAR	**Alice Springs**	**37.84**	**166**	P		**P**	**14 40 48.9**	**-0.3**
	0.7nm,0.5s,baz=352,slow=8.3,SNR=9.0							
STKA	**Stephens Creek**	**47.81**	**160**	P		**P**	**14 42 09.3**	**-0.6**
	2.8nm,1.1s,baz=351,slow=13,SNR=1.9							
MKAR	**Makanchi Array**	**48.52**	**322**	P		P	14 42 22.7	+7.3
	1.4nm,0.8s,baz=122,slow=5.4,SNR=3.6							

TAP 26 14:38:47.9, 24.49N×121.85E, h27km, ML2.5, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.07**	**236**	*i* P		Pb	14 38 52.8	+0.2
	baz=237							
EWUT				*i* S		Sb	14 38 55.7	0.0
	baz=237							
ENA	**Nanau**	**0.11**	**239**	*i* P		Pb	14 38 53.0	+0.2
	baz=236							
ENA				*i* S		Sb	14 38 56.4	+0.2
	baz=236							
TWC	**Suao**	**0.12**	**1**	*i* P		Pb	14 38 53.1	+0.2
	baz=5.0							
TWC				*i* S		Sb	14 38 56.5	+0.2
	baz=5.0							
NDS	**Dongshan**	**0.19**	**321**	*i* P		Pb	14 38 53.8	+0.2
	baz=321							
NDS				*i* S		Sb	14 38 57.9	+0.5
	baz=321							
TWE	**Neicheng**	**0.28**	**325**	*i* P		Pb	14 38 55.1	+0.3
	baz=327							
TWE				*i* S		Sb	14 39 00.1	+0.6
	baz=327							
ILA	**Ilan**	**0.29**	**342**	P		Pb	14 38 55.4	+0.5
	baz=339							
ILA				S		Sn	14 39 01.1	-0.9
	baz=339							
ENTT	**Nioudou**	**0.30**	**301**	*i* P		Pb	14 38 55.3	+0.3
	baz=302							
ENTT				*i* S		Sb	14 38 59.6	-0.3
	baz=302							
NDT	**Datong Townshi**	**0.33**	**291**	*i* P		Pb	14 38 55.8	+0.4
	baz=291							
NDT				S		Sb	14 39 01.1	+0.5
	baz=291							
EGS		**0.36**	**12**	P		Pb	14 38 56.6	+0.6
	baz=14							
EGS				S		Sb	14 39 02.2	+0.7
	baz=14							
NTC	**Toucheng**	**0.37**	**358**	P		Pb	14 38 55.7	-0.3
	baz=4.0							
NTC				S		Sb	14 39 02.0	+0.5
	baz=4.0							
NACB	**Ninganchiao**	**0.39**	**216**	P		Pb	14 38 56.2	-0.2
	baz=220							
NACB				S		Sb	14 39 02.4	+0.3
	baz=220							
NWLT	**Wulai**	**0.43**	**313**	P		Pb	14 38 57.2	+0.2
	baz=313							
NWLT				S		Sb	14 39 03.3	+0.1
	baz=313							
NNSB	**Datong**	**0.43**	**262**	P		Pb	14 38 57.2	+0.1
	baz=263							
NNSB				S		Sb	14 39 03.0	-0.3
	baz=263							
NNSH	**Datong**	**0.43**	**262**	*i* P		Pb	14 38 57.1	+0.1
	baz=263							
NNSH				*i* S		Sb	14 39 03.7	+0.4
	baz=263							
ETLH	**Xiulin Townshi**	**0.43**	**230**	P		Pb	14 38 57.0	-0.2
	baz=231							
NNS	**Nan Shan**	**0.43**	**264**	*i* P		Pb	14 38 57.3	+0.1
	baz=264							
NNS				*i* S		Sb	14 39 03.9	+0.4
	baz=264							
TWD	**Chiawan**	**0.47**	**210**	*i* P		Pb	14 38 57.7	+0.1
	baz=209							
TWD				*e*S		Sn	14 39 05.4	-0.8
	baz=209							
YHNB	**Yeheng**	**0.47**	**293**	P		Pb	14 38 57.9	+0.3
	baz=299							
YHNB				S		Sb	14 39 04.6	+0.3
	baz=299							
NSK	**Sanguang**	**0.48**	**293**	*i* P		Pb	14 38 58.1	+0.2
	baz=294							
NSK				*i* S		Sb	14 39 04.9	+0.2
	baz=294							
TIPB	**Shuangxi**	**0.48**	**358**	*i* P		Pb	14 38 58.3	+0.3
TIPB				*i* S		Sb	14 39 05.0	+0.2
TWB1	**Santiao Chiao**	**0.54**	**14**	S		Sb	14 39 06.4	+0.3
	baz=12							
TWA	**Mucha**	**0.55**	**334**	P		Pb	14 38 59.3	+0.3
	baz=329							
TWA				S		Sn	14 39 07.4	-0.9
	baz=329							
NHDH	**Xindian Distri**	**0.56**	**328**	P		Pn	14 38 60.0	-0.1
	baz=323							
NHDH				S		Sb	14 39 07.0	+0.3
	baz=323							
WFSB	**Wu-fen Shan**	**0.58**	**354**	P		Pn	14 39 00.4	-0.1
	baz=349							
WFSB				S		Sb	14 39 07.9	+0.4
	baz=349							
TATO	**Taipei**	**0.59**	**326**	*e*S		Sn	14 39 08.4	-0.7
	baz=324							
FUSS	**Fushou**	**0.60**	**247**	*i* P		Pb	14 39 00.2	+0.2
	baz=247							
FUSS				S		Sn	14 39 09.6	-0.3
	baz=247							
WHF	**Hehuan Shan**	**0.63**	**237**	*i* P		Pb	14 39 00.6	0.0
	baz=244							
WHF				S		Sn	14 39 10.1	-0.8
	baz=244							
TWT	**Tachien**	**0.66**	**249**	S		Sn	14 39 11.4	+0.3
	baz=245							
TNOU	**National Taiwa**	**0.66**	**354**	*e*P		Pn	14 39 01.5	-0.1
	baz=352							
TNOU				S		Sb	14 39 10.1	+0.3
	baz=352							
YM01	**YM01**	**0.70**	**339**	P		Pb	14 39 01.7	+0.1
	baz=339							
YM01				S		Sn	14 39 11.7	-0.5
	baz=339							
YM10	**YM10**	**0.71**	**339**	P		Pn	14 39 02.8	+0.5
	baz=339							
YM10				S		Sn	14 39 12.8	+0.3
	baz=339							
YM11	**YM11**	**0.72**	**340**	P		Pn	14 39 03.1	+0.7
	baz=340							
YM04	**YM04**	**0.72**	**337**	P		Pn	14 39 02.9	+0.5
	baz=337							
YM04				S		Sn	14 39 12.6	0.0
	baz=337							
YM05	**YM05**	**0.72**	**339**	P		Pn	14 39 02.7	+0.3
	baz=339							
YM05				S		Sn	14 39 13.1	+0.4
	baz=339							
TWS1	**Kuangyinshan**	**0.72**	**328**	*e*P		Pn	14 39 03.0	+0.6
	baz=326							
TWS1				S		Sn	14 39 14.2	+1.5
	baz=326							
CHGB	**Renai**	**0.75**	**235**	P		Pn	14 39 02.8	-0.1
	baz=242							
CHGB				*e*S		Sn	14 39 14.0	+0.5
	baz=242							
ANP	**Anpu**	**0.76**	**337**	*e*P		Pn	14 39 03.0	+0.1
	baz=325							
ESL	**Shilin**	**0.77**	**210**	*i* P		Pb	14 39 02.7	0.0
	baz=220							
ESL				S		Sn	14 39 14.1	+0.4
	baz=220							
LIOB	**Emei**	**0.77**	**282**	*i* P		Pn	14 39 04.1	+1.0
	baz=282							
NSTT	**Nanjuang**	**0.78**	**281**	P		Pn	14 39 04.2	+1.0
	baz=281							
NSTT				S		Sn	14 39 14.8	+0.7
	baz=281							
TWY	**Chenhua**	**0.82**	**344**	S		Sn	14 39 15.8	+0.9
	baz=344							
WHP	**Taichung City**	**0.85**	**256**	*i* P		Pn	14 39 04.9	+0.7
	baz=256							
WHP				S		Sn	14 39 16.6	+0.8
	baz=256							
EGFH	**Guangfu**	**0.90**	**205**	*e*P		Pb	14 39 04.9	+0.1
	baz=218							
EGFH				*e*S		Sb	14 39 16.6	+0.1
	baz=218							
DPDB	**Guoxing**	**0.95**	**242**	P		Pb	14 39 06.2	+0.4
	baz=242							
WCS	**Beigang Elemen**	**0.95**	**244**	P		Pb	14 39 06.5	+0.7
	baz=244							
WCS				*e*S		Sn	14 39 19.4	+1.2
	baz=244							
VWDT	**VWDT**	**0.97**	**222**	P		Pb	14 39 06.0	-0.1
	baz=210							
VWDT				*e*S		Sn	14 39 19.9	+1.2
	baz=210							
TWQ1	**Liyutan**	**0.99**	**262**	P		Pb	14 39 08.1	+1.7
	baz=273							
SMLT	**Sun Moon Lake**	**1.05**	**235**	P		Pb	14 39 08.7	+1.2
	baz=227							
HGSD	**Ruisui**	**1.06**	**201**	P		Pn	14 39 06.6	-0.5
	baz=216							
HGSD				*e*S		Sb	14 39 23.2	+2.1
	baz=216							
TYC	**Yuchr**	**1.07**	**238**	P		Pb	14 39 09.1	+1.2
	baz=231							
EHY	**Hungye**	**1.09**	**206**	*e*P		Pn	14 39 07.2	-0.2
	baz=206							
YULB	**Yu-li**	**1.20**	**205**	P		Pn	14 39 09.1	+0.1
	baz=205							
YULB				*e*S		Sn	14 39 23.6	-0.8
	baz=205							
WHYT	**Xinyi Township**	**1.20**	**229**	*e*S		Sb	14 39 27.5	+2.3
	baz=235							
WJS	**Zhushan**	**1.22**	**237**	*e*S		Sb	14 39 29.7	+4.1
	baz=236							
TWF1	**Yuli**	**1.24**	**204**	*e*P		Pn	14 39 09.5	0.0
	baz=216							
YUS	**Yu-Shan**	**1.29**	**220**	*e*P		Pb	14 39 12.9	+1.1
	baz=207							
YUS				*e*S		Sb	14 39 28.4	+0.3
	baz=207							
ALS	**Alishan**	**1.36**	**225**	P		Pb	14 39 13.6	+0.7
	baz=213							
ALS				S		Sb	14 39 31.8	+1.8
	baz=213							
FULB	**Fuli**	**1.38**	**202**	P		Pb	14 39 12.5	-0.5
	baz=214							
FULB				*e*S		Sb	14 39 31.9	+1.7
	baz=214							
CHN5	**Tsauling**	**1.39**	**231**	*i* S		Sb	14 39 33.7	+3.1
	baz=231							
ELDTW	**Lidau**	**1.50**	**211**	P		Pb	14 39 14.6	-0.5
	baz=210							
ELDTW				*e*S		Sb	14 39 33.1	-0.7
	baz=210							
CHN4	**Tsaushan**	**1.61**	**226**	*i* P		Pb	14 39 17.2	+0.3
	baz=215							
CHN4				*i* S		Sb	14 39 39.4	+2.5
	baz=215							
TPUB	**Ta-pu**	**1.62**	**224**	P		Pb	14 39 17.7	+0.5
	baz=213							
TPUB				S		Sb	14 39 39.7	+2.4
	baz=213							
STYH	**Taoyuan**	**1.64**	**217**	P		Pb	14 39 18.0	+0.6
	baz=209							
STYH				S		Sb	14 39 38.4	+0.8
	baz=209							
STYT	**Tauyuan**	**1.65**	**217**	*e*P		Pb	14 39 17.6	-0.1
	baz=209							
STYT				S		Sb	14 39 39.1	+0.9
	baz=209							
WTP	**Ta-pu**	**1.67**	**223**	P		Pb	14 39 17.6	-0.4
	baz=212							
WTP				S		Sb	14 39 40.2	+1.4
	baz=212							
TWK	**Hsinying**	**1.74**	**226**	P		Pb	14 39 20.2	+1.1
	baz=213							
TWK				S		Sb	14 39 43.1	+2.5
	baz=213							
CHN1	**Nanshi**	**1.77**	**223**	S		Sb	14 39 43.9	+2.4
	baz=211							
SLGT	**Liugui**	**1.85**	**217**	P		Pb	14 39 21.0	0.0
	baz=217							
SLGT				S		Sb	14 39 46.2	+2.5
	baz=217							
MASBT	**Mashibuluo**	**2.17**	**211**	*e*P		Pb	14 39 24.9	-1.7
	baz=212							

TAP 26 14:39:07.2, 23.77N×120.90E, h9km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SSLB	**Suanglung**	**0.05**	**75**	P		Pg	14 39 09.2	+0.1
	baz=75							
SSLB				S		Sg	14 39 10.8	+0.3
	baz=75							
WHYT	**Xinyi Township**	**0.09**	**209**	*e*P		Pg	14 39 09.4	-0.1
	baz=208							
WHYT				*e*S		Sg	14 39 11.8	+0.5
	baz=208							
SMLT	**Sun Moon Lake**	**0.11**	**360**	P		Pg	14 39 10.0	+0.1
	baz=4.0							
TYC	**Yuchr**	**0.14**	**343**	*i* P		Pg	14 39 10.8	+0.6
	baz=358							
TYC				S		Sg	14 39 13.6	+1.2
	baz=358							
WJS	**Zhushan**	**0.17**	**287**	*e*P		Pg	14 39 11.8	+1.1
	baz=287							
WJS				*e*S		Sg	14 39 15.5	+2.4
	baz=287							
CHN5	**Tsauling**	**0.27**	**229**	P		Pb	14 39 13.5	-0.7
	baz=228							
CHN5				S		Sb	14 39 18.9	0.0
	baz=228							
CHN5	**Tsauling**	**0.27**	**229**	*i* P		Pb	14 39 13.4	-0.8
	baz=231							

IDC 26 14:55:10.2±52.0, 19.45S×176.66W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/36, mbtmp4.0/3, Error ellipse: s-maj=964.1km s-min=161.6km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.38**	**243**	P		P	15 02 41.8	+0.1
	1.5nm,0.6s,baz=88,slow=13,SNR=4.6							
ASAR	**Alice Springs**	**45.99**	**256**	P		P	15 03 35.6	0.0
	1.7nm,0.5s,baz=93,slow=8.1,SNR=60							
WRA	**Warramunga Arr**	**46.00**	**261**	P		P	15 03 35.4	-0.4
	0.4nm,0.3s,baz=97,slow=7.6,SNR=15							

*NEIC **26** 15:15:06.4±2.7, 54.71N±0.06×161.37W±0.07, h46km±8km, mb4.0/8, ML3.5(AEIC), Error ellipse: s-maj=9.7km s-min=5.3km az=159.0*
*AEIC **26** 15:15:07.2±2.8, 54.69N±0.05×161.32W±0.06, h26km±3km, Error ellipse: s-maj=8.4km s-min=4.3km az=153.0*
*IDC **26** 15:15:07.8±5.9, 55.14N×161.57W, h41km±46km, mb3.4/5, mb1 3.7/9, mb1mx3.3/53, mbtmp3.7/9, ML3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/30, Error ellipse: s-maj=76.3km s-min=19.8km az=172.0*

ISC 26 15:15:07.6±1.0, 54.78N±0.09×161.29W±0.05, h50km±9km, n132, σ1§29/138, mb3.8/7, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DRIA	**Deer Island**	**0.59**	**289**			**Pn**	**15 15 18.6**	**-1.4**
DRIA						**Sn**	**15 15 28.3**	**-0.7**
HAG	**Hague Volcano**	**0.65**	**327**			**Pn**	**15 15 21.0**	**+0.3**
PS4A	**Pavlof South-4**	**0.66**	**330**			**Pn**	**15 15 21.0**	**+0.3**
DT1	**Dutton Round H**	**0.66**	**300**			**Pn**	**15 15 19.8**	**-1.0**
PVV	**Pavlof Volcano**	**0.66**	**334**			**Pn**	**15 15 21.2**	**+0.4**
PVV						**Sn**	**15 15 31.9**	**+1.5**
SDPT	**Sand Point**	**0.74**	**39**			**Pn**	**15 15 21.6**	**-0.2**
SDPT						**Sn**	**15 15 30.7**	**-1.4**
PN6	**Pavlof North-6**	**0.77**	**332**			**Pn**	**15 15 23.2**	**+0.9**
PN7A	**Pavlof North-7**	**0.77**	**328**			**Pn**	**15 15 23.2**	**+0.9**
BALA	**Baldy Mountain**	**0.96**	**296**			**Pn**	**15 15 25.2**	**+0.5**
BLHA	**Black Hill**	**1.03**	**335**			**Pn**	**15 15 26.8**	**+1.1**
FALS	**False Pass**	**1.24**	**274**			**Pn**	**15 15 27.6**	**-0.8**
FALS						**Sn**	**15 15 39.9**	**-4.0**
SSLN	**Shishaldin Nor**	**1.57**	**272**			**Pn**	**15 15 33.5**	**+0.5**
SSLS	**Shishaldin Sou**	**1.57**	**269**			**Pn**	**15 15 33.7**	**+0.6**
SSLS						**Sn**	**15 15 54.9**	**+2.5**
SSBA	**Shishaldin**	**1.65**	**271**			**Pn**	**15 15 34.4**	**+0.3**
VNHG	**Veniaminof 1**	**1.88**	**39**			**Pn**	**15 15 38.9**	**+1.6**
WESP	**Westdahl Peak**	**2.02**	**263**			**Pn**	**15 15 39.9**	**+0.8**
WEBT	**Westdahl Beart**	**2.02**	**266**			**Pn**	**15 15 40.0**	**+0.8**
WECS	**Westdahl Cape**	**2.04**	**264**			**Pn**	**15 15 39.6**	**+0.1**
CHGN	**Chignik**	**2.23**	**46**			**Pn**	**15 15 43.8**	**+1.8**
CHGN						**Sn**	**15 16 09.4**	**+1.0**
AKSA	**Akutan Strait**	**2.66**	**258**			**Pn**	**15 15 48.4**	**+0.6**
AKSA						**Sn**	**15 16 20.6**	**+1.9**
AKSA	**Akutan Strait**	**2.66**	**258**			**Pn**	**15 15 48.6**	**+0.8**
AKUT	**Akutan**	**2.70**	**258**	Pn		**Pn**	**15 15 49.4**	**+1.0**
AKLV	**Akutan Long Va**	**2.79**	**259**			**Pn**	**15 15 50.6**	**+0.8**
AKBBA	**Akutan Broad B**	**2.80**	**258**			**Pn**	**15 15 51.0**	**+1.3**
ZRO	**Akutan Zero**	**2.83**	**258**			**Pn**	**15 15 51.0**	**+0.8**
MSW	**Makushin Switc**	**3.33**	**257**			**Pn**	**15 15 57.0**	**-0.1**
MSW						**Sn**	**15 16 37.6**	**+2.2**
MREP	**Makushin Rep't**	**3.34**	**255**			**Pn**	**15 15 57.5**	**+0.2**
MGOD	**Makushin Gods**	**3.42**	**256**			**Pn**	**15 15 58.4**	**0.0**
MAPS	**Pakushin South**	**3.45**	**256**			**Pn**	**15 15 59.4**	**+0.6**
MAPS						**Sn**	**15 16 40.5**	**+2.1**
PLK1	**Peulik 1**	**4.00**	**39**			**Pn**	**15 16 08.4**	**+2.2**
PLK3	**Peulik 3**	**4.04**	**42**			**Pn**	**15 16 09.3**	**+2.5**
SII	**Sitkinak Islan**	**4.40**	**63**	Pn		**Pn**	**15 16 11.8**	**0.0**
CAHL	**Cahill**	**4.67**	**43**			**Pn**	**15 16 17.2**	**+1.7**
KABU	**Katmai Buttres**	**4.83**	**41**			**Pn**	**15 16 19.5**	**+1.9**
NIKH	**Nikolski High**	**4.83**	**251**	Pn		**Pn**	**15 16 18.6**	**+0.9**
KVTA	**Katmai Vly 10**	**4.90**	**40**			**Pn**	**15 16 20.5**	**+1.9**
OHAK	**Old Harbor**	**5.11**	**58**			**Pn**	**15 16 20.8**	**-0.7**
SPIA	**Saint Paul Isl**	**5.58**	**299**	Pn		**Pn**	**15 16 25.9**	**-2.0**
KDAK	**Kodiak Island**	**5.71**	**55**	P		**Pn**	**15 16 29.1**	**-0.5**
	2.2nm,0.3s,baz=174,slow=4.0,SNR=28							
KDAK				S		**Sn**	**15 17 31.4**	**-2.3**
	baz=301,slow=20,SNR=0.9							
KDAK				LR		LR	15 18 59.3	
	comp=Z,111nm,19.9s,baz=202,slow=41							
KDAK	**Kodiak Island**	**5.71**	**55**	Pn		**Pn**	**15 16 28.8**	**-0.8**
SVW2	**Sparrevohn**	**7.02**	**23**	Pn		**Pn**	**15 16 48.6**	**+0.9**
HOM	**Homer**	**7.16**	**43**	Pn		**Pn**	**15 16 49.8**	**+0.3**
CNPM	**China Poot**	**7.24**	**45**	Pn		**Pn**	**15 16 52.1**	**+1.8**
RSO	**Redoubt South**	**7.31**	**35**	Pn		**Pn**	**15 16 54.7**	**+3.0**
BRLK	**Bradley Lake**	**7.53**	**44**	Pn		**Pn**	**15 16 54.7**	**+0.1**
SLKM	**Skilak Lake**	**8.25**	**41**			**Pn**	**15 17 05.5**	**+1.0**
SEW	**Seward**	**8.31**	**45**	Pn		**Pn**	**15 17 06.3**	**+1.0**
STLK	**Strandline Lak**	**8.38**	**33**			**Pn**	**15 17 08.2**	**+1.9**
O22K	**Cooper Landing**	**8.43**	**43**	Pn		**Pn**	**15 17 08.7**	**+1.9**
TT01	**Tatalina**	**8.59**	**16**			**Pn**	**15 17 10.3**	**+1.2**
SUA	**Susitna One**	**8.71**	**35**	Pn		**Pn**	**15 17 10.6**	**-0.2**
RC01	**Rabbit Creek A**	**8.81**	**39**	Pn		**Pn**	**15 17 12.0**	**-0.1**
SKT	**Skwentna**	**8.84**	**31**	Pn		**Pn**	**15 17 13.5**	**+0.9**
PWL	**Port Wells**	**9.20**	**43**	Pn		**Pn**	**15 17 17.0**	**-0.5**
PPLA	**Purkeypile**	**9.40**	**26**	Pn		**Pn**	**15 17 22.3**	**+2.0**
KNK	**Knik Glacier**	**9.49**	**40**	Pn		**Pn**	**15 17 21.8**	**+0.3**
CUT	**Chulitna**	**9.55**	**32**	Pn		**Pn**	**15 17 23.4**	**+1.1**
GHO	**Glory Hole Cre**	**9.55**	**38**	Pn		**Pn**	**15 17 21.4**	**-1.0**
GLI	**Glacier Island**	**9.71**	**45**	Pn		**Pn**	**15 17 24.5**	**+0.1**
HIN	**Hinchinbrook I**	**9.72**	**49**	Pn		**Pn**	**15 17 24.8**	**+0.3**
SMI	**Sawmill**	**9.79**	**39**	Pn		**Pn**	**15 17 24.9**	**-0.6**
CAST	**Castle Rocks**	**9.86**	**25**	Pn		**Pn**	**15 17 25.8**	**-0.7**
FID	**Port Fidalgo**	**9.90**	**47**	Pn		**Pn**	**15 17 25.7**	**-1.4**
ANM	**Nome**	**10.03**	**350**			**Pn**	**15 17 28.7**	**0.0**
EYAK	**Cordova Ski Ar**	**10.12**	**49**	Pn		**Pn**	**15 17 30.1**	**+0.1**
SCM	**Sheep Creek Mo**	**10.18**	**40**	Pn		**Pn**	**15 17 30.0**	**-0.8**
KTH	**Kantishna Hill**	**10.27**	**27**	Pn		**Pn**	**15 17 32.6**	**+0.5**
TRF	**Thorofare Moun**	**10.35**	**28**	Pn		**Pn**	**15 17 33.9**	**+0.5**
WAT2	**Susitna Watana**	**10.49**	**33**			**Pn**	**15 17 35.5**	**+0.3**
KLU	**Klutina**	**10.53**	**44**			**Pn**	**15 17 35.1**	**-0.5**
HMT	**Hamilton**	**10.69**	**52**	Pn		**Pn**	**15 17 37.9**	**+0.1**
BPAW	**Bear Paw Mtn.**	**10.70**	**25**	Pn		**Pn**	**15 17 39.0**	**+1.1**
RND	**Reindeer**	**10.73**	**31**	Pn		**Pn**	**15 17 37.4**	**-1.1**
M24K	**Tolsona, Glenn**	**10.78**	**41**	Pn		**Pn**	**15 17 38.8**	**-0.2**

	comp=Z,8.9nm,1.4s									
DLBC	**Dease Lake**	**17.50**	**65**	P		**P**		**15 19 08.6**	**+0.2**	
	comp=Z,0.0nm,0.3s,baz=261,slow=13,SNR=2.2									
DLBC				S		**Sn**		**15 22 24.1**	**+2.6**	
	comp=Z,0.1nm,0.3s,baz=180,slow=17,SNR=2.0									
DLBC	**Dease Lake**	**17.50**	**65**			**Pn**		**15 19 08.0**	**+0.2**	
INK	**Inuvik**	**18.69**	**33**	P		**P**		**15 19 20.6**	**-0.6**	
	comp=Z,0.3nm,0.3s,baz=226,slow=13,SNR=7.3									
INK	**Inuvik**	**18.69**	**33**			**P**		**15 19 20.6**	**-0.6**	
C36M	**Paulatuk**	**22.22**	**35**	P		**P**		**15 20 00.6**	**+1.3**	
C36M				IAmb		IAmb		15 20 12.8		
	comp=Z,15nm,1.6s									
PEA0B	**Petropavlovsk-**	**23.96**	**283**	P		**P**		**15 20 15.9**	**-0.9**	
PETK	**Petropavlovsk-**	**23.96**	**283**	P		**P**		**15 20 15.9**	**-1.0**	
	comp=Z,1.4nm,0.8s,baz=86,slow=14,SNR=7.1									
YKA	**Yellowknife Ar**	**24.98**	**53**	P		**P**		**15 20 26.9**	**+0.9**	
	comp=Z,0.4nm,0.7s,baz=271,slow=8.9,SNR=8.7									
ULM	**Lac du Bonnet**	**38.77**	**69**	P		**P**		**15 22 27.1**	**+0.3**	
	comp=Z,1.3nm,0.5s,baz=314,slow=11,SNR=3.2									
H11N2	**WAKE ISLAND Hy**	**42.50**	**227**	T		T		16 07 51.0		
	baz=27,slow=76,SNR=21									
H11N3	**WAKE ISLAND Hy**	**42.51**	**227**	T		T		16 07 54.7		
	baz=27,slow=76,SNR=20									
H11N1	**WAKE ISLAND Hy**	**42.52**	**227**	T		T		16 07 55.5		
	baz=27,slow=76,SNR=16									
H11S1	**WAKE ISLAND Hy**	**43.67**	**227**	T		T		16 09 11.5		
	baz=26,slow=76,SNR=13									
H11S2	**WAKE ISLAND Hy**	**43.69**	**227**	T		T		16 09 12.6		
	baz=26,slow=76,SNR=11									
H11S3	**WAKE ISLAND Hy**	**43.69**	**227**	T		T		16 09 13.0		
	baz=26,slow=76,SNR=9.9									
MKAR	**Makanchi Array**	**65.47**	**317**	P		**P**		**15 25 43.3**	**-1.7**	
	comp=Z,0.4nm,0.7s,baz=54,slow=6.2,SNR=3.7									
CMAR	**Chiang Mai Arr**	**80.61**	**289**	P		**P**		**15 27 14.6**	**-0.2**	
	comp=Z,0.4nm,0.4s,baz=20,slow=6.5,SNR=4.8									
CMAR				pP		**pP**		**15 27 29.8**	**+0.6**	
	comp=Z,0.3nm,0.4s,baz=22,slow=5.0,SNR=4.4									
ESDC	**Sonseca Array**	**83.93**	**17**	pP		pP		15 27 44.1	-2.3	
	comp=Z,0.8nm,0.8s,baz=329,slow=6.4,SNR=4.5									

IDC 26 15:20:08.2±4.3, 24°35'N×94°97'E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/42, mbtmp3.4/3, Error ellipse: s-maj=398.3km s-min=29.4km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.59**	**339**	P	P	15 25 30.1	0.0
	0.3nm,0.4s,baz=143,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**58.38**	**136**	P	P	15 30 05.2	-0.4
	0.5nm,1.0s,baz=324,slow=7.3,SNR=7.6						
ASAR	**Alice Springs**	**60.87**	**139**	P	P	15 30 23.1	+0.3
	0.2nm,0.3s,baz=317,slow=6.5,SNR=16						

*IDC **26** 15:22:13.6±0.9, 6°68S×85°47W, h0km, mb3.9/8, mb1 4.2/11, mb1mx3.9/39, mbtmp4.0/11, ML4.4/3, MS3.6/6, Ms1 3.3/6, ms1mx3.0/30, Error ellipse: s-maj=30.6km s-min=16.9km az=43.0*

*NEIC **26** 15:22:22.1±2.9, 6°61S±0°09×85°14W±0°10, h67km±6km, mb4.2/11, Error ellipse: s-maj=15.4km s-min=11.9km az=46.0*

ISC 26 15:22:19.4±0.7, 6°63S±0°07×85°21W±0°08, h35km, n43, σ1s45/40, mb4.1/11, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**6.79**	**95**	Pn	**Pn**	**15 23 56.9**	**-0.1**
	11nm,0.3s,baz=14,slow=1.7,SNR=138						
ATAH					**Sn**	**15 25 13.1**	**-0.1**
	26nm,0.3s,baz=310,slow=24,SNR=7.9						
ATAH				LR	LR	15 25 43.1	
	comp=Z,75nm,18.3s,baz=282,slow=30						
PAYG	**Puerto Ayora**	**7.79**	**319**		**Pn**	**15 24 11.6**	**+1.2**
PAYG	**Puerto Ayora**	**7.79**	**319**	*e*P	**Pn**	**15 24 11.2**	**+0.8**
OTAV	**Otavalo**	**9.60**	**45**		**Pn**	**15 24 34.5**	**-1.1**
OTAV					**Sn**	**15 26 22.5**	**0.0**
OTAV	**Otavalo**	**9.60**	**45**	*e*P	**Pn**	**15 24 34.3**	**-1.3**
NNA	**Nana**	**9.82**	**123**	Pn	**Pn**	**15 24 36.9**	**-1.4**
	8.6nm,0.3s,baz=292,slow=12,SNR=10						
NNA					**Sn**	**15 26 24.6**	**-2.8**
	8.0nm,0.3s,baz=340,slow=18,SNR=4.1						
NNA				LR	LR	15 27 42.2	
	comp=Z,178nm,20.3s,baz=308,slow=33						
NNA	**Nana**	**9.82**	**123**		**Pn**	**15 24 37.0**	**-1.3**
BBAC	**Balboa, Cauca**	**11.71**	**43**	*e*P	**Pn**	**15 25 02.4**	**-1.9**
SOTA	**Rioblanco**	**12.23**	**45**	*e*P	**Pn**	**15 25 09.5**	**-2.2**
PCON	**Cinco Dias**	**12.52**	**45**	*e*P	**Pn**	**15 25 16.7**	**+1.0**
CBOC	**Ciudad Bolivar**	**15.44**	**37**	*e*P	**Pn**	**15 25 55.0**	**+0.1**
ROSC	**El Rosal**	**15.75**	**44**	Pn	**P**	**15 26 03.2**	**+0.4**
	3.9nm,0.3s,baz=99,slow=19,SNR=5.2						
ROSC	**El Rosal**	**15.75**	**44**	P	**P**	**15 26 04.9**	**+2.2**
ROSC				IAmb	IAmb	15 26 10.3	
	comp=Z,17nm,0.7s						
DBBC	**Dabeiba**	**16.26**	**34**	*e*P	**P**	**15 26 07.6**	**-0.5**
JTS	**Las Juntas de**	**16.81**	**1**	LR	LR	15 31 01.3	
	comp=Z,105nm,20.9s,baz=65,slow=31						
JTS	**Las Juntas de**	**16.81**	**1**	P	**P**	**15 26 14.2**	**0.0**
PTBC	**PUERTO BERRIO,**	**16.92**	**40**	*e*P	**P**	**15 26 16.1**	**+0.8**
SMLC	**San Martn de**	**18.93**	**36**	*e*P	**Pn**	**15 26 39.1**	**+0.8**
PB16	**IPOC Station P**	**19.22**	**129**	P	**Pn**	**15 26 42.7**	**+0.3**
PB16				IAmb	IAmb	15 26 48.3	
	comp=Z,9.2nm,0.9s						
LPAZ	**La Paz**	**19.28**	**121**	P	**Pn**	**15 26 43.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=317,slow=11,SNR=9.2						
LPAZ				LR	LR	15 33 12.4	
	comp=Z,83nm,21.5s,baz=294,slow=34						
LPAZ	**La Paz**	**19.28**	**121**	P	**Pn**	**15 26 42.4**	**-0.7**
SDV	**Santo Domingo**	**21.18**	**43**	P	**P**	**15 27 04.6**	**+2.4**
	comp=Z,18nm,0.8s,baz=235,slow=11,SNR=10						
SDV				LR	LR	15 34 46.8	
	comp=Z,105nm,21.2s,baz=246,slow=35						
SDV	**Santo Domingo**	**21.18**	**43**	P	**P**	**15 27 02.9**	**+0.6**
SDV				IAmb	IAmb	15 27 08.4	
	comp=Z,30nm,0.9s						
PB09	**IPOC Station P**	**21.57**	**136**	P	**P**	**15 27 10.8**	**+4.5**
PB09				IAmb	IAmb	15 27 20.8	
	comp=Z,16nm,1.1s						
SAML	**Samuel**	**21.94**	**97**	P	**P**	**15 27 10.5**	**+0.3**
SAML				IAmb	IAmb	15 27 18.8	
	comp=Z,8.7nm,0.8s						
LVC	**Limon Verde**	**22.34**	**137**	LR	LR	15 34 05.1	
	comp=Z,97nm,18.7s,baz=330,slow=32						
SIV	**San Ignacio**	**25.40**	**114**	P	**P**	**15 27 45.1**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=294,slow=11,SNR=12						
PTGA	**Pitinga**	**25.85**	**78**	P	**P**	**15 27 49.4**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=240,slow=11,SNR=4.3						
PTGA	**Pitinga**	**25.85**	**78**	P	**P**	**15 27 48.9**	**+0.9**
PTGA				IAmb	IAmb	15 28 08.1	
	comp=Z,11nm,1.4s						
H03N2	**Juan Fernandez**	**27.30**	**169**	T	T	15 56 21.4	
	baz=346,slow=76,SNR=9.4						
H03N1	**Juan Fernandez**	**27.31**	**168**	T	T	15 56 22.4	
	baz=346,slow=76,SNR=13						
H03N3	**Juan Fernandez**	**27.32**	**168**	T	T	15 56 21.9	
	baz=346,slow=76,SNR=11						
CBYP	**Canovanas**	**31.26**	**37**	P	**P**	**15 28 36.3**	**+0.1**
PLCA	**Paso Flores**	**36.40**	**161**	P	**P**	**15 29 21.4**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=325,slow=15,SNR=3.9						
PLCA	**Paso Flores**	**36.40**	**161**	IAmb	IAmb	15 29 31.9	
	comp=Z,3.9nm,1.2s						
PDAR	**Pinedale Array**	**53.93**	**338**	P	**P**	**15 31 39.0**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=132,slow=8.8,SNR=4.4						
NVAR	**Mina Array Bea**	**54.37**	**328**	P	**P**	**15 31 42.3**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=221,slow=11,SNR=4.6						
HLID	**Hailey**	**56.53**	**335**	P	**P**	**15 31 58.1**	**-0.4**
HLID				IAmb	IAmb	15 31 59.2	
	comp=Z,1.9nm,0.8s						
YKA	**Yellowknife Ar**	**72.53**	**346**	P	**P**	**15 33 41.5**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=140,slow=6.1,SNR=7.9						
ILAR	**Eielson Array**	**84.36**	**338**	P	**P**	**15 34 46.9**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=138,slow=3.9,SNR=5.9						
ASAR	**Alice Springs**	**131.37**	**230**	PKP	**PKPdf**	**15 41 27.0**	**-2.0**
	comp=Z,0.5nm,1.1s,baz=108,slow=1.9,SNR=2.7						
WRA	**Warramunga Arr**	**132.98**	**235**	PKP	**PKPdf**	**15 41 30.7**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=120,slow=1.9,SNR=5.0						
WRA	**Warramunga Arr**	**132.98**	**235**		**PKPdf**	**15 41 30.2**	**-2.0**

*INET **26** 15:22:21.3, 12°74N×88°48W, h15km, MW2.8*

SNET 26 15:22:21.5±1.9, 12°72N×88°54W, h13km±7km, ML3.1, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.61**	**28**	*e*P	Pg	15 22 33.4	0.0
JUCU				*e*S	Sg	15 22 41.9	+0.5
JUCU				IAML		15 22 50.4	
	comp=Z,2μm,0.3s						
LCY	**Lacayo**	**0.74**	**19**	*e*P	Pg	15 22 35.6	-0.3
VSM	**San Miguel**	**0.75**	**20**	*e*P	Pg	15 22 36.2	-0.1
TECA	**Tecapa**	**0.77**	**3**	*e*P	Pg	15 22 36.1	-0.5
COEB	**Comit de Eme**	**0.78**	**1**	*e*P	Pg	15 22 36.1	-0.6
COEB				*e*S	Sg	15 22 46.0	-0.9
COEB				*e*S	Sb	15 22 46.8	-0.6
COEB				IAML		15 22 54.2	
	comp=Z,627nm,0.3s						
PACA	**Pacayal**	**0.78**	**16**	*e*P	Pg	15 22 36.1	-0.5
PACA				*e*S	Sg	15 22 46.8	-0.1
PACA				IAML		15 22 49.2	
	comp=Z,372nm,0.3s						
LCND	**La Caada**	**0.87**	**47**	*e*P	Pg	15 22 36.5	-1.8
LCND				*e*S	Sg	15 22 48.6	-1.0
LCND				*e*S	Sb	15 22 48.8	-1.2
LCND				IAML		15 22 51.4	
	comp=Z,1μm,0.4s						
CNCH	**Conchagua**	**0.89**	**51**	*e*P	Pg	15 22 37.1	-1.6
CNCH				*e*P	Pb	15 22 38.0	-0.9
CNCH				*e*S	Sg	15 22 49.5	-0.9
PQSS	**Presa 15 de Se**	**0.90**	**359**	*e*P	Pg	15 22 37.8	-1.2
PQSS				*e*S	Sg	15 22 48.9	-1.9
COEG	**Centro de Oper**	**0.95**	**340**	*e*P	Pb	15 22 39.0	-1.0
COEG				*e*S	Sg	15 22 51.6	-1.0
COEG				IAML		15 23 00.1	
	comp=Z,499nm,0.2s						
LFRS	**El Faro**	**1.03**	**331**	*e*P	Pb	15 22 39.9	-1.4
LBRS	**Las Brisas**	**1.13**	**334**	*e*P	Pb	15 22 41.7	-1.2
BOQS	**Boqueron**	**1.24**	**325**	*e*P	Pn	15 22 43.3	-1.4
JAYA	**Jayaque - finc**	**1.28**	**317**	*e*P	Pn	15 22 43.4	-1.9
JAYA				IAML		15 23 06.9	
	comp=Z,934nm,0.2s						
CEVE	**Cerro Verde**	**1.52**	**317**	*e*P	Pn	15 22 49.2	+0.6
CEVE				*e*S	Sg	15 23 10.1	-0.6
CEVE				IAML		15 23 14.1	
	comp=Z,580nm,0.4s						

IDC 26 15:44:12.4±6.4, 3°41N×122°78E, h577km±98km, mb2.6/6, mb1 2.7/6, mb1mx2.5/45, mbtmp3.7/6, Error ellipse: s-maj=65.4km s-min=16.2km az=80.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.84**	**154**	P	P	15 48 58.6	-0.7
	0.4nm,0.7s,baz=335,slow=9.6,SNR=9.4						
ASAR	**Alice Springs**	**29.02**	**159**	P	P	15 49 27.5	+0.5
	0.1nm,0.3s,baz=334,slow=8.4,SNR=12						
KSRS	**Korea Array**	**34.20**	**7**	P	P	15 50 11.0	+0.1
	0.7nm,0.7s,baz=196,slow=8.3,SNR=4.5						
USRK	**Ussuriysk Ar.**	**41.42**	**10**	P	P	15 51 08.8	-0.6
	1.5nm,0.5s,baz=205,slow=6.3,SNR=4.0						
SONM	**Songino Array**	**46.45**	**345**	P	P	15 51 48.3	-0.1
	0.5nm,0.4s,baz=165,slow=8.0,SNR=4.8						
MKAR	**Makanchi Array**	**55.63**	**327**	P	P	15 52 54.4	-0.2
	0.7nm,0.4s,baz=123,slow=8.0,SNR=21						
MKAR				PcP	PcP	15 53 45.3	-0.2
	0.5nm,0.8s,baz=116,slow=5.5,SNR=4.5						

*JMA **26** 15:47:05.5±0.6, 45°12N×149°60E, h30km, M4.3*
*SKHL **26** 15:47:06.3±0.4, 44°90N×149°70E, h62km±8km, mb4.7/6*
*MOS **26** 15:47:07.1±1.3, 44°91N×149°55E, h59km, mb4.1/5, Error ellipse: s-maj=9.4km s-min=8.5km az=146.2*
*IDC **26** 15:47:11.3±2.8, 44°95N×149°46E, h83km±25km, mb3.4/9, mb1 3.5/14, mb1mx3.3/59, mbtmp3.7/14, MS2.6/2, Ms1 2.6/2, ms1mx2.3/25, Error ellipse: s-maj=25.4km s-min=15.7km az=128.0*

ISC 26 15:47:07.4±1.4, 44°76N±0°06×149°62E±0°08, h52km±13km, n73, σ1s82/83, mb3.8/11, 8C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.33**	**291**	*d* iPN	**Pn**	**15 47 27.7**	**-1.8**
KUR				*e*S	**Sn**	**15 47 43.5**	**-2.6**
KUR				pmax	pmax		
	comp=Z,595nm,0.1s						
KUR				pmax	pmax		
	comp=E,168nm,0.2s						
KUR				pmax	pmax		
	comp=N,119nm,0.1s						
KUR				smax	smax		
	comp=N,1μm,0.3s						
KUR				smax	smax		
	comp=E,291nm,0.1s						
KUR	**Kuril'sk**	**1.33**	**291**	*i* P	**Pn**	**15 47 27.8**	**-1.8**
KUR				AMB	AMB	15 47 30.8	
	comp=E,390nm,0.3s						
KUR				*e*S	**Sn**	**15 47 43.6**	**-2.6**
KUR				A	A	15 47 45.0	
	comp=E,1μm,0.3s						
KUR				A	A	15 47 45.0	
	comp=E,290nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.79**	**256**	*e*PN	**Pn**	**15 47 50.2**	**+0.7**
YUK				*e*S	**Sn**	**15 48 22.9**	**+0.9**
YUK				pmax	pmax		
	comp=N,153μm,0.1s						
YUK				pmax	pmax		
	comp=Z,300μm,0.1s						
YUK				pmax	pmax		
	comp=E,167μm,0.2s						
YUK				smax	smax		
	comp=N,373nm,0.3s						
YUK				smax	smax		
	comp=E,391nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.79**	**256**	*e*P	**Pn**	**15 47 50.2**	**+0.7**
YUK				AMB	AMB	15 47 52.3	
	comp=E,250nm,0.3s						
YUK				*e*S	**Sn**	**15 48 23.1**	**+1.1**
YUK				A	A	15 48 28.2	
	comp=E,370nm,0.4s						
YUK				A	A	15 48 28.2	
	comp=E,390nm,0.4s						
GRPR	**Tuman**	**2.86**	**256**	*e*PN	**Pn**	**15 47 51.7**	**+1.1**
GRPR				*i* S	**Sn**	**15 48 24.8**	**+1.0**
GRPR				pmax	pmax		
	comp=Z,147nm,0.2s						
GRPR				smax	smax		
	comp=N,411nm,0.2s						
GRPR				smax	smax		
	comp=E,332nm,0.2s						
GRPR	**Tuman**	**2.86**	**256**	*e*P	**Pn**	**15 47 51.0**	**+0.4**
GRPR				AMB	AMB	15 47 54.0	
	comp=E,150nm,0.2s						
GRPR				*i* S	**Sn**	**15 48 24.8**	**+1.0**
GRPR				A	A	15 48 29.0	
	comp=E,410nm,0.3s						
GRPR				A	A	15 48 29.0	
	comp=E,330nm,0.3s						
GLVR	**Golovnino**	**3.12**	**252**	*e*PN	**Pn**	**15 47 55.6**	**+1.5**
GLVR				*i* S	**Sn**	**15 48 31.4**	**+1.4**
GLVR				pmax	pmax		
	comp=Z,98nm,0.2s						
GLVR				pmax	pmax		
	comp=E,45nm,0.1s						
GLVR				pmax	pmax		
	comp=N,43nm,0.2s						
GLVR				smax	smax		
	comp=N,409nm,0.3s						
GLVR				smax	smax		
	comp=E,284nm,0.3s						
GLVR	**Golovnino**	**3.12**	**252**	*e*P	**Pn**	**15 47 55.6**	**+1.5**
GLVR				AMB	AMB	15 47 57.0	
	comp=E,100nm,0.2s						
GLVR				*i* S	**Sn**	**15 48 31.4**	**+1.4**
GLVR				A	A	15 48 38.0	
	comp=E,410nm,0.3s						
GLVR				A	A	15 48 38.0	
	comp=E,280nm,0.3s						
NEM2	**Nemuro 2**	**3.12**	**245**	P	**Pn**	**15 47 53.3**	**-0.8**
NEM2				*e*S	**Sn**	**15 48 29.5**	**-0.7**
NMR	**Nemuro--Hokkai**	**3.13**	**245**	ǁ iPN	**Pn**	**15 47 53.4**	**-0.8**
NMR	**Nemuro--Hokkai**	**3.13**	**245**	*i* P	**Pn**	**15 47 54.6**	**+0.4**
NMR				*e*S	**Sn**	**15 48 30.1**	**-0.3**
RUSJ	**Misakicho**	**3.20**	**260**	*e*PN	**Pn**	**15 47 56.9**	**+1.7**
RUSJ				*i* S	**Sn**	**15 48 34.6**	**+2.6**
JRA	**Rausu**	**3.33**	**257**	P	**Pn**	**15 47 58.2**	**+1.3**
JRA				*e*S	**Sn**	**15 48 38.1**	**+2.9**
JNK	**Nakash**	**3.72**	**253**	P	**Pn**	**15 48 02.9**	**+0.6**
JAK	**Akkeshi**	**3.97**	**245**	P	**Pn**	**15 48 05.5**	**-0.3**
JAK				*e*S	**Sn**	**15 48 50.1**	**-0.9**
JTKR	**Abashiri--Toko**	**4.17**	**261**	P	**Pn**	**15 48 09.8**	**+1.3**
JAR	**Ashorobuto**	**4.46**	**253**	P	**Pn**	**15 48 14.5**	**+2.0**
JAR				*e*S	**Sn**	**15 49 06.4**	**+3.2**
JOB	**Onbets**	**4.58**	**248**	P	**Pn**	**15 48 14.9**	**+0.8**
JOB				*e*S	**Sn**	**15 49 05.8**	**-0.2**
JKK2	**Kamakawa 2**	**5.01**	**262**	P	**Pn**	**15 48 22.5**	**+2.5**
JCH	**Churui**	**5.02**	**247**	P	**Pn**	**15 48 21.0**	**+0.9**
JCH				*e*S	**Sn**	**15 49 16.4**	**-0.4**
JKA	**Kamikawa-asahi**	**5.07**	**265**	*e*P	**Pn**	**15 48 23.0**	**+2.2**
ASAJ	**Asahikawa**	**5.07**	**265**	P	**Pn**	**15 48 23.0**	**+2.2**
	comp=E,2.1nm,0.3s,baz=60,slow=23,SNR=9.6						
ASAJ				LR	LR	15 50 19.2	
	comp=E,97nm,20.1s,baz=90,slow=38						
YSS	**Yuzh-Sakhalins**	**5.27**	**297**	*e*PN	**Pn**	**15 48 23.2**	**-0.3**
YSS	**Yuzh-Sakhalins**	**5.27**	**297**	*e*P	**Pn**	**15 48 23.2**	**-0.3**
YSS				AMB	AMB	15 48 23.5	
	comp=E,10.0nm,0.3s						
ERM	**Erimo**	**5.45**	**242**	*ce*PN	**Pn**	**15 48 29.1**	**+3.1**
JNBK	**Urakawa-nobuka**	**5.58**	**246**	P	**Pn**	**15 48 28.6**	**+0.9**
JBT2	**Biratori 2**	**5.62**	**252**	P	**Pn**	**15 48 29.9**	**+1.6**
JNB	**Noboribetsu**	**6.64**	**253**	P	**Pn**	**15 48 43.7**	**+1.4**
JKB	**Kayabe**	**6.89**	**248**	P	**Pn**	**15 48 46.6**	**+0.9**
JKB				*e*S	**Sn**	**15 50 00.2**	**-2.5**
JYM2	**Yakumo 2**	**7.23**	**252**	P	**Pn**	**15 48 51.6**	**+1.1**
JANG	**Nango**	**7.42**	**237**	P	**Pn**	**15 48 52.2**	**-0.8**
JANG				*e*S	**Sn**	**15 50 11.6**	**-4.1**
JTH	**Tanohata**	**7.50**	**233**	*e*S	**Sn**	**15 50 11.2**	**-6.5**
TYV	**Tymovskoe**	**7.69**	**325**	*e*PN	**Pn**	**15 48 54.3**	**-2.4**
TYV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TYV	**Tymovskoe**	**7.69**	**325**	*e*P	**Pn**	**15 48 56.0**	**-0.7**
TYV				AMB	AMB	15 49 00.1	
	comp=Z,6.0nm,0.5s						
JRG	**Rokugo**	**8.56**	**234**	P	**Pn**	**15 49 08.4**	**-0.3**
JIO	**Ouri**	**8.83**	**227**	*e*S	**Sn**	**15 50 44.7**	**-5.8**
PETK	**Petropavlovsk-**	**9.89**	**30**	P	**Pn**	**15 49 28.9**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=202,slow=12,SNR=11						
PETK	**Petropavlovsk-**	**9.89**	**30**	PN	**Pn**	**15 49 29.0**	**+2.2**
USRK	**Ussuriysk Ar.**	**12.61**	**274**	P	**Pn**	**15 50 06.7**	**+2.8**
	baz=77,slow=15,SNR=2.2						
KLR	**Kul'dur**	**12.98**	**296**	ǁ *e*PN	**Pn**	**15 50 09.7**	**+0.7**
KLR	**Kul'dur**	**12.98**	**296**	*e*P	**Pn**	**15 50 06.7**	**-2.3**
KSRS	**Korea Array**	**17.88**	**253**	P	**Pn**	**15 51 13.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=58,slow=12,SNR=2.5						
KSRS				LR	LR	15 58 21.5	
	comp=Z,13nm,18.6s,baz=190,slow=38						
SEY	**Seymchan**	**18.27**	**4**	P	**Pn**	**15 51 15.3**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=180,slow=19,SNR=5.8						
YAK	**Yakutsk**	**20.83**	**333**	P	Pn	15 51 44.7	-2.6
	comp=Z,3.4nm,0.4s,baz=339,slow=2.4,SNR=7.2						
YAK	**Yakutsk**	**20.83**	**333**	*ce*P	Pn	15 51 46.4	-0.9
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
YAK	**Yakutsk**	**20.83**	**333**	*e*P	Pn	15 51 44.1	-3.2
TIXI	**Tiksi**	**28.76**	**347**	*ce*P	**P**	**15 52 59.7**	**+0.1**
TIXI	**Tiksi**	**28.76**	**347**	*e*P	**P**	**15 52 59.7**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**28.80**	**144**	T	T	16 23 53.9	
	baz=334,slow=76,SNR=290						
H11N1	**WAKE ISLAND Hy**	**28.81**	**145**	T	T	16 23 56.7	
	baz=334,slow=76,SNR=257						
H11N3	**WAKE ISLAND Hy**	**28.82**	**144**	T	T	16 23 55.2	
	baz=334,slow=76,SNR=212						
H11S1	**WAKE ISLAND Hy**	**29.82**	**146**	T	T	16 25 13.5	
	baz=335,slow=76,SNR=305						
H11S3	**WAKE ISLAND Hy**	**29.83**	**146**	T	T	16 25 13.6	
	baz=335,slow=76,SNR=180						
H11S2	**WAKE ISLAND Hy**	**29.84**	**146**	T	T	16 25 10.3	
	baz=335,slow=76,SNR=169						
KDAK	**Kodiak Island**	**37.25**	**48**	ǁ *e*P	**P**	**15 54 13.9**	**+0.2**
ILAR	**Eielson Array**	**39.62**	**37**	P	**P**	**15 54 34.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=282,slow=8.3,SNR=4.7						
MK31	**Makanchi Array**	**45.69**	**298**	*ce*P	**P**	**15 55 21.5**	**-1.5**
MKAR	**Makanchi Array**	**45.69**	**298**	P	**P**	**15 55 21.2**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=74,slow=7.8,SNR=4.4						
MKAR				PcP	**PcP**	**15 56 59.8**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=89,slow=1.6,SNR=4.6						
MKAR	**Makanchi Array**	**45.69**	**298**	*e*P	**P**	**15 55 22.4**	**-0.6**
MKAR	**Makanchi Array**	**45.69**	**298**	*e*P	**P**	**15 55 22.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**49.51**	**255**	P	**P**	**15 55 53.3**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=39,slow=7.4,SNR=2.6						
BRVK	**Borovoye**	**50.27**	**310**	ǁ *e*P	**P**	**15 55 58.1**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BRVK	**Borovoye**	**50.27**	**310**	*e*P	**P**	**15 55 58.1**	**-0.2**
YKA	**Yellowknife Ar**	**53.97**	**35**	P	**P**	**15 56 25.1**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=300,slow=6.5,SNR=7.6						
ARU	**Arti**	**54.81**	**317**	ǁ *e*P	**P**

*KRSC **26** 16:20:33.2±1.8, 48.14N×152.74E, h366km±24km, ML3.8*
*IDC **26** 16:20:36.8±2.5, 49.08N×150.99E, h330km±27km, mb2.6/6, mb1 2.7/9, mb1mx2.6/42, mbtmp3.4/9, Error ellipse: s-maj=29.1km s-min=16.4km az=148.0*
ISC 26 16:20:37.2±1.0, 49.1N±0.2×151.4E±0.1, h350km, n14, σ2$40/16, mb2.7/5, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.44**	**60**	*eP*	**Pn**	**16 21 38.7**	**-1.7**
KDTR	**Khodutka, Kamc**	**5.05**	**55**	S	**S**	**16 22 57.3**	**-4.7**
MTVR	**Mutnovka**	**5.48**	**49**	P	**Pn**	**16 22 02.4**	**+0.3**
MTVR				S	**S**	**16 23 09.9**	**-0.9**
RUS	**Russkaya**	**5.62**	**51**	P	**Pn**	**16 22 02.8**	**-0.6**
RUS				S	**S**	**16 23 08.5**	**-4.8**
PETK	**Petropavlovsk-**	**5.65**	**42**	P	**Pn**	**16 22 04.0**	**+0.2**
	0.1nm,0.3s,baz=216,slow=9.5,SNR=5.7						
DALK	**Dalny**	**6.08**	**47**	S	**S**	**16 23 22.1**	**-0.9**
KLR	**Kul'dur**	**12.88**	**278**	P	**P**	**16 23 26.8**	**-1.5**
	0.2nm,0.3s,baz=82,slow=10,SNR=6.9						
SEY	**Seymchan**	**13.90**	**2**	P	**Pn**	**16 23 41.9**	**+1.0**
	0.1nm,0.3s,baz=251,slow=23,SNR=6.8						
KSRS	**Korea Array**	**20.59**	**244**	P	**P**	**16 24 49.9**	**-0.6**
	0.5nm,0.6s,baz=27,slow=9.7,SNR=4.2						
ILAR	**Eielson Array**	**35.48**	**41**	P	**P**	**16 27 04.2**	**+2.9**
	0.3nm,0.7s,baz=270,slow=8.0,SNR=4.4						
MKAR	**Makanchi Array**	**44.90**	**295**	P	**P**	**16 28 16.6**	**-1.4**
	0.4nm,0.7s,baz=68,slow=6.7,SNR=4.3						
KURBB	**Kurchatov Arra**	**45.25**	**301**	P	**P**	**16 28 19.4**	**-1.2**
	0.5nm,0.7s,baz=68,slow=7.9,SNR=4.3						
YKA	**Yellowknife Ar**	**49.75**	**37**	P	**P**	**16 28 57.4**	**+2.8**
	0.3nm,0.9s,baz=298,slow=6.3,SNR=4.0						
ASAR	**Alice Springs**	**74.09**	**197**	P	**P**	**16 31 36.5**	**+1.0**
	0.2nm,0.7s,baz=10,slow=5.9,SNR=4.7						

*MOS **26** 16:46:42.9±1.1, 5.93N×126.60E, h49km, mb5.1/32, Error ellipse: s-maj=10.0km s-min=4.9km az=118.9*
*MAN **26** 16:46:44.7, 5.76N×126.63E, h45km, MS5.0*
*IDC **26** 16:46:47.0±1.0, 5.86N×126.73E, h69km±8km, mb4.3/27, mb1 4.4/30, mb1mx4.3/40, mbtmp4.6/30, MS3.5/34, Ms1 3.5/34, ms1mx3.4/51, Error ellipse: s-maj=13.8km s-min=6.7km az=64.0*
*BJI **26** 16:46:47.2±0.0, 5.91N×126.70E, h79km, mB4.9/37, mb4.6/56, Ms4.2/23, Ms7 4.0/23*
*NEIC **26** 16:46:47.7±2.1, 5.90N±0.05×126.66E±0.07, h77km±5km, mb5.0/145, Error ellipse: s-maj=10.8km s-min=6.9km az=61.0*
*KLM **26** 16:46:49, 5.81N×126.68E, h82km, mb4.9*
*DJA **26** 16:46:49.6±0.4, 6°N±3°×12°7E±1°, h78km±3km, M4.8/55, mB5.3/28, mb5.1/55, MLv5.4/13, Mw(mB)4.7/28, MwMwp4.7/4, Mwp5.0/4*
ISC 26 16:46:46.8±0.5, 5.86N±0.03×126.64E±0.04, h69km±4km, n445, σ1$31/472, mb5.0/150, 13C-10D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.95**	**285**	*eP*	**Pn**	**16 47 02.8**	**-1.8**
DDMP				*eS*	**Sn**	**16 47 15.9**	**-2.0**
MATI	**Mati**	**1.14**	**341**	*eP*	**Pn**	**16 47 05.0**	**-2.0**
MATI				*eS*	**Sn**	**16 47 23.8**	**+1.7**
DAV	**Davao City (W)**	**1.60**	**319**	P	**Pn**	**16 47 13.5**	**+0.5**
	299nm,0.3s,baz=129,slow=1.0,SNR=16						
DAV				S	**Sn**	**16 47 36.1**	**+3.3**
	410nm,0.3s,baz=69,slow=22,SNR=3.8						
DAV				LR	LR	16 47 53.0	
	comp=Z,2μm,21.8s,baz=165,slow=40						
KCP	**Kidapawan**	**1.91**	**307**	*eP*	**Pn**	**16 47 17.2**	**-0.1**
KCP				*i* S	**Sn**	**16 47 40.9**	**+0.4**
SKMP	**Bagumbayan, Su**	**2.18**	**288**	*eP*	**Pn**	**16 47 19.3**	**-1.5**
SKMP				*eS*	**Sn**	**16 47 46.3**	**-0.6**
SGSI	**Sangihe**	**2.43**	**207**	P	**Pn**	**16 47 24.6**	**+0.4**
SGSI				S	**Sn**	**16 47 54.0**	**+1.2**
BUTP	**Butuan**	**3.25**	**342**	*eP*	**Pn**	**16 47 37.9**	**+2.5**
BUTP				*eS*	**Sn**	**16 48 21.2**	**+8.3**
PAGZ	**Pagadian**	**3.79**	**302**	*eP*	**Pn**	**16 47 42.4**	**-0.3**
GLSP	**General Luna,**	**3.93**	**353**	*eP*	**Pn**	**16 47 46.0**	**+1.3**
GLSP				*eS*	**Sn**	**16 48 32.6**	**+3.0**
MSLP	**Maasin**	**4.60**	**338**	*eP*	**Pn**	**16 47 54.2**	**+0.4**
MSLP				*eS*	**Sn**	**16 48 48.9**	**+3.0**
ZCP	**Zamboanga City**	**4.66**	**283**	*eP*	**Pn**	**16 47 54.8**	**+0.2**
ZCP				*eS*	**Sn**	**16 48 49.1**	**+1.7**
TNTI	**Ternate**	**5.11**	**172**	Pn	**Pn**	**16 48 02.2**	**+1.4**
TNTI				Sn	**Sn**	**16 48 58.1**	**-0.4**
TNTI	**Ternate**	**5.11**	**172**	P	**Pn**	**16 48 02.1**	**+1.3**
	2.5nm1μm8μm728nm,0.8s						
TNTI				S	**Sn**	**16 48 59.4**	**+0.9**
	2.5nm1μm8μm728nm,0.8s						
LLP	**Lapu-Lapu**	**5.16**	**329**	*eP*	**Pn**	**16 48 02.0**	**+0.5**
LLP				*eS*	**Sn**	**16 49 04.1**	**+4.4**
OCLP	**Ormoc**	**5.53**	**339**	*eP*	**Pn**	**16 48 04.4**	**+1.8**
OCLP				*eS*	**Sn**	**16 49 06.0**	**-2.9**
CNOP	**Candoni, Negro**	**5.59**	**315**	*eP*	**Pn**	**16 48 09.2**	**+1.9**
CNOP				*eS*	Sn	16 48 59.5	-11
BESP	**Borongan**	**5.83**	**348**	*eP*	Pn	16 48 15.4	+4.8
KMSI	**Cibinong**	**5.88**	**207**	P	**Pn**	**16 48 12.7**	**+1.3**
	3.0nm577nm,0.7s						
KMSI				S	**Sn**	**16 49 18.4**	**+0.9**
	3.0nm577nm,0.7s						
GTOI	**Gorontalo**	**6.33**	**215**	P	**Pn**	**16 48 17.4**	**-0.1**
	1.0nm3μm268nm,0.7s						
GTOI				S	**Sn**	**16 49 24.2**	**-4.2**
	1.0nm3μm268nm,0.7s						
RCP	**Roxas**	**6.84**	**326**	*eP*	**Pn**	**16 48 27.7**	**+3.1**
MRSI	**Marisa**	**7.11**	**221**	P	**Pn**	**16 48 29.3**	**+1.1**
	2.3nm1μm6μm692nm,0.6s						
MRSI				S	**Sn**	**16 49 45.5**	**-2.1**
	2.3nm1μm6μm692nm,0.6s						
TOLI2	**Tolitoli**	**7.51**	**231**	Pn	**Pn**	**16 48 32.1**	**-1.5**
TOLI2				Sn	**Sn**	**16 49 52.7**	**-4.7**
LUWI	**Luwuk**	**7.87**	**209**	Pn	**Pn**	**16 48 42.0**	**+3.5**
LUWI	**Luwuk**	**7.87**	**209**	P	Pn	16 48 43.4	+4.8
LUWI				S	**Sn**	**16 50 08.9**	**+2.7**
SANI	**Sanana**	**7.88**	**185**	P	**Pn**	**16 48 36.3**	**-2.5**
	1.1nm4μm175nm,0.6s						
SWI	**Sorong**	**8.12**	**145**	P	**Pn**	**16 48 43.9**	**+1.9**
	0.4nm1μm120nm,0.7s						
MYLDM	**Lahad Datu**	**8.13**	**266**	Pn	**Pn**	**16 48 43.8**	**+1.7**
MYLDM				Sn	**Sn**	**16 50 11.9**	**-0.6**
SIJI	**Sorong**	**8.13**	**145**	P	**Pn**	**16 48 42.0**	**-0.2**
	9.6nm,0.3s,baz=344,slow=3.6,SNR=21						
SIJI				S	**Sn**	**16 50 10.3**	**-2.3**
	2.3nm,0.3s,baz=198,slow=23,SNR=1.6						
APSI	**Ampana**	**8.37**	**217**	P	Pn	16 48 51.8	+6.4
NLAI	**Namlea**	**9.05**	**177**	P	**Pn**	**16 48 54.0**	**-0.8**
	2.6nm5μm182nm,0.5s						
KKM	**Kota Kinabalu**	**10.37**	**272**	Pn	**Pn**	**16 49 12.6**	**-0.2**
FAKI	**Fak Fak**	**10.37**	**147**	Pn	**Pn**	**16 49 13.3**	**+0.6**
FAKI				Sn	**Sn**	**16 51 03.9**	**-3.5**
FAKI	**Fak Fak**	**10.37**	**147**	P	**Pn**	**16 49 15.5**	**+2.7**
	904nm91nm,1.6s						
BNDI	**Bandanaira**	**10.82**	**162**	P	**Pn**	**16 49 20.5**	**+1.6**
	2μm165nm,1.6s						
TTSI	**Tana Toraja**	**11.16**	**218**	P	**Pn**	**16 49 25.0**	**+1.4**
	1μm188nm,0.9s						
SPSI	**Sidrap Palu**	**11.93**	**215**	P	**Pn**	**16 49 35.7**	**+1.6**
	602nm67nm,0.6s						
BKB	**Balikpapan**	**12.03**	**234**	Pn	**Pn**	**16 49 35.7**	**+0.3**
BNSI	**Bone**	**12.10**	**213**	P	**Pn**	**16 49 38.3**	**+1.9**
	700nm56nm,0.8s						
SRPI	**Serui, Papua**	**12.29**	**128**	P	**P**	**16 49 48.3**	**-0.4**
KAPI	**Kappang**	**12.80**	**213**	P	**Pn**	**16 49 47.0**	**+1.0**
	3.1nm,0.3s,baz=9.1,slow=8.3,SNR=28						
KAPI				LR	LR	16 54 50.3	
	comp=Z,222nm,20.5s,baz=58,slow=38						
KAPI	**Kappang**	**12.80**	**213**	P	**Pn**	**16 49 46.6**	**+0.6**
KAPI	**Kappang**	**12.80**	**213**	Pn	**Pn**	**16 49 46.6**	**+0.6**
MTKI	**Muara Teweh, K**	**13.53**	**240**	P	**Pn**	**16 49 57.3**	**+1.5**
	41nm,0.7s						
SAUI	**Saumlaki**	**14.52**	**161**	Pn	**Pn**	**16 50 10.9**	**+2.1**
SAUI	**Saumlaki**	**14.52**	**161**	P	**P**	**16 50 17.9**	**+4.4**
SBUM	**Sibu**	**14.77**	**257**	Pn	**P**	**16 50 14.6**	**-1.8**
BBKI	**Banjar Baru**	**14.98**	**232**	P	**Pn**	**16 50 15.4**	**+0.6**
	45nm,1.2s						
MMRI	**Maumere**	**15.05**	**197**		**Pn**	**16 50 17.2**	**+1.5**
MMRI				IAmb	IAmb	16 50 22.9	
	comp=Z,76nm,1.0s						
MMRI	**Maumere**	**15.05**	**197**	P	**Pn**	**16 50 15.7**	**0.0**
	comp=Z,1μmcomp=Z,71nm,0.7s						
EDFI	**Ende, Flores**	**15.33**	**199**	P	**Pn**	**16 50 19.6**	**+0.3**
	comp=Z,427nmcomp=Z,47nm,0.9s						
SOEI	**Soe**	**15.69**	**189**	Pn	**Pn**	**16 50 25.1**	**+1.1**
SOEI				IAmb	IAmb	16 50 43.4	
	comp=Z,89nm,0.8s						
SOEI	**Soe**	**15.69**	**189**	P	**Pn**	**16 50 24.2**	**+0.3**
	comp=Z,1μmcomp=Z,117nm,0.9s						
GENI	**Genyem**	**15.91**	**121**	P	P	16 50 36.8	+7.8
BATI	**Baumata**	**16.23**	**191**	P	**Pn**	**16 50 31.4**	**+0.7**
	comp=Z,18nm,0.3s,baz=21,slow=1.9,SNR=32						
BATI				LR	LR	16 58 19.3	
	comp=Z,58nm,19.5s,baz=30,slow=43						
BATI	**Baumata**	**16.23**	**191**	P	**Pn**	**16 50 31.2**	**+0.5**
	comp=Z,938nmcomp=Z,92nm,0.6s						
JAY	**Jayapura**	**16.33**	**120**	P	**Pn**	**16 50 32.5**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=295,slow=19,SNR=2.4						
JAY				LR	LR	16 57 02.4	
	comp=Z,157nm,19.7s,baz=320,slow=38						
KSM	**Kuching**	**16.86**	**256**	P	**P**	**16 50 41.4**	**+1.8**
KSM	**Kuching**	**16.86**	**256**	P	**P**	**16 50 42.0**	**+2.4**
PLAI	**Plampang**	**17.06**	**211**	P	**Pn**	**16 50 41.2**	**+0.3**
	comp=Z,2μmcomp=Z,198nm,0.9s						
PBKI	**Pangkalan Bun**	**17.20**	**241**	P	**P**	**16 50 44.1**	**+0.8**
	comp=Z,3μmcomp=Z,99nm,1.0s						
TWSI	**Taliwang, Sumb**	**17.46**	**214**	P	**P**	**16 50 47.0**	**+0.8**
	comp=Z,529nmcomp=Z,64nm,0.8s						
TWG	**Pinlang**	**17.70**	**343**	P	**P**	**16 50 44.3**	**-4.4**
TWG				IAmb	IAmb	16 50 53.0	
	comp=Z,129nm,1.7s						
SRBI	**Singaraja**	**17.94**	**220**	P	**P**	**16 50 51.6**	**+0.2**
	comp=Z,99nm,0.8s						
KMMI	**Kalianget**	**18.01**	**225**	P	**Pn**	**16 50 54.0**	**+1.5**
	comp=Z,65nm,0.7s						
YULB	**Yu-li**	**18.17**	**344**	P	**P**	**16 50 54.2**	**+0.3**
YULB				IAmb	IAmb	16 50 59.8	
	comp=Z,118nm,1.8s						
TPUB	**Ta-pu**	**18.28**	**342**	P	**P**	**16 50 54.9**	**-0.2**
TPUB				IAmb	IAmb	16 51 18.9	
	comp=Z,336nm,2.0s						
DNP	**Denpasar**	**18.39**	**218**	P	**Pn**	**16 50 57.8**	**+0.6**
	comp=Z,373nm,0.9s						
SSLB	**Suanglung**	**18.64**	**344**	P	**Pn**	**16 51 00.6**	**+0.4**
SSLB				IAmb	IAmb	16 51 35.0	
	comp=Z,176nm,2.0s						
NACB	**Ninganchiao**	**18.84**	**346**	P	**P**	**16 50 59.1**	**-2.2**
JAGI	**Jajag, Banyuwa**	**18.91**	**221**	P	**P**	**16 51 02.1**	**0.0**
JAGI					IAmb	IAmb	16 51 08.6
	comp=Z,111nm,1.2s						
JAGI	**Jajag, Banyuwa**	**18.91**	**221**	P	**P**	**16 51 02.0**	**-0.1**
	comp=Z,81nm,1.0s						
DLV	**T Lat**	**18.91**	**290**	P	**Pn**	**16 51 04.4**	**+0.7**
DLV				IAmb	IAmb	16 51 17.2	
	comp=Z,73nm,1.4s						
MTN	**Manton Dam**	**19.11**	**166**	P	**P**	**16 51 04.4**	**+0.2**
	baz=19,SNR=13						
MTN	**Manton Dam**	**19.11**	**166**	P	**P**	**16 51 04.5**	**+0.2**
MTN				IAmb	IAmb	16 51 11.8	
	comp=Z,79nm,0.6s						
KDU	**Kakadu**	**19.32**	**163**	P	**P**	**16 51 06.8**	**+0.3**
	baz=19,SNR=74						
YHNB	**Yeheng**	**19.37**	**345**	P	**P**	**16 51 08.2**	**+1.1**
YHNB				IAmb	IAmb	16 51 11.6	
	comp=Z,292nm,2.0s						
TPI	**Tanjungpandan**	**20.80**	**246**	P	**P**	**16 51 23.0**	**+0.3**
	comp=Z,13μmcomp=Z,46nm,0.7s						
JOW	**Kunigami**	**20.91**	**4**	LR	LR	16 59 17.3	
	comp=Z,102nm,19.5s,baz=118,slow=36						
QIZ	**Qiongzhong**	**20.95**	**310**	P	**P**	**16 51 24.5**	**+0.2**
QIZ				S	**S**	**16 55 17.8**	**+3.7**
QIZ				LR	LR		
	comp=Z,280nm,27.5s						
UGM	**Wanagama**	**21.11**	**230**	P	**P**	**16 51 25.9**	**-0.1**
UGM				IAmb	IAmb	16 51 34.4	
	comp=Z,157nm,1.4s						
KNRA	**Kunungurra**	**21.50**	**174**	P	**P**	**16 51 31.0**	**+0.9**
KNRA				IAmb	IAmb	16 51 38.6	
	comp=Z,58nm,0.7s						
LEM	**Lembang**	**22.78**	**237**	P	**P**	**16 51 43.6**	**-0.4**
	comp=Z,35nm,0.7s,baz=118,slow=17,SNR=12						
LEM				LR	LR	17 00 29.6	
	comp=Z,58nm,21.9s,baz=24,slow=36						
MYKOM	**Kota Tinggi**	**23.09**	**261**	P	**P**	**16 51 47.3**	**+0.3**
MYKOM				IAmb	IAmb	16 52 09.3	
	comp=Z,111nm,1.8s						
MYKOM	**Kota Tinggi**	**23.09**	**261**	P	**P**	**16 51 48.0**	**+1.0**
CBJI	**Citeko**	**23.21**	**239**	P	**P**	**16 51 48.0**	**-0.1**
	comp=Z,2μmcomp=Z,53nm,0.9s						
DBJI	**Dramaga**	**23.37**	**238**	P	**P**	**16 51 50.1**	**+0.5**
	comp=Z,22nm,1.4s						
FITZ	**Fitzroy Crossi**	**23.83**	**182**	P	**P**	**16 51 54.2**	**+0.5**
	comp=Z,18nm,0.8s,baz=351,slow=5.9,SNR=56						
FITZ	**Fitzroy Crossi**	**23.83**	**182**	P	**P**	**16 51 53.8**	**+0.1**
	baz=24,SNR=40						
FITZ	**Fitzroy Crossi**	**23.83**	**182**	P	**P**	**16 51 53.8**	**+0.1**
JRMM	**Jerantut**	**24.15**	**266**	P	**P**	**16 51 58.0**	**+1.3**
KLSI		**24.25**	**245**	P	**P**	**16 51 58.6**	**+0.9**
	comp=Z,232nmcomp=Z,12nm,0.8s						
LWLI	**Liwa**	**25.00**	**245**	P	**P**	**16 52 04.7**	**+0.1**
	comp=Z,42nm,0.8s						
PMG	**Port Moresby**	**25.46**	**126**	P	**P**	**16 52 08.0**	**-0.7**
	comp=Z,3.0nm,0.4s,baz=279,slow=6.5,SNR=3.6						
PMG				LR	LR	17 03 27.7	
	comp=Z,74nm,19.7s,baz=298,slow=39						
PMG	**Port Moresby**	**25.46**	**126**	*eP*	**P**	**16 52 07.9**	**-0.7**
PMG				pmax	pmax		
	comp=Z,13nm,1.0s						
PMG	**Port Moresby**	**25.46**	**126**	P	**P**	**16 52 09.8**	**+1.1**
IPM	**Ipoh**	**25.54**	**268**	P	**P**	**16 52 09.6**	**+0.2**
IPM	**Ipoh**	**25.54**	**268**	P	**P**	**16 52 10.0**	**+0.6**
COEN	**Coen**	**25.64**	**140**	P	**P**	**16 52 10.6**	**+0.4**
JCJ	**Chichijima**	**25.79**	**33**	P	**P**	**16 52 10.2**	**-1.3**
	comp=Z,38nm,0.5s,baz=246,slow=9.7,SNR=5.3						
JCJ				LR	LR	17 00 46.5	
	comp=Z,69nm,21.2s,baz=181,slow=33						
JCJ	**Chichijima**	**25.79**	**33**	P	**P**	**16 52 09.7**	**-1.8**
KSI	**Kapahiang**	**25.80**	**249**	P	**P**	**16 52 13.5**	**+1.7**
	comp=Z,42nm,0.7s						
KULM	**Kulim**	**25.87**	**270**	P	**P**	**16 52 11.9**	**-0.4**
KULM				IAmb	IAmb	16 52 45.0	
	comp=Z,52nm,1.5s						
KULM	**Kulim**	**25.87**	**270**	P	**P**	**16 52 15.0**	**+2.7**
WB0	**Warramunga Arr**	**26.59**	**163**	P	**P**	**16 52 18.2**	**-0.6**
WB0				IAmb	IAmb	16 52 22.5	
	comp=Z,51nm,0.6s						
WRAB	**Tennant Creek**	**26.73**	**164**	*ceP*	**P**	**16 52 19.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,52nm,0.7s						
WRAB	**Tennant Creek**	**26.73**	**164**	P	**P**	**16 52 19.6**	**-0.5**
WRAB				IAmb	IAmb	16 52 44.2	
	comp=Z,71nm,1.0s						
WRA	**Warramunga Arr**	**26.74**	**164**	P	**P**	**16 52 19.8**	**-0.3**
	comp=Z,43nm,0.6s,baz=344,slow=10.0,SNR=122						
WRA				ScP	**ScP**	**16 59 17.0**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=344,slow=3.4,SNR=6.0						
WRA				LR	LR	17 04 10.1	
	comp=Z,53nm,21.1s,baz=210,slow=39						
WRA	**Warramunga Arr**	**26.74**	**164**	P	**P**	**16 52 18.4**	**-1.7**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**26.74**	**164**	P	**P**	**16 52 18.4**	**-1.7**
WB2	**Warramunga Arr**	**26.74**	**164**	P	**P**	**16 52 19.6**	**-0.5**
WB2				IAmb	IAmb	16 52 23.6	
	comp=Z,58nm,0.8s						
WR0	**Warramunga Arr**	**26.81**	**163**	P	**P**	**16 52 20.2**	**-0.6**
WR0				IAmb	IAmb	16 52 24.2	
	comp=Z,35nm,0.8s						
NJ2	**Nanjing**	**27.05**	**345**	*eP*	**P**	**16 52 23.8**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
RABL	**Rabaul**	**27.38**	**111**	P	**P**	**16 52 24.9**	**-1.1**
RABL				IAmb	IAmb	16 52 33.1	
	comp=Z,23nm,0.5s						
RABL	**Rabaul**	**27.38**	**111**	P	**P**	**16 52 26.6**	**+0.6**
JNU	**Nakatsue**	**27.41**	**8**	LR	LR	17 05 15.4	
	comp=Z,35nm,19.4s,baz=166,slow=40						
PSI	**Prapat**	**27.80**	**265**	P	**P**	**16 52 30.8**	**+0.9**
	comp=Z,4.9nm,0.6s,baz=357,slow=2.2,SNR=4.9						
PSI				LR	LR	17 04 50.7	
	comp=Z,85nm,20.1s,baz=89,slow=39						
PSI	**Prapat**	**27.80**	**265**	P	**P**	**16 52 30.2**	**+0.4**
PSI				pmax	pmax		
	comp=Z,16nm,1.2s						
RPSI	**Rantau Prapat**	**27.81**	**265**	P	**P**	**16 52 30.2**	**+0.5**
PSA00	**Pilbara Seismi**	**28.06**	**194**	P	**P**	**16 52 30.3**	**-1.6**
PSA00				IAmb	IAmb	16 52 31.9	
	comp=Z,17nm,0.7s						
PSA00	**Pilbara Seismi**	**28.06**	**194**	P	**P**	**16 52 31.1**	**-0.8**
PSA00				IAmb	IAmb	16 52 42.8	
	comp=Z,10.0nm,0.7s						
ENH	**Enshi**	**29.16**	**328**	P	**P**	**16 52 42.3**	**+0.6**
QIS	**Mount Isa**	**29.18**	**154**	P	**P**	**16 52 42.2**	**+0.3**
	baz=29,SNR=68						
MTSU	**Mount Surprise**	**29.55**	**144**	P	**P**	**16 52 46.0**	**+0.8**
	baz=30,SNR=100						
JHJ	**Hachijo jima 2**	**29.75**	**23**	LR	LR	17 03 26.6	
	comp=Z,123nm,20.5s,baz=280,slow=34						
CMAR	**Chiang Mai Arr**	**29.77**	**297**	P	**P**	**16 52 48.0**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=109,slow=7.3,SNR=12						
CMAR				PcP	**PcP**	**16 55 49.5**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=111,slow=1.0,SNR=4.5						
CMAR				ScP	**ScP**	**16 59 27.1**	**+1.3**
	comp=Z,3.9nm,1.0s,baz=121,slow=1.4,SNR=13						
CMAR				LR	LR	17 05 52.6	
	comp=Z,61nm,18.2s,baz=174,slow=38						
CMAR	**Chiang Mai Arr**	**29.77**	**297**	P	**P**	**16 52 46.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**29.77**	**297**	P	**P**	**16 52 46.1**	**-1.0**
KMI	**Kunming**	**29.85**	**312**	P	**P**	**16 52 49.8**	**+1.7**
KMI				pP	pP	16 53 08.5	+4.2
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,80nm,3.7s						
CHTO	**Chiang Mai**	**29.90**	**298**	P	**P**	**16 52 47.8**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CHTO	**Chiang Mai**	**29.90**	**298**	P	**P**	**16 52 47.8**	**-0.5**
AS31	**Alice Springs**	**30.19**	**167**	P	**P**	**16 52 50.4**	**-0.4**
ASAR	**Alice Springs**	**30.19**	**167**	P	**P**	**16 52 50.6**	**-0.2**
	comp=Z,7.8nm,0.4s,baz=343,slow=6.8,SNR=266						
ASAR				PcP	**PcP**	**16 55 50.3**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=350,slow=2.7,SNR=4.7						
ASAR				ScP	**ScP**	**16 59 28.4**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=346,slow=3.5,SNR=6.0						
ASAR				LR	LR	17 04 53.2	
	comp=Z,82nm,19.4s,baz=338,slow=36						
ASAR	**Alice Springs**	**30.19**	**167**	P	**P**	**16 52 50.1**	**-0.7**
ASAR	**Alice Springs**	**30.19**	**167**	P	**P**	**16 52 50.1**	**-0.7**
JWT	**Wachi**	**30.38**	**14**	P	**P**	**16 52 49.2**	**-3.1**
WRKA	**Warakurna**	**30.75**	**177**	P	**P**	**16 52 55.9**	**+0.1**
	baz=31,SNR=73						
GIRL	**Giralia**	**30.82**	**203**	P	**P**	**16 52 57.3**	**+1.0**
	baz=31,SNR=5.6						
GIRL	**Giralia**	**30.82**	**203**	P	**P**	**16 52 56.7**	**+0.4**
KSRS	**Korea Array**	**31.47**	**2**	P	**P**	**16 53 02.5**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=184,slow=9.7,SNR=2.2						
KSRS				PcP	**PcP**	**16 55 55.3**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=181,slow=2.3,SNR=4.4						
KSRS				ScP	**ScP**	**16 59 31.9**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=189,slow=3.1,SNR=5.5						
KSRS				LR	LR	17 07 06.7	
	comp=Z,32nm,19.8s,baz=196,slow=39						
CTA	**Charters Tower**	**32.20**	**144**	P	**P**	**16 53 10.1**	**+1.5**
	comp=Z,31nm,0.6s,baz=323,slow=11,SNR=48						
CTAO	**Charters Tower**	**32.20**	**144**	P	**P**	**16 53 09.6**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,38nm,0.8s						
CTAO	**Charters Tower**	**32.20**	**144**	P	**P**	**16 53 09.6**	**+1.0**
CTAO				IAmb	IAmb	16 53 11.8	
	comp=Z,38nm,0.8s						
MJAR	**Matsushiro Arr**	**32.33**	**18**	LR	LR	17 05 18.1	
	comp=Z,93nm,21.1s,baz=210,slow=34						
XAN	**Xi'an**	**32.49**	**332**	P	**P**	**16 53 10.5**	**-0.5**
XAN				pmax	pmax		
	comp=Z,20nm,0.8s						
XAN	**Xi'an**	**32.49**	**332**	P	**P**	**16 53 10.5**	**-0.5**
XAN				IAmb	IAmb	16 53 27.4	
	comp=Z,20nm,0.8s						
CD2	**Chengdu**	**32.90**	**322**	*eP*	**P**	**16 53 16.8**	**+2.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				LR	LR		
	comp=Z,270nm,11.0s						
CD2				LR	LR		
	comp=Z,280nm,9.6s						
CD2				LR	LR		
	comp=Z,320nm,14.3s						
JMM	**Marumori**	**34.37**	**20**	P	**P**	**16 53 25.2**	**-1.9**
JMM				IAmb	IAmb	16 54 07.6	
	comp=Z,33nm,1.1s						
BJT	**Baijiatuau**	**35.29**	**346**

EIDS Eidsvold 39.09 144 P **P** **16 54 08.8 +1.2**
baz=39,SNR=8.9
EIDS Eidsvold 39.09 144 P **P** **16 54 07.2 -0.3**
EIDS IAmb IAmb 16 54 09.5
comp=Z,37nm,1.1s
BBOO Buckleboo 39.49 167 P **P** **16 54 11.1 +0.4**
baz=39,SNR=59
BBOO Buckleboo 39.49 167 P **P** **16 54 10.9 +0.2**
NWAO Narrogin (SRO) 39.59 192 P **P** **16 54 11.8 +0.2**
comp=Z,21nm,0.8s,baz=21,slow=7.3,SNR=28
NWAO Narrogin (SRO) 39.59 192 P **P** **16 54 11.8 +0.2**
baz=40,SNR=24
NWAO Narrogin (SRO) 39.59 192 P **P** **16 54 11.9 +0.4**
NWAO pmax pmax
comp=Z,25nm,0.9s
NWAO pmax pmax
comp=Z,20nm,0.9s
NWAO Narrogin (SRO) 39.59 192 P **P** **16 54 12.0 +0.4**
NWAO IAmb IAmb 16 54 32.9
comp=Z,20nm,0.8s
NWAO Narrogin (SRO) 39.59 192 P **P** **16 54 11.9 +0.4**
NWAO IAmb IAmb 16 54 32.9
comp=Z,25nm,0.8s
STKA Stephens Creek 40.15 160 P **P** **16 54 16.6 +0.4**
comp=Z,85nm,0.8s,baz=338,slow=8.1,SNR=88
STKA LR LR 17 12 50.7
comp=Z,82nm,18.2s,baz=357,slow=39
STKA Stephens Creek 40.15 160 P **P** **16 54 16.6 +0.4**
baz=40,SNR=89
STKA Stephens Creek 40.15 160 P **P** **16 54 16.6 +0.4**
STKA pmax pmax
comp=Z,15nm,0.8s
STKA Stephens Creek 40.15 160 P **P** **16 54 16.6 +0.4**
STKA IAmb IAmb 16 54 19.4
comp=Z,15nm,0.8s
ASAJ Asahikawa 40.60 18 P **P** **16 54 19.6 -0.2**
comp=Z,5.4nm,0.6s,baz=198,slow=8.5,SNR=6.5
HTT Hallett 40.78 164 P **P** **16 54 22.3 +0.8**
baz=41,SNR=19
GTA Gaotai 41.24 328 ⇓P **P** **16 54 26.5 +1.2**
GTA pP pP 16 54 42.8 +1.2
GTA sP sP 16 54 52.8 +3.5
GTA PcP **PcP** **16 56 24.5 +1.4**
GTA ScP **ScP** **17 00 08.8 +1.6**
GTA PcS **PcS** **17 00 12.3 -2.1**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,43nm,4.7s
GTA LR LR
comp=Z,83nm,18.2s
GTA LR LR
comp=Z,88nm,17.8s
GTA LR LR
comp=Z,240nm,20.4s
CMSA Cobar Meteorol 41.40 155 P **P** **16 54 28.1 +1.6**
baz=41,SNR=37
H11N1 WAKE ISLAND Hy 41.47 67 T T 17 39 03.2
baz=261,SNR=9.1
H11N2 WAKE ISLAND Hy 41.48 67 T T 17 39 07.1
baz=261,slow=74,SNR=8.4
H11N3 WAKE ISLAND Hy 41.49 67 T T 17 39 05.3
baz=261,slow=74,SNR=8.1
TAPN Taplejung 42.71 305 *e*P **P** **16 54 38.0 +0.3**
ODAN Odare 42.79 304 *e*P **P** **16 54 38.2 -0.1**
comp=Z,14nm,0.5s
ARMA Armidale 43.30 148 P **P** **16 54 43.3 +1.2**
baz=43,SNR=26
ARMA Armidale 43.30 148 P **P** **16 54 43.0 +0.9**
KLR Kul'dur 43.44 5⇑ *e*P **P** **16 54 41.5 -1.3**
RAMN Ramite 43.48 303 *e*P **P** **16 54 43.5 -0.3**
comp=Z,17nm,0.7s
JIRN Jiri 44.08 304 *e*P **P** **16 54 48.4 -0.4**
comp=Z,19nm,0.7s
GUN Gumba 44.43 304 *e*P **P** **16 54 52.0 +0.5**
comp=Z,26nm,0.7s
PKI Pulchoki 44.69 304 *e*P **P** **16 54 53.3 -0.3**
comp=Z,8.0nm,0.8s
PKIN Phulchoki 44.70 304 *e*P **P** **16 54 53.2 -0.5**
comp=Z,7.5nm,0.6s
ARPS Mount Arapiles 44.73 163 P **P** **16 54 54.5 +1.2**
baz=45,SNR=42
KKN Kakani 44.88 304 *e*P **P** **16 54 54.7 -0.3**
comp=Z,13nm,0.9s
YNG Young 44.93 154 P **P** **16 54 57.9 +3.0**
baz=45,SNR=5.7
DMN Daman 44.96 304 *e*P **P** **16 54 55.1 -0.5**
comp=Z,10nm,0.7s
ULN Ulaanbaatar 45.08 341 ⇓*e*P **P** **16 54 56.2 0.0**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 45.08 341 P **P** **16 54 56.5 +0.3**
SONM Songino Array 45.27 341 P **P** **16 54 57.8 +0.2**
comp=Z,1.2nm,0.6s,baz=157,slow=9.7,SNR=7.6
SONM PcP **PcP** **16 56 36.5 0.0**
comp=Z,1.1nm,0.7s,baz=139,slow=3.1,SNR=2.7
SONM ScP **ScP** **17 00 25.2 +1.9**
comp=Z,0.6nm,0.8s,baz=128,slow=2.4,SNR=3.7
SONM LR LR 17 15 36.8
comp=Z,62nm,20.2s,baz=170,slow=38
SONM Songino Array 45.27 341 P **P** **16 54 57.5 -0.1**
SONM 16 56 36.5
SONM pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 45.27 341 P **P** **16 54 57.5 -0.1**
GKN Gorkha 45.48 304 *e*P **P** **16 54 59.5 -0.2**
comp=Z,5.4nm,0.4s
CAN Canberra 46.05 154 P **P** **16 55 04.9 +1.0**
CAN pmax pmax
comp=Z,44nm,0.9s
CAN Canberra 46.05 154 P **P** **16 55 04.9 +1.0**
CNB Canberra Magne 46.21 154 P **P** **16 55 07.1 +2.0**
baz=46,SNR=15
TOO Toolangi 46.65 159 P **P** **16 55 10.3 +1.9**
baz=47,SNR=19
TOO Toolangi 46.65 159 P **P** **16 55 09.9 +1.4**
TOO pmax pmax
comp=Z,25nm,0.8s
TOO Toolangi 46.65 159 P **P** **16 55 09.9 +1.4**
TOO IAmb IAmb 16 55 12.8
comp=Z,25nm,0.8s
LIFNC LIFOU 47.85 125 P **P** **16 55 19.5 +1.4**
comp=Z,159nm,1.1s
DZM Mont Dzumac 47.86 127 LR LR 17 14 30.8
comp=Z,64nm,18.3s,baz=326,slow=35
DZM Mont Dzumac 47.86 127 P **P** **16 55 19.0 +0.8**
DZM IAmb IAmb 16 55 20.3
comp=Z,16nm,0.8s
DZM Mont Dzumac 47.86 127 P **P** **16 55 19.7 +1.5**
HYB Hyderabad 48.34 288 *i* P **P** **16 55 22.0 0.0**
ZAK Zakamensk 48.50 340 *e*P **P** **16 55 23.5 +0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY Talaya 49.49 341 *e*P **P** **16 55 31.9 +1.7**
TLY pmax pmax
comp=Z,10.0nm,0.7s
TLY MLR MLR
comp=Z,69nm,10.0s
WMQ Urumqi 50.95 324 *e*P **P** **16 55 42.5 +1.1**
WMQ pP pP 16 56 01.0 +2.6
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ pmax pmax
comp=Z,160nm,4.5s
WMQ LR LR
comp=Z,290nm,25.9s
WMQ LR LR
comp=Z,390nm,25.9s
TAU Tasmania Unive 52.05 161 P **P** **16 55 51.6 +2.1**
TAU pmax pmax
comp=Z,157nm,1.6s
TAU Tasmania Unive 52.05 161 P **P** **16 55 51.6 +2.1**
BOD Bodaibo 52.76 352 *e*P **P** **16 55 53.5 -1.0**
BOD pmax pmax
comp=Z,10.0nm,1.5s
PEA0B Petropavlovsk- 53.51 23 P **P** **16 55 59.4 -0.8**
PEA0B pmax pmax
comp=Z,34nm,1.4s
PEA0B Petropavlovsk- 53.51 23 P **P** **16 55 59.4 -0.8**
PEA0B IAmb IAmb 16 56 24.4
comp=Z,34nm,1.4s
PETK Petropavlovsk- 53.51 23 P **P** **16 56 01.3 +1.1**
comp=Z,3.0nm,0.8s,baz=235,slow=5.1,SNR=3.5
PETK LR LR 17 18 30.9
comp=Z,24nm,20.1s,baz=210,slow=36
PETK Petropavlovsk- 53.51 23 P **P** **16 55 58.8 -1.4**
ZSN Zaisan 54.69 326 *e*P **P** **16 56 08.1 -0.8**
comp=Z,5.1nm,1.0s,baz=327
ZSN *i* S **S** **17 03 43.8 -0.2**
baz=327
ZSN Zaisan 54.69 326 *e*P **P** **16 56 08.9 0.0**
ZSN pmax pmax
comp=Z,5.0nm,1.0s
DGZ Jazzator, Alta 54.71 330 *d* iP **P** **16 56 10.5 +1.3**
DGZ pmax pmax
comp=Z,13nm,1.2s
SHLS Shalkode 55.67 319 *e*P **P** **16 56 13.8 -2.4**
comp=Z,9.2nm,0.9s,baz=320
SHLS Shalkode 55.67 319 *e*P **P** **16 56 13.7 -2.4**
SHLS pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 55.77 324 *d* eP **P** **16 56 16.6 -0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 55.77 324 P **P** **16 56 16.5 -0.1**
MK31 IAmb IAmb 16 56 19.1
comp=Z,9.6nm,0.8s
MK31 PcP **PcP** **16 57 15.8 +0.6**
MKAR Makanchi Array 55.77 324 P **P** **16 56 16.8 +0.1**
comp=Z,12nm,0.8s,baz=125,slow=5.8,SNR=104
MKAR PcP **PcP** **16 57 16.6 +1.4**
comp=Z,3.8nm,0.6s,baz=113,slow=4.5,SNR=5.2
MKAR ScP **ScP** **17 01 08.2 -0.1**
comp=Z,1.5nm,0.9s,baz=112,slow=5.4,SNR=5.0
MKAR LR LR 17 21 58.2
comp=Z,67nm,19.4s,baz=104,slow=38
MKAR Makanchi Array 55.77 324 P **P** **16 56 15.4 -1.3**
MKAR 16 57 15.4
MKAR Makanchi Array 55.77 324 P **P** **16 56 15.4 -1.3**
MKAR PcP **PcP** **16 57 15.4 +0.2**
MSVF Nonsavu 55.90 116 P **P** **16 56 16.9 -1.2**
MSVF pmax pmax
comp=Z,70nm,2.0s
MSVF Nonsavu 55.90 116 P **P** **16 56 16.9 -1.2**
MSVF IAmb IAmb 16 56 27.6
comp=Z,70nm,1.9s
UZB Uzynbulak 55.95 319 *e*P **P** **16 56 17.5 -0.8**
comp=Z,5.7nm,1.1s,baz=320
UZB Uzynbulak 55.95 319 *e*P **P** **16 56 17.4 -0.8**
UZB pmax pmax
comp=Z,6.0nm,1.1s
MAKZ Makanchi 55.96 324 P **P** **16 56 17.3 -0.8**
MAKZ pmax pmax
comp=Z,15nm,0.9s
MAKZ Makanchi 55.96 324 P **P** **16 56 17.3 -0.8**
MAKZ IAmb IAmb 16 56 20.4
comp=Z,15nm,0.9s
YAK Yakutsk 56.10 2 LR LR 17 23 22.1
comp=Z,28nm,18.3s,baz=280,slow=39
YAK Yakutsk 56.10 2 *e*P **P** **16 56 17.5 -1.2**
YAK *e**PP **pP** **16 56 30.7 -4.6**
YAK *e*S **S** **17 03 59.8 -2.4**
YAK pmax pmax
comp=Z,8.0nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=Z,76nm,3.5s
YAK pmax pmax
comp=N,45nm,3.7s
YAK pmax pmax
comp=E,22nm,3.5s
YAK smax smax
comp=E,27nm,2.5s
YAK smax smax
comp=N,31nm,2.3s
YAK Yakutsk 56.10 2 P **P** **16 56 17.0 -1.7**
YAK IAmb IAmb 16 56 32.3
comp=Z,17nm,0.6s
SATY Saty 56.31 319 *e*P **P** **16 56 20.2 -0.6**
comp=Z,7.6nm,0.9s,baz=319
SATY Saty 56.31 319 *e*P **P** **16 56 20.2 -0.6**
SATY pmax pmax
comp=Z,8.0nm,0.9s
KPKS Kokpek 56.31 319 *e*P **P** **16 56 19.9 -0.8**
comp=Z,16nm,1.0s,baz=320
KPKS Kokpek 56.31 319 *e*P **P** **16 56 19.9 -0.8**
KPKS pmax pmax
comp=Z,16nm,1.0s
KSH Kashi 56.49 314 P P 16 56 27.0 +4.9
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,110nm,5.5s
NIL Nilore 56.57 307 P **P** **16 56 21.1 -1.6**
NIL pmax pmax
comp=Z,11nm,0.8s
NIL Nilore 56.57 307 P **P** **16 56 21.1 -1.6**
NIL IAmb IAmb 16 56 43.4
comp=Z,11nm,0.8s
MA2 Magadan 56.68 14 LR LR 17 20 00.3
comp=Z,32nm,19.9s,baz=175,slow=35
MA2 Magadan 56.68 14 P **P** **16 56 22.1 -0.8**
MA2 pmax pmax
comp=Z,12nm,1.3s
MA2 Magadan 56.68 14 P **P** **16 56 22.1 -0.8**
MA2 IAmb IAmb 16 57 26.9
comp=Z,12nm,1.3s
TDK Taldyqorghan 57.20 321 *e*P **P** **16 56 26.9 -0.1**
comp=Z,18nm,0.9s,baz=321
TDK Taldyqorghan 57.20 321 *e*P **P** **16 56 26.8 -0.1**
TDK pmax pmax
comp=Z,18nm,0.9s
MDOK Medeo 57.24 319 *e*P **P** **16 56 26.8 -0.7**
baz=319
MDOK Medeo 57.24 319 *e*P **P** **16 56 26.7 -0.7**
TNSS Tian-Shan 57.26 318 *e*P **P** **16 56 27.4 -0.4**
baz=319
TNSS Tian-Shan 57.26 318 *e*P **P** **16 56 27.4 -0.4**
AAA Alma-Ata 57.35 319 *e*P **P** **16 56 28.8 +0.7**
baz=319
AAA Alma-Ata 57.35 319 *e*P **P** **16 56 28.7 +0.7**
CHKK Chushkaly 57.59 319 *e*P **P** **16 56 29.3 -0.3**
baz=320
CHKK Chushkaly 57.59 319 *e*P **P** **16 56 29.3 -0.3**
KUU Kurty 58.03 319 *e*P **P** **16 56 31.1 -1.6**
comp=Z,26nm,1.0s,baz=319
KUU Kurty 58.03 319 *e*P **P** **16 56 32.0 -0.7**
KUU pmax pmax
comp=Z,26nm,1.0s
ZAA0 Zalesovo Array 58.66 333 P **P** **16 56 35.9 -1.0**
ZAA0 IAmb IAmb 16 56 38.1
comp=Z,9.8nm,1.2s
ZALV Zalesovo Beam 58.66 333 P **P** **16 56 36.5 -0.4**
comp=Z,2.6nm,0.4s,baz=116,slow=6.8,SNR=16
ZALV LR LR 17 22 50.5
comp=Z,69nm,20.7s,baz=81,slow=37
ZALV Zalesovo Beam 58.66 333 P **P** **16 56 37.0 +0.1**
ZALV Zalesovo Beam 58.66 333 P **P** **16 56 37.0 +0.1**
AAK Ala-Archa 58.74 317 ⇑ *e*P **P** **16 56 38.7 +0.8**
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK Ala-Archa 58.74 317 P **P** **16 56 37.7 -0.2**
SEM Semipalatinsk 58.87 327 *i* P **P** **16 56 36.9 -1.8**
baz=328
SEM Semipalatinsk 58.87 327 *i* P **P** **16 56 36.9 -1.8**
SGDS Sogindy 58.97 318 *i* P **P** **16 56 37.6 -1.8**
baz=318
KURBB Kurchatov Arra 59.91 327 P **P** **16 56 46.2 +0.6**
BTLS Baital 60.00 319 *e*P **P** **16 56 45.0 -1.3**
comp=Z,3.9nm,0.8s,baz=320
BTLS Baital 60.00 319 *e*P **P** **16 56 45.0 -1.3**
BTLS pmax pmax
comp=Z,4.0nm,0.8s
OUZ Omahuta 60.15 136 P **P** **16 56 47.5 0.0**
KBL Kabul 60.17 307 P **P** **16 56 45.4 -2.6**
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 60.17 307 P **P** **16 56 45.4 -2.6**
KBL IAmb IAmb 16 56 50.4
comp=Z,5.8nm,0.6s
DZA Taraz 60.99 316 *i* P **P** **16 56 51.5 -1.7**
baz=316
KK31 Karatay Array 61.63 316 *i* P **P** **16 56 57.5 0.0**
KK31 Karatay Array 61.63 316 P **P** **16 56 56.1 -1.3**
KK31 IAmb IAmb 16 57 00.2
comp=Z,9.1nm,0.8s
KKAR Karatay Array 61.63 316 P **P** **16 56 55.9 -1.6**
KKAR pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 61.63 316 P **P** **16 56 55.9 -1.6**
KKAR IAmb IAmb 16 57 00.3
comp=Z,9.1nm,0.8s
IUG luzhnay 61.64 315 *e*P **P** **16 56 56.9 -0.8**
comp=Z,4.9nm,0.9s,baz=315
IUG luzhnay 61.64 315 *e*P **P** **16 56 56.9 -0.8**
IUG pmax pmax
comp=Z,5.0nm,0.9s
KNTN Kanton 62.16 96 P **P** **16 57 00.5 -0.9**
DCZ Deep Cove 62.60 149 P **P** **16 57 03.6 -0.1**
QRZ Quartz Range 62.65 142 P **P** **16 57 03.7 -0.6**
AMKA Amchitka 62.80 34 P **P** **16 57 05.6 +0.6**
HIZ Hauiti 62.80 139 P **P** **16 57 06.5 +1.3**
BRZS Berezniki 62.91 324 *i* P **P** **16 57 04.3 -1.6**
comp=Z,9.3nm,1.2s,baz=324
MLZ Mavora Lakes 63.03 148 P **P** **16 57 06.8 0.0**
MLZ IAmb IAmb 16 57 19.6
comp=Z,44nm,1.6s
WKZ Wanaka 63.15 147 P **P** **16 57 07.7 +0.2**
JOHN Johnston Islan 63.30 74 P **P** **16 57 08.8 -0.2**
WHZ Wether Hill Ro 63.30 149 P **P** **16 57 08.7 +0.2**
NNZ Nelson 63.40 142 P **P** **16 57 08.6 -0.6**
THZ Tophouse 63.44 143 P **P** **16 57 09.5 0.0**
LBZ Lake Benmore 63.49 146 P **P** **16 57 10.0 +0.3**
LBZ IAmb IAmb 16 57 12.4
comp=Z,24nm,1.0s
RPZ Rata Peaks 63.55 145 P **P** **16 57 10.7 +0.5**
comp=Z,12nm,0.8s,baz=196,slow=2.3,SNR=7.7
RPZ Rata Peaks 63.55 145 P **P** **16 57 10.7 +0.5**
RPZ IAmb IAmb 16 57 14.0
comp=Z,31nm,1.1s
LTZ Lake Taylor 63.67 144 P **P** **16 57 11.1 0.0**
OXZ Oxford 63.87 145 P **P** **16 57 12.2 -0.1**
OXZ IAmb IAmb 16 57 24.4
comp=Z,49nm,1.9s
TUWZ Tuamarina 63.87 142 P **P** **16 57 12.4 +0.1**
URZ Urewera 64.16 138 P **P** **16 57 14.8 +0.6**
comp=Z,12nm,0.9s,baz=298,slow=24,SNR=4.2
URZ Urewera 64.16 138 P **P** **16 57 13.7 -0.5**
URZ IAmb IAmb 16 59 04.2
comp=Z,33nm,1.4s
ODZ Otahua Downs 64.17 147 P **P** **16 57 14.1 -0.1**
ODZ IAmb IAmb 16 57 25.2
comp=Z,67nm,1.9s
KHZ Kahutara 64.20 143 P **P** **16 57 14.2 -0.3**
BKZ Black Stump Fm 64.23 139 P **P** **16 57 14.8 +0.1**
BKZ IAmb IAmb 16 57 16.7
comp=Z,25nm,0.8s
BRVK Borovoye 65.57 327 *d* iP **P** **16 57 23.9 +0.7**
BRVK pmax pmax
comp=Z,46nm,0.9s
BRVK Borovoye 65.57 327 P **P** **16 57 23.3 +0.1**
BRVK IAmb IAmb 16 57 25.4
comp=Z,40nm,0.9s
TIXI Tiksi 65.73 1 LR LR 17 26 21.0
comp=Z,46nm,21.0s,baz=88,slow=36
TIXI Tiksi 65.73 1⇓ *e*P **P** **16 57 24.0 +0.2**
TIXI pmax pmax
comp=Z,23nm,1.0s
TIXI Tiksi 65.73 1 P **P** **16 57 22.8 -1.0**
ATKA Atka Island 66.81 35 P **P** **16 57 31.3 +0.2**
BILL Bilibino 67.53 15 *i* P **P** **16 57 34.1 -1.3**
BILL *i* 16 58 01.1
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL Bilibino 67.53 15 P **P** **16 57 36.0 +0.6**
NRIK Noril'sk 68.35 346 P **P** **16 57 41.7 +1.2**
comp=Z,5.4nm,0.6s,baz=129,slow=7.3,SNR=12
NRIK LR LR 17 28 48.6
comp=Z,58nm,20.4s,baz=164,slow=37
NRIK Noril'sk 68.35 346 P **P** **16 57 41.0 +0.5**
NRIK pmax pmax
comp=Z,10.0nm,1.0s
NRIK Noril'sk 68.35 346 P **P** **16 57 41.0 +0.5**
GEYT Alibeck 69.50 308 P **P** **16 57 48.4 +0.1**
comp=Z,2.5nm,0.8s,baz=201,slow=12,SNR=4.5
GEYT LR LR 17 31 59.7
comp=Z,44nm,20.5s,baz=205,slow=39
GEYT Alibeck 69.50 308 IAmb IAmb 16 57 52.6
comp=Z,2.3nm,0.8s
GYA0B ALIBECK ARRAY 69.50 308 P **P** **16 57 47.5 -0.8**
NIKH Nikolski High 70.14 35 P **P** **16 57 51.4 -0.5**
AB31 Akbulak array 70.46 320 P **P** **16 57 53.5 -0.4**
ABKAR Akbulak array 70.46 320 P **P** **16 57 52.5 -1.4**
ABKAR Akbulak array 70.46 320 P **P** **16 57 52.8 -1.1**
ABKAR IAmb IAmb 16 57 56.1
comp=Z,12nm,0.9s
SOCY Socotra 71.86 281 P **P** **16 58 01.2 -1.9**
SVE Sverdlovsk 72.11 328 ⇑ *e*P **P** **16 58 05.0 +1.3**
SVE pmax pmax
comp=Z,33nm,1.0s
AKUT Akutan 72.23 35 P **P** **16 58 04.3 -0.2**
GAMB Gambell 72.50 24 P **P** **16 58 05.8 -0.1**
CASY Casey 72.91 187 P **P** **16 58 09.1 +0.9**
CASY IAmb IAmb 16 58 09.9
comp=Z,15nm,0.8s
ARU Arti 73.10 327 *d* iP **P** **16 58 10.0 +0.4**
ARU *PP **PcP** **16 58 26.2 +0.2**
ARU 17 00 48.0
ARU S **SKiKP** **17 07 35.5 -0.2**
ARU SS **SS** **17 12 16.1 +2.2**
ARU pmax pmax
comp=Z,23nm,0.6s
ARU Arti 73.10 327 P **P** **16 58 09.6 -0.1**
ARU IAmb IAmb 16 58 11.0
comp=Z,29nm,0.6s
SDPT Sand Point 75.50 34 P **P** **16 58 23.5 0.0**
BELG Belogornoye 78.68 322 *d* iP **P** **16 58 42.2 +0.8**
BELG pmax pmax
comp=Z,7.0nm,0.9s
SVW2 Sparrevohn 78.99 29 P **P** **16 58 44.4 +1.3**
SVW2 IAmb IAmb 16 59 56.8
comp=Z,37nm,1.7s
RAYN Ar Rayn 79.57 293 P **P** **16 58 45.7 -1.3**
RAYN pmax pmax
comp=Z,5.0nm,0.9s
RAYN Ar Rayn 79.57 293 P **P** **16 58 45.7 -1.3**
OHAK Old Harbor 79.72 33 P **P** **16 58 47.6 +0.6**
GNI Garni 80.06 310 ⇑ *e*P **P** **16 58 51.6 +2.1**
GNI pmax pmax
comp=Z,3.0nm,1.5s
KDAK Kodiak Island 80.15 32 P **P** **16 58 50.1 +0.7**
KDAK pmax pmax
comp=Z,175nm,1.8s
KDAK Kodiak Island 80.15 32 P **P** **16 58 50.1 +0.7**
IMAR Indian Mountai 80.45 24 P **P** **16 58 51.8 +1.0**
PRGR Permogore 80.60 331 *e*P **P** **16 58 51.0 -0.7**
PRGR *eSP **pwP** **16 59 14.7 +1.6**
PRGR pmax pmax
comp=Z,24nm,0.6s
ZEI Tsey 80.72 312 *e*P **P** **16 58 53.4 +0.4**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
PPLA Purkeypile 80.79 27 P **P** **16 58 53.9 +1.0**
PPLA IAmb IAmb 17 00 60.0
comp=Z,85nm,1.8s
CHUM Lake Minchumin 80.82 26 P 16 58 54.7
baz=264
CNPM China Poot 80.98 31 P **P** **16 58 54.6 +0.8**
SKT Skwentna 81.02 28 P **P** **16 58 54.3 +0.3**
SKT IAmb IAmb 16 59 46.8
comp=Z,33nm,1.6s
CAPN Captain Cook N 81.11 29 P **P** **16 58 54.5 +0.1**
BRLK Bradley Lake 81.18 31 P **P** **16 58 55.3 +0.4**
SUA Susitna One 81.35 29 P **P** **16 58 56.3 +0.4**
SUA IAmb IAmb 16 59 12.0
comp=Z,68nm,1.7s
SUA Susitna One 81.35 29 P 16 58 56.2
baz=266
GEVA Gevas 81.36 308 P **P** **16 58 58.0 +1.5**
KTH Kantishna Hill 81.42 27 P **P** **16 58 57.4 +1.3**
KTH IAmb IAmb 16 59 28.3
comp=Z,37nm,1.7s
BPAW Bear Paw Mtn. 81.43 26 P **P** **16 58 57.1 +0.9**
BPAW IAmb IAmb 16 59 33.4
comp=Z,15nm,1.3s
BPAW Bear Paw Mtn. 81.43 26 P 16 58 57.4
baz=266
KBZ Khabaz 81.46 313 P **P** **16 58 57.0 +0.4**
comp=Z,2.4nm,1.1s,baz=115,slow=7.1,SNR=5.0
KBZ LR LR 17 39 43.1
comp=Z,39nm,19.8s,baz=78,slow=39
MLY Manley 81.60 25 P **P** **16 58 57.9 +0.8**
MLY Manley 81.60 25 P 16 58 58.3
baz=266

KIV	**Kislovodsk**	**81.61**	**313**	*e*P		**P**	**16 58 56.5**	**-1.1**
KIV				pmax		pmax			
	comp=Z,23nm,1.1s								
KIV	**Kislovodsk**	**81.61**	**313**	P		**P**	**16 58 58.1**	**+0.5**
TRF	**Thorofare Moun**	**81.69**	**27**	P		**P**	**16 58 57.8**	**+0.1**
TRF				IAmb		IAmb	16 59 22.4		
	comp=Z,12nm,1.0s								
TRF	**Thorofare Moun**	**81.69**	**27**	P			16 58 58.1		
	baz=266								
COLD	**Coldfoot**	**81.98**	**23**	P		**P**	**16 58 59.7**	**+0.8**
COLD	**Coldfoot**	**81.98**	**23**	P			16 59 00.7		
	baz=266								
I23K	**Minto, Yukon-K**	**82.19**	**25**	P		**P**	**16 59 01.0**	**+0.9**
I23K	**Minto, Yukon-K**	**82.19**	**25**	P			16 59 01.2		
	baz=267								
VRH	**Novokhopyorsk**	**82.28**	**321**	*e*P		**P**	**16 58 59.8**	**-1.0**
VRH				pmax		pmax			
	comp=Z,20nm,1.0s								
NEA2	**Nenana**	**82.29**	**26**	P		**P**	**16 59 01.8**	**+1.1**
NEA2	**Nenana**	**82.29**	**26**	P			16 59 01.6		
	baz=267								
MCK	**McKinley**	**82.31**	**27**	P		**P**	**16 59 01.2**	**+0.4**
MCK				pmax		pmax			
	comp=Z,9.0nm,0.8s								
MCK	**McKinley**	**82.31**	**27**	P		**P**	**16 59 01.2**	**+0.4**
MCK				IAmb		IAmb	16 59 02.1		
	comp=Z,8.8nm,0.8s								
MCK	**McKinley**	**82.31**	**27**	P			16 59 01.0		
	baz=268								
TOLK	**Toolik Lake Re**	**82.31**	**22**	P		**P**	**16 59 02.0**	**+1.3**
TOLK	**Toolik Lake Re**	**82.31**	**22**	P			16 59 02.2		
	baz=266								
RND	**Reindeer**	**82.33**	**27**	P		**P**	**16 59 01.5**	**+0.5**
RND	**Reindeer**	**82.33**	**27**	P		**P**	**16 59 01.5**	**+0.5**
RND				IAmb		IAmb	16 59 26.1		
	comp=Z,45nm,1.9s								
WAT2	**Susitna Watana**	**82.44**	**27**	P			16 59 01.7		
	baz=268								
KNK	**Knik Glacier**	**82.45**	**29**	P		**P**	**16 59 02.2**	**+0.7**
SML	**Sawmill**	**82.52**	**29**	P		**P**	**16 59 02.6**	**+0.7**
SML				IAmb		IAmb	17 02 05.4		
	comp=Z,73nm,1.8s								
MDM	**Murphy Dome**	**82.66**	**25**	P		**P**	**16 59 03.5**	**+0.9**
WRH	**Wood River Hil**	**82.71**	**26**	P		**P**	**16 59 02.9**	**+0.1**
WAT6	**Susitna Watana**	**82.82**	**28**	P			16 59 04.2		
	baz=269								
COLA	**College**	**82.82**	**25**⇑	*e*P		**P**	**16 59 03.1**	**-0.2**
COLA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
CCB	**Clear Creek Bu**	**82.84**	**26**	P		**P**	**16 59 03.7**	**+0.3**
CCB				IAmb		IAmb	16 59 04.5		
	comp=Z,31nm,1.9s								
SCM	**Sheep Creek Mo**	**83.00**	**28**	P		**P**	**16 59 05.2**	**+0.8**
SCM				pmax		pmax			
	comp=Z,93nm,1.8s								
SCM	**Sheep Creek Mo**	**83.00**	**28**	P		**P**	**16 59 05.2**	**+0.8**
HDA	**Harding Lake**	**83.20**	**26**	P			16 59 05.2		
	baz=269								
HDA				P			16 59 05.2		
	baz=269								
IL31		**83.23**	**26**	P		**P**	**16 59 05.5**	**+0.1**
IL31				IAmb		IAmb	16 59 35.2		
	comp=Z,19nm,1.6s								
ILAR	**Eielson Array**	**83.23**	**26**	P		**P**	**16 59 04.3**	**-1.2**
	comp=Z,2.1nm,0.8s,baz=247,slow=5.7,SNR=17								
ILAR				LR		LR	17 32 45.8		
	comp=Z,28nm,21.1s,baz=258,slow=33								
ILAR	**Eielson Array**	**83.23**	**26**	P		**P**	**16 59 05.0**	**-0.5**
ILAR	**Eielson Array**	**83.23**	**26**	P		**P**	**16 59 05.0**	**-0.5**
KLMR	**Klimovskoe**	**83.52**	**331**	*e*P		**P**	**16 59 05.6**	**-1.4**
KLMR				pmax		pmax			
	comp=Z,22nm,0.9s								
KLMR	**Klimovskoe**	**83.52**	**331**	*e*P		**P**	**16 59 05.7**	**-1.3**
KLMR				AMP			16 59 08.7		
	comp=Z,22nm,0.9s								
M24K	**Tolsona, Glenn**	**83.54**	**28**	P			16 59 08.9		
	baz=270								
KLU	**Klutina**	**83.67**	**29**	P		**P**	**16 59 08.9**	**+1.0**
KLU	**Klutina**	**83.67**	**29**	P			16 59 09.1		
	baz=271								
SOC	**Sochi**	**83.77**	**313**	*e*P		**P**	**16 59 06.0**	**-2.7**
SOC				*e*			17 02 18.1		
SOC				*e*PPP		PPP	17 04 14.0		
SOC				*e*S		**S**	**17 09 22.4**	**-4.0**
SOC				MLR		MLR			
	comp=Z,38nm,17.0s								
PAX	**Paxson**	**83.86**	**27**	P			16 59 10.0		
	baz=271								
VSR	**Storozhevoye**	**83.89**	**321**	*e*P		**P**	**16 59 09.8**	**+0.7**
VSR				pmax		pmax			
	comp=Z,30nm,1.6s								
LPSR	**Galich'ya Gora**	**83.99**	**322**	*e*P		**P**	**16 59 09.6**	**0.0**
LPSR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
BMAR	**Burnt Mountain**	**84.16**	**23**	P		**P**	**16 59 11.6**	**+1.3**
N25K	**Chitina, Valde**	**84.30**	**29**	P		**P**	**16 59 11.3**	**+0.2**
N25K				IAmb		IAmb	16 59 31.9		
	comp=Z,36nm,1.6s								
RAGM	**Ragged Mountai**	**84.30**	**30**	P		**P**	**16 59 10.9**	**-0.2**
BMRM	**Bremner River**	**84.31**	**29**	P		**P**	**16 59 11.4**	**+0.2**
MOS	**Moscow**	**84.64**	**325**	*e*P		**P**	**16 59 11.7**	**-1.1**
MOS				pmax		pmax			
	comp=Z,54nm,1.3s								
GLB	**Gilahina Butte**	**84.68**	**29**	P		**P**	**16 59 12.7**	**-0.3**
GLB				IAmb		IAmb	17 00 03.3		
	comp=Z,48nm,1.6s								
VRDI	**Verde Repeater**	**84.86**	**29**	P		**P**	**16 59 14.2**	**+0.1**
OBN	**Obninsk**	**85.28**	**325**	*i* P		**P**	**16 59 16.4**	**+0.4**
OBN				pmax		pmax			
	comp=Z,26nm,0.9s								
OBN				MLR		MLR			
	comp=Z,36nm,17.0s								
ANN	**Anapa**	**85.35**	**314**	*e*P		**P**	**16 59 16.8**	**+0.2**
ANN				pmax		pmax			
	comp=Z,25nm,0.9s								
VNDA	**Vanda**	**85.54**	**173**	P		**P**	**16 59 16.3**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=315,slow=6.1,SNR=32								
VNDA				LR		LR	17 38 15.6		
	comp=Z,54nm,18.1s,baz=234,slow=36								
VNDA	**Vanda**	**85.54**	**173**	P		**P**	**16 59 16.7**	**-0.1**
VNDA				pmax		pmax			
	comp=Z,6.0nm,1.0s								
VNDA	**Vanda**	**85.54**	**173**	P		**P**	**16 59 16.7**	**-0.1**
SBA	**Scott Base**	**86.44**	**172**	P		**P**	**16 59 22.4**	**+1.1**
SBA				pmax		pmax			
	comp=Z,31nm,2.0s								
SBA	**Scott Base**	**86.44**	**172**	P		**P**	**16 59 22.4**	**+1.1**
SBA				IAmb		IAmb	16 59 56.7		
	comp=Z,31nm,1.9s								
ARCES	**ARCESS Array B**	**88.43**	**340**	P		**P**	**16 59 30.6**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=64,slow=2.8,SNR=28								
ARCES				LR		LR	17 41 52.8		
	comp=Z,37nm,20.6s,baz=110,slow=37								
BRTR	**Keskin Array B**	**88.60**	**310**	P		**P**	**16 59 32.8**	**0.0**
	comp=Z,1.4nm,0.6s,baz=141,slow=4.5,SNR=7.4								
BRTR				LR		LR	17 46 17.8		
	comp=Z,25nm,18.1s,baz=74,slow=40								
BRTR	**Keskin Array B**	**88.60**	**310**	*ce*P		**P**	**16 59 32.7**	**0.0**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
BRTR	**Keskin Array B**	**88.60**	**310**	P		**P**	**16 59 32.0**	**-0.7**
FINES	**FINESS Array B**	**89.92**	**332**	P		**P**	**16 59 37.8**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=79,slow=4.1,SNR=11								
FINES				LR		LR	17 42 09.2		
	comp=Z,36nm,20.5s,baz=42,slow=37								
AKASG	**Malin Array Be**	**90.19**	**321**	P		**P**	**16 59 38.5**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=68,slow=4.5,SNR=8.0								
AKASG	**Malin Array Be**	**90.19**	**321**	*ce*P		**P**	**16 59 39.4**	**-0.3**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**90.19**	**321**	P		**P**	**16 59 38.3**	**-1.4**
BURAR	**Bucovina Array**	**93.36**	**318**	P		**P**	**16 59 53.5**	**-1.0**
BUR08	**Bucovina Ar. S**	**93.36**	**318**	P		**P**	**16 59 54.1**	**-0.5**
BUR08				IAmb		IAmb	17 00 44.5		
	comp=Z,16nm,1.8s								
KOLS	**Kolonicke sedl**	**94.96**	**320**	*e*P		**P**	**17 00 05.0**	**+3.2**
KOLS	**Kolonicke sedl**	**94.96**	**320**	*e*P		**P**	**17 00 05.0**	**+3.2**
UZH	**Uzhgorod**	**95.03**	**320**⇑	*i* P		P	17 00 06.7	+4.6
CRVS	**Cervenica-Dubn**	**95.49**	**320**	*e*P		**P**	**17 00 05.9**	**+1.7**
CRVS	**Cervenica-Dubn**	**95.49**	**320**	*e*P		**P**	**17 00 05.9**	**+1.7**
NB2	**NORSAR Subarra**	**96.85**	**334**	P		**P**	**17 00 08.8**	**-1.3**
	comp=Z,4.2nm,0.9s,baz=67,slow=4.6								
NOA	**NORSAR Array B**	**96.85**	**334**	P		**P**	**17 00 08.9**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=63,slow=4.5,SNR=4.1								
NOA				LR		LR	17 47 14.1		
	comp=Z,33nm,20.0s,baz=60,slow=37								
YKA	**Yellowknife Ar**	**97.61**	**24**	P		**P**	**17 00 12.3**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=297,slow=4.0,SNR=4.2								
YKA	**Yellowknife Ar**	**97.61**	**24**	*ce*P		Pdif	17 00 14.0	+0.5
TXAR	**Lajitas Array**	**120.36**	**51**	PKP		**PKPdf**	**17 05 30.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=159,slow=1.1,SNR=3.6								
TXAR	**Lajitas Array**	**120.36**	**51**	PKIKP		**PKPdf**	**17 05 31.0**	**-0.1**
TOA0	**Torodi Ar. Sit**	**122.15**	**289**			**PKPdf**	**17 05 34.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**122.15**	**289**	PKP		**PKPdf**	**17 05 34.5**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=45,slow=2.3,SNR=11								
TORD	**Torodi Ar. Bea**	**122.15**	**289**			**PKPdf**	**17 05 34.0**	**-0.8**
JCT	**Junction City**	**122.73**	**48**	P			17 05 35.6		
	baz=301								
PLCA	**Paso Flores**	**142.02**	**159**	PKhKP		PKPpre	17 06 07.1		
	comp=Z,1.5nm,0.7s,baz=191,slow=7.2,SNR=5.1								
JTS	**Las Juntas de**	**144.69**	**63**	PKIKP		**PKPdf**	**17 06 16.3**	**-0.5**
JTS	**Las Juntas de**	**144.69**	**63**	PKPdf		**PKPdf**	**17 06 16.3**	**-0.5**
BI02	**San Fabin de**	**145.23**	**154**			**PKPdf**	**17 06 17.4**	**+0.1**
BO02	**Sierra Bellavi**	**147.02**	**153**			**PKPab**	**17 06 23.2**	**-0.8**
MT02	**Curacav**	**148.12**	**151**			**PKPbc**	**17 06 25.8**	**+0.5**
PEL	**Peldehue**	**148.43**	**152**	PKP2		**PKiKP**	**17 06 27.0**	**-0.8**
PEL	**Peldehue**	**148.43**	**152**			**PKiKP**	**17 06 27.0**	**-0.8**

IDC ***26*** *16:58:22.7±1.9, 1.01°S×134.49°E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.4/40, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=40.7km s-min=24.2km az=69.0*
DJA ***26*** *16:58:26.7±0.6, 1.5°S×9.3°×13.4°E±°, h19km±7km, M4.0/7, mb4.5/1, MLv3.7/7*

ISC 26 16:58:27.3±1.0, 1.18S±0.09×134.42E±0.05, h27km, n10, σ1.9 35/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**1.69**	**91**	P		**Pn**	**16 58 55.6**	**+0.6**
SRPI	**Serui, Papua**	**1.95**	**111**	P		**Pb**	**16 59 00.7**	**-1.4**
SRPI				S		**Sb**	**16 59 27.0**	**+1.0**
FAKI	**Fak Fak**	**2.78**	**231**	P		**Pn**	**16 59 10.7**	**+0.7**
FAKI				S		**Sn**	**16 59 43.5**	**+0.9**
SIJI	**Sorong**	**3.17**	**275**	Pn		**Pn**	**16 59 14.9**	**-0.4**
	4.8nm,0.3s,baz=247,slow=22,SNR=38							
SIJI				Sn		**Sn**	**16 59 54.7**	**+2.4**
	2.1nm,0.3s,baz=142,slow=23,SNR=1.7							
SWI	**Sorong**	**3.17**	**276**	P		**Pn**	**16 59 14.7**	**-0.8**
SWI				S		**Sn**	**16 59 54.1**	**+1.6**
BNDI	**Bandanaira**	**5.60**	**234**	P		**Pn**	**16 59 48.9**	**0.0**
BNDI				S		**Sn**	**17 00 50.1**	**-2.3**
WRA	**Warramunga Arr**	**18.65**	**180**	P		**P**	**17 02 43.4**	**+0.2**
	0.1nm,0.3s,baz=359,slow=11,SNR=2.2							
FITZ	**Fitzroy Crossi**	**18.90**	**207**	P		**Pn**	**17 02 47.0**	**+0.4**
	0.1nm,0.3s,baz=32,slow=12,SNR=1.9							
ASAR	**Alice Springs**	**22.36**	**181**	P		**P**	**17 03 24.7**	**+1.2**
	0.3nm,0.6s,baz=5.1,slow=11,SNR=8.2							
MKAR	**Makanchi Array**	**65.99**	**324**	P		**P**	**17 09 10.4**	**-1.0**
	0.6nm,0.6s,baz=114,slow=8.3,SNR=9.7							

DJA 26 16:59:02.6±0.9, 2.5°S±4.4°×12.8°E±°, h94km±10km, M2.8/7, MLv2.8/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.55**	**216**	P		Pn	16 59 30.6	+1.5
NLAI				S		Sn	16 59 49.5	+0.3
NLAI	**Namlea**	**1.55**	**216**	P		Pn	16 59 30.4	+1.3
MSAI	**Masohi**	**1.64**	**146**	P		Pn	16 59 30.7	+0.4
SANI	**Sanana**	**2.02**	**268**	P		Pn	16 59 36.2	+1.0
SANI				S		Sn	16 59 59.9	-0.3
BNDI	**Bandanaira**	**3.15**	**143**	P		Pn	16 59 51.0	+0.7

CRAAG ***26*** *17:04:28.7, 35.84N×0.27W, Ml3.5*
MDD ***26*** *17:04:32.4±0.4, 35.68N×0.26W, h19km±4km, mb4.1/30, Error ellipse: s-maj=5.7km s-min=3.8km az=174.0, PRXIMO*
INMG ***26*** *17:04:33.9±1.4, 35.77N×0.32W, h22km±10km, ML2.6, Error ellipse: s-maj=6.4km s-min=3.1km az=155.0*
LDG ***26*** *17:04:34.7±0.4, 35.97N×0.37W, h30km, Ml2.9/3, Error ellipse: s-maj=7.9km s-min=4.3km az=169.0*

ISC 26 17:04:30.5±1.6, 35.82N±0.04×0.31W±0.03, h12km±14km, n98, σ2.5 27/143, 1C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.22**	**245**	P		**Pb**	**17 04 36.0**	**-0.4**
USTO	**Oran**	**0.22**	**245**	P		**Pb**	**17 04 36.0**	**-0.4**
ODJA	**Bouhanifia**	**0.51**	**165**	P		**Pg**	**17 04 40.3**	**-0.2**
ODJA	**Bouhanifia**	**0.51**	**165**	P		**Pg**	**17 04 40.3**	**-0.2**
OTSS	**Djebel Tessala**	**0.67**	**216**	P		**Pb**	**17 04 44.4**	**+0.2**
OTSS	**Djebel Tessala**	**0.67**	**216**	P		**Pb**	**17 04 44.4**	**+0.2**
OKGL	**Djebel Kef Gue**	**0.80**	**74**	P		**Pn**	**17 04 47.7**	**0.0**
	11nm,0.3s,SNR=7.9							
OKGL				S		**Sn**	**17 05 00.6**	**+1.0**
	2µm,0.3s,SNR=7.9							
EANR	**'Ain N'Sour**	**1.15**	**83**	P		**Pb**	**17 04 51.0**	**-1.4**
EANR	**'Ain N'Sour**	**1.15**	**83**	P		**Pb**	**17 04 51.0**	**-1.4**
ECHF	**Ech Chlef**	**1.38**	**76**	P		**Pn**	**17 04 55.0**	**-0.5**
ETRT	**Tiaret**	**1.38**	**108**	P		**Pn**	**17 04 52.4**	**-3.3**
ETRT	**Tiaret**	**1.38**	**108**	P		**Pn**	**17 04 52.4**	**-3.3**
ECHA	**Ech Chlef**	**1.40**	**76**	P		**Pn**	**17 04 55.0**	**-0.8**
EBNR	**Beni Rached**	**1.56**	**72**	P		**Pn**	**17 04 57.0**	**-1.1**
CART	**Cartagena**	**1.84**	**343**	P		**Pn**	**17 05 02.7**	**+0.7**
CART				S		**Sn**	**17 05 23.2**	**-2.0**
CART	**Cartagena**	**1.84**	**343**	*e*P		**Pn**	**17 05 02.7**	**+0.7**
CART				*e*S		**Sn**	**17 05 23.2**	**-2.0**
CART				*e*Cod			17 06 36.8	
ENIJ	**Nijar**	**1.91**	**307**	P		**Pn**	**17 05 03.5**	**+0.5**
	2.3nm,0.2s,SNR=7.9							
ENIJ				S		**Sn**	**17 05 25.5**	**-1.5**
	202nm,0.3s,SNR=7.9							
TLOR	**Lorca, Murcia**	**2.14**	**329**	P		**Pn**	**17 05 07.5**	**+1.5**
	261nm,0.4s,SNR=7.9							
TLOR				S		**Sn**	**17 05 32.7**	**+0.2**
	460nm,0.3s,SNR=7.9							
EMUR	**La Murta**	**2.15**	**340**	P		**Pn**	**17 05 07.5**	**+1.3**
	3.2nm,0.4s,SNR=20							
EMUR				S		**Sn**	**17 05 33.5**	**+0.7**
	40nm,0.2s,SNR=12							
ETRV	**Los Montesinos**	**2.22**	**351**	P		**Pn**	**17 05 08.2**	**+1.1**
	48nm,0.2s,SNR=7.9							
ETRV				S		**Sn**	**17 05 35.4**	**+0.8**
	108nm,0.2s,SNR=7.9							
EBER	**Berja**	**2.34**	**298**	P		**Pn**	**17 05 09.9**	**+0.9**
	1.0nm,0.1s,SNR=22							
EBER				S		**Sn**	**17 05 38.6**	**+0.8**
	89nm,0.3s,SNR=5.0							
GORA	**Gorafe**	**2.75**	**308**	P		**Pb**	**17 05 18.0**	**-1.6**
	19nm,0.3s,SNR=7.9							
GORA				S		**Sn**	**17 05 49.3**	**+1.7**
	85nm,0.3s,SNR=7.9							
AFON	**Font Roja**	**2.84**	**356**	P		**Pb**	**17 05 19.8**	**-1.4**
	21nm,0.4s,SNR=8.8							
AFON				S		**Sn**	**17 05 50.6**	**+0.6**
	45nm,0.5s,SNR=7.9							
EBEN2	**Beniarda presa**	**2.85**	**2**	P		**Pn**	**17 05 18.1**	**+2.3**
	4.4nm,0.2s,SNR=7.9							
EBEN2				S		**Sn**	**17 05 50.0**	**-0.1**
	25nm,0.2s,SNR=7.9							
ELGU	**Los Guajares,**	**2.87**	**292**	P		**Pn**	**17 05 16.9**	**+0.7**
	8.5nm,0.6s,SNR=7.9							
ELGU				S		**Sn**	**17 05 50.1**	**-0.7**
	44nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**2.87**	**300**	⇑P		**Pn**	**17 05 18.3**	**+2.0**
	33nm,0.4s,SNR=18							
EQUE				S		**Sn**	**17 05 51.4**	**+0.6**
	32nm,0.5s							
EQES	**Quesada**	**2.97**	**313**	P		**Pn**	**17 05 20.8**	**+3.2**
	54nm,0.4s,SNR=34							
EQES				S		**Sn**	**17 05 56.4**	**+3.2**
	110nm,0.3s,SNR=4.9							
ETOB	**Tobarra**	**2.98**	**341**	P		**Pn**	**17 05 20.2**	**+2.5**
	22nm,0.3s,SNR=51							
ETOB				S		**Sn**	**17 05 54.5**	**+1.0**
	47nm,0.2s,SNR=7.9							
EGOR	**Sierra Gorda,**	**3.32**	**294**	P		**Pn**	**17 05 25.2**	**+2.8**
	3.3nm,0.4s,SNR=7.9							
EGOR				S		**Sn**	**17 06 05.8**	**+4.0**
	25nm,0.4s,SNR=7.9							
EIBI	**Ibiza**	**3.46**	**22**	P		**Pn**	**17 05 26.3**	**+2.1**
	8.9nm,0.3s,SNR=11							
EIBI				S		**Sn**	**17 06 05.4**	**+0.4**
	38nm,0.4s							
ECHE	**Chera**	**3.80**	**352**	P		**Pn**	**17 05 31.3**	**+2.4**
	1.6nm,0.3s,SNR=7.9							
ECHE				S		**Sn**	**17 06 13.6**	**+0.2**
	13nm,0.5s,SNR=7.9							
EADA	**Adamuz**	**4.14**	**306**	P		**Pn**	**17 05 36.1**	**+2.5**
	0.3nm,0.8s,SNR=7.9							
EADA				S		**Sn**	**17 06 21.7**	**-0.2**
	32nm,0.7s,SNR=7.9							
EMOS	**Mosqueruela**	**4.53**	**358**	P		**Pn**	**17 05 42.3**	**+3.1**
	4.2nm,0.3s,SNR=19							
EMOS				S		**Sn**	**17 06 32.0**	**+0.1**
	16nm,0.4s							
ETOS	**Mallorca**	**4.65**	**31**	P		**Pn**	**17 05 42.5**	**+2.0**
	3.2nm,0.5s,SNR=7.9							
ETOS				S		**Sn**	**17 06 35.2**	**+0.7**
	3.3nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**4.67**	**300**	P		**Pn**	**17 05 41.9**	**+1.1**
	5.0nm,0.4s,SNR=14							
ECAB				S		**Sn**	**17 06 33.8**	**-1.1**
	10nm,0.5s,SNR=5.6							
ESDC	**Sonseca Array**	**4.81**	**324**	P		**Pn**	**17 05 45.8**	**+3.0**
	1.9nm,0.3s,baz=143,slow=13,SNR=30							
ESDC				S		**Sn**	**17 06 37.7**	**-0.9**
	1.9nm,0.4s,baz=140,slow=25,SNR=4.8							
PAB	**San Pablo**	**4.91**	**320**	P		**Pn**	**17 05 46.9**	**+2.8**
	4.2nm,0.3s,SNR=7.9							
PAB				S		**Sn**	**17 06 39.0**	**-1.9**
	3.9nm,0.3s,SNR=7.9							
UCM	**Universidad Co**	**5.04**	**334**	*e*S		**Sb**	**17 06 55.5**	**-3.7**
ERTA	**Horta de San J**	**5.15**	**5**	P		**Pn**	**17 05 49.7**	**+2.3**
	4.1nm,0.5s,SNR=7.9							
ERTA				S		**Sn**	**17 06 45.8**	**-1.0**
	3.7nm,0.2s,SNR=7.9							
ETOR	**Torete**	**5.17**	**345**	P		**Pn**	**17 05 52.0**	**+4.1**
	5.5nm,0.6s,SNR=6.6							
ETOR				S		**Sn**	**17 06 48.1**	**+0.7**
	6.9nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.46**	**293**	P		**Pn**	**17 05 52.4**	**+0.6**
	2.1nm,0.4s,SNR=6.4							
EMIN				S		**Sn**	**17 06 52.5**	**-2.0**
	1.7nm,0.4s,SNR=7.9							
EPOB	**Poblet**	**5.63**	**11**	P		**Pn**	**17 05 55.8**	**+1.7**
	2.5nm,0.3s,SNR=7.7							
EPOB				S		**Sn**	**17 06 56.6**	**-2.0**
	9.6nm,0.4s,SNR=7.9							
GUD	**Guadarrama**	**5.68**	**329**	P		**Pn**	**17 05 57.1**	**+2.2**
	2.4nm,0.3s,SNR=8.5							
GUD				S		**Sn**	**17 06 57.9**	**-2.3**
	2.5nm,0.3s,SNR=7.9							
PBAR	**Barrancos**	**5.88**	**296**	P		**Pn**	**17 05 58.9**	**+1.5**
PBAR				S		**Sn**	**17 07 03.6**	**-1.0**
	2.4nm,0.4s							
PBAR	**Barrancos**	**5.88**	**296**	*e*Pn		**Pn**	**17 05 58.9**	**+1.5**
PBAR				*e*Sn		**Sn**	**17 07 03.6**	**-1.0**
PBAR				A		A	17 07 07.1	
	2.4nm,0.4s							
PVAQ	**Vaqueiros**	**6.16**	**287**	P		**Pn**	**17 06 02.6**	**+1.3**
PVAQ				S		**Sn**	**17 07 10.7**	**-1.1**
	3.6nm,0.3s							
PVAQ	**Vaqueiros**	**6.16**	**287**	*e*Pn		**Pn**	**17 06 02.6**	**+1.3**
PVAQ				*e*Sn		**Sn**	**17 07 10.7**	**-1.1**
PVAQ				A		A	17 07 12.5	
	3.6nm,0.3s							
EPLA	**Plasencia**	**6.22**	**315**	P		**Pn**	**17 06 04.8**	**+2.6**
	2.4nm,0.3s,SNR=6.1							
EPLA				S		**Sn**	**17 07 12.0**	**-1.3**
	4.5nm,0.5s,SNR=7.9							
PBDV	**Barranco-do-Ve**	**6.30**	**285**	P		**Pn**	**17 06 06.4**	**+3.2**
PBDV	**Barranco-do-Ve**	**6.30**	**285**	*e*Pn		**Pn**	**17 06 06.4**	**+3.2**
PESTR	**Estremoz**	**6.55**	**300**	*e*Pn		**Pn**	**17 06 08.3**	**+1.7**
PESTR				*e*Sn		**Sn**	**17 07 20.4**	**-0.8**
CSOR	**Sort**	**6.64**	**9**	P		**Pn**	**17 06 10.7**	**+2.8**
	3.6nm,0.6s,SNR=7.9							
CSOR				S		**Sn**	**17 07 21.6**	**-2.0**
	1.6nm,0.2s,SNR=7.9							
MESJ	**Messejana**	**6.66**	**290**	P		**Pn**	**17 06 09.2**	**+1.1**
MESJ				S		**Sn**	**17 07 19.0**	**-4.9**
MESJ	**Messejana**	**6.66**	**290**	*e*Pn		**Pn**	**17 06 09.2**	**+1.1**
MESJ				*e*Sn		**Sn**	**17 07 19.0**	**-4.9**
PMRV	**Marv??o**	**6.67**	**305**	P		**Pn**	**17 06 10.6**	**+2.2**
PMRV				S		**Sn**	**17 07 23.5**	**-0.8**
	5.4nm,1.0s							
PMRV	**Marv??o**	**

OHWZ	**Ohakea**	**0.26**	**9**	P	Pn	17 11 56.0	+0.4
OHWZ				S	Sn	17 12 02.5	+1.4
MRZ	**Mangatainoka R**	**0.31**	**130**	P	Pn	17 11 56.3	+0.1
MRZ				S	Sn	17 12 02.4	+0.3
OGWZ	**Otaki Gorge**	**0.36**	**191**	P	Pn	17 11 57.0	+0.3
OGWZ				S	Sn	17 12 03.7	+0.7
POWZ	**Post Office Ro**	**0.39**	**80**	P	Pn	17 11 57.1	0.0
POWZ				S	Sn	17 12 04.1	+0.4
HOWZ	**Holdsworth Sta**	**0.48**	**156**	P	Pn	17 11 58.5	+0.3
HOWZ				S	Sn	17 12 06.7	+1.1
KIW	**Kapiti Island**	**0.48**	**214**	P	Pn	17 11 58.3	+0.1
KIW				S	Sn	17 12 05.9	+0.2
PRWZ	**Pori Road**	**0.55**	**100**	P	Pn	17 11 59.6	+0.5
TIWZ	**Tintock**	**0.57**	**124**	P	Pn	17 11 59.9	+0.5
TIWZ				S	Sn	17 12 09.4	+1.7
CAW	**Cannon Point**	**0.66**	**193**	P	Pn	17 12 01.1	+0.5
CAW				S	Sn	17 12 11.2	+1.3
TSZ	**Takapari Road**	**0.67**	**53**	P	Pn	17 12 01.0	+0.4
TSZ				S	Sn	17 12 10.8	+0.8
DVHZ	**Dannevirke**	**0.71**	**77**	P	Pn	17 12 01.6	+0.4
MTW	**Mount Morrison**	**0.72**	**165**	P	Pn	17 12 01.6	+0.2
MTW				S	Sn	17 12 13.2	+2.0
WAZ	**Wanganui**	**0.74**	**343**	P	Pn	17 12 02.5	+0.9
BFZ	**Birch Farm**	**0.78**	**107**	P	Pn	17 12 02.5	+0.3
TMWZ	**Te Maipa**	**0.80**	**144**	P	Pn	17 12 02.7	+0.2
CPWZ	**Castlepoint**	**0.84**	**122**	P	Pn	17 12 03.8	+0.8
PNHZ	**Pukenui**	**0.90**	**53**	P	Pn	17 12 04.3	+0.4
WEL	**Wellington**	**0.90**	**204**	P	Pn	17 12 04.6	+0.7
ANWZ	**Angora Road**	**0.93**	**90**	P	Pn	17 12 04.3	+0.2
PAWZ	**Paruwai Farm**	**0.93**	**172**	P	Pn	17 12 05.0	+0.8
MSWZ	**Moikau Station**	**0.95**	**181**	P	Pn	17 12 05.4	+0.9
WPHZ	**Waipukurau**	**0.98**	**67**	P	Pn	17 12 05.3	+0.4
TRWZ	**Traveller**	**0.99**	**161**	P	Pn	17 12 06.0	+1.0
BHW	**Baring Head**	**0.99**	**197**	P	Pn	17 12 05.4	+0.4
TCW	**Tory Channel**	**1.06**	**225**	P	Pn	17 12 06.5	+0.6
PRHZ	**Porangahau**	**1.07**	**80**	P	Pn	17 12 06.1	0.0
DUWZ	**D'Urville Isla**	**1.08**	**251**	P	Pn	17 12 06.7	+0.4
MTVZ	**Mangateitei**	**1.09**	**9**	P	Pn	17 12 07.3	+0.9
PLWZ	**Palliser**	**1.11**	**180**	P	Pn	17 12 07.2	+0.5
MOVZ	**Moawhango**	**1.12**	**20**	P	Pn	17 12 07.3	+0.5
BHHZ	**Black Hill Sta**	**1.15**	**33**	P	Pn	17 12 07.8	+0.5
WNVZ	**Wahianoa**	**1.16**	**13**	P	Pn	17 12 08.4	+0.9
PKVZ	**Pokaka**	**1.17**	**3**	P	Pn	17 12 08.4	+0.9
KRHZ	**Kereru**	**1.18**	**46**	P	Pn	17 12 07.9	+0.2
TRVZ	**Turoa**	**1.18**	**11**	P	Pn	17 12 08.7	+0.9
LREZ	**Lake Rotokare**	**1.20**	**326**	P	Pn	17 12 09.2	+1.4
WHVZ	**Whangaehu Hut**	**1.20**	**12**	P	Pn	17 12 09.2	+1.0
DRZ	**Dome Shelter**	**1.21**	**11**	P	Pn	17 12 09.0	+0.7
FWVZ	**Far West T-bar**	**1.23**	**11**	P	Pn	17 12 09.3	+0.9
TUVZ	**Tukino**	**1.23**	**14**	P	Pn	17 12 09.6	+1.2
PXZ	**Pawanui**	**1.30**	**71**	P	Pn	17 12 08.8	-0.4
NGZ	**Ngauruhoe**	**1.31**	**12**	P	Pn	17 12 10.8	+1.3
OTVZ	**Oturere**	**1.33**	**14**	P	Pn	17 12 11.1	+1.2
KWHZ	**Kaweka Forest**	**1.37**	**41**	P	Pn	17 12 10.4	+0.2
WTVZ	**West Tongariro**	**1.37**	**11**	P	Pn	17 12 11.7	+1.4
ETVZ	**East Tongariro**	**1.37**	**15**	P	Pn	17 12 11.5	+1.2
TMVZ	**Te Maari**	**1.39**	**14**	P	Pn	17 12 11.7	+1.2
VRZ	**Vera Road**	**1.39**	**344**	P	Pn	17 12 11.4	+0.9
TUWZ	**Tuamarina**	**1.39**	**226**	P	Pn	17 12 10.9	+0.4
TWVZ	**Taurewa**	**1.40**	**6**	P	Pn	17 12 11.5	+0.8
KRVZ	**Karewarewa**	**1.40**	**12**	P	Pn	17 12 12.2	+1.5
PREZ	**Palmer Road**	**1.40**	**322**	P	Pn	17 12 12.4	+1.7
KAHZ	**Kahuranaki**	**1.41**	**62**	P	Pn	17 12 10.7	-0.1
NEZ	**North Egmont**	**1.49**	**323**	P	Pn	17 12 13.5	+1.5
NMEZ	**Namu Road**	**1.49**	**314**	P	Pn	17 12 13.7	+1.8
MCHZ	**McNeill Hill**	**1.50**	**48**	P	Pn	17 12 12.4	+0.4
KHEZ	**Kahui Hut**	**1.51**	**320**	P	Pn	17 12 14.0	+1.8
KATZ	**Kakaramea**	**1.52**	**13**	P	Pn	17 12 13.8	+1.3
RITZ	**Rihia Road**	**1.55**	**17**	P	Pn	17 12 14.0	+1.2
MHEZ	**Mangahewa**	**1.56**	**332**	P	Pn	17 12 14.9	+2.0
PKE	**Pukeiti**	**1.60**	**322**	P	Pn	17 12 15.3	+1.9
BKZ	**Black Stump Fm**	**1.60**	**37**	P	Pn	17 12 13.5	0.0
NBEZ	**Newall Road No**	**1.60**	**318**	P	Pn	17 12 15.2	+1.8
NNZ	**Nelson**	**1.62**	**242**	P	Pn	17 12 13.9	+0.3
BSWZ	**Blackbirch Sta**	**1.63**	**219**	P	Pn	17 12 14.2	+0.4
RATZ	**Rangitukua**	**1.64**	**14**	P	Pn	17 12 15.2	+1.2
HATZ	**Hinemaiaia**	**1.69**	**22**	P	Pn	17 12 15.2	+0.5
WATZ	**Wairara**	**1.79**	**12**	P	Pn	17 12 16.9	+0.9
ARHZ	**Aropaoanui**	**1.79**	**49**	P	Pn	17 12 16.0	0.0
NMHZ	**Naumai**	**1.81**	**42**	P	Pn	17 12 16.4	+0.1
MRHZ	**Matea Rd**	**1.85**	**29**	P	Pn	17 12 16.8	-0.1
HIZ	**Hauiti**	**1.97**	**351**	P	Pn	17 12 19.6	+1.2
MTHZ	**Maungataniwha**	**2.02**	**38**	P	Pn	17 12 18.7	-0.5
RAHZ	**Arahi**	**2.09**	**43**	P	Pn	17 12 19.5	-0.6
QRZ	**Quartz Range**	**2.11**	**259**	P	Pn	17 12 20.3	-0.1
TLZ	**Tolley Road**	**2.14**	**6**	P	Pn	17 12 21.7	+0.8
THZ	**Tophouse**	**2.21**	**233**	P	Pn	17 12 22.2	+0.4
RTZ	**Ruatahuna**	**2.27**	**36**	P	Pn	17 12 22.1	-0.6
MUGZ	**Murupara**	**2.30**	**31**	P	Pn	17 12 22.0	-1.0
SNGZ	**Shannon Statio**	**2.32**	**44**	P	Pn	17 12 22.2	-1.1
KHZ	**Kahutara**	**2.34**	**213**	P	Pn	17 12 23.0	-0.6
MHGZ	**Mahia Peninsul**	**2.42**	**58**	P	Pn	17 12 23.3	-1.3
URZ	**Urewera**	**2.62**	**34**	P	Pn	17 12 25.9	-1.5
TOZ	**Tahuroa Road**	**2.73**	**4**	P	Pn	17 12 29.5	+0.6
MWZ	**Matawai**	**2.75**	**40**	P	Pn	17 12 27.8	-1.5
DSZ	**Denniston Nort**	**2.91**	**243**	P	Pn	17 12 31.4	0.0
GVZ	**Greta Valley S**	**3.01**	**213**	P	Pn	17 12 31.9	-0.9
LTZ	**Lake Taylor**	**3.23**	**223**	P	Pn	17 12 34.8	-0.9
INZ	**Inchbonnie**	**3.65**	**230**	P	Pn	17 12 40.8	-0.7
AKCZ	**Akaroa Harbour**	**3.83**	**206**	P	Pn	17 12 42.9	-1.1
TMZ	**Timaru**	**5.03**	**217**	P	Pn	17 12 59.9	-0.5
JCZ	**Jackson Bay**	**6.01**	**231**	P	Pn	17 13 11.9	-2.1
CTZ	**Chatham Island**	**6.87**	**121**	P	Pn	17 13 25.1	-0.5

NEIC ***26*** *17:28:27.6±1.0,38.°15N×0.°04×141.°64E±0.°05,h53km±7km, mb4.3/27, Error ellipse: s-maj=7.9km s-min=3.3km az=47.0*

JMA ***26*** *17:28:27.6±0.1,38.°17N×141.°68E,h50km±1km,M3.9*

JMA Felt II J1.

IDC ***26*** *17:28:29.0±0.9,38.°19N×141.°74E,h68km±6km,mb3.6/18, mb1 3.7/24,mb1mx3.7/43,mbtmp3.9/24,MS2.8/7, Ms1 2.9/7,ms1mx2.6/50, Error ellipse: s-maj=17.7km s-min=11.9km az=109.0*

ISC 26 17:28:26.7±0.7,38.°13N±0.°04×141.°79E±0.°06,h45km±5km, n101,σ0s97/118,mb4.1/35,MS3.0/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.31**	**305**	P	**Pn**	**17 28 36.1**	**+0.7**
JIKH				S	**Sn**	**17 28 42.0**	**+0.4**
JIO	**Ouri**	**0.47**	**313**	P	**Pn**	**17 28 37.6**	**+0.3**
JIO				S	**Sn**	**17 28 44.4**	**-0.4**
JKMT	**Kesennumamotoy**	**0.72**	**340**	P	**Pn**	**17 28 40.6**	**+0.1**
JKMT				S	**Sn**	**17 28 49.7**	**-0.8**
JMM	**Marumori**	**0.83**	**252**	P	**Pn**	**17 28 41.8**	**-0.3**
JMM				S	**Sn**	**17 28 52.2**	**-0.9**
JMM	**Marumori**	**0.83**	**252**		**Pn**	**17 28 41.7**	**-0.3**
JMM				Sn	**Sn**	**17 28 51.4**	**-1.8**
JOFO	**Osakifurukawao**	**0.83**	**304**	P	**Pn**	**17 28 42.2**	**+0.2**
JOFO				eS	**Sn**	**17 28 53.2**	**0.0**
JOU	**Okura**	**0.92**	**285**	P	**Pn**	**17 28 43.1**	**-0.1**
JOU				S	**Sn**	**17 28 54.5**	**-0.7**
JMK	**Ichinoseki**	**0.93**	**332**	P	**Pn**	**17 28 43.6**	**+0.2**
JMK				S	**Sn**	**17 28 54.8**	**-0.8**
JFK	**Kawauchi**	**1.05**	**224**	P	**Pn**	**17 28 45.5**	**+0.4**
JFK				S	**Sn**	**17 28 58.3**	**-0.3**
JFT	**Otama**	**1.30**	**242**	P	**Pn**	**17 29 49.0**	**+0.5**
JFT				eS	**Sn**	**17 29 04.7**	**0.0**
JYS	**Shirataka**	**1.36**	**274**	P	**Pn**	**17 28 49.3**	**0.0**
JYS				eS	**Sn**	**17 29 05.7**	**-0.4**
JYK	**Kaneyama**	**1.37**	**305**	P	**Pn**	**17 28 49.2**	**-0.1**
JYK				eS	**Sn**	**17 29 05.6**	**-0.7**
JOM	**Ohasama**	**1.39**	**344**	P	**Pn**	**17 28 50.0**	**+0.3**
JOM				eS	**Sn**	**17 29 06.4**	**-0.5**
JRG	**Rokugo**	**1.55**	**325**	P	**Pn**	**17 28 52.4**	**+0.5**
JYA	**Atsumi**	**1.69**	**286**	P	**Pn**	**17 28 53.8**	**0.0**
JYT	**Yasato**	**2.29**	**214**	Pn	**Pn**	**17 29 02.1**	**+0.1**
JTM	**Tenmabayashi**	**2.71**	**348**	Pn	**Pn**	**17 29 08.2**	**+0.5**
JSD	**Sado**	**2.79**	**269**	Pn	**Pn**	**17 29 08.6**	**-0.2**
MJAR	**Matsushiro Arr**	**3.27**	**242**	P	**Pn**	**17 29 15.9**	**+0.5**
	0.8nm,0.3s,baz=2.1,slow=4.8,SNR=26						
MJAR				LR	LR	17 30 45.4	
	comp=Z,75nm,20.8s,baz=60,slow=42						
MJAR	**Matsushiro Arr**	**3.27**	**242**		**Pn**	**17 29 16.7**	**+1.3**
MAJO	**Matsushiro**	**3.27**	**242**	Pn	**Pn**	**17 29 15.3**	**-0.1**
MAT	**Matsushiro**	**3.27**	**242**	P	**Pn**	**17 29 16.8**	**+1.4**
MAT				eS	**Sn**	**17 29 56.3**	**+3.3**
ERM	**Erimo**	**4.02**	**15**	Pn	**Pn**	**17 29 26.1**	**+0.4**
JGF	**Kuroka**	**4.36**	**236**	Pn	**Pn**	**17 29 32.8**	**+2.3**
JEW	**Eniwo**	**4.71**	**357**	Pn	**Pn**	**17 29 36.9**	**+1.7**
INU	**Inuyama**	**4.73**	**235**	Pn	**Pn**	**17 29 35.6**	**+0.1**
JHJ2	**Mitsune**	**5.26**	**198**	Pn	**Pn**	**17 29 43.4**	**+0.6**
JHJ	**Hachijo jima 2**	**5.26**	**199**	P	**Pn**	**17 29 45.0**	**+2.1**
	8.8nm,0.3s,baz=100,slow=23,SNR=5.5						
JHJ				S	**Sn**	**17 30 40.4**	**-1.8**
	12nm,0.3s,baz=213,slow=23,SNR=1.6						
JKA	**Kamikawa-asahi**	**6.01**	**6**	Pn	**Pn**	**17 29 52.8**	**-0.2**
ASAJ	**Asahikawa**	**6.01**	**6**	P	**Pn**	**17 29 52.7**	**-0.3**
	1.7nm,0.3s,baz=214,slow=11,SNR=40						
JHS	**Saijyo**	**7.65**	**248**	Pn	**Pn**	**17 30 18.6**	**+3.0**
JMN	**Monobe**	**7.78**	**238**	Pn	**Pn**	**17 30 17.3**	**0.0**
USA0B	**Ussuriysk Arra**	**9.55**	**312**	Pn	**Pn**	**17 30 42.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**9.55**	**312**	P	**Pn**	**17 30 41.1**	**-0.4**
	baz=122,slow=14,SNR=14						
USRK				LR	LR	17 33 48.2	
	comp=Z,67nm,21.6s,baz=116,slow=34						
USRK	**Ussuriysk Ar.**	**9.55**	**312**	Pn	**Pn**	**17 30 42.0**	**+0.4**
JNU	**Nakatsue**	**10.19**	**244**	P	**Pn**	**17 30 52.0**	**+1.6**
	0.2nm,0.3s,baz=143,slow=15,SNR=2.1						
KSRS	**Korea Array**	**10.99**	**271**	P	**Pn**	**17 31 03.2**	**+1.9**
	0.2nm,0.3s,baz=78,slow=14,SNR=4.5						
KSRS				LR	LR	17 34 42.7	
	comp=Z,42nm,21.0s,baz=90,slow=34						
KLR	**Kul'dur**	**13.24**	**330**	LR	LR	17 36 05.7	
	comp=Z,47nm,20.6s,baz=145,slow=35						
CN2	**Changchun**	**13.58**	**300**	*eP*	**Pn**	**17 31 37.3**	**+0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2	**Magadan**	**22.22**	**12**	P	**P**	**17 33 19.1**	**0.0**
	comp=Z,3.6nm,0.5s,baz=191,slow=10,SNR=4.0						
MA2				LR	LR	17 42 06.0	
	comp=Z,23nm,19.8s,baz=248,slow=37						
MA2	**Magadan**	**22.22**	**12**	P	**P**	**17 33 21.3**	**+2.1**
HHC	**Hu-ho-hao-te**	**23.43**	**286**	*eP*	**P**	**17 33 31.3**	**-0.6**
SEY	**Seymchan**	**25.66**	**11**	P	**P**	**17 33 52.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=224,slow=16,SNR=6.3						
XAN	**Xi'an**	**26.79**	**271**	P	**P**	**17 33 60.0**	**-2.6**
XAN				IAmb	IAmb	17 34 01.6	
	comp=Z,3.1nm,0.5s						
SONM	**Songino Array**	**27.44**	**302**	P	**P**	**17 34 08.0**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=104,slow=9.4,SNR=4.4						
SONM	**Songino Array**	**27.44**	**302**	P	**P**	**17 34 08.8**	**+0.4**
ENH	**Enshi**	**27.74**	**263**	P	**P**	**17 34 10.2**	**-1.0**
ENH				IAmb	IAmb	17 34 15.4	
	comp=Z,7.6nm,0.5s						
WMQ	**Urumqi**	**40.62**	**296**	*eP*	**P**	**17 36 03.0**	**+0.8**
WMQ				pP	pP	17 36 17.5	+3.1
WMQ				sP	sP	17 36 21.8	+2.2
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,100nm,4.1s						
ZAA0	**Zalesovo Array**	**41.40**	**311**	P	**P**	**17 36 07.6**	**-0.8**
ZAA0				IAmb	IAmb	17 36 26.2	
	comp=Z,3.8nm,0.8s						
ZALV	**Zalesovo Beam**	**41.40**	**311**	P	**P**	**17 36 08.0**	**-0.5**
	comp=Z,2.7nm,0.4s,baz=81,slow=7.8,SNR=10.0						
ZALV				pP	**sP**	**17 36 25.9**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=82,slow=7.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**41.40**	**311**	P	**P**	**17 36 07.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**42.07**	**254**	P	**P**	**17 36 14.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=64,slow=6.3,SNR=1.7						
MK31	**Makanchi Array**	**43.80**	**301**	P	**P**	**17 36 26.8**	**-1.2**
MK31				IAmb	IAmb	17 36 46.5	
	comp=Z,2.8nm,0.8s						
MKAR	**Makanchi Array**	**43.80**	**301**	P	**P**	**17 36 27.3**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=85,slow=9.6,SNR=19						
MKAR				pP	**sP**	**17 36 45.2**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=86,slow=10,SNR=14						
MKAR	**Makanchi Array**	**43.80**	**301**	P	**P**	**17 36 26.8**	**-1.2**
MAKZ	**Makanchi**	**44.00**	**301**	P	**P**	**17 36 28.7**	**-1.0**
BPAW	**Bear Paw Mtn.**	**46.65**	**34**	P	**P**	**17 36 51.7**	**+1.3**
BPAW				IAmb	IAmb	17 37 01.0	
	comp=Z,7.1nm,1.4s						
JIRN	**Jiri**	**47.22**	**274**	*eP*	**P**	**17 36 56.4**	**+0.6**
RAMN	**Ramite**	**47.23**	**273**	*eP*	**P**	**17 36 55.3**	**-0.4**
GUN	**Gumba**	**47.35**	**275**	*eP*	**P**	**17 36 56.8**	**+0.1**
PKI	**Pulchoki**	**47.88**	**275**	*eP*	**P**	**17 37 00.3**	**-0.5**
KKN	**Kakani**	**47.88**	**275**	*eP*	**P**	**17 37 00.5**	**-0.2**
DMN	**Daman**	**48.10**	**275**	*eP*	**P**	**17 37 02.1**	**-0.3**
	comp=Z,4.3nm,0.4s						
GKN	**Gorkha**	**48.28**	**276**	*eP*	**P**	**17 37 03.4**	**-0.3**
ILAR	**Eielson Array**	**48.41**	**33**	P	**P**	**17 37 02.6**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=262,slow=5.8,SNR=6.6						
BRVK	**Borovoye**	**50.11**	**312**	P	**P**	**17 37 16.4**	**-0.8**
BRVK				IAmb	IAmb	17 37 36.0	
	comp=Z,1.6nm,0.7s						
KSH	**Kashi**	**50.24**	**293**	P	**P**	**17 37 21.3**	**+2.8**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,140nm,4.3s						
INK	**Inuvik**	**53.27**	**28**	P	**P**	**17 37 40.9**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=287,slow=3.5,SNR=3.9						
INK	**Inuvik**	**53.27**	**28**	P	**P**	**17 37 41.4**	**+0.9**
INK				IAmb	IAmb	17 37 54.4	
	comp=Z,5.2nm,1.5s						
ABKAR	**Akbulak array**	**57.46**	**310**	P	**P**	**17 38 09.9**	**-1.0**
WB0	**Warramunga Arr**	**58.01**	**188**	P	**P**	**17 38 14.9**	**-0.1**
WB0				IAmb	IAmb	17 38 31.0	
	comp=Z,2.9nm,0.8s						
WR0	**Warramunga Arr**	**58.18**	**188**	P	**P**	**17 38 15.9**	**-0.2**
WR0				IAmb	IAmb	17 38 40.7	
	comp=Z,3.8nm,1.1s						
WB2	**Warramunga Arr**	**58.19**	**188**	P	**P**	**17 38 16.1**	**-0.1**
WRA	**Warramunga Arr**	**58.19**	**188**	P	**P**	**17 38 16.1**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=5.2,slow=7.2,SNR=20						
WRA	**Warramunga Arr**	**58.19**	**188**	P	**P**	**17 38 16.3**	**+0.1**
EUNU	**Eureka**	**59.06**	**9**	P	**P**	**17 38 21.4**	**-0.3**
EUNU				IAmb	IAmb	17 38 22.1	
	comp=Z,1.7nm,0.8s						
KNTN	**Kanton**	**59.16**	**122**	P	**P**	**17 38 23.6**	**+0.5**
RES	**Resolute Bay**	**61.46**	**15**	P	**P**	**17 38 37.7**	**-0.3**
RES				IAmb	IAmb	17 38 38.7	
	comp=Z,1.9nm,1.1s						
AS31	**Alice Springs**	**61.91**	**188**	P	**P**	**17 38 41.9**	**+0.2**
ASAR	**Alice Springs**	**61.92**	**188**	P	**P**	**17 38 42.1**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=354,slow=4.2,SNR=26						
ASAR	**Alice Springs**	**61.92**	**188**	P	**P**	**17 38 41.7**	**-0.1**
YKA	**Yellowknife Ar**	**62.71**	**31**	P	**P**	**17 38 45.9**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=307,slow=5.9,SNR=4.7						
ARCES	**ARCESS Array B**	**63.07**	**339**	P	**P**	**17 38 47.5**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=71,slow=9.1,SNR=6.3						
FINES	**FINESS Array B**	**67.98**	**332**	P	**P**	**17 39 20.2**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=29,slow=8.7,SNR=5.2						
FINES				pP	**sP**	**17 39 38.0**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=45,slow=8.3,SNR=2.0						
YBH	**Yreka Blue Hor**	**69.44**	**53**	LR	LR	18 07 13.5	
	comp=Z,18nm,19.5s,baz=223,slow=34						
SUMG	**Summit**	**69.59**	**0**	P	**P**	**17 39 32.2**	**+1.2**
SUMG				IAmb	IAmb	17 39 34.4	
	comp=Z,5.7nm,1.2s						
KBZ	**Khabaz**	**70.41**	**311**	P	**P**	**17 39 36.2**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=340,slow=5.2,SNR=4.2						
FCC	**Fort Churchill**	**72.89**	**27**	P	**P**	**17 39 50.6**	**-0.1**
FCC				IAmb	IAmb	17 40 10.3	
	comp=Z,3.3nm,1.4s						
NC405	**NORSAR Array S**	**73.08**	**337**	P	**P**	**17 39 51.7**	**-0.2**
NC204	**NORSAR Array S**	**73.24**	**338**	P	**P**	**17 39 52.7**	**-0.1**
NB201	**NORSAR Array S**	**73.26**	**337**	P	**P**	**17 39 52.5**	**-0.4**
NB2	**NORSAR Subarra**	**73.29**	**337**	P	**P**	**17 39 52.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**73.29**	**337**	P	**P**	**17 39 53.0**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=53,slow=7.0,SNR=7.4						
NOA				LR	LR	18 14 48.2	
	comp=Z,8.7nm,21.6s,baz=25,slow=38						
AKASG	**Malin Array Be**	**73.61**	**322**	P	**P**	**17 39 53.5**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=44,slow=6.2,SNR=8.3						
AKASG				pP	**PcP**	**17 40 11.9**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=45,slow=6.2,SNR=4.0						
AKBB	**Malin Array Si**	**73.61**	**322**	P	**P**	**17 39 54.3**	**-0.8**
AKBB				IAmb	IAmb	17 39 55.1	
	comp=Z,6.2nm,1.4s						
PDAR	**Pinedale Array**	**76.69**	**46**	P	**P**	**17 40 13.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=228,slow=1.8,SNR=3.6						
PDAR	**Pinedale Array**	**76.69**	**46**	P	**P**	**17 40 13.9**	**+0.6**
BURAR	**Bucovina Array**	**77.63**	**322**	P	**P**	**17 40 18.0**	**-0.3**
MDND	**Maddock**	**78.45**	**37**	P	**P**	**17 40 24.2**	**+1.4**
SRU	**San Rafael Swe**	**78.47**	**49**	P	**P**	**17 40 24.7**	**+1.4**
SRU				IAmb	IAmb	17 40 25.2	
	comp=Z,2.1nm,1.0s						
GERES	**GERESS Array B**	**81.93**	**328**	P	**P**	**17 40 40.7**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=37,slow=6.9,SNR=4.1						

IDC 26 17:41:53.6±2.0,9.°67S×125.°03E,h0km,mb3.2/1, mb1 3.5/4,mb1mx3.3/41,mbtmp3.3/4,ML3.4/3,Error ellipse: s-maj=36.8km s-min=28.4km az=50.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.45**	**248**	Pn	**Pn**	**17 42 20.8**	**-0.4**
	27nm,0.3s,baz=81,slow=4.1,SNR=55						
BATI				Sn	Sg	17 42 38.0	-2.3
	18nm,0.3s,baz=234,slow=21,SNR=13						
FITZ	**Fitzroy Crossi**	**8.40**	**176**	Pn	Pn	17 43 57.0	+0.4
	0.7nm,0.3s,baz=0.2,slow=9.2,SNR=51						
FITZ				Sn	Sn	17 45 25.1	-7.1
	0.4nm,0.3s,baz=213,slow=22,SNR=7.2						
WRA	**Warramunga Arr**	**13.60**	**140**	Pn	Pn	17 45 07.8	-0.1
	0.1nm,0.3s,baz=320,slow=13,SNR=6.0						
WRA				Sn	Sn	17 47 35.3	-4.7
	0.2nm,0.3s,baz=315,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**16.30**	**150**	Pn	Pn	17 45 43.8	-0.2
	0.1nm,0.3s,baz=321,slow=12,SNR=7.0						
MKAR	**Makanchi Array**	**67.90**	**330**	P	P	17 52 54.3	+0.3
	0.1nm,0.4s,baz=124,slow=6.8,SNR=2.4						

SJA ***26*** *17:45:03.2±0.8,30.°93S×72.°22W,h15km,ML5.0,MW4.8*

IDC ***26*** *17:45:04.3±0.6,31.°17S×71.°73W,h0km,mb4.5/14, mb1 4.6/17,mb1mx4.5/27,mbtmp4.4/17,ML4.3/3,MS3.8/8, Ms1 3.8/8,ms1mx3.5/21,Error ellipse: s-maj=21.8km s-min=17.0km az=53.0*

NEIC ***26*** *17:45:05.4,30.°98S×71.°94W,h30km,Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr3.85; Mθθ0.96; Mϕϕ-4.81; Mrθ1.29; Mrϕ0.14; Mθϕ-1.09; Fault plane solution: Mo4.73000×10^15 NP1:ϕs18.18000°, δ41.24000°,λ120.37000°. NP2:ϕs160.25000°,δ55.34000°, λ66.10000°. Principal axes: T 4.4474, Plg69.0000°, Azm17.0000°; N 0.5165, Plg19.0000°, Azm174.0000°; P -4.9640, Plg7.0000°, Azm267.0000°;*

VAO ***26*** *17:45:05.0±0.4,31.°19S×71.°89W,h10km,mb4.5*

GUC ***26*** *17:45:08.6±0.6,31.°06S×71.°80W,h30km±6km,ML4.9*

NEIC ***26*** *17:45:08.1±2.4,31.°03S±0.°04×71.°81W±0.°04,h28km±4km, Error ellipse: s-maj=6.2km s-min=5.4km az=200.0*

ISC 26 17:45:04.2±1.2,31.°11S±0.°03×71.°93W±0.°04,h2km±7km, n190,σ1s30/203,mb4.8/22,MS3.9/6,6C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**

AHML IAML 17 48 44.2
comp=Z,200nm,0.8s

FSA Cafayete 7.22 48 *eP* **Pn 17 46 51.7 +0.7**
PB15 IPOC Station P 8.17 16 Pn 17 47 02.8 -1.3
PB15 IPOC Station P 8.17 16 *eP* **Pn 17 47 02.9 -1.1**
PB15 IAML 17 49 21.0
comp=Z,324nm,0.8s
PB06 IPOC Station P 8.63 15 Pn 17 47 07.6 -2.8
LVC Limon Verde 8.89 18 Pn Pn **17 47 11.6 -2.4**
LVC Limon Verde 8.89 18 *eP* **Pn 17 47 16.7 +2.7**
PB04 IPOC Station P 8.89 11 Pn Pn **17 47 12.3 -1.6**
PB07 IPOC Station P 9.53 12 Pn Pn **17 47 21.6 -1.0**
PB09 IPOC Station P 9.59 15 Pn Pn **17 47 20.8 -2.6**
PLCA Paso Flores 9.66 174 Pn Pn **17 47 25.1 +0.7**
comp=Z,0.5nm,0.3s,baz=332,slow=7.4,SNR=12
PLCA LR LR 17 51 50.9
comp=Z,300nm,18.6s,baz=348,slow=42
PLCA Paso Flores 9.66 174 Pn Pn **17 47 25.3 +0.9**
PLCA Paso Flores 9.66 174 *eP* **Pn 17 47 23.8 -0.6**
PB01 IPOC Station P 10.27 13 Pn Pn **17 47 29.5 -3.2**
TA01 Diego Aracena 10.62 9 Pn Pn **17 47 36.0 -1.4**
PB08 IPOC Station P 11.21 14 Pn Pn **17 47 46.4 +0.5**
LL01 San Ignacio de 11.25 182 Pn Pn **17 47 46.8 +0.8**
PSGCX Pisagua 11.58 9 Pn Pn **17 47 47.8 -2.9**
MNMC Minye Minye 12.12 11 Pn Pn **17 48 08.4 +0.2**
PB16 IPOC Station P 12.91 10 Pn Pn **17 48 09.2 -0.1**
ITQB Itaqui 13.29 88 *eP* **Pn 17 48 12.7 -1.2**
ITQB *eS* **Sn 17 50 42.9 +0.6**
CPUP Villa Florida 13.66 73 Pn Pn **17 48 19.1 0.0**
comp=Z,0.6nm,0.3s,baz=232,slow=12,SNR=6.0
CPUP LR LR 17 53 50.5
comp=Z,306nm,21.8s,baz=238,slow=39
CPUP Villa Florida 13.66 73 Pn 17 48 15.2 -3.9
LPAZ La Paz 15.16 14 Pn Pn **17 48 41.0 +0.9**
comp=Z,0.5nm,0.3s,baz=193,slow=7.5,SNR=38
LPAZ La Paz 15.16 14 Pn Pn **17 48 41.4 +1.4**
LPAZ La Paz 15.16 14 *eP* **Pn 17 48 39.8 -0.3**
PLTB Pedras Altas 15.66 97 *eP* **Pn 17 48 44.9 -1.1**
CPSB Cacapava Do Su 15.91 92 *eP* **Pn 17 48 48.8 -0.5**
ITAB Concordia 17.71 82 *eP* **P 17 49 12.6 -0.4**
AQDB Aquidauana 18.03 58 *eP* **Pn 17 49 16.3 +0.3**
PTGB Pitanga 18.66 75 *eP* **Pn 17 49 24.3 +0.4**
PTLB Pontes e Lacer 19.50 40 *eP* **P 17 49 32.2 -0.5**
TER01 Tubaro-SC 19.94 88 *eP* **P 17 49 37.3 -0.2**
PP1B Ponte de Pedra 20.51 53 *eP* **P 17 49 45.0 +1.3**
PCMB Pacaembu 20.77 68 *eP* **P 17 49 45.9 -0.6**
TIJ01 Guaruva-PR 20.99 80 *eP* **P 17 49 48.8 -0.3**
VILB Vilhena 21.06 33 *eP* **P 17 49 49.4 -0.4**
FRTB Fartura 21.32 74 *eP* **P 17 49 52.4 -0.1**
ETMB Extrema 21.85 15 *eP* **P 17 49 59.3 +1.2**
GO10 Punta Arenas 22.04 179 P **P 17 50 01.6 +1.6**
GO10 IAmb IAmb 17 50 29.1
comp=Z,43nm,1.1s
ITRB Iturama 22.51 65 *eP* **P 17 50 03.1 -2.2**
PET01 Itanhaem-SP 22.83 79 *eP* **P 17 50 08.8 +0.1**
EFI East Falkland 22.95 158 P **P 17 50 09.0 -0.6**
EFI IAmb IAmb 17 50 13.4
comp=Z,22nm,0.9s
SPB Sao Paulo 22.98 77 P **P 17 50 07.8 -2.4**
SPB IAmb IAmb 17 50 19.4
comp=Z,25nm,1.1s
SPB Sao Paulo 22.98 77 *eP* **P 17 50 10.4 +0.2**
BB19B Bebedouro 23.23 70 *eP* **P 17 50 10.1 -2.8**
CZSB Cruzeiro do Su 23.28 358 *eP* **P 17 50 15.4 +2.1**
SAML Samuel 23.51 22 P **P 17 50 15.5 -0.1**
SAML Samuel 23.51 22 *eP* **P 17 50 15.6 -0.1**
VAO Valinhos 23.62 76 *eP* **P 17 50 16.6 -0.2**
ARAG Araguaiana, MT 23.94 55 *eP* **P 17 50 19.6 -0.3**
PARB Paraibuna 24.60 78 *eP* **P 17 50 26.1 0.0**
CLDB Colider 25.09 40 *eP* **P 17 50 29.4 -1.0**
IPMB Ipameri, GO 25.16 64 *eP* **P 17 50 29.7 -1.4**
MAN01 Angra dos Reis 26.18 79 *eP* **P 17 50 39.7 -0.7**
BSCB Bom Sucesso 26.33 74 *eP* **P 17 50 40.9 -0.8**
BDFB Brasilia 26.73 60 P **P 17 50 43.9 -1.5**
comp=Z,14nm,0.8s,baz=234,slow=7.2,SNR=13
BDFB LR LR 18 02 18.1
comp=Z,339nm,20.8s,baz=255,slow=39
BDFB Brasilia 26.73 60 P **P 17 50 42.9 -2.5**
BDFB IAmb IAmb 17 50 47.3
comp=Z,14nm,0.7s
VAS01 Vassouras-RJ 26.87 78 *eP* **P 17 50 45.7 -0.8**
SNDB Serra Nova Dou 26.95 50 *eP* **P 17 50 46.1 -1.1**
DUB01 Friburgo-RJ 27.85 78 *eP* **P 17 50 54.2 -1.1**
NPGB Novo Progresso 28.53 36 *eP* **P 17 51 00.1 -1.2**
CAM01 Campos-RJ 28.56 78 *eP* **P 17 51 01.1 -0.5**
PEXB Peixe 28.88 54 *eP* **P 17 51 02.7 -1.8**
JANB Januaria 29.89 64 *eP* **P 17 51 12.4 -1.2**
SDBA SAO DESIDERIO 31.11 59 *eP* **P 17 51 23.5 -0.8**
SMTB Santa Maria do 31.69 51 *eP* **P 17 51 29.6 +0.3**
NAN01 Guarapari, ES 31.69 73 *eP* **P 17 51 29.5 +0.1**
PTGA Pitinga 32.27 23 P **P 17 51 33.9 -0.6**
PTGA IAmb IAmb 17 51 35.1
comp=Z,15nm,1.1s
PTGA Pitinga 32.27 23 *eP* **P 17 51 34.6 +0.1**
MALB Monte Alegre 33.56 33 *eP* **P 17 51 44.8 -0.9**
NBIT Itapeh - BA 33.80 69 *eP* **P 17 51 47.3 -0.6**
PMSA Palmer Station 34.04 174 *eP* **P 17 51 48.2 -1.2**
GDU01 Guandu, BA 34.38 67 *eP* **P 17 51 52.4 -0.5**
BOAV Boa Vista 35.05 20 *eP* **P 17 51 58.7 +0.1**
NBPN Ponto Novo - B 35.63 62 *eP* **P 17 52 02.6 -1.2**
MCPB Macapa, AP 35.92 35 *eP* **P 17 52 04.7 -1.5**
TMAB Tom-Au,PA,Br 36.39 43 *eP* **P 17 52 09.8 -0.3**
NBTA Tacaratu-PE 38.35 62 *eP* **P 17 52 25.5 -1.4**
NBMA Muriti-CE 38.96 60 *eP* **P 17 52 30.9 -1.1**
NBPS Pedro II - PI 39.09 53 *eP* **P 17 52 32.2 -1.0**
MDP Montagnes des 40.45 30 LR LR 18 11 28.9
comp=Z,90nm,21.3s,baz=204,slow=39
NBPV Pedro Velho 42.18 62 *eP* **P 17 52 57.6 -1.0**
MLPR Magueyes Islan 49.02 6 P **P 17 53 52.2 -0.4**
OBIP Obispado Ponce 49.14 7 P **P 17 53 52.2 -1.3**
PDPR Patillas Dam, 49.18 7 P **P 17 53 52.9 -0.9**
SJG San Juan 49.26 7 P **P 17 53 53.3 -1.1**
VNA3 Neumayer Olymp 52.00 159 P **P 17 54 15.3 +0.7**
VNA1 Neumayer--Stat 52.30 158 P **P 17 54 16.9 +0.2**
VNA2 Neumayer--Watz 52.64 158 P **P 17 54 20.4 +1.0**
baz=252,slow=8.8
SNAA Sanae 54.22 159 P **P 17 54 31.6 +0.6**
SNAA Sanae 54.22 159 P **P 17 54 31.2 +0.1**
SNAA IAmb IAmb 17 54 32.6
comp=Z,8.3nm,0.7s
QSPA South Pole Qui 59.12 180 P **P 17 55 07.5 +1.5**
QSPA IAmb IAmb 17 55 16.6
comp=Z,7.9nm,0.8s
VNDA Vanda 66.94 191 P **P 17 55 57.9 +0.2**
comp=Z,0.3nm,0.7s,baz=86,slow=5.2,SNR=1.1
TXAR Lajitas Array 67.28 330 P **P 17 56 01.8 +1.3**
comp=Z,1.9nm,0.9s,baz=152,slow=8.3,SNR=12
TKL Tuckaleechee C 67.35 350 P **P 17 56 01.4 +0.7**
comp=Z,8.6nm,0.8s,baz=167,slow=9.4
ANMO Albuquerque 73.31 331 P **P 17 56 39.0 +1.6**
comp=Z,1.3nm,0.7s,baz=183,slow=12,SNR=3.4
ANMO Albuquerque 73.31 331 IAmb IAmb 17 56 40.8
comp=Z,7.8nm,1.5s
LIC Lamto 73.79 72 *eP* **P 17 56 39.5 -1.0**
comp=Z,49nm,1.2s
TIC Toumodi 74.03 72 *eP* **P 17 56 41.4 -0.6**
KIC Kosan Boka 74.10 72 *eP* **P 17 56 41.9 -0.5**
comp=Z,27nm,0.8s
DBIC Dimbokro 74.18 72 P **P 17 56 42.4 -0.4**
comp=Z,11nm,0.6s,baz=206,slow=6.6,SNR=13
DBIC LR LR 18 26 39.8
comp=Z,85nm,20.1s,baz=180,slow=34
DBIC Dimbokro 74.18 72 P **P 17 56 42.1 -0.7**
DBIC IAmb IAmb 17 56 43.3
comp=Z,12nm,0.8s
SADO Sadowa 75.81 355 P **P 17 56 52.0 +0.6**
comp=Z,4.4nm,0.6s,baz=213,slow=1.7
PFO Pinyon Flats O 76.88 323 P **P 17 56 59.4 +1.4**
comp=Z,1.8nm,0.7s,baz=32,slow=4.1,SNR=3.9
PDAR Pinedale Array 81.24 333 P **P 17 57 22.9 +1.0**
comp=Z,0.7nm,0.7s,baz=122,slow=7.2,SNR=5.5
PDAR Pinedale Array 81.24 333 P **P 17 57 22.1 +0.3**
BOSA Boshof 81.33 118 P **P 17 57 22.3 -0.5**
comp=Z,2.5nm,0.7s,baz=268,slow=2.6,SNR=5.9
BOSA LR LR 18 32 38.2
comp=Z,41nm,18.3s,baz=177,slow=35
NVAR Mina Array Bea 81.58 325 P **P 17 57 25.9 +2.2**
comp=Z,1.4nm,0.8s,baz=146,slow=5.8,SNR=9.6
ELK Elko 81.96 328 P **P 17 57 27.3 +1.6**
comp=Z,2.4nm,0.8s,baz=173,slow=4.1,SNR=9.4
ELK Elko 81.96 328 P **P 17 57 26.7 +1.0**
TORD Torodi Ar. Bea 83.14 70 P **P 17 57 31.4 -0.7**
comp=Z,8.0nm,0.8s,baz=259,slow=4.9,SNR=33
TORD LR LR 18 32 23.9
comp=Z,65nm,19.8s,baz=260,slow=34
TORD Torodi Ar. Bea 83.14 70 P **P 17 57 31.3 -0.9**
TORD IAmb IAmb 17 57 32.7
comp=Z,8.1nm,0.8s
ULM Lac du Bonnet 83.74 345 P **P 17 57 34.8 +0.4**
comp=Z,6.1nm,0.8s,baz=159,slow=3.9,SNR=17
ULM Lac du Bonnet 83.74 345 P **P 17 57 34.5 +0.1**
ULM IAmb IAmb 17 57 35.6
comp=Z,7.3nm,0.8s
ESDC Sonseca Array 94.51 46 LR LR 18 41 08.0
comp=Z,49nm,18.5s,baz=15,slow=36
YKA Yellowknife Ar 99.36 341 P **Pdif 17 58 47.3 -0.1**
comp=Z,0.2nm,0.7s,baz=139,slow=4.8,SNR=3.6
ASAR Alice Springs 120.17 208 PKP **PKPdf 18 03 57.0 -0.4**
comp=Z,0.8nm,0.7s,baz=135,slow=1.8,SNR=9.6
ASAR Alice Springs 120.17 208 PKPdf 18 03 56.8 -0.6
WRA Warramunga Arr 123.31 210 PKP **PKPdf 18 04 02.7 -0.8**
comp=Z,2.0nm,0.7s,baz=160,slow=1.5,SNR=19
WRA Warramunga Arr 123.31 210 PKPdf 18 04 02.8 -0.7
H11S2 WAKE ISLAND Hyl 25.86 271 T T 20 23 00.7
baz=116,slow=75,SNR=182
H11S1 WAKE ISLAND Hyl 25.87 271 T T 20 22 55.4
baz=116,slow=75,SNR=210
H11S3 WAKE ISLAND Hyl 25.87 271 T T 20 22 55.9
baz=116,slow=75,SNR=224
H11N3 WAKE ISLAND Hyl 26.20 273 T T 20 23 21.6
baz=116,slow=75,SNR=35
H11N1 WAKE ISLAND Hyl 26.21 273 T T 20 23 22.6
baz=116,slow=75,SNR=10
H11N2 WAKE ISLAND Hyl 26.21 273 T T 20 23 23.2
baz=116,slow=75,SNR=60
HYB Hyderabad 149.94 110 *i* PKP **PKPbc 18 04 56.5 -0.3**
KURBB Kurchatov Arra 150.65 40 PKPbc **PKPbc 18 04 57.5 +0.1**
comp=Z,1.0nm,0.5s,baz=305,slow=2.8,SNR=20
KURBB PKPab **pPKPab 18 05 06.2 +1.9**
comp=Z,0.8nm,0.6s,baz=304,slow=3.1,SNR=7.6
KURK Kurchatov 150.66 40 PKPbc 18 04 57.5 +0.1
AAK Ala-Archa 150.96 57 PKPbc **PKiKP 18 04 59.7 +0.4**
comp=Z,5.3nm,0.8s,baz=235,slow=2.9,SNR=21
AAK PKPab **PKPab 18 05 06.7 +0.5**
comp=Z,1.6nm,0.7s,baz=21,slow=3.1,SNR=4.2
AAK Ala-Archa 150.96 57 PKPbc 18 04 58.5 -0.2
ZALV Zalesovo Beam 151.71 29 PKPbc **PKPbc 18 04 59.6 -0.2**
comp=Z,7.3nm,0.5s,baz=300,slow=1.2,SNR=4.1
ZALV PKPab **PKPab 18 05 08.7 +0.1**
comp=Z,3.3nm,0.6s,baz=291,slow=5.8,SNR=3.8
ZALV Zalesovo Beam 151.71 29 PKPdf 18 04 53.2 -0.3
ZALV PKPbc **PKPbc 18 04 59.8 -0.1**
MKAR Makanchi Array 154.72 44 PKP **PKPdf 18 04 57.5 -0.7**
comp=Z,0.5nm,0.8s,baz=323,slow=3.0,SNR=5.1
MKAR PKPbc **PKPbc 18 05 06.0 -0.8**
comp=Z,0.9nm,0.8s,baz=294,slow=2.1,SNR=8.4
MKAR PKPab **PKPab 18 05 21.0 -0.7**
comp=Z,0.9nm,0.8s,baz=298,slow=2.6,SNR=6.3
MKAR Makanchi Array 154.72 44 PKPdf 18 04 57.0 -1.2
CMAR Chiang Mai Arr 164.93 145 PKP **PKPdf 18 05 11.2 +0.7**
comp=Z,0.6nm,0.8s,baz=282,slow=2.5,SNR=6.5
CMAR PKPab **PKPab 18 06 06.2 -0.5**
comp=Z,0.9nm,0.9s,baz=232,slow=5.3,SNR=4.8
GTA Gaotai 169.32 37 ⇑PKP **PKPdf 18 05 13.8 +0.4**
GTA PKPab **PKPab 18 06 26.3 +0.5**

IDC 26 17:54:16.7±2.1, 0.78N×125.57E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/34, mbtmp3.4/3, Error ellipse: s-maj=186.5km s-min=27.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.32**	**158**	P	P	17 59 16.8	+0.7
	0.7nm,0.4s,baz=336,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.61**	**162**	P	P	17 59 47.5	-0.6
	0.2nm,0.3s,baz=344,slow=8.4,SNR=7.9						
MKAR	**Makanchi Array**	**59.34**	**327**	P	P	18 04 20.7	0.0
	0.1nm,0.4s,baz=111,slow=7.9,SNR=2.1						

*ANF **26** 18:09:35.3±0.2, 33.25N×117.85W, h15km, ML2.9/16, Error ellipse: s-maj=1.6km s-min=1.1km az=16.0, Hypocentre not reviewed by the ISC*
*SCEDC **26** 18:09:36.4, 33.25N×117.84W, h0km, Hypocentre not reviewed by the ISC*
*PAS **26** 18:09:36.4±1.4, 33.24N±0.01×117.868W±0.010, h14km±1km, ML3.1/216, ML2.8/46(NEIC), Error ellipse: s-maj=1.7km s-min=1.0km az=152.0*
NEIC 26 18:09:35.7±1.1, 33.23N±0.01×117.86W±0.01, h19km±2km, Error ellipse: s-maj=2.3km s-min=1.0km az=139.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANC	**Santa Ana**	**0.48**	**358**		Pb	18 09 45.7	+0.2
SANC					Sb	18 09 52.9	+0.8
CIAC	**Catalina I. Ai**	**0.49**	**291**		Pg	18 09 45.2	-0.5
CIAC					Sg	18 09 51.6	-0.9
CIS	**Catalina Islan**	**0.49**	**291**	P		18 09 45.2	
	baz=107,SNR=50						
CIS				S		18 09 51.6	
	baz=107						
GORC	**Green Oak Ranc**	**0.54**	**98**		Pg	18 09 46.6	+0.1
GORC					Sg	18 09 53.8	0.0
ELS	**Elsinore Mount**	**0.56**	**41**		Pb	18 09 46.5	-0.3
ELS					Sb	18 09 53.8	-0.6
FMP	**Fort Macarthur**	**0.60**	**324**		Pb	18 09 47.0	-0.6
FMP					Sb	18 09 55.5	-0.1
FMP	**Fort Macarthur**	**0.60**	**324**	P		18 09 47.0	
	baz=140						
FMP				S		18 09 55.3	
	baz=140						
SCI2	**San Clemente I**	**0.62**	**247**		Pg	18 09 48.6	+0.5
SCI2					Sg	18 09 56.5	+0.1
SCI2	**San Clemente I**	**0.62**	**247**	P		18 09 48.5	
	baz=65,SNR=21						
SCI2				S		18 09 57.4	
	baz=65						
DLAC	**Del Amo**	**0.65**	**343**		Pn	18 09 49.6	-0.3
MURC	**Murrieta**	**0.67**	**56**		Pb	18 09 48.7	-0.1
MURC					Sb	18 09 57.4	-0.3
MURC	**Murrieta**	**0.67**	**56**	P		18 09 48.6	
	baz=237,SNR=31						
MURC				S		18 09 57.1	
	baz=237						
RPV	**Rancho Palos V**	**0.69**	**319**		Pb	18 09 48.7	-0.2
CRNC	**Corona**	**0.70**	**21**		Pb	18 09 48.9	-0.3
109C	**Camp Elliot, M**	**0.72**	**118**		Pg	18 09 49.8	-0.1
109C	**Camp Elliot, M**	**0.72**	**118**	P		18 09 49.8	
	baz=301,SNR=14						
109C				S		18 09 59.5	
	baz=301						
CPE	**Camp Elliot**	**0.72**	**118**		Pg	18 09 49.9	0.0
CPE					Sg	18 09 59.6	+0.1
SME	**Santa Rosa Min**	**0.73**	**35**		Pb	18 09 49.4	-0.4
SME					Sb	18 09 59.0	-0.5
HWB	**Hans Werner Br**	**0.79**	**104**		Pb	18 09 50.7	0.0
HWB					Sg	18 10 01.5	0.0
CHNC	**Chino**	**0.79**	**11**		Pb	18 09 50.9	+0.1
BACC	**Bachelor Mtn.**	**0.79**	**61**		Pb	18 09 50.5	-0.4
BACC					Sb	18 10 01.1	0.0
DPP	**Dos Picos Cty**	**0.81**	**106**		Pb	18 09 51.0	-0.1
DPP					Sb	18 10 01.8	+0.2
MLSC	**Mira Loma**	**0.82**	**18**		Pb	18 09 51.0	-0.2
DGR	**Domenigoni Val**	**0.83**	**59**		Pb	18 09 51.2	-0.3
DGR					Sb	18 10 02.0	-0.3
GVRC	**Garvey Reservo**	**0.85**	**346**		Pg	18 09 52.3	0.0
PLM	**Palomar**	**0.85**	**81**		Pb	18 09 51.7	-0.2
PLM					Sb	18 10 02.9	-0.1
HMTC	**Hemet**	**0.86**	**56**		Pb	18 09 51.9	-0.2
HMTC					Sb	18 10 03.1	-0.2
PSRC	**Puddingstone R**	**0.86**	**3**		Pb	18 09 52.0	-0.1
PSRC					Sg	18 10 04.4	+0.3
RVR	**Riverside**	**0.87**	**28**		Pb	18 09 51.8	-0.3
RSBC	**Riverside Bore**	**0.87**	**31**		Pb	18 09 52.1	-0.1
RSBC					Sb	18 10 03.4	0.0
PEC	**Perris**	**0.89**	**41**		Pb	18 09 52.2	-0.3
PEC					Sb	18 10 03.6	-0.4
POB	**Polly Butte**	**0.91**	**59**		Pb	18 09 52.5	-0.4
POB					Sb	18 10 04.4	-0.3
SDRC	**San Diego Road**	**0.92**	**122**		Pb	18 09 52.7	-0.2
SDRC					Sg	18 10 05.2	-0.5
EML	**El Monte Cty P**	**0.92**	**111**		Pb	18 09 52.8	-0.2
PEM	**Pine Mountain**	**0.94**	**360**		Pb	18 09 53.3	0.0
PASC	**Pasadena Art C**	**0.98**	**344**		Pb	18 09 53.8	-0.3
PASC	**Pasadena Art C**	**0.98**	**344**		Sb	18 10 06.5	-0.1
PASC	**Pasadena Art C**	**0.98**	**344**		Pb	18 09 53.6	-0.4
PASC	**Pasadena Art C**	**0.98**	**344**	IAML		18 10 08.0	
	comp=E,224nm,0.3s						
PASC				IAML		18 10 10.8	
	comp=N,169nm,0.7s						
TJX	**Tijuana**	**0.99**	**136**		Pg	18 09 54.8	-0.1
SSK	**Sunset Peak**	**0.99**	**8**		Pb	18 09 54.4	0.0
OLP	**Otay Lakes Par**	**1.00**	**128**		Pn	18 09 54.6	-0.1
OLP					Sg	18 10 08.5	+0.2
CFSC	**Central Fire S**	**1.00**	**29**		Pg	18 09 55.0	-0.2
CRY	**Cary Ranch**	**1.00**	**70**		Pg	18 09 54.4	-0.1
CRY					Sb	18 10 07.5	+0.1
DJJ	**Donna J Jenkin**	**1.01**	**331**		Pb	18 09 54.3	-0.2
MWC	**Mount Wilson**	**1.01**	**351**		Pb	18 09 54.2	-0.5
MWC					Sg	18 10 08.3	-0.4
MWC	**Mount Wilson**	**1.01**	**351**	Pg	Pb	18 09 54.0	-0.6
MWC	**Mount Wilson**	**1.01**	**351**	IAML		18 10 08.7	
	comp=E,526nm,0.3s						
BBSC	**Beaumont Base**	**1.01**	**47**		Pn	18 09 54.9	0.0
BBSC					Sn	18 10 08.5	-0.2
MATG	**Mataguay Scout**	**1.02**	**91**		Pb	18 09 54.6	-0.1
MATG					Sn	18 10 08.7	-0.2
CFT	**Crafton Hills**	**1.02**	**38**		Pb	18 09 54.7	-0.1
BFSC	**Mount Baldy Ra**	**1.02**	**10**		Pb	18 09 54.7	-0.2
BFSC					Sn	18 10 09.0	0.0
BFSC	**Mount Baldy Ra**	**1.02**	**10**	P		18 09 54.7	
	baz=189,SNR=191						
BFSC				Sb		18 10 08.7	
	baz=189						
SS2	**San Sevaine**	**1.02**	**17**		Pb	18 09 54.7	-0.1
BZNA	**Buzz No.'s Pla**	**1.04**	**75**		Pb	18 09 55.0	-0.1
BZNA					Sb	18 10 08.5	+0.1
XTL	**Crystal Lake,**	**1.07**	**0**		Pb	18 09 55.1	-0.5
DNR	**Dunn Ranch,Anz**	**1.09**	**71**		Pn	18 09 56.1	+0.1
DNR					Sn	18 10 10.8	+0.3
SVD	**Seven Oaks Dam**	**1.09**	**36**		Pb	18 09 55.7	-0.1
FRD	**Ford Ranch, An**	**1.09**	**75**		Pb	18 09 55.9	-0.1
FRD					Sb	18 10 10.2	+0.2
FRD	**Ford Ranch, An**	**1.09**	**75**		Pn	18 09 56.0	+0.1
SNDA	**J Saunders Pla**	**1.10**	**72**		Pn	18 09 56.3	+0.2
SNDA					Sg	18 10 12.0	+0.5
DECC	**Green Verdugo**	**1.10**	**339**		Pn	18 09 56.0	-0.1
DECC	**Green Verdugo**	**1.10**	**339**	P		18 09 56.1	
	baz=157						
DECC				S		18 10 10.1	
	baz=157						
PT2	**Point Dume**	**1.10**	**315**		Pg	18 09 57.1	0.0
CHFC	**Chilao Flat St**	**1.11**	**353**		Pn	18 09 55.9	-0.5
BAR	**Barrett**	**1.14**	**118**		Pn	18 09 56.5	-0.1
CSP	**Cedar Springs**	**1.15**	**21**		Pn	18 09 56.8	-0.1
BORC	**Borrego Spring**	**1.21**	**88**		Pb	18 09 58.2	+0.2
BLCC	**Black Canyon**	**1.22**	**327**		Pn	18 09 57.4	-0.4
JNH	**Juniper Hills**	**1.22**	**357**		Pn	18 09 57.9	0.0
JNH					Sb	18 10 13.6	-0.1
PFO	**Pinyon Flats O**	**1.24**	**71**	Pn	Pb	18 09 58.5	+0.1
PFO				IAML		18 10 16.4	
	comp=E,243nm,0.6s						
PFO				IAML		18 10 17.3	
	comp=E,156nm,0.3s						
PFO	**Pinyon Flats O**	**1.24**	**71**		Pb	18 09 58.5	+0.1
PFO	**Pinyon Flats O**	**1.24**	**71**	Pg		18 09 58.6	
	baz=253,SNR=26						
PFO				S		18 10 14.3	
	baz=253						
XPFO	**Pion Flat**	**1.24**	**72**	IAML		18 10 16.4	
	comp=E,243nm,0.6s						
XPFO				IAML		18 10 17.3	
	comp=E,157nm,0.3s						
XPFO	**Pion Flat**	**1.24**	**72**		Pb	18 09 58.3	-0.2
XPFO	**Pion Flat**	**1.24**	**72**	Pn	Pb	18 09 58.5	0.0
BTL	**Butler Peak**	**1.25**	**35**		Pb	18 09 58.8	-0.1
MONP2	**Monument Peak**	**1.26**	**105**		Pb	18 09 58.6	-0.2
MONP2	**Monument Peak**	**1.26**	**105**	P		18 09 58.5	
	baz=287,SNR=24						
MONP2				S		18 10 15.1	
	baz=287						
OAT	**Oat Mountain**	**1.28**	**331**		Pg	18 10 00.6	+0.1
DEVC	**Devers**	**1.29**	**56**		Sn	18 10 15.1	-0.2
BBRC	**Big Bear Solar**	**1.30**	**37**		Pb	18 09 59.5	-0.1
BBRC					Sg	18 10 17.6	-0.3
BBRC	**Big Bear Solar**	**1.30**	**37**	Pg		18 09 59.6	
	baz=217,SNR=8.3						
BBRC				Sb		18 10 17.5	
	baz=217						
LRRC	**Littlerock Res**	**1.30**	**354**		Pb	18 09 59.9	+0.3
LRRC					Sb	18 10 16.7	+0.8
PMD	**Palm Desert**	**1.31**	**71**		Pb	18 09 59.8	+0.1
PMD					Sb	18 10 16.7	+0.5
CJV	**Casa Juvan**	**1.32**	**350**		Pn	18 09 59.5	+0.2
SLH	**Sleepy Hollow**	**1.35**	**91**		Pb	18 10 00.9	+0.6
CBX	**Cerro Bola**	**1.36**	**132**		Pn	18 09 59.9	+0.2
CBX	**Cerro Bola**	**1.36**	**132**	IAML		18 10 21.1	
	comp=N,245nm,0.5s						
ADO	**Adelanto Recei**	**1.37**	**15**		Pb	18 10 01.3	+0.6
CBKC	**Canebrake**	**1.39**	**103**		Pb	18 10 01.0	-0.1
SNCC	**San Nicolas Is**	**1.39**	**271**	Pn	Pn	18 09 59.1	-0.9
EW2	**E Wide Canyon**	**1.41**	**59**		Pb	18 10 01.5	+0.1
SIL	**Silver Peak**	**1.41**	**37**		Pb	18 10 01.5	-0.1
LEOC	**Leona Valley**	**1.45**	**345**		Pb	18 10 01.2	+0.2
SBB	**Saddle Back Bu**	**1.46**	**1**		Pb	18 10 01.9	-0.4
BLAC	**Blackrock camp**	**1.49**	**55**		Pb	18 10 03.1	+0.3
OSI	**Osito Audit: C**	**1.56**	**333**		Pn	18 10 02.8	+0.3
OSI				IAML		18 10 26.7	
	comp=N,111nm,0.8s						
OSI				IAML		18 10 30.1	
	comp=E,95nm,0.7s						
OSI	**Osito Audit: C**	**1.56**	**333**	S		18 10 22.1	
	baz=151						
IKP	**In-Ko-Pah, Jac**	**1.58**	**111**		Pb	18 10 04.1	-0.3
IKP	**In-Ko-Pah, Jac**	**1.58**	**111**	Pb		18 10 04.0	
	baz=293,SNR=39						
IKP				Sb		18 10 25.2	
	baz=293						
RMX	**La Rumorosa**	**1.62**	**112**		Pb	18 10 05.2	+0.1
RMX				IAML		18 10 30.6	
	comp=E,191nm,0.2s						
CRR	**Carrizo Plain**	**1.63**	**101**		Pg	18 10 06.4	-0.6
GTM	**Goat Mountain**	**1.65**	**49**		Pb	18 10 05.4	0.0
HYS	**Haystack Butte**	**1.65**	**8**		Pb	18 10 05.2	-0.4
EDW2	**Edwards Air Fo**	**1.66**	**356**		Pb	18 10 06.4	+0.8
EDW2	**Edwards Air Fo**	**1.66**	**356**	Pb		18 10 04.8	
	baz=175,SNR=43						
EDW2				Sb		18 10 26.3	
	baz=175						
TPO	**Tropico Hills**	**1.68**	**350**		Pb	18 10 05.8	-0.2
YUH	**Yuha Desert**	**1.73**	**109**		Pb	18 10 05.8	-1.0
BELC	**Belle Mtn. Jos**	**1.74**	**63**	Pg		18 10 07.9	
	baz=244

comp=E,6.8nm,3.4s
PRN Pahroc Range 4.76 28 Pn 18 10 45.6 -0.9
PRN IAML 18 11 22.1
comp=N,8.2nm,0.5s
PRN IAML 18 12 52.0
comp=E,7.7nm,4.0s
TPH Tonopah 4.87 6 Pg 18 11 05.7 -3.2
TPH Tonopah 4.87 6 IAML 18 11 39.6
comp=E,5.5nm,3.8s
TPH IAML 18 11 55.0
comp=N,5.6nm,2.7s

IDC 26 18:33:47.2±411.0, 57°.57N×31°.29E, h0km, Error ellipse: s-maj=93.8km s-min=54.7km az=139.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.34**	**102**	*i*		18 57 20.0	
	baz=286,slow=322,SNR=0.4						
I37NO	**I37NO**	**12.83**	**339**	*i*		19 49 10.0	
	baz=148,slow=324,SNR=3.3						
I31KZ	**AKTYUBINSK INF**	**17.20**	**103**	*i*		20 15 50.6	
	baz=306,slow=319,SNR=1.0						

*ISK **26** 19:01:43.8, 39°.97N×39°.67E, h5km, ML3.6/13*
*DDA **26** 19:01:45.6, 39°.97N×39°.65E, h1km±2km, MW3.7*
ISC 26 19:01:44.8±0.9, 39°.96N±0°.02×39°.65E±0°.02, h17km±7km, n42, σ1°.14/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUZM	**Uzumlu**	**0.26**	**171**	*i* P	**Pg**	**19 01 51.1**	**+0.5**
EUZM				*i* S	**Sg**	**19 01 54.2**	**-0.4**
ERZN	**Erzincan**	**0.38**	**171**	PG	**Pg**	**19 01 52.3**	**-0.4**
ERZN				SG	**Sg**	**19 01 58.4**	**+0.3**
BAYB	**BAYBURT**	**0.55**	**58**	*i* P	**Pg**	**19 01 55.6**	**-0.3**
BAYB				*i* S	**Sg**	**19 02 02.5**	**-0.9**
KOPT	**Kop Dagi**	**0.66**	**85**	*i* P	**Pb**	**19 01 58.4**	**+0.5**
KOPT				*i* S	**Sn**	**19 02 08.6**	**-1.0**
ALUC	**Giresun/Alucra**	**0.77**	**300**	*i* P	**Pg**	**19 02 00.3**	**+0.4**
ALUC				*i* S	**Sg**	**19 02 10.7**	**+0.6**
TNCL	**Tunceli-Merkez**	**0.85**	**185**	*i* P	**Pb**	**19 02 01.3**	**+0.1**
TNCL				*i* S	**Sb**	**19 02 12.2**	**-0.1**
YEDI	**Yedisu-Bingol**	**0.87**	**127**	PG	**Pb**	**19 02 01.4**	**-0.1**
YEDI				SG	**Sn**	**19 02 14.5**	**-0.2**
REFA	**Refahiye_ERZN**	**0.89**	**230**	*i* P	**Pb**	**19 01 58.5**	**-3.3**
REFA				*i* S	**Sb**	**19 02 07.5**	**-5.9**
ILIC	**ilic-Erzincan**	**0.98**	**239**	PG	**Pn**	**19 02 04.3**	**+0.5**
ILIC				SG	**Sn**	**19 02 18.8**	**+1.5**
MACK	**Trabzon**	**0.98**	**5**	*i* P	**Pb**	**19 02 03.5**	**+0.1**
MACK				*i* S	**Sb**	**19 02 14.5**	**-1.5**
KTUT	**Trabzon**	**1.03**	**5**	PG	**Pn**	**19 02 04.7**	**+0.3**
KRIK	**Erzurum-spir**	**1.05**	**69**	*i* P	**Pb**	**19 02 04.8**	**+0.2**
KRIK				*i* S	**Sb**	**19 02 18.3**	**+0.1**
ECAT	**Cat-ERZURUM**	**1.08**	**109**	*i* P	**Pn**	**19 02 05.6**	**+0.2**
ECAT				*i* S	**Sn**	**19 02 20.9**	**+0.8**
BNGB	**Bingl**	**1.26**	**140**	PN	**Pg**	**19 02 08.9**	**-0.2**
KOVA	**Elazig, Kovanc**	**1.26**	**174**	*i* P	**Pb**	**19 02 08.9**	**+0.7**
KOVA				*i* S	**Sg**	**19 02 25.8**	**+0.1**
KARO	**Karliova-Bingo**	**1.27**	**121**	PN	**Pb**	**19 02 08.6**	**+0.3**
KARO				SN	**Sg**	**19 02 27.5**	**+1.7**
ARPR	**Arapgir-MALATY**	**1.33**	**230**	PN	**Pg**	**19 02 10.7**	**+0.2**
CHOM	**Cayeli-Rize**	**1.42**	**37**	PN	**Pb**	**19 02 11.2**	**+0.5**
CUZAR	**Zara_SIVAS**	**1.44**	**268**	*i* P	**Pb**	**19 02 11.7**	**+0.4**
CUZAR				*i* S	**Sg**	**19 02 31.3**	**-0.1**
SLHN	**Bingol, Solhan**	**1.47**	**133**	*i* P	**Pg**	**19 02 13.3**	**+0.2**
SLHN				*i* S	**Sg**	**19 02 32.5**	**+0.4**
ELZG	**Elazig**	**1.55**	**200**	*i* P	**Pb**	**19 02 13.8**	**+0.6**
ELZG				*i* S	**Sb**	**19 02 33.2**	**+0.7**
VRTB	**Varto-Mus**	**1.61**	**119**	PN	**Pb**	**19 02 14.9**	**+0.7**
VRTB	**Varto-Mus**	**1.61**	**119**	*i* P	**Pb**	**19 02 14.8**	**+0.7**
VRTB				*i* S	**Sn**	**19 02 32.5**	**-0.6**
KOPR	**Koprukoy-ERZUR**	**1.70**	**88**	PN	**Pb**	**19 02 15.7**	**+0.1**
ORDU	**Ordu-Boztepe**	**1.71**	**308**	*i* P	**Pb**	**19 02 16.4**	**+0.7**
ORDU				*i* S	**Sb**	**19 02 37.4**	**+0.5**
HOMI	**Horasan**	**1.74**	**87**	*i* P	**Pb**	**19 02 15.6**	**-0.7**
HOMI				*i* S	**Sg**	**19 02 41.6**	**+0.7**
CUKAN	**kangal_SIVAS**	**1.80**	**250**	*i* P	**Pb**	**19 02 18.3**	**+0.9**
CUKAN				*i* S	**Sg**	**19 02 44.0**	**+1.1**
RSDY	**Resadiye-TOKAT**	**1.83**	**284**	PN	**Pb**	**19 02 18.2**	**+0.4**
DBAD	**Bademkaya**	**1.89**	**55**	*i* P	**Pb**	**19 02 18.6**	**-0.1**
DBAD				*i* S	**Sb**	**19 02 42.4**	**+0.3**
MALT	**Malatya**	**1.90**	**210**	PN	**Pb**	**19 02 19.0**	**-0.1**
MUSM	**Mu-Merkez**	**1.91**	**130**	*i* P	**Pb**	**19 02 19.1**	**-0.1**
MUSM				*i* S	**Sn**	**19 02 41.6**	**+1.3**
SCER	**sogukcermik**	**1.94**	**268**	*i* P	**Pb**	**19 02 20.9**	**+1.2**
EKAR	**Karacoban**	**2.00**	**110**	*i* P	**Pb**	**19 02 22.1**	**+1.3**
SVSK	**Karacayir**	**2.04**	**270**	PN	**Pb**	**19 02 21.7**	**+0.4**
DYKB	**Diyarbakir**	**2.04**	**169**	PN	**Pb**	**19 02 20.9**	**-0.6**
DBOC	**Borcka**	**2.07**	**47**	*i* P	**Pb**	**19 02 21.0**	**-0.8**
DBOC				*i* S	**Sn**	**19 02 43.4**	**-0.7**
DIYA	**Diyarbakir**	**2.07**	**170**	*i* P	**Pg**	**19 02 25.2**	**+0.6**
EATA	**Eleskirt**	**2.19**	**92**	*i* P	**Pg**	**19 02 26.2**	**-0.7**
CUGUR	**Gurin_SVAS**	**2.22**	**237**	*i* P	**Pb**	**19 02 25.2**	**+0.7**
CUGUR				*i* S	**Sg**	**19 02 54.6**	**-1.6**
BATM	**Batumi**	**2.26**	**43**	PN	**Pb**	**19 02 23.8**	**-1.3**
GURO	**Guroymak-BITLI**	**2.33**	**127**	PN	**Pb**	**19 02 24.8**	**-1.6**
BTMN	**Batman**	**2.43**	**148**	*i* P	**Pg**	**19 02 30.0**	**-1.3**
BTMN				*i* S	**Sb**	**19 02 58.5**	**+0.8**

*NEIC **26** 19:01:59.7±1.6, 43°.80N±0°.04×105°.21W±0°.08, h0km±2km, ML3.4/60, Error ellipse: s-maj=10.3km s-min=6.5km az=102.0*
*IDC **26** 19:01:59.1±1.6, 43°.69N×105°.41W, h0km, mb3.7/3, mb1 3.7/8, mb1mx3.4/58, mbtmp3.5/8, ML3.4/5, Error ellipse: s-maj=40.9km s-min=8.0km az=148.0*
ISC 26 19:01:59.6±0.8, 43°.80N±0°.06×105°.24W±0°.06, h0km, n86, σ0°.87/86, mb4.1/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**70**		**Pg**	**19 02 17.7**	**+0.3**
K22A	**Casper**	**1.49**	**220**		**Pn**	**19 02 25.7**	**-2.0**
K22A					IAML	19 02 49.7	
	comp=N,486nm,0.3s						
K22A					IAML	19 02 50.5	
	comp=E,336nm,0.8s						
PHWY	**Pilot Hill**	**2.50**	**184**		**Pn**	**19 02 41.6**	**-0.2**
RWWY	**Rawlins**	**2.56**	**215**		**Pn**	**19 02 43.0**	**+0.4**
RWWY					IAML	19 03 19.7	
	comp=E,256nm,0.6s						
RWWY					IAML	19 03 23.4	
	comp=E,185nm,0.8s						
LAO	**LASA Array**	**2.97**	**347**		**Pn**	**19 02 48.4**	**+0.4**
LAO					IAML	19 03 31.9	
	comp=E,202nm,0.6s						
RLMT	**Red Lodge**	**3.17**	**296**		**Pn**	**19 02 50.9**	**-0.1**
RLMT					IAML	19 03 46.2	
	comp=E,50nm,0.5s						
RLMT					IAML	19 03 47.6	
	comp=E,73nm,0.8s						
BW06	**Boulder Array**	**3.32**	**253**		**Pn**	**19 02 53.3**	**+0.2**
BW06					IAML	19 03 48.9	
	comp=E,46nm,0.5s						
BW06					IAML	19 03 50.6	
	comp=E,44nm,0.7s						
PD31	**Pinedale Array**	**3.32**	**253**		**Pn**	**19 02 53.0**	**-0.1**
PDAR	**Pinedale Array**	**3.32**	**253**	Pn	**Pn**	**19 02 53.1**	**+0.1**
	comp=E,4.1nm,0.3s,baz=68,slow=16,SNR=35						
PDAR				Lg	Lg	19 03 37.6	
	comp=E,12nm,0.3s,baz=78,slow=30,SNR=10						
PDAR	**Pinedale Array**	**3.32**	**253**	Pn	**Pn**	**19 02 52.5**	**-0.5**
YNE	**Yellowstone No**	**3.62**	**291**		**Pn**	**19 02 56.8**	**-0.4**
YNE					IAML	19 03 59.0	
	comp=N,60nm,0.6s						
YNE					IAML	19 04 00.4	
	comp=E,52nm,0.4s						
YMP	**Mirror Lake PI**	**3.65**	**287**		**Pn**	**19 02 57.7**	**0.0**
YMP					IAML	19 04 01.0	
	comp=N,103nm,0.7s						
YMP					IAML	19 04 04.8	
	comp=E,106nm,0.8s						
OGNE	**Ogallala**	**3.72**	**139**	Pn	**Pn**	**19 02 58.5**	**+0.2**
OGNE					IAML	19 04 07.7	
	comp=E,122nm,0.9s						
H17A	**Grant Village**	**3.89**	**281**	Pn	**Pn**	**19 03 02.2**	**+1.3**
LOHW	**Long Hollow**	**3.89**	**269**		**Pn**	**19 03 01.4**	**+0.4**
FLWY	**Flagg Ranch**	**3.95**	**276**		**Pn**	**19 03 02.3**	**+0.6**
FLWY					IAML	19 04 16.6	
	comp=E,38nm,1.1s						
FLWY					IAML	19 04 20.2	
	comp=E,46nm,1.8s						
ISCO	**Idaho Springs**	**4.01**	**184**	Pn	**Pn**	**19 03 03.4**	**+0.8**
YNR	**Norris Junctio**	**4.01**	**285**		**Pn**	**19 03 03.4**	**+0.8**
YPP	**Pitchstone Pla**	**4.04**	**279**		**Pn**	**19 03 02.7**	**-0.3**
REDW	**Red Top Meadow**	**4.10**	**266**		**Pn**	**19 03 03.9**	**+0.2**
REDW					IAML	19 04 15.7	
	comp=E,44nm,1.0s						
REDW					IAML	19 04 21.7	
	comp=E,47nm,1.3s						
YHH	**Holmes Hill**	**4.15**	**286**		**Pn**	**19 03 04.0**	**-0.4**
YMR	**Madison River**	**4.20**	**284**		**Pn**	**19 03 05.2**	**0.0**
YMR					IAML	19 04 29.1	
	comp=E,34nm,0.9s						
YMR					IAML	19 04 30.6	
	comp=N,33nm,1.0s						
E28A	**Huff**	**4.24**	**48**	Pn	**Pn**	**19 03 06.3**	**+0.8**
O20A	**White River Ci**	**4.29**	**212**	Pn	**Pn**	**19 03 06.0**	**-0.4**
O20A					IAML	19 04 17.6	
	comp=E,64nm,1.4s						
O20A					IAML	19 04 24.1	
	comp=N,45nm,0.8s						
YHL	**Hebgen Lake**	**4.39**	**286**		**Pn**	**19 03 07.9**	**+0.1**
YHL					IAML	19 04 21.8	
	comp=N,26nm,1.2s						
YHL					IAML	19 04 26.8	
	comp=E,27nm,0.9s						
AHID	**Auburn Hatcher**	**4.40**	**258**		**Pn**	**19 03 07.3**	**-0.6**
AHID					IAML	19 05 53.2	
	comp=N,73nm,0.6s						
AHID					IAML	19 05 56.3	
	comp=E,41nm,0.7s						
ECR	**Eagle Creek**	**4.53**	**263**		**Pn**	**19 03 09.4**	**-0.2**
RDMU	**Red Mountain**	**4.56**	**226**		**Pn**	**19 03 10.0**	**0.0**
RDMU					IAML	19 04 25.6	
	comp=E,26nm,0.8s						
RDMU					IAML	19 04 30.8	
	comp=N,25nm,0.8s						
QLMT	**Earthquake Lak**	**4.56**	**285**		**Pn**	**19 03 09.9**	**-0.1**
DGMT	**Dagmar**	**4.72**	**8**	Pn	**Pn**	**19 03 13.3**	**+1.2**
K31A	**O'Neill**	**4.88**	**102**		**Pb**	**19 03 26.4**	**+0.3**
BOZ	**Bozeman (W)**	**4.89**	**294**		**Pn**	**19 03 15.7**	**+1.1**
BOZ					IAML	19 04 33.1	
	comp=N,18nm,1.1s						
HWUT	**Hardware Ranch**	**5.15**	**247**	Pn	**Pn**	**19 03 17.8**	**-0.3**
HWUT					IAML	19 05 41.8	
	comp=N,35nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.17**	**157**	Pn	**Pn**	**19 03 17.3**	**-1.1**
EGMT	**Eagleton**	**5.27**	**325**	Pn	**Pn**	**19 03 19.5**	**-0.1**
TCUT	**Toone Canyon**	**5.29**	**242**		**Pn**	**19 03 21.1**	**+1.0**
HRY	**Holter Researc**	**5.49**	**304**	Pn	**Pn**	**19 03 22.4**	**-0.3**
LRM	**Limekiln Ridge**	**5.51**	**294**		**Pn**	**19 03 23.9**	**+0.8**
MCMT	**McKenzie Canyo**	**5.55**	**283**	Pn	**Pn**	**19 03 25.1**	**+1.4**
JLU	**Jordanelle**	**5.61**	**237**		**Pn**	**19 03 22.1**	**-2.5**
MDND	**Maddock**	**5.65**	**42**		**Pn**	**19 03 22.4**	**-2.4**
SPUT	**South Promonto**	**5.88**	**247**	Pn	**Pn**	**19 03 28.9**	**+0.8**
HVU	**Hansel Valley**	**5.90**	**253**		**Pn**	**19 03 26.8**	**-1.6**
PV22	**Blue Mesa, Par**	**5.90**	**208**		**Pn**	**19 03 29.2**	**+0.7**
BCYI	**Bear Canyon**	**5.91**	**278**		**Pn**	**19 03 27.8**	**-0.8**
PV07	**Paradox Valley**	**5.95**	**207**		**Pn**	**19 03 29.5**	**+0.4**
P17A	**Butcher Ranch,**	**5.97**	**225**		**Pn**	**19 03 30.0**	**+0.5**
PV15	**Paradox Valley**	**5.98**	**205**		**Pn**	**19 03 29.4**	**-0.2**
PV04	**Paradox Valley**	**6.07**	**208**		**Pn**	**19 03 31.6**	**+0.8**
PV12	**Saucer Basin,**	**6.11**	**207**		**Pn**	**19 03 31.9**	**+0.6**
PV14	**Lion Creek, Pa**	**6.13**	**209**		**Pn**	**19 03 32.2**	**+0.5**
PV10	**Paradox Valley**	**6.13**	**209**	Pn	**Pn**	**19 03 33.7**	**+2.0**
PV20	**West Nyswonger**	**6.14**	**209**		**Pn**	**19 03 31.2**	**-0.6**
SRU	**San Rafael Swe**	**6.14**	**222**		**Pn**	**19 03 32.3**	**+0.5**
PV11	**David Mesa, Pa**	**6.14**	**208**		**Pn**	**19 03 32.5**	**+0.7**
PV16	**Nyswonger Mesa**	**6.15**	**208**		**Pn**	**19 03 31.7**	**-0.2**
PV03	**Morning Glory**	**6.17**	**209**	Pn	**Pn**	**19 03 32.8**	**-0.4**
PV02	**Paradox Valley**	**6.18**	**206**		**Pn**	**19 03 33.0**	**+0.6**
PV17	**East Wray Mesa**	**6.19**	**208**		**Pn**	**19 03 30.9**	**-1.5**
PV01	**Paradox Valley**	**6.20**	**205**		**Pn**	**19 03 33.5**	**+0.9**
PV18	**Skein Mesa, Pa**	**6.21**	**208**	Pn	**Pn**	**19 03 33.2**	**+0.5**
ECSD	**EROS Data Cent**	**6.25**	**88**	Pn	**Pn**	**19 03 33.7**	**+0.6**
PV13	**Radium Mtn., P**	**6.25**	**207**		**Pn**	**19 03 33.7**	**+0.4**
TMUT	**Trail Mountain**	**6.35**	**227**		**Pn**	**19 03 35.1**	**+0.4**
PV05	**Paradox Valley**	**6.42**	**208**		**Pn**	**19 03 34.8**	**-0.8**
BGU	**Big Grassy Mou**	**6.45**	**246**		**Pn**	**19 03 37.5**	**+1.6**
Q16A	**Castle Valley**	**6.61**	**224**	Pn	**Pn**	**19 03 37.6**	**-0.6**
HLID	**Hailey**	**6.66**	**271**	Pn	**Pn**	**19 03 40.1**	**+1.3**
F33A	**5 Mile Ranch,**	**6.68**	**69**		**Pn**	**19 03 37.6**	**-1.4**
T25A	**Trinidad**	**6.69**	**174**	Pn	**Pn**	**19 03 39.2**	**-0.1**
MSO	**Missoula**	**6.84**	**299**	Pn	**Pn**	**19 03 41.7**	**+0.5**
MVCO	**Mesa Verde**	**7.04**	**202**		**Pn**	**19 03 45.9**	**+1.8**
MSU	**Marysvale**	**7.44**	**227**	Pn	**Pn**	**19 03 49.5**	**0.0**
MTPU	**Mount Pierson**	**7.79**	**225**		**Pn**	**19 03 54.3**	**-0.3**
AGMN	**Agassiz Nation**	**7.92**	**52**	Pn	**Pn**	**19 03 55.2**	**-0.8**
ELK	**Elko**	**8.02**	**251**	Pn	**Pn**	**19 03 57.9**	**+0.3**
	comp=N,0.5nm,0.3s,baz=49,slow=8.7,SNR=6.9						
PSUT	**Pine Spring**	**8.36**	**234**	Pn	**Pn**	**19 04 02.8**	**+0.6**
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**19 04 11.7**	**-0.1**
	comp=N,1.2nm,0.3s,baz=230,slow=11,SNR=10						
ULM				Pg		19 04 46.2	
	comp=N,0.7nm,0.3s,baz=227,slow=17,SNR=9.4						
ULM				Lg	Lg	19 06 43.8	
	comp=N,0.7nm,0.3s,baz=130,slow=23,SNR=4.2						
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**19 04 11.3**	**-0.5**
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn	**Pn**	**19 04 42.4**	**+1.0**
	comp=N,0.1nm,0.3s,baz=50,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**19.51**	**347**	P	**P**	**19 06 28.1**	**+0.1**
	comp=N,0.1nm,0.3s,baz=152,slow=9.3,SNR=6.8						
INK	**Inuvik**	**28.67**	**338**	P	**P**	**19 07 58.0**	**+0.3**
	comp=N,5.8nm,0.5s,baz=156,slow=19,SNR=6.6						
ILAR	**Eielson Array**	**31.23**	**327**	P	**P**	**19 08 21.7**	**+1.2**
	comp=N,0.1nm,0.5s,baz=138,slow=9.6,SNR=1.6						
ARCES	**ARCESS Array B**	**61.35**	**18**	P	**P**	**19 12 16.2**	**-0.4**
	comp=N,2.9nm,1.0s,baz=325,slow=6.2,SNR=5.8						
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**19 14 57.5**	**-1.2**
	comp=N,0.4nm,0.6s,baz=16,slow=5.1,SNR=5.9						

*DJA **26** 19:13:28.3±0.2, 2°.N±1°×12°.6E±°, h54km±3km, M4.4/27, mB4.9/6, mb4.5/27, MLv4.4/17, Mw(mB)4.2/6*
*IDC **26** 19:13:28.1±2.5, 1°.98N×126°.41E, h41km±24km, mb4.1/21, mb1 4.2/25, mb1mx4.1/47, mbtmp4.3/25, ML3.9/4, MS3.2/6, Ms1 3.2/6, ms1mx3.0/26, Error ellipse: s-maj=21.8km s-min=11.3km az=76.0*
*NEIC **26** 19:13:29.5±2.4, 1°.82N±0°.07×126°.36E±0°.06, h58km±6km, mb4.6/47, Error ellipse: s-maj=11.9km s-min=6.4km az=210.0*
*KLM **26** 19:13:30, 1°.81N×126°.59E, h73km, mb4.7*
ISC 26 19:13:28.3±0.3, 1°.91N±0°.04×126°.46E±0°.04, h47km, n147, σ1°.30/161, mb4.6/51, MS3.2/4, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.45**	**141**	Pn	**Pn**	**19 13 52.0**	**-0.2**
TNTI	**Ternate**	**1.45**	**141**	P	**Pn**	**19 13 52.0**	**-0.2**
TNTI				S	**Sn**	**19 14 09.9**	**-0.1**
SGSI	**Sangihe**	**1.99**	**332**	P	**Pn**	**19 13 58.3**	**-1.3**
SGSI				S	**Sn**	**19 14 22.1**	**-1.3**
KMSI	**Cibinong**	**2.81**	**242**	P	**Pn**	**19 14 11.3**	**+0.4**
KMSI				S	**Sn**	**19 14 42.0**	**-1.6**
GTOI	**Gorontalo**	**3.68**	**250**	P	**Pn**	**19 14 22.7**	**0.0**
GTOI				S	**Sn**	**19 15 04.6**	**-0.2**
SANI	**Sanana**	**3.96**	**187**	P	**Pn**	**19 14 26.5**	**-0.2**
SANI				S	**Sn**	**19 15 09.6**	**-2.3**
LUWI	**Luwuk**	**4.71**	**232**	Pn	**Pn**	**19 14 37.9**	**+0.9**
LUWI	**Luwuk**	**4.71**	**232**	P	**Pn**	**19 14 37.3**	**+0.3**
LUWI				S	**Sn**	**19 15 31.1**	**+0.7**
MRSI	**Marisa**	**4.74**	**253**	P	**Pn**	**19 14 38.1**	**+0.8**
MRSI				S	**Sn**	**19 15 32.4**	**+1.4**
NLAI	**Namlea**	**5.16**	**173**	P	**Pn**	**19 14 44.0**	**+0.9**
	0.2nm28nm,0.5s						
NLAI				S	**Sn**	**19 15 40.3**	**-1.0**
	0.2nm28nm,0.5s						
DAV	**Davao City (W)**	**5.20**	**350**	S	**Sn**	**19 15 48.2**	**+5.9**
	24nm,0.3s,baz=109,slow=23,SNR=3.7						
DAV				LR	LR	19 17 01.1	
	comp=Z,342nm,21.7s,baz=154,slow=42						
SWI	**Sorong**	**5.53**	**120**	P	**Pn**	**19 14 50.1**	**+1.9**
	0.1nm18nm,0.9s						
SIJI	**Sorong**	**5.54**	**120**	P	**Pn**	**19 14 50.8**	**+2.4**
	0.8nm,0.3s,baz=2.0,slow=23,SNR=4.8						
SIJI				LR	LR	19 17 25.7	
	comp=Z,441nm,21.8s,baz=312,slow=42						
APSI	**Ampana**	**5.57**	**240**	P	**Pn**	**19 14 50.2**	**+1.5**
	0.8nm2μm188nm,1.0s						
APSI				S	**Sn**	**19 15 54.7**	**+3.2**
	0.8nm2μm188nm,1.0s						
TOLI2	**Tolitoli**	**5.73**	**262**	Pn	**Pn**	**19 14 49.4**	**-1.6**
BNDI	**Bandanaira**	**7.26**	**152**	P	Pn	19 15 17.2	+5.3
FAKI	**Fak Fak**	**7.52**	**130**	P	**Pn**	**19 15 16.3**	**+0.8**
	0.1nm22nm,0.9s						
TTSI	**Tana Toraja**	**8.27**	**233**	P	**Pn**	**19 15 25.8**	**0.0**
	32nm,0.7s						
TTSI				S	**Sn**	**19 16 59.3**	**+1.4**
	32nm,0.7s						
MYLDM	**Lahad Datu**	**8.58**	**292**	Pn	**Pn**	**19 15 31.9**	**+1.8**
SPSI	**Sidrap Palu**	**8.88**	**229**	P	**Pn**	**19 15 34.7**	**+0.6**
	18nm,0.6s						
SPSI				S	**Sn**	**19 17 09.7**	**-3.2**
	18nm,0.6s						
BNSI	**Bone**	**8.93**	**225**	P	**Pn**	**19 15 35.0**	**+0.2**
KAPI	**Kappang**	**9.61**	**224**	P	**Pn**	**19 15 45.3**	**+1.2**
	2.6nm,0.3s,baz=71,slow=4.8,SNR=9.5						
KAPI				LR	LR	19 19 44.3	
	comp=Z,104nm,20.8s,baz=66,slow=39						
KAPI	**Kappang**	**9.61**	**224**	Pn	**Pn**	**19 15 45.0**	**+0.9**
SPMM	**Sapulut**	**10.36**	**286**	P	**Pn**	**19 15 59.0**	**+4.6**
SAUI	**Saumlaki**	**10.95**	**154**	Pn	**Pn**	**19 16 01.5**	**-1.0**
KKM	**Kota Kinabalu**	**11.01**	**292**	Pn	**Pn**	**19 16 05.1**	**+1.6**
SOEI	**Soe**	**11.80**	**191**	Pn	**Pn**	**19 16 13.8**	**-0.4**
SOEI	**Soe**	**11.80**	**191**	P	**Pn**	**19 16 17.8**	**+3.6**
	70nm,0.9s						
BATI	**Baumata**	**12.36**	**193**	P	**Pn**	**19 16 23.4**	**+1.6**
	0.6nm,0.3s,baz=60,slow=14,SNR=2.1						
BATI	**Baumata**	**12.36**	**193**	P	**Pn**	**19 16 19.2**	**-2.6**
	15nm,0.8s						
BBKI	**Banjar Baru**	**12.78**	**245**	P	**Pn**	**19 16 25.6**	**-2.0**
	9.3nm,1.1s						
SBUM	**Sibu**	**14.24**	**272**		**P**	**19 16 53.7**	**+0.1**
TWSI	**Taliwang, Sumb**	**14.25**	**222**	P	**Pn**	**19 16 48.6**	**+1.0**
	412nm17nm,1.1s						
GENI	**Genyem**	**14.41**	**108**	P	**Pn**	**19 16 48.7**	**-1.0**
SRBI	**Singaraja**	**14.98**	**228**	P	**Pn**	**19 16 58.6**	**+1.4**
	16nm,0.8s						
KMMI	**Kaliangket**	**15.32**	**234**	P	**Pn**	**19 17 01.4**	**-0.2**
	23nm,0.7s						
MTN	**Manton Dam**	**15.38**	**163**	Pn	**Pn**	**19 17 01.6**	**-0.7**
MTN					IAmb	IAmb	19 17 21.9
	comp=Z,76nm,1.4s						
JAGI	**Jajag, Banyuwa**	**16.03**	**230**	P	**P**	**19 17 13.3**	**-0.2**
JAGI					IAmb	IAmb	19 17 25.9
	comp=Z,29nm,1.1s						
JAGI	**Jajag, Banyuwa**	**16.03**	**230**	P	**P**	**19 17 13.1**	**-0.4**
	comp=Z,30nm,1.1s						
KSM	**Kuching**	**16.15**	**269**	P	**P**	**19 17 15.3**	**+0.4**
KSM	**Kuching**	**16.15**	**269**	P	**P**	**19 17 16.0**	**+1.1**
UGM	**Wanagama**	**18.66**	**238**	P	**P**	**19 17 41.8**	**-0.7**
UGM					IAmb	IAmb	19 18 02.5
	comp=Z,80nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.90**	**182**	P	**P**	**19 17 55.7**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=8.9,slow=9.2,SNR=14						
FITZ	**Fitzroy Crossi**	**19.90**	**182**	P	**P**	**19 17 55.7**	**-0.4**
FITZ					IAmb	IAmb	19 18 24.2
	comp=Z,28nm,1.4s						
MYKOM	**Kota Tinggi**	**22.60**	**270**	P	**P**	**19 18 24.6**	**-0.7**
MYKOM					IAmb	IAmb	19 18 46.1
	comp=Z,35nm,1.2s						
KLSI		**22.68**	**253**	P	**P**	**19 18 24.7**	**-1.4**
	comp=Z,4.2nm,0.6s						
COEN	**Coen**	**22.87**	**134**	P	**P**	**19 18 28.4**	**+0.3**
WB0	**Warramunga Arr**	**22.91**	**160**	P	**P**	**19 18 27.9**	**-0.5**
WB0					IAmb	IAmb	19 18 30.9
	comp=Z,33nm,1.1s						
WRAB	**Tennant Creek**	**23.05**	**161**	P	**P**	**19 18 30.0**	**+0.2**
WRAB					IAmb	IAmb	19 18 32.3
	comp=Z,31nm,0.8s						
WRA	**Warramunga Arr**	**23.05**	**161**	P	**P**	**19 18 29.4**	**-0.5**
	comp=Z,18nm,0.5s,baz=338,slow=11,SNR=77						
WRA				S	**S**	**19 22 37.7**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=340,slow=18,SNR=5.3						
WB2	**Warramunga Arr**	**23.06**	**161**	P	**P**	**19 18 29.4**	**-0.5**
WB2					I

GTA				LR	LR			
	comp=Z,62nm,16.7s							
TAPN	**Taplejung**	**44.89**	**308**	*eP*	**P**	**19 21 37.0**	**-2.0**	
ODAN	**Odare**	**44.92**	**307**	*eP*	**P**	**19 21 39.3**	**+0.2**	
RAMN	**Ramite**	**45.59**	**307**	*eP*	**P**	**19 21 44.9**	**+0.4**	
PALK	**Pallekele**	**45.90**	**278**	P	**P**	**19 21 45.9**	**-0.9**	
JIRN	**Jiri**	**46.23**	**307**	*eP*	**P**	**19 21 48.1**	**-1.6**	
GUN	**Gumba**	**46.59**	**308**	*eP*	**P**	**19 21 50.3**	**-2.1**	
PKI	**Pulchoki**	**46.82**	**307**	*eP*	**P**	**19 21 52.8**	**-1.4**	
PKIN	**Phulchoki**	**46.83**	**307**	*eP*	**P**	**19 21 53.0**	**-1.2**	
GKN	**Gorkha**	**47.62**	**307**	*eP*	**P**	**19 21 58.9**	**-1.3**	
SONM	**Songino Array**	**48.93**	**342**	P	**P**	**19 22 10.8**	**+0.9**	
	comp=Z,2.6nm,0.9s,baz=157,slow=7.9,SNR=8.8							
SONM				PcP	**PcP**	**19 23 34.6**	**+0.9**	
	comp=Z,2.0nm,0.8s,baz=162,slow=5.0,SNR=7.1							
SONM				LR	LR	19 44 44.7		
	comp=Z,47nm,18.4s,baz=191,slow=38							
SONM	**Songino Array**	**48.93**	**342**	P	**P**	**19 22 09.9**	**0.0**	
WMQ	**Urumqi**	**54.06**	**326**	*eP*	**P**	**19 22 49.5**	**+1.2**	
WMQ				pP	sP	19 23 04.8	-1.3	
WMQ				pmax	pmax			
	comp=Z,15nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,200nm,4.9s							
PETK	**Petropavlovsk-**	**57.20**	**22**	P	**P**	**19 23 10.8**	**+0.1**	
	comp=Z,1.0nm,0.5s,baz=171,slow=11,SNR=2.1							
SHLS	**Shalkode**	**58.57**	**321**	*eP*	**P**	**19 23 18.3**	**-2.3**	
	comp=Z,3.5nm,0.8s,baz=321							
UZB	**Uzynbulak**	**58.84**	**321**	*eP*	**P**	**19 23 22.6**	**+0.1**	
	baz=321							
MK31	**Makanchi Array**	**58.89**	**326**	P	**P**	**19 23 21.3**	**-1.3**	
MK31				IAmb	IAmb	19 23 26.6		
	comp=Z,3.7nm,0.7s							
MKAR	**Makanchi Array**	**58.89**	**326**	P	**P**	**19 23 21.9**	**-0.7**	
	comp=Z,5.1nm,0.7s,baz=120,slow=7.4,SNR=78							
MKAR	**Makanchi Array**	**58.89**	**326**	P	**P**	**19 23 21.2**	**-1.4**	
MAKZ	**Makanchi**	**59.08**	**326**	P	**P**	**19 23 22.9**	**-1.0**	
MAKZ				IAmb	IAmb	19 23 27.8		
	comp=Z,5.1nm,0.8s							
SATY	**Saty**	**59.19**	**321**	*eP*	**P**	**19 23 24.6**	**-0.2**	
	comp=Z,3.7nm,0.8s,baz=320							
KPKS	**Kokpek**	**59.22**	**321**	*eP*	**P**	**19 23 24.3**	**-0.7**	
	comp=Z,4.3nm,0.8s,baz=321							
MDOK	**Medeo**	**60.11**	**320**	*eP*	**P**	**19 23 31.0**	**-0.2**	
	baz=320							
TNSS	**Tian-Shan**	**60.11**	**320**	*eP*	**P**	**19 23 30.8**	**-0.7**	
	baz=320							
TDK	**Taldyqorghan**	**60.18**	**323**	*eP*	**P**	**19 23 31.3**	**-0.2**	
	comp=Z,4.6nm,0.9s,baz=322							
AAA	**Alma-Ata**	**60.21**	**320**	*eP*	**P**	**19 23 31.8**	**0.0**	
	baz=320							
LBZ	**Lake Benmore**	**60.35**	**145**	P	**P**	**19 23 32.4**	**-0.2**	
CHKK	**Chushkaly**	**60.48**	**321**	*eP*	**P**	**19 23 33.4**	**-0.2**	
	baz=321							
KUU	**Kurty**	**60.91**	**321**	*eP*	**P**	**19 23 35.3**	**-1.2**	
	comp=Z,8.0nm,0.9s,baz=320							
AAK	**Ala-Archa**	**61.53**	**319**	P	**P**	**19 23 40.9**	**0.0**	
	comp=Z,1.4nm,0.6s,baz=194,slow=8.3,SNR=5.7							
AAK	**Ala-Archa**	**61.53**	**319**	P	**P**	**19 23 40.8**	**-0.1**	
ZALV	**Zalesovo Beam**	**62.08**	**334**	P	**P**	**19 23 42.9**	**-1.3**	
	comp=Z,0.8nm,0.4s,baz=130,slow=6.9,SNR=2.7							
ZALV	**Zalesovo Beam**	**62.08**	**334**	P	**P**	**19 23 43.2**	**-0.9**	
BTLS	**Baital**	**62.90**	**321**	*eP*	**P**	**19 23 49.9**	**0.0**	
	baz=321							
KURBB	**Kurchatov Arra**	**63.12**	**328**	P	**P**	**19 23 49.6**	**-1.6**	
	comp=Z,3.3nm,0.5s,baz=127,slow=6.1,SNR=18							
KURK	**Kurchatov**	**63.12**	**328**	P	**P**	**19 23 49.6**	**-1.6**	
IUG	**Iuzhnay**	**64.33**	**317**	*eP*	**P**	**19 23 59.0**	**-0.4**	
	baz=316							
KK31	**Karatay Array**	**64.38**	**318**	P	**P**	**19 23 57.8**	**-1.9**	
KKAR	**Karatay Array**	**64.38**	**318**	P	**P**	**19 23 57.5**	**-2.1**	
BRVK	**Borovoye**	**68.76**	**327**	P	**P**	**19 24 26.7**	**-0.7**	
GEYT	**Alibeck**	**71.82**	**309**	P	**P**	**19 24 46.9**	**+0.4**	
	comp=Z,1.9nm,0.7s,baz=163,slow=5.7,SNR=4.9							
GEYT	**Alibeck**	**71.82**	**309**	IAmb	IAmb	19 24 52.1		
	comp=Z,1.5nm,0.8s							
NRIK	**Noril'sk**	**72.12**	**346**	P	**P**	**19 24 48.0**	**+0.5**	
	comp=Z,3.9nm,0.7s,baz=140,slow=6.2,SNR=7.9							
NRIK	**Noril'sk**	**72.12**	**346**	P	**P**	**19 24 47.5**	**0.0**	
NRIK				IAmb	IAmb	19 24 52.7		
	comp=Z,4.4nm,0.8s							
SOCY	**Socotra**	**72.47**	**282**	P	**P**	**19 24 48.2**	**-2.6**	
SOCY				IAmb	IAmb	19 24 50.1		
	comp=Z,6.5nm,0.8s							
ABKAR	**Akbulak array**	**73.38**	**321**	P	**P**	**19 24 54.3**	**-1.2**	
ARU	**Arti**	**76.32**	**328**	P	**P**	**19 25 11.3**	**-0.9**	
ARU				IAmb	IAmb	19 25 15.4		
	comp=Z,4.9nm,0.7s							
RAYN	**Ar Rayn**	**80.95**	**293**	P	**P**	**19 25 37.7**	**-0.8**	
VNDA	**Vanda**	**81.67**	**173**	P	**P**	**19 25 42.4**	**+1.2**	
	comp=Z,1.5nm,0.6s,baz=320,slow=6.8,SNR=16							
VNDA	**Vanda**	**81.67**	**173**	P	**P**	**19 25 41.5**	**+0.4**	
MAW	**Mawson**	**81.97**	**200**	P	**P**	**19 25 43.7**	**+0.8**	
	comp=Z,13nm,0.8s,baz=34,slow=23,SNR=6.5							
KBZ	**Khabaz**	**84.03**	**314**	P	**P**	**19 25 54.6**	**+0.5**	
	comp=Z,0.9nm,0.5s,baz=206,slow=11,SNR=4.1							
KLMR	**Klimovskoe**	**86.85**	**331**	*eP*	**P**	**19 26 05.4**	**-2.3**	
KLMR				AMP		19 26 10.3		
	comp=Z,12nm,1.4s							
ILAR	**Eielson Array**	**86.85**	**25**	P	**P**	**19 26 07.5**	**-0.1**	
	comp=Z,0.3nm,0.6s,baz=241,slow=5.8,SNR=5.7							
KMBO	**Kilima Mbogo**	**89.25**	**269**	P	**P**	**19 26 20.1**	**-0.5**	
	comp=Z,0.6nm,0.5s,baz=83,slow=1.9,SNR=4.9							
ARCES	**ARCES Array B**	**92.05**	**340**	P	**P**	**19 26 31.8**	**-0.3**	
	comp=Z,1.8nm,0.8s,baz=73,slow=3.0,SNR=2.5							
FINES	**FINESS Array B**	**93.30**	**332**	P	**P**	**19 26 36.7**	**-1.2**	
	comp=Z,2.3nm,0.8s,baz=75,slow=2.2,SNR=6.3							
AKAS	**Kas**	**94.41**	**306**	P	**P**	**19 26 43.7**	**-0.1**	
BURAR	**Bucovina Array**	**96.17**	**318**	P	**P**	**19 26 50.5**	**-1.1**	
BURAR				IAmb	IAmb	19 26 58.7		
	comp=Z,2.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**123.21**	**287**	PKP	**PKiKP**	**19 32 21.7**	**+0.4**	
	comp=Z,3.5nm,0.6s,baz=53,slow=2.0,SNR=20							
TORD	**Torodi Ar. Bea**	**123.21**	**287**	PKPdf	**PKPdf**	**19 32 21.0**	**-0.1**	
KIC	**Kosan Boka**	**130.60**	**280**	*e*PKIKP	**PKiKP**	**19 32 36.9**	**+0.8**	
	comp=Z,9.1nm,0.6s							
DBIC	**Dimbokro**	**130.67**	**280**	PKP	**PKiKP**	**19 32 36.6**	**+0.4**	
	comp=Z,3.3nm,0.7s,baz=159,slow=1.4,SNR=5.6							
TIC	**Toumodi**	**130.83**	**280**	*e*PKIKP	**PKiKP**	**19 32 37.2**	**+0.6**	
LIC	**Lamto**	**130.90**	**280**	*e*PKIKP	**PKiKP**	**19 32 36.7**	**0.0**	
	comp=Z,90nm,2.2s							

*ISK **26** 19:50:52.7, 36.11N×27.50E, h1km, ML3.4/19*
*ATH **26** 19:50:52.0, 36.18N×27.47E, h48km±2km, ML3.4/3, Error ellipse: s-maj=2.8km s-min=1.1km az=46.0*
*THE **26** 19:50:53.9, 36.13N×27.51E, h2km±2km, ML3.2/3, Error ellipse: s-maj=2.0km s-min=0.6km az=48.0*
*DDA **26** 19:50:53.9, 36.15N×27.57E, h8km±2km, ML3.0*
*NIC **26** 19:50:53.1±0.0, 36.19N×27.43E, h10km±1km, Ml3.8/5*
ISC 26 19:50:53.4±1.1, **36.15N**±0.02×**27.50E**±0.02, **h11**km±10km, **n71**, σ0**83**/98, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.51**	**82**	P	**Pb**	**19 51 04.2**	**-0.1**
ARG				S	**Sb**	**19 51 12.4**	**+0.7**
ARG				AML	AML	19 51 13.6	
	comp=E,9169μm,0.3s						
ARG				AML	AML	19 51 14.0	
	comp=N,2491μm,0.2s						
ARG	**Arkhangelos**	**0.51**	**82**	P	**Pb**	**19 51 04.2**	**-0.1**
ARG				S	**Sb**	**19 51 11.9**	**+0.2**
	comp=N,3μm,0.2s						
ARG	**Arkhangelos**	**0.51**	**82**	PG	**Pb**	**19 51 04.0**	**-0.3**
ARG				SG	**Sb**	**19 51 11.7**	**0.0**
ARG	**Arkhangelos**	**0.51**	**82**	P	**Pb**	**19 51 04.1**	**-0.3**
ARG				S	**Sb**	**19 51 12.8**	**+1.1**
NIS1	**Nisyros Isl.**	**0.53**	**330**	P	**Pg**	**19 51 03.3**	**-0.3**
NIS1				S	**Sb**	**19 51 11.6**	**-0.6**
NIS1				AML	AML	19 51 15.7	
	comp=N,8134μm,0.3s						
NIS1				AML	AML	19 51 16.1	
	comp=E,6971μm,0.3s						
NIS1	**Nisyros Isl.**	**0.53**	**330**	P	**Pb**	**19 51 05.0**	**+0.4**
NIS1				S	**Sb**	**19 51 12.7**	**+0.4**
	comp=E,4μm,0.3s						
NIS1	**Nisyros Isl.**	**0.53**	**330**	PG	**Pb**	**19 51 05.4**	**+0.8**
NISR	**Nisiros**	**0.56**	**327**	P	**Pg**	**19 51 04.0**	**-0.2**
NISR	**Nisiros**	**0.56**	**327**	P	**Pb**	**19 51 05.7**	**+0.6**
NISR				S	**Sb**	**19 51 14.3**	**+1.2**
DATC	**Datca-Mugla**	**0.62**	**12**	PG	**Pb**	**19 51 06.1**	**-0.2**
KARP	**Karpathos**	**0.66**	**205**	P	**Pg**	**19 51 06.1**	**-0.1**
KARP				S	**Sb**	**19 51 16.5**	**+0.4**
KARP				AML	AML	19 51 18.4	
	comp=N,5455μm,0.4s						
KARP				AML	AML	19 51 19.6	
	comp=E,4685μm,0.4s						
KARP	**Karpathos**	**0.66**	**205**	P	**Pg**	**19 51 06.2**	**+0.1**
KARP				S	**Sb**	**19 51 16.3**	**+0.2**
	comp=E,3μm,0.4s						
KARP	**Karpathos**	**0.66**	**205**	PG	**Pg**	**19 51 05.9**	**-0.2**
KARP				SG	**Sb**	**19 51 15.5**	**-0.6**
KARP	**Karpathos**	**0.66**	**205**	P	**Pg**	**19 51 06.0**	**-0.1**
KARP				S	**Sb**	**19 51 16.8**	**+0.7**
KARP				AML	AML	19 51 19.2	
	comp=E,5.7nm,0.6s						
KARP				AML	AML	19 51 19.2	
	comp=E,5.7nm,0.6s						
KARP				AML	AML	19 51 19.6	
	comp=E,5.5nm,0.4s						
KARP				AML	AML	19 51 19.6	
	comp=E,5.5nm,0.4s						
MRSB	**Marmaris-Mugla**	**0.80**	**44**	PG	**Pn**	**19 51 10.2**	**-0.4**
MRSB				SG	**Sn**	**19 51 21.7**	**-0.8**
TURN	**Turunc**	**0.87**	**43**	PG	**Pb**	**19 51 10.7**	**+0.3**
TURN				SG	**Sn**	**19 51 24.3**	**+0.2**
TURN	**Turunc**	**0.87**	**43**	*i* P	**Pg**	**19 51 10.1**	**0.0**
TURN				*i* S	**Sb**	**19 51 22.1**	**+0.1**
TURN				IAML		19 51 26.0	
	comp=N,978nm,0.3s						
TURN				IAML		19 51 29.0	
	comp=E,502nm,0.4s						
BDRM	**Kayabasi**	**0.92**	**357**	*i* P	**Pg**	**19 51 10.9**	**-0.2**
BDRM				*i* S	**Sb**	**19 51 24.4**	**+0.9**
BDRM				IAML		19 51 28.0	
	comp=E,665nm,0.4s						
BDRM				IAML		19 51 28.0	
	comp=N,740nm,0.4s						
BODT	**Bodrum**	**0.93**	**350**	PG	**Pb**	**19 51 11.4**	**-0.1**
DALY	**Dalyan (Mula)**	**1.14**	**54**	PN	**Pn**	**19 51 15.4**	**+0.1**
DALY	**Dalyan (Mula)**	**1.14**	**54**	*i* P	**Pb**	**19 51 15.3**	**+0.2**
DALY				*i* S	**Sb**	**19 51 30.3**	**+0.3**
DALY				IAML		19 51 36.0	
	comp=N,311nm,0.4s						
DALY				IAML		19 51 37.0	
	comp=E,281nm,0.5s						
YER	**Yerkesik**	**1.17**	**32**	P	**Pb**	**19 51 15.6**	**0.0**
YER				S	**Sn**	**19 51 32.3**	**+0.6**
YER	**Yerkesik**	**1.17**	**32**	PN	**Pb**	**19 51 15.7**	**+0.1**
MULA	**Mugla, Merkez-**	**1.29**	**30**	*i* P	**Pb**	**19 51 17.7**	**0.0**
MULA				*i* S	**Sg**	**19 51 34.6**	**-0.3**
MULA				IAML		19 51 43.0	
	comp=E,307nm,0.7s						
DDIM	**Aydin, Didim**	**1.33**	**351**	*i* P	**Pg**	**19 51 19.2**	**+0.4**
DDIM				*i* S	**Sb**	**19 51 35.4**	**+0.1**
DDIM				IAML		19 51 44.0	
	comp=E,303nm,0.5s						
DDIM				IAML		19 51 45.0	
	comp=N,223nm,0.6s						
FETY	**Fethiye**	**1.37**	**69**	P	**Pn**	**19 51 18.2**	**-0.2**
FETY	**Fethiye**	**1.37**	**69**	PN	**Pn**	**19 51 18.2**	**-0.2**
ZKR	**Zakros**	**1.47**	**226**	P	**Pn**	**19 51 18.7**	**-1.1**
ZKR	**Zakros**	**1.47**	**226**	P	**Pn**	**19 51 20.1**	**+0.3**
ZKR				S	**Sb**	**19 51 39.9**	**+0.6**
ZKR	**Zakros**	**1.47**	**226**	PN	**Pb**	**19 51 20.7**	**0.0**
ZKR				SN	**Sg**	**19 51 41.3**	**+0.7**
ZKR	**Zakros**	**1.47**	**226**	P	**Pn**	**19 51 20.0**	**+0.2**
ZKR				S	**Sb**	**19 51 39.8**	**+0.4**
ZKR				AML	AML	19 51 43.9	
	comp=N,2.5nm,0.8s						
ZKR				AML	AML	19 51 43.9	
	comp=N,2.5nm,0.8s						
STIA	**Sitia Lasithi**	**1.49**	**231**	P	**Pn**	**19 51 20.3**	**+0.3**
AYDN	**Tasoluk**	**1.54**	**11**	*i* P	**Pg**	**19 51 22.6**	**-0.4**
AYDN				*i* S	**Sg**	**19 51 43.8**	**+0.8**
AYDN				IAML		19 51 46.0	
	comp=E,162nm,0.4s						
AYDN				IAML		19 51 51.0	
	comp=N,146nm,0.7s						
GCAM	**G?zelcaml?**	**1.57**	**352**	PN	**Pg**	**19 51 23.4**	**0.0**
SMG	**Samos**	**1.65**	**341**	P	**Pn**	**19 51 20.9**	**-1.4**
SANT	**Santorini**	**1.67**	**278**	PN	**Pb**	**19 51 23.4**	**-0.7**
AKAS	**Kas**	**1.70**	**86**	PN	**Pb**	**19 51 24.1**	**-0.7**
AKAS	**Kas**	**1.70**	**86**	*i* P	**Pn**	**19 51 23.4**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.74**	**40**	*i* P	**Pb**	**19 51 25.7**	**+0.3**
TAVA				*i* S	**Sb**	**19 51 47.3**	**+0.1**
TAVA				IAML		19 51 50.0	
	comp=E,174nm,0.5s						
TAVA				IAML		19 51 50.0	
	comp=N,212nm,0.6s						
CAEL	**Denizli, Camel**	**1.76**	**56**	*i* P	**Pg**	**19 51 26.3**	**-0.8**
CAEL				*i* S	**Sg**	**19 51 49.6**	**-0.3**
CAEL				IAML		19 51 59.0	
	comp=E,419nm,1.0s						
NPS	**Neapolis**	**1.77**	**241**	P	**Pn**	**19 51 23.6**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.82**	**10**	PN	**Pg**	**19 51 27.6**	**-0.8**
APE	**Apeiranthos**	**1.83**	**301**	P	**Pn**	**19 51 24.1**	**-0.8**
APE	**Apeiranthos**	**1.83**	**301**	PN	**Pn**	**19 51 25.9**	**+1.0**
APE	**Apeiranthos**	**1.83**	**301**	P	**Pn**	**19 51 23.7**	**-1.2**
APE				S	**Sn**	**19 51 46.2**	**-1.9**
DGB	**zmir**	**1.97**	**346**	*i* P	**Pn**	**19 51 25.5**	**-1.1**
GOLH	**Golhisar**	**1.98**	**56**	*i* P	**Pb**	**19 51 30.2**	**+0.7**
GOLH				*i* S	**Sg**	**19 51 57.5**	**+0.5**
GOLH				IAML		19 52 04.0	
	comp=N,176nm,0.5s						
ELL	**Elmali**	**2.03**	**72**	PN	**Pb**	**19 51 29.8**	**-0.5**
ZEYE	**Izmir, Urla-Ze**	**2.24**	**339**	*i* P	**Pb**	**19 51 32.6**	**-1.2**
IDI	**Anoyia**	**2.29**	**249**	P	**Pn**	**19 51 31.9**	**+0.7**
AKUM	**Antalya-Kumluc**	**2.30**	**85**	*i* P	**Pb**	**19 51 33.6**	**-1.3**
URLA	**Izmir**	**2.33**	**342**	PN	**Pb**	**19 51 34.1**	**-1.2**
URLA	**Izmir**	**2.33**	**342**	*i* P	**Pb**	**19 51 35.4**	**+0.1**
KORT	**Korkueli**	**2.45**	**69**	PN	**Pb**	**19 51 35.9**	**-1.5**
KORT	**Korkueli**	**2.45**	**69**	*i* P	**Pn**	**19 51 35.2**	**+1.9**
KORT				IAML		19 52 20.0	
	comp=N,89nm,0.6s						
KORT				IAML		19 52 24.0	
	comp=E,52nm,0.5s						
MANT	**Manisa**	**2.49**	**19**	*i* P	**Pg**	**19 51 41.4**	**+0.4**
CHOS	**Chios island**	**2.52**	**333**	P	**Pn**	**19 51 35.4**	**+1.2**
BRDR	**BURDUR-Merkez**	**2.57**	**52**	*i* P	**Pb**	**19 51 38.1**	**-1.4**
BRDR				IAML		19 52 26.0	
	comp=N,46nm,1.2s						
BUCA	**Burdur, Bucak-**	**2.72**	**63**	*i* P	**Pg**	**19 51 43.9**	**-1.6**
BUCA				IAML		19 52 28.0	
	comp=E,42nm,0.6s						
KHAL	**Karahalli**	**2.73**	**35**	*i* P	**Pb**	**19 51 40.2**	**-2.1**
AKHS	**Akhisar**	**2.74**	**5**	*i* P	**Pn**	**19 51 39.8**	**+2.6**
USAK	**Uak-Merkez**	**2.83**	**25**	*i* P	**Pn**	**19 51 39.5**	**+0.9**
USAK				IAML		19 52 12.0	
	comp=N,101nm,0.5s						
USAK				IAML		19 52 15.0	
	comp=E,80nm,1.1s						
ZEDA	**zmir-Bergama**	**2.84**	**353**	*i* P	**Pg**	**19 51 47.3**	**-0.5**
KZIL	**AFYON_Kizioren**	**2.98**	**44**	*i* P	**Pg**	**19 51 49.6**	**-0.8**
STEP	**BALIKESIR_Sava**	**3.23**	**3**	*i* P	**Pb**	**19 51 51.4**	**+0.7**
STEP				IAML		19 52 45.0	
	comp=E,37nm,1.2s						
STEP				IAML		19 52 48.0	
	comp=N,50nm,1.0s						
AKMS	**Akamas**	**4.10**	**105**	P	**Pn**	**19 51 57.0**	**+1.1**
AKMS				AML	AML	19 52 45.4	
	comp=N,0.3nm,0.9s						
AKMS				AML	AML	19 52 47.2	
	comp=N,0.3nm,0.7s						
NATA	**Nata**	**4.36**	**107**	P	**Pn**	**19 52 00.9**	**+1.4**
NATA				AML	AML	19 52 51.7	
	comp=N,0.7nm,1.2s						
NATA				AML	AML	19 52 52.8	
	comp=N,1.0nm,0.7s						
SZAC	**Souni**	**4.61**	**106**	P	**Pn**	**19 52 04.2**	**+1.2**
SZAC				AML	AML	19 52 57.7	
	comp=N,0.3nm,0.7s						
SZAC				AML	AML	19 52 59.2	
	comp=N,0.3nm,0.6s						
ASGA	**Asgata**	**4.88**	**104**	P	**Pn**	**19 52 08.0**	**+1.3**
CSS	**Mathiatis**	**4.89**	**102**	P	**Pn**	**19 52 08.1**	**+1.2**
MVOU	**Mavrovouni**	**5.12**	**101**	P	**Pn**	**19 52 11.5**	**+1.6**

*JMA **26** 20:05:48.0±0.2, 43.73N×147.27E, h26km, M3.5*
*SKHL **26** 20:05:49.2±0.6, 43.80N×147.30E, h48km±4km, mb3.9/3*
ISC 26 20:05:45.6±2.0, **43.80N**±0.08×**147.29E**±0.08, **h8**km±12km, **n15**, σ0**97**/26, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.06**	**283**	*i* P	**Pn**	**20 06 06.8**	**+0.1**
YUK				AMB	AMB	20 06 08.4	
	20nm,0.2s						
YUK				*i* S	**Sg**	**20 06 19.8**	**+0.1**
YUK				A	A	20 06 23.0	
	300nm,0.2s						
YUK				A	A	20 06 23.0	
	260nm,0.2s						
GRPR	**Tuman**	**1.11**	**281**	*e*P	**Pn**	**20 06 07.6**	**+0.1**
GRPR				AMB	AMB	20 06 09.0	
	50nm,0.2s						
GRPR				*i* S	**Sb**	**20 06 21.7**	**0.0**
GRPR				A	A	20 06 24.0	
	410nm,0.2s						
GRPR				A	A	20 06 24.0	
	380nm,0.2s						
NEM2	**Nemuro 2**	**1.20**	**249**	P	**Pg**	**20 06 08.9**	**+0.2**
NEM2				*e*S	**Sb**	**20 06 23.7**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.21**	**250**	*e*P	**Pg**	**20 06 08.5**	**-0.4**
NMR				*i* S	**Sb**	**20 06 23.5**	**-1.1**
KUR	**Kuril'sk**	**1.49**	**16**	*i* P	**Pb**	**20 06 13.5**	**-0.1**
KUR				AMB	AMB	20 06 13.8	
	40nm,0.4s						
KUR				*i* S	**Sn**	**20 06 31.1**	**-1.2**
KUR				A	A	20 06 33.6	
	170nm,0.2s						
KUR				A	A	20 06 33.6	
	100nm,0.2s						
JRA	**Rausu**	**1.57**	**276**	P	**Pb**	**20 06 14.6**	**-0.3**
JRA				*e*S	**Sb**	**20 06 34.8**	**-0.2**
JNSB	**Nemuroshibetsu**	**1.66**	**270**	P	**Pb**	**20 06 15.9**	**-0.4**
JKHN	**Kushirohamanak**	**1.71**	**246**	P	**Pb**	**20 06 16.2**	**-1.0**
JNK	**Nakash**	**1.88**	**264**	P	**Pn**	**20 06 18.6**	**+0.6**
JNK				*e*S	**Sn**	**20 06 41.0**	**-0.8**
JAK	**Akkeshi**	**2.05**	**248**	P	**Pn**	**20 06 20.9**	**+0.5**
JAK				*e*S	**Sn**	**20 06 45.4**	**-0.7**
JTKR	**Abashiri--Toko**	**2.45**	**275**	P	**Pn**	**20 06 27.3**	**+1.5**
JAR	**Ashorobuto**	**2.61**	**260**	P	**Pn**	**20 06 29.6**	**+1.6**
JAR				*e*S	**Sn**	**20 07 00.5**	**+0.7**
JOB	**Onbets**	**2.67**	**252**	P	**Pn**	**20 06 30.2**	**+1.3**
JOB				*e*S	**Sn**	**20 07 01.5**	**+0.1**
JCH	**Churui**	**3.10**	**249**	P	**Pn**	**20 06 35.6**	**+0.8**
JCH				*e*S	**Sn**	**20 07 12.1**	**0.0**
JFR	**Furan**	**3.48**	**261**	P	**Pn**	**20 06 42.6**	**+2.6**

*THE **26** 20:07:24.7, 36.14N×27.51E, h3km±2km, ML2.8/3, Error ellipse: s-maj=2.1km s-min=0.8km az=337.0*
*ATH **26** 20:07:25.3, 36.15N×27.50E, h15km±3km, ML2.9/4, Error ellipse: s-maj=3.8km s-min=1.2km az=80.0*
*DDA **26** 20:07:26.7, 36.23N×27.58E, h8km±4km, ML2.6*
ISC 26 20:07:25.2±1.0, **36.14N**±0.02×**27.51E**±0.03, **h13**km±10km, **n21**, σ0**61**/36, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.50**	**81**	P	**Pg**	**20 07 35.0**	**0.0**
ARG				S	**Sg**	**20 07 42.2**	**+0.5**
ARG				AML	AML	20 07 44.7	
	comp=N,1976μm,0.2s						
ARG				AML	AML	20 07 45.0	
	comp=E,3773μm,0.3s						
ARG	**Arkhangelos**	**0.50**	**81**	P	**Pg**	**20 07 35.3**	**+0.2**
ARG				S	**Sg**	**20 07 42.3**	**+0.5**
	comp=E,1μm,0.2s						
NIS1	**Nisyros Isl.**	**0.54**	**330**	P	**Pg**	**20 07 35.2**	**-0.5**
NIS1				S	**Sg**	**20 07 42.9**	**0.0**
NIS1				AML	AML	20 07 46.5	
	comp=E,2069μm,0.2s						
NIS1				AML	AML	20 07 46.9	
	comp=N,2693μm,0.3s						
NIS1	**Nisyros Isl.**	**0.54**	**330**	P	**Pg**	**20 07 35.3**	**-0.5**
NIS1				S	**Sg**	**20 07 43.4**	**+0.5**
	comp=N,1μm,0.3s						
KARP	**Karpathos**	**0.65**	**206**	P	**Pg**	**20 07 37.3**	**-0.5**
KARP				S	**Sb**	**20 07 47.5**	**+0.1**
KARP				AML	AML	20 07 49.4	
	comp=E,3349μm,0.2s						
KARP				AML	AML	20 07 50.1	
	comp=N,3045μm,0.2s						
KARP	**Karpathos**	**0.65**	**206**	P	**Pg**	**20 07 37.2**	**-0.6**
KARP				S	**Sg**	**20 07 47.1**	**+0.7**
	comp=N,2μm,0.1s						
TURN	**Turunc**	**0.87**	**43**	*i* P	**Pg**	**20 07 41.9**	**-0.1**
TURN				*i* S	**Sb**	**20 07 53.5**	**-0.3**
TURN				IAML		20 07 57.0	
	comp=N,283nm,0.3s						
TURN				IAML		20 08 01.0	
	comp=E,260nm,0.3s						
BDRM	**Kayabasi**	**0.93**	**357**	*i* P	**Pg

*IDC **26** 20:14:29.1±27.0, 22°.92S×174°.34W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/24, mbtmp3.9/4, Error ellipse: s-maj=506.1km s-min=151.9km az=78.0*

*NEIC **26** 20:14:43.7±0.5, 22°.2S±0°.2×175°.83W±0°.10, h41km±11km, mb4.5/9, Error ellipse: s-maj=26.5km s-min=11.8km az=167.0*

ISC 26 20:14:43.5±1.0, 22°.2S±0°.2×175°.8W±0°.1, h35km, n15, σ1§07/15, mb4.5/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.28**	**62**	Pn	**Pn**	**20 16 14.8**	**+1.2**
NIUE				Sn	**Sn**	**20 17 23.0**	**-1.2**
MSVF	**Nonsavu**	**7.27**	**306**		**Pn**	**20 16 27.1**	**-0.2**
CTA	**Charters Tower**	**35.41**	**266**	P	**P**	**20 21 38.5**	**+2.1**
	1.7nm,0.4s,baz=104,slow=9.7,SNR=7.3						
STKA	**Stephens Creek**	**38.98**	**246**	P	**P**	**20 22 05.5**	**-1.0**
	1.5nm,0.9s,baz=108,slow=9.6,SNR=2.9						
STKA	**Stephens Creek**	**38.98**	**246**	IAmb	IAmb	20 22 11.5	
	comp=Z,2.8nm,1.4s						
BBOO	**Buckleboo**	**43.70**	**245**	P	**P**	**20 22 44.6**	**-0.7**
BBOO				IAmb	IAmb	20 22 47.3	
	comp=Z,36nm,1.5s						
POHA	**Pohakuloa**	**46.11**	**27**	P	**P**	**20 23 04.7**	**0.0**
AS31	**Alice Springs**	**46.17**	**258**	P	**P**	**20 23 05.1**	**0.0**
ASAR	**Alice Springs**	**46.17**	**258**	P	**P**	**20 23 04.8**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=96,slow=7.1,SNR=14						
WR0	**Warramunga Arr**	**46.25**	**263**	P	**P**	**20 23 04.2**	**-1.5**
WR0				IAmb	IAmb	20 23 09.3	
	comp=Z,10nm,1.4s						
WB0	**Warramunga Arr**	**46.42**	**263**	P	**P**	**20 23 06.4**	**-0.6**
WB0				IAmb	IAmb	20 23 15.3	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**46.43**	**263**	P	**P**	**20 23 06.0**	**-1.1**
WB2				IAmb	IAmb	20 23 12.9	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**46.44**	**263**	P	**P**	**20 23 06.8**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=104,slow=8.6,SNR=14						
WRA	**Warramunga Arr**	**46.44**	**263**	P	**P**	**20 23 06.4**	**-0.8**
319A	**Douglas**	**83.00**	**52**	P	**P**	**20 27 05.2**	**-0.2**

IDC 26 20:48:19.9±2.2, 62°.49S×161°.12W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/20, mbtmp3.4/3, ML3.5/1, MS3.9/10, Ms1 3.9/10, ms1mx3.8/13, Error ellipse: s-maj=65.1km s-min=47.9km az=94.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.08**	**204**	P	P	20 52 43.2	-0.3
	0.1nm,0.3s,baz=70,slow=17,SNR=6.7						
VNDA				LR	LR	20 58 11.7	
	comp=Z,270nm,19.6s,baz=66,slow=31						
URZ	**Urewera**	**27.67**	**321**	LR	LR	21 02 49.5	
	comp=Z,222nm,21.6s,baz=211,slow=31						
PMSA	**Palmer Station**	**39.13**	**138**	LR	LR	21 08 57.8	
	comp=Z,178nm,18.1s,baz=124,slow=32						
TBI	**Tubuai**	**39.91**	**17**	*e*LR	LR	21 06 18.8	
	comp=Z,327nm,27.2s						
TBI	**Tubuai**	**39.91**	**17**	*e*T	T	21 37 52.2	
SNAA	**Sanae**	**45.28**	**171**	LR	LR	21 13 28.6	
	comp=Z,280nm,18.8s,baz=208,slow=33						
MEH	**Mehetia**	**45.49**	**18**	*e*T	T	21 44 47.5	
	49nm,0.3s						
PPT2	**Papeete2**	**45.57**	**16**	*e*LR	LR	21 09 03.0	
	comp=Z,388nm,26.8s						
PPT	**Papeete**	**45.59**	**16**	LR	LR	21 10 11.5	
	comp=Z,95nm,21.2s,baz=126,slow=29						
DZM	**Mont Dzumac**	**46.02**	**316**	*e*LR	LR	21 10 03.7	
	comp=Z,184nm,23.6s						
MAW	**Mawson**	**46.37**	**202**	LR	LR	21 13 59.9	
	comp=Z,201nm,20.2s,baz=274,slow=33						
STKA	**Stephens Creek**	**47.23**	**283**	LR	LR	21 12 18.2	
	comp=Z,98nm,21.8s,baz=190,slow=30						
VAH	**Vaihoa**	**48.15**	**18**	*e*T	T	21 48 05.0	
	141nm,0.3s						
RPN	**Rapa Nui**	**48.88**	**68**	LR	LR	21 11 58.3	
	comp=Z,171nm,22.0s,baz=270,slow=29						
PLCA	**Paso Flores**	**55.10**	**112**	LR	LR	21 14 46.8	
	comp=Z,82nm,21.3s,baz=204,slow=29						
H03S2	**Juan Fernandez**	**57.09**	**101**	T	T	21 58 32.6	
	baz=211,slow=74						
H03S1	**Juan Fernandez**	**57.09**	**101**	T	T	21 58 37.4	
	baz=211,slow=74						
H03S3	**Juan Fernandez**	**57.11**	**101**	T	T	21 58 34.6	
	baz=211,slow=74						
H01W1	**Cape Leeuwin H**	**57.35**	**256**	T	T	22 01 56.5	
	baz=147,slow=76						
H01W2	**Cape Leeuwin H**	**57.36**	**256**	T	T	22 01 56.0	
	baz=147,slow=76						
H01W3	**Cape Leeuwin H**	**57.37**	**256**	T	T	22 01 57.8	
	baz=147,slow=76						
H03N3	**Juan Fernandez**	**57.41**	**101**	T	T	21 58 56.7	
	baz=208,slow=72						
H03N2	**Juan Fernandez**	**57.42**	**101**	T	T	21 58 56.2	
	baz=208,slow=72						
H03N1	**Juan Fernandez**	**57.43**	**101**	T	T	21 58 53.9	
	baz=208,slow=72						
ASAR	**Alice Springs**	**57.75**	**281**	P	P	20 58 12.5	+0.1
	0.2nm,0.7s,baz=148,slow=6.9,SNR=1.5						
ASAR				LR	LR	21 19 13.2	
	comp=Z,106nm,21.9s,baz=146,slow=32						
WRA	**Warramunga Arr**	**60.78**	**283**	P	P	20 58 32.4	-1.1
	1.0nm,1.1s,baz=161,slow=5.1,SNR=2.4						
ILAR	**Eielson Array**	**127.39**	**8**	PKP	PKPdf	21 07 23.7	-1.1
	0.3nm,0.6s,baz=188,slow=2.5,SNR=2.6						
MKAR	**Makanchi Array**	**141.84**	**276**	PKP	PKPdf	21 07 51.1	-1.2
	0.3nm,0.8s,baz=116,slow=3.4,SNR=3.8						
KURBB	**Kurchatov Arra**	**146.32**	**278**	PKPbc	PKPab	21 08 01.9	-0.1
	1.3nm,0.8s,baz=135,slow=2.2,SNR=9.5						

*ANF **26** 20:56:25.7±0.4, 60°.02N×152°.72W, h143km±5km, ML3.7/33, Error ellipse: s-maj=5.7km s-min=2.8km az=112.0, Hypocentre not reviewed by the ISC*

*NEIC **26** 20:56:26.6±1.1, 60°.12N±0°.02×152°.97W±0°.08, h128km±4km, Error ellipse: s-maj=6.0km s-min=3.5km az=84.0*

*IDC **26** 20:56:26.4±1.5, 60°.11N×152°.70W, h125km±21km, mb3.6/11, mb1 3.6/15, mb1mx3.3/62, mbtmp4.0/15, Error ellipse: s-maj=31.8km s-min=14.9km az=123.0*

*AEIC **26** 20:56:27±1.5, 60°.11N±0°.04×152°.95W±0°.08, h124km±3km, ML3.4, mb4.1/3(NEIC), ML3.6/92(NEIC), Error ellipse: s-maj=5.5km s-min=5.1km az=107.0*

ISC 26 20:56:27.1±0.7, 60°.11N±0°.04×152°.95W±0°.04, h127km±5km, n165, σ0§88/162, mb4.0/11, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVE	**Iliamna Volcan**	**0.10**	**200**		**Pn**	**20 56 43.9**	**-0.7**
IVE					**Sn**	**20 56 57.5**	**-0.1**
ILW	**Iliamna West**	**0.11**	**242**		**Pn**	**20 56 44.1**	**-0.5**
ILS	**Iliamna Low So**	**0.16**	**201**		**Pn**	**20 56 43.9**	**-0.8**
RED	**Redoubt Volcan**	**0.32**	**16**		**Pn**	**20 56 44.6**	**-0.4**
RED					**Sn**	**20 56 57.9**	**-0.8**
RDSO	**Redoubt South**	**0.36**	**17**		**Pn**	**20 56 44.7**	**-0.6**
RDSO					**Sn**	**20 56 58.4**	**-0.8**
RSO	**Redoubt South**	**0.37**	**15**		**Pn**	**20 56 44.6**	**-0.8**
REF	**Redoubt East F**	**0.40**	**18**		**Pn**	**20 56 45.0**	**-0.5**
REF					**Sn**	**20 56 59.2**	**-0.3**
NCT	**North Crescent**	**0.45**	**1**		**Pn**	**20 56 45.3**	**-0.3**
NCT					**Sn**	**20 56 59.4**	**-0.4**
OPT	**Oil Point**	**0.48**	**197**		**Pn**	**20 56 45.3**	**-0.4**
DFR	**Drift River**	**0.50**	**15**		**Pn**	**20 56 45.4**	**-0.5**
DFR					**Sn**	**20 56 59.9**	**-0.3**
AU22	**Augustine Moun**	**0.77**	**196**		**Pn**	**20 56 47.6**	**0.0**
AU22					**Sn**	**20 57 02.9**	**-0.3**
AUL	**Augustine Lava**	**0.77**	**199**		**Pn**	**20 56 47.7**	**0.0**
AUL					**Sn**	**20 57 03.1**	**-0.2**
AUCH	**Augustine Cone**	**0.79**	**199**		**Pn**	**20 56 47.8**	**-0.2**
AUCH					**Sn**	**20 57 03.4**	**-0.3**
HOM	**Homer**	**0.80**	**124**		**Pn**	**20 56 48.0**	**+0.1**
HOM					**Sn**	**20 57 03.9**	**+0.2**
HOM	**Homer**	**0.80**	**124**	IAML		20 57 06.0	
	comp=N,1μm,0.6s						
HOM				IAML		20 57 06.9	
	comp=E,1μm,0.5s						
HOM	**Homer**	**0.80**	**124**	P		20 56 48.1	
	baz=305,SNR=8.9						
HOM				S		20 57 04.4	
	baz=305						
CNPM	**China Poot**	**1.05**	**123**		**Pn**	**20 56 50.1**	**-0.1**
CNPM					**Sn**	**20 57 07.5**	**-0.1**
BRLK	**Bradley Lake**	**1.09**	**108**		**Pn**	**20 56 50.9**	**+0.3**
BRLK					**Sn**	**20 57 07.9**	**-0.6**
BRLK	**Bradley Lake**	**1.09**	**108**	IAML		20 57 08.4	
	comp=N,1μm,0.7s						
BRLK				IAML		20 57 08.7	
	comp=E,1μm,0.2s						
CAPN	**Captain Cook N**	**1.11**	**53**		**Pn**	**20 56 52.4**	**+1.7**
CAPN	**Captain Cook N**	**1.11**	**53**	P		20 56 52.3	
	baz=234						
CAPN				S		20 57 11.1	
	baz=234						
CKT	**Bend**	**1.16**	**18**		**Pn**	**20 56 51.3**	**0.0**
BRSE	**Bradley Lake S**	**1.17**	**107**		**Pn**	**20 56 51.5**	**+0.1**
BRSE					**Sn**	**20 57 09.4**	**-0.5**
BRSE	**Bradley Lake S**	**1.17**	**107**	P		20 56 51.4	
	baz=289						
BRSE				S		20 57 09.1	
	baz=289						
CKN	**Chakachatna No**	**1.18**	**18**		**Pn**	**20 56 51.7**	**+0.2**
SPCN	**Chakachatna No**	**1.18**	**18**		**Pn**	**20 56 51.6**	**+0.1**
SPWE	**Spurr West**	**1.19**	**9**		**Pn**	**20 56 52.0**	**+0.3**
SPCP	**Crater Peak Br**	**1.23**	**18**		**Pn**	**20 56 52.1**	**0.0**
SPCP					**Sn**	**20 57 11.2**	**0.0**
SLKM	**Skilak Lake**	**1.42**	**72**		**Pn**	**20 56 53.6**	**-0.4**
SLKM					**Sn**	**20 57 13.3**	**-1.2**
STLK	**Strandline Lak**	**1.50**	**21**		**Pn**	**20 56 55.0**	**0.0**
SVW2	**Sparrevohn**	**1.63**	**309**		**Pn**	**20 56 55.7**	**-0.8**
SVW2					**Sn**	**20 57 17.6**	**-1.3**
O22K	**Cooper Landing**	**1.65**	**76**		**Pn**	**20 56 56.5**	**-0.1**
O22K					**Sn**	**20 57 17.8**	**-1.4**
O22K	**Cooper Landing**	**1.65**	**76**	P		20 56 56.4	
	baz=258,SNR=6.0						
O22K				S		20 57 17.9	
	baz=258						
FIS	**Fire Island**	**1.70**	**51**		**Pn**	**20 56 57.7**	**+0.5**
FIS	**Fire Island**	**1.70**	**51**	IAML		20 57 45.3	
	comp=E,492nm,0.9s						
SUA	**Susitna One**	**1.74**	**38**		**Pn**	**20 56 57.9**	**+0.1**
SUA					**Sn**	**20 57 21.6**	**+0.3**
SUA	**Susitna One**	**1.74**	**38**	IAML		20 57 22.3	
	comp=N,663nm,0.9s						
SUA				IAML		20 57 22.7	
	comp=E,624nm,0.6s						
SUA	**Susitna One**	**1.74**	**38**	P		20 56 57.8	
	baz=219,SNR=185						
SUA				S		20 57 21.5	
	baz=219						
SEW	**Seward**	**1.75**	**89**		**Pn**	**20 56 57.4**	**-0.4**
SEW	**Seward**	**1.75**	**89**	P		20 56 57.1	
	baz=272						
SEW				S		20 57 19.7	
	baz=272						
KAHC	**Katmai Hardscr**	**1.81**	**217**		**Pn**	**20 56 57.8**	**-0.8**
KAHG	**Katmai Hook Gl**	**1.82**	**207**		**Pn**	**20 56 58.5**	**-0.2**
KARR	**Katmai Rainbow**	**1.85**	**210**		**Pn**	**20 56 58.8**	**-0.2**
RC01	**Rabbit Creek A**	**1.86**	**57**		**Pn**	**20 56 58.7**	**-0.5**
RC01					**Sn**	**20 57 23.3**	**-0.4**
RC01	**Rabbit Creek A**	**1.87**	**57**	P		20 56 58.7	
	baz=239,SNR=9.8						
RC01				S		20 57 23.4	
	baz=239						
SKT	**Skwentna**	**2.00**	**20**		**Pn**	**20 57 00.6**	**-0.3**
SKT	**Skwentna**	**2.00**	**20**	P		20 57 00.5	
	baz=201,SNR=22						
KVTA	**Katmai Vly 10**	**2.11**	**216**		**Pn**	**20 57 01.9**	**-0.3**
KBM	**Katmai Bkd Mtn**	**2.17**	**213**		**Pn**	**20 57 03.0**	**-0.1**
KCE	**Katmai Mt Cerb**	**2.20**	**213**		**Pn**	**20 57 03.4**	**+0.1**
KELA	**Mount Kelaz**	**2.20**	**222**		**Pn**	**20 57 02.9**	**-0.5**
KABR	**Katmai Barrier**	**2.24**	**209**		**Pn**	**20 57 03.4**	**-0.5**
KDAK	**Kodiak Island**	**2.34**	**175**	P	**Pn**	**20 57 03.5**	**-1.5**
	comp=E,32nm,0.3s,baz=36,slow=8.1,SNR=255						
KDAK				S	**Sn**	**20 57 32.0**	**-2.2**
	comp=E,39nm,0.3s,baz=142,slow=24,SNR=7.3						
KDAK	**Kodiak Island**	**2.34**	**175**	IAML		20 57 33.2	
	comp=E,433nm,0.6s						
KDAK				IAML		20 57 33.3	
	comp=E,319nm,0.6s						
KDAK	**Kodiak Island**	**2.34**	**175**	P		20 57 03.5	
	baz=356						
KDAK				S		20 57 32.0	
	baz=356						
PMR	**Palmer**	**2.39**	**50**		**Pn**	**20 57 04.5**	**-1.1**
PMR	**Palmer**	**2.39**	**50**	IAML		20 57 33.7	
	comp=N,126nm,0.8s						
PMR				IAML		20 57 40.8	
	comp=E,132nm,0.7s						
PMR	**Palmer**	**2.39**	**50**	P		20 57 04.4	
	baz=233						
PMR				S		20 57 33.1	
	baz=233						
CAHL	**Cahill**	**2.39**	**211**		**Pn**	**20 57 05.8**	**0.0**
PWL	**Port Wells**	**2.41**	**70**		**Pn**	**20 57 04.5**	**-1.3**
PWL	**Port Wells**	**2.41**	**70**	IAML		20 57 35.1	
	comp=E,324nm,0.2s						
KJL	**Kejulik**	**2.47**	**214**		**Pn**	**20 57 06.9**	**+0.2**
KNK	**Knik Glacier**	**2.56**	**57**		**Pn**	**20 57 06.8**	**-1.1**
KNK	**Knik Glacier**	**2.56**	**57**	IAML		20 57 40.3	
	comp=N,321nm,0.6s						
KNK				IAML		20 57 47.3	
	comp=E,238nm,0.9s						
KNK	**Knik Glacier**	**2.56**	**57**	P		20 57 06.7	
	baz=241						
KNK				S		20 57 37.6	
	baz=241						
GHO	**Glory Hole Cre**	**2.58**	**48**		**Pn**	**20 57 07.2**	**-0.9**
GHO	**Glory Hole Cre**	**2.58**	**48**	IAML		20 57 38.7	
	comp=E,271nm,0.8s						
GHO				IAML		20 57 38.9	
	comp=N,181nm,0.8s						
CUT	**Chulitna**	**2.64**	**28**		**Pn**	**20 57 08.5**	**-0.4**
CUT	**Chulitna**	**2.64**	**28**	IAML		20 57 42.5	
	comp=E,251nm,0.7s						
CUT				IAML		20 57 44.6	
	comp=N,204nm,0.7s						
CUT	**Chulitna**	**2.64**	**28**	P		20 57 08.6	
	baz=210,SNR=17						
CUT				S		20 57 40.4	
	baz=210						
PPLA	**Purkeypile**	**2.82**	**7**		**Pn**	**20 57 11.8**	**+0.5**
PPLA	**Purkeypile**	**2.82**	**7**	P		20 57 11.8	
	baz=188,SNR=29						
SML	**Sawmill**	**2.82**	**51**		**Pn**	**20 57 09.9**	**-1.3**
SML	**Sawmill**	**2.82**	**51**	IAML		20 57 43.7	
	comp=N,144nm,1.2s						
SML				IAML		20 57 46.0	
	comp=E,146nm,0.9s						
SML	**Sawmill**	**2.82**	**51**	P		20 57 09.9	
	baz=235,SNR=7.9						
SML				S		20 57 42.6	
	baz=235						
OHAK	**Old Harbor**	**2.90**	**184**		**Pn**	**20 57 10.0**	**-2.2**
OHAK	**Old Harbor**	**2.90**	**184**	IAML		20 57 52.4	
	comp=N,118nm,0.4s						
OHAK				IAML		20 57 58.8	
	comp=E,107nm,0.7s						
OHAK	**Old Harbor**	**2.90**	**184**	P		20 57 10.0	
	baz=3.5						
OHAK				S		20 57 43.2	
	baz=3.5						
PLK1	**Peulik 1**	**2.99**	**221**		**Pn**	**20 57 13.4**	**0.0**
GLI	**Glacier Island**	**3.00**	**73**		**Pn**	**20 57 11.6**	**-1.9**
GLI	**Glacier Island**	**3.00**	**73**	IAML		20 57 47.8	
	comp=E,201nm,0.4s						
GLI				IAML		20 57 48.3	
	comp=N,155nm,0.2s						
GLI	**Glacier Island**	**3.00**	**73**	P		20 57 11.4	
	baz=258						
GLI				S		20 57 46.2	
	baz=258						
TT01	**Tatalina**	**3.17**	**334**		**Pn**	**20 57 14.9**	**-0.7**
HIN	**Hinchinbrook I**	**3.23**	**82**		**Pn**	**20 57 15.0**	**-1.5**
HIN	**Hinchinbrook I**	**3.23**	**82**	IAML		20 57 57.3	
	comp=E,204nm,1.2s						
SCM	**Sheep Creek Mo**	**3.24**	**55**		**Pn**	**20 57 15.7**	**-1.0**
SCM	**Sheep Creek Mo**	**3.24**	**55**	IAML		20 57 57.8	
	comp=N,212nm,0.7s						
FID	**Port Fidalgo**	**3.27**	**76**		**Pn**	**20 57 15.0**	**-2.1**
FID	**Port Fidalgo**	**3.27**	**76**	IAML		20 57 53.1	
	comp=E,209nm,0.3s						
FID				IAML		20 57 54.8	
	comp=N,186nm,0.3s						
WAT7	**Susitna Watana**	**3.37**	**34**		**Pn**	**20 57 17.9**	**-0.5**
WAT1	**Susitna Watana**	**3.45**	**36**		**Pn**	**20 57 18.9**	**-0.5**
WAT6	**Susitna Watana**	**3.53**	**43**		**Pn**	**20 57 19.8**	**-0.8**
WAT6	**Susitna Watana**	**3.53**	**43**	P		20 57 19.7	
	baz=228,SNR=35						
WAT6				S		20 57 59.9	
	baz=228						
WAT2	**Susitna Watana**	**3.54**	**34**		**Pn**	**20 57 20.4**	**-0.3**
WAT2	**Susitna Watana**	**3.54**	**34**	P		20 57 20.3	
	baz=218,SNR=29						
WAT2				S		20 57 59.7	
	baz=218						
TRF	**Thorofare Moun**	**3.58**	**20**		**Pn**	**20 57 20.9**	**-0.3**
TRF	**Thorofare Moun**	**3.58**	**20**	IAML		20 58 26.5	
	comp=N,51nm,1.0s						
TRF	**Thorofare Moun**	**3.58**	**20**	P		20 57 20.9	
	baz=202,SNR=28						
KTH	**Kantishna Hill**	**3.59**	**15**		**Pn**	**20 57 20.6**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.61**	**80**	Pn	**Pn**	**20 57 20.9**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.61**	**80**	S		20 58 00.8	
	baz=266						
SII	**Sitkinak Islan**	**3.62**	**191**	Pn	**Pn**	**20 57 17.4**	**-4.3**
SII	**Sitkinak Islan**	**3.62**	**191**	S		20 57 59.7	
	baz=9.9						
DIV	**Divide**	**3.68**	**71**		**Pn**	**20 57 21.2**	**-1.3**
KLU	**Klutina**	**3.71**	**65**		**Pn**	**20 57 21.8**	**-1.1**
KLU	**Klutina**	**3.71**	**65**	P		20 57 21.7	
	baz=251						
KLU				S		20 58 03.5	
	baz=251						
CHUM	**Lake Minchumin**	**3.80**	**4**	P		20 57 23.7	
	baz=185						
RND	**Reindeer**	**3.84**	**29**		**Pn**	**20 57 24.0**	**-0.6**
M24K	**Tolsona, Glenn**	**3.85**	**56**		**Pn**	**20 57 24.4**	**-0.3**
M24K	**Tolsona, Glenn**	**3.85**	**56**	P		20 57 24.2	
	baz=242,SNR=9.9						
M24K				S		20 58 08.5	
	baz=242						
PS12	**TAPS Pump St12**	**4.06**	**67**		**Pn**	**20 57 26.7**	**-0.8**
MCK	**McKinley**	**4.10**	**26**		**Pn**	**20 57 27.7**	**-0.3**
MCK	**McKinley**	**4.10**	**26**	P		20 57 27.8	
	baz=209,SNR=20						
MCK				S		20 58 13.2	
	baz=209						
BPAW	**Bear Paw Mtn.**	**4.11**	**12**		**Pn**	**20 57 27.5**	**-0.6**
BPAW	**Bear Paw Mtn.**	**4.11**	**12**	P		20 57 27.3	
	baz=194,SNR=21						
PS11	**TAPS Pump St11**	**4.13**	**58**		**Pn**	**20 57 28.1**	**-0.3**
RAGM	**Ragged Mountai**	**4.13**	**83**	Pn	**Pn**	**20 57 27.2**	**-1.2**
BMRM	**Bremner River**	**4.21**	**75**		**Pn**	**20 57 28.7**	**-0.8**
BMRM	**Bremner River**	**4.21**	**75**	IAML		20 58 18.3	
	comp=N,97nm,0.8s						
BMRM				IAML		20 58 18.7	
	comp=E,60nm,0.7s						
BMRM	**Bremner River**	**4.21**	**75**	P		20 57 28.1	
	baz=262						
BMRM				S		20 58 14.6	
	baz=262						
N25K	**Chitina, Valde**	**4.35**	**66**		**Pn**	**20 57 30.5**	**-0.9**
N25K	**Chitina, Valde**	**4.35**	**66**	IAML		20 58 20.9	
	comp=N,48nm,0.7s						
N25K				IAML		20 58 21.5	
	comp=E,53nm,0.7s						
N25K	**Chitina, Valde**	**4.35**	**66**	P		20 57 30.3	
	baz=253,SNR=7.8						
N25K				S		20 58 18.7	
	baz=253						
PAX	**Paxson**	**4.59**	**48**		**Pn**	**20 57 34.1**	**-0.4**
PAX	**Paxson**	**4.59**	**48**	P		20 57 34.1	
	baz=234,SNR=17						
PAX				S		20 58 24.6	
	baz=234						
GLB	**Gilahina Butte**	**4.68**	**69**		**Pn**	**20 57 35.5**	**-0.2**
GLB	**Gilahina Butte**	**4.68**	**69**	IAML		20 58 29.2	
	comp=E,40nm,0.7s						
GLB				IAML		20 58 29.6	
	comp=N,55nm,0.8s						
CHGN	**Chignik**	**4.79**	**219**		**Pn**	**20 57 36.1**	**-1.1**
CHGN				IAML		21 00 38.9	
	comp=N,51nm,0.1s						
VRDI	**Verde Repeater**	**4.80**	**72**		**Pn**	**20 57 37.2**	**-0.3**
VRDI	**Verde Repeater**	**4.80**	**72**	IAML		20 58 33.4	
	comp=N,46nm,0.6s						
VRDI				IAML		20 58 35.0	
	comp=E,32nm,0.7s						
NEA2	**Nenana**	**4.85**	**20**		**Pn**	**20 57 37.0**	**-0.9**
NEA2	**Nenana**	**4.85**	**20**	P		20 57 37.3	
	baz=204,SNR=57						
CRQM	**Cirque**	**4.90**	**78**	Pn	**Pn**	**20 57 39.1**	**+0.3**
CRQM				IAML		20 58 32.5	
	comp=E,54nm,0.9s						
WRH	**Wood River Hil**	**4.93**	**25**		**Pn**	**20 57 38.1**	**-0.9**
MCARA	**McCarthy VSAT**	**5.04**	**71**		**Pn**	**20 57 40.0**	**-0.4**
MCARA	**McCarthy VSAT**	**5.04**	**71**	IAML		20 58 40.9	
	comp=E,53nm,0.3s						
MCARA	**McCarthy VSAT**	**5.04**	**71**	P		20 57 40.8	
	baz=260						
MCARA				S		20 58 35.6	
	baz=260						
MLY	**Manley**	**5.04**	**11**		**Pn**	**20 57 39.7**	**-0.9**
MLY	**Manley**	**5.04**	**11**	P		20 57 39.7	
	baz=193,SNR=43						
CCB	**Clear Creek Bu**	**5.14**	**26**		**Pn**	**20 57 40.7**	**-1.1**
HDA	**Harding Lake**	**5.14**	**30**		**Pn**	**20 57 40.8**	**-1.1**
HDA	**Harding Lake**	**5.14**	**30**	P		20 57 41.1	
	baz=216,SNR=35						
HDA				P		20 57 41.1	
	baz=216,SNR=35						
HDA				S		20 58 37.9	
	baz=216						
HDA				S		20 58 37.9	
	baz=216						
MENT	**Mentasta**	**5.25**	**53**	Pn	**Pn**	**20 57 42.6**	**-0.7**
MENT				IAML		20 58 59.2	
	comp=N,48nm,1.0s						
MENT				IAML		20 59 13.8	
	comp=E,43nm,0.8s						
PTPK	**Patty Peak**	**5.27**	**74**		**Pn**	**20 57 43.9**	**+0.1**
PS08	**TAPS Pump Stn8**	**5.29**	**30**		**Pn**	**20 57 43.1**	**-0.7**
KIAG	**Kiagna River**	**5.30**	**77**		**Pn**	**20 57 44.1**	**0.0**
BALM	**Baldy**	**5.31**	**75**		**Pn**	**20 57 44.1**	**-0.1**
I23K	**Minto, Yukon-K**	**5.32**	**17**		**Pn**	**20 57 44.1**	**-0.1**
I23K	**Minto, Yukon-K**	**5.32**	**17**	P		20 57 43.7	
	baz=200,SNR=77						
TCOL	**CIGO, UAF Yank**	**5.33**	**24**		**Pn**	**20 57 43.9**	**-0.5**
TCOL	**CIGO, UAF Yank**	**5.33**	**24**	P		20 57 43.8	
	baz=208,SNR=27						
COLA	**College**	**5.33**	**24**		**Pn**	**20 57 43.8**	**-0.6**
COLA	**College**	**5.33**	**24**	P		20 57 43.

baz=276
PINM S 20 59 06.2
baz=276
K27K Chicken 6.44 48 Pn 20 57 59.0 -0.4
EGAK Eagle 7.19 44 Pn 20 58 08.7 -0.7
EGAK Eagle 7.19 44 P 20 58 08.3
baz=235,SNR=8.8
COLD Coldfoot 7.25 9 Pn 20 58 09.9 -0.3
COLD Coldfoot 7.25 9 P 20 58 09.8
baz=191,SNR=24
ANM Nome 7.30 313 Pn 20 58 10.8 -0.1
DAWY Dawson 7.49 52 Pn 20 58 13.3 -0.2
HYT Haines Junctio 7.67 78 Pn **Pn 20 58 16.1 +0.1**
BM03 Burnt Mountain 8.21 23 Pn 20 58 21.3 -1.8
BMAR Burnt Mountain 8.22 23 Pn **Pn 20 58 21.4 -1.9**
TOLK Toolik Lake Re 8.69 8 Pn 20 58 29.2 -0.3
TOLK Toolik Lake Re 8.69 8 P 20 58 30.0
baz=191,SNR=10
INK Inuvik 11.73 37 P **Pn 20 59 09.4 -0.8**
comp=E,0.2nm,0.3s,baz=223,slow=16,SNR=5.5
YKA Yellowknife Ar 18.38 66 P **P 21 00 31.8 +0.1**
comp=E,0.2nm,0.3s,baz=278,slow=9.7,SNR=24
SEY Seymchan 25.56 300 P **P 21 01 44.6 +1.1**
comp=E,0.4nm,0.3s,baz=87,slow=20,SNR=5.4
PETK Petropavlovsk- 27.47 277 P **P 21 02 01.2 +0.4**
comp=E,0.9nm,0.7s,baz=78,slow=12,SNR=1.4
MA2 Magadan 27.56 294 P **P 21 02 03.5 +2.0**
comp=E,2.2nm,0.5s,baz=112,slow=16,SNR=2.2
NRIK Noril'sk 43.81 333 P **P 21 04 19.6 +0.1**
comp=E,2.0nm,0.5s,baz=53,slow=8.0,SNR=4.4
NRIK Noril'sk 43.81 333 IAmb IAmb 21 04 20.2
comp=Z,2.3nm,0.6s
KSRS Korea Array 53.18 283 P **P 21 05 32.7 +1.1**
comp=Z,0.4nm,0.4s,baz=43,slow=6.0,SNR=4.3
SONM Songino Array 54.75 306 P **P 21 05 44.1 +1.0**
comp=Z,2.2nm,0.8s,baz=40,slow=7.4,SNR=17
SONM Songino Array 54.75 306 P **P 21 05 44.0 +0.9**
SONM IAmb IAmb 21 05 45.3
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 57.30 324 P **P 21 06 01.3 +0.4**
comp=Z,1.3nm,0.4s,baz=35,slow=8.2,SNR=6.3
ARU Arti 61.15 341 P **P 21 06 26.8 -0.6**
comp=Z,0.6nm,0.4s,baz=53,slow=10,SNR=4.4
ARU Arti 61.15 341 IAmb IAmb 21 06 27.3
comp=Z,1.9nm,0.5s
KURK Kurchatov 61.95 326 P **P 21 06 33.1 +0.3**
BVAR Borovoye Array 61.98 332 P **P 21 06 32.1 -0.9**
comp=Z,1.0nm,0.6s,baz=184,slow=4.5,SNR=12
KURBB Kurchatov Arra 62.06 326 P **P 21 06 33.1 -0.5**
comp=Z,1.0nm,0.6s,baz=27,slow=6.7,SNR=9.9
MKAR Makanchi Array 64.36 321 P **P 21 06 48.1 -0.7**
comp=Z,0.5nm,0.6s,baz=38,slow=6.4,SNR=8.4

*IDC **26** 21:00:59.9±1.1,21°.12S×67°.42W,h170km±13km,mb3.6/2, mb1 3.6/5,mb1mx3.3/25,mbtmp3.9/5,Error ellipse: s-maj=33.4km s-min=14.8km az=115.0*
*NEIC **26** 21:01:01.0±1.7,21°.16S±0°.06×67°.7W±0°.1,h185km±8km, mb4.6/5,Error ellipse: s-maj=15.4km s-min=9.2km az=88.0*
*GUC **26** 21:01:01.8±0.6,21°.16S×67°.73W,h197km±6km,ML3.8*
*SCB **26** 21:01:04.2±1.9,21°.14S×67°.55W,h152km±13km,ML3.9/4, Error ellipse: s-maj=5.5km s-min=4.6km az=0.0*
ISC 26 21:00:59.9±0.7,21°.14S±0°.04×67°.53W±0°.04,h182km±7km, n62,σ1§81/81,mb4.6/6,5C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.72**	**247**		*e*P	**Pn**	**Pn**	**21 01 35.7**	**+1.3**
PB09					*i* S	**Sn**	**Sn**	**21 02 01.8**	**+0.7**
PB09	**IPOC Station P**	**1.72**	**247**		P	**Pn**	**Pn**	**21 01 35.5**	**+1.1**
PB09	**IPOC Station P**	**1.72**	**247**		P	**Pn**	**Pn**	**21 01 35.5**	**+1.1**
PB09					S	**Sn**	**Sn**	**21 01 58.4**	**-2.7**
MOCB	**Mochara**	**1.77**	**94**		P	**Pn**	**Pn**	**21 01 36.4**	**+1.2**
MOCB					S	**Sn**	**Sn**	**21 02 00.5**	**-1.9**
MOCB				IAML				21 02 03.8	
365nm,0.4s									
PB08	**IPOC Station P**	**1.82**	**303**	*i* P		**Pn**	**Pn**	**21 01 36.8**	**+1.2**
PB08				*i* S		**Sn**	**Sn**	**21 02 03.8**	**+0.6**
PB08	**IPOC Station P**	**1.82**	**303**			**Pn**	**Pn**	**21 01 36.8**	**+1.2**
PB08	**IPOC Station P**	**1.82**	**303**	P		**Pn**	**Pn**	**21 01 37.1**	**+1.5**
PB01	**IPOC Station P**	**1.83**	**273**	*e*P		**Pn**	**Pn**	**21 01 36.0**	**+0.6**
PB01				*i* S		**Sn**	**Sn**	**21 02 02.0**	**-0.9**
PB01				IAML				21 02 05.0	
comp=E,546nm,0.4s									
PB01	**IPOC Station P**	**1.83**	**273**			**Pn**	**Pn**	**21 01 36.0**	**+0.6**
PB01	**IPOC Station P**	**1.83**	**273**	P		**Pn**	**Pn**	**21 01 36.7**	**+1.3**
PB01				S		**Sn**	**Sn**	**21 02 00.5**	**-2.4**
PB01				IAML				21 02 05.2	
comp=E,498nm,0.3s									
LVC	**Limon Verde**	**1.94**	**221**	P		**Pn**	**Pn**	**21 01 37.7**	**+0.8**
comp=E,2.7nm,0.3s,baz=21,slow=9.3,SNR=60									
LVC				S		**Sn**	**Sn**	**21 02 05.5**	**-0.1**
comp=E,13nm,0.3s,baz=218,slow=20,SNR=45									
LVC	**Limon Verde**	**1.94**	**221**	*e*P		**Pn**	**Pn**	**21 01 37.7**	**+0.8**
LVC				*i* S		**Sn**	**Sn**	**21 02 05.6**	**-0.1**
LVC	**Limon Verde**	**1.94**	**221**			**Pn**	**Pn**	**21 01 37.5**	**+0.6**
YJA	**Yavi**	**2.14**	**119**	P		**Pn**	**Pn**	**21 01 40.2**	**+1.1**
PB03	**IPOC Station P**	**2.26**	**246**	*e*P		**Pn**	**Pn**	**21 01 40.7**	**+0.6**
PB03				*i* S		**Sn**	**Sn**	**21 02 09.9**	**-1.4**
PB03				IAML				21 02 11.2	
comp=E,336nm,0.2s									
PB07	**IPOC Station P**	**2.27**	**255**	*e*P		**Pn**	**Pn**	**21 01 40.6**	**+0.3**
PB07				*i* S		**Sn**	**Sn**	**21 02 10.1**	**-1.5**
PB07				IAML				21 02 11.7	
comp=N,423nm,0.2s									
PB07	**IPOC Station P**	**2.27**	**255**			**Pn**	**Pn**	**21 01 40.8**	**+0.5**
PB06	**IPOC Station P**	**2.45**	**230**	⇑*i* P		**Pn**	**Pn**	**21 01 42.8**	**+0.5**
PB06				*i* S		**Sn**	**Sn**	**21 02 14.7**	**-0.7**
PB06				IAML				21 02 15.8	
comp=E,447nm,0.2s									
PB06	**IPOC Station P**	**2.45**	**230**			**Pn**	**Pn**	**21 01 42.9**	**+0.5**
PB06				Sn		**Sn**	**Sn**	**21 02 14.7**	**-0.7**
PB06	**IPOC Station P**	**2.45**	**230**	P		**Pn**	**Pn**	**21 01 43.0**	**+0.7**
TA01	**Diego Aracena**	**2.54**	**283**	*i* S		**Sn**	**Sn**	**21 02 14.7**	**-2.2**
TA01				IAML				21 02 16.3	
comp=E,348nm,0.1s									
TA01	**Diego Aracena**	**2.54**	**283**	Pn		**Pn**	**Pn**	**21 01 43.3**	**+0.1**
TA01						**Sn**	**Sn**	**21 02 15.0**	**-1.9**
PB04	**IPOC Station P**	**2.71**	**244**	*e*P		**Pn**	**Pn**	**21 01 45.6**	**+0.3**
PB04				IAML				21 02 21.2	
comp=N,141nm,0.1s									
PB04	**IPOC Station P**	**2.71**	**244**	Pn		**Pn**	**Pn**	**21 01 46.1**	**+0.8**
PB04	**IPOC Station P**	**2.71**	**244**	P		**Pn**	**Pn**	**21 01 46.2**	**+0.9**
PB15	**IPOC Station P**	**2.73**	**221**	*e*P		**Pn**	**Pn**	**21 01 46.3**	**+0.7**
PB15				*i* S		**Sn**	**Sn**	**21 02 20.8**	**-0.6**
PB15	**IPOC Station P**	**2.73**	**221**			**Pn**	**Pn**	**21 01 46.0**	**+0.4**
MNMC	**Minye Minye**	**2.79**	**315**	⇑*i* P		**Pn**	**Pn**	**21 01 47.2**	**+0.8**
MNMC				*i* S		**Sn**	**Sn**	**21 02 22.3**	**-0.2**
MNMC	**Minye Minye**	**2.79**	**315**			**Pn**	**Pn**	**21 01 47.4**	**+1.0**
MNMC	**Minye Minye**	**2.79**	**315**	P		**Pn**	**Pn**	**21 01 47.8**	**+1.4**
MNMC				S		**Sn**	**Sn**	**21 02 19.7**	**-2.8**
MNMC				IAML				21 02 23.3	
comp=N,428nm,0.7s									
PSGC	**Pisagua**	**2.88**	**302**	*e*P		**Pn**	**Pn**	**21 01 47.0**	**-0.2**
PSGC				IAML				21 02 23.6	
comp=N,156nm,0.5s									
PSGC				IAML				21 02 25.2	
comp=E,167nm,0.3s									
PSGC	**Pisagua**	**2.88**	**302**	P		**Pn**	**Pn**	**21 01 47.7**	**+0.4**
PSGC				S		**Sn**	**Sn**	**21 02 20.7**	**-3.5**
PSGC				IAML				21 02 24.0	
comp=E,529nm,0.2s									
PSGCX	**Pisagua**	**2.88**	**302**			**Pn**	**Pn**	**21 01 47.2**	**-0.1**
PB05	**IPOC Station P**	**3.01**	**235**	⇑*i* P		**Pn**	**Pn**	**21 01 49.1**	**+0.3**
PB05				*i* S		**Sn**	**Sn**	**21 02 24.6**	**-2.4**
PB05				IAML				21 02 26.7	
comp=E,113nm,0.4s									
PB16	**IPOC Station P**	**3.35**	**326**			**Pn**	**Pn**	**21 01 55.1**	**+1.6**
SLA	**San Lorenzo**	**4.02**	**153**	P		**Pn**	**Pn**	**21 02 02.3**	**+0.8**
BBOE	**La Paz, Chanca**	**4.33**	**354**	P		**Pn**	**Pn**	**21 02 07.9**	**+2.1**
PB14	**IPOC Station P**	**4.37**	**217**	Pn		**Pn**	**Pn**	**21 02 05.4**	**-0.6**
GO02	**Mina Guanaco**	**4.43**	**205**	⇑*i* P		**Pn**	**Pn**	**21 02 06.7**	**-0.1**
GO02				*i* S		**Sn**	**Sn**	**21 02 56.3**	**-3.1**
GO02	**Mina Guanaco**	**4.43**	**205**			**Pn**	**Pn**	**21 02 06.8**	**-0.1**
BBOD	**La Paz, Gloria**	**4.59**	**347**	P		**Pn**	**Pn**	**21 02 11.0**	**+1.8**
LPAZ	**La Paz**	**4.86**	**353**	P		**Pn**	**Pn**	**21 02 14.4**	**+1.6**
comp=E,5.2nm,0.3s,baz=155,slow=5.8,SNR=66									
LPAZ	**La Paz**	**4.86**	**353**	P		**Pn**	**Pn**	**21 02 14.5**	**+1.8**
BBOB	**La Paz, Bander**	**5.00**	**353**	P		**Pn**	**Pn**	**21 02 16.3**	**+1.8**
AC01	**Pan de Azucar**	**5.72**	**209**	⇑*i* P		**Pn**	**Pn**	**21 02 21.7**	**-1.6**
AC01				*i* S		**Sn**	**Sn**	**21 03 22.6**	**-6.4**
AC01	**Pan de Azucar**	**5.72**	**209**	Pn		**Pn**	**Pn**	**21 02 21.9**	**-1.4**
AC02	**Maricunga**	**5.86**	**194**	Pn		**Pn**	**Pn**	**21 02 26.1**	**+0.6**
AHML	**Horco Molle**	**5.97**	**161**	P		**Pn**	**Pn**	**21 02 27.4**	**+0.9**
GO03	**Copiap**	**6.88**	**200**			**Pn**	**Pn**	**21 02 36.4**	**-2.1**
SIV	**San Ignacio**	**7.98**	**51**	P		**Pn**	**Pn**	**21 02 52.0**	**-1.1**
comp=E,1.6nm,0.3s,baz=261,slow=10,SNR=17									
SIV				S		**Sn**	**Sn**	**21 04 16.5**	**-6.2**
baz=325,slow=22,SNR=7.1									
SIV	**San Ignacio**	**7.98**	**51**	P		**Pn**	**Pn**	**21 02 54.7**	**+1.6**
USHA	**Ushuaia**	**33.65**	**181**	P		**P**	**P**	**21 07 26.0**	**+3.0**
comp=E,51nm,0.3s,baz=7.7,slow=0.1,SNR=6.2									
BATAN	**Batan**	**34.73**	**332**			pP		21 08 10.7	-1.4
DR12	**Loma Pena Alta**	**39.72**	**357**			pP		21 08 55.2	+0.1
V53A	**Saluda**	**58.33**	**345**	P		**P**	**P**	**21 10 35.6**	**-0.2**
V53A				IAmb		IAmb	IAmb	21 10 37.9	
comp=Z,6.7nm,0.6s									
Z35A	**Perchaven, San**	**61.14**	**332**	P		**P**	**P**	**21 10 55.2**	**+0.2**
P53A	**Whipple**	**61.69**	**348**	P		**P**	**P**	**21 10 59.8**	**+1.3**
P53A				IAmb		IAmb	IAmb	21 11 07.9	
comp=Z,6.7nm,0.9s									
BRNJ	**Basking Ridge**	**61.85**	**354**	P		**P**	**P**	**21 11 01.1**	**+1.5**
BRNJ				IAmb		IAmb	IAmb	21 11 18.6	
comp=Z,14nm,1.1s									
N49A	**Columbus Grove**	**63.66**	**346**			**PcP**	**PcP**	**21 11 40.6**	**-5.5**
TORD	**Torodi Ar. Bea**	**76.02**	**70**	P		**P**	**P**	**21 12 27.4**	**-0.2**
comp=Z,0.6nm,0.4s,baz=252,slow=5.2,SNR=10									
YKA	**Yellowknife Ar**	**91.28**	**340**	P		**P**	**P**	**21 13 45.2**	**+1.1**
comp=Z,0.5nm,0.7s,baz=128,slow=4.8,SNR=9.4									
MKAR	**Makanchi Array**	**144.58**	**37**	PKP		**PKPab**	**PKPab**	**21 20 15.3**	**+1.6**
comp=Z,0.9nm,0.7s,baz=313,slow=3.0,SNR=11									

*NEIC **26** 21:05:50.1±2.4,60°.52N±0°.02×158°.96W±0°.08, h21km±16km,Error ellipse: s-maj=5.7km s-min=3.1km az=101.0*
AEIC 26 21:05:47±1.9,60°.52N±0°.06×159°.0W±0°.1,h18km±7km, ML3.4,ML3.6/30(NEIC),Error ellipse: s-maj=9.8km s-min=6.6km az=221.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SVW2	**Sparrevohn**	**1.79**	**70**			**Pn**	**Pn**	21 06 19.7	+0.5
SVW2							Sb	21 06 42.7	+1.5
SVW2				IAML				21 06 46.1	
comp=E,504nm,0.5s									
SVW2				IAML				21 06 46.4	
comp=N,482nm,0.4s									
KELA	**Mount Kelaz**	**2.68**	**140**				Sb	21 07 08.6	+1.6
KAHC	**Katmai Hardscr**	**2.78**	**131**				Pb	21 06 33.9	-2.3
TT01	**Tatalina**	**2.79**	**30**				Pn	21 06 33.0	+2.4
KVTA	**Katmai Vly 10**	**2.88**	**137**				Pn	21 06 35.2	-2.5
KABU	**Katmai Buttres**	**2.97**	**138**				Pb	21 06 36.4	-2.9
KABU							Sb	21 07 16.7	+1.5
KBM	**Katmai Bkd Mtn**	**2.99**	**137**				Pb	21 06 36.8	-2.8
PLK1	**Peulik 1**	**3.00**	**154**				Pb	21 06 37.1	-2.8
NCT	**North Crescent**	**3.02**	**87**				Pn	21 06 36.8	+2.9
ILS	**Iliamna Low So**	**3.03**	**98**				Pb	21 06 37.3	-3.1
IVE	**Iliamna Volcan**	**3.04**	**97**				Pb	21 06 37.5	-3.1
RSO	**Redoubt South**	**3.11**	**88**				Pn	21 06 36.8	+1.5
STLK	**Strandline Lak**	**3.64**	**71**				Pn	21 06 45.7	+3.3
SKT	**Skwentna**	**3.91**	**65**				Pn	21 06 48.3	+2.2
SKT				IAML				21 07 57.4	
comp=N,80nm,1.5s									
SKT				IAML				21 07 58.3	
comp=E,75nm,1.2s									
PPLA	**Purkeypile**	**4.04**	**51**				Pn	21 06 50.0	+2.1
CNPM	**China Poot**	**4.04**	**101**				Pn	21 06 50.8	+2.9
CNPM				IAML				21 08 03.3	
comp=E,73nm,3.1s									
BRLK	**Bradley Lake**	**4.15**	**97**				Pn	21 06 52.4	+3.1
SUA	**Susitna One**	**4.15**	**73**				Pn	21 06 53.4	+4.0
SUA				IAML				21 08 01.1	
comp=E,64nm,0.7s									
SUA				IAML				21 08 09.8	
comp=N,65nm,3.0s									
BRSE	**Bradley Lake S**	**4.22**	**97**				Pn	21 06 54.7	+4.3
CHGN	**Chignik**	**4.25**	**175**	Pn			Pn	21 06 53.5	+2.8
CHGN				IAML				21 07 24.3	
comp=E,67nm,0.1s									
CHGN				IAML				21 08 11.1	
comp=N,60nm,0.6s									
KDAK	**Kodiak Island**	**4.31**	**127**	Pn			Pn	21 06 55.1	+3.5
KDAK				IAML				21 08 07.8	
comp=N,52nm,2.7s									
KDAK				IAML				21 08 47.4	
comp=N,64nm,3.2s									
SLKM	**Skilak Lake**	**4.36**	**86**				Pn	21 06 55.4	+3.1
OHAK	**Old Harbor**	**4.46**	**135**	Pn			Pn	21 06 51.3	-2.3
RC01	**Rabbit Creek A**	**4.59**	**79**	Pn			Pn	21 06 59.0	+3.6
RC01				IAML				21 08 15.7	
comp=N,52nm,0.9s									
ANM	**Nome**	**5.00**	**327**	Pn			Pn	21 07 04.2	+3.1
BPAW	**Bear Paw Mtn.**	**5.19**	**43**				Pn	21 07 05.4	+1.7
BPAW	**Bear Paw Mtn.**	**5.19**	**43**	IAML				21 08 39.1	
comp=E,30nm,0.6s									
BPAW				IAML				21 08 44.5	
comp=N,30nm,0.9s									
KNK	**Knik Glacier**	**5.23**	**76**	Pn			Pn	21 07 06.9	+2.7
KNK				IAML				21 08 36.3	
comp=E,30nm,1.6s									
SDPT	**Sand Point**	**5.25**	**189**				Pn	21 07 05.4	+1.1
PWL	**Port Wells**	**5.27**	**82**	Pn			Pn	21 07 05.4	+0.6
SML	**Sawmill**	**5.34**	**71**	Pn			Pn	21 07 06.0	+0.3
SML				IAML				21 08 48.4	
comp=N,36nm,1.0s									
MCK	**McKinley**	**5.73**	**51**				Pn	21 07 11.9	+0.9
SCM	**Sheep Creek Mo**	**5.81**	**72**	Pn			Pn	21 07 14.2	+1.9
MLY	**Manley**	**5.91**	**37**				Pn	21 07 15.4	+1.8
IM03		**5.98**	**21**				Pn	21 07 16.4	+2.1
IMAR	**Indian Mountai**	**5.98**	**21**				Pn	21 07 16.9	+2.5
TNA	**Tin City**	**6.47**	**325**				Pn	21 07 24.1	+3.0
GAMB	**Gambell**	**6.77**	**304**				Pn	21 07 27.6	+2.4
PAX	**Paxson**	**6.89**	**63**	Pn			Pn	21 07 29.3	+2.2

*KRNET **26** 21:18:34.7±0.1,39°.47N×73°.57E,h14km,mb2.5*
*SOME **26** 21:18:35.6,39°.55N×73°.43E,h15km*
*NNC **26** 21:18:37.3±1.6,39°.59N×73°.43E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=12.2km s-min=6.3km az=168.0*
ISC 26 21:18:35.0±1.6,39°.54N±0°.07×73°.50E±0°.04,h10km,n39, σ1§53/63,22C-4D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.48**	**0**	⇑*i* P			**Pb**	**21 18 45.7**	**+0.1**
baz=55									
SFK				⇑*i* S			**Sb**	**21 18 53.6**	**+0.8**
baz=55									
OHH	**Osh**	**1.13**	**331**	⇑*i* P			**Pn**	**21 18 58.0**	**+1.1**
baz=30									
OHH				⇑*i* S			**Sn**	**21 19 14.9**	**+2.4**
baz=30									
DRK	**Karamyk**	**1.32**	**268**	⇓*i* P			**Pg**	**21 19 00.5**	**+0.2**
baz=71									
DRK				⇓*i* S			**Sn**	**21 19 20.1**	**+2.7**
baz=71									
ARSB	**Arslanbob**	**1.83**	**348**	⇑*i* P			**Pg**	**21 19 10.5**	**+0.4**
baz=47									
ARSB				⇑*i* S			**Sg**	**21 19 36.0**	**+2.2**
baz=47									
BTK	**Batken**	**2.13**	**285**	⇑*i* P			**Pg**	**21 19 14.8**	**-1.0**
baz=86									
BTK				⇑*i* S			**Sg**	**21 19 42.0**	**-1.4**
baz=86									
ARLS	**Aral**	**2.41**	**15**	⇑*i* P			**Pb**	**21 19 18.5**	**+0.1**
baz=13									
ARLS				⇑*i* S			**Sb**	**21 19 49.3**	**+1.1**
baz=13									
AML	**Almayashu**	**2.60**	**3**	⇑*i* P			**Pb**	**21 19 21.4**	**-0.4**
baz=2.0									
AML				⇑*i* S			**Sb**	**21 19 55.2**	**+1.2**
baz=2.0									
TRKS	**Terek-Say**	**2.68**	**319**	⇓*i* P			**Pb**	**21 19 21.9**	**-1.3**
baz=18									
TRKS				⇓*i* S			**Sb**	**21 19 55.9**	**-0.3**
baz=18									
UCH	**Uchtor**	**2.80**	**16**	⇑*i* P			**Pb**	**21 19 24.0**	**-1.3**
baz=14									
UCH				⇑*i* S			**Sb**	**21 20 00.1**	**+0.3**
baz=14									
MNAS	**Manas**	**3.04**	**346**	⇑*e*P			**Pb**	**21 19 26.9**	**-2.4**
baz=45									
MNAS				⇑*i* S			**Sb**	**21 20 05.4**	**-1.1**
baz=45									
AAK	**Ala-Archa**	**3.19**	**13**	⇑*i* P			**Pb**	**21 19 29.5**	**-2.3**
baz=12									
AAK				⇑*i* S			**Sb**	**21 20 09.4**	**-1.4**
baz=12									
AAK	**Ala-Archa**	**3.19**	**13**	⇑Pg			**Pb**	**21 19 31.9**	**+0.1**
2.7nm,0.8s									
AAK				⇑Lg			Lg	21 20 18.0	
6.8nm,0.6s									
IUG	**luzhnay**	**3.70**	**316**	*e*P			**Pg**	**21 19 44.2**	**-1.7**
3.4nm,0.3s									
IUG				*e*S			**Sg**	**21 20 33.9**	**-0.1**
13nm,0.8s									
IUG	**luzhnay**	**3.70**	**316**	Pg			**Pg**	**21 19 44.2**	**-1.7**
1.5nm,0.1s									
IUG				Lg			Lg	21 20 34.2	
10.0nm,0.4s									
KST	**Kastek**	**3.96**	**27**	*e*P			**Pg**	**21 19 49.8**	**-1.1**
1.9nm,0.3s									
KST				*e*S			**Sg**	**21 20 43.2**	**+0.9**
5.1nm,0.5s									
KST	**Kastek**	**3.96**	**27**	Pg			**Pg**	**21 19 49.8**	**-1.1**
1.9nm,0.3s									
KST				Lg			Lg	21 20 43.7	
5.1nm,0.5s									
DGS	**Degeres**	**4.08**	**24**	*e*P			**Pg**	**21 19 53.1**	**0.0**
2.2nm,0.2s									
DGS				*e*S			**Sg**	**21 20 48.8**	**+2.9**
6.1nm,0.6s									
DGS	**Degeres**	**4.08**	**24**	Pg			**Pg**	**21 19 51.9**	**-1.2**
2.2nm,0.2s									
DGS				Lg			Lg	21 20 46.6	
6.1nm,0.6s									
IZV	**Izvestkoviy**	**4.21**	**33**	*e*P			**Pg**	**21 19 54.2**	**-1.4**
1.5nm,0.3s									
IZV				*e*S			**Sg**	**21 20 50.9**	**+0.8**
7.6nm,0.5s									
IZV	**Izvestkoviy**	**4.21**	**33**	Pg			**Pg**	**21 19 54.0**	**-1.6**
2.2nm,0.7s									
IZV				Lg			Lg	21 20 50.9	
7.6nm,0.5s									
MTBS	**Maitube**	**4.21**	**31**	*e*P			**Pg**	**21 19 54.1**	**-1.5**
3.2nm,0.4s									
MTBS				*e*S			**Sg**	**21 20 50.7**	**+0.5**
6.1nm,0.3s									
MTBS	**Maitube**	**4.21**	**31**	Pg			**Pg**	**21 19 54.1**	**-1.5**
3.2nm,0.4s									
MTBS				Lg			Lg	21 20 50.7	
6.1nm,0.3s									
KK31	**Karatay Array**	**4.21**	**329**	⇑Pg			**Pg**	**21 19 52.6**	**-3.1**
0.3nm,0.3s,baz=152,slow=16,SNR=4.5									
KK31				⇑Lg			Lg	21 20 47.4	
2.1nm,0.5s,baz=155,slow=29,SNR=4.1									
TNSS	**Tian-Shan**	**4.36**	**35**	*e*P			**Pg**	**21 19 56.8**	**-1.6**
2.0nm,0.3s									
TNSS				*e*S			**Sg**	**21 20 55.0**	**+0.1**
3.0nm,0.5s									
TNSS	**Tian-Shan**	**4.36**	**35**	Pg			**Pg**	**21 19 56.8**	**-1.6**
2.0nm,0.3s									
TNSS				Lg			Lg	21 20 55.0	
3.0nm,0.5s									
KRBS	**Karabastau**	**4.46**	**21**	*e*P			**Pg**	**21 19 58.7**	**-1.8**
1.7nm,0.4s									
KRBS				*e*S			**Sg**	**21 20 58.1**	**-0.2**
3.9nm,0.7s									
KRBS	**Karabastau**	**4.46**	**21**	Pg			**Pg**	**21 19 58.7**	**-1.8**
1.7nm,0.4s									
KRBS				Lg			Lg	21 20 58.1	
3.9nm,0.7s									
MDOK	**Medeo**	**4.50**	**35**	*e*P			**Pg**	**21 19 59.4**	**-1.8**
1.8nm,0.3s									
MDOK				*e*S			**Sg**	**21 20 59.7**	**+0.2**
4.1nm,0.4s									
MDOK	**Medeo**	**4.50**	**35**	Pg			**Pg**	**21 19 59.1**	**-2.1**
2.8nm,0.8s									
MDOK				Lg			Lg	21 20 59.3	
6.6nm,1.1s									
MDOK	**Medeo**	**4.50**	**35**	Pg			**Pg**	**21 19 59.4**	**-1.8**
1.8nm,0.3s									
MDOK				Lg			Lg	21 20 59.7	
4.1nm,0.4s									
KOTS	**Kotyrbulak**	**4.59**	**35**	*e*P			**Pg**	**21 20 00.8**	**-2.0**
5.0nm,0.3s									
KOTS				*e*S			**Sg**	**21 21 02.4**	**+0.2**
5.4nm,0.4s									
KOTS	**Kotyrbulak**	**4.59**	**35**	Pg			**Pg**	**21 20 00.8**	**-2.0**
5.0nm,0.3s									
KOTS				Lg			Lg	21 21 02.4	
5.4nm,0.4s									
KTBS	**Karatobe**	**4.80**	**29**	*e*P			**Pg**	**21 20 05.6**	**-1.4**

PFVI	**Vila Bisbo**	**1.29**	**293**	*eS*		**Sn**	**21 29 58.8**	**-0.5**
MESJ	**Messejana**	**1.39**	**330**	*eP*		**Pn**	**21 29 45.0**	**+0.6**
MESJ				*eS*		**Sn**	**21 30 01.5**	**-0.2**
MESJ				IAML			21 30 02.9	
	comp=N,2.8nm,0.1s							
MESJ	**Messejana**	**1.39**	**330**	P		**Pn**	**21 29 45.0**	**+0.6**
MESJ				S		**Sn**	**21 30 01.5**	**-0.2**
	comp=N,2.7nm,0.3s							
MESJ	**Messejana**	**1.39**	**330**	*eP*		**Pn**	**21 29 45.0**	**+0.6**
MESJ				*eS*		**Sn**	**21 30 01.5**	**-0.2**
MESJ				A		A	21 30 03.2	
	comp=N,2.7nm,0.3s							
PTEO	**Sao Teotonio**	**1.43**	**310**	P		**Pn**	**21 29 45.5**	**+0.5**
PTEO				S		**Sn**	**21 30 02.7**	**0.0**
PTEO	**Sao Teotonio**	**1.43**	**310**	*eP*		**Pn**	**21 29 45.5**	**+0.5**
PTEO				*eS*		**Sn**	**21 30 02.7**	**0.0**
PBAR	**Barrancos**	**1.55**	**9**	P		**Pn**	**21 29 47.5**	**+0.9**
PBAR				S		**Sn**	**21 30 06.3**	**+0.6**
	comp=N,2.2nm,0.2s							
PBAR	**Barrancos**	**1.55**	**9**	*eP*		**Pn**	**21 29 47.5**	**+0.9**
PBAR				*eS*		**Sn**	**21 30 06.3**	**+0.6**
PBAR				A		A	21 30 14.8	
	comp=N,2.2nm,0.2s							
PNCL	**Nicolau / Gran**	**1.75**	**327**	P		**Pn**	**21 29 49.8**	**+0.4**
PNCL				S		**Sn**	**21 30 10.1**	**-0.5**
	comp=N,1.9nm,0.5s							
PNCL	**Nicolau / Gran**	**1.75**	**327**	*ePn*		**Pn**	**21 29 49.8**	**+0.4**
PNCL				*eSn*		**Sn**	**21 30 10.1**	**-0.5**
PNCL				A		A	21 30 19.7	
	comp=N,1.9nm,0.5s							
EVO	**Evora**	**1.97**	**344**	P		**Pn**	**21 29 52.9**	**+0.6**
EVO				S		**Sn**	**21 30 16.1**	**+0.2**
EVO	**Evora**	**1.97**	**344**	*eP*		**Pn**	**21 29 52.9**	**+0.6**
EVO				*i S*		**Sn**	**21 30 16.1**	**+0.2**
EVO	**Evora**	**1.97**	**344**	*ePn*		**Pn**	**21 29 53.2**	**+0.9**
EVO				*eSn*		**Sn**	**21 30 16.6**	**+0.7**
ECAB	**El Cabril**	**2.10**	**46**	P		**Pn**	**21 29 54.7**	**+0.6**
	comp=N,0.2nm,0.1s,SNR=6.0							
ECAB				S		**Sn**	**21 30 17.6**	**-1.5**
	comp=N,0.5nm,0.1s							
PESTR	**Estremoz**	**2.23**	**355**	*ePn*		**Pn**	**21 29 56.7**	**+0.7**
PESTR				*eSn*		**Sn**	**21 30 21.6**	**-1.0**
PMTG	**Montargil**	**2.53**	**344**	P		**Pn**	**21 30 01.0**	**+1.0**
PMTG				S		**Sn**	**21 30 29.0**	**-0.7**
	comp=N,2.4nm,0.9s							
PMTG	**Montargil**	**2.53**	**344**	*ePn*		**Pn**	**21 30 01.0**	**+1.0**
PMTG				*eSn*		**Sn**	**21 30 29.0**	**-0.7**
PMTG				A		A	21 30 31.0	
	comp=N,2.4nm,0.9s							
EADA	**Adamuz**	**2.67**	**54**	P		**Pn**	**21 30 02.9**	**+0.9**
	comp=N,0.4nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**21 30 31.9**	**-1.5**
	comp=N,1.1nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**2.78**	**327**	*eSn*		**Sn**	**21 30 36.8**	**+0.8**
PMRV	**Marv??o**	**2.79**	**359**	P		**Pn**	**21 30 04.3**	**+0.7**
PMRV				S		**Sn**	**21 30 35.3**	**-0.9**
	comp=N,1.5nm,0.6s							
PMRV	**Marv??o**	**2.79**	**359**	*ePn*		**Pn**	**21 30 04.3**	**+0.7**
PMRV				*eSn*		**Sn**	**21 30 35.3**	**-0.9**
PMRV				A		A	21 30 48.5	
	comp=N,1.5nm,0.6s							
PSBE	**So Bento**	**3.10**	**339**	*ePn*		**Pn**	**21 30 09.3**	**+1.4**
PSBE				*eSn*		**Sn**	**21 30 44.1**	**+0.3**
EPLA	**Plasencia**	**3.56**	**16**	P		**Pn**	**21 30 15.7**	**+1.4**
	comp=N,0.5nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.59**	**70**	P		**Pn**	**21 30 15.9**	**+1.1**
	comp=N,0.1nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**21 30 55.0**	**-1.2**
	comp=N,0.6nm,0.3s,SNR=7.9							
PAB	**San Pablo**	**3.74**	**38**	P		**Pn**	**21 30 17.8**	**+1.0**
	comp=N,0.2nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**21 30 56.6**	**-3.1**
	comp=N,0.0nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**4.53**	**3**	P		**Pn**	**21 30 27.1**	**-0.5**
	comp=N,0.4nm,0.2s,SNR=4.0							
MVO				S		**Sn**	**21 31 16.6**	**-2.5**
	comp=N,0.2nm,0.1s,SNR=4.0							

*SNET **26** 21:53:23.9±0.9, 13.°06N×90.°67W, h15km±4km, ML3.5*
*GCG **26** 21:53:24.4±0.4, 13.°20N×90.°83W, h0km±11km, MD3.9*
ISC 26 21:53:22.5±2.9, 13.°1N±0.°1×90.°74W±0.°09, h14km±14km, n21, σ0°44/29, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**1.31**	**6**	*eP*		**Pg**		**21 53 47.8**	**-0.1**
CEVE	**Cerro Verde**	**1.31**	**55**	*eP*		**Pn**		**21 53 46.7**	**0.0**
CEVE				*eS*		**Sg**		**21 54 05.6**	**+0.6**
CEVE				IAML				21 54 10.2	
	comp=Z,2μm,0.5s								
SBLS	**San Blas**	**1.32**	**55**	*eP*		**Pn**		**21 53 47.1**	**+0.2**
SBLS				*eS*		**Sg**		**21 54 04.8**	**-0.4**
RTR	**El Retiro**	**1.34**	**52**	*eP*		**Pb**		**21 53 47.5**	**0.0**
SNJE	**San Jose**	**1.35**	**54**	*eP*		**Pn**		**21 53 47.2**	**0.0**
FUG	**Fuego 3**	**1.36**	**356**	*eP*		**Pg**		**21 53 48.4**	**-0.4**
FUG				*eS*		**Sg**		**21 54 06.9**	**+0.3**
JAYA	**Jayaque - finc**	**1.38**	**65**	*eP*		**Pn**		**21 53 47.4**	**-0.1**
JAYA				*eS*		**Sn**		**21 54 05.5**	**-0.3**
JAYA				IAML				21 54 10.6	
	comp=Z,703nm,0.3s								
UNIC	**Universidad Ca**	**1.46**	**52**	*eP*		**Pn**		**21 53 48.9**	**+0.3**
UNIC				*eS*		**Sb**		**21 54 08.4**	**+0.2**
PMON	**Piamonte**	**1.52**	**65**	*eP*		**Pn**		**21 53 49.8**	**+0.3**
NBG	**Las Nubes**	**1.55**	**14**	*eP*		**Pg**		**21 53 52.3**	**0.0**
BOQS	**Boqueron**	**1.56**	**65**	*eP*		**Pn**		**21 53 50.7**	**+0.6**
SNET	**Serv Nac Est T**	**1.58**	**67**	*eP*		**Pn**		**21 53 50.9**	**+0.6**
SNET				*eS*		**Sb**		**21 54 11.8**	**+0.1**
TACO	**Tacachico**	**1.61**	**56**	*eP*		**Pn**		**21 53 51.2**	**+0.5**
TACO				*eS*		**Sb**		**21 54 11.9**	**-0.5**
LFRS	**El Faro**	**1.72**	**71**	*eP*		**Pn**		**21 53 52.2**	**+0.1**
PAVA	**Las Pavas**	**1.86**	**70**	*eP*		**Pn**		**21 53 55.1**	**+1.0**
MTO3	**Montecristo**	**1.87**	**45**	*eP*		**Pn**		**21 53 55.3**	**+0.9**
MTO3				IAML				21 53 56.6	
	comp=Z,81nm,0.2s								
COEB	**Comit de Eme**	**2.19**	**79**	*eP*		**Pn**		**21 53 58.5**	**-0.2**
TECA	**Tecapa**	**2.21**	**79**	*eP*		**Pn**		**21 53 59.2**	**+0.1**
MRL	**Marmol**	**2.24**	**27**	*eP*		**Pb**		**21 54 02.6**	**-0.4**
JUCU	**Jucuar¡n**	**2.43**	**86**	*eP*		**Pn**		**21 54 02.2**	**+0.2**
JUCU				IAML				21 54 28.4	
	comp=Z,831nm,0.4s								
LCND	**La Caada**	**2.78**	**85**	*eP*		**Pn**		**21 54 07.4**	**+0.7**
LCND				*eS*		**Sn**		**21 54 39.8**	**-0.3**
LCND				IAML				21 54 47.8	
	comp=Z,111nm,0.4s								

WEL 26 21:53:35.9±0.8, 33.°S±17.°×18.°0E±2.°5, h377km±23km, M3.9/25, mB4.4/7, MLv4.3/25, Mw(mB)3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=121.6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.55**	**191**	P		P	Pn	21 54 52.6	+0.6
HAZ	**Te Kaha**	**4.62**	**197**	P		P	Pn	21 54 52.0	-0.6
HAZ				S		S	S	21 55 54.4	-0.5
PKGZ	**Pakihiroa**	**4.68**	**194**	P		P	Pn	21 54 53.9	+0.6
PKGZ				S		S	S	21 55 57.1	+1.0
PUZ	**Puketiti**	**4.82**	**192**	P		P	Pn	21 54 55.3	+0.5
PUZ				S		S	S	21 55 58.9	+0.1
RUGZ	**Raukumara Rang**	**4.84**	**197**	P		P	Pn	21 54 54.5	-0.6
RUGZ				S		S	S	21 55 56.4	-3.0
TWGZ	**Tauwhareparae**	**4.97**	**194**	P		P	Pn	21 54 57.8	+1.3
TWGZ				S		S	S	21 56 02.5	+0.6
MWZ	**Matawai**	**5.23**	**197**	P		P	Pn	21 54 59.2	+0.1
MWZ				S		S	S	21 56 08.4	+1.6
CNGZ	**Carnagh Statio**	**5.23**	**191**	P		P	Pn	21 55 00.1	+1.0
TKGZ	**Te Karaka**	**5.25**	**194**	P		P	Pn	21 54 59.7	+0.4
TKGZ				S		S	S	21 56 06.8	-0.4
URZ	**Urewera**	**5.27**	**201**	P		P	Pn	21 54 59.2	-0.3
URZ				S		S	S	21 56 08.4	+0.9
RIGZ	**Rimuhau**	**5.53**	**194**	P		P	Pn	21 55 03.0	+0.5
RIGZ				S		S	S	21 56 14.3	+1.6
MUGZ	**Murupara**	**5.58**	**203**	P		P	Pn	21 55 02.8	-0.1
MUGZ				S		S	S	21 56 13.9	+0.2
RTZ	**Ruatahuna**	**5.64**	**201**	P		P	Pn	21 55 03.1	-0.6
RTZ				S		S	S	21 56 13.4	-1.7
KNZ	**Kokohu**	**5.85**	**194**	P		P	Pn	21 55 05.7	-0.2
KNZ				S		S	S	21 56 19.0	-0.1
RAHZ	**Arahi**	**5.89**	**199**	P		P	Pn	21 55 06.2	-0.1
RAHZ				S		S	S	21 56 21.4	+1.4
MTHZ	**Maungataniwha**	**5.90**	**201**	P		P	Pn	21 55 06.5	0.0
MTHZ				S		S	S	21 56 20.6	+0.4
TLZ	**Tolley Road**	**5.92**	**212**	P		P	Pn	21 55 08.8	+2.0
NMHZ	**Naumai**	**6.14**	**200**	P		P	Pn	21 55 09.7	+0.5
ARHZ	**Aropaoanui**	**6.24**	**198**	P		P	Pn	21 55 10.3	0.0
ARHZ				S		S	S	21 56 28.9	+1.8
BKZ	**Black Stump Fm**	**6.29**	**202**	P		P	Pn	21 55 10.0	-0.9
BKZ				S		S	S	21 56 28.4	+0.1
HIZ	**Hauiti**	**6.39**	**215**	P		P	Pn	21 55 14.6	+2.7
MCHZ	**McNeill Hill**	**6.49**	**200**	P		P	Pn	21 55 13.2	+0.2
MCHZ				S		S	S	21 56 34.0	+1.8
KWHZ	**Kaweka Forest**	**6.55**	**201**	P		P	Pn	21 55 13.1	-0.7
KWHZ				S		S	S	21 56 35.2	+1.6
OTVZ	**Oturere**	**6.58**	**207**	P		P	Pn	21 55 13.8	-0.5
FWVZ	**Far West T-bar**	**6.70**	**207**	P		P	Pn	21 55 15.2	-0.5
BHHZ	**Black Hill Sta**	**6.73**	**203**	P		P	Pn	21 55 14.5	-1.3
BHHZ				S		S	S	21 56 36.5	-0.7
MOVZ	**Moawhango**	**6.76**	**206**	P		P	Pn	21 55 15.0	-1.2
KRHZ	**Kereru**	**6.77**	**201**	P		P	Pn	21 55 15.1	-1.2
KAHZ	**Kahuranaki**	**6.77**	**197**	P		P	Pn	21 55 16.3	0.0
MTVZ	**Mangateitei**	**6.85**	**207**	P		P	Pn	21 55 16.5	-0.6
PNHZ	**Pukenui**	**7.07**	**201**	P		P	Pn	21 55 18.5	-1.2

*JMA **26** 21:59:09.8, 24.°21N×122.°52E, h47km±2km, M2.2*
*TAP **26** 21:59:10.1, 24.°26N×122.°53E, h44km, ML2.7, D*
ISC 26 21:59:10.2±1.1, 24.°22N±0.°03×122.°55E±0.°02, h33km±6km, n94, σ1°05/177, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**57**	P		P	**Pb**	**21 59 20.3**	**+0.6**
JYNG				S		**Sn**		**21 59 27.6**	**+0.7**
YOJ	**Yonaguni jima**	**0.49**	**60**	P		P	**Pb**	**21 59 20.8**	**+0.2**
YOJ	baz=56			S		**Sn**		**21 59 28.9**	**+0.6**
YOJ	**Yonaguni jima**	**0.49**	**60**	P		**Pb**		**21 59 21.0**	**+0.4**
YOJ				*eS*		**Sn**		**21 59 28.7**	**+0.4**
EWUT	**Wuta**	**0.73**	**288**	P		**Pn**		**21 59 23.9**	**-0.4**
EWUT	baz=285			S		**Sn**		**21 59 34.0**	**-0.4**
TWC	**Suao**	**0.74**	**302**	P		**Pn**		**21 59 24.2**	**-0.2**
TWC	baz=291			S		**Sn**		**21 59 34.7**	**+0.1**
ENA	**Nanau**	**0.76**	**286**	P		**Pn**		**21 59 24.3**	**-0.3**
ENA	baz=283			S		**Sn**		**21 59 35.2**	**+0.2**
NDS	**Dongshan**	**0.86**	**299**	P		**Pn**		**21 59 26.1**	**0.0**
NDS	baz=296			*eS*		**Sn**		**21 59 38.1**	**+0.6**
NACB	**Ninganchiao**	**0.87**	**267**	P		**Pn**		**21 59 25.9**	**-0.2**
NACB	baz=264			*eS*		**Sn**		**21 59 37.7**	**+0.1**
TWD	**Chiawan**	**0.88**	**261**	*eP*		**Pn**		**21 59 25.6**	**-0.6**
TWD	baz=246			*eS*		**Sn**		**21 59 37.9**	**0.0**
HWA	**Hwalien**	**0.89**	**255**	*eP*		**Pn**		**21 59 27.0**	**+0.6**
HWA	baz=251			S		**Sn**		**21 59 38.0**	**-0.2**
ILA	**Ilan**	**0.91**	**307**	*eP*		**Pn**		**21 59 27.0**	**+0.3**
ILA	baz=313			*eS*		**Sn**		**21 59 39.5**	**+0.8**
NTC	**Toucheng**	**0.91**	**314**	*eS*		**Sn**		**21 59 38.2**	**-0.5**
TWB1	**Santiao Chiao**	**0.94**	**327**	*eP*		**Pb**		**21 59 28.5**	**+0.5**
TWB1	baz=326			S		**Sn**		**21 59 38.4**	**-0.9**
TWE	**Neicheng**	**0.94**	**302**	P		**Pn**		**21 59 27.3**	**+0.2**
TWE	baz=306			*eS*		**Sn**		**21 59 40.1**	**+0.6**
ETLH	**Xiulin Townshi**	**0.97**	**270**	P		**Pn**		**21 59 27.3**	**-0.3**
ETLH	baz=266			*eS*		**Sn**		**21 59 40.6**	**+0.3**
ENTT	**Nioudou**	**0.99**	**295**	*i* P		**Pn**		**21 59 28.3**	**+0.5**
ENTT	baz=293			*eS*		**Sn**		**21 59 41.1**	**+0.5**
TIPB	**Shuangxi**	**1.00**	**319**	P		**Pn**		**21 59 27.1**	**-0.8**
TIPB	baz=327			S		**Sn**		**21 59 40.0**	**-0.9**
NDT	**Datong Townshi**	**1.02**	**292**	P		**Pn**		**21 59 28.4**	**+0.2**
NDT	baz=290			S		**Sn**		**21 59 41.8**	**+0.5**
NNSB	**Datong**	**1.08**	**281**	*eP*		**Pn**		**21 59 29.2**	**+0.1**
NNSB	baz=268			S		**Sn**		**21 59 43.3**	**+0.3**
NNSH	**Datong**	**1.08**	**281**	*eP*		**Pn**		**21 59 29.4**	**+0.2**
NNSH	baz=270			*eS*		**Sn**		**21 59 44.3**	**+1.2**
IRIF	**Iriomote-Funau**	**1.09**	**84**	P		**Pn**		**21 59 29.3**	**+0.2**
IRIF				S		**Sn**		**21 59 43.6**	**+0.6**
NNS	**Nan Shan**	**1.09**	**282**	P		**Pn**		**21 59 29.5**	**+0.2**
NNS	baz=269			S		**Sn**		**21 59 43.3**	**0.0**
ESL	**Shilin**	**1.09**	**249**	P		**Pn**		**21 59 29.1**	**-0.1**
ESL	baz=235			*eS*		**Sn**		**21 59 43.6**	**+0.4**
WFSB	**Wu-fen Shan**	**1.10**	**321**	*eP*		**Pn**		**21 59 28.6**	**-0.6**
WFSB	baz=319			*eS*		**Sn**		**21 59 42.9**	**-0.4**
NWLT	**Wulai**	**1.10**	**301**	P		**Pn**		**21 59 29.8**	**+0.5**
NWLT	baz=308			*eS*		**Sn**		**21 59 44.7**	**+1.3**
YHNB	**Yeheng**	**1.16**	**293**	*i* P		**Pn**		**21 59 30.4**	**+0.2**
YHNB	baz=278			*eS*		**Sn**		**21 59 45.0**	**+0.1**
TWA	**Mucha**	**1.16**	**311**	*eP*		**Pn**		**21 59 29.6**	**-0.5**
TWA	baz=322			*eS*		**Sn**		**21 59 44.2**	**-0.7**
EGFH	**Guangfu**	**1.16**	**242**	*eP*		**Pn**		**21 59 29.8**	**-0.3**
EGFH	baz=239			*eS*		**Sn**		**21 59 45.4**	**+0.6**
WHF	**Hehuan Shan**	**1.17**	**267**	P		**Pn**		**21 59 30.5**	**-0.1**
WHF	baz=251			*eS*		**Sn**		**21 59 45.7**	**0.0**
NSK	**Sanguang**	**1.17**	**293**	P		**Pn**		**21 59 30.6**	**+0.2**
NSK	baz=278			S		**Sn**		**21 59 45.7**	**+0.4**
FUSS	**Fushou**	**1.19**	**272**	P		**Pn**		**21 59 31.1**	**+0.3**
FUSS	baz=269			*eS*		**Sn**		**21 59 46.3**	**+0.4**
NHDH	**Xindian Distri**	**1.19**	**309**	*eP*		**Pn**		**21 59 30.2**	**-0.3**
NHDH	baz=319			*eS*		**Sn**		**21 59 46.0**	**+0.4**
TAP	**Taipei**	**1.25**	**311**	*eP*		**Pn**		**21 59 32.2**	**+0.9**
TWT	baz=309			*eP*		**Pn**		**21 59 32.0**	**+0.5**
TWT	**Tachien**	**1.25**	**272**						
TWT	baz=269			*eS*		**Sb**		**21 59 50.0**	**+0.8**
HGSD	**Ruisui**	**1.25**	**235**	*eP*		**Pn**		**21 59 31.4**	**0.0**
HGSD	baz=232			*eS*		**Sn**		**21 59 47.4**	**+0.2**
CHGB	**Renai**	**1.26**	**263**	P		**Pn**		**21 59 31.9**	**+0.1**
CHGB	baz=248			*eS*		**Sn**		**21 59 48.1**	**+0.4**
TDCB	**Techi**	**1.27**	**272**	P		**Pn**		**21 59 32.3**	**+0.6**
TDCB	baz=269			*eS*		**Sn**		**21 59 47.1**	**-0.6**
YM01	**YM01**	**1.28**	**316**	*eP*		**Pn**		**21 59 30.1**	**-1.8**
YM01	baz=314			*eS*		**Sn**		**21 59 46.1**	**-1.8**
YM11	**YM11**	**1.29**	**317**	*eP*		**Pn**		**21 59 32.0**	**0.0**
YM11	baz=315			*eS*		**Sn**		**21 59 48.5**	**+0.3**
YM10	**YM10**	**1.29**	**316**	*eP*		**Pn**		**21 59 31.3**	**-0.7**
YM10	baz=315			*eS*		**Sn**		**21 59 47.4**	**-0.9**
YM05	**YM05**	**1.30**	**317**	*eP*		**Pn**		**21 59 30.9**	**-1.2**
YM05	baz=315			*eS*		**Sn**		**21 59 45.8**	**-2.5**
YM08	**YM08**	**1.30**	**318**	*eS*		**Sn**		**21 59 47.0**	**-1.4**
YM04	**YM04**	**1.31**	**316**	*eP*		**Pn**		**21 59 31.4**	**-0.7**
YM04	baz=314			*eS*		**Sn**		**21 59 47.1**	**-1.4**
EHY	**Hungye**	**1.32**	**238**	P		**Pn**		**21 59 31.9**	**-0.6**
EHY	baz=246			S		**Sn**		**21 59 48.9**	**0.0**
JKRS	**Kuro-shima**	**1.34**	**89**	P		**Pn**		**21 59 33.3**	**+0.8**
JKRS				*eS*		**Sn**		**21 59 50.4**	**+1.2**
VWDT	**VWDT**	**1.36**	**250**	*eP*		**Pn**		**21 59 34.0**	**+1.0**
VWDT	baz=248			*eS*		**Sn**		**21 59 50.0**	**+0.2**
YULB	**Yu-li**	**1.41**	**235**	*eP*		**Pn**		**21 59 33.5**	**0.0**
YULB	baz=245			S		**Sn**		**21 59 50.5**	**-0.5**
EYUL	**Yuli**	**1.42**	**233**	*eP*		**Pn**		**21 59 34.7**	**+1.0**
EYUL	baz=244			S		**Sn**		**21 59 51.9**	**+0.6**
TWF1	**Yuli**	**1.43**	**233**	P		**Pn**		**21 59 34.2**	**+0.4**
TWF1	baz=244			*eS*		**Sn**		**21 59 51.9**	**+0.3**
LIOB	**Emei**	**1.46**	**287**	*eP*		**Pn**		**21 59 35.6**	**+1.4**
LIOB	baz=285			*eS*		**Sn**		**21 59 53.3**	**+1.0**
WHP	**Taichung City**	**1.46**	**273**	P		**Pn**		**21 59 35.5**	**+1.1**
WHP	baz=270			*eS*		**Sb**		**21 59 55.2**	**+0.1**
JIJ	**Ishigaki jima**	**1.47**	**84**	P		**Pn**		**21 59 34.4**	**+0.1**
JIJ				*eS*		**Sn**		**21 59 52.5**	**+0.1**
WPL	**Puli Township**	**1.47**	**262**	*eP*		**Pn**		**21 59 35.5**	**+1.2**
NSTT	**Nanjuang**	**1.47**	**287**	P		**Pn**		**21 59 35.8**	**+1.4**
NSTT	baz=284			S		**Sn**		**21 59 53.5**	**+1.1**
HSN1	**Hsinchu**	**1.50**	**292**	*eP*		**Pn**		**21 59 35.6**	**+0.8**
HSN1	baz=290			*eS*		**Sn**		**21 59 54.4**	**+1.2**
WCS	**Beigang Elemen**	**1.50**	**264**	*eP*		**Pn**		**21 59 35.4**	**+0.6**
WCS	baz=254			*eS*		**Sn**		**21 59 54.0**	**+0.8**
SSLB	**Suanglung**	**1.52**	**254**	P		**Pn**		**21 59 35.6**	**+0.6**
SSLB	baz=251			*eS*		**Sn**		**21 59 54.0**	**+0.2**
FULB	**Fuli**	**1.53**	**229**	*eP*		**Pn**		**21 59 35.1**	**-0.2**
FULB	baz=215			*eS*		**Sn**		**21 59 54.8**	**+0.7**
SMLT	**Sun Moon Lake**	**1.54**	**258**	P		**Pn**		**21 59 36.3**	**+0.8**
SMLT	baz=255			*eS*		**Sn**		**21 59 54.8**	**+0.4**
CHKT	**Chengkung**	**1.55**	**224**	*eP*		**Pn**		**21 59 35.1**	**-0.4**
CHKT	baz=213			*eS*		**Sn**		**21 59 53.8**	**-0.7**
TYC	**Yuchr**	**1.57**	**259**	*eP*		**Pn**		**21 59 36.3**	**+0.4**
TYC	baz=247			*eS*		**Sn**		**21 59 54.9**	**-0.1**
NJN	**Zhunan**	**1.59**	**287**	*eP*		**Pn**		**21 59 36.9**	**+0.8**
NJN	baz=285			*eS*		**Sn**		**21 59 56.7**	**+1.1**
YUS	**Yu-Shan**	**1.63**	**244**	*eP*		**Pn**		**21 59 38.0**	**+1.0**
YUS	baz=241			*eS*		**Sn**		**21 59 57.4**	**+0.3**
JISG	**Ishigakijimahi**	**1.65**	**77**	P		**Pn**		**21 59 36.6**	**-0.3**
JISG				*eS*		**Sn**		**21 59 56.5**	**-0.5**
EDH	**Donghe**	**1.68**	**223**	*eP*		**Pn**		**21 59 37.2**	**-0.1**
EDH	baz=213			S		**Sn**		**21 59 57.0**	**-0.7**
WWF	**Wufeng**	**1.70**	**264**	*eP*		**Pn**		**21 59 38.2**	**+0.7**
WJS	**Zhushan**	**1.71**	**257**	*eP*		**Pn**		**21 59 37.6**	**-0.1**
WJS	baz=254			*eS*		**Sn**		**22 00 00.8**	**+2.4**
ELDTW	**Lidau**	**1.73**	**234**	*eP*		**Pn**		**21 59 38.3**	**+0.1**
ELDTW	baz=221			*eS*		**Sn**		**21 59 58.8**	**-0.4**
ALS	**Alishan**	**1.74**	**246**	*eP*		**Pn**		**21 59 39.4**	**+1.0**
ALS	baz=244			*eS*		**Sn**		**21 59 59.4**	**-0.2**
WDJ	**Dajia District**	**1.74**	**275**	*eS*		**Sn**		**21 59 59.1**	**-0.1**
CHN5	**Tsauling**	**1.82**	**250**	*eP*		**Pn**		**21 59 41.1**	**+1.8**
CHN5	baz=248			*eS*		**Sn**		**22 00 03.3**	**+2.1**
LDUT	**Ludao**	**1.83**	**213**	*eP*		**Pn**		**21 59 39.1**	**-0.2**
LDUT	baz=211			*eS*		**Sn**		**21 59 59.5**	**-1.8**
LONT	**Longtian**	**1.84**	**225**	S		**Sn**		**22 00 02.6**	**+0.9**
WDLH	**Douliu**	**1.91**	**254**	*eP*		**Pn**		**21 59 42.6**	**+2.2**
WDLH	baz=252			*eS*		**Sb**		**22 00 07.2**	**-0.6**
STYH	**Taoyuan**	**1.93**	**238**	*eP*		**Pn**		**21 59 42.1**	**+1.4**
STYH	baz=235			*eS*		**Sn**		**22 00 02.9**	**-0.9**
TWGBT	**Beinan**	**1.94**	**224**	*eP*		**Pn**		**21 59 39.8**	**-1.0**
TWGBT	baz=232			*eS*		**Sn**		**22 00 03.5**	**-0.6**
TWG	**Pinlang**	**1.94**	**224**	*eP*		**Pn**		**21 59 41.9**	**+1.1**
TWG	baz=232			*eS*		**Sn**		**22 00 02.9**	**-1.2**
STYT	**Tauyuan**	**1.95**	**238**	*eP*		**Pn**		**21 59 42.6**	**+1.6**
TPUB	**Ta-pu**	**1.98**	**243**	*eP*		**Pn**		**21 59 43.3**	**+1.9**
CHN4	**Tsaushan**	**1.98**	**245**	*eP*		**Pn**		**21 59 43.8**	**+2.3**
CHN4	baz=234			*eS*		**Sn**		**22 00 08.3**	**+3.1**
WRL	**Guolierlin Hig**	**2.01**	**261**	*eP*		**Pn**		**21 59 43.3**	**+1.6**
JTJ	**Tarama**	**2.01**	**77**	P		**Pn**		**21 59 42.3**	**+0.5**
JTJ				*eS*		**Sn**		**22 00 06.4**	**+0.6**
WTP	**Ta-pu**	**2.02**	**242**	*eP*		**Pn**		**21 59 44.5**	**+2.5**
WTP	baz=239			*eS*		**Sb**		**22 00 09.5**	**-1.5**
TWK	**Hsinying**	**2.11**	**244**	*eP*		**Pn**		**21 59 45.8**	**+2.6**
TWK	baz=241			S		**Sn**		**22 00 10.2**	**+1.8**
CHN1	**Nanshi**	**2.12**	**241**	*eP*		**Pb**		**21 59 46.7**	**-1.2**
CHN1	baz=239			*eS*		**Sn**		**22 00 11.3**	**+2.8**

	baz=239								
SGST	**Jiashian**	**2.12**	**238**	*e*P		**Pn**	**21**	**59**	**45.1 +1.7**
	baz=236								
SLGT	**Liugui**	**2.13**	**235**	*e*P		**Pn**	**21**	**59**	**45.6 +2.1**
	baz=225								
SLGT				*e*S		**Sb**	**22**	**00**	**12.5 -1.5**
	baz=225								
ECL	**Taimali**	**2.18**	**222**	*e*P		**Pn**	**21**	**59**	**43.5 -0.6**
	baz=229								
ECL				*e*S		**Sn**	**22**	**00**	**09.5 -0.5**
	baz=229								
SSD	**Sandimen**	**2.29**	**231**	*e*P		**Pn**	**21**	**59**	**47.8 +2.2**
	baz=224								
SSD				*e*S		**Sn**	**22**	**00**	**13.5 +0.8**
	baz=224								
SCST	**Cishan**	**2.30**	**235**	*e*P		**Pn**	**21**	**59**	**48.1 +2.2**
	baz=244								
SCST				*e*S		**Sb**	**22**	**00**	**19.2 +0.1**
	baz=244								
TSMG	**Majia**	**2.30**	**230**	*e*P		**Pn**	**21**	**59**	**47.0 +1.1**
	baz=224								
TSMG				*e*S		**Sn**	**22**	**00**	**14.2 +1.1**
	baz=224								
LAY	**Lan-yu**	**2.35**	**203**	*e*P		**Pn**	**21**	**59**	**46.1 -0.5**
	baz=201								
LAY				*e*S		**Sn**	**22**	**00**	**12.0 -2.4**
	baz=201								
MASBT	**Mashibuluo**	**2.38**	**228**	*e*P		**Pn**	**21**	**59**	**47.9 +1.1**
	baz=223								
MASBT				*e*S		**Sn**	**22**	**00**	**18.6 +3.7**
	baz=223								
EAST	**Anshuo**	**2.40**	**221**	*e*P		**Pn**	**21**	**59**	**47.2 0.0**
	baz=218								
EAST				*e*S		**Sn**	**22**	**00**	**13.9 -1.6**
	baz=218								

NEIC ***26*** *22:15:02.6±1.1, 20°.39S×0°.10×178°.3W±0°.1, h561km±11km, mb4.1/23, Error ellipse: s-maj=20.1km s-min=14.5km az=94.0*
IDC ***26*** *22:15:02.7±2.3, 20°.45S×178°.26W, h558km±21km, mb3.5/7, mb1 3.6/10, mb1mx3.2/48, mbtmp4.4/10, Error ellipse: s-maj=32.9km s-min=21.0km az=131.0*

ISC 26 22:15:02.1±0.6, **20°.40S**±0°.10×**178°.26W**±0°.10, **h550**km, **n46**, σ0**90**/44, **mb4.1**/20, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.38**	**307**	P	**P**	**22 16 28.8**	**+1.7**
	18nm,0.3s,baz=122,slow=4.4,SNR=71						
MSVF	**Nonsavu**	**4.38**	**307**		**P**	**22 16 28.9**	**+1.8**
NIUE	**Niue**	**7.95**	**82**	P	**P**	**22 17 00.2**	**+0.8**
RAO	**Raoul Island**	**8.82**	**178**	P	**P**	**22 17 07.4**	**-0.5**
DZM	**Mont Dzumac**	**14.36**	**261**	P	**P**	**22 18 05.0**	**-0.2**
	0.3nm,0.3s,baz=105,slow=17,SNR=1.8						
OUZ	**Omahuta**	**16.42**	**204**	P	**P**	**22 18 26.3**	**+0.8**
URZ	**Urewera**	**18.25**	**192**	P	**P**	**22 18 41.3**	**-0.8**
	0.5nm,0.3s,baz=308,slow=20,SNR=2.3						
URZ	**Urewera**	**18.25**	**192**	IAmb	IAmb	22 18 41.8	
	comp=Z,22nm,1.2s						
QRZ	**Quartz Range**	**21.83**	**199**	P	**P**	**22 19 14.4**	**-0.1**
QRZ				IAmb	IAmb	22 19 28.4	
	comp=Z,8.2nm,0.8s						
THZ	**Tophouse**	**22.58**	**197**	P	**P**	**22 19 22.3**	**+1.1**
KHZ	**Kahutara**	**23.02**	**196**	P	**P**	**22 19 24.1**	**-1.0**
KHZ				IAmb	IAmb	22 19 37.7	
	comp=Z,3.8nm,0.8s						
LTZ	**Lake Taylor**	**23.70**	**198**	P	**P**	**22 19 31.2**	**0.0**
LTZ				IAmb	IAmb	22 19 42.0	
	comp=Z,5.1nm,1.0s						
MLZ	**Mavora Lakes**	**27.33**	**201**	P	**P**	**22 20 03.7**	**+0.6**
EIDS	**Eidsvold**	**28.64**	**254**	P	**P**	**22 20 15.1**	**+0.1**
ARMA	**Armidale**	**28.90**	**244**	P	**P**	**22 20 18.3**	**+1.1**
ARMA				IAmb	IAmb	22 20 26.3	
	comp=Z,3.3nm,0.8s						
CTAO	**Charters Tower**	**33.26**	**264**	P	**P**	**22 20 54.8**	**+0.3**
TOO	**Toolangi**	**35.77**	**234**	P	**P**	**22 21 15.1**	**-0.1**
COEN	**Coen**	**37.34**	**274**	P	**P**	**22 21 28.2**	**-0.2**
COEN				IAmb	IAmb	22 21 40.7	
	comp=Z,3.4nm,0.9s						
STKA	**Stephens Creek**	**37.62**	**244**	P	**P**	**22 21 30.7**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=104,slow=14,SNR=5.9						
STKA	**Stephens Creek**	**37.62**	**244**	IAmb	IAmb	22 21 33.7	
	comp=Z,0.9nm,1.1s						
BBOO	**Buckleboo**	**42.38**	**243**	P	**P**	**22 22 08.2**	**-0.4**
BBOO				IAmb	IAmb	22 22 15.8	
	comp=Z,14nm,1.1s						
JAY	**Jayapura**	**43.78**	**289**	P	**P**	**22 22 20.2**	**+0.4**
	comp=Z,4.8nm,0.4s,baz=162,slow=6.4,SNR=2.3						
WR0	**Warramunga Arr**	**44.19**	**262**	P	**P**	**22 22 22.7**	**-0.2**
AS31	**Alice Springs**	**44.31**	**257**	P	**P**	**22 22 23.7**	**-0.1**
AS31				IAmb	IAmb	22 22 24.3	
	comp=Z,2.1nm,0.7s						
ASAR	**Alice Springs**	**44.31**	**257**	P	**P**	**22 22 23.7**	**-0.1**
	comp=Z,7.7nm,0.5s,baz=96,slow=7.5,SNR=124						
ASAR				PcP	**PcP**	**22 23 56.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=92,slow=3.9,SNR=4.3						
WB0	**Warramunga Arr**	**44.35**	**262**	P	**P**	**22 22 23.7**	**-0.5**
WB2	**Warramunga Arr**	**44.37**	**262**	P	**P**	**22 22 23.5**	**-0.8**
WB2				IAmb	IAmb	22 22 24.0	
	comp=Z,5.6nm,0.8s						
WRA	**Warramunga Arr**	**44.38**	**262**	P	**P**	**22 22 23.5**	**-0.9**
	comp=Z,3.3nm,0.5s,baz=98,slow=8.3,SNR=55						
WRA	**Warramunga Arr**	**44.38**	**262**	IAmb	IAmb	22 22 24.3	
	comp=Z,0.4nm,0.6s						
MTN	**Manton Dam**	**48.92**	**271**	P	**P**	**22 22 58.1**	**-0.6**
MTN				IAmb	IAmb	22 22 58.5	
	comp=Z,8.0nm,0.7s						
FORT	**Forrest**	**49.12**	**247**	P	**P**	**22 22 59.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**52.80**	**262**	P	**P**	**22 23 26.6**	**-0.2**
FITZ				IAmb	IAmb	22 23 28.6	
	comp=Z,4.0nm,0.9s						
SIJI	**Sorong**	**52.98**	**285**	P	**P**	**22 23 28.1**	**-0.1**
	comp=Z,6.5nm,0.5s,baz=94,slow=5.1,SNR=6.4						
SOEI	**Soe**	**56.26**	**272**	P	**P**	**22 23 52.0**	**+0.8**
SOEI				IAmb	IAmb	22 24 07.0	
	comp=Z,24nm,1.1s						
PSA00	**Pilbara Seismi**	**57.46**	**257**	P	**P**	**22 23 58.7**	**-0.5**
PSA00				IAmb	IAmb	22 23 59.5	
	comp=Z,5.1nm,0.8s						
SBA	**Scott Base**	**57.96**	**184**	P	**P**	**22 24 03.6**	**+1.9**
NWAO	**Narrogin (SRO)**	**58.20**	**243**	P	**P**	**22 24 03.1**	**-1.0**
NWAO				IAmb	IAmb	22 24 03.4	
	comp=Z,4.2nm,0.8s						
MORW	**Morawa**	**59.65**	**248**	P	**P**	**22 24 12.9**	**-0.9**
SEY	**Seymchan**	**86.22**	**347**	P	**P**	**22 26 44.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=75,slow=23,SNR=4.3						
ILAR	**Eielson Array**	**88.27**	**13**	P	**P**	**22 26 54.3**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=216,slow=5.1,SNR=6.2						
HFS	**Hagfors**	**139.40**	**351**	PKhKP	PKPpre	22 33 20.6	
	comp=Z,2.1nm,0.9s,baz=45,slow=2.2,SNR=7.9						
AKASG	**Malin Array Be**	**142.81**	**331**	PKP	**PKPdf**	**22 33 29.9**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=44,slow=4.4,SNR=10						
EKA	**Eskdalemuir Ar**	**144.92**	**5**	PKP	**PKPab**	**22 33 37.6**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=349,slow=2.5,SNR=2.0						
BRTR	**Keskin Array B**	**146.59**	**312**	PKPbc	**PKPbc**	**22 33 42.4**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=183,slow=2.4,SNR=2.8						
CLL	**Colln**	**147.91**	**347**	*i* PKPbc	**PKiKP**	**22 33 45.8**	**-1.0**
	comp=Z,3.0nm,0.7s						
CLL				*e*PKPab	**PKPab**	**22 33 51.0**	**+1.0**
GERES	**GERESS Array B**	**150.03**	**344**	PKPbc	**PKiKP**	**22 33 51.4**	**0.0**
	comp=Z,0.8nm,0.8s,baz=15,slow=4.1,SNR=4.1						

NEIC ***26*** *22:16:18.5±0.8, 36°.76N±0°.02×98°.02W±0°.02, h7km±7km, Error ellipse: s-maj=2.6km s-min=2.2km az=125.0*
TUL ***26*** *22:16:18.1±1.1, 36°.78N±0°.02×98°.03W±0°.02, h7km±7km, ML3.2, mb_Lg3.0/74(NEIC), Error ellipse: s-maj=2.6km s-min=2.1km az=126.0*
ANF ***26*** *22:16:18.2±0.2, 36°.75N×98°.01W, h7km, ML3.6/10, Error ellipse: s-maj=2.4km s-min=2.0km az=4.0*

ISC 26 22:16:18.4±0.9, **36°.75N**±0°.02×**98°.01W**±0°.02, **h7**km±8km, **n89**, σ0**63**/87, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.16**	**50**		**Pg**	**22 16 21.8**	**+0.1**
GC02				Sg	**Sg**	**22 16 24.3**	**+0.4**
OK032	**Salt Plains WL**	**0.17**	**288**		**Pg**	**22 16 21.6**	**-0.4**
OK032				Sg	**Sg**	**22 16 24.0**	**-0.3**
KAN14	**Manchester OK**	**0.21**	**10**		**Pg**	**22 16 22.4**	**-0.2**
KAN14				Sg	**Sg**	**22 16 25.3**	**-0.1**
CROK	**Carrier**	**0.25**	**175**		**Pg**	**22 16 23.7**	**+0.5**
CROK				Sg	**Sg**	**22 16 27.7**	**+1.1**
KAN05	**Bluff City Nor**	**0.37**	**17**		**Pg**	**22 16 25.4**	**-0.3**
KAN05				Sg	**Sg**	**22 16 30.5**	**-0.1**
KAN10	**Anthony SW Sta**	**0.38**	**349**		**Pg**	**22 16 25.4**	**-0.4**
KAN10				Sg	**Sg**	**22 16 30.6**	**-0.2**
KAN01	**Argonia South**	**0.45**	**26**		**Pg**	**22 16 26.9**	**-0.2**
KAN01				Sg	**Sg**	**22 16 33.1**	**+0.1**
KAN08	**Anthony NE Sta**	**0.48**	**4**		**Pg**	**22 16 27.3**	**-0.3**
KAN08				Sg	**Sg**	**22 16 33.6**	**-0.3**
KAN09	**Caldwell North**	**0.49**	**39**		**Pg**	**22 16 27.9**	**-0.1**
KAN09				Sg	**Sg**	**22 16 34.6**	**+0.1**
KAN13	**South Haven SW**	**0.50**	**58**		**Pg**	**22 16 28.0**	**0.0**
KAN13				Sg	**Sg**	**22 16 34.9**	**+0.3**
KAN12	**Harper NE Stat**	**0.55**	**1**		**Pg**	**22 16 28.6**	**-0.4**
KAN12				Sg	**Sg**	**22 16 35.8**	**-0.3**
U32A	**Winter Ranch,**	**0.88**	**245**		**Pg**	**22 16 34.8**	**-0.6**
U32A				Sg	**Sg**	**22 16 47.1**	**+0.3**
U32A	**Winter Ranch,**	**0.88**	**245**	P	**Pg**	**22 16 34.8**	**-0.6**
	baz=63,SNR=29						
U32A				S	**Sg**	**22 16 46.8**	**0.0**
	baz=63						
U32A	**Winter Ranch,**	**0.88**	**245**	P		22 16 34.8	
	baz=63,SNR=29						
U32A				S		22 16 46.8	
	baz=63						
OK029	**Liberty Lake**	**1.05**	**155**		**Pg**	**22 16 38.3**	**-0.2**
BCOK	**Bluff Creek, N**	**1.14**	**163**		**Pg**	**22 16 39.6**	**-0.6**
BCOK				Sg	**Sb**	**22 16 55.6**	**+0.2**
QUOK	**Quay**	**1.20**	**119**	Pg	**Pg**	**22 16 41.1**	**-0.3**
T35A	**Sooner Cattle**	**1.21**	**82**	Pg	**Pg**	**22 16 41.0**	**-0.6**
T35B	**Sooner Cattle**	**1.21**	**82**	P	**Pg**	**22 16 40.9**	**-0.8**
	baz=264,SNR=161						
T35B				S	**Sg**	**22 16 56.9**	**-0.4**
	baz=264						
T35B	**Sooner Cattle**	**1.21**	**82**	P		22 16 40.9	
	baz=264,SNR=161						
T35B				S		22 16 56.9	
	baz=264						
OK031	**S. Brethren Rd**	**1.23**	**130**		**Pb**	**22 16 41.6**	**-0.4**
OK030	**Cody Creek RV**	**1.28**	**129**		**Pn**	**22 16 42.3**	**-0.4**
OK025	**Westminster Rd**	**1.29**	**155**		**Pn**	**22 16 42.5**	**-0.3**
OKCFA	**Oklahoma City**	**1.41**	**161**		**Pn**	**22 16 44.3**	**-0.1**
OKCFA	**Oklahoma City**	**1.41**	**161**	P	**Pn**	**22 16 44.3**	**-0.1**
	baz=341						
OKCFA				S	**Sg**	**22 17 04.0**	**+0.4**
	baz=341						
OKCFA	**Oklahoma City**	**1.41**	**161**	P		22 16 44.3	
	baz=341						
OKCFA				S		22 17 04.0	
	baz=341						
OKCSW	**OKLAHOMA CITY**	**1.42**	**161**		**Pn**	**22 16 44.4**	**-0.2**
FNO	**Franklin**	**1.57**	**162**		**Pb**	**22 16 47.7**	**-0.1**
R32A	**Long Quarter,**	**1.76**	**342**		**Pn**	**22 16 49.8**	**+0.5**
R32A	**Long Quarter,**	**1.76**	**342**	P	**Pn**	**22 16 49.7**	**+0.4**
	baz=162,SNR=87						
R32A				S	**Sb**	**22 17 12.9**	**-0.5**
	baz=162						
R32A	**Long Quarter,**	**1.76**	**342**	P		22 16 49.7	
	baz=162,SNR=87						
R32A				S		22 17 12.9	
	baz=162						
TUL1	**Leonard**	**1.98**	**114**	P	**Pn**	**22 16 52.6**	**+0.4**
	baz=296,SNR=52						
TUL1				Sb	**Sg**	**22 17 21.0**	**-0.9**
	baz=296						
TUL1	**Leonard**	**1.98**	**114**	P		22 16 52.8	
	baz=296						
TUL1				S		22 17 20.5	
	baz=296						
TUL1	**Leonard**	**1.98**	**114**	P		22 16 52.6	
	baz=296,SNR=52						
TUL1				Sb		22 17 21.0	
	baz=296						
WMOK	**Wichita Mounta**	**2.10**	**198**	Pn	**Pn**	**22 16 55.0**	**+0.9**
WMOK	**Wichita Mounta**	**2.10**	**198**	P	**Pn**	**22 16 54.8**	**+0.8**
	baz=16,SNR=122						
WMOK	**Wichita Mounta**	**2.10**	**198**	P		22 16 54.7	
	baz=16						
WMOK	**Wichita Mounta**	**2.10**	**198**	P		22 16 54.8	
	baz=16,SNR=122						
CBKS	**Cedar Bluff**	**2.47**	**327**		**Pn**	**22 17 00.1**	**+0.9**
CBKS	**Cedar Bluff**	**2.47**	**327**	S	**Sn**	**22 17 30.9**	**+1.3**
	baz=146						
CBKS	**Cedar Bluff**	**2.47**	**327**	P		22 17 01.1	
	baz=146						
CBKS				S		22 17 30.9	
	baz=146						
CBKS	**Cedar Bluff**	**2.47**	**327**	S		22 17 30.9	
	baz=146						
KSU1	**Kansas State U**	**2.59**	**25**	Pn	**Pn**	**22 17 01.5**	**+0.8**
U38A	**Gravette**	**2.93**	**95**		**Pn**	**22 17 06.1**	**+0.7**
X37A	**Clayton**	**3.04**	**134**		**Pn**	**22 17 07.7**	**+0.8**
X37A				IAmb_Lg		22 18 03.3	
	comp=Z,45nm,0.8s						
X37A	**Clayton**	**3.04**	**134**	P	**Pn**	**22 17 07.2**	**+0.3**
	baz=316,SNR=12						
X37A	**Clayton**	**3.04**	**134**	P		22 17 07.2	
	baz=316,SNR=12						
HHAR	**Hobbs**	**3.31**	**97**		**Pn**	**22 17 11.1**	**+0.5**
Z35A	**Perchaven, San**	**3.47**	**169**	Pn	**Pn**	**22 17 10.2**	**-2.6**
AMTX	**Amarillo**	**3.52**	**239**	Pn	**Pn**	**22 17 15.1**	**+1.6**
AMTX				IAmb_Lg		22 18 14.8	
	comp=Z,36nm,0.8s						
AMTX	**Amarillo**	**3.52**	**239**	Pb		22 17 22.2	
	baz=56						
AMTX				Sb		22 18 08.5	
	baz=56						
W39A	**Magazine**	**3.76**	**113**		**Pn**	**22 17 18.3**	**+1.6**
W39A				IAmb_Lg		22 18 24.8	
	comp=Z,61nm,1.0s						
W39A	**Magazine**	**3.76**	**113**	Pb		22 17 26.3	
	baz=296						
S39A	**Bolivar**	**3.85**	**75**		**Pn**	**22 17 18.2**	**+0.1**
S39A				IAmb_Lg		22 18 22.1	
	comp=Z,44nm,0.8s						
S39A	**Bolivar**	**3.85**	**75**	P	**Pn**	**22 17 18.2**	**+0.1**
	baz=258,SNR=17						
S39A	**Bolivar**	**3.85**	**75**	P		22 17 18.2	
	baz=258,SNR=17						
N33A	**J Bar K, Exete**	**4.00**	**6**	IAmb_Lg		22 18 34.0	
	comp=Z,28nm,0.7s						
U40A	**Yellville**	**4.17**	**94**	Pn	**Pn**	**22 17 22.6**	**+0.3**
U40A				IAmb_Lg		22 18 32.0	
	comp=Z,48nm,0.8s						
U40A	**Yellville**	**4.17**	**94**	P	**Pn**	**22 17 22.6**	**+0.3**
	baz=277,SNR=17						
U40A	**Yellville**	**4.17**	**94**	P		22 17 22.7	
	baz=277						
U40A	**Yellville**	**4.17**	**94**	P		22 17 22.6	
	baz=277,SNR=17						
U40A				P		22 17 22.6	
	baz=277,SNR=17						
MIAR	**Mount Ida**	**4.23**	**120**		**Pn**	**22 17 24.1**	**+0.9**
MIAR				IAmb_Lg		22 18 34.0	
	comp=Z,37nm,0.9s						
Z38A	**Mt. Pleasant**	**4.28**	**144**	Pn	**Pn**	**22 17 24.3**	**+0.5**
Z38A				IAmb_Lg		22 18 40.5	
	comp=Z,54nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.29**	**303**	Pn	**Pn**	**22 17 25.9**	**+1.6**
KSCO				IAmb_Lg		22 18 43.0	
	comp=Z,25nm,0.7s						
ABTX	**Abilene, Hawle**	**4.33**	**199**		**Pn**	**22 17 25.0**	**+0.3**
N35A	**Tabor**	**4.50**	**24**		**Pn**	**22 17 27.0**	**0.0**
P38A	**Dawn**	**4.54**	**50**		**Pn**	**22 17 28.1**	**+0.5**
P38A				IAmb_Lg		22 18 54.0	
	comp=Z,29nm,0.9s						
MGMO	**Mountain Grove**	**4.61**	**83**		**Pn**	**22 17 29.1**	**+0.6**
BGNE	**Belgrade**	**4.65**	**359**	Pn	**Pn**	**22 17 29.6**	**+0.5**
BGNE				IAmb_Lg		22 18 52.0	
	comp=Z,43nm,0.7s						
WHTX	**Lake Whitney,**	**4.77**	**174**	Pn	**Pn**	**22 17 30.9**	**+0.3**
WHTX	**Lake Whitney,**	**4.77**	**174**	P	**Pn**	**22 17 31.4**	**+0.7**
	baz=354,SNR=7.3						
WHTX	**Lake Whitney,**	**4.77**	**174**	P		22 17 31.4	
	baz=354						
WHTX	**Lake Whitney,**	**4.77**	**174**	P		22 17 31.4	
	baz=354,SNR=7.3						
MSTX	**Muleshoe**	**4.78**	**236**		**Pn**	**22 17 30.3**	**-0.6**
MSTX	**Muleshoe**	**4.78**	**236**	Sb		22 18 45.6	
	baz=53						
X40A	**Basin Creek Fa**	**4.78**	**117**		**Pn**	**22 17 30.9**	**+0.1**
X40A				IAmb_Lg		22 18 52.9	
	comp=Z,36nm,0.8s						
R40A	**Maddies Statio**	**4.81**	**70**		**Pn**	**22 17 31.2**	**-0.1**
R40A				IAmb_Lg		22 18 53.1	
	comp=Z,28nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.83**	**99**		**Pn**	**22 17 32.3**	**+0.8**
FCAR				IAmb_Lg		22 18 55.1	
	comp=Z,22nm,0.8s						
WHAR	**Wooly Hollow**	**4.86**	**106**		**Pn**	**22 17 32.1**	**+0.2**
WHAR				IAmb_Lg		22 19 02.9	
	comp=Z,31nm,0.9s						
WLAR	**White Oak Lake**	**5.04**	**126**	Pn	**Pn**	**22 17 34.2**	**-0.2**
WLAR				IAmb_Lg		22 19 02.4	
	comp=Z,23nm,0.7s						
T25A	**Trinidad**	**5.14**	**276**	IAmb_Lg		22 19 04.7	
	comp=Z,29nm,0.8s						
OGNE	**Ogallala**	**5.24**	**324**	Pn	**Pn**	**22 17 36.1**	**-1.0**
P40A	**Paris**	**5.46**	**58**	Pn	**Pn**	**22 17 40.1**	**0.0**
N38A	**Joes South For**	**5.50**	**41**		**Pn**	**22 17 40.3**	**-0.3**
N38A				IAmb_Lg		22 19 17.3	
	comp=Z,39nm,0.8s						
N38A	**Joes South For**	**5.50**	**41**	P	**Pn**	**22 17 40.5**	**-0.1**
	baz=224						
N38A	**Joes South For**	**5.50**	**41**	P		22 17 40.5	
	baz=224						
Z41A	**Richland Creek**	**5.51**	**128**	S		22 18 42.4	
	baz=311						
CCM	**Cathedral Cave**	**5.54**	**74**	IAmb_Lg		22 19 15.8	
	comp=Z,18nm,0.7s						
T42A	**Van Buren**	**5.55**	**85**	Pn	**Pn**	**22 17 41.9**	**+0.5**
LCAR	**Lake Charles**	**5.57**	**95**	Pn	**Pn**	**22 17 42.3**	**+0.7**
K31A	**O'Neill**	**5.89**	**355**	IAmb_Lg		22 19 37.1	
	comp=Z,38nm,0.8s						
435B	**Jarrell**	**5.96**	**176**	IAmb_Lg		22 19 38.3	
	comp=Z,22nm,0.7s						
PBMO	**Poplar Bluff**	**6.08**	**87**	IAmb_Lg		22 19 40.1	
	comp=Z,18nm,0.7s						
JCT	**Junction City**	**6.43**	**194**	IAmb_Lg		22 19 59.0	
	comp=Z,17nm,0.7s						
SLM	**Saint Louis**	**6.44**	**71**	IAmb_Lg		22 19 45.1	
	comp=Z,24nm,0.8s						
S44A	**Carbondale**	**7.05**	**80**	IAmb_Lg		22 20 01.6	
	comp=Z,27nm,0.8s						
SIUC	**Southern Illin**	**7.08**	**80**	IAmb_Lg		22 20 00.7	
	comp=Z,20nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.28**	**64**	Pn	**Pn**	**22 18 05.2**	**+0.1**
OXF	**Oxford**	**7.35**	**105**	Pn	**Pn**	**22 18 06.2**	**+0.1**
OXF				IAmb_Lg		22 20 32.1	
	comp=Z,18nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.43**	**70**	Pn	**Pn**	**22 18 07.2**	**0.0**
SUSD	**Miller**	**7.72**	**355**	IAmb_Lg		22 20 37.0	
	comp=Z,13nm,0.8s						
I37A	**Lemond, Waseca**	**8.06**	**24**	IAmb_Lg		22 20 33.8	
	comp=Z,12nm,0.8s						
JFWS	**Jewell Farm**	**8.57**	**42**	IAmb_Lg		22 20 53.2	
	comp=Z,17nm,0.8s						
RSSD	**Black Hills**	**8.68**	**330**	IAmb_Lg		22 21 14.8	
	comp=Z,9.8nm,0.8s						
T47A	**Sharon Grove**	**8.74**	**85**	IAmb_Lg		22 21 17.8	
	comp=Z,18nm,1.2s						
K22A	**Casper**	**8.82**	**315**	IAmb_Lg		22 21 17.9	
	comp=Z,18nm,0.9s						
I40A	**Norwalk**	**9.09**	**36**	IAmb_Lg		22 21 05.6	
	comp=Z,19nm,1.2s						
SFIN	**Lafayette**	**9.28**	**64**	IAmb_Lg		22 21 21.3	
	comp=Z,18nm,0.9s						
SPMN	**Marine on St.**	**9.33**	**23**	IAmb_Lg		22 21 18.2	
	comp=Z,10nm,1.1s						
WCI	**Wyandotte Cave**	**9.43**	**77**	IAmb_Lg		22 21 12.4	
	comp=Z,10nm,0.8s						

IDC ***26*** *22:29:24.6±3.7, 3°.63N×127°.95E, h160km±42km, mb3.5/6, mb1 3.7/7, mb1mx3.3/50, mbtmp4.0/7, Error ellipse: s-maj=58.3km s-min=14.6km az=80.0*
DJA ***26*** *22:29:25.2±0.5, 4°N±4°×12°8E±°, h154km±5km, M4.3/14, mb4.4/9, mB4.8/6, MLv4.5/14, Mw(mB)4.1/6*
NEIC ***26*** *22:29:27.1±1.5, 3°.5N±0°.1×127°.9E±0°.1, h184km±13km, mb4.1/10, Error ellipse: s-maj=22.2km s-min=15.8km az=62.0*

ISC 26 22:29:23.9±0.7, **3°.73N**±0°.06×**128°.05E**±0°.06, **h150**km, **n32**, σ1**43**/39, **mb4.0**/9, **North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.51**	**269**	P	**Pn**	**22 30 06.1**	**+0.9**
SGSI				S	**Sn**	**22 30 37.8**	**+0.8**
TNTI	**Ternate**	**3.01**	**193**		**Pn**	**22 30 13.1**	**+1.7**
TNTI	**Ternate**	**3.01**	**193**	P	**Pn**	**22 30 12.4**	**+0.9**
TNTI				S	**Sn**	**22 30 52.0**	**+3.7**
KMSI	**Cibinong**	**5.13**	**232**	P	**Pn**	**22 30 40.1**	**+1.0**
	1.0nm5μm210nm,0.5s						
KMSI				S	**Sn**	**22 31 36.4**	**-1.3**
	1.0nm5μm210nm,0.5s						
SWI	**Sorong**	**5.58**	**145**	P	**Pn**	**22 30 46.6**	**+1.6**
	0.1nm30nm,0.6s						
SWI				S	**Sn**	**22 31 49.0**	**+0.6**
	0.1nm30nm,0.6s						
SIJI	**Sorong**	**5.58**	**145**	P	**Pn**	**22 30 46.5**	**+1.4**
	5.0nm,0.3s,baz=128,slow=12,SNR=17						
SIJI				S	**Sn**	**22 31 49.4**	**+0.7**
	3.0nm,0.3s,baz=191,slow=23,SNR=7.7						
GTOI	**Gorontalo**	**5.89**	**239**	P	**Pn**	**22 30 50.2**	**+0.9**
	0.1nm18nm,0.8s						
SANI	**Sanana**	**6.09**	**200**	P	**Pn**	**22 30 50.7**	**-1.2**
	0.2nm1μm29nm,0.5s						
MRSI	**Marisa**	**6.90**	**242**	P	**Pn**	**22 31 03.9**	**+1.2**
	0.3nm94nm,0.6s						
MRSI				S	**Sn**	**22 32 19.7**	**-0.4**
	0.3nm94nm,0.6s			

baz=289
ESL eS Sn 22 42 07.7 +0.1
baz=289
HGSD Ruisui 0.30 230 P Pn 22 42 03.6 +0.4
baz=222
HGSD iS Sn 22 42 10.4 +1.8
baz=222
HWA Hwalien 0.30 349⇑iP Pb 22 42 03.2 +0.4
baz=356
HWA S Sn 22 42 09.7 +1.1
baz=356
EHY Hungye 0.36 241 P Pn 22 42 03.9 -0.3
baz=247
EHY eS Sn 22 42 09.6 -0.7
baz=247
TWD Chiawan 0.40 350⇓iP Pb 22 42 04.0 -0.2
baz=360
TWD eS Sb 22 42 10.5 +0.1
baz=360
YULB Yu-li 0.45 230⇓iP Pn 22 42 05.1 -0.3
baz=238
YULB eS Sn 22 42 11.9 -0.5
baz=238
EYUL Yuli 0.47 224 eP Pn 22 42 05.6 0.0
baz=234
EYUL eS Sn 22 42 13.3 +0.6
baz=234
TWF1 Yuli 0.48 226⇓iP Pn 22 42 05.5 -0.2
baz=234
TWF1 eS Sn 22 42 12.9 -0.1
baz=234
VWDT VWDT 0.49 278⇓iP Pn 22 42 05.9 0.0
baz=276
VWDT S Sn 22 42 13.1 -0.2
baz=276
NACB Ninganchiao 0.49 352⇓iP Pb 22 42 05.2 -0.4
baz=356
NACB iS Sb 22 42 12.4 -0.4
baz=356
ETLH Xiulin Townshi 0.55 342⇓iP Pb 22 42 05.8 -0.7
baz=333
ETLH eS Sb 22 42 13.5 -0.9
baz=333
CHGB Renai 0.59 310⇓iP Pb 22 42 07.0 -0.2
baz=309
CHGB S Sb 22 42 15.1 -0.5
baz=309
WHF Hehuan Shan 0.59 321⇓iP Pb 22 42 06.7 -0.8
baz=314
WHF eS Sb 22 42 15.9 +0.1
baz=314
FULB Fuli 0.59 216 P Pn 22 42 07.5 +0.1
baz=228
FULB eS Sn 22 42 18.1 +2.1
baz=228
CHKT Chengkung 0.65 206⇓iP Pn 22 42 07.7 -0.4
baz=196
CHKT eS Sn 22 42 16.6 -0.6
baz=196
SSLB Suanglung 0.66 279⇓iP Pb 22 42 08.0 -0.4
baz=278
SSLB eS Sb 22 42 16.4 -1.0
baz=278
FUSS Fushou 0.68 325⇓iP Pb 22 42 08.3 -0.5
baz=319
FUSS eS Sb 22 42 17.9 -0.2
baz=319
YUS Yu-Shan 0.69 254⇓iP Pn 22 42 09.2 +0.1
baz=252
YUS eS Sn 22 42 18.6 -0.3
baz=252
TWT Tachien 0.72 322⇓iP Pn 22 42 09.2 -0.1
baz=317
TWT eS Sb 22 42 19.1 -0.1
baz=317
WPL Puli Township 0.73 297⇓iP Pn 22 42 09.1 -0.1
baz=301
WPL eS Sb 22 42 18.3 -0.9
baz=301
SMLT Sun Moon Lake 0.73 286⇓iP Pn 22 42 09.3 -0.1
baz=289
SMLT S Sb 22 42 19.1 -0.3
baz=289
TDCB Techi 0.73 321⇓iP Pn 22 42 09.3 -0.2
baz=317
TDCB eS Sb 22 42 18.0 -1.5
baz=317
ENA Nanau 0.74 5⇓iP Pb 22 42 08.7 -0.7
baz=15
ENA eS Sb 22 42 18.8 -0.8
baz=15
WHYT Xinyi Township 0.75 271 eP Pb 22 42 09.5 -0.3
baz=270
WHYT eS Sn 22 42 19.9 +0.1
baz=270
DPDB Guoxing 0.76 297⇓iP Pn 22 42 09.7 0.0
baz=301
DPDB eS Sb 22 42 19.3 -0.9
baz=301
EWUT Wuta 0.76 7⇓iP Pn 22 42 09.1 -0.7
baz=9.0
EWUT eS Sb 22 42 19.8 -0.3
baz=9.0
TYC Yuchr 0.78 286⇓iP Pn 22 42 09.8 0.0
baz=292
TYC eS Sb 22 42 19.9 -0.6
baz=292
ELDTW Lidau 0.78 231 iP Pn 22 42 09.6 -0.4
baz=229
ELDTW eS Sn 22 42 19.8 -0.8
baz=229
EDH Donghe 0.79 205 ⇓P Pb 22 42 09.8 -0.6
baz=197
EDH eS Sn 22 42 20.1 -0.5
baz=197
NNSB Datong 0.79 341⇓iP Pn 22 42 09.4 -0.7
baz=341
NNSB eS Sb 22 42 18.9 -2.0
baz=341
NNSH Datong 0.79 341 eP Pn 22 42 09.4 -0.7
baz=341
NNSH eS Sb 22 42 19.6 -1.3
baz=341
WCS Beigang Elemen 0.79 298⇓iP Pn 22 42 10.0 0.0
baz=302
WCS eS Sb 22 42 20.3 -0.5
baz=302
NNS Nan Shan 0.80 340⇓iP Pn 22 42 09.6 -0.7
baz=342
NNS eS Sb 22 42 19.9 -1.4
baz=342
ALS Alishan 0.81 258⇓iP Pb 22 42 11.1 0.0
baz=264
ALS iS Sb 22 42 21.6 -0.1
baz=264
WJS Zhushan 0.87 279 eP Pb 22 42 12.2 +0.4
baz=279
WJS eS Sb 22 42 24.4 +1.2
baz=279
WHP Taichung City 0.89 312 iP Pn 22 42 11.6 +0.1
baz=310
WHP eS Sb 22 42 24.9 +1.2
baz=310
CHN5 Tsauling 0.91 265⇓iP Pb 22 42 12.6 0.0
baz=264
CHN5 iS Sb 22 42 25.0 +0.5
baz=264
LONT Longtian 0.92 213 eP Pn 22 42 11.2 -0.7
baz=212
LONT eS Sn 22 42 23.1 -0.9
baz=212
WNT Mingjian 0.92 282⇓iP Pb 22 42 13.0 +0.3
baz=282
WNT eS Sb 22 42 25.6 +0.9
baz=282
NDT Datong Townshi 0.92 351⇑iP Pn 22 42 11.6 -0.3
baz=344
NDT eS Sn 22 42 23.6 -0.5
baz=344
WNT1 Nantou City 0.93 284 eP Pb 22 42 13.4 +0.5
baz=283
WNT1 eS Sb 22 42 25.9 +0.9
baz=283
TWC Suao 0.94 10 eP Pn 22 42 11.8 -0.3
baz=12
TWC eS Sn 22 42 23.7 -0.7
baz=12
NDS Dongshan 0.94 3 eP Pn 22 42 11.8 -0.5
baz=353
NDS eS Sn 22 42 24.2 -0.4
baz=353
ENTT Nioudou 0.95 354⇓iP Pn 22 42 11.9 -0.4
baz=347
ENTT eS Sn 22 42 25.3 +0.4
baz=347
WWF Wufeng 0.96 292 eP Pb 22 42 13.8 +0.5
baz=282
WWF eS Sb 22 42 28.4 +2.8
baz=282
STYH Taoyuan 0.97 238 P Pb 22 42 13.2 -0.2
baz=233
STYH S Sb 22 42 25.9 0.0
baz=233
STYT Tauyuan 0.99 238 iP Pb 22 42 13.6 -0.1
baz=237
STYT eS Sb 22 42 26.9 +0.4
baz=237
WGK Gukeng 1.01 270 eP Pb 22 42 14.7 +0.5
baz=270
YHNB Yeheng 1.02 345⇓iP Pn 22 42 13.2 -0.1
baz=346
YHNB eS Sn 22 42 25.7 -0.8
baz=346
TWGBT Beinan 1.02 212 eP Pn 22 42 12.4 -0.9
baz=211
TWGBT eS Sn 22 42 25.8 -0.7
baz=211
TWG Pinlang 1.02 213 eP Pn 22 42 12.5 -0.7
baz=211
TWG eS Sn 22 42 25.3 -1.2
baz=211
LDUT Ludao 1.02 190 iP Pn 22 42 12.3 -1.0
baz=190
LDUT eS Sn 22 42 25.7 -0.8
baz=190
NSK Sanguang 1.03 344⇓iP Pn 22 42 13.3 -0.1
baz=354
NSK S Sn 22 42 26.1 -0.6
baz=354
TPUB Ta-pu 1.03 248 P Pb 22 42 14.4 -0.1
baz=248
TPUB eS Sb 22 42 28.9 +1.3
baz=248
TWE Neicheng 1.03 360 iP Pn 22 42 13.1 -0.3
baz=352
TWE eS Sn 22 42 25.6 -1.2
baz=352
WDLH Douliu 1.04 270 eP Pb 22 42 14.3 -0.3
baz=270
WDLH eS Sb 22 42 28.3 +0.4
baz=270
CHN4 Tsaushan 1.04 252 eP Pb 22 42 14.9 +0.2
baz=251
CHN4 eS Sb 22 42 30.2 +2.1
baz=251
TWQ1 Liyutan 1.05 309⇓iP Pb 22 42 14.8 -0.1
baz=310
TWQ1 eS Sb 22 42 29.4 +1.1
baz=310
WTP Ta-pu 1.06 246 eP Pb 22 42 15.2 +0.1
baz=245
WTP eS Sb 22 42 28.6 -0.1
baz=245
WCHH Zhanghua 1.09 291 eP Pb 22 42 15.3 -0.1
baz=291
WCHH eS Sb 22 42 29.1 -0.3
baz=291
NWLT Wulai 1.10 352 eP Pn 22 42 14.1 -0.2
baz=347
NWLT eS Sn 22 42 29.8 +1.3
baz=347
NSY Sanyi 1.10 311⇓iP Pb 22 42 15.6 -0.1
baz=312
NSY eS Sb 22 42 30.1 +0.2
baz=312
CHN2 Minshiung 1.11 262 eP Pb 22 42 16.1 +0.3
baz=262
CHN2 eS Sb 22 42 31.1 +1.3
baz=262
NSTT Nanjuang 1.12 327 ⇓P Pb 22 42 15.7 +1.0
baz=328
NSTT eS Sn 22 42 29.7 +0.7
baz=328
LIOB Emei 1.13 328⇓iP Pb 22 42 15.9 -0.3
baz=329
LIOB eS Sb 22 42 30.8 +0.3
baz=329
WDJ Dajia District 1.15 305 eP Pb 22 42 15.9 -0.6
baz=305
WDJ eS Sb 22 42 32.0 +0.9
baz=305
CHY Chiayi 1.16 261 eP Pb 22 42 15.9 -0.7
baz=260
CHY eS Sb 22 42 32.3 +1.0
baz=260
CHN1 Nanshi 1.16 245 eP Pb 22 42 16.5 -0.2
baz=244
CHN1 eS Sb 22 42 32.6 +1.1
baz=244
TWK Hsinying 1.16 249 eP Pb 22 42 16.5 -0.2
baz=248
TWK eS Sb 22 42 32.0 +0.5
baz=248
SGST Jiashian 1.17 239 eP Pb 22 42 16.0 -0.7
baz=238
SGST eS Sb 22 42 32.6 +1.1
baz=238
SLGT Liugui 1.17 234 eP Pb 22 42 16.7 -0.1
baz=239
SLGT eS Sb 22 42 32.8 +1.3
baz=239
NMLH Miaoli 1.17 317 eP Pn 22 42 15.7 +0.5
baz=317
NMLH eS Sb 22 42 31.5 -0.2
baz=317
SNST Tainan City 1.17 247 eP Pb 22 42 17.1 +0.2
baz=246
SNST eS Sb 22 42 32.7 +1.0
baz=246
NJD Zhudong 1.17 333 eP Pb 22 42 17.1 +0.1
baz=334
NTC Toucheng 1.17 7 eP Pn 22 42 15.6 +0.2
baz=18
WTK Tuku 1.17 270 eP Pb 22 42 16.4 -0.5
baz=270
WTK eS Sb 22 42 33.3 +1.5
baz=270
WRL Guolierlin Hig 1.20 281 eP Pb 22 42 17.3 -0.1
baz=280
HSN1 Hsinchu 1.24 331 eP Pn 22 42 17.4 +1.1
baz=320
HSN1 eS Sn 22 42 35.3 +1.6
baz=320
ECL Taimali 1.27 211 eP Pn 22 42 15.8 -0.8
baz=211
SBCB Hsinchu 1.27 331 eP Pn 22 42 17.1 +0.5
baz=331
NHDH Xindian Distri 1.28 354 eP Pn 22 42 17.2 +0.4
baz=356
NHDH eS Sn 22 42 32.6 -0.2
baz=356
HSN Hsinchu 1.28 330 eP Pn 22 42 17.9 +1.0
baz=333
WTCT Ta-ch'eng 1.28 278 eP Pb 22 42 18.6 -0.2
baz=278
WTCT eS Sb 22 42 35.4 +0.5
baz=278
TIPB Shuangxi 1.29 6 eP Pn 22 42 17.4 +0.5
baz=358
TIPB eS Sn 22 42 34.2 +1.0
baz=358
TATO Taipei 1.29 353 eP Pn 22 42 16.9 -0.1
baz=355
TATO eS Sn 22 42 33.4 +0.1
baz=355
WSF Szhu 1.33 268 eP Pn 22 42 17.8 +0.3
baz=268
SSD Sandimen 1.34 226 P Pb 22 42 18.8 -0.8
baz=225
SSD eS Sb 22 42 36.9 +0.5
baz=225
SCST Cishan 1.34 234 eP Pb 22 42 20.0 +0.2
baz=233
TWB1 Santiao Chiao 1.35 12 eP Pn 22 42 18.2 +0.5
baz=14
NCUH Zhongli 1.35 341 eP Pn 22 42 18.6 +0.8
baz=342
NTY Taoyuan 1.35 346 eP Pn 22 42 18.0 +0.2
baz=1.0
NCU National Centr 1.35 341 eP Pn 22 42 19.0 +1.2
baz=342
TSMG Majia 1.36 224 eP Pb 22 42 19.4 -0.5
baz=224
TSMG eS Sb 22 42 37.6 +0.6
baz=224
CHN8 Yiju 1.38 256 eP Pb 22 42 19.0 -1.3
baz=256
CHN8 eS Sb 22 42 37.6 -0.1
baz=256
WFSB Wu-fen Shan 1.38 4 eP Pn 22 42 18.7 +0.5
baz=355
WFSB eS Sn 22 42 36.0 +0.5
baz=355
JYNG Yonagunijimaku 1.39 57 P Pn 22 42 19.4 +1.0
JYNG eS Sn 22 42 36.1 +0.4
TWS1 Kuangyinshan 1.43 351 eP Pn 22 42 19.5 +0.6
baz=352
MASBT Mashibuluo 1.43 222 P Pb 22 42 19.7 -1.5
baz=221
MASBT eS Sb 22 42 38.4 -0.8
baz=221
TWM1 Shoushan 1.43 233 eP Pb 22 42 22.3 +1.1
baz=247
SCLT Jiali 1.45 250 eP Pb 22 42 20.2 -1.3
baz=249
SCLT eS Sb 22 42 39.9 +0.3
baz=249
YOJ Yonaguni jima 1.45 58 eP Pn 22 42 19.8 +0.6
baz=56
YOJ eS Sn 22 42 37.0 0.0
baz=56
YOJ Yonaguni jima 1.45 58 P Pn 22 42 19.8 +0.6
YOJ eS Sn 22 42 37.3 +0.2
YM01 YM01 1.46 356 eP Pn 22 42 18.3 -1.0
baz=358
YM04 YM04 1.47 355 eP Pn 22 42 19.2 -0.3
baz=356
YM10 YM10 1.47 356 eP Pn 22 42 19.2 -0.3
baz=357
YM11 YM11 1.48 357 eP Pn 22 42 19.6 0.0
baz=358
YM03 YM03 1.49 355 eP Pn 22 42 19.2 -0.6
baz=356
ANP Anpu 1.50 355 eP Pn 22 42 20.1 +0.2
baz=356
EAST Anshuo 1.50 210 eP Pn 22 42 19.5 -0.4
baz=203
TAW Tawu 1.50 208 eP Pb 22 42 20.7 -1.7
baz=208
SSPT Xinbi 1.57 221 eP Pn 22 42 23.4 -0.2
baz=220
SSPT eS Sb 22 42 44.0 +1.0
baz=220
TWY Chenhua 1.58 358 eP Pn 22 42 21.1 +0.1
baz=359
SCZT Fangliau 1.62 217 eP Pb 22 42 23.4 -1.1
baz=204
SCZT eS Sb 22 42 44.4 -0.3
baz=204
LAY Lan-yu 1.64 184 eP Pn 22 42 20.8 -1.0
baz=176
LAY eS Sn 22 42 40.3 -1.5
baz=176
SLIU Shizi 1.67 209 eP Pn 22 42 21.4 -0.7
baz=208
WLCH Liuqiu 1.78 222 eP Pb 22 42 27.0 -0.2
baz=222
HEN Hengchun 1.88 207 eP Pn 22 42 26.4 +1.4
baz=194
WDGT Dungji 1.89 257 eP Pn 22 42 25.8 +0.6
baz=257
TWK1 Hengchun 1.91 205 eP Pn 22 42 26.1 +0.7
baz=194
TWKBT Hengchun 1.91 205 eP Pn 22 42 25.4 0.0
baz=194
PHUB P'eng-hu 1.93 265 eP Pn 22 42 25.8 0.0
baz=253
PNG Penghu 1.94 267 eP Pn 22 42 26.6 +0.6
baz=255
HATJ Hateruma jima 1.99 79 P Pn 22 42 27.2 +0.6
HATJ eS Sn 22 42 50.8 +0.4
IRIF Iriomote-Funau 1.99 71 P Pn 22 42 27.5 +0.9
IRIF S Sn 22 42 51.2 +0.7
VCHM Qimei 2.11 257 eP Pn 22 42 28.7 +0.5
baz=257
JKRS Kuro-shima 2.21 75 P Pn 22 42 31.2 +1.6
JKRS S Sn 22 42 57.2 +1.4
JIJ Ishigaki jima 2.36 73 P Pn 22 42 32.1 +0.4
JIJ S Sn 22 42 58.9 -0.7
VWUC VWUC 2.41 303 eP Pn 22 42 31.5 -0.8
baz=303
JISG Ishigakijimahi 2.58 69 P Pn 22 42 35.0 +0.4
JISG S Sn 22 43 03.8 -1.0
PTMZ Houxiangcun 2.69 301 eP Pn 22 42 35.5 -0.6
baz=301
MATB Ma-tsu 2.91 328 eP Pn 22 42 38.0 -1.2
baz=328
JTJ Tarama 2.93 70 P Pn 22 42 40.4 +0.9
JTJ S Sn 22 43 14.6 +1.0
MSUT Lienchiang 2.94 328 eP Pn 22 42 38.8 -0.8
baz=328
KNM Kinmen 3.05 284 eP Pn 22 42 42.7 +1.6
baz=284
LYJJ Jianjiangzhen 3.34 329 eP Pn 22 42 44.0 -1.1
baz=329
JIRB Irabujima 3.39 70 P Pn 22 42 46.9 +1.0
JIRB eS Sn 22 43 24.5 -0.6
MHZQ Yeshan 3.40 316 eP Pn 22 42 44.5 -1.4
baz=316
JIKM Ikemajima 3.49 69 S Sn 22 43 27.1 -0.3
XPSS Dashiqiu 3.50 338 eP Pn 22 42 45.9 -1.4
baz=350
JMJ2 Miyako jima3 3.50 72 P Pn 22 42 49.0 +1.6
JMJ2 S Sn 22 43 28.5 +0.8
JOGS Gusukube 3.58 72 eS Sn 22 43 30.9 +1.3
AXDP Jialang 3.58 290 eP Pn 22 42 48.4 -0.2
baz=291
ZPLA Ao Xicun 3.60 275 eP Pn 22 42 49.2 +0.5
baz=275

IDC 26 23:04:02.3±4.0, 24.69S×178.71E, h135km±155km, mb3.5/3, mb1 3.6/4, mb1mx3.3/25, mbtmp3.9/4, ML5.3/2, Error ellipse: s-maj=201.7km s-min=27.4km az=74.0, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 5.45 147 P Pn 23 05 21.3 -0.1
125nm,0.3s,baz=327,slow=21,SNR=5.9
MSVF Nonsavu 6.95 355 P Pn 23 05 41.7 0.0
1.3nm,0.3s,baz=195,slow=20,SNR=11
STKA Stephens Creek 33.34 249 P P 23 10 27.9 +0.3
1.5nm,0.5s,baz=63,slow=11,SNR=4.8
ASAR Alice Springs 40.75 262 P P 23 11 29.8 -0.6
0.4nm,0.3s,baz=94,slow=7.9,SNR=10
WRA Warramunga Arr 41.19 267 P P 23 11 34.1 +0.2
0.5nm,0.6s,baz=104,slow=7.5,SNR=2.6

ATH 26 23:31:30.9, 36.16N×27.47E, h40km±9km, ML3.1/3, Error ellipse: s-maj=10.4km s-min=2.1km az=110.0
DDA 26 23:31:31.4, 36.14N×27.51E, h8km±2km, ML2.7
ISK 26 23:31:31.4, 36.12N×27.51E, h8km, ML3.1/15
THE 26 23:31:32.0, 36.11N×27.49E, h8km±1km, ML2.9/3, Error ellipse: s-maj=1.6km s-min=0.5km az=53.0
NIC 26 23:31:32.2±0.0, 36.11N×27.54E, h8km±1km, Ml3.6/3
ISC 26 23:31:31.6±1.1, 36.13N±0.02×27.50E±0.02, h10km±10km, n49, σ0.68/74, Dodecanese Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ARG Arkhangelos 0.52 80 P Pb 23 31 42.1 -0.7
ARG S Sb 23 31 49.4 -1.0
ARG AML AML 23 31 52.0
comp=E,4706μm,0.2s
ARG AML AML 23 31 54.1
comp=N,1860μm,0.2s
ARG Arkhangelos 0.52 80 P Pb 23 31 42.4 -0.4
ARG S Sb 23 31 50.1 -0.2
comp=N,2μm,0.2s
ARG Arkhangelos 0.52 80 PG Pg 23 31 41.9 +0.2
ARG SG Sb 23 31 49.4 -1.0

ARG	**Arkhangelos**	**0.52**	**80**	P	**Pb**	**23 31 42.1**	**-0.7**
ARG				S	**Sb**	**23 31 49.3**	**-1.1**
NIS1	**Nisyros Isl.**	**0.54**	**332**	P	**Pg**	**23 31 42.0**	**0.0**
NIS1	**Nisyros Isl.**	**0.54**	**332**	P	**Pb**	**23 31 43.2**	**0.0**
NIS1				S	**Sb**	**23 31 51.1**	**+0.1**
	comp=N,1μm,0.3s						
NIS1	**Nisyros Isl.**	**0.54**	**332**	PG	**Pb**	**23 31 42.8**	**-0.4**
NIS1				SG	**Sb**	**23 31 50.7**	**-0.3**
KARP	**Karpathos**	**0.64**	**205**	P	**Pg**	**23 31 44.1**	**+0.1**
KARP				S	**Sb**	**23 31 54.1**	**+0.1**
KARP				AML	AML	23 31 56.3	
	comp=E,4005μm,0.2s						
KARP				AML	AML	23 31 57.0	
	comp=N,4452μm,0.1s						
KARP	**Karpathos**	**0.64**	**205**	P	**Pg**	**23 31 44.1**	**+0.1**
KARP				S	**Sb**	**23 31 53.6**	**-0.4**
	comp=N,2μm,0.1s						
KARP	**Karpathos**	**0.64**	**205**	PG	**Pg**	**23 31 44.1**	**+0.1**
KARP				SG	**Sb**	**23 31 53.4**	**-0.6**
KARP	**Karpathos**	**0.64**	**205**	P	**Pg**	**23 31 44.1**	**+0.1**
KARP				S	**Sb**	**23 31 54.7**	**+0.7**
KARP				AML	AML	23 31 56.6	
	comp=N,4.4nm,0.3s						
KARP				AML	AML	23 31 56.6	
	comp=N,4.4nm,0.3s						
KARP				AML	AML	23 31 56.6	
	comp=N,4.4nm,0.1s						
KARP				AML	AML	23 31 56.6	
	comp=N,4.4nm,0.1s						
DATC	**Datca-Mugla**	**0.64**	**12**	PG	**Pb**	**23 31 44.6**	**-0.3**
DATC				SG	**Sb**	**23 31 54.0**	**0.0**
TURN	**Turunc**	**0.88**	**43**	PG	**Pb**	**23 31 48.8**	**-0.2**
TURN	**Turunc**	**0.88**	**43**	*i* P	**Pg**	**23 31 48.5**	**-0.1**
TURN				*i* S	**Sb**	**23 32 01.1**	**+0.2**
TURN				IAML		23 32 06.0	
	comp=N,228nm,0.4s						
TURN				IAML		23 32 07.0	
	comp=E,266nm,0.4s						
BDRM	**Kayabasi**	**0.94**	**357**	*i* P	**Pg**	**23 31 49.3**	**-0.4**
BDRM				*i* S	**Sb**	**23 32 02.5**	**0.0**
BDRM				IAML		23 32 06.0	
	comp=E,281nm,0.4s						
BDRM				IAML		23 32 06.0	
	comp=N,282nm,0.6s						
BODT	**Bodrum**	**0.94**	**351**	PG	**Pb**	**23 31 50.2**	**+0.1**
DALY	**Dalyan (Mula)**	**1.16**	**53**	PN	**Pg**	**23 31 53.4**	**-0.5**
DALY	**Dalyan (Mula)**	**1.16**	**53**	*i* P	**Pg**	**23 31 52.8**	**-1.1**
DALY				*i* S	**Sn**	**23 32 09.5**	**-0.3**
DALY				IAML		23 32 18.0	
	comp=N,184nm,0.6s						
YER	**Yerkesik**	**1.19**	**32**	PN	**Pb**	**23 31 54.2**	**-0.1**
YER				SN	**Sn**	**23 32 11.8**	**+1.2**
MULA	**Mugla, Merkez-**	**1.31**	**30**	*i* P	**Pn**	**23 31 56.1**	**+0.1**
MULA				*i* S	**Sg**	**23 32 13.6**	**-0.1**
MULA				IAML		23 32 21.0	
	comp=E,154nm,0.6s						
FETY	**Fethiye**	**1.38**	**68**	P	**Pn**	**23 31 56.2**	**-0.7**
FETY	**Fethiye**	**1.38**	**68**	*i* P	**Pn**	**23 31 55.6**	**-1.3**
FETY				*i* S	**Sg**	**23 32 16.2**	**+0.3**
FETY				IAML		23 32 21.0	
	comp=N,106nm,0.6s						
ZKR	**Zakros**	**1.45**	**226**	P	**Pn**	**23 31 58.0**	**0.0**
ZKR				AML	AML	23 32 22.2	
	comp=N,768μm,0.5s						
ZKR				AML	AML	23 32 22.8	
	comp=E,1429μm,0.7s						
ZKR	**Zakros**	**1.45**	**226**	P	**Pn**	**23 31 56.3**	**-1.6**
ZKR				S	**Sn**	**23 32 16.3**	**-0.8**
ZKR	**Zakros**	**1.45**	**226**	PN	**Pb**	**23 31 58.8**	**0.0**
ZKR	**Zakros**	**1.45**	**226**	P	**Pb**	**23 31 58.5**	**-0.2**
ZKR				S	**Sg**	**23 32 19.6**	**+1.2**
AYDN	**Tasoluk**	**1.56**	**11**	*i* P	**Pn**	**23 31 59.6**	**+0.1**
AYDN				*i* S	**Sb**	**23 32 21.3**	**+0.8**
GCAM	**G?zelcaml?**	**1.58**	**352**	PN	**Pb**	**23 32 01.1**	**+0.1**
GCAM	**G?zelcaml?**	**1.58**	**352**	*i* P	**Pg**	**23 32 01.6**	**-0.3**
GCAM				*i* S	**Sg**	**23 32 22.5**	**0.0**
GCAM				IAML		23 32 29.0	
	comp=N,79nm,0.5s						
GCAM				IAML		23 32 30.0	
	comp=E,85nm,0.5s						
SMG	**Samos**	**1.66**	**342**	P	**Pn**	**23 32 00.7**	**-0.1**
AKAS	**Kas**	**1.71**	**86**	PN	**Pn**	**23 32 02.0**	**+0.4**
AKAS	**Kas**	**1.71**	**86**	*i* P	**Pn**	**23 32 01.6**	**0.0**
AKAS				IAML		23 32 35.0	
	comp=N,77nm,1.1s						
TAVA	**DENIZLI_Tavas**	**1.75**	**40**	*i* P	**Pb**	**23 32 03.6**	**-0.3**
TAVA				*i* S	**Sb**	**23 32 26.0**	**0.0**
TAVA				IAML		23 32 29.0	
	comp=E,65nm,0.6s						
TAVA				IAML		23 32 29.0	
	comp=N,77nm,0.6s						
NPS	**Neapolis**	**1.76**	**241**	P	**Pn**	**23 32 01.5**	**-0.7**
NPS	**Neapolis**	**1.76**	**241**	P	**Pn**	**23 32 01.5**	**-0.7**
NPS				S	**Sn**	**23 32 23.5**	**-1.2**
CAEL	**Denizli, Camel**	**1.77**	**55**	*i* P	**Pb**	**23 32 04.3**	**0.0**
CAEL				IAML		23 32 38.0	
	comp=E,198nm,1.1s						
CAEL				IAML		23 32 40.0	
	comp=N,200nm,0.6s						
APE	**Apeiranthos**	**1.84**	**301**	P	**Pn**	**23 32 02.1**	**-1.2**
APE	**Apeiranthos**	**1.84**	**301**	PN	**Pn**	**23 32 04.0**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.84**	**10**	PN	**Pn**	**23 32 04.5**	**+1.1**
GOLH	**Golhisar**	**1.99**	**56**	*i* P	**Pb**	**23 32 07.5**	**-0.6**
GOLH				*i* S	**Sg**	**23 32 35.3**	**-0.4**
GOLH				IAML		23 32 46.0	
	comp=N,97nm,1.0s						
ELL	**Elmali**	**2.04**	**72**	PN	**Pn**	**23 32 07.3**	**+1.1**
IDI	**Anoyia**	**2.28**	**249**	P	**Pn**	**23 32 10.3**	**+0.9**
KORT	**Korkueli**	**2.46**	**68**	PN	**Pn**	**23 32 12.9**	**+1.0**
KORT	**Korkueli**	**2.46**	**68**	*i* P	**Pn**	**23 32 12.5**	**+0.7**
KORT				IAML		23 33 04.0	
	comp=E,44nm,0.7s						
AKMS	**Akamas**	**4.10**	**104**	P	**Pn**	**23 32 35.0**	**+0.7**
AKMS				AML	AML	23 33 23.2	
	comp=E,0.2nm,0.3s						
AKMS				AML	AML	23 33 23.6	
	comp=E,0.2nm,0.3s						
NATA	**Nata**	**4.36**	**107**	P	**Pn**	**23 32 38.8**	**+0.9**
SZAC	**Souni**	**4.61**	**106**	P	**Pn**	**23 32 42.3**	**+1.0**
SZAC				AML	AML	23 33 36.6	
	comp=E,0.2nm,0.4s						
SZAC				AML	AML	23 33 36.6	
	comp=E,0.2nm,0.4s						
SZAC				S	**Sn**	**23 33 36.6**	**+1.7**
SZAC				AML	AML	23 33 37.3	
	comp=E,0.2nm,0.6s						
SZAC				AML	AML	23 33 37.3	
	comp=E,0.2nm,0.6s						
CSS	**Mathiatis**	**4.90**	**102**	P	**Pn**	**23 32 46.0**	**+0.7**
MVOU	**Mavrovouni**	**5.12**	**101**	P	**Pn**	**23 32 48.9**	**+0.5**

IDC ***26*** *23:41:19.8±2.1,6°.10S×76°.23W,h120km±24km,mb3.3/5, mb1 3.5/11,mb1mx3.3/43,mbtmp3.8/11,MS3.1/1, Ms1 3.1/1,ms1mx2.6/15,Error ellipse: s-maj=29.0km s-min=17.7km az=21.0*

ISC 26 23:41:18.3±0.6,6°.08S±0°.07×76°.14W±0°.08,h100km,n16, σ1s83/17,mb3.5/5,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.47**	**245**	P	**Pn**	**23 41 59.4**	**+2.0**
ATAH				S	**Sn**	**23 42 28.3**	**+0.9**
	51nm,0.3s,baz=271,slow=22,SNR=6.8						
NNA	**Nana**	**5.91**	**187**	P	**Pn**	**23 42 44.9**	**+1.5**
	2.6nm,0.3s,baz=308,slow=11,SNR=7.9						
NNA				S	**Sn**	**23 43 46.1**	**-3.7**
	11nm,0.3s,baz=313,slow=8.6,SNR=7.9						
LPAZ	**La Paz**	**12.82**	**143**	P	**Pn**	**23 44 20.2**	**+2.7**
	0.1nm,0.3s,baz=326,slow=7.3,SNR=1.5						
SDV	**Santo Domingo**	**15.85**	**20**	P	**Pn**	**23 44 58.6**	**+2.6**
	0.4nm,0.3s,baz=235,slow=11,SNR=4.5						
PTGA	**Pitinga**	**16.99**	**72**	P			
	0.7nm,0.3s,baz=229,slow=7.3,SNR=4.5						
SIV	**San Ignacio**	**17.75**	**125**	P	**P**	**23 45 18.9**	**+0.2**
	0.1nm,0.3s,baz=306,slow=13,SNR=2.2						
MDP	**Montagnes des**	**25.96**	**65**	LR	LR	23 56 35.2	
	comp=Z,48nm,21.9s,baz=266,slow=35						
ULM	**Lac du Bonnet**	**58.65**	**345**	P	**P**	**23 51 03.4**	**-1.5**
	1.8nm,0.7s,baz=184,slow=8.0,SNR=4.3						
NVAR	**Mina Array Bea**	**59.08**	**322**	P	**P**	**23 51 08.9**	**+0.4**
	0.2nm,0.5s,baz=110,slow=7.8,SNR=2.5						
YKA	**Yellowknife Ar**	**74.44**	**343**	P	**P**	**23 52 44.1**	**-1.1**
	0.5nm,0.7s,baz=138,slow=6.3,SNR=7.9						
TORD	**Torodi Ar. Bea**	**79.61**	**75**	P	**P**	**23 53 14.2**	**-1.0**
	0.8nm,0.7s,baz=276,slow=6.3,SNR=3.9						
ILAR	**Eielson Array**	**87.39**	**336**	P	**P**	**23 53 53.0**	**-1.1**
	0.3nm,0.9s,baz=112,slow=7.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**129.83**	**15**	PKP	**PKPdf**	**00 00 15.7**	**-0.2**
	0.7nm,0.6s,baz=352,slow=2.9,SNR=4.5						
MKAR	**Makanchi Array**	**135.39**	**21**	PKP	**PKPdf**	**00 00 26.1**	**-0.6**
	0.2nm,0.8s,baz=325,slow=2.2,SNR=5.3						
ASAR	**Alice Springs**	**138.35**	**224**	PKP	**PKPdf**	**00 00 30.9**	**-2.1**
	0.3nm,0.7s,baz=147,slow=2.2,SNR=2.5						
WRA	**Warramunga Arr**	**140.41**	**228**	PKP	**PKPdf**	**00 00 35.6**	**-1.1**
	0.5nm,0.8s,baz=126,slow=1.7,SNR=2.0						

NNC 27 00:05:20.6±2.4,38°.76N×70°.11E,h0km,mb3.6,mpv3.1, 3C-3D,Error ellipse: s-maj=22.5km s-min=18.9km az=16.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.35**	**4**	⇑Pn	Pn	00 06 28.8	+0.9
	0.5nm,0.3s,baz=187,slow=13,SNR=21						
KK31				⇓Pg	Pb	00 06 39.7	+1.8
	1.1nm,0.4s,baz=188,slow=18,SNR=4.0						
KK31				⇓Lg	Lg	00 07 39.1	
	11nm,0.8s,baz=177,slow=29,SNR=5.8						
AAK	**Ala-Archa**	**5.11**	**39**	⇓Pn	Pn	00 06 38.6	0.0
	3.9nm,0.8s						
AAK				⇑Lg	Lg	00 08 01.5	
	6.3nm,0.9s						
TKM2	**Tokmak 2**	**5.88**	**43**	⇑Pn	Pn	00 06 48.8	-0.3
	3.6nm,0.8s						
AB31	**Akbulak array**	**12.78**	**328**	P	Pn	00 08 21.8	-1.6
	0.6nm,0.4s,baz=155,slow=11,SNR=27						

NIED ***27*** *00:11:51.3,37°.37N×134°.86E,h403km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.02; Mθθ=0.87; Mφφ=0.89; Mrθ=0.62; Mrφ=0.50; Mθφ=1.55; Fault plane solution: M0 1.95000×10^15 NP1: φs334.00000°,δ89.00000°,λ-121.00000°. NP2: φs243.00000°,δ31.00000°,λ-1.00000°.*

MOS ***27*** *00:11:51.6±0.8,37°.42N×134°.73E,h396km,mb3.9/22 Error ellipse: s-maj=8.0km s-min=6.7km az=79.2*

JMA ***27*** *00:11:51.2±0.1,37°.37N×134°.86E,h403km±2km,M3.7*

BJI ***27*** *00:11:51.1±0.0,37°.37N×134°.65E,h389km,mB4.4/16, mb4.5/29*

NEIC ***27*** *00:11:52.7±1.8,37°.39N±0°.07×134°.79E±0°.09, h391km±7km,mb4.1/128,Error ellipse: s-maj=11.2km s-min=9.2km az=126.0*

IDC ***27*** *00:11:52.3±0.8,37°.38N×134°.72E,h389km±9km,mb3.4/21, mb1 3.6/28,mb1mx3.5/53,mbtmp4.2/28,Error ellipse: s-maj=11.5km s-min=9.4km az=138.0*

ISC 27 00:11:52.7±0.3,37°.34N±0°.04×134°.81E±0°.04,h400km, n269,σ1s20/261,mb4.1/104,10C-6D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**1.62**	**130**	P	**Pn**	**00 12 45.5**	**-1.0**
JKG				*e*S	**S**	**00 13 27.7**	**-2.2**
JOI	**OKI**	**1.63**	**231**	P	**Pn**	**00 12 45.7**	**-0.9**
JHG	**Hegura jima**	**1.75**	**73**	P	**Pn**	**00 12 46.2**	**-0.9**
JSZ	**Suzu**	**2.04**	**86**	P	**Pn**	**00 12 48.1**	**-0.8**
JWT	**Wachi**	**2.11**	**167**	P	**Pn**	**00 12 48.9**	**-0.6**
JWT				S	**S**	**00 13 33.2**	**-2.0**
JWT	**Wachi**	**2.11**	**167**		**Pn**	**00 12 48.8**	**-0.7**
JYTA	**Yamagatataniai**	**2.33**	**138**	P	**Pn**	**00 12 50.0**	**-0.9**
JYTA				S	**S**	**00 13 35.2**	**-2.7**
INU	**Inuyama**	**2.67**	**137**		**Pn**	**00 12 52.2**	**-1.1**
JGF	**Kuroka**	**2.69**	**129**		**Pn**	**00 12 52.5**	**-1.0**
JHS	**Saijyo**	**2.71**	**211**	P	**Pn**	**00 12 53.0**	**-0.7**
JHS				S	**S**	**00 13 41.1**	**-1.9**
JHS	**Saijyo**	**2.71**	**211**		**Pn**	**00 12 53.0**	**-0.7**
JSD	**Sado**	**2.83**	**75**	P	**Pn**	**00 12 53.0**	**-1.5**
JSD	**Sado**	**2.83**	**75**		**Pn**	**00 12 52.9**	**-1.5**
MAJO	**Matsushiro**	**2.84**	**105**	*d* iP	**Pn**	**00 12 53.4**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,148nm,0.9s						
MAJO	**Matsushiro**	**2.84**	**105**		**Pn**	**00 12 53.6**	**-1.0**
MAT	**Matsushiro**	**2.84**	**105**	P	**Pn**	**00 12 53.5**	**-1.2**
MAT				S	**S**	**00 13 43.3**	**-1.4**
MAT	**Matsushiro**	**2.84**	**105**	P	**Pn**	**00 12 53.5**	**-1.2**
MJAR	**Matsushiro Arr**	**2.84**	**105**	P	**Pn**	**00 12 54.1**	**-0.6**
	comp=Z,3.5nm,0.3s,baz=285,slow=9.0,SNR=219						
MJAR	**Matsushiro Arr**	**2.84**	**105**		**Pn**	**00 12 53.8**	**-0.9**
JGT2	**ShimaneMisato**	**2.94**	**220**	P	**Pn**	**00 12 55.0**	**-0.5**
JRY	**Ryogami san**	**3.55**	**111**	P	**Pn**	**00 12 59.2**	**-1.5**
JTNC	**Tanabesakahech**	**3.57**	**169**	P	**Pn**	**00 13 00.0**	**-1.0**
JMN	**Monobe**	**3.68**	**192**	Pn	**Pn**	**00 13 01.5**	**-0.5**
JOD2	**Odawara 2**	**4.03**	**120**	P	**Pn**	**00 13 04.2**	**-0.9**
JOD2				S	**S**	**00 14 01.6**	**-2.3**
JYT	**Yasato**	**4.46**	**103**	Pn	**Pn**	**00 13 07.4**	**-1.9**
JTO	**Tosashimizu**	**4.76**	**201**	P	**Pn**	**00 13 12.0**	**-0.4**
JTO				S	**S**	**00 14 14.6**	**-2.4**
JMM	**Marumori**	**4.78**	**82**	Pn	**Pn**	**00 13 10.9**	**-1.5**
JTU	**Tsushima**	**5.21**	**239**	P	**Pn**	**00 13 15.6**	**-1.3**
JTU	**Tsushima**	**5.21**	**239**	Pn	**Pn**	**00 13 15.9**	**-1.1**
JNU	**Nakatsue**	**5.29**	**219**	P	**Pn**	**00 13 18.0**	**0.0**
	comp=Z,14nm,0.3s,baz=33,slow=2.5,SNR=60						
JNU				S	**S**	**00 14 24.5**	**-2.7**
	baz=317,slow=22,SNR=1.5						
JNU	**Nakatsue**	**5.29**	**219**	Pn	**Pn**	**00 13 17.3**	**-0.6**
JMK	**Ichinoseki**	**5.30**	**70**	P	**Pn**	**00 13 16.0**	**-1.8**
KSRS	**Korea Array**	**5.48**	**273**	P	**Pn**	**00 13 19.9**	**+0.3**
	comp=Z,8.2nm,0.3s,baz=94,slow=12,SNR=150						
KSRS	**Korea Array**	**5.48**	**273**	P	**Pn**	**00 13 20.0**	**+0.3**
KSAR	**Wonju Array Be**	**5.51**	**273**	P	**Pn**	**00 13 19.3**	**-0.7**
KSAR	**Wonju Array Be**	**5.51**	**273**		**Pn**	**00 13 19.3**	**-0.7**
KS19	**Wonju Array Si**	**5.53**	**274**	Pn	**Pn**	**00 13 19.9**	**-0.3**
BSO1	**Boso 1**	**5.67**	**116**	P	**Pn**	**00 13 19.8**	**-1.5**
BSO1				S	**S**	**00 14 30.8**	**-2.6**
JHJ	**Hachijo jima 2**	**5.86**	**134**	S	**S**	**00 14 37.3**	**-0.7**
	comp=Z,10nm,0.3s,baz=62,slow=22,SNR=1.3						
JTM	**Tenmabayashi**	**5.96**	**53**	Pn	**Pn**	**00 13 22.7**	**-2.1**
TJN	**Taejon**	**6.04**	**263**	*i*P	**Pn**	**00 13 25.4**	**-0.4**
INCN	**Inchon**	**6.51**	**274**	P	**Pn**	**00 13 30.6**	**-0.3**
INCN	**Inchon**	**6.51**	**274**		**Pn**	**00 13 30.6**	**-0.3**
JSU	**Suzuyama**	**6.84**	**213**	Pn	**P**	**00 13 34.0**	**-1.3**
USA0B	**Ussuriysk Arra**	**7.18**	**344**	P	**Pn**	**00 13 37.8**	**-0.4**
USA0B	**Ussuriysk Arra**	**7.18**	**344**	Pn	**Pn**	**00 13 37.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**7.18**	**344**	P	**Pn**	**00 13 37.8**	**-0.4**
	baz=153,slow=11,SNR=87						
USRK	**Ussuriysk Ar.**	**7.18**	**344**	P	**Pn**	**00 13 37.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**7.18**	**344**	Pn	**Pn**	**00 13 37.6**	**-0.5**
JEW	**Eniwo**	**7.49**	**41**		**Pn**	**00 13 40.7**	**-1.0**
ERM	**Erimo**	**7.95**	**51**	*de*P	**Pn**	**00 13 44.9**	**-2.1**
ERM				pmax	pmax		
	comp=Z,57nm,0.3s						
ERM	**Erimo**	**7.95**	**51**		**Pn**	**00 13 45.5**	**-1.5**
ASAJ	**Asahikawa**	**8.98**	**39**	P	**P**	**00 13 57.0**	**-1.9**
	comp=Z,55nm,0.3s,baz=234,slow=9.9,SNR=99						
ASAJ				S	S	00 15 33.8	-8.7
	comp=Z,2.8nm,0.3s,baz=40,slow=28,SNR=13						
ASAJ	**Asahikawa**	**8.98**	**39**	P	**P**	**00 13 57.5**	**-1.4**
JKA	**Kamikawa-asahi**	**8.99**	**39**		**P**	**00 13 57.5**	**-1.4**
CN2	**Changchun**	**9.61**	**315**	*e*P	**P**	**00 14 04.5**	**-1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**10.73**	**48**	*de*P	**P**	**00 14 18.6**	**+0.5**
YSS	**Yuzh-Sakhalins**	**11.27**	**29**	*e*P	**P**	**00 14 24.3**	**+0.2**
YSS				*e*S	**S**	**00 16 25.0**	**-4.1**
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				smax	smax		
	comp=N,30μm,0.6s						
YSS	**Yuzh-Sakhalins**	**11.27**	**29**		**P**	**00 14 24.2**	**+0.2**
JOW	**Kunigami**	**11.85**	**210**	P	**Pn**	**00 14 31.2**	**-1.0**
JCJ	**Chichijima**	**11.97**	**146**	P	**P**	**00 14 31.3**	**-0.8**
	comp=N,1.9nm,0.3s,baz=140,slow=22,SNR=0.7						
JCJ				S	S	00 16 34.0	-10
	comp=N,10nm,0.3s,baz=180,slow=18,SNR=1.4						
JCJ	**Chichijima**	**11.97**	**146**	P	**Pn**	**00 14 33.8**	**+0.2**
KLR	**Kul'dur**	**12.09**	**350**	P	**P**	**00 14 31.6**	**-1.6**
	comp=N,0.4nm,0.3s,baz=167,slow=12,SNR=7.2						
KLR	**Kul'dur**	**12.09**	**350**	*e*P	**P**	**00 14 32.5**	**-0.7**
TIA	**Tai'an**	**14.22**	**271**	P	**P**	**00 14 57.0**	**+0.3**
TIA				pmax	pmax		
	comp=N,11nm,0.9s						
BJT	**Baijiatuao**	**14.80**	**286**	P	**P**	**00 15 02.5**	**-0.5**
BJT	**Baijiatuao**	**14.80**	**286**	P	**P**	**00 15 02.5**	**-0.5**
TATO	**Taipei**	**16.77**	**226**	P	**P**	**00 15 24.6**	**+0.4**
YHNB	**Yeheng**	**17.07**	**226**	P	**P**	**00 15 27.3**	**-0.3**
NACB	**Ninganchiao**	**17.33**	**224**	P	**P**	**00 15 27.4**	**-2.8**
SSLB	**Suanglung**	**17.99**	**225**	P	**P**	**00 15 35.7**	**-1.6**
SSLB				IAmb	IAmb	00 15 45.1	
	comp=Z,9.9nm,0.8s						
YULB	**Yu-li**	**18.11**	**224**	P	**P**	**00 15 35.6**	**-2.9**
WHN	**Wuhan**	**18.26**	**254**	P	**P**	**00 15 42.0**	**+2.0**
HHC	**Hu-ho-hao-te**	**18.37**	**288**	*e*P	**P**	**00 15 42.3**	**+1.1**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,94nm,5.5s						
TPUB	**Ta-pu**	**18.56**	**225**	P	**P**	**00 15 41.9**	**-1.3**
XAN	**Xi'an**	**21.26**	**269**	P	**P**	**00 16 07.6**	**-1.1**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN	**Xi'an**	**21.26**	**269**	P	**P**	**00 16 07.6**	**-1.1**
XAN				IAmb	IAmb	00 16 08.8	
	comp=Z,6.7nm,0.8s						
ENH	**Enshi**	**22.15**	**259**	P	**P**	**00 16 15.9**	**-0.9**
PEA0B	**Petropavlovsk-**	**22.40**	**38**	P	**P**	**00 16 19.1**	**+0.3**
PEA0B				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PEA0B	**Petropavlovsk-**	**22.40**	**38**	P	**P**	**00 16 19.1**	**+0.3**
PEA0B				IAmb	IAmb	00 16 30.6	
	comp=Z,9.3nm,0.9s						
PETK	**Petropavlovsk-**	**22.40**	**38**	P	**P**	**00 16 18.7**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=227,slow=7.7,SNR=8.3						
PETK	**Petropavlovsk-**	**22.40**	**38**	P	**P**	**00 16 19.1**	**+0.4**
PETK	**Petropavlovsk-**	**22.40**	**38**	P	**P**	**00 16 19.1**	**+0.4**
ULN	**Ulaanbaatar**	**22.86**	**306**	*e*P	**P**	**00 16 22.5**	**-0.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**23.28**	**306**	P	**P**	**00 16 26.2**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=110,slow=8.0,SNR=6.9						
SONM	**Songino Array**	**23.28**	**306**	P	**P**	**00 16 26.8**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONM	**Songino Array**	**23.28**	**306**		**P**	**00 16 26.8**	**-0.1**
GYA	**Guiyang**	**26.15**	**254**	*e*P	**P**	**00 16 51.5**	**-1.3**
GYA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CD2	**Chengdu**	**26.41**	**265**	P	**P**	**00 16 54.5**	**-0.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
TIXI	**Tiksi**	**34.52**	**357**	⇓*e*P	**P**	**00 18 04.2**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s						
TIXI	**Tiksi**	**34.52**	**357**	P	**P**	**00 18 03.9**	**-0.8**
TIXI				IAmb	IAmb	00 18 04.8	
	comp=Z,5.6nm,0.5s						
BILL	**Bilibino**	**35.38**	**20**	*de*P	**P**	**00 18 12.5**	**+0.4**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s						
BILL	**Bilibino**	**35.38**	**20**	P	**P**	**00 18 12.7**	**+0.6**
BILL				IAmb	IAmb	00 18 13.8	
	comp=Z,5.9nm,0.6s						
DGZ	**Jazzator, Alta**	**35.93**	**305**	⇑*e*P	**P**	**00 18 16.9**	**-0.2**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WMQ	**Urumqi**	**35.97**	**295**	*e*P	**P**	**00 18 19.3**	**+1.9**
CHTO	**Chiang Mai**	**36.35**	**249**	P	**P**	**00 18 21.3**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CHTO	**Chiang Mai**	**36.35**	**249**	P	**P**	**00 18 21.3**	**+0.5**
CHTO				IAmb	IAmb	00 18 21.9	
	comp=Z,7.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**36.57**	**249**	P	**P**	**00 18 23.1**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=46,slow=7.7,SNR=17						
CMAR	**Chiang Mai Arr**	**36.57**	**249**	*ce*P	**P**	**00 18 23.3**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ADK	**Adak**	**36.75**	**51**	P	**P**	**00 18 24.3**	**+0.6**
ADK				pmax	pmax		
	comp=Z,42nm,1.2s						
ADK	**Adak**	**36.75**	**51**	P	**P**	**00 18 24.3**	**+0.6**
ZAA0	**Zalesovo Array**	**37.81**	**312**	P	**P**	**00 18 32.0**	**-0.4**
ZALV	**Zalesovo Beam**	**37.81**	**312**	P	**P**	**00 18 31.7**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=114,slow=6.4,SNR=4.0						
ZALV				ScP	**ScP**	**00 23 48.5**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=90,slow=2.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**37.81**	**312**		**P**	**00 18 31.4**	**-1.0**
TOLI2	**Tol

TOLK	**Toolik Lake Re**	**50.62**	**27**	P		**P**	**00 20 13.3**	**+1.0**
TRF	**Thorofare Moun**	**50.74**	**34**	P		**P**	**00 20 15.5**	**+2.0**
SUA	**Susitna One**	**50.77**	**37**	P		**P**	**00 20 14.2**	**+0.5**
SUA				IAmb		IAmb	00 20 16.6	
	comp=Z,10nm,0.9s							
CNPM	**China Poot**	**50.81**	**39**	P		**P**	**00 20 13.4**	**-0.5**
CNPM				IAmb		IAmb	00 20 16.6	
	comp=Z,15nm,0.9s							
CUT	**Chuiitna**	**50.88**	**35**	P		**P**	**00 20 15.3**	**+1.1**
BRLK	**Bradley Lake**	**50.95**	**39**	P		**P**	**00 20 16.1**	**+1.2**
I23K	**Minto, Yukon-K**	**50.96**	**32**	P		**P**	**00 20 16.3**	**+1.5**
NEA2	**Nenana**	**51.15**	**33**	P		**P**	**00 20 17.3**	**+1.0**
NEA2				IAmb		IAmb	00 20 18.7	
	comp=Z,7.5nm,1.1s							
MCK	**McKinley**	**51.31**	**34**	IAmb		IAmb	00 20 20.3	
	comp=Z,5.6nm,0.6s							
RC01	**Rabbit Creek A**	**51.31**	**37**	P		**P**	**00 20 18.2**	**+0.7**
RND	**Reindeer**	**51.39**	**34**	P		**P**	**00 20 19.5**	**+1.4**
RND				pmax		pmax		
	comp=Z,9.0nm,1.0s							
RND	**Reindeer**	**51.39**	**34**	P		**P**	**00 20 19.5**	**+1.4**
RND				IAmb		IAmb	00 20 20.3	
	comp=Z,8.9nm,1.0s							
MDM	**Murphy Dome**	**51.46**	**32**	P		**P**	**00 20 20.4**	**+1.8**
MDM				IAmb		IAmb	00 20 20.7	
	comp=Z,7.1nm,0.8s							
WRH	**Wood River Hil**	**51.58**	**33**	P		**P**	**00 20 20.5**	**+1.1**
GHO	**Glory Hole Cre**	**51.59**	**36**	P		**P**	**00 20 21.0**	**+1.4**
GHO				IAmb		IAmb	00 20 22.5	
	comp=Z,11nm,0.9s							
SEW	**Seward**	**51.61**	**38**	P		**P**	**00 20 20.3**	**+0.6**
SEW				IAmb		IAmb	00 20 31.1	
	comp=Z,16nm,1.0s							
COEN	**Coen**	**51.63**	**170**	P		**P**	**00 20 21.7**	**+1.3**
COLA	**College**	**51.63**	**32**⇑	*e*P		**P**	**00 20 21.0**	**+1.2**
COLA				*i* *PP		**pP**	**00 21 37.6**	**-2.5**
COLA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
POKR	**Poker Plat Res**	**51.78**	**32**	IAmb		IAmb	00 20 23.5	
	comp=Z,11nm,0.8s							
SML	**Sawmill**	**51.86**	**36**	P		**P**	**00 20 22.6**	**+1.0**
SML				IAmb		IAmb	00 20 34.4	
	comp=Z,12nm,1.0s							
KNK	**Knik Glacier**	**51.87**	**37**	P		**P**	**00 20 22.9**	**+1.3**
KNK				IAmb		IAmb	00 20 23.9	
	comp=Z,10nm,0.8s							
PWL	**Port Wells**	**52.02**	**37**	P		**P**	**00 20 23.6**	**+0.8**
IL31		**52.05**	**32**	IAmb		IAmb	00 20 25.8	
	comp=Z,3.7nm,0.5s							
ILAR	**Eielson Array**	**52.05**	**32**	P		**P**	**00 20 23.4**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=266,slow=6.0,SNR=59							
ILAR	**Eielson Array**	**52.05**	**32**	P		**P**	**00 20 23.1**	**+0.2**
SCM	**Sheep Creek Mo**	**52.33**	**36**	P		**P**	**00 20 26.4**	**+1.4**
SCM				pmax		pmax		
	comp=Z,11nm,0.6s							
SCM	**Sheep Creek Mo**	**52.33**	**36**	P		**P**	**00 20 26.4**	**+1.4**
KBL	**Kabul**	**52.34**	**288**	P		**P**	**00 20 25.6**	**-0.1**
KBL				pmax		pmax		
	comp=Z,3.0nm,0.6s							
KBL	**Kabul**	**52.34**	**288**	P		**P**	**00 20 25.6**	**-0.1**
ARU	**Arti**	**52.59**	**317**⇑	*e*P		**P**	**00 20 26.5**	**-0.4**
ARU	**Arti**	**52.59**	**317**	P		**P**	**00 20 26.9**	**-0.1**
ARU				IAmb		IAmb	00 20 27.3	
	comp=Z,5.6nm,0.5s							
BMAR	**Burnt Mountain**	**52.60**	**29**	P		**P**	**00 20 29.2**	**+2.3**
M24K	**Tolsona, Glenn**	**52.81**	**35**	P		**P**	**00 20 29.8**	**+1.3**
M24K				IAmb		IAmb	00 20 42.3	
	comp=Z,16nm,0.9s							
FID	**Port Fidalgo**	**52.94**	**37**	P		**P**	**00 20 30.0**	**+0.7**
PAX	**Paxson**	**52.97**	**34**	P		**P**	**00 20 30.6**	**+0.9**
PAX				pmax		pmax		
	comp=Z,3.0nm,1.1s							
PAX	**Paxson**	**52.97**	**34**	P		**P**	**00 20 30.6**	**+0.9**
HIN	**Hinchinbrook I**	**53.00**	**38**	P		**P**	**00 20 31.1**	**+1.3**
KLU	**Klutina**	**53.05**	**36**	P		**P**	**00 20 31.5**	**+1.2**
SCRK	**Sand Creek**	**53.43**	**33**	IAmb		IAmb	00 20 34.5	
	comp=Z,10nm,0.7s							
DOT	**Dot Lake**	**53.47**	**33**	P		**P**	**00 20 33.9**	**+0.7**
DOT				IAmb		IAmb	00 20 34.8	
	comp=Z,6.8nm,1.0s							
N25K	**Chitina, Valde**	**53.65**	**36**	P		**P**	**00 20 36.2**	**+1.7**
N25K				IAmb		IAmb	00 20 41.4	
	comp=Z,14nm,1.1s							
ABKAR	**Akbulak array**	**53.66**	**308**	P		**P**	**00 20 34.6**	**-0.1**
ABKAR	**Akbulak array**	**53.66**	**308**	IAmb		IAmb	00 20 34.6	
	comp=Z,3.9nm,0.4s							
MENT	**Mentasta**	**53.76**	**34**	P		**P**	**00 20 37.1**	**+1.9**
BMRM	**Bremner River**	**53.79**	**37**	P		**P**	**00 20 37.5**	**+2.0**
BMRM				IAmb		IAmb	00 20 41.9	
	comp=Z,10nm,1.0s							
GLB	**Gilahina Butte**	**54.05**	**36**	P		**P**	**00 20 38.5**	**+1.1**
K27K	**Chicken**	**54.24**	**33**	IAmb		IAmb	00 20 41.1	
	comp=Z,9.1nm,0.8s							
VRDI	**Verde Repeater**	**54.27**	**36**	P		**P**	**00 20 40.1**	**+1.0**
VRDI				IAmb		IAmb	00 20 41.8	
	comp=Z,14nm,1.2s							
MCARA	**McCarthy VSAT**	**54.43**	**36**	P		**P**	**00 20 41.9**	**+1.9**
MCARA				IAmb		IAmb	00 20 42.5	
	comp=Z,13nm,0.9s							
EGAK	**Eagle**	**54.47**	**32**	P		**P**	**00 20 40.7**	**+0.5**
CRQM	**Cirque**	**54.53**	**37**	P		**P**	**00 20 41.9**	**+1.0**
CRQM				IAmb		IAmb	00 20 51.1	
	comp=Z,10.0nm,1.0s							
L27K	**Beaver Creek,**	**54.58**	**34**	P		**P**	**00 20 43.3**	**+2.2**
L27K				IAmb		IAmb	00 20 43.8	
	comp=Z,9.8nm,0.7s							
BCAR	**Beaver Creek A**	**54.59**	**34**	P		**P**	**00 20 43.0**	**+1.8**
BARN	**Barnard Glacie**	**55.15**	**36**	P		**P**	**00 20 46.9**	**+1.6**
GRNC	**Granite Creek**	**55.20**	**36**	P		**P**	**00 20 46.7**	**+1.0**
GRNC				IAmb		IAmb	00 20 47.9	
	comp=Z,9.5nm,1.0s							
YAH	**Yahtse**	**55.30**	**37**	P		**P**	**00 20 48.0**	**+1.6**
CTGM	**Chitina Glacie**	**55.33**	**36**	P		**P**	**00 20 48.1**	**+1.6**
DAWY	**Dawson**	**55.38**	**32**	P		**P**	**00 20 48.2**	**+1.5**
LOGN	**Logan Glacier**	**55.53**	**36**	P		**P**	**00 20 48.5**	**+0.6**
LOGN				IAmb		IAmb	00 20 49.2	
	comp=Z,12nm,1.2s							
EPYK	**Eagle Plains**	**55.86**	**29**	P		**P**	**00 20 51.5**	**+1.5**
INK	**Inuvik**	**56.49**	**26**	IAmb		IAmb	00 20 55.5	
	comp=Z,3.5nm,0.5s							
WB0	**Warramunga Arr**	**56.80**	**180**	P		**P**	**00 20 57.7**	**+0.5**
WRA	**Warramunga Arr**	**56.98**	**181**	P		**P**	**00 20 58.6**	**+0.3**
	comp=Z,7.4nm,0.5s,baz=355,slow=7.8,SNR=5.7							
WRA	**Warramunga Arr**	**56.98**	**181**	P		**P**	**00 20 59.2**	**+0.9**
WRA	**Warramunga Arr**	**56.98**	**181**	P		**P**	**00 20 59.2**	**+0.9**
WR0	**Warramunga Arr**	**56.99**	**180**	P		**P**	**00 20 59.1**	**+0.7**
WR0				IAmb		IAmb	00 21 02.7	
	comp=Z,9.5nm,0.8s							
HYT	**Haines Junctio**	**57.16**	**36**	P		**P**	**00 21 01.5**	**+2.2**
HYT				IAmb		IAmb	00 21 02.4	
	comp=Z,5.3nm,0.7s							
PALK	**Pallekele**	**57.35**	**253**	P		**P**	**00 21 01.9**	**+0.7**
PALK				pmax		pmax		
	comp=Z,9.0nm,1.0s							
PALK	**Pallekele**	**57.35**	**253**	P		**P**	**00 21 01.9**	**+0.7**
PALK				IAmb		IAmb	00 21 18.1	
	comp=Z,8.6nm,1.0s							
HRA	**Herat**	**57.52**	**291**	P		**P**	**00 21 02.8**	**+0.5**
WHY	**Whitehorse**	**58.43**	**35**	P		**P**	**00 21 10.1**	**+2.1**
WHY				IAmb		IAmb	00 21 10.2	
	comp=Z,4.5nm,0.7s							
GEYT	**Alibeck**	**59.02**	**296**	P		**P**	**00 21 11.7**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=46,slow=8.3,SNR=4.4							
GEYT	**Alibeck**	**59.02**	**296**	IAmb		IAmb	00 21 13.3	
	comp=Z,1.7nm,0.8s							
PSA00	**Pilbara Seismi**	**60.27**	**196**	P		**P**	**00 21 20.8**	**+0.1**
PSA00				IAmb		IAmb	00 21 21.7	
	comp=Z,10nm,1.0s							
PSA00	**Pilbara Seismi**	**60.27**	**196**	P		**P**	**00 21 20.7**	**0.0**
PSA00				IAmb		IAmb	00 21 29.1	
	comp=Z,3.6nm,0.7s							
EUNU	**Eureka**	**60.62**	**8**	P		**P**	**00 21 22.5**	**+0.1**
ASAR	**Alice Springs**	**60.69**	**181**	P		**P**	**00 21 24.4**	**+0.9**
	comp=Z,2.2nm,0.5s,baz=1.2,slow=6.5,SNR=5.8							
CRAG	**Craig**	**61.31**	**40**	P		**P**	**00 21 28.7**	**+1.5**
ARCES	**ARCESS Array B**	**61.79**	**338**	P		**P**	**00 21 30.5**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=64,slow=8.2,SNR=2.0							
RES	**Resolute Bay**	**63.56**	**13**	P		**P**	**00 21 42.1**	**+0.5**
RES				pmax		pmax		
	comp=Z,3.0nm,0.8s							
RES	**Resolute Bay**	**63.56**	**13**	P		**P**	**00 21 42.1**	**+0.5**
RES				IAmb		IAmb	00 21 42.7	
	comp=Z,3.2nm,0.8s							
FINES	**FINESS Array B**	**66.00**	**330**	P		**P**	**00 21 57.5**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=44,slow=8.2,SNR=5.1							
YKA	**Yellowknife Ar**	**66.12**	**28**	P		**P**	**00 21 58.8**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=308,slow=6.3,SNR=22							
KBZ	**Khabaz**	**66.62**	**308**	P		**P**	**00 22 01.3**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=26,slow=3.9,SNR=6.1							
KBZ	**Khabaz**	**66.62**	**308**⇑	*e*P		**P**	**00 21 59.8**	**-1.8**
KBZ				pmax		pmax		
	comp=Z,7.0nm,2.5s							
AKASG	**Malin Array Be**	**70.73**	**320**	P		**P**	**00 22 26.4**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=49,slow=6.7,SNR=8.4							
AKASG	**Malin Array Be**	**70.73**	**320**	*ce*P		**P**	**00 22 26.3**	**-0.2**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**70.73**	**320**	IAmb		IAmb	00 22 27.2	
	comp=Z,0.6nm,0.7s							
NOA	**NORSAR Array B**	**71.76**	**335**	P		**P**	**00 22 32.4**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=46,slow=7.7,SNR=1.4							
NWAO	**Narrogin (SRO)**	**71.80**	**196**	P		**P**	**00 22 33.4**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=8.2,slow=5.5,SNR=1.7							
JTMT	**Jette**	**75.30**	**41**	P		**P**	**00 22 55.4**	**+2.1**
JTMT				IAmb		IAmb	00 22 55.8	
	comp=Z,4.0nm,0.7s							
BMO	**Blue Mountains**	**75.50**	**44**	IAmb		IAmb	00 22 56.7	
	comp=Z,3.0nm,0.7s							
CRVS	**Cervenica-Dubn**	**75.80**	**321**	*e*P		P	00 22 48.5	-7.3
CRVS	**Cervenica-Dubn**	**75.80**	**321**	*e*P		P	00 22 48.5	-7.3
FCC	**Fort Churchill**	**75.97**	**24**	IAmb		IAmb	00 22 58.2	
	comp=Z,3.6nm,0.7s							
FFC	**Flin Flon**	**76.19**	**30**	P		**P**	**00 22 58.7**	**+0.8**
FFC				pmax		pmax		
	comp=Z,4.0nm,0.7s							
FFC	**Flin Flon**	**76.19**	**30**	P		**P**	**00 22 58.7**	**+0.8**
FFC				IAmb		IAmb	00 22 59.1	
	comp=Z,4.1nm,0.7s							
MFID	**Camas Ranch**	**77.23**	**45**	P		**P**	**00 23 05.4**	**+1.4**
MFID				IAmb		IAmb	00 23 06.5	
	comp=Z,3.4nm,0.7s							
PAHR	**Pah Rah Range**	**77.48**	**49**	IAmb		IAmb	00 23 07.8	
	comp=Z,5.9nm,1.1s							
CMB	**Columbia Colle**	**77.89**	**51**	P		**P**	**00 23 09.5**	**+1.8**
CMB				pmax		pmax		
	comp=Z,3.0nm,1.0s							
CMB	**Columbia Colle**	**77.89**	**51**	P		**P**	**00 23 09.5**	**+1.8**
CMB				IAmb		IAmb	00 23 09.9	
	comp=Z,3.2nm,1.0s							
HLID	**Hailey**	**77.92**	**44**	IAmb		IAmb	00 23 10.7	
	comp=Z,3.3nm,1.0s							
KVN	**Kaiserville**	**78.67**	**49**	P		**P**	**00 23 14.1**	**+2.1**
KVN				pmax		pmax		
	comp=Z,6.0nm,1.2s							
KVN	**Kaiserville**	**78.67**	**49**	P		**P**	**00 23 14.1**	**+2.1**
KVN				IAmb		IAmb	00 23 14.5	
	comp=Z,6.3nm,1.2s							
YHL	**Hebgen Lake**	**78.82**	**41**	IAmb		IAmb	00 23 15.6	
	comp=Z,4.8nm,0.9s							
YHB	**Horse Butte**	**78.88**	**42**	P		**P**	**00 23 11.3**	**-1.9**
NVAR	**Mina Array Bea**	**78.93**	**50**	P		**P**	**00 23 15.2**	**+1.7**
	comp=Z,1.8nm,0.7s,baz=287,slow=5.3,SNR=16							
GCMT	**Greycliff**	**78.98**	**40**	P		**P**	**00 23 13.0**	**-0.5**
YHH	**Holmes Hill**	**79.04**	**41**	P		**P**	**00 23 14.7**	**+0.7**
YHH				IAmb		IAmb	00 23 16.6	
	comp=Z,3.1nm,1.1s							
H17A	**Grant Village**	**79.45**	**42**	P		**P**	**00 23 19.3**	**+3.1**
GERES	**GERESS Array B**	**79.55**	**325**	P		**P**	**00 23 16.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=38,slow=6.7,SNR=2.0							
GERES	**GERESS Array B**	**79.55**	**325**	P		**P**	**00 23 17.0**	**+0.5**
RLMT	**Red Lodge**	**79.64**	**40**	IAmb		IAmb	00 23 20.3	
	comp=Z,3.4nm,0.6s							
TPH	**Tonopah**	**79.81**	**50**	P		**P**	**00 23 20.0**	**+1.8**
TPH				pmax		pmax		
	comp=Z,22nm,1.1s							
TPH	**Tonopah**	**79.81**	**50**	P		**P**	**00 23 20.0**	**+1.8**
PD31	**Pinedale Array**	**81.10**	**42**	P		**P**	**00 23 25.5**	**+0.6**
PDAR	**Pinedale Array**	**81.10**	**42**	P		**P**	**00 23 25.9**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=299,slow=0.9,SNR=10							
PDAR	**Pinedale Array**	**81.10**	**42**	P		**P**	**00 23 25.6**	**+0.7**
TPNV	**Topopah Spring**	**81.13**	**50**	IAmb		IAmb	00 23 29.3	
	comp=Z,2.8nm,0.9s							
ULM	**Lac du Bonnet**	**82.02**	**30**	P		**P**	**00 23 29.1**	**-0.1**
	comp=Z,6.2nm,0.9s,baz=309,slow=5.7,SNR=12							
B35A	**Bob, Littlefor**	**84.37**	**30**	IAmb		IAmb	00 23 43.0	
	comp=Z,3.9nm,0.8s							
TXAR	**Lajitas Array**	**93.99**	**48**	P		**P**	**00 24 28.4**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=294,slow=3.4,SNR=8.8							
LPAZ	**La Paz**	**150.84**	**50**	PKPbc		**PKiKP**	**00 31 00.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=334,slow=1.5,SNR=2.7							

*IDC **27** 00:13:30.5±0.9, 8.31°S×122.90°E, h179km±12km, mb3.3/5, mb1 3.8/10, mb1mx3.5/32, mbtmp4.1/10, Error ellipse: s-maj=53.7km s-min=9.8km az=57.0*
*DJA **27** 00:13:31.3±0.2, 8.3°S±3.1°×122.3°E±0.1°, h185km±3km, M4.4/13, mb4.5/13, mB5.2/7, MLv4.4/12, Mw(mB)4.5/7*
*NEIC **27** 00:13:34.1±2.2, 9.9°S±0.2°×122.3°E±0.1°, h95km±26km, mb4.1/9, Error ellipse: s-maj=29.3km s-min=12.3km az=202.0*

ISC 27 00:13:30.5±0.7, 8.47°S±0.06°×122.90°E±0.05, h196km±7km, n41, σ1.87/52, mb3.7/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.68**	**256**		**Pn**	**00 13 58.5**	**+0.6**
MMRI	**Maumere**	**0.68**	**256**	P	**Pn**	**00 13 58.6**	**+0.6**
MMRI				S	**Sn**	**00 14 18.7**	**-0.4**
EDFI	**Ende, Flores**	**1.23**	**257**	P	**Pn**	**00 14 02.8**	**+1.1**
SOEI	**Soe**	**1.86**	**133**		**Pn**	**00 14 07.6**	**+0.1**
SOEI	**Soe**	**1.86**	**133**	P	**Pn**	**00 14 07.6**	**+0.1**
SOEI				S	**Sn**	**00 14 35.3**	**-0.9**
BATI	**Baumata**	**1.88**	**156**	P	**Pn**	**00 14 08.8**	**+1.1**
	241nm,0.3s,baz=319,slow=0.9,SNR=146						
BATI				S	**Sn**	**00 14 37.3**	**+0.8**
	145nm,0.3s,baz=305,slow=23,SNR=6.0						
BATI	**Baumata**	**1.88**	**156**	P	**Pn**	**00 14 08.6**	**+1.0**
BATI				S	**Sn**	**00 14 37.6**	**+1.1**
WSI	**Waingapu**	**2.83**	**245**	P	**Pn**	**00 14 19.6**	**+1.6**
BASI	**Baing, Sumba**	**2.88**	**233**	P	**Pn**	**00 14 19.3**	**+0.8**
BASI				S	**Sn**	**00 14 56.6**	**+0.6**
KAPI	**Kappang**	**4.64**	**317**	P	**Pn**	**00 14 39.6**	**-0.8**
	2.6nm,0.3s,baz=143,slow=8.7,SNR=12						
KAPI				S	**Sn**	**00 15 31.1**	**-4.1**
	2.7nm,0.3s,baz=121,slow=18,SNR=1.7						
BNSI	**Bone**	**4.91**	**325**	P	**Pn**	**00 14 44.7**	**+1.0**
PLAI	**Plampang**	**5.08**	**266**	P	**Pn**	**00 14 46.7**	**+0.8**
	1.1nm7μm157nm,0.5s						
PLAI				S	**Sn**	**00 15 45.6**	**+0.4**
	1.1nm7μm157nm,0.5s						
TWSI	**Taliwang, Sumb**	**5.96**	**267**	P	**Pn**	**00 14 57.9**	**+0.7**
	0.3nm820nm37nm,0.7s						
TWSI				S	**Sn**	**00 16 04.3**	**-1.4**
	0.3nm820nm37nm,0.7s						
SANI	**Sanana**	**7.08**	**26**	P	**Pn**	**00 15 12.8**	**+0.9**
	0.1nm24nm,1.2s						
SRBI	**Singaraja**	**7.62**	**272**	P	**Pn**	**00 15 18.7**	**-0.2**
	0.2nm33nm,0.5s						
SAUI	**Saumlaki**	**8.33**	**87**	P	**Pn**	**00 15 26.1**	**-2.1**
	9μm261nm,0.7s						
ABJI	**Asem Bagus**	**8.61**	**274**	P	**Pn**	**00 15 34.1**	**+2.3**
	31nm,1.0s						
JAGI	**Jajag, Banyuwa**	**8.65**	**269**	Pn	**Pn**	**00 15 30.5**	**-1.9**
JAGI	**Jajag, Banyuwa**	**8.65**	**269**	P	**Pn**	**00 15 32.1**	**-0.3**
	21nm,0.4s						
KMMI	**Kalianget**	**8.96**	**278**	P	**Pn**	**00 15 38.9**	**+2.5**
	3μm25nm,0.8s						
MTN	**Manton Dam**	**9.18**	**119**	Pn	**Pn**	**00 15 38.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**9.93**	**165**	P	**Pn**	**00 15 49.5**	**+0.5**
	6.8nm,0.3s,baz=6.4,slow=9.3,SNR=101						
FITZ				S	**Sn**	**00 17 34.9**	**-5.2**
	4.0nm,0.3s,baz=122,slow=12,SNR=7.1						
UGM	**Wanagama**	**12.26**	**272**	Pn	**Pn**	**00 16 19.9**	**+0.8**
WB0	**Warramunga Ar**	**15.81**	**136**	Pn	**Pn**	**00 17 03.9**	**+1.0**
WB0				IAmb	IAmb	00 17 17.1	
	comp=Z,6.3nm,0.6s						
WRA	**Warramunga Arr**	**15.89**	**137**	P	**Pn**	**00 17 04.0**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=313,slow=12,SNR=30						
WRA				S	**S**	**00 19 53.1**	**-7.2**
	comp=Z,2.7nm,0.3s,baz=306,slow=22,SNR=9.5						
WRA	**Warramunga Arr**	**15.89**	**137**		**Pn**	**00 17 04.5**	**+0.6**
WB2	**Warramunga Arr**	**15.90**	**137**	Pn	**Pn**	**00 17 04.5**	**+0.5**
WR0	**Warramunga Arr**	**16.04**	**137**	Pn	**Pn**	**00 17 05.8**	**+0.1**
WR0				IAmb	IAmb	00 17 07.6	
	comp=Z,20nm,1.1s						
AS31	**Alice Springs**	**18.42**	**146**		**Pn**	**00 17 33.6**	**-0.2**
AS31				IAmb	IAmb	00 17 36.9	
	comp=Z,5.5nm,0.5s						
ASAR	**Alice Springs**	**18.42**	**146**	P	**Pn**	**00 17 34.1**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=328,slow=12,SNR=71						
ASAR				S	**S**	**00 20 52.1**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=317,slow=22,SNR=10						
ASAR	**Alice Springs**	**18.42**	**146**		**Pn**	**00 17 33.9**	**0.0**
MORW	**Morawa**	**21.48**	**197**	P	**P**	**00 18 04.5**	**+0.6**
MORW				IAmb	IAmb	00 18 08.2	
	comp=Z,7.9nm,0.9s						
FORT	**Forrest**	**22.71**	**168**	P	**P**	**00 18 13.5**	**-2.1**
NWAO	**Narrogin (SRO)**	**24.89**	**191**	P	**P**	**00 18 35.2**	**-0.2**
NWAO				IAmb	IAmb	00 18 39.6	
	comp=Z,9.1nm,1.0s						
BBOO	**Buckleboo**	**27.11**	**155**	P	**P**	**00 18 57.9**	**+2.5**
STKA	**Stephens Creek**	**29.06**	**146**	P	**P**	**00 19 15.4**	**+2.7**
	comp=Z,1.7nm,0.6s,baz=333,slow=9.0,SNR=3.0						
USRK	**Ussuriysk Ar.**	**53.07**	**8**	P	**P**	**00 22 28.7**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=197,slow=6.6,SNR=4.5						
SONM	**Songino Array**	**57.94**	**347**	P	**P**	**00 23 01.9**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=144,slow=4.2,SNR=2.8						
MKAR	**Makanchi Array**	**65.82**	**331**	P	**P**	**00 23 55.9**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=117,slow=7.7,SNR=8.5						
ZALV	**Zalesovo Beam**	**69.99**	**337**	P	**P**	**00 24 20.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=123,slow=5.3,SNR=1.8						
TORD	**Torodi Ar. Bea**	**122.16**	**280**	PKP	**PKiKP**	**00 32 06.4**	**+3.3**
	comp=Z,0.3nm,0.6s,baz=76,slow=2.7,SNR=1.9						

*HEL **27** 00:23:13.7, 67.83N×20.17E, h0km, ML1.9, Explosion*
UPP 27 00:23:13.4±0.0, 67.85N×20.20E, h0km, ML2.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**26**	P	Pg	00 23 15.9	+0.2
KUA				S	Sg	00 23 17.8	+0.5
KUA	**Kurravaara**	**0.12**	**26**	*i* P	Pg	00 23 15.9	+0.2
KUA				*i* S	Sg	00 23 17.8	+0.5
RATU	**Laukkuluspa**	**0.23**	**265**	P	Pg	00 23 18.0	+0.2
RATU	**Laukkuluspa**	**0.23**	**265**	*i* P	Pg	00 23 18.0	+0.2
KOVU	**Salmi**	**0.38**	**358**	P	Pg	00 23 20.6	0.0
KOVU	**Salmi**	**0.38**	**358**	*i* P	Pg	00 23 20.6	0.0
NIKU	**Nikkaluokta**	**0.44**	**273**	P	Pg	00 23 21.9	+0.1
NIKU	**Nikkaluokta**	**0.44**	**273**	*i* P	Pg	00 23 21.9	+0.1
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 23 26.8	-0.1
LANU	**Lannavaara**	**0.71**	**72**	*e*P	Pg	00 23 26.7	-0.2
LANU				*e*S	Sg	00 23 36.1	+0.1
DUNU	**Dundret**	**0.74**	**169**	P	Pg	00 23 27.2	-0.3
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	00 23 27.2	-0.3
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	00 23 28.4	-0.2
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	00 23 28.4	-0.2
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pg	00 23 36.1	0.0
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*PB	Pg	00 23 36.0	-0.1
KIF				MSG		00 23 51.3	
	comp=Z,14nm,0.2s						
KIF				*e*SB	Sg	00 23 52.0	+0.6
PAJU	**Pajala**	**1.40**	**125**	P	Pg	00 23 38.9	-1.2
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pg	00 23 38.8	-1.3
PAJU				*e*SB	Sg	00 23 57.5	-0.6
HEF	**Hetta**	**1.42**	**65**	*e*P	Pn	00 23 38.7	-1.7
HEF	**Hetta**	**1.42**	**65**	*e*P	Pn	00 23 39.3	-1.1
HEF				MSG		00 23 56.7	
	comp=Z,9.6nm,0.2s						
HEF				*e*SB	Sg	00 23 57.7	-1.1
HARU	**Harads**	**1.72**	**169**	P	Pn	00 23 44.7	+0.2
HARU	**Harads**	**1.72**	**169**	*e*P

MTVZ	**Mangateitei**	**2.87**	**50**	P		Pn	00 24 14.3	-0.3
ARCZ	**Arundel**	**2.89**	**201**	P		Pn	00 24 14.0	-0.7
TRVZ	**Turoa**	**2.98**	**50**	P		Pn	00 24 15.7	-0.2
WNVZ	**Wahianoa**	**2.98**	**51**	P		Pn	00 24 15.2	-0.8
FWVZ	**Far West T-bar**	**3.01**	**49**	P		Pn	00 24 15.7	-0.6
WHVZ	**Whangaehu Hut**	**3.01**	**50**	P		Pn	00 24 16.6	+0.2
MOVZ	**Moawhango**	**3.03**	**53**	P		Pn	00 24 15.3	-1.1
ANWZ	**Angora Road**	**3.03**	**76**	P		Pn	00 24 16.5	+0.2
PNHZ	**Pukenui**	**3.04**	**65**	P		Pn	00 24 16.1	-0.4
TUVZ	**Tukino**	**3.06**	**50**	P		Pn	00 24 16.0	-0.9
TWVZ	**Taurewa**	**3.07**	**46**	P		Pn	00 24 15.9	-1.1
FOZ	**Fox Glacier**	**3.08**	**222**	P		Pn	00 24 15.6	-1.2
NGZ	**Ngauruhoe**	**3.09**	**49**	P		Pn	00 24 16.5	-0.7
WTVZ	**West Tongariro**	**3.12**	**48**	P		Pn	00 24 16.5	-1.0
OTVZ	**Oturere**	**3.13**	**49**	P		Pn	00 24 16.8	-1.0
WPHZ	**Waipukurau**	**3.14**	**69**	P		Pn	00 24 17.6	-0.1
KRVZ	**Karewarewa**	**3.17**	**48**	P		Pn	00 24 16.8	-1.3
BHHZ	**Black Hill Sta**	**3.17**	**57**	P		Pn	00 24 17.1	-0.9
ETVZ	**East Tongariro**	**3.18**	**49**	P		Pn	00 24 17.2	-1.0
TMVZ	**Te Maari**	**3.19**	**49**	P		Pn	00 24 17.7	-0.7
PRHZ	**Porangahau**	**3.21**	**73**	P		Pn	00 24 18.6	+0.2
HIZ	**Hauiti**	**3.24**	**33**	P		Pn	00 24 17.5	-1.3
KATZ	**Kakaramea**	**3.28**	**47**	P		Pn	00 24 18.5	-0.9
KRHZ	**Kereru**	**3.29**	**62**	P		Pn	00 24 18.7	-0.6
TMZ	**Timaru**	**3.34**	**200**	P		Pn	00 24 19.4	-0.5
RATZ	**Rangitukua**	**3.40**	**46**	P		Pn	00 24 20.1	-0.7
KWHZ	**Kaweka Forest**	**3.44**	**59**	P		Pn	00 24 20.4	-0.8
PXZ	**Pawanui**	**3.45**	**71**	P		Pn	00 24 21.3	0.0
KAHZ	**Kahuranaki**	**3.56**	**67**	P		Pn	00 24 22.6	-0.1
LBZ	**Lake Benmore**	**3.60**	**209**	P		Pn	00 24 21.8	-1.3
MCHZ	**McNeill Hill**	**3.60**	**61**	P		Pn	00 24 22.8	-0.4
BKZ	**Black Stump Fm**	**3.63**	**56**	P		Pn	00 24 22.2	-1.4
TLZ	**Tolley Road**	**3.69**	**38**	P		Pn	00 24 22.5	-1.8
MRHZ	**Matea Rd**	**3.79**	**52**	P		Pn	00 24 25.5	0.0
NMHZ	**Naumai**	**3.87**	**57**	P		Pn	00 24 25.8	-0.6
ARHZ	**Aropaoanui**	**3.90**	**61**	P		Pn	00 24 26.3	-0.5
JCZ	**Jackson Bay**	**3.99**	**224**	P		Pn	00 24 26.7	-1.2
MTHZ	**Maungataniwha**	**4.03**	**55**	P		Pn	00 24 27.0	-1.4
ODZ	**Otahua Downs**	**4.05**	**200**	P		Pn	00 24 27.8	-0.7
RAHZ	**Arahi**	**4.15**	**57**	P		Pn	00 24 30.2	+0.3
WHHZ	**Waihua**	**4.15**	**60**	P		Pn	00 24 29.2	-0.7
MUGZ	**Murupara**	**4.23**	**50**	P		Pn	00 24 29.5	-1.4
RTZ	**Ruatahuna**	**4.27**	**53**	P		Pn	00 24 29.6	-1.8
SNGZ	**Shannon Statio**	**4.39**	**57**	P		Pn	00 24 32.8	-0.1
WKZ	**Wanaka**	**4.44**	**215**	P		Pn	00 24 31.5	-1.9
KNZ	**Kokohu**	**4.47**	**62**	P		Pn	00 24 32.8	-1.1
MHGZ	**Mahia Peninsul**	**4.56**	**64**	P		Pn	00 24 34.6	-0.4
URZ	**Urewera**	**4.58**	**51**	P		Pn	00 24 32.7	-2.5
RAGZ	**Rawiri**	**4.61**	**55**	P		Pn	00 24 35.8	+0.2
EAZ	**Earnscleugh**	**4.65**	**210**	P		Pn	00 24 34.1	-1.9
PRGZ	**Paritu Road**	**4.66**	**62**	P		Pn	00 24 35.2	-1.1
RIGZ	**Rimuhau**	**4.70**	**59**	P		Pn	00 24 35.8	-1.0
MWZ	**Matawai**	**4.78**	**54**	P		Pn	00 24 37.4	-0.3
TKGZ	**Te Karaka**	**4.91**	**57**	P		Pn	00 24 38.7	-0.7
RUGZ	**Raukumara Rang**	**5.11**	**52**	P		Pn	00 24 39.3	-2.8
CNGZ	**Carnagh Statio**	**5.11**	**59**	P		Pn	00 24 41.9	-0.1
TWGZ	**Tauwhareparae**	**5.15**	**55**	P		Pn	00 24 41.5	-1.0
MLZ	**Mavora Lakes**	**5.26**	**217**	P		Pn	00 24 42.5	-1.3
HAZ	**Te Kaha**	**5.31**	**50**	P		Pn	00 24 41.4	-3.1
PKGZ	**Pakihiroa**	**5.39**	**53**	P		Pn	00 24 44.4	-1.3
WHZ	**Wether Hill Ro**	**5.74**	**215**	P		Pn	00 24 48.3	-1.6

UPP 27 00:24:04.8±0.7, 67°.83N×20°.22E, h0km, ML2.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOVU	**Salmi**	**0.40**	**357**	P	Pg	00 24 12.5	+0.1
KOVU				S	Sg	00 24 18.2	+0.5
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 24 30.4	-0.8
PAJU				S	Sg	00 24 48.6	-0.4

*IDC **27** 00:33:31.1±0.5, 53°.80N×161°.65E, h0km, mb4.2/27, mb1 4.4/32, mb1mx4.3/48, mbtmp4.2/32, ML4.4/4, MS3.8/30, Ms1 3.8/30, ms1mx3.6/53, Error ellipse: s-maj=13.7km s-min=10.0km az=156.0*

*KRSC **27** 00:33:31.6±1.2, 53°.56N×162°.04E, h42km±16km, ML4.9 MOS **27** 00:33:34.7±0.8, 53°.63N×161°.83E, h42km, mb4.6/31, MS3.7/4, Error ellipse: s-maj=5.5km s-min=3.5km az=82.1*

*NEIC **27** 00:33:37.4±1.1, 53°.83N±0°.08×161°.7E±0°.1, h42km±4km, mb4.5/142, Error ellipse: s-maj=12.8km s-min=8.3km az=155.0*

ISC 27 00:33:35.9±0.4, 53°60N±0°03×161°90E±0°04, h39km±2km, n382, σ1$44/407, mb4.5/120, MS4.0/32, 18C-10D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.96**	**354**	PN	**Pn**	**00 33 50.2**	**-2.7**
MKZ				S	**Sn**	**00 34 04.0**	**-1.4**
MKZ	**Mys Kozlova**	**0.96**	**354**	*i* P	**Pn**	**00 33 50.2**	**-2.7**
MKZ				*e*S	**Sn**	**00 34 04.0**	**-1.4**
SPN	**Mys Shipunski**	**1.23**	**247**	PN	**Pn**	**00 33 54.3**	**-2.2**
SPN				S	**Sn**	**00 34 11.2**	**-0.7**
SPN	**Mys Shipunski**	**1.23**	**247**	*e*P	**Pn**	**00 33 54.3**	**-2.2**
SPN				*e*S	**Sn**	**00 34 11.2**	**-0.7**
KII	**Karymskiy**	**1.52**	**288**	PN	**Pn**	**00 33 58.7**	**-1.8**
KII	**Karymskiy**	**1.52**	**288**	*e*P	**Pn**	**00 33 58.7**	**-1.8**
NLC	**Nalytchevo**	**1.59**	**255**	PN	**Pn**	**00 34 00.3**	**-1.1**
NLC				S	**Sn**	**00 34 20.5**	**-0.1**
NLC	**Nalytchevo**	**1.59**	**255**	*e*P	**Pn**	**00 34 00.3**	**-1.1**
NLC				*e*S	**Sn**	**00 34 20.5**	**-0.1**
KZV	**Kizimen**	**1.78**	**329**	PN	**Pn**	**00 34 03.1**	**-1.2**
KZV	**Kizimen**	**1.78**	**329**	*i* P	**Pn**	**00 34 03.1**	**-1.2**
SDLR	**Sedlovina**	**1.83**	**261**	PN	**Pn**	**00 34 03.2**	**-1.7**
SDLR	**Sedlovina**	**1.83**	**261**	*e*P	**Pn**	**00 34 03.2**	**-1.7**
TUMD	**Tumrok D**	**1.83**	**332**	*e*P	**Pn**	**00 34 03.7**	**-1.1**
TUMD				*e*S	**Sn**	**00 34 26.6**	**-0.2**
UGLR	**Uglovaya**	**1.88**	**259**	PN	**Pn**	**00 34 04.1**	**-1.5**
UGLR				S	**Sn**	**00 34 27.7**	**-0.4**
UGLR	**Uglovaya**	**1.88**	**259**	*e*P	**Pn**	**00 34 04.1**	**-1.5**
UGLR				*e*S	**Sn**	**00 34 27.7**	**-0.4**
SMAR	**Somma**	**1.88**	**261**	PN	**Pn**	**00 34 04.0**	**-1.7**
SMAR	**Somma**	**1.88**	**261**	*e*P	**Pn**	**00 34 04.0**	**-1.7**
KRER	**Koryakskii**	**1.90**	**262**	PN	**Pn**	**00 34 04.7**	**-1.3**
KRER				S	**Sn**	**00 34 29.1**	**+0.3**
KRER	**Koryakskii**	**1.90**	**262**	*e*P	**Pn**	**00 34 04.7**	**-1.3**
KRER				*e*S	**Sn**	**00 34 29.1**	**+0.3**
AVH	**Avacha**	**1.92**	**261**	PN	**Pn**	**00 34 04.7**	**-1.4**
AVH				S	**Sn**	**00 34 28.7**	**-0.3**
AVH	**Avacha**	**1.92**	**261**	*e*P	**Pn**	**00 34 04.7**	**-1.4**
AVH				*e*S	**Sn**	**00 34 28.7**	**-0.3**
KRX	**Arik**	**1.95**	**264**	PN	**Pn**	**00 34 05.0**	**-1.6**
KRX	**Arik**	**1.95**	**264**	*e*P	**Pn**	**00 34 05.0**	**-1.6**
DALK	**Dalny**	**1.97**	**254**	PN	**Pn**	**00 34 05.6**	**-1.1**
DALK				S	**Sn**	**00 34 30.6**	**+0.5**
DALK	**Dalny**	**1.97**	**254**	*e*P	**Pn**	**00 34 05.6**	**-1.1**
DALK				*e*S	**Sn**	**00 34 30.6**	**+0.5**
KOK	**Koryaka**	**1.97**	**262**	PN	**Pn**	**00 34 05.4**	**-1.4**
KOK	**Koryaka**	**1.97**	**262**	*e*P	**Pn**	**00 34 05.4**	**-1.4**
TUMR	**Tumrok**	**1.97**	**330**	PN	**Pn**	**00 34 05.9**	**-1.0**
TUMR				S	**Sn**	**00 34 31.1**	**+0.7**
TUMR	**Tumrok**	**1.97**	**330**	*e*P	**Pn**	**00 34 05.9**	**-1.0**
TUMR				*e*S	**Sn**	**00 34 31.1**	**+0.7**
PET	**Petropavlovsk**	**2.03**	**255**	*e*PN	**Pn**	**00 34 06.4**	**-1.1**
PET				*e*S	**Sn**	**00 34 29.6**	**-1.9**
PET	comp=Z,745nm,0.6s			pmax	pmax		
PET	comp=N,2μm,0.6s			smax	smax		
PET	comp=E,2μm,0.6s			smax	smax		
PET	**Petropavlovsk**	**2.03**	**255**	*e*P	**Pn**	**00 34 06.9**	**-0.6**
PET				*e*S	**Sn**	**00 34 32.1**	**+0.6**
PET	**Petropavlovsk**	**2.03**	**255**	Pn	**Pn**	**00 34 07.1**	**-0.4**
RUS	**Russkaya**	**2.35**	**242**	PN	**Pn**	**00 34 11.4**	**-0.5**
RUS				S	**Sn**	**00 34 39.8**	**+0.3**
RUS	**Russkaya**	**2.35**	**242**	*e*P	**Pn**	**00 34 11.4**	**-0.5**
RUS				*e*S	**Sn**	**00 34 39.8**	**+0.3**
GNL	**Ganaly**	**2.35**	**274**	PN	**Pn**	**00 34 11.6**	**-0.5**
GNL	**Ganaly**	**2.35**	**274**	*e*P	**Pn**	**00 34 11.6**	**-0.5**
KMNR	**Kamenistaya**	**2.37**	**337**	PN	**Pn**	**00 34 12.4**	**+0.1**
KMNR				S	**Sn**	**00 34 41.9**	**+1.8**
KMNR	**Kamenistaya**	**2.37**	**337**	*e*P	**Pn**	**00 34 12.4**	**+0.1**
KMNR				*e*S	**Sn**	**00 34 41.9**	**+1.8**
KRMR	**Karymshinskiy**	**2.39**	**253**	PN	**Pn**	**00 34 13.2**	**+0.7**
KRMR				S	**Sn**	**00 34 43.2**	**+2.7**
KRMR	**Karymshinskiy**	**2.39**	**253**	*e*P	**Pn**	**00 34 13.2**	**+0.7**
KRMR				*e*S	**Sn**	**00 34 43.2**	**+2.7**
BZGR	**Bezymyannyi-Gr**	**2.45**	**344**	PN	**Pn**	**00 34 13.4**	**0.0**
BZGR	**Bezymyannyi-Gr**	**2.45**	**344**	*i* P	**Pn**	**00 34 13.4**	**0.0**
MTVR	**Mutnovka**	**2.50**	**245**	PN	**Pn**	**00 34 13.6**	**-0.6**
MTVR				S	**Sn**	**00 34 43.6**	**+0.1**
MTVR	**Mutnovka**	**2.50**	**245**	*e*P	**Pn**	**00 34 13.6**	**-0.6**
MTVR				*e*S	**Sn**	**00 34 43.6**	**+0.1**
ZLN	**Zelenaya**	**2.50**	**346**	PN	**Pn**	**00 34 14.7**	**+0.5**
ZLN	**Zelenaya**	**2.50**	**346**	*e*P	**Pn**	**00 34 14.7**	**+0.5**
BZWR	**Bezymyannyi-We**	**2.51**	**342**	PN	**Pn**	**00 34 15.1**	**+0.9**
BZWR	**Bezymyannyi-We**	**2.51**	**342**	*e*P	**Pn**	**00 34 15.1**	**+0.9**
KIRR	**Kirishev**	**2.53**	**340**	PN	**Pn**	**00 34 14.7**	**+0.2**
KIRR				S	**Sn**	**00 34 45.0**	**+0.9**
KIRR	**Kirishev**	**2.53**	**340**	*e*P	**Pn**	**00 34 14.7**	**+0.2**
KIRR				*e*S	**Sn**	**00 34 45.0**	**+0.9**
GRL	**Gorelyy**	**2.53**	**247**	PN	**Pn**	**00 34 14.9**	**+0.3**
GRL	**Gorelyy**	**2.53**	**247**	*e*P	**Pn**	**00 34 14.9**	**+0.3**
PEA0B	**Petropavlovsk-**	**2.56**	**261**	PN	**Pn**	**00 34 15.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.56**	**261**	Pn	**Pn**	**00 34 15.3**	**+0.5**
PETK	**Petropavlovsk-**	**2.56**	**261**	Pn	**Pn**	**00 34 14.3**	**-0.5**
PETK	comp=E,78nm,0.3s,baz=78,slow=18,SNR=212			Sn	**Sn**	**00 34 46.3**	**+1.5**
PETK	comp=E,70nm,0.3s,baz=207,slow=43,SNR=3.3			LR	LR	00 35 25.0	
PETK	**Petropavlovsk-**	**2.56**	**261**		**Pn**	**00 34 15.1**	**+0.2**
CIRR	**Tsirk**	**2.61**	**346**	PN	**Pn**	**00 34 15.4**	**-0.2**
CIRR	**Tsirk**	**2.61**	**346**	*e*P	**Pn**	**00 34 15.4**	**-0.2**
KBTR	**Krutoberegovo**	**2.67**	**11**	PN	**Pn**	**00 34 15.0**	**-1.3**
KBTR				S	**Sn**	**00 34 46.7**	**-0.7**
KBTR	**Krutoberegovo**	**2.67**	**11**	*e*P	**Pn**	**00 34 15.0**	**-1.3**
KBTR				*e*S	**Sn**	**00 34 46.7**	**-0.7**
ASAK	**Asacha**	**2.70**	**245**	PN	**Pn**	**00 34 17.6**	**+0.7**
ASAK	**Asacha**	**2.70**	**245**	*e*P	**Pn**	**00 34 17.6**	**+0.7**
KBG	**Krutoberegovo**	**2.70**	**10**	PN	**Pn**	**00 34 16.3**	**-0.5**
KBG				S	**Sn**	**00 34 48.9**	**+0.7**
KBG	**Krutoberegovo**	**2.70**	**10**	*e*P	**Pn**	**00 34 16.3**	**-0.5**
KBG				*e*S	**Sn**	**00 34 48.9**	**+0.7**
KOZ	**Kozyrevsk**	**2.73**	**335**	PN	**Pn**	**00 34 17.5**	**+0.3**
KOZ				S	**Sn**	**00 34 51.0**	**+2.1**
KOZ	**Kozyrevsk**	**2.73**	**335**	*e*P	**Pn**	**00 34 17.5**	**+0.3**
KOZ				*e*S	**Sn**	**00 34 51.0**	**+2.1**
KRSR	**Krestovskiy**	**2.73**	**344**	PN	**Pn**	**00 34 17.8**	**+0.5**
KRSR	**Krestovskiy**	**2.73**	**344**	*e*P	**Pn**	**00 34 17.8**	**+0.5**
KLY	**Klyuchi**	**2.81**	**346**	PN	**Pn**	**00 34 17.6**	**-0.7**
KLY				S	**Sn**	**00 34 50.9**	**0.0**
KLY	**Klyuchi**	**2.81**	**346**	*e*P	**Pn**	**00 34 17.6**	**-0.7**
KLY				*e*S	**Sn**	**00 34 50.9**	**0.0**
BKI	**Bering**	**2.88**	**54**	PN	**Pn**	**00 34 17.7**	**-1.4**
BKI	**Bering**	**2.88**	**54**	*i* P	**Pn**	**00 34 17.7**	**-1.4**
BKI				*e*S	**Sn**	**00 34 49.1**	**-3.3**
APC	**Apacha**	**2.92**	**259**	PN	**Pn**	**00 34 20.9**	**+1.1**
APC				S	**Sn**	**00 34 57.5**	**+3.9**
APC	**Apacha**	**2.92**	**259**	*e*P	**Pn**	**00 34 20.9**	**+1.1**
APC				*e*S	**Sn**	**00 34 57.5**	**+3.9**
KDTR	**Khodutka, Kamc**	**2.93**	**234**	PN	**Pn**	**00 34 19.4**	**-0.5**
KDTR				S	**Sn**	**00 34 53.3**	**-0.5**
KDTR	**Khodutka, Kamc**	**2.93**	**234**	*e*P	**Pn**	**00 34 19.4**	**-0.5**
KDTR				*e*S	**Sn**	**00 34 53.3**	**-0.5**
ESO	**Esso**	**2.98**	**323**	PN	**Pn**	**00 34 21.0**	**+0.4**
ESO				S	**Sn**	**00 34 56.5**	**+1.5**
ESO	**Esso**	**2.98**	**323**	*e*P	**Pn**	**00 34 21.0**	**+0.4**
ESO				*e*S	**Sn**	**00 34 56.5**	**+1.5**
SMKR	**Semkarok**	**3.00**	**355**	PN	**Pn**	**00 34 21.4**	**+0.5**
SMKR	**Semkarok**	**3.00**	**355**	*e*P	**Pn**	**00 34 21.4**	**+0.5**
SRDR	**Sredinnyy**	**3.00**	**336**	PN	**Pn**	**00 34 20.6**	**-0.3**
SRDR	**Sredinnyy**	**3.00**	**336**	*e*P	**Pn**	**00 34 20.6**	**-0.3**
BDR	**Baidarnaya**	**3.00**	**353**	PN	**Pn**	**00 34 21.3**	**+0.3**
BDR				S	**Sn**	**00 34 57.6**	**+1.9**
BDR	**Baidarnaya**	**3.00**	**353**	*i* P	**Pn**	**00 34 21.3**	**+0.3**
BDR				*e*S	**Sn**	**00 34 57.6**	**+1.9**
SRKR	**Sorokina**	**3.09**	**353**	PN	**Pn**	**00 34 22.2**	**0.0**
SRKR	**Sorokina**	**3.09**	**353**	*e*P	**Pn**	**00 34 22.2**	**0.0**
MIPR	**Malaya Ipel'ka**	**3.38**	**249**	PN	**Pn**	**00 34 27.4**	**+1.3**
MIPR	**Malaya Ipel'ka**	**3.38**	**249**	*e*P	**Pn**	**00 34 27.4**	**+1.3**
PAU	**Pauzhetka**	**3.77**	**238**	PN	**Pn**	**00 34 32.0**	**+0.6**
PAU	**Pauzhetka**	**3.77**	**238**	*e*P	**Pn**	**00 34 32.0**	**+0.6**
SKR	**Severo-Kuril's**	**4.60**	**233**	*e*PN	**Pn**	**00 34 42.1**	**-0.7**
SKR	comp=Z,38nm,0.7s			pmax	pmax		
SKR	comp=Z,400nm,16.0s			MLR	MLR		
SKR	**Severo-Kuril's**	**4.60**	**233**	*e*P	**Pn**	**00 34 42.3**	**-0.5**
ALID	**Alaid**	**4.76**	**238**	PN	**Pn**	**00 34 45.9**	**+0.7**
ALID	**Alaid**	**4.76**	**238**	*e*P	**Pn**	**00 34 45.9**	**+0.7**
PALN	**Palana**	**5.61**	**350**	PN	**Pn**	**00 34 58.0**	**+1.4**
PALN	**Palana**	**5.61**	**350**	*e*P	**Pn**	**00 34 58.0**	**+1.4**
OSSR	**Ossora**	**5.70**	**6**	PN	**Pn**	**00 34 57.3**	**-0.6**
OSSR	**Ossora**	**5.70**	**6**	*e*P	**Pn**	**00 34 57.3**	**-0.6**
TILK	**Tilichiki**	**7.25**	**17**	PN	**Pn**	**00 35 20.3**	**+1.2**
TILK	**Tilichiki**	**7.25**	**17**	*e*P	**Pn**	**00 35 20.3**	**+1.2**
SMY	**Shemya**	**7.39**	**92**	PN	**Pn**	**00 35 22.2**	**+1.1**
SMY	**Shemya**	**7.39**	**92**	Pn	**Pn**	**00 35 22.2**	**+1.1**
MA2	**Magadan**	**8.57**	**319**	Pn	**Pn**	**00 35 36.5**	**-0.7**
MA2	comp=Z,1.1nm,0.3s,baz=104,slow=9.2,SNR=6.6			LR	LR	00 39 35.3	
MA2	**Magadan**	**8.57**	**319**	*e*PN	**Pn**	**00 35 38.3**	**+1.0**
MA2	comp=Z,433nm,18.1s,baz=130,slow=44			pmax	pmax		
SEY	**Seymchan**	**10.60**	**336**	Pn	**Pn**	**00 36 01.6**	**-3.4**
	baz=3.7,slow=23,SNR=1.3						
SEY	**Seymchan**	**10.60**	**336**	*e*PN	**Pn**	**00 36 05.7**	**+0.7**
YSS	**Yuzh-Sakhalins**	**13.90**	**249**	P	**Pn**	**00 36 50.1**	**-0.1**
YSS	**Yuzh-Sakhalins**	**13.90**	**249**	Pn	**Pn**	**00 36 50.1**	**-0.1**
ATKA	**Atka Island**	**14.48**	**86**	Pn	**Pn**	**00 36 57.4**	**-0.5**
BILL	**Bilibino**	**14.64**	**7**	*e*P	**Pn**	**00 37 00.5**	**+0.5**
BILL	comp=Z,6.0nm,1.0s			*e*S	**Sn**	**00 39 43.4**	**+2.7**
BILL	comp=Z,184nm,16.0s			pmax	pmax		
BILL	**Bilibino**	**14.64**	**7**	Pn	**Pn**	**00 36 59.5**	**-0.5**
JKA	**Kamikawa-asahi**	**15.80**	**241**	Pn	**Pn**	**00 37 14.4**	**-1.0**
JKA	comp=Z,28nm,0.6s			IAmb	IAmb	00 37 16.1	
ASAJ	**Asahikawa**	**15.80**	**241**	Pn	**Pn**	**00 37 14.5**	**-1.0**
	comp=Z,3.1nm,0.3s,baz=73,slow=14,SNR=17						
ASAJ	comp=Z,375nm,19.8s,baz=0.5,slow=38			LR	LR	00 43 27.3	
ASAJ	**Asahikawa**	**15.80**	**241**	P	**Pn**	**00 37 14.4**	**-1.0**
ASAJ	comp=Z,28nm,0.6s			pmax	pmax		
GRNR	**Gornyy**	**15.85**	**270**	*i* P	**P**	**00 37 17.9**	**-1.3**
GRNR	comp=Z,3.0nm,0.7s			pmax	pmax		
GRNR	comp=E,430nm,16.0s			MLR	MLR		
GRNR	comp=N,200nm,12.0s			MLR	MLR		
GRNR	comp=Z,310nm,16.0s			MLR	MLR		
GAMB	**Gambell**	**16.95**	**43**	P	**P**	**00 37 32.0**	**+0.7**
JEM	**Erimo**	**17.05**	**235**	Pn	Pn	00 37 16.9	-14
ERM	**Erimo**	**17.05**	**235**	P	**Pn**	**00 37 31.4**	**+0.3**
ERM	comp=Z,39nm,0.5s			pmax	pmax		
ERM	**Erimo**	**17.05**	**235**		**Pn**	**00 37 31.4**	**+0.3**
YAK	**Yakutsk**	**18.94**	**309**	LR	LR	00 46 09.9	
	comp=Z,316nm,18.7s,baz=83,slow=41						
YAK	**Yakutsk**	**18.94**	**309**	*e*P	Pn	00 38 05.3	+11
YAK	comp=Z,18nm,1.0s			pmax	pmax		
YAK	comp=Z,428nm,12.0s			MLR	MLR		
YAK	comp=E,169nm,11.0s			MLR	MLR		
YAK	comp=N,256nm,11.0s			MLR	MLR		
AKUT	**Akutan**	**18.99**	**75**	P	**Pn**	**00 37 55.5**	**+0.7**
TNA	**Tin City**	**19.17**	**40**		**Pn**	**00 37 57.3**	**+0.5**
TNA	comp=Z,26nm,0.9s			IAmb	IAmb	00 37 58.7	
KLR	**Kul'dur**	**19.22**	**269**	P	**P**	**00 37 56.5**	**+0.1**
KLR	comp=Z,0.8nm,0.3s,baz=64,slow=9.8,SNR=14			LR	LR	00 46 13.5	
KLR	comp=Z,331nm,18.2s,baz=66,slow=40			pmax	pmax		
KLR	**Kul'dur**	**19.22**	**269**	*e*P	**Pn**	**00 37 58.1**	**+0.5**
KLR	comp=Z,15nm,1.6s						
ANM	**Nome**	**19.82**	**44**	P	**Pn**	**00 38 04.0**	**-0.6**
ANM	comp=Z,7.0nm,0.7s			pmax	pmax		
ANM	**Nome**	**19.82**	**44**		**Pn**	**00 38 04.0**	**-0.6**
USA0B	**Ussuriysk Arra**	**21.65**	**256**	P	**P**	**00 38 23.1**	**+0.4**
USA0B	comp=Z,7.0nm,1.1s			pmax	pmax		
USA0B	**Ussuriysk Arra**	**21.65**	**256**	P	**P**	**00 38 23.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**21.65**	**256**	P	**P**	**00 38 21.2**	**-1.5**
USRK	comp=Z,3.3nm,0.6s,baz=55,slow=14,SNR=9.2			LR	LR	00 47 23.6	
	comp=Z,234nm,18.9s,baz=42,slow=39						
USRK	**Ussuriysk Ar.**	**21.65**	**256**	P	**P**	**00 38 22.3**	**-0.4**
RDOG	**Red Dog Mine**	**22.00**	**35**	P	**P**	**00 38 26.6**	**+0.2**
JSD	**Sado**	**22.50**	**236**	P	**P**	**00 38 32.4**	**+0.5**
CHGN	**Chignik**	**22.73**	**67**	P	**P**	**00 38 35.7**	**+1.5**
CHGN	comp=Z,29nm,1.2s			IAmb	IAmb	00 38 54.5	
TIXI	**Tiksi**	**23.09**	**334**	P	**P**	**00 38 34.7**	**-3.0**
	comp=Z,2.6nm,0.4s,baz=122,slow=9.9,SNR=4.8						
TIXI	comp=Z,204nm,18.7s,baz=94,slow=41			LR	LR	00 49 04.2	
TIXI	**Tiksi**	**23.09**	**334**	*e*P	**P**	**00 38 36.5**	**-1.2**
TIXI	comp=Z,13nm,0.7s			pmax	pmax		
MAJO	**Matsushiro**	**23.71**	**234**	*de*P	**P**	**00 38 45.8**	**+1.7**
MAJO	comp=Z,19nm,0.9s			pmax	pmax		
MAJO	**Matsushiro**	**23.71**	**234**	P	**P**	**00 38 45.5**	**+1.5**
MAT	**Matsushiro**	**23.71**	**234**	P	**P**	**00 38 45.3**	**+1.2**
MAT				*e*S	**S**	**00 42 59.0**	**+2.6**
MJAR	**Matsushiro Arr**	**23.71**	**234**	P	**P**	**00 38 44.9**	**+0.8**
	comp=Z,12nm,0.6s,baz=17,slow=11,SNR=19						
MJAR	comp=Z,114nm,18.3s,baz=65,slow=42			LR	LR	00 49 57.8	
MJAR	**Matsushiro Arr**	**23.71**	**234**	P	**P**	**00 38 45.5**	**+1.4**
MJAR	comp=Z,10.0nm,0.6s			IAmb	IAmb	00 38 50.3	
SVW2	**Sparrevohn**	**23.76**	**55**	P	**P**	**00 38 45.5**	**+1.2**
JGF	**Kuroka**	**24.88**	**234**	P	**P**	**00 38 55.2**	**+0.4**
JGF	comp=Z,8.4nm,0.6s			IAmb	IAmb	00 39 02.8	
IMAR	**Indian Mountai**	**24.90**	**43**	P	**P**	**00 38 55.1**	**+0.4**
RSO	**Redoubt South**	**25.18**	**56**	P	**P**	**00 38 57.7**	**+0.2**
INU	**Inuyama**	**25.24**	**234**	P	**P**	**00 38 59.7**	**+1.6**
A21K	**Barrow**	**25.31**	**30**	P	**P**	**00 38 57.4**	**-1.0**
A21K	comp=Z,14nm,1.1s			IAmb	IAmb	00 39 10.4	
PPLA	**Purkeypile**	**25.35**	**50**	IAmb	IAmb	00 39 02.5	
KDAK	comp=Z,23nm,1.1s **Kodiak Island**	**25.61**	**62**	P	**P**	**00 39 00.3**	**-0.9**
	comp=Z,12nm,0.7s,baz=315,slow=5.1,SNR=8.2						
KDAK	**Kodiak Island**	**25.61**	**62**	P	**P**	**00 39 01.0**	**-0.2**
KDAK	comp=Z,20nm,1.1s			IAmb	IAmb	00 39 17.8	
CN2	**Changchun**	**25.71**	**263**	*e*P	**P**	**00 38 57.3**	**-4.9**
CN2				*e*PP	**PnPn**	**00 39 37.3**	**-2.3**
CN2				*e*S	**S**	**00 43 18.3**	**-10**
CN2	comp=N,250nm,15.0s			LR	LR		
CN2	comp=E,450nm,15.0s			LR	LR		
CN2	comp=Z,640nm,16.0s			LR	LR		
BPAW	**Bear Paw Mtn.**	**25.91**	**47**	P	**P**	**00 39 04.9**	**+1.0**
**KTH

comp=Z,16nm,1.2s
TABL Table Mountain 30.86 54 P **P** **00 39 49.1 +0.8**
TABL IAmb IAmb 00 39 50.5
comp=Z,13nm,0.8s
DAWY Dawson 30.99 47 P **P** **00 39 49.8 +0.6**
HYT Haines Junctio 32.51 53 P **P** **00 40 04.4 +1.8**
HYT IAmb IAmb 00 40 05.2
comp=Z,10nm,1.0s
INK Inuvik 32.80 38 P **P** **00 40 05.2 +0.3**
comp=Z,2.6nm,0.5s,baz=282,slow=6.1,SNR=15
INK Inuvik 32.80 38 P **P** **00 40 05.6 +0.7**
INK IAmb IAmb 00 40 06.0
comp=Z,3.6nm,0.6s
WHY Whitehorse 33.79 52 P **P** **00 40 15.9 +2.1**
WHY IAmb IAmb 00 40 16.9
comp=Z,9.5nm,1.0s
H11N2 WAKE ISLAND Hy 34.02 172 T T 01 17 47.5
baz=355,slow=76,SNR=76
H11N3 WAKE ISLAND Hy 34.04 172 T T 01 17 48.7
baz=355,slow=76,SNR=71
H11N1 WAKE ISLAND Hy 34.04 172 T T 01 17 49.9
baz=355,slow=76,SNR=76
SONM Songino Array 34.83 284 P **P** **00 40 21.8 -1.2**
comp=Z,0.6nm,0.3s,baz=66,slow=7.7,SNR=8.6
SONM PcP **PcP** **00 42 56.3 +1.0**
comp=Z,0.9nm,0.7s,baz=58,slow=2.0,SNR=5.4
SONM LR LR 00 56 29.3
comp=Z,299nm,18.0s,baz=55,slow=40
SONM Songino Array 34.83 284 P **P** **00 40 22.2 -0.8**
H11S1 WAKE ISLAND Hy 35.22 172 T T 01 18 45.5
baz=351,slow=74
H11S3 WAKE ISLAND Hy 35.23 172 T T 01 18 26.5
baz=351,slow=74
H11S2 WAKE ISLAND Hy 35.24 172 T T 01 18 58.8
baz=351
HHC Hu-ho-hao-te 35.73 270 *e*P **P** **00 40 32.5 +1.8**
HHC S **S** **00 46 06.5 +1.6**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.7s
HHC LR LR
comp=N,170nm,12.3s
HHC LR LR
comp=E,220nm,12.8s
HHC LR LR
comp=Z,250nm,11.1s
C36M Paulatuk 36.01 35 P **P** **00 40 32.9 +0.2**
C36M IAmb IAmb 00 40 45.0
comp=Z,4.9nm,0.8s
NRIK Noril'sk 36.12 325 LR LR 00 56 40.8
comp=Z,240nm,19.0s,baz=74,slow=39
DLBC Dease Lake 36.87 54 P **P** **00 40 42.9 +2.7**
NJ2 Nanjing 37.44 252 *e*P **P** **00 40 45.5 +0.3**
NJ2 pmax pmax
comp=Z,16nm,0.5s
EUNU Eureka 41.20 14 P **P** **00 41 16.4 +0.3**
EUNU IAmb IAmb 00 41 17.5
comp=Z,9.6nm,0.7s
YKA Yellowknife Ar 42.06 44 P **P** **00 41 23.7 +0.5**
comp=Z,0.7nm,0.6s,baz=301,slow=7.4,SNR=14
YKA LR LR 01 00 08.6
comp=Z,58nm,19.3s,baz=0.0,slow=38
RES Resolute Bay 42.45 23 P **P** **00 41 26.3 0.0**
RES pmax pmax
comp=Z,2.0nm,0.8s
RES Resolute Bay 42.45 23 P **P** **00 41 26.3 0.0**
ZALV Zalesovo Beam 43.41 303 P **P** **00 41 32.7 -1.6**
comp=Z,0.6nm,0.4s,baz=56,slow=8.0,SNR=3.9
ZALV LR LR 01 01 10.0
comp=Z,239nm,18.5s,baz=68,slow=38
LZH Lanzhou 43.42 270 *e*P **P** 00 41 40.5 +5.7
LZH pP sP 00 41 47.5 -1.5
LZH sP pwP 00 41 52.5 +2.9
LZH pmax pmax
comp=Z,16nm,1.2s
LZH LR LR
comp=N,270nm,11.1s
LZH LR LR
comp=E,180nm,11.4s
LZH LR LR
comp=Z,220nm,12.7s
GTA Gaotai 43.62 277 *e*P **P** **00 41 37.5 +1.1**
GTA pP pP 00 41 46.5 +0.2
GTA sP sP 00 41 50.5 0.0
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,98nm,6.2s
GTA LR LR
comp=N,130nm,15.6s
GTA LR LR
comp=E,230nm,15.6s
GTA LR LR
comp=Z,230nm,14.9s
DGZ Jazzator, Alta 44.41 297⇑ *e*P **P** **00 41 42.5 -0.1**
DGZ pmax pmax
comp=Z,1.0nm,0.6s
SPA0 Spitsbergen Ar 46.81 351 P **P** **00 42 00.6 -0.4**
B08A Colville Reser 47.49 63 P **P** **00 42 08.4 +1.6**
B08A IAmb IAmb 00 42 09.0
comp=Z,8.1nm,1.0s
WMQ Urumqi 47.82 290 *e*P **P** **00 42 10.0 +0.6**
WMQ sP pwP 00 42 25.0 +0.9
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ pmax pmax
comp=Z,30nm,5.1s
WMQ LR LR
comp=N,350nm,12.5s
WMQ LR LR
comp=E,440nm,18.7s
WMQ LR LR
comp=Z,580nm,15.7s
F07A Phinny Hill Vi 48.70 65 P **P** **00 42 17.9 +1.9**
MK31 Makanchi Array 48.90 296 P **P** **00 42 16.3 -1.3**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 48.90 296 P **P** **00 42 16.3 -1.3**
MKAR Makanchi Array 48.90 296 P **P** **00 42 15.5 -2.1**
comp=Z,1.4nm,0.6s,baz=53,slow=7.6,SNR=17
MKAR Makanchi Array 48.90 296 P **P** **00 42 15.0 -2.6**
MAKZ Makanchi 49.06 296 P **P** **00 42 16.7 -2.2**
MAKZ pmax pmax
comp=Z,2.0nm,0.6s
MAKZ Makanchi 49.06 296 P **P** **00 42 16.7 -2.2**
MAKZ IAmb IAmb 00 42 23.8
comp=Z,2.1nm,0.6s
YBH Yreka Blue Hor 49.84 71 P **P** **00 42 26.8 +1.9**
YBH pmax pmax
comp=Z,2.0nm,1.0s
YBH Yreka Blue Hor 49.84 71 P **P** **00 42 26.8 +1.9**
DAG Danmarks Havn 49.90 0 *i* P **P** **00 42 24.1 -0.7**
comp=Z,2.7nm,0.7s
DAG Danmarks Havn 49.90 0 *i* P **P** **00 42 24.1 -0.7**
DAG Danmarks Havn 49.90 0 *i* P **P** **00 42 24.2 -0.7**
DAG IAmb IAmb 00 42 24.6
comp=Z,2.7nm,0.7s
K05A Summer Lake 50.20 69 P **P** **00 42 29.5 +1.7**
K05A IAmb IAmb 00 42 30.5
comp=Z,2.9nm,0.6s
KMRM Mail Ridge 50.27 74 P **P** **00 42 30.2 +2.1**
BRVK Borovoye 50.94 309⇑ *e*P **P** **00 42 31.5 -1.5**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 50.94 309 P **P** **00 42 31.5 -1.5**
KMI Kunming 51.97 261 ⇑P **P** **00 42 43.0 +1.7**
KMI pP pP 00 42 49.8 -1.6
KMI sP pwP 00 42 57.5 +1.2
KMI pmax pmax
comp=Z,5.0nm,0.6s
KMI LR LR
comp=N,130nm,15.1s
KMI LR LR
comp=E,170nm,13.5s
KMI LR LR
comp=Z,98nm,16.0s
DBG Daneborg 52.37 1 *i* P **P** **00 42 42.4 -0.9**
FCC Fort Churchill 52.41 40 P **P** **00 42 44.2 +0.4**
FCC pmax pmax
comp=Z,2.0nm,0.6s
FCC Fort Churchill 52.41 40 P **P** **00 42 44.2 +0.4**
FCC IAmb IAmb 00 42 44.4
comp=Z,2.1nm,0.6s
ARCES ARCESS Array B 53.14 342 P **P** **00 42 46.6 -2.5**
comp=Z,2.7nm,0.9s,baz=31,slow=7.4,SNR=1.8
ARCES LR LR 01 09 22.3
comp=Z,70nm,18.8s,baz=330,slow=41
ARCES ARCESS Array B 53.14 342 IAmb IAmb 00 43 06.0
comp=Z,4.9nm,1.1s
VCNR Virginia City 53.20 72 P **P** **00 42 52.2 +2.0**
VCNR IAmb IAmb 00 42 52.9
comp=Z,3.8nm,0.9s
BOZ Bozeman (W) 53.31 61 IAmb IAmb 00 42 52.7
comp=Z,4.2nm,1.1s
SUMG Summit 53.32 8 *i* P **P** **00 42 50.7 -0.2**
comp=Z,14nm,0.9s
SUMG Summit 53.32 8 *i* P **P** **00 42 50.7 -0.2**
SUMG Summit 53.32 8 P **P** **00 42 50.8 0.0**
SUMG Summit 53.32 8 *i* P **P** **00 42 50.7 -0.2**
SUMG IAmb IAmb 00 42 52.4
comp=Z,14nm,0.9s
PNTR Pine Nut 53.37 72 IAmb IAmb 00 42 54.3
comp=Z,5.9nm,0.8s
YERR Yerington 53.64 72 P **P** **00 42 55.3 +1.8**
YERR IAmb IAmb 00 43 08.0
comp=Z,3.1nm,0.8s
ARU Arti 53.75 318 LR LR 01 09 12.0
comp=Z,128nm,18.2s,baz=42,slow=40
ARU Arti 53.75 318 *c* *i* P **P** **00 42 52.7 -1.0**
ARU 00 44 52.6
ARU S **S** **00 50 26.5 +1.6**
ARU SS **SKiKP** **00 54 00.9 -2.9**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU MLR MLR
comp=Z,132nm,16.0s
ARU Arti 53.75 318 P **P** **00 42 52.0 -1.7**
ARU IAmb IAmb 00 42 54.5
comp=Z,4.4nm,0.6s
WAKR Walker 53.86 72 P **P** **00 42 57.8 +2.7**
WAKR IAmb IAmb 00 42 58.0
comp=Z,4.0nm,0.6s
YHB Horse Butte 54.11 61 P **P** **00 42 58.6 +1.8**
YHB IAmb IAmb 00 43 00.4
comp=Z,6.1nm,1.0s
KVN Kaiserville 54.24 71 IAmb IAmb 00 43 00.6
comp=Z,3.7nm,0.7s
YHH Holmes Hill 54.26 61 IAmb IAmb 00 43 00.6
comp=Z,4.6nm,1.2s
NVAR Mina Array Bea 54.56 72 P **P** **00 43 02.4 +2.3**
comp=Z,1.8nm,0.6s,baz=298,slow=7.6,SNR=18
NVAR LR LR 01 04 28.1
comp=Z,46nm,19.5s,baz=274,slow=34
PRGR Permogore 54.58 328 *e*P **P** **00 42 56.5 -3.2**
PRGR pmax pmax
comp=Z,7.0nm,0.5s
NV11 Mina Array Sit 54.64 71 IAmb IAmb 00 43 04.2
comp=Z,4.1nm,1.1s
RLMT Red Lodge 54.86 60 P **P** **00 43 04.4 +2.2**
RLMT IAmb IAmb 00 43 16.6
comp=Z,3.7nm,0.8s
KIRV Kirov 55.62 324 LR LR 01 09 54.4
comp=Z,127nm,18.9s,baz=41,slow=39
SPUT South Promonto 55.80 65 P **P** **00 43 10.2 +1.2**
AAK Ala-Archa 55.82 297⇓ *e*P **P** **00 43 08.6 -0.5**
AAK pmax pmax
comp=Z,3.0nm,1.0s
HWUT Hardware Ranch 56.07 64 IAmb IAmb 00 43 30.3
comp=Z,4.5nm,0.9s
PDAR Pinedale Array 56.33 62 P **P** **00 43 14.8 +2.0**
comp=Z,1.7nm,0.8s,baz=327,slow=2.5,SNR=15
PDAR Pinedale Array 56.33 62 P **P** **00 43 14.2 +1.4**
DUG Dugway, Tooele 56.38 66 P **P** **00 43 15.0 +1.8**
DUG pmax pmax
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 56.38 66 P **P** **00 43 15.0 +1.8**
DUG IAmb IAmb 00 43 16.5
comp=Z,8.3nm,1.1s
TPNV Topopah Spring 56.75 71 IAmb IAmb 00 43 30.4
comp=Z,3.6nm,1.0s
JLU Jordanelle 56.84 65 P **P** **00 43 17.8 +1.3**
JLU IAmb IAmb 00 43 19.8
comp=Z,5.5nm,1.2s
NLU North Lily Min 56.95 66 P **P** **00 43 18.1 +0.8**
NLU IAmb IAmb 00 43 35.9
comp=Z,4.9nm,1.1s
KLMR Klimovskoe 57.05 330 *e*P **P** **00 43 14.4 -3.0**
KLMR pmax pmax
comp=Z,11nm,0.9s
KLMR Klimovskoe 57.05 330 *e*P **P** **00 43 14.4 -3.0**
KLMR AMP 00 43 17.3
comp=Z,11nm,0.9s
MPU Maple Canyon 57.15 66 P **P** **00 43 20.4 +1.7**
MPU IAmb IAmb 00 43 21.9
comp=Z,3.9nm,0.9s
ULM Lac du Bonnet 57.68 48 LR LR 01 09 04.9
comp=Z,114nm,19.9s,baz=322,slow=37
RDMU Red Mountain 57.87 64 P **P** **00 43 25.9 +2.1**
RDMU IAmb IAmb 00 43 38.4
comp=Z,5.0nm,0.8s
RSSD Black Hills 58.22 58 P **P** **00 43 27.8 +1.6**
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD Black Hills 58.22 58 P **P** **00 43 27.8 +1.6**
RSSD IAmb IAmb 00 43 42.9
comp=Z,4.3nm,0.7s
AKTO Aktyubinsk 58.27 313 LR LR 01 11 43.3
comp=Z,102nm,18.6s,baz=29,slow=40
ABKAR Akbulak array 58.28 311 P **P** **00 43 25.5 -0.7**
ABKAR Akbulak array 58.28 311 P **P** **00 43 25.1 -1.1**
SRU San Rafael Swe 58.40 66 P **P** **00 43 29.0 +1.6**
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 58.40 66 P **P** **00 43 29.0 +1.6**
LCMT Little Creek M 58.40 69 P **P** **00 43 29.1 +1.7**
LCMT IAmb IAmb 00 43 42.2
comp=Z,3.4nm,1.0s
CHTO Chiang Mai 59.06 260 P **P** **00 43 32.9 +0.9**
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 59.06 260 P **P** **00 43 32.9 +0.9**
CMAR Chiang Mai Arr 59.34 259 P **P** **00 43 35.4 +1.4**
comp=Z,3.2nm,0.5s,baz=28,slow=7.1,SNR=13
CMAR LR LR 01 11 29.8
comp=Z,85nm,21.2s,baz=98,slow=38
PV10 Paradox Valley 59.73 65 P **P** **00 43 38.4 +1.7**
PV19 Morning Glory 59.81 66 P **P** **00 43 38.9 +1.7**
PV17 East Wray Mesa 59.84 66 P **P** **00 43 39.0 +1.6**
PV16 Nyswonger Mesa 59.84 65 P **P** **00 43 39.0 +1.6**
PV16 IAmb IAmb 00 43 51.7
comp=Z,4.6nm,0.9s
PV12 Saucer Basin, 59.90 65 P **P** **00 43 40.0 +2.1**
PV12 IAmb IAmb 00 43 52.1
comp=Z,6.2nm,1.1s
PV05 Paradox Valley 59.91 66 P **P** **00 43 39.9 +2.0**
PV03 Paradox Valley 59.92 65 P **P** **00 43 39.7 +1.7**
PV03 IAmb IAmb 00 43 56.9
comp=Z,4.6nm,1.0s
SIJI Sorong 59.95 216 LR LR 01 05 26.3
comp=Z,52nm,20.1s,baz=319,slow=32
PV13 Radium Mtn., P 60.01 66 P **P** **00 43 40.2 +1.5**
FIA1 FINESS Array S 60.08 337 P **P** **00 43 38.0 -0.4**
FINES FINESS Array B 60.08 337 P **P** **00 43 38.0 -0.4**
comp=Z,5.4nm,0.7s,baz=36,slow=7.9,SNR=22
FINES LR LR 01 15 04.0
comp=Z,78nm,18.3s,baz=49,slow=42
FINES FINESS Array B 60.08 337 P **P** **00 43 37.6 -0.8**
FINES FINESS Array B 60.08 337 P **P** **00 43 37.6 -0.8**
ISCO Idaho Springs 60.53 62 P **P** **00 43 43.5 +1.2**
ISCO pmax pmax
comp=Z,4.0nm,1.0s
ISCO Idaho Springs 60.53 62 P **P** **00 43 43.5 +1.2**
ISCO IAmb IAmb 00 44 01.6
comp=Z,3.8nm,1.0s
BELG Belogornoye 61.03 320 LR LR 01 13 00.7
comp=Z,183nm,18.6s,baz=50,slow=39
NC303 NORSAR Array S 63.15 345 P **P** **00 43 58.2 -0.9**
NC204 NORSAR Array S 63.20 345 P **P** **00 43 58.7 -0.9**
NC405 NORSAR Array S 63.20 344 P **P** **00 43 58.5 -1.0**
NB201 NORSAR Array S 63.33 344 P **P** **00 43 59.5 -0.8**
NB2 NORSAR Subarra 63.35 345 P **P** **00 43 59.9 -0.6**
comp=Z,1.5nm,0.5s,baz=20,slow=6.9
NOA NORSAR Array B 63.35 345 P **P** **00 43 59.8 -0.7**
comp=Z,2.3nm,0.7s,baz=20,slow=6.2,SNR=19
NOA LR LR 01 13 58.1
comp=Z,17nm,18.4s,baz=0.0,slow=38
NBO00 NORSAR Array S 63.43 345 P **P** **00 44 00.2 -0.8**
NC602 NORSAR Array S 63.59 344 P **P** **00 44 01.4 -0.6**
NAO01 NORSAR Array S 63.59 345 P **P** **00 44 00.3 -1.8**
ANMO Albuquerque 63.66 66⇑ *e*P **P** **00 44 04.8 +1.6**
ANMO pmax pmax
comp=Z,4.0nm,2.5s
KONO Kongsberg 64.93 345 P **P** **00 44 10.1 -0.7**
KONO pmax pmax
comp=Z,8.0nm,1.1s
KONO Kongsberg 64.93 345 P **P** **00 44 10.1 -0.7**
KONO IAmb IAmb 00 44 20.4
comp=Z,7.6nm,1.1s
GEYT Alibeck 67.71 304 P **P** **00 44 28.5 -0.6**
comp=Z,1.9nm,0.5s,baz=85,slow=18,SNR=4.8
GEYT LR LR 01 16 49.6
comp=Z,207nm,18.0s,baz=180,slow=38
GEYT Alibeck 67.71 304 IAmb IAmb 00 44 29.2
comp=Z,1.8nm,0.6s
WMOK Wichita Mounta 67.92 61 P **P** **00 44 31.4 +1.0**
WMOK pmax pmax
comp=Z,3.0nm,0.9s
WMOK Wichita Mounta 67.92 61 P **P** **00 44 31.4 +1.0**
AKASG Malin Array Be 68.73 330 P **P** **00 44 34.2 -0.9**
comp=Z,1.7nm,0.5s,baz=28,slow=6.2,SNR=4.7
AKASG LR LR 01 19 36.0
comp=Z,85nm,18.4s,baz=35,slow=40
AKASG Malin Array Be 68.73 330 IAmb IAmb 00 44 35.3
comp=Z,1.5nm,0.7s
AKBB Malin Array Si 68.73 330⇓ *e*P **P** **00 44 34.5 -0.6**
TXAR Lajitas Array 69.45 68 P **P** **00 44 41.5 +1.4**
comp=Z,1.6nm,0.6s,baz=297,slow=5.1,SNR=25
TXAR Lajitas Array 69.45 68 P **P** **00 44 41.3 +1.2**
TXAR Lajitas Array 69.45 68 P **P** **00 44 41.3 +1.2**
AKT Akhty 69.73 313 *e*P **P** **00 44 40.4 -1.2**
AKT *e* 00 45 03.4
AKT pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 69.80 318 P **P** **00 44 41.4 -0.6**
KIV Kislovodsk 69.80 318 *e*P **P** **00 44 42.8 +0.8**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,223nm,17.0s
NCK Nalchik 69.81 317⇑ *e*P **P** **00 44 41.1 -0.9**
NCK pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 69.90 318 P **P** **00 44 42.2 -0.2**
comp=Z,2.4nm,0.8s,baz=123,slow=4.2,SNR=10
KBZ LR LR 01 20 30.4
comp=Z,110nm,18.9s,baz=22,slow=40
KBZ Khabaz 69.90 318⇑ *e*P **P** **00 44 42.6 +0.1**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KWP Kalwaria Pacla 71.53 333 IAmb IAmb 00 44 55.3
comp=Z,9.1nm,1.0s
AKH Akhalkalaki 71.59 316 P **P** **00 44 54.5 +1.4**
GNI Garni 72.11 314 *de*P **P** **00 44 57.4 +1.2**
GNI pmax pmax
comp=Z,11nm,2.5s
CLL Collm 72.26 340 *e*P **P** **00 44 56.0 -0.7**
CLL *e*pP **sP** **00 45 10.0 -1.2**
CLL *e*PP **PP** **00 47 41.0 +4.2**
CLL Collm 72.26 340 *e*P **P** **00 44 56.0 -0.7**
CLL *e**PP **pP** **00 45 06.0 -1.3**
KOLS Kolonicke sedl 72.29 333 *e*P **P** **00 44 53.0 -3.9**
KOLS Kolonicke sedl 72.29 333 *e*P **P** **00 44 53.0 -3.9**
DPC Dobruska-Polom 72.45 338 *e*P **P** **00 44 58.3 +0.4**
DPC Dobruska-Polom 72.45 338 *e*P **P** **00 44 58.3 +0.4**
BUR08 Bucovina Ar. S 72.65 331 P **P** **00 44 59.3 +0.1**
BURAR Bucovina Array 72.67 331⇑P **P** **00 44 59.2 -0.1**
BURAR Bucovina Array 72.67 331 P **P** **00 44 58.8 -0.5**
BIZ Bicaz 73.02 330 P **P** **00 45 02.0 +0.7**
TESR Tescani 73.24 329 P **P** **00 45 02.3 -0.3**
VYHS Vyhne 73.58 335 *e*P **P** **00 45 00.0 -4.6**
VYHS Vyhne 73.58 335 *e*P **P** **00 45 00.0 -4.6**
CFR Carcaliu 73.97 328⇑P **P** **00 45 06.7 -0.2**
DRGR 74.13 332⇑P **P** **00 45 07.7 -0.2**
KHC Kasperske Hory 74.20 339 *e*P **P** **00 45 08.5 +0.3**
KHC *e* 00 45 21.0
KHC Kasperske Hory 74.20 339 *e*P **P** **00 45 08.5 +0.3**
KHC *e*pP **sP** **00 45 21.0 -1.8**
MLR Muntele Rosu 74.37 329⇓P **P** **00 45 10.4 +1.0**
MLR Muntele Rosu 74.37 329 P **P** **00 45 10.0 +0.6**
MLR pmax pmax
comp=Z,5.0nm,1.1s
MLR Muntele Rosu 74.37 329 P **P** **00 45 10.0 +0.6**
MLR IAmb IAmb 00 45 11.7
comp=Z,5.0nm,1.1s
GERES GERESS Array B 74.44 339 P **P** **00 45 09.9 +0.2**
comp=Z,0.6nm,0.5s,baz=38,slow=5.0,SNR=7.3
GERES LR LR 01 22 12.1
comp=Z,50nm,18.3s,baz=318,slow=39
VOIR 74.69 330⇓P **P** **00 45 10.3 -0.9**
ARR Arges 74.88 330⇑P **P** **00 45 13.0 +0.8**
BZS Buzias 75.51 332⇑P **P** **00 45 16.4 +0.7**
KBA Koelnbreinsper 76.19 338 *e*P **P** **00 45 21.1 +1.2**
comp=Z,7.7nm,0.8s
WTTA Wattenberg 76.38 340 *e*P **P** **00 45 21.9 +0.9**
comp=Z,4.0nm,0.8s
OBKA Obir 76.46 337 *e*P **P** **00 45 22.3 +1.0**
comp=Z,5.8nm,1.4s
SQTA Sankt Quirin 76.51 340 *e*P **P** **00 45 22.3 +0.7**
comp=Z,3.2nm,0.8s
FETA Feichten 76.80 340 *e*P **P** **00 45 24.1 +0.8**
comp=Z,4.7nm,1.1s
BRTR Keskin Array B 76.91 322 P **P** **00 45 24.0 0.0**
comp=Z,0.4nm,0.4s,baz=258,slow=29,SNR=4.7
BRTR LR LR 01 21 53.9
comp=Z,40nm,18.6s,baz=10.0,slow=38
BRTR Keskin Array B 76.91 322 *ce*P **P** **00 45 24.5 +0.5**
WRA Warramunga Arr 77.00 207 P **P** **00 45 25.2 +0.8**
comp=Z,0.6nm,0.4s,baz=23,slow=6.1,SNR=12
FITZ Fitzroy Crossi 77.92 215 P **P** **00 45 30.4 +0.8**
comp=Z,1.3nm,0.6s,baz=36,slow=4.0,SNR=5.6
PDG Podgorica 79.10 333⇓P **P** **00 45 34.5 -1.4**
ASAR Alice Springs 80.67 206 P **P** **00 45 46.2 +1.7**
comp=Z,0.5nm,0.4s,baz=17,slow=5.5,SNR=8.0
RAYN Ar Rayn 85.67 304 P **P** **00 46 10.2 -0.4**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
RAYN Ar Rayn 85.67 304 P **P** **00 46 10.2 -0.4**
RAYN IAmb IAmb 00 46 22.2
comp=Z,3.4nm,0.8s
ESDC Sonseca Array 86.30 349 P **P** **00 46 14.4 +0.9**
comp=Z,0.8nm,0.8s,baz=1.4,slow=5.5,SNR=5.6

ATH 27 00:43:12.8,38°.33N×20°.50E,h14km±2km,ML1.6/2,Error ellipse: s-maj=2.6km s-min=0.9km az=271.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF5	**Kardakata, Kep**	**0.06**	**210**	P	Pg	00 43 15.4	-0.1
KEF5				S	Sg	00 43 17.0	-0.4
KEF4	**Livadi, Kephal**	**0.09**	**223**	P	Pg	00 43 15.9	0.0
KEF4				S	Sg	00 43 18.2	+0.3
DMLN	**Damoulianata-K**	**0.13**	**230**	P	Pg	00 43 16.5	0.0
DMLN				S	Sg	00 43 19.1	+0.3
FSK	**Fiskardo**	**0.14**	**19**	P	Pg	00 43 16.6	+0.1
FSK				S	Sg	00 43 18.9	-0.1
FSK				AML	AML	00 43 19.5	
FSK	comp=N,504μm,0.1s			AML	AML	00 43 19.5	
	comp=E,1007μm,0.1s						
VLS	**Valsamata**	**0.16**	**155**	P	Pg	00 43 16.8	0.0
VLS				S	Sg	00 43 19.6	+0.1
VLS				AML	AML	00 43 20.2	
VLS	comp=N,327μm,0.1s			AML	AML	00 43 20.3	
	comp=E,886μm,0.1s						
KEF3	**Kipouria, Keph**	**0.17**	**225**	P	Pg	00 43 16.5	-0.4
KEF3				S	Sg	00 43 19.2	-0.6
EVGI	**Lefkada island**	**0.32**	**22**	P	Pg	00 43 19.4	0.0
EVGI				S	Sg	00 43 24.1	+0.2
DRAG	**Dragano-Lefkad**	**0.36**	**9**	P	Pg	00 43 19.8	-0.4
NYDR	**Nydri-Lefkada**	**0.42**	**21**	P	Pg	00 43 20.9	-0.3
VLMS	**Volimes, Zakyn**	**0.47**	**164**	P	Pg	00 43 21.7	-0.3

IDC ***27*** *00:58:45.0±5.9,37°.29N×71°.80E,h145km±37km,mb2.9/1, mb1 3.2/6,mb1mx2.8/58,mbtmp3.6/6,Error ellipse: s-maj=73.6km s-min=20.0km az=151.0*
NNC ***27*** *00:58:53.0±4.2,37°.81N×71°.83E,h191km±82km,mb2.6, mpv3.5,Error ellipse: s-maj=55.7km s-min=26.8km az=15.0*
ISC 27 00:58:46.2±0.8,37°.32N±0°.07×71°.86E±0°.07,h200km,n24,σ2s13/29,2C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.01**	**16**	P	**Pn**	**01 00 01.0**	**-0.1**
	SNR=92						
UCH	**Uchtor**	**5.31**	**22**	P	**Pn**	**01 00 05.1**	**+0.1**
	SNR=40						
EKS2	**Erkin-Say**	**5.54**	**15**	P	**Pn**	**01 00 08.1**	**+0.5**
	SNR=9.2						
AAK	**Ala-Archa**	**5.69**	**20**	P	**Pn**	**01 00 09.4**	**-0.1**
	2.9nm,0.3s,baz=204,slow=12,SNR=34						
AAK				S	**Sn**	**01 01 11.8**	**-3.6**
	1.2nm,0.3s,baz=330,slow=18,SNR=7.9						
AAK	**Ala-Archa**	**5.69**	**20**	P	**Pn**	**01 00 10.0**	**+0.5**
	SNR=17						
AAK	**Ala-Archa**	**5.69**	**20**	⇓P	**Pn**	**01 00 09.8**	**+0.3**
	4.9nm,0.4s						
AAK				⇑S	**Sn**	**01 01 11.7**	**-3.6**
	7.1nm,0.7s						
THN	**Thein Dam**	**5.82**	**146**	*e*P	**Pn**	**01 00 11.5**	**+0.4**
THN				*e*S	**Sn**	**01 01 14.5**	**-3.7**
KBK	**Karagaybulak**	**5.84**	**23**	P	**Pn**	**01 00 12.9**	**+1.4**
	SNR=6.0						
KK31	**Karatay Array**	**5.87**	**350**	⇑P	**Pn**	**01 00 12.4**	**+0.6**
	1.2nm,0.3s,baz=169,slow=11,SNR=26						
KK31				S	**Sn**	**01 01 14.6**	**-4.9**
	4.8nm,0.2s,baz=193,slow=26,SNR=34						
GEYT	**Alibeck**	**10.91**	**277**	P	**Pn**	**01 01 17.3**	**0.0**
	0.6nm,0.3s,baz=103,slow=11,SNR=6.4						
GEYT				S	**Sn**	**01 03 16.2**	**-2.8**
	0.5nm,0.3s,baz=135,slow=14,SNR=2.1						
MKAR	**Makanchi Array**	**12.23**	**36**	P	**Pn**	**01 01 35.2**	**+1.4**
	0.1nm,0.3s,baz=225,slow=14,SNR=6.3						
KURBB	**Kurchatov Arra**	**14.13**	**18**	P	**Pn**	**01 01 56.0**	**-1.5**
	0.0nm,0.3s,baz=205,slow=12,SNR=3.1						
GKN	**Gorkha**	**14.21**	**127**	*e*P	**Pn**	**01 01 57.2**	**-1.7**
AB31	**Akbulak array**	**14.73**	**328**	⇓P	**P**	**01 02 06.8**	**+0.9**
	0.9nm,0.5s,baz=263,slow=35,SNR=22						
KKN	**Kakani**	**14.77**	**126**	*e*P	**Pn**	**01 02 05.0**	**-0.8**
PKIN	**Phulchoki**	**14.99**	**127**	*e*P	**Pn**	**01 02 07.9**	**-0.7**
	8.9nm,0.5s						
GUN	**Gumba**	**15.07**	**124**	*e*P	**Pn**	**01 02 09.4**	**-0.3**
	6.8nm,0.3s						
JIRN	**Jiri**	**15.45**	**124**	*e*P	**P**	**01 02 14.6**	**+0.1**
	15nm,0.4s						
BVAR	**Borovoye Array**	**15.74**	**357**	P	**Pn**	**01 02 19.3**	**+2.1**
	0.2nm,0.3s,baz=187,slow=20,SNR=5.2						
RAMN	**Ramite**	**16.19**	**125**	*e*P	**Pn**	**01 02 24.4**	**+1.2**
	7.0nm,0.4s						
TAPN	**Taplejung**	**16.66**	**122**	*e*P	**Pn**	**01 02 30.8**	**+2.0**
ODAN	**Odare**	**16.77**	**124**	*e*P	**Pn**	**01 02 31.3**	**+1.2**
	9.2nm,0.5s						
ZALV	**Zalesovo Beam**	**18.89**	**24**	P	**Pn**	**01 02 54.7**	**+0.3**
	0.8nm,0.3s,baz=220,slow=9.1,SNR=15						
YKA	**Yellowknife Ar**	**80.39**	**3**	P	**P**	**01 10 39.7**	**+4.8**
	0.1nm,0.5s,baz=357,slow=4.9,SNR=5.8						

*IDC **27** 01:03:39.2±2.6, 6˚.44S×130˚.99E, h67km±28km, mb3.8/2, mb1 4.2/7, mb1mx3.6/37, mbtmp4.3/7, ML4.3/5, Error ellipse: s-maj=43.1km s-min=22.5km az=89.0*

ISC 27 01:03:38.6±1.0, 6˚.62S±0˚.07×130˚.9E±0˚.1, h62km, n7, σ3§12/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.72**	**4**	P	**Pn**	**01 04 59.3**	**-1.8**
	11nm,0.3s,baz=198,slow=16,SNR=40						
SIJI				S	Sn	01 05 55.6	-10
	13nm,0.3s,baz=113,slow=24,SNR=11						
BATI	**Baumata**	**7.98**	**243**	P	**Pn**	**01 05 36.3**	**+4.3**
	5.8nm,0.3s,baz=56,slow=11,SNR=2.1						
BATI				S	**Sn**	**01 06 57.6**	**-3.3**
	3.5nm,0.3s,baz=138,slow=5.0,SNR=1.7						
FITZ	**Fitzroy Crossi**	**12.50**	**204**	P	**Pn**	**01 06 35.6**	**+1.9**
	1.2nm,0.3s,baz=30,slow=13,SNR=61						
FITZ				S	**Sn**	**01 08 48.0**	**-3.5**
	0.6nm,0.3s,baz=112,slow=15,SNR=1.8						
WRA	**Warramunga Arr**	**13.66**	**166**	P	**Pn**	**01 06 50.9**	**+1.4**
	1.1nm,0.3s,baz=350,slow=13,SNR=30						
WRA				S	**Sn**	**01 09 17.9**	**-1.8**
	1.9nm,0.3s,baz=346,slow=24,SNR=10						
ASAR	**Alice Springs**	**17.20**	**171**	P	**P**	**01 07 38.4**	**+2.8**
	0.8nm,0.3s,baz=351,slow=11,SNR=26						
ASAR				S	**Sn**	**01 10 41.5**	**-3.9**
	0.3nm,0.3s,baz=1.2,slow=28,SNR=3.6						
CMAR	**Chiang Mai Arr**	**40.17**	**309**	P	**P**	**01 11 08.2**	**-0.9**
	0.8nm,0.3s,baz=134,slow=8.9,SNR=4.6						
MKAR	**Makanchi Array**	**68.39**	**326**	P	**P**	**01 14 33.5**	**-0.2**
	1.1nm,0.4s,baz=120,slow=7.0,SNR=28						

*ISK **27** 01:07:24.8, 34˚.20N×26˚.84E, h19km, ML3.5/7*
*NIC **27** 01:07:27.3±0.0, 34˚.30N×26˚.77E, h5km±4km, Ml3.9/1*
*HLW **27** 01:07:29.5, 34˚.23N×26˚.60E, h3km± 13km, Ml3.7*
*DDA **27** 01:07:36.0, 34˚.87N×26˚.96E, h7km±2km, ML2.9*

ISC 27 01:07:29.6±2.2, 34˚.5N±0˚.1×26˚.92E±0˚.06, h5km±15km, n34, σ1§86/28, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.84**	**317**	PG	**Pg**	**01 07 45.2**	**-0.5**
ZKR				SG	**Sb**	**01 07 59.7**	**+1.4**
ZKR	**Zakros**	**0.84**	**317**	P	**Pg**	**01 07 45.6**	**-0.2**
ZKR				S	**Sb**	**01 07 59.3**	**+1.0**
KARP	**Karpathos**	**1.06**	**11**	PN	**Pg**	**01 07 49.5**	**-0.5**
KARP	**Karpathos**	**1.06**	**11**	P	**Pn**	**01 07 51.6**	**+0.4**
KARP				S	**Sn**	**01 08 10.8**	**+4.3**
IDI	**Anoyia**	**1.84**	**296**	PN	Pn	01 07 57.7	-4.3
ARG	**Arkhangelos**	**1.98**	**30**	P	**Pn**	**01 08 05.6**	**+1.8**
TURN	**Turunc**	**2.51**	**25**	PN	**Pn**	**01 08 10.2**	**-0.9**
TURN	**Turunc**	**2.51**	**25**	*i* P	**Pn**	**01 08 12.6**	**+1.5**
TURN				*i* S	**Sn**	**01 08 40.5**	**-1.7**
IMMV	**Iera Moni Meta**	**2.59**	**292**	PN	Pn	01 08 08.0	-4.2
DALY	**Dalyan (Mula)**	**2.71**	**31**	PN	**Pn**	**01 08 12.8**	**-1.0**
DALY	**Dalyan (Mula)**	**2.71**	**31**	*i* P	**Pn**	**01 08 15.0**	**+1.2**
DALY				*i* S	**Sn**	**01 08 44.9**	**-2.1**
DALY				IAML		01 08 52.0	
	comp=N,64nm,0.9s						
DALY				IAML		01 08 53.0	
	comp=E,95nm,3.0s						
FETY	**Fethiye**	**2.77**	**39**	*i* P	**Pn**	**01 08 15.0**	**+0.4**
FETY				*i* S	**Sn**	**01 08 46.1**	**-2.4**
AKAS	**Kas**	**2.79**	**51**	PN	**Pn**	**01 08 13.4**	**-1.8**
AKAS	**Kas**	**2.79**	**51**	*i* P	**Pn**	**01 08 17.8**	**+2.7**
AKAS				*i* S	**Sn**	**01 08 48.0**	**-1.4**
AKAS				IAML		01 08 56.0	
	comp=E,36nm,1.2s						
AKAS				IAML		01 09 01.0	
	comp=N,40nm,0.8s						
APE	**Apeiranthos**	**2.80**	**337**	PN	**Pn**	**01 08 13.4**	**-1.7**
MATC	**Matruh**	**3.16**	**175**	P	Pn	01 08 14.6	-5.3
	baz=169						
CAEL	**Denizli, Camel**	**3.27**	**36**	*i* P	**Pn**	**01 08 23.2**	**+1.6**
CAEL				*i* S	**Sn**	**01 09 00.9**	**-0.1**
CAEL				IAML		01 09 04.0	
	comp=N,56nm,1.9s						
CAEL				IAML		01 09 07.0	
	comp=E,38nm,0.8s						
SLUM	**Salum**	**3.33**	**206**	AMP		01 11 00.0	
	baz=204						
TAVA	**DENIZLI_Tavas**	**3.37**	**28**	*i* P	**Pn**	**01 08 24.4**	**+1.3**
TAVA				*i* S	**Sn**	**01 08 59.9**	**-3.6**
GOLH	**Golhisar**	**3.47**	**37**	*i* P	**Pn**	**01 08 26.6**	**+2.1**
GOLH				IAML		01 09 13.0	
	comp=N,54nm,1.6s						
OSC1	**CSNet OBS 1**	**3.76**	**104**	P	Pn	01 08 27.2	-1.0
AKMS	**Akamas**	**4.49**	**82**	P	Pn	01 08 38.0	-0.3
AKMS				AML	AML	01 09 31.1	
	comp=N,0.4nm,0.2s						
AKMS				AML	AML	01 09 31.1	
	comp=N,0.3nm,0.2s						
NATA	**Nata**	**4.67**	**85**	P	Pn	01 08 40.9	+0.1
OSC2	**CSNet OBS 4**	**4.68**	**106**	P	Pn	01 08 40.2	-0.7
SZAC	**Souni**	**4.92**	**85**	P	Pn	01 08 44.4	0.0
ASGA	**Asgata**	**5.23**	**85**	P	**Pn**	**01 08 49.3**	**+0.8**
CSS	**Mathiatis**	**5.30**	**83**	P	**Pn**	**01 08 49.7**	**+0.2**
SWA2		**5.39**	**194**	P	Pn	01 08 43.8	-6.9
	baz=192						
SWA2				AMP		01 09 00.0	
	baz=192						
SWA2				S	Sn	01 09 39.1	-14
	baz=192						
MVOU	**Mavrovouni**	**5.55**	**83**	P	**Pn**	**01 08 53.6**	**+0.7**
RYAN	**Fayoum**	**6.11**	**151**	P	Pn	01 08 56.1	-4.5
	baz=147						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLL	**Jalalah**	**6.38**	**139**	P	**Pn**	01 09 00.6	-3.6
	baz=135						
SUZ	**Suez**	**6.84**	**131**	P	Pn	01 09 06.9	-3.6
	baz=127						
HFRF	**Wahat Farafira**	**7.43**	**170**	P	Pn	01 09 13.1	-5.6
	baz=167						
HFRF				S	Sn	01 10 28.5	-15
	baz=167						
HKAT	**Jabal Katrina**	**8.48**	**133**	P	Pn	01 09 29.0	-4.4
	baz=130						
HKAT				S	Sn	01 11 00.1	-10
	baz=130						

*IDC **27** 01:16:08.0±0.9, 10˚.41S×161˚.39E, h66km±5km, mb4.0/14, mb1 4.2/14, mb1mx4.1/25, mbtmp4.3/14, MS3.6/6, Ms1 3.6/6, ms1mx3.1/37, Error ellipse: s-maj=20.3km s-min=9.7km az=21.0*
*NEIC **27** 01:16:09.8±1.6, 10˚.23S±0˚.04×161˚.42E±0˚.08, h74km±7km, mb4.4/17, Error ellipse: s-maj=11.7km s-min=6.5km az=86.0*

ISC 27 01:16:08.3±0.5, 10˚.28S±0˚.07×161˚.47E±0˚.08, h61km, n45, σ1§43/46, mb4.3/24, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.72**	**299**	P	**Pn**	**01 16 37.2**	**+1.2**
	218nm,0.3s,baz=167,slow=5.3,SNR=41						
HNR				S	**Sn**	**01 16 57.3**	**+0.3**
	725nm,0.3s,baz=181,slow=2.1,SNR=7.4						
HNR	**Honiara**	**1.72**	**299**		**Pn**	**01 16 36.7**	**+0.6**
SANVU	**Saraoutou**	**7.59**	**133**	Pn	**Pn**	**01 17 57.6**	**+1.3**
DZM	**Mont Dzumac**	**12.65**	**158**	P	**Pn**	**01 19 08.1**	**+2.4**
	1.2nm,0.3s,baz=133,slow=23,SNR=10						
DZM				S	**Sn**	**01 21 20.5**	**-4.6**
	0.5nm,0.3s,baz=85,slow=21,SNR=1.2						
PMG	**Port Moresby**	**14.12**	**272**	LR	LR	01 24 16.9	
	comp=Z,209nm,20.2s,baz=76,slow=35						
PATS	**Pohnpei**	**17.30**	**349**		**P**	**01 20 07.9**	**+1.4**
CTA	**Charters Tower**	**17.61**	**235**	P	**P**	**01 20 11.4**	**+1.5**
	0.8nm,0.3s,baz=67,slow=12,SNR=6.7						
CTAO	**Charters Tower**	**17.61**	**235**		**P**	**01 20 11.2**	**+1.3**
EIDS	**Eidsvold**	**17.95**	**212**		**Pn**	**01 20 14.8**	**+1.0**
COEN	**Coen**	**18.25**	**257**	Pn	**Pn**	**01 20 18.9**	**+1.4**
JAY	**Jayapura**	**22.01**	**289**	P	**P**	**01 20 56.8**	**-1.1**
	8.8nm,0.5s,baz=100,slow=4.7,SNR=8.6						
WR0	**Warramunga Arr**	**27.68**	**247**	P	**P**	**01 21 49.1**	**-1.8**
WR0				IAmb	IAmb	01 22 11.3	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**27.76**	**247**	P	**P**	**01 21 49.8**	**-1.8**
WB0				IAmb	IAmb	01 21 52.4	
	comp=Z,6.5nm,0.9s						
WB2	**Warramunga Arr**	**27.84**	**247**	P	**P**	**01 21 50.8**	**-1.6**
WB2				IAmb	IAmb	01 22 17.4	
	comp=Z,9.0nm,1.2s						
WRA	**Warramunga Arr**	**27.85**	**247**	P	**P**	**01 21 50.9**	**-1.6**
	comp=Z,3.6nm,0.8s,baz=74,slow=9.2,SNR=14						
WRA				LR	LR	01 32 09.9	
	comp=Z,98nm,21.4s,baz=225,slow=35						
STKA	**Stephens Creek**	**28.28**	**218**	P	**P**	**01 21 58.0**	**+1.9**
	comp=Z,0.9nm,0.4s,baz=36,slow=12,SNR=2.9						
STKA				LR	LR	01 32 49.1	
	comp=Z,101nm,19.1s,baz=27,slow=36						
STKA	**Stephens Creek**	**28.28**	**218**	IAmb	IAmb	01 21 59.4	
	comp=Z,1.8nm,1.4s						
ASAR	**Alice Springs**	**29.46**	**240**	P	**P**	**01 22 04.0**	**-2.7**
	comp=Z,0.9nm,0.4s,baz=61,slow=10,SNR=16						
ASAR				LR	LR	01 33 03.4	
	comp=Z,123nm,20.1s,baz=76,slow=35						
RAR	**Rarotonga**	**38.75**	**111**	LR	LR	01 35 43.7	
	comp=Z,368nm,20.2s,baz=346,slow=30						
KAPI	**Kappang**	**41.65**	**274**	LR	LR	01 42 41.5	
	comp=Z,26nm,20.2s,baz=84,slow=38						
MJAR	**Matsushiro Arr**	**51.46**	**336**	P	**P**	**01 25 06.1**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=183,slow=8.4,SNR=5.6						
KSRS	**Korea Array**	**56.95**	**328**	P	**P**	**01 25 46.5**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=142,slow=7.2,SNR=8.9						
KSAR	**Wonju Array Be**	**56.96**	**328**	P	**P**	**01 25 47.1**	**-0.4**
KS19	**Wonju Array Si**	**57.02**	**328**	P	**P**	**01 25 47.2**	**-0.8**
USA0B	**Ussuriysk Arra**	**60.46**	**336**	P	**P**	**01 26 12.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**60.46**	**336**	P	**P**	**01 26 10.6**	**-1.1**
	comp=Z,3.2nm,0.7s,baz=134,slow=5.5,SNR=6.7						
USRK	**Ussuriysk Ar.**	**60.46**	**336**	P	**P**	**01 26 11.6**	**-0.1**
XAN	**Xi'an**	**66.54**	**314**	P	**P**	**01 26 50.5**	**-1.6**
XAN				IAmb	IAmb	01 26 51.6	
	comp=Z,10nm,1.3s						
VNDA	**Vanda**	**67.22**	**180**	pP	pP	01 27 12.7	+0.6
	comp=Z,0.8nm,0.7s,baz=352,slow=5.9,SNR=3.6						
CMAR	**Chiang Mai Arr**	**67.96**	**295**	P	**P**	**01 27 00.8**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=118,slow=5.2,SNR=6.9						
HIA	**Hailar**	**69.69**	**332**	P	**P**	**01 27 10.8**	**-0.8**
ULN	**Ulaanbaatar**	**75.26**	**326**	P	**P**	**01 27 44.8**	**-0.1**
ULN				IAmb	IAmb	01 27 45.3	
	comp=Z,3.9nm,0.7s						
SONM	**Songino Array**	**75.61**	**325**	P	**P**	**01 27 46.6**	**-0.3**
	comp=Z,4.0nm,0.6s,baz=143,slow=6.0,SNR=30						
SONM	**Songino Array**	**75.61**	**325**	P	**P**	**01 27 46.6**	**-0.3**
SONM				IAmb	IAmb	01 27 47.5	
	comp=Z,4.4nm,0.7s						
BILL	**Bilibino**	**78.20**	**2**	P	**P**	**01 28 01.2**	**+0.3**
BILL				IAmb	IAmb	01 28 01.9	
	comp=Z,4.7nm,1.0s						
TLY	**Talaya**	**79.19**	**328**	P	**P**	**01 28 05.6**	**-1.1**
TLY				IAmb	IAmb	01 28 06.3	
	comp=Z,3.3nm,1.0s						
IMAR	**Indian Mountai**	**82.87**	**17**	P	**P**	**01 28 26.3**	**+0.4**
IL31		**84.18**	**20**	P	**P**	**01 28 32.2**	**-0.3**
IL31				IAmb	IAmb	01 28 55.1	
	comp=Z,6.6nm,1.4s						
ILAR	**Eielson Array**	**84.18**	**20**	P	**P**	**01 28 32.1**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=243,slow=5.0,SNR=27						
ILAR				pP	**pP**	**01 28 49.6**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=243,slow=4.8,SNR=7.7						
NVAR	**Mina Array Bea**	**88.78**	**51**	P	**P**	**01 28 57.4**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=234,slow=5.9,SNR=7.4						
NVAR				pP	**pP**	**01 29 15.2**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=237,slow=5.9,SNR=3.8						
MKAR	**Makanchi Array**	**90.11**	**318**	P	**P**	**01 29 00.4**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=91,slow=6.2,SNR=11						
MKAR				pP	**pP**	**01 29 19.6**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=98,slow=6.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**90.50**	**325**	P	**P**	**01 29 02.0**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=126,slow=7.3,SNR=2.7						
PDAR	**Pinedale Array**	**96.14**	**48**	P	**P**	**01 29 31.2**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=231,slow=5.7,SNR=2.2						
YKA	**Yellowknife Ar**	**96.24**	**28**	P	**P**	**01 29 29.0**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=256,slow=4.1,SNR=16						
YKA				pP	**pP**	**01 29 47.2**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=252,slow=4.0,SNR=8.5						
ESDC	**Sonseca Array**	**147.99**	**339**	PKPbc	**PKPbc**	**01 35 46.5**	**-0.9**
	comp=Z,1.2nm,1.0s,baz=40,slow=2.5,SNR=4.7						

*IDC **27** 01:42:40.5±0.9, 37˚.95N×27˚.32E, h0km, mb3.8/7, mb1 3.8/13, mb1mx3.6/52, mbtmp3.7/13, ML3.6/6, MS2.8/4, Ms1 2.8/4, ms1mx2.5/53, Error ellipse: s-maj=17.3km s-min=12.1km az=114.0*
*ATH **27** 01:42:41.3, 37˚.99N×27˚.18E, h26km±1km, ML3.9/7, Error ellipse: s-maj=2.1km s-min=1.1km az=248.0*
*DDA **27** 01:42:41.4, 37˚.95N×27˚.20E, h8km±3km, MW4.1*
*THE **27** 01:42:41.5, 37˚.98N×27˚.23E, h3km±2km, ML3.9/3, Error ellipse: s-maj=2.3km s-min=0.6km az=169.0*
*NEIC **27** 01:42:41.5±1.2, 37˚.94N±0˚.04×27˚.19E±0˚.05, h10km±1km, Error ellipse: s-maj=7.8km s-min=6.0km az=54.0*
*ISK **27** 01:42:41.0, 37˚.95N×27˚.22E, h7km, ML4.0/28*

ISC 27 01:42:41.1±0.8, 37˚.97N±0˚.01×27˚.23E±0˚.01, h7km±6km, n261, σ1§27/312, mb3.9/8, 28C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.27**	**293**	PG	**Pb**	**01 42 47.6**	**-0.7**
GMLD				SG	**Sg**	**01 42 51.2**	**+1.2**
GMLD	**Gumuldur**	**0.27**	**293**	Pg	**Pb**	**01 42 47.6**	**-0.7**
GCAM	**G?zelcaml?**	**0.27**	**179**	PG	**Pg**	**01 42 46.4**	**-0.1**
GCAM				SG	**Sg**	**01 42 50.3**	**+0.2**
GCAM	**G?zelcaml?**	**0.27**	**179**	⇑P	**Pg**	**01 42 47.0**	**+0.5**
GCAM				*i* S	**Sg**	**01 42 50.9**	**+0.8**
GCAM				IAML		01 42 51.0	
	comp=N,12μm,0.7s						
GCAM				IAML		01 42 51.0	
	comp=E,6μm,0.3s						
DGB	**zmir**	**0.28**	**286**	⇑*i* P	**Pb**	**01 42 47.6**	**-1.0**
DGB				*i* S	**Sg**	**01 42 51.4**	**+0.9**
DGB				IAML		01 42 54.0	
	comp=E,6μm,0.2s						
DGB				IAML		01 42 56.0	
	comp=N,4μm,0.5s						
SMG	**Samos**	**0.41**	**230**	P	**Pg**	**01 42 49.4**	**+0.3**
SMG				S	**Sb**	**01 42 56.5**	**-0.6**
SMG				AML	AML	01 42 60.0	
	comp=N,51897μm,0.4s						
SMG				AML	AML	01 43 01.3	
	comp=E,52780μm,0.3s						
SMG	**Samos**	**0.41**	**230**	P	**Pg**	**01 42 49.4**	**+0.3**
SMG				S	**Sb**	**01 42 56.5**	**-0.6**
	comp=E,25μm,0.3s						
BLCB	**Balcova**	**0.44**	**340**	P	**Pb**	**01 42 50.6**	**-0.6**
BLCB				S	**Sg**	**01 42 55.6**	**+0.2**
BLCB	**Balcova**	**0.44**	**340**	PG	**Pb**	**01 42 50.3**	**-0.9**
BLCB	**Balcova**	**0.44**	**340**	Pg	**Pb**	**01 42 50.7**	**-0.5**
DDIM	**Aydin, Didim**	**0.52**	**179**	⇑*i* P	**Pg**	**01 42 51.4**	**+0.3**
DDIM				*i* S	**Sb**	**01 42 59.7**	**-0.5**
DDIM				IAML		01 43 03.0	
	comp=N,10μm,0.5s						
DDIM				IAML		01 43 09.0	
	comp=E,5μm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**0.52**	**93**	PG	**Pb**	**01 42 52.2**	**-0.6**
AYDB				SG	**Sb**	**01 42 59.5**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**0.52**	**93**	Pg	**Pb**	**01 42 52.3**	**-0.4**
AYDN	**Tasoluk**	**0.60**	**121**	⇑*i* P	**Pb**	**01 42 53.7**	**-0.4**
AYDN				*i* S	**Sb**	**01 43 01.6**	**-1.2**
AYDN				IAML		01 43 05.0	
	comp=N,2μm,0.5s						
AYDN				IAML		01 43 05.0	
	comp=E,5μm,0.3s						
URLA	**Izmir**	**0.63**	**308**	PG	**Pg**	**01 42 53.2**	**-0.1**
URLA	**Izmir**	**0.63**	**308**	⇑*i* P	**Pg**	**01 42 53.0**	**-0.3**
URLA				*i* S	**Sg**	**01 43 02.0**	**+0.4**
URLA				IAML		01 43 05.0	
	comp=E,7μm,0.4s						
URLA				IAML		01 43 06.0	
	comp=N,5μm,0.6s						
ZEYE	**Izmir, Urla-Ze**	**0.63**	**295**	⇑*i* P	**Pb**	**01 42 53.8**	**-0.7**
ZEYE				*i* S	**Sb**	**01 43 02.6**	**-1.0**
ZEYE				IAML		01 43 05.0	
	comp=N,10μm,0.7s						
ZEYE				IAML		01 43 07.0	
	comp=E,9μm,0.3s						
KRBN	**Karaburun**	**0.82**	**320**	PG	**Pb**	**01 42 57.8**	**+0.1**
KRBN				SG	**Sb**	**01 43 09.3**	**+0.4**
FOCM	**Foa**	**0.84**	**332**	PG	**Pb**	**01 42 57.7**	**-0.3**
FOCM				SG	**Sb**	**01 43 09.2**	**-0.2**
FOCM	**Foa**	**0.84**	**332**	Pg	**Pb**	**01 42 57.7**	**-0.3**
GOMA	**Golmarmara-Man**	**0.91**	**36**	PG	**Pb**	**01 42 59.4**	**+0.1**
GOMA				SG	**Sb**	**01 43 12.5**	**+0.9**
BODT	**Bodrum**	**0.91**	**176**	P	**Pg**	**01 42 57.7**	**-1.0**
BODT	**Bodrum**	**0.91**	**176**	PG	**Pg**	**01 42 58.1**	**-0.6**
BODT				SG	**Sb**	**01 43 11.5**	**-0.1**
BDRM	**Kayabasi**	**0.92**	**169**	⇑*i* P	**Pg**	**01 42 58.2**	**-0.6**
BDRM				*i* P	**Pb**	**01 42 58.6**	**-0.9**
BDRM				*i* S	**Sb**	**01 43 12.1**	**+0.2**
BDRM				IAML		01 43 15.0	
	comp=E,2μm,0.3s						
BDRM				IAML		01 43 17.0	
	comp=E,2μm,0.6s						
BDRM				IAML		01 43 19.0	
	comp=N,2μm,0.8s						
ZEDA	**zmir-Bergama**	**1.00**	**353**	⇑*i* P	**Pn**	**01 43 01.1**	**-0.5**
ZEDA				*i* S	**Sn**	**01 43 16.5**	**+0.6**
ZEDA				IAML		01 43 17.0	
	comp=N,8μm,0.7s						
ZEDA				IAML		01 43 17.0	
	comp=E,3μm,0.6s						
CHOS	**Chios island**	**1.01**	**294**	P	**Pb**	**01 43 00.8**	**-0.3**
CHOS				S	**Sg**	**01 43 13.3**	**-0.5**
CHOS				AML	AML	01 43 16.3	
	comp=N,13486μm,0.4s						
CHOS				AML	AML	01 43 17.6	
	comp=E,18601μm,0.5s						
CHOS	**Chios island**	**1.01**	**294**	P	**Pb**	**01 43 00.8**	**-0.3**
CHOS				S	**Sb**	**01 43 14.5**	**-0.1**
	comp=E,7μm,0.4s						
CHOS	**Chios island**	**1.01**	**294**	PG	**Pb**	**01 43 01.3**	**+0.2**
CHOS				SG	**Sb**	**01 43 15.6**	**+1.0**
MULA	**Mugla, Merkez-**	**1.12**	**129**	⇓*i* P	**Pb**	**01 43 03.0**	**0.0**
MULA				*i* S	**Sb**	**01 43 18.5**	**+0.7**
MULA				IAML		01 43 24.0	
	comp=N,2μm,0.9s						
MULA				IAML		01 43 24.0	
	comp=E,2μm,0.8s						
DKL	**Dikili**	**1.12**	**347**	PN	**Pb**	**01 43 02.9**	**0.0**
DKL				SN	**Sn**	**01 43 19.5**	**+0.5**
MANT	**Manisa**	**1.17**	**63**	*i* P	**Pn**	**01 43 04.9**	**+0.8**
MANT

comp=N,1μm,0.8s
DALY IAML 01 43 50.0
comp=E,595nm,0.7s
APE Apeiranthos 1.62 237 P Pn 01 43 09.5 -0.8
APE AML AML 01 43 37.8
comp=E,2874μm,0.4s
APE AML AML 01 43 41.0
comp=N,4651μm,0.4s
APE Apeiranthos 1.62 237 P Pn 01 43 09.1 -1.1
APE Apeiranthos 1.62 237 PN Pn 01 43 10.9 +0.7
SIGR SIGRI 1.64 319 P Pn 01 43 10.1 -0.3
SIGR AML AML 01 43 35.9
comp=E,5319μm,0.5s
SIGR AML AML 01 43 38.2
comp=N,8812μm,0.8s
SIGR SIGRI 1.64 319 P Pn 01 43 10.1 -0.3
SIGR S Sb 01 43 32.4 -0.2
comp=N,3μm,0.6s
SIGR SIGRI 1.64 319 PN Pb 01 43 11.5 -0.2
KOCA Canakkale, Ayv 1.75 331 *i* P Pn 01 43 11.7 -0.2
KOCA *i* S Sg 01 43 38.5 +1.2
SIMA Simav-Kutahya 1.77 51 PN Pb 01 43 13.0 -0.9
BALY Balya 1.79 10 *i* P Pn 01 43 11.5 -1.1
BALY *i* S Sg 01 43 39.9 +1.2
KHAL Karahalli 1.83 77 *i* P Pn 01 43 12.9 -0.1
KHAL *i* S Sg 01 43 39.0 -0.9
BAYC CANAKKALE_Bayr 1.84 343 *i* P Pn 01 43 11.8 -1.4
BAYC *i* S Sg 01 43 39.2 -1.2
CAEL Denizli, Camel 1.87 116 *i* P Pn 01 43 13.9 +0.2
CAEL *i* S Sg 01 43 46.4 +5.3
DURS Dursunbey 1.89 31 *i* P Pn 01 43 13.5 -0.5
DURS *i* S Sg 01 43 41.9 -0.2
DST Dursunbey 1.96 33 PN Pb 01 43 16.3 -0.9
EZN Ezine 1.98 339 P Pn 01 43 14.9 -0.2
EZN Ezine 1.98 339 PN Pn 01 43 15.4 +0.3
FETY Fethiye 1.99 132 *i* P Pn 01 43 12.9 -2.4
FETY *i* S Sn 01 43 41.2 +0.7
GOLH Golhisar 1.99 111 *i* P Pb 01 43 16.6 -1.2
GEDZ Gediz 2.02 57 PN Pb 01 43 17.2 -1.0
BOZC Bozcaada 2.08 334 PN Pn 01 43 16.6 +0.2
BOZC Bozcaada 2.08 334 *i* P Pn 01 43 16.4 -0.1
GDZ Gediz 2.09 57 *i* P Pn 01 43 15.8 -0.9
GDZ *i* S Sg 01 43 47.7 -0.5
SANT Santorini 2.13 222 Pn Pn 01 43 16.5 -0.7
KARY Karystos 2.21 272 P Pn 01 43 17.8 -0.4
KARY Karystos 2.21 272 P Pn 01 43 17.8 -0.4
ECEA Canakkale, Ece 2.23 339 *i* P Pn 01 43 18.8 +0.4
BRDR BURDUR-Merkez 2.26 96 *i* P Pn 01 43 18.4 -0.6
TVSB Tavsanli 2.29 49 PN Pn 01 43 20.5 +1.1
KZIL AFYON_Kizioren 2.31 82 *i* P Pn 01 43 20.4 +0.6
KRBG Karabiga-Canak 2.42 1 PN Pn 01 43 22.4 +1.3
EDC Edincik 2.42 12 PN Pb 01 43 23.1 -1.9
KARP Karpathos 2.42 181 Pn Pn 01 43 21.5 +0.3
GOKA anakkale-Gk 2.44 335 *i* P Pn 01 43 21.7 +0.3
GOKA IAML 01 44 13.0
comp=E,1μm,0.5s
GOKA IAML 01 44 49.0
comp=N,0.3nm,1.0s
ORLT Orhaneli 2.44 32 PN Pn 01 43 22.9 +1.4
GADA Gvkgeada 2.44 335 P Pn 01 43 21.5 0.0
GADA Gvkgeada 2.44 335 PN Pn 01 43 22.0 +0.5
KCTX Karacabey (Bur 2.45 21 PN Pn 01 43 23.3 +1.7
ELL Elmali 2.46 119 Pn 01 43 22.9 +1.1
GELI Tayfur-Gelibol 2.49 347 PN Pn 01 43 22.9 +0.8
LIA Limnos Island 2.50 321 P Pn 01 43 22.5 +0.3
AFYO Afyonkarahisar 2.54 70 *i* P Pg 01 43 29.2 -0.7
AFYO *i* S Sg 01 44 04.3 +1.3
AKAS Kas 2.57 132 *i* P Pn 01 43 24.1 +0.7
AKAS Kas 2.57 132 Pn 01 43 23.3 -0.1
ANDZ Kutahya, Merke 2.59 53 *i* P Pg 01 43 29.0 -1.8
ANDZ *i* S Sg 01 44 05.5 +1.1
DION Dionisos Attik 2.60 273 P Pn 01 43 23.4 -0.3
DION Dionisos Attik 2.60 273 P Pn 01 43 23.4 -0.3
ISP Isparta 2.61 92 P Pn 01 43 24.1 +0.3
ISP Isparta 2.61 92 Pn Pn 01 43 23.4 -0.4
ULDT Uludag 2.62 34 *i* P Pn 01 43 24.0 -0.1
EREA Eretria 2.64 281 P Pn 01 43 24.2 +0.1
EREA Eretria 2.64 281 P Pn 01 43 24.2 +0.1
PTL Penteli 2.66 273 P Pn 01 43 24.1 -0.3
PTL Penteli 2.66 273 P Pn 01 43 24.1 -0.3
KORT Korkueli 2.67 110 *i* P Pn 01 43 25.1 +0.5
KORT IAML 01 44 14.0
comp=N,112nm,0.7s
KORT IAML 01 44 28.0
comp=E,155nm,0.8s
SART Tekirdag 2.71 359 *i* P Pn 01 43 23.8 -1.4
BUCA Burdur, Bucak- 2.72 103 *i* P Pn 01 43 26.6 +1.2
BUCA IAML 01 44 18.0
comp=N,69nm,0.8s
BUCA IAML 01 44 38.0
comp=E,96nm,1.8s
ATHU Athens Univers 2.72 271 P Pn 01 43 25.0 -0.3
ATHU Athens Univers 2.72 271 P Pn 01 43 25.0 -0.3
IGD Bursa 2.75 33 *i* P Pn 01 43 25.2 -0.6
IGD IAML 01 44 21.0
comp=E,154nm,0.9s
IGD IAML 01 44 26.0
comp=N,145nm,1.0s
ATH Athens Observa 2.78 271 P Pn 01 43 25.5 -0.4
ATH Athens Observa 2.78 271 P Pn 01 43 25.6 -0.4
BAGO Egridir - ISPA 2.81 89 *i* P Pn 01 43 27.1 +0.5
BAGO *i* S Sg 01 44 15.9 +4.4
SMTH Samothraki Isl 2.82 333 P Pn 01 43 26.7 0.0
SMTH AML AML 01 44 15.1
comp=E,585μm,1.0s
SMTH AML AML 01 44 15.1
comp=N,618μm,0.7s
SMTH Samothraki Isl 2.82 333 P Pn 01 43 26.7 0.0
CAVK Edirne/Enez-Ca 2.84 343 *i* P Pn 01 43 27.4 +0.5
CAVK IAML 01 44 18.0
comp=E,466nm,0.9s
CAVK IAML 01 44 27.0
comp=N,566nm,0.7s
KESN Edirne-Kesan 2.88 352 *i* P Pn 01 43 27.3 -0.5
ENEZ Enez 2.88 344 P Pn 01 43 28.1 +0.6
AUBOZ BOZOYUK 2.92 48 *i* P Pg 01 43 35.0 -2.1
AKUM Antalya-Kumluc 2.98 123 *i* P Pn 01 43 30.5 +1.6
BILE Bilecik/Merkez 3.00 42 *i* P Pb 01 43 36.1 +1.1
NPS Neapolis 3.00 206 P Pn 01 43 29.9 +0.8
NPS Neapolis 3.00 206 P Pn 01 43 29.9 +0.8
ALN Alexandroupoli 3.06 343 P Pn 01 43 29.9 0.0
ALN AML AML 01 44 23.5
comp=E,630μm,0.7s
ALN AML AML 01 44 25.0
comp=N,652μm,0.7s
ALN Alexandroupoli 3.06 343 P Pn 01 43 29.9 0.0
ALN Alexandroupoli 3.06 343 Pn Pn 01 43 29.5 -0.4
VILL Villia 3.10 275 P Pn 01 43 30.5 0.0
VIL2 Platees 3.13 276 P Pn 01 43 30.5 -0.5
BORA Eskisehir 3.15 52 *i* P Pb 01 43 35.7 -1.9
BORA IAML 01 44 32.0
comp=N,64nm,1.0s
BORA IAML 01 44 42.0
comp=E,51nm,0.8s
YVAC Isparta, Yalva 3.18 83 *i* P Pn 01 43 32.4 +0.8
SGAZ Eskisehir, Sey 3.22 60 *i* P Pn 01 43 32.8 +0.6
BUY Buyukada 3.23 26 *i* P Pn 01 43 32.0 -0.2
IDI Anoyia 3.27 216 Pn Pn 01 43 32.3 -0.6
comp=E,3.8nm,0.3s,baz=70,slow=6.0,SNR=20
IDI Pg Pg 01 43 42.2 -1.7
comp=E,16nm,0.3s,baz=41,slow=14,SNR=14
IDI Sn Sn 01 44 08.9 -3.3
comp=E,14nm,0.3s,baz=100,slow=15,SNR=3.8
IDI Lg Lg 01 44 26.8
comp=E,25nm,0.3s,baz=318,slow=21,SNR=7.8
IDI Anoyia 3.27 216 P Pn 01 43 32.5 -0.4
IDI Anoyia 3.27 216 P Pn 01 43 32.5 -0.4
IDI Anoyia 3.27 216 Pn Pn 01 43 31.8 -1.1
KRND KRANIDI 3.29 261 P Pn 01 43 33.3 +0.2
KRND KRANIDI 3.29 261 P Pn 01 43 33.3 +0.2
ATAL Atalanti 3.39 284 P Pn 01 43 34.7 +0.3
ATAL Atalanti 3.39 284 P Pn 01 43 34.7 +0.3
LKR Lokris 3.40 283 P Pn 01 43 34.4 -0.1
LKR Lokris 3.40 283 P Pn 01 43 34.4 -0.1
RDO Rodhopi 3.43 338 P Pn 01 43 35.3 +0.3
RDO Rodhopi 3.43 338 P Pn 01 43 35.3 +0.3
GEYV SAKARYA_Geyve 3.46 43 *i* P Pn 01 43 38.8 +3.4
IMMV Iera Moni Meta 3.62 227 P Pn 01 43 39.3 +1.7
IMMV Iera Moni Meta 3.62 227 P Pn 01 43 39.3 +1.7
VIZE Kirklareli, Vi 3.63 7 *i* P Pn 01 43 37.0 -0.8
AXAR Agios Charalam 3.68 284 P Pn 01 43 38.9 +0.5
AXAR Agios Charalam 3.68 284 P Pn 01 43 38.9 +0.5
KAVA Kavala 3.68 326 P Pn 01 43 38.3 -0.1
KAVA Kavala 3.68 326 P Pn 01 43 38.3 -0.1
PLG Polygyros 3.79 310 P Pn 01 43 40.1 0.0
PLG Polygyros 3.79 310 P Pn 01 43 40.1 0.0
KAYN Sakarya, Kayna 3.84 38 *i* P Pn 01 43 40.6 0.0
KAND Kocaeli-Kandir 3.87 35 *i* P Pn 01 43 40.9 -0.1
MDUB Mudurnu 3.96 50 Pn Pn 01 43 42.8 +0.3
AGG Agios Georgios 3.98 287 P Pn 01 43 43.2 +0.5
AGG Agios Georgios 3.98 287 P Pn 01 43 43.2 +0.5
AGG Agios Georgios 3.98 287 P Pn 01 43 42.4 -0.3
KLV Kalavryta, Ach 4.01 273 P Pn 01 43 42.7 -0.4
KLV Kalavryta, Ach 4.01 273 P Pn 01 43 42.7 -0.4
SAHE Sakarya_HENDEK 4.02 43 *i* P Pn 01 43 46.3 +3.2
SAHE IAML 01 44 55.0
comp=N,104nm,0.9s
SAHE IAML 01 44 56.0
comp=E,92nm,0.7s
KALE Kalithea 4.03 277 P Pn 01 43 44.1 +0.8
KALE Kalithea 4.03 277 P Pn 01 43 44.1 +0.8
MAKR Makrakomi, Fth 4.13 286 P Pn 01 43 46.1 +1.4
MAKR Makrakomi, Fth 4.13 286 P Pn 01 43 46.1 +1.4
SOH Sokhos 4.13 315 P Pn 01 43 44.3 -0.4
SOH Sokhos 4.13 315 P Pn 01 43 44.4 -0.4
LAKA Lakka 4.15 275 P Pn 01 43 45.1 +0.1
LAKA Lakka 4.15 275 P Pn 01 43 45.1 +0.1
SRS Serrai 4.21 319 P Pn 01 43 46.1 +0.3
SRS Serrai 4.21 319 P Pn 01 43 46.1 +0.3
NVR Nevrokopi 4.26 323 P Pn 01 43 47.0 +0.6
NVR Nevrokopi 4.26 323 P Pn 01 43 47.0 +0.6
ITM Ithomi 4.29 261 P Pn 01 43 48.0 +1.2
ITM Ithomi 4.29 261 P Pn 01 43 48.0 +1.2
EVR Evrytania 4.36 284 P Pn 01 43 49.0 +1.1
EVR Evrytania 4.36 284 P Pn 01 43 49.0 +1.1
DRO Drossia 4.36 271 P Pn 01 43 48.3 +0.4
DRO Drossia 4.36 271 P Pn 01 43 48.3 +0.4
THL Klokotos Trika 4.37 293 P Pn 01 43 49.0 +1.0
THL Klokotos Trika 4.37 293 P Pn 01 43 49.0 +1.0
KNT Kendrikon 4.62 315 P Pn 01 43 52.8 +1.4
KNT Kendrikon 4.62 315 P Pn 01 43 52.8 +1.4
BR231 Keskin MP Arra 4.71 65 Pn Pn 01 43 53.7 +0.9
PDO Prodromos 4.80 279 P Pn 01 43 54.9 +1.1
PDO Prodromos 4.80 279 P Pn 01 43 54.9 +1.1
VAY Valandovo 4.91 314 *i* Pn Pn 01 43 57.7 +2.4
BR131 Keskin Array S 5.30 69 Pn 01 44 01.6 +0.8
BRTR Keskin Array B 5.30 69 Pn Pn 01 44 02.5 +1.6
comp=E,0.4nm,0.3s,baz=34,slow=27,SNR=13
BRTR Pg Pg 01 44 22.8 +0.1
comp=E,0.4nm,0.3s,baz=170,slow=22,SNR=5.9
BRTR Sn Sn 01 44 59.3 -2.9
comp=E,0.4nm,0.3s,baz=341,slow=18,SNR=1.3
BRTR Lg Lg 01 45 32.9
baz=275,slow=14,SNR=1.0
BRTR Keskin Array B 5.30 69 Pn 01 44 00.7 -0.2
FNA Florina 5.33 304 Pn 01 44 00.7 -0.5
VTS Vitosha 5.55 328 ⇑P **Pn 01 44 06.0 +1.6**
VTS Vitosha 5.55 328 Pn 01 44 04.3 0.0
RAZG Razgrad 5.61 325 ⇑P **Pn 01 44 05.6 +0.6**
PLVB Pleven 5.76 341 ⇓P **Pn 01 44 08.6 +1.6**
CSS Mathiatis 5.76 120 Pn Pn 01 44 07.5 +0.4
TIRR Tirgusor 6.54 7 Pn Pn 01 44 18.0 +0.3
TIR Tirane 6.61 303 Pn Pn 01 44 18.8 +0.2
HUMR Humele 6.76 346 ⇑P **Pn 01 44 21.4 +0.6**
BOVS Bovan 7.04 325 ⇑P **Pn 01 44 25.8 +1.2**
CFR Carcaliu 7.23 5 ⇑P **Pn 01 44 28.2 +1.1**
PDG Podgorica 7.55 309 ⇑P **Pn 01 44 34.2 +2.6**
TOKA Tokat 7.56 69 Pn Pn 01 44 31.4 -0.4
MLR Muntele Rosu 7.57 353 Pn Pn 01 44 33.5 +1.4
comp=E,0.4nm,0.3s,baz=199,slow=9.0,SNR=6.5
MLR Lg Lg 01 46 43.2
comp=E,0.2nm,0.3s,baz=255,slow=13,SNR=1.9
MLR Muntele Rosu 7.57 353 ⇑P **Pn 01 44 33.9 +1.8**
MLR Muntele Rosu 7.57 353 Pn 01 44 32.8 +0.8
VOIR 7.63 348 ⇑P **Pn 01 44 33.3 +0.5**
ARR Arges 7.64 346 ⇑P **Pn 01 44 33.7 +0.8**
HERR Herculane 7.79 334 ⇑P **Pn 01 44 34.9 +0.1**
PLOR Plostina 7.88 357 ⇓P **Pn 01 44 37.9 +1.7**
VRI Vrincioaia 7.90 357 ⇑P **Pn 01 44 37.9 +1.5**
LOT Lotru 7.90 342 ⇑P **Pn 01 44 38.7 +2.1**
MDVR Moldovita 7.96 330 ⇓P **Pn 01 44 38.8 +1.5**
GAZ Gaziantep 7.97 93 Pn Pn 01 44 36.9 -0.5
DOPR Dopca 8.10 351 ⇑P **Pn 01 44 40.6 +1.4**
GZR Gura Zlata 8.13 337 ⇑P **Pn 01 44 40.2 +0.6**
OZUR 8.19 353 ⇑P **Pn 01 44 41.0 +0.6**
DIVS Divibare 8.20 320 Pn 01 44 39.8 -0.8
TIP Timpagrande 8.29 282 ⇓P **Pn 01 44 42.5 +0.7**
MMAI Mount Meron Ar 8.30 124 Pn Pn 01 44 40.8 -1.2
comp=E,3.9nm,0.3s,baz=317,slow=12,SNR=28
MMAI Sn Sn 01 46 08.6 -7.4
comp=E,3.0nm,0.3s,baz=301,slow=24,SNR=7.1
TESR Tescani 8.54 357 ⇑P **Pn 01 44 47.2 +2.0**
MATE Matera 8.59 291 ⇓P **Pn 01 44 46.5 +0.8**
BZS Buzias 8.71 333 ⇑P **Pn 01 44 48.7 +1.2**
BIZ Bicaz 9.00 355 ⇑P **Pn 01 44 51.8 +0.4**
DRGR 9.42 341 ⇑P **Pn 01 44 59.8 +2.5**
BURAR Bucovina Array 9.75 352 ⇑P **Pn 01 45 03.8 +2.0**
BURAR Bucovina Array 9.75 352 Pn 01 45 04.0 +2.2
BUR08 Bucovina Ar. S 9.78 352 Pn Pn 01 45 01.9 -0.3
MORH Mrgy, Hungar 10.41 325 ⇓P **Pn 01 45 11.4 +0.6**
EIL Elat 10.47 140 Pn Pn 01 45 10.5 -1.3
comp=E,0.3nm,0.3s,baz=306,slow=14,SNR=2.1
EIL Sn Sn 01 47 01.2 -8.2
comp=E,1.1nm,0.3s,baz=100,slow=21,SNR=6.5
VRAC Vranov 13.68 329 LR LR 01 51 44.2
comp=E,34nm,18.8s,baz=146,slow=40
CKRC Cesky Krumlov 14.32 323 *eP* **P 01 46 14.2 +2.7**
GEC2 GERESS Array S 14.63 322 Pn Pn 01 46 08.6 0.0
GERES GERESS Array B 14.63 322 Pn Pn 01 46 11.7 +3.1
comp=E,0.1nm,0.3s,baz=133,slow=11,SNR=1.3
GERES LR LR 01 51 56.2
comp=E,24nm,19.8s,baz=331,slow=38
GERES GERESS Array B 14.63 322 Pn Pn 01 46 08.5 0.0
KHC Kasperske Hory 14.88 323 *eP* **P 01 46 19.9 +2.1**
KHC Kasperske Hory 14.88 323 Pn Pn 01 46 11.4 -0.6
GRA1 Grafenberg Arr 16.41 321 Pn Pn 01 46 31.4 -0.4
BELG Belogornoye 20.26 38 P P 01 47 17.8 +0.8
comp=E,7.2nm,0.9s,baz=156,slow=10.0,SNR=4.1
FINES FINESS Array B 23.51 359 P P 01 47 51.8 +0.4
comp=E,2.8nm,0.9s,baz=171,slow=12,SNR=1.4
HFS Hagfors 23.79 343 P P 01 47 53.9 -0.3
comp=E,1.9nm,0.9s,baz=150,slow=18,SNR=1.4
TAM Tamanrasset 23.99 237 P P 01 47 56.1 -0.5
TAM IAmb IAmb 01 48 03.3
comp=Z,5.3nm,1.1s
ESDC Sonseca Array 24.30 284 P P 01 48 00.3 +1.0
comp=Z,1.2nm,0.8s,baz=84,slow=9.7,SNR=8.6
ESDC Sonseca Array 24.30 284 IAmb IAmb 01 48 19.0
comp=Z,8.4nm,1.4s
NOA NORSAR Array B 25.18 342 LR LR 02 00 10.1
comp=Z,15nm,19.5s,baz=185,slow=42
ABKAR Akbulak array 26.03 54 P P 01 48 15.7 +0.9
EKA Eskdalemuir Ar 26.83 320 P P 01 48 23.4 +1.5
comp=Z,1.1nm,0.5s,baz=110,slow=11,SNR=8.1
TOA0 Torodi Ar. Sit 33.58 229 P P 01 49 20.7 -1.3
TOA0 **pP 01 49 22.1 -2.1**
TOA0 IAmb IAmb 01 49 26.4
comp=Z,4.4nm,0.8s
TORD Torodi Ar. Bea 33.58 229 P P 01 49 21.8 -0.2
comp=Z,3.2nm,0.5s,baz=35,slow=9.1,SNR=24
TORD Torodi Ar. Bea 33.58 229 P P 01 49 20.5 -1.5
TORD IAmb IAmb 01 49 26.5
comp=Z,2.3nm,0.8s
NIL Niiore 37.28 82 P P 01 49 54.0 +0.3
MKAR Makanchi Array 40.87 59 P P 01 50 24.2 +0.6
comp=Z,0.4nm,0.8s,baz=284,slow=6.1,SNR=3.5
PALK Pallekele 57.06 108 LR LR 02 19 22.5
comp=Z,18nm,18.5s,baz=272,slow=39
KS19 Wonju Array Si 75.20 54 P P 01 54 24.5 0.0

*IDC **27** 01:44:17.8±0.6,53.81N×161.61E,h0km,mb3.8/21, mb1 4.1/25,mb1mx3.9/61,mbtmp3.9/25,ML3.9/4,MS3.1/7, Ms1 3.1/7,ms1mx2.8/50,Error ellipse: s-maj=17.3km s-min=11.6km az=154.0*
*KRSC **27** 01:44:18.7±1.0,53.60N×161.92E,h27km±17km,ML4.4*
*MOS **27** 01:44:20.0±0.9,53.60N×161.95E,h30km,mb4.3/4,Error ellipse: s-maj=6.8km s-min=4.8km az=71.4*
*NEIC **27** 01:44:23.9±1.6,53.8N±0.1×161.57E±0.07,h46km±7km, mb4.3/11,Error ellipse: s-maj=15.1km s-min=4.6km az=166.0*
ISC 27 01:44:20.8±2.2,53.64N±0.04×161.80E±0.05,h22km±16km, n135,σ1s23/166,mb3.9/26,MS3.1/3,Off east coast of

Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.92**	**357**	PN	**Pn**	**Pn**	**01 44 36.7**	**-1.6**
MKZ				S	**Sb**	**Sb**	**01 44 49.7**	**-0.1**
MKZ	**Mys Kozlova**	**0.92**	**357**	*e*P	**Pn**	**Pn**	**01 44 36.7**	**-1.6**
MKZ				*e*S	**Sb**	**Sb**	**01 44 49.7**	**-0.1**
SPN	**Mys Shipunski**	**1.20**	**244**	PN	**Pn**	**Pn**	**01 44 40.7**	**-1.5**
SPN				S	**Sn**	**Sn**	**01 44 56.8**	**-0.9**
SPN	**Mys Shipunski**	**1.20**	**244**	*e*P	**Pn**	**Pn**	**01 44 40.7**	**-1.5**
SPN				*e*S	**Sn**	**Sn**	**01 44 56.8**	**-0.9**
KII	**Karymskiy**	**1.45**	**287**	PN	**Pn**	**Pn**	**01 44 45.0**	**-0.7**
KII	**Karymskiy**	**1.45**	**287**	*e*P	**Pn**	**Pn**	**01 44 45.0**	**-0.7**
NLC	**Nalytchevo**	**1.54**	**253**	PN	**Pn**	**Pn**	**01 44 47.3**	**+0.4**
NLC	**Nalytchevo**	**1.54**	**253**	*e*P	**Pn**	**Pn**	**01 44 47.3**	**+0.4**
KZV	**Kizimen**	**1.72**	**330**	PN	**Pn**	**Pn**	**01 44 49.3**	**-0.2**
KZV				S	**Sn**	**Sn**	**01 45 11.8**	**+1.0**
KZV	**Kizimen**	**1.72**	**330**	*e*P	**Pn**	**Pn**	**01 44 49.3**	**-0.2**
KZV				*e*S	**Sn**	**Sn**	**01 45 11.8**	**+1.0**
TUMD	**Tumrok D**	**1.77**	**333**	*e*P	**Pn**	**Pn**	**01 44 49.6**	**-0.4**
TUMD				*e*S	**Sn**	**Sn**	**01 45 12.2**	**+0.4**
SDLR	**Sedlovina**	**1.78**	**259**	PN	**Pn**	**Pn**	**01 44 49.6**	**-0.7**
SDLR				S	**Sn**	**Sn**	**01 45 12.3**	**0.0**
SDLR	**Sedlovina**	**1.78**	**259**	*e*P	**Pn**	**Pn**	**01 44 49.6**	**-0.7**
SDLR				*e*S	**Sn**	**Sn**	**01 45 12.3**	**0.0**
SMAR	**Somma**	**1.83**	**259**	PN	**Pn**	**Pn**	**01 44 50.5**	**-0.6**
SMAR				S	**Sn**	**Sn**	**01 45 13.8**	**+0.1**
SMAR	**Somma**	**1.83**	**259**	*e*P	**Pn**	**Pn**	**01 44 50.5**	**-0.6**
SMAR				*e*S	**Sn**	**Sn**	**01 45 13.8**	**+0.1**
UGLR	**Uglovaya**	**1.83**	**258**	PN	**Pn**	**Pn**	**01 44 50.7**	**-0.3**
UGLR				S	**Sn**	**Sn**	**01 45 14.2**	**+0.6**
UGLR	**Uglovaya**	**1.83**	**258**	*e*P	**Pn**	**Pn**	**01 44 50.7**	**-0.3**
UGLR				*e*S	**Sn**	**Sn**	**01 45 14.2**	**+0.6**
KRER	**Koryakskii**	**1.85**	**261**	PN	**Pn**	**Pn**	**01 44 51.1**	**-0.3**
KRER				S	**Sn**	**Sn**	**01 45 14.7**	**+0.5**
KRER	**Koryakskii**	**1.85**	**261**	*e*P	**Pn**	**Pn**	**01 44 51.1**	**-0.3**
KRER				*e*S	**Sn**	**Sn**	**01 45 14.7**	**+0.5**
AVH	**Avacha**	**1.87**	**260**	PN	**Pn**	**Pn**	**01 44 51.4**	**-0.1**
AVH				S	**Sn**	**Sn**	**01 45 16.8**	**+2.4**
AVH	**Avacha**	**1.87**	**260**	*e*P	**Pn**	**Pn**	**01 44 51.4**	**-0.1**
AVH				*e*S	**Sn**	**Sn**	**01 45 16.8**	**+2.4**
KRX	**Arik**	**1.90**	**263**	PN	**Pn**	**Pn**	**01 44 51.4**	**-0.6**
KRX				S	**Sn**	**Sn**	**01 45 15.4**	**0.0**
KRX	**Arik**	**1.90**	**263**	*e*P	**Pn**	**Pn**	**01 44 51.4**	**-0.6**
KRX				*e*S	**Sn**	**Sn**	**01 45 15.4**	**0.0**
TUMR	**Tumrok**	**1.91**	**330**	PN	**Pn**	**Pn**	**01 44 52.4**	**+0.3**
TUMR				S	**Sn**	**Sn**	**01 45 17.1**	**+1.7**
TUMR	**Tumrok**	**1.91**	**330**	*e*P	**Pn**	**Pn**	**01 44 52.4**	**+0.3**
TUMR				*e*S	**Sn**	**Sn**	**01 45 17.1**	**+1.7**
KOK	**Koryaka**	**1.92**	**261**	PN	**Pn**	**Pn**	**01 44 51.9**	**-0.4**
KOK				S	**Sn**	**Sn**	**01 45 15.9**	**+0.1**
KOK	**Koryaka**	**1.92**	**261**	*e*P	**Pn**	**Pn**	**01 44 51.9**	**-0.4**
KOK				*e*S	**Sn**	**Sn**	**01 45 15.9**	**+0.1**
DALK	**Dalny**	**1.93**	**253**	PN	**Pn**	**Pn**	**01 44 51.8**	**-0.4**
DALK	**Dalny**	**1.93**	**253**	*e*P	**Pn**	**Pn**	**01 44 51.8**	**-0.4**
PET	**Petropavlovsk**	**1.99**	**253**	*e*PN	**Pn**	**Pn**	**01 44 53.1**	**+0.1**
PET				*e*S	**Sn**	**Sn**	**01 45 17.3**	**+0.1**
PET				smax	smax			
	comp=E,1μm,0.7s							
PET				smax	smax			
	comp=N,731nm,0.6s							
PET				MLR	MLR			
	comp=Z,700nm,10.0s							
PET				MLR	MLR			
	comp=Z,1μm,15.0s							
PET	**Petropavlovsk**	**1.99**	**253**	*e*P	**Pn**	**Pn**	**01 44 53.3**	**+0.3**
PET				*e*S	**Sn**	**Sn**	**01 45 18.3**	**+1.1**
PET	**Petropavlovsk**	**1.99**	**253**		**Pn**	**Pn**	**01 44 52.1**	**-0.9**
GNL	**Ganaly**	**2.30**	**273**	PN	**Pn**	**Pn**	**01 44 57.6**	**+0.2**
GNL				S	**Sn**	**Sn**	**01 45 25.6**	**+0.6**
GNL	**Ganaly**	**2.30**	**273**	*e*P	**Pn**	**Pn**	**01 44 57.6**	**+0.2**
GNL				*e*S	**Sn**	**Sn**	**01 45 25.6**	**+0.6**
KMNR	**Kamenistaya**	**2.31**	**337**	PN	**Pn**	**Pn**	**01 44 59.2**	**+1.7**
KMNR	**Kamenistaya**	**2.31**	**337**	*e*P	**Pn**	**Pn**	**01 44 59.2**	**+1.7**
RUS	**Russkaya**	**2.33**	**240**	PN	**Pn**	**Pn**	**01 44 58.1**	**+0.4**
RUS				S	**Sn**	**Sn**	**01 45 27.0**	**+1.5**
RUS	**Russkaya**	**2.33**	**240**	*e*P	**Pn**	**Pn**	**01 44 58.1**	**+0.4**
RUS				*e*S	**Sn**	**Sn**	**01 45 27.0**	**+1.5**
KRMR	**Karymshinskiy**	**2.35**	**251**	PN	**Pn**	**Pn**	**01 44 58.7**	**+0.7**
KRMR				S	**Sn**	**Sn**	**01 45 27.7**	**+1.5**
KRMR	**Karymshinskiy**	**2.35**	**251**	*e*P	**Pn**	**Pn**	**01 44 58.7**	**+0.7**
KRMR				*e*S	**Sn**	**Sn**	**01 45 27.7**	**+1.5**
KIRR	**Kirishev**	**2.46**	**341**	PN	**Pn**	**Pn**	**01 45 00.5**	**+0.8**
KIRR				S	**Sn**	**Sn**	**01 45 31.2**	**+2.0**
KIRR	**Kirishev**	**2.46**	**341**	*e*P	**Pn**	**Pn**	**01 45 00.5**	**+0.8**
KIRR				*e*S	**Sn**	**Sn**	**01 45 31.2**	**+2.0**
MTVR	**Mutnovka**	**2.47**	**243**	PN	**Pn**	**Pn**	**01 45 00.9**	**+1.1**
MTVR				S	**Sn**	**Sn**	**01 45 32.0**	**+2.6**
MTVR	**Mutnovka**	**2.47**	**243**	*e*P	**Pn**	**Pn**	**01 45 00.9**	**+1.1**
MTVR				*e*S	**Sn**	**Sn**	**01 45 32.0**	**+2.6**
GRL	**Gorelyy**	**2.50**	**246**	PN	**Pn**	**Pn**	**01 45 01.5**	**+1.3**
GRL	**Gorelyy**	**2.50**	**246**	*e*P	**Pn**	**Pn**	**01 45 01.5**	**+1.3**
PEA0B	**Petropavlovsk-**	**2.52**	**259**	PN	**Pn**	**Pn**	**01 45 02.0**	**+1.7**
PEA0B	**Petropavlovsk-**	**2.52**	**259**		**Pn**	**Pn**	**01 45 02.0**	**+1.7**
PETK	**Petropavlovsk-**	**2.52**	**259**	Pn	**Pn**	**Pn**	**01 45 00.9**	**+0.6**
	comp=Z,26nm,0.3s,baz=82,slow=20,SNR=249							
PETK				Sn	**Sn**	**Sn**	**01 45 33.5**	**+3.3**
	comp=Z,24nm,0.3s,baz=256,slow=23,SNR=4.6							
PETK				LR	LR		01 46 11.7	
	comp=Z,323nm,18.4s,baz=136,slow=47							
PETK	**Petropavlovsk-**	**2.52**	**259**	PN	**Pn**	**Pn**	**01 45 01.9**	**+1.6**
PETK	**Petropavlovsk-**	**2.52**	**259**		**Pn**	**Pn**	**01 45 01.9**	**+1.6**
KBTR	**Krutoberegovo**	**2.64**	**12**	PN	**Pn**	**Pn**	**01 45 02.4**	**+0.4**
KBTR	**Krutoberegovo**	**2.64**	**12**	*e*P	**Pn**	**Pn**	**01 45 02.4**	**+0.4**
KOZ	**Kozyrevsk**	**2.67**	**336**	PN	**Pn**	**Pn**	**01 45 03.6**	**+1.2**
KOZ	**Kozyrevsk**	**2.67**	**336**	*e*P	**Pn**	**Pn**	**01 45 03.6**	**+1.2**
KBG	**Krutoberegovo**	**2.67**	**11**	PN	**Pn**	**Pn**	**01 45 02.4**	**0.0**
KBG	**Krutoberegovo**	**2.67**	**11**	*e*P	**Pn**	**Pn**	**01 45 02.4**	**0.0**
ASAK	**Asacha**	**2.67**	**243**	PN	**Pn**	**Pn**	**01 45 04.2**	**+1.7**
ASAK	**Asacha**	**2.67**	**243**	*e*P	**Pn**	**Pn**	**01 45 04.2**	**+1.7**
KLY	**Klyuchi**	**2.76**	**347**	PN	**Pn**	**Pn**	**01 45 05.1**	**+1.5**
KLY				S	**Sn**	**Sn**	**01 45 37.3**	**+1.1**
KLY	**Klyuch

TIXI	**Tiksi**	**23.02**	**334**	P	**P**	**01 49 22.6**	**-1.2**		
	comp=Z,2.5nm,0.5s,baz=126,slow=8.7,SNR=2.5								
TIXI	**Tiksi**	**23.02**	**334**	IAmb	IAmb	01 50 13.1			
	comp=Z,9.9nm,1.8s								
MAJO	**Matsushiro**	**23.69**	**233**	P	**P**	**01 49 31.5**	**+0.8**		
MAJO				pmax	pmax				
	comp=Z,16nm,0.8s								
MAJO	**Matsushiro**	**23.69**	**233**	P	**P**	**01 49 31.5**	**+0.8**		
MAJO				IAmb	IAmb	01 49 43.0			
	comp=Z,16nm,0.8s								
MAT	**Matsushiro**	**23.69**	**233**	P	**P**	**01 49 32.3**	**+1.5**		
MJAR	**Matsushiro Arr**	**23.69**	**233**	P	**P**	**01 49 32.2**	**+1.5**		
	comp=Z,8.8nm,0.8s,baz=27,slow=12,SNR=11								
MJAR	**Matsushiro Arr**	**23.69**	**233**	P	**P**	**01 49 30.8**	**0.0**		
MJAR				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MJAR	**Matsushiro Arr**	**23.69**	**233**	P	**P**	**01 49 30.8**	**0.0**		
MJAR				IAmb	IAmb	01 49 45.8			
	comp=Z,4.3nm,0.8s								
IMAR	**Indian Mountai**	**24.90**	**43**	P	**P**	**01 49 41.2**	**-0.4**		
KDAK	**Kodiak Island**	**25.64**	**62**	P	**P**	**01 49 47.2**	**-1.1**		
	comp=Z,8.0nm,0.8s,baz=294,slow=10.0,SNR=1.7								
TOLK	**Toolik Lake Re**	**26.91**	**37**	P	**P**	**01 49 59.5**	**-0.3**		
TOLK				IAmb	IAmb	01 50 12.2			
	comp=Z,23nm,1.9s								
ILAR	**Eielson Array**	**27.70**	**46**	P	**P**	**01 50 06.1**	**-0.8**		
	comp=Z,1.2nm,0.8s,baz=261,slow=8.3,SNR=12								
KSRS	**Korea Array**	**28.37**	**249**	P	**P**	**01 50 13.4**	**+0.3**		
	comp=Z,1.1nm,0.6s,baz=41,slow=9.6,SNR=4.8								
KSRS				LR	LR	02 00 52.0			
	comp=Z,25nm,18.4s,baz=45,slow=35								
BCAR	**Beaver Creek A**	**30.09**	**49**	P	**P**	**01 50 28.6**	**+0.5**		
INK	**Inuvik**	**32.80**	**38**	P	**P**	**01 50 52.2**	**+0.3**		
	comp=Z,0.7nm,0.5s,baz=278,slow=6.4,SNR=4.7								
INK	**Inuvik**	**32.80**	**38**	IAmb	IAmb	01 50 59.8			
	comp=Z,20nm,2.0s								
H11N2	**WAKE ISLAND Hy**	**34.08**	**171**	T	T	02 28 09.0			
	baz=355,slow=76,SNR=43								
H11N3	**WAKE ISLAND Hy**	**34.09**	**171**	T	T	02 28 37.1			
	baz=355,slow=76,SNR=43								
H11N1	**WAKE ISLAND Hy**	**34.09**	**171**	T	T	02 28 40.1			
	baz=355,slow=76,SNR=47								
TLY	**Talaya**	**34.48**	**291**	LR	LR	02 06 07.4			
	comp=Z,37nm,20.5s,baz=16,slow=38								
H11S1	**WAKE ISLAND Hy**	**35.27**	**172**	T	T	02 29 11.8			
	baz=348								
H11S3	**WAKE ISLAND Hy**	**35.28**	**172**	T	T	02 29 17.1			
	baz=349								
H11S2	**WAKE ISLAND Hy**	**35.29**	**172**	T	T	02 29 45.5			
	baz=348								
NRIK	**Noril'sk**	**36.05**	**325**	LR	LR	02 07 18.4			
	comp=Z,70nm,18.1s,baz=50,slow=38								
YKA	**Yellowknife Ar**	**42.06**	**44**	P	**P**	**01 52 10.6**	**+0.3**		
	comp=Z,0.2nm,0.5s,baz=300,slow=7.3,SNR=5.9								
MK31	**Makanchi Array**	**48.83**	**296**	P	**P**	**01 53 02.1**	**-2.1**		
MK31				pmax	pmax				
	comp=Z,1.0nm,1.1s								
MK31	**Makanchi Array**	**48.83**	**296**	P	**P**	**01 53 02.1**	**-2.1**		
MKAR	**Makanchi Array**	**48.83**	**296**	P	**P**	**01 53 01.4**	**-2.8**		
	comp=Z,0.3nm,0.5s,baz=61,slow=7.2,SNR=5.4								
ARCES	**ARCESS Array B**	**53.08**	**342**	P	**P**	**01 53 34.7**	**-1.1**		
	comp=Z,1.3nm,0.8s,baz=24,slow=7.4,SNR=0.9								
NVAR	**Mina Array Bea**	**54.59**	**72**	P	**P**	**01 53 49.2**	**+1.7**		
	comp=Z,0.8nm,0.6s,baz=301,slow=7.1,SNR=10								
NVAR	**Mina Array Bea**	**54.59**	**72**	P	**P**	**01 53 48.2**	**+0.7**		
PDAR	**Pinedale Array**	**56.36**	**62**	P	**P**	**01 54 01.6**	**+1.4**		
	comp=Z,0.5nm,0.6s,baz=298,slow=3.2,SNR=5.8								
SRU	**San Rafael Swe**	**58.43**	**66**	P	**P**	**01 54 15.6**	**+0.9**		
SRU				pmax	pmax				
	comp=Z,2.0nm,0.8s								
SRU	**San Rafael Swe**	**58.43**	**66**	P	**P**	**01 54 15.6**	**+0.9**		
SRU				IAmb	IAmb	01 54 16.6			
	comp=Z,2.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**59.29**	**259**	P	**P**	**01 54 21.8**	**+1.0**		
	comp=Z,1.1nm,0.4s,baz=27,slow=6.8,SNR=8.5								
FINES	**FINESS Array B**	**60.02**	**337**	P	**P**	**01 54 24.3**	**-0.8**		
	comp=Z,4.5nm,1.0s,baz=23,slow=7.5,SNR=7.7								
NOA	**NORSAR Array B**	**63.29**	**344**	P	**P**	**01 54 46.5**	**-0.8**		
	comp=Z,0.1nm,0.4s,baz=32,slow=5.8,SNR=5.6								
HFS	**Hagfors**	**63.73**	**343**	P	**P**	**01 54 49.1**	**-1.0**		
	comp=Z,1.2nm,0.6s,baz=62,slow=6.7,SNR=5.1								
TX32	**Lajitas Array**	**69.48**	**68**	P	**P**	**01 55 28.1**	**+0.7**		
TX32				IAmb	IAmb	01 55 54.0			
	comp=Z,11nm,1.9s								
TXAR	**Lajitas Array**	**69.48**	**68**	P	**P**	**01 55 28.4**	**+1.0**		
	comp=Z,0.6nm,0.5s,baz=300,slow=5.2,SNR=11								
TXAR	**Lajitas Array**	**69.48**	**68**	P	**P**	**01 55 28.1**	**+0.7**		
TXAR	**Lajitas Array**	**69.48**	**68**	P	**P**	**01 55 28.1**	**+0.7**		
KBZ	**Khabaz**	**69.83**	**317**	P	**P**	**01 55 29.1**	**-0.1**		
	comp=Z,0.7nm,0.7s,baz=153,slow=2.3,SNR=2.2								
GERES	**GERESS Array B**	**74.38**	**339**	P	**P**	**01 55 56.3**	**-0.2**		
	comp=Z,0.1nm,0.3s,baz=0.0,slow=4.9,SNR=1.9								
WRA	**Warramunga Arr**	**77.02**	**206**	P	**P**	**01 56 11.7**	**0.0**		
	comp=Z,0.5nm,0.6s,baz=22,slow=6.1,SNR=5.8								
ASAR	**Alice Springs**	**80.69**	**206**	P	**P**	**01 56 32.5**	**+0.7**		
	comp=Z,0.7nm,0.7s,baz=23,slow=5.5,SNR=6.0								

*NOU **27** 01:47:40.5, 36°.62S × 178°.58E, h233 km, MLv4.4, Off E. Coast of N. Island, N.Z.*

WEL 27 01:47:32.4, 36°S ± 1°.9, 17°.9E ± 1°.9, h240 km ± 10 km, M4.1/39, mB4.7/4, MLv4.2/39, Mw(mB)3.9/4, Error ellipse: s-maj=0.0km s-min=0.0km az=87.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.59**	**195**	P	Pn	01 48 10.3	-0.1
MXZ				S	S	01 48 37.7	-2.7
WMGZ	**Waiomatatini S**	**1.82**	**190**	P	Pn	01 48 13.5	+1.2
WMGZ				S	S	01 48 42.8	-1.1
HAZ	**Te Kaha**	**1.92**	**205**	P	Pn	01 48 13.2	0.0
HAZ				S	S	01 48 42.9	-2.5
PKGZ	**Pakihiroa**	**1.95**	**198**	P	Pn	01 48 14.2	+0.6
PUZ	**Puketiti**	**2.09**	**192**	P	Pn	01 48 16.0	+1.1
PUZ				S	S	01 48 46.1	-2.2
RUGZ	**Raukumara Rang**	**2.14**	**205**	P	Pn	01 48 15.7	+0.2
MWZ	**Matawai**	**2.52**	**204**	P	Pn	01 48 20.5	+1.3
MWZ				S	S	01 48 55.1	-1.1
KUZ	**Kuaotunu**	**2.60**	**253**	P	Pn	01 48 16.4	-3.5
URZ	**Urewera**	**2.62**	**211**	P	Pn	01 48 20.3	+0.2
URZ				S	S	01 48 55.7	-2.0
RAGZ	**Rawiri**	**2.71**	**204**	P	Pn	01 48 22.6	+1.4
RAGZ				S	S	01 49 00.0	+0.4
GRZ	**Great Barrier**	**2.73**	**264**	P	Pn	01 48 16.6	-4.8
RIGZ	**Rimuhau**	**2.81**	**197**	P	Pn	01 48 23.5	+1.4
TARZ	**Mount Tarawera**	**2.88**	**219**	P	Pn	01 48 25.4	+2.4
MUGZ	**Murupara**	**2.94**	**213**	P	Pn	01 48 24.7	+1.1
MUGZ				S	S	01 49 01.7	-2.3
RTZ	**Ruatahuna**	**2.97**	**209**	P	Pn	01 48 24.5	+0.5
RTZ				S	S	01 49 03.3	-1.5
PRGZ	**Paritu Road**	**2.99**	**194**	P	Pn	01 48 25.9	+1.8
KNZ	**Kokohu**	**3.13**	**197**	P	Pn	01 48 26.8	+1.3
RAHZ	**Arahi**	**3.20**	**205**	P	Pn	01 48 27.8	+1.4
RAHZ				S	S	01 49 08.9	-0.3
MHGZ	**Mahia Peninsul**	**3.21**	**193**	P	Pn	01 48 28.5	+2.0
MTHZ	**Maungataniwha**	**3.23**	**209**	P	Pn	01 48 27.8	+0.9
MTHZ				S	S	01 49 09.4	-0.5
WHHZ	**Waihua**	**3.30**	**202**	P	Pn	01 48 29.4	+1.9
WHHZ				S	S	01 49 11.2	0.0
NMHZ	**Naumai**	**3.46**	**207**	P	Pn	01 48 31.4	+2.0
BKZ	**Black Stump Fm**	**3.64**	**210**	P	Pn	01 48 32.7	+1.2
BKZ				S	S	01 49 17.5	-0.8
MCHZ	**McNeill Hill**	**3.81**	**206**	P	Pn	01 48 35.1	+1.7
KATZ	**Kakaramea**	**3.85**	**219**	P	Pn	01 48 36.3	+2.2
CKHZ	**Cape Kidnapper**	**3.88**	**200**	P	Pn	01 48 36.4	+2.1
CKHZ				S	S	01 49 23.8	+0.5
KWHZ	**Kaweka Forest**	**3.89**	**209**	P	Pn	01 48 35.4	+1.0
TMVZ	**Te Maari**	**3.96**	**218**	P	Pn	01 48 36.5	+1.2
ETVZ	**East Tongariro**	**3.97**	**218**	P	Pn	01 48 36.7	+1.3
OTVZ	**Otuiere**	**4.01**	**218**	P	Pn	01 48 37.3	+1.4
WTVZ	**West Tongariro**	**4.01**	**219**	P	Pn	01 48 37.1	+1.1
HIZ	**Hauiti**	**4.02**	**231**	P	Pn	01 48 38.6	+2.6
NGZ	**Ngauruhoe**	**4.05**	**218**	P	Pn	01 48 38.2	+1.7
TWVZ	**Taurewa**	**4.06**	**220**	P	Pn	01 48 38.6	+2.2
KAHZ	**Kahuranaki**	**4.06**	**202**	P	Pn	01 48 38.1	+1.6
KAHZ				S	S	01 49 28.7	+1.4
TUVZ	**Tukino**	**4.10**	**217**	P	Pn	01 48 38.1	+1.1
KRHZ	**Kereru**	**4.10**	**207**	P	Pn	01 48 37.5	+0.7
KRHZ				S	S	01 49 27.8	-0.3
FWVZ	**Far West T-bar**	**4.14**	**218**	P	Pn	01 48 38.9	+1.3
MOVZ	**Moawhango**	**4.16**	**215**	P	Pn	01 48 38.2	+0.5
WNVZ	**Wahianoa**	**4.17**	**217**	P	Pn	01 48 38.8	+0.9
PXZ	**Pawanui**	**4.29**	**201**	P	Pn	01 48 40.0	+1.0
PXZ				S	S	01 49 31.1	-1.0
PNHZ	**Pukenui**	**4.40**	**207**	P	Pn	01 48 41.0	+0.5
PNHZ				S	S	01 49 32.7	-1.9
WPHZ	**Waipukurau**	**4.45**	**204**	P	Pn	01 48 43.1	+2.0
WPHZ				S	S	01 49 35.3	-0.2
PRHZ	**Porangahau**	**4.57**	**201**	P	Pn	01 48 44.1	+1.5
PRHZ				S	S	01 49 38.4	+0.1
DVHZ	**Dannevirke**	**4.75**	**205**	P	Pn	01 48 45.3	+0.6
DVHZ				S	S	01 49 40.4	-1.9
NEZ	**North Egmont**	**4.95**	**228**	P	Pn	01 48 51.5	+4.2
KHEZ	**Kahui Hut**	**5.02**	**228**	P	Pn	01 48 51.3	+3.2
PRWZ	**Pori Road**	**5.05**	**205**	P	Pn	01 48 49.4	+1.1
BFZ	**Birch Farm**	**5.07**	**203**	P	Pn	01 48 49.4	+0.7
TIWZ	**Tintock**	**5.27**	**205**	P	Pn	01 48 52.1	+0.9
MRZ	**Mangatainoka R**	**5.28**	**208**	P	Pn	01 48 49.7	-1.5
CPWZ	**Castlepoint**	**5.29**	**202**	P	Pn	01 48 53.5	+2.2
HOWZ	**Holdsworth Sta**	**5.51**	**207**	P	Pn	01 48 54.2	0.0
OGWZ	**Otaki Gorge**	**5.58**	**210**	P	Pn	01 48 55.2	+0.3
BSWZ	**Blackbirch Sta**	**6.87**	**213**	P	Pn	01 49 11.7	+0.6
QRZ	**Quartz Range**	**6.88**	**244**	P	Pn	01 49 10.2	-1.2
THZ	**Tophouse**	**7.35**	**217**	P	Pn	01 49 16.9	-0.5
KHZ	**Kahutara**	**7.58**	**211**	P	Pn	01 49 19.8	-0.4
GVZ	**Greta Valley S**	**8.25**	**211**	P	Pn	01 49 29.0	+0.3
LTZ	**Lake Taylor**	**8.44**	**215**	P	Pn	01 49 30.6	-0.5
CTZ	**Chatham Island**	**8.46**	**157**	P	Pn	01 49 40.9	+10
INZ	**Inchbonnie**	**8.79**	**218**	P	Pn	01 49 35.9	+0.3
OKCZ	**Okains Bay**	**8.87**	**208**	P	Pn	01 49 36.8	+0.2
MQZ	**McQueen's Vall**	**9.02**	**210**	P	Pn	01 49 37.3	-1.1
AKCZ	**Akaroa Harbour**	**9.05**	**208**	P	Pn	01 49 39.2	+0.3
RPZ	**Rata Peaks**	**9.72**	**215**	P	Pn	01 49 47.5	0.0
GCSZ	**Gaunt Creek Bo**	**9.79**	**219**	P	Pn	01 49 48.2	0.0
ARCZ	**Arundel**	**9.84**	**214**	P	Pn	01 49 49.2	+0.2
TMZ	**Timaru**	**10.26**	**213**	P	Pn	01 49 54.5	+0.2
ODZ	**Otahua Downs**	**10.94**	**212**	P	Pn	01 50 03.8	+1.0
JCZ	**Jackson Bay**	**11.12**	**221**	P	Pn	01 50 05.3	+0.2

*IDC **27** 02:00:47.6 ± 2.0, 36°.42N × 71°.25E, h216 km ± 20 km, mb3.5/16, mb1 3.5/24, mb1mx3.2/70, mbtmp4.0/24, Error ellipse: s-maj=12.8km s-min=11.9km az=127.0*

*NEIC **27** 02:00:48.7 ± 1.5, 36°.52N ± 0°.08 × 71°.26E ± 0°.10, h227 km ± 3 km, mb4.0/13, Error ellipse: s-maj=11.6km s-min=10.6km az=220.0*

*NNC **27** 02:00:51.8 ± 1.9, 36°.81N × 71°.22E, h213 km ± 19 km, mb3.4, mpv4.5, Error ellipse: s-maj=18.5km s-min=10.4km az=37.0*

ISC 27 02:00:46.9 ± 0.4, 36°.52N ± 0°.04 × 71°.24E ± 0°.04, h200 km, n102, σ1°79/114, mb3.9/20, 7C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.67**	**223**	Pn	**Pn**	**02 01 36.2**	**+3.2**
KBL	**Kabul**	**2.67**	**223**	P	**Pn**	**02 01 36.8**	**+3.8**
	SNR=9.7						
KBL				S	**Sn**	**02 02 13.7**	**+4.9**
NIL	**Nilore**	**3.31**	**149**	Pn	**Pn**	**02 01 44.1**	**+3.8**
NIL	**Nilore**	**3.31**	**149**	P	**Pn**	**02 01 44.2**	**+4.0**
THW	**Thamme Wali**	**3.74**	**173**	P	**Pn**	**02 01 48.8**	**+3.2**
SARP	**Sargodha**	**4.74**	**165**	P	**Pn**	**02 02 00.3**	**+2.3**
TAS	**Tashkent**	**5.03**	**343**	Pn	**Pn**	**02 02 03.9**	**+2.3**
THN	**Thein Dam**	**5.50**	**137**	*eP*	**Pn**	**02 02 10.5**	**+2.7**
THN				*eS*	**Sn**	**02 03 12.0**	**+0.4**
AML	**Almayashu**	**5.92**	**18**	P	**Pn**	**02 02 15.4**	**+2.0**
	SNR=235						
DHRM	**DHARAMSHALA**	**5.97**	**134**	*eP*	**Pn**	**02 02 15.3**	**+1.2**
DHRM				*eS*	**Sn**	**02 03 21.6**	**-1.3**
DHRM				IAML		02 03 22.8	
	comp=E,982nm,0.6s						
DHRM				IAML		02 03 23.1	
	comp=N,547nm,0.7s						
UCH	**Uchtor**	**6.24**	**23**	P	**Pn**	**02 02 19.7**	**+2.1**
	SNR=34						
EKS2	**Erkin-Say**	**6.44**	**17**	P	**Pn**	**02 02 22.7**	**+2.8**
	SNR=12						
KK31	**Karatay Array**	**6.60**	**355**	P	**Pn**	**02 02 23.6**	**+1.8**
	comp=N,4.6nm,0.4s,baz=181,slow=14,SNR=44						
KK31				⇑S	**Sn**	**02 03 34.9**	**-2.3**
	comp=N,36nm,0.6s,baz=187,slow=25,SNR=7.2						
KK31	**Karatay Array**	**6.60**	**355**	Pn	**Pn**	**02 02 23.6**	**+1.8**
KKAR	**Karatay Array**	**6.60**	**355**	Pn	**Pn**	**02 02 23.4**	**+1.6**
KKAR	**Karatay Array**	**6.60**	**355**		**Pn**	**02 02 23.3**	**+1.5**
AAK	**Ala-Archa**	**6.61**	**21**	P	**Pn**	**02 02 24.4**	**+2.3**
	comp=N,5.9nm,0.3s,baz=197,slow=7.3,SNR=55						
AAK				S	**Sn**	**02 03 37.2**	**-0.4**
	comp=N,1.8nm,0.3s,baz=332,slow=23,SNR=22						
AAK	**Ala-Archa**	**6.61**	**21**	P	**Pn**	**02 02 24.4**	**+2.3**
	SNR=23						
AAK	**Ala-Archa**	**6.61**	**21**	⇑P	**Pn**	**02 02 24.3**	**+2.3**
	comp=N,13nm,0.5s						
AAK				⇑S	**Sn**	**02 03 38.3**	**+0.8**
	comp=N,69nm,0.8s						
AAK	**Ala-Archa**	**6.61**	**21**	Pn	**Pn**	**02 02 23.8**	**+1.7**
AAK	**Ala-Archa**	**6.61**	**21**	P	**Pn**	**02 02 24.5**	**+2.4**
AAK				S	**Sn**	**02 03 38.6**	**+1.0**
KBK	**Karagaybulak**	**6.76**	**24**	P	**Pn**	**02 02 26.5**	**+2.4**
	SNR=29						
ULHL	**Ulahol**	**6.91**	**33**	P	**Pn**	**02 02 27.4**	**+1.4**
	SNR=23						
CHMS	**Chumysh**	**7.01**	**22**	P	**Pn**	**02 02 29.9**	**+2.6**
	SNR=5.6						
USP	**Osenovka**	**7.19**	**19**	P	**Pn**	**02 02 29.3**	**-0.3**
	SNR=11						
TKM2	**Tokmak 2**	**7.22**	**26**	P	**Pn**	**02 02 32.1**	**+2.0**
	SNR=23						
TKM2	**Tokmak 2**	**7.22**	**26**	⇑P	**Pn**	**02 02 31.9**	**+1.8**
	comp=N,64nm,1.1s						
TKM2				⇓S	**Sn**	**02 03 51.7**	**-0.4**
	comp=N,29nm,1.1s						
SMLA	**Simla**	**7.29**	**136**	*eP*	**Pn**	**02 02 32.7**	**+1.7**
SMLA				*eS*	**Sn**	**02 03 50.5**	**-3.1**
SMLA				IAML		02 03 53.6	
	comp=E,188nm,0.1s						
SMLA				IAML		02 03 53.8	
	comp=N,142nm,0.6s						
KST	**Kastek**	**7.46**	**28**	Lg	Lg	02 03 53.5	
	comp=N,13nm,0.6s						
HRA	**Herat**	**7.64**	**256**	Pn	**Pn**	**02 02 38.2**	**+2.5**
IZV	**Izvestkoviy**	**7.71**	**31**	P	**Pn**	**02 02 38.2**	**+1.8**
	comp=N,12nm,0.5s						
MTBS	**Maitube**	**7.71**	**30**	P	**Pn**	**02 02 38.2**	**+1.8**
	comp=N,24nm,0.6s						
TNSS	**Tian-Shan**	**7.85**	**32**	P	**Pn**	**02 02 40.1**	**+1.6**
	comp=N,26nm,0.6s						
MDOK	**Medeo**	**8.00**	**32**	⇑P	**Pn**	**02 02 41.5**	**+1.4**
	comp=N,18nm,0.6s						
KOTS	**Kotyrbulak**	**8.08**	**32**	P	**Pn**	**02 02 43.2**	**+1.9**
	comp=N,35nm,0.3s						
KUU	**Kurty**	**8.33**	**26**	P	**Pn**	**02 02 45.8**	**+1.4**
	comp=N,7.3nm,0.7s						
SATY	**Saty**	**8.54**	**38**	P	**Pn**	**02 02 49.2**	**+1.9**
	comp=N,3.3nm,0.6s						
ARXS	**Arharly**	**9.18**	**31**	P	**Pn**	**02 02 57.9**	**+2.5**
	comp=N,9.4nm,0.5s						
NDI	**New Delhi**	**9.30**	**146**	*eP*	**Pn**	**02 03 01.0**	**+3.9**
GEYT	**Alibeck**	**10.56**	**282**	P	**Pn**	**02 03 13.8**	**+0.4**
	comp=N,0.4nm,0.3s,baz=91,slow=14,SNR=2.6						
GEYT				S	**Sn**	**02 05 07.4**	**-3.8**
	comp=N,0.2nm,0.3s,baz=70,slow=22,SNR=1.6						
MAKZ	**Makanchi**	**13.03**	**35**	⇓P	**Pn**	**02 03 44.5**	**-0.1**
	comp=N,4.9nm,0.6s						
MAKZ	**Makanchi**	**13.03**	**35**	Pn	**Pn**	**02 03 44.6**	**-0.1**
MK31	**Makanchi Array**	**13.16**	**35**	P	**Pn**	**02 03 46.8**	**+0.4**
	comp=N,1.1nm,0.6s,baz=218,slow=14,SNR=13						
MK31	**Makanchi Array**	**13.16**	**35**	Pn	**Pn**	**02 03 46.7**	**+0.4**
MKAR	**Makanchi Array**	**13.16**	**35**	P	**Pn**	**02 03 46.0**	**-0.3**
	comp=N,0.2nm,0.3s,baz=222,slow=14,SNR=16						
MKAR	**Makanchi Array**	**13.16**	**35**	Pn	**Pn**	**02 03 46.0**	**-0.3**
GKN	**Gorkha**	**14.15**	**123**	*eP*	**P**	**02 03 59.3**	**-1.3**
	comp=N,33nm,0.3s						
BHPL	**Bhopal**	**14.27**	**156**	*eP*	**P**	**02 04 02.5**	**+0.6**
DMN	**Daman**	**14.72**	**123**	*eP*	**P**	**02 04 06.4**	**-0.6**
	comp=N,44nm,0.5s						
KKN	**Kakani**	**14.72**	**122**	*eP*	**P**	**02 04 06.2**	**-0.8**
	comp=N,44nm,0.4s						
PKIN	**Phulchoki**	**14.94**	**123**	*eP*	**P**	**02 04 08.8**	**-0.6**
	comp=N,46nm,0.3s						
PKI	**Pulchoki**	**14.95**	**123**	*eP*	**P**	**02 04 09.0**	**-0.7**
	comp=N,50nm,0.3s						
KURBB	**Kurchatov Arra**	**15.04**	**18**	P	**Pn**	**02 04 08.8**	**-0.6**
	comp=N,0.1nm,0.3s,baz=206,slow=10,SNR=6.6						
KURBB	**Kurchatov Arra**	**15.04**	**18**	⇑P	**P**	**02 04 09.0**	**-1.0**
	comp=N,1.8nm,0.7s						
GUN	**Gumba**	**15.06**	**121**	*eP*	**P**	**02 04 10.3**	**-0.6**
	comp=N,28nm,0.4s						
KURK	**Kurchatov**	**15.15**	**18**	P	**Pn**	**02 04 08.8**	**-1.9**
AB31	**Akbulak array**	**15.16**	**331**	⇓P	**P**	**02 04 11.0**	**-0.3**
	comp=N,4.4nm,0.6s,baz=273,slow=34,SNR=65						
AB31				⇓S	**Sn**	**02 06 59.1**	**-1.5**
	comp=N,1.8nm,0.7s,baz=152,slow=23,SNR=6.5						
ABKAR	**Akbulak array**	**15.16**	**331**	P	**P**	**02 04 11.3**	**-0.1**
JIRN	**Jiri**	**15.43**	**121**	*eP*	**P**	**02 04 15.2**	**+0.2**
	comp=N,38nm,0.3s						
RAMN	**Ramite**	**16.16**	**122**	*eP*	**Pn**	**02 04 23.8**	**+0.3**
BVAR	**Borovoye Array**	**16.51**	**358**	P	**Pn**	**02 04 27.2**	**+0.1**
	comp=N,0.8nm,0.3s,baz=187,slow=14,SNR=10						
BRVK	**Borovoye**	**16.55**	**358**	⇑P	**Pn**	**02 04 29.8**	**+2.2**
	comp=N,1.6nm,0.5s						
BRVK	**Borovoye**	**16.55**	**358**	P	**Pn**	**02 04 28.8**	**+1.2**
BRVK				IAmb	IAmb	02 04 31.2	
	comp=Z,2.9nm,0.5s						
TAPN	**Taplejung**	**16.69**	**119**	*eP*	**Pn**	**02 04 31.2**	**+1.4**
	comp=Z,26nm,0.4s						
AKTO	**Aktyubinsk**	**16.86**	**330**	P	**Pn**	**02 04 31.7**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=139,slow=11,SNR=31						
AKTO	**Aktyubinsk**	**16.86**	**330**	⇓P	**Pn**	**02 04 31.8**	**+0.5**
	comp=Z,6.8nm,0.5s						
AKTO				⇓S	**S**	**02 07 34.6**	**-1.0**
	comp=Z,5.9nm,1.1s						
WSAR	**Wadi Sarin**	**17.14**	**223**	P	**P**	**02 04 32.5**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=64,slow=6.2,SNR=9.8						
UOSS	**Minazif**	**17.30**	**232**	P	**Pn**	**02 04 35.8**	**-0.9**
UOSS				IAmb	IAmb	02 04 36.6	
	comp=Z,6.0nm,0.8s						
UOSS	**Minazif**	**17.30**	**232**	P	**Pn**	**02 04 35.9**	**-0.8**
WBK	**Wadi Bani Khal**	**17.47**	**221**	P	**Pn**	**02 04 39.1**	**+0.3**
ASHO	**Ashiyiah**	**17.58**	**232**	P	**Pn**	**02 04 39.6**	**-0.5**
	SNR=12						
LSA	**Lhasa**	**18.00**	**106**	P	**P**	**02 04 43.5**	**+0.2**
LSA				IAmb	IAmb	02 04 47.7	
	comp=Z,6.1nm,0.7s						
BSY	**Bisya**	**18.34**	**225**	P	**Pn**	**02 04 48.0**	**-0.9**
	SNR=5.6						
MHTO	**MHTO**	**19.33**	**220**	P	**Pn**	**02 04 59.4**	**-1.3**
	SNR=6.2						
ZAA0	**Zalesovo Array**	**19.82**	**24**	P	**P**	**02 05 03.3**	**+1.3**
ZALV	**Zalesovo Beam**	**19.82**	**24**	P	**P**	**02 05 02.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=216,slow=9.8,SNR=4.8						
SHL	**Shillong**	**20.74**	**116**	P	**P**	**02 05 12.0**	**-0.5**
GNI	**Garni**	**21.07**	**288**	P	**P**	**02 05 15.4**	**-0.3**
GNI				IAmb	IAmb	02 05 20.9	
	comp=Z,6.0nm,0.9s						
KBZ	**Khabaz**	**22.76**	**297**	P	**P**	**02 05 31.9**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=144,slow=8.2,SNR=6.2						
KIV	**Kislovodsk**	**22.95**	**298**	P	**P**	**02 05 34.6**	**+0.9**
KIV				IAmb	IAmb	02 05 37.3	
	comp=Z,4.8nm,0.7s						
BELG	**Belogornoye**	**23.00**	**321**	P	**P**	**02 05 34.7**

TTSI	**Tana Toraja**	**4.07**	**314**	P		**Pn**	**02 15 25.6**	**-0.4**
SOEI	**Soe**	**4.11**	**159**			**Pn**	**02 15 30.7**	**+4.1**
SOEI	**Soe**	**4.11**	**159**	P		**Pn**	**02 15 25.6**	**-1.0**
BATI	**Baumata**	**4.37**	**168**	Pn		**Pn**	**02 15 32.9**	**+2.8**
	14nm,0.3s,baz=317,slow=0.8,SNR=7.2							
BATI				LR		LR	02 17 28.7	
	comp=Z,417nm,21.4s,baz=11,slow=41							
BATI	**Baumata**	**4.37**	**168**	P		**Pn**	**02 15 32.0**	**+1.9**
BASI	**Baing, Sumba**	**4.79**	**206**	P		**Pn**	**02 15 36.0**	**+0.1**
LUWI	**Luwuk**	**4.83**	**0**			**Pn**	**02 15 36.1**	**-0.3**
LUWI	**Luwuk**	**4.83**	**0**	P		**Pn**	**02 15 36.3**	**-0.1**
LUWI				S		**Sn**	**02 16 32.7**	**+1.5**
SANI	**Sanana**	**5.02**	**40**	P		**Pn**	**02 15 37.1**	**-1.8**
	0.2nm11nm,0.6s							
APSI	**Ampana**	**5.08**	**348**	P		**Pn**	**02 15 40.3**	**+0.4**
	0.3nm632nm53nm,0.9s							
NLAI	**Namlea**	**5.09**	**59**	P		**Pn**	**02 15 43.6**	**+3.7**
	0.1nm21nm,0.7s							
NLAI				S		**Sn**	**02 16 39.8**	**+2.3**
	0.1nm21nm,0.7s							
PLAI	**Plampang**	**5.72**	**239**	P		**Pn**	**02 15 49.4**	**+0.8**
	0.1nm14nm,0.8s							
MRSI	**Marisa**	**6.39**	**353**	P		**Pn**	**02 16 00.1**	**+2.2**
	0.3nm19nm,0.5s							
GTOI	**Gorontalo**	**6.50**	**2**	P		**Pn**	**02 16 01.7**	**+2.3**
	0.2nm11nm,0.6s							
TOLI2	**Tolitoli**	**7.24**	**344**			**Pn**	**02 16 08.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**12.44**	**167**	Pn		**Pn**	**02 17 22.1**	**+1.2**
	0.1nm,0.3s,baz=356,slow=14,SNR=1.6							
FITZ				LR		LR	02 22 37.8	
	comp=Z,43nm,20.1s,baz=313,slow=39							
MMPI	**Merauke**	**17.68**	**99**	P		**Pn**	**02 18 23.7**	**-6.2**
WRA	**Warramunga Arr**	**17.94**	**142**	P		**Pn**	**02 18 31.2**	**-1.8**
	0.1nm,0.3s,baz=315,slow=13,SNR=18							
WRA				LR		LR	02 26 59.9	
	comp=Z,47nm,18.2s,baz=320,slow=42							
WR0	**Warramunga Arr**	**18.07**	**142**	Pn		**Pn**	**02 18 33.9**	**-0.7**
AS31	**Alice Springs**	**20.67**	**150**	P		**P**	**02 19 04.2**	**+1.0**
ASAR	**Alice Springs**	**20.67**	**150**	P		**P**	**02 19 04.1**	**+0.9**
	1.1nm,0.6s,baz=340,slow=16,SNR=17							
ASAR				LR		LR	02 27 49.1	
	comp=Z,41nm,18.3s,baz=312,slow=39							
ASAR	**Alice Springs**	**20.67**	**150**	P		**P**	**02 19 05.7**	**+2.6**
RPSI	**Rantau Prapat**	**25.27**	**289**	P		**P**	**02 19 48.1**	**-1.3**
RPSI				IAmb		IAmb	02 19 53.9	
	comp=Z,13nm,1.0s							
RPSI	**Rantau Prapat**	**25.27**	**289**	P		**P**	**02 19 50.7**	**+1.3**
PSI	**Prapat**	**25.31**	**289**	P		**P**	**02 19 50.7**	**+0.8**
	comp=Z,3.3nm,0.4s,baz=179,slow=5.9,SNR=4.4							
CMAR	**Chiang Mai Arr**	**33.72**	**316**	LR		LR	02 37 13.4	
	comp=Z,29nm,19.0s,baz=192,slow=41							
SHL	**Shillong**	**43.33**	**318**	P		**P**	**02 22 25.5**	**+0.2**
MK31	**Makanchi Array**	**63.52**	**330**	P		**P**	**02 24 51.5**	**-1.5**
MK31				IAmb		IAmb	02 25 09.9	
	comp=Z,1.3nm,1.1s							
MKAR	**Makanchi Array**	**63.52**	**330**	P		**P**	**02 24 52.3**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=137,slow=5.8,SNR=7.1							
KBL	**Kabul**	**64.63**	**313**	P		**P**	**02 25 00.4**	**-0.4**
ZAA0	**Zalesovo Array**	**67.58**	**337**	P		**P**	**02 25 19.2**	**+0.2**
ZAA0				IAmb		IAmb	02 25 23.2	
	comp=Z,4.9nm,1.2s							
ZALV	**Zalesovo Beam**	**67.58**	**337**	P		**P**	**02 25 19.1**	**+0.1**
	comp=Z,1.1nm,0.2s,baz=141,slow=5.2,SNR=5.5							
ZALV	**Zalesovo Beam**	**67.58**	**337**	P		**P**	**02 25 19.2**	**+0.2**

*IDC **27** 02:30:54.4±1.0,15˚.18N×147˚.30E,h0km,mb3.8/9, mb1 4.0/9,mb1mx3.8/35,mbtmp3.8/9,MS3.1/3,Ms1 3.1/3, ms1mx2.7/54,Error ellipse: s-maj=32.6km s-min=19.7km az=110.0*

*NEIC **27** 02:30:58.8±1.1,15˚.1N±0˚.1×147˚.33E±0˚.10,h31km±7km, mb4.4/7,Error ellipse: s-maj=14.9km s-min=13.4km az=173.0*

ISC 27 02:30:57.0±0.7,**15˚.1N**±0˚.1×**147˚.4E**±0˚.1,**h18**km,**n29,** σ0s**67**/21,**mb4.2**/14,**MS2.9**/3,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ANA2	**Anatahan**	**2.00**	**308**	Pn		**Pn**	**02 31 30.6**	**+0.6**
PATS	**Pohnpei**	**13.54**	**126**	Pn		**Pn**	**02 34 08.0**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**18.82**	**77**	T		T	02 54 49.8	
	baz=265,slow=76							
H11S1	**WAKE ISLAND Hy**	**18.83**	**77**	T		T	02 54 51.2	
	baz=265,slow=76							
H11S2	**WAKE ISLAND Hy**	**18.83**	**77**	T		T	02 54 49.6	
	baz=265							
H11N1	**WAKE ISLAND Hy**	**19.20**	**73**	T		T	02 55 26.8	
	baz=256							
H11N2	**WAKE ISLAND Hy**	**19.20**	**73**	T		T	02 55 27.3	
	baz=256							
H11N3	**WAKE ISLAND Hy**	**19.21**	**73**	T		T	02 55 23.4	
	baz=256							
SIJI	**Sorong**	**22.47**	**226**	P		**P**	**02 35 56.0**	**+0.4**
	4.6nm,0.4s,baz=14,slow=12,SNR=7.1							
SIJI				LR		LR	02 43 54.7	
	comp=Z,52nm,22.0s,baz=76,slow=35							
FAKI	**Fak Fak**	**23.33**	**221**	P		**P**	**02 36 04.7**	**+0.3**
FAKI				IAmb		IAmb	02 36 07.4	
	comp=Z,16nm,1.0s							
KSRS	**Korea Array**	**28.15**	**326**	LR		LR	02 46 21.5	
	comp=Z,24nm,20.4s,baz=156,slow=33							
WR0	**Warramunga Arr**	**37.06**	**200**	P		**P**	**02 38 05.6**	**-0.6**
WR0				IAmb		IAmb	02 38 16.6	
	comp=Z,7.5nm,1.2s							
WRA	**Warramunga Arr**	**37.11**	**201**	P		**P**	**02 38 06.4**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=22,slow=9.2,SNR=9.5							
ASAR	**Alice Springs**	**40.72**	**199**	P		**P**	**02 38 37.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=21,slow=6.4,SNR=5.8							
CMAR	**Chiang Mai Arr**	**46.36**	**281**	P		**P**	**02 39 22.0**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=64,slow=5.9,SNR=6.1							
WMQ	**Urumqi**	**57.86**	**312**	P		**P**	**02 40 47.5**	**-0.4**
ZAA0	**Zalesovo Array**	**61.82**	**323**	P		**P**	**02 41 15.1**	**+0.3**
ZAA0				IAmb		IAmb	02 41 15.8	
	comp=Z,1.9nm,0.9s							
ZALV	**Zalesovo Beam**	**61.82**	**323**	P		**P**	**02 41 14.0**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=86,slow=7.4,SNR=4.6							
ZALV	**Zalesovo Beam**	**61.82**	**323**	P		**P**	**02 41 15.1**	**+0.3**
MK31	**Makanchi Array**	**62.09**	**315**	P		**P**	**02 41 16.8**	**-0.1**
MK31				IAmb		IAmb	02 41 26.5	
	comp=Z,2.2nm,1.4s							
MKAR	**Makanchi Array**	**62.09**	**315**	P		**P**	**02 41 17.2**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=90,slow=8.2,SNR=14							
ILAR	**Eielson Array**	**66.17**	**25**	P		**P**	**02 41 42.0**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=254,slow=5.9,SNR=1.7							
NIL	**Nilore**	**68.68**	**301**	P		**P**	**02 41 59.5**	**-0.3**
NIL				IAmb		IAmb	02 42 01.3	
	comp=Z,3.2nm,0.7s							
KK31	**Karatay Array**	**70.28**	**311**	P		**P**	**02 42 09.3**	**-0.2**
KKAR	**Karatay Array**	**70.28**	**311**	P		**P**	**02 42 09.3**	**-0.2**
BBB	**Bella Bella**	**74.89**	**39**	LR		LR	03 09 10.8	
	comp=Z,17nm,20.0s,baz=314,slow=31							
ABKAR	**Akbulak array**	**77.04**	**318**	P		**P**	**02 42 48.5**	**-0.5**
YKA	**Yellowknife Ar**	**80.41**	**28**	P		**P**	**02 43 08.0**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=284,slow=4.7,SNR=3.1							
NVAR	**Mina Array Bea**	**84.10**	**52**	P		**P**	**02 43 28.8**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=268,slow=6.3,SNR=2.7							

IDC 27 02:42:33.4±2.2,**2˚.11N**×**127˚.27E**,**h0**km,**mb3.5**/4, **mb1 3.7**/4,**mb1mx3.5**/31,**mbtmp3.5**/4,**Error ellipse: s-maj=121.1km s-min=27.1km az=69.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.14**	**184**	P		P	02 47 09.1	-0.2
	2.2nm,0.8s,baz=10,slow=11,SNR=1.8							
WRA	**Warramunga Arr**	**22.99**	**163**	P		P	02 47 39.1	-0.7
	1.3nm,0.4s,baz=342,slow=11,SNR=10							
ASAR	**Alice Springs**	**26.42**	**166**	P		P	02 48 12.9	+0.9
	0.3nm,0.3s,baz=344,slow=11,SNR=4.7							
MKAR	**Makanchi Array**	**59.18**	**326**	P		P	02 52 36.1	-0.1
	0.1nm,0.4s,baz=124,slow=6.4,SNR=1.6							

*IDC **27** 03:03:37.2±2.0,24˚.14S×179˚.98W,h517km±20km,mb3.1/3, mb1 3.4/5,mb1mx3.1/37,mbtmp4.2/5,Error ellipse: s-maj=35.6km s-min=19.6km az=91.0*

ISC 27 03:03:37.7±1.2,**24˚.03S**±0˚.07×**179˚.9W**±0˚.2,**h550**km,**n24,** σ2s**02**/29,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**5.51**	**162**	P		**P**	**03 05 13.1**	**+1.3**
MSVF	**Nonsavu**	**6.55**	**343**	P		**P**	**03 05 20.9**	**-0.7**
	1.7nm,0.3s,baz=173,slow=7.4,SNR=7.9							
MSVF				S		**S**	**03 06 44.5**	**-1.9**
	1.8nm,0.3s,baz=107,slow=23,SNR=4.6							
OUZ	**Omahuta**	**12.50**	**205**	P		**P**	**03 06 23.8**	**+2.6**
MBAZ	**Motutapu North**	**13.47**	**198**	P		P	03 06 40.3	+9.1
MXZ	**Matakaoa Point**	**13.58**	**186**	P		**P**	**03 06 34.0**	**+1.7**
WMGZ	**Waiomatatini S**	**13.82**	**186**	P		**P**	**03 06 36.8**	**+2.0**
WMGZ				S		S	03 08 52.8	-7.9
HAZ	**Te Kaha**	**13.83**	**188**	P		**P**	**03 06 36.2**	**+1.3**
HAZ				S		**S**	**03 09 02.1**	**+1.3**
RUGZ	**Raukumara Rang**	**14.05**	**188**	P		**P**	**03 06 37.9**	**+0.6**
RUGZ				S		**S**	**03 09 03.0**	**-2.2**
PUZ	**Puketiti**	**14.09**	**186**	P		**P**	**03 06 40.1**	**+2.4**
PUZ				S		**S**	**03 08 59.4**	**-6.4**
TWGZ	**Tauwhareparae**	**14.22**	**187**	P		**P**	**03 06 40.6**	**+1.6**
TWGZ				S		**S**	**03 09 09.4**	**+1.0**
URZ	**Urewera**	**14.42**	**189**	P		**P**	**03 06 39.7**	**-1.3**
	6.6nm,0.3s,baz=301,slow=23,SNR=43							
URZ				S		**S**	**03 09 08.5**	**-3.5**
	0.5nm,0.3s,baz=116,slow=22,SNR=4.3							
NGRZ	**Ngongotaha**	**14.42**	**192**	P		P	03 06 47.9	+6.8
MWZ	**Matawai**	**14.43**	**188**	P		**P**	**03 06 41.2**	**+0.1**
MWZ				S		**S**	**03 09 10.0**	**-2.3**
CNKZ	**Carnagh Statio**	**14.50**	**186**	P		**P**	**03 06 44.0**	**+2.2**
RAGZ	**Rawiri**	**14.61**	**188**	P		**P**	**03 06 42.8**	**-0.2**
MUGZ	**Murupara**	**14.68**	**190**	P		**P**	**03 06 44.3**	**+0.6**
TMVZ	**Te Maari**	**15.50**	**193**	P		**P**	**03 06 52.7**	**+0.5**
ETVZ	**East Tongariro**	**15.52**	**193**	P		**P**	**03 06 52.6**	**+0.2**
WNVZ	**Wahianoa**	**15.72**	**193**	P		**P**	**03 06 54.3**	**-0.2**
RPZ	**Rata Peaks**	**21.00**	**199**	P		**P**	**03 07 42.9**	**+0.3**
	3.8nm,0.5s,baz=0.0,slow=6.1,SNR=3.7							
ASAR	**Alice Springs**	**42.10**	**261**	P		**P**	**03 10 43.3**	**+1.1**
	0.4nm,0.3s,baz=95,slow=7.3,SNR=9.6							
WRA	**Warramunga Arr**	**42.49**	**266**	P		**P**	**03 10 45.9**	**+0.7**
	0.8nm,0.3s,baz=106,slow=8.5,SNR=14							
HFS	**Hagfors**	**142.69**	**349**	PKP		**PKPdf**	**03 22 09.1**	**+1.1**
	1.5nm,0.4s,baz=48,slow=2.3,SNR=14							
AKASG	**Malin Array Be**	**145.13**	**327**	PKPbc		**PKiKP**	**03 22 16.4**	**-0.2**
	0.9nm,0.6s,baz=44,slow=4.1,SNR=2.6							

IDC 27 03:03:43.1±4.7,**16˚.26S**×**171˚.76W**,**h0**km,**mb3.8**/3, **mb1 4.2**/3,**mb1mx3.7**/42,**mbtmp3.8**/3,**Error ellipse: s-maj=339.5km s-min=32.4km az=150.0,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**51.19**	**257**	P		P	03 12 47.8	-0.8
	0.2nm,0.3s,baz=95,slow=8.1,SNR=5.4							
ASAR	**Alice Springs**	**51.35**	**253**	P		P	03 12 50.3	+0.4
	2.3nm,0.5s,baz=88,slow=8.1,SNR=29							
NVAR	**Mina Array Bea**	**73.92**	**41**	P		P	03 15 20.5	0.0
	0.3nm,0.6s,baz=221,slow=8.1,SNR=3.8							

*IDC **27** 03:04:05.3±0.3,36˚.25N×143˚.14E,h0km,mb5.2/45, mb1 5.3/52,mb1mx5.2/64,mbtmp5.2/52,ML4.3/7,MS4.8/34, Ms1 4.8/34,ms1mx4.6/47,Error ellipse: s-maj=10.2km s-min=9.4km az=59.0*

*NEIC **27** 03:04:07.3±1.1,36˚.37N±0˚.06×143˚.12E±0˚.08,h10km±1km, mb5.6/584,Ms_20 5.0/286,Mww5.4,Mwc5.4(GCMT),Error ellipse: s-maj=11.8km s-min=9.8km az=112.0*

*MOS **27** 03:04:07.3±0.9,36˚.47N×143˚.06E,h17km,mb5.7/95, MS5.0/54,Error ellipse: s-maj=5.9km s-min=3.4km az=116.8*

*JMA **27** 03:04:08.4±0.2,36˚.35N×143˚.04E,h56km,M5.3*

JMA Felt II J1.

*NIED **27** 03:04:08.5,36˚.35N×143˚.04E,h56km,MW5.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr-8.93; Mθθ4.57; Mϕϕ4.36; Mrθ1.84; Mθϕ4.60; Mϕr1.89; Fault plane solution: M0 9.37000×10^16^ NP1: ϕs225.00000°,δ53.00000°,λ-90.00000°. NP2:ϕs46.00000°, δ37.00000°,λ-89.00000°.*

*BJI **27** 03:04:08.4±0.0,36˚.55N×142˚.68E,h10km,mB5.4/67, mb5.1/80,Ms5.4/94,Ms7 5.2/87*

*GCMT **27** 03:04:09.3±0.1,36˚.33N±0˚.01×143˚.19E±0˚.01,h12km, MW5.4/155,Moment Tensor Solution. s111,c190; s155,c322; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr-1.35±.01; Mθθ0.77±.02; Mϕϕ0.58±.01; Mrθ0.14±.04; Mθϕ0.79±.01; Mϕr0.49±.04; Best double couple: M0 1.50300×10^17^ NP1:ϕs60.00000°,δ38.00000°, λ-72.00000°. NP2:ϕs217.00000°,δ55.00000°, λ-103.00000°. Principal axes: T 1.5360, Plg9.0000°, Azm317.0000°; N -0.0620, Plg11.0000°, Azm225.0000°; P -1.4700, Plg76.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **27** 03:04:10,36˚.34N×143˚.25E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-1.44; Mθθ0.83; Mϕϕ0.61; Mrθ-0.04; Mθϕ0.87; Mϕr0.11; Fault plane solution: M0 1.53000×10^17^ NP1:ϕs53.00000°, δ44.00000°,λ-83.00000°. NP2:ϕs224.00000°,δ46.00000°, λ-97.00000°. Principal axes: T 1.5993, Plg1.0000°, Azm318.0000°; N -0.1496, Plg5.0000°, Azm228.0000°; P -1.4497, Plg85.0000°, Azm59.0000°;*

*NEIC **27** 03:04:12,36˚.34N×143˚.12E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-1.33; Mθθ0.76; Mϕϕ0.57; Mrθ-1.06; Mθϕ0.88; Mϕr-0.52; Fault plane solution: M0 1.88000×10^17^ NP1:ϕs215.00000°, δ27.00000°,λ-111.00000°. NP2:ϕs59.00000°,δ65.00000°, λ-79.00000°. Principal axes: T 1.9569, Plg19.0000°, Azm141.0000°; N -0.1695, Plg9.0000°, Azm234.0000°; P -1.7874, Plg68.0000°, Azm349.0000°;*

*BGR **27** 03:04:18.2±0.0,37˚.58N×143˚.08E,h33km,mb5.6,Ms5.2*

ISC 27 03:04:09.9±0.4,**36˚.34N**±0˚.03×**143˚.17E**±0˚.03,**h41**km±3km, **h41**km:**pP-P,n1430,**σ2s**14**/558,**mb5.6**/526,**MS5.0**/235, **73C-99D,Fault plane solution: NP1:**ϕs36.12899°, δ72.62060°,λ-87.34240°. **NP2:**ϕs207.29598°,δ17.57522°, λ-98.42677°. **Principal axes:** T Plg27.5737°, Azm124.0093°; N Plg2.5362°, Azm215.3347°; P Plg62.2898°, Azm310.1722°; **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CHOJ	**Chosi**	**1.97**	**252**	P		**Pn**	**03 04 39.0**	**-1.8**
CHOJ				*e*S		**Sn**	**03 05 01.2**	**-3.1**
ONAJ	**Iwakimizuishiy**	**2.05**	**293**	P		**Pn**	**03 04 40.1**	**-1.8**
JHYU	**Hitachinakayam**	**2.08**	**271**	⇑P		**Pn**	**03 04 40.5**	**-1.8**
JHYU				*e*S		**Sn**	**03 05 03.7**	**-3.3**
JFK	**Kawauchi**	**2.11**	**300**	P		**Pn**	**03 04 40.8**	**-1.9**
JHO	**Hitachi**	**2.11**	**278**	⇑P		**Pn**	**03 04 40.5**	**-2.2**
JYT	**Yasato**	**2.40**	**268**	Pn		**Pn**	**03 04 44.9**	**-1.8**
JMM	**Marumori**	**2.44**	**310**	Pn		**Pn**	**03 04 45.5**	**-1.6**
BSO1	**Boso 1**	**2.45**	**227**	P		**Pn**	**03 04 45.6**	**-1.2**
BSO2	**Boso 2**	**2.52**	**232**	P		**Pn**	**03 04 50.0**	**+1.9**
JFT	**Otama**	**2.56**	**298**	P		**Pn**	**03 04 47.8**	**-1.0**
BSO3	**Boso 3**	**2.65**	**236**	P		**Pn**	**03 04 49.0**	**-0.9**
BSO4	**Boso 4**	**2.66**	**241**	P		**Pn**	**03 04 49.8**	**-0.4**
JKUC	**kamogawauchiur**	**2.68**	**245**	P		**Pn**	**03 04 49.8**	**-0.7**
JSB	**Shiboa**	**2.69**	**285**	P		**Pn**	**03 04 50.0**	**-0.6**
JAG	**Ashikaga**	**3.00**	**273**	P		**Pn**	**03 04 53.4**	**-1.5**
JMK	**Ichinoseki**	**3.04**	**330**	⇑P		**Pn**	**03 04 53.9**	**-1.5**
JMK				S		**Sn**	**03 05 28.4**	**-2.0**
JKT	**Katashina**	**3.18**	**279**	P		**Pn**	**03 04 57.3**	**-0.2**
JSGW	**Sagamiharawaka**	**3.29**	**258**	P		**Pn**	**03 04 58.6**	**-0.3**
JYK	**Kaneyama**	**3.41**	**320**	⇑P		**Pn**	**03 04 59.5**	**-1.0**
JNS	**Sasagawa**	**3.42**	**297**	P		**Pn**	**03 05 00.1**	**-0.5**
JIM2	**Oshima 3**	**3.45**	**243**	P		**Pn**	**03 04 59.4**	**-1.7**
JRY	**Ryogami san**	**3.46**	**266**	P		**Pn**	**03 04 59.6**	**-1.7**
JOM	**Ohasama**	**3.46**	**335**	P		**Pn**	**03 05 00.2**	**-1.1**
JOM				*e*S		**Sn**	**03 05 38.3**	**-2.8**
JOD2	**Odawara 2**	**3.48**	**253**	P		**Pn**	**03 05 00.3**	**-1.3**
AJI	**Ajiro2**	**3.56**	**250**	P		**Pn**	**03 05 01.1**	**-1.4**
JTHY	**Toshimahigashi**	**3.65**	**241**	P		**Pn**	**03 05 02.4**	**-1.4**
JHTM	**Izuhatsuma**	**3.65**	**249**	P		**Pn**	**03 05 02.7**	**-1.2**
JGK	**Kuni**	**3.66**	**275**	P		**Pn**	**03 05 03.0**	**-0.5**
JSKK	**Shikinejimakit**	**3.80**	**239**	P		**Pn**	**03 05 05.0**	**-0.9**
JMKN	**Mikurajimanish**	**3.81**	**231**	P		**Pn**	**03 05 03.5**	**-2.5**
JFNN	**Fujinakano**	**3.82**	**254**	P		**Pn**	**03 05 06.8**	**+0.7**
JYN	**Shimob**	**3.84**	**259**	P		**Pn**	**03 05 05.5**	**-1.1**
JIZS	**Izushimoda**	**3.85**	**246**	P		**Pn**	**03 05 04.8**	**-1.8**
MJAR	**Matsushiro Arr**	**4.00**	**274**	Pn		**Pn**	**03 05 08.0**	**-0.7**
	6.0nm,0.3s,baz=104,slow=8.3,SNR=144							
MJAR						Sn	**Sn**	**03 05 52.9**	**-1.4**
	7.6nm,0.3s,baz=90,slow=14,SNR=5.6							
MJAR				LR		LR	03 06 56.3	
	comp=Z,11μm,20.6s,baz=100,slow=43							
MJAR	**Matsushiro Arr**	**4.00**	**274**	P		**Pn**	**03 05 07.3**	**-1.4**
MJAR	**Matsushiro Arr**	**4.00**	**274**			**Pn**	**03 05 07.3**	**-1.4**
MAJO	**Matsushiro**	**4.00**	**274***c*	*i*P		**Pn**	**03 05 08.3**	**-0.4**
MAJO				pmax		pmax		
	comp=Z,244nm,0.8s							
MAJO	**Matsushiro**	**4.00**	**274**	Pn		**Pn**	**03 05 08.1**	**-0.6**
MAT	**Matsushiro**	**4.00**	**274**	P		**Pn**	**03 05 07.5**	**-1.2**
MAT				S		**Sn**	**03 05 54.4**	**0.0**
MAT	**Matsushiro**	**4.00**	**274**	P		**Pn**	**03 05 08.2**	**-0.5**
MJB9	**Matsu-Tunnel**	**4.01**	**274**	Pn		**Pn**	**03 05 08.9**	**+0.2**
JNG	**Nsakai**	**4.09**	**273**	P		**Pn**	**03 05 09.7**	**-0.2**
JJN	**Nakama**	**4.09**	**282**	P		**Pn**	**03 05 10.6**	**+0.7**
JNT	**Takato**	**4.10**	**265**	P		**Pn**	**03 05 10.9**	**+0.8**
JNT				S		**Sn**	**03 05 56.9**	**+0.1**
SHZ3	**Shizuoka 3**	**4.23**	**254**	P		**Pn**	**03 05 11.7**	**-0.1**
SHZ3				S		**Sn**	**03 05 59.6**	**-0.4**
JHJ2	**Mitsune**	**4.24**	**222**	P		**Pn**	**03 05 09.5**	**-2.4**
JHJ2	**Mitsune**	**4.24**	**222**	Pn		**Pn**	**03 05 09.9**	**-2.0**
JANG	**Nango**	**4.24**	**343**	P		**Pn**	**03 05 10.4**	**-1.5**
JANG				*e*S		**Sn**	**03 05 56.3**	**-3.8**
JHJ	**Hachijo jima 2**	**4.25**	**222**	Pn		**Pn**	**03 05 09.7**	**-2.3**
	comp=Z,238nm,0.3s,baz=71,slow=22,SNR=68							
JHJ						Sn	**Sn**	**03 05 54.4**	**-6.0**
	comp=Z,1μm,0.3s,baz=266,slow=18,SNR=7.7							
JSD	**Sado**	**4.27**	**295**	P		**Pn**	**03 05 11.1**	**-1.2**
JSD	**Sado**	**4.27**	**295**	Pn		**Pn**	**03 05 11.0**	**-1.3**
JSG	**Sagara**	**4.39**	**249**			**Pn**	**03 05 14.3**	**+0.4**
JNY	**Yasuok**	**4.42**	**259**	⇑P		**Pn**	**03 05 15.0**	**+0.6**
JYZW	**Yoshizawa**	**4.62**	**255**	P		**Pn**	**03 05 17.4**	**+0.3**
HMMJ	**Hamamatsu 2**	**4.67**	**253**	P		**Pn**	**03 05 19.4**	**+1.5**
JGN	**Niukaw**	**4.73**	**270**	P		**Pn**	**03 05 19.6**	**+0.9**
JTM	**Tenmabayashi**	**4.74**	**340**	Pn		**Pn**	**03 05 17.9**	**-0.9**
JGF	**Kuroka**	**4.77**	**263**	P		**Pn**	**03 05 20.0**	**+0.8**
JGF	**Kuroka**	**4.77**	**263**			**Pn**	**03 05 19.4**	**+0.1**
JAOM	**Aogashimamukai**	**4.78**	**217**	⇑P		**Pn**	**03 05 16.9**	**-2.4**
JSZ	**Suzu**	**4.78**	**285**	P		**Pn**	**03 05 19.7**	**+0.3**
INU	**Inuyama**	**5.09**	**261**	Pn		**Pn**	**03 05 23.1**	**-0.6**
JAA	**Atsumi**	**5.20**	**253**	P		**Pn**	**03 05 27.1**	**+2.0**
JYTA	**Yamagatataniai**	**5.27**	**264**	P		**Pn**	**03 05 25.6**	**-0.4**
JOT	**Ohata**	**5.30**	**342**	P		**Pn**	**03 05 26.3**	**-0.2**
ERM	**Erimo**	**5.67**	**360***d*	*i*P		**Pn**	**03 05 29.2**	**-2.3**
ERM				pmax		pmax		
	comp=Z,262nm,1.0s							
ERM	**Erimo**	**5.67**	**360**	Pn		**Pn**	**03 05 29.3**	**-2.3**
JFM	**Mihama**	**5.88**	**264**	P		**Pn**	**03 05 35.8**	**+1.3**
JKN2	**Miekihoku**	**6.01**	**252**	P		**Pn**	**03 05 36.1**	**-0.2**
JMMH	**Miemihama**	**6.37**	**249**	P		**Pn**	**03 05 40.9**	**-0.3**
JWT	**Wachi**	**6.39**	**263**			**Pn**	**03 05 40.8**	**-0.8**
JEW	**Eniwo**	**6.63**	**349**			**Pn**	**03 05 43.3**	**-1.4**
NMR	**Nemuro--Hokkai**	**7.30**	**15**	*e*P		Pn	03 05 49.9	-4.0
NMR				*i* S		Sn	03 07 07.0	-8.3
GLVR	**Golovnino**	**7.61**	**13**	*e*P		**Pn**	**03 05 55.7**	**-2.5**
GLVR				*i* S		**Sn**	**03 07 16.0**	**-7.1**
GLVR				pmax		pmax		
	comp=Z,356nm,0.5s							
GLVR				pmax		pmax		
	comp=E,119nm,0.2s							
GLVR				pmax		pmax		
	comp=N,138nm,0.4s							
ASAJ	**Asahikawa**	**7.79**	**357**	Pn		**

JSU **Suzuyama** **11.60 249** Pn **Pn** **03 06 53.5 +0.6**
KSRS **Korea Array** **12.26 280** Pn **Pn** **03 07 03.1 +1.3**
comp=Z,0.3nm,0.3s,baz=98,slow=13,SNR=42
KSRS LR LR 03 12 10.4
comp=Z,3μm,18.4s,baz=84,slow=40
KSAR **Wonju Array Be** **12.29 280** P **Pn** **03 07 01.9 -0.3**
KSAR **Wonju Array Be** **12.29 280** **Pn** **03 07 01.9 -0.3**
TJN **Taejon** **12.74 275**⇓*eP* **Pn** **03 07 08.6 +0.2**
UGL **Uglegorsk** **12.76 357** *eP* **Pn** **03 07 08.1 -0.5**
UGL S **Sn** **03 09 25.0 -4.2**
UGL pmax pmax
comp=Z,134nm,0.8s
MDJ **Mudanjiang** **13.22 313** P **Pn** **03 07 14.3 -0.6**
MDJ pP P 03 07 16.8 -7.2
MDJ S **Sn** **03 09 43.0 +2.5**
MDJ sS S 03 09 47.3 -16
MDJ pmax pmax
comp=Z,11nm,1.3s
MDJ pmax pmax
comp=Z,1μm,9.7s
MDJ LR LR
comp=Z,6μm,16.4s
MDJ LR LR
comp=Z,5μm,17.1s
MDJ LR LR
comp=Z,7μm,16.9s
MDJ **Mudanjiang** **13.22 313** **Pn** **03 07 14.8 -0.2**
INCN **Inchon** **13.28 280** P **Pn** **03 07 16.7 +0.8**
INCN **Inchon** **13.28 280** Pn **Pn** **03 07 16.7 +0.8**
INCN **Inchon** **13.28 280** P P 03 07 17.1 -7.7
INCN P P 03 07 17.1 -7.7
TYV **Tymovskoe** **14.53 359** *eP* **Pn** **03 07 31.9 -0.7**
TYV *eS* **Sn** **03 10 14.3 +2.1**
TYV pmax pmax
comp=Z,500nm,3.2s
TYV pmax pmax
comp=Z,57nm,0.9s
TYV smax smax
comp=E,23nm,1.4s
TYV smax smax
comp=E,700nm,5.3s
TYV MLR MLR
comp=Z,4μm,14.0s
JMZ **Minamidaito 2** **14.63 228** Pn P 03 07 35.2 -4.6
GRNR **Gornyy** **15.22 344**⇓*iP* **Pn** **03 07 39.9 -1.9**
GRNR *eS* **Sn** **03 10 29.6 +0.4**
GRNR pmax pmax
comp=N,70nm,0.9s
GRNR pmax pmax
comp=E,40nm,0.9s
GRNR pmax pmax
comp=Z,80nm,0.9s
GRNR smax smax
comp=E,8.0nm,0.7s
GRNR MLR MLR
comp=N,3μm,16.0s
GRNR MLR MLR
comp=E,2μm,16.0s
GRNR MLR MLR
comp=Z,5μm,15.0s
KLR **Kul'dur** **15.35 331** Pn **Pn** **03 07 40.2 -3.2**
comp=Z,1.3nm,0.3s,baz=131,slow=12,SNR=36
KLR PcP **PcP** **03 12 47.5 +1.6**
comp=Z,0.4nm,0.3s,baz=149,slow=3.7,SNR=3.7
KLR LR LR 03 14 33.0
comp=Z,6μm,18.1s,baz=142,slow=41
KLR **Kul'dur** **15.35 331** *deP* **Pn** **03 07 41.1 -2.4**
CN2 **Changchun** **15.46 304** *eP* **Pn** **03 07 42.5 -2.5**
CN2 *ePP* **pP** **03 07 54.5 -2.6**
CN2 *eS* **Sn** **03 10 34.5 -0.5**
CN2 pmax pmax
comp=Z,30nm,1.8s
CN2 pmax pmax
comp=Z,660nm,5.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,4μm,15.0s
CN2 LR LR
comp=Z,5μm,15.0s
SNY **Shenyang** **16.16 296** ⇓P **P** **03 07 54.0 -2.6**
SNY pmax pmax
comp=Z,24nm,1.2s
SNY LR LR
comp=Z,5μm,13.3s
SNY LR LR
comp=Z,11μm,16.1s
SNY LR LR
comp=Z,13μm,16.3s
SKR **Severo-Kuril's** **17.11 29** *eP* **Pn** **03 08 03.1 -2.6**
SKR *eS* **Sn** **03 11 09.7 -5.1**
SKR pmax pmax
comp=Z,300nm,4.1s
SKR MLR MLR
comp=Z,1μm,13.0s
OKH **Okha** **17.22 360** *deP* **P** **03 08 10.9 +2.7**
OKH *eS* **S** **03 11 23.3 -1.8**
OKH pmax pmax
comp=Z,500nm,6.1s
OKH smax smax
comp=N,800nm,8.8s
OKH smax smax
comp=E,600nm,19.9s
OKH MLR MLR
comp=N,2μm,17.0s
OKH MLR MLR
comp=Z,4μm,15.0s
OKH MLR MLR
comp=E,8μm,15.0s
DL2 **Dalian** **17.25 285** ⇑P **P** **03 08 06.8 -1.9**
DL2 S **S** **03 11 18.3 -7.8**
DL2 pmax pmax
comp=E,110nm,1.0s
DL2 pmax pmax
comp=E,2μm,5.3s
DL2 LR LR
comp=E,3μm,13.7s
DL2 LR LR
comp=E,4μm,17.0s
DL2 LR LR
comp=E,6μm,16.4s
SSE **Sheshan** **19.00 260** P **Pn** **03 08 27.3 -1.8**
SSE S **Sn** **03 11 59.5 -1.4**
SSE pmax pmax
comp=E,12nm,0.8s
SSE pmax pmax
comp=E,250nm,7.0s
SSE LR LR
comp=E,2μm,15.6s
SSE LR LR
comp=E,2μm,16.0s
PEA0B **Petropavlovsk-** **19.63 27** P **Pn** **03 08 36.7 +0.3**
PEA0B pmax pmax
comp=Z,348nm,1.5s
PEA0B **Petropavlovsk-** **19.63 27** P **Pn** **03 08 36.7 +0.3**
PETK **Petropavlovsk-** **19.63 27** P **Pn** **03 08 36.7 +0.3**
comp=Z,1.5nm,0.3s,baz=212,slow=9.9,SNR=30
PETK PcP **PcP** **03 12 54.7 +1.9**
comp=Z,0.2nm,0.3s,baz=106,slow=3.2,SNR=4.8
PETK LR LR 03 18 21.3
comp=Z,2μm,18.0s,baz=224,slow=43
PETK **Petropavlovsk-** **19.63 27** P **Pn** **03 08 36.1 -0.3**
PETK **Petropavlovsk-** **19.63 27** P **Pn** **03 08 36.1 -0.3**
PET **Petropavlovsk** **19.92 28** *eP* **Pn** **03 08 40.0 +0.2**
PET *eS* **S** **03 12 16.1 -3.5**
PET pmax pmax
comp=Z,158nm,1.1s
PET pmax pmax
comp=Z,2μm,5.9s
PET pmax pmax
comp=Z,3μm,5.7s
PET MLR MLR
comp=Z,3μm,16.0s
PET MLR MLR
comp=Z,3μm,14.0s
PET **Petropavlovsk** **19.92 28** P **Pn** **03 08 39.4 -0.4**
NJ2 **Nanjing** **20.54 265** *eP* Pn 03 08 45.5 -1.8
NJ2 pP pP 03 08 49.0 -4.0
NJ2 sP pwP 03 08 59.0 -3.5
NJ2 S Sn 03 12 36.8 -1.2
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,600nm,4.5s
NJ2 LR LR
comp=Z,3μm,14.5s
NJ2 LR LR
comp=Z,4μm,14.1s
NJ2 LR LR
comp=Z,3μm,14.5s
ZEA **Zeya** **20.64 332** *eP* Pn 03 08 46.3 -1.9
ZEA *eS* **S** **03 12 24.9 -8.9**
ZEA pmax pmax
comp=N,130nm,0.8s
ZEA pmax pmax
comp=E,80nm,0.8s
ZEA pmax pmax
comp=Z,220nm,0.8s
ZEA pmax pmax
comp=N,900nm,3.7s
ZEA pmax pmax
comp=E,800nm,3.7s
ZEA pmax pmax
comp=Z,2μm,3.8s
ZEA smax smax
comp=N,1μm,6.1s
ZEA smax smax
comp=E,2μm,9.3s
ZEA MLR MLR
comp=E,2μm,14.0s
ZEA MLR MLR
comp=N,4μm,16.0s
ZEA MLR MLR
comp=Z,4μm,15.0s
TIA **Tai'an** **20.98 277** P Pn 03 08 49.0 -3.4
TIA S **S** **03 12 36.0 -5.0**
TIA pmax pmax
comp=Z,23nm,1.0s
TIA pmax pmax
comp=Z,530nm,9.2s
TIA LR LR
comp=Z,3μm,12.7s
TIA LR LR
comp=Z,4μm,17.1s
TIA LR LR
comp=Z,5μm,16.3s
HIA **Hailar** **21.40 314** *deP* **P** **03 08 53.7 -0.2**
HIA pmax pmax
comp=Z,9.0nm,0.9s
HIA MLR MLR
comp=Z,4μm,17.0s
HIA **Hailar** **21.40 314** P **P** **03 08 54.9 +1.0**
HIA **Hailar** **21.40 314** IAMs_20 IAMs_20 03 18 07.2
comp=Z,4μm,18.0s
BJI **Beijing** **21.50 288** P **P** **03 08 55.0 -0.1**
BJI pmax pmax
comp=Z,21nm,1.0s
BJI LR LR
comp=Z,2μm,12.2s
BJI LR LR
comp=Z,3μm,14.9s
BJI LR LR
comp=Z,1μm,15.9s
BJT **Baijiatuao** **21.51 288** P **P** **03 08 54.2 -1.0**
BJT pmax pmax
comp=Z,62nm,0.9s
BJT **Baijiatuao** **21.51 288** P **P** **03 08 54.2 -1.0**
SSLB **Suanglung** **22.87 243** P **P** **03 09 09.5 -0.4**
YULB **Yu-li** **22.87 242** P **P** **03 09 10.2 +0.3**
TPUB **Ta-pu** **23.41 243** P **P** **03 09 15.6 +0.5**
MA2 **Magadan** **23.77 10** P **P** **03 09 19.2 +0.9**
comp=Z,60nm,0.7s,baz=198,slow=9.1,SNR=46
MA2 LR LR 03 19 38.5
comp=Z,2μm,19.4s,baz=205,slow=39
MA2 **Magadan** **23.77 10**⇓*iP* **P** **03 09 19.5 +1.2**
MA2 pmax pmax
comp=Z,185nm,1.7s
MA2 MLR MLR
comp=Z,1μm,18.0s
MA2 **Magadan** **23.77 10** P **P** **03 09 19.3 +1.0**
QZH **Quanzhou** **23.93 249** *eP* **P** **03 09 20.5 +0.4**
QZH S **S** **03 13 35.8 +2.0**
QZH LR LR
comp=Z,980nm,13.7s
QZH LR LR
comp=Z,3μm,15.2s
QZH LR LR
comp=Z,3μm,16.1s
TIY **Taiyuan** **24.52 282** *eP* **P** **03 09 26.5 +0.9**
TIY S **S** **03 13 45.8 +2.4**
TIY pmax pmax
comp=Z,970nm,5.1s
TIY LR LR
comp=Z,2μm,13.4s
TIY LR LR
comp=Z,4μm,15.7s
TIY LR LR
comp=Z,6μm,15.2s
WHN **Wuhan** **24.68 265** ⇓P **P** **03 09 27.8 +0.9**
WHN pP **pP** **03 09 36.8 +1.1**
WHN sP **sP** **03 09 39.5 -0.3**
WHN S **S** **03 13 50.0 +4.2**
WHN pmax pmax
comp=Z,100nm,1.0s
WHN pmax pmax
comp=Z,2μm,4.8s
WHN LR LR
comp=Z,8μm,13.9s
WHN LR LR
comp=Z,3μm,16.0s
WHN LR LR
comp=Z,11μm,14.5s
HHC **Hu-ho-hao-te** **25.03 290** *eP* **P** **03 09 32.5 +2.3**
HHC PP **PnPn** **03 10 04.5 -0.2**
HHC S **S** **03 13 51.8 +0.2**
HHC sS sS 03 14 00.5 -5.9
HHC pmax pmax
comp=Z,44nm,0.9s
HHC pmax pmax
comp=Z,950nm,4.2s
HHC LR LR
comp=Z,4μm,13.6s
HHC LR LR
comp=Z,1μm,12.8s
HHC LR LR
comp=Z,2μm,11.8s
CIT **Chita** **26.16 316** *eP* **P** **03 09 42.0 +1.8**
CIT *e* 03 10 28.2
CIT pmax pmax
comp=Z,1μm,2.4s
BTO **Baotou** **26.21 290** P **P** **03 09 43.3 +2.5**
BTO S **S** **03 14 07.5 -2.6**
BTO LR LR
comp=Z,14μm,14.5s
BTO LR LR
comp=Z,11μm,15.3s
BTO LR LR
comp=Z,9μm,15.5s
H11N2 **WAKE ISLAND Hy** **26.58 122** T T 03 37 32.8
baz=313,slow=75,SNR=22
H11N1 **WAKE ISLAND Hy** **26.59 122** T T 03 37 35.9
baz=313,slow=75,SNR=18
H11N3 **WAKE ISLAND Hy** **26.60 122** T T 03 37 33.1
baz=313,slow=75,SNR=110
WAKE **Wake Island** **26.73 123** IAMs_20 IAMs_20 03 17 10.3
comp=Z,3μm,21.0s
YAK **Yakutsk** **27.07 346** P **P** **03 09 49.2 +1.0**
comp=Z,68nm,0.8s,baz=1.4,slow=0.5,SNR=18
YAK LR LR 03 21 01.3
comp=Z,3μm,18.4s,baz=156,slow=37
YAK **Yakutsk** **27.07 346***c iP* **P** **03 09 49.7 +1.5**
YAK *e**PP pP 03 09 52.3 -4.8
YAK *e* 03 10 35.4
YAK *e*PPP PPP 03 10 41.1
YAK *e*S S 03 14 32.8 +10
YAK *e**SS **sS** **03 14 41.2 +3.1**
YAK *e*SSS SSS 03 15 55.3
YAK pmax pmax
comp=Z,106nm,0.9s
YAK pmax pmax
comp=N,39nm,1.3s
YAK pmax pmax
comp=E,17nm,0.9s
YAK pmax pmax
comp=Z,237nm,1.1s
YAK pmax pmax
comp=N,24nm,0.6s
YAK pmax pmax
comp=E,33nm,1.1s
YAK smax smax
comp=E,341nm,2.7s
YAK smax smax
comp=N,112nm,2.0s
YAK MLR MLR
comp=Z,4μm,16.0s
YAK MLR MLR
comp=N,3μm,15.0s
YAK MLR MLR
comp=E,3μm,18.0s
YAK **Yakutsk** **27.07 346** P **P** **03 09 49.9 +1.7**
YAK IAMs_20 IAMs_20 03 20 40.5
comp=Z,3μm,18.0s
SMY **Shemya** **27.19 43** P **P** **03 09 52.0 +2.7**
SMY pmax pmax
comp=Z,190nm,1.4s
SMY **Shemya** **27.19 43** P **P** **03 09 52.0 +2.7**
SMY IAmb IAmb 03 09 55.2
comp=Z,190nm,1.4s
SEY **Seymchan** **27.23 9** P **P** **03 09 52.6 +3.0**
comp=Z,35nm,0.8s,baz=197,slow=7.3,SNR=50
SEY **Seymchan** **27.23 9**⇓*eP* **P** **03 09 51.2 +1.6**
H11S1 **WAKE ISLAND Hy** **27.30 124** T T 03 38 02.5
baz=315,slow=75,SNR=8.9
H11S3 **WAKE ISLAND Hy** **27.30 124** T T 03 38 01.1
baz=315,slow=75,SNR=7.4
H11S2 **WAKE ISLAND Hy** **27.32 124** T T 03 38 01.5
baz=315,slow=75,SNR=8.7
SZP **Santa** **27.45 233** P **P** **03 09 52.6 +0.7**
SZP IAmb IAmb 03 09 54.5
comp=Z,129nm,0.8s
XAN **Xi'an** **28.00 275** P **P** **03 09 58.3 +1.4**
XAN S **S** **03 14 41.8 +3.4**
XAN pmax pmax
comp=Z,42nm,0.9s
XAN pmax pmax
comp=Z,1μm,6.2s
XAN LR LR
comp=Z,2μm,13.0s
XAN LR LR
comp=Z,2μm,16.9s
XAN LR LR
comp=Z,3μm,15.2s
XAN **Xi'an** **28.00 275** P **P** **03 09 58.2 +1.4**
XAN pmax pmax
comp=Z,150nm,1.0s
XAN MLR MLR
comp=Z,2μm,18.0s
XAN **Xi'an** **28.00 275** P **P** **03 09 58.2 +1.4**
XAN IAmb IAmb 03 10 13.9
comp=Z,150nm,1.0s
XAN **Xi'an** **28.00 275** IAMs_20 IAMs_20 03 21 53.4
comp=Z,2μm,18.0s
ENH **Enshi** **28.69 268** P **P** **03 10 03.6 +0.5**
ENH IAMs_20 IAMs_20 03 23 29.6
comp=Z,3μm,18.0s
BOD **Bodaibo** **28.87 327** *eP* P 03 10 05.9 +1.6
BOD pmax pmax
comp=Z,219nm,2.0s
ULN **Ulaanbaatar** **28.91 305***deP* P 03 10 07.2 +2.2
ULN pmax pmax
comp=Z,56nm,1.0s
ULN MLR MLR
comp=Z,2μm,17.0s
ULN **Ulaanbaatar** **28.91 305** P P 03 10 06.9 +1.9
ULN **Ulaanbaatar** **28.91 305** P P 03 10 08.2 +3.2
ULN P P 03 10 08.2 +3.2
ULN S S 03 14 58.9 +6.2
ULN S S 03 14 58.9 +6.2
GZH **Guangzhou** **28.94 251** P **P** **03 10 03.5 -1.8**
GZH S **S** **03 14 53.0 -0.3**
GZH LR LR
comp=Z,3μm,15.3s
GZH LR LR
comp=Z,3μm,16.1s
SONM **Songino Array** **29.34 305** P P 03 10 11.4 +2.6
comp=Z,35nm,0.9s,baz=98,slow=7.7,SNR=48
SONM LR LR 03 22 13.2
comp=Z,2μm,18.3s,baz=62,slow=37
SONM **Songino Array** **29.34 305** P P 03 10 10.5 +1.7
SONM pmax pmax
comp=Z,55nm,1.1s
SONM **Songino Array** **29.34 305** P P 03 10 10.5 +1.7
LZH **Lanzhou** **31.58 281** *eP* P 03 10 30.5 +1.8
LZH pP pP 03 10 34.5 -3.3
LZH sP sP 03 10 36.5 -5.3
LZH S **S** **03 15 31.5 -3.3**
LZH sS sS 03 15 40.3 -10
LZH SS **SnSn** **03 17 20.0 -2.6**
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,500nm,4.6s
LZH LR LR
comp=Z,3μm,12.5s
LZH LR LR
comp=Z,4μm,17.1s
LZH LR LR
comp=Z,4μm,17.9s
IRK **Irkutsk** **31.61 313** *eP* P 03 10 32.2 +3.6
IRK pmax pmax
comp=Z,148nm,2.5s
ZAK **Zakamensk** **31.80 309** *eP* P 03 10 32.5 +2.0
ZAK pmax pmax
comp=Z,74nm,1.2s
TLY **Talaya** **31.85 311** LR LR 03 23 46.1
comp=Z,3μm,19.0s,baz=104,slow=37
TLY **Talaya** **31.85 311** *eP* P 03 10 33.6 +2.8
TLY *eS* S 03 15 44.9 +6.5
TLY pmax pmax
comp=Z,145nm,1.3s
TLY MLR MLR
comp=Z,9μm,16.0s
TLY **Talaya** **31.85 311** P P 03 10 32.7 +2.0
TLY IAmb IAmb 03 10 48.3
comp=Z,56nm,0.9s
TLY IAMs_20 IAMs_20 03 25 07.7
comp=Z,4μm,18.0s
TLY **Talaya** **31.85 311** P P 03 10 35.8 +5.0
TLY P P 03 10 35.8 +5.0
TLY S S 03 15 45.9 +7.5
TLY S S 03 15 45.9 +7.5
ADK **Adak** **32.28 48** P **P** **03 10 36.2 +1.8**
ADK pmax pmax
comp=Z,73nm,0.8s
ADK **Adak** **32.28 48** P **P** **03 10 36.2 +1.8**
ADK IAmb IAmb 03 10 36.9
comp=Z,73nm,0.8s
GYA **Guiyang** **32.51 263** ⇑P **P** **03 10 37.5 +0.6**
GYA sP sP 03 10 50.0 +0.1
GYA PP **PP** **03 11 47.0 -3.8**
GYA PcP **PcP** **03 13 25.3 +2.2**
GYA S **S** **03 15 49.0 -0.4**
GYA pmax pmax
comp=Z,27nm,0.9s
GYA pmax pmax
comp=Z,310nm,5.2s
GYA LR LR
comp=Z,2μm,14.5s
GYA LR LR
comp=Z,2μm,14.7s
GYA LR LR
comp=Z,4μm,14.8s
CD2 **Chengdu** **33.09 272** P P 03 10 43.0 +1.1
CD2 S **S** **03 16 00.5 +2.2**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,460nm,11.6s
CD2 LR LR
comp=Z,5μm,15.7s
CD2 LR LR
comp=Z,4μm,16.5s
CD2 LR LR
comp=Z,7μm,16.2s
QIZ **Qiongzhong** **33.95 249** P **P** **03 10 49.8 +0.4**
QIZ PP **PP** **03 12 07.5 +0.7**
QIZ S S 03 16 17.5 +5.9
QIZ pmax pmax
comp=Z,440nm,13.9s
QIZ LR LR
comp=Z,2μm,16.5s
QIZ LR LR
comp=Z,2μm,17.8s
QIZ LR LR
comp=Z,1μm,16.7s
GTA **Gaotai** **34.12 289** ⇑P P 03 10 53.5 +2.7
GTA pP pP 03 10 57.5 -2.4
GTA sP sP 03 11 00.3 -3.7

GTA PcP **PcP** **03 13 30.3 +2.9**
GTA S S 03 16 22.5 +8.4
GTA PcS **PcS** **03 17 14.8 +1.1**
GTA pmax pmax
comp=Z,29nm,0.9s
GTA pmax pmax
comp=Z,660nm,4.4s
GTA LR LR
comp=Z,2µm,16.4s
GTA LR LR
comp=Z,2µm,15.3s
GTA LR LR
comp=Z,2µm,17.4s
BILL Bilibino 34.31 15*c i* P **P** **03 10 52.9 +0.9**
BILL *e* 03 12 10.2
BILL *e* 03 13 30.5
BILL pmax pmax
comp=Z,147nm,1.3s
BILL Bilibino 34.31 15 P **P** **03 10 52.9 +0.9**
BILL IAmb IAmb 03 10 54.7
comp=Z,104nm,1.0s
TIXI Tiksi 36.16 352 LR LR 03 27 33.6
comp=Z,2µm,18.3s,baz=168,slow=39
TIXI Tiksi 36.16 352⇑ *e*P **P** **03 11 09.2 +1.4**
TIXI pmax pmax
comp=Z,110nm,1.3s
TIXI Tiksi 36.16 352 P **P** **03 11 08.2 +0.4**
KMI Kunming 36.27 264 ⇑P P 03 11 10.8 +1.2
KMI sP sP 03 11 22.3 -0.3
KMI PP **PP** **03 12 32.5 0.0**
KMI S S 03 16 51.3 +3.8
KMI pmax pmax
comp=Z,26nm,0.6s
KMI pmax pmax
comp=Z,310nm,4.5s
KMI LR LR
comp=Z,2µm,14.5s
KMI LR LR
comp=Z,3µm,14.4s
KMI LR LR
comp=Z,3µm,14.7s
KMI Kunming 36.27 264 IAmb IAmb 03 11 24.4
comp=Z,93nm,1.1s
KMI Kunming 36.27 264 IAMs_20 IAMs_20 03 28 22.3
comp=Z,2µm,19.0s
SLVN Son La 37.23 257 IAMs_20 IAMs_20 03 28 38.0
comp=Z,2µm,18.0s
TNTI Ternate 38.30 206 P **P** **03 11 27.0 +0.4**
TNTI IAmb IAmb 03 11 30.6
comp=Z,139nm,1.4s
TNTI Ternate 38.30 206 P **P** **03 11 24.9 -1.6**
comp=Z,2µmcomp=Z,47nm,1.5s
MYLDM Lahad Datu 38.40 222 P P 03 11 28.9 +1.6
GAMB Gambell 38.59 30 P P 03 11 30.8 +2.3
GAMB Gambell 38.59 30 P 03 11 30.6
baz=247,SNR=14
SWI Sorong 38.63 199 P **P** **03 11 30.8 +1.5**
comp=Z,45nm,1.6s
KKM Kota Kinabalu 38.97 226 P P 03 11 34.3 +2.1
UBPT Khong Chiam 39.55 248 P P 03 11 39.8 +2.8
comp=Z,39nm,1.1s
NONG Nongkai 39.64 254 P P 03 11 40.0 +2.2
comp=Z,8µmcomp=Z,319nm,1.0s
GTOI Gorontalo 40.14 212 P P 03 11 44.0 +2.1
comp=Z,616nmcomp=Z,19nm,1.1s
FAKI Fak Fak 40.36 197 P **P** **03 11 44.5 +0.7**
FAKI Fak Fak 40.36 197 P **P** **03 11 44.4 +0.7**
comp=Z,1µmcomp=Z,26nm,0.9s
TOLI2 Tolitoli 40.73 216 P **P** **03 11 47.9 +1.1**
MRSI Marisa 40.75 214 P P 03 11 48.7 +1.7
comp=Z,2µmcomp=Z,66nm,1.2s
TNA Tin City 40.78 29 P 03 11 49.2
baz=249,SNR=32
KHON Khomkaen 40.90 252 P P 03 11 52.8 +4.5
comp=Z,94nm,1.0s
RABL Rabaul 41.18 166 P **P** **03 11 52.6 +2.1**
RABL IAmb IAmb 03 12 10.6
comp=Z,66nm,0.5s
SANI Sanana 41.41 207 P **P** **03 11 51.8 -0.6**
comp=Z,2µmcomp=Z,91nm,0.7s
ANM Nome 41.47 31 P P 03 11 54.6 +2.3
ANM pmax pmax
comp=Z,210nm,1.2s
ANM MLR MLR
comp=Z,900nm,21.0s
ANM Nome 41.47 31 P P 03 11 54.6 +2.3
ANM IAmb IAmb 03 11 57.0
comp=Z,210nm,1.2s
ANM Nome 41.47 31 P 03 11 55.4
baz=253,SNR=103
LUWI Luwuk 41.75 212 P **P** **03 11 54.9 -0.2**
CHAI Chaiyaphum 41.80 252 P P 03 11 57.3 +1.7
comp=Z,80nm,1.2s
UTTA Uttaradit 41.84 255 P P 03 11 57.9 +2.0
comp=Z,520nmcomp=Z,59nm,0.9s
DGZ Jazzator, Alta 41.94 307*d i* P P 03 11 58.7 +2.1
DGZ pmax pmax
comp=Z,62nm,0.9s
DGZ MLR MLR
comp=Z,1µm,15.0s
APSI Ampana 42.12 213 P **P** **03 11 58.2 +0.1**
comp=Z,910nmcomp=Z,89nm,1.1s
LAMP Lampang 42.12 257 P P 03 12 01.1 +2.8
comp=Z,59nm,0.9s
NLAI Namlea 42.13 204 P P 03 12 00.8 +2.5
comp=Z,42nm,1.2s
CM34 Chiang Mai Arr 42.32 258 P P 03 12 02.0 +2.1
WMQ Urumqi 42.41 298 *e*P P 03 12 03.3 +2.9
WMQ sP sP 03 12 16.0 +2.3
WMQ PcP **PcP** **03 13 55.0 +2.0**
WMQ S S 03 18 23.5 +4.4
WMQ sS sS 03 18 28.3 -6.2
WMQ ScS **ScS** **03 22 01.8 +3.2**
WMQ pmax pmax
comp=Z,58nm,1.1s
WMQ pmax pmax
comp=Z,890nm,5.3s
WMQ LR LR
comp=Z,4µm,20.5s
WMQ LR LR
comp=Z,1µm,20.5s
WMQ LR LR
comp=Z,3µm,25.9s
WMQ Urumqi 42.41 298 IAmb IAmb 03 12 21.6
comp=Z,113nm,1.0s
WMQ Urumqi 42.41 298 IAMs_20 IAMs_20 03 29 34.8
comp=Z,2µm,21.0s
CM35 Chiang Mai Arr 42.41 258 P P 03 12 02.0 +1.4
BNDI Bandanaira 42.50 200 P **P** **03 12 01.5 +0.3**
comp=Z,29µmcomp=Z,298nm,1.4s
CM33 Chiang Mai Arr 42.50 258 P P 03 12 03.0 +1.7
CHTO Chiang Mai 42.50 258 P P 03 12 02.6 +1.2
CHTO pmax pmax
comp=Z,47nm,0.9s
CHTO MLR MLR
comp=Z,2µm,18.0s
CHTO Chiang Mai 42.50 258 P P 03 12 02.6 +1.2
CHTO Chiang Mai 42.50 258 IAMs_20 IAMs_20 03 32 51.6
comp=Z,2µm,18.0s
CHTO Chiang Mai 42.50 258 P P 03 12 02.8 +1.5
CHTO P P 03 12 02.8 +1.5
CM36 Chiang Mai Arr 42.55 257 P P 03 12 03.0 +1.3
CM09 Chiang Mai Arr 42.67 257 P P 03 12 05.5 +2.8
comp=Z,262nmcomp=Z,35nm,0.9s
CM31 Chiang Mai Arr 42.70 257 P **P** **03 12 03.4 +0.4**
CMAR Chiang Mai Arr 42.70 257 P P 03 12 04.3 +1.4
comp=Z,10nm,0.9s,baz=46,slow=6.3,SNR=26
CMAR PcP **PcP** **03 13 55.5 +1.2**
comp=Z,4.3nm,0.7s,baz=34,slow=4.2,SNR=5.3
CMAR LR LR 03 32 42.7
comp=Z,2µm,18.8s,baz=102,slow=40
CMAR Chiang Mai Arr 42.70 257*ce*P P 03 12 05.0 +2.0
CMAR pmax pmax
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 42.70 257 P P 03 12 04.5 +1.6
CM04 Chiang Mai Arr 42.70 257 P P 03 12 05.7 +2.7
comp=Z,283nmcomp=Z,40nm,0.9s
SUKH Sukhothai 42.71 256 P P 03 12 05.3 +2.3
comp=Z,70nm,1.1s
CM01 Chiang Mai Arr 42.71 257 P P 03 12 06.0 +3.0
comp=Z,482nmcomp=Z,37nm,0.9s
CM02 Chiang Mai Arr 42.71 257 P P 03 12 05.0 +2.0
comp=Z,281nmcomp=Z,42nm,0.9s
CM15 Chiang Mai Arr 42.72 257 P P 03 12 07.5 +4.3
comp=Z,35nm,0.8s
CM05 Chiang Mai Arr 42.73 257 P P 03 12 05.8 +2.6
comp=Z,183nmcomp=Z,26nm,1.0s
CM13 Chiang Mai Arr 42.75 257 P P 03 12 06.0 +2.6
comp=Z,240nmcomp=Z,35nm,0.8s
SRAK Srakaew 42.92 250 P **P** **03 12 04.6 -0.2**
comp=Z,6µmcomp=Z,680nm,1.2s
ZAA0 Zalesovo Array 43.42 313 P P 03 12 10.2 +1.8
ZAA0 IAMs_20 IAMs_20 03 30 50.9
comp=Z,2µm,19.0s
ZALV Zalesovo Beam 43.42 313 P P 03 12 10.3 +2.0
comp=Z,35nm,0.7s,baz=93,slow=7.1,SNR=158
ZALV PcP **PcP** **03 13 57.2 +1.2**
comp=Z,12nm,0.7s,baz=86,slow=2.7,SNR=5.5
ZALV LR LR 03 31 01.6
comp=Z,2µm,19.3s,baz=90,slow=37
ZALV Zalesovo Beam 43.42 313 P P 03 12 09.6 +1.2
ZALV Zalesovo Beam 43.42 313 P P 03 12 09.6 +1.3
RDOG Red Dog Mine 43.50 26 IAmb IAmb 03 12 13.0
comp=Z,107nm,1.0s
RDOG Red Dog Mine 43.50 26 P 03 12 11.3
baz=252
MHMT Maesarieng 43.66 258 P P 03 12 13.9 +3.2
comp=Z,20µmcomp=Z,69nm,1.0s
LSA Lhasa 43.68 277 P P 03 12 13.8 +2.5
LSA pmax pmax
comp=Z,75nm,1.0s
LSA LR LR
comp=Z,3µm,15.0s
LSA LR LR
comp=Z,5µm,17.1s
LSA LR LR
comp=Z,8µm,14.2s
LSA Lhasa 43.68 277 P P 03 12 13.6 +2.2
LSA Lhasa 43.68 277 P P 03 12 13.4 +2.1
LSA pmax pmax
comp=Z,30nm,0.8s
LSA MLR MLR
comp=Z,1µm,18.0s
LSA Lhasa 43.68 277 P P 03 12 13.4 +2.1
LSA IAMs_20 IAMs_20 03 32 46.2
comp=Z,1µm,18.0s
LSA Lhasa 43.68 277 P P 03 12 13.4 +2.0
LSA P P 03 12 13.4 +2.0
LSA S S 03 18 43.0 +4.2
LSA S S 03 18 43.0 +4.2
ZSN Zaisan 43.84 304 *e*P P 03 12 14.2 +2.3
comp=Z,35nm,0.9s,baz=303
ZSN *e*S S 03 18 45.7 +5.8
baz=303
ZSN Zaisan 43.84 304 *e*P P 03 12 14.1 +2.2
ZSN *e*S S 03 18 45.7 +5.8
ZSN pmax pmax
comp=Z,35nm,0.9s
UTHA Uthaitani 43.97 254 P P 03 12 16.3 +3.1
comp=Z,374nmcomp=Z,42nm,1.1s
UMPA Umpang Tak 44.05 255 P P 03 12 17.9 +4.1
comp=Z,75nm,1.0s
SBUM Sibu 44.20 227 P **P** **03 12 15.8 +0.8**
SBUM Sibu 44.20 227 P **P** **03 12 16.0 +1.0**
NRIK Noril'sk 44.49 335 P **P** **03 12 18.1 +1.4**
comp=Z,34nm,1.2s,baz=110,slow=8.0,SNR=26
NRIK PcP **PP** **03 14 00.5 -0.2**
comp=Z,24nm,0.9s,baz=131,slow=1.9,SNR=4.8
NRIK LR LR 03 32 42.3
comp=Z,3µm,18.3s,baz=104,slow=38
NRIK Noril'sk 44.49 335 P P 03 12 18.3 +1.6
SHL Shillong 44.82 271 P **P** **03 12 20.7 +0.6**
SHL pmax pmax
comp=Z,37nm,1.1s
SHL MLR MLR
comp=Z,2µm,18.0s
SHL Shillong 44.82 271 P **P** **03 12 20.7 +0.6**
SHL IAMs_20 IAMs_20 03 33 39.4
comp=Z,2µm,18.0s
SRDT SRDT 44.94 253 P P 03 12 24.2 +3.2
comp=Z,25nm,1.3s
SVW2 Sparrevohn 45.23 37 IAmb IAmb 03 12 27.4
comp=Z,104nm,1.2s
PHET Kaeng Krachan 45.43 251 P P 03 12 27.0 +2.1
comp=Z,915nmcomp=Z,118nm,0.9s
MTKI Muara Teweh, K 45.46 222 P P 03 12 27.2 +2.2
comp=Z,39nm,0.5s
SAUI Saumlaki 45.47 197 P **P** **03 12 26.7 +1.6**
comp=Z,4µmcomp=Z,13µmcomp=Z,264nm,1.1s
PMG Port Moresby 45.65 174 P **P** **03 12 26.4 -0.1**
comp=Z,27nm,0.9s,baz=351,slow=13,SNR=3.5
PMG Port Moresby 45.65 174*ce*P **P** **03 12 28.1 +1.6**
PMG pmax pmax
comp=Z,39nm,1.1s
PMG MLR MLR
comp=Z,401nm,16.0s
PMG Port Moresby 45.65 174 P P 03 12 28.6 +2.1
PMG IAmb IAmb 03 12 41.1
comp=Z,88nm,1.0s
SPSI Sidrap Palu 45.67 214 P **P** **03 12 26.0 -0.7**
comp=Z,832nmcomp=Z,55nm,0.9s
MK31 Makanchi Array 45.68 303 *i* P P 03 12 28.1 +1.6
MK31 Makanchi Array 45.68 303 P P 03 12 28.2 +1.6
MK31 IAmb IAmb 03 12 45.8
comp=Z,47nm,0.9s
MKAR Makanchi Array 45.68 303 P P 03 12 28.2 +1.6
comp=Z,19nm,0.8s,baz=89,slow=9.8,SNR=189
MKAR LR LR 03 33 28.8
comp=Z,1µm,18.2s,baz=82,slow=39
MKAR Makanchi Array 45.68 303*ce*P P 03 12 28.5 +2.0
MKAR pmax pmax
comp=Z,20nm,0.8s
MAKZ Makanchi 45.89 303 P P 03 12 29.8 +1.6
MAKZ pmax pmax
comp=Z,60nm,1.1s
MAKZ MLR MLR
comp=Z,1µm,18.0s
MAKZ Makanchi 45.89 303 P P 03 12 29.8 +1.6
MAKZ IAmb IAmb 03 12 47.6
comp=Z,60nm,1.1s
MAKZ IAMs_20 IAMs_20 03 32 49.2
comp=Z,1µm,18.0s
KSM Kuching 46.12 229 P P 03 12 32.0 +1.7
KSM IAmb IAmb 03 12 45.3
comp=Z,58nm,0.9s
KSM Kuching 46.12 229 P P 03 12 33.0 +2.7
OHAK Old Harbor 46.32 42 P **P** **03 12 33.0 +1.7**
OHAK IAmb IAmb 03 12 34.1
comp=Z,55nm,0.9s
OHAK Old Harbor 46.32 42 P 03 12 32.7
baz=272
IMAR Indian Mountai 46.54 30 P **P** **03 12 34.8 +1.8**
A21K Barrow 46.55 23 P 03 12 35.8
baz=255,SNR=93
KAPI Kappang 46.61 213 P **P** **03 12 35.3 +1.2**
KAPI pmax pmax
comp=Z,134nm,1.4s
KAPI Kappang 46.61 213 P **P** **03 12 35.3 +1.2**
KAPI IAmb IAmb 03 12 39.9
comp=Z,134nm,1.4s
KAPI Kappang 46.61 213 P **P** **03 12 35.3 +1.2**
KAPI S **S** **03 19 20.9 +0.6**
KDAK Kodiak Island 46.68 42 LR LR 03 33 28.6
comp=Z,788nm,18.4s,baz=278,slow=38
KDAK Kodiak Island 46.68 42 P **P** **03 12 36.1 +1.9**
KDAK pmax pmax
comp=Z,263nm,1.4s
KDAK Kodiak Island 46.68 42 P **P** **03 12 36.0 +1.9**
KDAK Kodiak Island 46.68 42 P 03 12 36.3
baz=272
SPCR Spurr Chakacha 46.87 37 P 03 12 39.1
baz=269
PPLA Purkeypile 46.94 35 P P 03 12 39.2 +2.8
PPLA Purkeypile 46.94 35 P 03 12 39.9
baz=267,SNR=13
CHUM Lake Minchumin 46.94 33 P 03 12 39.6
baz=266,SNR=18
SKT Skwentna 47.21 36 IAmb IAmb 03 12 41.9
comp=Z,44nm,1.1s
SKT Skwentna 47.21 36 P 03 12 41.0
baz=269,SNR=13
TAPN Taplejung 47.40 276 *e*P P 03 12 42.5 +1.9
comp=Z,71nm,0.9s
KURK Kurchatov 47.47 309 P P 03 12 42.5 +2.1
KURK Kurchatov 47.47 309 P P 03 12 42.5 +2.1
KURBB Kurchatov Arra 47.54 309 P P 03 12 42.5 +1.6
comp=Z,61nm,0.7s,baz=83,slow=7.9,SNR=500
KURBB Kurchatov Arra 47.54 309 P P 03 12 42.2 +1.2
BPAW Bear Paw Mtn. 47.54 33 IAmb IAmb 03 12 45.2
comp=Z,64nm,1.5s
BPAW Bear Paw Mtn. 47.54 33 P 03 12 43.8
baz=267,SNR=16
KTH Kantishna Hill 47.54 34 IAmb IAmb 03 12 45.2
comp=Z,113nm,1.3s
SUA Susitna One 47.58 36 IAmb IAmb 03 12 46.8
comp=Z,41nm,1.0s
SUA Susitna One 47.58 36 P 03 12 43.3
baz=270,SNR=11
BRSE Bradley Lake S 47.59 39 P 03 12 43.3
baz=271
BBKI Banjar Baru 47.61 220 P **P** **03 12 43.0 +1.1**
comp=Z,132nm,0.9s
MLY Manley 47.70 32 IAmb IAmb 03 12 46.4
comp=Z,65nm,1.0s
MLY Manley 47.70 32 P 03 12 45.2
baz=266,SNR=51
CUT Chulitna 47.81 35 IAmb IAmb 03 12 46.1
comp=Z,89nm,1.2s
CUT Chulitna 47.81 35 P 03 12 44.9
baz=269,SNR=7.2
TRF Thorofare Moun 47.82 34 P 03 12 45.9
baz=268,SNR=9.9
ODAN Odare 47.87 275 *e*P P 03 12 46.1 +1.9
comp=Z,131nm,1.1s
RC01 Rabbit Creek A 48.07 37 P 03 12 47.0
baz=271,SNR=7.8
COLD Coldfoot 48.08 29 P 03 12 47.8
baz=265,SNR=21
SEW Seward 48.23 38 P **P** **03 12 48.1 +1.9**
SEW IAmb IAmb 03 13 01.7
comp=Z,93nm,1.2s
I23K Minto, Yukon-K 48.29 32 P 03 12 49.4
baz=268,SNR=29
PMR Palmer 48.35 36 IAmb IAmb 03 12 50.0
comp=Z,121nm,1.2s
PMR Palmer 48.35 36 P 03 12 48.8
baz=271,SNR=20
NEA2 Nenana 48.39 32 IAmb IAmb 03 12 51.5
comp=Z,111nm,1.1s
NEA2 Nenana 48.39 32 P 03 12 50.2
baz=268,SNR=48
SHLS Shalkode 48.41 299 *e*P **P** **03 12 47.1 -0.9**
comp=Z,29nm,1.0s,baz=298
SHLS *e*S **S** **03 19 46.3 +0.6**
baz=298
SHLS Shalkode 48.41 299 *e*P **P** **03 12 47.1 -0.9**
SHLS *e*S **S** **03 19 46.3 +0.6**
SHLS pmax pmax
comp=Z,29nm,1.0s
MCK McKinley 48.44 33 IAmb IAmb 03 12 51.2
comp=Z,63nm,1.2s
MCK IAMs_20 IAMs_20 03 35 50.4
comp=Z,1µm,19.0s
MCK McKinley 48.44 33 P 03 12 50.1
baz=269,SNR=16
TOLK Toolik Lake Re 48.45 27 IAmb IAmb 03 12 52.0
comp=Z,94nm,1.1s
TOLK Toolik Lake Re 48.45 27 P 03 12 50.8
baz=264,SNR=60
RAMN Ramite 48.47 276 *e*P P 03 12 50.6 +1.8
comp=Z,209nm,0.9s
RND Reindeer 48.47 34 IAmb IAmb 03 12 51.3
comp=Z,120nm,1.3s
JIRN Jiri 48.49 277 *e*P P 03 12 51.3 +2.2
comp=Z,138nm,1.0s
WAT2 Susitna Watana 48.59 34 P 03 12 50.9
baz=270,SNR=15
GUN Gumba 48.63 277 *e*P P 03 12 52.0 +1.8
comp=Z,115nm,1.0s
KNK Knik Glacier 48.68 37 IAmb IAmb 03 12 53.1
comp=Z,48nm,0.8s
KNK IAMs_20 IAMs_20 03 36 39.6
comp=Z,1µm,20.0s
KNK Knik Glacier 48.68 37 P 03 12 52.0
baz=272
TDK Taldyqorghan 48.70 301 *e*P P 03 12 51.9 +1.9
comp=Z,18nm,0.8s,baz=301
TDK *e*S S 03 19 55.0 +5.4
baz=301
TDK LR LR 03 32 54.5
comp=Z,1µm,14.7s,baz=301
TDK Taldyqorghan 48.70 301 *e*P P 03 12 51.9 +1.8
TDK *e*S S 03 19 54.9 +5.3
TDK pmax pmax
comp=Z,18nm,0.8s
TDK MLR MLR
comp=Z,1µm,15.0s
UZB Uzunbulak 48.72 299 *e*P P 03 12 52.1 +1.7
comp=Z,21nm,1.1s,baz=299
UZB *e*S S 03 19 55.3 +5.1
baz=299
UZB Uzunbulak 48.72 299 *e*P P 03 12 52.1 +1.7
UZB *e*S S 03 19 55.3 +5.1
UZB pmax pmax
comp=Z,21nm,1.1s
SML Sawmill 48.73 36 IAmb IAmb 03 12 53.5
comp=Z,76nm,0.8s
SML Sawmill 48.73 36 P 03 12 52.6
baz=272,SNR=18
KRAB Krabi 48.77 246 P P 03 12 53.8 +2.9
comp=Z,11µmcomp=Z,798nm,0.8s
MMRI Maumere 48.87 208 P **P** **03 12 52.3 +0.7**
MMRI IAmb IAmb 03 13 06.7
comp=Z,89nm,0.9s
MMRI Maumere 48.87 208 P **P** **03 12 52.5 +0.9**
comp=Z,117nm,1.0s
KPKS Kokpek 48.88 299 *e*P P 03 12 53.5 +1.9
comp=Z,27nm,1.3s,baz=299
KPKS *e*S S 03 19 57.6 +5.3
baz=299
KPKS LR LR 03 33 33.6
comp=Z,1µm,13.2s,baz=299
KPKS Kokpek 48.88 299 *e*P P 03 12 53.4 +1.8
KPKS *e*S S 03 19 57.6 +5.3
KPKS pmax pmax
comp=Z,27nm,1.3s
KPKS MLR MLR
comp=Z,1µm,13.0s
TCOL CIGO, UAF Yank 48.92 32 IAmb IAmb 03 12 55.8
comp=Z,44nm,0.9s
TCOL CIGO, UAF Yank 48.92 32 P 03 12 54.5
baz=269,SNR=8.9
COLA College 48.92 32*d i* P **P** **03 12 53.5 +2.1**
COLA pmax pmax
comp=Z,31nm,1.0s
COLA MLR MLR
comp=Z,647nm,18.0s
COLA College 48.92 32 P P 03 12 53.8 +2.4
COLA IAmb IAmb 03 12 55.8
comp=Z,40nm,0.9s
COLA College 48.92 32 P 03 12 54.5
baz=269
WAT6 Susitna Watana 48.98 35 P 03 12 54.3
baz=271,SNR=12
POKR Poker Flat Res 49.10 32 P 03 12 56.2
baz=270,SNR=75
PKI Pulchoki 49.15 277 *e*P P 03 12 55.7 +1.6
comp=Z,80nm,0.9s
PKIN Phulchoki 49.16 277 *e*P P 03 12 55.7 +1.6
comp=Z,66nm,0.8s
KKN Kakani 49.16 277 *e*P P 03 12 56.0 +1.9
comp=Z,114nm,0.9s
SOEI Soe 49.18 205 P **P** **03 12 54.3 +0.3**
comp=Z,2µmcomp=Z,189nm,0.8s
SATY Saty 49.18 299 *e*P P 03 12 55.8 +1.9
comp=Z,13nm,1.0s,baz=299
SATY Saty 49.18 299 *e*P P 03 12 55.8 +1.9
SATY pmax pmax
comp=Z,13nm,1.0s
EDFI Ende, Flores 49.18 209 P **P** **03 12 53.3 -0.8**
comp=Z,642nmcomp=Z,60nm,0.8s
HDA Harding Lake 49.31 33 P 03 12 56.4
baz=270,SNR=24
HDA P 03 12 56.4
baz=270,SNR=24
IL31 49.33 32 IAmb IAmb 03 12 57.6
comp=Z,59nm,0.9s
ILAR Eielson Array 49.33 32 P **P** **03 12 56.3 +1.6**
comp=Z,31nm,0.8s,baz=265,slow=6.4,SNR=291
ILAR PcP **PcP** **03 14 17.6 +0.9**
comp=Z,4.0nm,0.6s,baz=264,slow=3.5,SNR=8.0
ILAR Eielson Array 49.33 32 P **P** **03 12 56.5 +1.9**
JRMM Jerantut 49.41 239 P P 03 12 58.0 +2.2
GKN Gorkha 49.59 278 *e*P P 03 12 59.3 +2.0
comp=Z,301nm,0.8s
PKDT Phuket 49.63 246 P P 03 13 01.5 +4.1
FID Port Fidalgo 49.67 37 IAmb IAmb 03 13 02.2
comp=Z,167nm,1.4s
FID IAMs_20 IAMs_20 03 35 33.7
comp=Z,956nm,19.0s

HIN Hinchinbrook I 49.69 38 IAmb IAmb 03 13 01.1
comp=Z,124nm,1.0s
HIN IAMs_20 IAMs_20 03 32 25.3
comp=Z,918nm,18.0s
KULM Kulim 49.71 242 P P 03 12 59.3 +1.2
KULM IAMs_20 IAMs_20 03 37 01.7
comp=Z,956nm,18.0s
KULM Kulim 49.71 242 P P 03 13 00.0 +2.0
M24K Tolsona, Glenn 49.73 36 P 03 13 01.0
baz=273,SNR=8.7
BATI Baumata 49.80 205 P **P** **03 12 59.9 +1.2**
comp=Z,724nmcomp=Z,42nm,1.1s
KLU Klutina 49.89 36 IAmb IAmb 03 13 02.9
comp=Z,124nm,1.2s
KLU Klutina 49.89 36 P 03 13 01.7
baz=274,SNR=17
CHKK Chushkaly 49.97 300 *e*P P 03 13 01.3 +1.5
baz=300
CHKK Chushkaly 49.97 300 *e*P P 03 13 01.2 +1.4
IPM Ipoh 50.01 241 IAmb IAmb 03 13 14.3
comp=Z,75nm,0.9s
IPM IAMs_20 IAMs_20 03 37 19.6
comp=Z,1µm,18.0s
IPM Ipoh 50.01 241 P P 03 13 02.0 +1.6
PAX Paxson 50.01 34 P P 03 13 02.4 +2.5
PAX PcP **PcP** **03 14 21.8 +2.5**
PAX Paxson 50.01 34 P 03 13 02.8
baz=273,SNR=12
COEN Coen 50.02 180 P **P** **03 13 01.9 +1.6**
EYAK Cordova Ski Ar 50.04 38 IAmb IAmb 03 13 03.6
comp=Z,54nm,0.8s
EYAK Cordova Ski Ar 50.05 38 P 03 13 02.7
baz=275
MDOK Medeo 50.11 299 *e*P P 03 13 03.3 +2.3
baz=299
MDOK *e*S S 03 20 15.3 +5.6
baz=299
MDOK LR LR 03 34 38.9
comp=Z,2µm,15.8s,baz=299
MDOK Medeo 50.11 299 *e*P P 03 13 03.3 +2.3
MDOK *e*S S 03 20 15.2 +5.5
MDOK MLR MLR
comp=Z,2µm,16.0s
AAA Alma-Ata 50.19 299 *e*P P 03 13 04.0 +2.5
baz=299
AAA *e*S S 03 20 16.6 +6.0
baz=299
AAA LR LR 03 34 43.3
comp=Z,1µm,15.8s,baz=299
AAA Alma-Ata 50.19 299 *e*P P 03 13 03.9 +2.4
AAA *e*S S 03 20 16.6 +6.0
AAA MLR MLR
comp=Z,1µm,16.0s
TNSS Tian-Shan 50.22 299 *e*P P 03 13 04.5 +2.4
baz=299
TNSS Tian-Shan 50.22 299 *e*P P 03 13 04.5 +2.4
BMAR Burnt Mountain 50.27 29 P P 03 13 04.3 +2.6
KUU Kurty 50.41 300 *e*P P 03 13 04.5 +1.3
comp=Z,27nm,1.2s,baz=300
KUU *e*S S 03 20 18.4 +4.8
baz=300
KUU LR LR 03 34 33.5
comp=Z,4µm,16.4s,baz=300
KUU Kurty 50.41 300 *e*P P 03 13 04.4 +1.3
KUU *e*S S 03 20 18.3 +4.7
KUU pmax pmax
comp=Z,27nm,1.2s
KUU MLR MLR
comp=Z,4µm,16.0s
N25K Chitina, Valde 50.51 36 P 03 13 06.6
baz=275,SNR=6.3
BMRM Bremner River 50.57 37 IAmb IAmb 03 13 08.1
comp=Z,132nm,1.2s
BMRM Bremner River 50.57 37 P 03 13 07.0
baz=276,SNR=10
DOT Dot Lake 50.61 33 P P 03 13 06.5 +2.2
DOT IAMs_20 IAMs_20 03 38 27.7
comp=Z,1µm,20.0s
SCRK Sand Creek 50.62 33 IAmb IAmb 03 13 07.8
comp=Z,67nm,1.0s
SCRK Sand Creek 50.62 33 P 03 13 07.0
baz=274,SNR=42
PLAI Plampang 50.88 213 P **P** **03 13 05.9 -0.9**
comp=Z,51nm,0.9s
GLB Gilahina Butte 50.90 36 IAmb IAmb 03 13 10.8
comp=Z,101nm,1.3s
TPI Tanjungpandan 51.07 228 P **P** **03 13 08.7 +0.4**
comp=Z,4µmcomp=Z,110nm,1.0s
VRDI Verde Repeater 51.10 37 IAmb IAmb 03 13 12.3
comp=Z,141nm,1.4s
TWSI Taliwang, Sumb 51.20 214 P **P** **03 13 07.8 -1.4**
comp=Z,467nmcomp=Z,48nm,1.0s
TKM2 Tokmak 2 51.20 299 P P 03 13 12.3 +3.0
SNR=15
TKM2 Tokmak 2 51.20 299 P P 03 13 11.3 +2.0
MCARA McCarthy VSAT 51.29 36 IAmb IAmb 03 13 13.6
comp=Z,92nm,0.9s
MCARA McCarthy VSAT 51.29 36 P 03 13 12.7
baz=276,SNR=14
BRZS Berezniki 51.34 309 *e*P P 03 13 11.6 +1.6
comp=Z,21nm,1.0s,baz=309
BRZS Berezniki 51.34 309 *e*P P 03 13 11.6 +1.6
BRZS pmax pmax
comp=Z,21nm,1.0s
K27K Chicken 51.46 33 P 03 13 13.7
baz=275
PBA Port Blair 51.51 255 IAMs_20 IAMs_20 03 39 08.3
comp=Z,1µm,20.0s
ABJI Asem Bagus 51.63 218 P P 03 13 14.1 +1.7
comp=Z,2µmcomp=Z,67nm,0.9s
L27K Beaver Creek, 51.66 34 IAmb IAmb 03 13 16.6
comp=Z,73nm,1.2s
L27K IAMs_20 IAMs_20 03 36 33.5
comp=Z,937nm,19.0s
L27K Beaver Creek, 51.66 34 P 03 13 15.3
baz=276
BTLS Baital 51.68 302 *e*P P 03 13 14.2 +1.6
baz=302
BTLS *e*S S 03 20 36.2 +5.2
baz=302
BTLS Baital 51.68 302 *e*P P 03 13 14.2 +1.6
BTLS *e*S S 03 20 36.1 +5.1
BCAR Beaver Creek A 51.68 34 P **P** **03 13 13.7 +1.3**
SGDS Sogindy 51.72 300 *e*P P 03 13 15.0 +1.9
comp=Z,28nm,1.7s,baz=300
SGDS Sogindy 51.72 300 *e*P P 03 13 14.9 +1.9
SGDS pmax pmax
comp=Z,28nm,1.7s
KBK Karagaybulak 51.73 299 P P 03 13 16.2 +2.9
SNR=16
EGAK Eagle 51.79 32 P 03 13 15.1
baz=275,SNR=14
USP Ospenovka 51.87 300 P P 03 13 16.4 +2.3
SNR=19
KSH Kashi 51.98 295 P P 03 13 21.3 +6.2
KSH sP sP 03 13 27.8 -0.5
KSH S S 03 20 43.3 +7.8
KSH pmax pmax
comp=Z,100nm,1.0s
KSH pmax pmax
comp=Z,1µm,5.6s
KSH LR LR
comp=Z,6µm,17.0s
KSH LR LR
comp=Z,9µm,17.2s
KSH LR LR
comp=Z,10µm,16.9s
GRNC Granite Creek 51.98 37 IAmb IAmb 03 13 18.6
comp=Z,60nm,0.8s
YAH Yahtse 52.04 38 IAmb IAmb 03 13 19.3
comp=Z,63nm,0.9s
AAK Ala-Archa 52.06 299 P P 03 13 16.8 +1.2
comp=Z,5.3nm,0.7s,baz=98,slow=6.8,SNR=19
AAK Ala-Archa 52.06 299 P P 03 13 17.9 +2.3
SNR=9.0
AAK Ala-Archa 52.06 299 *i* P P 03 13 17.4 +1.7
SNR=9.9
AAK Ala-Archa 52.06 299 P P 03 13 17.6 +1.9
AAK Ala-Archa 52.06 299 IAMs_20 IAMs_20 03 36 23.3
comp=Z,2µm,19.0s
AAK Ala-Archa 52.06 299 P P 03 13 17.0 +1.4
AAK P P 03 13 17.0 +1.4
BVAR Borovoye Array 52.08 313 P P 03 13 16.7 +1.2
comp=Z,14nm,0.9s,baz=88,slow=10,SNR=48
BVAR PcP **PcP** **03 14 27.4 +0.3**
comp=Z,9.4nm,0.8s,baz=152,slow=6.7,SNR=3.6
BRVK Borovoye 52.14 313 P P 03 13 17.4 +1.5
BRVK Borovoye 52.14 313 P P 03 13 17.8 +1.9
BRVK Borovoye 52.14 313 IAMs_20 IAMs_20 03 37 02.1
comp=Z,2µm,19.0s
BRVK Borovoye 52.14 313 P P 03 13 18.0 +2.2
BRVK P P 03 13 18.0 +2.2
CTG Chitna Glacier 52.15 37 P 03 13 18.9
baz=278
UCH Uchtor 52.17 299 P P 03 13 19.9 +3.0
SNR=13
EKS2 Erkin-Say 52.55 300 P P 03 13 21.6 +2.3
SNR=14
AML Almayashu 52.78 299 P P 03 13 24.4 +3.1
SNR=60
BKNI Bangkinang 52.97 237 P P 03 13 24.2 +1.7
comp=Z,2µmcomp=Z,261nm,0.9s
EPYK Eagle Plains 53.44 30 P 03 13 28.5
baz=278,SNR=71
KNRA Kununurra 53.49 197 P **P** **03 13 27.2 +1.0**
TPTI 53.59 243 P **P** **03 13 26.2 -0.9**
comp=Z,11nm,1.1s
UGM Wanagama 53.64 222 P **P** **03 13 27.8 +0.4**
comp=Z,224nm,1.1s
DZA Taraz 54.19 301 *i* P P 03 13 33.3 +2.1
comp=Z,27nm,1.0s,baz=300
DZA *e*S S 03 21 11.1 +5.7
baz=300
DZA Taraz 54.19 301 *i* P P 03 13 33.3 +2.1
DZA *e*S S 03 21 11.1 +5.7
DZA pmax pmax
comp=Z,27nm,1.0s
INK Inuvik 54.37 27 P P 03 13 34.3 +2.3
baz=296,slow=4.7
INK Inuvik 54.37 27 IAmb IAmb 03 13 35.2
comp=Z,38nm,0.8s
KLSI 54.37 230 P **P** **03 13 33.6 +0.9**
comp=Z,544nmcomp=Z,24nm,1.1s
LHSI Lahat 54.46 231 P **P** **03 13 34.1 +0.8**
comp=Z,2µmcomp=Z,153nm,1.1s
MDSI Maura Dua 54.56 230 P **P** **03 13 34.2 +0.2**
comp=Z,1µmcomp=Z,97nm,1.0s
BHK Bhakra 54.65 286 *ex* P **P** 03 13 35.8 +1.1
GSI Gunungsitoli 54.67 241 P **P** **03 13 34.8 -0.1**
comp=Z,3µmcomp=Z,184nm,1.1s
KK31 Karatay Array 54.69 301 *i* P P 03 13 36.7 +1.9
KKAR Karatay Array 54.69 301 P P 03 13 36.0 +1.2
KKAR Karatay Array 54.69 301 P P 03 13 36.0 +1.2
KASI Kota Agung 55.17 229 P **P** **03 13 35.9 -2.6**
BRLS Borolday 55.18 301 *e*P P 03 13 41.5 +3.1
comp=Z,30nm,1.2s,baz=301
BRLS *e*S S 03 21 26.4 +7.8
baz=301
BRLS Boroldday 55.18 301 *e*P P 03 13 41.4 +3.0
BRLS *e*S S 03 21 26.4 +7.7
BRLS pmax pmax
comp=Z,30nm,1.2s
WHY Whitehorse 55.31 36 IAmb IAmb 03 13 43.1
comp=Z,40nm,0.8s
IUG luzhnay 55.35 300 *e*P P 03 13 41.8 +2.1
comp=Z,36nm,0.9s,baz=300
IUG *e*S S 03 21 26.6 +5.6
baz=300
IUG luzhnay 55.35 300 *e*P P 03 13 41.7 +2.0
IUG *e*S S 03 21 26.6 +5.6
IUG pmax pmax
comp=Z,36nm,0.9s
SKAG Skagway 55.38 38 P 03 13 43.4
baz=284
POHA Pohakuloa 55.71 90 P **P** **03 13 45.0 +2.3**
HMH Humu'ula Sheep 55.83 90 P P 03 13 46.3 +2.7
MLH Mauna Loa 55.96 90 P **P** **03 13 46.5 +2.0**
TAS Tashkent 56.15 299 P P 03 13 47.1 +1.8
TAS Tashkent 56.15 299 P P 03 13 47.1 +1.8
TAS IAmb IAmb 03 14 01.0
comp=Z,98nm,1.0s
TAS IAMs_20 IAMs_20 03 38 49.5
comp=Z,997nm,18.0s
NIL Nilore 56.17 289 P P 03 13 47.5 +1.9
NIL pmax pmax
comp=Z,82nm,1.2s
NIL MLR MLR
comp=Z,700nm,18.0s
NIL Nilore 56.17 289 P P 03 13 47.5 +1.8
NIL IAmb IAmb 03 14 01.9
comp=Z,82nm,1.1s
NIL Nilore 56.17 289 P P 03 13 47.2 +1.6
NIL P P 03 13 47.2 +1.6
CTAO Charters Tower 56.19 177 P **P** **03 13 47.3 +1.6**
CTAO pmax pmax
comp=Z,32nm,1.5s
CTAO Charters Tower 56.19 177 P **P** **03 13 47.3 +1.6**
SANVU Saraoutou 56.29 152 P P 03 13 59.9 +14
WB0 Warramunga Arr 56.41 190 IAmb IAmb 03 13 50.7
comp=Z,84nm,1.1s
WR0 Warramunga Arr 56.58 190 IAmb IAmb 03 13 51.9
comp=Z,67nm,1.1s
WRAB Tennant Creek 56.58 190 *d* P **P** **03 13 48.5 +0.1**
WRAB pmax pmax
comp=Z,60nm,1.0s
WRAB Tennant Creek 56.58 190 P **P** **03 13 48.7 +0.3**
WRAB IAmb IAmb 03 14 01.6
comp=Z,64nm,0.9s
WB2 Warramunga Arr 56.59 190 IAmb IAmb 03 13 49.9
comp=Z,61nm,0.8s
WRA Warramunga Arr 56.59 190 P **P** **03 13 48.2 -0.4**
comp=Z,46nm,0.8s,baz=10.0,slow=7.4,SNR=174
WRA PcP **PcP** **03 14 46.5 +1.9**
comp=Z,12nm,0.9s,baz=1.5,slow=4.4,SNR=5.5
WRA LR LR 03 41 19.3
comp=Z,148nm,18.9s,baz=20,slow=40
WRA PKPPKP P'P'df 03 43 47.0 +10
comp=Z,1.3nm,1.0s,baz=200,slow=2.0,SNR=4.7
SVE Sverdlovsk 56.60 319 *ce* P P 03 13 50.0 +1.8
SVE *e*S S 03 21 42.1 +5.1
SVE pmax pmax
comp=Z,124nm,1.1s
SVE MLR MLR
comp=Z,2µm,17.0s
FITZ Fitzroy Crossi 56.62 200 P **P** **03 13 49.7 +1.0**
C36M Paulatuk 57.47 25 IAmb IAmb 03 13 57.1
comp=Z,51nm,0.7s
C36M Paulatuk 57.47 25 P 03 13 56.5
baz=287,SNR=22
WRAK Wrangell Islan 57.76 41 P 03 13 59.7
baz=288
ARU Arti 57.81 319 P P 03 13 58.4 +1.6
comp=Z,14nm,0.7s,baz=70,slow=3.1,SNR=72
ARU Arti 57.81 319 *d* P P 03 13 58.1 +1.3
ARU pmax pmax
comp=Z,119nm,1.3s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 57.81 319 P P 03 13 58.6 +1.8
ARU IAmb IAmb 03 14 12.0
comp=Z,113nm,1.0s
DLBC Dease Lake 58.31 38 IAmb IAmb 03 14 05.2
comp=Z,68nm,1.3s
DIB Dawson Inlet, 58.73 44 P P 03 14 05.7 +2.4
DIB IAmb IAmb 03 14 07.0
comp=Z,86nm,1.4s
KBL Kabul 58.98 292 P P 03 14 06.9 +1.3
KBL pmax pmax
comp=Z,103nm,1.2s
KBL MLR MLR
comp=Z,800nm,19.0s
KBL Kabul 58.98 292 P P 03 14 06.9 +1.3
KBL IAmb IAmb 03 14 20.7
comp=Z,103nm,1.2s
KBL IAMs_20 IAMs_20 03 39 31.6
comp=Z,840nm,19.0s
KBL Kabul 58.98 292 P P 03 14 06.9 +1.3
SNR=45
AB31 Akbulak array 59.46 311 *i* P P 03 14 09.8 +1.4
ABKAR Akbulak array 59.46 311 P P 03 14 10.0 +1.6
HYB Hyderabad 59.60 270 *i* P P 03 14 11.0 +1.2
comp=Z,75nm,1.0s
HYB *e* 03 14 23.5
HYB *e*PcP **PcP** **03 14 58.0 +1.2**
AKTO Aktyubinsk 60.19 313 P P 03 14 14.7 +1.3
comp=Z,22nm,0.8s,baz=78,slow=6.5,SNR=43
ASAR Alice Springs 60.31 190 P **P** **03 14 14.9 +0.4**
comp=Z,28nm,0.8s,baz=9.9,slow=5.7,SNR=182
ASAR LR LR 03 41 59.1
comp=Z,133nm,19.6s,baz=8.0,slow=38
ASAR PKP2bc 03 43 44.2
comp=Z,1.7nm,0.9s,baz=135,slow=2.2,SNR=7.3
EUNU Eureka 60.66 9 P **P** **03 14 17.6 +1.3**
EUNU IAmb IAmb 03 14 19.2
comp=Z,36nm,0.8s
ALE Alert 60.72 4 IAMs_20 IAMs_20 03 44 49.5
comp=Z,699nm,19.0s
SPA0 Spitsbergen Ar 61.48 349 *e*P P 03 14 23.9 +2.2
SPITS Spitsbergen Ar 61.48 349 P P 03 14 23.6 +1.9
comp=Z,32nm,0.9s,baz=155,slow=12,SNR=13
KBS Kingsbay 61.58 350 *d* P P 03 14 24.7 +2.3
KBS pmax pmax
comp=Z,74nm,1.0s
KBS MLR MLR
comp=Z,674nm,18.0s
KBS Kingsbay 61.58 350 P P 03 14 25.1 +2.7
KBS Kingsbay 61.58 350 *i* P P 03 14 25.1 +2.8
KBS IAmb IAmb 03 14 25.8
comp=Z,198nm,0.9s
KIRV Kirov 61.65 324 P P 03 14 25.6 +2.6
comp=Z,107nm,0.9s,baz=64,slow=4.4,SNR=53
PSA00 Pilbara Seismi 61.67 205 P **P** **03 14 24.6 +0.9**
PSA00 IAmb IAmb 03 14 47.2
comp=Z,47nm,1.4s
EIDS Eidsvold 61.83 172 P **P** **03 14 26.4 +1.8**
EIDS IAmb IAmb 03 14 39.8
comp=Z,32nm,0.8s
NOR Nord 61.83 357 ǁ *i* P P 03 14 25.8 +1.7
comp=Z,22nm,0.8s
NOR Nord 61.83 357 ǁ *i* P P 03 14 25.8 +1.7
NOR Nord 61.83 357 ǁ *i* P P 03 14 25.9 +1.8
NOR IAmb IAmb 03 14 26.8
comp=Z,22nm,0.8s
PRGR Permogore 62.11 328 ǁ *i* P P 03 14 28.4 +2.2
PRGR *e* 03 14 40.4
PRGR pmax pmax
comp=Z,109nm,1.0s
DZM Mont Dzumac 62.12 155 P P 03 14 28.9 +2.2
comp=Z,18nm,0.9s,baz=28,slow=9.8,SNR=7.9
DZM Mont Dzumac 62.12 155 *e*P **P** **03 14 25.1 -1.7**
comp=Z,125nm,1.2s
DZM *e*S **S** **03 22 43.6 -5.5**
comp=Z,562nm,25.2s
DZM *e*LR LR 03 32 31.4
comp=Z,1µm,21.1s
DZM Mont Dzumac 62.12 155 P **P** **03 14 28.8 +2.0**
DZM IAmb IAmb 03 14 43.0
comp=Z,66nm,1.2s
DZM IAMs_20 IAMs_20 03 40 30.4
comp=Z,1µm,20.0s
DZM Mont Dzumac 62.12 155 P P 03 14 41.8 +15
comp=Z,50nm,1.1s
HSPB Hornsund (broa 62.42 348 *e*P P 03 14 30.2 +2.2
HSPB *e*L L 03 43 05.4
comp=Z,923nm,20.0s
OUENC Ouen Island, N 62.58 155 P P 03 14 44.9 +15
comp=Z,42nm,0.8s
POO Poona 62.81 274 ǁ *i* P **P** **03 14 30.0 -1.6**
comp=Z,130nm,1.0s
RES Resolute Bay 62.92 15 P **P** **03 14 33.0 +1.6**
RES pmax pmax
comp=Z,103nm,0.9s
RES Resolute Bay 62.92 15 P **P** **03 14 33.0 +1.6**
LVZ Lovozero 63.32 336 *ce* P P 03 14 36.3 +2.1
LVZ pmax pmax
comp=Z,109nm,2.5s
LVZ MLR MLR
comp=Z,3µm,17.0s
LVZ Lovozero 63.32 336 P P 03 14 35.9 +1.7
LVZ IAmb IAmb 03 14 37.2
comp=Z,49nm,1.0s
PALK Pallekele 63.61 259 *de* P P 03 14 38.2 +1.3
PALK pmax pmax
comp=Z,30nm,0.9s
PALK Pallekele 63.61 259 P P 03 14 38.2 +1.3
PALK IAmb IAmb 03 14 51.8
comp=Z,46nm,1.1s
PALK Pallekele 63.61 259 IAMs_20 IAMs_20 03 46 36.9
comp=Z,649nm,20.0s
PALK Pallekele 63.61 259 P P 03 14 38.9 +2.0
PALK P P 03 14 38.9 +2.0
YKA Yellowknife Ar 63.70 30 P **P** **03 14 38.4 +1.6**
comp=Z,17nm,0.8s,baz=300,slow=6.1,SNR=229
YKA PKP2bc 03 43 35.9
comp=Z,1.4nm,1.1s,baz=132,slow=2.9,SNR=7.0
YKA LR LR 03 48 09.6
comp=Z,257nm,18.1s,baz=0.0,slow=42
YKA Yellowknife Ar 63.70 30 *ce* P P 03 14 38.7 +2.0
YKA pmax pmax
comp=Z,17nm,0.8s
APA Apatity 63.90 336 ǁ *i* P **P** **03 14 39.0 +1.1**
APA *i* 03 16 57.0
APA *i* PPP PPP 03 18 34.0
APA *i* S **S** **03 23 11.0 +0.8**
APA *i* 03 24 35.0
APA *i* SSS SSS 03 30 09.0
APA pmax pmax
comp=Z,33nm,0.7s
APA MLR MLR
comp=Z,3µm,16.0s
HRA Herat 64.09 295 P P 03 14 41.5 +1.5
HRA IAmb IAmb 03 14 55.4
comp=Z,35nm,0.9s
KEV Kevo 64.59 340 P P 03 14 44.3 +1.9
KEV pmax pmax
comp=Z,53nm,1.0s
KEV MLR MLR
comp=Z,2µm,18.0s
KEV Kevo 64.59 340 P P 03 14 44.3 +1.9
KEV IAmb IAmb 03 14 45.9
comp=Z,53nm,1.0s
HAMF Hammerfest 64.94 341 *e*P P 03 14 47.0 +2.3
KLMR Klimovskoe 65.09 328 *e*P **P** **03 14 44.8 -1.1**
KLMR *e*S **S** **03 23 27.0 +2.0**
KLMR *e*SS **SS** **03 27 39.9 +3.0**
KLMR pmax pmax
comp=Z,70nm,0.9s
KLMR MLR MLR
comp=Z,2µm,15.0s
KLMR Klimovskoe 65.09 328 *e*P **P** **03 14 44.8 -1.1**
KLMR AMP 03 14 48.9
comp=Z,70nm,0.9s
KLMR *e*S **S** **03 23 27.1 +2.0**
KLMR *e*S **S** **03 23 27.1 +2.0**
KLMR *e*SS **SS** **03 27 40.0 +3.0**
KLMR *e*SS **SS** **03 27 40.0 +3.0**
KLMR LQ LQ 03 38 16.4
KLMR LQ LQ 03 38 16.4
KLMR LR LR 03 43 21.4
KLMR AMP 03 46 42.3
comp=Z,2µm,14.5s
ARA0 ARCESS Array S 65.14 340 *e*P P 03 14 48.4 +2.3
ARCES ARCESS Array B 65.14 340 P P 03 14 48.2 +2.2
comp=Z,22nm,0.8s,baz=50,slow=8.4,SNR=24
ARCES LR LR 03 48 31.9
comp=Z,895nm,18.7s,baz=80,slow=41
ARCES ARCESS Array B 65.14 340 P P 03 14 48.0 +1.9
ARCES pmax pmax
comp=Z,33nm,1.0s
ARCES ARCESS Array B 65.14 340 P P 03 14 48.0 +1.9
ARCES IAmb IAmb 03 14 49.6
comp=Z,33nm,0.9s
ASHT Ashkhabad 65.21 300 IAMs_20 IAMs_20 03 46 17.3
comp=Z,661nm,20.0s
BELG Belogornoye 65.27 318 P P 03 14 48.9 +1.8
comp=Z,63nm,0.9s,baz=156,slow=1.0,SNR=29
GEYT Alibeck 65.40 300 P P 03 14 50.4 +2.1
comp=Z,25nm,0.8s,baz=72,slow=4.8,SNR=38
GEYT LR LR 03 46 25.9
comp=Z,586nm,18.6s,baz=220,slow=39
GEYT Alibeck 65.40 300 P P 03 14 50.8 +2.5
GEYT IAmb IAmb 03 15 04.1
comp=Z,50nm,1.1s
GYA0B ALIBECK ARRAY 65.40 300 IAmb IAmb 03 15 04.1
comp=Z,69nm,1.1s
GYA0B IAMs_20 IAMs_20 03 46 14.5
comp=Z,715nm,19.0s
TULEG Thule 65.60 8 IAMs_20 IAMs_20 03 47 39.9
comp=Z,786nm,19.0s
TULEG Thule 65.60 8 ǁ *i* P **P** **03 14 50.6 +1.7**
TULEG IAmb IAmb 03 14 51.3
comp=Z,80nm,0.8s
PGC Sidney 65.80 47 IAmb IAmb 03 14 54.4
comp=Z,34nm,0.9s
KTK1 Kautokeino 66.10 340 *e*P P 03 14 54.6 +2.3
NLWA Neilton Lookou 66.14 48 P P 03 14 56.1 +3.2
A04D Lummi Island 66.20 46 P 03 14 56.1
baz=298,SNR=9.7
JETT Jettan, Norway 66.50 341 *e*P P 03 14 57.7 +2.9

D03D	**Eldon**	**66.54**	**47**	P			03 14 59.0		
	baz=299,SNR=41								
DAG	**Danmarks Havn**	**66.58**	**356**	⇓*i*	P		P	03 14 56.8	+1.6
	comp=Z,72nm,1.2s								
DAG	**Danmarks Havn**	**66.58**	**356**	⇓*i*	P		P	03 14 56.8	+1.6
DAG	**Danmarks Havn**	**66.58**	**356**	⇓*i*	P		P	03 14 56.9	+1.7
DAG					IAmb		IAmb	03 14 57.8	
	comp=Z,72nm,1.2s								
E03A	**Lebam**	**66.73**	**49**		IAmb		IAmb	03 15 01.0	
	comp=Z,65nm,1.0s								
B05A	**Bryant**	**66.78**	**46**	P				03 14 60.0	
	baz=299,SNR=13								
TRO	**Tromso**	**66.83**	**342**	*e*P			P	03 14 58.6	+1.8
ARMA	**Armidale**	**66.88**	**172**	P			P	03 14 59.9	+2.2
ARMA					IAmb		IAmb	03 15 02.9	
	comp=Z,57nm,1.3s								
D04E	**Lakebay**	**66.90**	**48**	P				03 15 01.7	
	baz=299,SNR=6.7								
B06A	**Marblemount**	**67.01**	**46**		IAmb		IAmb	03 15 02.0	
	comp=Z,73nm,1.2s								
E04D	**Cinebar**	**67.33**	**48**	P				03 15 04.2	
	baz=299,SNR=17								
D05A	**Enumclaw**	**67.36**	**47**		IAmb		IAmb	03 15 05.3	
	comp=Z,81nm,1.0s								
G03D	**McMinnville, O**	**67.56**	**50**	P				03 15 05.3	
	baz=299								
C06D	**Leavenworth**	**67.65**	**46**	P				03 15 05.7	
	baz=300								
COR	**Corvallis**	**67.84**	**50**	P			P	03 15 07.3	+3.6
COR					pmax		pmax		
	comp=Z,124nm,1.2s								
COR	**Corvallis**	**67.84**	**50**	P			P	03 15 07.2	+3.5
STKA	**Stephens Creek**	**67.87**	**181**	P			**P**	**03 15 04.5**	**+0.7**
	comp=Z,18nm,0.8s,baz=352,slow=8.3,SNR=24								
STKA					LR		LR	03 43 32.7	
	comp=Z,257nm,21.2s,baz=5.7,slow=35								
STKA	**Stephens Creek**	**67.87**	**181**	P			**P**	**03 15 05.2**	**+1.4**
LTY	**Liberty**	**68.11**	**47**		IAmb		IAmb	03 15 08.5	
	comp=Z,26nm,0.8s								
J01E	**Myrtle Point**	**68.15**	**52**	P				03 15 09.2	
	baz=300								
H04D	**Lebanon**	**68.23**	**50**	P				03 15 09.7	
	baz=300,SNR=6.1								
FORT	**Forrest**	**68.25**	**194**	P			**P**	**03 15 07.3**	**+1.1**
I03D	**Drain, OR**	**68.25**	**51**	P				03 15 10.0	
	baz=300,SNR=12								
F05D	**White Salmon**	**68.33**	**48**	P				03 15 10.0	
	baz=300,SNR=7.1								
B08A	**Colville Reser**	**68.33**	**45**		IAmb		IAmb	03 15 10.4	
	comp=Z,62nm,1.1s								
H04A	**Detroit Lake**	**68.49**	**50**	P			P	03 15 10.5	+2.7
H04A					IAmb		IAmb	03 15 11.8	
	comp=Z,99nm,1.3s								
KULLO	**Kullorsuaq**	**68.54**	**6**	⇓*i*	P		P	03 15 09.3	+1.7
	comp=Z,124nm,1.1s								
KULLO	**Kullorsuaq**	**68.54**	**6**	⇓*i*	P		P	03 15 09.3	+1.7
KULLO	**Kullorsuaq**	**68.54**	**6**	⇓*i*	P		P	03 15 09.3	+1.8
KULLO					IAmb		IAmb	03 15 10.2	
	comp=Z,124nm,1.1s								
K02D	**Willamette Mer**	**68.55**	**52**	P				03 15 11.7	
	baz=300,SNR=11								
MOS	**Moscow**	**68.64**	**324**	*e*P			**P**	**03 15 09.1**	**+0.6**
MOS				*e*				03 15 31.6	
MOS				*e*				03 17 42.9	
MOS				*e*PPP			PPP	03 19 18.6	
MOS				*e*S			**S**	**03 24 10.9**	**+2.8**
MOS					pmax		pmax		
	comp=Z,147nm,1.2s								
MOS					pmax		pmax		
	comp=Z,300nm,1.6s								
MOS					MLR		MLR		
	comp=Z,800nm,15.0s								
G05D	**Wamic, OR**	**68.74**	**49**	P				03 15 12.7	
	baz=300,SNR=8.6								
N2IH	**Innhavet**	**68.78**	**341**	*e*P			P	03 15 11.3	+2.2
I04A	**Tendick Farm,**	**68.79**	**51**	P				03 15 12.6	
	baz=300,SNR=17								
L02E	**Cave Junction**	**68.86**	**53**	P				03 15 13.3	
	baz=300,SNR=10								
E07A	**Sunnyside**	**68.95**	**47**		IAmb		IAmb	03 15 14.7	
	comp=Z,50nm,1.0s								
STEI	**Steigen**	**68.98**	**341**	*e*P			P	03 15 12.8	+2.4
VRH	**Novokhopyorsk**	**69.04**	**319**	*e*P			**P**	**03 15 11.8**	**+0.8**
VRH					pmax		pmax		
	comp=Z,50nm,1.0s								
DBG	**Daneborg**	**69.08**	**355**	⇓*i*	P		**P**	**03 15 12.1**	**+1.2**
DBG					IAmb		IAmb	03 15 13.4	
	comp=Z,46nm,1.4s								
BBOO	**Buckleboo**	**69.11**	**186**	P			**P**	**03 15 12.6**	**+1.0**
MNCI	**Minicoy**	**69.12**	**265**	P			P	03 15 13.7	+1.5
I05D	**Terrebonne, OR**	**69.18**	**50**	P				03 15 15.1	
	baz=301,SNR=8.5								
HAWA	**Hanford**	**69.22**	**47**		IAmb		IAmb	03 15 16.2	
	comp=Z,37nm,1.1s								
C09A	**Chrisman Ranch**	**69.23**	**45**		IAmb		IAmb	03 15 15.9	
	comp=Z,62nm,0.9s								
D08A	**Wollman Farm,**	**69.24**	**46**		IAmb		IAmb	03 15 15.9	
	comp=Z,42nm,0.9s								
F07A	**Phinny Hill Vi**	**69.24**	**48**		IAmb		IAmb	03 15 16.5	
	comp=Z,52nm,0.9s								
J04D	**Umpqua Nationa**	**69.26**	**51**	P				03 15 16.0	
	baz=301,SNR=23								
N2TV	**TVrnvik**	**69.28**	**341**	*e*P			P	03 15 15.0	+2.7
N2ST	**Straumen**	**69.32**	**341**	*e*P			P	03 15 15.1	+2.6
FAUS	**Fauske**	**69.38**	**341**	*e*P			P	03 15 14.7	+1.9
E08A	**Dider Farm, El**	**69.45**	**47**		IAmb		IAmb	03 15 17.4	
	comp=Z,31nm,0.8s								
OBN	**Obninsk**	**69.49**	**324**	P			P	03 15 15.1	+1.4
	comp=Z,8.0nm,0.6s,baz=109,slow=0.5,SNR=22								
OBN	**Obninsk**	**69.49**	**324**	*d*	*i*P		P	03 15 15.3	+1.5
OBN				*e*				03 15 38.2	
OBN				*e*				03 17 50.4	
OBN				*e*S		S		03 24 23.3	+5.2
OBN				*e*SS		SS		03 28 53.1	+7.9
OBN					pmax		pmax		
	comp=Z,120nm,1.3s								
OBN					MLR		MLR		
	comp=Z,1μm,16.0s								
OBN	**Obninsk**	**69.49**	**324**	P			P	03 15 15.5	+1.7
OBN					IAMs_20		IAMs_20	03 50 04.0	
	comp=Z,1μm,18.0s								
NBB08	**Skaug oppvekst**	**69.54**	**341**	*e*P			P	03 15 16.8	+3.0
N2SV	**S_rvÿgen**	**69.58**	**342**	*e*P			P	03 15 15.9	+1.8
NEW	**Newport**	**69.64**	**45**	P			P	03 15 17.4	+2.4
	comp=Z,38nm,0.9s,baz=306,slow=5.1,SNR=46								
NEW	**Newport**	**69.64**	**45**		IAmb		IAmb	03 15 18.5	
	comp=Z,54nm,1.0s								
NEW	**Newport**	**69.64**	**45**	P				03 15 17.3	
	baz=302,SNR=32								
YBH	**Yreka Blue Hor**	**69.65**	**53**	P			P	03 15 17.9	+2.7
	comp=Z,31nm,1.1s,baz=354,slow=3.4,SNR=37								
YBH	**Yreka Blue Hor**	**69.65**	**53**	P			P	03 15 18.0	+2.8
YBH					IAmb		IAmb	03 15 19.6	
	comp=Z,53nm,1.2s								
L04D	**Klamath Falls**	**69.66**	**52**	P				03 15 18.3	
	baz=301,SNR=31								
NBB28	**Valnes**	**69.73**	**341**	*e*P			P	03 15 18.0	+2.9
M02C	**Callahan**	**69.73**	**53**	P				03 15 18.9	
	baz=301,SNR=20								
LPSR	**Galich'ya Gora**	**69.73**	**321**	*e*P			P	03 15 17.0	+1.7
LPSR					pmax		pmax		
	comp=Z,90nm,1.2s								
LPSR					MLR		MLR		
	comp=Z,3μm,16.0s								
J05D	**Fort Rock, OR**	**69.79**	**51**	P				03 15 19.3	
	baz=301,SNR=34								
K04D	**Chiloquin, OR**	**69.80**	**52**	P				03 15 19.0	
	baz=301,SNR=6.6								
MAK	**Makhachkala**	**69.99**	**309**	*e*P			**P**	**03 15 13.1**	**-4.0**
MAK				*e*				03 17 51.1	
MAK				*e*S			**S**	**03 24 20.7**	**-3.7**
MAK				*e*SS			**SS**	**03 28 50.3**	**-3.3**
MAK					pmax		pmax		
	comp=Z,98nm,1.4s								
N02D	**Trinity Center**	**70.05**	**53**	P				03 15 20.8	
	baz=301,SNR=21								
FINES	**FINESS Array B**	**70.08**	**333**	P			P	03 15 19.2	+1.8
	comp=Z,56nm,0.9s,baz=60,slow=7.5,SNR=78								
FINES					LR		LR	03 49 28.9	
	comp=Z,645nm,21.5s,baz=34,slow=39								
FINES	**FINESS Array B**	**70.08**	**333**	*i* P			P	03 15 19.5	+2.2
FINES					pmax		pmax		
	comp=Z,56nm,0.9s								
FINES	**FINESS Array B**	**70.08**	**333**	P			P	03 15 19.3	+2.0
NBB30	**Finnes**	**70.09**	**341**	*e*P			P	03 15 19.8	+2.6
M04C	**Macdoel**	**70.19**	**52**	P				03 15 21.4	
	baz=301,SNR=36								
WDC	**Whiskeytown Da**	**70.35**	**54**		IAmb		IAmb	03 15 23.4	
	comp=Z,44nm,1.1s								
UPNV	**Upernavik**	**70.36**	**6**	⇓*i*	P		P	03 15 20.7	+1.9
UPNV					IAmb		IAmb	03 15 21.6	
	comp=Z,73nm,1.1s								
VSR	**Storozhevoye**	**70.38**	**320**	*e*P			P	03 15 20.8	+1.5
VSR				*e*				03 15 32.9	
VSR					pmax		pmax		
	comp=Z,90nm,1.6s								
VSR					MLR		MLR		
	comp=Z,2μm,17.0s								
O02D	**Mt. Diablo Mer**	**70.40**	**54**	P				03 15 23.0	
	baz=301,SNR=21								
I07A	**Izee**	**70.44**	**49**	P			P	03 15 22.9	+2.9
MOR8	**Moi Rana**	**70.50**	**340**	*e*P			**P**	**03 15 20.6**	**+0.8**
AKT	**Akhty**	**70.62**	**308**	*e*P			**P**	**03 15 22.1**	**+0.9**
AKT				*e*				03 15 42.4	
AKT				*e*				03 17 58.8	
AKT					pmax		pmax		
	comp=Z,55nm,0.8s								
HOPS	**Hopland Field**	**70.83**	**55**		IAMs_20		IAMs_20	03 47 13.7	
	comp=Z,1μm,19.0s								
GROC	**Groznyy**	**70.93**	**310**	*e*P			**P**	**03 15 20.5**	**-2.3**
GROC				*e*				03 15 41.0	
GROC				*e*				03 17 57.0	
GROC					pmax		pmax		
	comp=Z,33nm,1.0s								
O03E	**Paynes Creek**	**70.98**	**54**	P				03 15 25.6	
	baz=302,SNR=35								
WALA	**Waterton Lakes**	**71.00**	**43**		IAmb		IAmb	03 15 26.9	
	comp=Z,32nm,0.8s								
MOD	**Modoc Plateau**	**71.10**	**52**		IAmb		IAmb	03 15 27.9	
	comp=Z,49nm,1.1s								
GDXM	**Geysers**	**71.11**	**55**		IAmb		IAmb	03 15 28.5	
	comp=Z,44nm,1.2s								
GDXM					IAMs_20		IAMs_20	03 46 36.1	
	comp=Z,1μm,18.0s								
BMO	**Blue Mountains**	**71.36**	**48**		IAmb		IAmb	03 15 29.4	
	comp=Z,62nm,1.4s								
SUMG	**Summit**	**71.38**	**1**	*i*	P		P	03 15 28.3	+2.8
	comp=Z,91nm,0.9s								
SUMG	**Summit**	**71.38**	**1**	P			P	03 15 28.1	+2.6
SUMG					pmax		pmax		
	comp=Z,85nm,0.8s								
SUMG	**Summit**	**71.38**	**1**	P			P	03 15 28.1	+2.6
SUMG	**Summit**	**71.38**	**1**	*i*	P		P	03 15 28.4	+2.9
SUMG					IAmb		IAmb	03 15 29.3	
	comp=Z,91nm,0.9s								
CAN	**Canberra**	**71.50**	**175**	P			P	03 15 28.0	+1.8
CAN					pmax		pmax		
	comp=Z,57nm,1.3s								
CAN	**Canberra**	**71.50**	**175**	P			P	03 15 28.0	+1.8
CAN					IAmb		IAmb	03 15 42.2	
	comp=Z,57nm,1.3s								
JTMT	**Jette**	**71.53**	**44**		IAmb		IAmb	03 15 30.3	
	comp=Z,52nm,0.9s								
ORV	**Oroville**	**71.57**	**54**		IAmb		IAmb	03 15 30.1	
	comp=Z,50nm,1.1s								
GOF	**Gofitskoye**	**71.60**	**313**	⇓*i*	P		P	03 15 29.0	+2.1
GOF					pmax		pmax		
	comp=Z,82nm,0.9s								
VSU	**Vasula**	**71.76**	**330**	*e*P			P	03 15 29.5	+1.9
VSU	**Vasula**	**71.76**	**330**	*d*	*i*P		**P**	**03 15 28.8**	**+1.3**
VSU					pmax		pmax		
	comp=Z,170nm,1.0s								
VSU					MLR		MLR		
	comp=Z,3μm,17.0s								
NUUG	**Nuugaatsiaq**	**71.80**	**5**	*i*	P		P	03 15 29.3	+1.8
NUUG					IAmb		IAmb	03 15 30.4	
	comp=Z,68nm,1.4s								
WVOR	**Wild Horse Val**	**71.86**	**50**		IAmb		IAmb	03 15 32.6	
	comp=Z,59nm,1.3s								
NCK	**Nalchik**	**72.13**	**311**	⇓*e*P			P	03 15 31.9	+1.8
NCK					pmax		pmax		
	comp=Z,62nm,1.4s								
BEKR	**Beckworth**	**72.15**	**53**		IAmb		IAmb	03 15 34.0	
	comp=Z,63nm,1.0s								
MSO	**Missoula**	**72.23**	**45**		IAmb		IAmb	03 15 34.0	
	comp=Z,48nm,1.1s								
MSO	**Missoula**	**72.23**	**45**	P				03 15 32.9	
	baz=304,SNR=41								
AFDM	**Forest Hills D**	**72.24**	**55**		IAMs_20		IAMs_20	03 48 05.1	
	comp=Z,556nm,18.0s								
ZEI	**Tsey**	**72.33**	**310**	*e*P			**P**	**03 15 31.4**	**-0.1**
ZEI					pmax		pmax		
	comp=Z,44nm,1.4s								
WSAR	**Wadi Sarin**	**72.41**	**286**	P			P	03 15 33.7	+1.6
	comp=Z,26nm,0.8s,baz=126,slow=2.3,SNR=33								
KBZ	**Khabaz**	**72.42**	**312**	P			P	03 15 34.1	+2.3
	comp=Z,39nm,0.9s,baz=69,slow=4.6,SNR=97								
KBZ					LR		LR	03 49 01.4	
	comp=Z,717nm,18.6s,baz=48,slow=37								
KBZ	**Khabaz**	**72.42**	**312**	*d*	*i*P		P	03 15 33.5	+1.7
KBZ					pmax		pmax		
	comp=Z,74nm,1.0s								
KIV	**Kislovodsk**	**72.42**	**312**	*i*	P		P	03 15 34.2	+2.3
	SNR=19								
KIV	**Kislovodsk**	**72.42**	**312**	*e*P			P	03 15 34.0	+2.1
KIV				*e*				03 18 14.8	
KIV				*e*S			**SKiKP**	**03 24 58.1**	**-5.5**
KIV				*e*SS			SS	03 29 36.8	+5.8
KIV					pmax		pmax		
	comp=Z,313nm,1.0s								
KIV					pmax		pmax		
	comp=Z,209nm,3.1s								
KIV	**Kislovodsk**	**72.42**	**312**	P			P	03 15 33.8	+1.9
RUBR	**Rubicon Trail**	**72.72**	**54**		IAmb		IAmb	03 15 37.8	
	comp=Z,46nm,0.9s								
MTSE	**Matsula**	**72.74**	**332**	*e*P			**P**	**03 15 32.0**	**-1.4**
BANOM	**Banah**	**72.77**	**290**	*i*	P		P	03 15 36.0	+1.8
	SNR=11								
NEY	**Neytrino**	**72.79**	**311**	*ce*P			P	03 15 37.1	+2.8
NEY					pmax		pmax		
	comp=Z,9.0nm,1.2s								
NEY					MLR		MLR		
	comp=Z,408nm,17.0s								
SHME	**Shamm**	**72.82**	**290**	*i*	P		P	03 15 36.1	+1.7
	SNR=10								
PAHR	**Pah Rah Range**	**72.87**	**53**		IAmb		IAmb	03 15 38.4	
	comp=Z,56nm,1.1s								
SCO	**Scoresbysund**	**72.94**	**355**	*i*	P		P	03 15 37.1	+2.7
	comp=Z,101nm,1.4s								
SCO	**Scoresbysund**	**72.94**	**355**	*i*	P		P	03 15 37.1	+2.7
SCO	**Scoresbysund**	**72.94**	**355**	*i*	P		P	03 15 37.1	+2.7
SCO					IAmb		IAmb	03 15 38.1	
	comp=Z,102nm,1.4s								
MFID	**Camas Ranch**	**73.04**	**48**		IAmb		IAmb	03 15 39.6	
	comp=Z,81nm,1.5s								
NWAO	**Narrogin (SRO)**	**73.05**	**203**	P			P	03 15 37.1	+1.7
NWAO					pmax		pmax		
	comp=Z,28nm,1.0s								
NWAO	**Narrogin (SRO)**	**73.05**	**203**	P			P	03 15 37.1	+1.7
PNTR	**Pine Nut**	**73.06**	**54**		IAmb		IAmb	03 15 40.0	
	comp=Z,53nm,1.1s								
MDH	**Madha**	**73.10**	**289**	P			**P**	**03 15 37.1**	**+0.9**
CMB	**Columbia Colle**	**73.12**	**55**		IAmb		IAmb	03 15 39.9	
	comp=Z,95nm,1.4s								
CMB					IAMs_20		IAMs_20	03 47 14.3	
	comp=Z,617nm,19.0s								
AAL	**Aland**	**73.14**	**334**	*e*P			**P**	**03 15 36.9**	**+1.2**
MSFE	**Esma-Masafi**	**73.18**	**289**	*i*	P		P	03 15 38.1	+1.5
	SNR=12								
GNI	**Garni**	**73.25**	**308**	P			P	03 15 39.4	+2.4
	comp=Z,21nm,0.9s,baz=165,slow=0.7,SNR=22								
GNI	**Garni**	**73.25**	**308**	*d*	*i*P		P	03 15 39.2	+2.2
GNI					pmax		pmax		
	comp=Z,84nm,1.7s								
GNI					MLR		MLR		
	comp=Z,649nm,17.0s								
GNI	**Garni**	**73.25**	**308**	P			P	03 15 39.2	+2.2
GNI					IAmb		IAmb	03 16 07.0	
	comp=Z,81nm,1.2s								
GNI	**Garni**	**73.25**	**308**		IAMs_20		IAMs_20	03 53 19.9	
	comp=Z,638nm,18.0s								
AKH	**Akhalkalaki**	**73.34**	**309**	⇑P			P	03 15 40.8	+3.3
YERR	**Yerington**	**73.35**	**54**		IAmb		IAmb	03 15 41.6	
	comp=Z,91nm,1.1s								
UOSS	**Minazif**	**73.36**	**289**	*i*	P		**P**	**03 15 38.6**	**+0.9**
	SNR=14								
UOSS	**Minazif**	**73.36**	**289**	P			P	03 15 39.1	+1.4
UOSS					IAmb		IAmb	03 15 52.4	
	comp=Z,62nm,0.9s								
CHVG	**Ch'k'valeri**	**73.48**	**311**	⇑P			P	03 15 40.1	+2.0
HATD	**Hatta, Dubai**	**73.48**	**289**	*i*	P		P	03 15 39.9	+1.5
	SNR=22								
FFC	**Flin Flon**	**73.52**	**33**	P			**P**	**03 15 39.9**	**+1.8**
FFC					pmax		pmax		
	comp=Z,81nm,0.9s								
FFC					MLR		MLR		
	comp=Z,500nm,20.0s								
FFC	**Flin Flon**	**73.52**	**33**	P			**P**	**03 15 39.9**	**+1.8**
FFC					IAmb		IAmb	03 15 41.3	
	comp=Z,81nm,0.9s								
FFC					IAMs_20		IAMs_20	03 50 55.7	
	comp=Z,513nm,20.0s								
SOHO	**SOHO**	**73.55**	**288**	*i*	P		**P**	**03 15 39.7**	**+0.9**
	SNR=15								
ASHO	**Ashiyiah**	**73.62**	**289**	*i*	P		P	03 15 40.5	+1.2
	SNR=16								
TASB	**TASBURUN-IGDIR**	**73.66**	**308**	*e*P			P	03 15 41.7	+2.4
NAZ	**Nazwa, Dubai**	**73.75**	**289**	*i*	P		P	03 15 41.2	+1.2
	SNR=7.0								
HLID	**Hailey**	**73.81**	**48**		IAMs_20		IAMs_20	03 54 04.1	
	comp=Z,474nm,18.0s								
HLID	**Hailey**	**73.81**	**48**	P				03 15 42.8	
	baz=305,SNR=22								
IDID	**Didziasalis**	**73.82**	**328**	*e*P			P	03 15 42.3	+2.5
PMPB	**Monarch Peak**	**73.84**	**57**		IAmb		IAmb	03 15 44.4	
	comp=Z,57nm,1.3s								
DLMT	**Dillon**	**73.84**	**45**		IAmb		IAmb	03 15 44.1	
	comp=Z,50nm,0.8s								
MNK	**Minsk**	**73.86**	**327**	*e*P			P	03 15 43.0	+3.0
MNK	**Minsk**	**73.86**	**327**	*i*	P		**P**	**03 15 40.5**	**+0.5**
	comp=E,5.0nm,1.0s								
MNK				*i*	P		**P**	**03 15 40.5**	**+0.5**
	comp=N,30nm,1.0s								
MNK				*i*	P		**P**	**03 15 40.5**	**+0.5**
	comp=Z,81nm,1.0s								
MNK				*i*	PcP		**sP**	**03 15 55.0**	**+1.2**
MNK				*i*	PP		**PP**	**03 18 24.9**	**+0.4**
MNK				*i*	PPP		PPP	03 20 09.9	
MNK				*i*	S		**S**	**03 25 09.8**	**+1.4**
MNK				*i*	ScS		**ScS**	**03 25 50.8**	**+4.4**
MNK				*i*	SS		SS	03 29 58.2	+6.2
MNK				*i*	SSS		SSS	03 33 19.6	
MNK				*i*	LQ		LQ	03 42 45.3	
MNK				*i*	LR		LR	03 47 09.0	
MNK				*i*	LRM		MLR	03 51 04.8	
	comp=E,111nm,19.0s								
MNK				*i*	LRM		MLR	03 51 38.6	
	comp=Z,532nm,18.7s								
MNK				*i*	LRM		MLR	03 51 46.2	
	comp=N,586nm,18.7s								
EGMT	**Eagleton**	**73.86**	**42**		IAmb		IAmb	03 15 43.8	
	comp=Z,95nm,1.2s								
EGMT	**Eagleton**	**73.86**	**42**	P				03 15 42.3	
	baz=307,SNR=38								
TBLU	**Trondheim**	**73.90**	**340**	*e*P			**P**	**03 15 40.6**	**+0.5**
ISAL	**Salakas**	**73.92**	**328**	*e*P			P	03 15 42.8	+2.5
FAQ	**Al Faqa, Dubai**	**73.94**	**289**	*i*	P		**P**	**03 15 41.9**	**+0.9**
	SNR=9.7								
BCYI	**Bear Canyon**	**73.98**	**47**	P			P	03 15 43.4	+2.1
FCC	**Fort Churchill**	**73.99**	**27**	P			**P**	**03 15 42.4**	**+1.7**
FCC					pmax		pmax		
	comp=Z,119nm,1.3s								
FCC	**Fort Churchill**	**73.99**	**27**	P			**P**	**03 15 42.4**	**+1.7**
FCC					IAmb		IAmb	03 15 43.7	
	comp=Z,119nm,1.3s								
RYN	**Ryan**	**74.02**	**54**		IAmb		IAmb	03 15 45.5	
	comp=Z,54nm,1.1s								
IIGN	**Ignalina**	**74.02**	**328**	*e*P			P	03 15 43.5	+2.5
KARS	**Kars**	**74.04**	**309**	*e*P			P	03 15 44.1	+2.5
KVN	**Kaiserville**	**74.06**	**53**		IAmb		IAmb	03 15 45.7	
	comp=Z,83nm,1.1s								
NACGM	**Naroch**	**74.08**	**327**	*i*	P		P	03 15 44.1	+2.8
NACGM				*i*	P		P	03 15 44.1	+2.8
NACGM				*i*	P		P	03 15 44.1	+2.8
NACGM				*i*	Pb		pP	03 15 45.3	-5.9
	comp=Z,114nm,1.1s								
NACGM				*i*	PcP		sP	03 15 56.0	+1.0
NACGM				*i*	PP		**PP**	**03 18 25.4**	**-1.0**
NACGM				*i*	PPP		PPP	03 20 20.0	
NACGM				*i*	S		**S**	**03 25 14.7**	**+3.8**
NACGM				*i*	SS		SS	03 30 13.0	+18
NACGM				*i*	SSS		SSS	03 33 27.5	
NACGM				*i*	LQ		LQ	03 43 19.8	
NACGM				*i*	LR		LR	03 48 56.2	
ALNE	**Al Ain**	**74.19**	**288**	*i*	P		P	03 15 44.4	+1.8
	SNR=7.7								
UPP	**Uppsala**	**74.19**	**335**	*e*P			P	03 15 43.8	+1.9
ASUD	**Al Ashush, Dub**	**74.20**	**289**	*i*	P		P	03 15 44.2	+1.6
	SNR=8.5								
MDPB	**Devils Postpil**	**74.21**	**55**		IAMs_20		IAMs_20	03 48 26.1	
	comp=Z,740nm,20.0s								
ILULI	**Ilulissat**	**74.24**	**5**	⇓*i*	P		P	03 15 44.1	+2.1
	comp=Z,72nm,1.1s								
ILULI	**Ilulissat**	**74.24**	**5**	⇓*i*	P		P	03 15 44.1	+2.1
ILULI	**Ilulissat**	**74.24**	**5**	⇓*i*	P		P	03 15 44.2	+2.2
ILULI					IAmb		IAmb	03 15 45.0	
	comp=Z,72nm,1.1s								
LHV	**Little Huntoon**	**74.24**	**54**		IAMs_20		IAMs_20	03 48 34.9	
	comp=Z,687nm,21.0s								
BOZ	**Bozeman (W)**	**74.25**	**45**		IAmb		IAmb	03 15 46.5	
	comp=Z,55nm,0.9s								
BOZ	**Bozeman (W)

NC602	**NORSAR Array S**	**75.51**	**338**	*e*P		P		03 15 51.9	+2.4
CWC	**Cottonwood Cre**	**75.54**	**55**	P				03 15 52.7	
	baz=305								
SBC	**Santa Barbara**	**75.56**	**58**	P				03 15 53.4	
	baz=304								
H17A	**Grant Village**	**75.57**	**45**	P				03 15 54.5	
	baz=307,SNR=82								
CUKT	**Cukurca**	**75.61**	**306**	*e*P		**P**		**03 15 51.7**	**+1.0**
AKN	**Aaknes**	**75.66**	**340**	*e*P		P		03 15 52.8	+2.4
GRAC	**Grapevine Rang**	**75.69**	**55**	P				03 15 54.0	
	baz=305,SNR=48								
AKASG	**Malin Array Be**	**75.70**	**323**	P		P		03 15 52.3	+1.5
	comp=Z,30nm,0.7s,baz=46,slow=6.1,SNR=173								
AKASG				PP		**PP**		**03 18 43.1**	**+2.8**
	comp=Z,2.8nm,0.8s,baz=44,slow=8.5,SNR=2.7								
AKASG				LR		LR		03 52 41.6	
	comp=Z,1μm,18.4s,baz=70,slow=38								
AKASG	**Malin Array Be**	**75.70**	**323**	P		P		03 15 52.4	+1.6
AKBB	**Malin Array Si**	**75.70**	**323**	*d*/*P*		**P**		**03 15 51.9**	**+1.1**
AKBB	**Malin Array Si**	**75.70**	**323**	IAmb		IAmb		03 15 53.7	
	comp=Z,68nm,0.9s								
ISA	**Isabella, Lake**	**75.71**	**56**	P				03 15 53.0	
	baz=305,SNR=20								
ARVC	**Arvin**	**75.78**	**57**	P				03 15 53.9	
	baz=305,SNR=10								
SCZ2	**Santa Cruz Isl**	**75.86**	**58**	P				03 15 54.2	
	baz=304								
RLMT	**Red Lodge**	**75.87**	**44**	IAmb		IAmb		03 15 56.4	
	comp=Z,48nm,1.1s								
RLMT	**Red Lodge**	**75.87**	**44**	P				03 15 55.0	
	baz=308,SNR=38								
GURO	**Guroymak-BITLI**	**75.88**	**308**	*e*P		P		03 15 54.9	+2.6
KTUT	**Trabzon**	**75.89**	**311**	⇑P		P		03 15 54.4	+2.4
KTUT	**Trabzon**	**75.89**	**311**	*e*P		P		03 15 53.9	+1.8
VRTB	**Varto-Mus**	**75.90**	**308**	*e*P		P		03 15 55.1	+2.7
KOPT	**Kop Dagi**	**76.00**	**309**	P		P		03 15 55.5	+2.4
KOPT				IAmb		IAmb		03 15 57.5	
	comp=Z,56nm,1.2s								
KOPT				IAMs_20		IAMs_20		03 53 14.7	
	comp=Z,772nm,18.0s								
SNOW	**Snow King Moun**	**76.02**	**46**	IAMs_20		IAMs_20		03 53 31.6	
	comp=Z,465nm,18.0s								
REDW	**Red Top Meadow**	**76.03**	**46**	IAmb		IAmb		03 15 57.4	
	comp=Z,48nm,1.2s								
KARO	**Karliova-Bingo**	**76.07**	**309**	*e*P		P		03 15 56.2	+2.8
R11A	**Troy Canyon, C**	**76.08**	**53**	IAmb		IAmb		03 15 57.3	
	comp=Z,84nm,1.3s								
R11A	**Troy Canyon, C**	**76.08**	**53**	P				03 15 56.0	
	baz=306,SNR=74								
OSI	**Osito Audit: C**	**76.14**	**57**	IAMs_20		IAMs_20		03 43 10.3	
	comp=Z,1μm,19.0s								
MPMC	**Manual Prospec**	**76.15**	**55**	P				03 15 56.1	
	baz=305,SNR=55								
SUW	**Suwalki**	**76.23**	**328**	*e*P		P		03 15 55.4	+1.7
SUW				*e*PcP		sP		03 16 07.6	+0.2
SUW				*e*L		L		03 53 13.8	
	comp=Z,3μm,16.9s								
SUW	**Suwalki**	**76.23**	**328**	*e*P		P		03 15 55.2	+1.5
SUW	**Suwalki**	**76.23**	**328**	IAmb		IAmb		03 15 56.8	
	comp=Z,82nm,1.0s								
YEDI	**Yedisu-Bingol**	**76.31**	**309**	*e*P		P		03 15 57.5	+2.8
FURC	**Furnace Creek,**	**76.33**	**55**	P				03 15 57.3	
	baz=305,SNR=32								
LRMC	**Laurel Mtn Rad**	**76.35**	**56**	P				03 15 57.2	
	baz=305,SNR=41								
SNCC	**San Nicolas Is**	**76.36**	**59**	P				03 15 57.6	
	baz=305								
SFJD	**Kangerlussuaq**	**76.45**	**6**	⇓*i*P		P		03 15 56.9	+2.1
	comp=Z,92nm,1.6s								
SFJD	**Kangerlussuaq**	**76.45**	**6**	⇓*i*P		P		03 15 56.9	+2.1
SFJD	**Kangerlussuaq**	**76.45**	**6**	P		P		03 15 57.2	+2.5
SFJD				IAmb		IAmb		03 15 58.1	
	comp=Z,48nm,1.0s								
SFJD	**Kangerlussuaq**	**76.45**	**6**	⇓*i*P		P		03 15 56.9	+2.1
SFJD				IAmb		IAmb		03 15 57.8	
	comp=Z,92nm,1.6s								
TPNV	**Topopah Spring**	**76.45**	**54**	IAmb		IAmb		03 15 59.3	
	comp=Z,76nm,1.1s								
TPNV				IAMs_20		IAMs_20		03 50 47.5	
	comp=Z,842nm,18.0s								
TPNV	**Topopah Spring**	**76.45**	**54**	P				03 15 58.0	
	baz=305,SNR=52								
EDW2	**Edwards Air Fo**	**76.48**	**57**	P				03 15 58.2	
	baz=305,SNR=41								
BNGB	**Bingl**	**76.49**	**309**	*e*P		P		03 15 58.9	+3.2
DGMT	**Dagmar**	**76.50**	**39**	P				03 15 57.7	
	baz=310,SNR=25								
SKAR	**Skarslia**	**76.52**	**339**	*e*P		P		03 15 58.4	+3.1
LAO	**LASA Array**	**76.57**	**41**	IAmb		IAmb		03 15 59.8	
	comp=Z,94nm,1.1s								
LAO	**LASA Array**	**76.57**	**41**	P				03 15 58.7	
	baz=309,SNR=24								
HWUT	**Hardware Ranch**	**76.66**	**48**	IAmb		IAmb		03 16 00.8	
	comp=Z,74nm,1.1s								
FOO	**Floro**	**76.66**	**341**	*e*P		P		03 15 59.1	+3.1
HYA	**Hoyanger**	**76.72**	**340**	*e*P		P		03 15 59.1	+2.8
DUG	**Dugway, Tooele**	**76.74**	**50**	IAmb		IAmb		03 16 01.1	
	comp=Z,67nm,1.0s								
DUG	**Dugway, Tooele**	**76.74**	**50**	P				03 16 00.1	
	baz=307,SNR=72								
PASC	**Pasadena Art C**	**76.75**	**57**	IAmb		IAmb		03 16 00.5	
	comp=Z,50nm,1.2s								
SIM	**Simferopol'**	**76.81**	**316**	*e*P		**P**		**03 15 58.2**	**+1.0**
SIM				pmax		pmax			
	comp=Z,48nm,0.8s								
MWC	**Mount Wilson**	**76.81**	**57**	IAmb		IAmb		03 16 01.1	
	comp=Z,85nm,1.4s								
KONO	**Kongsberg**	**76.96**	**338**	*de*P		P		03 16 00.0	+2.2
KONO				pmax		pmax			
	comp=Z,73nm,2.5s								
KONO				MLR		MLR			
	comp=Z,2μm,18.0s								
KONO	**Kongsberg**	**76.96**	**338**	P		P		03 15 59.8	+2.1
KONO				IAmb		IAmb		03 16 14.0	
	comp=Z,67nm,1.1s								
KONO	**Kongsberg**	**76.96**	**338**	*e*P		P		03 16 00.5	+2.7
PRN	**Pahroc Range**	**76.97**	**53**	IAmb		IAmb		03 16 02.4	
	comp=Z,48nm,1.1s								
PRN				IAMs_20		IAMs_20		03 52 46.0	
	comp=Z,757nm,20.0s								
GSC	**Goldstone, Bar**	**77.03**	**56**	IAmb		IAmb		03 16 02.3	
	comp=Z,45nm,1.1s								
GSC	**Goldstone, Bar**	**77.04**	**56**	P				03 16 01.2	
	baz=306,SNR=21								
CIS	**Catalina Islan**	**77.04**	**58**	P				03 16 01.3	
	baz=305,SNR=6.4								
SHOC	**Shoshone, Teco**	**77.04**	**55**	P				03 16 01.1	
	baz=306								
TCUT	**Toone Canyon**	**77.05**	**48**	IAmb		IAmb		03 16 02.8	
	comp=Z,51nm,0.8s								
PSUT	**Pine Spring**	**77.07**	**52**	IAmb		IAmb		03 16 02.9	
	comp=Z,57nm,1.1s								
BFSC	**Mount Baldy Ra**	**77.07**	**57**	P				03 16 01.8	
	baz=305,SNR=13								
UMR	**Umm Al-Rimmam**	**77.14**	**297**	*e*P				03 15 59.9	
PDAR	**Pinedale Array**	**77.14**	**46**	P		**P**		**03 16 01.2**	**+1.8**
	comp=Z,20nm,0.8s,baz=271,slow=1.9,SNR=162								
PDAR				PP		**PP**		**03 18 54.7**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=352,slow=5.8,SNR=1.9								
BW06	**Boulder Array**	**77.14**	**46**	P				03 16 01.7	
	baz=308,SNR=29								
SUE	**Sulen**	**77.19**	**341**	*e*P		P		03 16 01.9	+2.9
MIB	**Mutribah**	**77.26**	**298**	*e*P				03 15 59.9	
JLU	**Jordanelle**	**77.33**	**49**	IAmb		IAmb		03 16 04.5	
	comp=Z,39nm,0.9s								
NLU	**North Lily Min**	**77.34**	**50**	IAmb		IAmb		03 16 04.4	
	comp=Z,37nm,0.9s								
MARD	**Mardin**	**77.41**	**307**	P		P		03 16 03.1	+2.2
SHPR	**Sheep Range**	**77.42**	**54**	IAmb		IAmb		03 16 05.1	
	comp=Z,58nm,1.2s								
DYBB	**Diyarbakir**	**77.44**	**308**	*e*P		P		03 16 03.6	+2.6
QRN	**Al-Qurain**	**77.44**	**296**	*e*P				03 16 00.7	
ILIC	**ilic-Erzincan**	**77.54**	**310**	*e*P		P		03 16 04.3	+2.7
ASK	**Askoy**	**77.56**	**340**	*e*P		P		03 16 03.7	+2.6
BBRC	**Big Bear Solar**	**77.56**	**57**	P				03 16 04.2	
	baz=306								
MPU	**Maple Canyon**	**77.57**	**49**	IAmb		IAmb		03 16 05.8	
	comp=Z,58nm,1.0s								
BER	**Bergen**	**77.60**	**340**	*e*P		P		03 16 03.7	+2.4
RDF	**Al-Radifah**	**77.61**	**297**	*e*P				03 16 02.3	
SHAO	**Shalim**	**77.62**	**283**	*i* P		P		03 16 03.8	+1.6
	SNR=11								
HEC	**Hector,Ludlow**	**77.62**	**56**	P				03 16 04.9	
	baz=306,SNR=9.1								
ODD1	**Odda**	**77.63**	**339**	*e*P		P		03 16 04.5	+3.0
RST	**Umm Al-Ruwaisa**	**77.68**	**297**	*e*P				03 16 02.1	
RSDY	**Resadiye-TOKAT**	**77.73**	**311**	*e*P		P		03 16 05.1	+2.6
MURC	**Murrieta**	**77.76**	**57**	P				03 16 05.2	
	baz=306,SNR=12								
CCUT	**Cedar City**	**77.97**	**52**	IAmb		IAmb		03 16 08.2	
	comp=Z,56nm,1.2s								
BLS5	**Blasjo**	**78.08**	**339**	*e*P		P		03 16 06.3	+2.2
KVT	**Kavak**	**78.08**	**312**	*e*P		P		03 16 07.2	+2.7
GMRC	**Granite Mounta**	**78.10**	**56**	P				03 16 07.3	
	baz=306,SNR=20								
DIKM	**Dikmen**	**78.20**	**313**	*e*P		P		03 16 07.7	+2.7
SVSK	**Karacayir**	**78.22**	**311**	*e*P		P		03 16 08.4	+3.2
109C	**Camp Elliot, M**	**78.23**	**58**	IAmb		IAmb		03 16 08.8	
	comp=Z,104nm,1.4s								
109C	**Camp Elliot, M**	**78.23**	**58**	P				03 16 07.8	
	baz=306,SNR=7.6								
PFO	**Pinyon Flats O**	**78.25**	**57**	P		**P**		**03 16 07.5**	**+1.9**
PFO				pmax		pmax			
	comp=Z,65nm,1.3s								
PFO				MLR		MLR			
	comp=Z,1μm,18.0s								
PFO	**Pinyon Flats O**	**78.25**	**57**	P		**P**		**03 16 07.5**	**+1.9**
PFO				IAmb		IAmb		03 16 09.1	
	comp=Z,65nm,1.3s								
PFO	**Pinyon Flats O**	**78.25**	**57**	P				03 16 07.8	
	baz=306,SNR=23								
TOKT	**Tokat**	**78.25**	**312**	*e*P		P		03 16 08.2	+2.8
XPFO	**Pion Flat**	**78.25**	**57**	P		**P**		**03 16 07.5**	**+1.9**
XPFO				IAmb		IAmb		03 16 09.1	
	comp=Z,56nm,1.2s								
TOKA	**Tokat**	**78.29**	**312**	P		P		03 16 07.7	+2.1
TOKA				IAmb		IAmb		03 16 09.6	
	comp=Z,65nm,1.3s								
MALT	**Malatya**	**78.31**	**309**	*e*P		P		03 16 08.8	+2.9
BELC	**Belle Mtn. Jos**	**78.33**	**56**	P				03 16 08.1	
	baz=306,SNR=17								
KIS	**Kishinev**	**78.33**	**320**	*e*P		**P**		**03 16 02.0**	**-3.7**
	comp=Z,130nm,6.6s								
KIS	**Kishinev**	**78.33**	**320**	*e*PcP		PcP		03 16 20.0	+5.1
KIS	**Kishinev**	**78.33**	**320**	*e*PP		PP		03 18 55.0	-7.5
KIS	**Kishinev**	**78.33**	**320**	*e*P		**P**		**03 16 02.0**	**-3.7**
KIS				*e*				03 16 20.0	
KIS				*e*PPP		PPP		03 20 55.0	
KIS				pmax		pmax			
	comp=Z,130nm,6.6s								
KIS				MLR		MLR			
	comp=Z,800nm,14.5s								
KIS				MLR		MLR			
	comp=N,500nm,18.0s								
KIS				MLR		MLR			
	comp=E,600nm,16.5s								
LCMT	**Little Creek M**	**78.36**	**53**	IAmb		IAmb		03 16 10.3	
	comp=Z,57nm,1.0s								
ANGG	**Ammassalik, Gr**	**78.38**	**0**	*e*P		P		03 16 07.2	+1.6
ANGG				IAmb		IAmb		03 16 07.6	
	comp=Z,33nm,0.9s								
HOMB	**Homborsund**	**78.41**	**337**	*e*P		P		03 16 08.5	+2.6
HOMB	**Homborsund**	**78.41**	**337**	*i* P		P		03 16 08.6	+2.7
HOMB				IAmb		IAmb		03 16 09.4	
	comp=Z,169nm,1.8s								
MTPU	**Mount Pierson**	**78.42**	**51**	IAmb		IAmb		03 16 11.2	
	comp=Z,79nm,1.4s								
ISOG	**Isortoq, Green**	**78.43**	**1**	*i* P		**P**		**03 16 07.4**	**+1.5**
ISOG				IAmb		IAmb		03 16 09.3	
	comp=Z,39nm,1.0s								
P17A	**Butcher Ranch,**	**78.45**	**49**	IAmb		IAmb		03 16 10.7	
	comp=Z,90nm,1.0s								
Q16A	**Castle Valley**	**78.52**	**50**	IAmb		IAmb		03 16 12.1	
	comp=Z,72nm,1.2s								
URFA	**Urfa**	**78.59**	**308**	*e*P		P		03 16 09.6	+2.2
KMY	**Karmoy**	**78.60**	**339**	*e*P		P		03 16 09.5	+2.6
KNB	**Kanab**	**78.63**	**52**	IAmb		IAmb		03 16 12.1	
	comp=Z,111nm,1.2s								
BAR	**Barrett**	**78.65**	**58**	IAMs_20		IAMs_20		03 49 36.8	
	comp=Z,786nm,20.0s								
MONP2	**Monument Peak**	**78.69**	**58**	P				03 16 10.6	
	baz=306,SNR=15								
BSD	**Bornholm Skovb**	**78.72**	**333**	⇓*i*P		**P**		**03 16 08.9**	**+1.3**
	comp=Z,49nm,1.2s								
BSD	**Bornholm Skovb**	**78.72**	**333**	*e*P		**P**		**03 16 08.2**	**+0.6**
BSD	**Bornholm Skovb**	**78.72**	**333**	⇓*i*P		**P**		**03 16 08.9**	**+1.3**
BSD	**Bornholm Skovb**	**78.72**	**333**	⇓*i*P		P		03 16 08.9	+1.3
BSD				IAmb		IAmb		03 16 10.3	
	comp=Z,49nm,1.2s								
BZK	**Bozkurt**	**78.74**	**314**	*e*P		P		03 16 10.6	+2.6
DARE	**Darende-Malaty**	**78.74**	**310**	*e*P		P		03 16 11.4	+3.2
SNART	**Snartemo**	**78.75**	**338**	*e*P		P		03 16 10.3	+2.6
SNART	**Snartemo**	**78.75**	**338**	*i* P		P		03 16 10.2	+2.5
TKX	**Tecate**	**78.76**	**58**	P		**P**		**03 16 09.7**	**+1.4**
LVV	**L'vov**	**78.77**	**325**	*c* /*P*		P		03 16 10.0	+2.0
LVV				*e*				03 16 22.5	
LVV				*e*				03 19 14.1	
LVV				*e*PPP		PPP		03 21 05.7	
LVV				*e*S		**S**		**03 26 04.6**	**+2.1**
LVV				*e*PS		PnS		03 27 01.2	+13
LVV				*e*SS		**SS**		**03 31 11.2**	**+4.8**
LVV				*e*SSS		SSS		03 34 26.2	
LVV				pmax		pmax			
	comp=Z,150nm,1.4s								
LVV				MLR		MLR			
	comp=N,900nm,18.0s								
LVV				MLR		MLR			
	comp=E,800nm,18.0s								
LVV				MLR		MLR			
	comp=Z,1μm,17.0s								
BEL	**Belsk**	**78.79**	**328**	*e*P		P		03 16 10.9	+2.8
BEL				*e*PcP		sP		03 16 23.1	+1.2
BEL				*e*L		L		03 54 40.0	
	comp=Z,2μm,18.1s								
IRM	**Iron Mountain**	**78.81**	**56**	P				03 16 11.1	
	baz=306,SNR=29								
IAS	**Iasi**	**78.84**	**321**	⇑P		P		03 16 11.0	+2.6
BC3	**Big Chuckawall**	**78.90**	**56**	P				03 16 11.6	
	baz=306,SNR=25								
GID	**Gilleleje**	**78.92**	**334**	*i* P		P		03 16 11.3	+2.7
GID				IAmb		IAmb		03 16 12.0	
	comp=Z,56nm,0.9s								
K22A	**Casper**	**78.96**	**45**	P				03 16 11.6	
	baz=310,SNR=17								
IKP	**In-Ko-Pah, Jac**	**79.05**	**58**	P				03 16 12.4	
	baz=306,SNR=17								
SWSC	**Sam W. Stewart**	**79.09**	**57**	P				03 16 12.3	
	baz=306,SNR=9.3								
RMX	**La Rumorosa**	**79.10**	**58**	IAmb		IAmb		03 16 14.2	
	comp=Z,62nm,1.3s								
NUUK	**Nuuk**	**79.13**	**7**	*i* P		P		03 16 12.1	+2.4
NUUK				IAmb		IAmb		03 16 13.2	
	comp=Z,93nm,0.8s								
COP	**Copenhagen**	**79.17**	**334**	⇓*i*P		P		03 16 12.0	+1.9
	comp=Z,56nm,0.9s								
COP	**Copenhagen**	**79.17**	**334**	⇓*i*P		P		03 16 12.0	+1.9
COP	**Copenhagen**	**79.17**	**334**	⇓*i*P		P		03 16 12.0	+2.0
COP				IAmb		IAmb		03 16 13.3	
	comp=Z,56nm,0.9s								
GOET	**G??ttrup**	**79.19**	**336**	⇓*i*P		P		03 16 12.2	+2.1
	comp=Z,76nm,0.9s								
GOET	**G??ttrup**	**79.19**	**336**	⇓*i*P		P		03 16 12.3	+2.2
GOET				IAmb		IAmb		03 16 13.7	
	comp=Z,76nm,0.9s								
MDND	**Maddock**	**79.21**	**38**	IAMs_20		IAMs_20		03 55 27.5	
	comp=Z,681nm,18.0s								
MDND	**Maddock**	**79.22**	**38**	P				03 16 12.9	
	baz=313,SNR=10								
GKP	**Gorka Klasztor**	**79.22**	**330**	*e*P		P		03 16 12.7	+2.4
GKP				*e*PcP		sP		03 16 24.6	+0.5
GKP				*e*L		L		03 55 11.9	
	comp=Z,2μm,17.2s								
GKP	**Gorka Klasztor**	**79.22**	**330**	*e*P		P		03 16 12.2	+1.8
ULM	**Lac du Bonnet**	**79.30**	**34**	P		**P**		**03 16 12.3**	**+1.4**
	comp=Z,21nm,0.8s,baz=314,slow=6.4,SNR=41								
PDMCI	**Parker Dam,Lak**	**79.39**	**55**	P				03 16 14.1	
	baz=307,SNR=24								
PRAR	**RASCA**	**79.40**	**322**	⇑P		P		03 16 13.9	+2.3
RSSD	**Black Hills**	**79.40**	**42**	P		**P**		**03 16 13.5**	**+1.6**
RSSD				pmax		pmax			
	comp=Z,33nm,1.3s								
RSSD	**Black Hills**	**79.40**	**42**	P		**P**		**03 16 13.5**	**+1.6**
RSSD	**Black Hills**	**79.40**	**42**	P				03 16 13.8	
	baz=311								
ILGA	**Ilgaz**	**79.48**	**314**	P		P		03 16 15.1	+2.7
ILGA				IAmb		IAmb		03 16 28.8	
	comp=Z,78nm,1.0s								
CORM	**Corum**	**79.49**	**312**	*e*P		**P**		**03 16 13.2**	**+0.9**
SARI	**SarD1z-Kayseri**	**79.50**	**310**	*e*P		P		03 16 14.6	+2.1
KWP	**Kalwaria Pacla**	**79.51**	**325**	*e*P		P		03 16 14.5	+2.4
KWP				*e*PcP		sP		03 16 27.1	+1.2
KWP				*e*L		L		03 54 00.9	
	comp=Z,858nm,20.7s								
KWP	**Kalwaria Pacla**	**79.51**	**325**	IAMs_20		IAMs_20		03 54 02.9	
	comp=Z,926nm,19.0s								
LLD	**Lille Linde**	**79.53**	**334**	*i* P		P		03 16 14.6	+2.6
LLD	**Lille Linde**	**79.53**	**334**	*i* P		P		03 16 14.6	+2.6
LLD	**Lille Linde**	**79.53**	**334**	*i* P		P		03 16 14.6	+2.6
TLCR		**79.53**	**319**	⇑P		P		03 16 14.8	+2.5
ESJX	**Sierra Juarez**	**79.54**	**58**	IAmb		IAmb		03 16 16.5	
	comp=Z,79nm,1.3s								
ESJX				IAMs_20		IAMs_20		03 50 30.4	
	comp=Z,792nm,20.0s								
O20A	**White River Ci**	**79.55**	**48**	IAmb		IAmb		03 16 16.1	
	comp=Z,52nm,0.9s								
O20A	**White River Ci**	**79.55**	**48**	P				03 16 15.2	
	baz=309,SNR=37								
BNN	**Bunyan**	**79.58**	**311**	*e*P		P		03 16 14.7	+1.9
MUD	**Monsted U'grnd**	**79.67**	**336**	⇓*i*P		P		03 16 15.0	+2.2
	comp=Z,63nm,1.2s								
MUD	**Monsted U'grnd**	**79.67**	**336**	⇓*i*P		P		03 16 15.0	+2.2
MUD	**Monsted U'grnd**	**79.67**	**336**	⇓*i*P		P		03 16 15.1	+2.3
MUD				IAmb		IAmb		03 16 16.1	
	comp=Z,63nm,1.2s								
GLA	**Glamis**	**79.68**	**57**	IAmb		IAmb		03 16 17.1	
	comp=Z,104nm,1.3s								
GLA				IAMs_20		IAMs_20		03 51 13.1	
	comp=Z,1μm,18.0s								
GLA	**Glamis**	**79.68**	**57**	P				03 16 16.0	
	baz=307,SNR=13								
BURAR	**Bucovina Array**	**79.73**	**323**	⇑P		P		03 16 16.3	+2.9
BURAR	**Bucovina Array**	**79.73**	**323**	P		P		03 16 15.4	+2.0
RGN	**Rugen**	**79.74**	**333**	IAmb		IAmb		03 16 17.0	
	comp=Z,76nm,1.0s								
RGN				IAMs_20		IAMs_20		03 52 22.8	
	comp=Z,633nm,21.0s								
BIZ	**Bicaz**	**79.75**	**322**	⇑P		P		03 16 16.5	+3.1
KMRS	**Kahramanmaras**	**79.76**	**309**	*e*P		P		03 16 16.5	+2.8
TESR	**Tescani**	**79.77**	**321**	⇑P		P		03 16 16.4	+2.9
GAZ	**Gaziantep**	**79.77**	**309**	*e*P		P		03 16 16.9	+3.1
GAZ	**Gaziantep**	**79.77**	**309**	IAmb		IAmb		03 16 29.9	
	comp=Z,65nm,1.0s								
CANT	**Cankiri**	**79.82**	**313**	*e*P		P		03 16 16.8	+2.8
CFR	**Carcaliu**	**79.90**	**319**	⇑P		P		03 16 16.2	+2.0
TPGR	**Topolog**	**79.96**	**319**	⇑P		P		03 16 17.3	+2.7
PETR	**Petresti**	**80.00**	**320**	⇑P		P		03 16 17.7	+2.9
VRI	**Vrincioaia**	**80.17**	**321**	⇑P		P		03 16 18.8	+3.1
KOLS	**Kolonicke sedl**	**80.21**	**325**	*e*P		P		03 16 18.2	+2.3
KOLS				pmax		pmax			
	comp=Z,32nm,1.0s								
KOLS	**Kolonicke sedl**	**80.21**	**325**	*e*P		P		03 16 18.2	+2.3
PLOR	**Plostina**	**80.22**	**321**	⇑P		P		03 16 19.0	+2.9
LNIZ	**Loecknitz**	**80.23**	**332**	*e*P		P		03 16 17.4	+1.6
	comp=Z,111nm,1.1s,baz=36,slow=5.2								
TIRR	**Tirgusor**	**80.23**	**319**	⇑P		P		03 16 18.8	+2.8
TIRR	**Tirgusor**	**80.23**	**319**	⇑P		P		03 16 18.8	+2.8
PV04	**Paradox Valley**	**80.24**	**49**	IAMs_20		IAMs_20		03 52 18.5	
	comp=Z,918nm,21.0s								
PV19	**Morning Glory**	**80.24**	**49**	IAMs_20		IAMs_20		03 42 59.5	
	comp=Z,452nm,19.0s								
PV16	**Nyswonger Mesa**	**80.28**	**49**	IAMs_20		IAMs_20		03 46 10.6	
	comp=Z,415nm,19.0s								
PV11	**David Mesa, Pa**	**80.32**	**49**	IAmb		IAmb		03 16 21.5	
	comp=Z,88nm,0.7s								
PV18	**Skein Mesa, Pa**	**80.33**	**49**	IAmb		IAmb		03 16 20.9	
	comp=Z,122nm,1.1s								
PV18				IAMs_20		IAMs_20		03 46 41.8	
	comp=Z,518nm,19.0s								
PV12	**Saucer Basin,**	**80.35**	**49**	IAMs_20		IAMs_20		03 55 08.3	
	comp=Z,758nm,19.0s								
BR131	**Keskin Array S**	**80.36**	**313**	IAmb		IAmb		03 16 33.2	
	comp=Z,32nm,1.1s,baz=107,slow=4.3,SNR=94								
BRTR	**Keskin Array B**	**80.36**	**312**	P		P		03 16 19.3	+2.2
BRTR				LR		LR		03 56 29.2	
	comp=Z,836nm,19.2s,baz=60,slow=39								
BRTR	**Keskin Array B**	**80.36**	**312**	*ce*P		P		03 16 19.5	+2.4
BRTR				pmax		pmax			
	comp=Z,33nm,1.0s								
BRTR	**Keskin Array B**	**80.36**	**312**	P		P		03 16 18.4	+1.3
		80.37	**320**	⇑P		P		03 16 20.1	+3.3
BISRR	**Bisoca**	**80.39**	**320**	⇑P		P		03 16 20.5	+3.5
OJC	**Ojcow**	**80.40**	**327**	*e*P		P		03 16 19.0	+2.1
OJC				*e*PcP		sP		03 16 31.4	+0.8
OJC				*e*L		L		03 56 09.0	
	comp=Z,3μm,16.9s								
OJC	**Ojcow**	**80.40**	**

comp=Z,485nm,19.0s
ISCO Idaho Springs 81.32 47 P 03 16 25.1
baz=311,SNR=17
LANS Liptovska Anna 81.33 326 *e*P P 03 16 25.2 +3.3
LANS pmax pmax
comp=Z,22nm,1.0s
LANS Liptovska Anna 81.33 326 *e*P P 03 16 25.2 +3.3
KECS Kecovo 81.35 325 *e*P P 03 16 24.9 +2.9
KECS pmax pmax
comp=Z,11nm,0.9s
KECS Kecovo 81.35 325 *e*P P 03 16 24.9 +2.9
OKC Ostrava-Krasne 81.40 328 *e*S **S** **03 26 33.6 +3.5**
OKC AMS AMS 03 56 20.0
comp=Z,2µm,17.0s
KSP Ksiaz 81.43 329 *e*P P 03 16 24.5 +2.2
KSP *e*PcP sP 03 16 37.0 +0.9
KSP *e*L L 03 56 04.1
comp=Z,1µm,17.1s
PIX Pinacate 81.50 57 IAmb IAmb 03 16 26.5
comp=Z,48nm,1.1s
DRGR 81.52 323 ⇑P P 03 16 25.5 +2.4
YESY Yesilyurt 81.54 311 *e*P P 03 16 25.5 +2.2
ARR Arges 81.57 321 ⇑P P 03 16 26.8 +3.5
MERS Mersin 81.64 310 *e*P P 03 16 26.1 +2.3
B35A Bob, Littlefor 81.64 34 IAmb IAmb 03 16 26.2
comp=Z,104nm,1.5s
OSTC Ostas 81.68 329 *e*P P 03 16 26.5 +2.8
OSTC AMS AMS 03 57 50.0
comp=Z,1µm,14.6s
214A Organ Pipe Nat 81.70 56 P 03 16 26.8
baz=308,SNR=13
MORC Moravsky Berou 81.70 328 ⇓*i*P P 03 16 26.0 +2.1
CHVC Chvalec 81.72 329 *e*P P 03 16 26.5 +2.6
CHVC AMS AMS 03 58 40.0
comp=Z,1µm,15.1s
GULT Gulveren 81.74 315 *e*P P 03 16 25.9 +1.6
DPC Dobruska-Polom 81.79 329 *e*P P 03 16 27.4 +3.1
DPC *e* 03 16 39.0
DPC *e* 03 26 31.1
DPC MLR MLR
comp=Z,1µm,17.4s
DPC Dobruska-Polom 81.79 329 *e*P P 03 16 27.4 +3.1
DPC *ex* x 03 16 39.0
DPC *e*S **S** **03 26 31.1 -3.2**
DPC AMS AMS 03 56 00.0
comp=Z,1µm,17.4s
UPC Upice 81.80 329 *e*P P 03 16 27.2 +2.9
UPC MLR MLR
comp=Z,2µm,14.5s
UPC Upice 81.80 329 *e*P P 03 16 27.2 +2.9
UPC AMS AMS 03 59 20.0
comp=Z,2µm,14.5s
KRLC Kraliky 81.81 328 *e*P P 03 16 27.1 +2.7
KRLC Kraliky 81.81 328 *e*P P 03 16 27.1 +2.7
RAZG Razgrad 81.85 319 ⇑P P 03 16 26.8 +2.1
SUSD Miller 81.88 40 IAmb IAmb 03 16 27.8
comp=Z,82nm,0.8s
SUSD IAMs_20 IAMs_20 03 56 27.2
comp=Z,439nm,19.0s
SUSD Miller 81.89 40 P 03 16 26.8
baz=314
S22A 4UR Ranch, Cre 81.92 49 P 03 16 28.6
baz=310,SNR=47
SRCK Saricakaya, Es 81.93 314 *e*P P 03 16 27.1 +1.9
LOT Lotru 81.95 322 ⇑P P 03 16 27.5 +2.2
HRT Hereke 81.96 315 *e*P P 03 16 27.8 +2.4
HUMR Humele 81.98 320 ⇑P P 03 16 27.2 +1.8
X18A Snowflake 82.00 53 IAMs_20 IAMs_20 03 54 03.2
comp=Z,596nm,21.0s
KLYT Kilyos 82.03 316 *e*P P 03 16 27.4 +1.7
PSZ Piszkesteto 82.04 325 ⇑P P 03 16 28.9 +3.2
PSZ Piszkesteto 82.04 325 IAmb IAmb 03 16 29.5
comp=Z,60nm,1.0s
PSZ IAMs_20 IAMs_20 03 53 10.7
comp=Z,663nm,18.0s
VYHS Vyhne 82.09 326 *e*P P 03 16 28.4 +2.5
VYHS pmax pmax
comp=Z,8.0nm,0.8s
VYHS Vyhne 82.09 326 *e*P P 03 16 28.4 +2.5
LADK Ladik-KONYA 82.10 312 *e*P P 03 16 27.5 +1.2
KIZK Mersin 82.12 310 *e*P **P** **03 16 26.6 +0.3**
COPA Copaceanca 82.13 320 ⇓P P 03 16 28.1 +1.9
Q24A Divide 82.14 47 P 03 16 29.4
baz=311,SNR=6.6
ADVT Abdulvahap 82.18 315 *e*P P 03 16 28.0 +1.5
RAYN Ar Rayn 82.22 293 *i* P P 03 16 28.5 +1.4
SNR=33
RAYN Ar Rayn 82.22 293 P P 03 16 28.5 +1.4
RAYN pmax pmax
comp=Z,54nm,1.1s
RAYN MLR MLR
comp=Z,800nm,20.0s
RAYN Ar Rayn 82.22 293 P P 03 16 28.5 +1.4
RAYN IAmb IAmb 03 16 42.2
comp=Z,54nm,1.1s
RAYN IAMs_20 IAMs_20 03 56 44.1
comp=Z,767nm,20.0s
BGKT Bogazkoy 82.23 316 *e*P **P** **03 16 25.7 -1.0**
SOCY Socotra 82.24 279 P **P** **03 16 26.9 -0.4**
SOCY IAMs_20 IAMs_20 03 56 23.0
comp=Z,441nm,18.0s
F33A 5 Mile Ranch, 82.24 37 IAMs_20 IAMs_20 03 51 21.4
comp=Z,523nm,19.0s
FLTG Flechtingen 82.26 333 *e*P P 03 16 28.5 +1.8
comp=Z,52nm,0.9s,baz=36,slow=5.2
KONT Konya--Tatoy 82.27 312 *e*P P 03 16 29.2 +2.1
YLV Yalova 82.30 315 *e*P P 03 16 29.4 +2.2
SILI Silifke-Mersin 82.33 310 *e*P P 03 16 29.4 +2.1
JAVC Velka Javorina 82.34 327 ⇓*i*P P 03 16 30.5 +3.3
CTKS Kestanelik-??a 82.34 316 *e*P **P** **03 16 28.2 +0.9**
BRG Berggiesshubel 82.36 330 ⇑*i*P P 03 16 29.6 +2.4
BRG Amp 03 16 30.6
comp=Z,24nm,0.9s
BRG *i* x x 03 16 41.9
BRG Amp 03 16 42.8
comp=Z,25nm,1.0s
BRG S S 03 26 45.0 +5.0
BRG Amp 03 57 40.0
comp=N,1.8nm,14.3s
BRG Amp 03 57 44.0
comp=Z,2.4nm,15.0s
BRG Amp 03 57 47.0
comp=E,0.7nm,15.3s
BRG Berggiesshubel 82.36 330 *e*P P 03 16 29.3 +2.0
comp=E,27nm,0.9s,baz=36,slow=5.2
PVCC Panska Ves 82.38 330 *e*P P 03 16 29.8 +2.5
PVCC MLR MLR
comp=Z,1µm,17.7s
PVCC Panska Ves 82.38 330 *e*P P 03 16 29.8 +2.5
PVCC *ex* x 03 16 42.4
PVCC AMS AMS 03 56 10.0
comp=Z,1µm,17.7s
CLL Collm 82.39 331 *i* P P 03 16 28.9 +1.5
comp=Z,52nm,0.8s
CLL *e* 03 16 58.0
CLL *e*PP **PP** **03 19 36.0 +0.1**
CLL *e*PPP PPP 03 21 30.0
CLL *e*S **S** **03 26 41.0 +0.7**
CLL *e*ScS **ScS** **03 27 00.0 +4.2**
CLL *e* 03 27 06.0
CLL *e*SS **SS** **03 32 00.0 -0.3**
CLL *e* 03 32 42.0
CLL *e*SSS SSS 03 35 36.0
CLL *e*SSSS 03 38 00.0
CLL LmH 03 52 00.0
comp=N,900nm,18.1s
CLL LmH 03 52 00.0
comp=E,2µm,18.8s
CLL Collm 82.39 331 *i* (P) P 03 16 41.5 +14
comp=Z,41nm,0.9s
CLL Collm 82.39 331 *i* P P 03 16 28.9 +1.5
CLL *e*S **S** **03 26 41.0 +0.7**
CLL pmax pmax
comp=Z,52nm,0.8s
CLL Collm 82.39 331 IAmb IAmb 03 16 30.4
comp=Z,48nm,0.8s
CLL IAMs_20 IAMs_20 03 57 09.0
comp=Z,1µm,22.0s
CLL Collm 82.39 331 *e*P P 03 16 29.2 +1.8
comp=Z,52nm,0.8s,baz=36,slow=5.2
CLL *e*L L 03 57 08.3
comp=Z,918nm,20.4s
VRAC Vranov 82.47 328 P P 03 16 30.3 +2.4
comp=Z,26nm,0.9s,baz=56,slow=4.1,SNR=37
VRAC Vranov 82.47 328 ⇑P P 03 16 31.0 +3.2
VRAC Vranov 82.47 328 ⇓*i*P P 03 16 30.3 +2.5
GZR Gura Zlata 82.48 322 ⇑P P 03 16 30.7 +2.6
GEMT Gemlik 82.49 315 *e*P P 03 16 29.8 +1.7
SLVT Silivri 82.51 316 *e*P P 03 16 29.4 +1.2
NRDL Niedersach Rie 82.55 333 *e*P P 03 16 30.1 +2.1
comp=Z,22nm,0.9s,baz=36,slow=5.2
IKL Isikli 82.56 310 *e*P P 03 16 30.5 +2.0
FBE Freiberg 82.56 331 *e*P P 03 16 30.7 +2.4
comp=Z,50nm,0.8s,baz=36,slow=5.2
TEVE Tevekalti-Mers 82.58 310 *e*P P 03 16 31.1 +2.3
OGNE Ogallala 82.62 44 P 03 16 31.1
baz=312,SNR=6.3
VLAD Vladila 82.65 320 ⇑P P 03 16 31.5 +2.7
AKKU Akkuyu-Mersin 82.69 310 *e*P P 03 16 30.6 +1.4
SMOL Smolenice 82.70 327 *e*P P 03 16 32.3 +3.2
SMOL pmax pmax
comp=Z,20nm,1.0s
SMOL Smolenice 82.70 327 *e*P P 03 16 32.3 +3.2
EREN Erenkoy 82.71 309 *e*P P 03 16 31.7 +2.4
MDNY Mudanya-Bursa 82.71 315 *e*P P 03 16 31.2 +2.0
KRUC Moravsky 82.74 328 ⇓*i*P P 03 16 31.3 +2.1
BERE Bereket-Mersin 82.78 310 *e*P P 03 16 31.1 +1.2
PRA Prague 82.79 330 AMS AMS 03 57 40.0
comp=Z,2µm,15.7s
PRU Pruhonice 82.81 329 *e*P P 03 16 31.8 +2.2
PRU MLR MLR
comp=Z,2µm,15.3s
PRU Pruhonice 82.81 329 *e*P P 03 16 31.8 +2.2
PRU *ex* x 03 16 44.4
PRU AMS AMS 03 57 30.0
comp=Z,2µm,15.3s
KAC Achnashellach 82.82 343 *e*P P 03 16 31.8 +2.3
SRO Srobarova 82.83 326 *e*P P 03 16 32.9 +3.2
SRO Srobarova 82.83 326 *e*P P 03 16 32.9 +3.2
SRO2 Moca 82.83 326 *e*P P 03 16 31.9 +2.2
SRO2 Moca 82.83 326 *e*P P 03 16 31.9 +2.2
TUC Tucson 82.83 55 P P 03 16 32.2 +2.0
TUC pmax pmax
comp=Z,16nm,1.1s
TUC MLR MLR
comp=Z,900nm,18.0s
TUC Tucson 82.83 55 P P 03 16 32.2 +2.0
TUC Tucson 82.83 55 IAMs_20 IAMs_20 03 53 46.5
comp=Z,934nm,18.0s
TUC Tucson 82.83 55 P 03 16 32.8
baz=309
MODS Modra-Piesok 82.87 327 *e*P P 03 16 33.0 +3.0
MODS pmax pmax
comp=Z,49nm,1.2s
MODS Modra-Piesok 82.87 327 *e*P P 03 16 33.0 +3.0
BZS Buzias 82.89 323 ⇑P P 03 16 32.1 +2.0
TREC Trest 82.95 329 *e*P P 03 16 32.9 +2.5
TREC *e* 03 16 44.5
TREC MLR MLR
comp=Z,1µm,15.5s
TREC Trest 82.95 329 *e*P P 03 16 32.9 +2.5
TREC *ex* x 03 16 44.5
TREC AMS AMS 03 59 30.0
comp=Z,1µm,15.5s
NEUB Neuenburg 82.95 332 *e*P P 03 16 32.3 +2.0
comp=Z,63nm,0.9s,baz=36,slow=5.2
EYMN Ely 82.95 34 IAmb IAmb 03 16 33.1
comp=Z,66nm,1.1s
EYMN Ely 82.95 34 P 03 16 32.2
baz=319,SNR=17
PLVB Pleven 82.96 320 ⇑P P 03 16 33.3 +2.8
CLZ Clausthal 82.97 333 *e*P P 03 16 32.9 +2.4
comp=Z,47nm,1.1s,baz=36,slow=5.2
TEKE Tekeli-Mersin 82.97 310 *e*P P 03 16 32.4 +1.7
TVSB Tavsanli 82.99 314 *e*P **P** **03 16 29.9 -1.0**
HERR Herculane 83.03 322 ⇑P P 03 16 33.0 +2.2
KPL Plockton 83.05 344 *e*P P 03 16 32.9 +2.3
KPL IAmb IAmb 03 16 34.7
comp=Z,186nm,1.3s
PPT Papeete 83.06 118 LR LR 03 51 44.7
comp=Z,576nm,18.4s,baz=310,slow=34
PPT2 Papeete2 83.08 118 *e*S **S** **03 26 42.4 -5.8**
comp=Z,204nm,24.0s
PPT2 Papeete2 83.08 118 *e*LR LR 03 42 05.9
comp=Z,2µm,30.2s,baz=312
ZST Bratislava 83.08 327 *e*P P 03 16 33.4 +2.3
ZST pmax pmax
comp=Z,161nm,1.6s
ZST Bratislava 83.08 327 *e*P P 03 16 33.4 +2.3
PBCC Pribram 83.26 330 *e*P P 03 16 34.2 +2.2
MRMT Marmara Adasi 83.28 316 *e*P P 03 16 34.0 +1.7
GEDZ Gediz 83.29 314 *e*P P 03 16 34.4 +2.0
EDC Edincik 83.30 316 *e*P **P** **03 16 32.8 +0.5**
TANN Tannenbergstha 83.31 331 *e*P P 03 16 34.0 +1.7
comp=Z,24nm,1.2s,baz=36,slow=5.2
WERD Werda 83.34 331 *e*P P 03 16 34.7 +2.3
comp=Z,18nm,1.2s,baz=36,slow=5.2
GTTG Gottingen 83.36 333 *e*P P 03 16 34.7 +2.2
comp=Z,34nm,1.0s,baz=36,slow=5.2
PLN Plauen 83.37 331 *e*P P 03 16 34.7 +2.2
comp=Z,122nm,2.4s,baz=36,slow=5.2
GUNZ Gunzen 83.40 331 *e*P P 03 16 35.0 +2.3
comp=Z,346nm,2.9s,baz=36,slow=5.2
GAZI Gazipasa 83.41 310 *e*P **P** **03 16 32.5 -0.5**
WERN Wernitzgruen 83.44 331 *e*P P 03 16 35.4 +2.5
comp=Z,1µm,4.4s,baz=36,slow=5.2
MDVR Moldovita 83.45 322 ⇑P P 03 16 35.2 +2.1
ISP Isparta 83.45 313 P P 03 16 34.8 +1.5
ISP pmax pmax
comp=Z,55nm,1.0s
ISP Isparta 83.45 313 P P 03 16 34.8 +1.5
ISP IAmb IAmb 03 16 48.7
comp=Z,55nm,1.0s
RKY Sarkoy-Tekirda 83.45 317 *e*P P 03 16 35.8 +2.6
MOX Moxa 83.46 331 *e*P P 03 16 34.9 +2.0
comp=Z,236nm,2.9s,baz=36,slow=5.2
MOX *e*L L 03 57 48.8
comp=Z,826nm,20.5s
NKC Novy Kostel 83.46 331 *e*P P 03 16 35.3 +2.3
NKC MLR MLR
comp=Z,2µm,15.4s
NKC Novy Kostel 83.46 331 *e*P P 03 16 35.3 +2.3
NKC AMS AMS 03 58 00.0
comp=Z,2µm,15.4s
OXZ Oxford 83.53 159 P **P** **03 16 34.7 +1.6**
IBBN Ibbenburen 83.54 334 *e*P P 03 16 35.5 +2.3
comp=Z,51nm,0.8s,baz=36,slow=5.2
KSCO Kaye Shedlock' 83.58 46 IAmb IAmb 03 16 37.4
comp=Z,86nm,1.2s
KSCO Kaye Shedlock' 83.58 46 P 03 16 36.4
baz=312,SNR=10
ECSD EROS Data Cent 83.58 39 IAmb IAmb 03 16 36.6
comp=Z,57nm,1.1s
ECSD EROS Data Cent 83.58 39 P 03 16 35.4
baz=316,SNR=31
KRBG Karabiga-Canak 83.58 316 *e*P P 03 16 35.7 +1.9
CSS Mathiatis 83.60 309 IAMs_20 IAMs_20 03 59 27.8
comp=Z,486nm,22.0s
RPZ Rata Peaks 83.61 160 P **P** **03 16 35.1 +1.6**
comp=Z,5.3nm,0.9s,baz=243,slow=4.5,SNR=2.1
T25A Trinidad 83.77 48 IAmb IAmb 03 16 38.4
comp=Z,41nm,1.0s
T25A Trinidad 83.77 48 P 03 16 37.9
baz=312,SNR=21
MANZ Manzenberg 83.79 331 *e*P P 03 16 36.9 +2.2
comp=Z,28nm,1.2s,baz=36,slow=5.2
CKRC Cesky Krumlov 83.81 329 *e*P P 03 16 37.0 +2.2
CKRC *ex* x 03 16 48.6
CKRC AMS AMS 04 00 40.0
comp=Z,1µm,16.2s
CONA Conrad Observa 83.83 327 *i* P P 03 16 38.1 +3.1
comp=Z,33nm,0.9s,SNR=22
ERIK Erikli-Kesan 83.83 317 *e*P P 03 16 37.7 +2.7
KHC Kasperske Hory 83.87 329 *d*iP P 03 16 36.6 +1.5
KHC pmax pmax
comp=Z,76nm,1.0s
KHC MLR MLR
comp=Z,2µm,17.0s
KHC Kasperske Hory 83.87 329 *e*P P 03 16 37.6 +2.5
KHC *ex* x 03 16 49.6
KHC *e*SKS **S** **03 26 55.6 +0.1**
KHC AMS AMS 03 57 10.0
comp=Z,1µm,16.1s
KHC Kasperske Hory 83.87 329 IAmb IAmb 03 16 38.6
comp=Z,35nm,0.9s
MORH Mrgy, Hungar 83.87 325 ⇑P P 03 16 37.4 +2.3
MORH Mrgy, Hungar 83.87 325 ⇓*i*P **P** **03 16 36.0 +0.9**
ROTZ Rotzenmuhle 83.92 330 *e*P P 03 16 37.7 +2.3
comp=Z,84nm,1.5s,baz=36,slow=5.2
ALN Alexandroupoli 83.93 317 IAmb IAmb 03 16 50.9
comp=Z,58nm,1.1s
ALN IAMs_20 IAMs_20 03 58 25.2
comp=Z,1µm,21.0s
ANMO Albuquerque 83.95 51 *d*eP P 03 16 38.2 +2.2
ANMO pmax pmax
comp=Z,56nm,1.3s
ANMO MLR MLR
comp=Z,332nm,17.0s
ANMO Albuquerque 83.95 51 P P 03 16 38.3 +2.3
ANMO IAmb IAmb 03 16 40.0
comp=Z,48nm,1.1s
ANMO Albuquerque 83.95 51 P 03 16 39.0
baz=311
ENEZ Enez 83.98 317 *e*P P 03 16 37.4 +1.6
GEC2 GERESS Array S 84.04 329 IAMs_20 IAMs_20 03 58 28.6
comp=Z,894nm,19.0s
GEC2 GERESS Array S 84.04 329 *e*P P 03 16 37.8 +1.7
comp=Z,22nm,0.9s,baz=36,slow=5.2
GEC2 *e*L L 04 01 43.3
comp=Z,546nm,18.2s
GERES GERESS Array B 84.04 329 P P 03 16 37.5 +1.4
comp=Z,12nm,0.8s,baz=39,slow=5.1,SNR=80
GERES PP PP 03 19 56.1 +6.6
comp=Z,2.6nm,0.9s,baz=60,slow=7.9,SNR=4.8
GERES LR LR 03 58 19.1
comp=Z,459nm,18.2s,baz=26,slow=39
GELI Tayfur-Gelibol 84.04 317 *e*P **P** **03 16 37.1 +1.0**
FRGS Fruska Gora 84.10 324 ⇑P P 03 16 39.0 +2.6
FRGS Fruska Gora 84.10 324 ⇓*i*P **P** **03 16 37.4 +1.0**
WET Wettzell 84.14 330 *e*P P 03 16 38.8 +2.3
comp=Z,52nm,1.4s,baz=36,slow=5.2
WET *e*L L 03 57 49.2
comp=Z,2µm,18.2s
PGBU Glenifferbraes 84.15 342 *e*P P 03 16 39.2 +2.8
PGBU IAmb IAmb 03 16 40.2
comp=Z,103nm,1.1s
KASTN Kahler Asten 84.21 333 *e*P P 03 16 38.9 +2.1
comp=Z,24nm,1.1s,baz=36,slow=5.2
Y22D IRIS PASSCAL I 84.22 52 IAmb IAmb 03 16 43.5
comp=Z,46nm,1.0s
Y22D IAMs_20 IAMs_20 03 54 60.0
comp=Z,834nm,18.0s
VTS Vitosha 84.23 320 ⇓P P 03 16 40.3 +3.1
ESK Eskdalemuir 84.28 341 *e*P P 03 16 39.0 +1.9
ESK IAmb IAmb 03 16 40.0
comp=Z,115nm,1.7s
GRF Grafenberg Arr 84.37 331 *e*P P 03 16 40.2 +2.6
comp=Z,126nm,1.3s,baz=36,slow=5.2
GRF *e*L L 03 58 37.4
comp=Z,1µm,18.2s
GRFO Grafenberg 84.37 331 P P 03 16 39.6 +2.0
GRFO pmax pmax
comp=Z,109nm,1.2s
GRFO MLR MLR
comp=Z,2µm,18.0s
GRFO Grafenberg 84.37 331 P P 03 16 39.6 +2.0
SPMN Marine on St. 84.38 36 IAMs_20 IAMs_20 03 58 11.9
comp=Z,552nm,19.0s
SPMN Marine on St. 84.38 36 P 03 16 39.6
baz=318,SNR=15
319A Douglas 84.41 55 IAmb IAmb 03 16 42.0
comp=Z,70nm,1.1s
BUG Bochum--Univer 84.42 334 *e*P P 03 16 39.3 +1.5
comp=Z,37nm,1.3s,baz=36,slow=5.2
BGNE Belgrade 84.42 42 P 03 16 39.6
baz=315,SNR=8.1
ARSA Arzberg 84.50 327 *i* P P 03 16 41.0 +2.6
comp=Z,14nm,1.0s,SNR=7.4
EZN Ezine 84.52 316 *e*P P 03 16 40.7 +2.2
ELL Elmali 84.53 312 *e*P **P** **03 16 39.2 +0.4**
MOA Molln 84.58 328 *i* P P 03 16 41.2 +2.4
comp=Z,21nm,1.1s,SNR=9.7
TAOE Nuku Hiva Isla 84.63 105 *e*S **S** **03 26 58.2 -5.9**
comp=Z,195nm,26.8s
121A Cookes Peak, D 84.66 53 IAmb IAmb 03 16 43.6
comp=Z,52nm,0.9s
121A Cookes Peak, D 84.66 53 P 03 16 42.5
baz=310,SNR=22
TEKS Tekeris 84.69 323 ⇓*i*P P 03 16 40.6 +1.3
DKL Dikili 84.71 315 *e*P **P** **03 16 39.4 -0.1**
NEWG New Galloway 84.72 342 *e*P P 03 16 41.6 +2.4
NEWG IAmb IAmb 03 16 42.7
comp=Z,61nm,1.3s
HSIG 84.77 58 IAmb IAmb 03 16 43.4
comp=Z,35nm,1.1s
DIVS Divibare 84.79 323 ⇓*i*P P 03 16 41.4 +1.4
DIVS Divibare 84.79 323 IAmb IAmb 03 16 43.1
comp=Z,48nm,0.9s
DIVS IAMs_20 IAMs_20 03 58 33.7
comp=Z,856nm,19.0s
KESW Keswick, Cumbr 84.90 341 *e*P P 03 16 42.5 +2.3
KESW IAmb IAmb 03 16 43.3
comp=Z,191nm,1.4s
D41A Chassel 84.92 33 IAmb IAmb 03 16 43.0
comp=Z,42nm,0.8s
KALN Kalnik 84.94 326 *i* P **P** **03 16 41.8 +1.2**
L34A Svendsen Farm, 84.97 40 P P 03 16 42.9 +2.1
TNS Taunus Mts 85.00 333 *e*P P 03 16 42.6 +1.8
comp=Z,35nm,1.2s,baz=36,slow=5.2
TNS *e*L L 03 58 21.0
comp=Z,1µm,20.1s
MILB Miltenberg 85.00 332 *e*P P 03 16 43.1 +2.3
comp=Z,178nm,2.4s,baz=36,slow=5.2
GAL1 Galloway 85.06 342 *e*P P 03 16 43.4 +2.5
GAL1 IAmb IAmb 03 16 44.8
comp=Z,64nm,1.0s
HPK Haverah Park 85.07 340 *e*P P 03 16 43.5 +2.4
HPK IAmb IAmb 03 16 44.6
comp=Z,83nm,1.1s
PERS Pernice 85.15 327 *i* P P 03 16 43.5 +1.8
comp=Z,186nm,2.4s
PERS *i* pP sP 03 16 55.5 0.0
SOKA Soboth 85.15 327 *i* P P 03 16 43.9 +2.2
comp=Z,25nm,0.9s,SNR=19
AHRW Bad Neuenahr-A 85.24 334 *e*P P 03 16 43.9 +2.0
comp=Z,39nm,1.0s,baz=36,slow=5.2
BBLS Lazići 85.25 323 ⇓*i*P P 03 16 44.0 +1.8
N33A J Bar K, Exete 85.27 42 IAmb IAmb 03 16 44.6
comp=Z,91nm,1.3s
N33A IAMs_20 IAMs_20 04 01 11.0
comp=Z,376nm,19.0s
RJOB Jochberg 85.28 329 *e*P P 03 16 44.5 +2.2
comp=Z,818nm,2.3s,baz=36,slow=5.2
HAPS Han Pijesak,Bl 85.31 323 ⇓*i*P P 03 16 44.1 +1.5
PTJ Puntijarka 85.33 326 P P 03 16 44.0 +1.4
CBKS Cedar Bluff 85.36 44 IAMs_20 IAMs_20 04 01 51.6
comp=Z,421nm,18.0s
CBKS Cedar Bluff 85.36 44 P 03 16 44.5
baz=314,SNR=14
COWI Conover 85.40 34 IAmb IAmb 03 16 45.7
comp=Z,55nm,1.2s
STIP Stip 85.43 320 *i* P P 03 16 44.6 +1.5
RUDO Rudo 85.45 323 ⇓*i*P P 03 16 44.8 +1.6
OBKA Obir 85.49 327 *i* P P 03 16 45.2 +1.7
comp=Z,9.7nm,1.1s
VAY Valandovo 85.50 319 *i* P P 03 16 45.8 +2.3
BEBN Eben Emael 85.52 335 *d*P P 03 16 44.9 +1.6
comp=Z,58nm,0.9s
BEBN *dx* x 03 16 57.7
BTNL Ternell 85.53 334 *d*P P 03 16 45.6 +2.1
BTNL *dx* x 03 16 57.3
MEM Membach 85.56 334 *d*P P 03 16 45.4 +1.8
MEM *dx* x 03 16 57.7
FUR Furstenfeldbru 85.57 330 *e*P P 03 16 46.1 +2.5
comp=Z,73nm,0.8s,baz=36,slow=5.2
FUR *e*L L 03 59 17.2
comp=Z,1µm,19.7s
KBA Koelnbreinsper 85.57 328 *i* P P 03 16 46.0 +2.1
comp=Z,16nm,1.0s,SNR=8.2
LBWR Ladybower, Pea 85.59 340 *e*P P 03 16 46.3 +2.7
LBWR IAmb IAmb 03 16 47.1
comp=Z,130nm,1.0s
SKO Skopje 85.62 320 *i* P P 03 16 47.1 +3.1
CRES Cresnjev 85.62 326 ⇓*i*P **P** **03 16 44.0 0.0**
BLY Banja Luka 85.65 325 ⇓*i*P **P** **03 16 44.7 +0.6**
BSTI Sart Tilman 85.73 334 *d*P P 03 16 46.8 +2.4
BHOU Houvegnez 85.77 334 *d*P P 03 16 47.1 +2.5
BHOU *dx* x 03 16 57.6
MYKA Terra Mystica 85.79 328 *e*P P 03 16 46.4 +1.5
comp=Z,12nm,1.0s,SNR=6.7
LJU Ljubljana 85.86 327 *i* P P 03 16 46.5 +1.3
LJU *i* 03 16 59.2
STU Stuttgart 85.90 331 P P 03 16 47.4 +2.1
STU pmax pmax
comp=Z,66nm,0.9s
STU Stuttgart 85.90 331 P P 03 16 47.4 +2.1

STU IAmb IAmb 03 16 48.5
comp=Z,66nm,0.9s
STU Stuttgart 85.90 331 *eP* P 03 16 47.3 +2.0
comp=Z,67nm,0.9s,baz=36,slow=5.2
MGRS Mrkonjic Grad 85.95 325 *eP* P 03 16 47.3 +1.7
BCLA Clavier 85.96 335 *dP* P 03 16 47.5 +1.9
BCLA *dx* x 03 16 58.9
UPM Unac-Piva 85.98 323 *eP* **P 03 16 47.3 +1.2**
CWF Charnwood Fore 86.06 339 *eP* P 03 16 47.4 +1.4
CWF IAmb IAmb 03 16 47.5
comp=Z,57nm,1.1s
BGES Gesves 86.07 335 *dP* P 03 16 48.2 +2.1
WATA Walderalm 86.11 329 *eP* P 03 16 48.4 +1.9
comp=Z,14nm,1.1s
F42A Maple Grove Fa 86.11 33 IAmb IAmb 03 16 49.5
comp=Z,53nm,1.1s
E43A Lone Tree Farm 86.13 32 IAmb IAmb 03 16 49.3
comp=Z,45nm,0.9s
WTTA Wattenberg 86.14 329 *i* P P 03 16 48.8 +2.1
comp=Z,9.5nm,0.9s,SNR=5.5
CEY Cerknica 86.14 327 *i* P **P 03 16 47.4 +0.8**
CEY Cerknica 86.14 327 *eP* **P 03 16 46.9 +0.3**
ABTA Abfaltersbach 86.18 328 *i* P **P 03 16 48.0 +1.2**
comp=Z,18nm,1.3s,SNR=7.9
RCHB Rochefort 86.21 334 *dP* P 03 16 48.7 +2.0
SNF Seneffe 86.24 335 *dP* P 03 16 48.7 +1.9
SNF *dx* x 03 17 00.9
BMRD Maredsous 86.25 335 *dP* P 03 16 49.2 +2.3
BMRD *dx* x 03 17 01.2
MOTA Moosalm 86.29 330 *i* P P 03 16 49.4 +1.9
comp=Z,29nm,1.4s,SNR=9.5
WLF Walferdange 86.30 334 *dP* P 03 16 49.4 +2.2
comp=Z,34nm,1.8s
WLF Walferdange 86.30 334 IAmb IAmb 03 17 03.0
comp=Z,62nm,1.4s
WLF Walferdange 86.30 334 *eP* P 03 16 49.6 +2.4
comp=Z,109nm,1.7s,baz=36,slow=5.2
K38A Parkersburg 86.30 38 IAmb IAmb 03 16 49.8
comp=Z,32nm,0.8s
RETA Reutte 86.32 330 *i* P P 03 16 49.7 +2.2
comp=Z,39nm,1.2s,SNR=12
SQTA Sankt Quirin 86.35 329 *eP* P 03 16 49.5 +1.8
comp=Z,7.2nm,0.7s,SNR=6.2
PDG Podgorica 86.39 322 ⇑P P 03 16 49.9 +2.1
PDG Podgorica 86.39 322 *eP* P 03 16 49.4 +1.6
PDG Podgorica 86.39 322 IAmb IAmb 03 16 50.7
comp=Z,69nm,1.0s
BRY Bratogost 86.39 323 ⇓*i* P **P 03 16 48.9 +0.9**
I40A Norwalk 86.41 36 IAMs_20 IAMs_20 03 53 05.7
comp=Z,606nm,22.0s
LIT Litokhoron 86.42 319 IAmb IAmb 03 16 49.7
comp=Z,37nm,1.0s
FOEL Foel Wylfa 86.45 340 *eP* P 03 16 49.6 +1.7
FOEL IAmb IAmb 03 16 50.3
comp=Z,106nm,1.3s
DOU Dourbes 86.48 335 *dP* P 03 16 50.0 +1.9
OHR Ohrid 86.57 320 *i* P P 03 16 50.7 +1.8
KIJV Kijevo 86.58 325 *i* P P 03 16 50.2 +1.4
BFO Black Forest 86.59 332 P P 03 16 50.8 +2.0
BFO pmax pmax
comp=Z,44nm,0.9s
BFO Black Forest 86.59 332 P P 03 16 50.8 +2.0
BFO IAmb IAmb 03 16 51.8
comp=Z,44nm,0.9s
BFO IAMs_20 IAMs_20 04 02 17.0
comp=Z,853nm,19.0s
BFO Black Forest 86.59 332 *eP* P 03 16 50.7 +1.9
comp=Z,54nm,1.0s,baz=36,slow=5.2
BFO *eL* L 03 59 57.6
comp=Z,766nm,19.3s
DRME Dracevica, Mon 86.60 322 ⇓*i* P **P 03 16 50.1 +1.2**
RICI Ricice 86.62 324 P **P 03 16 49.9 +1.0**
SCIA State Center 86.63 39 P 03 16 51.6
baz=318,SNR=7.3
FETA Feichten 86.71 330 *i* P P 03 16 51.6 +2.1
comp=Z,13nm,1.0s,SNR=5.3
MNTX Cornudas Mount 86.75 53 P 03 16 52.1
baz=311,SNR=17
HCY Herceg Novi 86.75 322 ⇓*i* P **P 03 16 50.3 +0.7**
STON Ston 86.82 323 *i* P **P 03 16 50.0 +0.1**
MAKA Makarska 86.83 324 *i* P **P 03 16 50.6 +0.7**
DAVA Damuels 86.83 330 *i* P P 03 16 52.3 +2.2
comp=Z,37nm,1.0s,SNR=10.0
NVLJ Novalja 86.86 326 *i* P **P 03 16 50.5 +0.5**
MSTX Muleshoe 86.88 49 P 03 16 52.3
baz=313
TIR Tirane 86.88 321 ⇑P P 03 16 52.2 +2.0
TIR Tirane 86.88 321 IAmb IAmb 03 16 53.1
comp=Z,47nm,0.8s
KSU1 Kansas State U 86.89 42 IAmb IAmb 03 16 52.9
comp=Z,53nm,0.8s
KSU1 Kansas State U 86.89 42 P 03 16 52.0
baz=316,SNR=14
AMTX Amarillo 86.92 48 IAmb IAmb 03 16 54.5
comp=Z,71nm,1.4s
AMTX Amarillo 86.92 48 P 03 16 53.1
baz=313
TBI Tubuai 86.96 122 *eS* **S 03 27 21.0 -5.3**
comp=Z,170nm,27.2s
TBI Tubuai 86.96 122 *eLR* LR 03 43 56.3
comp=Z,1μm,32.0s,baz=312
MATQ Matagami 86.98 25 P 03 16 52.0
baz=328,SNR=22
ECH Echery 87.13 332 P P 03 16 53.2 +1.8
ECH pmax pmax
comp=Z,23nm,0.9s
ECH MLR MLR
comp=Z,800nm,20.0s
ECH Echery 87.13 332 P P 03 16 53.2 +1.8
ECH IAMs_20 IAMs_20 03 59 57.3
comp=Z,835nm,20.0s
HVAR Hvar 87.19 324 *i* P **P 03 16 49.9 -1.8**
MCH1 Michaelchurch 87.19 340 *eP* P 03 16 53.8 +2.3
MCH1 IAmb IAmb 03 16 54.5
comp=Z,94nm,1.4s
ZIRJ Zirje 87.20 325 *i* P **P 03 16 51.6 -0.1**
DUGI Dugi Otok 87.21 325 *i* P **P 03 16 51.8 0.0**
JFWS Jewell Farm 87.33 36 IAmb IAmb 03 16 55.0
comp=Z,70nm,1.1s
JFWS Jewell Farm 87.33 36 P 03 16 54.0
baz=320,SNR=9.1
KAN10 Anthony SW Sta 87.47 45 IAmb IAmb 03 16 55.8
comp=Z,29nm,0.8s
U32A Winter Ranch, 87.47 46 IAmb IAmb 03 16 56.8
comp=Z,86nm,1.5s
L40A Anamosa 87.50 37 P **P 03 16 55.0 +1.8**
OK032 Salt Plains WL 87.63 45 IAMs_20 IAMs_20 04 03 05.6
comp=Z,529nm,19.0s
SALO Salr 87.92 329 P **P 03 16 56.1 +0.9**
SALO IAmb IAmb 03 16 56.8
comp=Z,36nm,0.9s
CROK Carrier 87.97 45 IAMs_20 IAMs_20 04 01 53.6
comp=Z,786nm,19.0s
L42A Oliver, Polo 88.30 36 IAMs_20 IAMs_20 04 01 37.7
comp=Z,404nm,18.0s
GLMI Grayling 88.38 32 P 03 17 00.0
baz=323,SNR=11
K43A Burlington 88.39 35 P P 03 16 59.4 +2.0
K43A IAmb IAmb 03 17 00.1
comp=Z,51nm,0.8s
SENIN Lac Senin/Sane 88.61 331 IAMs_20 IAMs_20 04 04 40.4
comp=Z,766nm,18.0s
ZCCA Zocca 88.74 328 IAmb IAmb 03 17 11.0
comp=Z,40nm,1.0s
WMOK Wichita Mounta 88.75 47 P 03 17 01.5
baz=315,SNR=16
OK029 Liberty Lake 88.77 45 IAMs_20 IAMs_20 03 50 58.9
comp=Z,402nm,20.0s
ITM Ithomi 88.82 317 IAmb IAmb 03 17 13.4
comp=Z,36nm,0.9s
QUOK Quay 88.93 44 IAmb IAmb 03 17 03.4
comp=Z,62nm,1.0s
MURB Monte Urbino 88.93 326 P P 03 17 02.0 +1.9
P40A Paris 88.99 39 IAMs_20 IAMs_20 04 01 23.2
comp=Z,468nm,18.0s
OK025 Westminster Rd 88.99 45 IAMs_20 IAMs_20 04 02 59.7
comp=Z,404nm,18.0s
L44A Lake County Fo 89.00 35 IAMs_20 IAMs_20 03 54 36.1
comp=Z,554nm,20.0s
L44A Lake County Fo 89.00 35 P 03 17 02.3
baz=321
NRCA Norcia 89.00 326 IAmb IAmb 03 17 03.5
comp=Z,47nm,0.9s
OK031 S. Brethren Rd 89.01 45 IAmb IAmb 03 17 03.9
comp=Z,76nm,1.4s
OK030 Cody Creek RV 89.06 45 IAmb IAmb 03 17 04.1
comp=Z,96nm,1.5s
AQU L'Aquila 89.25 325 P P 03 17 03.8 +2.2
AQU L'Aquila 89.25 325 ⇓*i* P P 03 17 03.0 +1.4
AQU L'Aquila 89.25 325 P P 03 17 03.8 +2.2
AQU IAmb IAmb 03 17 05.2
comp=Z,31nm,0.7s
INTR Introdacqua 89.28 325 IAmb IAmb 03 17 04.7
comp=Z,37nm,1.0s
OSSC Osservatorio P 89.29 327 IAmb IAmb 03 17 15.9
comp=Z,44nm,1.2s
HQIL Hanson Quary C 89.32 36 IAMs_20 IAMs_20 03 54 45.6
comp=Z,583nm,19.0s
TX31 Lajitas Ar. Si 89.42 53 IAmb IAmb 03 17 06.0
comp=Z,50nm,0.8s
TXAR Lajitas Array 89.42 53 P P 03 17 04.8 +2.1
comp=Z,13nm,0.6s,baz=304,slow=3.4,SNR=138
TXAR PP **PP 03 20 39.0 +5.4**
comp=Z,2.6nm,1.2s,baz=305,slow=4.4,SNR=3.5
TXAR PKiKP **PKiKP 03 22 01.4 +1.0**
comp=Z,0.2nm,0.7s,baz=329,slow=3.2,SNR=1.6
TXAR LR LR 03 57 21.7
comp=Z,565nm,18.1s,baz=0.0,slow=36
TXAR Lajitas Array 89.42 53 P **P 03 17 04.1 +1.4**
TXAR Lajitas Array 89.42 53 P **P 03 17 04.1 +1.4**
M44A Midewin, Midew 89.55 36 IAMs_20 IAMs_20 03 55 10.8
comp=Z,515nm,20.0s
HDIL Hopedale 89.59 37 P 03 17 05.3
baz=320,SNR=18
TUL1 Leonard 89.63 44 P 03 17 05.8
baz=316,SNR=13
S39A Bolivar 89.69 41 IAmb IAmb 03 17 06.0
comp=Z,42nm,0.9s
HPIG 89.69 56 P **P 03 17 06.0 +1.9**
ABTX Abilene, Hawle 89.70 49 IAmb IAmb 03 17 07.3
comp=Z,69nm,1.5s
ABTX Abilene, Hawle 89.71 49 P 03 17 06.3
baz=314,SNR=9.0
R40A Maddies Statio 89.80 40 IAmb IAmb 03 17 06.9
comp=Z,39nm,0.8s
BNI Bardonecchia 89.94 331 P P 03 17 06.9 +2.0
BNI pmax pmax
comp=Z,12nm,1.0s
BNI Bardonecchia 89.94 331 P P 03 17 06.9 +2.0
BNI IAMs_20 IAMs_20 04 04 17.7
comp=Z,766nm,19.0s
U38A Gravette 90.03 43 IAmb IAmb 03 17 08.2
comp=Z,55nm,1.1s
ALGO Algonquin Park 90.06 27 P 03 17 07.0
baz=328,SNR=12
TIP Timpagrande 90.08 321 ⇑P P 03 17 06.8 +1.3
D55A Sainte-Anne-du 90.08 25 P 03 17 07.2
baz=330,SNR=12
D56A ZEC Mazanza, M 90.30 25 P 03 17 08.4
baz=330,SNR=15
O44A Mansfield 90.30 37 IAmb IAmb 03 17 08.9
comp=Z,31nm,0.8s
O44A IAMs_20 IAMs_20 04 05 46.8
comp=Z,398nm,19.0s
E55A Montcerf-Lytto 90.36 26 P 03 17 08.4
baz=329,SNR=8.7
HHAR Hobbs 90.39 43 IAmb IAmb 03 17 09.7
comp=Z,36nm,0.9s
CCM Cathedral Cave 90.51 40 P **P 03 17 08.9 +1.4**
CCM pmax pmax
comp=Z,86nm,0.9s
CCM Cathedral Cave 90.51 40 P **P 03 17 08.9 +1.4**
CCM Cathedral Cave 90.51 40 IAMs_20 IAMs_20 04 03 10.5
comp=Z,409nm,19.0s
CCM Cathedral Cave 90.51 40 P 03 17 09.5
baz=319
G54A Lake Saint Pet 90.52 28 P 03 17 09.3
baz=328,SNR=18
E56A St. Veronique 90.64 25 P 03 17 09.8
baz=330,SNR=11
MGMO Mountain Grove 90.64 41 IAMs_20 IAMs_20 04 03 06.2
comp=Z,507nm,19.0s
SADO Sadowa 90.65 29 IAmb IAmb 03 17 10.7
comp=Z,41nm,1.1s
LATQ La Tuque 90.66 24 P 03 17 10.1
baz=332
I51A Listowel 90.71 30 P 03 17 11.0
baz=326,SNR=6.2
SFIN Lafayette 90.78 36 IAmb IAmb 03 17 11.9
comp=Z,66nm,1.1s
SFIN IAMs_20 IAMs_20 03 55 37.5
comp=Z,523nm,21.0s
SFIN Lafayette 90.78 36 P 03 17 11.2
baz=322
AAM Ann Arbor 90.82 33 IAmb IAmb 03 17 12.1
comp=Z,40nm,1.1s
AAM IAMs_20 IAMs_20 04 06 10.2
comp=Z,452nm,19.0s
AAM Ann Arbor 90.82 33 P 03 17 11.5
baz=324
X37A Clayton 90.82 45 IAmb IAmb 03 17 12.2
comp=Z,38nm,1.2s
D58A Chemin du LacG 90.88 24 P 03 17 11.1
baz=332,SNR=5.6
K50A Casco 90.88 32 IAmb IAmb 03 17 13.0
comp=Z,51nm,1.0s
U40A Yellville 90.93 42 P 03 17 11.1
baz=318,SNR=80
FVM French Village 90.98 39 IAmb IAmb 03 17 12.8
comp=Z,44nm,0.9s
Q44A Meyer Farm, Va 90.99 38 P P 03 17 12.1 +2.4
H53A Bobcaygeon 91.03 28 P 03 17 11.7
baz=326,SNR=10.0
N47A Urbana 91.04 35 IAMs_20 IAMs_20 04 01 43.3
comp=Z,580nm,19.0s
JCT Junction City 91.09 50 P 03 17 12.3
baz=314,SNR=5.7
PLVO Plevna 91.20 27 IAmb IAmb 03 17 13.3
comp=Z,35nm,1.0s
W39A Magazine 91.27 43 IAmb IAmb 03 17 14.1
comp=Z,62nm,1.4s
W39A Magazine 91.27 43 P 03 17 13.2
baz=318,SNR=8.6
E58A La Victoria 91.38 24 P 03 17 13.5
baz=331,SNR=8.0
WHTX Lake Whitney, 91.47 48 IAMs_20 IAMs_20 04 00 51.5
comp=Z,605nm,19.0s
WHTX Lake Whitney, 91.47 48 P 03 17 14.7
baz=315,SNR=8.4
D61A St Aubert, Com 91.63 22 P 03 17 14.9
baz=334
D60A Saint Jean D'O 91.66 23 P 03 17 14.8
baz=333,SNR=6.9
FCAR Ozark Folk Cen 91.67 42 IAMs_20 IAMs_20 04 04 02.3
comp=Z,422nm,20.0s
N49A Columbus Grove 91.70 34 IAmb IAmb 03 17 16.0
comp=Z,49nm,1.1s
MIAR Mount Ida 91.86 44 P **P 03 17 15.6 +1.8**
MIAR pmax pmax
comp=Z,82nm,0.9s
MIAR Mount Ida 91.86 44 P **P 03 17 15.6 +1.8**
MIAR IAMs_20 IAMs_20 04 03 46.7
comp=Z,390nm,20.0s
MIAR Mount Ida 91.87 44 P 03 17 16.3
baz=318,SNR=43
G57A Newington 91.90 26 P 03 17 15.7
baz=330,SNR=6.9
F59A Saint Guilaume 92.01 24 P 03 17 16.5
baz=332
LCAR Lake Charles 92.05 41 IAmb IAmb 03 17 17.5
comp=Z,32nm,0.9s
W41B Gary Mavity, V 92.13 42 P 03 17 17.0
baz=318,SNR=12
G58A Ormstown 92.19 25 P 03 17 17.0
baz=331,SNR=5.2
O49A Covington 92.22 34 IAmb IAmb 03 17 17.8
comp=Z,21nm,0.8s
O49A IAMs_20 IAMs_20 03 57 06.4
comp=Z,549nm,21.0s
P48A Milroy 92.30 36 IAMs_20 IAMs_20 03 56 56.5
comp=Z,482nm,20.0s
H57A Richville 92.31 27 P 03 17 17.6
baz=330,SNR=5.2
X40A Basin Creek Fa 92.32 43 IAmb IAmb 03 17 19.2
comp=Z,32nm,1.0s
X40A IAMs_20 IAMs_20 04 02 58.2
comp=Z,398nm,19.0s
X40A Basin Creek Fa 92.32 43 P 03 17 18.6
baz=318,SNR=17
PARMO Parma 92.34 40 IAMs_20 IAMs_20 04 04 39.9
comp=Z,352nm,20.0s
USIN University of 92.39 38 IAMs_20 IAMs_20 04 04 57.2
comp=Z,443nm,19.0s
D63A Stockholm 92.39 21 P 03 17 18.2
baz=335
J55A Hilton 92.43 29 IAmb IAmb 03 17 19.1
comp=Z,22nm,0.8s
M52A Chesterland 92.43 32 IAmb IAmb 03 17 20.4
comp=Z,35nm,1.3s
F61A St Evariste 92.48 23 P 03 17 19.4
baz=333,SNR=5.1
ERPA Erie 92.53 31 P P 03 17 18.9 +2.1
ERPA Erie 92.53 31 P 03 17 19.0
baz=327,SNR=6.2
L53A Girard 92.55 31 P 03 17 19.3
baz=326,SNR=10
PENMO Penman 92.56 40 IAMs_20 IAMs_20 04 05 07.9
comp=Z,417nm,20.0s
P49A Miami Univ. Ec 92.57 35 P 03 17 18.9
baz=323,SNR=5.7
T45A Paducah 92.63 39 IAMs_20 IAMs_20 04 06 59.7
comp=Z,425nm,18.0s
I57A Carthage 92.67 27 P 03 17 19.2
baz=330
BATG Bathurst New B 92.74 19 IAmb IAmb 03 17 21.0
comp=Z,42nm,1.1s
PQI Presque Isle 92.75 21 IAmb IAmb 03 17 32.6
comp=Z,30nm,1.2s
H59A Cadyville 92.76 25 P 03 17 19.5
baz=331
H58A Gabriels 92.78 26 P 03 17 19.5
baz=331
J56A Wolcott 92.79 28 IAMs_20 IAMs_20 04 07 01.7
comp=Z,501nm,19.0s
J56A Wolcott 92.79 28 P 03 17 19.6
baz=329
ACSO Alum Creek Sta 92.80 34 P 03 17 20.1
baz=324,SNR=6.9
M53A WI Miller and 92.81 31 IAmb IAmb 03 17 21.2
comp=Z,49nm,1.3s
M53A WI Miller and 92.81 31 P 03 17 20.4
baz=326,SNR=5.6
MMNY Mt. Morris Dam 92.85 29 IAmb IAmb 03 17 21.0
comp=Z,24nm,0.8s
WVNY West Valley, N 92.85 30 IAmb IAmb 03 17 21.4
comp=Z,41nm,1.1s
WVNY IAMs_20 IAMs_20 04 03 31.4
comp=Z,628nm,19.0s
ALLY Alegheny Colle 92.85 31 IAmb IAmb 03 17 21.4
comp=Z,41nm,1.0s
ALLY IAMs_20 IAMs_20 04 04 54.6
comp=Z,482nm,19.0s
E63A Oxbow 92.86 21 IAmb IAmb 03 17 21.1
comp=Z,43nm,1.2s
LPAR Lepanto 92.86 41 IAMs_20 IAMs_20 04 04 47.8
comp=Z,343nm,18.0s
WCI Wyandotte Cave 92.86 37 P P 03 17 20.5 +2.2
WCI pmax pmax
comp=Z,36nm,0.9s
WCI Wyandotte Cave 92.86 37 P P 03 17 20.5 +2.2
WCI IAmb IAmb 03 17 21.4
comp=Z,36nm,0.8s
WCI Wyandotte Cave 92.86 37 P 03 17 20.7
baz=322
E63A Oxbow 92.86 21 P 03 17 20.2
baz=335
LNXT Lenox 92.90 40 IAMs_20 IAMs_20 04 05 09.9
comp=Z,434nm,19.0s
G61A St-Isidore-de- 92.92 24 P 03 17 21.4
baz=333
J57A Williamstown 93.00 27 IAmb IAmb 03 17 21.7
comp=Z,27nm,0.8s
J57A Williamstown 93.00 27 P 03 17 21.0
baz=329,SNR=5.4
E64A Bridgewater 93.03 21 P 03 17 20.8
baz=336,SNR=5.6
K56A Middlesex 93.10 29 P 03 17 21.7
baz=328
M54A Oil Creek Stat 93.17 31 IAmb IAmb 03 17 22.7
comp=Z,27nm,0.8s
H60A Morristown 93.17 25 P 03 17 22.0
baz=332
M54A Oil Creek Stat 93.17 31 P 03 17 22.1
baz=327,SNR=5.4
Z41A Richland Creek 93.25 44 P 03 17 22.6
baz=318
N53A Lisbon 93.26 32 IAmb IAmb 03 17 23.2
comp=Z,35nm,1.1s
NATX Nacogdoches 93.28 46 IAMs_20 IAMs_20 04 03 01.5
comp=Z,612nm,18.0s
G62A West of Eustis 93.30 23 IAmb IAmb 03 17 24.9
comp=Z,59nm,1.4s
R49A Shelbyville 93.34 36 P P 03 17 22.5 +1.9
X43A Marvell 93.37 42 P 03 17 23.6
baz=319
P51A Williamsport 93.37 34 IAmb IAmb 03 17 23.2
comp=Z,31nm,1.1s
T47A Sharon Grove 93.43 38 IAMs_20 IAMs_20 04 03 01.7
comp=Z,429nm,19.0s
I59A Olmsteadville 93.44 26 P 03 17 22.7
baz=331
H61A Lyndonville 93.45 24 P 03 17 23.8
baz=332
L56A Greenwood 93.49 29 IAmb IAmb 03 17 24.1
comp=Z,32nm,1.0s
L56A Greenwood 93.49 29 P 03 17 23.4
baz=328,SNR=5.2
N54A Moraine State 93.49 31 IAmb IAmb 03 17 24.2
comp=Z,42nm,1.1s
N54A Moraine State 93.49 31 P 03 17 23.6
baz=327,SNR=8.5
J59A Piesco 93.50 26 IAmb IAmb 03 17 23.5
comp=Z,16nm,0.8s
J59A Piesco 93.50 26 P 03 17 23.1
baz=330
O53A New Philadelph 93.56 32 IAmb IAmb 03 17 24.4
comp=Z,34nm,1.0s
O53A New Philadelph 93.56 32 P 03 17 23.5
baz=326
M55A Ridgway 93.57 30 IAmb IAmb 03 17 24.8
comp=Z,30nm,0.9s
I60A Shoreham 93.60 26 P 03 17 23.8
baz=331
Q51A Peebles 93.61 34 IAmb IAmb 03 17 24.8
comp=Z,35nm,0.8s
Q51A IAMs_20 IAMs_20 03 58 23.1
comp=Z,528nm,21.0s
PKME Peaks-Kenny Pk 93.64 22 IAmb IAmb 03 17 25.3
comp=Z,41nm,1.1s
PKME Peaks-Kenny Pk 93.64 22 P 03 17 24.6
baz=334
P52A Corning 93.66 33 IAmb IAmb 03 17 24.5
comp=Z,25nm,0.9s
P52A Corning 93.66 33 P 03 17 23.8
baz=325
H62A Milan 93.67 24 IAmb IAmb 03 17 25.5
comp=Z,26nm,1.1s
H62A Milan 93.67 24 P 03 17 24.6
baz=333
K58A Earlville 93.69 28 P 03 17 23.8
baz=330
WVT Waverly 93.73 39 P P 03 17 24.4 +2.0
WVT pmax pmax
comp=Z,18nm,0.9s
WVT Waverly 93.73 39 P P 03 17 24.4 +2.0
WVT IAmb IAmb 03 17 25.3
comp=Z,18nm,0.8s
WVT Waverly 93.73 39 IAMs_20 IAMs_20 04 04 14.8
comp=Z,442nm,20.0s
WVT Waverly 93.73 39 P 03 17 24.3
baz=321
R50A Paris 93.75 36 IAmb IAmb 03 17 25.4
comp=Z,32nm,1.1s
R50A IAMs_20 IAMs_20 03 57 52.0
comp=Z,456nm,21.0s
M56A Emporium 93.79 30 IAmb IAmb 03 17 25.6
comp=Z,49nm,1.1s
M56A Emporium 93.80 30 P 03 17 24.9
baz=328,SNR=7.0
G64A Maxfield 93.82 22 P 03 17 25.3
baz=335
HKT Hockley 93.89 48 ⇑*eP* **P 03 17 23.5 +0.3**
HKT pmax pmax
comp=Z,37nm,1.8s
HKT Hockley 93.89 48 P P 03 17 25.2 +2.1
K59A Cooperstown 93.97 27 P 03 17 25.3
baz=330
O54A Avella 93.97 32 IAmb IAmb 03 17 26.4
comp=Z,24nm,0.8s
BINY Binghamton 94.04 28 P 03 17 25.6
baz=329
P53A Whipple 94.11 33 IAmb IAmb 03 17 26.9

	comp=Z,27nm,1.0s						
OXF	Oxford	94.16	41	P			03 17 26.7
	baz=320						
G65A	Princeton	94.22	21	P			03 17 27.1
	baz=336						
N56A	West Decatur	94.23	30	P			03 17 27.0
	baz=328,SNR=5.7						
L58A	Harry Jones Me	94.23	28	P			03 17 26.6
	baz=330						
M57A	Sunshine Farm,	94.34	29	P			03 17 27.5
	baz=329,SNR=7.1						
LMN	Caledonia Moun	94.39	19	IAmb	IAmb		03 17 28.4
	comp=Z,22nm,0.8s						
LMN				IAMs_20	IAMs_20		04 01 02.4
	comp=Z,707nm,22.0s						
L59A	Walton	94.41	27	IAmb	IAmb		03 17 28.3
	comp=Z,21nm,0.8s						
L59A	Walton	94.41	27	P			03 17 27.3
	baz=330						
U49A	Red Boiling Sp	94.46	38	IAmb	IAmb		03 17 28.6
	comp=Z,34nm,0.8s						
PLAL	Pickwick Lake	94.50	40	P	P		03 17 27.2 +1.3
T50A	Nancy	94.52	37	IAmb	IAmb		03 17 28.8
	comp=Z,25nm,0.8s						
CLTN	Cedars of Leba	94.52	38	IAmb	IAmb		03 17 28.9
	comp=Z,25nm,0.9s						
V48A	Smith Brothers	94.55	39	IAmb	IAmb		03 17 28.9
	comp=Z,25nm,1.1s						
Q53A	Leroy	94.57	33	P			03 17 28.6
	baz=325,SNR=5.3						
S51A	Beattyville	94.61	35	IAmb	IAmb		03 17 28.9
	comp=Z,22nm,0.8s						
SSPA	Standing Stone	94.63	30	P			03 17 28.6
	baz=328						
MCWV	Mont Chateau	94.64	32	IAmb	IAmb		03 17 29.8
	comp=Z,23nm,1.1s						
MCWV	Mont Chateau	94.64	32	P			03 17 29.1
	baz=327,SNR=5.0						
O56A	Blue Knob Stat	94.66	31	IAmb	IAmb		03 17 29.5
	comp=Z,34nm,0.9s						
O56A	Blue Knob Stat	94.66	31	P			03 17 28.7
	baz=328,SNR=6.7						
N57A	Milroy	94.67	30	P			03 17 28.9
	baz=328,SNR=6.1						
H66A	Whiting	94.67	21	P			03 17 28.9
	baz=336						
Q54A	Coxs Mills	94.77	33	IAmb	IAmb		03 17 29.7
	comp=Z,19nm,0.8s						
M59A	Waymart	94.82	28	P			03 17 29.2
	baz=330						
P56A	Dayton Farm, R	95.19	31	P			03 17 31.3
	baz=327,SNR=6.7						
R54A	Victor	95.36	33	P			03 17 31.9
	baz=326						
SWET	Sewanee	95.41	38	IAmb	IAmb		03 17 32.5
	comp=Z,28nm,0.9s						
Q56A	Snyder Ridge,	95.43	32	P			03 17 32.2
	baz=327						
X48A	Hartselle	95.44	40	IAMs_20	IAMs_20		03 59 13.1
	comp=Z,321nm,19.0s						
O58A	Lewisberry	95.45	30	P			03 17 32.0
	baz=329						
R55A	Marlinton	95.66	33	IAmb	IAmb		03 17 34.2
	comp=Z,26nm,0.8s						
R55A	Marlinton	95.66	33	P			03 17 33.5
	baz=326,SNR=6.6						
V51A	Loudon	95.72	37	IAmb	IAmb		03 17 34.2
	comp=Z,23nm,1.1s						
HAL	Halifax	95.83	19	IAMs_20	IAMs_20		04 06 32.6
	comp=Z,633nm,18.0s						
Z47A	Carrollton	95.88	41	IAmb	IAmb		03 17 34.9
	comp=Z,17nm,0.8s						
CPCT	Cooper Cave	95.92	37	IAmb	IAmb		03 17 35.1
	comp=Z,31nm,1.2s						
CPCT				IAMs_20	IAMs_20		04 04 56.5
	comp=Z,419nm,18.0s						
V52A	Sevierville	96.06	37	IAmb	IAmb		03 17 36.8
	comp=Z,28nm,1.3s						
TKL	Tuckaleechee C	96.12	37	IAmb	IAmb		03 17 36.9
	comp=Z,15nm,0.9s						
P60A	Greenville	96.23	29	IAMs_20	IAMs_20		04 01 17.8
	comp=Z,536nm,20.0s						
Y49A	Blount Mountai	96.23	40	IAMs_20	IAMs_20		04 07 44.0
	comp=Z,478nm,19.0s						
FURI	Furi	96.25	286	P	P		03 17 36.5 +1.8
U54A	Nelsons Funny	96.34	35	IAmb	IAmb		03 17 36.9
	comp=Z,20nm,0.8s						
U54A				IAMs_20	IAMs_20		03 58 42.6
	comp=Z,450nm,20.0s						
U54A	Nelsons Funny	96.35	35	P			03 17 36.4
	baz=325						
BLA	Blacksburg	96.42	34	P			03 17 36.7
	baz=326						
KEST	Kesra	96.42	324	LR	LR		04 07 30.6
	comp=Z,1µm,18.4s,baz=338,slow=39						
R58A	Rapidan	96.56	31	P			03 17 37.5
	baz=328						
S58A	Poland Farm, P	97.11	32	IAMs_20	IAMs_20		04 05 21.7
	comp=Z,711nm,20.0s						
V55A	Taylorsville	97.17	35	IAMs_20	IAMs_20		04 05 14.5
	comp=Z,592nm,19.0s						
RKT	Rikitea	97.19	113	eLR	LR		03 48 48.4
	comp=Z,960nm,26.0s						
V56A	Mocksville	97.54	34	P			03 17 41.4
	baz=326						
KMSC	Kings Mountain	97.70	35	IAMs_20	IAMs_20		04 10 46.5
	comp=Z,465nm,20.0s						
KMSC	Kings Mountain	97.70	35	P			03 17 42.3
	baz=325						
HODGE	Hodges	98.00	37	IAmb	IAmb		03 17 44.8
	comp=Z,14nm,1.2s						
GOGA	Godfrey	98.08	38	IAMs_20	IAMs_20		04 10 24.7
	comp=Z,367nm,19.0s						
W57A	Gilead	98.31	35	IAMs_20	IAMs_20		04 06 37.6
	comp=Z,494nm,19.0s						
ES19	SONSECA Array	98.48	335	IAMs_20	IAMs_20		04 10 57.3
	comp=Z,762nm,20.0s						
ES03	SONSECA Array	98.53	335	IAMs_20	IAMs_20		04 08 03.4
	comp=Z,81nm,20.0s						
ESDC	Sonseca Array	98.53	335	P	Pdif		03 17 45.8 +1.6
	comp=Z,3.4nm,0.8s,baz=16,slow=4.0,SNR=22						
ESDC				PP	PP		03 21 45.7 +1.7
	comp=Z,1.3nm,1.0s,baz=45,slow=5.6,SNR=3.4						
ESDC				LR	LR		04 08 17.0
	comp=Z,751nm,18.2s,baz=35,slow=39						
ESDC	Sonseca Array	98.53	335	P	Pdif		03 17 46.0 +1.8
ES11	SONSECA Array	98.54	335	IAMs_20	IAMs_20		04 01 43.0
	comp=Z,757nm,21.0s						
ES12	SONSECA Array	98.55	335	IAMs_20	IAMs_20		04 08 04.4
	comp=Z,681nm,19.0s						
CART	Cartagena	99.31	332	IAMs_20	IAMs_20		04 10 08.5
	comp=Z,505nm,19.0s						
PESTR	Estremoz	100.45	337	IAMs_20	IAMs_20		04 09 25.2
	comp=Z,711nm,18.0s						
MESJ	Messejana	101.58	337	ePP	PP		03 22 09.6 +2.6
MESJ				IAMs_20	IAMs_20		04 09 59.5
	comp=N,1µm,16.4s						
KMBO	Kilima Mbogo	103.47	279	Pdiff	Pdif		03 18 07.8 +1.0
	comp=N,1.2nm,0.8s,baz=50,slow=5.7,SNR=4.7						
KMBO				PP	PKiKP		03 22 23.9 -1.6
	comp=N,1.1nm,0.2s,baz=50,slow=6.4,SNR=3.9						
MBAR	Mbarara	108.31	283	IAMs_20	IAMs_20		04 13 48.0
	comp=Z,448nm,20.0s						
TAM	Tamanrasset	108.87	319	IAMs_20	IAMs_20		04 13 36.4
	comp=Z,376nm,20.0s						
MATN	Matagalpa	112.61	53	IAMs_20	IAMs_20		04 18 09.0
	comp=Z,625nm,21.0s						
VNDA	Vanda	114.17	176	PKP	PKiKP		03 22 44.7 +1.3
	comp=Z,0.9nm,0.6s,baz=306,slow=3.4,SNR=6.4						
VNDA				PP	PP		03 23 41.4 +1.8
	comp=Z,2.6nm,1.2s,baz=325,slow=20,SNR=4.0						
VNDA				PKKPab	PKKPab		03 33 34.6 +6.7
	comp=Z,0.5nm,0.8s,baz=178,slow=3.9,SNR=4.7						
TORD	Torodi Ar. Bea	118.81	316	PKP	PKiKP		03 22 55.0 +0.7
	comp=Z,2.1nm,0.9s,baz=18,slow=1.8,SNR=9.3						
TORD				PP	PP		03 24 13.7 +1.5
	comp=Z,2.5nm,1.0s,baz=32,slow=6.4,SNR=5.8						
TORD				PKKPab	PKKPab		03 33 11.8 -2.2
	comp=Z,1.4nm,0.8s,baz=221,slow=4.1,SNR=4.8						
TORD	Torodi Ar. Bea	118.81	316		PKiKP		03 22 55.4 +1.1
LSZ	Lusaka	118.92	272	PKIKP	PKiKP		03 22 56.4 +1.9
LSZ	Lusaka	118.92	272		PKiKP		03 22 56.4 +1.9
KOWA	Kowa	120.70	322	PKPdf	PKiKP		03 22 59.5 +1.5
UREC	San Jos de Ur	123.06	48	eP	PKiKP		03 23 02.8 +0.1
SMLC	San Martn de	123.07	46	eP	PKiKP		03 23 03.6 +0.9
ZARC	Zaragoza, Cauc	123.66	47	eP	PKiKP		03 23 04.6 +0.7
OCAC	Ocana	123.96	45	eP	PKiKP		03 23 05.7 +1.1
CBOC	Ciudad Bolivar	124.25	49	eP	PKiKP		03 23 05.7 +0.5
BRRC	Barranca, Sant	124.65	46	eP	PKiKP		03 23 06.1 +0.3
PTBC	PUERTO BERRIO	124.66	48	eP	PKiKP		03 23 05.8 -0.1
SDV	Santo Domingo	124.93	42	PKPdf	PKiKP		03 23 08.1 +1.4
SDV	Santo Domingo	124.93	42	eP	PKiKP		03 23 07.4 +0.8
SDV	Santo Domingo	124.93	42	eP	PKiKP		03 23 07.9 +1.3
PAMC	Pamplona, Colo	125.05	45	eP	PKiKP		03 23 07.2 0.0
GUY2C	Guyana, Caldas	125.15	49	eP	PKiKP		03 23 07.1 -0.3
YOTC	Yotoco, Valle	125.50	51	eP	PKiKP		03 23 07.4 -0.3
SPBC	San Pablo de B	125.59	48	eP	PKiKP		03 23 09.1 +1.3
RUSC	La Rusia	125.99	47	eP	PKiKP		03 23 09.0 -0.1
QSPA	South Pole Qui	126.08	180		PKiKP		03 23 07.6 +0.5
ROSC	El Rosal	126.09	49	PKP	PKiKP		03 23 10.5 +1.3
	comp=Z,15nm,0.6s,baz=87,slow=3.1,SNR=16						
ORTC	Ortega, Tolima	126.25	50	eP	PKiKP		03 23 08.0 -1.1
CBOG1	Bogota, SGC	126.39	49	eP	PKiKP		03 23 07.0 -2.7
POPC	Popayan, Colom	126.40	53	eP	PKiKP		03 23 09.7 +0.1
BBAC	Balboa, Cauca	126.42	54	eP	PKiKP		03 23 08.5 -1.1
OTAV	Otavalo	126.96	56	eP	PKiKP		03 23 10.6 -0.4
OTAV	Otavalo	126.96	56	eP	PKiKP		03 23 13.2 +2.2
VILC	Villavicencio,	127.04	49	eP	PKiKP		03 23 11.8 +1.0
BETC	Betania	127.08	51	eP	PKPdf		03 23 07.0 -3.2
GARC	Garzon, Huila	127.42	52	eP	PKiKP		03 23 11.4 -0.3
DBIC	Dimbokro	127.75	318	PKP	PKiKP		03 23 11.9 -0.1
	comp=Z,5.0nm,0.6s,baz=8.2,slow=4.5,SNR=9.6						
BOSA	Boshof	127.83	260	PKP	PKiKP		03 23 12.5 +0.6
	comp=Z,3.7nm,0.8s,baz=340,slow=5.8,SNR=5.1						
SYO	Syowa Base	128.21	206	ePKPdf	PKiKP		03 23 12.2 +1.1
MACC	Manarena, Meta	128.49	50	eP	PKPdf		03 23 05.5 -7.3
BOAV	Boa Vista	135.59	35	eP	PKiKP		03 23 27.6 -0.2
NNA	Nana	136.63	66	PKP	PKiKP		03 23 29.6 -0.3
	comp=Z,32nm,1.0s,baz=336,slow=8.8,SNR=5.6						
BELA	Belgrano 2	138.34	181	PKPdf	PKiKP		03 23 31.2 -0.3
PTGA	Pitinga	138.59	36	PKPdf	PKiKP		03 23 33.9 -0.1
PTGA	Pitinga	138.59	36	eP	PKiKP		03 23 34.8 +0.8
MACA	Manacapuru-AM	140.33	39	eP	PKiKP		03 23 37.5 0.0
SNAA	Sanae	140.48	196	PKPdf	PKPdf		03 23 25.8 -7.8
SNAA	Sanae	140.48	196	PKIKP	PKiKP		03 23 34.9 -1.2
SNAA	Sanae	140.48	196	PKPdf	PKiKP		03 23 34.9 -1.2
MCPB	Macapa, AP	141.52	25	eP	PKiKP		03 23 39.8 -0.1
VNA2	Neumayer--Watz	142.03	195	PKPdf	PKPdf		03 23 33.5 -2.8
	baz=135,slow=1.6						
MALB	Monte Alegre	142.09	29	eP	PKiKP		03 23 41.0 0.0
VNA3	Neumayer Olymp	142.24	194	PKPdf	PKPdf		03 23 34.7 -2.0
VNA1	Neumayer--Stat	142.42	195	PKPdf	PKPdf		03 23 34.1 -2.8
ETMB	Extrema	142.50	53	eP	PKiKP		03 23 41.0 -0.8
SAML	Samuel	143.71	48	eP	PKiKP		03 23 42.9 -1.4
ITTB	Itaituba	143.74	33	eP	PKiKP		03 23 42.3 -2.2
ASCN	Ascension	145.08	319		PKiKP		03 23 45.0 -2.2
H03N2	Juan Fernandez	145.54	98	T	T		06 05 59.5
	baz=291,slow=76,SNR=20						
H03N3	Juan Fernandez	145.55	98	T	T		06 06 00.9
	baz=291,slow=76,SNR=25						
H03N1	Juan Fernandez	145.56	98	T	T		06 05 57.1
	baz=291,slow=76,SNR=25						
LPAZ	La Paz	145.80	63	PKPbc	PKiKP		03 23 47.6 -1.8
	comp=Z,46nm,0.6s,baz=333,slow=3.1,SNR=105						
LPAZ	La Paz	145.80	63	eP	PKiKP		03 23 47.1 -2.2
ROSB	Rosrio	146.05	13	eP	PKiKP		03 23 47.5 -1.7
NPGB	Novo Progresso	146.28	35	eP	PKiKP		03 23 48.2 -1.5
TA01	Diego Aracena	146.94	71		PKiKP		03 23 51.0 +0.2
NBMO	Morrinhos-CE	147.00	6	eP	PKiKP		03 23 49.4 -1.7
PMSA	Palmer Station	147.22	159	eP	PKiKP		03 23 48.2 -1.8
PRPB	Parauapebas	147.71	25	eP	PKPab		03 23 50.7 -2.2
NBPS	Pedro II - PI	147.93	9	eP	PKPab		03 23 51.3 -2.5
NBCL	Cascavel-CE	148.02	3	eP	PKPab		03 23 51.3 -2.7
VILB	Vilhena	148.65	48	eP	PKiKP		03 23 52.4 -2.2
LVC	Limon Verde	149.06	73	PKP2	PKPab		03 23 57.0 -1.6
LVC	Limon Verde	149.06	73	PKPbc	PKPab		03 23 57.0 -1.6
LVC	Limon Verde	149.06	73	eP	PKiKP		03 23 53.5 -2.1
NBPB	Pedra_Branca-C	149.25	5	eP	PKiKP		03 23 53.4 -2.4
CLDB	Colider	149.39	39	eP	PKiKP		03 23 53.5 -2.5
NBPA	Parau_RN	149.56	1	eP	PKiKP		03 23 53.5 -2.9
RCBR	Riachuelo	149.63	358	PKP2	PKPab		03 23 57.6 -3.0
RCBR	Riachuelo	149.63	358		PKPab		03 23 57.6 -3.0
RCBR	Riachuelo	149.63	358	eP	PKiKP		03 23 53.5 -3.1
NBPV	Pedro Velho	150.19	357	eP	PKiKP		03 23 54.8 -2.9
SIV	San Ignacio	150.42	53	PKP	PKPbc		03 23 54.4 -3.0
	comp=Z,67nm,1.0s,baz=262,slow=1.4,SNR=34						
SIV				PKPbc	PKPab		03 23 59.3 -4.6
	comp=Z,67nm,1.0s,baz=337,slow=1.6,SNR=69						
LCO	Las Campanas	150.68	85	PKIKP	PKPab		03 24 00.5 -4.6
LCO	Las Campanas	150.68	85		PKPab		03 24 00.5 -4.6
GO09	Cerro Castillo	150.68	132	PKPdf	PKPbc		03 23 53.6 -3.3
GO09				PKPbc	PKPab		03 23 59.7 -4.3
SMTB	Santa Maria do	150.95	22	eP	PKiKP		03 23 56.0 -3.3
NBMA	Muriti-CE	151.11	4	eP	PKiKP		03 23 56.5 -3.2
NBLI	Livramento-PB	151.16	0	eP	PKiKP		03 23 56.5 -3.4
PTLB	Pontes e Lacer	151.23	49	eP	PKPbc		03 23 56.0 -3.2
MT02	Curacav	151.75	94		PKPab		03 24 01.8 -7.2
NBRF	Rio Formoso -	152.43	356	eP	PKiKP		03 23 59.0 -3.3
SNDB	Serra Nova Dou	152.46	32	eP	PKPbc		03 23 57.7 -4.4
NBTA	Tacaratu-PE	152.89	3	eP	PKPbc		03 23 58.1 -5.0
PLCA	Paso Flores	153.36	110	PKP	PKPbc		03 23 57.5 -6.0
	comp=Z,6.0nm,1.2s,baz=282,slow=4.5,SNR=4.1						
PLCA				PKPbc	pPKPdf		03 24 05.7 -0.9
	comp=Z,12nm,0.7s,baz=247,slow=1.8,SNR=45						
PLCA	Paso Flores	153.36	110	eP	PKPbc		03 23 59.0 -4.5
NBAN	Anadia - AL	153.45	359	eP	PKPbc		03 23 59.4 -4.9
PEXB	Peixe	153.75	26	eP	PKPbc		03 24 01.1 -3.9
NBPN	Ponto Novo - B	154.44	8	eP	PKPbc		03 24 00.7 -5.8
NBLA	Lagarto - SE	154.75	2	eP	PKPbc		03 24 01.9 -5.2
SDBA	SAO DESIDERIO	155.09	19	eP	PKPdf		03 24 01.1 +2.1
PP1B	Ponte de Pedra	155.44	45	eP	PKPdf		03 24 01.9 +2.6
ARAG	Araguaiana, MT	155.50	37	eP	PKPdf		03 24 02.3 +2.9
BDFB	Brasilia	157.11	29	PKP	PKPdf		03 24 03.8 +2.1
	comp=Z,3.1nm,0.7s,baz=248,slow=2.5,SNR=7.2						
BDFB				PKPab	PKPab		03 24 34.3 +2.1
	comp=Z,18nm,0.9s,baz=296,slow=2.3,SNR=14						
BDFB	Brasilia	157.11	29	PKIKP	PKPdf		03 24 03.6 +1.9
BDFB	Brasilia	157.11	29		PKPdf		03 24 03.6 +1.9
BDFB				PKPab	PKPab		03 24 34.0 +1.8
AQDB	Aquidauana	157.15	51	eP	PKPdf		03 24 04.0 +2.5
GDU01	Guandu, BA	157.35	7	eP	PKPdf		03 24 04.8 +3.0
JANB	Januaria	157.78	19	eP	PKPdf		03 24 05.3 +2.8
NBIT	Itapeh - BA	158.56	7	eP	PKPdf		03 24 05.7 +2.3
IPMB	Ipameri, GO	159.14	32	eP	PKPdf		03 24 06.5 +2.5
CPUP	Villa Florida	159.89	66	PKP	PKPdf		03 24 06.8 +2.2
	comp=Z,3.0nm,0.9s,baz=360,slow=4.9,SNR=3.9						
CPUP				PKPab	PKPab		03 24 45.4 +1.4
	comp=Z,2.6nm,0.8s,baz=301,slow=6.1,SNR=4.4						
CPUP	Villa Florida	159.89	66	PKIKP	PKPdf		03 24 06.7 +2.1
CPUP	Villa Florida	159.89	66		PKPdf		03 24 06.7 +2.1
CPUP	Villa Florida	159.89	66	eP	PKPdf		03 24 07.0 +2.3
PCMB	Pacaembu	160.68	44	eP	PKPdf		03 24 08.2 +2.6
DIAM	Diamantina, MG	161.04	20	eP	PKPdf		03 24 08.7 +2.4
NAN01	Guarapari, ES	161.35	10	eP	PKPdf		03 24 09.4 +2.9
BB19B	Bebedouro	161.68	37	eP	PKPdf		03 24 09.4 +2.6
SJMB	Sao Joao De Ma	162.02	13	eP	PKPdf		03 24 09.8 +2.7
ITQB	Itaqui	162.13	74	eP	PKPdf		03 24 09.4 +2.5
PTGB	Pitanga	162.53	53	eP	PKPdf		03 24 10.4 +2.8
RIB01	Linhares ES	162.76	11	eP	PKPdf		03 24 10.6 +2.8
SPB	Sao Paulo	164.34	39	PKPdf	PKPdf		03 24 11.7 +2.5
SPB				PKPab	PKPab		03 25 05.4 +1.9

*IDC **27** 03:21:27.8±0.7,39.92N×143.62E,h0km,mb4.0/24, mb1 4.1/30,mb1mx4.1/47,mbtmp4.0/30,ML3.3/6,MS3.4/1, Ms1 3.4/1,ms1mx2.9/43 Error ellipse: s-maj=17.2km s-min=14.1km az=140.0*

*JMA **27** 03:21:30.3±0.2,40.01N×143.53E,h17km±4km,M4.3*

*NIED **27** 03:21:30.4,40.01N×143.53E,h17km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.48; $M_{\theta\theta}$0.38; $M_{\phi\phi}$-1.86; $M_{r\theta}$1.92; $M_{\theta\phi}$-0.92; $M_{r\phi}$2.13; Fault plane solution: $M_0$3.44000×10^{15} NP1:ϕ_s40.00000°, δ75.00000°, λ106.00000°. NP2:ϕ_s172.00000°,δ22.00000°, λ44.00000°.*

*NEIC **27** 03:21:33.1±1.2,39.93N±0.06×143.6E±0.1,h37km±5km, mb4.4/17 Error ellipse: s-maj=12.7km s-min=8.9km az=101.0*

ISC 27 03:21:31.6±1.1,39.96N±0.05×143.62E±0.07,h24km±7km, n99,σ0.97/96,mb4.2/37,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	Tanohata	1.35	270	P	Pn	03 21 53.4	-1.6
MIYJ	Miyakonagasawa	1.44	255	P	Pn	03 21 55.2	-1.0
MIYJ				eS	Sn	03 22 13.6	-0.7
JKEN	Kujiedanarisaw	1.49	280	P	Pn	03 21 55.3	-1.5
JANG	Nango	1.67	285	P	Pn	03 21 58.0	-1.3
JANG				eS	Sn	03 22 17.8	-2.1
JOM	Ohasama	1.86	256	P	Pn	03 22 01.8	-0.1
JOM				eS	Sn	03 22 24.2	-0.5
ERM	Erimo	2.09	351		Pn	03 22 05.8	+0.7
JEM	Erimo	2.09	351	P	Pn	03 22 04.7	-0.4
JMK	Ichinoseki	2.11	242	P	Pn	03 22 04.7	-0.7
JMK				eS	Sn	03 22 30.1	-0.8
JTM	Tenmabayashi	2.12	294	P	Pn	03 22 05.1	-0.4
JTM	Tenmabayashi	2.12	294	Pn	Pn	03 22 05.4	-0.1
JNBK	Urakawa-nobuka	2.41	345	P	Pn	03 22 09.9	+0.3
JNBK				eS	Sn	03 22 38.3	-0.1
JOT	Ohata	2.42	307	P	Pn	03 22 09.4	-0.3
JCH	Churui	2.66	356	P	Pn	03 22 12.2	-0.8
JCH				eS	Sn	03 22 43.1	-1.4
JYK	Kaneyama	2.73	249	P	Pn	03 22 13.9	0.0
JMM	Marumori	3.04	227	Pn	Pn	03 22 16.7	-1.4
JEW	Eniwo	3.31	331		Pn	03 22 24.0	+2.1
JKA	Kamikawa-asahi	4.23	350	Pn	Pn	03 22 34.6	+0.1
ASAJ	Asahikawa	4.23	350	Pn	Pn	03 22 34.3	-0.2
	3.2nm,0.3s,baz=197,slow=7.7,SNR=26						
ASAJ				Sn	Sn	03 23 22.4	-0.8
	3.7nm,0.3s,baz=195,slow=18,SNR=4.5						
JSD	Sado	4.59	247	Pn	Pn	03 22 40.8	+1.3
JYT	Yasato	4.60	217		Pn	03 22 37.0	-2.6
MJAR	Matsushiro Arr	5.45	233	Pn	Pn	03 22 51.6	+0.2
	0.6nm,0.3s,baz=38,slow=12,SNR=37						
MJAR	Matsushiro Arr	5.45	233		Pn	03 22 51.2	-0.2
MAJO	Matsushiro	5.45	233		Pn	03 22 51.8	+0.4
MAT	Matsushiro	5.45	233	P	Pn	03 22 51.9	+0.5
MAT				eS	Sn	03 23 54.6	+1.2
JGF	Kuroka	6.59	231		Pn	03 23 07.2	+0.1
INU	Inuyama	6.97	231	Pn	Pn	03 23 12.2	+0.1
JWT	Wachi	8.02	237	Pn	Pn	03 23 28.0	+1.4
USA0B	Ussuriysk Arra	9.63	300	Pn	Pn	03 23 51.7	+3.1
USRK	Ussuriysk Ar.	9.63	300	Pn	Pn	03 23 48.7	+0.1
	baz=110,slow=13,SNR=15						
USRK	Ussuriysk Ar.	9.63	300	Pn	Pn	03 23 50.6	+2.0
MDJ	Mudanjiang	11.38	299	P	Pn	03 24 15.0	+2.4
MDJ				pP		03 24 23.0	
MDJ				sP		03 24 26.5	
MDJ				pmax	pmax		
	comp=Z,15nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,2µm,15.5s						
JNU	Nakatsue	12.30	240	Pn	Pn	03 24 23.4	-1.9
	comp=Z,0.3nm,0.3s,baz=68,slow=19,SNR=2.7						
KSRS	Korea Array	12.51	263	Pn	Pn	03 24 28.3	+0.2
	comp=Z,0.1nm,0.3s,baz=83,slow=13,SNR=9.4						
KSRS				LR	LR	03 28 23.7	
	comp=Z,156nm,19.3s,baz=55,slow=33						
KLR	Kul'dur	12.54	322	Pn		03 24 28.6	+0.2
	comp=Z,0.0nm,0.3s,baz=124,slow=18,SNR=5.8						
NJ2	Nanjing	21.48	256	eP	P	03 26 18.5	0.0
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
SEY	Seymchan	23.61	10	P	P	03 26 40.4	0.0
	comp=Z,6.7nm,0.8s,baz=194,slow=7.9,SNR=12						
YAK	Yakutsk	23.68	344	P	P	03 26 40.6	-0.5
	comp=Z,11nm,0.4s,baz=28,slow=2.1,SNR=4.3						
HHC	Hu-ho-hao-te	24.36	283	eP	P	03 26 48.3	+0.5
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,540nm,9.8s						
ULN	Ulaanbaatar	27.30	299	P	P	03 27 14.8	+0.4
ULN				IAmb	IAmb	03 27 23.8	
	comp=Z,9.1nm,0.8s						
SONM	Songino Array	27.74	299	P	P	03 27 18.4	+0.1
	comp=Z,3.9nm,0.7s,baz=88,slow=9.1,SNR=15						
SONM	Songino Array	27.74	299	P	P	03 27 18.0	-0.4
H11N2	WAKE ISLAND Hy	28.38	128	T	T	03 57 54.7	
	baz=318,slow=75,SNR=39			

comp=Z,3.8nm,0.9s,baz=46,slow=5.5,SNR=7.9
KBZ Khabaz 70.31 311 P **P 03 32 43.0 +0.1**
comp=Z,2.9nm,0.8s,baz=81,slow=3.7,SNR=10
NVAR Mina Array Bea 71.87 55 P **P 03 32 53.3 +0.4**
comp=Z,0.4nm,0.7s,baz=310,slow=5.8,SNR=2.7
NB2 NORSAR Subarra 72.15 338 P **P 03 32 54.2 +0.3**
comp=Z,0.4nm,0.5s,baz=35,slow=6.2
NOA NORSAR Array B 72.15 338 P **P 03 32 53.9 0.0**
comp=Z,1.4nm,0.8s,baz=36,slow=6.0,SNR=5.3
AKASG Malin Array Be 73.03 323 P **P 03 32 59.0 -0.3**
comp=Z,0.3nm,0.4s,baz=45,slow=5.9,SNR=6.1
AKASG Malin Array Be 73.03 323 IAmb IAmb 03 33 00.6
comp=Z,1.6nm,1.3s
PDAR Pinedale Array 74.40 47 P **P 03 33 07.8 0.0**
comp=Z,0.4nm,0.7s,baz=96,slow=1.5,SNR=3.5
BUR08 Bucovina Ar. S 77.06 322 P **P 03 33 23.3 +0.5**
BUR08 IAmb IAmb 03 33 39.1
comp=Z,3.3nm,1.1s
BURAR Bucovina Array 77.08 322 P **P 03 33 23.8 +1.0**
CHVC Chvalec 78.81 329 *e*P **P 03 33 33.0 +0.7**
CHVC *ex* x 03 33 41.4
CLL Collm 79.41 331 *e*P **P 03 33 34.0 -1.5**
CLL *ep*P **PcP 03 33 44.0 +0.5**
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 80.94 329 *e*P **P 03 33 45.0 +1.1**
KHC *ep*P **sP 03 33 53.3 +0.1**
CONA Conrad Observa 80.98 327 *e*P P 03 33 54.4 +10
comp=Z,1.2nm,0.6s
GERES GERESS Array B 81.12 329 P **P 03 33 45.2 +0.3**
comp=Z,0.3nm,0.5s,baz=26,slow=7.0,SNR=2.9
GERES GERESS Array B 81.12 329 P **P 03 33 44.5 -0.4**
MOTA Moosalm 83.35 330 *e*P P 03 34 06.6 +10
comp=Z,1.0nm,0.4s
RETA Reutte 83.37 330 *e*P P 03 34 08.0 +11
comp=Z,3.1nm,0.9s
FETA Feichten 83.77 330 *e*P P 03 34 08.3 +9.5
comp=Z,1.2nm,0.6s
TXAR Lajitas Array 86.98 54 P **P 03 34 15.7 +0.5**
comp=Z,0.3nm,0.8s,baz=339,slow=3.1,SNR=3.8

IDC 27 03:26:51.1±2.2, 6˚46S×130˚25E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, ML3.8/2, MS3.8/1, Ms1 3.8/1, ms1mx3.2/21, Error ellipse: s-maj=99.7km s-min=32.1km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.98**	**164**	Pn	Pn	03 30 10.6	0.0
	0.6nm,0.3s,baz=344,slow=12,SNR=17						
WRA				Sn	Sn	03 32 36.4	-10
	0.4nm,0.3s,baz=333,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**17.46**	**169**	P	Pn	03 30 56.3	0.0
	0.2nm,0.3s,baz=342,slow=9.7,SNR=16						
ASAR				S	Sn	03 33 54.0	-18
	0.1nm,0.3s,baz=347,slow=29,SNR=1.7						
NWAO	**Narrogin (SRO)**	**28.98**	**203**	LR	LR	03 45 36.4	
	comp=Z,185nm,18.3s,baz=42,slow=39						
MKAR	**Makanchi Array**	**67.91**	**327**	P	P	03 37 51.7	0.0
	0.2nm,0.4s,baz=116,slow=7.0,SNR=4.6						

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*NEIC **27** 03:29:18.8±2.2, 29˚90S×0˚06×71˚74W, 0˚0d, h82km±25km, Error ellipse: s-maj=11.4km s-min=6.9km az=118.0*
*GUC **27** 03:29:20.4±0.7, 29˚91S×71˚45W, h50km±4km, ML3.9*
ISC 27 03:29:19.2±1.3, 29˚90S±0˚04×71˚66W±0˚10, h43km, n36, σ1§18/49, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.79**	**110**	*e*P	**Pn**	**03 29 33.8**	**-0.4**
GO04				*i* S	**Sn**	**03 29 43.1**	**-1.9**
GO04				IAML		03 29 48.1	
	comp=N,15μm,0.2s						
GO04	**Tololo Observa**	**0.79**	**110**		**Pn**	**03 29 34.0**	**-0.2**
LCO	**Las Campanas**	**1.22**	**43**		**Pn**	**03 29 40.9**	**+0.9**
CO03	**El Pedregal**	**1.25**	**138**	*e*P	**Pn**	**03 29 40.5**	**+0.1**
CO03				*i* S	**Sn**	**03 29 55.5**	**-0.6**
CO03				IAML		03 29 56.6	
	comp=N,3μm,0.2s						
CO03	**El Pedregal**	**1.25**	**138**	Pn	**Pn**	**03 29 40.4**	**0.0**
AC04	**Llanos de Chal**	**1.77**	**17**	*e*P	**Pn**	**03 29 48.6**	**+1.3**
AC04				*e*S	**Sn**	**03 30 09.3**	**+0.8**
AC04				IAML		03 30 10.2	
	comp=E,999nm,0.1s						
AC04	**Llanos de Chal**	**1.77**	**17**		**Pn**	**03 29 48.5**	**+1.3**
GO03	**Copiap**	**2.62**	**29**	*e*P	**Pn**	**03 30 00.2**	**+1.1**
GO03				*i* S	**Sn**	**03 30 30.9**	**+1.3**
GO03				IAML		03 30 44.7	
	comp=N,819nm,0.5s						
GO03	**Copiap**	**2.62**	**29**		**Pn**	**03 30 00.5**	**+1.4**
VA03	**San Esteban**	**3.01**	**162⇑**	*i*P	**Pn**	**03 30 06.0**	**+1.5**
VA03				*i* S	**Sn**	**03 30 41.0**	**+1.7**
VA03				IAML		03 30 47.0	
	comp=E,690nm,0.5s						
VA03	**San Esteban**	**3.01**	**162**		**Pn**	**03 30 06.1**	**+1.6**
ZON	**Zonda**	**3.04**	**123**	Pn	**Pn**	**03 30 02.7**	**-2.2**
PEL	**Peldehue**	**3.34**	**166**	*i* P	**Pn**	**03 30 10.5**	**+1.5**
PEL				*i* S	**Sn**	**03 30 48.0**	**+0.6**
PEL				IAML		03 31 04.8	
	comp=E,358nm,0.3s						
PEL	**Peldehue**	**3.34**	**166**	Pn	**Pn**	**03 30 09.6**	**+0.7**
MT02	**Curacav**	**3.38**	**173**	*e*P	**Pn**	**03 30 10.2**	**+0.7**
MT02				*i* S	**Sn**	**03 30 48.7**	**+0.4**
MT02				IAML		03 31 01.3	
	comp=N,159nm,0.4s						
MT02				IAML		03 31 03.8	
	comp=E,198nm,0.4s						
MT02	**Curacav**	**3.38**	**173**		**Pn**	**03 30 09.9**	**+0.4**
MT05	**Renca**	**3.57**	**168⇈**	*e*P	**Pn**	**03 30 13.5**	**+1.4**
MT05				*i* S	**Sn**	**03 30 54.6**	**+1.5**
MT05	**Renca**	**3.57**	**168**		**Pn**	**03 30 13.2**	**+1.1**
MT03	**Universidad Ad**	**3.71**	**165**	*e*P	**Pn**	**03 30 15.6**	**+1.4**
MT03				*i* S	**Sn**	**03 30 57.2**	**+0.5**
VA05	**Santo Domingo**	**3.75**	**179**	*i* P	**Pn**	**03 30 14.5**	**0.0**
AC02	**Maricunga**	**3.78**	**37**		**Pn**	**03 30 17.2**	**+1.7**
AC01	**Pan de Azucar**	**3.85**	**14⇊**	*e*P	**Pn**	**03 30 15.7**	**-0.3**
AC01	**Pan de Azucar**	**3.85**	**14**	Pn	**Pn**	**03 30 15.2**	**-0.8**
MT09	**Talagante**	**3.91**	**172**	*e*P	**Pn**	**03 30 18.0**	**+1.2**
MT09				*i* S	**Sn**	**03 31 01.0**	**-0.5**
LMEL	**Las Melosas**	**4.12**	**163**	*e*P	**Pn**	**03 30 22.2**	**+2.3**
LMEL				*i* S	**Sn**	**03 31 08.0**	**+1.0**
BO02	**Sierra Bellavi**	**4.93**	**172**	*i* P	**Pn**	**03 30 31.6**	**+0.7**
BO02				*i* S	**Sn**	**03 31 25.0**	**-1.7**
BO02	**Sierra Bellavi**	**4.93**	**172**	Pn	**Pn**	**03 30 31.7**	**+0.7**
GO02	**Mina Guanaco**	**5.06**	**22**	*i* P	**Pn**	**03 30 32.9**	**+0.1**
GO02				*i* S	**Sn**	**03 31 30.3**	**0.0**
GO02	**Mina Guanaco**	**5.06**	**22**	Pn	**Pn**	**03 30 33.0**	**+0.1**
PB14	**IPOC Station P**	**5.37**	**12**	Pn	**Pn**	**03 30 36.6**	**-0.5**
BI02	**San Fabin de**	**6.75**	**177**	Pn	**Pn**	**03 30 55.9**	**+0.1**
PB15	**IPOC Station P**	**6.95**	**17**		**Pn**	**03 30 57.2**	**-1.5**
BI03	**Tigo**	**7.02**	**189**	Pn	**Pn**	**03 30 58.2**	**-1.2**
PB06	**IPOC Station P**	**7.41**	**15**	Pn	**Pn**	**03 31 03.9**	**-1.0**
LVC	**Limon Verde**	**7.67**	**19**	Pn	**Pn**	**03 31 08.4**	**-0.3**
PB01	**IPOC Station P**	**9.03**	**13**	Pn	**Pn**	**03 31 24.9**	**-2.3**

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*IDC **27** 03:39:01.4±0.5, 1˚97N×96˚80E, h0km, mb4.6/29, mb1 4.7/32, mb1mx4.5/51, mbtmp4.6/32, ML4.4/2, MS4.2/21, Ms1 4.3/21, ms1mx4.1/42, Error ellipse: s-maj=14.5km s-min=10.3km az=41.0*
*BJI **27** 03:39:02.0±0.0, 1˚70N×96˚76E, h31km, mB5.3/32, mb4.9/56, Ms4.8/33, Ms7 4.6/34*
*KLM **27** 03:39:04, 1˚88N×96˚54E, h19km, mb4.9*
*GCMT **27** 03:39:04.0±0.5, 1˚51N±0˚03×96˚78E±0˚03, h37km±1km, MW5.0/58, Moment Tensor Solution. s36,c44; s58,c76; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.53±.26; Mθθ=-2.25±.15; Mφφ=0.28±.18; Mrθ=1.24±.13; Mθφ=1.59±.09; Mφr=-1.17±.18; Best double couple: Mw3.31500×10^16^ NP1:φs=288.00000°, δ31.00000°, λ73.00000°. NP2: φs=128.00000°, δ61.00000°, λ100.00000°. Principal axes: T 3.0440, Plg72.0000°, Azm62.0000°; N 0.5380, Plg9.0000°, Azm303.0000°; P -3.5860, Plg15.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **27** 03:39:05.7±0.8, 2˚N±2˚×9˚7E±˚, h29km±7km, M4.9/28, mB5.4/12, mb4.9/28, MLv5.0/15, Mw(mB)4.8/12*
*NEIC **27** 03:39:06.0±1.2, 2.˚00N±0˚06×96˚79E±0˚06, h29km±3km, mb4.9/82, Error ellipse: s-maj=10.3km s-min=6.8km*

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az=54.0
ISC 27 03:39:06.4±1.0, 1˚97N±0˚04×96˚80E±0˚04, h33km±4km, n279, σ1§12/275, mb4.8/103, MS4.4/28, 3C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.02**	**131**		**Pn**	**03 39 24.9**	**+0.5**
GSI	**Gunungsitoli**	**1.02**	**131**	P	**Pb**	**03 39 25.1**	**-0.4**
GSI				S	**Sb**	**03 39 39.0**	**+0.4**
TPTI		**1.34**	**16**	P	**Pn**	**03 39 28.6**	**-0.2**
TPTI				S	**Sb**	**03 39 47.5**	**-0.2**
RPSI	**Rantau Prapat**	**2.24**	**71**	Pn	**Pn**	**03 39 41.9**	**+0.7**
RPSI	**Rantau Prapat**	**2.24**	**71**		**Pn**	**03 39 41.5**	**+0.4**
RPSI					**Sn**	**03 40 08.3**	**+0.6**
PSI	**Prapat**	**2.27**	**69**	Pn	**Pn**	**03 39 41.5**	**-0.2**
	3.5nm,0.3s,baz=187,slow=0.2,SNR=72						
PSI				Sn	**Sn**	**03 40 08.3**	**-0.5**
	51nm,0.3s,baz=180,slow=19,SNR=4.9						
MLSI	**Meulaboh, Aceh**	**2.32**	**350**	P	**Pn**	**03 39 41.2**	**-1.1**
MLSI				S	**Sn**	**03 40 11.1**	**+1.5**
TSI	**Tuntungan**	**2.33**	**49**	P	**Pn**	**03 39 44.7**	**+2.3**
PBSI	**Pulau Batu**	**2.49**	**144**	P	**Pn**	**03 39 45.9**	**+1.2**
PBSI				S	**Sn**	**03 40 13.2**	**-0.8**
MNSI	**Mandailing Nat**	**3.01**	**113**	P	**Pn**	**03 39 53.4**	**+1.6**
LHMI	**Lhok Sumawe**	**3.24**	**3**	Pn	**Pn**	**03 39 54.8**	**-0.2**
LHMI	**Lhok Sumawe**	**3.24**	**3**	P	**Pn**	**03 39 55.4**	**+0.4**
SISI	**Saibi**	**3.99**	**145**	P	**Pn**	**03 40 06.2**	**+0.9**
BKNI	**Bangkinang**	**4.54**	**111**		**Pn**	**03 40 13.8**	**+1.0**
BKNI	**Bangkinang**	**4.54**	**111**	P	**Pn**	**03 40 14.4**	**+1.6**
IPM	**Ipoh**	**4.90**	**59**	Pn	**Pn**	**03 40 18.6**	**+0.8**
IPM	**Ipoh**	**4.90**	**59**	P	**Pn**	**03 40 20.0**	**+2.2**
KULM	**Kulim**	**5.06**	**49**	Pn	**Pn**	**03 40 20.4**	**+0.3**
KULM	**Kulim**	**5.06**	**49**	P	**Pn**	**03 40 21.0**	**+1.0**
JRMM	**Jerantut**	**5.98**	**71**	P	**Pn**	**03 40 34.0**	**+1.4**
PKDT	**Phuket**	**6.08**	**14**	P	Pn	03 40 39.7	+5.6
	0.8nm,77nm,0.8s						
KRJI	**Kerinci**	**6.16**	**131**	P	**Pn**	**03 40 38.3**	**+3.1**
KRAB	**Krabi**	**6.65**	**21**	P	**Pn**	**03 40 42.0**	**+0.1**
	6.8nm18μm2μm,0.7s						
KSI	**Kapahiang**	**8.04**	**134**	P	**Pn**	**03 40 59.9**	**-1.1**
	160nm,0.9s						
MNAI	**Manna**	**8.79**	**136**	Pn	**Pn**	**03 41 12.0**	**+0.7**
MNAI	**Manna**	**8.79**	**136**	P	**Pn**	**03 41 11.0**	**-0.3**
	3μm96nm,1.0s						
LHSI	**Lahat**	**8.85**	**131**	P	**Pn**	**03 41 13.7**	**+1.7**
	85nm,0.9s						
MDSI	**Maura Dua**	**9.77**	**131**	P	**Pn**	**03 41 23.2**	**-1.5**
	1μm61nm,0.9s						
KLSI		**10.32**	**130**	P	**Pn**	**03 41 32.5**	**+0.3**
	21nm,0.9s						
KASI	**Kota Agung**	**10.70**	**134**	P	**Pn**	**03 41 35.7**	**-1.7**
	43nm,0.9s						
TPI	**Tanjungpandan**	**11.82**	**113**	P	**Pn**	**03 41 55.4**	**+2.6**
	2μm38nm,1.0s						
SRAK	**Srakaew**	**13.04**	**23**	P	**P**	**03 42 15.1**	**-4.3**
	4μm323nm,0.7s						
LEM	**Lembang**	**13.89**	**129**	LR	LR	03 48 29.9	
	comp=Z,399nm,19.5s,baz=234,slow=41						
CHAI	**Chaiyaphum**	**14.76**	**20**	P	**P**	**03 42 40.1**	**+1.6**
	2μm36nm,0.9s						
STKI	**Sintang**	**14.79**	**97**	P	**P**	**03 42 39.6**	**+0.7**
DLV	**T Lat**	**15.24**	**49**	Pn	**Pn**	**03 42 38.7**	**-0.8**
DLV				IAmb	IAmb	03 42 45.2	
	comp=Z,52nm,0.8s						
SBUM	**Sibu**	**15.41**	**88**		**Pn**	**03 42 41.8**	**+0.2**
SBUM	**Sibu**	**15.41**	**88**	P	**P**	**03 42 44.0**	**-1.8**
KHON	**Khomkaen**	**15.46**	**22**	P	**P**	**03 42 47.7**	**+1.4**
	comp=Z,67nm,0.8s						
PHIT	**Phitsanulok**	**15.54**	**13**	P	**P**	**03 42 47.9**	**+0.8**
	comp=Z,165nm,0.8s						
SUKH	**Sukhothai**	**15.66**	**10**	P	**Pn**	**03 42 45.1**	**+0.3**
	comp=Z,44nm,0.7s						
UBPT	**Khong Chiam**	**15.75**	**32**	P	P	03 42 58.3	+8.8
	comp=Z,11nm,1.1s						
UBPT	**Khong Chiam**	**15.75**	**32**	Pn	**Pn**	**03 42 45.3**	**-0.6**
UTTA	**Uttaradit**	**16.10**	**13**	P	**Pn**	**03 42 50.0**	**-0.4**
	comp=Z,43nm,0.7s						
MHMT	**Maesarieng**	**16.14**	**4**	P	**Pn**	**03 42 52.3**	**+1.3**
	comp=Z,37nm,0.8s						
CM05	**Chiang Mai Arr**	**16.46**	**7**	P	**Pn**	**03 42 55.5**	**+0.4**
	comp=Z,223nmcomp=Z,36nm,0.8s						
CM04	**Chiang Mai Arr**	**16.47**	**7**	P	**Pn**	**03 42 56.0**	**+0.9**
	comp=Z,374nmcomp=Z,52nm,0.8s						
CM13	**Chiang Mai Arr**	**16.48**	**7**	P	**Pn**	**03 42 55.6**	**+0.4**
	comp=Z,328nmcomp=Z,47nm,0.8s						
CM01	**Chiang Mai Arr**	**16.49**	**7**	P	**Pn**	**03 42 56.5**	**+1.2**
	comp=Z,322nmcomp=Z,45nm,0.8s						
CM02	**Chiang Mai Arr**	**16.50**	**7**	P	**P**	**03 42 57.1**	**-0.7**
	comp=Z,277nmcomp=Z,42nm,0.8s						
CM09	**Chiang Mai Arr**	**16.51**	**7**	P	**P**	**03 42 57.0**	**-1.1**
	comp=Z,342nmcomp=Z,51nm,0.8s						
CM15	**Chiang Mai Arr**	**16.51**	**7**	P	**P**	**03 42 58.0**	**-0.1**
	comp=Z,44nm,0.8s						
CM31	**Chiang Mai Arr**	**16.52**	**7**	P	**P**	**03 42 57.8**	**-0.3**
	comp=Z,1μm,0.8s						
CM31	**Chiang Mai Arr**	**16.52**	**7**	Pn	**Pn**	**03 42 53.9**	**-1.9**
CMAR	**Chiang Mai Arr**	**16.52**	**7**	Pn	**Pn**	**03 42 54.0**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=198,slow=12,SNR=73						
CMAR				Lg	Lg	03 47 46.5	
	comp=Z,0.4nm,0.3s,baz=199,slow=30,SNR=1.8						
CMAR				LR	LR	03 49 32.3	
	comp=Z,968nm,20.6s,baz=232,slow=38						
CMAR	**Chiang Mai Arr**	**16.52**	**7**	Pn	**Pn**	**03 42 55.7**	**-0.1**
CM36	**Chiang Mai Arr**	**16.60**	**8**	P	**P**	**03 42 58.0**	**-1.0**
LAMP	**Lampang**	**16.68**	**9**	P	**Pn**	**03 42 57.7**	**-0.1**
	comp=Z,894nmcomp=Z,34nm,0.8s						
CM32	**Chiang Mai Arr**	**16.70**	**7**	P	**P**	**03 43 00.0**	**-0.1**
CM35	**Chiang Mai Arr**	**16.77**	**8**	P	**Pn**	**03 42 58.0**	**-0.8**
CHTO	**Chiang Mai**	**16.87**	**7**		**Pn**	**03 42 58.1**	**-2.1**
CM33	**Chiang Mai Arr**	**16.88**	**7**	P	**Pn**	**03 42 59.0**	**-1.3**
PALK	**Pallekele**	**16.89**	**289**	Pn	**Pn**	**03 42 58.5**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=141,slow=8.0,SNR=1.5						
PALK				LR	LR	03 48 40.7	
	comp=Z,1μm,21.6s,baz=207,slow=34						
PALK	**Pallekele**	**16.89**	**289**		**P**	**03 43 01.7**	**-0.5**
CM34	**Chiang Mai Arr**	**16.93**	**8**	P	**Pn**	**03 43 00.0**	**-1.0**
MTKI	**Muara Teweh, K**	**18.32**	**99**	P	**Pn**	**03 43 20.6**	**+2.4**
	comp=Z,61nm,0.5s						
BBKI	**Banjar Baru**	**18.82**	**107**	P	**P**	**03 43 23.5**	**0.0**
	comp=Z,4μmcomp=Z,31nm,0.9s						
KMMI	**Kalianget**	**19.33**	**118**	P	**Pn**	**03 43 30.2**	**-0.2**
	comp=Z,54nm,0.9s						
KKM	**Kota Kinabalu**	**19.78**	**78**	P	**P**	**03 43 34.5**	**+0.3**
KKM				IAmb	IAmb	03 43 38.8	
	comp=Z,63nm,0.9s						
ABJI	**Asem Bagus**	**19.91**	**119**	P	Pn	03 43 47.4	+10
BKB	**Balikpapan**	**20.34**	**99**	P	**P**	**03 43 39.3**	**-0.9**
BKB	**Balikpapan**	**20.34**	**99**	P	Pn	03 43 42.3	-0.1
	comp=Z,3μmcomp=Z,438nm,0.9s						
SLVN	**Son La**	**20.45**	**19**	P	**P**	**03 43 40.5**	**-0.9**
SAIH	**SAIHA**	**20.73**	**350**	*e*P	**P**	**03 43 43.0**	**-1.5**
SAIH				IAmb	IAmb	03 43 44.8	
	comp=Z,20nm,0.7s						
SRBI	**Singaraja**	**20.90**	**119**	P	Pn	03 43 53.2	+4.4
	comp=Z,2μmcomp=Z,56nm,0.9s						
QIZ	**Qiongzhong**	**21.23**	**36**	P	**P**	**03 43 51.0**	**+1.3**
QIZ				S	Sn	03 47 50.5	-1.5
QIZ				LR	LR		
	comp=Z,1μm,18.1s						
QIZ				LR	LR		
	comp=Z,1μm,15.7s						
QIZ				LR	LR		
	comp=Z,1μm,16.2s						
MYLDM	**Lahad Datu**	**21.89**	**81**	P	**P**	**03 43 57.2**	**+0.5**
TWSI	**Taliwang, Sumb**	**22.66**	**118**	P	**P**	**03 44 06.5**	**+1.3**
	comp=Z,10nm,0.8s						
PLAI	**Plampang**	**23.50**	**117**	P	**P**	**03 44 12.4**	**-1.2**
	comp=Z,23nm,0.9s						
TTSI	**Tana Toraja**	**23.54**	**102**	P	P	03 44 23.0	+9.0
HYB	**Hyderabad**	**23.61**	**312**	*i* P	**P**	**03 44 16.0**	**+1.4**
HYB	**Hyderabad**	**23.61**	**312**	*e*P	**P**	**03 44 14.8**	**+0.1**
HYB				IAmb	IAmb	03 44 22.4	
	comp=Z,19nm,1.2s						
SPSI	**Sidrap Palu**	**23.70**	**104**	P	**P**	**03 44 16.2**	**+0.7**
	comp=Z,20nm,0.9s						
KMI	**Kunming**	**23.72**	**13**	⇑P	**P**	**03 44 16.3**	**+0.4**
KMI				pP	pP	03 44 24.8	-0.4
KMI				pmax	pmax		
	comp=Z,28nm,0.8s						
KMI				pmax	pmax		
	comp=Z,390nm,5.5s						
KMI				LR	LR		
	comp=Z,860nm,14.1s						
KMI				LR	LR		
	comp=Z,560nm,11.3s						
KMI				LR	LR		
	comp=Z,870nm,15.5s						
SHL	**Shillong**	**23.93**	**349**	*e*P	**P**	**03 44 15.4**	**-2.5**
SHL				IAmb	IAmb	03 44 18.4	
	comp=Z,30nm,1.0s						
SHL	**Shillong**	**23.93**	**349**	P	**P**	**03 44 15.8**	**-2.0**
SHL				IAmb	IAmb	03 44 19.6	
	comp=Z,55nm,1.0s						
KAPI	**Kappang**	**23.95**	**107**	P	**P**	**03 44 16.0**	**-1.9**
	comp=Z,19nm,0.9s,baz=297,slow=11,SNR=14						
KAPI	**Kappang**	**23.95**	**107**	P	**P**	**03 44 18.1**	**+0.2**
KAPI				IAmb	IAmb	03 44 20.9	
	comp=Z,23nm,1.0s						
TOLI2	**Tolitoli**	**23.98**	**92**	IAmb	IAmb	03 44 28.1	
	comp=Z,34nm,0.8s						
BNSI	**Bone**	**24.13**	**105**	P	**P**	**03 44 21.2**	**+1.6**
	comp=Z,720nmcomp=Z,37nm,1.0s						
BKSI	**Bulukumba**	**24.39**	**107**	P	**P**	**03 44 23.5**	**+1.5**
H08S2	**Diego Garcia H**	**26.07**	**248**	T	T	04 11 28.9	
	baz=69,slow=76,SNR=308						
H08S3	**Diego Garcia H**	**26.07**	**248**	T	T	04 11 29.0	
	baz=69,slow=76,SNR=1457						
H08S1	**Diego Carcia H**	**26.08**	**248**	T	T	04 11 25.1	
	baz=69,slow=76,SNR=113						
GYA	**Guiyang**	**26.13**	**20**	⇑P	**P**	**03 44 39.3**	**+1.6**
GYA				pmax	pmax		
	comp=Z,16nm,0.9s						
GYA				LR	LR		
	comp=Z,1μm,14.4s						
ODAN	**Odare**	**26.35**	**341**	*e*P	**P**	**03 44 40.5**	**+0.7**
	comp=Z,71nm,0.8s						
RAMN	**Ramite**	**26.70**	**339**	*e*P	**P**	**03 44 44.0**	**+1.0**
	comp=Z,59nm,0.8s						
TAPN	**Taplejung**	**26.70**	**342**	*e*P	**P**	**03 44 44.1**	**+1.0**
	comp=Z,71nm,0.8s						
JIRN	**Jiri**	**27.49**	**339**	*e*P	**P**	**03 44 51.2**	**+0.9**
	comp=Z,62nm,0.9s						
PKI	**Pulchoki**	**27.70**	**338**	*e*P	**P**	**03 44 52.3**	**+0.2**
	comp=Z,14nm,0.6s						
PKIN	**Phulchoki**	**27.71**	**338**	*e*P	**P**	**03 44 53.1**	**+1.0**
GUN	**Gumba**	**27.83**	**339**	*e*P	**P**	**03 44 54.0**	**+0.7**
DMN	**Daman**	**27.85**	**337**	*e*P	**P**	**03 44 53.9**	**+0.6**
	comp=Z,30nm,0.7s						
KKN	**Kakani**	**27.94**	**338**	*e*P	**P**	**03 44 54.8**	**+0.7**
LSA	**Lhasa**	**28.10**	**350**	P	**P**	**03 44 55.5**	**-0.3**
LSA				pmax	pmax		
	comp=Z,94nm,0.9s						
LSA	**Lhasa**	**28.10**	**350**	P	**P**	**03 44 55.9**	**+0.1**
LSA				IAmb	IAmb	03 44 57.5	
	comp=Z,21nm,0.9s						
BHPL	**Bhopal**	**28.29**	**320**	*e*P	**P**	**03 44 57.4**	**+0.3**
BHPL				IAmb	IAmb	03 45 05.6	
	comp=Z,8.6nm,0.3s						
GKN	**Gorkha**	**28.38**	**337**	*e*P	**P**	**03 44 58.7**	**+0.7**
	comp=Z,28nm,0.6s						
BATI	**Baumata**	**29.35**	**115**	P	**P**	**03 45 05.2**	**-1.4**
	comp=Z,19nm,0.5s,baz=315,slow=8.6,SNR=2.8						
BATI				LR	LR	03 59 28.8	
	comp=Z,1μm,18.2s,baz=264,slow=42						
CD2	**Chengdu**	**29.53**	**12**	*e*P	**P**	**03 45 08.5**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				LR	LR		
	comp=Z,1μm,18.6s						
CD2				LR	LR		
	comp=Z,2μm,16.7s						
CD2				LR	LR		
	comp=Z,1μm,16.7s						
SOEI	**Soe**	**29.73**	**114**	P	**P**	**03 45 08.2**	**-1.8**
ENH	**Enshi**	**30.61**	**22**	P	**P**	**03 45 16.7**	**-0.9**
ENH				IAmb	IAmb	03 45 17.5	
	comp=Z,14nm,0.9s						
YULB	**Yu-li**	**31.89**	**46**	P	**P**	**03 45 29.1**	**+0.2**
XAN	**Xi'an**	**33.86**	**18**	P	**P**	**03 45 45.0**	**-1.0**
XAN				pP	pP	03 45 53.5	-2.1
XAN				pmax	pmax		
	comp=Z,23nm,0.7s						
XAN	**Xi'an**	**33.86**	**18**	P	**P**	**03 45 44.9**	**-1.2**
XAN				IAmb	IAmb	03 45 46.0	
	comp=Z,14nm,0.8s						
SMLA	**Simla**	**34.44**	**329**	*e*P	**P**	**03 45 51.3**	**+0.3**
SMLA				IAmb	IAmb	03 45 52.5	
	comp=Z,11nm,0.8s						
LZH	**Lanzhou**	**34.57**	**10**	*e*P	**P**	**03 45 50.5**	**-1.8**
LZH				pP	pP	03 45 58.5	-3.4
LZH				sP	sP	03 46 02.8	-2.4
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
LZH				LR	LR		
	comp=Z,450nm,12.5s						
LZH				LR	LR		
	comp=Z,2μm,15.2s						
LZH				LR	LR		
	comp=Z,460nm,15.7s						
SIJI	**Sorong**	**34.57**	**94**	P	**P**	**03 45 51.1**	**-1.4**
	comp=Z,6.2nm,0.8s,baz=304,slow=11,SNR=3.9						
FITZ	**Fitzroy Crossi**	**34.70**	**126**	P	**P**	**03 45 54.0**	**+0.6**
	comp=Z,4.6nm,0.9s,baz=178,slow=6.2,SNR=4.2						
FITZ				LR	LR	04 01 54.1	
	comp=Z,306nm,19.5s,baz=313,slow=40

comp=Z,17nm,0.9s
DL2 Dalian 43.19 29 P P 03 47 05.0 +0.7
DL2 eS S 03 53 32.5 +3.6
DL2 pmax pmax
comp=Z,47nm,0.7s
DL2 LR LR
comp=Z,290nm,14.7s
DL2 LR LR
comp=Z,660nm,16.5s
DL2 LR LR
comp=Z,570nm,19.1s
JSU Suzuyama 43.25 44 P P 03 47 05.4 +0.5
JSU IAmb IAmb 03 47 06.7
comp=Z,19nm,0.7s
SOCY Socotra 43.62 286 P P 03 47 09.1 +0.9
SHLS Shalkode 43.83 342 eP P 03 47 09.2 -0.4
comp=Z,15nm,0.7s,baz=342
SHLS eS S 03 53 37.7 -0.7
baz=342
UZB Uzynbulak 43.96 341 eP P 03 47 11.3 +0.7
comp=Z,7.5nm,0.6s,baz=341
UZB eS S 03 53 41.7 +1.3
baz=341
SATY Saty 44.09 341 eP P 03 47 12.3 +0.7
comp=Z,13nm,0.8s,baz=341
SATY eS S 03 53 43.5 +1.3
baz=341
JAY Jayapura 44.12 96 LR LR 04 09 09.6
comp=Z,128nm,18.6s,baz=198,slow=41
FORT Forrest 44.12 140 P P 03 47 12.8 +0.9
ULHL Ulahol 44.14 338 P P 03 47 13.0 +0.9
SNR=13
ASAR Alice Springs 44.17 127 P P 03 47 12.8 +0.3
comp=Z,9.0nm,0.9s,baz=306,slow=7.8,SNR=67
ASAR PcP PcP 03 48 57.0 0.0
comp=Z,1.3nm,0.8s,baz=315,slow=3.3,SNR=3.2
ASAR LR LR 04 08 17.3
comp=Z,253nm,19.7s,baz=302,slow=40
AS31 Alice Springs 44.17 127 P P 03 47 12.5 0.0
KPKS Kokpek 44.36 341 eP P 03 47 14.1 +0.3
comp=Z,20nm,1.2s,baz=341
JNU Nakatsue 44.50 42 P P 03 47 14.9 -0.1
comp=Z,19nm,0.8s,baz=197,slow=4.7,SNR=7.0
JNU LR LR 04 07 56.9
comp=Z,415nm,18.2s,baz=244,slow=39
TNSS Tian-Shan 44.57 339 eP P 03 47 16.1 +0.3
baz=339
MDOK Medeo 44.64 339 eP P 03 47 16.8 +0.7
baz=339
AAA Alma-Ata 44.73 339 eP P 03 47 17.3 +0.6
baz=339
UCH Uchtor 44.79 336 P P 03 47 18.9 +1.3
SNR=20
TKM2 Tokmak 2 44.96 338 P P 03 47 19.9 +1.2
SNR=10
AML Almayashu 45.04 336 P P 03 47 20.9 +1.3
SNR=20
AAK Ala-Archa 45.15 337 P P 03 47 20.4 +0.3
comp=Z,1.9nm,0.5s,baz=178,slow=5.7,SNR=10
AAK Ala-Archa 45.15 337 P P 03 47 20.7 +0.6
AAK IAmb IAmb 03 47 39.9
comp=Z,9.3nm,0.9s
CHKK Chushkaly 45.27 340 eP P 03 47 21.6 +0.7
baz=340
KSAR Wonju Array Be 45.42 35 P P 03 47 21.6 -0.5
KSRS Korea Array 45.45 35 P P 03 47 22.2 -0.1
comp=Z,12nm,0.8s,baz=225,slow=9.1,SNR=54
KSRS LR LR 04 08 21.2
comp=Z,441nm,18.2s,baz=218,slow=39
KS19 Wonju Array Si 45.45 35 P P 03 47 22.0 -0.4
KS19 IAmb IAmb 03 47 23.2
comp=Z,19nm,0.8s
EKS2 Erkin-Say 45.45 336 P P 03 47 24.0 +1.5
SNR=7.6
KUU Kurty 45.53 339 eP P 03 47 22.7 -0.3
comp=Z,38nm,1.1s,baz=339
KUU eS S 03 54 03.1 +0.2
baz=339
USP Ospenovka 45.67 337 P P 03 47 25.3 +1.2
SNR=11
SGDS Sogindy 45.78 337 eP P 03 47 25.1 +0.1
baz=337
TDK Taldyqorghan 45.83 342 eP P 03 47 25.4 +0.1
comp=Z,13nm,0.7s,baz=342
MK31 Makanchi Array 46.41 346 IAmb IAmb 03 47 32.1
comp=Z,18nm,0.8s
MKAR Makanchi Array 46.41 346 P P 03 47 29.9 +0.1
comp=Z,24nm,0.9s,baz=159,slow=7.5,SNR=173
MKAR LR LR 04 10 29.1
comp=Z,332nm,21.4s,baz=159,slow=41
MKAR Makanchi Array 46.41 346 P P 03 47 29.3 -0.5
SONM Songino Array 46.44 9 P P 03 47 30.2 +0.1
comp=Z,8.2nm,0.7s,baz=190,slow=8.3,SNR=33
SONM PcP PcP 03 49 05.1 +0.5
comp=Z,4.2nm,0.6s,baz=200,slow=3.0,SNR=6.0
SONM Songino Array 46.44 9 P P 03 47 30.2 +0.1
SONM IAmb IAmb 03 47 31.9
comp=Z,8.5nm,0.9s
ZSN Zaisan 46.47 349 eP P 03 47 31.0 +0.7
baz=349
MAKZ Makanchi 46.49 346 P P 03 47 30.6 +0.1
ULN Ulaanbaatar 46.57 9 P P 03 47 31.5 +0.3
ULN IAmb IAmb 03 47 32.2
comp=Z,16nm,1.3s
IUG Iuzhnay 46.66 333 eP P 03 47 32.5 +0.5
comp=Z,9.9nm,0.8s,baz=333
DZA Taraz 46.67 334 eP P 03 47 31.9 0.0
baz=334
JMN Monobe 46.89 43 P P 03 47 34.6 +0.7
KK31 Karatay Array 47.20 334 IAmb IAmb 03 47 48.6
comp=Z,8.0nm,0.8s
KKAR Karatay Array 47.20 334 P P 03 47 36.5 +0.5
BTLS Baital 47.35 338 eP P 03 47 37.0 -0.2
baz=338
COEN Coen 48.60 110 P P 03 47 47.4 +0.1
COEN IAmb IAmb 03 47 48.8
comp=Z,7.3nm,0.9s
JWT Wachi 48.80 43 IAmb IAmb 03 47 49.8
comp=Z,12nm,0.7s
CN2 Changchun 48.81 27 eP P 03 47 47.8 -0.7
CN2 ePP PP 03 49 40.8 -1.1
CN2 eS S 03 54 47.5 -2.0
CN2 eSS SS 03 58 13.3 -7.1
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,650nm,13.0s
CN2 LR LR
comp=Z,450nm,13.0s
CN2 LR LR
comp=Z,940nm,15.0s
TLY Talaya 49.87 6 P P 03 47 56.8 +0.3
TLY IAmb IAmb 03 48 06.5
comp=Z,6.7nm,0.7s
SEM Semipalatinsk 50.27 346 eP P 03 47 59.4 -0.4
comp=Z,7.5nm,0.8s,baz=346
GEYT Alibeck 50.37 320 P P 03 48 01.0 +0.5
comp=Z,6.3nm,0.7s,baz=140,slow=7.8,SNR=10
GEYT Alibeck 50.37 320 P P 03 48 00.5 -0.1
GEYT IAmb IAmb 03 48 08.0
comp=Z,5.9nm,0.7s
GYA0B ALIBECK ARRAY 50.37 320 P P 03 48 00.5 -0.1
GYA0B IAmb IAmb 03 48 08.0
comp=Z,10nm,0.7s
MANU Manus Island 50.71 94 P P 03 48 03.1 -0.4
MANU IAmb IAmb 03 48 04.5
comp=Z,13nm,0.8s
KURBB Kurchatov Arra 50.89 345 P P 03 48 04.6 +0.5
comp=Z,12nm,0.7s,baz=167,slow=7.1,SNR=136
HIA Hailar 51.05 19 IAmb IAmb 03 48 06.7
comp=Z,16nm,0.9s
MAJO Matsushiro 51.40 43 P P 03 48 08.6 +0.3
MAJO IAmb IAmb 03 48 19.3
comp=Z,12nm,0.8s
MAT Matsushiro 51.40 43 P P 03 48 07.7 -0.6
MAT eS S 03 55 26.4 +0.5
MDJ Mudanjiang 51.40 30 P P 03 48 10.5 +2.4
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ pmax pmax
comp=Z,250nm,5.0s
MJAR Matsushiro Arr 51.40 43 P P 03 48 07.7 -0.5
comp=Z,6.0nm,0.8s,baz=208,slow=6.1,SNR=12
MJAR LR LR 04 11 11.4
comp=Z,281nm,18.8s,baz=250,slow=38
MJAR Matsushiro Arr 51.40 43 P P 03 48 08.3 0.0
PMG Port Moresby 51.42 104 LR LR 04 13 46.0
comp=Z,121nm,19.4s,baz=263,slow=40
PMG Port Moresby 51.42 104 P P 03 48 09.1 +0.4
USA0B Ussuriysk Arra 52.32 32 P P 03 48 15.0 0.0
USA0B IAmb IAmb 03 48 29.1
comp=Z,8.2nm,0.9s
USRK Ussuriysk Ar. 52.32 32 P P 03 48 15.3 +0.3
comp=Z,4.7nm,0.8s,baz=222,slow=3.4,SNR=13
USRK Ussuriysk Ar. 52.32 32 P P 03 48 15.2 +0.2
ZAA0 Zalesovo Array 52.74 351 P P 03 48 18.2 +0.3
ZALV Zalesovo Beam 52.74 351 P P 03 48 18.1 +0.2
comp=Z,37nm,0.7s,baz=179,slow=6.5,SNR=133
ZALV LR LR 04 13 44.3
comp=Z,180nm,18.4s,baz=178,slow=40
ZALV Zalesovo Beam 52.74 351 P P 03 48 17.8 -0.1
CTAO Charters Tower 53.20 117 P P 03 48 22.4 +0.5
RAYN Ar Rayn 54.05 298 P P 03 48 28.8 +0.7
RAYN IAmb IAmb 03 48 38.3
comp=Z,12nm,0.8s
STKA Stephens Creek 54.16 132 P P 03 48 29.1 +0.4
comp=Z,5.7nm,0.9s,baz=327,slow=8.3,SNR=8.6
STKA LR LR 04 15 09.0
comp=Z,257nm,18.6s,baz=313,slow=40
STKA Stephens Creek 54.16 132 P P 03 48 29.8 +1.1
BRVK Borovoye 55.46 341 P P 03 48 37.2 -0.6
BRVK IAmb IAmb 03 48 46.9
comp=Z,11nm,0.8s
KLR Kul'dur 55.75 27 P P 03 48 40.3 +0.4
comp=Z,8.2nm,0.7s,baz=242,slow=7.6,SNR=41
ABKAR Akbulak array 56.65 332 P P 03 48 45.9 -0.5
ASAJ Asahikawa 58.29 37 P P 03 48 58.4 +0.4
comp=Z,11nm,0.9s,baz=47,slow=4.3,SNR=5.2
KMBO Kilima Mbogo 59.62 268 P P 03 49 07.9 -0.2
comp=Z,0.3nm,0.3s,baz=60,slow=10,SNR=1.1
YSS Yuzh-Sakhalins 59.94 35 P P 03 49 09.4 0.0
GNI Garni 60.47 316 P P 03 49 13.8 +0.4
GNI IAmb IAmb 03 49 20.1
comp=Z,7.5nm,0.8s
MARD Mardin 62.23 312 P P 03 49 25.5 +0.2
ARU Arti 62.33 337 P P 03 49 24.9 -0.5
ARU IAmb IAmb 03 49 25.6
comp=Z,6.7nm,0.9s
KBZ Khabaz 63.23 319 P P 03 49 31.4 -0.3
comp=Z,4.8nm,0.8s,baz=139,slow=5.8,SNR=20
KIV Kislovodsk 63.47 319 P P 03 49 33.1 -0.3
KIV IAmb IAmb 03 49 42.0
comp=Z,8.1nm,0.9s
YAK Yakutsk 64.80 16 P P 03 49 41.1 -0.4
GAZ Gaziantep 64.88 310 P P 03 49 43.3 +0.6
GAZ IAmb IAmb 03 49 53.5
comp=Z,9.2nm,1.0s
TOKA Tokat 66.40 314 P P 03 49 52.4 -0.1
NRIK Noril'sk 67.54 356 P P 03 49 58.4 -0.7
comp=Z,11nm,0.8s,baz=152,slow=5.6,SNR=15
NRIK Noril'sk 67.54 356 P P 03 49 58.6 -0.5
NRIK IAmb IAmb 03 49 59.7
comp=Z,11nm,0.8s
BRTR Keskin Array B 68.30 312 P P 03 50 04.3 -0.4
comp=Z,2.3nm,0.8s,baz=116,slow=7.6,SNR=9.7
BRTR Keskin Array B 68.30 312 P P 03 50 04.0 -0.6
MA2 Magadan 70.82 26 P P 03 50 19.9 +0.3
MA2 IAmb IAmb 03 50 29.2
comp=Z,11nm,0.9s
PETK Petropavlovsk- 71.32 34 P P 03 50 22.2 -0.6
comp=Z,2.8nm,0.7s,baz=251,slow=4.5,SNR=3.6
PETK LR LR 04 25 47.7
comp=Z,168nm,19.3s,baz=217,slow=39
OBN Obninsk 71.76 328 P P 03 50 25.4 +0.1
TIXI Tiksi 72.50 10 P P 03 50 28.6 -0.8
comp=Z,4.0nm,0.5s,baz=194,slow=3.0,SNR=6.4
TIXI Tiksi 72.50 10 P P 03 50 28.9 -0.6
TIXI IAmb IAmb 03 50 42.2
comp=Z,8.2nm,0.8s
KLMR Klimovskoe 72.89 334 eP P 03 50 30.7 -1.3
KLMR AMP 03 50 41.3
comp=Z,16nm,1.3s
MAW Mawson 73.37 193 LR LR 04 20 08.8
comp=Z,246nm,18.7s,baz=23,slow=34
AKASG Malin Array Be 74.41 322 P P 03 50 40.9 -0.2
comp=Z,3.6nm,0.7s,baz=87,slow=4.8,SNR=15
AKASG Malin Array Be 74.41 322 P P 03 50 40.8 -0.3
AKBB Malin Array Si 74.41 322 P P 03 50 40.1 -1.0
AKBB IAmb IAmb 03 50 41.5
comp=Z,5.2nm,0.7s
BURAR Bucovina Array 76.19 319 P P 03 50 51.8 +0.2
KOLS Kolonicke sedl 78.38 320 eP P 03 51 05.4 +1.7
SUW Suwalki 78.82 325 P P 03 51 05.1 -0.9
FINES FINESS Array B 79.14 332 P P 03 51 07.9 +0.3
comp=Z,4.7nm,0.6s,baz=86,slow=7.3,SNR=15
FINES LR LR 04 29 31.0
comp=Z,233nm,20.2s,baz=74,slow=38
ARCES ARCESS Array B 81.68 340 LR LR 04 32 48.4
comp=Z,182nm,18.4s,baz=20,slow=40
GEC2 GERESS Array S 83.98 319 IAmb IAmb 03 51 42.8
comp=Z,10nm,1.4s
GERES GERESS Array B 83.98 319 P P 03 51 33.7 +0.1
comp=Z,2.6nm,0.9s,baz=101,slow=6.9,SNR=16
GERES GERESS Array B 83.98 319 P P 03 51 34.1 +0.5
KHC Kasperske Hory 84.08 319 eP P 03 51 34.0 0.0
WTTA Wattenberg 85.28 317 i P P 03 51 41.3 +1.0
comp=Z,4.6nm,1.0s
WATA Walderalm 85.32 317 i P P 03 51 41.3 +0.8
comp=Z,0.8nm,0.4s
MOTA Moosalm 85.64 317 i P P 03 51 42.4 +0.3
comp=Z,5.0nm,1.3s
RETA Reutte 85.88 317 eP P 03 51 43.7 +0.5
comp=Z,5.1nm,1.2s
FETA Feichten 85.89 317 i P P 03 51 44.0 +0.7
comp=Z,2.7nm,1.1s
NB2 NORSAR Subarra 86.14 331 P P 03 51 43.8 -0.3
comp=Z,1.1nm,0.9s,baz=97,slow=4.6
NOA NORSAR Array B 86.14 331 P P 03 51 43.6 -0.5
comp=Z,1.6nm,0.8s,baz=94,slow=4.9,SNR=5.9
NOA LR LR 04 34 51.0
comp=Z,143nm,19.1s,baz=70,slow=39
DAVA Damuels 86.47 317 eP P 03 51 48.4 +2.2
comp=Z,6.5nm,1.1s
VNDA Vanda 86.65 169 P P 03 51 46.5 +0.2
comp=Z,0.4nm,0.6s,baz=9.4,slow=12,SNR=2.0
VNDA LR LR 04 27 00.9
comp=Z,207nm,18.0s,baz=287,slow=33
GAMB Gambell 88.91 26 P P 03 51 57.2 -0.1
GAMB IAmb IAmb 03 51 59.6
comp=Z,5.2nm,1.0s
TAM Tamanrasset 90.43 293 P P 03 52 06.1 +0.7
TAM IAmb IAmb 03 52 17.2
comp=Z,5.9nm,1.1s
RDOG Red Dog Mine 92.03 22 P P 03 52 11.8 +0.1
RDOG IAmb IAmb 03 52 13.3
comp=Z,5.6nm,1.0s
TORD Torodi Ar. Bea 94.53 283 P P 03 52 24.0 -0.4
comp=Z,0.4nm,0.8s,baz=72,slow=3.5,SNR=2.0
IMAR Indian Mountai 96.03 23 P P 03 52 30.8 +0.6
ILAR Eielson Array 99.15 23 P Pdif 03 52 41.7 -2.6
comp=Z,0.2nm,0.7s,baz=287,slow=4.6,SNR=2.4
ILAR PP PP 03 56 45.0 -1.6
comp=Z,0.5nm,1.0s,baz=294,slow=8.2,SNR=4.6
YKA Yellowknife Ar 111.46 15 PP PP 03 58 18.6 +1.3
comp=Z,0.6nm,1.0s,baz=316,slow=5.9,SNR=5.1
ULM Lac du Bonnet 126.86 10 PKP PKPdf 03 58 06.8 -0.2
comp=Z,3.1nm,0.9s,baz=340,slow=3.2,SNR=5.8
NVAR Mina Array Bea 128.39 35 PKP PKiKP 03 58 11.2 +0.1
comp=Z,1.1nm,0.8s,baz=262,slow=1.5,SNR=7.6
NVAR Mina Array Bea 128.39 35 PKPdf PKiKP 03 58 11.9 +0.8
PDAR Pinedale Array 129.52 25 PKP PKPdf 03 58 12.6 +0.1
comp=Z,0.7nm,0.9s,baz=246,slow=2.6,SNR=4.0
PLCA Paso Flores 139.75 195 PKP PKPdf 03 58 31.4 -0.1
comp=Z,0.9nm,0.8s,baz=90,slow=5.1,SNR=2.1
TXAR Lajitas Array 143.22 31 PKhKP PKPpre 03 58 31.2
comp=Z,1.5nm,1.1s,baz=316,slow=3.8,SNR=4.2
TXAR PKP PKPdf 03 58 37.2 -0.9
comp=Z,1.5nm,0.9s,baz=316,slow=7.0,SNR=13
HPIG 144.01 35 PKPdf PKPdf 03 58 39.3 -0.4
JCT Junction City 144.06 25 PKPdf PKPbc 03 58 38.4 +1.1
143A Socs Landing, 144.65 12 PKPdf PKPbc 03 58 39.6 +0.5
NATX Nacogdoches 144.73 17 PKPdf PKPdf 03 58 40.1 -0.5
146A Union 145.14 9 PKPbc PKPab 03 58 41.0 +0.2
CPUP Villa Florida 145.29 223 PKPbc PKPbc 03 58 41.0 -0.3
comp=Z,2.6nm,0.9s,baz=117,slow=6.0,SNR=4.9
CPUP Villa Florida 145.29 223 PKiKP 03 58 44.2 -1.3
VBMS Vicksburg 145.30 11 PKPbc PKPdf 03 58 42.4 +1.0
152A Waverly Hall 145.52 2 PKPab 03 58 42.9 +0.7
154A Montrose 145.60 360 PKPab 03 58 43.0 +0.6
342A Flagon Creek P 145.72 14 PKPbc PKPab 03 58 44.5 +1.6
344A Westbrook Farm 146.00 12 PKPbc PKPab 03 58 44.8 +0.9
LPAZ La Paz 159.44 225 PKP PKPdf 03 59 03.1 -0.3
comp=Z,0.2nm,0.5s,baz=29,slow=9.4,SNR=1.4
LPAZ PKPbc pPKPdf 03 59 14.3 +0.3
comp=Z,1.6nm,0.8s,baz=116,slow=6.5,SNR=4.8
LPAZ PKPab PKPab 03 59 42.4 +1.2
comp=Z,0.3nm,0.4s,baz=168,slow=9.3,SNR=1.4

JMA 27 03:42:58.7±0.1, 36°.72N×138°.50E, h3km±3km, M0.7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	Matsushiro	0.29	233	P	Pg	03 43 04.8	+0.4
MAT				S	Sg	03 43 08.7	+0.5
MAT	Matsushiro	0.29	233	P	Pg	03 43 04.8	+0.4
MAT				eS	Sg	03 43 08.7	+0.5
MAT	Matsushiro	0.29	233	S	Sg	03 43 08.7	+0.5
JNG	Nsakai	0.45	226	eS	Sg	03 43 13.6	+0.4

JMA 27 03:43:02.8, 36°.42N×138°.06E, h8km±1km, M0.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.04	112	P	Pg	03 43 04.5	0.0
JNG				eS	Sg	03 43 05.7	0.0
MAT	Matsushiro	0.17	44	P	Pg	03 43 06.2	-0.2

DJA 27 03:57:44.5±1.1, 1°S±5°×13°6E±°, h10km, M4.0/5, MLv4.0/5
IDC 27 03:57:47.7±1.5, 1°.20S×136°.06E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.6/39, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=44.0km s-min=25.7km az=84.0
NEIC 27 03:57:52.5±1.1, 1°.3S±0°.1×135°.9E±0°.2, h28km±7km, mb4.0/5, Error ellipse: s-maj=23.3km s-min=18.4km az=112.0
ISC 27 03:57:51.4±0.8, 1°.16S±0°.08×136°.03E±0°.06, h22km±6km, n20, σ2s.01/22, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	Biak	0.08	110	P	Pb	03 57 54.7	-0.8
BAKI				S	Sb	03 58 00.0	+1.8
SRPI	Serui, Papua	0.73	163	P	Pb	03 58 04.5	-1.0
SRPI				S	Sn	03 58 20.7	+3.7
RKPI	Ransiki, Papua	1.88	259	P	Pn	03 58 20.7	-1.6
RKPI				S	Sb	03 58 48.5	+0.3
FAKI	Fak Fak	4.16	245		Pn	03 58 52.3	-1.4
FAKI	Fak Fak	4.16	245	P	Pn	03 58 52.1	-1.6
FAKI				S	Sn	03 59 46.2	+4.5
SIJI	Sorong	4.77	273	Pn	Pn	03 59 00.3	-1.8
	1.7nm,0.3s,baz=214,slow=22,SNR=9.1						
SIJI				Sn	Sn	03 59 59.9	+3.1
	0.5nm,0.3s,baz=250,slow=23,SNR=1.3						
KAPI	Kappang	16.70	256	Pn	Pn	04 01 42.3	-1.9
WB0	Warramunga Arr	18.56	185	P	P	04 02 06.4	-0.5
WB0				IAmb	IAmb	04 02 08.8	
	comp=Z,12nm,1.4s						
WB2	Warramunga Arr	18.74	185	P	P	04 02 08.2	-0.7
WB2				IAmb	IAmb	04 02 18.4	
	comp=Z,22nm,1.5s						
WR0	Warramunga Arr	18.74	184	P	P	04 02 08.4	-0.5
WRA	Warramunga Arr	18.74	185	P	P	04 02 07.5	-1.4
	comp=Z,0.3nm,0.3s,baz=6.8,slow=10,SNR=16						
AS31	Alice Springs	22.46	185	P	P	04 02 47.9	-1.4
AS31				IAmb	IAmb	04 02 49.2	
	comp=Z,2.7nm,0.6s						
ASAR	Alice Springs	22.46	185	P	P	04 02 48.0	-1.3
	comp=Z,7.7nm,0.7s,baz=12,slow=12,SNR=65						
ASAR	Alice Springs	22.46	185	P	P	04 02 47.8	-1.5
H11S3	WAKE ISLAND Hy	35.92	56	T	T	04 42 24.2	
	baz=240,slow=74						
H11S2	WAKE ISLAND Hy	35.93	56	T	T	04 42 20.5	
	baz=240,slow=74						
H11S1	WAKE ISLAND Hy	35.94	56	T	T	04 42 24.7	
	baz=240						
KSAR	Wonju Array Be	39.15	350	P	P	04 05 18.6	+1.1
MKAR	Makanchi Array	66.94	323	P	P	04 08 43.3	+1.0
	comp=Z,0.6nm,0.8s,baz=115,slow=6.2,SNR=4.0						
ILAR	Eielson Array	85.55	25	P	P	04 10 27.3	-0.4
	comp=Z,0.2nm,0.6s,baz=268,slow=5.1,SNR=1.5						

NEIC 27 04:05:26.6±2.0, 0°.34S±0°.07×122°.94E±0°.07, h89km±8km, mb4.2/13, Error ellipse: s-maj=10.6km s-min=9.7km az=113.0
IDC 27 04:05:27.0±2.6, 0°.26S×123°.04E, h96km±26km, mb3.7/9, mb1 3.8/12, mb1mx3.6/35, mbtmp4.1/12, Error ellipse: s-maj=24.4km s-min=13.6km az=60.0
DJA 27 04:05:27.1±0.2, 0°S±2°×12°3E±°, h55km±5km, M4.3/15, mb4.4/7, mB5.0/6, MLv4.3/15, Mw(mB)4.3/6
ISC 27 04:05:26.4±0.7, 0°.32S±0°.04×123°.01E±0°.05, h88km±7km, n56, σ1s.27/66, mb4.1/19, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.75	198		Pn	04 05 43.3	0.0
LUWI				Sn	Sn	04 05 55.1	-0.7
LUWI	Luwuk	0.75	198	P	Pn	04 05 42.9	-0.3
LUWI				S	Sn	04 05 55.2	-0.6
GTOI	Gorontalo	0.95	0	P	Pn	04 05 45.1	-0.3
GTOI				S	Sn	04 05 59.8	+0.3
KMSI	Cibinong	1.32	48	P	Pn	04 05 49.7	-0.1
KMSI				S	Sn	04 06 07.3	-0.1
MRSI	Marisa	1.33	307	P	Pn	04 05 48.3	-1.5
MRSI				S	Sn	04 06 04.6	-2.9
APSI	Ampana	1.48	247	P	Pn	04 05 51.5	-0.2
TOLI2	Tolitoli	2.64	303		Pn	04 06 07.2	+0.1
SANI	Sanana	3.44	120	P	Pn	04 06 16.4	-1.4
SANI				S	Sn	04 06 54.2	-3.4
TTSI	Tana Toraja	4.18	230	P	Pn	04 06 28.9	+1.1
TTSI				S	Sn	04 07 14.7	-0.8
TNTI	Ternate	4.50	76		Pn	04 06 33.5	+1.4
TNTI	Ternate	4.50	76	P	Pn	04 06 34.6	+2.5
SPSI	Sidrap Palu	4.85	222	P	Pn	04 06 37.6	+0.6
SPSI				S	Sn	04 07 31.8	-0.2
BNSI	Bone	4.98	216	P	Pn	04 06 39.4	+0.6
NLAI	Namlea	5.01	125	P	Pn	04 06 39.9	+0.7
	0.6nm2μm98nm,0.8s						
NLAI				S	Sn	04 07 33.9	-2.0
	0.6nm2μm98nm,0.8s						
KAPI	Kappang	5.68	215	P	Pn	04 06 49.6	+1.2
	7.5nm,0.3s,baz=35,slow=5.4,SNR=24						
KAPI				S	Sn	04 07 51.2	-1.0
	4.4nm,0.3s,baz=226,slow=22,SNR=5.9						
KAPI	Kappang	5.68	215		Pn	04 06 48.7	+0.3
BKSI	Bulukumba	5.74	210	P	Pn	04 06 49.6	+0.5
	0.1nm15nm,0.7s						
MYLDM	Lahad Datu	7.08	321		Pn	04 07 10.1	+2.7
SWI	Sorong	8.27	94	P	Pn	04 07 30.9	+7.3
SIJI	Sorong	8.28	94	P	Pn	04 07 24.1	+0.3
	4.1nm,0.3s,baz=238,slow=23,SNR=5.8						
SIJI				S	Sn	04 09 00.4	+4.7
	0.3nm,0.3s,baz=151,slow=23,SNR=1.3						
FAKI	Fak Fak	9.59	106		Pn	04 07 40.5	-1.2
FAKI	Fak Fak	9.59	106	P	Pn	04 07 40.0	-1.7
MTN	Manton Dam	14.82	147		P	04 08 54.2	-0.9
FITZ	Fitzroy Crossi	17.86	172	P	P	04 09 28.9	+0.3
	0.3nm,0.3s,baz=31,slow=5.9,SNR=6.5						
MDSI	Maura Dua	19.26	257	P	Pn	04 09 47.6	+1.7
	663nm7.4nm,1.3s						
WB0	Warramunga Arr	22.32	151	P	P	04 10 16.6	-0.3
WB0				IAmb	IAmb	04 10 42.2	
	comp=Z,8.0nm,1.2s						
WRA	Warramunga Arr	22.44	151	P	P	04 10 17.6	-0.7
	comp=Z,1.7nm,0.7s,baz=327,slow=11,SNR=15						
WR0	Warramunga Arr	22.55	151	P	P	04 10 19.4	0.0
WR0				IAmb	IAmb	04 10 44.1	
	comp=Z,7.4nm,1.1s						
RPSI	Rantau Prapat	24.26	277	P	P	04 10 35.9	+0.3
RPSI	Rantau Prapat	24.26	277	P	P	04 10 34.6	-0.9
RPSI				IAmb	IAmb	04 10 36.7	
	comp=Z,6.1nm,0.8s						
PSI	Prapat	24.27	277	P	P	04 10 35.9	+0.1
	comp=Z,3.9nm,0.5s,baz=180,slow=2.4,SNR=4.5						
ASAR	Alice Springs	25.50	156	P	P	04 10 47.6	+0.8
	comp=Z,1.3nm,0.6s,baz=345,slow=14,SNR=18						
ASAR				PcP	PcP	04 14 16.8	+0.3
	comp=Z,0.3nm,0.4s,baz=348,slow=2.3,SNR=5.2						
CMAR	Chiang Mai Arr	30.12	310	P	P	04 11 28.8	+0.7
	comp=Z,2.3nm,0.6s,baz=132,slow=7.0,SNR=10						
CMAR	Chiang Mai Arr	30.12	310	P	P	04 11 28.6	+0.5
CHTO	Chiang Mai	30.33	310	P	P	04 11 30.7	+0.8

CHTO				IAmb	IAmb	04 11 32.1
	comp=Z,4.9nm,0.8s					
ENH	**Enshi**	**33.03 338**	P	**P**		**04 11 54.3 +0.8**
STKA	**Stephens Creek**	**35.97 153**	P	**P**		**04 12 19.7 +0.8**
	comp=Z,0.8nm,0.4s,baz=330,slow=13,SNR=2.9					
STKA	**Stephens Creek**	**35.97 153**	IAmb	IAmb		04 12 25.8
	comp=Z,1.9nm,1.4s					
SHL	**Shillong**	**39.57 313**	P	**P**		**04 12 48.6 -0.9**
ODAN	**Odare**	**43.64 311**	*e*P	**P**		**04 13 23.3 +0.5**
	comp=Z,13nm,0.6s					
TAPN	**Taplejung**	**43.66 312**	*e*P	**P**		**04 13 23.8 +0.8**
RAMN	**Ramite**	**44.28 311**	*e*P	**P**		**04 13 28.9 +1.0**
	comp=Z,17nm,0.5s					
JIRN	**Jiri**	**44.97 311**	*e*P	**P**		**04 13 33.9 +0.4**
	comp=Z,19nm,0.6s					
USRK	**Ussuriysk Ar.**	**45.05 9**	P	**P**		**04 13 32.2 -1.1**
	comp=Z,1.3nm,0.6s,baz=197,slow=6.3,SNR=2.6					
GUN	**Gumba**	**45.33 311**	*e*P	**P**		**04 13 36.5 +0.1**
	comp=Z,30nm,0.6s					
PKI	**Pulchoki**	**45.51 311**	*e*P	**P**		**04 13 38.0 +0.2**
	comp=Z,5.0nm,0.5s					
ULN	**Ulaanbaatar**	**49.96 346**	P	**P**		**04 14 12.4 +0.7**
SONM	**Songino Array**	**50.09 345**	P	**P**		**04 14 12.5 -0.2**
	comp=Z,2.5nm,0.8s,baz=165,slow=8.3,SNR=14					
SONM	**Songino Array**	**50.09 345**	P	**P**		**04 14 13.6 +1.0**
SONM			IAmb	IAmb		04 14 14.5
	comp=Z,1.9nm,0.8s					
MK31	**Makanchi Array**	**58.89 328**	P	**P**		**04 15 16.1 -0.1**
MK31			IAmb	IAmb		04 15 17.1
	comp=Z,1.7nm,0.5s					
MKAR	**Makanchi Array**	**58.89 328**	P	**P**		**04 15 15.6 -0.6**
	comp=Z,1.6nm,0.4s,baz=125,slow=8.8,SNR=28					
MKAR	**Makanchi Array**	**58.89 328**	P	**P**		**04 15 15.9 -0.3**
ZALV	**Zalesovo Beam**	**62.60 336**	P	**P**		**04 15 39.9 -1.4**
	comp=Z,0.4nm,0.3s,baz=151,slow=3.3,SNR=1.6					
KKAR	**Karatay Array**	**63.76 320**	P	**P**		**04 15 48.9 -0.3**
ABKAR	**Akbulak array**	**72.98 322**	P	**P**		**04 16 46.1 -0.4**
TORD	**Torodi Ar. Bea**	**120.50 285**	PKP	**PKPdf**		**04 24 06.6 -2.2**
	comp=Z,0.3nm,0.6s,baz=75,slow=2.2,SNR=1.8					

IDC 27 04:33:08.4±2.0, 6°65S×128°80E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.5/28, mbtmp3.5/3, ML3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/39, Error ellipse: s-maj=122.10km s-min=31.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.26**	**158**	Pn	Pn	04 36 31.1	-0.7
	0.2nm,0.3s,baz=337,slow=13,SNR=6.4						
WRA				Sn	Sn	04 38 59.3	-12
	0.2nm,0.3s,baz=341,slow=21,SNR=1.9						
ASAR	**Alice Springs**	**17.61**	**164**	P	Pn	04 37 15.8	+0.4
	0.1nm,0.3s,baz=344,slow=11,SNR=9.1						
JOW	**Kunigami**	**33.29**	**359**	LR	LR	04 54 36.2	
	comp=Z,78nm,18.4s,baz=106,slow=39						
MKAR	**Makanchi Array**	**67.29**	**327**	P	P	04 44 05.1	0.0
	0.5nm,0.4s,baz=124,slow=6.5,SNR=8.0						

IDC 27 04:49:58.9±0.8, 38°38N×142°26E, h0km, mb3.7/10, mb1 3.9/14, mb1mx3.6/59, mbtmp3.7/14, ML3.3/3, Error ellipse: s-maj=21.6km s-min=16.9km az=107.0
JMA 27 04:50:02.8±0.1, 38°42N×142°17E, h32km±2km, M4.0 JMA Felt I J1.

ISC 27 04:50:01.2±1.8, 38°38N±0°04×142°24E±0°07, h17km±10km, n36, σ1°54/37, mb3.6/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.61**	**263**	P	**Pg**	**04 50 13.9**	**+0.6**
JIKH				S	**Sg**	**04 50 21.4**	**-0.1**
JIO	**Ouri**	**0.70**	**276**	P	**Pg**	**04 50 15.4**	**+0.4**
JIO				*e*S	**Sg**	**04 50 24.0**	**-0.3**
JKMT	**Kesennumamotoy**	**0.74**	**306**	P	**Pg**	**04 50 15.8**	**+0.2**
JKMT				S	**Sg**	**04 50 24.9**	**-0.5**
OFUJ	**Ofunato**	**0.83**	**327**	P	**Pb**	**04 50 17.0**	**-0.1**
OFUJ				S	**Sb**	**04 50 26.9**	**-1.0**
JMK	**Ichinoseki**	**0.98**	**306**	P	**Pb**	**04 50 19.4**	**-0.3**
JMK				*e*S	**Sb**	**04 50 31.2**	**-1.1**
JOU	**Okura**	**1.24**	**270**	P	**Pn**	**04 50 23.6**	**-0.1**
JMM	**Marumori**	**1.25**	**246**	P	**Pn**	**04 50 23.3**	**-0.6**
JMM				S	**Sb**	**04 50 38.6**	**-1.6**
JOM	**Ohasama**	**1.31**	**326**	P	**Pn**	**04 50 24.5**	**-0.3**
JFK	**Kawauchi**	**1.48**	**227**	P	**Pn**	**04 50 26.5**	**-0.6**
JFK				*e*S	**Sn**	**04 50 43.7**	**-2.4**
JYK	**Kaneyama**	**1.57**	**290**	P	**Pn**	**04 50 28.3**	**+0.1**
JRG	**Rokugo**	**1.61**	**309**	P	**Pn**	**04 50 29.3**	**+0.5**
MJAR	**Matsushiro Arr**	**3.70**	**241**	Pn	**Pn**	**04 50 58.1**	**+0.6**
	0.4nm,0.3s,baz=55,slow=10,SNR=8.4						
MJAR				Sn	**Sb**	**04 51 46.8**	**-3.7**
	0.5nm,0.3s,baz=84,slow=28,SNR=4.5						
MAT	**Matsushiro**	**3.70**	**241**	P	**Pn**	**04 50 59.7**	**+2.2**
MAT				*e*S	**Sn**	**04 51 46.2**	**+5.5**
JHJ	**Hachijo jima 2**	**5.62**	**202**	Pn	**Pn**	**04 51 23.6**	**-0.4**
	8.9nm,0.3s,baz=259,slow=23,SNR=1.3						
JHJ				Sn	**Sn**	**04 52 25.7**	**-2.4**
	4.6nm,0.3s,baz=236,slow=23,SNR=1.5						
ASAJ	**Asahikawa**	**5.73**	**3**	Sn	**Sn**	**04 52 28.0**	**-2.8**
	baz=295,slow=7.0,SNR=1.8						
USRK	**Ussuriysk Ar.**	**9.65**	**310**	Pn	**Pn**	**04 52 19.8**	**+0.5**
	baz=114,slow=14,SNR=2.2						
KSRS	**Korea Array**	**11.35**	**270**	Pn	**Pn**	**04 52 41.8**	**-0.6**
	0.3nm,0.3s,baz=86,slow=15,SNR=1.6						
SEY	**Seymchan**	**25.34**	**11**	P	**P**	**04 55 26.7**	**-0.2**
	0.8nm,0.3s,baz=2.8,slow=23,SNR=2.6						
H11N2	**WAKE ISLAND Hy 28.32**	**124**		T	T	05 26 08.4	
	baz=316,slow=75,SNR=563						
H11N1	**WAKE ISLAND Hy 28.33**	**124**		T	T	05 26 09.1	
	baz=316,slow=75,SNR=576						
H11N3	**WAKE ISLAND Hy 28.34**	**124**		T	T	05 26 09.7	
	baz=316,slow=75,SNR=562						
H11S1	**WAKE ISLAND Hy 29.08**	**126**		T	T	05 27 06.2	
	baz=318,slow=76,SNR=128						
H11S3	**WAKE ISLAND Hy 29.08**	**126**		T	T	05 27 06.4	
	baz=318,slow=76,SNR=168						
H11S2	**WAKE ISLAND Hy 29.10**	**126**		T	T	05 27 12.3	
	baz=318,slow=76,SNR=74						
ZALV	**Zalesovo Beam**	**41.50**	**311**	P	**P**	**04 57 47.6**	**+0.5**
	0.6nm,0.4s,baz=90,slow=7.2,SNR=2.3						
MKAR	**Makanchi Array**	**43.97**	**301**	P	**P**	**04 58 08.0**	**+0.7**
	0.5nm,0.7s,baz=83,slow=9.9,SNR=5.7						
KURBB	**Kurchatov Arra**	**45.70**	**307**	P	**P**	**04 58 21.1**	**+0.1**
	3.0nm,0.9s,baz=81,slow=8.1,SNR=23						
ILAR	**Eielson Array**	**48.01**	**33**	P	**P**	**04 58 39.3**	**+0.5**
	0.4nm,0.9s,baz=279,slow=6.3,SNR=2.3						
WRA	**Warramunga Arr**	**58.49**	**189**	P	**P**	**04 59 56.5**	**+0.1**
	2.6nm,0.7s,baz=6.0,slow=7.1,SNR=18						
ASAR	**Alice Springs**	**62.22**	**189**	P	**P**	**05 00 22.2**	**+0.4**
	1.6nm,0.7s,baz=10,slow=6.4,SNR=20						
YKA	**Yellowknife Ar**	**62.31**	**31**	P	**P**	**05 00 22.5**	**+0.4**
	0.2nm,0.8s,baz=295,slow=5.9,SNR=2.8						
PDAR	**Pinedale Array**	**76.26**	**46**	P	**P**	**05 01 49.5**	**+0.4**
	0.4nm,0.8s,baz=243,slow=1.0,SNR=4.4						
TXAR	**Lajitas Array**	**88.78**	**53**	P	**P**	**05 02 55.2**	**+0.8**
	0.3nm,0.8s,baz=316,slow=3.8,SNR=2.3						
H03N2	**Juan Fernandez**	**146.49**	**94**	T	T	07 54 15.6	
	baz=290						
H03N3	**Juan Fernandez**	**146.50**	**94**	T	T	07 54 16.2	
	baz=290						
H03N1	**Juan Fernandez**	**146.51**	**94**	T	T	07 54 17.7	
	baz=290						

MOS 27 04:50:02.6±0.9, 58°10N×157°17W, h12km, mb4.6/12, Error ellipse: s-maj=13.5km s-min=7.7km az=80.7
IDC 27 04:50:03.2±0.8, 58°34N×157°20W, h0km, mb4.0/16, mb1 4.2/19, mb1mx4.0/64, mbtmp4.0/19, ML4.2/3, MS3.5/11, Ms1 3.5/11, ms1mx3.1/55, Error ellipse: s-maj=29.2km s-min=11.5km az=17.0
NEIC 27 04:50:03.8, 58°04N×157°21W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.81; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-0.35; $M_{r\theta}$0.40; $M_{r\phi}$-1.88; $M_{\theta\phi}$-0.55; Fault plane solution: M_o2.12000×10^{15} NP1:ϕ_s185.49000°, δ69.63000°, λ24.92000°. NP2:ϕ_s86.30000°, δ66.73000°, λ157.74000°. Principal axes: T 1.8943, Plg32.0000°, Azm47.0000°; N 0.3962, Plg58.0000°, Azm222.0000°; P -2.2904, Plg2.0000°, Azm315.0000°;
NEIC 27 04:50:04.3±1.7, 58°06N±0°04×157°12W±0°06, h9km±4km Error ellipse: s-maj=6.2km s-min=3.9km az=153.0
AEIC 27 04:50:04±1.8, 58°03N±0°04×157°06W±0°06, h14km±4km, ML4.3/5.21(NEIC), ML4.4/32(NEIC), Mwr4.2/44(NEIC), Error ellipse: s-maj=5.9km s-min=4.1km az=156.0

ISC 27 04:50:03.8±0.4, 58°05N±0°04×157°12W±0°03, h10km, n226, σ1°02/220, mb4.3/34, MS3.5/10, 1C-1D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK5	**Peulik 5**	**0.14**	**112**		**Pg**	**04 50 07.7**	**+0.8**
PLK1	**Peulik 1**	**0.37**	**132**		**Pb**	**04 50 11.6**	**-0.8**
PLBL	**Peulik Blue Cr**	**0.38**	**156**		**Pg**	**04 50 11.6**	**+0.2**
PLK2	**Peulik 2**	**0.51**	**124**		**Pb**	**04 50 14.2**	**-0.7**
PLK3	**Peulik 3**	**0.58**	**128**		**Pb**	**04 50 15.4**	**-0.6**
KJL	**Kejulik**	**0.82**	**89**		**Pg**	**04 50 19.6**	**0.0**
KELA	**Mount Kelaz**	**0.83**	**61**		**Pg**	**04 50 19.2**	**-0.6**
ANCK	**Angle Creek**	**0.87**	**79**		**Pb**	**04 50 21.1**	**-0.1**
ANCK					**Sb**	**04 50 32.7**	**-0.1**
ACHA	**Angle Creek He**	**0.96**	**80**		**Pg**	**04 50 22.0**	**-0.3**
ACHA					**Sg**	**04 50 34.7**	**-0.2**
CAHL	**Cahill**	**0.96**	**89**		**Pg**	**04 50 22.3**	**-0.1**
KVTA	**Katmai Vly 10**	**1.02**	**70**		**Pg**	**04 50 22.9**	**-0.5**
KBM	**Katmai Bkd Mtn**	**1.04**	**77**		**Pg**	**04 50 23.3**	**-0.5**
KCE	**Katmai Mt Cerb**	**1.04**	**78**		**Pg**	**04 50 23.8**	**-0.1**
KCG	**Knife Ck. Glac**	**1.09**	**75**		**Pg**	**04 50 24.6**	**-0.2**
KABR	**Katmai Barrier**	**1.14**	**85**		**Pb**	**04 50 25.4**	**-0.3**
KAHC	**Katmai Hardscr**	**1.26**	**61**		**Pn**	**04 50 27.1**	**-0.6**
KARR	**Katmai Rainbow**	**1.35**	**70**		**Pn**	**04 50 28.9**	**+0.1**
KARR					**Sb**	**04 50 46.7**	**+0.1**
KAHG	**Katmai Hook Gl**	**1.43**	**71**		**Pn**	**04 50 30.3**	**+0.4**
CHGN	**Chignik**	**1.89**	**203**		**Pn**	**04 50 36.0**	**-0.1**
CHGN	**Chignik**	**1.89**	**203**		**Sb**	**04 51 00.6**	**-1.4**
CHGN	**Chignik**	**1.89**	**203**	IAML		04 51 05.0	
	comp=N,1μm,0.6s						
CHGN				IAML		04 51 09.5	
	comp=E,2μm,1.1s						
SII	**Sitkinak Islan**	**2.18**	**132**	Pn	**Pn**	**04 50 40.7**	**+0.5**
SII	**Sitkinak Islan**	**2.18**	**132**		**Sn**	**04 51 06.4**	**-0.8**
SII	**Sitkinak Islan**	**2.18**	**132**	IAML		04 51 13.7	
	comp=N,7μm,0.6s						
SII				IAML		04 51 15.2	
	comp=E,5μm,0.5s						
OHAK	**Old Harbor**	**2.22**	**110**	Pn	**Pb**	**04 50 42.4**	**-1.6**
OHAK	**Old Harbor**	**2.22**	**110**		**Sn**	**04 51 08.3**	**+0.2**
OHAK	**Old Harbor**	**2.22**	**110**	IAML		04 51 22.2	
	comp=N,2μm,0.8s						
OHAK				IAML		04 51 24.0	
	comp=E,2μm,0.9s						
VNSS	**Veniaminof 8**	**2.23**	**216**		**Pn**	**04 50 41.6**	**+0.6**
AUW	**Augustine W**	**2.32**	**54**		**Pn**	**04 50 42.6**	**+0.6**
AUH	**Augustine H**	**2.33**	**54**		**Pn**	**04 50 42.9**	**+0.7**
AUL	**Augustine Lava**	**2.34**	**54**		**Pn**	**04 50 42.8**	**+0.5**
AU22	**Augustine Moun**	**2.37**	**54**		**Pn**	**04 50 42.8**	**+0.1**
KDAK	**Kodiak Island**	**2.43**	**94**	Pn	**Pn**	**04 50 45.0**	**+1.4**
	comp=E,49nm,0.3s,baz=290,slow=3.3,SNR=206						
KDAK				Sn	**Sb**	**04 51 15.9**	**-1.7**
	comp=E,94nm,0.3s,baz=0.3,slow=12,SNR=11						
KDAK	**Kodiak Island**	**2.43**	**94**	P	**Pn**	**04 50 45.1**	**+1.5**
KDAK				MLR	MLR		
	comp=Z,933μm,0.7s						
KDAK	**Kodiak Island**	**2.43**	**94**	Pn	**Pn**	**04 50 45.1**	**+1.5**
OPT	**Oil Point**	**2.58**	**50**		**Pn**	**04 50 46.2**	**+0.6**
ILS	**Iliamna Low So**	**2.84**	**46**		**Pn**	**04 50 49.8**	**+0.6**
ILW	**Iliamna West**	**2.88**	**44**		**Pn**	**04 50 50.4**	**+0.5**
IVE	**Iliamna Volcan**	**2.90**	**45**		**Pn**	**04 50 50.6**	**+0.6**
SVW2	**Sparrevohn**	**3.16**	**14**	Pn	**Pn**	**04 50 54.6**	**+1.0**
SVW2				IAML		04 51 50.4	
	comp=N,1μm,0.7s						
RED	**Redoubt Volcan**	**3.26**	**41**		**Pn**	**04 50 55.8**	**+0.7**
HOM	**Homer**	**3.27**	**58**		**Pn**	**04 50 54.9**	**-0.1**
SDPT	**Sand Point**	**3.28**	**216**	Pn	**Pn**	**04 50 56.0**	**+0.8**
SDPT				IAML		04 51 59.6	
	comp=E,740nm,1.2s						
SDPT				IAML		04 52 01.4	
	comp=N,908nm,1.1s						
RDSO	**Redoubt South**	**3.30**	**41**		**Pn**	**04 50 56.0**	**+0.5**
RSO	**Redoubt South**	**3.30**	**41**		**Pn**	**04 50 56.9**	**+1.2**
NCT	**North Crescent**	**3.31**	**39**		**Pn**	**04 50 56.4**	**+0.6**
CNPM	**China Poot**	**3.40**	**62**	Pn	**Pn**	**04 50 58.6**	**+1.8**
CNPM				IAML		04 51 48.8	
	comp=N,646nm,1.0s						
CNPM				IAML		04 51 57.2	
	comp=E,498nm,1.1s						
RDT	**Redoubt**	**3.50**	**42**		**Pn**	**04 50 59.1**	**+0.8**
BRLK	**Bradley Lake**	**3.66**	**59**	Pn	**Pn**	**04 51 01.3**	**+0.8**
BRLK				IAML		04 52 10.3	
	comp=E,438nm,0.9s						
BRSE	**Bradley Lake S**	**3.72**	**60**		**Pn**	**04 51 02.3**	**+1.1**
SPWE	**Spurr West**	**3.98**	**34**		**Pn**	**04 51 05.8**	**+0.9**
CKT	**Bend**	**4.03**	**36**		**Pn**	**04 51 06.2**	**+0.6**
SPCN	**Chakachatna No**	**4.05**	**36**		**Pn**	**04 51 07.2**	**+1.4**
CAPN	**Captain Cook N**	**4.09**	**46**	Pn	**Pn**	**04 51 06.7**	**+0.4**
SPCP	**Crater Peak Br**	**4.09**	**36**		**Pn**	**04 51 08.6**	**+2.1**
SLKM	**Skilak Lake**	**4.31**	**52**		**Pn**	**04 51 10.1**	**+0.7**
STLK	**Strandline Lak**	**4.37**	**35**		**Pn**	**04 51 11.4**	**+1.2**
SEW	**Seward**	**4.46**	**59**		**Pn**	**04 51 10.5**	**-0.8**
O22K	**Cooper Landing**	**4.51**	**54**		**Pn**	**04 51 11.7**	**-0.3**
SUA	**Susitna One**	**4.70**	**41**	Pn	**Pn**	**04 51 16.4**	**+1.6**
SUA				IAML		04 52 30.6	
	comp=N,261nm,0.9s						
SUA				IAML		04 52 32.8	
	comp=E,476nm,0.8s						
FALS	**False Pass**	**4.74**	**230**		**Pn**	**04 51 16.3**	**+1.1**
RC01	**Rabbit Creek A**	**4.83**	**48**	Pn	**Pn**	**04 51 18.9**	**+2.3**
RC01				IAML		04 52 41.3	
	comp=N,177nm,1.0s						
SKT	**Skwentna**	**4.84**	**33**		**Pn**	**04 51 18.0**	**+1.4**
SKT				IAML		04 52 47.3	
	comp=N,312nm,1.2s						
SKT				IAML		04 52 51.2	
	comp=E,367nm,1.0s						
TT01	**Tatalina**	**4.91**	**6**		**Pn**	**04 51 17.3**	**-0.2**
PWL	**Port Wells**	**5.29**	**54**		**Pn**	**04 51 23.8**	**+1.0**
PWL				IAML		04 53 06.1	
	comp=E,166nm,0.9s						
PWL				IAML		04 53 14.1	
	comp=N,156nm,0.8s						
PMR	**Palmer**	**5.37**	**45**	P	**Pn**	**04 51 25.5**	**+1.6**
PMR				MLR	MLR		
	comp=Z,78μm,1.0s						
PMR	**Palmer**	**5.37**	**45**		**Pn**	**04 51 25.5**	**+1.6**
PPLA	**Purkeypile**	**5.44**	**25**	Pn	**Pn**	**04 51 26.2**	**+1.2**
KNK	**Knik Glacier**	**5.53**	**49**		**Pn**	**04 51 27.3**	**+1.2**
CUT	**Chulitna**	**5.54**	**35**	Pn	**Pn**	**04 51 25.9**	**-0.3**
GHO	**Glory Hole Cre**	**5.56**	**44**		**Pn**	**04 51 28.2**	**+1.6**
SML	**Sawmill**	**5.80**	**46**		**Pn**	**04 51 30.9**	**+1.0**
HIN	**Hinchinbrook I**	**5.94**	**62**		**Pn**	**04 51 32.6**	**+0.9**
FID	**Port Fidalgo**	**6.07**	**59**	Pn	**Pn**	**04 51 34.3**	**+0.7**
HUR	**Hurricane**	**6.17**	**34**		**Pn**	**04 51 36.2**	**+1.3**
SCM	**Sheep Creek Mo**	**6.21**	**48**	P	**Pn**	**04 51 36.6**	**+1.1**
SCM	**Sheep Creek Mo**	**6.21**	**48**		**Pn**	**04 51 36.5**	**+1.1**
KTH	**Kantishna Hill**	**6.30**	**26**		**Pn**	**04 51 37.5**	**+0.8**
CHUM	**Lake Minchumin**	**6.30**	**20**		**Pn**	**04 51 37.3**	**+0.6**
WAT7	**Susitna Watana**	**6.30**	**37**		**Pn**	**04 51 38.4**	**+1.6**
EYAK	**Cordova Ski Ar**	**6.34**	**62**		**Pn**	**04 51 38.0**	**+0.9**
TRF	**Thorofare Moun**	**6.37**	**29**	Pn	**Pn**	**04 51 39.8**	**+2.1**
WAT1	**Susitna Watana**	**6.40**	**38**		**Pn**	**04 51 40.0**	**+1.9**
WAT2	**Susitna Watana**	**6.48**	**37**		**Pn**	**04 51 41.0**	**+1.8**
WAT6	**Susitna Watana**	**6.50**	**42**		**Pn**	**04 51 40.9**	**+1.2**
DIV	**Divide**	**6.53**	**57**		**Pn**	**04 51 41.5**	**+1.5**
KLU	**Klutina**	**6.62**	**54**		**Pn**	**04 51 41.7**	**+0.6**
RND	**Reindeer**	**6.73**	**34**	P	**Pn**	**04 51 44.3**	**+1.7**
RND	**Reindeer**	**6.73**	**34**	Pn	**Pn**	**04 51 44.3**	**+1.7**
BPAW	**Bear Paw Mtn.**	**6.76**	**23**		**Pn**	**04 51 43.6**	**+0.7**
RAGM	**Ragged Mountai**	**6.80**	**65**		**Pn**	**04 51 43.6**	**0.0**
M24K	**Tolsona, Glenn**	**6.82**	**49**		**Pn**	**04 51 45.1**	**+1.3**
GOAT	**Goat Mountain**	**6.83**	**63**		**Pn**	**04 51 44.4**	**+0.4**
MCK	**McKinley**	**6.96**	**32**	P	**Pn**	**04 51 47.8**	**+2.1**
MCK	**McKinley**	**6.96**	**32**		**Pn**	**04 51 47.8**	**+2.1**
HMT	**Hamilton**	**6.99**	**65**		**Pn**	**04 51 47.0**	**+0.8**
BMRM	**Bremner River**	**7.00**	**60**		**Pn**	**04 51 47.2**	**+0.9**
NICHA	**Nichawak Mount**	**7.11**	**66**		**Pn**	**04 51 48.5**	**+0.7**
N25K	**Chitina, Valde**	**7.24**	**55**		**Pn**	**04 51 50.2**	**+0.5**
KHIT	**Khitrov Hills**	**7.50**	**65**		**Pn**	**04 51 53.6**	**+0.4**
GLB	**Gilahina Butte**	**7.53**	**58**		**Pn**	**04 51 54.7**	**+1.1**
PAX	**Paxson**	**7.57**	**44**	P	**Pn**	**04 51 54.3**	**+0.1**
PAX	**Paxson**	**7.57**	**44**		**Pn**	**04 51 54.3**	**+0.1**
NEA2	**Nenana**	**7.62**	**27**		**Pn**	**04 51 54.1**	**-0.6**
VRDI	**Verde Repeater**	**7.62**	**60**		**Pn**	**04 51 54.9**	**0.0**
MLY	**Manley**	**7.63**	**21**		**Pn**	**04 51 55.0**	**0.0**
ANM	**Nome**	**7.64**	**332**	P	**Pn**	**04 51 55.5**	**+0.4**
ANM	**Nome**	**7.64**	**332**		**Pn**	**04 51 55.5**	**+0.4**
WRH	**Wood River Hil**	**7.77**	**30**		**Pn**	**04 51 57.7**	**+0.9**
MCARA	**McCarthy VSAT**	**7.87**	**59**		**Pn**	**04 51 57.5**	**-0.7**
CCB	**Clear Creek Bu**	**7.98**	**30**		**Pn**	**04 51 60.0**	**+0.3**
I23K	**Minto, Yukon-K**	**8.02**	**24**		**Pn**	**04 52 00.5**	**+0.3**
KIAG	**Kiagna River**	**8.04**	**63**		**Pn**	**04 52 01.0**	**+0.2**
PTPK	**Patty Peak**	**8.06**	**61**		**Pn**	**04 52 01.3**	**+0.2**
BALM	**Baldy**	**8.08**	**62**		**Pn**	**04 52 00.9**	**-0.2**
IM03		**8.12**	**10**		**Pn**	**04 52 01.5**	**0.0**
IMAR	**Indian Mountai**	**8.12**	**10**	Pn	**Pn**	**04 52 01.3**	**-0.2**
MDM	**Murphy Dome**	**8.12**	**28**		**Pn**	**04 52 01.9**	**+0.2**
TCOL	**CIGÖ, UAF Yank**	**8.15**	**29**		**Pn**	**04 52 02.7**	**+0.8**
COLA	**College**	**8.15**	**29**	*i* P	**Pn**	**04 52 02.5**	**+0.5**
COLA	**College**	**8.15**	**29**		**Pn**	**04 52 02.7**	**+0.7**
YAH	**Yahtse**	**8.22**	**67**		**Pn**	**04 52 04.5**	**+1.3**
MENT	**Mentasta**	**8.22**	**48**	Pn	**Pn**	**04 52 04.5**	**+1.4**
GRNC	**Granite Creek**	**8.29**	**65**		**Pn**	**04 52 04.3**	**+0.2**
IL31		**8.33**	**32**		**Pn**	**04 52 06.3**	**+1.8**
ILAR	**Eielson Array**	**8.33**	**32**	Pn	**Pn**	**04 52 04.6**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=218,slow=12,SNR=181						
ILAR				Lg	Lg	04 54 11.7	
	comp=Z,0.1nm,0.3s,baz=238,slow=22,SNR=1.7						
ILAR	**Eielson Array**	**8.33**	**32**	P	**Pn**	**04 52 06.2**	**+1.7**
ILAR	**Eielson Array**	**8.33**	**32**	Pn	**Pn**	**04 52 06.2**	**+1.7**
BARN	**Barnard Glacie**	**8.41**	**62**		**Pn**	**04 52 07.1**	**+1.3**
POKR	**Poker Plat Res**	**8.45**	**29**		**Pn**	**04 52 08.6**	**+2.5**
DOT	**Dot Lake**	**8.48**	**43**		**Pn**	**04 52 08.3**	**+1.7**
TABL	**Table Mountain**	**8.53**	**67**		**Pn**	**04 52 08.6**	**+1.2**
CTGM	**Chitina Glacie**	**8.54**	**63**		**Pn**	**04 52 08.8**	**+1.3**
LOGN	**Logan Glacier**	**8.67**	**64**		**Pn**	**04 52 10.7**	**+1.4**
SCRK	**Sand Creek**	**8.70**	**41**		**Pn**	**04 52 10.0**	**+0.2**
PCA	**Pinnacle**	**8.92**	**70**	Pn	**Pn**	**04 52 12.7**	**0.0**
YUK2	**White River**	**8.98**	**59**		**Pn**	**04 52 15.1**	**+1.6**
L27K	**Beaver Creek,**	**9.04**	**50**	Pn	**Pn**	**04 52 15.9**	**+1.7**
BC03		**9.06**	**50**		**Pn**	**04 52 15.0**	**+0.6**
BCAR	**Beaver Creek A**	**9.06**	**50**		**Pn**	**04 52 14.7**	**+0.2**
TNA	**Tin City**	**9.10**	**330**		**Pn**	**04 52 16.0**	**+1.1**
GAMB	**Gambell**	**9.12**	**315**	Pn	**Pn**	**04 52 15.7**	**+0.4**
YUK3	**Moose Creek**	**9.15**	**59**		**Pn**	**04 52 17.2**	**+1.3**
BCPM	**Bancas Point**	**9.22**	**71**	Pn	**Pn**	**04 52 16.6**	**-0.1**
PNL	**Peninsula**	**9.32**	**72**		**Pn**	**04 52 18.3**	**+0.2**
K27K	**Chicken**	**9.43**	**44**	Pn	**Pn**	**04 52 20.1**	**+0.6**
COLD	**Coldfoot**	**9.74**	**16**	Pn	**Pn**	**04 52 25.2**	**+1.5**
YUK4	**Talbot Arm**	**9.89**	**63**		**Pn**	**04 52 27.8**	**+1.7**
YUK6	**Outpost Mounta**	**9.96**	**65**		**Pn**	**04 52 28.1**	**+1.1**
EGAK	**Eagle**	**10.17**	**42**	Pn	**Pn**	**04 52 30.0**	**+0.3**
RDOG	**Red Dog Mine**	**10.38**	**348**	Pn	**Pn**	**04 52 34.0**	**+1.5**
BMAR	**Burnt Mountain**	**11.00**	**26**		**Pn**	**04 52 41.2**	**+0.2**
A21K	**Barrow**	**13.33**	**1**	Pn	**Pn**	**04 53 12.3**	**-0.5**
DLBC	**Dease Lake**	**14.23**	**77**	Pn	**Pn**	**04 53 26.6**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=276,slow=10,SNR=11						
INK	**Inuvik**	**14.68**	**36**	Pn	**Pn**	**04 53 30.7**	**-0.4**

JCT	**Junction City**	**47.52**	**100**	P	**P**	**04 58 39.6**	**+0.6**
HKT	**Hockley**	**50.03**	**97**	*i* P	**P**	**04 58 56.6**	**-1.6**
HKT				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSRS	**Korea Array**	**51.49**	**281**	P	**P**	**04 59 10.5**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=40,slow=7.2,SNR=4.4						
TLY	**Talaya**	**52.44**	**309**	LR	LR	05 24 08.0	
	comp=Z,78nm,18.4s,baz=28,slow=39						
SONM	**Songino Array**	**54.17**	**304**	P	**P**	**04 59 27.9**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=39,slow=9.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**57.64**	**322**	LR	LR	05 27 12.3	
	comp=Z,80nm,18.2s,baz=119,slow=39						
ARU	**Arti**	**62.34**	**339**	P	**P**	**05 00 25.4**	**-0.5**
	comp=Z,1.5nm,0.2s,baz=119,slow=6.2,SNR=4.9						
ARU	**Arti**	**62.34**	**339**	*d* P	**P**	**05 00 25.9**	**+0.1**
ARU						05 01 07.1	
ARU						05 02 43.8	
ARU				S	**S**	**05 08 52.8**	**+1.0**
ARU				SS	**SS**	**05 12 52.9**	**-1.2**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARU	**Arti**	**62.34**	**339**	IAmb	IAmb	05 00 26.6	
	comp=Z,5.6nm,1.0s						
KURK	**Kurchatov**	**62.39**	**324**	P	**P**	**05 00 26.5**	**+0.2**
KURK	**Kurchatov**	**62.39**	**324**	P	**P**	**05 00 26.5**	**+0.2**
KURBB	**Kurchatov Arra**	**62.50**	**324**	P	**P**	**05 00 26.5**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=30,slow=6.7,SNR=2.8						
BRVK	**Borovoye**	**62.74**	**330**	*i* P	**P**	**05 00 28.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**62.75**	**330**	P	P	05 00 23.6	-5.0
	comp=Z,1.0nm,0.8s,baz=69,slow=7.9,SNR=4.3						
MKAR	**Makanchi Array**	**64.57**	**319**	P	**P**	**05 00 40.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=46,slow=8.8,SNR=3.5						
MKAR	**Makanchi Array**	**64.57**	**319**	*ce* P	**P**	**05 00 41.2**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTO	**Aktyubinsk**	**68.10**	**337**	P	**P**	**05 01 02.5**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=9.2,slow=6.3,SNR=5.9						
AAK	**Ala-Archa**	**70.86**	**322**	*i* P	**P**	**05 01 20.2**	**-0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKASG	**Malin Array Be**	**71.49**	**356**	P	**P**	**05 01 22.6**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=17,slow=6.8,SNR=4.0						
AKASG	**Malin Array Be**	**71.49**	**356**	IAmb	IAmb	05 01 25.5	
	comp=Z,0.7nm,1.1s						
KIV	**Kislovodsk**	**77.03**	**345**	*e* P	**P**	**05 01 55.5**	**-1.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
KBZ	**Khabaz**	**77.22**	**345**	*i* P	**P**	**05 01 58.7**	**+1.1**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ESDC	**Sonseca Array**	**80.08**	**21**	P	**P**	**05 02 12.8**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=341,slow=4.9,SNR=5.8						
ESDC	**Sonseca Array**	**80.08**	**21**	IAmb	IAmb	05 02 13.7	
	comp=Z,1.1nm,0.9s						
WRA	**Warramunga Arr**	**95.98**	**242**	LR	LR	05 41 58.5	
	comp=Z,21nm,21.8s,baz=220,slow=32						

*IDC **27** 04:50:22.6±7.6, 4°.66S×104°.09E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/53, mbtmp3.5/3, Error ellipse: s-maj=406.3km s-min=31.5km az=51.0*
*DJA **27** 04:50:22.7±0.7, 6°.5±8°×10°.3E±°, h29km±14km, M3.5/8, MLv3.5/8*
ISC 27 04:50:20.1±4.0, **5°.80S**±0°.09×**102°.75E**±0°.10, **h13**km±26km, **n11**, σ0**s90**/16, **mb3.5**/3, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.44**	**8**	P	**Pb**	**04 50 46.7**	**-0.1**
MNAI				S	**Sn**	**04 51 05.8**	**+1.1**
LWLI	**Liwa**	**1.52**	**59**	P	**Pn**	**04 50 47.6**	**+0.6**
LWLI				S	**Sn**	**04 51 06.7**	**0.0**
KASI	**Kota Agung**	**1.76**	**81**	P	**Pn**	**04 50 50.8**	**+0.5**
KASI				S	**Sn**	**04 51 12.7**	**+0.1**
MDSI	**Maura Dua**	**1.93**	**48**	P	**Pn**	**04 50 53.5**	**+0.9**
MDSI				S	**Sn**	**04 51 16.6**	**-0.1**
LHSI	**Lahat**	**2.10**	**22**	P	**Pn**	**04 50 56.0**	**+1.0**
KSI	**Kapahiang**	**2.13**	**356**	P	**Pn**	**04 50 56.2**	**+0.7**
KSI				S	**Sb**	**04 51 23.3**	**-1.8**
KLSI		**2.26**	**61**	P	**Pn**	**04 50 58.3**	**+1.2**
BLSI	**Bandar Lampung**	**2.52**	**80**	P	**Pn**	**04 51 01.0**	**+0.2**
WRA	**Warramunga Arr**	**33.77**	**118**	P	**P**	**04 57 01.1**	**-0.7**
	0.4nm,0.6s,baz=287,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**34.84**	**124**	P	**P**	**04 57 11.7**	**+0.5**
	0.4nm,0.4s,baz=304,slow=8.2,SNR=4.5						
MKAR	**Makanchi Array**	**55.42**	**343**	P	**P**	**04 59 53.9**	**-0.3**
	0.2nm,0.4s,baz=157,slow=7.1,SNR=2.8						

IDC 27 04:52:26.0±9.2, **3°.50N**×**63°.82E**, **h0**km, **mb4.0**/2, **mb1 4.3**/2, **mb1mx3.3**/55, **mbtmp4.0**/2, **Error ellipse: s-maj=797.1km s-min=50.1km az=40.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W3	**Cape Leeuwin H**	**60.70**	**133**	T	T	06 08 22.1	
	baz=299						
H01W2	**Cape Leeuwin H**	**60.70**	**134**	T	T	06 08 22.1	
	baz=299						
H01W1	**Cape Leeuwin H**	**60.71**	**133**	T	T	06 08 29.8	
	baz=299						
WRA	**Warramunga Arr**	**72.99**	**112**	P	P	05 03 58.3	+0.1
	1.2nm,0.7s,baz=289,slow=5.4,SNR=10						
ASAR	**Alice Springs**	**73.29**	**116**	P	P	05 03 59.9	0.0
	0.9nm,0.7s,baz=290,slow=5.9,SNR=8.6						
TXAR	**Lajitas Array**	**145.22**	**341**	PKPbc	PKPbc	05 12 05.3	-0.9
	0.5nm,0.7s,baz=86,slow=2.9,SNR=6.0						

*JMA **27** 05:00:34.8, 22°.95N×121°.54E, h19km±2km, M3.3*
*TAP **27** 05:00:35.5, 22°.96N×121°.41E, h31km, ML2.8, C*
ISC 27 05:00:35.9±0.9, **22°.95N**±0°.02×**121°.43E**±0°.03, **h33**km±4km, **n66**, σ0**s64**/114, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDH	**Donghe**	**0.11**	**279**	*i* P	**Pb**	**05 00 41.6**	**0.0**
EDH	baz=280			*i* S	**Sb**	**05 00 45.7**	**+0.1**
	baz=280						
CHKT	**Chengkung**	**0.15**	**339**	*i* P	**Pb**	**05 00 41.9**	**-0.1**
CHKT	baz=346			*i* S	**Sb**	**05 00 46.0**	**-0.2**
	baz=346						
FULB	**Fuli**	**0.27**	**333**	*i* P	**Pb**	**05 00 43.1**	**-0.2**
FULB	baz=336			S	**Sn**	**05 00 48.7**	**+0.2**
	baz=336						
LONT	**Longtian**	**0.28**	**260**	*i* P	**Pb**	**05 00 43.3**	**0.0**
LONT	baz=259			S	**Sb**	**05 00 48.6**	**+0.2**
	baz=259						
LDUT	**Ludao**	**0.28**	**172**	*i* P	**Pb**	**05 00 43.3**	**-0.1**
LDUT	baz=168			*i* S	**Sb**	**05 00 49.0**	**+0.6**
	baz=168						
TTN	**Taitung**	**0.33**	**232**	*i* P	**Pn**	**05 00 44.5**	**+0.2**
TTN	baz=229			S	**Sb**	**05 00 49.6**	**+0.3**
	baz=229						
TWGBT	**Beinan**	**0.35**	**247**	*i* P	**Pb**	**05 00 43.9**	**-0.3**
TWGBT	baz=245			S	**Sb**	**05 00 50.3**	**+0.4**
	baz=245						
TWG	**Pinlang**	**0.35**	**248**	*i* P	**Pb**	**05 00 43.9**	**-0.4**
TWG	baz=245			S	**Sb**	**05 00 50.1**	**+0.1**
	baz=245						
EYUL	**Yuli**	**0.40**	**346**	P	**Pb**	**05 00 45.0**	**0.0**
EYUL	baz=347			*e*S	**Sn**	**05 00 52.0**	**+0.1**
	baz=347						
TWF1	**Yuli**	**0.41**	**343**	P	**Pb**	**05 00 44.6**	**-0.6**
TWF1	baz=346			*e*S	**Sn**	**05 00 52.2**	**0.0**
	baz=346						
ELDTW	**Lidau**	**0.44**	**302**	P	**Pb**	**05 00 44.9**	**-0.8**
ELDTW	baz=303			S	**Sb**	**05 00 51.0**	**-1.4**
	baz=303						
YULB	**Yu-li**	**0.45**	**345**	*i* P	**Pb**	**05 00 45.0**	**-0.8**
YULB	baz=346			S	**Sb**	**05 00 51.3**	**-1.2**
	baz=346						

HGSD	**Ruisui**	**0.54**	**360**	P	**Pb**	**05 00 46.8**	**-0.2**
	baz=1.0						
HGSD				*e*S	**Sb**	**05 00 54.6**	**-0.1**
	baz=1.0						
EHY	**Hungye**	**0.56**	**350**	P	**Pn**	**05 00 47.7**	**+0.1**
	baz=352						
EHY				*e*S	**Sn**	**05 00 56.4**	**+0.6**
	baz=352						
ECL	**Taimali**	**0.56**	**231**	P	**Pb**	**05 00 46.2**	**-1.2**
	baz=229						
ECL				*e*S	**Sb**	**05 00 54.9**	**-0.5**
	baz=229						
STYH	**Taoyuan**	**0.64**	**290**	P	**Pb**	**05 00 48.3**	**-0.4**
	baz=290						
STYH				S	**Sb**	**05 00 57.3**	**-0.1**
	baz=290						
STYT	**Tauyuan**	**0.65**	**289**	*i* P	**Pb**	**05 00 48.6**	**-0.3**
	baz=289						
STYT				*e*S	**Sb**	**05 00 57.3**	**-0.5**
	baz=289						
YUS	**Yu-Shan**	**0.69**	**321**	P	**Pb**	**05 00 49.2**	**-0.7**
	baz=321						
YUS				*e*S	**Sb**	**05 00 59.0**	**-0.3**
	baz=321						
SLGT	**Liugui**	**0.72**	**273**	*e*P	**Pb**	**05 00 49.9**	**-0.2**
	baz=273						
SSD	**Sandimen**	**0.76**	**254**	P	**Pb**	**05 00 49.9**	**-0.9**
	baz=253						
SSD				*e*S	**Sb**	**05 01 00.0**	**-0.8**
	baz=253						
TSMG	**Majia**	**0.76**	**251**	P	**Pb**	**05 00 50.1**	**-0.6**
	baz=250						
TSMG				*e*S	**Sb**	**05 01 00.2**	**-0.6**
	baz=250						
EAST	**Anshuo**	**0.78**	**223**	P	**Pb**	**05 00 50.3**	**-0.8**
	baz=221						
SGST	**Jiashian**	**0.79**	**280**	*i* P	**Pb**	**05 00 50.8**	**-0.4**
	baz=279						
ALS	**Alishan**	**0.80**	**314**	*i* P	**Pn**	**05 00 51.5**	**+0.4**
	baz=315						
ALS				*e*S	**Sb**	**05 01 01.6**	**-0.5**
	baz=315						
WTP	**Ta-pu**	**0.80**	**291**	P	**Pn**	**05 00 51.6**	**+0.7**
	baz=291						
WTP				*e*S	**Sn**	**05 01 02.6**	**+0.9**
	baz=291						
MASBT	**Mashibuluo**	**0.81**	**245**	P	**Pn**	**05 00 50.8**	**-0.1**
	baz=244						
MASBT				*e*S	**Sb**	**05 01 01.7**	**-0.4**
	baz=244						
TPUB	**Ta-pu**	**0.81**	**295**	*e*P	**Pn**	**05 00 51.4**	**+0.4**
	baz=295						
TPUB				*e*S	**Sb**	**05 01 02.1**	**-0.1**
	baz=295						
VWDT	**VWDT**	**0.84**	**342**	P	**Pn**	**05 00 51.4**	**0.0**
	baz=342						
VWDT				*e*S	**Sn**	**05 01 03.4**	**+0.8**
	baz=342						
ESL	**Shilin**	**0.86**	**0**	*e*P	**Pn**	**05 00 51.7**	**0.0**
	baz=1.0						
ESL				*e*S	**Sb**	**05 01 03.0**	**-0.6**
	baz=1.0						
CHN1	**Nanshi**	**0.86**	**286**	P	**Pb**	**05 00 53.0**	**+0.6**
	baz=285						
CHN1				*e*S	**Sn**	**05 01 05.3**	**+2.1**
	baz=285						
CHN4	**Tsaushan**	**0.86**	**297**	P	**Pb**	**05 00 52.8**	**+0.4**
	baz=297						
CHN4				*e*S	**Sb**	**05 01 03.2**	**-0.5**
	baz=297						
SNST	**Tainan City**	**0.90**	**287**	*e*P	**Pb**	**05 00 53.5**	**+0.5**
	baz=287						
SNST				*e*S	**Sb**	**05 01 03.4**	**-1.2**
	baz=287						
LAY	**Lan-yu**	**0.92**	**173**	*e*S	**Sn**	**05 01 05.0**	**+0.4**
	baz=171						
TWK	**Hsinying**	**0.92**	**290**	*e*P	**Pb**	**05 00 53.7**	**+0.3**
	baz=290						
TWK				*e*S	**Sn**	**05 01 07.3**	**+2.7**
	baz=290						
SLIU	**Shizi**	**0.94**	**218**	*e*P	**Pn**	**05 00 52.8**	**0.0**
	baz=217						
SLIU				*e*S	**Sn**	**05 01 05.1**	**+0.1**
	baz=217						
SSLB	**Suanglung**	**0.94**	**332**	*e*P	**Pn**	**05 00 53.0**	**+0.2**
	baz=333						
SSLB				*e*S	**Sb**	**05 01 05.4**	**-0.4**
	baz=333						
CHN5	**Tsauling**	**0.94**	**313**	*e*P	**Pb**	**05 00 54.1**	**+0.3**
	baz=313						
CHN5				*e*S	**Sn**	**05 01 06.0**	**+0.7**
	baz=313						
SCZT	**Fangliau**	**0.94**	**232**	*e*P	**Pn**	**05 00 52.7**	**-0.1**
	baz=231						
SMLT	**Sun Moon Lake**	**1.04**	**333**	*e*P	**Pn**	**05 00 54.7**	**+0.4**
	baz=333						
SMLT				*e*S	**Sb**	**05 01 08.5**	**-0.4**
	baz=333						
TYC	**Yuchr**	**1.08**	**331**	*e*P	**Pn**	**05 00 55.2**	**+0.5**
	baz=332						
TYC				*e*S	**Sb**	**05 01 09.4**	**-0.4**
	baz=332						
CHGB	**Renai**	**1.13**	**348**	*e*P	**Pn**	**05 00 55.4**	**-0.2**
	baz=348						
CHGB				*e*S	**Sn**	**05 01 09.2**	**-0.9**
	baz=348						
TSEB	**Hengchuen, Pin**	**1.16**	**205**	*e*S	**Sn**	**05 01 11.1**	**+0.7**
	baz=206						
TWKBT	**Hengchun**	**1.16**	**210**	*e*S	**Sn**	**05 01 10.5**	**0.0**
	baz=208						
TWK1	**Hengchun**	**1.16**	**210**	S	Sn	**05 01 10.7**	**+0.2**
	baz=208						
WHF	**Hehuan Shan**	**1.20**	**353**	P	Pn	**05 00 56.9**	**+0.2**
	baz=353						
WHF				*e*S	**Sn**	**05 01 12.5**	**+0.5**
	baz=353						
WCS	**Beigang Elemen**	**1.20**	**337**	*e*P	**Pn**	**05 00 56.5**	**+0.2**
	baz=337						
WCS				*e*S	**Sn**	**05 01 11.8**	**+0.3**
	baz=337						
NACB	**Ninganchiao**	**1.22**	**7**	P	**Pb**	**05 00 57.8**	**-0.7**
	baz=7.0						
NACB				*e*S	**Sb**	**05 01 13.9**	**0.0**
	baz=7.0						
ETLH	**Xiulin Townshi**	**1.25**	**2**	*e*P	**Pn**	**05 00 58.0**	**+0.8**
	baz=3.0						
ETLH				*e*S	**Sn**	**05 01 13.0**	**+0.1**
	baz=3.0						
FUSS	**Fushou**	**1.30**	**353**	*e*S	**Sn**	**05 01 13.2**	**-1.1**
	baz=353						
TDCB	**Techi**	**1.32**	**349**	*e*P	**Pn**	**05 00 58.9**	**+0.8**
	baz=349						
TDCB				*e*S	**Sn**	**05 01 14.7**	**0.0**
	baz=349						
WHP	**Taichung City**	**1.39**	**342**	*e*P	**Pb**	**05 01 01.2**	**-0.1**
	baz=342						
WHP				*e*S	**Sb**	**05 01 19.6**	**+0.8**
	baz=342						
NNSB	**Datong**	**1.47**	**358**	*e*P	**Pn**	**05 01 00.7**	**+0.5**
	baz=359						
NNSB				*e*S	**Sn**	**05 01 18.6**	**+0.2**
	baz=359						
NNSH	**Datong**	**1.47**	**358**	*e*S	**Sn**	**05 01 18.4**	**0.0**
	baz=359						
NNS	**Nan Shan**	**1.48**	**358**	*e*S	**Sn**	**05 01 19.6**	**+0.9**
	baz=359						
TWQ1	**Liyutan**	**1.51**	**337**	*e*S	**Sn**	**05 01 20.2**	**+0.9**
	baz=337						
NDT	**Datong Townshi**	**1.64**	**3**	*e*S	**Sn**	**05 01 23.3**	**+0.8**
	baz=3.0						
TWC	**Suao**	**1.69**	**13**	*e*S	**Sn**	**05 01 24.7**	**+1.0**
	baz=14						
YHNB	**Yeheng**	**1.71**	**358**	*e*P	**Pn**	**05 01 04.1**	**+0.6**
	baz=358						
YHNB				*e*S	**Sn**	**05 01 23.6**	**-0.7**
	baz=358						
NSTT	**Nanjuang**	**1.71**	**347**	*e*S	**Sn**	**05 01 25.2**	**+0.9**
	baz=347						
JYNG	**Yonagunijimaku**	**2.04**	**43**	P	**Pn**	**05 01 08.0**	**+0.1**
JYNG				S	**Sn**	**05 01 32.5**	**+0.3**
TIPB	**Shuangxi**	**2.04**	**10**	*e*S	**Sn**	**05 01 32.7**	**+0.3**
	baz=10.0						
JKRS	**Kuro-shima**	**2.69**	**61**	P	**Pn**	**05 01 17.5**	**+0.6**
JKRS				S	**Sn**	**05 01 48.3**	**0.0**
VWUC	**VWUC**	**2.72**	**319**	*e*S	**Sn**	**05 01 47.9**	**-1.1**
	baz=318						
JIJ	**Ishigaki jima**	**2.86**	**60**	P	**Pn**	**05 01 19.9**	**+0.7**
JIJ				*e*S	**Sn**	**05 01 53.1**	**+0.6**
PTMZ	**Houxiangcun**	**2.96**	**315**	*e*S	**Sn**	**05 01 54.1**	**-0.9**
	baz=314						
JISG	**Ishigakijimahi**	**3.10**	**58**	P	**Pn**	**05 01 22.7**	**+0.2**
JISG				S	**Sn**	**05 01 58.2**	**-0.3**

*NEIC **27** 05:13:42.5±1.3, 20°.2S±0°.2×178°.4W±0°.1, h556km±4km, mb4.1/14, Error ellipse: s-maj=21.6km s-min=16.4km az=182.0*
*IDC **27** 05:13:43.0±1.9, 20°.19S×178°.36W, h564km±20km, mb3.3/8, mb1 3.5/10, mb1mx3.3/40, mbtmp4.2/10, Error ellipse: s-maj=24.9km s-min=16.7km az=129.0*
ISC 27 05:13:41.5±0.6, **20°.3S**±0°.1×**178°.22W**±0°.10, **h550**km, **n36**, σ0**s88**/38, **mb4.1**/15, **1C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.35**	**305**	P	**P**	**05 15 07.3**	**+1.1**
	9.1nm,0.3s,baz=194,slow=8.3,SNR=41						
MSVF	**Nonsavu**	**4.35**	**305**		**P**	**05 15 07.4**	**+1.2**
NIUE	**Niue**	**7.91**	**83**	P	**P**	**05 15 38.4**	**+0.1**
DZM	**Mont Dzumac**	**14.41**	**260**	P	**P**	**05 16 45.0**	**0.0**
	0.7nm,0.3s,baz=90,slow=15,SNR=7.1						
URZ	**Urewera**	**18.35**	**192**	P	**P**	**05 17 20.4**	**-1.9**
	0.8nm,0.3s,baz=128,slow=20,SNR=7.9						
URZ				S		05 20 11.2	-11
	0.1nm,0.3s,baz=303,slow=24,SNR=1.5						
EIDS	**Eidsvold**	**28.70**	**254**	P	**P**	**05 18 54.8**	**0.0**
EIDS				IAmb	IAmb	05 18 55.5	
	comp=Z,5.0nm,0.7s						
ARMA	**Armidale**	**28.97**	**244**	P	**P**	**05 18 57.8**	**+0.7**
ARMA				IAmb	IAmb	05 19 13.9	
	comp=Z,8.2nm,1.1s						
CTAO	**Charters Tower**	**33.30**	**264**	P	**P**	**05 19 34.5**	**+0.2**
COEN	**Coen**	**37.36**	**273**	P	**P**	**05 20 08.1**	**+0.1**
COEN				IAmb	IAmb	05 20 08.8	
	comp=Z,6.3nm,0.9s						
STKA	**Stephens Creek**	**37.69**	**244**	P	**P**	**05 20 10.6**	**+0.1**
	comp=Z,4.2nm,0.7s,baz=83,slow=10,SNR=7.5						
STKA	**Stephens Creek**	**37.69**	**244**	P	**P**	**05 20 10.8**	**+0.3**
STKA				IAmb	IAmb	05 20 11.5	
	comp=Z,2.4nm,1.1s						
WR0	**Warramunga Arr**	**44.23**	**262**	P	**P**	**05 21 02.0**	**-0.5**
WR0				IAmb	IAmb	05 21 17.7	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**44.36**	**257**	P	**P**	**05 21 03.1**	**-0.4**
AS31				IAmb	IAmb	05 21 04.1	
	comp=Z,3.6nm,0.6s						
ASAR	**Alice Springs**	**44.36**	**257**	P	**P**	**05 21 03.4**	**-0.2**
	comp=Z,14nm,0.7s,baz=89,slow=8.3,SNR=132						
ASAR				PcP	**PcP**	**05 22 35.1**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=102,slow=3.8,SNR=6.9						
ASAR	**Alice Springs**	**44.36**	**257**	P	**P**	**05 21 03.1**	**-0.4**
WB2	**Warramunga Arr**	**44.41**	**262**	P	**P**	**05 21 03.6**	**-0.4**
WRA	**Warramunga Arr**	**44.42**	**262**	P	**P**	**05 21 03.4**	**-0.7**
	comp=Z,5.4nm,0.6s,baz=97,slow=8.4,SNR=68						
WRA				PcP	**PcP**	**05 22 35.2**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=101,slow=3.1,SNR=2.2						
WRA	**Warramunga Arr**	**44.42**	**262**	P	**P**	**05 21 02.5**	**-1.5**
MTN	**Manton Dam**	**48.95**	**270**	P	**P**	**05 21 37.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**52.85**	**262**	P	**P**	**05 22 06.6**	**+0.1**
FITZ				IAmb	IAmb	05 22 16.0	
	comp=Z,6.2nm,1.3s						
SBA	**Scott Base**	**58.06**	**184**	P	**P**	**05 22 43.3**	**+1.6**
VNDA	**Vanda**	**58.09**	**185**	P	**P**	**05 22 43.0**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=2.2,slow=7.8,SNR=14						
VNDA	**Vanda**	**58.09**	**185**	IAmb	IAmb	05 22 43.6	
	comp=Z,1.3nm,0.8s						
QSPA	**South Pole Qui**	**69.77**	**180**	P	**P**	**05 23 57.1**	**+0.6**
QSPA				IAmb	IAmb	05 23 57.8	
	comp=Z,5.1nm,0.8s						
NVAR	**Mina Array Bea**	**81.02**	**43**	P	**P**	**05 25 00.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=224,slow=9.7,SNR=5.0						
SEY	**Seymchan**	**86.13**	**347**	P	**P**	**05 25 24.1**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=164,slow=6.8,SNR=5.7						
ILAR	**Eielson Array**	**88.16**	**13**	P	**P**	**05 25 33.0**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=220,slow=5.1,SNR=7.3						
PDAR	**Pinedale Array**	**88.96**	**43**	P	**P**	**05 25 38.4**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=262,slow=2.7,SNR=2.7						
AKASG	**Malin Array Be**	**142.74**	**331**	PKP	**PKPdf**	**05 32 09.1**	**-3.1**
	comp=Z,5.1nm,0.6s,baz=42,slow=4.0,SNR=38						
BRTR	**Keskin Array B**	**146.55**	**312**	PKPbc	**PKPbc**	**05 32 21.3**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=136,slow=4.0,SNR=7.4						
BUR08	**Bucovina Ar. S**	**146.77**	**331**		**PKPbc**	**05 32 22.9**	**+0.8**
BURAR	**Bucovina Array**	**146.78**	**331**		**PKPbc**	**05 32 22.9**	**+0.7**
CLL	**Collm**	**147.82**	**347**	⇓ *i* PKPbc	**PKPbc**	**05 32 24.7**	**+0.1**
	comp=Z,6.0nm,0.8s						
CLL				⇑ *i* PKPab	**PKPab**	**05 32 28.8**	**-0.2**
	comp=Z,6.0nm,1.1s						
DPC	**Dobruska-Polom**	**147.87**	**342**	*e*PKP	**PKiKP**	**05 32 26.0**	**-0.2**
DPC				*ex*	x	05 32 30.5	
KHC	**Kasperske Hory**	**149.72**	**345**	*e*PKP	**PKPbc**	**05 32 29.5**	**+0.1**
KHC				*ex*	x	05 32 38.0	
GERES	**GERESS Array B**	**149.95**	**344**	PKPbc	**PKPbc**	**05 32 29.7**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=350,slow=3.1,SNR=5.9						

*IDC **27** 05:23:12.2±1.0, 21°.81S×67°.03W, h181km±9km, mb3.3/6, mb1 3.5/10, mb1mx3.5/24, mbtmp3.8/10, Error ellipse: s-maj=17.2km s-min=13.2km az=110.0*
*SJA **27** 05:23:12.1±0.7, 21°.77S×67°.22W, h197km±5km, ML4.1, MW3.7*
*VAO **27** 05:23:13.3±0.5, 21°.67S×66°.85W, h136km, mb4.1*
*GUC **27** 05:23:13.9±0.8, 21°.74S×67°.67W, h223km±9km, ML4.2*
*NEIC **27** 05:23:13.3±1.7, 21°.79S±0°.06×67°.5W±0°.1, h213km±4km, Error ellipse: s-maj=16.6km s-min=8.8km az=76.0*
*SCB **27** 05:23:16.6±1.5, 21°.75S×67°.23W, h168km±10km, ML3.9/4, Error ellipse: s-maj=5.6km s-min=3.7km az=0.0*
ISC 27 05:23:12.2±0.6, **21°.73S**±0°.04×**67°.19W**±0°.04, **h190**km±6km, **n98**, σ1**s53**/130, **mb3.7**/7, **1C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.53**	**72**	P	**Pn**	**05 23 47.2**	**+1.4**
MOCB				S	**Sn**	**05 24 11.4**	**-0.3**
MOCB				IAML		05 24 14.1	
	934nm,0.6s						
YJA	**Yavi**	**1.62**	**106**	P	**Pn**	**05 23 47.7**	**+1.1**
YJA				S	**Sn**	**05 24 12.7**	**-0.5**
YJA	**Yavi**	**1.62**	**106**	*e*P	**Pn**	**05 23 47.9**	**+1.3**
YJA				*e*S	**Sn**	**05 24 14.9**	**+1.7**
LVC	**Limon Verde**	**1.81**	**241**	P	**Pn**	**05 23 49.3**	**+0.9**
	7.2nm

PB06				IAML		05 24 28.6
	comp=E,445nm,0.3s					
PB06	**IPOC Station P**	**2.41 246**	Pn	**Pn**	**05 23 54.2**	**-0.3**
PB06	**IPOC Station P**	**2.41 246**	P	**Pn**	**05 23 55.7**	**+1.1**
PB06	**IPOC Station P**	**2.41 246**	*e*P	**Pn**	**05 23 54.8**	**+0.3**
PB06			*e*S	**Sn**	**05 24 26.8**	**-0.7**
PB08	**IPOC Station P**	**2.42 311**	*e*P	**Pn**	**05 23 57.0**	**+2.0**
PB08			*i* S	**Sn**	**05 24 29.3**	**+1.1**
PB08	**IPOC Station P**	**2.42 311**	Pn	**Pn**	**05 23 56.7**	**+1.7**
PB08	**IPOC Station P**	**2.42 311**	P	**Pn**	**05 23 57.2**	**+2.2**
PB08	**IPOC Station P**	**2.42 311**	*e*P	**Pn**	**05 23 57.0**	**+2.0**
PB08			*e*S	**Sn**	**05 24 30.1**	**+1.8**
PB07	**IPOC Station P**	**2.50 270**	*e*P	**Pn**	**05 23 56.1**	**+0.5**
PB07			*i* S	**Sn**	**05 24 28.1**	**-1.4**
PB07			IAML		05 24 28.9	
	comp=N,1μm,0.4s					
PB07	**IPOC Station P**	**2.50 270**		**Pn**	**05 23 56.6**	**+1.0**
PB07	**IPOC Station P**	**2.50 270**	*e*P	**Pn**	**05 23 56.0**	**+0.3**
PB07			*e*S	**Sn**	**05 24 28.7**	**-0.8**
PB07			IAML		05 24 29.9	
	comp=Z,1μm,0.2s					
PB15	**IPOC Station P**	**2.57 235**	*e*P	**Pn**	**05 23 57.3**	**+0.8**
PB15			*i* S	**Sn**	**05 24 30.8**	**-0.1**
PB15	**IPOC Station P**	**2.57 235**		**Pn**	**05 23 57.4**	**+0.8**
PB15	**IPOC Station P**	**2.57 235**	*e*P	**Pn**	**05 23 57.2**	**+0.8**
PB15			*e*S	**Sn**	**05 24 31.0**	**+0.1**
PB15			IAML		05 24 36.5	
	comp=Z,741nm,0.2s					
PB04	**IPOC Station P**	**2.81 257**	*e*P	**Pn**	**05 23 59.4**	**+0.2**
PB04			*i* S	**Sn**	**05 24 34.0**	**-1.8**
PB04			IAML		05 24 36.2	
	comp=E,507nm,0.2s					
PB04	**IPOC Station P**	**2.81 257**		**Pn**	**05 23 58.8**	**-0.4**
PB04	**IPOC Station P**	**2.81 257**	P	**Pn**	**05 23 59.8**	**+0.6**
PB04	**IPOC Station P**	**2.81 257**	*e*P	**Pn**	**05 23 59.4**	**+0.2**
PB04			*e*S	**Sn**	**05 24 34.0**	**-1.8**
PB04			IAML		05 24 37.4	
	comp=Z,327nm,0.2s					
PB05	**IPOC Station P**	**3.00 248**	*e*P	**Pn**	**05 24 01.5**	**+0.1**
PB05			*i* S	**Sn**	**05 24 37.5**	**-2.4**
PB05			IAML		05 24 39.0	
	comp=N,324nm,0.8s					
PB05	**IPOC Station P**	**3.00 248**	*e*P	**Pn**	**05 24 01.8**	**+0.4**
PB05			*e*S	**Sn**	**05 24 37.7**	**-2.2**
TA01	**Diego Aracena**	**3.02 292**	*e*P	**Pn**	**05 24 01.4**	**-0.1**
TA01			*i* S	**Sn**	**05 24 38.1**	**-2.0**
TA01			IAML		05 24 40.0	
	comp=N,553nm,0.4s					
TA01	**Diego Aracena**	**3.02 292**	Pn	**Pn**	**05 24 01.3**	**-0.3**
SLA	**San Lorenzo**	**3.35 153**	P	**Pn**	**05 24 07.2**	**+1.4**
SLA	**San Lorenzo**	**3.35 153**	*e*P	**Pn**	**05 24 07.0**	**+1.2**
SLA			*e*S	**Sn**	**05 24 48.7**	**+1.0**
MNMC	**Minye Minye**	**3.43 319**[1]	*e*P	**Pn**	**05 24 08.1**	**+1.2**
MNMC			*i* S	**Sn**	**05 24 49.9**	**+0.3**
MNMC	**Minye Minye**	**3.43 319**	Pn	**Pn**	**05 24 08.3**	**+1.5**
MNMC	**Minye Minye**	**3.43 319**	P	**Pn**	**05 24 08.4**	**+1.5**
MNMC			S	**Sn**	**05 24 48.9**	**-0.7**
MNMC			IAML		05 24 51.6	
	comp=N,454nm,0.4s					
MNMCX	**Minye Minye**	**3.43 319**	*e*P	**Pn**	**05 24 08.2**	**+1.3**
PSGC	**Pisagua**	**3.47 307**	*e*P	**Pn**	**05 24 06.8**	**-0.3**
PSGC			*i* S	**Sn**	**05 24 48.3**	**-1.9**
PSGC			IAML		05 24 51.4	
	comp=E,216nm,0.2s					
PSGC	**Pisagua**	**3.47 307**	P	**Pn**	**05 24 08.1**	**+0.9**
PSGC			S	**Sn**	**05 24 47.8**	**-2.3**
PSGC			IAML		05 24 49.2	
	comp=E,136nm,0.3s					
PSGCX	**Pisagua**	**3.47 307**	Pn	**Pn**	**05 24 07.8**	**+0.6**
PSGCX	**Pisagua**	**3.47 307**	*e*P	**Pn**	**05 24 06.9**	**-0.3**
GO02	**Mina Guanaco**	**4.06 212**	Pn	**Pn**	**05 24 14.7**	**0.0**
PB14	**IPOC Station P**	**4.12 225**	Pn	**Pn**	**05 24 14.7**	**-0.8**
FSA	**Cafayete**	**4.50 166**	*e*P	**Pn**	**05 24 20.9**	**+0.8**
BBOE	**La Paz, Chanca**	**4.95 351**	P	**Pn**	**05 24 29.4**	**+3.1**
BBOD	**La Paz, Gloria**	**5.24 345**	P	**Pn**	**05 24 33.0**	**+3.0**
AHML	**Horco Molle**	**5.31 162**	*e*P	**Pn**	**05 24 30.9**	**+0.5**
AC02	**Maricunga**	**5.38 199**	Pn	**Pn**	**05 24 31.0**	**-0.7**
LPAZ	**La Paz**	**5.49 351**	P	**Pn**	**05 24 35.5**	**+2.2**
	comp=E,4.3nm,0.3s,baz=160,slow=10,SNR=59					
LPAZ			S	**Sn**	**05 25 39.7**	**+2.5**
	baz=22,slow=18,SNR=1.6					
LPAZ	**La Paz**	**5.49 351**	Pn	**Pn**	**05 24 35.1**	**+1.8**
LPAZ	**La Paz**	**5.49 351**	P	**Pn**	**05 24 35.6**	**+2.2**
BBOB	**La Paz, Bander**	**5.63 351**	P	**Pn**	**05 24 37.3**	**+2.2**
GO03	**Copiap**	**6.46 205**	Pn	**Pn**	**05 24 42.8**	**-2.5**
AC04	**Llanos de Chal**	**7.34 208**	Pn	**Pn**	**05 24 53.4**	**-3.5**
LCO	**Las Campanas**	**7.91 203**	Pn	**Pn**	**05 25 01.8**	**-2.7**
SIV	**San Ignacio**	**8.14 46**	P	**Pn**	**05 25 05.9**	**-1.5**
	comp=E,9.2nm,0.3s,baz=254,slow=9.1,SNR=203					
SIV			S	**Sn**	**05 26 32.0**	**-6.8**
	comp=E,2.2nm,0.3s,baz=311,slow=19,SNR=6.8					
GO04	**Tololo Observa**	**9.01 200**	Pn	**Pn**	**05 25 15.6**	**-3.2**
CO03	**El Pedregal**	**9.59 198**	Pn	**Pn**	**05 25 24.8**	**-1.5**
PTLB	**Pontes e Lacer**	**9.87 52**	*e*P	**Pn**	**05 25 28.4**	**-1.6**
CPUP	**Villa Florida**	**10.11 119**	P	**Pn**	**05 25 30.9**	**-2.1**
	comp=E,0.2nm,0.3s,baz=288,slow=13,SNR=4.2					
VILB	**Vilhena**	**10.99 39**	*e*P	**Pn**	**05 25 44.0**	**-0.5**
VA03	**San Esteban**	**11.38 194**	Pn	**Pn**	**05 25 50.6**	**+1.1**
ETMB	**Extrema**	**11.89 5**	*e*P	**Pn**	**05 25 56.8**	**+0.8**
MT02	**Curacav**	**12.00 196**	Pn	**Pn**	**05 25 56.2**	**-1.1**
BO02	**Sierra Bellavi**	**13.39 193**		**Pn**	**05 26 13.2**	**-1.7**
CPSB	**Cacapava Do Su**	**15.07 128**	*e*P	**P**	**05 26 36.5**	**0.0**
BI02	**San Fabin de**	**15.29 193**	P	**Pn**	**05 26 37.1**	**-1.3**
BI02			IAmb	IAmb	05 26 40.1	
	comp=Z,4.1nm,0.8s					
FRTB	**Fartura**	**16.37 99**	*e*P	**Pn**	**05 26 52.2**	**+0.7**
SNDB	**Serra Nova Dou**	**18.03 60**	*e*P	**P**	**05 27 09.7**	**+0.5**
VAO	**Valinhos**	**18.75 98**	*e*P	**P**	**05 27 17.7**	**+0.7**
PLCA	**Paso Flores**	**19.15 188**	P	**P**	**05 27 21.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=9.8,slow=10,SNR=5.0					
PLCA	**Paso Flores**	**19.15 188**	P	**P**	**05 27 19.8**	**-1.4**
PLCA			IAmb	IAmb	05 27 48.0	
	comp=Z,5.5nm,1.3s					
MACA	**Manacapuru-AM**	**19.52 20**	*e*P	**Pn**	**05 27 29.1**	**+0.3**
ESPN	**Las Esperanzas**	**37.67 332**	P	**P**	**05 30 07.0**	**-2.3**
ESPN			IAmb	IAmb	05 30 07.9	
	comp=Z,8.8nm,0.5s					
HOPE	**Hope Point**	**39.92 152**	P	**P**	**05 30 29.4**	**+1.8**
TXAR	**Lajitas Array**	**61.74 324**	P	**P**	**05 33 12.1**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=143,slow=9.1,SNR=1.8					
PDAR	**Pinedale Array**	**75.12 329**	P	**P**	**05 34 35.6**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=133,slow=7.5,SNR=3.9					
PDAR	**Pinedale Array**	**75.12 329**	P	**P**	**05 34 31.3**	**-2.3**
TORD	**Torodi Ar. Bea**	**75.94 70**	P	**P**	**05 34 38.7**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=252,slow=5.1,SNR=9.3					
TORD	**Torodi Ar. Bea**	**75.94 70**	IAmb	IAmb	05 34 47.7	
	comp=Z,1.6nm,1.1s					
ULM	**Lac du Bonnet**	**76.03 341**	P	**P**	**05 34 39.2**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=180,slow=8.6,SNR=4.6					
ULM	**Lac du Bonnet**	**76.03 341**	P	**P**	**05 34 34.6**	**-3.6**
ULM			IAmb	IAmb	05 34 44.1	
	comp=Z,2.0nm,0.8s					
NVAR	**Mina Array Bea**	**76.67 321**	P	**P**	**05 34 44.9**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=163,slow=5.7,SNR=3.6					
NVAR	**Mina Array Bea**	**76.67 321**	P	P	05 34 37.4	-5.1
YKA	**Yellowknife Ar**	**91.94 340**	P	**P**	**05 36 00.2**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=128,slow=4.9,SNR=12					
WRA	**Warramunga Arr**	**133.54 208**	PKP	**PKiKP**	**05 42 07.5**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=154,slow=1.8,SNR=1.6					
MKAR	**Makanchi Array**	**144.87 37**	PKP	**PKPdf**	**05 42 27.6**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=310,slow=3.6,SNR=13					
MKAR	**Makanchi Array**	**144.87 37**	PKPab	PKPbc	05 42 25.6	-0.5
MJB9	**Matsu-Tunnel**	**153.46 309**		**PKPdf**	**05 42 39.9**	**-0.6**

KRSC 27 05:24:24.0±0.5, 55.87N×161.69E, h86km±7km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.56**	**277**	*e*S	Sn	05 24 51.6	+1.5
KBG	**Krutoberegovo**	**0.69**	**56**	*i* P	Pn	05 24 41.7	+1.7
KBG				*e*S	Sn	05 24 54.2	+2.3
KBTR	**Krutoberegovo**	**0.72**	**62**	*e*P	Pn	05 24 41.9	+1.6
KBTR				*e*S	Sn	05 24 54.5	+2.1
KRSR	**Krestovskiy**	**0.72**	**299**	*e*P	Pn	05 24 41.2	+0.8
KRSR				*e*S	Sn	05 24 53.7	+1.0
SMKR	**Semkarok**	**0.72**	**350**	*e*P	Pn	05 24 41.9	+1.5
KLY	**Klyuchi**	**0.73**	**308**	*e*P	Pn	05 24 40.6	+0.2
KLY				*e*S	Sn	05 24 52.4	-0.3
BDR	**Baidarnaya**	**0.75**	**339**	*i* P	Pn	05 24 42.2	+1.5
BDR				*e*S	Sn	05 24 55.3	+2.1
KIRR	**Kirishev**	**0.76**	**277**	*e*P	Pn	05 24 41.9	+1.0
KMNR	**Kamenistaya**	**0.83**	**262**	*e*P	Pn	05 24 43.4	+1.8
KMNR				*e*S	Sn	05 24 57.0	+2.3
SRKR	**Sorokina**	**0.83**	**340**	*e*P	Pn	05 24 43.0	+1.4
SRKR				*e*S	Sn	05 24 56.5	+1.7
TUMD	**Tumrok D**	**0.99**	**228**	*i* P	Pn	05 24 44.5	+1.1
TUMD				*e*S	Sn	05 24 58.7	+0.8
KOZ	**Kozyrevsk**	**1.04**	**281**	*e*P	Pn	05 24 45.1	+1.2
KOZ				*e*S	Sn	05 25 00.1	+1.3
TUMR	**Tumrok**	**1.06**	**237**	*i* P	Pn	05 24 45.8	+1.6
TUMR				*e*S	Sn	05 25 00.8	+1.5
KZV	**Kizimen**	**1.10**	**227**	*e*P	Pn	05 24 45.8	+1.1
KZV				*e*S	Sn	05 25 01.4	+1.1
SRDR	**Sredinnyy**	**1.19**	**293**	*e*P	Pn	05 24 46.5	+0.8
MKZ	**Mys Kozlova**	**1.32**	**179**	*e*P	Pn	05 24 48.5	+1.3
MKZ				*e*S	Sn	05 25 06.0	+1.3
ESO	**Esso**	**1.69**	**273**	*e*P	Pn	05 24 53.6	+1.7
BKI	**Bering**	**2.52**	**104**	*e*P	Pn	05 25 04.8	+1.9
BKI				*e*S	Sn	05 25 34.0	+1.2
SPN	**Mys Shipunski**	**2.95**	**200**	*e*P	Pn	05 25 09.5	+0.9
SPN				*e*S	Sn	05 25 44.0	+1.0
NLC	**Nalytchevo**	**3.03**	**208**	*e*P	Pn	05 25 13.7	+3.9
NLC				*e*S	Sn	05 25 47.5	+2.4
SDLR	**Sedlovina**	**3.07**	**213**	*e*P	Pn	05 25 13.0	+2.5
GNL	**Ganaly**	**3.08**	**226**	*e*P	Pn	05 25 12.1	+1.6
KRX	**Arik**	**3.08**	**216**	*e*P	Pn	05 25 12.8	+2.2
KRER	**Koryakskii**	**3.09**	**215**	*e*P	Pn	05 25 13.4	+2.6
SMAR	**Somma**	**3.11**	**214**	*e*P	Pn	05 25 13.7	+2.6
AVH	**Avacha**	**3.13**	**215**	*e*P	Pn	05 25 14.1	+2.9
KOK	**Koryaka**	**3.14**	**216**	*e*P	Pn	05 25 14.4	+3.1
UGLR	**Uglovaya**	**3.15**	**213**	*e*P	Pn	05 25 13.9	+2.4
DALK	**Dalny**	**3.32**	**212**	*e*P	Pn	05 25 16.1	+2.4
PET	**Petropavlovsk**	**3.36**	**213**	*e*P	Pn	05 25 16.7	+2.5
OSSR	**Ossora**	**3.47**	**12**	*e*P	Pn	05 25 17.2	+1.6
KRMR	**Karymshinskiy**	**3.69**	**216**	*e*P	Pn	05 25 21.5	+2.8
RUS	**Russkaya**	**3.92**	**210**	*e*P	Pn	05 25 24.1	+2.3
GRL	**Gorelyy**	**3.95**	**214**	*e*P	Pn	05 25 25.3	+3.0
MTVR	**Mutnovka**	**3.97**	**213**	*e*P	Pn	05 25 25.5	+2.8
ASAK	**Asacha**	**4.15**	**214**	*e*P	Pn	05 25 27.6	+2.6
TILK	**Tilichiki**	**5.16**	**25**	*e*P	Pn	05 25 41.4	+2.9

PRU **27** *05:24:39.6±0.0, 51.49N×16.07E, h0km*
VIE **27** *05:24:41.0±0.8, 51.35N×16.01E, h0km, mb2.1/2, ml2.5/5, Error ellipse: s-maj=6.9km s-min=5.4km az=67.0 75 km WNW of Wroclaw Suspected Mining induced.*
ISC 27 05:24:38.7±1.3, 51.52N±0.06×16.10E±0.03, h0km, n23, σ0.82/41, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**170**	*e*Pg	**Pg**	**05 24 52.0**	**+0.1**
KSP				*e*Sg	**Sg**	**05 25 01.0**	**+0.2**
CHVC	**Chvalec**	**0.93**	**182**	*e*PG	**Pg**	**05 24 56.9**	**+0.3**
CHVC				*e*SG	**Sg**	**05 25 09.0**	**+0.4**
	comp=Z,49nm,0.6s						
OSTC	**Ostas**	**0.97**	**176**	*e*PG	**Pg**	**05 24 57.6**	**+0.4**
OSTC				*e*SG	**Sg**	**05 25 09.9**	**+0.2**
	comp=Z,48nm,0.4s						
UPC	**Upice**	**1.01**	**183**	*e*PG	**Pg**	**05 24 58.3**	**+0.2**
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG	**Pg**	**05 25 00.9**	**-0.4**
DPC				*e*SG	**Sg**	**05 25 16.0**	**-0.5**
	comp=Z,46nm,0.4s						
PVCC	**Panska Ves**	**1.39**	**225**	*e*PG	**Pg**	**05 25 05.1**	**-0.2**
PVCC				*e*SG	**Sb**	**05 25 23.7**	**0.0**
	comp=Z,156nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**245**	Pg	**Pb**	**05 25 07.6**	**+0.1**
BRG				Sg	**Sn**	**05 25 27.9**	**+0.6**
BRG				Amp		05 25 28.0	
	comp=Z,43nm,0.4s						
KRLC	**Kraliky**	**1.51**	**163**	*e*PG	**Pn**	**05 25 07.1**	**+0.1**
KRLC				*e*SG	**Sg**	**05 25 26.5**	**-0.6**
	comp=Z,16nm,0.2s						
PRU	**Pruhonice**	**1.82**	**213**	*e*SG	**Sb**	**05 25 36.3**	**0.0**
CLL	**Collm**	**1.95**	**265**	*e*Pg	**Pb**	**05 25 15.0**	**-0.1**
CLL				*e*Sg	**Sg**	**05 25 41.0**	**-0.4**
	comp=Z,13nm,0.4s						
MORC	**Moravsky Berou**	**1.97**	**152**	*e*PN	**Pn**	**05 25 12.7**	**-0.7**
MORC				*e*SG	**Sb**	**05 25 40.1**	**-0.5**
VRAC	**Vranov**	**2.23**	**172**	*e*PN	**Pn**	**05 25 16.8**	**-0.2**
VRAC				*e*SG	**Sb**	**05 25 48.7**	**+0.5**
PBCC	**Pribram**	**2.27**	**217**	*e*SG	**Sb**	**05 25 50.0**	**+0.7**
KRUC	**Moravsky**	**2.47**	**176**	*e*PN	**Pn**	**05 25 20.2**	**0.0**
KRUC				*e*SG	**Sb**	**05 25 56.7**	**+1.9**
NKC	**Novy Kostel**	**2.65**	**242**	*e*SG	**Sg**	**05 26 04.4**	**+0.6**
	comp=Z,24nm,0.3s						
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**05 25 30.0**	**0.0**
OJC				*e*Sg	**Sg**	**05 26 05.0**	**+0.3**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN	**Pn**	**05 25 25.5**	**-0.5**
KHC				*e*PG	**Pb**	**05 25 30.7**	**-0.4**
KHC				*e*SN	**Sn**	**05 25 58.9**	**-2.5**
KHC				*e*SG	**Sb**	**05 26 09.2**	**+2.3**
	comp=Z,6.2nm,0.3s						
LANS	**Liptovska Anna**	**3.21**	**136**	*e*SG	**Sg**	**05 26 22.3**	**+0.7**
MODS	**Modra-Piesok**	**3.24**	**166**	*e*SG	**Sg**	**05 26 23.0**	**+0.3**
CONA	**Conrad Observa**	**3.60**	**183**	*i* Pn	**Pn**	**05 25 36.4**	**+0.6**
	comp=Z,0.5nm,0.1s						
CONA				*e*Sg	**Sg**	**05 26 33.1**	**-1.1**
	comp=Z,12nm,0.5s						
MOA	**Molln**	**3.86**	**199**	*i* Pn	**Pn**	**05 25 39.9**	**+0.5**
	comp=Z,0.5nm,0.1s						
MOA				*e*Sg	**Sg**	**05 26 42.8**	**+0.1**
	comp=Z,4.3nm,0.3s						
KBA	**Koelnbreinsper**	**4.80**	**203**	*i* Pn	**Pn**	**05 25 52.7**	**+0.4**
	comp=Z,0.8nm,0.4s						
KBA				*e*Sg	**Sg**	**05 27 11.0**	**-1.7**
	comp=Z,4.0nm,0.6s						
OBKA	**Obir**	**5.12**	**192**	Sg	**Sg**	**05 27 23.9**	**+0.8**
	comp=Z,2.3nm,0.5s						

JMA **27** *05:29:18.3±0.2, 24.70N×122.71E, h103km±2km, M1.9*
TAP **27** *05:29:19.4, 24.72N×122.70E, h91km±1km, ML2.8, C*
ISC 27 05:29:19.7±1.6, 24.71N±0.06×122.71E±0.03, h92km±10km, n34, σ0.86/66, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.33**	**140**	P	**Pn**	**05 29 33.4**	**-0.1**
JYNG				S	**Sn**	**05 29 44.9**	**+1.1**
YOJ	**Yonaguni jima**	**0.37**	**132**	*e*P	**Pn**	**05 29 33.6**	**-0.1**
	baz=132						
YOJ				*e*S	**Sn**	**05 29 43.5**	**-0.7**
	baz=132						
YOJ	**Yonaguni jima**	**0.37**	**132**	P	**Pn**	**05 29 33.5**	**-0.2**
YOJ				*e*S	**Sn**	**05 29 45.6**	**+1.5**
TWC	**Suao**	**0.79**	**263**	P	**Pn**	**05 29 37.5**	**+0.3**
	baz=261						
TWC				*e*S	**Sn**	**05 29 50.0**	**-0.3**
	baz=261						
TIPB	**Shuangxi**	**0.84**	**288**	*i* P	**Pn**	**05 29 37.6**	**-0.2**
	baz=287						
TIPB				*e*S	**Sn**	**05 29 51.2**	**-0.2**
	baz=287						
NDS	**Dongshan**	**0.91**	**266**	*e*P	**Pn**	**05 29 37.8**	**-0.7**
	baz=264						
NDS				*e*S	**Sn**	**05 29 52.6**	**0.0**
	baz=264						
ENA	**Nanau**	**0.93**	**253**	*e*P	**Pn**	**05 29 39.4**	**+0.7**
	baz=251						
IRIF	**Iriomote-Funau**	**1.00**	**112**	P	**Pn**	**05 29 39.2**	**-0.3**
IRIF				S	**Sn**	**05 29 55.3**	**+0.9**
ENTT	**Nioudou**	**1.04**	**267**	*e*P	**Pn**	**05 29 40.7**	**+0.7**
	baz=265						
ENTT				*e*S	**Sn**	**05 29 55.4**	**+0.1**
	baz=265						
PCYT	**Pengchaiyu**	**1.08**	**328**	*e*P	**Pn**	**05 29 40.1**	**-0.4**
	baz=328						
PCYT				*e*S	**Sn**	**05 29 55.8**	**-0.4**
	baz=328						
NDT	**Datong Townshi**	**1.09**	**265**	*e*P	**Pn**	**05 29 41.0**	**+0.4**
	baz=263						
NDT				*e*S	**Sn**	**05 29 57.0**	**+0.7**
	baz=263						
NWLT	**Wulai**	**1.10**	**274**	*e*P	**Pn**	**05 29 40.8**	**+0.1**
	baz=272						
NWLT				*e*S	**Sn**	**05 29 56.5**	**0.0**
	baz=272						
YHNB	**Yeheng**	**1.21**	**268**	*e*P	**Pn**	**05 29 42.2**	**+0.1**
	baz=267						
YHNB				*e*S	**Sn**	**05 29 58.6**	**-0.3**
	baz=267						
ETLH	**Xiulin Townshi**	**1.23**	**246**	*e*P	**Pn**	**05 29 41.7**	**-0.5**
	baz=245						
ETLH				*e*S	**Sn**	**05 29 58.5**	**-0.7**
	baz=245						
NSK	**Sanguang**	**1.23**	**269**	*e*P	**Pn**	**05 29 42.5**	**+0.2**
	baz=267						
NSK				*e*S	**Sn**	**05 29 59.0**	**-0.3**
	baz=267						
NNSB	**Datong**	**1.24**	**257**	*e*P	**Pn**	**05 29 41.7**	**-0.7**
	baz=256						
NNSB				*e*S	**Sn**	**05 29 59.3**	**-0.3**
	baz=256						
NNSH	**Datong**	**1.24**	**257**	*e*P	**Pn**	**05 29 42.1**	**-0.3**
	baz=256						
NNSH				*e*S	**Sn**	**05 29 59.0**	**-0.5**
	baz=256						
JKRS	**Kuro-shima**	**1.27**	**111**	P	**Pn**	**05 29 42.5**	**-0.2**
JKRS				S	**Sn**	**05 30 01.1**	**+1.0**
JIJ	**Ishigaki jima**	**1.35**	**104**	P	**Pn**	**05 29 43.4**	**-0.3**
JIJ				S	**Sn**	**05 30 01.2**	**-0.6**
FUSS	**Fushou**	**1.41**	**251**	*e*P	**Pn**	**05 29 45.2**	**+0.5**
	baz=250						
FUSS				*e*S	**Sn**	**05 30 03.2**	**-0.4**
	baz=250						
WHF	**Hehuan Shan**	**1.43**	**247**	*e*P	**Pn**	**05 29 45.8**	**+0.7**
	baz=245						
WHF				*e*S	**Sn**	**05 30 02.6**	**-1.6**
	baz=245						
JISG	**Ishigakijimahi**	**1.46 94**		P	**Pn**	**05 29 44.6**	**-0.4**
JISG				S	**Sn**	**05 30 04.3**	**+0.1**
TDCB	**Techi**	**1.48**	**253**	*e*P	**Pn**	**05 29 45.4**	**-0.1**
	baz=251						
TDCB				*e*S	**Sn**	**05 30 04.4**	**-0.6**
	baz=251						
CHGB	**Renai**	**1.54**	**246**	*e*P	**Pn**	**05 29 46.2**	**-0.1**
	baz=244						
CHGB				*e*S	**Sn**	**05 30 05.0**	**-1.4**
	baz=244						
WHP	**Taichung City**	**1.66**	**255**	*e*P	**Pn**	**05 29 48.5**	**+0.8**
	baz=254						
WHP				*e*S	**Sn**	**05 30 09.8**	**+0.8**
	baz=254						
VWDT	**VWDT**	**1.72**	**237**	*e*P	**Pn**	**05 29 48.4**	**+0.1**
	baz=235						
VWDT				*e*S	**Sn**	**05 30 08.5**	**-1.6**
	baz=235						
EHY	**Hungye**	**1.74**	**227**	*e*P	**Pn**	**05 29 48.3**	**-0.4**
	baz=225						
EHY				*e*S	**Sn**	**05 30 08.8**	**-1.8**
	baz=225						
JTJ	**Tarama**	**1.81 92**		S	**Sn**	**05 30 12.0**	**-0.2**
YULB	**Yu-li**	**1.84**	**225**	*e*P	**Pn**	**05 29 49.3**	**-0.6**
	baz=223						
YULB				*e*S	**Sn**	**05 30 10.8**	**-2.0**
	baz=223						
SMLT	**Sun Moon Lake**	**1.84**	**244**	*e*P	**Pn**	**05 29 51.5**	**+1.4**
	baz=242						
SMLT				*e*S	**Sn**	**05 30 13.1**	**-0.1**
	baz=242						
TYC	**Yuchr**	**1.87**	**245**	*e*P	**Pn**	**05 29 51.5**	**+1.2**
	baz=243						
TYC				*e*S	**Sn**	**05 30 15.2**	**+1.7**
	baz=243						
YUS	**Yu-Shan**	**2.01**	**233**	*e*P	**Pn**	**05 29 52.7**	**0.0**
	baz=232						
YUS				*e*S	**Sn**	**05 30 16.5**	**-1.1**
	baz=232						
ALS	**Alishan**	**2.11**	**236**	*e*P	**Pn**	**05 29 54.9**	**+1.2**
	baz=234						
ALS				*e*S	**Sn**	**05 30 20.8**	**+1.2**
	baz=234						
CHN5	**Tsauling**	**2.16**	**240**	*e*P	**Pn**	**05 29 56.6**	**+2.4**
	baz=238						
CHN5				*e*S	**Sn**	**05 30 21.2**	**+0.7**
	baz=238						

IDC 27 05:44:18.3±3.7, 28.03S×176.97W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/17, mbtmp3.8/2, MS3.7/2, Ms1 3.7/2, ms1mx2.8/32, Error ellipse: s-maj=69.3km s-min=31.6km az=101.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.47**	**214**	Pn	Pn	05 44 46.1	0.0
	71nm,0.3s,baz=29,slow=20,SNR=6.1						
RAO				Sn	Sn	05 45 07.0	+0.9
	675nm,0.3s,baz=273,slow=23,SNR=11						
ASAR	**Alice Springs**	**44.19**	**264**	P	P	05 52 28.9	-0.4
	0.2n

TESR				⇑S	Sn	06 18 30.3	-0.4	
TESR	**Tescani**	**0.72**	**353**	⇓P	Pn	06 18 18.7	+0.1	
TESR				⇑S	Sn	06 18 30.3	-0.4	
OZUR		**0.76**	**294**	⇓S	Sn	06 18 31.0	-0.3	
OZUR		**0.76**	**294**	⇓S	Sn	06 18 31.0	-0.3	
PGOR	**Pogoanele**	**0.90**	**171**	⇑S	Sn	06 18 33.1	-0.8	
PGOR	**Pogoanele**	**0.90**	**171**	⇑S	Sn	06 18 33.1	-0.8	
SECR		**0.91**	**214**	⇓P	Pn	06 18 20.6	0.0	
SECR				⇑S	Sn	06 18 34.7	+0.5	
SECR		**0.91**	**214**	⇓P	Pn	06 18 20.6	0.0	
SECR				⇑S	Sn	06 18 34.7	+0.5	
DOPR	**Dopca**	**0.99**	**281**	⇓P	Pn	06 18 21.7	+0.2	
DOPR				⇓S	Sn	06 18 35.6	-0.3	
DOPR	**Dopca**	**0.99**	**281**	⇓P	Pn	06 18 21.7	+0.2	
DOPR				⇓S	Sn	06 18 35.6	-0.3	
CFR	**Carcaliu**	**1.13**	**122**	⇓P	Pn	06 18 23.4	+0.2	
CFR				⇓S	Sn	06 18 38.5	-0.3	
CFR	**Carcaliu**	**1.13**	**122**	⇓P	Pn	06 18 23.4	+0.2	
CFR				⇓S	Sn	06 18 38.5	-0.3	
VOIR		**1.27**	**254**	⇓S	Sn	06 18 42.2	+0.3	
VOIR		**1.27**	**254**	⇓S	Sn	06 18 42.2	+0.3	
HARR	**Harsova**	**1.37**	**143**	⇑P	Pn	06 18 26.6	+0.5	
HARR	**Harsova**	**1.37**	**143**	⇑P	Pn	06 18 26.6	+0.5	
TPGR	**Topolog**	**1.49**	**128**	⇓P	Pn	06 18 28.0	+0.4	
TPGR				⇑S	Sn	06 18 46.7	0.0	
TPGR	**Topolog**	**1.49**	**128**	⇓P	Pn	06 18 28.0	+0.4	
TPGR				⇑S	Sn	06 18 46.7	0.0	
TIRR	**Tirgusor**	**1.77**	**139**	⇑P	Pn	06 18 31.2	+0.1	
TIRR				⇑S	Sn	06 18 52.4	-0.7	
TIRR	**Tirgusor**	**1.77**	**139**	⇑P	Pn	06 18 31.2	+0.1	
TIRR				⇑S	Sn	06 18 52.4	-0.7	

ISC 27 06:38:44.3±1.0, 48°40′N±0′.05×17°20′E±0′.05, h10km±6km, n8, σ1§21/13, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MODS	**Modra-Piesok**	**0.05**	**116**	*e*PG	**Pg**	**06 38 46.1**	**-0.3**
MODS				*e*SG	**Sg**	**06 38 47.8**	**-0.2**
MODS				eLG	Lg	06 38 49.1	
SMOL	**Smolenice**	**0.19**	**52**	*e*PG	**Pb**	**06 38 48.3**	**-1.5**
SMOL				*e*SG	**Sb**	**06 38 51.5**	**+0.4**
ZST	**Bratislava**	**0.21**	**199**	*e*PG	**Pb**	**06 38 49.2**	**-1.0**
ZST				*e*SG	**Sg**	**06 38 53.3**	**+1.6**
ZST				eLG	Lg	06 38 56.5	
JAVC	**Velka Javorina**	**0.56**	**34**	*e*PG	**Pb**	**06 38 55.1**	**-1.0**
JAVC				*e*SG	**Sb**	**06 39 03.8**	**-0.4**
KOLL	**Kolacno**	**0.82**	**77**	*e*PG	**Pg**	**06 39 01.4**	**+1.4**
KRUC	**Moravsky**	**0.85**	**321**	*e*PG	**Pb**	**06 39 00.6**	**-0.6**
VRAC	**Vranov**	**1.00**	**336**	*e*PG	**Pg**	**06 39 04.1**	**+0.6**
VYHS	**Vyhne**	**1.09**	**84**	*e*PG	**Pn**	**06 39 05.2**	**-0.4**
VYHS				*e*SG	**Sg**	**06 39 21.2**	**+1.8**

*IDC **27** 06:49:31.9±3.1, 53°.58N×90°.75E, h0km, mb1 3.6/3, mb1mx3.2/58, mbtmp3.6/3, ML3.1/3, Error ellipse: s-maj=27.3km s-min=22.5km az=53.0*
*NNC **27** 06:49:34.1±1.9, 53°.52N×90°.67E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=17.1km s-min=12.0km az=73.0, Suspected Mining explosion.*

ISC 27 06:49:14.4±4.1, 52°.09N±0°.07×90°.7E±0°.2, h0km, n9, σ1§54/11, 6C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.99**	**300**	*i*		07 13 20.0	
	baz=89,slow=316,SNR=3.3						
ZAA0	**Zalesovo Array**	**3.99**	**300**	⇑Pn	**Pg**	**06 50 30.2**	**-0.6**
	5.7nm,0.8s						
ZAA0				⇓Lg	Lg	06 51 25.4	
	26nm,0.8s						
ZALV	**Zalesovo Beam**	**3.99**	**300**	Pn	**Pg**	**06 50 29.7**	**-1.1**
	2.3nm,0.3s,baz=94,slow=14,SNR=24						
ZALV				Lg	Lg	06 51 23.7	
	2.8nm,0.3s,baz=91,slow=25,SNR=9.5						
MK31	**Makanchi Array**	**7.61**	**229**	⇓Pn	**Pg**	**06 51 39.6**	**-0.5**
	0.1nm,0.2s,baz=35,slow=12,SNR=18						
MK31				⇑Sn	**Sg**	**06 53 20.7**	**+2.1**
	7.9nm,0.8s,baz=45,slow=22,SNR=5.5						
MK31				⇑Lg	Lg	06 54 06.5	
	33nm,1.1s,baz=52,slow=28,SNR=5.5						
MKAR	**Makanchi Array**	**7.61**	**229**	Pn	**Pg**	**06 51 39.4**	**-0.6**
	0.4nm,0.3s,baz=32,slow=13,SNR=20						
MKAR				Sn	**Sg**	**06 53 16.5**	**-2.1**
	0.2nm,0.3s,baz=40,slow=16,SNR=1.1						
MKAR				Lg	Lg	06 54 07.4	
	0.1nm,0.3s,baz=37,slow=24,SNR=6.1						
KURBB	**Kurchatov Arra**	**7.74**	**264**	Pn	**Pb**	**06 51 30.3**	**+0.9**
	0.4nm,0.3s,baz=64,slow=14,SNR=9.8						
KURBB				Sn	**Sb**	**06 53 00.8**	**-1.3**
	0.1nm,0.3s,baz=67,slow=25,SNR=3.6						
KURBB				Lg	Lg	06 53 48.7	
	0.1nm,0.3s,baz=67,slow=33,SNR=4.6						
KURBB	**Kurchatov Arra**	**7.74**	**264**	⇑Pn	**Pb**	**06 51 30.9**	**+1.6**
	7.1nm,0.8s						
KURBB				⇓Sn	**Sb**	**06 53 03.1**	**+1.0**
	62nm,0.8s						
KURBB				⇓Lg	Lg	06 53 48.3	
	133nm,0.9s						
MAKZ	**Makanchi**	**7.75**	**230**	⇑Pn	**Pg**	**06 51 41.4**	**-1.3**
	4.6nm,0.6s						
MAKZ				⇑Lg	Lg	06 54 09.4	
	22nm,0.9s						
SONM	**Songino Array**	**10.99**	**107**	Lg	Lg	06 55 26.1	
	0.1nm,0.3s,baz=305,slow=28,SNR=9.4						

IDC 27 06:54:05.2±1.6, 50°.32S×114°.26E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/29, mbtmp3.9/4, MS3.4/2, Ms1 3.4/2, ms1mx2.9/17, Error ellipse: s-maj=133.0km s-min=27.5km az=117.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.41**	**360**	T	T	07 13 19.0	
	baz=180,slow=75,SNR=52						
H01W1	**Cape Leeuwin H**	**15.42**	**360**	T	T	07 13 19.7	
	baz=180,slow=75,SNR=43						
H01W3	**Cape Leeuwin H**	**15.43**	**360**	T	T	07 13 20.5	
	baz=180,slow=75,SNR=47						
NWAO	**Narrogin (SRO)**	**17.52**	**8**	LR	LR	07 03 37.3	
	comp=Z,69nm,19.3s,baz=228,slow=33						
ASAR	**Alice Springs**	**30.69**	**37**	P	P	07 00 21.4	-0.3
	0.5nm,0.6s,baz=211,slow=7.5,SNR=10						
VNDA	**Vanda**	**32.53**	**163**	LR	LR	07 12 15.8	
	comp=Z,97nm,19.0s,baz=254,slow=34						
FITZ	**Fitzroy Crossi**	**33.41**	**20**	P	P	07 00 46.1	+0.6
	2.2nm,0.8s,baz=178,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**34.24**	**35**	P	P	07 00 52.4	-0.3
	1.9nm,1.0s,baz=203,slow=9.1,SNR=6.7						
SNAA	**Sanae**	**50.53**	**201**	P	P	07 03 04.5	-0.2
	2.1nm,1.1s,baz=104,slow=6.7,SNR=1.0						
YKA	**Yellowknife Ar**	**151.11**	**46**	PKPbc	PKPbc	07 13 58.7	-0.2
	0.1nm,0.5s,baz=281,slow=1.7,SNR=4.4						

*RHSSO **27** 06:54:23.7±0.7, 41°.79N×19°.18E, h5km±2km, ML3.1/13*
*TIR **27** 06:54:25.0, 41°.91N×19°.07E, h29km±4km*
*PDG **27** 06:54:25.6±0.1, 41°.92N×19°.04E, h17km, MD3.0/5, ML3.0/13, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*BEO **27** 06:54:26.8±0.4, 41°.95N×19°.11E, h9km±2km, ML2.8/16*

ISC 27 06:54:25.6±0.9, 41°.92N±0°.02×19°.07E±0°.02, h12km±6km, n81, σ1§07/142, 31C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.14**	**72**	⇑*i*Pg	**Pg**	**06 54 29.8**	**+0.8**
ULC				*i* Sg	**Sg**	**06 54 33.3**	**+1.9**
SDA	**Shkodra**	**0.34**	**68**	P	Pg	06 54 26.0	-6.6
	baz=65						
SDA				S	**Sg**	**06 54 32.0**	**-5.2**
	baz=65						
BUM	**Brajici-Budva**	**0.40**	**341**	⇑*i*Pg	**Pg**	**06 54 33.6**	**-0.1**
BUM				*i* Sg	**Sb**	**06 54 40.3**	**-0.6**
PDG	**Podgorica**	**0.53**	**15**	*e*Pg	**Pg**	**06 54 36.0**	**0.0**
PDG				*e*Sg	**Sb**	**06 54 44.5**	**+0.1**
PDG	**Podgorica**	**0.53**	**15**	⇓S	**Sb**	**06 54 44.8**	**+0.5**
PDG	**Podgorica**	**0.53**	**15**	⇓*i*Pg	**Pg**	**06 54 35.6**	**-0.4**
PDG				*e*Sg	**Sb**	**06 54 44.6**	**+0.1**
TTG	**Podgorica**	**0.53**	**15**	⇓*i*Pg	**Pg**	**06 54 35.9**	**0.0**
TTG				*i* Sg	**Sb**	**06 54 44.4**	**+0.1**
PUK	**Puka**	**0.62**	**78**	P	**Pb**	**06 54 37.8**	**-0.7**
	baz=76						
PUK				S	**Sb**	**06 54 47.3**	**+0.1**
	baz=76						
CEME	**Cevo**	**0.64**	**350**	⇓*i*Pg	**Pg**	**06 54 37.6**	**-0.4**
CEME				*i* Sg	**Sb**	**06 54 48.0**	**+0.4**
HCY	**Herceg Novi**	**0.68**	**321**	*e*Pg	**Pg**	**06 54 38.8**	**0.0**
HCY				*e*Sg	**Sn**	**06 54 50.6**	**-1.0**
HCY	**Herceg Novi**	**0.68**	**321**	⇓*i*Pg	**Pg**	**06 54 38.4**	**-0.4**
HCY				*i* Sg	**Sb**	**06 54 49.1**	**+0.3**
TIR	**Tirane**	**0.83**	**134**	*e*Pg	**Pg**	**06 54 41.2**	**-0.4**
TIR				*e*Sg	**Sn**	**06 54 55.0**	**-0.2**
TIR	**Tirane**	**0.83**	**134**	P	**Pb**	**06 54 41.5**	**-0.4**
	baz=132						
TIR				S	**Sb**	**06 54 53.7**	**+0.7**
	baz=132						
NKME	**Niksic**	**0.85**	**354**	⇓*i*Pg	**Pg**	**06 54 41.7**	**-0.4**
NKME				*i* Sg	**Sn**	**06 54 55.1**	**-0.8**
BCI	**Bajram Curri**	**0.86**	**59**	P	**Pg**	**06 54 42.0**	**-0.3**
	baz=57						
BCI				S	**Sn**	**06 54 55.5**	**-0.6**
	baz=57						
NKY	**Niksic**	**0.89**	**356**	⇑*i*Pg	**Pg**	**06 54 42.3**	**-0.6**
NKY				*i* Sg	**Sn**	**06 54 56.8**	**-0.2**
PVY	**Plav**	**0.94**	**44**	⇑*i*Pg	**Pg**	**06 54 43.5**	**-0.3**
PVY				*i* Sg	**Sn**	**06 54 58.5**	**+0.3**
TREB	**Trebinje**	**0.96**	**326**	*e*Pg	**Pg**	**06 54 43.7**	**-0.4**
TREB				*e*Sg	**Sb**	**06 54 57.9**	**+1.1**
TREB	**Trebinje**	**0.96**	**326**	⇑*i*Pg	**Pg**	**06 54 43.5**	**-0.6**
TREB				*e*Sg	**Sn**	**06 54 59.0**	**+0.5**
KOME	**Kolasin**	**0.98**	**19**	⇓*i*Pg	**Pg**	**06 54 44.1**	**-0.5**
KOME				*e*Sg	**Sn**	**06 55 00.0**	**+0.7**
PHP	**Peshkopia**	**1.05**	**103**	P	**Pg**	**06 54 45.4**	**-0.5**
	baz=101						
PHP				S	**Sb**	**06 54 59.8**	**+0.3**
	baz=101						
BRY	**Bratogost**	**1.06**	**338**	⇑*i*Pg	**Pg**	**06 54 45.2**	**-0.8**
BRY				*e*Sg	**Sn**	**06 55 02.6**	**+1.5**
BRY	**Bratogost**	**1.06**	**338**	⇑*i*Pg	**Pg**	**06 54 45.3**	**-0.8**
BRY				*i* Sg	**Sn**	**06 55 02.1**	**+1.0**
IVA	**Berane**	**1.13**	**32**	⇑*i*Pg	**Pg**	**06 54 47.0**	**-0.4**
IVA				*i* Sg	**Sn**	**06 55 05.2**	**+2.4**
UPM	**Unac-Piva**	**1.29**	**355**	*e*Pg	**Pn**	**06 54 49.2**	**-0.4**
UPM				*e*Sg	**Sn**	**06 55 08.4**	**+1.5**
UPM	**Unac-Piva**	**1.29**	**355**	⇑*i*Pg	**Pn**	**06 54 49.1**	**-0.5**
UPM				*i* Sg	**Sn**	**06 55 09.7**	**+2.8**
STON	**Ston**	**1.39**	**314**	*e*Pn	**Pn**	**06 54 49.9**	**-0.9**
STON				Sg	**Sn**	**06 55 09.0**	**-0.1**
PLE	**Pljevlja**	**1.43**	**9**	⇑*i*Pg	**Pb**	**06 54 52.2**	**0.0**
PLE				*i* Sg	**Sg**	**06 55 13.0**	**+1.4**
VLO	**Vlora**	**1.49**	**167**	P	**Pn**	**06 54 52.3**	**+0.2**
	baz=167						
SJES	**Sjenica**	**1.50**	**26**	*e*Pg	**Pb**	**06 54 53.5**	**+0.1**
SJES				*e*Sg	**Sn**	**06 55 11.6**	**-0.3**
OHR	**Ohrid**	**1.53**	**121**	*i* Pn	**Pg**	**06 54 54.4**	**-0.6**
OHR				*i* Sn	**Sg**	**06 55 15.1**	**+0.2**
RUDO	**Rudo**	**1.71**	**7**	⇑*i*Pn	**Pb**	**06 54 56.2**	**-0.8**
RUDO				*e*Sn	**Sg**	**06 55 19.8**	**-0.8**
IVAS	**Ivanjica**	**1.84**	**25**	*e*Pn	**Pn**	**06 54 57.9**	**+0.9**
IVAS				*e*Sn	**Sn**	**06 55 20.3**	**+0.1**
SCTE	**Santa Cesarea**	**1.90**	**194**	P	**Pn**	**06 54 58.9**	**+1.0**
	baz=195						
BBLS	**Lazići**	**1.96**	**7**	*e*Pn	**Pb**	**06 55 00.6**	**-0.7**
BBLS				*e*Sn	**Sb**	**06 55 25.2**	**-0.5**
BBLS	**Lazići**	**1.96**	**7**	*e*Pn	**Pn**	**06 54 59.5**	**+0.8**
BBLS				*e*Sn	**Sb**	**06 55 25.6**	**-0.1**
SELS	**Selova**	**1.99**	**49**	*e*Pn	**Pn**	**06 54 59.9**	**+0.8**
SELS				*e*Sn	**Sn**	**06 55 24.1**	**+0.1**
MAKA	**Makarska**	**2.04**	**313**	*i* Pn	**Pn**	**06 54 59.8**	**0.0**
RICI	**Ricice**	**2.12**	**318**	*i* Pn	**Pn**	**06 55 01.0**	**+0.1**
SRN	**Sarande**	**2.16**	**161**	P	**Pb**	**06 55 03.2**	**-1.3**
	baz=160						
HAPS	**Han Pijesak,Bl**	**2.17**	**358**	*e*Pn	**Pn**	**06 55 02.1**	**+0.5**
HAPS				*e*Sn	**Sn**	**06 55 29.6**	**+1.2**
HAPS	**Han Pijesak,Bl**	**2.17**	**358**	*e*Pn	**Pn**	**06 55 02.2**	**+0.6**
HAPS				*e*Sn	**Sn**	**06 55 30.0**	**+1.6**
MATE	**Matera**	**2.19**	**235**	⇑P	**Pb**	**06 55 04.1**	**-1.0**
MATE				⇑S	**Sg**	**06 55 34.6**	**-1.4**
BARS	**Barje**	**2.22**	**65**	*e*Pn	**Pn**	**06 55 02.2**	**-0.1**
BARS	**Barje**	**2.22**	**65**	*e*Pn	Pg	06 55 13.5	+5.3
BARS				*e*Sn	**Sn**	**06 55 30.2**	**+0.6**
DIVS	**Divibare**	**2.28**	**17**	*e*Pn	**Pn**	**06 55 03.8**	**+0.7**
DIVS				*e*Sn	**Sn**	**06 55 32.3**	**+1.1**
DIVS	**Divibare**	**2.28**	**17**	⇓*i*Pn	**Pn**	**06 55 03.6**	**+0.5**
DIVS				*e*Sn	**Sb**	**06 55 33.4**	**-1.5**
GRUS	**Gruza**	**2.31**	**31**	*e*Pn	**Pn**	**06 55 04.3**	**+0.9**
GRUS				*e*Sn	**Sb**	**06 55 33.9**	**-1.7**
HVAR	**Hvar**	**2.31**	**304**	*e*Pn	**Pn**	**06 55 02.7**	**-0.8**
STIP	**Stip**	**2.34**	**95**	*i* Pn	**Pb**	**06 55 07.7**	**0.0**
STIP				*i* Sn	**Sb**	**06 55 37.0**	**+0.5**
TRUS	**Trudelj**	**2.50**	**23**	*e*Pn	**Pn**	**06 55 06.9**	**+0.8**
TRUS				*e*Sn	**Sn**	**06 55 37.5**	**+1.0**
BOVS	**Bovan**	**2.59**	**48**	*e*Pn	**Pn**	**06 55 08.0**	**+0.7**
BOVS				*e*Sn	**Sn**	**06 55 40.1**	**+1.5**
BOVS	**Bovan**	**2.59**	**48**	⇑P	**Pn**	**06 55 08.0**	**+0.7**
BOVS				⇑S	**Sn**	**06 55 38.6**	**0.0**
BOSS	**Bosilegrad**	**2.60**	**76**	*e*Pn	**Pn**	**06 55 08.3**	**+0.9**
BOSS				*e*Sn	**Sn**	**06 55 39.8**	**+0.9**
TEKS	**Tekeris**	**2.65**	**7**	*e*Pn	**Pn**	**06 55 09.6**	**+1.4**
TEKS				*e*Sn	**Sn**	**06 55 41.5**	**+1.3**
TEKS	**Tekeris**	**2.65**	**7**	*e*Pn	**Pn**	**06 55 08.7**	**+0.5**
TEKS				*e*Sn	**Sn**	**06 55 42.6**	**+2.4**
KIJV	**Kijevo**	**2.86**	**318**	*i* Pn	**Pn**	**06 55 11.6**	**+0.5**
KIJV				*i* Sn	**Sn**	**06 55 45.9**	**+0.6**
MGRS	**Mrkonjic Grad**	**2.89**	**330**	*e*Pn	**Pn**	**06 55 12.0**	**+0.5**
MGRS				*e*Sn	**Sn**	**06 55 48.9**	**+2.8**
ZAPS	**Zavoj**	**2.96**	**62**	*e*Pn	**Pn**	**06 55 14.7**	**+2.3**
ZAPS				*e*Sn	**Sn**	**06 55 49.9**	**+2.1**
ZAGS	**Zajecar**	**3.00**	**50**	*e*Pn	**Pn**	**06 55 13.5**	**+0.6**
ZAGS				*e*Sn	**Sn**	**06 55 49.8**	**+1.1**
ZIRJ	**Zirje**	**3.06**	**306**	*e*Pn	**Pn**	**06 55 13.5**	**-0.2**
BLY	**Banja Luka**	**3.14**	**335**	*e*Pn	**Pn**	**06 55 16.1**	**+1.2**
BLY				*e*Sn	**Sn**	**06 55 55.0**	**+2.6**
MORI	**Morici**	**3.15**	**309**	*e*Pn	**Pn**	**06 55 15.2**	**+0.3**
BLKB	**Belogradchik**	**3.15**	**56**	⇓S	**Sn**	**06 55 52.1**	**-0.5**
VTS	**Vitosha**	**3.17**	**76**	⇑P	**Pn**	**06 55 15.5**	**+0.1**
VTS				⇓S	**Sn**	**06 55 52.0**	**-0.4**
TIP	**Timpagrande**	**3.26**	**214**	⇓P	**Pn**	**06 55 19.6**	**+3.0**
FRGS	**Fruska Gora**	**3.28**	**9**	*e*Pn	**Pn**	**06 55 17.3**	**+0.4**
FRGS	**Fruska Gora**	**3.28**	**9**	⇑P	**Pn**	**06 55 17.2**	**+0.4**
FRGS	**Fruska Gora**	**3.28**	**9**	⇑*i*Pn	**Pn**	**06 55 16.9**	**+0.1**
FRGS				*e*Sn	**Sn**	**06 55 57.4**	**+1.6**
MDVR	**Moldovita**	**3.45**	**33**	⇑P	**Pn**	**06 55 19.3**	**+0.2**
MDVR				⇑S	**Sn**	**06 55 59.8**	**-0.1**
DUGI	**Dugi Otok**	**3.60**	**306**	*i* Pn	**Pn**	**06 55 21.3**	**+0.1**
HERR	**Herculane**	**3.83**	**38**	⇑P	**Pn**	**06 55 23.6**	**-0.8**
NVLJ	**Novalja**	**4.05**	**312**	*e*Pn	**Pn**	**06 55 27.0**	**-0.3**
BZS	**Buzias**	**4.13**	**26**	⇑P	**Pn**	**06 55 28.8**	**+0.3**
BZS				⇑S	**Sn**	**06 56 16.9**	**+0.3**
MORH	**Mrgy, Hungar**	**4.30**	**356**	⇑P	**Pn**	**06 55 32.7**	**+1.9**
MORH				⇓S	**Sn**	**06 56 22.0**	**+1.0**
MORH	**Mrgy, Hungar**	**4.30**	**356**	*e*Pn	**Pn**	**06 55 32.0**	**+1.1**
MORH				*e*Sn	**Sn**	**06 56 21.7**	**+0.8**
GZR	**Gura Zlata**	**4.39**	**37**	⇑P	**Pn**	**06 55 31.9**	**-0.2**
GZR				⇑S	**Sn**	**06 56 23.0**	**-0.2**
CRES	**Cresnjev**	**4.70**	**327**	⇑*i*Pn	**Pn**	**06 55 36.3**	**+0.0**
CRES				*e*Sn	**Sn**	**06 56 32.5**	**+1.8**
CEY	**Cerknica**	**5.08**	**320**	⇑*i*Pn	**Pn**	**06 55 41.7**	**+0.1**
CEY				*e*Sn	**Sn**	**06 56 41.1**	**+0.8**
DRGR		**5.52**	**27**	⇑P	**Pn**	**06 55 48.9**	**+1.2**
DRGR				⇑S	**Sn**	**06 56 51.7**	**+0.6**
VOIR		**5.58**	**49**	⇑P	**Pn**	**06 55 48.8**	**+0.4**

IDC 27 06:55:07.2±9.6, 29°.86S×61°.71E, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.5/42, mbtmp4.0/2, Error ellipse: s-maj=583.2km s-min=48.0km az=33.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**63.82**	**103**	P	P	07 05 42.0	+0.3
	1.0nm,0.7s,baz=246,slow=6.1,SNR=13						
WRA	**Warramunga Arr**	**65.68**	**100**	P	P	07 05 53.5	-0.4
	1.8nm,0.9s,baz=248,slow=5.7,SNR=12						
YKA	**Yellowknife Ar**	**147.26**	**357**	PKPbc	PKPbc	07 14 51.1	-0.8
	1.2nm,0.6s,baz=359,slow=3.1,SNR=36						

*NEIC **27** 06:59:24.1±1.3, 17°.59N±0°.08×94°.63W±0°.06, h153km±4km, Error ellipse: s-maj=12.0km s-min=7.5km az=192.0*

*MEX **27** 06:59:25.3±0.6, 17°.61N×94°.63W, h156km±3km, MD4.2*

ISC 27 06:59:24.1±0.9, 17°.60N±0°.09×94°.63W±0°.05, h152km±10km, n24, σ0§79/39, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.56**	**206**	*i* P	**Pn**	**06 59 46.4**	**+0.4**
CMIG				*i* S	**Sn**	**07 00 02.7**	**0.0**
CMIG	**Matias Romero**	**0.56**	**206**		**Pn**	**06 59 46.4**	**+0.4**
CMIG					**Sn**	**07 00 02.7**	**0.0**
TGIG		**1.66**	**119**	*i* P	**Pn**	**06 59 55.9**	**+0.4**
TGIG				*i* S	**Sn**	**07 00 19.4**	**-0.3**
TGIG		**1.66**	**119**		**Pn**	**06 59 55.9**	**+0.4**
TGIG					**Sn**	**07 00 19.4**	**-0.3**
VHO	**Vista Hermosa**	**2.07**	**256**	*e*P	**Pn**	**07 00 00.4**	**0.0**
VHO				*e*S	**Sn**	**07 00 28.7**	**+0.4**
PCIG		**2.32**	**144**	*i* P	**Pn**	**07 00 03.4**	**+0.3**
PCIG				*i* S	**Sn**	**07 00 32.7**	**-0.4**
PCIG		**2.32**	**144**		**Pn**	**07 00 03.4**	**+0.3**
PCIG					**Sn**	**07 00 32.7**	**-0.4**
TOIG	**Toxpalan**	**2.37**	**282**	*i* P	**Pn**	**07 00 04.1**	**+0.3**
TOIG				*i* S	**Sn**	**07 00 34.2**	**-0.3**
CCIG	**Comitan**	**2.72**	**118**		**Pn**	**07 00 08.7**	**+0.5**
TPIG	**Tehuac#an**	**2.72**	**288**	*i* P	**Pn**	**07 00 08.8**	**+0.6**
TPIG				*i* S	**Sn**	**07 00 42.0**	**-0.3**
TPIG	**Tehuac#an**	**2.72**	**288**		**Pn**	**07 00 08.8**	**+0.6**
TPIG					**Sn**	**07 00 42.0**	**-0.3**
YOIG	**Yosondua**	**2.88**	**256**	*e*P	**Pn**	**07 00 09.8**	**-0.6**
YOIG				*i* S	**Sn**	**07 00 45.2**	**-0.8**
TLIG	**Tlapa**	**3.75**	**270**		**Pn**	**07 00 21.1**	**-0.2**
YAIG	**Yautepec**	**4.40**	**287**	*e*P	**Pn**	**07 00 30.4**	**+0.6**
YAIG				*i* S	**Sn**	**07 01 20.8**	**-0.1**
YAIG	**Yautepec**	**4.40**	**287**		**Pn**	**07 00 30.4**	**+0.6**
YAIG					**Sn**	**07 01 20.8**	**-0.1**
PLIG	**Platanillo**	**4.70**	**280**	*i* P	**Pn**	**07 00 34.1**	**+0.3**
PLIG				*e*S	**Sn**	**07 01 27.6**	**-0.4**
PLIG	**Platanillo**	**4.70**	**280**		**Pn**	**07 00 34.1**	**+0.3**
PLIG					**Sn**	**07 01 27.6**	**-0.4**
MTO3	**Montecristo**	**5.98**	**121**	Pn	**Pn**	**07 00 49.7**	**-1.7**
TEIG	**Tepich**	**6.56**	**65**	Pn	**Pn**	**07 00 55.5**	**-2.9**
TGUH	**Tegucigalpa,Un**	**7.91**	**115**	Pn	**Pn**	**07 01 18.4**	**+1.9**
JTS	**Las Juntas de**	**11.87**	**126**	Pn	**Pn**	**07 02 08.4**	**-0.4**
435B	**Jarrell**	**13.40**	**349**	Pn	**Pn**	**07 02 27.3**	**-1.0**
TXAR	**Lajitas Array**	**14.32**	**326**		**P**	**07 02 43.2**	**+0.5**
143A	**Socs Landing,**	**15.32**	**10**	P	**P**	**07 02 54.6**	**+0.9**
143A				IAmb	IAmb	07 02 57.9	
	comp=Z,12nm,0.9s						

*SOME **27** 07:10:08.8, 42°.95N×81°.03E, h10km*
*NNC **27** 07:10:26.4±8.2, 42°.82N×78°.49E, h0km, mb2.1, mpv2.7, Error ellipse: s-maj=72.9km s-min=28.0km az=47.0*

ISC 27 07:10:05.7±3.2, 41°.7N±0°.2×77°.9E±0°.2, h10km, n8, σ0§85/11, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**1.42**	**14**	P	**Pn**	**07 10 30.9**	**-0.8**
	1.1nm,0.1s						
SATY				S	Sb	07 10 35.7	-15
	10nm,0.1s						
ZHN	**Zhinishke**	**1.53**	**14**	P	**Pn**	**07 10 31.8**	**-1.4**
	272nm,0.5s						
ZHN				S	Sn	07 10 37.3	-16
	4.7nm,0.1s						
UZB	**Uzynbulak**	**1

baz=312,SNR=11
ARVC S 07 33 22.7
baz=312
MDPB Devils Postpil 1.75 36 Pn 07 33 02.6 -0.1
MDPB IAML 07 33 32.1
comp=E,518nm,0.5s
WENL Wente Vineyard 1.80 322 Pn 07 33 03.5 +0.5
CMB Columbia Colle 1.82 359 Pn 07 33 03.1 -0.3
CMB Columbia Colle 1.82 359 Pn **Pn 07 33 02.9 -0.5**
CMB Columbia Colle 1.82 359 IAML 07 33 31.6
comp=N,267nm,0.5s
CMB IAML 07 33 32.0
comp=E,288nm,0.5s
MDCM Deadman Creek 1.83 35 Pn 07 33 04.1 +0.3
MTUM Tungsten Hills 1.84 51 Pn 07 33 04.4 +0.6
CWC Cottonwood Cre 1.86 82 P 07 33 04.2
baz=264
CWC S 07 33 27.7
baz=264
MLAC Mammoth, Mammo 1.87 40 P 07 33 04.9
baz=221,SNR=297
MDRNC Doe Ridge 1.88 40 Pn 07 33 05.2 +0.8
TIN Tinemaha, Big 1.91 63 P 07 33 05.4
baz=245,SNR=135
TIN S 07 33 30.0
baz=245
JRSC Jasper Ridge 1.92 309 Pn 07 33 03.7 -1.0
OSI Osito Audit: C 2.08 140 Pn 07 33 06.8 -0.3
OSI IAML 07 33 48.9
comp=N,163nm,0.7s
OSI IAML 07 33 52.1
comp=E,144nm,0.9s
BKS Berkeley--Byer 2.24 318 Pn 07 33 08.8 -0.4
LRMC Laurel Mtn Rad 2.30 108 P 07 33 10.0
baz=290,SNR=40
LRMC S 07 33 40.2
baz=290
MPMC Manual Prospec 2.33 93 Pn 07 33 10.1
baz=275,SNR=140
MPMC Pb 07 33 12.9
baz=275
EDW2 Edwards Air Fo 2.34 124 P 07 33 10.2
baz=306,SNR=23
WAKR Walker 2.40 18 Pn 07 33 12.9 +1.3
WAKR IAML 07 33 47.3
comp=N,201nm,0.8s
LHV Little Huntoon 2.52 36 Pn 07 33 14.2 +1.2
LHV IAML 07 34 08.2
comp=E,166nm,0.9s
LHV IAML 07 34 14.6
comp=N,149nm,0.8s
GRAC Grapevine Rang 2.53 71 Pb 07 33 16.6
baz=253,SNR=61
PASC Pasadena Art C 2.71 138 Pn **Pn 07 33 16.1 +0.5**
MWC Mount Wilson 2.74 136 Pn 07 33 16.0 -0.2
MWC IAML 07 34 15.2
comp=E,75nm,0.8s
NVAR Mina Array Bea 2.75 36 Pn **Pn 07 33 17.4 +0.9**
comp=E,15nm,0.3s,baz=215,slow=15,SNR=62
NVAR Pg **Pb 07 33 20.9 -0.8**
comp=E,20nm,0.3s,baz=225,slow=20,SNR=186
NVAR Sn **Sn 07 33 51.8 +2.2**
comp=E,7.3nm,0.3s,baz=209,slow=15,SNR=5.2
NVAR Lg Lg 07 33 58.7
comp=E,13nm,0.3s,baz=221,slow=29,SNR=2.5
NVAR Mina Array Bea 2.75 36 Pn 07 33 17.9 +1.5
AFDM Forest Hills D 2.77 350 Pn 07 33 16.6 0.0
AFDM IAML 07 34 04.7
comp=E,137nm,0.5s
AFDM IAML 07 34 08.3
comp=N,98nm,0.4s
RYN Ryan 2.82 31 Pn 07 33 18.2 +1.0
RYN IAML 07 34 04.4
comp=N,87nm,0.4s
RYN IAML 07 34 09.8
comp=E,91nm,0.4s
NV11 Mina Array Sit 2.83 38 Pn 07 33 17.9 +0.5
FURC Furnace Creek, 2.84 84 Pb 07 33 22.1
baz=266,SNR=48
RUBR Rubicon Trail 2.84 3 Pn 07 33 18.9 +1.3
YERR Yerington 2.91 18 Pn 07 33 19.4 +0.8
PNTR Pine Nut 2.93 12 Pn 07 33 20.0 +1.1
BFSC Mount Baldy Ra 2.96 131 P 07 33 18.5
baz=313,SNR=9.2
BFSC S 07 33 54.5
baz=313
GSC Goldstone, Bar 3.03 106 Pn **Pn 07 33 20.0 -0.1**
GSC IAML 07 34 10.1
comp=N,99nm,1.1s
GSC IAML 07 34 13.7
comp=E,109nm,0.9s
GSC Goldstone, Bar 3.03 106 P 07 33 20.0
baz=289,SNR=33
TPH Tonopah 3.12 53 Pn 07 33 21.0 -0.4
TPH Tonopah 3.12 53 IAML 07 34 15.6
comp=N,90nm,0.8s
TPH IAML 07 34 20.8
comp=E,118nm,0.6s
VCNR Virginia City 3.13 10 Pn 07 33 22.4 +0.8
GDXM Geysers 3.23 324 Pn 07 33 21.6 -1.2
KVN Kaiserville 3.35 32 Pn 07 33 25.8 +1.1
KVN IAML 07 34 22.3
comp=N,53nm,0.9s
TPNV Topopah Spring 3.39 76 Pn **Pn 07 33 25.8 +0.6**
TPNV IAML 07 34 27.9
comp=N,45nm,0.5s
TPNV IAML 07 34 31.4
comp=N,77nm,0.8s
TPNV Topopah Spring 3.39 76 Pn 07 33 25.8
baz=259,SNR=15
TPNV Pb 07 33 32.0
baz=259
ORV Oroville 3.45 345 Pn 07 33 26.7 +0.9
ORV IAML 07 34 24.2
comp=E,61nm,0.8s
HEC Hector,Ludlow 3.56 112 P 07 33 27.2
baz=294,SNR=11
PAHR Pah Rah Range 3.57 12 Pn 07 33 28.5 +0.9
PAHR IAML 07 34 25.6
comp=N,45nm,1.2s
PAHR IAML 07 34 38.1
comp=E,47nm,1.0s
BEKR Beckworth 3.65 0 Pn 07 33 29.6 +1.0
BEKR IAML 07 34 25.0
comp=E,86nm,0.6s
BEKR IAML 07 34 26.2
comp=N,53nm,0.8s
GMRC Granite Mounta 4.09 109 P 07 33 34.1
baz=292,SNR=6.0
GMRC S 07 34 21.8
baz=292
PFO Pinyon Flats O 4.12 128 Pn **Pn 07 33 35.0 -0.2**
comp=N,0.9nm,0.3s,baz=306,slow=16,SNR=14
PFO Pg **Pb 07 33 40.7 -4.3**
comp=N,1.3nm,0.3s,baz=296,slow=10.0,SNR=18
PFO Sn **Sn 07 34 23.0 -0.3**
comp=N,1.2nm,0.3s,baz=80,slow=24,SNR=5.6
PFO Pinyon Flats O 4.12 128 Pn Pn 07 33 35.1 -0.2
PFO Pinyon Flats O 4.12 128 P 07 33 35.0
baz=310
XPFO Pion Flat 4.13 128 Pn Pn 07 33 35.1 -0.1
SHPP Sheep Range 4.21 85 Pn Pn 07 33 37.4 +1.1
O03E Paynes Creek 4.23 345 P 07 33 37.7
baz=164
PRN Pahroc Range 4.42 73 Pn Pn 07 33 40.0 +0.7
PRN IAML 07 34 57.6
comp=N,50nm,0.7s
BAR Barrett 4.66 138 Pn Pn 07 33 41.9 -0.6
KMRM Mail Ridge 4.79 328 Pn Pn 07 33 46.0 +1.7
KMRM IAML 07 35 09.3
comp=E,35nm,4.4s
KMRM IAML 07 36 11.8
comp=N,32nm,4.7s
LCMT Little Creek M 5.78 80 Pn 07 33 58.5 +0.5
ELK Elko 6.05 40 Pn Pn 07 34 02.8 +1.0
comp=N,0.5nm,0.3s,baz=232,slow=14,SNR=11
ELK Lg Lg 07 35 41.8
comp=N,1.1nm,0.3s,baz=286,slow=18,SNR=5.9
PDAR Pinedale Array 10.60 49 Pn Pn 07 35 08.3 +4.1
baz=227,slow=17,SNR=1.4
YKA Yellowknife Ar 26.55 6 P **P 07 38 09.9 +0.3**
comp=N,0.1nm,0.7s,baz=179,slow=9.2,SNR=1.3

*NOU **27** 07:55:33.7, 12°.37S×166°.79E, h128km, mb4.9, Santa Cruz Islands*

2015 MAR

*NEIC **27** 07:55:35.4±1.4, 12°.55S±0°.09×166°.7E±0°.1, h131km±5km, mb4.7/39, Error ellipse: s-maj=16.0km s-min=11.7km az=67.0*
*IDC **27** 07:55:35.0±0.7, 12°.59S×166°.80E, h131km±5km, mb4.3/23, mb1 4.4/25, mb1mx4.2/46, mbtmp4.6/25, MS3.3/5, Ms1 3.3/5, ms1mx2.9/39, Error ellipse: s-maj=12.8km s-min=9.9km az=89.0*
ISC 27 07:55:36.9±0.3, 12°.61S±0°.05×166°.74E±0°.07, h150km, n148, σ1$33/155, mb4.7/53, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**2.86**	**171**	Pn	**Pn**	**07 56 21.0**	**-1.5**
SANVU				Sn	**Sn**	**07 56 54.1**	**-3.6**
SANVU	**Saraoutou**	**2.86**	**171**	P	**Pn**	**07 56 21.3**	**-1.1**
DVP	**Devils Point**	**5.28**	**165**	P	**Pn**	**07 56 53.9**	**0.0**
HNR	**Honiara**	**7.38**	**295**	P	**Pn**	**07 57 21.6**	**-0.4**
	14nm,0.3s,baz=187,slow=17,SNR=5.9						
HNR				S	**Sn**	**07 58 42.6**	**-2.0**
	36nm,0.3s,baz=129,slow=14,SNR=2.1						
HNR				LR	LR	08 00 26.1	
	comp=Z,125nm,19.0s,baz=122,slow=39						
HNR	**Honiara**	**7.38**	**295**	Pn	**Pn**	**07 57 19.7**	**-2.4**
MARNC	**Mare, Loyalty**	**8.91**	**172**	P	**Pn**	**07 57 41.5**	**-0.9**
YATNC	**Mamie plateau,**	**9.40**	**179**	P	**Pn**	**07 57 48.0**	**-0.9**
DZM	**Mont Dzumac**	**9.41**	**182**	P	**Pn**	**07 57 49.2**	**-0.1**
	11nm,0.3s,baz=114,slow=20,SNR=102						
DZM				S	**Sn**	**07 59 31.9**	**-1.8**
	3.0nm,0.3s,baz=311,slow=19,SNR=2.8						
DZM				LR	LR	08 00 22.1	
	comp=Z,65nm,19.5s,baz=82,slow=30						
DZM	**Mont Dzumac**	**9.41**	**182**	P	**Pn**	**07 57 49.7**	**+0.5**
OUENC	**Ouen Island, N**	**9.76**	**179**	P	**Pn**	**07 57 54.8**	**+1.1**
MSVF	**Nonsavu**	**12.04**	**116**	LR	LR	08 02 15.8	
	comp=Z,144nm,18.8s,baz=124,slow=33						
EIDS	**Eidsvold**	**19.48**	**227**		**P**	**07 59 53.6**	**+1.3**
EIDS				IAmb	IAmb	07 59 56.3	
	comp=Z,28nm,0.5s						
AFI	**Afiamalu**	**20.95**	**96**	P	**P**	**08 00 10.1**	**+1.9**
AFI				IAmb	IAmb	08 00 10.9	
	comp=Z,59nm,1.1s						
CTA	**Charters Tower**	**21.01**	**247**	P	**P**	**08 00 08.9**	**+0.2**
	comp=Z,15nm,0.8s,baz=77,slow=12,SNR=18						
CTAO	**Charters Tower**	**21.01**	**247**	P	**P**	**08 00 09.4**	**+0.7**
CTAO				IAmb	IAmb	08 00 12.1	
	comp=Z,19nm,0.8s						
ARMA	**Armidale**	**22.58**	**216**	P	**P**	**08 00 24.4**	**-0.5**
ARMA				IAmb	IAmb	08 00 27.4	
	comp=Z,76nm,1.1s						
COEN	**Coen**	**22.98**	**264**	P	**P**	**08 00 28.8**	**+0.2**
OUZ	**Omahuta**	**23.35**	**166**	P	**P**	**08 00 34.0**	**+2.3**
OUZ				IAmb	IAmb	08 00 53.4	
	comp=Z,35nm,1.5s						
HAZ	**Te Kaha**	**26.92**	**160**	P	**P**	**08 01 04.5**	**+0.5**
PKGZ	**Pakihiroa**	**27.13**	**160**	P	**P**	**08 01 06.1**	**+0.1**
URZ	**Urewera**	**27.16**	**162**	P	**P**	**08 01 06.1**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=128,slow=20,SNR=2.2						
URZ	**Urewera**	**27.16**	**162**	IAmb	IAmb	08 01 06.5	
	comp=Z,21nm,1.5s						
URZ	**Urewera**	**27.16**	**162**	P	**P**	**08 01 05.8**	**-0.4**
MWZ	**Matawai**	**27.36**	**161**	P	**P**	**08 01 08.5**	**+0.4**
MRHZ	**Matea Rd**	**27.50**	**163**	P	**P**	**08 01 10.6**	**+1.3**
TMVZ	**Te Maari**	**27.57**	**165**	P	**P**	**08 01 12.7**	**+2.7**
ETVZ	**East Tongariro**	**27.59**	**165**	P	**P**	**08 01 12.9**	**+2.7**
NGZ	**Ngauruhoe**	**27.60**	**165**	P	**P**	**08 01 13.6**	**+3.3**
OTVZ	**Oturere**	**27.61**	**165**	P	**P**	**08 01 13.1**	**+2.8**
JAY	**Jayapura**	**27.66**	**289**	P	**P**	**08 01 11.2**	**+0.3**
	comp=Z,16nm,0.9s,baz=110,slow=12,SNR=1.7						
RAHZ	**Arahi**	**27.77**	**163**	P	**P**	**08 01 11.8**	**+0.2**
RIGZ	**Rimuhau**	**27.78**	**161**	P	**P**	**08 01 11.9**	**+0.2**
NMHZ	**Naumai**	**27.85**	**163**	P	**P**	**08 01 13.3**	**+0.9**
KWHZ	**Kaweka Forest**	**28.05**	**164**	P	**P**	**08 01 14.8**	**+0.7**
MCH2	**McNeill Hill**	**28.14**	**164**	P	**P**	**08 01 16.4**	**+1.5**
TUWZ	**Tuamarina**	**29.39**	**169**	P	**P**	**08 01 26.3**	**+0.4**
STKA	**Stephens Creek**	**30.03**	**226**	P	**P**	**08 01 32.6**	**+0.9**
	comp=Z,19nm,0.7s,baz=45,slow=8.8,SNR=64						
STKA				LR	LR	08 13 17.1	
	comp=Z,97nm,18.3s,baz=165,slow=35						
STKA	**Stephens Creek**	**30.03**	**226**	P	**P**	**08 01 32.9**	**+1.1**
RPZ	**Rata Peaks**	**31.22**	**174**	P	**P**	**08 01 42.7**	**+0.6**
	comp=Z,12nm,0.6s,baz=0.0,slow=8.1,SNR=9.1						
TOO	**Toolangi**	**31.29**	**214**	P	**P**	**08 01 43.8**	**+1.1**
TOO				IAmb	IAmb	08 02 02.4	
	comp=Z,35nm,1.5s						
WR0	**Warramunga Arr**	**31.72**	**252**	P	**P**	**08 01 45.8**	**-1.0**
WRA	**Warramunga Arr**	**31.91**	**253**	P	**P**	**08 01 47.7**	**-0.7**
	comp=Z,5.3nm,0.7s,baz=86,slow=9.1,SNR=44						
WRA	**Warramunga Arr**	**31.91**	**253**	P	**P**	**08 01 47.5**	**-0.9**
AS31	**Alice Springs**	**33.01**	**246**	P	**P**	**08 01 57.0**	**-1.0**
AS31				IAmb	IAmb	08 01 57.9	
	comp=Z,3.6nm,0.5s						
ASAR	**Alice Springs**	**33.01**	**246**	P	**P**	**08 01 57.2**	**-0.8**
	comp=Z,10nm,0.8s,baz=69,slow=9.9,SNR=146						
ASAR				PcP	**PcP**	**08 04 37.9**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=64,slow=2.2,SNR=3.2						
ASAR				LR	LR	08 14 49.1	
	comp=Z,69nm,18.0s,baz=108,slow=35						
BBOO	**Buckleboo**	**34.52**	**229**	P	**P**	**08 02 11.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**39.95**	**257**	P	**P**	**08 02 57.2**	**+0.4**
FITZ				IAmb	IAmb	08 02 58.5	
	comp=Z,9.9nm,1.1s						
FORT	**Forrest**	**39.98**	**237**	P	**P**	**08 02 57.6**	**+0.6**
EDFI	**Ende, Flores**	**44.40**	**270**	P	**P**	**08 03 29.8**	**-3.3**
	comp=Z,9.8nm,0.9s						
MRSI	**Marisa**	**46.30**	**283**	P	**P**	**08 03 44.2**	**-3.8**
KAPI	**Kappang**	**46.98**	**275**	P	**P**	**08 03 53.2**	**-0.1**
KAPI				IAmb	IAmb	08 03 54.6	
	comp=Z,9.3nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.42**	**237**	P	**P**	**08 04 11.9**	**+0.2**
MORW	**Morawa**	**49.75**	**243**	P	**P**	**08 04 14.5**	**+0.2**
MORW				IAmb	IAmb	08 04 15.3	
	comp=Z,38nm,1.4s						
JGF	**Kuroka**	**55.42**	**331**	P	**P**	**08 04 55.9**	**+0.1**
JGF				IAmb	IAmb	08 05 15.1	
	comp=Z,22nm,1.5s						
JMN	**Monobe**	**55.70**	**327**	P	**P**	**08 04 58.6**	**+0.7**
MJAR	**Matsushiro Arr**	**55.80**	**332**	P	**P**	**08 04 58.0**	**-0.5**
	comp=Z,4.6nm,0.7s,baz=167,slow=8.3,SNR=6.2						
MJAR	**Matsushiro Arr**	**55.80**	**332**	P	**P**	**08 04 57.1**	**-1.4**
MAT	**Matsushiro**	**55.80**	**332**	P	**P**	**08 04 57.8**	**-0.7**
JNU	**Nakatsue**	**56.91**	**324**	P	**P**	**08 05 06.6**	**+0.2**
	comp=Z,12nm,0.8s,baz=112,slow=5.4,SNR=6.9						
JNU	**Nakatsue**	**56.91**	**324**	P	**P**	**08 05 06.9**	**+0.5**
JNU				IAmb	IAmb	08 05 07.0	
	comp=Z,14nm,0.7s						
JKA	**Kamikawa-asahi**	**60.58**	**340**	P	**P**	**08 05 31.6**	**+0.1**
ASAJ	**Asahikawa**	**60.59**	**340**	P	**P**	**08 05 32.4**	**+0.9**
	comp=Z,9.2nm,1.0s,baz=234,slow=9.4,SNR=5.1						
KSRS	**Korea Array**	**61.71**	**325**	P	**P**	**08 05 40.0**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=135,slow=7.2,SNR=17						
KSAR	**Wonju Array Be**	**61.72**	**325**	P	**P**	**08 05 39.2**	**-0.2**
KS19	**Wonju Array Si**	**61.77**	**325**	P	**P**	**08 05 39.6**	**-0.1**
KS19				IAmb	IAmb	08 06 08.5	
	comp=Z,20nm,1.4s						
NJ2	**Nanjing**	**63.81**	**315**	*eP*	**P**	**08 05 54.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,22nm,0.6s						
USRK	**Ussuriysk Ar.**	**64.77**	**333**	P	**P**	**08 05 60.0**	**+0.7**
	comp=Z,7.5nm,0.9s,baz=130,slow=6.8,SNR=9.1						
USRK	**Ussuriysk Ar.**	**64.77**	**333**	P	**P**	**08 05 59.5**	**+0.2**
VNDA	**Vanda**	**64.96**	**181**	P	**P**	**08 06 00.9**	**+0.8**
	comp=Z,6.1nm,0.7s,baz=354,slow=7.3,SNR=60						
VNDA	**Vanda**	**64.96**	**181**	P	**P**	**08 06 00.8**	**+0.7**
VNDA				IAmb	IAmb	08 06 02.6	
	comp=Z,7.5nm,0.7s						
SBA	**Scott Base**	**65.24**	**180**	P	**P**	**08 06 02.9**	**+1.0**
BKNI	**Bangkinang**	**66.39**	**276**	P	**P**	**08 06 11.1**	**+0.7**
CN2	**Changchun**	**67.58**	**329**	*eP*	**P**	**08 06 17.3**	**+0.1**
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
KLR	**Kul'dur**	**68.87**	**336**	P	**P**	**08 06 26.2**	**+1.0**
	comp=Z,9.2nm,0.7s,baz=133,slow=7.0,SNR=37						
GSI	**Gunungsitoli**	**69.99**	**276**	P	**P**	**08 06 33.3**	**+0.5**
BJI	**Beijing**	**70.30**	**321**	P	**P**	**08 06 35.0**	**+0.9**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN	**Xi'an**	**71.89**	**312**	P	**P**	**08 06 44.5**	**+0.6**
XAN				pP	PcP	08 06 55.0	-6.8
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN	**Xi'an**	**71.89**	**312**	P	**P**	**08 06 44.0**	**+0.1**
XAN				IAmb	IAmb	08 06 45.3	
	comp=Z,15nm,1.1s						
SUKH	**Sukhothai**	**72.69**	**293**	P	**P**	**08 06 50.9**	**+2.0**
KMI	**Kunming**	**72.76**	**301**	pP	**P**	**08 06 51.5**	**+2.0**
KMI				pP	pP	08 07 23.0	-1.7
KMI				sP	pwP	08 07 34.0	+3.7
KMI				pmax	pmax		
	comp=Z,18nm,0.8s						
KMI				pmax	pmax		
	comp=Z,190nm,4.3s						
LAMP	**Lampang**	**73.03**	**294**	P	**P**	**08 06 52.7**	**+1.8**
CM36	**Chiang Mai Arr**	**73.51**	**294**	P	**P**	**08 06 55.0**	**+1.3**
CM35	**Chiang Mai Arr**	**73.51**	**294**	P	**P**	**08 06 55.0**	**+1.3**
CM04	**Chiang Mai Arr**	**73.58**	**294**	P	**P**	**08 06 55.0**	**+0.9**
CM09	**Chiang Mai Arr**	**73.58**	**294**	P	**P**	**08 06 56.3**	**+2.2**
CM01	**Chiang Mai Arr**	**73.60**	**294**	P	**P**	**08 06 56.0**	**+1.8**
CM05	**Chiang Mai Arr**	**73.61**	**294**	P	**P**	**08 06 56.1**	**+1.9**
CM02	**Chiang Mai Arr**	**73.62**	**294**	P	**P**	**08 06 56.2**	**+1.9**
CMAR	**Chiang Mai Arr**	**73.63**	**294**	P	**P**	**08 06 55.8**	**+1.4**
	comp=Z,5.2nm,0.7s,baz=123,slow=4.1,SNR=26						
CMAR				pP	**pP**	**08 07 28.5**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=129,slow=4.9,SNR=2.2						
CM15	**Chiang Mai Arr**	**73.64**	**294**	P	**P**	**08 06 56.3**	**+1.8**
HHC	**Hu-ho-hao-te**	**73.65**	**320**	*eP*	**P**	**08 06 54.5**	**+0.3**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,5.7s						
CM13	**Chiang Mai Arr**	**73.65**	**294**	P	**P**	**08 06 56.2**	**+1.7**
CM33	**Chiang Mai Arr**	**73.75**	**294**	P	**P**	**08 06 56.0**	**+0.9**
CHTO	**Chiang Mai**	**73.75**	**294**	P	**P**	**08 06 54.5**	**-0.6**
CHTO				IAmb	IAmb	08 06 57.0	
	comp=Z,16nm,1.4s						
HIA	**Hailar**	**74.20**	**330**	P	**P**	**08 06 56.9**	**-0.2**
HIA				IAmb	IAmb	08 06 58.6	
	comp=Z,8.4nm,0.9s						
CD2	**Chengdu**	**74.32**	**307**	P	**P**	**08 06 59.0**	**+0.8**
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
SEY	**Seymchan**	**76.13**	**353**	P	**P**	**08 07 08.2**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=179,slow=5.3,SNR=9.4						
QSPA	**South Pole Qui**	**77.41**	**180**	P	**P**	**08 07 15.8**	**+0.5**
ULN	**Ulaanbaatar**	**80.13**	**324**	P	**P**	**08 07 31.4**	**+1.0**
ULN				IAmb	IAmb	08 07 32.2	
	comp=Z,12nm,0.8s						
BILL	**Bilibino**	**80.43**	**360**	P	**P**	**08 07 30.0**	**-1.4**
BILL				IAmb	IAmb	08 07 32.6	
	comp=Z,8.0nm,1.0s						
SONM	**Songino Array**	**80.50**	**324**	P	**P**	**08 07 32.8**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=139,slow=5.7,SNR=13						
SONM	**Songino Array**	**80.50**	**324**	P	**P**	**08 07 33.1**	**+0.8**
GTA	**Gaotai**	**80.84**	**314**	P	**P**	**08 07 36.0**	**+1.7**
GTA				pP	pP	08 08 10.5	-0.4
GTA				sP	sP	08 08 25.5	-1.0
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
GTA				pmax	pmax		
	comp=Z,84nm,5.5s						
GTA				LR	LR		
	comp=N,43nm,14.5s						
GTA				LR	LR		
	comp=E,92nm,16.0s						
GTA				LR	LR		
	comp=Z,81nm,17.8s						
IL31		**84.68**	**18**	P	**P**	**08 07 53.0**	**-0.3**
ILAR	**Eielson Array**	**84.68**	**18**	P	**P**	**08 07 53.0**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=243,slow=5.0,SNR=22						
ILAR				pP	**pP**	**08 08 26.4**	**-4.0**
	comp=Z,1.7nm,0.7s,baz=236,slow=5.4,SNR=6.0						
ILAR	**Eielson Array**	**84.68**	**18**	P	**P**	**08 07 53.1**	**-0.3**
TAPN	**Taplejung**	**86.21**	**299**	*eP*	**P**	**08 08 02.6**	**+0.4**
NVAR	**Mina Array Bea**	**86.29**	**49**	P	**P**	**08 08 02.7**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=216,slow=7.3,SNR=5.1						
NVAR				pP	**pP**	**08 08 35.5**	**-3.9**
	comp=Z,2.0nm,0.8s,baz=228,slow=8.6,SNR=10						
ODAN	**Odare**	**86.35**	**298**	*eP*	**P**	**08 08 03.2**	**+0.3**
	comp=Z,42nm,0.8s						
RAMN	**Ramite**	**87.05**	**298**	*eP*	**P**	**08 08 06.6**	**+0.3**
JIRN	**Jiri**	**87.59**	**299**	*eP*	**P**	**08 08 09.4**	**+0.4**
	comp=Z,20nm,0.6s						
GUN	**Gumba**	**87.93**	**299**	*eP*	**P**	**08 08 10.4**	**-0.1**
	comp=Z,30nm,0.8s						
G08A	**Pilot Rock**	**88.12**	**43**	P	**P**	**08 08 11.8**	**+1.1**
PKI	**Pulchoki**	**88.24**	**299**	*eP*	**P**	**08 08 12.0**	**0.0**
	comp=Z,31nm,0.8s						
PKIN	**Phulchoki**	**88.25**	**299**	*eP*	**P**	**08 08 11.8**	**-0.2**
	comp=Z,32nm,0.7s						
KKN	**Kakani**	**88.41**	**299**	*eP*	**P**	**08 08 12.8**	**+0.1**
	comp=Z,30nm,0.7s						
DMN	**Daman**	**88.51**	**299**	*eP*	**P**	**08 08 13.6**	**+0.4**
	comp=Z,54nm,0.7s						
BELA	**Belgrano 2**	**88.86**	**176**	P	**P**	**08 08 13.3**	**-0.3**
BELA				IAmb	IAmb	08 08 14.5	
	comp=Z,5.2nm,1.0s						
GKN	**Gorkha**	**89.01**	**299**	*eP*	**P**	**08 08 15.4**	**0.0**
WMQ	**Urumqi**	**90.88**	**315**	*eP*	**P**	**08 08 25.3**	**+1.6**
MK31	**Makanchi Array**	**95.32**	**317**	P	**P**	**08 08 44.6**	**+0.6**
MKAR	**Makanchi Array**	**95.32**	**317**	P	**P**	**08 08 44.3**	**+0.3**
	comp=Z,6.9nm,0.6s,baz=92,slow=6.6,SNR=83						
MKAR	**Makanchi Array**	**95.32**	**317**	P	**P**	**08 08 44.5**	**+0.6**
ZALV	**Zalesovo Beam**	**95.39**	**324**	P	**P**	**08 08 43.6**	**-0.4**
	comp=Z,4.8nm,1.2s,baz=127,slow=4.7,SNR=9.0						
ZALV	**Zalesovo Beam**	**95.39**	**324**	P	**P**	**08 08 42.1**	**-1.9**
SNAA	**Sanae**	**95.62**	**183**	P	**P**	**08 08 44.3**	**-0.7**
TXAR	**Lajitas Array**	**95.72**	**61**	P	**P**	**08 08 46.6**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=233,slow=5.5,SNR=2.9						
YKA	**Yellowknife Ar**	**95.91**	**27**	P	**P**	**08 08 44.8**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=254,slow=4.0,SNR=10						
YKA				pP	**pP**	**08 09 19.1**	**-4.6**
	comp=Z,0.2nm,0.6s,baz=253,slow=3.9,SNR=3.3						
VNA3	**Neumayer Olymp**	**96.31**	**181**	P	**P**	**08 08 47.3**	**-0.8**
VNA2	**Neumayer--Watz**	**96.57**	**182**	P	**P**	**08 08 48.4**	**-0.8**
	baz=185,slow=5.3						
VNA1	**Neumayer--Stat**	**96.87**	**182**	P	**P**	**08 08 50.7**	**+0.2**
ARCES	**ARCESS Array B**	**118.08**	**346**	PKP	**PKPdf**	**08 14 05.3**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=80,slow=2.1,SNR=11						
CPUP	**Villa Florida**	**122.26**	**132**	PKP	**PKPdf**	**08 14 14.1**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=117,slow=2.3,SNR=4.2						
KBZ	**Khabaz**	**122.92**	**314**	PKP	**PKPdf**	**08 14 15.7**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=328,slow=2.7,SNR=4.7						
NB2	**NORSAR Bubarra1**	**28.46**	**345**	PKPdf	**PKPdf**	**08 14 25.3**	**-0.2**
	comp=Z,6.2nm,1.2s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**128.46**	**345**	PKP	**PKPdf**	**08 14 25.4**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=34,slow=2.0,SNR=4.0						
AKASG	**Malin Array Be**	**128.70**	**327**	PKP	**PKPdf**	**08 14 26.0**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=47,slow=3.0,SNR=4.3						
BDFB	**Brasilia**	**135.61**	**128**	PKP	**PKPdf**	**08 14 40.0**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=263,slow=4.8,SNR=4.5						
GERES	**GERESS Array B**	**137.53**	**334**	PKP	**PKPdf**	**08 14 43.3**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=82,slow=2.0,SNR=5.0						
KEST	**Kesra**	**149.24**	**322**	PKPbc	**PKPbc**	**08 15 08.9**	**+0.5**
	comp=Z,14nm,0.6s,baz=261,slow=3.1,SNR=8.5						
POLO	**Lamas de Olo**	**150.95**	**352**	*e*PKPbc	**PKiKP**	**08 15 13.2**	**+0

JFT	**Otama**	**0.93**	**271**	P	Pn	08 01 19.6	+0.7
JFT				S	Sn	08 01 31.8	+0.7
JIO	**Ouri**	**0.96**	**352**	P	Pn	08 01 19.4	+0.2
JIO				S	Sn	08 01 31.1	-0.6
JOU	**Okura**	**1.09**	**323**	P	Pn	08 01 21.4	+0.3
JOU				S	Sn	08 01 35.7	+0.7
JYS	**Shirataka**	**1.35**	**303**	P	Pn	08 01 25.7	+1.1
JYS				*eS*	Sn	08 01 42.4	+1.1
JFY	**Yanaizu**	**1.44**	**267**	P	Pn	08 01 26.4	+0.6
JMK	**Ichinoseki**	**1.47**	**351**	P	Pn	08 01 26.6	+0.4
JMK				*eS*	Sn	08 01 44.4	+0.2
MAT	**Matsushiro**	**2.81**	**251**	P	Pn	08 01 46.2	+1.6
MAT				*eS*	Sn	08 02 21.9	+4.6

IDC ***27*** *08:05:20.1±1.8, 51°.43N×179°.50E, h0km, mb3.6/8, mb1 4.0/9, mb1mx3.7/51, mbtmp3.7/9, ML4.5/1, Error ellipse: s-maj=54.1km s-min=20.2km az=180.0*
AEIC ***27*** *08:05:24±2.7, 51°.12N±0°.06×179°.48E±0°.08, h22km±5km, ML3.5/23, mb4.2/27(NEIC), Error ellipse: s-maj=9.9km s-min=6.6km az=206.0*
NEIC ***27*** *08:05:25.3±1.9, 51°.20N±0°.07×179°.43E±0°.05, h48km±8km, Error ellipse: s-maj=9.5km s-min=5.0km az=177.0*

ISC 27 08:05:23.6±1.5, 51°.10N±0°.09×179°.49E±0°.04, h32km±9km, n70, σ1°12/69, mb4.0/17, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.30**	**337**		**Pb**	**08 05 31.3**	**0.0**
AMKA					**Sn**	**08 05 36.8**	**-0.3**
CESW	**Semis' Southwe**	**0.80**	**3**		**Pb**	**08 05 39.0**	**-0.1**
CERAA	**Semis' Rag'd T**	**0.81**	**9**		**Pb**	**08 05 39.2**	**-0.1**
CERB	**Semis' Cerberu**	**0.83**	**6**		**Pb**	**08 05 39.6**	**-0.1**
CERB					**Sn**	**08 05 51.2**	**+0.9**
CETU	**Semis' Tuman**	**0.86**	**0**		**Pb**	**08 05 40.2**	**0.0**
CEAP	**Semis' Anvil P**	**0.90**	**3**		**Pb**	**08 05 40.7**	**-0.1**
CEAP					**Sn**	**08 05 53.0**	**+1.0**
LSPA	**Little Sitkin**	**1.03**	**327**		**Pb**	**08 05 42.6**	**-0.2**
LSPA					**Sn**	**08 05 57.3**	**+2.2**
LSSA	**Little Sitkin**	**1.04**	**325**		**Pb**	**08 05 42.7**	**-0.4**
LSNW	**Little Sitkin**	**1.06**	**325**		**Pn**	**08 05 42.8**	**+0.6**
GALAA	**Gareloi Lava P**	**1.27**	**58**		**Pn**	**08 05 46.3**	**+1.1**
GAEA	**Gareloi East**	**1.30**	**58**		**Pn**	**08 05 46.5**	**+1.1**
TASE	**Tanaga Southea**	**1.71**	**64**		**Pn**	**08 05 52.5**	**+1.3**
TAFP	**Tanaga Falls P**	**1.77**	**62**		**Pn**	**08 05 53.6**	**+1.6**
TAFP					**Sb**	**08 06 17.2**	**0.0**
KIMD	**Kanaga Island**	**2.15**	**71**		**Pn**	**08 05 58.9**	**+1.7**
KIKV	**Kanaga Island**	**2.23**	**68**		**Pn**	**08 05 59.8**	**+1.5**
ADK	**Adak**	**2.52**	**70**	Pn	**Pn**	**08 06 03.7**	**+1.5**
GSMY	**Great Sitkin M**	**2.94**	**70**		**Pn**	**08 06 09.4**	**+1.4**
SMY	**Shemya**	**3.71**	**298**	Pn	**Pn**	**08 06 19.7**	**+1.1**
ATKA	**Atka Island**	**4.08**	**72**		**Pn**	**08 06 25.1**	**+1.3**
SPIA	**Saint Paul Isl**	**8.56**	**41**	Pn	**Pn**	**08 07 27.5**	**+2.4**
OHAK	**Old Harbor**	**17.00**	**58**	Pn	**Pn**	**08 09 15.7**	**-3.0**
SVW2	**Sparrevohn**	**17.02**	**44**		**Pn**	**08 09 20.0**	**+1.1**
KDAK	**Kodiak Island**	**17.48**	**57**	P	**Pn**	**08 09 22.2**	**-2.4**
	1.7nm,0.3s,baz=287,slow=6.5,SNR=11						
KDAK	**Kodiak Island**	**17.48**	**57**	P	**Pn**	**08 09 23.1**	**-1.5**
BRLK	**Bradley Lake**	**18.77**	**51**	P	**P**	**08 09 40.2**	**+0.5**
RDOG	**Red Dog Mine**	**19.06**	**20**		**P**	**08 09 42.9**	**+0.1**
SKT	**Skwentna**	**19.15**	**44**	P	**P**	**08 09 44.8**	**+0.9**
SKT				IAmb	IAmb	08 09 47.2	
	comp=Z,10nm,0.8s						
SUA	**Susitna One**	**19.32**	**46**	P	**P**	**08 09 46.5**	**+0.5**
SUA				IAmb	IAmb	08 09 53.6	
	comp=Z,9.4nm,0.8s						
SEW	**Seward**	**19.55**	**51**	P	**P**	**08 09 48.9**	**+0.6**
KTH	**Kantishna Hill**	**20.03**	**40**	P	**P**	**08 09 54.1**	**+0.5**
KTH				IAmb	IAmb	08 09 57.8	
	comp=Z,12nm,0.7s						
IMAR	**Indian Mountai**	**20.18**	**32**	P	**P**	**08 09 54.6**	**-0.5**
BPAW	**Bear Paw Mtn.**	**20.23**	**39**	P	**P**	**08 09 56.6**	**+0.8**
BPAW				IAmb	IAmb	08 10 01.1	
	comp=Z,4.3nm,0.8s						
MLY	**Manley**	**20.75**	**36**	P	**P**	**08 10 01.8**	**+0.4**
SCM	**Sheep Creek Mo**	**20.99**	**46**	P	**P**	**08 10 03.0**	**-1.0**
NEA2	**Nenana**	**21.20**	**38**	P	**P**	**08 10 06.7**	**+0.6**
NEA2				IAmb	IAmb	08 10 10.3	
	comp=Z,10nm,0.8s						
I23K	**Minto, Yukon-K**	**21.33**	**37**	P	**P**	**08 10 07.1**	**-0.4**
M24K	**Tolsona, Glenn**	**21.59**	**46**	P	**P**	**08 10 09.3**	**-1.1**
MDM	**Murphy Dome**	**21.68**	**38**	P	**P**	**08 10 11.3**	**0.0**
MDM				IAmb	IAmb	08 10 16.0	
	comp=Z,3.6nm,0.8s						
COLD	**Coldfoot**	**22.05**	**32**	P	**P**	**08 10 15.2**	**0.0**
ILAR	**Eielson Array**	**22.13**	**39**	P	**P**	**08 10 15.0**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=240,slow=7.5,SNR=9.3						
ILAR	**Eielson Array**	**22.13**	**39**	P	**P**	**08 10 17.4**	**+1.2**
TOLK	**Toolik Lake Re**	**23.02**	**29**	P	**P**	**08 10 25.1**	**-0.4**
TOLK				IAmb	IAmb	08 10 26.1	
	comp=Z,4.7nm,0.6s						
L27K	**Beaver Creek,**	**23.77**	**45**	P	**P**	**08 10 31.4**	**-1.5**
BCAR	**Beaver Creek A**	**23.79**	**45**	P	**P**	**08 10 31.4**	**-1.7**
EGAK	**Eagle**	**24.46**	**41**	P	**P**	**08 10 40.1**	**+0.9**
EGAK				IAmb	IAmb	08 10 41.6	
	comp=Z,7.6nm,1.2s						
DAWY	**Dawson**	**25.04**	**43**	P	**P**	**08 10 43.7**	**-0.9**
DAWY				IAmb	IAmb	08 10 50.8	
	comp=Z,6.2nm,1.1s						
HYT	**Haines Junctio**	**25.50**	**51**	P	**P**	**08 10 47.6**	**-1.3**
HYT				IAmb	IAmb	08 10 49.0	
	comp=Z,10nm,1.4s						
KLR	**Kul'dur**	**30.22**	**285**	P	**P**	**08 11 32.1**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=35,slow=3.3,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**32.85**	**202**	T	T	08 46 59.2	
	baz=20,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**32.86**	**202**	T	T	08 47 04.8	
	baz=20,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**32.86**	**202**	T	T	08 47 02.2	
	baz=20,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**34.07**	**202**	T	T	08 48 33.7	
	baz=20,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**34.09**	**202**	T	T	08 48 36.5	
	baz=20,slow=76,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**34.09**	**202**	T	T	08 48 34.1	
	baz=20,slow=76,SNR=7.2						
YKA	**Yellowknife Ar**	**36.20**	**46**	P	**P**	**08 12 22.1**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=281,slow=7.4,SNR=24						
BCYI	**Bear Canyon**	**44.24**	**71**	P	**P**	**08 13 29.4**	**-0.6**
NVAR	**Mina Array Bea**	**44.66**	**81**	P	**P**	**08 13 34.4**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=291,slow=7.7,SNR=3.1						
HHC	**Hu-ho-hao-te**	**46.73**	**285**	*eP*	**P**	**08 13 50.0**	**+0.5**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,6.0s						
BW06	**Boulder Array**	**47.42**	**71**	P	**P**	**08 13 54.0**	**-1.0**
BW06				IAmb	IAmb	08 13 55.9	
	comp=Z,2.2nm,0.7s						
PD31	**Pinedale Array**	**47.42**	**71**	P	**P**	**08 13 53.6**	**-1.5**
PD31				IAmb	IAmb	08 13 55.9	
	comp=Z,2.1nm,0.8s						
PDAR	**Pinedale Array**	**47.42**	**71**	P	**P**	**08 13 55.2**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=307,slow=4.0,SNR=23						
PDAR	**Pinedale Array**	**47.42**	**71**	P	**P**	**08 13 53.8**	**-1.2**
WMQ	**Urumqi**	**58.58**	**302**	*eP*	**P**	**08 15 18.5**	**+1.4**
MK31	**Makanchi Array**	**59.36**	**308**	P	**P**	**08 15 21.9**	**-0.5**
MK31				IAmb	IAmb	08 15 30.9	
	comp=Z,1.7nm,1.2s						
MKAR	**Makanchi Array**	**59.36**	**308**	P	**P**	**08 15 22.1**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=44,slow=6.6,SNR=6.3						
MKAR	**Makanchi Array**	**59.36**	**308**	P	**P**	**08 15 21.1**	**-1.3**
TXAR	**Lajitas Array**	**59.76**	**80**	P	**P**	**08 15 25.8**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=306,slow=5.1,SNR=3.0						
ABKAR	**Akbulak array**	**67.50**	**322**	P	**P**	**08 16 16.0**	**-0.1**
KKAR	**Karatay Array**	**67.77**	**312**	P	**P**	**08 16 17.9**	**0.0**
NOA	**NORSAR Array B**	**67.81**	**354**	P	**P**	**08 16 16.7**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=7.9,slow=6.2,SNR=3.3						

IDC 27 08:10:30.1±2.8, 7°.09S×129°.71E, h113km±39km, mb3.3/1, mb1 3.3/5, mb1mx3.1/32, mbtmp3.6/5, Error ellipse: s-maj=68.2km s-min=21.8km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.37**	**14**	P	Pn	08 12 01.8	+0.2
	1.1nm,0.3s,baz=48,slow=23,SNR=7.9						
SIJI				S	Sn	08 13 07.2	-5.8
	1.5nm,0.3s,baz=227,slow=22,SNR=5.1						
FITZ	**Fitzroy Crossi**	**11.64**	**200**	P	Pn	08 13 12.7	0.0
	0.4nm,0.3s,baz=22,slow=12,SNR=20						
FITZ				S	Sn	08 15 13.9	-6.8
	0.6nm,0.3s,baz=181,slow=16,SNR=5.8						
WRA	**Warramunga Arr**	**13.54**	**161**	P	Pn	08 13 35.9	-1.8
	0.2nm,0.3s,baz=344,slow=13,SNR=16						
WRA				S	Sn	08 15 58.2	-8.8
	0.8nm,0.3s,baz=332,slow=23,SNR=12						
ASAR	**Alice Springs**	**16.96**	**167**	P	P	08 14 22.3	+1.6
	0.2nm,0.3s,baz=340,slow=9.1,SNR=11						
ASAR				S	Sn	08 17 21.4	-8.2
	0.1nm,0.3s,baz=344,slow=25,SNR=1.8						
MKAR	**Makanchi Array**	**68.15**	**327**	P	P	08 21 18.0	-0.1
	0.3nm,0.4s,baz=124,slow=7.3,SNR=6.2						

SKHL ***27*** *08:23:21.4±0.6, 46°.40N×141°.70E, h10km±5km, mb4.7/8*
NIED ***27*** *08:23:23.7, 46°.79N×141°.72E, h20km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr5.56; Mθθ0.51; Mϕϕ-6.07; Mrθ-1.41; Mθϕ1.31; Mϕr-2.05; Fault plane solution: M₀6.47000×10¹⁴ NP1: ϕs186.00000°, δs56.00000°, λ111.00000°. NP2: ϕs332.00000°, δs39.00000°, λ63.00000°.*
JMA ***27*** *08:23:23.7±0.3, 46°.79N×141°.72E, h20km, M3.8*
MOS ***27*** *08:23:25.2±1.4, 46°.60N×141°.99E, h16km, mb4.2/3, Error ellipse: s-maj=13.4km s-min=8.7km az=96.7*
MOS Felt (III) at Nevel'sk, (II) at Gornozavodsk, Aniva.
IDC ***27*** *08:23:25.6±0.7, 46°.75N×141°.92E, h0km, mb3.7/11, mb1 3.9/14, mb1mx3.7/40, mbtmp3.7/14, ML2.7/3, MS2.7/2, Ms1 2.7/2, ms1mx2.3/61, Error ellipse: s-maj=18.3km s-min=17.3km az=99.0*

ISC 27 08:23:23.5±1.3, 46°.47N±0°.03×141°.79E±0°.05, h3km±9km, n42, σ2°50/35, mb3.8/14, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLM	**Kholmsk**	**0.61**	**17**	*e*Pg	**Pb**	**08 23 35.6**	**-1.2**
KHLM				AMB	AMB	08 23 38.6	
	900nm,0.2s						
KHLM				*e*Sg	**Sb**	**08 23 45.5**	**-0.3**
KHLM				A	A	08 23 46.2	
	13μm,0.4s						
KHLM				A	A	08 23 46.2	
	13μm,0.4s						
YSS	**Yuzh-Sakhalins**	**0.82**	**54**	*e*PN	**Pb**	**08 23 39.2**	**-1.2**
YSS				*e*		08 23 49.4	
YSS				pmax	pmax		
	comp=Z,200nm,0.3s						
YSS				smax	smax		
	comp=N,7μm,0.4s						
YSS				smax	smax		
	comp=E,3μm,0.4s						
YSS	**Yuzh-Sakhalins**	**0.82**	**54**	*e*Pg	**Pg**	**08 23 39.0**	**-0.2**
YSS				AMB	AMB	08 23 42.8	
	comp=E,217nm,0.4s						
YSS				*e*Sg	**Sb**	**08 23 52.5**	**+0.7**
YSS				A	A	08 23 53.0	
	comp=E,1μm,0.5s						
YSS				A	A	08 23 53.0	
	comp=E,6μm,0.5s						
JWK2	**Keihoku**	**1.16**	**176**	P	Pn	08 23 49.5	+2.9
JWK2				*e*S	Sn	08 24 08.0	+5.1
JRBN	**Rebuntou**	**1.17**	**206**	P	Pn	08 23 48.7	+2.0
JRBN				*e*S	**Sn**	**08 24 06.2**	**+3.1**
JRR	**Rishiri**	**1.38**	**194**	P	Pg	08 23 52.9	+3.1
JSE	**Soyaes**	**1.61**	**160**	P	**Pg**	**08 23 55.7**	**+1.3**
ASAJ	**Asahikawa**	**2.42**	**166**	Pn	**Pg**	**08 24 07.9**	**-2.0**
	comp=E,2.6nm,0.3s,baz=345,slow=10,SNR=20						
ASAJ				Sn	**Sg**	**08 24 43.7**	**+2.4**
	comp=E,11nm,0.3s,baz=293,slow=33,SNR=6.5						
ASAJ	**Asahikawa**	**2.42**	**166**	P	**Pg**	**08 24 07.7**	**-2.2**
UGL	**Uglegorsk**	**2.61**	**4**	*e*PN	**Pn**	**08 24 06.1**	**-0.5**
UGL				*e*S	**Sn**	**08 24 35.1**	**-3.7**
UGL				pmax	pmax		
	comp=Z,79nm,2.0s						
UGL				smax	smax		
	comp=N,352nm,0.7s						
UGL	**Uglegorsk**	**2.61**	**4**	*e*P	**Pn**	**08 24 05.3**	**-1.3**
UGL				AMB	AMB	08 24 11.0	
	comp=N,90nm,1.0s						
UGL				*e*S	**Sn**	**08 24 38.0**	**-0.8**
UGL				A	A	08 24 39.9	
	comp=N,160nm,0.4s						
UGL				A	A	08 24 39.9	
	comp=N,250nm,0.4s						
JKK2	**Kamakawa 2**	**2.69**	**165**	P	**Pg**	**08 24 11.6**	**-3.3**
JTKR	**Abashiri--Toko**	**2.92**	**148**	P	**Pb**	**08 24 12.7**	**-3.4**
YUK	**Yuzh-Kuril'sk**	**3.77**	**129**	*i* PN	**Pn**	**08 24 22.4**	**-0.1**
TEY	**Ternei**	**3.90**	**250**	*e*PN	Pb	08 24 27.3	-5.6
TEY				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TEY	**Ternei**	**3.90**	**250**	*e*P	**Pn**	**08 24 22.1**	**-2.2**
TEY				AMB	AMB	08 24 33.1	
	comp=Z,15nm,0.6s						
TYV	**Tymovskoe**	**4.43**	**7**	*e*P	**Pb**	**08 24 40.5**	**-1.4**
TYV				P	Pg	08 24 42.9	-5.4
	comp=Z,10.0nm,0.7s						
TYV				*e*S	**Sb**	**08 25 32.5**	**-3.2**
ERM	**Erimo**	**4.56**	**167**	*i* PN	Pn	08 24 34.5	+1.1
GRNR	**Gornyy**	**5.58**	**322**	*e*PN	Pn	08 24 50.0	+2.6
GRNR				MLR	MLR		
	comp=E,360nm,17.0s						
GRNR				MLR	MLR		
	comp=N,200nm,20.0s						
GRNR				MLR	MLR		
	comp=Z,120nm,14.0s						
USRK	**Ussuriysk Ar.**	**7.27**	**255**	Pn	Pn	08 25 15.6	+5.1
	baz=64,slow=16,SNR=2.0						
USRK				LR	LR	08 28 01.4	
	comp=Z,70nm,21.6s,baz=152,slow=37						
KLR	**Kul'dur**	**7.30**	**296**	Pn	Pn	08 25 14.8	+3.9
	comp=Z,0.1nm,0.3s,baz=107,slow=17,SNR=1.4						
KLR				Sn	**Sn**	**08 26 34.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=266,slow=19,SNR=2.4						
EKMR	**Ekimchan**	**8.73**	**322**	*e*Pg	**Sn**	**08 27 04.5**	**-5.0**
EKMR				AMB	AMB	08 27 15.9	
	comp=Z,4.0nm,0.5s						
EKMR				*e*Sg	**Sg**	**08 28 08.9**	**+5.3**
EKMR				A	A	08 28 17.2	
	comp=Z,11nm,0.7s						
EKMR				A	A	08 28 17.2	
	comp=Z,8.0nm,0.7s						
PETK	**Petropavlovsk-**	**12.22**	**51**	LR	LR	08 30 57.2	
	comp=Z,28nm,21.3s,baz=204,slow=38						
KROS	**Kirovskiy**	**12.34**	**316**	*e*Sg		08 29 45.0	
SEY	**Seymchan**	**17.55**	**16**	*i* P	**Pn**	**08 27 26.7**	**-2.2**
SONM	**Songino Array**	**23.98**	**286**	P	**P**	**08 28 42.6**	**+3.4**
	comp=Z,0.9nm,0.7s,baz=78,slow=7.8,SNR=3.6						
ZAK	**Zakamensk**	**25.65**	**293**	*e*P	**P**	**08 28 57.3**	**+3.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
DGZ	**Jazzator, Alta**	**35.79**	**296**	*i* P	**P**	**08 30 21.2**	**-2.7**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**39.99**	**293**	P	P	08 31 00.9	+1.6
	comp=Z,0.8nm,0.7s,baz=80,slow=8.2,SNR=6.1						
KURK	**Kurchatov**	**40.87**	**300**	P	P	08 31 08.5	+2.1
KURBB	**Kurchatov Arra**	**40.95**	**300**	P	**P**	**08 31 08.5**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=67,slow=8.9,SNR=5.4						
ILAR	**Eielson Array**	**41.60**	**38**	P	**P**	**08 31 12.7**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=281,slow=8.6,SNR=27						
BRVK	**Borovoye**	**44.88**	**306**	*i* P	**P**	**08 31 35.6**	**-3.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
YKA	**Yellowknife Ar**	**55.62**	**33**	P	**P**	**08 33 00.1**	**0.0**
	comp=Z,0.5nm,0.8s,baz=304,slow=6.1,SNR=14						
FINES	**FINESS Array B**	**60.68**	**330**	P	**P**	**08 33 36.3**	**+0.8**
	comp=Z,3.8nm,1.0s,baz=38,slow=7.5,SNR=7.0						
NOA	**NORSAR Array B**	**65.63**	**336**	P	**P**	**08 34 09.6**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=28,slow=8.3,SNR=1.8						
WRA	**Warramunga Arr**	**66.44**	**188**	P	P	08 34 19.0	+4.9
	comp=Z,0.7nm,1.1s,baz=4.3,slow=6.9,SNR=2.7						
WRA	**Warramunga Arr**	**66.44**	**188**	P	P	08 34 19.0	+5.0
NVAR	**Mina Array Bea**	**69.27**	**56**	P	**P**	**08 34 33.8**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=306,slow=6.1,SNR=5.5						
ASAR	**Alice Springs**	**70.17**	**188**	P	P	08 34 42.3	+5.0
	comp=Z,0.8nm,1.0s,baz=13,slow=6.2,SNR=4.7						
IDI	**Anoyia**	**80.80**	**312**	LR	LR	09 13 47.6	
	comp=Z,101nm,19.4s,baz=140,slow=38						
TXAR	**Lajitas Array**	**84.17**	**53**	P	**P**	**08 35 58.1**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=17,slow=1.3,SNR=4.2						

NNC ***27*** *08:28:13.7±0.7, 54°.45N×86°.85E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=10.3km s-min=4.4km az=166.0, Suspected Mining explosion.*

IDC ***27*** *08:28:14.0±2.8, 54°.44N×86°.97E, h0km, mb1 3.1/2, mb1mx2.9/37, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=22.9km s-min=16.4km az=61.0*

ISC 27 08:28:17.9±3.7, 54°.7N±0°.2×83°.69E±0°.07, h0km, n7, σ1°12/11, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**139**	*i*		08 37 50.0	
	baz=68,slow=323,SNR=1.5						
ZAA0	**Zalesovo Array**	**1.03**	**139**	⇓P	**Pg**	**08 28 37.8**	**+0.2**
	0.4nm,0.3s						
ZAA0				⇑S	**Sn**	**08 28 55.7**	**+1.0**
	4.5nm,0.8s						
ZALV	**Zalesovo Beam**	**1.03**	**139**	Pg	**Pb**	**08 28 38.1**	**-0.4**
	1.1nm,0.3s,baz=67,slow=16,SNR=16						
ZALV				Lg	Lg	08 28 57.6	
	1.4nm,0.3s,baz=66,slow=26,SNR=15						
KURBB	**Kurchatov Arra**	**5.17**	**219**	Pn	**Pb**	**08 29 50.5**	**+1.3**
	0.1nm,0.3s,baz=53,slow=14,SNR=19						
KURBB				Sn	**Sg**	**08 31 03.0**	**-1.0**
	0.0nm,0.3s,baz=45,slow=21,SNR=2.3						
KURBB				Lg	Lg	08 31 38.0	
	0.0nm,0.3s,baz=56,slow=34,SNR=9.6						
KURBB	**Kurchatov Arra**	**5.17**	**219**	⇑Pn	**Pb**	**08 29 48.9**	**-0.3**
	2.5nm,0.7s						
KURBB				⇑Sn	**Sg**	**08 31 03.1**	**-0.9**
	6.0nm,0.7s						
KURBB				⇓Lg	Lg	08 31 34.4	
	15nm,1.0s						
MK31	**Makanchi Array**	**8.00**	**187**	Pn	**Pn**	**08 30 13.8**	**-1.6**
	0.5nm,0.6s,baz=30,slow=14,SNR=4.2						
MK31				⇓Sn	**Sn**	**08 31 48.0**	**+1.6**
	0.7nm,0.5s,baz=22,slow=26,SNR=3.0						
MK31				Lg	Lg	08 32 34.9	
	3.0nm,1.0s,baz=22,slow=32,SNR=5.0						
MKAR	**Makanchi Array**	**8.00**	**187**	Pn	**Pn**	**08 30 15.8**	**+0.5**
	0.1nm,0.3s,baz=24,slow=12,SNR=4.5						
MKAR				Sn	**Sn**	**08 31 46.6**	**+0.2**
	0.2nm,0.3s,baz=17,slow=25,SNR=5.5						
MKAR				Lg	Lg	08 32 34.2	
	0.1nm,0.3s,baz=18,slow=32,SNR=7.6						

IDC 27 08:47:07.7±3.2, 5°.51S×151°.55E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/34, mbtmp3.5/4, ML1.8/1, Error ellipse: s-maj=115.3km s-min=43.4km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.82**	**228**	Pn	Pn	08 48 36.4	+1.0
	1.8nm,0.3s,baz=350,slow=9.2,SNR=4.8						
PMG				Sn	Sn	08 49 36.1	-6.8
	3.7nm,0.3s,baz=135,slow=18,SNR=7.7						
WRA	**Warramunga Arr**	**22.04**	**228**	P	P	08 52 03.2	-0.9
	0.2nm,0.3s,baz=53,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**24.79**	**222**	P	P	08 52 31.1	-0.5
	1.9nm,0.9s,baz=55,slow=8.8,SNR=9.2						
FITZ	**Fitzroy Crossi**	**28.23**	**241**	P	P	08 53 03.6	+1.1
	0.6nm,0.3s,baz=61,slow=8.9,SNR=1.5						
TORD	**Torodi Ar. Bea**	**149.33**	**286**	PKPbc	PKPbc	09 06 59.2	-0.5
	1.6nm,0.7s,baz=84,slow=2.3,SNR=7.6						

WEL 27 08:52:27.1±1.2, 36°S±17°×177°E±2°.1, h213km±14km, M3.1/21, ML3.6/13, MLv3.1/21, Error ellipse: s-maj=0.0km s-min=0.0km az=125.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.67**	**193**	P	Pn	08 53 03.3	-0.1
HAZ				S	S	08 53 31.0	-0.7
WMGZ	**Waiomatatini S**	**1.69**	**176**	P	Pn	08 53 04.3	+0.7
PKGZ	**Pakihiroa**	**1.77**	**185**	P	Pn	08 53 04.7	+0.3
PKGZ				S	S	08 53 33.0	-0.4
RUGZ	**Raukumara Rang**	**1.90**	**194**	P	Pn	08 53 05.2	-0.5
RUGZ				S	S	08 53 31.3	-4.4
PUZ	**Puketiti**	**1.94**	**180**	P	Pn	08 53 06.6	+0.6
PUZ				S	S	08 53 35.7	-0.5
TWGZ	**Tauwhareparae**	**2.06**	**186**	P	Pn	08 53 08.3	+1.1
TWGZ				S	S	08 53 40.0	+1.6
MWZ	**Matawai**	**2.28**	**195**	P	Pn	08 53 10.1	+0.7
URZ	**Urewera**	**2.32**	**203**	P	Pn	08 53 10.0	+0.1
TKGZ	**Te Karaka**	**2.33**	**188**	P	Pn	08 53 10.4	+0.4
TKGZ				S	S	08 53 44.4	+1.1
RIGZ	**Rimuhau**	**2.61**	**189**	P	Pn	08 53 13.1	+0.1
MUGZ	**Murupara**	**2.63**	**207**	P	Pn	08 53 13.8	+0.5
RTZ	**Ruatahuna**	**2.69**	**202**	P	Pn	08 53 14.1	+0.2
SNGZ	**Shannon Statio**	**2.75**	**195**	P	Pn	08 53 15.3	+0.7
RAHZ	**Arahi**	**2.94**	**198**	P	Pn	08 53 16.0

MKAR	**Makanchi Array**	**44.25**	**56**	P		**P**	**09 20 54.0**	**-0.2**	
	comp=N,0.4nm,0.6s,baz=281,slow=8.0,SNR=5.3								

TIR ***27*** *09:18:16.9, 37.70N×20.33E, h23km±2km, Md4.3*
ATH ***27*** *09:18:25.2, 38.10N×20.37E, h17km, ML3.4/8, Error ellipse: s-maj=2.1km s-min=0.8km az=62.0*
THE ***27*** *09:18:25.4, 38.10N×20.37E, h0km±3km, ML3.2/5, Error ellipse: s-maj=4.0km s-min=0.9km az=251.0*
IDC ***27*** *09:18:30.2±3.8, 38.29N×20.65E, h50km±37km, mb3.5/6, mb1 3.6/8, mb1mx3.2/64, mbtmp3.7/8, ML3.3/2, MS2.7/2, Ms1 2.7/2, ms1mx2.3/38, Error ellipse: s-maj=80.4km s-min=20.1km az=50.0*

ISC 27 09:18:24.0±0.8, 38.09N±0.02×20.32E±0.04, h15km±3km, n98, σ1§26/121, mb3.9/6, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.11**	**10**	P	**Pb**	**09 18 29.1**	**+1.2**
KEF3				S	**Sb**	**09 18 31.7**	**+1.3**
KEF3	**Kipouria, Keph**	**0.11**	**10**	P	**Pb**	**09 18 29.1**	**+1.2**
LXRA	**Lixouri, Kepha**	**0.14**	**40**	P	**Pb**	**09 18 29.1**	**+0.7**
LXRA				S	**Sb**	**09 18 31.7**	**+0.5**
ARGA	**Argostoli. Kep**	**0.15**	**55**	P	**Pb**	**09 18 28.9**	**+0.4**
ARGA				S	**Sb**	**09 18 31.3**	**-0.2**
DMLN	**Damoulianata-K**	**0.15**	**15**	P	**Pb**	**09 18 29.3**	**+0.8**
DMLN				S	**Sb**	**09 18 32.2**	**+0.6**
DMLN	**Damoulianata-K**	**0.15**	**15**	P	**Pb**	**09 18 29.3**	**+0.8**
KEF4	**Livadi, Kephal**	**0.18**	**26**	P	**Pb**	**09 18 29.6**	**+0.5**
KEF4				S	**Sb**	**09 18 32.7**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.21**	**84**	P	**Pb**	**09 18 29.6**	**+0.1**
PSDA				S	**Sg**	**09 18 32.4**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.21**	**84**	P	**Pb**	**09 18 29.5**	**+0.1**
PSDA				S	**Sg**	**09 18 32.3**	**+0.4**
	11μm,0.2s						
KEF5	**Kardakata, Kep**	**0.22**	**32**	P	**Pb**	**09 18 29.9**	**+0.2**
KEF5				S	**Sb**	**09 18 33.2**	**-0.3**
KEF5	**Kardakata, Kep**	**0.22**	**32**	P	**Pb**	**09 18 29.9**	**+0.2**
KEF5				S	**Sg**	**09 18 33.0**	**+0.8**
VLS	**Valsamata**	**0.23**	**68**	P	**Pg**	**09 18 29.7**	**+0.7**
VLS				S	**Sg**	**09 18 33.0**	**+0.5**
VLS	**Valsamata**	**0.23**	**68**	P	**Pg**	**09 18 29.8**	**+0.7**
VLS				S	**Sg**	**09 18 33.0**	**+0.5**
VLMS	**Volimes, Zakyn**	**0.34**	**129**	P	**Pb**	**09 18 32.0**	**+0.2**
VLMS				AML	AML	09 18 42.3	
	comp=N,23642μm,0.3s						
VLMS				AML	AML	09 18 45.7	
	comp=E,16338μm,0.3s						
VLMS	**Volimes, Zakyn**	**0.34**	**129**	P	**Pb**	**09 18 32.0**	**+0.2**
VLMS				S	**Sg**	**09 18 36.8**	**+0.9**
	comp=E,9μm,0.3s						
FSK	**Fiskardo**	**0.41**	**27**	P	**Pg**	**09 18 32.8**	**+0.5**
FSK				S	**Sg**	**09 18 38.2**	**+0.3**
FSK				AML	AML	09 18 39.7	
	comp=E,18000μm,0.2s						
FSK				AML	AML	09 18 42.8	
	comp=N,12428μm,0.4s						
LTHK	**Lithakia**	**0.56**	**133**	P	**Pg**	**09 18 35.4**	**+0.5**
LTHK				AML	AML	09 18 50.3	
	comp=N,7287μm,0.3s						
LTHK				AML	AML	09 18 55.6	
	comp=E,7045μm,0.4s						
LTHK	**Lithakia**	**0.56**	**133**	P	**Pg**	**09 18 35.5**	**+0.5**
LTHK				S	**Sb**	**09 18 43.9**	**+0.7**
	comp=E,3μm,0.3s						
EVGI	**Lefkada island**	**0.59**	**26**	P	**Pg**	**09 18 35.8**	**+0.2**
EVGI	**Lefkada island**	**0.59**	**26**	P	**Pg**	**09 18 35.7**	**+0.1**
EVGI				S	**Sb**	**09 18 44.1**	**-0.1**
DRAG	**Dragano-Lefkad**	**0.62**	**18**	P	**Pg**	**09 18 36.4**	**+0.2**
DRAG				S	**Sb**	**09 18 46.3**	**+1.2**
DRAG	**Dragano-Lefkad**	**0.62**	**18**	P	**Pg**	**09 18 36.5**	**+0.3**
DRAG				S	**Sb**	**09 18 46.2**	**+1.0**
NYDR	**Nydri-Lefkada**	**0.69**	**25**	P	**Pg**	**09 18 37.4**	**+0.1**
NYDR	**Nydri-Lefkada**	**0.69**	**25**	P	**Pg**	**09 18 37.3**	**-0.1**
NYDR				S	**Sb**	**09 18 47.6**	**+0.6**
	comp=E,2μm,0.4s						
VTN	**Vitineika**	**0.70**	**104**	P	**Pb**	**09 18 38.5**	**+0.6**
LKD2	**Lefkada island**	**0.74**	**21**	P	**Pg**	**09 18 38.4**	**-0.1**
LKD2				AML	AML	09 18 54.1	
	comp=E,3478μm,0.2s						
LKD2				AML	AML	09 18 56.4	
	comp=N,3785μm,0.2s						
LKD2	**Lefkada island**	**0.74**	**21**	P	**Pg**	**09 18 38.4**	**-0.1**
TSLK	**Tsoukalades, L**	**0.78**	**20**	P	**Pb**	**09 18 39.3**	**+0.1**
TSLK	**Tsoukalades, L**	**0.78**	**20**	P	**Pb**	**09 18 39.0**	**-0.2**
TSLK				S	**Sb**	**09 18 50.7**	**+1.1**
	comp=N,3μm,0.5s						
PDO	**Prodromos**	**0.84**	**53**	P	**Pb**	**09 18 40.2**	**-0.2**
PDO				AML	AML	09 18 59.6	
	comp=E,5580μm,0.4s						
PDO				AML	AML	09 19 01.7	
	comp=N,6700μm,0.4s						
PDO	**Prodromos**	**0.84**	**53**	P	**Pb**	**09 18 40.2**	**-0.2**
RLS	**Riolos of Patr**	**0.90**	**92**	P	**Pb**	**09 18 41.2**	**-0.1**
RLS	**Riolos of Patr**	**0.90**	**92**	P	**Pb**	**09 18 41.2**	**-0.1**
PVO	**Paravola**	**1.08**	**61**	P	**Pn**	**09 18 44.9**	**+0.3**
PVO				AML	AML	09 19 08.0	
	comp=N,3604μm,0.4s						
PVO				AML	AML	09 19 08.0	
	comp=E,5879μm,0.4s						
PVO	**Paravola**	**1.08**	**61**	P	**Pn**	**09 18 44.8**	**+0.3**
DRO	**Drossia**	**1.10**	**97**	P	**Pb**	**09 18 45.0**	**+0.3**
DRO				AML	AML	09 19 07.7	
	comp=E,4364μm,0.6s						
DRO				AML	AML	09 19 11.7	
	comp=N,4471μm,0.6s						
DRO	**Drossia**	**1.10**	**97**	P	**Pb**	**09 18 45.1**	**+0.3**
LAKA	**Lakka**	**1.31**	**83**	P	**Pn**	**09 18 48.1**	**+0.3**
TRIZ	**Trizonia**	**1.41**	**78**	P	**Pn**	**09 18 49.4**	**+0.4**
TRIZ	**Trizonia**	**1.41**	**78**	P	**Pn**	**09 18 49.5**	**+0.4**
ALIK	**Aliki, Aigiali**	**1.42**	**83**	P	**Pb**	**09 18 50.5**	**+0.4**
EVR	**Evrytania**	**1.43**	**54**	P	**Pg**	**09 18 51.4**	**0.0**
IGT	**Igoumenitsa**	**1.44**	**0**	P	**Pb**	**09 18 50.9**	**+0.4**
IGT				AML	AML	09 19 19.2	
	comp=E,1635μm,0.4s						
IGT				AML	AML	09 19 24.9	
	comp=N,1273μm,0.6s						
IGT	**Igoumenitsa**	**1.44**	**0**	P	**Pg**	**09 18 52.7**	**+1.1**
KLV	**Kalavryta, Ach**	**1.44**	**91**	P	**Pb**	**09 18 50.6**	**0.0**
KLV	**Kalavryta, Ach**	**1.44**	**91**	P	**Pb**	**09 18 50.5**	**0.0**
KALE	**Kalithea**	**1.46**	**78**	P	**Pn**	**09 18 50.5**	**+0.6**
ITM	**Ithomi**	**1.57**	**125**	P	**Pb**	**09 18 53.1**	**+0.5**
JAN	**Janina**	**1.61**	**15**	P	**Pg**	**09 18 56.2**	**+1.2**
KEK	**Kerkira**	**1.67**	**346**	P	**Pn**	**09 18 54.0**	**+1.4**
KEK	**Kerkira**	**1.67**	**346**	P	**Pn**	**09 18 54.1**	**+1.4**
VLX	**Vlachokerasia**	**1.78**	**113**	P	**Pg**	**09 19 00.4**	**+2.2**
SRN	**Sarande**	**1.80**	**352**	P	**Pn**	**09 18 56.0**	**+1.5**
	baz=354						
SRN				S	**Sg**	**09 19 24.6**	**+2.6**
	baz=354						
AGG	**Agios Georgios**	**1.83**	**59**	P	**Pb**	**09 18 57.8**	**+0.7**
AGG	**Agios Georgios**	**1.83**	**59**	P	**Pb**	**09 18 58.0**	**+0.9**
THL	**Klokotos Trika**	**1.98**	**41**	P	**Pb**	**09 18 59.7**	**+0.1**
LSK	**Leskovik**	**2.07**	**6**	P	**Pb**	**09 19 00.2**	**-1.1**
	baz=4.0						
LSK				S	**Sg**	**09 19 31.9**	**+1.5**
	baz=4.0						
LKR	**Lokris**	**2.18**	**74**	P	**Pb**	**09 19 01.7**	**-1.3**
KRND	**KRANIDI**	**2.35**	**107**	P	**Pb**	**09 19 07.7**	**+1.7**
VLO	**Vlora**	**2.46**	**345**	P	**Pn**	**09 19 05.8**	**+2.3**
	baz=348						
KZN	**Kozani**	**2.48**	**27**	P	**Pb**	**09 19 08.2**	**-0.1**
KBN	**Korca**	**2.55**	**8**	P	**Pn**	**09 19 06.1**	**+1.2**
	baz=6.0						
FNA	**Florina**	**2.81**	**17**	P	**Pn**	**09 19 10.7**	**+2.3**
OHR	**Ohrid**	**3.04**	**7**	*i* Pn	**Pn**	**09 19 14.4**	**+2.9**
THE	**Thessaloniki**	**3.26**	**38**	P	**Pn**	**09 19 15.7**	**+1.2**
	baz=34						
TIR	**Tirane**	**3.27**	**354**	P	**Pn**	**09 19 17.0**	**+2.3**
	baz=355						
PHP	**Peshkopia**	**3.59**	**1**	P	**Pn**	**09 19 21.0**	**+1.9**
	baz=1.0						
VAY	**Valandovo**	**3.66**	**28**	*i* Pn	Pn	09 19 12.3	-7.7
STIP	**Stip**	**3.87**	**21**	*i* Pn	**Pn**	**09 19 27.1**	**+4.1**
PUK	**Puka**	**3.96**	**355**	P	**Pn**	**09 19 25.6**	**+1.4**
	baz=356						
BCI	**Bajram Curri**	**4.27**	**357**	P	**Pn**	**09 19 30.9**	**+2.3**
	baz=358						
PDG	**Podgorica**	**4.41**	**350**	*e*Pn	**Pn**	**09 19 30.8**	**+0.5**
HCY	**Herceg Novi**	**4.57**	**343**	*e*Pn	**Pn**	**09 19 32.3**	**-0.2**
IDI	**Anoyia**	**4.62**	**126**	P	**Pn**	**09 19 37.0**	**+3.7**
	comp=N,0.7nm,0.3s,baz=42,slow=5.2,SNR=2.8						
IDI				S	**Sn**	**09 20 28.2**	**+1.6**
	comp=N,2.4nm,0.3s,baz=278,slow=23,SNR=15						
TREB	**Trebinje**	**4.86**	**343**	*e*Pn	**Pn**	**09 19 35.8**	**-0.7**
STON	**Ston**	**5.18**	**338**	*e*Pn	**Pn**	**09 19 39.9**	**-0.9**
STON				Sn	**Sn**	**09 20 36.5**	**-3.8**
MAKA	**Makarska**	**5.76**	**335**	*e*Pn	**Pn**	**09 19 49.3**	**+0.4**
BBLS	**Lazići**	**5.81**	**353**	*e*Pn	**Pn**	**09 19 50.2**	**+0.6**
HVAR	**Hvar**	**5.87**	**331**	*e*Pn	**Pn**	**09 19 50.5**	**+0.1**
HVAR				Sn	**Sn**	**09 20 53.9**	**-3.6**
RICI	**Ricice**	**5.91**	**337**	*e*Pn	**Pn**	**09 19 51.2**	**+0.2**
RICI				Sn	**Sn**	**09 20 56.1**	**-2.4**
DIVS	**Divibare**	**6.00**	**358**	*e*Pn	**Pn**	**09 19 51.0**	**-1.3**
HAPS	**Han Pijesak,Bi**	**6.08**	**351**	*e*Pn	**Pn**	**09 19 51.2**	**-2.2**
ZIRJ	**Zirje**	**6.59**	**329**	*e*Pn	**Pn**	**09 20 00.3**	**0.0**
ZIRJ				Sn	**Sn**	**09 21 12.2**	**-3.0**
KIJV	**Kijevo**	**6.61**	**335**	*e*Pn	**Pn**	**09 20 01.5**	**+0.9**
MORI	**Morici**	**6.74**	**330**	*i* Pn	**Pn**	**09 20 03.5**	**+1.1**
MORI				Sn	**Sn**	**09 21 16.3**	**-2.5**
FRGS	**Fruska Gora**	**7.07**	**357**	*e*Pn	Pn	09 20 01.4	-5.5
NVLJ	**Novalja**	**7.66**	**329**	*e*Pn	**Pn**	**09 20 15.0**	**+0.2**
CRES	**Cresnjev**	**8.53**	**336**	*e*Pn	**Pn**	**09 20 25.7**	**-1.3**
CEY	**Cerknica**	**8.81**	**332**	*e*Pn	**Pn**	**09 20 30.1**	**-0.7**
BRTR	**Keskin Array B**	**10.51**	**77**	LR	LR	09 25 56.9	
	comp=N,29nm,21.6s,baz=260,slow=44						
AKASG	**Malin Array Be**	**14.11**	**24**	P	**Pn**	**09 21 42.6**	**-0.5**
	comp=N,0.4nm,0.3s,baz=211,slow=12,SNR=1.9						
KBZ	**Khabaz**	**17.95**	**65**	LR	LR	09 31 43.5	
	comp=N,39nm,18.4s,baz=139,slow=45						
HFS	**Hagfors**	**22.46**	**351**	P	**P**	**09 23 23.5**	**+1.2**
	comp=N,3.7nm,0.8s,baz=157,slow=12,SNR=5.1						
FINES	**FINESS Array B**	**23.65**	**7**	P	**P**	**09 23 35.5**	**+1.1**
	comp=N,3.6nm,0.9s,baz=182,slow=11,SNR=1.7						
NOA	**NORSAR Array B**	**23.67**	**349**	P	**P**	**09 23 34.5**	**-0.2**
	comp=N,0.4nm,0.6s,baz=158,slow=9.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**42.41**	**53**	P	**P**	**09 26 16.9**	**-0.8**
	comp=N,0.5nm,0.2s,baz=276,slow=8.3,SNR=1.4						
MKAR	**Makanchi Array**	**45.48**	**58**	P	**P**	**09 26 41.5**	**-0.9**
	comp=N,0.4nm,0.5s,baz=278,slow=8.0,SNR=5.7						
ZALV	**Zalesovo Beam**	**45.86**	**48**	P	**P**	**09 26 44.8**	**-0.6**
	comp=N,1.5nm,0.5s,baz=273,slow=9.6,SNR=6.3						

ROM ***27*** *09:18:37.9±0.2, 44.507N±0.009×6.68E±0.02, h13km±2km, ML2.2/13, Error ellipse: s-maj=1.3km s-min=0.4km az=237.0*
LDG ***27*** *09:18:38.4±0.0, 44.53N×6.71E, h4km, Md2.4/2, Ml2.6/22, Error ellipse: s-maj=1.0km s-min=0.6km az=53.0*
STR ***27*** *09:18:38.2±0.2, 45°N±2°×±°, h8km±4km, MLv2.2/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
GEN ***27*** *09:18:38.2, 44.51N×6.69E, h4km±2km, Ml2.1*

ISC 27 09:18:38.2±0.8, 44.54N±0.02×6.71E±0.02, h18km±4km, n70, σ1§40/127, 8C-1D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.10**	**129**	Pg	**Pg**	**09 18 40.6**	**-1.4**
SURF				Sg	**Sg**	**09 18 42.4**	**-2.2**
OGAG	**Argentiere**	**0.15**	**234**	Pg	**Pg**	**09 18 44.0**	**+1.5**
OGAG				Sg	**Sg**	**09 18 48.4**	**+3.0**
MBDF	**Montbardon**	**0.19**	**13**	*e*Pg	**Pg**	**09 18 42.6**	**-0.5**
MBDF				*e*Sg	**Sg**	**09 18 45.3**	**-1.2**
	127nm,0.2s						
PZZ	**Stroppo**	**0.29**	**97**	P	**Pg**	**09 18 44.2**	**-0.5**
PZZ				S	**Sg**	**09 18 48.5**	**-0.6**
PZZ	**Stroppo**	**0.29**	**97**	⇑P	**Pg**	**09 18 44.2**	**-0.5**
PZZ				S	**Sb**	**09 18 49.2**	**-0.4**
PZZ				AML	AML		
	comp=N,1094μm,0.6s						
PZZ				AML	AML		
	comp=E,1110μm,0.1s						
RRL	**Rocca Remolon**	**0.38**	**9**	P	**Pb**	**09 18 46.4**	**-0.3**
RRL				S	**Sb**	**09 18 52.2**	**-0.2**
RRL	**Rocca Remolon**	**0.38**	**9**	⇑P	**Pb**	**09 18 46.4**	**-0.3**
RRL				S	**Sb**	**09 18 52.6**	**+0.2**
RRL				AML	AML		
	comp=N,440μm,0.4s						
RRL				AML	AML		
	comp=E,309μm,1.5s						
ISO	**Isola**	**0.43**	**146**	Pg	**Pg**	**09 18 46.1**	**-0.9**
BHB	**Bricherasio**	**0.50**	**53**	P	**Pb**	**09 18 48.2**	**-0.3**
BHB				S	**Sg**	**09 18 55.0**	**0.0**
BHB	**Bricherasio**	**0.50**	**53**	⇑P	**Pb**	**09 18 48.2**	**-0.3**
BHB				S	**Sb**	**09 18 55.1**	**-0.3**
BHB				AML	AML		
	comp=E,271μm,0.5s						
BHB				AML	AML		
	comp=N,323μm,1.4s						
BNI	**Bardonecchia**	**0.51**	**358**	P	**Pb**	**09 18 48.6**	**-0.2**
BNI				S	**Sb**	**09 18 56.2**	**+0.3**
BNI				AML	AML		
	comp=E,72μm,0.6s						
BNI				AML	AML		
	comp=N,60μm,0.4s						
OGDI	**Digne**	**0.52**	**214**	Pg	**Pb**	**09 18 49.3**	**+0.4**
STV	**Sant Anna di V**	**0.53**	**124**	P	**Pg**	**09 18 48.3**	**-0.6**
STV				S	**Sg**	**09 18 55.0**	**-1.0**
STV	**Sant Anna di V**	**0.53**	**124**	⇑P	**Pg**	**09 18 48.3**	**-0.6**
STV				S	**Sg**	**09 18 55.2**	**-0.8**
STV				AML	AML		
	comp=N,242μm,0.3s						
STV				AML	AML		
	comp=E,296μm,0.4s						
ENR	**Entracque**	**0.60**	**121**	P	**Pg**	**09 18 49.5**	**-0.6**
ENR				S	**Sg**	**09 18 57.7**	**-0.4**
ENR	**Entracque**	**0.60**	**121**	P	**Pg**	**09 18 49.6**	**-0.6**
ENR				S	**Sb**	**09 18 58.3**	**-0.1**
ENR				AML	AML		
	comp=E,340μm,1.4s						
ENR				AML	AML		
	comp=N,272μm,0.5s						
OGMO	**Fort Saint-Gob**	**0.67**	**359**	Pg	**Pb**	**09 18 51.5**	**+0.1**
OGMO				Sg	**Sb**	**09 19 01.3**	**+0.8**
ORIF	**Oris-en-Rattie**	**0.70**	**303**	*e*Pg	**Pg**	**09 18 51.4**	**-0.6**
ORIF				*e*Sg	**Sg**	**09 19 00.9**	**-0.5**
	comp=N,74nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.70**	**303**	Pg	**Pg**	**09 18 51.5**	**-0.6**
ORIF				Sg	**Sg**	**09 19 00.7**	**-0.7**
ORIF	**Oris-en-Rattie**	**0.70**	**303**	P	**Pg**	**09 18 51.4**	**-0.6**
ORIF				S	**Sg**	**09 19 00.6**	**-0.7**
ORIF				AML	AML		
	comp=E,210μm,1.0s						
ORIF				AML	AML		
	comp=N,184μm,1.6s						
RSP	**Reno Superiore**	**0.72**	**33**	P	**Pb**	**09 18 52.7**	**+0.3**
RSP				S	**Sb**	**09 19 03.0**	**+0.9**
RSP	**Reno Superiore**	**0.72**	**33**	⇑P	**Pb**	**09 18 52.7**	**+0.3**
RSP				S	**Sb**	**09 19 03.7**	**+1.6**
RSP				AML	AML		
	comp=E,197μm,0.9s						
RSP				AML	AML		
	comp=N,206μm,0.9s						
TURF	**col de Turini**	**0.75**	**139**	Pg	**Pg**	**09 18 52.3**	**-0.6**
TURF				Sg	**Sg**	**09 19 02.4**	**-0.5**
GDM	**Grand'Maison**	**0.79**	**328**	Pg	**Pb**	**09 18 53.3**	**-0.1**
GDM				Sg	**Sg**	**09 19 03.4**	**-0.7**
CALF	**Calern**	**0.80**	**169**	Pg	**Pg**	**09 18 53.4**	**-0.5**
SAOF	**Saorge**	**0.82**	**132**	Pg	**Pg**	**09 18 53.6**	**-0.6**
SAOF				Sg	**Sb**	**09 19 04.9**	**+0.1**
SAOF	**Saorge**	**0.82**	**132**	⇑P	**Pg**	**09 18 53.6**	**-0.6**
SAOF				S	**Sb**	**09 19 04.9**	**+0.1**
SAOF	**Saorge**	**0.82**	**132**	AML	AML		
	comp=E,138μm,1.5s						
SAOF				AML	AML		
	comp=N,162μm,0.3s						
ESCA	**l'Escarene**	**0.86**	**146**	Pg	**Pg**	**09 18 54.3**	**-0.6**
ESCA				Sg	**Sb**	**09 19 06.0**	**+0.3**
SBF	**Sospel**	**0.86**	**142**	*e*Pg	**Pg**	**09 18 54.0**	**-0.9**
SBF				*e*Sg	**Sg**	**09 19 05.7**	**-0.5**
	comp=N,31nm,0.2s						
SBF				*e*Sn	**Sn**	**09 19 08.2**	**+0.6**
GBOS	**Grotte di Boss**	**0.86**	**110**	P	**Pg**	**09 18 54.4**	**-0.6**
GBOS				S	**Sg**	**09 19 05.5**	**-1.0**
GBOS	**Grotte di Boss**	**0.86**	**110**	⇑P	**Pg**	**09 18 54.4**	**-0.6**
GBOS				S	**Sg**	**09 19 05.7**	**-0.8**
GBOS				AML	AML		
	comp=E,131μm,1.6s						
GBOS				AML	AML		
	comp=N,118μm,1.4s						
LPG	**La Plagne**	**0.96**	**2**	*e*Pg	**Pb**	**09 18 56.8**	**+0.3**
LPG				*e*Sg	**Sb**	**09 19 09.3**	**+0.4**
	comp=N,12nm,0.2s						
LSD	**Lago del Serru**	**0.97**	**18**	P	**Pb**	**09 18 57.1**	**+0.5**
LSD				S	**Sb**	**09 19 10.3**	**+1.1**
LSD	**Lago del Serru**	**0.97**	**18**	P	**Pb**	**09 18 57.1**	**+0.5**
LSD				S	**Sn**	**09 19 10.9**	**+0.2**
LSD				AML	AML		
	comp=E,136μm,1.3s						
LSD				AML	AML		
	comp=N,111μm,0.2s						
LPL	**La Plagne**	**0.98**	**1**	*e*Pg	**Pb**	**09 18 57.0**	**+0.2**
LPL				*e*Sg	**Sb**	**09 19 09.7**	**+0.3**
	comp=N,37nm,0.3s						
FRF	**La Foret Royal**	**0.98**	**183**	*e*Pg	**Pg**	**09 18 56.4**	**-0.8**
FRF				*e*Sg	**Sg**	**09 19 09.4**	**-0.7**
	comp=N,28nm,0.3s						
FRF				*e*Sn	**Sn**	**09 19 11.6**	**+1.0**
GRN	**Grenoble**	**0.98**	**316**	Pg	**Pn**	**09 18 57.4**	**+0.2**
GRN				Sg	**Sn**	**09 19 10.8**	**0.0**
SMRF	**Simiane la Rot**	**0.99**	**236**	*e*Pg	**Pb**	**09 18 57.1**	**+0.2**
SMRF				*e*Sg	**Sg**	**09 19 09.7**	**-0.8**
	comp=N,43nm,0.3s						
SMRF				*e*S	**Sn**	**09 19 13.9**	**+3.0**
BSTF	**la Bastide-des**	**1.01**	**230**	Pg	**Pb**	**09 18 57.5**	**+0.3**
IMI	**Imperia**	**1.06**	**126**	Pg	**Pg**	**09 18 57.9**	**-0.8**
IMI				S	**Sb**	**09 19 12.6**	**+1.0**
IMI	**Imperia**	**1.06**	**126**	⇑P	**Pg**	**09 18 57.9**	**-0.8**
IMI				AML	AML		
	comp=E,290μm,0.7s						
IMI				AML	AML		
	comp=N,341μm,0.6s						
RORO	**Rocca Rossa**	**1.06**	**113**	P	**Pg**	**09 18 57.8**	**-1.0**
RORO				S	**Sg**	**09 19 12.1**	**-0.7**
RORO	**Rocca Rossa**	**1.06**	**113**	P	**Pg**	**09 18 57.8**	**-1.0**
RORO				AML	AML		
	comp=E,106μm,1.2s						
RORO				AML	AML		
	comp=N,102μm,0.6s						
RUSF	**Rustrel**	**1.06**	**236**	Pn	**Pn**	**09 18 59.0**	**+0.7**
RUSF				Sn	**Sn**	**09 19 14.3**	**+1.6**
QLNO	**Quiliano**	**1.19**	**100**	P	**Pn**	**09 19 00.6**	**+0.5**
QLNO				AML	AML		
	comp=E,72μm,0.2s						
QLNO				AML	AML		
	comp=N,57μm,1.6s						
LMR	**La Mourre**	**1.22**	**187**	*e*Pg	**Pg**	**09 19 01.0**	**-0.7**
LMR				*e*Sg	**Sb**	**09 19 16.5**	**+0.5**
	comp=N,50nm,0.3s						
PCP	**Piancastagn**	**1.31**	**89**	P	**Pn**	**09 19 02.3**	**+0.6**
VIVF	**Saint-Julien-l**	**1.49**	**283**	*e*Pg	**Pb**	**09 19 05.2**	**-0.1**
VIVF				*e*Sg	**Sg**	**09 19 25.1**	**-1.1**
	comp=N,28nm,0.3s						
LASF	**Ste Croix**	**2.10**	**258**	*e*P	**Pb**	**09 19 14.8**	**-1.0**
LASF				*e*Sn	**Sn**	**09 19 37.8**	**-0.4**
	comp=N,5.0nm,0.3s						
CABF	**La Chapelle**	**2.12**	**348**	*e*P	**Pb**	**09 19 15.5**	**-0.6**
CABF				*e*Sg	**Sg**	**09 19 45.7**	**-0.6**
	comp=N,4.8nm,0.3s						
PGF	**Pioggiola**	**2.60**	**139**	*e*Pn	**Pn**	**09 19 20.0**	**+0.6**
PGF				*e*Sn	**Sn**	**09 19 50.3**	**-0.3**
	comp=N,5.0nm,0.2s						
PGF	**Pioggiola**	**2.60**	**139**	P	**Pn**	**09 19 21.2**	**+1.8**
CARD	**Cardoso**	**2.76**	**99**	⇓P	**Pg**	**09 19 30.3**	**-0.8**
SMF	**Signal de Mont**	**2.91**	**317**	*e*P	**Pn**	**09 19 26.7**	**+3.0**
SMF	**Signal de Mont**	**2.91**	**317**	*e*Pg	**Pg**	**09 19 32.5**	**-1.5**
SMF				*e*Sn	**Sn**	**09 19 57.9**	**-0.4**
SMF				*e*Sg	**Sg**	**09 20 09.9**	**-1.9**
	comp=N,4.6nm,0.3s						
AVF	**Avril sur Loir**	**3.26**	**315**	*e*P	**Pn**	**09 19 30.9**	**+2.5**
AVF				*e*Sn	**Sn**	**09 20 05.3**	**-1.4**
	comp=N,1.3nm,0.3s						
AVF				*e*Sg	**Sg**	**09 20 20.3**	**-2.4**
	comp=N,3.7nm,0.4s						
ROVR	**Rover Verones**	**3.28**	**69**	S	**Sn**	**09 20 12.0**	**+4.5**
ROVR				S	**Sg**	**09 20 29.0**	**+5.4**
CAF	**Calviac**	**3.33**	**278**	*e*P	**Pn**	**09 19 31.3**	**+1.8**
CAF				*e*Sn	**Sn**	**09 20 07.6**	**-1.0**
	comp=N,3.2nm,0.3s						
SSF	**Saint Saulge**	**3.37**	**320**	*e*P	**Pn**	**09 19 32.6**	**+2.6**
SSF				*e*Sg	**Sg**	**09 20 24.2**	**-2.3**
	comp=N,7.2nm,0.4s						
LOR	**Lormes**	**3.38**	**325**	*e*P	**Pn**	**09 19 32.7**	**+2.6**
LOR				*e*Sn	**Sn**	**09 20 08.7**	**-1.0**
LOR				*e*Sg	**Sg**	**09 20 24.5**	**-2.1**
	comp=N,4.4nm,0.3s,baz=144						
BGF	**Bois d'Agland**	**3.38**	**308**	*e*P	**Pn**	**09 19 33.2**	**+3.1**
BGF				*e*Sn	**Sn**	**09 20 08.8**	**-1.0**
BGF				*e*Sg	**Sg**	**09 20 24.6**	**-2.2**
	comp=N,14nm,0.5s						
MTLF	**Montolieu**	**3.46**	**251**	*e*P	**Pn**	**09 19 34.5**	**+3.3**
MTLF				*e*Sn	**S

TWVZ	**Taurewa**	**1.33**	**39**	P		Pn	09 29 11.8	-0.1
TIWZ	**Tintock**	**1.33**	**120**	P		Pn	09 29 12.3	+0.5
NGZ	**Ngauruhoe**	**1.33**	**46**	P		Pn	09 29 12.7	+0.7
NNZ	**Nelson**	**1.34**	**214**	P		Pn	09 29 12.2	+0.4
NNZ				S		Sn	09 29 30.8	-0.1
BHW	**Baring Head**	**1.35**	**164**	P		Pn	09 29 12.4	+0.5
MTW	**Mount Morrison**	**1.35**	**141**	P		Pn	09 29 12.4	+0.4
MTW				S		Sn	09 29 30.1	-1.1
WTVZ	**West Tongariro**	**1.37**	**44**	P		Pn	09 29 12.4	0.0
OTVZ	**Oturere**	**1.38**	**47**	P		Pn	09 29 12.5	0.0
DVHZ	**Dannevirke**	**1.39**	**98**	P		Pn	09 29 12.5	+0.1
DVHZ				S		Sn	09 29 31.3	-0.6
KRVZ	**Karewarewa**	**1.41**	**44**	P		Pn	09 29 12.7	-0.1
KRVZ				S		Sn	09 29 32.8	+0.1
PNHZ	**Pukenui**	**1.42**	**82**	P		Pn	09 29 12.8	0.0
ETVZ	**East Tongariro**	**1.42**	**47**	P		Pn	09 29 13.1	+0.1
TMVZ	**Te Maari**	**1.43**	**46**	P		Pn	09 29 13.3	+0.2
BHHZ	**Black Hill Sta**	**1.44**	**65**	P		Pn	09 29 13.0	-0.2
MSWZ	**Moikau Station**	**1.46**	**153**	P		Pn	09 29 13.8	+0.6
PAWZ	**Paruwai Farm**	**1.50**	**148**	P		Pn	09 29 14.3	+0.6
TMWZ	**Te Maipa**	**1.52**	**131**	P		Pn	09 29 14.5	+0.5
KATZ	**Kakaramea**	**1.53**	**42**	P		Pn	09 29 14.1	-0.1
BFZ	**Birch Farm**	**1.54**	**112**	P		Pn	09 29 14.4	+0.2
QRZ	**Quartz Range**	**1.58**	**243**	P		Pn	09 29 14.2	-0.4
WPHZ	**Waipukurau**	**1.59**	**89**	P		Pn	09 29 15.0	+0.2
PLWZ	**Palliser**	**1.60**	**156**	P		Pn	09 29 15.3	+0.3
CPWZ	**Castlepoint**	**1.60**	**120**	P		Pn	09 29 15.9	+1.0
KRHZ	**Kereru**	**1.61**	**74**	P		Pn	09 29 14.9	-0.1
RITZ	**Rihia Road**	**1.62**	**46**	P		Pn	09 29 20.1	+4.9
TRWZ	**Traveller**	**1.62**	**143**	P		Pn	09 29 15.6	+0.4
CMWZ	**Cape Campbell**	**1.64**	**184**	P		Pn	09 29 16.6	+1.2
BSWZ	**Blackbirch Sta**	**1.64**	**199**	P		Pn	09 29 16.5	+1.1
HIZ	**Hauiti**	**1.64**	**13**	P		Pn	09 29 15.4	0.0
ANWZ	**Angora Road**	**1.64**	**103**	P		Pn	09 29 16.0	+0.6
RATZ	**Rangitukua**	**1.65**	**41**	P		Pn	09 29 16.0	+0.4
KWHZ	**Kaweka Forest**	**1.72**	**67**	P		Pn	09 29 16.8	+0.3
PRHZ	**Porangahau**	**1.74**	**96**	P		Pn	09 29 16.9	+0.3
WATZ	**Wairara**	**1.76**	**37**	P		Pn	09 29 17.5	+0.6
HATZ	**Hinemaiaia**	**1.81**	**48**	P		Pn	09 29 16.9	-0.6
BKZ	**Black Stump Fm**	**1.89**	**61**	P		Pn	09 29 18.0	-0.5
MCHZ	**McNeill Hill**	**1.91**	**70**	P		Pn	09 29 19.1	+0.3
PXZ	**Pawanui**	**1.91**	**88**	P		Pn	09 29 18.9	+0.2
KAHZ	**Kahuranaki**	**1.95**	**81**	P		Pn	09 29 19.7	+0.4
KUTZ	**Kaahu Road**	**1.98**	**35**	P		Pn	09 29 22.2	+2.6
THZ	**Tophouse**	**1.99**	**214**	P		Pn	09 29 20.0	+0.2
TLZ	**Tolley Road**	**2.00**	**27**	P		Pn	09 29 20.2	+0.3
MRHZ	**Matea Rd**	**2.04**	**52**	P		Pn	09 29 23.4	+3.1
NMHZ	**Naumai**	**2.14**	**62**	P		Pn	09 29 23.9	+2.2
ARHZ	**Aropaoanui**	**2.19**	**68**	P		Pn	09 29 23.7	+1.4
MTHZ	**Maungataniwha**	**2.29**	**57**	P		Pn	09 29 24.8	+1.3
KHZ	**Kahutara**	**2.38**	**195**	P		Pn	09 29 25.1	+0.5
RAHZ	**Arahi**	**2.42**	**61**	P		Pn	09 29 29.3	+4.1
MUGZ	**Murupara**	**2.48**	**49**	P		Pn	09 29 26.9	+1.0
RTZ	**Ruatahuna**	**2.52**	**54**	P		Pn	09 29 28.6	+2.1
DSZ	**Denniston Nort**	**2.54**	**229**	P		Pn	09 29 26.6	-0.1
TOZ	**Tahuroa Road**	**2.54**	**21**	P		Pn	09 29 26.5	-0.2
SNGZ	**Shannon Statio**	**2.66**	**61**	P		Pn	09 29 34.5	+6.3
KNZ	**Kokohu**	**2.77**	**68**	P		Pn	09 29 28.8	-0.9
URZ	**Urewera**	**2.82**	**50**	P		Pn	09 29 33.9	+3.5
RAGZ	**Rawiri**	**2.86**	**57**	P		Pn	09 29 33.5	+2.5
MHGZ	**Mahia Peninsul**	**2.89**	**72**	P		Pn	09 29 30.8	-0.6
RIGZ	**Rimuhau**	**2.98**	**63**	P		Pn	09 29 31.8	-0.8
GVZ	**Greta Valley S**	**3.02**	**199**	P		Pn	09 29 32.7	-0.3
MWZ	**Matawai**	**3.03**	**55**	P		Pn	09 29 33.1	-0.1
AWAZ	**Awhitu Peninsu**	**3.05**	**4**	P		Pn	09 29 33.8	+0.3
MKAZ	**Moumakai**	**3.07**	**12**	P		Pn	09 29 33.6	-0.1
LTZ	**Lake Taylor**	**3.10**	**210**	P		Pn	09 29 33.3	-0.8
WTAZ	**Waiatarua**	**3.18**	**3**	P		Pn	09 29 36.3	+1.1
ETAZ	**East Tamaki Re**	**3.19**	**8**	P		Pn	09 29 35.6	+0.3
RVAZ	**Riverhead Bore**	**3.34**	**3**	P		Pn	09 29 38.3	+1.0
RUGZ	**Raukumara Rang**	**3.35**	**51**	P		Pn	09 29 36.5	-1.0
MBAZ	**Motutapu North**	**3.37**	**7**	P		Pn	09 29 38.2	+0.6
WIAZ	**Waiheke Island**	**3.37**	**10**	P		Pn	09 29 38.0	+0.3
TWGZ	**Tauwhareparae**	**3.41**	**57**	P		Pn	09 29 41.1	+2.9
INZ	**Inchbonnie**	**3.41**	**219**	P		Pn	09 29 37.9	-0.3
PKGZ	**Pakihiroa**	**3.64**	**54**	P		Pn	09 29 40.6	-0.8
OXZ	**Oxford**	**3.65**	**208**	P		Pn	09 29 40.6	-0.8
OKCZ	**Okains Bay**	**3.74**	**195**	P		Pn	09 29 41.4	-1.2
MQZ	**McQueen's Vall**	**3.81**	**199**	P		Pn	09 29 41.6	-1.8
RACZ	**Rakaia**	**3.98**	**204**	P		Pn	09 29 43.6	-2.1
WVZ	**Waitaha Valley**	**4.02**	**221**	P		Pn	09 29 46.4	+0.1
WCZ	**Waipu Caves**	**4.17**	**360**	P		Pn	09 29 49.1	+0.7
WACZ	**Wakanui South**	**4.26**	**205**	P		Pn	09 29 47.9	-1.7
RPZ	**Rata Peaks**	**4.37**	**213**	P		Pn	09 29 50.9	-0.1
GCSZ	**Gaunt Creek Bo**	**4.40**	**222**	P		Pn	09 29 50.4	-1.0
ARCZ	**Arundel**	**4.51**	**211**	P		Pn	09 29 52.1	-0.8
FOZ	**Fox Glacier**	**4.82**	**223**	P		Pn	09 29 55.8	-1.2
OUZ	**Omahuta**	**4.92**	**353**	P		Pn	09 29 59.4	+0.8
TMZ	**Timaru**	**4.94**	**209**	P		Pn	09 29 57.9	-0.9
ODZ	**Otahua Downs**	**5.64**	**208**	P		Pn	09 30 07.1	-1.0
JCZ	**Jackson Bay**	**5.74**	**225**	P		Pn	09 30 08.2	-1.4
CTZ	**Chatham Island**	**7.63**	**121**	P		Pn	09 30 35.0	0.0

IDC 27 09:38:05.3±2.0, 7°41S×126°58E, h0km, mb3.5/1, mb1 4.1/5, mb1mx3.7/28, mbtmp3.9/5, ML3.9/4, MS3.2/1, Ms1 3.2/1, ms1mx2.3/28, Error ellipse: s-maj=52.9km s-min=27.6km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.00**	**226**	Pn	Pn	09 39 08.3	+0.3
	15nm,0.3s,baz=87,slow=6.7,SNR=4.9						
BATI				Sn	Sn	09 39 53.8	-1.9
	2.4nm,0.3s,baz=339,slow=22,SNR=1.1						
FITZ	**Fitzroy Crossi**	**10.66**	**185**	Pn	Pn	09 40 38.3	-1.1
	1.1nm,0.3s,baz=19,slow=10,SNR=18						
FITZ				Sn	Sn	09 42 30.8	-8.8
	1.1nm,0.3s,baz=161,slow=20,SNR=6.1						
WRA	**Warramunga Arr**	**14.55**	**150**	Pn	Pn	09 41 31.9	-0.9
	0.2nm,0.3s,baz=324,slow=14,SNR=14						
WRA				Sn	Sn	09 44 09.1	-5.8
	0.3nm,0.3s,baz=326,slow=24,SNR=5.3						
ASAR	**Alice Springs**	**17.63**	**157**	P	P	09 42 14.0	+0.3
	0.8nm,0.3s,baz=339,slow=13,SNR=44						
ASAR				S	Sn	09 45 23.3	-6.3
	0.1nm,0.3s,baz=324,slow=24,SNR=3.7						
ASAJ	**Asahikawa**	**53.30**	**14**	LR	LR	10 11 34.8	
	comp=Z,24nm,19.0s,baz=238,slow=38						
SONM	**Songino Array**	**57.83**	**344**	P	P	09 47 58.6	-0.1
	0.5nm,0.8s,baz=142,slow=4.9,SNR=2.8						

IDC 27 10:21:35.3±7.6, 61°10S×157°00E, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.8/14, mbtmp3.7/3, ML4.1/1, MS3.4/2, Ms1 3.5/2, ms1mx3.2/10, Error ellipse: s-maj=427.9km s-min=39.0km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.57**	**176**	Pn	Pn	10 25 28.6	0.0
	0.7nm,0.3s,baz=349,slow=13,SNR=41						
STKA	**Stephens Creek**	**30.93**	**334**	LR	LR	10 38 25.9	
	comp=Z,53nm,18.7s,baz=200,slow=33						
H01W1	**Cape Leeuwin H**	**37.76**	**294**	T	T	11 07 48.8	
	baz=148,slow=75,SNR=64						
H01W2	**Cape Leeuwin H**	**37.77**	**294**	T	T	11 07 53.7	
	baz=148,slow=75,SNR=67						
H01W3	**Cape Leeuwin H**	**37.78**	**294**	T	T	11 07 50.3	
	baz=148,slow=75,SNR=51						
ASAR	**Alice Springs**	**40.66**	**327**	P	P	10 29 16.9	-0.2
	0.6nm,0.9s,baz=158,slow=7.9,SNR=5.5						
WRA	**Warramunga Arr**	**44.10**	**329**	P	P	10 29 45.1	-0.1
	1.0nm,1.1s,baz=164,slow=7.3,SNR=4.3						
H03S2	**Juan Fernandez**	**75.05**	**134**	T	T	11 57 19.7	
	baz=203						
H03S1	**Juan Fernandez**	**75.05**	**134**	T	T	11 57 21.0	
	baz=203						
H03S3	**Juan Fernandez**	**75.07**	**134**	T	T	11 57 20.5	
	baz=203						
CMAR	**Chiang Mai Arr**	**91.78**	**306**	LR	LR	11 11 58.2	
	comp=Z,26nm,21.5s,baz=255,slow=33						

MEX 27 10:33:46.6±0.6, 14°25N×92°64W, h20km±126km, MD3.5, Near coast of Chiapas

IDC ***27*** *10:34:11.7±1.1, 2°43N×66°36E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/44, mbtmp3.8/8, MS3.6/8, Ms1 3.6/8, ms1mx3.2/55, Error ellipse: s-maj=38.8km s-min=24.2km az=40.0*
NEIC ***27*** *10:34:14.2±1.1, 2°.7N±0°.1×66°.5E±0°.1, h10km±1km, mb4.5/7, Error ellipse: s-maj=23.1km s-min=14.0km az=139.0*

ISC 27 10:34:15.6±0.9, 2°.7N±0°.2×66°.5E±0°.1, h20km, n30, σ1§15/18, mb4.0/12, MS3.6/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNCI	**Minicoy**	**8.56**	**49**	Pn	**Pn**	**10 36 17.0**	**-1.4**
PALK	**Pallekele**	**14.84**	**72**	LR	LR	10 42 19.7	
	comp=Z,276nm,19.4s,baz=1.2,slow=32						
WSAR	**Wadi Sarin**	**21.82**	**340**	LR	LR	10 45 36.1	
	comp=Z,126nm,21.9s,baz=190,slow=31						
KMBO	**Kilima Mbogo**	**29.51**	**263**	LR	LR	10 49 39.2	
	comp=Z,127nm,21.6s,baz=88,slow=32						
PSI	**Prapat**	**32.36**	**89**	LR	LR	10 53 20.6	
	comp=Z,109nm,18.8s,baz=110,slow=35						
EIL	**Elat**	**40.22**	**315**	LR	LR	10 57 30.9	
	comp=Z,35nm,18.0s,baz=132,slow=35						
XMIS	**Christmas Isla**	**41.08**	**109**	P	**P**	**10 41 59.0**	**+0.6**
LEM	**Lembang**	**42.09**	**103**	LR	LR	10 56 36.8	
	comp=Z,73nm,19.7s,baz=240,slow=32						
MKAR	**Makanchi Array**	**46.03**	**15**	P	**P**	**10 42 39.7**	**+1.9**
	1.0nm,1.1s,baz=186,slow=4.3,SNR=2.9						
ABKAR	**Akbulak array**	**46.75**	**354**	P	**P**	**10 42 42.8**	**-0.5**
ABKAR				IAmb	IAmb	10 42 51.9	
	comp=Z,3.1nm,1.3s						
BRTR	**Keskin Array B**	**47.43**	**325**	P	**P**	**10 42 49.8**	**+0.8**
AKTO	**Aktyubinsk**	**48.13**	**353**	P	**P**	**10 42 54.2**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=176,slow=10,SNR=4.9						
LBTB	**Lobatse**	**48.30**	**233**	LR	LR	11 01 26.9	
	comp=Z,120nm,18.2s,baz=84,slow=34						
SONM	**Songino Array**	**56.57**	**31**	P	**P**	**10 43 59.5**	**+2.5**
	comp=Z,0.3nm,0.5s,baz=220,slow=8.8,SNR=5.5						
SONM	**Songino Array**	**56.57**	**31**	P	**P**	**10 43 56.1**	**-0.9**
H01W3	**Cape Leeuwin H**	**58.18**	**134**	T	T	11 46 59.2	
	baz=300,slow=75,SNR=16						
H01W2	**Cape Leeuwin H**	**58.19**	**134**	T	T	11 47 00.8	
	baz=300,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**58.20**	**134**	T	T	11 47 02.1	
	baz=300,slow=75,SNR=16						
TORD	**Torodi Ar. Bea**	**64.89**	**283**	P	**P**	**10 44 54.5**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=83,slow=4.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**64.89**	**283**	IAmb	IAmb	10 45 01.4	
	comp=Z,1.5nm,1.2s						
FINES	**FINESS Array B**	**66.05**	**340**	P	**P**	**10 45 00.5**	**-0.2**
	comp=Z,7.0nm,1.1s,baz=136,slow=6.9,SNR=2.8						
WRA	**Warramunga Arr**	**70.17**	**112**	P	**P**	**10 45 27.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=302,slow=5.5,SNR=7.5						
WB2	**Warramunga Arr**	**70.19**	**112**	P	**P**	**10 45 27.9**	**+0.3**
WB2				IAmb	IAmb	10 45 32.4	
	comp=Z,5.0nm,1.2s						
WB0	**Warramunga Arr**	**70.19**	**112**	P	**P**	**10 45 27.6**	**0.0**
WB0				IAmb	IAmb	10 45 38.2	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**70.36**	**112**	P	**P**	**10 45 29.0**	**+0.3**
WR0				IAmb	IAmb	10 45 57.4	
	comp=Z,8.2nm,1.5s						
ASAR	**Alice Springs**	**70.50**	**116**	P	**P**	**10 45 28.3**	**-1.2**
	comp=Z,0.9nm,1.1s,baz=282,slow=5.8,SNR=4.7						
MDT	**Midelt**	**72.72**	**303**	LR	LR	11 15 16.2	
	comp=Z,61nm,19.2s,baz=157,slow=34						
ESDC	**Sonseca Array**	**73.32**	**311**	P	**P**	**10 45 44.2**	**-2.0**
	comp=Z,1.0nm,0.9s,baz=103,slow=4.1,SNR=3.8						
TXAR	**Lajitas Array**	**146.81**	**344**	PKPbc	**PKPbc**	**10 53 57.4**	**+0.2**
	comp=Z,3.0nm,1.0s,baz=59,slow=2.6,SNR=22						
TXAR	**Lajitas Array**	**146.81**	**344**	PKPbc	**PKPab**	**10 53 57.6**	**-0.8**

IDC ***27*** *10:35:45.5±1.1, 2°.41N×66°.28E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/43, mbtmp3.9/9, Error ellipse: s-maj=36.3km s-min=23.6km az=42.0*
NEIC ***27*** *10:35:46.3±2.6, 2°.3N±0°.1×66°.4E±0°.1, h10km±1km, mb4.3/8, Error ellipse: s-maj=25.3km s-min=20.6km az=143.0*

ISC 27 10:35:48.1±1.0, 2°.4N±0°.2×66°.4E±0°.1, h20km, n23, σ0§98/19, mb4.0/12, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNCI	**Minicoy**	**8.86**	**48**	Pn	**Pn**	**10 37 54.6**	**-0.4**
XMIS	**Christmas Isla**	**41.13**	**109**	P	**P**	**10 43 30.8**	**-0.6**
MKAR	**Makanchi Array**	**46.34**	**15**	P	**P**	**10 44 15.2**	**+2.4**
	0.2nm,0.4s,baz=208,slow=7.5,SNR=3.7						
ABKAR	**Akbulak array**	**47.01**	**354**	P	**P**	**10 44 18.5**	**+0.5**
ABKAR				IAmb	IAmb	10 44 19.0	
	comp=Z,1.8nm,1.1s						
AKTO	**Aktyubinsk**	**48.39**	**353**	P	**P**	**10 44 28.6**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=170,slow=10,SNR=2.4						
ZALV	**Zalesovo Beam**	**53.58**	**13**	P	**P**	**10 45 06.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=212,slow=10,SNR=1.7						
SONM	**Songino Array**	**56.89**	**31**	P	**P**	**10 45 32.6**	**+0.8**
	comp=Z,1.0nm,1.0s,baz=234,slow=5.0,SNR=4.9						
SONM	**Songino Array**	**56.89**	**31**	P	**P**	**10 45 31.0**	**-0.8**
H01W3	**Cape Leeuwin H**	**58.09**	**134**	T	T	11 48 35.8	
	baz=300,slow=75,SNR=8.5						
H01W2	**Cape Leeuwin H**	**58.10**	**134**	T	T	11 48 38.0	
	baz=300,slow=75,SNR=6.8						
H01W1	**Cape Leeuwin H**	**58.11**	**134**	T	T	11 48 42.8	
	baz=300,slow=75,SNR=7.1						
TORD	**Torodi Ar. Bea**	**64.81**	**283**	P	**P**	**10 46 26.4**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=108,slow=4.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**64.81**	**283**	P	**P**	**10 46 26.0**	**-0.2**
TORD				IAmb	IAmb	10 46 43.1	
	comp=Z,1.3nm,1.2s						
FINES	**FINESS Array B**	**66.26**	**340**	P	**P**	**10 46 33.5**	**-1.1**
	comp=Z,8.1nm,1.1s,baz=153,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**70.21**	**112**	P	**P**	**10 47 01.4**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=291,slow=5.8,SNR=7.3						
WRA	**Warramunga Arr**	**70.21**	**112**	IAmb	IAmb	10 47 02.7	
	comp=Z,0.2nm,1.1s						
WB2	**Warramunga Arr**	**70.22**	**112**	P	**P**	**10 46 59.2**	**-1.1**
WB0	**Warramunga Arr**	**70.23**	**112**	P	**P**	**10 47 01.1**	**+0.7**
WB0				IAmb	IAmb	10 47 17.8	
	comp=Z,5.7nm,1.3s						
WR0	**Warramunga Arr**	**70.40**	**112**	P	**P**	**10 47 00.9**	**-0.5**
WR0				IAmb	IAmb	10 47 06.4	
	comp=Z,5.9nm,1.4s						
ASAR	**Alice Springs**	**70.51**	**116**	P	**P**	**10 47 03.1**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=276,slow=6.9,SNR=6.8						
ASAR	**Alice Springs**	**70.51**	**116**	P	**P**	**10 47 03.3**	**+1.2**
ESDC	**Sonseca Array**	**73.39**	**311**	P	**P**	**10 47 19.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=82,slow=5.1,SNR=4.2						
TXAR	**Lajitas Array**	**147.04**	**344**	PKPbc	**PKPab**	**10 55 31.6**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=54,slow=2.8,SNR=17						

SOME ***27*** *10:43:45.0, 39°.30N×76°.75E, h0km*
KRNET ***27*** *10:43:46.4±0.1, 39°.11N×75°.97E, mb2.4*
NNC ***27*** *10:43:47.2±2.0, 39°.32N×76°.61E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=19.3km s-min=12.7km az=87.0*

ISC 27 10:43:39.6±3.2, 39°.1N±0°.1×76°.6E±0°.1, h10km, n20, σ1§19/31, 7C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.55**	**292**	⇓*i*P	**Pb**	**10 44 25.2**	**-0.4**
	baz=96						
SFK				⇓*i*S	**Sn**	**10 44 53.6**	**+1.2**
	baz=96						
KDJ	**Kajisay**	**3.09**	**8**	⇑*i*P	**Pg**	**10 44 40.2**	**+1.5**
	baz=17						
KDJ				⇑*i*S	**Sg**	**10 45 18.4**	**-0.3**
	baz=17						
ARLS	**Aral**	**3.27**	**329**	⇑*i*P	**Pb**	**10 44 37.8**	**0.0**
	baz=36						
ARLS				⇑*e*S	**Sb**	**10 45 15.2**	**-2.5**
	baz=36						
BOOM	**Boomskoye usch**	**3.44**	**352**	⇑*i*P	**Pb**	**10 44 42.6**	**+1.8**
	baz=60						
BOOM				⇑*i*S	**Sb**	**10 45 24.7**	**+2.0**
	baz=60						
AAK	**Ala-Archa**	**3.89**	**337**	Pg	**Pg**	**10 44 54.6**	**+0.5**
	2.8nm,0.7s						
AAK				Lg	Lg	10 45 40.7	
	2.2nm,0.5s						
TKM2	**Tokmak 2**	**3.91**	**349**	⇓Pg	**Pg**	**10 44 54.3**	**-0.2**
	1.5nm,0.6s						
TKM2				⇑Lg	Lg	10 45 43.7	
	2.6nm,0.5s						
IZV	**Izvestkoviy**	**3.96**	**0**	*e*P	**Pg**	**10 44 55.2**	**-0.1**
	1.4nm,0.2s						
IZV				*e*S	**Sg**	**10 45 46.5**	**-0.1**
	3.8nm,0.4s						
IZV	**Izvestkoviy**	**3.96**	**0**	Pg	**Pg**	**10 44 55.2**	**-0.1**
	1.4nm,0.2s						
IZV				Lg	Lg	10 45 46.5	
	3.8nm,0.4s						
TNSS	**Tian-Shan**	**3.97**	**4**	*e*P	**Pg**	**10 44 55.0**	**-0.6**
	2.3nm,0.3s						
TNSS				*e*S	**Sg**	**10 45 45.9**	**-1.1**
	2.6nm,0.4s						
TNSS	**Tian-Shan**	**3.97**	**4**	Pg	**Pg**	**10 44 55.0**	**-0.6**
	2.3nm,0.3s						
TNSS				Lg	Lg	10 45 45.9	
	2.6nm,0.4s						
KST	**Kastek**	**3.99**	**354**	*e*P	**Pg**	**10 44 56.1**	**+0.1**
	3.1nm,0.3s						
KST				*e*S	**Sg**	**10 45 47.9**	**+0.2**
	3.1nm,0.3s						
KST	**Kastek**	**3.99**	**354**	Pg	**Pg**	**10 44 56.1**	**+0.1**
	3.1nm,0.3s						
KST				Lg	Lg	10 45 47.9	
	3.1nm,0.3s						
MDOK	**Medeo**	**4.10**	**5**	*e*P	**Pg**	**10 44 56.8**	**-1.2**
	2.5nm,0.3s						
MDOK				*e*S	**Sg**	**10 45 49.2**	**-2.0**
	4.9nm,0.6s						
MDOK	**Medeo**	**4.10**	**5**	Pg	**Pg**	**10 44 56.8**	**-1.2**
	2.5nm,0.3s						
MDOK				Lg	Lg	10 45 49.2	
	4.9nm,0.6s						
KOTS	**Kotyrbulak**	**4.17**	**5**	*e*P	**Pg**	**10 44 58.0**	**-1.6**
	4.4nm,0.2s						
KOTS				*e*S	**Sg**	**10 45 50.9**	**-2.7**
	10nm,0.3s						
KOTS	**Kotyrbulak**	**4.17**	**5**	Pg	**Pg**	**10 44 57.9**	**-1.6**
	4.4nm,0.2s						
KOTS				Lg	Lg	10 45 50.9	
	10nm,0.3s						
DGS	**Degeres**	**4.21**	**352**	*e*P	**Pg**	**10 44 59.8**	**-0.3**
	3.1nm,0.4s						
DGS				*e*S	**Sg**	**10 45 54.4**	**-0.2**
	3.3nm,0.4s						
DGS	**Degeres**	**4.21**	**352**	Pg	**Pg**	**10 44 59.8**	**-0.3**
	3.1nm,0.4s						
DGS				Lg	Lg	10 45 54.4	
	3.3nm,0.4s						
KRBS	**Karabastau**	**4.67**	**352**	*e*P	**Pg**	**10 45 08.9**	**0.0**
	1.3nm,0.3s						
KRBS				*e*S	**Sg**	**10 46 10.1**	**+0.8**
	3.2nm,0.3s						
KRBS	**Karabastau**	**4.67**	**352**	Pg	**Pg**	**10 45 08.9**	**0.0**
	1.3nm,0.3s						
KRBS				Lg	Lg	10 46 10.1	
	3.2nm,0.3s						

SOME ***27*** *10:48:36.9, 39°.12N×76°.37E, h10km*
NNC ***27*** *10:48:39.8±1.8, 39°.26N×76°.32E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=14.3km s-min=11.4km az=90.0*

ISC 27 10:48:44.2±3.5, 39°.5N±0°.1×76°.17E±0°.08, h10km, n26, σ1§13/39, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**3.43**	**339**	⇑Pg	**Pb**	**10 49 45.9**	**+0.9**
AAK				Lg	Lg	10 50 32.7	
TKM2	**Tokmak 2**	**3.49**	**353**	⇓Pg	**Pb**	**10 49 48.3**	**+2.1**
	5.2nm,0.7s						
TKM2				⇑Lg	Lg	10 50 35.9	
	9.6nm,0.7s						
KST	**Kastek**	**3.59**	**358**	*e*P	**Pb**	**10 49 48.4**	**+0.6**
	6.3nm,0.5s						
KST				*e*S	**Sg**	**10 50 40.2**	**+0.7**
	9.1nm,0.7s						
KST	**Kastek**	**3.59**	**358**	Pg	**Pb**	**10 49 48.4**	**+0.6**
	6.3nm,0.5s						
KST				Lg	Lg	10 50 40.2	
	9.1nm,0.7s						
IZV	**Izvestkoviy**	**3.60**	**5**	*e*P	**Pb**	**10 49 49.0**	**+1.1**
	3.5nm,0.5s						
IZV				*e*S	**Sg**	**10 50 41.1**	**+1.4**
	9.9nm,0.6s						
IZV	**Izvestkoviy**	**3.60**	**5**	Pg	**Pb**	**10 49 49.0**	**+1.1

MW4.8/88,Moment Tension Solution. s17,c19; s88,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.15±.16; $M_{\theta\theta}$1.63±.11; $M_{\phi\phi}$0.52±.10; $M_{r\theta}$0.75±.29; $M_{r\phi}$-0.58±.07; $M_{\theta\phi}$-0.44±.33; Best double couple: M_o2.19600×10^{16} NP1:ϕs296.00000°,δ57.00000°,λ-88.00000°. NP2: ϕs296.00000°,δ57.00000°,λ-88.00000°. Principal axes: T 2.0600, Plg12.0000°, Azm24.0000°; N 0.2750, Plg2.0000°, Azm114.0000°; P -2.3320, Plg78.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 27 10:50:16.5±1.1,27.7N±0.2×66.4E±0.1,h10km,n52, σ1s16/22,mb4.2/11,MS3.8/30,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNCI	**Minicoy**	**8.64**	**50**	Pn	**Pn**		**Pn**	**10 52 21.1**	**-0.6**
PALK	**Pallekele**	**14.95**	**72**	LR	LR		LR	10 58 23.8	
	comp=Z,822nm,20.2s,baz=354,slow=32								
WSAR	**Wadi Sarin**	**21.76**	**340**	LR	LR		LR	11 01 52.0	
	comp=Z,263nm,22.0s,baz=159,slow=32								
ATD	**Arta Tunnel**	**24.94**	**292**	LR	LR		LR	11 04 00.2	
	comp=Z,110nm,21.3s,baz=100,slow=33								
OPO	**Ambohidratompo**	**28.36**	**221**	LR	LR		LR	11 04 52.6	
	comp=Z,354nm,19.4s,baz=170,slow=31								
KMBO	**Kilima Mbogo**	**29.39**	**263**	LR	LR		LR	11 06 54.8	
	comp=Z,138nm,18.5s,baz=95,slow=34								
CMAR	**Chiang Mai Arr**	**35.51**	**62**	P	**P**		**P**	**10 57 15.7**	**+1.9**
	0.4nm,0.3s,baz=252,slow=11,SNR=1.5								
GEYT	**Alibeck**	**35.88**	**349**	LR	LR		LR	11 11 39.8	
	comp=Z,212nm,20.9s,baz=155,slow=36								
KBZ	**Khabaz**	**45.87**	**336**	LR	LR		LR	11 17 54.6	
	comp=Z,52nm,22.0s,baz=144,slow=36								
MKAR	**Makanchi Array**	**46.05**	**15**	LR	LR		LR	11 17 51.6	
	comp=Z,129nm,21.1s,baz=210,slow=36								
MKAR	**Makanchi Array**	**46.05**	**15**	P	**P**		**P**	**10 58 38.5**	**-1.9**
ABKAR	**Akbulak array**	**46.71**	**354**	P	**P**		**P**	**10 58 44.8**	**-0.8**
ABKAR				IAmb	IAmb		IAmb	10 58 49.6	
	comp=Z,9.5nm,1.4s								
BRTR	**Keskin Array B**	**47.34**	**325**	LR	LR		LR	11 20 08.7	
	comp=Z,74nm,18.2s,baz=145,slow=38								
AKTO	**Aktyubinsk**	**48.09**	**353**	LR	LR		LR	11 19 48.9	
	comp=Z,53nm,20.9s,baz=157,slow=37								
BOSA	**Boshof**	**50.27**	**229**	LR	LR		LR	11 18 30.6	
	comp=Z,279nm,18.7s,baz=68,slow=34								
ZAA0	**Zalesovo Array**	**53.28**	**13**	P	**P**		**P**	**10 59 36.1**	**+0.8**
ZAA0				IAmb	IAmb		IAmb	10 59 42.8	
	comp=Z,7.2nm,1.4s								
ZALV	**Zalesovo Beam**	**53.28**	**13**	P	**P**		**P**	**10 59 35.5**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=210,slow=8.6,SNR=7.5								
ZALV				LR	LR		LR	11 22 11.9	
	comp=Z,130nm,20.6s,baz=189,slow=36								
ZALV	**Zalesovo Beam**	**53.28**	**13**	P	**P**		**P**	**10 59 35.3**	**0.0**
KAPI	**Kappang**	**53.85**	**98**	LR	LR		LR	11 22 31.7	
	comp=Z,49nm,18.3s,baz=276,slow=36								
SONM	**Songino Array**	**56.62**	**31**	P	**P**		**P**	**11 00 02.6**	**+2.8**
SONM				LR	LR		LR	11 24 29.4	
	comp=Z,287nm,20.6s,baz=239,slow=36								
SONM	**Songino Array**	**56.62**	**31**	P	**P**		**P**	**10 59 59.1**	**-0.8**
SONM				IAmb	IAmb		IAmb	11 00 09.2	
	comp=Z,3.0nm,1.2s								
AKASG	**Malin Array Be**	**57.17**	**333**	LR	LR		LR	11 27 07.4	
	comp=Z,39nm,20.2s,baz=85,slow=39								
TLY	**Talaya**	**57.88**	**26**	LR	LR		LR	11 26 31.1	
	comp=Z,125nm,19.6s,baz=219,slow=38								
H01W3	**Cape Leeuwin H**	**58.29**	**134**	T	T		T	12 03 05.1	
	baz=300,slow=76,SNR=33								
H01W2	**Cape Leeuwin H**	**58.29**	**134**	T	T		T	12 03 01.4	
	baz=300,slow=76,SNR=31								
H01W1	**Cape Leeuwin H**	**58.30**	**134**	T	T		T	12 03 06.4	
	baz=300,slow=76,SNR=37								
FITZ	**Fitzroy Crossi**	**61.87**	**112**	LR	LR		LR	11 25 45.3	
	comp=Z,53nm,18.7s,baz=281,slow=34								
GERES	**GERESS Array B**	**64.22**	**324**	LR	LR		LR	11 29 25.3	
	comp=Z,20nm,18.8s,baz=50,slow=36								
TORD	**Torodi Ar. Bea**	**64.76**	**283**	P	**P**		**P**	**11 00 56.5**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=82,slow=3.1,SNR=3.2								
TORD				LR	LR		LR	11 29 05.2	
	comp=Z,82nm,19.7s,baz=175,slow=36								
KSRS	**Korea Array**	**65.96**	**50**	LR	LR		LR	11 32 24.8	
	comp=Z,99nm,19.6s,baz=257,slow=38								
FINES	**FINESS Array B**	**65.99**	**340**	LR	LR		LR	11 32 42.6	
	comp=Z,50nm,20.0s,baz=86,slow=38								
JNU	**Nakatsue**	**67.26**	**55**	LR	LR		LR	11 32 13.0	
	comp=Z,103nm,19.0s,baz=288,slow=37								
NRIK	**Noril'sk**	**68.02**	**8**	LR	LR		LR	11 34 29.7	
	comp=Z,105nm,18.6s,baz=192,slow=39								
WRA	**Warramunga Arr**	**70.30**	**112**	P	**P**		**P**	**11 01 29.9**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=292,slow=5.6,SNR=14								
WRA	**Warramunga Arr**	**70.30**	**112**	P	**P**		**P**	**11 01 30.8**	**0.0**
WB2	**Warramunga Arr**	**70.31**	**112**	P	**P**		**P**	**11 01 30.1**	**-0.7**
WB2				IAmb	IAmb		IAmb	11 01 39.6	
	comp=Z,23nm,1.8s								
WB0	**Warramunga Arr**	**70.32**	**112**	P	**P**		**P**	**11 01 29.3**	**-1.6**
WR0	**Warramunga Arr**	**70.49**	**112**	P	**P**		**P**	**11 01 30.6**	**-1.3**
ASAR	**Alice Springs**	**70.62**	**116**	P	**P**		**P**	**11 01 32.4**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=287,slow=6.1,SNR=10								
ASAR				LR	LR		LR	11 28 05.2	
	comp=Z,33nm,21.9s,baz=236,slow=32								
AS31	**Alice Springs**	**70.62**	**116**	P	**P**		**P**	**11 01 31.6**	**-1.2**
USRK	**Ussuriysk Ar.**	**70.77**	**44**	P	**P**		**P**	**11 01 33.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=243,slow=6.3,SNR=1.7								
DBIC	**Dimbokro**	**71.08**	**276**	LR	LR		LR	11 33 42.8	
	comp=Z,60nm,18.1s,baz=100,slow=37								
NOA	**NORSAR Array B**	**71.43**	**335**	LR	LR		LR	11 34 32.0	
	comp=Z,18nm,19.6s,baz=120,slow=37								
ARCES	**ARCESS Array B**	**71.98**	**346**	LR	LR		LR	11 34 51.4	
	comp=Z,54nm,21.5s,baz=155,slow=37								
ESDC	**Sonseca Array**	**73.21**	**311**	P	**P**		**P**	**11 01 48.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=81,slow=5.3,SNR=4.7								
ESDC	**Sonseca Array**	**73.21**	**311**	P	**P**		**P**	**11 01 47.5**	**-0.5**
ESDC				IAmb	IAmb		IAmb	11 01 59.9	
	comp=Z,17nm,1.6s								
MJAR	**Matsushiro Arr**	**73.81**	**53**	LR	LR		LR	11 35 39.3	
	comp=Z,51nm,21.0s,baz=245,slow=37								
STKA	**Stephens Creek**	**76.98**	**123**	LR	LR		LR	11 32 57.6	
	comp=Z,78nm,21.3s,baz=210,slow=32								
PETK	**Petropavlovsk-**	**88.65**	**37**	LR	LR		LR	11 45 19.6	
	comp=Z,166nm,19.1s,baz=273,slow=37								
VNDA	**Vanda**	**93.80**	**167**	LR	LR		LR	11 39 55.3	
	comp=Z,165nm,18.6s,baz=248,slow=32								
TXAR	**Lajitas Array**	**146.76**	**344**	PKPbc			**PKPab**	**11 10 00.3**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=52,slow=3.5,SNR=20								
TXAR	**Lajitas Array**	**146.76**	**344**				**PKPbc**	**11 10 00.2**	**+0.5**

*IDC **27** 11:17:31.7±1.9,39.64N×141.56E,h110km±20km,mb3.3/9, mb1 3.4/13,mb1mx3.3/55,mbtmp3.7/13,Error ellipse: s-maj=24.0km s-min=19.1km az=144.0*

*JMA **27** 11:17:32.2±0.1,39.67N×141.56E,h109km±1km,M3.5 JMA Felt I J1.*

ISC 27 11:17:31.9±0.7,39.67N±0.04×141.59E±0.07,h110km±5km, n34,σ1s23/43,mb3.5/9,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.20**	**116**	P	**Pn**		**Pn**	**11 17 47.9**	**+0.6**
MIYJ				S			**Sn**	**11 17 59.2**	**+0.3**
JOM	**Ohasama**	**0.30**	**230**	P	**Pn**		**Pn**	**11 17 47.7**	**+0.1**
JOM				S			**Sn**	**11 17 59.5**	**0.0**
JTH	**Tanohata**	**0.34**	**38**	P	**Pn**		**Pn**	**11 17 48.3**	**+0.5**
JTH				S			**Sn**	**11 17 59.8**	**-0.1**
JKZ	**Kuzumaki**	**0.37**	**328**	P	**Pn**		**Pn**	**11 17 48.3**	**+0.2**
JKZ				S			**Sn**	**11 18 00.2**	**0.0**
JANG	**Nango**	**0.71**	**356**	P	**Pn**		**Pn**	**11 17 50.3**	**0.0**
JANG				S			**Sn**	**11 18 03.5**	**-0.7**
JMK	**Ichinoseki**	**0.77**	**202**	P	**Pn**		**Pn**	**11 17 51.0**	**+0.2**
JMK				*e*S			**Sn**	**11 18 05.2**	**+0.1**
JRG	**Rokugo**	**0.79**	**250**	P	**Pn**		**Pn**	**11 17 51.4**	**+0.4**
JRG				S			**Sn**	**11 18 06.1**	**+0.7**
JAH	**Hinai**	**0.90**	**306**	P	**Pn**		**Pn**	**11 17 52.4**	**+0.4**
JAH				S			**Sn**	**11 18 07.4**	**+0.2**
JTM	**Tenmabayashi**	**1.19**	**341**	P	**Pn**		**Pn**	**11 17 55.1**	**+0.1**
JTM				S			**Sn**	**11 18 12.2**	**-0.4**
JYK	**Kaneyama**	**1.21**	**232**	P	**Pn**		**Pn**	**11 17 55.7**	**+0.4**
JYK				S			**Sn**	**11 18 13.5**	**+0.4**
JIO	**Ouri**	**1.23**	**189**	P	**Pn**		**Pn**	**11 17 55.5**	**0.0**
JIO				S			**Sn**	**11 18 12.8**	**-0.5**
JOU	**Okura**	**1.48**	**209**	P	**Pn**		**Pn**	**11 17 58.9**	**+0.4**
JOU				S			**Sn**	**11 18 19.8**	**+1.1**
JOT	**Ohata**	**1.76**	**347**	P	**Pn**		**Pn**	**11 18 01.8**	**0.0**
JOT				*e*S			**Sn**	**11 18 24.0**	**-0.7**
MJAR	**Matsushiro Arr**	**4.10**	**222**	P	**Pn**		**Pn**	**11 18 33.4**	**+0.8**
	0.7nm,0.3s,baz=33,slow=13,SNR=27								
MJAR				S			Sn	11 19 09.7	-10
	0.2nm,0.3s,baz=41,slow=14,SNR=4.3								
MAT	**Matsushiro**	**4.10**	**222**	P	**Pn**		**Pn**	**11 18 33.2**	**+0.6**
MAT				*e*S			**Sn**	**11 19 20.1**	**+0.4**
ASAJ	**Asahikawa**	**4.51**	**9**	P	**Pn**		**Pn**	**11 18 37.1**	**-0.8**
	3.6nm,0.3s,baz=205,slow=9.9,SNR=60								
ASAJ				S			**Sn**	**11 19 26.6**	**-2.8**
	2.6nm,0.3s,baz=7.8,slow=30,SNR=6.9								
JHJ	**Hachijo jima 2**	**6.69**	**193**	P	**Pn**		**Pn**	**11 19 05.7**	**-2.0**
	12nm,0.3s,baz=319,slow=23,SNR=9.1								
JHJ				S			**Sn**	**11 20 16.4**	**-6.0**
	19nm,0.3s,baz=260,slow=20,SNR=7.3								
USRK	**Ussuriysk Ar.**	**8.46**	**305**	P	**Pn**		**Pn**	**11 19 32.1**	**+0.6**
	baz=115,slow=13,SNR=7.6								
JNU	**Nakatsue**	**10.82**	**236**	S	Sn		Sn	11 21 50.5	-12
	0.2nm,0.3s,baz=84,slow=2.4,SNR=1.4								
SEY	**Seymchan**	**24.19**	**12**	P	**P**		**P**	**11 22 38.8**	**+1.2**
	1.8nm,0.8s,baz=149,slow=3.3,SNR=3.6								
SONM	**Songino Array**	**26.52**	**300**	P	**P**		**P**	**11 22 59.2**	**+0.1**
	0.4nm,0.5s,baz=83,slow=12,SNR=2.1								
H11N2	**WAKE ISLAND Hy**	**29.46**	**125**	T	T		T	11 54 13.2	
	baz=318,slow=75,SNR=53								
H11N1	**WAKE ISLAND Hy**	**29.47**	**125**	T	T		T	11 54 11.2	
	baz=318,slow=75,SNR=63								
H11N3	**WAKE ISLAND Hy**	**29.48**	**125**	T	T		T	11 54 14.7	
	baz=318,slow=75,SNR=49								
H11S1	**WAKE ISLAND Hy**	**30.25**	**127**	T	T		T	11 55 08.5	
	baz=318,slow=76,SNR=20								
H11S3	**WAKE ISLAND Hy**	**30.25**	**127**	T	T		T	11 55 08.5	
	baz=318,slow=76,SNR=27								
H11S2	**WAKE ISLAND Hy**	**30.27**	**127**	T	T		T	11 55 07.9	
	baz=318,slow=76,SNR=14								
ZALV	**Zalesovo Beam**	**40.28**	**310**	P	**P**		**P**	**11 24 57.6**	**-0.2**
	1.0nm,0.5s,baz=86,slow=8.7,SNR=5.3								
MKAR	**Makanchi Array**	**42.88**	**300**	P	**P**		**P**	**11 25 18.3**	**-0.9**
	0.5nm,0.7s,baz=93,slow=7.3,SNR=5.5								
ILAR	**Eielson Array**	**47.22**	**34**	P	**P**		**P**	**11 25 53.8**	**+0.6**
	0.6nm,0.7s,baz=269,slow=6.7,SNR=8.8								
INK	**Inuvik**	**51.99**	**28**	P	**P**		**P**	**11 26 29.9**	**+0.7**
	0.5nm,0.4s,baz=289,slow=7.9,SNR=4.5								
RES	**Resolute Bay**	**60.02**	**15**	P	**P**		**P**	**11 27 26.0**	**-0.3**
	0.6nm,0.5s,baz=297,slow=5.7,SNR=5.3								
YKA	**Yellowknife Ar**	**61.47**	**31**	P	**P**		**P**	**11 27 35.5**	**-0.8**
	0.2nm,0.8s,baz=303,slow=5.7,SNR=5.0								
PDAR	**Pinedale Array**	**75.73**	**46**	P	**P**		**P**	**11 29 06.1**	**+0.5**
	0.3nm,0.5s,baz=353,slow=2.4,SNR=5.3								

IDC 27 11:17:34.6±1.8,2.11S×139.90E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.3/42,mbtmp3.4/3,ML3.5/1,MS3.3/1, Ms1 3.5/1,ms1mx2.7/20,Error ellipse: s-maj=35.0km s-min=12.6km az=21.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.90**	**116**	Pg	Pg		Pg	11 17 52.3	+0.4
	18nm,0.3s,baz=311,slow=19,SNR=140								
JAY				Lg	Lg		Lg	11 18 04.2	
	127nm,0.3s,baz=49,slow=19,SNR=27								
WRA	**Warramunga Arr**	**18.53**	**197**	P	P		P	11 21 52.6	-0.3
	0.1nm,0.3s,baz=21,slow=12,SNR=4.2								
ASAR	**Alice Springs**	**22.20**	**195**	P	P		P	11 22 32.8	+0.1
	0.6nm,0.6s,baz=24,slow=12,SNR=7.0								
CMAR	**Chiang Mai Arr**	**45.18**	**299**	LR	LR		LR	11 47 27.5	
	comp=Z,33nm,18.0s,baz=232,slow=40								
MKAR	**Makanchi Array**	**70.05**	**322**	P	P		P	11 28 48.3	-0.2
	0.3nm,0.7s,baz=109,slow=6.6,SNR=2.2								

IDC 27 11:23:27.0±2.7,3.59S×134.94E,h0km,mb3.2/1, mb1 3.6/5,mb1mx3.4/47,mbtmp3.5/5,ML3.3/4,Error ellipse: s-maj=68.6km s-min=24.7km az=69.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.55**	**306**	Pn	Pn		Pn	11 24 38.3	+1.0
	1.5nm,0.3s,baz=143,slow=19,SNR=12								
SIJI				Sn	Sn		Sn	11 25 32.4	+1.4
	1.8nm,0.3s,baz=140,slow=23,SNR=7.8								
WRA	**Warramunga Arr**	**16.27**	**182**	Pn	Pn		Pn	11 27 16.3	-0.7
	0.1nm,0.3s,baz=0.4,slow=13,SNR=2.2								
WRA				Sn	Sn		Sn	11 30 15.3	-3.0
	0.1nm,0.3s,baz=4.7,slow=24,SNR=1.6								
FITZ	**Fitzroy Crossi**	**17.05**	**212**	P	Pn		Pn	11 27 25.4	-1.6
	0.2nm,0.3s,baz=68,slow=13,SNR=1.3								
FITZ				S	Sn		Sn	11 30 34.9	-2.6
	0.1nm,0.3s,baz=131,slow=14,SNR=1.6								
ASAR	**Alice Springs**	**19.98**	**183**	P	Pn		Pn	11 28 02.3	-0.6
	0.2nm,0.3s,baz=8.8,slow=12,SNR=33								
MKAR	**Makanchi Array**	**68.23**	**324**	P	P		P	11 34 29.2	-0.4
	0.2nm,0.7s,baz=106,slow=7.7,SNR=2.1								

*SJA **27** 11:31:53.7±0.7,21.09S×68.51W,h146km±5km,ML4.0, MW3.7*

*NEIC **27** 11:31:54.0±1.7,21.09S±0.04×68.5W±0.1,h146km±7km, Error ellipse: s-maj=14.8km s-min=6.4km az=87.0*

*IDC **27** 11:31:53.9±0.7,21.07S×68.11W,h126km±9km,mb3.9/4, mb1 3.8/8,mb1mx3.4/47,mbtmp4.2/8,MS3.2/1,Ms1 3.2/1, ms1mx2.6/27, Error ellipse: s-maj=22.7km s-min=9.2km az=110.0*

*VAO **27** 11:31:54.6±0.6,21.12S×68.46W,h155km,mb4.2*

*GUC **27** 11:31:55.1±0.9,21.10S×68.59W,h130km±6km,ML3.8*

ISC 27 11:31:53.7±0.6,21.09S±0.03×68.46W±0.05,h142km±6km, n83,σ1s36/117,mb4.1/4,4C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.96**	**272**	*e*P	**Pn**		**Pn**	**11 32 17.4**	**0.0**
PB01				*i* S			**Sn**	**11 32 33.9**	**-1.6**
PB01				IAML				11 32 37.0	
	comp=N,2μm,0.2s								
PB01	**IPOC Station P**	**0.96**	**272**		**Pn**		**Pn**	**11 32 17.2**	**-0.3**
PB01				Sn	**Sn**		**Sn**	**11 32 35.2**	**-0.3**
PB01	**IPOC Station P**	**0.96**	**272**	*e*S	**Sn**		**Sn**	**11 32 35.7**	**+0.2**
PB01				IAML				11 32 37.2	
	comp=Z,2μm,0.2s								
PB09	**IPOC Station P**	**1.02**	**226**		**Pn**		**Pn**	**11 32 18.8**	**+0.8**
PB09				Sn	**Sn**		**Sn**	**11 32 37.5**	**+1.0**
PB08	**IPOC Station P**	**1.15**	**325**	*e*P	**Pn**		**Pn**	**11 32 20.5**	**+1.0**
PB08				*i* S	**Sn**		**Sn**	**11 32 38.7**	**-0.3**
PB08				IAML				11 32 40.4	
	comp=N,2μm,0.2s								
PB08				IAML				11 32 40.9	
	comp=E,3μm,0.3s								
PB08	**IPOC Station P**	**1.15**	**325**		**Pn**		**Pn**	**11 32 20.0**	**+0.5**
PB08				Sn	**Sn**		**Sn**	**11 32 39.5**	**+0.4**
PB08	**IPOC Station P**	**1.15**	**325**	*e*P	**Pn**		**Pn**	**11 32 19.9**	**+0.5**
PB08				*e*S	**Sn**		**Sn**	**11 32 40.0**	**+1.0**
PB08				IAML				11 32 41.0	
	comp=Z,2μm,0.5s								
PB07	**IPOC Station P**	**1.48**	**244**	*i* S	**Sn**		**Sn**	**11 32 43.5**	**-1.1**
PB07				IAML				11 32 47.0	
	comp=N,1μm,0.2s								
PB07	**IPOC Station P**	**1.48**	**244**		**Pn**		**Pn**	**11 32 22.6**	**+0.1**
PB07				Sn	**Sn**		**Sn**	**11 32 44.8**	**+0.2**
PB07	**IPOC Station P**	**1.48**	**244**	*e*S	**Sn**		**Sn**	**11 32 45.2**	**+0.6**
PB07				IAML				11 32 46.3	
	comp=Z,1μm,0.4s								
PB03	**IPOC Station P**	**1.54**	**231**	*e*P	**Pn**		**Pn**	**11 32 23.9**	**+0.6**
PB03				*i* S	**Sn**		**Sn**	**11 32 45.1**	**-0.7**
PB03				IAML				11 32 46.4	
	comp=E,2μm,0.2s								
PB03	**IPOC Station P**	**1.54**	**231**	*e*P	**Pn**		**Pn**	**11 32 24.0**	**+0.7**
PB03				*e*S	**Sn**		**Sn**	**11 32 46.0**	**+0.2**
PB03				IAML				11 32 47.8	
	comp=Z,1μm,0.1s								
LVC	**Limon Verde**	**1.57**	**195**	P	**Pn**		**Pn**	**11 32 25.0**	**+1.1**
	baz=28,slow=9.5								
LVC				S	**Sn**		**Sn**	**11 32 47.5**	**+0.7**
	comp=Z,87nm,0.3s,baz=90,slow=20,SNR=11								
LVC	**Limon Verde**	**1.57**	**195**	*e*P	**Pn**		**Pn**	**11 32 25.0**	**+1.1**
LVC				*i* S	**Sn**		**Sn**	**11 32 47.1**	**+0.3**
LVC	**Limon Verde**	**1.57**	**195**		**Pn**		**Pn**	**11 32 24.9**	**+1.1**
LVC				Sn	**Sn**		**Sn**	**11 32 47.2**	**+0.4**
LVC	**Limon Verde**	**1.57**	**195**	*e*P	**Pn**		**Pn**	**11 32 24.9**	**+1.1**
LVC	**Limon Verde**	**1.57**	**195**	*e*P	**Pn**		**Pn**	**11 32 24.9**	**+1.1**
LVC				*e*S	**Sn**		**Sn**	**11 32 47.5**	**+0.7**
TA01	**Diego Aracena**	**1.69**	**288**	*e*P	**Pn**		**Pn**	**11 32 25.0**	**+0.2**
TA01				*i* S	**Sn**		**Sn**	**11 32 47.5**	**-1.1**
TA01				IAML				11 32 49.9	
	comp=N,1μm,0.3s								
TA01	**Diego Aracena**	**1.69**	**288**	P	**Pn**		**Pn**	**11 32 24.9**	**+0.2**
TA01							Sn	**11 32 47.8**	**-0.7**
PB06	**IPOC Station P**	**1.91**	**213**	*e*P	**Pn**		**Pn**	**11 32 28.5**	**+1.0**
PB06				*i* S	**Sn**		**Sn**	**11 32 53.3**	**-0.1**
PB06				IAML				11 32 55.7	
	comp=E,1μm,0.4s								
PB06	**IPOC Station P**	**1.91**	**213**	P	**Pn**		**Pn**	**11 32 28.2**	**+0.8**
PB06							Sn	**11 32 53.7**	**+0.3**
PB06	**IPOC Station P**	**1.91**	**213**	*e*P	**Pn**		**Pn**	**11 32 28.4**	**+1.0**
PB06				*e*S	**Sn**		**Sn**	**11 32 54.0**	**+0.6**
PB06				IAML				11 32 57.0	
	comp=Z,635nm,0.3s								
PB04	**IPOC Station P**	**2.00**	**231**	*e*P	**Pn**		**Pn**	**11 32 28.9**	**+0.4**
PB04				*i* S	**Sn**		**Sn**	**11 32 54.2**	**-1.0**
PB04				IAML				11 33 02.3	
	comp=N,1μm,0.1s								
PB04	**IPOC Station P**	**2.00**	**231**		**Pn**		**Pn**	**11 32 29.1**	**+0.6**
PB04				Sn	**Sn**		**Sn**	**11 32 54.6**	**-0.6**
PB04	**IPOC Station P**	**2.00**	**231**	*e*P	**Pn**		**Pn**	**11 32 29.2**	**+0.7**
PB04				*e*S	**Sn**		**Sn**	**11 32 55.0**	**-0.3**
PB04				IAML				11 32 59.7	
	comp=Z,646nm,0.2s								
PSGC	**Pisagua**	**2.15**	**313**	*e*P	**Pn**		**Pn**	**11 32 30.0**	**-0.3**
PSGC				*i* S	**Sn**		**Sn**	**11 32 56.9**	**-1.5**
PSGC				IAML				11 33 04.0	
	comp=E,483nm,0.5s								
PSGCX	**Pisagua**	**2.15**	**313**	P	**Pn**		**Pn**	**11 32 30.1**	**-0.2**
PSGCX							Sn	**11 32 57.6**	**-0.8**
MNMC	**Minye Minye**	**2.22**	**331**	P	**Pn**		**Pn**	**11 32 32.4**	**+1.1**
MNMC				*i* S	**Sn**		**Sn**	**11 33 01.0**	**+0.9**
MNMC	**Minye Minye**	**2.22**	**331**	P	**Pn**		**Pn**	**11 32 31.9**	**+0.6**
MNMC							Sn	**11 33 00.8**	**+0.7**
PB15	**IPOC Station P**	**2.31**	**204**	*e*P	**Pn**		**Pn**	**11 32 33.2**	**+0.9**
PB15				*i* S	**Sn**		**Sn**	**11 33 02.5**	**+0.5**
PB15	**IPOC Station P**	**2.31**	**204**		**Pn**		**Pn**	**11 32 33.2**	**+0.9**
PB15				Sn	**Sn**		**Sn**	**11 33 02.7**	**+0.7**
PB15	**IPOC Station P**	**2.31**	**204**	*e*P	**Pn**		**Pn**	**11 32 33.3**	**+1.0**
PB15				*e*S	**Sn**		**Sn**	**11 33 02.0**	**+0.1**
PB15				IAML				11 33 07.1	
	comp=Z,3μm,0.2s								
PB05	**IPOC Station P**	**2.39**	**222**	*e*P	**Pn**		**Pn**	**11 32 33.9**	**+0.7**
PB05				*i* S	**Sn**		**Sn**	**11 33 02.7**	**-0.8**
PB05				IAML				11 33 05.1	
	comp=E,460nm,0.2s								
PB05	**IPOC Station P**	**2.39**	**222**	*e*P	**Pn**		**Pn**	**11 32 34.0**	**+0.8**
PB05				*e*S	**Sn**		**Sn**	**11 33 03.1**	**-0.4**
PB05				IAML				11 33 07.7	
	comp=Z,297nm,0.3s								
YJA	**Yavi**	**2.94**	**112**	*e*P	**Pn**		**Pn**	**11 32 42.5**	**+2.1**
PB14	**IPOC Station P**	**3.95**	**207**	P	**Pn**		**Pn**	**11 32 53.4**	**0.0**
PB14							Sn	**11 33 36.9**	**-2.8**
PB14	**IPOC Station P**	**3.95**	**207**	*e*P	**Pn**		**Pn**	**11 32 53.9**	**+0.5**
PB14				*e*S	**Sn**		**Sn**	**11 33 37.3**	**-2.4**
PB14				IAML			

PB06					*e*S	**S**	**11 36 46.7**	**-0.1**
PB06					IAML		11 36 51.7	
	comp=Z,178nm,0.1s							
PB03	**IPOC Station P**	**2.92**	**291**	⇑ *e*P	**Pn**		**11 36 15.9**	**0.0**
PB03					*e*S	**S**	**11 36 52.7**	**-1.2**
PB03					IAML		11 36 54.9	
	comp=E,228nm,0.1s							
PB03	**IPOC Station P**	**2.92**	**291**	*e*P	**Pn**		**11 36 15.9**	**0.0**
PB03					*e*S	**S**	**11 36 53.1**	**-0.7**
PB03					IAML		11 36 55.8	
	comp=Z,214nm,0.1s							
FSA	**Cafayete**	**3.06**	**166**	*e*P	**Pn**		**11 36 17.4**	**-0.2**
PB05	**IPOC Station P**	**3.14**	**274**	⇑ *e*P	**Pn**		**11 36 18.2**	**-0.1**
PB05					*e*S	**S**	**11 36 56.5**	**-1.8**
PB05					IAML		11 37 00.7	
	comp=N,174nm,0.3s							
PB05	**IPOC Station P**	**3.14**	**274**	*e*P	**Pn**		**11 36 18.2**	**-0.1**
PB05					*e*S	**S**	**11 36 57.9**	**-0.3**
PB07	**IPOC Station P**	**3.17**	**296**	*e*P	**Pn**		**11 36 18.9**	**+0.1**
PB07					*e*S	**S**	**11 36 57.4**	**-1.6**
PB07					IAML		11 36 58.7	
	comp=N,322nm,0.2s							
PB07	**IPOC Station P**	**3.17**	**296**	*e*P	**Pn**		**11 36 18.7**	**-0.1**
PB07					*e*S	**S**	**11 36 58.3**	**-0.7**
PB07					IAML		11 37 01.0	
	comp=Z,108nm,0.1s							
PB04	**IPOC Station P**	**3.18**	**284**	⇑ *e*P	**Pn**		**11 36 18.8**	**-0.1**
PB04					IAML		11 37 02.9	
	comp=N,218nm,0.3s							
PB04	**IPOC Station P**	**3.18**	**284**	*e*P	**Pn**		**11 36 19.1**	**+0.2**
PB04					*e*S	**S**	**11 36 59.4**	**+0.2**
PB04					IAML		11 37 02.5	
	comp=Z,133nm,0.1s							
PB01	**IPOC Station P**	**3.23**	**309**	*e*P	**Pn**		**11 36 19.5**	**0.0**
PB01					*e*S	**S**	**11 36 59.8**	**-0.6**
PB01					IAML		11 37 01.3	
	comp=N,371nm,0.2s							
PB01	**IPOC Station P**	**3.23**	**309**	*e*P	**Pn**		**11 36 19.6**	**+0.1**
PB01					*e*S	**S**	**11 36 59.8**	**-0.6**
PB01					IAML		11 37 02.4	
	comp=Z,140nm,0.1s							
GO02	**Mina Guanaco**	**3.25**	**231**	⇑ *i*P	**Pn**		**11 36 19.7**	**-0.1**
GO02					*e*S	**S**	**11 37 00.6**	**-0.4**
PB14	**IPOC Station P**	**3.61**	**245**	*e*P	**Pn**		**11 36 24.1**	**-0.1**
PB14					*e*S	**S**	**11 37 06.4**	**-2.4**
PB14					IAML		11 37 10.1	
	comp=Z,166nm,0.2s							
PB08	**IPOC Station P**	**3.69**	**323**	*e*P	**Pn**		**11 36 26.0**	**+0.8**
PB08					*e*S	**S**	**11 37 10.8**	**+0.2**
TA01	**Diego Aracena**	**4.04**	**309**	*e*P	**Pn**		**11 36 28.2**	**-0.9**
ACLC	**CERRO LA CRUZ**	**6.27**	**181**	*e*P	**Pn**		**11 36 56.6**	**-1.0**
LPAZ	**La Paz**	**6.92**	**349**	P	**Pn**		**11 37 06.4**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=164,slow=7.7,SNR=16							
LPAZ					S	**S**	**11 38 23.0**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=198,slow=13,SNR=2.1							
SIV	**San Ignacio**	**8.92**	**38**	P	**Pn**		**11 37 30.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=231,slow=13,SNR=1.5							
CPUP	**Villa Florida**	**9.19**	**112**	P	**Pn**		**11 37 33.5**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=217,slow=10,SNR=1.8							
TXAR	**Lajitas Array**	**63.08**	**324**	P	**P**		**11 45 32.9**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=151,slow=8.3,SNR=1.3							
TORD	**Torodi Ar. Bea**	**76.09**	**69**	P	**P**		**11 46 53.2**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=248,slow=5.3,SNR=1.5							
YKA	**Yellowknife Ar**	**93.37**	**340**	P	**P**		**11 48 17.8**	**+0.1**
	comp=Z,0.1nm,0.6s,baz=127,slow=5.1,SNR=2.2							
MKAR	**Makanchi Array**	**145.74**	**39**	PKPbc	**PKPab**		**11 54 41.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=316,slow=3.3,SNR=4.9							

IDC 27 11:39:27.7±9.4, **15°34S**×**166°97E**, **h86**km±97km, **mb3.5/3, mb1 3.7**/4, **mb1mx3.2**/50, **mbtmp3.7/4, ML3.5/1, MS3.1/2, Ms1 3.1**/2, **ms1mx2.7**/23, **Error ellipse: s-maj=78.6km s-min=40.9km az=151.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.72**	**184**	P		Pn		11 41 03.9	0.0
	1.0nm,0.3s,baz=18,slow=20,SNR=35								
DZM				S		Sn		11 42 19.5	+0.6
	0.5nm,0.3s,baz=343,slow=19,SNR=1.0								
DZM	**Mont Dzumac**	**6.72**	**184**	*e*Pn		Pn		11 41 03.9	0.0
	3.5nm,0.2s								
DZM					*e*Sn	Sn		11 42 19.5	+0.5
	3.5nm,0.3s								
DZM					*e*LR	LR		11 42 28.1	
	comp=Z,189nm,23.1s								
HNR	**Honiara**	**9.02**	**310**	LR		LR		11 44 38.4	
	comp=Z,103nm,19.0s,baz=228,slow=34								
MSVF	**Nonsavu**	**10.89**	**104**	LR		LR		11 45 28.9	
	comp=Z,121nm,20.1s,baz=193,slow=33								
ASAR	**Alice Springs**	**32.19**	**250**	P		P		11 45 47.7	-0.1
	0.6nm,0.9s,baz=76,slow=9.5,SNR=3.9								
ILAR	**Eielson Array**	**87.19**	**18**	P		P		11 52 03.5	-0.4
	0.5nm,0.7s,baz=237,slow=5.1,SNR=9.6								
YKA	**Yellowknife Ar**	**98.22**	**27**	P		Pdif		11 52 55.6	+0.6
	0.3nm,0.9s,baz=246,slow=4.1,SNR=3.1								

*INET **27** 11:48:02.9, 9°47N×84°49W, h10km, MW2.9*

UPA 27 11:48:01.4±1.1, **9°44N**×**84°64W, h6**km±6km, **MW4.6, 1D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HDC	**Heredia**	**0.76**	**43**	*e*P		Pg		11 48 16.2	+0.2
HDC						*e*Sb		11 48 28.7	+1.0
JTS	**Las Juntas de**	**0.90**	**340**	⇓ *e*P		Pb		11 48 19.4	-0.1
JTS						*e*S	Sb	11 48 31.9	+0.2
DRK0	**Durika**	**1.38**	**97**	*e*P		Pn		11 48 26.4	-1.0
DRK0						*e*S	Sb	11 48 45.8	0.0
BATAN	**Batan**	**1.40**	**62**	*e*P		Pn		11 48 26.9	-0.7
BATAN						*e*S	Sb	11 48 45.5	-0.6
BRU2	**Volcan**	**2.03**	**108**	*e*P		Pn		11 48 35.7	-0.5
BRU2						*e*S	Sn	11 49 01.4	-0.6

LJU 27 11:53:22.9, 46°09N×**14°45E, h15**km, **ML2.0, 10C-3D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LJU	**Ljubljana**	**0.07**	**128**	⇑ *i*P		Pg		11 53 26.6	+0.7
LJU					*i* Sg	Sg		11 53 28.7	+0.8
LJU					IAML			11 53 28.8	
	comp=Z,114nm,0.1s								
CRNS	**Crni Vrh**	**0.13**	**267**	⇑ *i*Pg		Pb		11 53 27.1	0.0
CRNS					*i* Sg	Sb		11 53 29.6	-0.3
CRNS					IAML			11 53 30.1	
	comp=Z,528nm,0.1s								
GBAS	**Gorenja Brezov**	**0.15**	**181**	⇑ *i*Pg		Pb		11 53 27.3	-0.2
GBAS					*i* Sg	Sg		11 53 29.9	+0.5
GBAS					IAML			11 53 30.4	
	comp=Z,492nm,0.1s								
VNDS	**Vrh nad Dolski**	**0.18**	**85**	*i* Pg		Pb		11 53 27.9	0.0
VNDS					*i* Sg	Sb		11 53 30.8	-0.5
VNDS					IAML			11 53 31.1	
	comp=Z,172nm,0.1s								
MOZS	**Mozjanca**	**0.21**	**359**	⇓ *i*Pg		Pb		11 53 28.4	0.0
MOZS					IAML			11 53 32.1	
	comp=Z,104nm,0.1s								
JAVS	**Javornik**	**0.33**	**234**	*i* Pg		Pg		11 53 29.9	+0.2
JAVS					*i* Sg	Sg		11 53 35.0	+0.5
JAVS					IAML			11 53 35.5	
	comp=Z,16nm,0.1s								
CEY	**Cerknica**	**0.35**	**182**	*i* Pg		Pg		11 53 30.3	+0.2
CEY					*e*Sg	Sg		11 53 35.2	+0.3
CEY					IAML			11 53 36.7	
	comp=Z,109nm,0.1s								
PDKS	**Podkum**	**0.38**	**94**	⇑ *i*Pg		Pb		11 53 31.4	0.0
PDKS					*i* Sg	Sb		11 53 36.6	-0.6
PDKS					IAML			11 53 38.2	
	comp=Z,127nm,0.1s								
GORS	**Gorjuse**	**0.39**	**306**	*i* Pg		Pg		11 53 31.0	+0.2
GORS					*i* Sg	Sg		11 53 36.7	+0.4
GORS					IAML			11 53 37.8	
	comp=Z,80nm,0.2s								
VISS	**Visnje**	**0.39**	**136**	⇓ *i*Pg		Pb		11 53 31.3	-0.3
VISS					*i* Sg	Sg		11 53 36.5	+0.2
VISS					IAML			11 53 37.9	
	comp=Z,88nm,0.1s								
VOJS	**Vojsko**	**0.40**	**262**	*i* Pg		Pg		11 53 31.0	0.0
VOJS					*i* Sg	Sb		11 53 37.4	-0.2
VOJS					IAML			11 53 38.6	
	comp=Z,31nm,0.2s								
OBKA	**Obir**	**0.43**	**9**	*i* Pg		Pb		11 53 32.0	-0.3
	comp=Z,42nm,0.2s,SNR=75								
OBKA					*i* Sg	Sb		11 53 38.3	-0.3
	comp=Z,41nm,0.1s								
CADS	**Cadrg**	**0.51**	**286**	*i* Pg		Pg		11 53 33.0	-0.1
CADS					*i* Sg	Sb		11 53 40.6	-0.3
CADS					IAML			11 53 42.4	
	comp=Z,42nm,0.1s								
KNDS	**Knezji Dol**	**0.56**	**185**	*i* Pg		Pg		11 53 34.0	+0.1
KNDS					*i* Sg	Sb		11 53 42.4	+0.1
KNDS					IAML			11 53 44.7	
	comp=Z,20nm,0.1s								
DRE	**Drenchia**	**0.57**	**279**	⇑ *e*Pg		Pg		11 53 34.1	0.0
DRE					*e*Sg	Sb		11 53 42.5	+0.1
SABO	**M.te Sabotino**	**0.60**	**260**	⇑ *e*Pg		Pg		11 53 34.3	-0.4
SABO					*e*Sg	Sb		11 53 43.1	-0.3
GBRS	**Gornja Briga**	**0.61**	**155**	*e*Pg		Pb		11 53 35.1	-0.2
GBRS					IAML			11 53 46.7	
	comp=Z,27nm,0.1s								
SKDS	**Skadanscina**	**0.62**	**209**	*i* Pg		Pg		11 53 34.5	-0.6
SKDS					*e*Sg	Sb		11 53 43.8	-0.2
SKDS					IAML			11 53 45.1	
	comp=Z,74nm,0.2s								
LEGS	**Legarje**	**0.62**	**103**	*i* Pg		Pb		11 53 35.4	-0.1
LEGS					*e*Sg	Sb		11 53 43.8	-0.2
ROBS	**Robic**	**0.67**	**284**	*i* Pg		Pg		11 53 35.6	-0.4
ROBS					IAML			11 53 48.2	
	comp=Z,14nm,0.1s								
PRED	**Cave del Predi**	**0.71**	**300**	*e*Pg		Pg		11 53 36.4	-0.3
PRED					*e*Sg	Sb		11 53 46.9	+0.3
DOBS	**Dobrina**	**0.71**	**85**	*i* Pg		Pb		11 53 37.0	-0.1
CESS	**Cesta pri Krsk**	**0.72**	**99**	*e*Pg		Pb		11 53 37.2	+0.1
CESS					*i* Sg	Sb		11 53 46.8	+0.1
CESS					IAML			11 53 49.9	
	comp=Z,22nm,0.1s								
SOKA	**Soboth**	**0.72**	**34**	*i* Pg		Pg		11 53 37.0	+0.1
	comp=Z,7.8nm,0.2s,SNR=9.8								
SOKA					*e*Sg	Sg		11 53 46.0	-0.4
	comp=Z,9.3nm,0.1s								
PERS	**Pernice**	**0.72**	**40**	*i* Pg		Pg		11 53 36.9	0.0
PERS					*i* Sg	Sg		11 53 46.0	-0.5
PERS					IAML			11 53 47.4	
	comp=Z,31nm,0.1s								
COLI	**Coloredo**	**0.75**	**274**	⇑ *e*Pg		Pg		11 53 37.4	-0.1
COLI					*e*Sg	Sb		11 53 48.7	+1.1
CRES	**Cresnjev**	**0.75**	**110**	*i* Pg		Pb		11 53 37.7	+0.1
CRES					*i* Sg	Sg		11 53 47.4	-0.1
CRES					IAML			11 53 50.2	
	comp=Z,16nm,0.1s								
RIY	**Rijeka**	**0.76**	**178**	*e*Pg		Pg		11 53 37.3	-0.4
RIY					Sg	Sb		11 53 48.4	+0.4
MYKA	**Terra Mystica**	**0.78**	**314**	*i* Pg		Pb		11 53 38.2	0.0
	comp=Z,9.3nm,0.2s,SNR=14								
MYKA					*i* Sg	Sb		11 53 49.0	+0.3
	comp=Z,8.6nm,0.1s								
ACOM	**Acomizza, Ital**	**0.80**	**306**	⇓ *e*Pg		Pb		11 53 38.6	0.0
ACOM					*e*Sg	Sb		11 53 49.9	+0.7
BOJS	**Bojanci**	**0.81**	**136**	*i* Pg		Pb		11 53 38.9	+0.2
BOJS					*i* Sg	Sg		11 53 49.2	0.0
BOJS					IAML			11 53 51.5	
	comp=Z,34nm,0.2s								
GOLS	**Golise**	**0.82**	**95**	*i* Pg		Pb		11 53 39.0	+0.1
GOLS					*e*Sg	Sb		11 53 50.5	+0.6
GOLS					IAML			11 53 55.2	
	comp=Z,18nm,0.1s								
BAD	**Bernadia**	**0.85**	**281**	⇑ *e*Pg		Pg		11 53 39.5	+0.1
BAD					*e*Sg	Sn		11 53 52.2	-0.4
GCIS	**Gornji Cirnik**	**0.85**	**105**	*i* Pg		Pg		11 53 39.6	+0.2
GCIS					IAML			11 53 56.9	
	comp=Z,10.0nm,0.2s								
PTJ	**Puntijarka**	**1.07**	**99**	*e*Pg		Pg		11 53 43.9	+0.2
PTJ					Sg	Sb		11 53 56.3	-0.8
KBA	**Koelnbreinsper**	**1.25**	**323**	Pg		Pg		11 53 46.8	-0.2
	comp=Z,2.2nm,0.2s,SNR=7.0								
KBA					*e*Sg	Sn		11 54 03.0	+0.3
	comp=Z,10.0nm,0.3s								
MLNI	**Malnisio**	**1.28**	**273**	⇑ *e*Pg		Pg		11 53 47.6	+0.1
MLNI					*e*Sg	Sg		11 54 06.3	+2.1
CAE	**Caneva**	**1.40**	**267**	⇑ *e*Pg		Pg		11 53 49.7	-0.2
CAE					*e*Sg	Sg		11 54 09.4	+1.3
ABTA	**Abfaltersbach**	**1.49**	**297**	*e*Pg		Pb		11 53 50.9	+0.5
	comp=Z,2.0nm,0.2s,SNR=5.7								
ABTA					*e*Sg	Sg		11 54 12.0	+1.0
	comp=Z,4.5nm,0.2s								
NVLJ	**Novalja**	**1.55**	**169**	*e*Pn		Pb		11 53 50.8	-0.5
NVLJ					Sn	Sg		11 54 12.7	-0.2
DUGI	**Dugi Otok**	**2.14**	**168**	*e*Pn		Pn		11 53 59.3	+1.2
DUGI					Sn	Sb		11 54 28.5	+0.8
MORI	**Morici**	**2.39**	**158**	*i* Pn		Pn		11 54 03.5	+2.0
MORI					Sg	Sg		11 54 38.0	-1.8

*VIE **27** 11:53:30.7±0.5, 46°09N×14°53E, h10km, mb1.7/2, ml2.2/2, Error ellipse: s-maj=5.2km s-min=2.4km az=108.0 4 km NE of Ljubljana*

LJU 27 11:53:29.8, 46°10N×14°46E, h15km, **ML1.8, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LJU	**Ljubljana**	**0.07**	**136**	*i* Pg		Pg		11 53 33.2	+0.4
LJU					*i* Sg	Sg		11 53 35.3	+0.5
LJU					IAML			11 53 36.3	
	comp=Z,64nm,0.1s								
CRNS	**Crni Vrh**	**0.14**	**264**	*i* Pg		Pg		11 53 33.6	0.0
CRNS					*i* Sg	Sg		11 53 36.2	+0.2
CRNS					IAML			11 53 37.1	
	comp=Z,122nm,0.1s								
GBAS	**Gorenja Brezov**	**0.16**	**183**	*i* Sg		Sg		11 53 36.5	0.0
GBAS					IAML			11 53 37.0	
	comp=Z,87nm,0.1s								
OBKA	**Obir**	**0.42**	**9**	Pg		Pb		11 53 39.7	+0.7
OBKA					*e*Sg	Sb		11 53 45.4	+0.2
SOKA	**Soboth**	**0.71**	**34**	*e*Pg		Pg		11 53 43.7	+0.1
	comp=Z,2.6nm,0.1s								
SOKA					*e*Sg	Sg		11 53 53.0	0.0
	comp=Z,10nm,0.2s								

*IDC **27** 12:04:46.3±5.4, 8°99S×124°30E, h56km±67km, mb3.0/2, mb1 3.4/5, mb1mx3.2/34, mbtmp3.4/5, ML3.5/3, Error ellipse: s-maj=49.2km s-min=30.7km az=8.0*

ISC 27 12:04:44.6±1.1, **9°05S**±0°09×**124°6E**±0°1, **h35**km, **n6,** σ3°68/10, **Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.44**	**217**	P			**Pn**	**12 05 10.5**	**+2.2**
	19nm,0.3s,baz=11,slow=5.1,SNR=15								
BATI				S			**Sn**	**12 05 25.9**	**-0.1**
	43nm,0.3s,baz=115,slow=19,SNR=29								
FITZ	**Fitzroy Crossi**	**9.05**	**173**	P			**Pn**	**12 06 54.3**	**+1.4**
	0.3nm,0.3s,baz=7.3,slow=12,SNR=18								
FITZ				S			**Sn**	**12 08 27.6**	**-6.0**
	2.5nm,0.3s,baz=331,slow=23,SNR=18								
WRA	**Warramunga Arr**	**14.38**	**140**	P			**Pn**	**12 08 09.8**	**+4.1**
	0.2nm,0.3s,baz=324,slow=13,SNR=15								
WRA				S			**Sn**	**12 10 43.2**	**-0.9**
	0.6nm,0.3s,baz=306,slow=21,SNR=15								
ASAR	**Alice Springs**	**17.06**	**149**	P			**P**	**12 08 44.7**	**+2.6**
	0.2nm,0.3s,baz=320,slow=12,SNR=17								
ASAR				S			**Sn**	**12 11 45.0**	**-4.4**
	0.2nm,0.3s,baz=311,slow=21,SNR=7.1								
SONM	**Songino Array**	**58.88**	**346**	P			**P**	**12 14 37.8**	**-2.3**
	0.1nm,0.5s,baz=152,slow=6.5,SNR=1.9								
MKAR	**Makanchi Array**	**67.13**	**330**	P			**P**	**12 15 33.2**	**-1.6**
	0.2nm,0.5s,baz=117,slow=7.1,SNR=2.4								

*IDC **27** 12:09:22.5±4.7, 17°81S×168°51E, h137km±45km, mb3.4/9, mb1 3.6/10, mb1mx3.5/28, mbtmp3.8/10, MS3.6/1, Ms1 3.6/1, ms1mx2.8/14, Error ellipse: s-maj=40.2km s-min=22.8km az=177.0*

*NEIC **27** 12:09:23.2±1.6, 17°90S±0°08×168°5E±0°2, h148km±9km, mb4.1/12, Error ellipse: s-maj=22.3km s-min=11.3km az=87.0*

*NOU **27** 12:09:43.7, 19°63S×168°18E, h0km, MLv3.9, Vanuatu Islands*

ISC 27 12:09:23.4±0.7, **17°94S**±0°06×**168°6E**±0°1, **h150**km, **n35,** σ1°17/35, **mb3.9**/12, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.79**	**332**	Pn			**Pn**	**12 10 07.6**	**-0.6**

LIFNC	**LIFOU**	**3.08**	**203**	P			**Pn**	**12 10 10.2**	**-1.6**
MARNC	**Mare, Loyalty**	**3.56**	**188**	P			**Pn**	**12 10 16.3**	**-1.6**
YATNC	**Mamie plateau,**	**4.38**	**201**	P			**Pn**	**12 10 27.3**	**-1.4**
DZM	**Mont Dzumac**	**4.56**	**205**	P			**Pn**	**12 10 30.6**	**-0.5**
	9.9nm,0.3s,baz=170,slow=21,SNR=149								
DZM					S		**Sn**	**12 11 21.9**	**-2.0**
	19nm,0.3s,baz=332,slow=21,SNR=9.6								
DZM	**Mont Dzumac**	**4.56**	**205**				**Pn**	**12 10 30.9**	**-0.3**
PINNC	**Pines Island,**	**4.76**	**192**	P			**Pn**	**12 10 33.5**	**-0.2**
ONTNC	**Ouen Toro**	**4.77**	**204**	P			**Pn**	**12 10 34.5**	**+0.7**
CTA	**Charters Tower**	**21.18**	**261**	P			**P**	**12 13 58.9**	**+1.6**
	2.5nm,0.7s,baz=115,slow=14,SNR=5.6								
CTAO	**Charters Tower**	**21.18**	**261**	P			**P**	**12 13 59.9**	**+2.7**
CTAO					IAmb	IAmb		12 14 11.5	
	comp=Z,16nm,1.4s								
URZ	**Urewera**	**21.58**	**161**	P			**P**	**12 14 03.2**	**+1.9**
	comp=Z,2.9nm,0.8s,baz=308,slow=20,SNR=3.1								
URZ	**Urewera**	**21.58**	**161**	P			**P**	**12 14 03.1**	**+1.9**
BKZ	**Black Stump Fm**	**22.25**	**164**	P			**P**	**12 14 08.3**	**+0.2**
BKZ					IAmb	IAmb		12 14 20.4	
	comp=Z,11nm,1.2s								
PLWZ	**Palliser**	**24.24**	**168**	P			**P**	**12 14 27.5**	**+1.1**
RPZ	**Rata Peaks**	**25.78**	**176**	LR			LR	12 23 24.7	
	comp=Z,152nm,21.8s,baz=174,slow=32								
STKA	**Stephens Creek**	**28.01**	**235**	P			**P**	**12 15 01.4**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=44,slow=11,SNR=3.3								
STKA	**Stephens Creek**	**28.01**	**235**	P			**P**	**12 15 01.9**	**+1.4**
WR0	**Warramunga Arr**	**32.20**	**261**	P			**P**	**12 15 37.5**	**0.0**
WB0	**Warramunga Arr**	**32.34**	**261**	P			**P**	**12 15 38.2**	**-0.6**
WB0					IAmb	IAmb		12 15 44.1	
	comp=Z,7.4nm,1.4s								
WB2	**Warramunga Arr**	**32.38**	**261**	P			**P**	**12 15 37.9**	**-1.2**
WB2					IAmb	IAmb		12 15 51.7	
	comp=Z,4.0nm,1.1s								
WRA	**Warramunga Arr**	**32.39**	**261**	P			**P**	**12 15 38.6**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=98,slow=5.9,SNR=7.0								
WRA	**Warramunga Arr**	**32.39**	**261**	P			**P**	**12 15 38.6**	**-0.5**
AS31	**Alice Springs**	**32.83**	**254**	P			**P**	**12 15 43.1**	**+0.1**
ASAR	**Alice Springs**	**32.83**	**254**	P			**P**	**12 15 42.9**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=81,slow=8.8,SNR=30								
ASAR	**Alice Springs**	**32.83**	**254**	P			**P**	**12 15 43.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**40.73**	**263**	P			**P**	**12 16 48.0**	**-1.9**
ANA2	**Anatahan**	**40.82**	**325**	P			**P**	**12 16 49.3**	**-1.2**
QSPA	**South Pole Qui**	**72.11**	**180**	P			**P**	**12 20 31.4**	**+0.2**
QSPA					IAmb	IAmb		12 20 39.8	
	comp=Z,6.6nm,1.4s								
SONM	**Songino Array**	**85.79**	**323**	P			**P**	**12 21 46.0**	**0.0**
	comp=Z,0.4nm,0.8s,baz=126,slow=5.0,SNR=4.1								
SONM	**Songino Array**	**85.79**	**323**	P			**P**	**12 21 46.0**	**0.0**
SONM					IAmb	IAmb		12 22 01.8	
	comp=Z,1.3nm,1.4s								
NVAR	**Mina Array Bea**	**88.44**	**49**	P			**P**	**12 22 00.2**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=232,slow=7.0,SNR=3.5								
NVAR	**Mina Array Bea**	**88.44**	**49**	P			**P**	**12 21 58.4**	**-0.6**
ILAR	**Eielson Array**	**89.19**	**18**	P			**P**	**12 22 01.2**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=228,slow=6.7,SNR=1.5								
YKA	**Yellowknife Ar**	**99.82**	**27**	P			**Pdif**	**12 22 50.0**	**-0.3**
	comp=Z,0.1nm,0.7s,baz=259,slow=5.8,SNR=2.0								
ARCES	**ARCESS Array B**	**123.65**	**345**	PKP			**PKPdf**	**12 28 01.8**	**-0.8**
	comp=Z,4.8nm,0.9s,baz=49,slow=2.7,SNR=2.3								

*NAO **27** 12:21:04.5±1.0, 69°29N×30°71E, ML2.5*

*UPP **27** 12:21:05.2±2.5, 69°31N×30°86E, h0km, ML1.9, Suspected explosion*

*KOLA **27** 12:21:05.8, 69°33N×30°63E, h0km, ML2.4, Zapolyarny City, Mines*

*HEL **27** 12:21:06.9±0.5, 69°33N×30°44E, h0km, ML2.3, Explosion*

*BER **27** 12:21:06.8±2.8, 69°34N×30°78E, h0km, ML1.9, ML2.5(NAO), Suspected explosion*

ISC 27 12:21:03.9±1.3, **69°43N**±0°05×**30°80E**±0°05, **h0**km, **n33,** σ1°22/54, **Norway-Murmansk border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KEV	**Kevo**	**1.37**	**285**	*e*P			**Pb**	**12 21 30.3**	**0.0**
KEV					*e*S		**Sg**	**12 21 47.8**	**0.0**
KEV	**Kevo**	**1.37**	**285**	PG			**Pg**	**12 21 29.7**	**-0.4**
	baz=108								
KEV					MSG			12 21 45.5	
	comp=Z,40nm,0.2s								
KEV					SN		**Sb**	**12 21 48.5**	**+0.2**
VRF	**Varrio**

Ms1 3.9/26,ms1mx3.8/44,Error ellipse: s-maj=14.9km s-min=10.9km az=103.0

NIED ***27*** *12:32:14.6,37.2ˊ23Nˌ141.3ˊ38E,h24km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=8.55; $M_{\theta\theta}$=4.66; $M_{\phi\phi}$=3.89; $M_{r\theta}$=2.27; $M_{\theta\phi}$=3.89; $M_{r\phi}$=2.09; Fault plane solution: M_o=8.92000×10^{15} NP1: ϕ_s=228.00000°,δ=55.00000°,λ=-90.00000°. NP2:ϕ_s=48.00000°,δ=35.00000°,λ=-90.00000°.*

BJI ***27*** *12:32:14.7±0.0,37.2ˊ0Nˌ141.4ˊ0E,h15km,mB4.9/32, mb4.5/53,Ms4.5/47,Ms7 4.2/46*

JMA ***27*** *12:32:14.5±0.1,37.2ˊ23Nˌ141.3ˊ38E,h24km±1km,M4.9*

JMA Felt II J1.

MOS ***27*** *12:32:15.1±0.9,37.2ˊ22Nˌ141.2ˊ22E,h26km,mb4.9/56,Error ellipse: s-maj=6.9km s-min=4.6km az=108.9*

NEIC ***27*** *12:32:16.3±1.7,37.2ˊ23N±0.7ˊ04ˌ141.2ˊ28E±0.7ˊ07,h21km±4km, mb4.7/164,Error ellipse: s-maj=8.3km s-min=6.0km az=63.0*

ISC 27 12:32:15.0±0.6,37.2ˊ21N±0.7ˊ03ˌ141.2ˊ40E±0.7ˊ03,h16km±3km, n450,σ1$54/465,mb4.7/144,MS4.1/36,33C-17D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**290**	P		**Pg**		**12 32 23.0**	**-1.1**
JFK				*e*S		**Sg**		**12 32 29.3**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.50**	**257**	P		**Pg**		**12 32 23.9**	**-1.1**
ONAJ				*e*S		**Sg**		**12 32 30.9**	**-0.8**
JMST	**Minamisoumatoc**	**0.65**	**321**	P		**Pg**		**12 32 26.6**	**-1.3**
JMST				S		**Sg**		**12 32 35.6**	**-1.0**
JFFD	**Fukushimafurud**	**0.68**	**260**	P		**Pg**		**12 32 27.3**	**-1.1**
JFFD				*e*S		**Sg**		**12 32 36.4**	**-1.1**
JMM	**Marumori**	**0.81**	**324**	P		**Pb**		**12 32 29.3**	**-1.4**
JMM				S		**Sb**		**12 32 40.2**	**-1.3**
JMM	**Marumori**	**0.81**	**324**			**Pb**		**12 32 29.4**	**-1.4**
JHO	**Hitachi**	**0.90**	**228**	P		**Pb**		**12 32 30.2**	**-2.0**
JFT	**Otama**	**0.90**	**290**	P		**Pb**		**12 32 31.4**	**-0.9**
JFT				S		**Sb**		**12 32 43.5**	**-0.6**
JSB	**Shiboa**	**1.21**	**259**	P		**Pn**		**12 32 36.9**	**-0.4**
JIO	**Ouri**	**1.24**	**358**	P		**Pn**		**12 32 35.9**	**-1.8**
JYT	**Yasato**	**1.38**	**225**			**Pn**		**12 32 37.7**	**-1.9**
JSD	**Sado**	**2.63**	**289**			**Pn**		**12 32 56.6**	**-0.2**
MJAR	**Matsushiro Arr**	**2.65**	**256**	Pn		**Pn**		**12 32 56.0**	**-1.1**
	4.1nm,0.3s,baz=81,slow=16,SNR=90								
MJAR				Sn		**Sn**		**12 33 29.2**	**+0.4**
	4.7nm,0.3s,baz=85,slow=16,SNR=3.5								
MJAR	**Matsushiro Arr**	**2.65**	**256**	P		**Pn**		**12 32 56.0**	**-1.1**
MJAR	**Matsushiro Arr**	**2.65**	**256**			**Pn**		**12 32 56.7**	**-0.4**
MAJO	**Matsushiro**	**2.65**	**256**	*d* i P		**Pn**		**12 32 57.9**	**+0.8**
MAJO	**Matsushiro**	**2.65**	**256**			**Pn**		**12 32 57.8**	**+0.7**
MAT	**Matsushiro**	**2.65**	**256**	P		**Pn**		**12 32 57.5**	**+0.4**
MAT				*e*S		**Sn**		**12 33 27.5**	**-1.3**
MJB9	**Matsu-Tunnel**	**2.65**	**256**			**Pn**		**12 32 58.4**	**+1.3**
JTM	**Tenmabayashi**	**3.58**	**356**			**Pn**		**12 33 10.5**	**+0.7**
JSG	**Sagara**	**3.64**	**227**	Pn		**Pn**		**12 33 12.4**	**+1.7**
JGF	**Kuroka**	**3.64**	**245**			**Pn**		**12 33 11.8**	**+1.0**
INU	**Inuyama**	**4.00**	**244**			**Pn**		**12 33 16.6**	**+0.9**
JHJ2	**Mitsune**	**4.29**	**198**			**Pn**		**12 33 19.2**	**-0.4**
JHJ	**Hachijo jima 2**	**4.29**	**198**	Pn		**Pn**		**12 33 18.6**	**-1.0**
	30nm,0.3s,baz=319,slow=20,SNR=16								
JHJ				Sn		**Sn**		**12 34 10.6**	**+1.1**
	33nm,0.3s,baz=68,slow=19,SNR=2.5								
ERM	**Erimo**	**4.98**	**15**	*i* P		**Pn**		**12 33 29.9**	**+0.8**
ERM	**Erimo**	**4.98**	**15**	Pn		**Pn**		**12 33 29.3**	**+0.2**
JEM	**Erimo**	**4.98**	**15**	Pn		Pg		12 33 57.5	+7.1
JWT	**Wachi**	**5.22**	**250**	Pn		**Pn**		**12 33 34.1**	**+1.7**
JEW	**Eniwo**	**5.62**	**0**	Pn		**Pn**		**12 33 39.6**	**+1.7**
ASAJ	**Asahikawa**	**6.96**	**7**	Pn		**Pn**		**12 33 55.3**	**-0.9**
	2.8nm,0.3s,baz=206,slow=13,SNR=53								
ASAJ				Sn		**Sn**		**12 35 16.4**	**+1.5**
	1.7nm,0.3s,baz=225,slow=20,SNR=1.6								
ASAJ				LR		LR		12 36 37.4	
	comp=Z,603nm,18.6s,baz=240,slow=38								
JKA	**Kamikawa-asahi**	**6.96**	**7**	Pn		**Pn**		**12 33 57.5**	**+1.4**
NMR	**Nemuro--Hokkai**	**6.98**	**27**	⇑*i* P		**Pn**		**12 33 53.9**	**-2.6**
JMN	**Monobe**	**7.05**	**243**	Pn		**Pn**		**12 33 58.9**	**+1.3**
JHS	**Saijyo**	**7.06**	**254**	Pn		**Pn**		**12 33 59.3**	**+1.5**
GLVR	**Golovnino**	**7.23**	**24**	*e*P		**Pn**		**12 33 58.3**	**-1.7**
GLVR				*e*S		**Sn**		**12 35 16.8**	**-4.9**
GLVR				pmax		pmax			
	comp=Z,36nm,0.2s								
RUSJ	**Misakicho**	**7.48**	**22**	*e*P		**Pn**		**12 34 02.1**	**-1.2**
RUSJ				*e*S		**Sn**		**12 35 25.4**	**-2.3**
GRPR	**Tuman**	**7.54**	**25**	*e*P		**Pn**		**12 34 02.2**	**-2.0**
GRPR				*e*S		**Sn**		**12 35 24.8**	**-4.5**
GRPR				pmax		pmax			
	comp=Z,42nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**7.61**	**25**	*e*P		**Pn**		**12 34 03.4**	**-1.7**
YUK				*e*S		**Sn**		**12 35 26.4**	**-4.6**
YUK				pmax		pmax			
	comp=Z,143nm,1.1s								
YUK				pmax		pmax			
	comp=N,24nm,0.3s								
YUK				pmax		pmax			
	comp=Z,143nm,1.1s								
YUK				smax		smax			
	comp=E,208nm,0.9s								
YUK				smax		smax			
	comp=N,306nm,1.4s								
YUK				MLR		MLR			
	comp=Z,189nm,13.0s								
YUK				MLR		MLR			
	comp=N,109nm,11.0s								
YUK				MLR		MLR			
	comp=E,411nm,10.0s								
TEY	**Ternei**	**8.61**	**337**	⇑*e*P		Pn		12 34 27.3	+8.4
TEY				pmax		pmax			
	comp=N,20nm,1.0s								
TEY				pmax		pmax			
	comp=E,10.0nm,1.0s								
TEY				pmax		pmax			
	comp=Z,10.0nm,1.1s								
KUR	**Kuril'sk**	**9.37**	**29**	*e*P		**Pn**		**12 34 26.9**	**-2.4**
KUR				pmax		pmax			
	comp=Z,26nm,0.9s								
MSHR	**Mys Shultsa**	**9.52**	**307**	*e*P		**Pn**		**12 34 32.3**	**+0.9**
MSHR				pmax		pmax			
	comp=Z,94nm,1.0s								
JNU	**Nakatsue**	**9.53**	**248**	Pn		**Pn**		**12 34 33.0**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=55,slow=11,SNR=2.5								
JNU	**Nakatsue**	**9.53**	**248**			**Pn**		**12 34 32.3**	**+0.6**
YSS	**Yuzh-Sakhalins**	**9.79**	**5**	*e*P		**Pn**		**12 34 35.8**	**+0.8**
YSS				*e*S		**Sn**		**12 36 21.0**	**-3.4**
YSS				pmax		pmax			
	comp=Z,20nm,1.0s								
YSS				MLR		MLR			
	comp=Z,1μm,14.0s								
YSS				MLR		MLR			
	comp=N,2μm,16.0s								
YSS	**Yuzh-Sakhalins**	**9.79**	**5**	Pn		**Pn**		**12 34 35.9**	**+0.9**
USA0B	**Ussuriysk Arra**	**9.98**	**317**	P		**Pn**		**12 34 39.7**	**+2.0**
USA0B	**Ussuriysk Arra**	**9.98**	**317**	Pn		**Pn**		**12 34 39.7**	**+2.0**
USRK	**Ussuriysk Ar.**	**9.98**	**317**	Pn		**Pn**		**12 34 40.4**	**+2.7**
	baz=191,slow=13,SNR=12								
USRK				LR		LR		12 38 10.0	
	comp=N,1μm,19.3s,baz=134,slow=36								
JCJ	**Chichijima**	**10.11**	**176**	Pn		**Pn**		**12 34 37.3**	**-2.2**
	comp=N,6.8nm,0.3s,baz=283,slow=18,SNR=5.1								
JCJ				Sn		Sn		12 36 18.3	-14
	comp=N,7.3nm,0.3s,baz=320,slow=22,SNR=3.4								
JCJ				LR		LR		12 39 22.7	
	comp=N,292nm,18.2s,baz=358,slow=43								
JCJ	**Chichijima**	**10.11**	**176**	Pn		**Pn**		**12 34 38.0**	**-1.5**
KSRS	**Korea Array**	**10.74**	**275**	Pn		**Pn**		**12 34 52.6**	**+4.5**
	comp=N,0.2nm,0.3s,baz=91,slow=14,SNR=15								
KSRS				LR		LR		12 38 34.5	
	comp=N,494nm,21.6s,baz=82,slow=36								
KS19	**Wonju Array Si**	**10.78**	**276**	Pn		**Pn**		**12 34 46.8**	**-1.9**
TJN	**Taejon**	**11.29**	**270**	*e*P		**Pn**		**12 34 56.5**	**+0.9**
MDJ	**Mudanjiang**	**11.59**	**313**	P		**Pn**		**12 35 02.8**	**+3.1**
MDJ				pP				12 35 10.8	
MDJ				sP				12 35 15.5	
MDJ				S		**Sn**		**12 37 07.0**	**-1.7**
MDJ				pmax		pmax			
	comp=N,12nm,2.1s								
MDJ				pmax		pmax			
	comp=N,240nm,4.3s								
MDJ				LR		LR			
	comp=N,710nm,15.7s								
MDJ				LR		LR			
	comp=N,890nm,15.6s								
MDJ				LR		LR			
	comp=N,1μm,17.8s								

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MDJ	**Mudanjiang**	**11.59**	**313**	Pn		**Pn**		**12 34 58.4**	**-1.3**
INCN	**Inchon**	**11.76**	**276**	P		**Pn**		**12 35 05.9**	**+3.8**
INCN	**Inchon**	**11.76**	**276**	Pn		**Pn**		**12 35 05.9**	**+3.8**
TYV	**Tymovskoe**	**13.68**	**3**	*e*P		**Pn**		**12 35 30.8**	**+2.7**
TYV				*e*				12 38 06.4	
TYV				pmax		pmax			
	comp=Z,8.0nm,1.4s								
TYV				pmax		pmax			
	comp=Z,300nm,3.4s								
TYV				MLR		MLR			
	comp=Z,800nm,18.0s								
CN2	**Changchun**	**13.80**	**303**	*e*P		**Pn**		**12 35 30.3**	**+0.4**
CN2				*e*PP		**P**		**12 35 41.5**	**+3.2**
CN2				*e*S		**Sn**		**12 38 02.5**	**-0.2**
CN2				*e*SS		**SnSn**		**12 38 18.3**	**+3.4**
CN2				pmax		pmax			
	comp=Z,10.0nm,1.1s								
CN2				LR		LR			
	comp=Z,730nm,14.0s								
CN2				LR		LR			
	comp=Z,830nm,14.0s								
CN2				LR		LR			
	comp=Z,880nm,16.0s								
KLR	**Kul'dur**	**13.90**	**333**	Pn		**Pn**		**12 35 34.9**	**+3.6**
	comp=Z,0.1nm,0.3s,baz=156,slow=11,SNR=3.7								
KLR				LR		LR		12 40 44.8	
	comp=Z,775nm,18.7s,baz=141,slow=37								
KLR	**Kul'dur**	**13.90**	**333**	*c i* P		**P**		**12 35 35.7**	**-3.7**
GRNR	**Gornyy**	**14.01**	**347**	*e*P		Pn		12 35 19.7	-13
GRNR				MLR		MLR			
	comp=E,270nm,13.0s								
GRNR				MLR		MLR			
	comp=N,290nm,18.0s								
GRNR				MLR		MLR			
	comp=Z,440nm,18.0s								
SNY	**Shenyang**	**14.51**	**294**	⇑P		**P**		**12 35 49.8**	**+3.7**
SNY				S		**S**		**12 38 33.8**	**-5.6**
SNY				pmax		pmax			
	comp=Z,11nm,0.7s								
SNY				LR		LR			
	comp=N,690nm,12.1s								
SNY				LR		LR			
	comp=E,800nm,16.3s								
SNY				LR		LR			
	comp=Z,1μm,15.4s								
DL2	**Dalian**	**15.67**	**282**	*e*P		**P**		**12 36 05.5**	**+6.4**
DL2				S		**S**		**12 39 04.3**	**+1.0**
DL2				pmax		pmax			
	comp=Z,33nm,1.0s								
DL2				pmax		pmax			
	comp=Z,200nm,5.8s								
DL2				LR		LR			
	comp=N,640nm,11.7s								
DL2				LR		LR			
	comp=E,530nm,14.2s								
DL2				LR		LR			
	comp=Z,560nm,13.2s								
OKH	**Okha**	**16.37**	**3**	*d e*P		Pn		12 35 55.7	-8.2
OKH				MLR		MLR			
	comp=N,400nm,13.0s								
OKH				MLR		MLR			
	comp=E,700nm,13.0s								
OKH				MLR		MLR			
	comp=Z,300nm,12.0s								
SKR	**Severo-Kuril's**	**17.09**	**33**	*e*P		**P**		**12 36 14.0**	**-0.7**
ZEA	**Zeya**	**19.21**	**334**	*e*P		**P**		**12 36 38.1**	**0.0**
ZEA				pmax		pmax			
	comp=Z,20nm,1.1s								
ZEA				MLR		MLR			
	comp=N,400nm,16.0s								
ZEA				MLR		MLR			
	comp=Z,300nm,16.0s								
NJ2	**Nanjing**	**19.24**	**261**	*e*P		**P**		**12 36 37.8**	**-0.8**
NJ2				pmax		pmax			
	comp=Z,13nm,0.5s								
TIA	**Tai'an**	**19.48**	**274**	P		**Pn**		**12 36 43.0**	**+0.5**
TIA				S		**S**		**12 40 26.8**	**+6.0**
TIA				pmax		pmax			
	comp=Z,17nm,1.3s								
TIA				LR		LR			
	comp=Z,540nm,12.6s								
TIA				LR		LR			
	comp=Z,420nm,15.0s								
TIA				LR		LR			
	comp=Z,560nm,14.7s								
PETK	**Petropavlovsk-**	**19.54**	**30**	P		**Pn**		**12 36 44.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=219,slow=8.2,SNR=3.6								
PETK				LR		LR		12 45 14.1	
	comp=Z,77nm,19.5s,baz=223,slow=40								
HIA	**Hailar**	**19.77**	**314**	P		**P**		**12 36 44.5**	**+0.2**
HIA				pmax		pmax			
	comp=Z,9.0nm,0.9s								
HIA	**Hailar**	**19.77**	**314**			**P**		**12 36 44.5**	**+0.2**
PET	**Petropavlovsk**	**19.87**	**32**	*d i* P		**P**		**12 36 44.9**	**-0.3**
PET				pmax		pmax			
	comp=Z,221nm,1.7s								
BJI	**Beijing**	**19.89**	**286**	P		**Pn**		**12 36 47.0**	**-0.3**
BJI				pmax		pmax			
	comp=Z,11nm,0.9s								
BJI				LR		LR			
	comp=Z,560nm,13.1s								
BJI				LR		LR			
	comp=Z,240nm,13.2s								
BJT	**Baijiatuan**	**19.90**	**286**	P		**P**		**12 36 43.7**	**-2.0**
BJT				pmax		pmax			
	comp=Z,9.0nm,0.8s								
BJT	**Baijiatuan**	**19.90**	**286**	P		**P**		**12 36 43.7**	**-2.0**
TPUB	**Ta-pu**	**22.61**	**238**	P		**P**		**12 37 11.6**	**-3.5**
TPUB				IAmb		IAmb		12 37 26.6	
	comp=Z,34nm,1.0s								
MA2	**Magadan**	**23.18**	**12**	P		**P**		**12 37 21.1**	**+0.4**
	comp=Z,13nm,0.8s,baz=196,slow=6.0,SNR=12								
MA2				LR		LR		12 47 16.1	
	comp=Z,117nm,19.1s,baz=204,slow=39								
MA2	**Magadan**	**23.18**	**12**	*d i* P		**P**		**12 37 20.1**	**-0.6**
MA2				pmax		pmax			
	comp=Z,17nm,0.9s								
MA2	**Magadan**	**23.18**	**12**	P		**P**		**12 37 21.0**	**+0.4**
MA2				IAmb		IAmb		12 37 34.3	
	comp=Z,38nm,1.1s								
HHC	**Hu-ho-hao-te**	**23.41**	**288**	*e*P		**P**		**12 37 24.0**	**+0.7**
HHC				pmax		pmax			
	comp=Z,10.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,94nm,5.6s								
HHC				LR		LR			
	comp=Z,620nm,11.9s								
HHC				LR		LR			
	comp=Z,470nm,11.5s								
HHC				LR		LR			
	comp=Z,380nm,10.6s								
YAK	**Yakutsk**	**25.89**	**347**	P		**P**		**12 37 45.2**	**-0.6**
	comp=Z,4.8nm,0.3s,baz=124,slow=1.5,SNR=1.4								
YAK				S		**S**		**12 42 13.1**	**-1.8**
	comp=Z,2.9nm,0.4s,baz=87,slow=1.7,SNR=1.2								
YAK				LR		LR		12 48 07.0	
	comp=Z,460nm,18.8s,baz=120,slow=37								
YAK	**Yakutsk**	**25.89**	**347**	*e*P		**P**		**12 37 46.9**	**+1.1**
YAK				*e**PP		**sP**		**12 37 55.7**	**+2.9**
YAK				*e*				12 38 25.2	
YAK				*e*S		**S**		**12 42 13.0**	**-1.9**
YAK				*e*SS		**SnSn**		**12 43 16.0**	**+4.6**
YAK				pmax		pmax			
	comp=Z,27nm,1.2s								
YAK				pmax		pmax			
	comp=N,11nm,1.1s								
YAK				pmax		pmax			
	comp=E,3.0nm,1.1s								
YAK				pmax		pmax			
	comp=Z,7.0nm,0.3s								
YAK				smax		smax			
	comp=E,29nm,1.5s								
YAK				smax		smax			
	comp=N,60nm,1.9s								
YAK				MLR		MLR			
	comp=Z,518nm,16.0s								
YAK				MLR		MLR			
	comp=E,162nm,13.0s								
YAK				MLR		MLR			
	comp=N,184nm,15.0s								
YAK	**Yakutsk**	**25.89**	**347**	P		**P**		**12 37 45.2**	**-0.6**
SEY	**Seymchan**	**26.62**	**11**	P		**P**		**12 37 52.7**	**+0.4**
	comp=N,17nm,1.0s,baz=196,slow=8.2,SNR=23								
ULN	**Ulaanbaatar**	**27.25**	**304**	*d i* P		**P**		**12 37 58.4**	**0.0**
ULN				pmax		pmax			
	comp=Z,5.0nm,1.0s								

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ULN	**Ulaanbaatar**	**27.25**	**304**	P		**P**		**12 37 57.6**	**-0.8**
BOD	**Bodaibo**	**27.37**	**328**	*e*P		**P**		**12 37 58.3**	**-0.9**
BOD				pmax		pmax			
	comp=Z,11nm,2.2s								
SONM	**Songino Array**	**27.68**	**304**	P		**P**		**12 38 01.6**	**-0.7**
	comp=Z,7.5nm,0.9s,baz=106,slow=9.0,SNR=25								
SONM				PcP		**PcP**		**12 41 19.9**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=187,slow=2.5,SNR=3.7								
SONM				LR		LR		12 50 18.3	
	comp=Z,206nm,18.1s,baz=92,slow=39								
SONM	**Songino Array**	**27.68**	**304**	P		**P**		**12 38 02.6**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T		T		13 07 42.7	
	baz=314,slow=75,SNR=2266								
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T		T		13 07 38.7	
	baz=314,slow=75,SNR=1885								
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T		T		13 07 39.5	
	baz=314,slow=75,SNR=2182								
H11S1	**WAKE ISLAND Hy**	**28.96**	**123**	T		T		13 08 32.1	
	baz=316,slow=76,SNR=768								
H11S3	**WAKE ISLAND Hy**	**28.96**	**123**	T		T		13 08 33.9	
	baz=316,slow=76,SNR=709								
H11S2	**WAKE ISLAND Hy**	**28.98**	**123**	T		T		13 08 35.1	
	baz=316,slow=76,SNR=781								
LZH	**Lanzhou**	**30.03**	**279**	*e*P		**P**		**12 38 24.0**	**+0.7**
LZH				pP		sP		12 38 33.0	+2.7
LZH				sP		pP		12 38 37.0	+8.7
LZH				pmax		pmax			
	comp=Z,13nm,1.2s								
LZH				LR		LR			
	comp=Z,570nm,14.6s								
LZH				LR		LR			
	comp=Z,680nm,13.8s								
LZH				LR		LR			
	comp=Z,470nm,15.7s								
ZAK	**Zakamensk**	**30.15**	**308**	*e*P		**P**		**12 38 23.4**	**-0.8**
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.2s								
TLY	**Talaya**	**30.21**	**311**	*e*P		**P**		**12 38 25.7**	**+1.1**
TLY				*e*S		**S**		**12 43 26.6**	**+3.5**
TLY				*e*SS		**ScP**		**12 45 12.2**	**+5.5**
TLY				pmax		pmax			
	comp=Z,17nm,1.0s								
TLY				MLR		MLR			
	comp=Z,898nm,14.0s								
TLY	**Talaya**	**30.21**	**311**	P		**P**		**12 38 23.9**	**-0.7**
GYA	**Guiyang**	**31.24**	**260**	*e*P		P		12 38 41.5	+7.4
GYA				pmax		pmax			
	comp=Z,12nm,1.0s								
GYA				LR		LR			
	comp=Z,220nm,14.8s								
CD2	**Chengdu**	**31.66**	**270**	*e*P		**P**		**12 38 38.8**	**+1.1**
CD2				LR		LR			
	comp=Z,730nm,11.3s								
CD2				LR		LR			
	comp=Z,450nm,14.2s								
CD2				LR		LR			
	comp=Z,520nm,12.9s								
GTA	**Gaotai**	**32.50**	**287**	*e*P		**P**		**12 38 45.0**	**0.0**
GTA				pP		sP		12 38 54.5	+2.5
GTA				sP		pP		12 38 58.3	+8.3
GTA				S		**S**		**12 43 52.5**	**-7.0**
GTA				pmax		pmax			
	comp=Z,3.0nm,0.6s								
GTA				pmax		pmax			
	comp=Z,56nm,5.8s								
GTA				LR		LR			
	comp=Z,260nm,16.7s								
GTA				LR		LR			
	comp=Z,130nm,17.5s								
GTA				LR		LR			
	comp=Z,210nm,18.9s								
QIZ	**Qiongzhong**	**32.99**	**245**	P		**P**		**12 38 49.0**	**-0.4**
QIZ				S		**S**		**12 44 06.5**	**-0.7**
QIZ				LR		LR			
	comp=Z,270nm,17.6s								
QIZ				LR		LR			
	comp=Z,350nm,15.7s								
QIZ				LR		LR			
	comp=Z,190nm,27.0s								
BILL	**Bilibino**	**33.86**	**16**	*d i* P		**P**		**12 38 56.6**	**+0.2**
BILL				*i*				12 39 07.0	
BILL				*e*				12 40 07.9	
BILL				*e*SS		SS		12 46 25.6	-20
BILL				pmax		pmax			
	comp=Z,9.0nm,1.6s								
BILL				MLR		MLR			
	comp=Z,103nm,16.0s								
BILL	**Bilibino**	**33.86**	**16**	P		**P**		**12 38 57.0**	**+0.6**
BILL				IAmb		IAmb		12 39 21.9	
	comp=Z,12nm,1.5s								
KMI	**Kunming**	**34.98**	**261**	⇓P		**P**		**12 39 07.8**	**+1.0**
KMI				pP		sP		12 39 13.0	-0.8
KMI				pmax		pmax			
	comp=Z,15nm,0.5s								
KMI				LR		LR			
	comp=Z,270nm,9.1s								
KMI				LR		LR			
	comp=Z,130nm,10.4s								
KMI				LR		LR			
	comp=Z,190nm,14.2s								
TIXI	**Tiksi**	**35.11**	**353**	⇑*i* P		**P**		**12 39 06.7**	**-0.4**
TIXI				pmax		pmax			
	comp=Z,15nm,0.9s								
TIXI	**Tiksi**	**35.11**	**353**	P		**P**		**12 39 07.0**	**-0.1**
SPIA	**Saint Paul Isl**	**37.44**	**42**	P		**P**		**12 39 28.4**	**+1.2**
MYLDM	**Lahad Datu**	**38.15**	**219**	P		**P**		**12 39 34.3**	**+0.7**
DGZ	**Jazzator, Alta**	**40.28**	**306**	*c* i P		**P**		**12 39 52.4**	**+1.1**
DGZ				*i* *PP		**pP**		**12 39 56.0**	**-0.4**
DGZ				pmax		pmax			
	comp=Z,13nm,0.9s								
TNA	**Tin City**	**40.70**	**30**	P				12 39 57.4	
	baz=251								
WMQ	**Urumqi**	**40.75**	**297**	*e*P		**P**		**12 39 56.5**	**+1.3**
WMQ				pP		pP		12 40 00.5	+0.3
WMQ				pmax		pmax			
	comp=Z,14nm,1.5s								
WMQ				pmax		pmax			
	comp=Z,80nm,3.9s								
WMQ				LR		LR			
	comp=Z,880nm,17.7s								
WMQ				LR		LR			
	comp=Z,250nm,17.7s								
WMQ				LR		LR			
	comp=Z,220nm,17.7s								
FAKI	**Fak Fak**	**40.83**	**194**	P		**P**		**12 39 56.8**	**+0.9**
FAKI				IAmb		IAmb		12 40 00.7	
	comp=Z,15nm,0.9s								

SHL IAmb IAmb 12 40 35.1
comp=Z,12nm,0.9s
SBUM Sibu 43.78 225 P **P** **12 40 19.3 -0.8**
SBUM IAmb IAmb 12 40 25.3
comp=Z,19nm,1.1s
MK31 Makanchi Array 44.02 302 P **P** **12 40 21.0 -0.7**
MK31 pmax pmax
comp=Z,15nm,0.9s
MK31 Makanchi Array 44.02 302 P **P** **12 40 21.0 -0.7**
MK31 IAmb IAmb 12 40 31.7
comp=Z,15nm,0.8s
MKAR Makanchi Array 44.02 302 P **P** **12 40 21.5 -0.2**
comp=Z,6.1nm,0.8s,baz=88,slow=10.0,SNR=37
MKAR PcP **PcP** **12 42 07.0 0.0**
comp=Z,2.0nm,0.9s,baz=68,slow=5.4,SNR=2.3
MKAR LR LR 12 58 58.1
comp=Z,121nm,20.3s,baz=76,slow=37
MKAR Makanchi Array 44.02 302 P **P** **12 40 21.1 -0.6**
MAKZ Makanchi 44.23 302 P **P** **12 40 23.3 -0.1**
MAKZ pmax pmax
comp=Z,19nm,1.0s
MAKZ Makanchi 44.23 302 P **P** **12 40 23.3 -0.1**
MAKZ IAmb IAmb 12 40 33.5
comp=Z,19nm,1.0s
SEM Semipalatinsk 44.83 307 *e*P **P** **12 40 27.3 -1.0**
comp=Z,4.9nm,1.3s,baz=307
SEM Semipalatinsk 44.83 307 *e*P **P** **12 40 27.3 -1.0**
SEM pmax pmax
comp=Z,5.0nm,1.3s
KSM Kuching 45.67 226 P **P** **12 40 34.7 -0.4**
A21K Barrow 46.30 23 P **P** **12 40 40.7 +1.4**
A21K Barrow 46.30 23 P 12 40 41.5
baz=257
ODAN Odare 46.39 273 *e*P **P** **12 40 41.1 0.0**
comp=Z,68nm,1.2s
IMAR Indian Mountai 46.50 31 P **P** **12 40 42.4 +1.3**
KAPI Kappang 46.61 210 P **P** **12 40 42.9 +0.4**
KAPI pmax pmax
comp=Z,72nm,1.2s
KAPI Kappang 46.61 210 P **P** **12 40 42.9 +0.4**
PMG Port Moresby 46.69 172 *c i*P **P** **12 40 39.4 -3.6**
PMG pmax pmax
comp=Z,15nm,1.1s
SHLS Shalkode 46.75 298 *e*P **P** **12 40 40.8 -2.7**
baz=297
SHLS Shalkode 46.75 298 *e*P **P** **12 40 40.8 -2.7**
RSO Redoubt South 46.77 38 P **P** **12 40 45.2 +1.7**
RAMN Ramite 46.98 274 *e*P **P** **12 40 45.9 +0.2**
comp=Z,35nm,0.8s
CHUM Lake Minchumin 46.99 34 P 12 40 47.7
baz=268
JIRN Jiri 46.99 275 *e*P **P** **12 40 45.9 0.0**
comp=Z,58nm,1.0s
SPCR Spurr Chakacha 47.02 37 P 12 40 46.7
baz=271
PPLA Purkeypile 47.03 35 P 12 40 45.6
baz=270
UZB Uzynbulak 47.06 298 *e*P **P** **12 40 45.8 -0.2**
baz=297
UZB Uzynbulak 47.06 298 *e*P **P** **12 40 45.8 -0.2**
GUN Gumba 47.13 275 *e*P **P** **12 40 47.2 +0.3**
comp=Z,84nm,1.3s
BPAW Bear Paw Mtn. 47.58 33 P 12 40 51.8
baz=270
PKI Pulchoki 47.65 275 *e*P **P** **12 40 50.7 -0.3**
comp=Z,48nm,1.3s
PKIN Phulchoki 47.66 275 *e*P **P** **12 40 50.8 -0.2**
comp=Z,54nm,1.4s
MLY Manley 47.70 32 P **P** **12 40 49.8 -0.7**
MLY IAmb IAmb 12 40 54.3
comp=Z,13nm,1.3s
MLY Manley 47.70 32 P 12 40 53.3
baz=269,SNR=5.4
COLD Coldfoot 48.00 29 P **P** **12 40 54.7 +2.0**
COLD Coldfoot 48.00 29 P 12 40 54.2
baz=267
GKN Gorkha 48.08 276 *e*P **P** **12 40 54.2 +0.1**
comp=Z,89nm,1.1s
I23K Minto, Yukon-K 48.29 32 P **P** **12 40 56.7 +1.8**
I23K IAmb IAmb 12 40 58.3
comp=Z,16nm,1.5s
I23K Minto, Yukon-K 48.29 32 P 12 40 57.3
baz=270
CHKK Chushkaly 48.30 299 *e*P **P** **12 40 54.7 -0.8**
baz=299
CHKK Chushkaly 48.30 299 *e*P **P** **12 40 54.7 -0.8**
TOLK Toolik Lake Re 48.31 27 P **P** **12 40 57.3 +2.1**
TOLK IAmb IAmb 12 40 58.3
comp=Z,12nm,1.2s
TOLK Toolik Lake Re 48.31 27 P 12 40 57.5
baz=267
NEA2 Nenana 48.41 33 P **P** **12 40 58.1 +2.1**
NEA2 Nenana 48.41 33 P 12 40 58.2
baz=271,SNR=6.4
SEW Seward 48.43 39 P **P** **12 40 56.4 +0.3**
MDOK Medeo 48.45 298 *e*P **P** **12 40 55.1 -1.7**
baz=298
MDOK Medeo 48.45 298 *e*P **P** **12 40 55.9 -0.9**
MCK McKinley 48.49 34 P **P** **12 40 57.8 +1.2**
MCK pmax pmax
comp=Z,14nm,1.2s
MCK McKinley 48.49 34 P **P** **12 40 57.8 +1.2**
MCK IAmb IAmb 12 40 58.9
comp=Z,14nm,1.2s
MCK McKinley 48.49 34 P 12 40 58.4
baz=272
AAA Alma-Ata 48.53 298 *e*P **P** **12 40 56.3 -1.0**
baz=298
AAA Alma-Ata 48.53 298 *e*P **P** **12 40 56.3 -1.0**
RND Reindeer 48.53 34 P **P** **12 40 57.6 +0.6**
RND pmax pmax
comp=Z,17nm,1.3s
RND Reindeer 48.53 34 P **P** **12 40 57.6 +0.6**
RND IAmb IAmb 12 41 17.2
comp=Z,17nm,1.3s
GHO Glory Hole Cre 48.57 36 P **P** **12 40 57.3 0.0**
WAT2 Susitna Watana 48.67 35 P 12 40 58.8
baz=273
KUU Kurty 48.75 299 *e*P **P** **12 40 58.2 -0.7**
comp=Z,6.7nm,1.5s,baz=299
KUU Kurty 48.75 299 *e*P **P** **12 40 58.2 -0.7**
KUU pmax pmax
comp=Z,7.0nm,1.5s
MDM Murphy Dome 48.77 32 P **P** **12 40 58.6 -0.1**
SML Sawmill 48.85 36 P **P** **12 41 01.4 +2.0**
CCB Clear Creek Bu 48.96 33 P **P** **12 40 59.6 -0.5**
POKR Poker Plat Res 49.10 32 P **P** **12 41 02.7 +1.4**
POKR Poker Plat Res 49.10 32 P 12 41 04.0
baz=272
SCM Sheep Creek Mo 49.33 36 P **P** **12 41 04.1 +1.0**
SCM pmax pmax
comp=Z,31nm,1.3s
SCM Sheep Creek Mo 49.33 36 P **P** **12 41 04.1 +1.0**
HDA Harding Lake 49.34 33 P 12 41 04.3
baz=273,SNR=6.3
HDA P 12 41 04.3
baz=273,SNR=6.3
IL31 49.35 32 P **P** **12 41 04.3 +1.2**
IL31 IAmb IAmb 12 41 05.1
comp=Z,9.6nm,1.1s
ILAR Eielson Array 49.35 32 P **P** **12 41 03.9 +0.8**
comp=Z,4.2nm,0.9s,baz=270,slow=6.0,SNR=37
ILAR Eielson Array 49.35 32 P **P** **12 41 03.2 +0.1**
ILAR Eielson Array 49.35 32 P **P** **12 41 03.2 +0.1**
SOEI Soe 49.41 202 P **P** **12 41 04.6 +0.3**
BRZS Berezniki 49.69 308 *e*P **P** **12 41 05.3 -0.7**
baz=308
BRZS Berezniki 49.69 308 *e*P **P** **12 41 05.3 -0.7**
BTLS Baital 50.01 301 *e*P **P** **12 41 07.9 -0.6**
baz=301
BTLS Baital 50.01 301 *e*P **P** **12 41 07.9 -0.6**
KLU Klutina 50.03 37 P **P** **12 41 09.4 +1.0**
BMAR Burnt Mountain 50.18 29 P **P** **12 41 12.1 +2.6**
KSH Kashi 50.33 294 P **P** **12 41 15.3 +4.2**
KSH pP sP 12 41 24.3 +6.1
KSH S **S** **12 48 26.0 +2.6**
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH pmax pmax
comp=Z,210nm,4.2s
KSH LR LR
comp=Z,650nm,13.3s
KSH LR LR
comp=Z,940nm,16.2s
KSH LR LR
comp=Z,940nm,12.4s

AAK Ala-Archa 50.40 298 *c i*P **P** **12 41 11.8 +0.2**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 50.40 298 P **P** **12 41 11.9 +0.2**
BRVK Borovoye 50.50 312 *c i*P **P** **12 41 12.3 +0.2**
BRVK pmax pmax
comp=Z,7.0nm,1.5s
BRVK Borovoye 50.50 312 P **P** **12 41 12.4 +0.3**
BRVK IAmb IAmb 12 41 22.0
comp=Z,12nm,0.9s
SCRK Sand Creek 50.66 33 P **P** **12 41 14.5 +1.2**
SCRK IAmb IAmb 12 41 15.5
comp=Z,12nm,1.1s
SCRK Sand Creek 50.66 33 P 12 41 14.5
baz=276,SNR=6.1
BMRM Bremner River 50.72 37 P 12 41 15.4
baz=278
K27K Chicken 51.49 33 P **P** **12 41 21.5 +2.1**
K27K Chicken 51.49 33 P 12 41 21.9
baz=277,SNR=5.7
L27K Beaver Creek, 51.73 34 P **P** **12 41 23.8 +2.6**
L27K IAmb IAmb 12 41 24.5
comp=Z,14nm,1.1s
L27K Beaver Creek, 51.73 34 P 12 41 23.5
baz=278,SNR=6.7
BCAR Beaver Creek A 51.75 34 P **P** **12 41 23.5 +2.1**
EGAK Eagle 51.79 32 P 12 41 22.6
baz=278
KKAR Karatay Array 53.03 300 P **P** **12 41 29.9 -1.2**
KKAR pmax pmax
comp=Z,18nm,1.2s
KKAR Karatay Array 53.03 300 P **P** **12 41 30.5 -0.6**
KKAR Karatay Array 53.03 300 P **P** **12 41 29.9 -1.2**
KKAR IAmb IAmb 12 41 41.6
comp=Z,18nm,1.1s
EPYK Eagle Plains 53.38 30 P 12 41 35.6
baz=280,SNR=12
IUG luzhnay 53.68 299 *e*P **P** **12 41 35.5 -0.5**
baz=299
IUG luzhnay 53.68 299 *e*P **P** **12 41 35.5 -0.5**
GSI Gunungsitoli 53.88 239 P **P** **12 41 38.0 +0.3**
INK Inuvik 54.23 27 P **P** **12 41 40.4 +0.9**
INK pmax pmax
comp=Z,12nm,1.4s
INK Inuvik 54.23 27 P **P** **12 41 40.4 +0.9**
INK IAmb IAmb 12 41 54.1
comp=Z,12nm,1.4s
SVE Sverdlovsk 55.01 319 *e*P **P** **12 41 46.0 +0.7**
WHY Whitehorse 55.45 36 IAmb IAmb 12 41 52.1
comp=Z,14nm,1.1s
ARU Arti 56.22 318 *c i*P **P** **12 41 54.1 +0.1**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU Arti 56.22 318 P **P** **12 41 53.4 -0.6**
WB0 Warramunga Arr 57.06 188 P **P** **12 42 00.6 +0.2**
WB0 IAmb IAmb 12 42 07.3
comp=Z,9.8nm,0.9s
WRAB Tennant Creek 57.23 188⇑ *i*P **P** **12 42 01.5 0.0**
WRAB pmax pmax
comp=Z,24nm,3.1s
WR0 Warramunga Arr 57.23 188 P **P** **12 42 01.6 +0.1**
WR0 IAmb IAmb 12 42 12.8
comp=Z,7.5nm,1.0s
WB2 Warramunga Arr 57.24 188 P **P** **12 42 01.4 -0.2**
WB2 IAmb IAmb 12 42 05.5
comp=Z,11nm,1.1s
WRA Warramunga Arr 57.24 188 P **P** **12 42 00.9 -0.7**
comp=Z,4.1nm,0.7s,baz=5.3,slow=7.3,SNR=32
WRA PcP **PcP** **12 42 53.6 -2.3**
comp=Z,1.6nm,0.7s,baz=359,slow=6.3,SNR=1.2
WRA LR LR 13 03 42.3
comp=Z,29nm,21.9s,baz=215,slow=33
WRA Warramunga Arr 57.24 188 P **P** **12 42 01.2 -0.4**
C36M Paulatuk 57.27 25 P **P** **12 42 02.3 +1.1**
C36M IAmb IAmb 12 42 06.5
comp=Z,6.3nm,0.9s
C36M Paulatuk 57.27 25 P 12 42 03.0
baz=289
KBL Kabul 57.34 291 P **P** **12 42 02.6 -0.1**
KBL pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 57.34 291 P **P** **12 42 02.5 -0.1**
KBL IAmb IAmb 12 42 14.6
comp=Z,9.9nm,0.9s
ABKAR Akbulak array 57.82 310 P **P** **12 42 04.5 -0.9**
EUNU Eureka 60.01 9 P **P** **12 42 21.2 +0.9**
EUNU IAmb IAmb 12 42 22.2
comp=Z,5.0nm,0.8s
PRGR Permogore 60.61 327 *e*P **P** **12 42 24.4 -0.2**
ASAR Alice Springs 60.97 188 P **P** **12 42 27.3 -0.1**
comp=Z,2.1nm,0.8s,baz=9.6,slow=4.8,SNR=21
ASAR LR LR 13 06 43.4
comp=Z,49nm,21.8s,baz=345,slow=34
ASAR Alice Springs 60.97 188 P **P** **12 42 27.6 +0.2**
RES Resolute Bay 62.43 14 P **P** **12 42 37.0 +0.3**
RES pmax pmax
comp=Z,4.0nm,1.0s
RES Resolute Bay 62.43 14 P **P** **12 42 37.0 +0.3**
DZM Mont Dzumac 63.52 154 *e*LR LR 13 01 47.4
comp=Z,191nm,21.7s
KLMR Klimovskoe 63.60 328 *e*P **P** **12 42 42.6 -2.0**
KLMR pmax pmax
comp=Z,18nm,1.2s
KLMR Klimovskoe 63.60 328 *e*P **P** **12 42 42.7 -1.9**
KLMR AMP 12 42 49.2
comp=Z,18nm,1.2s
YKA Yellowknife Ar 63.66 30 P **P** **12 42 45.6 +0.6**
comp=Z,0.3nm,0.7s,baz=302,slow=6.2,SNR=4.3
GEYT Alibeck 63.74 299 P **P** **12 42 44.8 -1.3**
comp=Z,3.1nm,0.7s,baz=101,slow=4.6,SNR=4.7
GEYT LR LR 13 11 45.9
comp=Z,77nm,18.4s,baz=50,slow=37
GEYT Alibeck 63.74 299 P **P** **12 42 46.5 +0.5**
ARCES ARCESS Array B 63.83 339 P **P** **12 42 45.4 -0.6**
comp=Z,5.4nm,0.9s,baz=52,slow=8.6,SNR=9.1
ARCES LR LR 13 15 49.7
comp=Z,93nm,18.6s,baz=50,slow=41
D03D Eldon 66.99 47 P 12 43 09.9
baz=300
MOS Moscow 67.10 323 *e*P **P** **12 43 07.0 -0.4**
OBN Obninsk 67.95 323 *e*P **P** **12 43 12.3 -0.4**
OBN *i* 12 43 16.1
OBN *e* 12 43 35.1
OBN *e* 12 45 48.5
OBN pmax pmax
comp=Z,32nm,1.3s
OBN MLR MLR
comp=Z,133nm,15.0s
FINES FINESS Array B 68.65 332 P **P** **12 43 15.6 -1.4**
comp=Z,11nm,0.8s,baz=67,slow=6.4,SNR=20
FINES LR LR 13 15 30.3
comp=Z,166nm,18.3s,baz=7.5,slow=38
FINES FINESS Array B 68.65 332 P **P** **12 43 16.9 -0.1**
B08A Colville Reser 68.72 45 P **P** **12 43 18.1 +0.3**
B08A IAmb IAmb 12 43 20.4
comp=Z,9.8nm,1.2s
STKA Stephens Creek 68.73 180 P **P** **12 43 17.4 -0.4**
comp=Z,2.9nm,0.8s,baz=359,slow=8.4,SNR=6.3
STKA LR LR 13 15 50.6
comp=Z,34nm,18.1s,baz=9.2,slow=38
STKA Stephens Creek 68.73 180 P **P** **12 43 18.8 +1.0**
FORT Forrest 68.78 192 P **P** **12 43 19.4 +1.3**
AKT Akhty 68.96 307 *e*P **P** **12 43 19.1 -0.4**
AKT *e* 12 43 45.2
AKT *e* 12 45 50.7
AKT pmax pmax
comp=Z,16nm,1.0s
H04A Detroit Lake 69.00 49 P **P** **12 43 20.3 +0.7**
H04A IAmb IAmb 12 43 22.6
comp=Z,7.8nm,0.9s
I04A Tendick Farm, 69.33 50 P 12 43 24.4
baz=302
I05D Terrebonne, OR 69.69 49 P 12 43 26.5
baz=303
GOF Gofitskoye 69.97 312⇑ *e*P **P** **12 43 29.7 +4.2**
NEW Newport 70.01 44 P **P** **12 43 27.3 +1.5**
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 70.01 44 P **P** **12 43 27.2 +1.5**
NEW IAmb IAmb 12 43 31.4
comp=Z,4.8nm,0.9s
NEW Newport 70.01 44 P 12 43 27.3
baz=304
PINE Pine Mountain 70.23 50 P **P** **12 43 29.8 +2.3**
L04D Klamath Falls 70.24 52 P 12 43 30.0
baz=303
YBH Yreka Blue Hor 70.24 52 P **P** **12 43 30.1 +2.7**
YBH pmax pmax
comp=Z,9.0nm,1.2s
YBH Yreka Blue Hor 70.24 52 P **P** **12 43 30.1 +2.7**
YBH IAmb IAmb 12 43 33.9
comp=Z,9.4nm,1.2s
J05D Fort Rock, OR 70.32 50 P 12 43 30.9
baz=303,SNR=5.7
M02C Callahan 70.33 53 P 12 43 31.0
baz=303
G08A Pilot Rock 70.60 48 P **P** **12 43 31.3 +1.8**
G08A IAmb IAmb 12 43 36.0
comp=Z,6.7nm,1.3s
N02D Trinity Center 70.65 53 P 12 43 32.8
baz=303
ZEI Tsey 70.68 309 *e*P **P** **12 43 28.0 -2.2**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
M04C Macdoel 70.76 52 P 12 43 33.0
baz=303,SNR=5.2
KBZ Khabaz 70.78 311 P **P** **12 43 30.5 0.0**
comp=Z,5.1nm,0.8s,baz=66,slow=2.7,SNR=9.6
KBZ LR LR 13 19 14.1
comp=Z,142nm,18.5s,baz=54,slow=40
KBZ Khabaz 70.78 311 *d i*P **P** **12 43 30.6 +0.1**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 70.78 311 P **P** **12 43 31.3 +0.6**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV Kislovodsk 70.78 311 P **P** **12 43 31.3 +0.6**
K05A Summer Lake 70.84 51 P **P** **12 43 33.2 +2.1**
WDC Whiskeytown Da 70.97 53 P **P** **12 43 32.6 +0.9**
WDC pmax pmax
comp=Z,7.0nm,1.1s
WDC Whiskeytown Da 70.97 53 P **P** **12 43 32.6 +0.9**
WDC IAmb IAmb 12 43 35.3
comp=Z,6.9nm,1.1s
O02D Mt. Diablo Mer 71.03 54 P 12 43 35.0
baz=303
F10A Beach Ranch, E 71.23 46 P **P** **12 43 33.8 +0.5**
WALA Waterton Lakes 71.31 42 P **P** **12 43 34.1 +0.3**
WALA IAmb IAmb 12 43 36.9
comp=Z,5.1nm,0.9s
O03E Paynes Creek 71.60 53 P 12 43 37.6
baz=304
MOD Modoc Plateau 71.66 51 P **P** **12 43 37.9 +1.8**
MOD IAmb IAmb 12 43 39.0
comp=Z,6.2nm,1.1s
BMO Blue Mountains 71.81 47 P **P** **12 43 38.1 +1.2**
BMO pmax pmax
comp=Z,6.0nm,1.0s
BMO Blue Mountains 71.81 47 P **P** **12 43 38.1 +1.2**
BMO IAmb IAmb 12 43 39.7
comp=Z,5.9nm,0.9s
CHVG Ch'k'valeri 71.83 310⇑ P P 12 43 42.6 +5.7
CHVG Ch'k'valeri 71.83 310⇑ P P 12 43 42.6 +5.7
JTMT Jette 71.87 43 P **P** **12 43 39.1 +1.9**
JTMT IAmb IAmb 12 43 40.1
comp=Z,5.8nm,0.9s
J08A Circle Bar Ran 71.96 49 P **P** **12 43 40.4 +2.6**
J08A IAmb IAmb 12 43 41.1
comp=Z,5.7nm,0.8s
ORV Oroville 72.20 54 P **P** **12 43 40.7 +1.6**
ORV pmax pmax
comp=Z,8.0nm,1.3s
ORV Oroville 72.20 54 P **P** **12 43 40.7 +1.6**
ORV IAmb IAmb 12 43 45.1
comp=Z,8.4nm,1.2s
WVOR Wild Horse Val 72.39 50 P **P** **12 43 42.0 +1.6**
WVOR pmax pmax
comp=Z,6.0nm,1.2s
WVOR Wild Horse Val 72.39 50 P **P** **12 43 42.0 +1.6**
NACGM Naroch 72.57 327 *i*P **P** **12 43 45.5 +4.5**
NACGM *i*P **P** **12 43 45.5 +4.5**
NACGM *i*P **P** **12 43 45.5 +4.5**
NACGM *i*Pb **pP** **12 43 47.1 +0.7**
comp=Z,24nm,0.8s
NACGM *i* PcP PcP 12 44 11.5 +13
NACGM *i* PP PP 12 46 39.9 +18
NACGM *i* PPP PPP 12 48 15.1
NACGM *i* S **SKiKP** **12 53 14.6 -0.3**
NACGM *i* PS PnS 12 54 27.2 +52
NACGM *i* SS **SS** **12 57 43.1 +0.2**
NACGM *i* SSS SSS 13 01 31.0
NACGM *i* LQ LQ 13 12 05.2
NACGM *i* LR LR 13 16 20.6
MSO Missoula 72.59 44 P **P** **12 43 42.2 +0.7**
MSO Missoula 72.60 44 P 12 43 43.3
baz=306
SOC Sochi 72.77 312 *e*P **P** **12 43 42.0 -0.5**
SOC *e* 12 46 21.7
SOC *e*PPP PPP 12 48 08.1
SOC *e*S **S** **12 53 08.0 +0.5**
SOC *e*SSS SSS 13 01 01.9
SOC MLR MLR
comp=Z,142nm,16.0s
PAHR Pah Rah Range 73.47 53 P **P** **12 43 48.0 +1.1**
MFID Camas Ranch 73.51 48 P **P** **12 43 48.8 +1.8**
FFC Flin Flon 73.56 33 P **P** **12 43 47.8 +0.9**
FFC pmax pmax
comp=Z,8.0nm,1.0s
FFC Flin Flon 73.56 33 P **P** **12 43 47.8 +0.9**
FFC IAmb IAmb 12 43 48.9
comp=Z,8.2nm,1.0s
CMB Columbia Colle 73.77 54 P **P** **12 43 50.5 +1.9**
CMB pmax pmax
comp=Z,8.0nm,1.2s
CMB Columbia Colle 73.77 54 P **P** **12 43 50.5 +1.9**
CMB IAmb IAmb 12 43 52.0
comp=Z,7.9nm,1.1s
NC405 NORSAR Array S 73.81 337 P **P** **12 43 48.2 -0.1**
FCC Fort Churchill 73.84 27 P **P** **12 43 48.7 +0.2**
FCC pmax pmax
comp=Z,12nm,1.2s
FCC Fort Churchill 73.84 27 P **P** **12 43 48.7 +0.2**
FCC IAmb IAmb 12 43 53.8
comp=Z,12nm,1.1s
YERR Yerington 73.97 53 P **P** **12 43 51.8 +1.9**
YERR IAmb IAmb 12 43 52.9
comp=Z,9.7nm,1.1s
NC204 NORSAR Array S 73.97 338 P **P** **12 43 50.0 +0.6**
NB201 NORSAR Array S 73.98 337 P **P** **12 43 50.4 +1.1**
NB2 NORSAR Subarra 74.02 337 P **P** **12 43 49.6 0.0**
comp=Z,16nm,1.0s,baz=39,slow=6.2
NOA NORSAR Array B 74.02 337 P **P** **12 43 49.9 +0.3**
comp=Z,5.1nm,0.8s,baz=39,slow=5.9,SNR=18
NOA LR LR 13 19 44.7
comp=Z,143nm,18.6s,baz=45,slow=38
LRM Limekiln Ridge 74.02 44 P **P** **12 43 48.2 -1.9**
WAKR Walker 74.12 54 P **P** **12 43 51.3 +0.5**
WAKR IAmb IAmb 12 43 57.0
comp=Z,6.8nm,1.2s
EGMT Eagleton 74.14 41 P **P** **12 43 51.9 +1.3**
EGMT Eagleton 74.14 41 P 12 43 52.4
baz=308,SNR=6.2
AKASG Malin Array Be 74.15 322 P **P** **12 43 50.1 -0.3**
comp=Z,2.0nm,0.4s,baz=47,slow=6.2,SNR=13
AKASG LR LR 13 18 38.4
comp=Z,123nm,19.1s,baz=40,slow=38
AKASG Malin Array Be 74.15 322 P **P** **12 43 49.9 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 74.15 322 P **P** **12 43 49.9 -0.6**
AKBB Malin Array Si 74.15 322 *ce*P **P** **12 43 50.5 0.0**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 74.15 322 P **P** **12 43 50.0 -0.4**
DLMT Dillon 74.22 45 P **P** **12 43 52.9 +1.7**
DLMT IAmb IAmb 12 43 54.5
comp=Z,8.4nm,0.9s
HLID Hailey 74.25 47 P **P** **12 43 51.5 0.0**
HLID Hailey 74.26 47 P 12 43 54.1
baz=307,SNR=5.9
MCMT McKenzie Canyo 74.40 45 P **P** **12 43 53.0 +0.7**
KVN Kaiserville 74.66 53 P **P** **12 43 55.3 +1.4**
KVN pmax pmax
comp=Z,9.0nm,1.0s
KVN Kaiserville 74.66 53 P **P** **12 43 55.3 +1.4**
KVN IAmb IAmb 12 43 56.9
comp=Z,8.5nm,1.0s
MDPB Devils Postpil 74.85 54 P **P** **12 43 56.1 +1.0**
LHV Little Huntoon 74.86 53 P **P** **12 43 57.8 +2.9**
LHV IAmb IAmb 12 43 58.5

	comp=Z,11nm,1.0s							
NVAR	**Mina Array Bea**	**74.89**	**53**	P		**P**	**12 43 57.0**	**+1.7**
	comp=Z,5.0nm,1.0s,baz=286,slow=5.7,SNR=27							
NVAR	**Mina Array Bea**	**74.89**	**53**	P		**P**	**12 43 56.3**	**+1.0**
NV11	**Mina Array Sit**	**74.98**	**53**	P		**P**	**12 43 57.1**	**+1.4**
QLMT	**Earthquake Lak**	**75.20**	**45**	P		**P**	**12 43 58.5**	**+1.5**
YMR	**Madison River**	**75.56**	**45**	P		**P**	**12 43 59.2**	**+0.1**
TPH	**Tonopah**	**75.78**	**53**	P		**P**	**12 44 01.1**	**+0.7**
TPH				pmax	pmax			
	comp=Z,30nm,1.0s							
TPH	**Tonopah**	**75.78**	**53**	P		**P**	**12 44 01.1**	**+0.7**
YNE	**Yellowstone No**	**75.88**	**44**	P		**P**	**12 44 02.3**	**+1.4**
H17A	**Grant Village**	**75.95**	**45**	P			12 44 05.4	
	baz=309,SNR=11							
PKM	**Mcpherson Peak**	**75.96**	**57**	P			12 44 04.1	
	baz=306							
FLWY	**Flagg Ranch**	**76.07**	**45**	P		**P**	**12 44 01.8**	**-0.2**
FLWY				IAmb	IAmb		12 44 05.3	
	comp=Z,16nm,1.4s							
CWC	**Cottonwood Cre**	**76.19**	**55**	P			12 44 04.2	
	baz=306							
RLMT	**Red Lodge**	**76.22**	**43**	P		**P**	**12 44 02.2**	**-0.6**
HVU	**Hansel Valley**	**76.29**	**48**	P		**P**	**12 44 04.1**	**+0.9**
HVU				pmax	pmax			
	comp=Z,5.0nm,1.0s							
HVU	**Hansel Valley**	**76.29**	**48**	P		**P**	**12 44 04.1**	**+0.9**
REDW	**Red Top Meadow**	**76.43**	**46**	P		**P**	**12 44 03.5**	**-0.5**
REDW				IAmb	IAmb		12 44 07.9	
	comp=Z,7.8nm,1.2s							
R11A	**Troy Canyon, C**	**76.66**	**52**	P		**P**	**12 44 05.3**	**-0.1**
R11A				IAmb	IAmb		12 44 08.4	
	comp=Z,7.1nm,1.1s							
R11A	**Troy Canyon, C**	**76.66**	**52**	P			12 44 07.2	
	baz=307,SNR=9.4							
MPMC	**Manual Prospec**	**76.81**	**55**	P			12 44 08.5	
	baz=307							
FURC	**Furnace Creek,**	**76.97**	**54**	P			12 44 09.0	
	baz=307,SNR=6.0							
LRMC	**Laurel Mtn Rad**	**77.02**	**55**	P			12 44 09.4	
	baz=307							
TPNV	**Topopah Spring**	**77.08**	**53**	P		**P**	**12 44 07.8**	**+0.1**
TPNV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TPNV	**Topopah Spring**	**77.08**	**53**	P		**P**	**12 44 07.8**	**+0.1**
TPNV				IAmb	IAmb		12 44 10.5	
	comp=Z,6.4nm,0.9s							
TPNV	**Topopah Spring**	**77.08**	**53**	P			12 44 09.5	
	baz=307,SNR=8.3							
HWUT	**Hardware Ranch**	**77.11**	**47**	P		**P**	**12 44 09.0**	**+1.1**
HWUT				IAmb	IAmb		12 44 11.0	
	comp=Z,9.9nm,1.2s							
EDW2	**Edwards Air Fo**	**77.17**	**56**	P			12 44 09.9	
	baz=307							
DUG	**Dugway, Tooele**	**77.24**	**49**	IAmb	IAmb		12 44 11.6	
	comp=Z,4.6nm,0.8s							
DUG	**Dugway, Tooele**	**77.25**	**49**	P			12 44 11.0	
	baz=308							
BW06	**Boulder Array**	**77.55**	**45**	P		**P**	**12 44 11.3**	**+0.9**
PD31	**Pinedale Array**	**77.55**	**45**	P		**P**	**12 44 11.2**	**+0.8**
PDAR	**Pinedale Array**	**77.55**	**45**	P		**P**	**12 44 11.3**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=279,slow=2.5,SNR=18							
PDAR	**Pinedale Array**	**77.55**	**45**	P		**P**	**12 44 10.9**	**+0.5**
BW06	**Boulder Array**	**77.55**	**45**	P			12 44 11.7	
	baz=310,SNR=6.0							
PRN	**Pahroc Range**	**77.56**	**52**	P		**P**	**12 44 12.4**	**+2.0**
PSUT	**Pine Spring**	**77.63**	**51**	IAmb	IAmb		12 44 13.7	
	comp=Z,6.6nm,1.1s							
MPU	**Maple Canyon**	**78.06**	**49**	P		**P**	**12 44 13.2**	**0.0**
BUR08	**Bucovina Ar. S**	**78.15**	**322**	P		**P**	**12 44 12.3**	**-1.1**
BUR08				IAmb	IAmb		12 44 14.9	
	comp=Z,7.0nm,1.0s							
BURAR	**Bucovina Array**	**78.17**	**322**	⇑P		**P**	**12 44 14.1**	**+0.6**
BURAR	**Bucovina Array**	**78.17**	**322**	⇑P		**P**	**12 44 14.1**	**+0.6**
BURAR	**Bucovina Array**	**78.17**	**322**	P		**P**	**12 44 13.2**	**-0.4**
BIZ	**Bicaz**	**78.18**	**321**	⇓P		**P**	**12 44 15.0**	**+1.6**
TESR	**Tescani**	**78.19**	**320**	⇑P		**P**	**12 44 14.5**	**+0.9**
CFR	**Carcaliu**	**78.31**	**318**	⇑P		**P**	**12 44 15.1**	**+0.9**
CFR	**Carcaliu**	**78.31**	**318**	⇑P		**P**	**12 44 15.1**	**+0.9**
VRI	**Vrincioaia**	**78.58**	**320**	⇑P		**P**	**12 44 17.3**	**+1.5**
VRI	**Vrincioaia**	**78.58**	**320**	⇑P		**P**	**12 44 17.3**	**+1.5**
PLOR	**Plostina**	**78.63**	**320**	⇓P		**P**	**12 44 17.3**	**+1.2**
PLOR	**Plostina**	**78.63**	**320**	⇓P		**P**	**12 44 17.3**	**+1.2**
MSU	**Marysvale**	**78.67**	**50**	P		**P**	**12 44 17.4**	**+0.8**
MSU	**Marysvale**	**78.67**	**50**	P		**P**	**12 44 17.4**	**+0.8**
BRTR	**Keskin Array B**	**78.73**	**312**	P		**P**	**12 44 15.9**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=57,slow=5.3,SNR=3.8							
BRTR				LR		LR	13 23 37.1	
	comp=Z,74nm,18.4s,baz=54,slow=39							
BRTR	**Keskin Array B**	**78.73**	**312**	P		**P**	**12 44 17.3**	**+0.5**
GMRC	**Granite Mounta**	**78.76**	**55**	P			12 44 19.2	
	baz=308							
UZH	**Uzhgorod**	**78.87**	**324**	*e*P		**P**	**12 44 16.1**	**-1.1**
UZH				*e*			12 44 25.7	
OJC	**Ojcow**	**78.89**	**326**	P		**P**	**12 44 17.4**	**+0.1**
OJC				pmax	pmax			
	comp=Z,24nm,1.2s							
OJC	**Ojcow**	**78.89**	**326**	P		**P**	**12 44 17.4**	**+0.1**
RDMU	**Red Mountain**	**78.94**	**47**	IAmb	IAmb		12 44 20.9	
	comp=Z,11nm,1.0s							
P17A	**Butcher Ranch,**	**78.94**	**49**	P		**P**	**12 44 19.2**	**+1.1**
P17A				IAmb	IAmb		12 44 21.1	
	comp=Z,6.0nm,0.9s							
LCMT	**Little Creek M**	**78.94**	**52**	IAmb	IAmb		12 44 21.3	
	comp=Z,6.0nm,1.0s							
MTPU	**Mount Pierson**	**78.96**	**51**	IAmb	IAmb		12 44 21.9	
	comp=Z,7.7nm,1.1s							
Q16A	**Castle Valley**	**79.03**	**49**	P		**P**	**12 44 18.0**	**-0.6**
Q16A				IAmb	IAmb		12 44 21.8	
	comp=Z,8.2nm,1.2s							
ANTO	**Ankara**	**79.14**	**312**	P		**P**	**12 44 21.4**	**+2.4**
ANTO	**Ankara**	**79.14**	**312**	P		**P**	**12 44 21.4**	**+2.4**
DOPR	**Dopca**	**79.20**	**320**	⇓P		**P**	**12 44 21.2**	**+2.0**
KNB	**Kanab**	**79.20**	**52**	P		**P**	**12 44 20.4**	**+0.8**
KNB				pmax	pmax			
	comp=Z,15nm,1.3s							
KNB	**Kanab**	**79.20**	**52**	P		**P**	**12 44 20.4**	**+0.8**
KNB				IAmb	IAmb		12 44 23.0	
	comp=Z,15nm,1.3s							
SRU	**San Rafael Swe**	**79.30**	**49**	P		**P**	**12 44 21.4**	**+1.4**
SRU				pmax	pmax			
	comp=Z,5.0nm,0.7s							
SRU	**San Rafael Swe**	**79.30**	**49**	P		**P**	**12 44 21.4**	**+1.4**
SRU				IAmb	IAmb		12 44 22.7	
	comp=Z,5.4nm,0.7s							
K22A	**Casper**	**79.33**	**44**	P		**P**	**12 44 21.6**	**+1.6**
ULM	**Lac du Bonnet**	**79.36**	**33**	P		**P**	**12 44 21.0**	**+1.1**
	comp=Z,4.7nm,1.1s,baz=288,slow=9.2,SNR=3.6							
ULM	**Lac du Bonnet**	**79.36**	**33**	P		**P**	**12 44 20.6**	**+0.7**
ULM				pmax	pmax			
	comp=Z,7.0nm,1.1s							
ULM	**Lac du Bonnet**	**79.36**	**33**	P		**P**	**12 44 20.6**	**+0.7**
ULM				IAmb	IAmb		12 44 21.3	
	comp=Z,6.8nm,1.1s							
IRM	**Iron Mountain**	**79.48**	**55**	P			12 44 23.1	
	baz=308							
BC3	**Big Chuckawall**	**79.59**	**56**	P			12 44 22.6	
	baz=308							
RSSD	**Black Hills**	**79.70**	**42**	P			12 44 23.5	
	baz=313							
VOIR		**79.74**	**320**	⇓P		**P**	**12 44 22.7**	**+0.5**
VOIR		**79.74**	**320**	⇓P		**P**	**12 44 22.7**	**+0.5**
LANS	**Liptovska Anna**	**79.81**	**326**	*e*P		**P**	**12 44 21.8**	**-0.6**
LANS	**Liptovska Anna**	**79.81**	**326**	*e*P		**P**	**12 44 21.8**	**-0.6**
DRGR		**79.97**	**322**	⇑P		**P**	**12 44 24.3**	**+0.9**
DRGR		**79.97**	**322**	⇑P		**P**	**12 44 24.3**	**+0.9**
ARR	**Arges**	**80.00**	**320**	⇑P		**P**	**12 44 25.0**	**+1.4**
PDMCI	**Parker Dam,Lak**	**80.05**	**54**	P			12 44 26.3	
	baz=308							
MORC	**Moravsky Berou**	**80.20**	**327**	⇑P		**P**	**12 44 24.0**	**-0.5**
MORC	**Moravsky Berou**	**80.20**	**327**	*e*P		**P**	**12 44 25.4**	**+0.8**
MORC	**Moravsky Berou**	**80.20**	**327**	⇑P		**P**	**12 44 24.0**	**-0.5**
MORC	**Moravsky Berou**	**80.20**	**327**	P		**P**	**12 44 25.3**	**+0.7**
MORC				IAmb	IAmb		12 44 30.0	
	comp=Z,11nm,1.1s							
DPC	**Dobruska-Polom**	**80.30**	**328**	*e*P		**P**	**12 44 26.6**	**+1.5**
DPC				*e*			12 44 30.2	
DPC	**Dobruska-Polom**	**80.30**	**328**	*e*P		**P**	**12 44 26.6**	**+1.5**
DPC				*e*pP		**pP**	**12 44 30.2**	**-0.2**
LOT	**Lotru**	**80.38**	**321**	⇓P		**P**	**12 44 26.8**	**+1.1**
PSZ	**Piszkesteto**	**80.51**	**324**	⇓P		**P**	**12 44 26.1**	**-0.1**
PSZ	**Piszkesteto**	**80.51**	**324**	⇓P		**P**	**12 44 26.1**	**-0.1**
VYHS	**Vyhne**	**80.57**	**325**	*e*P		**P**	**12 44 25.9**	**-0.6**
VYHS	**Vyhne**	**80.57**	**325**	*e*P		**P**	**12 44 25.9**	**-0.6**
RAYN	**Ar Rayn**	**80.58**	**292**	P		**P**	**12 44 26.3**	**-0.8**
RAYN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
RAYN	**Ar Rayn**	**80.58**	**292**	P		**P**	**12 44 26.2**	**-0.8**
PV14	**Lion Creek, Pa**	**80.67**	**49**	P		**P**	**12 44 28.7**	**+1.1**
PV14				IAmb	IAmb		12 44 30.4	
	comp=Z,9.6nm,0.8s							
PV22	**Blue Mesa, Par**	**80.71**	**48**	P		**P**	**12 44 28.5**	**+0.8**
PV22				IAmb	IAmb		12 44 30.5	
	comp=Z,7.7nm,1.1s							
PV16	**Nyswonger Mesa**	**80.78**	**49**	P		**P**	**12 44 28.0**	**-0.1**
PV16				IAmb	IAmb		12 44 31.0	
	comp=Z,10.0nm,1.1s							
AGMN	**Agassiz Nation**	**80.79**	**35**	P		**P**	**12 44 27.6**	**-0.1**
AGMN				IAmb	IAmb		12 44 32.1	
	comp=Z,18nm,1.5s							
AGMN	**Agassiz Nation**	**80.79**	**35**	P			12 44 28.0	
	baz=317							
N23A	**Red Feather La**	**80.81**	**45**	P			12 44 30.9	
	baz=312							
JAVC	**Velka Javorina**	**80.83**	**326**	*e*P		**P**	**12 44 29.9**	**+2.0**
BRG	**Berggiesshubel**	**80.89**	**329**	*e*P		**P**	**12 44 28.9**	**+0.7**
BRG				Amp			12 44 33.5	
	comp=Z,6.3nm,0.9s							
GZR	**Gura Zlata**	**80.92**	**321**	⇑P		**P**	**12 44 29.4**	**+0.9**
GZR	**Gura Zlata**	**80.92**	**321**	⇑P		**P**	**12 44 29.4**	**+0.9**
CLL	**Collm**	**80.94**	**330**	*i* P		**P**	**12 44 28.5**	**+0.1**
	comp=Z,11nm,1.0s							
CLL				*i*			12 44 31.9	
	comp=Z,12nm,0.9s							
CLL	**Collm**	**80.94**	**330**	P		**P**	**12 44 27.5**	**-0.9**
CLL				pmax	pmax			
	comp=Z,9.0nm,0.7s							
CLL	**Collm**	**80.94**	**330**	P		**P**	**12 44 27.5**	**-0.9**
VRAC	**Vranov**	**80.97**	**327**	*e*P		**P**	**12 44 29.5**	**+0.9**
WUAZ	**Wupatki**	**81.06**	**52**	P		**P**	**12 44 31.4**	**+1.9**
WUAZ				IAmb	IAmb		12 44 32.6	
	comp=Z,6.3nm,1.1s							
WUAZ	**Wupatki**	**81.06**	**52**	P			12 44 32.3	
	baz=310							
KRUC	**Moravsky**	**81.24**	**327**	*e*P		**P**	**12 44 30.7**	**+0.7**
BZS	**Buzias**	**81.34**	**322**	⇑P		**P**	**12 44 30.8**	**+0.2**
BZS	**Buzias**	**81.34**	**322**	⇑P		**P**	**12 44 30.8**	**+0.2**
SMCO	**Snowmass**	**81.36**	**47**	P		**P**	**12 44 32.5**	**+1.1**
MVCO	**Mesa Verde**	**81.74**	**49**	P		**P**	**12 44 34.2**	**+1.0**
MVCO				IAmb	IAmb		12 44 36.5	
	comp=Z,10nm,1.4s							
MVCO	**Mesa Verde**	**81.74**	**49**	P			12 44 35.8	
	baz=311							
MDVR	**Moldovita**	**81.89**	**321**	⇑P		**P**	**12 44 33.5**	**-0.1**
CKRC	**Cesky Krumlov**	**82.32**	**328**	*e*P		**P**	**12 44 36.9**	**+1.1**
KHC	**Kasperske Hory**	**82.39**	**328**	P		**P**	**12 44 36.2**	**+0.1**
KHC				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KHC	**Kasperske Hory**	**82.39**	**328**	*e*P		**P**	**12 44 37.4**	**+1.3**
KHC				*e*pP		**PcP**	**12 44 40.6**	**-0.7**
KHC	**Kasperske Hory**	**82.39**	**328**	P		**P**	**12 44 36.2**	**+0.1**
KHC				IAmb	IAmb		12 44 41.5	
	comp=Z,9.1nm,1.0s							
S22A	**4UR Ranch, Cre**	**82.39**	**48**	P			12 44 39.1	
	baz=312							
F33A	**5 Mile Ranch,**	**82.39**	**37**	P		**P**	**12 44 37.3**	**+1.1**
F33A				IAmb	IAmb		12 44 41.7	
	comp=Z,13nm,1.2s							
GEC2	**GERESS Array S**	**82.55**	**328**	P		**P**	**12 44 37.6**	**+0.5**
GEC2				IAmb	IAmb		12 44 42.0	
	comp=Z,4.6nm,0.8s							
GERES	**GERESS Array B**	**82.55**	**328**	P		**P**	**12 44 37.2**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=44,slow=5.9,SNR=12							
GERES				LR		LR	13 24 41.3	
	comp=Z,89nm,20.0s,baz=64,slow=38							
GERES	**GERESS Array B**	**82.55**	**328**	P		**P**	**12 44 36.9**	**-0.2**
GERES	**GERESS Array B**	**82.55**	**328**	P		**P**	**12 44 36.9**	**-0.2**
Q24A	**Divide**	**82.56**	**46**	P			12 44 39.5	
	baz=313							
VTS	**Vitosha**	**82.64**	**319**	P		**P**	**12 44 38.4**	**+0.7**
VTS				pmax	pmax			
	comp=Z,9.0nm,1.1s							
VTS	**Vitosha**	**82.64**	**319**	P		**P**	**12 44 38.4**	**+0.7**
VTS				IAmb	IAmb		12 44 43.4	
	comp=Z,9.1nm,1.1s							
DIVS	**Divibare**	**83.23**	**322**	P		**P**	**12 44 41.1**	**+0.4**
DIVS				IAmb	IAmb		12 44 45.6	
	comp=Z,12nm,1.3s							
ECSD	**EROS Data Cent**	**83.78**	**38**	P			12 44 44.9	
	baz=317							
T25A	**Trinidad**	**84.22**	**47**	P			12 44 47.0	
	baz=313							
ANMO	**Albuquerque**	**84.48**	**50**	P		**P**	**12 44 48.9**	**+1.5**
ANMO				pmax	pmax			
	comp=Z,7.0nm,1.3s							
ANMO	**Albuquerque**	**84.48**	**50**	P		**P**	**12 44 48.9**	**+1.5**
ANMO				IAmb	IAmb		12 44 50.5	
	comp=Z,7.0nm,1.2s							
ANMO	**Albuquerque**	**84.48**	**50**	P			12 44 49.5	
	baz=312							
PPT	**Papeete**	**84.72**	**117**	LR		LR	13 16 55.3	
	comp=Z,80nm,20.1s,baz=340,slow=32							
PPT2	**Papeete2**	**84.74**	**117**	*e*LR		LR	13 10 58.3	
	comp=Z,162nm,29.2s							
PPT2	**Papeete2**	**84.74**	**117**	*e*T		T	14 17 39.8	
	comp=Z,3.0nm,0.3s							
PDG	**Podgorica**	**84.82**	**321**	⇑P		**P**	**12 44 48.5**	**-0.1**
PDG	**Podgorica**	**84.82**	**321**	P		**P**	**12 44 49.3**	**+0.7**
319A	**Douglas**	**85.06**	**54**	P		**P**	**12 44 51.8**	**+1.6**
I37A	**Lemond, Waseca**	**85.12**	**36**	P		**P**	**12 44 50.1**	**-0.1**
BFO	**Black Forest**	**85.14**	**331**	P		**P**	**12 44 51.4**	**+1.1**
BFO				pmax	pmax			
	comp=Z,19nm,1.1s							
BFO	**Black Forest**	**85.14**	**331**	P		**P**	**12 44 51.4**	**+1.1**
121A	**Cookes Peak, D**	**85.26**	**52**	P		**P**	**12 44 50.2**	**-1.1**
121A				IAmb	IAmb		12 44 54.3	
	comp=Z,5.7nm,1.0s							
121A	**Cookes Peak, D**	**85.26**	**52**	P			12 44 53.9	
	baz=312							
ECH	**Echery**	**85.69**	**331**	P		**P**	**12 44 52.5**	**-0.5**
ECH				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ECH	**Echery**	**85.69**	**331**	P		**P**	**12 44 52.5**	**-0.5**
MEH	**Mehetia**	**86.00**	**116**	*e*T		T	14 19 14.1	
	comp=Z,26nm,0.3s							
AMTX	**Amarillo**	**87.38**	**47**	P			12 45 03.7	
	baz=315							
MURB	**Monte Urbino**	**87.41**	**325**	P		**P**	**12 45 00.0**	**-1.5**
TBI	**Tubuai**	**88.62**	**121**	*e*LR		LR	13 13 09.4	
	comp=Z,119nm,29.5s							
TBI	**Tubuai**	**88.62**	**121**	*e*T		T	14 22 30.5	
	comp=Z,25nm,0.3s							
TX31	**Lajitas Ar. Si**	**90.02**	**52**	P		**P**	**12 45 14.5**	**+0.3**
TX31				IAmb	IAmb		12 45 17.1	
	comp=Z,7.9nm,1.0s							
TX32	**Lajitas Array**	**90.02**	**52**	P		**P**	**12 45 14.5**	**+0.3**
TXAR	**Lajitas Array**	**90.02**	**52**	P		**P**	**12 45 15.3**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=296,slow=3.0,SNR=20							
TXAR	**Lajitas Array**	**90.02**	**52**	P		**P**	**12 45 15.4**	**+1.2**
U40A	**Yellville**	**91.20**	**41**	P		**P**	**12 45 20.0**	**+0.6**
U40A	**Yellville**	**91.21**	**41**	P			12 45 20.7	
	baz=320							
MIAR	**Mount Ida**	**92.19**	**43**	P			12 45 25.7	
	baz=319							
ESDC	**Sonseca Array**	**97.12**	**334**	P		Pdif	12 45 46.9	+0.2
	comp=Z,0.7nm,0.8s,baz=40,slow=8.4,SNR=1.7							
ESDC				LR		LR	13 35 06.7	
	comp=Z,91nm,18.0s,baz=100,slow=39							
TORD	**Torodi Ar. Bea**	**117.20**	**315**	PKP		**PKPdf**	**12 50 59.3**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=44,slow=0.6,SNR=1.5							
BOSA	**Boshof**	**126.60**	**259**	PKP		**PKiKP**	**12 51 18.9**	**+0.6**
	comp=Z,4.2nm,0.9s,baz=105,slow=4.8,SNR=3.4							
BOSA	**Boshof**	**126.60**	**259**	PKIKP		**PKPdf**	**12 51 17.8**	**0.0**
BOSA	**Boshof**	**126.60**	**259**			**PKPdf**	**12 51 17.8**	**0.0**
LPAZ	**La Paz**	**146.61**	**59**	PKPbc		**PKPdf**	**12 51 56.3**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=354,slow=5.4,SNR=3.8							
LPAZ	**La Paz**	**146.61**	**59**	PKIKP		**PKPdf**	**12 51 54.1**	**-1.3**
LPAZ	**La Paz**	**146.61**	**59**			**PKPdf**	**12 51 54.1**	**-1.3**
H03N2	**Juan Fernandez**	**147.05**	**96**	T		T	15 36 17.0	
	baz=291,slow=76,SNR=62							
H03N3	**Juan Fernandez**	**147.06**	**96**	T		T	15 36 18.3	
	baz=291,slow=76,SNR=71							
H03N1	**Juan Fernandez**	**147.07**	**96**	T		T	15 36 16.1	
	baz=291,slow=76,SNR=78							

VIE 27 12:43:43.5±0.6,47°.25N×15°.84E,h0km,ml1.2/3,Error ellipse: s-maj=5.8km s-min=1.8km az=126.0 11 km WSW of Hartberg Suspected Mining explosion.,

Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.21**	**271**	*e*Pg	Pg	12 43 48.0	+0.5
	0.5nm,0.1s						
ARSA				*e*Sg	Sg	12 43 50.7	+0.5
	16nm,0.2s						
CONA	**Conrad Observa**	**0.68**	**2**	*e*Sg	Sg	12 44 05.5	+0.1
	0.9nm,0.3s						
SOKA	**Soboth**	**0.79**	**224**	*e*Sg	Sg	12 44 09.3	+0.5
	10nm,0.1s						

*STR **27** 12:44:36.3±0.8,43°.N±4°.×1°.2E±°.,h10km,mB5.2/1,mb3.6/3, MLv3.2/11,Mw(mB)4.5/1,smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

*IASPEI **27** 12:44:40.5±0.8,43°.60N±0°.02×11°.22E±0°.02,h15km±5km, Error ellipse: s-maj=3.4km s-min=2.7km az=22.2,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ROM **27** 12:44:40.6±0.1,43°.623N±0°.005×11°.239E±0°.007, h8km,ML3.0/38,Error ellipse: s-maj=0.6km s-min=0.4km az=67.0*

*GEN **27** 12:44:40,44°.62N×11°.23E,h10km±35km,Ml3.0*

*LDG **27** 12:44:41.4±0.1,43°.60N×11°.22E,h3km,Md3.0/1,Ml3.0/22, Error ellipse: s-maj=1.7km s-min=1.6km az=63.0*

ISC 27 12:44:40.5±0.8,43°.59N±0°.02×11°.21E±0°.02,h16km±5km, n122,σ1°85/181,11C-9D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSC	**Osservatorio P**	**0.07**	**157**	⇓P	**Pg**	**12 44 43.4**	**-0.3**
OSSC				S	**Sg**	**12 44 45.5**	**-0.3**
OSSC				AML	AML		
	comp=E,75100μm,0.3s						
OSSC				AML	AML		
	comp=N,34300μm,1.2s						
OSSC				AML	AML		
	comp=E,33900μm,1.2s						
OSSC				AML	AML		
	comp=N,74750μm,0.3s						
CSNT	**Castellina Chi**	**0.13**	**152**	⇓P	**Pg**	**12 44 44.1**	**-0.2**
CSNT				S	**Sg**	**12 44 46.8**	**0.0**
CSNT				AML	AML		
	comp=N,22600μm,0.6s						
CSNT				AML	AML		
	comp=N,22600μm,0.6s						
CSNT				AML	AML		
	comp=E,11850μm,0.6s						
CRMI	**Carmignano**	**0.26**	**320**	⇑P	**Pg**	**12 44 46.3**	**0.0**
CRMI				S	**Sg**	**12 44 50.3**	**+0.1**
CRMI				AML	AML		
	comp=E,9040μm,1.6s						
CRMI				AML	AML		
	comp=N,2790μm,0.5s						
CRMI				AML	AML		
	comp=E,3725μm,1.6s						
CRMI				AML	AML		
	comp=E,9045μm,1.6s						
CRMI				AML	AML		
	comp=N,6615μm,0.5s						
RUFI	**Rufina**	**0.33**	**41**	⇑P	**Pg**	**12 44 46.8**	**-0.7**
RUFI				S	**Sg**	**12 44 51.4**	**-0.8**
RUFI				AML	AML		
	comp=N,4590μm,0.8s						
RUFI				AML	AML		
	comp=E,5820μm,0.6s						
RUFI				AML	AML		
	comp=N,4585μm,0.8s						
RUFI				AML	AML		
	comp=E,5825μm,0.6s						
FROS	**Frosini**	**0.38**	**186**	P	**Pg**	**12 44 49.2**	**+0.9**
FROS				S	**Sg**	**12 44 55.0**	**+1.4**
FROS				AML	AML		
	comp=N,8205μm,0.6s						
FROS				AML	AML		
	comp=E,9865μm,0.3s						
FROS				AML	AML		
	comp=N,8205μm,0.6s						
PTF	**Prato**	**0.38**	**345**	P	**Pg**	**12 44 48.4**	**0.0**
PTF				S	**Sb**	**12 44 54.3**	**-0.4**
MTCR	**Monte La Croce**	**0.46**	**341**	P	**Pg**	**12 44 49.7**	**-0.2**
MTCR				S	**Sb**	**12 44 56.7**	**-0.4**
MTCR				AML	AML		
	comp=N,3545μm,0.5s						
MTCR				AML	AML		
	comp=E,3990μm,0.2s						
ASQU	**Asqua**	**0.47**	**64**	⇓P	**Pg**	**12 44 49.8**	**-0.2**
ASQU				S	**Sb**	**12 44 56.2**	**-1.0**
ASQU				AML	AML		
	comp=E,3645μm,0.5s						
ASQU				AML	AML		
	comp=N,3230μm,0.5s						
ASQU				AML	AML		
	comp=N,3225μm,0.5s						
ASQU				AML	AML		
	comp=E,3650μm,0.5s						
SEI	**Scarperia**	**0.48**	**13**	P	**Pb**	**12 44 50.0**	**-0.6**
SEI				S	**Sb**	**12 44 57.1**	**-0.3**
SEI				AML	AML		
	comp=N,14900μm,1.5s						
SEI				AML	AML		
	comp=E,8355μm,0.4s						
PII	**Pisa**	**0.51**	**

MAIM					AML	AML			
	comp=N,1514µm,0.9s								
SSP9	**Sansepolcro**	**0.67**	**91**	⇑P		**Pg**	**12 44 53.5**	**-0.2**
CARD	**Cardoso**	**0.68**	**310**	P		**Pg**	**12 44 54.1**	**+0.3**
CARD				S		**Sb**	**12 45 03.7**	**+0.4**
CARD	**Cardoso**	**0.68**	**310**	P		**Pg**	**12 44 54.2**	**+0.3**
CARD				AML	AML				
	comp=E,3425µm,0.4s								
CARD				AML	AML				
	comp=N,2825µm,0.4s								
PARC	**Parchiule**	**0.75**	**85**	P		**Pb**	**12 44 55.4**	**+0.1**
PARC				S		**Sb**	**12 45 05.3**	**0.0**
PARC				AML	AML				
	comp=E,716µm,0.6s								
PARC				AML	AML				
	comp=E,717µm,0.6s								
PARC				AML	AML				
	comp=N,776µm,0.5s								
BADI	**Badiali**	**0.76**	**96**	P		**Pb**	**12 44 55.6**	**+0.2**
BADI				AML	AML				
	comp=E,641µm,0.6s								
BADI				AML	AML				
	comp=N,670µm,0.8s								
BADI				AML	AML				
	comp=E,640µm,0.6s								
ZCCA	**Zocca**	**0.78**	**348**	P		**Pn**	**12 44 57.1**	**+0.2**
ZCCA				AML	AML				
	comp=E,1027µm,0.5s								
ZCCA				AML	AML				
	comp=E,1130µm,0.5s								
ZCCA				AML	AML				
	comp=N,913µm,0.4s								
ZCCA				AML	AML				
	comp=N,864µm,0.4s								
MTRZ	**Monterenzio**	**0.81**	**13**	P		**Pb**	**12 44 56.3**	**0.0**
MTRZ				AML	AML				
	comp=E,2875µm,0.6s								
MTRZ				AML	AML				
	comp=N,2200µm,0.5s								
MTRZ				AML	AML				
	comp=E,2945µm,0.6s								
MTRZ				AML	AML				
	comp=E,2870µm,0.6s								
MTRZ				AML	AML				
	comp=N,2185µm,0.5s								
VLC	**Villacollemand**	**0.82**	**314**	P		**Pb**	**12 44 56.9**	**+0.4**
VLC				AML	AML				
	comp=N,1210µm,0.3s								
VLC				AML	AML				
	comp=E,1078µm,0.5s								
VLC				AML	AML				
	comp=N,1215µm,0.3s								
VLC				AML	AML				
	comp=E,1121µm,0.4s								
VLC				AML	AML				
	comp=N,1255µm,0.3s								
SARO	**Sassorosso**	**0.83**	**316**	P		**Pb**	**12 44 56.9**	**+0.3**
SARO				S		**Sb**	**12 45 09.5**	**+1.8**
SARO	**Sassorosso**	**0.83**	**316**	⇑P		**Pb**	**12 44 57.0**	**+0.3**
SARO				AML	AML				
	comp=N,1145µm,0.5s								
SARO				AML	AML				
	comp=E,1345µm,0.5s								
CASP	**Castiglione de**	**0.84**	**197**	P		**Pg**	**12 44 57.6**	**+0.8**
CASP				S		**Sg**	**12 45 09.2**	**+1.4**
CASP				AML	AML				
	comp=E,762µm,0.6s								
CASP				AML	AML				
	comp=N,560µm,0.5s								
ATVO	**AVT- Monte Val**	**0.90**	**103**	P		**Pb**	**12 44 57.8**	**+0.1**
ATVO				AML	AML				
	comp=N,838µm,0.6s								
ATVO				AML	AML				
	comp=N,838µm,0.6s								
ATVO				AML	AML				
	comp=E,594µm,0.8s								
ATTE	**AVT- Monte Tez**	**0.92**	**115**	P		**Pg**	**12 44 58.2**	**-0.3**
ATTE				AML	AML				
	comp=E,510µm,0.6s								
ATTE				AML	AML				
	comp=N,505µm,0.5s								
ATTE				AML	AML				
	comp=N,506µm,0.5s								
EQUI	**Equi**	**0.95**	**307**	P		**Pb**	**12 44 59.2**	**+0.5**
EQUI				S		**Sg**	**12 45 11.5**	**-0.1**
EQUI	**Equi**	**0.95**	**307**	P		**Pb**	**12 44 59.2**	**+0.5**
EQUI				S		**Sb**	**12 45 11.9**	**+0.7**
EQUI				AML	AML				
	comp=E,948µm,0.8s								
EQUI				AML	AML				
	comp=N,1195µm,0.4s								
ERBM	**Eremo**	**1.01**	**326**	P		**Pn**	**12 45 00.6**	**+0.5**
ERBM				AML	AML				
	comp=E,442µm,0.6s								
ERBM				AML	AML				
	comp=N,634µm,1.3s								
ERBM				AML	AML				
	comp=N,630µm,1.3s								
ERBM				AML	AML				
	comp=E,445µm,0.6s								
CMPO	**Campotto Po**	**1.08**	**23**	⇑P		**Pn**	**12 45 03.4**	**+2.3**
CMPO				AML	AML				
	comp=E,1685µm,1.0s								
CMPO				AML	AML				
	comp=N,3275µm,0.0s								
PLMA	**Palmaria, Port**	**1.08**	**296**	⇓P		**Pg**	**12 45 01.2**	**-0.3**
PLMA				S		**Sg**	**12 45 15.7**	**+0.1**
PLMA				AML	AML				
	comp=E,584µm,0.4s								
PLMA				AML	AML				
	comp=N,714µm,0.3s								
CELB	**S.Piero in Cam**	**1.11**	**221**	⇓P		**Pn**	**12 45 02.9**	**+1.4**
CELB				S		**Sn**	**12 45 19.4**	**+2.8**
GRAM	**Graiana**	**1.22**	**318**	P		**Pg**	**12 45 04.4**	**+0.4**
GRAM	**Graiana**	**1.22**	**318**	P		**Pg**	**12 45 04.1**	**0.0**
GRAM				AML	AML				
	comp=N,911µm,0.3s								
GRAM				AML	AML				
	comp=E,1360µm,0.3s								
MSSA	**Maissana**	**1.42**	**301**	P		**Pn**	**12 45 06.2**	**+0.4**
MSSA				AML	AML				
	comp=E,282µm,0.7s								
MSSA				AML	AML				
	comp=N,257µm,0.4s								
PGF	**Pioggiola**	**1.92**	**238**	*e*Pn		**Pn**	**12 45 13.2**	**+0.5**
PGF				*e*Sn		**Sn**	**12 45 36.8**	**+0.2**
	comp=N,18nm,0.4s								
PGF	**Pioggiola**	**1.92**	**238**	P		**Pn**	**12 45 13.3**	**+0.5**
PGF				S		**Sn**	**12 45 37.4**	**+0.8**
MAGA	**Magasa**	**2.22**	**350**	⇑P		**Pn**	**12 45 18.2**	**+1.3**
MAGA				AML	AML				
	comp=E,442µm,0.5s								
MAGA				AML	AML				
	comp=N,290µm,0.5s								
MABI	**Malga Bissina**	**2.51**	**349**	⇓P		**Pn**	**12 45 22.8**	**+1.8**
MABI				AML	AML				
	comp=E,38µm,0.5s								
MABI				AML	AML				
	comp=N,44µm,0.7s								
SAOF	**Saorge**	**2.67**	**280**	P		**Pn**	**12 45 23.8**	**+0.9**
SBF	**Sospel**	**2.75**	**277**	*e*Pn		**Pn**	**12 45 25.1**	**+1.1**
SBF				*e*Sn		**Sn**	**12 45 57.3**	**+0.4**
	comp=N,30nm,0.4s								
TURF	**col de Turini**	**2.79**	**279**	P		**Pn**	**12 45 25.9**	**+1.2**
MUGIO	**Muggio**	**2.80**	**327**	⇑P		**Pn**	**12 45 26.4**	**+1.7**
MUGIO				AML	AML				
	comp=N,53µm,1.1s								
MUGIO				AML	AML				
	comp=E,45µm,0.7s								
NVLJ	**Novalja**	**2.81**	**68**	*e*Pn		**Pn**	**12 45 27.0**	**+2.1**
NVLJ				Sn		**Sn**	**12 45 55.3**	**-3.1**
DUGI	**Dugi Otok**	**2.82**	**80**	*i* Pn		**Pn**	**12 45 26.4**	**+1.4**
DUGI				Sn		**Sn**	**12 45 57.2**	**-1.3**
VARE	**Varese**	**2.86**	**324**	S		**Sb**	**12 46 04.0**	**-2.2**
CERA	**Filignano**	**2.88**	**133**	S		**Sb**	**12 46 06.0**	**-0.5**
CALF	**Calern**	**3.11**	**274**	P		**Pn**	**12 45 30.8**	**+1.7**
ABSI	**Aberstueckl**	**3.14**	**1**	⇑P		**Pn**	**12 45 31.0**	**+1.5**
ABSI				AML	AML				
	comp=N,92µm,0.8s								
ABSI				AML	AML				
	comp=E,107µm,0.7s								
TUE	**Stuetta**	**3.17**	**336**	P		**Pn**	**12 45 32.0**	**+2.0**
TUE				AML	AML				
	comp=N,65µm,0.5s								
TUE				AML	AML				
	comp=E,56µm,0.8s								
ZIRJ	**Zirje**	**3.22**	**87**	*i* Pn		**Pn**	**12 45 32.5**	**+2.1**
MORI	**Morici**	**3.27**	**84**	*e*Pn		**Pn**	**12 45 34.0**	**+2.9**
ABTA	**Abfaltersbach**	**3.29**	**16**	*e*Pn		**Pn**	**12 45 32.9**	**+1.4**
	comp=E,7.6nm,0.5s								
ABTA				*e*Sn		**Sn**	**12 46 09.0**	**-1.3**
	comp=E,11nm,0.6s								
SURF	**Saint Ours**	**3.29**	**287**	P		**Pn**	**12 45 33.0**	**+1.4**
FRF	**La Foret Royal**	**3.31**	**271**	*e*Pn		**Pn**	**12 45 32.3**	**+0.6**
FRF				*e*Sn		**Sn**	**12 46 09.5**	**-1.3**
	comp=E,8.5nm,0.4s								
DAVOX	**Davos/Dischmat**	**3.33**	**344**	⇑P		**Pn**	**12 45 35.2**	**+3.1**
DAVOX				AML	AML				
	comp=N,52µm,0.5s								
DAVOX				AML	AML				
	comp=E,34µm,0.9s								
MBDF	**Montbardon**	**3.39**	**291**	*e*Pn		**Pn**	**12 45 33.7**	**+0.8**
MBDF	**Montbardon**	**3.39**	**291**	*e*Pg		**Pg**	**12 45 45.2**	**-0.2**
MBDF				*e*Sn		**Sn**	**12 46 11.5**	**-1.3**
	comp=E,17nm,0.5s								
LMR	**La Mourre**	**3.43**	**267**	*e*Pn		**Pn**	**12 45 33.7**	**+0.4**
LMR				*e*Sn		**Sn**	**12 46 12.3**	**-1.3**
	comp=E,12nm,0.5s								
FETA	**Feichten**	**3.45**	**355**	*e*Pn		**Pn**	**12 45 36.5**	**+2.8**
	comp=E,4.7nm,0.5s								
FETA				*e*Sn		**Sn**	**12 46 18.4**	**+4.1**
	comp=E,4.1nm,0.5s								
MYKA	**Terra Mystica**	**3.50**	**29**	*e*Pn		**Pb**	**12 45 41.4**	**-0.6**
	comp=E,1.7nm,0.4s								
MYKA				*e*Sn		**Sn**	**12 46 15.6**	**+0.3**
	comp=E,4.8nm,0.6s								
OGMO	**Fort Saint-Gob**	**3.62**	**298**	P		**Pb**	**12 45 41.1**	**-3.1**
SQTA	**Sankt Quirin**	**3.63**	**0**	Pn		**Pn**	**12 45 38.7**	**+2.5**
	comp=E,15nm,0.4s,SNR=8.1								
SQTA				*e*Sn		**Sn**	**12 46 22.5**	**+3.7**
	comp=E,12nm,0.4s								
WTTA	**Wattenberg**	**3.69**	**5**	Pn		**Pn**	**12 45 40.5**	**+3.5**
	comp=E,2.5nm,0.3s,SNR=6.0								
WTTA				*e*Sn		**Sn**	**12 46 24.9**	**+4.7**
	comp=E,9.7nm,0.4s								
LPG	**La Plagne**	**3.71**	**302**	*e*Sn		**Sn**	**12 46 19.5**	**-1.5**
	comp=E,12nm,0.4s								
LPL	**La Plagne**	**3.73**	**303**	*e*P		**Pn**	**12 45 41.7**	**+4.0**
LPL				*e*Sn		**Sn**	**12 46 19.7**	**-1.8**
	comp=E,9.8nm,0.4s								
WATA	**Walderalm**	**3.75**	**4**	Pn		**Pn**	**12 45 41.0**	**+3.1**
	comp=E,11nm,0.4s,SNR=9.5								
WATA				*e*Sn		**Sn**	**12 46 25.7**	**+3.8**
	comp=E,5.2nm,0.6s								
MOTA	**Moosalm**	**3.76**	**359**	P		**Pn**	**12 45 41.0**	**+3.0**
	SNR=10								
MOTA				*e*Pn		Pb	12 45 41.0	-5.6	
	comp=E,12nm,0.5s								
MOTA				*e*Sn		**Sn**	**12 46 26.1**	**+4.2**
	comp=E,11nm,0.6s								
OBKA	**Obir**	**3.76**	**38**	*e*Pn		**Pg**	**12 45 51.7**	**-0.8**
	comp=E,2.7nm,0.4s								
OBKA				*e*Sn		**Sb**	**12 46 30.1**	**-1.9**
	comp=E,28nm,0.8s								
KBA	**Koelnbreinsper**	**3.80**	**23**	*e*Pn		**Pn**	**12 45 40.5**	**+2.0**
	comp=E,2.9nm,0.6s								
KBA				*e*Sn		**Sn**	**12 46 23.0**	**0.0**
	comp=E,4.9nm,0.5s								
DAVA	**Damuels**	**3.81**	**346**	Pn		**Pn**	**12 45 41.9**	**+3.2**
	comp=E,5.4nm,0.4s,SNR=5.7								
DAVA				*e*Sn		**Sn**	**12 46 26.2**	**+2.9**
	comp=E,12nm,0.4s								
BNALP	**Bannalp**	**3.82**	**330**	⇑P		**Pn**	**12 45 42.3**	**+3.4**
BNALP				AML	AML				
	comp=E,40µm,0.8s								
BNALP				AML	AML				
	comp=N,58µm,0.9s								
RSL	**Roselend**	**3.88**	**304**	P		**Pn**	**12 45 43.1**	**+3.4**
RETA	**Reutte**	**3.91**	**356**	Pn		**Pn**	**12 45 43.3**	**+3.3**
	comp=N,19nm,0.5s,SNR=5.9								
RETA				*e*Sn		**Sn**	**12 46 30.0**	**+4.3**
	comp=N,7.2nm,0.5s								
GDM	**Grand'Maison**	**3.99**	**296**	P		Pn	12 45 46.0	+4.8	
ORIF	**Oris-en-Rattie**	**4.05**	**291**	*e*P		**Pn**	**12 45 45.0**	**+3.1**
ORIF				*e*Sn		**Sn**	**12 46 27.3**	**-1.8**
	comp=N,12nm,0.4s								
ORIF	**Oris-en-Rattie**	**4.05**	**291**	S		**Sn**	**12 46 31.7**	**+2.6**
ORIF	**Oris-en-Rattie**	**4.05**	**291**	P		**Pn**	**12 45 43.8**	**+1.9**
ORIF	**Oris-en-Rattie**	**4.05**	**291**	P		**Pn**	**12 45 45.3**	**+3.3**
SMRF	**Simiane la Rot**	**4.10**	**277**	*e*Pn		**Pn**	**12 45 44.1**	**+1.6**
SOKA	**Soboth**	**4.11**	**40**	*e*Pn		**Pn**	**12 45 45.6**	**+2.9**
	comp=N,2.5nm,0.4s								
SOKA				*e*Sn		**Sn**	**12 46 30.1**	**-0.4**
	comp=N,2.8nm,0.5s								
RUSF	**Rustrel**	**4.16**	**277**	P		**Pn**	**12 45 45.4**	**+2.0**
RICI	**Ricice**	**4.31**	**89**	*e*Pn		**Pn**	**12 45 49.4**	**+4.0**
OGSM	**Saint Maurice**	**4.42**	**299**	P		**Pn**	**12 45 49.9**	**+2.9**
OGSM				S		**Sn**	**12 46 40.4**	**+2.2**
BALST	**Balsthal**	**4.49**	**328**	P		**Pn**	**12 45 50.0**	**+2.1**
SLE	**Schleitheim**	**4.59**	**336**	P		**Pn**	**12 45 49.9**	**+0.6**
CABF	**La Chapelle**	**4.72**	**312**	*e*Pn		**Pn**	**12 45 52.5**	**+1.4**
CABF				*e*Sn		**Sn**	**12 46 42.9**	**-2.6**
	comp=N,1.3nm,0.3s								
BRANT	**Les Verrieres**	**4.73**	**317**	P		**Pn**	**12 45 53.2**	**+1.9**
BRANT	**Les Verrieres**	**4.73**	**317**	S		**Sn**	**12 46 48.0**	**+2.1**
ARSA	**Arzberg**	**4.76**	**38**	*e*Pn		**Pn**	**12 45 53.7**	**+2.1**
	comp=N,2.4nm,0.3s								
ARSA				*e*Sn		**Sn**	**12 46 48.8**	**+2.4**
	comp=N,4.2nm,0.8s								
MOA	**Mollin**	**4.77**	**26**	*e*Pn		**Pn**	**12 45 53.5**	**+1.8**
	comp=N,2.4nm,0.5s								
MOA				*e*Sn		**Sn**	**12 46 45.4**	**-1.3**
	comp=N,4.1nm,1.0s								
VIVF	**Saint-Julien-l**	**4.86**	**287**	*e*Pn		**Pn**	**12 45 53.0**	**-0.1**
VIVF				*e*Sn		**Sn**	**12 46 46.4**	**-2.6**
	comp=N,3.0nm,0.3s								
KIZ	**Kirchzarten**	**4.94**	**333**	P		**Pn**	**12 45 55.1**	**+1.1**
CRAC	**Craco**	**5.06**	**128**	⇑P		**Pg**	**12 46 13.9**	**-3.4**
MOF	**Molkenrain**	**5.13**	**328**	P		**Pn**	**12 45 57.6**	**+0.9**
BFO	**Black Forest**	**5.15**	**338**	P		**Pn**	**12 45 58.3**	**+1.3**
BFO	**Black Forest**	**5.15**	**338**	P		**Pn**	**12 45 58.4**	**+1.5**
BFO	**Black Forest**	**5.15**	**338**	P		**Pn**	**12 45 58.3**	**+1.3**
HINF	**Hinteralfeld**	**5.21**	**326**	*e*Pn		**Pn**	**12 45 58.7**	**+0.9**
HINF				*e*Sn		**Sn**	**12 46 54.7**	**-2.9**
	comp=N,8.6nm,0.4s								
LASF	**Ste Croix**	**5.34**	**278**	*e*Pn		**Pn**	**12 46 00.3**	**+0.7**
LASF				*e*Sn		**Sn**	**12 46 58.3**	**-2.5**
	comp=N,0.3nm,0.2s								
OPP	**Oppenau**	**5.34**	**338**	P		**Pn**	**12 46 00.8**	**+1.2**
ECH	**Echery**	**5.42**	**330**	P		**Pn**	**12 46 02.0**	**+1.3**
ECH				S		**Sn**	**12 47 01.3**	**-1.4**
CONA	**Conrad Observa**	**5.42**	**35**	*e*Pn		**Pn**	**12 46 02.4**	**+1.6**
	comp=N,2.2nm,0.5s								
CONA				*e*Sn		**Sn**	**12 47 01.7**	**-1.2**
	comp=N,2.7nm,0.4s								
CDF	**Champ du Feu**	**5.55**	**332**	*e*Pn		**Pn**	**12 46 03.3**	**+0.8**
CDF				*e*Sn		**Sn**	**12 47 02.5**	**-3.4**
	comp=N,10nm,0.6s								
HAU	**Haudompre**	**5.57**	**324**	*e*Pn		**Pn**	**12 46 03.8**	**+1.0**
HAU				*e*Sn		**Sn**	**12 47 03.4**	**-3.0**
	comp=N,12nm,0.3s								
KHC	**Kasperske Hory**	**5.78**	**16**	*e*PN		Pn	12 46 11.5	+5.9	
KHC				*ex*		x	12 46 49.0		
SMF	**Signal de Mont**	**6.04**	**303**	*e*Pn		**Pn**	**12 46 09.7**	**+0.5**
PAGF	**Fort de Pagny**	**6.26**	**324**	*e*Pn		**Pn**	**12 46 12.6**	**+0.4**
PAGF				*e*Sn		**Sn**	**12 47 19.6**	**-3.8**
	comp=N,1.4nm,0.2s,baz=145								
SFTF	**Sexfontaines**	**6.31**	**319**	*e*Pn		**Pn**	**12 46 13.3**	**+0.4**
	baz=139								
LOR	**Lormes**	**6.34**	**308**	*e*Pn		**Pn**	**12 46 14.5**	**+1.1**
	baz=127								
LOR				*e*Sn		**Sn**	**12 47 22.7**	**-2.8**
	comp=N,5.1nm,0.5s								
AVF	**Avril sur Loir**	**6.41**	**303**	*e*Pn		**Pn**	**12 46 15.0**	**+0.8**
SSF	**Saint Saulge**	**6.44**	**305**	*e*Pn		**Pn**	**12 46 15.2**	**+0.5**
SSF				*e*Sn		**Sn**	**12 47 24.1**	**-3.8**
	comp=N,1.5nm,0.4s								
MTLF	**Montolieu**	**6.55**	**271**	*e*Pn		**Pn**	**12 46 17.1**	**+1.0**
MTLF				*e*Sn		**Sn**	**12 47 27.0**	**-3.5**
	comp=N,0.2nm,0.2s								
BGF	**Bois d'Agland**	**6.62**	**300**	*e*Pn		**Pn**	**12 46 17.4**	**+0.2**
BGF				*e*Sn		**Sn**	**12 47 29.0**	**-3.3**
	comp=N,5.5nm,0.4s								
CAF	**Calviac**	**6.70**	**285**	*e*Pn		**Pn**	**12 46 18.9**	**+0.6**

WEL 27 12:57:24.5±1.0,35°S±14°×18°0E±1°9,h287km±14km, M3.7/27,mB4.2/6,ML4.0/8,MLv3.9/27,Mw(mB)3.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=118.8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**3.08**	**201**	P		Pn	12 58 20.7	+0.6
WMGZ				S		S	12 59 04.8	+0.3
HAZ	**Te Kaha**	**3.25**	**210**	P		Pn	12 58 21.4	-0.5
HAZ				S		S	12 59 08.1	+0.5
PKGZ	**Pakihiroa**	**3.25**	**205**	P		Pn	12 58 21.8	-0.2
PKGZ				S		S	12 59 05.9	-1.9
PUZ	**Puketiti**	**3.36**	**202**	P		Pn	12 58 23.2	+0.1
PUZ				S		S	12 59 12.5	+2.7
RUGZ	**Raukumara Rang**	**3.47**	**209**	P		Pn	12 58 24.0	-0.3
RUGZ				S		S	12 59 10.8	-1.3
TWGZ	**Tauwhareparae**	**3.55**	**204**	P		Pn	12 58 25.6	+0.5
TWGZ				S		S	12 59 17.8	+4.3
TKGZ	**Te Karaka**	**3.83**	**204**	P		Pn	12 58 28.2	+0.1
TKGZ				S		S	12 59 18.1	-0.7
MARZ	**Manawahe**	**3.95**	**219**	P		Pn	12 58 30.5	+1.0
URZ	**Urewera**	**3.96**	**213**	P		Pn	12 58 28.6	-0.9
RIGZ	**Rimuhau**	**4.10**	**203**	P		Pn	12 58 31.3	+0.2
RIGZ				S		S	12 59 21.7	-2.7
MUGZ	**Murupara**	**4.29**	**214**	P		Pn	12 58 32.2	-1.0
MUGZ				S		S	12 59 27.8	-0.5
RTZ	**Ruatahuna**	**4.31**	**211**	P		Pn	12 58 32.9	-0.6
SNGZ	**Shannon Statio**	**4.31**	**207**	P		Pn	12 58 33.6	+0.1
KNZ	**Kokohu**	**4.42**	**202**	P		Pn	12 58 34.6	-0.1
KNZ				S		S	12 59 29.3	-1.5
MHGZ	**Mahia Peninsul**	**4.47**	**199**	P		Pn	12 58 36.0	+0.8
MHGZ				S		S	12 59 31.5	-0.5
RAHZ	**Arahi**	**4.53**	**208**	P		Pn	12 58 35.8	-0.2
RAHZ				S		S	12 59 35.1	+1.9
NMHZ	**Naumai**	**4.79**	**209**	P		Pn	12 58 39.3	+0.1
NMHZ				S		S	12 59 42.7	+3.8
ARHZ	**Aropaoanui**	**4.86**	**207**	P		Pn	12 58 40.3	+0.4
HATZ	**Hinemaiaia**	**4.94**	**216**	P		Pn	12 58 41.0	+0.2
BKZ	**Black Stump Fm**	**4.98**	**211**	P		Pn	12 58 41.2	-0.1
MCHZ	**McNeill Hill**	**5.13**	**208**	P		Pn	12 58 43.9	+0.8
KWHZ	**Kaweka Forest**	**5.23**	**210**	P		Pn	12 58 43.5	-0.7
ETVZ	**East Tongariro**	**5.32**	**217**	P		Pn	12 58 44.6	-0.7
HIZ	**Hauiti**	**5.34**	**227**	P		Pn	12 58 46.6	+1.0
OTVZ	**Oturere**	**5.36**	**217**	P		Pn	12 58 44.7	-1.2
KAHZ	**Kahuranaki**	**5.38**	**205**	P		Pn	12 58 47.1	+1.2
BHHZ	**Black Hill Sta**	**5.43**	**212**	P		Pn	12 58 46.5	-0.1
KRHZ	**Kereru**	**5.43**	**209**	P		Pn	12 58 45.4	-1.2
MOVZ	**Moawhango**	**5.51**	**215**	P		Pn	12 58 47.0	-0.6
PXZ	**Pawanui**	**5.59**	**204**	P		Pn	12 58 48.9	+0.4
PNHZ	**Pukenui**	**5.73**	**209**	P		Pn	12 58 49.0	-1.2
PRHZ	**Porangahau**	**5.88**	**205**	P		Pn	12 58 52.0	+0.1
DVHZ	**Dannevirke**	**6.08**	**207**	P		Pn	12 58 54.9	+0.6
POWZ	**Post Office Ro**	**6.31**	**209**	P		Pn	12 58 57.7	+0.5
PRWZ	**Pori Road**	**6.37**	**207**	P		Pn	12 58 57.5	-0.5
BFZ	**Birch Farm**	**6.38**	**205**	P		Pn	12 58 57.3	-0.7

*IDC **27** 13:01:02.5±1.1, 13°.34N×120°.66E, h190km±106km, mb2.8/3, mb1 3.1/3, mb1mx2.7/36, mbtmp3.4/3, Error ellipse: s-maj=334.5km s-min=22.5km az=37.0*
*MAN **27** 13:01:04.1, 13°.68N×120°.52E, h171km, MS2.7*
ISC 27 13:01:01.9±1.2,13°.68N±0°.08×120°.7E±0°.1,h198km±8km, n10,σ1s98/16,mb3.3/3,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PGP	**Puerto Galera**	**0.34**	**123**	⇑*e*P		**Pn**	**13 01 28.6**	**+0.3**
PGP				*i* S		**Sn**	**13 01 48.7**	**0.0**
LUBP	**Lubang**	**0.41**	**277**	*e*P		**Pn**	**13 01 28.2**	**-0.2**
LUBP				*e*S		**Sn**	**13 01 44.1**	**-4.8**
TGY	**Tagaytay City**	**0.49**	**33**	P		**Pn**	**13 01 30.5**	**+1.7**
	92nm,0.3s,baz=270,slow=2.0,SNR=8.0							
TGY				S		**Sn**	**13 01 52.0**	**+2.2**
	69nm,0.3s,baz=199,slow=20,SNR=2.0							
MACP	**Maragondon, Ca**	**0.58**	**5**	*e*P		**Pn**	**13 01 28.8**	**-0.2**
MACP				*e*S		**Sn**	**13 01 50.7**	**+0.5**
SJMP	**San Jose**	**1.29**	**160**	*e*P		**Pn**	**13 01 34.2**	**+0.6**
SJMP				*e*S		**Sn**	**13 01 57.6**	**-0.8**
BUSP	**Coron**	**1.73**	**195**	*e*P		**Pn**	**13 01 38.6**	**+1.0**
BUSP				*e*S		**Sn**	**13 02 07.1**	**+1.7**
ENPP	**El Nido**	**2.74**	**206**	*e*P		**Pn**	**13 01 49.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**21.40**	**286**	P		**P**	**13 05 36.5**	**+2.1**
	0.7nm,0.7s,baz=90,slow=8.4,SNR=6.2							
WRA	**Warramunga Arr**	**36.02**	**158**	P		**P**	**13 07 42.2**	**-2.2**
	0.2nm,0.5s,baz=337,slow=9.0,SNR=7.4							
ASAR	**Alice Springs**	**39.31**	**161**	P		**P**	**13 08 10.8**	**-1.1**
	0.4nm,0.4s,baz=335,slow=7.1,SNR=24							

*MAN **27** 13:21:19.4, 16°.28N×120°.29E, h2km, MS3.4*
*IDC **27** 13:21:27.4±2.9, 16°.20N×120°.46E, h76km±30km, mb3.1/9, mb1 3.4/9, mb1mx3.2/44, mbtmp3.5/9, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=32.3km s-min=16.6km az=69.0*
ISC 27 13:21:20.1±1.1,16°.33N±0°.04×120°.29E±0°.04,h11km±8km, n19,σ2s06/24,mb3.4/9,2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BCP	**Baguio City**	**0.32**	**74**	⇓*i*P		**Pg**	**13 21 26.5**	**-0.1**
BCP				*i* S		**Sg**	**13 21 30.4**	**-0.5**
**BOL

baz=5.1,SNR=4.7
HTT S Sn 13 30 09.2 +0.5
baz=5.1
STKA Stephens Creek 6.57 6 Pn Pn 13 29 30.0 +3.0
1.9nm,0.3s,baz=178,slow=12,SNR=47
STKA Sn Sn 13 30 40.4 -1.6
2.0nm,0.3s,baz=232,slow=9.2,SNR=5.8
STKA Lg Lg 13 31 23.7
1.7nm,0.3s,baz=125,slow=11,SNR=3.7
STKA Stephens Creek 6.57 6 P Pn 13 29 29.3 +2.3
baz=6.5,SNR=28
STKA S Sn 13 30 40.4 -1.6
baz=6.5
BBOO Buckleboo 6.81 324 P Pn 13 29 31.7 +1.4
baz=6.8,SNR=9.2
BBOO S Sn 13 30 44.6 -3.4
baz=6.8
CMSA Cobar Meteorol 7.95 32 P Pn 13 29 46.8 +0.7
baz=7.8
INKA Innaminka 10.66 360 P Pn 13 30 24.2 +1.0
baz=11,SNR=5.8
INKA S Sn 13 32 19.8 -2.8
baz=11
ASAR Alice Springs 15.85 336 Pn Pn 13 31 32.5 -1.2
0.1nm,0.3s,baz=168,slow=8.6,SNR=7.4
ASAR Sn Sn 13 34 18.9 -11
0.1nm,0.3s,baz=165,slow=22,SNR=5.5
ASAR Lg Lg 13 36 25.6
baz=172,slow=30,SNR=3.6
WRA Warramunga Arr 19.26 341 P P 13 32 15.0 0.0
0.1nm,0.3s,baz=171,slow=11,SNR=3.9

*INET **27** 13:28:47.3, 11˚.18N×86˚.86W, h15km, MW4.0*
UCR 27 13:28:51.4±2.8, 10˚.90N×86˚.42W, h0km±576km, mb4.5(NEIC), Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	Finca Las Img	0.95	97	eP	Pg	13 29 09.5	-0.2
BUEV	Buena Vista	1.00	96	eP	Pg	13 29 11.0	+0.5
GB1A	Boringuen Arri	1.00	95	eP	Pg	13 29 11.1	+0.4
GPS2	Hotel Rincn d	1.06	98	eP	Pg	13 29 11.3	-0.3
BUAI	Buenos Aires	1.06	91	eP	Pg	13 29 10.9	-0.9
GUAI	GUAI	1.09	125	eP	Pg	13 29 11.6	-0.7
LIM1	Limonal	1.16	100	eP	Pg	13 29 11.7	-1.9
COLC	Colonia	1.21	101	eP	Pg	13 29 14.7	0.0
HORNC	Hornillas	1.23	99	eP	Pg	13 29 14.1	-0.9
CUI	Cuipilapa	1.25	101	eP	Pg	13 29 14.0	-1.5
ACAL	Aguas Claras	1.38	101	eP	Pb	13 29 19.5	+1.4
PTEN	Parque Tenorio	1.42	97	eP	Pb	13 29 20.2	+1.4

*IDC **27** 13:29:18.9±0.8, 11˚.79N×86˚.17W, h0km, mb3.9/8, mb1 4.3/9, mb1mx3.9/41, mbtmp4.0/9, ML4.1/1, MS3.4/8, Ms1 3.5/8, ms1mx3.1/43, Error ellipse: s-maj=70.0km s-min=17.4km az=54.0*
*SNET **27** 13:29:22.2±1.1, 11˚.21N×87˚.16W, h139km±67km, ML3.8*
*NEIC **27** 13:29:24.8±2.2, 11˚.36N±0˚.06×86˚.68W±0˚.08, h56km±9km, mb4.5/14, Error ellipse: s-maj=12.2km s-min=7.6km az=62.0*
ISC 27 13:29:24.1±0.5, 11˚.26N±0˚.07×86˚.83W±0˚.08, h49km, n65, σ1§46/61, mb4.2/15, MS3.4/6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTG	Ortega, Santa	1.61	124	Pn	Pn	13 29 50.9	+0.7
BOAB	BOACO BROADBAN	1.64	44	Pn	Pn	13 29 49.0	-1.5
ACON	Acoyapa	1.76	66	Pn	Pn	13 29 52.0	-0.2
JTS	Las Juntas de	2.08	118	Pn	Pn	13 29 54.8	-1.8
	16nm,0.3s,baz=199,slow=22,SNR=7.7						
JTS	Las Juntas de	2.08	118		Pn	13 29 55.6	-1.0
LCND	La Caada	2.28	333	eP	Pn	13 30 00.0	+0.6
LCND				eS	Sn	13 30 28.4	+2.1
LCND				IAML		13 30 35.9	
	comp=Z,571nm,0.4s						
VSM	San Miguel	2.58	327	eP	Pn	13 30 03.2	-0.4
LCY	Lacayo	2.58	326	eP	Pn	13 30 03.7	+0.1
TECA	Tecapa	2.76	324	eP	Pn	13 30 06.4	+0.3
TGUH	Tegucigalpa,Un	2.81	351	eP	Pn	13 30 07.4	+0.7
TGUH	Tegucigalpa,Un	2.81	351	Pn	Pn	13 30 07.8	+1.1
PQSS	Presa 15 de Se	2.90	324	eP	Pn	13 30 06.6	-1.1
PQSS				eS	Sn	13 30 42.0	+0.6
LFRS	El Faro	3.21	317	eP	Pn	13 30 10.1	-2.0
JAYA	Jayaque - finc	3.50	313	eP	Pn	13 30 13.5	-2.6
JAYA				eS	Sn	13 30 53.8	-2.5
JAYA				IAML		13 31 01.3	
	comp=Z,174nm,0.2s						
MTO3	Montecristo	3.98	322	Pn	Pn	13 30 25.4	+2.6
RIOS	Rincon, Osa	4.14	128	Pn	Pn	13 30 24.0	-0.8
TEIG	Tepich	9.02	351	LR	LR	13 34 14.5	
	comp=Z,117nm,19.1s,baz=97,slow=34						
CMIG	Matias Romero	9.73	307	Pn	Pn	13 31 42.6	+1.2
	comp=Z,1.8nm,0.3s,baz=132,slow=7.8,SNR=10.0						
TLIG	Tlapa	12.98	300		Pn	13 32 27.6	+1.5
SDV	Santo Domingo	16.12	97	Pn	P	13 33 09.6	-0.7
	comp=Z,0.6nm,0.3s,baz=286,slow=10.0,SNR=3.6						
SDV				LR	LR	13 41 23.0	
	comp=Z,154nm,18.1s,baz=248,slow=46						
ATAH	Atahualpa	20.11	155	LR	LR	13 40 42.8	
	comp=Z,223nm,18.6s,baz=335,slow=34						
Y58A	Scranton	23.47	15		PcP	13 38 14.1	-0.1
TXAR	Lajitas Array	23.88	321	P	P	13 34 34.5	+1.2
	comp=Z,3.4nm,0.7s,baz=134,slow=9.7,SNR=17						
TXAR				PcP	PcP	13 38 17.9	+2.5
	comp=Z,1.5nm,0.9s,baz=134,slow=5.4,SNR=8.9						
TXAR	Lajitas Array	23.88	321	P	P	13 34 34.7	+1.4
MIAR	Mount Ida	23.98	346	P	P	13 34 34.5	+0.4
CPCT	Cooper Cave	24.17	5	P	P	13 34 35.8	-0.1
CPCT				IAmb	IAmb	13 34 39.1	
	comp=Z,12nm,0.8s						
WHAR	Wooly Hollow	24.43	349	P	P	13 34 37.8	-0.4
WHAR				IAmb	IAmb	13 34 38.8	
	comp=Z,13nm,0.9s						
TKL	Tuckaleechee C	24.44	6	P	P	13 34 38.8	+0.4
	comp=Z,5.4nm,0.9s,baz=122,slow=3.6,SNR=2.8						
FCAR	Ozark Folk Cen	24.98	350	P	P	13 34 42.7	-0.5
LCAR	Lake Charles	25.01	352	P	P	13 34 41.1	-2.3
T42A	Van Buren	25.94	352	P	P	13 34 51.2	-0.7
U59A	Littleton	26.28	17		pP	13 35 06.8	-0.8
PTGA	Pitinga	29.23	112	LR	LR	13 48 20.4	
	comp=Z,80nm,18.2s,baz=276,slow=40						
ANMO	Albuquerque	29.58	326	P	P	13 35 26.0	+1.3
	comp=Z,1.4nm,0.7s,baz=148,slow=7.1,SNR=2.0						
N49A	Columbus Grove	29.63	4	P	P	13 35 24.2	-0.6
SAML	Samuel	30.92	130	P	P	13 35 35.6	-0.9
SAML				IAmb	IAmb	13 35 36.7	
	comp=Z,7.5nm,0.8s						
LPAZ	La Paz	33.04	146	LR	LR	13 50 47.5	
	comp=Z,98nm,20.3s,baz=336,slow=39						
ECSD	EROS Data Cent	33.44	347	P	P	13 35 56.2	-2.2
ECSD				IAmb	IAmb	13 35 58.1	
	comp=Z,5.8nm,0.8s						
COWI	Conover	34.77	357	P	P	13 36 06.9	-3.0
E43A	Lone Tree Farm	34.99	360	P	P	13 36 08.7	-3.0
PDAR	Pinedale Array	37.10	332	P	P	13 36 30.6	+0.5
	comp=Z,0.6nm,0.6s,baz=126,slow=7.7,SNR=3.5						
PDAR				PcP	PcP	13 38 51.2	+1.4
	comp=Z,0.6nm,0.9s,baz=162,slow=3.8,SNR=3.4						
PDAR	Pinedale Array	37.10	332	P	P	13 36 28.6	-1.6
HWUT	Hardware Ranch	37.20	329	P	P	13 36 31.6	+0.7
HWUT				IAmb	IAmb	13 36 48.5	
	comp=Z,19nm,1.5s						
NVAR	Mina Array Bea	38.99	319	P	P	13 36 48.2	+2.0
	comp=Z,1.0nm,0.8s,baz=125,slow=7.8,SNR=3.9						
NVAR				PcP	PcP	13 38 58.5	+2.8
	comp=Z,3.2nm,0.8s,baz=139,slow=4.1,SNR=12						
ULM	Lac du Bonnet	39.58	351	P	P	13 36 47.4	-3.1
ULM				IAmb	IAmb	13 36 49.6	
	comp=Z,11nm,1.0s						
BLRM	Lewis Ranch	40.02	315		S	13 42 54.7	-2.1
H03N2	Juan Fernandez	45.09	171	T	T	14 25 35.6	
	baz=349,slow=76,SNR=6.8						
H03N1	Juan Fernandez	45.09	171	T	T	14 25 34.7	
	baz=349,slow=76,SNR=8.1						
H03N3	Juan Fernandez	45.10	171	T	T	14 25 35.1	
	baz=349,slow=76,SNR=6.3						
BDFB	Brasilia	46.81	124	LR	LR	13 58 11.4	
	comp=Z,113nm,18.5s,baz=293,slow=37						
CPUP	Villa Florida	47.10	143	P	P	13 37 52.5	+1.0
	comp=Z,1.2nm,0.8s,baz=325,slow=7.5,SNR=3.3						
CPUP	Villa Florida	47.10	143	P	P	13 37 51.8	+0.3
CPUP				IAmb	IAmb	13 38 46.0	
	comp=Z,6.6nm,1.3s						
YKA	Yellowknife Ar	54.91	345	P	P	13 38 48.8	-0.8
	comp=Z,1.8nm,0.9s,baz=134,slow=8.1,SNR=18						
YKA				PcP	PcP	13 39 51.5	+0.4
	comp=Z,0.3nm,0.6s,baz=139,slow=4.8,SNR=6.1						
INK	Inuvik	64.52	343	P	P	13 39 55.4	-0.1
	comp=Z,2.3nm,0.9s,baz=104,slow=11,SNR=5.7						
BCAR	Beaver Creek A	64.58	336	P	P	13 39 56.0	-0.2
ILAR	Eielson Array	67.35	336	P	P	13 40 13.8	-0.1
	comp=Z,1.4nm,0.9s,baz=100,slow=3.8,SNR=6.6						
ILAR	Eielson Array	67.35	336	P	P	13 40 13.4	-0.4
JMIC	Jan Mayen	75.61	19	LR	LR	14 14 31.8	
	comp=Z,11nm,19.4s,baz=253,slow=36						
NOA	NORSAR Array B	84.10	29	LR	LR	14 15 02.5	
	comp=Z,10nm,21.6s,baz=80,slow=33						
SONM	Songino Array	120.00	350	PKP	PKiKP	13 48 10.0	+0.3
	comp=Z,0.5nm,0.8s,baz=15,slow=1.4,SNR=3.1						
MKAR	Makanchi Array	121.39	9	PKP	PKPdf	13 48 11.7	-0.6
	comp=Z,0.2nm,0.7s,baz=349,slow=2.9,SNR=2.1						
KSRS	Korea Array	121.60	328	PKP	PKiKP	13 48 13.8	+0.8
	comp=Z,1.2nm,0.7s,baz=14,slow=1.4,SNR=5.9						
ASAR	Alice Springs	139.38	247	PKP	PKiKP	13 48 48.5	-0.6
	comp=Z,0.4nm,0.7s,baz=102,slow=2.3,SNR=6.7						
WRA	Warramunga Arr	139.51	253	PKP	PKiKP	13 48 48.4	-1.1
	comp=Z,0.7nm,0.7s,baz=79,slow=1.0,SNR=5.5						
CMAR	Chiang Mai Arr	149.93	349	PKPbc	PKPdf	13 49 06.8	+1.7
	comp=Z,3.1nm,0.9s,baz=324,slow=2.4,SNR=8.3						

*NEIC **27** 13:30:14.0±2.5, 36˚.26N±0˚.02×120˚.36W±0˚.03, h6km±5km, Error ellipse: s-maj=4.3km s-min=2.5km az=63.0*
*IDC **27** 13:30:13.9±1.0, 36˚.13N×120˚.06W, h0km, mb3.9/8, mb1 4.1/15, mb1mx3.9/46, mbtmp3.8/15, ML3.6/7, MS3.6/7, Ms1 3.6/7, ms1mx3.1/59, Error ellipse: s-maj=13.9km s-min=8.5km az=70.0*
*NEIC **27** 13:30:14.3, 36˚.23N×120˚.35W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr1.00; Mθθ-0.45; Mϕϕ-0.55; Mrθ-1.14; Mϕθ0.77; Mϕr0.79; Fault plane solution: M0 1.81000×10^15^ NP1:ϕs306.35000°, δ70.63000°, λ81.21000°. NP2:ϕs151.35000°, δ21.20000°, λ113.50000°. Principal axes: T 1.6845, Plg63.0000°, Azm202.0000°; N 0.2290, Plg8.0000°, Azm309.0000°; P -1.9135, Plg25.0000°, Azm43.0000°;*
*NCEDC **27** 13:30:14.3±2.4, 36˚.23N±0˚.02×120˚.35W±0˚.04, h11km±5km, Mwr4.1/10, mb4.3/4(NEIC), Mwr4.1/69(NEIC) Error ellipse: s-maj=4.6km s-min=2.4km az=61.0*
*ANF **27** 13:30:14.9±0.5, 36˚.17N×120˚.25W, h8km±2km, ML4.4/35, Error ellipse: s-maj=3.8km s-min=2.5km az=117.0, Hypocentre not reviewed by the ISC*
*NEIC **27** 13:30:14.3, 36˚.23N×120˚.35W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr1.09; Mθθ-0.52; Mϕϕ-0.57; Mrθ-1.06; Mϕθ0.58; Mϕr1.14; Fault plane solution: M0 1.91000×10^15^ NP1:ϕs135.29000°, δ17.74000°, λ88.42000°. NP2:ϕs316.94000°, δ72.27000°, λ90.50000°. Principal axes: T 1.8952, Plg63.0000°, Azm228.0000°; N 0.0370, Plg0.0000°, Azm137.0000°; P -1.9322, Plg27.0000°, Azm47.0000°;*
ISC 27 13:30:14.9±1.1, 36˚.21N±0˚.03×120˚.43W±0˚.03, h12km±7km, n120, σ1§45/115, mb4.1/10, MS3.7/5, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDRM	Domengine Ranc	0.14	19		Pg	13 30 18.1	-0.2
PKD	Bear Valley Ra	0.28	200		Pb	13 30 21.8	-0.1
PHBM	Huron Fishing	0.28	81		Pg	13 30 20.6	-0.1
PMPB	Monarch Peak	0.30	272	Pg	Pn	13 30 22.6	-2.7
PAGB	Antelope Grade	0.49	163	Pg	Pb	13 30 24.6	-1.0
THIS	South End of C	0.51	162		Pb	13 30 25.0	-0.8
TCHL	Shandon	0.52	178		Pn	13 30 25.8	-2.4
LRV	Little Rabbit	0.53	295		Pb	13 30 25.9	-0.2
TRAM	Private Proper	0.54	167		Pb	13 30 25.7	-0.7
BBNM	San Benito	0.61	300		Pn	13 30 27.4	-2.1
TSCN	Private Proper	0.66	175		Pn	13 30 28.2	-2.0
RAMR	Ramage Ranch	0.67	213		Pn	13 30 29.2	-1.1
PAPM	Alder Peak	0.81	249		Pn	13 30 31.1	-1.2
BLRM	Lewis Ranch	0.82	304		Pn	13 30 31.8	-0.6
BSMM	Soledad Missio	0.83	283		Pn	13 30 31.2	-1.3
VOG	Valley Oaks Go	0.85	82	P		13 30 28.8	
	baz=263,SNR=26						
BJCM	Johnson Can.	0.85	294		Pn	13 30 31.2	-1.5
SCZ	Santa Cruz	0.88	297		Pn	13 30 31.5	-1.7
HAST	Hastings Reser	0.93	282		Pn	13 30 32.8	-1.0
SMMC	Simmler	0.95	158	P		13 30 32.0	
	baz=342,SNR=94						
SMMC				S		13 30 45.8	
	baz=342						
SAO	San Andreas Ge	0.99	304	Pg	Pn	13 30 33.5	-1.3
HSFM	Saint Francis	1.06	305		Pn	13 30 35.0	-0.6
PACP	Pacheco Peak	1.06	319		Pn	13 30 34.7	-1.0
HFEM	San Felipe	1.10	315		Pn	13 30 35.2	-1.0
VES	Vestal, Richgr	1.15	108	P		13 30 33.8	
	baz=291,SNR=44						
VES				S		13 30 47.8	
	baz=291						
GHS	Gilroy Hot Spr	1.21	318		Pn	13 30 36.7	-1.1
HELL	Mitchell Peak,	1.23	67		Pn	13 30 34.6	-3.4
PMLM	Mount Lospe	1.32	187		Pb	13 30 38.2	-1.4
CMPM	Mikes Peak	1.36	328		Pn	13 30 38.3	-1.5
PKM	Mcpherson Peak	1.41	159	P		13 30 39.6	
	baz=342,SNR=34						
MOBB	Monterey Bay O	1.48	290		Pb	13 30 41.2	-1.2
MHC	Mount Hamilton	1.50	320		Pn	13 30 40.5	-1.3
COSM	Mount Oso	1.51	330		Pn	13 30 40.2	-1.7
WASM	Alta Sierra Ca	1.58	107		Pn	13 30 40.8	-2.3
GATR	Gnd/Air Tx Cnt	1.65	182		Sg	13 31 11.0	+3.0
ISA	Isabella, Lake	1.67	108	Pn	Pn	13 30 42.2	-1.9
ISA	Isabella, Lake	1.67	108	P		13 30 42.1	
	baz=291						
ISA				S		13 31 02.8	
	baz=291						
ARVC	Arvin	1.69	129	P		13 30 42.0	
	baz=312,SNR=29						
ARVC				S		13 31 03.8	
	baz=312						
WLHM	Little Horse	1.71	91		Pn	13 30 43.2	-1.7
WHFM	Hanning Flat	1.76	106		Pn	13 30 43.7	-1.6
WENL	Wente Vineyard	1.77	323		Pn	13 30 44.9	-0.6
MDPB	Devils Postpil	1.79	37	Pn	Pn	13 30 45.1	-0.8
CMB	Columbia Colle	1.83	1		Pn	13 30 45.1	-1.1
CMB	Columbia Colle	1.83	1		Pn	13 30 45.8	-0.5
WORM	Onyx Ranch	1.84	105		Pn	13 30 45.5	-1.0
SBC	Santa Barbara	1.85	162	P		13 30 45.9	
	baz=344,SNR=9.2						
MDCM	Deadman Creek	1.87	36		Pn	13 30 46.3	-0.7
MTUM	Tungsten Hills	1.88	52		Pn	13 30 46.5	-0.6
JRSC	Jasper Ridge	1.88	310		Pn	13 30 46.7	-0.3
CWC	Cottonwood Cre	1.91	82	P		13 30 46.4	
	baz=264						
CWC				S		13 31 10.0	
	baz=264						
MLAC	Mammoth, Mammo	1.91	41	P		13 30 47.1	
	baz=221						
MDRNC	Doe Ridge	1.92	41		Pn	13 30 47.3	-0.4
TIN	Tinemaha, Big	1.96	64	P		13 30 47.6	
	baz=245,SNR=33						
TIN				S		13 31 12.3	
	baz=245						
WBSM	Bird Springs	1.97	109		Pn	13 30 47.4	-1.0
WRVM	Rose V. Centra	2.06	95		Pn	13 30 49.0	-0.5
WNMM	Nine Mile Cany	2.07	99		Pn	13 30 48.9	-0.7
BDM	Black Diamond	2.09	327		Pn	13 30 49.5	-0.3
OSI	Osito Audit: C	2.11	138		Pn	13 30 48.3	-1.8
OSI	Osito Audit: C	2.11	138	P		13 30 48.8	
	baz=321,SNR=22						
WVPM	Volcano Peak E	2.13	96		Pn	13 30 50.3	-0.2
JRC2	Joshua Ridge	2.13	95		Pn	13 30 50.3	-0.2
CGO	Cerro Gordo	2.14	80		Pn	13 30 50.8	-0.1
WCSM	Coso Springs S	2.16	94		Pn	13 30 50.9	0.0
TOW	Tower One	2.19	100		Pn	13 30 51.8	+0.5
BKS	Berkeley--Byer	2.21	320		Pn	13 30 50.5	-0.9
BL67	Building 67, L	2.22	319		Pn	13 30 50.8	-0.8
BRK	Berkeley--Havi	2.22	319		Pn	13 30 50.0	-1.5
SRTC	Snort	2.23	102		Pn	13 30 51.2	-0.6
SCZ2	Santa Cruz Isl	2.30	163	P		13 30 51.1	
	baz=346,SNR=10						
CLC	China Lake	2.33	99		Pn	13 30 53.6	+0.5
LRMC	Laurel Mtn Rad	2.34	107		Pn	13 30 52.5	-0.9
LRMC	Laurel Mtn Rad	2.34	107	P		13 30 52.2	
	baz=290						
LRMC				S		13 31 21.4	
	baz=290						
MPMC	Manual Prospec	2.38	93		Pn	13 30 54.4	+0.4
MPMC	Manual Prospec	2.38	93	Pn		13 30 52.6	
	baz=275						
MPMC				Pb		13 30 55.2	
	baz=275						
MPMC				Sb		13 31 24.7	
	baz=275						
EDW2	Edwards Air Fo	2.38	123	P		13 30 52.5	
	baz=306,SNR=14						
WAKR	Walker	2.43	19	Pn	Pn	13 30 54.1	-0.5
CCCA	Chr Cany lake	2.58	104		Pn	13 30 55.6	-1.0
GRAC	Grapevine Rang	2.58	71	Pb		13 30 58.9	
	baz=253,SNR=40						
GRAC				Sb		13 31 32.7	
	baz=253						
HLLC	North Hollywoo	2.64	140		Sn	13 31 29.0	-0.2
PASC	Pasadena Art C	2.73	137	Pn	Pn	13 30 57.1	-1.6
MCCM	Marconi Confer	2.76	315	Pn	Pn	13 30 57.8	-1.1
MWC	Mount Wilson	2.77	135		Pn	13 30 57.2	-2.1
AFDM	Forest Hills D	2.77	351	Pn	Pn	13 30 59.2	0.0
NVAR	Mina Array Bea	2.79	37	Pn	Pn	13 30 59.6	-0.1
	3.3nm,0.3s,baz=139,slow=25,SNR=4.7						
NVAR				Pg	Pb	13 31 03.4	-1.5
	58nm,0.3s,baz=224,slow=20,SNR=74						
NVAR				Lg	Lg	13 31 39.8	
	46nm,0.3s,baz=231,slow=34,SNR=5.8						
NVAR	Mina Array Bea	2.79	37		Pn	13 30 57.3	-2.4
FURC	Furnace Creek,	2.89	84	Pn		13 30 59.7	
	baz=266,SNR=65						
FURC				Pb		13 31 04.3	
	baz=266						
FURC				Sb		13 31 40.9	
	baz=266						
BFSC	Mount Baldy Ra	3.00	130	P		13 31 00.7	
	baz=313,SNR=18						
BFSC				S		13 31 36.9	
	baz=313						
SNCC	San Nicolas Is	3.04	166		Pn	13 31 01.3	-1.6
SNCC	San Nicolas Is	3.04	166	P		13 31 01.4	
	baz=347						
GSC	Goldstone, Bar	3.08	106	Pn	Pn	13 31 02.4	-1.1
GSC	Goldstone, Bar	3.08	106	P		13 31 02.3	
	baz=289,SNR=26						
GSC				S		13 31 37.9	
	baz=289						
RRX	Edison Barstow	3.09	114	P		13 31 02.5	
	baz=297,SNR=7.7						
RRX				Sb		13 31 47.7	
	baz=297						
BREC	Barre Substati	3.12	139		Pg	13 31 15.8	+1.0
SUTB	Sutter Butte	3.21	341		Pn	13 31 04.5	-0.6
CIS	Catalina Islan	3.25	149	P		13 31 03.7	
	baz=331,SNR=12						
CIS				S		13 31 40.3	
	baz=331						
SHOC	Shoshone, Teco	3.38	94	Pb		13 31 13.7	
	baz=277,SNR=27						
TPNV	Topopah Spring	3.44	76	Pn		13 31 07.9	
	baz=259,SNR=15						
TPNV				Pb		13 31 14.2	
	baz=259						
ORV	Oroville	3.45	346	Pn	Pn	13 31 08.3	-0.2
BBRC	Big Bear Solar	3.46	123	P		13 31 07.1	
	baz=306						
BBRC				S		13 31 47.6	
	baz=306						
HEC	Hector,Ludlow	3.61	111		Pn	13 31 09.3	-1.4
HEC	Hector,Ludlow	3.61	111	P		13 31 09.1	
	baz=294,SNR=16						
HEC				S		13 31 51.2	
	baz=294						
MURC	Murrieta	3.71	133	P		13 31 10.1	
	baz=316,SNR=7.3						
MURC				S		13 31 53.6	
	baz=316						
TUQ	Turquoise Moun	3.74	101		Pn	13 31 11.2	-1.4
DNR	Dunn Ranch,Anz	4.08	129		Pb	13 31 26.2	-0.6
GMRC	Granite Mounta	4.14	109	P		13 31 16.1	
	baz=292,SNR=25						
GMRC				S		13 32 03.3	
	baz=292						
PFO	Pinyon Flats O	4.16	127	Pn	Pn	13 31 16.8	-1.6
	5.9nm,0.3s,baz=306,slow=13,SNR=42						
PFO				Sn	Sn	13 32 04.5	-2.5
	14nm,0.3s,baz=230,slow=21,SNR=8.1						
PFO	Pinyon Flats O	4.16	127	P		13 31 16.5	
	baz=310,SNR=19						
PFO				S		13 32 04.6	
	baz=310						
O03E	Paynes Creek	4.22	346	P		13 31 20.1	
	baz=164,SNR=17						
BELC	Belle Mtn. Jos	4.24	120	P		13 31 17.7	
	baz=303,SNR=17						
R11A	Troy Canyon, C	4.41	60	Pn		13 31 21.0	
	baz=242,SNR=9.7						
R11A				Pb		13 31 31.9	
	baz=242						
R11A				Sb		13 32 28.3	
	baz=242						
MONP2	Monument Peak	4.67	134	P		13 31 24.0	
	baz=317,SNR=11						
WDC	Whiskeytown Da	4.67	340	Pn	Pn	13 31 24.4	-0.9
BAR	Barrett	4.69	138	Pn	Pn	13 31 23.9	-1.7
IRM	Iron Mountain	4.78	114	P		13 31 24.7	
	baz=297,SNR=20						
IRM				S		13 32 17.5	
	baz=297						
BC3	Big Chuckawall	4.81	120	P		13 31 24.8	
	baz=304,SNR=10.0						
BC3				S		13 32 20.8	
	baz=304						
CBX	Cerro Bola	4.98	140		Pn	13 31 28.4	-1.3
W13A	Hualapai Mount	5.44	100	Pn	Pn	13 31 34.4	-1.7
GLA	Glamis	5.58	123		Pn	13 31 35.4	-2.5
GLA	Glamis	5.58	123	P		13 31 35.8	
	baz=306,SNR=6.3						
ESJX	Sierra Juarez	5.60	137		Pn	13 31 37.7	-0.5
MOD	Modoc Plateau	5.69	1	Pn	Pn	13 31 40.2	+0.8
PSUT	Pine Spring	5.72	64	Pn	Pn	13 31 41.0	+1.0
YBH	Yreka Blue Hor	5.80	343	Pn	Pn	13 31 46.9	+6.0
	0.2nm,0.3s,baz=202,slow=11,SNR=2.8						
YBH				Lg	Lg	13 33 18.7	
	0.4nm,0.3s,baz=108,slow=17,SNR=5.4						
YBH	Yreka Blue Hor	5.80	343		Pn	13 31 36.7	-4.2
CCUT	Cedar City	5.82	75		Pn	13 31 42.0	+0.7
LCMT	Little Creek M	5.83	80		Pn	13 31 41.6	+0.2
ELK	Elko	6.09	40	Pn	Pn	13 31 45.1	+0.1
	1.3nm,0.3s,

comp=Z,0.7nm,0.9s,baz=176,slow=9.8,SNR=11
TKL **Tuckaleechee C** **29.57 80** P **P** **13 36 18.4 -1.3**
comp=Z,3.9nm,0.7s,baz=302,slow=9.9,SNR=1.9
ILAR **Eielson Array** **32.68 339** P **P** **13 36 48.9 +2.1**
comp=Z,1.1nm,1.1s,baz=178,slow=9.2,SNR=5.1
INK **Inuvik** **32.98 351** P **P** **13 36 51.5 +2.1**
comp=Z,2.6nm,1.0s,baz=161,slow=9.6,SNR=5.4
HFS **Hagfors** **76.86 22** LR LR 14 17 14.3
comp=Z,33nm,18.5s,baz=269,slow=37
MSVF **Nonsavu** **79.08 239** LR LR 14 10 57.1
comp=Z,56nm,18.5s,baz=187,slow=31
ESDC **Sonseca Array** **84.50 44** P **P** **13 42 49.2 +1.4**
comp=Z,1.5nm,0.8s,baz=308,slow=5.7,SNR=7.2
SONM **Songino Array** **86.46 331** P **P** **13 42 58.3 +0.7**
comp=Z,0.6nm,0.8s,baz=51,slow=3.2,SNR=4.6
VRAC **Vranov** **86.71 27** LR LR 14 22 24.8
comp=Z,32nm,18.2s,baz=235,slow=36

IDC ***27*** *13:56:17.6±0.3,1˚.50N×126˚.20E,h0km,mb5.2/52, mb1 5.1/54,mb1mx5.1/61,mbtmp5.1/54,ML4.6/2,MS4.0/28, Ms1 4.0/28,ms1mx3.9/40,Error ellipse: s-maj=12.0km s-min=7.5km az=68.0*

BJI ***27*** *13:56:20.0±0.0,1˚.09N×126˚.32E,h57km,mB5.1/46, mb5.2/73,Ms4.5/53,Ms7 4.4/55*

MOS ***27*** *13:56:21.1±1.0,1˚.57N×126˚.24E,h36km,mb5.5/52, MS4.4/6,Error ellipse: s-maj=8.3km s-min=4.3km az=116.5*

NEIC ***27*** *13:56:24.6±2.3,1˚.46N±0˚.07×126˚.23E±0˚.06,h52km±5km, mb5.2/103,Error ellipse: s-maj=11.0km s-min=7.7km az=200.0*

GCMT ***27*** *13:56:26.6±0.1,1˚.53N±0˚.01×126˚.38E±0˚.01,h51km, MW5.2/125,Moment Tensor Solution. s111,c174; s125,c214; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; Mrr0.79±.02; Mθθ-0.13±.01; Mφφ-0.65±.02; Mrθ-0.05±.01; Mrφ-0.42±.01; Mθφ0.45±.01; Best double couple: M=0.95400×10^{17} NP1:φ226.00000°,δ35.00000°, λ118.00000°. NP2:φ13.00000°,δ59.00000°,λ72.00000°. Principal axes: T 0.9430, Plg70.0000°, Azm242.0000°; N 0.0230, Plg16.0000°, Azm22.0000°; P -0.9660, Plg12.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***27*** *13:56:26.6±0.2,2˚.N±.1˚×12˚.6E±.˚,h64km±2km,M5.1/91, mB5.6/59,mb5.4/91,MLv5.4/18,Mw(mB)5.1/59, MwMwp4.9/19,Mwp5.2/19*

KLM ***27*** *13:56:26,1˚.44N×126˚.43E,h74km,mb5.3*

ISC 27 13:56:26.3±0.4,1˚.53N±0˚.03×126˚.32E±0˚.04,h67km±3km, h67km:pP-P,n600,σ1§53/640,mb5.2/198,33C-14D, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.29**	**126**		**Pn**	**13 56 46.7**	**-1.8**
TNTI	**Ternate**	**1.29**	**126**	P	**Pn**	**13 56 46.6**	**-1.8**
SGSI	**Sangihe**	**2.28**	**340**	P	**Pn**	**13 57 00.8**	**-0.9**
SGSI				S	**Sn**	**13 57 29.0**	**+0.2**
KMSI	**Cibinong**	**2.52**	**248**	P	**Pn**	**13 57 05.0**	**0.0**
GTOI	**Gorontalo**	**3.43**	**255**	P	**Pn**	**13 57 18.2**	**+0.9**
SANI	**Sanana**	**3.57**	**185**	P	**Pn**	**13 57 18.0**	**-1.3**
LUWI	**Luwuk**	**4.37**	**234**	Pn	**Pn**	**13 57 30.9**	**+0.7**
LUWI	**Luwuk**	**4.37**	**234**	P	**Pn**	**13 57 30.8**	**+0.6**
MRSI	**Marisa**	**4.50**	**257**	P	**Pn**	**13 57 32.5**	**+0.5**
DDMP	**Don Marcelino,**	**4.58**	**352**	*e*P	**Pn**	**13 57 32.3**	**-0.9**
DDMP				*e*S	**Sn**	**13 58 22.6**	**-2.6**
NLAI	**Namlea**	**4.80**	**171**	P	**Pn**	**13 57 35.5**	**-0.6**
APSI	**Ampana**	**5.26**	**243**	P	**Pn**	**13 57 44.2**	**+1.8**
	11nm4µm17µm2µm,1.3s						
SKMP	**Bagumbayan, Su**	**5.26**	**340**	*e*P	**Pn**	**13 57 42.5**	**+0.1**
SKMP				*e*S	**Sn**	**13 58 42.1**	**+0.3**
MATI	**Mati**	**5.38**	**359**	*e*P	**Pn**	**13 57 44.2**	**+0.2**
MATI				*e*S	Sn	13 58 54.5	+10
SWI	**Sorong**	**5.48**	**116**	P	**Pn**	**13 57 45.9**	**+0.5**
	1.3nm8µm3µm433nm,1.0s						
SIJI	**Sorong**	**5.49**	**116**	Pn	**Pn**	**13 57 43.5**	**-2.1**
	4.3nm,0.3s,baz=304,slow=10,SNR=57						
TOLI2	**Tolitoli**	**5.55**	**266**	Pn	**Pn**	**13 57 45.7**	**-0.7**
KCP	**Kidapawan**	**5.58**	**347**	*e*P	**Pn**	**13 57 48.6**	**+1.8**
ZCP	**Zamboanga City**	**6.83**	**322**	*e*P	**Pn**	**13 58 04.0**	**+0.1**
PAGZ	**Pagadian**	**6.92**	**335**	*e*P	**Pn**	**13 58 03.8**	**-1.4**
PAGZ				*e*S	Sn	13 59 13.3	-9.2
BNDI	**Bandanaira**	**7.00**	**149**	P	**Pn**	**13 58 05.3**	**-0.9**
	2.0nm6µm6µm440nm,1.5s						
CGP	**Cagayan de Oro**	**7.07**	**347**	*e*P	Pn	13 58 12.4	+5.2
FAKI	**Fak Fak**	**7.39**	**127**	Pn	**Pn**	**13 58 12.9**	**+1.3**
FAKI	**Fak Fak**	**7.39**	**127**	P	**Pn**	**13 58 12.5**	**+0.9**
	1.0nm5µm3µm334nm,1.1s						
BUTP	**Butuan**	**7.42**	**355**	*e*P	**Pn**	**13 58 14.7**	**+2.7**
TTSI	**Tana Toraja**	**7.93**	**235**	P	**Pn**	**13 58 19.0**	**+0.1**
	1.9nm3µm5µm585nm,1.1s						
SPSI	**Sidrap Palu**	**8.52**	**230**	P	**Pn**	**13 58 28.0**	**+0.9**
	4µm5µm294nm,0.6s						
BNSI	**Bone**	**8.56**	**226**	P	**Pn**	**13 58 28.0**	**+0.5**
	3µm315nm,0.7s						
MYLDM	**Lahad Datu**	**8.61**	**295**		**Pn**	**13 58 30.1**	**+1.9**
MSLP	**Maasin**	**8.67**	**350**	*e*P	**Pn**	**13 58 32.1**	**+3.0**
BKSI	**Bulukumba**	**9.20**	**222**	P	**Pn**	**13 58 36.5**	**+0.2**
	2µm3µm210nm,0.7s						
KAPI	**Kappang**	**9.24**	**225**	Pn	**Pn**	**13 58 36.2**	**-0.7**
	19nm,0.3s,baz=49,slow=9.1,SNR=90						
KAPI				Sn	**Sn**	**14 00 19.1**	**-0.2**
	2.9nm,0.3s,baz=203,slow=22,SNR=0.9						
KAPI	**Kappang**	**9.24**	**225**	P	**Pn**	**13 58 36.8**	**0.0**
KAPI	**Kappang**	**9.24**	**225**	Pn	**Pn**	**13 58 36.8**	**0.0**
KAPI	**Kappang**	**9.24**	**225**	P	**Pn**	**13 58 36.8**	**0.0**
KAPI				S	**Sn**	**14 00 19.7**	**+0.5**
BKB	**Balikpapan**	**9.82**	**254**	P	**Pn**	**13 58 48.3**	**+3.5**
	5µm3µm226nm,0.9s						
BAKI	**Biak**	**10.15**	**105**	P	Pn	13 58 54.3	+5.0
SPMM	**Sapulut**	**10.33**	**288**	P	**Pn**	**13 58 54.0**	**+2.1**
SRPI	**Serui, Papua**	**10.48**	**109**	P	Pn	13 59 07.8	+14
SAUI	**Saumlaki**	**10.68**	**152**	P	**Pn**	**13 58 52.4**	**-4.1**
	5µm163nm,0.9s						
MMRI	**Maumere**	**10.89**	**202**	P	**Pn**	**13 58 59.3**	**-0.1**
	2µm103nm,1.8s						
KKM	**Kota Kinabalu**	**11.03**	**294**		**Pn**	**13 59 04.1**	**+2.6**
EDFI	**Ende, Flores**	**11.21**	**204**	P	**Pn**	**13 59 03.8**	**0.0**
	509nm46nm,1.4s						
KBKI	**Kotabaru**	**11.23**	**245**	P	**Pn**	**13 59 06.2**	**+2.2**
	2µm163nm,1.4s						
SOEI	**Soe**	**11.40**	**190**		**Pn**	**13 59 08.9**	**+2.4**
SOEI	**Soe**	**11.40**	**190**	P	**Pn**	**13 59 08.3**	**+1.9**
	2µm3µm275nm,1.0s						
MTKI	**Muara Teweh, K**	**11.68**	**258**	P	**Pn**	**13 59 12.5**	**+2.2**
	2µm3µm108nm,1.2s						
BATI	**Baumata**	**11.96**	**193**	LR	LR	14 04 59.7	
	comp=Z,372nm,18.6s,baz=6.5,slow=44						
BATI	**Baumata**	**11.96**	**193**	P	Pn	13 59 20.3	+6.3
BBKI	**Banjar Baru**	**12.50**	**247**	P	**Pn**	**13 59 23.0**	**+1.6**
	2µm102nm,1.4s						
WSI	**Waingapu**	**12.64**	**208**	P	Pn	13 59 18.0	-5.3
BASI	**Baing, Sumba**	**13.00**	**206**	P	**Pn**	**13 59 28.4**	**+0.3**
	1µm2µm176nm,1.4s						
PLAI	**Plampang**	**13.36**	**219**	P	**Pn**	**13 59 34.9**	**+1.9**
	6µm775nm,1.1s						
TWSI	**Taliwang, Sumb**	**13.88**	**223**	P	**Pn**	**13 59 41.0**	**+1.1**
	4µm456nm,1.1s						
SBUM	**Sibu**	**14.12**	**274**	Pn	**Pn**	**13 59 43.8**	**+0.7**
SBUM	**Sibu**	**14.12**	**274**	P	**Pn**	**13 59 45.0**	**+1.8**
GENI	**Genyem**	**14.44**	**106**	P	**Pn**	**13 59 48.9**	**+1.6**
	3µm3µm310nm,1.0s						
SRBI	**Singaraja**	**14.63**	**229**	P	**Pn**	**13 59 51.2**	**+1.5**
	2µm176nm,1.2s						
STKI	**Sintang**	**14.91**	**265**	P	**P**	**13 59 55.8**	**-1.8**
JAY	**Jayapura**	**14.93**	**106**	Pn	**P**	**13 59 57.0**	**-0.8**
	2.5nm,0.3s,baz=280,slow=7.3,SNR=19						
JAY	**Jayapura**	**14.93**	**106**	P	**P**	**13 59 58.3**	**+0.5**
KMMI	**Kalianget**	**14.99**	**235**	P	**Pn**	**13 59 56.1**	**+1.7**
	5µm587nm,1.1s						
DNP	**Denpasar**	**15.02**	**227**	P	**P**	**14 00 00.5**	**+1.8**
MTN	**Manton Dam**	**15.06**	**162**		**Pn**	**13 59 51.9**	**-3.4**
MTN				IAmb	IAmb	14 00 00.6	
	comp=Z,146nm,0.9s						
ABJI	**Asem Bagus**	**15.20**	**232**	P	**P**	**13 59 59.3**	**-1.5**
	comp=Z,2µmcomp=Z,181nm,1.5s						
PBKI	**Pangkalan Bun**	**15.24**	**254**	P	**P**	**14 00 02.4**	**+1.2**
JAGI	**Jajag, Banyuwa**	**15.68**	**230**	P	**P**	**14 00 04.8**	**-1.3**
JAGI	**Jajag, Banyuwa**	**15.68**	**230**	P	**P**	**14 00 08.3**	**+2.2**
KSM	**Kuching**	**16.01**	**270**		**P**	**14 00 10.1**	**+0.4**
KSM				IAmb	IAmb	14 00 17.2	
	comp=Z,264nm,1.1s						

MMPI	**Merauke**	**17.18**	**126**	P	**P**	**14 00 24.2**	**+1.5**
	comp=Z,383nm,1.4s						
SMRI	**Semarang**	**17.99**	**242**	P	**Pn**	**14 00 34.5**	**+2.5**
	comp=Z,118nm,0.8s						
UGM	**Wanagama**	**18.34**	**239**	Pn	**Pn**	**14 00 36.1**	**0.0**
UGM				IAmb	IAmb	14 00 40.5	
	comp=Z,156nm,1.0s						
UGM	**Wanagama**	**18.34**	**239**	P	**Pn**	**14 00 36.5**	**+0.3**
	comp=Z,167nm,1.6s						
TPI	**Tanjungpandan**	**19.14**	**257**	P	**Pn**	**14 00 46.6**	**+0.8**
	comp=Z,40µmcomp=Z,57nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.52**	**182**	P	**P**	**14 00 47.4**	**-0.9**
	comp=Z,3.3nm,0.3s,baz=0.1,slow=7.5,SNR=64						
FITZ				S	**S**	**14 04 16.3**	**-9.0**
	comp=Z,0.2nm,0.3s,baz=204,slow=19,SNR=1.9						
FITZ	**Fitzroy Crossi**	**19.52**	**182**	P	**P**	**14 00 47.3**	**-1.0**
	baz=20,SNR=22						
FITZ	**Fitzroy Crossi**	**19.52**	**182**	P	**P**	**14 00 47.6**	**-0.7**
JCJI	**Jatiwangi**	**19.70**	**246**	P	**Pn**	**14 00 54.1**	**+1.7**
	comp=Z,164nm,0.4s						
LEM	**Lembang**	**20.43**	**246**	P	**P**	**14 00 56.4**	**-2.1**
	comp=Z,59nm,0.8s,baz=35,slow=6.6,SNR=13						
LEM				LR	LR	14 09 50.7	
	comp=Z,357nm,18.4s,baz=64,slow=40						
DLV	**T Lat**	**20.49**	**301**	P	**P**	**14 00 58.2**	**-0.9**
DLV				IAmb	IAmb	14 01 04.1	
	comp=Z,188nm,1.1s						
PPBI	**Pangkal Pinang**	**20.51**	**260**	P	**P**	**14 00 58.4**	**-0.8**
	comp=Z,3µmcomp=Z,100nm,0.9s						
CBJI	**Citeko**	**20.98**	**248**	P	Pn	14 01 13.1	+5.6
DBJI	**Dramaga**	**21.12**	**247**	P	P	14 01 13.7	+7.9
TWG	**Pinlang**	**21.77**	**347**	P	**P**	**14 01 10.9**	**-1.6**
TWG				IAmb	IAmb	14 01 14.8	
	comp=Z,61nm,0.6s						
YULB	**Yu-li**	**22.27**	**348**	P	**P**	**14 01 14.1**	**-3.9**
TPUB	**Ta-pu**	**22.33**	**346**	P	**P**	**14 01 15.8**	**-2.9**
KLSI		**22.44**	**254**	P	**P**	**14 01 18.0**	**-1.9**
	comp=Z,354nmcomp=Z,25nm,0.8s						
MYKOM	**Kota Tinggi**	**22.46**	**271**	P	**P**	**14 01 19.8**	**-0.4**
MYKOM	**Kota Tinggi**	**22.46**	**271**	P	**P**	**14 01 21.0**	**+0.9**
WB0	**Waramunga Arr**	**22.60**	**160**	P	**P**	**14 01 20.4**	**-1.1**
COEN	**Coen**	**22.71**	**133**	P	**P**	**14 01 20.6**	**-2.1**
SSLB	**Suanglung**	**22.73**	**347**	P	**P**	**14 01 20.5**	**-2.4**
SSLB				IAmb	IAmb	14 01 27.1	
	comp=Z,77nm,0.8s						
WRAB	**Tennant Creek**	**22.74**	**160**	*ce*P	**P**	**14 01 21.2**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,216nm,1.0s						
WRAB	**Tennant Creek**	**22.74**	**160**	P	**P**	**14 01 22.0**	**-1.0**
WRA	**Warramunga Arr**	**22.74**	**160**	P	**P**	**14 01 22.0**	**-1.1**
	comp=Z,124nm,0.5s,baz=340,slow=11,SNR=518						
WRA				PcP	**PcP**	**14 05 13.7**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=318,slow=2.3,SNR=3.3						
WRA				S	**S**	**14 05 23.1**	**-3.9**
	comp=Z,28nm,1.0s,baz=339,slow=15,SNR=11						
WRA	**Warramunga Arr**	**22.74**	**160**	*i* P	**P**	**14 01 21.3**	**-1.8**
WRA				pmax	pmax		
	comp=Z,124nm,0.5s						
WRA	**Warramunga Arr**	**22.74**	**160**	P	**P**	**14 01 20.8**	**-2.3**
WB2	**Warramunga Arr**	**22.75**	**160**	P	**P**	**14 01 21.9**	**-1.2**
WR0	**Warramunga Arr**	**22.83**	**160**	P	**P**	**14 01 22.9**	**-1.1**
JMBI	**JAMBI**	**22.89**	**262**	P	**P**	**14 01 26.1**	**+1.4**
	comp=Z,3µmcomp=Z,246nm,0.9s						
KASI	**Kota Agung**	**22.89**	**252**	P	**P**	**14 01 23.2**	**-1.5**
	comp=Z,2µmcomp=Z,217nm,0.9s						
MDSI	**Maura Dua**	**22.92**	**255**	P	**P**	**14 01 22.3**	**-2.6**
	comp=Z,590nmcomp=Z,57nm,1.1s						
LWLI	**Liwa**	**23.17**	**254**	P	**P**	**14 01 26.0**	**-1.5**
	comp=Z,123nm,0.7s						
LHSI	**Lahat**	**23.40**	**257**	P	**P**	**14 01 31.6**	**+2.1**
	comp=Z,50nm,0.7s						
PMG	**Port Moresby**	**23.43**	**118**	P	**P**	**14 01 29.1**	**-0.7**
	comp=Z,56nm,0.9s,baz=294,slow=7.7,SNR=18						
PMG				LR	LR	14 13 44.6	
	comp=Z,710nm,18.4s,baz=306,slow=44						
PMG	**Port Moresby**	**23.43**	**118**	*ce*P	**P**	**14 01 27.4**	**-2.4**
PMG				pmax	pmax		
	comp=Z,94nm,1.0s						
PMG	**Port Moresby**	**23.43**	**118**	P	**P**	**14 01 27.4**	**-2.4**
PMG				IAmb	IAmb	14 01 30.9	
	comp=Z,82nm,0.9s						
PMG	**Port Moresby**	**23.43**	**118**	P	**P**	**14 01 29.5**	**-0.3**
MBWA	**Marble Bar**	**23.45**	**196**	P	**P**	**14 01 29.0**	**-1.0**
MBWA				S	**S**	**14 05 38.0**	**-0.4**
YHNB	**Yeheng**	**23.50**	**349**	P	**P**	**14 01 28.1**	**-2.2**
YHNB				IAmb	IAmb	14 01 38.8	
	comp=Z,86nm,1.0s						
QIZ	**Qiongzhong**	**23.73**	**318**	P	**P**	**14 01 30.8**	**-1.7**
QIZ				S	**S**	**14 05 44.5**	**+1.5**
QIZ				pmax	pmax		
	comp=Z,33nm,1.6s						
QIZ				LR	LR		
	comp=Z,690nm,21.1s						
QIZ				LR	LR		
	comp=Z,640nm,25.5s						
QIZ				LR	LR		
	comp=Z,1µm,27.5s						
XMI	**Christmas Isla**	**23.73**	**239**	P	**P**	**14 01 32.6**	**0.0**
	comp=Z,212nm,1.1s						
XMIS	**Christmas Isla**	**23.78**	**239**	P	**P**	**14 01 29.1**	**-3.9**
XMIS	**Christmas Isla**	**23.78**	**239**	P	**P**	**14 01 32.8**	**-0.2**
	comp=Z,241nm,1.1s						
PSA00	**Pilbara Seismi**	**23.82**	**195**	P	**P**	**14 01 32.5**	**-0.7**
PSA00	**Pilbara Seismi**	**23.82**	**195**	P	**P**	**14 01 29.4**	**-3.9**
PSA00				IAmb	IAmb	14 01 34.0	
	comp=Z,74nm,1.1s						
JRMM	**Jerantut**	**23.93**	**276**	P	**P**	**14 01 34.0**	**-0.4**
KSI	**Kapahiang**	**24.27**	**258**	P	**P**	**14 01 39.1**	**+1.6**
	comp=Z,66nm,0.8s						
JOW	**Kunigami**	**25.23**	**4**	P	**P**	**14 01 45.5**	**-0.5**
	comp=Z,61nm,0.8s,baz=157,slow=16,SNR=6.4						
JOW				LR	LR	14 13 04.8	
	comp=Z,142nm,19.1s,baz=92,slow=40						
BKNI	**Bangkinang**	**25.30**	**268**	P	**P**	**14 01 49.7**	**+2.8**
	comp=Z,2µmcomp=Z,4µmcomp=Z,420nm,1.1s						
IPM	**Ipoh**	**25.43**	**277**	P	**P**	**14 01 46.5**	**-1.5**
IPM				IAmb	IAmb	14 01 49.0	
	comp=Z,66nm,0.9s						
IPM	**Ipoh**	**25.43**	**277**	P	**P**	**14 01 48.0**	**0.0**
QIS	**Mount Isa**	**25.52**	**150**	P	**P**	**14 01 48.6**	**-0.2**
	baz=26,SNR=36						
KULM	**Kulim**	**25.89**	**279**	P	**P**	**14 01 51.9**	**-0.3**
KULM				IAmb	IAmb	14 02 07.6	
	comp=Z,100nm,1.4s						
KULM	**Kulim**	**25.89**	**279**	P	**P**	**14 01 52.0**	**-0.2**
AS31	**Alice Springs**	**26.11**	**164**	P	**P**	**14 01 53.8**	**-0.2**
ASAR	**Alice Springs**	**26.11**	**164**	P	**P**	**14 01 53.6**	**-0.5**
	comp=Z,49nm,0.7s,baz=345,slow=8.1,SNR=458						
ASAR				PcP	**PcP**	**14 05 21.1**	**+0.9**
	comp=Z,7.4nm,0.6s,baz=352,slow=2.3,SNR=9.0						
ASAR				S	**S**	**14 06 18.9**	**-2.0**
	comp=Z,10nm,0.8s,baz=351,slow=23,SNR=7.2						
ASAR	**Alice Springs**	**26.11**	**164**	P	**P**	**14 01 53.9**	**-0.2**
ASAR					**PcP**	**14 05 21.4**	**+1.2**
MTSU	**Mount Surprise**	**26.38**	**139**	P	**P**	**14 01 56.7**	**+0.1**
	baz=26,SNR=35						
RABL	**Rabaul**	**26.44**	**102**	P	**P**	**14 01 57.4**	**+0.2**
RABL	**Rabaul**	**26.44**	**102**	P	**P**	**14 01 58.7**	**+1.5**
WRKA	**Warakurna**	**26.48**	**176**	P	**P**	**14 01 57.5**	**+0.1**
	baz=27,SNR=103						
MNSI	**Mandailing Nat**	**26.75**	**269**	P	**P**	**14 01 59.3**	**-0.6**
	comp=Z,71nm,0.8s						
GIRL	**Giralia**	**26.76**	**205**	P	**P**	**14 02 01.0**	**+1.1**
	baz=27,SNR=9.5						
GIRL	**Giralia**	**26.76**	**205**	P	**P**	**14 01 59.8**	**-0.1**
SRAK	**Srakaew**	**27.02**	**299**	P	**P**	**14 01 59.1**	**-3.2**
	comp=Z,4µmcomp=Z,494nm,0.9s						
TRTT	**Trang**	**27.26**	**284**	P	**P**	**14 02 04.1**	**-0.4**
	comp=Z,46nm,1.2s						
RPSI	**Rantau Prapat**	**27.40**	**273**	IAmb	IAmb	14 02 06.7	
	comp=Z,123nm,1.1s						
PSI	**Prapat**	**27.41**	**273**	P	**P**	**14 02 04.5**	**-1.4**
	comp=Z,70nm,1.0s,baz=179,slow=1.2,SNR=36						
PSI				LR	LR	14 13 50.4	
	comp=Z,488nm,22.0s,baz=90,slow=39						
KHON	**Khomkaen**	**27.43**	**304**	P	**P**	**14 02 06.0**	**+0.1**
	comp=Z,91nm,0.8s						
KRAB	**Krabi**	**27.82**	**285**	P	**P**	**14 02 11.3**	**+1.8**
	comp=Z,59µmcomp=Z,356nm,0.7s						
CHAI	**Chaiyaphum**	**27.91**	**302**	P	**P**	**14 02 09.5**	**-0.8**
	comp=Z,416nmcomp=Z,64nm,0.7s						
NONG	**Nongkai**	**28.06**	**307**	P	**P**	**14 02 12.0**	**+0.4**
	comp=Z,42nm,0.9s						
GSI	**Gunungsitoli**	**28.74**	**270**	P	**P**	**14 02 16.3**	**-1.4**
GSI	**Gunungsitoli**	**28.74**	**270**	P	**P**	**14 02 16.5**	**-1.2**
	comp=Z,8µmcomp=Z,155nm,1.0s						

PHET	**Kaeng Krachan**	**28.75**	**294**	P	**P**	**14 02 20.7**	**+3.0**
	comp=Z,25nm,0.9s						
CTA	**Charters Tower**	**29.05**	**139**	P	**P**	**14 02 20.6**	**+0.2**
	comp=Z,54nm,0.9s,baz=308,slow=14,SNR=24						
CTA				PcP	**PcP**	**14 05 29.1**	**+1.7**
	comp=Z,7.5nm,0.9s,baz=217,slow=5.1,SNR=3.1						
CTA				LR	LR	14 16 01.9	
	comp=Z,384nm,19.6s,baz=296,slow=41						
CTAO	**Charters Tower**	**29.05**	**139**	P	**P**	**14 02 21.1**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,68nm,1.0s						
CTAO	**Charters Tower**	**29.05**	**139**	P	**P**	**14 02 21.1**	**+0.7**
CTAO				IAmb	IAmb	14 02 26.9	
	comp=Z,68nm,0.9s						
TPTI		**29.16**	**274**	P	**P**	**14 02 21.5**	**0.0**
	comp=Z,23nm,1.1s						
JCJ	**Chichijima**	**29.63**	**30**	P	**P**	**14 02 26.2**	**+0.7**
	comp=Z,88nm,0.9s,baz=294,slow=13,SNR=4.2						
JCJ				LR	LR	14 12 30.7	
	comp=Z,176nm,21.4s,baz=234,slow=33						
PHIT	**Phitsanulok**	**29.85**	**303**	P	**P**	**14 02 28.9**	**+1.4**
	comp=Z,97nm,1.1s						
UTHA	**Uthaitani**	**29.95**	**299**	P	**P**	**14 02 27.9**	**-0.5**
	comp=Z,291nmcomp=Z,24nm,0.7s						
UTTA	**Uttaradit**	**30.00**	**304**	P	**P**	**14 02 29.6**	**+0.7**
	comp=Z,22nm,0.8s						
NANT	**Nan**	**30.42**	**306**	P	**P**	**14 02 34.2**	**+1.7**
	comp=Z,14µmcomp=Z,294nm,0.6s						
SUKH	**Sukhothai**	**30.65**	**303**	P	**P**	**14 02 34.9**	**+0.3**
	comp=Z,26nm,0.6s						
UMPA	**Umpang Tak**	**30.73**	**300**	P	**P**	**14 02 36.5**	**+1.1**
	comp=Z,4µmcomp=Z,26nm,0.9s						
WHN	**Wuhan**	**31.01**	**340**	⇓P	**P**	**14 02 39.8**	**+2.3**
LAMP	**Lampang**	**31.15**	**305**	P	**P**	**14 02 42.7**	**+3.7**
	comp=Z,24nm,0.9s						
NJ2	**Nanjing**	**31.16**	**348**	*e*P	**P**	**14 02 41.5**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
NJ2				LR	LR		
	comp=Z,340nm,16.1s						
NJ2				LR	LR		
	comp=Z,560nm,14.2s						
NJ2				LR	LR		
	comp=Z,440nm,14.7s						
GYA	**Guiyang**	**31.17**	**324**	⇑P	**P**	**14 02 39.0**	**-0.2**
GYA				pP	sP	14 02 58.8	-4.0
GYA				PcP	**PcP**	**14 05 34.5**	**+1.5**
GYA				S	**S**	**14 07 41.5**	**+0.9**
GYA				pmax	pmax		
	comp=Z,36nm,0.8s						
GYA				LR	LR		
	comp=Z,320nm,18.8s						
CM36	**Chiang Mai Arr**	**31.59**	**304**	P	**P**	**14 02 43.2**	**+0.3**
CM35	**Chiang Mai Arr**	**31.62**	**304**	P	**P**	**14 02 43.0**	**-0.1**
CM04	**Chiang Mai Arr**	**31.63**	**304**	P	**P**	**14 02 43.8**	**+0.5**
	comp=Z,108nmcomp=Z,9.9nm,1.1s						
CM09	**Chiang Mai Arr**	**31.64**	**304**	P	**P**	**14 02 44.0**	**+0.7**
	comp=Z,90nmcomp=Z,13nm,0.9s						
CM01	**Chiang Mai Arr**	**31.66**	**304**	P	**P**	**14 02 44.0**	**+0.6**
	comp=Z,102nmcomp=Z,8.6nm,1.0s						
CM05	**Chiang Mai Arr**	**31.66**	**304**	P	**P**	**14 02 44.0**	**+0.5**
	comp=Z,73nmcomp=Z,7.3nm,1.3s						
CM02	**Chiang Mai Arr**	**31.67**	**304**	P	**P**	**14 02 44.1**	**+0.5**
	comp=Z,95nmcomp=Z,11nm,0.9s						
CM31	**Chiang Mai Arr**	**31.69**	**304**	P	**P**	**14 02 44.5**	**+0.7**
	comp=Z,238nm,1.0s						
CMAR	**Chiang Mai Arr**	**31.69**	**304**	P	**P**	**14 02 43.3**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=127,slow=7.3,SNR=30						
CMAR				PP	**PnPn**	**14 03 46.7**	**-3.4**
	comp=Z,1.4nm,0.3s,baz=122,slow=8.6,SNR=7.9						
CMAR				PcP	**PcP**	**14 05 36.5**	**+2.1**
	comp=Z,6.2nm,1.0s,baz=166,slow=1.3,SNR=9.5						
CMAR				LR	LR	14 17 14.1	
	comp=Z,336nm,18.5s,baz=162,slow=40						
CM13	**Chiang Mai Arr**	**31.70**	**304**	P	**P**	**14 02 44.4**	**+0.5**
	comp=Z,73nmcomp=Z,7.3nm,0.8s						
CM15	**Chiang Mai Arr**	**31.70**	**304**	P	**P**	**14 02 44.2**	**+0.4**
	comp=Z,67nmcomp=Z,9.5nm,1.4s

EIDS Eidsvold 35.91 140 IAmb IAmb 14 03 25.0
comp=Z,25nm,1.1s
CD2 Chengdu 36.20 326 P **P** **14 03 21.8 -0.9**
CD2 pP pP 14 03 34.8 -4.0
CD2 PP **PnPn** **14 04 42.8 -3.5**
CD2 S **S** **14 09 00.0 +1.8**
CD2 pmax pmax
comp=Z,100nm,1.3s
CD2 pmax pmax
comp=Z,160nm,7.8s
CD2 LR LR
comp=Z,560nm,16.7s
CD2 LR LR
comp=Z,630nm,15.2s
CD2 LR LR
comp=Z,660nm,12.9s
XAN Xi'an 36.21 335 P **P** **14 03 22.0 -0.7**
XAN pP pP 14 03 32.5 -6.3
XAN pmax pmax
comp=Z,67nm,1.1s
XAN Xi'an 36.21 335 IAmb IAmb 14 03 23.4
comp=Z,47nm,0.9s
STKA Stephens Creek 36.25 158 P **P** **14 03 22.8 -0.3**
comp=Z,47nm,0.9s,baz=331,slow=8.6,SNR=76
STKA PP **PP** **14 04 42.7 -4.0**
comp=Z,23nm,0.8s,baz=324,slow=12,SNR=3.4
STKA LR LR 14 20 49.5
comp=Z,180nm,20.0s,baz=327,slow=41
STKA Stephens Creek 36.25 158 P **P** **14 03 22.9 -0.2**
baz=36,SNR=27
MAJO Matsushiro 36.53 16 *i* P **P** **14 03 24.8 -0.7**
MAJO pmax pmax
comp=Z,27nm,1.0s
MAJO Matsushiro 36.53 16 P **P** **14 03 25.5 0.0**
MAJO IAmb IAmb 14 03 28.1
comp=Z,22nm,0.9s
MAT Matsushiro 36.53 16 P **P** **14 03 24.6 -0.9**
MAT S **S** **14 09 05.4 +2.3**
MJAR Matsushiro Arr 36.53 16 P **P** **14 03 25.2 -0.3**
comp=Z,19nm,0.9s,baz=183,slow=9.5,SNR=29
MJAR LR LR 14 16 20.9
comp=Z,138nm,22.0s,baz=205,slow=33
MJAR Matsushiro Arr 36.53 16 P **P** **14 03 24.2 -1.3**
MJAR pmax pmax
comp=Z,9.0nm,0.9s
MJAR Matsushiro Arr 36.53 16 P **P** **14 03 24.2 -1.3**
HTT Hallett 36.75 162 P **P** **14 03 28.1 +0.7**
baz=37,SNR=13
DL2 Dalian 37.45 354 P **P** **14 03 34.0 +0.9**
DL2 sP **pwP** **14 03 52.5 +1.3**
DL2 S **S** **14 09 18.3 +1.5**
DL2 pmax pmax
comp=Z,96nm,0.8s
DL2 pmax pmax
comp=Z,230nm,4.6s
DL2 LR LR
comp=Z,400nm,17.6s
DL2 LR LR
comp=Z,250nm,16.6s
DL2 LR LR
comp=Z,520nm,16.0s
CMSA Cobar Meteorol 37.68 152 P **P** **14 03 35.6 +0.4**
baz=38,SNR=12
TIY Taiyuan 38.21 342 *e*P **P** **14 03 40.5 +0.8**
TIY pmax pmax
comp=Z,23nm,0.6s
SAIH SAIHA 38.51 305 *e*P **P** **14 03 41.4 -1.1**
SAIH IAmb IAmb 14 03 44.9
comp=Z,26nm,0.6s
KOHI KOHIMA 39.25 311 *e*P **P** **14 03 46.2 -2.5**
KOHI IAmb IAmb 14 03 49.9
comp=Z,42nm,0.5s
MOKO MOKOCHONG 39.27 312 *e*P **P** **14 03 47.5 -1.4**
BJI Beijing 39.43 348 P **P** **14 03 50.0 +0.3**
BJI S **S** **14 09 49.0 +2.4**
BJI pmax pmax
comp=Z,21nm,0.9s
BJI LR LR
comp=Z,230nm,16.9s
BJI LR LR
comp=Z,230nm,21.4s
BJI LR LR
comp=Z,490nm,33.8s
ARMA Armidale 39.89 145 P **P** **14 03 54.8 +1.0**
baz=40,SNR=36
ARMA Armidale 39.89 145 P **P** **14 03 54.1 +0.2**
LZH Lanzhou 40.20 331 *e*P **P** **14 03 56.3 -0.2**
LZH pP pP 14 04 11.5 -1.2
LZH sP sP 14 04 17.3 -3.1
LZH PcP **PcP** **14 06 01.5 +2.0**
LZH *e*S **S** **14 09 55.5 -3.3**
LZH SS **SS** **14 12 57.8 -1.4**
LZH pmax pmax
comp=Z,51nm,1.1s
LZH pmax pmax
comp=Z,150nm,4.1s
LZH LR LR
comp=Z,300nm,15.2s
LZH LR LR
comp=Z,480nm,15.2s
LZH LR LR
comp=Z,440nm,16.3s
ARPS Mount Arapiles 40.75 161 P **P** **14 04 01.7 +1.0**
baz=41,SNR=37
SHL Shillong 40.88 309 P **P** **14 04 01.1 -1.2**
SHL pmax pmax
comp=Z,50nm,0.9s
SHL Shillong 40.88 309 *e*P **P** **14 04 00.8 -1.5**
SHL IAmb IAmb 14 04 06.2
comp=Z,20nm,1.0s
SHL *i* pP **pP** **14 04 21.1 +2.5**
SHL *i* PCP **PcP** **14 06 02.8 +0.8**
SHL Shillong 40.88 309 P **P** **14 04 01.1 -1.2**
SHL IAmb IAmb 14 04 03.5
comp=Z,50nm,0.9s
SHL Shillong 40.88 309 P **P** **14 04 01.5 -0.8**
SNR=28
MSHR Mys Shultsa 41.10 5*c**e*P **P** **14 04 04.4 +0.9**
MSHR pmax pmax
comp=Z,23nm,0.8s
YNG Young 41.23 152 P **P** **14 04 05.9 +1.1**
baz=41,SNR=8.4
HHC Hu-ho-hao-te 41.36 343 *e*P **P** **14 04 05.5 -0.3**
HHC S **S** **14 10 12.0 -3.7**
HHC pmax pmax
comp=Z,30nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.4s
HHC LR LR
comp=Z,270nm,19.6s
HHC LR LR
comp=Z,280nm,19.6s
HHC LR LR
comp=Z,550nm,20.4s
MGCD Mangrove Creek 41.72 148 P **P** **14 04 10.3 +1.6**
baz=42,SNR=6.9
CN2 Changchun 42.10 359 *e*P P 14 04 06.5 -5.2
CN2 *ep*P pP 14 04 22.0 -6.0
CN2 *e*PP **PP** **14 05 48.3 -2.0**
CN2 *e*S **S** **14 10 22.3 -4.0**
CN2 *es*S sS 14 10 48.5 -5.6
CN2 *e*SS **SS** **14 13 26.0 -10**
CN2 LR LR
comp=N,200nm,21.0s
CN2 LR LR
comp=E,260nm,21.0s
CN2 LR LR
comp=Z,660nm,22.0s
CAN Canberra 42.35 152 P **P** **14 04 14.4 +0.4**
CAN pmax pmax
comp=Z,50nm,1.1s
CAN Canberra 42.35 152 P **P** **14 04 14.4 +0.4**
CAN IAmb IAmb 14 04 16.3
comp=Z,50nm,1.1s
CNB Canberra Magne 42.52 152 P **P** **14 04 16.5 +1.2**
baz=43,SNR=7.7
TOO Toolangi 42.77 157 P **P** **14 04 18.7 +1.5**
baz=43,SNR=5.7
USRK Ussuriysk Ar. 42.78 6 P **P** **14 04 17.9 +0.7**
comp=Z,17nm,0.8s,baz=194,slow=7.1,SNR=34
USRK LR LR 14 21 00.2
comp=Z,94nm,21.9s,baz=190,slow=35
USRK Ussuriysk Ar. 42.78 6 P **P** **14 04 16.5 -0.7**
USRK Ussuriysk Ar. 42.78 6 P **P** **14 04 16.5 -0.7**
MDJ Mudanjiang 43.00 3 P **P** **14 04 20.3 +1.3**
MDJ pP pP 14 04 32.5 -2.8
MDJ sP sP 14 04 40.8 -2.1
MDJ S **S** **14 10 43.0 +3.4**
MDJ pmax pmax
comp=Z,45nm,1.0s
MDJ pmax pmax
comp=Z,230nm,4.9s
MDJ LR LR
comp=Z,210nm,29.9s
MDJ LR LR
comp=Z,260nm,24.2s
MDJ LR LR
comp=Z,500nm,28.1s
MDJ Mudanjiang 43.00 3 P **P** **14 04 20.2 +1.2**
MDJ IAmb IAmb 14 04 21.3
comp=Z,38nm,1.0s
LSA Lhasa 43.61 313 P **P** **14 04 24.8 +0.1**
LSA pmax pmax
comp=Z,140nm,1.3s
LSA Lhasa 43.61 313 P **P** **14 04 25.0 +0.3**
LSA Lhasa 43.61 313 P **P** **14 04 25.4 +0.6**
LSA pmax pmax
comp=Z,59nm,1.3s
LSA Lhasa 43.61 313 P **P** **14 04 25.4 +0.6**
LSA IAmb IAmb 14 04 27.0
comp=Z,58nm,1.3s
SANVU Saraoutou 43.80 114 P **P** **14 04 27.3 +1.5**
TEY Ternei 44.27 10⇑ *i*P **P** **14 04 30.5 +1.4**
TEY pmax pmax
comp=N,30nm,1.0s
TEY pmax pmax
comp=Z,60nm,0.9s
GTA Gaotai 44.78 331⇑ P **P** **14 04 33.0 -0.5**
GTA pP pP 14 04 45.0 -5.0
GTA sP sP 14 04 53.0 -4.6
GTA PcP **PcP** **14 06 16.8 +2.1**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,110nm,5.1s
GTA LR LR
comp=Z,210nm,18.2s
GTA LR LR
comp=Z,350nm,17.4s
GTA LR LR
comp=Z,510nm,17.8s
ASAJ Asahikawa 44.80 17 P **P** **14 04 34.1 +0.6**
comp=Z,34nm,0.9s,baz=237,slow=13,SNR=12
ASAJ Asahikawa 44.80 17 P **P**
ASAJ pmax pmax
comp=Z,35nm,0.9s
JKA Kamikawa-asahi 44.80 17 P **P** **14 04 33.5 +0.1**
JKA IAmb IAmb 14 04 36.2
comp=Z,35nm,0.9s
BOK Bokaro 44.96 303 *e*P **P** **14 04 34.4 -0.7**
BOK IAmb IAmb 14 04 37.6
comp=Z,140nm,2.1s
DZM Mont Dzumac 45.64 123 P **P** **14 04 41.3 +0.7**
comp=Z,40nm,0.8s,baz=252,slow=11,SNR=16
DZM Mont Dzumac 45.64 123 *e*P **P** **14 04 40.7 +0.1**
comp=Z,74nm,0.8s
DZM *e*S **S** **14 11 17.6 -1.2**
comp=Z,315nm,36.5s
DZM *e*LR LR 14 17 29.2
comp=Z,513nm,28.0s
DZM Mont Dzumac 45.64 123 P **P** **14 04 41.3 +0.7**
PALK Pallekele 45.81 279 P **P** **14 04 41.3 -0.7**
comp=Z,20nm,0.9s,baz=171,slow=6.8,SNR=7.5
PALK LR LR 14 25 03.2
comp=Z,320nm,21.8s,baz=231,slow=38
PALK Pallekele 45.81 279 *i* P **P** **14 04 40.3 -1.7**
PALK pmax pmax
comp=Z,34nm,1.0s
PALK Pallekele 45.81 279 P **P** **14 04 41.8 -0.2**
PALK IAmb IAmb 14 04 42.9
comp=Z,31nm,1.0s
YATNC Mamie plateau, 46.01 123 P **P** **14 04 44.6 +1.2**
MDRS Chennai 47.02 286 *e*P **P** **14 04 50.8 -0.6**
YSS Yuzh-Sakhalins 47.46 15 *e*P **P** **14 04 54.1 -0.1**
YSS *e*S **S** **14 11 42.9 -0.9**
YSS 14 14 45.9
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS MLR MLR
comp=Z,300nm,19.0s
KLR Kul'dur 47.75 5 P **P** **14 04 57.3 +0.8**
comp=Z,21nm,0.9s,baz=207,slow=4.8,SNR=39
KLR Kul'dur 47.75 5*c**e*P **P** **14 04 56.6 +0.1**
KLR pmax pmax
comp=Z,24nm,1.0s
ULN Ulaanbaatar 49.08 343*c**e*P **P** **14 05 07.0 +0.1**
ULN pmax pmax
comp=Z,16nm,1.3s
ULN Ulaanbaatar 49.08 343 P **P** **14 05 07.9 +1.0**
SONM Songino Array 49.25 342 P **P** **14 05 08.5 +0.3**
comp=Z,12nm,0.9s,baz=154,slow=8.0,SNR=34
SONM PcP **PcP** **14 06 31.1 +0.7**
comp=Z,7.0nm,0.9s,baz=156,slow=4.4,SNR=5.3
SONM LR LR 14 29 07.1
comp=Z,236nm,19.7s,baz=161,slow=40
SONM Songino Array 49.25 342 P **P** **14 05 08.2 0.0**
HYB Hyderabad 49.51 292 *i* P **P** **14 05 09.0 -1.6**
HYB Hyderabad 49.51 292 *e*P **P** **14 05 07.7 -2.9**
HYB IAmb IAmb 14 05 11.3
comp=Z,32nm,0.9s
TRD Trivandrum 49.62 280 *e*P **P** **14 05 09.8 -1.7**
GRNR Gornyy 49.80 8⇑ *i*P **P** **14 05 13.7 +1.5**
GRNR pmax pmax
comp=N,9.0nm,1.1s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,340nm,17.0s
GRNR MLR MLR
comp=N,240nm,15.0s
GRNR MLR MLR
comp=Z,160nm,14.0s
CIT Chita 51.44 350 *e*P **P** **14 05 26.1 +1.5**
CIT *e* 14 05 38.2
CIT pmax pmax
comp=Z,203nm,1.7s
ZEA Zeya 52.04 1 *e*P **P** **14 05 28.3 -0.6**
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
BHPL Bhopal 52.05 298 *e*P **P** **14 05 26.7 -3.0**
BHPL IAmb IAmb 14 05 31.4
comp=Z,40nm,1.4s
ZAK Zakamensk 52.46 342 *e*P **P** **14 05 28.2 -4.1**
TLY Talaya 53.48 343 P **P** **14 05 40.6 +1.0**
comp=Z,3.4nm,0.5s,baz=174,slow=6.1,SNR=8.7
TLY LR LR 14 31 44.3
comp=Z,165nm,19.1s,baz=141,slow=40
TLY Talaya 53.48 343 *e*P **P** **14 05 42.4 +2.7**
TLY *e* 14 07 37.0
TLY *e*S **S** **14 13 02.8 -4.6**
TLY *e*SS **SKiKP** **14 16 53.3 +4.0**
TLY *e*SSS SSS 14 18 31.3
TLY pmax pmax
comp=Z,10.0nm,0.6s
TLY MLR MLR
comp=Z,545nm,20.0s
IRK Irkutsk 53.80 343 *e*P P 14 05 36.1 -5.9
IRK pmax pmax
comp=Z,42nm,3.8s
NDI New Delhi 54.01 305 *e*P **P** **14 05 45.0 +1.1**
POO Poona 54.12 292 *ex* P 14 05 40.0 -4.9
WMQ Urumqi 54.30 326 *e*P **P** **14 05 45.8 0.0**
WMQ PcP **PcP** **14 06 49.8 +0.6**
WMQ pmax pmax
comp=Z,86nm,1.3s
WMQ pmax pmax
comp=Z,140nm,3.8s
WMQ LR LR
comp=Z,570nm,28.9s
WMQ LR LR
comp=Z,410nm,17.7s
WMQ LR LR
comp=Z,660nm,28.1s
MOY Mondy 54.30 341 *e*P **P** **14 05 46.5 +0.7**
MOY pmax pmax
comp=Z,36nm,2.4s
SMLA Simla 54.95 308 *e*P **P** **14 05 49.5 -1.2**
DHRM DHARAMSHALA 56.06 308 *e*P **P** **14 05 56.5 -2.5**
BOD Bodaibo 56.97 352 *e*P **P** **14 06 05.7 +1.1**
BOD pmax pmax
comp=Z,59nm,1.4s
PETK Petropavlovsk- 57.61 22 P **P** **14 06 11.0 +1.8**
comp=Z,21nm,0.8s,baz=179,slow=4.6,SNR=32
PETK LR LR 14 32 05.6
comp=Z,45nm,19.2s,baz=216,slow=37
PETK Petropavlovsk- 57.61 22 P **P** **14 06 11.0 +1.8**
PETK Petropavlovsk- 57.61 22 P **P** **14 06 11.1 +1.9**
PET Petropavlovsk 57.90 22 *i* P **P** **14 06 10.7 -0.5**
PET pmax pmax
comp=Z,83nm,1.1s
ZSN Zaisan 58.13 328 *e*P **P** **14 06 12.5 -0.5**
comp=Z,12nm,1.2s,baz=328
ZSN Zaisan 58.13 328 *e*P **P** **14 06 12.5 -0.5**
ZSN pmax pmax
comp=Z,12nm,1.2s
DGZ Jazzator, Alta 58.30 331*c* *i*P **P** **14 06 14.1 -0.3**
DGZ pmax pmax
comp=Z,18nm,1.0s
SHLS Shalkode 58.78 321 *e*P **P** **14 06 15.9 -1.9**
comp=Z,35nm,0.9s,baz=321
SHLS *e*S **S** **14 14 16.4 -1.7**
baz=321
SHLS Shalkode 58.78 321 *e*P **P** **14 06 15.8 -1.9**
SHLS *e*S **S** **14 14 16.4 -1.7**
SHLS pmax pmax
comp=Z,35nm,0.9s
NIL Nilore 58.96 309 P **P** **14 06 19.1 +0.1**
UZB Uzynbulak 59.05 321 *e*P **P** **14 06 19.3 -0.4**
comp=Z,15nm,0.8s,baz=321
UZB Uzynbulak 59.05 321 *e*P **P** **14 06 19.3 -0.4**
UZB pmax pmax
comp=Z,15nm,0.8s
MK31 Makanchi Array 59.13 326 *i* P **P** **14 06 18.8 -1.2**
MK31 Makanchi Array 59.13 326 P **P** **14 06 19.8 -0.2**
MK31 IAmb IAmb 14 06 22.4
comp=Z,33nm,0.9s
MKAR Makanchi Array 59.13 326 P **P** **14 06 19.6 -0.4**
comp=Z,27nm,0.8s,baz=121,slow=7.2,SNR=142
MKAR LR LR 14 32 16.2
comp=Z,300nm,21.7s,baz=112,slow=36
MKAR PKP2bc 14 36 04.7
comp=Z,1.1nm,0.9s,baz=304,slow=2.4,SNR=5.9
MKAR Makanchi Array 59.13 326 P **P** **14 06 18.7 -1.3**
MKAR Makanchi Array 59.13 326 P **P** **14 06 18.7 -1.3**
MAKZ Makanchi 59.31 326 P **P** **14 06 20.4 -0.9**
MAKZ Makanchi 59.31 326 P **P** **14 06 20.5 -0.7**
KSH Kashi 59.32 316 P **P** **14 06 22.5 +0.9**
KSH sP sP 14 06 46.5 +0.3
KSH pmax pmax
comp=Z,72nm,1.0s
KSH pmax pmax
comp=Z,300nm,6.8s
SATY Saty 59.40 321⇑ *i*P **P** **14 06 21.9 -0.2**
comp=Z,38nm,1.0s,baz=321
SATY *e*S **S** **14 14 27.8 +1.6**
baz=321
SATY Saty 59.40 321*c* *i*P **P** **14 06 21.8 -0.2**
SATY *e*S **S** **14 14 27.7 +1.6**
SATY pmax pmax
comp=Z,38nm,1.0s
KPKS Kokpek 59.43 321 *e*P **P** **14 06 21.9 -0.4**
comp=Z,61nm,1.2s,baz=321
KPKS Kokpek 59.43 321 *e*P **P** **14 06 21.8 -0.4**
KPKS pmax pmax
comp=Z,61nm,1.2s
LBZ Lake Benmore 60.11 145 P **P** **14 06 27.1 +0.4**
RPZ Rata Peaks 60.22 144 P **P** **14 06 26.9 -0.6**
comp=Z,18nm,0.9s,baz=126,slow=0.6,SNR=6.2
THZ Tophouse 60.24 141 P **P** **14 06 27.4 -0.4**
THZ IAmb IAmb 14 06 28.3
comp=Z,26nm,0.8s
MDOK Medeo 60.31 320 *e*P **P** **14 06 28.3 -0.1**
baz=320
MDOK Medeo 60.31 320 *e*P **P** **14 06 28.2 -0.1**
TNSS Tian-Shan 60.31 320 *e*P **P** **14 06 28.5 -0.2**
baz=320
TNSS Tian-Shan 60.31 320 *e*P **P** **14 06 28.5 -0.2**
ULHL Ulahol 60.39 319 P **P** **14 06 26.0 -3.0**
SNR=6.0
TDK Taldyqorghan 60.39 323 *e*P **P** **14 06 28.3 -0.5**
comp=Z,41nm,0.9s,baz=323
TDK Taldyqorghan 60.39 323 *e*P **P** **14 06 28.2 -0.5**
TDK pmax pmax
comp=Z,41nm,0.9s
YAK Yakutsk 60.41 2*c* *i*P **P** **14 06 28.9 +0.5**
YAK *e**PP **pP** **14 06 43.6 -1.9**
YAK *e* 14 07 11.9
YAK *e* 14 08 43.9
YAK *e*S **S** **14 14 37.5 -0.5**
YAK *e**SS **sS** **14 15 07.8 +0.7**
YAK *e* 14 16 12.3
YAK *e*SS **SS** **14 18 36.1 -0.8**
YAK pmax pmax
comp=Z,76nm,0.9s
YAK pmax pmax
comp=N,23nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,10.0nm,0.4s
YAK smax smax
comp=E,156nm,4.1s
YAK smax smax
comp=N,144nm,2.5s
AAA Alma-Ata 60.42 320 *e*P **P** **14 06 28.8 -0.1**
comp=N,32nm,1.0s,baz=320
AAA Alma-Ata 60.42 320 *e*P **P** **14 06 28.8 -0.1**
AAA pmax pmax
comp=Z,33nm,1.0s
CHKK Chushkaly 60.69 321 *e*P **P** **14 06 29.9 -0.8**
baz=321
CHKK Chushkaly 60.69 321 *e*P **P** **14 06 29.9 -0.8**
MA2 Magadan 60.92 14*c**e*P **P** **14 06 32.1 +0.1**
MA2 pmax pmax
comp=Z,28nm,1.0s
KUU Kurty 61.12 321 *e*P **P** **14 06 33.3 -0.4**
comp=Z,100nm,1.0s,baz=321
KUU Kurty 61.12 321 *e*P **P** **14 06 33.2 -0.4**
KUU pmax pmax
comp=Z,99nm,1.0s
TKM2 Tokmak 2 61.13 320 P **P** **14 06 33.8 -0.1**
SNR=28
TKM2 Tokmak 2 61.13 320 P **P** **14 06 33.1 -0.9**
URZ Urewera 61.24 136 P **P** **14 06 33.2 -1.3**
comp=Z,23nm,0.9s,baz=122,slow=23,SNR=13
URZ Urewera 61.24 136 IAmb IAmb 14 06 35.3
comp=Z,23nm,0.9s
BKZ Black Stump Fm 61.25 137 P **P** **14 06 34.3 -0.3**
BKZ IAmb IAmb 14 06 34.9
comp=Z,24nm,0.7s
KBK Karagaybulak 61.43 319 P **P** **14 06 36.2 +0.2**
SNR=20
UCH Uchtor 61.52 318 P **P** **14 06 37.1 +0.2**
SNR=58
CHMS Chumysh 61.71 319 P **P** **14 06 37.6 -0.1**
SNR=9.0
AAK Ala-Archa 61.72 319 P **P** **14 06 37.9 0.0**
SNR=20
AAK Ala-Archa 61.72 319 *i* P **P** **14 06 38.3 +0.4**
SNR=26
AAK Ala-Archa 61.72 319 P **P** **14 06 37.5 -0.4**
AAK Ala-Archa 61.72 319 P **P** **14 06 38.5 +0.6**
SGDS Sogindy 62.00 320 *e*P **P** **14 06 38.7 -1.0**
comp=Z,8.9nm,1.0s,baz=320
SGDS Sogindy 62.00 320 *e*P **P** **14 06 38.6 -1.0**
SGDS pmax pmax
comp=Z,9.0nm,1.0s
USP Ospenovka 62.00 319 P **P** **14 06 39.2 -0.5**
SNR=44
AML Almayashu 62.02 318 P **P** **14 06 40.4 +0.1**
SNR=79
EKS2 Erkin-Say 62.20 319 P **P** **14 06 41.4 +0.3**
SNR=10
SEM Semipalatinsk 62.34 329 *e*P **P** **14 06 40.6 -1.4**
baz=328
SEM Semipalatinsk 62.34 329 *e*P **P** **14 06 40.6 -1.4**
ZALV Zalesovo Beam 62.36 334 P **P** **14 06 40.8 -0.9**
comp=Z,9.3nm,0.7s,baz=120,slow=5.3,SNR=37
ZALV PKP2bc 14 35 53.0
comp=Z,2.3nm,0.9s,baz=5.7,slow=1.5,SNR=6.4
ZALV LR LR 14 36 01.3
comp=Z,91nm,18.8s,baz=124,slow=38
KBL Kabul 62.55 308 P **P** **14 06 41.6 -2.0**
KBL pmax pmax
comp=Z,55nm,0.9s

KBL Kabul 62.55 308 P **P** 14 06 41.6 -2.0
KBL Kabul 62.55 308 P **P** 14 06 43.6 0.0
SNR=27
BTLS Baital 63.10 321 *e*P **P** 14 06 46.1 -0.9
comp=Z,7.3nm,0.8s,baz=321
BTLS *e*S **S** 14 15 13.8 +0.9
baz=321
BTLS Baital 63.10 321 *e*P **P** 14 06 46.0 -0.9
BTLS *e*S **S** 14 15 13.7 +0.9
BTLS pmax pmax
comp=Z,7.0nm,0.8s
KURBB Kurchatov Arra 63.37 328 P **P** 14 06 48.0 -0.4
comp=Z,33nm,0.8s,baz=124,slow=6.3,SNR=188
KURBB PKPPKP **P'P'df** 14 35 47.5 +1.6
comp=Z,1.0nm,1.0s,baz=291,slow=3.7,SNR=7.2
KURBB Kurchatov Arra 63.37 328 P **P** 14 06 47.8 -0.7
KURK Kurchatov 63.37 328 P **P** 14 06 48.1 -0.5
KURK Kurchatov 63.37 328 P **P** 14 06 48.0 -0.5
DZA Taraz 63.93 318 *e*P **P** 14 06 51.6 -0.8
comp=Z,10nm,0.8s,baz=318
DZA *e*S **S** 14 15 24.4 +1.1
baz=318
DZA Taraz 63.93 318 *e*P **P** 14 06 51.6 -0.8
DZA *e*S **S** 14 15 24.4 +1.1
DZA pmax pmax
comp=Z,10.0nm,0.8s
SEY Seymchan 64.25 13 P **P** 14 06 55.7 +1.6
comp=Z,14nm,1.1s,baz=205,slow=7.1,SNR=17
SEY Seymchan 64.25 13 *i*P **P** 14 06 52.7 -1.4
IUG Iuzhnay 64.51 317 *e*P **P** 14 06 55.8 -0.6
comp=Z,16nm,0.9s,baz=317
IUG Iuzhnay 64.51 317 *e*P **P** 14 06 55.7 -0.6
IUG pmax pmax
comp=Z,16nm,0.9s
KK31 Karatay Array 64.56 318 P **P** 14 06 55.8 -0.8
KKAR Karatay Array 64.56 318 P **P** 14 06 56.4 -0.2
KKAR Karatay Array 64.56 318 P **P** 14 06 56.4 -0.2
BRLS Borolday 64.99 318 *e*P **P** 14 06 58.5 -0.8
comp=Z,14nm,0.9s,baz=317
BRLS Borolday 64.99 318 *e*P **P** 14 06 58.5 -0.8
BRLS pmax pmax
comp=Z,14nm,0.9s
BRZS Berezniki 66.25 325 *e*P **P** 14 07 07.0 -0.3
comp=Z,7.9nm,0.9s,baz=325
BRZS Berezniki 66.25 325 *e*P **P** 14 07 06.9 -0.3
BRZS pmax pmax
comp=Z,8.0nm,0.9s
WBK Wadi Bani Khal 68.54 294 P **P** 14 07 22.3 0.0
WSAR Wadi Sarin 68.93 294 P **P** 14 07 24.1 -0.6
comp=Z,15nm,0.9s,baz=112,slow=7.3,SNR=12
BVAR Borovoye Array 68.94 328 P **P** 14 07 23.5 -0.6
comp=Z,1.8nm,0.4s,baz=86,slow=6.7,SNR=32
BRVK Borovoye 69.01 328 P **P** 14 07 23.7 -0.9
BRVK Borovoye 69.01 328 P **P** 14 07 24.4 -0.2
BRVK IAmb IAmb 14 07 27.1
comp=Z,37nm,1.2s
BRVK Borovoye 69.01 328 P **P** 14 07 24.4 -0.2
MHTO MHTO 69.27 292 P **P** 14 07 25.1 -1.7
SNR=11
JMDO Jabal Madar 69.30 293 P **P** 14 07 27.0 0.0
SNR=6.4
BIDO Bidbid 69.43 294 P **P** 14 07 28.5 +0.7
SNR=5.5
DQM DQM 69.55 291 P **P** 14 07 29.1 +0.5
SNR=7.1
TIXI Tiksi 70.03 1 P **P** 14 07 30.9 +0.4
comp=Z,16nm,0.7s,baz=166,slow=3.6,SNR=44
TIXI Tiksi 70.03 1*ce*P **P** 14 07 29.9 -0.6
TIXI Tiksi 70.03 1 P **P** 14 07 31.1 +0.6
TIXI IAmb IAmb 14 07 31.8
comp=Z,34nm,1.1s
BSY Bisya 70.18 294 P **P** 14 07 32.6 +0.2
HOQ Hoqain 70.18 294 P **P** 14 07 32.6 +0.1
ARQ Araqi 70.87 294 P **P** 14 07 37.3 +0.7
SNR=5.7
SOHO SOHO 70.95 295 P **P** 14 07 37.2 +0.1
SOHO SOHO 70.95 295 P **P** 14 07 37.3 +0.2
SHAO Shalim 71.18 288 P **P** 14 07 38.9 +0.3
SHAO Shalim 71.18 288 P **P** 14 07 38.9 +0.3
MDH Madha 71.31 296 P **P** 14 07 38.3 -1.0
UOSS Minazif 71.35 296 P **P** 14 07 39.8 +0.3
UOSS Minazif 71.35 296 P **P** 14 07 40.1 +0.6
BANOM Banah 71.39 297 P **P** 14 07 40.8 +1.1
BANOM Banah 71.39 297 P **P** 14 07 40.6 +0.8
HATD Hatta, Dubai 71.40 296 P **P** 14 07 40.4 +0.5
HATD Hatta, Dubai 71.40 296 P **P** 14 07 40.2 +0.4
MSFE Esma-Masafi 71.44 296 P **P** 14 07 39.2 -0.9
MASF Masafi 71.44 296 P **P** 14 07 39.3 -0.8
ASHO Ashiyiah 71.45 295 *i*P **P** 14 07 41.0 +0.8
SNR=6.6
ASHO Ashiyiah 71.45 295 P **P** 14 07 41.0 +0.8
SHME Shamm 71.55 297 P **P** 14 07 42.8 +2.2
ALNE Al Ain 71.65 295 *i*P **P** 14 07 42.0 +0.7
SNR=7.3
ALNE Al Ain 71.65 295 P **P** 14 07 41.9 +0.5
SNR=10
BILL Bilibino 71.77 15*ce*P **P** 14 07 40.8 -0.3
BILL *e* 14 10 18.8
BILL *e*S **S** 14 16 59.7 +3.8
BILL pmax pmax
comp=Z,6.0nm,1.7s
BILL MLR MLR
comp=Z,88nm,20.0s
BILL Bilibino 71.77 15 P **P** 14 07 41.9 +0.8
DMTO DMTO 71.80 288 P **P** 14 07 42.4 +0.2
NAZ Nazwa, Dubai 71.84 296 P **P** 14 07 42.5 0.0
NAZ Nazwa, Dubai 71.84 296 P **P** 14 07 42.9 +0.5
FAQ Al Faqa, Dubai 71.88 295 *i*P **P** 14 07 42.4 -0.2
SNR=6.3
FAQ Al Faqa, Dubai 71.88 295 P **P** 14 07 42.0 -0.7
GEYT Alibeck 71.95 309 P **P** 14 07 43.2 +0.3
comp=Z,19nm,0.8s,baz=134,slow=4.3,SNR=22
GEYT LR LR 14 44 12.3
comp=Z,55nm,18.4s,baz=15,slow=40
GEYT Alibeck 71.95 309 P **P** 14 07 42.8 -0.1
GYA0 ALIBECK ARRAY 71.95 309 P **P** 14 07 42.7 -0.2
GYA0B ALIBECK ARRAY 71.95 309 IAmb IAmb 14 07 45.8
comp=Z,26nm,0.9s
UMZA Um Al Zommool 72.05 293 P **P** 14 07 42.3 -1.4
ASUD Al Ashush, Dub 72.10 295 *i*P **P** 14 07 44.9 +0.9
SNR=7.4
ASUD Al Ashush, Dub 72.10 295 P **P** 14 07 45.2 +1.2
AJN Ajban 72.41 295 P **P** 14 07 46.0 +0.2
SOCY Socotra 72.41 282 P **P** 14 07 43.7 -2.4
SOCY Socotra 72.41 282 P **P** 14 07 44.2 -2.0
SNR=14
NRIK Noril'sk 72.46 347 P **P** 14 07 46.0 +0.7
comp=Z,36nm,0.8s,baz=133,slow=6.1,SNR=48
NRIK LR LR 14 42 22.2
comp=Z,160nm,21.3s,baz=139,slow=38
NRIK Noril'sk 72.46 347 P **P** 14 07 45.9 +0.7
NRIK pmax pmax
comp=Z,44nm,0.8s
NRIK Noril'sk 72.46 347 P **P** 14 07 45.9 +0.7
RBK Rabkut 72.49 288 P **P** 14 07 46.7 +0.2
SNR=6.1
DOK Doka 72.64 289 P **P** 14 07 45.8 -1.5
SNR=24
WHFO Wadi Hawf 72.93 288 P **P** 14 07 47.2 -1.9
SNR=13
MZWR Madinat Zayed 73.32 294 P **P** 14 07 51.9 +0.7
ABTO Aybut 73.34 288 P **P** 14 07 51.8 +0.3
SNR=8.2
AB31 Akbulak array 73.59 321 *i*P **P** 14 07 51.6 -0.7
ABKAR Akbulak array 73.59 321 P **P** 14 07 51.8 -0.5
ABKAR Akbulak array 73.59 321 IAmb IAmb 14 07 55.2
comp=Z,26nm,0.9s
AKTO Aktyubinsk 75.12 322 P **P** 14 08 01.1 -0.1
comp=Z,30nm,0.9s,baz=105,slow=7.4,SNR=39
AKTO Aktyubinsk 75.12 322 P **P** 14 08 00.8 -0.4
SVE Sverdlovsk 75.61 329*de*P **P** 14 08 04.1 +0.2
SVE pmax pmax
comp=Z,105nm,1.2s
ARU Arti 76.57 328 P **P** 14 08 08.9 -0.4
comp=Z,14nm,0.8s,baz=103,slow=4.4,SNR=56
ARU Arti 76.57 328*c i*P **P** 14 08 08.7 -0.6
ARU *PP **pP** 14 08 25.0 -2.1
ARU 14 10 59.9
ARU S **S** 14 17 53.0 +2.9
ARU pmax pmax
comp=Z,75nm,1.0s
ARU Arti 76.57 328 P **P** 14 08 09.2 -0.2
FALS False Pass 77.48 34 P 14 08 15.4
baz=254
TNA Tin City 78.76 23 P 14 08 23.0
baz=248
QRN Al-Qurain 79.10 299 *e*P 14 08 22.6
SDPT Sand Point 79.24 34 P **P** **14 08 24.6 +0.5**
SDPT Sand Point 79.24 34 P 14 08 25.3
baz=257
UMR Umm Al-Rimmam 79.33 300 *e*P 14 08 24.3
ANM Nome 79.43 24 P 14 08 27.0
baz=251
RDF Al-Rutifah 79.43 299 *e*P 14 08 24.6
MIB Mutribah 79.68 300 *e*P 14 08 25.6
RST Umm Al-Ruwaisa 79.95 300 *e*P 14 08 26.8
AKT Akhty 80.44 312 *e*P **P** **14 08 31.3 +0.2**
AKT *e* 14 08 37.4
AKT pmax pmax
comp=Z,34nm,0.8s
MAK Makhachkala 80.77 313 *e*P **P** **14 08 32.2 -0.5**
MAK *e* 14 11 36.6
MAK *e*PPP PPP 14 13 26.3
MAK *e*S **S** **14 18 38.5 +3.0**
MAK *e*SS **SS** **14 23 52.7 +2.5**
MAK *e*SSS SSS 14 27 20.7
MAK pmax pmax
comp=Z,134nm,1.4s
RAYN Ar Rayn 80.97 293 *i*P **P** **14 08 34.8 +0.5**
SNR=5.2
RAYN Ar Rayn 80.97 293 P **P** **14 08 32.6 -1.6**
RAYN pmax pmax
comp=Z,33nm,0.9s
RAYN Ar Rayn 80.97 293 P **P** **14 08 32.6 -1.6**
RAYN IAmb IAmb 14 08 37.0
comp=Z,33nm,0.8s
VNDA Vanda 81.31 173 P **P** **14 08 35.3 +0.5**
comp=Z,17nm,0.9s,baz=314,slow=6.0,SNR=88
VNDA LR LR 14 42 49.3
comp=Z,106nm,21.4s,baz=320,slow=34
VNDA Vanda 81.31 173 P **P** **14 08 35.9 +1.0**
VNDA IAmb IAmb 14 08 37.8
comp=Z,20nm,0.9s
RDOG Red Dog Mine 81.47 21 P 14 08 37.8
baz=253
MAW Mawson 81.56 200 P **P** **14 08 37.3 +1.0**
comp=Z,16nm,0.9s,baz=57,slow=6.7,SNR=10
MAW Mawson 81.56 200 P **P** **14 08 35.9 -0.4**
baz=82,SNR=7.4
MAW Mawson 81.56 200 P **P** **14 08 36.6 +0.3**
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 81.56 200 P **P** **14 08 36.6 +0.3**
KIRV Kirov 81.88 329 P **P** **14 08 38.5 +0.3**
comp=Z,32nm,0.8s,baz=118,slow=2.8,SNR=23
BELG Belogornoye 81.89 323 P **P** **14 08 38.4 0.0**
comp=Z,107nm,0.9s,baz=132,slow=0.2,SNR=26
GROC Groznyy 82.04 313 *e*P **P** **14 08 39.1 -0.3**
GROC S **S** **14 18 49.3 +0.6**
GROC pmax pmax
comp=Z,94nm,1.2s
SBA Scott Base 82.23 172 P **P** **14 08 41.1 +1.5**
SBA pmax pmax
comp=Z,11nm,0.9s
SBA Scott Base 82.23 172 P **P** **14 08 41.1 +1.5**
GNI Garni 82.57 310*ce*P **P** **14 08 43.4 +0.9**
GNI pmax pmax
comp=Z,60nm,1.7s
SVW2 Sparrevohn 82.92 29 P **P** **14 08 44.8 +1.2**
SVW2 IAmb IAmb 14 08 47.1
comp=Z,24nm,1.0s
CLDR Caldiran 83.14 309 P **P** **14 08 46.0 +0.5**
CUKT Cukurca 83.27 307 P **P** **14 08 45.3 -0.8**
ZEI Tsey 83.39 313 *e*P **P** **14 08 45.3 -1.4**
ZEI pmax pmax
comp=Z,96nm,1.3s
AKH Akhalkalaki 83.61 311 ⇓P **P** **14 08 49.3 +1.5**
AKH Akhalkalaki 83.61 311 P **P** **14 08 48.9 +1.1**
NCK Nalchik 83.67 313 *i*P **P** **14 08 47.7 -0.2**
NCK pmax pmax
comp=Z,37nm,1.0s
AKDM Akdamar-Van 83.83 308 P **P** **14 08 50.2 +1.2**
AGRB Hanur-Agry 83.88 309 P **P** **14 08 49.7 +0.4**
PYA1 Pyatigorsk 84.06 314 *i*P **P** **14 08 49.9 0.0**
PYA1 pmax pmax
comp=Z,3.0nm,1.0s
GOF Gofitskoye 84.17 315⇑ *e*P **P** **14 08 53.0 +2.7**
GOF pmax pmax
comp=Z,46nm,0.9s
KBZ Khabaz 84.19 314 P **P** **14 08 50.9 +0.4**
comp=Z,17nm,0.8s,baz=155,slow=1.3,SNR=34
KBZ LR LR 14 51 58.7
comp=Z,66nm,18.6s,baz=86,slow=40
KBZ Khabaz 84.19 314*ce*P **P** **14 08 50.6 +0.2**
KBZ pmax pmax
comp=Z,30nm,1.0s
PRGR Permogore 84.23 332 *e*P **P** **14 08 49.3 -1.0**
PRGR pmax pmax
comp=Z,62nm,1.1s
NEY Neytrino 84.29 313 *i*P **P** **14 08 51.7 +0.5**
NEY pmax pmax
comp=Z,6.0nm,0.8s
KIV Kislovodsk 84.35 314 *i*P **P** **14 08 52.7 +1.3**
SNR=5.6
KIV Kislovodsk 84.35 314 P **P** **14 08 50.7 -0.7**
KIV Kislovodsk 84.35 314 *e*P **P** **14 08 51.5 +0.1**
KIV *e* 14 19 09.5
KIV pmax pmax
comp=Z,95nm,1.0s
KIV pmax pmax
comp=Z,84nm,3.7s
KIV MLR MLR
comp=Z,209nm,19.0s
SHA1 Shidzhatmaz 84.36 314*c i*P **P** **14 08 51.6 -0.1**
A21K Barrow 84.42 18 P 14 08 53.2
baz=258
IMAR Indian Mountai 84.51 24 P **P** **14 08 53.2 +1.6**
GURO Guroymak-BITLI 84.58 308 P **P** **14 08 53.5 +0.7**
PPT2 Papeete2 84.84 108 *e*S **S** **14 19 16.0 -1.9**
comp=Z,118nm,25.0s
PPT2 Papeete2 84.84 108 *e*LR LR 14 35 47.7
comp=Z,379nm,32.2s
SKT Skwentna 84.96 28 P 14 08 54.9
baz=264
CAPN Captain Cook N 85.01 29 P 14 08 56.4
baz=264
VRTB Varto-Mus 85.05 309 P **P** **14 08 57.1 +1.9**
BRSE Bradley Lake S 85.12 30 P 14 08 56.2
baz=265
SUA Susitna One 85.28 29 P 14 08 56.6
baz=264
TBI Tubuai 85.29 113 *e*S **S** **14 19 19.0 -3.1**
comp=Z,109nm,25.0s
TBI Tubuai 85.29 113 *e*LR LR 14 35 58.2
comp=Z,446nm,36.8s
VRH Novokhopyorsk 85.42 321 *e*P **P** **14 08 56.1 -0.4**
VRH pmax pmax
comp=Z,280nm,1.7s
BPAW Bear Paw Mtn. 85.43 26 P 14 08 57.8
baz=264
CUT Chulitna 85.59 28 P 14 08 58.6
baz=265
MLY Manley 85.63 25 IAmb IAmb 14 09 01.2
comp=Z,19nm,1.4s
MLY Manley 85.63 25 P 14 08 58.5
baz=264
CHOM Cayeli-Rize 85.65 311 P **P** **14 08 58.6 +0.7**
BNGB Bingl 85.65 309 P **P** **14 08 58.6 +0.5**
O22K Cooper Landing 85.69 30 P 14 08 59.1
baz=266
RC01 Rabbit Creek A 85.73 29 IAmb IAmb 14 09 00.8
comp=Z,30nm,1.0s
RC01 Rabbit Creek A 85.73 29 P 14 08 59.0
baz=265
YEDI Yedisu-Bingol 85.77 309 P **P** **14 08 59.6 +0.9**
SEW Seward 85.80 30 P 14 08 59.9
baz=266
DYBB Diyarbakir 86.05 308 P **P** **14 09 01.1 +1.1**
PMR Palmer 86.06 29 P 14 09 00.7
baz=266
COLD Coldfoot 86.06 23 P 14 09 01.1
baz=265
COLD Coldfoot 86.06 23 IAmb IAmb 14 09 02.6
comp=Z,14nm,0.9s
I23K Minto, Yukon-K 86.22 25 IAmb IAmb 14 09 02.4
comp=Z,10nm,0.8s
I23K Minto, Yukon-K 86.22 25 P 14 09 01.7
baz=266
MCK McKinley 86.30 26 P 14 09 01.0
baz=266
NEA2 Nenana 86.31 25 P 14 09 02.5
baz=266
KNK Knik Glacier 86.37 29 P 14 09 02.5
baz=266
WAT2 Susitna Watana 86.41 27 P 14 09 02.2
baz=266
TOLK Toolik Lake Re 86.43 21 IAmb IAmb 14 09 04.3
comp=Z,9.6nm,0.8s
TOLK Toolik Lake Re 86.43 21 P 14 09 02.9
baz=265
SML Sawmill 86.45 28 IAmb IAmb 14 09 04.0
comp=Z,14nm,0.8s
SML Sawmill 86.45 28 P 14 09 02.9
baz=267
SOC Sochi 86.49 313 *e*P **P** **14 08 59.0 -2.9**
SOC *e* 14 12 20.7
SOC *e*S **SKSac** **14 19 19.7 -3.1**
SOC *e*SS **SS** **14 25 09.5 -5.1**
SOC pmax pmax
comp=Z,59nm,1.1s
WAT6 Susitna Watana 86.77 28 P 14 09 04.4
baz=267
CCB Clear Creek Bu 86.85 25 IAmb IAmb 14 09 07.8
comp=Z,15nm,1.3s
VORD Divnogorie 86.94 321 *e*P **P** **14 09 04.1 +0.1**
VORD pmax pmax
comp=Z,140nm,1.7s
VSR Storozhevoye 87.03 321 *e*P **P** **14 09 04.4 0.0**
VSR pmax pmax
comp=Z,60nm,0.8s
URFA Urfa 87.09 307 P **P** **14 09 05.2 +0.1**
KLMR Klimovskoe 87.11 331 *e*P **P** **14 09 02.7 -1.8**
KLMR pmax pmax
comp=Z,92nm,1.3s
KLMR Klimovskoe 87.11 331 *e*P **P** **14 09 02.8 -1.8**
KLMR AMP 14 09 08.6
comp=Z,92nm,1.3s
LPSR Galich'ya Gora 87.20 322 *e*P **P** **14 09 05.8 +0.6**
LPSR pmax pmax
comp=Z,80nm,0.8s
HDA Harding Lake 87.21 26 P 14 09 04.9
baz=268
HDA P 14 09 04.9
baz=268
ILAR Eielson Array 87.25 25 P **P** **14 09 04.5 -0.7**
comp=Z,2.1nm,0.6s,baz=244,slow=5.2,SNR=26
ILAR Eielson Array 87.25 25 P **P** **14 09 04.7 -0.5**
ILIC ilic-Erzincan 87.30 309 P **P** **14 09 07.1 +0.9**
MALT Malatya 87.40 308 P **P** **14 09 07.9 +1.2**
M24K Tolsona, Glenn 87.48 28 P 14 09 08.0
baz=268
KLU Klutina 87.59 29 IAmb IAmb 14 09 11.1
comp=Z,29nm,1.4s
PAX Paxson 87.83 27 P 14 09 09.4
baz=269
MOS Moscow 88.01 326 *e*P **P** **14 09 07.6 -1.4**
MOS *e* 14 09 25.3
MOS pmax pmax
comp=Z,65nm,1.0s
ANN Anapa 88.14 315 *e*P **P** **14 09 09.0 -0.8**
ANN pmax pmax
comp=Z,137nm,0.9s
DARE Darende-Malaty 88.14 308 P **P** **14 09 10.9 +0.7**
BMAR Burnt Mountain 88.25 23 P **P** **14 09 11.7 +1.7**
RSDY Resadiye-TOKAT 88.25 310 P **P** **14 09 11.5 +0.9**
KIBK Kibwezi 88.34 268 P **P** **14 09 12.8 +1.2**
SNR=16
SVSK Karacayir 88.51 310 P **P** **14 09 13.6 +1.9**
OBN Obninsk 88.61 325 P **P** **14 09 11.2 -0.6**
comp=Z,6.9nm,0.3s,baz=71,slow=6.4,SNR=9.0
OBN Obninsk 88.61 325*ce*P **P** **14 09 11.3 -0.6**
OBN *i* 14 09 18.0
OBN pmax pmax
comp=Z,86nm,1.7s
OBN MLR MLR
comp=Z,242nm,24.0s
KMRS Kahramanmaras 88.62 307 P **P** **14 09 12.6 +0.2**
TOKT Tokat 88.85 310 P **P** **14 09 13.4 0.0**
KMBO Kilima Mbogo 89.10 269 P **P** **14 09 16.2 +0.8**
comp=Z,16nm,0.9s,baz=70,slow=5.4,SNR=25
KMBO LR LR 14 46 10.1
comp=Z,130nm,20.1s,baz=96,slow=34
K27K Chicken 89.34 26 IAmb IAmb 14 09 18.7
comp=Z,20nm,1.1s
K27K Chicken 89.34 26 P 14 09 17.0
baz=272
L27K Beaver Creek, 89.49 27 IAmb IAmb 14 09 18.4
comp=Z,9.1nm,0.8s
L27K Beaver Creek, 89.49 27 P 14 09 17.5
baz=272
BCAR Beaver Creek A 89.51 27 P **P** **14 09 16.9 +0.9**
EGAK Eagle 89.71 25 P 14 09 17.7
baz=273
APA Apatity 89.71 337⇓ *i*P **P** **14 09 12.9 -3.9**
APA pmax pmax
comp=Z,10.0nm,1.0s
APA MLR MLR
comp=Z,400nm,20.0s
MMLI Mount Malkishu 89.95 302 P **P** **14 09 19.3 +0.6**
SYO Syowa Base 90.24 201⇑ *e*P **P** **14 09 20.0 +0.9**
SYO Syowa Base 90.24 201⇓ *e*pP pP 14 09 34.4 -3.1
SIM Simferopol' 90.49 315 P P 14 09 13.4 -7.5
SIM pmax pmax
comp=Z,68nm,0.7s
DAWY Dawson 90.52 26 IAmb IAmb 14 09 22.9
comp=Z,7.4nm,0.9s
BRTR Keskin Array B 91.10 310 P **P** **14 09 23.2 -0.8**
comp=Z,5.7nm,0.9s,baz=116,slow=5.6,SNR=15
BRTR LR LR 14 56 26.7
comp=Z,47nm,19.9s,baz=102,slow=40
EPYK Eagle Plains 91.41 24 P 14 09 25.8
baz=277
QSPA South Pole Qui 91.45 180 P **P** **14 09 25.9 +0.8**
QSPA IAmb IAmb 14 09 26.3
comp=Z,18nm,1.2s
ARCES ARCESS Array B 92.36 340 P **P** **14 09 28.6 -0.5**
comp=Z,12nm,0.8s,baz=84,slow=5.4,SNR=18
ARCES PKKPbc **PKKPdf** **14 26 43.5 +0.4**
comp=Z,2.6nm,0.8s,baz=263,slow=3.9,SNR=5.4
ARCES LR LR 14 57 24.4
comp=Z,71nm,18.8s,baz=100,slow=40
ARCES ARCESS Array B 92.36 340 P **P** **14 09 28.5 -0.5**
ARCES pmax pmax
comp=Z,15nm,0.9s
ARCES ARCESS Array B 92.36 340 P **P** **14 09 28.5 -0.5**
ARCES IAmb IAmb 14 09 29.6
comp=Z,15nm,0.9s
SPITS Spitsbergen Ar 92.54 349 P **P** **14 09 29.9 +0.1**
comp=Z,8.2nm,0.7s,baz=132,slow=11,SNR=4.7
WHY Whitehorse 92.99 29 P **P** **14 09 31.5 -0.8**
WHY IAmb IAmb 14 09 35.0
comp=Z,15nm,1.0s
AKASG Malin Array Be 93.33 321 P **P** **14 09 33.4 -0.5**
comp=Z,5.8nm,0.7s,baz=67,slow=4.8,SNR=13
AKASG LR LR 14 55 14.8
comp=Z,84nm,21.8s,baz=70,slow=38
AKASG Malin Array Be 93.33 321 P **P** **14 09 34.5 +0.6**
AKBB Malin Array Si 93.33 321*ce*P **P** **14 09 32.5 -1.4**
AKBB Malin Array Si 93.33 321 P **P** **14 09 33.7 -0.2**
AKBB IAmb IAmb 14 09 38.7
comp=Z,11nm,1.1s
FINES FINESS Array B 93.56 332 P **P** **14 09 34.3 -0.4**
comp=Z,7.6nm,0.7s,baz=56,slow=3.3,SNR=8.2
NACGM Naroch 94.24 325 *i*P **P** **14 09 42.0 +4.0**
NACGM *i*P **P** **14 09 42.0 +4.0**
NACGM *i*P **P** **14 09 42.0 +4.0**
NACGM *i*Pb **PcP** **14 09 43.3 +5.0**
comp=N,25nm,0.9s
NACGM *i*Pb pP 14 09 43.6 -13
comp=Z,35nm,1.3s
NACGM *i*Pb pwP 14 09 45.5 -13
comp=E,23nm,1.0s
NACGM *i*PP PP 14 13 40.4 +15
NACGM *i*PPP PPP 14 16 31.8
NACGM *i*SS SS 14 27 11.6 +5.7
NACGM *i*SSS SSS 14 31 54.7
NACGM *i*LQ LQ 14 44 42.2
NACGM *i*LR LR 14 53 30.0
CFR Carcaliu 94.70 315⇑ P 14 09 35.4 -4.8
CFR Carcaliu 94.70 315⇑ P 14 09 35.4 -4.9
WRAK Wrangell Islan 95.00 33 P 14 09 43.2
baz=260
C36M Paulatuk 95.41 20 P 14 09 43.7
baz=289
TESR Tescani 95.56 317⇑ P **P** **14 09 44.8 +0.5**
VRI Vrincioaia 95.59 316⇑ P **P** **14 09 45.4 +1.0**
VRI Vrincioaia 95.59 316⇑ P **P** **14 09 45.4 +1.0**

PLOR	**Plostina**	**95.65**	**316**	⇓P		**P**	**14 09 44.9**	**+0.2**
PLOR	**Plostina**	**95.65**	**316**	⇓P		**P**	**14 09 44.9**	**+0.2**
MLR	**Muntele Rosu**	**96.19**	**316**	P		**P**	**14 09 47.1**	**-0.2**
	comp=E,7.6nm,0.8s,baz=330,slow=7.3,SNR=6.5							
MLR	**Muntele Rosu**	**96.19**	**316**	⇑P		**P**	**14 09 45.3**	**-2.0**
MLR	**Muntele Rosu**	**96.19**	**316**	⇑P		**P**	**14 09 45.3**	**-2.0**
BURAR	**Bucovina Array**	**96.36**	**318**	⇓P		**P**	**14 09 48.5**	**+0.5**
BURAR	**Bucovina Array**	**96.36**	**318**	⇓P		**P**	**14 09 48.5**	**+0.5**
MATP	**Matopo**	**97.86**	**250**	P		**P**	**14 09 54.7**	**-0.7**
	comp=E,5.8nm,0.9s,baz=255,slow=22,SNR=4.6							
KOLS	**Kolonicke sedl**	**98.05**	**320**	*e*P		Pdif	14 09 56.3	+0.8
KOLS	**Kolonicke sedl**	**98.05**	**320**	*e*PDIFF		Pdif	14 09 56.3	+0.8
UZH	**Uzhgorod**	**98.10**	**319**	*e*P		**P**	**14 09 54.7**	**-0.9**
UZH				*e*			14 10 05.9	
UZH				*e*			14 10 14.1	
DRGR		**98.18**	**318**	⇓P		**P**	**14 09 55.4**	**-0.8**
DRGR		**98.18**	**318**	⇓P		**P**	**14 09 55.4**	**-0.8**
CRVS	**Cervenica-Dubn**	**98.58**	**320**	*e*P		Pdif	14 09 59.2	+1.3
CRVS	**Cervenica-Dubn**	**98.58**	**320**	*e*PDIFF		Pdif	14 09 59.2	+1.3
SIRR	**Siria**	**99.00**	**317**	⇑P		P	14 09 46.1	-14
DAG	**Danmarks Havn**	**99.36**	**352**	*i* P		**Pdif**	**14 10 00.4**	**-0.3**
DAG	**Danmarks Havn**	**99.36**	**352**	*i* P		**Pdif**	**14 10 00.4**	**-0.3**
DAG	**Danmarks Havn**	**99.36**	**352**	*i* P		**Pdif**	**14 10 00.4**	**-0.3**
HFS	**Hagfors**	**99.76**	**332**	P		**Pdif**	**14 10 01.7**	**-1.1**
	comp=E,3.6nm,0.9s,baz=264,slow=3.0,SNR=3.7							
RES	**Resolute Bay**	**100.03**	**10**	P		**Pdif**	**14 10 04.2**	**+0.5**
	comp=E,1.3nm,0.8s,baz=304,slow=7.0,SNR=5.3							
NB2	**NORSAR Subarra**	**100.56**	**333**	P		**Pdif**	**14 10 04.9**	**-1.5**
	comp=Z,5.0nm,1.0s,baz=71,slow=4.6							
NB2	**NORSAR Subarra**	**100.56**	**333**	P		**Pdif**	**14 10 04.9**	**-1.5**
	baz=71,slow=4.6							
NOA	**NORSAR Array B**	**100.56**	**333**	P		**Pdif**	**14 10 04.8**	**-1.6**
	comp=Z,1.6nm,0.9s,baz=166,slow=17,SNR=3.9							
YKA	**Yellowknife Ar**	**101.66**	**24**	P		**Pdif**	**14 10 12.4**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=299,slow=4.0,SNR=10.0							
YKA				PKiKP		**PKiKP**	**14 14 35.3**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=304,slow=1.2,SNR=5.1							
YKA				PKKPbc		**PKKPbc**	**14 26 15.6**	**-4.8**
	comp=Z,0.4nm,0.7s,baz=113,slow=3.4,SNR=6.6							
BRG	**Berggiesshubel**	**102.75**	**323**	*e*P		**Pdif**	**14 10 20.7**	**+4.4**
BRG				Amp			14 10 22.2	
	comp=Z,5.8nm,0.9s							
GERES	**GERESS Array B**	**103.54**	**321**	Pdiff		**Pdif**	**14 10 20.8**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=264,slow=40,SNR=4.2							
NVAR	**Mina Array Bea**	**108.67**	**49**	Pdiff		**Pdif**	**14 10 45.5**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=3.8,slow=29,SNR=2.9							
NVAR				PKKP		**PKKPab**	**14 26 11.8**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=149,slow=4.2,SNR=7.8							
PDAR	**Pinedale Array**	**113.27**	**42**	PKiKP		**PKiKP**	**14 14 59.0**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=29,slow=2.1,SNR=2.9							
PDAR				PKKPbc		**PKKPbc**	**14 25 41.6**	**-2.2**
	comp=Z,0.6nm,0.8s,baz=116,slow=3.4,SNR=4.8							
PDAR				PKKPab		**PKKPab**	**14 25 49.1**	**-1.6**
	comp=Z,2.1nm,0.9s,baz=122,slow=5.6,SNR=10							
S22A	**4UR Ranch, Cre**	**117.33**	**46**	P			14 15 06.7	
	baz=296							
ANMO	**Albuquerque**	**118.79**	**48**	*i* PKiKP		**PKPdf**	**14 15 06.4**	**-1.4**
ANMO	**Albuquerque**	**118.79**	**48**	P			14 15 08.9	
	baz=295							
ESDC	**Sonseca Array**	**118.81**	**318**	PP		PP	14 16 26.9	+0.7
	comp=Z,1.9nm,0.9s,baz=52,slow=7.1,SNR=4.3							
ECSD	**EROS Data Cent**	**120.81**	**35**	PKPdf		**PKiKP**	**14 15 12.3**	**+1.0**
ECSD	**EROS Data Cent**	**120.81**	**35**	P			14 15 11.4	
	baz=308							
MNTX	**Cornudas Mount**	**120.94**	**51**	P			14 15 13.2	
	baz=294							
MSTX	**Muleshoe**	**121.96**	**48**	P			14 15 14.8	
	baz=297							
TORD	**Torodi Ar. Bea**	**123.18**	**287**	PKP		**PKiKP**	**14 15 16.8**	**+0.1**
	comp=Z,7.9nm,0.9s,baz=45,slow=2.0,SNR=19							
TORD				PP		**PP**	**14 16 58.6**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=70,slow=4.9,SNR=4.0							
TORD				PKKPbc		**PKKPab**	**14 25 07.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=293,slow=4.4,SNR=4.6							
TORD	**Torodi Ar. Bea**	**123.18**	**287**			**PKiKP**	**14 15 17.5**	**+0.8**
TXAR	**Lajitas Array**	**123.25**	**53**	PKP		**PKiKP**	**14 15 17.4**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=208,slow=1.5,SNR=18							
TXAR				PKKPbc		**PKKPab**	**14 25 06.9**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=120,slow=7.4,SNR=6.1							
JCT	**Junction City**	**125.79**	**50**	P			14 15 22.2	
	baz=297							
U40A	**Yellville**	**127.58**	**40**	P			14 15 24.8	
	baz=307							
W39A	**Magazine**	**127.66**	**42**	P			14 15 25.7	
	baz=306							
KIC	**Kosan Boka**	**130.52**	**280**	*e*PKP1		**PKiKP**	**14 15 32.3**	**+0.9**
	comp=Z,23nm,1.4s							
DBIC	**Dimbokro**	**130.59**	**280**	PKP		**PKPdf**	**14 15 30.6**	**0.0**
	comp=Z,8.9nm,1.0s,baz=221,slow=3.8,SNR=5.1							
DBIC				SKPbc		**SKPab**	**14 18 50.5**	**+1.8**
	comp=Z,18nm,1.2s,baz=121,slow=5.9,SNR=7.7							
TIC	**Toumodi**	**130.76**	**280**	*e*PKP1		**PKiKP**	**14 15 31.8**	**-0.1**
LIC	**Lamto**	**130.82**	**280**	*e*PKP1		**PKiKP**	**14 15 31.5**	**-0.5**
	comp=Z,36nm,1.2s							
PLCA	**Paso Flores**	**138.09**	**161**	PKP		**PKiKP**	**14 15 45.6**	**-0.5**
	comp=Z,5.0nm,0.7s,baz=213,slow=5.6,SNR=9.7							
MT02	**Curacav**	**144.44**	**154**	PKPdf		**PKPdf**	**14 15 55.7**	**+0.2**
VA03	**San Esteban**	**145.12**	**155**			**PKPdf**	**14 15 58.3**	**+1.4**
CO03	**El Pedregal**	**146.69**	**153**	PKPab		**PKPab**	**14 16 02.6**	**+0.1**
LCO	**Las Campanas**	**148.22**	**151**	PKP2		**PKiKP**	**14 16 07.6**	**+0.1**
LCO	**Las Campanas**	**148.22**	**151**	PKPab		**PKiKP**	**14 16 07.6**	**+0.1**
CPUP	**Villa Florida**	**155.09**	**172**	PKP		**PKPdf**	**14 16 13.2**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=209,slow=5.8,SNR=3.3							
CPUP				PKPab		**sPKPdf**	**14 16 38.1**	**-0.4**
	comp=Z,9.1nm,0.9s,baz=196,slow=3.6,SNR=8.7							
LPAZ	**La Paz**	**159.56**	**137**	PKP		**PKPdf**	**14 16 20.2**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=340,slow=1.3,SNR=10							
LPAZ				PKPab		**PKPab**	**14 16 58.4**	**+1.0**
	comp=Z,4.5nm,0.9s,baz=259,slow=3.8,SNR=4.2							
BDFB	**Brasilia**	**164.91**	**201**	PKP		**PKPdf**	**14 16 24.1**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=113,slow=8.9,SNR=1.9							
BDFB				PKPab		**PKPab**	**14 17 20.0**	**0.0**
	comp=Z,3.6nm,0.8s,baz=110,slow=2.6,SNR=4.0							

NEIC ***27*** *14:04:09.7±1.8, 18°.0S±0°.2×178°.2W±0°.1, h593km±10km, mb4.1/15, Error ellipse: s-maj=27.9km s-min=12.2km az=142.0*

IDC ***27*** *14:04:10.0±2.5, 18°.05S×178°.13W, h583km±21km, mb3.2/7, mb1 3.4/9, mb1mx3.1/46, mbtmp4.2/9, Error ellipse: s-maj=64.9km s-min=19.7km az=143.0*

ISC 27 14:04:09.6±0.7, 18°.1S±0°.2×178°.1W±0°.1, h590km, n29, σ1§08/29, mb4.0/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.68**	**275**	P		**P**	**14 05 32.3**	**+0.1**
	13nm,0.3s,baz=130,slow=4.8,SNR=81							
MSVF	**Nonsavu**	**3.68**	**275**	P		**P**	**14 05 32.2**	**0.0**
AFI	**Afiamalu**	**7.38**	**56**	P		**P**	**14 06 01.8**	**-1.2**
DZM	**Mont Dzumac**	**15.04**	**252**	P		**P**	**14 07 19.1**	**+0.6**
	0.8nm,0.8s,baz=9.4,slow=22,SNR=5.9							
DZM	**Mont Dzumac**	**15.04**	**252**	P		**P**	**14 07 17.2**	**-1.3**
DZM				IAmb		IAmb	14 07 22.6	
	comp=Z,16nm,1.1s							
URZ	**Urewera**	**20.50**	**191**	P		**P**	**14 08 07.8**	**-0.4**
URZ				IAmb		IAmb	14 08 23.9	
	comp=Z,7.9nm,1.1s							
EIDS	**Eidsvold**	**29.47**	**250**	P		**P**	**14 09 27.5**	**+0.1**
EIDS				IAmb		IAmb	14 09 44.0	
	comp=Z,3.2nm,0.8s							
ARMA	**Armidale**	**30.09**	**240**	P		**P**	**14 09 32.7**	**-0.1**
ARMA				IAmb		IAmb	14 09 35.2	
	comp=Z,5.9nm,0.9s							
CTA	**Charters Tower**	**33.70**	**261**	P		**P**	**14 10 02.5**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=83,slow=9.2,SNR=1.9							
CTAO	**Charters Tower**	**33.70**	**261**	P		**P**	**14 10 03.4**	**0.0**
CTAO				IAmb		IAmb	14 10 04.5	
	comp=Z,5.6nm,0.9s							
CAN	**Canberra**	**33.81**	**233**	P		**P**	**14 10 04.2**	**0.0**
TOO	**Toolangi**	**37.26**	**231**	P		**P**	**14 10 33.9**	**+1.2**
TAOE	**Nuku Hiva Isla**	**37.97**	**81**	P		**P**	**14 10 39.3**	**+0.5**
STKA	**Stephens Creek**	**38.78**	**241**	P		**P**	**14 10 46.5**	**+1.6**
	comp=Z,2.5nm,0.5s,baz=97,slow=12,SNR=6.1							
STKA	**Stephens Creek**	**38.78**	**241**	P		**P**	**14 10 45.8**	**+0.8**
BBOO	**Buckleboo**	**43.56**	**241**	P		**P**	**14 11 22.8**	**+0.2**
BBOO				IAmb		IAmb	14 11 34.9	
	comp=Z,5.6nm,1.1s							
WR0	**Warramunga Arr**	**44.69**	**260**	P		**P**	**14 11 29.3**	**-2.2**
WB0	**Warramunga Arr**	**44.84**	**260**	P		**P**	**14 11 32.0**	**-0.8**
WB0				IAmb		IAmb	14 11 45.9	
	comp=Z,5.1nm,1.1s							
WB2	**Warramunga Arr**	**44.87**	**260**	P		**P**	**14 11 32.2**	**-0.7**
WB2				IAmb		IAmb	14 11 40.9	
	comp=Z,3.5nm,1.1s							
WRA	**Warramunga Arr**	**44.88**	**260**	P		**P**	**14 11 33.3**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=97,slow=6.9,SNR=14							
WRA	**Warramunga Arr**	**44.88**	**260**	P		**P**	**14 11 29.7**	**-3.3**
AS31	**Alice Springs**	**45.01**	**254**	P		**P**	**14 11 34.8**	**+0.8**
AS31				IAmb		IAmb	14 11 35.8	
	comp=Z,2.7nm,0.5s							
ASAR	**Alice Springs**	**45.01**	**254**	P		**P**	**14 11 34.8**	**+0.8**
	comp=Z,9.1nm,0.6s,baz=88,slow=8.9,SNR=136							
ASAR	**Alice Springs**	**45.01**	**254**	P		**P**	**14 11 33.8**	**-0.2**
PETK	**Petropavlovsk-**	**73.95**	**345**	P		**P**	**14 14 45.9**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=142,slow=5.4,SNR=1.9							
PETK	**Petropavlovsk-**	**73.95**	**345**	P		**P**	**14 14 45.7**	**+0.3**
TXAR	**Lajitas Array**	**85.86**	**57**	P		**P**	**14 15 47.6**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=224,slow=3.4,SNR=3.7							
ILAR	**Eielson Array**	**86.02**	**13**	P		**P**	**14 15 49.4**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=223,slow=5.5,SNR=6.4							
GERES	**GERESS Array B**	**147.88**	**345**	PKPbc		**PKiKP**	**14 22 51.2**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=351,slow=5.3,SNR=2.7							

IDC ***27*** *14:18:33.5±1.4, 27°.27N×103°.99E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/52, mbtmp3.3/4, Error ellipse: s-maj=89.6km s-min=23.5km az=64.0*

ISC 27 14:18:34.2±0.9, 27°.20N±0°.05×103°.49E±0°.07, h10km, n9, σ1§32/13, mb3.5/3, 1C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KMI	**Kunming**	**2.17**	**198**	⇓Pg		**Pn**	**14 19 11.0**	**+0.3**
KMI				Sg		**Sn**	**14 19 36.8**	**-1.0**
KMI				smax		smax		
	comp=N,100nm,0.6s							
KMI				smax		smax		
	comp=E,180nm,0.9s							
GYA	**Guiyang**	**2.93**	**104**	⇑Pn		**Pb**	**14 19 26.0**	**-0.7**
GYA				Pg		Pg	14 19 39.0	+8.5
GYA				Sn		**Sb**	**14 20 02.0**	**-0.7**
GYA				Sg		**Sg**	**14 20 11.0**	**+2.5**
GYA				smax		smax		
	comp=N,230nm,0.8s							
GYA				smax		smax		
	comp=E,90nm,0.8s							
CD2	**Chengdu**	**3.71**	**4**	Pg		**Pg**	**14 19 44.5**	**-0.8**
CD2				Sg		**Sg**	**14 20 34.5**	**+1.2**
CD2				smax		smax		
	comp=N,280nm,0.7s							
CD2				smax		smax		
	comp=E,270nm,1.0s							
XAN	**Xi'an**	**8.27**	**33**	Pg		Pg	14 21 21.0	+8.5
XAN				Sg		**Sg**	**14 22 59.0**	**-0.6**
XAN				smax		smax		
	comp=N,51nm,1.0s							
XAN				smax		smax		
	comp=E,43nm,1.1s							
SONM	**Songino Array**	**20.73**	**6**	P		**P**	**14 23 15.0**	**+0.1**
	comp=E,0.2nm,0.4s,baz=182,slow=10,SNR=3.5							
WMQ	**Urumqi**	**20.92**	**327**	*e*P		**P**	**14 23 17.8**	**+0.8**
WMQ				PP		sP	14 23 40.8	+19
WMQ				pmax		pmax		
	comp=Z,13nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,120nm,4.9s							
WMQ				LR		LR		
	comp=N,510nm,19.9s							
WMQ				LR		LR		
	comp=E,260nm,15.3s							
WMQ				LR		LR		
	comp=Z,670nm,23.1s							
MKAR	**Makanchi Array**	**25.72**	**325**	P		**P**	**14 24 07.0**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=116,slow=9.8,SNR=5.0							
WRA	**Warramunga Arr**	**55.59**	**144**	P		**P**	**14 28 09.2**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=333,slow=8.4,SNR=11							
ASAR	**Alice Springs**	**58.48**	**147**	P		**P**	**14 28 30.6**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=331,slow=7.1,SNR=5.9							

IDC ***27*** *14:30:51.8±1.4, 23°.15N×93°.39E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/41, mbtmp3.6/6, ML3.7/1, MS2.7/1, Ms1 2.9/1, ms1mx2.5/41, Error ellipse: s-maj=55.7km s-min=17.2km az=60.0*

ISC 27 14:30:55.8±2.1, 23°.0N±0°.3×93°.1E±0°.4, h35km, n6, σ0§88/6, mb3.4/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.12**	**128**	Pn		**Pn**	**14 32 37.1**	**-0.4**
	0.4nm,0.3s,baz=310,slow=14,SNR=7.5							
CMAR				Lg		Lg	14 34 31.4	
	0.5nm,0.3s,baz=312,slow=32,SNR=1.5							
CMAR				LR		LR	14 35 39.5	
	comp=Z,53nm,20.1s,baz=195,slow=41							
MKAR	**Makanchi Array**	**25.30**	**343**	P		**P**	**14 36 19.0**	**-0.1**
	0.8nm,0.7s,baz=153,slow=8.5,SNR=8.9							
SONM	**Songino Array**	**27.01**	**20**	P		**P**	**14 36 35.1**	**+0.5**
	0.2nm,0.5s,baz=202,slow=7.3,SNR=1.8							
KURBB	**Kurchatov Arra**	**29.83**	**341**	P		**P**	**14 36 59.0**	**-0.5**
	0.4nm,0.8s,baz=151,slow=8.7,SNR=2.9							
WRA	**Warramunga Arr**	**58.68**	**133**	P		**P**	**14 40 49.6**	**-0.5**
	1.3nm,0.3s,baz=324,slow=7.3,SNR=9.3							
ASAR	**Alice Springs**	**61.04**	**137**	P		**P**	**14 41 07.5**	**+1.2**
	0.3nm,0.5s,baz=321,slow=7.0,SNR=16							

WEL 27 14:38:47.9±0.9, 32°S±13°×177°W±2°.4, h417km±23km, M3.9/30, mB4.4/13, MLv4.6/30, Mw(mB)3.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=111.1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.72**	**198**	P		P	14 40 20.1	+2.3
GRZ	**Great Barrier**	**5.89**	**224**	P		P	14 40 18.3	-1.3
WMGZ	**Waiomatatini S**	**5.94**	**197**	P		P	14 40 21.0	+0.9
WMGZ				S		S	14 41 33.6	-2.1
HAZ	**Te Kaha**	**6.05**	**201**	P		P	14 40 20.6	-0.7
HAZ				S		S	14 41 36.3	-1.6
PKGZ	**Pakihiroa**	**6.09**	**199**	P		P	14 40 22.4	+0.6
PKGZ				S		S	14 41 37.6	-1.2
PUZ	**Puketiti**	**6.22**	**197**	P		P	14 40 25.9	+2.9
RUGZ	**Raukumara Rang**	**6.28**	**201**	P		P	14 40 23.8	-0.1
RUGZ				S		S	14 41 42.6	0.0
TWGZ	**Tauwhareparae**	**6.39**	**199**	P		P	14 40 26.1	+1.2
TWGZ				S		S	14 41 46.9	+2.3
OPRZ	**Ohinepanea**	**6.58**	**209**	P		P	14 40 27.6	+0.2
MARZ	**Manawahe**	**6.65**	**208**	P		P	14 40 30.8	+2.5
MWZ	**Matawai**	**6.66**	**201**	P		P	14 40 27.0	-1.5
MWZ				S		S	14 41 52.2	+2.1
TKGZ	**Te Karaka**	**6.67**	**199**	P		P	14 40 26.5	-2.0
TKGZ				S		S	14 41 51.9	+1.8
URZ	**Urewera**	**6.73**	**204**	P		P	14 40 27.8	-1.4
URZ				S		S	14 41 52.4	+1.0
RAGZ	**Rawiri**	**6.85**	**201**	P		P	14 40 30.4	-0.1
RIGZ	**Rimuhau**	**6.94**	**198**	P		P	14 40 30.9	-0.7
RIGZ				S		S	14 41 53.6	-2.1
TOZ	**Tahuroa Road**	**6.96**	**215**	P		P	14 40 32.5	+0.9
MUGZ	**Murupara**	**7.04**	**205**	P		P	14 40 32.2	-0.4
MUGZ				S		S	14 41 56.4	-1.4
RTZ	**Ruatahuna**	**7.09**	**203**	P		P	14 40 32.8	-0.4
RTZ				S		S	14 41 59.1	+0.2
SNGZ	**Shannon Statio**	**7.13**	**201**	P		P	14 40 33.7	+0.1
KNZ	**Kokohu**	**7.26**	**198**	P		P	14 40 34.4	-0.5
KNZ				S		S	14 42 02.5	+0.4
MHGZ	**Mahia Peninsul**	**7.33**	**196**	P		P	14 40 36.7	+1.0
RAHZ	**Arahi**	**7.33**	**202**	P		P	14 40 36.6	+0.8
RAHZ				S		S	14 42 05.0	+1.4
TLZ	**Tolley Road**	**7.42**	**212**	P		P	14 40 39.6	+2.8
KUTZ	**Kaahu Road**	**7.43**	**210**	P		P	14 40 39.5	+2.7
WHHZ	**Waihua**	**7.44**	**200**	P		P	14 40 37.5	+0.7
MRHZ	**Matea Rd**	**7.49**	**206**	P		P	14 40 38.3	+0.8
NMHZ	**Naumai**	**7.59**	**203**	P		P	14 40 36.9	-1.7
NMHZ				S		S	14 42 12.4	+3.5
HATZ	**Hinemaiaia**	**7.66**	**207**	P		P	14 40 38.3	-1.1
ARHZ	**Aropaoanui**	**7.68**	**201**	P		P	14 40 41.0	+1.4
BKZ	**Black Stump Fm**	**7.75**	**204**	P		P	14 40 38.7	-1.8
MCHZ	**McNeill Hill**	**7.94**	**202**	P		P	14 40 40.6	-1.8
TMVZ	**Te Maari**	**8.01**	**208**	P		P	14 40 43.6	+0.4
KWHZ	**Kaweka Forest**	**8.01**	**204**	P		P	14 40 42.9	-0.2
ETVZ	**East Tongariro**	**8.02**	**208**	P		P	14 40 43.4	0.0
BHHZ	**Black Hill Sta**	**8.20**	**205**	P		P	14 40 43.7	-1.5
KAHZ	**Kahuranaki**	**8.20**	**200**	P		P	14 40 43.9	-1.3
KRHZ	**Kereru**	**8.22**	**203**	P		P	14 40 44.8	-0.7
MTVZ	**Mangateitei**	**8.33**	**208**	P		P	14 40 47.3	+0.6
PNHZ	**Pukenui**	**8.53**	**203**	P		P	14 40 47.7	-1.1
TSZ	**Takapari Road**	**8.74**	**204**	P		P	14 40 49.4	-1.8

BJI ***27*** *14:39:32.7±0.0, 37°.13N×141°.36E, h4km, mB4.9/36, mb4.6/54, Ms4.6/52, Ms7 4.4/52*

IDC ***27*** *14:39:34.9±0.4, 37°.24N×141°.28E, h0km, mb4.6/32, mb1 4.7/38, mb1mx4.6/51, mbtmp4.6/38, ML3.8/6, MS4.0/25, Ms1 4.1/25, ms1mx3.9/44, Error ellipse: s-maj=12.2km s-min=9.7km az=114.0*

JMA ***27*** *14:39:36.0±0.1, 37°.24N×141°.41E, h24km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φs220.00000°, δ20.00000°, λ-90.00000°. NP2: φs40.00000°, δ70.00000°, λ-90.00000°. Principal axes: T Plg25.0000°, Azm130.0000°; N Plg0.0000°, Azm40.0000°; P Plg65.0000°, Azm310.0000°;*

JMA Felt II J1.

NIED ***27*** *14:39:36.0, 37°.24N×141°.41E, h24km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-1.12; Mθθ 0.40; Mφφ 0.73; Mrθ 0.11; Mθφ 0.52; Mφr 0.18; Fault plane solution: M₀1.13000×10¹⁶ NP1: φs215.00000°, δ50.00000°, λ-91.00000°. NP2: φs37.00000°, δ40.00000°, λ-88.00000°.*

NEIC ***27*** *14:39:36.3±1.9, 37°.23N±0°.04×141°.37E±0°.06, h10km±1km, mb4.8/87 Error ellipse: s-maj=8.3km s-min=6.0km az=76.0*

MOS ***27*** *14:39:37.2±1.1, 37°.36N×141°.40E, h28km, mb5.0/39, MS4.4/9, Error ellipse: s-maj=6.5km s-min=4.1km az=98.2*

GCMT ***27*** *14:39:39.3±0.4, 37°.30N±0°.04×141°.39E±0°.04, h18km±1km, MW4.8/81, Moment Tensor Solution. s11,c12; s81,c110; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.04±.18; Mθθ 0.97±.11; Mφφ 1.07±.10; Mrθ -0.15±.29; Mθφ 0.73±.05; Mφr-0.23±.27; Best double couple: M₀1.91400×10¹⁶ NP1: φs224.00000°, δ41.00000°, λ-88.00000°. NP2: φs42.00000°, δ49.00000°, λ-91.00000°. Principal axes: T 1.7690, Plg4.0000°, Azm133.0000°; N 0.2490, Plg1.0000°, Azm43.0000°; P -2.0600, Plg86.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***27*** *14:39:42.0±0.0, 37°.52N×141°.98E, h33km, mb5.3, Ms4.3*

ISC 27 14:39:35.7±0.6, 37°.23N±0°.03×141°.46E±0°.03, h11km±3km, n453, σ1§53/472, mb4.8/139, MS4.3/39, 38C-26D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.48**	**286**	⇑P		**Pg**	**14 39 44.8**	**-0.4**
JFK				S		**Sg**	**14 39 51.5**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.54**	**256**	P		**Pg**	**14 39 45.9**	**-0.4**
ONAJ				S		**Sg**	**14 39 53.6**	**+0.1**
JMST	**Minamisoumatoc**	**0.67**	**317**	⇑P		**Pg**	**14 39 48.3**	**-0.4**
JMST				S		**Sg**	**14 39 57.6**	**+0.1**
JFFD	**Fukushimafurud**	**0.73**	**259**	⇑P		**Pg**	**14 39 49.1**	**-0.8**
JFFD				*e*S		**Sg**	**14 39 58.4**	**-1.0**
JMM	**Marumori**	**0.82**	**320**	⇑P		**Pb**	**14 39 50.9**	**-1.2**
JMM				S		**Sb**	**14 40 02.1**	**-1.2**
JMM	**Marumori**	**0.82**	**320**	Pg		**Pb**	**14 39 51.0**	**-1.1**
JMM				Sg		**Sb**	**14 40 02.0**	**-1.2**
JFT	**Otama**	**0.94**	**288**	⇑P		**Pb**	**14 39 53.1**	**-1.0**
JFT				*e*S		**Sb**	**14 40 05.3**	**-1.2**
JHO	**Hitachi**	**0.94**	**229**	⇓P		**Pb**	**14 39 52.1**	**-2.1**
JHO				*e*S		**Sb**	**14 40 04.4**	**-2.3**
JIKH	**Ishinomakikobu**	**1.08**	**0**	⇓P		**Pb**	**14 39 55.1**	**-1.3**
JIO	**Ouri**	**1.22**	**356**	⇓P		**Pn**	**14 39 57.6**	**-1.2**
JSB	**Shiboa**	**1.26**	**258**	⇓P		**

YUK comp=N,33nm,0.2s pmax pmax
YUK comp=E,41nm,0.3s smax smax
YUK comp=E,780nm,1.4s smax smax
YUK comp=N,511nm,1.0s smax smax
TEY Ternei 8.61 336 ⇑ *e*P **Pn 14 41 44.1 +3.8**
TEY pmax pmax
TEY comp=Z,10.0nm,1.0s pmax pmax
TEY comp=N,10.0nm,1.5s pmax pmax
TEY comp=E,10.0nm,1.5s pmax pmax
KUR Kuril'sk 9.33 29 *e*P **Pn 14 41 50.4 +0.2**
KUR *e*S **Sn 14 43 31.2 -3.9**
KUR pmax pmax
KUR comp=Z,55nm,0.5s pmax pmax
KUR comp=N,33nm,0.6s pmax pmax
KUR comp=E,23nm,0.6s smax smax
KUR comp=E,80nm,0.5s smax smax
KUR comp=N,49nm,0.7s smax smax
KUR comp=N,486nm,4.0s smax smax
KUR comp=Z,589nm,4.0s LR LR
JNU Nakatsue 9.58 248 Pn **Pn 14 41 53.2 -0.4**
JNU comp=Z,0.3nm,0.3s,baz=42,slow=12,SNR=6.4 LR LR 14 46 09.1
comp=Z,533nm,18.4s,baz=60,slow=42
YSS Yuzh-Sakhalins 9.76 5 *e*P **Pn 14 41 56.3 +0.3**
YSS *e*S **Sn 14 43 40.6 -5.0**
YSS pmax pmax
YSS comp=Z,40nm,1.0s MLR MLR
YSS comp=N,1μm,14.0s MLR MLR
comp=Z,900nm,14.0s
YSS Yuzh-Sakhalins 9.76 5 Pn **Pn 14 41 57.0 +0.9**
USA0B Ussuriysk Arra 10.00 317 P **Pn 14 42 00.3 +1.0**
USA0B Ussuriysk Arra 10.00 317 Pn **Pn 14 42 00.3 +1.0**
USRK Ussuriysk Ar. 10.00 317 Pn Pn 14 42 04.1 +4.8
baz=133,slow=13,SNR=19
USRK LR LR 14 45 32.2
comp=Z,2μm,19.2s,baz=136,slow=36
JCJ Chichijima 10.13 176 Pn **Pn 14 42 01.9 +0.8**
comp=Z,6.6nm,0.3s,baz=281,slow=23,SNR=1.3
JCJ Sn **Sn 14 43 47.5 -7.3**
comp=Z,2.3nm,0.3s,baz=255,slow=21,SNR=1.9
JCJ LR LR 14 46 25.1
comp=Z,818nm,19.2s,baz=338,slow=40
KSRS Korea Array 10.78 275 Pn **Pn 14 42 12.5 +2.5**
comp=Z,0.1nm,0.3s,baz=89,slow=14,SNR=13
KSRS LR LR 14 45 57.1
comp=Z,937nm,21.6s,baz=83,slow=36
TJN Taejon 11.33 270 *ce*P **Pn 14 42 19.1 +1.5**
MDJ Mudanjiang 11.61 313 P **Pn 14 42 21.8 +0.4**
MDJ sP 14 42 25.8
MDJ S **Sn 14 44 32.0 +1.0**
MDJ sS 14 44 37.0
MDJ pmax pmax
comp=Z,4.0nm,1.0s
MDJ pmax pmax
comp=Z,380nm,5.7s
MDJ LR LR
comp=Z,1μm,17.1s
MDJ LR LR
comp=Z,1μm,17.8s
MDJ LR LR
comp=Z,2μm,17.4s
TYV Tymovskoe 13.65 3 *e*P **Pn 14 42 49.4 +0.2**
TYV *e*S **Sn 14 45 22.4 +1.6**
TYV pmax pmax
comp=Z,10.0nm,0.9s
TYV pmax pmax
comp=Z,200nm,4.5s
TYV smax smax
comp=E,500nm,7.7s
TYV MLR MLR
comp=Z,1μm,14.0s
CN2 Changchun 13.82 303 *e*P **Pn 14 42 51.8 +0.2**
CN2 *e*PP **P 14 43 03.0 +2.9**
CN2 *e*S **Sn 14 45 25.5 +0.4**
CN2 *e*SS **SnSn 14 45 41.5 +4.2**
CN2 LR LR
comp=Z,1μm,12.0s
CN2 LR LR
comp=Z,1μm,12.0s
CN2 LR LR
comp=Z,990nm,14.0s
KLR Kul'dur 13.91 333 Pn **Pn 14 42 54.6 +1.9**
comp=Z,0.1nm,0.3s,baz=145,slow=18,SNR=4.1
KLR LR LR 14 48 06.7
comp=Z,1μm,18.5s,baz=150,slow=37
KLR Kul'dur 13.91 333 *i* P **Pn 14 42 54.8 +2.1**
GRNR Gornyy 14.00 347 ⇓ *i* P **Pn 14 42 53.0 -1.0**
GRNR *e*S **Sn 14 45 28.7 -0.7**
GRNR pmax pmax
comp=N,1.0nm,1.0s
GRNR pmax pmax
comp=Z,2.0nm,0.9s
GRNR smax smax
comp=N,1.0nm,0.9s
GRNR MLR MLR
comp=E,340nm,14.0s
GRNR MLR MLR
comp=N,240nm,13.0s
GRNR MLR MLR
comp=Z,360nm,19.0s
SNY Shenyang 14.54 294 ⇓ P P 14 43 13.8 +5.8
SNY S **S 14 45 57.0 -5.0**
SNY pmax pmax
comp=Z,10.0nm,1.0s
SNY LR LR
comp=N,870nm,12.3s
SNY LR LR
comp=E,1μm,14.7s
SNY LR LR
comp=Z,2μm,15.4s
OKH Okha 16.35 3 *de*P **Pn 14 43 18.9 -6.2**
OKH MLR MLR
comp=E,2μm,15.0s
OKH MLR MLR
comp=N,900nm,12.0s
OKH MLR MLR
comp=Z,400nm,14.0s
ZEA Zeya 19.22 334 *e*P **Pn 14 44 00.2 -0.4**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=N,400nm,16.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
NJ2 Nanjing 19.29 261 *e*P **P 14 44 00.0 -0.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 LR LR
comp=Z,820nm,10.4s
NJ2 LR LR
comp=Z,830nm,11.4s
NJ2 LR LR
comp=Z,620nm,13.3s
PETK Petropavlovsk- 19.50 30 P **Pn 14 44 04.4 +0.4**
comp=Z,0.2nm,0.3s,baz=262,slow=7.3,SNR=6.0
PETK LR LR 14 50 50.8
comp=Z,85nm,20.1s,baz=214,slow=35
PETK Petropavlovsk- 19.50 30 P **P 14 44 01.8 -1.0**
PETK Petropavlovsk- 19.50 30 P **P 14 44 01.8 -1.0**
TIA Tai'an 19.52 274 P **Pn 14 44 05.3 +0.8**
TIA pmax pmax
comp=Z,11nm,1.4s
TIA LR LR
comp=Z,710nm,13.2s
TIA LR LR
comp=Z,610nm,16.2s
TIA LR LR
comp=Z,780nm,16.2s

PET Petropavlovsk 19.83 32 *e*P **Pn 14 44 10.4 +2.5**
PET *e*S **S 14 47 45.9 -3.5**
PET MLR MLR
comp=Z,500nm,17.0s
PET MLR MLR
comp=Z,300nm,19.0s
BJI Beijing 19.93 286 P **Pn 14 44 09.0 -0.2**
BJI S **S 14 47 50.5 -1.2**
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJI LR LR
comp=Z,450nm,13.9s
BJI LR LR
comp=Z,420nm,15.1s
TPUB Ta-pu 22.66 238 P **P 14 44 32.6 -4.5**
TPUB IAmb IAmb 14 44 39.4
comp=Z,39nm,1.0s
MA2 Magadan 23.15 12 P **P 14 44 42.6 +0.6**
comp=Z,13nm,0.7s,baz=191,slow=8.3,SNR=16
MA2 LR LR 14 54 38.7
comp=Z,136nm,19.9s,baz=212,slow=39
MA2 Magadan 23.15 12 *ce*P **P 14 44 42.1 +0.2**
MA2 pmax pmax
comp=Z,14nm,0.6s
MA2 Magadan 23.15 12 P **P 14 44 41.8 -0.1**
MA2 IAmb IAmb 14 44 56.1
comp=Z,21nm,0.9s
HHC Hu-ho-hao-te 23.44 288 *e*P **P 14 44 44.5 -0.7**
HHC S **S 14 48 53.8 -4.8**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,7.7s
HHC LR LR
comp=Z,620nm,11.9s
HHC LR LR
comp=Z,560nm,11.5s
HHC LR LR
comp=Z,620nm,12.3s
YAK Yakutsk 25.88 347 P **P 14 45 07.0 -0.3**
comp=Z,14nm,0.8s,baz=169,slow=0.8,SNR=2.6
YAK LR LR 14 55 28.6
comp=Z,428nm,18.6s,baz=110,slow=37
YAK Yakutsk 25.88 347 *eP* **P 14 45 06.6 -0.7**
YAK *e* 14 45 42.7
YAK *e*S **S 14 49 35.9 -1.0**
YAK *e*SSS SSS 14 50 48.2
YAK pmax pmax
comp=Z,12nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=Z,10.0nm,0.6s
YAK smax smax
comp=E,58nm,1.8s
YAK smax smax
comp=N,104nm,2.6s
YAK MLR MLR
comp=Z,517nm,16.0s
YAK MLR MLR
comp=N,156nm,14.0s
YAK MLR MLR
comp=E,221nm,12.0s
YAK Yakutsk 25.88 347 P **P 14 45 06.3 -1.0**
SEY Seymchan 26.59 11 P **P 14 45 15.0 +1.3**
comp=E,26nm,1.1s,baz=197,slow=9.0,SNR=23
SEY Seymchan 26.59 11 *i* P **P 14 45 14.8 +1.1**
ULN Ulaanbaatar 27.27 304 *ce*P **P 14 45 19.3 -0.9**
ULN pmax pmax
comp=Z,10.0nm,2.5s
ULN Ulaanbaatar 27.27 304 P **P 14 45 21.5 +1.2**
BOD Bodaibo 27.38 328 *e*P **P 14 45 20.3 -0.6**
BOD pmax pmax
comp=Z,10.0nm,1.0s
ENH Enshi 27.39 265 P **P 14 45 21.0 -0.3**
ENH IAmb IAmb 14 45 36.9
comp=Z,11nm,0.6s
SONM Songino Array 27.70 304 P **P 14 45 23.9 -0.2**
comp=Z,6.7nm,0.6s,baz=107,slow=8.3,SNR=52
SONM PcP **PcP 14 48 41.6 +0.8**
comp=Z,1.4nm,0.7s,baz=143,slow=3.9,SNR=4.1
SONM LR LR 14 56 50.9
comp=Z,292nm,18.8s,baz=101,slow=38
SONM Songino Array 27.70 304 P **P 14 45 24.4 +0.3**
H11N2 WAKE ISLAND Hy 28.22 121 T T 15 15 01.0
baz=314,slow=75
H11N1 WAKE ISLAND Hy 28.23 121 T T 15 15 02.9
baz=314,slow=75
H11N3 WAKE ISLAND Hy 28.24 121 T T 15 15 01.5
baz=314,slow=75
H11S1 WAKE ISLAND Hy 28.94 123 T T 15 15 55.5
baz=316,slow=76
H11S3 WAKE ISLAND Hy 28.94 123 T T 15 15 56.4
baz=316,slow=76
H11S2 WAKE ISLAND Hy 28.95 123 T T 15 15 57.7
baz=316,slow=76
LZH Lanzhou 30.07 279 *e*P **P 14 45 48.5 +3.2**
LZH pP sP 14 45 52.0 +2.2
LZH sP pP 14 45 54.8 +6.3
LZH pmax pmax
comp=Z,12nm,1.1s
LZH LR LR
comp=Z,640nm,11.7s
LZH LR LR
comp=Z,850nm,14.1s
LZH LR LR
comp=Z,730nm,14.4s
ZAK Zakamensk 30.18 308 *e*P **P 14 45 45.3 -0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
TLY Talaya 30.23 311 *e*P **P 14 45 48.2 +1.9**
TLY *e*S **S 14 50 44.7 -0.9**
TLY *e*SS **SnSn 14 52 21.8 +2.7**
TLY pmax pmax
comp=Z,16nm,0.8s
TLY MLR MLR
comp=Z,1μm,16.0s
GYA Guiyang 31.29 260 *e*P **P 14 45 55.8 -0.3**
GYA pmax pmax
comp=Z,8.0nm,0.8s
GYA LR LR
comp=Z,340nm,19.2s
CD2 Chengdu 31.71 270 *e*P **P 14 46 00.8 +1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 LR LR
comp=Z,730nm,15.3s
CD2 LR LR
comp=Z,770nm,17.7s
CD2 LR LR
comp=Z,820nm,16.7s
GTA Gaotai 32.54 287 *e*P **P 14 46 06.5 -0.4**
GTA pP pP 14 46 10.5 +0.3
GTA sP sP 14 46 13.3 +1.8
GTA sS sS 14 51 30.5 +3.0
GTA pmax pmax
comp=Z,1.0nm,0.6s
GTA pmax pmax
comp=Z,68nm,5.5s
GTA LR LR
comp=Z,410nm,15.3s
GTA LR LR
comp=Z,260nm,17.8s
GTA LR LR
comp=Z,310nm,17.5s
ADK Adak 32.73 50 P **P 14 46 08.6 +0.3**
ADK pmax pmax
comp=Z,50nm,1.2s
ADK Adak 32.73 50 P **P 14 46 08.6 +0.3**
QIZ Qiongzhong 33.04 245 P **P 14 46 10.0 -1.3**
QIZ S **S 14 51 35.0 +4.9**
QIZ LR LR
comp=Z,320nm,17.2s
QIZ LR LR
comp=Z,310nm,15.7s
QIZ LR LR
comp=Z,210nm,20.6s
BILL Bilibino 33.83 16 *ce*P **P 14 46 17.5 -0.2**
BILL pmax pmax
comp=Z,11nm,1.7s
BILL MLR MLR
comp=Z,174nm,16.0s
BILL Bilibino 33.83 16 P **P 14 46 18.4 +0.7**
KMI Kunming 35.03 261 ⇓ P **P 14 46 28.8 0.0**
KMI sP sP 14 46 35.5 +2.1
KMI pmax pmax

comp=Z,11nm,0.8s
KMI LR LR
comp=Z,280nm,13.7s
KMI LR LR
comp=Z,280nm,12.8s
KMI LR LR
comp=Z,260nm,12.4s
TIXI Tiksi 35.10 353 P **P 14 46 28.5 -0.1**
comp=Z,2.2nm,0.5s,baz=120,slow=5.0,SNR=8.1
TIXI Tiksi 35.10 353 *ce*P **P 14 46 28.0 -0.6**
TIXI pmax pmax
comp=Z,14nm,1.0s
TIXI Tiksi 35.10 353 P **P 14 46 28.5 -0.1**
MYLDM Lahad Datu 38.19 219 P **P 14 46 56.5 +1.0**
MYLDM IAmb IAmb 14 46 58.8
comp=Z,25nm,0.8s
NONG Nongkai 38.61 251 P **P 14 46 59.5 +0.5**
UBPT Khong Chiam 38.64 245 P **P 14 47 01.0 +1.6**
comp=Z,15nm,2.1s
DGZ Jazzator, Alta 40.30 306 *d* i P **P 14 47 13.5 +0.4**
DGZ pmax pmax
comp=Z,14nm,0.7s
TNA Tin City 40.66 30 P 14 47 19.0
baz=251,SNR=5.4
WMQ Urumqi 40.78 297 *e*P **P 14 47 18.5 +1.5**
WMQ pP pP 14 47 22.3 +2.0
WMQ sP sP 14 47 27.0 +5.4
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,100nm,4.5s
WMQ LR LR
comp=Z,510nm,17.1s
WMQ LR LR
comp=Z,560nm,17.1s
WMQ LR LR
comp=Z,610nm,22.3s
CHAI Chaiyaphum 40.81 249 P **P 14 47 17.6 +0.2**
comp=Z,17nm,0.9s
FAKI Fak Fak 40.85 194 P **P 14 47 18.3 +0.6**
CM35 Chiang Mai Arr 41.29 255 P **P 14 47 23.0 +1.6**
CM33 Chiang Mai Arr 41.37 256 P **P 14 47 26.0 +3.9**
ANM Nome 41.41 32 P **P 14 47 23.6 +1.8**
ANM pmax pmax
comp=Z,17nm,1.3s
ANM Nome 41.41 32 P **P 14 47 23.6 +1.8**
ANM Nome 41.41 32 P 14 47 25.4
baz=255,SNR=7.9
CM36 Chiang Mai Arr 41.43 255 P P 14 47 28.0 +5.5
CMAR Chiang Mai Arr 41.58 255 P **P 14 47 23.2 -0.6**
comp=Z,1.6nm,0.7s,baz=46,slow=6.3,SNR=9.0
CMAR PcP **PcP 14 49 21.6 +0.7**
comp=Z,1.7nm,1.0s,baz=27,slow=1.4,SNR=4.4
CMAR LR LR 15 07 09.0
comp=Z,133nm,18.3s,baz=83,slow=40
CMAR Chiang Mai Arr 41.58 255 P **P 14 47 22.4 -1.4**
CM04 Chiang Mai Arr 41.59 255 P P 14 47 30.4 +6.5
comp=Z,3.0nm,0.8s
CM02 Chiang Mai Arr 41.59 255 P P 14 47 32.0 +8.1
comp=Z,3.3nm,0.8s
CM15 Chiang Mai Arr 41.60 255 P P 14 47 29.1 +5.1
comp=Z,3.1nm,0.8s
CM05 Chiang Mai Arr 41.61 255 P P 14 47 30.4 +6.4
comp=Z,2.5nm,0.8s
CM13 Chiang Mai Arr 41.63 255 P P 14 47 29.3 +5.1
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 41.81 312 P **P 14 47 24.4 -0.8**
ZALV Zalesovo Beam 41.81 312 P **P 14 47 25.2 0.0**
comp=Z,8.5nm,0.8s,baz=88,slow=6.2,SNR=34
ZALV PcP **PcP 14 49 21.0 -0.1**
comp=Z,2.6nm,0.7s,baz=112,slow=2.8,SNR=4.4
ZALV LR LR 15 05 40.1
comp=Z,397nm,18.0s,baz=80,slow=38
ZALV Zalesovo Beam 41.81 312 P **P 14 47 24.8 -0.4**
ZALV Zalesovo Beam 41.81 312 P **P 14 47 24.8 -0.4**
SRAK Srakaew 41.97 247 P **P 14 47 23.0 -4.0**
ZSN Zaisan 42.21 303 *eP* **P 14 47 28.8 +0.1**
baz=302
ZSN Zaisan 42.21 303 *eP* **P 14 47 28.7 +0.1**
NRIK Noril'sk 43.10 335 P **P 14 47 34.9 -0.7**
comp=Z,1.6nm,0.4s,baz=179,slow=11,SNR=2.6
NRIK LR LR 15 06 31.5
comp=Z,373nm,18.3s,baz=92,slow=38
RDOG Red Dog Mine 43.31 27 P 14 47 40.1
baz=254
MK31 Makanchi Array 44.04 302 *i* P **P 14 47 42.7 -0.8**
MK31 Makanchi Array 44.04 302 P **P 14 47 42.7 -0.8**
MKAR Makanchi Array 44.04 302 P **P 14 47 43.1 -0.4**
comp=Z,6.1nm,0.8s,baz=88,slow=9.6,SNR=69
MKAR PcP **PcP 14 49 28.5 -0.3**
comp=Z,1.9nm,0.8s,baz=76,slow=6.1,SNR=2.6
MKAR LR LR 15 06 20.7
comp=Z,169nm,21.2s,baz=80,slow=37
MKAR Makanchi Array 44.04 302 *i* P **P 14 47 43.0 -0.5**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MAKZ Makanchi 44.25 302 P **P 14 47 44.4 -0.8**
MAKZ Makanchi 44.25 302 P **P 14 47 44.7 -0.5**
MAKZ IAmb IAmb 14 47 55.7
comp=Z,8.6nm,0.8s
SEM Semipalatinsk 44.85 307 *eP* **P 14 47 49.5 -0.6**
baz=307
SEM Semipalatinsk 44.85 307 *eP* **P 14 47 49.5 -0.6**
KSM Kuching 45.72 226 P **P 14 47 57.5 +0.4**
KSM IAmb IAmb 14 47 59.4
comp=Z,12nm,0.7s
KURK Kurchatov 45.84 308 P **P 14 47 58.0 +0.4**
KURK Kurchatov 45.84 308 P **P 14 47 58.0 +0.4**
KURBB Kurchatov Arra 45.91 308 P **P 14 47 58.0 -0.2**
comp=Z,8.5nm,0.6s,baz=84,slow=8.1,SNR=76
KURBB Kurchatov Arra 45.91 308 P **P 14 47 57.5 -0.7**
TAPN Taplejung 45.96 274 *eP* **P 14 47 58.9 -0.4**
comp=Z,19nm,0.7s
A21K Barrow 46.26 23 P **P 14 48 02.1 +1.4**
A21K Barrow 46.26 23 P 14 48 02.6
baz=257,SNR=16
ODAN Odare 46.44 273 *eP* **P 14 48 02.9 -0.1**
comp=Z,33nm,0.9s
KAPI Kappang 46.65 210 P **P 14 48 04.7 +0.3**
KAPI pmax pmax
comp=Z,42nm,1.1s
KAPI Kappang 46.65 210 P **P 14 48 04.7 +0.3**
SHLS Shalkode 46.78 298 *eP* **P 14 48 02.5 -2.9**
baz=297
SHLS Shalkode 46.78 298 *eP* **P 14 48 02.4 -2.9**
KDAK Kodiak Island 46.93 42 P **P 14 48 07.7 +1.6**
comp=Z,20nm,0.7s,baz=294,slow=6.9,SNR=15
KDAK Kodiak Island 46.93 42 P **P 14 48 07.8 +1.6**
KDAK Kodiak Island 46.93 42 P 14 48 08.0
baz=274
CHUM Lake Minchumin 46.95 34 P 14 48 09.5
baz=268
SPCR Spurr Chakacha 46.98 37 P 14 48 10.5
baz=271
RAMN Ramite 47.02 274 *eP* **P 14 48 07.0 -0.6**
comp=Z,27nm,0.7s
JIRN Jiri 47.03 275 *eP* **P 14 48 07.6 -0.2**
comp=Z,35nm,1.0s
GUN Gumba 47.17 275 *eP* **P 14 48 09.3 +0.4**
comp=Z,23nm,0.6s
KPKS Kokpek 47.25 298 *eP* **P 14 48 08.8 -0.1**
baz=298
KPKS Kokpek 47.25 298 *eP* **P 14 48 08.8 -0.1**
BPAW Bear Paw Mtn. 47.54 33 P **P 14 48 12.8 +2.0**
BPAW Bear Paw Mtn. 47.54 33 P 14 48 13.6
baz=269
SATY Saty 47.55 298 *eP* **P 14 48 11.9 +0.5**
baz=298
SATY Saty 47.55 298 *eP* **P 14 48 11.8 +0.5**
KTH Kantishna Hill 47.56 34 P **P 14 48 13.0 +1.9**
KTH IAmb IAmb 14 48 14.7
comp=Z,13nm,1.0s
MLY Manley 47.66 32 P 14 48 14.9
baz=269,SNR=7.7
SUA Susitna One 47.68 37 P **P 14 48 13.1 +1.1**
SUA IAmb IAmb 14 48 19.8
comp=Z,15nm,1.0s
PKI Pulchoki 47.70 275 *eP* **P 14 48 12.2 -0.7**
comp=Z,12nm,0.7s
KKN Kakani 47.70 276 *eP* **P 14 48 13.1 +0.3**
PKIN Phulchoki 47.70 275 *eP* **P 14 48 12.7 -0.2**
comp=Z,14nm,0.8s
TRF Thorofare Moun 47.85 34 P 14 48 17.0
baz=271
COLD Coldfoot 47.96 29 P **P 14 48 16.1 +2.1**
COLD Coldfoot 47.96 29 P 14 48 16.7

baz=267,SNR=5.1
GKN Gorkha 48.12 276 *e*P P 14 48 15.3 -0.7
comp=Z,16nm,0.6s
I23K Minto, Yukon-K 48.25 32 P 14 48 19.3
baz=270
TOLK Toolik Lake Re 48.28 27 P P 14 48 18.6 +2.0
TOLK IAmb IAmb 14 48 20.0
comp=Z,12nm,1.1s
TOLK Toolik Lake Re 48.28 27 P 14 48 19.0
baz=267,SNR=8.2
CHKK Chushkaly 48.33 299 *e*P P 14 48 17.3 -0.1
baz=299
CHKK Chushkaly 48.33 299 *e*P P 14 48 17.2 -0.1
NEA2 Nenana 48.37 33 P 14 48 20.0
baz=271,SNR=10
PMR Palmer 48.45 37 P 14 48 19.7
baz=273
MCK McKinley 48.45 34 P P 14 48 18.7 +0.8
MCK pmax pmax
comp=Z,6.0nm,1.0s
MCK McKinley 48.45 34 P P 14 48 18.7 +0.8
MCK McKinley 48.45 34 P 14 48 20.2
baz=272
MDOK Medeo 48.48 298 *e*P P 14 48 17.8 -0.8
baz=298
MDOK Medeo 48.48 298 *e*P P 14 48 17.8 -0.8
RND Reindeer 48.49 34 P P 14 48 20.0 +1.7
RND pmax pmax
comp=Z,18nm,1.1s
RND Reindeer 48.49 34 P P 14 48 20.0 +1.7
RND IAmb IAmb 14 48 20.9
comp=Z,18nm,1.1s
GHO Glory Hole Cre 48.53 36 P P 14 48 20.5 +1.9
AAA Alma-Ata 48.56 298 *e*P P 14 48 18.4 -0.7
baz=298
AAA Alma-Ata 48.56 298 *e*P P 14 48 18.4 -0.7
WAT2 Susitna Watana 48.63 35 P 14 48 21.2
baz=272
MDM Murphy Dome 48.73 32 P P 14 48 21.6 +1.6
KUU Kurty 48.77 299 *e*P P 14 48 20.4 -0.3
comp=Z,5.0nm,1.4s,baz=299
KUU Kurty 48.77 299 *e*P P 14 48 20.4 -0.3
KUU pmax pmax
comp=Z,5.0nm,1.4s
KNK Knik Glacier 48.78 37 P 14 48 22.7
baz=274
WRH Wood River Hil 48.80 33 P P 14 48 22.1 +1.6
SML Sawmill 48.81 36 P 14 48 23.1
baz=274
COLA College 48.89 32 *i* P P 14 48 20.9 -0.3
COLA pmax pmax
comp=Z,19nm,2.2s
WAT6 Susitna Watana 49.04 35 P 14 48 24.7
baz=274
POKR Poker Plat Res 49.06 32 P 14 48 25.9
baz=272,SNR=9.7
SCM Sheep Creek Mo 49.28 36 P P 14 48 26.0 +1.6
SCM pmax pmax
comp=Z,24nm,1.0s
SCM Sheep Creek Mo 49.28 36 P P 14 48 26.0 +1.6
HDA Harding Lake 49.30 33 P 14 48 26.5
baz=273,SNR=7.1
HDA P 14 48 26.5
baz=273,SNR=7.1
IL31 49.31 32 P P 14 48 26.0 +1.6
IL31 IAmb IAmb 14 48 27.4
comp=Z,8.2nm,0.8s
ILAR Eielson Array 49.31 32 P P 14 48 25.7 +1.3
comp=Z,6.2nm,0.8s,baz=269,slow=6.0,SNR=62
ILAR Eielson Array 49.31 32 P P 14 48 25.9 +1.5
TKM2 Tokmak 2 49.57 298 P P 14 48 27.9 +0.9
BRZS Berezniki 49.71 308 *e*P P 14 48 28.0 +0.2
baz=308
BRZS Berezniki 49.71 308 *e*P P 14 48 27.9 +0.2
KLU Klutina 49.98 37 P P 14 48 31.1 +1.3
KLU IAmb IAmb 14 48 34.0
comp=Z,26nm,1.5s
KLU Klutina 49.98 37 P 14 48 32.2
baz=276
BTLS Baital 50.04 301 *e*P P 14 48 30.4 0.0
comp=Z,2.7nm,0.7s,baz=301
BTLS Baital 50.04 301 *e*P P 14 48 30.3 0.0
BTLS pmax pmax
comp=Z,3.0nm,0.7s
PAX Paxson 50.05 35 P 14 48 33.3
baz=275
KSH Kashi 50.36 294 P P 14 48 37.0 +4.0
KSH pP sP 14 48 40.5 +2.9
KSH PcP **PcP** **14 49 54.8 +3.3**
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH pmax pmax
comp=Z,190nm,4.9s
KSH LR LR
comp=Z,920nm,13.6s
KSH LR LR
comp=Z,930nm,13.5s
KSH LR LR
comp=Z,1μm,13.8s
AAK Ala-Archa 50.43 298 P P 14 48 34.4 +0.9
comp=Z,1.3nm,0.6s,baz=163,slow=5.7,SNR=6.0
AAK Ala-Archa 50.43 298 P P 14 48 32.4 -1.1
AAK pmax pmax
comp=Z,6.0nm,1.2s
AAK Ala-Archa 50.43 298 P P 14 48 32.4 -1.1
BRVK Borovoye 50.52 312 P P 14 48 33.5 -0.3
BRVK Borovoye 50.52 312 P P 14 48 33.6 -0.3
DOT Dot Lake 50.62 34 P P 14 48 36.1 +1.6
DOT IAmb IAmb 14 48 37.0
comp=Z,7.7nm,0.9s
SCRK Sand Creek 50.62 33 P P 14 48 36.4 +1.8
SCRK IAmb IAmb 14 48 37.3
comp=Z,13nm,1.0s
SCRK Sand Creek 50.62 33 P 14 48 36.7
baz=276,SNR=11
MTN Manton Dam 50.75 193 P P 14 48 36.1 +0.3
VRDI Verde Repeater 51.20 37 P P 14 48 41.7 +2.6
VRDI IAmb IAmb 14 48 59.6
comp=Z,17nm,1.4s
K27K Chicken 51.45 33 P 14 48 43.3
baz=277
L27K Beaver Creek, 51.69 34 P P 14 48 45.3 +2.7
L27K IAmb IAmb 14 48 46.4
comp=Z,15nm,1.1s
L27K Beaver Creek, 51.69 34 P 14 48 45.7
baz=278,SNR=8.3
EGAK Eagle 51.75 32 P 14 48 44.6
baz=277
DAWY Dawson 52.62 33 P P 14 48 51.8 +2.4
KK31 Karatay Array 53.06 300 *i* P P 14 48 54.1 +1.2
KKAR Karatay Array 53.06 300 P P 14 48 53.7 +0.8
KKAR Karatay Array 53.06 300 P P 14 48 53.7 +0.8
EPYK Eagle Plains 53.34 30 P P 14 48 57.1 +2.4
EPYK Eagle Plains 53.34 30 P 14 48 57.2
baz=280,SNR=16
GSI Gunungsitoli 53.93 239 P P 14 48 59.6 0.0
HYT Haines Junctio 54.12 37 P P 14 49 03.8 +3.2
INK Inuvik 54.19 27 P P 14 49 02.5 +1.7
comp=Z,4.2nm,0.5s,baz=298,slow=7.8,SNR=15
INK Inuvik 54.19 27 P P 14 49 02.8 +2.0
INK IAmb IAmb 14 49 07.5
comp=Z,17nm,1.4s
NIL Nilore 54.59 288 P P 14 49 04.6 +0.3
NIL pmax pmax
comp=Z,13nm,0.8s
NIL Nilore 54.59 288 P P 14 49 04.6 +0.3
NIL IAmb IAmb 14 49 15.1
comp=Z,12nm,0.8s
SVE Sverdlovsk 55.02 319 *e*P P 14 49 08.6 +1.6
SVE pmax pmax
comp=Z,20nm,1.5s
WHY Whitehorse 55.41 36 P P 14 49 11.4 +1.5
WHY IAmb IAmb 14 49 13.9
comp=Z,6.5nm,0.8s
ARU Arti 56.24 318 *d i*P P 14 49 15.8 +0.1
ARU 14 51 20.2
ARU S **S** **14 57 08.7 +3.6**
ARU SS **SS** **15 00 54.8 +3.6**
ARU pmax pmax
comp=Z,21nm,1.4s
ARU MLR MLR
comp=Z,377nm,17.0s
ARU Arti 56.24 318 P P 14 49 15.4 -0.4
FITZ Fitzroy Crossi 57.02 198 P P 14 49 22.3 +0.7
FITZ IAmb IAmb 14 49 23.6
comp=Z,6.0nm,0.7s

WB0 Warramunga Arr 57.08 188 P P 14 49 21.8 -0.3
WB0 IAmb IAmb 14 49 23.1
comp=Z,11nm,0.8s
C36M Paulatuk 57.23 25 P 14 49 24.2
baz=289
WRAB Tennant Creek 57.25 188 *i* P P 14 49 22.5 -0.8
WRAB pmax pmax
comp=Z,9.0nm,0.7s
WR0 Warramunga Arr 57.26 188 P P 14 49 23.1 -0.3
WR0 IAmb IAmb 14 49 24.3
comp=Z,7.8nm,0.7s
WB2 Warramunga Arr 57.26 188 P P 14 49 22.2 -1.1
WB2 IAmb IAmb 14 49 24.4
comp=Z,9.3nm,0.7s
WRA Warramunga Arr 57.26 188 P P 14 49 23.1 -0.2
comp=Z,8.4nm,0.7s,baz=5.2,slow=7.3,SNR=64
AB31 Akbulak array 57.84 310 *i* P P 14 49 27.0 -0.2
ABKAR Akbulak array 57.84 310 P P 14 49 26.4 -0.8
HYB Hyderabad 58.24 268 *i* P P 14 49 30.0 -0.5
DLBC Dease Lake 58.45 38 P P 14 49 34.2 +2.7
comp=Z,4.9nm,0.9s,baz=304,slow=8.0,SNR=5.4
AKTO Aktyubinsk 58.57 312 P P 14 49 32.9 +0.6
EUNU Eureka 59.98 9 P P 14 49 42.4 +0.6
EUNU IAmb IAmb 14 49 43.6
comp=Z,7.2nm,0.8s
PRGR Permogore 60.62 327 *e*P P 14 49 45.9 -0.3
PRGR pmax pmax
comp=Z,11nm,0.8s
AS31 Alice Springs 60.99 188 P P 14 49 49.1 -0.1
ASAR Alice Springs 60.99 188 P P 14 49 49.2 +0.1
comp=Z,4.0nm,0.7s,baz=17,slow=6.0,SNR=64
ASAR LR LR 15 14 16.6
comp=Z,96nm,22.0s,baz=342,slow=34
BJO1 Bjornoya 62.28 345 *e*P P 14 49 58.4 +1.1
RES Resolute Bay 62.40 14 P P 14 49 58.4 +0.3
RES pmax pmax
comp=Z,9.0nm,1.2s
RES Resolute Bay 62.40 14 P P 14 49 58.4 +0.3
RES IAmb IAmb 14 50 00.1
comp=Z,8.6nm,1.1s
DZM Mont Dzumac 63.51 154 P P 14 50 08.5 +2.3
comp=Z,4.1nm,0.3s,baz=198,slow=13,SNR=2.4
DZM Mont Dzumac 63.51 154 *e*LR LR 15 08 51.7
comp=Z,255nm,21.9s
KLMR Klimovskoe 63.61 328 *e*P P 14 50 04.6 -1.7
KLMR pmax pmax
comp=Z,9.0nm,0.7s
KLMR Klimovskoe 63.61 328 *e*P P 14 50 04.6 -1.7
KLMR AMP 14 50 07.1
comp=Z,9.0nm,0.7s
YKA Yellowknife Ar 63.62 30 P P 14 50 07.4 +1.0
comp=Z,2.6nm,0.7s,baz=305,slow=6.2,SNR=49
HAMF Hammerfest 63.64 341 *e*P P 14 50 08.3 +1.9
GEYT Alibeck 63.77 299 P P 14 50 07.8 -0.1
comp=Z,3.7nm,0.7s,baz=135,slow=1.0,SNR=6.2
GEYT Alibeck 63.77 299 IAmb IAmb 14 50 09.2
comp=Z,4.0nm,0.8s
ARA0 ARCESS Array S 63.82 339 *e*P P 14 50 08.1 +0.5
ARCES ARCESS Array B 63.82 339 P P 14 50 08.0 +0.4
comp=Z,2.2nm,0.5s,baz=56,slow=7.2,SNR=19
ARCES LR LR 15 23 11.4
comp=Z,126nm,18.0s,baz=25,slow=41
ARCES ARCESS Array B 63.82 339 IAmb IAmb 14 50 17.8
comp=Z,19nm,1.4s
KTK1 Kautokeino 64.78 339 *e*P P 14 50 14.7 +0.8
JETT Jettan, Norway 65.20 341 *e*P P 14 50 17.8 +1.1
TRO Tromso 65.54 341 *e*P P 14 50 20.5 +1.7
DAG Danmarks Havn 65.58 355 *i* P P 14 50 19.0 0.0
DAG Danmarks Havn 65.58 355 *i* P P 14 50 19.0 0.0
DAG Danmarks Havn 65.58 355 *i* P P 14 50 19.0 0.0
D03D Eldon 66.94 47 P 14 50 31.3
baz=300
MOS Moscow 67.11 323 *e*P P 14 50 28.0 -1.1
STEI Steigen 67.69 341 *e*P P 14 50 32.9 +0.4
E04D Cinebar 67.75 48 P 14 50 36.8
baz=301
OBN Obninsk 67.96 323 *ce*P P 14 50 34.2 -0.2
OBN *e*S **S** 14 59 28.4 -4.6
OBN pmax pmax
comp=Z,8.0nm,0.4s
OBN MLR MLR
comp=Z,201nm,15.0s
FAUS Fauske 68.08 340 *e*P P 14 50 35.8 +0.9
MAK Makhachkala 68.36 308 *e*P P 14 50 34.3 -2.9
MAK *e*S **S** 14 59 34.0 -4.3
MAK pmax pmax
comp=Z,67nm,0.9s
MAK MLR MLR
comp=Z,184nm,12.0s
FIA1 FINESS Array S 68.65 332 P P 14 50 38.9 +0.2
FINES FINESS Array B 68.66 332 P P 14 50 38.8 0.0
comp=Z,15nm,0.7s,baz=40,slow=8.9,SNR=35
FINES LR LR 15 21 28.5
comp=Z,123nm,19.8s,baz=40,slow=37
H04D Lebanon 68.70 50 P 14 50 42.9
baz=302
STKA Stephens Creek 68.75 180 P P 14 50 40.4 +0.9
comp=Z,7.2nm,0.8s,baz=330,slow=7.7,SNR=16
STKA Stephens Creek 68.75 180 P P 14 50 40.3 +0.8
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 68.75 180 P P 14 50 40.3 +0.8
I03D Drain, OR 68.76 51 P 14 50 42.7
baz=302,SNR=5.3
FORT Forrest 68.81 192 P P 14 50 41.0 +1.1
AKT Akhty 68.99 307 *e*P P 14 50 40.7 -0.6
AKT *e* 14 51 05.0
AKT pmax pmax
comp=Z,12nm,0.7s
MOR8 Moi Rana 69.19 340 *e*P P 14 50 41.2 -0.8
I04A Tendick Farm, 69.28 50 P 14 50 45.7
baz=302,SNR=6.9
L02E Cave Junction 69.41 52 P 14 50 47.2
baz=302
STOK Stokkvaagen 69.46 340 *e*P P 14 50 44.9 +1.3
I05D Terrebonne, OR 69.65 49 P 14 50 48.2
baz=302
J04D Umpqua Nationa 69.76 51 P 14 50 49.1
baz=302
NEW Newport 69.96 44 P 14 50 49.0
baz=304
GOF Gofitskoye 69.99 312⇑ *e*P P 14 50 48.4 +1.1
L04D Klamath Falls 70.19 52 P 14 50 51.3
baz=303,SNR=7.0
J05D Fort Rock, OR 70.28 50 P 14 50 52.1
baz=303,SNR=8.6
M02C Callahan 70.29 53 P 14 50 52.1
baz=303
VSU Vasula 70.30 330 *e*P P 14 50 49.6 +0.7
N02D Trinity Center 70.61 53 P 14 50 54.1
baz=303
ZEI Tsey 70.70 309 *e*P P 14 50 50.1 -1.9
ZEI pmax pmax
comp=Z,3.0nm,0.6s
M04C Macdoel 70.72 52 P 14 50 54.6
baz=303,SNR=6.0
KBZ Khabaz 70.80 311 P P 14 50 52.7 +0.5
comp=Z,6.0nm,0.7s,baz=46,slow=4.3,SNR=16
KBZ LR LR 15 26 26.5
comp=Z,192nm,18.1s,baz=18,slow=40
KIV Kislovodsk 70.80 311 *e*P P 14 50 52.3 -0.1
KIV pmax pmax
comp=Z,66nm,1.0s
KIV MLR MLR
comp=Z,289nm,18.0s
SHA1 Shidzhatmaz 70.94 311 *i* P P 14 50 53.0 -0.4
O02D Mt. Diablo Mer 70.98 54 P 14 50 56.3
baz=303,SNR=6.3
NSS Namsos 71.11 339 *e*P P 14 50 54.9 +1.2
WALA Waterton Lakes 71.27 42 P P 14 50 55.1 0.0
WALA IAmb IAmb 14 51 01.9
comp=Z,8.8nm,0.8s
MTSE Matsula 71.30 331 *e*P P 14 50 52.5 -2.4
O03E Paynes Creek 71.55 53 P 14 50 58.9
baz=304,SNR=5.8
MOD Modoc Plateau 71.61 51 P P 14 50 57.0 -0.4
MOD IAmb IAmb 14 51 04.5
comp=Z,5.2nm,0.8s
GNI Garni 71.62 307 *ce*P P 14 50 58.8 +1.3
GNI pmax pmax
comp=Z,19nm,1.7s
AKH Akhalkalaki 71.71 308 ⇑P P 14 50 58.8 +0.8
IDID Didziasalis 72.33 327 *e*P P 14 51 02.7 +1.4
ISAL Salakas 72.43 327 *e*P P 14 51 03.1 +1.3
IIGN Ignalina 72.53 327 *e*P P 14 51 03.7 +1.3

NACGM Naroch 72.58 327 *i* P P 14 51 02.0 -0.8
NACGM *i* P P 14 51 02.0 -0.8
NACGM *i* P P 14 51 02.0 -0.8
NACGM *i* Pb pP 14 51 05.8 -0.3
comp=Z,26nm,0.9s
NACGM *i* Pb sP 14 51 06.5 -1.0
comp=N,16nm,0.9s
NACGM *i* PcP PcP 14 51 18.3 -2.1
NACGM *i* PP PP 14 53 37.6 -6.0
NACGM *i* PPP PPP 14 55 29.8
NACGM *i* S S 15 00 28.0 +0.9
NACGM *i* SS SS 15 05 35.9 +31
NACGM *i* SSS SSS 15 08 46.4
NACGM *i* LQ LQ 15 18 18.6
NACGM *i* LR LR 15 22 57.4
SLIT Slitere, Latvi 72.63 331 *e*P P 14 51 03.9 +0.9
PABE Paberze 73.39 328 *e*P P 14 51 07.9 +0.4
FCC Fort Churchill 73.81 27 IAmb IAmb 14 51 12.0
comp=Z,12nm,1.1s
DOMB Dombas 73.87 339 *e*P P 14 51 11.0 +0.7
NB2 NORSAR Subarra 74.02 337 P P 14 51 11.2 0.0
comp=Z,8.9nm,0.7s,baz=40,slow=6.2
NB2 NORSAR Subarra 74.02 337 P P 14 51 11.2 0.0
baz=40,slow=6.2
NOA NORSAR Array B 74.02 337 P P 14 51 11.6 +0.4
comp=Z,6.1nm,0.7s,baz=39,slow=5.9,SNR=36
NOA LR LR 15 27 06.1
comp=Z,167nm,18.1s,baz=40,slow=39
EGMT Eagleton 74.10 41 P 14 51 13.4
baz=308,SNR=8.0
NC602 NORSAR Array S 74.15 337 *e*P P 14 51 13.3 +1.4
AKASG Malin Array Be 74.16 322 P P 14 51 12.0 -0.1
comp=Z,9.7nm,0.5s,baz=48,slow=6.2,SNR=46
AKASG LR LR 15 25 50.6
comp=Z,179nm,20.2s,baz=40,slow=38
AKASG Malin Array Be 74.16 322 P P 14 51 10.9 -1.3
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 74.16 322 P P 14 51 10.9 -1.3
AKBB Malin Array Si 74.16 322 *ce*P P 14 51 11.7 -0.5
AKBB Malin Array Si 74.16 322 P P 14 51 11.8 -0.3
AKBB IAmb IAmb 14 51 13.2
comp=Z,14nm,0.9s
HLID Hailey 74.21 47 P 14 51 14.6
baz=307,SNR=8.0
BOZ Bozeman (W) 74.58 44 P 14 51 17.0
baz=308,SNR=9.8
NVAR Mina Array Bea 74.84 53 P P 14 51 18.9 +2.3
comp=Z,5.2nm,0.8s,baz=287,slow=5.7,SNR=41
NVAR Mina Array Bea 74.84 53 P P 14 51 18.7 +2.0
SKAR Skarslia 75.18 338 *e*P P 14 51 19.5 +1.6
YHL Hebgen Lake 75.28 45 IAmb IAmb 14 51 22.6
comp=Z,8.5nm,0.8s
HYA Hoyanger 75.40 339 *e*P P 14 51 20.9 +1.8
KONO Kongsberg 75.61 337 *e*P P 14 51 21.6 +1.2
VES Vestal, Richgr 75.84 56 P 14 51 24.5
baz=306
H17A Grant Village 75.90 45 P 14 51 26.6
baz=309,SNR=15
CWC Cottonwood Cre 76.15 55 P 14 51 26.2
baz=306
RLMT Red Lodge 76.17 43 P P 14 51 25.0 +0.8
RLMT IAmb IAmb 14 51 28.3
comp=Z,5.1nm,0.8s
RLMT Red Lodge 76.17 43 P 14 51 26.5
baz=309,SNR=6.4
DIKM Dikmen 76.58 312 ⇑P P 14 51 27.0 +0.7
R11A Troy Canyon, C 76.61 52 IAmb IAmb 14 51 30.1
comp=Z,10nm,1.1s
R11A Troy Canyon, C 76.61 52 P 14 51 28.9
baz=307,SNR=17
DGMT Dagmar 76.66 39 P 14 51 28.7
baz=312
BLS5 Blasjo 76.75 338 *e*P P 14 51 28.8 +1.9
MPMC Manual Prospec 76.76 55 P 14 51 29.4
baz=307,SNR=7.1
FURC Furnace Creek, 76.92 54 P 14 51 31.0
baz=307
LRMC Laurel Mtn Rad 76.97 55 P 14 51 30.8
baz=307
TPNV Topopah Spring 77.03 53 IAmb IAmb 14 51 32.4
comp=Z,17nm,1.2s
TPNV Topopah Spring 77.03 53 P 14 51 31.2
baz=307,SNR=8.4
EDW2 Edwards Air Fo 77.12 56 P 14 51 31.4
baz=307
BZK Bozkurt 77.13 313 ⇓P P 14 51 30.2 +0.9
DUG Dugway, Tooele 77.20 49 P P 14 51 32.0 +2.0
DUG pmax pmax
comp=Z,7.0nm,0.7s
DUG Dugway, Tooele 77.20 49 P P 14 51 32.0 +2.0
DUG IAmb IAmb 14 51 37.1
comp=Z,7.2nm,0.7s
DUG Dugway, Tooele 77.20 49 P 14 51 32.3
baz=308,SNR=9.3
BW06 Boulder Array 77.50 46 P 14 51 33.3
baz=310,SNR=7.7
PD31 Pinedale Array 77.50 46 P P 14 51 31.8 +0.1
PDAR Pinedale Array 77.50 46 P P 14 51 33.0 +1.2
comp=Z,3.1nm,0.6s,baz=264,slow=1.9,SNR=44
PDAR Pinedale Array 77.50 46 P P 14 51 33.3 +1.5
BUR08 Bucovina Ar. S 78.17 322 P P 14 51 34.7 -0.5
BUR08 IAmb IAmb 14 51 37.0
comp=Z,7.4nm,0.9s
BURAR Bucovina Array 78.18 322 ⇑P P 14 51 35.5 +0.2
BURAR Bucovina Array 78.18 322 P P 14 51 35.6 +0.4
BURAR IAmb IAmb 14 51 37.4
comp=Z,7.0nm,0.9s
BIZ Bicaz 78.19 321 ⇑P P 14 51 36.1 +0.9
TESR Tescani 78.20 320 ⇑P P 14 51 35.7 +0.4
HEC Hector,Ludlow 78.25 55 P 14 51 38.7
baz=307
CFR Carcaliu 78.32 318 ⇑P P 14 51 35.8 0.0
TPGR Topolog 78.38 318 ⇓P P 14 51 37.1 +0.8
VRI Vrincioaia 78.60 320 ⇑P P 14 51 38.6 +1.2
PLOR Plostina 78.65 320 ⇑P P 14 51 37.9 +0.1
KOLS Kolonicke sedl 78.68 324 *e*P P 14 51 39.0 +1.1
KOLS Kolonicke sedl 78.68 324 *e*P P 14 51 39.0 +1.1
GMRC Granite Mounta 78.72 55 P 14 51 40.7
baz=308
BRTR Keskin Array B 78.75 312 P P 14 51 38.9 +0.3
comp=Z,1.9nm,0.7s,baz=93,slow=4.9,SNR=8.1
BISRR Bisoca 78.82 319 ⇓P P 14 51 39.5 +0.7
UZH Uzhgorod 78.89 324 *e*P P 14 51 40.7 +1.8
UZH *e* 14 51 49.9
DOPR Dopca 79.22 320 ⇑P P 14 51 42.1 +1.2
SRU San Rafael Swe 79.25 49 P P 14 51 43.5 +2.0
SRU pmax pmax
comp=Z,9.0nm,0.5s
SRU San Rafael Swe 79.25 49 P P 14 51 43.5 +2.0
SRU IAmb IAmb 14 51 44.1
comp=Z,8.8nm,0.5s
MLR Muntele Rosu 79.26 320 ⇑P P 14 51 41.2 -0.1
ULM Lac du Bonnet 79.32 33 P P 14 51 41.8 +0.5
comp=Z,4.6nm,0.8s,baz=317,slow=6.2,SNR=7.5
IRM Iron Mountain 79.44 55 P 14 51 44.8
baz=308
BC3 Big Chuckawall 79.54 56 P 14 51 45.3
baz=308
RSSD Black Hills 79.66 42 P P 14 51 44.7 +1.1
RSSD pmax pmax
comp=Z,5.0nm,0.6s
RSSD Black Hills 79.66 42 P P 14 51 44.7 +1.1
RSSD IAmb IAmb 14 51 46.4
comp=Z,5.0nm,0.6s
RSSD Black Hills 79.66 42 P 14 51 45.8
baz=313
IKP In-Ko-Pah, Jac 79.72 57 P 14 51 46.3
baz=308
VOIR 79.75 320 ⇓P P 14 51 44.9 +1.0
LANS Liptovska Anna 79.82 326 *e*P P 14 51 46.6 +2.5
LANS Liptovska Anna 79.82 326 *e*P P 14 51 46.6 +2.5
MTUR Matau 79.89 320 ⇑P P 14 51 44.3 -0.3
BSEG Bad Segeberg 79.90 333 *e*L L 15 27 42.1
comp=Z,175nm,20.6s
O20A White River Ci 79.95 47 P 14 51 47.4
baz=311
DRGR 79.98 322 ⇑P P 14 51 45.7 +0.6
PDMCI Parker Dam,Lak 80.00 55 P 14 51 47.2
baz=308
MORC Moravsky Berou 80.21 327 ⇓P P 14 51 47.1 +0.9
MORC Moravsky Berou 80.21 327 *e*P P 14 51 47.4 +1.2
CHVC Chvalec 80.24 328 *e*P P 14 51 47.2 +0.8
DPC Dobruska-Polom 80.31 328 *e*P P 14 51 47.7 +0.9
DPC *e* 14 51 51.3

DPC					MLR	MLR		
	comp=Z,300nm,16.3s							
DPC	**Dobruska-Polom**	**80.31**	**328**	*e*P	**P**		**14 51 47.7**	**+0.9**
DPC				*e*pP	**pP**		**14 51 51.3**	**+1.1**
DPC				AMS	AMS		15 30 10.0	
	comp=Z,300nm,16.3s							
KRLC	**Kraliky**	**80.32**	**327**	*e*P	**P**		**14 51 47.3**	**+0.5**
KRLC	**Kraliky**	**80.32**	**327**	*e*P	**P**		**14 51 47.3**	**+0.5**
LOT	**Lotru**	**80.40**	**321**	⇑P	**P**		**14 51 46.9**	**-0.5**
PSZ	**Piszkesteto**	**80.52**	**324**	⇑P	**P**		**14 51 48.8**	**+0.8**
RAYN	**Ar Rayn**	**80.61**	**292**	P	**P**		**14 51 48.3**	**-0.6**
RAYN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
RAYN	**Ar Rayn**	**80.61**	**292**	P	**P**		**14 51 48.3**	**-0.6**
SOCY	**Socotra**	**80.75**	**278**	P	**P**		**14 51 47.7**	**-2.0**
SOCY				IAmb	IAmb		14 51 52.7	
	comp=Z,15nm,1.1s							
AGMN	**Agassiz Nation**	**80.75**	**35**	P			14 51 50.0	
	baz=317							
N23A	**Red Feather La**	**80.77**	**45**	P			14 51 51.9	
	baz=312							
JAVC	**Velka Javorina**	**80.84**	**326**	*e*P	**P**		**14 51 50.9**	**+1.3**
BRG	**Berggiesshubel**	**80.90**	**329**	*e*P	**P**		**14 51 51.0**	**+1.1**
BRG				Amp			14 51 56.0	
	comp=Z,13nm,1.4s							
PVCC	**Panska Ves**	**80.91**	**329**	AMS	AMS		15 30 30.0	
	comp=Z,300nm,17.3s							
GZR	**Gura Zlata**	**80.93**	**321**	⇓P	**P**		**14 51 50.0**	**-0.3**
CLL	**Collm**	**80.94**	**330**	⇑*i*P	**P**		**14 51 50.8**	**+0.8**
	comp=Z,12nm,1.0s							
CLL				*i*			14 51 54.4	
	comp=Z,13nm,1.0s							
CLL				*e*PP	**PP**		**14 54 52.0**	**-1.9**
CLL	**Collm**	**80.94**	**330**	⇑*i*P	**P**		**14 51 50.8**	**+0.8**
CLL				*i*			14 51 54.4	
CLL				pmax	pmax			
	comp=Z,12nm,1.0s							
CLL	**Collm**	**80.94**	**330**	*e*L	L		15 35 29.0	
	comp=Z,83nm,19.8s							
VRAC	**Vranov**	**80.97**	**327**	*e*P	**P**		**14 51 51.2**	**+0.9**
WUAZ	**Wupatki**	**81.01**	**52**	P			14 51 53.9	
	baz=310							
KRUC	**Moravsky**	**81.25**	**327**	*e*P	**P**		**14 51 52.1**	**+0.4**
PRU	**Pruhonice**	**81.33**	**329**	*e*P	**P**		**14 51 53.5**	**+1.3**
PRU				MLR	MLR			
	comp=Z,300nm,16.4s							
PRU	**Pruhonice**	**81.33**	**329**	*e*P	**P**		**14 51 53.5**	**+1.3**
PRU				AMS	AMS		15 30 50.0	
	comp=Z,300nm,16.4s							
BZS	**Buzias**	**81.35**	**322**	⇑P	**P**		**14 51 52.1**	**-0.2**
MODS	**Modra-Piesok**	**81.37**	**326**	*e*P	**P**		**14 51 54.1**	**+1.7**
MODS	**Modra-Piesok**	**81.37**	**326**	*e*P	**P**		**14 51 54.1**	**+1.7**
B35A	**Bob, Littlefor**	**81.66**	**34**	P	**P**		**14 51 54.3**	**+0.4**
B35A				IAmb	IAmb		14 51 55.8	
	comp=Z,6.1nm,0.8s							
ISCO	**Idaho Springs**	**81.69**	**46**	P	**P**		**14 51 53.8**	**-0.8**
ISCO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ISCO	**Idaho Springs**	**81.69**	**46**	P	**P**		**14 51 53.8**	**-0.8**
ISCO	**Idaho Springs**	**81.69**	**46**	P			14 51 56.8	
	baz=312							
MVCO	**Mesa Verde**	**81.70**	**49**	P			14 51 56.9	
	baz=311							
MDVR	**Moldovita**	**81.90**	**321**	⇑P	**P**		**14 51 55.6**	**+0.2**
URZ	**Urewera**	**82.01**	**152**	LR	LR		15 26 53.4	
	comp=Z,91nm,18.2s,baz=31,slow=35							
MOX	**Moxa**	**82.01**	**330**	*e*L	L		15 35 28.7	
	comp=Z,111nm,18.0s							
CONA	**Conrad Observa**	**82.33**	**327**	*e*P	**P**		**14 51 58.5**	**+0.9**
	comp=Z,8.6nm,1.2s							
S22A	**4UR Ranch, Cre**	**82.35**	**48**	P			14 52 00.9	
	baz=312,SNR=6.3							
KHC	**Kasperske Hory**	**82.39**	**328**	*i* P	**P**		**14 51 57.8**	**0.0**
KHC				pmax	pmax			
	comp=Z,16nm,1.1s							
KHC	**Kasperske Hory**	**82.39**	**328**	*e*P	**P**		**14 51 58.4**	**+0.6**
KHC				*e*pP	**PcP**		**14 52 02.1**	**-0.9**
KHC				AMS	AMS		15 31 30.0	
	comp=Z,300nm,18.3s							
KHC	**Kasperske Hory**	**82.39**	**328**	P	**P**		**14 51 58.2**	**+0.4**
KHC				IAmb	IAmb		14 51 59.7	
	comp=Z,9.1nm,1.0s							
FRGS	**Fruska Gora**	**82.56**	**323**	⇑P	**P**		**14 51 58.7**	**0.0**
GEC2	**GERESS Array S**	**82.56**	**328**	*e*L	L		15 32 00.3	
	comp=Z,139nm,19.3s							
GERES	**GERESS Array B**	**82.56**	**328**	P	**P**		**14 51 59.0**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=39,slow=6.2,SNR=21							
GERES				LR	LR		15 32 10.6	
	comp=Z,130nm,18.1s,baz=18,slow=38							
GERES	**GERESS Array B**	**82.56**	**328**	P	**P**		**14 51 58.8**	**0.0**
GERES	**GERESS Array B**	**82.56**	**328**	P	**P**		**14 51 58.8**	**0.0**
VTS	**Vitosha**	**82.66**	**319**	⇑P	**P**		**14 51 59.9**	**+0.5**
WET	**Wettzell**	**82.67**	**329**	*e*L	L		15 31 29.6	
	comp=Z,222nm,18.6s							
GRF	**Grafenberg Arr**	**82.92**	**330**	*e*P	**P**		**14 52 02.1**	**+1.6**
	comp=Z,21nm,1.1s,baz=41,slow=4.5							
GRF				*e*L	L		15 36 41.7	
	comp=Z,100nm,19.1s							
EYMN	**Ely**	**82.95**	**33**	P			14 52 01.6	
	baz=320							
ARSA	**Arzberg**	**83.00**	**326**	*e*P	**P**		**14 52 00.3**	**-0.7**
	comp=Z,7.0nm,1.1s							
MOA	**Molln**	**83.09**	**327**	*e*P	**P**		**14 52 02.4**	**+1.0**
	comp=Z,9.6nm,1.5s							
TNS	**Taunus Mts**	**83.57**	**332**	*e*L	L		15 32 03.8	
	comp=Z,105nm,21.1s							
SOKA	**Soboth**	**83.65**	**326**	*e*P	**P**		**14 52 05.2**	**+0.7**
	comp=Z,14nm,1.2s							
ECSD	**EROS Data Cent**	**83.74**	**38**	P			14 52 06.1	
	baz=317,SNR=5.3							
OBKA	**Obir**	**83.99**	**326**	*e*P	**P**		**14 52 08.9**	**+2.7**
	comp=Z,9.3nm,1.0s							
KBA	**Koelnbreinsper**	**84.08**	**327**	*e*P	**P**		**14 52 07.2**	**+0.4**
	comp=Z,5.3nm,0.7s							
FUR	**Furstenfeldbru**	**84.10**	**329**	*e*L	L		15 32 40.5	
	comp=Z,312nm,18.4s							
T25A	**Trinidad**	**84.18**	**47**	P			14 52 09.4	
	baz=313,SNR=7.8							
MYKA	**Terra Mystica**	**84.30**	**327**	*e*P	**P**		**14 52 07.0**	**-0.8**
	comp=Z,7.5nm,0.9s							
ANMO	**Albuquerque**	**84.43**	**50**	*ce*P	**P**		**14 52 08.1**	**-0.7**
ANMO				pmax	pmax			
	comp=Z,7.0nm,1.7s							
ANMO	**Albuquerque**	**84.43**	**50**	P			14 52 12.1	
	baz=312							
PPT	**Papeete**	**84.69**	**117**	LR	LR		15 24 14.5	
	comp=Z,96nm,21.7s,baz=324,slow=32							
ABTA	**Abfaltersbach**	**84.70**	**328**	*e*P	**P**		**14 52 09.9**	**+0.2**
	comp=Z,6.3nm,1.0s							
PPT2	**Papeete2**	**84.70**	**117**	*e*LR	LR		15 18 38.0	
	comp=Z,194nm,26.8s							
PPT2	**Papeete2**	**84.70**	**117**	*e*T	T		16 25 04.3	
	comp=Z,5.5nm,0.4s							
MOTA	**Moosalm**	**84.82**	**329**	*e*P	**P**		**14 52 09.9**	**-0.5**
	comp=Z,3.9nm,0.9s							
PDG	**Podgorica**	**84.83**	**321**	⇓P	**P**		**14 52 10.7**	**+0.3**
LIT	**Litokhoron**	**84.83**	**318**	P	**P**		**14 52 09.3**	**-1.2**
LIT				pmax	pmax			
	comp=Z,16nm,0.8s							
LIT	**Litokhoron**	**84.83**	**318**	P	**P**		**14 52 09.2**	**-1.2**
RETA	**Reutte**	**84.85**	**329**	*e*P	**P**		**14 52 10.6**	**+0.1**
	comp=Z,7.0nm,0.7s							
SQTA	**Sankt Quirin**	**84.88**	**329**	*e*P	**P**		**14 52 11.0**	**+0.3**
	comp=Z,2.6nm,0.5s							
BFO	**Black Forest**	**85.15**	**331**	P	**P**		**14 52 11.0**	**-0.9**
BFO				pmax	pmax			
	comp=Z,13nm,1.0s							
BFO	**Black Forest**	**85.15**	**331**	P	**P**		**14 52 11.0**	**-0.9**
BFO	**Black Forest**	**85.15**	**331**	*e*L	L		15 33 12.1	
	comp=Z,109nm,19.9s							
121A	**Cookes Peak, D**	**85.21**	**52**	P			14 52 15.3	
	baz=312							
FETA	**Feichten**	**85.23**	**329**	*e*P	**P**		**14 52 11.6**	**-0.9**
	comp=Z,5.6nm,0.9s							
DAVA	**Damuels**	**85.37**	**329**	*e*P	**P**		**14 52 13.9**	**+0.7**
	comp=Z,12nm,1.0s							
MEH	**Mehetia**	**85.97**	**116**	*e*T	T		16 26 38.3	
	comp=Z,34nm,0.3s							
MNTX	**Cornudas Mount**	**87.28**	**52**	P			14 52 24.5	
	baz=313							
AMTX	**Amarillo**	**87.33**	**47**	P			14 52 25.5	
	baz=315							
TBI	**Tubuai**	**88.60**	**121**	*e*LR	LR		15 20 15.9	
	comp=Z,197nm,27.5s							
TBI	**Tubuai**	**88.60**	**121**	*e*T	T		16 29 57.5	
	comp=Z,49nm,0.3s							
WMOK	**Wichita Mounta**	**89.11**	**46**	P			14 52 33.5	
	baz=316							
TX31	**Lajitas Ar. Si**	**89.97**	**52**	P	**P**		**14 52 36.1**	**+0.5**
TX32	**Lajitas Array**	**89.97**	**52**	P	**P**		**14 52 36.6**	**+1.0**
TX32				IAmb	IAmb		14 52 42.0	
	comp=Z,3.7nm,0.7s							
TXAR	**Lajitas Array**	**89.97**	**52**	P	**P**		**14 52 37.1**	**+1.5**
	comp=Z,3.1nm,0.6s,baz=304,slow=3.1,SNR=49							
TXAR	**Lajitas Array**	**89.97**	**52**	P	**P**		**14 52 36.8**	**+1.2**
TXAR	**Lajitas Array**	**89.97**	**52**	P	**P**		**14 52 36.8**	**+1.2**
U40A	**Yellville**	**91.16**	**41**	P			14 52 42.0	
	baz=320							
MIAR	**Mount Ida**	**92.15**	**43**	P			14 52 47.3	
	baz=319							
ESDC	**Sonseca Array**	**97.13**	**334**	LR	LR		15 42 28.3	
	comp=Z,130nm,18.1s,baz=55,slow=39							
VNDA	**Vanda**	**115.17**	**175**	PKP	**PKiKP**		**14 58 15.6**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=344,slow=5.3,SNR=2.2							
TORD	**Torodi Ar. Bea**	**117.22**	**315**	PKP	**PKPdf**		**14 58 20.7**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=280,slow=0.9,SNR=1.8							
BOSA	**Boshof**	**126.65**	**259**	PKP	**PKiKP**		**14 58 40.0**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=176,slow=3.2,SNR=3.7							
VNA2	**Neumayer--Watz**	**142.52**	**196**	PKPdf	**PKPdf**		**14 59 08.7**	**+1.0**
VNA3	**Neumayer Olymp**	**142.77**	**195**	PKPdf	**PKPdf**		**14 59 09.0**	**+1.0**
VNA1	**Neumayer--Stat**	**142.92**	**196**	PKPdf	**PKPdf**		**14 59 08.5**	**+0.2**
LPAZ	**La Paz**	**146.56**	**59**	PKPbc	**PKPab**		**14 59 19.6**	**+0.1**
	comp=Z,5.5nm,0.6s,baz=321,slow=2.0,SNR=23							

*BJI **27** 14:55:47.9±0.0,50.°93N×177.°57E,h10km,mB5.0/34, mb4.7/51,Ms4.7/33,Ms7 4.3/30*

*MOS **27** 14:55:50.0±1.1,50.°88N×177.°90E,h26km,mb5.1/45, MS4.0/8,Error ellipse: s-maj=7.5km s-min=5.0km az=112.9*

*AEIC **27** 14:55:51±1.9,50.°86N±0.°07×177.°89E±0.°07,h37km±5km, Error ellipse: s-maj=10.5km s-min=6.3km az=178.0*

*GCMT **27** 14:55:51.8±0.2,50.°75N±0.°02×177.°93E±0.°02,h22km±1km, MW4.9/108,Moment Tensor Solution. s29,c38; s108,c163; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.17±.13; Mθθ1.66±.11; Mϕϕ-1.83±.10; Mrθ-0.14±.17; Mθϕ-2.63±.07; Mϕr-0.94±.16; Best double couple: Ms3.28500×10¹⁶ NP1:ϕs74.00000°,δ76.00000°, λ-175.00000°. NP2:ϕs343.00000°,δ85.00000°, λ-14.00000°. Principal axes: T 3.1070, Plg6.0000°, Azm29.0000°; N 0.3550, Plg75.0000°, Azm143.0000°; P -3.4630, Plg14.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **27** 14:55:51.8±2.1,50.°80N±0.°08×177.°88E±0.°07,h30km±5km, mb5.1/194,ML4.4(AEIC) Error ellipse: s-maj=12.4km s-min=6.2km az=172.0*

*IDC **27** 14:55:54.0±0.6,50.°84N×177.°91E,h47km±4km,mb4.2/33, mb1 4.4/35,mb1mx4.4/41,mbtmp4.5/35,MS3.9/28, Ms1 3.9/28,ms1mx3.8/48,Error ellipse: s-maj=14.1km s-min=8.7km az=173.0*

*BGR **27** 14:56:02.8±0.0,52.°09N×175.°22E,h33km,mb5.1,Ms4.2*

ISC 27 14:55:50.8±0.5,50.°72N±0.°05×177.°96E±0.°03,h24km±2km, h24km:pP-P,n521,σ1°39/476,mb5.0/220,MS4.1/38, 37C-13D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.07**	**52**		**Pn**	**14 56 09.5**	**-0.8**
AMKA				Sn	**Sb**	**14 56 22.8**	**-1.4**
LSSA	**Little Sitkin**	**1.28**	**16**		**Pn**	**14 56 12.5**	**-0.7**
LSPA	**Little Sitkin**	**1.30**	**17**		**Pn**	**14 56 12.8**	**-0.5**
LSPA					**Sb**	**14 56 31.1**	**+0.5**
LSNW	**Little Sitkin**	**1.30**	**15**		**Pn**	**14 56 12.6**	**-0.8**
CESW	**Semis' Southwe**	**1.55**	**40**		**Pn**	**14 56 17.2**	**+0.3**
CETU	**Semis' Tuman**	**1.57**	**37**		**Pb**	**14 56 18.1**	**-1.1**
CERB	**Semis' Cerberu**	**1.60**	**40**		**Sb**	**14 56 38.8**	**-0.8**
CERAA	**Semis' Rag'd T**	**1.61**	**42**		**Pn**	**14 56 17.9**	**+0.2**
CEAP	**Semis' Anvil P**	**1.64**	**38**		**Pn**	**14 56 18.6**	**+0.6**
GALAA	**Gareloi Lava P**	**2.31**	**62**		**Pn**	**14 56 28.2**	**+1.0**
GAEA	**Gareloi East**	**2.33**	**62**		**Pn**	**14 56 28.5**	**+0.9**
TANO	**Tanaga North**	**2.74**	**63**		**Pn**	**14 56 34.4**	**+1.2**
TASE	**Tanaga Southea**	**2.75**	**65**		**Pn**	**14 56 34.5**	**+1.1**
TAFP	**Tanaga Falls P**	**2.81**	**64**		**Pn**	**14 56 35.1**	**+1.0**
TAFP					**Sn**	**14 57 09.7**	**+2.4**
SMY	**Shemya**	**3.13**	**311**	P	**Pn**	**14 56 37.3**	**-1.3**
SMY						14 57 13.0	
SMY	**Shemya**	**3.13**	**311**	Pn	**Pn**	**14 56 37.3**	**-1.3**
SMY				Sn	**Sn**	**14 57 13.0**	**-2.1**
KIMD	**Kanaga Island**	**3.20**	**69**		**Pn**	**14 56 40.1**	**+0.7**
KICM	**Kanaga Island**	**3.27**	**67**		**Pn**	**14 56 42.0**	**+1.5**
KIKV	**Kanaga Island**	**3.27**	**67**		**Pn**	**14 56 41.6**	**+1.1**
KIRH	**Kanaga Island**	**3.32**	**67**		**Pn**	**14 56 42.4**	**+1.2**
ADK	**Adak**	**3.56**	**69**	P	**Pn**	**14 56 45.3**	**+0.9**
ADK	**Adak**	**3.56**	**69**	Pn	**Pn**	**14 56 45.3**	**+0.9**
ADAG	**Mount Adagdak**	**3.64**	**68**		**Pn**	**14 56 47.1**	**+1.5**
GSTD	**Great Sitkin T**	**3.93**	**68**		**Pn**	**14 56 50.3**	**+0.7**
GSMY	**Great Sitkin M**	**3.98**	**68**		**Pn**	**14 56 51.0**	**+0.8**
GSTR	**Great Sitkin T**	**3.99**	**68**	Pn	**Pn**	**14 56 51.2**	**+0.8**
ATKA	**Atka Island**	**5.12**	**70**	Pn	**Pn**	**14 57 06.7**	**+0.8**
KOKL	**Mount Kliuchef**	**5.15**	**69**		**Pn**	**14 57 06.8**	**+0.4**
KOFP	**Korovin Flat P**	**5.20**	**70**		**Pn**	**14 57 08.6**	**+1.5**
NIKH	**Nikolski High**	**8.47**	**69**		**Pn**	**14 57 52.6**	**+0.8**
NIKH	**Nikolski High**	**8.47**	**69**	P		14 57 52.8	
	baz=260						
OKSP	**Okmok Steeple**	**8.86**	**68**		**Pn**	**14 57 58.8**	**+1.6**
SPIA	**Saint Paul Isl**	**9.49**	**42**		**Pn**	**14 58 07.8**	**+2.0**
SPIA	**Saint Paul Isl**	**9.49**	**42**	P		14 58 08.5	
	baz=232,SNR=6.6						
MAPS	**Pakushin South**	**9.76**	**66**		**Pn**	**14 58 10.5**	**+0.9**
MGOI	**Makushin Gods**	**9.80**	**66**		**Pn**	**14 58 11.1**	**+1.1**
AKUT	**Akutan**	**10.51**	**65**	Pn	**Pn**	**14 58 21.0**	**+1.4**
FALS	**False Pass**	**12.00**	**63**	Pn	**Pn**	**14 58 41.2**	**+1.1**
FALS	**False Pass**	**12.00**	**63**	P		14 58 40.5	
	baz=258						
PET	**Petropavlovsk**	**12.15**	**288**	*e*P	**Pn**	**14 58 43.0**	**+0.8**
PET				*e*S	**Sn**	**15 00 57.9**	**+1.2**
PET				pmax	pmax		
	comp=Z,157nm,1.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
PET				MLR	MLR		
	comp=Z,700nm,14.0s						
PET	**Petropavlovsk**	**12.15**	**288**	Pn	**Pn**	**14 58 41.9**	**-0.3**
PEA0B	**Petropavlovsk-**	**12.73**	**289**	P	**Pn**	**14 58 50.2**	**+0.1**
PEA0B	**Petropavlovsk-**	**12.73**	**289**	Pn	**Pn**	**14 58 50.2**	**+0.1**
PETK	**Petropavlovsk-**	**12.73**	**289**	P	**Pn**	**14 58 49.8**	**-0.4**
	comp=Z,12nm,0.3s,baz=96,slow=19,SNR=186						
PETK				S	Sn	15 01 01.1	-10
	comp=Z,0.5nm,0.3s,baz=100,slow=16,SNR=1.4						
PETK				LR	LR	15 04 13.0	
	comp=Z,201nm,20.6s,baz=100,slow=39						
PETK	**Petropavlovsk-**	**12.73**	**289**	Pn	**Pn**	**14 58 50.9**	**+0.8**
SDPT	**Sand Point**	**13.76**	**62**	Pn	**Pn**	**14 59 02.7**	**-1.4**
SDPT	**Sand Point**	**13.76**	**62**	P		14 59 02.7	
	baz=259						
SKR	**Severo-Kuril's**	**13.84**	**278**	*e*P	**Pn**	**14 59 04.1**	**-1.1**
SKR				pmax	pmax		
	comp=Z,147nm,0.7s						
SKR				pmax	pmax		
	comp=Z,200nm,4.0s						
SKR				MLR	MLR		
	comp=Z,300nm,15.0s						
ANM	**Nome**	**16.41**	**26**	P	**Pn**	**14 59 40.1**	**+0.9**
ANM				pmax	pmax		
	comp=Z,43nm,1.2s						
ANM	**Nome**	**16.41**	**26**		**Pn**	**14 59 40.1**	**+0.9**
ANM	**Nome**	**16.41**	**26**	P		14 59 40.0	
	baz=220,SNR=37						
TNA	**Tin City**	**16.57**	**21**	P		14 59 42.2	
	baz=213,SNR=18						
MA2	**Magadan**	**17.77**	**310**	P	**Pn**	**14 59 56.3**	**0.0**
	comp=Z,2.9nm,0.3s,baz=99,slow=9.1,SNR=47						
MA2				LR	LR	15 07 04.1	
	comp=Z,532nm,18.4s,baz=110,slow=38						
MA2	**Magadan**	**17.77**	**310**	*ce*P	**Pn**	**14 59 55.7**	**-0.5**
MA2				pmax	pmax		
	comp=Z,54nm,0.8s						
MA2	**Magadan**	**17.77**	**310**	P	**P**	**14 59 57.0**	**+0.1**
SVW2	**Sparrevohn**	**17.97**	**45**		**P**	**14 59 59.3**	**+0.2**
OHAK	**Old Harbor**	**18.03**	**58**	P	**Pn**	**14 59 55.9**	**-3.5**
OHAK	**Old Harbor**	**18.03**	**58**	P		14 59 57.1	
	baz=261						
BILL	**Bilibino**	**18.30**	**346**	*ce*P	**Pn**	**15 00 02.1**	**-0.5**
BILL				*e*S	**Sn**	**15 03 24.2**	**-1.8**
BILL				pmax	pmax		
	comp=Z,25nm,1.7s						
BILL				MLR	MLR		
	comp=Z,396nm,18.0s						
BILL	**Bilibino**	**18.30**	**346**	P	**Pn**	**15 00 02.3**	**-0.4**
SEY	**Seymchan**	**18.42**	**321**	P	**P**	**15 00 03.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=148,slow=13,SNR=21						
SEY	**Seymchan**	**18.42**	**321**	*i* P	**Pn**	**15 00 04.5**	**+0.4**
KDAK	**Kodiak Island**	**18.49**	**56**	P	**P**	**15 00 02.3**	**-2.5**
	comp=Z,2.5nm,0.3s,baz=259,slow=6.6,SNR=27						
KDAK				S	Sn	15 03 18.5	-12
	comp=Z,0.7nm,0.3s,baz=253,slow=23,SNR=2.0						
KDAK				LR	LR	15 08 10.4	
	comp=Z,801nm,18.2s,baz=256,slow=40						
KDAK	**Kodiak Island**	**18.49**	**56**	P	**P**	**15 00 01.3**	**-3.5**
KDAK				pmax	pmax		
	comp=Z,68nm,1.3s						
KDAK	**Kodiak Island**	**18.49**	**56**	P	**P**	**15 00 01.3**	**-3.5**
RSO	**Redoubt South**	**19.05**	**48**	P	**Pn**	**15 00 11.7**	**-0.3**
SPCR	**Spurr Chakacha**	**19.53**	**46**	P		15 00 16.7	
	baz=251,SNR=24						
BRLK	**Bradley Lake**	**19.76**	**51**	P	**P**	**15 00 16.2**	**-2.5**
BRLK				IAmb	IAmb	15 00 34.2	
	comp=Z,118nm,1.5s						
RDOG	**Red Dog Mine**	**19.76**	**21**		**Pn**	**15 00 19.4**	**-0.9**
RDOG	**Red Dog Mine**	**19.76**	**21**	P		15 00 19.2	
	baz=218						
BRSE	**Bradley Lake S**	**19.83**	**51**	P		15 00 18.7	
	baz=257						
SKT	**Skwentna**	**20.10**	**44**	P	**P**	**15 00 21.7**	**-0.7**
SKT				IAmb	IAmb	15 00 28.9	
	comp=Z,101nm,0.8s						
SKT	**Skwentna**	**20.10**	**44**	P		15 00 22.8	
	baz=250,SNR=34						
PPLA	**Purkeypile**	**20.16**	**41**		**P**	**15 00 22.9**	**-0.2**
PPLA				IAmb	IAmb	15 00 27.3	
	comp=Z,116nm,1.2s						
PPLA	**Purkeypile**	**20.16**	**41**	P		15 00 23.3	
	baz=247,SNR=25						
SUA	**Susitna One**	**20.29**	**46**	P	**P**	**15 00 23.7**	**-0.8**
SUA				IAmb	IAmb	15 00 28.5	
	comp=Z,38nm,0.7s						
SUA	**Susitna One**	**20.29**	**46**	P		15 00 24.0	
	baz=252,SNR=18						
CHUM	**Lake Minchumin**	**20.52**	**39**	P		15 00 27.3	
	baz=244,SNR=37						
SEW	**Seward**	**20.54**	**50**	P	**P**	**15 00 25.1**	**-2.0**
SEW	**Seward**	**20.54**	**50**	P		15 00 26.5	
	baz=257						
RC01	**Rabbit Creek A**	**20.64**	**47**	P	**P**	**15 00 27.5**	**-0.8**
RC01	**Rabbit Creek A**	**20.65**	**47**	P		15 00 27.4	
	baz=255						
CUT	**Chulitna**	**20.80**	**44**	P		15 00 28.6	
	baz=251						
KTH	**Kantishna Hill**	**20.94**	**40**	P	**P**	**15 00 31.4**	**-0.2**
KTH				IAmb	IAmb	15 00 36.6	
	comp=Z,118nm,1.0s						
IMAR	**Indian Mountai**	**21.02**	**33**	P	**P**	**15 00 30.8**	**-1.6**
PMR	**Palmer**	**21.06**	**46**	P	**P**	**15 00 30.7**	**-2.1**
PMR				pmax	pmax		
	comp=Z,15nm,0.6s						
PMR	**Palmer**	**21.06**	**46**	P	**P**	**15 00 30.7**	**-2.1**
PMR	**Palmer**	**21.06**	**46**	P		15 00 31.1	
	baz=254						
BPAW	**Bear Paw Mtn.**	**21.14**	**39**	P	**P**	**15 00 33.2**	**-0.4**
BPAW				IAmb	IAmb	15 00 49.5	
	comp=Z,39nm,0.8s						
BPAW	**Bear Paw Mtn.**	**21.14**	**39**	P		15 00 33.5	
	baz=246,SNR=28						
TRF	**Thorofare Moun**	**21.17**	**41**	IAmb	IAmb	15 00 39.5	
	comp=Z,76nm,1.1s						
TRF	**Thorofare Moun**	**21.17**	**41**	P		15 00 33.3	
	baz=248,SNR=20						
KNK	**Knik Glacier**	**21.33**	**47**	P		15 00 34.0	
	baz=255						
SML	**Sawmill**	**21.49**	**46**	P		15 00 36.0	
	baz=254						
MLY	**Manley**	**21.64**	**37**	P	**P**	**15 00 39.0**	**0.0**
MLY	**Manley**	**21.64**	**37**	P		15 00 38.6	
	baz=244,SNR=19						
WAT2	**Susitna Watana**	**21.72**	**43**	P		15 00 38.3	
	baz=251,SNR=15						
MCK	**McKinley**	**21.83**	**41**	IAmb	IAmb	15 00 57.4	
	comp=Z,49nm,1.0s						
MCK	**McKinley**	**21.83**	**41**	P		15 00 40.2	
	baz=249,SNR=12						
GLI	**Glacier Island**	**21.85**	**49**	P		15 00 41.1	
	baz=258						
SCM	**Sheep Creek Mo**	**21.96**	**46**	IAmb	IAmb	15 00 42.7	
	comp=Z,66nm,0.8s						
WAT6	**Susitna Watana**	**21.97**	**44**	P		15 00 41.3	
	baz=253,SNR=16						
NEA2	**Nenana**	**22.10**	**39**	IAmb	IAmb	15 00 59.5	
	comp=Z,122nm,1.4s						
NEA2	**Nenana**	**22.10**	**39**	P		15 00 42.9	
	baz=247,SNR=41					

DOT	Dot Lake	23.87	43		IAmb	IAmb	15 01 18.0		
	comp=Z,37nm,1.0s								
MCARA	McCarthy VSAT	23.88	48		IAmb	IAmb	15 01 17.8		
	comp=Z,56nm,1.0s								
MCARA	McCarthy VSAT	23.88	48		P		15 01 00.8		
	baz=261								
SCRK	Sand Creek	23.99	42		P		15 01 01.0		
	baz=255,SNR=33								
CTG	Chitna Glacier	24.64	50		P		15 01 08.2		
	baz=264								
CTGM	Chitina Glacie	24.64	50		IAmb	IAmb	15 01 13.2		
	comp=Z,26nm,0.8s								
ASAJ	Asahikawa	24.65	268		P	P	15 01 09.7	+0.4	
	comp=Z,60nm,0.9s,baz=77,slow=7.3,SNR=18								
TABL	Table Mountain	24.68	51		IAmb	IAmb	15 01 23.8		
	comp=Z,28nm,0.8s								
L27K	Beaver Creek,	24.72	45		IAmb	IAmb	15 01 11.0		
	comp=Z,39nm,0.9s								
L27K	Beaver Creek,	24.72	45		P		15 01 09.9		
	baz=259,SNR=44								
BCAR	Beaver Creek A	24.74	45		P	P	15 01 07.6	-2.5	
LOGN	Logan Glacier	24.79	50		IAmb	IAmb	15 01 26.9		
	comp=Z,42nm,1.1s								
K27K	Chicken	24.82	42		P		15 01 09.7		
	baz=257								
BMAR	Burnt Mountain	24.92	34		P	P	15 01 10.9	-0.7	
PINM	Pinnacle	25.10	52		P		15 01 11.9		
	baz=267								
EGAK	Eagle	25.39	41		P	P	15 01 14.6	-1.2	
EGAK					IAmb	IAmb	15 01 31.1		
	comp=Z,101nm,1.1s								
EGAK	Eagle	25.39	41		P		15 01 14.5		
	baz=256,SNR=41								
DAWY	Dawson	25.98	43		P	P	15 01 21.2	-0.1	
DAWY					IAmb	IAmb	15 01 39.6		
	comp=Z,46nm,0.9s								
GRNR	Gornyy	26.04	286	⇓	*i* P	P	15 01 22.2	+0.3	
GRNR					pmax	pmax			
	comp=E,5.0nm,0.7s								
GRNR					pmax	pmax			
	comp=Z,10.0nm,1.1s								
HYT	Haines Junctio	26.50	50		P	P	15 01 25.2	-0.9	
EPYK	Eagle Plains	27.55	38		P		15 01 34.0		
	baz=258								
YAK	Yakutsk	28.33	312		P	P	15 01 40.9	-1.3	
	comp=Z,3.6nm,0.3s,baz=59,slow=1.8,SNR=4.8								
YAK					LR	LR	15 13 27.3		
	comp=Z,293nm,18.2s,baz=94,slow=37								
YAK	Yakutsk	28.33	312		*e*P	P	15 01 41.4	-0.8	
YAK					*e**PP	pP	15 01 45.1	-2.7	
YAK					*e*		15 02 29.0		
YAK					*e*PPP	PPP	15 02 38.4		
YAK					*e*S	S	15 06 24.1	-2.9	
YAK					*e**SS	pS	15 06 32.0	-0.9	
YAK					*e*SSS	SSS	15 07 54.8		
YAK					pmax	pmax			
	comp=Z,20nm,1.1s								
YAK					pmax	pmax			
	comp=E,11nm,1.3s								
YAK					pmax	pmax			
	comp=Z,23nm,0.7s								
YAK					smax	smax			
	comp=N,28nm,1.1s								
YAK					smax	smax			
	comp=E,33nm,1.5s								
YAK					MLR	MLR			
	comp=Z,292nm,17.0s								
YAK					MLR	MLR			
	comp=N,378nm,17.0s								
YAK					MLR	MLR			
	comp=E,217nm,15.0s								
INK	Inuvik	29.17	35		P	P	15 01 48.5	-1.1	
	comp=E,3.0nm,0.8s,baz=253,slow=8.3,SNR=12								
INK					LR	LR	15 13 52.4		
	comp=E,405nm,21.5s,baz=236,slow=37								
INK	Inuvik	29.17	35		P	P	15 01 48.5	-1.1	
KLR	Kul'dur	29.39	285		P	P	15 01 52.1	+0.3	
	comp=E,10.0nm,0.6s,baz=67,slow=8.6,SNR=37								
KLR					LR	LR	15 15 58.8		
	comp=E,142nm,18.7s,baz=60,slow=41								
KLR	Kul'dur	29.39	285	*ce*	P	P	15 01 51.0	-0.8	
KLR					pmax	pmax			
	comp=Z,30nm,1.3s								
TIXI	Tiksi	30.22	332		P	P	15 01 58.0	-0.9	
	comp=Z,1.1nm,0.6s,baz=118,slow=11,SNR=4.8								
TIXI	Tiksi	30.22	332	*ce*	P	P	15 01 57.4	-1.5	
TIXI					pmax	pmax			
	comp=Z,28nm,1.7s								
DLBC	Dease Lake	30.42	55		P	P	15 02 00.2	-0.7	
	comp=Z,2.1nm,0.7s,baz=286,slow=9.6,SNR=4.1								
DLBC	Dease Lake	30.42	55		P	P	15 02 01.4	+0.5	
ZEA	Zeya	30.67	296		*e*P	P	15 02 02.4	-0.7	
ZEA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
ZEA					MLR	MLR			
	comp=Z,100nm,14.0s								
USRK	Ussuriysk Ar.	31.34	276		P	P	15 02 09.8	+0.7	
	comp=Z,3.4nm,0.8s,baz=66,slow=9.0,SNR=6.6								
USRK					LR	LR	15 16 03.9		
	comp=Z,111nm,19.0s,baz=60,slow=39								
MJAR	Matsushiro Arr	31.65	259		P	P	15 02 12.9	+1.0	
	comp=Z,1.4nm,0.8s,baz=46,slow=7.2,SNR=4.1								
MJAR					LR	LR	15 13 49.1		
	comp=Z,81nm,20.1s,baz=355,slow=34								
MAJO	Matsushiro	31.66	259	*i*	P	P	15 02 12.7	+0.7	
MAJO					pmax	pmax			
	comp=Z,16nm,1.3s								
MAT	Matsushiro	31.66	259		P	P	15 02 13.1	+1.1	
MAT					S	S	15 07 12.2	-7.5	
H11N2	WAKE ISLAND Hy	32.14	200		T	T	15 37 52.7		
	baz=11								
H11N3	WAKE ISLAND Hy	32.15	200		T	T	15 37 53.7		
	baz=11								
H11N1	WAKE ISLAND Hy	32.16	200		T	T	15 38 07.2		
	baz=11								
MDJ	Mudanjiang	32.65	278		P	P	15 02 20.5	-0.1	
MDJ					pP	sP	15 02 28.8	+0.8	
MDJ					sP	pwP	15 02 33.3	-1.2	
MDJ					S	S	15 07 35.5	+0.4	
MDJ					pmax	pmax			
	comp=Z,11nm,0.8s								
MDJ					pmax	pmax			
	comp=Z,100nm,4.3s								
MDJ					LR	LR			
	comp=Z,240nm,12.7s								
MDJ					LR	LR			
	comp=Z,340nm,15.8s								
C36M	Paulatuk	32.72	34		P	P	15 02 20.1	-0.8	
C36M	Paulatuk	32.72	34		P		15 02 20.0		
	baz=266								
BBB	Bella Bella	32.99	66		LR	LR	15 15 33.9		
	comp=Z,242nm,18.7s,baz=288,slow=36								
H11S1	WAKE ISLAND Hy	33.37	200		T	T	15 39 46.3		
	baz=13								
H11S2	WAKE ISLAND Hy	33.38	200		T	T	15 39 24.5		
	baz=13								
H11S3	WAKE ISLAND Hy	33.38	200		T	T	15 39 25.8		
	baz=13								
HIA	Hailar	36.62	291	*i*	P	P	15 02 53.5	-1.4	
HIA					pmax	pmax			
	comp=Z,11nm,1.2s								
BOD	Bodaibo	36.73	306	*e*	P	P	15 02 54.9	-0.7	
BOD					pmax	pmax			
	comp=Z,28nm,1.2s								
YKA	Yellowknife Ar	37.16	45		P	P	15 02 58.4	-0.8	
	comp=Z,7.5nm,0.7s,baz=282,slow=7.8,SNR=102								
YKA					ScP	ScP	15 09 04.1	+0.1	
	comp=Z,0.7nm,1.0s,baz=303,slow=2.8,SNR=4.9								
A04D	Lummi Island	37.52	69		P		15 03 04.1		
	baz=296,SNR=12								
KSRS	Korea Array	37.59	269		P	P	15 03 04.5	+1.4	
	comp=Z,3.5nm,0.8s,baz=58,slow=8.6,SNR=12								
KSRS					LR	LR	15 18 16.3		
	comp=Z,106nm,18.3s,baz=58,slow=36								
D03D	Eldon	37.83	71		P		15 03 07.0		
	baz=297,SNR=20								
B05A	Bryant	38.09	70		P		15 03 08.6		
	baz=297,SNR=12								
TJN	Taejon	38.60	268	*ce*	P	P	15 03 12.9	+1.2	
E04D	Cinebar	38.60	72		P		15 03 14.3		
	baz=299,SNR=12								
LON	Longmire	38.97	72		P	P	15 03 15.7	+0.9	
LON					pmax	pmax			
	comp=Z,8.0nm,0.8s								
LON	Longmire	38.97	72		P	P	15 03 15.7	+0.9	
H04D	Lebanon	39.51	75		P		15 03 22.0		
	baz=301,SNR=8.6								
I03D	Drain, OR	39.56	77		P		15 03 22.2		
	baz=302								
B08A	Colville Reser	39.68	68		IAmb	IAmb	15 03 22.7		
	comp=Z,31nm,0.8s								
H04A	Detroit Lake	39.76	75		IAmb	IAmb	15 03 24.4		
	comp=Z,45nm,0.8s								
G05D	Wamic, OR	40.01	73		P		15 03 24.9		
	baz=300,SNR=12								
I04A	Tendick Farm,	40.08	76		P		15 03 25.6		
	baz=302,SNR=16								
E07A	Sunnyside	40.24	71		IAmb	IAmb	15 03 27.6		
	comp=Z,18nm,0.8s								
I05D	Terrebonne, OR	40.46	75		P		15 03 28.8		
	baz=301,SNR=6.0								
HAWA	Hanford	40.51	71		IAmb	IAmb	15 03 30.4		
	comp=Z,58nm,1.0s								
D08A	Wollman Farm,	40.55	70		IAmb	IAmb	15 03 29.6		
	comp=Z,32nm,0.8s								
J04D	Umpqua Nationa	40.56	77		P		15 03 31.0		
	baz=302								
C09A	Chrisman Ranch	40.57	68		IAmb	IAmb	15 03 29.7		
	comp=Z,43nm,0.8s								
E08A	Dider Farm, El	40.75	71		IAmb	IAmb	15 03 31.9		
	comp=Z,31nm,0.8s								
L04D	Klamath Falls	40.99	78		P		15 03 34.4		
	baz=303,SNR=8.4								
YBH	Yreka Blue Hor	41.01	79		P	P	15 03 33.7	+1.9	
	comp=Z,13nm,0.8s,baz=315,slow=4.9,SNR=22								
NEW	Newport	41.03	67		P	P	15 03 32.2	+0.4	
	comp=Z,41nm,0.7s,baz=296,slow=7.6,SNR=61								
NEW	Newport	41.03	67		IAmb	IAmb	15 03 33.4		
	comp=Z,42nm,0.7s								
NEW	Newport	41.03	67		P		15 03 32.0		
	baz=299,SNR=31								
J05D	Fort Rock, OR	41.08	76		P		15 03 34.9		
	baz=302,SNR=25								
M02C	Callahan	41.11	79		P		15 03 36.6		
	baz=304								
RES	Resolute Bay	41.18	24		P	P	15 03 31.9	-0.8	
	comp=Z,6.9nm,1.0s,baz=265,slow=9.5,SNR=24								
RES	Resolute Bay	41.18	24		P	P	15 03 32.1	-0.6	
RES					pmax	pmax			
	comp=Z,10.0nm,1.0s								
RES	Resolute Bay	41.18	24		P	P	15 03 32.1	-0.6	
N02D	Trinity Center	41.44	80		P		15 03 39.1		
	baz=304								
M04C	Macdoel	41.52	78		P		15 03 38.5		
	baz=304,SNR=14								
K05A	Summer Lake	41.59	76		IAmb	IAmb	15 03 40.6		
	comp=Z,32nm,0.8s								
I07A	Izee	41.72	74		IAmb	IAmb	15 03 40.4		
	comp=Z,32nm,0.8s								
WDC	Whiskeytown Da	41.76	80		P	P	15 03 40.5	+2.6	
WDC					pmax	pmax			
	comp=Z,11nm,0.8s								
WDC	Whiskeytown Da	41.76	80		P	P	15 03 40.5	+2.6	
O02D	Mt. Diablo Mer	41.84	81		P		15 03 42.0		
	baz=305								
O03E	Paynes Creek	42.39	80		P		15 03 44.8		
	baz=305,SNR=11								
MOD	Modoc Plateau	42.41	77		IAmb	IAmb	15 03 46.9		
	comp=Z,26nm,0.7s								
WALA	Waterton Lakes	42.51	65		IAmb	IAmb	15 03 45.7		
	comp=Z,45nm,0.9s								
BMO	Blue Mountains	42.64	72		IAmb	IAmb	15 03 47.3		
	comp=Z,24nm,0.9s								
JTMT	Jette	42.94	66		IAmb	IAmb	15 03 48.6		
	comp=Z,15nm,0.6s								
WVOR	Wild Horse Val	43.14	75		IAmb	IAmb	15 03 52.2		
	comp=Z,30nm,0.8s								
BJI	Beijing	43.50	281		P	P	15 03 53.0	+1.0	
BJI					S	S	15 10 19.3	+0.3	
BJI					pmax	pmax			
	comp=Z,8.0nm,0.8s								
BJI					LR	LR			
	comp=Z,290nm,15.6s								
MSO	Missoula	43.61	67		IAmb	IAmb	15 03 54.3		
	comp=Z,32nm,0.8s								
MSO	Missoula	43.61	67		P		15 03 53.2		
	baz=301,SNR=11								
NRIK	Noril'sk	43.93	329		P	P	15 03 54.8	-0.4	
	comp=Z,12nm,1.1s,baz=87,slow=5.1,SNR=9.8								
NRIK					LR	LR	15 25 49.5		
	comp=Z,112nm,18.0s,baz=62,slow=41								
PAHR	Pah Rah Range	44.24	79		P	P	15 03 58.8	+0.6	
PAHR					IAmb	IAmb	15 04 13.4		
	comp=Z,24nm,1.1s								
TLY	Talaya	44.67	302	*e*	P	P	15 04 01.1	-0.2	
TLY					pmax	pmax			
	comp=Z,17nm,1.0s								
TLY					MLR	MLR			
	comp=Z,473nm,17.0s								
ULN	Ulaanbaatar	44.70	295	*ce*	P	P	15 04 02.1	+0.3	
ULN					pmax	pmax			
	comp=Z,7.0nm,1.7s								
HLID	Hailey	45.09	72		IAmb	IAmb	15 04 07.6		
	comp=Z,33nm,1.0s								
HLID	Hailey	45.09	72		P		15 04 06.6		
	baz=304,SNR=53								
SONM	Songino Array	45.10	296		P	P	15 04 05.5	+0.6	
	comp=Z,2.2nm,0.7s,baz=60,slow=8.3,SNR=18								
SONM					LR	LR	15 23 17.8		
	comp=Z,127nm,20.1s,baz=55,slow=36								
TIA	Tai'an	45.20	276		P	P	15 04 05.5	-0.2	
TIA					pmax	pmax			
	comp=Z,15nm,0.9s								
EGMT	Eagleton	45.41	64		IAmb	IAmb	15 04 08.3		
	comp=Z,21nm,0.9s								
EGMT	Eagleton	45.41	64		P		15 04 06.6		
	baz=302,SNR=16								
RYN	Ryan	45.42	80		IAmb	IAmb	15 04 14.6		
	comp=Z,14nm,0.7s								
KVN	Kaiserville	45.43	79		P	P	15 04 08.9	+1.2	
KVN					pmax	pmax			
	comp=Z,8.0nm,0.7s								
KVN	Kaiserville	45.43	79		P	P	15 04 08.9	+1.2	
ZAK	Zakamensk	45.53	300	*e*	P	P	15 04 08.5	+0.3	
ZAK					pmax	pmax			
	comp=Z,10.0nm,1.2s								
BOZ	Bozeman (W)	45.63	68		P		15 04 09.2		
	baz=303,SNR=38								
NVAR	Mina Array Bea	45.67	80		P	P	15 04 11.2	+1.6	
	comp=Z,12nm,0.7s,baz=296,slow=7.2,SNR=58								
NVAR					ScP	ScP	15 09 36.0	-2.5	
	comp=Z,0.7nm,1.0s,baz=292,slow=2.8,SNR=2.8								
NVAR	Mina Array Bea	45.67	80		P	P	15 04 11.6	+1.9	
HHC	Hu-ho-hao-te	45.89	284		*e*P	P	15 04 08.3	-2.9	
HHC					pmax	pmax			
	comp=Z,12nm,0.6s								
HHC					LR	LR			
	comp=Z,340nm,16.2s								
HHC					LR	LR			
	comp=Z,330nm,16.2s								
HHC					LR	LR			
	comp=Z,220nm,16.6s								
ELK	Elko	46.20	75		P	P	15 04 14.4	+0.6	
	comp=Z,20nm,0.9s,baz=304,slow=6.9,SNR=74								
ELK	Elko	46.20	75		P	P	15 04 14.8	+1.0	
ELK					pmax	pmax			
	comp=Z,18nm,0.8s								
ELK	Elko	46.20	75		P	P	15 04 14.8	+1.0	
ELK					IAmb	IAmb	15 04 16.6		
	comp=Z,18nm,0.8s								
TULEG	Thule	46.23	17		P	P	15 04 12.3	-1.0	
TULEG					IAmb	IAmb	15 04 12.7		
	comp=Z,8.4nm,0.6s								
TULEG	Thule	46.23	17	*i*	P	P	15 04 12.0	-1.3	
TULEG					IAmb	IAmb	15 04 12.4		
	comp=Z,8.3nm,0.7s								
YHL	Hebgen Lake	46.30	68		P	P	15 04 15.0	+0.4	
YHH	Holmes Hill	46.53	68		P	P	15 04 16.9	+0.4	
NJ2	Nanjing	46.77	270	*e*	P	P	15 04 18.3	+0.2	
NJ2					pmax	pmax			
	comp=Z,12nm,0.6s								
YPP	Pitchstone Pla	46.85	69		IAmb	IAmb	15 04 27.8		
	comp=Z,18nm,1.3s								
YNE	Yellowstone No	46.91	68		IAmb	IAmb	15 04 20.6		
	comp=Z,15nm,0.9s								
H17A	Grant Village	46.92	69		P		15 04 21.2		
	baz=304,SNR=38								
FLWY	Flagg Ranch	47.02	69		IAmb	IAmb	15 04 22.4		
	comp=Z,50nm,1.3s								
CWC	Cottonwood Cre	47.04	82		P		15 04 21.7		
	baz=309								
HVU	Hansel Valley	47.10	73		IAmb	IAmb	15 04 23.1		
	comp=Z,28nm,0.8s								
GRAC	Grapevine Rang	47.14	81		P		15 04 22.4		
	baz=308								
RLMT	Red Lodge	47.28	67		P		15 04 22.8		
	baz=304,SNR=30								
R11A	Troy Canyon, C	47.42	78		IAmb	IAmb	15 04 26.4		
	comp=Z,12nm,0.7s								
R11A	Troy Canyon, C	47.42	78		P		15 04 24.7		
	baz=308,SNR=34								
BGU	Big Grassy Mou	47.45	74		IAmb	IAmb	15 04 29.3		
	comp=Z,14nm,0.9s								
SPUT	South Promonto	47.57	73		P	P	15 04 24.4	-0.1	
SPUT					IAmb	IAmb	15 04 26.9		
	comp=Z,18nm,0.9s								
MPMC	Manual Prospec	47.65	82		P		15 04 26.3		
	baz=309								
FURC	Furnace Creek,	47.78	81		P		15 04 29.5		
	baz=309								
TPNV	Topopah Spring	47.87	80		P	P	15 04 28.3	+1.5	
TPNV					pmax	pmax			
	comp=Z,29nm,0.8s								
TPNV	Topopah Spring	47.87	80		P	P	15 04 28.3	+1.5	
TPNV					IAmb	IAmb	15 04 34.2		
	comp=Z,29nm,0.8s								
TPNV	Topopah Spring	47.87	80		P		15 04 28.6		
	baz=309,SNR=39								
FCC	Fort Churchill	47.88	45		P	P	15 04 25.0	-1.3	
FCC					pmax	pmax			
	comp=Z,9.0nm,0.9s								
FCC	Fort Churchill	47.88	45		P	P	15 04 25.0	-1.3	
LRMC	Laurel Mtn Rad	47.89	83		P		15 04 28.0		
	baz=310,SNR=6.9								
HWUT	Hardware Ranch	47.93	72		IAmb	IAmb	15 04 29.5		
	comp=Z,15nm,0.9s								
DUG	Dugway, Tooele	48.01	74		IAmb	IAmb	15 04 30.6		
	comp=Z,36nm,0.9s								
DUG	Dugway, Tooele	48.02	74		P		15 04 29.0		
	baz=307,SNR=40								
LAO	LASA Array	48.15	64		P		15 04 29.0		
	baz=304								
BW06	Boulder Array	48.46	70		P	P	15 04 31.8	+0.4	
PDAR	Pinedale Array	48.46	70		P	P	15 04 31.6	+0.3	
	comp=Z,11nm,0.6s,baz=312,slow=3.8,SNR=110								
PDAR	Pinedale Array	48.46	70		P	P	15 04 31.8	+0.4	
BW06	Boulder Array	48.46	70		P		15 04 31.8		
	baz=306,SNR=41								
SHOC	Shoshone, Teco	48.51	81		P		15 04 33.1		
	baz=309,SNR=5.7								
GSC	Goldstone, Bar	48.55	82		P	P	15 04 33.7	+1.7	
GSC					pmax	pmax			
	comp=Z,14nm,0.6s								
GSC	Goldstone, Bar	48.55	82		P	P	15 04 33.7	+1.7	
GSC					IAmb	IAmb	15 04 39.0		
	comp=Z,14nm,0.6s								
GSC	Goldstone, Bar	48.56	82		P		15 04 34.0		
	baz=310,SNR=17								
HEC	Hector,Ludlow	49.15	82		P		15 04 38.5		
	baz=310								
TCRU	Three Creeks R	49.20	76		IAmb	IAmb	15 04 40.4		
	comp=Z,16nm,0.7s								
GMRC	Granite Mounta	49.61	82		P		15 04 41.4		
	baz=310,SNR=13								
MTPU	Mount Pierson	49.72	76		IAmb	IAmb	15 04 44.6		
	comp=Z,14nm,0.8s								
BELC	Belle Mtn. Jos	49.90	83		P		15 04 43.5		
	baz=311,SNR=5.5								
KNB	Kanab	49.96	78		IAmb	IAmb	15 04 46.5		
	comp=Z,12nm,0.8s								
K22A	Casper	50.33	68		P		15 04 45.9		
	baz=307								
IRM	Iron Mountain	50.34	82		P		15 04 46.7		
	baz=311								
KBS	Kingsbay	50.34	357	*e*	P	P	15 04 44.9	0.0	
O20A	White River Ci	50.83	72		P		15 04 49.9		
	baz=308,SNR=9.0								
RSSD	Black Hills	50.90	65		P	P	15 04 48.6	-1.3	
RSSD					pmax	pmax			
	comp=Z,7.0nm,0.8s								
RSSD	Black Hills	50.90	65		P	P	15 04 48.6	-1.3	
RSSD	Black Hills	50.90	65		P		15 04 49.0		
	baz=307								
UPNV	Upernavik	51.25	18	*i*	P	P	15 04 50.8	-1.0	
UPNV					IAmb	IAmb	15 04 51.6		
	comp=Z,12nm,0.9s								
N23A	Red Feather La	51.74	70		P		15 04 57.1		
	baz=308,SNR=6.4								
ULM	Lac du Bonnet	51.74	55		P	P	15 04 54.5	-1.3	
	comp=Z,4.4nm,0.7s,baz=299,slow=8.1,SNR=7.4								
ULM	Lac du Bonnet	51.74	55		P	P	15 04 54.2	-1.7	
WUAZ	Wupatki	51.82	78		P		15 04 59.1		
	baz=310,SNR=9.1								
PV01	Paradox Valley	51.88	74		IAmb	IAmb	15 04 59.5		
	comp=Z,22nm,0.9s								
DAG	Danmarks Havn	52.34	5	*i*	P	P	15 04 58.4	-1.5	
	comp=Z,7.9nm,1.3s								
DAG	Danmarks Havn	52.34	5	*i*	P	P	15 04 58.4	-1.5	
DAG	Danmarks Havn	52.34	5	*i*	P	P	15 04 58.4	-1.5	
DAG					IAmb	IAmb	15 05 01.9		
	comp=Z,7.9nm,1.3s								
MVCO	Mesa Verde	52.51	75		P		15 05 03.2		
	baz=310,SNR=8.7								
ISCO	Idaho Springs	52.62	70		P		15 05 04.3		
	baz=309,SNR=9.8								
AGMN	Agassiz Nation	52.92	57		P		15 05 03.6		
	baz=308								
ZALV	Zalesovo Beam	52.98	312		P	P	15 05 03.9	-1.1	
	comp=Z,0.6nm,0.4s,baz=73,slow=5.0,SNR=3.9								
ZALV					LR	LR	15 29 51.8		
	comp=Z,152nm,18.0s,baz=46,slow=38								
W18A	Petrified Fore	53.10	78		P		15 05 08.9		
	baz=311								
S22A	4UR Ranch, Cre	53.19	73		P		15 05 08.5		
	baz=310,SNR=20								
Q24A	Divide	53.43	71		P		15 05 10.4		
	baz=310								
LZH	Lanzhou	53.58	285	*e*	P	P	15 05 11.0	+1.1	
LZH					pP	pP	15 05 16.3	+1.0	
LZH					sP	sP	15 05 19.0	+1.6	
LZH					pmax	pmax			
	comp=Z,20nm,1.4s								
GTA	Gaotai	53.89	290	⇑	P	P	15 05 12.8	+0.8	
GTA					pP	sP	15 05 22.3	+1.7	
GTA					sP	pwP	15 05 26.3	+1.4	
GTA					PcP	PcP	15 06 18.8	+1.5	
GTA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
GTA					pmax	pmax			
	comp=Z,160nm,6.9s								
GTA					LR	LR			
	comp=Z,200nm,17.1s								
GTA					LR	LR			
	comp=Z,240nm,17.1s								
GTA					LR	LR			
	comp=Z,170nm,19.6s								
OGNE	Ogallala	54.02	67		P		15 05 14.2		
	baz=309								
BJO1	Bjornoya	54.26	353	*e*	P	P	15 05 13.6	-0.4	
TUC	Tucson	54.30	81		P		15 05

baz=313
E38A The Farm, Brul 56.26 56 P **P** **15 05 28.0 -0.8**
E38A IAmb IAmb 15 05 28.3
comp=Z,14nm,0.6s
CBKS Cedar Bluff 56.74 68 P 15 05 33.1
baz=311,SNR=12
ZSN Zaisan 57.06 306 *e*P **P** **15 05 34.0 -0.6**
baz=306
ZSN Zaisan 57.06 306 *e*P **P** **15 05 34.0 -0.6**
CD2 Chengdu 57.09 280 *e*P **P** **15 05 32.0 -3.0**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
SEM Semipalatinsk 57.40 311 *e*P **P** **15 05 36.8 -0.5**
baz=311
SEM Semipalatinsk 57.40 311 *e*P **P** **15 05 36.7 -0.5**
HAMF Hammerfest 57.53 350 *e*P **P** **15 05 37.4 -0.1**
WMQ Urumqi 57.96 301 *e*P **P** **15 05 41.8 +0.8**
WMQ sP pwP 15 05 53.8 +0.6
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ pmax pmax
comp=Z,180nm,5.3s
WMQ LR LR
comp=Z,740nm,16.7s
WMQ LR LR
comp=Z,320nm,18.7s
WMQ LR LR
comp=Z,580nm,22.9s
KURBB Kurchatov Arra 58.08 312 P **P** **15 05 40.7 -0.9**
MNTX Cornudas Mount 58.08 78 P 15 05 43.5
baz=313,SNR=22
MSTX Muleshoe 58.15 74 P 15 05 44.0
baz=313,SNR=6.5
AMTX Amarillo 58.20 72 P 15 05 44.0
baz=313
ARA0 ARCESS Array S 58.37 349 *e*P **P** **15 05 43.0 -0.4**
ARCES ARCESS Array B 58.37 349 P **P** **15 05 42.6 -0.8**
comp=Z,9.8nm,0.7s,baz=22,slow=8.7,SNR=20
ARCES ARCESS Array B 58.37 349 P **P** **15 05 42.1 -1.3**
KSU1 Kansas State U 58.38 66 P 15 05 44.0
baz=312,SNR=8.0
SCIA State Center 58.44 61 P 15 05 45.0
baz=312
LVZ Lovozero 58.55 345 *ce*P **P** **15 05 44.3 -0.5**
LVZ pmax pmax
comp=Z,28nm,1.0s
MK31 Makanchi Array 58.81 307 *i* P **P** **15 05 45.7 -1.2**
MKAR Makanchi Array 58.81 307 P **P** **15 05 46.3 -0.6**
comp=Z,1.7nm,0.7s,baz=52,slow=7.9,SNR=14
MKAR pP **pwP** **15 05 59.8 +0.6**
comp=Z,2.4nm,0.6s,baz=60,slow=7.2,SNR=14
MKAR LR LR 15 32 15.8
comp=Z,232nm,19.5s,baz=30,slow=37
MKAR Makanchi Array 58.81 307 *ce*P **P** **15 05 48.5 +1.6**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
JETT Jettan, Norway 58.91 351 *e*P **P** **15 05 46.8 -0.5**
MAKZ Makanchi 58.97 307 P **P** **15 05 47.2 -0.7**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 58.97 307 P **P** **15 05 47.2 -0.7**
TRO Tromso 58.98 352 *e*P **P** **15 05 47.0 -0.6**
KTK1 Kautokeino 59.13 350 *e*P **P** **15 05 48.3 -0.4**
WMOK Wichita Mounta 60.04 71 IAmb IAmb 15 05 57.7
comp=Z,14nm,0.9s
WMOK Wichita Mounta 60.05 71 P 15 05 56.4
baz=313,SNR=12
BRVK Borovoye 60.06 318 P **P** **15 05 55.5 +0.1**
BRVK Borovoye 60.06 318 P **P** **15 05 55.4 0.0**
BRVK IAmb IAmb 15 06 09.6
comp=Z,12nm,0.7s
E46A Sault Ste Mari 60.15 52 P **P** **15 05 54.9 -1.1**
TXAR Lajitas Array 60.78 79 P **P** **15 06 01.9 +1.1**
comp=Z,6.4nm,0.7s,baz=301,slow=4.6,SNR=72
TXAR Lajitas Array 60.78 79 P **P** **15 06 02.0 +1.2**
TXAR Lajitas Array 60.78 79 P **P** **15 06 02.0 +1.2**
LOF Lofoten 60.90 353 *e*P **P** **15 06 00.2 -0.6**
ABTX Abilene, Hawle 60.98 73 P 15 06 03.7
baz=314,SNR=8.7
MATQ Matagami 60.98 46 P 15 05 60.0
baz=315
TUL1 Leonard 61.02 68 P 15 06 02.9
baz=314,SNR=5.9
BRZS Berezniki 61.22 315 *e*P **P** **15 06 02.9 -0.4**
baz=315
BRZS Berezniki 61.22 315 *e*P **P** **15 06 02.9 -0.4**
S39A Bolivar 61.23 65 IAmb IAmb 15 06 03.0
comp=Z,15nm,0.8s
N2TV TVrnvik 61.33 353 *e*P **P** **15 06 03.9 +0.2**
N2VA Vr_y 61.42 354 *e*P **P** **15 06 04.4 +0.1**
R40A Maddies Statio 61.42 64 IAmb IAmb 15 06 04.7
comp=Z,25nm,0.9s
N2ST Straumen 61.50 352 *e*P **P** **15 06 05.2 +0.3**
HDIL Hopedale 61.53 60 P 15 06 05.3
baz=314
PRGR Permogore 61.71 336 *e*P **P** **15 06 05.8 -0.6**
PRGR *e**PP **sP** **15 06 17.1 +2.4**
PRGR pmax pmax
comp=Z,22nm,0.9s
NBB28 Valnes 61.75 353 *e*P **P** **15 06 06.4 -0.1**
KMI Kunming 61.77 276 ⇑P **P** **15 06 08.0 +0.4**
KMI pP sP 15 06 15.8 +0.3
KMI pmax pmax
comp=Z,9.0nm,0.8s
JAY Jayapura 61.85 223 LR LR 15 29 30.5
comp=Z,97nm,18.8s,baz=35,slow=33
HNR Honiara 61.92 200 LR LR 15 27 10.4
comp=Z,110nm,21.1s,baz=74,slow=30
TDK Taldyqorghan 62.02 308 *e*P **P** **15 06 08.5 -0.3**
baz=308
TDK Taldyqorghan 62.02 308 *e*P **P** **15 06 08.5 -0.3**
ARU Arti 62.06 327 *c i*P **P** **15 06 09.0 +0.2**
ARU 15 06 47.1
ARU S **S** **15 14 33.1 +1.4**
ARU SS **SS** **15 18 34.9 +1.3**
ARU pmax pmax
comp=Z,19nm,1.6s
ARU MLR MLR
comp=Z,272nm,19.0s
ARU Arti 62.06 327 P **P** **15 06 10.0 +1.2**
ARU IAmb IAmb 15 06 23.4
comp=Z,12nm,0.6s
CCM Cathedral Cave 62.17 63 P **P** **15 06 09.3 -0.6**
CCM pmax pmax
comp=Z,18nm,1.1s
CCM Cathedral Cave 62.17 63 P **P** **15 06 09.3 -0.6**
CCM IAmb IAmb 15 06 10.8
comp=Z,18nm,1.1s
CCM Cathedral Cave 62.17 63 P 15 06 09.3
baz=314
VLDQ Val d'Or 62.24 47 IAmb IAmb 15 06 08.0
comp=Z,8.4nm,0.8s
JCT Junction City 62.37 75 P 15 06 13.0
baz=315,SNR=6.3
U40A Yellville 62.43 66 P 15 06 11.2
baz=314,SNR=36
W39A Magazine 62.69 67 P 15 06 13.7
baz=314,SNR=15
WHTX Lake Whitney, 62.74 72 P 15 06 15.2
baz=315,SNR=5.1
MOR8 Moi Rana 62.76 353 *e*P **P** **15 06 11.8 -1.6**
SHLS Shalkode 62.78 306 *e*P **P** **15 06 11.7 -2.3**
baz=305
SHLS Shalkode 62.78 306 *e*P **P** **15 06 11.6 -2.4**
SFIN Lafayette 62.85 59 P 15 06 14.5
baz=315,SNR=6.2
KPKS Kokpek 62.96 306 *e*P **P** **15 06 14.5 -0.7**
baz=306
KPKS Kokpek 62.96 306 *e*P **P** **15 06 14.5 -0.7**
T42A Van Buren 62.97 64 IAmb IAmb 15 06 15.0
comp=Z,20nm,0.8s
MIAR Mount Ida 63.27 68 P **P** **15 06 17.5 +0.2**
MIAR pmax pmax
comp=Z,45nm,0.9s
MIAR Mount Ida 63.27 68 P **P** **15 06 17.5 +0.2**
MIAR Mount Ida 63.27 68 P 15 06 18.0
baz=315,SNR=19
SATY Saty 63.39 306 *e*P **P** **15 06 17.5 -0.7**
baz=306
SATY Saty 63.39 306 *e*P **P** **15 06 17.4 -0.7**
PBMO Poplar Bluff 63.52 64 P **P** **15 06 17.9 -1.0**
S44A Carbondale 63.54 62 IAmb IAmb 15 06 20.0
comp=Z,29nm,0.9s
CHKK Chushkaly 63.55 308 *e*P **P** **15 06 17.9 -1.1**
baz=307
CHKK Chushkaly 63.55 308 *e*P **P** **15 06 17.9 -1.1**

W41B Gary Mavity, V 63.60 66 P 15 06 19.6
baz=315,SNR=19
LCAR Lake Charles 63.61 65 P **P** **15 06 18.7 -0.8**
LCAR IAmb IAmb 15 06 19.5
comp=Z,27nm,0.9s
X40A Basin Creek Fa 63.74 67 P 15 06 21.2
baz=315,SNR=12
KUU Kurty 63.84 308 *e*P **P** **15 06 20.2 -0.7**
baz=308
KUU Kurty 63.84 308 *e*P **P** **15 06 20.2 -0.7**
KLMR Klimovskoe 63.88 339 *e*P **P** **15 06 18.6 -2.2**
KLMR pmax pmax
comp=Z,40nm,1.1s
KLMR Klimovskoe 63.88 339 *e*P **P** **15 06 18.6 -2.2**
KLMR AMP 15 06 22.2
comp=Z,40nm,1.1s
KLMR LQ LQ 15 29 06.8
KLMR LQ LQ 15 29 06.8
KLMR LR LR 15 34 57.8
D55A Sainte-Anne-du 63.96 47 P 15 06 20.1
baz=317,SNR=5.9
MDOK Medeo 64.01 307 *e*P **P** **15 06 21.7 -0.5**
baz=307
MDOK Medeo 64.01 307 *e*P **P** **15 06 21.7 -0.5**
AAA Alma-Ata 64.05 307 *e*P **P** **15 06 21.6 -0.7**
baz=307
AAA Alma-Ata 64.05 307 *e*P **P** **15 06 21.6 -0.7**
BTLS Baital 64.14 310 *e*P **P** **15 06 22.7 -0.2**
baz=310
BTLS Baital 64.14 310 *e*P **P** **15 06 22.6 -0.2**
D56A ZEC Mazanza, M 64.27 46 P 15 06 21.9
baz=318
P48A Milroy 64.41 59 P **P** **15 06 24.1 -0.6**
E56A St. Veronique 64.52 47 P 15 06 23.5
baz=318
P49A Miami Univ. Ec 64.74 58 P 15 06 26.0
baz=316
WCI Wyandotte Cave 64.81 60 P 15 06 27.5
baz=316
SIJI Sorong 64.89 233 LR LR 15 29 27.2
comp=Z,63nm,20.7s,baz=66,slow=31
LATQ La Tuque 64.92 45 P 15 06 26.6
baz=319
SGDS Sogindy 65.02 309 *e*P **P** **15 06 28.4 -0.3**
baz=308
SGDS Sogindy 65.02 309 *e*P **P** **15 06 28.3 -0.3**
D58A Chemin du LacG 65.09 45 P 15 06 27.6
baz=319
ACSO Alum Creek Sta 65.16 56 P 15 06 29.5
baz=316
HKT Hockley 65.17 73 *i* P **P** **15 06 30.4 +0.7**
HKT pmax pmax
comp=Z,14nm,1.0s
L53A Girard 65.33 53 P 15 06 30.5
baz=317
ERPA Erie 65.35 53 P 15 06 30.8
baz=317
E58A La Victoria 65.45 46 P 15 06 29.9
baz=319
WVT Waverly 65.46 63 P **P** **15 06 31.7 +0.2**
WVT pmax pmax
comp=Z,30nm,0.9s
WVT Waverly 65.46 63 P **P** **15 06 31.7 +0.2**
WVT Waverly 65.46 63 P 15 06 31.7
baz=316
M53A WI Miller and 65.49 54 P 15 06 31.5
baz=317
PMG Port Moresby 65.58 214 LR LR 15 32 59.7
comp=Z,106nm,19.0s,baz=84,slow=34
AAK Ala-Archa 65.68 308 P **P** **15 06 33.3 +0.2**
AAK Ala-Archa 65.68 308 P **P** **15 06 32.6 -0.5**
AAK IAmb IAmb 15 06 48.7
comp=Z,10nm,1.1s
LSA Lhasa 65.71 288 IAmb IAmb 15 06 49.6
comp=Z,12nm,0.7s
OXF Oxford 65.72 65 P 15 06 33.5
baz=316,SNR=13
FINES FINESS Array B 65.94 346 P **P** **15 06 33.7 -0.5**
comp=Z,17nm,0.7s,baz=27,slow=7.9,SNR=41
FINES FINESS Array B 65.94 346 P **P** **15 06 33.5 -0.8**
M54A Oil Creek Stat 65.96 53 P 15 06 34.7
baz=317
P52A Corning 66.05 56 P 15 06 34.8
baz=317
F59A Saint Guilaume 66.07 46 P 15 06 34.2
baz=319
O53A New Philadelph 66.08 55 P 15 06 35.1
baz=317
D60A Saint Jean D'O 66.11 44 P 15 06 34.3
baz=320
N54A Moraine State 66.20 54 P 15 06 35.9
baz=317
D61A St Aubert, Com 66.21 44 P 15 06 35.4
baz=320
K56A Middlesex 66.26 51 P 15 06 36.7
baz=318,SNR=5.6
J57A Williamstown 66.39 50 P 15 06 36.8
baz=318
L56A Greenwood 66.56 52 P 15 06 38.5
baz=318,SNR=12
K57A Scipio Center 66.64 51 P 15 06 38.7
baz=318
M56A Emporium 66.73 53 IAmb IAmb 15 06 40.0
comp=Z,15nm,0.8s
M56A Emporium 66.73 53 P 15 06 39.5
baz=318
MOL Molde 66.80 355 *e*P **P** **15 06 39.2 -0.4**
Q53A Leroy 66.94 57 P 15 06 41.3
baz=317,SNR=6.6
AKTO Aktyubinsk 67.01 323 P **P** **15 06 41.6 +0.3**
L57A Andrews Acres 67.02 51 P 15 06 41.3
baz=318
J59A Piesco 67.06 49 P 15 06 40.6
baz=319
X48A Hartselle 67.11 63 IAmb IAmb 15 06 43.2
comp=Z,15nm,1.0s
I59A Olmsteadville 67.11 48 P 15 06 40.9
baz=319
AB31 Akbulak array 67.19 321 *i* P **P** **15 06 44.2 +1.7**
ABKAR Akbulak array 67.19 321 P **P** **15 06 43.1 +0.7**
ABKAR Akbulak array 67.19 321 IAmb IAmb 15 07 00.6
comp=Z,14nm,1.2s
KSH Kashi 67.22 305 P **P** **15 06 47.5 +4.5**
KSH sP pwP 15 06 59.3 +3.9
KSH pmax pmax
comp=Z,13nm,0.5s
KSH pmax pmax
comp=Z,360nm,4.4s
DOMB Dombas 67.24 354 *e*P **P** **15 06 42.5 0.0**
KK31 Karatay Array 67.29 311 *i* P **P** **15 06 43.3 +0.1**
KKAR Karatay Array 67.29 311 P **P** **15 06 43.3 +0.1**
KKAR Karatay Array 67.29 311 P **P** **15 06 43.3 +0.1**
M57A Sunshine Farm, 67.37 52 P **P** **15 06 43.4 -0.3**
M57A Sunshine Farm, 67.37 52 P 15 06 43.6
baz=318
L58A Harry Jones Me 67.48 51 P 15 06 43.9
baz=319
SSPA Standing Stone 67.51 53 P 15 06 44.4
baz=318
G62A West of Eustis 67.58 45 P 15 06 44.1
baz=320
N57A Milroy 67.59 53 P 15 06 45.0
baz=318
R54A Victor 67.72 57 P 15 06 45.7
baz=318
J60A Lant Hill Farm 67.75 48 P 15 06 45.0
baz=320
H62A Milan 67.79 46 P 15 06 45.5
baz=320
CPCT Cooper Cave 67.80 61 IAmb IAmb 15 06 48.6
comp=Z,42nm,1.4s
P56A Dayton Farm, R 67.86 54 P 15 06 47.1
baz=318
N58A Sunbury 67.95 52 P 15 06 47.1
baz=319
O57A Amberson 67.96 53 P 15 06 46.9
baz=318
V52A Sevierville 68.03 60 IAmb IAmb 15 06 49.0
comp=Z,29nm,1.1s
AAL Aland 68.03 348 *e*P **P** **15 06 46.1 -1.4**
M59A Waymart 68.06 51 P 15 06 47.7
baz=319
NB2 NORSAR Subarra 68.08 353 P **P** **15 06 47.3 -0.6**
comp=Z,30nm,1.0s,baz=8.4,slow=6.5
NB2 NORSAR Subarra 68.08 353 P **P** **15 06 47.3 -0.6**
baz=8.4,slow=6.5
NOA NORSAR Array B 68.08 353 P **P** **15 06 47.5 -0.5**
comp=Z,13nm,0.9s,baz=9.3,slow=6.4,SNR=37
NOA pP **pwP** **15 07 01.7 +1.4**
comp=Z,7.2nm,0.8s,baz=2.7,slow=5.5,SNR=17
LRAL Lakeview Retre 68.17 64 P 15 06 48.4
baz=317
IUG luzhnay 68.25 310 *e*P **P** **15 06 49.0 -0.4**
baz=310
IUG luzhnay 68.25 310 *e*P **P** **15 06 49.0 -0.4**
HYA Hoyanger 68.27 356 *e*P **P** **15 06 49.1 +0.1**
NC602 NORSAR Array S 68.36 353 *e*P **P** **15 06 49.6 0.0**
N59A State Game Lan 68.36 52 P 15 06 49.7
baz=319
O58A Lewisberry 68.38 53 P 15 06 49.6
baz=319
U54A Nelsons Funny 68.50 58 P 15 06 51.3
baz=318
V53A Saluda 68.58 60 P **P** **15 06 51.6 +0.1**
V53A IAmb IAmb 15 06 53.3
comp=Z,26nm,1.1s
M60A Port Jervis 68.62 51 P 15 06 51.1
baz=320
UPP Uppsala 68.63 349 *e*P **P** **15 06 51.0 -0.2**
SKAR Skarslia 68.64 355 *e*P **P** **15 06 51.6 +0.1**
VSU Vasula 68.66 344 *e*P **P** **15 06 50.4 -1.1**
VSU Vasula 68.66 344 *i* P **P** **15 06 50.5 -1.0**
VSU pmax pmax
comp=Z,79nm,0.9s
N60A Cedar Hill Far 68.73 51 P 15 06 52.1
baz=319
S56A Natural Bridge 68.84 56 P 15 06 53.2
baz=318
Q58A Fox Den Farm, 68.88 54 P 15 06 53.0
baz=319
MTSE Matsula 68.90 346 *e*P **P** **15 06 49.4 -3.6**
MOS Moscow 68.90 337 *e*P **P** **15 06 52.1 -0.9**
R57A Stanardsville 68.93 55 P 15 06 53.7
baz=319
O60A Telford 69.00 52 P 15 06 53.8
baz=319
BG3 Lake Jocassee 69.02 60 P **P** **15 06 54.3 +0.1**
P59A Jarrettsville 69.02 53 P 15 06 54.0
baz=319
CMAR Chiang Mai Arr 69.03 274 P **P** **15 06 54.6 +0.2**
comp=Z,1.0nm,0.8s,baz=34,slow=6.3,SNR=7.5
CMAR LR LR 15 41 13.3
comp=Z,51nm,18.4s,baz=48,slow=39
R58A Rapidan 69.20 55 P 15 06 55.1
baz=319
OSL Oslo 69.21 353 *e*P **P** **15 06 55.3 +0.4**
V55A Taylorsville 69.32 59 IAmb IAmb 15 06 56.7
comp=Z,20nm,0.8s
H66A Whiting 69.35 44 P 15 06 55.3
baz=322
U56A King 69.40 58 P 15 06 56.5
baz=318
TAPN Taplejung 69.49 288 *e*P **P** **15 06 58.0 +0.4**
comp=Z,29nm,0.9s
R58B Mineral 69.52 55 P 15 06 57.1
baz=319
KONO Kongsberg 69.58 354 *ce*P **P** **15 06 57.1 -0.1**
KONO pmax pmax
comp=Z,31nm,1.7s
KONO Kongsberg 69.58 354 P **P** **15 06 57.4 +0.2**
KONO IAmb IAmb 15 06 58.3
comp=Z,26nm,1.0s
KONO Kongsberg 69.58 354 *e*P **P** **15 06 57.4 +0.2**
S58A Poland Farm, P 69.69 55 P 15 06 58.3
baz=319
OBN Obninsk 69.73 338 *ce*P **P** **15 06 58.8 +0.7**
OBN pmax pmax
comp=Z,32nm,1.3s
OBN MLR MLR
comp=Z,293nm,18.0s
V56A Mocksville 69.74 58 P 15 06 58.7
baz=319,SNR=5.3
KMSC Kings Mountain 69.78 59 P 15 06 59.1
baz=318,SNR=9.6
GOGA Godfrey 69.89 62 IAmb IAmb 15 07 00.6
comp=Z,22nm,0.9s
GOGA Godfrey 69.89 62 P 15 06 59.4
baz=316,SNR=5.4
U57A Blanch 69.90 57 P 15 06 59.4
baz=319
BLS5 Blasjo 70.00 355 *e*P **P** **15 07 00.1 +0.3**
ODAN Odare 70.04 288 *e*P **P** **15 07 01.6 +0.7**
comp=Z,12nm,0.8s
JIRN Jiri 70.18 290 *e*P **P** **15 07 02.5 +0.6**
comp=Z,33nm,0.7s
GUN Gumba 70.18 290 *e*P **P** **15 07 02.4 +0.6**
comp=Z,35nm,0.7s
W56A Indian Trail 70.20 59 P 15 07 01.4
baz=319
RAMN Ramite 70.45 289 *e*P **P** **15 07 03.8 +0.4**
comp=Z,40nm,0.6s
W57A Gilead 70.50 58 P **P** **15 07 03.0 -0.2**
W57A IAmb IAmb 15 07 04.0
comp=Z,26nm,0.9s
KKN Kakani 70.63 290 *e*P **P** **15 07 05.1 +0.7**
comp=Z,17nm,0.6s
BIRD Birdtown, Kers 70.63 59 P **P** **15 07 04.4 +0.4**
BIRD IAmb IAmb 15 07 05.0
comp=Z,23nm,0.8s
PKI Pulchoki 70.71 290 *e*P **P** **15 07 05.3 +0.2**
PKIN Phulchoki 70.71 290 *e*P **P** **15 07 05.3 +0.3**
comp=Z,12nm,0.6s
GKN Gorkha 70.85 291 *e*P **P** **15 07 06.2 +0.5**
comp=Z,30nm,0.8s
DMN Daman 70.86 290 *e*P **P** **15 07 06.4 +0.5**
comp=Z,16nm,0.8s
V59A Middlesex 70.98 57 P 15 07 06.3
baz=319,SNR=5.6
HOMB Homborsund 71.03 354 *e*P **P** **15 07 06.5 +0.5**
V60A Jim Taylor Roa 71.50 56 P 15 07 09.6
baz=320
ISAL Salakas 71.51 344 *e*P **P** **15 07 09.0 0.0**
IDID Didziasalis 71.64 343 *e*P **P** **15 07 10.0 +0.1**
IIGN Ignalina 71.70 343 *e*P **P** **15 07 10.4 +0.2**
PABE Paberze 71.95 345 *e*P **P** **15 07 11.8 +0.2**
NACGM Naroch 72.03 343 *i* P **P** **15 07 12.3 +0.2**
NACGM *i* P **P** **15 07 12.3 +0.2**
NACGM *i* P **P** **15 07 12.3 +0.2**
NACGM *i* Pb **pP** **15 07 14.1 -4.3**
comp=Z,25nm,0.7s
NACGM *i* PP **PP** **15 09 50.2 -1.3**
NACGM *i* PPP PPP 15 11 41.8
NACGM *i* S **S** **15 16 37.1 +5.3**
NACGM *i* SS **SS** **15 21 17.8 +10**
NACGM *i* SSS SSS 15 24 36.7
NACGM *i* LQ LQ 15 33 13.1
NACGM *i* LR LR 15 39 52.4
MNK Minsk 72.20 342 *i* P **P** **15 07 14.2 +1.0**
comp=E,6.0nm,0.8s
MNK *i* P **P** **15 07 14.2 +1.0**
comp=N,36nm,1.3s
MNK *i* P **P** **15 07 14.2 +1.0**
comp=Z,39nm,0.8s
MNK *i* PP **PP** **15 09 57.6 +4.6**
MNK *i* PPP PPP 15 11 42.6
MNK *i* S **S** **15 16 37.9 +4.1**
MNK *i* SS SS 15 21 24.6 +14
MNK *i* SSS SSS 15 24 46.0
MNK *i* LQ LQ 15 34 35.9
MNK *i* LR LR 15 38 58.6
MNK *i* LRM MLR 15 40 45.2
comp=E,27nm,18.2s
MNK *i* LRM MLR 15 40 46.5
comp=Z,374nm,33.8s
MNK *i* LRM MLR 15 40 49.1
comp=N,410nm,30.6s
NIL Nilore 73.07 303 P **P** **15 07 19.9 +1.1**
NIL pmax pmax
comp=Z,34nm,1.0s
NIL Nilore 73.07 303 P **P** **15 07 19.9 +1.1**
NIL IAmb IAmb 15 07 34.2
comp=Z,34nm,1.0s
DZM Mont Dzumac 73.18 191 LR LR 15 32 10.2
comp=Z,133nm,22.0s,baz=41,slow=30
DZM Mont Dzumac 73.18 191 *e*LR LR 15 29 47.4
comp=Z,275nm,22.7s
PPT Papeete 73.74 148 LR LR 15 36 18.5
comp=Z,100nm,19.8s,baz=326,slow=33
PPT2 Papeete2 73.76 148 *e*LR LR 15 29 42.0
comp=Z,284nm,31.2s
RAR Rarotonga 74.27 158 LR LR 15 38 00.0
comp=Z,71nm,18.6s,baz=306,slow=34
BSEG Bad Segeberg 75.20 352 *e*P **P** **15 07 31.5 +0.7**

comp=Z,30nm,1.0s,baz=10.0,slow=5.6
AKASG **Malin Array Be** **75.50 340** P **P** **15 07 32.4 -0.2**
comp=Z,19nm,0.7s,baz=24,slow=6.1,SNR=37
AKASG pP **pwP** **15 07 46.4 +1.5**
comp=Z,4.9nm,0.5s,baz=22,slow=6.3,SNR=7.5
AKBB Malin Array Si **75.50 340** *ceP* **P** **15 07 32.7 +0.1**
AKBB Malin Array Si **75.50 340** IAmb IAmb 15 07 34.0
comp=Z,22nm,1.0s
GOF Gofitskoye **76.91 329**⇑ *eP* **P** **15 07 42.4 +1.7**
GOF pmax pmax
comp=Z,38nm,1.1s
IBBN Ibbenburen **77.01 354** *eP* **P** **15 07 41.8 +0.7**
comp=Z,61nm,1.2s,baz=10.0,slow=5.6
GEYT Alibeck **77.15 315** P **P** **15 07 43.4 +1.2**
comp=Z,2.3nm,0.8s,baz=26,slow=11,SNR=4.2
GEYT LR LR 15 44 29.9
comp=Z,181nm,20.0s,baz=40,slow=38
CLZ Clausthal **77.27 352** *eP* **P** **15 07 43.2 +0.5**
comp=Z,25nm,1.1s,baz=10.0,slow=5.6
LVV L'vov **77.39 343** *eP* **P** **15 07 44.4 +1.1**
CLL Collm **77.55 350** *iP* **P** **15 07 43.7 -0.4**
comp=Z,9.0nm,1.0s
CLL Collm **77.55 350** *iP* **P** **15 07 43.7 -0.4**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm **77.55 350** *eP* **P** **15 07 43.7 -0.4**
comp=Z,8.8nm,1.0s,baz=10.0,slow=5.6
OJC Ojcow **77.72 346** *eP* **P** **15 07 45.7 +0.5**
BRG Berggiesshubel **77.87 350** *eP* **P** **15 07 45.8 -0.1**
BRG Amp 15 07 47.8
comp=Z,7.2nm,1.4s
BRG Berggiesshubel **77.87 350** *eP* **P** **15 07 45.8 -0.1**
comp=Z,25nm,1.7s,baz=10.0,slow=5.6
OSTC Ostas **77.91 348** *eP* **P** **15 07 46.6 +0.4**
KIV Kislovodsk **78.00 329**⇑ P 15 07 53.1 +6.1
KIV Kislovodsk **78.00 329** *eP* **P** **15 07 47.1 +0.1**
KIV pmax pmax
comp=Z,24nm,1.0s
DPC Dobruska-Polom **78.09 348** *eP* **P** **15 07 47.9 +0.6**
DPC *e* 15 08 01.3
DPC Dobruska-Polom **78.09 348** *eP* **P** **15 07 47.9 +0.6**
DPC *es*P **pwP** **15 08 01.3 +1.7**
NCK Nalchik **78.11 328** *iP* **P** **15 07 48.4 +0.9**
NCK pmax pmax
comp=Z,14nm,1.1s
KBZ Khabaz **78.14 328** P **P** **15 07 48.4 +0.8**
comp=Z,2.3nm,0.6s,baz=30,slow=3.6,SNR=6.7
KBZ Khabaz **78.14 328** *ceP* **P** **15 07 46.9 -0.6**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
SHA1 Shidzhatmaz **78.21 329** *iP* **P** **15 07 48.0 -0.3**
KRLC Kraliky **78.30 348** *eP* **P** **15 07 48.8 +0.3**
KRLC *e* 15 08 02.4
KRLC Kraliky **78.30 348** *eP* **P** **15 07 48.8 +0.3**
KRLC *es*P **pwP** **15 08 02.4 +1.6**
MOX Moxa **78.34 351** *eP* **P** **15 07 48.6 0.0**
comp=Z,8.1nm,0.8s,baz=10.0,slow=5.6
MOX *e*L L 15 45 12.6
comp=Z,100nm,18.9s
TANN Tannenbergstha **78.48 351** *eP* **P** **15 07 49.8 +0.3**
comp=Z,22nm,1.8s,baz=10.0,slow=5.6
MORC Moravsky Berou **78.49 347**⇑P **P** **15 07 49.9 +0.4**
MORC Moravsky Berou **78.49 347** *eP* **P** **15 07 49.8 +0.4**
GUNZ Gunzen **78.55 351** *eP* **P** **15 07 49.9 +0.1**
baz=10.0,slow=5.6
KOLS Kolonicke sedl **78.56 344** *eP* **P** **15 07 50.7 +0.9**
KOLS pmax pmax
comp=Z,15nm,0.9s
KOLS Kolonicke sedl **78.56 344** *eP* **P** **15 07 50.7 +0.9**
WERN Wernitzgruen **78.62 351** *eP* **P** **15 07 50.5 +0.3**
comp=Z,15nm,1.0s,baz=10.0,slow=5.6
NEY Neytrino **78.62 328** *iP* **P** **15 07 50.0 -0.5**
NEY pmax pmax
comp=Z,2.0nm,0.8s
ZEI Tsey **78.63 327** *eP* **P** **15 07 50.8 +0.2**
ZEI pmax pmax
comp=Z,34nm,1.4s
NKC Novy Kostel **78.67 351** *eP* **P** **15 07 50.6 +0.2**
NKC Novy Kostel **78.67 351** *eP* **P** **15 07 50.6 +0.2**
PRU Pruhonice **78.67 349** *eP* **P** **15 07 50.8 +0.4**
PRU Pruhonice **78.67 349** *eP* **P** **15 07 50.8 +0.4**
CRVS Cervenica-Dubn **78.73 344** *eP* **P** **15 07 52.0 +1.2**
CRVS pmax pmax
comp=Z,20nm,1.1s
CRVS Cervenica-Dubn **78.73 344** *eP* **P** **15 07 52.0 +1.2**
LANS Liptovska Anna **78.81 346** *eP* **P** **15 07 53.2 +1.9**
LANS pmax pmax
comp=Z,16nm,1.1s
LANS Liptovska Anna **78.81 346** *eP* **P** **15 07 53.2 +1.9**
MEM Membach **78.81 355** *dP* **P** **15 07 51.5 +0.3**
AHRW Bad Neuenahr-A **78.82 354** *eP* **P** **15 07 51.8 +0.6**
comp=Z,18nm,0.8s,baz=10.0,slow=5.6
BTNL Ternell **78.83 355** *dP* **P** **15 07 50.7 -0.6**
UZH Uzhgorod **78.85 344** *eP* **P** **15 07 52.0 +0.6**
UZH *e* 15 08 00.1
MANZ Manzenberg **78.94 351** *eP* **P** **15 07 52.1 +0.1**
comp=Z,12nm,1.3s,baz=10.0,slow=5.6
SNF Seneffe **79.00 356** *dP* **P** **15 07 52.9 +0.7**
TNS Taunus Mts **79.04 353** *eP* **P** **15 07 52.6 +0.1**
comp=Z,12nm,0.8s,baz=10.0,slow=5.6
TNS *e*L L 15 45 35.8
comp=Z,102nm,20.5s
VRAC Vranov **79.08 348**⇑P **P** **15 07 53.0 +0.3**
VRAC Vranov **79.08 348** *eP* **P** **15 07 53.4 +0.7**
ROTZ Rotzenmuhle **79.15 351** *eP* **P** **15 07 53.6 +0.5**
comp=Z,9.4nm,1.1s,baz=10.0,slow=5.6
TBI Tubuai **79.16 150** *e*LR LR 15 32 16.5
comp=Z,166nm,31.8s
BMRD Maredsous **79.19 356** *dP* **P** **15 07 53.5 +0.3**
BUR08 Bucovina Ar. S **79.25 342** P **P** **15 07 54.4 +0.6**
BUR08 IAmb IAmb 15 07 56.5
comp=Z,23nm,1.0s
BURAR Bucovina Array **79.27 342**⇑P **P** **15 07 55.1 +1.2**
BURAR Bucovina Array **79.27 342** P **P** **15 07 54.7 +0.8**
BURAR IAmb IAmb 15 07 56.4
comp=Z,21nm,0.7s
SOC Sochi **79.29 330** *eP* **P** **15 07 53.0 -0.9**
SOC *e* 15 10 48.7
SOC *e*PPP PPP 15 12 42.8
SOC *e*S **S** **15 17 50.3 -2.2**
SOC *e*SS **SS** **15 23 05.4 +7.3**
KECS Kecovo **79.30 345** *eP* **P** **15 07 55.0 +1.1**
KECS Kecovo **79.30 345** *eP* **P** **15 07 55.0 +1.1**
GRF Grafenberg Arr **79.32 351** *eP* **P** **15 07 54.5 +0.4**
comp=Z,37nm,1.5s,baz=10.0,slow=5.6
GRF *e*L L 15 46 03.7
comp=Z,115nm,19.3s
KRUC Moravsky **79.35 348** *eP* **P** **15 07 54.4 +0.3**
JAVC Velka Javorina **79.37 347** *eP* **P** **15 07 55.9 +1.6**
DOU Dourbes **79.40 356** *dP* **P** **15 07 54.5 +0.1**
VYHS Vyhne **79.55 346** *eP* **P** **15 07 56.1 +0.8**
VYHS Vyhne **79.55 346** *eP* **P** **15 07 56.1 +0.8**
KHC Kasperske Hory **79.63 350** *eP* **P** **15 07 56.3 +0.6**
KHC *e* 15 08 10.3
KHC Kasperske Hory **79.63 350** *eP* **P** **15 07 56.3 +0.6**
KHC *es*P **pwP** **15 08 10.3 +2.2**
WET Wettzell **79.69 350** *eP* **P** **15 07 56.2 +0.1**
comp=Z,8.8nm,1.3s,baz=10.0,slow=5.6
RAO Raoul Island **79.70 176** LR LR 15 36 25.7
comp=Z,117nm,21.7s,baz=104,slow=30
BIZ Bicaz **79.73 341** ⇓P **P** **15 07 57.8 +1.5**
CKRC Cesky Krumlov **79.85 349** *eP* **P** **15 07 57.7 +0.8**
GERES GERESS Array B **79.90 350** P **P** **15 07 57.4 +0.1**
comp=Z,2.4nm,0.8s,baz=32,slow=5.2,SNR=19
GERES GERESS Array B **79.90 350** P **P** **15 07 57.2 0.0**
MODS Modra-Piesok **79.90 347** *eP* **P** **15 07 58.6 +1.4**
MODS pmax pmax
comp=Z,19nm,1.2s
MODS Modra-Piesok **79.90 347** *eP* **P** **15 07 58.6 +1.4**
PSZ Piszkesteto **79.94 345**⇑P **P** **15 07 58.9 +1.4**
AKH Akhalkalaki **79.99 327**⇑P P 15 08 03.9 +5.9
TESR Tescani **80.03 340**⇑P **P** **15 07 58.8 +0.9**
ZST Bratislava **80.10 347** *eP* **P** **15 07 59.8 +1.6**
ZST pmax pmax
comp=Z,45nm,0.9s
ZST Bratislava **80.10 347** *eP* **P** **15 07 59.8 +1.6**
WRAB Tennant Creek **80.13 221** *iP* **P** **15 08 01.4 +2.8**
WRAB pmax pmax
comp=Z,9.0nm,1.2s
WRA Warramunga Arr **80.14 221** P **P** **15 07 58.2 -0.5**
comp=Z,0.8nm,0.8s,baz=34,slow=6.3,SNR=7.0
WRA pP **pwP** **15 08 12.5 +0.5**
comp=Z,5.6nm,1.0s,baz=34,slow=5.9,SNR=17
CONA Conrad Observa **80.53 348** *eP* **P** **15 08 01.6 +0.9**
comp=Z,8.8nm,0.8s
DRGR **80.54 343** ⇓P **P** **15 08 01.6 +0.9**
VRI Vrincioaia **80.62 340**⇑P **P** **15 08 02.4 +1.3**
GNI Garni **80.67 326** *ceP* **P** **15 08 02.4 +0.8**
GNI pmax pmax
comp=Z,13nm,1.3s
MOA Molln **80.81 349** *eP* **P** **15 08 04.5 +2.4**
comp=Z,5.1nm,1.1s
CFR Carcaliu **80.96 339**⇑P **P** **15 08 04.7 +1.8**
MLR Muntele Rosu **81.15 340**⇑P **P** **15 08 05.4 +1.3**
ARSA Arzberg **81.24 348** *eP* **P** **15 08 05.0 +0.6**
comp=Z,6.7nm,0.7s
VOIR **81.39 341** ⇓P **P** **15 08 06.6 +1.3**
HARR Harsova **81.47 339**⇑P **P** **15 08 06.8 +1.2**
ARR Arges **81.54 341**⇑P **P** **15 08 07.7 +1.6**
RETA Reutte **81.55 351** *eP* **P** **15 08 06.5 +0.4**
comp=Z,9.9nm,1.1s
WATA Walderalm **81.62 351** *iP* **P** **15 08 07.2 +0.6**
comp=Z,31nm,1.1s,SNR=7.2
MOTA Moosalm **81.66 351** *iP* **P** **15 08 07.3 +0.5**
comp=Z,18nm,1.0s,SNR=5.1
KBA Koelnbreinsper **81.68 349** *iP* **P** **15 08 08.2 +1.2**
comp=Z,32nm,0.7s,SNR=11
WTTA Wattenberg **81.69 351** *iP* **P** **15 08 07.7 +0.8**
comp=Z,22nm,0.8s,SNR=6.7
SQTA Sankt Quirin **81.77 351** *iP* **P** **15 08 08.2 +0.8**
comp=Z,22nm,1.2s,SNR=5.3
DAVA Damuels **81.83 352** *eP* **P** **15 08 07.7 0.0**
comp=Z,7.5nm,1.0s
SOKA Soboth **81.87 348** *iP* **P** **15 08 08.7 +0.9**
comp=Z,42nm,1.5s,SNR=7.5
BZS Buzias **81.88 343** ⇓P **P** **15 08 08.8 +1.0**
GZR Gura Zlata **81.88 343**⇑P **P** **15 08 08.4 +0.5**
FETA Feichten **82.02 351** *iP* **P** **15 08 09.5 +0.9**
comp=Z,16nm,1.0s,SNR=6.4
MYKA Terra Mystica **82.09 349** *eP* **P** **15 08 10.3 +1.3**
comp=Z,11nm,1.0s
OBKA Obir **82.09 349** *eP* **P** **15 08 10.0 +1.0**
comp=Z,12nm,0.8s
ABTA Abfaltersbach **82.10 350** *iP* **P** **15 08 09.6 +0.6**
comp=Z,21nm,1.1s,SNR=6.2
HERR Herculane **82.44 343**⇑P **P** **15 08 11.6 +0.9**
HYB Hyderabad **82.50 288** *iP* **P** **15 08 11.0 -0.5**
HYB *e* 15 08 24.5
FRGS Fruska Gora **82.64 345**⇑P **P** **15 08 12.8 +1.1**
MDVR Moldovita **82.67 343**⇑P **P** **15 08 12.2 +0.2**
PLVB Pleven **83.44 341**⇑P **P** **15 08 16.5 +0.6**
TEOL Teolo **83.56 350** P **P** **15 08 14.9 -1.6**
DIVS Divibare **83.64 344** P **P** **15 08 16.4 -0.6**
DIVS IAmb IAmb 15 08 19.0
comp=Z,11nm,0.9s
ASAR Alice Springs **83.64 220** P **P** **15 08 17.1 0.0**
comp=Z,0.6nm,0.7s,baz=22,slow=5.6,SNR=8.4
ASAR pP **pwP** **15 08 31.4 +1.0**
comp=Z,3.9nm,0.8s,baz=20,slow=5.3,SNR=24
ASAR LR LR 15 40 41.1
comp=Z,83nm,21.1s,baz=16,slow=32
BOVS Bovan **83.78 343**⇑P **P** **15 08 18.2 +0.6**
VTS Vitosha **84.46 342** ⇓P **P** **15 08 21.7 +0.3**
BRTR Keskin Array B **84.65 333** P **P** **15 08 23.1 +0.7**
comp=Z,3.9nm,0.7s,baz=53,slow=3.2,SNR=19
BRTR LR LR 15 50 10.6
comp=Z,37nm,18.8s,baz=18,slow=38
BRTR Keskin Array B **84.65 333** P **P** **15 08 22.9 +0.5**
PDG Podgorica **85.38 344**⇑P **P** **15 08 25.9 +0.1**
MURB Monte Urbino **85.54 349** P **P** **15 08 27.2 +0.6**
NRCA Norcia **85.89 349** P **P** **15 08 28.9 +0.5**
POLO Lamas de Olo **88.15 4** *eP* **P** **15 08 39.2 -0.2**
comp=Z,11nm,1.8s
PVRL Vila Real **88.25 4** *eP* **P** **15 08 39.4 -0.4**
comp=Z,30nm,1.5s
STKA Stephens Creek **88.29 210** LR LR 15 43 38.5
comp=Z,119nm,21.8s,baz=22,slow=32
MVO Moncorvo **88.39 4** *eP* **P** **15 08 40.3 -0.2**
comp=Z,24nm,1.3s
URZ Urewera **88.61 181** LR LR 15 41 46.7
comp=Z,97nm,21.5s,baz=31,slow=31
PVIS Viseu **88.80 4** *eP* **P** **15 08 42.5 +0.1**
comp=Z,12nm,3.2s
MTE Manteigas **89.13 4** *eP* **P** **15 08 43.9 -0.1**
comp=Z,24nm,1.8s
PCAS Casmilo, Conde **89.43 5** *eP* **P** **15 08 41.7 -3.6**
comp=Z,24nm,1.6s
PCBR Castelo Branco **89.69 4** *eP* **P** **15 08 46.0 -0.6**
comp=Z,15nm,1.2s
ESDC Sonseca Array **89.97 1** P **P** **15 08 47.2 -0.8**
comp=Z,1.8nm,0.8s,baz=346,slow=4.6,SNR=10
ESDC Sonseca Array **89.97 1** IAmb IAmb 15 08 48.1
comp=Z,10nm,1.1s
PBAR Barrancos **91.37 4** *eP* **P** **15 08 54.0 -0.4**
comp=Z,14nm,1.8s
TORD Torodi Ar. Bea **116.32 356** PKP **PKPdf** **15 14 30.5 -1.9**
comp=Z,0.3nm,0.5s,baz=353,slow=2.9,SNR=2.1
MAW Mawson **144.72 217** PKP **PKPab** **15 15 21.9 -0.9**
comp=Z,5.1nm,0.7s,baz=121,slow=10,SNR=3.6
MAW Mawson **144.72 217** PKPdf **PKiKP** **15 15 27.3 -0.3**
BOSA Boshof **149.82 307** PKPbc **PKPbc** **15 15 39.0 +0.4**
comp=Z,2.4nm,0.6s,baz=17,slow=0.8,SNR=6.4
BOSA Boshof **149.82 307** PKP2 **PKPbc** **15 15 39.0 +0.4**
SYO Syowa Base **153.04 212** ⇓*e*PKPbc **PKiKP** **15 15 46.4 +1.7**
SYO Syowa Base **153.04 212** ⇓*ep*PKPbc **PKPab** **15 15 54.1 -2.1**

*VIE **27** 15:01:14.8±0.1, 46.10N×14.44E, h6km±1km, mb1.5/2, ml2.0/6, Error ellipse: s-maj=1.2km s-min=0.9km az=169.0*
6 km NW of Ljubljana
LJU 27 15:01:14.5, 46.09N×14.45E, h15km, ML1.7, 5C-1D,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LJU	**Ljubljana**	**0.07**	**133**	*i*	Pg	15 01 18.2	+0.7
LJU				*i*	Sg	15 01 20.2	+0.7
LJU					IAML	15 01 20.5	
	comp=Z,208nm,0.1s						
CRNS	**Crni Vrh**	**0.13**	**265**⇑	*i*	Pg	15 01 18.8	0.0
CRNS				*i*	Sg	15 01 21.3	-0.3
CRNS					IAML	15 01 21.7	
	comp=Z,258nm,0.1s						
GBAS	**Gorenja Brezov**	**0.16**	**182**⇑	*i*	Pg	15 01 18.9	-0.2
GBAS				*i*	Sg	15 01 21.6	+0.3
GBAS					IAML	15 01 21.9	
	comp=Z,93nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.17**	**87**⇑	*i*	Pg	15 01 19.6	+0.1
VNDS				*i*	Sg	15 01 22.3	-0.4
MOZS	**Mozjanca**	**0.20**	**358**	*i*	Pg	15 01 20.0	+0.1
MOZS				*i*	Sg	15 01 22.6	+0.2
MOZS					IAML	15 01 23.9	
	comp=Z,21nm,0.0s						
JAVS	**Javornik**	**0.34**	**234**	*i*	Pg	15 01 21.6	+0.1
JAVS				*i*	Sg	15 01 26.4	+0.2
JAVS					IAML	15 01 27.7	
	comp=Z,8.4nm,0.1s						
CEY	**Cerknica**	**0.35**	**183**	*i*	Pg	15 01 22.0	+0.3
CEY				*i*	Sg	15 01 26.8	+0.1
CEY					IAML	15 01 28.5	
	comp=Z,17nm,0.1s						
PDKS	**Podkum**	**0.38**	**95**⇑	*i*	Pg	15 01 23.0	0.0
PDKS				*i*	Sg	15 01 28.2	-0.6
PDKS					IAML	15 01 30.1	
	comp=Z,63nm,0.1s						
GORS	**Gorjuse**	**0.39**	**305**	*i*	Pg	15 01 22.6	+0.2
GORS				*i*	Sg	15 01 28.3	+0.5
VISS	**Visnje**	**0.40**	**137**	⇓*i*	Pg	15 01 22.9	-0.3
VISS				*i*	Sg	15 01 28.1	+0.1
VISS					IAML	15 01 31.0	
	comp=Z,33nm,0.1s						
VOJS	**Vojsko**	**0.40**	**261**	*i*	Pg	15 01 22.7	0.0
VOJS				*i*	Sg	15 01 28.8	-0.5
VOJS					IAML	15 01 29.9	
	comp=Z,7.0nm,0.1s						
OBKA	**Obir**	**0.42**	**9**	*e*	Pg	15 01 23.5	-0.2
	comp=Z,15nm,0.2s,SNR=24						
OBKA				*e*	Sg	15 01 29.6	-0.4
	comp=Z,20nm,0.1s						
CADS	**Cadrg**	**0.52**	**285**	*i*	Pg	15 01 24.5	-0.2
CADS				*i*	Sg	15 01 32.2	-0.4
CADS					IAML	15 01 36.0	
	comp=Z,27nm,0.2s						
DRE	**Drenchia**	**0.57**	**278**	*e*	Pg	15 01 25.6	-0.2
DRE				*e*	Sg	15 01 33.8	-0.3
GBRS	**Gornja Briga**	**0.61**	**156**	*i*	Pg	15 01 27.0	+0.1
LEGS	**Legarje**	**0.62**	**103**	*i*	Pg	15 01 27.1	+0.1
LEGS				*i*	Sg	15 01 35.3	-0.3
SKDS	**Skadanscina**	**0.63**	**209**	*i*	Pg	15 01 26.4	-0.4
ROBS	**Robic**	**0.67**	**283**	*i*	Pg	15 01 27.3	-0.3
ROBS				*i*	Sg	15 01 37.2	+0.1
ROBS					IAML	15 01 39.4	
	comp=Z,6.7nm,0.1s						
PRED	**Cave del Predi**	**0.71**	**300**	*e*	Pg	15 01 28.3	0.0
PRED				*e*	Sg	15 01 38.4	+0.3
DOBS	**Dobrina**	**0.71**	**85**	*i*	Pg	15 01 28.4	+0.1
DOBS					IAML	15 01 42.7	
	comp=Z,14nm,0.1s						
SOKA	**Soboth**	**0.71**	**34**	*e*	Pg	15 01 28.6	-0.1
	comp=Z,0.9nm,0.1s						
SOKA				*e*	Sg	15 01 38.0	+0.2
	comp=Z,4.4nm,0.1s						
PERS	**Pernice**	**0.71**	**40**	*i*	Pg	15 01 28.6	0.0
PERS				*i*	Sg	15 01 37.6	-0.3
PERS					IAML	15 01 38.7	
	comp=Z,12nm,0.1s						
BISS	**Bistriski jare**	**0.73**	**40**	*i*	Pg	15 01 28.9	+0.1
BISS				*i*	Sg	15 01 38.3	0.0
BISS					IAML	15 01 39.3	
	comp=Z,31nm,0.1s						
CRES	**Cresnjev**	**0.75**	**110**	*e*	Pg	15 01 29.5	+0.3
CRES				*i*	Sg	15 01 38.9	-0.1
CRES					IAML	15 01 41.8	
	comp=Z,6.7nm,0.1s						
RIY	**Rijeka**	**0.77**	**178**	*e*	Pg	15 01 29.2	-0.2
RIY					Sg	15 01 40.0	+0.2
MYKA	**Terra Mystica**	**0.78**	**314**	*e*	Pg	15 01 29.8	0.0
	comp=Z,6.2nm,0.2s,SNR=9.6						
MYKA				*e*	Sg	15 01 40.6	+0.4
	comp=Z,2.0nm,0.1s						
ACOM	**Acomizza, Ital**	**0.79**	**305**	*e*	Pg	15 01 30.3	+0.2
BOJS	**Bojanci**	**0.81**	**136**	*i*	Pg	15 01 30.3	0.0
BOJS				*i*	Sg	15 01 40.8	-0.2
BOJS					IAML	15 01 45.7	
	comp=Z,12nm,0.2s						
GOLS	**Golise**	**0.82**	**95**	*i*	Pg	15 01 30.6	+0.2
GOLS				*i*	Sg	15 01 42.3	+0.9
GOLS					IAML	15 01 47.3	
	comp=Z,8.9nm,0.1s						
GCIS	**Gornji Cirnik**	**0.85**	**105**	*i*	Pg	15 01 31.4	+0.4
GCIS				*i*	Sg	15 01 43.1	+0.9
GCIS					IAML	15 01 45.1	
	comp=Z,3.8nm,0.1s						
PTJ	**Puntijarka**	**1.07**	**99**	*e*	Pg	15 01 35.4	+0.2
PTJ					Sg	15 01 48.7	0.0
KBA	**Koelnbreinsper**	**1.25**	**323**	*e*	Pn	15 01 38.7	+0.2
	comp=Z,0.2nm,0.1s,SNR=4.3						
KBA				*e*	Sg	15 01 55.6	+0.8
	comp=Z,1.7nm,0.2s						
ARSA	**Arzberg**	**1.37**	**32**	*e*	Pn	15 01 40.6	-0.3
	comp=Z,1.8nm,0.3s						
ARSA				*e*	Sn	15 01 57.1	0.0
	comp=Z,0.9nm,0.2s						
ABTA	**Abfaltersbach**	**1.49**	**297**	*e*	Pn	15 01 42.1	+0.1
	comp=Z,0.5nm,0.2s						
ABTA				*e*	Sn	15 02 02.9	+0.3
	comp=Z,1.5nm,0.2s						
NVLJ	**Novalja**	**1.56**	**169**	*e*	Pn	15 01 43.1	+0.1
NVLJ					Sn	15 02 05.3	+0.6
DUGI	**Dugi Otok**	**2.15**	**168**	*e*	Pn	15 01 50.9	+1.2
MORI	**Morici**	**2.40**	**158**	*e*	Pn	15 01 56.2	-1.1

LJU 27 15:06:01.0, 46.09N×14.44E, h15km, ML0.7, 1C,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LJU	**Ljubljana**	**0.08**	**126**	*i*	Pg	15 06 04.3	+0.3
CRNS	**Crni Vrh**	**0.12**	**266**⇑	*i*	Pg	15 06 04.9	-0.3
CRNS				*i*	Sg	15 06 07.4	+0.5
CRNS					IAML	15 06 07.8	
	comp=Z,15nm,0.1s						
GBAS	**Gorenja Brezov**	**0.15**	**179**	*i*	Pg	15 06 05.1	+0.1
GBAS				*i*	Sg	15 06 07.7	+0.1
GBAS					IAML	15 06 08.4	
	comp=Z,5.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.18**	**86**	*i*	Pg	15 06 05.7	+0.3
VNDS				*i*	Sg	15 06 08.5	+0.2
VNDS					IAML	15 06 08.8	
	comp=Z,2.4nm,0.1s						
GORS	**Gorjuse**	**0.38**	**307**	*i*	Pg	15 06 08.9	+0.1
GORS				*i*	Sg	15 06 14.4	+0.3
GORS					IAML	15 06 15.2	
	comp=Z,2.5nm,0.1s						
VISS	**Visnje**	**0.40**	**135**	*i*	Pg	15 06 09.1	0.0

IDC 27 15:25:33.0±21.0, 21.82N×143.60E, h91km±150km,
mb2.9/5, mb1 3.0/5, mb1mx2.9/54, mbtmp3.2/5, Error
ellipse: s-maj=365.0km s-min=22.3km az=76.0, Mariana
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.66**	**322**	P	P	15 30 05.5	+0.2
	0.5nm,0.5s,baz=135,slow=12,SNR=1.9						
H11S3	**WAKE ISLAND Hy**	**21.92**	**95**	T	T	15 53 44.7	
	baz=283,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**21.93**	**95**	T	T	15 53 49.4	
	baz=283,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**21.93**	**95**	T	T	15 53 44.4	
	baz=283,slow=75,SNR=16						
SONM	**Songino Array**	**39.50**	**320**	P	P	15 32 51.3	-3.5
	0.2nm,0.5s,baz=112,slow=6.4,SNR=1.4						
WRA	**Warramunga Arr**	**42.48**	**193**	P	P	15 33 19.5	+0.2
	0.3nm,0.7s,baz=16,slow=8.8,SNR=1.7						
ASAR	**Alice Springs**	**46.18**	**192**	P	P	15 33 48.5	-0.3
	0.2nm,0.6s,baz=16,slow=13,SNR=6.9						
ZALV	**Zalesovo Beam**	**54.36**	**322**	P	P	15 34 50.0	-0.2
	0.2nm,0.3s,baz=121,slow=6.5,SNR=5.0						
MKAR	**Makanchi Array**	**54.91**	**313**	P	P	15 34 54.3	0.0
	0.2nm,0.5s,baz=88,slow=8.8,SNR=1.4						

IDC 27 15:30:27.0±27.0, 22.00S×174.11W, h0km, mb4.2/4,
mb1 4.4/4, mb1mx3.8/50, mbtmp4.2/4, Error ellipse:
s-maj=505.5km s-min=156.9km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.97**	**265**	P	P	15 37 39.1	+0.7
	5.0nm,0.4s,baz=95,slow=11,SNR=12						
STKA	**Stephens Creek**	**40.46**	**246**	P	P	15 38 06.6	-1.0
	0.8nm,0.5s,baz=86,slow=14,SNR=1.9						
ASAR	**Alice Springs**	**47.72**	**258**	P	P	15 39 05.7	-0.4
	1.4nm,0.6s,baz=95,slow=7.7,SNR=57						
WRA	**Warramunga Arr**	**47.99**	**263**	P	P	15 39 08.0	-0.1
	2.0nm,0.3s,baz=97,slow=8.4,SNR=67						

*ANF **27** 15:36:56.5±0.1, 33.92N×116.03W, h9km±1km, ML3.6/33,*
Error ellipse: s-maj=1.3km s-min=1.1km az=135.0,
Hypocentre not reviewed by the ISC
*IDC **27** 15:36:56.4±0.8, 33.90N×115.97W, h0km, mb1 3.7/4,*
mb1mx3.4/46, mbtmp3.3/4, ML3.6/4, Error ellipse:
s-maj=11.9km s-min=6.3km az=130.0
*SCEDC **27** 15:36:57.5, 33.93N×116.03W, h2km, Hypocentre not*
reviewed by the ISC
*PAS **27** 15:36:57.5±1.3, 33.930N±0.010×116.03W±0.01,*
h2km±5km, ML3.7/209, ML3.3/68(NEIC), Error ellipse:
s-maj=1.4km s-min=1.3km az=46.0
*NEIC **27** 15:36:57.1±0.9, 33.93N±0.01×116.04W±0.01, h16km±1km,*
Error ellipse: s-maj=1.7km s-min=1.5km az=53.0
ISC 27 15:36:57.6±0.8, 33.92N±0.02×116.03W±0.02, h17km±6km,
n127, σ1.524/167, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BELC	**Belle Mtn. Jos**	**0.08**	**19**		**Pg**	**15 37 00.7**	**-0.6**
BELC	**Belle Mtn. Jos**	**0.08**	**19**	P		15 36 58.8	
	baz=202,SNR=1000						
BELC				S		15 37 00.7	
	baz=202						
TPC	**Twentynine Pal**	**0.18**	**355**		**Pg**	**15 37 00.9**	**-1.5**
CTCC	**Cactus City**	**0.27**	**173**		**Pg**	**15 37 03.0**	**-0.6**
CTCC					**Sg**	**15 37 07.6**	**-0.1**
CTW	**Cottonwood Mou**	**0.28**	**152**		**Pg**	**15 37 03.1**	**-0.7**
CTW					**Sg**	**

HAY Sg 15 37 10.4 +0.1
PMD Palm Desert 0.40 227 Pg 15 37 05.0 -0.9
PMD Sg 15 37 10.5 -0.9
DEVC Devers 0.46 272 Pg 15 37 06.6 -0.3
DEVC Sg 15 37 13.2 0.0
GTM Goat Mountain 0.46 324 Pg 15 37 06.4 -0.6
GTM Sg 15 37 12.7 -0.6
XPFO Pion Flat 0.47 229 Pg 15 37 06.3 -1.0
XPFO Sg 15 37 12.9 -0.8
XPFO Pion Flat 0.47 229 Pg Pg 15 37 05.8 -1.4
PFO Pinyon Flats O 0.47 229 Pg Pg 15 37 06.6 -0.6
80nm,0.3s,baz=38,slow=18,SNR=721
PFO Lg Lg 15 37 12.7
193nm,0.3s,baz=128,slow=24,SNR=37
PFO Pinyon Flats O 0.47 229 Pg Pg 15 37 06.3 -0.9
PFO Pinyon Flats O 0.47 229 Pg 15 37 06.3 -0.9
PFO Sg 15 37 13.0 -0.7
PFO Pinyon Flats O 0.47 229 P 15 37 06.1
baz=48,SNR=171
PFO S 15 37 13.0
baz=48
BC3 Big Chuckawall 0.55 119 Pg 15 37 08.1 -0.5
BC3 Big Chuckawall 0.55 119 P 15 37 08.1
baz=300,SNR=1000
BC3 S 15 37 16.1
baz=300
GVDA Garner Valley 0.59 245 Pg 15 37 08.6 -0.9
GVDA Sg 15 37 16.7 -0.8
SNDA J Saunders Pla 0.61 233 Pg 15 37 09.0 -0.8
SNDA Sg 15 37 17.4 -0.6
DNR Dunn Ranch,Anz 0.61 235 Pg 15 37 09.3 -0.5
DNR Sg 15 37 17.7 -0.4
FRK Frink 0.61 148 Pg 15 37 09.2 -0.5
FRD Ford Ranch, An 0.64 228 Pg 15 37 09.5 -0.8
FRD Sg 15 37 18.2 -0.7
FRD Ford Ranch, An 0.64 228 Pg 15 37 09.5 -0.8
FRD Sg 15 37 18.3 -0.6
SALN Salton City 0.64 177 Pg 15 37 10.1 -0.2
SALN Sb 15 37 19.7 +0.7
BZNA Buzz No.'s Pla 0.68 231 Pg 15 37 10.4 -0.8
BZNA Sg 15 37 19.7 -0.6
CRY Cary Ranch 0.69 239 Pg 15 37 10.4 -0.8
CRY Sg 15 37 19.7 -0.8
BORC Borrego Spring 0.73 206 Pg 15 37 11.2 -0.8
BORC Sg 15 37 21.2 -0.4
SLH Sleepy Hollow 0.75 194 Pg 15 37 11.8 -0.6
SLH Sg 15 37 22.6 +0.2
IRM Iron Mountain 0.77 72 Pg 15 37 11.8 -0.9
IRM Sg 15 37 22.4 -0.6
IRM Iron Mountain 0.77 72 P 15 37 11.8
baz=253,SNR=408
IRM S 15 37 22.5
baz=253
POB Polly Butte 0.78 253 Pg 15 37 12.1 -0.8
POB Sg 15 37 22.5 -0.7
BBSC Beaumont Base 0.79 270 Pg 15 37 12.6 -0.5
BBSC Sb 15 37 23.8 +0.4
BBRC Big Bear Solar 0.81 295 Pg 15 37 13.0 -0.6
BBRC Sg 15 37 24.2 -0.2
BBRC Big Bear Solar 0.81 295 P 15 37 13.0
baz=114,SNR=141
BBRC S 15 37 24.2
baz=114
ERRC Elmore Ranch 0.82 168 Pg 15 37 13.5 -0.2
ERRC Sb 15 37 25.8 +1.6
HMTC Hemet 0.84 255 Pg 15 37 13.1 -0.9
HMTC Sg 15 37 24.2 -0.9
DGR Domenigoni Val 0.86 252 Pg 15 37 13.5 -0.9
DGR Sg 15 37 24.7 -1.1
BTL Butler Peak 0.87 293 Pg 15 37 14.1 -0.6
MATG Mataguay Scout 0.89 216 Pg 15 37 14.1 -0.8
MATG Sg 15 37 26.2 -0.4
DANC Danby, Needles 0.89 37 Pg 15 37 14.2 -0.9
BACC Bachelor Mtn. 0.90 250 Pg 15 37 14.2 -0.9
BACC Sg 15 37 25.8 -1.1
PLM Palomar 0.90 231 Pg 15 37 14.3 -0.8
PLM Sg 15 37 26.3 -0.7
CFT Crafton Hills 0.91 277 Pg 15 37 14.5 -0.8
GMRC Granite Mounta 0.91 20 Pg 15 37 14.3 -1.1
GMRC Sg 15 37 26.4 -1.1
GMRC Granite Mounta 0.91 20 P 15 37 14.1
baz=200,SNR=1000
GMRC S 15 37 26.7
baz=200
HEC Hector,Ludlow 0.94 344 Pg 15 37 14.9 -1.0
HEC Hector,Ludlow 0.94 344 P 15 37 14.9
baz=164,SNR=564
PEC Perris 0.94 268 Pg 15 37 15.0 -1.0
PEC Sg 15 37 27.6 -0.8
SWSC Sam W. Stewart 0.99 169 Pg 15 37 15.5 -1.5
SWSC Sam W. Stewart 0.99 169 P 15 37 15.4
baz=349,SNR=54
SWSC S 15 37 28.6
baz=349
MURC Murrieta 1.02 252 Pg 15 37 16.4 -1.1
MURC Sg 15 37 29.7 -1.2
MURC Murrieta 1.02 252 P 15 37 16.3
baz=71,SNR=94
MURC S 15 37 29.7
baz=71
CRR Carrizo Plain 1.03 177 Pg 15 37 16.1 -1.6
CBKC Canebrake 1.04 190 Pg 15 37 16.3 -1.5
CFSC Central Fire S 1.06 280 Pg 15 37 17.3 -0.8
RSBC Riverside Bore 1.08 273 Pg 15 37 17.3 -1.3
RSBC Riverside Bore 1.08 273 Pg 15 37 17.4 -1.2
RSBC Sg 15 37 31.7 -1.0
MONP2 Monument Peak 1.08 198 Pg 15 37 17.2 -1.4
MONP2 Sg 15 37 32.0 -0.8
MONP2 Monument Peak 1.08 198 P 15 37 17.3
baz=17,SNR=277
MONP2 S 15 37 32.0
baz=17
SME Santa Rosa Min 1.11 265 Pg 15 37 17.7 -1.4
RVR Riverside 1.12 274 Pg 15 37 18.1 -1.2
RVR Sg 15 37 32.8 -1.2
CSP Cedar Springs 1.16 289 Pg 15 37 19.1 -1.1
HWB Hans Werner Br 1.19 221 Pg 15 37 19.1 -1.5
HWB Sg 15 37 34.8 -1.2
DPP Dos Picos Cty 1.20 220 Pg 15 37 19.3 -1.4
DPP Sg 15 37 35.1 -1.3
ELS Elsinore Mount 1.20 257 Pg 15 37 19.2 -1.5
ELS Sg 15 37 34.7 -1.8
DSCC Desert Studies 1.22 357 Pg 15 37 19.6 -1.6
EML El Monte Cty P 1.23 214 Pg 15 37 19.6 -1.9
EML Sg 15 37 36.2 -1.5
RRX Edison Barstow 1.24 320 Pg 15 37 20.4 -1.2
RRX Edison Barstow 1.24 320 P 15 37 20.1
baz=140,SNR=37
RRX S 15 37 37.3
baz=140
VTV Victorville 1.25 301 Pg 15 37 20.7 -1.1
VTV Sg 15 37 36.8 -1.4
SS2 San Sevaine 1.25 283 Pg 15 37 20.8 -1.0
GORC Green Oak Ranc 1.26 233 Pg 15 37 20.0 -2.0
GORC Sg 15 37 36.5 -2.0
BLYC Blythe 1.27 97 Pg 15 37 20.1 -2.0
IKP In-Ko-Pah, Jac 1.27 183 Pg 15 37 19.7 -2.5
IKP In-Ko-Pah, Jac 1.27 183 P 15 37 19.7
baz=2.9,SNR=61
YUH Yuha Desert 1.27 176 Pg 15 37 19.5 -2.8
MLSC Mira Loma 1.28 274 Sg 15 37 37.8 -1.2
RUN Ruthven 1.29 137 Pg 15 37 19.9 -2.7
COA Coachella 1.30 144 Pg 15 37 20.0 -2.7
RMX La Rumorosa 1.32 182 Pg 15 37 21.4 -1.7
RMX IAML 15 37 41.8
comp=E,358nm,0.5s
ADO Adelanto Recei 1.32 299 Pg 15 37 22.3 -0.8
GLA Glamis 1.33 131 Pg 15 37 20.7 -2.6
GLA Glamis 1.33 131 IAML 15 37 41.4
comp=N,796nm,0.7s
GLA Glamis 1.33 131 P 15 37 20.7
baz=312,SNR=173
GLA S 15 37 40.2
baz=312
BAR Barrett 1.35 204 Pn 15 37 21.3 -0.4
BAR Barrett 1.35 204 IAML 15 37 41.2
comp=E,543nm,0.2s
BAR IAML 15 37 41.2
comp=N,634nm,0.2s
109C Camp Elliot, M 1.37 221 Pn **Pn 15 37 21.9 0.0**
109C Camp Elliot, M 1.37 221 P 15 37 22.3
baz=40,SNR=25
109C S 15 37 40.1
baz=40
CPE Camp Elliot 1.37 221 Pn 15 37 22.3 +0.4
CHNC Chino 1.37 274 Pn 15 37 22.9 +0.9
BFSC Mount Baldy Ra 1.39 284 Pn 15 37 22.9 +0.6
BFSC Mount Baldy Ra 1.39 284 P 15 37 22.5
baz=102,SNR=184
BFSC S 15 37 41.6
baz=102
SDRC San Diego Road 1.41 213 Pn 15 37 22.2 -0.3
SSK Sunset Peak 1.41 282 Pn 15 37 23.4 +0.7
TKX Tecate 1.44 200 Pn 15 37 23.8 +1.0
TKX IAML 15 37 43.8
comp=E,686nm,0.2s
TKX IAML 15 37 44.7
comp=N,454nm,0.2s
NEE2 Needles Airpor 1.44 54 Pn 15 37 22.6 -0.3
NEE2 Needles Airpor 1.44 54 P 15 37 22.6
baz=235,SNR=101
NEE2 S 15 37 43.2
baz=235
PSRC Puddingstone R 1.49 277 Pn 15 37 24.5 +1.0
TUQ Turquoise Moun 1.51 3 Pn 15 37 23.8 -0.2
OLP Otay Lakes Par 1.51 210 Pn 15 37 24.7 +0.8
GSC Goldstone, Bar 1.52 335 Pn **Pn 15 37 23.9 -0.1**
GSC IAML 15 37 47.9
comp=N,612nm,0.4s
GSC Goldstone, Bar 1.52 335 P 15 37 24.0
baz=155,SNR=206
GSC S 15 37 45.9
baz=155
HYS Haystack Butte 1.58 307 Pn 15 37 25.7 +0.8
MTPC Mountain Pass 1.61 14 Pn 15 37 25.3 0.0
MTPC Pb 15 37 27.6 +0.6
PDMCI Parker Dam,Lak 1.61 76 Pb 15 37 26.9
baz=257,SNR=158
TJX Tijuana 1.65 212 Pn 15 37 27.6 +1.8
SBB Saddle Back Bu 1.67 298 Pn 15 37 27.3 +1.1
JNH Juniper Hills 1.68 289 Pn 15 37 27.2 +0.9
CBX Cerro Bola 1.69 198 Pn 15 37 26.6 +0.1
CBX IAML 15 37 52.7
comp=E,330nm,0.7s
CBX IAML 15 37 53.3
comp=N,273nm,0.6s
CHFC Chilao Flat St 1.71 284 Pn 15 37 28.2 +1.5
MWC Mount Wilson 1.71 281 Pn 15 37 28.4 +1.6
PASC Pasadena Art C 1.81 278 Pn 15 37 29.2 +1.2
PASC IAML 15 37 55.8
comp=E,383nm,0.4s
PASC IAML 15 37 56.2
comp=N,330nm,0.7s
EDW2 Edwards Air Fo 1.88 301 P 15 37 29.2
baz=120,SNR=306
EDW2 Sb 15 37 56.3
baz=120
ESJX Sierra Juarez 1.92 178 Pn 15 37 29.5 -0.1
CCCA Chr Cany lake 1.94 326 Pn 15 37 30.5 +0.7
DECC Green Verdugo 1.94 280 Pb 15 37 32.4
baz=99,SNR=21
DECC Sb 15 37 58.4
baz=99
SHOC Shoshone, Teco 1.98 354 P 15 37 30.5
baz=174,SNR=120
SHOC Sb 15 37 60.0
baz=174
CIS Catalina Islan 2.06 256 Pb 15 37 34.1
baz=74,SNR=13
LRMC Laurel Mtn Rad 2.06 319 P 15 37 31.6
baz=138,SNR=50
LRMC Sb 15 38 02.3
baz=138
W13A Hualapai Mount 2.12 56 Pn Pn 15 37 32.2 -0.3
OSI Osito Audit: C 2.33 288 Pb 15 37 39.1 -0.1
OSI IAML 15 38 20.0
comp=N,298nm,0.8s
OSI IAML 15 38 23.3
comp=E,284nm,0.9s
OSI Osito Audit: C 2.33 288 Pb 15 37 39.5
baz=106,SNR=25
MPMC Manual Prospec 2.44 331 P 15 37 36.9
baz=150,SNR=42
MPMC Sb 15 38 13.9
baz=150
ARVC Arvin 2.60 298 Pg 15 37 45.3
baz=117,SNR=9.4
FURC Furnace Creek, 2.63 345 P 15 37 39.6
baz=165,SNR=14
FURC Sb 15 38 20.2
baz=165
ISA Isabella, Lake 2.66 311 Pn **Pn 15 37 39.9 +0.2**
ISA IAML 15 38 24.3
comp=E,221nm,0.9s
ISA IAML 15 38 26.3
comp=N,116nm,0.7s
ISA Isabella, Lake 2.66 311 Pg 15 37 46.2
baz=130,SNR=32
ISA Sb 15 38 20.6
baz=130
SHPR Sheep Range 2.67 15 Pn Pn 15 37 40.6 +0.5
TPNV Topopah Spring 3.02 357 Pn Pn 15 37 45.9 +1.0
TPNV IAML 15 38 37.7
comp=N,141nm,0.5s
TPNV IAML 15 38 39.7
comp=N,123nm,1.0s
TPNV Topopah Spring 3.02 357 P 15 37 45.8
baz=177,SNR=26
GRAC Grapevine Rang 3.25 341 P 15 37 49.1
baz=160,SNR=40
214A Organ Pipe Nat 3.34 125 Pn 15 37 48.5 -0.6
214A IAML 15 38 56.6
comp=E,68nm,0.9s
214A IAML 15 38 59.5
comp=N,57nm,1.0s
214A Organ Pipe Nat 3.34 125 P 15 37 48.5
baz=307,SNR=6.7
PRN Pahroc Range 3.57 13 Pn **Pn 15 37 53.5 +1.3**
PRN IAML 15 38 42.6
comp=N,106nm,0.6s
LCMT Little Creek M 3.83 36 Pn 15 37 57.0 +1.1
LCMT IAML 15 39 14.3
comp=E,35nm,0.7s
KNB Kanab 4.05 39 Pn **Pn 15 38 00.3 +1.4**
CCUT Cedar City 4.22 30 Pn 15 38 02.7 +1.4
CCUT IAML 15 39 23.0
comp=E,23nm,1.9s
R11A Troy Canyon, C 4.43 5 Pn 15 38 05.4 +1.2
R11A Troy Canyon, C 4.43 5 Pn 15 38 05.1
baz=185
R11A Pg 15 38 20.1
baz=185
MDPB Devils Postpil 4.45 327 Pn **Pn 15 38 07.2 +2.6**
MDPB IAML 15 39 27.1
comp=E,28nm,0.6s
MDPB IAML 15 39 30.8
comp=N,22nm,1.1s
PKCU Pink Cliffs 4.64 40 Pn Pn 15 38 08.2 +1.1
TUC Tucson 4.69 109 Pn **Pn 15 38 06.8 -0.8**
TUC Tucson 4.69 109 P 15 38 06.7
baz=292
LHV Little Huntoon 4.76 336 Pn 15 38 10.4 +1.9
LHV IAML 15 39 36.2
comp=E,36nm,2.5s
LHV IAML 15 39 44.2
comp=N,29nm,2.1s
NV11 Mina Array Sit 4.82 340 Pn 15 38 11.0 +1.6
NV11 IAML 15 39 52.7
comp=E,15nm,4.7s
NVAR Mina Array Bea 4.86 338 Pn **Pn 15 38 11.8 +1.7**
comp=E,1.9nm,0.3s,baz=162,slow=15,SNR=29
NVAR Pg **Pg 15 38 27.4 -3.3**
comp=E,1.5nm,0.3s,baz=155,slow=17,SNR=9.8
NVAR Lg Lg 15 39 29.8
comp=E,0.5nm,0.3s,baz=158,slow=19,SNR=1.9
NVAR Mina Array Bea 4.86 338 Pn **Pn 15 38 11.0 +0.9**
PSUT Pine Spring 4.92 20 Pn **Pn 15 38 12.5 +1.4**
PSUT IAML 15 39 42.1
comp=N,30nm,0.8s
PSUT IAML 15 39 43.8
comp=E,30nm,0.8s
X18A Snowflake 5.07 81 Pn **Pn 15 38 14.9 +1.8**
RYN Ryan 5.11 338 Pn 15 38 15.0 +1.5
RYN IAML 15 39 46.0
comp=E,14nm,1.0s
KVN Kaiserville 5.38 343 Pn **Pn 15 38 19.0 +1.7**
KVN IAML 15 39 48.8
comp=E,13nm,1.1s
KVN IAML 15 39 54.9
comp=N,13nm,0.9s
ELK Elko 6.84 5 Pn **Pn 15 38 39.3 +2.0**
comp=N,0.3nm,0.3s,baz=196,slow=10,SNR=3.0
ELK Pg **Pg 15 39 05.5 -3.1**
comp=N,0.4nm,0.3s,baz=206,slow=13,SNR=11
ELK Lg Lg 15 40 31.9
comp=N,0.1nm,0.3s,baz=279,slow=19,SNR=2.0
P17A Butcher Ranch, 6.98 36 Lg 15 40 38.9
121A Cookes Peak, D 7.05 99 Pn **Pn 15 38 41.3 +1.2**
ANMO Albuquerque 7.97 80 Pg Pb 15 39 21.3 +5.9
comp=N,0.1nm,0.3s,baz=269,slow=15,SNR=4.6
ANMO Lg Lg 15 41 06.2
comp=N,0.2nm,0.3s,baz=158,slow=17,SNR=4.3
ANMO Albuquerque 7.97 80 Pn **Pn 15 38 53.9 +1.0**
PDAR Pinedale Array 10.18 28 Pn **Pn 15 39 27.4 +4.2**
comp=N,0.1nm,0.3s,baz=207,slow=13,SNR=5.4
TXAR Lajitas Array 11.48 110 Pn **Pn 15 39 42.6 +1.7**
comp=N,0.2nm,0.3s,baz=287,slow=12,SNR=13

KRSC 27 15:42:09.9±1.7, 50.41N×159.15E, h63km±22km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.56**	**335**	*eP*		**Pn**	15 42 37.2	+1.9
KDTR				*eS*		Sn	15 42 56.5	+1.9
PAU	**Pauzhetka**	**1.82**	**307**	*eP*		**Pn**	15 42 40.2	+1.3
PAU				*eS*		Sn	15 43 01.9	+1.0
RUS	**Russkaya**	**2.07**	**349**	*eP*		**Pn**	15 42 44.4	+2.2
RUS				*eS*		Sn	15 43 08.9	+2.0
ASAK	**Asacha**	**2.13**	**339**	*eP*		**Pn**	15 42 45.5	+2.4
ASAK				*eS*		Sn	15 43 11.0	+2.5
MTVR	**Mutnovka**	**2.17**	**344**	*eP*		**Pn**	15 42 46.1	+2.4
MTVR				*eS*		Sn	15 43 12.1	+2.6
GRL	**Gorelyy**	**2.25**	**343**	*eP*		**Pn**	15 42 47.7	+2.9
GRL				*eS*		Sn	15 43 14.2	+2.6
ALID	**Alaid**	**2.34**	**283**	*eP*		**Pn**	15 42 46.6	+0.6
KRMR	**Karymshinskiy**	**2.51**	**346**	*eP*		**Pn**	15 42 52.1	+3.9
KRMR				*eS*		Sn	15 43 22.5	+4.9
PET	**Petropavlovsk**	**2.64**	**353**	*eP*		**Pn**	15 42 52.6	+2.6
PET				*eS*		Sn	15 43 23.3	+2.5
DALK	**Dalny**	**2.64**	**355**	*eP*		**Pn**	15 42 52.4	+2.4
DALK				*eS*		Sn	15 43 22.8	+2.0
SPN	**Mys Shipunski**	**2.75**	**11**	*eP*		**Pn**	15 42 54.5	+3.0
SPN				*eS*		Sn	15 43 26.5	+3.0
APC	**Apacha**	**2.81**	**335**	*eP*		**Pn**	15 42 55.1	+2.8
UGLR	**Uglovaya**	**2.81**	**356**	*eP*		**Pn**	15 42 55.1	+2.6
SMAR	**Somma**	**2.87**	**356**	*eP*		**Pn**	15 42 56.0	+2.7
AVH	**Avacha**	**2.87**	**355**	*eP*		**Pn**	15 42 56.2	+2.9
SDLR	**Sedlovina**	**2.88**	**357**	*eP*		**Pn**	15 42 55.7	+2.3
KOK	**Koryaka**	**2.91**	**354**	*eP*		**Pn**	15 42 56.9	+3.1
KRER	**Koryakskii**	**2.91**	**355**	*eP*		**Pn**	15 42 58.1	+4.2
KRER				*eS*		Sn	15 43 32.2	+4.4
KRX	**Arik**	**2.97**	**354**	*eP*		**Pn**	15 42 57.4	+2.7
GNL	**Ganaly**	**3.38**	**348**	*eP*		**Pn**	15 43 03.4	+3.2
MKZ	**Mys Kozlova**	**4.45**	**20**	*eP*		**Pn**	15 43 17.2	+2.6
MKZ				*eS*		Sn	15 44 05.6	+0.6
KZV	**Kizimen**	**4.77**	**8**	*eP*		**Pn**	15 43 23.0	+3.8
KZV				*eS*		Sn	15 44 17.7	+4.3
TUMD	**Tumrok D**	**4.87**	**8**	*eP*		**Pn**	15 43 23.8	+3.4
TUMD				*eS*		Sn	15 44 18.6	+3.2
TUMR	**Tumrok**	**4.92**	**7**	*eP*		**Pn**	15 43 25.7	+4.4
KBTR	**Krutoberegovo**	**6.21**	**19**	*eP*		**Pn**	15 43 42.2	+3.4

*NEIC **27** 15:58:42.1±1.9, 11°.10N±0°.05×62°.3W±0°.1, h105km±11km, Error ellipse: s-maj=15.8km s-min=5.4km az=67.0*
*TRN **27** 15:58:42.1, 11°.10N×62°.38W, h97km, MD3.5*
*FUNV **27** 15:58:43.6, 10°.91N×62°.14W, h32km, MW4.2*
*CAR **27** 15:58:43.4±10.0, 10°.97N±0°.04×62°.17W±0°.07, h25km±7km, Error ellipse: s-maj=0.0km s-min=0.0km az=151.0*
*IDC **27** 15:58:43.4±2.3, 10°.70N×62°.38W, h150km±30km, mb3.2/5, mb1 3.5/8, mb1mx3.3/34, mbtmp3.8/8, Error ellipse: s-maj=43.9km s-min=16.0km az=32.0*

ISC 27 15:58:40.4±0.7, 11°.02N±0°.03×62°.28W±0°.03, h113km±7km, n51, σ1.997/80, mb3.7/6, 1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.94**	**113**	*eP*		**Pn**	**15 59 02.4**	**+1.2**
TRN				*eS*		**Sn**	**15 59 16.4**	**-0.5**
TRN	**Trinidad (W)**	**0.94**	**113**			**Pn**	**15 59 03.4**	**+2.2**
TRN						**Sn**	**15 59 17.6**	**+0.6**
CRUV	**Carupano**	**1.00**	**250**	*eP*		**Pn**	**15 59 03.0**	**+1.2**
CRUV				*eS*		**Sn**	**15 59 16.7**	**-1.3**
TPP	**Pointe-a-Pierr**	**1.08**	**130**	*eP*		**Pn**	**15 59 04.1**	**+1.4**
TPP				*eS*		**Sn**	**15 59 20.8**	**+1.3**
TPP	**Pointe-a-Pierr**	**1.08**	**130**			**Pn**	**15 59 05.5**	**+2.9**
TPP						**Sn**	**15 59 20.8**	**+1.3**
GRGR	**Grenville**	**1.26**	**29**	*eP*		**Pn**	**15 59 05.3**	**+0.6**
GRGR				*eS*		**Sn**	**15 59 22.7**	**-0.4**
GRGR	**Grenville**	**1.26**	**29**			**Pn**	**15 59 05.2**	**+0.5**
GRGR	**Grenville**	**1.26**	**29**			**Sn**	**15 59 22.7**	**-0.4**
GRGR	**Grenville**	**1.26**	**29**	*eP*		**Pn**	**15 59 05.1**	**+0.3**
GRGR				*eS*		**Sn**	**15 59 21.3**	**-1.8**
TBH	**Brigand Hill**	**1.31**	**114**	*eP*		**Pn**	**15 59 07.7**	**+2.5**
TBH				*eS*		**Sn**	**15 59 26.1**	**+2.1**
TBH	**Brigand Hill**	**1.31**	**114**			**Pn**	**15 59 07.7**	**+2.5**
TBH						**Sn**	**15 59 26.1**	**+2.1**
TPR	**Prospect**	**1.49**	**84**	*eP*		**Pn**	**15 59 09.5**	**+2.3**
TPR				*eS*		**Sn**	**15 59 29.6**	**+2.0**
TPR	**Prospect**	**1.49**	**84**			**Pn**	**15 59 09.5**	**+2.3**
TPR						**Sn**	**15 59 29.6**	**+2.0**
BOT	**Bacolet**	**1.54**	**84**	*eP*		**Pn**	**15 59 09.9**	**+2.0**
BOT				*eS*		**Sn**	**15 59 30.4**	**+1.6**
GCMP	**Grenada, Carri**	**1.68**	**30**	*eP*		**Pn**	**15 59 10.3**	**+0.8**
GCMP				*eS*		**Sn**	**15 59 30.9**	**-0.9**
GCMP	**Grenada, Carri**	**1.68**	**30**			**Pn**	**15 59 10.3**	**+0.8**
GCMP						**Sn**	**15 59 30.9**	**-0.9**
SVB	**Belmont**	**2.45**	**24**	*eP*		**Pn**	**15 59 20.1**	**+0.7**
SVB				*eS*		**Sn**	**15 59 48.6**	**-0.7**
SVB	**Belmont**	**2.45**	**24**	Pn		**Pn**	**15 59 19.9**	**+0.5**
PCRV	**Puerto La Cruz**	**2.46**	**250**	P		**Pn**	**15 59 22.2**	**+2.7**
	3.6nm,0.3s,baz=51,slow=2.9,SNR=23							
PCRV				S		**Sn**	**15 59 51.0**	**+1.5**
	8.1nm,0.3s,baz=274,slow=23,SNR=14							
PCRV	**Puerto La Cruz**	**2.46**	**250**	*eP*		**Pn**	**15 59 22.3**	**+2.8**
PCRV				*eS*		**Sn**	**15 59 50.5**	**+1.0**
RIOV	**Rio Grande**	**2.97**	**171**	*eP*		**Pn**	**15 59 26.4**	**+0.2**
RIOV				*eS*		**Sn**	**15 59 58.0**	**-3.4**
MCLT	**Moule a Chique**	**2.98**	**26**	*eP*		**Pn**	**15 59 27.0**	**+0.8**
MCLT				*eS*		**Sn**	**16 00 00.6**	**-0.9**
MCLT	**Moule a Chique**	**2.98**	**26**	Pn		**Pn**	**15 59 25.7**	**-0.6**
MCLT	**Moule a Chique**	**2.98**	**26**			**Sn**	**16 00 00.6**	**-0.9**
SLB	**Belfond**	**3.04**	**23**	*eS*		**Sn**	**16 00 02.3**	**-0.9**
SLB	**Belfond**	**3.04**	**23**			**Sn**	**16 00 02.3**	**-0.9**
SLBI	**Saint Lucia, B**	**3.25**	**23**	*eP*		**Pn**	**15 59 30.4**	**+0.7**
SLBI				*eS*		**Sn**	**16 00 06.7**	**-1.2**
SLBI	**Saint Lucia, B**	**3.25**	**23**			**Pn**	**15 59 30.4**	**+0.7**
SLBI						**Sn**	**16 00 05.5**	**-2.4**
H05S1	**Guadeloupe/Mar**	**3.67**	**22**	P		**Pn**	**15 59 35.5**	**+0.1**
H05S1				S		**Sn**	**16 00 17.9**	**0.0**
FDF	**Fort de France**	**3.85**	**17**	Pn		**Pn**	**15 59 38.4**	**+0.5**
BIRV	**Birongo**	**3.96**	**262**	*eP*		**Pn**	**15 59 42.6**	**+3.3**
BIRV				*eS*		**Sn**	**16 00 25.6**	**+0.8**
MERV	**Las Mercedes**	**4.33**	**246**	*eS*		**Sn**	**16 00 33.6**	**-0.2**
TACV	**Tcata**	**4.75**	**260**	*eP*		**Pn**	**15 59 52.7**	**+2.7**
TACV				*eS*		**Sn**	**16 00 44.5**	**+0.4**
LUEV	**Luepa**	**5.21**	**171**	*eP*		**Pn**	**15 59 55.9**	**-0.4**
LUEV				*eS*		**Sn**	**16 00 48.7**	**-6.6**
TURV	**Turiamo**	**5.49**	**265**	*eP*		**Pn**	**16 00 02.6**	**+2.6**
TURV				*eS*		**Sn**	**16 01 01.8**	**-0.2**
BAUV	**El Baul**	**6.04**	**251**	*eS*		**Sn**	**16 01 13.8**	**-1.4**
MAPV	**Macapo**	**6.19**	**260**	*eP*		**Pn**	**16 00 11.7**	**+2.3**
MAPV				*eS*		**Sn**	**16 01 18.1**	**-0.8**
PAYV	**Puerto Ayacuch**	**7.70**	**224**	*eP*		**Pn**	**16 00 30.8**	**+0.9**
PAYV				*eS*		**Sn**	**16 01 50.3**	**-5.2**
PDPR	**Patillas Dam,**	**7.84**	**333**	Pn		**Pn**	**16 00 33.5**	**+1.7**
MDP	**Montagnes des**	**11.21**	**121**	P		**Pn**	**16 01 16.5**	**-1.0**
	0.8nm,0.3s,baz=322,slow=15,SNR=8.1							
MDP				S		Sn	16 03 11.1	-10
	4.9nm,0.3s,baz=53,slow=15,SNR=15							
PTGA	**Pitinga**	**11.90**	**169**	P		**Pn**	**16 01 25.4**	**-1.2**
	2.4nm,0.3s,baz=350,slow=21,SNR=20							
PTGA				S		**Sn**	**16 03 31.6**	**-6.0**
	1.4nm,0.3s,baz=274,slow=23,SNR=9.2							
PTGA	**Pitinga**	**11.90**	**169**			**Pn**	**16 01 26.3**	**-0.3**
JAKH	**Jacmel**	**12.23**	**307**	Pn		**Pn**	**16 01 27.4**	**-3.5**
BCIP	**Isla Barro Col**	**17.38**	**266**	P		**Pn**	**16 02 37.8**	**+1.7**

BCIP				IAmb	IAmb	16 03 07.0			
	comp=Z,30nm,1.1s								
SAML	**Samuel**	**19.86**	**183**	P	**Pn**	**16 03 06.1**	**+0.6**		
SAML				IAmb	IAmb	16 03 09.4			
	comp=Z,2.5nm,0.8s								
ORTG	**Ortega, Santa**	**22.78**	**271**	P	**P**	**16 03 36.5**	**+2.8**		
ORTG				IAmb	IAmb	16 03 39.8			
	comp=Z,10nm,0.7s								
TXAR	**Lajitas Array**	**42.63**	**302**	P	**P**	**16 06 26.6**	**+0.7**		
	comp=Z,0.4nm,0.7s,baz=111,slow=4.9,SNR=3.9								
ULM	**Lac du Bonnet**	**47.88**	**331**	P	**P**	**16 07 06.3**	**-0.7**		
	comp=Z,0.8nm,0.4s,baz=135,slow=8.6,SNR=2.0								
PDAR	**Pinedale Array**	**51.76**	**316**	P	**P**	**16 07 36.2**	**-0.6**		
	comp=Z,0.3nm,0.5s,baz=118,slow=10,SNR=4.3								
YKA	**Yellowknife Ar**	**63.46**	**336**	P	**P**	**16 08 57.4**	**-0.7**		
	comp=Z,0.1nm,0.4s,baz=116,slow=7.9,SNR=2.2								
FINES	**FINESS Array B**	**79.63**	**29**	P	**P**	**16 10 37.0**	**+1.9**		
	comp=Z,1.2nm,0.4s,baz=274,slow=3.9,SNR=12								

IDC 27 16:07:32.9±1.9, 1°66'N×126°61'E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.4/46, mbtmp3.7/5, ML3.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/40, Error ellipse: s-maj=115.3km s-min=26.2km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.65**	**183**	P	P	16 12 03.1	-0.4
	0.2nm,0.3s,baz=11,slow=10,SNR=1.8						
WRA	**Warramunga Arr**	**22.77**	**161**	P	P	16 12 37.2	+0.1
	1.4nm,0.4s,baz=340,slow=11,SNR=43						
PMG	**Port Moresby**	**23.24**	**119**	LR	LR	16 23 54.2	
	comp=Z,22nm,18.7s,baz=249,slow=42						
ASAR	**Alice Springs**	**26.15**	**165**	P	P	16 13 09.5	+0.4
	0.6nm,0.3s,baz=349,slow=12,SNR=39						
STKA	**Stephens Creek**	**36.26**	**158**	P	P	16 14 37.5	-0.5
	1.2nm,0.8s,baz=333,slow=11,SNR=1.7						
MKAR	**Makanchi Array**	**59.19**	**326**	P	P	16 17 35.7	-0.1
	0.3nm,0.4s,baz=121,slow=8.4,SNR=0.8						
MAW	**Mawson**	**81.78**	**200**	LR	LR	16 58 47.1	
	comp=Z,32nm,18.6s,baz=58,slow=38						

*ASRS **27** 16:12:39.4±0.2, 51°N±1°×89°3'E±0°9, h10km, MLh3.6/15, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*
*NNC **27** 16:12:43.2±1.3, 50°84'N×88°85'E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=11.9km s-min=6.1km az=103.0*

ISC 27 16:12:39.9±0.8, 50°80'N±0°03×89°24'E±0°02, h10km, n31, σ1°88/53, 5C-6D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEL	**Teeli**	**0.65**	**69**	Pg	**Pg**	**16 12 51.1**	**-1.3**
TEL				Sg	**Sg**	**16 12 59.3**	**-1.6**
ULGR	**Ulagan, Altay**	**0.83**	**258**	Pg	**Pg**	**16 12 54.6**	**-1.4**
ULGR				Sg	**Sg**	**16 13 05.6**	**-1.2**
CHBI	**Chibit, Altay**	**1.21**	**247**	Pg	**Pn**	**16 13 01.4**	**-1.6**
CHBI				Sg	**Sb**	**16 13 18.1**	**-0.6**
ARTR	**Artybash**	**1.59**	**310**	Pg	**Pn**	**16 13 08.7**	**+0.6**
ARTR				Sg	**Sn**	**16 13 29.0**	**+0.4**
DGZ	**Jazzator, Alta**	**1.60**	**227**	Pg	**Pn**	**16 13 08.6**	**+0.2**
DGZ				Sg	**Sn**	**16 13 29.5**	**+0.3**
TASR	**Tashtagol**	**2.14**	**337**	Pg	**Pb**	**16 13 18.5**	**-0.2**
TASR				Sg	**Sg**	**16 13 47.4**	**-1.2**
DJO	**Djoy, Khakassi**	**2.34**	**31**	Pg	**Pb**	**16 13 22.2**	**+0.1**
DJO				Sg	**Sg**	**16 13 52.9**	**-2.0**
DJOS	**Djoyskaya Sosn**	**2.41**	**33**	Pg	**Pb**	**16 13 23.1**	**-0.3**
DJOS				Sg	**Sb**	**16 13 54.6**	**+1.6**
CERR	**Cheremushki**	**2.46**	**32**	Pg	**Pb**	**16 13 24.0**	**-0.2**
CERR				Sg	**Sb**	**16 13 55.6**	**+1.0**
UKR	**Ust'-Kan**	**2.83**	**275**	Pg	**Pb**	**16 13 30.7**	**0.0**
UKR				Sg	**Sg**	**16 14 08.8**	**-2.2**
BLRR	**Bol'shaya Rech**	**2.99**	**40**	Pg	**Pb**	**16 13 34.2**	**+1.0**
BLRR				Sg	**Sb**	**16 14 12.2**	**+2.4**
ARDR	**Aradan**	**3.16**	**54**	Pg	**Pb**	**16 13 35.6**	**-0.5**
ARDR				Sg	**Sb**	**16 14 15.4**	**+0.6**
ABNR	**Abakan**	**3.23**	**24**	Pg	**Pb**	**16 13 37.9**	**+0.7**
ABNR				Sg	**Sg**	**16 14 20.4**	**-3.1**
KZLR	**Kyzyl**	**3.40**	**72**	Pg	**Pb**	**16 13 39.0**	**-1.3**
KZLR				Sg	**Sg**	**16 14 27.6**	**-1.3**
SHRR	**Shira**	**3.74**	**8**	Pg	**Pb**	**16 13 45.8**	**-0.3**
SHRR				Sg	**Sg**	**16 14 41.1**	**+1.0**
ZAA0	**Zalesovo Array**	**4.16**	**321**	⇓Pn	**Pn**	**16 13 44.7**	**+1.3**
	0.4nm,0.5s						
ZAA0				⇓Lg	Lg	16 14 49.7	
	5.8nm,0.8s						
SALR	**Pechorkino, Sa**	**4.22**	**331**	Sg	**Sg**	**16 14 50.8**	**-4.4**
TDJR	**Todzha**	**4.57**	**67**	Sg	**Sb**	**16 14 58.3**	**+3.1**
BRCR	**Berchikul'**	**4.88**	**354**	Pg	**Pb**	**16 14 05.1**	**-0.4**
BRCR				Sg	**Sg**	**16 15 13.4**	**-3.2**
KNGR	**Kungurtug, Tuv**	**5.26**	**89**	Pn	**Pn**	**16 13 57.3**	**-1.4**
KNGR				Pg	**Pb**	**16 14 15.3**	**+3.3**
KNGR				Sg	**Sg**	**16 15 27.4**	**-1.4**
NVS	**Novosibirsk**	**5.45**	**320**	Pg	**Pb**	**16 14 18.2**	**+3.2**
NVS				Sg	**Sg**	**16 15 34.2**	**-0.4**
NVSII	**Novosibirsk**	**5.45**	**320**	Pg	**Pb**	**16 14 17.7**	**+2.7**
NVSII				Sg	**Sg**	**16 15 31.9**	**-2.7**
BSTK	**Bystrovka, Nov**	**5.50**	**316**	Pg	**Pb**	**16 14 17.6**	**+1.5**
BSTK				Sg	**Sg**	**16 15 33.8**	**-2.7**
ORY	**Orie**	**5.51**	**38**	Sg	**Sg**	**16 15 34.0**	**-2.6**
NHES	**Novosibirsk, N**	**5.56**	**319**	Sg	**Sg**	**16 15 36.4**	**-1.8**
SEM	**Semipalatinsk**	**5.74**	**270**	Pg	**Sn**	**16 15 12.9**	**+1.6**
	2.7nm,0.2s						
SEM				Lg	Lg	16 15 39.7	
	14nm,0.2s						
MK31	**Makanchi Array**	**6.09**	**232**	⇓Pn	**Pn**	**16 14 12.3**	**+2.3**
	4.4nm,0.6s,baz=46,slow=12,SNR=74						
MK31				⇓Sn	**Sn**	**16 15 21.5**	**+1.7**
	1.4nm,0.3s,baz=54,slow=23,SNR=3.6						
MK31				⇑Lg	Lg	16 15 51.4	
	19nm,0.8s,baz=48,slow=33,SNR=4.6						
MAKZ	**Makanchi**	**6.24**	**233**	⇑Pn	**Pn**	**16 14 14.7**	**+2.6**
	1.6nm,0.5s						
MAKZ				⇓Sn	**Sn**	**16 15 25.1**	**+1.7**
	3.3nm,0.5s						
MAKZ				⇑Lg	Lg	16 15 54.5	
	9.8nm,0.7s						
KURBB	**Kurchatov Arra**	**6.81**	**273**	⇑Pn	**Pn**	**16 14 22.5**	**+2.8**
	3.9nm,0.8s						
KURBB				⇑Sn	**Sn**	**16 15 36.9**	**-0.3**
	18nm,0.8s						
KURBB				⇓Lg	Lg	16 16 12.5	
	36nm,0.7s						
DJR	**Jarkent**	**9.09**	**228**	Pg		16 16 16.8	
	1.1nm,0.4s						
DJR				Lg	Lg	16 17 28.8	
	3.5nm,0.9s						
BRZS	**Berezniki**	**10.61**	**272**	Pg		16 16 41.4	
	0.5nm,0.2s						
BRZS				Lg	Lg	16 18 11.2	
	4.5nm,0.8s						

IDC 27 16:38:39.3±36.0, 5°15N×127°86E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.4/39, mbtmp3.8/4, Error ellipse: s-maj=605.0km s-min=114.3km az=155.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.20**	**185**	P	P	16 43 48.8	+0.8
	1.8nm,0.9s,baz=3.8,slow=9.5,SNR=1.5						
WRA	**Warramunga Arr**	**25.74**	**166**	P	P	16 44 11.1	-0.6
	0.5nm,0.4s,baz=345,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**29.24**	**169**	P	P	16 44 42.9	-0.3
	0.8nm,0.5s,baz=352,slow=7.5,SNR=51						
STKA	**Stephens Creek**	**39.08**	**161**	P	P	16 46 08.7	+0.5
	0.6nm,0.3s,baz=350,slow=11,SNR=4.2						

*ANF **27** 16:39:03.9±0.2, 36°13N×97°23W, h5km, ML3.7/15, Error ellipse: s-maj=2.6km s-min=2.5km az=135.0*
*TUL **27** 16:39:03.7±1.5, 36°11N±0°01×97°23W±0°02, h5km±7km, ML3.3, mb_Lg3.2/75(NEIC), Error ellipse: s-maj=2.2km s-min=1.7km az=135.0*
*NEIC **27** 16:39:03.8±0.8, 36°13N±0°01×97°25W±0°01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=157.0*

ISC 27 16:39:03.8±1.2, 36°13N±0°02×97°24W±0°02, h3km±12km, n79, σ0°68/56, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.37**	**119**		**Pg**	**16 39 11.1**	**+0.1**
OK029	**Liberty Lake**	**0.38**	**207**		**Pg**	**16 39 11.0**	**0.0**
OK029				Sg	**Sg**	**16 39 16.2**	**+0.3**
OK030	**Cody Creek RV**	**0.42**	**119**		**Pg**	**16 39 12.0**	**+0.1**
QUOK	**Quay**	**0.43**	**85**	Pg	**Pg**	**16 39 12.4**	**+0.3**
QUOK				Sg	**Sg**	**16 39 18.2**	**+0.5**
OK025	**Westminster Rd**	**0.56**	**188**	Pg	**Pg**	**16 39 14.4**	**-0.1**
BCOK	**Bluff Creek, N**	**0.56**	**212**		**Pg**	**16 39 14.5**	**0.0**
CROK	**Carrier**	**0.70**	**302**		**Pg**	**16 39 17.6**	**+0.3**
CROK				Sg	**Sg**	**16 39 27.4**	**+1.0**
OKCFA	**Oklahoma City**	**0.74**	**193**		**Pg**	**16 39 17.6**	**-0.3**
OKCFA	**Oklahoma City**	**0.74**	**193**	P	**Pg**	**16 39 17.6**	**-0.3**
	baz=13,SNR=21						
OKCFA				S	**Sg**	**16 39 27.7**	**+0.3**
	baz=13						
OKCFA	**Oklahoma City**	**0.74**	**193**	P		16 39 17.6	
	baz=13,SNR=21						
OKCFA				S		16 39 27.7	
	baz=13						
OKCSW	**OKLAHOMA CITY**	**0.74**	**192**		**Pg**	**16 39 17.7**	**-0.4**
GC02	**Grant County #**	**0.87**	**325**		**Pg**	**16 39 20.6**	**+0.1**
FNO	**Franklin**	**0.88**	**188**	Pg	**Pg**	**16 39 20.7**	**0.0**
T35A	**Sooner Cattle**	**0.98**	**37**		**Pg**	**16 39 22.5**	**0.0**
T35B	**Sooner Cattle**	**0.98**	**37**	P	**Pg**	**16 39 22.5**	**0.0**
	baz=217						
T35B				S	**Sg**	**16 39 35.5**	**+0.3**
	baz=217						
T35B	**Sooner Cattle**	**0.98**	**37**	P		16 39 22.5	
	baz=217						
T35B				S		16 39 35.5	
	baz=217						
KAN14	**Manchester OK**	**1.01**	**325**		**Pg**	**16 39 22.4**	**-0.7**
OK032	**Salt Plains WL**	**1.03**	**311**		**Pg**	**16 39 23.3**	**-0.2**
KAN09	**Caldwell North**	**1.04**	**343**		**Pg**	**16 39 23.8**	**-0.1**
KAN01	**Argonia South**	**1.10**	**338**		**Pg**	**16 39 24.9**	**+0.1**
TUL1	**Leonard**	**1.20**	**100**	P	**Pg**	**16 39 25.4**	**-1.4**
	baz=281						
TUL1				S	**Sg**	**16 39 41.4**	**-0.9**
	baz=281						
TUL1	**Leonard**	**1.20**	**100**	P		16 39 25.4	
	baz=281						
TUL1				S		16 39 41.4	
	baz=281						
KAN10	**Anthony SW Sta**	**1.20**	**325**		**Pg**	**16 39 26.6**	**-0.2**
KAN12	**Harper NE Stat**	**1.31**	**333**		**Pn**	**16 39 28.6**	**-0.5**
U32A	**Winter Ranch,**	**1.44**	**280**		**Pn**	**16 39 30.3**	**-0.5**
U32A	**Winter Ranch,**	**1.44**	**280**	P	**Pn**	**16 39 30.3**	**-0.5**
	baz=100,SNR=71						
U32A				S	**Sg**	**16 39 50.6**	**+0.4**
	baz=100						
U32A	**Winter Ranch,**	**1.44**	**280**	P		16 39 30.3	
	baz=100,SNR=71						
U32A				S		16 39 50.6	
	baz=100						
WMOK	**Wichita Mounta**	**1.88**	**223**		**Pn**	**16 39 37.1**	**+0.3**
WMOK				IAmb_Lg		16 40 05.6	
	comp=Z,94nm,0.7s						
WMOK	**Wichita Mounta**	**1.88**	**223**	P	**Pn**	**16 39 37.1**	**+0.3**
	baz=42,SNR=93						
WMOK				S	**Sb**	**16 40 02.2**	**-0.4**
	baz=42						
WMOK	**Wichita Mounta**	**1.88**	**223**	P		16 39 37.1	
	baz=42,SNR=93						
WMOK				S		16 40 02.2	
	baz=42						
X37A	**Clayton**	**2.17**	**135**		**Pn**	**16 39 41.1**	**+0.2**
X37A				IAmb_Lg		16 40 15.1	
	comp=Z,96nm,0.8s						
X37A	**Clayton**	**2.17**	**135**	P	**Pn**	**16 39 41.0**	**+0.2**
	baz=316,SNR=37						
X37A				Sb	**Sg**	**16 40 12.4**	**-1.1**
	baz=316						
X37A	**Clayton**	**2.17**	**135**	P		16 39 41.0	
	baz=316,SNR=37						
X37A				Sb		16 40 12.4	
	baz=316						
U38A	**Gravette**	**2.33**	**82**		**Pn**	**16 39 43.7**	**+0.6**
U38A	**Gravette**	**2.33**	**82**	P	**Pn**	**16 39 43.6**	**+0.6**
	baz=263,SNR=39						
U38A	**Gravette**	**2.33**	**82**	P		16 39 43.6	
	baz=263,SNR=39						
R32A	**Long Quarter,**	**2.57**	**333**	P	**Pn**	**16 39 46.8**	**+0.5**
	baz=153						
R32A				S	**Sn**	**16 40 18.8**	**+0.7**
	baz=153						
R32A	**Long Quarter,**	**2.57**	**333**	P		16 39 46.8	
	baz=153						
R32A				S		16 40 18.8	
	baz=153						
Z35A	**Perchaven, San**	**2.80**	**180**	P	**Pn**	**16 39 49.6**	**+0.2**
	baz=0.1						
Z35A	**Perchaven, San**	**2.80**	**180**	P		16 39 49.6	
	baz=0.1						
W39A	**Magazine**	**2.97**	**107**	IAmb_Lg		16 40 44.8	
	comp=Z,86nm,0.7s						
W39A	**Magazine**	**2.97**	**107**	P	**Pn**	**16 39 52.4**	**+0.6**
	baz=289,SNR=21						
W39A	**Magazine**	**2.97**	**107**	P		16 39 52.4	
	baz=289,SNR=21						
KSU1	**Kansas State U**	**3.00**	**9**	IAmb_Lg		16 40 45.9	
	comp=Z,43nm,0.7s						
CBKS	**Cedar Bluff**	**3.33**	**324**	P	**Pn**	**16 39 57.5**	**+0.6**
	baz=143						
CBKS	**Cedar Bluff**	**3.33**	**324**	P		16 39 57.5	
	baz=143						
MIAR	**Mount Ida**	**3.39**	**117**		**Pn**	**16 39 58.5**	**+0.9**
MIAR	**Mount Ida**	**3.39**	**117**	P	**Pn**	**16 39 58.4**	**+0.9**
	baz=299,SNR=6.8						
MIAR	**Mount Ida**	**3.39**	**117**	P		16 39 58.4	
	baz=299,SNR=6.8						
Z38A	**Mt. Pleasant**	**3.42**	**146**	IAmb_Lg		16 40 54.4	
	comp=Z,41nm,0.8s						
S39A	**Bolivar**	**3.50**	**63**	Pn	**Pn**	**16 40 00.0**	**+0.8**
S39A	**Bolivar**	**3.50**	**63**	P	**Pn**	**16 39 59.6**	**+0.4**
	baz=245,SNR=18						
S39A	**Bolivar**	**3.50**	**63**	P		16 39 59.6	
	baz=245,SNR=18						
U40A	**Yellville**	**3.56**	**85**	Pn	**Pn**	**16 39 59.8**	**-0.1**
U40A	**Yellville**	**3.56**	**85**	P	**Pn**	**16 39 59.8**	**-0.1**
	baz=268,SNR=49						
U40A	**Yellville**	**3.56**	**85**	P		16 39 59.8	
	baz=268,SNR=49						
U40A				P		16 39 59.8	
	baz=268,SNR=49						
X40A	**Basin Creek Fa**	**3.96**	**113**		**Pn**	**16 40 06.4**	**+1.0**
X40A				IAmb_Lg		16 41 15.5	
	comp=Z,61nm,0.8s						
ABTX	**Abilene, Hawle**	**4.03**	**210**	IAmb_Lg		16 41 15.6	
	comp=Z,61nm,1.1s						
WHAR	**Wooly Hollow**	**4.12**	**100**	IAmb_Lg		16 41 17.8	
	comp=Z,47nm,0.8s						
MGMO	**Mountain Grove**	**4.13**	**74**	IAmb_Lg		16 41 20.4	
	comp=Z,34nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.16**	**92**	IAmb_Lg		16 41 15.5	
	comp=Z,46nm,1.1s						
WLAR	**White Oak Lake**	**4.18**	**125**	IAmb_Lg		16 41 13.8	
	comp=Z,38nm,0.7s						
R40A	**Maddies Statio**	**4.52**	**60**		**Pn**	**16 40 13.4**	**+0.3**
R40A				IAmb_Lg		16 41 32.2	
	comp=Z,31nm,0.7s						
R40A	**Maddies Statio**	**4.52**	**60**	P	**Pn**	**16 40 13.6**	**+0.5**
	baz=243,SNR=11						
R40A	**Maddies Statio**	**4.52**	**60**	P		16 40 13.6	
	baz=243,SNR=11						
P38A	**Dawn**	**4.56**	**39**	IAmb_Lg		16 41 37.7	
	comp=Z,30nm,0.9s						
CCAR	**Cane Creek**	**5.00**	**115**	IAmb_Lg		16 41 42.6	
	comp=Z,32nm,0.9s						
MSTX	**Muleshoe**	**5.02**	**246**		**Pn**	**16 40 18.8**	**-1.4**
KSCO	**Kaye Shedlock'**	**5.15**	**305**	IAmb_Lg		16 41 57.9	
	comp=Z,56nm,0.8s						
CCM	**Cathedral Cave**	**5.16**	**66**	IAmb_Lg		16 41 45.5	
	comp=Z,28nm,0.9s						
BGNE	**Belgrade**	**5.31**	**353**	P		16 40 23.8	
	baz=172,SNR=5.2						
BGNE	**Belgrade**	**5.32**	**353**	Pn	**Pn**	**16 40 23.6**	**-0.5**
BGNE				IAmb_Lg		16 42 08.0	
	comp=Z,31nm,0.8s						
BGNE	**Belgrade**	**5.32**	**353**	P	**Pn**	**16 40 23.8**	**-0.3**
	baz=172,SNR=5.2						
P40A	**Paris**	**5.33**	**49**	IAmb_Lg		16 42 03.1	
	comp=Z,33nm,0.7s						
435B	**Jarrell**	**5.34**	**183**	IAmb_Lg		16 42 04.0	
	comp=Z,27nm,0.7s						
PBMO	**Poplar Bluff**	**5.53**	**81**	IAmb_Lg		16 42 01.0	
	comp=Z,37nm,0.8s						
T25A	**Trinidad**	**5.85**	**282**	IAmb_Lg		16 42 17.8	
	comp=Z,31nm,0.9s						
L34A	**Svendsen Farm,**	**5.86**	**6**		**Pn**	**16 40 28.7**	**-2.9**
L34A				IAmb_Lg		16 42 23.3	
	comp=Z,46nm,0.8s						
JCT	**Junction City**	**6.03**	**202**	IAmb_Lg		16 42 21.3	
	comp=Z,37nm,0.8s						
OGNE	**Ogallala**	**6.10**	**323**	IAmb_Lg		16 42 22.5	
	comp=Z,40nm,0.8s						
SLM	**Saint Louis**	**6.11**	**64**	IAmb_Lg		16 42 16.6	
	comp=Z,35nm,0.7s						
K31A	**O'Neill**	**6.59**	**350**	IAmb_Lg		16 42 38.5	
	comp=Z,33nm,0.7s						
S44A	**Carbondale**	**6.59**	**74**	IAmb_Lg		16 42 31.0	
	comp=Z,40nm,0.7s						
OXF	**Oxford**	**6.61**	**102**	IAmb_Lg		16 42 40.0	
	comp=Z,30nm,0.9s						
W45A	**Hickory Valley**	**6.63**	**96**	IAmb_Lg		16 42 42.9	
	comp=Z,33nm,0.8s						
L40A	**Anamosa**	**7.55**	**36**	IAmb_Lg		16 43 02.1	
	comp=Z,32nm,0.9s						
O44A	**Mansfield**	**7.99**	**57**	IAmb_Lg		16 43 14.7	
	comp=Z,31nm,0.8s						
T47A	**Sharon Grove**	**8.20**	**81**	IAmb_Lg		16 43 37.0	
	comp=Z,31nm,1.1s						
I37A	**Lemond, Waseca**	**8.40**	**19**	IAmb_Lg		16 43 39.3	
	comp=Z,19nm,0.7s						
JFWS	**Jewell Farm**	**8.66**	**36**	IAmb_Lg		16 43 57.5	
	comp=Z,28nm,0.8s						
WCI	**Wyandotte Cave**	**8.98**	**73**	IAmb_Lg		16 43 53.3	
	comp=Z,13nm,0.8s						
I40A	**Norwalk**	**9.26**	**31**	IAmb_Lg		16 43 56.1	
	comp=Z,26nm,1.1s						
RSSD	**Black Hills**	**9.52**	**329**	IAmb_Lg		16 44 26.3	
	comp=Z,11nm,0.8s						
RWWY	**Rawlins**	**9.54**	**309**	IAmb_Lg		16 44 20.8	
	comp=Z,19nm,1.3s						
F33A	**5 Mile Ranch,**	**9.72**	**4**	IAmb_Lg		16 44 25.2	
	comp=Z,10.0nm,0.9s						

*NEIC **27** 17:02:23.1±2.8, 53°41S±0°07×159°7E±0°2, h4km±6km, mb4.3/10, Error ellipse: s-maj=19.2km s-min=6.8km az=111.0*
*IDC **27** 17:02:24.5±1.8, 53°29S×159°70E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.8/19, mbtmp3.8/5, ML3.7/1, MS3.5/7, Ms1 3.5/7, ms1mx3.3/21, Error ellipse: s-maj=48.4km s-min=28.7km az=72.0*

ISC 27 17:02:24.4±0.7, 53°36S±0°07×159°7E±0°1, h10km, n44, σ1°75/27, mb4.0/9, MS3.5/7, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**1.23**	**202**		**Pn**	**17 02 45.5**	**-2.0**
MCQ				Sg	**Sb**	**17 03 00.3**	**-3.1**
WHZ	**Wether Hill Ro**	**9.18**	**39**		**Pn**	**17 04 35.7**	**-1.0**
MLZ	**Mavora Lakes**	**9.69**	**38**	Pn	**Pn**	**17 04 43.6**	**-0.1**
WKZ	**Wanaka**	**10.48**	**39**	Pn	**Pn**	**17 04 54.6**	**+0.1**
ODZ	**Otahua Downs**	**10.95**	**45**	Pn	**Pn**	**17 04 59.8**	**-1.2**
LBZ	**Lake Benmore**	**11.30**	**42**	Pn	**Pn**	**17 05 07.0**	**+1.1**
RPZ	**Rata Peaks**	**12.21**	**42**	Pn	**Pn**	**17 05 19.5**	**+1.3**
	0.5nm,0.3s,baz=230,slow=3.3,SNR=6.1						
RPZ				LR	LR	17 08 55.4	
	comp=Z,198nm,19.2s,baz=194,slow=32						
RPZ	**Rata Peaks**	**12.21**	**42**		**Pn**	**17 05 19.2**	**+0.9**
MQZ	**McQueen's Vall**	**12.89**	**47**	Pn	**Pn**	**17 05 27.3**	**-0.2**
OXZ	**Oxford**	**12.93**	**44**	Pn	**Pn**	**17 05 28.4**	**+0.3**
TAU	**Tasmania Unive**	**13.32**	**317**	Pn	**Pn**	**17 05 31.3**	**-2.1**
LTZ	**Lake Taylor**	**13.48**	**43**	Pn	**Pn**	**17 05 34.5**	**-1.1**
THZ	**Tophouse**	**14.59**	**43**	Pn	**P**	**17 05 54.5**	**-2.7**
QRZ	**Quartz Range**	**15.24**	**40**	Pn	**Pn**	**17 06 00.5**	**+1.0**
NNZ	**Nelson**	**15.24**	**43**	Pn	**Pn**	**17 06 00.1**	**+0.6**
NNZ				IAmb	IAmb	17 06 14.6	
	comp=Z,36nm,1.2s						
URZ	**Urewera**	**19.28**	**45**	LR	LR	17 13 33.9	
	comp=Z,248nm,18.4s,baz=211,slow=35						
VNDA	**Vanda**	**24.27**	**179**	P	**P**	**17 07 43.6**	**+2.4**
	comp=Z,0.9nm,1.1s,baz=331,slow=10,SNR=2.2						
VNDA				LR	LR	17 15 43.7	
	comp=Z,95nm,18.6s,baz=345,slow=33						
STKA	**Stephens Creek**	**25.14**	**321**	P	**P**	**17 07 52.2**	**+2.7**
	comp=Z,3.3nm,0.9s,baz=147,slow=14,SNR=4.7						
STKA				LR	LR	17 17 18.1	
	comp=Z,53nm,20.2s,baz=200,slow=36						
STKA	**Stephens Creek**	**25.14**	**321**	P	**P**	**17 07 51.9**	**+2.4**
DZM	**Mont Dzumac**	**31.66**	**12**	LR	LR	17 20 38.1	
	comp=Z,82nm,18.2s,baz=225,slow=35						
DZM	**Mont Dzumac**	**31.66**	**12**	*e*LR	LR	17 16 58.8	
	comp=Z,119nm,27.8s						
CTAO	**Charters Tower**	**34.80**	**337**	P	**P**	**17 09 14.5**	**-0.6**
CTAO				IAmb	IAmb	17 09 53.7	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**35.50**	**317**	P	**P**	**17 09 21.9**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=151,slow=7.6,SNR=15						
ASAR				LR	LR	17 23 48.3	
	comp=Z,83nm,18.5s,baz=154,slow=36						
NWAO	**Narrogin (SRO)**	**36.42**	**287**	P	**P**	**17 09 30.9**	**+1.9**
QSPA	**South Pole Qui**	**36.75**	**180**	P	**P**	**17 09 35.0**	**+3.4**
QSPA				IAmb	IAmb	17 09 56.6	
	comp=Z,12nm,1.5s						
H01W1	**Cape Leeuwin H**	**36.81**	**281**	T	T	17 48 38.2	
	baz=134,slow=75,SNR=270						
H01W2	**Cape Leeuwin H**	**36.81**	**281**	T	T	17 48 38.9	
	baz=134,slow=75,SNR=155

TNSS				*e*S		**Sb**	**17 22 47.7**	**-0.3**
	1.3nm,0.2s								
TNSS	**Tian-Shan**	**1.22**	**344**	P		**Pn**	**17 22 31.8**	**-0.4**
	1.7nm,0.1s								
TNSS				S		**Sb**	**17 22 47.7**	**-0.3**
	1.3nm,0.2s								
BOOM	**Boomskoye usch**	**1.26**	**300**	⇑*i*P		**Pn**	**17 22 32.3**	**-0.2**
	baz=0.0								
BOOM				⇑*i*S		**Sb**	**17 22 49.0**	**+0.1**
	baz=0.0								
IZV	**Izvestkoviy**	**1.31**	**334**	*e*P		**Pn**	**17 22 33.4**	**+0.2**
	2.6nm,0.1s								
IZV				*e*S		**Sb**	**17 22 50.5**	**+0.1**
	2.1nm,0.1s								
IZV	**Izvestkoviy**	**1.31**	**334**	P		**Pn**	**17 22 33.4**	**+0.2**
	2.6nm,0.1s								
IZV				S		**Sb**	**17 22 50.5**	**+0.1**
	2.1nm,0.1s								
MDOK	**Medeo**	**1.32**	**348**	*e*P		**Pn**	**17 22 33.4**	**-0.1**
	2.8nm,0.2s								
MDOK				*e*S		**Sb**	**17 22 50.3**	**-0.5**
	1.7nm,0.3s								
MDOK	**Medeo**	**1.32**	**348**	⇑P		**Pn**	**17 22 33.4**	**-0.1**
	1.1nm,0.3s								
MDOK				S		**Sb**	**17 22 50.3**	**-0.5**
	1.6nm,0.6s								
MDOK	**Medeo**	**1.32**	**348**	Pg		**Pn**	**17 22 33.4**	**-0.1**
	2.8nm,0.2s								
MDOK				Lg		Lg	17 22 50.3		
	1.7nm,0.3s								
KOTS	**Kotyrbulak**	**1.38**	**351**	*e*P		**Pn**	**17 22 34.6**	**+0.4**
	8.8nm,0.2s								
KOTS				*e*S		**Sn**	**17 22 52.4**	**0.0**
	2.9nm,0.3s								
KOTS	**Kotyrbulak**	**1.38**	**351**	P		**Pn**	**17 22 34.6**	**+0.4**
	8.8nm,0.2s								
KOTS				S		**Sn**	**17 22 52.4**	**0.0**
	2.9nm,0.3s								
SATY	**Saty**	**1.40**	**31**	*e*P		**Pb**	**17 22 35.6**	**+0.3**
	1.6nm,0.2s								
SATY				*e*S		**Sb**	**17 22 54.0**	**+1.0**
	6.4nm,0.1s								
SATY	**Saty**	**1.40**	**31**	P		**Pb**	**17 22 35.6**	**+0.3**
	1.6nm,0.2s								
SATY				S		**Sb**	**17 22 54.1**	**+1.0**
	6.4nm,0.1s								
KST	**Kastek**	**1.59**	**318**	*e*P		**Pb**	**17 22 38.3**	**-0.1**
	1.5nm,0.2s								
KST				*e*S		**Sb**	**17 22 58.9**	**+0.5**
	2.0nm,0.2s								
KST	**Kastek**	**1.59**	**318**	P		**Pb**	**17 22 38.3**	**-0.1**
	1.5nm,0.2s								
KST				S		**Sb**	**17 22 58.9**	**+0.5**
	2.0nm,0.2s								
TKM2	**Tokmak 2**	**1.71**	**309**	⇓*i*P		**Pn**	**17 22 39.5**	**+0.8**
	baz=8.0								
TKM2				⇓*i*S		**Sb**	**17 23 02.2**	**+0.3**
	baz=8.0								
TKM2	**Tokmak 2**	**1.71**	**309**	⇑P		**Pb**	**17 22 40.0**	**-0.5**
	1.3nm,0.7s								
TKM2				⇑S		**Sb**	**17 23 02.6**	**+0.7**
	1.0nm,0.3s								
DGS	**Degeres**	**1.83**	**319**	*e*P		**Pb**	**17 22 42.6**	**0.0**
	1.2nm,0.2s								
DGS				*e*S		**Sb**	**17 23 06.4**	**+1.0**
	2.4nm,0.3s								
DGS	**Degeres**	**1.83**	**319**	P		**Pb**	**17 22 42.6**	**0.0**
	1.2nm,0.2s								
DGS				S		**Sb**	**17 23 06.4**	**+1.0**
	2.4nm,0.3s								
KPKS	**Kokpek**	**1.85**	**30**	*e*P		**Pb**	**17 22 42.2**	**-0.7**
	1.7nm,0.1s								
KPKS				*e*S		**Sb**	**17 23 05.4**	**-0.7**
	3.5nm,0.2s								
KTBS	**Karatobe**	**1.92**	**344**	*e*P		**Pb**	**17 22 44.0**	**0.0**
	0.7nm,0.2s								
KTBS				*e*S		**Sb**	**17 23 08.8**	**+0.9**
	5.8nm,0.3s								
KTBS	**Karatobe**	**1.92**	**344**	P		**Pb**	**17 22 44.0**	**0.0**
	0.7nm,0.2s								
KTBS				S		**Sb**	**17 23 08.8**	**+0.9**
	5.8nm,0.3s								
CHKK	**Chushkaly**	**2.01**	**351**	*e*P		**Pb**	**17 22 45.2**	**-0.3**
	1.5nm,0.1s								
CHKK				*e*S		**Sb**	**17 23 10.6**	**+0.2**
	3.9nm,0.2s								
CHKK	**Chushkaly**	**2.01**	**351**	P		**Pb**	**17 22 45.2**	**-0.3**
	1.5nm,0.1s								
CHKK				S		**Sb**	**17 23 10.6**	**+0.2**
	3.9nm,0.2s								
KUU	**Kurty**	**2.17**	**339**	*e*P		**Pb**	**17 22 47.6**	**-0.7**
	0.9nm,0.3s								
KUU				*e*S		**Sb**	**17 23 14.8**	**-0.3**
	1.3nm,0.3s								
KUU	**Kurty**	**2.17**	**339**	Pg		**Pb**	**17 22 47.6**	**-0.7**
	0.9nm,0.3s								
KUU				Lg		Lg	17 23 14.8		
	1.3nm,0.3s								

*IDC **27** 17:29:11.6±3.2, 16°.57N×97°.92W, h0km, mb3.6/5, mb1 3.9/10, mb1mx3.8/36, mbtmp3.7/10, ML3.5/5, MS3.3/5, Ms1 3.3/5, ms1mx2.9/37, Error ellipse: s-maj=61.5km s-min=16.6km az=11.0*
*NEIC **27** 17:29:12.7±3.6, 16°.24N±0°.06×98°.05W±0°.07, h27km±5km, Error ellipse: s-maj=12.1km s-min=4.3km az=224.0*
*MEX **27** 17:29:14.3±0.9, 16°.33N×98°.07W, h17km±6km, MD4.0*
ISC 27 17:29:11.8±0.8, 16°.30N±0°.04×98°.05W±0°.03, h24km±5km, n65, σ1s71/81, mb4.2/14, MS3.4/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PNIG	**Pinotepa**	**0.12**	**323**	*i* P		**Pb**	**17 29 16.5**	**-0.1**
PNIG				*i* S		**Sb**	**17 29 19.3**	**-0.5**
PNIG	**Pinotepa**	**0.12**	**323**			**Pb**	**17 29 16.5**	**-0.1**
PNIG						**Sb**	**17 29 19.3**	**-0.5**
YOIG	**Yosondua**	**0.74**	**41**	*e*P		**Pb**	**17 29 25.4**	**-0.8**
YOIG				*e*S		**Sb**	**17 29 34.6**	**-1.5**
PEIG	**Puerto Escondi**	**0.92**	**109**	*e*P		**Pb**	**17 29 29.2**	**+0.1**
PEIG				*e*S		**Sb**	**17 29 40.9**	**-0.1**
TXIG	**Tlaxiaco**	**0.99**	**16**	*e*P		**Pb**	**17 29 29.2**	**-1.3**
TXIG				*i* S		**Sb**	**17 29 40.8**	**-2.5**
CRIG	**Cruz Grande**	**1.12**	**293**	*e*P		**Pn**	**17 29 30.8**	**-1.3**
CRIG				*i* S		**Sn**	**17 29 44.1**	**-2.7**
TLIG	**Tlapa**	**1.35**	**339**	*e*P		**Pn**	**17 29 35.0**	**-0.4**
TLIG				*i* S		**Sn**	**17 29 49.9**	**-2.7**
TLIG	**Tlapa**	**1.35**	**339**			**Pn**	**17 29 35.0**	**-0.4**
TLIG						**Sn**	**17 29 51.0**	**-1.7**
VHO	**Vista Hermosa**	**1.48**	**58**	*i* P		**Pn**	**17 29 37.4**	**+0.1**
VHO				*i* S		**Sn**	**17 29 54.1**	**-1.8**
HLIG	**Huajuapan de L**	**1.54**	**9**	*e*P		**Pn**	**17 29 38.0**	**-0.1**
HLIG				*i* S		**Sn**	**17 29 56.0**	**-1.5**
FTIG	**Fresnillo de T**	**1.60**	**357**	*e*P		**Pn**	**17 29 38.7**	**-0.2**
FTIG				*i* S		**Sn**	**17 29 56.9**	**-2.0**
TOIG	**Toxpalan**	**2.02**	**28**	*e*P		**Pn**	**17 29 44.5**	**-0.1**
TOIG				*i* S		**Sn**	**17 30 08.2**	**-1.0**
MEIG	**Mezcala**	**2.21**	**317**	*e*P		**Pn**	**17 29 46.4**	**-0.7**
MEIG				*i* S		**Sn**	**17 30 12.8**	**-1.0**
MEIG	**Mezcala**	**2.21**	**317**			**Pn**	**17 29 46.4**	**-0.7**
MEIG						LR	17 30 20.6	
TPIG	**Tehuac#an**	**2.21**	**17**	*i* S		**Sn**	**17 30 13.1**	**-0.9**
TPIG	**Tehuac#an**	**2.21**	**17**			**Pb**	**17 29 53.3**	**+2.0**
TPIG						**Sb**	**17 30 17.2**	**-1.1**
CAIG	**El Cayaco**	**2.25**	**290**	*i* P		**Pn**	**17 29 47.1**	**-0.5**
CAIG				*i* S		**Sn**	**17 30 13.0**	**-1.7**
CAIG	**El Cayaco**	**2.25**	**290**			**Pn**	**17 29 46.2**	**-1.4**
CAIG						**Sb**	**17 30 18.9**	**-0.3**
PLIG	**Platanillo**	**2.50**	**327**	*e*P		**Pn**	**17 29 51.5**	**+0.3**
PLIG				*i* S		**Sn**	**17 30 19.9**	**-1.1**
PLIG	**Platanillo**	**2.50**	**327**			**Pn**	**17 29 52.3**	**+1.1**
PLIG						**Sb**	**17 30 27.8**	**+1.1**
YAIG	**Yautepec**	**2.73**	**339**	*e*P		**Pn**	**17 29 53.9**	**-0.4**
YAIG				*i* S		**Sn**	**17 30 25.8**	**-0.9**
YAIG	**Yautepec**	**2.73**	**339**			**Pb**	**17 29 57.7**	**-2.4**
YAIG						**Sb**	**17 30 35.5**	**+2.3**
CMIG	**Matias Romero**	**3.14**	**75**	Pn		**Pn**	**17 29 59.8**	**-0.1**
	2.7nm,0.3s,baz=249,slow=10,SNR=18							
CMIG				Lg		Lg	17 30 46.4	
	20nm,0.3s,baz=202,slow=19,SNR=4.9							
CMIG				LR		LR	17 30 56.3	
	comp=Z,97nm,20.2s,baz=200,slow=36							
UNM	**Universidad Na**	**3.20**	**341**			**Pn**	**17 30 02.6**	**+1.6**
MOIG	**Morelia**	**4.50**	**319**			**Pn**	**17 30 21.2**	**+2.5**
CCIG	**Comitan**	**5.68**	**89**			**Pn**	**17 30 36.4**	**+1.4**
APG	**El Apazote**	**7.42**	**99**	Pn		**Pn**	**17 31 01.0**	**+2.0**
	3.9nm,0.3s,baz=122,slow=19,SNR=2.6							
APG				Sn		**Sn**	**17 32 20.7**	**-1.9**
	1.8nm,0.3s,baz=107,slow=23,SNR=1.5							
APG				Lg		Lg	17 33 15.2	
	0.5nm,0.3s,baz=201,slow=21,SNR=1.0							
TEIG	**Tepich**	**10.07**	**66**	Pn		**Pn**	**17 31 33.9**	**-1.2**
	1.2nm,0.3s,baz=24,slow=20,SNR=2.2							
TEIG				Sn		**Sn**	**17 33 19.3**	**-8.1**
	0.6nm,0.3s,baz=141,slow=23,SNR=2.0							
TEIG	**Tepich**	**10.07**	**66**	Pn		**Pn**	**17 31 34.8**	**-0.3**
TXAR	**Lajitas Array**	**13.97**	**339**	Pn		**Pn**	**17 32 30.6**	**+2.2**
	0.0nm,0.3s,baz=156,slow=16,SNR=2.7							
TXAR				LR		LR	17 38 15.4	
	comp=Z,188nm,21.4s,baz=0.0,slow=40							
JTS	**Las Juntas de**	**14.07**	**113**	Pn		**P**	**17 32 38.4**	**+1.0**
	1.1nm,0.3s,baz=16,slow=18,SNR=2.7							
ABTX	**Abilene, Hawle**	**16.32**	**355**	P		**P**	**17 33 03.5**	**+1.2**
ABTX				IAmb		IAmb	17 33 04.8	
	comp=Z,17nm,1.1s							
BNM	**Barren Site**	**19.38**	**338**	P		**Pn**	**17 33 38.7**	**+1.2**
LENM	**Lemitar**	**19.52**	**337**	P		**Pn**	**17 33 39.1**	**+0.1**
ANMO	**Albuquerque**	**20.04**	**339**	P		Pn	17 33 44.9	-0.4
	comp=Z,0.1nm,0.3s,baz=140,slow=12,SNR=2.8							
PLAL	**Pickwick Lake**	**20.64**	**24**	P		**P**	**17 33 49.1**	**-0.7**
PLAL				IAmb		IAmb	17 33 58.5	
	comp=Z,7.4nm,0.8s							
MGMO	**Mountain Grove**	**21.40**	**13**	P		**P**	**17 33 58.0**	**+0.2**
MGMO				IAmb		IAmb	17 34 10.5	
	comp=Z,8.5nm,0.9s							
T25A	**Trinidad**	**21.51**	**346**	P		**P**	**17 34 00.1**	**+0.7**
GOGA	**Godfrey**	**21.53**	**35**	P		**P**	**17 33 58.5**	**-0.8**
GOGA				IAmb		IAmb	17 34 08.2	
	comp=Z,7.9nm,0.7s							
WVT	**Waverly**	**21.75**	**23**	P		**P**	**17 34 01.1**	**-0.5**
WVT				IAmb		IAmb	17 34 13.8	
	comp=Z,9.3nm,0.8s							
W50A	**Signal Mountai**	**22.01**	**29**	P		**P**	**17 34 04.1**	**-0.4**
R40A	**Maddies Statio**	**22.49**	**12**	P		**P**	**17 34 11.7**	**+2.1**
S44A	**Carbondale**	**22.68**	**18**	P		**P**	**17 34 12.2**	**+0.6**
S44A				IAmb		IAmb	17 34 15.8	
	comp=Z,12nm,0.9s							
MVCO	**Mesa Verde**	**22.79**	**338**	P		**P**	**17 34 14.4**	**+1.3**
MVCO				IAmb		IAmb	17 34 17.6	
	comp=Z,10nm,1.1s							
TKL	**Tuckaleechee C**	**23.11**	**31**	P		**P**	**17 34 15.6**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=188,slow=15,SNR=2.3							
PV13	**Radium Mtn., P**	**23.75**	**339**	P		**P**	**17 34 23.7**	**+1.0**
PV22	**Blue Mesa, Par**	**24.08**	**339**	P		**P**	**17 34 27.3**	**+1.6**
SMCO	**Snowmass**	**24.10**	**343**	P		**P**	**17 34 27.8**	**+1.7**
ISCO	**Idaho Springs**	**24.33**	**346**	P		**P**	**17 34 29.4**	**+1.2**
ISCO				IAmb		IAmb	17 34 30.8	
	comp=Z,5.2nm,0.8s							
MTPU	**Mount Pierson**	**24.98**	**333**	P		**P**	**17 34 37.4**	**+3.2**
MTPU				IAmb		IAmb	17 34 47.8	
	comp=Z,7.9nm,1.0s							
SRU	**San Rafael Swe**	**25.22**	**337**	P		**P**	**17 34 38.5**	**+2.5**
Q16A	**Castle Valley**	**25.30**	**336**	P		**P**	**17 34 38.2**	**+1.4**
Q16A				IAmb		IAmb	17 34 41.7	
	comp=Z,10.0nm,1.3s							
O20A	**White River Ci**	**25.35**	**342**	P		**P**	**17 34 40.0**	**+2.8**
O20A				IAmb		IAmb	17 34 41.7	
	comp=Z,13nm,1.3s							
PSUT	**Pine Spring**	**26.14**	**331**	P		**P**	**17 34 46.2**	**+1.8**
O49A	**Ovington**	**26.63**	**24**	P		**P**	**17 34 48.3**	**-0.3**
PDAR	**Pinedale Array**	**28.16**	**342**	P		**P**	**17 35 04.7**	**+2.1**
	comp=Z,1.0nm,0.9s,baz=165,slow=8.0,SNR=5.2							
NVAR	**Mina Array Bea**	**28.33**	**325**	P		**P**	**17 35 07.1**	**+3.0**
	comp=Z,0.3nm,0.5s,baz=137,slow=9.8,SNR=5.6							
ATAH	**Atahualpa**	**30.34**	**139**	LR		LR	17 44 58.3	
	comp=Z,78nm,18.8s,baz=13,slow=31							
AGMN	**Agassiz Nation**	**31.96**	**3**	P		**P**	**17 35 35.7**	**-0.2**
SADO	**Sadowa**	**32.56**	**25**	LR		LR	17 52 25.7	
	comp=Z,44nm,18.4s,baz=136,slow=43							
YKA	**Yellowknife Ar**	**47.59**	**350**	P		**P**	**17 37 45.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=154,slow=7.5,SNR=6.4							
H03N2	**Juan Fernandez**	**52.72**	**160**	T		T	18 35 17.2	
	baz=338,slow=77,SNR=187							
H03N1	**Juan Fernandez**	**52.73**	**160**	T		T	18 35 24.4	
	baz=338,slow=77,SNR=236							
H03N3	**Juan Fernandez**	**52.73**	**160**	T		T	18 35 23.4	
	baz=338,slow=77,SNR=206							
ILAR	**Eielson Array**	**58.48**	**338**	P		**P**	**17 39 06.8**	**+1.1**
	comp=Z,0.6nm,1.0s,baz=146,slow=6.6,SNR=3.3							
ILAR				LR		LR	18 07 25.8	
	comp=Z,48nm,19.3s,baz=138,slow=39							

*TAP **27** 17:37:13.7, 24°.46N×122°.77E, h88km, ML3.0, C*
*JMA **27** 17:37:14.0±0.2, 24°.41N×122°.71E, h86km±2km, M2.0*
ISC 27 17:37:15.1±1.3, 24°.42N±0°.04×122°.73E±0°.02, h76km±8km, n89, σ0s97/165, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JYNG	**Yonagunijimaku**	**0.20**	**81**	P		**Pn**	**17 37 26.9**	**+0.5**
JYNG				S		**Sn**	**17 37 36.2**	**+1.4**
YOJ	**Yonaguni jima**	**0.26**	**81**	*e*P		**Pn**	**17 37 26.4**	**-0.4**
	baz=88							
YOJ				*e*S		**Sn**	**17 37 36.0**	**+0.7**
	baz=88							
YOJ	**Yonaguni jima**	**0.26**	**81**	P		**Pn**	**17 37 26.5**	**-0.2**
YOJ				S		**Sn**	**17 37 36.0**	**+0.7**
TWC	**Suao**	**0.82**	**283**	*e*P		**Pn**	**17 37 31.4**	**-0.4**
	baz=285							
TWC				*e*S		**Sn**	**17 37 43.5**	**-0.8**
	baz=285							
EWUT	**Wuta**	**0.87**	**272**	*e*P		**Pn**	**17 37 31.8**	**-0.6**
	baz=269							
EWUT				*e*S		**Sn**	**17 37 44.9**	**-0.3**
	baz=269							
ENA	**Nanau**	**0.90**	**271**	P		**Pn**	**17 37 32.8**	**0.0**
	baz=268							
ENA				S		**Sn**	**17 37 46.6**	**+0.7**
	baz=268							
IRIF	**Iriomote-Funau**	**0.92**	**95**	P		**Pn**	**17 37 32.9**	**0.0**
IRIF				S		**Sn**	**17 37 46.5**	**+0.3**
NDS	**Dongshan**	**0.95**	**283**	P		**Pn**	**17 37 33.2**	**-0.1**
	baz=287							
NDS				S		**Sn**	**17 37 46.9**	**0.0**
	baz=287							
TIPB	**Shuangxi**	**0.99**	**304**	*e*P		**Pn**	**17 37 33.9**	**+0.1**
	baz=300							
TIPB				*e*S		**Sn**	**17 37 47.0**	**-0.8**
	baz=300							
TWE	**Neicheng**	**1.01**	**287**	*e*P		**Pn**	**17 37 33.9**	**-0.2**
	baz=284							
TWE				*e*S		**Sn**	**17 37 48.7**	**+0.5**
	baz=284							
HATJ	**Hateruma jima**	**1.05**	**110**	*e*S		**Sn**	**17 37 49.9**	**+0.9**
NACB	**Ninganchiao**	**1.06**	**257**	*e*P		**Pn**	**17 37 34.1**	**-0.7**
	baz=248							
NACB				*e*S		**Sn**	**17 37 47.6**	**-1.8**
	baz=248							
ENTT	**Nioudou**	**1.08**	**282**	*e*P		**Pn**	**17 37 35.2**	**+0.2**
	baz=284							
ENTT				S		**Sn**	**17 37 50.0**	**+0.1**
	baz=284							
TWD	**Chiawan**	**1.09**	**252**	*e*P		**Pn**	**17 37 34.6**	**-0.4**
	baz=250							
TWD				S		**Sn**	**17 37 49.7**	**-0.2**
	baz=250							
NDT	**Datong Townshi**	**1.12**	**279**	*e*P		**Pn**	**17 37 35.3**	**-0.2**
	baz=281							
NDT				*e*S		**Sn**	**17 37 51.2**	**+0.5**
	baz=281							
ETLH	**Xiulin Townshi**	**1.16**	**260**	*e*P		**Pn**	**17 37 35.9**	**-0.1**
	baz=252							
ETLH				*e*S		**Sn**	**17 37 51.0**	**-0.7**
	baz=252							
NWLT	**Wulai**	**1.17**	**288**	P		**Pn**	**17 37 35.9**	**-0.2**
	baz=290							
NWLT				S		**Sn**	**17 37 51.4**	**-0.4**
	baz=290							
JKRS	**Kuro-shima**	**1.18**	**99**	P		**Pn**	**17 37 36.5**	**+0.3**
JKRS				S		**Sn**	**17 37 52.8**	**+0.9**
NHDH	**Xindian Distri**	**1.22**	**296**	*e*S		**Sn**	**17 37 52.9**	**0.0**
	baz=294							
NNSB	**Datong**	**1.23**	**271**	P		**Pn**	**17 37 36.4**	**-0.5**
	baz=262							
NNSB				*e*S		**Sn**	**17 37 53.9**	**+0.6**
	baz=262							
NNSH	**Datong**	**1.23**	**271**	*e*P		**Pn**	**17 37 36.1**	**-0.8**
	baz=262							
NNSH				*e*S		**Sn**	**17 37 52.8**	**-0.5**
	baz=262							
NNS	**Nan Shan**	**1.24**	**271**	P		**Pn**	**17 37 35.9**	**-1.2**
	baz=262							
NNS				*e*S		**Sn**	**17 37 54.5**	**+1.0**
	baz=262							
YHNB	**Yeheng**	**1.26**	**282**	*e*P		**Pn**	**17 37 37.2**	**0.0**
	baz=279							
YHNB				*e*S		**Sn**	**17 37 54.0**	**+0.2**
	baz=279							
NSK	**Sanguang**	**1.27**	**282**	*e*P		**Pn**	**17 37 37.6**	**+0.2**
	baz=279							
NSK				*e*S		**Sn**	**17 37 54.7**	**+0.5**
	baz=279							
YM01	**YM01**	**1.28**	**305**	*e*P		**Pn**	**17 37 36.2**	**-1.3**
	baz=295							
YM01				*e*S		**Sn**	**17 37 52.6**	**-1.6**
	baz=295							
YM11	**YM11**	**1.29**	**305**	*e*P		**Pn**	**17 37 37.2**	**-0.3**
	baz=296							
YM11				S		**Sn**	**17 37 53.8**	**-0.7**
	baz=296							
YM08	**YM08**	**1.29**	**307**	*e*P		**Pn**	**17 37 37.4**	**-0.2**
	baz=296							
JIJ	**Ishigaki jima**	**1.29**	**92**	P		**Pn**	**17 37 37.2**	**-0.3**
JIJ				S		**Sn**	**17 37 53.7**	**-0.7**
YM10	**YM10**	**1.29**	**305**	*i* P		**Pn**	**17 37 37.4**	**-0.3**
	baz=296							
YM10				*e*S		**Sn**	**17 37 54.6**	**0.0**
	baz=296							
YM05	**YM05**	**1.29**	**305**	*e*P		**Pn**	**17 37 37.3**	**-0.3**
	baz=296							
YM05				*e*S		**Sn**	**17 37 54.5**	**-0.2**
	baz=296							
YM04	**YM04**	**1.31**	**304**	P		**Pn**	**17 37 37.4**	**-0.4**
	baz=293							
YM04				*e*S		**Sn**	**17 37 53.9**	**-1.0**
	baz=293							
ESL	**Shilin**	**1.33**	**243**	P		**Pn**	**17 37 37.0**	**-1.1**
	baz=248							
ESL				S		**Sn**	**17 37 54.3**	**-1.1**
	baz=248							
WHF	**Hehuan Shan**	**1.37**	**259**	*e*P		**Pn**	**17 37 38.5**	**-0.5**
	baz=264							
WHF				S		**Sn**	**17 37 56.7**	**-0.2**
	baz=264							
FUSS	**Fushou**	**1.37**	**263**	*e*P		**Pn**	**17 37 38.9**	**+0.1**
	baz=261							
FUSS				*e*S		**Sn**	**17 37 56.8**	**+0.2**
	baz=261							
TWS1	**Kuangyinshan**	**1.37**	**300**	*e*P		**Pn**	**17 37 38.4**	**-0.2**
	baz=291							
TWS1				*e*S		**Sn**	**17 37 57.7**	**+1.3**
	baz=291							
EGFH	**Guangfu**	**1.41**	**238**	*e*P		**Pn**	**17 37 38.0**	**-1.1**
	baz=233							
EGFH				*e*S		**Sn**	**17 37 55.6**	**-1.6**
	baz=233							
TWT	**Tachien**	**1.43**	**264**	*e*P		**Pn**	**17 37 40.0**	**+0.4**
	baz=262							
TWT				S		**Sn**	**17 37 57.9**	**0.0**
	baz=262							
TDCB	**Techi**	**1.44**	**264**	*e*P		**Pn**	**17 37 39.9**	**+0.3**
	baz=262							
TDCB				*e*S		**Sn**	**17 37 57.9**	**-0.3**
	baz=262							
JISG	**Ishigakijimahi**	**1.45**	**83**	P		**Pn**	**17 37 39.2**	**-0.4**
JISG				S		**Sn**	**17 37 57.3**	**-0.8**
CHGB	**Renai**	**1.47**	**256**	*e*P		**Pn**	**17 37 39.9**	**-0.2**
	baz=248							
CHGB				*e*S		**Sn**	**17 37 58.8**	**-0.1**
	baz=248							
HGSD	**Ruisui**	**1.51**	**233**	*e*P		**Pn**	**17 37 41.2**	**+0.7**
	baz=228							
HGSD				S		**Sn**	**17 37 58.5**	**-1.1**
	baz=228							
EHY	**Hungye**	**1.58**	**235**	*e*P		**Pn**	**17 37 40.9**	**-0.4**
	baz=234							
EHY				*e*S		**Sn**	**17 38 00.6**	**-0.6**
	baz=234							
LIOB	**Emei**	**1.58**	**278**	*e*P		**Pn**	**17 37 41.6**	**+0.2**
	baz=276							
LIOB				*e*S		**Sn**	**17 38 01.3**	**+0.1**
	baz=276							
NSTT	**Nanjuang**	**1.59**	**278**	*e*P		**Pn**	**17 37 42.1**	**+0.7**
	baz=276							
NSTT				S		**Sn**	**17 38 00.7**	**-0.7**
	baz=276							
VWDT	**VWDT**	**1.60**	**246**	*e*P		**Pn**	**17 37 40.8**	**-0.8**
	baz=238							
VWDT				*e*S		**Sn**	**17 38 01.0**	**-0.5**
	baz=238							
WHP	**Taichung City**	**1.63**	**265**	P		**Pn**	**17 37 42.7**	**+0.6**
	baz=263							
WHP				*e*S		**Sn**	**17 38 03.1**	**+0.5**
	baz=263							
YULB	**Yu-li**	**1.66**	**232**	*e*P		**Pn**	**17 37 42.0**	**-0.5**
	baz=241							
YULB				*e*S		**Sn**	**17 38 01.4**	**-1.8**
	baz=241							
WPL	**Puli Township**	**1.67**	**256**	*e*P		**Pn**	**17 37 42.6**	**+0.1**
	baz=251							
WPL				*e*S		**Sn**	**17 38 04.0**	**+0.7**
	baz=251							
EYUL	**Yuli**	**1.68**	**231**	*e*P		**Pn**	**17 37 42.4**	**-0.2**
	baz=226							
EYUL				*e*S		**Sn**	**17 38 03.5**	**+0.1**
	baz=226							
TWF1	**Yuli**	**1.69**	**231**	P		**Pn**	**17 37 41.7**	**-1.1**
	baz=240							
TWF1				S		**Sn**	**17 38 02.0**	**-1.8**
	baz=240							
DPDB	**Guoxing**	**1.69**	**257**	*e*P		**Pn

	baz=210								
LONT	**Longtian**	**2.10**	**225**	*e*P		**Pn**	**17 37 49.3**	**+1.0**
	baz=232								
LONT				S		**Sn**	**17 38 12.6**	**-1.0**
	baz=232								
WDLH	**Douliu**	**2.13**	**250**	*e*S		**Sn**	**17 38 17.1**	**+2.8**
	baz=262								
STYH	**Taoyuan**	**2.18**	**236**	*e*P		**Pn**	**17 37 49.6**	**+0.2**
	baz=230								
STYH				S		**Sn**	**17 38 15.7**	**+0.3**
	baz=230								
STYT	**Tauyuan**	**2.20**	**236**	*e*P		**Pn**	**17 37 50.0**	**+0.3**
	baz=230								
STYT				*e*S		**Sn**	**17 38 17.4**	**+1.3**
	baz=230								
TWGBT	**Beinan**	**2.20**	**224**	*e*S		**Sn**	**17 38 14.3**	**-1.7**
	baz=231								
TWG	**Pinlang**	**2.20**	**224**	*e*S		**Sn**	**17 38 14.9**	**-1.2**
	baz=231								
WRL	**Guolierlin Hig**	**2.21**	**257**	*e*S		**Sn**	**17 38 15.6**	**-0.6**
	baz=255								
TPUB	**Ta-pu**	**2.22**	**240**	*e*P		**Pn**	**17 37 50.7**	**+0.7**
	baz=239								
TPUB				*e*S		**Sn**	**17 38 17.4**	**+0.8**
	baz=239								
CHN4	**Tsaushan**	**2.23**	**242**	P		**Pn**	**17 37 51.6**	**+1.7**
	baz=234								
CHN4				S		**Sn**	**17 38 18.5**	**+1.9**
	baz=234								
WTK	**Tuku**	**2.26**	**252**	*e*S		**Sn**	**17 38 18.1**	**+0.7**
	baz=262								
WTP	**Ta-pu**	**2.26**	**239**	P		**Pn**	**17 37 52.1**	**+1.6**
	baz=238								
WTP				*e*S		**Sn**	**17 38 18.8**	**+1.2**
	baz=238								
TWK	**Hsinying**	**2.35**	**241**	*e*P		**Pn**	**17 37 51.8**	**+0.1**
	baz=240								
TWK				S		**Sn**	**17 38 21.3**	**+1.6**
	baz=240								
CHN1	**Nanshi**	**2.36**	**239**	*e*S		**Sn**	**17 38 22.4**	**+2.5**
	baz=238								
SGST	**Jiashian**	**2.38**	**236**	P		**Pn**	**17 37 52.5**	**+0.5**
	baz=235								
SGST				S		**Sn**	**17 38 21.7**	**+1.5**
	baz=235								
SLGT	**Liugui**	**2.38**	**234**	*e*P		**Pn**	**17 37 53.0**	**+1.0**
	baz=225								
SLGT				*e*S		**Sn**	**17 38 22.3**	**+1.9**
	baz=225								
WSF	**Szhu**	**2.42**	**252**	*e*P		**Pn**	**17 37 52.2**	**-0.3**
	baz=260								
WSF				*e*S		**Sn**	**17 38 21.1**	**-0.1**
	baz=260								
CHN8	**Yiju**	**2.54**	**246**	*e*S		**Sn**	**17 38 26.2**	**+2.0**
	baz=235								
SSD	**Sandimen**	**2.55**	**230**	*e*P		**Pn**	**17 37 55.8**	**+1.6**
	baz=228								
SSD				*e*S		**Sn**	**17 38 25.5**	**+1.2**
	baz=228								
TSMG	**Majia**	**2.56**	**229**	*e*P		**Pn**	**17 37 55.8**	**+1.3**
	baz=228								
TSMG				*e*S		**Sn**	**17 38 25.5**	**+0.7**
	baz=228								
MASBT	**Mashibuluo**	**2.64**	**227**	*e*P		**Pn**	**17 37 56.8**	**+1.3**
	baz=223								
MASBT				*e*S		**Sn**	**17 38 26.7**	**+0.2**
	baz=223								
EAST	**Anshuo**	**2.67**	**221**	*e*P		**Pn**	**17 37 55.1**	**-0.8**
	baz=224								
EAST				*e*S		**Sn**	**17 38 25.6**	**-1.6**
	baz=224								
PTMZ	**Houxiangcun**	**3.34**	**281**	*e*P		**Pn**	**17 38 04.1**	**-0.9**
	baz=271								
PTMZ				*e*S		**Sn**	**17 38 41.7**	**-1.9**
	baz=271								

DJA ***27*** *17:41:54.6±0.3,8˚S±4˚×10˚7E±˚, h10km, M4.5/14, mB5.3/5, mb4.7/6, MLv4.4/14, Mw(mB)4.7/5*
IDC ***27*** *17:41:54.2±4.4, 7.80S×106.74E, h33km±30km, mb3.8/17, mb1 4.0/18, mb1mx3.8/35, mbtmp4.1/18, ML4.5/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/39, Error ellipse: s-maj=35.0km s-min=12.6km az=49.0*
NEIC ***27*** *17:41:56.7±2.7, 7.92S±0.06×106.80E±0.07, h60km±4km, mb4.4/24, Error ellipse: s-maj=9.9km s-min=8.4km az=123.0*

ISC 27 17:41:55.2±0.5,**7.91S**±0.07×**106.91E**±0.06,**h46km**,**n78,**
σ**2s06/72,mb4.3/24,MS3.0/3,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**1.28**	**33**	Pg	**Pn**	**17 42 18.9**	**+2.0**
	764nm,0.3s,baz=87,slow=1.4,SNR=547						
LEM				Lg	Lg	17 42 38.3	
	605nm,0.3s,baz=310,slow=22,SNR=6.2						
LEM				LR	LR	17 43 01.3	
	comp=Z,666nm,18.2s,baz=178,slow=52						
DBJI	**Dramaga**	**1.35**	**353**	P	**Pn**	**17 42 20.2**	**+2.5**
XMIS	**Christmas Isla**	**2.84**	**206**		**Pn**	**17 42 38.7**	**+0.5**
BLSI	**Bandar Lampung**	**3.01**	**327**	P	**Pn**	**17 42 42.0**	**+1.5**
KASI	**Kota Agung**	**3.37**	**315**	P	**Pn**	**17 42 48.1**	**+2.8**
UGM	**Wanagama**	**3.58**	**90**		**Pn**	**17 42 48.7**	**+0.4**
UGM	**Wanagama**	**3.58**	**90**	P	**Pn**	**17 42 50.6**	**+2.3**
SMRI	**Semarang**	**3.61**	**77**		**Pn**	**17 42 51.3**	**+2.7**
SMRI	**Semarang**	**3.61**	**77**	P	**Pn**	**17 42 51.3**	**+2.7**
KLSI		**3.86**	**326**	P	**Pn**	**17 42 56.1**	**+4.0**
LHSI	**Lahat**	**5.27**	**320**	P	**Pn**	**17 43 13.7**	**+2.3**
	0.2nm1µm60nm,0.8s						
PPBI	**Pangkal Pinang**	**5.76**	**352**	P	**Pn**	**17 43 20.8**	**+2.6**
	0.6nm16µm40nm,1.3s						
KSI	**Kapahiang**	**6.02**	**314**	P	**Pn**	**17 43 25.8**	**+3.9**
	0.2nm48nm,0.5s						
JAGI	**Jajag, Banyuwa**	**7.19**	**95**		**Pn**	**17 43 39.1**	**+1.2**
ABJI	**Asem Bagus**	**7.26**	**90**	P	**Pn**	**17 43 40.9**	**+2.1**
	0.3nm2µm59nm,0.4s						
SRBI	**Singaraja**	**8.23**	**92**	P	**Pn**	**17 43 53.9**	**+1.8**
	954nm38nm,0.5s						
BKSI	**Bulukumba**	**13.38**	**80**	P	**P**	**17 45 08.3**	**-2.6**
MMRI	**Maumere**	**15.19**	**94**		**P**	**17 45 30.2**	**-0.9**
MMRI				IAmb	IAmb	17 45 39.0	
	comp=Z,25nm,0.6s						
MMRI	**Maumere**	**15.19**	**94**	P	**P**	**17 45 35.8**	**+4.7**
GIRL	**Giralia**	**16.26**	**155**	Pn	**Pn**	**17 45 39.8**	**-0.7**
BATI	**Baumata**	**16.70**	**99**	Pn	**P**	**17 45 48.0**	**0.0**
	comp=Z,1.8nm,0.3s,baz=248,slow=16,SNR=1.5						
SOEI	**Soe**	**17.25**	**97**		**P**	**17 45 54.9**	**+0.7**
SOEI				IAmb	IAmb	17 46 16.2	
	comp=Z,18nm,0.6s						
PSA00	**Pilbara Seismi**	**18.45**	**139**		**Pn**	**17 46 09.4**	**+1.7**
PSA00				IAmb	IAmb	17 46 13.9	
	comp=Z,74nm,1.9s						
SANI	**Sanana**	**19.87**	**74**	P	**Pn**	**17 46 25.9**	**+1.2**
NLAI	**Namlea**	**20.62**	**78**	P	Pn	17 46 42.0	+8.4
FITZ	**Fitzroy Crossi**	**20.85**	**121**	P	**P**	**17 46 34.5**	**+1.1**
	comp=Z,3.1nm,0.9s,baz=285,slow=11,SNR=3.0						
FITZ				S	**S**	**17 50 14.6**	**-9.0**
	comp=Z,3.7nm,0.9s,baz=309,slow=8.7,SNR=2.9						
FITZ	**Fitzroy Crossi**	**20.85**	**121**	P	Pn	17 46 35.6	-0.7
FITZ				IAmb	IAmb	17 47 25.2	
	comp=Z,24nm,1.7s						
MTN	**Manton Dam**	**24.32**	**104**	P	**P**	**17 47 09.1**	**+0.2**
MTN				IAmb	IAmb	17 47 30.5	
	comp=Z,30nm,1.4s						
FAKI	**Fak Fak**	**25.70**	**80**	P	**P**	**17 47 19.8**	**-1.6**
FAKI				IAmb	IAmb	17 48 09.1	
	comp=Z,13nm,1.0s						
CMAR	**Chiang Mai Arr**	**27.35**	**343**	P	**P**	**17 47 33.2**	**-2.9**
	comp=Z,0.8nm,0.6s,baz=179,slow=8.5,SNR=13						
CMAR				PcP	**PcP**	**17 50 55.7**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=229,slow=1.6,SNR=4.9						
CMAR				LR	LR	17 59 56.7	
	comp=Z,37nm,18.5s,baz=176,slow=40						
CMAR	**Chiang Mai Arr**	**27.35**	**343**	P	**P**	**17 47 33.4**	**-2.7**
H01W3	**Cape Leeuwin H**	**27.66**	**167**	T	T	18 17 10.5	
	baz=342,slow=78,SNR=8.3						
H01W1	**Cape Leeuwin H**	**27.67**	**167**	T	T	18 17 09.5	
	baz=342,slow=78,SNR=7.3						
H01W2	**Cape Leeuwin H**	**27.67**	**167**	T	T	18 17 14.6	
	baz=342,slow=78,SNR=9.9						
WB0	**Warramunga Arr**	**29.12**	**117**	P	**P**	**17 47 53.4**	**+1.4**
WB0				IAmb	IAmb	17 48 36.1	
	comp=Z,15nm,1.7s						
WRA	**Warramunga Arr**	**29.14**	**117**	P	**P**	**17 47 53.2**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=292,slow=10,SNR=11						
WRA				PcP	**PcP**	**17 51 00.2**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=303,slow=2.3,SNR=4.9						

WRA	**Warramunga Arr**	**29.14**	**117**	P		**P**	**17 47 53.5**	**+1.4**
WB2	**Warramunga Arr**	**29.14**	**117**	P		**P**	**17 47 53.6**	**+1.4**
WB2				IAmb		IAmb	17 48 16.5	
	comp=Z,29nm,1.9s							
WR0	**Warramunga Arr**	**29.32**	**117**	P		**P**	**17 47 54.4**	**+0.6**
WR0				IAmb		IAmb	17 48 52.5	
	comp=Z,16nm,1.8s							
AS31	**Alice Springs**	**30.25**	**124**	P		**P**	**17 48 03.8**	**+1.8**
ASAR	**Alice Springs**	**30.25**	**124**	P		**P**	**17 48 04.0**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=305,slow=8.5,SNR=12							
ASAR				LR		LR	18 01 10.7	
	comp=Z,23nm,20.3s,baz=261,slow=38							
ASAR	**Alice Springs**	**30.25**	**124**	P		**P**	**17 48 03.5**	**+1.5**
H08S2	**Diego Garcia H**	**34.09**	**268**	T		T	18 24 11.8	
	baz=92							
H08S3	**Diego Garcia H**	**34.10**	**268**	T		T	18 24 12.6	
	baz=92							
H08S1	**Diego Carcia H**	**34.11**	**268**	T		T	18 24 13.2	
	baz=92							
COEN	**Coen**	**36.08**	**103**	P		**P**	**17 48 52.7**	**-0.2**
COEN				IAmb		IAmb	17 48 53.8	
	comp=Z,5.6nm,1.1s							
BBOO	**Buckleboo**	**36.66**	**137**	P		**P**	**17 48 56.9**	**-0.7**
PMG	**Port Moresby**	**39.81**	**95**	P		**P**	**17 49 25.6**	**+1.3**
	comp=Z,8.1nm,0.8s,baz=154,slow=17,SNR=2.7							
PMG	**Port Moresby**	**39.81**	**95**	P		**P**	**17 49 26.7**	**+2.3**
STKA	**Stephens Creek**	**40.11**	**131**	P		**P**	**17 49 28.9**	**+2.3**
	comp=Z,2.9nm,0.5s,baz=310,slow=9.1,SNR=13							
STKA	**Stephens Creek**	**40.11**	**131**	P		**P**	**17 49 28.6**	**+1.9**
MJAR	**Matsushiro Arr**	**53.08**	**32**	P		**P**	**17 51 07.1**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=216,slow=6.0,SNR=2.4							
SONM	**Songino Array**	**55.50**	**360**	P		**P**	**17 51 24.9**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=177,slow=8.7,SNR=4.9							
SONM				PcP		**PcP**	**17 52 25.5**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=178,slow=3.4,SNR=7.6							
WSAR	**Wadi Sarin**	**56.44**	**305**	P		**P**	**17 51 31.9**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=107,slow=11,SNR=6.9							
MK31	**Makanchi Array**	**58.70**	**340**	P		**P**	**17 51 46.6**	**-1.6**
MKAR	**Makanchi Array**	**58.70**	**340**	P		**P**	**17 51 46.6**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=152,slow=8.6,SNR=13							
MKAR	**Makanchi Array**	**58.70**	**340**	P		**P**	**17 51 45.7**	**-2.4**
KKAR	**Karatay Array**	**60.59**	**330**	P		**P**	**17 51 58.9**	**-2.4**
GEYT	**Alibeck**	**64.38**	**319**	P		**P**	**17 52 27.3**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=185,slow=8.6,SNR=4.1							
GEYT	**Alibeck**	**64.38**	**319**	IAmb		IAmb	17 52 28.1	
	comp=Z,3.2nm,1.1s							
GYA0B	**ALIBECK ARRAY**	**64.38**	**319**	P		**P**	**17 52 27.2**	**+0.6**
ZALV	**Zalesovo Beam**	**64.38**	**346**	P		**P**	**17 52 25.8**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=164,slow=5.7,SNR=2.8							
ZALV	**Zalesovo Beam**	**64.38**	**346**	P		**P**	**17 52 25.4**	**-0.8**
BRVK	**Borovoye**	**68.23**	**337**	P		**P**	**17 52 51.1**	**+0.1**
BRVK				IAmb		IAmb	17 52 52.7	
	comp=Z,7.5nm,1.6s							
BKZ	**Black Stump Fm**	**69.23**	**129**	P		**P**	**17 52 59.5**	**+1.8**
ABKAR	**Akbulak array**	**70.14**	**329**	P		**P**	**17 53 03.1**	**+0.2**
ABKAR	**Akbulak array**	**70.14**	**329**	P		**P**	**17 53 03.0**	**+0.2**
ARU	**Arti**	**75.39**	**335**	P		**P**	**17 53 34.1**	**+0.2**
ARU				IAmb		IAmb	17 53 35.4	
	comp=Z,4.4nm,1.0s							
KBZ	**Khabaz**	**77.26**	**318**	P		**P**	**17 53 44.0**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=355,slow=8.5,SNR=4.0							
NRIK	**Noril'sk**	**78.23**	**353**	P		**P**	**17 53 48.2**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=117,slow=4.5,SNR=2.2							
BRTR	**Keskin Array B**	**82.36**	**312**	P		**P**	**17 54 13.8**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=147,slow=7.1,SNR=5.4							
AKASG	**Malin Array Be**	**88.34**	**322**	P		**P**	**17 54 42.0**	**0.0**
	comp=Z,1.0nm,0.6s,baz=80,slow=5.1,SNR=3.0							
ARCES	**ARCESS Array B**	**94.35**	**340**	P		**P**	**17 55 09.1**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=120,slow=3.6,SNR=1.2							
HFS	**Hagfors**	**98.40**	**330**	LR		LR	18 44 22.4	
	comp=Z,17nm,18.9s,baz=116,slow=38							
YKA	**Yellowknife Ar**	**117.74**	**20**	PKP		**PKiKP**	**18 00 36.4**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=356,slow=1.6,SNR=6.8							
PDAR	**Pinedale Array**	**132.77**	**37**	PKP		**PKiKP**	**18 01 07.7**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=327,slow=1.5,SNR=2.0							
TXAR	**Lajitas Array**	**144.23**	**49**	PKP		**PKPdf**	**18 01 27.2**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=226,slow=1.8,SNR=5.8							
TXAR	**Lajitas Array**	**144.23**	**49**			**PKPdf**	**18 01 27.1**	**+0.1**

UPP ***27*** *18:03:51.6±0.1, 67.07N×20.91E, h1km, ML2.2, Explosion*
HEL ***27*** *18:03:52.2±0.1, 67.08N×20.93E, h0km, ML2.1, ML2.2(UPP), Explosion*
NAO ***27*** *18:03:53.0±0.9, 67.03N×21.34E, ML2.4*
IDC ***27*** *18:03:53.7±1.0, 67.05N×21.55E, h0km, mb1 3.0/3, mb1mx2.8/51, mbtmp2.9/3, ML1.9/3, Error ellipse: s-maj=19.3km s-min=8.8km az=115.0*
BER ***27*** *18:03:55.3±3.8, 66.99N×21.10E, h0km, ML1.6, ML2.4(NAO), Suspected explosion*

ISC 27 18:03:51.4±0.7,**67.08N**±0.02×**20.97E**±0.03,**h0km**,**n54,**
σ**1s22/80,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.55**	**46**	P	**Pg**	**18 04 02.5**	**+0.5**
MASU	**Masugnsbyn**	**0.55**	**46**	*i* P	**Pg**	**18 04 02.5**	**+0.5**
PAJU	**Pajala**	**0.84**	**93**	P	**Pg**	**18 04 07.6**	**0.0**
PAJU	**Pajala**	**0.84**	**93**	*e*P	**Pg**	**18 04 07.4**	**-0.1**
KUA	**Kurravaara**	**0.91**	**345**	P	**Pg**	**18 04 08.4**	**-0.5**
KUA				S	**Sb**	**18 04 21.9**	**-0.9**
KUA	**Kurravaara**	**0.91**	**345**	*e*P	**Pg**	**18 04 08.4**	**-0.5**
KUA				*e*S	**Sb**	**18 04 21.9**	**-0.9**
RATU	**Laukkuluspa**	**0.92**	**325**	P	**Pg**	**18 04 08.5**	**-0.5**
RATU	**Laukkuluspa**	**0.92**	**325**	*e*P	**Pg**	**18 04 08.5**	**-0.5**
HARU	**Harads**	**0.92**	**180**	P	**Pg**	**18 04 08.5**	**-0.5**
HARU	**Harads**	**0.92**	**180**	*e*P	**Pg**	**18 04 08.5**	**-0.5**
SALU	**Saltoluokta**	**1.00**	**289**	P	**Pg**	**18 04 10.2**	**-0.4**
SALU	**Saltoluokta**	**1.00**	**289**	*e*P	**Pg**	**18 04 10.2**	**-0.4**
LANU	**Lannavaara**	**1.05**	**21**	P	**Pg**	**18 04 10.9**	**-0.6**
LANU	**Lannavaara**	**1.05**	**21**	*e*P	**Pg**	**18 04 10.9**	**-0.6**
NIKU	**Nikkaluokta**	**1.09**	**318**	P	**Pg**	**18 04 11.5**	**-0.7**
NIKU	**Nikkaluokta**	**1.09**	**318**	*e*P	**Pg**	**18 04 11.5**	**-0.7**
KOVU	**Salmi**	**1.19**	**345**	P	**Pg**	**18 04 13.5**	**-0.7**
KOVU	**Salmi**	**1.19**	**345**	*e*P	**Pg**	**18 04 13.5**	**-0.7**
KALU	**Kalix**	**1.56**	**141**	P	**Pn**	**18 04 20.0**	**-0.3**
KALU	**Kalix**	**1.56**	**141**	*e*PG	**Pn**	**18 04 20.2**	**-0.1**
KALU				*e*SN	**Sg**	**18 04 42.8**	**+1.5**
SJUU	**Sjulsmark**	**1.60**	**170**	P	**Pn**	**18 04 20.8**	**-0.1**
SJUU	**Sjulsmark**	**1.60**	**170**	*e*P	**Pn**	**18 04 20.8**	**-0.1**
TOF	**Tornio**	**1.68**	**125**	*e*PG	**Pn**	**18 04 22.3**	**+0.3**
TOF				MSG		18 04 42.5	
	comp=Z,21nm,0.2s						
TOF				*e*SN	**Sn**	**18 04 44.8**	**+0.7**
HEF	**Hetta**	**1.68**	**36**	*e*P	**Pn**	**18 04 22.1**	**0.0**
	baz=216						
HEF				MSG		18 04 41.8	
	comp=Z,16nm,0.2s						
HEF				*e*SN	**Sg**	**18 04 45.0**	**-0.4**
KIF	**Kilpisjarvi**	**1.94**	**358**	P	**Pb**	**18 04 27.3**	**-0.2**
KIF				Sn	**Sg**	**18 04 55.0**	**+1.4**
KIF	**Kilpisjarvi**	**1.94**	**358**	P	**Pb**	**18 04 27.3**	**-0.2**
KIF				Sn	**Sg**	**18 04 55.0**	**+1.4**
KIF	**Kilpisjarvi**	**1.94**	**358**	*e*PB	**Pb**	**18 04 26.9**	**-0.6**
	baz=178						
KIF				MSG		18 04 50.3	
	comp=Z,29nm,0.2s						
KIF				*e*SG	**Sg**	**18 04 54.7**	**+1.2**
RNF	**Rovaniemi**	**2.05**	**101**	*e*PB	**Pn**	**18 04 28.4**	**+1.3**
RNF				*e*SG	**Sg**	**18 04 57.5**	**+0.3**
KTK1	**Kautokeino**	**2.12**	**23**	Pn	**Pb**	**18 04 30.4**	**-0.3**
KTK1				Sn	**Sg**	**18 04 58.7**	**-0.8**
KTK1	**Kautokeino**	**2.12**	**23**	*e*P	**Pb**	**18 04 29.7**	**-1.0**
KTK1				*e*S	**Sg**	**18 04 58.3**	**-1.2**
KTK1				IAML		18 05 00.9	
	comp=Z,7.0nm,0.3s						
SGF	**Sodankyl**	**2.19**	**78**	*e*PB	**Pb**	**18 04 30.7**	**-1.1**
	baz=260						
SGF				*e*SG	**Sb**	**18 05 00.7**	**+1.1**
JETT	**Jettan, Norway**	**2.50**	**356**	Pn	**Pb**	**18 04 35.9**	**-1.3**
JETT				Sn	**Sg**	**18 05 10.0**	**-1.6**
BURU	**Burvik**	**2.51**	**176**	*e*PB	**Pn**	**18 04 35.4**	**+1.9**
BURU				*e*SG	**Sg**	**18 05 12.4**	**+0.3**
OUL	**Oulu**	**2.84**	**133**	*e*PB	**Pb**	**18 04 41.7**	**-1.1**
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**18 04 40.7**	**+0.7**
	baz=208,slow=16						
ARA0				Sn	**Sn**	**18 05 18.3**	**+1.8**
	baz=208,slow=28						
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**18 04 40.7**	**+0.7**
	baz=208,slow=16						
ARA0				Sn	**Sn**	**18 05 18.3**	**+1.8**
	baz=208,slow=28						
ARCES	**ARCESS Array B**	**2.99**	**32**	Pn	**Pn**	**18 04 40.8**	**+0.8**
	baz=209,slow=14,SNR=61						

ARCES				Sn		**Sn**	**18 05 17.8**	**+1.3**
	baz=208,slow=26,SNR=5.2								
OUF	**Merijarvi**	**3.14**	**149**	*e*PB		**Pn**	**18 04 44.7**	**+2.7**
OUF				MSG			18 05 25.0		
	comp=Z,1.7nm,0.2s								
UMAU	**Umeaa**	**3.21**	**182**	*e*P		**Pn**	**18 04 43.4**	**+0.3**
UMAU				*e*S		**Sn**	**18 05 23.9**	**+2.0**
VRF	**Varrio**	**3.40**	**75**	*e*PG		**Pb**	**18 04 52.6**	**+0.1**
	baz=267								
MSF	**Maaselka**	**3.44**	**106**	*e*PB		**Pb**	**18 04 50.4**	**-2.7**
KEV	**Kevo**	**3.49**	**37**	*e*P		**Pn**	**18 04 47.3**	**+0.4**
KEV				*e*SB		**Sb**	**18 05 37.0**	**0.0**
KU6	**Riekki**	**3.72**	**102**	*e*P		**Pn**	**18 04 52.3**	**+2.2**
	baz=289								
VAF	**Ylistaro**	**4.12**	**169**	*e*P		**Pn**	**18 04 57.0**	**+1.5**
	baz=349								
APA0	**Apatity Array**	**4.68**	**78**	Pn		**Pn**	**18 05 03.2**	**0.0**
APA0				Sn		**Sn**	**18 05 58.4**	**+0.2**
	baz=270,slow=22								
APA0				Lg		Lg	18 06 18.8		
	baz=284,slow=28								
APA0	**Apatity Array**	**4.68**	**78**	Pn		**Pn**	**18 05 03.2**	**0.0**
APA0				Sn		**Sn**	**18 05 58.4**	**+0.2**
	baz=270,slow=22								
APA0				Sg		**Sg**	**18 06 18.8**	**-2.8**
	baz=284,slow=28								
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**18 05 23.6**	**+1.2**
	baz=348,slow=14								
FIA0				Sn		**Sn**	**18 06 30.5**	**-2.1**
	baz=346,slow=22								
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**18 05 23.6**	**+1.2**
	baz=348,slow=14								
FIA0				Sn		**Sn**	**18 06 30.5**	**-2.1**
	baz=346,slow=22								
FINES	**FINESS Array B**	**6.08**	**156**	Pn		**Pn**	**18 05 23.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=352,slow=12,SNR=3.7								
FINES				Sn		**Sn**	**18 06 32.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=346,slow=24,SNR=2.1								
NB2	**NORSAR Subarra**	**7.41**	**220**	Pn		**Pn**	**18 05 42.8**	**+2.1**
NB2	**NORSAR Subarra**	**7.41**	**220**	Pn		**Pn**	**18 05 42.8**	**+2.1**
NOA	**NORSAR Array B**	**7.41**	**220**	Pn		**Pn**	**18 05 44.8**	**+4.1**
	comp=Z,0.0nm,0.3s,baz=47,slow=14,SNR=1.6								
NOA				Sn		**Sn**	**18 07 05.1**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=41,slow=22,SNR=1.4								
NOA				Lg		Lg	18 07 48.3		
	comp=Z,0.0nm,0.3s,baz=68,slow=15,SNR=1.5								
HFS	**Hagfors**	**7.68**	**208**	Pn		**Pn**	**18 05 44.3**	**-0.1**
	baz=31,slow=12								
HFS	**Hagfors**	**7.68**	**208**	Pn		**Pn**	**18 05 44.3**	**-0.1**
	baz=31,slow=12								

IDC ***27*** *18:05:31.8±1.8, 22.03S×170.83E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/25, mbtmp3.8/5, ML3.8/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/30, Error ellipse: s-maj=41.2km s-min=33.4km az=18.0*
NEIC ***27*** *18:05:39.9±1.0, 22.3S±0.1×170.6E±0.1, h48km±7km, mb4.5/12, Error ellipse: s-maj=19.3km s-min=12.0km az=51.0*

ISC 27 18:05:39.0±0.9,**22.1S**±0.2×**170.75E**±0.09,**h51km**,**n27,**
σ**0s79/24,mb4.4/9,MS3.3/5,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.99**	**270**	Pn	**Pn**	**18 06 36.7**	**-1.0**
	6.2nm,0.3s,baz=146,slow=9.8,SNR=279						
DZM				Sn	**Sn**	**18 07 24.7**	**+1.4**
	3.2nm,0.3s,baz=307,slow=20,SNR=7.1						
DZM	**Mont Dzumac**	**3.99**	**270**	*e*Pn	**Pn**	**18 06 36.5**	**-1.2**
	24nm,0.2s						
DZM				*e*Sn	**Sn**	**18 07 24.2**	**+0.9**
	12nm,0.3s						
DZM				*e*LR	LR	18 07 35.6	
	comp=Z,505nm,25.1s						
DZM	**Mont Dzumac**	**3.99**	**270**		**Pn**	**18 06 36.5**	**-1.2**
RAO	**Raoul Island**	**12.44**	**127**	Pn	**Pn**	**18 08 33.9**	**+0.6**
LTZ	**Lake Taylor**	**20.64**	**177**	P	**P**	**18 10 14

BON1 Bonao 0.95 14 *i* P Pn 18 14 07.2 -3.4
BON1 *e*S Sn 18 14 18.8 -4.1
BON1 IAML 18 14 20.9
comp=Z,7µm,0.3s
SDDR Presa de Saban 1.14 327 Pn 18 14 10.8 -2.5
SDDR Sg Sn 18 14 25.4 -2.4
SDDR Presa de Saban 1.14 327 ǁ *i* P Pn 18 14 10.7 -2.5
SDDR *e*S Sn 18 14 24.4 -3.4
SDDR Presa de Saban 1.14 327 *i* P Pn 18 14 10.8 -2.5
SDDR *e*S Sn 18 14 25.4 -2.4
SDDR IAML 18 14 28.5
comp=Z,7µm,0.5s
SC01 Santiago de lo 1.41 356 Pn 18 14 15.7 -1.2
SC01 Sn 18 14 33.4 -0.8
SC01 Santiago de lo 1.41 356 *i* P Pn 18 14 15.7 -1.2
SC01 *e*S Sn 18 14 33.1 -1.1
SC01 IAML 18 14 34.3
comp=Z,7µm,0.3s
DR12 Loma Pena Alta 1.42 57 Pn 18 14 16.1 -0.9
NQUSE US Embassy, Po 1.63 290 Pn 18 14 19.9 +0.1
NQWLB Fermate 1.67 287 Pn 18 14 20.9 +0.5
NQWLB Sn 18 14 43.8 +3.1
JAKH Jacmel 1.80 277 Pn 18 14 23.4 +1.1
JAKH Jacmel 1.80 277 *i* P Pn 18 14 24.1 +1.9
JAKH IAML 18 14 49.2
comp=Z,4µm,0.5s
LGNH Logne 1.94 285 Pn 18 14 24.7 +0.6
LGNH Logne 1.94 285 *i* P Pn 18 14 25.2 +1.2
LGNH *e*S Sn 18 14 49.7 +2.5
LGNH IAML 18 14 54.5
comp=Z,2µm,0.6s
MPR Mayaguez 3.33 86 Pn 18 14 43.5 +0.2
MPR Mayaguez 3.33 86 *i* P Pn 18 14 48.2 +4.9
MPR IAML 18 15 55.5
comp=Z,289nm,0.8s
AGPR Aguadilla, PR 3.38 82 Pn Pn 18 14 46.8 +2.9
AGPR Aguadilla, PR 3.38 82 *i* P Pn 18 14 48.3 +4.3
AGPR IAML 18 15 55.0
comp=Z,827nm,1.1s
MLPR Magueyes Islan 3.42 90 Pn Pn 18 14 43.5 -1.0
GRTK Grand Turk 3.51 352 Pn Pn 18 14 45.9 +0.2
GRTK Grand Turk 3.51 352 *i* P Pn 18 14 46.3 +0.6
GRTK IAML 18 15 53.5
comp=Z,599nm,0.7s
AOPR Arecibo Observ 3.71 84 Pn Pn 18 14 47.4 -1.1
OBIP Obispado Ponce 3.83 89 Pn Pn 18 14 48.4 -1.8
ICMP Isla Caja de M 3.91 91 Pn Pn 18 14 51.2 -0.1
EMPR Esperanza - Ma 3.93 83 Pn 18 14 50.9 -0.6
SJG San Juan 4.27 88 P Pn 18 15 00.6 +4.4
comp=Z,48nm,0.3s,baz=314,slow=4.1,SNR=40
SJG S Sn 18 15 51.8 +7.0
comp=Z,36nm,0.3s,baz=296,slow=22,SNR=1.8
SJG San Juan 4.27 88 Pn 18 14 57.1 +0.9
SJG San Juan 4.27 88 *e*P Pn 18 14 59.9 +3.7
GCPR Guaynabo City 4.34 85 Pn 18 14 57.7 +0.6
PDPR Patillas Dam, 4.39 89 Pn Pn 18 14 58.5 +0.6
CBYP Canovanas 4.55 86 Pn 18 15 00.1 -0.1
GTBY Guantanamo Bay 4.64 295 Pn Pn 18 15 00.6 -0.7
GTBY Guantanamo Bay 4.64 295 *e*P Pn 18 15 00.6 -0.7
CUPR Culebra, Puert 5.10 86 Pn Pn 18 15 07.7 +0.1
CDVI St. Croix 5.60 92 Pn Pn 18 15 15.4 +0.9
GWJ Greenwich 5.80 272 *i* P Pn 18 15 18.6 +1.3
HOJ Hope 5.82 271 *i* P Pn 18 15 19.3 +1.8
STH Stony Hill 5.87 272 *i* P Pn 18 15 19.3 +1.0
URIC Uribia, Colomb 6.41 192 *e*P Pn 18 15 26.2 +0.6
URIC *e*S Sn 18 16 29.6 -8.1
MTDJ Mount Denham 6.56 273 Pn Pn 18 15 27.3 -0.5
MTDJ Mount Denham 6.56 273 *e*P Pn 18 15 28.8 +1.0
MCJ Malvern 6.71 270 *i* P Pn 18 15 45.5 +16
CRJC Cerrejon, Guaj 7.29 198 ǁ *e*P Pn 18 15 36.6 -1.1
SMRC Santa Marta, M 7.64 207 *e*P Pn 18 15 40.5 -2.1
LL3C La Loma 3 Cana 8.67 198 *e*P Pn 18 15 57.5 +0.8
CBCY The Bluff, Cay 8.80 283 Pn Pn 18 15 57.6 -0.9
SDV Santo Domingo 9.07 180 P Pn 18 16 03.5 +1.1
comp=Z,11nm,0.3s,baz=9.2,slow=9.3,SNR=38
SDV S Sn 18 17 39.9 -3.5
comp=Z,13nm,0.3s,baz=301,slow=18,SNR=6.3
SDV LR LR 18 19 52.3
comp=Z,215nm,18.1s,baz=6.5,slow=39
SDV Santo Domingo 9.07 180 *e*P Pn 18 16 03.3 +0.9
SDV Santo Domingo 9.07 180 *e*P Pn 18 16 03.5 +1.1
LCCY Blossom Villag 9.10 282 Pn Pn 18 16 01.6 -0.9
SJCC San Jacinto, C 9.19 209 *e*P Pn 18 16 02.6 -1.4
PCRV Puerto La Cruz 9.72 142 P Pn 18 16 12.5 +1.3
comp=Z,6.4nm,0.3s,baz=351,slow=1.7,SNR=19
PCRV S Sn 18 17 52.0 -7.3
comp=Z,2.5nm,0.3s,baz=27,slow=18,SNR=2.1
SMLC San Martn de 9.75 200 *e*P Pn 18 16 09.6 -1.9
PLCV Puerto La Cruz 9.76 142 Pn 18 16 12.5 +0.8
OCAC Ocana 10.06 195 *e*P Pn 18 16 11.9 -4.0
FSCY Frank Sound, G 10.08 279 Pn Pn 18 16 14.9 -1.1
SVB Belmont 10.19 116 Pn Pn 18 16 16.4 -1.2
MCLT Moule a Chique 10.26 113 Pn Pn 18 16 23.6 +5.0
MOTC Monteria, Cord 10.40 209 *e*P Pn 18 16 19.6 -0.8
GRGR Grenville 10.46 123 Pn Pn 18 16 21.6 +0.4
PAMC Pamplona, Colo 10.80 191 *e*P Pn 18 16 23.8 -2.5
ZARC Zaragoza, Cauc 11.24 202 *e*P Pn 18 16 31.0 -0.9
BRRC Barranca, Sant 11.25 196 *e*P Pn 18 16 29.8 -2.2
UREC San Jos de Ur 11.26 206 *e*P Pn 18 16 32.3 +0.1
TAMC Tame, Arauca 11.56 186 *e*P Pn 18 16 35.8 -0.6
BARC Barichara 11.62 193 *e*P Pn 18 16 36.4 -1.0
PTBC PUERTO BERRIO, 12.00 199 *e*P Pn 18 16 40.3 -2.0
DBBC Dabeiba 12.21 207 *e*P Pn 18 16 43.8 -1.4
RUSC La Rusia 12.28 192 *e*P Pn 18 16 45.6 -1.0
BCIP Isla Barro Col 12.54 227 Pn Pn 18 16 46.3 -3.4
BCIP Isla Barro Col 12.54 227 *e*P Pn 18 16 45.9 -3.8
HELC Santa Helena 12.69 203 *e*P Pn 18 16 52.0 0.0
SPBC San Pablo de B 12.74 196 *e*P Pn 18 16 52.9 +0.4
NORC Norcasia 13.05 199 *e*P Pn 18 16 56.9 +0.2
CBOC Ciudad Bolivar 13.17 204 *e*P Pn 18 16 58.2 -0.2
SOLC Bahia Solano 13.45 210 *e*P Pn 18 17 01.7 -0.5
GUY2C Guyana, Caldas 13.53 201 *e*P Pn 18 17 03.7 +0.1
ROSC El Rosal 13.58 196 P Pn 18 17 06.2 +2.0
comp=Z,3.2nm,0.3s,baz=333,slow=22,SNR=1.8
ROSC S Sn 18 19 34.9 +0.7
comp=Z,4.8nm,0.3s,baz=61,slow=22,SNR=2.3
ROSC LR LR 18 21 38.9
comp=Z,135nm,18.4s,baz=219,slow=34
AZU Azuero 13.83 224 *e*P Pn 18 17 04.4 -2.9
ORTC Ortega, Tolima 14.73 198 *e*P Pn 18 17 16.1 -3.5
YOTC Yotoco, Valle 15.02 203 *e*P Pn 18 17 23.7 +0.1
ACON Acoyapa 15.27 249 P P 18 17 30.3 -1.0
BOAB BOACO BROADBAN 15.52 251 P 18 17 34.8 +0.8
BOAB IAmb IAmb 18 17 52.1
comp=Z,44nm,1.1s
JTS Las Juntas de 15.86 243 P Pn 18 17 35.7 +1.4
comp=Z,0.2nm,0.3s,baz=38,slow=21,SNR=1.2
JTS LR LR 18 24 57.3
comp=Z,155nm,18.2s,baz=144,slow=42
JTS Las Juntas de 15.86 243 P P 18 17 37.0 -0.7
TEIG Tepich 16.82 280 P P 18 17 48.6 +0.2
comp=Z,1.5nm,0.3s,baz=35,slow=4.1,SNR=7.7
TEIG LR LR 18 23 24.9
comp=Z,130nm,19.8s,baz=82,slow=34
TEIG Tepich 16.82 280 P P 18 17 49.4 +1.1
TEIG IAmb IAmb 18 18 12.7
comp=Z,120nm,1.9s
Y60A Bolivia 17.31 338 P P 18 17 55.0 +1.3
W57A Gilead 18.99 336 P Pn 18 18 15.2 +2.0
V58A Windy Hill, Pi 19.24 339 P Pn 18 18 16.6 +0.5
V58A IAmb IAmb 18 19 01.6
comp=Z,105nm,1.9s
APG El Apazote 19.25 264 P P 18 18 14.0 -1.4
comp=Z,0.7nm,0.3s,baz=182,slow=22,SNR=2.5
OTAV Otavalo 19.26 204 Pn 18 18 19.3 +2.3
OTAV Otavalo 19.26 204 *e*P Pn 18 18 20.5 +3.5
152A Waverly Hall 19.33 322 P Pn 18 18 17.8 +0.6
PAULI Pauline 19.48 331 P Pn 18 18 17.7 -1.3
KMSC Kings Mountain 19.53 333 P P 18 18 17.3 -0.9
U58A Oxford 19.60 341 P 18 18 19.9
baz=157
T60A Surry 19.80 345 P P 18 18 18.6 -2.4
T59A Double "B" Far 19.84 343 P P 18 18 20.0 -1.6
U57A Blanch 19.89 339 P 18 18 22.5
baz=155
V55A Taylorsville 20.09 334 P Pn 18 18 24.9 -1.3
V55A IAmb IAmb 18 18 29.4
comp=Z,97nm,1.9s
BG3 Lake Jocassee 20.14 329 P Pn 18 18 25.7 -1.1
U56A King 20.19 337 P Pn 18 18 25.4 -2.0
U56A IAmb IAmb 18 18 27.4
comp=Z,52nm,1.4s

S58A Poland Farm, P 20.58 343 P P 18 18 29.3 -0.2
S58A IAmb IAmb 18 18 30.5
comp=Z,30nm,0.7s
S58A Poland Farm, P 20.58 343 P 18 18 29.9
baz=160,SNR=6.4
CCIG Comitan 20.62 268 P Pn 18 18 31.9 -0.9
CCIG IAmb IAmb 18 18 37.0
comp=Z,24nm,0.9s
V53A Saluda 20.64 331 P Pn 18 18 31.7 -1.0
V53A IAmb IAmb 18 18 32.9
comp=Z,22nm,0.7s
W52A Murphy 20.72 328 P Pn 18 18 32.2 -1.4
X51A Calhoun 20.80 325 P Pn 18 18 32.2 -2.3
X51A IAmb IAmb 18 18 33.5
comp=Z,24nm,0.9s
R58B Mineral 20.86 344 P 18 18 33.0
baz=160
R58B Mineral 20.86 344 P P 18 18 32.5 -0.1
R58B IAmb IAmb 18 18 33.5
comp=Z,15nm,0.7s
R59A King George, V 20.89 346 P 18 18 33.8
baz=162,SNR=6.1
U54A Nelsons Funny 20.91 334 P Pn 18 18 33.9 -2.0
U54A Nelsons Funny 20.91 334 P 18 18 34.4
baz=149,SNR=8.5
CBN Corbin Frederi 20.96 345 P Pn 18 18 34.1 -2.2
CBN Corbin Frederi 20.96 345 P 18 18 34.3
baz=162
BLA Blacksburg 20.97 338 P Pn 18 18 34.2 -2.3
BLA IAmb IAmb 18 19 30.6
comp=Z,55nm,1.4s
BLA Blacksburg 20.97 338 P 18 18 34.8
baz=153
LRAL Lakeview Retre 20.97 319 P Pn 18 18 34.5 -2.0
LRAL Lakeview Retre 20.97 319 P 18 18 35.5
baz=131,SNR=5.9
S57A Dark Hollow, R 20.98 341 P 18 18 34.7
baz=157
S57A Dark Hollow, R 20.98 341 P P 18 18 34.0 +0.1
TKL Tuckaleechee C 21.09 329 P P 18 18 34.5 -0.5
comp=Z,16nm,0.8s,baz=152,slow=10,SNR=13
TKL LR LR 18 26 19.9
comp=Z,149nm,19.0s,baz=140,slow=35
TKL Tuckaleechee C 21.09 329 P P 18 18 35.4 +0.3
S56A Natural Bridge 21.10 340 P 18 18 35.7
baz=156
V52A Sevierville 21.15 330 P P 18 18 36.5 +0.8
Y49A Blount Mountai 21.17 321 P P 18 18 37.0 +1.0
FPAL Fort Paine 21.20 324 P P 18 18 36.7 +0.4
FPAL IAmb IAmb 18 18 48.2
comp=Z,40nm,1.4s
R58A Rapidan 21.21 344 P 18 18 36.6
baz=160
CPCT Cooper Cave 21.30 327 P P 18 18 37.4 +0.1
R57A Stanardsville 21.35 343 P 18 18 38.3
baz=159
PTGA Pitinga 21.38 149 LR LR 18 27 34.7
comp=Z,123nm,18.5s,baz=294,slow=38
PTGA Pitinga 21.38 149 P P 18 18 38.5 +0.1
V51A Loudon 21.49 328 P P 18 18 40.1 +0.8
V51A IAmb IAmb 18 18 43.4
comp=Z,38nm,0.8s
W50A Signal Mountai 21.52 326 P P 18 18 40.5 +0.8
W50A IAmb IAmb 18 18 45.1
comp=Z,27nm,1.1s
346A Big Creek Wild 21.63 312 P P 18 18 42.2 +1.2
R56A Bull Pasture M 21.71 341 P 18 18 42.4
baz=157
Q58A Fox Den Farm, 21.74 345 P 18 18 42.5
baz=162,SNR=6.0
Z47A Carrollton 21.76 317 P P 18 18 41.9 -0.4
S54A Dingess, Beckl 21.82 337 P 18 18 43.7
baz=152
S54A Dingess, Beckl 21.82 337 P P 18 18 43.4 +0.4
S54A IAmb IAmb 18 18 44.4
comp=Z,37nm,0.8s
R55A Marlinton 21.83 340 P 18 18 43.9
baz=155,SNR=5.5
R55A Marlinton 21.83 340 P P 18 18 42.9 -0.2
R55A IAmb IAmb 18 18 47.0
comp=Z,23nm,0.6s
SWET Sewanee 21.87 325 P P 18 18 44.3 +0.8
SWET IAmb IAmb 18 18 55.9
comp=Z,47nm,1.8s
X48A Hartselle 21.96 321 P P 18 18 44.9 +0.5
SDMD Soldier's Deli 21.99 347 P P 18 18 44.8 +0.2
SDMD IAmb IAmb 18 18 46.0
comp=Z,18nm,0.8s
Q57A Strasburg 22.01 344 P 18 18 45.4
baz=160
R54A Victor 22.04 338 P 18 18 46.0
baz=153
146A Union 22.07 315 P P 18 18 45.8 +0.2
146A IAmb IAmb 18 18 49.4
comp=Z,57nm,1.1s
P59A Jarrettsville 22.10 348 P 18 18 46.1
baz=165
Q56A Snyder Ridge, 22.23 342 P P 18 18 48.1 +0.7
Q56A IAmb IAmb 18 18 48.8
comp=Z,38nm,1.1s
Q56A Snyder Ridge, 22.23 342 P 18 18 48.1
baz=158
WUPA West Chester U 22.26 350 P P 18 18 46.5 -1.1
P57A Homestead Farm 22.33 345 P P 18 18 48.5 +0.2
P57A IAmb IAmb 18 18 54.3
comp=Z,24nm,1.1s
MVL Millersville 22.46 348 P P 18 18 50.2 +0.5
R53A Hurricane 22.53 336 P P 18 18 51.6 +1.1
R53A IAmb IAmb 18 18 53.4
comp=Z,30nm,0.8s
P56A Dayton Farm, R 22.57 343 P 18 18 51.9
baz=159
344A Westbrook Farm 22.58 310 P P 18 18 52.6 +1.5
S51A Beattyville 22.62 332 P P 18 18 51.1 -0.3
T50A Nancy 22.69 329 P P 18 18 52.1 -0.1
T50A IAmb IAmb 18 18 54.9
comp=Z,38nm,1.4s
Q54A Coxs Mills 22.70 339 P P 18 18 52.8 +0.5
Q54A IAmb IAmb 18 18 54.5
comp=Z,49nm,1.2s
CLTN Cedars of Leba 22.74 325 P P 18 18 53.4 +0.6
CLTN IAmb IAmb 18 18 55.9
comp=Z,49nm,1.5s
V48A Smith Brothers 22.75 324 P P 18 18 53.4 +0.5
V48A IAmb IAmb 18 18 55.8
comp=Z,31nm,1.1s
U49A Red Boiling Sp 22.77 327 P P 18 18 53.3 +0.3
U49A IAmb IAmb 18 18 55.9
comp=Z,26nm,1.1s
Q53A Leroy 22.83 338 P 18 18 54.9
baz=152
VBMS Vicksburg 22.84 312 P P 18 18 54.0 +0.2
LUPA Lehigh Univers 22.88 351 P P 18 18 54.5 +0.3
LUPA IAmb IAmb 18 18 56.4
comp=Z,34nm,1.2s
PLAL Pickwick Lake 22.94 321 P P 18 18 54.7 -0.2
PLAL IAmb IAmb 18 18 58.0
comp=Z,15nm,0.8s
MCWV Mont Chateau 23.00 342 P P 18 18 56.0 +0.7
N60A Cedar Hill Far 23.10 351 P 18 18 56.9
baz=169
Y45A Yeager Farm, C 23.14 317 P P 18 18 58.0 +1.2
Q52A Bidwell 23.20 336 P P 18 18 57.3 -0.1
Q52A IAmb IAmb 18 18 59.9
comp=Z,44nm,1.1s
O56A Blue Knob Stat 23.21 344 P P 18 18 58.0 +0.4
O56A IAmb IAmb 18 19 11.7
comp=Z,23nm,1.2s
ODNJ Ogdensburg 23.24 352 P P 18 18 57.6 -0.2
ODNJ IAmb IAmb 18 19 23.3
comp=Z,34nm,1.2s
N59A State Game Lan 23.25 350 P 18 18 58.5
baz=168
N59A State Game Lan 23.25 350 P P 18 18 57.9 -0.1
N59A IAmb IAmb 18 19 00.1
comp=Z,15nm,0.8s
TRNY Table Rock, Ra 23.26 353 P P 18 18 58.6 +0.6
TRNY IAmb IAmb 18 18 59.8
comp=Z,14nm,0.8s
N58A Sunbury 23.34 348 P P 18 18 57.9 -0.9
N58A IAmb IAmb 18 19 49.8
comp=Z,54nm,1.6s
P53A Whipple 23.34 339 P P 18 18 58.0 -0.8
SSPA Standing Stone 23.39 346 P P 18 18 57.3 -2.1
N57A Milroy 23.43 347 P 18 19 00.2
baz=163
OXF Oxford 23.46 318 P P 18 19 00.3 +0.4
OXF Oxford 23.46 318 P 18 19 01.2
baz=130,SNR=5.4
R50A Paris 23.47 332 P P 18 19 00.6 +0.5
R50A IAmb IAmb 18 19 01.7
comp=Z,15nm,0.7s
M60A Port Jervis 23.48 352 P 18 19 00.3
baz=170
WVT Waverly 23.60 323 P P 18 19 01.3 -0.1
WVT IAmb IAmb 18 19 02.9
comp=Z,26nm,1.1s
WVT Waverly 23.60 323 P 18 19 01.6
baz=135
O54A Avella 23.64 341 P P 18 19 00.8 -0.9
O54A IAmb IAmb 18 19 18.9
comp=Z,37nm,1.4s
Q51A Peebles 23.68 335 P P 18 19 02.2 +0.1
Q51A IAmb IAmb 18 19 05.5
comp=Z,33nm,1.2s
T47A Sharon Grove 23.82 326 P P 18 19 03.5 +0.1
T47A IAmb IAmb 18 19 50.7
comp=Z,39nm,1.8s
R49A Shelbyville 23.86 331 P P 18 19 03.2 -0.7
R49A IAmb IAmb 18 19 14.3
comp=Z,53nm,1.8s
M57A Sunshine Farm, 23.90 348 P P 18 19 04.7 +0.6
M57A Sunshine Farm, 23.90 348 P 18 19 05.1
baz=165
P51A Williamsport 23.95 336 P P 18 19 05.1 +0.5
P51A IAmb IAmb 18 19 07.1
comp=Z,20nm,0.9s
O53A New Philadelph 23.97 340 P P 18 19 05.2 +0.4
O53A IAmb IAmb 18 19 06.2
comp=Z,19nm,0.8s
O53A New Philadelph 23.97 340 P 18 19 05.7
baz=154
O52A Adamsville 24.06 339 P P 18 19 06.0 +0.4
L61A Hillsdale 1, H 24.23 355 P 18 19 08.2
baz=173
N54A Moraine State 24.24 343 P 18 19 08.5
baz=158
N54A Moraine State 24.24 343 P P 18 19 08.1 +0.7
N54A IAmb IAmb 18 19 09.1
comp=Z,20nm,0.7s
M56A Emporium 24.27 346 P 18 19 08.5
baz=162
M56A Emporium 24.27 346 P P 18 19 08.5 +0.9
WCI Wyandotte Cave 24.35 329 P P 18 19 09.4 +1.1
L59A Walton 24.39 352 P P 18 19 09.7 +1.0
M55A Ridgway 24.39 345 P P 18 19 09.0 +0.3
M55A IAmb IAmb 18 19 28.0
comp=Z,56nm,1.7s
HRV Adam Dziewonsk 24.43 358 P P 18 19 09.8 +0.8
L57A Andrews Acres 24.49 349 P 18 19 10.4
baz=166
BINY Binghamton 24.54 350 P P 18 19 10.1 +0.1
BINY Binghamton 24.54 350 P 18 19 11.4
baz=168
K62A Royalston 24.61 357 P P 18 19 12.1 +1.5
M54A Oil Creek Stat 24.66 344 P P 18 19 11.3 +0.2
M54A IAmb IAmb 18 19 12.6
comp=Z,17nm,0.8s
M54A Oil Creek Stat 24.66 344 P 18 19 12.1
baz=159,SNR=5.5
P49A Miami Univ. Ec 24.68 333 P P 18 19 12.0 +0.7
P49A Miami Univ. Ec 24.68 333 P 18 19 12.6
baz=146,SNR=6.1
L56A Greenwood 24.76 348 P 18 19 12.7
baz=164
L56A Greenwood 24.76 348 P P 18 19 12.7 +0.6
M53A WI Miller and 24.88 342 P 18 19 14.2
baz=157
P48A Milroy 24.93 332 P P 18 19 13.5 0.0
P48A IAmb IAmb 18 19 15.4
comp=Z,26nm,0.8s
HENM Henderson Moun 24.95 322 P P 18 19 14.2 +0.4
N51A Ashland 24.96 339 P P 18 19 14.0 +0.2
N51A IAmb IAmb 18 19 16.7
comp=Z,18nm,0.8s
K58A Earlville 25.04 351 P P 18 19 15.6 +1.0
K58A IAmb IAmb 18 19 17.1
comp=Z,18nm,0.8s
K58A Earlville 25.04 351 P 18 19 16.3
baz=169
O49A Covington 25.07 335 P P 18 19 15.0 +0.2
PARMO Parma 25.08 322 P P 18 19 15.2 +0.3
M52A Chesterland 25.18 341 P P 18 19 15.6 -0.3
M52A IAmb IAmb 18 19 18.0
comp=Z,15nm,0.7s
BLO Bloomington 25.20 330 P P 18 19 16.4 +0.4
BLO IAmb IAmb 18 19 18.9
comp=Z,23nm,0.8s
WVNY West Valley, N 25.24 346 P P 18 19 17.1 +0.7
WVNY IAmb IAmb 18 19 19.5
comp=Z,19nm,1.0s
K56A Middlesex 25.25 348 P 18 19 18.6
baz=165
J61A Chester 25.30 357 P 18 19 19.0
baz=176
ERPA Erie 25.32 344 P P 18 19 17.3 +0.2
ERPA IAmb IAmb 18 19 33.5
comp=Z,31nm,1.2s
MMNY Mt. Morris Dam 25.40 347 P P 18 19 18.9 +1.1
MMNY IAmb IAmb 18 19 20.8
comp=Z,25nm,0.9s
WLAR White Oak Lake 25.46 312 P P 18 19 18.2 -0.3
WLAR IAmb IAmb 18 19 21.2
comp=Z,28nm,0.9s
MALB Monte Alegre 25.49 139 *e*P P 18 19 18.2 -0.6
SIUC Southern Illin 25.50 324 P P 18 19 19.5 +0.7
S44A Carbondale 25.51 324 P P 18 19 19.4 +0.5
LCAR Lake Charles 25.55 319 P P 18 19 19.9 +0.7
LCAR IAmb IAmb 18 19 21.0
comp=Z,44nm,1.8s
PBMO Poplar Bluff 25.56 321 P P 18 19 19.8 +0.4
PBMO IAmb IAmb 18 19 22.9
comp=Z,18nm,0.9s
J59A Piesco 25.58 353 P 18 19 21.8
baz=171
J59A Piesco 25.58 353 P P 18 19 20.9 +1.4
M50A Fremont 25.62 338 P P 18 19 20.0 +0.2
M50A IAmb IAmb 18 19 22.7
comp=Z,14nm,0.8s
N49A Columbus Grove 25.63 336 P P 18 19 20.8 +0.9
N49A IAmb IAmb 18 19 22.3
comp=Z,12nm,0.8s
NATX Nacogdoches 25.66 307 P P 18 19 21.7 +1.4
NATX Nacogdoches 25.66 307 P 18 19 21.9
baz=116
CZSB Cruzeiro do Su 25.66 185 *e*P P 18 19 22.9 +2.5
W41B Gary Mavity, V 25.70 316 P 18 19 21.4
baz=126
X40A Basin Creek Fa 25.71 314 P P 18 19 21.1 +0.4
X40A IAmb IAmb 18 19 25.2
comp=Z,18nm,1.0s
X40A Basin Creek Fa 25.71 314 P 18 19 22.0
baz=124,SNR=7.8
J57A Williamstown 25.72 351 P P 18 19 20.1 -0.5
J57A IAmb IAmb 18 19 52.1
comp=Z,17nm,1.0s
WHAR Wooly Hollow 25.80 316 P P 18 19 22.4 +0.9
WHAR IAmb IAmb 18 19 25.1
comp=Z,19nm,1.0s
HKT Hockley 25.84 302 P P 18 19 22.5 +0.6
I58A Old Forge 25.86 353 P 18 19 24.7
baz=170,SNR=5.1
P46A Rosedale 25.88 330 P P 18 19 23.1 +1.0
FCAR Ozark Folk Cen 26.05 317 P P 18 19 24.4 +0.6
T42A Van Buren 26.13 321 P P 18 19 25.3 +0.8
T42A IAmb IAmb 18 19 25.8
comp=Z,11nm,0.8s
MIAR Mount Ida 26.25 313 P P 18 19 26.7 +1.1
L48A N Adams 26.61 337 P P 18 19 29.1 +0.3
W39A Magazine 26.75 314 P P 18 19 30.6 +0.5
W39A IAmb IAmb 18 19 33.0
comp=Z,22nm,1.0s
W39A Magazine 26.75 314 P 18 19 32.1
baz=124,SNR=6.3
U40A Yellville 26.80 317 P P 18 19 31.5 +0.9
U40A IAmb IAmb 18 19 32.2
comp=Z,14nm,1.0s
U40A Yellville 26.80 317 P 18 19 31.4
baz=127,SNR=6.3
CCM Cathedral Cave 26.90 322 P P 18 19 32.1 +0.7

CCM Cathedral Cave 26.90 322 P 18 19 31.9
baz=132
MGMO Mountain Grove 26.93 319 P P 18 19 32.3 +0.6
MGMO IAmb IAmb 18 19 34.1
comp=Z,18nm,1.1s
I51A Listowel 27.16 343 P 18 19 34.1
baz=158
HHAR Hobbs 27.47 316 P P 18 19 37.6 +1.1
HHAR IAmb IAmb 18 19 39.2
comp=Z,48nm,1.9s
X37A Clayton 27.53 312 P P 18 19 37.7 +0.6
SADO Sadowa 27.61 347 LR LR 18 30 35.0
comp=Z,152nm,19.2s,baz=132,slow=36
R40A Maddies Statio 27.66 321 P P 18 19 38.5 +0.3
SAML Samuel 27.78 164 P P 18 19 40.0 +0.5
SAML Samuel 27.78 164 eP P 18 19 40.2 +0.7
S39A Bolivar 27.92 319 P P 18 19 41.3 +0.8
S39A IAmb IAmb 18 19 42.1
comp=Z,19nm,0.8s
ETMB Extrema 28.00 171 eP P 18 19 42.5 +1.1
P40A Paris 28.36 324 P P 18 19 44.7 +0.3
P40A IAmb IAmb 18 19 45.4
comp=Z,18nm,0.9s
TUL1 Leonard 28.51 314 P 18 19 46.9
baz=122
D55A Sainte-Anne-du 29.20 353 P 18 19 52.4
baz=170
OK031 S. Brethren Rd 29.26 313 P P 18 19 50.9 -1.6
P38A Dawn 29.27 322 P P 18 19 52.8 +0.2
P38A IAmb IAmb 18 19 53.5
comp=Z,13nm,0.6s
T35A Sooner Cattle 29.54 315 P P 18 19 54.9 -0.1
ABTX Abilene, Hawle 29.86 305 P P 18 19 58.5 +0.5
ABTX IAmb IAmb 18 19 59.7
comp=Z,14nm,0.9s
ABTX Abilene, Hawle 29.86 305 P 18 19 58.6
baz=112
JFWS Jewell Farm 29.88 330 P 18 19 58.1
baz=140
WMOK Wichita Mounta 30.07 309 P P 18 20 00.3 +0.5
WMOK Wichita Mounta 30.07 309 P 18 20 00.2
baz=116,SNR=6.2
KAN13 South Haven SW 30.25 314 P P 18 20 02.1 +0.8
KAN14 Manchester OK 30.55 314 P P 18 20 04.5 +0.6
KSU1 Kansas State U 30.83 318 P 18 20 06.7
baz=126
E43A Lone Tree Farm 31.36 338 P P 18 20 11.4 +0.5
G40A Rib Lake 31.70 333 P P 18 20 14.2 +0.3
G40A IAmb IAmb 18 20 15.1
comp=Z,16nm,0.9s
MATQ Matagami 32.17 351 P 18 20 18.3
baz=167,SNR=5.3
TX31 Lajitas Ar. Si 32.17 297 P P 18 20 19.4 +1.0
TX31 IAmb IAmb 18 20 20.6
comp=Z,14nm,1.1s
TX32 Lajitas Array 32.17 297 P P 18 20 19.6 +1.2
TXAR Lajitas Array 32.17 297 P P 18 20 19.5 +1.1
comp=Z,1.1nm,0.5s,baz=128,slow=8.1,SNR=19
TXAR PcP PcP 18 23 07.2 +0.4
comp=Z,0.7nm,0.8s,baz=140,slow=4.9,SNR=5.0
TXAR Lajitas Array 32.17 297 P P 18 20 19.4 +0.9
AMTX Amarillo 32.30 307 P P 18 20 19.9 +0.4
AMTX IAmb IAmb 18 20 20.6
comp=Z,13nm,0.8s
AMTX Amarillo 32.30 307 P 18 20 20.0
baz=113
D41A Chassel 32.51 337 P P 18 20 21.5 +0.4
CBKS Cedar Bluff 32.71 315 P P 18 20 23.6 +0.6
CBKS Cedar Bluff 32.71 315 P 18 20 24.0
baz=121,SNR=5.8
MSTX Muleshoe 32.79 305 P P 18 20 24.1 +0.3
MSTX Muleshoe 32.79 305 P 18 20 24.4
baz=111,SNR=13
E38A The Farm, Brul 33.34 333 P P 18 20 28.3 0.0
E38A IAmb IAmb 18 20 29.1
comp=Z,11nm,0.9s
ECSD EROS Data Cent 33.71 325 P P 18 20 31.4 -0.2
ECSD IAmb IAmb 18 20 32.2
comp=Z,6.0nm,0.7s
ECSD EROS Data Cent 33.71 325 P 18 20 31.5
baz=131,SNR=5.7
LPAZ La Paz 34.17 176 LR LR 18 34 48.8
comp=Z,81nm,18.3s,baz=312,slow=37
MNTX Cornudas Mount 34.19 300 P P 18 20 36.0 +0.1
MNTX Cornudas Mount 34.19 300 P 18 20 37.0
baz=105,SNR=23
EYMN Ely 34.37 335 P 18 20 37.0
baz=143
F33A 5 Mile Ranch, 34.97 328 P P 18 20 42.5 0.0
F33A IAmb IAmb 18 20 43.0
comp=Z,6.2nm,0.7s
SMTB Santa Maria do 35.09 138 eP P 18 20 44.3 +0.5
PTLB Pontes e Lacer 35.13 160 eP P 18 20 44.5 +0.4
T25A Trinidad 35.23 310 P P 18 20 46.2 +1.1
T25A IAmb IAmb 18 20 47.1
comp=Z,11nm,0.8s
T25A Trinidad 35.23 310 P 18 20 46.1
baz=114,SNR=5.6
SNDB Serra Nova Dou 35.39 146 eP P 18 20 47.4 +1.1
B35A Bob, Littlefor 35.63 333 P P 18 20 47.7 -0.4
BNM Barren Site 35.88 304 P P 18 20 52.2 +1.5
ANMO Albuquerque 35.99 305 P P 18 20 52.6 +1.0
ANMO IAmb IAmb 18 20 53.9
comp=Z,9.3nm,0.8s
ANMO Albuquerque 35.99 305 P 18 20 53.1
baz=108
LENM Lemitar 36.16 304 P P 18 20 55.2 +2.2
121A Cookes Peak, D 36.37 301 P P 18 20 56.6 +1.7
121A IAmb IAmb 18 20 57.7
comp=Z,11nm,0.9s
121A Cookes Peak, D 36.37 301 P 18 20 56.8
baz=104,SNR=7.4
Q24A Divide 36.51 312 P 18 20 56.5
baz=115
AGMN Agassiz Nation 36.52 331 P 18 20 55.6
baz=137
AGMN Agassiz Nation 36.52 331 P P 18 20 55.6 -0.1
ISCO Idaho Springs 37.19 313 P P 18 21 02.9 +1.0
ISCO Idaho Springs 37.19 313 P 18 21 03.0
baz=116,SNR=6.8
S22A 4UR Ranch, Cre 37.24 309 P 18 21 03.7
baz=112
319A Douglas 37.35 298 P P 18 21 04.4 +1.3
319A IAmb IAmb 18 21 06.1
comp=Z,19nm,0.9s
SMCO Snowmass 37.89 311 P P 18 21 08.7 +0.8
ULM Lac du Bonnet 37.98 334 P P 18 21 06.7 -1.4
comp=Z,9.5nm,0.9s,baz=139,slow=7.5,SNR=15
ULM Lac du Bonnet 37.98 334 P P 18 21 07.0 -1.1
ULM IAmb IAmb 18 21 08.6
comp=Z,12nm,0.9s
ARAG Araguaiana, MT 38.30 150 eP P 18 21 11.6 +0.6
W18A Petrified Fore 38.61 304 P P 18 21 14.0 +0.2
W18A Petrified Fore 38.61 304 P 18 21 15.0
baz=106
X18A Snowflake 38.62 303 P P 18 21 15.2 +1.2
X18A IAmb IAmb 18 21 16.7
comp=Z,14nm,0.9s
PV01 Paradox Valley 38.66 309 P P 18 21 15.4 +1.1
PV15 Paradox Valley 38.67 309 P P 18 21 15.4 +1.0
TUC Tucson 38.79 299 P P 18 21 16.7 +1.4
TUC Tucson 38.79 299 P 18 21 17.0
baz=102
PV13 Radium Mtn., P 38.85 309 P P 18 21 16.8 +0.9
PV12 Saucer Basin, 38.90 309 P P 18 21 17.1 +0.9
PV03 Paradox Valley 38.91 309 P P 18 21 16.8 +0.5
PV05 Paradox Valley 39.03 309 P P 18 21 18.0 +0.6
O20A White River Ci 39.17 312 P P 18 21 19.3 +0.9
O20A IAmb IAmb 18 21 21.5
comp=Z,10nm,0.8s
O20A White River Ci 39.17 312 P 18 21 20.4
baz=113,SNR=5.6
SDBA SAO DESIDERIO 39.48 138 eP P 18 21 21.2 +0.1
WUAZ Wupatki 40.01 304 P P 18 21 26.6 +1.2
WUAZ IAmb IAmb 18 21 27.9
comp=Z,8.5nm,0.8s
WUAZ Wupatki 40.01 304 P 18 21 27.1
baz=105,SNR=6.4
RDMU Red Mountain 40.27 312 P P 18 21 28.2 +0.6
RDMU IAmb IAmb 18 21 29.0
comp=Z,8.7nm,0.8s
RDMU PcP PcP 18 23 30.7 -0.3
214A Organ Pipe Nat 40.41 298 P 18 21 30.4
baz=100
SRU San Rafael Swe 40.43 310 P P 18 21 29.7 +0.7
SRU PcP PcP 18 23 30.7 -0.8
P17A Butcher Ranch, 40.71 310 P P 18 21 32.0 +0.8
DGMT Dagmar 40.79 326 P P 18 21 32.5 +0.9
DGMT IAmb IAmb 18 21 33.6
comp=Z,24nm,0.9s
DGMT Dagmar 40.79 326 P 18 21 32.8
baz=126,SNR=5.6
LAO LASA Array 40.91 322 P 18 21 33.7
baz=122
TMUT Trail Mountain 40.99 310 P P 18 21 34.4 +0.7
TMUT PcP PcP 18 23 33.4 -0.1
BW06 Boulder Array 41.14 315 P P 18 21 34.8 0.0
BW06 Boulder Array 41.14 315 P 18 21 35.5
baz=115
PD31 Pinedale Array 41.14 315 P P 18 21 34.8 0.0
PD31 PcP PcP 18 23 32.6 -1.1
PDAR Pinedale Array 41.14 315 P P 18 21 34.8 0.0
comp=Z,1.4nm,0.6s,baz=118,slow=9.9,SNR=18
PDAR PcP PcP 18 23 32.6 -1.1
comp=Z,1.7nm,0.6s,baz=118,slow=5.0,SNR=12
PDAR LR LR 18 40 12.0
comp=Z,55nm,18.9s,baz=122,slow=38
MTPU Mount Pierson 41.33 308 P P 18 21 37.6 +1.0
MTPU PcP PcP 18 23 34.7 0.0
MSU Marysvale 41.46 308 P P 18 21 38.6 +1.1
MSU PcP PcP 18 23 35.6 +0.7
KNB Kanab 41.53 306 P P 18 21 39.4 +1.4
MPU Maple Canyon 41.55 311 P P 18 21 39.4 +1.3
MPU IAmb IAmb 18 21 40.0
comp=Z,12nm,0.9s
JLU Jordanelle 41.62 311 P P 18 21 38.8 0.0
JLU IAmb IAmb 18 21 40.6
comp=Z,15nm,0.7s
NLU North Lily Min 41.84 310 P P 18 21 41.4 +0.8
NLU IAmb IAmb 18 21 42.7
comp=Z,11nm,1.0s
CTU Camp Tracy 41.86 311 P P 18 21 40.9 +0.3
CTU IAmb IAmb 18 21 42.7
comp=Z,20nm,1.0s
W13A Hualapai Mount 41.90 303 P P 18 21 42.7 +1.5
PDMCI Parker Dam,Lak 41.94 302 P 18 21 42.9
baz=101
RLMT Red Lodge 41.98 319 P P 18 21 41.9 +0.2
RLMT IAmb IAmb 18 21 43.7
comp=Z,7.3nm,0.6s
RLMT Red Lodge 41.98 319 P 18 21 42.1
baz=117,SNR=11
HWUT Hardware Ranch 42.06 313 P P 18 21 42.5 +0.2
HWUT IAmb IAmb 18 21 43.5
comp=Z,21nm,0.9s
CCUT Cedar City 42.09 306 P P 18 21 43.0 +0.3
CCUT PcP PcP 18 23 37.6 +0.6
AHID Auburn Hatcher 42.17 315 P P 18 21 43.2 0.0
AHID PcP PcP 18 23 36.6 -0.5
LOHW Long Hollow 42.18 316 P P 18 21 43.5 +0.2
LOHW IAmb IAmb 18 21 44.8
comp=Z,15nm,1.4s
REDW Red Top Meadow 42.25 316 P P 18 21 44.3 +0.4
REDW IAmb IAmb 18 21 45.5
comp=Z,16nm,1.1s
GLA Glamis 42.28 300 P 18 21 45.8
baz=100
DUG Dugway, Tooele 42.46 310 P P 18 21 46.0 +0.5
DUG IAmb IAmb 18 21 47.6
comp=Z,18nm,0.8s
DUG Dugway, Tooele 42.46 310 P 18 21 46.9
baz=104,SNR=18
SPUT South Promonto 42.57 312 P P 18 21 47.2 +0.7
PSUT Pine Spring 42.73 308 P P 18 21 49.4 +1.6
PSUT IAmb IAmb 18 21 50.7
comp=Z,13nm,0.9s
IRM Iron Mountain 42.73 301 P 18 21 49.7
baz=100,SNR=11
YHH Holmes Hill 42.84 317 P P 18 21 48.9 +0.2
BGU Big Grassy Mou 42.85 311 P P 18 21 49.8 +1.0
BC3 Big Chuckawall 42.90 300 P 18 21 50.5
baz=100
HVU Hansel Valley 42.96 313 P P 18 21 49.8 +0.1
YHB Horse Butte 43.05 317 P P 18 21 52.0 +1.7
YHL Hebgen Lake 43.08 317 P P 18 21 51.7 +1.0
SHPR Sheep Range 43.22 304 P P 18 21 53.6 +1.8
QLMT Earthquake Lak 43.23 317 P P 18 21 53.5 +1.7
GMRC Granite Mounta 43.27 302 P 18 21 53.7
baz=101
PRN Pahroc Range 43.35 306 P P 18 21 54.3 +1.5
MONP2 Monument Peak 43.58 299 P 18 21 55.5
baz=98
EGMT Eagleton 43.66 322 P P 18 21 55.0 -0.1
EGMT IAmb IAmb 18 21 56.9
comp=Z,19nm,1.2s
EGMT Eagleton 43.66 322 P 18 21 55.9
baz=120
BOZ Bozeman (W) 43.69 318 P P 18 21 55.7 +0.3
BOZ Bozeman (W) 43.69 318 P 18 21 56.1
baz=115
FFC Flin Flon 43.79 334 P P 18 21 55.3 -0.6
HEC Hector,Ludlow 43.82 302 P 18 21 58.2
baz=100
R11A Troy Canyon, C 43.99 307 P P 18 21 59.1 +1.2
R11A PcP PcP 18 23 43.8 +0.4
R11A Troy Canyon, C 43.99 307 P 18 21 59.6
baz=104,SNR=8.6
MCMT McKenzie Canyo 44.15 317 P P 18 22 00.1 +0.8
FCC Fort Churchill 44.17 343 P P 18 21 58.3 -0.5
FCC IAmb IAmb 18 21 59.4
comp=Z,12nm,0.8s
TPNV Topopah Spring 44.17 305 P P 18 22 00.6 +1.2
TPNV IAmb IAmb 18 22 02.6
comp=Z,11nm,0.9s
TPNV Topopah Spring 44.17 305 P 18 22 01.6
baz=102,SNR=15
GSC Goldstone, Bar 44.29 302 P P 18 22 01.9 +1.6
GSC IAmb IAmb 18 22 03.3
comp=Z,24nm,1.4s
HRY Holter Researc 44.30 320 P P 18 22 00.4 +0.2
ELK Elko 44.39 310 P P 18 22 01.5 +0.3
ELK IAmb IAmb 18 22 03.2
comp=Z,10.0nm,0.8s
FURC Furnace Creek, 44.56 304 P 18 22 04.6
baz=102
HLID Hailey 44.72 314 P P 18 22 04.0 +0.3
HLID Hailey 44.72 314 P 18 22 04.8
baz=111,SNR=6.2
MPMC Manual Prospec 44.97 303 P 18 22 07.4
baz=101
LRMC Laurel Mtn Rad 45.02 302 P 18 22 08.0
baz=100
GRAC Grapevine Rang 45.06 305 P 18 22 08.6
baz=102,SNR=5.5
EDW2 Edwards Air Fo 45.17 301 P 18 22 09.1
baz=99,SNR=5.6
TPH Tonopah 45.18 306 P P 18 22 08.2 +0.7
CWC Cottonwood Cre 45.51 304 P 18 22 12.1
baz=101
MFID Camas Ranch 45.64 314 P P 18 22 11.2 +0.3
MFID IAmb IAmb 18 22 12.5
comp=Z,6.5nm,0.9s
ISA Isabella, Lake 45.69 302 P 18 22 13.3
baz=100
FRB Frobisher Bay 45.72 1 LR LR 18 41 10.7
comp=Z,76nm,18.2s,baz=194,slow=36
CPUP Villa Florida 45.94 163 P P 18 22 12.4 -0.8
comp=Z,4.2nm,1.0s,baz=355,slow=7.6,SNR=5.1
CPUP Villa Florida 45.94 163 P P 18 22 12.2 -1.0
NV11 Mina Array Sit 45.97 306 P P 18 22 15.3 +1.6
KVN Kaiserville 46.07 307 P P 18 22 15.3 +0.8
NVAR Mina Array Bea 46.09 306 P P 18 22 15.3 +0.6
comp=Z,14nm,0.8s,baz=96,slow=8.4,SNR=43
NVAR PcP PcP 18 23 51.1 +0.5
comp=Z,2.0nm,0.8s,baz=141,slow=3.9,SNR=4.2
NVAR Mina Array Bea 46.09 306 P P 18 22 15.4 +0.7
NVAR PcP PcP 18 23 51.3 +0.7
LHV Little Huntoon 46.20 306 P P 18 22 16.6 +1.3
VES Vestal, Richgr 46.21 303 P 18 22 17.6
baz=99,SNR=5.7
JTMT Jette 46.25 320 P P 18 22 16.4 +0.7
JTMT IAmb IAmb 18 22 17.3
comp=Z,8.3nm,0.9s
RYN Ryan 46.30 307 P P 18 22 17.6 +1.3
BSCB Bom Sucesso 46.32 146 eP P 18 22 16.8 +0.3
SJMB Sao Joao De Ma 46.57 140 eP P 18 22 18.9 +0.5
YERR Yerington 46.92 307 P P 18 22 21.3 +0.1
WAKR Walker 46.97 306 P P 18 22 22.2 +0.6
BMO Blue Mountains 47.12 315 P P 18 22 22.3 -0.2
BMO IAmb IAmb 18 22 23.4
comp=Z,6.9nm,1.2s
WVOR Wild Horse Val 47.31 312 P P 18 22 24.3 +0.2
F10A Beach Ranch, E 47.44 317 P P 18 22 24.7 -0.3
F10A IAmb IAmb 18 22 25.9
comp=Z,7.0nm,1.0s
J08A Circle Bar Ran 47.46 313 P P 18 22 25.8 +0.6
RIB01 Linhares ES 47.52 140 eP P 18 22 25.8 +0.1
BEKR Beckworth 47.95 308 P P 18 22 29.6 +0.4
NEW Newport 48.20 319 P P 18 22 30.9 +0.1
NEW Newport 48.20 319 P 18 22 31.1
baz=112,SNR=12
AFDM Forest Hills D 48.24 306 P P 18 22 31.9 +0.7
AFDM IAmb IAmb 18 22 33.4
comp=Z,19nm,1.7s
G08A Pilot Rock 48.37 315 P P 18 22 32.6 +0.4
G08A IAmb IAmb 18 22 33.7
comp=Z,6.8nm,0.8s
MOD Modoc Plateau 48.37 310 P P 18 22 32.5 +0.1
MOD IAmb IAmb 18 22 33.5
comp=Z,9.9nm,0.8s
MOD PcP PcP 18 23 59.8 +1.2
I07A Izee 48.38 313 P P 18 22 32.7 +0.3
I07A IAmb IAmb 18 22 34.0
comp=Z,5.8nm,0.8s
C09A Chrisman Ranch 48.75 319 P P 18 22 35.3 +0.3
C09A IAmb IAmb 18 22 36.3
comp=Z,7.0nm,0.8s
ORV Oroville 48.75 307 P P 18 22 36.1 +0.9
ORV IAmb IAmb 18 22 37.3
comp=Z,11nm,1.1s
D08A Wollman Farm, 48.91 317 P P 18 22 36.4 +0.2
D08A IAmb IAmb 18 22 37.4
comp=Z,5.9nm,0.8s
K05A Summer Lake 49.00 311 P P 18 22 37.3 +0.1
K05A IAmb IAmb 18 22 38.7
comp=Z,9.1nm,0.9s
HAWA Hanford 49.09 316 P P 18 22 37.7 +0.1
HAWA IAmb IAmb 18 22 38.8
comp=Z,7.9nm,0.9s
O03E Paynes Creek 49.12 308 P 18 22 38.7
baz=101,SNR=6.5
ZON Zonda 49.31 178 P P 18 22 40.2 +0.8
E07A Sunnyside 49.35 316 P P 18 22 39.6 -0.1
E07A IAmb IAmb 18 22 41.1
comp=Z,9.2nm,0.9s
M04C Macdoel 49.46 310 P 18 22 41.7
baz=103
B08A Colville Reser 49.61 319 P P 18 22 41.6 0.0
B08A IAmb IAmb 18 22 42.5
comp=Z,12nm,0.8s
O02D Mt. Diablo Mer 49.84 308 P 18 22 42.9
baz=100
L04D Klamath Falls 49.90 310 P 18 22 45.6
baz=102,SNR=9.2
N02D Trinity Center 49.93 309 P 18 22 43.7
baz=101
J04D Umpqua Nationa 49.99 312 P 18 22 46.1
baz=104
YBH Yreka Blue Hor 50.09 310 P P 18 22 45.1 -0.3
YBH IAmb IAmb 18 22 46.2
comp=Z,4.7nm,0.8s
M02C Callahan 50.12 309 P 18 22 45.6
baz=101,SNR=5.1
I04A Tendick Farm, 50.33 312 P 18 22 47.8
baz=104
H04A Detroit Lake 50.39 314 P P 18 22 48.0 +0.4
HUMO Hull Mountain 50.45 311 P P 18 22 47.4 -0.6
HUMO IAmb IAmb 18 22 48.6
comp=Z,6.5nm,0.8s
SFJD Kangerlussuaq 50.65 10 LR LR 18 42 11.4
comp=Z,66nm,19.7s,baz=186,slow=34
K02D Willamette Mer 50.98 311 P 18 22 52.7
baz=102
J01E Myrtle Point 51.27 311 P 18 22 55.4
baz=102
YKA Yellowknife Ar 53.83 336 P P 18 23 12.1 -0.7
comp=Z,4.3nm,0.9s,baz=118,slow=7.7,SNR=49
YKA LR LR 18 46 17.2
comp=Z,86nm,19.3s,baz=0.0,slow=36
BORG Borgarnes 57.06 23 LR LR 18 44 08.3
comp=Z,50nm,18.9s,baz=187,slow=32
SUMG Summit 57.61 11 iP P 18 23 40.4 +0.2
comp=Z,16nm,0.9s
SUMG Summit 57.61 11 P P 18 23 40.5 +0.2
SUMG Summit 57.61 11 iP P 18 23 40.5 +0.2
SUMG IAmb IAmb 18 23 41.1
comp=Z,16nm,0.9s
RES Resolute Bay 58.21 353 P P 18 23 43.1 -0.8
comp=Z,1.8nm,0.6s,baz=157,slow=8.8,SNR=12
RES Resolute Bay 58.21 353 P P 18 23 43.4 -0.4
RES IAmb IAmb 18 23 44.5
comp=Z,18nm,1.7s
PLCA Paso Flores 58.44 180 P P 18 23 46.3 +0.2
comp=Z,2.3nm,0.6s,baz=355,slow=6.9,SNR=15
PLCA Paso Flores 58.44 180 eP P 18 23 46.7 +0.7
TULEG Thule 58.56 0 P P 18 23 45.9 -0.4
ESDC Sonseca Array 60.90 54 P P 18 24 03.3 +0.1
comp=Z,5.0nm,0.7s,baz=276,slow=7.0,SNR=35
ESDC Sonseca Array 60.90 54 P P 18 24 03.1 -0.1
ESBB Sonseca Array 60.91 54 P P 18 24 03.5 +0.3
ESBB IAmb IAmb 18 24 04.4
comp=Z,7.5nm,0.8s
DBG Daneborg 62.56 14 iP P 18 24 13.7 +0.1
DAG Danmarks Havn 64.27 12⇑iP P 18 24 24.1 -0.8
comp=Z,6.7nm,1.0s
DAG Danmarks Havn 64.27 12⇑iP P 18 24 24.2 -0.8
DAG IAmb IAmb 18 24 24.8
comp=Z,6.7nm,1.0s
DBIC Dimbokro 64.96 91 P P 18 24 29.2 -1.3
comp=Z,5.4nm,1.1s,baz=87,slow=8.2,SNR=2.9
SCRK Sand Creek 66.66 333 P P 18 24 41.1 +0.4
SCRK IAmb IAmb 18 24 42.3
comp=Z,6.8nm,0.7s
SCRK Sand Creek 66.66 333 P 18 24 41.4
baz=97,SNR=8.0
IL31 68.00 333 P P 18 24 48.7 -0.3
IL31 IAmb IAmb 18 24 49.6
comp=Z,13nm,1.4s
ILAR Eielson Array 68.00 333 P P 18 24 48.5 -0.5
comp=Z,1.5nm,0.9s,baz=105,slow=5.2,SNR=11
MOL Molde 68.74 29 eP P 18 24 54.4 +0.8
I23K Minto, Yukon-K 69.07 334 P P 18 24 55.8 +0.1
I23K Minto, Yukon-K 69.07 334 P 18 24 55.6
baz=92,SNR=5.1
TOLK Toolik Lake Re 69.33 337 P 18 24 57.2
baz=94
TRF Thorofare Moun 69.43 332 P 18 24 58.3
baz=91
TORD Torodi Ar. Bea 69.46 82 LR LR 18 53 45.4
comp=Z,33nm,18.5s,baz=250,slow=34
COLD Coldfoot 69.50 336 P P 18 24 58.9 +0.6
COLD Coldfoot 69.50 336 P 18 24 58.9
baz=92,SNR=5.5
MLY Manley 69.65 334 P 18 24 59.0
baz=91
BPAW Bear Paw Mtn. 69.75 333 P P 18 24 59.6 -0.4
BPAW IAmb IAmb 18 25 00.4
comp=Z,5.9nm,0.8s
BPAW Bear Paw Mtn. 69.75 333 P 18 24 59.5
baz=90
CHUM Lake Minchumin 70.33 332 P 18 25 03.1
baz=89
NB2 NORSAR Subarra 70.48 31 P P 18 25 05.0 +0.5
comp=Z,1.2nm,0.7s,baz=272,slow=6.5
NB2 NORSAR Subarra 70.48 31 P P 18 25 05.0 +0.5
baz=272,slow=6.5
NOA NORSAR Array B 70.48 31 P P 18 25 04.8 +0.3
comp=Z,1.8nm,0.8s,baz=274,slow=6.3,SNR=10
DAVA Damuels 70.62 45 eP P 18 25 05.7 -0.1
comp=Z,5.0nm,1.0s
NC602 NORSAR Array S 70.65 31 eP P 18 25 06.5 +1.0
NSS Namsos 70.72 27 eP P 18 25 06.3 +0.4
N2RO R st 70.74 24 eP P 18 25 06.8 +0.9
STOK Stokkvaagen 71.11 25 eP P 18 25 09.0 +0.8
RETA Reutte 71.19 45 eP P 18 25 09.1 0.0
comp=Z,5.3nm,1.0s
FETA Feichten 71.22 46 eP P 18 25 09.7 +0.2
comp=Z,10nm,1.2s
LOF Lofoten 71.27 23 eP P 18 25 09.6 +0.6
MOTA Moosalm 71.44 45 eP P 18 25 11.0 +0.3
comp=Z,6.6nm,0.9s
SQTA Sankt Quirin 71.52 45 eP P 18 25 11.4 +0.2
comp=Z,8.0nm,1.1s
NBB28 Valnes 71.65 24⇑eP P 18 25 11.9 +0.5
MOR8 Moi Rana 71.70 25 eP P 18 25 13.2 +1.4
WTTA Wattenberg 71.81 45 eP P 18 25 13.0 0.0

comp=Z,11nm,1.6s
SPA0 Spitsbergen Ar 71.88 13 *e*P **P 18 25 12.2 -0.5**
STEI Steigen 71.92 23 *e*P **P 18 25 13.6 +0.7**
FAUS Fauske 71.96 24 *e*P **P 18 25 13.1 -0.2**
ABTA Abfaltersbach 72.47 46 *e*P **P 18 25 15.7 -1.1**
comp=Z,3.5nm,0.9s
BJO1 Bjornoya 72.68 16 *e*P **P 18 25 18.1 +0.6**
KHC Kasperske Hory 72.86 43 *e*P **P 18 25 19.6 +0.5**
KHC *ex* x 18 25 25.6
KHC Kasperske Hory 72.86 43 P **P 18 25 18.8 -0.2**
KHC IAmb IAmb 18 25 20.4
comp=Z,6.3nm,1.1s
GEC2 GERESS Array S 72.97 43 P **P 18 25 19.6 -0.3**
GEC2 IAmb IAmb 18 25 21.3
comp=Z,4.9nm,0.9s
GERES GERESS Array B 72.97 43 P **P 18 25 20.6 +0.7**
comp=Z,2.8nm,0.9s,baz=270,slow=3.9,SNR=11
GERES LR LR 18 52 37.7
comp=Z,33nm,20.9s,baz=294,slow=32
TRO Tromso 73.11 21 *e*P **P 18 25 20.0 -0.1**
MOA Molln 73.49 44 *e*P **P 18 25 22.7 -0.1**
comp=Z,7.5nm,1.4s
JETT Jettan, Norway 73.64 21 *e*P **P 18 25 23.8 +0.5**
DPC Dobruska-Polom 74.43 42 *e*P P 18 25 09.3 -19
HAMF Hammerfest 74.58 20 *e*P **P 18 25 29.8 +1.2**
KTK1 Kautokeino 74.72 22 *e*P **P 18 25 30.2 +0.7**
ZST Bratislava 75.31 44 *e*P **P 18 25 33.7 +0.4**
MODS Modra-Piesok 75.39 44 *e*P **P 18 25 34.3 +0.4**
ARA0 ARCESS Array S 75.41 21 *e*P **P 18 25 33.3 -0.2**
ARCES ARCESS Array B 75.41 21 P **P 18 25 33.1 -0.4**
comp=Z,3.7nm,0.6s,baz=316,slow=3.3,SNR=16
VYHS Vyhne 76.39 43 *e*P **P 18 25 40.0 +0.5**
FINES FINESS Array B 77.52 29 P **P 18 25 45.9 +0.3**
comp=Z,3.3nm,0.8s,baz=302,slow=3.6,SNR=8.9
STHS Stebnicka Huta 77.74 42 *e*P **P 18 25 49.6 +2.5**
KOLS Kolonicke sedl 78.51 42 *e*P **P 18 25 53.1 +1.7**
BURAR Bucovina Array 80.75 43 P **P 18 26 04.3 +0.6**
MLR Muntele Rosu 81.85 45 P **P 18 26 10.6 +1.0**
MLR IAmb IAmb 18 26 11.6
comp=Z,7.3nm,0.8s
AKASG Malin Array Be 82.32 39 P **P 18 26 11.9 +0.1**
comp=Z,0.2nm,0.2s,baz=280,slow=5.0,SNR=2.6
BILL Bilibino 84.87 342 P **P 18 26 24.5 -0.1**
BILL IAmb IAmb 18 26 25.9
comp=Z,6.4nm,1.2s
BRTR Keskin Array B 89.16 48 P **P 18 26 45.7 -0.4**
comp=Z,1.4nm,0.7s,baz=270,slow=3.7,SNR=8.9
TIXI Tiksi 89.57 354 P **P 18 26 46.6 -0.6**
ARU Arti 94.50 26 P **P 18 27 10.2 -0.1**
comp=Z,0.2nm,0.3s,baz=210,slow=20,SNR=4.7
ARU Arti 94.50 26 IAmb IAmb 18 27 11.4
comp=Z,3.8nm,0.9s
GTA Gaotai 122.18 9 *e*PKP **PKPdf 18 32 44.5 -0.8**
GTA sPKP 18 32 59.5
GTA Gaotai 122.18 9 SS SS 18 50 56.3 +1.2
GTA LR LR
comp=N,140nm,16.0s
GTA LR LR
comp=E,110nm,16.0s
GTA LR LR
comp=Z,75nm,18.5s
CTA Charters Tower 145.11 261 PKPbc **PKPab 18 33 27.5 -0.4**
comp=Z,6.5nm,0.9s,baz=156,slow=2.9,SNR=4.3
STKA Stephens Creek 147.82 238 PKPbc **PKPbc 18 33 34.7 -0.7**
comp=Z,2.8nm,0.6s,baz=118,slow=3.5,SNR=5.7
WRA Warramunga Arr 156.31 261 PKPab **PKPab 18 34 13.9 +0.2**
comp=Z,1.6nm,0.8s,baz=88,slow=3.7,SNR=9.6
ASAR Alice Springs 156.40 252 PKPab **PKPab 18 34 14.4 +0.3**
comp=Z,5.5nm,0.7s,baz=108,slow=4.6,SNR=58
ASAR Alice Springs 156.40 252 **PKPab 18 34 10.1 -4.0**

SFS ***27*** *18:30:31.0, 36˙20N ×8˙70W, h19km, ML3.4, GOLFO DE CADIZ*
MDD ***27*** *18:30:32.5 ± 0.8, 36˙28N ×8˙69W, h19km ± 6km, mbLg3.6/37, Error ellipse: s-maj=10.7km s-min=4.1km az=49.0, PRXIMO*
IGIL ***27*** *18:30:32.3, 36˙25N ×8˙68W, h13km, ML3.7*
LDG ***27*** *18:30:32.7 ± 0.7, 36˙28N ×8˙51W, h30km, Ml3.5/9, Error ellipse: s-maj=13.7km s-min=7.9km az=36.0*
INMG ***27*** *18:30:33.0 ± 1.6, 36˙19N ×8˙77W, h31km ± 8km, MD3.4, ML3.5, Error ellipse: s-maj=3.5km s-min=3.1km az=82.0*
IDC ***27*** *18:30:37.0 ± 5.3, 36˙18N ×7˙92W, h62km ± 44km, mb2.8/1, mb1 3.5/2, mb1mx2.9/45, mbtmp3.4/2, ML4.3/2, MS3.2/1, Ms1 3.2/1, ms1mx2.3/14, Error ellipse: s-maj=54.7km s-min=13.4km az=90.0*

ISC 27 18:30:32.1 ± 1.1, 36˙31N ± 0˙04 × 8˙63W ± 0˙04, h60 km ± 12 km, n131, σ 2°00/238, 9C-8D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.84**	**349**	⇓P	**Pn**	**18 30 48.3**	**+0.3**
	614nm,0.1s,SNR=18						
PFVI				S	**Sn**	**18 31 00.1**	**+0.2**
	714nm,0.1s,SNR=9.4						
PFVI	**Vila Bisbo**	**0.84**	**349**	⇓*i*P	**Pn**	**18 30 48.4**	**+0.3**
PFVI				*e*S	**Sn**	**18 31 00.1**	**+0.2**
PFVI				A	A	18 31 01.5	
	489nm,0.7s						
MORF	**Marmelete**	**1.00**	**359**	*e*P	**Pn**	**18 30 50.7**	**+0.5**
MORF				*e*S	**Sn**	**18 31 04.2**	**+0.7**
MORF				IAML		18 31 08.6	
	comp=E,1μm,0.2s						
MORF	**Marmelete**	**1.00**	**359**	P	**Pn**	**18 30 50.7**	**+0.5**
MORF				S	**Sn**	**18 31 04.2**	**+0.7**
	comp=E,784nm,0.2s						
MORF	**Marmelete**	**1.00**	**359**	⇓*i*P	**Pn**	**18 30 50.7**	**+0.5**
MORF				*e*S	**Sn**	**18 31 04.2**	**+0.7**
MORF				A	A	18 31 08.1	
	comp=E,784nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.09**	**31**	P	**Pn**	**18 30 52.7**	**+1.4**
PBDV				S	**Sn**	**18 31 07.2**	**+1.6**
	comp=E,204nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.09**	**31**	⇑*e*P	**Pn**	**18 30 52.7**	**+1.4**
PBDV				*e*S	**Sn**	**18 31 07.2**	**+1.6**
PBDV				A	A	18 31 12.6	
	comp=E,204nm,0.2s						
PTEO	**Sao Teotonio**	**1.24**	**356**	P	**Pn**	**18 30 54.0**	**+0.7**
PTEO				S	**Sn**	**18 31 10.1**	**+1.0**
	comp=E,179nm,0.2s						
PTEO	**Sao Teotonio**	**1.24**	**356**	⇓*i*P	**Pn**	**18 30 54.0**	**+0.7**
PTEO				*e*S	**Sn**	**18 31 10.1**	**+1.0**
PTEO				A	A	18 31 15.7	
	comp=E,358nm,0.2s						
PVAQ	**Vaqueiros**	**1.32**	**33**	P	**Pn**	**18 30 55.7**	**+1.4**
PVAQ				S	**Sn**	**18 31 12.4**	**+1.5**
	comp=E,245nm,0.1s						
PVAQ	**Vaqueiros**	**1.32**	**33**	⇑*e*P	**Pn**	**18 30 55.7**	**+1.4**
PVAQ				*e*S	**Sn**	**18 31 12.4**	**+1.5**
PVAQ				A	A	18 31 20.2	
	comp=E,245nm,0.1s						
PCVE	**Castro Verde**	**1.41**	**19**	P	**Pn**	**18 30 56.9**	**+1.4**
PCVE				S	**Sn**	**18 31 14.8**	**+1.8**
	comp=E,274nm,0.3s						
PCVE	**Castro Verde**	**1.41**	**19**	⇓*i*P	**Pn**	**18 30 56.9**	**+1.4**
PCVE				*e*S	**Sn**	**18 31 14.8**	**+1.8**
PCVE				A	A	18 31 28.4	
	comp=E,274nm,0.3s						
EGRO	**El Granado**	**1.53**	**36**	⇑P	**Pn**	**18 30 58.8**	**+1.7**
	comp=E,18nm,0.1s,SNR=18						
EGRO				S	**Sn**	**18 31 17.6**	**+1.6**
	comp=E,452nm,0.2s,SNR=7.9						
MESJ	**Messejana**	**1.57**	**12**	*e*P	**Pn**	**18 30 58.9**	**+1.3**
MESJ				*e*S	**Sn**	**18 31 18.4**	**+1.4**
MESJ				IAML		18 31 25.7	
	comp=N,370nm,0.1s						
MESJ	**Messejana**	**1.57**	**12**	P	**Pn**	**18 30 58.9**	**+1.3**
MESJ				S	**Sn**	**18 31 19.3**	**+2.4**
	comp=N,276nm,0.2s						
MESJ	**Messejana**	**1.57**	**12**	*e*Pn	**Pn**	**18 30 58.9**	**+1.3**
MESJ				*e*Sn	**Sn**	**18 31 19.3**	**+2.4**
MESJ				A	A	18 31 25.8	
	comp=N,276nm,0.2s						
PNCL	**Nicolau / Gran**	**1.81**	**2**	P	**Pn**	**18 31 01.7**	**+0.8**
PNCL				S	**Sn**	**18 31 23.6**	**+0.9**
	comp=N,217nm,0.4s						
PNCL	**Nicolau / Gran**	**1.81**	**2**	⇓*e*Pn	**Pn**	**18 31 01.7**	**+0.8**
PNCL				*e*Sn	**Sn**	**18 31 23.6**	**+0.9**
PNCL				A	A	18 31 32.5	
	comp=N,217nm,0.4s						
PBEJ	**Beja**	**1.82**	**19**	P	**Pn**	**18 31 02.8**	**+1.7**
PBEJ				S	**Sn**	**18 31 24.6**	**+1.5**
	comp=N,95nm,0.2s						
PBEJ	**Beja**	**1.82**	**19**	*e*Pn	**Pn**	**18 31 02.8**	**+1.7**
PBEJ				*e*Sn	**Sn**	**18 31 24.6**	**+1.5**
PBEJ				A	A	18 31 28.2	
	comp=N,189nm,0.2s						
CNIL	**Conil**	**2.08**	**87**	*e*S	Sn	18 31 39.0	+10
EMIN	**Mina Concepcio**	**2.14**	**46**	⇑P	**Pn**	**18 31 06.7**	**+1.3**
	comp=N,3.5nm,0.1s,SNR=18						
EMIN				S	**Sn**	**18 31 31.3**	**+0.5**
	comp=N,38nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**2.25**	**34**	P	**Pn**	**18 31 08.4**	**+1.4**
PBAR				S	**Sn**	**18 31 35.3**	**+1.6**
	comp=N,79nm,0.3s						
PBAR	**Barrancos**	**2.25**	**34**	*e*Pn	**Pn**	**18 31 08.4**	**+1.4**
PBAR				*e*Sn	**Sn**	**18 31 35.3**	**+1.6**
PBAR				A	A	18 31 39.0	
	comp=N,79nm,0.3s						
EVO	**Evora**	**2.27**	**12**	P	**Pn**	**18 31 08.3**	**+1.0**
EVO				S	**Sn**	**18 31 35.5**	**+1.3**
	comp=N,142nm,0.1s						
EVO	**Evora**	**2.27**	**12**	*e*P	**Pn**	**18 31 08.2**	**+1.0**
EVO				*e*S	**Sn**	**18 31 35.2**	**+1.0**
EVO	**Evora**	**2.27**	**12**	*e*Pn	**Pn**	**18 31 08.3**	**+1.0**
EVO				*e*Sn	**Sn**	**18 31 35.5**	**+1.3**
EVO				A	A	18 31 48.4	
	comp=N,142nm,0.1s						
ESPR	**Espera**	**2.30**	**75**	⇑P	**Pn**	**18 31 09.0**	**+1.5**
	comp=N,67nm,0.2s,SNR=18						
ESPR				S	**Sn**	**18 31 36.7**	**+2.0**
	comp=N,428nm,0.2s,SNR=9.0						
LIS	**Lisbon**	**2.44**	**350**	*e*P	**Pn**	**18 31 10.7**	**+1.2**
LIS				*e*S	**Sn**	**18 31 39.0**	**+0.8**
LIS				IAML		18 31 41.2	
	comp=N,855nm,0.5s						
LIS	**Lisbon**	**2.44**	**350**	P	**Pn**	**18 31 11.7**	**+2.2**
LIS				S	**Sn**	**18 31 39.8**	**+1.6**
	comp=N,395nm,0.4s						
LIS	**Lisbon**	**2.44**	**350**	*e*Pn	**Pn**	**18 31 11.7**	**+2.2**
LIS				*e*Sn	**Sn**	**18 31 39.8**	**+1.6**
LIS				A	A	18 31 41.3	
	comp=N,395nm,0.4s						
PMST	**Lisbon--Monsan**	**2.47**	**350**	*e*Pn	**Pn**	**18 31 10.8**	**+0.9**
PMST				*e*Sn	**Sn**	**18 31 39.7**	**+0.9**
PMST				A	A	18 31 42.1	
	comp=N,268nm,0.4s						
EJIF	**Jimena Fronter**	**2.55**	**86**	P	**Pn**	**18 31 12.5**	**+1.4**
SNR=7.9							
EJIF				S	**Sn**	**18 31 41.6**	**+0.6**
SNR=7.9							
LIJA	**Lijar**	**2.66**	**76**	*e*S	Sn	18 31 26.0	-18
ECEU	**Ceuta**	**2.66**	**98**	P	**Pn**	**18 31 13.8**	**+1.3**
	comp=N,9.3nm,0.1s,SNR=21						
ECEU				S	**Sn**	**18 31 45.5**	**+1.9**
	comp=N,36nm,0.1s,SNR=7.9						
CEU	**Ceuta**	**2.67**	**98**	P	**Pn**	**18 31 14.7**	**+2.1**
CEU				S	**Sn**	**18 31 47.1**	**+3.4**
CEU	**Ceuta**	**2.67**	**98**	⇓*i*P	**Pn**	**18 31 14.7**	**+2.1**
CEU				*e*S	**Sn**	**18 31 47.1**	**+3.4**
PESTR	**Estremoz**	**2.69**	**18**	*e*Pn	**Pn**	**18 31 13.9**	**+1.0**
PESTR				*e*Sn	**Sn**	**18 31 45.7**	**+1.5**
PESTR				A	A	18 31 48.6	
	comp=N,56nm,0.4s						
PMAFR	**Mafra**	**2.70**	**349**	⇑P	**Pn**	**18 31 14.2**	**+1.2**
	comp=N,127nm,0.2s,SNR=18						
PMAFR				S	**Sn**	**18 31 45.7**	**+1.2**
	comp=N,232nm,0.2s,SNR=12						
PMAFR	**Mafra**	**2.70**	**349**	*e*Pn	**Pn**	**18 31 14.2**	**+1.2**
PMAFR				*e*Sn	**Sn**	**18 31 45.8**	**+1.3**
PMAFR				A	A	18 31 48.0	
	comp=N,244nm,0.4s						
PMTG	**Montargil**	**2.78**	**6**	P	**Pn**	**18 31 15.2**	**+1.1**
PMTG				S	**Sn**	**18 31 46.4**	**0.0**
	comp=N,132nm,0.5s						
PMTG	**Montargil**	**2.78**	**6**	*e*Pn	**Pn**	**18 31 15.2**	**+1.1**
PMTG				*e*Sn	**Sn**	**18 31 46.4**	**0.0**
PMTG				A	A	18 31 49.4	
	comp=N,132nm,0.5s						
ECAB	**El Cabril**	**3.11**	**54**	⇑P	**Pn**	**18 31 20.0**	**+1.3**
	comp=N,14nm,0.1s,SNR=18						
ECAB				S	**Sn**	**18 31 53.9**	**-0.7**
	comp=N,22nm,0.1s,SNR=9.5						
AVE	**Averroes**	**3.16**	**161**	*e*P	**Pn**	**18 31 17.6**	**-1.8**
AVE				*e*S	**Sn**	**18 31 52.4**	**-3.4**
PSBE	**So Bento**	**3.21**	**358**	*e*Pn	**Pn**	**18 31 21.3**	**+1.3**
PSBE				*e*Sn	**Sn**	**18 31 58.3**	**+1.3**
PSBE				A	A	18 32 00.5	
	comp=N,62nm,0.3s						
PMRV	**Marv??o**	**3.27**	**17**	P	**Pn**	**18 31 22.0**	**+1.2**
PMRV				S	**Sn**	**18 31 59.7**	**+1.2**
	comp=N,112nm,0.6s						
PMRV	**Marv??o**	**3.27**	**17**	⇓*e*Pn	**Pn**	**18 31 22.0**	**+1.2**
PMRV				*e*Sn	**Sn**	**18 31 59.7**	**+1.2**
PMRV				A	A	18 32 01.2	
	comp=N,112nm,0.6s						
EMAL	**Malaga-Limoner**	**3.41**	**81**	P	**Pn**	**18 31 24.4**	**+1.6**
EMAL				S	**Sn**	**18 32 03.0**	**+1.1**
EMAL	**Malaga-Limoner**	**3.41**	**81**	*e*P	**Pn**	**18 31 24.4**	**+1.6**
EMAL				*e*S	**Sn**	**18 32 03.0**	**+1.1**
PCBR	**Castelo Branco**	**3.64**	**14**	P	**Pn**	**18 31 27.4**	**+1.5**
PCBR				S	**Sn**	**18 32 08.6**	**+0.9**
	comp=N,71nm,0.3s						
PCBR	**Castelo Branco**	**3.64**	**14**	*e*Pn	**Pn**	**18 31 27.4**	**+1.5**
PCBR				*e*Sn	**Sn**	**18 32 08.6**	**+0.9**
PCBR				A	A	18 32 10.1	
	comp=N,142nm,0.3s						
EGOR	**Sierra Gorda,**	**3.72**	**76**	P	**Pn**	**18 31 28.9**	**+1.9**
SNR=4.0							
EGOR				S	**Sn**	**18 32 10.9**	**+1.3**
	comp=N,69nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.73**	**59**	⇑P	**Pn**	**18 31 28.7**	**+1.6**
	comp=N,38nm,0.2s,SNR=18						
EADA				S	**Sn**	**18 32 10.1**	**+0.3**
	comp=N,80nm,0.1s,SNR=9.7						
PCAS	**Casmilo, Conde**	**3.74**	**1**	P	**Pn**	**18 31 28.6**	**+1.3**
PCAS				S	**Sn**	**18 32 10.5**	**+0.4**
	comp=N,40nm,0.4s						
PCAS	**Casmilo, Conde**	**3.74**	**1**	*e*Pn	**Pn**	**18 31 28.6**	**+1.3**
PCAS				*e*Sn	**Sn**	**18 32 10.5**	**+0.4**
PCAS				A	A	18 32 11.2	
	comp=N,40nm,0.4s						
COI	**Coimbra**	**3.90**	**2**	P	**Pn**	**18 31 30.9**	**+1.5**
COI				S	**Sn**	**18 32 14.5**	**+0.6**
	comp=N,37nm,0.3s						
COI	**Coimbra**	**3.90**	**2**	*e*Pn	**Pn**	**18 31 30.9**	**+1.5**
COI				*e*Sn	**Sn**	**18 32 14.5**	**+0.6**
COI				A	A	18 32 17.4	
	comp=N,74nm,0.3s						
IFR	**Ifrane**	**4.00**	**133**	*e*P	**Pn**	**18 31 29.7**	**-1.4**
IFR				*e*S	**Sn**	**18 32 11.7**	**-5.0**
ELGU	**Los Guajares,**	**4.06**	**81**	P	**Pn**	**18 31 34.1**	**+2.4**
	comp=N,2.5nm,0.1s,SNR=4.0						
ELGU				S	**Sn**	**18 32 19.2**	**+1.2**
	comp=N,62nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.17**	**11**	P	**Pn**	**18 31 34.4**	**+1.1**
MTE				S	**Sn**	**18 32 21.3**	**+0.5**
	comp=N,51nm,0.3s						
MTE	**Manteigas**	**4.17**	**11**	*e*Pn	**Pn**	**18 31 34.4**	**+1.1**
MTE				*e*Sn	**Sn**	**18 32 21.3**	**+0.5**
MTE				A	A	18 32 22.4	
	comp=N,102nm,0.3s						
EPLA	**Plasencia**	**4.25**	**27**	P	**Pn**	**18 31 35.8**	**+1.5**
	comp=N,0.6nm,0.0s,SNR=4.0						
EPLA				S	**Sn**	**18 32 23.0**	**+0.2**
	comp=N,56nm,0.2s,SNR=23						
EQUE	**Quentar**	**4.26**	**76**	P	**Pn**	**18 31 36.7**	**+2.2**
	comp=N,1.9nm,0.1s,SNR=4.0						
EQUE				S	**Sn**	**18 32 22.8**	**-0.1**
	comp=N,27nm,0.3s,SNR=5.7						
PVIS	**Viseu**	**4.44**	**7**	P	**Pn**	**18 31 38.0**	**+1.1**
PVIS				S	**Sn**	**18 32 27.1**	**-0.2**
	comp=N,19nm,0.3s						
PVIS	**Viseu**	**4.44**	**7**	*e*Pn	**Pn**	**18 31 38.0**	**+1.1**
PVIS				*e*Sn	**Sn**	**18 32 27.1**	**-0.2**
PVIS				A	A	18 32 29.8	
	comp=N,38nm,0.3s						
EBER	**Berja**	**4.65**	**81**	P	**Pn**	**18 31 42.1**	**+2.1**
	comp=N,1.0nm,0.1s,SNR=11						
EBER				S	**Sn**	**18 32 33.4**	**+0.7**
	comp=N,32nm,0.4s,SNR=7.9						
PAB	**San Pablo**	**4.68**	**45**	⇑P	**Pn**	**18 31 42.1**	**+1.9**
	comp=N,6.8nm,0.1s,SNR=18						
PAB				S	**Sn**	**18 32 31.0**	**-2.2**
	comp=N,23nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.69**	**70**	P	**Pn**	**18 31 41.5**	**+1.2**
	comp=N,0.3nm,0.1s,SNR=29						
EQES				S	**Sn**	**18 32 34.4**	**+1.0**
	comp=N,19nm,0.2s,SNR=6.0						
MDT	**Midelt**	**4.81**	**135**	P	**Pn**	**18 31 40.8**	**-1.3**
	comp=N,47nm,0.3s,baz=330,slow=10,SNR=1396						
MDT				S	**Sn**	**18 32 30.1**	**-6.3**
	comp=N,11nm,0.3s,baz=221,slow=21,SNR=9.0						
PTO	**Porto**	**4.83**	**0**	P	**Pn**	**18 31 43.5**	**+1.4**
PTO				S	**Sn**	**18 32 35.8**	**-0.9**
PTO	**Porto**	**4.83**	**0**	*e*Pn	**Pn**	**18 31 43.5**	**+1.4**
PTO				*e*Sn	**Sn**	**18 32 35.8**	**-0.9**
ESDC	**Sonseca Array**	**4.99**	**46**	P	**Pn**	**18 31 46.1**	**+1.7**
	comp=N,3.4nm,0.3s,baz=230,slow=13,SNR=108						
ESDC				S	**Sn**	**18 32 38.9**	**-1.9**
	comp=N,5.0nm,0.3s,baz=224,slow=25,SNR=25						
ESDC	**Sonseca Array**	**4.99**	**46**	P	**Pn**	**18 31 46.1**	**+1.7**
	comp=N,9.0nm,0.3s,baz=230,slow=13,SNR=86						
ESDC				S	**Sn**	**18 32 37.8**	**-2.9**
	baz=230,slow=23,SNR=7.9						
MVO	**Moncorvo**	**5.01**	**14**	P	**Pn**	**18 31 46.3**	**+1.6**
	comp=N,6.3nm,0.1s,SNR=33						
MVO				S	**Sn**	**18 32 40.9**	**-0.4**
	comp=N,26nm,0.1s,SNR=8.2						
MVO	**Moncorvo**	**5.01**	**14**	*e*Pn	**Pn**	**18 31 46.3**	**+1.6**
MVO				*e*Sn	**Sn**	**18 32 41.1**	**-0.2**
MVO				A	A	18 32 42.8	
	comp=N,39nm,0.4s						
PVRL	**Vila Real**	**5.01**	**8**	P	**Pn**	**18 31 45.9**	**+1.2**
PVRL				S	**Sn**	**18 32 40.3**	**-1.1**
	comp=N,24nm,0.2s						
PVRL	**Vila Real**	**5.01**	**8**	*e*Pn	**Pn**	**18 31 45.9**	**+1.2**
PVRL				*e*Sn	**Sn**	**18 32 40.3**	**-1.1**
PVRL				A	A	18 32 43.8	
	comp=N,48nm,0.2s						
POLO	**Lamas de Olo**	**5.10**	**7**	P	**Pn**	**18 31 47.2**	**+1.2**
POLO				S	**Sn**	**18 32 42.3**	**-1.3**
	comp=N,22nm,0.2s						
POLO	**Lamas de Olo**	**5.10**	**7**	*e*Pn	**Pn**	**18 31 47.2**	**+1.2**
POLO				*e*Sn	**Sn**	**18 32 42.3**	**-1.3**
POLO				A	A	18 32 44.9	
	comp=N,22nm,0.2s						
ENIJ	**Nijar**	**5.20**	**81**	P	**Pn**	**18 31 46.9**	**-0.5**
	comp=N,1.2nm,0.1s,SNR=4.0						
ENIJ				S	**Sn**	**18 32 46.6**	**+0.6**
	comp=N,17nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.42**	**5**	P	**Pn**	**18 31 51.2**	**+0.9**
PCAB				S	**Sn**	**18 32 50.0**	**-1.2**
	comp=N,16nm,0.6s						
PCAB	**Cabril**	**5.42**	**5**	*e*Pn	**Pn**	**18 31 51.2**	**+0.9**
PCAB				*e*Sn	**Sn**	**18 32 50.0**	**-1.2**
PCAB				A	A	18 32 53.2	
	comp=N,32nm,0.6s						
GUD	**Guadarrama**	**5.57**	**38**	P	**Pn**	**18 31 54.4**	**+1.9**
	comp=N,3.1nm,0.2s,SNR=20						
GUD				S	**Sn**	**18 32 54.3**	**-0.9**
	comp=N,13nm,0.3s,SNR=9.1						
PGAV	**Gavieira, Arco**	**5.66**	**3**	P	**Pn**	**18 31 54.7**	**+1.1**
PGAV				S	**Sn**	**18 32 55.3**	**-2.0**
	comp=N,21nm,0.3s						
PGAV	**Gavieira, Arco**	**5.66**	**3**	*e*Pn	**Pn**	**18 31 54.7**	**+1.1**
PGAV				*e*Sn	**Sn**	**18 32 55.3**	**-2.0**
PGAV				A	A	18 33 01.8	
	comp=N,21nm,0.3s						
PBRG	**Braganca**	**5.68**	**14**	P	**Pn**	**18 31 56.0**	**+2.1**
PBRG				S	**Sn**	**18 32 56.8**	**-1.0**
	comp=N,17nm,0.6s						
PBRG	**Braganca**	**5.68**	**14**	*e*Pn	**Pn**	**18 31 56.0**	**+2.1**
PBRG				*e*Sn	**Sn**	**18 32 56.8**	**-1.0**
PBRG				A	A	18 32 59.0	
	comp=N,33nm,0.6s						
ECAL	**Calabor**	**5.82**	**14**	P	**Pn**	**18 31 57.3**	**+1.5**
	comp=N,2.0nm,0.1s,SNR=25						
ECAL				S	**Sn**	**18 33 00.5**	**-0.6**
	comp=N,33nm,0.3s,SNR=7.7						
UCM	**Universidad Co**	**5.82**	**45**	P	**Pn**	**18 31 58.2**	**+2.4**
UCM				S	**Sn**	**18 32 59.4**	**-1.7**
UCM	**Universidad Co**	**5.82**	**45**	*e*P	**Pn**	**18 31 58.2**	**+2.4**
UCM				*e*S	**Sn**	**18 32 59.4**	**-1.7**
EZAM	**Zamans**	**5.84**	**359**	P	**Pn**	**18 31 57.3**	**+1.4**
	comp=N,0.7nm,0.0s,SNR=7.9						
EZAM				S	**Sn**	**18 32 59.6**	**-1.9**
	comp=N,15nm,0.4s,SNR=4.0						
ETOB	**Tobarra**	**6.09**	**65**	P	**Pn**	**18 32 00.1**	**+0.5**
	comp=N,1.3nm,0.1s,SNR=28						
ETOB				S	**Sn**	**18 33 06.2**	**-1.7**
	comp=N,10nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**6.10**	**73**	P	**Pn**	**18 32 00.8**	**+1.1**
SNR=4.0							
EMUR				S	**Sn**	**18 33 07.2**	**-0.8**
	comp=N,29nm,0.5s,SNR=4.0						
EAGO	**Agolada(Pontev**	**6.50**	**3**	P	**Pn**	**18 32 05.7**	**+0.6**
	comp=N,1.2nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**18 33 16.1**	**-1.8**
	comp=N,9.9nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.64**	**358**	P	**Pn**	**18 32 07.7**	**+0.7**
	comp=N,13nm,0.2s,SNR=7.9						
EMAZ				S	**Sn**	**18 33 18.0**	**-3.2**
	comp=N,8.4nm,0.1s,SNR=7.9						
ETOR	**Torete**	**6.84**	**47**	P	**Pn**	**18 32 11.8**	**+2.0**
	comp=N,21nm,0.1s,SNR=59						
ETOR				S	**Sn**	**18 33 23.7**	**-2.6**
	comp=N,58nm,0.3s,SNR=7.9						
AFON	**Font Roja**	**6.84**	**67**	S	**Sn**	**18 33 27.1**	**+0.6**
	comp=N,5.2nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.10**	**9**	P	**Pn**	**18 32 14.8**	**+1.4**
	comp=N,0.7nm,0.1s,SNR=4.9						
EPON				S	**Sn**	**18 33 31.9**	**-0.7**
	comp=N,6.0nm,0.3s,SNR=4.0						
EBEN2	**Beniarda presa**	**7.11**	**68**	P	**Pn**	**18 32 14.4**	**+0.9**
SNR=7.9							
PMPST	**Porto Santo, M**	**7.12**	**245**	*e*Pn	**Pn**	**18 32 09.3**	**-4.2**
PMPST				*e*Sn	Sn	18 33 21.1	-12
PMPST				A	A	18

CAF	**Calviac**	**11.83**	**40**	*e*Pn	**Pn**	**18 33 18.6**	**+0.7**
CAF				*e*Sn	**Sn**	**18 35 22.0**	**-6.2**
	comp=N,1.0nm,0.2s						
MFF	**Saint Martin d**	**12.09**	**29**	*e*Pn	**Pn**	**18 33 22.3**	**+0.9**
QUIF	**Quistinic**	**12.29**	**18**	*e*Sn	**Sn**	**18 35 32.9**	**-6.3**
	comp=N,1.5nm,0.5s						
LASF	**Ste Croix**	**12.29**	**47**	*e*P	**Pn**	**18 33 25.1**	**+0.9**
LASF				*e*Sn	**Sn**	**18 35 33.8**	**-5.7**
	comp=N,0.3nm,0.2s						
ROSF	**Rostrenen**	**12.65**	**17**	*e*P	**Pn**	**18 33 32.7**	**+3.6**
SGMF	**Saint Gilles**	**12.75**	**19**	*e*Pn	**Pn**	**18 33 30.5**	**+0.1**
SGMF				*e*Sn	**Sn**	**18 35 43.9**	**-6.7**
	comp=N,0.4nm,0.2s						
VIVF	**Saint-Julien-l**	**13.22**	**46**	*e*P	**Pn**	**18 33 37.9**	**+1.1**
ORIF	**Oris-en-Rattie**	**13.96**	**48**	*e*Pn	**Pn**	**18 33 46.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**24.86**	**155**	P	**P**	**18 35 50.4**	**+1.4**
	comp=N,0.3nm,0.8s,baz=353,slow=10,SNR=2.7						
ARCES	**ARCESS Array B**	**38.09**	**19**	LR	LR	18 55 06.1	
	comp=N,32nm,19.5s,baz=165,slow=39						
ASAR	**Alice Springs**	**145.40**	**79**	PKP	**PKPab**	**18 50 06.8**	**+3.1**
	comp=N,0.4nm,0.6s,baz=314,slow=2.7,SNR=8.7						

IDC 27 18:39:16.4±1.9, 1°46N×126°20E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/33, mbtmp3.6/4, ML3.4/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/27, Error ellipse: s-maj=112.8km s-min=24.7km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**11.86**	**192**	Op		LR	18 47 39.4	
	comp=Z,45nm,20.9s,baz=255,slow=42							
FITZ	**Fitzroy Crossi**	**19.44**	**182**	P		P	18 43 44.9	+0.4
	0.1nm,0.3s,baz=353,slow=12,SNR=1.7							
WRA	**Warramunga Arr**	**22.71**	**160**	P		P	18 44 19.9	-0.1
	2.0nm,0.5s,baz=338,slow=11,SNR=39							
ASAR	**Alice Springs**	**26.07**	**164**	P		P	18 44 51.9	+0.1
	0.5nm,0.5s,baz=343,slow=7.8,SNR=26							
MKAR	**Makanchi Array**	**59.12**	**326**	P		P	18 49 18.7	-0.1
	0.2nm,0.4s,baz=126,slow=7.9,SNR=5.0							
AKASG	**Malin Array Be**	**93.31**	**321**	LR		LR	19 36 36.1	
	comp=Z,14nm,21.3s,baz=290,slow=37							

*BGR **27** 18:51:39.3±0.0, 9°36N×93°84E, h33km, mb4.9*
*NDI **27** 18:51:40.7±2.7, 9°57N×93°90E, h52km±35km, mb4.9, mb4.9(NEIC)*
*BJI **27** 18:51:47.5±0.0, 9°82N×93°33E, h97km, mB4.8/32, mb4.8/52*
*NEIC **27** 18:51:49.2±2.0, 9°89N±0°04×93°38E±0°08, h90km±4km, mb4.9/137, Error ellipse: s-maj=11.6km s-min=5.1km az=67.0*
*IDC **27** 18:51:50.0±1.1, 9°94N×93°50E, h93km±9km, mb4.2/30, mb1 4.4/33, mb1mx4.3/41, mbtmp4.6/33, MS3.5/15, Ms1 3.5/15, ms1mx3.3/43, Error ellipse: s-maj=11.0km s-min=9.2km az=62.0*
*DJA **27** 18:51:50.2±0.3, 10°N±3°×9°3E±°, h83km±4km, M4.9/25, mB5.2/11, mb4.9/25, MLv5.3/4, Mw(mB)4.6/11*
*GCMT **27** 18:51:51.2±0.4, 10°06N±0°03×93°50E±0°03, h110km±6km, MW4.8/80, Moment Tensor Solution. s9,c9; s80,c108; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.38±.11; Mθθ -1.24±.10; Mϕϕ 0.86±.11; Mrθ -0.92±.07; Mrϕ -0.31±.11; Mθϕ -1.12±.07; Best double couple: Mo 1.84500×10^16 NP1: ϕs 123.00000°, δ 36.00000°, λ 168.00000°. NP2: ϕs 223.00000°, δ 83.00000°, λ 54.00000°. Principal axes: T 1.8070, Plg41.0000°, Azm100.0000°; N 0.0730, Plg35.0000°, Azm228.0000°; P -1.8840, Plg29.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **27** 18:51:52, 9°91N×93°39E, h105km, mb5.1*

ISC 27 18:51:50.0±0.4, 9°89N±0°04×93°40E±0°04, h95km±3km, h95km:pP-P,n475,σ1$46/511, mb4.8/137, 15C-19D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.87**	**340**	*e*P		Pn	18 52 17.6	-3.1
PBA				*e*S		Sn	18 52 43.9	-0.1
PBA	**Port Blair**	**1.87**	**340**	Pn		Pn	18 52 18.2	-2.5
PBA	**Port Blair**	**1.87**	**340**	P		Pn	18 52 18.5	-2.1
DGPR	**DIGLIPUR**	**3.30**	**352**	*ex*		**Pn**	**18 52 40.0**	**+0.4**
DGPR				*ex*		**Sn**	**18 53 25.0**	**+7.1**
PKDT	**Phuket**	**5.27**	**112**	P		**Pn**	**18 53 05.5**	**-0.8**
SURT	**Suratani**	**5.41**	**99**	P		**Pn**	**18 53 09.7**	**+1.5**
LHMI	**Lhok Sumawe**	**5.82**	**143**	Pn		**Pn**	**18 53 15.3**	**+1.5**
LHMI	**Lhok Sumawe**	**5.82**	**143**	P		**Pn**	**18 53 15.1**	**+1.3**
	5.5nm20µm1µm,0.7s							
KRAB	**Krabi**	**5.96**	**106**	P		**Pn**	**18 53 16.2**	**+0.4**
SRIT	**Nakonsritamara**	**6.26**	**101**	P		**Pn**	**18 53 21.0**	**+1.2**
TRTT	**Trang**	**6.55**	**108**	P		**Pn**	**18 53 23.1**	**-0.6**
PHET	**Kaeng Krachan**	**6.81**	**63**	P		**Pn**	**18 53 27.3**	**0.0**
SRDT	**SRDT**	**7.14**	**51**	P		**Pn**	**18 53 31.8**	**+0.1**
TPTI		**7.58**	**150**	P		**Pn**	**18 53 35.2**	**-2.7**
PATY	**Pattaya**	**7.92**	**67**	P		**Pn**	**18 53 42.3**	**-0.1**
TSI	**Tuntungan**	**8.16**	**141**	P		**Pn**	**18 53 48.4**	**+2.7**
	0.7nm156nm,0.6s							
UMPA	**Umpang Tak**	**8.23**	**40**	P		**Pn**	**18 53 46.9**	**+0.2**
KULM	**Kulim**	**8.52**	**122**	Pn		**Pn**	**18 53 50.6**	**0.0**
KULM	**Kulim**	**8.52**	**122**	P		**Pn**	**18 53 51.0**	**+0.4**
PSI	**Prapat**	**8.93**	**142**	P		**Pn**	**18 53 56.3**	**0.0**
	25nm,0.3s,baz=360,slow=13,SNR=72							
PSI				S		**Sn**	**18 55 37.8**	**+2.4**
	1.9nm,0.3s,baz=360,slow=17,SNR=2.6							
PSI				LR		LR	18 57 44.1	
	comp=Z,279nm,20.4s,baz=271,slow=39							
RPSI	**Rantau Prapat**	**9.02**	**142**			**Pn**	**18 53 56.3**	**-1.1**
RPSI						**Sn**	**18 55 37.8**	**+0.6**
IPM	**Ipoh**	**9.28**	**125**	Pn		**Pn**	**18 54 01.0**	**0.0**
IPM	**Ipoh**	**9.28**	**125**	P		**Pn**	**18 54 02.0**	**+1.0**
MHMT	**Maesarieng**	**9.34**	**28**	P		**Pn**	**18 54 02.9**	**+1.2**
SRAK	**Srakaew**	**9.40**	**63**	P		Pn	18 54 10.2	+7.7
GSI	**Gunungsitoli**	**9.49**	**154**	Pn		**Pn**	**18 54 00.9**	**-2.9**
SUKH	**Sukhothai**	**9.67**	**38**	P		**Pn**	**18 54 06.9**	**+0.6**
PHIT	**Phitsanulok**	**9.96**	**43**	P		**Pn**	**18 54 10.1**	**-0.1**
CM13	**Chiang Mai Arr**	**10.02**	**32**	P		**Pn**	**18 54 11.7**	**+0.7**
CM05	**Chiang Mai Arr**	**10.02**	**32**	P		**Pn**	**18 54 11.9**	**+0.8**
CM04	**Chiang Mai Arr**	**10.04**	**32**	P		**Pn**	**18 54 12.2**	**+0.9**
CM31	**Chiang Mai Arr**	**10.07**	**32**	P		**Pn**	**18 54 12.6**	**+0.9**
CM31	**Chiang Mai Arr**	**10.07**	**32**	Pn		**Pn**	**18 54 13.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**10.07**	**32**	P		**Pn**	**18 54 11.2**	**-0.6**
	3.7nm,0.3s,baz=221,slow=12,SNR=103							
CMAR						ScP		**ScP**	**19 03 38.1**	**+0.3**
	0.1nm,0.3s,baz=252,slow=2.5,SNR=14							
CMAR	**Chiang Mai Arr**	**10.07**	**32**	Pn		**Pn**	**18 54 11.4**	**-0.3**
CMAR						**ScP**	**19 03 37.8**	**0.0**
CHAI	**Chaiyaphum**	**10.28**	**54**	P		**Pn**	**18 54 15.4**	**+0.8**
CHTO	**Chiang Mai**	**10.37**	**31**	Pn		**Pn**	**18 54 16.4**	**+0.6**
CHTO	**Chiang Mai**	**10.37**	**31**	P		**Pn**	**18 54 16.2**	**+0.5**
CMMT	**Chiang Mai**	**10.37**	**31**	P		**Pn**	**18 54 15.4**	**-0.4**
UTTA	**Uttaradit**	**10.45**	**41**	P		**Pn**	**18 54 17.5**	**+0.7**
LAMP	**Lampang**	**10.49**	**34**	P		**Pn**	**18 54 18.9**	**+1.5**
JRMM	**Jerantut**	**10.81**	**123**	P		**Pn**	**18 54 23.0**	**+1.2**
MNSI	**Mandailing Nat**	**10.93**	**145**	P		**Pn**	**18 54 20.0**	**-3.5**
BKNI	**Bangkinang**	**12.17**	**141**	Pn		**Pn**	**18 54 39.7**	**-0.4**
BKNI	**Bangkinang**	**12.17**	**141**	P		**Pn**	**18 54 40.7**	**+0.6**
	1µm103nm,0.7s							
VIS	**Vishakhapatnam**	**12.49**	**310**	*e*P		**Pn**	**18 54 42.4**	**-2.0**
SAIH	**SAIHA**	**12.53**	**358**	*e*P		**Pn**	**18 54 40.7**	**-4.3**
BWNR	**Bhubaneshwar**	**12.67**	**326**	*ex*		Pn	18 54 37.0	-10
PALK	**Pallekele**	**12.82**	**259**	P		**Pn**	**18 54 49.1**	**+0.3**
	1.2nm,0.3s,baz=197,slow=9.7,SNR=9.7							
PALK				S		Sn	18 56 57.0	-13
	16nm,0.3s,baz=261,slow=21,SNR=14							
PALK	**Pallekele**	**12.82**	**259**	Pn		**Pn**	**18 54 49.3**	**+0.5**
PALK	**Pallekele**	**12.82**	**259**	P		**Pn**	**18 54 49.9**	**+1.1**
PALK				S		Sn	18 56 58.6	-11
UBPT	**Khong Chiam**	**12.94**	**64**	P		**Pn**	**18 54 49.9**	**-0.5**
MYKOM	**Kota Tinggi**	**13.14**	**127**	Pn		**Pn**	**18 54 54.5**	**+1.4**
MYKOM	**Kota Tinggi**	**13.14**	**127**	P		**Pn**	**18 54 54.0**	**+1.0**
DLV	**T Lat**	**14.96**	**81**	P		**P**	**18 55 19.4**	**-0.5**
SLVN	**Son La**	**15.22**	**40**			**Pn**	**18 55 20.5**	**+0.7**
BOK	**Bokaro**	**15.57**	**334**	*e*P		**Pn**	**18 55 22.8**	**-1.5**
BOK						IAmb	IAmb	18 55 24.3
	comp=Z,59nm,0.9s							
BOK				*i* x		**P**	**18 55 28.2**	**+1.7**
SHL	**Shillong**	**15.66**	**355**	*e*P		**Pn**	**18 55 22.1**	**-3.3**
SHL	**Shillong**	**15.66**	**355**	Pn		**Pn**	**18 55 24.7**	**-0.7**
SHL						IAmb	IAmb	18 55 29.1
	comp=Z,111nm,0.8s							
SHL	**Shillong**	**15.66**	**355**	P		**Pn**	**18 55 25.5**	**+0.1**
	SNR=42							
KOHI	**KOHIMA**	**15.76**	**2**	*e*P		**Pn**	**18 55 23.7**	**-3.0**
HYB	**Hyderabad**	**16.24**	**299**	*i* P		**Pn**	**18 55 33.0**	**+0.4**
HYB				*e*			18 58 33.0	
HYB	**Hyderabad**	**16.24**	**299**	*e*P		**Pn**	**18 55 31.4**	**-1.3**
HYB				*i* x		**Pn**	**18 55 35.2**	**+2.6**
KSI	**Kapahiang**	**16.28**	**145**	P		**Pn**	**18 55 29.2**	**-3.9**
MOKO	**MOKOCHONG**	**16.38**	**4**	*e*P		**Pn**	**18 55 30.8**	**-3.5**
MOKO				*i* x		**Pn**	**18 55 34.0**	**-0.4**
LHSI	**Lahat**	**16.96**	**143**	P		**P**	**18 55 43.2**	**+1.3**
	comp=Z,5µmcomp=Z,46nm,1.0s							
ZIRO	**ZIRO**	**17.55**	**1**	*e*P		**P**	**18 55 44.8**	**-3.7**
ZIRO						IAmb	IAmb	18 55 46.5
	comp=Z,41nm,0.7s							
KMI	**Kunming**	**17.56**	**29**	⇓P		**Pn**	**18 55 50.5**	**+1.5**
KMI				pP		pP	18 56 05.0	-0.9
KMI				sP		sP	18 56 16.8	-0.8
KMI				pmax		pmax		
	comp=Z,19nm,1.2s							
KMI				pmax		pmax		
	comp=Z,220nm,4.2s							
KMI				LR		LR		
	comp=Z,240nm,8.5s							
KMI				LR		LR		
	comp=Z,170nm,12.3s							
KMI				LR		LR		
	comp=Z,150nm,10.3s							
KMI	**Kunming**	**17.56**	**29**	P		**Pn**	**18 55 49.5**	**+0.6**
ODAN	**Odare**	**17.81**	**342**	*e*P		**P**	**18 55 51.5**	**+0.1**
	comp=Z,187nm,0.9s							
RAMN	**Ramite**	**18.14**	**340**	*e*P		**Pn**	**18 55 56.1**	**+0.1**
	comp=Z,215nm,0.8s							
TAPN	**Taplejung**	**18.18**	**344**	*e*P		**Pn**	**18 55 56.5**	**0.0**
	comp=Z,719nm,1.0s							
QIZ	**Qiongzhong**	**18.32**	**58**	P		**P**	**18 55 55.8**	**-1.1**
QIZ				S		**Sn**	**18 59 22.3**	**-0.3**
QIZ				pmax		pmax		
	comp=Z,210nm,7.1s							
QIZ				LR		LR		
	comp=Z,220nm,22.6s							
QIZ				LR		LR		
	comp=Z,150nm,21.6s							
QIZ				LR		LR		
	comp=Z,180nm,29.4s							
KLSI		**18.37**	**142**	P		Pn	18 56 05.8	+7.3
KSM	**Kuching**	**18.78**	**115**	P		**P**	**18 56 02.2**	**+0.2**
KSM						IAmb	IAmb	18 56 06.8
	comp=Z,122nm,1.2s							
KSM	**Kuching**	**18.78**	**115**	P		**Pn**	**18 56 03.0**	**-0.5**
JIRN	**Jiri**	**18.93**	**340**	*e*P		**Pn**	**18 56 04.9**	**-0.7**
PKI	**Pulchoki**	**19.13**	**338**	*e*P		**P**	**18 56 06.7**	**+0.7**
PKIN	**Phulchoki**	**19.14**	**338**	*e*P		**P**	**18 56 06.7**	**+0.6**
	comp=Z,162nm,0.6s							
GUN	**Gumba**	**19.27**	**339**	*e*P		**P**	**18 56 08.4**	**+0.8**
	comp=Z,259nm,0.5s							
DMN	**Daman**	**19.28**	**337**	*e*P		**P**	**18 56 08.2**	**+0.7**
	comp=Z,75nm,0.6s							
KKN	**Kakani**	**19.38**	**338**	*e*P		**P**	**18 56 09.1**	**+0.5**
GKN	**Gorkha**	**19.81**	**337**	*e*P		**P**	**18 56 14.1**	**+0.9**
LSA	**Lhasa**	**19.82**	**354**	P		**P**	**18 56 13.3**	**-0.3**
LSA				pmax		pmax		
	comp=Z,150nm,0.9s							
LSA	**Lhasa**	**19.82**	**354**	P		**P**	**18 56 13.6**	**0.0**
LSA	**Lhasa**	**19.82**	**354**	P		**P**	**18 56 12.7**	**-0.9**
LSA						IAmb	IAmb	18 56 19.5
	comp=Z,83nm,0.9s							
LSA	**Lhasa**	**19.82**	**354**	P		**P**	**18 56 13.4**	**-0.2**
GOA	**Goa**	**19.88**	**288**	*ex*		**P**	**18 56 15.7**	**+1.8**
GOA						IAmb	IAmb	18 56 19.6
	comp=Z,36nm,1.0s							
SBUM	**Sibu**	**20.11**	**110**	P		**P**	**18 56 16.6**	**+0.2**
SBUM						IAmb	IAmb	18 56 18.7
	comp=Z,65nm,1.2s							
SBUM	**Sibu**	**20.11**	**110**	P		Pn	18 56 18.0	-1.1
BHPL	**Bhopal**	**20.23**	**313**	*e*P		**P**	**18 56 18.4**	**+0.7**
BHPL						IAmb	IAmb	18 56 20.1
	comp=Z,144nm,0.8s							
STKI	**Sintang**	**20.47**	**117**	P		Pn	18 56 22.2	-1.1
	comp=Z,27nm,0.9s							
GYA	**Guiyang**	**20.71**	**36**	⇑P		**P**	**18 56 23.5**	**+0.5**
GYA				sP		sP	18 56 55.3	+3.3
GYA				pmax		pmax		
	comp=Z,26nm,1.0s							
POO	**Poona**	**20.79**	**297**	⇓*i* x		**P**	**18 56 22.0**	**-1.7**
	comp=Z,70nm,0.4s							
POO				*e*P		Pn	18 56 25.1	-1.9
POO				*i* x		Pn	18 56 28.9	+1.9
POO				*i* x		**S**	**19 00 02.0**	**-8.6**
LEM	**Lembang**	**21.83**	**139**	LR		LR	19 05 32.7	
	comp=Z,112nm,21.7s,baz=338,slow=38							
COCO	**West Island**	**22.20**	**171**	P		**P**	**18 56 40.5**	**+1.8**
KKM	**Kota Kinabalu**	**22.91**	**98**	P		**P**	**18 56 46.9**	**+0.7**
KKM						IAmb	IAmb	18 56 51.3
	comp=Z,67nm,1.1s							
CD2	**Chengdu**	**23.03**	**23**	P		**P**	**18 56 46.0**	**-1.1**
CD2				S		**S**	**19 00 49.8**	**-0.8**
CD2				pmax		pmax		
	comp=Z,70nm,0.8s							
CD2				pmax		pmax		
	comp=Z,190nm,3.8s							
CD2				LR		LR		
	comp=Z,320nm,10.5s							
CD2				LR		LR		
	comp=Z,360nm,9.9s							
CD2				LR		LR		
	comp=Z,300nm,10.6s							
MTKI	**Muara Teweh, K**	**23.96**	**116**	P		**P**	**18 56 56.9**	**+1.2**
	comp=Z,32nm,0.9s							
NDI	**New Delhi**	**24.08**	**323**	*e*P		**P**	**18 56 58.5**	**+1.8**
NDI				*e*S		**S**	**19 01 09.0**	**+1.4**
UGM	**Wanagama**	**24.57**	**135**	P		**P**	**18 56 59.7**	**-1.6**
UGM						IAmb	IAmb	18 57 06.7
	comp=Z,133nm,1.4s							
DDI	**Dehra Dun**	**24.86**	**327**	*e*P		**P**	**18 57 04.6**	**+0.8**
DDI						IAmb	IAmb	18 57 07.4
	comp=Z,95nm,0.5s							
BBKI	**Banjar Baru**	**25.15**	**121**	P		**P**	**18 57 10.3**	**+3.8**
	comp=Z,831nmcomp=Z,21nm,1.2s							
ENH	**Enshi**	**25.23**	**34**	P		**P**	**18 57 05.9**	**-1.3**
MYLDM	**Lahad Datu**	**25.32**	**99**	P		**P**	**18 57 08.6**	**+0.5**
SMLA	**Simla**	**25.96**	**327**	*e*P		**P**	**18 57 14.2**	**+0.5**
H08S3	**Diego Garcia H**	**27.14**	**231**	T		T	19 24 43.7	
	baz=50,slow=76,SNR=296							
H08S2	**Diego Garcia H**	**27.15**	**231**	T		T	19 25 09.6	
	baz=50,slow=76,SNR=113							
H08S1	**Diego Garcia H**	**27.16**	**231**	T		T	19 25 10.2	
	baz=50,slow=76,SNR=34							
DHRM	**DHARAMSHALA**	**27.30**	**327**	*e*P		**P**	**18 57 24.6**	**-1.3**
LZH	**Lanzhou**	**27.75**	**18**	*e*P		**P**	**18 57 30.0**	**+0.1**
LZH				pP		pwP	18 57 56.0	+2.0
LZH				sP		sP	18 58 06.5	+5.3
LZH				pmax		pmax		
	comp=Z,22nm,1.1s							
LZH				LR		LR		
	comp=Z,300nm,11.9s							
LZH				LR		LR		
	comp=Z,150nm,10.8s							
LZH				LR		LR		
	comp=Z,140nm,12.7s							
XAN	**Xi'an**	**27.94**	**28**	P		**P**	**18 57 30.3**	**-1.2**
XAN	**Xi'an**	**27.94**	**28**	P		**P**	**18 57 29.6**	**-1.9**
SRBI	**Singaraja**	**28.12**	**129**	P		**P**	**18 57 35.6**	**+2.4**
	comp=Z,12nm,1.0s							
TOLI2	**Tolitoli**	**28.59**	**106**	P		**P**	**18 57 36.7**	**-0.8**
MRSI	**Marisa**	**29.89**	**107**	P		**P**	**18 57 50.3**	**+1.3**
	comp=Z,27nm,0.7s							
GTA	**Gaotai**	**29.95**	**10**	⇓P		**P**	**18 57 49.5**	**+0.2**
GTA				pP		pwP	18 58 12.8	+0.5
GTA				sP		sP	18 58 23.5	+2.3
GTA				ScP		**ScP**	**19 04 23.8**	**+0.2**
GTA				pmax		pmax		
	comp=Z,19nm,1.2s							
GTA				pmax		pmax		
	comp=Z,120nm,6.2s							
GTA				LR		LR		
	comp=Z,89nm,15.3s							
GTA				LR		LR		
	comp=Z,110nm,16.7s							
GTA				LR		LR		
	comp=Z,81nm,18.2s							
NIL	**Nilore**	**30.03**	**325**	P		**P**	**18 57 50.3**	**+0.2**
NIL	**Nilore**	**30.03**	**325**	P		**P**	**18 57 50.5**	**+0.5**
APSI	**Ampana**	**30.10**	**109**	P		P	18 58 00.3	+9.5
KAPI	**Kappang**	**30.14**	**118**	P		**P**	**18 57 50.8**	**-0.4**
NACB	**Ninganchiao**	**30.39**	**59**	P		**P**	**18 57 51.2**	**-2.1**
NACB				IAmb		IAmb	18 57 53.9	
	comp=Z,25nm,1.0s							
LUWI	**Luwuk**	**31.19**	**109**	P		**P**	**18 58 00.4**	**-0.1**
YOJ	**Yonaguni jima**	**31.69**	**59**	P		**P**	**18 58 05.7**	**+0.9**
KMSI	**Cibinong**	**31.80**	**105**	P		**P**	**18 58 08.1**	**+2.3**
	comp=Z,91nm,0.8s							
NJ2	**Nanjing**	**32.26**	**43**	*e*P		**P**	**18 58 11.0**	**+1.4**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
KBL	**Kabul**	**33.14**	**321**	P		**P**	**18 58 17.3**	**-0.2**
KBL				IAmb		IAmb	18 58 19.1	
	comp=Z,35nm,0.9s							
KBL	**Kabul**	**33.14**	**321**	P		**P**	**18 58 18.4**	**+0.9**
	SNR=13							
KSH	**Kashi**	**33.34**	**335**	P		**P**	**18 58 18.3**	**-0.9**
KSH				sP		sP	18 58 52.8	+1.6
KSH				pmax		pmax		
	comp=Z,120nm,0.7s							
KSH				pmax		pmax		
	comp=Z,230nm,4.6s							
EDFI	**Ende, Flores**	**33.71**	**122**	P		**P**	**18 58 23.3**	**+0.7**
	comp=Z,10.0nm,0.8s							
MMRI	**Maumere**	**34.11**	**122**	P		**P**	**18 58 25.0**	**-0.9**
MMRI				IAmb		IAmb	18 58 37.0	
	comp=Z,17nm,0.6s							
WMQ	**Urumqi**	**34.16**	**353**	*e*P		**P**	**18 58 25.5**	**-0.6**
WMQ				pP		pwP	18 58 51.0	+0.8
WMQ				sP		sP	18 59 03.0	+5.3
WMQ				pmax		pmax		
	comp=Z,26nm,1.5s							
WMQ				pmax		pmax		
	comp=Z,110nm,3.7s							
WMQ				LR		LR		
	comp=Z,1µm,29.3s							
WMQ				LR		LR		
	comp=Z,2µm,29.0s							
WMQ				LR		LR		
	comp=Z,310nm,29.0s							
WMQ	**Urumqi**	**34.16**	**353**	P		**P**	**18 58 26.7**	**+0.6**
WMQ				IAmb		IAmb	18 58 29.0	
	comp=Z,15nm,0.7s							
SANI	**Sanana**	**34.55**	**108**	P		**P**	**18 58 29.3**	**-0.5**
	comp=Z,13nm,0.8s							
HHC	**Hu-ho-hao-te**	**34.77**	**25**	*e*P		**P**	**18 58 32.0**	**+0.5**
HHC				S		**S**	**19 03 54.5**	**-0.6**
HHC				pmax		pmax		
	comp=Z,15nm,0.8s							
HHC				pmax		pmax		
	comp=Z,95nm,5.7s							
HHC				LR		LR		
	comp=Z,620nm,19.6s							
HHC				LR		LR		
	comp=Z,330nm,17.9s							
HHC				LR		LR		
	comp=Z,180nm,17.9s							
JLN	**Jalan Bani Buh**	**34.77**	**295**	P		**P**	**18 58 34.6**	**+3.0**
WBK	**Wadi Bani Khal**	**35.29**	**295**	P		**P**	**18 58 38.9**	**+2.9**
SHLS	**Shalkode**	**35.30**	**342**	⇓*i* P		**P**	**18 58 35.8**	**-0.2**
	comp=Z,22nm,0.7s,baz=343							
UZB	**Uzynbulak**	**35.42**	**342**	⇓*i* P		**P**	**18 58 37.8**	**+0.7**
	comp=Z,20nm,1.1s,baz=342							
SATY	**Saty**	**35.54**	**341**	⇓*i* P		**P**	**18 58 38.8**	**+0.7**
	comp=Z,16nm,0.7s,baz=341							
ULHL	**Ulahol**	**35.57**	**338**	P		**P**	**18 58 39.1**	**+0.7**
	SNR=5.2							
MHTO	**MHTO**	**35.80**	**292**	P		**P**	**18 58 42.7**	**+2.3**
KPKS	**Kokpek**	**35.82**	**342**	⇓*i* P		**P**	**18 58 40.9**	**+0.5**
	comp=Z,21nm,0.8s,baz=342							
DQM	**DQM**	**35.98**	**290**	P		**P**	**18 58 44.5**	**+2.5**
JMDO	**Jabal Madar**	**36.00**	**295**	P		**P**	**18 58 45.0**	**+2.9**
TNSS	**Tian-Shan**	**36.01**	**339**	⇓*i* P		**P**	**18 58 42.9**	**+0.5**
	baz=339							
MDOK	**Medeo**	**36.09**	**340**	*i* P		**P**	**18 58 43.7**	**+1.0**
	baz=340							
AAA	**Alma-Ata**	**36.17**	**339**	*e*P		**P**	**18 58 44.2**	**+0.9**
	comp=Z,41nm,0.6s,baz=340							
BJT	**Baijiatuan**	**36.19**	**30**	P		**P**	**18 58 44.0**	**+0.5**
BJI	**Beijing**	**36.21**	**30**	P		**P**	**18 58 43.5**	**-0.2**
BJI				pmax		pmax		
	comp=Z,5.0nm,0.6s							
UCH	**Uchtor**	**36.22**	**336**	P		**P**	**18 58 45.1**	**+0.8**
	SNR=33							
SMDO	**Samad**	**36.23**	**296**	P		**P**	**18 58 47.3**	**+3.1**
BIDO	**Bidbid**	**36.28**	**296**	P		**P**	**18 58 47.8**	**+3.3**
TKM2	**Tokmak 2**	**36.39**	**338**	P		**P**	**18 58 46.0**	**+0.6**
	SNR=24							
SOEI	**Soe**	**36.40**	**122**	P		**P**	**18 58 45.5**	**-0.2**
SOEI				IAmb		IAmb	18 58 45.9	
	comp=Z,40nm,1.4s							
KBK	**Karagaybulak**	**36.41**	**337**	P		**P**	**18 58 46.9**	**+1.3**
	SNR=84							
AML	**Almayashu**	**36.48**	**335**	P		**P**	**18 58 47.5**	**+1.1**
	SNR=12

NAZ Nazwa, Dubai 38.84 298 P P 18 59 08.7 +2.6
DOK Doka 38.96 287 P P 18 59 09.9 +2.7
SNR=5.5
ASUD Al Ashush, Dub 39.04 297 *i* P P 18 59 10.6 +2.9
SNR=14
ASUD Al Ashush, Dub 39.04 297 P P 18 59 10.8 +3.1
SNR=5.8
JMZ Minamidaito 2 39.16 61 P P 18 59 08.9 +0.2
SIJI Sorong 39.18 104 LR LR 19 18 25.1
comp=Z,26nn,19.4s,baz=312,slow=41
WHFO Wadi Hawf 39.22 286 P P 18 59 11.8 +2.4
SNR=9.5
SONM Songino Array 39.38 14 P P 18 59 10.1 -0.2
comp=Z,9.3nn,1.0s,baz=199,slow=9.6,SNR=40
SONM ScP ScP 19 04 56.9 -0.2
comp=Z,2.6nn,1.0s,baz=193,slow=4.3,SNR=7.8
SONM Songino Array 39.38 14 P P 18 59 09.8 -0.6
SONM ScP ScP 19 04 56.5 -0.6
ULN Ulaanbaatar 39.56 14 P P 18 59 11.2 -0.8
ULN Ulaanbaatar 39.56 14 P P 18 59 11.8 -0.2
ABTO Aybut 39.61 285 P P 18 59 15.2 +2.5
SNR=5.2
MBWA Marble Bar 40.27 140 P P 18 59 16.6 -1.4
PSA00 Pilbara Seismi 40.65 140 P P 18 59 20.1 -1.0
PSA00 Pilbara Seismi 40.65 140 P P 18 59 18.8 -2.2
PSA00 IAmb IAmb 18 59 20.2
comp=Z,10nm,0.9s
FAKI Fak Fak 40.74 106 P P 18 59 21.3 -0.6
FAKI IAmb IAmb 18 59 23.0
comp=Z,13nm,1.0s
KSRS Korea Array 41.46 43 P P 18 59 27.1 -0.5
comp=Z,0.8nm,0.6s,baz=245,slow=9.2,SNR=5.5
KSRS ScP ScP 19 05 03.6 -1.8
comp=Z,1.4nm,0.9s,baz=234,slow=4.3,SNR=4.6
JNU Nakatsue 41.50 50 P P 18 59 30.6 +2.7
JNU IAmb IAmb 18 59 35.9
comp=Z,24nm,1.2s
SAUI Saumlaki 41.71 114 P P 18 59 30.1 +0.1
SAUI IAmb IAmb 18 59 34.5
comp=Z,49nm,1.4s
GEYT Alibeck 42.22 317 P P 18 59 35.8 +2.0
comp=Z,97nm,0.7s,baz=152,slow=9.6,SNR=175
GEYT LR LR 19 18 38.6
comp=Z,73nm,20.6s,baz=170,slow=38
GEYT Alibeck 42.22 317 P P 18 59 35.4 +1.6
GYA0B ALIBECK ARRAY 42.22 317 P P 18 59 35.6 +1.7
FITZ Fitzroy Crossi 42.27 131 P P 18 59 33.7 -0.7
baz=42,SNR=5.5
FITZ Fitzroy Crossi 42.27 131 P P 18 59 32.9 -1.4
FITZ IAmb IAmb 18 59 34.2
comp=Z,17nm,1.4s
KURBB Kurchatov Arra 42.42 346 PcP PcP 19 01 27.2 +0.6
comp=Z,1.6nm,0.6s,baz=155,slow=2.2,SNR=4.4
KURBB ScP ScP 19 05 09.1 +0.2
comp=Z,2.0nm,0.7s,baz=158,slow=3.2,SNR=11
KURK Kurchatov 42.49 346 PcP 19 01 27.2 +0.4
TLY Talaya 42.50 9 P P 18 59 36.1 +0.3
comp=Z,2.4nm,0.4s,baz=289,slow=2.7,SNR=3.2
TLY Talaya 42.50 9 IAmb IAmb 18 59 37.8
comp=Z,6.0nm,0.7s
BRZS Berezniki 43.51 341 *e*P P 18 59 44.3 +0.3
comp=Z,12nm,0.8s,baz=341
CN2 Changchun 43.75 34 *e*P P 18 59 46.0 0.0
CN2 *e*PP PcP 19 01 31.0 -0.2
CN2 *e*S S 19 06 08.0 -1.3
CN2 *e*SS SS 19 09 15.5 -13
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,130nm,12.0s
CN2 LR LR
comp=Z,230nm,12.0s
CN2 LR LR
comp=Z,170nm,13.0s
MTN Manton Dam 43.76 120 P P 18 59 45.7 -0.7
baz=44,SNR=12
MTN Manton Dam 43.76 120 P P 18 59 44.6 -1.8
MTN IAmb IAmb 18 59 47.2
comp=Z,7.9nm,0.5s
JHS Saijyo 43.97 49 P P 18 59 47.8 -0.1
JHS IAmb IAmb 18 59 57.6
comp=Z,10.0nm,0.8s
MORW Morawa 44.47 151 P P 18 59 51.0 -0.9
MORW IAmb IAmb 18 59 52.2
comp=Z,14nm,1.1s
ZAA0 Zalesovo Array 44.47 353 P P 18 59 51.2 -0.3
ZAA0 IAmb IAmb 18 59 52.4
comp=Z,19nm,0.8s
ZALV Zalesovo Beam 44.47 353 P P 18 59 51.3 -0.2
comp=Z,19nm,0.8s,baz=174,slow=9.0,SNR=82
ZALV LR LR 19 21 12.3
comp=Z,29nm,18.9s,baz=170,slow=40
ZALV Zalesovo Beam 44.47 353 P P 18 59 51.1 -0.5
KDU Kakadu 44.83 119 P P 18 59 53.8 -1.2
baz=45,SNR=22
HIA Hailar 44.98 24 P P 18 59 56.0 +0.3
JWT Wachi 45.80 50 P P 19 00 03.9 +1.5
RDF Al-Radifah 46.86 300 *e*P 19 00 11.0
UMR Umm Al-Rimmam 46.88 301 *e*P 19 00 11.0
BRVK Borovoye 46.92 341 P P 19 00 10.5 -0.3
BRVK IAmb IAmb 19 00 11.3
comp=Z,20nm,0.7s
BRVK Borovoye 46.92 341 P P 19 00 10.6 -0.3
MUN Mundaring 47.01 153 P P 19 00 11.3 -0.5
baz=47,SNR=4.2
MIB Mutribah 47.26 302 *e*P 19 00 14.1
KLBR Kellerberrin 47.39 151 P P 19 00 13.9 -0.9
baz=48,SNR=5.8
RST Umm Al-Ruwaisa 47.47 301 *e*P 19 00 15.2
RAYN Ar Rayn 47.61 293 *i* P P 19 00 18.5 +1.7
SNR=47
RAYN Ar Rayn 47.61 293 P P 19 00 18.4 +1.6
USRK Ussuriysk Ar. 47.74 37 P P 19 00 18.5 +1.1
comp=Z,1.1nm,0.6s,baz=252,slow=3.8,SNR=4.1
USRK Ussuriysk Ar. 47.74 37 P P 19 00 17.9 +0.5
ABKAR Akbulak array 48.12 331 P P 19 00 20.5 +0.2
ABKAR Akbulak array 48.12 331 P P 19 00 20.4 +0.2
ABKAR IAmb IAmb 19 00 21.7
comp=Z,52nm,1.2s
NWAO Narrogin (SRO) 48.27 153 P P 19 00 20.7 -0.9
baz=48,SNR=5.6
NWAO Narrogin (SRO) 48.27 153 P P 19 00 19.7 -1.8
NWAO IAmb IAmb 19 00 20.9
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 48.27 153 P P 19 00 20.2 -1.3
NWAO IAmb IAmb 19 00 20.9
comp=Z,13nm,0.8s
MJAR Matsushiro Arr 48.39 49 P P 19 00 23.8 +1.2
comp=Z,2.0nm,0.8s,baz=240,slow=7.6,SNR=5.1
MJAR PcP PcP 19 01 48.5 +0.8
comp=Z,3.2nm,0.8s,baz=246,slow=4.1,SNR=6.2
MJAR ScP ScP 19 05 34.2 +0.2
comp=Z,1.4nm,0.7s,baz=217,slow=2.3,SNR=4.9
MJAR Matsushiro Arr 48.39 49 IAmb IAmb 19 00 24.9
comp=Z,1.9nm,1.0s
WRKA Warakurna 48.61 136 P P 19 00 23.6 -0.7
baz=49,SNR=4.4
JYT Yasato 49.77 51 P P 19 00 33.3 +0.2
JYT IAmb IAmb 19 00 33.8
comp=Z,21nm,1.4s
WB0 Warramunga Arr 49.98 126 P P 19 00 33.6 -1.3
WB0 IAmb IAmb 19 00 35.7
comp=Z,16nm,1.2s
WRA Warramunga Arr 50.03 126 P P 19 00 34.1 -1.2
comp=Z,6.2nm,0.6s,baz=305,slow=8.5,SNR=124
WRA PcP PcP 19 01 51.7 -2.2
comp=Z,1.8nm,0.6s,baz=304,slow=8.5,SNR=4.7
WRA ScP ScP 19 05 39.5 -1.7
comp=Z,2.0nm,1.0s,baz=314,slow=4.1,SNR=5.4
WRA S S 19 07 36.5 -3.0
comp=Z,1.6nm,1.0s,baz=301,slow=16,SNR=5.2
WRA Warramunga Arr 50.03 126 P P 19 00 34.2 -1.1
WRA PcP 19 01 53.0 -0.9
WRAB Tennant Creek 50.04 126 P P 19 00 34.1 -1.2
WRAB IAmb IAmb 19 00 35.8
comp=Z,30nm,1.2s
WB2 Warramunga Arr 50.04 126 P P 19 00 34.3 -1.1
baz50
WB2 Warramunga Arr 50.04 126 P P 19 00 34.3 -1.1
WB2 IAmb IAmb 19 00 35.8
comp=Z,28nm,1.2s
WR0 Warramunga Arr 50.20 126 P P 19 00 35.4 -1.1
WR0 IAmb IAmb 19 00 37.5
comp=Z,20nm,1.1s
KLR Kul'dur 50.55 32 P P 19 00 39.0 +0.3
comp=Z,1.2nm,0.8s,baz=241,slow=11,SNR=2.0

ASAR Alice Springs 51.77 131 P P 19 00 47.2 -1.1
comp=Z,15nm,0.9s,baz=308,slow=7.3,SNR=130
ASAR PcP PcP 19 02 00.1 -0.2
comp=Z,4.5nm,0.7s,baz=309,slow=3.5,SNR=9.1
ASAR ScP ScP 19 05 46.2 -2.5
comp=Z,1.5nm,0.9s,baz=304,slow=4.4,SNR=5.1
ASAR S S 19 07 58.5 -4.9
comp=Z,1.0nm,0.9s,baz=288,slow=13,SNR=7.6
ASAR LR LR 19 23 05.5
comp=Z,71nm,21.0s,baz=290,slow=36
ASAR Alice Springs 51.77 131 P P 19 00 46.7 -1.6
ASAR PcP 19 02 00.0 -0.3
AS31 Alice Springs 51.77 131 P P 19 00 46.7 -1.6
AS31 PcP 19 02 01.1 +0.7
GNI Garni 52.52 314 P P 19 00 54.1 +0.3
GNI Garni 52.52 314 P P 19 00 54.0 +0.3
GEVA Gevas 53.12 311 P P 19 00 57.1 -1.2
ARU Arti 53.76 337 P P 19 01 01.6 -0.8
ABPO Ambohimpanom 53.82 238 P P 19 01 02.5 -1.1
AKH Akhalkalaki 53.85 315 ⇑P P 19 01 04.9 +1.3
FURI Furi 53.94 274 P P 19 01 04.0 -0.8
QIS Mount Isa 54.59 124 P P 19 01 09.6 +0.6
baz=55,SNR=9.6
KBZ Khabaz 55.12 317 P P 19 01 12.9 +0.5
comp=Z,18nm,0.9s,baz=107,slow=7.8,SNR=26
KBZ LR LR 19 29 43.4
comp=Z,34nm,18.4s,baz=82,slow=41
CHVG Ch'k'valeri 55.30 316 ⇑P P 19 01 15.1 +1.3
KIV Kislovodsk 55.34 317 *i* P P 19 01 15.0 +0.8
SNR=14
KIV Kislovodsk 55.34 317 P P 19 01 14.2 0.0
KIV Kislovodsk 55.34 317 P P 19 01 15.0 +0.8
KOPT Kop Dagi 55.54 312 P P 19 01 15.6 -0.4
PMG Port Moresby 56.84 108 P P 19 01 24.4 -0.7
KMBO Kilima Mbogo 56.94 262 P P 19 01 28.4 +2.2
comp=Z,2.1nm,0.8s,baz=45,slow=7.4,SNR=7.0
GAZ Gaziantep 57.27 308 P P 19 01 28.1 +0.1
GAZ IAmb IAmb 19 01 29.2
comp=Z,17nm,0.8s
YAK Yakutsk 58.33 19 P P 19 01 34.1 -0.8
TOKA Tokat 58.59 311 P P 19 01 36.9 -0.2
BBOO Buckleboo 58.79 138 P P 19 01 37.2 -1.3
BBOO IAmb IAmb 19 01 45.8
comp=Z,22nm,1.4s
NRIK Noril'sk 59.51 358 P P 19 01 42.8 0.0
comp=Z,7.2nm,0.7s,baz=167,slow=7.4,SNR=9.3
NRIK LR LR 19 30 08.2
comp=Z,58nm,20.6s,baz=186,slow=39
NRIK Noril'sk 59.51 358 P P 19 01 42.7 -0.1
NRIK IAmb IAmb 19 01 43.4
comp=Z,7.8nm,0.7s
CTAO Charters Tower 59.94 120 P P 19 01 47.5 +0.9
CTAO IAmb IAmb 19 01 52.2
comp=Z,12nm,1.3s
RABL Rabaul 60.19 101 P P 19 01 50.0 +1.5
BR131 Keskin Array S 60.57 310 P P 19 01 49.6 -1.3
BRTR Keskin Array B 60.57 310 P P 19 01 49.8 -1.1
comp=Z,10nm,0.7s,baz=123,slow=7.4,SNR=53
BRTR ScP ScP 19 06 28.1 +0.7
comp=Z,3.1nm,0.9s,baz=106,slow=6.6,SNR=9.1
BRTR LR LR 19 31 39.5
comp=Z,29nm,18.8s,baz=116,slow=39
BRTR Keskin Array B 60.57 310 P P 19 01 49.4 -1.5
BZK Bozkurt 60.80 313 ⇑P P 19 01 52.0 -0.2
HTT Hallett 61.07 137 P P 19 01 54.0 -0.2
baz=61,SNR=10
QLP Quilpie 61.23 128 P P 19 01 56.0 +0.7
baz=61,SNR=12
BR231 Keskin MP Arra 61.24 310 P P 19 01 54.1 -1.3
BR231 IAmb IAmb 19 01 55.0
comp=Z,11nm,0.8s
STKA Stephens Creek 62.03 134 P P 19 02 00.1 -0.5
comp=Z,32nm,0.9s,baz=315,slow=7.5,SNR=43
STKA LR LR 19 30 49.1
comp=Z,26nn,19.2s,baz=331,slow=38
STKA Stephens Creek 62.03 134 P P 19 02 00.5 -0.1
baz=62,SNR=31
STKA Stephens Creek 62.03 134 P P 19 02 00.4 -0.2
STKA IAmb IAmb 19 02 01.5
comp=Z,7.3nm,0.9s
MDUB Mudurnu 62.55 310 P P 19 02 02.5 -1.7
ELL Elmali 62.94 306 P P 19 02 06.8 -0.1
OBN Obninsk 63.29 327 P P 19 02 08.0 -0.6
OBN IAmb IAmb 19 02 08.5
comp=Z,16nm,0.6s
KLMR Klimovskoe 64.33 334 *e*P P 19 02 13.6 -1.7
KLMR AMP 19 02 15.3
comp=Z,8.0nm,0.6s
KLMR *e*pP pP 19 02 36.4 -2.1
RMQ Roma 64.77 125 P P 19 02 20.0 +1.2
baz=65,SNR=4.2
CMSA Cobar Meteorol 64.80 132 P P 19 02 19.6 +0.7
baz=65,SNR=24
TIRR Tirgusor 65.32 314 P P 19 02 21.3 -0.8
TIXI Tiksi 65.41 12 P P 19 02 21.3 -0.8
CFR Carcaliu 65.65 315 ⇑P P 19 02 23.3 -0.8
AKASG Malin Array Be 66.13 321 P P 19 02 25.8 -1.3
comp=Z,6.6nm,0.7s,baz=88,slow=4.9,SNR=30
AKASG Malin Array Be 66.13 321 P P 19 02 25.8 -1.3
AKASG pP pP 19 02 48.6 -2.0
AKBB Malin Array Si 66.13 321 P P 19 02 25.4 -1.7
AKBB IAmb IAmb 19 02 26.7
comp=Z,9.6nm,0.9s
VRI Vrincioaia 66.75 316 ⇓P P 19 02 31.7 +0.5
PLOR Plostina 66.80 316 ⇓P P 19 02 32.0 +0.5
IDI Anoyia 66.83 304 P P 19 02 31.8 -0.2
TESR Tescani 66.92 316 ⇑P P 19 02 31.9 -0.4
MLR Muntele Rosu 67.23 315 ⇑P P 19 02 34.8 +0.4
MLR Muntele Rosu 67.23 315 P P 19 02 34.9 +0.4
MLR IAmb IAmb 19 02 35.8
comp=Z,28nm,1.0s
BIZ Bicaz 67.36 317 ⇓P P 19 02 34.2 -0.9
DOPR Dopca 67.69 316 ⇑P P 19 02 36.2 -0.9
TOO Toolangi 67.83 137 P P 19 02 39.6 +1.4
baz=68,SNR=6.8
TOO Toolangi 67.83 137 P P 19 02 38.9 +0.8
VOIR 67.84 315 ⇑P P 19 02 37.7 -0.5
PLVB Pleven 67.86 313 ⇑P P 19 02 38.6 +0.3
MNK Minsk 67.86 325 *i* P P 19 02 37.7 -0.3
comp=E,3.0nm,1.0s
MNK *i* P P 19 02 37.7 -0.3
comp=N,18nm,1.1s
MNK *i* P P 19 02 37.7 -0.3
comp=Z,40nm,0.8s
MNK *i* pP pwP 19 03 02.9 +1.2
MNK *i* PP PP 19 05 00.9 -7.9
MNK *i* PPP PPP 19 07 12.5
MNK *i* S S 19 11 31.6 +2.7
MNK *i* SS SS 19 16 05.7 +14
MNK *i* SSS SSS 19 19 13.8
MNK *i* LQ LQ 19 28 13.4
MNK *i* LR LR 19 33 08.5
MNK *i* LRM MLR 19 35 12.7
comp=E,33nm,16.4s
MNK *i* LRM MLR 19 35 12.7
comp=N,173nm,14.5s
MNK *i* LRM MLR 19 35 17.9
comp=Z,48nm,17.0s
BURAR Bucovina Array 68.07 317 ⇓P P 19 02 39.7 0.0
BURAR Bucovina Array 68.07 317 P P 19 02 39.3 -0.3
BUR08 Bucovina Ar. S 68.09 317 P P 19 02 39.8 +0.1
NACGM Naroch 68.58 325 *i* P P 19 02 42.6 +0.1
NACGM *i* P P 19 02 42.6 +0.1
NACGM *i* P P 19 02 42.6 +0.1
NACGM *i* pP pP 19 02 56.1 -10
NACGM *i* PP PP 19 05 14.5 -0.5
NACGM *i* PPP PPP 19 06 20.2
NACGM *i* S S 19 11 35.2 -2.3
NACGM *i* sS sS 19 12 14.4 -4.0
NACGM *i* SS SS 19 15 54.7 -8.5
NACGM *i* SSS SSS 19 19 23.2
NACGM *i* LQ LQ 19 28 04.6
NACGM *i* LR LR 19 31 01.6
IDID Didziasalis 68.70 326 *e*P P 19 02 42.8 -0.4
LOT Lotru 68.73 315 ⇓P P 19 02 42.7 -1.1
ARMA Armidale 68.77 128 P P 19 02 45.5 +1.2
VTS Vitosha 68.78 312 ⇑P P 19 02 42.7 -1.5
VTS Vitosha 68.78 312 P P 19 02 43.3 -0.9
IIGN Ignalina 69.00 326 *e*P P 19 02 45.1 0.0
CAN Canberra 69.09 134 P P 19 02 46.3 +0.3
CAN IAmb IAmb 19 02 47.6
comp=Z,24nm,0.8s
LIT Litokhoron 69.10 309 P P 19 02 44.7 -1.4
LIT IAmb IAmb 19 02 45.6

comp=Z,14nm,0.8s
ISAL Salakas 69.10 326 *e*P P 19 02 45.7 -0.1
AGG Agios Georgios 69.14 308 P P 19 02 43.8 -2.6
LSZ Lusaka 69.26 250 P P 19 02 49.5 +1.9
comp=Z,2.3nm,0.6s,baz=85,slow=4.4,SNR=8.7
LSZ Lusaka 69.26 250 P P 19 02 47.7 +0.1
ITM Ithomi 69.34 306 P P 19 02 46.3 -1.3
ITM IAmb IAmb 19 02 46.8
comp=Z,25nm,0.9s
CNB Canberra Magne 69.34 134 P P 19 02 48.2 +0.5
baz=70,SNR=4.9
GZR Gura Zlata 69.42 315 ⇑P P 19 02 47.6 -0.4
LVZ Lovozero 69.42 340 P P 19 02 47.1 -0.5
HERR Herculane 69.62 314 ⇓P P 19 02 48.9 -0.3
DRGR 69.64 316 ⇑P P 19 02 49.8 +0.5
FNA Florina 70.00 310 P P 19 02 49.9 -1.8
MDVR Moldovita 70.10 314 ⇑P P 19 02 51.8 -0.4
KOLS Kolonicke sedl 70.21 318 *e*P P 19 02 52.8 0.0
PABE Paberze 70.29 326 *e*P P 19 02 52.0 -1.0
SUW Suwalki 70.45 324 *e*P P 19 02 53.1 -0.9
MATP Matopo 70.56 244 P P 19 02 56.7 +1.2
comp=Z,2.8nm,0.6s,baz=81,slow=5.7,SNR=12
FIA1 FINESS Array S 70.59 332 P P 19 02 53.7 -1.1
FIA1 IAmb IAmb 19 02 54.3
comp=Z,14nm,1.1s
FINES FINESS Array B 70.59 332 P P 19 02 54.4 -0.4
comp=Z,6.6nm,0.6s,baz=96,slow=5.6,SNR=37
FINES LR LR 19 36 55.6
comp=Z,50nm,18.4s,baz=110,slow=38
CRVS Cervenica-Dubn 70.74 318 *e*P P 19 02 56.6 +0.6
TIR Tirane 71.18 310 P P 19 02 56.7 -2.0
TIR IAmb IAmb 19 02 57.7
comp=Z,15nm,0.6s
DIVS Divibare 71.27 313 P P 19 02 58.4 -1.0
PBUR Paburge 71.51 326 *e*P P 19 03 00.2 -0.3
PSZ Piszkesteto 71.67 317 ⇓P P 19 03 01.6 -0.1
PSZ Piszkesteto 71.67 317 P P 19 03 00.2 -1.4
PSZ IAmb IAmb 19 03 02.4
comp=Z,12nm,1.0s
PDG Podgorica 71.69 311 P P 19 03 00.4 -1.4
PDG IAmb IAmb 19 03 01.6
comp=Z,12nm,0.7s
TAU Tasmania Unive 71.91 141 P P 19 03 01.9 -1.1
OJC Ojcow 71.97 320 *e*P P 19 03 03.1 -0.3
LANS Liptovska Anna 72.07 318 *e*P P 19 03 04.0 0.0
MORH Mrgy, Hungar 72.38 315 ⇑P P 19 03 04.9 -0.9
VYHS Vyhne 72.43 318 *e*P P 19 03 06.1 0.0
KEV Kevo 72.70 340 P P 19 03 06.2 -1.0
KEV IAmb IAmb 19 03 19.8
comp=Z,19nm,1.0s
ARA0 ARCESS Array S 73.13 340 *e*P P 19 03 10.2 +0.3
ARCES ARCESS Array B 73.13 340 P P 19 03 09.8 -0.1
comp=Z,3.3nm,0.5s,baz=89,slow=6.4,SNR=23
JAVC Velka Javorina 73.23 318 *e*P P 19 03 11.4 +0.5
MORC Moravsky Berou 73.38 319 ⇓P P 19 03 10.3 -1.4
MORC Moravsky Berou 73.38 319 *e*P P 19 03 11.6 -0.1
MORC Moravsky Berou 73.38 319 P P 19 03 11.6 -0.1
MORC IAmb IAmb 19 03 13.0
comp=Z,14nm,1.0s
MODS Modra-Piesok 73.45 318 *e*P P 19 03 12.3 +0.1
ZST Bratislava 73.56 317 *e*P P 19 03 13.2 +0.5
KTK1 Kautokeino 73.76 339 *e*P P 19 03 13.4 -0.1
KRLC Kraliky 73.89 319 *e*P P 19 03 15.0 +0.3
VRAC Vranov 73.96 318 *e*P P 19 03 14.4 -0.7
HAMF Hammerfest 74.05 341 *e*P P 19 03 15.4 +0.2
KRUC Moravsky 74.08 318 *e*P P 19 03 15.4 -0.4
CEL Celeste 74.15 307 P P 19 03 15.9 -0.6
DPC Dobruska-Polom 74.20 320 *e*P P 19 03 17.0 +0.5
DPC *e*pP pP 19 03 40.1 -0.4
KSP Ksiaz 74.25 320 *e*P P 19 03 17.1 +0.4
CONA Conrad Observa 74.38 317 *e*P P 19 03 17.6 -0.1
comp=Z,3.7nm,1.0s
CHVC Chvalec 74.39 320 *e*P P 19 03 17.0 -0.6
LBTB Lobatse 74.57 241 P P 19 03 21.1 +1.9
comp=Z,4.3nm,0.6s,baz=67,slow=5.2,SNR=11
LBTB Lobatse 74.57 241 P P 19 03 20.9 +1.7
ARSA Arzberg 74.58 316 *e*P P 19 03 18.4 -0.4
comp=Z,6.3nm,1.1s
JETT Jettan, Norway 74.86 340 *e*P P 19 03 20.2 +0.2
SOKA Soboth 74.89 316 *i* P P 19 03 20.7 +0.1
comp=Z,15nm,1.0s,SNR=7.3
OBKA Obir 75.22 316 *e*P P 19 03 20.3 -2.3
comp=Z,13nm,1.8s
PRU Pruhonice 75.33 319 *e*P P 19 03 23.0 0.0
PRU *e*pP pP 19 03 48.0 +0.9
TRO Tromso 75.39 340 *e*P P 19 03 22.9 0.0
MOA Molln 75.44 317 *e*P P 19 03 23.2 -0.6
comp=Z,8.1nm,1.3s
BRG Berggiesshubel 75.74 320 *e*P P 19 03 24.9 -0.4
BRG Amp 19 03 26.9
comp=Z,9.9nm,1.3s
BRG *e*x x 19 03 48.3
BRG Amp 19 03 52.5
comp=Z,5.3nm,1.1s
BRG Berggiesshubel 75.74 320 *e*P P 19 03 25.5 +0.2
comp=Z,8.4nm,1.1s,baz=102,slow=4.7
GEC2 GERESS Array S 75.84 318 P P 19 03 25.9 -0.2
GEC2 IAmb IAmb 19 03 27.1
comp=Z,10nm,0.9s
GEC2 GERESS Array S 75.84 318 *e*P P 19 03 26.1 0.0
comp=Z,11nm,0.8s,baz=102,slow=4.7
GERES GERESS Array B 75.84 318 P P 19 03 26.1 0.0
comp=Z,6.8nm,0.7s,baz=87,slow=5.7,SNR=43
MYKA Terra Mystica 75.85 316 *e*P P 19 03 25.8 -0.3
comp=Z,10nm,1.6s
KHC Kasperske Hory 75.93 318 *e*P P 19 03 26.1 -0.4
KHC *e*pP pP 19 03 48.9 -1.7
KHC Kasperske Hory 75.93 318 P P 19 03 26.0 -0.4
BOSA Boshof 76.04 237 P P 19 03 28.9 +1.3
comp=Z,4.6nm,0.6s,baz=43,slow=3.1,SNR=15
BOSA Boshof 76.04 237 P P 19 03 28.4 +0.8
KBA Koelnbreinsper 76.06 316 *e*P P 19 03 26.5 -0.9
comp=Z,7.6nm,1.2s
FBE Freiberg 76.11 320 *e*P P 19 03 27.8 +0.4
comp=Z,27nm,1.4s,baz=102,slow=4.7
CLL Collm 76.34 320 *e*P P 19 03 29.0 +0.3
comp=Z,20nm,1.7s
CLL Collm 76.34 320 P P 19 03 28.7 0.0
FAUS Fauske 76.35 337 *e*P P 19 03 28.4 0.0
WET Wettzell 76.39 318 *e*P P 19 03 29.0 -0.1
comp=Z,11nm,1.1s,baz=102,slow=4.7
STEI Steigen 76.44 338 *e*P P 19 03 28.9 0.0
MOR8 Moi Rana 76.55 336 *e*P P 19 03 28.8 -0.8
ABTA Abfaltersbach 76.63 316 *e*P P 19 03 29.4 -1.1
comp=Z,8.7nm,1.0s
NBB28 Valnes 76.65 337 *e*P P 19 03 30.0 -0.1
NBB30 Finnes 76.91 337 *e*P P 19 03 30.7 -0.9
LOF Lofoten 77.10 338 *e*P P 19 03 32.6 0.0
STOK Stokkvaagen 77.14 336 *e*P P 19 03 33.3 +0.4
MOX Moxa 77.22 320 *e*L L 19 43 24.0
comp=Z,35nn,19.4s
WTTA Wattenberg 77.22 316 *e*P P 19 03 32.6 -1.4
comp=Z,20nm,1.0s
CTI Castel Tesino 77.23 315 P P 19 03 33.7 -0.3
CTI IAmb IAmb 19 03 34.9
comp=Z,16nm,0.9s
WATA Walderalm 77.26 316 *e*P P 19 03 31.5 -2.7
comp=Z,13nm,1.3s
NC405 NORSAR Array S 77.38 331 P P 19 03 33.8 -0.6
NC405 IAmb IAmb 19 03 48.1
comp=Z,27nm,1.4s
NSS Namsos 77.44 334 *e*P P 19 03 34.8 +0.2
NC602 NORSAR Array S 77.45 330 P P 19 03 33.6 -1.2
NC602 IAmb IAmb 19 03 34.4
comp=Z,13nm,0.8s
NC602 NORSAR Array S 77.45 330 *e*P P 19 03 33.6 -1.2
GRF Grafenberg Arr 77.47 319 *e*P P 19 03 35.4 +0.3
comp=Z,9.9nm,1.3s,baz=102,slow=4.7
GRF *e*L L 19 34 45.4
comp=Z,41nn,19.3s
SQTA Sankt Quirin 77.52 316 *e*P P 19 03 34.9 -0.7
comp=Z,5.4nm,0.6s
NC303 NORSAR Array S 77.56 331 P P 19 03 34.7 -0.6
NC303 IAmb IAmb 19 03 35.8
comp=Z,27nm,1.4s
MOTA Moosalm 77.58 316 *i* P P 19 03 35.0 -1.0
comp=Z,14nm,1.0s,SNR=6.4
NB201 NORSAR Array S 77.59 330 P P 19 03 34.9 -0.7
NB201 IAmb IAmb 19 03 42.4
comp=Z,30nm,1.2s
NB2 NORSAR Subarra 77.62 330 P P 19 03 35.1 -0.7
comp=Z,2.1nm,0.7s,baz=95,slow=5.3
NB2 NORSAR Subarra 77.62 330 P P 19 03 35.1 -0.7
baz=95,slow=5.3

NOA	**NORSAR Array B**	**77.62**	**330**	P		**P**		**19 03 34.7**	**-1.1**
	comp=Z,4.1nm,0.8s,baz=93,slow=5.6,SNR=12								
NOA				PP		**PP**		**19 06 33.4**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=90,slow=8.9,SNR=3.6								
NOA				LR		LR		19 42 07.2	
	comp=Z,27nm,18.7s,baz=85,slow=39								
SPA0	**Spitsbergen Ar**	**77.72**	**348**	P		**P**		**19 03 36.4**	**+0.4**
SPA0	**Spitsbergen Ar**	**77.72**	**348**	*eP*		**P**		**19 03 36.4**	**+0.4**
ZCCA	**Zocca**	**77.75**	**313**	P		**P**		**19 03 38.1**	**+1.2**
ZCCA				IAmb		IAmb		19 03 39.6	
	comp=Z,19nm,0.9s								
NAO01	**NORSAR Array S**	**77.78**	**330**	P		**P**		**19 03 35.3**	**-1.3**
NAO01				IAmb		IAmb		19 03 50.2	
	comp=Z,29nm,1.2s								
RETA	**Reutte**	**77.81**	**317**	*i* P		**P**		**19 03 36.7**	**-0.5**
	comp=Z,16nm,1.0s,SNR=4.9								
FETA	**Feichten**	**77.85**	**316**	*i* P		**P**		**19 03 35.9**	**-1.5**
	comp=Z,9.8nm,1.0s,SNR=7.0								
NC204	**NORSAR Array S**	**77.85**	**331**	P		**P**		**19 03 36.2**	**-0.8**
NC204				IAmb		IAmb		19 03 37.4	
	comp=Z,24nm,1.1s								
DZM	**Mont Dzumac**	**78.30**	**115**	P		**P**		**19 03 39.9**	**-0.4**
DZM				IAmb		IAmb		19 03 53.5	
	comp=Z,36nm,1.5s								
KONO	**Kongsberg**	**78.40**	**329**	*eP*		**P**		**19 03 38.8**	**-1.2**
DAVA	**Damuels**	**78.42**	**316**	*eP*		**P**		**19 03 39.8**	**-0.8**
	comp=Z,14nm,1.0s								
TUE	**Stuetta**	**78.82**	**316**	P		**P**		**19 03 42.6**	**-0.3**
TUE				IAmb		IAmb		19 03 43.9	
	comp=Z,26nm,1.4s								
SKAR	**Skarslia**	**79.04**	**330**	*eP*		**P**		**19 03 43.8**	**+0.1**
MOL	**Molde**	**79.38**	**332**	*eP*		**P**		**19 03 45.0**	**-0.3**
BLS5	**Blasjo**	**80.00**	**329**	*eP*		**P**		**19 03 49.0**	**+0.2**
SENIN	**Lac Senin/Sane**	**80.24**	**315**	P		**P**		**19 03 50.8**	**+0.2**
SENIN				IAmb		IAmb		19 03 51.9	
	comp=Z,18nm,1.4s								
BNI	**Bardonecchia**	**80.77**	**314**	P		**P**		**19 03 53.4**	**0.0**
BNI				IAmb		IAmb		19 03 56.9	
	comp=Z,16nm,1.1s								
SUR	**Sutherland**	**80.88**	**235**	P		**P**		**19 03 55.8**	**+1.6**
SUR				IAmb		IAmb		19 04 09.2	
	comp=Z,40nm,1.5s								
NOR	**Nord**	**83.16**	**352**	*i* P		**P**		**19 04 04.3**	**-0.7**
NOR	**Nord**	**83.16**	**352**	*i* P		**P**		**19 04 04.3**	**-0.7**
DAG	**Danmarks Havn**	**85.36**	**348**	*i* P		**P**		**19 04 15.4**	**-0.8**
DAG	**Danmarks Havn**	**85.36**	**348**	*i* P		**P**		**19 04 15.4**	**-0.8**
ESDC	**Sonseca Array**	**89.36**	**310**	P		**P**		**19 04 36.2**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=49,slow=3.7,SNR=5.7								
ESDC	**Sonseca Array**	**89.36**	**310**	P		**P**		**19 04 36.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**89.42**	**283**	P		**P**		**19 04 37.6**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=84,slow=4.7,SNR=11								
TORD				PP		**PP**		**19 08 12.9**	**+3.6**
	comp=Z,0.7nm,0.8s,baz=90,slow=7.4,SNR=3.9								
TORD				LR		LR		19 43 01.9	
	comp=Z,19nm,21.7s,baz=325,slow=34								
TORD	**Torodi Ar. Bea**	**89.42**	**283**	P		**P**		**19 04 37.2**	**+0.2**
TORD				pP		**pP**		**19 05 00.4**	**-1.2**
TORD						**PP**		**19 08 09.4**	**0.0**
EUNU	**Eureka**	**90.19**	**360**	P		**P**		**19 04 40.2**	**+0.8**
EUNU				IAmb		IAmb		19 04 40.9	
	comp=Z,6.0nm,0.8s								
EUNU				pP		**pP**		**19 05 04.8**	**+1.2**
TOLK	**Toolik Lake Re**	**90.30**	**19**	P		**P**		**19 04 41.0**	**+0.9**
ILAR	**Eielson Array**	**93.16**	**22**	P		**P**		**19 04 52.8**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=299,slow=4.4,SNR=7.1								
VNDA	**Vanda**	**95.04**	**168**	P		**P**		**19 05 01.7**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=295,slow=7.3,SNR=6.5								
VNDA				LR		LR		19 44 18.4	
	comp=Z,50nm,19.6s,baz=256,slow=33								
VNDA	**Vanda**	**95.04**	**168**	IAmb		IAmb		19 05 02.4	
	comp=Z,3.6nm,1.1s								
INK	**Inuvik**	**95.27**	**16**	P		**P**		**19 05 02.9**	**0.0**
	comp=Z,1.5nm,0.5s,baz=347,slow=6.2,SNR=7.3								
INK	**Inuvik**	**95.27**	**16**	IAmb		IAmb		19 05 06.2	
	comp=Z,6.7nm,1.4s								
RES	**Resolute Bay**	**95.43**	**2**	P		**P**		**19 05 04.0**	**+0.6**
	comp=Z,3.1nm,0.8s								
RES	**Resolute Bay**	**95.43**	**2**	P		**P**		**19 05 04.2**	**+0.7**
RES				IAmb		IAmb		19 05 04.5	
	comp=Z,5.3nm,1.1s								
RES				pP		**pP**		**19 05 27.7**	**-0.1**
YKA	**Yellowknife Ar**	**104.64**	**13**	PP		**PKiKP**		**19 10 01.9**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=337,slow=7.1,SNR=9.6								
NVAR	**Mina Array Bea**	**123.56**	**30**	PKP		**PKiKP**		**19 10 38.7**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=290,slow=1.4,SNR=6.9								
TXAR	**Lajitas Array**	**137.67**	**22**	PKP		**PKiKP**		**19 11 05.8**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=268,slow=0.3,SNR=4.8								
TXAR				SKPbc		**SKPbc**		**19 14 29.2**	**-0.1**
	comp=Z,7.7nm,1.1s,baz=270,slow=1.3,SNR=22								
PLCA	**Paso Flores**	**146.15**	**202**	PKPbc		**PKPab**		**19 11 20.8**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=179,slow=1.5,SNR=8.3								
PLCA	**Paso Flores**	**146.15**	**202**			**PKPbc**		**19 11 20.1**	**+0.4**
CPUP	**Villa Florida**	**147.85**	**236**	PKPbc		**PKiKP**		**19 11 25.9**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=80,slow=3.4,SNR=4.9								
CPUP	**Villa Florida**	**147.85**	**236**			**PKPbc**		**19 11 25.4**	**+0.6**

ATH ***27*** *18:56:14.0, 41.24N× 19.98E, h56km± 3km, ML2.5/2, Error ellipse: s-maj=4.8km s-min=1.7km az=352.0*
PDG ***27*** *18:56:16.7± 0.1, 41.09N× 20.08E, h18km, ML2.6/12, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0*
TIR ***27*** *18:56:16.5, 41.09N× 20.16E, h6km± 4km, Md2.6, Ml2.5*
SKO ***27*** *18:56:17.7, 41.10N× 20.07E, h16km*
BEO ***27*** *18:56:17.7± 0.5, 41.12N× 20.09E, h12km± 2km, ML2.1/10*

ISC 27 18:56:16.6± 1.1, 41.08N± 0.02× 20.07E± 0.02, h11km± 9km, n52, σ0°57/82, 8C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.31**	**330**	P		**Pb**	**18 56 23.6**	**-0.7**
TIR				S		**Sb**	**18 56 29.3**	**-0.1**
TIR				AML		AML	18 56 29.9	
	comp=N,1519μm,0.3s							
TIR				AML		AML	18 56 30.0	
	comp=E,1828μm,0.3s							
TIR	**Tirane**	**0.31**	**330**	*e*Pg		**Pb**	**18 56 23.5**	**-0.7**
TIR				*e*Sg		**Sb**	**18 56 29.2**	**-0.1**
TIR	**Tirane**	**0.31**	**330**	P		**Pb**	**18 56 23.8**	**-0.5**
	baz=319							
TIR				S		**Sb**	**18 56 29.0**	**-0.3**
	baz=319							
TIR				AMP				
	comp=E,1.2nm,0.3s,baz=319							
TIR	**Tirane**	**0.31**	**330**	⇓*i*Pg		**Pb**	**18 56 23.7**	**-0.5**
OHR	**Ohrid**	**0.55**	**86**	⇑*i*Pg		**Pb**	**18 56 27.9**	**-0.4**
OHR				*i* Sg		**Sb**	**18 56 36.3**	**+0.1**
OHR				*e*Lg		Lg	18 56 38.1	
	comp=N,78nm,0.6s							
PHP	**Peshkopia**	**0.67**	**24**	P		**Pg**	**18 56 29.5**	**-0.1**
	baz=19							
PHP				S		**Sg**	**18 56 38.3**	**-0.1**
	baz=19							
PHP				AMP				
	comp=N,0.5nm,0.5s,baz=19							
KBN	**Korca**	**0.71**	**130**	P		**Pg**	**18 56 30.1**	**-0.2**
	baz=134							
KBN				S		**Sg**	**18 56 39.8**	**+0.2**
	baz=134							
PUK	**Puka**	**0.97**	**352**	P		**Pn**	**18 56 36.2**	**-0.1**
	baz=349							
PUK				S		**Sn**	**18 56 49.8**	**-0.3**
	baz=349							
NEST	**Nestorio**	**0.99**	**131**	P		**Pg**	**18 56 36.2**	**+0.4**
FNA	**Florina**	**1.03**	**106**	P		**Pb**	**18 56 36.0**	**-0.5**
FNA				S		**Sn**	**18 56 51.5**	**0.0**
FNA				AML		AML	18 56 53.3	
	comp=E,258μm,0.3s							
FNA				AML		AML	18 56 57.2	
	comp=N,307μm,0.3s							
FNA	**Florina**	**1.03**	**106**	*e*Pg		**Pb**	**18 56 36.0**	**-0.5**
FNA				*e*Sg		**Sn**	**18 56 51.5**	**0.0**
FNA	**Florina**	**1.03**	**106**	⇓*i*Pg		**Pb**	**18 56 36.1**	**-0.5**
FNA				*i* Sg		**Sn**	**18 56 52.2**	**+0.7**
ULC	**Ulcinj**	**1.08**	**325**	⇓*i*Pg		**Pg**	**18 56 37.3**	**-0.2**
ULC	**Ulcinj**	**1.08**	**325**	⇓*i*Pg		**Pb**	**18 56 36.7**	**-0.7**
ULC				*i* Sg		**Sn**	**18 56 53.6**	**+0.9**
PENT	**Pentalofos**	**1.20**	**137**	P		**Pg**	**18 56 39.6**	**-0.1**
PRZK	**Prizren**	**1.24**	**24**	*i* Pg		**Pg**	**18 56 40.9**	**+0.4**
BCI	**Bajram Curri**	**1.29**	**360**	P		**Pg**	**18 56 41.8**	**+0.5**
	baz=357							
BCI				S		**Sg**	**18 56 60.0**	**+1.9**
	baz=357							
DRME	**Dracevica, Mon**	**1.29**	**329**	⇓*i*Pg		**Pb**	**18 56 40.7**	**-0.2**
DRME				*i* Sg		**Sg**	**18 56 59.8**	**+1.5**
KASA	**Kassiopi**	**1.33**	**185**	P		**Pn**	**18 56 41.2**	**0.0**
SKO	**Skopje**	**1.36**	**49**	*e*Pg		**Pn**	**18 56 41.5**	**0.0**
SKO				*e*Sg		**Sg**	**18 56 59.8**	**-0.6**
SKO	**Skopje**	**1.36**	**49**	*i* Pg		**Pg**	**18 56 42.4**	**-0.4**
SKO				*i* Sg		**Sg**	**18 57 00.8**	**+0.4**
SKO				*e*Lg		Lg	18 57 01.1	
	comp=N,5.9nm,0.4s							
KEK	**Kerkira**	**1.38**	**189**	P		**Pb**	**18 56 42.5**	**0.0**
PDG	**Podgorica**	**1.48**	**336**	*e*Pg		**Pn**	**18 56 43.4**	**+0.2**
PDG				*e*Sg		**Sg**	**18 57 04.2**	**-0.2**
PDG	**Podgorica**	**1.48**	**336**	*i* Pn		**Pb**	**18 56 43.7**	**-0.5**
TTG	**Podgorica**	**1.48**	**336**	⇑*i*Pg		**Pn**	**18 56 43.5**	**+0.2**
TTG				*i* Sg		**Sg**	**18 57 04.2**	**-0.2**
KPRO	**Kipourio**	**1.49**	**138**	P		**Pb**	**18 56 44.4**	**0.0**
KZN	**Kozani**	**1.50**	**120**	P		**Pb**	**18 56 44.4**	**-0.2**
BUM	**Brajici-Budva**	**1.51**	**325**	⇓*i*Pg		**Pn**	**18 56 43.6**	**0.0**
BUM				*i* Sg		**Sg**	**18 57 05.2**	**0.0**
PVY	**Plav**	**1.52**	**357**	⇑*i*Pg		**Pn**	**18 56 44.1**	**+0.3**
PVY				*i* Sg		**Sg**	**18 57 05.4**	**-0.1**
IGT	**Igoumenitsa**	**1.56**	**173**	P		**Pn**	**18 56 44.8**	**+0.5**
CEME	**Čevo**	**1.70**	**330**	⇑*i*Pn		**Pn**	**18 56 46.3**	**0.0**
CEME				*i* Sn		**Sb**	**18 57 09.5**	**+0.1**
STIP	**Stip**	**1.71**	**68**	*i* Pn		**Pb**	**18 56 48.4**	**+0.4**
GJIK	**Gjilan**	**1.72**	**36**	*i* Pn		**Pb**	**18 56 47.7**	**-0.6**
GRG	**Griva**	**1.77**	**93**	P		**Pn**	**18 56 47.1**	**0.0**
GRG	**Griva**	**1.77**	**93**	*i* Pn		**Pb**	**18 56 48.2**	**-0.9**
BEY	**Berane**	**1.80**	**356**	*i* Pn		**Pb**	**18 56 49.6**	**0.0**
IVA	**Berane**	**1.80**	**356**	⇓*i*Pn		**Pn**	**18 56 48.0**	**+0.4**
IVA				*e*Sn		**Sb**	**18 57 12.0**	**-0.2**
HCY	**Herceg Novi**	**1.81**	**320**	⇑*i*Pn		**Pn**	**18 56 47.2**	**-0.5**
HCY				*i* Sn		**Sb**	**18 57 12.5**	**+0.1**
KOME	**Kolasin**	**1.82**	**347**	⇑*i*Pn		**Pn**	**18 56 48.0**	**+0.1**
KOME				*i* Sn		**Sb**	**18 57 12.9**	**+0.1**
NKME	**Niksic**	**1.88**	**334**	⇑*i*Pn		**Pn**	**18 56 48.9**	**+0.1**
NKME				*i* Sn		**Sb**	**18 57 14.2**	**-0.4**
VAY	**Valandovo**	**1.90**	**82**	*e*Pn		**Pb**	**18 56 50.2**	**-1.1**
VAY				*e*Sn		**Sn**	**18 57 12.9**	**+0.1**
TREB	**Trebinje**	**2.08**	**322**	*e*Pn		**Pn**	**18 56 52.2**	**+0.7**
TREB				*e*Sn		**Sn**	**18 57 18.2**	**+0.8**
KNT	**Kendrikon**	**2.14**	**87**	P		**Pn**	**18 56 53.0**	**+0.8**
BRY	**Bratogost**	**2.15**	**328**	⇑*i*Pn		**Pn**	**18 56 53.0**	**+0.5**
BRY				*i* Sn		**Sb**	**18 57 20.7**	**-1.7**
BARS	**Barje**	**2.17**	**36**	*e*Sn		**Pn**	**18 56 52.2**	**-0.5**
BARS	**Barje**	**2.17**	**36**	*e*Pn		**Sn**	**18 57 19.6**	**+0.1**
SJES	**Sjenica**	**2.18**	**358**	*e*Pn		**Pn**	**18 56 53.9**	**+0.9**
SJES				*e*Sn		**Sn**	**18 57 20.1**	**+0.1**
BOSS	**Bosilegrad**	**2.29**	**51**	*e*Pn		**Pn**	**18 56 53.9**	**-0.4**
BOSS				*e*Sn		**Sn**	**18 57 22.7**	**+0.2**
NOCI	**Noci**	**2.30**	**264**	P		**Pn**	**18 56 52.9**	**-1.5**
PLE	**Pljevlja**	**2.31**	**348**	⇓*i*Pn		**Pn**	**18 56 54.8**	**+0.1**
PLE				*i* Sn		**Sn**	**18 57 24.1**	**+1.0**
IVAS	**Ivanjica**	**2.50**	**1**	*e*Pn		**Pn**	**18 56 57.7**	**+0.5**
ZAGS	**Zajecar**	**3.17**	**30**	*e*Pn		**Pn**	**18 57 06.1**	**-0.2**

IDC ***27*** *19:06:53.8± 1.3, 10.00S× 150.90E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.7/43, mbtmp3.8/7, ML3.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/34, Error ellipse: s-maj=28.6km s-min=23.1km az=153.0*

ISC 27 19:06:59.3± 1.3, 10.00S± 0.2× 150.08E± 0.2, h35km, n9, σ1°03/8, mb4.0/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.59**	**279**	Pn		**Pn**	**19 07 51.7**	**-0.7**
	2.6nm,0.3s,baz=82,slow=6.2,SNR=13							
PMG				Lg		Lg	19 08 52.1	
	4.4nm,0.3s,baz=105,slow=21,SNR=3.2							
PMG				LR		LR	19 09 37.2	
	comp=Z,349nm,18.1s,baz=77,slow=44							
WRA	**Warramunga Arr**	**18.66**	**236**	P		**Pn**	**19 11 15.1**	**+0.1**
	0.1nm,0.3s,baz=60,slow=12,SNR=10							
DZM	**Mont Dzumac**	**19.25**	**130**	LR		LR	19 17 48.3	
	comp=Z,76nm,19.0s,baz=342,slow=34							
ASAR	**Alice Springs**	**21.05**	**228**	P		**P**	**19 11 41.7**	**+1.2**
	2.9nm,0.8s,baz=58,slow=11,SNR=15							
STKA	**Stephens Creek**	**23.36**	**200**	P		**P**	**19 12 03.7**	**-1.1**
	4.8nm,0.9s,baz=39,slow=6.9,SNR=6.0							
MKAR	**Makanchi Array**	**82.93**	**320**	P		**P**	**19 19 21.0**	**+0.3**
	0.4nm,0.6s,baz=95,slow=6.1,SNR=2.9							
ZALV	**Zalesovo Beam**	**84.36**	**327**	P		**P**	**19 19 29.0**	**+1.2**
	0.4nm,0.4s,baz=104,slow=6.1,SNR=2.0							
ILAR	**Eielson Array**	**87.72**	**22**	P		**P**	**19 19 43.4**	**-0.7**
	0.7nm,0.8s,baz=252,slow=6.0,SNR=5.1							
TORD	**Torodi Ar. Bea**	**149.53**	**279**	PKPbc		**PKPbc**	**19 26 46.4**	**+0.3**
	0.9nm,0.8s,baz=77,slow=3.8,SNR=4.0							

IDC ***27*** *19:09:35.6± 0.8, 22.25N× 121.44E, h0km, mb4.0/17, mb1 4.2/18, mb1mx4.0/45, mbtmp4.1/18, ML4.0/1, MS3.4/10, Ms1 3.4/10, ms1mx3.1/47, Error ellipse: s-maj=20.4km s-min=17.1km az=82.0*
BJI ***27*** *19:09:38.6± 0.0, 22.26N× 121.65E, h49km, mB4.5/22, mb4.2/29, ML4.0/4, Ms3.8/8, Ms7 3.7/14*
NIED ***27*** *19:09:38.6, 22.42N× 121.65E, h26km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr 0.00; Mθθ 1.96; Mϕϕ -1.96; Mrθ 2.69; Mϕθ -0.92; Mϕr 1.55; Fault plane solution: M0 3.79000×10^15 NP1: ϕs 58.00000°, δ 90.00000°, λ 125.00000°. NP2: ϕs 148.00000°, δ 35.00000°, λ 0.00000°.*
JMA ***27*** *19:09:38.6± 0.2, 22.42N× 121.65E, h26km, M4.6*
TAP ***27*** *19:09:38.2, 22.33N× 121.63E, h26km, ML4.7, C*
NEIC ***27*** *19:09:39.3, 22.44N× 121.61E, h25km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr -0.00; Mθθ 2.27; Mϕϕ -2.26; Mrθ 0.14; Mϕθ -0.12; Mϕr 0.93; Fault plane solution: M0 2.45000×10^15 NP1: ϕs 228.08000°, δ 78.46000°, λ -163.53000°. NP2: ϕs 134.69000°, δ 73.87000°, λ -12.02000°. Principal axes: T 2.2746, Plg 3.0000°, Azm 1.0000°; N 0.3252, Plg 70.0000°, Azm 262.0000°; P -2.5998, Plg 20.0000°, Azm 92.0000°;*
NEIC ***27*** *19:09:40.2± 2.5, 22.47N± 0.02× 121.60E± 0.05, h24km± 4km, mb4.3/44, Mwr4.2/18, ML4.9(TAP) Error ellipse: s-maj=7.0km s-min=2.5km az=80.0*

ISC 27 19:09:37.9± 1.0, 22.35N± 0.02× 121.65E± 0.02, h12km± 6km, n285, σ1°49/397, mb4.2/42, MS3.4/9, 15C-25D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.32**	**196**	⇑*i*P		**Pg**	**19 09 44.6**	**+0.2**
	baz=193							
LAY				*e*S		**Sb**	**19 09 50.6**	**-0.1**
	baz=193							
LDUT	**Ludao**	**0.36**	**333**	⇑*i*P		**Pg**	**19 09 45.9**	**+0.7**
	baz=344							
LDUT				*e*S		**Sb**	**19 09 51.6**	**-0.3**
	baz=344							
TTN	**Taitung**	**0.61**	**311**	⇓*i*P		**Pg**	**19 09 50.3**	**+0.4**
	baz=321							
TTN				*e*S		**Sg**	**19 09 58.8**	**+0.8**
	baz=321							
ECL	**Taimali**	**0.69**	**291**	⇓*i*P		**Pg**	**19 09 50.7**	**-0.5**
	baz=285							
ECL				*e*S		**Sg**	**19 10 00.0**	**-0.3**
	baz=285							
TAW	**Tawu**	**0.69**	**271**	⇓*i*P		**Pg**	**19 09 50.7**	**-0.7**
	baz=272							
TAW				*e*S		**Sg**	**19 09 59.7**	**-0.8**
	baz=272							
EDH	**Donghe**	**0.70**	**333**	P		**Pg**	**19 09 51.1**	**-0.4**
	baz=343							
EDH				S		**Sg**	**19 10 00.8**	**+0.2**
	baz=343							
TWGBT	**Beinan**	**0.70**	**312**	*i* P		**Pg**	**19 09 51.3**	**-0.3**
	baz=299							
TWGBT				*e*S		**Sg**	**19 10 01.1**	**+0.4**
	baz=299							
TWG	**Pinlang**	**0.71**	**312**	P		**Pg**	**19 09 51.5**	**-0.1**
	baz=299							
TWG				*e*S		**Sg**	**19 10 00.4**	**-0.6**
	baz=299							
TWG	**Pinlang**	**0.71**	**312**			**Pg**	**19 09 51.1**	**-0.6**
TWG						**Sg**	**19 10 00.0**	**-1.0**
LONT	**Longtian**	**0.73**	**320**	P		**Pg**	**19 09 51.9**	**-0.3**
	baz=329							
LONT				*e*S		**Sb**	**19 10 03.3**	**+0.7**
	baz=329							
EAST	**Anshuo**	**0.74**	**273**	⇓*i*P		**Pg**	**19 09 51.5**	**-0.8**
	baz=274							
EAST				*e*S		**Sg**	**19 10 01.0**	**-1.0**
	baz=274							
CHKT	**Chengkung**	**0.79**	**341**	⇑*i*P		**Pg**	**19 09 52.5**	**-0.8**
	baz=350							
CHKT				*e*S		**Sg**	**19 10 03.0**	**-0.7**
	baz=350							
SLIU	**Shizi**	**0.79**	**261**	⇓*i*P		**Pg**	**19 09 52.2**	**-1.1**
	baz=251							
SLIU				*e*S		**Sg**	**19 10 01.6**	**-2.1**
	baz=251							
TSEB	**Hengchuen, Pin**	**0.82**	**237**	⇓*i*P		**Pb**	**19 09 53.4**	**-0.7**
	baz=249							
TSEB				*e*S		**Sg**	**19 10 03.9**	**-0.7**
	baz=249							
TWKBT	**Hengchun**	**0.87**	**242**	⇓*i*P		**Pb**	**19 09 53.5**	**-1.5**
	baz=251							
TWKBT				S		**Sb**	**19 10 03.8**	**-2.8**
	baz=251							
TWK1	**Hengchun**	**0.88**	**243**	⇓*i*P		**Pb**	**19 09 53.5**	**-1.6**
	baz=251							
TWK1				*e*S		**Sb**	**19 10 03.9**	**-2.8**
	baz=251							
FULB	**Fuli**	**0.91**	**339**	⇑*i*P		**Pb**	**19 09 54.2**	**-1.5**
	baz=350							
FULB				S		**Sb**	**19 10 06.3**	**-1.4**
	baz=350							
SNW	**Nanwan**	**0.92**	**245**	P		**Pb**	**19 09 54.8**	**-0.9**
	baz=246							
SNW				*e*S		**Sb**	**19 10 05.7**	**-2.1**
	baz=246							
SCZT	**Fangliau**	**0.95**	**272**	⇓*i*P		**Pb**	**19 09 54.9**	**-1.4**
	baz=280							
SCZT				*e*S		**Sb**	**19 10 04.8**	**-4.0**
	baz=280							
MASBT	**Mashibuluo**	**0.97**	**286**	⇓*i*P		**Pb**	**19 09 55.1**	**-1.7**
	baz=287							
TSMG	**Majia**	**0.99**	**291**	*e*P		**Pb**	**19 09 55.6**	**-1.4**
	baz=288							
TSMG				*e*S		**Sb**	**19 10 08.1**	**-1.9**
	baz=288							
SSPT	**Xinbi**	**1.00**	**278**	⇓*i*P		**Pb**	**19 09 56.4**	**-0.8**
	baz=279							
SSPT				*e*S		**Sb**	**19 10 10.5**	**+0.1**
	baz=279							
SSD	**Sandimen**	**1.02**	**293**	⇓*i*P		**Pb**	**19 09 55.9**	**-1.6**
	baz=294							
SSD				*e*S		**Sb**	**19 10 10.2**	**-0.7**
	baz=294							
ELDTW	**Lidau**	**1.02**	**325**	⇓*i*P		**Pb**	**19 09 56.0**	**-1.6**
	baz=317							
ELDTW				*e*S		**Sb**	**19 10 07.8**	**-3.2**
	baz=317							
EYUL	**Yuli**	**1.04**	**343**	*e*P		**Pb**	**19 09 56.8**	**-1.1**
	baz=351							
EYUL				*e*S		**Sb**	**19 10 10.4**	**-1.1**
	baz=351							
TWF1	**Yuli**	**1.05**	**342**	⇑*i*P		**Pb**	**19 09 56.5**	**-1.5**
	baz=351							
TWF1				*e*S		**Sb**	**19 10 09.5**	**-2.3**
	baz=351							
YULB	**Yu-li**	**1.09**	**343**	⇑*i*P		**Pb**	**19 09 57.1**	**-1.6**
	baz=330							
YULB				S		**Sb**	**19 10 11.5**	**-1.4**
	baz=330							
YULB	**Yu-li**	**1.09**	**343**			**Pb**	**19 09 57.0**	**-1.7**
YULB					Sn	**Sb**	**19 10 11.4**	**-1.5**
TSPT	**Pingtung City**	**1.11**	**287**	*e*P		**Pb**	**19 09 58.8**	**-0.3**
	baz=283							
TSPT				*e*S		**Sb**	**19 10 12.9**	**-0.6**
	baz=283							
SLGT	**Liugui**	**1.12**	**305**	*e*P		**Pb**	**19 09 58.4**	**-1.0**
	baz=303							
SLGT				*e*S		**Sb**	**19 10 12.2**	**-1.8**
	baz=303							
SGLT	**Jiouru**	**1.13**	**290**	P		**Pb**	**19 09 59.0**	**-0.4**
	baz=277							
SGLT				*e*S		**Sg**	**19 10 15.0**	**+0.5**
	baz=277							
STYH	**Taoyuan**	**1.15**	**316**	P		**Pn**	**19 09 58.6**	**-1.1**
	baz=317							
STYH				*e*S		**Sb**	**19 10 12.8**	**-1.7**
	baz=317							
STYT	**Tauyuan**	**1.15**	**315**	⇓*i*P		**Pb**	**19 09 58.6**	**-1.2**
	baz=316							
HGSD	**Ruisui**	**1.16**	**350**	*e*P		**Pb**	**19 09 57.5**	**-2.5**
	baz=360							
HGSD				*e*S		**Sb**	**19 10 12.8**	**-2.1**
	baz=360							
WLCH	**Liuqiu**	**1.17**	**270**	⇓*e*P		**Pg**	**19 10 01.5**	**+1.0**
	baz=

	baz=347									
SSLB	**Suanglung**	**1.57**	**336**		Pn		**Pn**	**19 10 05.0**	**-0.6**
SCLT	**Jiali**	**1.57**	**302**	*e*P			**Pn**	**19 10 06.3**	**+0.7**
SCLT	baz=302				*e*S		**Sb**	**19 10 26.3**	**-0.5**
CHN2	**Minshiung**	**1.60**	**318**	*e*P			**Pb**	**19 10 07.3**	**0.0**
CHN2	baz=319				*e*S		**Sg**	**19 10 28.9**	**-0.5**
CHY	**Chiayi**	**1.60**	**316**	*e*P			**Pb**	**19 10 07.2**	**-0.3**
CHY	baz=317				S		**Sg**	**19 10 29.1**	**-0.5**
ICHU	**Yijhu**	**1.61**	**309**	*e*P			**Pn**	**19 10 07.0**	**+0.7**
ICHU	baz=309				*e*S		**Sb**	**19 10 28.5**	**+0.5**
HWA	**Hwalien**	**1.62**	**359**	*e*P			**Pn**	**19 10 05.1**	**-1.3**
HWA	baz=11				*e*S		**Sn**	**19 10 27.0**	**-0.2**
CHN8	**Yiju**	**1.65**	**307**	*e*P			**Pn**	**19 10 07.2**	**+0.4**
CHN8	baz=308				*e*S		**Sb**	**19 10 29.1**	**-0.1**
WGK	**Gukeng**	**1.66**	**323**	*e*P			**Pb**	**19 10 08.6**	**+0.1**
WGK	baz=324				*e*S		**Sg**	**19 10 31.0**	**-0.5**
SMLT	**Sun Moon Lake**	**1.68**	**336**	*e*P			**Pn**	**19 10 07.6**	**+0.4**
SMLT	baz=348				*e*S		**Sb**	**19 10 29.6**	**-0.3**
WDLH	**Douliu**	**1.68**	**323**	*e*P			**Pb**	**19 10 08.8**	**+0.1**
WDLH	baz=324				*e*S		**Sb**	**19 10 31.0**	**+1.1**
WJS	**Zhushan**	**1.69**	**330**	*e*P			**Pb**	**19 10 09.0**	**0.0**
WJS	baz=314				*e*S		**Sb**	**19 10 30.9**	**+0.6**
TYC	**Yuchr**	**1.71**	**335**	⇑*i*P			**Pb**	**19 10 08.8**	**-0.5**
TYC	baz=347				*e*S		**Sb**	**19 10 30.2**	**-0.6**
CHGB	**Renai**	**1.76**	**346**	⇑*i*P			**Pn**	**19 10 07.9**	**-0.5**
CHGB	baz=346				*e*S		**Sn**	**19 10 28.4**	**-2.5**
WNT	**Mingjian**	**1.76**	**330**	P			**Pb**	**19 10 09.6**	**-0.6**
WNT	baz=315				*e*S		**Sb**	**19 10 31.9**	**-0.3**
WTK	**Tuku**	**1.77**	**319**	P			**Pn**	**19 10 09.0**	**+0.7**
WTK	baz=320				*e*S		**Sb**	**19 10 32.9**	**+0.5**
WPL	**Puli Township**	**1.77**	**339**	*e*P			**Pn**	**19 10 08.9**	**+0.5**
WNT1	baz=351 **Nantou City**	**1.79**	**330**	*e*P			**Pb**	**19 10 10.4**	**-0.2**
WNT1	baz=315				*e*S		**Sb**	**19 10 32.1**	**-0.9**
DPDB	**Guoxing**	**1.80**	**339**	⇑*i*P			**Pn**	**19 10 09.7**	**+0.7**
DPDB	baz=349				*e*S		**Sn**	**19 10 31.9**	**+0.2**
NACB	**Ninganchiao**	**1.82**	**359**	*i* P			**Pn**	**19 10 07.5**	**-1.6**
NACB	baz=7.0				*e*S		**Sn**	**19 10 29.3**	**-2.7**
NACB	**Ninganchiao**	**1.82**	**359**				**Pn**	**19 10 07.4**	**-1.6**
WHF	**Hehuan Shan**	**1.82**	**349**	*e*P			**Pn**	**19 10 08.6**	**-0.9**
WCS	baz=350 **Beigang Elemen**	**1.83**	**339**	*e*P			**Pn**	**19 10 09.9**	**+0.7**
WCS	baz=348				S		**Sn**	**19 10 33.2**	**+0.9**
WSF	**Szhu**	**1.83**	**315**	P			**Pn**	**19 10 09.9**	**+0.6**
WSF	baz=315				*e*S		**Sn**	**19 10 33.3**	**+0.9**
ETLH	**Xiulin Townshi**	**1.86**	**355**	*e*P			**Pn**	**19 10 08.4**	**-1.3**
WWF	baz=356 **Wufeng**	**1.90**	**333**	*e*P			**Pb**	**19 10 11.9**	**-0.6**
WWF	baz=334				*e*S		**Sn**	**19 10 34.8**	**+0.8**
FUSS	**Fushou**	**1.93**	**349**	*e*P			**Pn**	**19 10 10.7**	**-0.1**
FUSS	baz=350				*e*S		**Sn**	**19 10 33.9**	**-1.2**
WRL	**Guolierlin Hig**	**1.94**	**323**	*e*P			**Pb**	**19 10 12.3**	**-0.9**
TWT	baz=324 **Tachien**	**1.94**	**347**	P			**Pn**	**19 10 11.2**	**+0.2**
TWT	baz=348				*e*S		**Sn**	**19 10 34.2**	**-1.3**
TDCB	**Techi**	**1.95**	**347**	*e*P			**Pn**	**19 10 11.1**	**+0.1**
WTCT	baz=347 **Ta-ch'eng**	**1.96**	**321**	*e*P			**Pn**	**19 10 11.7**	**+0.7**
WTCT	baz=321				*e*S		**Sb**	**19 10 37.6**	**-0.5**
WCHH	**Zhanghua**	**1.99**	**330**	*e*P			**Pn**	**19 10 12.5**	**+1.1**
WCHH	baz=316				*e*S		**Sn**	**19 10 37.2**	**+0.9**
TCU	baz=316 **Taichung**	**2.00**	**334**	*e*P			**Pb**	**19 10 13.3**	**-0.9**
TCU	baz=335				*e*S		**Sb**	**19 10 39.5**	**+0.4**
WHP	**Taichung City**	**2.03**	**342**	*e*P			**Pb**	**19 10 13.8**	**-0.9**
WHP	baz=352				*e*S		**Sb**	**19 10 39.4**	**-0.5**
WDGT	**Dungji**	**2.04**	**297**	P			**Pn**	**19 10 11.3**	**-0.8**
WDGT	baz=296				*e*S		**Sn**	**19 10 36.3**	**-1.3**
ENA	baz=296 **Nanau**	**2.07**	**2**	*e*P			**Pn**	**19 10 11.5**	**-1.1**
ENA	baz=13				*e*S		**Sn**	**19 10 37.4**	**-0.9**
NNSB	**Datong**	**2.08**	**353**	*e*P			**Pn**	**19 10 12.3**	**-0.6**
NNSH	baz=3.0 **Datong**	**2.08**	**353**	*e*P			**Pn**	**19 10 12.8**	**0.0**
NNSH	baz=3.0				*e*S		**Sn**	**19 10 37.9**	**-0.9**
EWUT	**Wuta**	**2.09**	**3**	*e*P			**Pn**	**19 10 12.1**	**-0.7**
EWUT	baz=14				*e*S		**Sn**	**19 10 35.9**	**-2.9**
NNS	**Nan Shan**	**2.10**	**353**	*e*P			**Pn**	**19 10 12.8**	**-0.3**
NNS	baz=4.0				*e*S		**Sn**	**19 10 37.4**	**-1.7**
TWQ1	**Liyutan**	**2.15**	**338**	*i* P			**Pn**	**19 10 15.4**	**+1.8**
TWQ1	baz=339				*e*S		**Sb**	**19 10 42.9**	**-0.5**
WDJ	**Dajia District**	**2.19**	**335**	P			**Pb**	**19 10 16.5**	**-1.0**
WDJ	baz=336				*e*S		**Sb**	**19 10 44.0**	**-0.8**
NSY	baz=336 **Sanyi**	**2.21**	**339**	P			**Pb**	**19 10 16.7**	**-1.2**
NSY	baz=340				*e*S		**Sb**	**19 10 44.7**	**-0.6**
VCHM	**Qimei**	**2.22**	**293**	P			**Pn**	**19 10 13.6**	**-0.9**
VCHM	baz=292				*e*S		**Sn**	**19 10 39.7**	**-2.1**
PHUB	baz=292 **P'eng-hu**	**2.24**	**302**	*e*P			**Pn**	**19 10 13.9**	**-0.9**
PHUB	baz=301				*e*S		**Sn**	**19 10 40.3**	**-2.0**
NDT	baz=301 **Datong Townshi**	**2.25**	**357**	P			**Pn**	**19 10 14.9**	**-0.1**
TWC	baz=357 **Suao**	**2.26**	**5**	*e*P			**Pn**	**19 10 14.7**	**-0.4**
TWC	baz=15				*e*S		**Sn**	**19 10 42.1**	**-0.8**
NDS	baz=15 **Dongshan**	**2.28**	**2**	*e*P			**Pn**	**19 10 15.1**	**-0.3**
NDS	baz=12				*e*S		**Sn**	**19 10 42.3**	**-1.1**
PNG	**Penghu**	**2.28**	**303**	*e*P			**Pn**	**19 10 14.5**	**-0.8**
ENTT	baz=303 **Nioudou**	**2.28**	**358**	P			**Pn**	**19 10 15.2**	**-0.3**
ENTT	baz=359				*e*S		**Sn**	**19 10 43.4**	**-0.2**
NMLH	baz=359 **Miaoli**	**2.32**	**340**	*e*P			**Pn**	**19 10 17.6**	**+1.7**
NMLH	baz=342				*e*S		**Sb**	**19 10 47.8**	**-0.5**
YHNB	baz=342 **Yeheng**	**2.33**	**354**	P			**Pn**	**19 10 16.2**	**+0.1**
YHNB	baz=355				*e*S		**Sn**	**19 10 43.4**	**-1.3**
YHNB	baz=355 **Yeheng**	**2.33**	**354**				**Pn**	**19 10 15.8**	**-0.3**
NSK	**Sanguang**	**2.33**	**354**	P			**Pn**	**19 10 16.3**	**+0.1**
NSK	baz=355				*e*S		**Sn**	**19 10 44.0**	**-0.8**
NSTT	baz=355 **Nanjuang**	**2.35**	**346**	*e*P			**Pn**	**19 10 17.4**	**+1.0**
NSTT	baz=360				*e*S		**Sb**	**19 10 47.2**	**-2.0**
LIOB	baz=360 **Emei**	**2.36**	**346**	*e*P			**Pn**	**19 10 17.9**	**+1.4**
LIOB	baz=360				*e*S		**Sn**	**19 10 46.6**	**+1.1**
TWE	baz=360 **Neicheng**	**2.36**	**0**	P			**Pn**	**19 10 16.5**	**0.0**
TWE	baz=11				*e*S		**Sn**	**19 10 46.0**	**+0.6**
ILA	**Ilan**	**2.41**	**2**	*e*P			**Pn**	**19 10 18.8**	**+1.6**
JYNG	baz=3.0 **Yonagunijimaku**	**2.41**	**29**	P			**Pn**	**19 10 16.7**	**-0.5**
JYNG				S			**Sn**	**19 10 43.9**	**-2.7**
NWLT	**Wulai**	**2.42**	**357**	*e*P			**Pn**	**19 10 17.8**	**+0.4**
NWLT	baz=358				*e*S		**Sn**	**19 10 47.1**	**+0.1**
NJD	baz=358 **Zhudong**	**2.43**	**348**	*e*P			**Pn**	**19 10 19.7**	**+2.2**
NJD	baz=335				*e*S		**Sn**	**19 10 49.2**	**+2.0**
NJN	**Zhunan**	**2.43**	**343**	*e*P			**Pn**	**19 10 18.8**	**+1.3**
YOJ	baz=330 **Yonaguni jima**	**2.45**	**31**	*e*P			**Pn**	**19 10 16.9**	**-0.8**
YOJ	baz=31				*e*S		**Sn**	**19 10 46.0**	**-1.6**
YOJ	baz=31 **Yonaguni jima**	**2.45**	**31**	P			**Pn**	**19 10 17.2**	**-0.5**
YOJ				S			**Sn**	**19 10 45.2**	**-2.4**
YOJ	**Yonaguni jima**	**2.45**	**31**	Pn			**Pn**	**19 10 17.5**	**-0.2**
HSN1	**Hsinchu**	**2.49**	**347**	*e*P			**Pn**	**19 10 19.8**	**+1.6**
HSN1	baz=348				*e*S		**Sb**	**19 10 52.1**	**-1.0**
NTC	baz=348 **Toucheng**	**2.50**	**4**	*e*P			**Pn**	**19 10 18.7**	**+0.3**
NTC	baz=15				*e*S		**Sn**	**19 10 48.1**	**-0.7**
SBCB	baz=15 **Hsinchu**	**2.51**	**346**	*e*P			**Pn**	**19 10 20.0**	**+1.5**
NHDH	baz=347 **Xindian Distri**	**2.61**	**358**	*e*P			**Pn**	**19 10 20.8**	**+0.9**
HATJ	baz=358 **Hateruma jima**	**2.62**	**49**	P			**Pn**	**19 10 19.6**	**-0.4**
HATJ				S			**Sn**	**19 10 48.9**	**-2.8**
TIPB	**Shuangxi**	**2.62**	**4**	*e*P			**Pn**	**19 10 20.9**	**+0.8**
TIPB	baz=14				*e*S		**Sn**	**19 10 52.3**	**+0.5**
TATO	baz=14 **Taipei**	**2.62**	**357**	*e*P			**Pn**	**19 10 20.6**	**+0.5**
TATO	baz=5.0 **Taipei**	**2.62**	**357**				**Pn**	**19 10 20.6**	**+0.5**
TWA	**Mucha**	**2.62**	**359**	*e*P			**Pn**	**19 10 20.7**	**+0.6**
TWA	baz=11				*e*S		**Sn**	**19 10 52.7**	**+0.8**
NCUH	**Zhongli**	**2.64**	**351**	*e*P			**Pn**	**19 10 22.2**	**+1.8**
NTY	baz=335 **Taoyuan**	**2.66**	**353**	*e*P			**Pn**	**19 10 21.8**	**+1.2**
TWB1	baz=6.0 **Santiao Chiao**	**2.67**	**7**	*e*P			**Pn**	**19 10 20.8**	**+0.1**
WFSB	baz=19 **Wu-fen Shan**	**2.71**	**3**	*e*P			**Pn**	**19 10 22.2**	**+0.9**
WFSB	baz=354				*e*S		**Sn**	**19 10 54.7**	**+0.6**
TWS1	baz=354 **Kuangyinshan**	**2.75**	**356**	*e*P			**Pn**	**19 10 22.6**	**+0.7**
TWS1	baz=8.0				*e*S		**Sn**	**19 10 55.9**	**+0.9**
IRIF	baz=8.0 **Iriomote-Funau**	**2.75**	**44**	P			**Pn**	**19 10 21.7**	**-0.2**
IRIF				S			**Sn**	**19 10 53.1**	**-2.0**
YM01	**YM01**	**2.79**	**359**	*e*P			**Pn**	**19 10 22.0**	**-0.4**
YM04	baz=360 **YM04**	**2.79**	**358**	*e*P			**Pn**	**19 10 22.6**	**0.0**
YM10	baz=359 **YM10**	**2.80**	**358**	*e*P			**Pn**	**19 10 22.6**	**+0.1**
YM05	baz=360 **YM05**	**2.81**	**359**	*e*P			**Pn**	**19 10 22.8**	**+0.1**
YM11	baz=360 **YM11**	**2.81**	**359**	*e*P			**Pn**	**19 10 23.3**	**+0.6**
NTST	baz=360 **Danshui**	**2.81**	**356**	*e*P			**Pn**	**19 10 23.8**	**+1.2**
NTST	baz=9.0				*e*S		**Sn**	**19 10 58.7**	**+2.2**
ANP	baz=9.0 **Anpu**	**2.83**	**358**	*e*P			**Pn**	**19 10 23.6**	**+0.6**
YM08	baz=359 **YM08**	**2.83**	**359**	P			**Pn**	**19 10 22.8**	**-0.1**
JKRS	**Kuro-shima**	**2.88**	**49**	P			**Pn**	**19 10 23.4**	**-0.2**
JKRS				S			**Sn**	**19 10 56.1**	**-2.0**
TWY	**Chenhua**	**2.92**	**359**	*e*P			**Pn**	**19 10 26.2**	**+2.0**
JIJ	**Ishigaki jima**	**3.05**	**48**	P			**Pn**	**19 10 25.1**	**-0.9**
JIJ				S			**Sn**	**19 10 58.9**	**-3.5**
JISG	**Ishigakijimahi**	**3.31**	**47**	P			**Pn**	**19 10 28.7**	**-0.9**
JISG				S			**Sn**	**19 11 06.1**	**-2.8**
VWUC	**VWUC**	**3.31**	**323**	P			**Pn**	**19 10 29.2**	**-0.4**
PTMZ	baz=324 **Houxiangcun**	**3.54**	**320**	P			**Pn**	**19 10 32.7**	**-0.1**
KNM	baz=320 **Kinmen**	**3.60**	**306**	P			**Pn**	**19 10 34.5**	**+1.0**
JTJ	baz=304 **Tarama**	**3.62**	**50**	P			**Pn**	**19 10 33.5**	**-0.3**
JTJ				S			**Sn**	**19 11 14.0**	**-2.4**
KNMB	**Chin-men Tao**	**3.66**	**306**	P			**Pn**	**19 10 33.6**	**-0.8**
KNMB	baz=306 **Chin-men Tao**	**3.66**	**306**	Pn			**Pn**	**19 10 33.9**	**-0.5**
QZH	**Quanzhou**	**3.81**	**313**	P			**Pn**	**19 10 36.0**	**-0.4**
QZH				S			**Sn**	**19 11 18.5**	**-2.7**
QZH	comp=N,230nm,0.3s					smax	smax		
QZH	comp=E,240nm,0.6s					smax	smax		
ZPLA	**Ao Xicun**	**3.92**	**294**	*e*P			**Pn**	**19 10 37.1**	**-0.8**
JIRB	baz=293 **Irabujima**	**4.07**	**52**	P			**Pn**	**19 10 39.6**	**-0.4**
JIRB				S			**Sn**	**19 11 24.8**	**-2.8**
MATB	**Ma-tsu**	**4.09**	**338**	P			**Pn**	**19 10 40.0**	**-0.3**
MSUT	baz=339 **Lienchiang**	**4.12**	**338**	*e*P			**Pn**	**19 10 38.9**	**-1.8**
JMJ2	baz=339 **Miyako jima3**	**4.13**	**54**	P			**Pn**	**19 10 40.7**	**-0.2**
JMJ2				S			**Sn**	**19 11 26.9**	**-2.3**
JMJ	**Miyako jima 2**	**4.15**	**53**	*e*P			**Pn**	**19 10 40.9**	**-0.3**
JMJ	baz=54				*e*S		**Sn**	**19 11 25.9**	**-3.7**
JIKM	baz=54 **Ikemajima**	**4.18**	**51**	P			**Pn**	**19 10 41.2**	**-0.3**
JIKM				S			**Sn**	**19 11 27.8**	**-2.6**
JOGS	**Gusukube**	**4.20**	**54**	P			**Pn**	**19 10 41.8**	**-0.1**
JOGS				S			**Sn**	**19 11 29.3**	**-1.6**
AXDP	**Jialang**	**4.22**	**308**	*e*P			**Pn**	**19 10 41.4**	**-0.7**
MHZQ	baz=308 **Yeshan**	**4.43**	**328**	*e*P			**Pn**	**19 10 45.1**	**+0.1**
MHZQ	baz=317				*e*S		**Sn**	**19 11 35.2**	**-1.4**
LYJJ	baz=317 **Jianjiangzhen**	**4.52**	**338**	P			**Pn**	**19 10 46.0**	**-0.2**
LYJJ	baz=340				*e*S		**Sn**	**19 11 37.0**	**-1.7**
XPSS	**Dashiqiu**	**4.75**	**344**	*e*P			**Pn**	**19 10 48.7**	**-0.6**
VDOS	baz=345 **Pratas Island**	**4.86**	**251**	*e*P			**Pn**	**19 10 50.1**	**-0.8**
	baz=250								
SZP	**Santa**	**4.90**	**193**	*e*P			**Pn**	**19 10 50.2**	**-1.3**
SZP	baz=194 **Santa**	**4.90**	**193**				**Pn**	**19 10 53.5**	**+2.0**
HKPS	**Hong Kong Po S**	**6.95**	**271**	*e*P			**Pn**	**19 11 18.6**	**-0.9**
JOW	baz=265 **Kunigami**	**7.50**	**52**	Pn			**Pn**	**19 11 25.6**	**-1.7**
JOW	2.4nm,0.3s,baz=140,slow=30,SNR=12			Sn			**Sn**	**19 12 45.4**	**-6.9**
JOW	1.3nm,0.3s,baz=111,slow=18,SNR=2.3 **Kunigami**	**7.50**	**52**	*e*P			**Pn**	**19 11 24.6**	**-2.6**
JOW	baz=53 **Kunigami**	**7.50**	**52**	Pn			**Pn**	**19 11 25.8**	**-1.5**
GZH	**Guangzhou**	**7.70**	**277**	P			**Pn**	**19 11 26.8**	**-3.1**
GZH				S			**Sn**	**19 12 48.5**	**-8.6**
GZH	comp=N,62nm,1.2s					smax	smax		
GZH	comp=E,58nm,1.2s					smax	smax		
JMZ	**Minamidaito 2**	**9.41**	**67**				**Pn**	**19 11 52.6**	**-0.7**
WHN	**Wuhan**	**10.45**	**323**	P			**Pn**	**19 12 10.0**	**+2.4**
WHN				S			**Sn**	**19 14 03.3**	**-1.4**
QIZ	**Qiongzhong**	**11.53**	**256**	P			**Pn**	**19 12 23.0**	**+0.6**
QIZ				S			**Sn**	**19 14 34.8**	**+3.6**
QIZ				LR			LR		
QIZ	comp=N,300nm,16.7s					LR	LR		
QIZ	comp=E,200nm,11.3s **Qiongzhong**	**11.53**	**256**	Pn			**Pn**	**19 12 22.1**	**-0.3**
JNU	**Nakatsue**	**13.48**	**35**	LR			LR	19 18 40.6	
INCN	comp=Z,95nm,21.0s,baz=222,slow=40 **Inchon**	**15.69**	**15**	Pn			**Pn**	**19 13 19.8**	**+0.9**
INCN				IAmb			IAmb	19 13 24.6	
KSAR	comp=Z,21nm,1.0s **Wonju Array Be**	**15.98**	**18**	P			**Pn**	**19 13 22.8**	**+0.3**
KSRS	**Korea Array**	**16.00**	**18**	Pn			**Pn**	**19 13 23.9**	**+1.1**
KSRS	comp=Z,0.5nm,0.3s,baz=201,slow=11,SNR=26			LR			LR	19 20 17.9	
KS19	comp=Z,105nm,18.4s,baz=200,slow=40 **Wonju Array Si**	**16.03**	**18**				**Pn**	**19 13 23.8**	**+0.6**
KS19				IAmb			IAmb	19 13 28.2	
XAN	comp=Z,20nm,0.8s **Xi'an**	**16.15**	**319**	P			**P**	**19 13 31.0**	**+2.9**
XAN				pP			pwP	19 13 38.3	+3.0
XAN				pmax			pmax		
XAN	comp=Z,8.0nm,1.4s **Xi'an**	**16.15**	**319**	P			**Pn**	**19 13 24.8**	**-0.1**
XAN				IAmb			IAmb	19 13 35.5	
DLV	comp=Z,22nm,1.5s **T Lat**	**16.27**	**233**	P			**P**	**19 13 29.4**	**-0.3**
DLV				IAmb			IAmb	19 13 35.7	
SLVN	comp=Z,71nm,1.6s **Son La**	**16.50**	**270**	P			**P**	**19 13 31.4**	**-0.7**
KMI	**Kunming**	**17.53**	**283**	⇑P			**P**	**19 13 44.0**	**+0.4**
KMI				S			**Sn**	**19 16 56.5**	**-1.3**
KMI				SS			**SnSn**	**19 17 17.5**	**+6.3**
KMI				LR			LR		
KMI	comp=Z,240nm,9.5s					LR	LR		
JWT	comp=Z,96nm,7.1s **Wachi**	**17.62**	**40**	P			**P**	**19 13 45.6**	**+1.3**
CD2	**Chengdu**	**18.11**	**302**	P			**P**	**19 13 50.5**	**+0.8**
CD2				pmax			pmax		
BJT	comp=Z,10.0nm,0.9s **Baijiatuau**	**18.22**	**346**	P			**P**	**19 13 51.8**	**+0.9**
INU	**Inuyama**	**18.65**	**43**	P			**Pn**	**19 13 57.1**	**+1.1**
INU				IAmb			IAmb	19 14 02.1	
JGF	comp=Z,32nm,1.4s **Kuroka**	**19.03**	**43**	P			**Pn**	**19 14 02.3**	**+1.8**
MAT	**Matsushiro**	**20.16**	**42**	P			Pn	19 14 14.6	+0.6
MJAR	**Matsushiro Arr**	**20.16**	**42**	P			Pn	19 14 14.3	+0.3
HHC	comp=Z,4.8nm,0.7s,baz=222,slow=12,SNR=13 **Hu-ho-hao-te**	**20.32**	**338**	*e*P			Pn	19 14 16.0	0.0
HHC				pmax			pmax		
HHC	comp=Z,9.0nm,0.9s			pmax			pmax		
LZH	comp=Z,160nm,6.4s **Lanzhou**	**20.66**	**315**	*e*P			Pn	19 14 21.5	+1.4
LZH				pP			pwP	19 14 27.5	+2.4
LZH				sP			sP	19 14 31.5	+10
LZH				pmax			pmax		
TOLI2	comp=Z,19nm,1.2s **Tolitoli**	**21.13**	**182**	P			**P**	**19 14 25.6**	**+2.8**
TOLI2				IAmb			IAmb	19 14 32.9	
CM34	comp=Z,8.6nm,0.9s **Chiang Mai Arr**	**21.34**	**265**	P			**P**	**19 14 29.0**	**+3.9**
CM35	**Chiang Mai Arr**	**21.38**	**264**	P			**P**	**19 14 27.0**	**+1.5**
CM36	**Chiang Mai Arr**	**21.47**	**264**	P			**P**	**19 14 31.0**	**+4.5**
CM33	**Chiang Mai Arr**	**21.53**	**265**	P			**P**	**19 14 30.7**	**+3.5**
CHTO	**Chiang Mai**	**21.54**	**265**	P			**P**	**19 14 28.5**	**+1.3**
CM04	**Chiang Mai Arr**	**21.60**	**264**	P			**P**	**19 14 30.6**	**+2.7**
CM01	comp=Z,0.0nmcomp=Z,5.7nm,0.9s **Chiang Mai Arr**	**21.62**	**264**	P			P	19 14 34.0	+5.9
CM31	comp=Z,0.0nmcomp=Z,4.0nm,1.1s **Chiang Mai Arr**	**21.62**	**264**	P			**P**	**19 14 29.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**21.62**	**264**	P			**P**	**19 14 28.9**	**+0.7**
CMAR	comp=Z,2.5nm,0.8s,baz=69,slow=9.3,SNR=24			LR			LR	19 23 38.3	
CM02	comp=Z,91nm,18.9s,baz=122,slow=39 **Chiang Mai Arr**	**21.62**	**264**	P			**P**	**19 14 31.3**	**+3.2**
CM05	comp=Z,0.0nmcomp=Z,5.1nm,0.9s **Chiang Mai Arr**	**21.63**	**264**	P			**P**	**19 14 30.9**	**+2.7**
CM15	comp=Z,0.0nmcomp=Z,3.1nm,0.9s **Chiang Mai Arr**	**21.64**	**264**	P			**P**	**19 14 30.9**	**+2.5**
CM32	comp=Z,0.0nmcomp=Z,3.9nm,0.9s **Chiang Mai Arr**	**21.66**	**264**	P			**P**	**19 14 31.0**	**+2.4**
CM13	**Chiang Mai Arr**	**21.66**	**264**	P			**P**	**19 14 31.2**	**+2.6**
SBUM	comp=Z,0.0nmcomp=Z,34nmcomp=Z,3.6nm,0.8s **Sibu**	**21.80**	**206**	P			**P**	**19 14 31.1**	**+1.2**
JMM	**Marumori**	**22.59**	**43**	P			**P**	**19 14 37.7**	**-0.7**
JMM				IAmb			IAmb	19 14 41.6	
SRDT	comp=Z,13nm,1.0s **SRDT**	**22.79**	**253**	P			**P**	**19 14 37.6**	**-3.0**
MDJ	**Mudanjiang**	**23.16**	**15**	P			**P**	**19 14 43.6**	**-0.5**
USA0B	**Ussuriysk Arra**	**23.41**	**19**	P			**P**	**19 14 47.1**	**+0.5**
USA0B				IAmb			IAmb	19 14 48.7	
USRK	comp=Z,7.3nm,0.8s **Ussuriysk Ar.**	**23.41**	**19**	P			**P**	**19 14 47.0**	**+0.3**
USRK	comp=Z,6.9nm,0.7s,baz=210,slow=9.1,SNR=17 **Ussuriysk Ar.**	**23.41**	**19**	P			**P**	**19 14 46.3**	**-0.4**
KSM	**Kuching**	**23.50**	**210**	P			**P**	**19 14 50.5**	**+2.7**
KSM				IAmb			IAmb	19 15 26.5	
JTM	comp=Z,9.3nm,1.1s **Tenmabayashi**	**24.64**	**37**	P			**P**	**19 14 58.7**	**+0.4**
GTA	**Gaotai**	**25.20**	**317**	*e*P			**P**	**19 15 05.0**	**+1.4**
GTA				PcP			**PcP**	**19 18 36.3**	**-0.9**
GTA				pmax			pmax		
GTA	comp=Z,2.0nm,1.3s			pmax			pmax		
GTA	comp=Z,98nm,5.5s			LR			LR		
GTA	comp=Z,93nm,13.8s			LR			LR		
GTA	comp=Z,110nm,14.9s			LR			LR		
JEW	comp=Z,87nm,16.7s **Eniwo**	**26.26**	**34**	P			**P**	**19 15 16.1**	**+3.1**
ERM	**Erimo**	**26.63**	**38**	P			**P**	**19 15 17.7**	**+1.4**
FAKI	**Fak Fak**	**27.17**	**156**	P			**P**	**19 15 26.0**	**+4.6**
FAKI				IAmb			IAmb	19 15 46.6	
SHL	comp=Z,11nm,1.0s **Shillong**	**27.36**	**283**	P			**P**	**19 15 24.5**	**+1.1**
SHL				IAmb			IAmb	19 15 53.5	
ASAJ	comp=Z,3.4nm,0.7s **Asahikawa**	**27.75**	**34**	P			**P**	**19 15 28.4**	**+2.0**
ASAJ	comp=Z,25nm,0.9s,baz=233,slow=10,SNR=14			LR			LR	19 28 18.1	
JKA	comp=Z,47nm,18.7s,baz=215,slow=40 **Kamikawa-asahi**	**27.75**	**34**	P			**P**	**19 15 28.8**	**+2.4**
KLR	**Kul'dur**	**28.00**	**14**	P			**P**	**19 15 30.1**	**+1.6**
KLR	comp=Z,3.4nm,0.8s,baz=213,slow=7.4,SNR=10.0			LR			LR	19 27 23.1	
ULN	comp=Z,121nm,18.1s,baz=209,slow=38 **Ulaanbaatar**	**28.02**	**339**	P			**P**	**19 15 28.4**	**-0.6**
SONM	**Songino Array**	**28.22**	**338**	P			**P**	**19 15 30.7**	**0.0**
SONM	comp=Z,1.3nm,0.7s,baz=159,slow=8.9,SNR=8.9			LR			LR	19 28 16.7	
SONM	comp=Z,93nm,20.5s,baz=148,slow=40 **Songino Array**	**28.22**	**338**	P			**P**	**19 15 30.4**	**-0.3**
YSS	**Yuzh-Sakhalins**	**29.88**	**30**	P			**P**	**19 15 46.5**	**+1.2**
TLY	**Talaya**	**32.43**	**339**	LR			LR	19 30 52.4	
WMQ	comp=Z,65nm,18.7s,baz=141,slow=39 **Urumqi**	**35.24**	**316**	*e*P			**P**	**19 16 34.5**	**+2.1**
MK31	**Makanchi Array**	**39.96**	**317**	P			**P**	**19 17 12.2**	**0.0**
MK31				IAmb			IAmb	19 17 21.9	
	comp=Z,3.8nm,0.9s								

MKAR	**Makanchi Array**	**39.96**	**317**	P		**P**	**19 17 12.2**	**0.0**
	comp=Z,2.5nm,0.7s,baz=111,slow=9.9,SNR=36							
MKAR				PcP		**PcP**	**19 19 15.4**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=72,slow=4.0,SNR=4.6							
MKAR	**Makanchi Array**	**39.96**	**317**	P		**P**	**19 17 12.5**	**+0.3**
MAKZ	**Makanchi**	**40.16**	**317**	P		**P**	**19 17 13.9**	**0.0**
MAKZ				IAmb		IAmb	19 17 21.0	
	comp=Z,14nm,1.6s							
PETK	**Petropavlovsk-**	**41.16**	**33**	LR		LR	19 34 43.2	
	comp=Z,39nm,21.3s,baz=234,slow=36							
ZAA0	**Zalesovo Array**	**42.02**	**328**	P		**P**	**19 17 28.0**	**-1.0**
ZAA0				IAmb		IAmb	19 17 33.2	
	comp=Z,5.7nm,0.8s							
ZALV	**Zalesovo Beam**	**42.02**	**328**	P		**P**	**19 17 28.1**	**-0.9**
	comp=Z,6.1nm,0.8s,baz=118,slow=7.3,SNR=13							
ZALV				LR		LR	19 35 09.6	
	comp=Z,35nm,18.8s,baz=83,slow=36							
ZALV	**Zalesovo Beam**	**42.02**	**328**	P		**P**	**19 17 27.5**	**-1.5**
H11N1	**WAKE ISLAND Hy**	**42.20**	**85**	T		T	20 02 43.6	
	baz=282,slow=75,SNR=94							
H11N2	**WAKE ISLAND Hy**	**42.20**	**85**	T		T	20 03 02.2	
	baz=282,slow=75,SNR=180							
H11N3	**WAKE ISLAND Hy**	**42.21**	**85**	T		T	20 02 44.9	
	baz=282,slow=75,SNR=124							
H11S3	**WAKE ISLAND Hy**	**42.27**	**87**	T		T	20 02 51.2	
	baz=283,slow=74,SNR=278							
H11S1	**WAKE ISLAND Hy**	**42.28**	**87**	T		T	20 02 51.9	
	baz=283,slow=74,SNR=15							
H11S2	**WAKE ISLAND Hy**	**42.29**	**87**	T		T	20 02 49.4	
	baz=283,slow=74,SNR=248							
KURK	**Kurchatov**	**43.77**	**321**	P		**P**	**19 17 43.1**	**-0.2**
KURBB	**Kurchatov Arra**	**43.79**	**321**	P		**P**	**19 17 43.1**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=115,slow=7.7,SNR=21							
WRA	**Warramunga Arr**	**43.82**	**163**	P		**P**	**19 17 43.2**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=344,slow=9.1,SNR=10							
WRA	**Warramunga Arr**	**43.82**	**163**	IAmb		IAmb	19 17 52.1	
	comp=Z,0.1nm,0.8s							
WB2	**Warramunga Arr**	**43.83**	**163**	P		**P**	**19 17 44.3**	**+0.3**
WB2				IAmb		IAmb	19 18 04.0	
	comp=Z,4.3nm,1.1s							
WR0	**Warramunga Arr**	**43.90**	**162**	P		**P**	**19 17 44.8**	**+0.2**
WR0				IAmb		IAmb	19 17 48.3	
	comp=Z,3.8nm,1.0s							
AAK	**Ala-Archa**	**43.97**	**309**	P		**P**	**19 17 44.0**	**-1.2**
	baz=117,slow=9.4							
KK31	**Karatay Array**	**46.93**	**309**	P		**P**	**19 18 08.1**	**-0.5**
KK31				IAmb		IAmb	19 18 11.7	
	comp=Z,1.7nm,0.8s							
KKAR	**Karatay Array**	**46.93**	**309**	P		**P**	**19 18 08.1**	**-0.5**
KKAR	**Karatay Array**	**46.93**	**309**	P		**P**	**19 18 08.3**	**-0.2**
KKAR				IAmb		IAmb	19 18 11.7	
	comp=Z,1.7nm,0.8s							
ASAR	**Alice Springs**	**47.27**	**165**	P		**P**	**19 18 10.7**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=341,slow=6.7,SNR=3.9							
BRVK	**Borovoye**	**49.43**	**322**	P		**P**	**19 18 26.5**	**-1.2**
BRVK				IAmb		IAmb	19 18 33.1	
	comp=Z,3.2nm,0.8s							
AMKA	**Amchitka**	**52.77**	**42**	P		**P**	**19 18 53.0**	**+0.2**
FORT	**Forrest**	**53.18**	**173**	P		**P**	**19 18 57.1**	**+1.2**
BILL	**Bilibino**	**53.27**	**19**	P		**P**	**19 18 56.3**	**+0.1**
BILL				IAmb		IAmb	19 19 01.5	
	comp=Z,2.6nm,0.9s							
ABKAR	**Akbulak array**	**55.03**	**315**	P		**P**	**19 19 09.7**	**+0.4**
ABKAR	**Akbulak array**	**55.03**	**315**	P		**P**	**19 19 09.4**	**+0.1**
ABKAR				IAmb		IAmb	19 19 09.9	
	comp=Z,1.5nm,0.8s							
BBOO	**Buckleboo**	**56.55**	**165**	P		**P**	**19 19 20.6**	**+0.2**
ARU	**Arti**	**56.83**	**324**	P		**P**	**19 19 20.7**	**-1.4**
SOCY	**Socotra**	**64.95**	**273**	P		**P**	**19 20 15.6**	**-2.5**
MSVF	**Nonsavu**	**68.05**	**121**	LR		LR	19 49 05.1	
	comp=Z,63nm,18.1s,baz=176,slow=35							
TOLK	**Toolik Lake Re**	**68.96**	**23**	P		**P**	**19 20 43.7**	**+0.9**
TOLK				IAmb		IAmb	19 20 50.5	
	comp=Z,1.7nm,0.7s							
SUA	**Susitna One**	**69.50**	**31**	P		**P**	**19 20 46.0**	**-0.3**
ILAR	**Eielson Array**	**70.65**	**27**	P		**P**	**19 20 54.6**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=293,slow=4.8,SNR=2.6							
FINES	**FINESS Array B**	**73.24**	**330**	P		**P**	**19 21 07.6**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=42,slow=5.9,SNR=7.7							
AKASG	**Malin Array Be**	**74.52**	**319**	P		**P**	**19 21 14.9**	**-1.5**
	comp=Z,0.2nm,0.2s,baz=62,slow=5.0,SNR=2.2							
BRTR	**Keskin Array B**	**74.60**	**307**	P		**P**	**19 21 16.8**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=72,slow=9.3,SNR=3.9							
NB2	**NORSAR Subarra**	**80.04**	**332**	P		**P**	**19 21 44.9**	**-2.3**
	comp=Z,0.8nm,0.7s,baz=62,slow=5.3							
NOA	**NORSAR Array B**	**80.04**	**332**	P		**P**	**19 21 45.0**	**-2.2**
	comp=Z,0.8nm,0.7s,baz=60,slow=5.3,SNR=3.0							
CLL	**Collm**	**83.77**	**323**	*eP*		**P**	**19 22 06.0**	**-1.0**
YKA	**Yellowknife Ar**	**84.49**	**23**	P		**P**	**19 22 09.8**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=319,slow=4.4,SNR=5.4							
GERES	**GERESS Array B**	**84.53**	**321**	P		**P**	**19 22 10.0**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=71,slow=5.8,SNR=16							
KMBO	**Kilima Mbogo**	**85.24**	**267**	P		**P**	**19 22 15.5**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=34,slow=6.8,SNR=6.2							

FUNV ***27*** *19:29:21.1, 13.°14N×71.°67W, h34km, MW3.5*
RSNC ***27*** *19:29:25.6±0.9, 12.°59N×71.°54W, h10km±5km, ML3.3*

ISC 27 19:29:20.1±3.6, 12.°8N±0.°1×71.°55W±0.°04, h3km±26km, n22, σ1°36/37, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**1.16**	**202**	*eP*	**Pb**	**19 29 42.7**	**-0.2**
URIC				*eS*	**Sb**	**19 29 56.5**	**-1.9**
URIC				*i*		19 29 59.9	
	comp=Z,512nm,0.4s						
MONV	**Montecano**	**1.75**	**118**	*eP*	**Pn**	**19 29 52.6**	**+1.2**
MONV				*eS*	**Sn**	**19 30 15.8**	**+1.5**
DABV	**Dabajuro**	**2.06**	**154**	*eP*	**Pn**	**19 29 57.2**	**+1.5**
DABV				*eS*	**Sn**	**19 30 24.4**	**+2.5**
CRJC	**Cerrejon, Guaj**	**2.19**	**217**	*eP*	**Pn**	**19 29 58.4**	**+0.9**
CRJC				*eS*	**Sn**	**19 30 24.1**	**-1.1**
CRJC				*i*		19 30 33.2	
	comp=Z,306nm,0.5s						
SIQV	**Siquisique**	**2.73**	**141**	*eP*	**Pn**	**19 30 07.0**	**+2.1**
SIQV				*eS*	**Sn**	**19 30 39.9**	**+1.4**
MCQV	**Machiques**	**2.89**	**200**	*eP*	**Pn**	**19 30 08.1**	**+1.0**
MCQV				*eS*	**Sn**	**19 30 42.5**	**+0.1**
SMRC	**Santa Marta, M**	**3.07**	**239**	*eS*	**Sn**	**19 30 48.7**	**+1.8**
SMRC				*i*		19 31 00.6	
	comp=Z,47nm,0.4s						
CURV	**Curarigua**	**3.17**	**150**	*eP*	**Pn**	**19 30 12.7**	**+1.7**
CURV				*eS*	**Sn**	**19 30 50.7**	**+1.3**
SANV	**Sanarito**	**3.82**	**149**	*eP*	**Pn**	**19 30 21.2**	**+1.2**
SANV				*eS*	**Sn**	**19 31 05.6**	**+0.1**
SDV	**Santo Domingo**	**3.98**	**167**	*eP*	**Pn**	**19 30 23.5**	**+1.2**
SDV				*eS*	**Sn**	**19 31 08.5**	**-1.2**
SDV				*i*		19 31 32.7	
	comp=Z,60nm,0.5s						
SDV	**Santo Domingo**	**3.98**	**167**	*eP*	**Pn**	**19 30 23.1**	**+0.8**
SDV				*eS*	**Sn**	**19 31 10.2**	**+0.6**
MAPV	**Macapo**	**4.23**	**134**	*eP*	**Pn**	**19 30 26.5**	**+1.0**
MAPV				*eS*	**Sn**	**19 31 14.5**	**-0.9**
TURV	**Turiamo**	**4.32**	**122**	*eP*	**Pn**	**19 30 26.6**	**-0.2**
TURV				*eS*	**Sn**	**19 31 15.3**	**-2.3**
SOCV	**Socops**	**4.53**	**171**	*eP*	**Pn**	**19 30 30.7**	**+1.0**
SOCV				*eS*	**Sn**	**19 31 22.3**	**-0.6**
SJCC	**San Jacinto, C**	**4.57**	**231**	*eP*	**Pn**	**19 30 33.0**	**+2.7**
SJCC				*eS*	**Sn**	**19 31 23.1**	**-0.9**
SJCC				*i*		19 31 43.7	
	comp=Z,22nm,0.5s						
OCAC	**Ocana**	**4.84**	**201**	*eP*	**Pn**	**19 30 34.5**	**+0.3**
OCAC				*eS*	**Sn**	**19 31 29.3**	**-1.6**
CAPV	**Capacho**	**4.95**	**189**	*eP*	**Pn**	**19 30 35.7**	**0.0**
BAUV	**El Baul**	**5.15**	**138**	*eP*	**Pn**	**19 30 39.0**	**+0.8**
BIRV	**Birongo**	**5.66**	**113**	*eP*	**Pn**	**19 30 44.3**	**-0.9**
BARC	**Barichara**	**6.36**	**195**	*eP*	**Pn**	**19 30 56.3**	**+1.2**
BARC				*i*		19 32 15.2	
	comp=Z,25nm,0.5s						
PCRV	**Puerto La Cruz**	**7.26**	**110**	*eP*	**Pn**	**19 31 06.2**	**-1.0**
PAYV	**Puerto Ayacuch**	**8.27**	**152**	*eP*	**Pn**	**19 31 21.1**	**0.0**

IDC 27 19:41:20.5±726.0, 46.°04N×65.°15E, h0km, Error ellipse: s-maj=264.5km s-min=151.1km az=145.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.46**	**315**	*i*		20 21 50.0	
	baz=130,slow=328,SNR=3.6						
I46RU	**ZALESOVO INFRA**	**14.89**	**51**	*i*		21 15 00.0	
	baz=246,slow=327,SNR=1.8						
I18DK	**QAANAAQ INFRAS**	**53.58**	**349**	*i*		00 44 55.0	
	baz=36,slow=344,SNR=3.5						

IDC ***27*** *19:44:16.9±0.9, 12.°42N×144.°89E, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.7/50, mbtmp3.6/9, MS3.2/3, Ms1 3.2/3, ms1mx2.7/32, Error ellipse: s-maj=34.1km s-min=20.4km az=102.0*

ISC 27 19:44:22.7±0.9, 12.°4N±0.°2×144.°8E±0.°2, h38km, n11, σ0°74/10, mb3.7/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**15.37**	**196**	LR	LR	19 53 49.0	
	comp=Z,64nm,18.0s,baz=166,slow=37						
WRA	**Warramunga Arr**	**33.76**	**198**	P	**P**	**19 51 00.8**	**-0.1**
	2.0nm,0.5s,baz=21,slow=9.6,SNR=32						
ASAR	**Alice Springs**	**37.40**	**197**	P	**P**	**19 51 32.1**	**-0.1**
	0.4nm,0.5s,baz=22,slow=11,SNR=15						
ASAR				LR	LR	20 06 49.8	
	comp=Z,33nm,20.3s,baz=288,slow=36						
CMAR	**Chiang Mai Arr**	**44.55**	**284**	P	**P**	**19 52 31.5**	**+0.3**
	0.3nm,0.6s,baz=81,slow=6.7,SNR=5.6						
SONM	**Songino Array**	**47.69**	**325**	P	**P**	**19 52 55.8**	**+0.2**
	0.2nm,0.6s,baz=140,slow=6.6,SNR=2.1						
SONM				LR	LR	20 11 37.5	
	comp=Z,51nm,21.4s,baz=291,slow=34						
MKAR	**Makanchi Array**	**62.32**	**316**	P	**P**	**19 54 41.7**	**+0.4**
	0.2nm,0.5s,baz=97,slow=7.1,SNR=2.7						
ILAR	**Eielson Array**	**69.65**	**25**	P	**P**	**19 55 27.1**	**-0.9**
	0.3nm,0.4s,baz=248,slow=5.2,SNR=5.1						
YKA	**Yellowknife Ar**	**83.93**	**27**	P	**P**	**19 56 49.0**	**+0.5**
	0.4nm,0.6s,baz=286,slow=4.5,SNR=6.1						
NVAR	**Mina Array Bea**	**87.69**	**51**	P	**P**	**19 57 08.9**	**+0.9**
	0.2nm,0.4s,baz=282,slow=4.5,SNR=2.4						
FINES	**FINESS Array B**	**92.22**	**335**	P	**P**	**19 57 27.1**	**-1.3**
	0.9nm,0.6s,baz=96,slow=7.1,SNR=3.8						
DBIC	**Dimbokro**	**144.41**	**301**	PKP	**PKPab**	**20 03 54.3**	**+0.2**
	1.1nm,0.5s,baz=63,slow=2.3,SNR=1.2						

IASPEI ***27*** *20:20:33.3±1.0, 37.°06N±0.°03×97.°92W±0.°02, h10km±6km, Error ellipse: s-maj=4.0km s-min=3.2km az=143.0, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ANF ***27*** *20:20:33.6±0.2, 37.°03N×97.°90W, h7km, ML3.8/10, Error ellipse: s-maj=2.5km s-min=2.1km az=73.0*
NEIC ***27*** *20:20:33.7±1.4, 37.°04N±0.°03×97.°91W±0.°02, h7km±5km, mb_Lg3.1/67, Error ellipse: s-maj=4.5km s-min=1.1km az=147.0*

ISC 27 20:20:33.5±0.9, 37.°05N±0.°02×97.°92W±0.°02, h7km±6km, n86, σ0°75/95, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.07**	**29**		**Pg**	**20 20 35.2**	**-0.2**
KAN05				Sg	**Sg**	**20 20 36.5**	**-0.3**
KAN14	**Manchester OK**	**0.10**	**203**		**Pg**	**20 20 35.8**	**+0.1**
KAN14					**Sg**	**20 20 37.6**	**+0.3**
KAN10	**Anthony SW Sta**	**0.16**	**299**		**Pg**	**20 20 36.7**	**-0.2**
KAN10				Sg	**Sg**	**20 20 39.0**	**-0.2**
KAN01	**Argonia South**	**0.17**	**49**	Pg	**Pg**	**20 20 36.9**	**0.0**
KAN01				Sg	**Sg**	**20 20 39.5**	**+0.2**
KAN08	**Anthony NE Sta**	**0.19**	**346**		**Pg**	**20 20 37.1**	**-0.2**
KAN08				Sg	**Sg**	**20 20 39.9**	**0.0**
GC02	**Grant County #**	**0.20**	**167**		**Pg**	**20 20 37.8**	**+0.3**
GC02				Sg	**Sg**	**20 20 41.0**	**+0.8**
KAN09	**Caldwell North**	**0.26**	**69**		**Pg**	**20 20 38.7**	**+0.1**
KAN09				Sg	**Sg**	**20 20 42.4**	**+0.4**
KAN12	**Harper NE Stat**	**0.26**	**345**		**Pg**	**20 20 38.5**	**-0.2**
KAN12				Sg	**Sg**	**20 20 42.2**	**0.0**
OK032	**Salt Plains WL**	**0.34**	**224**		**Pg**	**20 20 40.2**	**+0.1**
OK032				Sg	**Sg**	**20 20 44.9**	**+0.4**
KAN13	**South Haven SW**	**0.35**	**95**	Pg	**Pg**	**20 20 40.6**	**+0.2**
KAN13				Sg	**Sg**	**20 20 45.5**	**+0.5**
CROK	**Carrier**	**0.54**	**186**		**Pg**	**20 20 44.0**	**0.0**
CROK				Sg	**Sg**	**20 20 51.8**	**+0.7**
U32A	**Winter Ranch,**	**1.10**	**233**		**Pg**	**20 20 53.9**	**-0.7**
U32A				Sg	**Sg**	**20 21 08.7**	**-0.1**
U32A	**Winter Ranch,**	**1.10**	**233**	P	**Pg**	**20 20 53.9**	**-0.7**
	baz=53,SNR=31						
U32A	**Winter Ranch,**	**1.10**	**233**	P		20 20 53.9	
	baz=53,SNR=31						
T35A	**Sooner Cattle**	**1.13**	**96**	Pg	**Pg**	**20 20 54.7**	**-0.6**
T35A				Sg	**Sg**	**20 21 09.5**	**-0.4**
T35B	**Sooner Cattle**	**1.13**	**96**	P	**Pg**	**20 20 54.7**	**-0.5**
	baz=277,SNR=122						
T35B				S	**Sg**	**20 21 09.5**	**-0.4**
	baz=277						
T35B	**Sooner Cattle**	**1.13**	**96**	P		20 20 54.7	
	baz=277,SNR=122						
T35B				S		20 21 09.5	
	baz=277						
OK029	**Liberty Lake**	**1.30**	**163**		**Pn**	**20 20 57.7**	**-0.4**
OK029					**Sn**	**20 21 15.3**	**-0.4**
QUOK	**Quay**	**1.31**	**132**		**Pn**	**20 20 57.8**	**-0.4**
QUOK				Sg	**Sg**	**20 21 15.2**	**-0.3**
OK031	**S. Brethren Rd**	**1.39**	**141**		**Pn**	**20 20 59.2**	**-0.1**
BCOK	**Bluff Creek, N**	**1.41**	**170**		**Pn**	**20 20 59.4**	**-0.2**
BCOK					**Sg**	**20 21 18.5**	**-0.3**
OK030	**Cody Creek RV**	**1.44**	**140**		**Pn**	**20 20 59.9**	**-0.1**
R32A	**Long Quarter,**	**1.51**	**336**		**Pn**	**20 21 01.0**	**-0.1**
R32A	**Long Quarter,**	**1.51**	**336**	P	**Pn**	**20 21 00.9**	**-0.1**
	baz=155,SNR=199						
R32A	**Long Quarter,**	**1.51**	**336**	P		20 21 00.9	
	baz=155,SNR=199						
OK025	**Westminster Rd**	**1.53**	**162**		**Pb**	**20 21 01.7**	**-0.5**
OK025				IAmb_Lg		20 21 24.8	
	comp=Z,109nm,0.8s						
OKCFA	**Oklahoma City**	**1.67**	**167**		**Pn**	**20 21 03.6**	**+0.4**
OKCFA				IAmb_Lg		20 21 29.5	
	comp=Z,114nm,0.7s						
OKCFA	**Oklahoma City**	**1.67**	**167**	P	**Pn**	**20 21 03.8**	**+0.6**
	baz=347						
OKCFA				Sb	**Sg**	**20 21 26.8**	**-0.4**
	baz=347						
OKCFA	**Oklahoma City**	**1.67**	**167**	P		20 21 03.8	
	baz=347						
OKCFA				Sb		20 21 26.8	
	baz=347						
OKCSW	**OKLAHOMA CITY**	**1.68**	**167**		**Pn**	**20 21 03.7**	**+0.4**
FNO	**Franklin**	**1.83**	**167**		**Pn**	**20 21 06.1**	**+0.7**
TUL1	**Leonard**	**2.05**	**123**	P	**Pn**	**20 21 08.4**	**-0.1**
	baz=304,SNR=22						
TUL1				Sb	**Sg**	**20 21 37.9**	**-1.5**
	baz=304						
TUL1	**Leonard**	**2.05**	**123**	P		20 21 08.4	
	baz=304,SNR=22						
TUL1				Sb		20 21 37.9	
	baz=304						
CBKS	**Cedar Bluff**	**2.28**	**321**	Pn	**Pn**	**20 21 12.3**	**+0.6**
CBKS	**Cedar Bluff**	**2.28**	**321**	P	**Pn**	**20 21 12.2**	**+0.6**
	baz=140,SNR=35						
CBKS	**Cedar Bluff**	**2.28**	**321**	P		20 21 12.2	
	baz=140,SNR=35						
KSU1	**Kansas State U**	**2.30**	**26**		**Pn**	**20 21 12.5**	**+0.7**
KSU1	**Kansas State U**	**2.30**	**26**	P	**Pn**	**20 21 12.4**	**+0.6**
	baz=207,SNR=9.2						
KSU1				S	**Sn**	**20 21 42.3**	**+1.9**
	baz=207						
KSU1	**Kansas State U**	**2.30**	**26**	P		20 21 12.4	
	baz=207,SNR=9.2						
KSU1				S		20 21 42.3	
	baz=207						
WMOK	**Wichita Mounta**	**2.41**	**197**	Pn	**Pn**	**20 21 12.6**	**-0.8**
U38A	**Gravette**	**2.90**	**101**		**Pn**	**20 21 21.0**	**+0.9**
X37A	**Clayton**	**3.21**	**139**		**Pn**	**20 21 25.3**	**+1.0**
X37A				IAmb_Lg		20 22 21.3	
	comp=Z,60nm,0.7s						
HHAR	**Hobbs**	**3.29**	**102**	Pn	**Pn**	**20 21 26.3**	**+0.9**
N33B	**J Bar K, Exete**	**3.70**	**5**	P	**Pn**	**20 21 31.0**	**-0.2**
	baz=186,SNR=6.1						
N33B	**J Bar K, Exete**	**3.70**	**5**	P		20 21 31.0	
	baz=186,SNR=6.1						
N33A	**J Bar K, Exete**	**3.71**	**5**	Pn	**Pn**	**20 21 31.0**	**-0.2**
N33A				IAmb_Lg		20 22 41.8	
	comp=Z,48nm,0.8s						
S39A	**Bolivar**	**3.72**	**79**		**Pn**	**20 21 31.9**	**+0.6**
S39A	**Bolivar**	**3.72**	**79**	P	**Pn**	**20 21 31.7**	**+0.3**
	baz=261,SNR=16						
S39A	**Bolivar**	**3.72**	**79**	P		20 21 31.7	
	baz=261,SNR=16						
AMTX	**Amarillo**	**3.74**	**236**	Pn	**Pn**	**20 21 32.3**	**+0.6**
AMTX				IAmb_Lg		20 22 41.1	
	comp=Z,46nm,0.8s						
AMTX	**Amarillo**	**3.74**	**236**	P	**Pn**	**20 21 32.2**	**+0.6**
	baz=54,SNR=6.1						
AMTX	**Amarillo**	**3.74**	**236**	P		20 21 32.2	
	baz=54,SNR=6.1						
Z35A	**Perchaven, San**	**3.75**	**171**	Pn	**Pn**	**20 21 31.8**	**+0.1**
Z35A	**Perchaven, San**	**3.75**	**171**	S	**Sn**	**20 22 17.3**	**+1.2**
	baz=352						
Z35A	**Perchaven, San**	**3.75**	**171**	S		20 22 17.3	
	baz=352						
W39A	**Magazine**	**3.82**	**118**	Pn	**Pn**	**20 21 34.6**	**+1.9**
U40A	**Yellville**	**4.13**	**98**	Pn	**Pn**	**20 21 37.6**	**+0.7**
U40A				IAmb_Lg		20 22 48.1	
	comp=Z,46nm,0.8s						
N35A	**Tabor**	**4.20**	**24**		**Pn**	**20 21 38.8**	**+0.8**
KSCO	**Kaye Shedlock'**	**4.21**	**299**	Pn	**Pn**	**20 21 38.6**	**+0.4**
KSCO				IAmb_Lg		20 22 56.3	
	comp=Z,47nm,0.7s						
P38A	**Dawn**	**4.30**	**52**	Pn	**Pn**	**20 21 40.7**	**+1.3**
P38A				IAmb_Lg		20 22 56.9	
	comp=Z,33nm,0.7s						
MIAR	**Mount Ida**	**4.32**	**124**	Pn	**Pn**	**20 21 37.6**	**-2.0**
MIAR				IAmb_Lg		20 22 55.6	
	comp=Z,44nm,1.0s						
BGNE	**Belgrade**	**4.36**	**358**	Pn	**Pn**	**20 21 40.3**	**+0.1**
Z38A	**Mt. Pleasant**	**4.47**	**147**		**Pn**	**20 21 41.3**	**-0.4**
Z38A				IAmb_Lg		20 23 01.9	
	comp=Z,38nm,0.7s						
MGMO	**Mountain Grove**	**4.52**	**87**		**Pn**	**20 21 43.5**	**+1.1**
ABTX	**Abilene, Hawle**	**4.63**	**198**	Pn	**Pn**	**20 21 44.5**	**+0.5**
R40A	**Maddies Statio**	**4.65**	**73**	Pn	**Pn**	**20 21 44.6**	**+0.5**
FCAR	**Ozark Folk Cen**	**4.81**	**102**	Pn	**Pn**	**20 21 45.1**	**-1.2**
FCAR				IAmb_Lg		20 23 10.5	
	comp=Z,27nm,0.7s						
X40A	**Basin Creek Fa**	**4.86**	**120**	Pn	**Pn**	**20 21 46.1**	**-0.8**
X40A				IAmb_Lg		20 23 13.4	
	comp=Z,40nm,0.8s						
MSTX	**Muleshoe**	**5.01**	**234**	Pn	**Pn**	**20 21 48.5**	**-0.7**
OGNE	**Ogallala**	**5.04**	**322**		**Pn**	**20 21 51.2**	**+1.5**
OGNE				IAmb_Lg		20 23 23.0	
	comp=Z,33nm,0.8s						
WHTX	**Lake Whitney,**	**5.06**	**176**	Pn	**Pn**	**20 21 50.4**	**+0.7**
WLAR	**White Oak Lake**	**5.16**	**129**	Pn	**Pn**	**20 21 51.7**	**+0.6**
WLAR				IAmb_Lg		20 23 24.1	
	comp=Z,35nm,0.7s						
T25A	**Trinidad**	**5.19**	**273**	Pn	**Pn**	**20 21 52.3**	**+0.4**
T25A				IAmb_Lg		20 23 20.3	
	comp=Z,34nm,1.0s						
N38A	**Joes South For**	**5.23**	**43**	Pn	**Pn**	**20 21 52.2**	**+0.1**
N38A				IAmb_Lg		20 23 32.4	
	comp=Z,41nm,0.7s						
P40A	**Paris**	**5.24**	**60**	Pn	**Pn**	**20 21 53.2**	**+0.9**
P40A				IAmb_Lg		20 23 26.6	
	comp=Z,20nm,0.8s						
CCM	**Cathedral Cave**	**5.40**	**77**	Pn	**Pn**	**20 21 55.0**	**+0.6**
CCM				IAmb_Lg		20 23 27.9	
	comp=Z,24nm,0.8s						
T42A	**Van Buren**	**5.46**	**88**	Pn	**Pn**	**20 21 56.1**	**+0.9**
PBMO	**Poplar Bluff**	**6.00**	**90**	Pn	**Pn**	**20 22 03.1**	**+0.3**
PBMO				IAmb_Lg		20 23 47.3	
	comp=Z,37nm,0.8s						
FVM	**French Village**	**6.03**	**79**	Pn	**Pn**	**20 22 03.0**	**-0.1**
FVM				IAmb_Lg		20 23 42.2	
	comp=Z,20nm,0.8s						
435B	**Jarrell**	**6.25**	**177**	IAmb_Lg		20 24 00.8	
	comp=Z,19nm,0.8s						
N41A	**Harden Midland**	**6.61**	**54**	IAmb_Lg		20 24 02.6	
	comp=Z,35nm,0.9s						
ISCO	**Idaho Springs**	**6.64**	**297**	Pn	**Pn**	**20 22 09.4**	**-2.4**
ISCO				IAmb_Lg		20 24 15.3	
	comp=Z,15nm,0.8s						
JCT	**Junction City**	**6.73**	**194**	IAmb_Lg		20 24 16.2	
	comp=Z,19nm,0.9s						
ECSD	**EROS Data Cent**	**6.75**	**8**	Pn	**Pn**	**20 22 12.3**	**-0.7**
S44A	**Carbondale**	**6.93**	**82**	Pn	**Pn**	**20 22 16.0**	**+0.6**
S44A				IAmb_Lg		20 24 13.5	
	comp=Z,18nm,0.8s						
SIUC	**Southern Illin**	**6.96**	**82**	IAmb_Lg		20 24 20.4	
	comp=Z,21nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.09**	**66**	IAmb_Lg		20 24 28.4	
	comp=Z,21nm,0.8s						
L40A	**Anamosa**	**7.20**	**44**	Pn

LWLI	Liwa	12.64	141	P		Pn	20 28 13.1	-2.2	
	1μm28nm,0.8s								
KLSI		12.83	138	P		Pn	20 28 15.2	-2.6	
	6.8nm,0.9s								
PHIT	Phitsanulok	12.96	19	P		Pn	20 28 22.5	+3.0	
SUKH	Sukhothai	13.01	15	P		P	20 28 29.2	-1.1	
MHMT	Maesarieng	13.35	8	P		Pn	20 28 26.6	+1.7	
UTTA	Uttaradit	13.53	19	P		Pn	20 28 29.6	+2.3	
CM05	Chiang Mai Arr	13.74	12	P		Pn	20 28 33.8	+3.6	
CM04	Chiang Mai Arr	13.75	12	P		Pn	20 28 31.6	+1.3	
CM13	Chiang Mai Arr	13.75	11	P		Pn	20 28 30.6	+0.2	
CM01	Chiang Mai Arr	13.76	12	P		Pn	20 28 33.7	+3.1	
CM02	Chiang Mai Arr	13.77	11	P		Pn	20 28 29.1	-1.6	
CM15	Chiang Mai Arr	13.79	11	P		Pn	20 28 33.5	+2.7	
CM31	Chiang Mai Arr	13.79	11	P		Pn	20 28 31.8	+0.8	
CM31	Chiang Mai Arr	13.79	11			Pn	20 28 31.7	+0.8	
CMAR	Chiang Mai Arr	13.79	11	P		Pn	20 28 33.0	+2.0	
	0.5nm,0.3s,baz=199,slow=14,SNR=15								
CMAR				LR		LR	20 34 22.4		
	comp=Z,132nm,18.5s,baz=236,slow=40								
CMAR	Chiang Mai Arr	13.79	11	Pn		Pn	20 28 29.2	-1.7	
LAMP	Lampang	14.01	14	P		Pn	20 28 35.9	+2.0	
CM35	Chiang Mai Arr	14.05	12	P		Pn	20 28 37.9	+3.5	
CHTO	Chiang Mai	14.14	11	Pn		Pn	20 28 37.1	+1.4	
CM33	Chiang Mai Arr	14.15	11	P		Pn	20 28 38.5	+2.7	
CM34	Chiang Mai Arr	14.22	12	P		Pn	20 28 35.4	-1.3	
KSM	Kuching	14.60	103			P	20 28 47.1	-0.9	
PALK	Pallekele	15.48	280	P		Pn	20 28 58.2	+4.5	
	0.4nm,0.3s,baz=203,slow=13,SNR=5.3								
PALK				S		Sn	20 31 39.8	-4.6	
	0.9nm,0.3s,baz=336,slow=2.1,SNR=5.0								
PALK				LR		LR	20 34 01.5		
	comp=Z,125nm,19.8s,baz=204,slow=33								
PALK	Pallekele	15.48	280	P		Pn	20 28 57.8	+4.1	
PALK				IAmb		IAmb	20 29 07.8		
	comp=Z,43nm,1.4s								
SBUM	Sibu	16.28	98	P		P	20 29 06.3	-0.4	
LEM	Lembang	16.36	135	LR		LR	20 36 07.1		
	comp=Z,348nm,18.2s,baz=270,slow=40								
SLVN	Son La	18.05	24	P		P	20 29 29.1	+2.9	
MTKI	Muara Teweh, K	19.66	107	P		Pn	20 29 50.8	+5.2	
KKM	Kota Kinabalu	20.08	86	P		P	20 29 47.6	-1.1	
KKM				IAmb		IAmb	20 29 55.9		
	comp=Z,41nm,1.1s								
BBKI	Banjar Baru	20.49	113	P		P	20 29 53.9	+0.9	
	comp=Z,28nm,0.8s								
SHL	Shillong	20.97	349	P		P	20 29 58.6	+0.2	
SHL				IAmb		IAmb	20 30 05.7		
	comp=Z,38nm,1.0s								
HYB	Hyderabad	21.22	307	*i* P		P	20 30 02.0	+1.1	
KMMI	Kalianget	21.42	123	P		P	20 30 07.6	+4.6	
ABJI	Asem Bagus	22.05	125	P		P	20 30 13.2	+3.4	
	comp=Z,35nm,1.0s								
MYLDM	Lahad Datu	22.33	88	P		P	20 30 12.8	-0.1	
MYLDM				IAmb		IAmb	20 30 42.1		
	comp=Z,41nm,1.2s								
JAGI	Jajag, Banyuwa	22.37	126	P		P	20 30 13.1	-0.1	
JAGI				IAmb		IAmb	20 30 18.9		
	comp=Z,32nm,1.2s								
SRBI	Singaraja	23.01	124	P		P	20 30 21.3	+1.2	
	comp=Z,850nmcomp=Z,70nm,1.1s								
GYA	Guiyang	23.74	24	⇑P		P	20 30 29.5	+2.3	
GYA				pP		sP	20 30 39.8	+0.3	
GYA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
GYA				pmax		pmax			
	comp=Z,67nm,4.2s								
GYA				LR		LR			
	comp=Z,200nm,17.6s								
TWSI	Taliwang, Sumb	24.75	123	P		P	20 30 39.4	+2.8	
	comp=Z,12nm,1.1s								
TOLI2	Tolitoli	24.94	98	P		P	20 30 38.2	-0.1	
TOLI2				IAmb		IAmb	20 30 45.5		
	comp=Z,30nm,1.3s								
LSA	Lhasa	25.14	350	P		P	20 30 41.5	+1.1	
LSA				pmax		pmax			
	comp=Z,17nm,0.8s								
LSA	Lhasa	25.14	350	P		P	20 30 40.4	-0.1	
LSA				IAmb		IAmb	20 30 51.8		
	comp=Z,10.0nm,1.2s								
KAPI	Kappang	25.60	112	LR		LR	20 41 27.2		
	comp=Z,197nm,19.5s,baz=275,slow=38								
H08S2	Diego Garcia H	26.61	242	T		T	20 58 04.8		
	baz=61,slow=76,SNR=20								
H08S3	Diego Garcia H	26.61	242	T		T	20 58 02.4		
	baz=61,slow=76,SNR=299								
H08S1	Diego Carcia H	26.63	242	T		T	20 58 06.1		
	baz=61,slow=76,SNR=5.2								
CD2	Chengdu	26.90	15	P		P	20 31 00.3	+4.4	
CD2				pmax		pmax			
	comp=Z,20nm,0.6s								
CD2				LR		LR			
	comp=N,340nm,11.1s								
CD2				LR		LR			
	comp=E,480nm,10.7s								
CD2				LR		LR			
	comp=Z,290nm,12.3s								
XAN	Xi'an	31.38	21	P		P	20 31 34.8	-0.9	
XAN				IAmb		IAmb	20 31 42.6		
	comp=Z,5.5nm,0.7s								
SMLA	Simla	31.60	328	*e*P		P	20 31 39.5	+1.9	
DHRM	DHARAMSHALA	32.94	328	*e*P		P	20 31 47.9	-1.7	
GTA	Gaotai	34.55	5	P		P	20 32 10.0	+6.6	
GTA				pP		sP	20 32 20.8	+4.8	
GTA				sP		pP	20 32 24.3	+12	
GTA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
GTA				pmax		pmax			
	comp=Z,38nm,6.2s								
GTA				LR		LR			
	comp=N,70nm,13.5s								
GTA				LR		LR			
	comp=E,91nm,14.2s								
GTA				LR		LR			
	comp=Z,56nm,14.9s								
SIJI	Sorong	35.61	98	P		P	20 32 13.1	+0.4	
	comp=Z,11nm,0.9s,baz=172,slow=23,SNR=3.4								
SIJI				LR		LR	20 49 07.4		
	comp=Z,76nm,18.1s,baz=84,slow=40								
NIL	Nilore	35.66	326	P		P	20 32 11.9	-1.0	
FAKI	Fak Fak	36.95	101			P	20 32 23.4	-0.9	
FAKI				IAmb		IAmb	20 32 35.3		
	comp=Z,21nm,1.3s								
FITZ	Fitzroy Crossi	37.02	129	P		P	20 32 23.0	-1.8	
	comp=Z,4.4nm,0.8s,baz=322,slow=3.6,SNR=4.7								
FITZ				LR		LR	20 47 30.0		
	comp=Z,111nm,21.2s,baz=308,slow=36								
FITZ	Fitzroy Crossi	37.02	129	P		P	20 32 22.9	-1.8	
FITZ				IAmb		IAmb	20 32 38.9		
	comp=Z,8.4nm,1.1s								
KSH	Kashi	38.99	335	P		P	20 32 41.5	+0.2	
KSH				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KSH				pmax		pmax			
	comp=Z,200nm,5.0s								
BJT	Baijiatuan	39.41	25	P		P	20 32 45.8	+1.3	
BJT				IAmb		IAmb	20 32 53.0		
	comp=Z,12nm,1.0s								
BJI	Beijing	39.43	25	P		P	20 32 51.0	+6.3	
BJI				pmax		pmax			
	comp=Z,11nm,1.0s								
BJI				LR		LR			
	comp=N,130nm,5.8s								
BJI				LR		LR			
	comp=E,140nm,5.1s								
WMQ	Urumqi	39.49	350	*e*P		P	20 32 46.0	+0.7	
WMQ				pmax		pmax			
	comp=Z,11nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,130nm,3.8s								
WMQ				LR		LR			
	comp=N,740nm,28.9s								
WMQ				LR		LR			
	comp=E,1μm,29.1s								
WMQ				LR		LR			
	comp=Z,82nm,29.0s								
WSAR	Wadi Sarin	40.48	300	P		P	20 32 55.8	+2.1	
	comp=Z,2.8nm,0.5s,baz=148,slow=6.7,SNR=13								
SOCY	Socotra	42.22	283	P		P	20 33 09.0	+0.8	
SOCY				IAmb		IAmb	20 33 27.7		
	comp=Z,10nm,1.4s								
AAK	Ala-Archa	42.22	336	P		P	20 33 08.7	+0.8	
NWAO	Narrogin (SRO)	42.61	153	P		P	20 33 10.6	-0.4	
	comp=Z,12nm,0.9s,baz=329,slow=2.2,SNR=4.7								
NWAO	Narrogin (SRO)	42.61	153	P		P	20 33 11.0	0.0	
	comp=Z,14nm,1.0s								
NWAO				IAmb		IAmb	20 33 12.5		
NWAO	Narrogin (SRO)	42.61	153	P		P	20 33 11.4	+0.4	
NWAO				IAmb		IAmb	20 33 12.5		
	comp=Z,18nm,1.0s								
HRA	Herat	42.96	317	P		P	20 33 13.0	-1.1	
MK31	Makanchi Array	43.44	346	P		P	20 33 16.5	-1.0	
MKAR	Makanchi Array	43.44	346	P		P	20 33 17.1	-0.5	
	comp=Z,0.6nm,0.7s,baz=161,slow=8.3,SNR=10								
MKAR				LR		LR	20 57 13.3		
	comp=Z,24nm,18.1s,baz=165,slow=44								
MKAR	Makanchi Array	43.44	346	P		P	20 33 16.4	-1.2	
KSAR	Wonju Array Be	43.53	38	P		P	20 33 18.7	+0.4	
MAKZ	Makanchi	43.53	346	P		P	20 33 17.4	-0.9	
KSRS	Korea Array	43.56	38	P		P	20 33 20.4	+1.8	
	comp=Z,1.6nm,0.7s,baz=219,slow=10,SNR=7.9								
KSRS				LR		LR	20 52 19.7		
	comp=Z,36nm,18.1s,baz=200,slow=37								
SONM	Songino Array	43.72	10	P		P	20 33 20.3	+0.4	
	comp=Z,3.8nm,0.8s,baz=189,slow=8.4,SNR=14								
SONM				LR		LR	20 51 36.6		
	comp=Z,72nm,18.2s,baz=192,slow=36								
SONM	Songino Array	43.72	10	P		P	20 33 20.6	+0.7	
ULN	Ulaanbaatar	43.86	11	P		P	20 33 20.9	-0.2	
KK31	Karatay Array	44.30	333	P		P	20 33 23.9	-0.7	
KKAR	Karatay Array	44.30	333	P		P	20 33 24.2	-0.4	
KKAR	Karatay Array	44.30	333	P		P	20 33 24.6	0.0	
KKAR				IAmb		IAmb	20 34 07.3		
	comp=Z,2.6nm,0.8s								
WB0	Warramunga Arr	44.92	124	P		P	20 33 28.6	-1.3	
WB0				IAmb		IAmb	20 33 36.6		
	comp=Z,5.6nm,0.9s								
WRA	Warramunga Arr	44.97	124	P		P	20 33 29.4	-0.8	
	comp=Z,3.0nm,0.8s,baz=302,slow=9.2,SNR=27								
WRA	Warramunga Arr	44.97	124	P		P	20 33 29.2	-1.0	
WRAB	Tennant Creek	44.97	124	P		P	20 33 28.9	-1.3	
WB2	Warramunga Arr	44.98	124	P		P	20 33 29.3	-1.0	
WB2				IAmb		IAmb	20 34 03.6		
	comp=Z,17nm,1.4s								
WR0	Warramunga Arr	45.14	124	P		P	20 33 30.6	-1.0	
WR0				IAmb		IAmb	20 33 56.6		
	comp=Z,7.9nm,0.9s								
AS31	Alice Springs	46.52	129	P		P	20 33 41.8	-0.7	
ASAR	Alice Springs	46.52	129	P		P	20 33 42.0	-0.4	
	comp=Z,4.5nm,0.5s,baz=301,slow=7.4,SNR=158								
ASAR	Alice Springs	46.52	129	P		P	20 33 41.9	-0.5	
CN2	Changchun	46.62	29	*e*P		P	20 33 41.0	-1.8	
CN2				*e*PP		PP	20 35 31.5	-1.3	
CN2				*e*S		S	20 40 25.8	-4.3	
CN2				LR		LR			
	comp=N,170nm,12.0s								
CN2				LR		LR			
	comp=E,140nm,12.0s								
CN2				LR		LR			
	comp=Z,290nm,12.0s								
FORT	Forrest	46.80	141	P		P	20 33 44.7	+0.2	
GEYT	Alibeck	47.72	319	P		P	20 33 52.0	+0.5	
	comp=Z,7.0nm,0.7s,baz=155,slow=8.2,SNR=15								
GEYT				LR		LR	20 55 56.4		
	comp=Z,108nm,19.5s,baz=45,slow=38								
GEYT	Alibeck	47.72	319	P		P	20 33 51.7	+0.1	
GEYT				IAmb		IAmb	20 33 53.4		
	comp=Z,5.9nm,0.7s								
GYA0B	ALIBECK ARRAY	47.72	319	P		P	20 33 51.4	-0.2	
ZAA0	Zalesovo Array	49.79	351	P		P	20 34 06.7	-0.4	
ZAA0				IAmb		IAmb	20 34 31.8		
	comp=Z,3.4nm,0.8s								
ZALV	Zalesovo Beam	49.79	351	P		P	20 34 06.9	-0.3	
	comp=Z,0.9nm,0.5s,baz=141,slow=9.6,SNR=4.6								
ZALV				LR		LR	20 58 24.6		
	comp=Z,39nm,19.6s,baz=224,slow=40								
ZALV	Zalesovo Beam	49.79	351	P		P	20 34 06.4	-0.7	
RAYN	Ar Rayn	52.10	296	P		P	20 34 25.6	+0.4	
RAYN				IAmb		IAmb	20 34 31.9		
	comp=Z,3.6nm,0.7s								
BBOO	Buckleboo	53.30	138	P		P	20 34 33.4	-0.4	
ABKAR	Akbulak array	53.78	331	P		P	20 34 35.9	-1.1	
ABKAR				IAmb		IAmb	20 34 57.2		
	comp=Z,3.7nm,0.8s								
ABKAR	Akbulak array	53.78	331	P		P	20 34 35.4	-1.6	
CTA	Charters Tower	55.17	118	P		P	20 34 46.3	-1.4	
	comp=Z,3.5nm,0.9s,baz=281,slow=14,SNR=2.2								
CTAO	Charters Tower	55.17	118	P		P	20 34 47.0	-0.7	
STKA	Stephens Creek	56.65	133	P		P	20 34 57.9	-0.1	
	comp=Z,4.0nm,0.7s,baz=327,slow=6.9,SNR=8.3								
STKA				LR		LR	21 03 32.0		
	comp=Z,66nm,18.5s,baz=348,slow=40								
STKA	Stephens Creek	56.65	133	P		P	20 34 57.7	-0.3	
KMBO	Kilima Mbogo	59.07	266	P		P	20 35 18.1	+2.4	
	comp=Z,3.6nm,0.8s,baz=57,slow=9.4,SNR=12								
KMBO				LR		LR	20 56 40.7		
	comp=Z,58nm,21.2s,baz=66,slow=32								
MARD	Mardin	59.80	311	P		P	20 35 19.1	-1.1	
KBZ	Khabaz	60.60	318	P		P	20 35 24.8	-0.6	
	comp=Z,2.0nm,0.9s,baz=161,slow=5.1,SNR=4.4								
KBZ				LR		LR	21 04 13.5		
	comp=Z,28nm,18.3s,baz=120,slow=38								
KIV	Kislovodsk	60.83	318	P		P	20 35 26.2	-0.8	
KIV				IAmb		IAmb	20 35 37.0		
	comp=Z,6.1nm,0.9s								
YAK	Yakutsk	62.25	17	LR		LR	21 04 14.4		
	comp=Z,49nm,18.2s,baz=259,slow=38								
KIRV	Kirov	64.54	335	LR		LR	21 06 00.4		
	comp=Z,67nm,20.3s,baz=130,slow=38								
BR131	Keskin Array S	65.85	311	P		P	20 35 58.5	-2.0	
BR131				IAmb		IAmb	20 36 24.2		
	comp=Z,5.1nm,1.1s								
BRTR	Keskin Array B	65.85	311	P		P	20 35 59.0	-1.4	
	comp=Z,1.1nm,0.7s,baz=145,slow=7.4,SNR=5.4								
BRTR				LR		LR	21 08 20.3		
	comp=Z,34nm,18.4s,baz=128,slow=39								
BRTR	Keskin Array B	65.85	311	P		P	20 35 58.3	-2.1	
MA2	Magadan	68.55	26	LR		LR	21 10 23.8		
	comp=Z,57nm,19.0s,baz=242,slow=40								
TIXI	Tiksi	69.80	11	P		P	20 36 24.3	-0.2	
TIXI				IAmb		IAmb	20 37 12.5		
	comp=Z,7.5nm,1.5s								
PET	Petropavlovsk	69.85	35	P		P	20 36 24.4	-0.8	
LHI	Lord Howe Isla	69.96	126	P		P	20 36 25.3	-0.9	
KARP	Karpathos	70.06	306	P		P	20 36 25.9	-1.0	
AKASG	Malin Array Be	71.70	322	LR		LR	21 13 39.8		
	comp=Z,39nm,18.1s,baz=80,slow=40								
MLR	Muntele Rosu	72.66	316	LR		LR	21 15 17.8		
	comp=Z,31nm,18.8s,baz=42,slow=41								
BURAR	Bucovina Array	73.56	318	P		P	20 36 47.5	-0.3	
BUR08	Bucovina Ar. S	73.58	318	P		P	20 36 46.6	-1.2	
BUR08				IAmb		IAmb	20 37 24.4		
	comp=Z,4.8nm,1.1s								
LBTB	Lobatse	74.54	243	P		P	20 36 52.7	-1.2	
BOSA	Boshof	75.67	239	P		P	20 36 59.8	-0.6	
FINES	FINESS Array B	76.25	332	P		P	20 37 01.6	-1.3	
	comp=Z,3.1nm,1.0s,baz=148,slow=22,SNR=3.7								
PSZ	Piszkesteto	77.15	318	P		P	20 37 07.4	-1.0	
PSZ				IAmb		IAmb	20 37 47.4		
	comp=Z,5.2nm,0.9s								
ARCES	ARCESS Array B	78.73	340	P		P	20 37 16.4	-0.2	
	comp=Z,3.0nm,0.9s,baz=79,slow=6.3,SNR=3.9								
ARCES				LR		LR	21 15 06.3		
	comp=Z,121nm,20.1s,baz=145,slow=38								
ARCES	ARCESS Array B	78.73	340	IAmb		IAmb	20 37 22.7		
	comp=Z,25nm,1.4s								
VRAC	Vranov	79.47	319	LR		LR	21 17 58.4		
	comp=Z,23nm,18.3s,baz=88,slow=40								
GERES	GERESS Array B	81.34	319	P		P	20 37 30.3	-0.9	
	comp=Z,0.6nm,0.8s,baz=88,slow=6.0,SNR=2.4								
GERES	GERESS Array B	81.34	319	P		P	20 37 29.1	-2.1	
HFS	Hagfors	82.01	330	LR		LR	21 19 11.9		
	comp=Z,88nm,18.1s,baz=76,slow=39								
NOA	NORSAR Array B	83.28	331	LR		LR	21 19 26.6		
	comp=Z,60nm,16.7s,baz=90,slow=39								
DAVOX	Davos/Dischmat	83.88	316	LR		LR	21 22 32.1		
	comp=Z,22nm,18.2s,baz=81,slow=41								
VNDA	Vanda	89.61	169	LR		LR	21 12 25.9		
	comp=Z,55nm,19.8s,baz=264,slow=32								
TORD	Torodi Ar. Bea	93.17	283	P		P	20 38 29.7	+0.2	
	comp=Z,0.9nm,0.6s,baz=95,slow=5.1,SNR=6.1								
BORG	Borgarnes	96.93	337	LR		LR	21 27 27.6		
	comp=Z,28nm,19.0s,baz=13,slow=38								

*IDC **27** 20:32:17.6±2.1,1°74N×126°35E,h0km,**mb3.5**/3,*
***mb1 3.7**/3,**mb1mx3.3**/41,**mbtmpg3.5**/3,**MS3.4**/1,**Ms1 3.4**/1,*
ms1mx2.5**/27,**Error ellipse: s-maj=189.8km
s-min=25.6km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	22.93	160	P		P	20 37 22.3	-1.3
	1.9nm,0.8s,baz=339,slow=11,SNR=7.6							
ASAR	Alice Springs	26.30	164	P		P	20 37 56.3	+1.1
	0.8nm,0.7s,baz=345,slow=12,SNR=5.5							
USRK	Ussuriysk Ar.	42.58	6	LR		LR	20 58 05.9	
	comp=Z,44nm,20.1s,baz=218,slow=36							
MKAR	Makanchi Array	58.98	326	P		P	20 42 19.0	-0.1
	0.1nm,0.4s,baz=118,slow=7.7,SNR=6.4							

*IDC **27** 20:33:54.5±1.2,17°.96S×167°.66E,h0km,mb4.1/9,*
mb1 4.3/10,mb1mx4.0/37,mbtmpg4.1/10,ML3.6/1,MS3.2/3,
Ms1 3.2/3,ms1mx2.8/25,Error ellipse: s-maj=41.8km
s-min=21.0km az=147.0
*NOU **27** 20:33:55.5, 17°.86S×167°.45E,h0km,MLv4.5, Vanuatu Islands*
*NEIC **27** 20:33:56.0±2.4, 17°.96S±0°.06×167°.6E±0°.1,h10km±1km,*
mb4.4/16,Error ellipse: s-maj=23.6km s-min=10.4km
az=92.0
ISC 27 20:33:56.5±0.6,**17°.92S**±0°.05×**167°.54E**±0°.09,**h10**km,**n42,**
σ1s57°,37,mb4.2/16,MS3.3/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DVP	Devils Point	0.65	73	P		Pb	20 34 09.4	-0.6
SANVU	Saraoutou	2.48	353			Pn	20 34 35.9	-1.1
SANVU	Saraoutou	2.48	353	P		Pn	20 34 36.2	-0.8
LIFNC	LIFOU	2.85	186	P		Pn	20 34 43.1	+1.0
YATNC	Mamie plateau,	4.16	188	P		Pn	20 35 00.4	+0.3
DZM	Mont Dzumac	4.25	194	Pn		Pn	20 35 00.8	-0.7
	3.1nm,0.3s,baz=106,slow=15,SNR=35							
DZM				Sn		Sn	20 35 47.3	-4.0
	17nm,0.3s,baz=125,slow=20,SNR=7.8							
DZM	Mont Dzumac	4.25	194	*e*Pn		Pn	20 35 00.1	-1.4
	17nm,0.2s							
DZM				*e*Sn		Sn	20 35 46.8	-4.5
	112nm,0.3s							
DZM				*e*LR		LR	20 35 55.9	
	comp=Z,287nm,24.6s							
DZM	Mont Dzumac	4.25	194			Pn	20 35 00.0	-1.4
DZM	Mont Dzumac	4.25	194	P		Pn	20 35 00.5	-1.0
ONTNC	Ouen Toro	4.48	193	P		Pn	20 35 06.0	+1.5
OUENC	Ouen Island, N	4.52	188	P		Pn	20 35 07.3	+2.2
HNR	Honiara	11.20	318	LR		LR	20 40 19.5	
	comp=Z,100nm,18.9s,baz=154,slow=34							
CTA	Charters Tower	20.24	260	P		Pn	20 38 33.9	-0.1
	4.1nm,0.8s,baz=88,slow=18,SNR=4.5							
RABL	Rabaul	20.32	310	P		Pn	20 38 36.4	+1.4
PMG	Port Moresby	21.52	290	LR		LR	20 46 15.7	
	comp=Z,74nm,18.6s,baz=129,slow=34							
URZ	Urewera	21.93	159	P		P	20 38 51.2	+1.1
URZ				IAmb		IAmb	20 39 10.1	
	comp=Z,18nm,1.1s							
BKZ	Black Stump Fm	22.56	162	P		P	20 38 58.6	+1.7
BKZ				IAmb		IAmb	20 39 10.7	
	comp=Z,24nm,1.4s							
STKA	Stephens Creek	27.24	234	P		P	20 39 41.6	+0.7
	comp=Z,4.5nm,0.9s,baz=70,slow=9.4,SNR=7.4							
STKA	Stephens Creek	27.24	234	P		P	20 39 38.5	-2.4
WR0	Warramunga Arr	31.25	261	P		P	20 40 16.4	-0.3
WR0				IAmb		IAmb	20 40 24.1	
	comp=Z,4.4nm,1.1s							
WB0	Warramunga Arr	31.39	261	P		P	20 40 17.3	-0.6
WB0				IAmb		IAmb	20 40 36.4	
	comp=Z,8.0nm,1.4s							
WB2	Warramunga Arr	31.43	261	P		P	20 40 18.2	-0.1
WB2				IAmb		IAmb	20 40 29.8	
	comp=Z,6.0nm,1.0s							
WRA	Warramunga Arr	31.44	261	P		P	20 40 17.5	-0.8
	comp=Z,1.4nm,0.9s,baz=92,slow=9.1,SNR=8.7							
WRA	Warramunga Arr	31.44	261	P		P	20 40 18.1	-0.3
AS31	Alice Springs	31.91	254	P		P	20 40 22.3	-0.2
ASAR	Alice Springs	31.91	254	P		P	20 40 22.1	-0.4
	comp=Z,1.6nm,0.5s,baz=81,slow=8.3,SNR=42							
BBOO	Buckleboo	31.93	236	P		P	20 40 23.1	+0.6
FAKI	Fak Fak	37.66	289	P		P	20 41 11.9	-0.3
FAKI				IAmb		IAmb	20 41 16.8	
	comp=Z,8.8nm,0.9s							
FORT	Forrest	37.98	243	P		P	20 41 15.6	+0.8
FITZ	Fitzroy Crossi	39.78	263	P		P	20 41 30.1	+0.1
	comp=Z,9.0nm,0.8s,baz=128,slow=6.8,SNR=12							
FITZ	Fitzroy Crossi	39.78	263	P		P	20 41 30.9	+0.9
FITZ				IAmb		IAmb	20 41 32.2	
	comp=Z,8.5nm,0.8s							
PPT2	Papeete2	40.78	96	*e*LR		LR	20 53 12.3	
	comp=Z,102nm,31.2s							
NWAO	Narrogin (SRO)	47.40	242	P		P	20 42 31.2	0.0
MJAR	Matsushiro Arr	60.85	333	LR		LR	21 09 24.0	
	comp=Z,15nm,20.1s,baz=225,slow=35							
QSPA	South Pole Qui	72.12	180	P		P	20 45 21.4	+0.3
QSPA				IAmb		IAmb	20 45 45.9	
	comp=Z,3.8nm,0.9s	

N25K	**Chitina, Valde**	**15.99**	**48**	P	**P**	**20 45 48.6**	**+0.3**
N25K				IAmb	IAmb	20 45 58.4	
	comp=Z,14nm,1.5s						
GLB	**Gilahina Butte**	**16.29**	**49**	P	**P**	**20 45 52.3**	**+0.8**
VRDI	**Verde Repeater**	**16.38**	**50**	P	**Pn**	**20 45 54.0**	**+0.2**
IL31		**16.55**	**36**	P	**Pn**	**20 45 54.9**	**-0.7**
IL31				IAmb	IAmb	20 46 21.0	
	comp=Z,6.1nm,1.5s						
ILAR	**Eielson Array**	**16.55**	**36**	P	**P**	**20 45 54.5**	**+0.2**
DOT	**Dot Lake**	**17.04**	**41**	P	**P**	**20 46 00.3**	**+0.5**
SCRK	**Sand Creek**	**17.22**	**40**	P	**P**	**20 46 01.6**	**-0.2**
SCRK				IAmb	IAmb	20 46 07.4	
	comp=Z,5.7nm,1.5s						
TOLK	**Toolik Lake Re**	**18.33**	**24**	P	**P**	**20 46 14.1**	**+0.4**
TOLK				IAmb	IAmb	20 46 42.4	
	comp=Z,5.9nm,1.6s						
INK	**Inuvik**	**22.93**	**34**	P	**P**	**20 47 00.7**	**+0.2**

IDC ***27*** *20:54:39.1±2.0,36.˙54N×143.˙14E,h0km,mb3.4/4, mb1 3.6/6,mb1mx3.3/53,mbtmp3.5/6,ML3.0/2,Error ellipse: s-maj=59.0km s-min=22.4km az=84.0*
JMA ***27*** *20:54:43.6±0.3,36.˙57N×143.˙09E,h54km,M3.0*
ISC 27 20:54:43.0±1.3**,36˚52N**±0˙06×**143˚15E**±0˙09**,h29**km**,n14,** σ1ŝ**10**/21**,mb3.4/4,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.98**	**288**	*eS*	**Sn**	**20 55 37.8**	**-0.6**
JFK	**Kawauchi**	**2.01**	**295**	P	**Pn**	**20 55 15.0**	**0.0**
JFK				*eS*	**Sn**	**20 55 38.2**	**-1.0**
JHYU	**Hitachinakayam**	**2.08**	**266**	P	**Pn**	**20 55 16.5**	**+0.6**
JHYU				*eS*	**Sn**	**20 55 40.3**	**-0.5**
JHO	**Hitachi**	**2.08**	**273**	P	**Pn**	**20 55 16.3**	**+0.3**
JHO				*eS*	**Sn**	**20 55 40.3**	**-0.7**
JFT	**Otama**	**2.46**	**295**	P	**Pn**	**20 55 22.2**	**+1.0**
JFT				*eS*	**Sn**	**20 55 50.0**	**-0.4**
JMK	**Ichinoseki**	**2.87**	**328**	P	**Pn**	**20 55 26.4**	**-0.4**
JAG	**Ashikaga**	**2.98**	**269**	P	**Pn**	**20 55 29.3**	**+0.9**
JAG				*eS*	**Sn**	**20 56 02.5**	**-0.7**
JYK	**Kaneyama**	**3.26**	**318**	P	**Pn**	**20 55 38.2**	**+0.4**
JHJ	**Hachijo jima 2**	**4.38**	**220**	Pn	**Pn**	**20 55 46.1**	**-1.6**
	2.1nm,0.3s,baz=68,slow=17,SNR=1.9						
JHJ				Sn	**Sn**	**20 56 35.0**	**-2.7**
	3.4nm,0.3s,baz=159,slow=3.8,SNR=1.9						
ASAJ	**Asahikawa**	**7.60**	**357**	Pn	**Pn**	**20 56 29.8**	**-2.0**
	0.2nm,0.3s,baz=184,slow=32,SNR=1.7						
ASAJ				Sn	**Sn**	**20 57 56.3**	**-0.5**
	0.3nm,0.3s,baz=126,slow=23,SNR=2.4						
MKAR	**Makanchi Array**	**45.57**	**303**	P	**P**	**21 03 00.5**	**+0.2**
	0.1nm,0.5s,baz=96,slow=9.0,SNR=2.2						
KURBB	**Kurchatov Arra**	**47.41**	**309**	P	**P**	**21 03 15.6**	**+1.0**
	0.4nm,0.3s,baz=88,slow=7.5,SNR=7.9						
WRA	**Warramunga Arr**	**56.77**	**190**	P	**P**	**21 04 24.4**	**0.0**
	0.6nm,0.8s,baz=14,slow=7.5,SNR=3.0						
ASAR	**Alice Springs**	**60.50**	**190**	P	**P**	**21 04 51.5**	**+1.1**
	0.1nm,0.5s,baz=13,slow=8.6,SNR=1.8						

HEL ***27*** *21:01:38.1±0.5,67˙60N×34˙03E,h0km,ML2.2,Explosion*
NAO ***27*** *21:01:40.3±1.0,67˙68N×33˙64E,ML3.0*
IDC ***27*** *21:01:40.4±0.9,67˙79N×33˙84E,h0km,mb3.4/2, mb1 3.4/7,mb1mx3.2/50,mbtmp3.4/7,ML2.4/5,Error ellipse: s-maj=11.6km s-min=7.9km az=42.0*
ISC 27 21:01:37.7±0.9**,67˚54N**±0˙04×**33.79E**±0˙05**,h0**km**,n42,** σ2ŝ**07**/76**,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.15**	**281**	Pg	**Pg**	**21 01 42.5**	**+1.9**
APZ9				Lg	Lg	21 01 45.2	
APZ9	**Apatity**	**0.15**	**281**	Pg	**Pg**	**21 01 42.5**	**+1.9**
APZ9				Sg	**Sg**	**21 01 45.2**	**+2.7**
APA0	**Apatity Array**	**0.31**	**283**	Pg	**Pg**	**21 01 45.0**	**+1.3**
	baz=87,slow=18						
APA0				Lg	Lg	21 01 49.1	
APA0				Rg	Rg	21 01 50.2	
APA0	**Apatity Array**	**0.31**	**283**	Pg	**Pg**	**21 01 45.0**	**+1.3**
	baz=87,slow=18						
APA0				Sg	**Sg**	**21 01 49.1**	**+1.4**
VRF	**Varrio**	**1.61**	**279**	PG	**Pn**	**21 02 07.8**	**+0.4**
VRF				SG	**Sn**	**21 02 28.1**	**-0.8**
VRF				MSG		21 02 28.6	
	comp=Z,23nm,0.2s						
KU6	**Riekki**	**2.17**	**227**	PG	**Pb**	**21 02 18.3**	**+0.5**
KU6				MSG		21 02 45.5	
	comp=Z,8.7nm,0.2s						
KU6				SG	**Sg**	**21 02 48.6**	**+1.4**
MSF	**Maaselka**	**2.50**	**231**	PB	**Pb**	**21 02 23.3**	**-0.1**
	baz=52						
MSF				SG	**Sg**	**21 02 58.0**	**+0.2**
SGF	**Sodankyl**	**2.80**	**271**	PN	**Pn**	**21 02 24.9**	**+1.2**
RNF	**Rovaniemi**	**3.18**	**257**	PN	**Pn**	**21 02 31.0**	**+2.0**
	baz=70						
RNF				SN	**Sn**	**21 03 09.9**	**+2.3**
KEV	**Kevo**	**3.33**	**315**	*eP*	**Pn**	**21 02 32.0**	**+1.0**
KEV				*eS*	**Sn**	**21 03 10.1**	**-1.1**
KEV	**Kevo**	**3.33**	**315**	PN	**Pn**	**21 02 31.9**	**+0.9**
	baz=124						
KEV				SN	**Sn**	**21 03 10.5**	**-0.7**
ARA0	**ARCESS Array S**	**3.64**	**307**	Pn	**Pn**	**21 02 35.8**	**+0.5**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**21 02 44.7**	**+1.7**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**21 03 17.2**	**-1.7**
	baz=118,slow=28						
ARA0				Lg	Lg	21 03 28.0	
	baz=112,slow=37						
ARA0	**ARCESS Array S**	**3.64**	**307**	Pn	**Pn**	**21 02 35.8**	**+0.5**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**21 02 44.7**	**+1.7**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**21 03 17.2**	**-1.7**
	baz=118,slow=28						
ARA0				IAML		21 03 36.8	
	comp=Z,34nm,0.6s						
ARCES	**ARCESS Array B**	**3.64**	**307**	Pn	**Pn**	**21 02 35.8**	**+0.5**
	baz=120,slow=15,SNR=159						
ARCES				Pg	**Pb**	**21 02 44.4**	**+1.4**
	baz=114,slow=15,SNR=23						
ARCES				Sn	**Sn**	**21 03 17.4**	**-1.5**
	baz=119,slow=25,SNR=18						
ARCES				Lg	Lg	21 03 28.1	
	baz=114,slow=29,SNR=13						
HEF	**Hetta**	**3.91**	**288**	*eP*	**Pn**	**21 02 40.0**	**+1.0**
HEF				*eS*	**Sn**	**21 03 23.4**	**-2.2**
HEF	**Hetta**	**3.91**	**288**	PN	**Pn**	**21 02 39.5**	**+0.5**
HEF				SN	**Sn**	**21 03 26.1**	**+0.5**
TOF	**Tornio**	**4.02**	**253**	PG	**Pb**	**21 02 52.3**	**+3.0**
TOF				SN	**Sn**	**21 03 29.6**	**+1.5**
OUL	**Oulu**	**4.03**	**236**	PB	**Pb**	**21 02 48.4**	**-1.0**
OUL				SG	**Sg**	**21 03 48.4**	**+1.5**
PAJU	**Pajala**	**4.17**	**268**	PN	**Pn**	**21 02 45.9**	**+3.3**
	baz=82						
PAJU				SN	**Sn**	**21 03 31.8**	**-0.2**
KTK1	**Kautokeino**	**4.19**	**295**	Pn	**Pn**	**21 02 43.4**	**+0.6**
KTK1				Pg	**Pb**	**21 02 53.8**	**+1.6**
KTK1				Sn	**Sn**	**21 03 30.6**	**-1.8**
KTK1				Lg	Lg	21 03 46.1	
KTK1	**Kautokeino**	**4.19**	**295**	*eP*	**Pn**	**21 02 43.7**	**+0.9**
KTK1				*eS*	**Sn**	**21 03 30.1**	**-2.2**
KTK1				IAML		21 03 53.5	
	comp=Z,43nm,0.7s						
KALU	**Kalix**	**4.47**	**253**	PG	**Pg**	**21 03 02.2**	**-1.1**
LANU	**Lannavaara**	**4.51**	**282**	PN	**Pn**	**21 02 47.8**	**+0.6**
LANU				SG	**Sg**	**21 03 59.4**	**-2.9**
HAMF	**Hammerfest**	**4.77**	**315**	*eP*	**Pn**	**21 02 51.4**	**+0.7**
HAMF				*eS*	**Sn**	**21 03 43.1**	**-3.6**
HAMF				IAML		21 04 17.5	
	comp=Z,43nm,0.6s						
KIF	**Kilpisjarvi**	**5.04**	**293**	Pn	**Pn**	**21 02 55.1**	**+0.7**
KIF				Sn	**Sn**	**21 03 51.6**	**-1.7**
KIF	**Kilpisjarvi**	**5.04**	**293**	Pn	**Pn**	**21 02 55.1**	**+0.7**
KIF				Sn	**Sn**	**21 03 51.6**	**-1.7**
JETT	**Jettan, Norway**	**5.31**	**299**	*eP*	**Pn**	**21 02 58.0**	**-0.1**
JETT				*eS*	**Sn**	**21 03 56.7**	**-3.2**
FIA0	**FINESS Array S**	**6.96**	**212**	Pn	**Pn**	**21 03 23.8**	**+2.9**
	baz=27,slow=14						
FIA0				Sn	**Sn**	**21 04 40.5**	**-0.1**
	baz=36,slow=22						
FIA0	**FINESS Array S**	**6.96**	**212**	Pn	**Pn**	**21 03 23.8**	**+2.9**
	baz=27,slow=14						
FIA0				Sn	**Sn**	**21 04 40.5**	**-0.1**
	baz=36,slow=22						
FINES	**FINESS Array B**	**6.96**	**212**	Pn	**Pn**	**21 03 25.2**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=34,slow=12,SNR=4.9						
FINES				Sn	**Sn**	**21 04 44.1**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=22,slow=22,SNR=5.2						
FINES				Lg	Lg	21 05 17.3	
	comp=Z,1.8nm,0.3s,baz=26,slow=28,SNR=11						
HFS	**Hagfors**	**11.51**	**239**	Pn	**Pn**	**21 04 23.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=33,slow=14,SNR=4.9						
HFS				Sn	**Sn**	**21 06 27.8**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=50,slow=23,SNR=2.9						
HFS				Lg	Lg	21 07 40.9	
	comp=Z,0.3nm,0.3s,baz=59,slow=26,SNR=2.9						
HFS	**Hagfors**	**11.51**	**239**	Pn	**Pn**	**21 04 22.8**	**-0.3**
	baz=28,slow=12						
HFS				Sn	**Sn**	**21 06 27.7**	**-4.5**
	baz=60,slow=28						
HFS	**Hagfors**	**11.51**	**239**	Pn	**Pn**	**21 04 22.8**	**-0.3**
	baz=28,slow=12						
HFS				Sn	**Sn**	**21 06 27.7**	**-4.5**
	baz=60,slow=28						
NB2	**NORSAR Subarra**	**11.71**	**247**	Pn	**Pn**	**21 04 26.4**	**+0.5**
	baz=50,slow=12						
NB2	**NORSAR Subarra**	**11.71**	**247**	Pn	**Pn**	**21 04 26.4**	**+0.5**
	baz=50,slow=12						
NOA	**NORSAR Array B**	**11.71**	**247**	Pn	**Pn**	**21 04 26.3**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=48,slow=10,SNR=5.8						
NOA				Sn	**Sn**	**21 06 31.2**	**-5.9**
	comp=Z,0.0nm,0.3s,baz=47,slow=23,SNR=4.0						
NOA				Lg	Lg	21 07 43.7	
	comp=Z,0.0nm,0.3s,baz=341,slow=15,SNR=5.9						
SPA0	**Spitsbergen Ar**	**11.77**	**342**	Pn	**Pn**	**21 04 23.5**	**-3.0**
	baz=148,slow=22						
SPA0	**Spitsbergen Ar**	**11.77**	**342**	Pn	**Pn**	**21 04 23.5**	**-3.0**
	baz=148,slow=22						
ARU	**Arti**	**15.96**	**122**	Pn	**Pn**	**21 05 21.8**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=320,slow=10,SNR=7.6						
ARU				Sn	Sn	21 08 10.6	-10
	comp=Z,0.0nm,0.3s,baz=176,slow=23,SNR=2.3						
AKASG	**Malin Array Be**	**17.04**	**190**	P	**Pn**	**21 05 36.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=8.2,slow=12,SNR=4.6						
KURBB	**Kurchatov Arra**	**27.68**	**105**	P	**P**	**21 07 28.7**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=326,slow=8.0,SNR=1.6						
MKAR	**Makanchi Array**	**32.25**	**105**	P	**P**	**21 08 09.6**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=347,slow=7.0,SNR=4.6						

NIC ***27*** *21:19:19.2±0.0,36˙61N×34˙34E,h3km,ML1km,Ml2.6/2*
ISK ***27*** *21:19:22.5,36˙24N×34˙89E,h8km,ML3.1/26*
ISC 27 21:19:23.3±0.9**,36˚28N**±0˙04×**34˚85E**±0˙03**,h10**km**,n32,** σ1ŝ**13**/36**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRTS	**Karatas**	**0.52**	**55**	PG	**Pg**	**21 19 33.4**	**+0.1**
KRTD	**Karatas-Adana**	**0.55**	**55**	PG	**Pg**	**21 19 33.1**	**-1.0**
KIZK	**Mersin**	**0.60**	**290**	PG	**Pg**	**21 19 35.1**	**+0.1**
MERS	**Mersin**	**0.64**	**336**	PG	**Pb**	**21 19 36.2**	**-0.5**
SLFK	**Silifke-Mersin**	**0.74**	**279**	PG	**Pg**	**21 19 37.4**	**-0.1**
SILI	**Silifke-Mersin**	**0.75**	**277**	PG	**Pb**	**21 19 39.2**	**+0.7**
KARG	**Kargicak-Mersi**	**0.93**	**266**	PG	**Pg**	**21 19 41.6**	**+0.5**
EREN	**Erenkoy**	**0.93**	**217**	PG	**Pg**	**21 19 40.4**	**-0.8**
IKL	**Isikli**	**0.94**	**268**	PG	**Pg**	**21 19 41.9**	**+0.5**
IKL				SG	**Sn**	**21 19 56.2**	**+0.1**
TISA	**Tisan-Mersin**	**0.95**	**263**	PG	**Pg**	**21 19 41.4**	**-0.2**
YESI	**Yesilovacik-Me**	**0.98**	**265**	PG	**Pb**	**21 19 42.9**	**+0.6**
KARA	**Karaisali**	**0.99**	**10**	PG	**Pg**	**21 19 42.1**	**-0.3**
KARA				SG	**Sn**	**21 19 57.8**	**+0.4**
CEYT	**Ceyhan**	**1.03**	**44**	PG	**Pg**	**21 19 41.9**	**-1.2**
TEPK	**Tepekoy-MERSIN**	**1.05**	**267**	PN	**Pg**	**21 19 43.3**	**-0.3**
AKKU	**Akkuyu-Mersin**	**1.06**	**264**	PN	**Pg**	**21 19 43.5**	**-0.1**
AKK2	**Akkuyu-Mersin**	**1.06**	**263**	PN	**Pg**	**21 19 43.7**	**0.0**
AKK1	**Akkuyu-Mersin**	**1.07**	**263**	PN	**Pg**	**21 19 44.1**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.08**	**85**	PG	**Pg**	**21 19 43.9**	**-0.2**
TEVE	**Tevekalti-Mers**	**1.15**	**278**	PN	**Pb**	**21 19 45.5**	**+0.3**
BERE	**Bereket-Mersin**	**1.31**	**273**	PN	**Pg**	**21 19 48.9**	**+0.3**
CMRD	**Camardi-Nigde**	**1.39**	**5**	PN	**Pb**	**21 19 49.3**	**-0.1**
KOZT	**Kozan**	**1.43**	**33**	PN	**Pn**	**21 19 49.3**	**-0.1**
PARAL	**Paralimni**	**1.44**	**207**	P	**Pn**	**21 19 48.7**	**-0.7**
PARAL				S	**Sg**	**21 20 11.6**	**+1.9**
KRMN	**Karaman**	**1.56**	**306**	PN	**Pn**	**21 19 51.3**	**+0.2**
MVOU	**Mavrovouni**	**1.60**	**219**	P	**Pn**	**21 19 48.2**	**-3.5**
MVOU				S	**Sn**	**21 20 12.7**	**+0.3**
MVOU				AML	AML	21 20 23.7	
	0.3nm,0.6s						
MVOU				AML	AML	21 20 23.7	
	0.3nm,0.6s						
MVOU				AML	AML	21 20 27.6	
	0.2nm,0.9s						
MVOU				AML	AML	21 20 27.6	
	0.2nm,0.9s						
YESY	**Yesilyurt**	**1.74**	**330**	PN	**Pb**	**21 19 54.9**	**-0.5**
CSS	**Mathiatis**	**1.81**	**224**	P	**Pn**	**21 19 51.4**	**-3.1**
KMRS	**Kahramanmaras**	**2.05**	**53**	PN	**Pn**	**21 19 58.8**	**+0.9**
GAZ	**Gaziantep**	**2.10**	**64**	PN	**Pn**	**21 19 57.8**	**-0.8**
GAZ	**Gaziantep**	**2.10**	**64**	P	**Pn**	**21 19 58.8**	**+0.3**
GAZ				AML	AML	21 20 45.1	
	0.1nm,0.6s						
GAZ				AML	AML	21 20 45.6	
	0.1nm,0.8s						
SZAC	**Souni**	**2.21**	**227**	S	**Sn**	**21 20 25.8**	**-1.6**
MMLI	**Mount Malkishu**	**3.86**	**173**	P	**Pn**	**21 20 25.3**	**+2.5**

IDC ***27*** *21:44:24.7±1.6,7˙58N×126˙67E,h140km±13km,mb3.8/20, mb1 3.9/22,mb1mx3.8/44,mbtmp4.2/22,Error ellipse: s-maj=30.3km s-min=9.1km az=63.0*
NEIC ***27*** *21:44:25.6±1.9,7˙56N±0˙08×126˙56E±0˙09,h151km±7km, mb4.3/46,Error ellipse: s-maj=13.2km s-min=11.8km az=53.0*
ISC 27 21:44:25.6±0.6**,7˚48N**±0˙04×**126˚51E**±0˙06**,h148**km±5km**, n95,** σ1ŝ**12**/111**,mb4.3**/44**,2C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.58**	**206**	*eP*	**Pn**	**21 44 45.6**	**-1.6**
MATI				*eS*	**Sn**	**21 45 03.7**	**0.0**
DAV	**Davao City (W)**	**1.01**	**247**	P	**Pn**	**21 44 50.5**	**+0.2**
	128nm,0.3s,baz=331,slow=0.8,SNR=4.0						
DAV				S	**Sn**	**21 45 09.9**	**+0.8**
	134nm,0.3s,baz=319,slow=23,SNR=3.2						
KCP	**Kidapawan**	**1.49**	**252**	*i* P	**Pn**	**21 44 54.5**	**-0.4**
KCP				*i* S	**Sn**	**21 45 18.6**	**+1.3**
DDMP	**Don Marcelino,**	**1.58**	**210**	*eP*	**Pn**	**21 44 54.7**	**-1.2**
DDMP				*eS*	**Sn**	**21 45 18.2**	**-0.9**
BUTP	**Butuan**	**1.73**	**329**	*eP*	**Pn**	**21 44 57.8**	**+0.3**
BUTP				*eS*	**Sn**	**21 45 22.9**	**+0.9**
CGP	**Cagayan de Oro**	**2.05**	**298**	*eP*	**Pn**	**21 45 00.8**	**-0.3**
CGP				*eS*	**Sn**	**21 45 27.5**	**-1.0**
SKMP	**Bagumbayan, Su**	**2.17**	**244**	*eP*	**Pn**	**21 45 00.4**	**-2.3**
SKMP				*eS*	**Sn**	**21 45 26.8**	**-4.4**
MSLP	**Maasin**	**3.11**	**328**	*eP*	**Pn**	**21 45 13.1**	**-1.2**
MSLP				*eS*	**Sn**	**21 45 50.7**	**-1.2**
PAGZ	**Pagadian**	**3.13**	**277**	*eP*	**Pn**	**21 45 13.4**	**-1.1**
PAGZ				*eS*	Sn	21 45 34.5	-18
TNTI	**Ternate**	**6.71**	**173**	Pn	**Pn**	**21 46 02.7**	**+0.8**
MYLDM	**Lahad Datu**	**8.29**	**254**		**Pn**	**21 46 25.7**	**+2.8**
TOLI2	**Tolitoli**	**8.52**	**222**	Pn	**Pn**	**21 46 24.1**	**-1.9**
SIJI	**Sorong**	**9.55**	**150**	P	**Pn**	**21 46 40.1**	**+0.3**
	3.3nm,0.3s,baz=142,slow=23,SNR=16						
SIJI				S	**Sn**	**21 48 22.4**	**-3.2**
	0.9nm,0.3s,baz=236,slow=23,SNR=5.9						
FAKI	**Fak Fak**	**11.81**	**151**	Pn	**Pn**	**21 47 12.7**	**+3.2**
SBUM	**Sibu**	**15.09**	**251**	P	**P**	**21 47 53.7**	**+0.7**
SBUM				IAmb	IAmb	21 47 56.5	
	comp=Z,8.8nm,0.6s						
YULB	**Yu-li**	**16.60**	**343**	P	**P**	**21 48 09.6**	**-0.1**
YULB				IAmb	IAmb	21 48 28.6	
	comp=Z,9.8nm,0.9s						
KSM	**Kuching**	**17.21**	**251**	P	**Pn**	**21 48 18.8**	**+1.5**
SOEI	**Soe**	**17.26**	**187**	P	**Pn**	**21 48 19.5**	**+1.6**
BATI	**Baumata**	**17.79**	**189**	P	**Pn**	**21 48 25.1**	**+0.9**
	comp=Z,9.9nm,0.3s,baz=314,slow=2.5,SNR=3.7						
DLV	**T Lat**	**18.31**	**285**	P	**Pn**	**21 48 30.7**	**+0.2**
QIZ	**Qiongzhong**	**19.86**	**307**	P	**P**	**21 48 44.9**	**-0.4**
QIZ				IAmb	IAmb	21 48 50.6	
	comp=Z,14nm,1.1s						
MTN	**Manton Dam**	**20.70**	**167**	P	**P**	**21 48 55.3**	**+1.1**
MTN				IAmb	IAmb	21 48 57.7	
	comp=Z,9.8nm,0.7s						
JCJ	**Chichijima**	**24.54**	**35**	P	**P**	**21 49 30.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**25.43**	**182**	P	**P**	**21 49 40.5**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=7.5,slow=6.6,SNR=11						
FITZ	**Fitzroy Crossi**	**25.43**	**182**	P	**P**	**21 49 40.4**	**+0.8**
FITZ				IAmb	IAmb	21 49 41.9	
	comp=Z,8.9nm,1.1s						
GYA	**Guiyang**	**26.70**	**317**	*eP*	**P**	**21 49 52.3**	**+1.1**
GYA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
COEN	**Coen**	**26.96**	**142**	P	**P**	**21 49 54.6**	**+1.1**
WB0	**Warramunga Arr**	**28.16**	**164**	P	**P**	**21 50 04.0**	**-0.2**
WRA	**Warramunga Arr**	**28.31**	**164**	P	**P**	**21 50 05.0**	**-0.6**
	comp=Z,0.6nm,0.2s,baz=282,slow=5.1,SNR=29						
WRA				PcP	**PcP**	**21 53 15.6**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=332,slow=2.5,SNR=5.5						
WRA	**Warramunga Arr**	**28.31**	**164**	P	**P**	**21 50 06.8**	**+1.3**
WB2	**Warramunga Arr**	**28.32**	**164**	P	**P**	**21 50 05.5**	**0.0**
WB2				IAmb	IAmb	21 50 19.5	
	comp=Z,5.4nm,1.1s						
WR0	**Warramunga Arr**	**28.38**	**164**	P	**P**	**21 50 06.2**	**+0.1**
KMI	**Kunming**	**28.70**	**310**	⇑P	**P**	**21 50 10.8**	**+1.7**
KMI				pP	sP	21 50 54.8	-2.9
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,120nm,4.1s						
CMAR	**Chiang Mai Arr**	**28.95**	**295**	P	**P**	**21 50 11.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=102,slow=7.5,SNR=6.9						
CMAR				PcP	**PcP**	**21 53 18.1**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=122,slow=1.2,SNR=5.3						
GSI	**Gunungsitoli**	**29.48**	**259**	P	**P**	**21 50 15.3**	**-0.7**
PSA00	**Pilbara Seismi**	**29.60**	**193**	P	**P**	**21 50 17.3**	**+0.5**
PSA00				IAmb	IAmb	21 50 23.5	
	comp=Z,8.0nm,0.9s						
XAN	**Xi'an**	**31.03**	**331**	P	**P**	**21 50 27.4**	**-2.0**
XAN				IAmb	IAmb	21 50 29.2	
	comp=Z,3.8nm,0.8s						
CD2	**Chengdu**	**31.57**	**321**	P	**P**	**21 50 34.5**	**+0.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
AS31	**Alice Springs**	**31.78**	**167**	P	**P**	**21 50 36.5**	**+0.4**
AS31				IAmb	IAmb	21 50 38.2	
	comp=Z,2.1nm,0.3s						
ASAR	**Alice Springs**	**31.78**	**167**	P	**P**	**21 50 36.6**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=345,slow=7.2,SNR=31						
ASAR				PcP	**PcP**	**21 53 24.7**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=346,slow=2.3,SNR=12						
LZH	**Lanzhou**	**35.22**	**327**	*eP*	**P**	**21 51 07.0**	**+1.1**
LZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**35.81**	**340**	*eP*	**P**	**21 51 11.5**	**+0.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,77nm,4.9s						
SHL	**Shillong**	**37.59**	**303**	P	**P**	**21 51 26.0**	**-0.1**
SHL				IAmb	IAmb	21 51 26.5	
	comp=Z,4.2nm,0.6s						
MORW	**Morawa**	**37.71**	**195**	P	**P**	**21 51 27.3**	**+0.4**
MORW				IAmb	IAmb	21 51 28.0	
	comp=Z,6.3nm,0.7s						
FORT	**Forrest**	**38.06**	**178**	P	**P**	**21 51 30.6**	**+0.8**
GTA	**Gaotai**	**39.82**	**327**	⇑P	**P**	**21 51 45.0**	**+0.4**
GTA				pP	pP	21 52 22.3	+5.2
GTA				sP	sP	21 52 45.5	+12
GTA				PcP	**PcP**	**21 53 49.5**	**+1.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,33nm,5.1s						
GTA				LR	LR		
	comp=N,58nm,13.4s						
GTA				LR	LR		
	comp=E,66nm,13.1s						
GTA				LR	LR		
	comp=Z,86nm,15.3s						
BBOO	**Buckleboo**	**41.08**	**168**	P	**P**	**21 51 56.0**	**+1.2**
BBOO				IAmb	IAmb	21 52 12.5	
	comp=Z,11nm,1.1s						
NWAO	**Narrogin (SRO)**	**41.14**	**192**	P	**P**	**21 51 54.1**	**-1.1**
NWAO				IAmb	IAmb	21 52 10.8	
	comp=Z,9.3nm,1.1s						
NWAO	**Narrogin (SRO)**	**41.14**	**192**	P	**P**	**21 51 54.5**	**-0.7**
NWAO				IAmb	IAmb	21 52 10.7	
	comp=Z,7.5nm,1.1s						
STKA	**Stephens Creek**	**41.70**	**161**	P	**P**	**21 52 00.8**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=339,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**41.70**	**161**	P	**P**	**21 52 00.8**	**+0.9**
**UL

comp=Z,0.2nm,0.5s,baz=227,slow=5.8,SNR=4.8
ARCES ARCESS Array B 86.88 340 P P 21 56 53.0 -0.2
comp=Z,3.9nm,0.9s,baz=69,slow=6.8,SNR=3.6
VNDA Vanda 87.14 173 P P 21 56 54.8 +0.6
comp=Z,0.7nm,0.6s,baz=313,slow=8.0,SNR=5.8
BRTR Keskin Array B 87.48 310 P P 21 56 56.1 -0.9
comp=Z,1.0nm,0.7s,baz=304,slow=37,SNR=4.9
FINES FINESS Array B 88.45 332 P P 21 57 00.1 -0.7
comp=Z,2.3nm,0.9s,baz=83,slow=6.0,SNR=7.2
FINES FINESS Array B 88.45 332 P P 21 56 59.6 -1.2
AKASG Malin Array Be 88.87 321 P P 21 57 02.4 -0.7
comp=Z,0.3nm,0.3s,baz=66,slow=4.7,SNR=6.3
HFS Hagfors 94.62 332 P P 21 57 29.0 -0.5
comp=Z,2.5nm,1.0s,baz=90,slow=8.9,SNR=1.9
GERES GERESS Array B 99.03 322 P Pdif 21 57 49.6 -0.2
comp=Z,0.7nm,0.8s,baz=19,slow=4.8,SNR=5.2
TORD Torodi Ar. Bea 121.49 290 PKP PKiKP 22 03 02.8 +0.2
comp=Z,0.6nm,0.7s,baz=30,slow=2.0,SNR=4.9

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*BEO **27** 21:48:28.2±0.8, 45°.68N×27°.61E, h96km±5km, ML2.9/4*
*IASPEI **27** 21:48:33.2±1.8, 45°.82N±0°.03×26°.72E±0°.03, h123km±10km, Error ellipse: s-maj=5.0km s-min=4.7km az=128.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*BUC **27** 21:48:33.9±0.3, 45°.79N×26°.69E, h115km±2km, ml3.7/42, Error ellipse: s-maj=2.0km s-min=1.7km az=143.0*
*SOF **27** 21:48:36.0, 45°.60N×26°.76E, h28km, MD2.8*
ISC 27 21:48:32.2±1.3, 45°.81N±0°.03×26°.70E±0°.03, h130km±6km, n110, σ1§03/176, 102C-57D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLOR	**Plostina**	**0.05**	**323**	⇑P		**Pn**	**21 48 50.1**	**+0.3**
PLOR				⇑S		**Sn**	**21 49 01.9**	**-1.4**
PLOR	**Plostina**	**0.05**	**323**	⇓P		**Pn**	**21 48 50.1**	**+0.3**
PLOR				⇓S		**Sn**	**21 49 01.9**	**-1.4**
VRI	**Vrincioaia**	**0.06**	**22**	⇑P		**Pn**	**21 48 50.2**	**+0.4**
VRI				⇑S		**Sn**	**21 49 01.7**	**-1.5**
VRI	**Vrincioaia**	**0.06**	**22**	⇓P		**Pn**	**21 48 50.2**	**+0.4**
VRI				⇓S		**Sn**	**21 49 01.7**	**-1.5**
ODBI	**Odobesti**	**0.26**	**100**	⇓P		**Pn**	**21 48 51.2**	**+1.0**
ODBI				⇓S		**Sn**	**21 49 03.4**	**-0.4**
ODBI	**Odobesti**	**0.26**	**100**	⇓P		**Pn**	**21 48 51.2**	**+1.0**
ODBI				⇓S		**Sn**	**21 49 03.4**	**-0.4**
BISRR	**Bisoca**	**0.26**	**178**	⇑P		**Pn**	**21 48 50.9**	**+0.6**
BISRR	**Bisoca**	**0.26**	**178**	⇑P		**Pn**	**21 48 50.9**	**+0.6**
PETR	**Petresti**	**0.39**	**103**	⇓P		**Pn**	**21 48 51.2**	**+0.6**
PETR				⇑S		**Sn**	**21 49 04.1**	**-0.5**
PETR	**Petresti**	**0.39**	**103**	⇓P		**Pn**	**21 48 51.2**	**+0.6**
PETR				⇑S		**Sn**	**21 49 04.1**	**-0.5**
GRER		**0.47**	**155**	⇑P		**Pn**	**21 48 52.4**	**+1.3**
GRER				⇑S		**Sn**	**21 49 04.5**	**-0.9**
GRER		**0.47**	**155**	⇑P		**Pn**	**21 48 52.4**	**+1.3**
GRER				⇑S		**Sn**	**21 49 04.5**	**-0.9**
NEHR	**Nehoiu**	**0.47**	**216**	⇑P		**Pn**	**21 48 52.1**	**+0.9**
NEHR				⇑S		**Sn**	**21 49 04.2**	**-1.3**
NEHR	**Nehoiu**	**0.47**	**216**	⇑P		**Pn**	**21 48 52.1**	**+0.9**
NEHR				⇑S		**Sn**	**21 49 04.2**	**-1.3**
GHRR		**0.56**	**63**	⇑P		**Pn**	**21 48 52.5**	**+0.9**
GHRR				⇓S		**Sn**	**21 49 05.9**	**-0.4**
GHRR		**0.56**	**63**	⇑P		**Pn**	**21 48 52.5**	**+0.9**
GHRR				⇓S		**Sn**	**21 49 05.9**	**-0.4**
MLR	**Muntele Rosu**	**0.61**	**239**	⇑P		**Pn**	**21 48 53.1**	**+1.0**
MLR				⇑S		**Sn**	**21 49 06.5**	**-0.7**
MLR	**Muntele Rosu**	**0.61**	**239**	*e*Pg		**Pn**	**21 48 53.0**	**+0.9**
MLR				*e*Sg		**Sn**	**21 49 06.4**	**-0.8**
MLR	**Muntele Rosu**	**0.61**	**239**	⇑P		**Pn**	**21 48 53.1**	**+1.0**
MLR				⇑S		**Sn**	**21 49 06.5**	**-0.7**
ISR	**Istrita**	**0.70**	**189**	⇓P		**Pn**	**21 48 53.4**	**+0.7**
ISR				⇓S		**Sn**	**21 49 08.3**	**+0.2**
ISR	**Istrita**	**0.70**	**189**	⇓P		**Pn**	**21 48 53.4**	**+0.7**
ISR				⇓S		**Sn**	**21 49 08.3**	**+0.2**
TESR	**Tescani**	**0.70**	**357**	⇑P		**Pn**	**21 48 53.1**	**+0.5**
TESR				⇑S		**Sn**	**21 49 06.2**	**-1.9**
TESR	**Tescani**	**0.70**	**357**	⇑P		**Pn**	**21 48 53.1**	**+0.5**
TESR				⇑S		**Sn**	**21 49 06.2**	**-1.9**
TUDR		**0.72**	**107**	⇓P		**Pn**	**21 48 52.8**	**+0.2**
TUDR				⇑S		**Sn**	**21 49 07.2**	**-0.9**
TUDR		**0.72**	**107**	⇓P		**Pn**	**21 48 52.8**	**+0.2**
TUDR				⇑S		**Sn**	**21 49 07.2**	**-0.9**
BIR	**Birlad**	**0.79**	**55**	⇑P		**Pn**	**21 48 54.1**	**+0.9**
BIR				⇑S		**Sn**	**21 49 08.7**	**-0.6**
BIR	**Birlad**	**0.79**	**55**	⇑P		**Pn**	**21 48 54.1**	**+0.9**
BIR				⇑S		**Sn**	**21 49 08.7**	**-0.6**
VARL	**Varlezi**	**0.81**	**83**	⇑P		**Pn**	**21 48 53.9**	**+0.5**
VARL				⇑S		**Sn**	**21 49 08.5**	**-1.0**
VARL	**Varlezi**	**0.81**	**83**	⇑P		**Pn**	**21 48 53.9**	**+0.5**
VARL				⇑S		**Sn**	**21 49 08.5**	**-1.0**
SCHL	**Schela**	**0.85**	**111**	⇑P		**Pn**	**21 48 54.1**	**+0.3**
SCHL				⇑S		**Sn**	**21 49 08.5**	**-1.5**
SCHL	**Schela**	**0.85**	**111**	⇑P		**Pn**	**21 48 54.1**	**+0.3**
SCHL				⇑S		**Sn**	**21 49 08.5**	**-1.5**
SECR		**0.89**	**210**	⇑P		**Pn**	**21 48 55.3**	**+1.2**
SECR				⇑S		**Sn**	**21 49 10.4**	**-0.4**
SECR		**0.89**	**210**	⇑P		**Pn**	**21 48 55.3**	**+1.2**
SECR				⇑S		**Sn**	**21 49 10.4**	**-0.4**
PGOR	**Pogoanele**	**0.93**	**167**	⇑P		**Pn**	**21 48 55.2**	**+0.9**
PGOR				⇑S		**Sn**	**21 49 11.0**	**-0.2**
PGOR	**Pogoanele**	**0.93**	**167**	⇑P		**Pn**	**21 48 55.2**	**+0.9**
PGOR				⇑S		**Sn**	**21 49 11.0**	**-0.2**
DOPR	**Dopca**	**0.93**	**280**	⇑P		**Pn**	**21 48 55.4**	**+1.0**
DOPR				⇑S		**Sn**	**21 49 11.3**	**0.0**
DOPR	**Dopca**	**0.93**	**280**	⇑P		**Pn**	**21 48 55.4**	**+1.0**
DOPR				⇑S		**Sn**	**21 49 11.3**	**0.0**
PLAR	**PLOIESTI**	**1.01**	**208**	⇓P		**Pn**	**21 48 56.3**	**+1.2**
PLAR				⇓S		**Sn**	**21 49 12.8**	**+0.1**
PLAR	**PLOIESTI**	**1.01**	**208**	⇓P		**Pn**	**21 48 56.3**	**+1.2**
PLAR				⇓S		**Sn**	**21 49 12.8**	**+0.1**
GISR	**Galati**	**1.02**	**111**	⇑P		**Pn**	**21 48 55.5**	**+0.3**
GISR				⇑S		**Sn**	**21 49 11.6**	**-1.2**
GISR	**Galati**	**1.02**	**111**	⇑P		**Pn**	**21 48 55.5**	**+0.3**
GISR				⇑S		**Sn**	**21 49 11.6**	**-1.2**
VASR	**Vaslui**	**1.13**	**42**	⇓P		**Pn**	**21 48 57.3**	**+1.1**
VASR				⇓S		**Sn**	**21 49 14.3**	**-0.3**
VASR	**Vaslui**	**1.13**	**42**	⇓P		**Pn**	**21 48 57.3**	**+1.1**
VASR				⇓S		**Sn**	**21 49 14.3**	**-0.3**
SULR		**1.17**	**196**	⇑P		**Pn**	**21 48 57.9**	**+1.2**
SULR				⇑S		**Sn**	**21 49 15.7**	**+0.3**
SULR		**1.17**	**196**	⇑P		**Pn**	**21 48 57.9**	**+1.2**
SULR				⇑S		**Sn**	**21 49 15.7**	**+0.3**
CFR	**Carcaliu**	**1.19**	**121**	⇓P		**Pn**	**21 48 57.3**	**+0.4**
CFR				⇓S		**Sn**	**21 49 14.6**	**-1.2**
CFR	**Carcaliu**	**1.19**	**121**	⇓P		**Pn**	**21 48 57.3**	**+0.4**
CFR				⇓S		**Sn**	**21 49 14.6**	**-1.2**
BIZ	**Bicaz**	**1.20**	**340**	⇑P		**Pn**	**21 48 57.4**	**+0.4**
BIZ				⇑S		**Sn**	**21 49 16.0**	**0.0**
BIZ	**Bicaz**	**1.20**	**340**	⇑P		**Pn**	**21 48 57.4**	**+0.4**
BIZ				⇑S		**Sn**	**21 49 16.0**	**0.0**
VOIR		**1.21**	**253**	⇑P		**Pn**	**21 48 58.4**	**+1.2**
VOIR				⇑S		**Sn**	**21 49 15.7**	**-0.6**
VOIR		**1.21**	**253**	⇑P		**Pn**	**21 48 58.4**	**+1.2**
VOIR				⇑S		**Sn**	**21 49 15.7**	**-0.6**
AMRR	**Amara**	**1.28**	**159**	⇑P		**Pn**	**21 48 58.7**	**+0.8**
AMRR				⇑S		**Sn**	**21 49 16.8**	**-0.6**
AMRR	**Amara**	**1.28**	**159**	⇑P		**Pn**	**21 48 58.7**	**+0.8**
AMRR				⇑S		**Sn**	**21 49 16.8**	**-0.6**
LEHL	**Lehliu**	**1.34**	**176**	⇑P		**Pn**	**21 48 59.5**	**+1.0**
LEHL				⇑S		**Sn**	**21 49 18.3**	**-0.2**
LEHL	**Lehliu**	**1.34**	**176**	⇑P		**Pn**	**21 48 59.5**	**+1.0**
LEHL				⇑S		**Sn**	**21 49 18.3**	**-0.2**
HARR	**Harsova**	**1.42**	**142**	⇑P		**Pn**	**21 48 59.9**	**+0.5**
HARR	**Harsova**	**1.42**	**142**	⇑P		**Pn**	**21 48 59.9**	**+0.5**
INCR	**INCERC-Sediu C**	**1.42**	**196**	⇑S		**Sn**	**21 49 19.6**	**-0.4**
INCR	**INCERC-Sediu C**	**1.42**	**196**	⇑S		**Sn**	**21 49 19.6**	**-0.4**
IAS	**Iasi**	**1.51**	**23**	⇑P		**Pn**	**21 49 01.2**	**+0.9**
IAS	**Iasi**	**1.51**	**23**	⇑P		**Pn**	**21 49 01.2**	**+0.9**
ARR	**Arges**	**1.51**	**254**	⇑P		**Pn**	**21 49 01.5**	**+1.0**
ARR				⇑S		**Sn**	**21 49 22.6**	**+0.5**
ARR	**Arges**	**1.51**	**254**	⇑P		**Pn**	**21 49 01.5**	**+1.0**
ARR				⇑S		**Sn**	**21 49 22.6**	**+0.5**
BUC1	**Bucharest**	**1.54**	**198**	⇑P		**Pn**	**21 49 01.5**	**+0.9**
BUC1				⇓S		**Sn**	**21 49 22.0**	**-0.3**
BUC1	**Bucharest**	**1.54**	**198**	⇑P		**Pn**	**21 49 01.5**	**+0.9**
BUC1				⇓S		**Sn**	**21 49 22.0**	**-0.3**
TPGR	**Topolog**	**1.54**	**127**	⇑P		**Pn**	**21 49 00.9**	**+0.1**
TLBR	**Topalu**	**1.59**	**142**	⇑P		**Pn**	**21 49 01.8**	**+0.6**
TLBR				⇓S		**Sn**	**21 49 22.9**	**-0.4**
TLBR	**Topalu**	**1.59**	**142**	⇑P		**Pn**	**21 49 01.8**	**+0.6**
TLBR				⇓S		**Sn**	**21 49 22.9**	**-0.4**
TLCR		**1.62**	**112**	⇓P		**Pn**	**21 49 02.6**	**+1.1**
TLCR		**1.62**	**112**	⇓P		**Pn**	**21 49 02.6**	**+1.1**
SGRR	**Singureni**	**1.67**	**198**	⇑S		**Sn**	**21 49 24.8**	**-0.2**
SGRR	**Singureni**	**1.67**	**198**	⇑S		**Sn**	**21 49 24.8**	**-0.2**
CVDA	**Cernavoda**	**1.76**	**147**	⇑P		**Pn**	**21 49 03.7**	**+0.5**
CVDA				⇓S		**Sn**	**21 49 26.2**	**-0.6**
CVDA	**Cernavoda**	**1.76**	**147**	⇑P		**Pn**	**21 49 03.7**	**+0.5**
CVDA				⇓S		**Sn**	**21 49 26.2**	**-0.6**
HUMR	**Humele**	**1.77**	**224**	⇓P		**Pn**	**21 49 04.1**	**+0.8**
HUMR				⇓S		**Sn**	**21 49 26.6**	**-0.5**
HUMR	**Humele**	**1.77**	**224**	⇓P		**Pn**	**21 49 04.1**	**+0.8**
HUMR				⇓S		**Sn**	**21 49 26.6**	**-0.5**
TIRR	**Tirgusor**	**1.82**	**137**	⇓P		**Pn**	**21 49 04.6**	**+0.7**
TIRR	**Tirgusor**	**1.82**	**137**	⇓P		**Pn**	**21 49 04.6**	**+0.7**
ICOR	**Ion Corvin**	**1.87**	**155**	⇑P		**Pn**	**21 49 05.7**	**+1.2**
ICOR				⇓S		**Sn**	**21 49 29.3**	**+0.1**
ICOR	**Ion Corvin**	**1.87**	**155**	⇑P		**Pn**	**21 49 05.7**	**+1.2**
ICOR				⇓S		**Sn**	**21 49 29.3**	**+0.1**
KIS	**Kishinev**	**1.89**	**50**	⇓P		**Pn**	**21 49 06.0**	**+1.3**
	110nm,0.2s							
KIS				*e*S		**Sn**	**21 49 29.0**	**-0.7**
	70nm,0.3s							
KIS	**Kishinev**	**1.89**	**50**	⇓P		**Pn**	**21 49 06.1**	**+1.3**
KIS	**Kishinev**	**1.89**	**50**	⇓P		**Pn**	**21 49 06.1**	**+1.3**
COPA	**Copaceanca**	**1.98**	**213**	⇑S		**Sn**	**21 49 30.9**	**-0.7**
COPA	**Copaceanca**	**1.98**	**213**	⇑S		**Sn**	**21 49 30.9**	**-0.7**
RAZG	**Razgrad**	**2.25**	**183**	⇓P		**Pn**	**21 49 10.2**	**+1.0**
RAZG	**Razgrad**	**2.25**	**183**	⇓P		**Pn**	**21 49 10.2**	**+1.0**
PSN	**Preselentsi**	**2.38**	**153**	P		**Pn**	**21 49 12.2**	**+1.4**
VLAD	**Vladila**	**2.44**	**223**	⇓S		**Sn**	**21 49 40.7**	**-1.1**
VLAD	**Vladila**	**2.44**	**223**	⇓S		**Sn**	**21 49 40.7**	**-1.1**
SZH	**Strazhica**	**2.60**	**192**	P		**Pn**	**21 49 14.6**	**+1.0**
PRD	**Provadia**	**2.66**	**169**	P		**Pn**	**21 49 16.0**	**+1.7**
GZR	**Gura Zlata**	**2.78**	**263**	⇑S		**Sn**	**21 49 49.1**	**-0.6**
GZR	**Gura Zlata**	**2.78**	**263**	*e*Pn		**Pn**	**21 49 18.3**	**+2.3**
GZR				*e*Sn		**Sn**	**21 49 49.9**	**+0.2**
GZR	**Gura Zlata**	**2.78**	**263**	⇑S		**Sn**	**21 49 49.1**	**-0.6**
PLVB	**Pleven**	**2.84**	**212**	⇓P		**Pn**	**21 49 17.3**	**+0.7**
PLVB	**Pleven**	**2.84**	**212**	⇓P		**Pn**	**21 49 17.3**	**+0.7**
DRGR		**2.93**	**291**	*e*Pn		**Pn**	**21 49 19.2**	**+1.3**
HERR	**Herculane**	**3.16**	**254**	⇑P		**Pn**	**21 49 21.8**	**+1.1**
HERR	**Herculane**	**3.16**	**254**	⇑P		**Pn**	**21 49 21.8**	**+1.1**
BLKB	**Belogradchik**	**3.60**	**234**	*e*Pn		**Pn**	**21 49 27.3**	**+0.6**
MDVR	**Moldovita**	**3.66**	**255**	*e*Pn		**Pn**	**21 49 28.6**	**+1.1**
ZAGS	**Zajecar**	**3.75**	**239**	*e*Pn		**Pn**	**21 49 28.4**	**-0.2**
ZAGS				*e*Sn		**Sn**	**21 50 07.2**	**-5.1**
KUBS	**Kucevo**	**3.82**	**250**	*e*Pn		**Pn**	**21 49 29.6**	**+0.1**
ZAPS	**Zavoj**	**3.85**	**230**	*e*Pn		**Pn**	**21 49 31.2**	**+1.2**
ZAPS				*e*Sn		**Sn**	**21 50 09.4**	**-5.4**
VTS	**Vitosha**	**4.05**	**219**	*e*Pn		**Pn**	**21 49 32.1**	**-0.5**
BARS	**Barje**	**4.61**	**231**	*e*Pn		Pn	21 49 27.2	-13
SMOL	**Smolenice**	**6.87**	**297**	*e*P		Pn	21 50 06.4	-3.9
ZST	**Bratislava**	**6.98**	**293**	*e*P		Pn	21 50 07.6	-4.1

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*BGR **27** 21:59:14.8±0.0, 2°.18S×78°.14W, h33km, mb5.8*
*IGQ **27** 21:59:37±0.4, 1°S±2°×7°.8W±°, h197km*
*IDC **27** 21:59:38.8±0.3, 1°.19S×77°.56W, h192km±2km, mb4.9/42, mb1 5.0/49, mb1mx4.9/53, mbtmp5.4/49, MS4.0/12, Ms1 4.0/12, ms1mx3.7/33, Error ellipse: s-maj=8.0km s-min=5.3km az=62.0*
*MOS **27** 21:59:38.3±1.1, 1°.17S×77°.57W, h199km, mb5.4/8, Error ellipse: s-maj=9.2km s-min=5.0km az=100.6*
*VAO **27** 21:59:38.5±0.2, 1°.22S×77°.57W, h187km±1km, mb5.3*
*NEIC **27** 21:59:39.3±1.4, 1°.20S±0°.06×77°.58W±0°.07, h195km±3km, mb5.2/670, Mwb5.5/25, Mww5.5, Error ellipse: s-maj=10.3km s-min=8.6km az=65.0*
*NEIC **27** 21:59:39.1, 1°.20S×77°.60W, h196km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.59; $M_{\theta\theta}$=0.18; $M_{\phi\phi}$=0.42; $M_{r\theta}$=0.85; $M_{\theta f}$=-0.75; M_{fr}=-1.49; Fault plane solution: M_0=1.94000×10^{17} NP1:ϕ_s=331.36000°, δ=77.68000°, λ=-81.27000°. NP2:ϕ_s=115.63000°, δ=15.06000°, λ=-124.78000°. Principal axes: T 2.1142, Plg=32.0000°, Azm=54.0000°; N -0.4119, Plg=9.0000°, Azm=149.0000°; P -1.7023, Plg=56.0000°, Azm=253.0000°;*
*GCMT **27** 21:59:40.3±0.1, 1°.41S±0°.01×77°.83W±0°.01, h201km±1km, MW5.5/150, Moment Tensor Solution. s105,c159; s150,c280; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}=1.00±.03; $M_{\theta\theta}$=0.73±.04; $M_{\phi\phi}$=0.26±.04; $M_{r\theta}$=1.09±.03; $M_{\theta f}$=-0.98±.03; M_{fr}=-1.80±.03; Best double couple: M_0=2.47300×10^{17} NP1:ϕ_s=101.00000°, δ=20.00000°, λ=-135.00000°. NP2:ϕ_s=328.00000°, δ=76.00000°, λ=-75.00000°. Principal axes: T 2.6290, Plg=29.0000°, Azm=46.0000°; N -0.3110, Plg=14.0000°, Azm=144.0000°; P -2.3160, Plg=57.0000°, Azm=257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **27** 21:59:42, 1°.20S×77°.70W, h190km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.98; $M_{\theta\theta}$=0.17; $M_{\phi\phi}$=0.80; $M_{r\theta}$=1.13; $M_{\theta f}$=-0.85; M_{fr}=-1.12; Fault plane solution: M_0=2.02000×10^{17} NP1:ϕ_s=161.00000°, δ=20.00000°, λ=-65.00000°. NP2:ϕ_s=315.00000°, δ=72.00000°, λ=-98.00000°. Principal axes: T 2.1797, Plg=27.0000°, Azm=52.0000°; N -0.3798, Plg=8.0000°, Azm=318.0000°; P -1.7999, Plg=62.0000°, Azm=212.0000°;*
ISC 27 21:59:38.2±0.2, 1°.24S±0°.03×77°.65W±0°.04, h191km±1km, h191km:pP-P, n1067, σ1§30/995, mb5.2/419, 26C-20D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APUY	**Puyo**	**0.40**	**238**	P		**Pn**	**22 00 03.0**	**-1.0**
APUY				S		**Sn**	**22 00 24.0**	**+0.1**
PUYO	**Puyo, Santa Ro**	**0.44**	**236**	P		**Pn**	**22 00 04.0**	**-0.2**
PUYO				S		**Sn**	**22 00 24.0**	**-0.2**
PIAT	**Ana Tenorio**	**0.66**	**292**	P		**Pn**	**22 00 05.0**	**-0.4**
PIAT				S		**Sn**	**22 00 27.0**	**-1.3**
PIS1	**Pisayambo**	**0.75**	**284**	P		**Pn**	**22 00 06.0**	**-0.1**
PIS1				S		**Sn**	**22 00 28.0**	**+0.5**
BRUN	**Tungurahua Vol**	**0.78**	**257**	P		**Pn**	**22 00 05.0**	**-1.0**
BULB	**Ulba Tungurahu**	**0.78**	**256**	P		**Pn**	**22 00 05.0**	**-1.0**
BULB				S		**Sn**	**22 00 27.0**	**-0.5**
RUN5	**Runtun**	**0.79**	**258**	P		**Pn**	**22 00 05.0**	**-1.0**
RETU	**Refugio**	**0.82**	**255**	P		**Pn**	**22 00 06.0**	**-0.4**
JUI6	**Juive**	**0.83**	**258**	P		**Pn**	**22 00 05.0**	**-1.3**
ARRY	**Arrayan**	**0.84**	**252**	P		**Pn**	**22 00 05.0**	**-1.4**
BMAS	**Trigal station**	**0.86**	**253**	P		**Pn**	**22 00 06.0**	**-0.6**
BIL2	**Estacion Bilba**	**0.87**	**256**	P		**Pn**	**22 00 06.0**	**-0.5**
ANTM	**Antisana-La Mi**	**0.90**	**321**	P		**Pn**	**22 00 06.0**	**-1.0**
ANTM				S		**Sn**	**22 00 29.0**	**-0.3**
ANTS	**Antisana-Sarah**	**0.90**	**325**	P		**Pn**	**22 00 07.0**	**-0.1**
BTAM	**Cotopaxi Volca**	**0.93**	**307**	P		**Pn**	**22 00 07.0**	**-0.2**
ANTI	**Antisana**	**0.94**	**327**	P		**Pn**	**22 00 07.0**	**-0.3**
ANTG	**Antisana-Guama**	**0.95**	**321**	P		**Pn**	**22 00 07.0**	**-0.3**
ANTG				S		**Sn**	**22 00 29.0**	**-0.8**
BMOR	**Cotopaxi Volca**	**0.95**	**302**	P		**Pn**	**22 00 07.0**	**-0.4**
BMOR				S		**Sn**	**22 00 30.0**	**+0.2**
VC1	**Cotopaxi 1**	**0.96**	**309**	P		**Pn**	**22 00 07.0**	**-0.4**
BREF	**Cotopaxi Volca**	**0.97**	**306**	P		**Pn**	**22 00 07.0**	**-0.6**
APS4	**Papallacta**	**0.98**	**332**	P		**Pn**	**22 00 07.0**	**-0.3**
BNAS	**Cotopaxi Volca**	**1.00**	**305**	P		**Pn**	**22 00 07.0**	**-0.6**
BNAS				S		**Sn**	**22 00 31.0**	**+0.7**
ALAT	**Latacunga**	**1.01**	**288**	P		**Pn**	**22 00 08.0**	**+0.5**
IGUA	**Igualata**	**1.01**	**256**	P		**Pn**	**22 00 07.0**	**-0.8**
SAGO	**Sagoatoa**	**1.01**	**275**	P		**Pn**	**22 00 07.0**	**-0.7**
CAMI	**Rancho Maria**	**1.02**	**304**	P		**Pn**	**22 00 07.0**	**-0.7**
SANGA	**Volcan Sangay**	**1.07**	**222**	P		**Pn**	**22 00 07.0**	**-1.1**
ARIO	**Riobamba**	**1.12**	**249**	P		**Pn**	**22 00 07.0**	**-1.3**
LAV4	**Lava4-Reventad**	**1.15**	**1**	P		**Pn**	**22 00 08.0**	**-0.4**
CONE	**Cono NE Rev Vo**	**1.17**	**1**	P		**Pn**	**22 00 09.0**	**+0.3**
ILLI	**Illinizas Sur**	**1.20**	**296**	P		**Pn**	**22 00 08.0**	**-1.1**
CHSH	**Refugio Sur-Vo**	**1.24**	**258**	P		**Pn**	**22 00 08.0**	**-1.5**
CAYR	**Refugio Cayamb**	**1.30**	**344**	P		**Pn**	**22 00 10.0**	**-0.1**
EPNL	**EPN Laboratori**	**1.32**	**321**	P		**Pn**	**22 00 10.0**	**0.0**
ANGU	**Angureal**	**1.33**	**345**	P		**Pn**	**22 00 10.0**	**-0.3**
GGPT	**Toaza - Volcan**	**1.40**	**316**	P		**Pn**	**22 00 10.0**	**-0.7**
GGPC	**Guagua Pichinc**	**1.42**	**318**	P		**Pn**	**22 00 10.0**	**-1.0**
GGP	**Refugio Guagua**	**1.42**	**318**	P		**Pn**	**22 00 10.0**	**-1.0**
TERV	**Terraza Guagua**	**1.43**	**318**	P		**Pn**	**22 00 10.0**	**-1.1**
PINO	**Pino**	**1.44**	**319**	P		**Pn**	**22 00 10.0**	**-1.2**
YANA	**Yana**	**1.45**	**321**	P		**Pn**	**22 00 10.0**	**-1.2**
PULU	**Pululahua**	**1.52**	**326**	P		**Pn**	**22 00 11.0**	**-0.7**
IMBA	**Imbabura, San**	**1.61**	**340**	P		**Pn**	**22 00 13.0**	**+0.4**
YAHU	**Yahuarcocha**	**1.66**	**345**	P		**Pn**	**22 00 13.0**	**0.0**
CUSW	**Cuicocha Oeste**	**1.67**	**335**	P		**Pn**	**22 00 13.0**	**-0.2**
OTAV	**Otavalo**	**1.67**	**332**	P		**Pn**	**22 00 12.6**	**-0.7**
OTAV							22 00 39.8	
OTAV	**Otavalo**	**1.67**	**332**	Pn		**Pn**	**22 00 12.6**	**-0.7**
OTAV				Sn		**Sn**	**22 00 39.8**	**-0.7**
OTAV	**Otavalo**	**1.67**	**332**	*e*P		**Pn**	**22 00 12.6**	**-0.7**
OTAV	**Otavalo**	**1.67**	**332**	P		**Pn**	**22 00 12.0**	**-1.3**
OTAV	**Otavalo**	**1.67**	**332**	*e*P		**Pn**	**22 00 12.6**	**-0.7**
OTAV				*e*S		**Sn**	**22 00 39.3**	**-1.2**
CUIC	**Cuicocha-Domo**	**1.69**	**335**	P		**Pn**	**22 00 13.0**	**-0.4**
CUSE	**Cuicocha Este**	**1.71**	**334**	P		**Pn**	**22 00 13.0**	**-0.6**
COTA	**Cotacachi**	**1.71**	**336**	P		**Pn**	**22 00 13.0**	**-0.7**
URCU	**Urcuqui**	**1.78**	**340**	P		**Pn**	**22 00 14.0**	**-0.2**
APR2	**Miler**	**1.86**	**315**	P		**Pn**	**22 00 14.0**	**-0.7**
PAC1	**Pacto, Paraso**	**1.88**	**323**	P		**Pn**	**22 00 14.0**	**-1.0**
TULM	**Tulcn-Chalpat**	**1.95**	**356**	P		**Pn**	**22 00 16.0**	**-0.1**
LNGL	**El Angel-Carch**	**2.00**	**350**	P		**Pn**	**22 00 17.0**	**+0.4**
ATUL	**Tulcn**	**2.00**	**358**	P		**Pn**	**22 00 17.0**	**+0.6**
COHC	**Cochancay**	**2.01**	**233**	P		**Pn**	**22 00 13.0**	**-3.1**
CHL1	**Volc¡n Chiles**	**2.04**	**352**	P		**Pn**	**22 00 17.0**	**-0.1**
CHL2	**Volc¡n Chiles**	**2.05**	**353**	P		**Pn**	**22 00 18.0**	**+0.8**
BOSC	**San Juan Bosco**	**2.07**	**204**	P		**Pn**	**22 00 16.0**	**-1.0**
ECEN	**Cerro Negro**	**2.08**	**351**	P		**Pn**	**22 00 17.0**	**-0.5**
BV15	**Puerto Quito-O**	**2.10**	**312**	P		**Pn**	**22 00 15.0**	**-2.1**
ACUE	**Ecuador-Cuenca**	**2.11**	**218**	P		**Pn**	**22 00 16.0**	**-1.5**
AMIL	**Milagro (Trans**	**2.13**	**245**	P		**Pn**	**22 00 14.0**	**-3.4**
CHMA	**Chilma**	**2.13**	**349**	P		**Pn**	**22 00 18.0**	**+0.2**
MILO	**Milagro-Astudi**	**2.16

comp=Z,9.5nm,0.3s,baz=271,slow=12,SNR=149
PTGA Pitinga 17.69 89 P **P** **22 03 31.2 -0.2**
PTGA IAmb IAmb 22 03 38.5
comp=Z,156nm,1.0s
PTGA Pitinga 17.69 89 *eP* **P** **22 03 30.5 -1.0**
TGUH Tegucigalpa,Un 17.94 328 P **Pn** **22 03 35.9 -0.5**
TGUH IAmb IAmb 22 03 40.7
comp=Z,119nm,0.9s
SNET Serv Nac Est T 18.76 323 P **Pn** **22 03 44.8 -1.0**
PB16 IPOC Station P 18.77 155 P **Pn** **22 03 45.2 -1.3**
MCJ Malvern 19.05 360 ⇑*i*P **Pn** **22 03 48.4 -0.8**
HOJ Hope 19.15 3 *i*P **Pn** **22 03 52.3 +1.9**
STH Stony Hill 19.22 2 *i*P **Pn** **22 03 49.8 -1.4**
MTDJ Mount Denham 19.35 0 P **Pn** **22 03 51.7 -1.1**
MNMC Minye Minye 19.45 157 P **P** **22 03 52.0 +1.3**
BNJ Bonny Gate 19.45 2 *i*P **P** **22 03 52.0 +1.4**
BBJ Bamboo Saint A 19.51 1 ⇑*i*P **Pn** **22 03 53.5 -1.2**
PSGCX Pisagua 19.67 158 P **P** **22 03 53.7 +0.8**
TPP Pointe-a-Pierr 19.80 54 *eP* **P** **22 03 55.9 +1.7**
JAKH Jacmel 20.01 14 P **P** **22 03 57.8 +1.3**
TRN Trinidad (W) 20.02 53 *eP* **P** **22 03 57.2 +0.6**
APG El Apazote 20.52 322 P **P** **22 04 04.2 +2.0**
comp=Z,33nm,0.6s,baz=148,slow=7.4,SNR=24
PB08 IPOC Station P 20.54 157 P **P** **22 04 03.5 +1.0**
PB08 IAmb IAmb 22 04 10.7
comp=Z,137nm,0.9s
TA01 Diego Aracena 20.55 160 P **P** **22 04 03.0 +0.9**
TA01 IAmb IAmb 22 04 06.7
comp=Z,138nm,0.9s
TA01 **PcP** **22 08 09.5 +4.1**
GRGR Grenville 20.72 50 *eP* **P** **22 04 02.5 -1.6**
GRGR Grenville 20.72 50 P **P** **22 04 04.7 +0.6**
FSCY Frank Sound, G 20.72 351 P **P** **22 04 05.5 +1.5**
BANI BANI 20.79 20 P **P** **22 04 06.1 +1.2**
TPR Prospect 20.84 53 *eP* **P** **22 04 05.4 0.0**
VILB Vilhena 20.84 125 *eP* **P** **22 04 06.3 +0.9**
LCCY Blossom Villag 20.92 354 P **P** **22 04 07.6 +1.5**
SDD Santo Domingo 21.01 21 P **P** **22 04 08.7 +1.6**
SDDR Presa de Saban 21.05 17 P **P** **22 04 09.0 +1.4**
GCMP Grenada, Carri 21.11 49 *eP* **P** **22 04 07.2 -1.0**
GTBY Guantanamo Bay 21.19 7 P **P** **22 04 10.8 +1.9**
PB01 IPOC Station P 21.23 159 **PcP** **22 08 07.7 +0.8**
SC01 Santiago de lo 21.64 18 P **P** **22 04 15.7 +2.0**
PB07 IPOC Station P 21.72 160 IAmb IAmb 22 04 18.1
comp=Z,127nm,1.0s
SVB Belmont 21.74 48 *eP* **P** **22 04 13.9 -0.9**
SVB Belmont 21.74 48 P **P** **22 04 14.7 -0.1**
ICMP Isla Caja de M 21.94 29 P **P** **22 04 17.5 +0.8**
SIV San Ignacio 21.95 133 P **P** **22 04 17.8 +0.9**
comp=Z,61nm,0.8s,baz=323,slow=9.7,SNR=118
PB09 IPOC Station P 22.01 159 IAmb IAmb 22 04 22.3
comp=Z,93nm,0.9s
ITTB Itaituba 22.11 99 *eP* **P** **22 04 18.2 -0.3**
AGPR Aguadilla, PR 22.16 27 P **P** **22 04 20.7 +1.8**
PB04 IPOC Station P 22.20 161 P **P** **22 04 20.5 +1.1**
PB04 IAmb IAmb 22 04 21.6
comp=Z,109nm,0.8s
IGPR InterUniversit 22.22 30 P **P** **22 04 19.9 +0.5**
MCLT Moule a Chique 22.25 48 *eP* **P** **22 04 19.4 -0.4**
MCLT Moule a Chique 22.25 48 P **P** **22 04 23.0 +3.2**
MCLT IAmb IAmb 22 04 39.4
comp=Z,102nm,0.9s
PDPR Patillas Dam, 22.30 30 IAmb IAmb 22 04 36.9
comp=Z,195nm,0.9s
SJG San Juan 22.32 30 P **P** **22 04 20.1 -0.2**
comp=Z,77nm,0.6s,baz=189,slow=7.4,SNR=29
SJG San Juan 22.32 30 P **P** **22 04 19.4 -0.9**
SLBI Saint Lucia, B 22.43 47 *eP* **P** **22 04 18.7 -2.7**
EMPR Esperanza - Ma 22.45 29 P **P** **22 04 21.7 +0.2**
BIM Bigot 22.69 46 *eP* **P** **22 04 22.4 -1.3**
PB06 IPOC Station P 22.73 160 IAmb IAmb 22 04 44.4
comp=Z,71nm,0.9s
FDF Fort de France 22.78 45 *eP* **P** **22 04 22.5 -2.1**
FDF Fort de France 22.78 45 P **P** **22 04 22.5 -2.1**
FDF pmax pmax
comp=Z,144nm,1.1s
FDF Fort de France 22.78 45 P **P** **22 04 22.5 -2.1**
FDF IAmb IAmb 22 04 39.9
comp=Z,144nm,1.1s
MPOM Morne Pois Mar 22.79 46 *eP* **P** **22 04 23.6 -1.1**
LVC Limon Verde 22.88 159 P **P** **22 04 27.6 +1.9**
comp=Z,81nm,0.6s,baz=350,slow=6.3,SNR=61
LVC ScP **ScP** **22 11 32.3 +1.9**
comp=Z,18nm,0.9s,baz=308,slow=3.8,SNR=5.9
LVC Limon Verde 22.88 159 P **P** **22 04 27.7 +2.0**
LVC IAmb IAmb 22 04 29.9
comp=Z,119nm,0.9s
LVC **ScP** **22 11 32.3 +1.9**
LVC Limon Verde 22.88 159 *eP* **P** **22 04 27.7 +2.0**
CUPR Culebra, Puert 22.93 31 IAmb IAmb 22 04 41.4
comp=Z,59nm,0.8s
NPGB Novo Progresso 22.96 105 *eP* **P** **22 04 26.0 -0.3**
DSLB Salisbury 23.07 43 *eP* **P** **22 04 26.1 -1.1**
PTLB Pontes e Lacer 23.09 129 *eP* **P** **22 04 28.8 +1.4**
DLPL La Plaine 23.12 44 *eP* **P** **22 04 26.3 -1.4**
DLPL La Plaine 23.12 44 P **P** **22 04 28.2 +0.6**
TDBA Terre de Bas, 23.22 42 *eP* **P** **22 04 24.9 -3.6**
PB15 IPOC Station P 23.23 161 IAmb IAmb 22 04 45.8
comp=Z,63nm,0.7s
MALB Monte Alegre 23.39 92 *eP* **P** **22 04 30.6 +0.4**
CBE Ff, Capester 23.39 42 *eP* **P** **22 04 30.5 +0.3**
GRTK Grand Turk 23.50 15 P **P** **22 04 31.4 +0.4**
MAGL Barre de l'ile 23.53 43 *eP* **P** **22 04 29.3 -2.0**
SEUS St. Eustatius 23.57 37 *eP* **P** **22 04 33.4 +1.7**
CLDB Colider 23.72 115 *eP* **P** **22 04 33.6 +0.4**
TEIG Tepich 23.74 335 P **P** **22 04 34.3 +1.0**
comp=Z,33nm,0.5s,baz=117,slow=1.9,SNR=33
TEIG ScP **ScP** **22 11 32.3 0.0**
comp=Z,12nm,0.8s,baz=180,slow=23,SNR=3.5
TEIG LR LR 22 13 24.4
comp=Z,765nm,18.7s,baz=162,slow=35
TEIG Tepich 23.74 335 P **P** **22 04 33.8 +0.6**
TEIG IAmb IAmb 22 04 38.7
comp=Z,40nm,0.8s
ABD La Joyeuse, An 23.76 42 *eP* **P** **22 04 33.6 +0.2**
ANBD Bethesda, Anti 24.00 40 *eP* **P** **22 04 33.6 -1.9**
ANWB Willy Bob 24.45 39 *eP* **P** **22 04 37.1 -2.6**
ANWB Willy Bob 24.45 39 P **P** **22 04 38.9 -0.8**
SOR Soroa 24.45 348 P **P** **22 04 39.9 +0.2**
SOR pmax pmax
comp=Z,36nm,0.8s
SOR Soroa 24.45 348 P **P** **22 04 39.9 +0.2**
SOR IAmb IAmb 22 04 57.6
comp=Z,36nm,0.8s
CMIG Matias Romero 24.91 318 P **P** **22 04 44.6 +0.7**
comp=Z,41nm,0.7s,baz=117,slow=6.5,SNR=38
GO02 Mina Guanaco 25.02 163 IAmb IAmb 22 04 48.4
comp=Z,90nm,0.8s
MCPB Macapa, AP 25.61 88 *eP* **P** **22 04 50.1 -0.2**
AC01 Pan de Azucar 25.68 165 P **P** **22 04 51.4 +0.7**
AC01 IAmb IAmb 22 04 52.8
comp=Z,66nm,0.9s
MDP Montagnes des 25.77 76 P **P** **22 04 51.2 -0.6**
comp=Z,52nm,0.4s,baz=255,slow=8.4,SNR=110
MDP pP **pP** **22 05 31.2 +0.9**
comp=Z,128nm,0.9s,baz=258,slow=11,SNR=4.0
AC02 Maricunga 26.73 163 P **P** **22 05 02.4 +1.7**
AC02 IAmb IAmb 22 05 04.7
comp=Z,101nm,1.1s
GO03 Copiap 27.15 165 P **P** **22 05 04.6 +0.7**
GO03 IAmb IAmb 22 05 06.1
comp=Z,46nm,1.1s
PP1B Ponte de Pedra 27.66 127 *eP* **P** **22 05 10.2 +1.6**
PRPB Parauapebas 28.20 101 *eP* **P** **22 05 12.9 -0.5**
SNDB Serra Nova Dou 28.23 113 *eP* **P** **22 05 14.3 +0.6**
SNDB epP **pP** **22 05 51.6 -1.1**
060A Indiantown 28.24 355 P **P** **22 05 13.4 -0.1**
LCO Las Campanas 28.40 167 P **P** **22 05 16.1 +0.8**
LCO pmax pmax
comp=Z,45nm,0.6s
LCO Las Campanas 28.40 167 P **P** **22 05 16.1 +0.8**
LCO IAmb IAmb 22 05 17.1
comp=Z,45nm,0.6s
LCO ScP **ScP** **22 11 46.9 +0.8**
AQDB Aquidauana 28.73 133 *eP* **P** **22 05 18.3 +0.3**
AQDB epP **pP** **22 05 56.3 -0.9**
ARAG Araguaiana, MT 29.26 121 *eP* **P** **22 05 23.3 +0.6**
ARAG epP **pP** **22 06 01.0 -0.9**
DWPF Disney Wildern 29.41 353 P **P** **22 05 25.1**
baz=172
DWPF Disney Wildern 29.41 353 P **P** **22 05 24.2 +0.3**
TMAB Tom-Au,PA,Br 29.56 93 *eP* **P** **22 05 25.9 +0.4**
TMAB epP **pP** **22 06 03.1 -1.6**

656A Willston 30.80 352 P **P** **22 05 36.1 0.0**
SMTB Santa Maria do 30.87 105 *eP* **P** **22 05 37.3 +0.3**
PEXB Peixe 31.04 112 *eP* **P** **22 05 38.8 +0.3**
PEXB epP **pP** **22 06 16.5 -1.3**
ZON Zonda 31.31 165 P **P** **22 05 41.6 +0.9**
ZON pmax pmax
comp=Z,40nm,0.9s
ZON Zonda 31.31 165 P **P** **22 05 41.6 +0.9**
ZON IAmb IAmb 22 05 43.9
comp=Z,40nm,0.9s
CPUP Villa Florida 31.69 144 P **P** **22 05 43.0 -0.9**
comp=Z,11nm,0.9s,baz=323,slow=9.3,SNR=20
CPUP pP **pP** **22 06 24.0 +0.6**
comp=Z,59nm,1.1s,baz=332,slow=8.6,SNR=12
CPUP PcP **PcP** **22 08 31.2 0.0**
comp=Z,7.8nm,0.7s,baz=324,slow=1.3,SNR=6.0
CPUP ScP **ScP** **22 11 57.3 +0.7**
comp=Z,5.8nm,0.9s,baz=339,slow=2.9,SNR=4.0
CPUP LR LR 22 21 37.9
comp=Z,290nm,18.8s,baz=324,slow=42
CPUP Villa Florida 31.69 144 P **P** **22 05 43.1 -0.9**
CPUP Villa Florida 31.69 144 *eP* **P** **22 05 43.1 -0.9**
CPUP epP **pP** **22 06 22.1 -1.4**
553A Crawfordville 31.92 349 P **P** **22 05 46.1 +0.2**
456A Hilliard 32.06 353 P **P** **22 05 47.8 +0.7**
456A IAmb IAmb 22 05 49.0
comp=Z,92nm,0.8s
VA04 Juan Fernndez 32.25 182 IAmb IAmb 22 05 51.9
comp=Z,103nm,1.1s
TRCB Terra Rica 32.40 133 *eP* **P** **22 05 49.9 -0.4**
TRCB epP **pP** **22 06 28.9 -0.9**
PEL Peldehue 32.40 169 P **P** **22 05 51.6 +1.5**
PEL pmax pmax
comp=Z,170nm,0.9s
PEL Peldehue 32.40 169 P **P** **22 05 51.6 +1.5**
ITRB Iturama 32.40 126 *eP* **P** **22 05 50.9 +0.6**
ITRB epP **pP** **22 06 28.9 -0.9**
MT02 Curacav 32.43 170 IAmb IAmb 22 05 55.4
comp=Z,84nm,0.9s
BDFB Brasilia 32.55 118 P **P** **22 05 52.4 +0.7**
comp=Z,51nm,0.5s,baz=288,slow=9.6,SNR=77
BDFB pP **pP** **22 06 31.9 +0.7**
comp=Z,44nm,1.0s,baz=281,slow=9.0,SNR=2.8
BDFB LR LR 22 20 39.6
comp=Z,266nm,19.0s,baz=300,slow=39
BDFB Brasilia 32.55 118 P **P** **22 05 52.1 +0.4**
BDFB IAmb IAmb 22 05 53.8
comp=Z,58nm,0.7s
MT05 Renca 32.63 169 P **P** **22 05 53.6 +1.4**
PCMB Pacaembu 32.72 130 *eP* **P** **22 05 52.5 -0.6**
PCMB epP **pP** **22 06 31.4 -1.3**
TIGA Tifton 32.99 351 IAmb IAmb 22 05 56.4
comp=Z,72nm,0.8s
TIGA Tifton 32.99 351 P
baz=169,SNR=5.2 22 05 55.6
352A Blakely 33.27 349 P **P** **22 05 57.8 +0.2**
255A Hazlehurst 33.30 353 P **P** **22 05 58.1 +0.2**
255A IAmb IAmb 22 05 59.6
comp=Z,70nm,0.9s
IPMB Ipameri, GO 33.36 122 *eP* **P** **22 05 58.9 +0.2**
IPMB epP **pP** **22 06 37.7 -0.6**
BRAL Brewton 33.45 345 P **P** **22 05 59.4 +0.2**
BRAL IAmb IAmb 22 06 00.7
comp=Z,73nm,0.8s
BRAL Brewton 33.45 345 P
baz=163 22 06 00.1
ROSB Rosrio 33.55 93 *eP* **P** **22 05 59.8 -0.5**
ROSB epP **pP** **22 06 40.6 +0.7**
BO02 Sierra Bellavi 33.99 170 IAmb IAmb 22 06 08.0
comp=Z,39nm,0.8s
BO02 PcP **PcP** **22 08 38.3 +0.8**
BO02 ScP **ScP** **22 12 05.1 +0.6**
PTGB Pitanga 34.00 135 *eP* **P** **22 06 03.9 -0.3**
PTGB epP **pP** **22 06 43.2 -0.7**
RGRS Roger Stewart 34.05 356 P **P** **22 06 05.0 +0.6**
CSU Charleston Sou 34.12 356 P **P** **22 06 05.5 +0.5**
NHSC New Hope 34.25 356 P **P** **22 06 07.2**
baz=175,SNR=10
NHSC New Hope 34.25 356 P **P** **22 06 07.1 +1.0**
SDBA SAO DESIDERIO 34.30 110 *eP* **P** **22 06 07.1 +0.2**
SDBA epP **pP** **22 06 45.1 -1.6**
346A Big Creek Wild 34.34 342 P **P** **22 06 06.6 -0.2**
152A Waverly Hall 34.38 349 IAmb IAmb 22 06 08.1
comp=Z,62nm,0.8s
BB19B Bebedouro 34.58 127 *eP* **P** **22 06 09.3 +0.2**
BB19B epP **pP** **22 06 47.5 -1.5**
KVTX Kingsville 34.62 327 P **P** **22 06 10.7 +1.4**
KVTX IAmb IAmb 22 06 14.6
comp=Z,50nm,0.7s
ITQB Itaqui 34.64 147 *eP* **P** **22 06 09.3 -0.1**
ITQB epP **pP** **22 06 48.5 -0.7**
344A Westbrook Farm 34.81 340 P **P** **22 06 10.9 0.0**
GOGA Godfrey 34.90 351 IAmb IAmb 22 06 12.6
comp=Z,36nm,0.8s
GOGA Godfrey 34.90 351 P
baz=170,SNR=10 22 06 11.7
FRTB Fartura 35.00 131 *eP* **P** **22 06 14.7 +2.0**
FRTB epP **pP** **22 06 51.1 -1.5**
Y58A Scranton 35.02 357 P **P** **22 06 13.5 +0.9**
Y59A Loris 35.07 358 P **P** **22 06 13.5 +0.5**
Y60A Bolivia 35.07 359 P **P** **22 06 13.4 +0.3**
Z51A Franklin 35.10 349 IAmb IAmb 22 06 14.2
comp=Z,58nm,0.7s
LRAL Lakeview Retre 35.22 346 P
baz=164,SNR=26 22 06 14.2
LRAL Lakeview Retre 35.22 346 IAmb IAmb 22 06 15.0
comp=Z,80nm,0.9s
146A Union 35.38 343 P **P** **22 06 15.5 -0.3**
146A IAmb IAmb 22 06 16.6
comp=Z,52nm,0.9s
VBMS Vicksburg 35.44 341 P **P** **22 06 16.0 -0.3**
VBMS IAmb IAmb 22 06 20.2
comp=Z,28nm,0.7s
JSC Jenkinsville 35.50 355 IAmb IAmb 22 06 18.9
comp=Z,48nm,1.2s
HKT Hockley 35.54 332 P **P** **22 06 18.0 +0.9**
HKT pmax pmax
comp=Z,6.0nm,0.8s
HKT Hockley 35.54 332 P **P** **22 06 18.0 +0.9**
HODGE Hodges 35.55 353 IAmb IAmb 22 06 19.7
comp=Z,38nm,0.8s
ITAB Concordia 35.60 139 *eP* **P** **22 06 17.5 -0.3**
ITAB epP **pP** **22 06 57.1 -0.6**
BBSR BB Station 35.61 19 P **P** **22 06 17.7 0.0**
BBSR IAmb IAmb 22 06 18.1
comp=Z,58nm,1.1s
735A Kenedy 35.62 329 P **P** **22 06 19.0 +1.1**
735A IAmb IAmb 22 06 20.5
comp=Z,67nm,0.9s
X60A Albert Glenn T 35.63 360 P 22 06 18.6
baz=179
Z47A Carrollton 35.64 345 ScP **ScP** **22 12 10.5 +0.1**
JANB Januaria 35.66 114 *eP* **P** **22 06 18.3 -0.2**
JANB epP **pP** **22 06 57.7 -0.7**
BI02 San Fabin de 35.73 171 IAmb IAmb 22 06 26.6
comp=Z,36nm,0.8s
BI02 ScP **ScP** **22 12 10.9 +0.2**
Y49A Blount Mountai 35.88 348 IAmb IAmb 22 06 19.9
comp=Z,36nm,0.6s
833A Chaparral WMA, 36.05 326 P 22 06 22.8
baz=141,SNR=15
RCLB Rio Claro- Sao 36.06 128 *eP* **P** **22 06 21.8 -0.1**
RCLB epP **pP** **22 07 00.8 -1.0**
PAULI Pauline 36.09 354 P **P** **22 06 21.5 -0.2**
PAULI IAmb IAmb 22 06 23.4
comp=Z,125nm,1.2s
W56A Indian Trail 36.29 356 P 22 06 23.9
baz=175,SNR=14
CNNC Cliffs of the 36.29 360 P 22 06 24.2
baz=180,SNR=7.0
NBPS Pedro II - PI 36.29 96 *eP* **P** **22 06 23.5 -0.4**
NBPS epP **pP** **22 07 02.0 -2.0**
KMSC Kings Mountain 36.36 355 P 22 06 24.6
baz=174,SNR=20
FPAL Fort Paine 36.37 349 IAmb IAmb 22 06 24.6
comp=Z,70nm,0.9s
BG3 Lake Jocassee 36.39 353 IAmb IAmb 22 06 25.3
comp=Z,29nm,0.6s
TIJ01 Guaruva-PR 36.56 133 *eP* **P** **22 06 26.2 +0.1**
TIJ01 epP **pP** **22 07 04.8 -1.5**
NATX Nacogdoches 36.57 335 IAmb IAmb 22 06 28.4
comp=Z,74nm,1.1s
X48A Hartselle 36.59 347 IAmb IAmb 22 06 26.2
comp=Z,42nm,0.8s

W52A Murphy 36.62 351 IAmb IAmb 22 06 26.9
comp=Z,32nm,0.6s
SPB Sao Paulo 36.76 130 *eP* **P** **22 06 27.2 -0.5**
SPB epP **pP** **22 07 06.8 -1.0**
VAO Valinhos 36.81 128 *eP* **P** **22 06 27.9 -0.4**
VAO epP **pP** **22 07 07.1 -1.3**
V60A Jim Taylor Roa 36.82 1 P 22 06 28.8
baz=180,SNR=15
V60A Jim Taylor Roa 36.82 1 P **P** **22 06 27.8 -0.1**
V59A Middlesex 36.82 359 P 22 06 28.6
baz=179,SNR=14
V61A Roper 36.86 1 P **P** **22 06 28.1 -0.1**
W50A Signal Mountai 36.96 350 IAmb IAmb 22 06 29.8
comp=Z,53nm,0.8s
V56A Mocksville 36.96 356 P 22 06 29.8
baz=175,SNR=14
V57A Coltrane Farms 36.99 357 P 22 06 29.9
baz=176,SNR=20
CPSB Cacapava Do Su 37.00 144 *eP* **P** **22 06 28.9 -0.7**
CPSB epP **pP** **22 07 09.0 -0.8**
V53A Saluda 37.04 353 ScP **ScP** **22 12 15.4 -0.2**
V55A Taylorsville 37.05 355 IAmb IAmb 22 06 31.1
comp=Z,38nm,0.8s
CPCT Cooper Cave 37.06 351 IAmb IAmb 22 06 30.9
comp=Z,51nm,0.7s
435B Jarrell 37.07 331 P **P** **22 06 30.5 +0.3**
435B IAmb IAmb 22 06 37.4
comp=Z,35nm,0.8s
SWET Sewanee 37.09 349 IAmb IAmb 22 06 30.5
comp=Z,44nm,0.7s
TKL Tuckaleechee C 37.15 352 P **P** **22 06 30.6 -0.2**
comp=Z,16nm,0.6s,baz=172,slow=11,SNR=20
Z41A Richland Creek 37.17 339 P 22 06 30.7
baz=154
OXF Oxford 37.24 344 P 22 06 30.6
baz=160,SNR=7.4
OXF Oxford 37.24 344 IAmb IAmb 22 06 32.3
comp=Z,64nm,1.1s
PET01 Itanhaem-SP 37.26 130 *eP* **P** **22 06 30.9 -1.0**
PET01 epP **pP** **22 07 11.0 -1.1**
237A Washetta, Mont 37.27 334 P **P** **22 06 31.5 +0.1**
237A IAmb IAmb 22 06 34.5
comp=Z,71nm,0.9s
V52A Sevierville 37.31 352 IAmb IAmb 22 06 35.1
comp=Z,34nm,0.7s
PLAL Pickwick Lake 37.34 346 IAmb IAmb 22 06 32.8
comp=Z,37nm,0.8s
V51A Loudon 37.38 351 IAmb IAmb 22 06 33.1
comp=Z,50nm,0.6s
U61A Possum Corner 37.40 2 P **P** **22 06 33.7 +0.9**
U61A Possum Corner 37.40 2 P 22 06 34.0
baz=180,SNR=8.0
DIAM Diamantina, MG 37.41 119 *eP* **P** **22 06 33.3 0.0**
DIAM epP **pP** **22 07 12.1 -1.5**
U59A Littleton 37.41 360 IAmb IAmb 22 06 35.3
comp=Z,97nm,1.1s
CCAR Cane Creek 37.41 340 P **P** **22 06 32.9 0.0**
U58A Oxford 37.45 359 P 22 06 33.8
baz=178,SNR=14
U56A King 37.48 356 P 22 06 34.7
baz=175,SNR=32
U57A Blanch 37.52 358 P 22 06 34.3
baz=177,SNR=40
U60A Pendleton 37.53 1 P 22 06 34.6
baz=181,SNR=18
BSCB Bom Sucesso 37.61 124 *eP* **P** **22 06 35.1 +0.2**
BSCB epP **pP** **22 07 14.3 -0.9**
NBMO Morrinhos-CE 37.64 94 *eP* **P** **22 06 34.3 -0.9**
WLAR White Oak Lake 37.67 339 IAmb IAmb 22 06 36.1
comp=Z,68nm,0.6s
U54A Nelsons Funny 37.77 355 P 22 06 36.4
baz=173,SNR=18
CNLB Canela 37.83 140 *eP* **P** **22 06 36.6 0.0**
CNLB epP **pP** **22 07 16.1 -0.9**
PLTB Pedras Altas 37.91 146 *eP* **P** **22 06 36.8 -0.4**
PLTB epP **pP** **22 07 16.4 -1.2**
JCT Junction City 37.95 328 IAmb IAmb 22 06 44.7
comp=Z,41nm,0.8s
JCT **PcP** **22 08 50.1 +0.7**
JCT ScP **ScP** **22 12 19.4 +0.2**
JCT Junction City 37.95 328 P 22 06 38.7
baz=142,SNR=23
T58A Grand View Acr 38.01 359 P 22 06 38.4
baz=178,SNR=17
WHTX Lake Whitney, 38.01 332 P 22 06 38.5
baz=147,SNR=6.1
WHTX Lake Whitney, 38.01 332 IAmb IAmb 22 06 40.5
comp=Z,37nm,0.8s
Z38A Mt. Pleasant 38.01 336 IAmb IAmb 22 06 39.4
comp=Z,52nm,0.9s
CLTN Cedars of Leba 38.02 349 IAmb IAmb 22 06 38.3
comp=Z,46nm,0.9s
PARB Paraibuna 38.05 128 *eP* **P** **22 06 38.6 +0.1**
PARB epP **pP** **22 07 18.2 -0.7**
T56A Rocky Mt 38.14 357 P 22 06 40.0
baz=176,SNR=25
T60A Surry 38.20 1 P 22 06 40.4
baz=181
T60A Surry 38.20 1 P **P** **22 06 40.0 +0.5**
NBPB Pedra_Branca-C 38.23 97 *eP* **P** **22 06 39.5 -0.7**
NBPB epP **pP** **22 07 18.9 -1.7**
X40A Basin Creek Fa 38.29 340 P 22 06 40.6
baz=155,SNR=11
U49A Red Boiling Sp 38.32 349 **S** **22 12 20.0 -0.6**
BLA Blacksburg 38.35 356 P 22 06 41.6
baz=175,SNR=16
WVT Waverly 38.37 347 P **P** **22 06 39.5 -1.5**
WVT pmax pmax
comp=Z,48nm,0.7s
WVT Waverly 38.37 347 P **P** **22 06 39.5 -1.5**
WVT IAmb IAmb 22 06 40.2
comp=Z,48nm,0.7s
WVT Waverly 38.37 347 P 22 06 39.4
baz=163
NBPN Ponto Novo - B 38.40 106 *eP* **P** **22 06 41.5 -0.1**
NBPN epP **pP** **22 07 20.4 -1.6**
TER01 Tubaro-SC 38.45 137 *eP* **P** **22 06 40.6 -1.2**
TER01 epP **pP** **22 07 21.4 -0.9**
HALT Halls 38.54 345 P **P** **22 06 40.9 -1.5**
HBAR Harrisburg 38.57 343 IAmb IAmb 22 06 47.0
comp=Z,47nm,0.7s
MIAR Mount Ida 38.61 339 P 22 06 42.2
baz=154,SNR=9.4
T50A Nancy 38.65 351 ScP **ScP** **22 12 21.4 -0.2**
S58A Poland Farm, P 38.66 359 P 22 06 43.9
baz=179,SNR=10
S58A Poland Farm, P 38.66 359 IAmb IAmb 22 06 44.3
comp=Z,31nm,0.5s
W41B Gary Mavity, V 38.72 341 P 22 06 43.1
baz=156,SNR=21
S60A Water View 38.77 1 P 22 06 45.5
baz=182,SNR=17
S56A Natural Bridge 38.77 358 P 22 06 45.0
baz=177,SNR=31
S59A Mechanicsville 38.81 0 P 22 06 45.5
baz=180,SNR=15
S57A Dark Hollow, R 38.83 358 P 22 06 45.3
baz=178,SNR=26
ESAR Angra dos Reis 38.83 126 *eP* **P** **22 06 45.4 +0.4**
ESAR epP **pP** **22 07 24.7 -0.8**
WHAR Wooly Hollow 38.84 341 IAmb IAmb 22 06 44.8
comp=Z,61nm,0.8s
HPIG 38.90 318 P **P** **22 06 49.5 +3.7**
S54A Dingess, Beckl 39.00 355 P 22 06 46.6
baz=174,SNR=15
S54A Dingess, Beckl 39.00 355 P **P** **22 06 45.9 -0.3**
S54A IAmb IAmb 22 06 47.0
comp=Z,85nm,0.8s
R58B Mineral 39.01 360 P 22 06 47.2
baz=180,SNR=16
R58B Mineral 39.01 360 P **P** **22 06 46.3 +0.1**
R58B IAmb IAmb 22 06 48.7
comp=Z,97nm,1.1s
R58B ScP **ScP** **22 12 23.3 +0.4**
T47A Sharon Grove 39.04 348 **PcP** **22 08 52.8 +0.2**
Z35A Perchaven, San 39.04 334 P **P** **22 06 46.7 +0.1**
Z35A IAmb IAmb 22 06 49.3
comp=Z,51nm,0.8s
S51A Beattyville 39.08 353 P **P** **22 06 45.9 -0.9**
S51A IAmb IAmb 22 06 47.0
comp=Z,43nm,0.7s
HICK Hickman 39.10 345 P **P** **22 06 45.6 -1.4**
MAN01 Angra dos Reis 39.14 126 *eP* **P** **22 06 48.8 +1.1**
MAN01 epP **pP** **22 07 26.9 -1.3**
LCAR Lake Charles 39.20 343 P **P** **22 06 46.5 -1.3**

LCAR IAmb IAmb 22 06 47.6
comp=Z,91nm,0.8s
NBMA Muriti-CE 39.23 100 *eP* **P 22 06 48.5 -0.1**
R59A King George, V 39.25 1 P 22 06 49.5
baz=181,SNR=18
CBN Corbin Frederi 39.25 0 P 22 06 49.6
baz=180,SNR=12
CBN Corbin Frederi 39.26 0 P **P 22 06 49.0 +0.8**
W39A Magazine 39.27 339 IAmb IAmb 22 06 49.1
comp=Z,42nm,0.8s
W39A Magazine 39.27 339 P 22 06 48.2
baz=154,SNR=24
TXAR Lajitas Array 39.28 323 P **P 22 06 49.6 +0.9**
comp=Z,17nm,0.8s,baz=146,slow=8.5,SNR=105
TXAR PcP **PcP 22 08 54.5 +0.7**
comp=Z,8.0nm,0.7s,baz=153,slow=5.8,SNR=9.3
TXAR ScP **ScP 22 12 24.6 +0.3**
comp=Z,2.6nm,0.6s,baz=142,slow=5.8,SNR=8.0
TXAR LR LR 22 24 30.2
comp=Z,126nm,20.1s,baz=0.0,slow=38
TXAR Lajitas Array 39.28 323 P **P 22 06 48.8 0.0**
TXAR **ScP 22 12 24.4 0.0**
TX31 Lajitas Ar. Si 39.28 323 IAmb IAmb 22 06 51.5
comp=Z,86nm,1.0s
VAS01 Vassouras-RJ 39.29 125 *eP* **P 22 06 48.9 +0.1**
VAS01 *epP* **pP 22 07 28.5 -1.0**
R60A Leonardtown, M 39.33 1 P 22 06 50.2
baz=182,SNR=8.0
FCAR Ozark Folk Cen 39.33 341 IAmb IAmb 22 06 48.5
comp=Z,47nm,0.8s
HENM Henderson Moun 39.33 345 P **P 22 06 48.2 -0.7**
HENM IAmb IAmb 22 06 49.1
comp=Z,80nm,0.7s
R58A Rapidan 39.35 360 P 22 06 50.2
baz=179,SNR=42
R54A Victor 39.35 356 P 22 06 49.5
baz=175,SNR=21
R57A Stanardsville 39.35 359 P 22 06 49.9
baz=178
R55A Marlinton 39.40 357 P 22 06 50.5
baz=176,SNR=28
NBCL Cascavel-CE 39.42 95 *eP* **P 22 06 49.4 -0.7**
R61A Willards 39.44 3 P **P 22 06 50.4 +0.6**
R56A Bull Pasture M 39.49 358 P 22 06 51.1
baz=177,SNR=10
R53A Hurricane 39.58 355 IAmb IAmb 22 06 51.4
comp=Z,67nm,0.8s
ABTX Abilene, Hawle 39.58 330 P 22 06 51.9
baz=144,SNR=42
ABTX Abilene, Hawle 39.58 330 IAmb IAmb 22 06 54.1
comp=Z,90nm,0.8s
ABTX **PcP 22 08 55.5 +0.9**
PBMO Poplar Bluff 39.65 344 IAmb IAmb 22 06 51.2
comp=Z,103nm,0.8s
GDU01 Guandu, BA 39.66 110 *eP* **P 22 06 52.4 +0.5**
SJMB Sao Joao De Ma 39.74 118 *eP* **P 22 06 52.1 -0.5**
SJMB *epP* **pP 22 07 32.2 -1.0**
R50A Paris 39.81 352 IAmb IAmb 22 06 52.8
comp=Z,45nm,0.5s
RPN Rapa Nui 39.82 227 P **P 22 06 54.6 +1.4**
comp=Z,161nm,1.1s,baz=22,slow=4.9,SNR=5.4
RPN Rapa Nui 39.82 227 P **P 22 06 55.0 +1.9**
RPN pmax pmax
comp=Z,138nm,1.0s
RPN Rapa Nui 39.82 227 P **P 22 06 55.0 +1.9**
PLCA Paso Flores 39.83 172 P **P 22 06 54.1 +1.0**
comp=Z,110nm,0.9s,baz=346,slow=9.4,SNR=232
PLCA PcP **PcP 22 08 55.7 +0.4**
comp=Z,20nm,0.6s,baz=325,slow=5.5,SNR=7.7
PLCA ScP **ScP 22 12 26.6 +0.4**
comp=Z,6.4nm,0.9s,baz=356,slow=5.7,SNR=6.6
PLCA Paso Flores 39.83 172 P **P 22 06 54.3 +1.2**
PLCA pmax pmax
comp=Z,105nm,0.9s
PLCA Paso Flores 39.83 172 P **P 22 06 54.3 +1.2**
PLCA IAmb IAmb 22 06 55.2
comp=Z,105nm,0.8s
PLCA ScP **ScP 22 12 26.7 +0.5**
PLCA Paso Flores 39.83 172 *eP* **P 22 06 54.5 +1.4**
PLCA *epP* **pP 22 07 33.2 -0.6**
Q59A Harwood 39.92 1 P 22 06 54.9
baz=181,SNR=14
R49A Shelbyville 39.95 351 IAmb IAmb 22 06 53.9
comp=Z,34nm,0.7s
Q61A Milford 39.98 3 P 22 06 55.8
baz=184
SLBS Sierra La Lagu 39.99 310 P **P 22 06 56.3 +1.6**
Q58A Fox Den Farm, 39.99 360 P 22 06 55.3
baz=180,SNR=32
U40A Yellville 39.99 341 P 22 06 53.8
baz=156,SNR=64
U40A Yellville 40.00 341 IAmb IAmb 22 06 54.6
comp=Z,96nm,0.8s
Q53A Leroy 40.06 355 P 22 06 55.3
baz=174,SNR=45
WCI Wyandotte Cave 40.08 349 P 22 06 53.8
baz=166
WCI Wyandotte Cave 40.08 349 P **P 22 06 53.7 -1.4**
WCI pmax pmax
comp=Z,59nm,1.1s
WCI Wyandotte Cave 40.08 349 P **P 22 06 53.7 -1.4**
WCI IAmb IAmb 22 06 54.6
comp=Z,59nm,1.1s
DUB01 Friburgo-RJ 40.09 124 *eP* **P 22 06 55.7 +0.2**
DUB01 *epP* **pP 22 07 35.5 -0.7**
Q57A Strasburg 40.09 359 P 22 06 56.3
baz=179,SNR=13
NBIT Itapeh - BA 40.11 112 *eP* **P 22 06 56.4 +0.8**
Q56A Snyder Ridge, 40.11 358 P 22 06 56.5
baz=178,SNR=21
Q56A Snyder Ridge, 40.11 358 P **P 22 06 55.7 +0.3**
Q56A IAmb IAmb 22 06 57.6
comp=Z,114nm,1.0s
Q54A Coxs Mills 40.14 356 IAmb IAmb 22 06 56.6
comp=Z,91nm,0.7s
NBTA Tacaratu-PE 40.16 103 *eP* **P 22 06 56.4 +0.2**
NBTA *epP* **pP 22 07 34.9 -2.0**
S44A Carbondale 40.20 346 IAmb IAmb 22 06 55.7
comp=Z,114nm,0.9s
HHAR Hobbs 40.30 339 IAmb IAmb 22 06 56.9
comp=Z,81nm,1.1s
Q51A Peebles 40.41 353 IAmb IAmb 22 06 59.1
comp=Z,57nm,1.1s
P57A Homestead Farm 40.53 360 P 22 07 00.1
baz=179,SNR=9.7
P57A Homestead Farm 40.53 360 P **P 22 06 59.5 +0.8**
P56A Dayton Farm, R 40.56 359 P 22 07 00.3
baz=178,SNR=29
CAM01 Campos-RJ 40.58 123 *eP* **P 22 06 59.6 +0.2**
CAM01 *epP* **pP 22 07 39.5 -0.7**
TUL1 Leonard 40.65 337 P 22 06 59.4
baz=151,SNR=11
RIB01 Linhares ES 40.66 119 *eP* **P 22 06 59.9 -0.2**
RIB01 *epP* **pP 22 07 40.0 -0.9**
P59A Jarrettsville 40.67 1 P 22 07 00.8
baz=182,SNR=14
NBPA Parau_RN 40.70 97 *eP* **P 22 06 59.9 -0.6**
NBLA Lagarto - SE 40.75 105 *eP* **P 22 07 00.5 -0.5**
MCWV Mont Chateau 40.75 357 P 22 07 01.2
baz=177,SNR=10
P61A Hammonton 40.80 3 P **P 22 07 00.2 -0.8**
P51A Williamsport 40.83 354 IAmb IAmb 22 07 02.2
comp=Z,66nm,1.0s
ALF01 Guarapari-ES 40.87 121 *eP* **P 22 07 01.4 -0.5**
ALF01 *epP* **pP 22 07 41.9 -0.8**
P52A Corning 40.89 355 P 22 07 01.2
baz=173,SNR=30
P60A Greenville 40.90 2 P 22 07 02.4
baz=183,SNR=6.3
P60A Greenville 40.90 2 P **P 22 07 02.0 +0.2**
WMOK Wichita Mounta 40.91 333 IAmb IAmb 22 07 04.3
comp=Z,58nm,1.1s
WMOK ScP **ScP 22 12 30.2 -0.3**
WMOK Wichita Mounta 40.91 333 P 22 07 02.1
baz=147,SNR=34
OLIL Olney 40.93 348 P **P 22 07 00.2 -1.8**
OLIL IAmb IAmb 22 07 01.4
comp=Z,90nm,0.9s
NBLI Livramento-PB 41.02 100 *eP* **P 22 07 03.1 -0.1**
NBLI *epP* **pP 22 07 42.4 -1.7**
WUPA West Chester U 41.02 2 P **P 22 07 03.1 +0.4**
OK030 Cody Creek RV 41.06 336 IAmb IAmb 22 07 07.7
comp=Z,62nm,1.2s
CCM Cathedral Cave 41.07 344 P **P 22 07 01.7 -1.5**
CCM pmax pmax
comp=Z,71nm,0.7s
CCM Cathedral Cave 41.07 344 P 22 07 01.7
comp=Z,71nm,0.7s
CCM IAmb IAmb 22 07 03.8
CCM Cathedral Cave 41.07 344 P 22 07 01.7
baz=159
P49A Miami Univ. Ec 41.09 352 P 22 07 01.9
baz=169,SNR=8.5
OK031 S. Brethren Rd 41.10 336 IAmb IAmb 22 07 03.9
comp=Z,67nm,1.0s
BCOK Bluff Creek, N 41.17 335 IAmb IAmb 22 07 05.8
comp=Z,114nm,1.0s
O58A Lewisberry 41.17 1 P 22 07 05.2
baz=181,SNR=18
LL01 San Ignacio de 41.22 174 IAmb IAmb 22 07 05.7
comp=Z,68nm,0.7s
OK029 Liberty Lake 41.22 335 IAmb IAmb 22 07 05.8
comp=Z,56nm,0.6s
O61A Allentown 41.24 4 P 22 07 05.3
baz=185
QUOK Quay 41.24 336 IAmb IAmb 22 07 05.1
comp=Z,40nm,0.5s
O57A Amberson 41.26 0 P 22 07 05.7
baz=180,SNR=22
PAGS Pennsylvania G 41.28 1 IAmb IAmb 22 07 06.8
comp=Z,70nm,0.8s
Q44A Meyer Farm, Va 41.30 347 IAmb IAmb 22 07 04.2
comp=Z,105nm,0.8s
O54A avella 41.30 357 IAmb IAmb 22 07 06.8
comp=Z,70nm,0.8s
O56A Blue Knob Stat 41.32 359 P 22 07 06.2
baz=178,SNR=34
SLM Saint Louis 41.34 345 IAmb IAmb 22 07 04.9
comp=Z,73nm,0.8s
O59A Robesonia 41.38 2 P 22 07 06.8
baz=182
O60A Telford 41.41 3 P 22 07 06.9
baz=183,SNR=14
O53A New Philadelph 41.42 356 P 22 07 05.9
baz=174,SNR=16
O53A New Philadelph 41.42 356 IAmb IAmb 22 07 07.6
comp=Z,95nm,0.8s
ACSO Alum Creek Sta 41.56 354 P 22 07 06.6
baz=172,SNR=27
ACSO Alum Creek Sta 41.56 354 IAmb IAmb 22 07 07.7
comp=Z,96nm,0.8s
SSPA Standing Stone 41.68 360 P **P 22 07 09.1 +0.9**
SSPA IAmb IAmb 22 07 09.9
comp=Z,114nm,0.8s
SSPA Standing Stone 41.68 360 P 22 07 08.9
baz=180
N57A Milroy 41.80 0 P 22 07 09.6
baz=180,SNR=14
BRNJ Basking Ridge 41.82 4 IAmb IAmb 22 07 11.3
comp=Z,44nm,0.7s
GO07 Milladeo Hill, 41.84 176 P **P 22 07 10.6 +1.2**
N58A Sunbury 41.89 1 P 22 07 10.6
baz=181,SNR=15
N58A Sunbury 41.89 1 IAmb IAmb 22 07 11.8
comp=Z,88nm,1.0s
RCBR Riachuelo 41.91 97 P **P 22 07 09.9 -0.6**
comp=Z,112nm,1.0s,baz=263,slow=9.3,SNR=58
RCBR Riachuelo 41.91 97 P **P 22 07 09.9 -0.6**
RCBR IAmb IAmb 22 07 10.9
comp=Z,70nm,0.8s
RCBR Riachuelo 41.91 97 *eP* **P 22 07 10.2 -0.2**
N61A South Mountain 41.91 4 P 22 07 11.0
baz=185,SNR=12
N53A Lisbon 41.95 356 IAmb IAmb 22 07 11.1
comp=Z,86nm,0.7s
N56A West Decatur 41.97 359 P 22 07 11.2
baz=179,SNR=27
N60A Cedar Hill Far 41.98 3 P 22 07 11.4
baz=184,SNR=12
NBAN Anadia - AL 41.99 103 *eP* **P 22 07 11.2 +0.1**
NBAN *epP* **pP 22 07 50.8 -1.3**
N59A State Game Lan 42.00 2 P 22 07 12.1
baz=183,SNR=25
MNTX Cornudas Mount 42.01 324 IAmb IAmb 22 07 13.9
comp=Z,64nm,1.1s
MNTX Cornudas Mount 42.01 324 P 22 07 11.6
baz=136,SNR=69
CROK Carrier 42.05 335 IAmb IAmb 22 07 13.2
comp=Z,165nm,1.2s
N54A Moraine State 42.06 357 P 22 07 11.8
baz=176,SNR=39
P43A Skaggs, Pawnee 42.12 346 IAmb IAmb 22 07 11.0
comp=Z,94nm,0.9s
N51A Ashland 42.18 355 IAmb IAmb 22 07 13.0
comp=Z,64nm,0.7s
PAL Palisades 42.19 4 P 22 07 12.8
baz=186,SNR=12
PAL Palisades 42.19 4 IAmb IAmb 22 07 13.6
comp=Z,91nm,0.9s
MSTX Muleshoe 42.24 328 P 22 07 13.6
baz=141,SNR=60
MSTX Muleshoe 42.24 328 IAmb IAmb 22 07 15.8
comp=Z,125nm,0.9s
SFIN Lafayette 42.31 349 P 22 07 11.3
baz=166,SNR=11
U32A Winter Ranch, 42.38 334 IAmb IAmb 22 07 15.9
comp=Z,82nm,0.9s
M57A Sunshine Farm, 42.38 1 P 22 07 15.1
baz=181,SNR=32
N49A Columbus Grove 42.39 353 IAmb IAmb 22 07 14.6
comp=Z,69nm,0.9s
OK032 Salt Plains WL 42.40 335 IAmb IAmb 22 07 16.2
comp=Z,56nm,0.8s
AMTX Amarillo 42.40 330 P 22 07 15.2
baz=143
AMTX Amarillo 42.40 330 IAmb IAmb 22 07 17.5
comp=Z,84nm,0.7s
KAN14 Manchester OK 42.43 336 IAmb IAmb 22 07 15.3
comp=Z,50nm,0.8s
KAN09 Caldwell North 42.44 336 IAmb IAmb 22 07 15.1
comp=Z,61nm,0.7s
M60A Port Jervis 42.46 3 P 22 07 14.8
baz=184,SNR=6.8
M61A Granite Spring 42.50 4 P 22 07 15.1
baz=186
KAN01 Argonia South 42.51 336 IAmb IAmb 22 07 15.8
comp=Z,66nm,0.7s
KAN05 Bluff City Nor 42.52 336 IAmb IAmb 22 07 15.8
comp=Z,84nm,0.7s
M55A Ridgway 42.53 359 IAmb IAmb 22 07 16.3
comp=Z,122nm,0.8s
M56A Emporium 42.53 359 P 22 07 15.7
baz=179,SNR=74
N47A Urbana 42.56 351 IAmb IAmb 22 07 14.6
comp=Z,74nm,1.1s
NBPV Pedro Velho 42.56 98 *eP* **P 22 07 14.9 -0.8**
NBPV *epP* **pP 22 07 53.5 -3.3**
M53A WI Miller and 42.57 357 P 22 07 15.1
baz=175,SNR=15
M53A WI Miller and 42.57 357 IAmb IAmb 22 07 16.2
comp=Z,82nm,1.1s
M51A Elyria 42.58 355 P 22 07 14.7
baz=173,SNR=6.9
M54A Oil Creek Stat 42.59 358 P 22 07 15.7
baz=177,SNR=47
M59A Waymart 42.63 2 P 22 07 16.9
baz=183,SNR=25
M62A Hamden 42.71 5 P 22 07 17.3
baz=187,SNR=22
M52A Chesterland 42.72 356 IAmb IAmb 22 07 16.9
comp=Z,62nm,0.7s
M63A Gales Ferry 42.75 6 P 22 07 17.9
baz=188,SNR=24
HDIL Hopedale 42.94 347 P 22 07 16.5
baz=163,SNR=46
KSCT Kent School, K 42.94 5 IAmb IAmb 22 07 19.6
comp=Z,60nm,0.9s
NBRF Rio Formoso - 42.97 101 *eP* **P 22 07 18.8 -0.2**
NBRF *epP* **pP 22 07 58.6 -1.6**
M64A Tiverton 42.99 7 P 22 07 19.4
baz=189,SNR=5.4
M64A Tiverton 43.00 7 IAmb IAmb 22 07 20.4
comp=Z,81nm,1.1s
L57A Andrews Acres 43.05 1 P 22 07 19.9
baz=181,SNR=37
L53A Girard 43.06 357 P 22 07 19.0
baz=176,SNR=21
M65A Busby, Falmout 43.08 8 P **P 22 07 19.6 +0.2**
M65A IAmb IAmb 22 07 21.5
comp=Z,89nm,0.7s
L58A Harry Jones Me 43.12 2 P 22 07 20.8
baz=182,SNR=19
L60A Shokan 43.15 4 P 22 07 20.8
baz=185,SNR=7.7
L56A Greenwood 43.18 0 P 22 07 20.7
baz=180,SNR=20
P38A Dawn 43.20 342 IAmb IAmb 22 07 19.8
comp=Z,35nm,0.6s
ERPA Erie 43.21 357 P 22 07 20.4
baz=176,SNR=22
L63A North Scituate 43.26 7 P 22 07 21.4
baz=189,SNR=7.0
L63A North Scituate 43.26 7 IAmb IAmb 22 07 21.9
comp=Z,52nm,0.7s
BINY Binghamton 43.27 2 P 22 07 22.0
baz=182,SNR=24
L59A Walton 43.30 3 IAmb IAmb 22 07 23.1
comp=Z,77nm,1.0s
L59A Walton 43.30 3 P 22 07 22.1
baz=184,SNR=14
L62A Suffield 43.31 5 IAmb IAmb 22 07 23.6
comp=Z,142nm,1.1s
BRYW Bryant College 43.32 7 IAmb IAmb 22 07 22.5
comp=Z,65nm,0.7s
L61A Hillsdale 1, H 43.40 4 P 22 07 22.8
baz=186,SNR=22
L64A Middleborough 43.42 7 P 22 07 22.8
baz=190,SNR=6.1
L64A Middleborough 43.42 7 IAmb IAmb 22 07 23.5
comp=Z,57nm,0.7s
L48A N Adams 43.42 353 IAmb IAmb 22 07 22.6
comp=Z,55nm,0.8s
N41A Harden Midland 43.45 345 IAmb IAmb 22 07 21.3
comp=Z,53nm,0.6s
QUA2 Belchertown 43.59 6 IAmb IAmb 22 07 24.9
comp=Z,87nm,0.9s
AAM Ann Arbor 43.68 354 P 22 07 24.2
baz=171,SNR=6.8
AAM Ann Arbor 43.68 354 IAmb IAmb 22 07 24.5
comp=Z,46nm,0.7s
L61B Northampton 43.73 5 P 22 07 24.9
baz=187,SNR=5.5
K56A Middlesex 43.74 0 P 22 07 25.0
baz=180,SNR=13
L46A Eue Claire 43.76 351 IAmb IAmb 22 07 23.9
comp=Z,73nm,0.9s
KSU1 Kansas State U 43.76 339 P 22 07 24.3
baz=152,SNR=18
KSU1 Kansas State U 43.77 339 IAmb IAmb 22 07 25.0
comp=Z,95nm,0.7s
BCX Boston College 43.77 7 IAmb IAmb 22 07 27.6
comp=Z,71nm,0.7s
MMNY Mt. Morris Dam 43.78 360 IAmb IAmb 22 07 25.6
comp=Z,87nm,0.6s
K57A Scipio Center 43.79 1 P 22 07 25.6
baz=182,SNR=30
K60A Five Rivers En 43.79 4 P 22 07 26.0
baz=185,SNR=5.2
WES Weston 43.80 7 IAmb IAmb 22 07 27.8
comp=Z,67nm,0.7s
K58A Earlville 43.84 2 P 22 07 26.3
baz=183,SNR=28
K59A Cooperstown 43.89 3 P 22 07 26.7
baz=184,SNR=13
K61A Williamstown 43.89 5 P 22 07 26.7
baz=186,SNR=9.9
HRV Adam Dziewonsk 43.90 7 P **P 22 07 26.9 +1.0**
HRV pmax pmax
comp=Z,84nm,0.9s
HRV Adam Dziewonsk 43.90 7 P **P 22 07 26.9 +1.0**
HRV IAmb IAmb 22 07 27.8
comp=Z,84nm,0.8s
HRV Adam Dziewonsk 43.90 7 P 22 07 26.9
baz=189
TRY Troy 43.92 4 IAmb IAmb 22 07 28.2
comp=Z,75nm,0.8s
K62A Royalston 43.98 6 P 22 07 27.5
baz=188,SNR=8.8
K62A Royalston 43.98 6 P **P 22 07 27.5 +0.9**
K62A IAmb IAmb 22 07 27.9
comp=Z,57nm,0.8s
R32A Long Quarter, 43.99 336 IAmb IAmb 22 07 29.4
comp=Z,58nm,0.7s
121A Cookes Peak, D 44.04 322 IAmb IAmb 22 07 30.4
comp=Z,93nm,1.1s
121A Cookes Peak, D 44.04 322 P 22 07 29.3
baz=134,SNR=53
K63A Dunstable 44.08 6 P 22 07 28.3
baz=189,SNR=8.5
K63A Dunstable 44.08 6 IAmb IAmb 22 07 29.2
comp=Z,124nm,1.1s
N38A Joes South For 44.18 343 IAmb IAmb 22 07 27.6
comp=Z,129nm,0.8s
J56A Wolcott 44.33 1 P 22 07 29.6
baz=181,SNR=22
J54A Appleton 44.33 359 IAmb IAmb 22 07 30.2
comp=Z,111nm,0.7s
L42A Oliver, Polo 44.40 347 IAmb IAmb 22 07 28.9
comp=Z,54nm,0.8s
J60A Lant Hill Farm 44.45 4 P 22 07 31.4
baz=186,SNR=12
J57A Williamstown 44.48 2 P 22 07 30.8
baz=182,SNR=16
J57A Williamstown 44.48 2 P **P 22 07 30.8 +0.3**
J57A IAmb IAmb 22 07 33.2
comp=Z,84nm,0.8s
J62A Henniker 44.58 6 P 22 07 32.3
baz=188,SNR=8.7
J59A Piesco 44.60 3 P 22 07 32.2
baz=184,SNR=35
J61A Chester 44.62 5 P 22 07 32.9
baz=187,SNR=10
J63A Strafford 44.72 7 P 22 07 32.6
baz=189,SNR=6.6
CBKS Cedar Bluff 44.74 335 P 22 07 33.4
baz=148,SNR=27
I58A Old Forge 44.80 3 P 22 07 33.5
baz=184,SNR=17
L40A Anamosa 44.82 346 IAmb IAmb 22 07 33.6
comp=Z,76nm,0.8s
I51A Listowel 44.95 357 P 22 07 33.5
baz=175,SNR=40
I59A Olmsteadville 44.97 4 P 22 07 35.1
baz=185,SNR=30
ANMO Albuquerque 44.98 326 P 22 07 36.2
baz=137
ANMO Albuquerque 44.98 326 P **P 22 07 36.1 +1.3**
comp=Z,62nm,0.6s,baz=136,slow=8.5,SNR=173
ANMO pP **pP 22 08 19.6 +2.5**
comp=Z,22nm,0.9s,baz=134,slow=11,SNR=1.7
ANMO ScP **ScP 22 12 47.6 +0.4**
comp=Z,6.2nm,1.1s,baz=303,slow=3.8,SNR=3.6
ANMO Albuquerque 44.98 326 *eP* **P 22 07 35.7 +0.9**
ANMO pmax pmax
comp=Z,162nm,1.3s
ANMO Albuquerque 44.98 326 P **P 22 07 36.2 +1.4**
ANMO IAmb IAmb 22 07 38.3
comp=Z,122nm,1.1s
N35A Tabor 44.99 341 IAmb IAmb 22 07 34.5
comp=Z,88nm,0.8s
HNH Hanover 45.01 6 IAmb IAmb 22 07 36.7
comp=Z,72nm,0.8s
I57A Carthage 45.02 2 P 22 07 35.1
baz=183,SNR=12
I60A Shoreham 45.06 4 P 22 07 36.1
baz=186,SNR=26
NCB Newcomb 45.12 3 IAmb IAmb 22 07 37.2
comp=Z,67nm,0.8s
SCIA State Center 45.20 344 P 22 07 35.1
baz=158,SNR=13
SCIA State Center 45.20 344 IAmb IAmb 22 07 35.7
comp=Z,99nm,0.8s
I62A Tamworth 45.27 6 P 22 07 37.9
baz=189
JFWS Jewell Farm 45.40 347 P 22 07 36.2
baz=162,SNR=43
JFWS Jewell Farm 45.40 347 IAmb IAmb 22 07 37.0
comp=Z,120nm,0.7s
I64A Boothbay 45.53 8 P 22 07 39.8
baz=191,SNR=14
I63A Otisfield 45.54 7 IAmb IAmb 22 07 40.6
comp=Z,107nm,0.7s
I63A Otisfield 45.54 7 P 22 07 39.8
baz=190,SNR=14
T25A Trinidad 45.54 330 P 22 07 41.1
baz=141,SNR=40
T25A Trinidad 45.54 330 IAmb IAmb 22 07 43.1
comp=Z,85nm,1.1s
H57A Richville 45.55 2 P 22 07 39.2
baz=183,SNR=30
H58A Gabriels 45.57 3 P 22 07 39.6
baz=185,SNR=26

LBNH	**Lisbon**	**45.57**	**6**	IAmb	IAmb	22 07 41.1	
	comp=Z,142nm,0.8s						
LBNH	**Lisbon**	**45.57**	**6**	P		22 07 40.3	
	baz=188,SNR=20						
H53A	**Bobcaygeon**	**45.62**	**359**	P		22 07 39.3	
	baz=179,SNR=27						
LONY	**Lake Ozonia**	**45.74**	**3**	IAmb	IAmb	22 07 43.4	
	comp=Z,129nm,1.1s						
LONY	**Lake Ozonia**	**45.74**	**3**	P		22 07 40.9	
	baz=184,SNR=24						
TUC	**Tucson**	**45.77**	**320**	P		22 07 42.0	
	baz=130						
TUC	**Tucson**	**45.77**	**320**	P	**P**	**22 07 41.3**	**+0.3**
TUC				pmax	pmax		
	comp=Z,53nm,0.9s						
TUC	**Tucson**	**45.77**	**320**	P	**P**	**22 07 41.3**	**+0.3**
H60A	**Morristown**	**45.82**	**5**	P		22 07 41.9	
	baz=187,SNR=9.6						
H59A	**Cadyville**	**45.83**	**4**	P		22 07 41.7	
	baz=185,SNR=24						
SADO	**Sadowa**	**45.83**	**359**	P	**P**	**22 07 40.4**	**-0.7**
	comp=Z,82nm,0.6s,baz=197,slow=7.7,SNR=67						
SADO	**Sadowa**	**45.83**	**359**	IAmb	IAmb	22 07 42.0	
	comp=Z,101nm,0.8s						
H61A	**Lyndonville**	**45.86**	**6**	P		22 07 42.4	
	baz=188,SNR=18						
H62A	**Milan**	**45.98**	**6**	P		22 07 43.3	
	baz=189,SNR=6.9						
H62A	**Milan**	**45.98**	**6**	IAmb	IAmb	22 07 44.2	
	comp=Z,45nm,0.7s						
I42A	**Draeger Farm,**	**46.05**	**349**	IAmb	IAmb	22 07 42.6	
	comp=Z,77nm,0.9s						
PLVO	**Plevna**	**46.09**	**1**	IAmb	IAmb	22 07 44.1	
	comp=Z,141nm,0.8s						
WVL	**Waterville**	**46.16**	**8**	IAmb	IAmb	22 07 46.8	
	comp=Z,76nm,0.7s						
G57A	**Newington**	**46.21**	**3**	P		22 07 44.5	
	baz=184,SNR=39						
H63A	**New Sharon**	**46.21**	**8**	P		22 07 45.4	
	baz=190,SNR=13						
L34A	**Svendsen Farm,**	**46.23**	**341**	IAmb	IAmb	22 07 43.5	
	comp=Z,58nm,0.6s						
GLMI	**Grayling**	**46.28**	**353**	P		22 07 43.7	
	baz=170,SNR=9.3						
GLMI	**Grayling**	**46.29**	**353**	IAmb	IAmb	22 07 44.4	
	comp=Z,142nm,1.0s						
G59A	**Clarenceville**	**46.30**	**4**	P		22 07 45.5	
	baz=186,SNR=29						
H64A	**Troy**	**46.30**	**8**	P		22 07 45.6	
	baz=192,SNR=8.6						
G58A	**Ormstown**	**46.30**	**4**	P		22 07 45.3	
	baz=185,SNR=33						
G60A	**Masonville**	**46.38**	**5**	P		22 07 46.4	
	baz=187,SNR=11						
H43A	**Windswept, Lux**	**46.40**	**350**	IAmb	IAmb	22 07 45.2	
	comp=Z,197nm,1.1s						
G54A	**Lake Saint Pet**	**46.44**	**360**	P		22 07 45.5	
	baz=179,SNR=30						
H65A	**Eastbrook**	**46.50**	**9**	P		22 07 47.0	
	baz=193,SNR=10.0						
G61A	**St-Isidore-de-**	**46.64**	**6**	P		22 07 48.9	
	baz=188,SNR=27						
EMMW	**East Machias**	**46.65**	**10**	IAmb	IAmb	22 07 49.8	
	comp=Z,57nm,0.8s						
G62A	**West of Eustis**	**46.69**	**7**	P		22 07 49.3	
	baz=190,SNR=34						
G63A	**Kingsbury**	**46.71**	**8**	P		22 07 48.9	
	baz=191,SNR=20						
H66A	**Whiting**	**46.75**	**10**	P		22 07 48.9	
	baz=194,SNR=8.6						
214A	**Organ Pipe Nat**	**46.89**	**318**	IAmb	IAmb	22 07 53.2	
	comp=Z,109nm,1.0s						
214A	**Organ Pipe Nat**	**46.89**	**318**	P		22 07 51.0	
	baz=128,SNR=80						
PKME	**Peaks-Kenny Pk**	**46.90**	**8**	P		22 07 50.4	
	baz=191,SNR=19						
PKME	**Peaks-Kenny Pk**	**46.90**	**8**	IAmb	IAmb	22 07 50.8	
	comp=Z,100nm,0.7s						
F57A	**Harrington**	**46.93**	**3**	P		22 07 49.9	
	baz=184						
G64A	**Maxfield**	**46.97**	**9**	P		22 07 50.5	
	baz=192,SNR=9.7						
W18A	**Petrified Fore**	**46.99**	**323**	P		22 07 52.0	
	baz=133,SNR=100						
ALGO	**Algonquin Park**	**47.00**	**360**	P		22 07 49.7	
	baz=179,SNR=37						
F59A	**Saint Guilaume**	**47.09**	**5**	P		22 07 51.5	
	baz=186,SNR=16						
G65A	**Princeton**	**47.10**	**10**	P		22 07 51.9	
	baz=194,SNR=17						
G65A	**Princeton**	**47.10**	**10**	IAmb	IAmb	22 07 52.4	
	comp=Z,66nm,0.8s						
GGN	**Saint George**	**47.15**	**10**	IAmb	IAmb	22 07 53.9	
	comp=Z,62nm,0.8s						
S22A	**4UR Ranch, Cre**	**47.25**	**328**	P		22 07 53.6	
	baz=138,SNR=44						
F60A	**Warwick**	**47.28**	**5**	P		22 07 52.9	
	baz=188,SNR=13						
Q24A	**Divide**	**47.32**	**331**	P		22 07 54.3	
	baz=141,SNR=21						
F63A	**Nahmakanta, Br**	**47.36**	**8**	IAmb	IAmb	22 07 54.1	
	comp=Z,58nm,0.7s						
F63A	**Nahmakanta, Br**	**47.36**	**8**	P		22 07 53.7	
	baz=192,SNR=13						
F61A	**St Evariste**	**47.38**	**6**	P		22 07 53.7	
	baz=189,SNR=16						
OGNE	**Ogallala**	**47.49**	**335**	IAmb	IAmb	22 07 57.1	
	comp=Z,94nm,0.7s						
OGNE				pP	pP	22 08 39.7	+2.4
OGNE	**Ogallala**	**47.49**	**335**	P		22 07 55.0	
	baz=146,SNR=13						
E55A	**Montcerf-Lytto**	**47.52**	**1**	P		22 07 54.5	
	baz=182,SNR=18						
E58A	**La Victoria**	**47.57**	**4**	P		22 07 55.2	
	baz=186,SNR=26						
F64A	**Sherman**	**47.62**	**9**	P		22 07 55.7	
	baz=192,SNR=21						
F64A	**Sherman**	**47.62**	**9**	IAmb	IAmb	22 07 57.4	
	comp=Z,85nm,0.8s						
K31A	**O'Neill**	**47.63**	**339**	IAmb	IAmb	22 07 57.1	
	comp=Z,108nm,0.8s						
E56A	**St. Veronique**	**47.64**	**2**	P		22 07 55.5	
	baz=183,SNR=55						
F42A	**Maple Grove Fa**	**47.71**	**350**	IAmb	IAmb	22 07 54.9	
	comp=Z,57nm,0.9s						
E60A	**Ste Agathe de**	**47.73**	**6**	P		22 07 56.2	
	baz=188,SNR=14						
E59A	**St. Maurice**	**47.74**	**5**	P		22 07 56.9	
	baz=187,SNR=8.6						
SFX	**San Felipe**	**47.74**	**315**	IAmb	IAmb	22 07 59.5	
	comp=Z,73nm,1.1s						
MVCO	**Mesa Verde**	**47.75**	**326**	P		22 07 57.3	
	baz=136,SNR=14						
E46A	**Sault Ste Mari**	**47.77**	**354**	IAmb	IAmb	22 07 55.5	
	comp=Z,60nm,0.7s						
ECSD	**EROS Data Cent**	**47.89**	**341**	P		22 07 55.5	
	baz=154,SNR=22						
E61A	**Lac Etchemin**	**47.89**	**7**	P		22 07 58.1	
	baz=190,SNR=22						
D55A	**Sainte-Anne-du**	**48.10**	**2**	P		22 07 58.7	
	baz=183,SNR=53						
E43A	**Lone Tree Farm**	**48.13**	**351**	IAmb	IAmb	22 07 58.2	
	comp=Z,59nm,0.8s						
E63A	**Oxbow**	**48.16**	**9**	P		22 07 60.0	
	baz=192,SNR=20						
D56A	**ZEC Mazanza, M**	**48.16**	**3**	P		22 07 59.2	
	baz=184,SNR=37						
E63A	**Oxbow**	**48.16**	**9**	IAmb	IAmb	22 08 00.4	
	comp=Z,67nm,0.7s						
SPMN	**Marine on St.**	**48.18**	**346**	P		22 07 57.4	
	baz=159,SNR=13						
ISCO	**Idaho Springs**	**48.20**	**331**	P		22 08 01.2	
	baz=141,SNR=17						
E64A	**Bridgewater**	**48.24**	**9**	P		22 08 00.6	
	baz=193,SNR=14						
WUAZ	**Wupatki**	**48.25**	**323**	IAmb	IAmb	22 08 03.3	
	comp=Z,184nm,1.1s						
WUAZ	**Wupatki**	**48.25**	**323**	P		22 08 01.7	
	baz=132,SNR=101						
D58A	**Chemin du LacG**	**48.32**	**4**	P		22 08 01.0	
	baz=186,SNR=57						
D60A	**Saint Jean D'O**	**48.32**	**6**	P		22 08 01.1	
	baz=189,SNR=19						
D59A	**Saint-Raymond**	**48.32**	**5**	P		22 08 01.1	
	baz=188,SNR=7.0						
PV01	**Paradox Valley**	**48.46**	**327**	IAmb	IAmb	22 08 05.4	
	comp=Z,67nm,1.1s						
PQI	**Presque Isle**	**48.46**	**9**	IAmb	IAmb	22 08 03.8	
	comp=Z,98nm,1.2s						
PV15	**Paradox Valley**	**48.56**	**327**	IAmb	IAmb	22 08 06.3	
	comp=Z,96nm,1.1s						
PV02	**Paradox Valley**	**48.61**	**327**	IAmb	IAmb	22 08 06.9	
	comp=Z,75nm,0.9s						
GBN	**Guysborough**	**48.61**	**15**	PcP	**PcP**	**22 09 25.6**	**+0.5**
LATQ	**La Tuque**	**48.62**	**4**	P		22 08 03.3	
	baz=186,SNR=101						
PV13	**Radium Mtn., P**	**48.62**	**327**	IAmb	IAmb	22 08 06.2	
	comp=Z,174nm,1.1s						
D61A	**St Aubert, Com**	**48.69**	**7**	P		22 08 04.5	
	baz=190,SNR=34						
PV03	**Paradox Valley**	**48.70**	**327**	IAmb	IAmb	22 08 06.8	
	comp=Z,115nm,1.2s						
PV05	**Paradox Valley**	**48.71**	**327**	IAmb	IAmb	22 08 06.6	
	comp=Z,122nm,1.2s						
PV12	**Saucer Basin,**	**48.72**	**327**	IAmb	IAmb	22 08 07.2	
	comp=Z,117nm,1.1s						
PV18	**Skein Mesa, Pa**	**48.73**	**327**	IAmb	IAmb	22 08 07.0	
	comp=Z,90nm,1.0s						
PV11	**David Mesa, Pa**	**48.75**	**327**	IAmb	IAmb	22 08 07.2	
	comp=Z,137nm,1.2s						
PV11					pP	22 08 48.8	+1.7
PV16	**Nyswonger Mesa**	**48.78**	**327**	IAmb	IAmb	22 08 07.4	
	comp=Z,87nm,1.1s						
PV17	**East Wray Mesa**	**48.78**	**327**	IAmb	IAmb	22 08 07.3	
	comp=Z,84nm,1.0s						
D63A	**Stockholm**	**48.81**	**9**	P		22 08 05.0	
	baz=193,SNR=18						
PV04	**Paradox Valley**	**48.83**	**327**	IAmb	IAmb	22 08 07.9	
	comp=Z,79nm,1.2s						
CPBX	**Cerro Prieto**	**48.85**	**317**	IAmb	IAmb	22 08 07.2	
	comp=Z,89nm,1.0s						
PV10	**Paradox Valley**	**48.89**	**327**	IAmb	IAmb	22 08 07.7	
	comp=Z,88nm,1.1s						
GLA	**Glamis**	**48.90**	**318**	P		22 08 06.2	
	baz=127,SNR=13						
D41A	**Chassel**	**49.05**	**350**	IAmb	IAmb	22 08 06.0	
	comp=Z,64nm,1.0s						
N23A	**Red Feather La**	**49.21**	**332**	P		22 08 08.6	
	baz=141,SNR=18						
PDMCI	**Parker Dam,Lak**	**49.21**	**319**	P		22 08 08.1	
	baz=128,SNR=23						
SUSD	**Miller**	**49.30**	**340**	P		22 08 06.9	
	baz=151,SNR=11						
SUSD	**Miller**	**49.30**	**340**	IAmb	IAmb	22 08 09.3	
	comp=Z,95nm,0.7s						
RMX	**La Rumorosa**	**49.49**	**316**	IAmb	IAmb	22 08 11.5	
	comp=Z,92nm,1.1s						
SWSC	**Sam W. Stewart**	**49.50**	**317**	P		22 08 10.6	
	baz=126,SNR=17						
IKP	**In-Ko-Pah, Jac**	**49.54**	**316**	P		22 08 11.1	
	baz=125,SNR=29						
BC3	**Big Chuckawall**	**49.68**	**318**	P		22 08 12.0	
	baz=138,SNR=28						
O20A	**White River Ci**	**49.76**	**329**	P		22 08 12.2	
	baz=138,SNR=9.5						
IRM	**Iron Mountain**	**49.78**	**319**	P		22 08 12.9	
	baz=127,SNR=49						
NEE2	**Needles Airpor**	**49.80**	**320**	P		22 08 13.3	
	baz=128,SNR=5.6						
TKX	**Tecate**	**49.84**	**316**	IAmb	IAmb	22 08 14.3	
	comp=Z,55nm,1.0s						
MONP2	**Monument Peak**	**49.90**	**316**	P		22 08 13.9	
	baz=125,SNR=26						
BAR	**Barrett**	**49.95**	**316**	IAmb	IAmb	22 08 15.6	
	comp=Z,51nm,1.1s						
GO09	**Cerro Castillo**	**50.05**	**176**	P	**P**	**22 08 15.2**	**+1.8**
GO09				IAmb	IAmb	22 08 16.2	
	comp=Z,104nm,1.0s						
PKCU	**Pink Cliffs**	**50.10**	**324**	IAmb	IAmb	22 08 17.6	
	comp=Z,66nm,1.1s						
SRU	**San Rafael Swe**	**50.23**	**327**	IAmb	IAmb	22 08 18.3	
	comp=Z,85nm,1.1s						
BELC	**Belle Mtn. Jos**	**50.25**	**318**	P		22 08 16.5	
	baz=126,SNR=33						
XPFO	**Pion Flat**	**50.33**	**317**	P	**P**	**22 08 17.2**	**+1.2**
PFO	**Pinyon Flats O**	**50.34**	**317**	P		22 08 17.4	
	baz=126,SNR=18						
PFO	**Pinyon Flats O**	**50.34**	**317**	P	**P**	**22 08 17.2**	**+1.2**
PFO				pmax	pmax		
	comp=Z,50nm,1.2s						
PFO	**Pinyon Flats O**	**50.34**	**317**	P	**P**	**22 08 17.2**	**+1.2**
109C	**Camp Elliot, M**	**50.37**	**316**	IAmb	IAmb	22 08 19.4	
	comp=Z,108nm,1.1s						
109C	**Camp Elliot, M**	**50.37**	**316**	P		22 08 17.1	
	baz=124,SNR=6.3						
RWWY	**Rawlins**	**50.43**	**331**	IAmb	IAmb	22 08 19.7	
	comp=Z,54nm,0.8s						
EYMN	**Ely**	**50.46**	**348**	P		22 08 14.9	
	baz=162,SNR=24						
GMRC	**Granite Mounta**	**50.49**	**319**	P		22 08 18.4	
	baz=127,SNR=55						
P17A	**Butcher Ranch,**	**50.60**	**327**	IAmb	IAmb	22 08 21.1	
	comp=Z,61nm,1.0s						
SZCU	**Shurtz Canyon**	**50.66**	**323**		pP	22 09 06.3	+4.2
MATQ	**Matagami**	**50.80**	**0**	P		22 08 18.0	
	baz=180,SNR=29						
MURC	**Murrieta**	**50.83**	**317**	P		22 08 20.8	
	baz=125,SNR=20						
K22A	**Casper**	**50.85**	**333**	P		22 08 20.7	
	baz=142,SNR=7.3						
RSSD	**Black Hills**	**50.94**	**336**	P		22 08 21.4	
	baz=145						
RSSD	**Black Hills**	**50.94**	**336**	P	**P**	**22 08 21.4**	**+0.9**
RSSD				pmax	pmax		
	comp=Z,33nm,0.7s						
RSSD	**Black Hills**	**50.94**	**336**	P	**P**	**22 08 21.4**	**+0.9**
TCRU	**Three Creeks R**	**50.96**	**325**	IAmb	IAmb	22 08 26.6	
	comp=Z,58nm,1.1s						
HEC	**Hector,Ludlow**	**50.97**	**319**	P		22 08 22.0	
	baz=126,SNR=57						
BBRC	**Big Bear Solar**	**51.02**	**318**	P		22 08 22.7	
	baz=126,SNR=6.7						
SHPR	**Sheep Range**	**51.23**	**321**	IAmb	IAmb	22 08 27.0	
	comp=Z,60nm,1.2s						
SCI2	**San Clemente I**	**51.42**	**315**	P		22 08 25.0	
	baz=123						
BFSC	**Mount Baldy Ra**	**51.51**	**317**	P		22 08 25.6	
	baz=125,SNR=22						
GSC	**Goldstone, Bar**	**51.56**	**319**	P		22 08 26.3	
	baz=126,SNR=51						
GSC	**Goldstone, Bar**	**51.56**	**319**	IAmb	IAmb	22 08 27.4	
	comp=Z,58nm,1.0s						
CIS	**Catalina Islan**	**51.56**	**316**	P		22 08 26.3	
	baz=124						
SHOC	**Shoshone, Teco**	**51.57**	**320**	P		22 08 26.4	
	baz=127,SNR=13						
MWC	**Mount Wilson**	**51.77**	**317**	IAmb	IAmb	22 08 29.0	
	comp=Z,72nm,0.9s						
JLU	**Jordanelle**	**51.78**	**327**	IAmb	IAmb	22 08 30.0	
	comp=Z,53nm,1.0s						
AGMN	**Agassiz Nation**	**51.82**	**345**	P		22 08 25.6	
	baz=157,SNR=54						
AGMN	**Agassiz Nation**	**51.82**	**345**	IAmb	IAmb	22 08 26.4	
	comp=Z,56nm,0.8s						
PASC	**Pasadena Art C**	**51.83**	**317**	IAmb	IAmb	22 08 30.0	
	comp=Z,104nm,1.1s						
DECC	**Green Verdugo**	**51.98**	**317**	P		22 08 29.6	
	baz=124,SNR=10						
CTU	**Camp Tracy**	**52.01**	**327**	P	**P**	**22 08 29.0**	**+0.6**
CTU				IAmb	IAmb	22 08 31.5	
	comp=Z,50nm,1.2s						
GO10	**Punta Arenas**	**52.02**	**175**	P	**P**	**22 08 30.3**	**+2.2**
EDW2	**Edwards Air Fo**	**52.10**	**318**	P		22 08 30.1	
	baz=125,SNR=62						
TCUT	**Toone Canyon**	**52.13**	**328**	P	**P**	**22 08 30.4**	**+1.1**
TCUT				IAmb	IAmb	22 08 34.8	
	comp=Z,73nm,0.7s						
TPNV	**Topopah Spring**	**52.19**	**321**	P		22 08 31.3	
	baz=128,SNR=72						
TPNV	**Topopah Spring**	**52.19**	**321**	IAmb	IAmb	22 08 32.9	
	comp=Z,82nm,1.1s						
LRMC	**Laurel Mtn Rad**	**52.24**	**318**	P		22 08 31.3	
	baz=126,SNR=43						
DUG	**Dugway, Tooele**	**52.25**	**326**	P		22 08 31.4	
	baz=133,SNR=71						
DUG	**Dugway, Tooele**	**52.25**	**326**	IAmb	IAmb	22 08 33.7	
	comp=Z,99nm,1.1s						
FURC	**Furnace Creek,**	**52.29**	**320**	P		22 08 31.6	
	baz=127,SNR=24						
BW06	**Boulder Array**	**52.38**	**331**	P		22 08 31.5	
	baz=138,SNR=13						
PDAR	**Pinedale Array**	**52.38**	**331**	P	**P**	**22 08 31.4**	**+0.3**
	comp=Z,8.0nm,0.6s,baz=139,slow=9.2,SNR=61						
PDAR				pP	**pP**	**22 09 15.4**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=152,slow=9.6,SNR=1.8						
PDAR				PcP	**PcP**	**22 09 39.0**	**-0.5**
	comp=Z,5.2nm,0.7s,baz=125,slow=7.1,SNR=7.1						
PDAR				ScP	**ScP**	**22 13 18.0**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=131,slow=5.6,SNR=3.7						
PDAR				LR	LR	22 32 49.9	
	comp=Z,103nm,19.8s,baz=142,slow=38						
PDAR	**Pinedale Array**	**52.38**	**331**	P	**P**	**22 08 30.8**	**-0.3**
MPMC	**Manual Prospec**	**52.45**	**319**	P		22 08 32.4	
	baz=126,SNR=30						
MDND	**Maddock**	**52.51**	**341**	P		22 08 31.5	
	baz=152,SNR=10						
MDND	**Maddock**	**52.51**	**342**	IAmb	IAmb	22 08 32.4	
	comp=Z,110nm,1.1s						
HWUT	**Hardware Ranch**	**52.56**	**328**	IAmb	IAmb	22 08 35.0	
	comp=Z,50nm,0.8s						
R11A	**Troy Canyon, C**	**52.65**	**323**	P		22 08 34.4	
	baz=129,SNR=56						
SCZ2	**Santa Cruz Isl**	**52.74**	**316**	P		22 08 34.9	
	baz=123,SNR=5.4						
ARVC	**Arvin**	**52.81**	**317**	P		22 08 35.6	
	baz=124,SNR=7.9						
SPUT	**South Promonto**	**52.82**	**327**	IAmb	IAmb	22 08 37.3	
	comp=Z,118nm,1.0s						
BGU	**Big Grassy Mou**	**52.87**	**327**	IAmb	IAmb	22 08 37.7	
	comp=Z,81nm,1.1s						
ISA	**Isabella, Lake**	**52.87**	**318**	IAmb	IAmb	22 08 37.0	
	comp=Z,47nm,1.1s						
ISA	**Isabella, Lake**	**52.87**	**318**	P		22 08 35.8	
	baz=125,SNR=24						
EFI	**East Falkland**	**52.89**	**165**	*ce*P	**P**	**22 08 35.3**	**+0.9**
EFI				pmax	pmax		
	comp=Z,149nm,1.3s						
EFI	**East Falkland**	**52.89**	**165**	P	**P**	**22 08 35.7**	**+1.3**
GRAC	**Grapevine Rang**	**52.93**	**320**	P		22 08 36.6	
	baz=127,SNR=12						
CWC	**Cottonwood Cre**	**53.06**	**319**	P		22 08 37.2	
	baz=126						
AHID	**Auburn Hatcher**	**53.15**	**330**	IAmb	IAmb	22 08 39.1	
	comp=Z,49nm,1.1s						
DRLN	**Deer Lake**	**53.23**	**16**	IAmb	IAmb	22 08 38.3	
	comp=Z,105nm,1.0s						
PKM	**Mcpherson Peak**	**53.35**	**317**	P		22 08 39.3	
	baz=123,SNR=28						
VES	**Vestal, Richgr**	**53.38**	**318**	P		22 08 39.7	
	baz=124,SNR=17						
REDW	**Red Top Meadow**	**53.46**	**330**	IAmb	IAmb	22 08 41.8	
	comp=Z,63nm,1.1s						
SNOW	**Snow King Moun**	**53.48**	**330**	IAmb	IAmb	22 08 42.6	
	comp=Z,38nm,0.8s						
ULM	**Lac du Bonnet**	**53.62**	**346**	P	**P**	**22 08 38.3**	**-1.5**
	comp=Z,28nm,0.4s,baz=157,slow=7.8,SNR=99						
ULM				LR	LR	22 32 28.2	
	comp=Z,185nm,21.4s,baz=148,slow=37						
ULM	**Lac du Bonnet**	**53.62**	**346**	IAmb	IAmb	22 08 38.8	
	comp=Z,37nm,0.5s						
SMMC	**Simmler**	**53.70**	**317**	P		22 08 42.1	
	baz=123,SNR=24						
FLWY	**Flagg Ranch**	**53.91**	**331**	IAmb	IAmb	22 08 45.3	
	comp=Z,70nm,0.9s						
LAO	**LASA Array**	**53.93**	**336**	P	**P**	**22 08 42.9**	**+0.8**
USHA	**Ushuaia**	**53.95**	**173**	P	**P**	**22 08 43.5**	**+1.5**
	comp=Z,55nm,0.6s,baz=76,slow=0.2,SNR=11						
ELK	**Elko**	**53.99**	**325**	P	**P**	**22 08 43.5**	**+0.6**
	comp=Z,12nm,0.9s,baz=131,slow=5.9,SNR=34						
ELK				ScP	**ScP**	**22 13 25.1**	**-0.6**
	comp=Z,7.3nm,0.9s,baz=172,slow=4.4,SNR=10						
RLMT	**Red Lodge**	**54.02**	**333**	P		22 08 43.5	
	baz=140,SNR=22						
H17A	**Grant Village**	**54.09**	**331**	P		22 08 44.9	
	baz=138						
PAGB	**Antelope Grade**	**54.11**	**317**	IAmb	IAmb	22 08 45.1	
	comp=Z,32nm,0.8s						
LKWY	**Lake**	**54.13**	**332**	P	**P**	**22 08 45.1**	**+1.2**
LKWY				pmax	pmax		
	comp=Z,23nm,0.8s						
LKWY	**Lake**	**54.13**	**332**	P	**P**	**22 08 45.1**	**+1.2**
YMP	**Mirror Lake Pl**	**54.14**	**332**	P	**P**	**22 08 44.8**	**+0.8**
MLAC	**Mammoth, Mammo**	**54.25**	**320**	P		22 08 45.8	
	baz=126						
YNE	**Yellowstone No**	**54.27**	**332**	P	**P**	**22 08 45.3**	**+0.4**
NV11	**Mina Array Sit**	**54.29**	**321**	IAmb	IAmb	22 08 48.6	
	comp=Z,53nm,1.0s						
NVAR	**Mina Array Bea**	**54.38**	**321**	P	**P**	**22 08 46.9**	**+1.1**
	comp=Z,34nm,0.8s,baz=130,slow=6.1,SNR=106						
NVAR				pP	**pP**	**22 09 31.8**	**+1.7**
	comp=Z,2.7nm,0.7s,baz=111,slow=4.1,SNR=1.5						
NVAR				ScP	**ScP**	**22 13 27.4**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=120,slow=5.1,SNR=5.0						
NVAR				LR	LR	22 31 27.7	
	comp=Z,168nm,20.7s,baz=126,slow=35						
NVAR	**Mina Array Bea**	**54.38**	**321**	P	**P**	**22 08 46.3**	**+0.5**
LHV	**Little Huntoon**	**54.40**	**321**	IAmb	IAmb	22 08 49.0	
	comp=Z,76nm,1.1s						
MDPB	**Devils Postpil**	**54.41**	**320**	IAmb	IAmb	22 08 48.7	
	comp=Z,54nm,1.1s						
YMR	**Madison River**	**54.48**	**331**	IAmb	IAmb	22 08 49.8	
	comp=Z,32nm,0.8s						
DGMT	**Dagmar**	**54.61**	**339**	P		22 08 48.0	
	baz=147						
DGMT	**Dagmar**	**54.61**	**339**	IAmb	IAmb	22 08 49.7	
	comp=Z,39nm,1.1s						
YHB	**Horse Butte**	**54.65**	**331**	P	**P**	**22 08 48.9**	**+1.3**
YHB				IAmb	IAmb	22 08 54.0	
	comp=Z,39nm,1.0s						
GCMT	**Greycliff**	**54.71**	**333**	P	**P**	**22 08 48.6**	**+0.7**
PMPB	**Monarch Peak**	**54.75**	**317**	P	**P**	**22 08 49.2**	**+0.9**
PMPB				IAmb	IAmb	22 08 51.3	
	comp=Z,84nm,1.0s						
WAKR	**Walker**	**55.14**	**320**	IAmb	IAmb	22 08 54.3	
	comp=Z,41nm,1.1s						
HLID	**Hailey**	**55.43**	**328**	P		22 08 53.9	
	baz=133,SNR=50						
BOZ	**Bozeman (W)**	**55.48**	**332**	IAmb	IAmb	22 08 56.3	
	comp=Z,42nm,0.9s						
BOZ	**Bozeman (W)**	**55.48**	**332**	P		22 08 54.1	
	baz=137,SNR=72						
PNTR	**Pine Nut**	**55.59**	**321**	IAmb	IAmb	22 08 57.9	
	comp=Z,28nm,0.9s						
VCNR	**Virginia City**	**55.74**	**321**	IAmb	IAmb	22 08 57.7	
	comp=Z,31nm,1.0s						
PAHR	**Pah Rah Range**	**55.82**	**322**	IAmb	IAmb	22 08 58.8	
	comp=Z,44nm,1.2s						
RUBR	**Rubicon Trail**	**55.92**	**321**	P	**P**	**22 08 57.8**	**+1.0**
RUBR				IAmb	IAmb	22 09 02.1	
	comp=Z,48nm,0.9s						
EGMT	**Eagleton**	**56.46**	**335**	P	**P**	**22 09 00.6**	**+0.4**
EGMT				IAmb	IAmb	22 09 02.3	
	comp=Z,37nm,0.8s						
BEKR	**Beckworth**	**56.52**	**321**	IAmb	IAmb	22 09 02.9	
	comp=Z,47nm,1.0s						
WVOR	**Wild Horse Val**	**57.03**	**325**	IAmb	IAmb	22 09 06.7	
	comp=Z,91nm,1.1s						
MSO	**Missoula**	**57.48**	**331**	P		22 09 07.8	
	baz=135,SNR=20						
GDXM	**Geysers**	**57.48**	**319**	P	**P**	**22 09 08.4**	**+0.8**
GDXM				IAmb	IAmb	22 09 10.

L04D **Klamath Falls** 59.08 323 P 22 09 19.0
baz=125,SNR=30
KHMM **Horse Mountain** 59.21 321 IAmb IAmb 22 09 23.8
comp=Z,92nm,1.2s
FFC **Flin Flon** 59.28 344 P **P** **22 09 19.0 -0.6**
FFC pmax pmax
comp=Z,19nm,0.9s
FFC **Flin Flon** 59.28 344 P **P** **22 09 19.0 -0.6**
JCC **Jacoby Creek,** 59.37 320 IAmb IAmb 22 09 23.4
comp=Z,91nm,1.1s
J04D **Umpqua Nationa** 59.55 324 P 22 09 22.8
baz=126,SNR=14
KRMB **Red Mountain** 59.68 321 IAmb IAmb 22 09 26.8
comp=Z,72nm,1.1s
I05D **Terrebonne, OR** 59.75 325 P 22 09 24.3
baz=127,SNR=15
E08A **Dider Farm, El** 59.84 328 P **P** **22 09 24.0 +0.5**
L02E **Cave Junction** 59.84 322 P 22 09 24.1
baz=124,SNR=9.2
F07A **Phinny Hill Vi** 59.92 327 P **P** **22 09 25.2 +1.1**
F07A IAmb IAmb 22 09 28.2
comp=Z,33nm,0.9s
NEW **Newport** 60.02 331 P 22 09 25.4
baz=133,SNR=25
NEW **Newport** 60.02 331 P **P** **22 09 25.2 +0.3**
comp=Z,21nm,0.8s,baz=131,slow=7.4,SNR=26
NEW **Newport** 60.02 331 P **P** **22 09 25.1 +0.3**
I04A **Tendick Farm,** 60.05 324 P 22 09 25.2
baz=126,SNR=9.8
D08A **Wollman Farm,** 60.13 329 P **P** **22 09 25.7 +0.2**
K02D **Willamette Mer** 60.18 322 P 22 09 26.8
baz=124,SNR=21
KBO **Bosley Butte** 60.26 322 P **P** **22 09 27.6 +1.0**
KBO IAmb IAmb 22 09 29.0
comp=Z,65nm,1.0s
G05D **Wamic, OR** 60.28 326 P 22 09 28.5
baz=127,SNR=14
E07A **Sunnyside** 60.30 328 IAmb IAmb 22 09 30.0
comp=Z,36nm,0.9s
H04A **Detroit Lake** 60.44 325 P **P** **22 09 28.1 +0.3**
H04A IAmb IAmb 22 09 33.3
comp=Z,32nm,0.7s
I03D **Drain, OR** 60.55 323 P 22 09 29.3
baz=125,SNR=6.8
J01E **Myrtle Point** 60.60 323 P 22 09 29.8
baz=124,SNR=9.6
H04D **Lebanon** 60.67 324 P 22 09 29.2
baz=126,SNR=7.8
KEBM **Edson Butte** 60.68 322 P **P** **22 09 30.0 +0.5**
KEBM IAmb IAmb 22 09 33.0
comp=Z,84nm,1.1s
F05D **White Salmon** 60.75 326 P 22 09 31.0
baz=128,SNR=8.4
I02D **Swisshome** 61.08 324 P 22 09 33.5
baz=124,SNR=6.5
LTY **Liberty** 61.18 328 IAmb IAmb 22 09 35.8
comp=Z,37nm,1.1s
B08A **Colville Reser** 61.19 330 P **P** **22 09 33.2 +0.4**
B08A IAmb IAmb 22 09 35.4
comp=Z,26nm,0.8s
FCC **Fort Churchill** 61.23 350 IAmb IAmb 22 09 32.4
comp=Z,44nm,0.9s
G03D **McMinnville, O** 61.37 325 P 22 09 35.1
baz=126
LON **Longmire** 61.47 327 IAmb IAmb 22 09 36.2
comp=Z,28nm,0.9s
F04D **Rainier, OR** 61.74 326 P 22 09 38.1
baz=126
E04D **Cinebar** 61.77 326 P 22 09 37.6
baz=127,SNR=6.2
MBO **M'Bour** 62.04 73 P **P** **22 09 39.0 0.0**
D04E **Lakebay** 62.26 327 P 22 09 41.4
baz=127
B06A **Marblemount** 62.39 329 IAmb IAmb 22 09 43.2
comp=Z,33nm,0.5s
B05A **Bryant** 62.55 328 P 22 09 42.0
baz=128,SNR=11
TAOE **Nuku Hiva Isla** 62.64 261 P **P** **22 09 44.0 +0.9**
D03D **Eldon** 62.64 327 P 22 09 43.2
baz=127,SNR=9.1
HOPE **Hope Point** 62.69 154 P **P** **22 09 42.7 +0.1**
HOPE pmax pmax
comp=Z,101nm,0.8s
HOPE **Hope Point** 62.69 154 P **P** **22 09 42.7 +0.1**
NLWA **Neilton Lookou** 62.99 327 IAmb IAmb 22 09 47.0
comp=Z,46nm,1.1s
A04D **Lummi Island** 63.16 328 P 22 09 46.9
baz=128,SNR=12
ASCN **Ascension** 63.38 98 P **P** **22 09 48.2 +0.3**
PGC **Sidney** 63.51 328 P **P** **22 09 48.8 +0.8**
PGC IAmb IAmb 22 09 51.4
comp=Z,46nm,1.1s
PMSA **Palmer Station** 64.16 174 P **P** **22 09 53.0 +1.0**
PMSA **Palmer Station** 64.16 174 *eP* **P** **22 09 53.5 +1.5**
PMSA *ep*P **pP** **22 10 35.0 -1.5**
FRB **Frobisher Bay** 65.18 4 P **P** **22 09 57.6 -1.0**
comp=Z,41nm,0.6s,baz=197,slow=6.7,SNR=156
NRS **Narsarsuaq** 66.97 16 P **P** **22 10 09.3 -0.8**
NRS pmax pmax
comp=Z,50nm,1.0s
NRS **Narsarsuaq** 66.97 16 P **P** **22 10 09.3 -0.8**
NRS IAmb IAmb 22 10 13.4
comp=Z,50nm,1.0s
BBB **Bella Bella** 67.98 329 P **P** **22 10 18.1 +1.5**
comp=Z,15nm,0.6s,baz=110,slow=9.1,SNR=7.2
BBB **Bella Bella** 67.98 329 IAmb IAmb 22 10 22.4
comp=Z,40nm,1.1s
NUUK **Nuuk** 68.02 12 *i* P **P** **22 10 16.7 +0.2**
NUUK IAmb IAmb 22 10 18.0
comp=Z,112nm,1.1s
YKA **Yellowknife Ar** 69.40 343 P **P** **22 10 24.0 -1.1**
comp=Z,9.7nm,0.6s,baz=137,slow=6.3,SNR=99
YKA *p*P **pP** **22 11 10.7 -0.4**
comp=Z,3.2nm,0.9s,baz=130,slow=6.6,SNR=1.4
YKA LR LR 22 43 26.9
comp=Z,84nm,18.3s,baz=0.0,slow=38
VAH **Vaihoa** 70.36 254 *eP* **P** **22 10 32.9 +1.0**
comp=Z,208nm,1.2s
VAH *ep*P **pP** **22 11 18.6 +0.6**
comp=Z,89nm,1.2s
SFJD **Kangerlussuaq** 70.72 11 P **P** **22 10 32.3 -0.8**
comp=Z,77nm,0.9s,baz=203,slow=4.8,SNR=37
SFJD **Kangerlussuaq** 70.72 11 *i* P **P** **22 10 32.9 -0.2**
comp=Z,57nm,1.0s
SFJD **Kangerlussuaq** 70.72 11 *i* P **P** **22 10 32.9 -0.2**
SFJD **Kangerlussuaq** 70.72 11 P **P** **22 10 32.4 -0.8**
SFJD IAmb IAmb 22 10 33.3
comp=Z,84nm,0.9s
SFJD **Kangerlussuaq** 70.72 11 *i* P **P** **22 10 33.0 -0.2**
SFJD IAmb IAmb 22 10 33.1
comp=Z,57nm,1.0s
MEH **Mehetia** 70.99 252 *eP* **P** **22 10 36.7 +1.0**
comp=Z,46nm,1.2s
ISOG **Isortoq, Green** 72.23 16 *i* P **P** **22 10 41.5 -0.6**
ISOG IAmb IAmb 22 10 42.2
comp=Z,136nm,0.9s
DLBC **Dease Lake** 72.38 334 P **P** **22 10 44.3 +1.0**
comp=Z,24nm,0.9s,baz=120,slow=3.5,SNR=30
DLBC **Dease Lake** 72.38 334 IAmb IAmb 22 10 46.5
comp=Z,33nm,0.9s
PPTF **Pamatai, Papee** 72.39 252 P **P** **22 10 44.5 +0.3**
PPTF IAmb IAmb 22 10 46.7
comp=Z,87nm,0.9s
PPT **Papeete** 72.40 252 P **P** **22 10 45.9 +1.7**
comp=Z,75nm,1.1s,baz=102,slow=7.8,SNR=6.9
PPT2 **Papeete2** 72.40 252 *eP* **P** **22 10 45.3 +1.1**
comp=Z,97nm,1.3s
PPT2 *eS* **S** **22 19 51.8 -1.0**
comp=Z,251nm,24.5s
PPT2 **Papeete2** 72.40 252 *eLQ* LQ 22 30 10.4
comp=Z,872nm,32.2s
PPT2 *eLR* LR 22 33 14.3
comp=Z,288nm,27.0s
PAE **Paea** 72.41 252 *eP* **P** **22 10 45.4 +1.2**
comp=Z,47nm,1.0s
PAE *ep*P **pP** **22 11 29.9 -0.8**
comp=Z,18nm,1.2s
ILULI **Ilulissat** 72.59 10 IAmb IAmb 22 10 44.9
comp=Z,472nm,1.5s
ILULI *i* P **P** **22 10 45.1 +0.9**
ANGG **Ammassalik, Gr** 72.65 16 IAmb IAmb 22 10 44.6
comp=Z,58nm,0.7s
ANGG **Ammassalik, Gr** 72.65 16 *i* P **P** **22 10 43.6 -0.9**
ANGG IAmb IAmb 22 10 44.7
comp=Z,160nm,1.4s
TBI **Tubuai** 72.82 246 *eP* **P** **22 10 47.7 +1.2**
comp=Z,113nm,0.8s
TBI **Tubuai** 72.87 246 *e*LR LR 22 33 25.3
comp=Z,210nm,27.0s
LIC **Lamto** 72.87 83 *e*P **P** **22 10 46.2 -0.8**
comp=Z,322nm,0.5s
LIC **Lamto** 72.87 83 *e*PKIKP **SKiKP** **22 19 56.3 -4.7**
comp=Z,53nm,1.2s
TIC **Toumodi** 72.91 83 *e*P **P** **22 10 46.4 -0.8**
TIC **Toumodi** 72.91 83 *e*PKIKP **SKiKP** **22 19 56.4 -4.6**
DBIC **Dimbokro** 73.07 83 P **P** **22 10 47.5 -0.7**
comp=Z,116nm,0.5s,baz=265,slow=4.3,SNR=298
DBIC pP **pP** **22 11 35.0 +1.2**
comp=Z,40nm,1.0s,baz=225,slow=6.9,SNR=2.2
KIC **Kosan Boka** 73.17 83 *e*P **P** **22 10 48.1 -0.7**
comp=Z,497nm,0.6s
KIC **Kosan Boka** 73.17 83 *e*PKIKP **SKiKP** **22 19 55.8 -5.6**
comp=Z,21nm,1.4s
PFVI **Vila Bisbo** 74.00 51 *e*pP pP 22 11 40.4 +1.5
MORF **Marmelete** 74.18 51 *e*P **P** **22 10 53.5 -0.7**
MORF IAmb IAmb 22 10 54.8
comp=Z,10nm,0.9s
MORF *ep*P **pP** **22 11 39.4 -0.6**
MORF **Marmelete** 74.18 51 *e*P **P** **22 10 53.5 -0.7**
MORF *e* 22 11 39.4
MORF **Marmelete** 74.18 51 *e*P **P** **22 10 54.0 -0.3**
comp=Z,28nm,1.3s
MORF *ep*P **pP** **22 11 41.9 +1.9**
PTEO **Sao Teotonio** 74.18 50 *ep*P pP 22 11 41.8 +1.9
JIS **Juneau Island** 74.25 333 P **P** **22 10 55.0 +0.9**
NUUG **Nuugaatsiaq** 74.37 8 *i* P **P** **22 10 55.3 +0.8**
NUUG IAmb IAmb 22 10 55.4
comp=Z,129nm,0.9s
PNCL **Nicolau / Gran** 74.47 50 *e*P **P** **22 10 55.6 -0.2**
comp=Z,27nm,1.2s
PNCL *ep*P **pP** **22 11 42.6 +1.0**
KOWA **Kowa** 74.49 75 P **P** **22 10 55.7 -0.8**
comp=Z,88nm,0.6s,baz=267,slow=5.6,SNR=199
KOWA pP **pP** **22 11 42.9 +0.7**
comp=Z,58nm,1.1s,baz=255,slow=4.1,SNR=3.8
KOWA **Kowa** 74.49 75 P **P** **22 10 55.6 -0.8**
MESJ **Messejana** 74.64 50 *e*P **P** **22 10 56.1 -0.7**
MESJ IAmb IAmb 22 10 57.0
comp=Z,24nm,1.7s
MESJ *ep*P **pP** **22 11 42.0 -0.7**
MESJ **Messejana** 74.64 50 *e*P **P** **22 10 56.1 -0.7**
MESJ *e* 22 11 41.9
MESJ **Messejana** 74.64 50 *e*P **P** **22 10 56.2 -0.7**
comp=Z,15nm,1.8s
MESJ *ep*P **pP** **22 11 43.9 +1.3**
PBDV **Barranco-do-Ve** 74.72 51 *e*P **P** **22 10 57.3 -0.1**
comp=Z,28nm,2.0s
PBDV *ep*P **pP** **22 11 45.0 +1.8**
PCVE **Castro Verde** 74.73 50 *e*P **P** **22 10 57.0 -0.4**
comp=Z,33nm,1.9s
PCVE *ep*P **pP** **22 11 44.8 +1.6**
PVAQ **Vaqueiros** 74.92 51 *ep*P pP 22 11 45.8 +1.5
PMTG **Montargil** 74.94 49 *ep*P pP 22 11 45.2 +0.9
PBEJ **Beja** 74.96 50 *ep*P pP 22 11 45.1 +0.6
EVO **Evora** 74.97 50 *ep*P pP 22 11 45.7 +1.2
PCAS **Casmilo, Conde** 74.97 48 *e*P **P** **22 10 58.9 +0.2**
comp=Z,42nm,1.7s
PCAS *ep*P **pP** **22 11 46.0 +1.4**
COI **Coimbra** 75.08 48 P **P** **22 10 59.2 -0.1**
COI pmax pmax
comp=Z,29nm,1.0s
COI **Coimbra** 75.08 48 *ep*P pP 22 11 46.9 +1.8
COI **Coimbra** 75.08 48 P **P** **22 10 59.2 -0.1**
UPNV **Upernavik** 75.14 6 *i*P **P** **22 10 58.5 -0.4**
UPNV IAmb IAmb 22 10 59.0
comp=Z,41nm,0.6s
PTO **Porto** 75.18 47 *ep*P pP 22 11 45.4 -0.3
PVIS **Viseu** 75.59 47 *e*P **P** **22 11 01.1 -1.2**
comp=Z,22nm,1.6s
PVIS *ep*P **pP** **22 11 49.1 +0.9**
PBAR **Barrancos** 75.63 50 *ep*P pP 22 11 49.7 +1.3
PGAV **Gavieira, Arco** 75.63 46 *e*P **P** **22 11 01.1 -1.4**
comp=Z,36nm,1.9s
PGAV *ep*P **pP** **22 11 49.4 +0.9**
PMRV **Marv??o** 75.65 49 *e*P **P** **22 11 01.1 -1.5**
comp=Z,18nm,1.2s
PMRV *ep*P **pP** **22 11 47.5 -1.0**
PCBR **Castelo Branco** 75.68 48 *e*P **P** **22 11 01.6 -1.1**
comp=Z,19nm,1.9s
PCBR *ep*P **pP** **22 11 48.6 -0.1**
PCAB **Cabril** 75.74 46 *e*P **P** **22 11 02.1 -1.0**
comp=Z,43nm,1.8s
PCAB *ep*P **pP** **22 11 50.0 +1.0**
MTE **Manteigas** 75.77 48 *ep*P pP 22 11 49.2 -0.1
MTE **Manteigas** 75.77 48 P **P** **22 11 03.8 +0.5**
POLO **Lamas de Olo** 75.83 47 *e*P **P** **22 11 02.3 -1.4**
comp=Z,14nm,1.8s
POLO *ep*P **pP** **22 11 50.5 +0.9**
PVRL **Vila Real** 75.86 47 *e*P **P** **22 11 02.9 -0.9**
comp=Z,16nm,1.8s
PVRL *ep*P **pP** **22 11 50.7 +1.0**
MVO **Moncorvo** 76.33 47 *e*P **P** **22 11 05.5 -1.0**
comp=Z,27nm,1.9s
MVO *ep*P **pP** **22 11 51.9 -0.6**
RES **Resolute Bay** 76.53 355 P **P** **22 11 05.8 -1.0**
comp=Z,6.2nm,0.7s,baz=184,slow=9.0,SNR=24
RES pP **pP** **22 11 53.5 0.0**
comp=Z,14nm,1.2s,baz=167,slow=6.1,SNR=3.4
PBRG **Braganca** 76.70 47 *e*P **P** **22 11 07.3 -1.2**
comp=Z,23nm,1.5s
PBRG *ep*P **pP** **22 11 55.6 +1.1**
KULLO **Kullorsuaq** 76.71 6 *i* P **P** **22 11 07.9 +0.1**
comp=Z,100nm,0.9s
KULLO **Kullorsuaq** 76.71 6 *i* P **P** **22 11 07.9 +0.1**
KULLO **Kullorsuaq** 76.71 6 *i* P **P** **22 11 08.0 +0.1**
KULLO IAmb IAmb 22 11 08.8
comp=Z,100nm,0.9s
C36M **Paulatuk** 77.03 345 P 22 11 08.3
baz=132
BORG **Borgarnes** 77.39 21 P **P** **22 11 12.4 +0.6**
comp=Z,71nm,1.1s,baz=201,slow=3.7,SNR=3.8
SUMG **Summit** 77.71 11 ⇑ *i*P **P** **22 11 13.9 0.0**
comp=Z,149nm,0.7s
SUMG **Summit** 77.71 11 ⇑ *i*P **P** **22 11 13.9 0.0**
SUMG **Summit** 77.71 11 ⇑ *i*P **P** **22 11 14.0 0.0**
SUMG IAmb IAmb 22 11 14.8
comp=Z,149nm,0.7s
TULEG **Thule** 77.85 2 ⇑ *i*P **P** **22 11 13.9 -0.2**
TULEG IAmb IAmb 22 11 14.6
comp=Z,72nm,1.4s
ESDC **Sonseca Array** 78.29 49 P **P** **22 11 16.6 -0.7**
comp=Z,2.0nm,0.6s,baz=264,slow=5.2,SNR=21
ESDC pP **pP** **22 12 04.4 +0.8**
comp=Z,40nm,1.1s,baz=261,slow=5.6,SNR=18
ESDC **Sonseca Array** 78.29 49 P **P** **22 11 16.4 -1.0**
TABL **Table Mountain** 78.31 333 P **P** **22 11 17.7 +0.5**
LOGN **Logan Glacier** 78.41 333 P **P** **22 11 18.6 +0.9**
CTG **Chitna Glacier** 78.62 334 P 22 11 20.0
baz=114
PUH **Pauahi** 78.69 290 P **P** **22 11 19.8 -0.2**
BARN **Barnard Glacie** 78.80 334 P **P** **22 11 20.5 +0.6**
INK **Inuvik** 79.13 342 P **P** **22 11 21.8 +0.5**
comp=Z,42nm,0.7s,baz=100,slow=5.5,SNR=136
INK **Inuvik** 79.13 342 IAmb IAmb 22 11 23.1
comp=Z,74nm,1.1s
EPYK **Eagle Plains** 79.20 339 IAmb IAmb 22 11 24.6
comp=Z,45nm,0.9s
EPYK **Eagle Plains** 79.20 339 P 22 11 22.4
baz=119,SNR=32
KHLU **Kahalu`u** 79.34 290 P **P** **22 11 24.9 +1.3**
MCARA **McCarthy VSAT** 79.53 334 P **P** **22 11 24.6 +1.0**
MCARA IAmb IAmb 22 11 27.0
comp=Z,42nm,1.2s
MCARA **McCarthy VSAT** 79.53 334 P 22 11 25.3
baz=112,SNR=9.3
L27K **Beaver Creek,** 79.68 335 P 22 11 25.7
baz=114
HMT **Hamilton** 79.70 332 P **P** **22 11 25.4 +0.8**
HMT IAmb IAmb 22 11 30.8
comp=Z,74nm,1.1s
XMAS **Kiritimati** 79.84 272 P **P** **22 11 27.2 +0.9**
BELA **Belgrano 2** 79.89 172 IAmb IAmb 22 11 26.8
comp=Z,45nm,0.8s
TOA0 **Torodi Ar. Sit** 79.91 76 IAmb IAmb 22 11 26.9
comp=Z,51nm,1.1s
TORD **Torodi Ar. Bea** 79.91 76 P **P** **22 11 25.2 -1.4**
comp=Z,18nm,0.5s,baz=277,slow=5.4,SNR=298
TORD pP **pP** **22 12 13.0 0.0**
comp=Z,45nm,1.2s,baz=287,slow=5.3,SNR=6.2
TORD PKKPbc **PKKPbc** **22 30 10.8 0.0**
comp=Z,1.5nm,0.5s,baz=18,slow=2.8,SNR=16
TORD **Torodi Ar. Bea** 79.91 76 P **P** **22 11 25.1 -1.5**
TORD IAmb IAmb 22 11 25.8
comp=Z,20nm,0.6s
BMRM **Bremner River** 80.09 333 P 22 11 27.5
baz=111,SNR=6.2
BMRM **Bremner River** 80.09 333 IAmb IAmb 22 11 29.6
comp=Z,54nm,1.1s
EGAK **Eagle** 80.12 337 P 22 11 27.6
baz=115,SNR=62
EGAK **Eagle** 80.12 337 IAmb IAmb 22 11 29.4
comp=Z,91nm,1.0s
K27K **Chicken** 80.17 336 P 22 11 28.5
baz=114
SCO **Scoresbysund** 80.27 16 *i* P **P** **22 11 26.0 -1.3**
comp=Z,34nm,0.9s
SCO **Scoresbysund** 80.27 16 *i* P **P** **22 11 26.1 -1.3**
SCO **Scoresbysund** 80.27 16 *i* P **P** **22 11 26.0 -1.3**
SCO *i* P **P** **22 11 26.2 -1.2**
SCO IAmb IAmb 22 11 28.1
comp=Z,34nm,0.9s
KLU **Klutina** 80.87 333 P 22 11 31.3
baz=110,SNR=7.9
SCRK **Sand Creek** 80.93 336 P 22 11 31.6
baz=112,SNR=38
SCRK **Sand Creek** 80.93 336 IAmb IAmb 22 11 33.8
comp=Z,30nm,0.9s
PAX **Paxson** 81.18 335 P 22 11 32.5
baz=110,SNR=26
M24K **Tolsona, Glenn** 81.19 334 IAmb IAmb 22 11 35.4
comp=Z,67nm,0.9s
M24K **Tolsona, Glenn** 81.19 334 P 22 11 33.5
baz=110,SNR=12
MCH1 **Michaelchurch** 81.57 37 *e*P **P** **22 11 33.2 -1.4**
MCH1 IAmb IAmb 22 11 35.4
comp=Z,59nm,1.4s
NEWG **New Galloway** 81.59 34 *e*P **P** **22 11 33.8 -0.9**
NEWG IAmb IAmb 22 11 35.8
comp=Z,29nm,1.1s
SCM **Sheep Creek Mo** 81.62 333 IAmb IAmb 22 11 37.2
comp=Z,44nm,1.1s
MONM **Monmouth** 81.65 37 *e*P **P** **22 11 34.0 -1.0**
MONM IAmb IAmb 22 11 36.1
comp=Z,22nm,0.8s
HLM1 **Long Mynd** 81.76 37 *e*P **P** **22 11 34.4 -1.2**
HLM1 IAmb IAmb 22 11 36.6
comp=Z,27nm,1.1s
EAB **Aberfoyle** 81.80 33 *e*P **P** **22 11 35.4 -0.3**
VNA3 **Neumayer Olymp** 81.86 162 P **P** **22 11 36.2 +0.4**
VNA3 **Neumayer Olymp** 81.86 162 PP PP 22 14 47.3 +1.6
VNA3 S **S** **22 21 35.1 +2.2**
VNA3 **Neumayer Olymp** 81.86 162 pP pP 22 12 24.5 +2.1
KNK **Knik Glacier** 82.00 333 P 22 11 37.1
baz=108
INVG **Invergeldie, C** 82.02 33 *e*P **P** **22 11 35.4 -1.4**
WAT6 **Susitna Watana** 82.04 334 P 22 11 37.3
baz=108,SNR=25
SML **Sawmill** 82.06 333 IAmb IAmb 22 11 39.4
comp=Z,46nm,0.9s
SML **Sawmill** 82.06 333 P 22 11 37.1
baz=108,SNR=9.0
SEW **Seward** 82.08 331 P 22 11 36.9
baz=106
VNA1 **Neumayer--Stat** 82.09 162 P **P** **22 11 37.7 +0.7**
VNA1 **Neumayer--Stat** 82.09 162 PP PP 22 14 50.0 +2.4
VNA1 S **S** **22 21 37.5 +2.4**
VNA1 **Neumayer--Stat** 82.09 162 pP pP 22 12 27.0 +3.4
KESW **Keswick, Cumbr** 82.10 34 *e*P **P** **22 11 36.2 -1.1**
KESW IAmb IAmb 22 11 38.4
comp=Z,71nm,1.2s
ESK **Eskdalemuir** 82.21 34 *e*P **P** **22 11 36.2 -1.7**
HDA **Harding Lake** 82.29 336 P 22 11 38.3
baz=109,SNR=38
HDA P 22 11 38.3
baz=109,SNR=38
GHO **Glory Hole Cre** 82.32 333 IAmb IAmb 22 11 39.4
comp=Z,37nm,0.7s
PMR **Palmer** 82.36 333 P 22 11 39.0
baz=107
IL31 82.39 336 IAmb IAmb 22 11 40.8
comp=Z,29nm,0.8s
ILAR **Eielson Array** 82.39 336 P **P** **22 11 38.5 -0.2**
comp=Z,25nm,0.9s,baz=154,slow=3.7,SNR=84
ILAR pP **pP** **22 12 26.3 +0.1**
comp=Z,0.6nm,0.6s,baz=102,slow=19,SNR=1.4
ILAR PP **PP** **22 14 49.5 -0.7**
comp=Z,2.2nm,0.9s,baz=109,slow=7.6,SNR=4.5
ILAR PKKPbc **PKKPbc** **22 30 02.9 -4.7**
comp=Z,0.6nm,0.8s,baz=298,slow=3.5,SNR=4.7
ILAR LR LR 22 51 12.9
comp=Z,50nm,18.1s,baz=124,slow=38
ILAR **Eielson Array** 82.39 336 P **P** **22 11 38.1 -0.5**
VNA2 **Neumayer--Watz** 82.45 162 P **P** **22 11 39.1 +0.2**
baz=301,slow=5.2
VNA2 **Neumayer--Watz** 82.45 162 PP PP 22 14 49.4 -1.1
VNA2 S **S** **22 21 41.0 +2.1**
VNA2 **Neumayer--Watz** 82.45 162 pP pP 22 12 27.9 +2.3
RC01 **Rabbit Creek A** 82.50 332 IAmb IAmb 22 11 40.2
comp=Z,28nm,0.7s
RC01 **Rabbit Creek A** 82.50 332 P 22 11 39.3
baz=106,SNR=6.8
WAT2 **Susitna Watana** 82.53 334 P 22 11 39.8
baz=108,SNR=26
BRSE **Bradley Lake S** 82.61 331 P 22 11 40.1
baz=105
LBWR **Ladybower, Pea** 82.63 36 *e*P **P** **22 11 39.2 -0.9**
LBWR IAmb IAmb 22 11 42.0
comp=Z,34nm,1.0s
ESY **Stoneypath** 82.68 33 *e*P **P** **22 11 39.1 -1.2**
BRLK **Bradley Lake** 82.68 331 IAmb IAmb 22 11 41.1
comp=Z,42nm,0.8s
POKR **Poker Plat Res** 82.72 336 P 22 11 42.0
baz=109,SNR=9.0
MCD **Colelorn Disti** 82.72 32 *e*P **P** **22 11 40.0 -0.5**
RND **Reindeer** 82.78 335 IAmb IAmb 22 11 43.5
comp=Z,63nm,0.8s
DBG **Daneborg** 82.78 13 ⇑ *i*P **P** **22 11 40.3 -0.1**
DBG IAmb IAmb 22 11 41.5
comp=Z,24nm,0.6s
COLA **College** 82.81 336 *c i*P **P** **22 11 41.2 +0.4**
COLA pmax pmax
comp=Z,25nm,0.8s
COLA **College** 82.81 336 P **P** **22 11 41.7 +1.0**
COLA IAmb IAmb 22 11 44.0
comp=Z,32nm,0.8s
COLA **College** 82.81 336 P 22 11 41.7
baz=108
TCOL **CIGO, UAF Yank** 82.82 336 P **P** **22 11 41.3 +0.5**
TCOL IAmb IAmb 22 11 44.0
comp=Z,32nm,0.8s
TCOL **CIGO, UAF Yank** 82.82 336 P 22 11 41.7
baz=108
MCK **McKinley** 82.91 335 IAmb IAmb 22 11 43.7
comp=Z,36nm,1.0s
MCK **McKinley** 82.91 335 P 22 11 41.8
baz=107,SNR=26
MDM **Murphy Dome** 82.99 336 IAmb IAmb 22 11 44.2
comp=Z,76nm,1.1s
KDAK **Kodiak Island** 83.05 329 P **P** **22 11 42.0 -0.1**
comp=Z,9.2nm,0.9s,baz=358,slow=2.4,SNR=4.2
KDAK **Kodiak Island** 83.05 329 P **P** **22 11 42.0 -0.1**
SUA **Susitna One** 83.07 332 P 22 11 42.8
baz=106,SNR=16
SUA **Susitna One** 83.07 332 IAmb IAmb 22 12 02.3
comp=Z,38nm,0.7s
CUT **Chulitna** 83.11 333 P 22 11 42.7
baz=106,SNR=14
NEA2 **Nenana** 83.22 336 IAmb IAmb 22 11 45.2
comp=Z,74nm,0.9s
NEA2 **Nenana** 83.22 336 P 22 11 43.2
baz=107,SNR=64
TRF **Thorofare Moun** 83.41 334 IAmb IAmb 22 11 46.3
comp=Z,31nm,0.9s
TRF **Thorofare Moun** 83.41 334 P 22 11 44.2
baz=106,SNR=15
I23K **Minto, Yukon-K** 83.51 336 P 22 11 44.8
baz=107,SNR=48
I23K **Minto, Yukon-K** 83.51 336 IAmb IAmb 22 11 46.9
comp=Z,68nm,1.1s
SKT **Skwentna** 83.56 333 P 22 11 45.0
baz=105,SNR=44
SPCR **Spurr Chakacha** 83.68 332 P 22 11 45.3
baz=104,SNR=9.2
KTH **Kantishna Hill** 83.71 334 IAmb IAmb 22 11 48.6
comp=Z,55nm,0.9s
BPAW **Bear Paw Mtn.** 83.88 335 P 22 11 46.5
baz=106,SNR=61
MLY **Manley** 84.03 336 IAmb IAmb 22 11 49.3
comp=Z,32nm,0.8s

MLY Manley 84.03 336 P 22 11 47.2
baz=106,SNR=51
SNAA Sanae 84.07 162 P **P** **22 11 47.3 +0.1**
SNAA Sanae 84.07 162 pP pP 22 12 32.0 -2.1
SNAA Sanae 84.07 162 *ce*P **P** **22 11 45.7 -1.5**
SNAA pmax pmax
comp=Z,50nm,1.0s
SNAA Sanae 84.07 162 lAmb lAmb 22 11 48.5
comp=Z,38nm,0.8s
PPLA Purkeypile 84.09 334 P 22 11 47.8
baz=104,SNR=37
CLF Chambon-Foret 84.17 42 lAmb lAmb 22 11 50.4
comp=Z,40nm,0.8s
TAM Tamanrasset 84.19 67 lAmb lAmb 22 11 50.8
comp=Z,49nm,1.1s
CHUM Lake Minchumin 84.39 335 P 22 11 48.8
baz=104,SNR=25
DAG Danmarks Havn 84.40 11⇑ *i*P **P** **22 11 48.2 -0.4**
comp=Z,43nm,0.8s
DAG Danmarks Havn 84.40 11⇑ *i*P **P** **22 11 48.2 -0.4**
DAG Danmarks Havn 84.40 11⇑ *i*P **P** **22 11 48.2 -0.4**
DAG lAmb lAmb 22 11 48.9
comp=Z,43nm,0.8s
COLD Coldfoot 84.44 338 P 22 11 50.3
baz=106,SNR=19
TOLK Toolik Lake Re 84.63 340 P 22 11 50.4
baz=107,SNR=12
DOU Dourbes 85.97 40 *d*P **P** **22 11 56.3 -0.6**
comp=Z,17nm,1.1s
DOU *dp*P **pP** **22 12 47.8 +3.8**
BMRD Maredsous 86.10 40 *d*P **P** **22 11 58.3 +0.7**
BMRD *dp*P **pP** **22 12 46.4 +1.8**
BGES Gesves 86.31 40 *d*P **P** **22 11 59.4 +0.7**
comp=Z,20nm,1.2s
BGES *dp*P **pP** **22 12 47.7 +2.0**
RCHB Rochefort 86.38 40 *d*P **P** **22 11 59.2 +0.3**
RCHB *dp*P **pP** **22 12 47.7 +1.7**
BCLA Clavier 86.45 40 *d*P **P** **22 11 59.8 +0.5**
BSTI Sart Tilman 86.64 39 *d*P **P** **22 12 01.0 +0.8**
BSTI *dp*P **pP** **22 12 49.6 +2.2**
BEBN Eben Emael 86.73 39 *d*P **P** **22 11 59.5 -1.1**
BEBN *dp*P **pP** **22 12 50.1 +2.3**
MEM Membach 86.92 39 *d*P **P** **22 12 01.5 -0.1**
MEM *dp*P **pP** **22 12 50.2 +1.4**
WLF Walferdange 86.92 40 *d*P **P** **22 12 01.6 0.0**
WLF *dp*P **pP** **22 12 47.7 -1.0**
WLF Walferdange 86.92 40 lAmb lAmb 22 12 06.4
comp=Z,24nm,0.9s
BTNL Ternell 87.00 39 *d*P **P** **22 12 02.2 +0.2**
BTNL *dp*P **pP** **22 12 49.9 +0.8**
NOR Nord 87.13 7⇑ *i*P **P** **22 12 02.2 +0.2**
comp=Z,22nm,0.9s
NOR Nord 87.13 7⇑ *i*P **P** **22 12 02.2 +0.2**
NOR Nord 87.13 7⇑ *i*P **P** **22 12 02.2 +0.2**
NOR lAmb lAmb 22 12 03.1
comp=Z,22nm,0.9s
SENIN Lac Senin/Sane 87.40 44 P **P** **22 12 03.8 -0.4**
SUE Sulen 87.40 29 *e*P **P** **22 12 04.1 +0.5**
KMY Karmoy 87.42 31 *e*P **P** **22 12 03.8 +0.1**
ASK Askoy 87.54 29 *e*P **P** **22 12 03.8 -0.5**
BER Bergen 87.60 30 *e*P **P** **22 12 04.7 +0.1**
FOO Floro 87.60 28 *e*P **P** **22 12 05.0 +0.5**
A21K Barrow 87.64 342 lAmb lAmb 22 12 07.4
comp=Z,36nm,0.8s
A21K Barrow 87.64 342 P 22 12 05.1
baz=101,SNR=11
BLS5 Blasjo 88.06 31 *e*P **P** **22 12 06.7 -0.1**
HYA Hoyanger 88.10 29 *e*P **P** **22 12 07.2 +0.3**
ODD1 Odda 88.19 30 *e*P **P** **22 12 07.8 +0.3**
BFO Black Forest 88.24 42 P **P** **22 12 07.6 -0.4**
BFO pmax pmax
comp=Z,8.0nm,1.1s
BFO Black Forest 88.24 42 P **P** **22 12 07.6 -0.4**
SNART Snartemo 88.34 32 *e*P **P** **22 12 08.7 +0.6**
AKN Aaknes 88.59 28 *e*P **P** **22 12 09.4 +0.1**
NVL N'lazarevskaya 88.66 161 *e*P **P** **22 12 09.6 +0.2**
NVL pmax pmax
comp=Z,49nm,1.1s
SKAR Skarslia 89.09 29 *e*P **P** **22 12 11.2 -0.5**
DAVA Damuels 89.23 43 *e*P **P** **22 12 12.4 -0.4**
comp=Z,20nm,1.0s
DAVA *e*P **pP** **22 13 01.3 +1.1**
comp=Z,26nm,1.2s
DAVA *e*P **PKKPbc** **22 29 48.6 -2.0**
comp=Z,2.2nm,0.6s
RDOG Red Dog Mine 89.36 338 P 22 12 13.7
baz=95
DOMB Dombas 89.55 28 *e*P **P** **22 12 13.6 -0.2**
KONO Kongsberg 89.67 30 *e*P **P** **22 12 15.2 +0.9**
FETA Feichten 89.80 43 *e*P **P** **22 12 15.1 -0.3**
comp=Z,20nm,1.3s
FETA *i*P **pP** **22 13 02.4 -0.5**
comp=Z,31nm,1.2s,SNR=6.3
RETA Reutte 89.83 43 *e*P **P** **22 12 16.7 +1.2**
comp=Z,16nm,1.3s
RETA *e*P **pP** **22 13 04.0 +1.1**
comp=Z,15nm,1.2s
ZCCA Zocca 89.88 46 lAmb lAmb 22 12 20.3
comp=Z,22nm,0.8s
MOTA Moosalm 90.06 43 *e*P **P** **22 12 15.9 -0.8**
comp=Z,16nm,1.0s
MOTA *e*P **pP** **22 13 03.5 -0.6**
comp=Z,25nm,1.4s
MOTA *e*P **PKKPdf** **22 29 46.0 +2.1**
comp=Z,2.7nm,0.8s
SQTA Sankt Quirin 90.13 43 *e*P **P** **22 12 16.3 -0.6**
comp=Z,14nm,0.9s
SQTA *i*P **pP** **22 13 03.4 -1.0**
comp=Z,31nm,1.1s,SNR=6.1
SQTA *e*P **PKKPbc** **22 29 46.2 -2.1**
comp=Z,5.4nm,0.9s
GRF Grafenberg Arr 90.21 40 *e*P **P** **22 12 17.1 0.0**
comp=Z,138nm,3.1s,baz=268,slow=5.4
OSL Oslo 90.25 30 *e*P **P** **22 12 17.5 +0.5**
WATA Walderalm 90.38 43 *e*P **P** **22 12 18.3 +0.2**
comp=Z,8.4nm,0.8s
WATA *i*P **pP** **22 13 05.6 0.0**
comp=Z,22nm,1.0s,SNR=5.8
TEOL Teolo 90.40 45 lAmb lAmb 22 12 22.7
comp=Z,20nm,0.7s
WTTA Wattenberg 90.42 43 *e*P **P** **22 12 17.8 -0.5**
comp=Z,14nm,1.2s
WTTA *e*P **pP** **22 13 04.6 -1.2**
comp=Z,23nm,1.1s
WTTA *e*P **PKKPdf** **22 29 45.1 +1.8**
comp=Z,3.3nm,0.7s
NB2 NORSAR Subarra 90.53 29 P **P** **22 12 17.6 -0.8**
comp=Z,1.6nm,0.7s,baz=273,slow=4.6
NB2 NORSAR Subarra 90.53 29 P **P** **22 12 17.6 -0.8**
baz=273,slow=4.6
NOA NORSAR Array B 90.53 29 P **P** **22 12 18.4 0.0**
comp=Z,6.9nm,1.0s,baz=268,slow=4.6,SNR=13
NOA pP **pP** **22 13 05.8 0.0**
comp=Z,6.6nm,1.1s,baz=269,slow=4.7,SNR=6.6
NC602 NORSAR Array S 90.68 29 *e*P **P** **22 12 19.0 0.0**
NSS Namsos 90.95 26 *e*P **P** **22 12 20.2 0.0**
ABTA Abfaltersbach 91.01 43 *e*P **P** **22 12 21.1 0.0**
comp=Z,15nm,1.6s
ABTA *e*P **pP** **22 13 08.2 -0.2**
comp=Z,28nm,1.3s
NKC Novy Kostel 91.01 40 *e*SKS S 22 22 33.7 -28
KBS Kingsbay 91.14 11 *ce*P **P** **22 12 20.6 -0.2**
KBS pmax pmax
comp=Z,32nm,1.3s
KBS Kingsbay 91.14 11 *e*P **P** **22 12 21.6 +0.9**
TNA Tin City 91.24 335 P 22 12 22.7
baz=90
ZOU Zoufplan 91.33 44 P **P** **22 12 21.9 -0.7**
CLL Collm 91.38 39 *e*P **P** **22 12 22.0 -0.4**
comp=Z,10.0nm,1.1s
CLL *ep*P **pP** **22 13 09.0 -0.9**
comp=Z,21nm,1.6s
CLL *es*P **sP** **22 13 31.0 +1.1**
CLL *e* 22 15 08.0
CLL *e*SKSac **SKSac** **22 22 37.0 +0.4**
CLL *e*S **ScS** **22 23 10.0 +2.5**
CLL *e*SP **SP** **22 24 15.0 +0.4**
CLL *e*SSS SSS 22 32 54.0
CLL Collm 91.38 39 *e*P **P** **22 12 22.0 -0.4**
CLL *e**PP **pP** **22 13 09.0 -0.9**
CLL *e* 22 22 37.0
CLL *e*S **ScS** **22 23 10.0 +2.5**
CLL pmax pmax
comp=Z,10.0nm,1.1s
KBA Koelnbreinsper 91.58 43 *e*P **P** **22 12 25.1 +1.3**
comp=Z,14nm,1.3s
KBA *e*P **pP** **22 13 12.2 +1.0**
comp=Z,13nm,1.2s
KHC Kasperske Hory 91.74 41 *e*P **P** **22 12 25.3 +1.0**
KHC *e* 22 13 13.5
KHC Kasperske Hory 91.74 41 *e*P **P** **22 12 25.3 +1.0**
KHC *ep*P **pP** **22 13 13.5 +1.8**
KHC *e*SKS **SKSac** **22 22 43.5 +4.6**
MYKA Terra Mystica 91.79 44 *e*P **P** **22 12 24.1 -0.5**
comp=Z,9.3nm,0.8s
MYKA *e*P **pP** **22 13 11.1 -1.0**
comp=Z,22nm,1.1s
GERES GERESS Array B 91.82 41 P **P** **22 12 23.8 -0.9**
comp=Z,1.2nm,0.7s,baz=259,slow=2.7,SNR=8.0
GERES pP **pP** **22 13 14.7 +2.5**
comp=Z,1.9nm,0.7s,baz=250,slow=2.7,SNR=4.8
GERES PKKP **PKKPdf** **22 29 41.7 +0.9**
comp=Z,0.5nm,0.6s,baz=60,slow=5.4,SNR=4.6
GERES GERESS Array B 91.82 41 P **P** **22 12 24.3 -0.5**
GERES GERESS Array B 91.82 41 P **P** **22 12 24.3 -0.5**
BRG Berggiesshubel 91.97 39 *e*P **P** **22 12 25.7 +0.5**
BRG Amp 22 12 27.9
comp=Z,14nm,1.1s
BRG pP **pP** **22 13 14.8 +2.1**
BRG Amp 22 13 17.0
comp=Z,11nm,1.2s
MOR8 Moi Rana 91.98 24 *e*P **P** **22 12 25.8 +0.8**
MOA Molln 92.21 42 *e*P **P** **22 12 26.9 +0.4**
comp=Z,13nm,1.8s
MOA *i*P **pP** **22 13 14.5 +0.6**
comp=Z,20nm,1.3s,SNR=5.5
MOA *e*P **PKKPdf** **22 29 36.3 -3.7**
comp=Z,6.8nm,1.0s
CKRC Cesky Krumlov 92.22 41 *e*SKS **SKSac** **22 22 42.7 +1.1**
FAUS Fauske 92.28 23 *e*P **P** **22 12 26.5 +0.3**
PRU Pruhonice 92.36 40 *e*P **P** **22 12 27.5 +0.4**
PRU *e* 22 22 43.0
PRU Pruhonice 92.36 40 *e*P **P** **22 12 27.5 +0.4**
PRU *e*SKS **SKSac** **22 22 43.0 +0.8**
PVCC Panska Ves 92.37 40 *e*P **P** **22 12 27.4 +0.3**
PVCC Panska Ves 92.37 40 *e*P **P** **22 12 27.4 +0.3**
OBKA Obir 92.42 44 *e*P pP 22 13 17.0 +2.0
comp=Z,12nm,1.2s
SOKA Soboth 92.75 44 *e*P pP 22 13 18.1 +1.6
comp=Z,11nm,1.3s
ARSA Arzberg 93.07 43 *e*P **P** **22 12 29.7 -0.7**
comp=Z,4.1nm,0.9s
ARSA *e*P **pP** **22 13 18.5 +0.6**
comp=Z,13nm,1.6s
CONA Conrad Observa 93.28 42 *e*P **P** **22 12 31.6 +0.2**
comp=Z,12nm,1.3s
CONA *e*P **pP** **22 13 20.8 +1.8**
comp=Z,12nm,1.0s
CHVC Chvalec 93.32 40 *e*P **P** **22 12 32.2 +0.7**
CHVC *ep*P **pP** **22 13 20.3 +1.3**
TRO Tromso 93.46 20 *e*P **P** **22 12 31.9 +0.2**
DPC Dobruska-Polom 93.50 40 *e*P **P** **22 12 32.8 +0.5**
DPC *e**PP **pP** **22 13 21.2 +1.4**
DPC *e* 22 22 45.5
DPC Dobruska-Polom 93.50 40 *e*P **P** **22 12 32.8 +0.5**
DPC *ep*P **pP** **22 13 21.2 +1.4**
DPC *e*SKS **SKSac** **22 22 45.5 -3.1**
KRUC Moravsky 93.59 41 *e*P **P** **22 12 32.2 -0.6**
KRUC *ep*P **pP** **22 13 21.8 +1.5**
VRAC Vranov 93.71 41 *e*P **P** **22 12 33.0 -0.3**
VRAC *ep*P **pP** **22 13 22.7 +1.9**
KRLC Kraliky 93.80 40 *e*P **P** **22 12 34.4 +0.6**
KRLC *e**PP **pP** **22 13 21.3 0.0**
KRLC Kraliky 93.80 40 *e*P **P** **22 12 34.4 +0.6**
KRLC *ep*P **pP** **22 13 21.3 0.0**
JETT Jettan, Norway 93.98 20 *e*P **P** **22 12 34.7 +0.6**
SBA Scott Base 94.04 191 P **P** **22 12 35.4 +1.2**
SBA pmax pmax
comp=Z,33nm,1.2s
SBA Scott Base 94.04 191 P **P** **22 12 35.4 +1.2**
SBA lAmb lAmb 22 12 37.1
comp=Z,33nm,1.1s
MODS Modra-Piesok 94.21 42 *e*P **P** **22 12 35.1 -0.6**
MODS Modra-Piesok 94.21 42 *e*P **P** **22 12 35.0 -0.6**
MORC Moravsky Berou 94.31 40 *e*P **P** **22 12 36.1 0.0**
MORC *ep*P **pP** **22 13 26.7 +3.1**
TSUM Tsumeb 94.54 109 P **P** **22 12 39.1 +1.2**
comp=Z,23nm,1.0s,baz=281,slow=4.5,SNR=19
TSUM pP **pP** **22 13 26.4 +1.0**
comp=Z,35nm,1.2s,baz=250,slow=4.5,SNR=8.5
TSUM Tsumeb 94.54 109 P **P** **22 12 38.9 +1.0**
TSUM lAmb lAmb 22 12 39.8
comp=Z,24nm,1.1s
KTK1 Kautokeino 95.06 21 *e*P **P** **22 12 38.7 -0.4**
VNDA Vanda 95.12 191 P **P** **22 12 40.3 +1.1**
comp=Z,9.6nm,0.8s,baz=122,slow=4.3,SNR=52
VNDA LR LR 22 50 01.3
comp=Z,49nm,19.8s,baz=164,slow=3.6
VNDA Vanda 95.12 191 lAmb lAmb 22 12 41.3
comp=Z,13nm,0.9s
VYHS Vyhne 95.24 42 *e*P **P** **22 12 39.0 -1.3**
VYHS Vyhne 95.24 42 *e*PDIFF **P** **22 12 39.0 -1.3**
ARCES ARCESS Array B 95.75 20 P **P** **22 12 41.3 -0.9**
comp=Z,6.4nm,0.6s,baz=270,slow=4.2,SNR=20
ARCES pP **pP** **22 13 31.2 +1.4**
comp=Z,6.6nm,0.8s,baz=27,slow=16,SNR=2.6
ARCES PKKPbc **PKKPdf** **22 29 30.5 -3.5**
comp=Z,6.0nm,1.0s,baz=75,slow=1.4,SNR=10
ARCES ARCESS Array B 95.75 20 lAmb lAmb 22 12 41.7
comp=Z,11nm,0.8s
FINES FINESS Array B 97.64 28 P **P** **22 12 50.0 -0.8**
comp=Z,4.7nm,0.8s,baz=222,slow=2.6,SNR=11
SYO Syowa Base 98.33 161⇑ *i*pP pP 22 13 39.4 -2.0
APA Apatity 99.08 21⇓ *i*P **Pdif** **22 13 12.8 +16**
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,500nm,20.0s
BILL Bilibino 100.68 340 *e*P **Pdif** **22 13 03.8 -0.5**
BILL *e* 22 17 15.5
BILL pmax pmax
comp=Z,5.0nm,1.3s
BOSA Boshof 100.73 119 P **Pdif** **22 13 06.5 +1.0**
comp=Z,4.2nm,1.0s,baz=167,slow=11,SNR=2.9
BOSA PKKPbc **PKKPbc** **22 29 18.7 -0.5**
comp=Z,1.8nm,0.5s,baz=90,slow=1.5,SNR=7.7
LSZ Lusaka 104.94 106 PKKPbc PKKPbc 22 29 07.5 +1.0
comp=Z,2.2nm,0.7s,baz=8.3,slow=2.2,SNR=6.5
LSZ PKKP **PKKPdf** **22 29 19.3 +2.9**
comp=Z,1.3nm,0.5s,baz=60,slow=5.0,SNR=4.0
BRTR Keskin Array B 107.08 49 PKKPbc PKKPbc 22 28 59.4 -1.4
comp=Z,1.8nm,0.6s,baz=134,slow=5.3,SNR=7.4
BRTR PKKP **PKKPab** **22 29 14.9 -0.5**
comp=Z,3.8nm,0.9s,baz=117,slow=4.9,SNR=10
TIXI Tiksi 107.69 351 PKKPbc PKKPbc 22 28 55.0 -4.7
comp=Z,1.2nm,0.6s,baz=115,slow=1.9,SNR=6.6
TIXI PKKP **PKKPdf** **22 29 10.2 -1.8**
comp=Z,1.1nm,0.3s,baz=108,slow=0.5,SNR=4.4
SEY Seymchan 108.24 338 PKKPbc PKKPbc 22 28 55.0 -2.7
comp=Z,1.1nm,0.5s,baz=92,slow=3.6,SNR=6.1
NRIK Noril'sk 111.30 6 PKKPab PKKPab 22 28 54.8 -1.6
comp=Z,11nm,0.5s,baz=138,slow=4.1,SNR=22
BELG Belogornoye 111.77 33 PKKPbc PKKPbc 22 28 43.2 -2.7
comp=Z,14nm,0.8s,baz=38,slow=1.6,SNR=6.4
KIV Kislovodsk 112.31 42 *i* PKIKP **PKiKP** **22 17 50.3 -1.4**
KIV *e* 22 24 15.3
KIV *e*PS PKKPbc 22 28 15.9 -28
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,161nm,21.0s
KBZ Khabaz 112.54 43 PKiKP **PKiKP** **22 17 52.4 +0.4**
comp=Z,1.5nm,0.6s,baz=248,slow=5.4,SNR=7.6
KBZ PKKPbc **PKKPbc** **22 28 41.9 -1.2**
comp=Z,3.3nm,0.9s,baz=170,slow=3.0,SNR=6.9
KBZ PKKPab **PKKPab** **22 28 51.3 +0.4**
comp=Z,2.6nm,0.8s,baz=107,slow=3.7,SNR=5.1
AKTO Aktyubinsk 118.29 30 PKKPbc PKKPbc 22 28 22.0 -1.6
comp=Z,7.1nm,0.8s,baz=129,slow=2.8,SNR=14
ABKAR Akbulak array 120.00 31 PKPdf **PKiKP** **22 18 06.4 +0.1**
BVAR Borovoye Array 121.98 22 PKP **PKiKP** **22 18 10.1 0.0**
comp=Z,0.6nm,0.4s,baz=171,slow=10,SNR=8.4
BVAR PKKPbc **PKKPab** **22 28 07.3 -2.1**
comp=Z,0.9nm,0.6s,baz=232,slow=15,SNR=5.5
GEYT Alibeck 125.43 43 PKP **PKiKP** **22 18 17.4 -0.1**
comp=Z,5.0nm,0.6s,baz=270,slow=3.7,SNR=13
GYA0B ALIBECK ARRAY 125.43 43 PKPdf **PKiKP** **22 18 17.5 0.0**
ZALV Zalesovo Beam 125.52 13 PKP **PKPdf** **22 18 16.4 -0.2**
comp=Z,4.4nm,0.4s,baz=294,slow=1.5,SNR=32
ZALV pPKP **pPKPdf** **22 19 08.3 +1.9**
comp=Z,4.2nm,0.9s,baz=288,slow=1.8,SNR=1.9
ZALV PP **PP** **22 20 10.7 +1.4**
comp=Z,5.8nm,1.0s,baz=328,slow=5.3,SNR=4.0
ZALV SKP **SKPdf** **22 21 34.6 +0.5**
comp=Z,11nm,1.0s,baz=284,slow=2.4,SNR=8.5
ZALV PKKPab **PKKPab** **22 27 52.4 -1.7**
comp=Z,0.9nm,0.3s,baz=161,slow=2.8,SNR=7.8
ZALV Zalesovo Beam 125.52 13 PKPdf **PKPdf** **22 18 16.1 -0.6**
ZALV **SKPdf** **22 21 34.3 +0.1**
KLR Kul'dur 125.96 337 *c* iPKIKP **PKPdf** **22 18 17.6 -0.1**
KURK Kurchatov 126.76 19 PKIKP **PKiKP** **22 18 19.6 0.0**
KURK Kurchatov 126.76 19 **PKiKP** **22 18 19.6 0.0**
KURBB Kurchatov Arra 126.81 19 PKP **PKiKP** **22 18 19.6 -0.2**
comp=Z,6.1nm,0.6s,baz=320,slow=2.4,SNR=79
KURBB SKP **SKPdf** **22 21 37.2 +0.5**
comp=Z,3.3nm,1.0s,baz=322,slow=3.1,SNR=4.8
SEM Semipalatinsk 127.54 18 *e*PKP **PKPdf** **22 18 20.3 -0.6**
baz=18
SEM Semipalatinsk 127.54 18 *e*PKIKP **PKPdf** **22 18 20.3 -0.6**
KK31 Karatay Array 129.55 30 PKPdf **PKPdf** **22 18 24.7 0.0**
KK31 SKPbc 22 21 29.7 +1.0
KKAR Karatay Array 129.55 30 PKIKP **PKPdf** **22 18 25.0 +0.2**
KKAR Karatay Array 129.55 30 PKPdf **PKPdf** **22 18 25.0 +0.2**
TLY Talaya 129.73 359 SKPbc 22 21 29.7 +0.5
BTLS Baital 129.74 26 *e*PKP **PKPdf** **22 18 25.2 +0.1**
baz=26
BTLS Baital 129.74 26 *e*PKIKP **PKPdf** **22 18 25.1 +0.1**
USRK Ussuriysk Ar. 129.79 332 PKP **PKiKP** **22 18 25.6 -0.3**
comp=Z,4.8nm,0.9s,baz=339,slow=1.7,SNR=10
USRK SKP SKPdf 22 21 29.9 -13
comp=Z,3.7nm,0.8s,baz=137,slow=2.9,SNR=7.5
USRK Ussuriysk Ar. 129.79 332 PKPdf **PKPdf** **22 18 24.4 -0.7**
IUG luzhnay 130.00 31 *e*PKP **PKPdf** **22 18 25.7 -0.1**
baz=31
IUG luzhnay 130.00 31 *e*PKIKP **PKPdf** **22 18 25.6 -0.1**
DGZ Jazzator, Alta 130.07 13 *i* PKIKP **PKPdf** **22 18 25.7 0.0**
STKA Stephens Creek 130.34 225 PKhKP PKPpre 22 18 17.1
comp=Z,2.1nm,0.8s,baz=355,slow=8.5,SNR=3.7
STKA PKP **PKPdf** **22 18 26.5 0.0**
comp=Z,12nm,0.5s,baz=99,slow=2.2,SNR=27
ZAK Zakamensk 131.04 359 *e*PKIKP **PKPdf** **22 18 25.1 -2.3**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
SGDS Sogindy 131.25 27 *e*PKP **PKPdf** **22 18 28.2 +0.2**
baz=27
SGDS Sogindy 131.25 27 *e*PKIKP **PKPdf** **22 18 28.2 +0.2**
MAKZ Makanchi 131.26 19 PKIKP **PKPdf** **22 18 27.3 -0.6**
MAKZ Makanchi 131.26 19 PKPdf **PKPdf** **22 18 27.3 -0.6**
MK31 Makanchi Array 131.37 18 PKIKP **PKPdf** **22 18 27.9 -0.2**
MK31 Makanchi Array 131.37 18 PKPdf **PKPdf** **22 18 27.9 -0.2**
MKAR Makanchi Array 131.37 18 PKhKP PKPpre 22 18 15.0
comp=Z,0.4nm,0.4s,baz=316,slow=1.5,SNR=11
MKAR PKP **PKPdf** **22 18 27.7 -0.4**
comp=Z,1.9nm,0.4s,baz=298,slow=2.6,SNR=26
MKAR PP **PP** **22 20 46.1 -1.6**
comp=Z,2.6nm,1.0s,baz=1.6,slow=4.2,SNR=4.2
MKAR SKPbc **SKPbc** **22 21 35.2 -0.2**
comp=Z,21nm,1.0s,baz=344,slow=3.9,SNR=23
EKS2 Erkin-Say 131.47 28 P **SKPbc** **22 21 37.7 +1.6**
SNR=21
TDK Taldyqorghan 131.56 23 *e*PKP **PKPdf** **22 18 28.3 -0.3**
baz=23
TDK Taldyqorghan 131.56 23 *e*PKIKP **PKPdf** **22 18 28.2 -0.3**
KUU Kurty 131.64 25 *e*PKP **PKPdf** **22 18 28.6 -0.1**
baz=25
KUU Kurty 131.64 25 *e*PKIKP **PKPdf** **22 18 28.6 -0.1**
CHMS Chumysh 131.66 27 P **SKPbc** **22 21 38.5 +1.9**
SNR=23
MAJO Matsushiro 131.71 321 PKIKP **PKPdf** **22 18 28.5 -0.5**
MAJO Matsushiro 131.71 321 PKPdf **PKPdf** **22 18 28.5 -0.5**
MAT Matsushiro 131.71 321 PKP **PKPdf** **22 18 27.9 -1.1**
MJAR Matsushiro Arr 131.71 321 PKP **PKPdf** **22 18 28.5 -0.5**
comp=Z,5.5nm,0.8s,baz=63,slow=0.8,SNR=15
MJAR SKPbc **SKPbc** **22 21 36.8 -0.2**
comp=Z,12nm,0.9s,baz=38,slow=2.5,SNR=21
AAK Ala-Archa 131.82 28 PKP **PKPdf** **22 18 29.1 -0.1**
comp=Z,5.1nm,0.9s,baz=261,slow=1.8,SNR=14
AAK SKPbc **SKPab** **22 21 38.9 +0.7**
comp=Z,32nm,1.1s,baz=276,slow=2.0,SNR=28
AAK Ala-Archa 131.82 28 P **SKPbc** **22 21 38.3 +0.9**
SNR=21
AAK Ala-Archa 131.82 28 PKPdf **PKPdf** **22 18 28.2 -1.1**
AML Almayashu 131.84 29 P **SKPbc** **22 21 40.0 +2.2**
SNR=25
CHKK Chushkaly 131.95 25 *e*PKP **PKPdf** **22 18 29.3 0.0**
baz=25
CHKK Chushkaly 131.95 25 *e*PKIKP **PKPdf** **22 18 29.2 0.0**
KBK Karagaybulak 132.02 27 P **SKPbc** **22 21 39.5 +1.4**
SNR=16
CTA Charters Tower 132.04 241 PKP **PKPdf** **22 18 30.1 +0.1**
comp=Z,18nm,0.6s,baz=124,slow=2.3,SNR=32
CTA SKPbc **SKPbc** **22 21 37.0 -1.6**
comp=Z,8.7nm,0.9s,baz=153,slow=4.1,SNR=5.7
CTAO Charters Tower 132.04 241 PKIKP **PKPdf** **22 18 30.4 +0.3**
CTAO Charters Tower 132.04 241 PKPdf **PKPdf** **22 18 30.4 +0.3**
TKM2 Tokmak 2 132.10 26 P **SKPbc** **22 21 41.1 +2.7**
SNR=13
UCH Uchtor 132.15 28 P **SKPbc** **22 21 41.0 +2.0**
SNR=6.2
WSAR Wadi Sarin 132.31 59 PKP **PKPdf** **22 18 30.6 +0.1**
comp=Z,3.6nm,0.8s,baz=280,slow=15,SNR=7.3
MDOK Medeo 132.54 25 *e*PKP **PKPdf** **22 18 30.1 -0.5**
baz=25
MDOK Medeo 132.54 25 *e*PKIKP **PKPdf** **22 18 30.1 -0.5**
KPKS Kokpek 132.96 24 *e*PKP **PKPdf** **22 18 30.9 -0.4**
baz=24
KPKS Kokpek 132.96 24 *e*PKIKP **PKPdf** **22 18 30.9 -0.4**
SATY Saty 133.19 24 *e*PKP **PKPdf** **22 18 31.5 -0.3**
baz=24
SATY Saty 133.19 24 *e*PKIKP **PKPdf** **22 18 31.4 -0.3**
ULN Ulaanbaatar 133.38 356 PKIKP **PKPdf** **22 18 32.6 +0.6**
ULN Ulaanbaatar 133.38 356 PKPdf **PKPdf** **22 18 32.6 +0.6**
SONM Songino Array 133.46 356 PKhKP PKPpre 22 18 24.7
comp=Z,0.6nm,0.5s,baz=318,slow=2.3,SNR=6.9
SONM PKP **PKPdf** **22 18 32.1 0.0**
comp=Z,3.0nm,0.6s,baz=316,slow=2.8,SNR=3.9
SONM PP **PP** **22 20 57.5 -3.5**
comp=Z,3.0nm,0.9s,baz=354,slow=2.5,SNR=5.6
SONM SKPbc **SKPbc** **22 21 43.1 +0.3**
comp=Z,21nm,1.0s,baz=337,slow=1.9,SNR=27
SHLS Shalkode 133.53 23 *e*PKP **PKPdf** **22 18 32.2 -0.3**
baz=23
SHLS Shalkode 133.53 23 *e*PKIKP **PKPdf** **22 18 32.1 -0.3**
KBL Kabul 134.58 40 PKIKP **PKPdf** **22 18 35.0 +0.3**
KBL Kabul 134.58 40 PKPdf **PKPdf** **22 18 35.0 +0.3**
KSH Kashi 134.95 29 PKP **PKPdf** **22 18 33.8 -1.4**
WMQ Urumqi 135.64 15 *e*PKP **PKPdf** **22 18 35.3 -1.0**
WMQ LR LR
comp=Z,1μm,29.1s
WMQ LR LR
comp=Z,2μm,29.2s
WMQ LR LR
comp=Z,220nm,21.1s
COEN Coen 136.82 248 PKPpre PKPpre 22 18 32.4
KSRS Korea Array 136.95 330 PKhKP PKPpre 22 18 27.4
comp=Z,1.3nm,0.8s,baz=41,slow=6.4,SNR=5.6
KSRS PKP **PKPdf** **22 18 39.0 +0.2**
comp=Z,14nm,1.0s,baz=36,slow=1.0,SNR=22
KSRS pPKP pPKPdf 22 19 27.5 -1.1
comp=Z,0.5nm,0.3s,baz=144,slow=43,SNR=1.6
KSRS SKPbc **SKPbc** **22 21 53.8 -0.1**
comp=Z,5.7nm,0.9s,baz=11,slow=1.7,SNR=8.7
NIL Nilore 137.78 37 PKIKP **PKPdf** **22 18 36.5 -4.0**
NIL Nilore 137.78 37 PKPdf **PKPdf** **22 18 36.5 -4.0**
TJN Taejon 138.06 329 *e*PKIKP **PKPdf** **22 18 40.0 -0.8**
BJI Beijing 139.39 344 PKP **PKPdf** **22 18 43.3 +0.2**
HHC Hu-ho-hao-te 139.70 349 *e*PKP **PKPdf** **22 18 43.5 -0.4**
FORT Forrest 139.84 215 PKPpre 22 18 40.0
ASAR Alice Springs 140.58 229 PKhKP PKPpre 22 18 35.2
comp=Z,12nm,0.5s,baz=124,slow=3.7,SNR=109
ASAR SKPbc **SKPbc** **22 22 03.1 -1.3**
comp=Z,15nm,1.1s,baz=127,slow=3.2,SNR=12
ASAR PKKP **PKKPdf** **22 28 06.3 -2.4**
comp=Z,0.4nm,0.8s,baz=321,slow=1.6,SNR=4.1
ASAR Alice Springs 140.58 229 PKHKP PKPpre 22 18 38.2
ASAR 22 18 45.9
ASAR Alice Springs 140.58 229 PKPpre PKPpre 22 18 38.2
ASAR PKPdf **PKPdf** **22 18 45.9 0.0**
ASAR **SKPdf** **22 22 01.9 -0.8**
WRA Warramunga Arr 142.22 234 PKhKP PKPpre 22 18 42.1
comp=Z,37nm,0.5s,baz=121,slow=2.8,SNR=321
WRA PP **PP** **22 21 57.6 +0.9**
comp=Z,1.2nm,0.6s,baz=114,slow=5.2,SNR=4.7
WRA SKPbc **SKPbc** **22 22 07.8 -0.9**
comp=Z,34nm,0.9s,baz=122,slow=2.1,SNR=17

WRA	**Warramunga Arr**	**142.22**	**234**		PKHKP	PKPpre	22 18 43.5		
WRA	**Warramunga Arr**	**142.22**	**234**			PKPpre	22 18 43.5		
NWAO	**Narrogin (SRO)**	**143.22**	**201**		PKhKP	PKPpre	22 18 47.0		
	comp=Z,12nm,0.7s,baz=132,slow=3.7,SNR=14								
NWAO	**Narrogin (SRO)**	**143.22**	**201**			PKPpre	22 18 47.1		
NWAO					PKPdf	**PKPdf**	**22 18 50.9**	**+0.7**	
NDI	**New Delhi**	**143.67**	**39**	*eP*		PKPbc	22 18 50.0	+0.8	
LZH	**Lanzhou**	**145.31**	**358**	*e*	PKPbc	**PKPab**	**22 18 54.8**	**+0.4**	
LZH					pPKP	pPKPab	22 19 42.3	-0.7	
NJ2	**Nanjing**	**145.63**	**335**	*e*	PKPbc	**PKPbc**	**22 18 54.8**	**-0.2**	
POO	**Poona**	**147.19**	**57**	⇑*iP*		**PKPdf**	**22 18 56.0**	**-1.5**	
	comp=Z,100nm,0.5s								
GKN	**Gorkha**	**148.45**	**31**	*eP*		**PKPdf**	**22 18 59.9**	**+0.4**	
	comp=Z,11nm,0.7s								
WHN	**Wuhan**	**148.71**	**340**	⇑	PKPbc	**PKPbc**	**22 19 03.5**	**-0.1**	
KKN	**Kakani**	**148.95**	**30**	*eP*		**PKPdf**	**22 19 00.7**	**+0.3**	
	comp=Z,6.8nm,0.5s								
DMN	**Daman**	**149.01**	**31**	*eP*		**PKPdf**	**22 19 01.0**	**+0.4**	
	comp=Z,4.2nm,0.3s								
GUN	**Gumba**	**149.15**	**29**	*eP*		**PKPdf**	**22 19 01.1**	**+0.2**	
	comp=Z,7.9nm,0.6s								
PKIN	**Phulchoki**	**149.19**	**30**	*eP*		**PKPdf**	**22 19 00.4**	**-0.4**	
	comp=Z,4.3nm,0.6s								
JIRN	**Jiri**	**149.51**	**29**	*eP*		**PKPdf**	**22 19 01.9**	**+0.4**	
LSA	**Lhasa**	**149.76**	**20**		PKPbc	**PKPdf**	**22 19 03.3**	**+1.3**	
FAKI	**Fak Fak**	**149.82**	**262**		PKPdf	**PKPdf**	**22 19 02.7**	**+0.8**	
FAKI					PKPbc	**PKPbc**	**22 19 07.3**	**+0.4**	
FITZ	**Fitzroy Crossi**	**150.08**	**229**		PKP	**PKPdf**	**22 19 02.1**	**0.0**	
	comp=Z,67nm,1.1s,baz=195,slow=3.0,SNR=16								
FITZ					PKPbc	**PKPbc**	**22 19 06.8**	**-0.5**	
	comp=Z,137nm,0.7s,baz=179,slow=3.5,SNR=84								
FITZ	**Fitzroy Crossi**	**150.08**	**229**		PKPbc	**PKPbc**	**22 19 07.3**	**0.0**	
RAMN	**Ramite**	**150.30**	**29**	*eP*		**PKPdf**	**22 19 03.1**	**+0.5**	
	comp=Z,21nm,0.6s								
CD2	**Chengdu**	**150.47**	**358**		PKPbc	**PKPdf**	**22 19 01.0**	**-1.5**	
CD2					PKPab	**PKPab**	**22 19 15.0**	**0.0**	
CD2					pPKP	pPKPdf	22 19 53.5	+1.1	
CD2					PP	**PP**	**22 22 47.0**	**+3.4**	
CD2					SS	SS	22 41 45.5	-0.7	
CD2					AMB	AMB			
	comp=Z,150nm,10.8s								
TAPN	**Taplejung**	**150.49**	**27**	*eP*		**PKPdf**	**22 19 03.1**	**+0.2**	
	comp=Z,8.2nm,0.5s								
ODAN	**Odare**	**150.76**	**28**	*eP*		**PKPdf**	**22 19 03.9**	**+0.6**	
SIJI	**Sorong**	**151.00**	**266**		PKP	**PKPdf**	**22 19 03.4**	**-0.4**	
	comp=Z,14nm,0.8s,baz=76,slow=6.8,SNR=8.7								
SIJI					PKPbc	**PKPbc**	**22 19 08.9**	**-0.8**	
	comp=Z,51nm,0.6s,baz=21,slow=5.8,SNR=31								
SSLB	**Suanglung**	**151.24**	**323**			**PKPbc**	**22 19 08.9**	**-1.0**	
PSA00	**Pilbara Seismi**	**151.60**	**216**		PKPbc	**PKPbc**	**22 19 10.3**	**-0.5**	
HYB	**Hyderabad**	**151.62**	**54**	*i*	PKP	**PKPbc**	**22 19 09.0**	**-2.0**	
HYB				*e*	pPKP	**pPKPdf**	**22 19 51.0**	**-3.5**	
GYA	**Guiyang**	**154.59**	**351**		PKPbc	**PKPdf**	**22 19 08.8**	**0.0**	
GYA					PKPab	**PKPab**	**22 19 32.5**	**0.0**	
GYA					sPKP		22 20 20.5		
GYA					PP	**PP**	**22 23 10.0**	**+2.9**	
GYA					AMB	AMB			
	comp=Z,87nm,4.3s								
BATI	**Baumata**	**155.93**	**241**		PKPab	**PKPab**	**22 19 39.8**	**+1.1**	
	comp=Z,49nm,0.7s,baz=266,slow=2.9,SNR=6.6								
KMI	**Kunming**	**156.26**	**359**		PKP	**PKPdf**	**22 19 07.5**	**-3.7**	
KMI					AMB	AMB			
	comp=Z,66nm,4.4s								
PALK	**Pallekele**	**157.61**	**74**		PKPab	**PKPab**	**22 19 45.8**	**-0.2**	
	comp=Z,5.8nm,0.6s,baz=34,slow=5.4,SNR=8.4								
LUWI	**Luwuk**	**159.45**	**264**		PKPab	**PKPab**	**22 19 54.2**	**+0.2**	
SLVN	**Son La**	**159.97**	**356**		PKPab	**PKPab**	**22 19 56.2**	**+0.5**	
KAPI	**Kappang**	**161.53**	**250**		PKP	**PKPdf**	**22 19 17.1**	**-0.3**	
	comp=Z,10nm,1.0s,baz=274,slow=2.0,SNR=7.7								
KAPI					PKPab	**PKPab**	**22 20 02.4**	**-0.6**	
	comp=Z,8.0nm,0.6s,baz=98,slow=3.3,SNR=6.3								
KAPI	**Kappang**	**161.53**	**250**		PKIKP	**PKPdf**	**22 19 17.5**	**+0.2**	
KAPI							22 20 04.3		
KAPI	**Kappang**	**161.53**	**250**		PKPdf	**PKPdf**	**22 19 17.5**	**+0.2**	
KAPI					PKPab	**PKPab**	**22 20 04.3**	**+1.3**	
TOLI2	**Tolitoli**	**161.57**	**270**		PKPdf	**PKPdf**	**22 19 16.8**	**-0.6**	
CHTO	**Chiang Mai**	**162.22**	**11**		PKIKP	**PKPdf**	**22 19 18.8**	**+0.9**	
CHTO							22 20 04.5		
CHTO	**Chiang Mai**	**162.22**	**11**		PKPdf	**PKPdf**	**22 19 18.8**	**+0.9**	
CHTO					PKPab	**PKPab**	**22 20 04.5**	**-1.1**	
CMAR	**Chiang Mai Arr**	**162.57**	**11**		PKP	**PKPdf**	**22 19 18.6**	**+0.3**	
	comp=Z,1.0nm,0.3s,baz=294,slow=2.2,SNR=14								
CMAR					PKPab	**PKPab**	**22 20 06.4**	**-0.7**	
	comp=Z,15nm,0.7s,baz=326,slow=5.3,SNR=39								
CMAR	**Chiang Mai Arr**	**162.57**	**11**		PKPdf	**PKPdf**	**22 19 18.0**	**-0.2**	
CMAR					PKPab	**PKPab**	**22 20 05.9**	**-1.2**	
SRBI	**Singaraja**	**164.17**	**234**		PKP	**PKPdf**	**22 19 16.2**	**-3.7**	
SRBI					PKP	**PKPdf**	**22 19 19.3**	**-0.6**	
JAGI	**Jajag, Banyuwa**	**164.78**	**230**		PKP	**PKPdf**	**22 19 19.8**	**-0.6**	
PSI	**Prapat**	**176.25**	**66**		PKP	**PKPdf**	**22 19 24.7**	**-2.2**	
	comp=Z,6.8nm,0.8s								
PSI					pPKP	**pPKPdf**	**22 20 17.4**	**+0.4**	
	comp=Z,8.1nm,1.1s,baz=180,slow=1.1,SNR=2.9								

TAP ***27*** *22:51:29.0,24°.84N×121°.97E,h12km,ML4.1,C*
JMA ***27*** *22:51:29.8±0.1,24°.81N×121°.87E,h36km,M3.2*
IDC ***27*** *22:51:42.4±7.3,24°.65N×121°.55E,h123km±72km,mb3.4/7, mb1 3.5/8,mb1mx3.2/47,mbtmp3.7/8,MS2.7/1,Ms1 2.7/1, ms1mx2.3/34,Error ellipse: s-maj=38.7km s-min=18.2km az=70.0*

ISC 27 22:51:29.5±0.9,**24°.83N**±0°.02×**121°.97E**±0°.02,**h8**km±6km, **n139**,σ1⇟**01**/193,**mb3.8**/7,**20C-3D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
NTC	**Toucheng**					**0.13 279**	⇑*iP*	**Pg**	**22 51 32.6**	**+0.2**
	baz=286								
NTC						*i*	S	**Sg**	**22 51 34.8**	**+0.4**
	baz=286								
TWB1	**Santiao Chiao**					**0.17 5**	⇑*iP*	**Pg**	**22 51 32.9**	**-0.3**
	baz=9.0								
TWB1						S		**Sg**	**22 51 35.7**	**+0.1**
	baz=9.0								
TIPB	**Shuangxi**					**0.19 316**	⇑*iP*	**Pg**	**22 51 33.5**	**+0.1**
	baz=310								
TIPB						*i*	S	**Sg**	**22 51 36.7**	**+0.6**
	baz=310								
ILA	**Ilan**					**0.21 251**	⇑*iP*	**Pg**	**22 51 34.0**	**+0.2**
	baz=238								
ILA						*i*	S	**Sg**	**22 51 37.8**	**+1.1**
	baz=238								
TWC	**Suao**					**0.25 206**	⇑*iP*	**Pg**	**22 51 34.4**	**-0.1**
	baz=205								
TWC						*e*	S	**Sg**	**22 51 37.5**	**-0.4**
	baz=205								
NWF	**Wu-fen Shan**					**0.29 324**	⇑*iP*	**Pb**	**22 51 35.6**	**-1.4**
	baz=315								
WFSB	**Wu-fen Shan**					**0.29 324**	⇑*iP*	**Pb**	**22 51 35.7**	**-1.3**
	baz=319								
WFSB						*i*	S	**Sb**	**22 51 40.0**	**-2.0**
	baz=319								
TWE	**Neicheng**					**0.30 248**	*i* P	**Pg**	**22 51 35.4**	**0.0**
	baz=235								
TWE						S		**Sg**	**22 51 39.6**	**+0.2**
	baz=235								
NDS	**Dongshan**					**0.30 229**	*i* P	**Pg**	**22 51 35.5**	**0.0**
	baz=220								
NDS						*e*	S	**Sb**	**22 51 41.5**	**-0.9**
	baz=220								
TNOU	**National Taiwa**					**0.36 330**	⇑*iP*	**Pb**	**22 51 36.9**	**-1.3**
	baz=323								
TNOU						*e*	S	**Sg**	**22 51 41.7**	**+0.2**
	baz=323								
ENTT	**Nioudou**					**0.41 242**	*i* P	**Pg**	**22 51 37.5**	**-0.2**
	baz=240								
ENTT						*e*	S	**Sg**	**22 51 43.5**	**+0.4**
	baz=240								
NHDH	**Xindian Distri**					**0.42 288**	⇑*iP*	**Pb**	**22 51 38.0**	**-1.3**
	baz=280								
NHDH						*i*	S	**Sb**	**22 51 44.0**	**-1.8**
	baz=280								
EWUT	**Wuta**					**0.42 204**	*eP*	**Pg**	**22 51 37.5**	**-0.3**
	baz=208								
EWUT						*e*	S	**Sg**	**22 51 43.0**	**-0.3**
	baz=208								
NWLT	**Wulai**					**0.43 262**	⇑*iP*	**Pg**	**22 51 37.8**	**-0.1**
	baz=260								
NWLT						*e*	S	**Sg**	**22 51 43.1**	**-0.4**
	baz=260								
ENA	**Nanau**					**0.46 207**	*i* P	**Pg**	**22 51 38.0**	**-0.4**
	baz=209								
ENA						*e*	S	**Sg**	**22 51 44.8**	**+0.5**
	baz=209								
NWRT	**Kuosheng**					**0.46 323**	*eP*	**Pb**	**22 51 39.0**	**-0.9**
	baz=326								
NWRT						*e*	S	**Sg**	**22 51 44.3**	**-0.3**
	baz=326								
NDT	**Datong Townshi**					**0.48 241**	⇓*iP*	**Pg**	**22 51 38.8**	**0.0**
	baz=239								
NDT						*e*	S	**Sb**	**22 51 45.5**	**-1.8**
	baz=239								
YM01	**YM01**					**0.48 311**	⇑*iP*	**Pg**	**22 51 38.5**	**-0.3**
	baz=301								
YM01						*e*	S	**Sb**	**22 51 45.5**	**-2.0**
	baz=301								
YM11	**YM11**					**0.49 313**	*i* P	**Pb**	**22 51 39.7**	**-0.7**
	baz=303								
YM11						*e*	S	**Sg**	**22 51 45.8**	**+0.3**
	baz=303								
YM10	**YM10**					**0.49 311**	⇑*iP*	**Pb**	**22 51 39.7**	**-0.7**
	baz=311								
YM05	**YM05**					**0.49 312**	⇑*iP*	**Pb**	**22 51 39.6**	**-0.9**
	baz=312								
YM08	**YM08**					**0.49 316**	⇑*iP*	**Pb**	**22 51 39.4**	**-1.0**
	baz=316								
BACT	**New Taipei Cit**					**0.51 289**	*eP*	**Pb**	**22 51 40.4**	**-0.3**
	baz=279								
BACT						*e*	S	**Sb**	**22 51 47.4**	**-0.8**
	baz=279								
YM04	**YM04**					**0.51 309**	⇑*iP*	**Pb**	**22 51 39.7**	**-1.0**
	baz=308								
YM04						*e*	S	**Sb**	**22 51 46.5**	**-1.7**
	baz=308								
ANP	**Anpu**					**0.54 311**	*eP*	**Pb**	**22 51 40.1**	**-1.2**
	baz=311								
YHNB	**Yeheng**					**0.56 253**	⇑*iP*	**Pg**	**22 51 40.1**	**-0.4**
	baz=251								
YHNB						*e*	S	**Sg**	**22 51 46.8**	**-1.1**
	baz=251								
TWS1	**Kuangyinshan**					**0.57 298**	⇑*iP*	**Pb**	**22 51 41.5**	**-0.2**
	baz=297								
TWS1						*e*	S	**Sb**	**22 51 48.9**	**-1.1**
	baz=297								
NTST	**Danshui**					**0.58 305**	*eP*	**Pb**	**22 51 41.9**	**0.0**
	baz=305								
NSK	**Sanguang**					**0.58 254**	⇑*iP*	**Pg**	**22 51 40.3**	**-0.4**
	baz=263								
NSK						*e*	S	**Sg**	**22 51 47.2**	**-1.1**
	baz=263								
NTY	**Taoyuan**					**0.63 285**	*eP*	**Pb**	**22 51 42.8**	**0.0**
	baz=277								
NTY						*e*	S	**Sb**	**22 51 52.2**	**+0.3**
	baz=277								
NNS	**Nan Shan**					**0.67 234**	*eP*	**Pg**	**22 51 41.6**	**-0.8**
	baz=231								
NNS						*e*	S	**Sb**	**22 51 51.5**	**-1.5**
	baz=231								
NNSB	**Datong**					**0.67 233**	P	**Pg**	**22 51 41.9**	**-0.6**
	baz=231								
NNSB						*e*	S	**Sb**	**22 51 51.9**	**-1.1**
	baz=231								
NNSH	**Datong**					**0.67 233**	P	**Pg**	**22 51 42.0**	**-0.5**
	baz=231								
NNSH						*e*	S	**Sg**	**22 51 50.9**	**-0.4**
	baz=231								
NCU	**National Centr**					**0.72 281**	⇑*iP*	**Pn**	**22 51 44.6**	**-1.5**
	baz=279								
NCU						*e*	S	**Sn**	**22 51 55.1**	**-2.2**
	baz=279								
NCUH	**Zhongli**					**0.72 281**	*i* P	**Pn**	**22 51 44.7**	**-1.4**
	baz=279								
NCUH						*e*	S	**Sn**	**22 51 56.0**	**-1.3**
	baz=279								
NACB	**Ninganchiao**					**0.74 208**	P	**Pg**	**22 51 43.0**	**-0.8**
	baz=208								
NACB						*e*	S	**Sg**	**22 51 53.4**	**-0.1**
	baz=208								
ETLH	**Xiulin Townshi**					**0.77 216**	P	**Pg**	**22 51 43.7**	**-0.6**
	baz=215								
ETLH						*e*	S	**Sb**	**22 51 55.6**	**-0.2**
	baz=215								
PCYT	**Pengchaiyu**					**0.80 7**	*eP*	**Pb**	**22 51 45.0**	**-0.6**
	baz=7.0								
PCYT						*e*	S	**Sb**	**22 51 56.6**	**0.0**
	baz=7.0								
NJD	**Zhudong**					**0.81 263**	P	**Pn**	**22 51 46.1**	**-1.1**
	baz=254								
TWD	**Chiawan**					**0.82 204**	P	**Pg**	**22 51 44.8**	**-0.6**
	baz=206								
TWD						*e*	S	**Sg**	**22 51 55.5**	**-0.6**
	baz=206								
HSN1	**Hsinchu**					**0.87 266**	*eP*	**Pn**	**22 51 47.4**	**-0.6**
	baz=282								
HSN1						*e*	S	**Sn**	**22 52 01.0**	**+0.2**
	baz=282								
FUSS	**Fushou**					**0.88 229**	P	**Pg**	**22 51 45.8**	**-0.7**
	baz=222								
FUSS						*e*	S	**Sg**	**22 51 57.1**	**-0.9**
	baz=222								
LIOB	**Emei**					**0.89 258**	P	**Pn**	**22 51 47.1**	**-1.3**
	baz=255								

WEL 27 22:16:58.4,44°S±6°×**16°5E**±°,**h24**km±23km,**M4.4**/19, **mB5.0**/4,**ML4.5**/19,**MLv4.5**/19,**Mw(mB)4.3**/4,**Error ellipse: s-maj=0.0km s-min=0.0km az=62.5,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MSZ	**Milford Sound**					**2.37 104**	P	**Pn**	**22 17 35.8**	**0.0**
MSZ							S	**Sn**	**22 18 00.9**	**-3.2**
PYZ	**Puysegur Point**					**2.45 146**	P	**Pn**	**22 17 38.2**	**+1.2**
PYZ							S	**Sn**	**22 18 06.0**	**-0.2**
MLZ	**Mavora Lakes**					**2.72 118**	P	**Pn**	**22 17 41.8**	**+1.2**
MLZ							S	**Sn**	**22 18 12.4**	**-0.5**
WHZ	**Wether Hill Ro**					**2.89 128**	P	**Pn**	**22 17 44.6**	**+1.6**
WHZ							S	**Sn**	**22 18 18.6**	**+1.7**
JCZ	**Jackson Bay**					**2.95 90**	P	**Pn**	**22 17 43.2**	**-0.7**
JCZ							S	**Sn**	**22 18 14.3**	**-4.2**
WKZ	**Wanaka**					**3.17 104**	P	**Pn**	**22 17 48.9**	**+2.1**
WKZ							S	**Sn**	**22 18 26.2**	**+2.4**
EAZ	**Earnscleugh**					**3.46 110**	P	**Pn**	**22 17 53.2**	**+2.4**
EAZ							S	**Sn**	**22 18 32.7**	**+1.7**
APZ	**The Paps**					**3.54 140**	P	**Pn**	**22 17 54.4**	**+2.5**
FOZ	**Fox Glacier**					**3.76 82**	P	**Pn**	**22 17 53.5**	**-1.3**
FOZ							S	**Sn**	**22 18 32.4**	**-5.8**
TUZ	**Tuapeka**					**3.93 119**	P	**Pn**	**22 17 59.3**	**+2.1**
TUZ							S	**Sn**	**22 18 43.3**	**+0.7**
SYZ	**Scrubby Hill**					**3.94 129**	P	**Pn**	**22 17 59.6**	**+2.3**
SYZ							S	**Sn**	**22 18 43.6**	**+0.9**
LBZ	**Lake Benmore**					**3.95 95**	P	**Pn**	**22 17 58.8**	**+1.3**
GCSZ	**Gaunt Creek Bo**					**4.17 80**	P	**Pn**	**22 17 58.9**	**-1.6**
ODZ	**Otahua Downs**					**4.34 104**	P	**Pn**	**22 18 04.0**	**+1.1**
ODZ							S	**Sn**	**22 18 50.5**	**-2.2**
HHSZ	**Highcliff Hill**					**4.53 115**	P	**Pn**	**22 18 07.5**	**+2.0**
HHSZ							S	**Sn**	**22 18 55.2**	**-2.1**
TMZ	**Timaru**					**4.54 95**	P	**Pn**	**22 18 05.9**	**+0.3**
RPZ	**Rata Peaks**					**4.61 87**	P	**Pn**	**22 18 06.6**	**0.0**
RPZ							S	**Sn**	**22 18 55.8**	**-3.6**
ARCZ	**Arundel**					**4.68 90**	P	**Pn**	**22 18 07.1**	**-0.5**
INZ	**Inchbonnie**					**5.12 76**	P	**Pn**	**22 18 11.7**	**-1.9**
INZ							S	**Sn**	**22 19 03.7**	**-8.1**
WACZ	**Wakanui South**					**5.15 90**	P	**Pn**	**22 18 13.3**	**-0.7**
OXZ	**Oxford**					**5.38 84**	P	**Pn**	**22 18 16.3**	**-1.0**
OXZ							S	**Sn**	**22 19 12.9**	**-5.6**
RACZ	**Rakaia**					**5.39 88**	P	**Pn**	**22 18 16.4**	**-0.9**
LTZ	**Lake Taylor**					**5.68 79**	P	**Pn**	**22 18 20.8**	**-0.6**
LTZ							S	**Sn**	**22 19 19.9**	**-5.9**
DSZ	**Denniston Nort**					**5.75 68**	P	**Pn**	**22 18 19.4**	**-2.8**
DSZ							S	**Sn**	**22 19 19.2**	**-8.2**
AMCZ	**Amberley**					**5.85 83**	P	**Pn**	**22 18 22.9**	**-0.7**
AKCZ	**Akaroa Harbour**					**5.93 90**	P	**Pn**	**22 18 23.6**	**-1.2**
AKCZ							S	**Sn**	**22 19 24.8**	**-7.1**
OKCZ	**Okains Bay**					**6.05 89**	P	**Pn**	**22 18 25.5**	**-1.0**

UPA ***27*** *22:22:38.8±2.6,7°.65N×81°.83W,h0km±7km,MW4.8*
UCR ***27*** *22:22:39.3±2.5,7°.54N×81°.82W,h10km,MW4.6*

ISC 27 22:22:39.2±1.3,**7°.62N**±0°.05×**81°.84W**±0°.02,**h5**km±10km, **n68**,σ1⇟**11**/92,**6C-31D**,**Panama**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
GMAL	**Guarumal, Vera**					**0.61 77**	⇓*iP*	**Pg**	**22 22 50.7**	**-0.3**
GMAL						*i*	S	**Sb**	**22 23 00.2**	**-1.2**
GMAL	**Guarumal, Vera**					**0.61 77**	*eP*	**Pg**	**22 22 50.7**	**-0.3**
NANC3	**Nancito, Chiri**					**0.62 10**	⇓*eP*	**Pg**	**22 22 51.5**	**+0.3**
NANC3						*e*	S	**Sb**	**22 23 01.3**	**-0.3**
RSUS3	**Rio de Jesus,**					**0.76 62**	⇓*iP*	**Pg**	**22 22 54.0**	**+0.1**
RSUS3						*i*	S	**Sb**	**22 23 06.0**	**+0.4**
MARI3	**Mariato, Verag**					**0.84 88**	⇓*iP*	**Pg**	**22 22 55.4**	**+0.1**
MARI3						*i*	S	**Sn**	**22 23 09.9**	**-0.4**
CHIR3	**Chiriqui UPA,**					**0.91 328**	⇓*eP*	**Pg**	**22 22 55.7**	**-1.0**
PEDE3	**Pedregal, Chir**					**0.95 323**	⇓*eP*	**Pg**	**22 22 56.4**	**-1.1**
LOCO3	**Loma Colorada,**					**0.97 324**	⇓*iP*	**Pg**	**22 22 57.4**	**-0.5**
LOMA3	**Las Lomas, Chi**					**0.97 326**	*eP*	**Pg**	**22 22 57.2**	**-0.7**
STIA3	**Santiago, Vera**					**0.98 61**	⇓*iP*	**Pg**	**22 22 57.1**	**-0.9**
STIA3						*i*	S	**Sn**	**22 23 14.1**	**+0.3**
CACAO	**El Cacao, Vera**					**1.01 106**	⇑*iP*	**Pg**	**22 22 57.9**	**-0.6**
CACAO						*i*	S	**Sn**	**22 23 13.9**	**-0.6**
DVD	**David**					**1.01 323**	⇑*eP*	**Pg**	**22 22 57.8**	**-0.8**
DVD						*i*	S	**Sb**	**22 23 13.3**	**+0.5**
GUAL3	**Gualaca, Chiri**					**1.01 333**	⇓*eP*	**Pg**	**22 22 57.7**	**-1.0**
GUAL3						*eS*		**Sn**	**22 23 15.0**	**+0.4**
SFRA3	**San Francisco,**					**1.06 54**	⇓*iP*	**Pg**	**22 22 58.5**	**-1.1**
SFRA3						*i*	S	**Sb**	**22 23 14.7**	**+0.6**
OCU3	**Ocu, Herrera**					**1.10 73**	*eP*	**Pg**	**22 22 59.2**	**-1.1**
OCU3						*i*	S	**Sn**	**22 23 16.9**	**+0.1**
LIMO3	**Limones**					**1.12 295**	⇓*eP*	**Pg**	**22 23 00.3**	**-0.5**
PSOM3	**Paja de Sombre**					**1.16 336**	⇓*eP*	**Pg**	**22 22 59.8**	**-1.7**
PSOM3						*eS*		**Sn**	**22 23 19.0**	**+0.6**
CALO3	**Calobre, Verag**					**1.21 55**	⇑*iP*	**Pg**	**22 23 01.1**	**-1.3**
CALO3						*i*	S	**Sb**	**22 23 18.4**	**0.0**
PTAR3	**Potrerillos Ar**					**1.25 329**	⇓*eP*	**Pg**	**22 23 01.6**	**-1.6**
BCO2	**Palmira**					**1.29 328**	⇓*iP*	**Pn**	**22 23 02.2**	**-1.8**
LNBQ3	**Los Naranjos,**					**1.31 333**	⇓*eP*	**Pn**	**22 23 03.6**	**-0.6**
LNBQ3						*i*	S	**Sg**	**22 23 20.4**	**-0.8**
CHGR2	**Aguacate**					**1.34 347**	⇓*eP*	**Pn**	**22 23 02.8**	**-1.8**
CHGR2						*eS*		**Sb**	**22 23 23.0**	**+0.7**
CDITO	**Canoas**					**1.40 313**	⇓*eP*	**Pn**	**22 23 04.4**	**-0.9**
CDITO	**Canoas**					**1.40 313**	*eP*	**Pn**	**22 23 03.7**	**-1.6**
CDITO						*eS*		**Sg**	**22 23 25.5**	**+1.5**
BC3P	**Paso Ancho**					**1.41 327**	⇓*iP*	**Pn**	**22 23 05.0**	**-0.7**
BRU2	**Volcan**					**1.44 324**	⇓*eP*	**Pn**	**22 23 05.6**	**-0.4**
BRU2						*i*	S	**Sg**	**22 23 26.4**	**+0.9**
BRU2	**Volcan**					**1.44 324**	*eP*	**Pn**	**22 23 05.0**	**-1.0**
BRU2						*eS*		**Sg**	**22 23 26.2**	**+0.7**
MLIR3	**Monte Lirio, C**					**1.52 320**	*eP*	**Pn**	**22 23 06.0**	**-1.1**
AZU	**Azuero**					**1.56 84**	⇓*iP*	**Pn**	**22 23 06.5**	**-1.0**
AZU						*i*	S	**Sn**	**22 23 26.7**	**-1.4**
AZU	**Azuero**					**1.56 84**	*eP*	**Pn**	**22 23 06.5**	**-1.0**
EDSV	**San Vito**					**1.64 317**	*eP*	**Pb**	**22 23 10.0**	**0.0**
ACHO3	**Achotines, Los**					**1.66 97**	⇓*eP*	**Pn**	**22 23 09.2**	**+0.2**
ACHO3						*i*	S	**Sg**	**22 23 32.6**	**-0.1**
PCRI3	**Pocri, Los San**					**1.70 89**	⇑*eP*	**Pn**	**22 23 09.7**	**+0.1**
PTJ1	**Puerto Jimnez**					**1.71 302**	*eP*	**Pn**	**22 23 10.6**	**+1.0**
PTJ1	**Puerto Jimnez**					**1.71 302**	*eP*	**Pn**	**22 23 10.5**	**+0.9**
PNME	**Penonome**					**1.72 60**	⇓*eP*	**Pn**	**22 23 09.1**	**-0.7**
PNME						*i*	S	**Sg**	**22 23 36.2**	**+1.5**
LPLA	**Las Palmas La**					**1.82 320**	*eP*	**Pn**	**22 23 10.8**	**-0.4**
CNI2	**El Empalme, Bo**					**1.90 341**	⇓*eP*	**Pn**	**22 23 13.5**	**+1.3**
VTON	**El Valle, Cocl**					**1.97 60**	⇓*eP*	**Pn**	**22 23 13.8**	**+0.6**
VTON						*

LIOB eS Sn 22 52 00.0 -1.4
baz=255
SBCB Hsinchu 0.90 268 *i* P Pn 22 51 47.7 -0.7
baz=283
SBCB S Sn 22 52 01.3 -0.2
baz=283
NSTT Nanjuang 0.90 257 P Pb 22 51 47.0 -0.5
baz=254
NSTT eS Sn 22 52 00.4 -1.3
baz=254
HSN Hsinchu 0.91 268 *i* P Pn 22 51 47.2 -1.3
baz=284
HSN S Sn 22 52 00.7 -1.1
baz=284
TWT Tachien 0.93 232 *i* P Pg 22 51 46.6 -0.7
baz=229
TWT eS Sg 22 51 59.1 -0.3
baz=229
TDCB Techi 0.94 232 *e*P Pg 22 51 46.7 -0.9
baz=230
TDCB eS Sg 22 51 58.1 -1.7
baz=230
WHF Hehuan Shan 0.94 223 *i* P Pg 22 51 46.9 -0.7
baz=212
WHF eS Sg 22 51 58.9 -1.0
baz=212
JYNG Yonagunijimaku 0.97 113 P Pn 22 51 48.2 -1.2
NJN Zhunan 1.01 262 *e*P Pg 22 51 48.0 -0.9
baz=251
YOJ Yonaguni jima 1.02 111 *e*P Pb 22 51 47.8 -1.5
baz=113
YOJ Yonaguni jima 1.02 111 P Pg 22 51 48.9 -0.2
YOJ eS Sn 22 52 03.2 -1.3
CHGB Renai 1.06 223 P Pg 22 51 49.1 -0.7
baz=210
WHP Taichung City 1.08 239 P Pn 22 51 50.1 -1.0
baz=236
NMLH Miaoli 1.11 255 *e*P Pn 22 51 51.4 0.0
baz=251
ESL Shilin 1.13 206 *e*P Pb 22 51 49.7 -1.6
baz=206
ESL eS Sn 22 52 06.3 -1.0
baz=206
NSY Sanyi 1.18 250 *e*P Pg 22 51 53.0 +0.8
baz=246
NSY eS Sn 22 52 10.2 +1.6
baz=246
TWQ1 Liyutan 1.19 246 *e*P Pg 22 51 52.9 +0.5
baz=243
TWQ1 eS Sn 22 52 10.2 +1.3
baz=243
WPL Puli Township 1.23 229 *e*P Pb 22 51 52.2 -0.8
baz=215
WCS Beigang Elemen 1.24 231 *e*P Pg 22 51 52.8 -0.4
baz=236
DPDB Guoxing 1.24 230 *e*P Pg 22 51 52.8 -0.6
baz=216
EGFH Guangfu 1.26 203 *e*P Pb 22 51 53.0 -0.6
baz=209
EGFH eS Sn 22 52 09.3 -1.3
baz=209
WDJ Dajia District 1.30 248 *e*P Pg 22 51 55.2 +0.6
baz=263
VWDT VWDT 1.31 215 *e*P Pb 22 51 53.9 -0.5
baz=211
SMLT Sun Moon Lake 1.36 226 *e*P Pg 22 51 54.8 -0.8
baz=213
TCU Taichung 1.36 240 *e*P Pg 22 51 56.3 +0.6
baz=256
SSLB Suanglung 1.40 222 *e*P Pb 22 51 54.9 -1.0
baz=218
WWF Wufeng 1.40 236 *e*P Pg 22 51 56.5 +0.1
baz=223
HGSD Ruisui 1.43 201 *e*P Pb 22 51 55.9 -0.5
baz=211
WCHH Zhanghua 1.49 240 *e*P Pn 22 51 55.6 -1.0
baz=255
WNT1 Nantou City 1.50 232 *e*P Pg 22 51 58.2 0.0
baz=247
WNT Mingjian 1.51 231 *e*P Pg 22 51 58.8 +0.3
baz=227
WJS Zhushan 1.52 229 *e*P Pg 22 51 58.9 +0.3
baz=213
WJS eS Sg 22 52 20.8 +2.5
baz=213
YULB Yu-li 1.56 203 *e*P Pn 22 51 56.6 -1.0
baz=204
EYUL Yuli 1.59 202 *e*P Pb 22 51 58.5 -0.7
baz=211
TWF1 Yuli 1.60 203 *e*P Pb 22 51 58.3 -1.0
baz=205
IRIF Iriomote-Funau 1.68 107 P Pn 22 51 58.1 -1.0
IRIF eS Sn 22 52 19.6 -1.2
ALS Alishan 1.69 219 *e*P Pg 22 52 01.1 -0.9
baz=205
ALS eS Sg 22 52 23.8 -0.2
baz=205
CHN5 Tsauling 1.71 224 *e*P Pg 22 52 01.6 -0.6
baz=220
CHN5 eS Sg 22 52 25.4 +1.1
baz=220
WGK Gukeng 1.72 229 *e*P Pg 22 52 02.4 -0.1
baz=245
WDLH Douliu 1.73 229 *e*P Pg 22 52 01.8 -1.0
baz=245
FULB Fuli 1.74 201 *e*P Pb 22 52 01.1 -0.6
baz=209
WTK Tuku 1.84 232 *e*P Pb 22 52 02.5 -1.0
baz=248
HATJ Hateruma jima 1.84 114 P Pn 22 52 00.8 -0.6
ELDTW Lidau 1.85 208 *e*P Pb 22 52 03.2 -0.6
baz=207
CHN2 Minshiung 1.88 227 *e*P Pg 22 52 04.3 -1.3
baz=242
CHN4 Tsaushan 1.94 221 *e*P Pg 22 52 05.6 -1.1
baz=217
CHN4 eS Sg 22 52 31.0 -0.9
baz=217
CHY Chiayi 1.94 227 *e*P Pb 22 52 04.1 -1.0
baz=242
JKRS Kuro-shima 1.95 107 P Pn 22 52 01.9 -1.0
EDH Donghe 1.95 198 *e*P Pb 22 52 03.4 -1.9
baz=188
TPUB Ta-pu 1.96 219 *e*P Pb 22 52 04.9 -0.6
baz=206
TPUB eS Sb 22 52 30.1 +0.1
baz=206
STYH Taoyuan 1.98 214 *e*P Pb 22 52 04.7 -1.2
baz=205
STYH eS Sb 22 52 30.9 +0.2
baz=205
WTP Ta-pu 2.01 218 *e*P Pb 22 52 06.3 -0.1
baz=215
JIJ Ishigaki jima 2.03 103 P Pn 22 52 02.8 -1.2
LONT Longtian 2.07 202 *e*P Pn 22 52 04.7 +0.2
baz=204
TWK Hsinying 2.07 221 *e*P Pb 22 52 07.2 -0.2
baz=218
SNST Tainan City 2.10 220 *e*P Pb 22 52 08.1 +0.3
baz=217
CHN1 Nanshi 2.11 219 *e*P Pb 22 52 07.7 -0.3
baz=215
CHN1 eS Sb 22 52 33.8 -0.5
baz=215
ICHU Yijhu 2.13 227 *e*P Pb 22 52 06.6 -1.8
baz=224
JISG Ishigakijimahi 2.14 96 P Pn 22 52 05.7 +0.1
SGST Jiashian 2.16 216 *e*P Pb 22 52 07.6 -1.3
baz=204
TWG Pinlang 2.17 202 *e*P Pn 22 52 06.2 +0.3
baz=191
TWGBT Beinan 2.17 202 *e*P Pn 22 52 06.1 +0.2
baz=191
SLGT Liugui 2.20 214 *e*P Pb 22 52 09.1 -0.4
baz=211
MATB Ma-tsu 2.25 306 *e*P Pn 22 52 05.5 -1.5
baz=304
MSUT Lienchiang 2.28 306 *e*P Pn 22 52 06.0 -1.4
baz=305
VWUC VWUC 2.29 274 *e*P Pn 22 52 06.4 -1.2
baz=270
SSD Sandimen 2.41 211 *e*P Pb 22 52 12.3 -0.9
baz=208
ECL Taimali 2.41 203 *e*P Pn 22 52 10.3 +1.0
baz=194
TSMG Majia 2.44 210 *e*P Pb 22 52 11.7 -2.0
baz=207
MASBT Mashibuluo 2.53 209 *e*P Pb 22 52 13.3 -1.9
baz=206
PNG Penghu 2.54 241 *e*P Pn 22 52 10.9 -0.1
baz=237
PHUB P'eng-hu 2.56 240 *e*P Pn 22 52 11.2 0.0
baz=250
PTMZ Houxiangcun 2.59 275 *e*P Pn 22 52 10.7 -1.0
baz=271
LYJJ Jianjiangzhen 2.63 311 *e*P Pn 22 52 10.5 -1.7
baz=310
WDGT Dungji 2.63 234 *e*P Pn 22 52 13.4 +1.1
baz=244
XPSS Dashiqiu 2.63 323 *e*P Pn 22 52 11.1 -1.2
baz=322
EAST Anshuo 2.65 203 *e*P Pn 22 52 13.2 +0.7
baz=195
SCZT Fangliau 2.75 207 *e*P Pn 22 52 15.0 +1.1
baz=204
SLIU Shizi 2.82 203 *e*P Pn 22 52 14.8 0.0
baz=196
VCHM Qimei 2.83 236 *e*P Pn 22 52 15.6 +0.6
baz=244
MHZQ Yeshan 2.94 296 *e*P Pn 22 52 14.1 -2.5
baz=293
TWK1 Hengchun 3.07 201 *e*P Pn 22 52 18.4 +0.1
baz=193
TWKBT Hengchun 3.07 200 *e*P Pn 22 52 18.6 +0.3
baz=194
KNM Kinmen 3.25 263 *e*P Pn 22 52 21.7 +1.0
baz=259
KNMB Chin-men Tao 3.28 264 *e*P Pn 22 52 19.8 -1.4
baz=260
AXDP Jialang 3.63 272 *e*P Pn 22 52 25.0 -1.1
baz=268
KSRS Korea Array 13.57 21 P P 22 54 55.1 +3.7
0.7nm,0.3s,baz=197,slow=12,SNR=4.5
KSRS LR LR 23 00 44.8
comp=Z,28nm,18.6s,baz=40,slow=39
KLR Kul'dur 25.53 15 P P 22 57 00.9 +2.4
1.6nm,0.7s,baz=282,slow=6.8,SNR=5.1
SONM Songino Array 26.06 336 P P 22 57 04.2 +0.7
4.9nm,0.9s,baz=141,slow=8.5,SNR=32
MKAR Makanchi Array 38.38 315 P P 22 58 50.9 -0.3
0.7nm,1.0s,baz=113,slow=9.3,SNR=4.9
ZALV Zalesovo Beam 40.10 326 P P 22 59 04.8 -0.6
1.5nm,0.7s,baz=104,slow=6.3,SNR=7.1
WRA Warramunga Arr 46.11 164 P P 22 59 53.1 -1.3
1.2nm,0.8s,baz=345,slow=8.4,SNR=5.3
ASAR Alice Springs 49.58 166 P P 23 00 21.2 -0.1
0.4nm,0.8s,baz=348,slow=7.1,SNR=2.8
NEHR Nehoiu 76.51 314 ⇓ P 23 03 28.1 +7.9
NEHR Nehoiu 76.51 314 ⇓*P* P 23 03 20.5 +0.3
MLR Muntele Rosu 76.72 314 ⇑*P* P 23 03 22.3 +0.8
YKA Yellowknife Ar 82.09 23 P P 23 03 51.4 +1.1
0.3nm,0.8s,baz=312,slow=4.3,SNR=4.3

*NEIC **27** 23:08:12.4±1.3, 0.°02N±0.°09×123.°13E±0.°10, h144km±5km, mb4.2/16, Error ellipse: s-maj=15.8km s-min=10.7km az=53.0*
*DJA **27** 23:08:13.4±0.4, 0.°S±4.°×12.°3E±.°, h149km±5km, M4.1/13, mb4.1/4, mB5.3/2, MLv4.1/13, Mw(mB)4.7/2*
*IDC **27** 23:08:14.4±2.8, 0.°00S×123.°20E, h169km±30km, mb3.5/9, mb1 3.7/11, mb1mx3.4/39, mbtmp4.0/11, Error ellipse: s-maj=23.7km s-min=12.3km az=68.0*
ISC 27 23:08:13.7±0.5, **0.°06S**±0.°05×**123.°16E**±0.°07, **h162**km, **n53**, σ1§**44**/56, **mb4.0**/23, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
GTOI	**Gorontalo**	**0.70**	**348**	P			**Pn**	**23 08 37.7**	**+0.1**
GTOI				S			**Sn**	**23 08 55.9**	**0.0**
KMSI	**Cibinong**	**1.03**	**53**	P			**Pn**	**23 08 39.2**	**-0.7**
LUWI	**Luwuk**	**1.05**	**202**	Pn			**Pn**	**23 08 38.8**	**-1.3**
LUWI				Sn			**Sn**	**23 08 57.0**	**-3.4**
LUWI	**Luwuk**	**1.05**	**202**	P			**Pn**	**23 08 38.8**	**-1.3**
LUWI				S			**Sn**	**23 08 56.7**	**-3.7**
MRSI	**Marisa**	**1.33**	**294**	P			**Pn**	**23 08 41.3**	**-1.2**
APSI	**Ampana**	**1.73**	**241**	P			**Pn**	**23 08 45.3**	**-1.3**
TOLI2	**Tolitoli**	**2.64**	**296**				**Pn**	**23 08 55.7**	**-1.5**
SANI	**Sanana**	**3.45**	**125**	P			**Pn**	**23 09 05.9**	**-1.4**
TTSI	**Tana Toraja**	**4.47**	**228**	P			**Pn**	**23 09 19.6**	**-0.8**
NLAI	**Namlea**	**5.05**	**129**	P			**Pn**	**23 09 28.9**	**+0.8**
	0.5nm2µm16nm,0.7s								
SPSI	**Sidrap Palu**	**5.15**	**221**	P			**Pn**	**23 09 25.7**	**-3.7**
BNSI	**Bone**	**5.28**	**215**	P			**Pn**	**23 09 29.4**	**-1.7**
	0.1nm24nm,0.6s								
KAPI	**Kappang**	**5.99**	**215**	P			**Pn**	**23 09 43.4**	**+3.0**
	baz=45,slow=7.5,SNR=3.9								
KAPI				S			**Sn**	**23 10 49.2**	**+0.8**
	0.7nm,0.3s,baz=34,slow=22,SNR=1.1								
MYLDM	**Lahad Datu**	**6.98**	**318**				**Pn**	**23 09 58.2**	**+4.6**
MMRI	**Maumere**	**8.57**	**186**	Pn			**Pn**	**23 10 15.8**	**+1.0**
KKM	**Kota Kinabalu**	**9.21**	**311**	Pn			Pn	23 10 28.3	+5.0
FAKI	**Fak Fak**	**9.52**	**107**	Pn			**Pn**	**23 10 27.2**	**-0.1**
MTN	**Manton Dam**	**14.96**	**148**				**P**	**23 11 39.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**18.09**	**172**	P			**P**	**23 12 14.1**	**+0.8**
	1.8nm,0.3s,baz=11,slow=9.6,SNR=42								
WB0	**Warramunga Arr**	**22.47**	**151**	P			**P**	**23 12 59.8**	**+0.1**
WRA	**Warramunga Arr**	**22.60**	**152**	P			**P**	**23 13 01.2**	**+0.4**
	5.0nm,0.5s,baz=329,slow=10,SNR=46								
WRA	**Warramunga Arr**	**22.60**	**152**	P			**P**	**23 13 00.8**	**-0.1**
WB2	**Warramunga Arr**	**22.60**	**152**	P			**P**	**23 13 01.1**	**+0.2**
WB2				IAmb		IAmb		23 13 03.3	
	comp=Z,7.4nm,1.1s								
WR0	**Warramunga Arr**	**22.71**	**151**	P			**P**	**23 13 01.8**	**-0.1**
WR0				IAmb		IAmb		23 13 03.1	
	comp=Z,8.3nm,0.6s								
COEN	**Coen**	**24.16**	**126**	P			**P**	**23 13 16.1**	**+0.9**
COEN				IAmb		IAmb		23 13 21.4	
	comp=Z,3.0nm,0.9s								
AS31	**Alice Springs**	**25.68**	**157**				**P**	**23 13 29.7**	**+0.7**
ASAR	**Alice Springs**	**25.68**	**157**	P			**P**	**23 13 29.4**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=330,slow=8.0,SNR=18								
MORW	**Morawa**	**29.64**	**193**	P			**P**	**23 14 03.6**	**-0.5**
MORW				IAmb		IAmb		23 14 18.2	
	comp=Z,6.1nm,1.0s								
CMAR	**Chiang Mai Arr**	**30.07**	**309**	P			**P**	**23 14 09.5**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=137,slow=7.0,SNR=5.5								
FORT	**Forrest**	**30.91**	**172**	P			**P**	**23 14 15.6**	**+0.4**
JCJ	**Chichijima**	**32.61**	**33**	P			**P**	**23 14 28.4**	**-1.8**
	comp=Z,44nm,0.7s,baz=262,slow=19,SNR=1.7								
NWAO	**Narrogin (SRO)**	**33.17**	**189**	P			**P**	**23 14 36.3**	**+1.3**
NWAO				IAmb		IAmb		23 14 53.5	
	comp=Z,7.0nm,1.1s								
BBOO	**Buckleboo**	**34.78**	**161**	P			**P**	**23 14 49.8**	**+1.0**
BBOO				IAmb		IAmb		23 15 09.1	
	comp=Z,5.2nm,0.9s								
JHS	**Saijyo**	**36.09**	**14**	P			**P**	**23 14 58.9**	**-1.1**
STKA	**Stephens Creek**	**36.14**	**153**	P			**P**	**23 15 01.6**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=334,slow=9.7,SNR=4.7								
STKA	**Stephens Creek**	**36.14**	**153**			IAmb	IAmb	23 15 01.8	
	comp=Z,0.8nm,0.8s								
MJAR	**Matsushiro Arr**	**39.00**	**19**	P			**P**	**23 15 23.5**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=195,slow=9.2,SNR=5.2								
ODAN	**Odare**	**43.58**	**311**	*e*P			**P**	**23 16 02.9**	**+0.6**
RAMN	**Ramite**	**44.23**	**310**	*e*P			**P**	**23 16 08.6**	**+1.2**
	comp=Z,10nm,0.6s								
USRK	**Ussuriysk Ar.**	**44.76**	**9**	P			**P**	**23 16 10.8**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=194,slow=5.4,SNR=7.6								
USRK	**Ussuriysk Ar.**	**44.76**	**9**	P			**P**	**23 16 11.0**	**0.0**
JIRN	**Jiri**	**44.91**	**311**	*e*P			**P**	**23 16 13.8**	**+0.8**
	comp=Z,4.9nm,0.4s								
GUN	**Gumba**	**45.27**	**311**	*e*P			**P**	**23 16 16.3**	**+0.5**
	comp=Z,13nm,0.6s								
PKI	**Pulchoki**	**45.46**	**310**	*e*P			**P**	**23 16 17.6**	**+0.4**
PKIN	**Phulchoki**	**45.47**	**310**	*e*P			**P**	**23 16 17.9**	**+0.6**
	comp=Z,2.2nm,0.3s								
GKN	**Gorkha**	**46.26**	**310**	*e*P			**P**	**23 16 24.0**	**+0.6**
	comp=Z,5.1nm,0.3s								
SONM	**Songino Array**	**49.88**	**345**	P			**P**	**23 16 50.9**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=160,slow=10,SNR=13								
NIL	**Nilore**	**57.54**	**311**	P			**P**	**23 17 46.9**	**+0.3**
NIL				IAmb		IAmb		23 17 47.8	
	comp=Z,2.8nm,0.6s								
MK31	**Makanchi Array**	**58.74**	**328**	P			**P**	**23 17 54.4**	**-0.3**
MKAR	**Makanchi Array**	**58.74**	**328**	P			**P**	**23 17 54.4**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=120,slow=8.5,SNR=27								
MKAR				PcP			**PcP**	**23 18 40.7**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=126,slow=4.0,SNR=4.9								
MAKZ	**Makanchi**	**58.92**	**328**	P			**P**	**23 17 55.6**	**-0.2**
MAKZ				IAmb		IAmb		23 17 56.5	
	comp=Z,0.8nm,0.5s								
ZALV	**Zalesovo Beam**	**62.43**	**336**	P			**P**	**23 18 18.4**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=130,slow=7.1,SNR=2.9								
TORD	**Torodi Ar. Bea**	**120.58**	**285**	PKP			**PKPdf**	**23 26 46.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=61,slow=1.7,SNR=6.1								

*TAP **27** 23:13:25.6, 24.°83N×121.°97E, h9km, ML3.5, B*
*JMA **27** 23:13:26.6±0.1, 24.°81N×121.°88E, h31km, M2.8*
ISC 27 23:13:25.5±0.8, **24.°82N**±0.°02×**121.°96E**±0.°02, **h13**km±5km, **n117**, σ1§**10**/176, **19C-3D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
EGS		**0.03**	**315**	⇓*P*			**Pg**	**23 13 27.5**	**-0.2**
	baz=300								
EGS				*i* S			**Sg**	**23 13 29.0**	**-0.4**
	baz=300								
NTC	**Toucheng**	**0.12**	**286**	⇑*P*			**Pg**	**23 13 29.2**	**+0.6**
	baz=291								
NTC				*i* S			**Sg**	**23 13 31.6**	**+0.7**
	baz=291								
TWB1	**Santiao Chiao**	**0.19**	**8**	⇓*P*			**Pb**	**23 13 29.8**	**-1.1**
	baz=6.0								
TWB1				*i* S			**Sb**	**23 13 32.3**	**-2.1**
	baz=6.0								
TIPB	**Shuangxi**	**0.19**	**321**	⇑*P*			**Pb**	**23 13 30.3**	**-0.7**
	baz=317								
TIPB				*i* S			**Sb**	**23 13 33.1**	**-1.5**
	baz=317								
ILA	**Ilan**	**0.20**	**254**	⇑*P*			**Pg**	**23 13 30.6**	**+0.7**
	baz=252								
ILA				S			**Sg**	**23 13 34.2**	**+1.3**
	baz=252								
TWC	**Suao**	**0.23**	**205**	⇓*P*			**Pb**	**23 13 31.1**	**-0.6**
	baz=207								
TWC				S			**Sb**	**23 13 34.1**	**-1.6**
	baz=207								
TWE	**Neicheng**	**0.28**	**249**	⇑*P*			**Pb**	**23 13 32.0**	**-0.5**
	baz=248								
TWE				*i* S			**Sg**	**23 13 36.1**	**+0.9**
	baz=248								
NDS	**Dongshan**	**0.29**	**230**	⇑*P*			**Pg**	**23 13 32.2**	**+0.8**
	baz=231								
NDS				*e*S			**Sg**	**23 13 36.6**	**+1.1**
	baz=231								
WFSB	**Wu-fen Shan**	**0.30**	**327**	⇑*P*			**Pb**	**23 13 32.4**	**-0.3**
	baz=315								
WFSB				*i* S			**Sb**	**23 13 36.9**	**-0.6**
	baz=315								
TNOU	**National Taiwa**	**0.37**	**333**	P			**Pg**	**23 13 33.6**	**+0.7**
	baz=322								
TNOU				*i* S			**Sg**	**23 13 38.0**	**+0.1**
	baz=322								
TWA	**Mucha**	**0.38**	**295**	⇑*P*			**Pb**	**23 13 33.9**	**-0.2**
	baz=283								
TWA				*e*S			**Sb**	**23 13 38.9**	**-1.0**
	baz=283								
ENTT	**Nioudou**	**0.40**	**243**	⇑*P*			**Pb**	**23 13 34.3**	**-0.2**
	baz=243								
ENTT				*e*S			**Sb**	**23 13 39.6**	**-0.9**
	baz=243								
EWUT	**Wuta**	**0.41**	**204**	*e*P			**Pg**	**23 13 34.2**	**+0.6**
	baz=213								
EWUT				*e*S			**Sb**	**23 13 40.9**	**+0.1**
	baz=213								
NWLT	**Wulai**	**0.42**	**264**	*i* P			**Pb**	**23 13 34.4**	**-0.4**
	baz=263								
NWLT				*e*S			**Sb**	**23 13 39.9**	**-1.1**
	baz=263								
NHDH	**Xindian Distri**	**0.42**	**290**	⇑*P*			**Pb**	**23 13 34.9**	**+0.1**
	baz=279								
NHDH				*e*S			**Sb**	**23 13 40.5**	**-0.5**
	baz=279								
ENA	**Nanau**	**0.44**	**207**	⇑*P*			**Pg**	**23 13 34.7**	**+0.5**
	baz=214								
ENA				*e*S			**Sg**	**23 13 38.6**	**-1.4**
	baz=214								
TATO	**Taipei**	**0.45**	**290**	⇑*P*			**Pb**	**23 13 35.5**	**+0.1**
	baz=279								
TATO				*e*S			**Sb**	**23 13 41.4**	**-0.6**
	baz=279								
NDT	**Datong Townshi**	**0.46**	**242**	P			**Pb**	**23 13 35.2**	**-0.3**
	baz=243								
NDT				*e*S			**Sb**	**23 13 41.4**	**-0.9**
	baz=243								
NWRT	**Kuosheng**	**0.47**	**325**	*e*P			**Pb**	**23 13 35.6**	**0.0**
	baz=322								
NWRT				*e*S			**Sb**	**23 13 42.5**	**+0.1**
	baz=322								
YM01	**YM01**	**0.48**	**313**	⇑*P*			**Pg**	**23 13 35.2**	**+0.3**
	baz=310								
YM01				*e*S			**Sg**	**23 13 41.2**	**-0.1**
	baz=310								
YM11	**YM11**	**0.49**	**315**	*i* P			**Pg**	**23 13 36.5**	**+1.4**
	baz=313								
YM10	**YM10**	**0.49**	**313**	⇑*P*			**Pg**	**23 13 36.4**	**+1.3**
	baz=311								
YM05	**YM05**	**0.49**	**314**	⇑*P*			**Pg**	**23 13 36.4**	**+1.2**
	baz=301								
YM05				*e*S			**Sb**	**23 13 44.1**	**+0.8**
	baz=301								
YM08	**YM08**	**0.49**	**318**	⇑*P*			**Pg**	**23 13 36.1**	**+0.9**
	baz=316								
BACT	**New Taipei Cit**	**0.50**	**291**	*e*P			**Pg**	**23 13 36.5**	**+1.1**
	baz=278								
BACT				*e*S			**Sb**	**23 13 43.7**	**+0.3**
	baz=278								
YM04	**YM04**	**0.51**	**311**	⇑*P*			**Pg**	**23 13 36.6**	**+1.2**
	baz=309								
YM03	**YM03**	**0.52**	**313**	P			**Pg**	**23 13 36.9**	**+1.2**
	baz=312								
ANP	**Anpu**	**0.54**	**313**	*e*P			**Pg**	**23 13 37.0**	**+0.9**
	baz=311								
YHNB	**Yeheng**	**0.55**	**254**	⇑*P*			**Pg**	**23 13 36.8**	**+0.5**
	baz=264								
TWY	**Chenhua**	**0.56**	**324**	*e*P			**Pg**	**23 13 37.5**	**+1.1**
	baz=323								
NSK	**Sanguang**	**0.56**	**255**	⇑*P*			**Pb**	**23 13 36.9**	**-0.4**
	baz=255								
NSK				*e*S			**Sb**	**23 13 44.0**	**-1.3**
	baz=255								
TWS1	**Kuangyinshan**	**0.56**	**300**	P			**Pn**	**23 13 38.0**	**-1.3**
	baz=299								
NTST	**Danshui**	**0.57**	**307**	*i* P			**Pn**	**23 13 38.5**	**-0.9**
	baz=305								
NTY	**Taoyuan**	**0.62**	**287**	*e*P			**Pn**	**23 13 39.7**	**-0.4**
	baz=276								
NTY				*e*S			**Sn**	**23 13 48.5**	**-1.5**
	baz=276								
NNSH	**Datong**	**0.65**	**233**	*e*P			**Pb**	**23 13 38.6**	**-0.3**
	baz=238								
NNS	**Nan Shan**	**0.65**	**235**	⇑*P*			**Pb**	**23 13 38.3**	**-0.5**
	baz=235								
NNS				*e*S			**Sn**	**23 13 48.5**	**-2.4**
	baz=235								
NNSB	**Datong**	**0.65**	**233**	*i* P			**Pb**	**23 13 38.4**	**-0.4**
	baz=234								
NNSB				*e*S			**Sb**	**23 13 46.6**	**-1.4**
	baz=234								
NCU	**National Centr**	**0.71**	**282**	*e*P			**Pn**	**23 13 40.3**	**-1.1**
	baz=281								
NCU				*e*S			**Sn**	**23 13 50.4**	**-1.8**
	baz=281								
NCUH	**Zhongli**	**0.72**	**282**	P			**Pn**	**23 13 41.4**	**0.0**
	baz=281								
NCUH				*e*S			**Sn**	**23 13 51.0**	**-1.3**
	baz=281								
NACB	**Ninganchiao**	**0.72**	**207**	*i* P			**Pb**	**23 13 40.0**	**0.0**
	baz=210								
NACB				*i* S			**Sn**	**23 13 50.6**	**-1.8**
	baz=210								
ETLH	**Xiulin Townshi**	**0.75**	**215**	*i* P			**Pb**	**23 13 40.3**	**-0.2**
	baz=217								
ETLH				*e*S			**Sn**	**23 13 52.0**	**-1.3**
	baz=217								
NJD	**Zhudong**	**0.80**	**264**	P			**Pn**	**23 13 42.8**	**+0.3**
	baz=256								
TWD	**Chiawan**	**0.81**	**204**	*e*P			**Pb**	**23 13 41.3**	**-0.2**
	baz=198								
TWD				*e*S			**Sg**	**23 13 52.0**	**+0.3**
	baz=198								
PCYT	**Pengchaiyu**	**0.81**	**7**	*e*P			**Pb**	**23 13 41.2**	**-0.3**
	baz=11								
HSN1	**Hsinchu**	**0.85**	**267**	*e*P			**Pn**	**23 13 43.9**	**+0.6**
	baz=260								
HSN1				*e*S			**Sn**	**23 13 55.4**	**-0.3**
	baz=260								
FUSS	**Fushou**	**0.87**	**229**	P			**Pb**	**23 13 42.4**	**-0.1**
	baz=230								
FUSS				*e*S			**Sn**	**23 13 54.9**	**-1.4**
	baz=230								

LIOB	**Emei** baz=259	**0.87 259**	P	**Pn**	**23 13 43.4**	**-0.2**
LIOB	baz=259		*eS*	**Sn**	**23 13 56.5**	**+0.3**
SBCB	**Hsinchu** baz=268	**0.88 268**	*eP*	**Pn**	**23 13 44.5**	**+0.8**
SBCB	baz=268		*eS*	**Sn**	**23 13 57.2**	**+0.8**
NSTT	**Nanjuang** baz=258	**0.89 258**	P	**Pn**	**23 13 43.3**	**-0.5**
NSTT	baz=258		*eS*	**Sn**	**23 13 56.1**	**-0.4**
HSN	**Hsinchu** baz=286	**0.90 269**	*eP*	**Pn**	**23 13 44.2**	**+0.4**
HSN	baz=286		*eS*	**Sn**	**23 13 56.5**	**-0.3**
HWA	**Hwalien** baz=202	**0.90 201**	*eP*	**Pn**	**23 13 43.9**	**0.0**
TDCB	**Techi** baz=228	**0.92 232**	*eP*	**Pg**	**23 13 43.6**	**+0.2**
TDCB	baz=228		*eS*	**Sn**	**23 13 56.1**	**-1.5**
WHF	**Hehuan Shan** baz=224	**0.92 223**	P	**Pb**	**23 13 43.6**	**-0.1**
WHF	baz=224		*eS*	**Sn**	**23 13 56.7**	**-1.3**
JYNG	**Yonaguni jima**	**0.97 112**	P	**Pb**	**23 13 44.8**	**+0.6**
JYNG			S	**Sb**	**23 13 57.6**	**+0.6**
NJN	**Zhunan** baz=255	**1.00 262**	*eP*	**Pg**	**23 13 46.9**	**+2.2**
YOJ	**Yonaguni jima** baz=111	**1.02 110**	*eP*	**Pn**	**23 13 45.8**	**+0.2**
YOJ	**Yonaguni jima**	**1.02 110**	P	**Pb**	**23 13 45.5**	**+0.4**
YOJ			S	**Sb**	**23 13 59.2**	**+0.7**
CHGB	**Renai** baz=225	**1.04 223**	*eP*	**Pn**	**23 13 45.5**	**-0.6**
WHP	**Taichung City** baz=240	**1.07 240**	*eP*	**Pg**	**23 13 46.7**	**+0.6**
WHP	baz=240		*eS*	**Sg**	**23 14 02.6**	**+2.5**
NMLH	**Miaoli** baz=255	**1.10 255**	*eP*	**Pg**	**23 13 48.5**	**+1.8**
NMLH	baz=255		*eS*	**Sg**	**23 14 04.9**	**+3.9**
ESL	**Shilin** baz=208	**1.11 206**	*eP*	**Pb**	**23 13 46.8**	**+0.2**
ESL	baz=208		*eS*	**Sn**	**23 14 00.9**	**-1.1**
NSY	**Sanyi** baz=250	**1.16 250**	*eP*	**Pg**	**23 13 49.6**	**+1.7**
NSY	baz=250		*eS*	**Sg**	**23 14 03.7**	**+0.7**
TWQ1	**Liyutan** baz=246	**1.18 247**	*eP*	**Pg**	**23 13 49.9**	**+1.7**
TWQ1	baz=246		*eS*	**Sg**	**23 14 04.9**	**+1.4**
WPL	**Puli Township** baz=219	**1.22 229**	*eP*	**Pg**	**23 13 49.6**	**+0.7**
WCS	**Beigang Elemen** baz=220	**1.22 232**	*eP*	**Pg**	**23 13 49.6**	**+0.7**
DPDB	**Guoxing** baz=225	**1.23 230**	*eP*	**Pg**	**23 13 49.4**	**+0.4**
EGFH	**Guangfu** baz=211	**1.25 203**	*eP*	**Pg**	**23 13 49.6**	**+0.1**
WDJ	**Dajia District** baz=249	**1.29 249**	*eP*	**Pg**	**23 13 51.8**	**+1.5**
WDJ	baz=249		*eS*	**Sg**	**23 14 10.9**	**+3.9**
VWDT	**VWDT** baz=217	**1.30 215**	*eP*	**Pg**	**23 13 50.4**	**-0.1**
VWDT	baz=217		*eS*	**Sg**	**23 14 07.9**	**+0.5**
SMLT	**Sun Moon Lake** baz=219	**1.34 226**	*eP*	**Pg**	**23 13 51.4**	**+0.1**
SMLT	baz=219		*eS*	**Sg**	**23 14 08.4**	**-0.4**
TCU	**Taichung** baz=240	**1.35 240**	*eP*	**Pg**	**23 13 52.6**	**+1.2**
TCU	baz=240		*eS*	**Sg**	**23 14 10.3**	**+1.4**
TYC	**Yuchr** baz=221	**1.36 228**	*eP*	**Pg**	**23 13 51.4**	**-0.2**
TYC	baz=221		*eS*	**Sg**	**23 14 10.1**	**+0.9**
SSLB	**Suanglung** baz=222	**1.38 222**	*eP*	**Pg**	**23 13 51.8**	**-0.2**
WWF	**Wufeng** baz=237	**1.39 236**	*eP*	**Pg**	**23 13 53.4**	**+1.3**
HGSD	**Ruisui** baz=217	**1.41 200**	*eP*	**Pb**	**23 13 51.9**	**+0.2**
EHY	**Hungye** baz=208	**1.43 204**	*eP*	**Pb**	**23 13 52.2**	**+0.1**
EHY	baz=208		*eS*	**Sg**	**23 14 13.0**	**+1.3**
WNT	**Mingjian** baz=221	**1.49 231**	*eP*	**Pg**	**23 13 55.5**	**+1.3**
WJS	**Zhushan** baz=219	**1.50 229**	*eP*	**Pg**	**23 13 55.6**	**+1.3**
WJS	baz=219		*eS*	**Sg**	**23 14 17.2**	**+3.4**
YULB	**Yu-li** baz=205	**1.55 203**	*eP*	**Pb**	**23 13 53.7**	**-0.3**
EYUL	**Yuli** baz=214	**1.58 202**	*eP*	**Pg**	**23 13 56.3**	**+0.4**
TWF1	**Yuli** baz=214	**1.58 203**	*eP*	**Pb**	**23 13 55.0**	**+0.4**
YUS	**Yu-Shan** baz=216	**1.61 215**	*eP*	**Pg**	**23 13 56.5**	**0.0**
ALS	**Alishan** baz=220	**1.68 219**	*eP*	**Pg**	**23 13 57.6**	**-0.1**
IRIF	**Iriomote-Funau**	**1.69 106**	P	**Pn**	**23 13 54.6**	**-0.1**
IRIF			S	**Sn**	**23 14 16.3**	**+0.1**
CHN5	**Tsauling** baz=225	**1.69 224**	*eP*	**Pg**	**23 13 58.5**	**+0.6**
CHN5	baz=225		*eS*	**Sg**	**23 14 22.9**	**+3.1**
WDLH	**Douliu** baz=229	**1.72 229**	*eP*	**Pg**	**23 13 59.2**	**+0.7**
WDLH	baz=229		*eS*	**Sg**	**23 14 20.9**	**+0.1**
FULB	**Fuli** baz=215	**1.73 201**	*eP*	**Pb**	**23 13 57.8**	**+0.6**
ELDTW	**Lidau** baz=211	**1.84 208**	*eP*	**Pb**	**23 13 59.7**	**+0.6**
CHN4	**Tsaushan** baz=222	**1.92 221**	*eP*	**Pg**	**23 14 01.7**	**-0.7**
CHN4	baz=222		*eS*	**Sg**	**23 14 29.9**	**+2.5**
CHY	**Chiayi** baz=226	**1.92 227**	*eP*	**Pb**	**23 14 01.0**	**+0.5**
EDH	**Donghe** baz=213	**1.94 198**	*eP*	**Pb**	**23 13 59.8**	**-0.9**
TPUB	**Ta-pu** baz=220	**1.94 219**	*eP*	**Pg**	**23 14 02.2**	**-0.6**
JKRS	**Kuro-shima**	**1.96 107**	P	**Pn**	**23 13 58.8**	**+0.4**
STYH	**Taoyuan** baz=207	**1.97 214**	*eP*	**Pb**	**23 14 01.8**	**+0.6**
STYH	baz=207		*eS*	**Sg**	**23 14 27.3**	**-1.5**
STYT	**Tauyuan** baz=207	**1.98 214**	*eP*	**Pb**	**23 14 02.3**	**+0.8**
STYT	baz=207		*eS*	**Sg**	**23 14 27.4**	**-1.9**
WTP	**Ta-pu** baz=206	**1.99 218**	*eP*	**Pb**	**23 14 02.7**	**+1.0**
JIJ	**Ishigaki jima**	**2.04 102**	P	**Pn**	**23 14 01.1**	**+1.5**
TWK	**Hsinying** baz=220	**2.05 221**	*eP*	**Pb**	**23 14 03.6**	**+0.9**
LONT	**Longtian** baz=206	**2.05 202**	*eP*	**Pb**	**23 14 02.2**	**-0.5**
CHN1	**Nanshi** baz=220	**2.09 219**	*eP*	**Pb**	**23 14 04.1**	**+0.8**
ICHU	**Yijhu** baz=226	**2.11 227**	*eP*	**Pb**	**23 14 04.1**	**+0.4**
SLGT	**Liugui** baz=205	**2.18 214**	*eP*	**Pg**	**23 14 07.2**	**-0.2**
MATB	**Ma-tsu** baz=304	**2.25 306**	*eP*	**Pn**	**23 14 02.2**	**-0.3**
VWUC	**VWUC** baz=271	**2.28 275**	*eP*	**Pn**	**23 14 02.9**	**0.0**
SSD	**Sandimen** baz=213	**2.40 211**	*eP*	**Pb**	**23 14 08.8**	**+0.2**
ECL	**Taimali** baz=194	**2.40 203**	*eP*	**Pn**	**23 14 06.1**	**+1.6**
TSMG	**Majia** baz=213	**2.43 210**	*eP*	**Pb**	**23 14 08.4**	**-0.6**
MASBT	**Mashibuluo** baz=213	**2.51 209**	*eP*	**Pb**	**23 14 09.7**	**-0.8**
PNG	**Penghu** baz=237	**2.52 241**	*eP*	**Pb**	**23 14 08.0**	**-2.7**
PHUB	**P'eng-hu** baz=236	**2.54 240**	*eP*	**Pn**	**23 14 07.2**	**+0.7**
LYJJ	**Jianjiangzhen** baz=309	**2.63 311**	*eP*	**Pb**	**23 14 07.2**	**-0.4**
EAST	**Anshuo** baz=195	**2.63 203**	*eP*	**Pb**	**23 14 10.4**	**-2.1**
XPSS	**Dashiqiu** baz=323	**2.63 323**	*eP*	**Pn**	**23 14 07.5**	**-0.3**
SCZT	**Fangliau** baz=211	**2.73 207**	*eP*	**Pb**	**23 14 13.3**	**-0.9**
SLIU	**Shizi** baz=195	**2.80 203**	*eP*	**Pb**	**23 14 14.6**	**-0.9**
KNMB	**Chin-men Tao** baz=260	**3.27 264**	*eP*	**Pn**	**23 14 16.2**	**-0.3**
AXDP	**Jialang** baz=268	**3.62 272**	*eP*	**Pn**	**23 14 22.0**	**+0.6**

NEIC ***27*** *23:19:37.2±1.2, 25°.2S±0°.1×179°.9E±0°.2, h503km±12km, mb4.3/13, Error ellipse: s-maj=26.3km s-min=10.3km az=115.0*

IDC ***27*** *23:19:38.6±2.4, 25°.28S×179°.67E, h492km±31km, mb3.1/4, mb1 3.3/6, mb1mx3.0/28, mbtmp4.0/6, Error ellipse: s-maj=31.8km s-min=25.9km az=131.0*

ISC 27 23:19:37.8±0.8, 25°.20S±0°.09×179°.9E±0°.1, h501km, n26, σ1§15/27, mb3.7/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.48**	**155**	P	**P**	**23 20 59.8**	**-0.4**
MSVF	**Nonsavu**	**7.63**	**347**	P	**P**	**23 21 31.5**	**+0.8**
	1.8nm,0.3s,baz=165,slow=13,SNR=8.4						
MSVF	**Nonsavu**	**7.63**	**347**	P	**P**	**23 21 31.3**	**+0.7**
OUZ	**Omahuta**	**11.36**	**207**	P	**P**	**23 22 10.2**	**+0.7**
MXZ	**Matakaoa Point**	**12.39**	**186**	P	**P**	**23 22 21.4**	**+1.1**
URZ	**Urewera**	**13.23**	**190**	P	**P**	**23 22 28.7**	**-0.5**
	0.7nm,0.3s,baz=300,slow=23,SNR=7.0						
URZ				S	**S**	**23 24 49.9**	**-0.5**
	0.4nm,0.3s,baz=125,slow=23,SNR=1.6						
HIZ	**Hauiti**	**13.94**	**197**	P	**P**	**23 22 36.3**	**-0.3**
BKZ	**Black Stump Fm**	**14.21**	**191**		**P**	**23 22 39.5**	**-0.1**
BFZ	**Birch Farm**	**15.73**	**190**	P	**P**	**23 22 53.9**	**-1.5**
BFZ				IAmb	IAmb	23 23 09.4	
	comp=Z,16nm,1.2s						
QRZ	**Quartz Range**	**16.74**	**200**	P	**P**	**23 23 05.6**	**-0.4**
QRZ				IAmb	IAmb	23 23 21.0	
	comp=Z,12nm,1.0s						
NNZ	**Nelson**	**16.86**	**197**	P	**P**	**23 23 06.2**	**-0.9**
TUWZ	**Tuamarina**	**16.92**	**195**	P	**P**	**23 23 07.3**	**-0.4**
THZ	**Tophouse**	**17.50**	**198**	P	**P**	**23 23 14.2**	**+0.8**
THZ				IAmb	IAmb	23 23 31.8	
	comp=Z,8.6nm,1.0s						
KHZ	**Kahutara**	**17.95**	**195**	P	**P**	**23 23 16.5**	**-0.9**
KHZ				IAmb	IAmb	23 23 28.9	
	comp=Z,11nm,1.1s						
LTZ	**Lake Taylor**	**18.62**	**198**	P	**P**	**23 23 23.6**	**0.0**
LTZ				IAmb	IAmb	23 23 29.1	
	comp=Z,9.8nm,1.1s						
KNTN	**Kanton**	**23.72**	**21**	P	**P**	**23 24 06.2**	**-3.9**
CTA	**Charters Tower**	**31.39**	**272**	P	**P**	**23 25 17.5**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=100,slow=12,SNR=3.6						
CTAO	**Charters Tower**	**31.39**	**272**	P	**P**	**23 25 17.5**	**+0.2**
CTAO				IAmb	IAmb	23 25 28.5	
	comp=Z,5.3nm,1.1s						
ASAR	**Alice Springs**	**41.73**	**262**	P	**P**	**23 26 42.5**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=94,slow=7.9,SNR=7.6						
WR0	**Warramunga Arr**	**42.04**	**268**	P	**P**	**23 26 44.5**	**-0.5**
WB2	**Warramunga Arr**	**42.21**	**268**	P	**P**	**23 26 46.0**	**-0.5**
WB0	**Warramunga Arr**	**42.22**	**268**	P	**P**	**23 26 46.0**	**-0.6**
WRA	**Warramunga Arr**	**42.22**	**268**	P	**P**	**23 26 45.9**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=104,slow=8.0,SNR=10.0						
GLA	**Glamis**	**84.95**	**50**	P	**P**	**23 31 20.4**	**+0.6**
TMUT	**Trail Mountain**	**90.82**	**46**	P	**P**	**23 31 47.1**	**-0.5**
TMUT				IAmb	IAmb	23 31 47.3	
	comp=Z,2.6nm,0.7s						
TXAR	**Lajitas Array**	**91.21**	**58**	P	**P**	**23 31 51.9**	**+2.5**
	comp=Z,0.3nm,0.9s,baz=219,slow=4.2,SNR=3.6						

BGR ***27*** *23:34:41.8±0.0, 34°.93N×27°.02E, h33km, mb5.4, Ms4.2*

ATH ***27*** *23:34:52.6, 35°.68N×26°.56E, h67km±4km, ML5.3/14, Error ellipse: s-maj=4.2km s-min=1.5km az=148.0*

BJI ***27*** *23:34:53.0±0.0, 35°.67N×26°.11E, h96km, mB5.0/42, mb5.1/61*

NIC ***27*** *23:34:53.9±0.0, 35°.35N×26°.86E, h77km±2km, MI5.9/5*

HLW ***27*** *23:34:53.7, 35°.64N×27°.04E, h50km±19km, Ml5.7*

MOS ***27*** *23:34:53.4±1.1, 35°.76N×26°.56E, h70km, mb5.4/37, MS4.2/10, Error ellipse: s-maj=4.4km s-min=2.9km az=79.8*

ISK ***27*** *23:34:53.7, 35°.69N×26°.60E, h81km, ML5.1/19*

DDA ***27*** *23:34:54.7, 35°.73N×26°.58E, h56km±4km, MW5.0*

IDC ***27*** *23:34:54.9±0.6, 35°.84N×26°.48E, h69km±5km, mb4.8/54, mb1 4.9/59, mb1mx4.8/71, mbtmp5.2/59, MS4.1/36, Ms1 4.1/36, ms1mx4.0/59, Error ellipse: s-maj=8.4km s-min=5.2km az=146.0*

NEIC ***27*** *23:34:54.1, 35°.71N×26°.61E, h51km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.69; Mθθ4.35; Mϕϕ-5.04; Mrθ5.41; Mθϕ-0.05; Mϕr3.51; Fault plane solution: M₀8.00000×10¹⁶ NP1:ϕs46.69000°, δ86.68000°, λ126.81000°. NP2:ϕs141.11000°, δ36.94000°, λ5.53000°. Principal axes: T 8.5475, Plg37.0000°, Azm349.0000°; N -1.2341, Plg37.0000°, Azm224.0000°; P -7.3133, Plg32.0000°, Azm107.0000°;*

BEO ***27*** *23:34:54.9±3.4, 35°.37N×26°.37E, h48km±3km, ML5.2/7*

MED_RC ***27*** *23:34:54.0±0.2, 35°.51N×26°.62E, h82km±2km, MW5.2/36, Moment Tensor Solution. Body waves: s18,c23;Mantle waves: s36,c75; Duration: 1§5 Moment tensor: Scale 10¹⁷Nm; Mrr0.16±.02; Mθθ0.57±.02; Mϕϕ-0.73±.02; Mrθ0.42±.02; Mθϕ0.17±.03; Mϕr0.29±.02; Best double couple: M₀0.85000×10¹⁷ NP1:ϕs132.00000°, δ55.00000°, λ14.00000°. NP2:ϕs34.00000°, δ78.00000°, λ144.00000°. Principal axes: T 0.8900, Plg33.0000°, Azm347.0000°; N -0.0700, Plg53.0000°, Azm198.0000°; P -0.8100, Plg15.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

NEIC ***27*** *23:34:54.3±2.0, 35°.71N±0°.07×26°.62E±0°.06, h67km±4km, mb5.5/455, Mwr5.2/22, Mww5.2, ML5.6(THE) Error ellipse: s-maj=9.7km s-min=6.9km az=185.0*

GCMT ***27*** *23:34:54.3±0.2, 35°.63N±0°.01×26°.75E±0°.01, h86km±1km, MW5.2/138, Moment Tensor Solution. s94,c144; s138,c235; Duration: 1§0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.18±.02; Mθθ0.62±.02; Mϕϕ-0.79±.02; Mrθ0.47±.01; Mθϕ0.23±.02; Mϕr0.24±.01; Best double couple: M₀0.92400×10¹⁷ NP1:ϕs131.00000°, δ59.00000°, λ17.00000°. NP2:ϕs32.00000°, δ76.00000°, λ148.00000°. Principal axes: T 0.9820, Plg33.0000°, Azm348.0000°; N -0.1150, Plg55.0000°, Azm191.0000°; P -0.8670, Plg11.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

THE ***27*** *23:34:56.0, 35°.68N×26°.59E, h60km, Mw5.2, Fault plane solution: NP1:ϕs24.00000°, δ86.00000°, λ136.00000°. NP2:ϕs117.00000°, δ46.00000°, λ5.00000°., Stations used: KARP,ZKR,NIS1,NISR*

PDG ***27*** *23:34:56.0±0.3, 35°.60N×25°.42E, h11km±12km, MD6.4/3, ML5.2/14, Error ellipse: s-maj=12.6km s-min=9.6km az=90.0*

NEIC ***27*** *23:34:57, 35°.71N×26°.59E, h60km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-1.20; Mθθ5.45; Mϕϕ-4.25; Mrθ4.83; Mθϕ1.94; Mϕr2.83; Fault plane solution: M₀7.72000×10¹⁶ NP1:ϕs128.00000°, δ41.00000°, λ-6.00000°. NP2:ϕs223.00000°, δ86.00000°, λ-131.00000°. Principal axes: T 8.7085, Plg29.0000°, Azm345.0000°; N -2.6843, Plg41.0000°, Azm226.0000°; P -6.0242, Plg36.0000°, Azm98.0000°;*

ISC 27 23:34:54.3±0.4, 35.71N±0°.02×26.58E±0°.02, h69km±2km, h70km:pP-P, n1445, σ1§88/1541, mb5.5/403, 297C-198D, Fault plane solution: NP1:ϕs122.44970°, δ25.75818°, λ0.66479°. NP2:ϕs31.85096°, δ89.71111°, λ115.75668°. Principal axes: T Plg39.8225°, Azm325.4341°; N Plg25.7563°, Azm211.7116°; P Plg39.2926°, Azm98.4581°; Fault plane solution: NP1:ϕs126.46133°, δ70.48905°, λ5.89081°. NP2:ϕs34.48770°, δ84.44855°, λ160.39336°. Principal axes: T Plg17.7323°, Azm348.8612°; N Plg69.6524°, Azm199.2940°; P Plg9.6576°, Azm81.9804°; Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.50**	**109**	P	**Pn**	**23 35 06.7**	**-0.5**
KARP				S	**Sn**	**23 35 15.1**	**-1.4**
KARP				AML	AML	23 35 17.8	
KARP				AML	AML	23 35 17.9	
KARP	**Karpathos**	**0.50**	**109**	P	**Pn**	**23 35 06.7**	**-0.5**
KARP				S	**Sn**	**23 35 13.3**	**-3.3**
KARP	**Karpathos**	**0.50**	**109**		**Pn**	**23 35 06.4**	**-0.7**
KARP				Sn	**Sn**	**23 35 15.0**	**-1.6**
KARP	**Karpathos**	**0.50**	**109**	⇑P	**Pn**	**23 35 06.7**	**-0.5**
KARP				S	**Sn**	**23 35 15.3**	**-1.3**
KARP				AML	AML	23 35 17.2	
	1μm,0.6s						
KARP				AML	AML	23 35 17.2	
	1μm,0.6s						
KARP				AML	AML	23 35 17.2	
	1μm,0.7s						
KARP				AML	AML	23 35 17.2	
	1μm,0.7s						
STIA	**Sitia Lasithi**	**0.65**	**218**	P	**Pn**	**23 35 07.4**	**-1.2**
STIA				S	**Sn**	**23 35 17.2**	**-1.9**
ZKR	**Zakros**	**0.67**	**206**	P	**Pn**	**23 35 09.2**	**+0.4**
ZKR				S	**Sn**	**23 35 19.3**	**-0.2**
ZKR				AML	AML	23 35 20.3	
ZKR				AML	AML	23 35 23.6	
ZKR	**Zakros**	**0.67**	**206**	P	**Pn**	**23 35 08.9**	**+0.1**
ZKR				S	**Sn**	**23 35 18.5**	**-1.0**
ZKR	**Zakros**	**0.67**	**206**	P	**Pn**	**23 35 08.7**	**-0.2**
ZKR				S	**Sn**	**23 35 19.0**	**-0.5**
ZKR				AML	AML	23 35 19.1	
	1μm,0.9s						
ZKR				AML	AML	23 35 19.1	
	1μm,0.9s						
NPS	**Neapolis**	**0.91**	**241**	P	**Pn**	**23 35 11.8**	**+0.1**
NPS				S	**Sn**	**23 35 24.2**	**-0.4**
NPS				AML	AML	23 35 25.1	
NPS				AML	AML	23 35 25.3	
NPS	**Neapolis**	**0.91**	**241**	P	**Pn**	**23 35 11.8**	**+0.1**
FRMA	**Ierapetra Chan**	**0.98**	**225**	P	**Pn**	**23 35 12.2**	**-0.3**
FRMA				S	**Sn**	**23 35 25.1**	**-1.0**
	138μm,0.7s						
NISR	**Nisiros**	**1.00**	**26**	P	**Pn**	**23 35 13.8**	**+1.0**
NISR				S	**Sn**	**23 35 27.9**	**+1.4**
NISR				AML	AML	23 35 30.3	
NISR				AML	AML	23 35 31.2	
NISR	**Nisiros**	**1.00**	**26**	P	**Pn**	**23 35 13.7**	**+0.9**
NIS1	**Nisyros Isl.**	**1.01**	**28**	P	**Pn**	**23 35 14.1**	**+1.2**
NIS1				AML	AML	23 35 32.4	
NIS1				AML	AML	23 35 35.8	
NIS1	**Nisyros Isl.**	**1.01**	**28**	P	**Pn**	**23 35 14.0**	**+1.1**
NIS1	**Nisyros Isl.**	**1.01**	**28**	PG	**Pn**	**23 35 13.7**	**+0.8**
NIS1				SG	**Sn**	**23 35 27.9**	**+1.1**
KOSK	**Kos Island**	**1.08**	**17**	P	**Pn**	**23 35 14.9**	**+1.1**
KOSK				S	**Sn**	**23 35 29.5**	**+1.1**
	51μm,0.4s						
KOSK	**Kos Island**	**1.08**	**17**	PN	**Pn**	**23 35 14.9**	**+1.1**
KOSK				SN	**Sn**	**23 35 30.6**	**+2.2**
SANT	**Santorini**	**1.12**	**306**	P	**Pn**	**23 35 15.8**	**+1.4**
SANT				S	**Sn**	**23 35 31.0**	**+1.7**
SANT				AML	AML	23 35 31.6	
SANT				AML	AML	23 35 33.5	
SANT	**Santorini**	**1.12**	**306**	P	**Pn**	**23 35 15.5**	**+1.2**
SANT	**Santorini**	**1.12**	**306**	⇑P	**Pn**	**23 35 15.7**	**+1.3**
SANT				⇓S	**Sn**	**23 35 29.0**	**-0.2**
SANT	**Santorini**	**1.12**	**306**	PN	**Pn**	**23 35 15.6**	**+1.2**
SANT				SN	**Sn**	**23 35 30.7**	**+1.4**
SANT	**Santorini**	**1.12**	**306**	⇓*i*P	**Pn**	**23 35 15.5**	**+1.2**
SANT				*i* S	**Sn**	**23 35 30.7**	**+1.4**
SANT	**Santorini**	**1.12**	**306**	Pn	**Pn**	**23 35 15.4**	**+1.2**
THR8	**Santorini-Mono**	**1.13**	**308**	P	**Pn**	**23 35 15.7**	**+1.3**
THT1	**Athinios (Pele**	**1.15**	**306**	P	**Pn**	**23 35 15.8**	**+1.2**
THT1				S	**Sn**	**23 35 31.4**	**+1.6**
THT1	**Athinios (Pele**	**1.15**	**306**	P	**Pn**	**23 35 15.8**	**+1.2**
THR6	**Thira Island,**	**1.15**	**304**	P	**Pn**	**23 35 16.1**	**+1.4**
SNT1	**Gialos, Santor**	**1.17**	**307**	P	**Pn**	**23 35 16.3**	**+1.5**
SNT1				S	**Sn**	**23 35 32.2**	**+2.0**
SNT1	**Gialos, Santor**	**1.17**	**307**	P	**Pn**	**23 35 16.2**	**+1.3**
SNT1				S	**Sn**	**23 35 31.4**	**+1.2**
	208μm,0.7s						
SFIR	**Foira Santorin**	**1.17**	**308**	P	**Pn**	**23 35 16.5**	**+1.5**
SFIR				S	**Sn**	**23 35 31.9**	**+1.5**
THR7	**Fira-Santorini**	**1.17**	**308**	P	**Pn**	**23 35 16.4**	**+1.4**
SNT5	**Nea Kammeni, S**	**1.18**	**306**	P	**Pn**	**23 35 16.7**	**+1.7**
SNT5				S	**Sn**	**23 35 32.9**	**+2.3**
SNT5	**Nea Kammeni, S**	**1.18**	**306**	P	**Pn**	**23 35 16.4**	**+1.3**
SNT5				S	**Sn**	**23 35 33.2**	**+2.6**
	201μm,0.3s						
THR3	**Thira Island,**	**1.18**	**306**	P	**Pn**	**23 35 16.4**	**+1.3**
THR9	**Santorini-Faro**	**1.18**	**303**	P	**Pn**	**23 35 16.3**	**+1.2**
THT2	**Imerovigli**	**1.18**	**308**	P	**Pn**	**23 35 16.9**	**+1.7**
THT2				S	**Sn**	**23 35 32.7**	**+2.0**
THT2	**Imerovigli**	**1.18**	**308**	P	**Pn**	**23 35 16.6**	**+1.5**
THT2	**Imerovigli**	**1.18**	**308**	PN	**Pn**	**23 35 16.8**	**+1.7**
THR5	**Thira Island,**	**1.22**	**306**	P	**Pn**	**23 35 16.9**	**+1.3**
SAP3	**Santorini-Thir**	**1.23**	**306**	P	**Pn**	**23 35 17.2**	**+1.5**
SAP3	**Santorini-Thir**	**1.23**	**306**	P	**Pn**	**23 35 16.8**	**+1.1**
SAP4	**Santorini-Oia**	**1.24**	**308**	P	**Pn**	**23 35 17.4**	**+1.6**
SAP4				S	**Sn**	**23 35 34.2**	**+2.3**
SAP4	**Santorini-Oia**	**1.24**	**308**	P	**Pn**	**23 35 17.4**	**+1.6**
IACM	**Heraklion**	**1.30**	**252**	P	**Pn**	**23 35 17.1**	**+0.5**
IACM				S	**Sn**	**23 35 33.5**	**+0.3**
IACM	**Heraklion**	**1.30**	**252**	P	**Pn**	**23 35 16.8**	**+0.3**
KSTL	**Kastelli Herak**	**1.30**	**252**	P	**Pn**	**23 35 14.5**	**-2.1**
KSTL				S	**Sn**	**23 35 29.9**	**-3.4**
ARG	**Arkhangelos**	**1.35**	**68**	P	**Pn**	**23 35 18.2**	**+1.0**
ARG				AML	AML	23 35 38.0	
ARG				AML	AML	23 35 39.4	
	comp=E,85674μm,0.4s						
ARG	**Arkhangelos**	**1.35**	**68**	P	**Pn**	**23 35 18.1**	**+0.8**
ARG	**Arkhangelos**	**1.35**	**68**	PN	**Pn**	**23 35 17.9**	**+0.6**
ARG	**Arkhangelos**	**1.35**	**68**	⇑P	**Pn**	**23 35 18.0**	**+0.8**
ARG				S	**Sn**	**23 35 35.5**	**+1.0**
DATC	**Datca-Mugla**	**1.36**	**40**	PN	**Pn**	**23 35 18.4**	**+1.0**
IDI	**Anoyia**	**1.44**	**253**	P	**Pn**	**23 35 18.5**	**-0.1**
	comp=E,3μm,0.3s,baz=39,slow=6.9,SNR=4249						
IDI				S	**Sn**	**23 35 36.2**	**-0.6**
	comp=E,8μm,0.3s,baz=253,slow=14,SNR=27						
IDI				LR	LR	23 35 44.5	
	comp=E,6μm,18.4s,baz=351,slow=35						
IDI	**Anoyia**	**1.44**	**253**	P	**Pn**	**23 35 18.6**	**+0.1**
IDI				AML	AML	23 35 39.0	
IDI				AML	AML	23 35 40.4	
IDI	**Anoyia**	**1.44**	**253**	P	**Pn**	**23 35 18.6**	**+0.1**
IDI				S	**Sn**	**23 35 37.0**	**+0.2**
IDI	**Anoyia**	**1.44**	**253**	⇓P	**Pn**	**23 35 18.9**	**+0.4**
IDI				⇑S	**Sn**	**23 35 34.5**	**-2.3**
IDI	**Anoyia**	**1.44**	**253**	PN	**Pn**	**23 35 19.3**	**+0.8**
BODT	**Bodrum**	**1.47**	**23**	P	**Pn**	**23 35 19.0**	**+0.1**
BODT	**Bodrum**	**1.47**	**23**	PN	**Pn**	**23 35 18.9**	**+0.1**
YKAV	**Yalikavak-Bodr**	**1.52**	**22**	PN	**Pn**	**23 35 20.6**	**+1.1**
BDRM	**Kayabasi**	**1.52**	**27**	⇑*i*P	**Pn**	**23 35 20.8**	**+1.2**
BDRM				*i* S	**Sn**	**23 35 39.2**	**+0.6**
BDRM				IAML		23 35 41.0	
	comp=N,13μm,0.5s						
APE	**Apeiranthos**	**1.60**	**328**	P	**Pn**	**23 35 22.4**	**+1.8**
APE				AML	AML	23 35 44.3	
APE				AML	AML	23 35 44.4	
APE	**Apeiranthos**	**1.60**	**328**	P	**Pn**	**23 35 22.1**	**+1.5**
APE	**Apeiranthos**	**

TURN	**Turunc**	**1.71**	**51**	⇓	*i*P		**Pn**	**23 35 22.9**	**+0.9**
TURN					*i*S		**Sn**	**23 35 42.8**	**-0.3**
TURN					IAML			23 35 46.0	
	comp=E,11µm,0.3s								
TURN					IAML			23 35 47.0	
	comp=N,7µm,0.3s								
PRNS	**Prines Rethymn**	**1.73**	**259**		P		**Pn**	**23 35 23.3**	**+1.0**
DDIM	**Aydin, Didim**	**1.82**	**17**	⇑	*i*P		**Pn**	**23 35 25.3**	**+1.8**
DDIM					*i*S		**Sn**	**23 35 48.1**	**+2.4**
DDIM					IAML			23 35 52.0	
	comp=E,11µm,1.3s								
DDIM					IAML			23 36 00.0	
	comp=N,7µm,0.8s								
VAM	**Vamos**	**1.96**	**262**		P		**Pn**	**23 35 25.9**	**+0.5**
YER	**Yerkesik**	**1.98**	**44**		P		**Pn**	**23 35 27.6**	**+1.9**
YER					S		**Sn**	**23 35 51.3**	**+1.8**
YER	**Yerkesik**	**1.98**	**44**		PN		**Pn**	**23 35 27.0**	**+1.3**
SMG	**Samos**	**2.00**	**6**		P		**Pn**	**23 35 27.7**	**+1.7**
SMG					AML	AML		23 35 58.0	
	comp=E,22017µm,0.3s								
SMG					AML	AML		23 36 01.5	
	comp=N,20706µm,0.3s								
SMG	**Samos**	**2.00**	**6**		P		**Pn**	**23 35 27.3**	**+1.3**
DALY	**Dalyan (Mula)**	**2.01**	**56**		PN		**Pn**	**23 35 27.4**	**+1.4**
DALY	**Dalyan (Mula)**	**2.01**	**56**	⇓	*i*P		**Pn**	**23 35 27.2**	**+1.2**
DALY					*i*S		**Sn**	**23 35 52.4**	**+2.2**
DALY					IAML			23 35 57.0	
	comp=N,12µm,0.6s								
DALY					IAML			23 35 58.0	
	comp=E,10µm,0.7s								
MHLO	**Agia Marina, M**	**2.01**	**300**		P		**Pn**	**23 35 28.1**	**+1.9**
MHLO	**Agia Marina, M**	**2.01**	**300**		P		**Pn**	**23 35 28.0**	**+1.9**
GCAM	**G?zelcami?**	**2.05**	**15**		PN		**Pn**	**23 35 28.2**	**+1.6**
GCAM	**G?zelcami?**	**2.05**	**15**	⇑	*i*P		**Pn**	**23 35 28.3**	**+1.6**
GCAM					*i*S		**Sn**	**23 35 53.4**	**+2.2**
MULA	**Mugla, Merkez-**	**2.08**	**42**	⇓	*i*P		**Sn**	**23 35 29.2**	**+2.0**
MULA					*i*S		**Sn**	**23 35 53.5**	**+1.3**
MULA					IAML			23 35 57.0	
	comp=N,6µm,0.7s								
MULA					IAML			23 35 57.0	
	comp=E,12µm,0.5s								
IMMV	**Iera Moni Meta**	**2.13**	**264**		P		**Pn**	**23 35 29.6**	**+1.9**
IMMV					AML	AML		23 36 16.2	
	comp=E,96450µm,1.1s								
IMMV					AML	AML		23 36 25.9	
	comp=N,63701µm,0.7s								
IMMV	**Iera Moni Meta**	**2.13**	**264**		P		**Pn**	**23 35 28.0**	**+0.3**
IMMV	**Iera Moni Meta**	**2.13**	**264**		PN		**Pn**	**23 35 28.9**	**+1.2**
TNSA	**Tinos**	**2.15**	**328**		P		**Pn**	**23 35 30.0**	**+2.1**
TNSA					AML	AML		23 35 56.7	
	comp=E,43366µm,0.5s								
TNSA					AML	AML		23 35 58.7	
	comp=N,64931µm,0.8s								
AYDN	**Tasoluk**	**2.21**	**28**	⇑	*i*P		**Pn**	**23 35 31.0**	**+2.2**
AYDN					*i*S		**Sn**	**23 35 56.7**	**+1.6**
GVDS	**Gavdos**	**2.21**	**248**		P		**Pn**	**23 35 30.3**	**+1.5**
GVDS	**Gavdos**	**2.21**	**248**		PN		**Pn**	**23 35 30.3**	**+1.5**
GVD	**Gavdhos**	**2.22**	**248**		P		**Pn**	**23 35 30.6**	**+1.7**
GVD					AML	AML		23 35 58.0	
	comp=N,66158µm,0.6s								
GVD					AML	AML		23 35 58.2	
	comp=E,81319µm,0.5s								
GVD	**Gavdhos**	**2.22**	**248**		P		**Pn**	**23 35 30.1**	**+1.2**
GVD	**Gavdhos**	**2.22**	**248**		PN		**Pn**	**23 35 30.2**	**+1.3**
FETY	**Fethiye**	**2.23**	**65**		P		**Pn**	**23 35 28.7**	**-0.3**
FETY	**Fethiye**	**2.23**	**65**		PN		**Pn**	**23 35 29.1**	**+0.1**
FETY	**Fethiye**	**2.23**	**65**	⇓	*i*P		**Pn**	**23 35 28.6**	**-0.4**
FETY					*i*S		**Sn**	**23 35 54.0**	**-1.5**
DGB	**zmir**	**2.35**	**6**		*i*P		**Pn**	**23 35 32.2**	**+1.6**
DGB					*i*S		**Sn**	**23 36 00.8**	**+2.4**
GMLD	**Gumuldur**	**2.37**	**6**		PN		**Pn**	**23 35 32.7**	**+1.7**
KNDR	**Palaiochora Ch**	**2.41**	**259**		P		**Pn**	**23 35 33.0**	**+1.5**
KNDR	**Palaiochora Ch**	**2.41**	**259**		PN		**Pn**	**23 35 32.9**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**2.46**	**25**		PN		**Pn**	**23 35 34.4**	**+2.1**
KSL	**Kastellorizon**	**2.48**	**79**		P		**Pn**	**23 35 32.7**	**+0.3**
KSL	**Kastellorizon**	**2.48**	**79**	⇓	P		**Pn**	**23 35 32.3**	**0.0**
KSL					S		**Sn**	**23 36 01.3**	**-0.2**
AKAS	**Kas**	**2.51**	**77**	⇓	*i*P		**Pn**	**23 35 32.3**	**-0.7**
AKAS					*i*S		**Sn**	**23 36 01.0**	**-1.5**
AKAS					IAML			23 36 05.0	
	comp=N,5µm,0.4s								
AKAS					IAML			23 36 05.0	
	comp=E,6µm,0.8s								
AKAS	**Kas**	**2.51**	**77**		Pn		**Pn**	**23 35 32.3**	**-0.7**
ZEYE	**Izmir, Urla-Ze**	**2.52**	**359**		*i*P		**Pn**	**23 35 34.2**	**+1.3**
ZEYE					*i*S		**Sn**	**23 36 04.7**	**+2.1**
ZEYE					IAML			23 36 05.0	
	comp=E,3µm,0.3s								
ZEYE					IAML			23 36 37.0	
	comp=N,3µm,1.1s								
TAVA	**DENIZLI_Tavas**	**2.57**	**46**	⇓	*i*P		**Pn**	**23 35 35.2**	**+1.5**
TAVA					*i*S		**Sn**	**23 36 06.7**	**+2.8**
TAVA					IAML			23 36 12.0	
	comp=E,6µm,0.6s								
TAVA					IAML			23 36 20.0	
	comp=N,4µm,1.0s								
CAEL	**Denizli, Camel**	**2.62**	**57**	⇓	*i*P		**Pn**	**23 35 36.0**	**+1.5**
CAEL					*i*S		**Sn**	**23 36 10.7**	**+5.4**
CAEL					IAML			23 36 23.0	
	comp=N,17µm,0.5s								
CAEL					IAML			23 36 31.0	
	comp=E,17µm,1.5s								
URLA	**Izmir**	**2.64**	**0**	⇑	*i*P		**Pn**	**23 35 35.1**	**+0.5**
URLA					*i*S		**Sn**	**23 36 07.1**	**+1.5**
URLA					IAML			23 36 08.0	
	comp=E,3µm,0.6s								
ANKY	**Antikythira Is**	**2.67**	**274**		P		**Pn**	**23 35 35.6**	**+0.6**
BLCB	**Balcova**	**2.69**	**8**		P		**Pn**	**23 35 37.0**	**+1.6**
BLCB	**Balcova**	**2.69**	**8**		PN		**Pn**	**23 35 36.9**	**+1.6**
CHOS	**Chios island**	**2.70**	**351**		P		**Pn**	**23 35 36.7**	**+1.2**
CHOS	**Chios island**	**2.70**	**351**		PN		**Pn**	**23 35 37.3**	**+1.8**
GOLH	**Golhisar**	**2.84**	**57**	⇓	*i*P		**Pn**	**23 35 39.2**	**+1.7**
GOLH					IAML			23 36 12.0	
	comp=E,7µm,1.0s								
GOLH					*i*S		**Sn**	**23 36 13.1**	**+2.4**
GOLH					IAML			23 36 21.0	
	comp=N,9µm,1.8s								
KRBN	**Karaburun**	**2.88**	**360**		PN		**Pn**	**23 35 39.6**	**+1.8**
KARY	**Karystos**	**2.88**	**324**		P		**Pn**	**23 35 40.3**	**+2.4**
ELL	**Elmali**	**2.88**	**68**		PN		**Pn**	**23 35 39.4**	**+1.4**
ELL	**Elmali**	**2.88**	**68**		P		**Pn**	**23 35 39.3**	**+1.3**
ELL	**Elmali**	**2.88**	**68**				**Pn**	**23 35 39.3**	**+1.3**
KTHA	**Kythira Island**	**2.90**	**282**		P		**Pn**	**23 35 39.0**	**+0.8**
KTHR	**Kythira**	**2.95**	**282**		P		**Pn**	**23 35 40.3**	**+1.5**
AKUM	**Antalya-Kumluc**	**3.11**	**78**	⇓	*i*P		**Pn**	**23 35 41.2**	**+0.2**
AKUM					*i*S		**Sn**	**23 36 15.3**	**-1.7**
AKUM					IAML			23 36 18.0	
	comp=N,9µm,0.5s								
AKUM					IAML			23 36 19.0	
	comp=E,6µm,0.4s								
VLI	**Veliai**	**3.11**	**290**		P		**Pn**	**23 35 42.3**	**+1.3**
DION	**Dionisos Attik**	**3.17**	**319**		P		**Pn**	**23 35 44.8**	**+2.9**
ATHU	**Athens Univers**	**3.17**	**316**		P		**Pn**	**23 35 44.7**	**+2.8**
PTL	**Penteli**	**3.19**	**318**		P		**Pn**	**23 35 45.0**	**+2.9**
MANT	**Manisa**	**3.19**	**29**	⇑	*i*P		**Pn**	**23 35 44.5**	**+2.2**
MANT					*i*S		**Sn**	**23 36 19.6**	**+0.3**
MANT	**Manisa**	**3.19**	**29**		Pn		**Pn**	**23 35 44.4**	**+2.0**
ATH	**Athens Observa**	**3.22**	**315**		P		**Pn**	**23 35 45.5**	**+3.1**
KRND	**KRANIDI**	**3.23**	**302**		P		**Pn**	**23 35 44.5**	**+2.0**
KULA	**Kula-Manisa**	**3.25**	**30**		P		**Pn**	**23 35 45.3**	**+2.3**
ZEDA	**zmir-Bergama**	**3.27**	**7**	⇑	*i*P		**Pn**	**23 35 45.3**	**+2.1**
ZEDA					*i*S		**Sn**	**23 36 23.2**	**+2.3**
KORT	**Korkueli**	**3.30**	**66**		PN		**Pn**	**23 35 44.7**	**+0.9**
KORT	**Korkueli**	**3.30**	**66**	⇓	*i*P		**Pn**	**23 35 44.5**	**+0.7**
KORT					*i*S		**Sn**	**23 36 22.9**	**+1.0**
KORT					IAML			23 36 26.0	
	comp=N,3µm,1.0s								
KORT					IAML			23 36 28.0	
	comp=E,7µm,0.5s								
KEMT	**Kemer-ANTALYA**	**3.34**	**73**		PN		**Pn**	**23 35 45.0**	**+0.9**
BRDR	**BURDUR-Merkez**	**3.43**	**54**	⇓	*i*P		**Pn**	**23 35 46.4**	**+1.0**
BRDR					*i*S		**Sn**	**23 36 26.5**	**+1.6**
BRDR					IAML			23 36 38.0	
	comp=E,2µm,0.5s								
EREA	**Eretria**	**3.43**	**323**		P		**Pn**	**23 35 48.4**	**+3.0**
ANTB	**Antalya**	**3.50**	**69**		PN		**Pn**	**23 35 47.7**	**+1.5**
KYMI	**Kymi, Euboea I**	**3.52**	**327**		P		**Pn**	**23 35 49.2**	**+2.6**
KHAL	**Karahalli**	**3.53**	**40**	⇓	*i*P		**Pn**	**23 35 48.2**	**+1.4**
KHAL					*i*S		**Sn**	**23 36 28.4**	**+1.0**
KHAL					IAML			23 36 29.0	
	comp=E,1µm,0.4s								
PRK	**Paraskevi**	**3.54**	**356**		P		**Pn**	**23 35 49.5**	**+2.7**
SIGR	**SIGRI**	**3.54**	**351**		P		**Pn**	**23 35 48.5**	**+1.7**
SKY	**Skiros Island**	**3.55**	**333**		P		**Pn**	**23 35 49.5**	**+2.5**
USAK	**Uak-Merkez**	**3.57**	**32**	⇓	*i*P		**Pn**	**23 35 49.6**	**+2.3**
USAK					*i*S		**Sn**	**23 36 30.0**	**+1.6**
VILL	**Villia**	**3.58**	**314**		P		**Pn**	**23 35 50.5**	**+3.0**
BUCA	**Burdur, Bucak-**	**3.59**	**62**	⇓	*i*P		**Pn**	**23 35 48.8**	**+1.3**
BUCA					*i*S		**Sn**	**23 36 30.2**	**+1.5**
BUCA					IAML			23 36 32.0	
	comp=N,2µm,0.5s								
BUCA					IAML			23 36 35.0	
	comp=E,1µm,0.6s								
LOUT	**Loutraki**	**3.68**	**309**		P		**Pn**	**23 35 51.8**	**+3.1**
LTK	**Loutraki**	**3.70**	**310**		P		**Pn**	**23 35 52.1**	**+3.0**
DEMI	**Demirci**	**3.73**	**26**		*i*P		**Pn**	**23 35 51.8**	**+2.2**
DEMI					*i*S		**Sn**	**23 36 33.5**	**+1.1**
VLX	**Vlachokerasia**	**3.76**	**297**		P		**Pn**	**23 35 52.0**	**+2.0**
STEP	**BALIKESIR_Sava**	**3.77**	**14**	⇑	*i*P		**Pn**	**23 35 52.0**	**+2.0**
STEP					*i*S		**Sn**	**23 36 36.7**	**+3.6**
ISP	**Isparta**	**3.80**	**55**		P		**Pn**	**23 35 50.9**	**+0.4**
ISP	**Isparta**	**3.80**	**55**		Pn		**Pn**	**23 35 50.9**	**+0.4**
KZIL	**AFYON_Kizioren**	**3.82**	**47**	⇓	*i*P		**Pn**	**23 35 51.9**	**+1.1**
KZIL					*i*S		**Sn**	**23 36 34.9**	**+0.4**
KZIL					IAML			23 37 00.0	
	comp=E,2µm,2.4s								
THAL	**Thalero**	**3.90**	**308**		P		**Pn**	**23 35 54.7**	**+2.9**
ITM	**Ithomi**	**4.03**	**293**		P		**Pn**	**23 35 55.8**	**+2.3**
ITM	**Ithomi**	**4.03**	**293**		Pn		**Pn**	**23 35 55.9**	**+2.3**
BAGO	**Egridir - ISPA**	**4.07**	**55**	⇓	*i*P		**Pn**	**23 35 54.2**	**+0.1**
BAGO					*i*S		**Sn**	**23 36 50.9**	**+10**
GDZ	**Gediz**	**4.08**	**34**		*i*P		**Pn**	**23 35 55.2**	**+0.8**
GDZ					*i*S		**Sn**	**23 36 40.0**	**-1.0**
LKR	**Lokris**	**4.09**	**317**		P		**Pn**	**23 35 57.4**	**+3.0**
EZN	**Ezine**	**4.11**	**357**		P		**Pn**	**23 35 56.4**	**+1.8**
ATAL	**Atalanti**	**4.11**	**317**		P		**Pn**	**23 35 56.6**	**+1.9**
SMIA	**Simia**	**4.15**	**321**		P		**Pn**	**23 35 57.6**	**+2.4**
DURS	**Dursunbey**	**4.16**	**21**	⇑	*i*P		**Pn**	**23 35 57.5**	**+2.1**
DURS					*i*S		**Sn**	**23 36 44.7**	**+1.8**
KEPZ	**Antalya-Kepez**	**4.23**	**72**	⇓	*i*P		**Pn**	**23 35 56.8**	**+0.5**
KEPZ					*i*S		**Sn**	**23 36 43.9**	**-0.6**
KLV	**Kalavryta, Ach**	**4.24**	**305**		P		**Pn**	**23 35 58.6**	**+2.1**
AFYO	**Afyonkarahisar**	**4.27**	**43**	⇓	*i*P		**Pn**	**23 35 58.6**	**+1.8**
AFYO					*i*S		Sn	23 37 00.6	+15
LIA	**Limnos Island**	**4.32**	**346**		P		**Pn**	**23 35 59.6**	**+2.1**
SLUM	**Salum**	**4.36**	**196**		P		**Pn**	**23 35 55.7**	**-2.4**
	baz=201								
AXAR	**Agios Charalam**	**4.37**	**315**		P		**Pn**	**23 36 01.6**	**+3.5**
ALIK	**Aliki, Aigiali**	**4.39**	**307**		P		**Pn**	**23 36 01.2**	**+2.8**
MATC	**Matruh**	**4.39**	**173**		P		**Pn**	**23 35 55.4**	**-3.1**
	baz=177								
KALE	**Kalithea**	**4.44**	**308**		P		**Pn**	**23 36 01.4**	**+2.1**
OSC1	**CSNet OBS 1**	**4.46**	**118**		P		**Pn**	**23 35 55.5**	**-3.9**
OSC1					S		**Sn**	**23 36 43.4**	**-6.6**
LAKA	**Lakka**	**4.46**	**306**		P		**Pn**	**23 36 00.8**	**+1.3**
NEO	**Neokhori**	**4.47**	**324**		P		**Pn**	**23 36 02.8**	**+3.2**
TRIZ	**Trizonia**	**4.47**	**308**		P		**Pn**	**23 36 02.8**	**+3.2**
DRO	**Drossia**	**4.50**	**301**		P		**Pn**	**23 36 03.7**	**+3.7**
GADA	**Gvkgeada**	**4.50**	**353**		P		**Pn**	**23 36 01.8**	**+1.8**
SEDI	**Konya, Seydise**	**4.51**	**66**	⇓	*i*P		**Pn**	**23 36 01.4**	**+1.1**
SEDI					*i*S		**Sn**	**23 36 51.9**	**+0.4**
YVAC	**Isparta, Yalva**	**4.52**	**54**	⇓	*i*P		**Pn**	**23 36 00.9**	**+0.6**
YVAC					*i*S		Sn	23 37 09.4	+18
XOR	**Xorichti**	**4.53**	**325**		P		**Pn**	**23 36 03.4**	**+3.0**
UPR	**University Cam**	**4.62**	**305**		P		**Pn**	**23 36 04.9**	**+3.4**
ANDZ	**Kutahya, Merke**	**4.62**	**34**	⇓	*i*P		**Pn**	**23 36 03.6**	**+2.0**
ANDZ					*i*S		**Sn**	**23 36 52.9**	**-1.0**
GAZI	**Gazipasa**	**4.68**	**82**	⇓	*i*P		**Pn**	**23 36 00.7**	**-1.8**
GAZI					*i*S		**Sn**	**23 36 49.2**	**-6.3**
RLS	**Riolos of Patr**	**4.72**	**301**		P		**Pn**	**23 36 05.4**	**+2.5**
DOGA	**KONYA_Doganhis**	**4.72**	**58**		*i*P		**Pn**	**23 36 03.8**	**+0.6**
DOGA					*i*S		**Sn**	**23 36 56.6**	**-0.1**
AGG	**Agios Georgios**	**4.73**	**316**		P		**Pn**	**23 36 06.8**	**+3.7**
AGG	**Agios Georgios**	**4.73**	**316**		P		**Pn**	**23 36 06.0**	**+2.9**
AGG	**Agios Georgios**	**4.73**	**316**		Pn		**Pn**	**23 36 06.0**	**+2.9**
AUKIR	**Kirka- Seyitga**	**4.75**	**40**		*i*P		**Pn**	**23 36 05.4**	**+2.0**
AUKIR					*i*S		Sn	23 37 11.0	+14
AKMS	**Akamas**	**4.75**	**97**		P		**Pn**	**23 36 00.8**	**-2.7**
AKMS					AML	AML		23 36 52.1	
	comp=E,36nm,0.3s								
AKMS					AML	AML		23 36 52.6	
	comp=E,59nm,0.3s								
PAIG	**Paliouri**	**4.79**	**332**		P		**Pn**	**23 36 06.5**	**+2.6**
SMTH	**Samothraki Isl**	**4.82**	**350**		P		**Pn**	**23 36 06.0**	**+1.6**
MAKR	**Makrakomi, Fth**	**4.84**	**314**		P		**Pn**	**23 36 08.2**	**+3.6**
ALFC	**Alefka**	**4.95**	**95**	⇑	P		**Pn**	**23 36 03.3**	**-2.8**
ALFC					AML	AML		23 36 57.1	
	comp=E,70nm,0.6s								
ALFC					AML	AML		23 36 57.9	
	comp=E,65nm,0.5s								
EVR	**Evrytania**	**4.97**	**311**		P		**Pn**	**23 36 09.6**	**+3.2**
PVO	**Paravola**	**4.97**	**307**		P		**Pn**	**23 36 09.3**	**+3.0**
NATA	**Nata**	**4.99**	**99**		P		**Pn**	**23 36 04.1**	**-2.6**
LTHK	**Lithakia**	**5.03**	**295**		P		**Pn**	**23 36 08.7**	**+1.6**
ENEZ	**Enez**	**5.03**	**356**		P		**Pn**	**23 36 09.5**	**+2.4**
OUR	**Ouranopolis**	**5.05**	**337**		P		**Pn**	**23 36 09.9**	**+2.5**
KMER	**Konya-Meram**	**5.08**	**64**	⇓	*i*P		**Pn**	**23 36 08.7**	**+0.7**
KMER					*i*S		**Sn**	**23 37 06.2**	**+0.8**
SGAZ	**Eskisehir, Sey**	**5.09**	**40**		*i*P		**Pn**	**23 36 09.8**	**+1.7**
SGAZ					*i*S		**Sn**	**23 37 05.0**	**-0.6**
THAS	**Thassos island**	**5.10**	**344**		P		**Pn**	**23 36 10.1**	**+2.0**
KONT	**Konya--Tatoy**	**5.14**	**63**	⇓	*i*P		**Pn**	**23 36 09.7**	**+0.9**
LRSO	**Larissa Observ**	**5.16**	**321**		P		**Pn**	**23 36 12.8**	**+3.8**
PDO	**Prodromos**	**5.18**	**305**		P		**Pn**	**23 36 13.3**	**+4.0**
LEF	**Lefka**	**5.19**	**95**		*i*P		**Pn**	**23 36 05.9**	**-3.4**
LEF					*i*S		Sn	23 36 58.4	-9.5
ALN	**Alexandroupoli**	**5.19**	**356**		P		**Pn**	**23 36 11.4**	**+2.0**
ALN	**Alexandroupoli**	**5.19**	**356**		P		**Pn**	**23 36 11.1**	**+1.7**
ALN	**Alexandroupoli**	**5.19**	**356**		Pn		**Pn**	**23 36 11.1**	**+1.7**
ERMK	**Ermenek**	**5.21**	**78**	⇓	*i*P		**Pn**	**23 36 09.6**	**-0.2**
ERMK					*i*S		**Sn**	**23 37 07.0**	**-1.6**
VLMS	**Volimes, Zakyn**	**5.22**	**296**		P		**Pn**	**23 36 10.6**	**+0.8**
SZAC	**Souni**	**5.25**	**99**		P		**Pn**	**23 36 07.5**	**-2.7**
SZAC					AML	AML		23 37 03.8	
	comp=E,22nm,0.4s								
SZAC					AML	AML		23 37 04.6	
	comp=E,40nm,0.6s								
PLG	**Polygyros**	**5.27**	**333**		P		**Pn**	**23 36 12.7**	**+2.2**
THL	**Klokotos Trika**	**5.28**	**318**		P		**Pn**	**23 36 13.8**	**+3.2**
KKBE	**Karaman, Kazim**	**5.34**	**72**		*i*P		**Pn**	**23 36 11.8**	**+0.2**
KKBE					*i*S		**Sn**	**23 37 09.0**	**-2.8**
PSDA	**Pessada-Kefalo**	**5.37**	**298**		P		**Pn**	**23 36 13.2**	**+1.4**
OSC2	**CSNet OBS 4**	**5.39**	**118**		P		**Pn**	**23 36 07.7**	**-4.4**
VLS	**Valsamata**	**5.39**	**299**		P		**Pn**	**23 36 13.4**	**+1.3**
LIT	**Litokhoron**	**5.44**	**325**		P		**Pn**	**23 36 16.1**	**+3.2**
LIT	**Litokhoron**	**5.44**	**325**		P		**Pn**	**23 36 15.7**	**+2.8**
LIT	**Litokhoron**	**5.44**	**325**				**Pn**	**23 36 15.7**	**+2.8**
RDO	**Rodhopi**	**5.49**	**352**		P		**Pn**	**23 36 15.5**	**+2.1**
KAVA	**Kavala**	**5.52**	**344**		P		**Pn**	**23 36 16.0**	**+2.1**
KEF5	**Kardakata, Kep**	**5.52**	**299**		P		**Pn**	**23 36 14.6**	**+0.7**
ASGA	**Asgata**	**5.54**	**98**		P		**Pn**	**23 36 11.3**	**-2.8**
KEF4	**Livadi, Kephal**	**5.54**	**299**		P		**Pn**	**23 36 14.9**	**+0.7**
EVGI	**Lefkada island**	**5.55**	**303**		P		**Pn**	**23 36 15.6**	**+1.3**
CSS	**Mathiatis**	**5.57**	**96**		Pn		**Pn**	**23 36 11.9**	**-2.8**
CSS	**Mathiatis**	**5.57**	**96**	⇓	P		**Pn**	**23 36 11.8**	**-2.8**
KEF3	**Kipouria, Keph**	**5.57**	**298**		P		**Pn**	**23 36 14.4**	**-0.2**
HORT	**Hortiatis**	**5.59**	**332**		P		**Pn**	**23 36 17.2**	**+2.2**
LKD2	**Lefkada Island**	**5.63**	**305**		P		**Pn**	**23 36 17.2**	**+1.7**
GULN	**MERSIN_Gulnar**	**5.67**	**83**		*i*P		**Pn**	**23 36 14.2**	**-1.7**
GULN					*i*S		**Sn**	**23 37 13.4**	**-6.2**
THE	**Thessaloniki**	**5.68**	**331**		P		**Pn**	**23 36 19.5**	**+3.5**
SOH	**Sokhos**	**5.70**	**335**		P		**Pn**	**23 36 19.7**	**+3.4**
MVOU	**Mavrovouni**	**5.80**	**95**		P		**Pn**	**23 36 15.2**	**-2.6**
SRS	**Serrai**	**5.88**	**337**		P		**Pn**	**23 36 21.6**	**+2.7**
SRS	**Serrai**	**5.88**	**337**		*e*Pn		**Pn**	**23 36 21.4**	**+2.5**
SRS					*e*Sn		**Sn**	**23 37 26.6**	**+1.7**
KZN	**Kozani**	**5.95**	**322**		P		**Pn**	**23 36 22.9**	**+3.0**
MDUB	**Mudurnu**	**5.99**	**36**				**Pn**	**23 36 21.3**	**+1.0**
JAN	**Janina**	**6.01**	**313**		P		**Pn**	**23 36 22.9**	**+2.3**
NVR	**Nevrokopi**	**6.02**	**340**		P		**Pn**	**23 36 22.3**	**+1.6**
EDRB	**Edirne**	**6.13**	**1**		P		**Pn**	**23 36 24.0**	**+1.8**
PARAL	**Paralimni**	**6.14**	**95**		P		**Pn**	**23 36 20.7**	**-1.7**
KNT	**Kendrikon**	**6.16**	**333**		P		**Pn**	**23 36 26.3**	**+3.7**
KIZK	**Mersin**	**6.17**	**81**		*i*P		**Pn**	**23 36 22.3**	**-0.5**
KIZK					*i*S		**Sn**	**23 37 28.7**	**-3.3**
GRG	**Griva**	**6.18**	**329**		P		**Pn**	**23 36 24.7**	**+3.8**
PENT	**Pentalofos**	**6.20**	**318**		P		**Pn**	**23 36 25.7**	**+2.4**
IGT	**Igoumenitsa**	**6.25**	**309**		P		**Pn**	**23 36 26.3**	**+2.4**
IGT	**Igoumenitsa**	**6.25**	**309**		*e*Pn		**Pn**	**23 36 24.7**	**+0.8**
IGT					*e*Sn		**Sn**	**23 37 32.1**	**-1.9**
NEST	**Nestorio**	**6.41**	**319**		P		**Pn**	**23 36 29.2**	**+3.1**
BR231	**Keskin MP Arra**	**6.41**	**48**				**Pn**	**23 36 27.8**	**+1.7**
VAY	**Valandovo**	**6.42**	**332**		*e*Pn		**Pn**	**23 36 30.2**	**+4.0**
VAY	**Valandovo**	**6.42**	**332**		*i* Pn		**Pn**	**23 36 29.6**	**+3.5**
LSK	**Leskovik**	**6.48**	**315**		P		**Pn**	**23 36 28.5**	**+1.5**
FNA	**Florina**	**6.51**	**323**		P		**Pn**	**23 36 30.3**	**+2.8**
FNA	**Florina**	**6.51**	**323**		*e*Pn		**Pn**	**23 36 31.2**	**+3.7**
FNA					*e*Sn		**Sn**	**23 37 38.9**	**-1.4**
FNA	**Florina**	**6.51**	**323**		P		**Pn**	**23 36 30.4**	**+2.9**
FNA	**Florina**	**6.51**	**323**		Pn		**Pn**	**23 36 30.4**	**+2.9**
SWA2		**6.52**	**189**		P		**Pn**	**23 36 24.6**	**-3.0**
	baz=193								
PLD	**Plovdiv**	**6.55**	**348**		*e*Pn		**Pn**	**23 36 31.2**	**+3.3**
SRN	**Sarande**	**6.67**	**311**		P		**Pn**	**23 36 30.1**	**+0.6**
KEK	**Kerkira**	**6.69**	**309**		P		**Pn**	**23 36 30.1**	**+0.6**
KBN	**Korca**	**6.70**	**319**		P		**Pn**	**23 36 32.8**	**+2.8**
BR131	**Keskin Array S**	**6.88**	**52**		P		**Pn**	**23 36 33.5**	**+0.9**
BR131	**Keskin Array S**	**6.88**	**52**		Pn		**Pn**	**23 36 33.5**	**+0.9**
BRTR	**Keskin Array B**	**6.88**	**52**		P		**Pn**	**23 36 33.4**	**+0.7**
	comp=E,14nm,0.3s,baz=228,slow=15,SNR=242								
BRTR					S		**Sn**	**23 37 49.0**	**-0.5**
	comp=E,9.3nm,0.3s,baz=214,slow=26,SNR=7.5								
BRTR					ScP		**ScP**	**23 46 43.6**	**-0.1**
	comp=E,0.2nm,0.3s,baz=210,slow=4.3,SNR=4.9								
BRTR	**Keskin Array B**	**6.88**	**52**		Pn

NEHR	Nehoiu	9.71	359	⇓P		Pn	23 37 14.5	+3.4			
TRUS	Trudelj	9.73	333	*e*Pn		Pn	23 37 13.8	+2.4			
ARR	Arges	9.76	352	⇑P		Pn	23 37 13.7	+1.9			
MLR	Muntele Rosu	9.78	357	P		Pn	23 37 14.9	+2.7			
	comp=E,2.1nm,0.3s,baz=187,slow=6.9,SNR=156										
MLR				LR		LR	23 41 31.2				
	comp=E,3µm,21.8s,baz=177,slow=41										
MLR	Muntele Rosu	9.78	357	⇓P		Pn	23 37 15.5	+3.3			
DIVS	Divibare	9.78	331	*e*Pn		Pn	23 37 14.4	+2.2			
DIVS	Divibare	9.78	331	*e*Pn		Pn	23 37 14.1	+1.9			
VOIR		9.78	354	⇑P		Pn	23 37 14.3	+2.1			
MDVR	Moldovita	9.79	339	⇓P		Pn	23 37 14.3	+2.1			
SCHL	Schela	9.82	5	⇓P		Pn	23 37 15.2	+2.6			
BISRR	Bisoca	9.82	1	⇓P		Pn	23 37 15.7	+3.0			
BBLS	Lazići	9.83	328	*e*Pn		Pn	23 37 13.5	+0.6			
BBLS	Lazići	9.83	328	⇑*i*Pn		Pn	23 37 13.0	+0.1			
GIUM	Giurgiulesti	9.84	7	⇑P		Pn	23 37 16.1	+3.2			
STON	Ston	9.92	319	*e*Pn		Pn	23 37 11.6	-2.4			
STON				Sn		Sn	23 38 55.1	-8.4			
VAE	Valguarnera	9.94	284	P		Pn	23 37 15.1	+0.7			
	comp=E,5.1nm,0.3s,baz=126,slow=8.3,SNR=33										
VAE				S		Sn	23 38 56.5	-7.9			
	comp=E,31nm,0.3s,baz=131,slow=12,SNR=10										
LOT	Lotru	9.96	348	⇑P		Pn	23 37 17.4	+2.9			
PETR	Petresti	10.01	3	⇑P		Pn	23 37 18.8	+3.6			
ODBI	Odobesti	10.05	2	⇑P		Pn	23 37 19.1	+3.4			
GZR	Gura Zlata	10.09	345	⇓P		Pn	23 37 18.4	+2.0			
PLOR	Plostina	10.13	0	⇑P		Pn	23 37 20.2	+3.3			
VRI	Vrincioaia	10.14	1	⇑P		Pn	23 37 20.5	+3.4			
HAPS	Han Pijesak,BI	10.21	327	*e*Pn		Pn	23 37 17.3	-0.7			
VARL	Varlezi	10.22	5	⇓P		Pn	23 37 20.3	+2.2			
DOPR	Dopca	10.28	355	⇓P		Pn	23 37 21.4	+2.5			
TEKS	Tekeris	10.34	331	*e*Pn		Pn	23 37 21.2	+1.5			
TEKS	Tekeris	10.34	331	*e*Pn		Pn	23 37 20.7	+1.0			
GHRR		10.36	3	⇑P		Pn	23 37 23.9	+4.0			
SGRT	San Giovanni R	10.39	309	Pn		Pn	23 37 19.6	-0.9			
OZUR		10.39	357	⇑P		Pn	23 37 24.0	+3.5			
BANR	Banloc	10.51	338	⇓P		Pn	23 37 24.8	+2.9			
DEV	Deva	10.53	346	⇑P		Pn	23 37 25.8	+3.5			
MDB	Medias	10.55	352	⇓P		Pn	23 37 25.5	+3.0			
MAKA	Makarska	10.57	319	*e*Pn		Pn	23 37 21.7	-1.0			
MAKA				Sn		Sn	23 39 12.0	-7.4			
BIR	Birlad	10.57	4	⇑P		Pn	23 37 25.9	+3.1			
BZS	Buzias	10.58	341	⇑P		Pn	23 37 25.2	+2.2			
RICI	Ricice	10.65	320	*e*Pn		Pn	23 37 23.0	-0.9			
RICI				Sn		Sn	23 39 15.5	-5.9			
FRGS	Fruska Gora	10.75	333	*e*Pn		Pn	23 37 27.2	+1.9			
FRGS	Fruska Gora	10.75	333	⇓P		Pn	23 37 27.8	+2.5			
FRGS	Fruska Gora	10.75	333	⇑*i*Pn		Pn	23 37 26.8	+1.5			
TESR	Tescani	10.79	0	⇑P		Pn	23 37 28.4	+2.6			
HVAR	Hvar	10.81	317	*e*Pn		Pn	23 37 23.2	-2.9			
PAOL	Paolisi	10.82	303			Pn	23 37 25.0	-1.3			
SIM	Simferopol'	10.87	30	*e*P		Pn	23 37 27.9	+1.0			
SIM				*e*S		Sn	23 39 23.7	-3.0			
SIM				pmax	pmax						
	comp=Z,142nm,0.7s										
SIM				smax	smax						
	comp=N,71nm,1.3s										
JOSR	Joseni	11.01	356	⇑P		Pn	23 37 32.3	+3.4			
SIRR	Siria	11.18	342	⇓P		Pn	23 37 33.3	+2.2			
CJR	Cluj-Napoca	11.22	349	⇑P		Pn	23 37 34.7	+3.0			
BIZ	Bicaz	11.22	358	⇓P		Pn	23 37 34.3	+2.6			
GIRR	Girov	11.23	360	⇑P		Pn	23 37 35.2	+3.3			
MGRS	Mrkonjic Grad	11.33	323	*e*Pn		Pn	23 37 33.0	-0.2			
KIJV	Kijevo	11.38	320	*e*Pn		Pn	23 37 33.1	-0.9			
KIS	Kishinev	11.40	8	⇓*i*P		Pn	23 37 34.4	+0.3			
KIS				*i* pP			23 37 46.0				
KIS				*i* sP			23 37 54.0				
KIS				*e*S		Sn	23 39 45.0	+5.3			
KIS				*e*LR		LR	23 41 41.0				
	comp=N,800nm,23.0s										
KIS	Kishinev	11.40	8	*d* *i*P		Pn	23 37 34.0	-0.1			
KIS				*e*S		Sn	23 39 45.0	+5.3			
KIS				pmax	pmax						
	comp=Z,500nm,1.7s										
KIS				MLR	MLR						
	comp=Z,800nm,23.0s										
DRGR		11.44	346	⇑P		Pn	23 37 37.4	+2.6			
ARCR	ARCALIA	11.48	352	⇑P		Pn	23 37 38.0	+2.7			
BLY	Banja Luka	11.52	324	*e*Pn		Pn	23 37 35.1	-0.8			
MARD	Mardin	11.54	78			Pn	23 37 33.8	-2.5			
ZIRJ	Zirje	11.56	317	*e*Pn		Pn	23 37 34.7	-1.7			
KTUT	Trabzon	11.61	59	⇑P		Pn	23 37 40.1	+3.1			
MORI	Morici	11.66	318	*e*Pn		Pn	23 37 37.0	-0.7			
MORI				Sn		Sn	23 39 39.6	-6.6			
KOPT	Kop Dagi	11.81	65			Pn	23 37 41.7	+1.6			
MRAK	Mrakovica	11.86	325	*e*Pn		Pn	23 37 40.0	-0.5			
PRIJ	Prijedor	11.92	324	*e*Pn		Pn	23 37 44.0	+2.8			
BURAR	Bucovina Array	11.94	356	⇓P		Pn	23 37 44.7	+3.2			
BURAR	Bucovina Array	11.94	356	Pn		Pn	23 37 42.3	+0.8			
BUR08	Bucovina Ar. S	11.96	355			Pn	23 37 42.9	+0.9			
UDBI	Udbina	12.07	320	*e*Pn		Pn	23 37 42.7	-0.8			
UDBI				Sn		Sn	23 39 51.2	-5.0			
MORH	Mrgy, Hungar	12.08	333	⇑*i*Pn		Pn	23 37 43.4	0.0			
DUGI	Dugi Otok	12.10	317	*e*Pn		Pn	23 37 43.6	-0.2			
BMR	Baia Mare	12.17	350	⇑P		Pn	23 37 47.5	+2.9			
LTVH	Ltavrtes, Hu	12.17	345	⇑P		Pn	23 37 47.5	+2.9			
AQU	L'Aquila	12.20	307	*e*Pn		Pn	23 37 47.4	+2.3			
ANN	Anapa	12.28	39	*e*P		Pn	23 37 44.6	-1.6			
ANN				*e*S		Sn	23 40 01.5	+0.3			
ANN				pmax	pmax						
	comp=Z,29nm,0.7s										
ANN				MLR	MLR						
	comp=Z,422nm,12.0s										
NVLJ	Novalja	12.57	318	*e*Pn		Pn	23 37 48.4	-1.7			
SOC	Sochi	12.81	48	*e*P		Pn	23 37 54.2	+0.9			
SOC				*e*			23 40 18.2				
SOC				pmax	pmax						
	comp=Z,30nm,0.8s										
SOC				MLR	MLR						
	comp=Z,214nm,12.0s										
PTJ	Puntijarka	12.96	325	*e*Pn		Pn	23 37 54.2	-1.2			
BOJS	Bojanci	13.01	322	*i* Pn		Pn	23 37 53.4	-2.7			
BOJS				*e*Sn		Sn	23 40 10.9	-8.1			
CRES	Cresnjev	13.14	324	*e*Pn		Pn	23 37 55.3	-2.6			
PSZ	Piszkesteto	13.17	340	⇑P		Pn	23 37 59.5	+1.2			
RIY	Rijeka	13.28	320	*i* Pn		Pn	23 37 57.8	-1.9			
UZH	Uzhgorod	13.29	348	*e*P		Pn	23 38 01.0	+1.2			
UZH				*e*S		Sn	23 40 28.0	+2.3			
UZH				MLR	MLR						
	comp=N,270nm,19.0s										
UZH				MLR	MLR						
	comp=E,220nm,19.0s										
UZH				MLR	MLR						
	comp=Z,160nm,19.0s										
SRO2	Moca	13.49	336	*e*P		P	23 38 06.3	-3.0			
SRO2	Moca	13.49	336	*e*P		P	23 38 06.2	-3.0			
KECS	Kecovo	13.53	342	*e*P		P	23 38 08.8	-1.0			
KECS	Kecovo	13.53	342	*e*P		P	23 38 08.8	-1.0			
SRO	Srobarova	13.56	336	*e*P		P	23 38 08.3	-1.8			
SRO	Srobarova	13.56	336	*e*P		P	23 38 08.3	-1.8			
KOLS	Kolonicke sedl	13.59	348	*e*P		P	23 38 07.3	-3.1			
KOLS	Kolonicke sedl	13.59	348	*e*P		P	23 38 07.3	-3.1			
CEY	Cerknica	13.59	321	*e*Pn		Pn	23 38 01.7	-2.2			
CRVS	Cervenica-Dubn	13.71	346	*e*P		P	23 38 10.2	-1.6			
CRVS	Cervenica-Dubn	13.71	346	*e*P		P	23 38 10.2	-1.6			
CHVG	Ch'k'valeri	13.90	55	⇑P		Pn	23 38 10.3	+2.3			
SOKA	Soboth	13.97	325	*i* Pn		Pn	23 38 09.8	+0.9			
	comp=Z,52nm,0.4s,SNR=48										
VYHS	Vyhne	13.99	338	*e*P		Pn	23 38 10.6	+1.4			
VYHS	Vyhne	13.99	338	*e*P		Pn	23 38 10.6	+1.4			
OBKA	Obir	14.07	324	*i* Pn		Pn	23 38 09.9	-0.4			
	comp=Z,20nm,0.5s,SNR=15										
ARSA	Arzberg	14.18	328	*i* Pn		Pn	23 38 12.8	+1.2			
	comp=Z,18nm,0.5s,SNR=38										
KWP	Kalwaria Pacla	14.20	350	*e*P		Pn	23 38 13.5	+1.7			
KOLL	Kolacno	14.20	337	*e*P		Pn	23 38 14.5	+2.6			
LVV	L'vov	14.22	353	*d* *i*P		Pn	23 38 13.6	+1.5			
LVV				*i* S		Sn	23 40 53.0	+4.7			
LVV				pmax	pmax						
	comp=Z,300nm,1.8s										
LVV				MLR	MLR						
	comp=Z,400nm,13.7s										
ZST	Bratislava	14.31	334	*e*P		Pn	23 38 15.3	+2.0			
ZST	Bratislava	14.31	334	*e*P		Pn	23 38 15.2	+2.0			
AKH	Akhalkalaki	14.40	62	⇑P		P	23 38 17.5	-2.1			
MODS	Modra-Piesok	14.40	334	*e*P		Pn	23 38 17.0	+2.5			
MODS	Modra-Piesok	14.40	334	*e*P		Pn	23 38 17.0	+2.5			
LANS	Liptovska Anna	14.41	341	*e*P		P	23 38 19.5	-0.1			
LANS	Liptovska Anna	14.41	341	*e*P		P	23 38 19.5	-0.1			
NIE	Niedzica	14.45	343	*e*P		Pn	23 38 16.5	+1.4			
SMOL	Smolenice	14.47	335	*e*P		P	23 38 18.4	-1.8			
SMOL	Smolenice	14.47	335	*e*P		P	23 38 18.4	-1.8			
NEY	Neytrino	14.55	54	*i* P		Pn	23 38 18.5	+1.9			
CONA	Conrad Observa	14.57	330	*i* Pn		Pn	23 38 16.8	+0.1			
	comp=Z,15nm,0.6s,SNR=35										
MYKA	Terra Mystica	14.60	322	*i* Pn		Pn	23 38 17.4	+0.3			
	comp=Z,58nm,0.4s,SNR=19										
JAVC	Velka Javorina	14.68	336	*e*PN		Pn	23 38 19.0	+0.8			
SHA1	Shidzhatmaz	14.72	52	*i* P		P	23 38 22.1	-1.2			
KIV	Kislovodsk	14.85	51	*i* P		P	23 38 26.5	+2.0			
	SNR=76										
KIV	Kislovodsk	14.85	51	*e*P		Pn	23 38 20.8	+0.5			
KIV				*e*S		Sn	23 41 04.8	+1.2			
KIV				pmax	pmax						
	comp=Z,670nm,1.1s										
KIV				MLR	MLR						
	comp=Z,267nm,13.0s										
KIV	Kislovodsk	14.85	51			Pn	23 38 20.4	+0.1			
TEOL	Teolo	14.86	315	Pn		Pn	23 38 19.7	-0.7			
KBZ	Khabaz	14.88	53	P		P	23 38 27.1	+2.4			
	comp=Z,5.4nm,0.3s,baz=243,slow=8.5,SNR=170										
KBZ	Khabaz	14.88	53	*e*P		P	23 38 23.4	-1.3			
ZOU	Zoufplan	14.89	321			Pn	23 38 20.2	-0.8			
VLC	Villacollemand	15.00	309			Pn	23 38 23.4	+1.2			
GNI	Garni	15.00	67	P		P	23 38 24.8	-1.5			
	comp=Z,5.2nm,0.3s,baz=304,slow=3.1,SNR=66										
GNI				LR	LR		23 45 33.9				
	comp=Z,718nm,19.5s,baz=274,slow=42										
GNI	Garni	15.00	67	P		Pn	23 38 24.1	+1.7			
GNI	Garni	15.00	67	*e*P		Pn	23 38 22.9	+0.5			
GNI				pmax	pmax						
	comp=Z,168nm,1.3s										
GNI	Garni	15.00	67			Pn	23 38 23.2	+0.8			
KBA	Koelnbreinsper	15.06	323	*i* Pn		Pn	23 38 23.9	+0.7			
	comp=Z,81nm,0.4s,SNR=102										
AKASG	Malin Array Be	15.10	6	P		Pn	23 38 23.5	0.0			
	comp=Z,11nm,0.3s,baz=194,slow=11,SNR=62										
AKASG				LR	LR		23 45 08.8				
	comp=Z,656nm,18.5s,baz=180,slow=41										
AKASG				ScP		ScP	23 46 53.7	-0.7			
	comp=Z,0.8nm,0.3s,baz=220,slow=1.2,SNR=13										
AKASG	Malin Array Be	15.10	6	*e*P		Pn	23 38 22.7	-0.8			
AKASG				pmax	pmax						
	comp=Z,67nm,0.6s										
AKASG	Malin Array Be	15.10	6	Pn		Pn	23 38 22.8	-0.8			
AKBB	Malin Array Si	15.10	6	*e*P		Pn	23 38 22.1	-1.4			
AKBB	Malin Array Si	15.10	6	Pn		Pn	23 38 22.8	-0.7			
AKBB				IAmb	IAmb		23 38 28.5				
	comp=Z,314nm,1.4s										
ZEI	Tsey	15.15	57	*e*P		Pn	23 38 25.4	+1.0			
ZEI				pmax	pmax						
	comp=Z,188nm,1.2s										
PYA1	Pyatigorsk	15.16	52	*i* P		P	23 38 27.3	-0.6			
MOA	Molln	15.19	327	*i* Pn		Pn	23 38 25.7	+1.0			
	comp=Z,154nm,0.8s,SNR=94										
NCK	Nalchik	15.23	54	*i* P		P	23 38 27.3	-1.4			
ABTA	Abfaltersbach	15.26	321	*i* Pn		Pn	23 38 25.6	0.0			
	comp=Z,43nm,0.4s,SNR=33										
CTI	Castel Tesino	15.27	317	IAmb	IAmb		23 38 31.0				
	comp=Z,186nm,0.7s										
KRUC	Moravsky	15.29	334	*e*PN		Pn	23 38 25.1	-0.9			
KRUC	Moravsky	15.29	334	*e*S		S	23 41 28.9	+2.0			
KRUC				*e*SCS		ScS	23 50 32.7	-0.1			
OJC	Ojcow	15.31	343	*e*P		Pn	23 38 26.4	+0.2			
OKC	Ostrava-Krasne	15.40	339	*e*P		P	23 38 31.5	+1.0			
OKC				MLR	MLR						
	comp=Z,1µm,12.5s										
OKC	Ostrava-Krasne	15.40	339	*e*P		P	23 38 31.5	+1.0			
OKC				*e*S		S	23 41 32.7	+3.7			
OKC				AMS	AMS		23 44 40.0				
	comp=Z,1µm,12.5s										
VRAC	Vranov	15.43	335	P		Pn	23 38 28.7	+1.0			
	comp=Z,4.2nm,0.3s,baz=159,slow=12,SNR=38										
VRAC				LR	LR		23 44 57.5				
	comp=Z,1µm,18.4s,baz=168,slow=39										
VRAC				ScP		ScP	23 46 56.1	+1.1			
	comp=Z,0.1nm,0.3s,baz=214,slow=5.4,SNR=5.8										
VRAC	Vranov	15.43	335	⇑P		P	23 38 29.6	-1.3			
VRAC	Vranov	15.43	335	*e*PN		Pn	23 38 27.5	-0.3			
VRAC	Vranov	15.43	335	*e*S		S	23 41 33.0	+3.2			
MORC	Moravsky Berou	15.53	338	⇑P		P	23 38 31.7	-0.3			
MORC	Moravsky Berou	15.53	338	*e*PN		Pn	23 38 29.3	+0.3			
GOF	Gofitskoye	15.61	48	⇑*e*P		P	23 38 31.8	-1.1			
GOF				pmax	pmax						
	comp=Z,203nm,0.8s										
MSSA	Maissana	15.62	309			Pn	23 38 29.7	-0.5			
TREC	Trest	15.82	332	*e*P		P	23 38 34.5	-0.7			
TREC	Trest	15.82	332	*e*P		P	23 38 34.5	-0.7			
CKRC	Cesky Krumlov	15.91	329	*e*P		Pn	23 38 34.4	+0.6			
CKRC				*e*S		S	23 41 38.1	-1.4			
CKRC				AMS	AMS		23 46 10.0				
	comp=Z,1µm,14.5s										
CKRC				*e*SCP		ScP	23 46 55.5	-0.5			
CAEH	'Ain El Ouahch	15.96	280	P		P	23 38 41.0	+4.2			
KRLC	Kraliky	16.03	337	*e*P		P	23 38 36.8	-0.7			
KRLC	Kraliky	16.03	337	*e*P		P	23 38 36.8	-0.7			
KRLC				*e*S		S	23 41 42.8	+0.8			
KRLC				*e*SCP		ScP	23 46 56.1	-0.1			
WTTA	Wattenberg	16.05	321	*i* Pn		P	23 38 37.4	-0.5			
	comp=Z,90nm,0.4s,SNR=112										
CKFL	Kef-Lekhel	16.08	278	P		P	23 38 38.0	-0.3			
WATA	Walderalm	16.12	321	*i* Pn		Pn	23 38 37.6	+0.9			
	comp=Z,96nm,0.5s,SNR=178										
GEC2	GERESS Array S	16.19	328	IAmb	IAmb		23 38 42.3				
	comp=Z,284nm,0.9s										
GEC2	GERESS Array S	16.19	328	*e*P		Pn	23 38 38.5	+1.1			
	comp=Z,419nm,1.0s,baz=136,slow=11										
GEC2				*e*L	L		23 46 12.6				
	comp=Z,998nm,20.6s										
GERES	GERESS Array B	16.19	328	P		Pn	23 38 37.9	+0.5			
	comp=Z,8.7nm,0.3s,baz=144,slow=12,SNR=104										
GERES				PcP		PcP	23 43 28.7	+0.4			
	comp=Z,0.8nm,0.3s,baz=152,slow=2.1,SNR=5.5										
GERES				LR	LR		23 46 33.0				
	comp=Z,1µm,18.7s,baz=148,slow=44										
GERES				ScP		ScP	23 46 56.0	-0.6			
	comp=Z,0.3nm,0.3s,baz=132,slow=2.0,SNR=10										
GERES	GERESS Array B	16.19	328	P		Pn	23 38 36.7	-0.6			
SQTA	Sankt Quirin	16.24	320	*i* Pn		Pn	23 38 38.2	+0.1			
	comp=Z,115nm,0.4s,SNR=134										
CASM	Ain Smara	16.27	278	P		P	23 38 43.0	+2.6			
FETA	Feichten	16.37	318	*i* Pn		P	23 38 40.8	-0.7			
	comp=Z,211nm,0.9s,SNR=146										
MOTA	Mosalm	16.38	320	*i* Pn		Pn	23 38 39.9	+0.1			
	comp=Z,113nm,1.0s,SNR=83										
DPC	Dobruska-Polom	16.41	336	*e*P		P	23 38 41.4	-0.4			
DPC				MLR	MLR						
	comp=Z,1µm,18.5s										
DPC	Dobruska-Polom	16.41	336	*e*P		P	23 38 41.4	-0.4			
DPC				AMS	AMS		23 45 20.0				
	comp=Z,1µm,18.5s										
DPC				*e*SCP		ScP	23 46 57.0	0.0			
KHC	Kasperske Hory	16.46	329	*e*P		P	23 38 41.6	-0.7			
KHC				*e*S		S	23 41 47.7	-3.1			
KHC				MLR	MLR						
	comp=Z,2µm,11.3s										
KHC	Kasperske Hory	16.46	329	*e*P		P	23 38 41.6	-0.7			
KHC				*e*pP		pP	23 38 58.5	+2.2			
KHC				*e*S		S	23 41 47.7	-3.1			
KHC				AMS	AMS		23 46 40.0				
	comp=Z,2µm,11.3s										
KHC				*e*SCP		ScP	23 46 56.3	-0.8			
KHC	Kasperske Hory	16.46	329	IAmb	IAmb		23 38 45.3				
	comp=Z,241nm,0.6s										
GROC	Groznyy	16.60	57	*e*P		Pn	23 38 41.2	-1.2			
GROC				*e*S		Sn	23 41 45.1	-0.8			
GROC				pmax	pmax						
	comp=Z,145nm,0.9s										
OSTC	Ostas	16.63	336	*e*P		P	23 38 43.8	-0.3			
OSTC				*e*SCP		ScP	23 46 57.6	+0.2			
BEL	Belsk	16.64	347	*e*P		P	23 38 44.1	-0.2			
RETA	Reutte	16.64	320	*i* Pn		Pn	23 38 43.7	+0.6			
	comp=Z,55nm,0.4s,SNR=85										
UPC	Upice	16.65	336	*e*P		P	23 38 44.0	-0.4			
UPC	Upice	16.65	336	*e*P		P	23 38 44.0	-0.4			
UPC				*e*S		S	23 41 55.2	+0.5			
UPC				*e*SCP		ScP	23 46 57.8	+0.4			
DAVOX	Davos/Dischmat	16.70	317	LR	LR		23 46 16.9				
	comp=Z,648nm,18.2s,baz=100,slow=41										
CHVC	Chvalec	16.71	336	*e*P		P	23 38 44.9	-0.1			
CHVC				*e*SCP		ScP	23 46 57.4	-0.1			
PBCC	Pribram	16.71	331	*e*P		Pn	23 38 44.2	+0.3			
PBCC				*e*SCP		ScP	23 46 57.4	-0.1			
PRU	Pruhonice	16.74	332	*e*P		Pn	23 38 44.3	+0.1			
PRU				*e*S		S	23 41 54.1	-2.5			
PRU				MLR	MLR						
	comp=Z,1µm,12.0s										
PRU	Pruhonice	16.74	332	*e*P		Pn	23 38 44.3	+0.1			
PRU				*e*S		S	23 41 54.1	-2.5			
PRU				AMS	AMS		23 46 30.0				
	comp=Z,1µm,12.0s										
DFRA	Djebel Bou Aff	16.75	279	P		P	23 38 47.0	+1.3			
WET	Wettzell	16.77	327	*e*P		Pn	23 38 44.5	0.0			
	comp=Z,141nm,1.1s,baz=136,slow=11										
WET				*e*L	L		23 46 41.0				
	comp=Z,1µm,19.6s										
TUE	Stuetta	16.82	315			Pn	23 38 45.2	-0.2			
FUR	Furstenfeldbru	16.82	322	*e*P		Pn	23 38 45.1	-0.1			
	comp=Z,497nm,1.2s,baz=136,slow=11										
FUR				*e*L	L		23 46 09.0				
	comp=Z,2µm,20.9s										
KSP	Ksiaz	16.85	337	*e*P		P	23 38 46.5	0.0			
PRA	Prague	16.85	332	*e*P		P	23 38 46.4	-0.2			
PRA	Prague	16.85	332	*e*P		P	23 38 46.4	-0.2			
DAVA	Damuels	16.99	318	*i* Pn		Pn	23 38 47.6	+0.2			
	comp=Z,111nm,0.4s,SNR=94										
UBR	Ueberruh	17.11	319	*e*P		Pn	23 38 49.0	+0.1			
	baz=136,slow=11										
SET	Setif	17.16	278	P		P	23 38 55.0	+4.8			
PVCC	Panska Ves	17.17	333	*e*P		Pn	23 38 49.7	+0.2			
PVCC	Panska Ves	17.17	333	*e*P		Pn	23 38 49.7	+0.2			
PVCC				*e*SCP		ScP	23 46 58.6	+0.2			
AKT	Akhty	17.49	64	*e*P		P	23 38 54.9	+1.0			
AKT				*e*S		Sn	23 42 08.4	+0.6			
AKT				pmax	pmax						
	comp=Z,23nm,1.3s										
ROTZ	Rotzenmuhle	17.52	328	*e*P		Pn	23 38 53.7	-0.1			
	baz=136,slow=11										
BRG	Berggiesshubel	17.68	333	⇓*i*P		P	23 38 56.3	+0.5			
BRG				Amp			23 38 59.5				
	comp=Z,256nm,1.1s										
BRG				S		S	23 42 14.0	-0.9			
BRG				⇑PP		PcP	23 43 28.7	-1.8			
BRG				Amp			23 43 32.1				
	comp=Z,14nm,1.2s										
BRG				⇑SP		ScP	23 46 59.4	-0.1			
BRG

MNK *i* LRM MLR 23 47 34.7
comp=N,641nm,20.0s
UMR Umm Al-Rimmam 18.82 103 *e*P 23 39 06.2
MILB Miltenberg 18.91 324 *e*P **P 23 39 09.3 +0.1**
baz=136,slow=11
VRH Novokhopyorsk 18.93 30 *e*P **Pn 23 39 10.2 -0.5**
VRH *e*S **S 23 42 31.6 -8.9**
VRH pmax pmax
comp=Z,230nm,0.6s
VRH smax smax
comp=N,1µm,10.0s
RDF Al-Radifah 18.95 105 *e*P 23 39 08.8
LPSR Galich'ya Gora 19.02 24 *e*P **P 23 39 10.2 -0.2**
LPSR *e*S **S 23 42 36.3 -6.1**
LPSR pmax pmax
comp=Z,220nm,1.3s
LPSR smax smax
comp=E,730nm,9.1s
RUE Ruedersdorf 19.07 335 *e*P **P 23 39 10.3 -0.5**
baz=136,slow=11
NACGM Naroch 19.19 0 *i*P **P 23 39 12.0 -0.2**
NACGM *i*P **P 23 39 12.0 -0.2**
NACGM *i*P **P 23 39 12.0 -0.2**
NACGM *i*Pb **Pn 23 39 13.9 +0.1**
comp=Z,125nm,0.8s
NACGM *i*S **S 23 42 45.7 -0.2**
NACGM *i*LQ LQ 23 45 06.2
NACGM *i*LR LR 23 46 12.1
SSB Saint Sauveur 19.24 306 IAmb IAmb 23 39 14.7
comp=Z,236nm,1.0s
UBBA Unterbreizbach 19.26 327 *e*P **P 23 39 13.0 0.0**
baz=136,slow=11
QRN Al-Qurain 19.32 105 *e*P 23 39 12.7
TNS Taunus Mts 19.58 323 *e*P **P 23 39 17.0 +0.4**
baz=136,slow=11
TNS *e*L L 23 47 54.1
comp=Z,950nm,21.6s
IDID Didziasalis 19.60 0 *e*P **P 23 39 16.5 -0.2**
IDID IAmb IAmb 23 39 34.9
comp=Z,34nm,0.9s
IIGN Ignalina 19.64 359 *e*P **P 23 39 17.0 -0.1**
IIGN IAmb IAmb 23 39 22.2
comp=E,85nm,0.5s
LNIZ Loecknitz 19.79 338 *e*P **P 23 39 16.5 -2.2**
baz=136,slow=11
GTTG Gottingen 19.80 328 *e*P **P 23 39 19.2 +0.3**
baz=136,slow=11
CLZ Clausthal 19.85 329 *e*P **P 23 39 18.8 -0.7**
baz=136,slow=11
ISAL Salakas 19.86 359 *e*P **P 23 39 19.4 -0.1**
FLTG Flechtingen 19.87 331 *e*P **P 23 39 18.6 -1.1**
baz=136,slow=11
PABE Paberze 19.88 356 *e*P **P 23 39 19.4 -0.2**
ASSE Asse, Remlinge 19.94 330 *e*P **P 23 39 19.7 -0.7**
baz=136,slow=11
KASTN Kahler Asten 20.25 325 *e*P **P 23 39 23.6 -0.3**
baz=136,slow=11
EBNR Beni Rached 20.26 279 P **P 23 39 24.3 +0.2**
WLF Walferdange 20.40 319 *b*P **P 23 39 25.8 +0.4**
comp=Z,178nm,1.3s
WLF Walferdange 20.40 319 P **P 23 39 25.1 -0.3**
WLF pmax pmax
comp=Z,159nm,0.9s
WLF Walferdange 20.40 319 P **P 23 39 25.1 -0.3**
WLF IAmb IAmb 23 39 27.1
comp=Z,158nm,0.9s
WLF Walferdange 20.40 319 *e*P **P 23 39 25.8 +0.4**
baz=136,slow=11
RAYN Ar Rayn 20.41 121 *i*P Pn 23 39 27.2 -1.3
SNR=125
RAYN Ar Rayn 20.41 121 P **P 23 39 26.4 +0.6**
RAYN pmax pmax
comp=Z,213nm,1.5s
RAYN Ar Rayn 20.41 121 P **P 23 39 26.4 +0.6**
ECHA Ech Chlef 20.41 279 P **P 23 39 25.6 0.0**
AHRW Bad Neuenahr-A 20.46 322 *e*P **P 23 39 26.4 +0.3**
baz=136,slow=11
ETRT Tiaret 20.56 277 P **P 23 39 24.9 -2.5**
PBUR Paburge 20.56 353 *e*P **P 23 39 27.1 +0.1**
OBN Obninsk 20.59 16 P **P 23 39 27.0 -0.3**
comp=Z,27nm,0.4s,baz=336,slow=1.0,SNR=23
OBN S **S 23 43 10.8 -2.7**
comp=Z,6.7nm,0.9s,baz=166,slow=23,SNR=5.6
OBN ScP **ScP 23 47 05.2 -0.6**
comp=Z,2.7nm,0.6s,baz=208,slow=23,SNR=3.8
OBN LR LR 23 48 09.0
comp=Z,184nm,21.7s,baz=202,slow=39
OBN Obninsk 20.59 16*ce*P **P 23 39 25.7 -1.7**
OBN *e* 23 39 46.7
OBN *i*S **S 23 43 10.5 -3.0**
OBN *e*SS **SnSn 23 43 39.5 +1.8**
OBN pmax pmax
comp=Z,228nm,1.2s
OBN MLR MLR
comp=Z,769nm,21.0s
OBN Obninsk 20.59 16 P **P 23 39 26.4 -0.9**
OBN IAmb IAmb 23 39 31.6
comp=Z,226nm,1.2s
EANR 'Ain N'Sour 20.65 278 P **P 23 39 27.8 -0.5**
BHOU Houvegnez 20.88 321 *d*P **P 23 39 30.7 +0.1**
comp=Z,145nm,1.2s
BUG Bochum-Univer 20.94 325 *e*P **P 23 39 30.9 -0.3**
baz=136,slow=11
BTNL Ternell 20.96 321 *b*P **P 23 39 31.8 +0.3**
comp=Z,254nm,1.4s
RGN Rugen 20.96 338 P **P 23 39 30.6 -0.7**
BSD Bornholm Skovb 21.00 341 *i*P **P 23 39 30.1 -1.7**
comp=Z,32nm,0.6s
BSD Bornholm Skovb 21.00 341 *e*P **P 23 39 30.6 -1.2**
BSD Bornholm Skovb 21.00 341 *i*P **P 23 39 30.1 -1.7**
BSD Bornholm Skovb 21.00 341 *i*P **P 23 39 28.0 -3.8**
BSD *i*P **P 23 39 30.1 -1.7**
BSD IAmb IAmb 23 39 31.6
comp=Z,32nm,0.6s
MEM Membach 21.04 321 *b*P **P 23 39 32.8 +0.5**
comp=Z,256nm,1.2s
RCHB Rochefort 21.17 320 *d*P **P 23 39 33.5 -0.2**
comp=Z,109nm,0.9s
BSTI Sart Tilman 21.25 321 *b*P **P 23 39 35.4 +0.9**
comp=Z,90nm,1.6s
BCLA Clavier 21.29 320 *b*P **P 23 39 35.3 +0.4**
comp=Z,232nm,1.4s
IBBN Ibbenburen 21.31 327 *e*P **P 23 39 34.5 -0.6**
baz=136,slow=11
BEBN Eben Emael 21.32 321 *d*P **P 23 39 35.5 +0.3**
BGES Gesves 21.38 320 *b*P **P 23 39 36.0 +0.1**
comp=Z,148nm,1.2s
MOS Moscow 21.41 17 *e*P **P 23 39 31.3 -4.9**
MOS *e* 23 39 57.6
MOS *e*S **S 23 43 25.2 -4.6**
MOS *e* 23 43 45.9
MOS *e* 23 50 47.8
MOS pmax pmax
comp=Z,107nm,1.4s
MOS MLR MLR
comp=Z,600nm,17.0s
BSEG Bad Segeberg 21.47 333 *e*P **P 23 39 36.2 -0.6**
baz=136,slow=11
BSEG *e*L L 23 49 31.3
comp=Z,717nm,19.9s
DOU Dourbes 21.48 319 *d*P **P 23 39 36.8 -0.2**
comp=Z,169nm,1.0s
BMRD Maredsous 21.50 319 *d*P **P 23 39 37.0 -0.2**
comp=Z,99nm,1.1s
ODJA Bouhanifia 21.74 277 P **P 23 39 41.0 +1.0**
SNF Seneffe 21.87 319 *d*P **P 23 39 41.1 -0.1**
comp=Z,244nm,1.3s
LLD Lille Linde 21.97 338 *i*P **P 23 39 42.7 +0.6**
LLD Lille Linde 21.97 338 *i*P **P 23 39 42.7 +0.6**
LLD Lille Linde 21.97 338 *i*P **P 23 39 42.7 +0.6**
UCC Uccle 22.00 320 *b*P **P 23 39 42.5 0.0**
comp=Z,247nm,1.1s
UCC Uccle 22.00 320 P **P 23 39 42.3 -0.2**
UCC pmax pmax
comp=Z,318nm,1.0s
UCC Uccle 22.00 320 P **P 23 39 42.3 -0.2**
UCC IAmb IAmb 23 39 44.7
comp=Z,318nm,1.0s
USTO Oran 22.00 278 P P 23 39 53.0 +10
SLIT Slitere, Latvi 22.11 354 *e*P **P 23 39 41.8 -1.9**
CART Cartagena 22.18 283 P **P 23 39 41.8 -2.8**
CART S **S 23 43 43.4 -1.2**
COP Copenhagen 22.20 339 *i*P **P 23 39 42.5 -2.1**
comp=Z,63nm,1.0s
COP Copenhagen 22.20 339 *i*P **P 23 39 42.5 -2.1**
COP IAmb IAmb 23 39 45.0
comp=Z,63nm,1.0s
TAM Tamanrasset 22.38 241 P **P 23 39 47.6 +0.6**
TAM pmax pmax
comp=Z,76nm,1.1s
TAM Tamanrasset 22.38 241 P **P 23 39 47.6 +0.6**
BELG Belogornoye 22.38 35 P **P 23 39 46.1 -0.5**
comp=Z,101nm,0.3s,baz=262,slow=0.5,SNR=155
BELG S **S 23 43 45.1 -2.7**
comp=Z,76nm,0.8s,baz=349,slow=23,SNR=15
BELG LR LR 23 51 02.4
comp=Z,334nm,19.5s,baz=233,slow=43
VSU Vasula 22.76 0 *e*P **P 23 39 49.9 -0.7**
VSU Vasula 22.76 0*c i*P **P 23 39 49.4 -1.2**
VSU pmax pmax
comp=Z,62nm,1.0s
MTSE Matsula 23.09 356 *e*P **P 23 39 53.3 -0.5**
MUD Monsted U'grnd 23.87 336 *i*P **P 23 39 59.3 -1.8**
comp=Z,175nm,1.9s
MUD Monsted U'grnd 23.87 336 *i*P **P 23 39 59.3 -1.8**
MUD Monsted U'grnd 23.87 336 *i*P **P 23 39 59.3 -1.8**
MUD IAmb IAmb 23 40 00.8
comp=Z,175nm,1.9s
UCM Universidad Co 23.88 290 P **P 23 40 00.4 -1.0**
UCM S **S 23 44 13.5 +0.9**
ELSH Elham, Standar 23.90 318 *e*P **P 23 40 01.0 -0.4**
ELSH IAmb IAmb 23 40 03.4
comp=Z,327nm,0.9s
PUL Pulkovo 24.20 5*ce*P **P 23 40 04.3 +0.3**
PUL pmax pmax
comp=Z,101nm,0.5s
HMNX Herstmonceux 24.20 317 *e*P **P 23 40 03.2 -0.9**
ESBB Sonseca Array 24.43 288 IAmb IAmb 23 40 08.1
comp=Z,204nm,0.8s
ESDC Sonseca Array 24.43 288 P **P 23 40 06.7 +0.3**
comp=Z,148nm,0.8s,baz=81,slow=9.7,SNR=869
ESDC PcP **PcP 23 43 44.4 +0.7**
comp=Z,5.2nm,1.0s,baz=75,slow=1.8,SNR=4.4
ESDC ScP **ScP 23 47 17.3 +1.0**
comp=Z,3.0nm,0.8s,baz=54,slow=2.6,SNR=13
ESDC LR LR 23 49 45.4
comp=Z,223nm,21.8s,baz=90,slow=37
ESDC Sonseca Array 24.43 288 P **P 23 40 06.5 0.0**
PAB San Pablo 24.73 288 P **P 23 40 09.6 +0.4**
PAB pmax pmax
comp=Z,148nm,1.2s
PAB San Pablo 24.73 288 P **P 23 40 09.6 +0.4**
PAB IAmb IAmb 23 40 11.1
comp=Z,148nm,1.1s
AAL Aland 24.85 352 *e*P **P 23 40 08.9 -1.0**
UPP Uppsala 24.85 349 *e*P **P 23 40 08.9 -1.0**
JSA Saint Aubin 24.95 312 *e*P **P 23 40 09.6 -1.4**
JSA IAmb IAmb 23 40 11.9
comp=Z,193nm,1.0s
JVM Valle D.L. Mar 24.98 312 *e*P **P 23 40 11.0 -0.2**
EMAL Malaga-Limoner 24.98 282 P **P 23 40 08.9 -2.5**
EMAL S **S 23 44 34.8 +4.6**
WACR West Acre 24.99 321 *e*P **P 23 40 09.9 -1.5**
WACR IAmb IAmb 23 40 13.4
comp=Z,294nm,0.9s
JRN Qarnain Island 25.02 108 P **P 23 40 13.3 +1.5**
SNR=20
PVLZ Peæn de 25.12 278 P **P 23 40 11.8 -0.8**
PVLZ S **S 23 44 35.3 +2.9**
GEYT Alibeck 25.28 76 P **P 23 40 15.3 +1.1**
comp=Z,105nm,0.4s,baz=268,slow=16,SNR=132
GEYT S **S 23 44 39.1 +4.0**
comp=Z,1.3nm,0.6s,baz=207,slow=1.7,SNR=1.4
GEYT Alibeck 25.28 76 P **P 23 40 15.0 +0.8**
GEYT IAmb IAmb 23 40 17.9
comp=Z,127nm,0.6s
ASHT Ashkhabad 25.49 75 P **P 23 40 18.2 +2.1**
ASHT pmax pmax
comp=Z,331nm,0.9s
ASHT Ashkhabad 25.49 75 P **P 23 40 18.2 +2.1**
HOMB Hombersund 25.55 338 *e*P **P 23 40 14.8 -1.5**
HOMB Hombersund 25.55 338 *i*P **P 23 40 10.9 -5.4**
SWN1 Swindon 25.69 317 *e*P **P 23 40 17.2 -0.5**
SWN1 IAmb IAmb 23 40 20.1
comp=Z,574nm,1.1s
LIJA Lijar 25.74 282 *e*P **P 23 40 17.5 -0.9**
FINES FINESS Array B 25.75 359 P **P 23 40 17.1 -1.1**
comp=Z,15nm,0.4s,baz=158,slow=10,SNR=208
FINES PcP **PcP 23 43 46.8 +0.7**
comp=Z,4.7nm,0.4s,baz=149,slow=1.2,SNR=4.9
FINES S **S 23 44 36.8 -5.1**
comp=Z,4.1nm,0.6s,baz=152,slow=8.6,SNR=1.9
FINES ScP **ScP 23 47 19.0 -0.5**
comp=Z,5.9nm,0.8s,baz=168,slow=4.2,SNR=5.5
FINES PKiKP **PKiKP 23 51 25.8 +0.1**
comp=Z,0.6nm,0.4s,baz=146,slow=4.0,SNR=8.2
FINES LR LR 23 51 42.9
comp=Z,186nm,18.4s,baz=172,slow=39
FIA1 FINESS Array S 25.75 359 P **P 23 40 17.6 -0.5**
HFS Hagfors 25.82 345 P **P 23 40 17.6 -1.2**
comp=Z,23nm,0.4s,baz=134,slow=11,SNR=155
HFS LR LR 23 51 47.4
comp=Z,1µm,21.4s,baz=157,slow=39
CEU Ceuta 25.86 280 P **P 23 40 13.1 -6.2**
MDT Midelt 25.88 273 P **P 23 40 20.6 +0.9**
comp=Z,77nm,0.9s,baz=96,slow=11,SNR=47
CWF Charnwood Fore 26.01 320 *e*P **P 23 40 18.8 -1.7**
CWF IAmb IAmb 23 40 22.1
comp=Z,169nm,1.0s
STRD Stroud 26.01 317 *e*P **P 23 40 19.6 -1.0**
STRD IAmb IAmb 23 40 23.4
comp=Z,223nm,0.9s
SNART Snartemo 26.02 336 *e*P **P 23 40 20.3 -0.2**
SNART Snartemo 26.02 336 *i*P **P 23 40 15.3 -5.2**
IFR Ifrane 26.13 274 P **P 23 40 20.4 -1.6**
IFR S **S 23 44 46.0 -2.9**
OLDB Oldbury-Upon-S 26.18 317 *e*P **P 23 40 21.3 -0.7**
OSL Oslo 26.33 342 *e*P **P 23 40 22.1 -1.2**
CNIL Conil 26.33 281 *e*P **P 23 40 24.0 +0.4**
KONO Kongsberg 26.38 340*ce*P **P 23 40 21.1 -2.7**
KONO pmax pmax
comp=Z,22nm,1.3s
KONO Kongsberg 26.38 340 P **P 23 40 22.2 -1.6**
KONO Kongsberg 26.38 340 *e*P **P 23 40 22.9 -0.8**
MONM Monmouth 26.40 317 *e*P **P 23 40 23.1 -1.0**
MONM IAmb IAmb 23 40 26.5
comp=Z,114nm,0.9s
SFS San Fernando 26.44 281 P **P 23 40 24.1 -0.5**
SFS pmax pmax
comp=Z,294nm,1.0s
SFS San Fernando 26.44 281 P **P 23 40 24.1 -0.5**
DYA Yadsworthy 26.47 313 *e*P **P 23 40 23.9 -0.9**
KLMR Klimovskoe 26.49 14 *e*P **P 23 40 22.4 -2.3**
KLMR *e*S **S 23 44 50.7 -2.8**
KLMR pmax pmax
comp=Z,35nm,0.7s
KLMR Klimovskoe 26.49 14 *e*P **P 23 40 22.5 -2.3**
KLMR AMP 23 40 28.7
comp=Z,35nm,0.7s
KLMR *e*S **S 23 44 50.8 -2.8**
KLMR *e*S **S 23 44 50.8 -2.8**
KLMR LQ LQ 23 48 43.7
KLMR LQ LQ 23 48 43.7
KLMR LR LR 23 50 04.3
LBWR Ladybower, Pea 26.56 321 *e*P **P 23 40 24.1 -1.4**
LBWR IAmb IAmb 23 40 26.0
comp=Z,124nm,1.2s
PBRG Braganca 26.57 293 *e*P **P 23 40 26.3 +0.5**
comp=Z,246nm,1.1s
MCH1 Michaelchurch 26.58 317 *e*P **P 23 40 24.2 -1.4**
MCH1 IAmb IAmb 23 40 27.7
comp=Z,53nm,1.0s
GDLE Glaisdale, N Y 26.64 323 *e*P **P 23 40 25.4 -0.9**
GDLE IAmb IAmb 23 40 28.0
comp=Z,83nm,0.6s
STNC Stoke 26.66 320 *e*P **P 23 40 26.2 -0.2**
STNC IAmb IAmb 23 40 26.9
comp=Z,179nm,1.0s
HLM1 Long Mynd 26.75 318 *e*P **P 23 40 25.6 -1.6**
HLM1 IAmb IAmb 23 40 26.9
comp=Z,71nm,1.1s
MVO Moncorvo 26.77 292 *e*P **P 23 40 28.4 +0.7**
comp=Z,307nm,1.0s
MVO *e*LR LR 23 45 27.1
comp=Z,338nm,18.0s
HPK Haverah Park 26.79 322 *e*P **P 23 40 25.8 -1.8**
HPK IAmb IAmb 23 40 29.7
comp=Z,100nm,1.0s
NC602 NORSAR Array S 26.83 344 P **P 23 40 26.0 -1.9**
NC602 IAmb IAmb 23 41 06.3
comp=Z,227nm,1.6s
NC602 NORSAR Array S 26.83 344 *e*P **P 23 40 26.4 -1.5**
AJN Ajban 26.87 107 P **P 23 40 29.4 +0.8**
AJN Ajban 26.87 107 P **P 23 40 31.2 +2.6**
SNR=7.0
PBAR Barrancos 26.90 285 *e*P **P 23 40 29.0 +0.3**
comp=Z,207nm,1.3s
AKTO Aktyubinsk 27.02 47 P **P 23 40 29.9 +0.2**
comp=Z,22nm,0.7s,baz=252,slow=8.3,SNR=54
AKTO ScP **ScP 23 47 22.8 -0.7**
comp=Z,2.6nm,0.5s,baz=154,slow=4.6,SNR=4.7
AKTO Aktyubinsk 27.02 47 P **P 23 40 30.0 +0.2**
SHME Shamm 27.05 103 *i*P **P 23 40 30.2 0.0**
SNR=12
SHME Shamm 27.05 103 P **P 23 40 32.1 +1.9**
SNR=7.3
SHME P **P 23 40 32.1 +1.9**
SNR=7.3
PMRV Marv??o 27.09 288 *e*P **P 23 40 30.2 -0.2**
comp=Z,118nm,1.0s
PMRV *e*LR LR 23 45 29.6
comp=Z,170nm,20.0s
FOEL Foel Wylfa 27.09 319 *e*P **P 23 40 29.0 -1.3**
FOEL IAmb IAmb 23 40 32.6
comp=Z,130nm,1.1s
ASUD Al Ashush, Dub 27.11 106 *i*P **P 23 40 31.5 +0.8**
SNR=17
ASUD Al Ashush, Dub 27.11 106 P **P 23 40 33.1 +2.4**
SNR=11
BLS5 Blasjo 27.11 337 *e*P **P 23 40 29.4 -1.0**
PCBR Castelo Branco 27.13 289 *e*P **P 23 40 30.5 -0.3**
comp=Z,97nm,1.3s
MTE Manteigas 27.17 290 *e*P **P 23 40 31.4 +0.2**
comp=Z,104nm,1.7s
MTE *e*LR LR 23 45 23.8
comp=Z,274nm,18.0s
MTE Manteigas 27.17 290 P **P 23 40 31.1 -0.1**
NB201 NORSAR Array S 27.17 344 P **P 23 40 29.4 -1.5**
NB2 NORSAR Subarra 27.18 344 P **P 23 40 29.3 -1.7**
comp=Z,3.6nm,0.4s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.18 344 P **P 23 40 29.3 -1.7**
baz=156,slow=9.3
NOA NORSAR Array B 27.18 344 P **P 23 40 29.5 -1.5**
comp=Z,2.2nm,0.4s,baz=24,slow=21,SNR=35
NOA PcP **PcP 23 43 49.4 -0.2**
comp=Z,1.1nm,0.5s,baz=136,slow=3.1,SNR=2.3
NOA ScP **ScP 23 47 22.4 -1.3**
comp=Z,4.2nm,0.7s,baz=136,slow=3.3,SNR=6.4
NOA LR LR 23 52 47.7
comp=Z,645nm,20.5s,baz=155,slow=40
NAZ Nazwa, Dubai 27.18 105 *i*P **P 23 40 32.1 +0.6**
SNR=65
NAZ Nazwa, Dubai 27.18 105 P **P 23 40 33.0 +1.6**
SNR=19
BANOM Banah 27.24 103 *i*P **P 23 40 32.3 +0.4**
SNR=29
BANOM Banah 27.24 103 P **P 23 40 34.0 +2.1**
SNR=11
FAQ Al Faqa, Dubai 27.25 106 *i*P **P 23 40 32.4 +0.4**
SNR=6.2
FAQ Al Faqa, Dubai 27.25 106 P **P 23 40 34.0 +2.0**
SNR=8.7
PESTR Estremoz 27.27 287 P **P 23 40 31.6 -0.5**
PVRL Vila Real 27.29 292 *e*P **P 23 40 32.4 +0.1**
comp=Z,95nm,1.3s
KMY Karmoy 27.34 336 *e*P **P 23 40 30.6 -1.8**
POLO Lamas de Olo 27.35 292 *e*P **P 23 40 33.4 +0.5**
comp=Z,43nm,1.3s
MASF Masafi 27.39 104 P **P 23 40 35.5 +2.2**
SNR=8.3
KIRV Kirov 27.39 26 P **P 23 40 32.3 -0.6**
comp=Z,33nm,0.4s,baz=237,slow=4.2,SNR=34
KIRV S **S 23 45 04.4 -3.3**
comp=Z,23nm,0.6s,baz=103,slow=23,SNR=13
KIRV ScP **ScP 23 47 24.0 -0.4**
comp=Z,20nm,0.7s,baz=96,slow=1.3,SNR=5.0
MSFE Esma-Masafi 27.39 104 *i*P **P 23 40 33.5 +0.1**
SNR=16
EDMD Edmundbyers 27.43 323 *e*P **P 23 40 31.8 -1.5**
PVIS Viseu 27.43 291 *e*P **P 23 40 34.2 +0.7**
comp=Z,119nm,1.1s
ODD1 Odda 27.45 338 *e*P **P 23 40 32.5 -0.9**
NC204 NORSAR Array S 27.49 343 IAmb IAmb 23 40 45.0
comp=Z,125nm,1.1s
PVAQ Vaqueiros 27.52 284 *e*P **P 23 40 34.3 0.0**
comp=Z,268nm,1.5s
PVAQ *e*LR LR 23 45 59.5
comp=Z,138nm,18.0s
MDH Madha 27.53 104 *i*P **P 23 40 34.5 0.0**
SNR=14
MDH Madha 27.53 104 P **P 23 40 36.0 +1.4**
SNR=10
MDH P **P 23 40 36.0 +1.4**
SNR=10
PCAB Cabril 27.53 293 *e*P **P 23 40 34.7 +0.3**
comp=Z,105nm,1.7s
RSBS Rosebush, Pemb 27.54 316 *e*P **P 23 40 33.5 -0.8**
PBEJ Beja 27.56 285 *e*P **P 23 40 35.3 +0.6**
comp=Z,54nm,1.0s
SKAR Skarslia 27.60 341 *e*P **P 23 40 34.1 -0.7**
EVO Evora 27.63 286 P **P 23 40 37.5 +2.2**
EVO Evora 27.63 286 *e*P **P 23 40 35.6 +0.3**
comp=Z,78nm,1.1s
UOSS Minazif 27.63 105 *i*P **P 23 40 35.4 -0.1**
SNR=34
UOSS Minazif 27.63 105 P **P 23 40 35.3 -0.1**
UOSS IAmb IAmb 23 40 36.8
comp=Z,105nm,1.2s
HATD Hatta, Dubai 27.64 105 *i*P **P 23 40 35.8 +0.3**
SNR=43
HATD Hatta, Dubai 27.64 105 P **P 23 40 36.0 +0.5**
SNR=22
ASHO Ashiyiah 27.65 105 *i*P **P 23 40 35.5 -0.1**
SNR=63
ASHO Ashiyiah 27.65 105 P **P 23 40 36.0 +0.4**
SNR=21
PBDV Barranco-do-Ve 27.70 283 *e*P **P 23 40 36.3 +0.3**
comp=Z,313nm,1.3s
PGAV Gavieira, Arco 27.72 294 *e*P **P 23 40 37.0 +0.8**
comp=Z,50nm,1.6s
YLL Llanberis 27.73 319 *e*P **P 23 40 34.4 -1.6**
ALNE Al Ain 27.73 107 *i*P **P 23 40 36.7 +0.4**
SNR=46
ALNE Al Ain 27.73 107 P **P 23 40 36.9 +0.6**
SNR=30
PCVE Castro Verde 27.74 284 *e*P **P 23 40 36.2 -0.1**
comp=Z,102nm,1.7s
PMTG Montargil 27.75 287 *e*P **P 23 40 36.0 -0.4**
comp=Z,77nm,1.2s
ABKAR Akbulak array 27.83 51 P **P 23 40 37.0 +0.1**
COI Coimbra 27.84 290 *e*P **P 23 40 37.8 +0.7**
comp=Z,147nm,1.1s
COI Coimbra 27.84 290 IAmb IAmb 23 40 38.5
comp=Z,101nm,0.9s
MESJ Messejana 27.86 285 *e*P **P 23 40 37.0 -0.3**
MESJ IAmb IAmb 23 40 39.0
comp=Z,175nm,1.2s
MESJ *e*S **S 23 45 15.6 -0.1**
MESJ Messejana 27.86 285 *e*P **P 23 40 37.0 -0.3**
MESJ *e*S **S 23 45 15.5 -0.1**
MESJ Messejana 27.86 285 *e*P **P 23 40 37.4 +0.1**
comp=Z,155nm,1.3s
KESW Keswick, Cumbr 27.86 322 *e*P **P 23 40 36.3 -0.8**
KESW IAmb IAmb 23 40 40.4
comp=Z,113nm,1.0s
PCAS Casmilo, Conde 27.91 290 *e*P **P 23 40 37.9 +0.1**
comp=Z,86nm,1.2s
WME Myndd Eilian 27.91 319 *e*P **P 23 40 36.6 -1.0**
WLF1 Llynfaes 27.91 319 *e*P **P 23 40 36.7 -0.9**
PTO Porto 27.96 292 *e*P **P 23 40 39.5 +1.3**
comp=Z,160nm,1.3s
YRC Rhoscolyn 27.99 319 *e*P **P 23 40 36.5 -1.7**
WPS Cemaes, Angles 28.02 319 *e*P **P 23 40 37.5 -1.0**
WPS IAmb IAmb 23 40 42.7
comp=Z,60nm,1.3s
PNCL Nicolau / Gran 28.07 285 *e*P **P 23 40 39.7 +0.5**
comp=Z,132nm,1.6s
PSBE So Bento 28.16 288 *e*P **P 23 40 40.8 +0.7**
comp=Z,80nm,1.1s
BER Bergen 28.22 338 *e*P **P 23 40 39.5 -0.7**
MORF Marmelete 28.27 284 *e*P P 23 40 46.3 +5.3
comp=Z,62nm,1.7s
EKA Eskdalemuir Ar 28.27 323 P **P 23 40 40.0 -0.8**
comp=Z,15nm,0.4s,baz=119,slow=10,SNR=186
EKA PcP **PcP 23 43 53.1 +0.8**

comp=Z,4.5nm,0.5s,baz=117,slow=2.7,SNR=11
EKA ScP **ScP** **23 47 27.1 -0.1**
comp=Z,6.9nm,0.6s,baz=123,slow=4.3,SNR=27
EKA LR LR 23 54 23.5
comp=Z,227nm,19.6s,baz=110,slow=42
ESK **Eskdalemuir** **28.29 323** *e*P **P** **23 40 39.7 -1.2**
ESK **Eskdalemuir** **28.29 323** P **P** **23 40 40.2 -0.7**
ESK pmax pmax
comp=Z,43nm,0.7s
ESK **Eskdalemuir** **28.29 323** P **P** **23 40 40.2 -0.7**
PTEO **Sao Teotonio** **28.29 284** *e*P **P** **23 40 41.6 +0.4**
comp=Z,198nm,1.5s
SOHO **SOHO** **28.30 106** *i* P **P** **23 40 41.4 +0.1**
SNR=23
ESY **Stoneypath** **28.33 325** *e*P **P** **23 40 40.9 -0.4**
ASK **Askoy** **28.34 338** *e*P **P** **23 40 40.4 -0.9**
PFVI **Vila Bisbo** **28.43 283** *e*P **P** **23 40 43.1 +0.7**
comp=Z,138nm,1.6s
PFVI **Vila Bisbo** **28.43 283** P **P** **23 40 42.4 0.0**
IOMK **Kirk Michael** **28.45 320** *e*P **P** **23 40 41.3 -1.1**
IOMK IAmb IAmb 23 40 42.7
comp=Z,294nm,1.1s
EBL **Broad Law** **28.45 324** *e*P **P** **23 40 41.1 -1.3**
WIM **Isle of Man** **28.45 320** *e*P **P** **23 40 41.8 -0.7**
LIS **Lisbon** **28.50 287** *e*P **P** **23 40 42.8 -0.3**
LIS IAmb IAmb 23 40 45.2
comp=Z,143nm,0.9s
LIS **Lisbon** **28.50 287** *e*P **P** **23 40 42.7 -0.3**
LIS **Lisbon** **28.50 287** *e*P **P** **23 40 44.5 +1.5**
comp=Z,235nm,1.2s
PMST **Lisbon--Monsan** **28.52 287** *e*P **P** **23 40 44.4 +1.2**
comp=Z,227nm,1.2s
DOMB **Dombas** **28.56 343** *e*P **P** **23 40 42.8 -0.5**
PMAFR **Mafra** **28.58 287** *e*P **P** **23 40 44.4 +0.6**
comp=Z,164nm,1.1s
HYA **Hoyanger** **28.59 339** *e*P **P** **23 40 43.5 0.0**
EDI **Edinburgh** **28.60 324** *e*P **P** **23 40 42.8 -0.9**
EDI IAmb IAmb 23 40 43.6
comp=Z,80nm,0.5s
PRGR **Permogore** **28.61 19**⇑ *i*P **P** **23 40 42.3 -1.3**
PRGR *i* S **S** **23 45 23.4 -3.4**
PRGR pmax pmax
comp=Z,68nm,1.5s
NEWG **New Galloway** **28.69 322** *e*P **P** **23 40 43.4 -1.2**
NEWG IAmb IAmb 23 40 44.5
comp=Z,74nm,1.3s
ARQ **Araqi** **28.71 107** P **P** **23 40 46.0 +0.9**
SNR=24
GAL1 **Galloway** **28.81 321** *e*P **P** **23 40 44.4 -1.2**
GAL1 IAmb IAmb 23 40 45.7
comp=Z,153nm,1.3s
DRUM **Mains of Drumt** **28.83 326** *e*P **P** **23 40 44.2 -1.5**
FURI **Furi** **28.89 155** P **P** **23 40 49.3 +2.3**
SUE **Sulen** **28.92 335** *e*P **P** **23 40 45.8 -0.6**
DSB **Dublin** **28.97 318** P **P** **23 40 46.5 -0.5**
HRA **Herat** **29.13 82** P **P** **23 40 49.6 +0.6**
PGBU **Glenifferbraes** **29.17 323** *e*P **P** **23 40 47.6 -1.1**
HOQ **Hoqain** **29.19 106** P **P** **23 40 50.0 +0.6**
SNR=17
AKN **Aaknes** **29.20 341** *e*P **P** **23 40 48.3 -0.7**
FOO **Floro** **29.27 339** *e*P **P** **23 40 48.1 -1.4**
INVG **Invergeldie, C** **29.28 325** *e*P **P** **23 40 48.1 -1.6**
INVG IAmb IAmb 23 40 49.2
comp=Z,20nm,0.6s
EAB **Aberfoyle** **29.29 324** *e*P **P** **23 40 48.2 -1.6**
TBLU **Trondheim** **29.35 345** *e*P **P** **23 40 49.2 -1.0**
MOL **Molde** **29.39 342** *e*P **P** **23 40 49.0 -1.5**
BSY **Bisya** **29.55 108** P **P** **23 40 53.0 +0.5**
SNR=35
MCD **Coleburn Disti** **29.55 327** *e*P **P** **23 40 50.3 -1.8**
CLGH **Cloghs, Cushen** **29.62 321** *e*P **P** **23 40 52.2 -0.6**
DOK **Doka** **29.70 118** P **P** **23 40 54.2 +0.4**
SNR=18
LAWE **Loch Awe, Argy** **29.84 324** *e*P **P** **23 40 53.8 -0.8**
BIDO **Bidbid** **29.86 105** P **P** **23 40 56.0 +0.7**
SNR=7.5
WHFO **Wadi Hawf** **29.90 119** P **P** **23 40 57.0 +1.4**
SNR=14
ARU **Arti** **29.92 36** P **P** **23 40 55.8 +0.4**
comp=Z,14nm,0.4s,baz=233,slow=7.3,SNR=73
ARU S **S** **23 45 45.6 -2.1**
comp=Z,2.4nm,0.5s,baz=39,slow=22,SNR=2.4
ARU ScP **ScP** **23 47 32.2 -0.2**
comp=Z,2.7nm,0.6s,baz=210,slow=9.6,SNR=3.3
ARU **Arti** **29.92 36** P **P** **23 40 55.0 -0.4**
ARU IAmb IAmb 23 40 56.8
comp=Z,39nm,0.4s
ABTO **Aybut** **29.94 121** P **P** **23 40 57.0 +0.9**
SNR=21
SMDO **Samad** **30.05 106** P **P** **23 40 57.0 0.0**
SNR=27
NSS **Namsos** **30.17 347** *e*P **P** **23 40 56.5 -1.0**
LRW **Lerwick** **30.28 332** *e*P **P** **23 40 57.1 -1.4**
WSAR **Wadi Sarin** **30.41 105** P **P** **23 41 00.1 +0.1**
comp=Z,6.9nm,0.4s,baz=291,slow=8.9,SNR=38
KAC **Achnashellach** **30.43 326** *e*P **P** **23 40 58.1 -1.8**
JMDO **Jabal Madar** **30.46 107** P **P** **23 41 01.0 +0.5**
SNR=13
RBK **Rabkut** **30.48 119** P **P** **23 41 02.0 +1.2**
SNR=27
DMTO **DMTO** **30.87 118** P **P** **23 41 05.0 +0.8**
SNR=18
WBK **Wadi Bani Khal** **31.00 106** P **P** **23 41 08.0 +2.6**
SNR=13
MHTO **MHTO** **31.12 110** P **P** **23 41 08.0 +1.6**
SNR=15
SVE **Sverdlovsk** **31.12 37**⇓ *e*P **P** **23 41 05.9 -0.1**
SVE *e*S **S** **23 46 06.5 +0.1**
SVE pmax pmax
comp=Z,44nm,0.5s
SHAO **Shalim** **31.16 117** *i* P **P** **23 41 06.3 -0.5**
SNR=105
SHAO **Shalim** **31.16 117** P **P** **23 41 08.0 +1.3**
SNR=6.4
SHAO P **P** **23 41 08.0 +1.3**
SNR=6.4
MOR8 **Moi Rana** **31.32 351** *e*P **P** **23 41 07.3 -0.4**
DQM **DQM** **31.41 112** P **P** **23 41 09.3 +0.4**
SNR=13
LEWI **Lewis, Hebride** **31.48 326** *e*P **P** **23 41 08.5 -0.7**
JLN **Jalan Bani Buh** **31.59 106** P **P** **23 41 11.2 +0.7**
SNR=20
STOK **Stokkvaagen** **31.67 350** *e*P **P** **23 41 10.9 +0.2**
TOA0 **Torodi Ar. Sit** **31.73 231** P **P** **23 41 11.7 -0.1**
TOA0 IAmb IAmb 23 41 31.5
comp=Z,52nm,0.9s
TORD **Torodi Ar. Bea** **31.73 231** P **P** **23 41 12.1 +0.3**
comp=Z,10.0nm,0.4s,baz=33,slow=8.8,SNR=137
TORD PcP **PcP** **23 44 02.6 +0.7**
comp=Z,2.0nm,0.4s,baz=30,slow=3.7,SNR=2.3
TORD ScP **ScP** **23 47 38.8 -0.3**
comp=Z,3.5nm,1.2s,baz=57,slow=5.5,SNR=4.2
TORD **Torodi Ar. Bea** **31.73 231** P **P** **23 41 12.0 +0.2**
NBB40 **Tonnes** **31.84 350** *e*P **P** **23 41 12.0 -0.2**
NBB17 **Glomfjord B¥r** **32.00 351** *e*P **P** **23 41 13.4 -0.2**
APA **Apatity** **32.14 5**⇑ *i*P **P** **23 41 13.8 -1.0**
APA pmax pmax
comp=Z,12nm,0.9s
APA MLR MLR
comp=Z,700nm,16.0s
NBB30 **Finnes** **32.18 351** *e*P **P** **23 41 15.2 +0.2**
NBB05 **Inndyr** **32.20 351** *e*P **P** **23 41 15.1 -0.2**
N2ST **Straumen** **32.30 352** *e*P **P** **23 41 16.4 +0.2**
NBB08 **Skaug oppvekst** **32.45 351** *e*P **P** **23 41 17.5 0.0**
LVZ **Lovozero** **32.56 6** P **P** **23 41 17.4 -1.1**
LVZ pmax pmax
comp=Z,103nm,1.3s
LVZ **Lovozero** **32.56 6** P **P** **23 41 17.4 -1.1**
LVZ IAmb IAmb 23 42 22.4
comp=Z,103nm,1.3s
N2TV **TYrnvik** **32.57 352** *e*P **P** **23 41 18.6 +0.1**
N2IH **Innhavet** **32.86 353** *e*P **P** **23 41 20.6 -0.5**
STEI **Steigen** **32.90 352** *e*P **P** **23 41 20.7 -0.7**
N2RO **R¸st** **32.91 350** *e*P **P** **23 41 21.9 +0.4**
N2VA **Vr¸y** **32.97 350** *e*P **P** **23 41 21.2 -0.8**
N2SV **S¸rvÅgen** **33.14 351** *e*P **P** **23 41 22.9 -0.6**
LODK **Lodwar** **33.14 164** P **P** **23 41 25.6 +1.5**
SNR=10
LOF **Lofoten** **33.30 351** *e*P **P** **23 41 25.6 +0.7**
KTK1 **Kautokeino** **33.40 358** *e*P **P** **23 41 25.4 -0.5**
TAS **Tashkent** **33.63 67** P **P** **23 41 29.1 +0.9**
TAS pmax pmax
comp=Z,61nm,0.4s
TAS **Tashkent** **33.63 67** P **P** **23 41 29.1 +0.9**
ARA0 **ARCESS Array S** **33.88 359** *e*P **P** **23 41 29.1 -0.8**
ARCES **ARCESS Array B** **33.88 359** P **P** **23 41 28.6 -1.3**
comp=Z,12nm,0.4s,baz=178,slow=7.7,SNR=155
ARCES LR LR 23 54 46.7
comp=Z,256nm,20.7s,baz=195,slow=35
ARCES **ARCESS Array B** **33.88 359** P **P** **23 41 29.5 -0.5**
ARCES pmax pmax
comp=Z,28nm,1.2s
ARCES **ARCESS Array B** **33.88 359** P **P** **23 41 29.4 -0.5**
JETT **Jettan, Norway** **34.07 356** *e*P **P** **23 41 30.7 -1.0**
SOCY **Socotra** **34.08 127** P **P** **23 41 30.8 -1.6**
SOCY **Socotra** **34.08 127** P **P** **23 41 31.3 -1.1**
SNR=28
KEV **Kevo** **34.10 0** P **P** **23 41 31.6 -0.2**
KEV pmax pmax
comp=Z,187nm,1.8s
KEV **Kevo** **34.10 0** P **P** **23 41 31.6 -0.2**
IUG **luzhnay** **34.12 66** *e*P **P** **23 41 33.0 +0.5**
comp=Z,23nm,0.8s,baz=66
IUG *e*S **S** **23 46 54.5 +0.9**
baz=66
IUG **luzhnay** **34.12 66** *e*P **P** **23 41 33.0 +0.5**
IUG *e*S **S** **23 46 54.5 +0.9**
IUG pmax pmax
comp=Z,23nm,0.8s
TRO **Tromso** **34.23 355** *e*P **P** **23 41 31.9 -1.1**
KK31 **Karatay Array** **34.42 64** P **P** **23 41 35.9 +0.9**
KK31 pmax pmax
comp=Z,50nm,0.8s
KK31 **Karatay Array** **34.42 64** P **P** **23 41 35.9 +0.9**
KK31 IAmb IAmb 23 41 37.8
comp=Z,50nm,0.8s
KKAR **Karatay Array** **34.42 64** P **P** **23 41 35.6 +0.6**
KKAR **Karatay Array** **34.42 64** P **P** **23 41 35.6 +0.6**
KKAR **Karatay Array** **34.42 64** IAmb IAmb 23 41 37.8
comp=Z,50nm,0.8s
KBL **Kabul** **34.55 79** P **P** **23 41 37.3 +0.8**
KBL pmax pmax
comp=Z,14nm,1.1s
KBL **Kabul** **34.55 79** P **P** **23 41 37.3 +0.8**
KBL **Kabul** **34.55 79** P **P** **23 41 37.1 +0.6**
SNR=8.7
KOWA **Kowa** **34.61 240** P **P** **23 41 37.6 +0.8**
comp=Z,4.3nm,0.4s,baz=48,slow=8.3,SNR=17
KOWA ScP **ScP** **23 47 49.6 +0.5**
comp=Z,12nm,1.1s,baz=27,slow=5.0,SNR=6.1
KOWA **Kowa** **34.61 240** P **P** **23 41 36.7 -0.2**
HAMF **Hammerfest** **35.02 358** *e*P **P** **23 41 38.3 -1.5**
DZA **Taraz** **35.03 64**⇓ *i*P **P** **23 41 41.2 +0.9**
comp=Z,20nm,0.8s,baz=65
DZA *e*S **S** **23 47 08.0 +0.5**
baz=65
DZA **Taraz** **35.03 64** *d i*P **P** **23 41 41.2 +0.9**
DZA *e*S **S** **23 47 08.0 +0.5**
DZA pmax pmax
comp=Z,19nm,0.8s
BRVK **Borovoye** **35.07 47** P **P** **23 41 41.3 +0.9**
BRVK pmax pmax
comp=Z,30nm,1.2s
BRVK **Borovoye** **35.07 47** P **P** **23 41 41.3 +0.9**
BVAR **Borovoye Array** **35.13 47** P **P** **23 41 41.3 +0.4**
comp=Z,4.3nm,0.4s,baz=11,slow=12,SNR=43
BVAR ScP **ScP** **23 47 50.2 -0.2**
comp=Z,2.4nm,0.7s,baz=165,slow=6.2,SNR=4.4
PMOZ **Porto Moniz, M** **36.07 278** P **P** **23 41 49.7 +0.3**
BRZS **Berezniki** **36.09 52** *e*P **P** **23 41 49.2 0.0**
comp=Z,8.0nm,0.6s,baz=52
BRZS *e*S **S** **23 47 22.4 -1.1**
baz=52
BRZS **Berezniki** **36.09 52** *e*P **P** **23 41 49.2 0.0**
BRZS *e*S **S** **23 47 22.3 -1.1**
BRZS pmax pmax
comp=Z,8.0nm,0.6s
MBAR **Mbarara** **36.34 173** P **P** **23 41 52.6 +0.8**
comp=Z,10nm,1.0s,baz=3.0,slow=5.8,SNR=13
MBAR **Mbarara** **36.34 173** *c i*P **P** **23 41 52.1 +0.3**
MBAR pmax pmax
comp=Z,24nm,1.4s
MBAR **Mbarara** **36.34 173** P **P** **23 41 52.4 +0.6**
AML **Almayashu** **36.84 65** P **P** **23 41 57.6 +1.5**
SNR=24
EKS2 **Erkin-Say** **36.84 64** P **P** **23 41 57.9 +2.0**
SNR=18
BTLS **Baital** **36.88 61** *e*P **P** **23 41 57.0 +0.9**
baz=61
BTLS **Baital** **36.88 61** *e*P **P** **23 41 56.9 +0.9**
USP **Ospenovka** **37.32 63** P **P** **23 42 01.1 +1.3**
SNR=8.0
AAK **Ala-Archa** **37.37 64** P **P** **23 42 02.4 +2.0**
comp=Z,96nm,0.6s,baz=238,slow=2.7,SNR=498
AAK **Ala-Archa** **37.37 64** P **P** **23 42 02.4 +2.0**
SNR=134
AAK **Ala-Archa** **37.37 64** *i* P **P** **23 42 02.5 +2.0**
SNR=34
AAK **Ala-Archa** **37.37 64** *i* P **P** **23 42 02.1 +1.7**
AAK pmax pmax
comp=Z,205nm,0.9s
AAK **Ala-Archa** **37.37 64** P **P** **23 42 02.0 +1.7**
SGDS **Sogindy** **37.40 63**⇓ *i*P **P** **23 42 00.7 +0.2**
comp=Z,7.0nm,0.7s,baz=63
SGDS *e*S **S** **23 47 43.4 -0.3**
baz=63
SGDS **Sogindy** **37.40 63** *d i*P **P** **23 42 00.7 +0.2**
SGDS *e*S **S** **23 47 43.3 -0.3**
SGDS pmax pmax
comp=Z,7.0nm,0.7s
UCH **Uchtor** **37.43 65** P **P** **23 42 02.9 +1.7**
SNR=77
CHMS **Chumysh** **37.53 64** P **P** **23 42 03.3 +1.8**
SNR=80
KBK **Karagaybulak** **37.70 64** P **P** **23 42 05.3 +2.0**
SNR=59
KMBO **Kilima Mbogo** **37.98 162** P **P** **23 42 07.8 +2.0**
comp=Z,3.9nm,1.0s,baz=359,slow=9.3,SNR=9.5
KMBO LR LR 00 00 10.7
comp=Z,536nm,18.5s,baz=282,slow=40
TKM2 **Tokmak 2** **38.15 64** P **P** **23 42 09.0 +2.0**
SNR=8.2
TKM2 **Tokmak 2** **38.15 64** *i* P **P** **23 42 08.2 +1.2**
TKM2 pmax pmax
comp=Z,46nm,0.6s
NIL **Nilore** **38.16 79** P **P** **23 42 08.3 +1.3**
NIL pmax pmax
comp=Z,141nm,1.3s
NIL **Nilore** **38.16 79** P **P** **23 42 08.3 +1.3**
KUU **Kurty** **38.59 62**⇓ *i*P **P** **23 42 11.9 +1.3**
comp=Z,63nm,0.6s,baz=62
KUU *e*S **S** **23 48 02.6 +1.0**
baz=62
KUU **Kurty** **38.59 62** *d i*P **P** **23 42 11.8 +1.3**
KUU *e*S **S** **23 48 02.6 +1.0**
KUU pmax pmax
comp=Z,63nm,0.6s
ULHL **Ulahol** **38.70 65** P **P** **23 42 14.0 +2.4**
SNR=36
KSH **Kashi** **38.92 69** P **P** **23 42 13.5 +0.1**
KSH pP pP 23 42 30.3 +0.5
KSH S **S** **23 48 03.5 -3.3**
KSH pmax pmax
comp=Z,61nm,0.5s
KSH pmax pmax
comp=Z,250nm,4.1s
KSH LR LR
comp=Z,620nm,10.6s
KSH LR LR
comp=Z,380nm,12.1s
KSH LR LR
comp=Z,530nm,7.0s
BJO1 **Bjornoya** **39.05 357** *e*P **P** **23 42 12.7 -1.1**
CHKK **Chushkaly** **39.07 62**⇓ *i*P **P** **23 42 15.6 +1.2**
baz=62
CHKK **Chushkaly** **39.07 62** *d i*P **P** **23 42 15.6 +1.2**
AAA **Alma-Ata** **39.08 63** *e*P **P** **23 42 16.3 +1.6**
comp=Z,46nm,0.7s,baz=63
AAA *e*S **S** **23 48 11.0 +1.9**
baz=63
AAA **Alma-Ata** **39.08 63** *e*P **P** **23 42 16.2 +1.6**
AAA *e*S **S** **23 48 10.9 +1.9**
AAA pmax pmax
comp=Z,46nm,0.7s
TNSS **Tian-Shan** **39.12 63** *e*P **P** **23 42 16.8 +1.3**
baz=64
TNSS **Tian-Shan** **39.12 63** *e*P **P** **23 42 16.7 +1.3**
MDOK **Medeo** **39.18 63** *e*P **P** **23 42 16.8 +1.2**
baz=64
MDOK *e*S **S** **23 48 12.5 +1.7**
baz=64
MDOK **Medeo** **39.18 63** *e*P **P** **23 42 16.8 +1.2**
MDOK *e*S **S** **23 48 12.4 +1.7**
KIBK **Kibwezi** **39.35 162** P **P** **23 42 18.6 +1.5**
SNR=7.0
KURBB **Kurchatov Arra** **39.87 51** P **P** **23 42 21.9 +0.9**
comp=Z,39nm,0.5s,baz=277,slow=8.7,SNR=334
KURBB PP **PnPn** **23 43 59.6 +2.1**
comp=Z,13nm,0.9s,baz=276,slow=9.8,SNR=6.9
KURBB PcP **PcP** **23 44 26.5 +1.1**
comp=Z,4.9nm,0.4s,baz=278,slow=4.1,SNR=5.4
KURBB ScP **ScP** **23 48 08.4 +0.1**
comp=Z,4.4nm,0.7s,baz=273,slow=4.6,SNR=12
KURK **Kurchatov** **39.93 51** P **P** **23 42 21.9 +0.4**
KURK 23 44 26.5
TDK **Taldyqorghan** **39.97 60** *i* P **P** **23 42 22.9 +0.9**
comp=Z,45nm,0.6s,baz=60
TDK **Taldyqorghan** **39.97 60** *i* P **P** **23 42 22.8 +0.9**
TDK pmax pmax
comp=Z,45nm,0.6s
SATY **Saty** **40.18 63**⇓ *i*P **P** **23 42 25.1 +1.2**
comp=Z,46nm,0.7s,baz=63
SATY *e*S **S** **23 48 27.7 +2.0**
baz=63
SATY **Saty** **40.18 63** *d i*P **P** **23 42 25.1 +1.2**
SATY *e*S **S** **23 48 27.6 +2.0**
SATY pmax pmax
comp=Z,46nm,0.7s
KPKS **Kokpek** **40.33 63**⇓ *i*P **P** **23 42 26.0 +0.9**
comp=Z,14nm,0.7s,baz=63
KPKS **Kokpek** **40.33 63** *d i*P **P** **23 42 26.0 +0.9**
KPKS pmax pmax
comp=Z,14nm,0.7s
THN **Thein Dam** **40.50 80** *e*P **P** **23 42 28.0 +1.6**
UZB **Uzynbulak** **40.62 63**⇓ *i*P **P** **23 42 28.4 +0.8**
comp=Z,11nm,0.6s,baz=63
UZB *e*S **S** **23 48 32.8 +0.6**
baz=63
UZB **Uzynbulak** **40.62 63** *d i*P **P** **23 42 28.3 +0.8**
UZB *e*S **S** **23 48 32.8 +0.6**
UZB pmax pmax
comp=Z,11nm,0.6s
DBIC **Dimbokro** **40.82 232** P **P** **23 42 29.0 -0.2**
comp=Z,11nm,0.5s,baz=31,slow=8.6,SNR=24
DBIC LR LR 00 00 46.6
comp=Z,238nm,21.4s,baz=20,slow=38
DBIC **Dimbokro** **40.82 232** P **P** **23 42 29.3 +0.1**
DBIC pmax pmax
comp=Z,33nm,1.0s
DBIC **Dimbokro** **40.82 232** P **P** **23 42 29.3 +0.1**
SHLS **Shalkode** **40.94 63**⇓ *i*P **P** **23 42 33.6 +3.5**
comp=Z,18nm,0.7s,baz=63
SHLS **Shalkode** **40.94 63** *d i*P **P** **23 42 33.5 +3.5**
SHLS pmax pmax
comp=Z,18nm,0.7s
TIC **Toumodi** **40.94 233** *e*P **P** **23 42 30.2 -0.1**
SEM **Semipalatinsk** **40.97 52** *e*P **P** **23 42 30.0 -0.4**
baz=52
SEM **Semipalatinsk** **40.97 52** *e*P **P** **23 42 29.9 -0.4**
KIC **Kosan Boka** **40.98 232** *e*P **P** **23 42 30.5 0.0**
comp=Z,65nm,0.7s
DHRM **DHARAMSHALA** **41.02 80** *e*P **P** **23 42 31.2 +0.1**
DHRM IAmb IAmb 23 42 37.6
comp=Z,42nm,0.8s
LIC **Lamto** **41.27 232** *e*P **P** **23 42 33.4 +0.5**
comp=Z,136nm,0.9s
CMLA **Cha da Macela** **41.36 289** P **P** **23 42 32.7 -0.8**
CMLA pmax pmax
comp=Z,136nm,1.0s
CMLA **Cha da Macela** **41.36 289** P **P** **23 42 32.7 -0.8**
CMLA IAmb IAmb 23 42 36.2
comp=Z,136nm,1.0s
SMLA **Simla** **42.10 81** *e*P **P** **23 42 40.2 +0.7**
SMLA *i* x **ScP** **23 48 17.4 0.0**
SMLA *e*S **S** **23 48 51.0 -2.9**
MAKZ **Makanchi** **42.29 57** P **P** **23 42 41.9 +1.0**
MAKZ pmax pmax
comp=Z,32nm,0.9s
MAKZ **Makanchi** **42.29 57** P **P** **23 42 41.9 +1.0**
MK31 **Makanchi Array** **42.50 57** *i* P **P** **23 42 43.6 +0.9**
MK31 pmax pmax
comp=Z,42nm,0.5s
MK31 **Makanchi Array** **42.50 57** P **P** **23 42 43.5 +0.8**
MK31 IAmb IAmb 23 42 45.0
comp=Z,52nm,0.8s
MKAR **Makanchi Array** **42.50 57** P **P** **23 42 43.8 +1.1**
comp=Z,62nm,0.7s,baz=279,slow=6.6,SNR=600
MKAR ScP **ScP** **23 48 18.7 -0.1**
comp=Z,3.5nm,0.6s,baz=266,slow=3.4,SNR=8.3
MKAR S **S** **23 49 00.4 +0.7**
comp=Z,4.4nm,1.0s,baz=267,slow=13,SNR=6.5
MKAR **Makanchi Array** **42.50 57** P **P** **23 42 43.5 +0.8**
NDI **New Delhi** **43.03 85** *e*P **P** **23 42 48.5 +1.3**
SCO **Scoresbysund** **43.24 338** *i* P **P** **23 42 49.2 +1.0**
SCO **Scoresbysund** **43.24 338** *i* P **P** **23 42 49.2 +1.0**
SCO **Scoresbysund** **43.24 338** P **P** **23 42 48.7 +0.5**
SCO IAmb IAmb 23 42 50.1
comp=Z,156nm,1.8s
SCO **Scoresbysund** **43.24 338** *i* P **P** **23 42 49.2 +1.0**
KBS **Kingsbay** **43.75 356** *ce*P **P** **23 42 51.2 -1.0**
KBS pmax pmax
comp=Z,144nm,2.5s
KBS **Kingsbay** **43.75 356** P **P** **23 42 52.0 -0.2**
KBS IAmb IAmb 23 42 52.8
comp=Z,62nm,1.1s
ZALV **Zalesovo Beam** **43.78 47** P **P** **23 42 53.1 +0.3**
comp=Z,101nm,0.4s,baz=268,slow=9.0,SNR=599
ZALV ScP **ScP** **23 48 23.9 +0.1**
comp=Z,3.2nm,0.6s,baz=269,slow=4.6,SNR=4.7
ZALV S **S** **23 49 18.1 -0.1**
comp=Z,4.0nm,0.7s,baz=259,slow=16,SNR=8.9
ZALV LR LR 00 06 27.0
comp=Z,108nm,18.6s,baz=272,slow=43
ZALV **Zalesovo Beam** **43.78 47** P **P** **23 42 52.6 -0.2**
ZSN **Zaisan** **44.18 56** *e*P **P** **23 42 56.9 +0.7**
comp=Z,11nm,0.9s,baz=56
ZSN *e*S **S** **23 49 25.1 +0.8**
baz=56
ZSN **Zaisan** **44.18 56** *e*P **P** **23 42 56.8 +0.7**
ZSN *e*S **S** **23 49 25.0 +0.8**
ZSN pmax pmax
comp=Z,11nm,0.9s
MBO **M'Bour** **44.34 253** P **P** **23 42 58.5 +0.8**
DBG **Daneborg** **44.70 344** IAmb IAmb 23 42 59.9
comp=Z,85nm,2.1s
DBG *i* P **P** **23 43 00.4 +0.5**
POO **Poona** **44.97 100** *e*P **P** **23 43 04.1 +1.3**
BHPL **Bhopal** **45.52 91** *e*P **P** **23 43 07.2 0.0**
DGZ **Jazzator, Alta** **45.63 53** *d i*P **P** **23 43 07.9 +0.1**
DGZ pmax pmax
comp=Z,21nm,0.4s
DAG **Danmarks Havn** **45.77 347**⇑ *i*P **P** **23 43 06.8 -1.5**
comp=Z,25nm,1.3s
DAG **Danmarks Havn** **45.77 347**⇑ *i*P **P** **23 43 06.8 -1.5**
DAG **Danmarks Havn** **45.77 347**⇑ *i*P **P** **23 43 06.9 -1.5**
DAG IAmb IAmb 23 43 08.4
comp=Z,25nm,1.3s
GOA **Goa** **46.62 103** *e*P **P** **23 43 17.3 +1.6**
WMQ **Urumqi** **46.72 61** *e*P **P** **23 43 17.5 +1.1**
WMQ pP pP 23 43 36.8 +3.5
WMQ sP sP 23 43 48.5 +7.4
WMQ PcP **PcP** **23 44 52.8 +4.0**
WMQ PP **PP** **23 45 07.8 +0.9**
WMQ S **S** **23 50 00.8 -0.2**
WMQ pmax pmax
comp=Z,61nm,1.1s
WMQ pmax pmax
comp=Z,170nm,3.6s
WMQ LR LR
comp=Z,1μm,29.2s
WMQ LR LR
comp=Z,1μm,28.8s
WMQ LR LR
comp=Z,740nm,29.0s
WMQ **Urumqi** **46.72 61** P **P** **23 43 17.8 +1.4**
WMQ pmax pmax
comp=Z,38nm,0.9s
WMQ **Urumqi** **46.72 61** P **P** **23 43 17.8 +1.4**
WMQ IAmb IAmb 23 43 20.1
comp=Z,38nm,0.9s
NRIK **Noril'sk** **46.89 25** P **P** **23 43 18.1 +0.9**
comp=Z,45nm,0.4s,baz=239,slow=4.1,SNR=131
NRIK LR LR 00 05 26.2
comp=Z,115nm,19.0s,baz=254,slow=39
NRIK **Noril'sk** **46.89 25** P **P** **23 43 18.0 +0.9**
ISOG **Isortoq, Green** **48.04 329**⇑ *i*P **P** **23 43 26.6 +0.4**

ISOG IAmb IAmb 23 43 27.0
comp=Z,199nm,1.3s
NOR Nord 48.55 352⇑ *iP* **P 23 43 28.4 -1.5**
comp=Z,69nm,1.2s
NOR Nord 48.55 352⇑ *iP* **P 23 43 28.4 -1.5**
NOR Nord 48.55 352⇑ *iP* **P 23 43 28.4 -1.5**
NOR IAmb IAmb 23 43 29.7
comp=Z,69nm,1.2s
SUMG Summit 48.88 339 *i* P **P 23 43 32.6 -0.4**
comp=Z,82nm,1.3s
SUMG Summit 48.88 339 *i* P **P 23 43 32.6 -0.4**
SUMG Summit 48.88 339 P **P 23 43 32.5 -0.4**
SUMG IAmb IAmb 23 43 34.0
comp=Z,70nm,1.2s
SUMG Summit 48.88 339 *i* P **P 23 43 32.6 -0.4**
SUMG IAmb IAmb 23 43 33.6
comp=Z,82nm,1.3s
GKN Gorkha 49.30 82 *eP* **P 23 43 36.9 +0.3**
comp=Z,83nm,0.4s
GKN Gorkha 49.30 82 *eP* **P 23 43 37.2 +0.6**
comp=Z,122nm,0.5s
HYB Hyderabad 49.34 98 *i* P **P 23 43 36.0 -0.9**
comp=Z,38nm,0.8s
HYB Hyderabad 49.34 98 *eP* **P 23 43 35.7 -1.2**
DMN Daman 49.84 82 *eP* **P 23 43 41.3 +0.5**
DMN Daman 49.84 82 *eP* **P 23 43 41.7 +0.9**
comp=Z,101nm,0.6s
KKN Kakani 49.90 82 *eP* **P 23 43 41.5 +0.3**
comp=Z,111nm,0.5s
KKN Kakani 49.90 82 *eP* **P 23 43 41.8 +0.6**
comp=Z,108nm,0.5s
PKIN Phulchoki 50.09 82 *eP* **P 23 43 42.8 +0.1**
comp=Z,52nm,0.5s
PKIN Phulchoki 50.09 82 *eP* **P 23 43 42.8 +0.1**
comp=Z,72nm,0.6s
PKI Pulchoki 50.10 82 *eP* **P 23 43 42.8 -0.1**
PKI Pulchoki 50.10 82 *eP* **P 23 43 43.3 +0.4**
comp=Z,132nm,0.9s
GUN Gumba 50.34 81 *eP* **P 23 43 44.9 +0.2**
comp=Z,68nm,0.5s
GUN Gumba 50.34 81 *eP* **P 23 43 44.9 +0.2**
comp=Z,68nm,0.5s
MNCI Minicoy 50.37 111 P **P 23 43 43.7 -1.0**
MNCI IAmb IAmb 23 44 22.9
comp=Z,67nm,1.1s
JIRN Jiri 50.69 81 *eP* **P 23 43 47.7 +0.3**
comp=Z,58nm,0.5s
JIRN Jiri 50.69 81 *eP* **P 23 43 47.7 +0.3**
comp=Z,58nm,0.5s
LSZ Lusaka 50.73 178 P **P 23 43 48.0 +0.7**
comp=Z,5.4nm,0.4s,baz=2.6,slow=8.3,SNR=23
LSZ Lusaka 50.73 178 P **P 23 43 48.0 +0.7**
LSZ Lusaka 50.73 178 P **P 23 43 48.0 +0.7**
NRS Narsarsuaq 50.93 324 *i* P **P 23 43 48.0 -0.2**
comp=Z,195nm,1.4s
NRS Narsarsuaq 50.93 324 *i* P **P 23 43 48.0 -0.2**
NRS Narsarsuaq 50.93 324 *i* P **P 23 43 48.0 -0.2**
NRS IAmb IAmb 23 43 49.2
comp=Z,195nm,1.4s
RAMN Ramite 51.32 82 *eP* **P 23 43 51.5 -0.5**
comp=Z,44nm,0.5s
RAMN Ramite 51.32 82 *eP* **P 23 43 51.5 -0.5**
comp=Z,66nm,0.7s
ODAN Odare 52.00 82 *eP* **P 23 43 56.3 -0.7**
comp=Z,15nm,0.4s
ODAN Odare 52.00 82 *eP* **P 23 43 57.0 0.0**
comp=Z,30nm,0.5s
TAPN Taplejung 52.04 81 *eP* **P 23 43 57.5 +0.1**
comp=Z,49nm,0.7s
TAPN Taplejung 52.04 81 *eP* **P 23 43 57.8 +0.4**
BOK Bokaro 52.15 86 *eP* **P 23 43 56.7 -1.1**
BOK IAmb IAmb 23 44 16.7
comp=Z,20nm,0.5s
SFJD Kangerlussuaq 52.75 331 P **P 23 44 01.3 -0.4**
comp=Z,32nm,0.3s,baz=90,slow=6.3,SNR=86
SFJD Kangerlussuaq 52.75 331 *i* P **P 23 44 01.0 -0.6**
comp=Z,42nm,1.2s
SFJD Kangerlussuaq 52.75 331 *i* P **P 23 44 01.0 -0.6**
SFJD Kangerlussuaq 52.75 331 P **P 23 44 01.3 -0.4**
SFJD Kangerlussuaq 52.75 331 *i* P **P 23 44 01.1 -0.6**
SFJD IAmb IAmb 23 44 01.2
comp=Z,42nm,1.2s
ILULI Ilulissat 52.78 334 IAmb IAmb 23 44 02.1
comp=Z,90nm,1.4s
NUUG Nuugaatsiaq 53.35 337 *i* P **P 23 44 05.4 -0.6**
NUUG IAmb IAmb 23 44 05.7
comp=Z,63nm,1.5s
NUUK Nuuk 53.51 328 *i* P **P 23 44 06.4 -0.9**
NUUK IAmb IAmb 23 44 07.3
comp=Z,79nm,1.2s
MOY Mondy 53.78 48 *eP* **P 23 44 11.0 +1.4**
MOY pmax pmax
comp=Z,59nm,2.0s
LSA Lhasa 53.81 77 P **P 23 44 11.5 +1.0**
LSA pmax pmax
comp=Z,97nm,0.7s
LSA Lhasa 53.81 77 *i* P **P 23 44 11.6 +1.0**
SNR=9.0
LSA Lhasa 53.81 77 P **P 23 44 11.1 +0.6**
LSA Lhasa 53.81 77 P **P 23 44 11.1 +0.6**
LSA IAmb IAmb 23 44 39.0
comp=Z,28nm,0.9s
UPNV Upernavik 54.16 339⇑ *iP* **P 23 44 11.0 -0.9**
UPNV IAmb IAmb 23 44 12.2
comp=Z,30nm,0.8s
TSUM Tsumeb 55.28 190 P **P 23 44 20.8 0.0**
TLY Talaya 55.38 48 P **P 23 44 23.1 +2.0**
comp=Z,3.0nm,0.5s,baz=263,slow=6.6,SNR=14
TLY ScP **ScP 23 49 13.6 +0.3**
comp=Z,1.0nm,0.5s,baz=246,slow=4.5,SNR=4.9
TLY LR LR 00 10 58.2
comp=Z,143nm,20.8s,baz=300,slow=39
TLY Talaya 55.38 48 *eP* **P 23 44 22.5 +1.4**
TLY *eS* **S 23 52 05.2 +5.1**
TLY *e* 23 54 05.2
TLY *eSSS* SSS 23 57 48.2
TLY pmax pmax
comp=Z,57nm,1.8s
TLY MLR MLR
comp=Z,389nm,20.0s
TLY Talaya 55.38 48 P **P 23 44 22.2 +1.2**
ZAK Zakamensk 55.51 49 *eP* **P 23 44 23.1 +1.0**
ZAK pmax pmax
comp=Z,25nm,1.4s
ZAK pmax pmax
comp=Z,16nm,1.2s
IRK Irkutsk 55.60 47 *eP* **P 23 44 21.4 -1.2**
IRK pmax pmax
comp=Z,58nm,2.5s
SHL Shillong 56.18 81 P **P 23 44 27.1 -0.3**
SHL pmax pmax
comp=Z,142nm,1.8s
SHL Shillong 56.18 81 *eP* **P 23 44 25.9 -1.6**
SHL IAmb IAmb 23 44 28.8
comp=Z,15nm,0.7s
SHL *i* x **ScP 23 49 18.4 +0.8**
SHL Shillong 56.18 81 P **P 23 44 27.1 -0.3**
SHL IAmb IAmb 23 44 27.7
comp=Z,142nm,1.8s
SHL Shillong 56.18 81 P **P 23 44 26.9 -0.6**
SNR=12
GTA Gaotai 56.68 63 ⇓P **P 23 44 32.0 +1.3**
GTA S **S 23 52 19.5 +1.5**
GTA pmax pmax
comp=Z,15nm,0.7s
GTA pmax pmax
comp=Z,82nm,4.0s
GTA LR LR
comp=Z,120nm,19.6s
GTA LR LR
comp=Z,120nm,19.3s
GTA LR LR
comp=Z,170nm,17.1s
TULEG Thule 56.84 344 P **P 23 44 29.6 -1.5**
TULEG Thule 56.84 344⇑ *iP* **P 23 44 29.4 -1.7**
TULEG IAmb IAmb 23 44 30.6
comp=Z,110nm,1.2s
ZIRO ZIRO 56.88 78 *eP* **P 23 44 32.5 +0.2**
PALK Pallekele 56.89 106 P **P 23 44 33.3 +1.0**
comp=Z,12nm,0.6s,baz=67,slow=9.2,SNR=16
PALK Pallekele 56.89 106 P **P 23 44 32.5 +0.1**
ABPO Ambohimpanom 57.84 157 P **P 23 44 39.8 +0.8**
ABPO pmax pmax
comp=Z,23nm,1.3s
ABPO Ambohimpanom 57.84 157 P **P 23 44 39.8 +0.8**
KOHI KOHIMA 57.90 80 *eP* **P 23 44 39.7 +0.2**
KOHI IAmb IAmb 23 44 42.6
comp=Z,22nm,0.6s
SONM Songino Array 58.24 51 P **P 23 44 42.5 +1.0**
comp=Z,13nm,0.4s,baz=284,slow=7.7,SNR=197
SONM ScP **ScP 23 49 27.0 +0.8**
comp=Z,2.2nm,0.6s,baz=284,slow=4.5,SNR=6.0
SONM LR LR 00 15 45.7
comp=Z,167nm,19.4s,baz=290,slow=42
SONM Songino Array 58.24 51 P **P 23 44 42.2 +0.6**
SAIH SAIHA 58.52 84 *eP* **P 23 44 44.5 +0.7**
SAIH IAmb IAmb 23 44 48.1
comp=Z,36nm,0.9s
ULN Ulaanbaatar 58.65 51 *ceP* **P 23 44 45.2 +0.8**
ULN pmax pmax
comp=Z,23nm,1.0s
ULN Ulaanbaatar 58.65 51 P **P 23 44 45.4 +1.0**
ULN IAmb IAmb 23 44 46.5
comp=Z,33nm,1.2s
BOD Bodaibo 59.30 38 *eP* **P 23 44 48.2 -0.4**
BOD pmax pmax
comp=Z,26nm,0.6s
TIXI Tiksi 60.24 21 *ceP* **P 23 44 54.4 -0.3**
TIXI pmax pmax
comp=Z,222nm,1.7s
TIXI Tiksi 60.24 21 P **P 23 44 54.5 -0.3**
TIXI IAmb IAmb 23 44 55.9
comp=Z,33nm,1.1s
LBTB Lobatse 60.41 181 P **P 23 44 57.5 +1.0**
LBTB pmax pmax
comp=Z,53nm,1.3s
LBTB Lobatse 60.41 181 P **P 23 44 57.5 +1.0**
LBTB IAmb IAmb 23 44 59.5
comp=Z,53nm,1.2s
FRB Frobisher Bay 60.78 330 LR LR 00 12 14.2
comp=Z,240nm,20.8s,baz=38,slow=37
LZH Lanzhou 60.91 65 *eP* **P 23 45 01.3 +1.1**
LZH pP pwP 23 45 20.3 +0.1
LZH S **S 23 53 09.3 -3.8**
LZH pmax pmax
comp=Z,43nm,0.9s
LZH pmax pmax
comp=Z,97nm,5.4s
CD2 Chengdu 63.11 70 P **P 23 45 15.5 +0.7**
CD2 pP pwP 23 45 34.8 -0.5
CD2 S **S 23 53 38.3 -2.4**
CD2 ScS **SKKSac 23 54 59.0 -2.7**
CD2 SS **SS 23 57 50.0 +2.8**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,120nm,5.7s
CD2 LR LR
comp=Z,180nm,9.6s
CD2 LR LR
comp=Z,350nm,10.2s
CD2 LR LR
comp=Z,370nm,10.2s
DGPR DIGLIPUR 63.28 93 *eP* **P 23 45 17.1 +1.1**
RES Resolute Bay 63.43 345 P **P 23 45 16.0 -0.1**
comp=Z,8.7nm,0.4s,baz=64,slow=8.6,SNR=137
BOSA Boshof 63.99 181 P **P 23 45 21.2 +0.8**
comp=Z,9.7nm,0.4s,baz=3.0,slow=6.9,SNR=62
BOSA LR LR 00 14 14.4
comp=Z,180nm,19.7s,baz=354,slow=37
BOSA Boshof 63.99 181 P **P 23 45 21.3 +0.8**
BOSA IAmb IAmb 23 45 22.3
comp=Z,57nm,1.4s
HHC Hu-ho-hao-te 64.37 57 *eP* **P 23 45 24.0 +1.0**
HHC S **S 23 53 57.3 +1.2**
HHC ScS **SKSac 23 55 05.5 -5.6**
HHC pmax pmax
comp=Z,40nm,1.0s
HHC pmax pmax
comp=Z,120nm,5.3s
HHC LR LR
comp=Z,220nm,18.7s
HHC LR LR
comp=Z,170nm,18.7s
HHC LR LR
comp=Z,170nm,17.9s
GBN Guysborough 64.43 309 P **P 23 45 23.7 +0.6**
YAK Yakutsk 64.82 30 *eP* **P 23 45 24.3 -1.1**
YAK *e*PP **pP 23 45 45.8 +2.3**
YAK *e* 23 45 56.7
YAK *e* 23 47 48.4
YAK *eS* **S 23 53 58.8 -1.8**
YAK *e*SS **sS 23 54 38.2 +6.7**
YAK *e* 23 55 11.3
YAK *eSS* **SS 23 58 07.0 -5.2**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=Z,122nm,2.2s
YAK pmax pmax
comp=N,20nm,2.2s
YAK pmax pmax
comp=E,26nm,2.2s
YAK smax smax
comp=N,46nm,2.0s
YAK smax smax
comp=E,31nm,2.0s
YAK Yakutsk 64.82 30 P **P 23 45 25.4 +0.1**
YAK IAmb IAmb 23 46 07.6
comp=Z,31nm,0.5s
KMI Kunming 65.05 76 ⇑P **P 23 45 28.5 +0.7**
KMI PP **PP 23 47 53.0 +1.6**
KMI S **S 23 54 03.0 -2.1**
KMI pmax pmax
comp=Z,11nm,0.7s
KMI pmax pmax
comp=Z,79nm,3.7s
KMI LR LR
comp=Z,110nm,8.5s
KMI LR LR
comp=Z,140nm,13.9s
KMI LR LR
comp=Z,220nm,22.7s
CHTO Chiang Mai 65.18 84 P **P 23 45 28.7 +0.3**
CHTO pmax pmax
comp=Z,41nm,1.4s
CHTO Chiang Mai 65.18 84 P **P 23 45 28.7 +0.3**
CMAR Chiang Mai Arr 65.36 84 P **P 23 45 29.9 +0.2**
comp=Z,32nm,1.1s,baz=300,slow=7.9,SNR=50
CMAR LR LR 00 18 57.4
comp=Z,80nm,20.5s,baz=334,slow=40
CMAR Chiang Mai Arr 65.36 84 P **P 23 45 29.1 -0.5**
XAN Xi'an 65.55 65 P **P 23 45 31.8 +1.1**
XAN pmax pmax
comp=Z,22nm,0.5s
HAL Halifax 66.10 309 P **P 23 45 34.5 +0.6**
HAL pmax pmax
comp=Z,213nm,1.1s
HAL Halifax 66.10 309 P **P 23 45 34.5 +0.6**
TIY Taiyuan 66.38 60 *eP* **P 23 45 39.3 +3.3**
TIY S **S 23 54 21.3 +0.6**
GYA Guiyang 67.47 73 ⇑P **P 23 45 44.0 +0.8**
GYA pP pwP 23 46 02.8 +1.7
GYA S **S 23 54 31.5 -2.8**
GYA pmax pmax
comp=Z,17nm,1.2s
D63A Stockholm 67.76 313 P 23 45 45.2
baz=61,SNR=8.3
ENH Enshi 67.77 68 IAmb IAmb 23 46 09.0
comp=Z,82nm,1.4s
ZEA Zeya 67.79 39 *eP* P 23 45 39.5 -5.1
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=Z,100nm,21.0s
SLVN Son La 67.87 79 P **P 23 45 46.4 +0.7**
PQI Presque Isle 67.88 312 P **P 23 45 45.9 +0.6**
E64A Bridgewater 67.89 312 P 23 45 45.8
baz=61,SNR=16
GGN Saint George 67.91 310 IAmb IAmb 23 45 46.9
comp=Z,108nm,1.2s
SUR Sutherland 67.95 185 P **P 23 47 47.0 +1.1**
E63A Oxbow 68.25 312 P 23 45 48.3
baz=61,SNR=10
G65A Princeton 68.32 311 IAmb IAmb 23 45 50.0
comp=Z,65nm,1.1s
G65A Princeton 68.32 311 P 23 45 48.9
baz=61,SNR=6.8
H66A Whiting 68.37 310 P 23 45 49.1
baz=61,SNR=7.8
F64A Sherman 68.48 312 IAmb IAmb 23 45 50.9
comp=Z,82nm,1.2s
F64A Sherman 68.48 312 P 23 45 49.9
baz=60,SNR=12
D61A St Aubert, Com 68.92 313 P 23 45 52.8
baz=60,SNR=13
H65A Eastbrook 68.99 310 P 23 45 52.9
baz=60,SNR=11
F63A Nahmakanta, Br 69.02 312 IAmb IAmb 23 45 54.5
comp=Z,38nm,0.6s
F63A Nahmakanta, Br 69.02 312 P 23 45 53.4
baz=60,SNR=6.4
G64A Maxfield 69.03 311 P 23 45 53.6
baz=60,SNR=7.7
PKME Peaks-Kenny Pk 69.35 311 IAmb IAmb 23 45 56.6
comp=Z,124nm,1.6s
PKME Peaks-Kenny Pk 69.35 311 P 23 45 55.7
baz=60,SNR=6.1
E61A Lac Etchemin 69.49 313 P 23 45 56.3
baz=60,SNR=7.7
D60A Saint Jean D'O 69.50 313 P 23 45 56.0
baz=59
H64A Troy 69.62 311 P 23 45 57.2
baz=60
G63A Kingsbury 69.63 311 P 23 45 57.3
baz=60
D59A Saint-Raymond 69.99 314 P 23 45 59.3
baz=59,SNR=5.9
F61A St Evariste 70.02 313 P 23 46 00.1
baz=59,SNR=6.4
E60A Ste Agathe de 70.09 313 P 23 45 59.9
baz=59,SNR=7.7
H63A New Sharon 70.11 311 P 23 46 00.5
baz=59,SNR=5.1
G62A West of Eustis 70.13 312 P 23 46 00.6
baz=59,SNR=6.9
I64A Boothbay 70.24 310 P 23 46 01.2
baz=59
LATQ La Tuque 70.34 315 IAmb IAmb 23 46 02.3
comp=Z,46nm,1.1s
LATQ La Tuque 70.34 315 P 23 46 01.6
baz=58,SNR=20
D58A Chemin du LacG 70.55 314 P 23 46 02.4
baz=58,SNR=16
F60A Warwick 70.59 313 P 23 46 03.0
baz=58,SNR=24
G61A St-Isidore-de- 70.70 312 P 23 46 04.2
baz=58,SNR=17
I63A Otisfield 70.76 311 P 23 46 04.4
baz=59
H62A Milan 70.84 311 IAmb IAmb 23 46 05.8
comp=Z,49nm,0.6s
H62A Milan 70.84 311 P 23 46 05.0
baz=58,SNR=9.5
F59A Saint Guilaume 71.15 313 P 23 46 06.4
baz=58,SNR=12
E58A La Victoria 71.17 314 P 23 46 06.4
baz=58,SNR=23
WHN Wuhan 71.27 66 P **P 23 46 05.3 -1.1**
G60A Masonville 71.28 312 P 23 46 07.4
baz=58,SNR=7.2
I62A Tamworth 71.32 311 IAmb IAmb 23 46 09.2
comp=Z,112nm,1.4s
I62A Tamworth 71.32 311 P 23 46 08.2
baz=58,SNR=5.9
H61A Lyndonville 71.33 312 P 23 46 08.3
baz=58,SNR=14
J63A Strafford 71.47 310 P 23 46 08.7
baz=58
LBNH Lisbon 71.49 311 IAmb IAmb 23 46 10.2
comp=Z,62nm,1.0s
LBNH Lisbon 71.49 311 P 23 46 09.3
baz=58,SNR=9.5
RCBR Riachuelo 71.61 248 P **P 23 46 10.3 +1.7**
RCBR pmax pmax
comp=Z,33nm,1.4s
RCBR Riachuelo 71.61 248 P **P 23 46 10.3 +1.7**
RCBR Riachuelo 71.61 248 *eP* **P 23 46 09.6 +0.9**
D56A ZEC Mazanza, M 71.66 315 P 23 46 09.4
baz=57,SNR=38
FFD Franklin Falls 71.73 311 IAmb IAmb 23 46 11.3
comp=Z,95nm,1.3s
MATQ Matagami 71.78 319 P 23 46 09.6
baz=56,SNR=54
H60A Morristown 71.79 312 P 23 46 10.5
baz=58,SNR=11
G59A Clarenceville 71.80 313 P 23 46 10.1
baz=58,SNR=7.9
CN2 Changchun 71.94 49 *eP* **P 23 46 09.5 -0.7**
CN2 *e*pP sP 23 46 34.3 -1.9
CN2 *e*PP **PP 23 48 52.0 +1.7**
CN2 *eS* **S 23 55 20.8 -5.1**
CN2 *es*S SKSac 23 56 03.8 -4.3
CN2 pmax pmax
comp=Z,10.0nm,1.5s
CN2 LR LR
comp=Z,170nm,12.0s
CN2 LR LR
comp=Z,140nm,12.0s
CN2 LR LR
comp=Z,150nm,14.0s
J62A Henniker 71.95 310 P 23 46 12.1
baz=58
HNH Hanover 71.99 311 IAmb IAmb 23 46 13.3
comp=Z,84nm,1.0s
L64A Middleborough 72.03 309 IAmb IAmb 23 46 13.2
comp=Z,114nm,1.2s
L64A Middleborough 72.03 309 P 23 46 12.2
baz=58,SNR=7.3
K63A Dunstable 72.06 310 IAmb IAmb 23 46 13.3
comp=Z,75nm,1.2s
K63A Dunstable 72.06 310 P 23 46 12.3
baz=58
D55A Sainte-Anne-du 72.09 315 P 23 46 12.1
baz=57,SNR=41
WES Weston 72.09 310 IAmb IAmb 23 46 13.4
comp=Z,51nm,0.8s
E56A St. Veronique 72.10 315 P 23 46 12.0
baz=57,SNR=22
FRNY Flat Rock 72.17 313 IAmb IAmb 23 46 13.5
comp=Z,102nm,1.2s
HRV Adam Dziewonsk 72.18 310 P 23 46 13.2
baz=58
BILL Bilibino 72.24 15 *ceP* **P 23 46 10.9 -0.7**
BILL *i* 23 46 29.8
BILL *eS* **S 23 55 26.7 -1.9**
BILL pmax pmax
comp=Z,45nm,1.3s
BILL Bilibino 72.24 15 P **P 23 46 11.1 -0.4**
BILL IAmb IAmb 23 46 12.6
comp=Z,78nm,1.5s
G58A Ormstown 72.28 313 P 23 46 13.5
baz=57,SNR=10
F57A Harrington 72.30 314 P 23 46 14.0
baz=57,SNR=5.3
H59A Cadyville 72.34 313 P 23 46 13.9
baz=57,SNR=20
J61A Chester 72.35 311 P 23 46 14.5
baz=57,SNR=8.9
TPTI 72.38 99 P **P 23 46 13.5 +0.3**
comp=Z,21nm,0.7s
NBCL Cascavel-CE 72.41 251 *eP* **P 23 46 14.6 +1.2**
M64A Tiverton 72.47 309 P 23 46 14.8
baz=58
NBPA Parau_RN 72.48 249 *eP* **P 23 46 15.5 +1.7**
K62A Royalston 72.52 310 P 23 46 15.7
baz=57
I60A Shoreham 72.53 312 P 23 46 15.4
baz=57,SNR=7.9
L63A North Scituate 72.55 309 IAmb IAmb 23 46 16.4
comp=Z,118nm,1.3s
L63A North Scituate 72.56 309 P 23 46 15.3
baz=58
KLR Kul'dur 72.59 42 P **P 23 46 14.7 +0.7**
comp=Z,2.3nm,0.4s,baz=307,slow=6.6,SNR=14
KLR Kul'dur 72.59 42 *ceP* **P 23 46 14.0 0.0**
KLR pmax pmax
comp=Z,26nm,1.4s
SEY Seymchan 72.60 23 P **P 23 46 14.4 +0.6**
comp=Z,10nm,0.4s,baz=296,slow=5.9,SNR=45
SEY Seymchan 72.60 23 *i* P **P 23 46 13.5 -0.3**
E55A Montcerf-Lytto 72.74 315 P 23 46 16.0
baz=56,SNR=21
H58A Gabriels 72.75 313 P 23 46 16.4
baz=57,SNR=13

QUA2	**Belchertown**	**72.80**	**310**	P		**P**		**23 46 16.2 +0.9**
QUA2				IAmb		IAmb		23 46 17.9
	comp=Z,80nm,1.3s							
G57A	**Newington**	**72.86**	**313**	P				23 46 16.8
	baz=56,SNR=9.8							
LONY	**Lake Ozonia**	**72.89**	**313**	IAmb		IAmb		23 46 18.0
	comp=Z,44nm,0.7s							
LONY	**Lake Ozonia**	**72.89**	**313**	P				23 46 17.0
	baz=56,SNR=14							
L61B	**Northampton**	**72.91**	**310**	P				23 46 17.1
	baz=57							
I59A	**Olmsteadville**	**72.91**	**312**	P				23 46 17.6
	baz=57,SNR=9.3							
J60A	**Lant Hill Farm**	**72.94**	**311**	P				23 46 18.1
	baz=57							
UCCT	**U. Connecticut**	**72.98**	**309**	IAmb		IAmb		23 46 19.1
	comp=Z,50nm,0.9s							
ACCN	**Adirondack Com**	**73.01**	**311**	IAmb		IAmb		23 46 19.2
	comp=Z,86nm,1.1s							
NCB	**Newcomb**	**73.03**	**312**	IAmb		IAmb		23 46 20.1
	comp=Z,81nm,1.6s							
C36M	**Paulatuk**	**73.04**	**350**	P				23 46 15.7
	baz=25,SNR=25							
M63A	**Gales Ferry**	**73.08**	**309**	P		**P**		**23 46 17.6 +0.7**
M63A				IAmb		IAmb		23 46 19.6
	comp=Z,89nm,1.1s							
M63A	**Gales Ferry**	**73.08**	**309**	P				23 46 18.6
	baz=57,SNR=5.5							
K61A	**Williamstown**	**73.16**	**311**	P				23 46 19.3
	baz=57,SNR=9.1							
A21K	**Barrow**	**73.24**	**1**	IAmb		IAmb		23 46 19.1
	comp=Z,114nm,1.4s							
A21K	**Barrow**	**73.24**	**1**	P				23 46 18.1
	baz=357,SNR=9.7							
TRY	**Troy**	**73.37**	**311**	P		**P**		**23 46 19.9 +1.2**
TRY				IAmb		IAmb		23 46 22.7
	comp=Z,152nm,1.7s							
NBLI	**Livramento-PB**	**73.39**	**248**	*e*P		**P**		**23 46 20.4 +1.2**
H57A	**Richville**	**73.45**	**313**	P				23 46 20.4
	baz=56,SNR=11							
J59A	**Piesco**	**73.47**	**312**	IAmb		IAmb		23 46 22.0
	comp=Z,77nm,1.1s							
J59A	**Piesco**	**73.47**	**312**	P				23 46 20.9
	baz=56,SNR=9.4							
K60A	**Five Rivers En**	**73.57**	**311**	P				23 46 21.9
	baz=56							
M62A	**Hamden**	**73.59**	**309**	P				23 46 21.1
	baz=57,SNR=8.0							
L61A	**Hillsdale 1, H**	**73.59**	**310**	P				23 46 21.6
	baz=56,SNR=8.7							
I58A	**Old Forge**	**73.63**	**312**	P				23 46 21.9
	baz=56,SNR=18							
FCC	**Fort Churchill**	**73.76**	**332**	IAmb		IAmb		23 46 21.9
	comp=Z,53nm,1.1s							
NJ2	**Nanjing**	**73.77**	**62**	*e*P		**P**		**23 46 21.3 +0.1**
NJ2				pmax		pmax		
	comp=Z,16nm,0.5s							
KSCT	**Kent School, K**	**73.81**	**310**	P		**P**		**23 46 21.6 +0.4**
KSCT				IAmb		IAmb		23 46 23.6
	comp=Z,69nm,1.1s							
I57A	**Carthage**	**73.91**	**313**	P				23 46 23.4
	baz=56,SNR=12							
KULM	**Kulim**	**74.00**	**95**	IAmb		IAmb		23 46 23.6
	comp=Z,77nm,1.4s							
WSPT	**Westport, CT**	**74.02**	**309**	P		**P**		**23 46 22.7 +0.2**
WSPT				IAmb		IAmb		23 46 24.4
	comp=Z,81nm,1.4s							
K59A	**Cooperstown**	**74.07**	**311**	P				23 46 24.1
	baz=56,SNR=13							
L60A	**Shokan**	**74.12**	**310**	P				23 46 24.6
	baz=56							
PLVO	**Plevna**	**74.12**	**314**	P		**P**		**23 46 24.0 +1.0**
GRNR	**Gornyy**	**74.12**	**38**	*i*P		**P**		**23 46 22.9 -0.1**
GRNR				MLR		MLR		
	comp=E,110nm,18.0s							
GRNR				MLR		MLR		
	comp=N,80nm,13.0s							
GRNR				MLR		MLR		
	comp=Z,140nm,15.0s							
ALGO	**Algonquin Park**	**74.16**	**315**	P				23 46 24.1
	baz=55,SNR=54							
M61A	**Granite Spring**	**74.21**	**310**	P				23 46 24.4
	baz=56							
N62A	**Caumsett State**	**74.23**	**309**	P				23 46 25.2
	baz=56							
NBPB	**Pedra_Branca-C**	**74.24**	**251**	*e*P		**P**		**23 46 25.5 +1.3**
NBAN	**Anadia - AL**	**74.39**	**246**	*e*P		**P**		**23 46 25.9 +0.9**
J57A	**Williamstown**	**74.41**	**312**	P		**P**		**23 46 25.9 +1.1**
J57A				IAmb		IAmb		23 46 27.1
	comp=Z,51nm,1.0s							
J57A	**Williamstown**	**74.41**	**312**	P				23 46 26.1
	baz=55,SNR=8.4							
PAL	**Palisades**	**74.47**	**309**	IAmb		IAmb		23 46 27.0
	comp=Z,84nm,1.4s							
PAL	**Palisades**	**74.47**	**309**	P				23 46 26.1
	baz=56							
MA2	**Magadan**	**74.48**	**26**	P		**P**		**23 46 25.4 +0.5**
	comp=Z,19nm,0.4s,baz=315,slow=7.8,SNR=22							
MA2	**Magadan**	**74.48**	**26**	*ce*P		**P**		**23 46 23.6 -1.3**
MA2				pmax		pmax		
	comp=Z,69nm,1.7s							
MA2	**Magadan**	**74.48**	**26**	P		**P**		**23 46 24.7 -0.2**
MA2				IAmb		IAmb		23 46 26.5
	comp=Z,58nm,1.2s							
G54A	**Lake Saint Pet**	**74.50**	**315**	P				23 46 26.4
	baz=55,SNR=41							
L59A	**Walton**	**74.51**	**311**	IAmb		IAmb		23 46 28.0
	comp=Z,44nm,0.8s							
L59A	**Walton**	**74.51**	**311**	P				23 46 27.1
	baz=56,SNR=9.1							
K58A	**Earlville**	**74.56**	**312**	P		**P**		**23 46 26.9 +1.2**
K58A				IAmb		IAmb		23 46 28.0
	comp=Z,117nm,1.2s							
K58A	**Earlville**	**74.56**	**312**	P				23 46 27.0
	baz=56,SNR=13							
TRNY	**Table Rock, Ra**	**74.59**	**310**	P		**P**		**23 46 26.6 +0.8**
M60A	**Port Jervis**	**74.74**	**310**	P				23 46 28.0
	baz=56							
NBMA	**Muriti-CE**	**74.77**	**249**	*e*P		**P**		**23 46 28.9 +1.6**
N61A	**South Mountain**	**74.86**	**309**	P				23 46 28.9
	baz=56							
ODNJ	**Ogdensburg**	**74.86**	**310**	P		**P**		**23 46 28.3 +0.9**
ODNJ				IAmb		IAmb		23 46 29.6
	comp=Z,39nm,0.7s							
NBPS	**Pedro II - PI**	**74.97**	**253**	*e*P		**P**		**23 46 29.4 +1.0**
J56A	**Wolcott**	**75.00**	**313**	P				23 46 29.5
	baz=55,SNR=8.3							
BINY	**Binghamton**	**75.09**	**311**	P		**P**		**23 46 29.5 +0.7**
BINY				IAmb		IAmb		23 46 31.1
	comp=Z,110nm,1.2s							
BINY	**Binghamton**	**75.09**	**311**	P				23 46 30.2
	baz=55,SNR=11							
L58A	**Harry Jones Me**	**75.09**	**311**	P				23 46 30.2
	baz=55,SNR=7.4							
K57A	**Scipio Center**	**75.11**	**312**	P				23 46 30.3
	baz=55,SNR=6.3							
M59A	**Waymart**	**75.12**	**311**	P				23 46 30.2
	baz=55,SNR=10							
INK	**Inuvik**	**75.23**	**352**	P		**P**		**23 46 28.5 -0.5**
	comp=Z,10nm,0.8s,baz=7.0,slow=8.0,SNR=30							
H53A	**Bobcaygeon**	**75.27**	**314**	P				23 46 30.8
	baz=54,SNR=8.3							
N60A	**Cedar Hill Far**	**75.29**	**310**	P				23 46 31.3
	baz=55,SNR=11							
KSPA	**Keystone Colle**	**75.32**	**311**	P		**P**		**23 46 30.4 +0.3**
KSPA				IAmb		IAmb		23 46 32.4
	comp=Z,94nm,1.1s							
NBTA	**Tacaratu-PE**	**75.37**	**247**	*e*P		**P**		**23 46 31.4 +0.7**
K56A	**Middlesex**	**75.61**	**312**	P				23 46 33.0
	baz=54,SNR=13							
LUPA	**Lehigh Univers**	**75.62**	**310**	P		**P**		**23 46 33.0 +1.2**
USA0B	**Ussuriysk Arra**	**75.63**	**46**	P		**P**		**23 46 31.7 0.0**
USA0B				pmax		pmax		
	comp=Z,19nm,0.6s							
USA0B	**Ussuriysk Arra**	**75.63**	**46**	P		**P**		**23 46 31.7 0.0**
USRK	**Ussuriysk Ar.**	**75.63**	**46**	P		**P**		**23 46 31.6 -0.1**
	comp=Z,16nm,0.4s,baz=293,slow=4.4,SNR=149							
USRK				LR		LR		00 26 13.0
	comp=Z,86nm,18.6s,baz=285,slow=41							
USRK	**Ussuriysk Ar.**	**75.63**	**46**	P		**P**		**23 46 31.5 -0.2**
N59A	**State Game Lan**	**75.68**	**310**	P		**P**		**23 46 33.3 +1.1**
N59A	**State Game Lan**	**75.69**	**310**	P				23 46 33.5
	baz=55,SNR=19							
L57A	**Andrews Acres**	**75.73**	**312**	P				23 46 33.7
	baz=55,SNR=21							
O60A	**Telford**	**75.80**	**310**	P				23 46 33.9
	baz=55,SNR=9.3							
M58A	**Price's Panora**	**75.85**	**311**	P				23 46 34.2
	baz=55							
TOLK	**Toolik Lake Re**	**75.92**	**359**	IAmb		IAmb		23 46 34.8
	comp=Z,79nm,1.6s							
TOLK	**Toolik Lake Re**	**75.92**	**359**	P				23 46 33.5
	baz=3.2,SNR=15							
L56A	**Greenwood**	**76.08**	**312**	P				23 46 35.5
	baz=54,SNR=18							
ROSB	**Rosrio**	**76.15**	**256**	*e*P		**P**		**23 46 36.0 +0.8**
P60A	**Greenville**	**76.23**	**309**	IAmb		IAmb		23 46 37.1
	comp=Z,90nm,1.4s							
P60A	**Greenville**	**76.23**	**309**	P				23 46 35.7
	baz=55							
M57A	**Sunshine Farm,**	**76.28**	**311**	P				23 46 36.9
	baz=54,SNR=12							
O59A	**Robesonia**	**76.29**	**310**	P				23 46 36.8
	baz=55,SNR=10							
RDOG	**Red Dog Mine**	**76.30**	**4**	P				23 46 35.2
	baz=352							
N58A	**Sunbury**	**76.31**	**311**	IAmb		IAmb		23 46 37.8
	comp=Z,97nm,1.1s							
N58A	**Sunbury**	**76.32**	**311**	P				23 46 36.7
	baz=54,SNR=13							
NBLA	**Lagarto - SE**	**76.38**	**246**	*e*P		**P**		**23 46 37.1 +0.8**
WVNY	**West Valley, N**	**76.55**	**313**	IAmb		IAmb		23 46 39.2
	comp=Z,96nm,1.0s							
MVL	**Millersville**	**76.57**	**310**	IAmb		IAmb		23 46 39.4
	comp=Z,95nm,1.2s							
M56A	**Emporium**	**76.84**	**312**	IAmb		IAmb		23 46 41.0
	comp=Z,82nm,1.1s							
M56A	**Emporium**	**76.84**	**312**	P				23 46 39.8
	baz=54,SNR=13							
P59A	**Jarrettsville**	**76.85**	**309**	P				23 46 40.0
	baz=54,SNR=5.5							
O58A	**Lewisberry**	**76.86**	**310**	P				23 46 39.6
	baz=54,SNR=5.2							
N57A	**Milroy**	**76.88**	**311**	P				23 46 39.8
	baz=54,SNR=9.1							
KSAR	**Wonju Array Be**	**77.01**	**53**	P		**P**		**23 46 40.1 +0.4**
KSAR	**Wonju Array Be**	**77.01**	**53**	P		**P**		**23 46 40.1 +0.4**
KSRS	**Korea Array**	**77.03**	**53**	P		**P**		**23 46 40.3 +0.5**
	comp=Z,11nm,0.4s,baz=304,slow=4.6,SNR=47							
KSRS				LR		LR		00 23 43.8
	comp=Z,74nm,21.7s,baz=312,slow=38							
I51A	**Listowel**	**77.14**	**315**	P				23 46 41.3
	baz=53,SNR=11							
SSPA	**Standing Stone**	**77.16**	**311**	P		**P**		**23 46 41.3 +0.8**
SSPA	**Standing Stone**	**77.16**	**311**	P				23 46 41.7
	baz=54							
SDMD	**Soldier's Deli**	**77.22**	**309**	IAmb		IAmb		23 46 42.8
	comp=Z,51nm,1.2s							
N56A	**West Decatur**	**77.24**	**311**	P				23 46 42.3
	baz=54,SNR=8.1							
O57A	**Amberson**	**77.25**	**310**	P				23 46 42.0
	baz=54,SNR=6.2							
YKA	**Yellowknife Ar**	**77.27**	**343**	P		**P**		**23 46 40.0 -0.7**
	comp=Z,18nm,0.9s,baz=39,slow=5.7,SNR=179							
YKA				LR		LR		00 23 16.1
	comp=Z,182nm,18.4s,baz=0.0,slow=38							
TJN	**Taejon**	**77.27**	**54**	*ce*P		**P**		**23 46 39.9 -1.3**
COLD	**Coldfoot**	**77.35**	**359**	P				23 46 41.4
	baz=2.6,SNR=24							
E46A	**Sault Ste Mari**	**77.39**	**318**	IAmb		IAmb		23 46 43.5
	comp=Z,71nm,0.9s							
Q59A	**Harwood**	**77.42**	**309**	P				23 46 43.5
	baz=54,SNR=5.1							
EPYK	**Eagle Plains**	**77.43**	**353**	P				23 46 41.5
	baz=14,SNR=6.9							
ERPA	**Erie**	**77.55**	**313**	P				23 46 43.3
	baz=53,SNR=13							
M54A	**Oil Creek Stat**	**77.72**	**312**	P				23 46 44.7
	baz=53,SNR=13							
R60A	**Leonardtown, M**	**77.73**	**308**	P				23 46 45.3
	baz=54							
O56A	**Blue Knob Stat**	**77.79**	**311**	IAmb		IAmb		23 46 46.0
	comp=Z,79nm,1.2s							
O56A	**Blue Knob Stat**	**77.79**	**311**	P				23 46 45.2
	baz=53,SNR=9.5							
L53A	**Girard**	**77.81**	**313**	P				23 46 45.0
	baz=53,SNR=13							
P57A	**Homestead Farm**	**77.91**	**310**	IAmb		IAmb		23 46 46.8
	comp=Z,106nm,1.2s							
P57A	**Homestead Farm**	**77.92**	**310**	P				23 46 45.9
	baz=54,SNR=12							
ALLY	**Allegheny Colle**	**77.92**	**313**	IAmb		IAmb		23 46 46.4
	comp=Z,85nm,1.2s							
Q58A	**Fox Den Farm,**	**78.03**	**309**	P				23 46 46.1
	baz=54							
NBPN	**Ponto Novo - B**	**78.08**	**247**	*e*P		**P**		**23 46 46.7 +0.8**
S60A	**Water View**	**78.10**	**308**	P				23 46 47.1
	baz=54							
R59A	**King George, V**	**78.11**	**309**	P				23 46 47.2
	baz=54,SNR=6.5							
N54A	**Moraine State**	**78.24**	**312**	P				23 46 47.5
	baz=53,SNR=10							
CBN	**Corbin Frederi**	**78.27**	**309**	P				23 46 47.8
	baz=54,SNR=6.3							
M53A	**WI Miller and**	**78.37**	**313**	P				23 46 47.8
	baz=52,SNR=6.8							
P56A	**Dayton Farm, R**	**78.42**	**310**	P				23 46 48.5
	baz=53,SNR=9.7							
TNA	**Tin City**	**78.42**	**6**	P				23 46 47.1
	baz=346,SNR=8.1							
Q57A	**Strasburg**	**78.43**	**310**	P				23 46 48.5
	baz=53							
S59A	**Mechanicsville**	**78.48**	**308**	P				23 46 49.2
	baz=54,SNR=5.7							
GLMI	**Grayling**	**78.53**	**317**	P				23 46 49.2
	baz=51,SNR=12							
R58A	**Rapidan**	**78.61**	**309**	P				23 46 48.8
	baz=53							
R58B	**Mineral**	**78.73**	**309**	IAmb		IAmb		23 46 50.9
	comp=Z,43nm,1.1s							
R58B	**Mineral**	**78.73**	**309**	P				23 46 50.1
	baz=53,SNR=8.0							
U61A	**Possum Corner**	**78.77**	**307**	P				23 46 50.7
	baz=54							
E43A	**Lone Tree Farm**	**78.81**	**320**	IAmb		IAmb		23 46 50.9
	comp=Z,86nm,1.3s							
N53A	**Lisbon**	**78.85**	**312**	IAmb		IAmb		23 46 51.8
	comp=Z,142nm,1.4s							
Q56A	**Snyder Ridge,**	**78.91**	**310**	IAmb		IAmb		23 46 52.2
	comp=Z,69nm,0.8s							
Q56A	**Snyder Ridge,**	**78.91**	**310**	P				23 46 51.2
	baz=53,SNR=14							
R57A	**Stanardsville**	**78.94**	**309**	P				23 46 51.1
	baz=53,SNR=6.8							
MCWV	**Mont Chateau**	**78.94**	**311**	IAmb		IAmb		23 46 52.4
	comp=Z,34nm,0.7s							
MCWV	**Mont Chateau**	**78.94**	**311**	P				23 46 51.3
	baz=52,SNR=10							
O54A	**Avella**	**78.95**	**312**	IAmb		IAmb		23 46 51.8
	comp=Z,59nm,1.2s							
TMAB	**Tom-Au,PA,Br**	**78.99**	**259**	*e*P		**P**		**23 46 52.4 +1.4**
S58A	**Poland Farm, P**	**79.05**	**308**	P		**P**		**23 46 51.3 +0.3**
S58A				IAmb		IAmb		23 46 52.7
	comp=Z,47nm,0.6s							
S58A	**Poland Farm, P**	**79.05**	**308**	P				23 46 51.6
	baz=53,SNR=7.3							
U60A	**Pendleton**	**79.16**	**307**	P				23 46 52.4
	baz=53							
D41A	**Chassel**	**79.18**	**321**	IAmb		IAmb		23 46 53.8
	comp=Z,81nm,1.2s							
M51A	**Elyria**	**79.33**	**313**	P				23 46 52.5
	baz=52							
EGAK	**Eagle**	**79.38**	**355**	P		**P**		**23 46 51.9 -0.4**
EGAK				IAmb		IAmb		23 46 54.5
	comp=Z,94nm,1.9s							
EGAK	**Eagle**	**79.38**	**355**	P				23 46 52.5
	baz=10,SNR=12							
POKR	**Poker Plat Res**	**79.39**	**357**	IAmb		IAmb		23 46 53.8
	comp=Z,40nm,0.6s							
POKR	**Poker Plat Res**	**79.39**	**357**	P				23 46 52.5
	baz=4.9,SNR=32							
O53A	**New Philadelph**	**79.42**	**312**	P		**P**		**23 46 53.6 +0.6**
O53A				IAmb		IAmb		23 46 54.9
	comp=Z,93nm,1.2s							
O53A	**New Philadelph**	**79.42**	**312**	P				23 46 53.6
	baz=52,SNR=10							
I23K	**Minto, Yukon-K**	**79.42**	**358**	P				23 46 52.8
	baz=3.3,SNR=16							
R56A	**Bull Pasture M**	**79.43**	**310**	P				23 46 54.1
	baz=53,SNR=6.2							
GDU01	**Guandu, BA**	**79.47**	**245**	*e*P		**P**		**23 46 54.6 +1.1**
S57A	**Dark Hollow, R**	**79.53**	**309**	P				23 46 54.6
	baz=53							
MLY	**Manley**	**79.56**	**359**	IAmb		IAmb		23 46 54.9
	comp=Z,64nm,1.6s							
MLY	**Manley**	**79.56**	**359**	P				23 46 53.7
	baz=2.2,SNR=31							
MDM	**Murphy Dome**	**79.58**	**358**	IAmb		IAmb		23 46 54.6
	comp=Z,53nm,0.5s							
AAM	**Ann Arbor**	**79.58**	**315**	P		**P**		**23 46 54.2 +0.4**
AAM				pmax		pmax		
	comp=Z,35nm,0.6s							
AAM	**Ann Arbor**	**79.58**	**315**	P		**P**		**23 46 54.2 +0.4**
AAM				IAmb		IAmb		23 46 55.1
	comp=Z,35nm,0.6s							
AAM	**Ann Arbor**	**79.58**	**315**	P				23 46 54.6
	baz=51,SNR=5.2							
ANM	**Nome**	**79.61**	**5**	IAmb		IAmb		23 46 54.5
	comp=Z,47nm,1.2s							
ANM	**Nome**	**79.61**	**5**	P				23 46 53.4
	baz=350,SNR=17							
U59A	**Littleton**	**79.64**	**307**	P		**P**		**23 46 54.6 +0.4**
U59A				IAmb		IAmb		23 46 55.7
	comp=Z,80nm,1.2s							
V60A	**Jim Taylor Roa**	**79.64**	**307**	P				23 46 55.6
	baz=53							
COLA	**College**	**79.65**	**358**	*ci*P		**P**		**23 46 53.7 0.0**
COLA				pmax		pmax		
	comp=Z,38nm,1.3s							
COLA	**College**	**79.65**	**358**	P		**P**		**23 46 54.2 +0.5**
COLA				IAmb		IAmb		23 46 55.0
	comp=Z,25nm,0.5s							
COLA	**College**	**79.65**	**358**	P				23 46 54.4
	baz=4.5							
TCOL	**CIGO, UAF Yank**	**79.65**	**358**	IAmb		IAmb		23 46 55.0
	comp=Z,26nm,0.5s							
TCOL	**CIGO, UAF Yank**	**79.65**	**358**	P				23 46 54.4
	baz=4.5							
FFC	**Flin Flon**	**79.68**	**333**	P		**P**		**23 46 54.0 -0.1**
FFC				pmax		pmax		
	comp=Z,111nm,1.4s							
FFC	**Flin Flon**	**79.68**	**333**	P		**P**		**23 46 54.0 -0.1**
FFC				IAmb		IAmb		23 46 55.3
	comp=Z,111nm,1.4s							
N51A	**Ashland**	**79.70**	**313**	IAmb		IAmb		23 46 56.0
	comp=Z,76nm,1.1s							
IL31		**79.71**	**357**	P		**P**		**23 46 53.7 -0.3**
ILAR	**Eielson Array**	**79.71**	**357**	P		**P**		**23 46 53.6 -0.5**
	comp=Z,9.4nm,0.4s,baz=336,slow=3.8,SNR=276							
ILAR				LR		LR		00 23 43.7
	comp=Z,70nm,20.6s,baz=25,slow=37							
ILAR	**Eielson Array**	**79.71**	**357**	P		**P**		**23 46 53.3 -0.8**
ILAR	**Eielson Array**	**79.71**	**357**	P		**P**		**23 46 53.3 -0.8**
T58A	**Grand View Acr**	**79.76**	**308**	P				23 46 56.0
	baz=53							
YSS	**Yuzh-Sakhalins**	**79.78**	**39**	*e*P		**P**		**23 46 55.0 +0.2**
YSS				*e**PP		**pP**		**23 47 11.9 -1.4**
YSS				*e*				23 57 13.5
YSS				pmax		pmax		
	comp=Z,40nm,1.3s							
YSS				pmax		pmax		
	comp=Z,200nm,3.8s							
YSS				MLR		MLR		
	comp=Z,250nm,16.0s							
GAMB	**Gambell**	**79.79**	**8**	P				23 46 54.3
	baz=345,SNR=5.9							
M50A	**Fremont**	**79.79**	**314**	IAmb		IAmb		23 46 56.1
	comp=Z,104nm,1.5s							
O52A	**Adamsville**	**79.87**	**312**	IAmb		IAmb		23 46 57.0
	comp=Z,66nm,0.8s							
CCB	**Clear Creek Bu**	**79.87**	**358**	IAmb		IAmb		23 46 55.7
	comp=Z,63nm,1.5s							
DAWY	**Dawson**	**79.94**	**354**	IAmb		IAmb		23 46 56.6
	comp=Z,55nm,1.1s							
R55A	**Marlinton**	**79.95**	**310**	P				23 46 57.1
	baz=52,SNR=6.2							
Q54A	**Coxs Mills**	**79.96**	**311**	IAmb		IAmb		23 46 57.6
	comp=Z,62nm,1.2s							
NEA2	**Nenana**	**79.97**	**358**	P				23 46 55.7
	baz=3.5,SNR=10							
P53A	**Whipple**	**79.99**	**312**	IAmb		IAmb		23 46 58.0
	comp=Z,109nm,1.1s							
EYMN	**Ely**	**80.06**	**323**	P				23 46 56.2
	baz=47,SNR=8.6							
HDA	**Harding Lake**	**80.08**	**357**	P				23 46 55.6
	baz=5.3,SNR=52							
HDA				P				23 46 55.6
	baz=5.3,SNR=52							
U58A	**Oxford**	**80.10**	**308**	P				23 46 57.2
	baz=53							
COWI	**Conover**	**80.11**	**320**	IAmb		IAmb		23 46 58.0
	comp=Z,99nm,1.2s							
NBIT	**Tapeh - BA**	**80.15**	**244**	*e*P		**P**		**23 46 59.0 +1.8**
K27K	**Chicken**	**80.19**	**355**	P				23 46 56.9
	baz=9.3							
L48A	**N Adams**	**80.25**	**315**	IAmb		IAmb		23 46 58.8
	comp=Z,52nm,0.8s							
V59A	**Middlesex**	**80.28**	**307**	P				23 46 58.0
	baz=53							
P52A	**Corning**	**80.35**	**312**	P				23 46 58.4
	baz=51,SNR=12							
SCRK	**Sand Creek**	**80.36**	**356**	P				23 46 57.9
	baz=7.7,SNR=34							
Q53A	**Leroy**	**80.46**	**311**	P				23 46 59.0
	baz=52,SNR=7.9							
ACSO	**Alum Creek Sta**	**80.49**	**313**	IAmb		IAmb		23 47 00.2
	comp=Z,51nm,0.8s							
ACSO	**Alum Creek Sta**	**80.49**	**313**	P				23 46 59.0
	baz=51,SNR=12							
ULM	**Lac du Bonnet**	**80.49**	**327**	P		**P**		**23 46 58.3 -0.3**
	comp=Z,31nm,0.4s,baz=44,slow=5.4,SNR=125							
ULM				LR		LR		00 23 33.3
	comp=Z,215nm,20.4s,baz=48,slow=36							
ULM	**Lac du Bonnet**	**80.49**	**327**	IAmb		IAmb		23 46 59.1
	comp=Z,39nm,0.5s							
BPAW	**Bear Paw Mtn.**	**80.50**	**359**	IAmb		IAmb		23 46 58.9
	comp=Z,26nm,0.5s							
BPAW	**Bear Paw Mtn.**	**80.50**	**359**	P				23 46 57.7
	baz=2.0,SNR=29							
R54A	**Victor**	**80.55**	**310**	P				23 46 59.6
	baz=52							
U57A	**Blanch**	**80.58**	**308**	P				23 47 00.2
	baz=52,SNR=5.5							
T56A	**Rocky Mt**	**80.66**	**309**	P				23 47 00.7
	baz=52,SNR=5.9							
CHUM	**Lake Minchumin**	**80.74**	**360**	P				23 46 59.9
	baz=0.9,SNR=32							
KSI	**Kapahiang**	**80.82**	**101**	P		**P**		**23 47 04.7 +3.7**
MCK	**McKinley**	**80.83**	**358**	IAmb		IAmb		23 47 00.8
	comp=Z,52nm,1.2s							
MCK	**McKinley**	**80.83**	**358**	P				23 46 59.7
	baz=3.6,SNR=13							
B35A	**Bob, Littlefor**	**80.84**	**324**	IAmb		IAmb		23 47 01.5
	comp=Z,81nm,1.6s							
Q52A	**Bidwell**	**80.85**	**312**	IAmb		IAmb		23 47 02.1
	comp=Z,65nm,0.9s							
MCPB	**Macapa, AP**	**80.98**	**263**	*e*P		**P**		**23 47 03.3 +1.5**
S54A	**Dingess, Beckl**	**80.99**	**310**	P				23 47 01.8
	baz=52							
KTH	**Kantishna Hill**	**81.05

PDPR IAmb IAmb 23 47 08.0
comp=Z,88nm,1.1s
AGMN Agassiz Nation 81.89 325 P 23 47 06.1
baz=44,SNR=24
PETK Petropavlovsk- 81.89 27 P **P** **23 47 05.4 -0.6**
comp=Z,2.8nm,0.5s,baz=34,slow=4.7,SNR=15
PETK LR LR 00 30 17.6
comp=Z,61nm,18.5s,baz=314,slow=41
WAT6 Susitna Watana 81.94 357 P 23 47 06.2
baz=4.6,SNR=22
P49A Miami Univ. Ec 81.96 313 IAmb IAmb 23 47 07.4
comp=Z,110nm,1.4s
P49A Miami Univ. Ec 81.96 313 P 23 47 06.6
baz=50,SNR=12
U54A Nelsons Funny 82.10 309 P **P** **23 47 07.6 +0.1**
U54A IAmb IAmb 23 47 09.1
comp=Z,59nm,0.8s
U54A Nelsons Funny 82.10 309 P 23 47 08.2
baz=51,SNR=7.6
V55A Taylorsville 82.14 309 P **P** **23 47 07.9 +0.4**
V55A IAmb IAmb 23 47 09.5
comp=Z,90nm,1.6s
W56A Indian Trail 82.18 308 P 23 47 08.4
baz=52
CUT Chulitna 82.19 359 IAmb IAmb 23 47 07.5
comp=Z,76nm,1.1s
OBIP Obispado Ponce 82.19 286 IAmb IAmb 23 47 09.1
comp=Z,74nm,1.2s
CUT Chulitna 82.19 359 P 23 47 06.8
baz=2.5,SNR=7.9
M24K Tolsona, Glenn 82.34 357 IAmb IAmb 23 47 12.4
comp=Z,52nm,1.2s
M24K Tolsona, Glenn 82.35 357 P 23 47 09.0
baz=5.9
I40A Norwalk 82.38 320 IAmb IAmb 23 47 09.5
comp=Z,56nm,1.1s
P48A Milroy 82.43 314 IAmb IAmb 23 47 09.9
comp=Z,97nm,1.2s
S51A Beattyville 82.50 311 IAmb IAmb 23 48 06.0
comp=Z,62nm,1.4s
SMTB Santa Maria do 82.50 254 *e*P **P** **23 47 10.8 +1.1**
R50A Paris 82.53 312 IAmb IAmb 23 47 11.1
comp=Z,31nm,0.8s
NAN01 Guarapari, ES 82.56 242 *e*P **P** **23 47 10.7 +0.8**
SPMN Marine on St. 82.59 322 IAmb IAmb 23 47 11.0
comp=Z,53nm,1.2s
SPMN Marine on St. 82.59 322 P 23 47 10.2
baz=46,SNR=13
SDBA SAO DESIDERIO 82.62 249 *e*P **P** **23 47 11.4 +1.1**
PRPB Parauapebas 82.63 257 *e*P **P** **23 47 11.7 +1.3**
SKT Skwentna 82.64 359 P 23 47 08.8
baz=1.5,SNR=37
KMSC Kings Mountain 82.65 308 IAmb IAmb 23 47 56.1
comp=Z,119nm,1.8s
KMSC Kings Mountain 82.65 308 P 23 47 11.1
baz=51
SML Sawmill 82.73 358 IAmb IAmb 23 47 10.6
comp=Z,59nm,1.2s
SML Sawmill 82.74 358 P 23 47 10.2
baz=4.1,SNR=8.6
Y57A Sumter 82.74 307 IAmb IAmb 23 47 12.7
comp=Z,51nm,1.1s
N25K Chitina, Valde 82.76 356 P 23 47 10.4
baz=7.2,SNR=8.1
GHO Glory Hole Cre 82.79 358 IAmb IAmb 23 47 11.7
comp=Z,96nm,0.9s
SFIN Lafayette 82.80 315 IAmb IAmb 23 47 11.9
comp=Z,42nm,0.6s
SFIN Lafayette 82.80 315 P 23 47 11.1
baz=48,SNR=9.5
JFWS Jewell Farm 82.85 319 IAmb IAmb 23 47 11.9
comp=Z,38nm,0.6s
JFWS Jewell Farm 82.85 319 P 23 47 11.2
baz=47,SNR=9.6
MCARA McCarthy VSAT 82.88 355 P 23 47 11.6
baz=8.4
HYT Haines Junctio 82.93 352 IAmb IAmb 23 47 13.1
comp=Z,69nm,1.3s
KLU Klutina 82.95 356 IAmb IAmb 23 47 12.4
comp=Z,18nm,0.5s
KLU Klutina 82.95 356 P 23 47 11.6
baz=6.1,SNR=11
PMR Palmer 82.97 358 IAmb IAmb 23 47 12.5
comp=Z,71nm,1.4s
PMR Palmer 82.98 358 P 23 47 11.6
baz=3.5,SNR=6.5
R49A Shelbyville 83.03 313 P **P** **23 47 12.3 +0.1**
R49A IAmb IAmb 23 47 13.7
comp=Z,59nm,0.7s
KNK Knik Glacier 83.13 358 IAmb IAmb 23 47 13.6
comp=Z,35nm,0.8s
KNK Knik Glacier 83.14 358 P 23 47 12.1
baz=4.0
SUA Susitna One 83.14 359 IAmb IAmb 23 47 13.5
comp=Z,111nm,1.4s
SUA Susitna One 83.14 359 P 23 47 12.4
baz=2.1,SNR=17
KLSI 83.14 101 P **P** **23 47 13.5 +0.4**
comp=Z,5.2nm,1.4s
L42A Oliver, Polo 83.15 318 IAmb IAmb 23 47 13.9
comp=Z,104nm,1.2s
CTG Chitna Glacier 83.16 354 P 23 47 13.0
baz=9.8
LOGN Logan Glacier 83.27 354 IAmb IAmb 23 47 14.7
comp=Z,45nm,1.3s
P46A Rosedale 83.36 315 IAmb IAmb 23 47 14.3
comp=Z,53nm,1.2s
BMRM Bremner River 83.39 356 IAmb IAmb 23 47 14.8
comp=Z,57nm,1.4s
BMRM Bremner River 83.40 356 P 23 47 13.7
baz=7.2,SNR=6.1
SPCR Spurr Chakacha 83.43 359 P 23 47 13.7
baz=0.9,SNR=9.2
KASI Kota Agung 83.45 102 P **P** **23 47 16.1 +1.5**
comp=Z,39nm,1.0s
RC01 Rabbit Creek A 83.50 358 P 23 47 14.2
baz=3.0,SNR=9.4
SVW2 Sparrevohn 83.52 1 IAmb IAmb 23 47 15.7
comp=Z,28nm,0.6s
GLI Glacier Island 83.61 357 P 23 47 15.2
baz=5.1
MALB Monte Alegre 83.64 263 *e*P **P** **23 47 17.3 +1.7**
V52A Sevierville 83.64 310 IAmb IAmb 23 47 16.9
comp=Z,28nm,0.8s
FID Port Fidalgo 83.71 357 IAmb IAmb 23 47 16.8
comp=Z,63nm,1.3s
WCI Wyandotte Cave 83.74 313 P **P** **23 47 16.8 +1.0**
WCI pmax pmax
comp=Z,47nm,0.8s
WCI Wyandotte Cave 83.74 313 P **P** **23 47 16.8 +1.0**
WCI IAmb IAmb 23 47 17.4
comp=Z,47nm,0.8s
WCI Wyandotte Cave 83.74 313 P 23 47 16.7
baz=49
BG3 Lake Jocassee 83.76 309 P **P** **23 47 16.2 +0.2**
JANB Januaria 83.84 247 *e*P **P** **23 47 17.8 +1.2**
F33A 5 Mile Ranch, 83.87 324 IAmb IAmb 23 47 17.4
comp=Z,63nm,1.4s
SJMB Sao Joao De Ma 83.88 242 *e*P **P** **23 47 17.5 +0.8**
EYAK Cordova Ski Ar 83.88 356 P 23 47 17.0
baz=6.2
MDND Maddock 83.92 327 P 23 47 16.6
baz=41
PINM Pinnacle 83.92 353 P 23 47 17.2
baz=11
HDIL Hopedale 83.93 316 IAmb IAmb 23 47 18.1
comp=Z,50nm,0.7s
HDIL Hopedale 83.93 316 P 23 47 16.9
baz=47,SNR=10.0
MAJO Matsushiro 84.09 49 P **P** **23 47 18.2 +0.5**
MAJO pmax pmax
comp=Z,44nm,1.4s
MAJO Matsushiro 84.09 49 P **P** **23 47 18.2 +0.5**
MAJO IAmb IAmb 23 47 19.0
comp=Z,44nm,1.4s
MAT Matsushiro 84.09 49 P **P** **23 47 17.6 -0.1**
MAT S **S** **23 57 36.2 -0.6**
MJAR Matsushiro Arr 84.09 49 P **P** **23 47 18.5 +0.8**
comp=Z,10nm,0.9s,baz=308,slow=5.1,SNR=24
MJAR LR LR 00 28 43.1
comp=Z,47nm,19.7s,baz=315,slow=38
MJAR Matsushiro Arr 84.09 49 P **P** **23 47 18.5 +0.8**
O22K Cooper Landing 84.11 358 P 23 47 17.3
baz=3.0
V51A Loudon 84.14 310 IAmb IAmb 23 47 20.0
comp=Z,74nm,1.1s
DLBC Dease Lake 84.18 348 P **P** **23 47 19.4 +1.6**
comp=Z,6.6nm,0.6s,baz=34,slow=4.8,SNR=15
W52A Murphy 84.33 309 IAmb IAmb 23 47 20.6
comp=Z,34nm,0.9s
OLIL Olney 84.47 314 IAmb IAmb 23 47 20.7
comp=Z,67nm,0.8s
CPCT Cooper Cave 84.47 310 IAmb IAmb 23 47 21.7
comp=Z,63nm,0.8s
SEW Seward 84.48 358 P 23 47 18.9
baz=3.2
USIN University of 84.73 314 IAmb IAmb 23 47 21.8
comp=Z,91nm,1.2s
JMM Marumori 84.78 46 IAmb IAmb 23 47 43.2
comp=Z,50nm,0.9s
BRSE Bradley Lake S 84.87 359 P 23 47 21.3
baz=2.1
Q44A Meyer Farm, Va 84.89 315 IAmb IAmb 23 47 22.9
comp=Z,41nm,0.8s
PEXB Peixe 85.04 251 *e*P **P** **23 47 24.1 +1.5**
SBUM Sibu 85.04 91 P **P** **23 47 23.4 +0.7**
CNPM China Poot 85.09 359 IAmb IAmb 23 47 52.9
comp=Z,55nm,1.2s
GOGA Godfrey 85.11 308 P **P** **23 47 23.5 +0.7**
GOGA pmax pmax
comp=Z,43nm,1.0s
GOGA Godfrey 85.11 308 P **P** **23 47 23.5 +0.7**
GOGA IAmb IAmb 23 47 24.8
comp=Z,42nm,0.9s
GOGA Godfrey 85.11 308 P 23 47 23.9
baz=50,SNR=6.9
SCIA State Center 85.13 319 IAmb IAmb 23 47 23.8
comp=Z,39nm,0.8s
SCIA State Center 85.13 319 P 23 47 23.0
baz=45,SNR=6.2
CLTN Cedars of Leba 85.17 312 IAmb IAmb 23 47 24.6
comp=Z,93nm,1.3s
X51A Calhoun 85.25 310 IAmb IAmb 23 47 25.5
comp=Z,91nm,1.4s
SDDR Presa de Saban 85.27 290 P **P** **23 47 23.8 -0.1**
SDDR IAmb IAmb 23 47 26.8
comp=Z,49nm,1.1s
DIAM Diamantina, MG 85.42 244 *e*P **P** **23 47 25.9 +1.3**
SWET Sewanee 85.50 311 IAmb IAmb 23 47 26.1
comp=Z,107nm,1.7s
ECSD EROS Data Cent 85.56 323 P 23 47 25.2
baz=43,SNR=50
V48A Smith Brothers 85.70 312 IAmb IAmb 23 47 26.9
comp=Z,55nm,1.1s
SLM Saint Louis 85.77 316 IAmb IAmb 23 47 27.6
comp=Z,71nm,1.1s
WVT Waverly 86.05 312 P **P** **23 47 26.7 -0.7**
WVT pmax pmax
comp=Z,35nm,0.6s
WVT Waverly 86.05 312 P **P** **23 47 26.7 -0.7**
WVT IAmb IAmb 23 47 28.0
comp=Z,34nm,0.6s
WVT Waverly 86.05 312 P 23 47 27.1
baz=48
BOAV Boa Vista 86.26 270 *e*P **P** **23 47 30.3 +1.5**
Z51A Franklin 86.26 309 P **P** **23 47 29.6 +1.0**
ITTB Itaituba 86.30 262 *e*P **P** **23 47 30.0 +1.1**
TIGA Tifton 86.46 306 P 23 47 30.5
baz=50
WRAK Wrangell Islan 86.49 348 P 23 47 30.3
baz=17,SNR=9.7
X48A Hartselle 86.69 311 IAmb IAmb 23 47 31.8
comp=Z,39nm,0.8s
CCM Cathedral Cave 86.74 316 P **P** **23 47 31.0 +0.2**
CCM pmax pmax
comp=Z,87nm,0.5s
CCM Cathedral Cave 86.74 316 P **P** **23 47 31.0 +0.2**
CCM Cathedral Cave 86.74 316 P 23 47 31.2
baz=46
KDAK Kodiak Island 86.86 360 P **P** **23 47 31.6 +0.7**
comp=Z,7.9nm,0.5s,baz=23,slow=1.9,SNR=12
PLAL Pickwick Lake 86.97 312 IAmb IAmb 23 47 33.1
comp=Z,52nm,1.1s
BDFB Brasilia 86.99 248 P **P** **23 47 34.2 +1.9**
comp=Z,9.5nm,0.5s,baz=71,slow=4.5,SNR=20
BDFB Brasilia 86.99 248 P **P** **23 47 33.3 +1.0**
BDFB IAmb IAmb 23 47 34.9
comp=Z,14nm,0.6s
PBMO Poplar Bluff 87.15 314 IAmb IAmb 23 47 34.1
comp=Z,38nm,0.9s
PEBM Pemiscott Bayo 87.27 313 P **P** **23 47 33.8 +0.4**
SNDB Serra Nova Dou 87.28 253 *e*P **P** **23 47 35.2 +1.5**
NPGB Novo Progresso 87.56 260 *e*P **P** **23 47 35.5 +0.4**
LRAL Lakeview Retre 87.60 310 P 23 47 35.4
baz=48
PTGA Pitinga 87.61 267 P **P** **23 47 36.3 +0.9**
PTGA IAmb IAmb 23 47 37.8
comp=Z,46nm,1.2s
PTGA Pitinga 87.61 267 *e*P **P** **23 47 36.2 +0.9**
LAO LASA Array 87.66 330 IAmb IAmb 23 47 37.2
comp=Z,55nm,1.1s
LAO LASA Array 87.66 330 P 23 47 36.2
baz=37,SNR=16
VAS01 Vassouras-RJ 87.80 241 *e*P **P** **23 47 37.9 +1.9**
250A Grady 87.84 308 P **P** **23 47 36.8 +0.6**
BSCB Bom Sucesso 87.93 242 *e*P **P** **23 47 38.3 +1.6**
MGMO Mountain Grove 87.95 316 IAmb IAmb 23 47 37.9
comp=Z,52nm,1.1s
EGMT Eagleton 87.96 332 P 23 47 37.4
baz=34
BGNE Belgrade 88.04 322 P 23 47 37.3
baz=42
LCAR Lake Charles 88.06 314 P **P** **23 47 37.4 +0.3**
LCAR IAmb IAmb 23 47 38.8
comp=Z,46nm,1.1s
OXF Oxford 88.09 312 P 23 47 36.9
baz=47
S39A Bolivar 88.17 317 IAmb IAmb 23 47 39.2
comp=Z,91nm,1.6s
IPMB Ipameri, GO 88.58 247 *e*P **P** **23 47 40.4 +0.6**
WALA Waterton Lakes 88.58 335 IAmb IAmb 23 47 41.7
comp=Z,35nm,1.2s
FCAR Ozark Folk Cen 88.75 315 IAmb IAmb 23 47 41.0
comp=Z,27nm,1.3s
RSSD Black Hills 88.76 327 P **P** **23 47 40.4 -0.2**
RSSD pmax pmax
comp=Z,45nm,1.4s
RSSD Black Hills 88.76 327 P **P** **23 47 40.4 -0.2**
RSSD IAmb IAmb 23 47 42.0
comp=Z,45nm,1.4s
RSSD Black Hills 88.76 327 P 23 47 41.1
baz=38
U40A Yellville 88.84 315 P 23 47 40.8
baz=45,SNR=9.0
BRAL Brewton 88.87 308 P **P** **23 47 41.8 +0.7**
BRAL Brewton 88.87 308 P 23 47 42.8
baz=48
KSU1 Kansas State U 88.94 319 IAmb IAmb 23 47 42.3
comp=Z,34nm,1.1s
KSU1 Kansas State U 88.95 319 P 23 47 41.6
baz=43,SNR=5.9
WHAR Wooly Hollow 89.27 314 IAmb IAmb 23 47 44.0
comp=Z,22nm,1.1s
W41B Gary Mavity, V 89.32 314 P 23 47 43.6
baz=45,SNR=5.5
HHAR Hobbs 89.52 316 IAmb IAmb 23 47 44.9
comp=Z,21nm,1.0s
MACA Manacapuru-AM 89.60 266 *e*P **P** **23 47 46.4 +1.7**
U38A Gravette 89.65 316 IAmb IAmb 23 47 45.6
comp=Z,39nm,1.0s
ARAG Araguaiana, MT 89.92 251 *e*P **P** **23 47 48.4 +2.3**
X40A Basin Creek Fa 90.15 314 P 23 47 47.7
baz=45
CLDB Colider 90.16 257 *e*P **P** **23 47 48.8 +1.5**
RLMT Red Lodge 90.17 330 IAmb IAmb 23 47 49.2
comp=Z,31nm,1.7s
RLMT Red Lodge 90.17 330 P 23 47 48.1
baz=34,SNR=6.5
W39A Magazine 90.20 315 IAmb IAmb 23 51 09.7
comp=Z,60nm,1.8s
W39A Magazine 90.20 315 P 23 47 47.6
baz=44
NEW Newport 90.34 337 P **P** **23 47 48.4 +0.7**
comp=Z,9.1nm,0.7s,baz=18,slow=4.9,SNR=16
NEW Newport 90.34 337 IAmb IAmb 23 47 49.2
comp=Z,29nm,1.1s
NEW Newport 90.34 337 P 23 47 48.4
baz=29,SNR=13
MSO Missoula 90.50 334 IAmb IAmb 23 47 49.6
comp=Z,24nm,1.4s
MSO Missoula 90.50 334 P 23 47 48.8
baz=31,SNR=7.7
MIAR Mount Ida 90.54 314 IAmb IAmb 23 47 50.6
comp=Z,40nm,1.1s
MIAR Mount Ida 90.54 314 P 23 47 49.6
baz=44
R32A Long Quarter, 90.55 320 IAmb IAmb 23 47 49.5
comp=Z,24nm,0.9s
YNE Yellowstone No 90.56 331 IAmb IAmb 23 47 54.5
comp=Z,12nm,0.7s
SDV Santo Domingo 90.67 281 P **P** **23 47 50.3 +0.3**
SDV IAmb IAmb 23 47 51.6
comp=Z,31nm,1.1s
BOZ Bozeman (W) 90.70 332 P 23 47 50.2
baz=33,SNR=10
CBKS Cedar Bluff 90.79 321 IAmb IAmb 23 47 50.8
comp=Z,44nm,1.2s
CBKS Cedar Bluff 90.79 321 P 23 47 50.0
baz=41
TUL1 Leonard 90.82 317 P 23 47 50.3
baz=43
Z41A Richland Creek 91.00 313 P 23 47 51.6
baz=45
K22A Casper 91.03 327 IAmb IAmb 23 47 51.4
comp=Z,17nm,0.7s
K22A Casper 91.03 327 P 23 47 50.7
baz=36,SNR=8.7
YMR Madison River 91.22 331 IAmb IAmb 23 48 23.8
comp=Z,35nm,1.7s
YHB Horse Butte 91.24 331 P **P** **23 47 52.4 +0.2**
YHB IAmb IAmb 23 47 54.4
comp=Z,21nm,1.4s
DLMT Dillon 91.26 333 IAmb IAmb 23 48 35.7
comp=Z,16nm,1.2s
H17A Grant Village 91.29 331 P **P** **23 47 53.8 +1.3**
H17A Grant Village 91.30 331 P 23 47 54.7
baz=34
OK031 S. Brethren Rd 91.37 317 P **P** **23 47 52.5 -0.2**
OK031 IAmb IAmb 23 47 54.2
comp=Z,38nm,1.2s
YPP Pitchstone Pla 91.49 331 IAmb IAmb 23 47 56.6
comp=Z,26nm,1.5s
FLWY Flagg Ranch 91.60 331 P **P** **23 47 55.5 +1.7**
FLWY IAmb IAmb 23 49 34.0
comp=Z,51nm,1.9s
B05A Bryant 91.84 340 P 23 47 53.7
baz=25
RWWY Rawlins 92.11 327 IAmb IAmb 23 47 57.0
comp=Z,22nm,1.3s
N23A Red Feather La 92.18 326 P 23 47 56.8
baz=37,SNR=5.2
PDAR Pinedale Array 92.23 329 P **P** **23 47 56.0 -0.8**
comp=Z,1.0nm,0.4s,baz=76,slow=4.1,SNR=18
PDAR LR LR 00 32 00.1
comp=Z,152nm,19.0s,baz=32,slow=37
PDAR Pinedale Array 92.23 329 P **P** **23 47 55.0 -1.8**
BW06 Boulder Array 92.23 329 P 23 47 56.2
baz=34
LTY Liberty 92.33 338 IAmb IAmb 23 48 01.8
comp=Z,19nm,1.6s
E08A Dider Farm, El 92.52 337 IAmb IAmb 23 47 59.2
comp=Z,27nm,1.4s
HAWA Hanford 92.76 337 IAmb IAmb 23 48 00.5
comp=Z,26nm,1.2s
ISCO Idaho Springs 92.90 325 IAmb IAmb 23 48 01.1
comp=Z,20nm,1.3s
ISCO Idaho Springs 92.90 325 P 23 48 00.0
baz=37,SNR=11
PCMB Pacaembu 93.05 246 *e*P **P** **23 48 02.8 +2.3**
WMOK Wichita Mounta 93.34 318 IAmb IAmb 23 48 03.0
comp=Z,20nm,1.2s
WMOK Wichita Mounta 93.34 318 P 23 48 02.3
baz=42
Q24A Divide 93.34 324 P 23 48 02.1
baz=37
HLID Hailey 93.48 333 P 23 48 02.6
baz=31
F05D White Salmon 93.81 338 P 23 48 04.4
baz=26
O20A White River Ci 93.82 327 P 23 48 04.0
baz=35
HWUT Hardware Ranch 94.02 330 IAmb IAmb 23 48 05.6
comp=Z,11nm,0.8s
MFID Camas Ranch 94.12 334 IAmb IAmb 23 48 06.7
comp=Z,17nm,1.1s
T25A Trinidad 94.43 323 P 23 48 07.3
baz=38
JLU Jordanelle 94.81 329 P **P** **23 48 08.7 0.0**
JLU IAmb IAmb 23 48 09.5
comp=Z,21nm,1.4s
G03D McMinnville, O 94.95 339 P 23 48 10.0
baz=24
S22A 4UR Ranch, Cre 95.11 325 P 23 48 10.2
baz=36
I05D Terrebonne, OR 95.17 338 P 23 48 10.9
baz=26
ABTX Abilene, Hawle 95.39 317 P **P** **23 48 10.7 -0.6**
ABTX IAmb IAmb 23 48 12.5
comp=Z,21nm,1.2s
ABTX Abilene, Hawle 95.39 317 P 23 48 11.5
baz=41
PTLB Pontes e Lacer 95.46 255 *e*P **P** **23 48 13.2 +1.6**
KAPI Kappang 95.47 92 LR LR 00 39 21.8
comp=Z,49nm,18.5s,baz=299,slow=40
PINE Pine Mountain 95.53 337 IAmb IAmb 23 48 14.3
comp=Z,22nm,1.2s
PV12 Saucer Basin, 95.56 326 P **P** **23 48 11.1 -1.0**
PV12 IAmb IAmb 23 48 13.1
comp=Z,18nm,1.3s
DUG Dugway, Tooele 95.72 330 P 23 48 12.7
baz=32,SNR=5.8
I04A Tendick Farm, 95.99 338 P 23 48 14.1
baz=25
J05D Fort Rock, OR 96.08 337 P 23 48 15.7
baz=26
ELK Elko 96.21 332 LR LR 00 34 04.7
comp=Z,259nm,20.5s,baz=11,slow=37
L04D Klamath Falls 97.38 337 P 23 48 20.1
baz=25
PSUT Pine Spring 97.55 330 P **P** **23 48 21.1 0.0**
PSUT IAmb IAmb 23 48 22.0
comp=Z,20nm,1.8s
M04C Macdoel 97.63 337 P 23 48 22.1
baz=25
YBH Yreka Blue Hor 97.95 337 P **P** **23 48 22.7 0.0**
comp=Z,3.1nm,1.0s,baz=346,slow=4.3,SNR=5.1
KVN Kaiserville 98.77 333 P **P** **23 48 26.0 -0.6**
KVN pmax pmax
comp=Z,4.0nm,1.2s
KVN Kaiserville 98.77 333 **P** **23 48 26.0 -0.6**
NVAR Mina Array Bea 99.39 333 P **Pdif** **23 48 29.6 +0.2**
comp=Z,0.6nm,0.5s,baz=19,slow=4.4,SNR=6.2
NVAR LR LR 00 34 31.2
comp=Z,308nm,21.8s,baz=20,slow=36
TXAR Lajitas Array 100.13 317 P **Pdif** **23 48 33.1 +0.4**
comp=Z,1.0nm,0.8s,baz=57,slow=6.7,SNR=11
TXAR LR LR 00 34 38.7
comp=Z,78nm,19.4s,baz=0.0,slow=36
TXAR Lajitas Array 100.13 317 Pdif **Pdif** **23 48 32.6 -0.1**
SYO Syowa Base 104.86 175⇑*i*Pdiff **Pdif** **23 48 54.0 +1.6**
SYO Syowa Base 104.86 175⇓*ep*Pdiff pPdif 23 49 11.6 +0.5
VNA2 Neumayer--Watz 109.08 191 PKiKP **PKiKP** **23 53 15.3 +0.4**
SNAA Sanae 109.09 189 PKiKP **PKiKP** **23 53 13.9 -1.1**
VNA3 Neumayer Olymp 109.73 192 PKiKP **PKiKP** **23 53 15.1 -1.1**
WRA Warramunga Arr 115.50 97 PKP **PKiKP** **23 53 30.1 +1.4**
comp=Z,0.5nm,0.4s,baz=318,slow=1.8,SNR=4.9
ASAR Alice Springs 117.01 101 PKP **PKPdf** **23 53 31.2 -0.3**
comp=Z,0.8nm,0.8s,baz=298,slow=2.0,SNR=8.5
ASAR SKP **SKPdf** **23 57 00.8 -0.1**
comp=Z,1.0nm,0.8s,baz=314,slow=2.1,SNR=4.8
ASAR PKKPab **PKKPbc** **00 03 57.5 +1.6**
comp=Z,0.7nm,0.4s,baz=121,slow=3.7,SNR=12
PLCA Paso Flores 117.03 238 PKP **PKiKP** **23 53 32.6 +1.5**
comp=Z,1.5nm,0.4s,baz=89,slow=1.8,SNR=17
PLCA SKP **SKPdf** **23 57 02.8 +2.4**
comp=Z,1.8nm,1.0s,baz=333,slow=2.8,SNR=3.2

UPA **27** 23:43:54.7±1.7, 8.56N×84.52W, *h1*^{km}±20^{km}, *MW4.6*
UCR **27** 23:43:57.5±1.6, 8.65N×84.51W, *h12*^{km}±14^{km}, *MW3.5*
ISC 27 23:43:54.7±2.4, 8.58N±0.08×84.55W±0.07, h4^{km}±13^{km},
n21,σ0970/30, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOS	**Rincon, Osa**	**1.03**	**83**	*e*P	**Pg**	**23 44 15.0**	**+0.5**
RIOS				*e*S	**Sb**	**23 44 28.8**	**-0.2**
JACO	**JACO, Garabito**	**1.08**	**354**	*e*P	**Pg**	**23 44 15.8**	**+0.2**
JACO				*e*S	**Sg**	**23 44 29.6**	**-0.1**
PEZE	**Perez Zeledon,**	**1.18**	**47**	*e*P	**Pg**	**23 44 18.0**	**+0.7**
PEZE				*e*S	**Sb**	**23 44 33.5**	**+0.2**

PTJ1	**Puerto Jimnez**	**1.23**	**92**	*e*P	Pn	23 44 24.3	+5.6
PTJ1				*e*S	**Sb**	**23 44 35.3**	**+0.5**
CDM	**Cerro de Muert**	**1.24**	**39**	*e*P	**Pg**	**23 44 18.7**	**+0.1**
CDM				*e*S	**Sb**	**23 44 35.3**	**-0.2**
LAFE	**Finca La Fe, P**	**1.27**	**344**	*e*P	**Pn**	**23 44 18.8**	**-0.4**
LCR2	**La Lucha 2**	**1.28**	**25**	*e*P	**Pg**	**23 44 18.8**	**-0.4**
LCR2				*e*S	**Sg**	**23 44 35.2**	**-0.6**
SRBA	**San Rafael, Bu**	**1.34**	**61**	*e*P	**Pn**	**23 44 20.4**	**+0.1**
RIMA	**Rio Macho**	**1.36**	**30**	*e*P	**Pn**	**23 44 20.3**	**-0.3**
RIMA				*e*S	**Sb**	**23 44 37.6**	**-1.2**
OCM	**Ochomogo**	**1.43**	**24**	*e*P	**Pn**	**23 44 21.0**	**-0.6**
DRK0	**Durika**	**1.46**	**62**	*e*P	**Pn**	**23 44 22.0**	**+0.1**
DRK0				*e*S	**Sb**	**23 44 41.3**	**-0.1**
DRK0	**Durika**	**1.46**	**62**	*e*P	**Pn**	**23 44 21.9**	**-0.1**
HDC	**Heredia**	**1.48**	**17**	*e*S	**Sb**	**23 44 42.0**	**-0.1**
VTCV	**VTCV, Calle Va**	**1.62**	**30**	*e*P	**Pn**	**23 44 24.9**	**+0.7**
CVTR	**Volcan Turrial**	**1.63**	**28**	*e*P	**Pn**	**23 44 25.0**	**+0.5**
MRVA	**Moravia de Chi**	**1.65**	**41**	*e*P	**Pn**	**23 44 25.5**	**+0.9**
CDITO	**Canoas**	**1.66**	**90**	*e*P	**Pn**	**23 44 22.1**	**-2.5**
JTS	**Las Juntas de**	**1.75**	**347**	*e*P	**Pn**	**23 44 26.1**	**+0.3**
JTS				*e*S	**Sb**	**23 44 50.0**	**+0.3**
JTS	**Las Juntas de**	**1.75**	**347**	*e*P	**Pn**	**23 44 26.2**	**+0.4**
BRU2	**Volcan**	**1.85**	**83**	*e*P	**Pn**	**23 44 28.2**	**+0.9**
BRU2				*e*S	**Sn**	**23 44 51.4**	**+0.2**
BRU2	**Volcan**	**1.85**	**83**	*e*P	**Pn**	**23 44 27.8**	**+0.5**

*VIE **28** 00:00:59.6±1.0,50˚.25N×18˚.66E,h0km,mb1.9/3,ml2.5/5, Error ellipse: s-maj=6.7km s-min=5.2km az=85.0 23 km W of Katowice Suspected Mining induced.*
*IDC **28** 00:00:59.9±2.9,49˚.96N×18˚.84E,h0km,mb1 3.3/3, mb1mx2.8/50,mbtmp3.1/3,ML2.3/3, Error ellipse: s-maj=48.2km s-min=10.4km az=136.0*
*PRU **28** 00:01:00.9±0.0,50˚.19N×18˚.59E,h0km*
*IPEC **28** 00:01:02.0±0.3,50˚.16N×18˚.58E,h0km,ML1.9/4, Error ellipse: s-maj=2.5km s-min=2.2km az=114.0*

ISC 28 00:00:59.6±0.7,**50˚.18N**±0˚.03×**18˚.64E**±0˚.02,**h0km**,**n38,** σ1**s22**/67,**4C-5D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.47**	**223**	*e*PG	**Sb**	**00 01 10.7**	**+0.1**
OKC				*e*SG	**Sb**	**00 01 16.3**	**-1.8**
	comp=Z,63nm,0.5s						
OJC	**Ojcow**	**0.75**	**86**	*e*Pg	**Pg**	**00 01 14.2**	**+0.3**
OJC				*e*Sg	**Sg**	**00 01 24.8**	**+1.2**
MORC	**Moravsky Berou**	**0.81**	**241**	⇓P	**Pb**	**00 01 16.5**	**-0.1**
MORC				⇓S	**Sb**	**00 01 28.3**	**+0.1**
MORC	**Moravsky Berou**	**0.81**	**241**	*e*PG	**Pb**	**00 01 16.6**	**-0.1**
MORC				*e*SG	**Sg**	**00 01 26.2**	**+0.5**
MORC	**Moravsky Berou**	**0.81**	**241**	*e*Pg	**Pb**	**00 01 16.5**	**-0.1**
	baz=60						
MORC				*e*Sg	**Sg**	**00 01 26.2**	**+0.5**
	48nm,0.4s,baz=60						
LANS	**Liptovska Anna**	**1.16**	**152**	*e*PG	**Pn**	**00 01 23.0**	**-0.2**
LANS				*e*SG	**Sn**	**00 01 40.5**	**+0.8**
LANS				*e*LG	Lg	00 01 45.1	
KRLC	**Kraliky**	**1.20**	**266**	*e*PG	**Pg**	**00 01 22.8**	**+0.3**
KRLC				*e*SG	**Sg**	**00 01 38.3**	**+0.3**
	comp=Z,44nm,0.5s						
NIE	**Niedzica**	**1.32**	**125**	*e*Pg	**Pb**	**00 01 25.2**	**-0.1**
NIE				*e*Sg	**Sn**	**00 01 45.5**	**+1.9**
JAVC	**Velka Javorina**	**1.46**	**206**	*e*SG	**Sn**	**00 01 46.9**	**-0.3**
JAVC	**Velka Javorina**	**1.46**	**206**	*e*Sg	**Sn**	**00 01 46.9**	**-0.3**
	4.8nm,0.2s,baz=24						
DPC	**Dobruska-Polom**	**1.50**	**277**	*e*PG	**Pn**	**00 01 28.1**	**+0.4**
DPC				*e*SG	**Sn**	**00 01 48.6**	**+0.6**
	comp=Z,41nm,0.6s						
VRAC	**Vranov**	**1.59**	**237**	Pg	**Pb**	**00 01 29.6**	**-0.1**
	2.2nm,0.3s,baz=66,slow=14,SNR=9.8						
VRAC				Lg	Lg	00 01 51.3	
	2.7nm,0.3s,baz=43,slow=16,SNR=5.1						
VRAC	**Vranov**	**1.59**	**237**	⇑P	**Pn**	**00 01 29.4**	**+0.5**
VRAC				⇑S	**Sg**	**00 01 51.1**	**+0.6**
VRAC	**Vranov**	**1.59**	**237**	*e*PN	**Pn**	**00 01 29.3**	**+0.4**
VRAC				*e*SG	**Sg**	**00 01 50.4**	**-0.1**
VRAC	**Vranov**	**1.59**	**237**	*e*Sg	**Sb**	**00 01 50.3**	**-0.1**
	20nm,0.2s,baz=56						
OSTC	**Ostas**	**1.59**	**285**	*e*PG	**Pn**	**00 01 29.5**	**+0.4**
OSTC				*e*SG	**Sn**	**00 01 50.8**	**+0.4**
KSP	**Ksiaz**	**1.64**	**295**	*e*Pb	**Pn**	**00 01 29.6**	**0.0**
KSP				*e*Pg	**Pg**	**00 01 31.6**	**+0.7**
KSP				*e*Sg	**Sg**	**00 01 53.5**	**+1.4**
VYHS	**Vyhne**	**1.69**	**175**	*e*PN	**Pb**	**00 01 30.8**	**-0.8**
VYHS				*e*SN	**Sg**	**00 01 53.9**	**0.0**
CHVC	**Chvalec**	**1.70**	**285**	*e*PG	**Pn**	**00 01 30.7**	**+0.1**
CHVC				*e*SG	**Sb**	**00 01 54.1**	**+0.4**
UPC	**Upice**	**1.71**	**282**	*e*PG	**Pg**	**00 01 32.8**	**+0.4**
UPC				*e*SG	**Sn**	**00 01 53.6**	**+0.3**
	comp=Z,18nm,0.4s						
KRUC	**Moravsky**	**1.84**	**233**	*e*PN	**Pb**	**00 01 34.0**	**-0.1**
KRUC				*e*SG	**Sg**	**00 01 58.5**	**0.0**
KRUC	**Moravsky**	**1.84**	**233**	*e*Pn	**Pb**	**00 01 33.9**	**-0.1**
	baz=51						
KRUC				*e*Sg	**Sg**	**00 01 58.5**	**0.0**
	6.8nm,0.2s,baz=51						
PSZ	**Piszkesteto**	**2.41**	**159**	⇓P	**Pn**	**00 01 40.9**	**+0.5**
PSZ				⇑S	**Sn**	**00 02 11.4**	**+0.9**
PVCC	**Panska Ves**	**2.63**	**279**	*e*SG	**Sg**	**00 02 23.4**	**-0.6**
PRU	**Pruhonice**	**2.64**	**267**	*e*SG	**Sb**	**00 02 22.9**	**+2.1**
KOLS	**Kolonicke sedl**	**2.68**	**116**	*e*PG	**Pg**	**00 01 50.9**	**0.0**
KOLS				*e*SN	**Sn**	**00 02 19.1**	**+2.0**
CONA	**Conrad Observa**	**2.90**	**220**	*e*Pn	**Pn**	**00 01 47.6**	**+0.6**
	0.1nm,0.1s						
CONA				*e*Sn	**Sn**	**00 02 22.9**	**+0.2**
	5.3nm,0.5s						
CKRC	**Cesky Krumlov**	**3.13**	**246**	*e*PN	**Pn**	**00 01 51.6**	**+1.4**
CKRC				*e*PG	**Pg**	**00 01 58.5**	**-1.1**
KHC	**Kasperske Hory**	**3.45**	**254**	*e*PN	**Pn**	**00 01 54.3**	**-0.3**
KHC				*e*PG	**Pb**	**00 02 03.7**	**+2.2**
KHC				*e*SG	**Sg**	**00 02 48.5**	**-1.9**
	comp=Z,19nm,0.5s						
GERES	**GERESS Array B**	**3.48**	**249**	Pn	**Pn**	**00 01 55.5**	**+0.4**
	0.2nm,0.3s,baz=68,slow=14,SNR=4.3						
GERES				Pg	**Pg**	**00 02 05.0**	**-1.2**
	0.7nm,0.3s,baz=67,slow=16,SNR=9.4						
GERES				Lg	Lg	00 02 49.4	
	1.7nm,0.3s,baz=60,slow=30,SNR=11						
ARSA	**Arzberg**	**3.58**	**216**	*e*Sg	**Sg**	**00 03 00.1**	**+5.4**
	1.1nm,0.3s						
MOA	**Molln**	**3.70**	**233**	*e*Pn	**Pn**	**00 01 58.6**	**+0.5**
	0.3nm,0.3s						
MOA				*e*Sn	**Sn**	**00 02 44.6**	**+2.3**
	2.9nm,0.3s						
CLL	**Collm**	**3.75**	**290**	*e*Pg	**Pg**	**00 02 13.0**	**+1.5**
CLL				*e*Sg	**Sg**	**00 03 01.0**	**+0.9**
	comp=Z,11nm,0.5s						
NKC	**Novy Kostel**	**3.98**	**273**	*e*SG	**Sg**	**00 03 05.8**	**-1.4**
	comp=Z,12nm,0.4s						
DRGR		**4.34**	**140**	⇓P	**Pn**	**00 02 07.1**	**+0.2**
DRGR				⇓S	**Sn**	**00 02 58.7**	**+0.5**
BURAR	**Bucovina Array**	**5.04**	**118**	⇑P	**Pn**	**00 02 17.1**	**+0.6**
NOA	**NORSAR Array B**	**11.65**	**342**	Pn	**Pn**	**00 03 45.3**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=163,slow=12,SNR=1.9						
FINES	**FINESS Array B**	**12.03**	**17**	Pn	**Pn**	**00 03 48.5**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=194,slow=10.0,SNR=6.6						

IDC 28 00:16:23.4±1.5,**3˚.18S**×**139˚.07E**,**h0km**,**mb3.3**/2, **mb1 3.7**/4,**mb1mx3.3**/44,**mbtmp3.5**/4,**ML3.6**/2,**Error ellipse: s-maj=39.7km s-min=23.7km az=130.0,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.76**	**68**	Pn	Pn	00 16 55.5	+0.3
	7.0nm,0.3s,baz=230,slow=11,SNR=22						
JAY				Sn	Sn	00 17 15.7	-2.7
	22nm,0.3s,baz=38,slow=14,SNR=19						
WRA	**Warramunga Arr**	**17.29**	**195**	P	Pn	00 20 24.9	-1.5
	0.2nm,0.3s,baz=19,slow=13,SNR=5.0						
WRA				S	Sn	00 23 20.1	-19
	0.0nm,0.3s,baz=11,slow=31,SNR=2.4						
FITZ	**Fitzroy Crossi**	**19.83**	**221**	P	Pn	00 20 56.6	-0.7
	0.1nm,0.3s,baz=54,slow=5.5,SNR=6.3						
ASAR	**Alice Springs**	**20.97**	**193**	P	P	00 21 08.4	+0.1
	1.1nm,0.5s,baz=21,slow=10,SNR=17						
MKAR	**Makanchi Array**	**70.37**	**322**	P	P	00 27 39.0	-0.2
	0.1nm,0.5s,baz=109,slow=7.8,SNR=2.5						

*IDC **28** 00:16:39.4±0.5,36˚.25S×100˚.52W,h0km,mb4.5/21, mb1 4.6/21,mb1mx4.5/39,mbtmp4.5/21,MS4.2/15, Ms1 4.2/15,ms1mx4.0/24,Error ellipse: s-maj=17.7km s-min=14.2km az=84.0*
*NEIC **28** 00:16:42.0±1.4,36˚.2S±0˚.1×100˚.4W±0˚.2,h10km±1km, mb4.8/66,Error ellipse: s-maj=21.5km s-min=17.9km az=277.0*
*GCMT **28** 00:16:43.0±0.2,36˚.22S±0˚.02×100˚.31W±0˚.02,h20km±1km, MW5.0/118,Moment Tensor Solution. s42,c52; s118,c168; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.17±.19; Mθθ0.54±.14; Mϕϕ1.63±.13; Mrθ1.89±.27; Mθϕ-3.68±.09; Mϕr0.21±.22; Best double couple: M=4.50900×10^16^ NP1:ϕs283.00000°,δ69.00000°, λ-141.00000°. Principal axes: T 4.9750, Plg9.0000°, Azm47.0000°; N -0.9320, Plg47.0000°, Azm308.0000°; P -4.0440, Plg42.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 00:16:42.5±0.4,**36˚.21S**±0˚.08×**100˚.42W**±0˚.09,**h16km**, **n180,**σ1**°12**/162,**mb4.8**/48,**MS4.1**/19,**1C-1D, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**11.81**	**318**	LR	LR	00 22 39.1	
	comp=Z,2μm,18.9s,baz=110,slow=30						
H03S2	**Juan Fernandez**	**17.76**	**89**	T	T	00 39 17.1	
	baz=223,slow=73,SNR=34						
H03S1	**Juan Fernandez**	**17.77**	**89**	T	T	00 39 23.4	
	baz=223,slow=73,SNR=50						
H03S3	**Juan Fernandez**	**17.78**	**89**	T	T	00 39 20.7	
	baz=223,slow=73,SNR=63						
H03N2	**Juan Fernandez**	**17.85**	**87**	T	T	00 39 30.6	
	baz=224,slow=71,SNR=73						
H03N3	**Juan Fernandez**	**17.86**	**87**	T	T	00 39 30.6	
	baz=224,slow=71,SNR=47						
H03N1	**Juan Fernandez**	**17.87**	**87**	T	T	00 39 34.9	
	baz=224,slow=71,SNR=48						
VA04	**Juan Fernndez**	**17.89**	**88**		P	**00 20 51.5**	**+0.4**
GO07	**Milladeo Hill,**	**21.66**	**117**	P	P	**00 21 32.9**	**+0.7**
BI03	**Tigo**	**22.00**	**100**	P	P	**00 21 36.3**	**+0.4**
BI03				IAmb	IAmb	00 21 43.1	
	comp=Z,50nm,0.9s						
LL01	**San Ignacio de**	**22.48**	**114**	P	P	**00 21 41.9**	**+0.9**
BI02	**San Fabin de**	**23.42**	**100**	P	P	**00 21 51.3**	**+0.4**
BI02				IAmb	IAmb	00 21 53.7	
	comp=Z,26nm,1.0s						
PLCA	**Paso Flores**	**23.76**	**110**	P	P	**00 21 55.3**	**+1.2**
	comp=Z,27nm,0.9s,baz=273,slow=9.5,SNR=59						
PLCA				LR	LR	00 28 54.1	
	comp=Z,604nm,18.4s,baz=268,slow=31						
PLCA	**Paso Flores**	**23.76**	**110**	P	P	**00 21 55.1**	**+0.9**
PLCA				IAmb	IAmb	00 21 57.2	
	comp=Z,34nm,0.9s						
PLCA	**Paso Flores**	**23.76**	**110**	*e*P	P	**00 21 54.7**	**+0.6**
BO02	**Sierra Bellavi**	**24.13**	**95**	P	P	**00 21 58.0**	**+0.3**
BO02				IAmb	IAmb	00 22 12.4	
	comp=Z,24nm,1.1s						
MT02	**Curacav**	**24.20**	**92**	P	P	**00 21 58.6**	**+0.2**
MT02				IAmb	IAmb	00 22 03.9	
	comp=Z,23nm,1.2s						
MT05	**Renca**	**24.49**	**92**	P	P	**00 22 01.6**	**+0.6**
PEL	**Peldehue**	**24.60**	**92**	P	P	**00 22 03.1**	**+1.1**
PEL				IAmb	IAmb	00 22 12.2	
	comp=Z,31nm,1.0s						
VA03	**San Esteban**	**24.81**	**91**	P	P	**00 22 04.5**	**+0.5**
GO09	**Cerro Castillo**	**25.06**	**136**	P	P	**00 22 06.8**	**+0.9**
CO03	**El Pedregal**	**25.30**	**86**	P	P	**00 22 08.5**	**+0.1**
CO03				IAmb	IAmb	00 22 26.9	
	comp=Z,22nm,1.1s						
GO04	**Tololo Observa**	**25.45**	**85**	P	P	**00 22 10.0**	**+0.1**
LCO	**Las Campanas**	**25.97**	**82**	P	P	**00 22 15.3**	**+0.6**
ZON	**Zonda**	**26.69**	**89**		P	**00 22 21.3**	**+0.4**
ZON				IAmb	IAmb	00 22 26.0	
	comp=Z,34nm,1.2s						
AC02	**Maricunga**	**28.16**	**80**	P	P	**00 22 34.8**	**+0.1**
AC02				IAmb	IAmb	00 22 43.3	
	comp=Z,20nm,0.8s						
PB14	**IPOC Station P**	**28.23**	**74**	P	P	**00 22 36.4**	**+1.3**
PB14				IAmb	IAmb	00 22 45.5	
	comp=Z,18nm,1.4s						
GO02	**Mina Guanaco**	**28.59**	**76**	P	P	**00 22 38.5**	**+0.2**
GO02				IAmb	IAmb	00 22 46.3	
	comp=Z,20nm,0.8s						
PB04	**IPOC Station P**	**29.66**	**71**	P	P	**00 22 47.5**	**-0.2**
PB15	**IPOC Station P**	**29.70**	**73**	P	P	**00 22 48.4**	**+0.4**
PB06	**IPOC Station P**	**29.90**	**72**	P	P	**00 22 49.4**	**-0.3**
PB06				IAmb	IAmb	00 22 57.8	
	comp=Z,20nm,0.8s						
LVC	**Limon Verde**	**30.46**	**72**	P	P	**00 22 55.8**	**+0.8**
	comp=Z,11nm,0.9s,baz=234,slow=7.2,SNR=7.8						
LVC				LR	LR	00 32 06.7	
	comp=Z,409nm,20.0s,baz=252,slow=30						
LVC	**Limon Verde**	**30.46**	**72**	P	P	**00 22 54.8**	**-0.1**
LVC				IAmb	IAmb	00 22 58.6	
	comp=Z,14nm,0.9s						
LVC	**Limon Verde**	**30.46**	**72**	*e*P	P	**00 22 54.5**	**-0.4**
PB09	**IPOC Station P**	**30.66**	**71**	P	P	**00 22 56.5**	**-0.1**
PB08	**IPOC Station P**	**31.69**	**68**	P	P	**00 23 06.3**	**+0.4**
PB08				IAmb	IAmb	00 23 09.2	
	comp=Z,13nm,0.9s						
NNA	**Nana**	**32.15**	**47**	LR	LR	00 33 08.3	
	comp=Z,427nm,20.1s,baz=216,slow=31						
PB16	**IPOC Station P**	**32.54**	**65**	P	P	**00 23 12.6**	**-0.9**
PB16				IAmb	IAmb	00 23 17.9	
	comp=Z,6.5nm,0.8s						
RKT	**Rikitea**	**32.56**	**284**	*e*LQ	LQ	00 30 25.5	
	comp=Z,1μm,27.8s						
LPAZ	**La Paz**	**34.86**	**64**	P	P	**00 23 34.1**	**+0.4**
	comp=Z,11nm,1.1s,baz=219,slow=6.4,SNR=14						
LPAZ				LR	LR	00 34 17.7	
	comp=Z,214nm,18.5s,baz=140,slow=30						
LPAZ	**La Paz**	**34.86**	**64**	P	P	**00 23 33.5**	**-0.3**
LPAZ				IAmb	IAmb	00 23 45.9	
	comp=Z,18nm,1.1s						
LPAZ	**La Paz**	**34.86**	**64**	*e*P	P	**00 23 34.3**	**+0.6**
ATAH	**Atahualpa**	**35.26**	**40**	P	P	**00 23 37.6**	**+0.7**
	comp=Z,10nm,0.8s,baz=222,slow=12,SNR=6.0						
ITQB	**Itaqui**	**37.09**	**93**	*e*P	P	**00 23 52.1**	**+0.1**
CPUP	**Villa Florida**	**37.86**	**87**	P	P	**00 23 59.1**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=254,slow=6.5,SNR=3.7						
CPUP				LR	LR	00 38 23.8	
	comp=Z,200nm,18.1s,baz=250,slow=34						
CPUP	**Villa Florida**	**37.86**	**87**	P	P	**00 23 58.6**	**0.0**
CPUP	**Villa Florida**	**37.86**	**87**	*e*P	P	**00 23 59.9**	**+1.3**
CZSB	**Cruzeiro do Su**	**37.99**	**48**	*e*P	P	**00 23 59.4**	**-0.4**
PLTB	**Pedras Altas**	**38.78**	**97**	*e*P	P	**00 24 06.1**	**-0.2**
CPSB	**Cacapava Do Su**	**39.38**	**95**	*e*P	P	**00 24 11.2**	**-0.2**
SIV	**San Ignacio**	**40.31**	**70**	P	P	**00 24 18.6**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=256,slow=6.8,SNR=10						
ETMB	**Extrema**	**40.64**	**58**	*e*P	P	**00 24 21.5**	**-0.4**
OTAV	**Otavalo**	**41.62**	**34**	P	P	**00 24 29.4**	**-1.0**
OTAV	**Otavalo**	**41.62**	**34**	*e*P	P	**00 24 30.4**	**0.0**
ITAB	**Concordia**	**41.68**	**92**	*e*P	P	**00 24 30.7**	**+0.3**
AQDB	**Aquidauana**	**41.98**	**80**	*e*P	P	**00 24 32.4**	**-0.6**
PTLB	**Pontes e Lacer**	**42.12**	**72**	*e*P	P	**00 24 33.8**	**-0.3**
PTGB	**Pitanga**	**42.83**	**88**	*e*P	P	**00 24 41.0**	**+1.1**
SAML	**Samuel**	**43.36**	**61**	P	P	**00 24 43.2**	**-0.9**
SAML	**Samuel**	**43.36**	**61**	*e*P	P	**00 24 43.5**	**-0.6**
TER01	**Tubaro-SC**	**43.57**	**95**	*e*P	P	**00 24 47.2**	**+1.4**
TBI	**Tubuai**	**44.03**	**273**	*e*LR	LR	00 37 05.3	
	comp=Z,261nm,32.8s						
PCMB	**Pacaembu**	**44.97**	**85**	*e*P	P	**00 24 57.9**	**+0.9**
TAOE	**Nuku Hiva Isla**	**45.20**	**297**	*e*LR	LR	00 37 33.4	
	comp=Z,176nm,23.3s						
FRTB	**Fortuna**	**45.49**	**88**	*e*P	P	**00 25 00.8**	**-0.5**
ITRB	**Iturama**	**46.66**	**83**	*e*P	P	**00 25 10.8**	**+0.3**
HOPE	**Hope Point**	**46.78**	**134**	P	P	**00 25 11.3**	**+0.5**
PPT2	**Papeete2**	**47.07**	**280**	*e*LR	LR	00 38 26.4	
	comp=Z,244nm,23.2s						
ROSC	**El Rosal**	**47.59**	**36**	P	P	**00 25 18.4**	**+0.3**
	comp=Z,4.0nm,0.3s,baz=123,slow=12,SNR=4.4						
ROSC				LR	LR	00 43 08.6	
	comp=Z,356nm,19.6s,baz=204,slow=33						
ROSC	**El Rosal**	**47.59**	**36**	P	P	**00 25 17.5**	**-0.6**
ARAG	**Aragauiana, MT**	**47.68**	**78**	*e*P	P	**00 25 18.2**	**-0.2**
PEZE	**Perez Zeledon,**	**48.01**	**22**	P	P	**00 25 19.2**	**-1.7**
MACA	**Manacapuru-AM**	**49.21**	**57**	*e*P	P	**00 25 30.1**	**-0.1**
BELA	**Belgrano 2**	**49.84**	**165**	P	P	**00 25 34.6**	**+0.4**
SNDB	**Serra Nova Dou**	**50.27**	**74**	*e*P	P	**00 25 38.3**	**0.0**
NPGB	**Novo Progresso**	**50.31**	**66**	*e*P	P	**00 25 37.2**	**-1.4**
BDFB	**Brasilia**	**50.73**	**80**	P	P	**00 25 41.0**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=280,slow=9.3,SNR=4.2						
BDFB				LR	LR	00 45 23.7	
	comp=Z,287nm,18.6s,baz=250,slow=34						
BDFB	**Brasilia**	**50.73**	**80**	P	P	**00 25 41.9**	**0.0**
BDFB				IAmb	IAmb	00 25 45.1	
	comp=Z,14nm,1.4s						
VAS01	**Vassouras-RJ**	**50.95**	**91**	*e*P	P	**00 25 45.0**	**+1.5**
APG	**El Apazote**	**51.80**	**12**	P	P	**00 25 49.4**	**-0.4**
	comp=Z,5.6nm,0.8s,baz=86,slow=3.3,SNR=4.6						
ITTB	**Itaituba**	**51.84**	**63**	*e*P	P	**00 25 49.1**	**-0.9**
DUB01	**Friburgo-RJ**	**51.91**	**91**	*e*P	P	**00 25 51.6**	**+1.0**
PEXB	**Peixe**	**52.54**	**77**	*e*P	P	**00 25 55.5**	**+0.2**
DIAM	**Diamantina, MG**	**52.78**	**86**	*e*P	P	**00 25 57.7**	**+0.5**
QSPA	**South Pole Qui**	**54.01**	**180**	P	P	**00 26 05.7**	**+0.1**
	comp=Z,12nm,0.8s,baz=130,slow=6.1						
JANB	**Januaria**	**54.02**	**82**	*e*P	P	**00 26 06.5**	**+0.2**
SJMB	**Sao Joao De Ma**	**54.58**	**88**	*e*P	P	**00 26 11.1**	**+0.9**
SDBA	**SAO DESIDERIO**	**55.05**	**79**	*e*P	P	**00 26 14.2**	**+0.5**
SMTB	**Santa Maria do**	**55.05**	**74**	*e*P	P	**00 26 15.1**	**+1.4**
SBA	**Scott Base**	**55.50**	**195**	P	P	**00 26 18.1**	**+2.0**
SBA				IAmb	IAmb	00 26 33.7	
	comp=Z,18nm,1.4s						
VNA3	**Neumayer Olymp**	**56.42**	**157**	P	P	**00 26 22.9**	**+0.1**
VNA3	**Neumayer Olymp**	**56.42**	**157**	PcP	**PcP**	**00 27 19.2**	**-0.4**
VNDA	**Vanda**	**56.61**	**195**	P	P	**00 26 24.1**	**+0.1**
	comp=Z,1.3nm,1.0s,baz=85,slow=8.0,SNR=4.4						
VNA1	**Neumayer--Stat**	**57.02**	**157**	P	P	**00 26 27.4**	**+0.5**
VNA2	**Neumayer--Watz**	**57.22**	**157**	P	P	**00 26 28.5**	**+0.1**
	baz=282,slow=7.0						
VNA2	**Neumayer--Watz**	**57.22**	**157**	PcP	**PcP**	**00 27 24.3**	**+1.5**
MCPB	**Macapa, AP**	**57.25**	**63**	*e*P	P	**00 26 29.2**	**-0.2**
SNAA	**Sanae**	**58.39**	**158**	P	P	**00 26 36.5**	**-0.2**
SNAA	**Sanae**	**58.39**	**158**	PcP	**PcP**	**00 27 27.1**	**-0.3**
SNAA	**Sanae**	**58.39**	**158**	P	P	**00 26 36.2**	**-0.5**
	comp=Z,7.4nm,0.8s,baz=262,slow=6.8,SNR=19						
SNAA	**Sanae**	**58.39**	**158**	P	P	**00 26 36.2**	**-0.5**
SNAA				IAmb	IAmb	00 26 37.3	
	comp=Z,8.5nm,0.8s						
NBPN	**Ponto Novo - B**	**59.70**	**81**	*e*P	P	**00 26 46.5**	**0.0**
NBLA	**Lagarto - SE**	**61.54**	**83**	*e*P	P	**00 26 58.9**	**-0.1**
NBTA	**Tacaratu-PE**	**62.41**	**81**	*e*P	P	**00 27 05.2**	**+0.2**
EMPR	**Esperanza - Ma**	**63.13**	**36**	P	P	**00 27 10.0**	**+0.5**
NBPB	**Pedra_Branca-C**	**63.34**	**77**	*e*P	P	**00 27 11.2**	**+0.1**
NBAN	**Anadia - AL**	**63.52**	**82**	*e*P	P	**00 27 12.7**	**+0.4**
BSWZ	**Blackbirch Sta**	**64.20**	**236**	P	P	**00 27 16.8**	**+0.4**
NBLI	**Livramento-PB**	**64.33**	**80**	*e*P	P	**00 27 17.9**	**+0.2**
NBPA	**Parau_RN**	**65.16**	**78**	*e*P	P	**00 27 23.6**	**+0.5**
TX31	**Lajitas Ar. Si**	**65.27**	**357**	P	P	**00 27 23.9**	**+0.5**
TX32	**Lajitas Array**	**65.27**	**357**	P	P	**00 27 24.3**	**+0.9**
TX32				IAmb	IAmb	00 27 39.4	
	comp=Z,9.1nm,1.3s						
TXAR	**Lajitas Array**	**65.27**	**357**	P	P	**00 27 22.8**	**-0.7**
	comp=Z,3.0nm,1.0s,baz=184,slow=9.4,SNR=18						
TXAR				LR	LR	00 50 23.7	
	comp=Z,135nm,20.3s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**65.27**	**357**	P	P	**00 27 23.5**	**0.0**
JCT	**Junction City**	**66.34**	**1**	P	P	**00 27 30.7**	**+0.5**
JCT				IAmb	IAmb	00 27 33.3	
	comp=Z,8.0nm,1.0s						
MNTX	**Cornudas Mount**	**67.71**	**355**	P	P	**00 27 39.5**	**+0.5**
MSTX	**Muleshoe**	**69.85**	**358**	P	P	**00 27 52.4**	**0.0**
MSTX				IAmb	IAmb	00 27 54.8	
	comp=Z,7.4nm,0.9s						
AMTX	**Amarillo**	**70.74**	**359**	P	P	**00 27 58.2**	**+0.5**
AMTX				IAmb	IAmb	00 28 02.2	
	comp=Z,14nm,1.1s						
SYO	**Syowa Base**	**71.01**	**166**	⇓

RST	Umm Al-Ruwaisa	151.91	94	*e*P			00 36 35.5		
BELG	Belogornoye	152.28	44	PKP		PKPdf	00 36 28.9	-1.1	
	comp=Z,9.4nm,0.9s,baz=307,slow=8.9,SNR=3.8								
MIB	Mutribah	152.30	94	*e*P			00 36 36.2		
UMR	Umm Al-Rimmam	152.51	95	*e*P			00 36 36.8		
CMAR	Chiang Mai Arr	155.41	229	PKPab		PKPab	00 36 60.0	-1.1	
	comp=Z,1.0nm,0.4s,baz=169,slow=2.2,SNR=6.2								
SONM	Songino Array	157.06	309	PKP		PKPdf	00 36 34.8	-2.2	
	comp=Z,0.2nm,0.4s,baz=250,slow=37,SNR=1.7								
KMI	Kunming	157.28	247	↑PKP		PKPdf	00 36 41.5	+3.3	
KMI				pPKP	sPKPdf		00 36 45.5	+2.0	
KMI				sPKP			00 36 49.0		
KMI				LR	LR				
	comp=N,180nm,19.8s								
KMI				LR	LR				
	comp=E,140nm,19.2s								
KMI				LR	LR				
	comp=Z,250nm,25.5s								
ZALV	Zalesovo Beam	161.89	350	PKP		PKPdf	00 36 39.3	-2.9	
	comp=Z,0.8nm,0.7s,baz=340,slow=1.7,SNR=5.1								
ZALV	Zalesovo Beam	161.89	350			PKPdf	00 36 39.0	-3.2	
BVAR	Borovoye Array	161.98	18	PKPab		PKPab	00 37 28.7	+0.1	
	comp=Z,0.4nm,0.8s,baz=27,slow=3.9,SNR=1.8								
GEYT	Alibeck	162.78	78	PKP		PKPdf	00 36 41.6	-2.1	
	comp=Z,2.1nm,0.8s,baz=233,slow=6.7,SNR=5.8								
KURK	Kurchatov	165.48	2			PKPdf	00 36 42.4	-3.2	
KURBB	Kurchatov Arra	165.57	3	PKP		PKPdf	00 36 42.4	-3.3	
	comp=Z,1.0nm,0.9s,baz=19,slow=1.3,SNR=8.4								
KURBB				PKPab		PKPab	00 37 44.9	+0.6	
	comp=Z,0.6nm,0.9s,baz=338,slow=5.5,SNR=5.6								
MKAR	Makanchi Array	169.23	350	PKP		PKPdf	00 36 45.4	-3.2	
	comp=Z,0.4nm,0.8s,baz=279,slow=2.3,SNR=4.3								
MKAR				PKPab		PKPab	00 38 01.2	+0.5	
	comp=Z,0.7nm,1.0s,baz=347,slow=5.0,SNR=3.9								
MKAR				PP		PP	00 41 51.3	+1.6	
	comp=Z,0.9nm,1.1s,baz=345,slow=1.4,SNR=4.0								
MKAR	Makanchi Array	169.23	350			PKPdf	00 36 46.0	-2.6	
NIL	Nilore	174.21	114	PKPab		PKPab	00 38 21.9	-1.4	

*IDC **28** 00:22:34.8±2.7,2°.31N×98°.28E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.4/50, mbtmp3.7/7, Error ellipse: s-maj=163.4km s-min=20.2km az=55.0*

ISC 28 00:22:41.3±2.4, 2°.5N±0°.6×98°.6E±0°.9, h40km, n7, σ0°.43/7, mb3.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	41.59	124	P	P	00 30 25.6	-0.1
	0.3nm,0.3s,baz=321,slow=11,SNR=5.3						
ASAR	Alice Springs	43.12	129	P	P	00 30 38.4	+0.4
	0.3nm,0.5s,baz=299,slow=8.3,SNR=2.9						
MKAR	Makanchi Array	46.34	345	P	P	00 31 03.8	+0.3
	0.4nm,0.6s,baz=163,slow=9.1,SNR=4.7						
KURBB	Kurchatov Arra	50.86	344	P	P	00 31 38.5	+0.5
	0.2nm,0.6s,baz=165,slow=7.4,SNR=2.5						
ZALV	Zalesovo Beam	52.52	350	P	P	00 31 50.1	-0.3
	0.6nm,0.3s,baz=154,slow=7.0,SNR=4.1						
STKA	Stephens Creek	53.23	134	P	P	00 31 55.9	-0.1
	0.8nm,0.3s,baz=293,slow=7.2,SNR=2.8						
FINES	FINESS Array B	79.49	332	P	P	00 34 43.1	-0.4
	0.4nm,0.3s,baz=112,slow=8.5,SNR=4.9						

IDC 28 00:33:47.6±1.8, 7°.55S×130°.15E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.6/36, mbtmp3.7/5, ML3.9/3, MS3.7/3, Ms1 3.7/3, ms1mx2.9/37, Error ellipse: s-maj=79.1km s-min=25.4km az=80.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.37	202	Pn	Pn	00 36 33.0	+1.6
	0.7nm,0.3s,baz=32,slow=11,SNR=33						
FITZ				Sn	Sn	00 38 35.0	-4.3
	1.0nm,0.3s,baz=133,slow=20,SNR=3.3						
WRA	Warramunga Arr	12.98	162	Pn	Pn	00 36 52.3	-1.2
	0.7nm,0.3s,baz=342,slow=13,SNR=19						
WRA				Sn	Sn	00 39 09.4	-9.3
	1.8nm,0.3s,baz=335,slow=21,SNR=8.9						
ASAR	Alice Springs	16.43	168	Pn	Pn	00 37 39.2	-0.5
	0.4nm,0.3s,baz=340,slow=8.6,SNR=12						
ASAR				Sn	Sn	00 40 33.2	-10
	0.4nm,0.3s,baz=359,slow=29,SNR=6.5						
NWAO	Narrogin (SRO)	27.95	204	LR	LR	00 50 34.7	
	comp=Z,74nm,18.6s,baz=304,slow=36						
SONM	Songino Array	59.00	342	P	P	00 43 48.9	-0.3
	0.2nm,0.4s,baz=142,slow=7.3,SNR=1.5						
MKAR	Makanchi Array	68.76	327	P	P	00 44 53.5	+0.1
	1.1nm,0.6s,baz=122,slow=7.4,SNR=10						
KMBO	Kilima Mbogo	92.72	269	LR	LR	01 27 19.0	
	comp=Z,63nm,18.2s,baz=98,slow=35						
BRTR	Keskin Array B	99.77	309	LR	LR	01 40 59.6	
	comp=Z,41nm,18.7s,baz=252,slow=40						

*HEL **28** 00:41:48.4, 67°.76N×20°.19E, h0km, ML1.8, Explosion*

UPP 28 00:41:49.0±0.0, 67°.82N×20°.20E, h0km, ML2.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.14	22	P	Pg	00 41 51.9	+0.2
KUA				S	Sg	00 41 53.9	+0.4
KUA	Kurravaara	0.14	22	*i* P	Pg	00 41 51.9	+0.2
KUA				*i* S	Sg	00 41 53.9	+0.4
RATU	Laukkuluspa	0.23	270	P	Pg	00 41 53.6	+0.2
RATU	Laukkuluspa	0.23	270	*i* P	Pg	00 41 53.6	+0.2
KOVU	Salmi	0.40	358	P	Pg	00 41 56.8	+0.1
KOVU	Salmi	0.40	358	*i* P	Pg	00 41 56.8	+0.1
NIKU	Nikkaluokta	0.44	276	P	Pg	00 41 57.5	+0.1
NIKU	Nikkaluokta	0.44	276	*i* P	Pg	00 41 57.5	+0.1
LANU	Lannavaara	0.71	71	P	Pg	00 42 02.5	-0.2
LANU	Lannavaara	0.71	71	*e*P	Pg	00 42 02.3	-0.4
LANU				*e*S	Sg	00 42 11.8	0.0
DUNU	Dundret	0.72	168	P	Pg	00 42 02.5	-0.2
DUNU	Dundret	0.72	168	*i* P	Pg	00 42 02.5	-0.2
MASU	Masugnsbyn	0.78	117	P	Pg	00 42 03.8	-0.2
MASU	Masugnsbyn	0.78	117	*i* P	Pg	00 42 03.8	-0.2
KIF	Kilpisjarvi	1.21	10	*e*P	Pn	00 42 14.0	+0.9
KIF	Kilpisjarvi	1.21	10	*e*PB	Pg	00 42 12.2	+0.1
KIF				MSG		00 42 27.8	
	comp=Z,11nm,0.2s						
KIF				*e*SB	Sb	00 42 28.5	-0.3
PAJU	Pajala	1.38	124	P	Pg	00 42 14.3	-1.2
PAJU	Pajala	1.38	124	*e*P	Pg	00 42 14.2	-1.3
	baz=305						
PAJU				*e*S	Sg	00 42 30.3	-3.0
HEF	Hetta	1.42	64	*e*P	Pn	00 42 15.4	-0.7
HEF	Hetta	1.42	64	*e*PG	Pn	00 42 15.0	-1.0
HEF				MSG		00 42 32.2	
	comp=Z,6.0nm,0.2s						
HEF				*e*SN	Sn	00 42 38.6	+3.1
HARU	Harads	1.69	169	P	Pn	00 42 19.7	0.0
HARU	Harads	1.69	169	*e*P	Pn	00 42 19.7	0.0
KALU	Kalix	2.33	146	*e*PB	Pn	00 42 29.6	+1.1
	baz=329						
TOF	Tornio	2.39	135	*e*PB	Pn	00 42 30.6	+1.4
TOF				MSG		00 42 57.9	
	comp=Z,4.8nm,0.2s						
TOF				*e*SG	Sb	00 43 03.2	+0.6
SGF	Sodankyl	2.45	96	*e*PB	Pb	00 42 32.1	-1.8
	baz=284						
RNF	Rovaniemi	2.57	116	*e*PB	Pn	00 42 33.6	+1.8
RNF				*e*SG	Sb	00 43 08.6	+0.6
ARA0	ARCESS Array S	2.59	46	*e*PB	Pn	00 42 33.5	+1.4
	baz=235						
ARA0				*e*SG	Sb	00 43 08.9	+0.3
KEV	Kevo	3.15	49	*e*S	Sn	00 43 18.6	+0.7
KEV				MSG		00 43 21.9	
	comp=Z,1.9nm,0.2s						
KU6	Riekki	4.22	111	*e*PG	Pb	00 43 05.0	+1.0
	baz=296						

UPP 28 00:42:05.0±0.1, 67°.83N×20°.22E, h0km, ML2.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.14	20	P	Pg	00 42 07.8	+0.3
KUA				S	Sg	00 42 09.6	+0.3
RATU	Laukkuluspa	0.24	269	P	Pg	00 42 09.6	+0.1
KOVU	Salmi	0.40	357	P	Pg	00 42 12.6	0.0
KOVU				S	Sg	00 42 18.0	+0.3
NIKU	Nikkaluokta	0.45	276	P	Pg	00 42 13.8	+0.3
DUNU	Dundret	0.72	169	S	Sg	00 42 28.9	+0.8

*IDC **28** 00:48:38.5±1.3, 19°.03S×169°.66E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.0/27, mbtmp4.1/9, ML4.7/2, MS3.6/5, Ms1 3.6/5, ms1mx3.1/37, Error ellipse: s-maj=35.2km s-min=25.0km az=161.0*

*NEIC **28** 00:48:43.5±1.4, 19°.25S±0°.09×169°.69E±0°.04, h38km±11km, mb4.3/13, Error ellipse: s-maj=13.3km s-min=6.1km az=181.0*

*NOU **28** 00:48:59.8, 20°.30S×168°.56E, h0km, MLv3.4, Loyalty Islands*

ISC 28 00:48:43.6±0.7, 19°.23S±0°.07×169°.72E±0°.08, h35km, n36, σ0s95/36, mb4.2/14, MS3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	Mare, Loyalty	2.74	215	P	Pn	00 49 23.6	-1.5
LIFNC	LIFOU	2.79	236	P	Pn	00 49 24.2	-1.6
YATNC	Mamie plateau,	3.86	223	P	Pn	00 49 39.6	-0.9
PINNC	Pines Island,	3.98	212	P	Pn	00 49 41.6	-0.5
OUENC	Ouen Island, N	4.16	220	P	Pn	00 49 44.2	-0.4
DZM	Mont Dzumac	4.17	227	Pn	Pn	00 49 44.0	-0.8
	5.1nm,0.3s,baz=90,slow=7.4,SNR=66						
DZM				Sn	Sn	00 50 33.2	+0.9
	7.4nm,0.3s,baz=310,slow=23,SNR=8.7						
DZM				LR	LR	00 51 12.6	
	comp=Z,415nm,19.8s,baz=37,slow=36						
DZM	Mont Dzumac	4.17	227	*e*Pn	Pn	00 49 44.2	-0.6
	23nm,0.3s						
DZM				*e*Sn	Sn	00 50 32.9	+0.5
	50nm,0.2s						
DZM				*e*LR	LR	00 50 42.9	
	comp=Z,657nm,25.8s						
DZM	Mont Dzumac	4.17	227	P	Pn	00 49 43.8	-1.0
ONTNC	Ouen Toro	4.32	224	P	Pn	00 49 46.1	-0.7
SANVU	Saraoutou	4.47	327	Pn	Pn	00 49 48.6	-0.2
MSVF	Nonsavu	8.04	81	Pn	Pn	00 50 37.9	-0.2
	1.1nm,0.3s,baz=255,slow=13,SNR=14						
MSVF				LR	LR	00 53 02.2	
	comp=Z,267nm,20.4s,baz=12,slow=33						
MSVF	Nonsavu	8.04	81		Pn	00 50 38.5	+0.4
OUZ	Omahuta	16.29	169	Pn	Pn	00 52 29.6	0.0
CTA	Charters Tower	22.11	264	P	P	00 53 37.1	+1.0
	2.3nm,0.6s,baz=96,slow=17,SNR=1.8						
CTA				LR	LR	01 01 06.3	
	comp=Z,395nm,21.4s,baz=73,slow=34						
CAN	Canberra	24.33	225	P	P	00 53 57.9	-0.3
KNTN	Kanton	24.44	50	P	P	00 53 58.6	-0.5
KNTN				IAmb	IAmb	00 54 00.6	
	comp=Z,20nm,0.9s						
MQZ	McQueen's Vall	24.52	175	P	P	00 53 58.6	-1.1
MQZ				IAmb	IAmb	00 54 02.4	
	comp=Z,20nm,1.1s						
LBZ	Lake Benmore	25.08	179	P	P	00 54 05.1	+0.3
LBZ				IAmb	IAmb	00 54 13.5	
	comp=Z,9.8nm,1.2s						
COEN	Coen	25.96	278	P	P	00 54 12.0	-1.1
COEN				IAmb	IAmb	00 54 24.2	
	comp=Z,6.1nm,1.1s						
STKA	Stephens Creek	28.23	238	P	P	00 54 35.1	+1.7
	comp=Z,0.7nm,0.3s,baz=96,slow=9.2,SNR=3.7						
WR0	Warramunga Arr	33.11	263	P	P	00 55 16.0	-0.6
WB0	Warramunga Arr	33.27	263	P	P	00 55 15.3	-2.7
WB0				IAmb	IAmb	00 55 24.0	
	comp=Z,4.7nm,1.1s						
WB2	Warramunga Arr	33.29	263	P	P	00 55 18.7	+0.5
WB2				IAmb	IAmb	00 55 30.7	
	comp=Z,2.0nm,0.9s						
WRA	Warramunga Arr	33.30	263	P	P	00 55 16.9	-1.4
	comp=Z,0.8nm,0.5s,baz=89,slow=8.5,SNR=6.2						
WRA	Warramunga Arr	33.30	263	IAmb	IAmb	00 55 19.5	
	comp=Z,0.1nm,0.9s						
AS31	Alice Springs	33.57	256	P	P	00 55 20.2	-0.4
ASAR	Alice Springs	33.57	256	P	P	00 55 20.1	-0.4
	comp=Z,8.6nm,0.5s,baz=84,slow=8.9,SNR=183						
ASAR				LR	LR	01 08 02.4	
	comp=Z,64nm,20.2s,baz=134,slow=35						
ASAR	Alice Springs	33.57	256	P	P	00 55 19.9	-0.6
FITZ	Fitzroy Crossi	41.69	264	P	P	00 56 29.7	+0.5
FITZ				IAmb	IAmb	00 56 30.0	
	comp=Z,6.8nm,0.8s						
PSA00	Pilbara Seismi	46.65	258	P	P	00 57 09.5	+0.6
NWAO	Narrogin (SRO)	48.62	243	LR	LR	01 16 57.2	
	comp=Z,74nm,19.8s,baz=118,slow=35						
NWAO	Narrogin (SRO)	48.62	243	P	P	00 57 23.9	-0.2
VNDA	Vanda	58.45	182	P	P	00 58 36.9	+1.5
	comp=Z,1.0nm,1.0s,baz=339,slow=8.1,SNR=3.4						
CMAR	Chiang Mai Arr	78.92	294	P	P	01 00 44.0	+0.1
	comp=Z,0.8nm,0.3s,baz=134,slow=4.7,SNR=6.1						
SONM	Songino Array	87.49	323	P	P	01 01 27.2	-0.5
	comp=Z,1.2nm,0.8s,baz=137,slow=5.9,SNR=4.6						
GERES	GERESS Array B	144.70	332	PKP	PKPab	01 08 14.9	-0.5
	comp=Z,0.3nm,0.5s,baz=69,slow=7.3,SNR=3.9						

*IDC **28** 00:52:23.5±1.8, 25°.09S×177°.61W, h242km±18km, mb3.5/6, mb1 3.7/8, mb1mx3.4/27, mbtmp4.1/8, Error ellipse: s-maj=23.2km s-min=21.4km az=108.0*

ISC 28 00:52:23.9±0.8, 25°.16S±0°.08×177°.5W±0°.1, h250km, n14, σ1s35/14, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	4.09	185	P	Pn	00 53 29.4	+0.7
	28nm,0.3s,baz=278,slow=23,SNR=1.5						
RAO				S	S	00 54 20.7	+0.4
	157nm,0.3s,baz=270,slow=23,SNR=10						
MSVF	Nonsavu	8.45	330	P	Pn	00 54 20.8	-2.2
	1.1nm,0.3s,baz=143,slow=15,SNR=7.3						
URZ	Urewera	13.83	198	P	Pn	00 55 27.5	-2.3
	0.2nm,0.3s,baz=118,slow=23,SNR=1.4						
URZ				S	S	00 57 48.6	-14
	0.8nm,0.3s,baz=125,slow=23,SNR=2.1						
DZM	Mont Dzumac	15.00	279	P	Pn	00 55 46.2	+1.9
	0.3nm,0.3s,baz=96,slow=16,SNR=3.3						
CTA	Charters Tower	33.73	271	P	P	00 58 43.1	+1.0
	1.6nm,0.3s,baz=91,slow=15,SNR=2.5						
ASAR	Alice Springs	44.05	261	P	P	01 00 07.6	+0.1
	3.2nm,1.0s,baz=105,slow=7.9,SNR=16						
WRA	Warramunga Arr	44.56	267	P	P	01 00 10.6	-1.0
	2.2nm,0.8s,baz=99,slow=8.2,SNR=9.4						
PETK	Petropavlovsk-	80.86	345	P	P	01 04 10.1	+0.4
	5.1nm,0.9s,baz=163,slow=5.6,SNR=4.3						
NVAR	Mina Array Bea	84.12	43	P	P	01 04 28.7	+1.5
	0.1nm,0.3s,baz=214,slow=8.8,SNR=1.9						
ILAR	Eielson Array	92.74	13	P	P	01 05 06.8	-0.3
	0.5nm,0.9s,baz=228,slow=5.4,SNR=2.4						
MKAR	Makanchi Array	114.65	312	PKP	PKPdf	01 10 34.4	+0.1
	0.2nm,0.7s,baz=120,slow=1.7,SNR=2.3						
KURBB	Kurchatov Arra	117.70	316	PKP	PKiKP	01 10 40.1	+0.2
	0.2nm,0.5s,baz=117,slow=1.2,SNR=2.5						
HFS	Hagfors	144.18	350	PKP	PKPab	01 11 28.1	+0.3
	2.3nm,0.8s,baz=121,slow=2.6,SNR=7.9						
AKASG	Malin Array Be	147.22	328	PKPbc	PKPbc	01 11 36.6	-0.8
	0.6nm,0.4s,baz=46,slow=3.7,SNR=2.0						

*IDC **28** 01:08:21.0±1.0, 40°.57N×52°.51E, h0km, mb3.9/13, mb1 4.1/23, mb1mx3.9/64, mbtmp4.0/23, ML3.9/7, MS2.7/3, Ms1 2.8/3, ms1mx2.3/46, Error ellipse: s-maj=19.5km s-min=9.2km az=178.0*

*MOS **28** 01:08:25.5±1.1, 40°.63N×52°.64E, h55km, mb4.3/5, Error ellipse: s-maj=6.5km s-min=4.5km az=131.4*

*NEIC **28** 01:08:27.6±1.6, 40°.63N±0°.10×52°.7E±0°.1, h66km±11km, mb4.1/15, Error ellipse: s-maj=14.5km s-min=10.8km az=193.0*

ISC 28 01:08:25.5±0.5, 40°.66N±0°.05×52°.66E±0°.04, h35km, n140, σ1s76/149, mb3.9/18, 14C-5D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKT	Akhty	3.82	284	*e*P	Pn	01 09 25.4	+3.5
AKT				*e*S	Sn	01 10 08.0	+2.4
AKT				pmax	pmax		
	comp=Z,108nm,0.2s						
AKT				smax	smax		
	comp=E,2μm,0.4s						
AKT				smax	smax		
	comp=N,895nm,0.4s						
AKT				smax	smax		
	comp=E,2μm,0.4s						
AKT				MLR	MLR		
	comp=Z,361nm,2.0s						
MAK	Makhachkala	4.49	303	*e*P	Pn	01 09 34.8	+3.8
MAK				*e*		01 10 27.7	
MAK				pmax	pmax		
	comp=Z,143nm,0.3s						
MAK				smax	smax		
	comp=N,1μm,0.5s						
MAK				smax	smax		
	comp=N,2μm,0.4s						
MAK				MLR	MLR		
	comp=Z,573nm,2.0s						
GEYT	Alibeck	5.03	121	Pn	Pn	01 09 39.1	+0.5
	comp=Z,12nm,0.3s,baz=303,slow=12,SNR=58						
GEYT				Sn	Sn	01 10 33.0	-2.5
	comp=Z,12nm,0.3s,baz=305,slow=14,SNR=4.1						
GEYT				Lg	Lg	01 11 06.5	
	comp=Z,14nm,0.3s,baz=332,slow=12,SNR=3.7						
GEYT				LR	LR	01 12 12.0	
	comp=Z,56nm,19.6s,baz=0.0,slow=45						
GEYT	Alibeck	5.03	121		Pn	01 09 40.3	+1.7
GYA0	ALIBECK ARRAY	5.03	121	P	Pn	01 09 40.5	+1.9
GYA0				S	Sn	01 10 35.9	+0.4
GYA0B	ALIBECK ARRAY	5.03	121		Pn	01 09 40.2	+1.7
ASHT	Ashkhabad	5.20	120	P	Pn	01 09 43.4	+2.5
ASHT	Ashkhabad	5.20	120	Pn	Pn	01 09 43.4	+2.5
DVE	Vedeno	5.40	297	*i* P	Pn	01 09 48.3	+4.7
GROC	Groznyy	5.72	299	*e*P	Pn	01 09 51.5	+3.6
GROC				*e*		01 10 56.6	
GROC				pmax	pmax		
	comp=Z,42nm,0.6s						
GROC				smax	smax		
	comp=N,274nm,0.7s						
GROC				smax	smax		
	comp=E,277nm,0.8s						
GROC				smax	smax		
	comp=E,377nm,0.9s						
GROC				MLR	MLR		
	comp=Z,2.0nm,1.0s						
GNI	Garni	6.07	268	Pn	Pn	01 09 53.9	+1.0
	comp=Z,2.5nm,0.3s,baz=61,slow=4.7,SNR=20						
GNI				Sn	Sn	01 11 01.0	-0.1
	comp=Z,2.2nm,0.3s,baz=4.3,slow=22,SNR=1.7						
GNI				LR	LR	01 12 20.0	
	comp=Z,26nm,21.7s,baz=80,slow=40						
GNI	Garni	6.07	268	*e*P	Pn	01 09 54.4	+1.5
GNI				pmax	pmax		
	comp=Z,12nm,0.7s						
GNI	Garni	6.07	268	Pn	Pn	01 09 54.3	+1.4
ZEI	Tsey	6.89	291	*e*P	Pn	01 10 06.9	+2.7
ZEI				*e*S	Sn	01 11 23.0	+1.6
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.2s						
ZEI				smax	smax		
	comp=E,24nm,0.2s						
ZEI				smax	smax		
	comp=N,23nm,0.5s						
NCK	Nalchik	7.32	296	*i* P	Pn	01 10 12.3	+2.4
GEVA	Gevas	7.79	256	Pn	Pn	01 10 18.2	+1.7
PYA1	Pyatigorsk	7.86	299	*i* P	Pn	01 10 18.8	+1.5
KBZ	Khabaz	7.87	296	Pn	Pn	01 10 18.2	+0.8
	comp=N,1.5nm,0.3s,baz=100,slow=3.7,SNR=79						
KBZ				Sn	Sn	01 11 42.3	-2.9
	comp=N,5.4nm,0.3s,baz=251,slow=14,SNR=9.7						
KBZ	Khabaz	7.87	296	*e*P	Pn	01 10 18.7	+1.3
SHA1	Shidzhatmaz	8.04	296	*i* P	Pn	01 10 21.2	+1.2
KVAR	Kislovodsk Arr	8.09	297	Pn	Pn	01 10 19.9	-0.6
	baz=235,slow=18,SNR=2.6						
KVAR				Sn	Sn	01 11 47.3	-3.5
	baz=299,slow=21,SNR=7.3						
KIV	Kislovodsk	8.09	297	P	Pn	01 10 22.1	+1.5
KIV	Kislovodsk	8.09	297	Pn	Pn	01 10 22.1	+1.5
GOF	Gofitskoye	8.32	305	*e*P	Pn	01 10 26.8	+3.2
GOF				*e*S	Sn	01 11 56.0	-0.3
GOF				pmax	pmax		
	comp=Z,21nm,0.6s						
GOF				smax	smax		
	comp=N,52nm,0.4s						
GOF				smax	smax		
	comp=E,122nm,0.6s						
DOMR	Dombai	8.63	291	*i* P	Pn	01 10 28.2	+0.1
ARKR	Arkhyz	8.95	293	*i* P	Pn	01 10 35.6	+3.3
HRA	Herat	9.85	126	Pn	Pn	01 10 46.9	+2.1
AB31	Akbulak array	10.02	29	P	Pn	01 10 49.3	+2.4
AB31				S	Sn	01 12 37.0	-1.0
ABKAR	Akbulak array	10.02	29	Pn	Pn	01 10 48.3	+1.4
AKTO	Aktyubinsk	10.47	19	Pn	Pn	01 10 55.7	+2.6
	comp=E,2.6nm,0.3s,baz=202,slow=13,SNR=47						
AKTO				Sn	Sn	01 12 47.7	-1.3
	comp=E,4.1nm,0.3s,baz=100,slow=20,SNR=12						
AKTO	Aktyubinsk	10.47	19	P	Pn	01 10 55.7	+2.6
AKTO				S	Sn	01 12 48.4	-0.6
BELG	Belogornoye	12.24	345	Pn	Pn	01 11 18.1	+1.0
	comp=E,3.8nm,0.3s,baz=337,slow=2.3,SNR=23						
BELG				Sn	Sn	01 13 27.8	-4.3
	comp=E,2.7nm,0.3s,baz=52,slow=15,SNR=13						
BELG	Belogornoye	12.24	345	*i* P	Pn	01 11 17.8	+0.7
TAS	Tashkent	12.59	82	P	Pn	01 11 23.6	+1.5
TAS	Tashkent	12.59	82	Pn	Pn	01 11 23.6	+1.5
VRH	Novokhopyorsk	12.99	328	*e*P	Pn	01 11 28.1	+0.7
VRH				*e*S	Sn	01 13 49.1	-1.5
VRH				pmax	pmax		
	comp=Z,30nm,0.5s						
VRH				smax	smax		
	comp=N,130nm,0.7s						
KK31	Karatay Array	13.53	74	P	Pn	01 11 37.3	+2.4
KK31				S	Sn	01 13 59.1	-4.7
KK31	Karatay Array	13.53	74	Pn	Pn	01 11 37.1	+2.2
KKAR	Karatay Array	13.53	74	P	Pn	01 11 36.9	+2.0
KKAR	Karatay Array	13.53	74	Pn	Pn	01 11 37.2	+2.3
KKAR	Karatay Array	13.53	74	Pn	Pn	01 11 36.9	+2.0
VSR	Storozhevoye	14.11	323	*e*P	Pn	01 11 44.0	+1.3
VSR				*e*S	Sn	01 14 14.5	-3.3
VSR

NIL	**Nilore**	**17.82**	**107**			**Pn**	**01 12 28.9**	**-1.8**
NIL					IAmb	IAmb	01 12 35.0	
	comp=Z,13nm,1.1s							
OBN	**Obninsk**	**17.98**	**329**	P		**P**	**01 12 33.0**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=136,slow=20,SNR=5.0							
OBN	**Obninsk**	**17.98**	**329**	*eP*		**P**	**01 12 32.0**	**-0.7**
OBN					pmax	pmax		
	comp=Z,12nm,0.5s							
OBN	**Obninsk**	**17.98**	**329**	P		**P**	**01 12 32.4**	**-0.3**
MOS	**Moscow**	**18.05**	**332**	*eP*		**Pn**	**01 12 32.2**	**-1.1**
MOS				*eS*		**Sn**	**01 15 50.8**	**-2.7**
KIRV	**Kirov**	**18.07**	**355**	P		**P**	**01 12 35.8**	**+2.2**
	comp=Z,8.4nm,0.3s,baz=171,slow=3.5,SNR=31							
RAYN	**Ar Rayn**	**18.11**	**202**	P		**Pn**	**01 12 33.2**	**-1.2**
RAYN					pmax	pmax		
	comp=Z,3.0nm,1.0s							
RAYN	**Ar Rayn**	**18.11**	**202**	P		**Pn**	**01 12 33.2**	**-1.2**
TPGR	**Topolog**	**18.27**	**291**	⇑P		**Pn**	**01 12 37.3**	**+1.2**
CFR	**Carcaliu**	**18.50**	**292**	⇓P		**P**	**01 12 37.4**	**-1.1**
CFR	**Carcaliu**	**18.50**	**292**	⇓P		**P**	**01 12 37.4**	**-1.1**
AKASG	**Malin Array Be**	**19.13**	**310**	P		**P**	**01 12 45.1**	**-0.3**
	comp=Z,11nm,0.3s,baz=113,slow=12,SNR=38							
AKASG	**Malin Array Be**	**19.13**	**310**	P		**P**	**01 12 45.0**	**-0.4**
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.5s							
AKASG	**Malin Array Be**	**19.13**	**310**	P		**P**	**01 12 45.0**	**-0.4**
AKBB	**Malin Array Si**	**19.13**	**310**	*ceP*		**Pn**	**01 12 45.6**	**-0.9**
AKBB	**Malin Array Si**	**19.13**	**310**	P		**P**	**01 12 45.3**	**-0.1**
AKBB					IAmb	IAmb	01 12 46.5	
	comp=Z,12nm,0.7s							
VRI	**Vrincioaia**	**19.55**	**294**	⇑P		**Pn**	**01 12 52.7**	**+1.2**
VRI	**Vrincioaia**	**19.55**	**294**	⇑P		**Pn**	**01 12 52.7**	**+1.2**
PLOR	**Plostina**	**19.60**	**294**	⇑P		**Pn**	**01 12 53.2**	**+1.0**
PLOR	**Plostina**	**19.60**	**294**	⇑P		**Pn**	**01 12 53.2**	**+1.0**
MLR	**Muntele Rosu**	**20.06**	**293**	P		Pn	01 12 56.7	-1.0
	comp=Z,0.8nm,0.3s,baz=348,slow=0.9,SNR=6.2							
MLR	**Muntele Rosu**	**20.06**	**293**	⇓P		Pn	01 12 58.3	+0.6
MLR	**Muntele Rosu**	**20.06**	**293**	⇓P		Pn	01 12 58.3	+0.6
MLR	**Muntele Rosu**	**20.06**	**293**	P		Pn	01 12 57.3	-0.4
MLR					IAmb	IAmb	01 13 05.0	
	comp=Z,4.8nm,0.8s							
DOPR	**Dopca**	**20.49**	**294**	⇓P		Pn	01 13 01.0	-1.7
KURBB	**Kurchatov Arra**	**20.55**	**52**	P		Pn	01 13 04.2	+0.9
	comp=Z,1.0nm,0.9s,baz=253,slow=12,SNR=8.1							
KURK	**Kurchatov**	**20.64**	**52**	P		Pn	01 13 04.2	-0.1
KURK	**Kurchatov**	**20.64**	**52**	P		Pn	01 13 04.2	0.0
VOIR		**20.69**	**293**	⇑P		Pn	01 13 03.3	-1.7
VOIR		**20.69**	**293**	⇑P		Pn	01 13 03.3	-1.7
BURAR	**Bucovina Array**	**20.82**	**299**	⇑P		**P**	**01 13 04.4**	**+0.5**
BURAR	**Bucovina Array**	**20.82**	**299**	⇑P		**P**	**01 13 04.4**	**+0.5**
BURAR	**Bucovina Array**	**20.82**	**299**	P		**P**	**01 13 04.0**	**0.0**
BUR08	**Bucovina Ar. S**	**20.83**	**299**	P		**P**	**01 13 03.5**	**-0.7**
BUR08					IAmb	IAmb	01 13 08.0	
	comp=Z,7.2nm,0.8s							
PRGR	**Permogore**	**21.44**	**351**	*eP*		**P**	**01 13 11.5**	**+1.2**
PRGR				*e**PP		**sP**	**01 13 26.6**	**+2.6**
PRGR				*eS*		**S**	**01 17 03.9**	**-2.2**
PRGR					pmax	pmax		
	comp=Z,17nm,0.6s							
KLMR	**Klimovskoe**	**21.78**	**343**	*eP*		**P**	**01 13 10.7**	**-3.3**
KLMR					pmax	pmax		
	comp=Z,21nm,0.8s							
KLMR	**Klimovskoe**	**21.78**	**343**	*eP*		**P**	**01 13 10.7**	**-3.3**
KLMR					AMP		01 13 19.3	
	comp=Z,21nm,0.8s							
MAKZ	**Makanchi**	**21.98**	**64**	P		**P**	**01 13 17.5**	**+1.2**
MAKZ					pmax	pmax		
	comp=Z,6.0nm,1.3s							
MAKZ	**Makanchi**	**21.98**	**64**	P		**P**	**01 13 17.5**	**+1.2**
MK31	**Makanchi Array**	**22.19**	**64**	P		**P**	**01 13 20.5**	**+1.9**
MK31					pmax	pmax		
	comp=Z,2.0nm,0.8s							
MK31	**Makanchi Array**	**22.19**	**64**	P		**P**	**01 13 20.5**	**+1.9**
MKAR	**Makanchi Array**	**22.19**	**64**	P		**P**	**01 13 21.5**	**+2.9**
	comp=Z,0.9nm,0.3s,baz=260,slow=10,SNR=25							
MKAR	**Makanchi Array**	**22.19**	**64**	P		**P**	**01 13 20.1**	**+1.5**
MKAR	**Makanchi Array**	**22.19**	**64**	P		**P**	**01 13 20.1**	**+1.5**
IDID	**Didziasalis**	**22.53**	**319**	*eP*		**P**	**01 13 23.2**	**+1.1**
IIGN	**Ignalina**	**22.81**	**319**	*eP*		**P**	**01 13 25.7**	**+0.6**
ISAL	**Salakas**	**22.96**	**319**	*eP*		**P**	**01 13 27.9**	**+1.3**
KOLS	**Kolonicke sedl**	**22.98**	**301**	*eP*		**P**	**01 13 29.5**	**+2.6**
KOLS	**Kolonicke sedl**	**22.98**	**301**	*eP*		**P**	**01 13 29.5**	**+2.6**
PABE	**Paberze**	**24.02**	**318**	*eP*		**P**	**01 13 36.8**	**-0.1**
VSU	**Vasula**	**24.25**	**326**	*eP*		**P**	**01 13 37.8**	**-1.1**
PBUR	**Paburge**	**25.28**	**318**	*eP*		**P**	**01 13 48.1**	**-0.2**
ZALV	**Zalesovo Beam**	**25.29**	**47**	P		**P**	**01 13 50.9**	**+2.5**
	comp=Z,0.6nm,0.4s,baz=253,slow=9.1,SNR=3.8							
ZALV	**Zalesovo Beam**	**25.29**	**47**	P		**P**	**01 13 47.8**	**-0.6**
ZALV	**Zalesovo Beam**	**25.29**	**47**	P		**P**	**01 13 47.8**	**-0.6**
SLIT	**Slitere, Latvi**	**25.82**	**321**	*eP*		**P**	**01 13 53.0**	**-0.1**
WMQ	**Urumqi**	**26.01**	**71**	*eP*		**P**	**01 13 55.5**	**+0.3**
WMQ				sP		sP	01 14 25.0	+16
WMQ				PcP		**PcP**	**01 17 22.0**	**-0.6**
WMQ				LR		LR		
	comp=N,580nm,29.2s							
WMQ				LR		LR		
	comp=E,2μm,28.8s							
WMQ				LR		LR		
	comp=Z,89nm,28.8s							
MORC	**Moravsky Berou**	**26.16**	**302**	P		**P**	**01 13 57.0**	**+0.6**
MORC					pmax	pmax		
	comp=Z,3.0nm,0.8s							
MORC	**Moravsky Berou**	**26.16**	**302**	P		**P**	**01 13 57.0**	**+0.6**
MORC					IAmb	IAmb	01 14 01.7	
	comp=Z,3.2nm,0.8s							
FIA1	**FINESS Array S**	**26.35**	**331**	P		**P**	**01 13 58.5**	**+0.5**
FINES	**FINESS Array B**	**26.35**	**331**	P		**P**	**01 13 58.8**	**+0.8**
	comp=Z,6.9nm,0.4s,baz=140,slow=11,SNR=114							
FINES	**FINESS Array B**	**26.35**	**331**	P		**P**	**01 13 58.0**	**0.0**
FINES	**FINESS Array B**	**26.35**	**331**	P		**P**	**01 13 58.0**	**0.0**
GERES	**GERESS Array B**	**28.59**	**300**	P		**P**	**01 14 17.7**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=94,slow=9.8,SNR=4.9							
HFS	**Hagfors**	**30.92**	**322**	P		**P**	**01 14 39.0**	**+0.4**
	comp=Z,5.4nm,0.4s,baz=114,slow=8.2,SNR=51							
HFS	**Hagfors**	**30.92**	**322**	P		**P**	**01 14 39.0**	**+0.4**
ARCES	**ARCESS Array B**	**32.26**	**342**	P		**P**	**01 14 50.8**	**+0.5**
	comp=Z,3.6nm,0.9s,baz=146,slow=9.2,SNR=13							
ARCES					LR	LR	01 30 33.0	
	comp=Z,59nm,18.1s,baz=325,slow=41							
NB2	**NORSAR Subarra**	**32.38**	**323**	P		**P**	**01 14 51.2**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=110,slow=9.3							
NOA	**NORSAR Array B**	**32.38**	**323**	P		**P**	**01 14 51.2**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=112,slow=8.4,SNR=22							
EKA	**Eskdalemuir Ar**	**39.03**	**311**	P		**P**	**01 15 48.4**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=99,slow=8.9,SNR=22							
ESDC	**Sonseca Array**	**42.63**	**288**	P		**P**	**01 16 16.8**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=60,slow=8.5,SNR=9.8							
ESDC	**Sonseca Array**	**42.63**	**288**	IAmb		IAmb	01 17 19.6	
	comp=Z,15nm,1.6s							
TORD	**Torodi Ar. Bea**	**52.16**	**253**	P		**P**	**01 17 30.5**	**-2.3**
	comp=Z,0.4nm,0.8s,baz=52,slow=5.3,SNR=4.2							
BILL	**Bilibino**	**60.88**	**23**	*eP*		**P**	**01 18 35.0**	**+1.0**
BILL				*e*			01 19 15.6	
BILL				*e*			01 20 49.5	
BILL					pmax	pmax		
	comp=Z,1.0nm,1.1s							
ILAR	**Eielson Array**	**73.79**	**9**	P		**P**	**01 19 56.3**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=339,slow=3.9,SNR=1.6							
YKA	**Yellowknife Ar**	**76.69**	**354**	P		**P**	**01 20 12.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=12,slow=5.8,SNR=6.8							

*GUC **28** 01:19:06.0±0.7, 19˚.15S×69˚.45W, h110km±3km, ML3.6*
*IDC **28** 01:19:07.0±1.4, 19˚.25S×69˚.07W, h128km±12km, mb3.5/3, mb1 3.4/6, mb1mx3.1/42, mbtmp3.7/6, Error ellipse: s-maj=41.5km s-min=9.0km az=98.0*

ISC 28 01:19:05.0±0.9,**19˚.19S**±0˚.04×**69˚.51W**±0˚.09,**h114**km±7km, **n29,** σ1§**14**/**27**,**2C-2D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
MNMC	**Minye Minye**	**0.10**	**308**	⇓*iP*		**Pn**	**01 19 21.4**	**+0.3**
MNMC				*eS*		**Sn**	**01 19 33.2**	**+0.1**
PSGC	**Pisagua**	**0.70**	**235**	⇑*iP*		**Pn**	**01 19 24.3**	**+0.4**
PSGC				*eS*		**Sn**	**01 19 38.3**	**+0.1**
PSGC				IAML			01 19 38.9	
	comp=N,3μm,0.2s							
PB16	**IPOC Station P**	**0.85**	**0**	⇓*iP*		**Pn**	**01 19 26.6**	**+0.8**
PB16				*eS*		**Sn**	**01 19 41.6**	**+0.2**
PB16				IAML			01 19 43.4	
	comp=N,1μm,0.3s							
PB08	**IPOC Station P**	**1.00**	**160**	⇑*iP*		**Pn**	**01 19 28.0**	**+1.0**
PB08				*eS*		**Sn**	**01 19 44.4**	**+0.8**
PB08				IAML			01 19 45.7	
	comp=E,2μm,0.1s							
AP01	**Chacalluta**	**1.13**	**316**	*eP*		**Pn**	**01 19 28.5**	**+0.6**
AP01				*eS*		**Sn**	**01 19 45.7**	**+0.4**
AP01				IAML			01 19 46.9	
	comp=N,3μm,0.7s							
TA01	**Diego Aracena**	**1.50**	**205**	*eP*		**Pn**	**01 19 32.4**	**+0.3**
TA01				IAML			01 19 54.9	
	comp=E,459nm,0.1s							
PB01	**IPOC Station P**	**1.84**	**179**	*eP*		**Pn**	**01 19 37.2**	**+0.9**
PB01				IAML			01 20 01.2	
	comp=N,615nm,0.2s							
PB07	**IPOC Station P**	**2.55**	**188**	*eP*		**Pn**	**01 19 46.0**	**+0.7**
PB07				IAML			01 20 18.1	
	comp=E,199nm,0.3s							
PB09	**IPOC Station P**	**2.60**	**174**	*eP*		**Pn**	**01 19 47.6**	**+1.5**
PB09				IAML			01 20 20.5	
	comp=E,132nm,0.5s							
PB03	**IPOC Station P**	**2.85**	**185**	*eP*		**Pn**	**01 19 49.9**	**+0.6**
PB03				IAML			01 20 25.2	
	comp=E,111nm,0.2s							
LPAZ	**La Paz**	**3.17**	**25**	P		**Pn**	**01 19 56.2**	**+2.2**
	comp=E,1.9nm,0.3s,baz=218,slow=6.2,SNR=34							
LPAZ				S		**Sn**	**01 20 32.6**	**+0.8**
	comp=E,0.6nm,0.3s,baz=57,slow=5.8,SNR=6.2							
PB04	**IPOC Station P**	**3.18**	**191**	*eP*		**Pn**	**01 19 54.1**	**+0.3**
PB04				IAML			01 20 37.5	
	comp=E,124nm,0.4s							
LVC	**Limon Verde**	**3.45**	**171**	P		**Pn**	**01 19 59.3**	**+1.9**
	comp=E,0.9nm,0.3s,baz=17,slow=6.8,SNR=28							
LVC				S		**Sn**	**01 20 37.9**	**+0.1**
	comp=E,6.4nm,0.3s,baz=357,slow=16,SNR=6.2							
PB06	**IPOC Station P**	**3.50**	**181**	*eP*		**Pn**	**01 19 58.6**	**+0.7**
PB06				IAML			01 21 03.0	
	comp=E,76nm,0.4s							
PB05	**IPOC Station P**	**3.70**	**190**	*eP*		**Pn**	**01 20 00.7**	**+0.1**
PB05				IAML			01 20 44.5	
	comp=E,90nm,0.5s							
PB15	**IPOC Station P**	**4.00**	**179**	*eP*		**Pn**	**01 20 05.4**	**+0.8**
SIV	**San Ignacio**	**8.65**	**70**	P		**Pn**	**01 21 04.7**	**-2.8**
	comp=E,0.9nm,0.3s,baz=260,slow=8.2,SNR=23							
H03N1	**Juan Fernandez**	**16.49**	**209**	T		T	01 39 54.9	
	baz=31,slow=73,SNR=10							
H03N2	**Juan Fernandez**	**16.50**	**209**	T		T	01 39 54.0	
	baz=31,slow=73,SNR=6.9							
H03N3	**Juan Fernandez**	**16.51**	**209**	T		T	01 40 03.9	
	baz=31,slow=73,SNR=7.6							
PTGA	**Pitinga**	**20.60**	**28**	P		**P**	**01 23 33.9**	**-1.3**
	comp=E,6.0nm,0.3s,baz=264,slow=19,SNR=18							
TORD	**Torodi Ar. Bea**	**77.13**	**71**	P		**P**	**01 30 45.1**	**-1.5**
	comp=E,0.5nm,0.7s,baz=254,slow=5.6,SNR=2.9							
YKA	**Yellowknife Ar**	**88.83**	**341**	P		**P**	**01 31 47.0**	**+1.2**
	comp=E,0.3nm,0.7s,baz=132,slow=5.4,SNR=7.2							
H11S2	**WAKE ISLAND Hyl**	**126.99**	**279**	T		T	03 57 27.6	
	baz=100,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hyl**	**127.00**	**279**	T		T	03 57 27.7	
	baz=100,slow=75,SNR=16							
H11S3	**WAKE ISLAND Hyl**	**127.01**	**279**	T		T	03 57 30.5	
	baz=100,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hyl**	**127.02**	**281**	T		T	03 57 44.2	
	baz=95							
H11N2	**WAKE ISLAND Hyl**	**127.03**	**281**	T		T	03 57 37.0	
	baz=95							
H11N1	**WAKE ISLAND Hyl**	**127.03**	**281**	T		T	03 57 38.9	
	baz=95							

*IDC **28** 01:19:27.0±2.4, 5˚.15N×127˚.51E, h49km±25km, mb4.1/22, mb1 4.3/25, mb1mx4.1/49, mbtmp4.4/25, ML4.8/3, MS3.4/21, Ms1 3.5/21, ms1mx3.4/38, Error ellipse: s-maj=18.7km s-min=11.3km az=74.0*
*NEIC **28** 01:19:31.2±1.3, 5˚.04N±0˚.08×127˚.37E±0˚.10, h96km±7km, mb4.6/41, Error ellipse: s-maj=14.6km s-min=11.4km az=59.0*
*DJA **28** 01:19:31.8±0.7, 5˚.5˚×12˚.7E±˚, h68km±5km, M4.8/28, mb4.9/28, mB5.2/21, MLv5.2/13, Mw(mB)4.6/21, MwMwp5.0/1, Mwp5.2/1*
*BJI **28** 01:19:31.0±0.0, 4˚.65N×127˚.40E, h127km, mB4.8/23, mb4.5/33*
*KLM **28** 01:19:33, 5˚.17N×127˚.48E, h97km, mb5.0*
*MAN **28** 01:19:33.0, 5˚.43N×126˚.96E, h13km, MS4.4*

ISC 28 01:19:26.6±0.4,**5˚.24N**±0˚.04×**127˚.54E**±0˚.05,**h50**km**, n165,** σ1§**69**/156,**mb4.6**/58,**MS3.4**/21,**1C-2D**,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
DDMP	**Don Marcelino,**	**2.02**	**295**	*eP*		**Pn**	**01 19 58.0**	**-0.2**
DDMP				*eS*		**Sn**	**01 20 21.9**	**-0.4**
MATI	**Mati**	**2.13**	**323**	*eP*		**Pn**	**01 20 00.4**	**+0.7**
MATI				*eS*		**Sn**	**01 20 23.7**	**-1.2**
SGSI	**Sangihe**	**2.53**	**233**	P		**Pn**	**01 20 06.1**	**+0.9**
SGSI				S		**Sn**	**01 20 36.1**	**+1.2**
KCP	**Kidapawan**	**3.01**	**306**	⇓*iP*		**Pn**	**01 20 13.4**	**+1.5**
KCP				*i* S		**Sn**	**01 20 46.2**	**-0.5**
SKMP	**Bagumbayan, Su**	**3.24**	**293**	*eP*		**Pn**	**01 20 14.9**	**-0.1**
SKMP				*eS*		**Sn**	**01 20 51.4**	**-1.0**
BUTP	**Butuan**	**4.17**	**333**	*eP*		**Pn**	**01 20 31.9**	**+4.1**
BUTP				*eS*		**Sn**	**01 21 17.0**	**+1.8**
CGP	**Cagayan de Oro**	**4.27**	**319**	⇓*eP*		Pn	01 20 36.7	+7.6
TNTI	**Ternate**	**4.44**	**182**	Pn		**Pn**	**01 20 34.4**	**+2.9**
TNTI	**Ternate**	**4.44**	**182**	P		**Pn**	**01 20 34.7**	**+3.3**
GLSP	**General Luna,**	**4.73**	**343**	*eP*		**Pn**	**01 20 36.1**	**+0.6**
GLSP				*eS*		**Sn**	**01 21 23.2**	**-5.9**
MSLP	**Maasin**	**5.54**	**332**	*eP*		**Pn**	**01 20 51.0**	**+4.3**
MSLP				*eS*		**Sn**	**01 21 42.2**	**-6.9**
KMSI	**Cibinong**	**5.84**	**218**	P		**Pn**	**01 20 52.9**	**+2.2**
	2.2nm619nm,0.9s							
GTOI	**Gorontalo**	**6.43**	**225**	P		**Pn**	**01 20 59.0**	**+0.2**
	0.4nm1μm77nm,0.8s							
SWI	**Sorong**	**7.11**	**148**	P		Pn	01 21 14.2	+6.1
SIJI	**Sorong**	**7.11**	**148**	P		**Pn**	**01 21 09.8**	**+1.6**
	15nm,0.3s,baz=335,slow=19,SNR=13							
SIJI				S		**Sn**	**01 22 23.9**	**-3.8**
	6.0nm,0.3s,baz=136,slow=20,SNR=8.7							
SIJI				LR		LR	01 23 54.0	
	comp=Z,259nm,21.5s,baz=354,slow=38							
MRSI	**Marisa**	**7.32**	**230**	P		**Pn**	**01 21 12.3**	**+1.3**
	1.5nm5μm356nm,0.6s							
SANI	**Sanana**	**7.40**	**192**	P		**Pn**	**01 21 11.5**	**-0.6**
	0.8nm3μm222nm,1.0s							
LUWI	**Luwuk**	**7.85**	**218**	Pn		**Pn**	**01 21 20.5**	**+2.3**
LUWI	**Luwuk**	**7.85**	**218**	P		**Pn**	**01 21 21.9**	**+3.7**
	1.5nm4μm422nm,0.9s							
TOLI2	**Tolitoli**	**7.89**	**239**	Pn		**Pn**	**01 21 17.5**	**-1.4**
NLAI	**Namlea**	**8.43**	**183**	P		**Pn**	**01 21 27.9**	**+1.7**
	3μm105nm,0.4s							
APSI	**Ampana**	**8.48**	**224**	P		**Pn**	**01 21 31.1**	**+4.2**
	2μm112nm,0.5s							
MYLDM	**Lahad Datu**	**9.01**	**270**	Pn		**Pn**	**01 21 37.1**	**+3.1**
FAKI	**Fak Fak**	**9.37**	**150**	Pn		**Pn**	**01 21 42.2**	**+3.1**
FAKI	**Fak Fak**	**9.37**	**150**	P		Pn	01 21 49.2	+10
SPMM	**Sapulut**	**11.05**	**268**	P		Pn	01 22 07.0	+4.9
TTSI	**Tana Toraja**	**11.28**	**223**	P		**Pn**	**01 22 06.6**	**+1.4**
	4μm811nm61nm,0.7s							
SPSI	**Sidrap Palu**	**11.99**	**220**	P		**Pn**	**01 22 15.1**	**+0.1**
	2μm40nm,1.0s							
BNSI	**Bone**	**12.12**	**218**	P		**Pn**	**01 22 19.1**	**+2.5**
	2μm32nm,0.9s							
KAPI	**Kappang**	**12.81**	**218**	P		**Pn**	**01 22 26.5**	**+0.4**
	1.5nm,0.3s,baz=22,slow=11,SNR=6							
KAPI	**Kappang**	**12.81**	**218**	Pn		**Pn**	**01 22 25.8**	**-0.4**
BKSI	**Bulukumba**	**12.84**	**215**	P		**Pn**	**01 22 25.8**	**-0.7**
	4μm21nm,0.8s							
SAUI	**Saumlaki**	**13.65**	**164**	Pn		**Pn**	**01 22 36.3**	**-1.4**
KBKI	**Kotabaru**	**14.18**	**234**	P		**P**	**01 22 49.7**	**-1.2**
	53nm,1.1s							
MMRI	**Maumere**	**14.76**	**201**	Pn		**Pn**	**01 22 50.9**	**-1.6**
MMRI	**Maumere**	**14.76**	**201**	P		P	01 23 02.5	+5.1
EDFI	**Ende, Flores**	**15.07**	**203**	P		**P**	**01 23 01.8**	**+0.8**
	573nm39nm,1.1s							
JAY	**Jayapura**	**15.24**	**120**	LR		LR	01 28 32.4	
	comp=Z,186nm,18.8s,baz=239,slow=36							
SOEI	**Soe**	**15.24**	**192**	Pn		**Pn**	**01 22 55.6**	**-3.2**
SOEI	**Soe**	**15.24**	**192**	P		**P**	**01 23 05.0**	**+2.1**
	2μm147nm,1.4s							
BBKI	**Banjar Baru**	**15.35**	**236**	P		**Pn**	**01 23 01.2**	**+1.1**
	3μm123nm,1.1s							
SBUM	**Sibu**	**15.53**	**260**	Pn		**Pn**	**01 23 02.2**	**-0.3**
SBUM				IAmb		IAmb	01 23 08.5	
	comp=Z,25nm,0.6s							
SBUM	**Sibu**	**15.53**	**260**	P		**P**	**01 23 08.0**	**+2.0**
BATI	**Baumata**	**15.82**	**194**	P		**Pn**	**01 23 06.9**	**+0.7**
	comp=Z,13nm,0.3s,baz=355,slow=3.5,SNR=5.4							
BATI				LR		LR	01 30 36.8	
	comp=Z,189nm,20.0s,baz=39,slow=43							
BATI	**Baumata**	**15.82**	**194**	P		**P**	**01 23 08.9**	**-0.3**
	comp=Z,923nmcomp=Z,64nm,1.0s							
PLAI	**Plampang**	**17.03**	**215**	P		**Pn**	**01 23 20.7**	**-0.7**
	comp=Z,1μmcomp=Z,112nm,0.8s							
TWSI	**Taliwang, Sumb**	**17.48**	**217**	P		**P**	**01 23 27.2**	**-0.4**
	comp=Z,702nmcomp=Z,64nm,0.8s							
KSM	**Kuching**	**17.60**	**258**	P		**Pn**	**01 23 28.1**	**-0.4**
KSM					IAmb	IAmb	01 23 32.5	
	comp=Z,54nm,1.1s							
KSM	**Kuching**	**17.60**	**258**	P		**P**	**01 23 30.0**	**+1.0**
KMMI	**Kalianget**	**18.23**	**228**	P		**Pn**	**01 23 35.9**	**-0.3**
	comp=Z,53nm,1.0s							
MTN	**Manton Dam**	**18.31**	**169**	P		**P**	**01 23 35.1**	**-1.6**
MTN					IAmb	IAmb	01 23 43.4	
	comp=Z,20nm,0.5s							
JAGI	**Jajag, Banyuwa**	**19.07**	**225**	P		**P**	**01 23 44.1**	**-1.0**
JAGI					IAmb	IAmb	01 23 51.3	
	comp=Z,37nm,0.9s							
SMRI	**Semarang**	**20.98**	**235**	P		**P**	**01 24 04.7**	**-1.2**
MANU	**Manus Island**	**21.08**	**110**	P		**P**	**01 24 07.3**	**+0.3**
MANU					IAmb	IAmb	01 24 32.8	
	comp=Z,27nm,1.4s							
PPBI	**Pangkal Pinang**	**22.61**	**252**	P		**P**	**01 24 24.0**	**+0.6**
LEM	**Lembang**	**23.22**	**239**	P		**P**	**01 24 29.4**	**-0.4**
	comp=Z,84nm,0.8s,baz=58,slow=7.0,SNR=14							
LEM					LR	LR	01 33 50.3	
	comp=Z,99nm,21.9s,baz=34,slow=37							
FITZ	**Fitzroy Crossi**	**23.26**	**185**	P		**P**	**01 24 29.6**	**-0.2**
	comp=Z,7.5nm,0.4s,baz=19,slow=9.7,SNR=25							
FITZ					LR	LR	01 35 25.5	
	comp=Z,74nm,20.2s,baz=42,slow=41							
FITZ	**Fitzroy Crossi**	**23.26**	**185**	P		**P**	**01 24 27.9**	**-2.0**
MYKOM	**Kota Tinggi**	**23.89**	**263**	P		**P**	**01 24 32.8**	**-3.1**
PMG	**Port Moresby**	**24.37**	**127**	LR		LR	01 36 01.4	
	comp=Z,84nm,19.6s,baz=294,slow=41							
KLSI		**24.82**	**247**	P		**P**	**01 24 46.0**	**+1.6**
	comp=Z,4.0nm,0.9s							
JRMM	**Jerantut**	**25.02**	**268**	P		**P**	**01 24 48.0**	**+1.8**
WB0	**Warramunga Arr**	**25.74**	**165**	P		**P**	**01 24 51.6**	**-1.1**
WB0					IAmb	IAmb	01 24 57.2	
	comp=Z,32nm,1.0s							
JCJ	**Chichijima**	**25.84**	**31**	LR		LR	01 34 09.5	
	comp=Z,118nm,20.9s,baz=171,slow=34							
WRAB	**Tennant Creek**	**25.89**	**165**	P		**P**	**01 24 52.7**	**-1.4**
WRAB					IAmb	IAmb	01 25 17.8	
	comp=Z,34nm,1.1s							
WRA	**Warramunga Arr**	**25.90**	**165**	P		**P**	**01 24 53.9**	**-0.2**
	comp=Z,9.6nm,0.7s,baz=342,slow=10,SNR=62							
WRA					LR	LR	01 36 14.1	
	comp=Z,79nm,19.6s,baz=45,slow=39							
WB2	**Warramunga Arr**	**25.90**	**165**	P		**P**	**01 24 52.6**	**-1.5**
WR0	**Warramunga Arr**	**25.97**	**165**	P		**P**	**01 24 53.6**	**-1.1**
WR0					IAmb	IAmb	01 24 59.5	
	comp=Z,21nm,1.1s							
BKNI	**Bangkinang**	**26.91**	**260**	P		**P**	**01 25 01.4**	**-1.9**
PSA00	**Pilbara Seismi**	**27.69**	**196**	P		**P**	**01 25 07.2**	**-3.0**
NJ2	**Nanjing**	**27.89

DZM	**Mont Dzumac**	**46.76 127**	P	**P**	**01 27 51.9 +0.4**	
	comp=Z,8.5nm,0.9s,baz=259,slow=10,SNR=9.1					
DZM	**Mont Dzumac**	**46.76 127**	IAmb	IAmb	01 28 02.0	
	comp=Z,16nm,1.2s					
WMQ	**Urumqi**	**51.98 324**	*e*P	**P**	**01 28 33.3 +2.4**	
PETK	**Petropavlovsk-**	**53.74 22**	P	**P**	**01 28 44.8 +1.1**	
	comp=Z,2.6nm,0.7s,baz=183,slow=4.1,SNR=6.0					
PETK			LR	LR	01 51 42.7	
	comp=Z,27nm,21.4s,baz=204,slow=36					
ZSN	**Zaisan**	**55.70 326**	*e*P	**P**	**01 28 58.9 +0.9**	
	baz=326					
ZSN			*i* S	**S**	**01 36 36.2 -4.7**	
	baz=326					
SHLS	**Shalkode**	**56.73 319**	*e*P	**P**	**01 29 04.3 -1.3**	
	comp=Z,4.1nm,0.9s,baz=320					
MK31	**Makanchi Array**	**56.80 324**	P	**P**	**01 29 06.2 +0.3**	
MK31			IAmb	IAmb	01 29 31.8	
	comp=Z,7.0nm,0.8s					
MKAR	**Makanchi Array**	**56.80 324**	P	**P**	**01 29 06.8 +1.0**	
	comp=Z,5.0nm,0.6s,baz=117,slow=7.5,SNR=53					
MKAR	**Makanchi Array**	**56.80 324**	P	**P**	**01 29 06.4 +0.6**	
MAKZ	**Makanchi**	**56.99 324**	P	**P**	**01 29 07.7 +0.5**	
UZB	**Uzynbulak**	**57.01 319**	*e*P	**P**	**01 29 07.9 +0.3**	
	baz=319					
SATY	**Saty**	**57.37 319**	*e*P	**P**	**01 29 10.9 +0.8**	
	comp=Z,6.0nm,1.0s,baz=319					
KPKS	**Kokpek**	**57.37 319**	*e*P	**P**	**01 29 10.4 +0.3**	
	comp=Z,4.0nm,0.8s,baz=319					
NIL	**Nilore**	**57.66 307**	P	**P**	**01 29 11.8 -0.4**	
TDK	**Taldyqorghan**	**58.25 321**	*e*P	**P**	**01 29 16.7 +0.6**	
	comp=Z,8.2nm,0.9s,baz=321					
MDOK	**Medeo**	**58.31 318**	*e*P	**P**	**01 29 17.0 +0.3**	
	baz=318					
TNSS	**Tian-Shan**	**58.32 318**	*e*P	**P**	**01 29 17.5 +0.4**	
	baz=318					
AAA	**Alma-Ata**	**58.42 318**	*e*P	**P**	**01 29 18.8 +1.4**	
	comp=Z,5.2nm,0.5s,baz=318					
CHKK	**Chushkaly**	**58.65 319**	*e*P	**P**	**01 29 19.0 +0.1**	
	baz=319					
KUU	**Kurty**	**59.09 319**	*e*P	**P**	**01 29 22.6 +0.6**	
	comp=Z,9.0nm,1.0s,baz=319					
ZAA0	**Zalesovo Array**	**59.63 332**	P	**P**	**01 29 26.3 +0.9**	
ZAA0			IAmb	IAmb	01 29 46.3	
	comp=Z,5.0nm,0.9s					
ZALV	**Zalesovo Beam**	**59.63 332**	P	**P**	**01 29 26.8 +1.3**	
	comp=Z,3.1nm,0.4s,baz=127,slow=6.9,SNR=29					
ZALV	**Zalesovo Beam**	**59.63 332**	P	**P**	**01 29 26.1 +0.7**	
AAK	**Ala-Archa**	**59.80 317**	P	**P**	**01 29 27.4 +0.3**	
AAK			IAmb	IAmb	01 29 52.5	
	comp=Z,6.1nm,1.3s					
SEM	**Semipalatinsk**	**59.88 327**	*i* P	**P**	**01 29 25.6 -1.9**	
	baz=327					
SGDS	**Sogindy**	**60.03 318**	*i* P	**P**	**01 29 26.3 -2.2**	
	baz=318					
BTLS	**Baital**	**61.06 319**	*i* P	**P**	**01 29 33.4 -2.0**	
	comp=Z,2.2nm,0.8s,baz=319					
KBL	**Kabul**	**61.27 307**	P	**P**	**01 29 36.3 -1.0**	
KBL			IAmb	IAmb	01 29 58.0	
	comp=Z,4.9nm,0.9s					
DZA	**Taraz**	**62.06 316**	*e*P	**P**	**01 29 42.7 +0.4**	
	baz=316					
KK31	**Karatay Array**	**62.70 316**	P	**P**	**01 29 46.3 -0.2**	
KK31			IAmb	IAmb	01 30 09.1	
	comp=Z,8.1nm,1.4s					
KKAR	**Karatay Array**	**62.70 316**	P	**P**	**01 29 46.3 -0.2**	
IUG	**Iuzhnay**	**62.72 315**	*e*P	**P**	**01 29 47.3 +0.6**	
	baz=315					
BRZS	**Berezniki**	**63.95 324**	*i* P	**P**	**01 29 52.8 -1.8**	
	baz=324					
BRVK	**Borovoye**	**66.59 326**	P	**P**	**01 30 11.8 +0.2**	
HRA	**Herat**	**66.72 305**	P	**P**	**01 30 11.8 -1.3**	
NRIK	**Noril'sk**	**69.17 346**	P	**P**	**01 30 28.0 +0.5**	
GEYT	**Alibeck**	**70.59 308**	P	**P**	**01 30 36.6 -0.5**	
	comp=Z,0.9nm,0.6s,baz=108,slow=9.5,SNR=1.7					
GEYT	**Alibeck**	**70.59 308**	P	**P**	**01 30 36.5 -0.5**	
GYA0B	**ALIBECK ARRAY**	**70.59 308**	P	**P**	**01 30 36.0 -1.0**	
GYA0B			IAmb	IAmb	01 30 59.7	
	comp=Z,9.8nm,1.2s					
ABKAR	**Akbulak array**	**71.51 320**	P	**P**	**01 30 42.2 -0.1**	
ARU	**Arti**	**74.11 327**	P	**P**	**01 30 57.9 +0.4**	
ARU			IAmb	IAmb	01 31 22.4	
	comp=Z,5.7nm,0.7s					
RAYN	**Ar Rayn**	**80.64 293**	P	**P**	**01 31 33.2 -1.6**	
GEVA	**Gevas**	**82.46 308**	P	**P**	**01 31 44.4 +0.1**	
GEVA			IAmb	IAmb	01 32 09.1	
	comp=Z,11nm,1.3s					
KBZ	**Khabaz**	**82.54 313**	P	**P**	**01 31 45.3 +1.0**	
	comp=Z,1.1nm,0.8s,baz=27,slow=2.3,SNR=1.8					
KBZ			LR	LR	02 11 48.9	
	comp=Z,39nm,21.8s,baz=67,slow=38					
ILAR	**Eielson Array**	**83.41 25**	P	**P**	**01 31 49.4 +1.0**	
	comp=Z,1.8nm,1.2s,baz=250,slow=5.5,SNR=5.7					
BMAR	**Burnt Mountain**	**84.38 23**	P	**P**	**01 31 54.5 +1.1**	
KOPT	**Kop Dagi**	**84.41 310**	P	**P**	**01 31 53.2 -1.2**	
KOPT			IAmb	IAmb	01 32 21.3	
	comp=Z,4.8nm,0.7s					
KLMR	**Klimovskoe**	**84.50 331**	P	**P**	**01 31 52.9 -1.1**	
KLMR			AMP		01 32 09.5	
	comp=Z,11nm,1.0s					
VNDA	**Vanda**	**84.81 173**	P	**P**	**01 31 55.4 +0.2**	
	comp=Z,1.7nm,1.1s,baz=91,slow=4.1,SNR=3.8					
VNDA	**Vanda**	**84.81 173**	P	**P**	**01 31 55.1 -0.1**	
ARCES	**ARCESS Array B**	**89.32 340**	P	**P**	**01 32 19.3 +2.0**	
	comp=Z,3.8nm,0.8s,baz=17,slow=1.3,SNR=10					
ARCES	**ARCESS Array B**	**89.32 340**	IAmb	IAmb	01 32 23.8	
	comp=Z,14nm,1.2s					
BRTR	**Keskin Array B**	**89.69 310**	LR	LR	02 18 44.2	
	comp=Z,31nm,19.0s,baz=68,slow=40					
FINES	**FINESS Array B**	**90.89 332**	P	**P**	**01 32 24.1 -0.6**	
	comp=Z,1.9nm,0.9s,baz=66,slow=4.7,SNR=2.0					
FINES			LR	LR	02 16 09.3	
	comp=Z,34nm,19.6s,baz=90,slow=37					
YKA	**Yellowknife Ar**	**97.80 24**	P	**P**	**01 32 56.9 +0.5**	
	comp=Z,0.1nm,0.6s,baz=298,slow=4.1,SNR=3.1					
NOA	**NORSAR Array B**	**97.80 334**	LR	LR	02 21 12.1	
	comp=Z,32nm,20.4s,baz=65,slow=38					
JMIC	**Jan Mayen**	**98.59 347**	LR	LR	02 23 05.0	
	comp=Z,31nm,21.9s,baz=266,slow=39					
TORD	**Torodi Ar. Bea**	**123.20 289**	PKP	**PKPdf**	**01 38 18.4 -0.5**	
	comp=Z,0.3nm,0.7s,baz=53,slow=2.5,SNR=2.1					

IDC 28 01:38:39.9±7.1, 7°.57S×128°.62E, h170km±76km, mb3.0/1, mb1 3.2/5, mb1mx3.0/31, mbtmp3.7/5, Error ellipse: s-maj=72.3km s-min=25.4km az=38.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.55 241**		P	Pn	01 40 01.4	+0.4
	16nm,0.3s,baz=276,slow=2.6,SNR=12						
BATI				S	Sn	01 41 04.8	+0.2
	8.3nm,0.3s,baz=36,slow=19,SNR=2.8						
FITZ	**Fitzroy Crossi**	**10.86 195**		P	Pn	01 41 08.9	-1.9
	0.5nm,0.3s,baz=17,slow=9.2,SNR=25						
WRA	**Warramunga Arr**	**13.49 156**		P	Pn	01 41 44.4	-0.4
	0.1nm,0.3s,baz=337,slow=12,SNR=2.4						
WRA				S	Sn	01 44 06.1	-8.5
	0.5nm,0.3s,baz=329,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**16.79 163**		P	Pn	01 42 26.4	+1.1
	0.2nm,0.3s,baz=340,slow=10,SNR=18						
MKAR	**Makanchi Array**	**67.96 328**		P	P	01 49 20.6	+0.1
	0.2nm,0.5s,baz=129,slow=7.9,SNR=4.1						

IDC 28 01:50:16.8±2.3, 6°.83S×128°.52E, h0km, mb3.1/1, mb1 3.6/4, mb1mx3.4/28, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=88.8km s-min=30.0km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.55 194**		Pn	Pn	01 53 04.2	+1.2
	0.2nm,0.3s,baz=11,slow=9.6,SNR=6.8						
FITZ				Sn	Sn	01 54 56.9	-16
	0.1nm,0.3s,baz=188,slow=20,SNR=1.5						
WRA	**Warramunga Arr**	**14.21 157**		Pn	Pn	01 53 40.3	+0.9
	0.1nm,0.3s,baz=335,slow=12,SNR=2.3						
WRA				Sn	Sn	01 56 02.7	-15
	0.3nm,0.3s,baz=336,slow=23,SNR=6.2						
ASAR	**Alice Springs**	**17.52 163**		P	Pn	01 54 21.1	-1.6
	0.2nm,0.3s,baz=339,slow=9.9,SNR=8.6						
MKAR	**Makanchi Array**	**67.29 327**		P	P	02 01 13.4	0.0
	0.1nm,0.5s,baz=134,slow=7.8,SNR=1.8						

JMA 28 02:05:30.9, 38°.48N×142°.04E, h49km±1km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.48 250**		P	Pn	02 05 41.8	-0.1
JIKH				S	Sn	02 05 49.5	-0.2
JIO	**Ouri**	**0.54 268**		P	Pn	02 05 42.6	0.0
JIO				S	Sn	02 05 50.7	-0.3
JKMT	**Kesennumamotoy**	**0.55 307**		P	Pn	02 05 42.8	+0.1
JKMT				S	Sn	02 05 51.1	-0.1
OFUJ	**Ofunato**	**0.67 334**		P	Pn	02 05 44.2	0.0
OFUJ				S	Sn	02 05 53.8	0.0
JMK	**Ichinoseki**	**0.80 307**		P	Pn	02 05 46.0	+0.1
JMK				S	Sn	02 05 56.8	+0.1
JOU	**Okura**	**1.09 264**		P	Pn	02 05 49.9	+0.1
JOU				S	Sn	02 06 04.1	+0.3
JOM	**Ohasama**	**1.15 330**		P	Pn	02 05 51.0	+0.4
JOM				*e*S	Sn	02 06 05.6	+0.3
JMM	**Marumori**	**1.16 238**		P	Pn	02 05 50.3	-0.4
JMM				S	Sn	02 06 04.6	-0.8
JYK	**Kaneyama**	**1.39 289**		P	Pn	02 05 54.2	+0.4
JYK				*e*S	Sn	02 06 11.6	+0.6
JRG	**Rokugo**	**1.43 310**		P	Pn	02 05 54.9	+0.5
JRG				*e*S	Sn	02 06 13.8	+1.8
JFK	**Kawauchi**	**1.44 220**		P	Pn	02 05 54.3	-0.4
JFK				S	Sn	02 06 11.7	-0.8
JYS	**Shirataka**	**1.57 261**		P	Pn	02 05 56.8	+0.4
JYS				S	Sn	02 06 16.1	+0.5
JFT	**Otama**	**1.65 235**		P	Pn	02 05 57.9	+0.4
JFT				S	Sn	02 06 17.8	+0.2
MAT	**Matsushiro**	**3.61 239**		P	Pn	02 06 26.3	+2.0
MAT				*e*S	Sn	02 07 06.3	+0.6

*IDC **28** 02:18:23.5±1.5, 37°.29N×141°.57E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/33, mbtmp3.6/9, ML3.2/2, Error ellipse: s-maj=43.2km s-min=21.2km az=78.0*
*JMA **28** 02:18:26.0±0.1, 37°.25N×141°.38E, h23km±1km, M3.7*
JMA Felt I J1.

ISC 28 02:18:25.3±1.8, 37°.25N±0°.04×141°.43E±0°.07, h11km±9km, n30, σ0°73/31, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.45 284**		P	**Pg**	**02 18 34.5**	**+0.2**
JFK				S	**Sg**	**02 18 40.9**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.52 253**		P	**Pg**	**02 18 35.6**	**0.0**
ONAJ				S	**Sg**	**02 18 42.9**	**+0.4**
JMST	**Minamisoumatoc**	**0.64 318**		P	**Pg**	**02 18 37.9**	**+0.2**
JMST				S	**Sb**	**02 18 46.9**	**-0.4**
JFFD	**Fukushimafurud**	**0.71 257**		P	**Pg**	**02 18 38.9**	**-0.2**
JFFD				S	**Sg**	**02 18 48.1**	**-0.3**
JMM	**Marumori**	**0.79 321**		P	**Pg**	**02 18 40.6**	**0.0**
JFT	**Otama**	**0.91 287**		P	**Pb**	**02 18 42.8**	**-0.3**
JFT				S	**Sb**	**02 18 55.0**	**-0.2**
JHO	**Hitachi**	**0.94 227**		P	**Pb**	**02 18 41.9**	**-1.7**
JHO				*e*S	**Sb**	**02 18 54.4**	**-1.7**
JIO	**Ouri**	**1.20 357**		P	**Pn**	**02 18 47.1**	**-0.9**
JSB	**Shiboa**	**1.24 257**		P	**Pb**	**02 18 48.9**	**+0.2**
JSB				*e*S	**Sn**	**02 19 04.8**	**-0.5**
JOU	**Okura**	**1.26 332**		P	**Pn**	**02 18 49.0**	**+0.1**
JOU				S	**Sg**	**02 19 06.3**	**+0.3**
MJAR	**Matsushiro Arr**	**2.67 256**		Pn	**Pn**	**02 19 09.3**	**+1.0**
	0.7nm,0.3s,baz=83,slow=16,SNR=11						
MJAR				Sn	**Sb**	**02 19 45.2**	**-0.9**
	1.9nm,0.3s,baz=80,slow=28,SNR=3.7						
MAT	**Matsushiro**	**2.68 256**		P	**Pn**	**02 19 08.8**	**+0.4**
MAT				S	**Sb**	**02 19 45.1**	**-1.0**
JHJ	**Hachijo jima 2**	**4.34 199**		Pn	**Pn**	**02 19 32.6**	**+1.4**
	15nm,0.3s,baz=41,slow=19,SNR=1.6						
JHJ				Sn	**Sn**	**02 20 22.3**	**+0.5**
	2.7nm,0.3s,baz=82,slow=20,SNR=2.1						
USRK	**Ussuriysk Ar.**	**9.97 317**		Pn	Pn	02 20 53.8	+5.4
	baz=140,slow=13,SNR=3.0						
SONM	**Songino Array**	**27.67 304**		P	**P**	**02 24 13.9**	**+0.6**
	0.4nm,0.5s,baz=104,slow=11,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**28.25 121**		T	T	02 53 50.3	
	baz=314,slow=75,SNR=79						
H11N1	**WAKE ISLAND Hy**	**28.26 121**		T	T	02 53 50.9	
	baz=314,slow=75,SNR=121						
H11N3	**WAKE ISLAND Hy**	**28.27 121**		T	T	02 53 51.7	
	baz=314,slow=75,SNR=86						
H11S1	**WAKE ISLAND Hy**	**28.97 123**		T	T	02 54 43.9	
	baz=316,slow=75,SNR=35						
H11S3	**WAKE ISLAND Hy**	**28.97 123**		T	T	02 54 44.0	
	baz=316,slow=75,SNR=43						
H11S2	**WAKE ISLAND Hy**	**28.99 123**		T	T	02 54 45.2	
	baz=316,slow=75,SNR=19						
ZALV	**Zalesovo Beam**	**41.77 312**		P	**P**	**02 26 14.6**	**+0.1**
	0.3nm,0.4s,baz=47,slow=8.5,SNR=1.6						
MKAR	**Makanchi Array**	**44.01 302**		P	**P**	**02 26 32.6**	**-0.2**
	0.4nm,0.8s,baz=95,slow=7.3,SNR=4.9						
WRA	**Warramunga Arr**	**57.28 188**		P	**P**	**02 28 12.7**	**-0.3**
	0.5nm,0.6s,baz=4.3,slow=7.1,SNR=6.6						
ASAR	**Alice Springs**	**61.01 188**		P	**P**	**02 28 39.1**	**+0.3**
	0.1nm,0.4s,baz=39,slow=7.5,SNR=3.0						
FINES	**FINESS Array B**	**68.62 332**		P	**P**	**02 29 28.2**	**+0.2**
	1.6nm,0.8s,baz=49,slow=8.6,SNR=4.6						
NOA	**NORSAR Array B**	**73.99 337**		P	**P**	**02 30 01.2**	**+0.6**
	0.5nm,0.8s,baz=22,slow=5.1,SNR=3.3						
H03N2	**Juan Fernandez**	**147.04 96**		T	T	05 22 25.4	
	baz=291,slow=76,SNR=11						
H03N3	**Juan Fernandez**	**147.05 96**		T	T	05 22 26.4	
	baz=291,slow=76,SNR=10						
H03N1	**Juan Fernandez**	**147.05 96**		T	T	05 22 27.2	
	baz=291,slow=76,SNR=12						

*JMA **28** 02:51:23.6±0.1, 35°.49N×140°.06E, h68km±2km, M3.4*
Broadband fault plane solution: P waves. NP1: ϕs196.00000°, δ35.00000°, λ-88.00000°. NP2: ϕs14.00000°, δ55.00000°, λ-91.00000°. Principal axes: T Plg10.0000°, Azm105.0000°; N Plg1.0000°, Azm15.0000°; P Plg80.0000°, Azm279.0000°;
JMA Felt II J1.
*IDC **28** 02:51:23.7±4.4, 35°.39N×140°.08E, h59km±41km, mb3.2/5, mb1 3.5/5, mb1mx3.2/36, mbtmp3.5/5, MS2.4/1, Ms1 2.4/1, ms1mx2.1/13 Error ellipse: s-maj=42.2km s-min=23.6km az=98.0*
*NIED **28** 02:51:23.6, 35°.49N×140°.07E, h68km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=4.00; Mθθ-0.14; Mϕϕ4.15; Mrθ-1.11; Mθϕ0.17; Mϕr0.49; Fault plane solution: Mo4.25000×10^14^ NP1: ϕs168.00000°, δ50.00000°, λ-110.00000°. NP2: ϕs17.00000°, δ44.00000°, λ-68.00000°.*

ISC 28 02:51:24.3±0.8, 35°.45N±0°.04×140°.07E±0°.04, h66km±6km, n27, σ0°52/33, mb3.4/5, 6C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.11 105**		⇓P	**Pn**	**02 51 34.2**	**+0.2**
JCN				*e*S	**Sn**	**02 51 41.3**	**+0.2**
JKUC	**kamogawauchiur**	**0.30 160**		⇓P	**Pn**	**02 51 34.8**	**-0.3**
JKUC				S	**Sn**	**02 51 43.2**	**+0.3**
KTR	**Katsuura**	**0.36 146**		⇓P	**Pn**	**02 51 35.2**	**-0.2**
KTR				S	**Sn**	**02 51 43.7**	**+0.1**
JSMT	**Sammumatsuo**	**0.36 57**		⇓P	**Pn**	**02 51 35.5**	**0.0**
JSMT				*e*S	**Sn**	**02 51 43.4**	**-0.3**
BSO3	**Boso 3**	**0.74 151**		⇓P	**Pn**	**02 51 38.8**	**-0.3**
JOD2	**Odawara 2**	**0.82 257**		⇑P	**Pn**	**02 51 40.1**	**-0.3**
JOD2				S	**Sn**	**02 51 52.1**	**-0.2**
JIM2	**Oshima 3**	**0.90 216**		P	**Pn**	**02 51 40.8**	**-0.5**
JIM2				S	**Sn**	**02 51 53.3**	**-0.6**
BSO1	**Boso 1**	**1.09 136**		⇓P	**Pn**	**02 51 42.5**	**-0.7**
BSO1				S	**Sn**	**02 51 57.8**	**+0.5**
JAG	**Ashikaga**	**1.10 333**		⇑P	**Pn**	**02 51 43.2**	**-0.6**
JAG				S	**Sn**	**02 51 56.9**	**-1.5**
JRY	**Ryogami san**	**1.11 301**		⇑P	**Pn**	**02 51 43.9**	**-0.1**
JFNN	**Fujinakano**	**1.16 258**		⇑P	**Pn**	**02 51 44.7**	**+0.1**
JFNN				S	**Sn**	**02 52 00.4**	**+0.6**
JIZS	**Izushimoda**	**1.22 234**		⇑P	**Pn**	**02 51 45.2**	**-0.2**
JIZS				S	**Sn**	**02 52 00.9**	**-0.3**
JYN	**Shimob**	**1.25 273**		⇑P	**Pn**	**02 51 45.7**	**-0.1**
JYN				S	**Sn**	**02 52 02.4**	**+0.4**
MJAR	**Matsushiro Arr**	**1.86 306**		P	**Pn**	**02 51 53.4**	**-0.6**
	5.7nm,0.3s,baz=128,slow=12,SNR=99						
MJAR				S	**Sn**	**02 52 17.0**	**+0.4**
	4.9nm,0.3s,baz=126,slow=24,SNR=3.7						
MJAR				LR	LR	02 52 46.2	
	comp=Z,49nm,19.2s,baz=170,slow=44						
MAT	**Matsushiro**	**1.86 306**		P	**Pn**	**02 51 54.4**	**+0.3**
MAT				S	**Sn**	**02 52 17.1**	**+0.4**
KSRS	**Korea Array**	**9.99 285**		LR	LR	02 57 28.7	
	comp=Z,22nm,21.0s,baz=120,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.34 116**		T	T	03 26 55.4	
	baz=308,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**28.35 116**		T	T	03 26 33.0	
	baz=308,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.36 116**		T	T	03 26 48.9	
	baz=308,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**28.98 119**		T	T	03 27 17.3	
	baz=311,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**28.98 119**		T	T	03 27 18.7	
	baz=311,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**29.00 119**		T	T	03 27 25.3	
	baz=311,slow=75,SNR=10						
MKAR	**Makanchi Array**	**44.06 303**		P	**P**	**02 59 25.8**	**+0.2**
	0.3nm,0.4s,baz=85,slow=8.8,SNR=6.8						
ILAR	**Eielson Array**	**51.41 32**		P	**P**	**03 00 22.3**	**+0.1**
	0.3nm,0.8s,baz=278,slow=6.3,SNR=2.8						
WRA	**Warramunga Arr**	**55.35 187**		P	**P**	**03 00 50.5**	**-1.0**
	0.8nm,0.6s,baz=2.7,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**59.08 187**		P	**P**	**03 01 18.1**	**+0.3**
	0.3nm,0.4s,baz=21,slow=11,SNR=6.8						
PDAR	**Pinedale Array**	**79.55 45**		P	**P**	**03 03 25.0**	**+0.6**
	0.3nm,0.7s,baz=298,slow=3.9,SNR=2.7						

IDC 28 02:52:05.9±7.8, 21°.88S×178°.38W, h641km±77km, mb3.0/3, mb1 3.2/5, mb1mx2.8/26, mbtmp4.1/5, Error ellipse: s-maj=200.5km s-min=36.0km az=68.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.32 320**		P	P	02 53 43.7	-0.4
	4.2nm,0.3s,baz=242,slow=22,SNR=21						
URZ	**Urewera**	**16.78 192**		P	P	02 55 29.3	+0.8
	0.9nm,0.3s,baz=123,slow=23,SNR=9.2						
URZ				S	S	02 58 10.9	-2.2
	0.2nm,0.3s,baz=304,slow=23,SNR=2.1						
STKA	**Stephens Creek**	**36.89 246**		P	P	02 58 23.4	+0.4
	2.4nm,0.5s,baz=96,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**43.88 258**		P	P	02 59 18.6	+0.2
	3.2nm,0.8s,baz=100,slow=7.8,SNR=27						
WRA	**Warramunga Arr**	**44.08 264**		P	P	02 59 19.5	-0.4
	0.8nm,0.3s,baz=92,slow=8.1,SNR=32						

*IDC **28** 03:35:27.6±1.0, 19°.04N×95°.46W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/23, mbtmp3.7/9, Error ellipse: s-maj=59.2km s-min=18.9km az=64.0*
*NEIC **28** 03:35:30.5±1.5, 18°.91N±0°.06×95°.62W±0°.06, h23km±7km, mb4.2/28, Md4.4/21(MEX), Error ellipse: s-maj=9.8km s-min=7.6km az=217.0*
*MEX **28** 03:35:32.4±0.7, 18°.95N×95°.60W, h16km±6km, MD4.2*

ISC 28 03:35:30.7±3.4, 18°.86N±0°.05×95°.66W±0°.04, h24km±26km, n74, σ1°34/94, mb4.0/11, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOIG	**Toxpalan**	**1.54 241**		*i* P	**Pn**	**03 35 57.3**	**+0.6**
TOIG				*i* S	**Sn**	**03 36 16.6**	**+0.5**
TPIG	**Tehuac#an**	**1.68 255**		*e*P	**Pn**	**03 35 59.0**	**+0.3**
TPIG				*i* S	**Sn**	**03 36 19.0**	**-0.5**
TPIG	**Tehuac#an**	**1.68 255**			**Pn**	**03 35 59.0**	**+0.3**
CMIG	**Matias Romero**	**1.91 157**		*e*P	**Pn**	**03 36 01.7**	**-0.1**
CMIG				*e*S	**Sn**	**03 36 24.0**	**-1.0**
CMIG	**Matias Romero**	**1.91 157**			**Pn**	**03 36 01.7**	**-0.1**
CMIG					**Sn**	**03 36 24.0**	**-1.0**
VHO	**Vista Hermosa**	**2.05 210**		*e*P	**Pn**	**03 36 04.9**	**+1.0**
VHO				*e*S	**Sn**	**03 36 29.2**	**+0.3**
HLIG	**Huajuapan de L**	**2.28 244**		*e*P	**Pn**	**03 36 08.1**	**+1.0**
HLIG				*i* S	**Sn**	**03 36 34.9**	**+0.3**
FTIG	**Fresnillo de T**	**2.53 248**		*e*P	**Pn**	**03 36 11.9**	**+1.4**
FTIG				*i* S	**Sn**	**03 36 41.1**	**+0.4**
TXIG	**Tlaxiaco**	**2.57 232**		*e*P	**Pn**	**03 36 12.3**	**+1.3**
TXIG				*i* S	**Sn**	**03 36 42.8**	**+1.1**
TXIG	**Tlaxiaco**	**2.57 232**		*e*P	**Pn**	**03 36 12.4**	**+1.3**
TXIG				*i* S	**Sn**	**03 36 41.8**	**+0.1**
PPM	**Popocatepetl**	**2.82 275**		*e*P	**Pn**	**03 36 15.6**	**+0.9**
PPM				*i* S	**Sn**	**03 36 48.5**	**+0.3**
TLIG	**Tlapa**	**3.05 245**		*e*P	**Pn**	**03 36 18.4**	**+0.7**
TLIG				*i* S	**Sn**	**03 36 52.8**	**-0.7**
TLIG	**Tlapa**	**3.05 245**	Pn	Pn	**Pn**	**03 36 18.1**	**+0.5**
TGIG		**3.18 130**		*e*P	**Pn**	**03 36 20.1**	**+0.7**
TGIG				*e*S	**Sn**	**03 36 55.5**	**-1.1**
TGIG		**3.18 130**			**Pn**	**03 36 20.1**	**+0.7**
TGIG					**Sn**	**03 36 55.2**	**-1.4**
YAIG	**Yautepec**	**3.23 271**		*i* P	**Pn**	**03 36 21.1**	**+1.0**
YAIG				*i* S	**Sn**	**03 36 58.2**	**+0.3**
YAIG	**Yautepec**	**3.23

ISCO	**Idaho Springs**	**22.57**	**340**	P	**P**	**03 40 31.4**	**+1.8**
O20A	**White River Ci**	**23.81**	**336**	P	**P**	**03 40 43.4**	**+1.3**
O20A				IAmb	IAmb	03 40 45.4	
	comp=Z,8.9nm,0.9s						
PHWY	**Pilot Hill**	**23.89**	**342**	P	**P**	**03 40 42.9**	**+0.1**
MTPU	**Mount Pierson**	**23.94**	**326**	P	**P**	**03 40 44.7**	**+1.3**
MTPU				IAmb	IAmb	03 40 59.7	
	comp=Z,4.2nm,0.8s						
PDAR	**Pinedale Array**	**26.58**	**337**	P	**P**	**03 41 05.7**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=134,slow=13,SNR=2.4						
SNOW	**Snow King Moun**	**27.63**	**336**	P	**P**	**03 41 17.0**	**+0.3**
NVAR	**Mina Array Bea**	**27.71**	**319**	P	**P**	**03 41 18.9**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=128,slow=9.6,SNR=5.0						
ULM	**Lac du Bonnet**	**31.32**	**360**	P	**P**	**03 41 48.2**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=193,slow=8.6,SNR=3.2						
FCC	**Fort Churchill**	**39.86**	**1**	P	**P**	**03 43 01.9**	**-0.2**
LPAZ	**La Paz**	**44.20**	**140**	P	**P**	**03 43 39.4**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=333,slow=11,SNR=2.1						
LPAZ	**La Paz**	**44.20**	**140**	IAmb	IAmb	03 45 04.2	
	comp=Z,8.9nm,1.8s						
YKA	**Yellowknife Ar**	**45.54**	**348**	P	**P**	**03 43 47.8**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=149,slow=8.1,SNR=21						
YKA				PcP	**PcP**	**03 45 26.2**	**-0.4**
	comp=Z,0.2nm,0.9s,baz=146,slow=3.1,SNR=3.7						
ILAR	**Eielson Array**	**57.01**	**337**	P	**P**	**03 45 14.7**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=108,slow=6.4,SNR=5.5						
PLCA	**Paso Flores**	**63.72**	**159**	P	**P**	**03 46 01.7**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=338,slow=8.1,SNR=6.4						
NB2	**NORSAR Subarra**	**81.55**	**28**	P	**P**	**03 47 46.2**	**0.0**
	comp=Z,6.5nm,1.1s,baz=296,slow=5.6						
NOA	**NORSAR Array B**	**81.55**	**28**	P	**P**	**03 47 45.9**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=298,slow=5.7,SNR=5.9						

MEX 28 03:39:27.9±0.4, 15°12N×92°05W, h4km±19km, MD2.3, Mexico-Guatemala border region

KRSC 28 04:09:45.3±1.8, 49°63N×156°69E, h64km±24km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.12**	**341**	*eP*	Pn	04 10 05.7	+0.7
SKR				*eS*	Sn	04 10 20.8	+1.1
ALID	**Alaid**	**1.44**	**330**	*eP*	Pn	04 10 10.0	+0.6
ALID				*eS*	Sn	04 10 28.8	+1.2
PAU	**Pauzhetka**	**1.84**	**2**	*eS*	Sn	04 10 40.2	+3.2
KDTR	**Khodutka, Kamc**	**2.36**	**21**	*eP*	Pn	04 10 24.0	+2.4
KDTR				*eS*	Sn	04 10 52.8	+3.4
ASAK	**Asacha**	**2.87**	**15**	*eP*	Pn	04 10 32.2	+3.6
MTVR	**Mutnovka**	**3.01**	**18**	*eP*	Pn	04 10 33.9	+3.3
MTVR				*eS*	Sn	04 11 09.7	+4.1
RUS	**Russkaya**	**3.04**	**22**	*eP*	Pn	04 10 33.1	+2.3
RUS				*eS*	Sn	04 11 07.6	+1.6
GRL	**Gorelyy**	**3.06**	**16**	*eP*	Pn	04 10 34.6	+3.4
GRL				*eS*	Sn	04 11 10.9	+4.2
UGLR	**Uglovaya**	**3.83**	**20**	*eP*	Pn	04 10 45.7	+3.9
AVH	**Avacha**	**3.86**	**19**	*eP*	Pn	04 10 46.5	+4.3
KOK	**Koryaka**	**3.87**	**18**	*eP*	Pn	04 10 46.7	+4.4
SMAR	**Somma**	**3.88**	**19**	*eP*	Pn	04 10 46.1	+3.6
SDLR	**Sedlovina**	**3.91**	**20**	*eP*	Pn	04 10 45.9	+3.1
SPN	**Mys Shipunski**	**4.06**	**30**	*eP*	Pn	04 10 47.7	+3.0
SPN				*eS*	Sn	04 11 33.5	+2.6
MKZ	**Mys Kozlova**	**5.83**	**30**	*eP*	Pn	04 11 10.6	+1.6

*JMA **28** 04:28:44.8±0.1, 28°.10N×128°.01E, h19km±2km, M4.1*
*NIED **28** 04:28:44.8, 28°.10N×128°.01E, h19km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=1.06; Mθθ=1.70; Mφφ=-0.64; Mrθ=-1.39; Mθφ=1.45; Mrφ=0.00; Fault plane solution: M0=2.40000×10¹⁵ NP1:φs=96.00000°, δ=74.00000°, λ=-49.00000°. NP2:φs=204.00000°, δ=43.00000°, λ=-156.00000°.*
*IDC **28** 04:28:48.8±3.8, 27°.98N×127°.99E, h32km±31km, mb3.6/11, mb1 3.8/15, mb1mx3.6/49, mbtmp3.8/15, ML3.3/4, MS3.3/15, Ms1 3.3/15, ms1mx3.1/47 Error ellipse: s-maj=27.9km s-min=11.3km az=82.0*

ISC 28 04:28:46.0±3.0, 28°.02N±0°.04×128°.09E±0°.05, h13km±20km, n38, σ1s 902/40, mb3.7/11, MS3.2/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.78**	**147**	P	**Pb**	**04 29 01.2**	**-0.3**
JOKE				S	**Sb**	**04 29 12.7**	**+0.7**
JTK	**Tokunoshima**	**0.80**	**107**	P	**Pb**	**04 29 01.3**	**-0.4**
JTK				S	**Sb**	**04 29 12.9**	**+0.5**
JAMN	**Amaminishikomi**	**0.98**	**77**	P	**Pb**	**04 29 04.0**	**-0.9**
JAMN				S	**Sb**	**04 29 18.1**	**+0.2**
JIH	**Iheya**	**0.98**	**186**	P	**Pb**	**04 29 04.2**	**-0.7**
JIH				S	**Sb**	**04 29 18.4**	**+0.6**
JYRO	**Yoronjima**	**1.04**	**162**	P	**Pb**	**04 29 05.5**	**-0.4**
JYRO				S	**Sn**	**04 29 21.0**	**+0.3**
JOW	**Kunigami**	**1.19**	**172**	Pn	**Pb**	**04 29 07.9**	**-0.6**
	668nm,0.3s,baz=352,slow=15,SNR=314						
JOW				Sn	**Sn**	**04 29 25.1**	**+0.6**
	365nm,0.3s,baz=192,slow=20,SNR=14						
JOW	**Kunigami**	**1.19**	**172**	P	**Pb**	**04 29 07.4**	**-1.1**
JOW				S	**Sb**	**04 29 24.3**	**+0.5**
JAM	**Amami Oshima**	**1.39**	**73**	P	**Pn**	**04 29 10.2**	**-1.0**
JAM				S	**Sb**	**04 29 28.9**	**-0.7**
JNTH	**Nagotoyohara**	**1.50**	**182**	P	**Pn**	**04 29 12.2**	**-0.4**
JTAJ	**Takarajima**	**1.50**	**41**	P	**Pn**	**04 29 10.7**	**-1.9**
JAGN	**Aguni-jima**	**1.61**	**208**	P	**Pn**	**04 29 13.0**	**-1.2**
JJT3	**Tamagusuku3**	**1.89**	**188**	P	**Pn**	**04 29 18.0**	**0.0**
JKE	**Kume jima 2**	**2.05**	**215**	P	**Pn**	**04 29 19.2**	**-1.0**
JYAK	**Yakushimahirau**	**3.06**	**43**	P	**Pn**	**04 29 34.0**	**-0.1**
JKDJ	**Kitadaitoujima**	**3.53**	**125**	P	**Pn**	**04 29 40.2**	**-0.3**
JKDJ				*eS*	**Sn**	**04 30 21.2**	**-0.9**
JMZ	**Minamidaito 2**	**3.55**	**127**	*eS*	**Sn**	**04 30 21.7**	**-1.0**
JNU	**Nakatsue**	**5.63**	**25**	Pn	**Pn**	**04 30 12.3**	**+2.9**
	4.4nm,0.3s,baz=198,slow=5.8,SNR=43						
KSRS	**Korea Array**	**9.41**	**359**	Pn	**Pn**	**04 31 02.5**	**+1.2**
	0.2nm,0.3s,baz=174,slow=13,SNR=1.9						
KSRS				LR	LR	04 34 49.4	
	comp=Z,283nm,18.2s,baz=178,slow=38						
MJAR	**Matsushiro Arr**	**12.06**	**43**	Pn	**Pn**	**04 31 39.3**	**+1.7**
	0.1nm,0.3s,baz=236,slow=14,SNR=4.6						
MJAR				LR	LR	04 35 54.8	
	comp=Z,84nm,21.9s,baz=155,slow=35						
USRK	**Ussuriysk Ar.**	**16.45**	**10**	Pn	**P**	**04 32 38.6**	**-0.6**
	baz=194,slow=11,SNR=14						
USRK				LR	LR	04 38 28.3	
	comp=Z,66nm,18.9s,baz=180,slow=35						
KLR	**Kul'dur**	**21.37**	**7**	P	**P**	**04 33 34.5**	**+1.5**
	0.2nm,0.3s,baz=180,slow=17,SNR=1.8						
KLR				LR	LR	04 41 14.2	
	comp=Z,41nm,18.4s,baz=182,slow=35						
SONM	**Songino Array**	**26.00**	**325**	P	**P**	**04 34 18.1**	**-0.6**
	1.1nm,0.7s,baz=145,slow=9.2,SNR=5.0						
SONM				LR	LR	04 45 29.5	
	comp=Z,72nm,21.4s,baz=50,slow=38						
CMAR	**Chiang Mai Arr**	**28.36**	**257**	LR	LR	04 47 22.1	
	comp=Z,42nm,18.6s,baz=134,slow=39						
PETK	**Petropavlovsk-**	**33.26**	**33**	LR	LR	04 49 42.3	
	comp=Z,38nm,18.9s,baz=185,slow=38						
YAK	**Yakutsk**	**34.03**	**1**	LR	LR	04 49 28.6	
	comp=Z,61nm,18.4s,baz=110,slow=36						
MA2	**Magadan**	**35.17**	**20**	LR	LR	04 50 52.6	
	comp=Z,28nm,18.3s,baz=128,slow=38						
MKAR	**Makanchi Array**	**40.27**	**310**	P	**P**	**04 36 22.6**	**-0.2**
	0.9nm,0.7s,baz=109,slow=6.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**40.76**	**322**	P	**P**	**04 36 27.0**	**+0.3**
	0.6nm,0.5s,baz=77,slow=9.0,SNR=1.9						
ZALV				LR	LR	04 55 09.0	
	comp=Z,70nm,18.8s,baz=79,slow=39						
KURBB	**Kurchatov Arra**	**43.49**	**315**	P	**P**	**04 36 48.0**	**-0.9**
	1.1nm,0.6s,baz=103,slow=8.9,SNR=4.3						
TIXI	**Tiksi**	**43.68**	**0**	LR	LR	04 55 06.1	
	comp=Z,91nm,18.9s,baz=289,slow=36						
FITZ	**Fitzroy Crossi**	**45.91**	**183**	P	**P**	**04 37 09.1**	**+0.6**
	2.6nm,0.6s,baz=26,slow=13,SNR=2.6						
NRIK	**Noril'sk**	**47.52**	**342**	LR	LR	04 59 02.9	
	comp=Z,104nm,19.1s,baz=99,slow=38						
WRA	**Warramunga Arr**	**48.06**	**172**	P	**P**	**04 37 24.8**	**-0.6**
	2.8nm,0.8s,baz=352,slow=8.3,SNR=9.7						
WRA				LR	LR	04 58 44.4	
	comp=Z,24nm,19.7s,baz=250,slow=37						
ASAR	**Alice Springs**	**51.69**	**173**	P	**P**	**04 37 53.4**	**+0.4**
	1.2nm,0.8s,baz=1.2,slow=11,SNR=7.9						
ASAR				LR	LR	05 00 47.3	
	comp=Z,20nm,19.0s,baz=168,slow=37						
STKA	**Stephens Creek**	**60.94**	**167**	P	**P**	**04 38 57.6**	**-1.1**
	0.8nm,0.3s,baz=333,slow=7.8,SNR=3.5						
ILAR	**Eielson Array**	**62.93**	**29**	P	**P**	**04 39 13.5**	**+1.7**
	0.4nm,0.9s,baz=284,slow=7.3,SNR=4.1						
OBN	**Obninsk**	**68.35**	**322**	LR	LR	05 12 20.3	
	comp=Z,23nm,20.1s,baz=188,slow=38						
YKA	**Yellowknife Ar**	**76.96**	**25**	P	**P**	**04 40 36.9**	**-1.2**
	0.6nm,0.8s,baz=299,slow=5.1,SNR=9.0						

*ISU **28** 04:28:56, 40°.70N×73°.60E, h10km*
*KRNET **28** 04:28:56.7±0.1, 40°.77N×73°.46E, h15km, mb3.4*
*SOME **28** 04:28:58.6, 40°.90N×73°.47E, h10km*
*NNC **28** 04:29:00.5±0.9, 40°.96N×73°.40E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=7.9km s-min=3.0km az=171.0*

ISC 28 04:28:56.1±0.8, 40°.79N±0°.02×73°.49E±0°.02, h10km, n84, σ1s 30/129, 27C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.60**	**244**	⇑*iP*	**Pg**	**04 29 07.5**	**-0.2**
	baz=45						
OHH				⇑*iS*	**Sg**	**04 29 15.4**	**-0.2**
	baz=45						
ARSB	**Arslanbob**	**0.66**	**325**	⇑*eP*	**Pb**	**04 29 09.5**	**-0.3**
	baz=27						
ARSB				⇑*iS*	**Sb**	**04 29 18.7**	**-0.4**
	baz=27						
SFK	**Sufi-Kurgan**	**0.77**	**179**	⇑*iP*	**Pg**	**04 29 11.1**	**0.0**
	baz=77						
SFK				⇑*iS*	**Sb**	**04 29 21.7**	**-0.8**
	baz=77						
SFK	**Sufi-Kurgan**	**0.77**	**179**	*eP*	**Pg**	**04 29 09.0**	**-2.1**
SFK				*eS*	**Sg**	**04 29 18.0**	**-3.2**
ARLS	**Aral**	**1.24**	**30**	⇓*iP*	**Pg**	**04 29 20.3**	**+0.3**
	baz=31						
ARLS				⇓*iS*	**Sn**	**04 29 37.8**	**+1.2**
	baz=31						
AML	**Almayashu**	**1.35**	**6**	⇑*iP*	**Pg**	**04 29 22.4**	**+0.3**
	baz=7.0						
AML				⇑*iS*	**Sg**	**04 29 41.3**	**+1.6**
	baz=7.0						
AML	**Almayashu**	**1.35**	**6**	P	**Pg**	**04 29 22.7**	**+0.6**
	SNR=76						
SHAK	**Shakhimardan**	**1.57**	**239**	*eP*	**Pg**	**04 29 27.0**	**+0.7**
SHAK				*eS*	**Sg**	**04 29 51.0**	**+4.2**
UCH	**Uchtor**	**1.63**	**28**	⇓*iP*	**Pg**	**04 29 27.4**	**-0.1**
	baz=28						
UCH				⇓*iS*	**Sg**	**04 29 49.7**	**+1.0**
	baz=28						
UCH	**Uchtor**	**1.63**	**28**	P	**Pg**	**04 29 28.1**	**+0.6**
	SNR=23						
DRK	**Karamyk**	**1.84**	**225**	⇑*iP*	**Pb**	**04 29 29.9**	**-0.1**
	baz=25						
DRK				⇑*iS*	**Sg**	**04 29 54.4**	**-0.9**
	baz=25						
MNAS	**Manas**	**1.85**	**337**	⇑*iP*	**Pg**	**04 29 31.0**	**-0.6**
	baz=38						
MNAS				⇑*iS*	**Sg**	**04 29 56.2**	**+0.5**
	baz=38						
EKS2	**Erkin-Say**	**1.89**	**6**	⇓*iP*	**Pg**	**04 29 31.6**	**-0.7**
	baz=7.0						
EKS2				⇓*iS*	**Sg**	**04 29 57.4**	**+0.7**
	baz=7.0						
EKS2	**Erkin-Say**	**1.89**	**6**	P	**Pg**	**04 29 32.4**	**+0.1**
	SNR=23						
TRKS	**Terek-Say**	**1.92**	**293**	⇓*iP*	**Pb**	**04 29 31.2**	**-0.2**
	baz=93						
TRKS				⇓*iS*	**Sg**	**04 29 56.7**	**-1.2**
	baz=93						
AAK	**Ala-Archa**	**2.00**	**22**	⇓*iP*	**Pg**	**04 29 33.4**	**-1.0**
	baz=22						
AAK				⇓*iS*	**Sg**	**04 29 59.9**	**-0.4**
	baz=22						
AAK	**Ala-Archa**	**2.00**	**22**	P	**Pg**	**04 29 34.6**	**+0.2**
	SNR=48						
AAK	**Ala-Archa**	**2.00**	**22**	⇓*Pg*	**Pg**	**04 29 36.6**	**+2.2**
	24nm,0.6s						
AAK				⇓*Lg*	Lg	04 30 02.6	
	51nm,0.5s						
KBK	**Karagaybulak**	**2.16**	**30**	⇑*iP*	**Pb**	**04 29 35.4**	**-0.1**
	baz=30						
KBK				⇑*iS*	**Sg**	**04 30 04.1**	**-1.6**
	baz=30						
KBK	**Karagaybulak**	**2.16**	**30**	P	**Pg**	**04 29 40.0**	**+2.4**
	SNR=26						
BTK	**Batken**	**2.17**	**251**	⇑*iP*	**Pb**	**04 29 34.9**	**-0.5**
	baz=52						
BTK				⇑*iS*	**Sb**	**04 30 03.1**	**+0.7**
	baz=52						
BTK	**Batken**	**2.17**	**251**	*eP*	**Pb**	**04 29 36.0**	**+0.6**
BTK				*eS*	**Sg**	**04 30 07.0**	**+1.3**
FRU1	**Bishkek**	**2.19**	**23**	⇑*iP*	**Pb**	**04 29 35.9**	**0.0**
	baz=22						
FRU1				⇑*iS*	**Sg**	**04 30 04.7**	**-1.9**
	baz=22						
CHMS	**Chumysh**	**2.40**	**23**	⇑*iP*	**Pb**	**04 29 38.8**	**-0.7**
	baz=23						
CHMS				⇑*iS*	**Sb**	**04 30 09.7**	**+0.5**
	baz=23						
CHMS	**Chumysh**	**2.40**	**23**	P	**Pg**	**04 29 41.7**	**-0.4**
	SNR=16						
BOOM	**Boomskoye usch**	**2.50**	**46**	⇓*iP*	**Pb**	**04 29 40.1**	**-1.2**
	baz=46						
BOOM				⇓*iS*	**Sb**	**04 30 12.0**	**-0.2**
	baz=46						
ULHL	**Ulahol**	**2.53**	**54**	⇓*iP*	**Pb**	**04 29 40.3**	**-1.4**
	baz=54						
ULHL				⇓*iS*	**Sb**	**04 30 12.8**	**-0.2**
	baz=54						
ULHL	**Ulahol**	**2.53**	**54**	P	**Pg**	**04 29 44.4**	**-0.2**
	SNR=19						
USP	**Ospenovka**	**2.59**	**17**	⇑*iP*	**Pb**	**04 29 41.4**	**-1.3**
	baz=17						
USP				⇑*iS*	**Sb**	**04 30 14.3**	**-0.3**
	baz=17						
USP	**Ospenovka**	**2.59**	**17**	P	**Pg**	**04 29 44.0**	**-1.8**
	SNR=20						
DZA	**Taraz**	**2.65**	**323**	*eP*	**Pg**	**04 29 46.7**	**-0.2**
	86nm,0.1s						
DZA				*eS*	**Sg**	**04 30 20.7**	**-0.5**
	222nm,0.4s						
DZA	**Taraz**	**2.65**	**323**	Pg	**Pg**	**04 29 46.7**	**-0.2**
	86nm,0.1s						
DZA				Lg	Lg	04 30 20.7	
	222nm,0.4s						
TKM2	**Tokmak 2**	**2.65**	**36**	⇑*iP*	**Pb**	**04 29 42.3**	**-1.5**
	baz=36						
TKM2				⇑*iS*	**Sb**	**04 30 15.5**	**-1.0**
	baz=36						
TKM2	**Tokmak 2**	**2.65**	**36**	P	**Pg**	**04 29 46.2**	**-0.7**
	SNR=27						
SGDS	**Sogindy**	**2.79**	**17**	Pg	**Pg**	**04 29 48.4**	**-1.3**
	16nm,0.6s						
SGDS				Lg	Lg	04 30 23.2	
	49nm,0.4s						
CHRV	**Charvak**	**2.80**	**289**	*eP*	**Pg**	**04 29 48.0**	**-1.8**
CHRV				*eS*	**Sg**	**04 30 24.0**	**-2.1**
KST	**Kastek**	**2.91**	**39**	*eP*	**Pg**	**04 29 52.1**	**+0.2**
	24nm,0.6s						
KST				*eS*	**Sg**	**04 30 29.9**	**+0.2**
	79nm,0.4s						
KST	**Kastek**	**2.91**	**39**	Pg	**Pg**	**04 29 52.1**	**+0.2**
	24nm,0.6s						
KST				Lg	Lg	04 30 29.9	
	79nm,0.4s						
IUG	**Iuzhnay**	**2.93**	**299**	*eP*	**Pg**	**04 29 51.1**	**-1.2**
	31nm,0.7s						
IUG				*eS*	**Sg**	**04 30 28.2**	**-2.1**
	92nm,0.6s						
IUG	**Iuzhnay**	**2.93**	**299**	Pg	**Pg**	**04 29 51.1**	**-1.2**
	31nm,0.7s						
IUG				Lg	Lg	04 30 28.2	
	92nm,0.6s						
DGS	**Degeres**	**2.98**	**34**	*eP*	**Pg**	**04 29 53.2**	**-0.1**
	48nm,0.6s						
DGS				*eS*	**Sg**	**04 30 32.4**	**+0.5**
	62nm,0.6s						
DGS	**Degeres**	**2.98**	**34**	Pg	**Pg**	**04 29 53.2**	**-0.1**
	48nm,0.6s						
DGS				Lg	Lg	04 30 32.4	
	62nm,0.6s						
KDJ	**Kajisay**	**3.08**	**63**	⇓*iP*	**Pb**	**04 29 47.9**	**-3.2**
	baz=63						
KDJ				⇓*iS*	**Sb**	**04 30 26.0**	**-2.8**
	baz=63						
KK31	**Karatay Array**	**3.21**	**317**	Pn	**Pb**	**04 29 51.5**	**-1.7**
	1.0nm,0.4s,baz=126,slow=12,SNR=45						
KK31				Pg	**Pg**	**04 29 57.6**	**+0.1**
	1.9nm,0.3s,baz=136,slow=16,SNR=13						
KK31				⇑*Lg*	Lg	04 30 35.4	
	18nm,0.6s,baz=140,slow=27,SNR=5.7						
MTBS	**Maitube**	**3.21**	**42**	*eP*	**Pg**	**04 29 58.1**	**+0.5**
	13nm,0.6s						
MTBS				*eS*	**Sg**	**04 30 40.8**	**+1.6**
	68nm,0.5s						
MTBS	**Maitube**	**3.21**	**42**	Pg	**Pg**	**04 29 58.1**	**+0.5**
	13nm,0.6s						
MTBS				Lg	Lg	04 30 40.8	
	68nm,0.5s						
IZV	**Izvestkoviy**	**3.24**	**45**	*eP*	**Pg**	**04 29 58.2**	**+0.1**
	19nm,0.6s						
IZV				*eS*	**Sg**	**04 30 40.5**	**+0.3**
	73nm,0.5s						
IZV	**Izvestkoviy**	**3.24**	**45**	Pg	**Pg**	**04 29 58.2**	**+0.1**
	19nm,0.6s						
IZV				Lg	Lg	04 30 40.5	
	73nm,0.5s						
KRBS	**Karabastau**	**3.33**	**28**	*eP*	**Pg**	**04 29 59.5**	**-0.4**
	13nm,0.5s						
KRBS				*eS*	**Sg**	**04 30 42.6**	**-0.4**
	22nm,0.6s						
KRBS	**Karabastau**	**3.33**	**28**	Pg	**Pg**	**04 29 59.5**	**-0.4**
	13nm,0.5s						
KRBS				Lg	Lg	04 30 42.6	
	22nm,0.6s						
TNSS	**Tian-Shan**	**3.42**	**48**	*eP*	**Pg**	**04 30 02.1**	**+0.4**
	17nm,0.5s						
TNSS				*eS*	**Sg**	**04 30 46.6**	**+0.6**
	22nm,0.7s						
TNSS	**Tian-Shan**	**3.42**	**48**	Pg	**Pg**	**04 30 02.1**	**+0.4**
	17nm,0.5s						
TNSS				Lg	Lg	04 30 46.6	
	22nm,0.7s						
BRLS	**Borolday**	**3.53**	**311**	*eP*	**Pg**	**04 30 01.2**	**-2.5**
	26nm,0.3s						
BRLS				*eS*	**Sg**	**04 30 45.7**	**-3.7**
	37nm,0.7s						
BRLS	**Borolday**	**3.53**	**311**	Pg	**Pg**	**04 30 01.2**	**-2.5**
	26nm,0.3s						
BRLS				Lg	Lg	04 30 45.7	
	37nm,0.7s						
MDOK	**Medeo**	**3.56**	**47**	*eP*	**Pg**	**04 30 04.1**	**-0.2**
	12nm,0.5s						
MDOK				*eS*	**Sg**	**04 30 50.5**	**+0.1**
	34nm,0.5s						
MDOK	**Medeo**	**3.56**	**47**	Pg	**Pg**	**04 30 04.2**	**-0.1**
	7.5nm,0.5s						
MDOK				Lg	Lg	04 30 50.4	
	41nm,0.7s						
MDOK	**Medeo**	**3.56**	**47**	Pg	**Pg**	**04 30 04.1**	**-0.2**
	12nm,0.5s						
MDOK				Lg	Lg	04 30 50.5	
	34nm,0.5s						
KOTS	**Kotyrbulak**	**3.64**	**47**	*eP*	**Pg**	**04 30 05.4**	**-0.5**
	34nm,0.5s						
KOTS				*eS*	**Sg**	**04 30 52.7**	**-0.3**
	35nm,0.4s						
KOTS	**Kotyrbulak**	**3.64**	**47**	Pg	**Pg**	**04 30 05.4**	**-0.5**
	34nm,0.5s						
KOTS				Lg	Lg	04 30 52.7	
	35nm,0.4s						
ANVS	**Anan'yevo**	**3.71**	**56**	⇑*iP*	**Pn**	**04 29 56.7**	**+3.1**
	baz=56						
ANVS				⇑*iS*	**Sn**	**04 30 40.8**	**+3.4**
	baz=56						
KUU	**Kurty**	**3.75**	**33**	*eP*	**Pg**	**04 30 07.2**	**-0.9**
	8.4nm,0.4s						
KUU				*eS*	**Sg**	**04 30 55.7**	**-0.9**
	26nm,0.4s						
KUU	**Kurty**	**3.75**	**33**	Pg	**Pg**	**04 30 07.1**	**-0.9**
	8.4nm,0.4s						
KUU				Lg	Lg	04 30 55.7	
	26nm,0.4s						
KTBS	**Karatobe**	**3.76**	**38**	*eP*	**Pg**	**04 30 08.2**	**0.0**
	6.3nm,0.8s						
KTBS				*eS*	**Sg**	**04 30 57.0**	**0.0**
	67nm,0.6s						
KTBS	**Karatobe**	**3.76**	**38**	Pg	**Pg**	**04 30 08.2**	**0.0**
	6.3nm,0.8s						
KTBS				Lg	Lg	04 30 57.0	
	67nm,0.6s						
CHKK	**Chushkaly**	**4.01**	**39**	*eP*	**Pg**	**04 30 12.1**	**-1.0**
	5.5nm,0.6s						
CHKK				*eS*	**Sg**	**04 31 04.1**	**-0.9**
	24nm,0.4s						
CHKK	**Chushkaly**	**4.01**	**39**	Pg	**Pg**	**04 30 12.0**	**-1.0**
	5.5nm,0.6s						
CHKK				Lg	Lg	04 31 04.1	
	24nm,0.4s						
BTLS	**Baital**	**4.27**	**5**	*eP*	**Pg**	**04 30 16.2**	**-1.7**
	6.8nm,0.6s						
BTLS				*eS*	**Sg**	**04 31 11.4**	**-1.8**
	20nm,0.7s						
BTLS	**Baital**	**4.27**	**5**	Pg	**Pg**	**04 30 16.2**	**-1.7**
	6.8nm,0.6s						
BTLS				Lg	Lg	04 31 11.4	
	20nm,0.7s						
SATY	**Saty**	**4.31**	**57**	*eP*	**Pg**	**04 30 18.4**	**-0.4**
	21nm,0.9s						
SATY				*eS*	**Sg**	**04 31 14.6**	**0.0**
	17nm,0.6s						
SATY	**Saty**	**4.31**	**57**	Pg	**Pg**	**04 30 18.4**	**-0.4**
	21nm,0.9s						
SATY				Lg	Lg	04 31 14.6	
	17nm,0.6s						
ZHN	**Zhinishke**	**4.39**	**56**	*eP*	**Pg**	**04 30 19.5**	**-0.7**
	223nm,0.5s						
ZHN				*eS*	**Sg**	**04 31 16.4**	**-0.6**
	3.3nm,0.4s						
ZHN	**Zhinishke**	**4.39**	**56**	Pg	**Pg**	**04 30 19.5**	**-0.7**
	223nm,0.5s						
ZHN				Lg	Lg	04 31 16.4	
	3.3nm,0.4s						
ARXS	**Arhar

*JMA **28** 04:36:40.8±0.4, 44.64N×149.14E, h30km, M4.4*
*IDC **28** 04:36:43.9±3.9, 44.75N×149.07E, h71km±32km, mb3.3/5, mb1 3.6/10, mb1mx3.3/37, mbtmp3.7/10, ML3.1/5, MS2.5/1, Ms1 2.5/1, ms1mx2.0/35, Error ellipse: s-maj=59.1km s-min=20.8km az=152.0*
ISC 28 04:36:39.5±1.5, 44°38N±0.07°×149°36E±0.08, h44km±16km, n53, σ1§62/69, mb3.6/5, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time (h m s)	Res ISC
KUR	**Kuril'sk**	**1.36**	**309**	*e*PN		**Pn**		**04 37 00.3**	**-1.8**
KUR				*i* S		**Sn**		**04 37 16.9**	**-2.0**
KUR	comp=Z,1μm,0.5s			pmax	pmax				
KUR	comp=N,288nm,0.6s			pmax	pmax				
KUR	comp=E,255nm,0.2s			pmax	pmax				
KUR	comp=E,1μm,0.5s			smax	smax				
KUR	comp=N,861nm,0.4s			smax	smax				
KUR	**Kuril'sk**	**1.36**	**309**	*i* P		**Pn**		**04 37 01.3**	**-0.8**
KUR				AMB	AMB			04 37 02.0	
KUR	comp=N,860nm,0.5s			*i* S		**Sn**		**04 37 16.9**	**-2.0**
KUR				A	A			04 37 20.0	
KUR	comp=N,1μm,0.4s			A	A			04 37 20.0	
KUR	comp=N,920nm,0.4s			A	A			04 37 20.0	
YUK	**Yuzh-Kuril'sk**	**2.54**	**263**	⇑*i* PN		**Pn**		**04 37 18.9**	**+0.7**
YUK				*i* S		**Sn**		**04 37 47.0**	**-0.8**
YUK	comp=E,73nm,0.1s			pmax	pmax				
YUK	comp=Z,403nm,0.1s			pmax	pmax				
YUK	comp=N,89nm,0.2s			pmax	pmax				
YUK	comp=N,383nm,0.3s			smax	smax				
YUK	comp=E,438nm,0.3s			smax	smax				
YUK	**Yuzh-Kuril'sk**	**2.54**	**263**	*i* P		**Pn**		**04 37 18.9**	**+0.7**
YUK				AMB	AMB			04 37 20.1	
YUK	comp=E,200nm,0.2s			*i* S		**Sn**		**04 37 47.1**	**-0.8**
YUK				A	A			04 37 49.5	
YUK	comp=E,340nm,0.4s			A	A			04 37 49.5	
YUK	comp=E,600nm,0.4s			A	A			04 37 49.5	
GRPR	**Tuman**	**2.61**	**263**	*e*PN		**Pn**		**04 37 20.0**	**+0.8**
GRPR				*e*S		**Sn**		**04 37 48.9**	**-0.7**
GRPR	comp=N,59nm,0.2s			pmax	pmax				
GRPR	comp=Z,144nm,0.2s			pmax	pmax				
GRPR	comp=N,470nm,0.2s			smax	smax				
GRPR	comp=E,203nm,0.2s			smax	smax				
GRPR	**Tuman**	**2.61**	**263**	*e*P		**Pn**		**04 37 19.3**	**+0.1**
GRPR				AMB	AMB			04 37 20.0	
GRPR	comp=E,140nm,0.2s			*e*S		**Sn**		**04 37 48.9**	**-0.7**
GRPR				A	A			04 37 52.0	
GRPR	comp=E,470nm,0.3s			A	A			04 37 52.0	
GRPR	comp=E,200nm,0.3s								
NEM2	**Nemuro 2**	**2.81**	**250**	P		**Pn**		**04 37 21.9**	**+0.1**
NEM2				*e*S		**Sn**		**04 37 52.0**	**-2.4**
NMR	**Nemuro--Hokkai**	**2.81**	**250**	⇓*i* PN		**Pn**		**04 37 22.1**	**+0.1**
NMR				S		**Sn**		**04 37 53.9**	**-0.7**
NMR	**Nemuro--Hokkai**	**2.81**	**250**	*i* P		**Pn**		**04 37 22.1**	**+0.1**
NMR				*e*S		**Sn**		**04 37 53.9**	**-0.7**
GLVR	**Golovnino**	**2.84**	**258**	PN		**Pn**		**04 37 22.8**	**+0.5**
GLVR				*e*S		**Sn**		**04 37 55.9**	**+0.6**
GLVR	comp=N,579nm,0.3s			smax	smax				
GLVR	comp=E,445nm,0.3s			smax	smax				
GLVR	**Golovnino**	**2.84**	**258**	*e*P		**Pn**		**04 37 23.2**	**+0.9**
GLVR				*e*S		**Sn**		**04 37 55.9**	**+0.6**
GLVR	comp=E,580nm,0.5s			A	A			04 37 58.4	
GLVR	comp=E,450nm,0.5s			A	A			04 37 58.4	
RUSJ	**Misakicho**	**2.97**	**266**	⇓*i* PN		**Pn**		**04 37 26.0**	**+1.9**
RUSJ				*i* S		**Sn**		**04 38 00.6**	**+2.2**
JRA	**Rausu**	**3.08**	**263**	P		**Pn**		**04 37 27.4**	**+1.8**
JRA				*e*S		**Sn**		**04 38 01.8**	**+0.6**
JNK	**Nakash**	**3.44**	**258**	P		**Pn**		**04 37 31.8**	**+1.2**
JNK				*e*S		**Sn**		**04 38 09.2**	**-0.9**
AKK	**Akkeshi**	**3.55**	**249**	*e*P		**Pn**		**04 37 32.5**	**+0.5**
AKK				*e*S		**Sn**		**04 38 11.3**	**-1.4**
JAK	**Akkeshi**	**3.66**	**249**	P		**Pn**		**04 37 33.9**	**+0.4**
JAK				*e*S		**Sn**		**04 38 12.9**	**-2.4**
JTKR	**Abashiri--Toko**	**3.94**	**266**	P		**Pn**		**04 37 38.7**	**+1.2**
JAR	**Ashorobuto**	**4.19**	**257**	P		**Pn**		**04 37 42.7**	**+1.9**
JAR				*e*S		**Sn**		**04 38 28.5**	**0.0**
JOB	**Onbets**	**4.27**	**252**	P		**Pn**		**04 37 43.2**	**+1.2**
JOB				*e*S		**Sn**		**04 38 30.1**	**-0.5**
JMP	**Maruseppu**	**4.33**	**267**	P		**Pn**		**04 37 44.9**	**+2.1**
JCH	**Churui**	**4.71**	**250**	P		**Pn**		**04 37 48.7**	**+0.7**
JCH				*e*S		**Sn**		**04 38 39.4**	**-1.9**
JKA	**Kamikawa-asahi**	**4.87**	**269**	*e*P		**Pn**		**04 37 52.2**	**+2.1**
ASAJ	**Asahikawa**	**4.87**	**269**	P		**Pn**		**04 37 52.2**	**+2.1**
	comp=E,1.3nm,0.3s,baz=85,slow=14,SNR=8.4								
JFR	**Furan**	**5.05**	**258**	P		**Pn**		**04 37 55.3**	**+2.6**
JFR				*e*S		**Sn**		**04 38 49.7**	**0.0**
ERM	**Erimo**	**5.11**	**245**	*i* PN		**Pn**		**04 37 55.7**	**+2.2**
JNBK	**Urakawa-nobuka**	**5.26**	**249**	P		**Pn**		**04 37 56.1**	**+0.6**
YSS	**Yuzh-Sakhalins**	**5.30**	**301**	⇑*e*PN		**Pn**		**04 37 56.7**	**+0.7**
YSS				*e*S		**Sn**		**04 38 55.4**	**-0.3**
YSS	comp=Z,20nm,1.1s			pmax	pmax				
YSS	comp=N,20nm,0.4s			smax	smax				
YSS	comp=Z,200nm,13.0s			MLR	MLR				
YSS	**Yuzh-Sakhalins**	**5.30**	**301**	*e*P		**Pn**		**04 37 56.7**	**+0.7**
YSS				AMB	AMB			04 37 57.7	
YSS	comp=Z,20nm,1.0s			*e*S		**Sn**		**04 38 54.0**	**-1.7**
YSS				A	A			04 38 58.2	
YSS	comp=Z,20nm,0.4s								
JBT2	**Biratori 2**	**5.33**	**255**	P		**Pn**		**04 37 58.1**	**+1.6**
JNB	**Noboribetsu**	**6.36**	**255**	P		**Pn**		**04 38 12.0**	**+1.5**
JNB				*e*S		**Sn**		**04 39 21.1**	**-0.7**
JKB	**Kayabe**	**6.58**	**251**	P		**Pn**		**04 38 14.5**	**+0.8**
JKB				*e*S		**Sn**		**04 39 23.4**	**-4.0**
JANG	**Nango**	**7.05**	**238**	*e*S		Sn		04 39 31.1	-7.9
JTM	**Tenmabayashi**	**7.09**	**242**	P		**Pn**		**04 38 21.0**	**+0.3**
JTM				*e*S		**Sn**		**04 39 34.0**	**-6.0**
JTH	**Tanohata**	**7.12**	**234**	*e*S		Sn		04 39 31.8	-8.8
SKR	**Severo-Kuril's**	**7.79**	**34**	*e*PN		Pn		04 38 26.3	-3.8
SKR	comp=Z,113nm,0.8s			pmax	pmax				
SKR	comp=Z,600nm,14.0s			MLR	MLR				
SKR	comp=Z,900nm,12.0s			MLR	MLR				
SKR	**Severo-Kuril's**	**7.79**	**34**	*e*P		**Pn**		**04 38 31.9**	**+1.8**
SKR				AMB	AMB			04 38 32.6	
SKR	comp=Z,110nm,0.8s			*e*S		**Sn**		**04 39 53.4**	**-3.4**
PETK	**Petropavlovsk-**	**10.32**	**29**	P		**Pn**		**04 39 05.5**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=213,slow=13,SNR=6.6								
USRK	**Ussuriysk Ar.**	**12.46**	**275**	P		**Pn**		**04 39 35.6**	**+1.6**
	baz=78,slow=14,SNR=4.9								
KSRS	**Korea Array**	**17.59**	**254**	P		**Pn**		**04 40 42.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=67,slow=12,SNR=2.1								
KSRS				LR		LR		04 46 18.7	
	comp=Z,14nm,19.7s,baz=80,slow=33								
SEY	**Seymchan**	**18.67**	**4**	P		**P**		**04 40 52.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=175,slow=7.7,SNR=5.2								
HIA	**Hailar**	**20.77**	**294**	*i* P		P		04 41 05.9	-11
HIA	comp=Z,5.0nm,1.4s			pmax	pmax				
H11N2	**WAKE ISLAND Hy 28.60 144**			T		T		05 13 23.9	
	baz=334,slow=76,SNR=117								
H11N1	**WAKE ISLAND Hy 28.61 144**			T		T		05 13 25.0	
	baz=334,slow=76,SNR=101								
H11N3	**WAKE ISLAND Hy 28.61 144**			T		T		05 13 25.3	
	baz=334,slow=76,SNR=129								
H11S1	**WAKE ISLAND Hy 29.61 145**			T		T		05 14 46.8	
	baz=335,slow=76,SNR=168								
H11S3	**WAKE ISLAND Hy 29.61 145**			T		T		05 14 41.3	
	baz=335,slow=76,SNR=98								
H11S2	**WAKE ISLAND Hy 29.62 145**			T		T		05 14 46.0	
	baz=335,slow=76,SNR=116								
ILAR	**Eielson Array**	**40.03**	**37**	P		**P**		**04 44 10.2**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=269,slow=8.6,SNR=9.3								
INK	**Inuvik**	**45.05**	**31**	P		**P**		**04 44 50.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=290,slow=6.5,SNR=5.6								
MKAR	**Makanchi Array**	**45.70**	**298**	P		**P**		**04 44 54.7**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=72,slow=9.1,SNR=3.8								
YKA	**Yellowknife Ar**	**54.38**	**35**	P		**P**		**04 46 01.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=298,slow=6.4,SNR=10								
TXAR	**Lajitas Array**	**80.97**	**58**	P		**P**		**04 48 51.0**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=295,slow=3.8,SNR=9.2								
TXAR	**Lajitas Array**	**80.97**	**58**	P		**P**		**04 48 51.0**	**+1.4**

INET 28 04:39:03.2, 11.14N×87.23W, h15km, MW3.6, Near coast of Nicaragua

*IDC **28** 04:57:09.7±1.1, 53.84N×35.28W, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.4/63, mbtmp3.6/7, ML3.5/2, MS3.6/20, Ms1 3.6/20, ms1mx3.4/42, Error ellipse: s-maj=52.9km s-min=20.5km az=31.0*
ISC 28 04:57:12.1±1.0, 53.8N±0.2×35.3W±0.2, h16km, n24, σ1§35/9, mb3.4/5, MS3.5/18, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time (h m s)	Res ISC
SFJD	**Kangerlussuaq**	**15.17**	**337**	Pn		**Pn**		**05 00 46.3**	**+1.0**
	0.2nm,0.3s,baz=118,slow=7.9,SNR=2.4								
SFJD				LR		LR		05 05 29.4	
	comp=Z,115nm,20.6s,baz=134,slow=33								
EKA	**Eskdalemuir Ar**	**18.60**	**72**	P		**Pn**		**05 01 29.1**	**+0.5**
	baz=296,slow=12,SNR=3.5								
FRB	**Frobisher Bay**	**19.66**	**314**	LR		LR		05 07 25.1	
	comp=Z,168nm,18.2s,baz=72,slow=31								
JMIC	**Jan Mayen**	**20.90**	**24**	LR		LR		05 07 41.8	
	comp=Z,87nm,19.6s,baz=279,slow=30								
ESDC	**Sonseca Array**	**25.45**	**111**	P		**P**		**05 02 39.7**	**+0.7**
	0.8nm,0.9s,baz=312,slow=9.0,SNR=4.7								
ESDC				LR		LR		05 10 38.3	
	comp=Z,110nm,18.9s,baz=310,slow=32								
HFS	**Hagfors**	**26.89**	**57**	LR		LR		05 12 54.2	
	comp=Z,66nm,18.1s,baz=309,slow=35								
DAVOX	**Davos/Dischmat**	**29.28**	**85**	LR		LR		05 12 43.9	
	comp=Z,116nm,21.8s,baz=284,slow=32								
GERES	**GERESS Array B**	**30.51**	**79**	LR		LR		05 14 54.3	
	comp=Z,80nm,19.1s,baz=326,slow=35								
RES	**Resolute Bay**	**31.14**	**334**	LR		LR		05 13 36.9	
	comp=Z,78nm,19.4s,baz=214,slow=32								
FINES	**FINESS Array B**	**32.57**	**52**	LR		LR		05 15 14.2	
	comp=Z,102nm,19.3s,baz=40,slow=33								
ULM	**Lac du Bonnet**	**36.46**	**290**	LR		LR		05 17 41.5	
	comp=Z,94nm,20.0s,baz=1.5,slow=34								
YKA	**Yellowknife Ar**	**40.17**	**315**	P		**P**		**05 04 46.0**	**-0.9**
	0.1nm,0.7s,baz=66,slow=9.4,SNR=2.8								
YKA				PcP		**PcP**		**05 06 48.7**	**-2.1**
	0.3nm,0.9s,baz=66,slow=3.9,SNR=2.5								
YKA				LR		LR		05 19 45.7	
	comp=Z,58nm,19.2s,baz=0.0,slow=34								
BRTR	**Keskin Array B**	**47.39**	**78**	LR		LR		05 27 23.8	
	comp=Z,48nm,18.2s,baz=310,slow=38								
PDAR	**Pinedale Array**	**48.46**	**289**	P		**P**		**05 05 55.7**	**+1.9**
	0.7nm,1.0s,baz=56,slow=5.6,SNR=4.1								
PDAR				LR		LR		05 24 46.8	
	comp=Z,59nm,19.3s,baz=129,slow=34								
TORD	**Torodi Ar. Bea**	**49.95**	**130**	P		**P**		**05 06 05.0**	**-0.2**
	1.5nm,0.9s,baz=326,slow=7.6,SNR=4.7								
ILAR	**Eielson Array**	**50.66**	**329**	P		**P**		**05 06 09.4**	**-0.6**
	0.4nm,1.0s,baz=39,slow=5.8,SNR=3.2								
ANMO	**Albuquerque**	**51.95**	**279**	LR		LR		05 27 45.4	
	comp=Z,165nm,19.2s,baz=65,slow=35								
ELK	**Elko**	**52.98**	**290**	LR		LR		05 28 29.8	
	comp=Z,62nm,18.6s,baz=64,slow=36								
DBIC	**Dimbokro**	**53.07**	**141**	LR		LR		05 26 12.9	
	comp=Z,68nm,19.7s,baz=2.0,slow=33								
TXAR	**Lajitas Array**	**54.32**	**272**	LR		LR		05 29 17.8	
	comp=Z,71nm,18.9s,baz=0.0,slow=36								
NVAR	**Mina Array Bea**	**56.29**	**290**	LR		LR		05 28 48.9	
	comp=Z,67nm,19.0s,baz=42,slow=34								
PFO	**Pinyon Flats O**	**58.70**	**285**	LR		LR		05 31 11.9	
	comp=Z,63nm,19.4s,baz=192,slow=35								
GEYT	**Alibeck**	**62.29**	**63**	LR		LR		05 35 07.6	
	comp=Z,27nm,20.5s,baz=215,slow=37								
ASAR	**Alice Springs**	**148.81**	**19**	PKPbc		**PKPbc**		**05 16 58.1**	**-0.6**
	0.3nm,0.9s,baz=346,slow=2.7,SNR=1.9								

*IDC **28** 04:58:13.5±6.4, 1.97N×127.70E, h231km±67km, mb3.4/8, mb1 3.5/8, mb1mx3.1/50, mbtmp4.0/8, Error ellipse: s-maj=58.2km s-min=13.8km az=71.0*
*DJA **28** 04:58:14.4±0.7, 2.5°×12.8°, h218km±6km, M4.2/8, mb4.1/2, mB4.2/1, MLv4.2/8, Mw(mB)3.2/1*
ISC 28 04:58:10.9±0.8, 2.17N±0.07×128.0E±0.1, h200km, n16, σ1§95/16, mb3.6/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time (h m s)	Res ISC
TNTI	**Ternate**	**1.53**	**205**	P		**Pn**		**04 58 47.1**	**+2.2**
TNTI				S		Sn		04 59 20.2	+8.9
SGSI	**Sangihe**	**2.90**	**301**	P		**Pn**		**04 59 01.2**	**+1.8**
KMSI	**Cibinong**	**4.33**	**249**	S		**Sn**		**05 00 07.2**	**-1.3**
SANI	**Sanana**	**4.65**	**206**	P		**Pn**		**04 59 21.6**	**+0.7**
GTOI	**Gorontalo**	**5.22**	**253**	P		**Pn**		**04 59 30.9**	**+2.7**
	0.2nm398nm23nm,0.7s								
NLAI	**Namlea**	**5.45**	**190**	P		**Sn**		**05 00 38.4**	**+4.0**
LUWI	**Luwuk**	**6.13**	**239**	P		**Pn**		**04 59 39.4**	**-0.5**
APSI	**Ampana**	**7.05**	**244**	P		Pn		04 59 41.8	-10
FITZ	**Fitzroy Crossi**	**20.27**	**187**	P		**P**		**05 02 29.9**	**-1.4**
	3.3nm,1.0s,baz=4.2,slow=5.5,SNR=1.9								
WRA	**Warramunga Arr**	**22.83**	**164**	P		**P**		**05 02 55.7**	**-1.2**
	2.6nm,0.4s,baz=349,slow=9.8,SNR=52								
ASAR	**Alice Springs**	**26.31**	**168**	P		**P**		**05 03 26.2**	**-2.2**
	0.4nm,0.4s,baz=337,slow=6.6,SNR=11								
ASAR				PcP		**PcP**		**05 06 47.9**	**-1.4**
	0.2nm,0.6s,baz=356,slow=2.3,SNR=4.9								
KSRS	**Korea Array**	**35.12**	**360**	P		**P**		**05 04 46.6**	**+1.4**
	0.6nm,0.4s,baz=192,slow=11,SNR=2.1								
STKA	**Stephens Creek**	**36.23**	**160**	P		**P**		**05 04 54.4**	**-0.5**
	4.5nm,0.4s,baz=335,slow=8.8,SNR=20								
SONM	**Songino Array**	**49.18**	**341**	P		**P**		**05 06 39.3**	**+0.5**
	0.5nm,0.5s,baz=166,slow=7.4,SNR=2.6								
MKAR	**Makanchi Array**	**59.56**	**325**	P		**P**		**05 07 53.0**	**-0.5**
	1.6nm,0.4s,baz=114,slow=8.3,SNR=38								
ZALV	**Zalesovo Beam**	**62.55**	**333**	P		**P**		**05 08 11.7**	**-1.7**
	0.4nm,0.4s,baz=151,slow=3.1,SNR=2.4								

*DDA **28** 05:04:15.6, 38.89N×35.61E, h11km, MW3.7*
*ISK **28** 05:04:15.1, 38.89N×35.62E, h5km, ML3.8/26*
*IASPEI **28** 05:04:16.3±1.0, 38.89N±0.03×35.62E±0.02, h6km±8km, mb3.6/9, Error ellipse: s-maj=3.8km s-min=3.4km az=8.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*IDC **28** 05:04:16.0±1.0, 38.91N×35.50E, h0km, mb3.7/9, mb1 3.6/15, mb1mx3.5/47, mbtmp3.5/15, ML3.4/6, MS3.0/3, Ms1 3.0/3, ms1mx2.4/51, Error ellipse: s-maj=17.0km s-min=10.5km az=11.0*
ISC 28 05:04:16.4±0.9, 38.90N±0.02×35.61E±0.02, h5km±6km, n91, σ1§53/100, mb3.6/9, 8C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time (h m s)	Res ISC
GUNE	**Kayseri**	**0.01**	**79**	*i* P		**Pg**		**05 04 17.7**	**+0.2**
BNN	**Bunyan**	**0.19**	**104**	PG		**Pg**		**05 04 19.1**	**-1.1**
BNN				SG		**Sg**		**05 04 23.1**	**+0.4**
SIRC	**Yozgat**	**0.56**	**321**	*i* P		**Pg**		**05 04 27.0**	**-0.2**
SIRC				*i* S		**Sb**		**05 04 35.7**	**-1.5**
SIRC	comp=N,8μm,0.6s			IAML				05 04 36.0	
SIRC	comp=E,10μm,0.4s			IAML				05 04 36.0	
AVNS	**Nevsehir-Avano**	**0.60**	**261**	*i* P		**Pg**		**05 04 27.6**	**-0.3**
AVNS				*i* S		**Sb**		**05 04 36.6**	**-1.7**
AVNS	comp=N,7μm,0.2s			IAML				05 04 37.0	
AVNS	comp=E,11μm,0.2s			IAML				05 04 37.0	
KOZK	**Kozakli-Nevseh**	**0.66**	**298**	PG		**Pb**		**05 04 29.2**	**-1.2**
CUSAR	**Sarkisla-SIVAS**	**0.72**	**43**	*i* P		**Pg**		**05 04 29.4**	**-0.7**
CUSAR				*i* S		**Sb**		**05 04 40.1**	**-1.5**
SARI	**SarD1z-Kayseri**	**0.80**	**128**	PG		**Pg**		**05 04 30.2**	**-1.6**
HACI	**Hacifakili, Ak**	**0.81**	**7**	*i* P		**Pg**		**05 04 31.1**	**-0.8**
YAHY	**KAYSERI_Yahyal**	**0.83**	**194**	*i* P		**Pg**		**05 04 31.6**	**-0.6**
YAHY				*i* S		**Sg**		**05 04 42.4**	**-0.5**
CUALT	**Altinyayla-SIV**	**0.96**	**67**	*i* P		**Pg**		**05 04 34.2**	**-0.7**
CUALT				*i* S		**Sn**		**05 04 49.7**	**-1.2**
CUALT	comp=N,2μm,0.4s			IAML				05 04 52.0	
CUALT	comp=E,2μm,0.4s			IAML				05 04 53.0	
SAIM	**ADANA**	**0.99**	**158**	*i* P		**Pg**		**05 04 34.7**	**-0.7**
SAIM				*i* S		**Sb**		**05 04 49.1**	**-0.4**
SAIM	comp=N,3μm,0.3s			IAML				05 04 53.0	
SAIM	comp=E,3μm,0.3s			IAML				05 04 53.0	
NIDE	**Nigde/Merkez-G**	**1.11**	**216**	*i* P		**Pg**		**05 04 36.8**	**-0.9**
NIDE	comp=N,1μm,0.2s			IAML				05 04 57.0	
NIDE	comp=E,2μm,0.2s			IAML				05 04 57.0	
NIG	**Nigde**	**1.11**	**225**	PN		**Pb**		**05 04 37.4**	**-0.8**
CKRK	**Yozgat, Cekere**	**1.18**	**356**	*i* P		**Pg**		**05 04 38.0**	**-0.9**
CKRK	comp=E,2μm,0.6s			IAML				05 04 59.0	
CKRK	comp=N,2μm,0.4s			IAML				05 04 59.0	
CDAG	**Cicekdag**	**1.20**	**307**	*i* P		**Pg**		**05 04 38.7**	**-0.7**
CDAG				*i* S		**Sn**		**05 04 56.1**	**-0.6**
CDAG	comp=E,5μm,0.4s			IAML				05 04 59.0	
CDAG	comp=N,3μm,0.4s			IAML				05 05 00.0	
GULA	**Gulagac**	**1.21**	**243**	PN		**Pn**		**05 04 39.2**	**-0.8**
CUGUR	**Gurin_SVAS**	**1.31**	**97**	*i* P		**Pb**		**05 04 41.2**	**-0.3**
CUGUR	comp=E,2μm,0.7s			IAML				05 05 04.0	
CUGUR	comp=N,2μm,0.7s			IAML				05 05 08.0	
ELBS	**KAHRAMANMARAS**	**1.32**	**115**	*i* P		**Pn**		**05 04 40.3**	**-1.3**
ELBS				*i* S		**Sn**		**05 05 01.1**	**+1.4**
ELBS	comp=N,2μm,0.7s			IAML				05 05 03.0	
ELBS	comp=E,851nm,0.4s			IAML				05 05 03.0	
CMRD	**Camardi-Nigde**	**1.33**	**202**	PN		**Pg**		**05 04 40.9**	**-0.9**
KIRS	**Kırehir-Merke**	**1.34**	**281**	*i* P		**Pn**		**05 04 40.5**	**-1.3**
KIRS	comp=N,761nm,0.3s			IAML				05 05 00.0	
YAYX	**Yaylak**	**1.40**	**272**	PN		**Pb**		**05 04 42.3**	**-0.8**
KOZT	**Kozan**	**1.43**	**173**	PN		**Pg**		**05 04 43.1**	**-0.6**
COAL	**Corum-Alaca**	**1.44**	**341**	*i* P		**Pn**		**05 04 42.7**	**-0.5**
COAL				*i* S		**Sg**		**05 05 03.8**	**+1.2**
ANDN	**Andirin**	**1.44**	**156**	*i* P		**Pg**		**05 04 43.6**	**-0.4**
ANDN				*i* S		**Sg**		**05 05 03.5**	**+0.9**
ANDN	comp=E,846nm,0.7s			IAML				05 05 11.0	
ANDN	comp=N,1μm,0.9s			IAML				05 05 12.0	
AKSY	**AKSARAY - Alti**	**1.47**	**261**	*i* P		**Pb**		**05 04 43.2**	**-1.0**
AKSY	comp=E,2μm,0.4s			IAML				05 05 04.0	
AKSY	comp=N,1μm,0.3s			IAML				05 05 07.0	
SVSK	**Karacayir**	**1.48**	**46**	PN		**Pg**		**05 04 44.0**	**-0.7**
CORM	**Corum**	**1.48**	**330**	PN		**Pg**		**05 04 44.2**	**-0.6**
CORM				SN		**Sg**		**05 05 05.2**	**+1.1**
DARE	**Darende-Malaty**	**1.50**	**102**	PN		**Pb**		**05 04 44.1**	**-0.7**
DARE				SN		**Sg**		**05 05 05.4**	**+0.8**
CUKAN	**kangal_SIVAS**	**1.50**	**73**	*i* P		**Pn**		**05 04 43.6**	**-0.6**
CUKAN	comp=E,2μm,0.7s			IAML				05 05 08.0	
CUKAN	comp=N,3μm,0.7s			IAML				05 05 08.0	
KAMT	**Kaman**	**1.55**	**288**	PN		**Pg**		**05 04 45.2**	**-0.8**
TOKT	**Tokat**	**1.59**	**27**	PN		**Pn**		**05 04 44.6**	**-0.7**
TOKT				SN		**Sg**		**05 05 08.1**	**+0.6**
SERE	**Sereflikochisa**	**1.60**	**272**	PN		**Pg**		**05 04 45.9**	**-1.1**
KARA	**Karaisali**	**1.69**	**195**	PN		**Pb**		**05 04 47.2**	**-0.8**
DELI	**KIRIKKALE**	**1.71**	**311**	*i* P		**Pb**		**05 04 47.7**	**-0.6**
DELI	comp=N,3μm,0.4s			IAML				05 05 14.0	
DELI	comp=E,3μm,0.4s			IAML				05 05 14.0	
KMRS	**Kahramanmaras**	**1.72**	**143**	PN		**Pb**		**05 04 47.4**	**-1.1**
BRTR	**Keskin Array B**	**1.74**	**299**	Pg		**Pb**		**05 04 47.9**	**-0.9**
	comp=E,74nm,0.3s,baz=125,slow=17,SNR=1493								
BRTR				Lg		Lg		05 05 10.9	
	comp=E,184nm,0.3s,baz=126,slow=29,SNR=23								
BRTR	**Keskin Array B**	**1.74**	**299**	PN		**Pb**		**05 04 47.6**	**-1.2**
YESY	**Yesilyurt**	**1.84**	**233**	PN		**Pb**		**05 04 49.2**	**-1.4**
CEYT	**Ceyhan**	**1.89**	**177**	PN		**Pb**		**05 04 49.9**	**-1.4**
RSDY	**Resadiye-TOKAT**	**2.00**	**41**	PN		**Pb**		**05 04 51.4**	**-1.8**
KUPE	**Kupecik-Ladik(**	**2.00**	**10**	PN		**Pb**		**05 04 51.7**	**-1.6**
YARM	**Yarimca-Ladik(**	**2.03**	**5**	PN		**Pb**		**05 04 52.3**	**-1.4**
KULU	**Kulu**	**2.04**	**275**	PN		**Pb**		**05 04 52.0**	**-1.9**
AFSR	**Afar-Bala (An**	**2.05**	**286**	PN		**Pb**		**05 04 52.3**	**-1.8**
ARPR	**Arapgir-MALATY**	**2.13**	**84**	PN		**Pn**		**05 04 53.3**	**+0.5**
GAZ	**Gaziantep**	**2.14**	**143**	PN		**Pn**		**05 04 53.3**

MKAR	**Makanchi Array**	**34.69**	**61**	P		**P**		**05 11 07.9**	**+1.0**
	comp=E,0.3nm,0.6s,baz=278,slow=8.9,SNR=2.9								
TORD	**Torodi Ar. Bea**	**39.45**	**239**	P		**P**		**05 11 47.7**	**0.0**
	comp=E,0.5nm,0.8s,baz=31,slow=8.6,SNR=2.6								
DBIC	**Dimbokro**	**48.56**	**239**	P		**P**		**05 13 00.9**	**+0.2**
	comp=E,1.6nm,0.7s,baz=0.0,slow=5.1,SNR=2.4								
YKA	**Yellowknife Ar**	**76.14**	**346**	P		**P**		**05 16 05.5**	**+0.7**
	comp=E,0.5nm,0.8s,baz=31,slow=5.7,SNR=9.4								
KAPI	**Kappang**	**88.57**	**98**	LR		LR		06 02 45.2	
	comp=E,52nm,18.1s,baz=61,slow=40								

DJA ***28*** *05:12:00.1±0.9,2˚N±6˚×9˚6E±˚, h137km±11km, M3.6/6, MLv3.6/6*

IDC ***28*** *05:12:05.5±2.0,2˚.05N×.96˚.42E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/41, mbtmp3.5/5, ML2.9/1, MS2.9/5, Ms1 2.9/5, ms1mx2.7/29, Error ellipse: s-maj=59.0km s-min=24.1km az=50.0*

ISC 28 05:12:09.8±1.5,**2˚.05N**±0˚.08×**96˚.5E**±0˚.1, **h28**km, **n14,** σ0§**87**/11, **mb3.6**/4, **MS3.3**/3, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.34**	**124**	P		**Pn**	**05 12 32.4**	**-0.2**
GSI				S		**Sn**	**05 12 49.5**	**0.0**
TPTI		**1.40**	**31**	P		**Pn**	**05 12 33.2**	**-0.2**
TPTI				S		**Sb**	**05 12 53.9**	**+1.2**
PSI	**Prapat**	**2.57**	**73**	Pn		**Pn**	**05 12 49.0**	**-0.7**
	2.2nm,0.3s,baz=360,slow=9.3,SNR=9.5							
PSI				LR		LR	05 13 57.8	
	comp=Z,39nm,20.2s,baz=272,slow=44							
LHMI	**Lhok Sumawe**	**3.19**	**9**	P		Pn	05 12 46.4	-12
MNSI	**Mandailing Nat**	**3.36**	**112**	P		**Pn**	**05 13 01.5**	**+1.1**
MNSI				S		**Sn**	**05 13 38.1**	**-1.3**
BSI	**Banda Aceh**	**3.61**	**341**	P		Pn	05 12 54.3	-10
CMAR	**Chiang Mai Arr**	**16.48**	**8**	LR		LR	05 23 00.4	
	comp=Z,22nm,18.6s,baz=273,slow=40							
WRA	**Warramunga Arr**	**43.11**	**122**	P		**P**	**05 20 07.8**	**-0.1**
	0.2nm,0.2s,baz=304,slow=8.8,SNR=5.7							
ASAR	**Alice Springs**	**44.49**	**127**	P		**P**	**05 20 19.2**	**+0.1**
	0.3nm,0.8s,baz=302,slow=8.4,SNR=2.1							
KSRS	**Korea Array**	**45.58**	**36**	LR		LR	05 40 09.2	
	comp=Z,13nm,18.7s,baz=170,slow=37							
MKAR	**Makanchi Array**	**46.24**	**347**	P		**P**	**05 20 31.8**	**-0.8**
	0.8nm,0.7s,baz=161,slow=7.7,SNR=7.9							
ZALV	**Zalesovo Beam**	**52.61**	**351**	P		**P**	**05 21 21.6**	**+0.6**
	1.1nm,0.5s,baz=166,slow=8.5,SNR=5.3							
STKA	**Stephens Creek**	**54.47**	**132**	LR		LR	05 49 10.3	
	comp=Z,36nm,18.0s,baz=208,slow=41							
TIXI	**Tiksi**	**72.48**	**10**	LR		LR	05 56 03.8	
	comp=Z,16nm,21.4s,baz=93,slow=36							

IDC ***28*** *05:23:50.6±1.9, 37˚.92N×139˚.31E, h155km±17km, mb3.2/4, mb1 3.3/5, mb1mx3.0/39, mbtmp3.6/5, Error ellipse: s-maj=50.7km s-min=16.9km az=91.0*

JMA ***28*** *05:23:51.4±0.2, 37˚.92N×139˚.26E, h156km±2km, M3.3*

ISC 28 05:23:51.1±0.9,**37˚.93N**±0˚.06×**139˚.25E**±0˚.07, **h160**km±6km, **n21,** σ0§**57**/32, **mb3.4**/4, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNS	**Sasagawa**	**0.13**	**154**	P		**Pn**	**05 24 12.0**	**-0.5**
JAW	**Awa shima**	**0.52**	**0**	P		**Pn**	**05 24 13.6**	**-0.1**
JAW				S		**Sn**	**05 24 30.7**	**-0.4**
JIZZ	**Izumozaki**	**0.59**	**227**	P		**Pn**	**05 24 14.4**	**+0.4**
JIZZ				S		**Sn**	**05 24 32.7**	**+1.2**
JFY	**Yanaizu**	**0.64**	**145**	P		**Pn**	**05 24 14.1**	**-0.3**
JYS	**Shirataka**	**0.71**	**66**	P		**Pn**	**05 24 14.8**	**+0.1**
JYS				S		**Sn**	**05 24 32.9**	**+0.1**
JYA	**Atsumi**	**0.75**	**29**	P		**Pn**	**05 24 15.2**	**+0.2**
JYA				S		**Sn**	**05 24 33.7**	**+0.3**
JSD	**Sado**	**0.79**	**278**	P		**Pn**	**05 24 15.0**	**-0.2**
JSD				S		**Sn**	**05 24 32.7**	**-1.0**
JFT	**Otama**	**0.96**	**115**	P		**Pn**	**05 24 16.5**	**0.0**
JYK	**Kaneyama**	**1.31**	**41**	P		**Pn**	**05 24 19.6**	**0.0**
JYK				S		**Sn**	**05 24 41.6**	**+0.1**
JAG	**Ashikaga**	**1.51**	**174**	P		**Pn**	**05 24 21.6**	**0.0**
JSZ	**Suzu**	**1.57**	**253**	P		**Pn**	**05 24 22.3**	**+0.2**
JSZ				S		**Sn**	**05 24 45.8**	**-0.2**
MAT	**Matsushiro**	**1.62**	**211**	P		**Pn**	**05 24 22.8**	**+0.1**
MAT				S		**Sn**	**05 24 47.0**	**0.0**
MAT	**Matsushiro**	**1.62**	**211**	P		**Pn**	**05 24 22.8**	**+0.1**
MAT				S		**Sn**	**05 24 46.9**	**0.0**
MJAR	**Matsushiro Arr**	**1.62**	**211**	P		**Pn**	**05 24 23.0**	**+0.3**
	2.1nm,0.3s,baz=18,slow=12,SNR=76							
MJAR				S		**Sn**	**05 24 45.9**	**-1.1**
	0.3nm,0.3s,baz=31,slow=28,SNR=7.8							
JMK	**Ichinoseki**	**1.85**	**56**	P		**Pn**	**05 24 25.3**	**+0.2**
JRY	**Ryogami san**	**1.93**	**188**	P		**Pn**	**05 24 26.5**	**+0.4**
JRY				S		**Sn**	**05 24 53.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**8.32**	**321**	P		**Pn**	**05 25 50.3**	**+1.7**
	baz=139,slow=14,SNR=4.6							
WRA	**Warramunga Arr**	**57.75**	**185**	P		**P**	**05 33 25.1**	**-0.1**
	0.4nm,0.5s,baz=2.3,slow=7.2,SNR=13							
ASAR	**Alice Springs**	**61.48**	**186**	P		**P**	**05 33 51.5**	**+0.8**
	0.1nm,0.3s,baz=16,slow=7.9,SNR=4.1							
YKA	**Yellowknife Ar**	**63.89**	**30**	P		**P**	**05 34 05.9**	**-0.3**
	0.2nm,0.7s,baz=311,slow=7.1,SNR=7.5							
FINES	**FINESS Array B**	**67.21**	**331**	P		**P**	**05 34 27.0**	**-0.5**
	3.0nm,0.9s,baz=49,slow=7.3,SNR=4.0							

IDC 28 05:49:35.2±2.1,**3˚.11N×92˚.91E, h0**km, **mb3.5**/4, **mb1 3.7**/5, **mb1mx3.4**/37, **mbtmp3.5**/5, **ML2.5**/1, **MS3.0**/1, **Ms1 3.0**/1, **ms1mx2.4**/35, **Error ellipse: s-maj=74.8km s-min=26.8km az=43.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**6.02**	**93**	Pn		Pn	05 51 06.0	+0.3
	0.1nm,0.3s,baz=181,slow=0.9,SNR=1.5							
PALK	**Pallekele**	**12.84**	**289**	LR		LR	05 56 22.6	
	comp=Z,64nm,20.8s,baz=198,slow=32							
MKAR	**Makanchi Array**	**44.48**	**350**	P		P	05 57 49.9	+1.6
	0.3nm,0.7s,baz=162,slow=9.2,SNR=3.6							
WRA	**Warramunga Arr**	**46.68**	**121**	P		P	05 58 06.0	-0.1
	0.5nm,0.6s,baz=298,slow=8.6,SNR=6.6							
ZALV	**Zalesovo Beam**	**51.11**	**354**	P		P	05 58 37.7	-1.8
	0.4nm,0.3s,baz=165,slow=7.6,SNR=2.0							
GERES	**GERESS Array B**	**80.56**	**319**	P		P	06 01 49.6	-0.1
	0.4nm,0.7s,baz=108,slow=3.2,SNR=2.4							

IDC ***28*** *05:50:48.7±1.7,0˚.53N×125˚.22E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/30, mbtmp3.8/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/43, Error ellipse: s-maj=178.2km s-min=23.3km az=63.0*

DJA ***28*** *05:50:55.1±0.6,1˚.N±6˚×12˚6E±˚, h10km, M4.0/8, mb4.3/1, mB5.1/1, MLv3.9/8, Mw(mB)4.4/1*

ISC 28 05:50:50.9±1.2,**0.6N**±0˚.1×**125˚.93E**±0˚.07, **h10**km, **n13,** σ1§**84**/14, **mb3.8**/4, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**1.95**	**269**	P		**Pg**	**05 51 28.9**	**+0.5**
SANI	**Sanana**	**2.64**	**179**	P		**Pg**	**05 51 41.1**	**-0.5**
GTOI	**Gorontalo**	**2.92**	**271**	P		**Pb**	**05 51 41.8**	**-1.3**
GTOI				S		**Sb**	**05 52 17.4**	**-1.6**
LUWI	**Luwuk**	**3.56**	**243**	P		**Pg**	**05 51 57.7**	**-1.5**
MRSI	**Marisa**	**4.00**	**268**	P		**Pn**	**05 51 56.1**	**+3.9**
NLAI	**Namlea**	**4.00**	**163**	P		**Pb**	**05 51 59.9**	**-1.5**
NLAI				S		**Sn**	**05 52 39.3**	**+0.2**
APSI	**Ampana**	**4.54**	**251**	P		**Pb**	**05 52 10.4**	**-0.4**
MSAI	**Masohi**	**4.94**	**143**	P		**Pg**	**05 52 25.5**	**-0.1**
TTSI	**Tana Toraja**	**7.11**	**239**	P		Pn	05 52 41.9	+6.9
WRA	**Warramunga Arr**	**22.02**	**158**	P		**P**	**05 55 46.0**	**+0.3**
	1.5nm,0.6s,baz=335,slow=11,SNR=27							
ASAR	**Alice Springs**	**25.34**	**163**	P		**P**	**05 56 19.6**	**+1.4**
	1.3nm,0.5s,baz=340,slow=8.7,SNR=28							
STKA	**Stephens Creek**	**35.55**	**157**	P		**P**	**05 57 49.7**	**+1.3**
	1.4nm,0.7s,baz=338,slow=12,SNR=3.2							
MKAR	**Makanchi Array**	**59.68**	**327**	P		**P**	**06 00 52.6**	**-3.0**
	0.4nm,0.5s,baz=125,slow=8.1,SNR=7.5							
MKAR				LR		LR	06 29 39.8	
	comp=Z,7.4nm,18.0s,baz=186,slow=39							

DJA ***28*** *05:59:27.8±0.2,1˚S±2˚×12˚2E±˚, h10km, M4.3/12, mb4.7/3, mB4.7/1, MLv4.1/12, Mw(mB)3.9/1*

IDC ***28*** *05:59:28.6±1.7,0˚.85S×122˚.40E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.5/29, mbtmp3.7/4, ML4.3/1, Error ellipse: s-maj=43.6km s-min=26.6km az=83.0*

ISC 28 05:59:27.9±0.8,**0.58S**±0˚.04×**122˚.31E**±0˚.05, **h10**km, **n13,** σ1§**52**/18, **mb3.6**/3, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUWI	**Luwuk**	**0.65**	**135**	P		**Pb**	**05 59 40.9**	**-0.5**
LUWI				S		**Sb**	**05 59 50.1**	**-0.5**
APSI	**Ampana**	**0.74**	**243**	P		**Pb**	**05 59 42.3**	**-0.6**
APSI				S		**Sb**	**05 59 52.6**	**-0.5**
MRSI	**Marisa**	**1.11**	**340**	P		**Pb**	**05 59 47.5**	**-1.7**
MRSI				S		**Sg**	**06 00 02.8**	**-0.9**
GTOI	**Gorontalo**	**1.39**	**30**	P		**Pn**	**05 59 52.6**	**-0.8**
GTOI				S		**Sb**	**06 00 11.9**	**0.0**
TTSI	**Tana Toraja**	**3.50**	**225**	P		**Pn**	**06 00 22.6**	**+0.2**
SPSI	**Sidrap Palu**	**4.22**	**217**	P		**Pn**	**06 00 32.2**	**-0.1**
BNSI	**Bone**	**4.39**	**210**	P		**Pn**	**06 00 35.4**	**+0.7**
KAPI	**Kappang**	**5.10**	**210**	Pn		**Pn**	**06 00 43.7**	**-0.7**
	13nm,0.3s,baz=25,slow=7.3,SNR=40							
KAPI				Sn		**Sn**	**06 01 40.6**	**-2.7**
	0.8nm,0.3s,baz=205,slow=22,SNR=1.0							
BKSI	**Bulukumba**	**5.20**	**205**	P		**Pn**	**06 00 46.1**	**+0.3**
BKB	**Balikpapan**	**5.46**	**263**	P		**Pn**	**06 00 50.1**	**+0.7**
WRA	**Warramunga Arr**	**22.56**	**149**	P		**P**	**06 04 27.4**	**-1.2**
	2.0nm,1.0s,baz=331,slow=10,SNR=6.1							
ASAR	**Alice Springs**	**25.56**	**155**	P		**P**	**06 04 57.1**	**-0.1**
	0.4nm,0.6s,baz=329,slow=6.6,SNR=8.2							
SONM	**Songino Array**	**50.17**	**346**	P		**P**	**06 08 28.2**	**+4.3**
	0.7nm,0.6s,baz=162,slow=10,SNR=2.4							

KRNET ***28*** *06:11:09.0±0.1, 41˚.41N×70˚.91E, h7km, mb2.5*

ISC 28 06:11:10.9±1.1,**41˚.35N**±0˚.05×**71˚.04E**±0˚.05, **h10**km, **n9,** σ1§**52**/18, **12C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TRKS	**Terek-Say**	**0.20**	**22**	⇑*i*P		**Pg**	**06 11 12.7**	**-2.5**
	baz=75							
TRKS				⇑*i*S		**Sg**	**06 11 16.3**	**-1.8**
	baz=75							
BTK	**Batken**	**1.30**	**188**	⇑*i*P		**Pn**	**06 11 34.6**	**-0.5**
	baz=83							
BTK				⇑*i*S		**Sn**	**06 11 54.0**	**+1.4**
	baz=83							
ARSB	**Arslanbob**	**1.46**	**90**	⇓*i*P		**Pb**	**06 11 38.7**	**+0.5**
	baz=92							
ARSB				⇓*i*S		**Sg**	**06 11 59.5**	**+1.6**
	baz=92							
MNAS	**Manas**	**1.58**	**43**	⇑*i*P		**Pn**	**06 11 39.3**	**+0.2**
	baz=47							
MNAS				⇑*i*S		**Sb**	**06 12 01.7**	**+1.4**
	baz=47							
KK31	**Karatay Array**	**1.80**	**348**	Pn		**Pb**	**06 11 44.7**	**+0.8**
	3.2nm,0.5s,baz=160,slow=14,SNR=26							
KK31				⇓Sn		**Sg**	**06 12 10.5**	**+1.7**
	7.6nm,0.6s,baz=155,slow=25,SNR=21							
AML	**Almayashu**	**2.13**	**68**	⇑*i*P		**Pb**	**06 11 49.1**	**-0.8**
	baz=70							
AML				⇑*i*S		**Sb**	**06 12 18.8**	**+2.2**
	baz=70							
EKS2	**Erkin-Say**	**2.43**	**56**	⇑*i*P		**Pn**	**06 11 52.2**	**+1.5**
	baz=59							
EKS2				⇑*i*S		**Sb**	**06 12 24.4**	**-0.3**
	baz=59							
ARLS	**Aral**	**2.51**	**77**	⇓*i*P		**Pb**	**06 11 54.8**	**-1.4**
	baz=79							
ARLS				⇓*i*S		**Sb**	**06 12 27.8**	**+0.5**
	baz=79							
UCH	**Uchtor**	**2.74**	**70**	⇑*i*P		**Pn**	**06 11 56.7**	**+1.4**
	baz=72							
UCH				⇑*i*S		**Sb**	**06 12 32.5**	**-1.6**
	baz=72							

NNC ***28*** *06:22:39.9±3.2,53˚.14N×85˚.41E, h0km, mb3.5, mpv2.7, Error ellipse: s-maj=35.9km s-min=9.9km az=92.0, Suspected Mining explosion.*

IDC ***28*** *06:22:40.4±1.2,53˚.14N×85˚.42E, h0km, mb1 3.2/2, mb1mx3.0/56, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=12.4km s-min=8.2km az=101.0*

ISC 28 06:22:38.1±2.3,**53˚.28N**±0˚.06×**85˚.6E**±0˚.2, **h0**km, **n7,** σ1§**60**/9, **5C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.82**	**326**	*i*			06 28 20.0	
	baz=156,slow=346,SNR=1.4							
ZAA0	**Zalesovo Array**	**0.82**	**326**	⇑P		**Pn**	**06 22 57.2**	**+0.3**
	0.5nm,0.4s							
ZAA0				⇑S		**Sn**	**06 23 09.0**	**-0.7**
	1.1nm,0.3s							
ZALV	**Zalesovo Beam**	**0.82**	**326**	Pg		**Pn**	**06 22 57.4**	**+0.5**
	1.4nm,0.3s,baz=156,slow=18,SNR=26							
ZALV				Lg		Lg	06 23 09.6	
	4.2nm,0.3s,baz=155,slow=30,SNR=39							
KURBB	**Kurchatov Arra**	**5.11**	**242**	Pn		**Pn**	**06 23 57.1**	**+1.3**
	0.3nm,0.3s,baz=58,slow=13,SNR=20							
KURBB				Lg		Lg	06 25 13.9	
	0.1nm,0.3s,baz=65,slow=34,SNR=7.3							
KURBB	**Kurchatov Arra**	**5.11**	**242**	⇑Pn		**Pn**	**06 23 57.2**	**+1.3**
	1.2nm,0.3s							
KURBB				⇓Sn		**Sn**	**06 24 54.5**	**-1.0**
	1.3nm,0.5s							
KURBB				⇓Lg		Lg	06 25 15.8	
	3.3nm,0.5s							
MK31	**Makanchi Array**	**6.83**	**199**	⇑Pn		**Pn**	**06 24 20.5**	**+1.0**
	0.7nm,0.5s,baz=24,slow=13,SNR=23							
MK31				⇓Sn		**Sn**	**06 25 35.1**	**-2.7**
	0.4nm,0.5s							
MK31				⇑Lg		Lg	06 26 08.9	
	0.7nm,0.6s,baz=30,slow=32							
MKAR	**Makanchi Array**	**6.83**	**199**	Pn		**Pn**	**06 24 20.8**	**+1.3**
	0.6nm,0.3s,baz=24,slow=13,SNR=25							
MKAR				Lg		Lg	06 26 07.9	
	0.1nm,0.3s,baz=18,slow=24,SNR=1.9							

IDC ***28*** *06:26:30.6±10.0, 52˚.29N×174˚.12W, h0km, mb3.5/5, mb1 3.9/6, mb1mx3.4/64, mbtmp3.5/6, ML4.0/1, Error ellipse: s-maj=190.9km s-min=45.2km az=76.0*

AEIC ***28*** *06:26:46±2.9, 52˚.0N±0˚.2×173˚.21W±0˚.10, h114km±8km, ML3.8, mb3.9/28(NEIC), Error ellipse: s-maj=22.9km s-min=6.5km az=166.0*

NEIC ***28*** *06:26:46.9±1.8, 52˚.3N±0˚.2×173˚.3W±0˚.1, h120km±13km, Error ellipse: s-maj=26.9km s-min=8.0km az=167.0*

ISC 28 06:26:46.3±1.0,**52˚.2N**±0˚.2×**173˚.12W**±0˚.08, **h100**km, **n52,** σ1§**63**/53, **mb3.6**/6, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.60**	**276**			**Pn**	**06 27 05.1**	**+2.2**
ATKA	**Atka Island**	**0.66**	**269**			**Pn**	**06 27 05.0**	**+1.7**
ATKA	**Atka Island**	**0.66**	**269**			**Sn**	**06 27 18.9**	**+2.8**
KOWE	**Korovin West**	**0.71**	**283**			**Pn**	**06 27 05.7**	**+1.8**
GSTR	**Great Sitkin T**	**1.81**	**267**	Pn		**Pn**	**06 27 16.9**	**+0.4**
GSMY	**Great Sitkin M**	**1.82**	**266**			**Pn**	**06 27 17.2**	**+0.7**
GSTD	**Great Sitkin T**	**1.87**	**266**			**Pn**	**06 27 17.8**	**+0.6**
GSTD						**Sn**	**06 27 40.9**	**+0.1**
ADAG	**Mount Adagdak**	**2.16**	**265**			**Pn**	**06 27 23.2**	**+2.3**
ADK	**Adak**	**2.22**	**263**			**Pn**	**06 27 22.2**	**+0.5**
NIKH	**Nikolski High**	**2.71**	**72**	Pn		Pn	06 27 32.1	+3.9
AMKA	**Amchitka**	**4.78**	**263**	Pn		**Pn**	**06 27 55.2**	**-0.7**
AKUT	**Akutan**	**4.82**	**64**	Pn		**Pn**	**06 27 59.1**	**+2.6**
SMY	**Shemya**	**7.82**	**279**	Pn		**Pn**	**06 28 37.0**	**-0.2**
KDAK	**Kodiak Island**	**13.02**	**57**	Pn		**Pn**	**06 29 46.4**	**-0.7**
SVW2	**Sparrevohn**	**13.08**	**40**	Pn		**Pn**	**06 29 49.0**	**+0.9**
CNPM	**China Poot**	**14.25**	**51**	Pn		**Pn**	**06 30 03.6**	**+0.4**
BRLK	**Bradley Lake**	**14.50**	**50**	Pn		**Pn**	**06 30 05.4**	**-1.1**
SKT	**Skwentna**	**15.19**	**42**	Pn		**Pn**	**06 30 14.3**	**-0.9**
SKT				IAmb		IAmb	06 30 29.3	
	comp=Z,13nm,1.4s							
SUA	**Susitna One**	**15.27**	**44**	Pn		**P**	**06 30 16.4**	**-2.5**
SUA				IAmb		IAmb	06 30 42.5	
	comp=Z,12nm,1.3s							
SEW	**Seward**	**15.30**	**50**	Pn		**Pn**	**06 30 14.2**	**-2.3**
PPLA	**Purkeypile**	**15.43**	**38**	Pn		**P**	**06 30 17.9**	**-2.7**
GHO	**Glory Hole Cre**	**16.19**	**44**	Pn		**Pn**	**06 30 26.6**	**-1.1**
KTH	**Kantishna Hill**	**16.27**	**37**	P		**P**	**06 30 29.5**	**-0.4**
TRF	**Thorofare Moun**	**16.45**	**38**	P		**P**	**06 30 31.1**	**-0.9**
TRF				IAmb		IAmb	06 30 47.3	
	comp=Z,12nm,1.4s							
SML	**Sawmill**	**16.46**	**45**	P		**P**	**06 30 30.3**	**-1.7**
SML				IAmb		IAmb	06 30 53.2	
	comp=Z,15nm,1.4s							
BPAW	**Bear Paw Mtn.**	**16.56**	**35**	P		**P**	**06 30 32.5**	**-0.5**
IMAR	**Indian Mountai**	**16.90**	**28**	P		**P**	**06 30 35.8**	**-0.8**
SCM	**Sheep Creek Mo**	**16.91**	**45**	P		**Pn**	**06 30 35.0**	**-1.6**
RND	**Reindeer**	**16.98**	**39**	P		**P**	**06 30 36.0**	**-1.8**
RND				IAmb		IAmb	06 30 38.6	
	comp=Z,14nm,1.5s							
MLY	**Manley**	**17.20**	**33**	P		**P**	**06 30 40.7**	**+0.6**
KLU	**Klutina**	**17.41**	**47**	P		**P**	**06 30 40.9**	**-1.5**
KLU				IAmb		IAmb	06 30 54.1	
	comp=Z,15nm,1.4s							
M24K	**Tolsona, Glenn**	**17.52**	**45**	P		**Pn**	**06 30 42.7**	**-1.2**
WRH	**Wood River Hil**	**17.82**	**37**	P		**P**	**06 30 44.6**	**-2.2**
CCB	**Clear Creek Bu**	**18.02**	**37**	P		**Pn**	**06 30 47.9**	**-1.9**
N25K	**Chitina, Valde**	**18.04**	**47**	P		**P**	**06 30 47.5**	**-2.0**
N25K				IAmb		IAmb	06 30 58.8	
	comp=Z,9.6nm,1.4s							
IL31		**18.42**	**37**	P		**P**	**06 30 52.1**	**-1.2**
IL31				IAmb		IAmb	06 30 53.5	
	comp=Z,4.4nm,0.5s							
ILAR	**Eielson Array**	**18.42**	**37**	P		**P**	**06 30 51.5**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=230,slow=9.4,SNR=79							
ILAR	**Eielson Array**	**18.42**	**37**	P		**Pn**	**06 30 52.6**	**-2.1**
ILAR						**Sn**	**06 34 23.4**	**+3.2**
VRDI	**Verde Repeater**	**18.46**	**49**	P		**P**	**06 30 53.1**	**-1.0**
VRDI				IAmb		IAmb	06 31 17.5	
	comp=Z,15nm,1.4s							
DOT	**Dot Lake**	**19.01**	**42**	P		**P**	**06 30 58.0**	**-1.9**
DOT				IAmb		IAmb	06 31 00.7	
	comp=Z,3.0nm,0.7s							
SCRK	**Sand Creek**	**19.17**	**41**	P		**P**	**06 31 00.2**	**-1.6**
BCAR	**Beaver Creek A**	**19.75**	**44**	P		**P**	**06 31 06.5**	**-1.6**
K27K	**Chicken**	**19.97**	**42**	P		**Pn**	**06 31 09.1**	**-1.1**
K27K				IAmb		IAmb	06 31 10.8	
	comp=Z,7.9nm,1.2s							
EGAK	**Eagle**	**20.62**	**40**	P		**P**	**06 31 16.1**	**-1.2**
DAWY	**Dawson**	**21.09**	**43**	P		**P**	**06 31 22.5**	**+0.1**
DAWY				IAmb		IAmb	06 31 22.9	
	comp=Z,2.6nm,0.6s							
EPYK	**Eagle Plains**	**22.92**	**38**	P		**P**	**06 31 39.3**	**-2.1**
EPYK				IAmb		IAmb	06 32 02.7	
	comp=Z,6.9nm,1.4s							
INK	**Inuvik**	**24.76**	**34**	P		**P**	**06 31 56.0**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=226,slow=8.1,SNR=8.1							
INK	**Inuvik**	**24.76**	**34**	P		**P**	**06 31 56.4**	**-1.7**
YKA	**Yellowknife Ar**	**32.07**	**48**	P		**P**	**06 33 01.4**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=273,slow=7.9,SNR=5.1							
NVAR	**Mina Array Bea**	**39.97**	**88**	P		**P**	**06 34 12.7**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=285,slow=8.2,SNR=6.1							
PDAR	**Pinedale Array**	**42.69**	**77**	P		**P**	**06 34 33.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=302,slow=4.9,SNR=4.0							
TXAR	**Lajitas Array**	**55.06**	**86**	P		**P**	**06 36 08.2**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=293,slow=5.0,SNR=12							

IDC ***28*** *06:32:21.6±0.5, 34˚.34N×141˚.53E, h0km, mb4.2/28, mb1 4.3/34, mb1mx4.2/57, mbtmp4.1/34, ML3.6/4, MS3.8/19, Ms1 3.8/19, ms1mx3.5/44, Error ellipse: s-maj=13.9km s-min=12.2km az=123.0*

NIED ***28*** *06:32:23.0, 34˚.28N×141˚.62E, h23km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.06; Mθθ2.47; Mϕϕ-2.53; Mrθ1.22; Mθϕ2.18; Mϕr0.06; Fault plane solution: M₀3.53000×10¹⁵ NP1: ϕs116.00000°, δ82.00000°, λ18.00000°. NP2:ϕs23.00000°, δ73.00000°, λ172.00000°.*

JMA ***28*** *06:32:22.9±0.7, 34˚.28N×141˚.62E, h23km, M4.5*

NEIC ***28*** *06:32:24.7±2.3, 34˚.38N±0˚.05×141˚.70E±0˚.09, h24km±4km, mb4.6/29, Error ellipse: s-maj=11.0km s-min=7.6km az=104.0*

MOS ***28*** *06:32:25.5±0.8, 34˚.76N×141˚.59E, h25km, mb4.7/20, Error ellipse: s-maj=11.5km s-min=5.6km az=111.8*

ISC 28 06:32:25.2±0.4,**34˚.37N**±0˚.04×**141˚.63E**±0˚.05, **h27**km, **n168,** σ1§**38**/168, **mb4.5**/61, **MS4.0**/24, **11C-2D

ZEA				*e*				06 37 26.6
ZEA					pmax	pmax		
	comp=Z,100nm,2.2s							
ZEA					pmax	pmax		
	comp=N,30nm,0.8s							
ZEA					pmax	pmax		
	comp=E,20nm,0.9s							
ZEA					pmax	pmax		
	comp=Z,50nm,0.9s							
ZEA					MLR	MLR		
	comp=N,300nm,19.0s							
ZEA					MLR	MLR		
	comp=Z,200nm,17.0s							
WHN	**Wuhan**	**23.31**	**268**	⇑P		**P**	**06 37 33.0**	**+2.0**
WHN				S		**S**	**06 41 40.5**	**-1.4**
WHN				LR	LR			
	comp=Z,940nm,12.7s							
WHN				LR	LR			
	comp=Z,940nm,9.7s							
WHN				LR	LR			
	comp=Z,1µm,12.3s							
MA2	**Magadan**	**25.93**	**11**	P		**P**	**06 37 55.5**	**+0.6**
	comp=Z,4.3nm,0.6s,baz=181,slow=11,SNR=6.6							
MA2	**Magadan**	**25.93**	**11**	*ce*P		**P**	**06 37 55.9**	**+1.0**
MA2					pmax	pmax		
	comp=Z,17nm,1.7s							
H11N2	**WAKE ISLAND Hy**	**26.71**	**117**	T		T	07 06 08.3	
	baz=310,slow=76,SNR=10							
H11N1	**WAKE ISLAND Hy**	**26.72**	**117**	T		T	07 06 20.4	
	baz=310,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**26.73**	**117**	T		T	07 06 11.3	
	baz=310,slow=76,SNR=10.0							
H11S1	**WAKE ISLAND Hy**	**27.34**	**119**	T		T	07 07 02.5	
	baz=312,slow=76,SNR=6.6							
H11S3	**WAKE ISLAND Hy**	**27.34**	**119**	T		T	07 07 07.0	
	baz=312,slow=76,SNR=5.2							
H11S2	**WAKE ISLAND Hy**	**27.35**	**119**	T		T	07 07 08.1	
	baz=312,slow=76,SNR=5.4							
YAK	**Yakutsk**	**28.71**	**348**	LR		LR	06 50 25.5	
	comp=Z,128nm,18.4s,baz=96,slow=38							
ULN	**Ulaanbaatar**	**29.07**	**308**	*ce*P		**P**	**06 38 23.3**	**-0.1**
ULN					pmax	pmax		
	comp=Z,7.0nm,1.7s							
SEY	**Seymchan**	**29.37**	**10**	P		**P**	**06 38 26.6**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=201,slow=7.3,SNR=5.3							
SEY	**Seymchan**	**29.37**	**10**	*i* P		**P**	**06 38 25.3**	**-0.4**
SONM	**Songino Array**	**29.49**	**308**	P		**P**	**06 38 27.3**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=108,slow=9.4,SNR=12							
SONM				LR		LR	06 51 30.1	
	comp=Z,334nm,18.7s,baz=90,slow=39							
SONM	**Songino Array**	**29.49**	**308**	P		**P**	**06 38 28.2**	**+1.1**
BOD	**Bodaibo**	**29.90**	**330**	*e*P		**P**	**06 38 30.7**	**+0.2**
BOD					pmax	pmax		
	comp=Z,13nm,1.7s							
LZH	**Lanzhou**	**30.79**	**284**	*e*P		**P**	**06 38 40.0**	**+1.2**
LZH				sP		pwP	06 38 55.0	+1.0
LZH					pmax	pmax		
	comp=Z,12nm,1.2s							
LZH				LR		LR		
	comp=Z,320nm,13.8s							
LZH				LR		LR		
	comp=Z,320nm,14.1s							
LZH				LR		LR		
	comp=Z,210nm,16.8s							
GYA	**Guiyang**	**31.05**	**265**	*e*P		**P**	**06 38 41.0**	**-0.1**
GYA					pmax	pmax		
	comp=Z,8.0nm,0.7s							
GYA				LR		LR		
	comp=Z,170nm,13.8s							
CD2	**Chengdu**	**31.96**	**275**	*e*P		**P**	**06 38 48.5**	**-0.5**
CD2					LR	LR		
	comp=Z,570nm,17.7s							
CD2					LR	LR		
	comp=Z,300nm,13.7s							
CD2					LR	LR		
	comp=Z,360nm,15.2s							
ZAK	**Zakamensk**	**32.12**	**312**	*e*P		**P**	**06 38 50.8**	**+0.6**
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.3s							
TLY	**Talaya**	**32.26**	**314**	LR		LR	06 53 17.2	
	comp=Z,133nm,20.8s,baz=112,slow=39							
TLY	**Talaya**	**32.26**	**314**	*e*P		**P**	**06 38 52.2**	**+0.8**
TLY					pmax	pmax		
	comp=Z,13nm,1.3s							
TLY					MLR	MLR		
	comp=Z,568nm,16.0s							
GTA	**Gaotai**	**33.60**	**291**	*e*P		**P**	**06 39 03.5**	**+0.1**
GTA				pP		pP	06 39 09.5	+0.3
GTA				sP		sP	06 39 12.5	+0.8
GTA					pmax	pmax		
	comp=Z,4.0nm,0.5s							
GTA					pmax	pmax		
	comp=Z,62nm,6.2s							
GTA				LR		LR		
	comp=Z,120nm,14.2s							
GTA				LR		LR		
	comp=Z,200nm,15.6s							
GTA				LR		LR		
	comp=Z,250nm,15.6s							
KMI	**Kunming**	**34.83**	**265**	⇓P		**P**	**06 39 17.0**	**+2.8**
KMI				pP		sP	06 39 23.3	+0.7
KMI				sP		pwP	06 39 25.5	-4.0
KMI				S		**S**	**06 44 43.5**	**-0.2**
KMI					pmax	pmax		
	comp=Z,9.0nm,0.6s							
KMI					pmax	pmax		
	comp=Z,60nm,3.6s							
KMI				LR		LR		
	comp=Z,140nm,9.5s							
KMI				LR		LR		
	comp=Z,230nm,14.8s							
KMI				LR		LR		
	comp=Z,260nm,15.6s							
BILL	**Bilibino**	**36.54**	**15**	*e*P		**P**	**06 39 28.3**	**+0.2**
BILL					pmax	pmax		
	comp=Z,7.0nm,2.5s							
TIXI	**Tiksi**	**37.95**	**353**	P		**P**	**06 39 40.7**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=144,slow=6.7,SNR=5.4							
TIXI	**Tiksi**	**37.95**	**353**	*ce*P		**P**	**06 39 39.3**	**-0.8**
TIXI	**Tiksi**	**37.95**	**353**	P		**P**	**06 39 40.6**	**+0.6**
FAKI	**Fak Fak**	**38.13**	**195**	P		**P**	**06 39 42.4**	**+0.3**
FAKI					IAmb	IAmb	06 39 44.7	
	comp=Z,12nm,0.8s							
CMAR	**Chiang Mai Arr**	**41.07**	**258**	P		**P**	**06 40 05.8**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=46,slow=6.6,SNR=5.0							
CMAR					LR	LR	06 57 07.5	
	comp=Z,39nm,19.6s,baz=134,slow=36							
CMAR	**Chiang Mai Arr**	**41.07**	**258**	*ce*P		**P**	**06 40 08.8**	**+2.1**
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.4s							
DGZ	**Jazzator, Alta**	**42.14**	**308**	*i* P		**P**	**06 40 16.2**	**+0.9**
DGZ					pmax	pmax		
	comp=Z,10.0nm,0.9s							
WMQ	**Urumqi**	**42.25**	**300**	*e*P		**P**	**06 40 18.0**	**+1.8**
WMQ				pP		sP	06 40 25.5	+0.9
WMQ				sP		pwP	06 40 31.0	+0.7
WMQ					pmax	pmax		
	comp=Z,17nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,12nm,3.7s							
WMQ				LR		LR		
	comp=Z,390nm,14.1s							
WMQ				LR		LR		
	comp=Z,560nm,19.7s							
WMQ				LR		LR		
	comp=Z,190nm,29.0s							
ZAA0	**Zalesovo Array**	**43.87**	**314**	P		**P**	**06 40 28.9**	**-0.1**
ZALV	**Zalesovo Beam**	**43.87**	**314**	P		**P**	**06 40 29.4**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=95,slow=6.9,SNR=9.6							
ZALV					LR	LR	07 00 16.9	
	comp=Z,43nm,19.1s,baz=89,slow=38							
ZALV	**Zalesovo Beam**	**43.87**	**314**	P		**P**	**06 40 28.5**	**-0.6**
ZALV	**Zalesovo Beam**	**43.87**	**314**	P		**P**	**06 40 28.5**	**-0.6**
MK31	**Makanchi Array**	**45.73**	**304**	*c i*P		**P**	**06 40 43.9**	**-0.1**
MK31	**Makanchi Array**	**45.73**	**304**	P		**P**	**06 40 43.8**	**-0.1**
MKAR	**Makanchi Array**	**45.73**	**304**	P		**P**	**06 40 44.4**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=83,slow=9.2,SNR=19							
MKAR					LR	LR	07 01 25.0	
	comp=Z,153nm,18.2s,baz=88,slow=38							
MKAR	**Makanchi Array**	**45.73**	**304**	P		**P**	**06 40 42.9**	**-1.1**
MKAR	**Makanchi Array**	**45.73**	**304**	P		**P**	**06 40 42.9**	**-1.1**
NRIK	**Noril'sk**	**45.77**	**336**	P		**P**	**06 40 43.9**	**0.0**
	comp=Z,2.9nm,0.5s,baz=144,slow=6.5,SNR=4.7							
NRIK	**Noril'sk**	**45.77**	**336**	P		**P**	**06 40 43.9**	**0.0**
NRIK					IAmb	IAmb	06 40 45.6	
	comp=Z,5.9nm,1.0s							
MAKZ	**Makanchi**	**45.94**	**304**	P		**P**	**06 40 44.8**	**-0.9**
MAKZ					pmax	pmax		
	comp=Z,3.0nm,1.0s							
MAKZ	**Makanchi**	**45.94**	**304**	P		**P**	**06 40 44.8**	**-0.9**
KURK	**Kurchatov**	**47.75**	**310**	P		**P**	**06 41 00.2**	**+0.5**
KURBB	**Kurchatov Arra**	**47.81**	**310**	P		**P**	**06 41 00.2**	**0.0**
	comp=Z,5.2nm,0.6s,baz=84,slow=7.6,SNR=72							
KDAK	**Kodiak Island**	**48.99**	**40**	P		**P**	**06 41 09.3**	**+0.2**
	comp=Z,7.8nm,0.6s,baz=327,slow=5.0,SNR=4.0							
MLY	**Manley**	**50.03**	**31**	P		**P**	**06 41 17.4**	**+0.4**
MLY					IAmb	IAmb	06 41 37.0	
	comp=Z,6.5nm,1.2s							
TRF	**Thorofare Moun**	**50.15**	**33**	P		**P**	**06 41 19.6**	**+1.4**
TRF					IAmb	IAmb	06 41 25.6	
	comp=Z,9.9nm,1.4s							
NEA2	**Nenana**	**50.72**	**31**	P		**P**	**06 41 22.9**	**+0.7**
NEA2					IAmb	IAmb	06 41 25.8	
	comp=Z,11nm,1.2s							
MDM	**Murphy Dome**	**51.09**	**31**	P		**P**	**06 41 27.0**	**+2.0**
MDM					IAmb	IAmb	06 41 28.6	
	comp=Z,11nm,1.2s							
COLA	**College**	**51.25**	**31**	*i* P		**P**	**06 41 27.7**	**+1.5**
COLA					pmax	pmax		
	comp=Z,15nm,2.2s							
ILAR	**Eielson Array**	**51.66**	**31**	P		**P**	**06 41 30.7**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=263,slow=6.1,SNR=23							
AAK	**Ala-Archa**	**51.95**	**300**	*i* P		**P**	**06 41 32.9**	**+0.9**
AAK					pmax	pmax		
	comp=Z,11nm,1.2s							
BVAR	**Borovoye Array**	**52.52**	**314**	P		**P**	**06 41 36.6**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=96,slow=14,SNR=4.8							
BRVK	**Borovoye**	**52.58**	**314**	*c i*P		**P**	**06 41 36.1**	**-0.2**
BRVK					pmax	pmax		
	comp=Z,3.0nm,0.9s							
BCAR	**Beaver Creek A**	**54.01**	**33**	P		**P**	**06 41 47.0**	**+0.3**
WB0	**Warramunga Arr**	**54.27**	**188**	P		**P**	**06 41 49.0**	**0.0**
WR0	**Warramunga Arr**	**54.45**	**188**	P		**P**	**06 41 50.0**	**-0.2**
WR0					IAmb	IAmb	06 42 18.9	
	comp=Z,6.4nm,0.8s							
WRA	**Warramunga Arr**	**54.45**	**188**	P		**P**	**06 41 50.2**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=5.2,slow=7.5,SNR=58							
WRA	**Warramunga Arr**	**54.45**	**188**	P		**P**	**06 41 49.5**	**-0.8**
WRA	**Warramunga Arr**	**54.45**	**188**	P		**P**	**06 41 49.5**	**-0.8**
KKAR	**Karatay Array**	**54.65**	**302**	P		**P**	**06 41 52.6**	**+1.0**
KKAR	**Karatay Array**	**54.65**	**302**	P		**P**	**06 41 52.6**	**+1.0**
INK	**Inuvik**	**56.68**	**26**	P		**P**	**06 42 07.1**	**+1.3**
	comp=Z,2.7nm,0.5s,baz=295,slow=6.3,SNR=25							
INK	**Inuvik**	**56.68**	**26**	P		**P**	**06 42 06.7**	**+1.0**
INK					pmax	pmax		
	comp=Z,9.0nm,1.3s							
INK	**Inuvik**	**56.68**	**26**	P		**P**	**06 42 06.7**	**+1.0**
INK					IAmb	IAmb	06 42 08.9	
	comp=Z,8.8nm,1.2s							
SVE	**Sverdlovsk**	**57.28**	**320**	*e*P		**P**	**06 42 11.3**	**+1.1**
SVE					pmax	pmax		
	comp=Z,11nm,0.9s							
AS31	**Alice Springs**	**58.18**	**188**	P		**P**	**06 42 17.4**	**+0.5**
ASAR	**Alice Springs**	**58.18**	**188**	P		**P**	**06 42 16.7**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=4.7,slow=7.3,SNR=19							
ASAR	**Alice Springs**	**58.18**	**188**	P		**P**	**06 42 16.6**	**-0.3**
HYB	**Hyderabad**	**58.35**	**270**	*i* P		**P**	**06 42 18.0**	**-0.3**
ARU	**Arti**	**58.49**	**320**	*d i*P		**P**	**06 42 19.2**	**+0.5**
ARU					S	**S**	**06 50 21.4**	**+1.2**
ARU					SS	**SS**	**06 54 09.9**	**-2.4**
ARU					pmax	pmax		
	comp=Z,14nm,1.1s							
ARU	**Arti**	**58.49**	**320**	P		**P**	**06 42 18.3**	**-0.4**
C36M	**Paulatuk**	**59.78**	**24**	P		**P**	**06 42 28.1**	**+0.7**
ABKAR	**Akbulak array**	**59.81**	**311**	P		**P**	**06 42 27.7**	**-0.3**
ABKAR	**Akbulak array**	**59.81**	**311**	P		**P**	**06 42 27.5**	**-0.5**
ABKAR					IAmb	IAmb	06 42 45.2	
	comp=Z,3.2nm,0.8s							
AKTO	**Aktyubinsk**	**60.61**	**313**	LR		LR	07 10 44.5	
	comp=Z,62nm,20.0s,baz=66,slow=38							
DLBC	**Dease Lake**	**60.63**	**37**	P		**P**	**06 42 34.6**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=260,slow=7.2,SNR=5.7							
RES	**Resolute Bay**	**65.14**	**14**	P		**P**	**06 43 03.9**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=319,slow=6.7,SNR=21							
RES	**Resolute Bay**	**65.14**	**14**	P		**P**	**06 43 04.3**	**+1.2**
RES					IAmb	IAmb	06 43 05.7	
	comp=Z,6.6nm,1.1s							
YKA	**Yellowknife Ar**	**66.03**	**30**	P		**P**	**06 43 09.9**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=302,slow=5.3,SNR=20							
YKA	**Yellowknife Ar**	**66.03**	**30**	*i* P		**P**	**06 43 09.8**	**+0.7**
FORT	**Forrest**	**66.05**	**193**	P		**P**	**06 43 10.0**	**+0.5**
ARCES	**ARCESS Array B**	**66.55**	**340**	P		**P**	**06 43 12.8**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=41,slow=8.1,SNR=3.6							
ARCES					LR	LR	07 19 06.7	
	comp=Z,62nm,18.0s,baz=25,slow=42							
TULEG	**Thule**	**67.72**	**7**	P		**P**	**06 43 18.0**	**-1.6**
OBN	**Obninsk**	**70.34**	**324**	*e*P		**P**	**06 43 36.4**	**+0.2**
OBN				*e**PP		**sP**	**06 43 46.8**	**+1.8**
OBN				*e*			06 44 00.0	
OBN					pmax	pmax		
	comp=Z,12nm,0.4s							
FINES	**FINESS Array B**	**71.26**	**333**	P		**P**	**06 43 41.6**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=58,slow=5.9,SNR=7.0							
FINES					LR	LR	07 18 47.1	
	comp=Z,92nm,18.9s,baz=14,slow=39							
FINES	**FINESS Array B**	**71.26**	**333**	P		**P**	**06 43 41.8**	**+0.1**
ZEI	**Tsey**	**72.64**	**310**	*e*P		**P**	**06 43 49.4**	**-1.2**
ZEI					pmax	pmax		
	comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**72.78**	**311**	P		**P**	**06 43 52.1**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=89,slow=4.2,SNR=5.3							
KBZ					LR	LR	07 16 31.3	
	comp=Z,69nm,18.1s,baz=122,slow=36							
KBZ	**Khabaz**	**72.78**	**311**	*ce*P		**P**	**06 43 51.4**	**+0.3**
KBZ					pmax	pmax		
	comp=Z,4.0nm,1.0s							
KIV	**Kislovodsk**	**72.80**	**312**	*e*P		**P**	**06 43 52.7**	**+1.3**
KIV					pmax	pmax		
	comp=Z,28nm,1.0s							
KIV					MLR	MLR		
	comp=Z,116nm,18.0s							
SHA1	**Shidzhatmaz**	**72.93**	**312**	*i* P		**P**	**06 43 52.4**	**+0.1**
GNI	**Garni**	**73.45**	**307**	LR		LR	07 19 39.4	
	comp=Z,93nm,18.6s,baz=70,slow=39							
GNI	**Garni**	**73.45**	**307**	*i* P		**P**	**06 43 57.8**	**+2.4**
GNI					pmax	pmax		
	comp=Z,4.0nm,0.8s							
BEKR	**Beckworth**	**74.33**	**52**	P		**P**	**06 44 00.1**	**-0.5**
BEKR					IAmb	IAmb	06 44 06.2	
	comp=Z,3.3nm,0.8s							
KVN	**Kaiserville**	**76.25**	**52**	P		**P**	**06 44 10.9**	**-0.7**
KVN					pmax	pmax		
	comp=Z,3.0nm,0.9s							
KVN	**Kaiserville**	**76.25**	**52**	P		**P**	**06 44 10.9**	**-0.7**
KVN					IAmb	IAmb	06 44 17.2	
	comp=Z,2.9nm,0.9s							
FCC	**Fort Churchill**	**76.30**	**26**	P		**P**	**06 44 12.1**	**+0.8**
FCC					pmax	pmax		
	comp=Z,14nm,1.5s							
FCC	**Fort Churchill**	**76.30**	**26**	P		**P**	**06 44 12.1**	**+0.8**
FCC					IAmb	IAmb	06 44 12.8	
	comp=Z,14nm,1.5s							
NVAR	**Mina Array Bea**	**76.45**	**53**	P		**P**	**06 44 13.7**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=288,slow=4.9,SNR=9.1							
NVAR					LR	LR	07 15 15.8	
	comp=Z,36nm,19.2s,baz=256,slow=34							
NVAR	**Mina Array Bea**	**76.45**	**53**	P		**P**	**06 44 13.5**	**+0.7**
AKASG	**Malin Array Be**	**76.52**	**323**	P		**P**	**06 44 12.6**	**-0.1**
	comp=Z,0.3nm,0.2s,baz=49,slow=6.0,SNR=5.8							
AKASG					LR	LR	07 21 42.2	
	comp=Z,171nm,18.6s,baz=40,slow=39							
AKBB	**Malin Array Si**	**76.52**	**323**	*ce*P		**P**	**06 44 11.3**	**-1.4**
NB2	**NORSAR Subarra**	**76.71**	**338**	P		**P**	**06 44 14.1**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**76.71**	**338**	P		**P**	**06 44 14.4**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=39,slow=5.7,SNR=6.8							
NOA					LR	LR	07 22 09.1	
	comp=Z,98nm,18.8s,baz=30,slow=39							
PDAR	**Pinedale Array**	**79.41**	**45**	P		**P**	**06 44 31.2**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=270,slow=3.0,SNR=6.9							
BRTR	**Keskin Array B**	**80.76**	**312**	P		**P**	**06 44 36.7**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=113,slow=2.8,SNR=5.5							
SRU	**San Rafael Swe**	**81.03**	**49**	P		**P**	**06 44 37.6**	**-0.4**
SRU					pmax	pmax		
	comp=Z,5.0nm,0.8s							
SRU	**San Rafael Swe**	**81.03**	**49**	P		**P**	**06 44 37.6**	**-0.4**
SRU					IAmb	IAmb	06 44 43.7	
	comp=Z,4.6nm,0.8s							
PV14	**Lion Creek, Pa**	**82.41**	**48**	P		**P**	**06 44 43.5**	**-1.9**
PV14					IAmb	IAmb	06 44 51.0	
	comp=Z,6.1nm,0.7s							
VYHS	**Vyhne**	**83.02**	**326**	*e*P		**P**	**06 44 48.1**	**+0.1**
VYHS	**Vyhne**	**83.02**	**326**	*e*P		**P**	**06 44 48.1**	**+0.1**
KHC	**Kasperske Hory**	**84.91**	**329**	*e*P		**P**	**06 44 58.5**	**+0.8**
KHC	**Kasperske Hory**	**84.91**	**329**	*e*P		**P**	**06 44 58.5**	**+0.8**
KHC				*ex*		x	06 45 15.0	
GERES	**GERESS Array B**	**85.07**	**328**	P		**P**	**06 44 58.1**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=41,slow=4.3,SNR=4.7							
TXAR	**Lajitas Array**	**91.60**	**53**	P		**P**	**06 45 31.6**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=315,slow=3.6,SNR=5.5							
ESDC	**Sonseca Array**	**99.75**	**334**	LR		LR	07 35 30.8	
	comp=Z,44nm,21.3s,baz=20,slow=38							
QSPA	**South Pole Qui**	**124.12**	**180**	PKP		**PKiKP**	**06 51 20.5**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=260,slow=0.8,SNR=5.8							
LPAZ	**La Paz**	**147.81**	**63**	PKPbc		**PKiKP**	**06 52 10.3**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=22,slow=13,SNR=9.5							
LPAZ	**La Paz**	**147.81**	**63**			**PKPab**	**06 52 10.8**	**-0.5**

IDC ***28*** *06:39:22.2±2.4, 48°.89N×156°.41E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.3/44, mbtmp3.5/4, ML2.6/2, Error ellipse: s-maj=45.8km s-min=44.4km az=77.0*
KRSC ***28*** *06:39:41.1±2.0, 50°.09N×156°.20E, h84km±24km, ML3.6*
ISC 28 06:39:36.2±1.5, 49°.8N±0°.1×155°.9E±0°.1, h100km, n24, σ2s37/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.88**	**10**	*e*P			**Pn**	**06 39 56.4**	**+1.1**
ALID	**Alaid**	**1.07**	**349**	*e*P			**Pn**	**06 39 59.5**	**+2.0**
PAU	**Pauzhetka**	**1.75**	**20**	*e*P			**Pn**	**06 40 06.3**	**+0.7**
KDTR	**Khodutka, Kamc**	**2.44**	**34**	*e*P			**Pn**	**06 40 15.9**	**+1.6**
KDTR				*e*S			**Sn**	**06 40 42.0**	**-1.6**
ASAK	**Asacha**	**2.87**	**26**	*e*P			**Pn**	**06 40 23.9**	**+3.7**
MTVR	**Mutnovka**	**3.04**	**28**	*e*P			**Pn**	**06 40 25.4**	**+2.9**
MTVR				*e*S			**Sn**	**06 40 57.7**	**-0.5**
GRL	**Gorelyy**	**3.07**	**26**	*e*P			**Pn**	**06 40 25.1**	**+2.2**
GRL				*e*S			**Sn**	**06 40 57.3**	**-1.6**
RUS	**Russkaya**	**3.10**	**31**	*e*P			**Pn**	**06 40 25.5**	**+2.3**
RUS				*e*S			**Sn**	**06 40 58.3**	**-1.2**
PETK	**Petropavlovsk-**	**3.49**	**18**	Pn			**Pn**	**06 40 29.9**	**+1.5**
	0.4nm,0.3s,baz=176,slow=11,SNR=10								
PETK				Sn			Sn	06 41 19.0	+10
	0.4nm,0.3s,baz=181,slow=18,SNR=5.0								
DALK	**Dalny**	**3.69**	**28**	*e*P			**Pn**	**06 40 33.4**	**+2.4**
UGLR	**Uglovaya**	**3.86**	**27**	*e*P			**Pn**	**06 40 36.8**	**+3.3**
KOK	**Koryaka**	**3.88**	**25**	*e*P			**Pn**	**06 40 37.7**	**+3.9**
AVH	**Avacha**	**3.89**	**26**	*e*P			**Pn**	**06 40 37.5**	**+3.7**
SMAR	**Somma**	**3.90**	**27**	*e*P			**Pn**	**06 40 37.6**	**+3.4**
KRER	**Koryakskii**	**3.92**	**26**	*e*P			**Pn**	**06 40 38.0**	**+3.5**
SDLR	**Sedlovina**	**3.94**	**27**	*e*P			**Pn**	**06 40 37.1**	**+2.5**
SDLR				*e*S			**Sn**	**06 41 17.9**	**-2.0**
KRX	**Arik**	**3.94**	**25**	*e*P			**Pn**	**06 40 37.4**	**+2.7**
NLC	**Nalytchevo**	**4.00**	**32**	*e*S			**Sn**	**06 41 19.5**	**-1.5**
GNL	**Ganaly**	**4.09**	**18**	*e*P			**Pn**	**06 40 37.9**	**+1.3**
SPN	**Mys Shipunski**	**4.19**	**37**	*e*P			**Pn**	**06 40 40.2**	**+2.4**
SPN				*e*S			**Sn**	**06 41 23.4**	**-2.2**
MKZ	**Mys Kozlova**	**5.96**	**35**	*e*P			**Pn**	**06 41 02.1**	**+0.4**
KLR	**Kul'dur**	**15.66**	**277**	Pn			**Pn**	**06 43 10.2**	**-0.7**
	0.1nm,0.3s,baz=77,slow=13,SNR=5.4								
PDAR	**Pinedale Array**	**61.48**	**57**	P			**P**	**06 49 41.9**	**-0.5**
	0.2nm,0.5s,baz=332,slow=5.5,SNR=2.3								
TXAR	**Lajitas Array**	**74.42**	**63**	P			**P**	**06 51 02.9**	**-0.5**
	0.2nm,0.4s,baz=304,slow=5.2,SNR=7.9								

SOME ***28*** *06:45:53.7, 47°.25N×84°.48E, h20km*
NNC ***28*** *06:45:56.4±3.6, 47°.45N×84°.43E, h0km, mb2.9, mpv2.4, Error ellipse: s-maj=31.9km s-min=26.1km az=147.0*
ISC 28 06:45:49.2±3.2, 46°.94N±0°.09×85°.0E±0°.2, h10km, n6, σ0s77/10, 1C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.52**	**349**	*e*P			**Pg**	**06 45 59.8**	**+0.5**
	9.4nm,0.1s								
ZSN				*e*S			**Sg**	**06 46 05.2**	**-0.9**
	106nm,0.1s								
MK31	**Makanchi Array**	**1.87**	**266**	P			**Pg**	**06 46 25.3**	**+0.3**
	0.3nm,0.1s,baz=74,slow=17,SNR=42								
MK31				⇓S			**Sb**	**06 46 47.3**	**+0.4**
	0.8nm,0.2s,baz=62,slow=25,SNR=12								
MAKZ	**Makanchi**	**2.08**	**267**	⇓Pn			**Pg**	**06 46 29.0**	**-0.1**
	1.9nm,0.3s								
MAKZ				⇓Sn			**Sb**	**06 46 53.2**	**+0.2**
	1.7nm,0.3s								
DJR	**Jarkent**	**4.49**	**236**	*e*P			**Pg**	**06 47 15.8**	**+0.6**
	0.4nm,0.1s								
DJR				*e*S			**Sg**	**

TNTI	**Ternate**	**1.09**	**123**	Pn	**Pn**	07 12 04.3	**-0.2**
TNTI	**Ternate**	**1.09**	**123**	P	**Pn**	07 12 02.4	**-2.1**
TNTI				S	**Sn**	07 12 18.1	**-0.4**
SGSI	**Sangihe**	**2.48**	**338**	P	**Pn**	07 12 25.4	**+1.9**
KMSI	**Cibinong**	**2.60**	**252**	P	**Pn**	07 12 25.1	**0.0**
KMSI				S	**Sn**	07 12 54.2	**-1.3**
SANI	**Sanana**	**3.43**	**188**	P	**Pn**	07 12 35.4	**-1.2**
SANI				S	**Sn**	07 13 18.7	**+2.6**
GTOI	**Gorontalo**	**3.52**	**258**	P	**Pn**	07 12 37.5	**-0.3**
LUWI	**Luwuk**	**4.39**	**237**	Pn	**Pn**	07 12 51.5	**+1.6**
LUWI	**Luwuk**	**4.39**	**237**	P	**Pn**	07 12 50.9	**+1.1**
LUWI				S	**Sn**	07 13 43.3	**+3.5**
MRSI	**Marisa**	**4.60**	**259**	P	**Pn**	07 12 54.0	**+1.3**
NLAI	**Namlea**	**4.63**	**172**	P	**Pn**	07 12 53.0	**0.0**
SIJI	**Sorong**	**5.30**	**115**	P	**Pn**	07 13 06.2	**+3.9**
	2.1nm,0.3s,baz=307,slow=10,SNR=4.1						
APSI	**Ampana**	**5.31**	**245**	P	**Pn**	07 13 03.9	**+1.4**
	0.6nm2µm154nm,0.6s						
TOLI2	**Tolitoli**	**5.68**	**267**	Pn	**Pn**	07 13 06.3	**-1.2**
FAKI	**Fak Fak**	**7.19**	**126**	Pn	**Pn**	07 13 28.6	**+0.3**
SPSI	**Sidrap Palu**	**8.53**	**232**	P	**Pn**	07 13 47.5	**+0.9**
	38nm,0.8s						
BNSI	**Bone**	**8.55**	**228**	P	**Pn**	07 13 46.9	**0.0**
	44nm,0.7s						
BNSI	**Bone**	**8.55**	**228**	P	**Pn**	07 13 47.4	**+0.5**
MYLDM	**Lahad Datu**	**8.79**	**296**	Pn	**Pn**	07 13 50.4	**+0.2**
BKSI	**Bulukumba**	**9.18**	**224**	P	**Pn**	07 13 57.5	**+2.0**
KAPI	**Kappang**	**9.22**	**226**	P	**Pn**	07 13 57.4	**+1.3**
	2.3nm,0.3s,baz=46,slow=5.9,SNR=5.4						
KAPI				LR	LR	07 17 33.5	
	comp=Z,42nm,20.2s,baz=55,slow=38						
KAPI	**Kappang**	**9.22**	**226**	Pn	**Pn**	07 13 56.5	**+0.3**
SBUM	**Sibu**	**14.27**	**275**		**P**	07 15 10.5	**-0.7**
JAY	**Jayapura**	**14.76**	**105**	LR	LR	07 21 02.8	
	comp=Z,81nm,19.4s,baz=18,slow=38						
MTN	**Manton Dam**	**14.87**	**162**	P	**Pn**	07 15 13.5	**+0.5**
JAGI	**Jajag, Banyuwa**	**15.69**	**231**	P	**Pn**	07 15 24.7	**+1.1**
JAGI				IAmb	IAmb	07 15 32.4	
	comp=Z,19nm,0.9s						
KSM	**Kuching**	**16.14**	**271**	P	**Pn**	07 15 28.2	**-1.2**
SZP	**Santa**	**17.12**	**340**	P	**Pn**	07 15 40.1	**-1.6**
SMRI	**Semarang**	**18.04**	**242**	P	**P**	07 15 49.5	**-3.6**
SMRI				IAmb	IAmb	07 15 50.9	
	comp=Z,53nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.36**	**182**	P	**P**	07 16 05.2	**-2.3**
	comp=Z,0.4nm,0.3s,baz=39,slow=10.0,SNR=7.2						
FITZ	**Fitzroy Crossi**	**19.36**	**182**	P	**P**	07 16 04.3	**-3.2**
FITZ				IAmb	IAmb	07 16 08.6	
	comp=Z,24nm,1.5s						
WB0	**Warramunga Arr**	**22.41**	**160**	P	**P**	07 16 38.5	**-1.9**
WB0				IAmb	IAmb	07 16 41.7	
	comp=Z,29nm,1.1s						
TPUB	**Ta-pu**	**22.52**	**346**	P	**P**	07 16 41.2	**-0.3**
WRAB	**Tennant Creek**	**22.55**	**160**	P	**P**	07 16 40.4	**-1.4**
WRA	**Warramunga Arr**	**22.55**	**160**	P	**P**	07 16 39.7	**-2.3**
	comp=Z,20nm,0.8s,baz=338,slow=11,SNR=96						
WRA	**Warramunga Arr**	**22.55**	**160**	P	**P**	07 16 40.5	**-1.5**
WB2	**Warramunga Arr**	**22.55**	**160**	P	**P**	07 16 41.0	**-1.0**
AS31	**Alice Springs**	**25.92**	**164**	P	**P**	07 17 12.7	**-0.9**
ASAR	**Alice Springs**	**25.92**	**164**	P	**P**	07 17 12.4	**-1.2**
	comp=Z,2.3nm,0.6s,baz=352,slow=16,SNR=34						
ASAR				S	**S**	07 21 42.5	**+1.7**
	comp=Z,0.6nm,0.8s,baz=348,slow=20,SNR=5.7						
ASAR	**Alice Springs**	**25.92**	**164**	P	**P**	07 17 12.3	**-1.3**
JNU	**Nakatsue**	**31.85**	**7**	LR	LR	07 29 17.1	
	comp=Z,93nm,22.0s,baz=107,slow=33						
MORW	**Morawa**	**31.87**	**197**	P	**P**	07 18 05.6	**-0.8**
MORW				IAmb	IAmb	07 18 06.9	
	comp=Z,6.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.89**	**304**	P	**P**	07 18 09.3	**+2.6**
	comp=Z,1.3nm,0.3s,baz=106,slow=6.7,SNR=4.7						
FORT	**Forrest**	**32.01**	**177**	P	**P**	07 18 07.7	**0.0**
STKA	**Stephens Creek**	**36.05**	**158**	P	**P**	07 18 41.7	**-1.0**
	comp=Z,3.4nm,0.6s,baz=333,slow=7.8,SNR=9.1						
STKA	**Stephens Creek**	**36.05**	**158**	P	**P**	07 18 42.4	**-0.3**
USRK	**Ussuriysk Ar.**	**42.93**	**6**	P	**P**	07 19 39.1	**-0.7**
KLR	**Kul'dur**	**47.89**	**5**	P	**P**	07 20 19.6	**+0.6**
	comp=Z,1.1nm,0.4s,baz=181,slow=6.2,SNR=3.9						
PETK	**Petropavlovsk-**	**57.70**	**22**	P	**P**	07 21 32.5	**+1.1**
	comp=Z,1.4nm,0.5s,baz=167,slow=4.0,SNR=10						
MK31	**Makanchi Array**	**59.34**	**326**	P	**P**	07 21 42.0	**-1.0**
MKAR	**Makanchi Array**	**59.34**	**326**	P	**P**	07 21 42.1	**-0.8**
	comp=Z,1.3nm,0.4s,baz=120,slow=8.0,SNR=12						
MKAR				PcP	**PcP**	07 22 29.6	**-0.9**
	comp=Z,1.3nm,0.9s,baz=123,slow=4.5,SNR=4.8						
MKAR	**Makanchi Array**	**59.34**	**326**	P	**P**	07 21 41.9	**-1.0**
MAKZ	**Makanchi**	**59.52**	**326**	P	**P**	07 21 43.2	**-0.9**
MAKZ				IAmb	IAmb	07 21 53.2	
	comp=Z,2.9nm,1.1s						
LBZ	**Lake Benmore**	**59.91**	**145**	P	**P**	07 21 46.3	**-0.6**
ZAA0	**Zalesovo Array**	**62.56**	**334**	P	**P**	07 22 04.3	**-0.3**
ZAA0				IAmb	IAmb	07 22 31.0	
	comp=Z,2.2nm,0.9s						
ZALV	**Zalesovo Beam**	**62.56**	**334**	P	**P**	07 22 04.2	**-0.3**
	comp=Z,0.8nm,0.4s,baz=142,slow=7.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**62.56**	**334**	P	**P**	07 22 03.3	**-1.3**
SEY	**Seymchan**	**64.38**	**13**	P	**P**	07 22 18.7	**+2.3**
	comp=Z,0.4nm,0.2s,baz=238,slow=7.8,SNR=5.2						
KK31	**Karatay Array**	**64.77**	**318**	P	**P**	07 22 18.0	**-1.5**
KKAR	**Karatay Array**	**64.77**	**318**	P	**P**	07 22 18.7	**-0.8**
BRVK	**Borovoye**	**69.21**	**328**	P	**P**	07 22 46.8	**-0.6**
BRVK				IAmb	IAmb	07 22 49.7	
	comp=Z,2.1nm,0.7s						
TIXI	**Tiksi**	**70.19**	**1**	P	**P**	07 22 53.6	**+0.5**
TIXI				IAmb	IAmb	07 23 13.8	
	comp=Z,3.0nm,1.1s						
SOCY	**Socotra**	**72.58**	**282**	P	**P**	07 23 08.4	**-0.3**
SOCY				IAmb	IAmb	07 23 16.7	
	comp=Z,5.7nm,1.2s						
NRIK	**Noril'sk**	**72.64**	**346**	P	**P**	07 23 08.5	**+0.6**
	comp=Z,3.4nm,0.7s,baz=139,slow=7.1,SNR=9.7						
NRIK	**Noril'sk**	**72.64**	**346**	P	**P**	07 23 08.0	**+0.1**
NRIK				IAmb	IAmb	07 23 09.1	
	comp=Z,4.6nm,0.8s						
ABKAR	**Akbulak array**	**73.80**	**321**	P	**P**	07 23 14.7	**-0.4**
ABKAR	**Akbulak array**	**73.80**	**321**	P	**P**	07 23 15.0	**-0.1**
ABKAR				IAmb	IAmb	07 23 15.9	
	comp=Z,5.5nm,1.5s						
VNDA	**Vanda**	**81.14**	**173**	P	**P**	07 23 55.5	**-0.1**
	comp=Z,1.4nm,0.7s,baz=354,slow=3.0,SNR=8.4						
VNDA	**Vanda**	**81.14**	**173**	P	**P**	07 23 56.1	**+0.5**
VNDA				IAmb	IAmb	07 24 00.4	
	comp=Z,2.9nm,0.9s						
ILAR	**Eielson Array**	**87.34**	**25**	P	**P**	07 24 27.0	**-0.3**
	comp=Z,0.3nm,0.5s,baz=246,slow=4.7,SNR=5.4						
QSPA	**South Pole Qui**	**91.30**	**180**	P	**P**	07 24 46.7	**+0.7**
ARCES	**ARCESS Array B**	**92.55**	**340**	P	**P**	07 24 53.6	**+1.9**
	comp=Z,3.6nm,0.9s,baz=90,slow=5.4,SNR=1.9						
FINES	**FINESS Array B**	**93.77**	**332**	P	**P**	07 24 59.3	**+1.9**
	comp=Z,2.1nm,0.9s,baz=20,slow=6.1,SNR=3.7						
YKA	**Yellowknife Ar**	**101.74**	**25**	P	**Pdif**	07 25 34.5	**+1.2**
	comp=Z,0.1nm,0.7s,baz=301,slow=3.9,SNR=3.9						
TXAR	**Lajitas Array**	**123.24**	**53**	PKP	**PKiKP**	07 30 39.3	**+0.9**
	comp=Z,0.1nm,0.6s,baz=268,slow=2.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**123.36**	**287**	PKP	**PKPdf**	07 30 38.2	**-0.4**
	comp=Z,1.2nm,0.8s,baz=63,slow=2.3,SNR=4.9						
PLCA	**Paso Flores**	**137.90**	**161**	PKP	**PKiKP**	07 31 07.0	**-0.5**
	comp=Z,1.1nm,0.8s,baz=113,slow=1.8,SNR=3.1						
MT02	**Curacav**	**144.24**	**154**	PKPdf	**PKPdf**	07 31 16.2	**-0.8**
CO03	**El Pedregal**	**146.49**	**153**		**PKPbc**	07 31 23.1	**+0.5**
LCO	**Las Campanas**	**148.01**	**151**	PKPab	**PKiKP**	07 31 28.1	**-0.8**

*IDC **28** 07:18:09.3±1.5,39.°01N×140.°60E,h0km,mb3.5/4, mb1 3.6/7,mb1mx3.3/46,mbtmp3.5/7,ML2.1/3,MS3.3/1, Ms1 3.3/1,ms1mx2.1/45,Error ellipse: s-maj=40.0km s-min=22.9km az=79.0*

*JMA **28** 07:18:12.5,38.°91N×140.°36E,h6km±1km,M3.4 Broadband fault plane solution: P waves. NP1: ϕ±74.00000°,δ28.00000°,λ93.00000°. NP2:ϕ±251.00000°, δ62.00000°,λ88.00000°. Principal axes: T Plg73.0000°, Azm157.0000°; N Plg1.0000°, Azm252.0000°; P Plg17.0000°, Azm342.0000°;*

JMA Felt III J1.

ISC 28 07:18:11.2±0.9,38.°90N±0.°03×140.°45E±0.°04,h10km±6km, n22,σ0.°96/30,mb3.6/4,3C-5D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYK	**Kaneyama**	**0.07**	**283**	⇑P	**Pg**	**07 18 13.6**	**+0.1**
JYK				S	**Sg**	**07 18 14.5**	**-0.7**
JYYZ	**Yamagatayuza**	**0.42**	**286**	⇓P	**Pg**	**07 18 20.1**	**+0.6**
JYYZ				*eS*	**Sg**	**07 18 25.1**	**0.0**
JRG	**Rokugo**	**0.52**	**16**	⇓P	**Pb**	**07 18 23.0**	**+0.7**
JRG				S	**Sb**	**07 18 30.9**	**+1.1**
JOU	**Okura**	**0.56**	**163**	⇓P	**Pb**	**07 18 23.7**	**+0.7**
JOU				S	**Sb**	**07 18 31.5**	**+0.4**
JMK	**Ichinoseki**	**0.60**	**85**	⇑P	**Pn**	**07 18 25.4**	**-0.3**
JMK				S	**Sn**	**07 18 34.3**	**-1.1**
JYA	**Atsumi**	**0.65**	**242**	⇑P	**Pg**	**07 18 23.5**	**-0.3**
JYA				S	**Sg**	**07 18 31.5**	**-0.9**
JYS	**Shirataka**	**0.74**	**204**	⇓P	**Pg**	**07 18 26.0**	**+0.5**
JYS				S	**Sg**	**07 18 35.6**	**+0.4**
JIO	**Ouri**	**0.83**	**122**	P	**Pn**	**07 18 29.1**	**+0.2**
JIO				S	**Sn**	**07 18 40.9**	**-0.2**
JOM	**Ohasama**	**0.87**	**49**	⇓P	**Pn**	**07 18 29.9**	**+0.5**
JOM				S	**Sn**	**07 18 42.0**	**-0.1**
JAW	**Awa shima**	**1.04**	**245**	P	**Pg**	**07 18 30.5**	**-0.7**
JAW				S	**Sg**	**07 18 43.6**	**-1.1**
MAT	**Matsushiro**	**2.95**	**218**	P	**Pn**	**07 18 59.5**	**+1.4**
MAT				S	**Sn**	**07 19 31.9**	**-1.6**
MJAR	**Matsushiro Arr**	**2.95**	**218**	Pn	**Pn**	**07 18 59.6**	**+1.6**
	0.2nm,0.3s,baz=60,slow=31,SNR=5.8						
MJAR				Sn	**Sb**	**07 19 40.5**	**+0.6**
	0.3nm,0.3s,baz=357,slow=8.1,SNR=4.8						
USRK	**Ussuriysk Ar.**	**8.26**	**313**	Pn	**Pn**	**07 20 10.9**	**-0.1**
	baz=120,slow=14,SNR=4.4						
PETK	**Petropavlovsk-**	**18.51**	**34**	P	**P**	**07 22 25.2**	**-2.2**
	0.0nm,0.3s,baz=233,slow=12,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**30.52**	**124**	T	T	07 55 42.0	
	baz=317,slow=75,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**30.52**	**124**	T	T	07 55 41.8	
	baz=317,slow=75,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**30.54**	**124**	T	T	07 55 43.0	
	baz=317,slow=75,SNR=5.4						
ZALV	**Zalesovo Beam**	**40.11**	**311**	P	**P**	**07 25 45.9**	**-0.8**
	0.7nm,0.6s,baz=79,slow=11,SNR=3.5						
KURBB	**Kurchatov Arra**	**44.27**	**306**	P	**P**	**07 26 20.7**	**+0.1**
	0.6nm,0.6s,baz=84,slow=8.5,SNR=6.4						
KDAK	**Kodiak Island**	**46.24**	**43**	LR	LR	07 49 52.6	
	comp=Z,34nm,18.4s,baz=59,slow=41						
WRA	**Warramunga Arr**	**58.81**	**187**	P	**P**	**07 28 09.4**	**-0.3**
	0.4nm,0.7s,baz=3.1,slow=7.4,SNR=5.3						
ASAR	**Alice Springs**	**62.54**	**187**	P	**P**	**07 28 36.7**	**+1.6**
	0.1nm,0.4s,baz=14,slow=16,SNR=2.2						

KRSC 28 07:31:57.9±2.2,49.°43N×156.°88E,h16km±38km,ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.35**	**339**	*eP*	Pn	07 32 21.8	-0.2
SKR				*eS*	Sn	07 32 38.4	-1.1
ALID	**Alaid**	**1.68**	**330**	*eP*	Pn	07 32 26.1	-0.5
PAU	**Pauzhetka**	**2.04**	**359**	*eP*	Pn	07 32 33.3	-1.2
PAU				*eS*	Sb	07 32 58.7	-0.9
KDTR	**Khodutka, Kamc**	**2.50**	**17**	*eS*	Sb	07 33 11.2	-1.7
MTVR	**Mutnovka**	**3.17**	**15**	*eP*	Pn	07 32 50.2	+3.1
MTVR				*eS*	Sn	07 33 27.7	+3.1
RUS	**Russkaya**	**3.18**	**18**	*eP*	Pn	07 32 49.7	+2.6
RUS				*eS*	Sn	07 33 27.6	+2.9
GRL	**Gorelyy**	**3.22**	**13**	*eP*	Pb	07 32 51.3	-3.3
AVH	**Avacha**	**4.01**	**16**	*eP*	Pb	07 33 04.2	-4.0
KOK	**Koryaka**	**4.02**	**15**	*eP*	Pb	07 33 03.7	-4.6
SMAR	**Somma**	**4.03**	**17**	*eP*	Pb	07 33 04.9	-3.5
SDLR	**Sedlovina**	**4.05**	**17**	*eP*	Pn	07 33 02.1	+2.8
MKZ	**Mys Kozlova**	**5.95**	**28**	*eP*	Pn	07 33 28.8	+3.7

*IDC **28** 07:32:57.4±0.6,6.°35S×105.°34E,h0km,mb4.3/18, mb1 4.4/19,mb1mx4.1/53,mbtmp4.3/19,ML5.4/1,MS3.2/9, Ms1 3.2/9,ms1mx2.9/55,Error ellipse: s-maj=25.6km s-min=13.9km az=49.0*

*NEIC **28** 07:33:04.2±2.1,6.°82S±0.°04×105.°17E±0.°04,h66km±6km, mb4.2/14,Error ellipse: s-maj=7.4km s-min=3.9km az=145.0*

*DJA **28** 07:33:06.4±0.4,7.°5±4.°×10.°5E±.°,h10km,M4.5/13,mb4.5/3, mB5.2/1,MLv4.5/13,Mw(mB)4.6/1*

ISC 28 07:33:06.8±1.1,6.°61S±0.°08×105.°30E±0.°05,h78km±9km, n84,σ1.°57/73,mb4.2/22,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLSI	**Bandar Lampung**	**1.23**	**357**	P	**Pn**	**07 33 27.6**	**-1.0**
BLSI				S	**Sn**	**07 33 43.9**	**-1.1**
SKJI	**Sukabumi**	**1.31**	**108**	P	**Pn**	**07 33 30.0**	**+0.4**
KASI	**Kota Agung**	**1.34**	**323**	P	**Pn**	**07 33 29.5**	**-0.5**
KASI				S	**Sn**	**07 33 46.4**	**-1.0**
TNG	**Tangerang**	**1.41**	**72**	P	Pn	07 33 39.4	+8.6
TNG				S	**Sn**	**07 33 49.1**	**+0.2**
DBJI	**Dramaga**	**1.44**	**88**	P	**Pn**	**07 33 31.1**	**-0.2**
DBJI				S	**Sn**	**07 33 49.8**	**0.0**
CBJI	**Citeko**	**1.55**	**83**	P	**Pn**	**07 33 33.9**	**+1.2**
CBJI				S	**Sn**	**07 33 56.8**	**+4.5**
KLSI		**1.98**	**343**	P	**Pn**	**07 33 39.1**	**+0.6**
LWLI	**Liwa**	**2.00**	**322**	P	**Pn**	**07 33 39.1**	**+0.3**
LWLI				S	**Sn**	**07 34 05.2**	**+2.0**
LEM	**Lembang**	**2.31**	**96**	Pn	**Pn**	**07 33 41.6**	**-1.4**
	51nm,0.3s,baz=194,slow=8.4,SNR=37						
LEM				Sn	**Sn**	**07 34 10.4**	**-0.3**
	52nm,0.3s,baz=314,slow=19,SNR=6.5						
LEM				LR	LR	07 34 50.3	
	comp=Z,365nm,21.7s,baz=234,slow=49						
LEM	**Lembang**	**2.31**	**96**	P	**Pn**	**07 33 44.8**	**+1.8**
MNAI	**Manna**	**3.23**	**314**	Pn	**Pn**	**07 33 54.6**	**-0.7**
MNAI				Sn	**Sn**	**07 34 31.2**	**-1.5**
MNAI	**Manna**	**3.23**	**314**	P	**Pn**	**07 33 57.8**	**+2.5**
LHSI	**Lahat**	**3.28**	**327**	P	**Pn**	**07 33 58.6**	**+2.6**
PMBI	**Palembang**	**3.69**	**352**	Pn	**Pn**	**07 34 03.3**	**+1.7**
PMBI				Sn	**Sn**	**07 34 43.2**	**-0.8**
XMIS	**Christmas Isla**	**3.87**	**175**	Pn	Pn	07 33 58.6	-1.4
XMIS				Sn	Sn	07 34 40.4	-7.9
KSI	**Kapahiang**	**3.98**	**317**	P	Pn	07 34 10.0	+4.4
PPBI	**Pangkal Pinang**	**4.49**	**11**	P	**Pn**	**07 34 14.0**	**+1.5**
UGM	**Wanagama**	**5.34**	**104**	Pn	**Pn**	**07 34 22.5**	**-1.6**
UGM	**Wanagama**	**5.34**	**104**	P	**Pn**	**07 34 26.0**	**+1.9**
	0.4nm96nn,1.1s						
ABJI	**Asem Bagus**	**8.94**	**98**	P	Pn	07 35 19.3	+6.0
COCO	**West Island**	**10.03**	**236**	Pn	Pn	07 35 22.8	-5.2
PSI	**Prapat**	**11.31**	**326**	LR	LR	07 40 07.6	
	comp=Z,99nm,21.0s,baz=90,slow=39						
SBUM	**Sibu**	**11.34**	**38**		**Pn**	**07 35 45.2**	**-0.8**
KAPI	**Kappang**	**14.46**	**84**	LR	LR	07 42 25.5	
	comp=Z,81nm,20.7s,baz=246,slow=40						
BATI	**Baumata**	**18.51**	**102**	P	**P**	**07 37 16.2**	**-1.0**
	13nm,0.3s,baz=305,slow=7.4,SNR=4.1						
BATI				LR	LR	07 45 23.7	
	comp=Z,70nm,21.7s,baz=275,slow=40						
SOEI	**Soe**	**19.03**	**101**	P	**P**	**07 37 20.3**	**-2.7**
SOEI	**Soe**	**19.03**	**101**	P	**Pn**	**07 37 25.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**22.89**	**122**	P	**P**	**07 38 04.5**	**+0.2**
FITZ				IAmb	IAmb	07 38 15.1	
	comp=Z,16nm,1.5s						
SUKH	**Sukhothai**	**24.58**	**347**	P	**P**	**07 38 21.6**	**+1.9**
UTTA	**Uttaradit**	**24.64**	**349**	P	**P**	**07 38 25.9**	**+5.6**
CM15	**Chiang Mai Arr**	**25.68**	**346**	P	P	07 38 20.0	-10
CM31	**Chiang Mai Arr**	**25.68**	**346**	P	P	07 38 20.5	-9.3
CMAR	**Chiang Mai Arr**	**25.68**	**346**	LR	LR	07 48 59.3	
	comp=Z,27nm,18.7s,baz=192,slow=38						
CMMT	**Chiang Mai**	**26.02**	**346**	P	P	07 38 21.9	-11
H01W3	**Cape Leeuwin H**	**29.30**	**165**	T	T	08 09 28.9	
	baz=344,slow=76,SNR=48						
H01W1	**Cape Leeuwin H**	**29.31**	**165**	T	T	08 09 29.4	
	baz=344,slow=76,SNR=66						
H01W2	**Cape Leeuwin H**	**29.31**	**165**	T	T	08 09 33.1	
	baz=344,slow=76,SNR=52						
WRA	**Warramunga Arr**	**31.15**	**118**	P	**P**	**07 39 18.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=314,slow=11,SNR=15						
WRA				PcP	**PcP**	**07 42 13.7**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=317,slow=2.0,SNR=2.0						
WRA	**Warramunga Arr**	**31.15**	**118**	P	**P**	**07 39 17.6**	**-0.9**
WB2	**Warramunga Arr**	**31.16**	**118**	P	**P**	**07 39 16.9**	**-1.8**
WB2				IAmb	IAmb	07 39 30.6	
	comp=Z,4.7nm,1.2s						
AS31	**Alice Springs**	**32.30**	**125**	P	**P**	**07 39 27.6**	**-1.0**
ASAR	**Alice Springs**	**32.30**	**125**	P	**P**	**07 39 28.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=296,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**32.30**	**125**	P	**P**	**07 39 27.0**	**-1.6**
H08S2	**Diego Garcia H**	**32.56**	**266**	T	T	08 13 45.5	
	baz=91,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**32.58**	**266**	T	T	08 13 49.1	
	baz=91,slow=76,SNR=61						
H08S1	**Diego Garcia H**	**32.58**	**266**	T	T	08 13 49.0	
	baz=91,slow=76,SNR=8.4						
STKA	**Stephens Creek**	**42.16**	**131**	P	**P**	**07 40 53.9**	**+1.9**
	comp=Z,13nm,0.8s,baz=305,slow=8.7,SNR=34						
STKA				LR	LR	08 01 01.6	
	comp=Z,31nm,18.0s,baz=206,slow=40						
STKA	**Stephens Creek**	**42.16**	**131**	P	**P**	**07 40 51.1**	**-0.8**
STKA				IAmb	IAmb	07 40 54.6	
	comp=Z,2.8nm,0.8s						
SONM	**Songino Array**	**54.21**	**1**	PcP	**PcP**	**07 43 28.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=177,slow=3.0,SNR=3.0						
USRK	**Ussuriysk Ar.**	**56.01**	**23**	P	**P**	**07 42 36.8**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=213,slow=5.8,SNR=10						
MK31	**Makanchi Array**	**56.96**	**341**	P	**P**	**07 42 43.2**	**-1.0**
MKAR	**Makanchi Array**	**56.96**	**341**	P	**P**	**07 42 42.3**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=155,slow=8.8,SNR=9.4						
OPO	**Ambohidratompo**	**57.73**	**252**	P	**P**	**07 42 51.5**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=24,slow=6.2,SNR=4.4						
KLR	**Kul'dur**	**60.21**	**20**	P	**P**	**07 43 05.0**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=340,slow=2.8,SNR=4.7						
ASAJ	**Asahikawa**	**60.66**	**30**	LR	LR	08 07 45.7	
	comp=Z,22nm,18.9s,baz=218,slow=35						
KURBB	**Kurchatov Arra**	**61.52**	**341**	P	**P**	**07 43 14.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=162,slow=5.7,SNR=4.8						
KURK	**Kurchatov**	**61.57**	**341**	P	**P**	**07 43 14.4**	**-1.4**
GEYT	**Alibeck**	**62.35**	**319**	P	**P**	**07 43 21.3**	**-0.2**
	comp=Z,5.9nm,1.1s,baz=153,slow=10.0,SNR=4.4						
GEYT	**Alibeck**	**62.35**	**319**	P	**P**	**07 43 21.2**	**-0.3**
GEYT				IAmb	IAmb	07 43 23.1	
	comp=Z,2.1nm,0.8s						
ZAA0	**Zalesovo Array**	**62.74**	**347**	P	**P**	**07 43 22.8**	**-0.9**
ZAA0				IAmb	IAmb	07 43 51.8	
	comp=Z,1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**62.74**	**347**	P	**P**	**07 43 22.2**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=155,slow=6.6,SNR=4.1						
ABKAR	**Akbulak array**	**68.22**	**330**	P	**P**	**07 43 58.3**	**-0.8**
ABKAR				IAmb	IAmb	07 43 59.7	
	comp=Z,4.0nm,0.7s						
KBZ	**Khabaz**	**75.23**	**318**	P	**P**	**07 44 41.8**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=194,slow=4.2,SNR=4.1						
LSZ	**Lusaka**	**75.89**	**256**	LR	LR	08 14 34.2	
	comp=Z,50nm,19.5s,baz=125,slow=33						
BELG	**Belogornoye**	**76.39**	**328**	P	**P**	**07 44 46.6**	**-1.1**
	comp=Z,6.3nm,0.6s,baz=78,slow=1.8,SNR=2.9						
VNDA	**Vanda**	**76.67**	**169**	P	**P**	**07 44 50.6**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=294,slow=6.4,SNR=4.8						
VNDA	**Vanda**	**76.67**	**169**	P	**P**	**07 44 44.8**	**-4.1**
VNDA				IAmb	IAmb	07 44 51.7	
	comp=Z,2.8nm,1.1s						
KIRV	**Kirov**	**78.78**	**334**	P	**P**	**07 45 00.9**	**0.0**
	comp=Z,9.6nm,0.6s,baz=260,slow=1.3,SNR=4.1						
TIXI	**Tiksi**	**79.63**	**7**	LR	LR	08 21 31.8	
	comp=Z,20nm,21.8s,baz=332,slow=37						
BR131	**Keskin Array S**	**80.31**	**312**	P	**P**	**07 45 08.1**	**-1.7**
BR131				IAmb	IAmb	07

4.4nm,0.3s,SNR=6.9
ETOR S Sn 07 36 30.3 +4.8
9.8nm,0.5s,SNR=5.9
CLLI Llivia 5.13 353 P Pn 07 35 29.9 +3.0
3.8nm,0.1s,SNR=33
CLLI S Sn 07 36 25.9 0.0
4.6nm,0.3s,SNR=7.9
CSOR Sort 5.15 346 P Pn 07 35 30.4 +3.2
20nm,0.4s,SNR=38
CSOR S Sn 07 36 27.5 +1.1
14nm,0.3s,SNR=7.9
ELGU Los Guajares, 5.19 266 P Pn 07 35 27.2 -0.5
1.1nm,0.2s,SNR=4.0
ELGU S Sn 07 36 24.1 -3.1
4.3nm,0.3s,SNR=4.0
FNEB Nbias 5.54 354 P Pn 07 35 34.9 +2.4
FNEB S Sn 07 36 36.2 +0.4
EGOR Sierra Gorda, 5.55 269 P Pn 07 35 34.3 +1.6
4.1nm,0.4s,SNR=7.9
EGOR S Sn 07 36 36.2 +0.1
1.4nm,0.3s,SNR=4.0
ECHI Chisagues Biel 5.65 340 P Pn 07 35 36.6 +2.6
1.1nm,0.2s,SNR=7.9
ECHI S Sn 07 36 39.5 +0.8
3.4nm,0.3s,SNR=7.9
ESDC Sonseca Array 5.80 295 Pn Pn 07 35 35.7 -0.3
0.9nm,0.3s,baz=112,slow=13,SNR=11
ESDC Sn Sn 07 36 40.2 -2.1
1.4nm,0.3s,baz=112,slow=24,SNR=9.5
ESDC Sonseca Array 5.80 295 P Pn 07 35 36.5 +0.5
9.0nm,0.3s,baz=110,slow=13,SNR=29
ESDC S Sn 07 36 39.6 -2.6
3.7nm,0.3s,baz=109,slow=23,SNR=9.1
EADA Adamuz 5.92 280 P Pn 07 35 37.2 -0.5
1.4nm,0.4s,SNR=7.9
EPF Esparros 5.96 342 Pn Pn 07 35 40.9 +2.8
EPF Sn Sn 07 36 45.7 -0.3
2.6nm,0.2s
EPF Esparros 5.96 342 *e*Pn Pn 07 35 40.9 +2.8
EPF *e*Sn Sn 07 36 45.7 -0.3
5.2nm,0.2s
MTLF Montolieu 5.97 356 Pn Pn 07 35 40.5 +2.2
MTLF Sn Sn 07 36 45.7 -0.6
3.0nm,0.4s
MTLF Montolieu 5.97 356 *e*Pn Pn 07 35 40.5 +2.2
MTLF *e*Sn Sn 07 36 45.7 -0.6
5.9nm,0.4s
MTLF Montolieu 5.97 356 Pn Pn 07 35 41.7 +3.4
MTLF Montolieu 5.97 356 S Sn 07 36 42.9 -3.5
PAB San Pablo 6.04 293 P Pn 07 35 40.4 +1.1
6.5nm,0.3s,SNR=7.9
PAB S Sn 07 36 45.6 -2.5
1.2nm,0.2s,SNR=7.9
ETSF Etsaut 6.09 336 Pn Pn 07 35 41.9 +1.9
ETSF Sn Sn 07 36 49.3 -0.1
5.2nm,0.6s
ETSF Etsaut 6.09 336 *e*Pn Pn 07 35 41.9 +1.9
ETSF *e*Sn Sn 07 36 49.3 -0.1
10nm,0.6s
ATE Arette 6.30 336 P Pn 07 35 46.3 +3.4
1.2nm,0.2s,SNR=7.9
ATE S Sn 07 36 55.6 +1.0
14nm,0.3s,SNR=7.9
ATE Arette 6.30 336 Pn Pn 07 35 46.8 +3.9
ATE S Sn 07 36 55.8 +1.2
GUD Guadarrama 6.34 303 P Pn 07 35 45.8 +2.3
1.6nm,0.2s,SNR=7.9
GUD S Sn 07 36 53.4 -2.3
1.7nm,0.2s,SNR=7.9
EORO Oroz-Betelu 6.35 331 P Pn 07 35 46.2 +2.6
1.3nm,0.2s,SNR=6.4
EORO S Sn 07 36 55.3 -0.5
5.7nm,0.2s,SNR=7.9
SJPF Ste Jean 6.51 333 P Pn 07 35 48.2 +2.5
SJPF S Sn 07 36 58.5 -1.2
7.1nm,0.4s
SJPF Ste Jean 6.51 333 *e*Pn Pn 07 35 48.2 +2.5
SJPF *e*Sn Sn 07 36 58.5 -1.2
14nm,0.4s
LMR La Mourre 6.57 24 P Pn 07 35 47.3 +0.8
LMR S Sn 07 36 58.0 -3.1
2.4nm,0.2s
LMR La Mourre 6.57 24 *e*Pn Pn 07 35 47.3 +0.8
LMR *e*Sn Sn 07 36 58.0 -3.1
4.8nm,0.2s
ECAB El Cabril 6.58 279 P Pn 07 35 45.9 -0.8
4.9nm,0.3s,SNR=23
ECAB S Sn 07 36 57.5 -3.9
1.1nm,0.2s,SNR=7.9
LASF Ste Croix 6.73 6 P Pn 07 35 50.9 +2.1
LASF S Sn 07 37 03.1 -2.0
1.5nm,0.2s
LASF Ste Croix 6.73 6 *e*Pn Pn 07 35 50.9 +2.1
LASF *e*Sn Sn 07 37 03.1 -2.0
3.0nm,0.2s
FRF La Foret Royal 6.82 24 P Pn 07 35 50.5 +0.6
FRF S Sn 07 37 03.9 -3.3
5.6nm,0.4s
FRF La Foret Royal 6.82 24 *e*Pn Pn 07 35 50.5 +0.6
FRF *e*Sn Sn 07 37 03.9 -3.3
11nm,0.4s
BSTF la Bastide-des 6.83 17 Pn Pn 07 35 52.4 +2.3
BSTF S Sn 07 37 04.8 -2.7
SMRF Simiane la Rot 6.91 17 P Pn 07 35 54.4 +3.2
SMRF S Sn 07 37 05.2 -4.2
1.5nm,0.2s
SMRF Simiane la Rot 6.91 17 *e*Pn Pn 07 35 54.4 +3.2
SMRF *e*Sn Sn 07 37 05.2 -4.2
1.5nm,0.2s
PGF Pioggiola 7.00 41 P Pn 07 35 53.8 +1.3
PGF S Sn 07 37 06.3 -5.5
4.8nm,0.6s
PGF Pioggiola 7.00 41 *e*Pn Pn 07 35 53.8 +1.3
PGF *e*Sn Sn 07 37 06.3 -5.5
9.5nm,0.6s
CALF Calern 7.08 25 Pn Pn 07 35 54.7 +1.0
MONQ Montcuq 7.09 350 Pn Pn 07 35 57.2 +3.6
SBF Sospel 7.36 27 P Pn 07 35 57.5 +0.1
SBF S Sn 07 37 17.3 -3.2
3.7nm,0.4s
SBF Sospel 7.36 27 *e*Pn Pn 07 35 57.5 +0.1
SBF *e*Sn Sn 07 37 17.3 -3.2
7.3nm,0.4s
TURF col de Turini 7.44 26 Pn Pn 07 35 59.1 +0.5
EPLA Plasencia 7.46 294 P Pn 07 35 54.5 -4.4
0.6nm,0.1s,SNR=7.9
ELAN Lanestosa 7.55 323 P Pn 07 36 06.7 +6.6
1.0nm,0.2s,SNR=4.0
ELAN S Sn 07 37 23.9 -1.4
1.5nm,0.3s,SNR=4.0
CAF Calviac 7.56 356 P Pn 07 36 03.4 +3.3
CAF S Sn 07 37 24.1 -1.3
1.2nm,0.5s
CAF Calviac 7.56 356 *e*Pn Pn 07 36 03.4 +3.3
CAF *e*Sn Sn 07 37 24.1 -1.3
2.4nm,0.5s
EMIN Mina Concepcio 7.56 276 P Pn 07 35 59.2 -0.9
1.9nm,0.3s,SNR=8.7
VIVF Saint-Julien-l 7.59 10 P Pn 07 36 03.0 +2.4
VIVF S Sn 07 37 24.9 -1.4
3.2nm,0.6s
VIVF Saint-Julien-l 7.59 10 *e*Pn Pn 07 36 03.0 +2.4
VIVF *e*Sn Sn 07 37 24.9 -1.4
6.3nm,0.6s
OGAG Argentiere 7.60 20 Pn Pn 07 36 07.9 +7.2
MDT Midelt 7.61 235 Pn Pn 07 35 57.9 -3.1
0.2nm,0.3s,baz=40,slow=12,SNR=8.8
SURF Saint Ours 7.70 22 Pn Pn 07 36 05.2 +2.9
LFF La Frestale 7.71 349 P Pn 07 36 04.6 +2.4
LFF S Sn 07 37 28.0 -1.2
1.6nm,0.4s
LFF La Frestale 7.71 349 *e*Pn Pn 07 36 04.6 +2.4
LFF *e*Sn Sn 07 37 28.0 -1.2
3.2nm,0.4s
PBAR Barrancos 7.86 279 *e*S Sn 07 37 29.9 -3.0
ORIF Oris-en-Rattie 7.87 16 P Pn 07 36 07.9 +3.5
ORIF S Sn 07 37 31.4 -1.8
0.4nm,0.3s
ORIF Oris-en-Rattie 7.87 16 *e*Pn Pn 07 36 07.9 +3.5
ORIF *e*Sn Sn 07 37 31.4 -1.8
0.9nm,0.3s
ORIF Oris-en-Rattie 7.87 16 Pn Pn 07 36 07.9 +3.5
MBDF Montbardon 7.91 21 P Pn 07 36 07.8 +2.7
MBDF S Sn 07 37 32.7 -1.7
0.7nm,0.4s
MBDF Montbardon 7.91 21 *e*Pn Pn 07 36 07.8 +2.7
1.4nm,0.4s
RJF Les Rejaudoux 7.97 353 P Pn 07 36 07.8 +2.0
RJF S Sn 07 37 33.1 -2.6
0.9nm,0.4s
RJF Les Rejaudoux 7.97 353 *e*Pn Pn 07 36 07.8 +2.0
RJF *e*Sn Sn 07 37 33.1 -2.6
1.7nm,0.4s
GDM Grand'Maison 8.19 16 Pn Pn 07 36 12.7 +3.8
EGRO El Granado 8.21 274 P Pn 07 36 07.2 -1.8
1.2nm,0.3s,SNR=7.9
EGRO S Sn 07 37 34.9 -6.5
0.9nm,0.3s,SNR=4.0
PMRV Marv??o 8.29 287 *e*P Pn 07 36 10.6 +0.5
PESTR Estremoz 8.35 283 *e*S Sn 07 37 43.2 -1.7
PVAQ Vaqueiros 8.40 273 *e*P Pn 07 36 10.9 -0.8
PVAQ *e*S Sn 07 37 43.5 -2.7
OGSM Saint Maurice 8.49 14 Pn Pn 07 36 15.9 +2.9
EARI Arriondas 8.52 316 P Pn 07 36 17.8 +4.5
1.1nm,0.2s,SNR=5.9
EARI S Sn 07 37 49.2 0.0
1.1nm,0.3s,SNR=4.0
MVO Moncorvo 8.53 299 P Pn 07 36 14.8 +1.3
1.1nm,0.2s,SNR=7.9
MVO S Sn 07 37 47.8 -1.6
1.7nm,0.2s,SNR=7.9
LPG La Plagne 8.62 19 P Pn 07 36 19.3 +4.3
LPG S Sn 07 37 47.0 -5.0
0.6nm,0.4s
LPG La Plagne 8.62 19 *e*Pn Pn 07 36 19.3 +4.3
LPG *e*Sn Sn 07 37 47.0 -5.0
1.1nm,0.4s
LPL La Plagne 8.63 19 P Pn 07 36 19.4 +4.3
LPL La Plagne 8.63 19 *e*Pn Pn 07 36 19.4 +4.3
ECAL Calabor 8.67 305 P Pn 07 36 17.6 +2.1
1.8nm,0.3s,SNR=7.3
ECAL S Sn 07 37 50.6 -2.3
1.9nm,0.3s,SNR=7.9
MESJ Messejana 8.79 276 *e*P Pn 07 36 16.6 -0.3
OG35 Corcelles 8.89 12 Pn Pn 07 36 21.4 +3.0
TCF Toulx Ste Croi 8.91 357 P Pn 07 36 21.0 +2.4
TCF Toulx Ste Croi 8.91 357 *e*Pn Pn 07 36 21.0 +2.4
BGF Bois d'Agland 9.17 0 P Pn 07 36 23.9 +1.7
BGF Bois d'Agland 9.17 0 *e*Pn Pn 07 36 23.9 +1.7
PCAS Casmilo, Conde 9.25 290 *e*P Pn 07 36 25.7 +2.4
SMF Signal de Mont 9.29 4 P Pn 07 36 26.4 +2.6
SMF Signal de Mont 9.29 4 *e*Pn Pn 07 36 26.4 +2.6
AVF Avril sur Loir 9.41 2 P Pn 07 36 27.4 +2.0
AVF Avril sur Loir 9.41 2 *e*Pn Pn 07 36 27.4 +2.0
MFF Saint Martin d 9.47 347 P Pn 07 36 28.1 +1.8
MFF S Sn 07 38 09.8 -2.7
0.8nm,0.4s
MFF Saint Martin d 9.47 347 *e*Pn Pn 07 36 28.1 +1.8
MFF *e*Sn Sn 07 38 09.8 -2.7
1.5nm,0.4s
CABF La Chapelle 9.53 14 P Pn 07 36 29.2 +2.0
CABF La Chapelle 9.53 14 *e*Pn Pn 07 36 29.2 +2.0
EPON Pontenova 9.66 311 P Pn 07 36 31.8 +2.9
0.8nm,0.3s,SNR=4.0
EPON S Sn 07 38 10.4 -6.6
0.8nm,0.3s,SNR=4.0
SSF Saint Saulge 9.68 3 P Pn 07 36 31.2 +2.0
SSF Saint Saulge 9.68 3 *e*Pn Pn 07 36 31.2 +2.0
LOR Lormes 9.91 4 P Pn 07 36 40.1 +7.8
LOR Lormes 9.91 4 *e*P Pn 07 36 40.1 +7.8
HINF Hinteralfeld 10.84 15 P Pn 07 36 46.4 +1.4
HINF Hinteralfeld 10.84 15 *e*Pn Pn 07 36 46.4 +1.4
HAU Haudompre 10.92 13 P Pn 07 36 48.3 +2.1
HAU Haudompre 10.92 13 *e*Pn Pn 07 36 48.3 +2.1
HAU Haudompre 10.92 13 *e*P Pn 07 36 53.4 +7.2
LDF La Druitiere 11.41 350 *e*Pn Pn 07 36 54.3 +1.5
QUIF Quistinic 11.41 339 P Pn 07 36 54.4 +1.6
QUIF S Sn 07 38 55.3 -4.6
0.8nm,0.4s
QUIF Quistinic 11.41 339 *e*Pn Pn 07 36 54.4 +1.6
QUIF *e*Sn Sn 07 38 55.3 -4.6
1.5nm,0.4s
CDF Champ du Feu 11.49 15 P Pn 07 36 55.3 +1.3
CDF Champ du Feu 11.49 15 *e*Pn Pn 07 36 55.3 +1.3
CDF Champ du Feu 11.49 15 *e*P Pn 07 37 00.7 +6.7
SGMF Saint Gilles 11.56 342 P Pn 07 36 56.9 +2.0
SGMF Saint Gilles 11.56 342 *e*Pn Pn 07 36 56.9 +2.0
ROSF Rostrenen 11.82 340 P Pn 07 37 00.3 +1.8
ROSF Rostrenen 11.82 340 *e*Pn Pn 07 37 00.3 +1.8
BAIF Baives 12.71 4 P Pn 07 37 13.8 +3.2
BAIF Baives 12.71 4 *e*Pn Pn 07 37 13.8 +3.2
GIVF Givet 12.79 6 P Pn 07 37 14.3 +2.6
GIVF Givet 12.79 6 *e*Pn Pn 07 37 14.3 +2.6
MLR Muntele Rosu 19.08 58 LR LR 07 47 14.6
comp=Z,17nm,20.0s,baz=103,slow=41
TORD Torodi Ar. Bea 24.16 183 P P 07 39 28.1 +2.0
0.3nm,0.7s,baz=353,slow=9.7,SNR=1.4
YKA Yellowknife Ar 68.59 334 P P 07 45 13.1 +0.8
0.2nm,0.7s,baz=53,slow=6.7,SNR=5.1

IDC 28 07:38:29.7±2.7, 47°17'N×155°82'E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/53, mbtmp3.3/3, ML2.1/1, Error ellipse: s-maj=67.0km s-min=43.3km az=178.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.06**	**11**	Pn	Pn	07 40 00.6	0.0
	0.2nm,0.3s,baz=185,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**48.38**	**298**	P	P	07 47 13.2	0.0
	0.3nm,0.8s,baz=72,slow=7.4,SNR=2.5						
TXAR	**Lajitas Array**	**75.66**	**62**	P	P	07 50 16.9	0.0
	0.2nm,0.6s,baz=286,slow=4.6,SNR=3.8						

*IDC **28** 08:02:37.8±0.8, 58°92S×26°19W, h0km, mb4.3/5, mb1 4.3/6, mb1mx3.9/28, mbtmp4.3/6, ML4.5/1, Error ellipse: s-maj=33.9km s-min=21.2km az=101.0*
*NEIC **28** 08:02:43.4±1.8, 59°11S±0°09×26°2W±0°2, h43km±6km, mb4.4/15, Error ellipse: s-maj=12.9km s-min=12.5km az=85.0*

ISC 28 08:02:42.7±0.6, 59°09S±0°09×26°3W±0°1, h35km, n37, σ1°05/32, mb4.3/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.41**	**306**	Pn	Pn	**08 04 29.3**	**+1.2**
VNA1	**Neumayer--Stat**	**13.80**	**154**	P	Pn	**08 05 55.1**	**-0.4**
VNA3	**Neumayer Olymp**	**13.96**	**157**	P	Pn	**08 05 57.1**	**-0.7**
VNA2	**Neumayer--Watz**	**14.20**	**154**	P	Pn	**08 05 60.0**	**-0.9**
	baz=314,slow=14						
SNAA	**Sanae**	**15.78**	**152**	P	Pn	**08 06 21.2**	**-0.7**
SNAA	**Sanae**	**15.78**	**152**	Pn	Pn	**08 06 20.9**	**-1.0**
	2.0nm,0.3s,baz=312,slow=16,SNR=77						
SNAA				Sn	Sn	08 09 00.9	-14
	0.2nm,0.3s,baz=313,slow=14,SNR=2.5						
SNAA	**Sanae**	**15.78**	**152**		**Pn**	**08 06 21.3**	**-0.7**
SNAA				IAmb	IAmb	08 06 23.4	
	comp=Z,10.0nm,0.5s						
PMSA	**Palmer Station**	**18.44**	**236**	P	**P**	**08 06 52.7**	**-2.0**
BELA	**Belgrano 2**	**19.08**	**185**	P	**Pn**	**08 07 02.8**	**+0.1**
EFI	**East Falkland**	**19.38**	**279**	P	**P**	**08 07 05.6**	**+0.4**
EFI				IAmb	IAmb	08 07 34.1	
	comp=Z,38nm,1.1s						
USHA	**Ushuaia**	**23.09**	**262**	P	**P**	**08 07 45.2**	**+0.3**
	comp=Z,129nm,0.6s,baz=327,slow=0.7,SNR=7.9						
QSPA	**South Pole Qui**	**31.15**	**180**	P	**P**	**08 08 59.6**	**+1.7**
	comp=Z,2.5nm,0.5s,baz=223,slow=1.0,SNR=29						
QSPA	**South Pole Qui**	**31.15**	**180**	P	**P**	**08 08 56.6**	**-1.2**
LL01	**San Ignacio de**	**32.85**	**280**	P	**P**	**08 09 11.8**	**-0.9**
LL01				IAmb	IAmb	08 09 18.4	
	comp=Z,6.0nm,1.1s						
PEL	**Peldehue**	**39.16**	**292**	P	**P**	**08 10 08.0**	**+1.2**
MT02	**Curacav**	**39.29**	**291**	P	**P**	**08 10 08.4**	**+0.6**
MT02				IAmb	IAmb	08 10 14.0	
	comp=Z,17nm,1.1s						
LCO	**Las Campanas**	**42.60**	**295**	P	**P**	**08 10 35.2**	**-0.3**
LCO				IAmb	IAmb	08 10 38.6	
	comp=Z,8.2nm,1.1s						
VNDA	**Vanda**	**43.55**	**183**	P	**P**	**08 10 45.0**	**+2.8**
	comp=Z,1.3nm,0.5s,baz=192,slow=7.3,SNR=8.7						
VNDA	**Vanda**	**43.55**	**183**	P	**P**	**08 10 43.9**	**+1.6**
H10S2	**ASCENSION HYDR**	**50.80**	**15**	T	T	09 06 09.8	
	baz=187,slow=74,SNR=4.0						
H10S3	**ASCENSION HYDR**	**50.80**	**15**	T	T	09 06 10.1	
	baz=33,slow=74,SNR=6.4						
H10N3	**ASCENSION HYDR**	**51.91**	**15**	T	T	09 07 36.2	
	baz=189,slow=74,SNR=8.4						
H10N2	**ASCENSION HYDR**	**51.93**	**15**	T	T	09 07 35.4	
	baz=265,slow=74,SNR=6.8						
MCQ	**Macquarie Isla**	**66.69**	**183**	P	**P**	**08 13 29.2**	**-0.1**
DBIC	**Dimbokro**	**67.75**	**23**	P	**P**	**08 13 36.1**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=145,slow=14,SNR=2.4						
DBIC	**Dimbokro**	**67.75**	**23**	IAmb	IAmb	08 13 57.2	
	comp=Z,11nm,1.4s						
OTAV	**Otavalo**	**71.76**	**304**	P	**P**	**08 14 00.1**	**-1.7**
OTAV				IAmb	IAmb	08 14 01.5	
	comp=Z,4.2nm,1.4s						
TOA0	**Torodi Ar. Sit**	**75.48**	**28**	P	**P**	**08 14 23.1**	**+0.1**
TOA0				IAmb	IAmb	08 14 24.4	
	comp=Z,2.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.48**	**28**	P	**P**	**08 14 23.1**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=200,slow=6.3,SNR=14						
TORD	**Torodi Ar. Bea**	**75.48**	**28**	P	**P**	**08 14 23.1**	**+0.1**
TORD				IAmb	IAmb	08 14 24.0	
	comp=Z,2.1nm,0.7s						
ASAR	**Alice Springs**	**95.94**	**162**	P	**P**	**08 16 05.8**	**0.0**
	comp=Z,0.4nm,0.6s,baz=174,slow=4.0,SNR=7.2						
YKA	**Yellowknife Ar**	**138.73**	**315**	PKP	**PKPdf**	**08 22 03.9**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=121,slow=3.1,SNR=12						
INK	**Inuvik**	**148.43**	**317**	PKPbc	**PKPbc**	**08 22 24.4**	**+0.8**
BCAR	**Beaver Creek A**	**149.75**	**305**	PKPbc	**PKiKP**	**08 22 28.3**	**+0.1**
SONM	**Songino Array**	**150.29**	**91**	PKPbc	**PKPbc**	**08 22 29.2**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=170,slow=2.5,SNR=2.4						
EYAK	**Cordova Ski Ar**	**150.48**	**299**	PKPab	**PKPab**	**08 22 34.5**	**-1.2**
ILAR	**Eielson Array**	**152.44**	**307**	PKPbc	**PKPbc**	**08 22 33.0**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=129,slow=1.3,SNR=5.4						

*ATH **28** 08:04:43.8, 40°20'N×19°78'E, h42km±14km, ML2.1/4, Error ellipse: s-maj=15.4km s-min=2.4km az=177.0*
*TIR **28** 08:04:43.0, 40°28'N×19°80'E, h1km±1km, Md2.7, Ml2.7*

ISC 28 08:04:43.4±1.6, 40°23'N±0°05×19°76'E±0°05, h21km±4km, n11, σ0°86/16, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.32**	**320**	P	**Pb**	**08 04 49.7**	**-0.6**
	baz=310						
VLO				S	**Sb**	**08 04 55.2**	**+0.2**
	baz=310						
VLO				AMP			
	comp=N,17nm,0.9s,baz=310						
SRN	**Sarande**	**0.39**	**152**	P	**Pb**	**08 04 52.3**	**+0.8**
	baz=158						
SRN				S	**Sn**	**08 04 59.2**	**-1.4**
	baz=158						
SRN				AMP			
	comp=E,1.2nm,0.4s,baz=158						
KEK	**Kerkira**	**0.52**	**177**	P	**Pb**	**08 04 53.9**	**+0.1**
KEK				S	**Sn**	**08 05 02.9**	**-0.8**
KEK				AML	AML	08 05 08.5	
	comp=E,358μm,0.5s						
KEK				AML	AML	08 05 09.7	
	comp=N,348μm,0.3s						
LSK	**Leskovik**	**0.65**	**97**	P	**Pb**	**08 04 56.2**	**+0.2**
	baz=101						
LSK				S	**Sn**	**08 05 06.1**	**-0.9**
	baz=101						
IGT	**Igoumenitsa**	**0.82**	**148**	P	**Pn**	**08 04 59.4**	**-0.4**
IGT				AML	AML	08 05 21.7	
	comp=N,260μm,0.4s						
IGT				AML	AML	08 05 26.4	
	comp=E,218μm,0.3s						
KBN	**Korca**	**0.88**	**63**	P	**Pn**	**08 05 00.2**	**-0.3**
	baz=64						
KBN				S	**Sn**	**08 05 12.7**	**-0.1**
	baz=64						
NEST	**Nestorio**	**1.00**	**79**	P	**Pn**	**08 05 02.2**	**-0.1**
SCTE	**Santa Cesarea**	**1.00**	**261**	P	**Pn**	**08 05 03.0**	**+0.7**
SCTE				AML	AML	08 05 21.7	
	comp=N,250μm,0.5s						
SCTE				AML	AML	08 05 21.8	
	comp=E,428μm,0.5s						
PENT	**Pentalofos**	**1.05**	**91**	P	**Pn**	**08 05 03.5**	**+0.5**
PENT				AML	AML	08 05 28.4	
	comp=E,231μm,0.5s						
PENT				AML	AML	08 05 36.4	
	comp=N,227μm,0.5s						
OHR	**Ohrid**	**1.18**	**41**	*i* Pn	**Pn**	**08 05 04.1**	**-0.6**
STIP	**Stip**	**2.35**	**51**	*i* Pn	**Pn**	**08 05 22.4**	**+1.7**

*IDC **28** 08:16:56.3±3.8, 20°56S×178°48W, h572km±29km, mb3.1/6, mb1 3.3/7, mb1mx3.0/28, mbtmp4.0/7, Error ellipse: s-maj=79.7km s-min=20.1km az=140.0*

ISC 28 08:16:58.0±1.4, 20°4S±0°3×178°7W±0°2, h587km, n10, σ1°09/11, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.04**	**310**	P	**P**	**08 18 22.1**	**-0.8**
	2.2nm,0.3s,baz=265,slow=6.2,SNR=8.5						
STKA	**Stephens Creek**	**37.24**	**244**	P	**P**	**08 23 20.6**	**-0.4**
	0.7nm,0.3s,baz=81,slow=13,SNR=4.2						
ASAR	**Alice Springs**	**43.90**	**257**	P	**P**	**08 24 14.7**	**+0.7**
	1.6nm,0.5s,baz=96,slow=7.8,SNR=30						
ASAR				PcP	**PcP**	**08 25 47.5**	**+0.6**
	0.4nm,0.6s,baz=91,slow=4.2,SNR=4.9						
WRA	**Warramunga Arr**	**43.95**	**262**	P	**P**	**08 24 15.2**	**+0.8**
	0.6nm,0.3s,baz=97,slow=7.0,SNR=16						
PETK	**Petropavlovsk-**	**75.39**	**346**	P	**P**	**08 27 46.0**	**+0.6**
	6.5nm,1.0s,baz=124,slow=9.2,SNR=2.4						
ILAR	**Eielson Array**	**88.35**	**13**	P	**P**	**08 28 48.1**	**+0.6**
	0.4nm,0.6s,baz=222,slow=5.0,SNR=4.5						
PDAR	**Pinedale Array**	**89.34**	**43**	P	**P**	**08 28 53.0**	**0.0**
	0.2nm,0.6s,baz=169,slow=5.4,SNR=2.4						
ARCES	**ARCESS Array B**	**128.69**	**349**	PKP	**PKPdf**	**08 34 58.6**	**+0.1**
	6.6nm,1.0s,baz=46,slow=2.6,SNR=4.1						
AKASG	**Malin Array Be**	**142.59**	**331**	PKP	**PKPdf**	**08 35 22.2**	**-2.5**
	0.4nm,0.4s,baz=42,slow=4.3,SNR=9.6						
GERES	**GERESS Array B**	**149.91**	**344**	PKPbc	**PKPbc**	**08 35 43.2**	**+0.5**
	0.3nm,0.4s,baz=0.0,slow=1.7,SNR=4.6						

*IDC **28** 08:20:38.9±0.8, 25°87N×65°17E, h0km, mb4.0/22, mb1 4.1/24, mb1mx3.9/53, mbtmp4.0/24, ML3.5/2, MS3.8/27, Ms1 3.9/27, ms1mx3.7/46, Error ellipse: s-maj=18.9km s-min=15.0km az=27.0*
*NEIC **28** 08:20:39.5±2.5, 25°82N±0°04×65°08E±0°08, h10km±1km, mb4.4/24, Error ellipse: s-maj=12.6km s-min=6.1km az=70.0*
*MOS **28** 08:20:43.4±1.3, 26°10N×65°45E, h32km, mb4.6/10, Error ellipse: s-maj=9.5km s-min=5.1km az=78.2*
*OMAN **28** 08:20:47.2, 25°74N×64°65E, h20km, mb6.0/26, ms3.2/5*
*DSN **28** 08:20:48.1±2.8, 26°08N×64°42E, h10km, mb4.3/1, ML4.7/10, Error ellipse: s-maj=58.8km s-min=20.1km az=13.0*

ISC 28 08:20:39.3±0.4, 25°82N±0°05×65°11E±0°04, h10km, n191, σ2°33/207, mb4.3/42, MS3.8/27, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**6.36**	**236**	P	**Pn**	**08 22 13.5**	**+0.2**
	SNR=18						
JLN				S	**Sn**	**08 23 21.9**	**-4.1**
WSAR	**Wadi Sarin**	**6.44**	**248**	Pn	**Pn**	**08 22 14.5**	**+0.3**
	46nm,0.3s,baz=108,slow=9.4,SNR=249						
WSAR				Sn	**Sn**	**08 23 23.4**	**-4.4**
	14nm,0.3s,baz=356,slow=13,SNR=3.8						
WSAR				LR	LR	08 25 08.9	
	comp=Z,438nm,18.9s,baz=84,slow=42						
WBK	**Wadi Bani Khal**	**6.45**	**242**	P	**Pn**	**08 22 15.1**	**+0.7**
	SNR=55						
WBK				S	**Sn**	**08 23 23.4**	**-4.8**
BIDO	**Bidbid**	**6.75**	**252**	P	**Pn**	**08 22 20.0**	**+1.4**
	SNR=33						
BIDO				S	**Sn**	**08 23 33.4**	**-2.2**
SMDO	**Samad**	**7.00**	**248**	P	**Pn**	**08 22 22.8**	**+0.8**
	SNR=8.4						
SMDO				S	**Sn**	**08 23 36.0**	**-5.8**
JMDO	**Jabal Madar**	**7.26**	**243**	P	**Pn**	**08 22 27.2**	**+1.6**
	SNR=43						
JMDO				S	**Sn**	**08 23 44.8**	**-3.5**
HOQ	**Hoqain**	**7.43**	**254**	P	**Pn**	**08 22 27.9**	**-0.1**
	SNR=23						
HOQ				P	**Pn**	**08 22 27.9**	**-0.1**
	SNR=23						
HOQ				S	**Sn**	**08 23 48.7**	**-3.7**
HOQ				S	**Sn**	**08 23 48.7**	**-3.7**
BSY	**Bisya**	**7.84**	**249**	P	**Pn**	**08 22 35.6**	**+2.1**
	SNR=230						

BSY S Sn 08 24 01.4 -0.9
BANOM Banah 7.94 273 *i* P Pn 08 22 34.8 0.0
SNR=16
BANOM S Sn 08 23 58.7 -6.1
BANOM Banah 7.94 273 P Pn 08 22 35.2 +0.3
SNR=16
BANOM S Sn 08 23 58.8 -6.1
SOHO SOHO 7.96 260 *i* P Pn 08 22 34.3 -0.8
SNR=18
SOHO SOHO 7.96 260 P Pn 08 22 34.8 -0.4
SOHO S Sn 08 24 00.6 -4.7
MDH Madha 7.98 268 *i* P Pn 08 22 34.6 -0.8
SNR=11
MDH Madha 7.98 268 P Pn 08 22 34.9 -0.4
MDH P Pn 08 22 34.9 -0.4
MDH S Sn 08 23 58.9 -6.8
SNR=9.9
MDH S Sn 08 23 58.9 -6.8
SNR=9.9
SHME Shamm 8.08 274 *i* P Pn 08 22 37.4 +0.6
SNR=18
SHME Shamm 8.08 274 P Pn 08 22 38.6 +1.8
SNR=18
SHME S Sn 08 24 04.9 -3.3
MASF Masafi 8.10 269 P Pn 08 22 36.7 -0.4
MASF S Sn 08 24 02.2 -6.5
MSFE Esma-Masafi 8.10 269 *i* P Pn 08 22 36.2 -0.9
SNR=14
UOSS Minazif 8.10 266 *i* P Pn 08 22 35.9 -1.2
SNR=18
UOSS Minazif 8.10 266 Pn Pn 08 22 36.1 -1.0
UOSS Minazif 8.10 266 P Pn 08 22 36.3 -0.8
UOSS S Sn 08 24 01.4 -7.5
MHTO MHTO 8.13 235 P Pn 08 22 38.6 +1.1
SNR=29
MHTO S Sn 08 24 05.8 -3.8
HATD Hatta, Dubai 8.19 265 *i* P Pn 08 22 38.3 0.0
SNR=14
HATD Hatta, Dubai 8.19 265 P Pn 08 22 39.4 +1.1
SNR=22
HATD S Sn 08 24 05.3 -5.5
ARQ Araqi 8.20 254 P Pn 08 22 42.0 +3.5
SNR=38
ARQ S Sn 08 24 08.7 -2.5
ASHO Ashiyiah 8.27 264 *i* P Pn 08 22 42.0 +2.5
SNR=11
ASHO Ashiyiah 8.27 264 P Pn 08 22 42.3 +2.8
SNR=14
ASHO P Pn 08 22 42.3 +2.8
SNR=14
ASHO S Sn 08 24 12.1 -1.0
ASHO S Sn 08 24 12.1 -1.0
NAZ Nazwa, Dubai 8.59 267 *i* P Pn 08 22 46.0 +2.3
SNR=27
NAZ Nazwa, Dubai 8.59 267 P Pn 08 22 46.4 +2.7
SNR=27
NAZ S Sn 08 24 19.2 -1.5
ALNE Al Ain 8.68 260 *i* P Pn 08 22 47.0 +2.0
SNR=11
ALNE Al Ain 8.68 260 P Pn 08 22 47.3 +2.3
SNR=11
ALNE S Sn 08 24 20.6 -2.3
FAQ Al Faqa, Dubai 8.68 265 *i* P Pn 08 22 47.2 +2.1
SNR=35
FAQ Al Faqa, Dubai 8.68 265 P Pn 08 22 47.6 +2.5
SNR=35
FAQ S Sn 08 24 21.9 -1.2
HRA Herat 8.89 344 Pn 08 22 49.8 +1.7
ASUD Al Ashush, Dub 8.94 264 *i* P Pn 08 22 50.9 +2.4
SNR=15
ASUD Al Ashush, Dub 8.94 264 P Pn 08 22 51.5 +2.9
SNR=15
ASUD S Sn 08 24 28.8 -0.6
SARP Sargodha 8.99 46 P Pn 08 22 45.2 -4.1
THW Thamme Wali 9.04 38 P Pn 08 22 46.7 -3.3
DQM DQM 9.11 232 P Pn 08 22 51.6 +0.6
SNR=8.0
DQM S Sn 08 24 33.0 -0.7
KBL Kabul 9.34 20 P Pn 08 22 55.6 +1.4
KBL Kabul 9.34 20 Pn 08 22 55.6 +1.4
CEP Cherat 9.92 35 P Pn 08 22 59.0 -3.1
KUDL Kundal 10.41 75 *eP* Pn 08 23 07.1 -1.6
NIL Nilore 10.53 40 P Pn 08 23 08.7 -1.7
NIL Nilore 10.53 40 Pn 08 23 08.7 -1.7
SONA Sohna 10.94 75 *eP* Pn 08 23 16.6 +0.6
SONA *eS* Sn 08 25 10.3 -8.2
THN Thein Dam 11.37 52 *eP* Pn 08 23 27.0 +5.2
BHPL Bhopal 11.50 100 *eP* Pn 08 23 23.3 -0.4
BHPL *eS* Sn 08 25 27.1 -5.1
BHPL IAML 08 25 58.8
comp=E,31nm,0.6s
DHRM DHARAMSHALA 11.70 54 *eP* Pn 08 23 25.1 -1.5
DHRM *eS* Sn 08 25 26.2 -11
DHRM IAML 08 25 36.5
comp=N,136nm,0.3s
SMLA Simla 11.85 61 *eP* Pn 08 23 26.2 -2.1
SMLA *eS* Sn 08 25 30.1 -11
SMLA IAML 08 25 33.3
comp=N,60nm,1.2s
DMTO DMTO 12.41 232 P Pn 08 23 38.8 +2.6
DMTO P Pn 08 23 38.8 +2.6
DOK Doka 12.44 237 P Pn 08 23 38.7 +2.2
SNR=14
RBK Rabkut 13.08 233 P Pn 08 23 47.4 +2.0
SNR=9.6
WHFO Wadi Hawf 13.13 235 P Pn 08 23 47.1 +1.0
SNR=9.4
GEYT Alibeck 13.45 336 Pn Pn 08 23 50.3 0.0
comp=N,0.2nm,0.3s,baz=180,slow=20,SNR=1.2
ABTO Aybut 13.84 235 P Pn 08 23 55.8 +0.1
SNR=12
HYB Hyderabad 15.03 121 *i* P Pn 08 24 03.0 -8.9
HYB *eS* Sn 08 26 53.0 -5.5
IUG Iuzhnay 16.79 13 *eP* Pn 08 24 33.6 -1.1
baz=11
IUG Iuzhnay 16.79 13 *eP* Pn 08 24 33.5 -1.1
SOCY Socotra 17.14 220 Pn Pn 08 24 35.2 -4.0
KK31 Karatay Array 17.80 13 *i* P Pn 08 24 47.2 0.0
KK31 Karatay Array 17.80 13 P Pn 08 24 47.4 +0.2
KKAR Karatay Array 17.80 13 P Pn 08 24 47.0 -0.2
KKAR pmax pmax
comp=Z,12nm,1.3s
KKAR Karatay Array 17.80 13 P Pn 08 24 47.0 -0.2
RAYN Ar Rayn 17.97 267 *i* P Pn 08 24 48.1 -1.3
SNR=13
RAYN Ar Rayn 17.97 267 P Pn 08 24 47.7 -1.7
RAYN pmax pmax
comp=Z,16nm,1.1s
RAYN Ar Rayn 17.97 267 P Pn 08 24 47.7 -1.7
RAYN IAmb IAmb 08 24 53.4
comp=Z,16nm,1.1s
AAK Ala-Archa 18.46 22 P P 08 24 53.8 -1.6
comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=9.1
AAK LR LR 08 33 28.8
comp=Z,286nm,19.6s,baz=206,slow=42
AAK Ala-Archa 18.46 22 *i* P P 08 24 52.7 -2.7
AAK pmax pmax
comp=Z,16nm,1.4s
AAK Ala-Archa 18.46 22 P 08 24 53.1 -2.3
GUN Gumba 18.65 79 *eP* P 08 24 57.7 0.0
comp=Z,104nm,0.8s
JIRN Jiri 18.92 80 *eP* Pn 08 25 01.3 0.0
comp=Z,100nm,1.1s
RAMN Ramite 19.29 82 *eP* Pn 08 25 05.3 -0.3
comp=Z,32nm,0.7s
MDOK Medeo 19.87 26 *eP* P 08 25 08.8 -2.0
baz=25
MDOK Medeo 19.87 26 *eP* P 08 25 08.7 -2.0
ODAN Odare 19.99 82 *eP* P 08 25 13.0 +0.6
comp=Z,80nm,1.0s
KUU Kurty 20.21 24 *eP* P 08 25 12.6 -1.9
comp=Z,12nm,1.4s,baz=23
KUU Kurty 20.21 24 *eP* P 08 25 12.5 -1.9
KUU pmax pmax
comp=Z,12nm,1.4s
TAPN Taplejung 20.27 81 *eP* P 08 25 16.0 +0.6
comp=Z,39nm,0.7s
CHKK Chushkaly 20.43 25 *eP* P 08 25 15.1 -1.7
baz=24
CHKK Chushkaly 20.43 25 *eP* P 08 25 15.0 -1.7
KPKS Kokpek 20.80 29 *eP* P 08 25 18.8 -2.1
baz=28
KPKS Kokpek 20.80 29 *eP* P 08 25 18.7 -2.1
SHLS Shalkode 20.90 31 *eP* P 08 25 22.2 +0.2
baz=30
SHLS Shalkode 20.90 31 *eP* P 08 25 22.1 +0.2
TDK Taldyqorghan 21.94 26 *eP* P 08 25 31.7 -1.3
baz=25
TDK Taldyqorghan 21.94 26 *eP* P 08 25 31.7 -1.3
GNI Garni 22.20 315 *eP* P 08 25 36.7 +0.6
comp=Z,4.2nm,0.4s,baz=168,slow=19,SNR=1.7
GNI Garni 22.20 315 *eP* P 08 25 40.2 +4.1
GNI pmax pmax
comp=Z,14nm,1.0s
GNI Garni 22.20 315 P P 08 25 36.3 +0.3
GNI IAmb IAmb 08 25 53.4
comp=Z,12nm,0.8s
MAK Makhachkala 22.36 324 *eP* P 08 25 38.0 +0.5
MAK *e* 08 26 00.9
MAK *eS* S 08 29 42.7 -0.6
MAK pmax pmax
comp=Z,190nm,1.6s
MAK MLR MLR
comp=Z,120nm,18.0s
LSA Lhasa 23.35 75 P P 08 25 47.9 -0.6
LSA pmax pmax
comp=Z,23nm,1.2s
LSA Lhasa 23.35 75 P P 08 25 47.9 -0.6
LSA IAmb IAmb 08 25 53.8
comp=Z,23nm,1.2s
MARD Mardin 23.62 305 P P 08 25 51.1 +0.4
PALK Pallekele 23.69 138 LR LR 08 35 41.1
comp=Z,330nm,19.4s,baz=63,slow=38
AB31 Akbulak array 23.74 352 *i* P P 08 25 51.9 +0.3
ABKAR Akbulak array 23.74 352 P P 08 25 51.8 +0.2
ABKAR IAmb IAmb 08 26 08.8
comp=Z,11nm,0.8s
SHL Shillong 24.11 85 P P 08 25 54.8 -0.8
SHL pmax pmax
comp=Z,22nm,1.1s
SHL Shillong 24.11 85 P P 08 25 54.8 -0.8
ZEI Tsey 24.26 320 *eP* P 08 25 58.8 +2.0
ZEI pmax pmax
comp=Z,4.0nm,0.6s
BRZS Berezniki 24.83 12 *eP* P 08 26 00.8 -0.8
baz=11
BRZS Berezniki 24.83 12 *eP* P 08 26 00.8 -0.8
MAKZ Makanchi 24.87 28 P P 08 26 01.0 -1.1
MAKZ Makanchi 24.87 28 P P 08 26 01.4 -0.7
MAKZ IAmb IAmb 08 26 07.8
comp=Z,8.1nm,0.8s
KOPT Kop Dagi 24.95 311 P P 08 26 02.2 -0.9
KOPT IAmb IAmb 08 26 29.9
comp=Z,13nm,1.1s
MK31 Makanchi Array 24.99 29 P P 08 26 02.5 -0.7
MK31 Makanchi Array 24.99 29 P P 08 26 03.0 -0.2
MK31 IAmb IAmb 08 26 19.3
comp=Z,6.3nm,0.8s
MKAR Makanchi Array 24.99 29 P P 08 26 03.0 -0.2
comp=Z,5.2nm,0.7s,baz=212,slow=9.3,SNR=50
MKAR LR LR 08 37 09.8
comp=Z,230nm,18.4s,baz=219,slow=40
MKAR Makanchi Array 24.99 29 P P 08 26 02.3 -0.9
MKAR Makanchi Array 24.99 29 P P 08 26 02.2 -0.9
AKTO Aktyubinsk 25.18 349 P P 08 26 06.1 +1.2
comp=Z,2.1nm,0.8s,baz=151,slow=5.5,SNR=5.5
AKTO LR LR 08 38 29.3
comp=Z,230nm,18.2s,baz=156,slow=43
NEY Neytrino 25.23 319 *i* P P 08 26 10.8 +5.3
NEY pmax pmax
comp=Z,2.0nm,1.0s
ATD Arta Tunnel 25.37 240 LR LR 08 36 56.2
comp=Z,88nm,21.3s,baz=32,slow=38
KBZ Khabaz 25.41 320 P P 08 26 09.5 +2.6
comp=Z,2.2nm,0.9s,baz=117,slow=11,SNR=2.7
KBZ LR LR 08 38 26.6
comp=Z,118nm,18.5s,baz=123,slow=42
SHA1 Shidzhatmaz 25.55 320 *i* P P 08 26 12.4 +3.8
KIV Kislovodsk 25.67 321 *eP* P 08 26 12.4 +2.9
KIV pmax pmax
comp=Z,63nm,1.1s
KIV Kislovodsk 25.67 321 P P 08 26 07.2 -2.3
WMQ Urumqi 25.68 40 P P 08 26 09.8 +0.3
WMQ pmax pmax
comp=Z,31nm,1.3s
WMQ Urumqi 25.68 40 P P 08 26 09.8 +0.3
ZSN Zaisan 26.64 31 *eP* P 08 26 16.6 -1.6
baz=30
ZSN Zaisan 26.64 31 *eP* P 08 26 16.5 -1.6
MMAI Mount Meron Ar 26.79 293 LR LR 08 39 15.3
comp=Z,656nm,19.5s,baz=75,slow=42
KURBB Kurchatov Arra 26.83 19 P P 08 26 19.7 0.0
comp=Z,2.5nm,0.7s,baz=211,slow=8.9,SNR=17
EIL Elat 26.93 285 LR LR 08 39 25.8
comp=Z,536nm,18.9s,baz=98,slow=42
KURK Kurchatov 26.94 19 P P 08 26 19.7 -1.0
KURK Kurchatov 26.94 19 P P 08 26 19.7 -1.0
SEM Semipalatinsk 27.18 21 *eP* P 08 26 22.8 -0.4
baz=21
SEM Semipalatinsk 27.18 21 *eP* P 08 26 22.8 -0.4
BVAR Borovoye Array 27.46 7 P P 08 26 28.0 +2.6
comp=Z,1.2nm,0.8s,baz=161,slow=14,SNR=7.3
BVAR Borovoye Array 27.46 7 P P 08 26 28.0 +2.6
BRVK Borovoye 27.48 7 *i* P P 08 26 26.5 +0.9
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 27.48 7 P P 08 26 27.1 +1.5
BRVK IAmb IAmb 08 26 50.2
comp=Z,9.0nm,0.9s
ANN Anapa 29.26 317 *eP* P 08 26 35.8 -5.7
ANN pmax pmax
comp=Z,100nm,1.1s
BRTR Keskin Array 29.71 306 LR LR 08 39 44.7
comp=Z,191nm,18.9s,baz=120,slow=39
ANTO Ankara 30.37 306 P P 08 26 51.7 +0.2
ANTO Ankara 30.37 306 P P 08 26 51.7 +0.2
ARU Arti 30.95 353 LR LR 08 41 54.2
comp=Z,218nm,18.6s,baz=160,slow=41
ZAA0 Zalesovo Array 31.69 22 P P 08 27 03.4 +0.5
ZAA0 IAmb IAmb 08 27 10.9
comp=Z,2.2nm,0.7s
ZALV Zalesovo Beam 31.69 22 P P 08 27 01.9 -1.0
comp=Z,1.7nm,0.7s,baz=216,slow=9.4,SNR=7.6
ZALV LR LR 08 41 11.7
comp=Z,160nm,18.6s,baz=178,slow=39
ZALV Zalesovo Beam 31.69 22 P P 08 27 02.0 -0.8
CM32 Chiang Mai Arr 31.96 96 P P 08 27 12.0 +6.3
CHTO Chiang Mai 32.00 96 P P 08 27 06.5 +0.4
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 32.00 96 P P 08 27 06.5 +0.4
CHTO IAmb IAmb 08 27 12.2
comp=Z,4.9nm,0.8s
CM33 Chiang Mai Arr 32.00 96 P P 08 27 07.0 +0.9
CMMT Chiang Mai 32.00 96 P P 08 27 07.6 +1.5
comp=Z,4.1nm,1.2s
CMAR Chiang Mai Arr 32.12 96 P P 08 27 05.8 -1.2
comp=Z,1.0nm,0.3s,baz=286,slow=9.8,SNR=1.7
CMAR LR LR 08 41 22.2
comp=Z,107nm,18.1s,baz=319,slow=39
CMAR Chiang Mai Arr 32.12 96 P P 08 27 06.1 -0.9
CM01 Chiang Mai Arr 32.14 96 P P 08 27 14.0 +6.7
comp=Z,4.8nm,0.9s
CM04 Chiang Mai Arr 32.17 96 P P 08 27 17.0 +9.5
CM34 Chiang Mai Arr 32.17 95 P P 08 27 10.0 +2.4
CM36 Chiang Mai Arr 32.23 96 P P 08 27 12.0 +3.9
CM35 Chiang Mai Arr 32.23 96 P P 08 27 12.0 +3.9
KRAB Krabi 36.83 112 P P 08 27 42.4 -5.4
MLR Muntele Rosu 36.93 312 P P 08 27 48.1 -0.5
MLR pmax pmax
comp=Z,10.0nm,1.1s
MLR Muntele Rosu 36.93 312 P P 08 27 48.1 -0.5
MLR IAmb IAmb 08 28 07.2
comp=Z,9.9nm,1.1s
AKASG Malin Array Be 37.00 322 P P 08 27 49.5 +0.6
comp=Z,0.6nm,0.5s,baz=120,slow=7.6,SNR=4.2
AKASG LR LR 08 45 42.9
comp=Z,85nm,20.7s,baz=85,slow=41
AKBB Malin Array Si 37.00 322 *i* P P 08 27 51.8 +2.9
BURAR Bucovina Array 38.11 315 P P 08 27 57.7 -0.8
SONM Songino Array 39.07 45 P P 08 28 07.3 +0.7
comp=Z,0.5nm,0.5s,baz=251,slow=7.5,SNR=2.3
SONM LR LR 08 47 13.0
comp=Z,445nm,19.1s,baz=248,slow=41
SONM Songino Array 39.07 45 P P 08 28 06.1 -0.5
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 39.07 45 P P 08 28 06.1 -0.5
KLMR Klimovskoe 39.14 340 *eP* P 08 28 05.3 -1.5
KLMR pmax pmax
comp=Z,15nm,1.2s
KLMR Klimovskoe 39.14 340 *eP* P 08 28 05.3 -1.5
KLMR AMP 08 28 19.6
comp=Z,15nm,1.2s
ULN Ulaanbaatar 39.50 45 *i* P P 08 28 08.6 -1.6
PSI Prapat 39.73 120 P P 08 28 15.0 +2.5
comp=Z,3.4nm,0.3s,baz=9.3,slow=0.1,SNR=4.3
RPSI Rantau Prapat 39.80 120 P P 08 28 15.0 +2.2
FIA1 FINESS Array S 44.25 334 P P 08 28 49.1 +0.4
FINES FINESS Array B 44.25 334 P P 08 28 48.6 -0.1
comp=Z,4.4nm,0.9s,baz=126,slow=21,SNR=2.9
FINES LR LR 08 49 25.3
comp=Z,147nm,20.3s,baz=256,slow=39
FINES FINESS Array B 44.25 334 P P 08 28 48.9 +0.2
NRIK Noril'sk 45.52 11 P P 08 28 59.2 +0.5
comp=Z,1.5nm,0.5s,baz=206,slow=8.7,SNR=4.1
NRIK LR LR 08 51 15.0
comp=Z,178nm,18.4s,baz=207,slow=40
CLL Collm 46.79 317 *eS* S 08 36 01.0 +1.9
CLL *e* 08 36 44.0
ARCES ARCESS Array B 49.48 343 P P 08 29 29.8 +0.3
comp=Z,3.9nm,1.0s,baz=124,slow=15,SNR=4.6
ARCES LR LR 08 53 51.1
comp=Z,141nm,18.6s,baz=125,slow=40
ARCES ARCESS Array B 49.48 343 IAmb IAmb 08 29 37.7
comp=Z,14nm,1.2s
NOA NORSAR Array B 50.44 329 P P 08 29 38.4 +1.4
comp=Z,1.1nm,0.9s,baz=107,slow=7.5,SNR=2.3
NOA LR LR 08 52 36.4
comp=Z,62nm,21.1s,baz=125,slow=38
KSRS Korea Array 53.84 61 P P 08 30 02.1 -0.4
comp=Z,2.2nm,0.7s,baz=270,slow=7.6,SNR=8.3
KSRS LR LR 08 54 52.9
comp=Z,96nm,19.8s,baz=272,slow=38
KLR Kul'dur 55.85 47 P P 08 30 18.9 +2.0
comp=Z,1.6nm,0.6s,baz=290,slow=11,SNR=5.6
TORD Torodi Ar. Bea 60.61 271 P P 08 30 51.7 +0.9
comp=Z,3.2nm,0.9s,baz=60,slow=6.2,SNR=9.3
TORD LR LR 09 00 18.1
comp=Z,120nm,20.1s,baz=60,slow=39
TORD Torodi Ar. Bea 60.61 271 P P 08 30 50.5 -0.2
TORD IAmb IAmb 08 30 55.8
comp=Z,4.4nm,1.1s
MJAR Matsushiro Arr 62.11 61 LR LR 08 58 59.1
comp=Z,64nm,21.1s,baz=245,slow=37
YSS Yuzh-Sakhalins 63.41 48 *eP* P 08 30 56.1 -13
YSS MLR MLR
comp=Z,300nm,14.0s
YSS MLR MLR
comp=N,200nm,18.0s
YSS MLR MLR
comp=Z,200nm,14.0s
BORG Borgarnes 65.46 332 LR LR 09 03 44.9
comp=Z,82nm,18.1s,baz=87,slow=40
DBIC Dimbokro 69.11 267 LR LR 09 05 41.8
comp=Z,82nm,19.1s,baz=46,slow=39
BILL Bilibino 70.38 23 *eP* P 08 31 54.1 +1.0
BILL *e* 08 32 17.5
BILL *e* 08 34 26.9
BILL *e*PPP PPP 08 36 12.4
BILL pmax pmax
comp=Z,1.0nm,1.1s
PETK Petropavlovsk- 71.27 39 LR LR 09 05 35.9
comp=Z,53nm,19.2s,baz=293,slow=38
WRA Warramunga Arr 81.15 117 P P 08 32 56.7 +1.2
comp=Z,0.7nm,0.8s,baz=311,slow=4.7,SNR=2.3
WRA LR LR 09 12 29.9
comp=Z,35nm,18.3s,baz=235,slow=38
ASAR Alice Springs 82.76 120 P P 08 33 05.5 +1.6
comp=Z,0.5nm,0.7s,baz=308,slow=5.9,SNR=6.2
IMAR Indian Mountai 83.80 15 P P 08 33 09.2 +0.6
ILAR Eielson Array 86.34 13 P P 08 33 22.9 +1.6
comp=Z,0.3nm,0.7s,baz=318,slow=4.6,SNR=4.3
ILAR LR LR 09 16 28.5
comp=Z,43nm,20.7s,baz=302,slow=39
ILAR Eielson Array 86.34 13 P P 08 33 23.0 +1.6
YKA Yellowknife Ar 92.00 360 P P 08 33 50.0 +1.9
comp=Z,0.2nm,0.6s,baz=359,slow=4.3,SNR=8.6
YKA Yellowknife Ar 92.00 360 P P 08 33 50.0 +1.9

IDC 28 08:47:33.0±2.5, 15°.63S×173°.33W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/26, mbtmp3.8/3, MS3.4/5, Ms1 3.4/5, ms1mx3.0/44, Error ellipse: s-maj=199.4km s-min=32.0km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
RAR	**Rarotonga**	**14.01**	**115**	LR	LR	08 54 22.6	
	comp=Z,47nm,21.5s,baz=272,slow=29						
DZM	**Mont Dzumac**	**20.17**	**248**	LR	LR	08 58 48.0	
	comp=Z,103nm,18.3s,baz=215,slow=34						
DZM	**Mont Dzumac**	**20.17**	**248**	*e*LR	LR	08 57 18.6	
	comp=Z,98nm,23.5s						
PPT	**Papeete**	**22.84**	**98**	LR	LR	08 58 44.0	
	comp=Z,48nm,21.2s,baz=100,slow=29						
PPT2	**Papeete2**	**22.84**	**98**	*e*LR	LR	08 57 53.2	
	comp=Z,81nm,24.0s						
TBI	**Tubuai**	**23.75**	**113**	*e*LR	LR	08 58 24.5	
	comp=Z,64nm,25.8s						
TBI	**Tubuai**	**23.75**	**113**	*e*T	T	09 16 53.9	
	4.3nm,0.3s						
TAOE	**Nuku Hiva Isla**	**33.09**	**82**	*e*T	T	09 28 08.6	
	22nm,0.2s						
WRA	**Warramunga Arr**	**49.85**	**257**	P	P	08 56 28.1	-0.4
	0.7nm,0.6s,baz=91,slow=7.2,SNR=18						
ASAR	**Alice Springs**	**50.10**	**252**	P	P	08 56 30.2	-0.1
	1.8nm,0.5s,baz=86,slow=7.9,SNR=40						
TXAR	**Lajitas Array**	**80.69**	**56**	P	P	08 59 48.1	-0.3
	0.3nm,0.9s,baz=232,slow=4.1,SNR=3.4						
PDAR	**Pinedale Array**	**82.39**	**42**	LR	LR	09 31 16.1	
	comp=Z,53nm,18.8s,baz=48,slow=32						
PLCA	**Paso Flores**	**89.31**	**132**	LR	LR	09 31 05.3	
	comp=Z,40nm,18.8s,baz=160,slow=29						
BRTR	**Keskin Array B**	**146.38**	**321**	PKPbc	PKPbc	09 07 16.2	-0.1
	0.7nm,0.6s,baz=71,slow=3.5,SNR=4.3						

*JMA **28** 08:56:20.7±0.1, 43°.57N×146°.12E, h76km±1km, M3.0*
*SKHL **28** 08:56:21.0±0.4, 43°.60N×146°.10E, h77km±1km, mb3.8/2*
ISC 28 08:56:20.9±1.7, 43°.61N±0°.06×146°.14E±0°.07, h71km±10km, n14, σ0°.40/26, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
NEM2	**Nemuro 2**	**0.38**	**230**	P	Pn	**08 56 32.9**	**+0.2**
NEM2				*e*S	Sn	**08 56 41.7**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.39**	**232**	*i* P	Pn	**08 56 33.1**	**+0.3**
NMR				*i* S	Sn	**08 56 41.7**	**+0.2**
GRPR	**Tuman**	**0.47**	**325**	*i* P	Pn	**08 56 33.3**	**-0.2**
GRPR				*i* S	Sn	**08 56 42.4**	**-0.4**
GRPR				A	A	08 56 43.0	
	1μm,0.2s						
GRPR				A	A	08 56 43.0	
	740nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.47**	**334**	*i* P	Pn	**08 56 33.3**	**-0.2**
YUK				AMB	AMB	08 56 33.4	
	40nm,0.2s						
YUK				*i* S	Sn	**08 56 42.7**	**-0.1**
YUK				A	A	08 56 43.0	
	810nm,0.2s						
YUK				A	A	08 56 43.0	
	350nm,0.2s						
JRA	**Rausu**	**0.81**	**294**	P	Pn	**08 56 37.3**	**+0.2**
JRA				*e*S	Sn	**08 56 49.6**	**+0.5**
JNSB	**Nemuroshibetsu**	**0.84**	**282**	P	Pn	**08 56 37.7**	**+0.2**
JNSB				*e*S	Sn	**08 56 50.3**	**+0.5**
JKHN	**Kushirohamanak**	**0.89**	**234**	P	Pn	**08 56 37.9**	**-0.1**
JKHN				*e*S	Sn	**08 56 50.6**	**-0.2**
JNK	**Nakash**	**1.04**	**269**	P	Pn	**08 56 39.4**	**-0.4**
JNK				*e*S	Sn	**08 56 52.8**	**-1.2**
JAK	**Akkeshi**	**1.22**	**240**	P	Pn	**08 56 41.8**	**-0.4**
JAK				*e*S	Sn	**08 56 57.7**	**-0.4**
JTKR	**Abashiri--Toko**	**1.66**	**283**	P	Pn	**08 56 48.1**	**+0.2**
JAR	**Ashorobuto**	**1.76**	**261**	P	Pn	**08 56 49.6**	**+0.3**
JAR				*e*S	Sn	**08 57 10.8**	**0.0**
JOB	**Onbets**	**1.83**	**248**	P	Pn	**08 56 50.5**	**+0.3**
JOB				*e*S	Sn	**08 57 12.3**	**-0.2**
KUR	**Kuril'sk**	**2.04**	**37**	*e*P	Pn	**08 56 53.1**	**+0.1**
KUR				AMB	AMB	08 56 55.0	
	20nm,0.6s						
KUR				*e*S	Sn	**08 57 17.5**	**-0.1**
KUR				A	A	08 57 23.0	
	110nm,0.3s						
KUR				A	A	08 57 23.0	
	130nm,0.3s						

JMP Maruseppu 2.06 282 P Pn 08 56 53.7 +0.4

*NOU **28** 09:06:50.5, 18°.94S × 176°.34W, h629 km, mb4.3, Fiji Islands Region*
*NEIC **28** 09:07:07.3±1.6, 20°.3S±0°.1 × 178°.5W±0°.1, h601 km±7 km, mb4.4/52, Error ellipse: s-maj=18.1km s-min=16.1km az=119.0*
*IDC **28** 09:07:09.1±1.6, 20°.23S × 178°.61W, h613 km±18 km, mb3.6/23, mb1 3.8/25, mb1mx3.6/47, mbtmp4.5/25, Error ellipse: s-maj=13.8km s-min=11.7km az=109.0*
ISC 28 09:07:07.2±0.4, **20°.28S**±0°.07 × **178°.46W**±0°.08, **h600** km, **n133**, σ1§12/141, **mb4.3**/46, **11C-6D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.16**	**307**	P	**P**	**09 08 35.0**	**+1.0**
	42nm,0.3s,baz=88,slow=23,SNR=223						
MSVF	**Nonsavu**	**4.16**	**307**	P	**P**	**09 08 34.8**	**+0.8**
RAO	**Raoul Island**	**8.95**	**177**	P	**P**	**09 09 13.9**	**-1.6**
	72nm,0.3s,baz=91,slow=8.1,SNR=11						
AFI	**Afiamalu**	**8.99**	**46**	P	**P**	**09 09 14.0**	**-2.2**
DZM	**Mont Dzumac**	**14.20**	**260**	P	**P**	**09 10 09.6**	**+1.4**
	1.4nm,0.3s,baz=152,slow=22,SNR=26						
DZM	**Mont Dzumac**	**14.20**	**260**	P	**P**	**09 10 10.7**	**+2.6**
SANVU	**Saraoutou**	**14.47**	**287**	P	**P**	**09 10 11.0**	**+0.4**
OUZ	**Omahuta**	**16.45**	**204**	P	**P**	**09 10 28.8**	**+0.3**
URZ	**Urewera**	**18.33**	**191**	P	**P**	**09 10 42.5**	**-3.1**
	5.2nm,0.3s,baz=303,slow=24,SNR=48						
URZ	**Urewera**	**18.33**	**191**	P		**09 10 43.0**	**-2.5**
RPZ	**Rata Peaks**	**24.96**	**198**	P	**P**	**09 11 45.7**	**+0.8**
	8.8nm,0.9s,baz=13,slow=2.2,SNR=2.1						
WHZ	**Wether Hill Ro**	**27.89**	**201**	P	**P**	**09 12 11.7**	**+1.2**
PMG	**Port Moresby**	**34.88**	**283**	P	**P**	**09 13 10.7**	**+0.4**
STKA	**Stephens Creek**	**37.50**	**244**	P	**P**	**09 13 31.7**	**+0.1**
	2.3nm,0.5s,baz=94,slow=9.3,SNR=13						
STKA	**Stephens Creek**	**37.50**	**244**	P	**P**	**09 13 32.2**	**+0.6**
JAY	**Jayapura**	**43.57**	**289**	P	**P**	**09 14 19.6**	**-0.4**
	23nm,0.5s,baz=149,slow=4.0,SNR=24						
AS31	**Alice Springs**	**44.15**	**257**	P	**P**	**09 14 23.8**	**-0.6**
ASAR	**Alice Springs**	**44.15**	**257**	P	**P**	**09 14 24.4**	**0.0**
	3.6nm,0.6s,baz=89,slow=8.1,SNR=36						
ASAR				PcP	**PcP**	**09 15 56.0**	**+0.2**
	0.6nm,0.5s,baz=101,slow=3.9,SNR=5.0						
ASAR				S	**S**	**09 20 13.2**	**-1.9**
	1.1nm,1.0s,baz=95,slow=15,SNR=7.4						
ASAR	**Alice Springs**	**44.15**	**257**	P	**P**	**09 14 24.0**	**-0.4**
WB0	**Warramunga Arr**	**44.19**	**262**	P	**P**	**09 14 24.3**	**-0.3**
WB0				IAmb	IAmb	09 14 24.9	
	comp=Z,6.0nm,0.9s						
WB2	**Warramunga Arr**	**44.20**	**262**	P	**P**	**09 14 24.1**	**-0.6**
WB2				IAmb	IAmb	09 14 25.1	
	comp=Z,15nm,1.4s						
WRAB	**Tennant Creek**	**44.20**	**262**	P	**P**	**09 14 23.9**	**-0.8**
WRAB				IAmb	IAmb	09 14 25.0	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.21**	**262**	P	**P**	**09 14 24.4**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=97,slow=7.6,SNR=211						
WRA				S	**S**	**09 20 13.0**	**-3.0**
	comp=Z,0.4nm,0.6s,baz=96,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**44.21**	**262**	P	**P**	**09 14 24.2**	**-0.6**
MTN	**Manton Dam**	**48.73**	**271**	P	**P**	**09 14 58.4**	**-0.4**
MTN				IAmb	IAmb	09 15 03.5	
	comp=Z,36nm,1.9s						
SIJI	**Sorong**	**52.77**	**285**	P	**P**	**09 15 28.2**	**+0.1**
	comp=Z,16nm,0.7s,baz=81,slow=6.3,SNR=5.3						
VNDA	**Vanda**	**58.09**	**185**	P	**P**	**09 16 05.5**	**+1.7**
	comp=Z,2.8nm,0.5s,baz=0.0,slow=6.4,SNR=37						
VNDA	**Vanda**	**58.09**	**185**	P	**P**	**09 16 04.6**	**+0.8**
MJAR	**Matsushiro Arr**	**69.78**	**324**	P	**P**	**09 17 18.1**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=157,slow=6.1,SNR=19						
MAT	**Matsushiro**	**69.78**	**324**	P	**P**	**09 17 18.6**	**+0.1**
QSPA	**South Pole Qui**	**69.79**	**180**	P	**P**	**09 17 19.3**	**+1.1**
QSPA				IAmb	IAmb	09 17 20.3	
	comp=Z,10nm,0.8s						
ASAJ	**Asahikawa**	**73.33**	**332**	P	**P**	**09 17 39.8**	**+0.9**
	comp=Z,11nm,0.7s,baz=225,slow=3.9,SNR=19						
PETK	**Petropavlovsk-**	**75.95**	**345**	P	**P**	**09 17 53.4**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=135,slow=9.5,SNR=12						
KSRS	**Korea Array**	**76.44**	**319**	P	**P**	**09 17 57.3**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=128,slow=6.0,SNR=10						
USRK	**Ussuriysk Ar.**	**78.54**	**326**	P	**P**	**09 18 08.9**	**+1.4**
	comp=Z,3.2nm,0.6s,baz=105,slow=3.5,SNR=14						
USRK	**Ussuriysk Ar.**	**78.54**	**326**	P	**P**	**09 18 08.3**	**+0.8**
CMB	**Columbia Colle**	**79.59**	**43**	P	**P**	**09 18 14.5**	**+1.2**
ORV	**Oroville**	**79.79**	**41**	P	**P**	**09 18 15.3**	**+1.1**
BELA	**Belgrano 2**	**79.83**	**173**	P	**P**	**09 18 13.8**	**0.0**
BELA				IAmb	IAmb	09 18 14.8	
	comp=Z,6.5nm,0.7s						
YBH	**Yreka Blue Hor**	**80.38**	**39**	P	**P**	**09 18 19.6**	**+2.2**
	comp=Z,5.2nm,0.7s,baz=75,slow=0.8,SNR=9.2						
YBH	**Yreka Blue Hor**	**80.38**	**39**	P	**P**	**09 18 19.6**	**+2.2**
YBH				IAmb	IAmb	09 18 20.9	
	comp=Z,7.3nm,0.9s						
BEKR	**Beckworth**	**80.68**	**41**	P	**P**	**09 18 20.4**	**+1.3**
PNTR	**Pine Nut**	**80.71**	**42**	P	**P**	**09 18 20.7**	**+1.4**
PNTR				IAmb	IAmb	09 18 22.5	
	comp=Z,7.9nm,0.8s						
PIX	**Pinacate**	**80.83**	**52**	P	**P**	**09 18 21.2**	**+1.4**
NVAR	**Mina Array Bea**	**81.16**	**44**	P	**P**	**09 18 22.9**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=224,slow=8.6,SNR=22						
NVAR	**Mina Array Bea**	**81.16**	**44**	P	**P**	**09 18 22.8**	**+1.2**
KVN	**Kaiserville**	**81.64**	**43**	P	**P**	**09 18 25.3**	**+1.2**
TPNV	**Topopah Spring**	**81.69**	**46**	P	**P**	**09 18 24.7**	**+0.4**
MOD	**Modoc Plateau**	**81.92**	**40**	P	**P**	**09 18 26.9**	**+1.6**
MOD				IAmb	IAmb	09 18 27.7	
	comp=Z,4.5nm,0.6s						
KLR	**Kul'dur**	**82.12**	**330**	P	**P**	**09 18 26.8**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=91,slow=2.4,SNR=4.5						
J08A	**Circle Bar Ran**	**83.86**	**39**		pP	09 20 36.0	-5.6
CCUT	**Cedar City**	**83.96**	**46**	P	**P**	**09 18 37.7**	**+1.9**
CCUT				IAmb	IAmb	09 18 39.0	
	comp=Z,14nm,1.7s						
PWL	**Port Wells**	**84.43**	**14**	P	**P**	**09 18 37.4**	**+0.2**
SUA	**Susitna One**	**84.44**	**13**	P	**P**	**09 18 37.4**	**+0.1**
SUA				IAmb	IAmb	09 18 38.2	
	comp=Z,9.7nm,0.7s						
GLI	**Glacier Island**	**84.74**	**15**	P	**P**	**09 18 38.4**	**-0.3**
KNK	**Knik Glacier**	**84.89**	**14**	P	**P**	**09 18 39.9**	**+0.5**
PMR	**Palmer**	**84.90**	**14**	P	**P**	**09 18 39.3**	**-0.1**
GHO	**Glory Hole Cre**	**85.11**	**14**	P	**P**	**09 18 40.9**	**+0.3**
GHO				IAmb	IAmb	09 18 41.8	
	comp=Z,14nm,0.8s						
SEY	**Seymchan**	**86.06**	**347**	P	**P**	**09 18 44.8**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=150,slow=6.0,SNR=26						
B08A	**Colville Reser**	**86.29**	**35**	P	**P**	**09 18 47.1**	**+0.7**
B08A				IAmb	IAmb	09 18 48.5	
	comp=Z,6.6nm,1.1s						
TRF	**Thorofare Moun**	**86.32**	**12**	P	**P**	**09 18 46.0**	**-0.4**
TRF				IAmb	IAmb	09 18 46.6	
	comp=Z,8.0nm,0.7s						
HLID	**Hailey**	**86.44**	**41**	P	**P**	**09 18 48.2**	**+0.8**
RND	**Reindeer**	**86.58**	**13**	P	**P**	**09 18 47.6**	**+0.2**
RND				IAmb	IAmb	09 18 48.3	
	comp=Z,9.9nm,0.7s						
MCK	**McKinley**	**86.85**	**13**	P	**P**	**09 18 48.4**	**-0.3**
MCK				IAmb	IAmb	09 21 38.2	
	comp=Z,24nm,1.7s						
TX32	**Lajitas Array**	**87.30**	**58**	P	**P**	**09 18 51.8**	**+0.1**
TX32				IAmb	IAmb	09 18 55.7	
	comp=Z,4.8nm,1.2s						
TXAR	**Lajitas Array**	**87.30**	**58**	P	**P**	**09 18 53.3**	**+1.7**
	comp=Z,1.9nm,0.8s,baz=219,slow=5.9,SNR=20						
TXAR	**Lajitas Array**	**87.30**	**58**	P	**P**	**09 18 52.4**	**+0.8**
HYT	**Haines Junctio**	**87.30**	**19**	P	**P**	**09 18 52.0**	**+1.0**
NEA2	**Nenana**	**87.59**	**12**	P	**P**	**09 18 51.2**	**-0.8**
NEA2				IAmb	IAmb	09 18 52.2	
	comp=Z,3.5nm,0.7s						
WRH	**Wood River Hil**	**87.68**	**13**	P	**P**	**09 18 52.1**	**-0.3**
CCB	**Clear Creek Bu**	**87.89**	**13**	P	**P**	**09 18 52.8**	**-0.6**
IMAR	**Indian Mountai**	**88.01**	**10**	P	**P**	**09 18 53.9**	**-0.1**
TCOL	**CIGO, UAF Yank**	**88.08**	**13**	P	**P**	**09 18 52.7**	**-1.6**
MDM	**Murphy Dome**	**88.08**	**12**	P	**P**	**09 18 53.6**	**-0.8**
MDM				IAmb	IAmb	09 18 54.6	
	comp=Z,6.0nm,0.7s						
COLA	**College**	**88.08**	**13**	P	**P**	**09 18 53.3**	**-1.0**
SCRK	**Sand Creek**	**88.15**	**14**	P	**P**	**09 18 55.1**	**+0.2**
SCRK				IAmb	IAmb	09 18 56.9	
	comp=Z,6.1nm,1.2s						
IL31		**88.19**	**13**	P	**P**	**09 18 54.3**	**-0.5**
IL31				IAmb	IAmb	09 20 16.6	
	comp=Z,15nm,1.8s						
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**09 18 54.3**	**-0.6**
	comp=Z,2.4nm,0.5s,baz=215,slow=5.3,SNR=54						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**88.24**	**179**	P	**P**	**09 18 55.2**	**-0.1**
VNA3	**Neumayer Olymp**	**88.39**	**176**	P	**P**	**09 18 55.6**	**-0.3**
VNA2	**Neumayer--Watz**	**88.83**	**177**	P	**P**	**09 18 58.0**	**+0.1**
	baz=188,slow=3.3						
LOHW	**Long Hollow**	**88.84**	**42**	P	**P**	**09 18 58.7**	**0.0**
VNA1	**Neumayer--Stat**	**89.06**	**177**	P	**P**	**09 18 59.4**	**+0.5**
BW06	**Boulder Array**	**89.09**	**43**	P	**P**	**09 18 59.9**	**0.0**
BW06				IAmb	IAmb	09 19 02.1	
	comp=Z,5.0nm,1.3s						
PD31	**Pinedale Array**	**89.09**	**43**	P	**P**	**09 19 01.0**	**+1.1**
PD31				IAmb	IAmb	09 19 02.1	
	comp=Z,5.4nm,1.4s						
PDAR	**Pinedale Array**	**89.09**	**43**	P	**P**	**09 19 00.8**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=209,slow=3.4,SNR=21						
PDAR	**Pinedale Array**	**89.09**	**43**	P	**P**	**09 19 00.5**	**+0.6**
DAWY	**Dawson**	**89.36**	**16**	P	**P**	**09 19 00.1**	**-0.3**
DAWY				IAmb	IAmb	09 19 02.6	
	comp=Z,4.2nm,0.8s						
EGAK	**Eagle**	**89.50**	**15**	P	**P**	**09 19 00.8**	**-0.1**
EGAK				IAmb	IAmb	09 19 02.1	
	comp=Z,3.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.64**	**290**	P	**P**	**09 19 03.0**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=131,slow=3.6,SNR=4.7						
PLCA	**Paso Flores**	**89.74**	**134**	P	**P**	**09 19 04.5**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=240,slow=6.0,SNR=3.8						
INK	**Inuvik**	**94.17**	**15**	P	**P**	**09 19 22.0**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=235,slow=5.2,SNR=3.9						
YKA	**Yellowknife Ar**	**96.49**	**25**	P	**P**	**09 19 32.8**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=237,slow=4.0,SNR=9.3						
ZALV	**Zalesovo Beam**	**110.05**	**321**	PKiKP	**PKiKP**	**09 24 30.3**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=22,slow=4.8,SNR=4.5						
MKAR	**Makanchi Array**	**110.73**	**314**	PKiKP	**PKiKP**	**09 24 32.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=40,slow=1.0,SNR=7.4						
ARCES	**ARCESS Array B**	**128.62**	**349**	PKP	**PKPdf**	**09 25 05.2**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=123,slow=2.2,SNR=11						
FINES	**FINESS Array B**	**135.44**	**343**	PKP	**PKPdf**	**09 25 18.7**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=77,slow=3.5,SNR=5.2						
NB2	**NORSAR Subarra**	**138.71**	**353**	PKP	**PKPdf**	**09 25 18.4**	**-7.1**
	comp=Z,0.2nm,0.4s,baz=16,slow=3.2						
NOA	**NORSAR Array B**			PKhKP	PKPpre	09 25 17.9	
	comp=Z,0.6nm,0.6s,baz=15,slow=2.3,SNR=4.4						
AKASG	**Malin Array Be**	**142.61**	**331**	PKhKP	PKPpre	09 25 29.2	
	comp=Z,6.2nm,0.5s,baz=43,slow=4.4,SNR=33						
BR131	**Keskin Array S**	**146.37**	**312**		**PKPbc**	**09 25 41.4**	**-0.9**
BRTR	**Keskin Array B**	**146.37**	**312**	PKPbc	**PKPbc**	**09 25 41.9**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=136,slow=3.8,SNR=10						
BUR08	**Bucovina Ar. S**	**146.65**	**330**		**PKPbc**	**09 25 42.8**	**+0.1**
BURAR	**Bucovina Array**	**146.66**	**330**	⇑P	**PKPbc**	**09 25 43.4**	**+0.7**
BURAR	**Bucovina Array**	**146.66**	**330**		**PKPbc**	**09 25 43.4**	**+0.7**
BIZ	**Bicaz**	**146.72**	**329**	⇑P	**PKPbc**	**09 25 43.0**	**+0.2**
CFR	**Carcaliu**	**146.86**	**325**	⇑P	**PKPbc**	**09 25 43.4**	**+0.3**
KOLS	**Kolonicke sedl**	**146.93**	**335**	ePKP	**PKPbc**	**09 25 44.2**	**+0.9**
PLOR	**Plostina**	**147.20**	**327**	⇑P	**PKPab**	**09 25 46.9**	**-1.0**
CRVS	**Cervenica-Dubn**	**147.28**	**335**	ePKP	**PKPbc**	**09 25 44.6**	**+0.4**
CRVS				*e*		09 25 48.7	
OSTC	**Ostas**	**147.63**	**342**	⇑ePKP	**PKiKP**	**09 25 46.0**	**-0.5**
CLL	**Collm**	**147.75**	**346**	*e*PKPdf	**PKPdf**	**09 25 42.0**	**+0.5**
CLL				⇓*i*PKPbc	**PKPbc**	**09 25 45.4**	**+0.2**
	comp=Z,10.0nm,0.5s						
CLL				*i* PKPab	**PKPab**	**09 25 49.4**	**-0.4**
	comp=Z,7.0nm,0.6s						
CLL				*e*pPKPab	**pPKPab**	**09 28 03.0**	**+0.7**
CLL	**Collm**	**147.75**	**346**		**PKPbc**	**09 25 44.8**	**-0.5**
DOPR	**Dopca**	**147.75**	**328**	⇑P	**PKiKP**	**09 25 46.4**	**-0.4**
DPC	**Dobruska-Polom**	**147.78**	**342**	⇑ePKP	**PKPbc**	**09 25 46.1**	**+0.6**
MLR	**Muntele Rosu**	**147.81**	**327**	⇑P	**PKPbc**	**09 25 45.7**	**0.0**
MLR	**Muntele Rosu**	**147.81**	**327**		**PKPbc**	**09 25 45.8**	**0.0**
MLR				PKPab	**PKPab**	**09 25 49.9**	**-0.6**
LANS	**Liptovska Anna**	**147.81**	**338**	*e*PKP	**PKiKP**	**09 25 46.7**	**-0.2**
LANS				*e*		09 25 51.4	
BRG	**Berggiesshubel**	**147.94**	**345**	*i* PKP	**PKPbc**	**09 25 46.1**	**+0.4**
BRG				Amp		09 25 47.7	
	comp=Z,8.2nm,0.9s						
VOIR		**148.30**	**328**	⇓P	**PKPbc**	**09 25 47.0**	**0.0**
ARR	**Arges**	**148.55**	**328**	⇑P	**PKPbc**	**09 25 47.7**	**+0.1**
VYHS	**Vyhne**	**148.59**	**338**	*e*PKP	**PKPbc**	**09 25 48.1**	**+0.6**
MODS	**Modra-Piesok**	**149.23**	**339**	*e*PKP	**PKiKP**	**09 25 51.5**	**+1.6**
GZR	**Gura Zlata**	**149.43**	**330**	⇓P	**PKiKP**	**09 25 51.4**	**+0.9**
BTNL	**Ternell**	**149.54**	**354**	*d*PKP	**PKPbc**	**09 25 49.5**	**-0.2**
KHC	**Kasperske Hory**	**149.64**	**344**	⇑ePKP	**PKPbc**	**09 25 50.2**	**+0.2**
KHC				ePKPAB	**PKPab**	**09 25 58.3**	**+0.5**
KHC	**Kasperske Hory**	**149.64**	**344**		**PKPbc**	**09 25 50.1**	**0.0**
KHC					**PKPab**	**09 25 57.8**	**0.0**
CKRC	**Cesky Krumlov**	**149.73**	**343**	⇑ePKP	**PKPbc**	**09 25 50.5**	**+0.3**
BZS	**Buzias**	**149.80**	**331**	⇓P	**PKPbc**	**09 25 50.2**	**-0.2**
GERES	**GERESS Array B**	**149.87**	**344**	PKPbc	**PKPbc**	**09 25 50.8**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=48,slow=4.2,SNR=8.3						
GERES				PKPab	**PKPab**	**09 25 58.5**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=20,slow=4.3,SNR=3.8						
GERES	**GERESS Array B**	**149.87**	**344**		**PKPbc**	**09 25 50.6**	**0.0**
HERR	**Herculane**	**149.99**	**330**	⇓P	**PKPbc**	**09 25 50.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**172.91**	**181**	PKP	**PKPdf**	**09 26 07.9**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=301,slow=9.8,SNR=4.1						
TORD				PKPab	**PKPab**	**09 27 40.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=174,slow=5.0,SNR=3.0						

*KRSC **28** 09:10:25.4±1.2, 53°.59N × 161°.97E, h39 km±20 km, ML4.0*
*IDC **28** 09:10:32.1±3.5, 54°.03N × 161°.24E, h63 km±38 km, mb3.1/6, mb1 3.4/8, mb1mx3.1/61, mbtmp3.4/8, ML3.2/2, Error ellipse: s-maj=46.3km s-min=22.4km az=164.0*
ISC 28 09:10:25.7±1.7, **53°.61N**±0°.04 × **161°.86E**±0°.05, **h12** km±11 km, **n42**, σ1§46/61, **mb3.5/6, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.95**	**356**	*e*P	**Pg**	**09 10 43.4**	**-0.5**
MKZ				*e*S	**Sg**	**09 10 56.8**	**+0.6**
SPN	**Mys Shipunski**	**1.21**	**246**	*e*P	**Pn**	**09 10 47.5**	**-0.9**
SPN				*e*S	**Sb**	**09 11 03.0**	**-1.1**
NLC	**Nalytchevo**	**1.57**	**255**	*e*P	**Pn**	**09 10 53.5**	**+0.3**
NLC				*e*S	**Sn**	**09 11 13.5**	**+0.1**
KZV	**Kizimen**	**1.76**	**329**	*e*P	**Pn**	**09 10 56.4**	**+0.3**
KZV				*e*S	**Sn**	**09 11 18.1**	**-0.4**
TUMD	**Tumrok D**	**1.81**	**333**	*e*P	**Pn**	**09 10 56.3**	**-0.3**
TUMD				*e*S	**Sn**	**09 11 18.3**	**-1.1**
SDLR	**Sedlovina**	**1.81**	**261**	*e*P	**Pn**	**09 10 56.6**	**-0.1**
SDLR				*e*S	**Sn**	**09 11 19.0**	**-0.6**
UGLR	**Uglovaya**	**1.86**	**259**	*e*P	**Pn**	**09 10 57.4**	**0.0**
UGLR				*e*S	**Sn**	**09 11 20.2**	**-0.6**
SMAR	**Somma**	**1.86**	**260**	*e*P	**Pn**	**09 10 57.7**	**+0.2**
SMAR				*e*S	**Sn**	**09 11 20.5**	**-0.5**
KRER	**Koryakskii**	**1.88**	**262**	*e*P	**Pn**	**09 10 57.7**	**-0.1**
KRER				*e*S	**Sn**	**09 11 21.3**	**-0.2**
AVH	**Avacha**	**1.90**	**261**	*e*P	**Pn**	**09 10 58.1**	**+0.2**
KRX	**Arik**	**1.93**	**264**	*e*P	**Pn**	**09 10 58.5**	**+0.1**
KRX				*e*S	**Sn**	**09 11 22.4**	**-0.3**
DALK	**Dalny**	**1.95**	**254**	*e*P	**Pn**	**09 10 59.2**	**+0.7**
DALK				*e*S	**Sn**	**09 11 23.5**	**+0.6**
TUMR	**Tumrok**	**1.95**	**330**	*e*P	**Pn**	**09 10 59.4**	**+0.8**
TUMR				*e*S	**Sn**	**09 11 23.6**	**+0.5**
KOK	**Koryaka**	**1.95**	**262**	*e*P	**Pn**	**09 10 58.7**	**+0.1**
KOK				*e*S	**Sn**	**09 11 22.4**	**-0.7**
PET	**Petropavlovsk**	**2.01**	**254**	*e*P	**Pn**	**09 11 00.2**	**+0.9**
GNL	**Ganaly**	**2.33**	**274**	*e*P	**Pn**	**09 11 05.1**	**+1.2**
RUS	**Russkaya**	**2.34**	**241**	*e*P	**Pn**	**09 11 04.9**	**+1.1**
RUS				*e*S	**Sn**	**09 11 33.3**	**+0.8**
KMNR	**Kamenistaya**	**2.34**	**337**	*e*P	**Pn**	**09 11 06.1**	**+2.0**
KMNR				*e*S	**Sn**	**09 11 35.4**	**+2.6**
KRMR	**Karymshinskiy**	**2.37**	**252**	*e*P	**Pn**	**09 11 06.8**	**+2.5**
KRMR				*e*S	**Sn**	**09 11 36.5**	**+3.2**
MTVR	**Mutnovka**	**2.49**	**244**	*e*P	**Pn**	**09 11 07.9**	**+1.8**
MTVR				*e*S	**Sn**	**09 11 38.0**	**+1.6**
GRL	**Gorelyy**	**2.52**	**247**	*e*P	**Pn**	**09 11 08.4**	**+2.0**
PETK	**Petropavlovsk-**	**2.54**	**260**	P	**Pn**	**09 11 07.9**	**+1.2**
	8.6nm,0.3s,baz=85,slow=20,SNR=92						
PETK				S	**Sn**	**09 11 38.2**	**+0.7**
	7.2nm,0.3s,baz=95,slow=26,SNR=4.6						
KBTR	**Krutoberegovo**	**2.66**	**12**	*e*P	**Pn**	**09 11 08.3**	**0.0**
ASAK	**Asacha**	**2.69**	**244**	*e*P	**Pn**	**09 11 11.0**	**+2.2**
KBG	**Krutoberegovo**	**2.69**	**10**	*e*P	**Pn**	**09 11 07.7**	**-1.0**
KOZ	**Kozyrevsk**	**2.71**	**336**	*e*P	**Pn**	**09 11 11.0**	**+2.1**
KLY	**Klyuchi**	**2.79**	**346**	*e*P	**Pn**	**09 11 11.7**	**+1.6**
BKI	**Bering**	**2.89**	**55**	*e*P	**Pn**	**09 11 11.0**	**-0.4**
APC	**Apacha**	**2.90**	**258**	*e*P	**Pn**	**09 11 14.0**	**+2.4**
KDTR	**Khodutka, Kamc**	**2.92**	**233**	*e*P	**Pn**	**09 11 12.7**	**+0.8**
KDTR				*e*S	**Sn**	**09 11 46.4**	**-0.5**
ESO	**Esso**	**2.95**	**323**	*e*P	**Pn**	**09 11 13.9**	**+1.6**
SRDR	**Sredinnyy**	**2.98**	**336**	*e*P	**Pn**	**09 11 12.7**	**0.0**
SMKR	**Semkarok**	**2.98**	**356**	*e*P	**Pn**	**09 11 14.8**	**+2.0**
BDR	**Baidarnaya**	**2.99**	**353**	*e*P	**Pn**	**09 11 14.7**	**+1.9**
SRKR	**Sorokina**	**3.07**	**353**	*e*P	**Pn**	**09 11 16.7**	**+2.6**
ASAJ	**Asahikawa**	**15.79**	**241**	P	**Pn**	**09 14 08.0**	**+0.4**
	0.3nm,0.3s,baz=95,slow=18,SNR=4.3						
MJAR	**Matsushiro Arr**	**23.70**	**233**	P	**P**	**09 15 37.9**	**+0.7**
	0.7nm,0.6s,baz=22,slow=9.2,SNR=6.8						
ILAR	**Eielson Array**	**27.70**	**46**	P	**P**	**09 16 13.6**	**+0.4**
	0.6nm,1.1s,baz=248,slow=8.7,SNR=4.9						
KURBB	**Kurchatov Arra**	**48.45**	**302**	P	**P**	**09 19 03.8**	**-3.7**
	0.3nm,0.3s,baz=59,slow=7.5,SNR=2.6						
MKAR	**Makanchi Array**	**48.88**	**296**	P	**P**	**09 19 06.9**	**-4.0**
	0.2nm,0.5s,baz=67,slow=8.1,SNR=2.5						
NVAR	**Mina Array Bea**	**54.57**	**72**	P	**P**	**09 19 55.6**	**+1.8**
	0.3nm,0.5s,baz=311,slow=8.2,SNR=2.2						
TXAR	**Lajitas Array**	**69.46**	**68**	P	**P**	**09 21 34.7**	**+0.9**
	0.2nm,0.6s,baz=286,slow=4.9,SNR=3.6						

IDC 28 09:16:31.5±7.7, **4°.08S** × **127°.97E**, **h104** km±88 km, **mb3.0**/2, **mb1 3.1**/4, **mb1mx2.9**/43, **mbtmp3.4**/4, **ML3.2**/2, **Error ellipse: s-maj=82.4km s-min=21.3km az=87.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.58**	**46**	P	Pn	**09 17 36.8**	**-1.9**
	1.5nm,0.3s,baz=110,slow=22,SNR=7.9						
SIJI				S	Sn	09 18 32.0	+1.1
	0.8nm,0.3s,baz=214,slow=22,SNR=1.6						
WRA	**Warramunga Arr**	**16.95**	**159**	P	Pn	09 20 22.3	-0.1
	0.1nm,0.3s,baz=336,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**20.30**	**164**	P	P	09 20 58.8	-0.5
	1.1nm,0.7s,baz=345,slow=11,SNR=15						
MKAR	**Makanchi Array**	**64.69**	**327**	P	P	09 26 59.3	+0.9
	0.2nm,0.6s,baz=134,slow=8.3,SNR=3.2						

*IDC **28** 10:08:15.7±1.1, 37°.43N × 36°.32E, h0 km, mb3.7/7, mb1 3.7/13, mb1mx3.6/38, mbtmp3.7/13, ML3.7/6, MS3.1/21, Ms1 3.1/21, ms1mx3.0/62, Error ellipse: s-maj=20.6km s-min=17.5km az=11.0*
*DDA **28** 10:08:16.1, 37°.46

CUALT	**Altinyayla-SIV**	**1.83**	**9**	*i* P	**Pb**	**10 08 49.4**	**-0.8**
CUALT				*i* S	**Sg**	**10 09 15.7**	**+0.1**
CUALT				IAML		10 09 19.0	
	comp=N,1µm,0.4s						
CUALT				IAML		10 09 24.0	
	comp=E,2µm,0.5s						
GULA	**Gulagac**	**1.91**	**298**	PN	**Pn**	**10 08 50.2**	**+0.9**
URFA	**Urfa**	**1.94**	**90**	PN	**Pn**	**10 08 47.8**	**-1.8**
CUSAR	**Sarkisla-SIVAS**	**1.96**	**357**	*i* P	**Pn**	**10 08 50.9**	**+1.0**
CUSAR				*i* S	**Sg**	**10 09 20.1**	**+0.6**
CUSAR				IAML		10 09 22.0	
	comp=E,1µm,0.8s						
CUSAR				IAML		10 09 24.0	
	comp=N,1µm,0.7s						
CUKAN	**kangal_SIVAS**	**2.04**	**24**	*i* P	**Pn**	**10 08 51.6**	**+0.5**
CUKAN				*i* S	**Sg**	**10 09 21.0**	**-1.2**
CUKAN				IAML		10 09 32.0	
	comp=E,1µm,0.6s						
CUKAN				IAML		10 09 36.0	
	comp=N,1µm,0.5s						
KIZK	**Mersin**	**2.04**	**242**	PN	**Pn**	**10 08 52.0**	**+1.0**
KIZK	**Mersin**	**2.04**	**242**	*i* P	**Pn**	**10 08 52.0**	**+1.0**
KIZK				*i* S	**Sn**	**10 09 15.2**	**-1.2**
KIZK				IAML		10 09 31.0	
	comp=E,322nm,0.7s						
KIZK				IAML		10 09 39.0	
	comp=N,276nm,1.1s						
SIRC	**Yozgat**	**2.11**	**333**	*i* P	**Pn**	**10 08 52.9**	**+1.0**
SIRC				*i* S	**Sb**	**10 09 22.4**	**+1.2**
SIRC				IAML		10 09 26.0	
	comp=E,290nm,0.7s						
KOZK	**Kozakli-Nevseh**	**2.11**	**326**	PN	**Pn**	**10 08 52.9**	**+0.9**
YESY	**Yesilyurt**	**2.12**	**279**	PN	**Pn**	**10 08 53.1**	**+1.0**
ARPR	**Arapgir-MALATY**	**2.24**	**43**	PN	**Pn**	**10 08 54.1**	**+0.3**
SILI	**Silifke-Mersin**	**2.25**	**242**	PN	**Pn**	**10 08 54.9**	**+1.1**
HACI	**Hacifakili, Ak**	**2.29**	**347**	*i* P	**Pn**	**10 08 55.5**	**+1.0**
HACI				*i* S	**Sg**	**10 09 29.3**	**-1.1**
HACI				IAML		10 09 33.0	
	comp=N,322nm,0.7s						
HACI				IAML		10 09 34.0	
	comp=E,408nm,0.9s						
ELZG	**Elazig**	**2.30**	**63**	*i* P	**Pn**	**10 08 54.6**	**0.0**
ELZG				*i* S	**Sb**	**10 09 27.7**	**+0.9**
ELZG				IAML		10 09 35.0	
	comp=N,1µm,0.6s						
ELZG				IAML		10 09 42.0	
	comp=E,2µm,1.1s						
IKL	**Isikli**	**2.48**	**241**	PN	**Pn**	**10 08 58.3**	**+1.3**
KARG	**Kargicak-Mersi**	**2.49**	**240**	PN	**Pn**	**10 08 58.3**	**+1.3**
SVSK	**Karacayir**	**2.50**	**11**	PN	**Pn**	**10 08 58.3**	**+1.1**
KRMN	**Karaman**	**2.50**	**264**	PN	**Pn**	**10 08 58.7**	**+1.3**
YAYX	**Yaylak**	**2.50**	**307**	PN	**Pn**	**10 08 58.7**	**+1.3**
TISA	**Tisan-Mersin**	**2.53**	**240**	PN	**Pn**	**10 08 58.8**	**+1.2**
TEVE	**Tevekalti-Mers**	**2.57**	**247**	PN	**Pn**	**10 08 59.2**	**+1.0**
AKKU	**Akkuyu-Mersin**	**2.62**	**241**	PN	**Pn**	**10 09 00.6**	**+1.7**
ILIC	**ilic-Erzincan**	**2.62**	**40**	PN	**Pn**	**10 08 59.4**	**+0.3**
EREN	**Erenkoy**	**2.63**	**223**	PN	**Pn**	**10 09 00.9**	**+1.9**
CUZAR	**Zara_SIVAS**	**2.65**	**24**	*i* P	**Pb**	**10 09 03.9**	**-0.4**
CUZAR				*i* S	**Sg**	**10 09 40.3**	**-1.6**
BERE	**Bereket-Mersin**	**2.77**	**247**	PN	**Pn**	**10 09 02.8**	**+1.8**
TOKT	**Tokat**	**2.86**	**2**	PN	**Pn**	**10 09 02.6**	**+0.4**
TEKE	**Tekeli-Mersin**	**2.94**	**244**	PN	**Pn**	**10 09 04.7**	**+1.5**
KOVA	**Elazig, Kovanc**	**2.98**	**64**	*i* P	**Pb**	**10 09 10.5**	**+0.7**
KOVA				*i* S	**Sg**	**10 09 56.2**	**+3.9**
TNCL	**Tunceli-Merkez**	**2.98**	**55**	*e*P	**Pn**	**10 09 04.0**	**0.0**
TNCL				*i* S	**Sg**	**10 09 52.8**	**+0.4**
DYBB	**Diyarbakir**	**3.02**	**80**	PN	**Pn**	**10 09 04.5**	**+0.1**
CORM	**Corum**	**3.04**	**334**	PN	**Pn**	**10 09 06.2**	**+1.4**
KULU	**Kulu**	**3.09**	**302**	PN	**Pn**	**10 09 06.7**	**+1.2**
BRTR	**Keskin Array B**	**3.12**	**317**	Pn	**Pn**	**10 09 07.8**	**+1.9**
	comp=E,2.2nm,0.3s,baz=154,slow=18,SNR=34						
BRTR				Sn	**Sb**	**10 09 47.5**	**-2.7**
	comp=E,4.4nm,0.3s,baz=145,slow=18,SNR=5.3						
BRTR				LR	LR	10 10 39.4	
	comp=E,495nm,19.7s,baz=134,slow=46						
BRTR	**Keskin Array B**	**3.12**	**317**	PN	**Pn**	**10 09 07.2**	**+1.3**
MAZI	**Mazidag**	**3.23**	**89**	PN	**Pn**	**10 09 08.3**	**+0.9**
HANI	**Diyarbakir_Han**	**3.31**	**72**	*i* P	**Pn**	**10 09 08.4**	**-0.1**
HANI				*i* S	**Sg**	**10 10 03.8**	**+0.7**
ERZN	**Erzincan**	**3.37**	**50**	PN	**Pn**	**10 09 10.5**	**+1.2**
MARD	**Mardin**	**3.50**	**91**	*i* P	**Pn**	**10 09 09.8**	**-1.3**
MARD				*i* S	**Sg**	**10 10 07.9**	**-1.3**
MMAI	**Mount Meron Ar**	**4.51**	**191**	Pn	**Pn**	**10 09 24.6**	**-0.3**
	comp=E,5.9nm,0.3s,baz=10,slow=14,SNR=70						
MMAI				Sn	**Sn**	**10 10 17.5**	**+0.1**
	comp=E,11nm,0.3s,baz=22,slow=18,SNR=6.2						
GNI	**Garni**	**7.06**	**65**	LR	LR	10 12 31.6	
	comp=E,65nm,21.1s,baz=251,slow=36						
EIL	**Elat**	**7.86**	**189**	LR	LR	10 13 36.3	
	comp=E,96nm,18.8s,baz=304,slow=41						
KBZ	**Khabaz**	**7.98**	**36**	LR	LR	10 14 00.6	
	comp=E,141nm,18.4s,baz=236,slow=43						
IDI	**Anoyia**	**9.52**	**260**	Pn	**Pn**	**10 10 33.1**	**-0.6**
	comp=E,1.3nm,0.3s,baz=79,slow=18,SNR=6.8						
IDI				LR	LR	10 15 24.1	
	comp=E,37nm,20.6s,baz=73,slow=45						
MLR	**Muntele Rosu**	**11.20**	**319**	LR	LR	10 15 55.3	
	comp=E,69nm,19.0s,baz=102,slow=41						
AKASG	**Malin Array Be**	**14.19**	**341**	Pn	**Pn**	**10 11 37.7**	**+0.3**
	comp=E,0.3nm,0.3s,baz=153,slow=13,SNR=2.9						
GEYT	**Alibeck**	**17.21**	**82**	P	**P**	**10 12 17.9**	**-0.6**
	comp=E,0.5nm,0.3s,baz=264,slow=8.5,SNR=1.8						
MNK	**Minsk**	**18.01**	**344**	*i* P	**Pn**	**10 12 24.3**	**-2.5**
MNK	comp=E,2.0nm,0.6s			*i* P	**Pn**	**10 12 24.3**	**-2.5**
	comp=N,21nm,0.8s						
MNK				*i* P	**Pn**	**10 12 24.3**	**-2.5**
	comp=Z,10.0nm,0.8s						
MNK				*i* PP	**PnPn**	**10 12 35.2**	**-2.5**
MNK				*i* PPP	PPP	10 12 42.8	
MNK				*i* S	**Sn**	**10 15 46.2**	**-1.3**
MNK				*i* SS	**SnSn**	**10 16 01.2**	**+0.1**
MNK				*i* SSS	SSS	10 16 13.9	
MNK				*i* LQ	LQ	10 17 45.1	
MNK				*i* LR	LR	10 19 07.3	
MNK				*i* LRM	MLR	10 20 03.3	
	comp=E,21nm,18.5s						
MNK				*i* LRM	MLR	10 20 04.0	
	comp=N,230nm,16.0s						
MNK				*i* LRM	MLR	10 20 09.7	
	comp=Z,95nm,20.4s						
VRAC	**Vranov**	**18.57**	**316**	LR	LR	10 20 18.7	
	comp=Z,48nm,19.2s,baz=116,slow=39						
GERES	**GERESS Array B**	**20.00**	**312**	P	**P**	**10 12 49.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=114,slow=8.9,SNR=3.9						
GERES				LR	LR	10 22 48.5	
	comp=Z,40nm,18.2s,baz=232,slow=44						
AKTO	**Aktyubinsk**	**20.17**	**43**	P	Pn	10 12 52.2	-0.7
	comp=Z,1.1nm,0.6s,baz=255,slow=12,SNR=5.9						
AKTO				LR	LR	10 22 34.2	
	comp=Z,34nm,20.2s,baz=237,slow=42						
KHC	**Kasperske Hory**	**20.20**	**312**	*e*P	Pn	10 12 56.2	+3.0
DAVOX	**Davos/Dischmat**	**21.67**	**304**	LR	LR	10 22 20.6	
	comp=Z,58nm,19.2s,baz=76,slow=39						
KIRV	**Kirov**	**22.78**	**18**	LR	LR	10 22 59.4	
	comp=Z,44nm,20.9s,baz=198,slow=39						
ARU	**Arti**	**24.08**	**31**	LR	LR	10 23 43.4	
	comp=Z,42nm,19.3s,baz=270,slow=38						
FINES	**FINESS Array B**	**24.86**	**348**	P	**P**	**10 13 41.1**	**+2.2**
	comp=Z,1.1nm,0.6s,baz=122,slow=6.9,SNR=3.9						
ATD	**Arta Tunnel**	**26.47**	**166**	LR	LR	10 23 43.6	
	comp=Z,74nm,18.6s,baz=18,slow=35						
HFS	**Hagfors**	**26.90**	**335**	P	**P**	**10 13 57.4**	**0.0**
	comp=Z,2.3nm,0.9s,baz=104,slow=6.1,SNR=2.1						
HFS				LR	LR	10 26 24.3	
	comp=Z,55nm,19.5s,baz=106,slow=40						
NOA	**NORSAR Array B**	**28.41**	**334**	LR	LR	10 27 12.7	
	comp=Z,32nm,20.0s,baz=285,slow=40						
ARCES	**ARCESS Array B**	**32.67**	**353**	LR	LR	10 29 05.9	
	comp=Z,33nm,22.0s,baz=175,slow=38						
MKAR	**Makanchi Array**	**34.87**	**60**	P	**P**	**10 15 09.5**	**+1.7**
	comp=Z,1.4nm,0.9s,baz=282,slow=5.7,SNR=6.9						
ZALV	**Zalesovo Beam**	**36.81**	**48**	P	**P**	**10 15 25.2**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=298,slow=6.4,SNR=2.2						
TORD	**Torodi Ar. Bea**	**39.26**	**241**	P	**P**	**10 15 46.3**	**+0.9**
	comp=Z,1.3nm,1.0s,baz=48,slow=7.5,SNR=2.3						
SONM	**Songino Array**	**50.89**	**55**	LR	LR	10 41 32.1	
	comp=Z,93nm,18.2s,baz=280,slow=39						
CMAR	**Chiang Mai Arr**	**57.41**	**91**	LR	LR	10 44 03.6	
	comp=Z,7.0nm,19.2s,baz=155,slow=37						
TSUM	**Tsumeb**	**59.08**	**201**	LR	LR	10 45 48.1	
	comp=Z,57nm,20.6s,baz=144,slow=38						
KSRS	**Korea Array**	**69.53**	**58**	LR	LR	10 53 59.7	
	comp=Z,18nm,20.9s,baz=330,slow=39						
ASAJ	**Asahikawa**	**74.92**	**46**	LR	LR	10 56 54.0	
	comp=Z,56nm,19.1s,baz=336,slow=39						
YKA	**Yellowknife Ar**	**77.68**	**347**	P	**P**	**10 20 12.8**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=32,slow=6.1,SNR=6.1						

*ANF **28** 10:12:06.4±0.2, 36.80N×97.70W, h2km, ML3.5/10, Error ellipse: s-maj=2.7km s-min=2.2km az=159.0*
*TUL **28** 10:12:06.4±1.3, 36.85N±0.02×97.70W±0.02, h6km±7km, ML3.1, mb_Lg2.8/41(NEIC), Error ellipse: s-maj=2.7km s-min=1.8km az=215.0*
*NEIC **28** 10:12:06.4±0.8, 36.82N±0.01×97.69W±0.02, h4km±7km, Error ellipse: s-maj=2.3km s-min=1.7km az=47.0*

ISC 28 10:12:06.5±0.9, 36.83N±0.02×97.69W±0.02, h8km±8km, n69, σ0.973/79, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.13**	**278**	Pg	**Pg**	**10 12 09.5**	**+0.1**
GC02				Sg	**Sg**	**10 12 11.6**	**+0.2**
KAN14	**Manchester OK**	**0.25**	**300**	Pg	**Pg**	**10 12 11.5**	**+0.1**
KAN14				Sg	**Sg**	**10 12 15.0**	**+0.2**
KAN13	**South Haven SW**	**0.25**	**44**	Pg	**Pg**	**10 12 11.5**	**+0.1**
KAN09	**Caldwell North**	**0.31**	**11**	Pg	**Pg**	**10 12 12.5**	**0.0**
KAN09				Sg	**Sg**	**10 12 16.9**	**+0.1**
KAN05	**Bluff City Nor**	**0.31**	**333**	Pg	**Pg**	**10 12 12.6**	**0.0**
KAN05				Sg	**Sg**	**10 12 16.8**	**0.0**
KAN01	**Argonia South**	**0.32**	**351**	Pg	**Pg**	**10 12 12.7**	**-0.2**
KAN01				Sg	**Sg**	**10 12 17.2**	**0.0**
CROK	**Carrier**	**0.40**	**216**	Pg	**Pg**	**10 12 14.5**	**+0.2**
CROK				Sg	**Sg**	**10 12 20.5**	**+0.9**
OK032	**Salt Plains WL**	**0.42**	**266**	Pg	**Pg**	**10 12 14.6**	**+0.1**
OK032				Sg	**Sg**	**10 12 20.5**	**+0.5**
KAN10	**Anthony SW Sta**	**0.43**	**312**	Pg	**Pg**	**10 12 14.9**	**0.0**
KAN10				Sg	**Sg**	**10 12 20.6**	**-0.1**
KAN08	**Anthony NE Sta**	**0.45**	**331**	Pg	**Pg**	**10 12 15.2**	**-0.1**
KAN08				Sg	**Sg**	**10 12 21.2**	**+0.1**
KAN12	**Harper NE Stat**	**0.52**	**332**	Pg	**Pg**	**10 12 16.4**	**-0.3**
KAN12				Sg	**Sg**	**10 12 23.4**	**-0.1**
T35A	**Sooner Cattle**	**0.95**	**85**	Pg	**Pg**	**10 12 24.4**	**-0.4**
T35A				Sg	**Sg**	**10 12 36.8**	**-0.3**
T35B	**Sooner Cattle**	**0.95**	**85**	P	**Pg**	**10 12 24.4**	**-0.4**
	baz=264,SNR=92						
T35B				S	**Sg**	**10 12 37.1**	**0.0**
	baz=264						
T35B	**Sooner Cattle**	**0.95**	**85**	P		10 12 24.4	
	baz=264,SNR=92						
T35B				S		10 12 37.1	
	baz=264						
QUOK	**Quay**	**1.03**	**129**	Pg	**Pg**	**10 12 26.0**	**-0.3**
QUOK				Sg	**Sg**	**10 12 39.6**	**-0.1**
OK029	**Liberty Lake**	**1.05**	**169**	Pg	**Pg**	**10 12 26.3**	**-0.4**
OK029				Sg	**Sb**	**10 12 40.8**	**-0.1**
OK031	**S. Brethren Rd**	**1.12**	**142**	Pg	**Pg**	**10 12 27.6**	**-0.3**
OK031				Sg	**Sb**	**10 12 42.5**	**-0.2**
U32A	**Winter Ranch,**	**1.15**	**247**	Pg	**Pg**	**10 12 27.8**	**-0.6**
U32A				Sg	**Sb**	**10 12 43.5**	**-0.2**
U32A	**Winter Ranch,**	**1.15**	**247**	P	**Pg**	**10 12 27.8**	**-0.6**
	baz=67						
U32A				S	**Sb**	**10 12 43.5**	**-0.2**
	baz=67						
U32A	**Winter Ranch,**	**1.15**	**247**	P		10 12 27.8	
	baz=67						
U32A				S		10 12 43.5	
	baz=67						
OK030	**Cody Creek RV**	**1.16**	**141**	Pg	**Pg**	**10 12 28.5**	**-0.3**
OK030				Sg	**Sg**	**10 12 43.5**	**-0.4**
BCOK	**Bluff Creek, N**	**1.18**	**177**	Pg	**Pg**	**10 12 28.7**	**-0.4**
BCOK				Sg	**Sg**	**10 12 42.3**	**-2.0**
OK025	**Westminster Rd**	**1.28**	**167**	Pg	**Pg**	**10 12 30.6**	**-0.5**
OK025				Sg	**Sb**	**10 12 47.8**	**+0.2**
OKCFA	**Oklahoma City**	**1.43**	**172**		**Pn**	**10 12 33.1**	**+0.4**
OKCFA	**Oklahoma City**	**1.43**	**172**	P	**Pn**	**10 12 33.1**	**+0.4**
	baz=352,SNR=12						
OKCFA				S	**Sn**	**10 12 52.8**	**+1.0**
	baz=352						
OKCFA	**Oklahoma City**	**1.43**	**172**	P		10 12 33.1	
	baz=352,SNR=12						
OKCFA				S		10 12 52.8	
	baz=352						
OKCSW	**OKLAHOMA CITY**	**1.44**	**172**		**Pn**	**10 12 33.1**	**+0.2**
FNO	**Franklin**	**1.59**	**171**	Pn	**Pb**	**10 12 36.0**	**-0.2**
R32A	**Long Quarter,**	**1.78**	**333**	Pn	**Pn**	**10 12 38.6**	**+1.0**
R32A	**Long Quarter,**	**1.78**	**333**	S	**Sb**	**10 13 02.3**	**+0.4**
	baz=153						
R32A	**Long Quarter,**	**1.78**	**333**	S		10 13 02.3	
	baz=153						
TUL1	**Leonard**	**1.79**	**120**	P	**Pn**	**10 12 38.4**	**+0.7**
	baz=301,SNR=92						
TUL1				S	**Sb**	**10 13 02.9**	**+0.8**
	baz=301						
TUL1	**Leonard**	**1.79**	**120**	P		10 12 38.4	
	baz=301,SNR=92						
TUL1				S		10 13 02.9	
	baz=301						
WMOK	**Wichita Mounta**	**2.27**	**203**	Pn	**Pn**	**10 12 44.8**	**+0.5**
WMOK	**Wichita Mounta**	**2.27**	**203**	P	**Pn**	**10 12 44.7**	**+0.4**
	baz=23,SNR=45						
WMOK	**Wichita Mounta**	**2.27**	**203**	P		10 12 44.7	
	baz=23,SNR=45						
KSU1	**Kansas State U**	**2.42**	**20**	S	**Sb**	**10 13 21.0**	**+0.6**
	baz=201						
KSU1	**Kansas State U**	**2.42**	**20**	S		10 13 21.0	
	baz=201						
CBKS	**Cedar Bluff**	**2.56**	**321**	Pn	**Pb**	**10 12 50.9**	**-1.7**
CBKS	**Cedar Bluff**	**2.56**	**321**	P	**Pn**	**10 12 49.1**	**+0.8**
	baz=140						
CBKS	**Cedar Bluff**	**2.56**	**321**	P		10 12 49.1	
	baz=140						
U38A	**Gravette**	**2.69**	**97**		**Pn**	**10 12 50.9**	**+0.8**
X37A	**Clayton**	**2.93**	**139**		**Pn**	**10 12 55.4**	**+2.0**
X37A				IAmb_Lg		10 13 44.0	
	comp=Z,38nm,0.7s						
HHAR	**Hobbs**	**3.07**	**99**		**Pn**	**10 12 56.2**	**+0.8**
HHAR	**Hobbs**	**3.07**	**99**	P	**Pn**	**10 12 56.4**	**+1.0**
	baz=281,SNR=6.8						
HHAR	**Hobbs**	**3.07**	**99**	P		10 12 56.4	
	baz=281,SNR=6.8						
Z35A	**Perchaven, San**	**3.51**	**174**		**Pn**	**10 13 02.2**	**+0.8**
W39A	**Magazine**	**3.56**	**116**	Pn	**Pn**	**10 13 02.1**	**0.0**
S39A	**Bolivar**	**3.59**	**75**		**Pn**	**10 13 01.7**	**-0.8**
S39A				IAmb_Lg		10 14 04.3	
	comp=Z,20nm,0.8s						
S39A	**Bolivar**	**3.59**	**75**	P	**Pn**	**10 13 03.2**	**+0.7**
	baz=257,SNR=7.5						
S39A	**Bolivar**	**3.59**	**75**	P		10 13 03.2	
	baz=257,SNR=7.5						
AMTX	**Amarillo**	**3.78**	**240**	Pn	**Pn**	**10 13 05.2**	**+0.1**
AMTX				IAmb_Lg		10 14 12.7	
	comp=Z,21nm,0.7s						
U40A	**Yellville**	**3.92**	**96**		**Pn**	**10 13 07.1**	**0.0**
MIAR	**Mount Ida**	**4.05**	**123**		**Pn**	**10 13 12.5**	**+3.7**
MIAR				IAmb_Lg		10 14 15.8	
	comp=Z,30nm,0.8s						
P38A	**Dawn**	**4.30**	**48**		**Pn**	**10 13 11.8**	**-0.4**
P38A				IAmb_Lg		10 14 21.6	
	comp=Z,24nm,0.7s						
N35A	**Tabor**	**4.33**	**21**		**Pn**	**10 13 12.3**	**-0.3**
MGMO	**Mountain Grove**	**4.36**	**84**	Pn	**Pn**	**10 13 13.4**	**+0.4**
MGMO				IAmb_Lg		10 14 22.4	
	comp=Z,33nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.47**	**301**	Pn	**Pn**	**10 13 15.2**	**+0.6**
KSCO				IAmb_Lg		10 14 39.9	
	comp=Z,18nm,0.7s						
R40A	**Maddies Statio**	**4.55**	**70**		**Pn**	**10 13 16.1**	**+0.4**
R40A	**Maddies Statio**	**4.55**	**70**	P	**Pn**	**10 13 16.1**	**+0.4**
	baz=253,SNR=9.1						
R40A	**Maddies Statio**	**4.55**	**70**	P		10 13 16.1	
	baz=253,SNR=9.1						
BGNE	**Belgrade**	**4.58**	**356**		**Pn**	**10 13 16.3**	**+0.1**
FCAR	**Ozark Folk Cen**	**4.59**	**100**		**Pn**	**10 13 17.1**	**+0.8**
X40A	**Basin Creek Fa**	**4.60**	**119**		**Pn**	**10 13 15.7**	**-0.6**
X40A				IAmb_Lg		10 14 44.5	
	comp=Z,16nm,0.9s						
WHAR	**Wooly Hollow**	**4.64**	**108**		**Pn**	**10 13 17.0**	**+0.1**
WHAR				IAmb_Lg		10 14 40.5	
	comp=Z,16nm,1.0s						
WHTX	**Lake Whitney,**	**4.83**	**178**	P		10 13 19.9	
	baz=358,SNR=7.0						
WHTX	**Lake Whitney,**	**4.83**	**178**		**Pn**	**10 13 19.7**	**+0.1**
WHTX	**Lake Whitney,**	**4.83**	**178**	P	**Pn**	**10 13 19.9**	**+0.3**
	baz=358,SNR=7.0						
P40A	**Paris**	**5.20**	**57**	IAmb_Lg		10 14 56.7	
	comp=Z,20nm,0.9s						
L34A	**Svendsen Farm,**	**5.23**	**11**	IAmb_Lg		10 15 04.3	
	comp=Z,14nm,0.7s						
CCM	**Cathedral Cave**	**5.28**	**75**	IAmb_Lg		10 14 55.0	
	comp=Z,18nm,0.7s						
T42A	**Van Buren**	**5.29**	**86**	IAmb_Lg		10 15 03.1	
	comp=Z,14nm,1.0s						
OGNE	**Ogallala**	**5.32**	**322**	IAmb_Lg		10 15 07.6	
	comp=Z,21nm,1.1s						
LCAR	**Lake Charles**	**5.33**	**96**	IAmb_Lg		10 15 03.4	
	comp=Z,16nm,1.2s						
JCT	**Junction City**	**6.58**	**196**	IAmb_Lg		10 15 38.9	
	comp=Z,20nm,1.2s						
S44A	**Carbondale**	**6.79**	**80**	IAmb_Lg		10 15 42.2	
	comp=Z,18nm,0.9s						
SIUC	**Southern Illin**	**6.82**	**80**	IAmb_Lg		10 15 54.0	
	comp=Z,13nm,0.9s						
ISCO	**Idaho Springs**	**6.89**	**298**	IAmb_Lg		10 15 45.8	
	comp=Z,9.7nm,1.2s						
GDL2	**Guadalupe Moun**	**7.19**	**232**		**Pn**	**10 13 52.1**	**+0.1**
T45A	**Paducah**	**7.25**	**86**	IAmb_Lg		10 15 58.7	
	comp=Z,17nm,0.7s						
Y22D	**IRIS PASSCAL I**	**8.02**	**253**	IAmb_Lg		10 16 36.8	
	comp=Z,12nm,0.8s						

*IDC **28** 10:21:53.0±2.3, 4.51S×131.65E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/14, Error ellipse: s-maj=137.6km s-min=14.2km az=72.0*
*DJA **28** 10:22:04.1±1.5, 5.5S±15.1×131.1E±., h53km±12km, M3.7/6, MLv3.7/6*

ISC 28 10:21:58.5±1.8, 4.9S±0.2×130.9E±0.2, h35km, n8, σ1.963/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.05**	**288**	P	**Pn**	**10 22 18.3**	**+1.5**
BNDI				S	**Sn**	**10 22 29.6**	**-0.7**
FAKI	**Fak Fak**	**2.34**	**35**	P	Pn	10 22 40.9	+6.4
FAKI				S	Sn	10 23 08.7	+6.7
SWI	**Sorong**	**3.98**	**5**	P	Pn	10 22 59.4	+2.4
NLAI	**Namlea**	**4.12**	**293**	P	**Pn**	**10 22 58.7**	**-0.4**
WRA	**Warramunga Arr**	**15.37**	**168**	Pn	**Pn**	**10 25 32.5**	**-0.4**
	0.2nm,0.3s,baz=348,slow=13,SNR=11						
WRA				Sn	Sn	10 28 17.4	-4.8
	0.3nm,0.3s,baz=343,slow=20,SNR=6.5						
ASAR	**Alice Springs**	**18.93**	**172**	P	**P**	**10 26 18.6**	**+2.0**
	0.3nm,0.3s,baz=349,slow=11,SNR=28						
ASAR				S	**Sn**	**10 29 46.8**	**-1.7**
	0.1nm,0.3s,baz=353,slow=28,SNR=4.7						
KLR	**Kul'dur**	**53.86**	**1**	LR	LR	10 53 53.4	
	comp=Z,20nm,19.3s,baz=14,slow=36						
MKAR	**Makanchi Array**	**66.95**	**326**	P	**P**	**10 32 46.8**	**-0.8**
	0.3nm,0.7s,baz=126,slow=7.3,SNR=2.1						

*MDD **28** 10:22:11.8±1.1, 37.08N×2.92E, h32km±30km, mb4.4/21, Error ellipse: s-maj=16.2km s-min=5.2km az=147.0, PRXIMO*
*LDG **28** 10:22:12.9±0.2, 37.3N±0.1×2.88E±0.08, h35km, n114, σ1.984/171, Western Mediterranean Sea*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIBI	**Ibiza**	**2.13**	**326**	P	**Pn**	**10 22 46.8**	**+1.5**
	47nm,0.2s,SNR=38						
EIBI				S	**Sn**	**10 23 11.4**	**+0.9**
	151nm,0.2s,SNR=16						
ETOS	**Mallorca**	**2.49**	**359**	P	**Pn**	**10 22 51.6**	**+1.2**
	SNR=7.9						
EBEN2	**Beniarda presa**	**2.80**	**301**	P	**Pn**	**10 22 55.2**	**+0.7**
	4.0nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**10 23 25.9**	**-1.2**
	86nm,0.3s,SNR=7.9						
ETRV	**Los Montesinos**	**2.98**	**286**	P	**Pn**	**10 22 57.5**	**+0.5**
	18nm,0.1s,SNR=7.9						
ETRV				S	**Sn**	**10 23 29.8**	**-1.8**
	67nm,0.2s,SNR=4.0						
AFON	**Font Roja**	**3.04**	**298**	P	**Pn**	**10 22 59.3**	**+1.4**
	5.0nm,0.1s,SNR=4.0						
AFON				S	**Sn**	**10 23 31.5**	**-1.6**
	14nm,0.2s,SNR=7.5						
CART	**Cartagena**	**3.10**	**277**	P	**Pn**	**10 22 57.6**	**-1.1**
CART				S	**Sn**	**10 23 32.9**	**-1.6**
CART	**Cartagena**	**3.10**	**277**	*e*P	**Pn**	**10 22 57.6**	**-1.1**
CART				*e*S	**Sn**	**10 23 32.9**	**-1.6**
EMUR	**La Murta**	**3.32**	**281**	P	**Pn**	**10 23 01.3**	**-0.5**
	6.5nm,0.1s,SNR=23						
EMUR				S	**Sn**	**10 23 38.1**

ETSF					S		Sn	10 24 50.3	-0.8
	1.5nm,0.3s								
ETSF	**Etsaut**	**6.21**	**336**		*e*Pn		**Pn**	10 23 43.1	+1.7
ETSF					*e*Sn		**Sn**	10 24 50.3	-0.8
	3.0nm,0.3s								
ATE	**Arette**	**6.42**	**336**		P		**Pn**	10 23 47.1	+2.9
	0.3nm,0.2s,SNR=7.9								
ATE					S		**Sn**	10 24 56.2	-0.1
	7.2nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**6.43**	**304**		P		**Pn**	10 23 46.7	+2.1
	0.3nm,0.1s,SNR=6.6								
GUD					S		**Sn**	10 24 55.7	-1.1
	1.1nm,0.3s,SNR=4.0								
EORO	**Oroz-Betelu**	**6.46**	**332**		P		**Pn**	10 23 46.3	+1.3
	1.4nm,0.2s,SNR=7.9								
EORO					S		**Sn**	10 24 56.7	-0.8
	2.5nm,0.2s,SNR=7.9								
SJPF	**Ste Jean**	**6.62**	**333**		P		**Pn**	10 23 48.8	+1.7
SJPF					S		**Sn**	10 25 00.2	-1.1
	3.9nm,0.3s								
SJPF	**Ste Jean**	**6.62**	**333**		*e*Pn		**Pn**	10 23 48.8	+1.7
SJPF					*e*Sn		**Sn**	10 25 00.2	-1.1
	7.8nm,0.3s								
ECAB	**El Cabril**	**6.63**	**279**		P		**Pn**	10 23 46.1	-1.1
	5.6nm,0.4s,SNR=14								
ECAB					S		**Sn**	10 24 58.7	-2.9
	0.5nm,0.2s								
LMR	**La Mourre**	**6.66**	**23**		P		**Pn**	10 23 47.8	+0.3
LMR					S		**Sn**	10 24 59.4	-2.7
	2.8nm,0.4s								
LMR	**La Mourre**	**6.66**	**23**		*e*Pn		**Pn**	10 23 47.8	+0.3
LMR					*e*Sn		**Sn**	10 24 59.4	-2.7
	5.5nm,0.4s								
LASF	**Ste Croix**	**6.84**	**6**		P		**Pn**	10 23 51.8	+1.8
LASF					S		**Sn**	10 25 04.5	-2.0
	1.4nm,0.3s								
LASF	**Ste Croix**	**6.84**	**6**		*e*Pn		**Pn**	10 23 51.8	+1.8
LASF					*e*Sn		**Sn**	10 25 04.5	-2.0
	2.8nm,0.3s								
FRF	**La Foret Royal**	**6.91**	**23**		P		**Pn**	10 23 51.4	+0.5
FRF					S		**Sn**	10 25 06.1	-2.1
	0.7nm,0.2s								
FRF	**La Foret Royal**	**6.91**	**23**		*e*Pn		**Pn**	10 23 51.4	+0.5
FRF					*e*Sn		**Sn**	10 25 06.1	-2.1
	1.4nm,0.2s								
SMRF	**Simiane la Rot**	**7.00**	**16**		P		**Pn**	10 23 54.2	+1.9
SMRF					S		**Sn**	10 25 05.8	-4.8
	11nm,0.5s								
SMRF	**Simiane la Rot**	**7.00**	**16**		*e*Pn		**Pn**	10 23 54.2	+1.9
SMRF					*e*Sn		**Sn**	10 25 05.8	-4.8
	11nm,0.5s								
PGF	**Pioggiola**	**7.06**	**40**		P		**Pn**	10 23 52.8	-0.4
PGF					S		Sn	10 25 06.1	-6.1
	2.3nm,0.4s								
PGF	**Pioggiola**	**7.06**	**40**		*e*Pn		**Pn**	10 23 52.8	-0.4
PGF					*e*Sn		Sn	10 25 06.1	-6.1
	4.7nm,0.4s								
SBF	**Sospel**	**7.44**	**26**		P		**Pn**	10 23 59.1	+0.8
SBF					S		**Sn**	10 25 18.5	-2.9
	2.1nm,0.4s								
SBF	**Sospel**	**7.44**	**26**		*e*Pn		**Pn**	10 23 59.1	+0.8
SBF					*e*Sn		**Sn**	10 25 18.5	-2.9
	4.2nm,0.4s								
EPLA	**Plasencia**	**7.54**	**294**		P		**Pn**	10 24 00.8	+1.1
	0.5nm,0.1s,SNR=4.0								
EPLA					S		**Sn**	10 25 19.9	-4.1
	0.8nm,0.2s,SNR=4.0								
EMIN	**Mina Concepcio**	**7.61**	**277**		P		**Pn**	10 24 00.3	-0.3
	0.3nm,0.1s,SNR=6.7								
ELAN	**Lanestosa**	**7.66**	**323**		P		**Pn**	10 24 04.2	+2.9
	0.6nm,0.2s,SNR=4.0								
ELAN					S		**Sn**	10 25 27.6	+0.7
	1.6nm,0.4s,SNR=4.0								
CAF	**Calviac**	**7.67**	**356**		P		**Pn**	10 24 03.7	+2.3
CAF					S		**Sn**	10 25 25.1	-2.0
	0.6nm,0.3s								
CAF	**Calviac**	**7.67**	**356**		*e*Pn		**Pn**	10 24 03.7	+2.3
CAF					*e*Sn		**Sn**	10 25 25.1	-2.0
	1.1nm,0.3s								
VIVF	**Saint-Julien-l**	**7.70**	**10**		P		**Pn**	10 24 03.7	+1.9
VIVF					S		**Sn**	10 25 25.6	-2.1
	0.9nm,0.3s								
VIVF	**Saint-Julien-l**	**7.70**	**10**		*e*Pn		**Pn**	10 24 03.7	+1.9
VIVF					*e*Sn		**Sn**	10 25 25.6	-2.1
	1.8nm,0.3s								
LFF	**La Frestale**	**7.83**	**349**		P		**Pn**	10 24 05.3	+1.8
LFF					S		**Sn**	10 25 30.1	-0.7
	3.1nm,0.5s								
LFF	**La Frestale**	**7.83**	**349**		*e*Pn		**Pn**	10 24 05.3	+1.8
LFF					*e*Sn		**Sn**	10 25 30.1	-0.7
	6.2nm,0.5s								
PBAR	**Barrancos**	**7.91**	**280**		*e*P		**Pn**	10 24 05.8	+1.1
PBAR					*e*S		**Sn**	10 25 31.9	-1.1
ORIF	**Oris-en-Rattie**	**7.96**	**16**		P		**Pn**	10 24 08.1	+2.6
ORIF					S		**Sn**	10 25 31.2	-3.2
	0.4nm,0.4s								
ORIF	**Oris-en-Rattie**	**7.96**	**16**		*e*Pn		**Pn**	10 24 08.1	+2.6
ORIF					*e*Sn		**Sn**	10 25 31.2	-3.2
	0.8nm,0.4s								
MBDF	**Montbardon**	**8.01**	**20**		P		**Pn**	10 24 08.4	+2.3
MBDF					S		**Sn**	10 25 32.8	-2.7
	0.2nm,0.2s								
MBDF	**Montbardon**	**8.01**	**20**		*e*Pn		**Pn**	10 24 08.4	+2.3
MBDF					*e*Sn		**Sn**	10 25 32.8	-2.7
	0.3nm,0.2s								
RJF	**Les Rejaudoux**	**8.09**	**353**		P		**Pn**	10 24 09.3	+2.1
RJF					S		**Sn**	10 25 35.1	-2.2
	0.6nm,0.3s								
RJF	**Les Rejaudoux**	**8.09**	**353**		*e*Pn		**Pn**	10 24 09.3	+2.1
RJF					*e*Sn		**Sn**	10 25 35.1	-2.2
	1.3nm,0.3s								
EGRO	**El Granado**	**8.25**	**275**		P		**Pn**	10 24 07.0	-2.4
	0.8nm,0.4s,SNR=4.0								
PMRV	**Marv??o**	**8.35**	**288**		*e*P		Pn	10 24 20.6	+10
PESTR	**Estremoz**	**8.41**	**284**		*e*S		**Sn**	10 25 44.0	-1.3
PVAQ	**Vaqueiros**	**8.44**	**274**		*e*P		**Pn**	10 24 11.3	-0.7
PVAQ					*e*S		**Sn**	10 25 43.5	-2.6
MVO	**Moncorvo**	**8.62**	**300**		P		**Pn**	10 24 16.5	+2.1
	0.9nm,0.1s,SNR=4.0								
MVO					S		**Sn**	10 25 48.6	-1.7
	1.0nm,0.1s,SNR=4.0								
MVO	**Moncorvo**	**8.62**	**300**		*e*P		**Pn**	10 24 17.3	+2.9
MVO					*e*S		**Sn**	10 25 50.7	+0.3
PBDV	**Barranco-do-Ve**	**8.62**	**273**		*e*P		Pn	10 24 22.9	+8.4
EARI	**Arriondas**	**8.63**	**317**		P		**Pn**	10 24 18.3	+3.7
	1.1nm,0.3s,SNR=5.6								
EARI					S		**Sn**	10 25 48.4	-2.2
	0.5nm,0.3s,SNR=4.0								
LPG	**La Plagne**	**8.71**	**18**		P		**Pn**	10 24 18.0	+2.0
LPG	**La Plagne**	**8.71**	**18**		*e*Pn		**Pn**	10 24 18.0	+2.0
ECAL	**Calabor**	**8.76**	**305**		P		Pn	10 24 18.7	+2.3
	2.0nm,0.2s,SNR=5.8								
MESJ	**Messejana**	**8.83**	**277**		*e*P		**Pn**	10 24 17.6	+0.2
PMTG	**Montargil**	**8.93**	**285**		*e*P		**Pn**	10 24 20.1	+1.4
TCF	**Toulx Ste Croi**	**9.02**	**357**		P		**Pn**	10 24 21.7	+1.7
TCF	**Toulx Ste Croi**	**9.02**	**357**		*e*Pn		**Pn**	10 24 21.7	+1.7
PNCL	**Nicolau / Gran**	**9.08**	**279**		*e*P		**Pn**	10 24 21.0	+0.2
POLO	**Lamas de Olo**	**9.23**	**300**		*e*P		**Pn**	10 24 24.9	+2.0
POLO					*e*S		Sn	10 25 51.1	-14
PCAS	**Casmilo, Conde**	**9.32**	**291**		*e*P		**Pn**	10 24 26.4	+2.3
PFVI	**Vila Bisbo**	**9.34**	**273**		*e*P		Pn	10 24 16.1	-8.3
SMF	**Signal de Mont**	**9.39**	**4**		P		**Pn**	10 24 26.7	+1.7
SMF	**Signal de Mont**	**9.39**	**4**		*e*Pn		**Pn**	10 24 26.7	+1.7
AVF	**Avril sur Loir**	**9.52**	**2**		P		**Pn**	10 24 28.2	+1.5
AVF	**Avril sur Loir**	**9.52**	**2**		*e*Pn		**Pn**	10 24 28.2	+1.5
PCAB	**Cabril**	**9.52**	**301**		*e*P		Pn	10 24 15.8	-11
MFF	**Saint Martin d**	**9.59**	**347**		P		**Pn**	10 24 29.0	+1.3
MFF	**Saint Martin d**	**9.59**	**347**		*e*Pn		**Pn**	10 24 29.0	+1.3
CABF	**La Chapelle**	**9.63**	**13**		P		**Pn**	10 24 30.1	+1.7
CABF	**La Chapelle**	**9.63**	**13**		*e*Pn		**Pn**	10 24 30.1	+1.7
SSF	**Saint Saulge**	**9.79**	**3**		P		**Pn**	10 24 31.7	+1.2
SSF	**Saint Saulge**	**9.79**	**3**		*e*Pn		**Pn**	10 24 31.7	+1.2
PGAV	**Gavieira, Arco**	**9.79**	**302**		*e*P		**Pn**	10 24 33.4	+2.8
PGAV					*e*S		Sn	10 25 47.5	-32
LOR	**Lormes**	**10.01**	**4**		P		**Pn**	10 24 35.0	+1.5
LOR	**Lormes**	**10.01**	**4**		*e*Pn		**Pn**	10 24 35.0	+1.5
	baz=180								
HINF	**Hinteralfeld**	**10.93**	**14**		P		**Pn**	10 24 47.2	+1.0
HINF	**Hinteralfeld**	**10.93**	**14**		*e*Pn		**Pn**	10 24 47.2	+1.0
HAU	**Haudompre**	**11.02**	**12**		P		**Pn**	10 24 48.3	+0.9
HAU	**Haudompre**	**11.02**	**12**		*e*Pn		**Pn**	10 24 48.3	+0.9
GRR	**Gorron**	**11.44**	**347**		P		**Pn**	10 24 53.0	0.0
GRR	**Gorron**	**11.44**	**347**		*e*Pn		**Pn**	10 24 53.0	0.0
LDF	**La Druitiere**	**11.52**	**350**		*e*Pn		**Pn**	10 24 55.0	+0.8
LDF	**La Druitiere**	**11.52**	**350**		*e*P		Pn	10 25 00.8	+6.6
QUIF	**Quistinic**	**11.53**	**339**		P		**Pn**	10 24 55.9	+1.7
QUIF	**Quistinic**	**11.53**	**339**		*e*Pn		**Pn**	10 24 55.9	+1.7
CDF	**Champ du Feu**	**11.59**	**15**		P		**Pn**	10 24 56.1	+1.0
CDF	**Champ du Feu**	**11.59**	**15**		*e*Pn		**Pn**	10 24 56.1	+1.0
ROSF	**Rostrenen**	**11.94**	**340**		P		**Pn**	10 25 01.2	+1.4
ROSF	**Rostrenen**	**11.94**	**340**		*e*Pn		**Pn**	10 25 01.2	+1.4
BAIF	**Baives**	**12.82**	**4**		P		**Pn**	10 25 13.5	+1.7
BAIF	**Baives**	**12.82**	**4**		*e*Pn		**Pn**	10 25 13.5	+1.7

WEL 28 10:29:24.5±1.9,**31°S**±18″×**17°9E**±4″3,**h198**km±61km, **M4.3**/10,**mB4.5/6,MLv4.7**/10,**Mw(mB)3.6**/6,**Error ellipse: s-maj=0.1km s-min=0.0km az=112.2,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.34**	**69**	S	Sn	10 30 59.6	-0.4
HAZ	**Te Kaha**	**7.25**	**185**	P	Pn	10 31 09.4	+1.6
HAZ				S	Sn	10 32 32.5	+2.6
PKGZ	**Pakihiroa**	**7.36**	**183**	P	Pn	10 31 10.6	+1.2
PKGZ				S	Sn	10 32 33.7	+0.9
RUGZ	**Raukumara Rang**	**7.46**	**185**	P	Pn	10 31 12.6	+1.9
RUGZ				S	Sn	10 32 36.1	+0.9
PUZ	**Puketiti**	**7.54**	**182**	P	Pn	10 31 11.9	+0.3
PUZ				S	Sn	10 32 36.3	-0.6
URZ	**Urewera**	**7.81**	**188**	P	Pn	10 31 15.8	+0.7
URZ				S	Sn	10 32 43.5	+0.3
MWZ	**Matawai**	**7.84**	**186**	P	Pn	10 31 15.0	-0.6
MWZ				S	Sn	10 32 45.7	+1.6
TKGZ	**Te Karaka**	**7.92**	**184**	P	Pn	10 31 16.6	0.0
TKGZ				S	Sn	10 32 46.1	+0.2
CNGZ	**Carnagh Statio**	**7.95**	**182**	P	Pn	10 31 17.4	+0.4
CNGZ				S	Sn	10 32 47.2	+0.6
MUGZ	**Murupara**	**8.07**	**190**	P	Pn	10 31 19.5	+0.9
MUGZ				S	Sn	10 32 52.3	+2.8
RIGZ	**Rimuhau**	**8.20**	**184**	P	Pn	10 31 20.2	0.0
RIGZ				S	Sn	10 32 51.3	-1.1
MTHZ	**Maungataniwha**	**8.43**	**189**	P	Pn	10 31 21.3	-1.9
BKZ	**Black Stump Fm**	**8.79**	**190**	P	Pn	10 31 27.2	-0.7
BKZ				S	Sn	10 33 02.1	-4.4
KWHZ	**Kaweka Forest**	**9.05**	**190**	P	Pn	10 31 30.5	-0.9
KWHZ				S	Sn	10 33 13.4	+0.6
BHHZ	**Black Hill Sta**	**9.18**	**192**	P	Pn	10 31 31.8	-1.2
BHHZ				S	Sn	10 33 13.4	-2.3

*IDC **28** 11:01:45.1±5.8,5°47S×152°78E,h73km±48km, mb3.6/7, mb1 3.8/8,mb1mx3.5/33,mbtmp3.9/8,ML1.3/1,Error ellipse: s-maj=67.4km s-min=23.2km az=122.0*

ISC 28 11:01:44.8±1.5,**5°5S**±0°3×**152°9E**±0°3,**h73**km,**n9,** σ1s**02**/10,**mb3.9/7,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.85**	**235**	P	**Pn**	**11 03 22.7**	**0.0**
	0.3nm,0.3s,baz=256,slow=9.9,SNR=3.3						
PMG				S	**Sn**	**11 04 40.7**	**+1.4**
	1.5nm,0.3s,baz=324,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**23.03**	**230**	P	**P**	**11 06 43.2**	**-0.8**
	0.8nm,0.4s,baz=54,slow=9.8,SNR=16						
ASAR	**Alice Springs**	**25.67**	**223**	P	**P**	**11 07 08.7**	**+0.5**
	0.6nm,0.4s,baz=58,slow=9.0,SNR=18						
FITZ	**Fitzroy Crossi**	**29.38**	**242**	P	**P**	**11 07 39.8**	**-1.5**
	2.1nm,0.5s,baz=70,slow=7.3,SNR=2.1						
PETK	**Petropavlovsk-**	**58.54**	**3**	P	**P**	**11 11 33.0**	**-0.7**
	4.7nm,1.0s,baz=158,slow=8.2,SNR=7.3						
SONM	**Songino Array**	**66.96**	**328**	P	**P**	**11 12 30.4**	**+0.5**
	0.2nm,0.5s,baz=116,slow=3.4,SNR=2.1						
ILAR	**Eielson Array**	**82.79**	**22**	P	**P**	**11 14 00.7**	**-0.1**
	2.0nm,0.7s,baz=243,slow=5.7,SNR=22						
YKA	**Yellowknife Ar**	**96.02**	**28**	P	**P**	**11 15 04.9**	**+1.1**
	0.2nm,0.5s,baz=270,slow=4.2,SNR=10						
TORD	**Torodi Ar. Bea**	**150.58**	**287**	PKPbc	**PKPbc**	**11 21 29.8**	**+0.3**
	0.9nm,0.7s,baz=58,slow=3.1,SNR=4.6						

*TUL **28** 11:08:53.7±2.1,36°52N±0°03×99°02W±0°04,h9km±4km, ML3.4,mb_Lg3.1/53(NEIC),Error ellipse: s-maj=5.0km s-min=4.4km az=97.0*
*NEIC **28** 11:08:53.8±1.3,36°52N±0°03×98°98W±0°04,h5km±2km, Error ellipse: s-maj=6.0km s-min=4.8km az=98.0*
*ANF **28** 11:08:54.3±0.5,36°50N×98°95W,h4km±3km,ML3.8/14, Error ellipse: s-maj=3.2km s-min=2.4km az=96.0*

ISC 28 11:08:54.2±1.0,**36°51N**±0°03×**98°95W**±0°03,**h9**km±8km, **n79,**σ0**s80**/83,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.14**	**196**	Pg	**Pg**	**11 08 57.1**	**-0.1**
U32A				Sg	**Sg**	**11 08 59.5**	**+0.2**
U32A	**Winter Ranch,**	**0.14**	**196**	P	**Pg**	**11 08 57.0**	**-0.2**
	baz=25						
U32A				S	**Sg**	**11 08 59.6**	**+0.2**
	baz=25						
U32A	**Winter Ranch,**	**0.14**	**196**	P		11 08 57.0	
	baz=25						
U32A				S		11 08 59.6	
	baz=25						
OK032	**Salt Plains WL**	**0.67**	**64**		**Pg**	**11 09 06.7**	**-0.4**
OK032				Sg	**Sg**	**11 09 15.7**	**-0.1**
CROK	**Carrier**	**0.78**	**90**		**Pg**	**11 09 09.5**	**+0.2**
CROK				Sg	**Sg**	**11 09 19.2**	**-0.3**
KAN14	**Manchester OK**	**0.91**	**60**		**Pg**	**11 09 11.8**	**0.0**
KAN14				Sg	**Sg**	**11 09 23.3**	**-0.3**
KAN10	**Anthony SW Sta**	**0.92**	**48**		**Pg**	**11 09 11.7**	**-0.2**
KAN10				Sg	**Sg**	**11 09 23.0**	**-0.9**
GC02	**Grant County #**	**0.94**	**68**		**Pg**	**11 09 12.3**	**-0.1**
GC02					**Sg**	**11 09 24.1**	**-0.5**
KAN05	**Bluff City Nor**	**1.05**	**55**		**Pg**	**11 09 14.3**	**-0.2**
KAN05				Sg	**Sg**	**11 09 27.7**	**-0.5**
KAN08	**Anthony NE Sta**	**1.06**	**47**		**Pg**	**11 09 14.3**	**-0.4**
KAN08				Sg	**Sg**	**11 09 27.9**	**-0.6**
KAN12	**Harper NE Stat**	**1.10**	**44**		**Pg**	**11 09 14.7**	**-0.6**
KAN12				Sg	**Sg**	**11 09 29.3**	**-0.3**
KAN01	**Argonia South**	**1.16**	**56**		**Pg**	**11 09 15.9**	**-0.4**
KAN01				Sg	**Sg**	**11 09 31.1**	**-0.3**
KAN09	**Caldwell North**	**1.24**	**59**		**Pg**	**11 09 17.0**	**-1.0**
KAN09				Sg	**Sg**	**11 09 33.5**	**-0.7**
KAN13	**South Haven SW**	**1.29**	**67**		**Pn**	**11 09 17.9**	**-0.5**
KAN13				Sg	**Sg**	**11 09 35.2**	**-0.4**
BCOK	**Bluff Creek, N**	**1.38**	**128**		**Pn**	**11 09 19.8**	**+0.1**
OK029	**Liberty Lake**	**1.41**	**120**		**Pn**	**11 09 19.9**	**-0.2**
OK025	**Westminster Rd**	**1.60**	**125**		**Pn**	**11 09 23.6**	**+0.9**
OKCFA	**Oklahoma City**	**1.64**	**131**		**Pn**	**11 09 24.1**	**+0.9**
OKCFA	**Oklahoma City**	**1.64**	**131**	P	**Pn**	**11 09 24.1**	**+0.9**
	baz=313,SNR=13						
OKCFA				S	**Sg**	**11 09 46.8**	**0.0**
	baz=313						
OKCFA	**Oklahoma City**	**1.64**	**131**	P		11 09 24.1	
	baz=313,SNR=13						
OKCFA				S		11 09 46.8	
	baz=313						
OKCSW	**OKLAHOMA CITY**	**1.65**	**131**		**Pn**	**11 09 24.2**	**+0.9**
WMOK	**Wichita Mounta**	**1.77**	**175**	Pn	**Pn**	**11 09 25.0**	**0.0**
WMOK	**Wichita Mounta**	**1.77**	**175**	P	**Pn**	**11 09 25.2**	**+0.1**
	baz=356,SNR=188						
WMOK				S	**Sb**	**11 09 49.9**	**+0.6**
	baz=356						
WMOK	**Wichita Mounta**	**1.77**	**175**	P		11 09 25.2	
	baz=356,SNR=188						
WMOK				S		11 09 49.9	
	baz=356						
FNO	**Franklin**	**1.78**	**134**		**Pn**	**11 09 25.4**	**+0.3**
OK031	**S. Brethren Rd**	**1.80**	**107**		**Pn**	**11 09 26.6**	**+1.2**
QUOK	**Quay**	**1.84**	**100**		**Pn**	**11 09 27.0**	**+0.9**
OK030	**Cody Creek RV**	**1.85**	**108**		**Pn**	**11 09 27.0**	**+0.9**
R32A	**Long Quarter,**	**1.92**	**6**		**Pn**	**11 09 27.9**	**+0.7**
R32A				IAmb_Lg		11 09 59.6	
	comp=Z,64nm,0.7s						
R32A	**Long Quarter,**	**1.92**	**6**	P	**Pn**	**11 09 28.0**	**+0.9**
	baz=185,SNR=41						
R32A	**Long Quarter,**	**1.92**	**6**	P		11 09 28.0	
	baz=185,SNR=41						
T35A	**Sooner Cattle**	**2.00**	**78**		**Pn**	**11 09 29.1**	**+0.8**
T35B	**Sooner Cattle**	**2.00**	**78**	P	**Pn**	**11 09 29.2**	**+1.0**
	baz=259,SNR=42						
T35B				Sb	**Sg**	**11 09 57.6**	**-1.0**
	baz=259						
T35B	**Sooner Cattle**	**2.00**	**78**	P		11 09 29.2	
	baz=259,SNR=42						
T35B				Sb		11 09 57.6	
	baz=259						
CBKS	**Cedar Bluff**	**2.38**	**345**	Pn	**Pn**	**11 09 34.9**	**+1.4**
CBKS	**Cedar Bluff**	**2.38**	**345**	P	**Pn**	**11 09 34.0**	**+0.5**
	baz=164,SNR=25						
CBKS				S	**Sb**	**11 10 07.1**	**+0.3**
	baz=164						
CBKS	**Cedar Bluff**	**2.38**	**345**	P		11 09 34.0	
	baz=164,SNR=25						
CBKS				S		11 10 07.1	
	baz=164						
TUL1	**Leonard**	**2.63**	**102**	P	**Pn**	**11 09 37.5**	**+0.7**
	baz=284,SNR=14						
TUL1	**Leonard**	**2.63**	**102**	P		11 09 37.5	
	baz=284,SNR=14						
AMTX	**Amarillo**	**2.75**	**235**	Pn	**Pn**	**11 09 37.2**	**-1.3**
AMTX				IAmb_Lg		11 10 26.9	
	comp=Z,58nm,0.8s						
AMTX	**Amarillo**	**2.75**	**235**	P	**Pn**	**11 09 39.8**	**+1.2**
	baz=53						
AMTX	**Amarillo**	**2.75**	**235**	P		11 09 39.8	
	baz=53						
KSU1	**Kansas State U**	**3.19**	**35**	Pn	**Pn**	**11 09 43.1**	**-1.3**
KSU1	**Kansas State U**	**3.19**	**35**	P	**Pn**	**11 09 45.6**	**+1.1**
	baz=216,SNR=9.7						
KSU1	**Kansas State U**	**3.19**	**35**	P		11 09 45.6	
	baz=216,SNR=9.7						
Z35A	**Perchaven, San**	**3.47**	**156**		**Pn**	**11 09 48.1**	**-0.3**
X37A	**Clayton**	**3.49**	**122**		**Pn**	**11 09 48.9**	**+0.2**
X37A				IAmb_Lg		11 10 53.7	
	comp=Z,67nm,0.9s						
X37A	**Clayton**	**3.49**	**122**	P	**Pn**	**11 09 49.5**	**+0.8**
	baz=305,SNR=21						
X37A	**Clayton**	**3.49**	**122**	P		11 09 49.5	
	baz=305,SNR=21						
U38A	**Gravette**	**3.68**	**90**		**Pn**	**11 09 52.1**	**+0.8**
KSCO	**Kaye Shedlock'**	**3.83**	**312**		**Pn**	**11 09 55.2**	**+1.7**
KSCO				IAmb_Lg		11 11 04.5	
	comp=Z,34nm,0.8s						
ABTX	**Abilene, Hawle**	**3.92**	**189**		**Pn**	**11 09 54.0**	**-0.5**
MSTX	**Muleshoe**	**4.02**	**232**		**Pn**	**11 09 54.5**	**-1.6**
HHAR	**Hobbs**	**4.05**	**92**		**Pn**	**11 09 55.2**	**-1.2**
W39A	**Magazine**	**4.40**	**106**		**Pn**	**11 10 01.1**	**-0.1**
W39A				IAmb_Lg		11 11 20.1	
	comp=Z,50nm,0.8s						
W39A	**Magazine**	**4.40**	**106**	P	**Pn**	**11 10 01.7**	**+0.5**
	baz=289						
W39A	**Magazine**	**4.40**	**106**	P		11 10 01.7	
	baz=289						
T25A	**Trinidad**	**4.42**	**280**		**Pn**	**11 10 02.0**	**+0.3**
T25A				IAmb_Lg		11 11 15.3	
	comp=Z,33nm,0.7s						
Z38A	**Mt. Pleasant**	**4.60**	**134**	IAmb_Lg		11 11 23.5	
	comp=Z,32nm,0.8s						
S39A	**Bolivar**	**4.65**	**74**		**Pn**	**11 10 05.1**	**+0.4**
S39A				IAmb_Lg		11 11 21.1	
	comp=Z,44nm,0.8s						
S39A	**Bolivar**	**4.65**	**74**	P	**Pn**	**11 10 05.1**	**+0.4**
	baz=257,SNR=11						
S39A	**Bolivar**	**4.65**	**74**	P		11 10 05.1	
	baz=257,SNR=11						
MIAR	**Mount Ida**	**4.80**	**112**		**Pn**	**11 10 07.4**	**+0.7**
MIAR	**Mount Ida**	**4.80**	**112**	P	**Pn**	**11 10 07.4**	**+0.7**
	baz=296,SNR=22						
MIAR	**Mount Ida**	**4.80**	**112**	P		11 10 07.4	
	baz=296,SNR=22						
U40A	**Yellville**	**4.92**	**90**		**Pn**	**11 10 09.1**	**+0.7**
U40A				IAmb_Lg		11 11 29.8	
	comp=Z,26nm,0.7s						
BGNE	**Belgrade**	**4.93**	**7**		**Pn**	**11 10 09.0**	**+0.5**
BGNE				IAmb_Lg		11 11 38.1	
	comp=Z,42nm,0.9s						
BGNE	**Belgrade**	**4.93**	**7**	P	**Pn**	**11 10 08.6**	**0.0**
	baz=187,SNR=8.2						
BGNE	**Belgrade**	**4.93**	**7**	P		11 10 08.6	
	baz=187,SNR=8.2						
OGNE	**Ogallala**	**5.04**	**332**		**Pn**	**11 10 10.7**	**+0.6**
N35A	**

KAN01	**Argonia South**	1.20	58			**Pg**	**11 23 31.5**	**-0.5**
KAN01				Sg		**Sg**	**11 23 47.5**	**-0.1**
KAN09	**Caldwell North**	1.29	61	Pn		**Pn**	**11 23 33.1**	**-0.1**
KAN09				Sg		**Sb**	**11 23 50.1**	**0.0**
KAN13	**South Haven SW**	1.34	68	Pn		**Pn**	**11 23 33.6**	**-0.3**
KAN13						**Sb**	**11 23 51.9**	**+0.2**
BCOK	**Bluff Creek, N**	1.44	126	Pn		**Pn**	**11 23 35.4**	**+0.1**
OK029	**Liberty Lake**	1.47	119	Pn		**Pn**	**11 23 35.6**	**-0.1**
OK025	**Westminster Rd**	1.66	124	Pn		**Pn**	**11 23 38.6**	**+0.3**
OKCFA	**Oklahoma City**	1.69	130	Pn		**Pn**	**11 23 39.3**	**+0.5**
OKCFA	**Oklahoma City** baz=314	1.69	130	P		**Pn**	**11 23 39.3**	**+0.5**
OKCFA	baz=314			S		**Sb**	**11 24 02.1**	**+0.3**
OKCFA	**Oklahoma City** baz=314	1.69	130	P			11 23 39.3	
OKCFA	baz=314			S			11 24 02.1	
OKCSW	**OKLAHOMA CITY**	1.71	130	Pn		**Pn**	**11 23 39.0**	**0.0**
WMOK	**Wichita Mounta**	1.79	173	Pn		**Pn**	**11 23 40.5**	**+0.3**
WMOK	**Wichita Mounta** baz=357,SNR=92	1.79	173	P		**Pn**	**11 23 40.1**	**0.0**
WMOK	**Wichita Mounta** baz=357,SNR=92	1.79	173	P			11 23 40.1	
OK031	**S. Brethren Rd**	1.86	107			**Pn**	**11 23 41.7**	**+0.6**
QUOK	**Quay**	1.91	100	Pn		**Pn**	**11 23 42.1**	**+0.4**
OK030	**Cody Creek RV**	1.91	107	Pn		**Pn**	**11 23 42.3**	**+0.5**
R32A	**Long Quarter,**	1.91	8	Pn		**Pn**	**11 23 42.8**	**+0.9**
R32A	**Long Quarter,** baz=184,SNR=24	1.91	8	P		**Pn**	**11 23 43.1**	**+1.2**
R32A	baz=184			S		**Sb**	**11 24 09.6**	**+1.4**
R32A	**Long Quarter,** baz=184,SNR=24	1.91	8	P			11 23 43.1	
R32A	baz=184			S			11 24 09.6	
T35A	**Sooner Cattle**	2.06	78			**Pn**	**11 23 44.5**	**+0.6**
T35B	**Sooner Cattle** baz=260,SNR=26	2.06	78	P		**Pn**	**11 23 44.5**	**+0.6**
T35B	baz=260			S		**Sb**	**11 24 13.2**	**+0.8**
T35B	**Sooner Cattle** baz=260,SNR=26	2.06	78	P			11 23 44.5	
T35B	baz=260			S			11 24 13.2	
CBKS	**Cedar Bluff**	2.36	346	Pn		**Pn**	**11 23 48.1**	**+0.1**
CBKS	**Cedar Bluff** baz=163,SNR=17	2.36	346	P		**Pb**	**11 23 50.5**	**-1.2**
CBKS	baz=163			S		**Sb**	**11 24 21.8**	**+0.9**
CBKS	**Cedar Bluff** baz=163,SNR=17	2.36	346	P			11 23 50.5	
CBKS	baz=163			S			11 24 21.8	
AMTX	**Amarillo**	2.71	234	Pn		**Pn**	**11 23 52.6**	**-0.2**
AMTX	comp=Z,39nm,0.9s			lAmb_Lg			11 24 39.1	
KSU1	**Kansas State U**	3.21	36	Pn		**Pn**	**11 23 59.4**	**-0.3**
Z35A	**Perchaven, San**	3.50	155	Pn		**Pn**	**11 24 03.4**	**-0.3**
Z35A	**Perchaven, San** baz=338	3.50	155	P		**Pn**	**11 24 04.8**	**+1.1**
Z35A	**Perchaven, San** baz=338	3.50	155	P			11 24 04.8	
X37A	**Clayton** comp=Z,38nm,1.1s	3.55	122	lAmb_Lg			11 25 10.8	
X37A	**Clayton** baz=305,SNR=6.8	3.55	122	P		**Pn**	**11 24 04.6**	**+0.2**
X37A	**Clayton** baz=305,SNR=6.8	3.55	122	P			11 24 04.6	
MSTX	**Muleshoe** comp=Z,14nm,0.9s	3.98	231	lAmb_Lg			11 25 21.4	
HHAR	**Hobbs** comp=Z,15nm,0.8s	4.11	92	lAmb_Lg			11 25 22.3	
T25A	**Trinidad** comp=Z,13nm,0.8s	4.36	280	lAmb_Lg			11 25 29.9	
W39A	**Magazine**	4.46	106	Pn		**Pn**	**11 24 17.1**	**+0.2**
Z38A	**Mt. Pleasant** comp=Z,20nm,1.1s	4.65	133	lAmb_Lg			11 25 41.4	
S39A	**Bolivar** comp=Z,16nm,0.8s	4.71	74	lAmb_Lg		**Pn**	**11 24 20.5**	**+0.3**
S39A	**Bolivar** baz=257,SNR=10	4.71	74	P		**Pn**	**11 24 20.5**	**+0.3**
S39A	**Bolivar** baz=257,SNR=10	4.71	74	P			11 24 20.5	
MIAR	**Mount Ida**	4.87	112	Pn		**Pn**	**11 24 23.0**	**+0.6**
MIAR	**Mount Ida** baz=296,SNR=13	4.87	112	P		**Pn**	**11 24 22.7**	**+0.3**
MIAR	**Mount Ida** baz=296,SNR=13	4.87	112	P			11 24 22.7	
BGNE	**Belgrade** comp=Z,22nm,0.8s	4.93	8	lAmb_Lg			11 25 57.1	
U40A	**Yellville** comp=Z,12nm,0.7s	4.98	90	Pn		**Pn**	**11 24 24.1**	**0.0**
U40A				lAmb_Lg			11 25 54.1	
OGNE	**Ogallala** comp=Z,26nm,0.8s	5.00	333	lAmb_Lg			11 25 50.0	
237A	**Washetta, Mont** comp=Z,14nm,1.1s	5.24	148	lAmb_Lg			11 26 08.8	
P38A	**Dawn** comp=Z,11nm,0.8s	5.33	53	lAmb_Lg			11 26 12.1	
MGMO	**Mountain Grove**	5.46	81	Pn		**Pn**	**11 24 30.3**	**-0.3**
R40A	**Maddies Statio**	5.67	70	Pn		**Pn**	**11 24 33.7**	**+0.3**
R40A	comp=Z,14nm,0.7s			lAmb_Lg			11 26 09.1	
435B	**Jarrell** comp=Z,12nm,0.8s	5.85	168	lAmb_Lg			11 26 29.7	
ISCO	**Idaho Springs** comp=Z,8.9nm,1.1s	6.13	304	lAmb_Lg			11 26 26.2	
CCM	**Cathedral Cave** comp=Z,17nm,0.9s	6.39	74	lAmb_Lg			11 26 40.7	
RSSD	**Black Hills** comp=Z,6.3nm,0.9s	8.50	335	lAmb_Lg			11 27 50.9	

*KOLA **28** 11:27:13.4, 68°.67N×19°.90E, h0km, ML2.5, Norway, Troms, Sweden, Lapland*
*HEL **28** 11:27:15.9±0.0, 67°.82N×20°.22E, h0km, ML2.3, ML2.7(UPP), Explosion*
*NAO **28** 11:27:15.9±0.7, 67°.79N×20°.48E, ML3.1*
*IDC **28** 11:27:15.6±0.9, 67°.83N×20°.63E, h0km, mb1 3.1/4, mb1mx2.9/60, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=15.9km s-min=6.0km az=123.0*
*BER **28** 11:27:17.1±3.5, 67°.79N×20°.23E, h0km, ML2.3, ML3.1(NAO), Suspected explosion*

ISC 28 11:27:14.7±0.7, 67°.78N±0°.02×20°.26E±0°.02, h0km, n44, σ1s52/68, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	0.26	281	*i* P		**Pg**	**11 27 20.1**	**+0.5**
RATU				*i* S		**Sg**	**11 27 23.4**	**+0.5**
KOVU	**Salmi**	0.45	355	*i* P		**Pg**	**11 27 23.2**	**-0.2**
KOVU				*i* S		**Sg**	**11 27 28.4**	**-0.8**
NIKU	**Nikkaluokta**	0.47	282	*i* P		**Pg**	**11 27 23.9**	**+0.2**
DUNU	**Dundret**	0.67	170	*i* P		**Pg**	**11 27 28.8**	**+1.3**
LANU	**Lannavaara**	0.71	66	*e*P		**Pg**	**11 27 28.7**	**+0.4**
LANU				*e*S		**Sg**	**11 27 37.8**	**+0.3**
SALU	**Saltoluokta**	0.78	240	*e*P		**Pg**	**11 27 30.5**	**+0.8**
KIF	**Kilpisjarvi**	1.25	9	Pg		**Pg**	**11 27 38.5**	**-0.2**
KIF				Lg		Lg	11 27 55.3	
KIF	**Kilpisjarvi**	1.25	9	Pg		**Pg**	**11 27 38.5**	**-0.2**
KIF				Sg		**Sb**	**11 27 55.3**	**-0.5**
KIF	**Kilpisjarvi**	1.25	9	*e*P		**Pg**	**11 27 38.1**	**-0.6**
KIF				*e*S		**Sg**	**11 27 53.9**	**-0.9**
KIF	comp=Z,37nm,0.2s			MSG			11 27 56.7	
PAJU	**Pajala**	1.34	123	*e*P		**Pg**	**11 27 40.4**	**+0.1**
PAJU				*e*S		**Sg**	**11 27 58.5**	**+0.9**
HEF	**Hetta**	1.43	62	*e*P		**Pn**	**11 27 41.5**	**-0.3**
HEF				*e*S		**Sg**	**11 27 59.8**	**-0.6**
HEF	**Hetta**	1.43	62	*e*P		**Pn**	**11 27 41.0**	**-0.8**
HEF				*e*S		**Sg**	**11 27 59.5**	**-1.0**
HEF	comp=Z,22nm,0.2s			MSG			11 28 02.2	
HARU	**Harads**	1.64	170	*e*P		**Pn**	**11 27 45.8**	**+1.0**
KTK1	**Kautokeino**	1.66	40	*e*P		**Pn**	**11 27 45.3**	**+0.2**
KTK1				*e*S		**Sn**	**11 28 06.1**	**-1.0**
KTK1	comp=Z,44nm,0.3s			IAML			11 28 09.9	
JETT	**Jettan, Norway**	1.79	2	Pn		**Pn**	**11 27 47.1**	**+0.3**
JETT				Sg		**Sb**	**11 28 10.9**	**-0.4**
STEI	**Steigen**	1.91	277	*e*P		**Pn**	**11 27 49.3**	**+0.9**
TOF	**Tornio**	2.34	135	*e*PB		**Pn**	**11 27 56.7**	**+2.4**
TOF				*e*SG		**Sb**	**11 28 29.3**	**+2.3**
SGF	**Sodankyl**	2.42	95	*e*P		**Pn**	**11 27 57.0**	**+1.5**
SGF				*e*SB		**Sb**	**11 28 28.6**	**-0.8**
SGF	comp=Z,19nm,0.2s			MSG			11 28 34.4	
RNF	**Rovaniemi**	2.53	115	*e*P		**Pn**	**11 27 59.4**	**+2.4**
LOF	**Lofoten**	2.56	281	*e*P		**Pn**	**11 27 59.4**	**+2.0**
LOF	comp=Z,29nm,0.3s			IAML			11 28 36.4	
ARCES	**ARCESS Array B** baz=226,slow=15,SNR=280	2.61	45	Pn		**Pn**	**11 27 59.0**	**+0.9**
ARCES	baz=225,slow=26,SNR=15			Lg		Lg	11 28 31.2	
ARA0	**ARCESS Array S** baz=232,slow=14	2.61	45	Pn		**Pn**	**11 27 58.8**	**+0.7**
ARA0	baz=233,slow=28			Sn		**Sn**	**11 28 31.7**	**+1.3**
ARA0	**ARCESS Array S** baz=232,slow=14	2.61	45	Pn		**Pn**	**11 27 58.8**	**+0.7**
ARA0	baz=233,slow=28			Sn		**Sn**	**11 28 31.7**	**+1.3**
ARA0	comp=Z,28nm,0.4s			IAML			11 28 38.5	
HAMF	**Hammerfest**	3.13	21	*e*P		**Pn**	**11 28 06.1**	**+0.9**
HAMF	comp=Z,32nm,0.4s			IAML			11 28 45.2	
KEV	**Kevo**	3.16	48	*e*P		**Pn**	**11 28 06.2**	**+0.6**
KEV				*e*S		**Sn**	**11 28 45.6**	**+1.6**
BURU	**Burvik**	3.24	171	*e*P		**Pn**	**11 28 09.4**	**+2.8**
OUL	**Oulu**	3.52	137	*e*P		**Pn**	**11 28 12.9**	**+2.3**
UMAU	**Umeaa**	3.91	177	*e*P		**Pn**	**11 28 17.5**	**+1.5**
APA0	**Apatity Array** baz=268,slow=11	4.86	86	Pn		**Pn**	**11 28 28.8**	**-0.1**
APA0	baz=276,slow=28			Sn		**Sn**	**11 29 25.2**	**-0.5**
APA0	baz=276,slow=28			Lg		Lg	11 29 42.1	
APA0	baz=285,slow=28							
APA0	**Apatity Array** baz=268,slow=11	4.86	86	Pn		**Pn**	**11 28 28.8**	**-0.1**
APA0	baz=276,slow=28			Sn		**Sn**	**11 29 25.2**	**-0.5**
APA0	**Apatity Array**	4.86	86	P		**Pn**	**11 28 28.5**	**-0.4**
APA0				S		**Sn**	**11 29 24.8**	**-0.9**
APA	**Apatity**	5.02	86	S		**Sn**	**11 29 28.9**	**-0.9**
FIA0	**FINESS Array S** baz=342,slow=12	6.83	156	Pn		**Pn**	**11 28 58.1**	**+2.2**
FIA0	baz=348,slow=28			Sn		**Sn**	**11 30 13.7**	**-0.6**
FIA0	baz=345,slow=37			Lg		Lg	11 30 46.6	
FIA0	**FINESS Array S** baz=342,slow=12	6.83	156	Pn		**Pn**	**11 28 58.1**	**+2.2**
FIA0	baz=345,slow=37			Sg		**Sg**	**11 30 46.6**	**-7.2**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=344,slow=11,SNR=15	6.83	156	Pn		**Pn**	**11 28 58.1**	**+2.2**
FINES	comp=Z,0.6nm,0.3s,baz=346,slow=21,SNR=5.8			Sn		**Sn**	**11 30 13.6**	**-0.7**
FINES	comp=Z,1.4nm,0.3s,baz=339,slow=26,SNR=9.1			Lg		Lg	11 30 50.0	
NB2	**NORSAR Subarra** baz=21,slow=12	7.80	214	Pn		**Pn**	**11 29 10.6**	**+1.2**
NB2	baz=20,slow=28			Lg		Lg	11 31 20.9	
NB2	**NORSAR Subarra** baz=21,slow=12	7.80	214	Pn		**Pn**	**11 29 10.6**	**+1.2**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=22,slow=11,SNR=11	7.80	214	Pn		**Pn**	**11 29 10.5**	**+1.1**
NOA	comp=Z,0.0nm,0.3s,baz=331,slow=8.6,SNR=4.0			Sn		**Sn**	**11 30 37.6**	**-0.8**
NOA	comp=Z,0.1nm,0.3s,baz=112,slow=19,SNR=6.3			Lg		Lg	11 31 22.3	
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=15,slow=14,SNR=12	8.19	204	Pn		**Pn**	**11 29 14.9**	**+0.3**
HFS	comp=Z,0.5nm,0.3s,baz=24,slow=23,SNR=6.7			Sn		**Sn**	**11 30 45.1**	**-2.7**
HFS	comp=Z,0.8nm,0.3s,baz=21,slow=29,SNR=6.3			Lg		Lg	11 31 32.5	
HFS	**Hagfors** baz=14,slow=14	8.19	204	Pn		**Pn**	**11 29 15.0**	**+0.3**
HFS	baz=17,slow=22			Sn		**Sn**	**11 30 45.5**	**-2.2**
HFS	baz=21,slow=28			Lg		Lg	11 31 31.6	
HFS	**Hagfors** baz=14,slow=14	8.19	204	Pn		**Pn**	**11 29 15.0**	**+0.3**
HFS	baz=17,slow=22			Sn		**Sn**	**11 30 45.5**	**-2.2**
SPA0	**Spitsbergen Ar** baz=158,slow=10	10.52	356	Pn		**Pn**	**11 29 47.0**	**+0.6**
SPA0	**Spitsbergen Ar** baz=158,slow=10	10.52	356	Pn		**Pn**	**11 29 47.0**	**+0.6**
UMPA	**Umpang Tak**	70.81	94	P		P	11 38 39.9	+7.0

*NEIC **28** 11:28:22.1±1.3, 6°.30S±0°.10×154°.88E±0°.09, h53km±10km, mb4.5/18, Error ellipse: s-maj=15.9km s-min=10.6km az=213.0*
*IDC **28** 11:28:22.4±0.6, 6°.31S×154°.89E, h54km±4km, mb4.0/14, mb1 4.2/18, mb1mx4.0/45, mbtmp4.3/18, MS3.6/19, Ms1 3.6/19, ms1mx3.4/36, Error ellipse: s-maj=16.8km s-min=14.7km az=95.0*

ISC 28 11:28:22.7±0.4, 6°.27S±0°.06×154°.87E±0°.06, h56km, n76, σ1s58/76, mb4.5/24, MS3.5/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RABL	**Rabaul**	3.39	307			**Pn**	**11 29 13.4**	**+0.2**
HNR	**Honiara** 6.7nm,0.3s,baz=246,slow=3.5,SNR=5.2	5.93	122	P		**Pn**	**11 29 48.8**	**+0.9**
HNR	9.0nm,0.3s,baz=212,slow=23,SNR=9.8			S		**Sn**	**11 31 00.5**	**+5.9**
HNR	comp=Z,452nm,19.6s,baz=19,slow=38			LR		LR	11 32 04.3	
HNR	**Honiara**	5.93	122			**Pn**	**11 29 47.6**	**-0.3**
PMG	**Port Moresby** 16nm,0.3s,baz=49,slow=8.5,SNR=35	8.25	247	P		**Pn**	**11 30 21.0**	**+1.2**
PMG	8.9nm,0.3s,baz=66,slow=21,SNR=6.7			S		**Sn**	**11 31 56.5**	**+4.8**
PMG	comp=Z,368nm,19.6s,baz=36,slow=38			LR		LR	11 33 37.0	
PMG	**Port Moresby**	8.25	247	Pn		**Pn**	**11 30 19.0**	**-0.7**
PATS	**Pohnpei**	13.46	15	Pn		**Pn**	**11 31 29.1**	**-1.9**
COEN	**Coen**	13.81	236	Pn		**Pn**	**11 31 34.9**	**-0.9**
CTA	**Charters Tower** 0.2nm,0.3s,baz=19,slow=13,SNR=2.3	16.09	211	P		**P**	**11 32 06.3**	**-1.5**
CTAO	**Charters Tower**	16.09	211	Pn		**Pn**	**11 32 04.2**	**-1.1**
DZM	**Mont Dzumac** 0.5nm,0.3s,baz=44,slow=11,SNR=5.1	19.29	146	P		**Pn**	**11 32 43.7**	**-0.9**
DZM	comp=Z,172nm,21.7s,baz=358,slow=32			LR		LR	11 38 40.1	
DZM	**Mont Dzumac** 45nm,1.1s	19.29	146	*e*P		**P**	**11 32 42.7**	**-0.4**
DZM	comp=Z,289nm,26.7s			*e*LR		LR	11 37 22.7	
DZM	**Mont Dzumac**	19.29	146	P		**P**	**11 32 42.9**	**-0.2**
DZM	comp=Z,20nm,0.9s			lAmb		lAmb	11 32 44.5	
WR0	**Warramunga Arr**	23.98	234			**P**	**11 33 32.3**	**0.0**
WR0	comp=Z,25nm,1.0s			lAmb		lAmb	11 33 34.0	
WB0	**Warramunga Arr**	24.00	234			**P**	**11 33 33.0**	**+0.6**
WRAB	**Tennant Creek**	24.12	234	P		**P**	**11 33 30.2**	**-3.3**
WRAB	comp=Z,19nm,1.0s			lAmb		lAmb	11 33 35.1	
WB2	**Warramunga Arr**	24.13	234			**P**	**11 33 34.2**	**+0.7**
WRA	**Warramunga Arr** comp=Z,9.8nm,0.8s,baz=58,slow=9.2,SNR=52	24.14	234	P		**P**	**11 33 34.2**	**+0.6**
WRA	comp=Z,0.7nm,0.6s,baz=57,slow=2.3,SNR=6.3			pPcP			11 37 28.6	
WRA	comp=Z,1.3nm,1.0s,baz=58,slow=16,SNR=4.4			S		**S**	**11 37 46.9**	**-0.9**
WRA	comp=Z,141nm,18.8s,baz=50,slow=36			LR		LR	11 42 48.4	
WRA	**Warramunga Arr**	24.14	234	P		**P**	**11 33 33.4**	**-0.2**
SIJI	**Sorong** comp=Z,13nm,0.8s,baz=107,slow=9.4,SNR=6.4	24.15	282	P		**P**	**11 33 33.9**	**0.0**
ARMA	**Armidale**	24.22	187	P		**P**	**11 33 34.6**	**+0.3**
ARMA	comp=Z,12nm,1.2s			lAmb		lAmb	11 33 56.8	
MTN	**Manton Dam**	24.29	253	P		**P**	**11 33 35.7**	**+0.7**
MTN	comp=Z,21nm,1.0s			lAmb		lAmb	11 33 36.7	
MSVF	**Nonsavu** comp=Z,124nm,20.9s,baz=214,slow=34	25.34	119	LR		LR	11 42 47.4	
LHI	**Lord Howe Isla**	25.43	172	P		**P**	**11 33 44.0**	**-1.1**
AS31	**Alice Springs**	26.57	227			**P**	**11 33 55.1**	**-0.6**
ASAR	**Alice Springs** comp=Z,2.5nm,0.8s,baz=59,slow=8.8,SNR=30	26.57	227	P		**P**	**11 33 55.6**	**-0.1**
ASAR				pPcP			11 37 34.7	
ASAR	comp=Z,2.1nm,0.7s,baz=57,slow=2.8,SNR=9.8			LR		LR	11 44 10.9	
ASAR	comp=Z,147nm,19.4s,baz=99,slow=36					**P**	**11 33 54.7**	**-0.9**
H11S3	**WAKE ISLAND Hy** baz=205,slow=76,SNR=34	27.23	25	T		T	12 02 09.9	
H11S2	**WAKE ISLAND Hy** baz=205,slow=76,SNR=53	27.23	25	T		T	12 02 07.4	
H11S1	**WAKE ISLAND Hy** baz=205,slow=76,SNR=34	27.24	25	T		T	12 02 14.7	
STKA	**Stephens Creek** comp=Z,1.0nm,0.4s,baz=19,slow=11,SNR=4.2	28.34	204	P		**P**	**11 34 10.4**	**-1.0**
STKA	comp=Z,165nm,19.1s,baz=22,slow=37			LR		LR	11 45 38.0	
FITZ	**Fitzroy Crossi** comp=Z,6.1nm,0.8s,baz=122,slow=5.3,SNR=6.5	30.84	245	P		**P**	**11 34 32.8**	**-1.0**
FITZ	comp=Z,138nm,19.7s,baz=86,slow=37			LR		LR	11 47 23.5	
FITZ	**Fitzroy Crossi**	30.84	245	P		**P**	**11 34 34.0**	**+0.3**
BATI	**Baumata** comp=Z,115nm,21.4s,baz=129,slow=39	31.12	261	LR		LR	11 48 39.1	
BBOO	**Buckleboo**	31.69	211	P		**P**	**11 34 40.2**	**-0.8**
BBOO	comp=Z,17nm,1.4s			lAmb		lAmb	11 35 05.2	
TOO	**Toolangi**	32.31	194	P		**P**	**11 34 45.6**	**-0.8**
TOO	comp=Z,10nm,1.3s			lAmb		lAmb	11 34 52.3	
KAPI	**Kappang** comp=Z,15nm,19.6s,baz=84,slow=42	34.97	270	LR		LR	11 52 38.7	
FORT	**Forrest**	35.03	223	P		**P**	**11 35 09.7**	**-0.5**
URZ	**Urewera** comp=Z,416nm,21.0s,baz=211,slow=32	37.70	151	LR		LR	11 48 21.0	
BKZ	**Black Stump Fm**	38.13	152	P		**P**	**11 35 35.8**	**-0.7**
RPZ	**Rata Peaks** comp=Z,118nm,18.3s,baz=336,slow=36	39.92	162	LR		LR	11 51 58.5	
MORW	**Morawa**	43.09	233	P		**P**	**11 36 17.5**	**0.0**
MORW	comp=Z,7.6nm,1.0s			lAmb		lAmb	11 36 28.1	
MJAR	**Matsushiro Arr** comp=Z,50nm,21.9s,baz=230,slow=33	45.36	341	LR		LR	11 53 17.3	
KSRS	**Korea Array** comp=Z,1.1nm,0.9s,baz=302,slow=29,SNR=5.7	50.24	332	P		**P**	**11 37 13.7**	**+0.4**
KSRS	comp=Z,1.9nm,0.9s,baz=139,slow=7.1,SNR=4.2			pP		**pP**	**11 37 27.8**	**-0.3**
PPT	**Papeete** comp=Z,33nm,20.7s,baz=334,slow=31	55.32	107	LR		LR	11 56 58.8	
NONG	**Nongkai**	56.47	296	P		**P**	**11 38 01.1**	**+1.7**
PETK	**Petropavlovsk-** comp=Z,4.8nm,0.8s,baz=161,slow=6.5,SNR=3.6	59.20	2	pP		**pP**	**11 38 35.1**	**+2.1**
PETK	comp=Z,28nm,21.1s,baz=181,slow=32			LR		LR	11 59 45.4	
SUKH	**Sukhothai**	59.43	294	P		**P**	**11 38 22.3**	**+2.2**
LAMP	**Lampang**	59.77	296	P		**P**	**11 38 25.0**	**+2.6**
CM36	**Chiang Mai Arr**	60.24	295	P		**P**	**11 38 27.0**	**+1.3**
CM34	**Chiang Mai Arr**	60.30	296	P		**P**	**11 38 28.0**	**+1.9**
CM04	**Chiang Mai Arr**	60.31	295	P		**P**	**11 38 28.3**	**+2.1**
CM09	**Chiang Mai Arr**	60.31	295	P		**P**	**11 38 28.4**	**+2.2**
CM01	**Chiang Mai Arr**	60.34	295	P		**P**	**11 38 28.0**	**+1.7**
CM05	**Chiang Mai Arr**	60.34	295	P		**P**	**11 38 28.0**	**+1.6**
CM02	**Chiang Mai Arr**	60.35	295	P		**P**	**11 38 28.6**	**+2.1**
CM31	**Chiang Mai Arr**	60.36	295	P		**P**	**11 38 29.0**	**+2.5**
CMAR	**Chiang Mai Arr** comp=Z,8.5nm,0.9s,baz=113,slow=5.0,SNR=39	60.36	295	P		**P**	**11 38 28.2**	**+1.7**
CMAR				pP		**pP**	**11 38 43.3**	**+1.6**
CM15	**Chiang Mai Arr** comp=Z,14nm,0.8s,baz=117,slow=5.1,SNR=16	60.38	295	P		**P**	**11 38 29.0**	**+2.4**
CM13	**Chiang Mai Arr**	60.38	295	P		**P**	**11 38 28.6**	**+2.0**
CMMT	**Chiang Mai**	60.47	296	P		**P**	**11 38 28.1**	**+0.9**
CM33	**Chiang Mai Arr**	60.48	296	P		**P**	**11 38 28.0**	**+0.7**
CM32	**Chiang Mai Arr**	60.51	295	P		**P**	**11 38 30.0**	**+2.5**
SONM	**Songino Array** comp=Z,2.2nm,0.9s,baz=124,slow=6.2,SNR=10	68.66	327	P		**P**	**11 39 21.1**	**+0.8**
SONM	comp=Z,2.0nm,0.8s,baz=132,slow=5.4,SNR=6.8			pP		**pP**	**11 39 36.7**	**+0.9**
VNDA	**Vanda** comp=Z,1.3nm,1.1s,baz=345,slow=5.9,SNR=4.1	71.31	178	P		**P**	**11 39 35.0**	**-0.9**
ILAR	**Eielson Array** comp=Z,2.1nm,1.0s,baz=244,slow=4.9,SNR=8.4	82.75	22	pP		**pP**	**11 40 55.4**	**-0.8**
ILAR	comp=Z,64nm,21.1s,baz=251,slow=32			LR		LR	12 12 01.5	
MK31	**Makanchi Array** comp=Z,4.7nm,0.8s	82.78	319	P		**P**	**11 40 41.0**	**+0.1**
MK31				lAmb		lAmb	11 40 57.8	
MKAR	**Makanchi Array** comp=Z,2.8nm,0.9s,baz=112,slow=5.4,SNR=22	82.78	319	P		**P**	**11 40 41.2**	**+0.3**
MKAR	comp=Z,6.9nm,0.8s,baz=102,slow=5.2,SNR=28			pP		**pP**	**11 40 56.1**	**-0.6**
MKAR	**Makanchi Array**	82.78	319	P		**P**	**11 40 40.9**	**0.0**
ZALV	**Zalesovo Beam** comp=Z,1.5nm,0.7s,baz=94,slow=6.1,SNR=6.7	83.51	326	P		**P**	**11 40 43.1**	**-1.3**
ZALV	comp=Z,4.6nm,0.7s,baz=109,slow=5.7,SNR=13			pP		**pP**	**11 40 59.1**	**-1.2**
QSPA	**South Pole Qui**	83.70	180	P		**P**	**11 40 44.5**	**-0.9**
NVAR	**Mina Array Bea** comp=Z,1.4nm,0.9s,baz=244,slow=6.4,SNR=7.2	91.37	52	P		**P**	**11 41 23.9**	**+0.9**
NVAR	comp=Z,1.2nm,0.7s,baz=250,slow=5.8,SNR=7.5			pP		**pP**	**11 41 39.6**	**+0.5**
NVAR	comp=Z,34nm,19.2s,baz=237,slow=31			LR		LR	12 15 05.7	
BVAR	**Borovoye Array** comp=Z,0.4nm,0.6s,baz=55,slow=5.6,SNR=3.9	91.64	323	P		**P**	**11 41 22.6**	**-1.1**
BVAR	comp=Z,1.6nm,0.7s,baz=148,slow=12,SNR=10.0			pP		**pP**	**11 41 37.6**	**-2.2**
YKA	**Yellowknife Ar** comp=Z,1.1nm,1.0s,baz=268,slow=4.2,SNR=7.1	95.75	28	P		**P**	**11 41 42.9**	**+0.6**
YKA	comp=Z,2.9nm,0.8s,baz=264,slow=4.1,SNR=29			pP		**pP**	**11 41 58.1**	**-0.4**
YKA	comp=Z,5.1nm,18.3s,baz=0.0,slow=35			LR		LR	12 24 56.1	
PDAR	**Pinedale Array** comp=Z,36nm,18.0s,baz=300,slow=33	98.30	48	LR		LR	12 22 33.0	
GERES	**GERESS Array B** comp=Z,0.5nm,0.6s,baz=129,slow=5.3,SNR=3.4	126.37	329	pPKP		pPKPdf	11 47 34.1	-2.0
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.7s,baz=52,slow=1.9,SNR=4.4	152.71	287	PKPbc		**PKPbc**	**11 48 12.7**	**-1.6**
TORD	comp=Z,2.9nm,0.9s,baz=79,slow=2.6,SNR=8.2			pPKPbc		**sPKPdf**	**11 48 29.1**	**-0.5**

*IDC **28** 11:35:04.6±2.1, 1°.54N

2.0nm,0.3s,baz=91,slow=11,SNR=10
STKA Stephens Creek 40.16 248 P P 11 53 47.5 -0.5
1.0nm,0.4s,baz=107,slow=8.5,SNR=3.2
ASAR Alice Springs 47.66 259 P P 11 54 48.2 -0.2
0.3nm,0.3s,baz=88,slow=8.2,SNR=9.4
WRA Warramunga Arr 48.05 264 P P 11 54 51.2 -0.2
1.0nm,0.5s,baz=104,slow=7.9,SNR=25

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*JMA **28** 11:53:10.9±0.1,24.84N×122.36E,h3km±2km,M2.2*
*TAP **28** 11:53:11.4,24.88N×122.31E,h13km,ML2.7,C*
ISC 28 11:53:11.1±1.0,24.85N±0.03×122.36E±0.02,h12km±10km, n49,σ0.936/75,2C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.37**	**295**	⇑*iP*	**Pg**	**11 53 18.4**	**-0.1**
	baz=286						
TWB1				*i* S	**Sg**	**11 53 23.4**	**-0.1**
	baz=286						
EGS		**0.39**	**270**	*eP*	**Pg**	**11 53 18.4**	**-0.3**
	baz=255						
NTC	**Toucheng**	**0.48**	**271**	P	**Pg**	**11 53 20.7**	**+0.3**
	baz=267						
NTC				*e*S	**Sg**	**11 53 27.5**	**+0.7**
	baz=267						
TIPB	**Shuangxi**	**0.50**	**284**	*i* P	**Pg**	**11 53 21.2**	**+0.4**
	baz=282						
TIPB				*e*S	**Sg**	**11 53 27.7**	**+0.2**
	baz=282						
TWC	**Suao**	**0.52**	**243**	*i* P	**Pg**	**11 53 21.2**	**0.0**
	baz=237						
TWC				S	**Sg**	**11 53 28.0**	**-0.1**
	baz=237						
ILA	**Ilan**	**0.56**	**262**	*e*P	**Pb**	**11 53 22.7**	**-0.1**
	baz=245						
ILA				*e*S	**Sg**	**11 53 30.0**	**+0.6**
	baz=245						
WFSB	**Wu-fen Shan**	**0.57**	**293**	P	**Pb**	**11 53 22.9**	**-0.1**
	baz=291						
WFSB				S	**Sg**	**11 53 30.1**	**+0.4**
	baz=291						
TNOU	**National Taiwa**	**0.61**	**300**	⇑*iP*	**Pg**	**11 53 23.2**	**+0.3**
	baz=298						
TNOU				S	**Sb**	**11 53 31.6**	**-0.7**
	baz=298						
TWE	**Neicheng**	**0.64**	**259**	P	**Pg**	**11 53 23.4**	**-0.1**
	baz=244						
TWE				*e*S	**Sb**	**11 53 33.1**	**0.0**
	baz=244						
JYNG	**Yonagunijimaku**	**0.67**	**126**	P	**Pg**	**11 53 23.8**	**-0.2**
JYNG				*e*S	**Sg**	**11 53 33.1**	**+0.4**
ENA	**Nanau**	**0.70**	**233**	P	**Pg**	**11 53 24.5**	**-0.1**
	baz=228						
ENA				*e*S	**Sg**	**11 53 33.9**	**0.0**
	baz=228						
YOJ	**Yonaguni jima**	**0.71**	**123**	*e*P	**Pg**	**11 53 24.4**	**-0.5**
	baz=109						
YOJ				*e*S	**Sg**	**11 53 34.3**	**+0.2**
	baz=109						
YOJ	**Yonaguni jima**	**0.71**	**123**	P	**Pg**	**11 53 24.5**	**-0.3**
YOJ				*e*S	**Sg**	**11 53 34.1**	**0.0**
TWA	**Mucha**	**0.71**	**281**	P	**Pb**	**11 53 25.3**	**-0.2**
	baz=279						
ENTT	**Nioudou**	**0.75**	**254**	*i* P	**Pb**	**11 53 25.9**	**-0.2**
	baz=250						
ENTT				*e*S	**Sb**	**11 53 36.7**	**+0.4**
	baz=250						
NHDH	**Xindian Distri**	**0.77**	**279**	*e*P	**Pb**	**11 53 26.1**	**-0.2**
	baz=277						
YM01	**YM01**	**0.77**	**293**	*e*P	**Pg**	**11 53 25.2**	**-0.9**
	baz=291						
YM01				*e*S	**Sg**	**11 53 35.9**	**-0.3**
	baz=291						
YM08	**YM08**	**0.77**	**296**	*e*P	**Pg**	**11 53 25.6**	**-0.4**
	baz=296						
YM11	**YM11**	**0.78**	**294**	*e*P	**Pb**	**11 53 26.8**	**+0.1**
	baz=293						
NWLT	**Wulai**	**0.78**	**265**	*e*P	**Pb**	**11 53 26.4**	**-0.3**
	baz=263						
YM05	**YM05**	**0.78**	**294**	*e*P	**Pg**	**11 53 26.1**	**-0.1**
	baz=293						
YM10	**YM10**	**0.79**	**293**	*e*P	**Pb**	**11 53 26.4**	**-0.3**
	baz=292						
TAP	**Taipei**	**0.80**	**284**	*e*P	**Pg**	**11 53 25.9**	**-0.6**
	baz=283						
TATO	**Taipei**	**0.80**	**279**	*e*P	**Pg**	**11 53 26.5**	**0.0**
	baz=278						
YM04	**YM04**	**0.81**	**292**	*e*P	**Pg**	**11 53 26.4**	**-0.3**
	baz=292						
NDT	**Datong Townshi**	**0.81**	**253**	*e*P	**Pb**	**11 53 27.1**	**+0.1**
	baz=249						
NDT				*e*S	**Sg**	**11 53 37.5**	**+0.3**
	baz=249						
TWY	**Chenhua**	**0.81**	**302**	*e*P	**Pb**	**11 53 27.4**	**+0.3**
	baz=301						
TWY				*e*S	**Sb**	**11 53 38.0**	**0.0**
	baz=301						
PCYT	**Pengchaiyu**	**0.82**	**342**	*i* P	**Pb**	**11 53 27.3**	**0.0**
	baz=345						
ANP	**Anpu**	**0.83**	**294**	*e*P	**Pg**	**11 53 26.9**	**-0.2**
	baz=294						
TWS1	**Kuangyinshan**	**0.89**	**287**	*e*P	**Pg**	**11 53 28.2**	**0.0**
	baz=286						
YHNB	**Yeheng**	**0.91**	**259**	P	**Pg**	**11 53 28.6**	**-0.1**
	baz=251						
YHNB				*e*S	**Sg**	**11 53 40.7**	**+0.2**
	baz=251						
NSK	**Sanguang**	**0.93**	**260**	P	**Pg**	**11 53 28.8**	**-0.2**
	baz=257						
NSK				*e*S	**Sb**	**11 53 41.5**	**0.0**
	baz=257						
NACB	**Ninganchiao**	**0.97**	**226**	P	**Pg**	**11 53 29.3**	**-0.4**
	baz=223						
NACB				*e*S	**Sg**	**11 53 41.9**	**-0.4**
	baz=223						
NNSH	**Datong**	**0.98**	**245**	P	**Pg**	**11 53 29.8**	**-0.2**
	baz=233						
NNSH				*e*S	**Sg**	**11 53 42.9**	**+0.1**
	baz=233						
NNSB	**Datong**	**0.98**	**245**	P	**Pg**	**11 53 29.9**	**-0.1**
	baz=233						
NNSB				*e*S	**Sg**	**11 53 42.8**	**0.0**
	baz=233						
NNS	**Nan Shan**	**0.98**	**246**	P	**Pg**	**11 53 30.0**	**-0.1**
	baz=233						
NNS				*e*S	**Sg**	**11 53 43.0**	**+0.1**
	baz=233						
ETLH	**Xiulin Townshi**	**1.02**	**231**	P	**Pg**	**11 53 30.6**	**-0.2**
	baz=228						
ETLH				*e*S	**Sb**	**11 53 44.3**	**0.0**
	baz=228						
FUSS	**Fushou**	**1.18**	**240**	*e*P	**Pb**	**11 53 33.5**	**0.0**
	baz=237						
LIOB	**Emei**	**1.24**	**261**	*e*P	**Pn**	**11 53 33.6**	**-0.7**
	baz=252						
ESL	**Shilin**	**1.33**	**220**	*e*P	**Pn**	**11 53 35.9**	**+0.3**
	baz=217						
CHGB	**Renai**	**1.33**	**234**	*e*P	**Pn**	**11 53 36.0**	**+0.2**
	baz=232						
CHGB				*e*S	**Sb**	**11 53 52.2**	**-1.2**
	baz=232						
IRIF	**Iriomote-Funau**	**1.35**	**112**	P	**Pn**	**11 53 35.9**	**+0.1**
IRIF				S	**Sb**	**11 53 53.2**	**-0.4**
WHP	**Taichung City**	**1.41**	**246**	*e*P	**Pn**	**11 53 37.0**	**+0.4**
	baz=245						
DPDB	**Guoxing**	**1.54**	**238**	*e*P	**Pn**	**11 53 39.0**	**+0.6**
	baz=238						
VWDT	**VWDT**	**1.56**	**226**	*e*P	**Pb**	**11 53 39.4**	**-0.4**
	baz=225						
JKRS	**Kuro-shima**	**1.62**	**112**	P	**Pb**	**11 53 41.0**	**0.0**
SMLT	**Sun Moon Lake**	**1.64**	**234**	*e*P	**Pg**	**11 53 43.1**	**+0.6**
	baz=215						
SSLB	**Suanglung**	**1.66**	**231**	*e*P	**Pb**	**11 53 42.1**	**+0.4**
	baz=231						
JIJ	**Ishigaki jima**	**1.69**	**106**	P	**Pn**	**11 53 41.4**	**+0.9**
JIJ				*e*S	**Sb**	**11 54 03.3**	**-0.2**

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*TAP **28** 11:53:26.4,24.90N×122.35E,h13km,ML3.0,C*
*JMA **28** 11:53:26.5±0.2,24.81N×122.35E,h4km±3km,M2.5*
ISC 28 11:53:26.5±1.0,24.86N±0.03×122.35E±0.02,h9km±9km, n32,σ0.941/56,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.36**	**295**	*i* P	**Pg**	**11 53 33.9**	**+0.2**
	baz=280						
TWB1				S	**Sg**	**11 53 39.0**	**+0.4**
	baz=280						
EGS		**0.38**	**268**	*e*P	**Pg**	**11 53 34.0**	**-0.1**
	baz=261						
NTC	**Toucheng**	**0.48**	**270**	P	**Pb**	**11 53 36.8**	**-0.2**
	baz=264						
TIPB	**Shuangxi**	**0.49**	**284**	P	**Pb**	**11 53 36.9**	**-0.5**
	baz=278						
TIPB				*e*S	**Sb**	**11 53 43.9**	**-0.8**
	baz=278						
TWC	**Suao**	**0.52**	**242**	*i* P	**Pb**	**11 53 37.1**	**-0.7**
	baz=236						
TWC				*e*S	**Sg**	**11 53 43.9**	**+0.4**
	baz=236						
WFSB	**Wu-fen Shan**	**0.56**	**293**	P	**Pb**	**11 53 38.2**	**-0.3**
	baz=288						
WFSB				*e*S	**Sb**	**11 53 45.9**	**-0.7**
	baz=288						
TNOU	**National Taiwa**	**0.60**	**299**	*i* P	**Pg**	**11 53 38.6**	**+0.4**
	baz=295						
TNOU				S	**Sb**	**11 53 46.9**	**-0.9**
	baz=295						
TWE	**Neicheng**	**0.64**	**258**	P	**Pb**	**11 53 39.3**	**-0.5**
	baz=244						
TWE				S	**Sb**	**11 53 48.5**	**-0.3**
	baz=244						
JYNG	**Yonagunijimaku**	**0.67**	**127**	P	**Pg**	**11 53 39.3**	**-0.2**
JYNG				S	**Sg**	**11 53 48.4**	**0.0**
ENA	**Nanau**	**0.70**	**233**	*e*P	**Pb**	**11 53 40.8**	**-0.2**
	baz=229						
ENA				*e*S	**Sg**	**11 53 49.6**	**+0.3**
	baz=229						
TWA	**Mucha**	**0.71**	**280**	*e*P	**Pg**	**11 53 40.5**	**+0.3**
	baz=276						
TWA				*e*S	**Sb**	**11 53 50.4**	**-0.6**
	baz=276						
YOJ	**Yonaguni jima**	**0.72**	**123**	*i* P	**Pg**	**11 53 40.5**	**+0.1**
	baz=114						
YOJ				*e*S	**Sg**	**11 53 49.5**	**-0.2**
	baz=114						
YOJ	**Yonaguni jima**	**0.72**	**123**	P	**Pg**	**11 53 39.9**	**-0.5**
YOJ				S	**Sg**	**11 53 49.4**	**-0.3**
ENTT	**Nioudou**	**0.75**	**253**	*e*P	**Pb**	**11 53 41.4**	**-0.3**
	baz=249						
ENTT				*e*S	**Sb**	**11 53 52.2**	**+0.2**
	baz=249						
NHDH	**Xindian Distri**	**0.76**	**278**	*e*P	**Pb**	**11 53 41.6**	**-0.3**
	baz=275						
YM01	**YM01**	**0.77**	**292**	*e*P	**Pg**	**11 53 40.5**	**-0.8**
	baz=289						
YM08	**YM08**	**0.77**	**296**	*e*P	**Pg**	**11 53 41.2**	**-0.1**
	baz=292						
YM08				*e*S	**Sg**	**11 53 51.8**	**+0.4**
	baz=292						
NWLT	**Wulai**	**0.78**	**264**	*e*P	**Pb**	**11 53 42.2**	**-0.1**
	baz=261						
YM05	**YM05**	**0.78**	**293**	*e*P	**Pg**	**11 53 41.5**	**-0.1**
	baz=290						
TATO	**Taipei**	**0.79**	**279**	*e*P	**Pb**	**11 53 42.1**	**-0.4**
	baz=276						
TWY	**Chenhua**	**0.80**	**302**	*e*P	**Pg**	**11 53 41.9**	**-0.1**
	baz=285						
TWY				*e*S	**Sb**	**11 53 53.4**	**-0.1**
	baz=285						
PCYT	**Pengchaiyu**	**0.81**	**342**	*e*P	**Pb**	**11 53 42.5**	**-0.4**
	baz=341						
PCYT				*e*S	**Sg**	**11 53 53.0**	**+0.2**
	baz=341						
TWS1	**Kuangyinshan**	**0.88**	**286**	*e*P	**Pn**	**11 53 45.9**	**+0.8**
	baz=283						
NSK	**Sanguang**	**0.92**	**259**	*e*P	**Pb**	**11 53 44.7**	**0.0**
	baz=256						
NSK				*e*S	**Sb**	**11 53 57.4**	**+0.3**
	baz=256						
NNSB	**Datong**	**0.98**	**244**	*e*P	**Pb**	**11 53 45.7**	**-0.1**
	baz=231						
NNSB				*e*S	**Sg**	**11 53 58.2**	**0.0**
	baz=231						
NNSH	**Datong**	**0.98**	**244**	*e*P	**Pb**	**11 53 45.7**	**-0.1**
	baz=232						
NNSH				*e*S	**Sb**	**11 53 58.4**	**-0.4**
	baz=232						
ETLH	**Xiulin Townshi**	**1.02**	**231**	*e*P	**Pb**	**11 53 46.5**	**0.0**
	baz=228						
ETLH				*e*S	**Sg**	**11 53 59.6**	**0.0**
	baz=228						
FUSS	**Fushou**	**1.18**	**239**	*e*P	**Pn**	**11 53 49.4**	**0.0**
	baz=237						
FUSS				*e*S	**Sn**	**11 54 05.7**	**0.0**
	baz=237						
IRIF	**Iriomote-Funau**	**1.36**	**112**	P	**Pn**	**11 53 51.3**	**-0.3**
IRIF				*e*S	**Sb**	**11 54 09.8**	**+0.3**
HATJ	**Hateruma jima**	**1.54**	**121**	P	**Pb**	**11 53 55.1**	**-0.2**
HATJ				S	**Sb**	**11 54 15.2**	**+0.3**
JKRS	**Kuro-shima**	**1.63**	**112**	P	**Pn**	**11 53 55.6**	**+0.2**
JKRS				S	**Sb**	**11 54 17.2**	**-0.2**
JIJ	**Ishigaki jima**	**1.70**	**106**	P	**Pn**	**11 53 57.2**	**+0.8**
JIJ				S	**Sn**	**11 54 18.7**	**+0.5**

IDC 28 11:53:57.1±582.0,13.51N×80.85E,h0km,Error ellipse: s-maj=334.4km s-min=165.1km az=100.0,Southern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**40.27**	**27**	*i*		16 00 40.0	
	baz=216,slow=325,SNR=2.5						
I45RU	**USSURIYSK INFR**	**53.10**	**44**	*i*		17 16 10.1	
	baz=248,slow=330,SNR=2.8						

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*MAN **28** 12:08:00.4, 12.61N×124.88E,h165km,MS3.3*
*IDC **28** 12:08:06.0±4.2, 12.36N×124.20E,h107km±41km,mb3.3/7, mb1 3.5/8,mb1mx3.3/41,mbtmp3.7/8,MS3.1/4,Ms1 3.1/4, ms1mx2.7/31,Error ellipse: s-maj=53.9km s-min=14.9km az=74.0*
ISC 28 12:08:05.2±0.9,12.62N±0.08×124.81E±0.08,h100km,n18, σ2.872/17,mb3.7/7,1C,Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**1.18**	**149**	*e*P	**Pn**	**12 08 28.0**	**+0.3**
MMPH	**Masbate**	**1.19**	**258**	*i* P	**Pn**	**12 08 24.5**	**-3.2**
MMPH				*i* S	**Sn**	**12 08 50.8**	**+6.0**
OCLP	**Ormoc**	**1.57**	**187**	*e*P	**Pn**	**12 08 31.9**	**-0.5**
OCLP				*e*S	**Sn**	**12 08 57.7**	**+4.7**
RCP	**Roxas**	**2.28**	**243**	⇑*e*P	**Pn**	**12 08 41.1**	**-0.3**
RCP				*e*S	Sn	12 09 18.8	+10
MSLP	**Maasin**	**2.47**	**179**	*e*P	**Pn**	**12 08 43.3**	**-0.6**
MSLP				*e*S	Sn	12 09 22.6	+8.9
GUIM	**Jordan**	**2.95**	**228**	*e*P	**Pn**	**12 08 49.1**	**-1.1**
GUIM				*e*S	**Sn**	**12 09 25.8**	**+0.9**
BUTP	**Butuan**	**3.71**	**168**	*e*P	**Pn**	**12 08 58.1**	**-2.5**
TGY	**Tagaytay City**	**4.05**	**292**	P	Pn	12 09 00.0	-5.1
	23nm,0.3s,baz=225,slow=15,SNR=1.3						
JHJ	**Hachijo jima 2**	**24.57**	**31**	LR	LR	12 22 41.8	
	comp=Z,59nm,19.4s,baz=53,slow=35						
KSRS	**Korea Array**	**24.89**	**6**	P	**P**	**12 13 21.6**	**+3.1**
	0.4nm,0.5s,baz=182,slow=8.8,SNR=4.6						
MJAR	**Matsushiro Arr**	**26.69**	**25**	LR	LR	12 22 19.5	
	comp=Z,38nm,21.3s,baz=280,slow=31						
PSI	**Prapat**	**27.42**	**251**	LR	LR	12 26 00.9	
	comp=Z,59nm,18.3s,baz=88,slow=40						
WRA	**Warramunga Arr**	**33.69**	**164**	P	**P**	**12 14 35.2**	**-1.7**
	0.3nm,0.6s,baz=332,slow=10.0,SNR=6.2						
WRA				LR	LR	12 29 27.9	
	comp=Z,22nm,19.3s,baz=175,slow=38						
ASAR	**Alice Springs**	**37.14**	**166**	P	**P**	**12 15 06.2**	**-0.2**
	0.4nm,0.4s,baz=346,slow=7.3,SNR=15						
SONM	**Songino Array**	**38.33**	**340**	P	**P**	**12 15 18.0**	**+1.6**
	0.3nm,0.6s,baz=107,slow=5.0,SNR=2.0						
NWAO	**Narrogin (SRO)**	**45.87**	**189**	P	**P**	**12 16 15.3**	**-2.2**
	3.5nm,0.7s,baz=21,slow=8.6,SNR=1.8						
MKAR	**Makanchi Array**	**49.31**	**322**	P	**P**	**12 16 43.1**	**-1.0**
	0.9nm,0.9s,baz=114,slow=6.5,SNR=7.5						
ZALV	**Zalesovo Beam**	**51.89**	**331**	P	**P**	**12 17 01.1**	**-2.3**
	0.6nm,0.5s,baz=108,slow=9.5,SNR=3.8						

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*IDC **28** 12:25:39.3±1.3,5.53N×77.78W,h0km,mb3.6/4,mb1 3.7/6, mb1mx3.5/27,mbtmp3.6/6,ML2.2/2,MS3.1/2,Ms1 3.1/2, ms1mx2.6/42,Error ellipse: s-maj=36.4km s-min=29.4km az=36.0*
*RSNC **28** 12:25:41.4±1.6,6.03N×77.69W,h32km±5km,ML2.8, Mw3.8,Fault plane solution: NP1:φ±2.00000°,δ90.00000°, λ-90.00000°.*
*UPA **28** 12:25:41.1±1.5,5.81N×77.78W,h45km±44km,MW4.8*
ISC 28 12:25:39.9±1.5,6.01N±0.04×77.72W±0.03,h24km±12km, n33,σ1.942/45,mb3.6/4,6C-2D,Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**0.38**	**56**	⇓*iP*	**Pb**	**12 25 48.5**	**+0.4**
SOLC				*e*S	**Sn**	**12 25 55.3**	**-1.0**
PIZC	**Pizarro, Choco**	**1.10**	**161**	⇑*eP*	**Pn**	**12 25 59.5**	**-0.3**
PIZC				*e*S	**Sn**	**12 26 13.9**	**-0.3**
PIZC				*i*		12 26 45.1	
	comp=Z,177nm,0.6s						
PTAC	**Punta Ardita,**	**1.13**	**356**	*e*P	**Pn**	**12 26 00.1**	**-0.1**
PTAC				*e*S	**Sn**	**12 26 13.8**	**-1.1**
CBOC	**Ciudad Bolivar**	**1.71**	**95**	⇑*iP*	**Pn**	**12 26 07.7**	**-0.5**
CBOC				*e*S	**Sn**	**12 26 27.6**	**-1.8**
CBOC				*i*		12 26 45.2	
	comp=Z,101nm,0.5s						
DBBC	**Dabeiba**	**1.80**	**56**	⇑*iP*	**Pn**	**12 26 10.5**	**+1.0**
DBBC				*e*S	**Sn**	**12 26 30.0**	**-1.7**
MALC	**Bahia Malaga**	**2.02**	**169**	⇑*eP*	**Pn**	**12 26 13.2**	**+0.7**
MALC				*i*		12 26 33.3	
	comp=Z,66nm,0.8s						
MALC				*e*S	**Sn**	**12 26 36.2**	**-0.8**
HELC	**Santa Helena**	**2.19**	**85**	*e*P	**Pn**	**12 26 16.5**	**+1.4**
HELC				*e*S	**Sn**	**12 26 42.9**	**+1.3**
HELC	**Santa Helena**	**2.19**	**85**	⇑*iP*	**Pn**	**12 26 15.9**	**+0.8**
HELC				*e*S	**Sn**	**12 26 40.6**	**-0.9**
HELC				*i*		12 26 43.8	
	comp=Z,49nm,0.5s						
YOTC	**Yotoco, Valle**	**2.44**	**146**	*e*P	**Pn**	**12 26 17.6**	**-0.6**
GUY2C	**Guyana, Caldas**	**2.47**	**108**	*e*P	**Pn**	**12 26 19.8**	**+0.7**
GUY2C				*i*		12 26 38.1	
	comp=Z,40nm,0.6s						
GUY2C				*e*S	**Sn**	**12 26 47.8**	**-1.0**
UPD2	**Meteti**	**2.54**	**353**	*e*P	**Pb**	**12 26 22.9**	**-1.9**
UREC	**San Jos de Ur**	**2.77**	**51**	*e*P	**Pn**	**12 26 25.2**	**+2.4**
UREC				*e*S	**Sn**	**12 26 53.5**	**-2.1**
UREC				*i*		12 27 12.6	
	comp=Z,31nm,0.6s						
ACHO3	**Achotines, Los**	**2.81**	**300**	*e*P	**Pn**	**12 26 24.2**	**+1.0**
NORC	**Norcasia**	**2.87**	**99**	*e*P	**Pn**	**12 26 25.8**	**+1.6**
NORC				*i*		12 26 43.2	
	comp=Z,30nm,0.7s						
NORC				*e*S	**Sn**	**12 26 57.1**	**-0.9**
AZU	**Azuero**	**3.09**	**305**	*e*P	**Pn**	**12 26 28.1**	**+0.9**
AZU				*e*S	**Sn**	**12 27 04.2**	**+0.8**
AZU	**Azuero**	**3.09**	**305**	⇓*iP*	**Pn**	**12 26 28.0**	**+0.9**
AZU				*e*S	**Sn**	**12 27 02.3**	**-1.1**
ZARC	**Zaragoza, Cauc**	**3.20**	**62**	*e*P	**Pn**	**12 26 31.6**	**+2.9**
ZARC				*e*S	**Sn**	**12 27 04.2**	**-1.9**
ZARC				*i*		12 27 30.1	
	comp=Z,32nm,0.6s						
PTBC	**PUERTO BERRIO,**	**3.29**	**81**	⇑*eP*	**Pn**	**12 26 32.4**	**+2.5**
PTBC				*i*		12 26 38.7	
	comp=Z,25nm,0.6s						
PTBC				*e*S	**Sn**	**12 27 07.6**	**-0.7**
CACAO	**El Cacao, Vera**	**3.39**	**293**	*e*P	**Pn**	**12 26 31.4**	**+0.1**
MONA	**Monteria**	**3.42**	**37**	*e*P	**Pb**	**12 26 37.7**	**-2.1**
PNME	**Penonome**	**3.57**	**314**	*e*P	**Pn**	**12 26 34.9**	**+1.1**
PNME				*e*S	**Sn**	**12 27 15.2**	**0.0**
ROSC	**El Rosal**	**3.58**	**109**	Pn	**Pn**	**12 26 37.3**	**+3.0**
	comp=Z,1.7nm,0.3s,baz=232,slow=21,SNR=2.0						
ROSC				Lg	Lg	12 27 32.2	
	comp=Z,1.4nm,0.3s,baz=212,slow=15,SNR=3.7						
BCIP	**Isla Barro Col**	**3.77**	**326**	*e*P	**Pn**	**12 26 36.4**	**-0.2**
BCIP				*i*		12 26 45.5	
	comp=Z,17nm,0.2s						
BCIP				*e*S	**Sn**	**12 27 19.9**	**-0.2**
GMAL	**Guarumal, Vera**	**3.90**	**297**	*e*P	**Pn**	**12 26 39.8**	**+1.6**
BCO2	**Palmira**	**5.47**	**300**	*e*P	**Pn**	**12 27 02.8**	**+2.7**
SDV	**Santo Domingo**	**7.58**	**67**	Pn	Pn	12 27 32.9	+3.8
	comp=Z,1.3nm,0.3s,baz=233,slow=13,SNR=4.7						
SDV				LR	LR	12 30 38.0	
	comp=Z,140nm,19.7s,baz=234,slow=38						
MDP	**Montagnes des**	**24.98**	**91**	LR	LR	12 41 04.0	
	comp=Z,45nm,20.4s,baz=226,slow=37						
SIV	**San Ignacio**	**27.38**	**143**	P	**P**	**12 31 24.0**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=324,slow=9.4,SNR=7.4						
YKA	**Yellowknife Ar**	**62.52**	**342**	P	P	12 36 09.3	+8.0
	comp=Z,0.1nm,0.6s,baz=133,slow=7.0,SNR=3.1						
ESDC	**Sonseca Array**	**73.69**	**51**	P	P	12 37 15.5	+3.5
	comp=Z,0.6nm,0.8s,baz=264,slow=6.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**78.38**	**78**	P	P	12 37 44.6	+5.5
	comp=Z,0.4nm,0.6s,baz=282,slow=6.3,SNR=1.9						
ASAR	**Alice Springs**	**144.89**	**237**	PKP	**PKPdf**	**12 45 16.4**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=120,slow=3.8,SNR=4.8						
WRA	**Warramunga Arr**	**145.92**	**243**	PKPbc	**PKPab**	**12 45 19.3**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=100,slow=3.2,SNR=2.1						

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*IDC **28** 12:28:27.1±3.6,4.95S×152.55E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.5/39,mbtmp3.7/4,Error ellipse: s-maj=116.7km s-min=34.4km az=112.0*
ISC 28 12:28:33.9±2.6,5.15S±0.4×152.72E±0.5,h55km,n6,σ1.923/7, mb3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.99**	**232**	Pn	**Pn**	**12 30 15.1**	**+1.3**
	0.9nm,0.3s,baz=66,slow=18,SNR=1.6						
PMG				Sn	**Sn**	**12 31 32.0**	**0.0**
	1.0nm,0.3s,baz=334,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**23.20**	**229**	P	**P**	**12 33 35.4**	**-0.9**
	1.1nm,0.4s,baz=54,slow=10.0,SNR=29						
ASAR	**Alice Springs**	**25.90**	**223**	P	**P**	**12 34 01.5**	**+0.5**
	0.5nm,0.4s,baz=55,slow=9.0,SNR=11						
FITZ	**Fitzroy Crossi**	**29.45**	**242**	P	**P**	**12 34 31.1**	**-1.7**
	2.4nm,1.1s,baz=68,slow=7.4,SNR=1.6						
MKAR	**Makanchi Array**	**80.45**	**319**	P	**P**	**12 40 40.5**	**+0.6**
	0.1nm,0.5s,baz=119,slow=5.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**150.29**	**288**	PKPbc	**PKPbc**	**12 48 20.2**	**+0.1**
	0.3nm,0.4s,baz=64,slow=2.6,SNR=2.2						

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*IDC **28** 12:35:27.0±1.5,7.15S×155.25E,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.7/35,mbtmp3.7/7,Error ellipse: s-maj=60.6km s-min=24.6km az=133.0*
ISC 28 12:35:32.0±1.3,7.25S±0.3×155.36E±0.2,h35km,n9, σ0.884/10,mb3.6/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.37**	**254**	Sn	**Sn**	**12 39 05.1**	**+0.8**
	1.8nm,0.3s,baz=248,slow=21,SNR=8.2	

IDC 28 13:03:49.2±1.5,0˚43S×20˚19W,h0km,mb3.6/2, mb1 3.9/4,mb1mx3.5/49,mbtmp3.8/4,ML3.8/1,Error ellipse: s-maj=65.2km s-min=32.4km az=158.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**9.29**	**142**	T	T	13 15 14.5	
	baz=321,slow=74,SNR=104						
H10N3	**ASCENSION HYDR**	**9.29**	**143**	T	T	13 15 12.1	
	baz=321,slow=74,SNR=108						
H10N1	**ASCENSION HYDR**	**9.31**	**142**	T	T	13 15 13.6	
	baz=321,slow=74,SNR=118						
H10S3	**ASCENSION HYDR**	**10.10**	**147**	T	T	13 16 14.2	
	baz=325,slow=74,SNR=51						
H10S2	**ASCENSION HYDR**	**10.11**	**147**	T	T	13 16 20.7	
	baz=255,slow=74,SNR=19						
RCBR	**Riachuelo**	**16.57**	**251**	Pn	Pn	13 07 42.6	-0.7
	baz=74,slow=15						
DBIC	**Dimbokro**	**16.85**	**65**	Pn	Pn	13 07 45.5	-1.2
	0.3nm,0.3s,baz=231,slow=14,SNR=4.1						
TORD	**Torodi Ar. Bea**	**25.55**	**57**	P	P	13 09 20.2	+0.2
	1.4nm,0.8s,baz=243,slow=8.8,SNR=5.7						
YKA	**Yellowknife Ar**	**92.43**	**332**	P	P	13 17 01.8	0.0
	0.1nm,0.7s,baz=93,slow=4.9,SNR=5.4						
ASAR	**Alice Springs**	**145.26**	**135**	PKPbc	PKPbc	13 23 28.9	-0.7
	1.4nm,0.8s,baz=225,slow=2.6,SNR=26						

*IDC **28** 13:10:23.0±1.2,27˚87N×127˚67E,h0km,mb3.4/4, mb1 3.7/5,mb1mx3.4/50,mbtmp3.5/5,ML3.6/1,MS3.1/4, Ms1 3.1/4,ms1mx2.7/33,Error ellipse: s-maj=47.1km s-min=16.0km az=65.0*

*JMA **28** 13:10:23.0±0.2,28˚09N×128˚03E,h12km±2km,M3.6*

*NIED **28** 13:10:23.1,28˚09N×128˚03E,h12km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.07; $M_{\theta\theta}$4.91; $M_{\phi\phi}$-3.84; $M_{r\theta}$-2.64; $M_{\theta\phi}$5.88; $M_{\phi r}$-1.87; Fault plane solution: $M_0$7.87000×10^{14} N*m; ϕ_s197.00000°,δ81.00000°,λ163.00000°. NP2: ϕ_s290.00000°,δ74.00000°,λ9.00000°.*

ISC 28 13:10:22.1±3.8,28˚08N±0˚05×128˚06E±0˚06,h3km±26km, n21,σ0°52/23,mb3.3/4,MS3.0/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.84**	**110**	P	**Pb**	**13 10 39.4**	**0.0**
JTK				S	**Sb**	**13 10 51.0**	**-0.1**
JOKE	**Okinoerabujima**	**0.84**	**148**	P	**Pb**	**13 10 39.5**	**0.0**
JAMN	**Amaminishikomi**	**1.00**	**80**	P	**Pb**	**13 10 42.3**	**+0.2**
JAMN				*eS*	**Sb**	**13 10 55.6**	**0.0**
JIH	**Iheya**	**1.04**	**185**	P	**Pb**	**13 10 42.6**	**-0.3**
JIH				S	**Sb**	**13 10 56.8**	**-0.1**
JYRO	**Yoronjima**	**1.10**	**162**	P	**Pb**	**13 10 43.8**	**-0.1**
JYRO				*eS*	**Sb**	**13 10 58.9**	**+0.2**
JOW	**Kunigami**	**1.25**	**171**	Pn	**Pn**	**13 10 46.2**	**-0.5**
	311nm,0.3s,baz=97,slow=24,SNR=460						
JOW				Sn	**Sb**	**13 11 02.2**	**-0.8**
	119nm,0.3s,baz=100,slow=26,SNR=12						
JOW	**Kunigami**	**1.25**	**171**	P	**Pn**	**13 10 46.1**	**-0.5**
JOW				*eS*	**Sb**	**13 11 02.7**	**-0.4**
JAM	**Amami Oshima**	**1.40**	**76**	P	**Pn**	**13 10 48.9**	**+0.2**
JAM				S	**Sn**	**13 11 07.3**	**-0.4**
JTAJ	**Takarajima**	**1.47**	**43**	P	**Pn**	**13 10 49.2**	**-0.4**
JNTH	**Nagotoyohara**	**1.55**	**181**	P	**Pn**	**13 10 51.0**	**+0.3**
JAGN	**Aguni-jima**	**1.65**	**206**	P	**Pn**	**13 10 52.2**	**+0.1**
JJT3	**Tamagusuku3**	**1.78**	**187**	P	**Pn**	**13 10 57.4**	**+1.3**
JNU	**Nakatsue**	**5.58**	**25**	Pn	Pn	13 11 53.0	+6.8
	1.5nm,0.3s,baz=325,slow=8.1,SNR=11						
ASAJ	**Asahikawa**	**19.80**	**32**	LR	LR	13 23 48.4	
	comp=Z,50nm,18.4s,baz=159,slow=40						
SONM	**Songino Array**	**25.94**	**325**	P	**P**	**13 15 56.4**	**+0.5**
	0.5nm,0.8s,baz=128,slow=9.6,SNR=4.1						
TLY	**Talaya**	**29.85**	**329**	LR	LR	13 29 21.8	
	comp=Z,32nm,18.4s,baz=150,slow=38						
MKAR	**Makanchi Array**	**40.21**	**310**	P	**P**	**13 17 59.3**	**-0.7**
	0.4nm,0.7s,baz=98,slow=8.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.70**	**322**	LR	LR	13 37 58.5	
	comp=Z,14nm,19.1s,baz=112,slow=41						
WRA	**Warramunga Arr**	**48.12**	**172**	P	**P**	**13 19 03.8**	**+0.2**
	0.8nm,0.6s,baz=354,slow=8.3,SNR=4.3						
ASAR	**Alice Springs**	**51.75**	**173**	P	**P**	**13 19 31.9**	**+0.8**
	0.2nm,0.5s,baz=2.1,slow=10.0,SNR=8.1						
NOA	**NORSAR Array B**	**77.60**	**334**	LR	LR	13 59 33.2	
	comp=Z,19nm,18.6s,baz=255,slow=38						

IDC 28 13:26:09.9±8.3,19˚72N×108˚50W,h0km,mb3.1/5, mb1 3.5/5,mb1mx3.4/43,mbtmp3.2/5,MS3.1/4,Ms1 3.1/4, ms1mx2.8/15,Error ellipse: s-maj=145.3km s-min=136.9km az=128.0,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**17.84**	**102**	LR	LR	13 35 48.8	
	comp=Z,88nm,20.3s,baz=50,slow=32						
TEIG	**Tepich**	**19.02**	**81**	LR	LR	13 37 18.4	
	comp=Z,54nm,19.0s,baz=26,slow=35						
NVAR	**Mina Array Bea**	**20.49**	**338**	P	P	13 30 49.0	-0.7
	0.1nm,0.4s,baz=153,slow=10,SNR=1.7						
PDAR	**Pinedale Array**	**22.99**	**358**	P	P	13 31 17.3	+0.8
	0.2nm,0.5s,baz=175,slow=11,SNR=2.6						
YBH	**Yreka Blue Hor**	**25.04**	**334**	LR	LR	13 40 32.1	
	comp=Z,31nm,19.3s,baz=220,slow=34						
SDV	**Santo Domingo**	**38.15**	**101**	LR	LR	13 48 39.1	
	comp=Z,40nm,20.1s,baz=259,slow=35						
YKA	**Yellowknife Ar**	**42.94**	**356**	P	P	13 34 10.0	-0.3
	0.4nm,0.8s,baz=170,slow=7.8,SNR=6.0						
INK	**Inuvik**	**51.04**	**348**	P	P	13 35 13.1	-0.5
	1.0nm,0.8s,baz=127,slow=5.4,SNR=4.0						
ILAR	**Eielson Array**	**51.71**	**340**	P	P	13 35 19.0	+0.3
	0.7nm,0.9s,baz=134,slow=7.8,SNR=4.7						
H03N2	**Juan Fernandez**	**59.93**	**152**	T	T	14 40 13.4	
	baz=329,slow=77,SNR=53						
H03N1	**Juan Fernandez**	**59.94**	**152**	T	T	14 40 14.6	
	baz=329,slow=77,SNR=66						
H03N3	**Juan Fernandez**	**59.94**	**152**	T	T	14 40 13.7	
	baz=329,slow=77,SNR=71						

*ATH **28** 13:26:09.6,36˚60N×27˚24E,h193km±7km,ML4.2/11, Error ellipse: s-maj=7.1km s-min=1.9km az=119.0*

*IDC **28** 13:26:19.2±0.9,36˚52N×27˚23E,h118km±12km,mb3.7/11, mb1 3.8/20,mb1mx3.4/71,mbtmp4.1/20,Error ellipse: s-maj=14.6km s-min=9.3km az=167.0*

*NEIC **28** 13:26:20.5±1.6,36˚54N±0˚06×27˚21E±0˚07, h131km±10km,Error ellipse: s-maj=8.1km s-min=8.0km az=179.0*

*ISK **28** 13:26:20.3,36˚64N×27˚22E,h125km,ML3.6/25*

*DDA **28** 13:26:22.0,36˚69N×27˚26E,h122km±3km,MW3.9*

*NIC **28** 13:26:22.9±0.0,36˚10N×27˚54E,h136km±1km,Ml4.1/4*

*MED_RC **28** 13:26:23.0±2.3,36˚57N×27˚21E,h143km±21km,MW4.1/8, Moment Tensor Solution.Mantle waves: s8,c8; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.01±.40; $M_{\theta\theta}$-1.24±.84; $M_{\phi\phi}$1.25±.66; $M_{r\theta}$0.37±.20; $M_{\theta\phi}$-0.91±.68; $M_{\phi r}$1.19±.30; Best double couple: $M_0$1.97000×10^{15} NP1:ϕ_s295.00000°,δ52.00000°,λ178.00000°. NP2: ϕ_s27.00000°,δ88.00000°,λ38.00000°. Principal axes: T 2.0800, Plg27.0000°, Azm258.0000°; N -0.2100, Plg52.0000°, Azm29.0000°; P -1.8700, Plg25.0000°, Azm154.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

*THE **28** 13:26:23.0,36˚58N×27˚20E,h126km±4km,ML4.0/8 Error ellipse: s-maj=4.0km s-min=0.6km az=122.0*

*HLW **28** 13:26:24.5,36˚35N×27˚73E,h13km±19km,Ml4.4*

ISC 28 13:26:19.8±0.6,36˚55N±0˚03×27˚25E±0˚03,h130km±5km, n292,σ1°17/334,mb3.9/15,6C-1D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIS1	**Nisyros Isl.**	**0.08**	**313**	P	**Pn**	**13 26 38.7**	**+1.2**
NIS1	**Nisyros Isl.**	**0.08**	**313**	PG	**Pn**	**13 26 37.9**	**+0.5**
NIS1				SG	**Sn**	**13 26 50.8**	**0.0**
NISR	**Nisiros**	**0.12**	**303**	P	**Pn**	**13 26 38.6**	**+1.2**
DATC	**Datca-Mugla**	**0.39**	**57**	PG	**Pn**	**13 26 38.5**	**+0.2**
DATC				SG	**Sn**	**13 26 52.0**	**-0.2**
BODT	**Bodrum**	**0.52**	**5**	P	**Pn**	**13 26 38.5**	**-0.5**
BODT	**Bodrum**	**0.52**	**5**	PG	**Pn**	**13 26 38.5**	**-0.5**
BODT				SG	**Sn**	**13 26 52.2**	**-1.3**
BDRM	**Kayabasi**	**0.54**	**17**	*i* P	**Pn**	**13 26 39.7**	**+0.6**
BDRM				*i* S	**Sn**	**13 26 53.3**	**-0.4**
BDRM				IAML		13 26 54.0	
	comp=N,3μm,0.8s						
BDRM				IAML		13 26 55.0	
	comp=E,851nm,0.8s						
YKAV	**Yalikavak-Bodr**	**0.57**	**2**	PG	**Pn**	**13 26 39.6**	**+0.3**
YKAV				SG	**Sn**	**13 26 53.0**	**-1.1**
MRSB	**Marmaris-Mugla**	**0.78**	**77**	PG	**Pn**	**13 26 41.4**	**+0.6**
MRSB				SG	**Sn**	**13 26 56.5**	**-0.2**
ARG	**Arkhangelos**	**0.78**	**115**	P	**Pn**	**13 26 42.5**	**+1.7**
ARG				AML	AML	13 26 59.0	
	comp=E,12303μm,0.2s						
ARG				AML	AML	13 27 00.4	
	comp=N,7237μm,0.2s						
ARG	**Arkhangelos**	**0.78**	**115**	P	**Pn**	**13 26 42.4**	**+1.7**
ARG				S	**Sn**	**13 26 56.4**	**-0.2**
	comp=N,5μm,0.2s						
ARG	**Arkhangelos**	**0.78**	**115**	PG	**Pn**	**13 26 42.0**	**+1.2**
ARG	**Arkhangelos**	**0.78**	**115**	⇑P	**Pn**	**13 26 42.5**	**+1.7**
ARG				S	**Sn**	**13 26 57.9**	**+1.2**
TURN	**Turunc**	**0.83**	**74**	PG	**Pn**	**13 26 42.1**	**+1.0**
TURN				SG	**Sn**	**13 26 57.1**	**-0.2**
DDIM	**Aydin, Didim**	**0.91**	**360**	*i* P	**Pn**	**13 26 42.7**	**+0.9**
DDIM				*i* S	**Sn**	**13 26 58.7**	**+0.1**
DDIM				IAML		13 26 59.0	
	comp=E,2μm,0.6s						
DDIM				IAML		13 27 06.0	
	comp=N,1μm,0.8s						
KARP	**Karpathos**	**1.00**	**184**	P	**Pn**	**13 26 44.0**	**+1.2**
KARP				AML	AML	13 27 04.2	
	comp=N,7733μm,0.3s						
KARP				AML	AML	13 27 04.5	
	comp=E,9195μm,0.3s						
KARP	**Karpathos**	**1.00**	**184**	P	**Pn**	**13 26 44.0**	**+1.2**
KARP				S	**Sn**	**13 27 00.1**	**-0.1**
	comp=E,3μm,0.1s						
KARP	**Karpathos**	**1.00**	**184**	PN	**Pn**	**13 26 44.1**	**+1.3**
KARP	**Karpathos**	**1.00**	**184**		**Pn**	**13 26 44.0**	**+1.2**
KARP	**Karpathos**	**1.00**	**184**	⇑P	**Pn**	**13 26 43.9**	**+1.2**
KARP				S	**Sn**	**13 27 00.4**	**+0.2**
KARP				AML	AML	13 27 03.8	
	comp=E,7.7nm,0.3s						
KARP				AML	AML	13 27 03.8	
	comp=E,7.7nm,0.3s						
KARP				AML	AML	13 27 04.0	
	comp=E,9.2nm,0.3s						
KARP				AML	AML	13 27 04.0	
	comp=E,9.2nm,0.3s						
YER	**Yerkesik**	**1.01**	**54**	P	**Pn**	**13 26 44.1**	**+1.2**
YER				S	**Sn**	**13 27 00.3**	**-0.1**
YER	**Yerkesik**	**1.01**	**54**	PG	**Pn**	**13 26 43.6**	**+0.7**
MULA	**Mugla, Merkez-**	**1.11**	**50**	*i* P	**Pn**	**13 26 45.0**	**+1.2**
MULA				*i* S	**Sn**	**13 27 01.9**	**-0.2**
MULA				IAML		13 27 03.0	
	comp=N,787nm,0.6s						
MULA				IAML		13 27 03.0	
	comp=E,1μm,0.7s						
GCAM	**G?zelcaml?**	**1.15**	**359**	PG	**Pn**	**13 26 43.8**	**-0.3**
GCAM	**G?zelcaml?**	**1.15**	**359**	*i* P	**Pn**	**13 26 44.7**	**+0.6**
GCAM				IAML		13 27 02.0	
	comp=N,979nm,0.9s						
GCAM				*i* S	**Sn**	**13 27 02.0**	**-0.6**
GCAM				IAML		13 27 03.0	
	comp=E,976nm,1.2s						
DALY	**Dalyan (Mula)**	**1.16**	**76**	PN	**Pn**	**13 26 45.5**	**+1.3**
DALY	**Dalyan (Mula)**	**1.16**	**76**	*i* P	**Pn**	**13 26 46.0**	**+1.8**
DALY				IAML		13 27 04.0	
	comp=E,1μm,0.4s						
DALY				*i* S	**Sn**	**13 27 04.0**	**+1.3**
DALY				IAML		13 27 05.0	
	comp=N,1μm,0.4s						
SMG	**Samos**	**1.20**	**344**	P	**Pn**	**13 26 44.9**	**+0.2**
SMG				AML	AML	13 27 03.3	
	comp=N,2711μm,0.7s						
SMG				AML	AML	13 27 03.4	
	comp=E,3344μm,0.5s						
SMG	**Samos**	**1.20**	**344**	P	**Pn**	**13 26 44.9**	**+0.2**
AYDN	**Tasoluk**	**1.22**	**24**	*i* P	**Pn**	**13 26 45.9**	**+1.0**
AYDN				*i* S	**Sn**	**13 27 03.5**	**-0.6**
AYDN				IAML		13 27 04.0	
	comp=N,637nm,0.9s						
AYDN				IAML		13 27 04.0	
	comp=E,579nm,0.5s						
THR8	**Santorini-Mono**	**1.44**	**265**	P	**Pn**	**13 26 47.8**	**+0.7**
THR8	**Santorini-Mono**	**1.44**	**265**	P	**Pn**	**13 26 47.8**	**+0.7**
SANT	**Santorini**	**1.46**	**264**	P	**Pn**	**13 26 48.1**	**+0.7**
SANT	**Santorini**	**1.46**	**264**	P	**Pn**	**13 26 48.2**	**+0.7**
SANT	**Santorini**	**1.46**	**264**	PN	**Pn**	**13 26 48.2**	**+0.7**
SANT	**Santorini**	**1.46**	**264**	Pn	**Pn**	**13 26 48.1**	**+0.7**
THR7	**Fira-Santorini**	**1.47**	**266**	P	**Pn**	**13 26 48.6**	**+1.0**
THR7	**Fira-Santorini**	**1.47**	**266**	P	**Pn**	**13 26 48.6**	**+1.0**
APE	**Apeiranthos**	**1.48**	**291**	P	**Pn**	**13 26 48.3**	**+0.7**
APE				AML	AML	13 27 09.9	
	comp=E,1257μm,0.8s						
APE				AML	AML	13 27 10.2	
	comp=N,619μm,0.7s						
APE	**Apeiranthos**	**1.48**	**291**	P	**Pn**	**13 26 48.3**	**+0.7**
APE	**Apeiranthos**	**1.48**	**291**	PN	**Pn**	**13 26 48.0**	**+0.4**
SNT1	**Gialos, Santor**	**1.48**	**265**	P	**Pn**	**13 26 48.4**	**+0.8**
SNT1	**Gialos, Santor**	**1.48**	**265**	P	**Pn**	**13 26 48.4**	**+0.8**
FETY	**Fethiye**	**1.48**	**86**	P	**Pn**	**13 26 47.8**	**+0.2**
FETY				S	**Sn**	**13 27 09.1**	**+0.3**
FETY	**Fethiye**	**1.48**	**86**	PN	**Pn**	**13 26 47.9**	**+0.3**
THT2	**Imerovigli**	**1.48**	**266**	P	**Pn**	**13 26 48.6**	**+1.0**
THT2	**Imerovigli**	**1.48**	**266**	P	**Pn**	**13 26 48.6**	**+1.0**
THT2				S	**Sn**	**13 27 08.5**	**-0.3**
	comp=N,2μm,0.5s						
THT2	**Imerovigli**	**1.48**	**266**	PN	**Pn**	**13 26 48.5**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**20**	PN	**Pn**	**13 26 47.9**	**0.0**
THR3	**Thira Island,**	**1.50**	**265**	P	**Pn**	**13 26 48.7**	**+0.9**
THR3	**Thira Island,**	**1.50**	**265**	P	**Pn**	**13 26 48.7**	**+0.9**
SNT5	**Nea Kammeni, S**	**1.50**	**265**	P	**Pn**	**13 26 48.8**	**+0.9**
SNT5	**Nea Kammeni, S**	**1.50**	**265**	P	**Pn**	**13 26 48.8**	**+0.9**
THR6	**Thira Island,**	**1.51**	**263**	P	**Pn**	**13 26 48.9**	**+1.0**
THR6	**Thira Island,**	**1.51**	**263**	P	**Pn**	**13 26 48.9**	**+1.0**
DGB	**zmir**	**1.53**	**349**	*i* P	**Pn**	**13 26 48.5**	**+0.3**
DGB				*i* S	**Sn**	**13 27 08.6**	**-1.3**
DGB				IAML		13 27 09.0	
	comp=N,231nm,0.6s						
DGB				IAML		13 27 09.0	
	comp=E,268nm,0.6s						
THR5	**Thira Island,**	**1.54**	**266**	P	**Pn**	**13 26 49.6**	**+1.3**
SAP3	**Santorini-Thir**	**1.54**	**266**	P	**Pn**	**13 26 49.2**	**+0.9**
GMLD	**Gumuldur**	**1.55**	**350**	PN	**Pn**	**13 26 48.6**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.61**	**55**	*i* P	**Pn**	**13 26 50.1**	**+0.8**
TAVA				*i* S	**Sn**	**13 27 11.2**	**-0.6**
TAVA				IAML		13 27 12.0	
	comp=E,300nm,0.6s						
TAVA				IAML		13 27 13.0	
	comp=N,350nm,0.8s						
STIA	**Sitia Lasithi**	**1.64**	**215**	P	**Pn**	**13 26 49.9**	**+0.4**
STIA				S	**Sn**	**13 27 11.6**	**-0.5**
ZKR	**Zakros**	**1.66**	**211**	P	**Pn**	**13 26 51.4**	**+1.7**
ZKR				AML	AML	13 27 15.2	
	comp=E,6818μm,0.5s						
ZKR				AML	AML	13 27 15.3	
	comp=N,3097μm,0.5s						
ZKR	**Zakros**	**1.66**	**211**	P	**Pn**	**13 26 51.5**	**+1.7**
ZKR	**Zakros**	**1.66**	**211**	PN	**Pn**	**13 26 51.5**	**+1.7**
ZKR	**Zakros**	**1.66**	**211**	P	**Pn**	**13 26 51.5**	**+1.7**
ZKR				S	**Sn**	**13 27 13.4**	**+0.8**
ZKR				AML	AML	13 27 14.0	
	comp=N,6.7nm,0.7s						
ZKR				AML	AML	13 27 14.0	
	comp=N,6.7nm,0.7s						
ZKR				AML	AML	13 27 14.1	
	comp=N,2.8nm,0.5s						
ZKR				AML	AML	13 27 14.1	
	comp=N,2.8nm,0.5s						
CAEL	**Denizli, Camel**	**1.76**	**70**	*i* P	**Pn**	**13 26 52.3**	**+1.3**
CAEL				*i* S	**Sn**	**13 27 16.3**	**+1.5**
CAEL				IAML		13 27 22.0	
	comp=E,994nm,0.7s						
CAEL				IAML		13 27 25.0	
	comp=N,1μm,0.7s						
ZEYE	**Izmir, Urla-Ze**	**1.79**	**341**	*i* P	**Pn**	**13 26 51.4**	**+0.2**
ZEYE				*i* S	**Sn**	**13 27 13.9**	**-1.3**
ZEYE				IAML		13 27 14.0	
	comp=N,183nm,0.7s						
ZEYE				IAML		13 27 15.0	
	comp=E,149nm,1.1s						
BLCB	**Balcova**	**1.84**	**355**	P	**Pn**	**13 26 52.1**	**+0.3**
BLCB	**Balcova**	**1.84**	**355**	PN	**Pn**	**13 26 51.7**	**-0.1**
NPS	**Neapolis**	**1.85**	**227**	P	**Pn**	**13 26 52.7**	**+0.7**
NPS				AML	AML	13 27 17.6	
	comp=E,10073μm,0.2s						
NPS				AML	AML	13 27 17.9	
	comp=N,6364μm,0.5s						
NPS	**Neapolis**	**1.85**	**227**	P	**Pn**	**13 26 52.7**	**+0.7**
NPS				S	**Sn**	**13 27 15.6**	**-0.9**
	comp=N,4μm,0.3s						
URLA	**Izmir**	**1.88**	**344**	PN	**Pn**	**13 26 51.6**	**-0.8**
URLA	**Izmir**	**1.88**	**344**	*i* P	**Pn**	**13 26 51.6**	**-0.8**
URLA				*i* S	Sn	13 27 35.0	+18
KSL	**Kastellorizon**	**1.92**	**101**	P	**Pn**	**13 26 54.2**	**+1.4**
KSL	**Kastellorizon**	**1.92**	**101**	P	**Pn**	**13 26 54.4**	**+1.6**
KSL				S	**Sn**	**13 27 19.2**	**+1.1**
	comp=N,2μm,0.3s						
KSL	**Kastellorizon**	**1.92**	**101**	⇓P	**Pn**	**13 26 54.2**	**+1.4**
KSL				S	**Sn**	**13 27 17.7**	**-0.4**
AKAS	**Kas**	**1.93**	**99**	PN	**Pn**	**13 26 53.5**	**+0.5**
AKAS	**Kas**	**1.93**	**99**	*i* P	**Pn**	**13 26 53.3**	**+0.3**
AKAS				*i* S	**Sn**	**13 27 18.4**	**+0.1**
AKAS	**Kas**	**1.93**	**99**		**Pn**	**13 26 53.4**	**+0.4**
FRMA	**Ierapetra Chan**	**1.97**	**219**	P	**Pn**	**13 26 54.6**	**+1.3**
FRMA				S	**Sn**	**13 27 18.3**	**-0.7**
	comp=N,958nm,0.4s						
GOLH	**Golhisar**	**1.98**	**69**	*i* P	**Pn**	**13 26 55.4**	**+1.8**
GOLH				*i* S	**Sn**	**13 27 21.1**	**+1.7**
GOLH				IAML		13 27 22.0	
	comp=N,394nm,0.4s						
GOLH				IAML		13 27 23.0	
	comp=E,250nm,0.4s						
CHOS	**Chios island**	**2.07**	**333**	P	**Pn**	**13 26 55.1**	**+0.4**
CHOS				AML	AML	13 27 22.6	
	comp=E,1090μm,1.0s						
CHOS				AML	AML	13 27 23.6	
	comp=N,912μm,0.9s						
CHOS	**Chios island**	**2.07**	**333**	P	**Pn**	**13 26 55.1**	**+0.4**
CHOS	**Chios island**	**2.07**	**333**	PN	**Pn**	**13 26 54.2**	**-0.4**
ELL	**Elmali**	**2.15**	**84**	PN	**Pn**	**13 26 57.3**	**+1.6**
ELL	**Elmali**	**2.15**	**84**		**Pn**	**13 26 57.4**	**+1.8**
IACM	**Heraklion**	**2.16**	**236**	P	**Pn**	**13 26 57.2**	**+1.4**
IACM	**Heraklion**	**2.16**	**236**	P	**Pn**	**13 26 57.1**	**+1.4**
IACM				S	**Sn**	**13 27 22.6**	**-0.6**
KSTL	**Kastelli Herak**	**2.16**	**236**	P	**Pn**	**13 26 55.5**	**-0.2**
KSTL				S	**Sn**	**13 27 20.7**	**-2.6**
DEMR	**Demre-Antalya**	**2.16**	**97**	PN	**Pn**	**13 26 56.9**	**+1.1**
FOCM	**Foa**	**2.20**	**349**	PN	**Pn**	**13 26 55.9**	**-0.3**
MANT	**Manisa**	**2.20**	**28**	*i* P	**Pn**	**13 26 57.0**	**+0.6**
MANT				*i* S	**Sn**	**13 27 22.1**	**-2.4**
MANT				IAML		13 27 23.0	
	comp=E,189nm,1.7s						
MANT				IAML		13 27 24.0	
	comp=N,273nm,1.0s						
MANT	**Manisa**	**2.20**	**28**		**Pn**	**13 26 57.2**	**+0.8**
GOMA	**Golmarmara-Man**	**2.22**	**14**	PN	**Pn**	**13 26 56.3**	**-0.1**
KULA	**Kula-Manisa**	**2.26**	**29**	P	**Pn**	**13 26 58.6**	**+1.6**
KULA	**Kula-Manisa**	**2.26**	**29**	PN	**Pn**	**13 26 57.7**	**+0.7**
MHLA	**Plaka, Milos I**	**2.28**	**276**	P	**Pn**	**13 26 58.3**	**+1.0**
IDI	**Anoyia**	**2.29**	**237**	P	**Pn**	**13 26 57.8**	**+0.3**
	comp=N,56nm,0.3s,baz=32,slow=5.5,SNR=280						
IDI				S	**Sn**	**13 27 24.0**	**-2.3**
	comp=N,81nm,0.3s,baz=239,slow=21,SNR=31						
IDI	**Anoyia**	**2.29**	**237**	P	**Pn**	**13 26 57.7**	**+0.3**
IDI				AML	AML	13 27 27.2	
	comp=N,3264μm,0.3s						
IDI				AML	AML	13 27 27.8	
	comp=E,3838μm,0.5s						
IDI	**Anoyia**	**2.29**	**237**	P	**Pn**	**13 26 57.8**	**+0.3**
IDI				S	**Sn**	**13 27 25.5**	**-0.8**
	comp=E,2μm,0.4s						
IDI	**Anoyia**	**2.29**	**237**	PN	**Pn**	**13 26 58.1**	**+0.7**
MHLO	**Agia Marina, M**	**2.30**	**274**	P	**Pn**	**13 26 58.6**	**+1.2**
MHLO	**Agia Marina, M**	**2.30**	**274**	P	**Pn**	**13 26 58.6**	**+1.2**
ZEDA	**zmir-Bergama**	**2.42**	**357**	*i* P	**Pn**	**13 26 59.5**	**+0.5**
ZEDA				IAML		13 27 42.0	
	comp=N,70nm,0.8s						
AKUM	**Antalya-Kumluc**	**2.50**	**94**	*i* P	**Pn**	**13 27 01.7**	**+1.7**
AKUM				IAML		13 27 35.0	
	comp=E,359nm,0.6s						
AKUM				IAML		13 27 38.0	
	comp=N,177nm,0.7s						
SIVA	**Sivas**	**2.50**	**233**	P	**Pn**	**13 27 01.4**	**+1.3**
SIVA				AML	AML	13 27 35.7	
	comp=N,5700μm,0.5s						
SIVA				AML	AML	13 27 37.5	
	comp=E,10117μm,0.6s						
SIVA	**Sivas**	**2.50**	**233**	P	**Pn**	**13 27 01.5**	**+1.5**
BRDR	**BURDUR-Merkez**	**2.52**	**62**	*i* P	**Pn**	**13 27 01.7**	**+1.4**
BRDR				IAML		13 27 33.0	
	comp=N,155nm,0.4s						
BRDR				IAML		13 27 34.0	
	comp=E,150nm,1.0s						
KORT	**Korkueli**	**2.53**	**79**	PN	**Pn**	**13 27 01.9**	**+1.4**
KORT	**Korkueli**	**2.53**	**79**	*i* P	**Pn**	**13 27 01.9**	**+1.4**
KORT				IAML		13 27 39.0	
	comp=E,267nm,0.6s						
KORT				IAML		13 27 41.0	
	comp=N,233nm,0.

KNDR	Palaiochora Ch	3.18	247		P		Pn	13 27 10.0	+1.3
KNDR	Palaiochora Ch	3.18	247		PN		Pn	13 27 10.1	+1.3
DURS	Dursunbey	3.20	17	*i*	P		Pn	13 27 09.7	+0.7
DURS					IAML			13 27 48.0	
	comp=E,53nm,1.7s								
BALY	Balya	3.20	5	*i*	P		Pn	13 27 08.6	-0.5
BALY					IAML			13 27 47.0	
	comp=N,82nm,1.3s								
BAYC	CANAKKALE_Bayr	3.24	350	*i*	P		Pn	13 27 09.9	+0.4
DST	Dursunbey	3.24	19		PN		Pn	13 27 10.1	+0.6
ANKY	Antikythira Is	3.27	259		P		Pn	13 27 10.7	+0.8
AFYO	Afyonkarahisar	3.29	46	*i*	P		Pn	13 27 11.8	+1.5
AFYO					IAML			13 27 52.0	
	comp=E,122nm,1.0s								
AFYO					IAML			13 28 19.0	
	comp=N,106nm,1.3s								
EZN	Ezine	3.35	348		P		Pn	13 27 11.5	+0.6
EZN	Ezine	3.35	348		PN		Pn	13 27 10.7	-0.2
TVSB	Tavsanli	3.38	30		PN		Pn	13 27 12.0	+0.5
KRND	KRANIDI	3.39	285		P		Pn	13 27 12.7	+1.3
KTHA	Kythira Island	3.39	266		P		Pn	13 27 12.4	+0.9
KTHA	Kythira Island	3.39	266		PN		Pn	13 27 12.4	+0.9
BOZC	Bozcaada	3.42	344		PN		Pn	13 27 12.3	+0.4
BOZC	Bozcaada	3.42	344	*i*	P		Pn	13 27 12.3	+0.4
BOZC					IAML			13 28 47.0	
	comp=N,34nm,1.3s								
KTHR	Kythira	3.44	266		P		Pn	13 27 13.4	+1.3
VLI	Veliai	3.47	274		P		Pn	13 27 12.9	+0.3
VILL	Villia	3.53	298		P		Pn	13 27 14.6	+1.3
ECEA	Canakkale, Ece	3.59	347	*i*	P		Pn	13 27 15.1	+1.0
ECEA					IAML			13 27 58.0	
	comp=N,73nm,0.9s								
ECEA					IAML			13 28 51.0	
	comp=E,69nm,2.0s								
ANDZ	Kutahya, Merke	3.62	34	*i*	P		Pn	13 27 16.0	+1.4
ANDZ					IAML			13 28 11.0	
	comp=E,34nm,1.1s								
LOUT	Loutraki	3.70	294		P		Pn	13 27 17.0	+1.4
LTK	Loutraki	3.72	295		P		Pn	13 27 17.2	+1.4
GADA	Gvkgeada	3.79	344		PN		Pn	13 27 16.5	-0.2
KCTX	Karacabey (Bur	3.81	13		PN		Pn	13 27 16.7	-0.3
EDC	Edincik	3.82	7		PN		Pn	13 27 17.7	+0.5
LPK	Lapseki	3.84	354		PN		Pn	13 27 16.5	-0.9
KRBG	Karabiga-Canak	3.84	1		PN		Pn	13 27 17.6	+0.2
GELI	Tayfur-Gelibol	3.89	351		PN		Pn	13 27 19.1	+1.0
THAL	Thalero	3.95	293		P		Pn	13 27 20.2	+1.4
VLX	Vlachokerasia	3.99	283		P		Pn	13 27 20.9	+1.4
MAR9	Marsite Statio	4.08	5		PN		Pn	13 27 20.4	-0.2
ENEZ	Enez	4.27	349		P		Pn	13 27 23.9	+0.8
ITM	Ithomi	4.32	280		P		Pn	13 27 24.8	+1.1
ITM	Ithomi	4.32	280		Pn		Pn	13 27 25.2	+1.4
KLV	Kalavryta, Ach	4.33	292		P		Pn	13 27 25.3	+1.3
AKMS	Akamas	4.41	109		P		Pn	13 27 25.1	+0.1
AKMS					AML		AML	13 28 13.3	
	comp=E,1.6nm,0.4s								
AKMS					AML		AML	13 28 13.7	
	comp=E,2.0nm,0.8s								
PYL	PYLOS	4.44	276		P		Pn	13 27 25.4	0.0
ALN	Alexandroupoli	4.44	348		P		Pn	13 27 25.8	+0.4
ALN	Alexandroupoli	4.44	348		Pn		Pn	13 27 26.2	+0.8
TRIZ	Trizonia	4.50	295		P		Pn	13 27 27.1	+0.9
ALFC	Alefka	4.56	106	⇑	P		Pn	13 27 26.7	-0.3
ALFC					AML		AML	13 28 18.9	
	comp=E,1.2nm,0.3s								
ALFC					AML		AML	13 28 19.4	
	comp=E,0.9nm,0.2s								
AGG	Agios Georgios	4.61	304		Pn		Pn	13 27 29.9	+2.2
DRO	Drossia	4.64	289		P		Pn	13 27 28.8	+0.8
NATA	Nata	4.68	111		P		Pn	13 27 28.7	+0.1
RDO	Rodhopi	4.78	344		P		Pn	13 27 30.8	+0.9
LEF	Lefka	4.80	106	⇑	P		Pn	13 27 29.3	-0.8
RLS	Riolos of Patr	4.85	290		P		Pn	13 27 31.6	+0.8
SZAC	Souni	4.92	110	⇑	P		Pn	13 27 31.7	-0.1
MDUB	Mudurnu	4.99	37		Pn		Pn	13 27 34.2	+1.4
THL	Klokotos Trika	5.11	308		P		Pn	13 27 34.3	0.0
ASGA	Asgata	5.19	108		P		Pn	13 27 35.3	-0.1
MATC	Matruh	5.19	180		P		Pn	13 27 36.6	+1.2
	baz=185								
CSS	Mathiatis	5.19	106		Pn		Pn	13 27 35.2	-0.3
LTHK	Lithakia	5.25	285		P		Pn	13 27 36.3	+0.1
EDRB	Edirne	5.31	356		P		Pn	13 27 37.0	+0.1
SLUM	Salum	5.32	199		P		Pn	13 27 37.7	+0.5
	baz=205								
OSC2	CSNet OBS 4	5.39	129		P		Pn	13 27 36.4	-1.6
BR231	Keskin MP Arra	5.45	51				Pn	13 27 41.6	+2.6
VLS	Valsamata	5.55	289		P		Pn	13 27 40.3	+0.1
EVGI	Lefkada island	5.63	294		P		Pn	13 27 42.4	+1.1
NYDR	Nydri-Lefkada	5.63	295		P		Pn	13 27 42.5	+1.2
LKD2	Lefkada island	5.69	295		P		Pn	13 27 43.5	+1.4
TSLK	Tsoukalades, L	5.70	295		P		Pn	13 27 43.9	+1.6
DRAG	Dragano-Lefkad	5.71	294		P		Pn	13 27 43.5	+1.1
DMLN	Damoulianata-K	5.73	289		P		Pn	13 27 42.5	-0.2
PARAL	Paralimni	5.73	104		P		Pn	13 27 44.2	+1.5
KEF3	Kipouria, Keph	5.74	286		P		Pn	13 27 42.3	-0.5
BR131	Keskin Array S	5.95	56		Pn		Pn	13 27 47.7	+1.9
BRTR	Keskin Array B	5.95	56		P		Pn	13 27 47.2	+1.5
	comp=E,3.4nm,0.3s,baz=230,slow=14,SNR=319								
IGT	Igoumenitsa	6.22	301		P		Pn	13 27 50.2	+1.0
STIP	Stip	6.47	324	*i*	P		Pn	13 27 55.7	+3.1
OHR	Ohrid	6.79	314	*i*	P		Pn	13 28 00.7	+3.8
VTS	Vitosha	6.81	334		Pn		Pn	13 27 55.8	-1.5
BHL	Bhannes	7.37	109	*e*	P		Pn	13 28 03.2	-1.5
DQRL	Deir Qamar	7.38	110	*e*	P		Pn	13 28 03.4	-1.6
SWA2		7.44	192		P		Pn	13 28 05.6	-0.1
	baz=196								
HNAT	Natroun	7.45	157		P		Pn	13 28 06.3	+0.4
	baz=159								
HNAT					AMP			13 29 00.0	
	baz=159								
HWQ	Hawqa	7.45	105	*e*	P		Pn	13 28 05.4	-0.6
HWQ				*e*	P		Pn	13 28 05.6	-0.4
MMAI	Mount Meron Ar	7.58	115		P		Pn	13 28 07.2	-0.4
	comp=E,57nm,0.3s,baz=312,slow=12,SNR=190								
MMAI					S		Sn	13 29 28.7	-3.3
	comp=E,28nm,0.3s,baz=313,slow=27,SNR=16								
KOT	Kottamia	7.63	149		P		Pn	13 28 08.6	+0.2
	baz=150								
HHAG	Hagoal	7.73	147		P		Pn	13 28 09.6	-0.1
	baz=148								
HSAF	As Saff	7.80	151		P		Pn	13 28 10.9	+0.4
	baz=153								
SUZ	Suez	8.16	143		P		Pn	13 28 15.8	+0.3
	baz=145								
TIP	Timpagrande	8.70	291	⇑	P		Pn	13 28 21.2	-1.6
TIP	Timpagrande	8.70	291		Pn		Pn	13 28 21.3	-1.4
MLR	Muntele Rosu	8.99	354		P		Pn	13 28 26.5	0.0
	comp=E,0.4nm,0.3s,baz=191,slow=4.3,SNR=15								
MLR	Muntele Rosu	8.99	354		Pn		Pn	13 28 26.9	+0.3
HFRF	Wahat Farafira	9.41	174		P		Pn	13 28 31.9	-0.4
	baz=176								
HFRF					S		Sn	13 30 09.7	-6.8
	baz=176								
EIL	Elat	9.42	135		P		Pn	13 28 32.5	+0.2
	comp=E,0.9nm,0.3s,baz=338,slow=2.2,SNR=19								
EIL					S		Sn	13 30 11.4	-5.1
	comp=E,9.8nm,0.3s,baz=84,slow=6.5,SNR=14								
GRB	Gharib	9.48	149		P		Pn	13 28 33.7	+0.4
	baz=150								
HKAT	Jabal Katrina	9.82	143		P		Pn	13 28 37.9	0.0
	baz=144								
HKAT					AMP			13 30 00.0	
	baz=144								
HKAT					S		Sn	13 30 15.8	-11
	baz=144								
RAFF	Raffo Rosso	10.35	278				Pn	13 28 42.9	-1.9
BURAR	Bucovina Array	11.16	353				Pn	13 28 56.0	+0.4
BUR08	Bucovina Ar. S	11.19	353		Pn		Pn	13 28 55.2	-0.9
CORL	Corleone	11.20	281		Pn		Pn	13 28 55.5	-0.7
INTR	Introdacqua	11.69	302		Pn		Pn	13 29 04.7	+2.1
NRCA	Norcia	12.56	304		Pn		Pn	13 29 14.0	0.0
OBKA	Obir	13.75	320	*e*	Pn		Pn	13 29 29.5	+0.1
	comp=E,1.0nm,0.3s								
KBZ	Khabaz	13.94	54		P		P	13 29 34.8	-0.7
	comp=E,0.5nm,0.3s,baz=247,slow=8.6,SNR=25								
AKASG	Malin Array Be	14.22	5		P		Pn	13 29 37.0	+1.9
	comp=E,2.8nm,0.3s,baz=195,slow=12,SNR=12								
AKASG	Malin Array Be	14.22	5				P	13 29 37.5	-1.1
AKBB	Malin Array Si	14.22	5		P		P	13 29 38.6	+0.1
VSL	Villasalto	14.39	287		P		P	13 29 40.9	+0.3
ZOU	Zoufplan	14.62	318		P		P	13 29 42.3	-0.9
KBA	Koelnbreinsper	14.75	320	*e*	Pn		P	13 29 45.3	+0.7
	comp=E,2.9nm,0.6s								
VRAC	Vranov	14.93	332		P		P	13 29 45.9	-0.6
	comp=E,0.1nm,0.3s,baz=146,slow=11,SNR=3.6								
ABTA	Abfaltersbach	14.98	317	*e*	Pn		P	13 29 46.6	-0.5
	comp=E,1.7nm,0.6s								
CTI	Castel Tesino	15.06	314		P		P	13 29 48.2	+0.2
CKRC	Cesky Krumlov	15.49	326	*e*	P		P	13 29 54.7	+1.9
MSSA	Maissana	15.55	305				Pn	13 29 52.7	+0.7
MSSA					IAmb		IAmb	13 29 53.9	
	comp=Z,27nm,1.2s								
GERES	GERESS Array B	15.79	325		P		P	13 29 57.0	+0.9
	comp=Z,0.2nm,0.3s,baz=140,slow=10,SNR=6.1								
WATA	Walderalm	15.85	318	*e*	Pn		Pn	13 29 55.6	-0.1
	comp=Z,3.5nm,0.6s								
DPC	Dobruska-Polom	15.89	334	*e*	P		P	13 29 58.4	+1.3
KHC	Kasperske Hory	16.05	326	*e*	P		P	13 30 01.2	+2.3
KHC	Kasperske Hory	16.05	326		P		P	13 30 00.5	+1.6
OSTC	Ostas	16.10	334	*e*	P		P	13 30 00.2	+0.8
MOTA	Moosalm	16.11	317	*e*	Pn		P	13 30 01.1	+1.4
	comp=Z,1.4nm,0.5s								
FETA	Feichten	16.13	316	*e*	Pn		P	13 30 02.2	+2.2
	comp=Z,5.0nm,0.6s								
RETA	Reutte	16.38	317	*e*	Pn		P	13 30 04.1	+1.5
	comp=Z,1.3nm,0.2s								
DAVOX	Davos/Dischmat	16.49	314		P		P	13 30 04.8	+0.8
	comp=Z,0.4nm,0.3s,baz=164,slow=18,SNR=2.7								
DAVA	Damuels	16.76	315	*e*	Pn		P	13 30 08.7	+1.8
	comp=Z,4.8nm,0.5s								
BNI	Bardonecchia	17.71	305		P		P	13 30 17.3	0.0
BNI					IAmb		IAmb	13 30 34.1	
	comp=Z,11nm,1.3s								
SENIN	Lac Senin/Sane	17.84	310		P		P	13 30 19.4	+0.5
BFO	Black Forest	18.21	316		P		Pn	13 30 24.1	0.0
BFO					IAmb		IAmb	13 30 51.5	
	comp=Z,12nm,1.4s								
ECH	Echery	18.81	315		P		P	13 30 30.0	+0.8
ECH					IAmb		IAmb	13 31 24.3	
	comp=Z,9.7nm,1.4s								
ESBB	Sonseca Array	24.69	287		P		P	13 31 29.2	+0.4
ESBB					IAmb		IAmb	13 32 09.2	
	comp=Z,16nm,1.5s								
ESDC	Sonseca Array	24.69	287		P		P	13 31 29.5	+0.7
	comp=Z,3.4nm,0.5s,baz=83,slow=9.3,SNR=25								
ESDC	Sonseca Array	24.69	287		P		P	13 31 28.4	-0.4
FINES	FINESS Array B	24.93	359		P		P	13 31 30.4	-0.2
	comp=Z,2.2nm,0.8s,baz=160,slow=12,SNR=5.1								
PAB	San Pablo	25.00	287		P		P	13 31 31.9	+0.4
PAB					IAmb		IAmb	13 31 33.9	
	comp=Z,12nm,1.2s								
HFS	Hagfors	25.16	344		P		P	13 31 33.0	+0.3
	comp=Z,1.9nm,0.6s,baz=142,slow=11,SNR=11								
MDT	Midelt	26.40	271		P		P	13 31 44.4	+0.1
	comp=Z,3.2nm,0.9s,baz=73,slow=11,SNR=5.0								
NB2	NORSAR Subarra	26.54	342		P		P	13 31 44.6	-0.6
	comp=Z,5.4nm,1.2s,baz=150,slow=9.3								
NOA	NORSAR Array B	26.54	342		P		P	13 31 44.2	-0.9
	comp=Z,0.7nm,0.8s,baz=165,slow=9.2,SNR=3.6								
PESTR	Estremoz	27.56	285		P		P	13 31 54.2	-0.3
PESTR					IAmb		IAmb	13 32 15.6	
	comp=Z,9.7nm,1.4s								
TOA0	Torodi Ar. Sit	32.68	231		P		P	13 32 41.2	+1.4
TOA0					IAmb		IAmb	13 32 42.1	
	comp=Z,4.7nm,0.7s								
TORD	Torodi Ar. Bea	32.68	231		P		P	13 32 41.1	+1.2
	comp=Z,4.5nm,0.5s,baz=35,slow=9.0,SNR=38								
TORD	Torodi Ar. Bea	32.68	231		P		P	13 32 41.2	+1.4
TORD					IAmb		IAmb	13 32 41.8	
	comp=Z,2.3nm,0.7s								
ARCES	ARCESS Array B	33.06	359		P		P	13 32 42.1	-0.5
	comp=Z,2.8nm,0.9s,baz=60,slow=2.9,SNR=5.1								
KURBB	Kurchatov Arra	38.93	52		P		P	13 33 33.6	+0.8
	comp=Z,1.5nm,0.6s,baz=276,slow=8.7,SNR=5.6								
MK31	Makanchi Array	41.60	58		P		P	13 33 56.1	+1.3
MKAR	Makanchi Array	41.60	58		P		P	13 33 56.2	+1.4
	comp=Z,1.1nm,0.8s,baz=283,slow=6.5,SNR=18								
MKAR	Makanchi Array	41.60	58		P		P	13 33 55.5	+0.6
DBIC	Dimbokro	41.76	232		P		P	13 33 56.5	+0.1
SCO	Scoresbysund	42.67	338		P		P	13 34 03.9	+0.8
ZALV	Zalesovo Beam	42.82	47		P		P	13 34 05.3	+0.8
	comp=Z,0.8nm,0.5s,baz=265,slow=8.9,SNR=4.9								
SONM	Songino Array	57.29	52		P		P	13 35 53.6	-0.4
	comp=Z,0.3nm,0.5s,baz=302,slow=8.3,SNR=2.6								

ATH 28 13:26:26.9,38°.55N×21°.33E,h10km±31km, ML1.5/1, Error ellipse: s-maj=31.6km s-min=1.4km az=0.0, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PDO	Prodromos	0.13	293	P		Pg		13 26 29.3	-0.6
PDO				S		Sg		13 26 31.4	-0.6
PVO	Paravola	0.17	66	P		Pg		13 26 30.5	0.0
PVO				S		Sg		13 26 33.9	+0.9
PVO				AML		AML		13 26 37.8	
	comp=N,494μm,0.3s								
PVO				AML		AML		13 26 38.8	
	comp=E,531μm,0.4s								
RLS	Riolos of Patr	0.50	168	P		Pg		13 26 36.3	-0.3
NYDR	Nydri-Lefkada	0.52	289	P		Pg		13 26 37.0	-0.1
EVGI	Lefkada island	0.54	278	P		Pg		13 26 37.6	+0.2
LKD2	Lefkada island	0.58	295	P		Pb		13 26 38.7	-0.5
LAKA	Lakka	0.59	121	P		Pg		13 26 37.7	-0.7
TRIZ	Trizonia	0.61	107	P		Pg		13 26 37.5	-1.2
DRO	Drossia	0.67	153	P		Pg		13 26 40.1	+0.3
VLS	Valsamata	0.69	238	P		Pg		13 26 40.3	0.0

*DJA **28** 13:42:30.6±0.9,4°.N±7°.×12°.7E±°.,h10km±4km,M4.4/9, mb4.3/4,mB4.7/2,MLv4.4/9,Mw(mB)3.9/2*
*IDC **28** 13:42:33.0±3.6,4°.09N×126°.76E,h49km±38km,mb3.9/15, mb1 4.0/16,mb1mx3.8/43,mbtmp4.1/16,ML3.9/1,MS3.1/2, Ms1 3.1/2,ms1mx2.6/30,Error ellipse: s-maj=31.5km s-min=14.1km az=75.0*
*NEIC **28** 13:42:34.5±2.5,4°.07N±0°.09×126°.8E±0°.1,h67km±10km, mb4.4/21,Error ellipse: s-maj=18.5km s-min=11.2km az=66.0*

ISC 28 13:42:31.9±0.5,4°.10N±0°.04×126°.76E±0°.07,h36km,n58, σ1s66/61,mb4.3/22,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.29	251	P			Pn	13 42 53.2	-0.2
SGSI				S			Sn	13 43 08.8	-0.7
DDMP	Don Marcelino,	2.25	332	*e*P			Pn	13 43 07.5	+1.0
DDMP				*e*S			Sn	13 43 36.2	+3.1
MATI	Mati	2.87	350	*e*P			Pn	13 43 18.9	+3.8
SKMP	Bagumbayan, Su	3.26	318	*e*P			Pn	13 43 21.2	+0.7
SKMP				*e*S			Sn	13 43 58.3	+0.2
TNTI	Ternate	3.36	170	P			Pn	13 43 23.3	+1.4
TNTI	Ternate	3.36	170	P			Pn	13 43 24.8	+2.9
KMSI	Cibinong	4.47	218	P			Pn	13 43 41.1	+4.0
BUTP	Butuan	4.97	347	*e*P			Pn	13 43 48.2	+4.2
BUTP				*e*S			Sn	13 44 51.2	+11
PAGZ	Pagadian	5.01	318	*e*P			Pn	13 43 45.3	+0.7
GTOI	Gorontalo	5.08	228	P			Pn	13 43 47.5	+1.9
	0.1nm318nm23nm,0.8s								
MRSI	Marisa	6.01	233	P			Pn	13 44 00.8	+2.5
	0.3nm1μm63nm,0.5s								
SANI	Sanana	6.16	187	P			Pn	13 44 01.4	+1.1
	0.1nm12nm,0.6s								
TOLI2	Tolitoli	6.67	244	Pn			Pn	13 44 08.9	+1.6
SIJI	Sorong	6.68	138	P			Pn	13 44 08.9	+1.3
	2.6nm,0.3s,baz=336,slow=12,SNR=11								
SIJI					LR		LR	13 47 06.8	
	comp=Z,158nm,19.6s,baz=24,slow=41								
MYLDM	Lahad Datu	8.30	278				Pn	13 44 33.4	+3.6
FAKI	Fak Fak	8.87	142	Pn			Pn	13 44 39.5	+1.9
KKM	Kota Kinabalu	10.68	281	Pn			Pn	13 45 06.6	+4.1
KAPI	Kappang	11.44	218	LR			LR	13 50 12.5	
	comp=Z,75nm,19.1s,baz=62,slow=40								
MTN	Manton Dam	17.39	166	Pn			Pn	13 46 29.9	-1.9
MTN				IAmb			IAmb	13 46 33.7	
	comp=Z,9.5nm,0.6s								
YULB	Yu-li	19.89	345	P			P	13 46 57.0	-3.3
YULB				IAmb			IAmb	13 47 12.6	
	comp=Z,16nm,0.9s								
SSLB	Suanglung	20.36	345	P			P	13 47 04.3	-1.1
YOJ	Yonaguni jima	20.56	350	P			P	13 47 06.0	-1.6
FITZ	Fitzroy Crossi	22.09	183	P			P	13 47 23.0	-1.0
	comp=Z,3.9nm,0.7s,baz=5.5,slow=9.5,SNR=12								
FITZ	Fitzroy Crossi	22.09	183	P			P	13 47 22.9	-1.1
FITZ				IAmb			IAmb	13 47 34.7	
	comp=Z,16nm,1.3s								
WB0	Warramunga Arr	24.88	163	P			P	13 47 51.3	-0.1
WB0				IAmb			IAmb	13 47 52.5	
	comp=Z,12nm,0.7s								
WRAB	Tennant Creek	25.02	163	P			P	13 47 52.4	-0.3
WRAB				IAmb			IAmb	13 47 54.4	
	comp=Z,23nm,1.2s								
WRA	Warramunga Arr	25.03	163	P			P	13 47 52.2	-0.6
	comp=Z,8.7nm,0.6s,baz=343,slow=11,SNR=53								
WRA	Warramunga Arr	25.03	163	P			P	13 47 52.1	-0.7
WB2	Warramunga Arr	25.03	163	P			P	13 47 52.8	0.0
WB2				IAmb			IAmb	13 47 54.5	
	comp=Z,12nm,0.8s								
WR0	Warramunga Arr	25.10	163	P			P	13 47 53.3	-0.1
WR0				IAmb			IAmb	13 47 54.8	
	comp=Z,8.1nm,0.8s								
PSA00	Pilbara Seismi	26.40	195	P			P	13 48 05.5	+0.3
PSA00				IAmb			IAmb	13 48 31.9	
	comp=Z,9.0nm,1.0s								
AS31	Alice Springs	28.46	166	P			P	13 48 24.1	+0.4
ASAR	Alice Springs	28.46	166	P			P	13 48 23.9	+0.2
	comp=Z,0.6nm,0.5s,baz=341,slow=6.9,SNR=27								
CMAR	Chiang Mai Arr	30.71	300	P			P	13 48 44.0	+0.4
	comp=Z,0.6nm,0.3s,baz=118,slow=12,SNR=5.9								
JWT	Wachi	32.04	13	P			P	13 48 55.5	+0.4
JWT				IAmb			IAmb	13 49 16.9	
	comp=Z,9.3nm,1.1s								
KSRS	Korea Array	33.21	2	P			P	13 49 05.3	0.0
	comp=Z,0.7nm,0.6s,baz=179,slow=10.0,SNR=3.1								
JMM	Marumori	35.97	19	P			P	13 49 28.4	-0.8
EIDS	Eidsvold	37.62	142	P			P	13 49 43.2	-0.3
BBOO	Buckleboo	37.75	167	P			P	13 49 45.1	+0.6
STKA	Stephens Creek	38.46	159	P			P	13 49 50.9	+0.4
	comp=Z,8.7nm,0.8s,baz=329,slow=8.1,SNR=23								
STKA	Stephens Creek	38.46	159	P			P	13 49 51.5	+1.1
USRK	Ussuriysk Ar.	40.20	0	P			P	13 50 05.0	+0.2
	comp=Z,1.4nm,0.7s,baz=187,slow=11,SNR=3.9								
USRK	Ussuriysk Ar.	40.20	6	P			P	13 50 04.2	-0.6
ARMA	Armidale	41.76	147	P			P	13 50 19.2	+1.3
ARMA				IAmb			IAmb	13 50 35.8	
	comp=Z,7.4nm,1.0s								
SONM	Songino Array	46.96	341	P			P	13 50 59.5	+0.2
	comp=Z,0.6nm,0.5s,baz=160,slow=7.0,SNR=5.9								
SONM	Songino Array	46.96	341	P			P	13 50 58.9	-0.5
PETK	Petropavlovsk-	55.08	22	P			P	13 51 59.1	-1.0
	comp=Z,2.3nm,0.7s,baz=238,slow=12,SNR=1.7								
PETK	Petropavlovsk-	55.08	22	P			P	13 51 58.0	-2.2
MK31	Makanchi Array	57.27	325	P			P	13 52 14.9	-1.0
MKAR	Makanchi Array	57.27	325	P			P	13 52 15.4	-0.5
	comp=Z,1.3nm,0.4s,baz=118,slow=7.8,SNR=37								
MKAR				PcP			PcP	13 53 09.7	-0.2
	comp=Z,0.8nm,0.6s,baz=127,slow=4.3,SNR=3.8								
MKAR	Makanchi Array	57.27	325	P			P	13 52 15.2	-0.7
MAKZ	Makanchi	57.46	325	P			P	13 52 15.7	-1.5
MAKZ				IAmb			IAmb	13 52 19.4	
	comp=Z,3.5nm,1.2s								
ZALV	Zalesovo Beam	60.27	333	P			P	13 52 35.6	-1.0
	comp=Z,0.8nm,0.5s,baz=117,slow=6.3,SNR=4.7								
ZALV	Zalesovo Beam	60.27	333	P			P	13 52 35.2	-1.4
ILAR	Eielson Array	84.76	25	P			P	13 55 01.1	-1.0
	comp=Z,0.5nm,0.8s,baz=231,slow=6.0,SNR=6.0								
ARCES	ARCESS Array B	90.11	340	P			P	13 55 27.2	-0.7
	comp=Z,6.6nm,1.1s,baz=37,slow=7.9,SNR=1.8								
FINES	FINESS Array B	91.52	332	P			P	13 55 34.4	-0.1
	comp=Z,3.9nm,1.0s,baz=113,slow=4.4,SNR=3.4								
YKA	Yellowknife Ar	99.15	24	P			Pdif	13 56 09.5	+0.2
	comp=Z,0.1nm,0.6s,baz=291,slow=3

	baz=333							
NDS				*e*S		**Sn**	13 44 48.6	+0.1
	baz=333							
HATJ	**Hateruma jima**	**1.42**	**61**	P		**Pn**	13 44 29.6	+0.3
HATJ				S		**Sb**	13 44 47.9	-0.4
SSLB	**Suanglung**	**1.43**	**287**	*e*P		**Pn**	13 44 29.6	+0.2
	baz=285							
SSLB				*e*S		**Sb**	13 44 46.7	-1.7
	baz=285							
NNSB	**Datong**	**1.43**	**318**	P		**Pg**	13 44 30.2	+0.2
	baz=317							
NNSB				S		**Sn**	13 44 48.5	-0.4
	baz=317							
NNSH	**Datong**	**1.43**	**318**	P		**Pg**	13 44 30.1	+0.2
	baz=317							
NNSH				S		**Sg**	13 44 47.9	-0.7
	baz=317							
NNS	**Nan Shan**	**1.44**	**318**	*e*P		**Pg**	13 44 30.4	+0.1
	baz=317							
NNS				*e*S		**Sb**	13 44 48.6	-0.4
	baz=317							
TWT	**Tachien**	**1.45**	**307**	*e*P		**Pg**	13 44 31.0	+0.5
	baz=306							
TWT				S		**Sn**	13 44 49.1	-0.5
	baz=306							
TDCB	**Techi**	**1.47**	**307**	P		**Pg**	13 44 30.9	+0.2
	baz=306							
TDCB				*e*S		**Sb**	13 44 49.0	-0.7
	baz=306							
NDT	**Datong Townshi**	**1.49**	**325**	*e*P		**Pg**	13 44 31.8	+0.7
	baz=326							
NDT				*e*S		**Sg**	13 44 50.6	+0.2
	baz=326							
WHYT	**Xinyi Township**	**1.49**	**283**	*e*S		**Sg**	13 44 50.1	-0.4
	baz=280							
ENTT	**Nioudou**	**1.49**	**328**	P		**Pg**	13 44 31.5	+0.3
	baz=328							
SMLT	**Sun Moon Lake**	**1.50**	**290**	*e*P		**Pg**	13 44 31.6	+0.2
	baz=288							
SMLT				*e*S		**Sg**	13 44 50.5	-0.4
	baz=288							
WPL	**Puli Township**	**1.50**	**295**	*e*P		**Pg**	13 44 31.3	0.0
	baz=293							
WPL				*e*S		**Sg**	13 44 50.9	0.0
	baz=293							
ALS	**Alishan**	**1.51**	**276**	*e*P		**Pg**	13 44 32.0	+0.5
	baz=272							
ALS				*e*S		**Sb**	13 44 50.6	-0.4
	baz=272							
TWE	**Neicheng**	**1.52**	**332**	P		**Pg**	13 44 31.8	+0.2
	baz=333							
TWE				*e*S		**Sn**	13 44 50.5	-0.4
	baz=333							
IRIF	**Iriomote-Funau**	**1.52**	**51**	P		**Pn**	13 44 31.3	+0.7
IRIF				S		**Sn**	13 44 51.0	+0.1
DPDB	**Guoxing**	**1.54**	**296**	*e*P		**Pg**	13 44 32.0	0.0
	baz=294							
DPDB				*e*S		**Sg**	13 44 51.6	-0.4
	baz=294							
STYH	**Taoyuan**	**1.54**	**263**	*e*P		**Pg**	13 44 33.0	+0.8
	baz=259							
STYH				*e*S		**Sg**	13 44 53.1	+0.9
	baz=259							
TYC	**Yuchr**	**1.55**	**290**	*e*P		**Pg**	13 44 32.2	0.0
	baz=288							
TYC				*e*S		**Sb**	13 44 51.6	-0.3
	baz=288							
WCS	**Beigang Elemen**	**1.56**	**296**	P		**Pb**	13 44 32.2	+0.1
	baz=294							
WCS				*e*S		**Sg**	13 44 52.0	-0.6
	baz=294							
STYT	**Tauyuan**	**1.56**	**263**	*e*P		**Pg**	13 44 32.5	0.0
	baz=259							
STYT				*e*S		**Sg**	13 44 53.5	+0.6
	baz=259							
NTC	**Toucheng**	**1.58**	**339**	P		**Pb**	13 44 32.3	-0.1
	baz=340							
YHNB	**Yeheng**	**1.62**	**323**	*e*P		**Pb**	13 44 33.1	0.0
	baz=323							
YHNB				*e*S		**Sn**	13 44 53.3	-0.1
	baz=323							
NSK	**Sanguang**	**1.63**	**323**	*e*P		**Pb**	13 44 33.2	-0.1
	baz=323							
NSK				*e*S		**Sn**	13 44 53.6	-0.3
	baz=323							
WJS	**Zhushan**	**1.63**	**286**	*e*P		**Pg**	13 44 33.7	-0.2
	baz=284							
WJS				*e*S		**Sb**	13 44 54.3	-0.1
	baz=284							
CHN5	**Tsauling**	**1.64**	**278**	*e*P		**Pg**	13 44 34.2	+0.3
	baz=275							
CHN5				*e*S		**Sg**	13 44 54.6	-0.5
	baz=275							
WHP	**Taichung City**	**1.64**	**304**	*e*P		**Pb**	13 44 33.7	+0.2
	baz=302							
WHP				*e*S		**Sn**	13 44 53.8	-0.2
	baz=302							
NWLT	**Wulai**	**1.64**	**329**	*e*P		**Pg**	13 44 33.9	-0.1
	baz=329							
NWLT				*e*S		**Sb**	13 44 54.2	-0.4
	baz=329							
TPUB	**Ta-pu**	**1.67**	**268**	*e*P		**Pg**	13 44 34.3	-0.2
	baz=265							
TPUB				*e*S		**Sg**	13 44 56.1	-0.1
	baz=265							
JKRS	**Kuro-shima**	**1.67**	**59**	P		**Pn**	13 44 33.6	+0.9
JKRS				S		**Sn**	13 44 54.3	-0.4
TWB1	**Santiao Chiao**	**1.68**	**346**	P		**Pb**	13 44 33.8	-0.3
	baz=347							
WTP	**Ta-pu**	**1.69**	**266**	*e*P		**Pb**	13 44 34.4	+0.2
	baz=263							
WTP				*e*S		**Sg**	13 44 56.6	-0.1
	baz=263							
TIPB	**Shuangxi**	**1.69**	**341**	*i* P		**Pb**	13 44 34.6	+0.3
	baz=342							
TIPB				*i* S		**Sb**	13 44 55.7	-0.2
	baz=342							
WNT	**Mingjian**	**1.69**	**288**	*e*P		**Pb**	13 44 34.5	+0.3
	baz=285							
WNT				*e*S		**Sb**	13 44 55.5	-0.5
	baz=285							
SLGT	**Liugui**	**1.69**	**257**	*e*P		**Pg**	13 44 35.5	+0.4
	baz=254							
SLGT				*e*S		**Sg**	13 44 57.0	0.0
	baz=254							
CHN4	**Tsaushan**	**1.70**	**270**	*e*P		**Pb**	13 44 34.8	+0.3
	baz=266							
CHN4				*e*S		**Sg**	13 44 56.8	-0.4
	baz=266							
WNT1	**Nantou City**	**1.70**	**289**	*e*S		**Sb**	13 44 55.9	-0.3
	baz=286							
WWF	**Wufeng**	**1.73**	**293**	*e*S		**Sb**	13 44 56.4	-0.7
	baz=291							
SGST	**Jiashian**	**1.73**	**261**	*e*P		**Pg**	13 44 35.7	-0.1
	baz=257							
SGST				*e*S		**Sg**	13 44 58.1	-0.2
	baz=257							
WGK	**Gukeng**	**1.75**	**281**	*e*S		**Sb**	13 44 57.2	-0.5
	baz=278							
CHN1	**Nanshi**	**1.77**	**264**	*e*P		**Pb**	13 44 36.0	+0.3
	baz=261							
CHN1				*e*S		**Sg**	13 44 58.8	-0.7
	baz=261							
WDLH	**Douliu**	**1.77**	**281**	*e*P		**Pb**	13 44 36.0	+0.2
	baz=278							
WDLH				*e*S		**Sb**	13 44 58.0	-0.5
	baz=278							
SSD	**Sandimen**	**1.78**	**250**	*e*P		**Pg**	13 44 36.8	+0.1
	baz=246							
SSD				*e*S		**Sg**	13 44 59.2	-0.5
	baz=246							
TWA	**Mucha**	**1.78**	**334**	*e*P		**Pb**	13 44 35.7	-0.2
	baz=335							
TWA				*e*S		**Sb**	13 44 57.8	-0.8
	baz=335							
TSMG	**Majia**	**1.78**	**248**	*e*P		**Pb**	13 44 36.4	+0.5
	baz=245							
TSMG				*e*S		**Sg**	13 44 59.2	-0.7
	baz=245							
NHDH	**Xindian Distri**	**1.79**	**332**	*e*S		**Sb**	13 44 58.5	-0.3
	baz=333							
TCU	**Taichung**	**1.79**	**296**	*e*P		**Pb**	13 44 35.7	-0.3
	baz=294							
TCU				*e*S		**Sn**	13 44 57.6	-0.1
	baz=294							
SNST	**Tainan City**	**1.79**	**265**	*e*P		**Pb**	13 44 36.5	+0.5
	baz=262							
SNST				*e*S		**Sb**	13 44 59.2	+0.3
	baz=262							
WFSB	**Wu-fen Shan**	**1.79**	**340**	*e*P		**Pb**	13 44 36.3	+0.2
	baz=341							
TWK	**Hsinying**	**1.80**	**267**	P		**Pb**	13 44 36.2	0.0
	baz=264							
TWK				*e*S		**Sb**	13 44 59.0	-0.2
	baz=264							
TWQ1	**Liyutan**	**1.81**	**303**	*e*P		**Pb**	13 44 36.2	-0.2
	baz=301							
TWQ1				*e*S		**Sb**	13 44 58.4	-1.0
	baz=301							
TATO	**Taipei**	**1.82**	**332**	*e*P		**Pb**	13 44 35.8	-0.6
	baz=332							
TATO				*e*S		**Sn**	13 44 58.5	+0.3
	baz=332							
LIOB	**Emei**	**1.82**	**314**	*e*P		**Pb**	13 44 36.9	+0.4
	baz=314							
LIOB				*e*S		**Sn**	13 44 58.5	+0.2
	baz=314							
NSTT	**Nanjuang**	**1.82**	**314**	*e*P		**Pb**	13 44 36.5	+0.1
	baz=313							
NSTT				*e*S		**Sn**	13 44 58.2	-0.1
	baz=313							
MASBT	**Mashibuluo**	**1.83**	**246**	*e*S		**Sg**	13 45 01.6	+0.2
	baz=242							
JIJ	**Ishigaki jima**	**1.84**	**57**	P		**Pn**	13 44 35.4	+0.3
JIJ				*e*S		**Sn**	13 44 57.8	-1.1
NSY	**Sanyi**	**1.86**	**304**	*e*P		**Pb**	13 44 36.9	-0.2
	baz=303							
NSY				*e*S		**Sn**	13 44 59.2	0.0
	baz=303							
BACT	**New Taipei Cit**	**1.86**	**331**	*e*P		**Pb**	13 44 36.9	-0.2
	baz=331							
BACT				*e*S		**Sb**	13 44 60.0	-0.8
	baz=331							
SCST	**Cishan**	**1.86**	**255**	*e*P		**Pg**	13 44 37.9	-0.3
	baz=252							
SCST				*e*S		**Sg**	13 45 01.5	-0.8
	baz=252							
WCHH	**Zhanghua**	**1.86**	**293**	*e*S		**Sb**	13 44 60.0	-1.0
	baz=291							
SLIU	**Shizi**	**1.90**	**233**	*e*S		**Sb**	13 45 03.0	+0.9
	baz=229							
WTK	**Tuku**	**1.91**	**280**	*e*S		**Sb**	13 45 01.4	-0.9
	baz=277							
WDJ	**Dajia District**	**1.91**	**301**	*e*S		**Sb**	13 45 01.1	-1.3
	baz=299							
CHN3	**Shinhua**	**1.93**	**262**	*e*S		**Sb**	13 45 03.0	+0.1
	baz=258							
YM01	**YM01**	**1.94**	**336**	*e*P		**Pb**	13 44 37.9	-0.7
	baz=336							
YM01				*e*S		**Sn**	13 45 01.9	+0.6
	baz=336							
SSPT	**Xinbi**	**1.94**	**243**	*e*P		**Pb**	13 44 39.1	+0.6
	baz=240							
SSPT				*e*S		**Sb**	13 45 03.5	+0.3
	baz=240							
YM10	**YM10**	**1.95**	**336**	*e*P		**Pb**	13 44 38.2	-0.5
	baz=336							
YM10				*e*S		**Sn**	13 45 01.6	0.0
	baz=336							
YM11	**YM11**	**1.95**	**336**	*e*P		**Pb**	13 44 38.3	-0.5
	baz=337							
SCZT	**Fangliau**	**1.95**	**240**	*e*P		**Pb**	13 44 38.8	0.0
	baz=236							
YM05	**YM05**	**1.95**	**336**	*e*P		**Pb**	13 44 38.0	-0.9
	baz=336							
YM05				*e*S		**Sn**	13 45 02.2	+0.4
	baz=336							
YM04	**YM04**	**1.96**	**335**	*e*P		**Pb**	13 44 38.3	-0.5
	baz=336							
YM04				*e*S		**Sn**	13 45 02.1	+0.3
	baz=336							
WRL	**Guolierlin Hig**	**1.96**	**286**	*e*S		**Sb**	13 45 02.7	-1.2
	baz=284							
ICHU	**Yijhu**	**1.99**	**270**	*e*S		**Sb**	13 45 04.0	-0.5
	baz=267							
CHN8	**Yiju**	**2.05**	**270**	*e*S		**Sb**	13 45 05.4	-0.9
	baz=267							
WSF	**Szhu**	**2.06**	**278**	*e*S		**Sb**	13 45 05.3	-1.2
	baz=275							
TWKBT	**Hengchun**	**2.07**	**227**	*e*P		**Pb**	13 44 40.9	+0.1
	baz=223							
TWK1	**Hengchun**	**2.08**	**227**	*e*P		**Pb**	13 44 40.7	-0.2
	baz=223							
TWK1				*e*S		**Sb**	13 45 07.3	+0.2
	baz=223							
JISG	**Ishigakijimahi**	**2.09**	**54**	P		**Pn**	13 44 38.8	+0.3
JISG				*e*S		**Sn**	13 45 04.8	-0.3
TWP	**Hsiaoliuchiu**	**2.17**	**242**	*e*S		**Sb**	13 45 08.9	-0.9
	baz=239							
JTJ	**Tarama**	**2.42**	**58**	P		**Pn**	13 44 43.9	+0.9
JTJ				*e*S		**Sn**	13 45 12.6	-0.6
PHUB	**P'eng-hu**	**2.64**	**274**	*e*P		**Pn**	13 44 47.4	+1.4
	baz=271							
PHUB				*e*S		**Sn**	13 45 18.6	+0.1
	baz=271							
PNG	**Penghu**	**2.66**	**275**	*e*P		**Pn**	13 44 47.9	+1.6
	baz=272							
PNG				*e*S		**Sn**	13 45 19.4	+0.3
	baz=272							
VCHM	**Qimei**	**2.77**	**267**	*e*P		**Pn**	13 44 49.4	+1.5
	baz=265							
VCHM				*e*S		**Sn**	13 45 22.1	+0.2
	baz=265							
JIRB	**Irabujima**	**2.88**	**59**	P		**Pn**	13 44 50.0	+0.6
JIRB				*e*S		**Sn**	13 45 23.9	-0.7
JMJ2	**Miyako jima3**	**2.97**	**62**	P		**Pn**	13 44 51.2	+0.6
JMJ2				*e*S		**Sn**	13 45 26.0	-0.7
JIKM	**Ikemajima**	**2.99**	**58**	P		**Pn**	13 44 51.0	+0.1
JIKM				S		**Sn**	13 45 26.6	-0.7
JOGS	**Gusukube**	**3.04**	**62**	P		**Pn**	13 44 53.0	+1.4
JOGS				S		**Sn**	13 45 28.4	-0.1
VWUC	**VWUC**	**3.17**	**301**	*e*P		**Pn**	13 44 54.3	+0.9
	baz=300							
VWUC				*e*S		**Sn**	13 45 29.8	-2.0
	baz=300							
PTMZ	**Houxiangcun**	**3.46**	**299**	*e*P		**Pn**	13 44 58.1	+0.8
	baz=298							
MATB	**Ma-tsu**	**3.58**	**321**	*e*P		**Pn**	13 45 00.7	+1.7
	baz=320							
MATB				*e*S		**Sn**	13 45 40.1	-1.7
	baz=320							
KNMB	**Chin-men Tao**	**3.87**	**287**	*e*P		**Pn**	13 45 03.9	+1.0
	baz=285							
XPSS	**Dashiqiu**	**4.09**	**331**	*e*P		**Pn**	13 45 06.7	+0.8
	baz=330							
ZPLA	**Ao Xicun**	**4.34**	**278**	*e*P		**Pn**	13 45 11.1	+1.7
	baz=276							
AXDP	**Jialang**	**4.36**	**291**	*e*P		**Pn**	13 45 11.6	+1.9
	baz=289							

*TAP **28** 13:46:18.1, 24˚.83N × 121˚.97E, h5km ± 1km, ML2.6, D*
*JMA **28** 13:46:19.6 ± 0.1, 24˚.82N × 121˚.89E, h29km, M1.8*
ISC 28 13:46:18.1±1.2**, 24˚.84N**±0˚.03×**121˚.95E**±0˚.03**, h13**km±9km**,**
n28,σ0°**72**/40**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.11**	**279**	*e*P		**Pb**	13 46 21.9	-0.2
	baz=282							
TWB1	**Santiao Chiao**	**0.17**	**11**	*i* P		**Pb**	13 46 22.7	-0.5
	baz=9.0							
TWB1				*i* S		**Sg**	13 46 25.3	+0.3
	baz=9.0							
TIPB	**Shuangxi**	**0.18**	**319**	*i* P		**Pb**	13 46 23.1	-0.2
	baz=318							
TIPB				*i* S		**Sb**	13 46 26.0	-0.7
	baz=318							
ILA	**Ilan**	**0.20**	**249**	*e*S		**Sb**	13 46 27.3	0.0
	baz=251							
TWC	**Suao**	**0.24**	**203**	P		**Pb**	13 46 23.9	-0.5
	baz=203							
TWC				*e*S		**Sg**	13 46 26.9	+0.1
	baz=203							
WFSB	**Wu-fen Shan**	**0.28**	**326**	P		**Pb**	13 46 25.2	+0.2
	baz=325							
WFSB				S		**Sb**	13 46 30.4	+0.8
	baz=325							
TWE	**Neicheng**	**0.28**	**246**	*e*P		**Pb**	13 46 24.8	-0.2
	baz=247							
TWE				*e*S		**Sb**	13 46 29.0	-0.7
	baz=247							
NDS	**Dongshan**	**0.30**	**227**	P		**Pb**	13 46 25.0	-0.2
	baz=229							
TNOU	**National Taiwa**	**0.35**	**332**	*e*P		**Pb**	13 46 26.6	+0.4
	baz=330							
TNOU				*e*S		**Sb**	13 46 31.4	-0.3
	baz=330							
TWA	**Mucha**	**0.36**	**293**	P		**Pb**	13 46 26.8	+0.4
	baz=293							
TWA				*e*S		**Sb**	13 46 32.8	+0.7
	baz=293							
ENTT	**Nioudou**	**0.40**	**241**	P		**Pb**	13 46 27.2	+0.1
	baz=242							
NWLT	**Wulai**	**0.41**	**262**	*e*P		**Pb**	13 46 27.2	-0.1
	baz=263							
NWLT				*e*S		**Sb**	13 46 32.7	-0.8
	baz=263							
TATO	**Taipei**	**0.45**	**288**	*e*P		**Pb**	13 46 28.3	+0.5
	baz=288							
TATO				*e*S		**Sb**	13 46 34.5	+0.1
	baz=288							
NDT	**Datong Townshi**	**0.46**	**240**	*e*P		**Pb**	13 46 28.2	+0.1
	baz=241							
YM11	**YM11**	**0.47**	**314**	*e*P		**Pn**	13 46 29.5	-1.2
	baz=313							
YM10	**YM10**	**0.48**	**312**	*e*P		**Pn**	13 46 29.4	-1.3
	baz=311							
YM05	**YM05**	**0.48**	**313**	*e*P		**Pn**	13 46 29.4	-1.4
	baz=312							
YM08	**YM08**	**0.48**	**317**	*e*P		**Pb**	13 46 29.1	+0.6
	baz=316							
YM04	**YM04**	**0.49**	**310**	*e*P		**Pn**	13 46 29.6	-1.3
	baz=309							
TWY	**Chenhua**	**0.54**	**324**	*e*P		**Pn**	13 46 30.5	-1.0
	baz=323							
YHNB	**Yeheng**	**0.55**	**253**	P		**Pb**	13 46 29.6	0.0
	baz=253							
NSK	**Sanguang**	**0.56**	**254**	P		**Pb**	13 46 29.7	-0.2
	baz=254							
NNSB	**Datong**	**0.66**	**232**	P		**Pn**	13 46 32.2	-1.1
	baz=233							
LIOB	**Emei**	**0.87**	**258**	*e*P		**Pn**	13 46 36.6	+0.5
	baz=258							
NSTT	**Nanjuang**	**0.89**	**257**	*e*S		**Sn**	13 46 51.1	+2.0
	baz=257							
JYNG	**Yonagunijimaku**	**0.98**	**113**	P		**Pn**	13 46 37.7	+0.2
JYNG				S		**Sn**	13 46 51.2	-0.1
YOJ	**Yonaguni jima**	**1.03**	**111**	P		**Pn**	13 46 38.5	+0.2
YOJ				S		**Sg**	13 46 51.9	+0.4
IRIF	**Iriomote-Funau**	**1.69**	**107**	P		**Pb**	13 46 48.6	-0.5
IRIF				*e*S		**Sb**	13 47 10.6	+0.3

*IDC **28** 13:57:15.3±1.3, 17˚.83S × 172˚.69E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/24, mbtmp3.8/5, ML4.5/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/28, Error ellipse: s-maj=85.4km s-min=24.4km az=164.0*
ISC 28 13:57:19.6±1.2**, 18˚.7S**±0˚.4×**173˚.0E**±0˚.1**, h35**km**, n14,**
σ2°**38**/7**, mb3.9**/4**, MS3.3**/3**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.94**	**80**	Pn		**Pn**	**13 58 32.2**	**+0.7**
	0.6nm,0.3s,baz=228,slow=12,SNR=4.4							
DZM	**Mont Dzumac**	**6.97**	**240**	LR		LR	14 01 18.3	
	comp=Z,128nm,20.5s,baz=52,slow=34							
RAO	**Raoul Island**	**13.41**	**143**	LR		LR	14 04 37.6	
	comp=Z,164nm,18.1s,baz=120,slow=31							
HNR	**Honiara**	**15.61**	**304**	LR		LR	14 05 30.2	
	comp=Z,52nm,18.6s,baz=238,slow=33							
HNR	**Honiara**	**15.61**	**304**	P		**P**	**14 01 03.5**	**+2.5**
URZ	**Urewera**	**19.82**	**170**	LR		LR	14 07 35.7	
	comp=Z,135nm,19.0s,baz=31,slow=30							
STKA	**Stephens Creek**	**31.12**	**239**	LR		LR	14 15 37.0	
	comp=Z,58nm,19.9s,baz=30,slow=35							
WRA	**Warramunga Arr**	**36.41**	**262**	P		**P**	**14 04 19.0**	**-2.2**
	0.7nm,0.8s,baz=94,slow=8.6,SNR=2.9							
ASAR	**Alice Springs**	**36.67**	**255**	P		**P**	**14 04 24.8**	**+1.5**
	1.7nm,0.7s,baz=82,slow=8.6,SNR=21							
VNDA	**Vanda**	**59.11**	**183**	LR		LR	14 28 19.5	
	comp=Z,59nm,21.4s,baz=234,slow=31							
PETK	**Petropavlovsk-**	**72.72**	**350**	LR		LR	14 38 39.3	
	comp=Z,15nm,19.4s,baz=107,slow=35							
ILAR	**Eielson Array**	**88.71**	**16**	P		**P**	**14 10 06.3**	**-2.7**
	0.5nm,0.9s,baz=212,slow=5.8,SNR=4.2							
TXAR	**Lajitas Array**	**93.43**	**60**	P		**P**	**14 10 33.1**	**+1.2**
	0.6nm,0.9s,baz=235,slow=4.4,SNR=6.7							
GERES	**GERESS Array B**	**145.57**	**336**	PKP		**PKPdf**	**14 16 53.6**	**-0.7**
	0.4nm,0.4s,baz=59,slow=2.6,SNR=2.2							

IDC 28 14:11:25.8±2.4**, 4˚.28N**×**126˚.93E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/25**, mbtmp3.4**/3**, Error ellipse: s-maj=200.0km s-min=26.4km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.15**	**163**	P		P	14 16 52.5	-0.4
	0.8nm,0.7s,baz=342,slow=11,SNR=7.1							
ASAR	**Alice Springs**	**28.59**	**167**	P		P	14 17 24.2	+0.3
	0.2nm,0.9s,baz=349,slow=7.8,SNR=4.9							
MKAR	**Makanchi Array**	**57.22**	**325**	P		P	14 21 15.0	0.0
	0.3nm,0.5s,baz=117,slow=8.1,SNR=6.7							

*IDC **28** 14:37:16.8±2.8, 23˚.01N × 11˚.47W, h0km, mb3.8/3, mb1 3.8/7, mb1mx3.5/54, mbtmp3.7/7, ML3.9/4, Error ellipse: s-maj=90.8km s-min=24.9km az=82.0*
ISC 28 14:37:19.8±1.9**, 23˚.1N**±0˚.1×**11˚.2W**±0˚.3**, h10**km**, n9,**
σ0°**87**/10**, mb3.8**/3**, Mauritania**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KOWA	**Kowa**	**10.88**	**140**	Pn		**Pn**	**14 39 55.8**	**+0.1**
	0.7nm,0.3s,baz=317,slow=12,SNR=7.9							
KOWA				Sn		**Sn**	14 41 57.4	-0.2
	0.4nm,0.3s,baz=179,slow=19,SNR=6.5							
TORD	**Torodi Ar. Bea**	**15.70**	**127**	Pn		**Pn**	**14 41 01.8**	**+0.7**
	0.1nm,0.3s,baz=312,slow=12,SNR=4.6							
DBIC	**Dimbokro**	**17.40**	**159**	P		**Pn**	**14 41 22.6**	**-0.2**
	0.4nm,0.3s,baz=333,slow=13,SNR=2.0							
ESDC	**Sonseca Array**	**17.65**	**19**	P		**Pn**	**14 41 25.8**	**0.0**
	0.1nm,0.3s,baz=200,slow=12,SNR=2.8							
GERES	**GERESS Array B**	**32.38**	**31**	P		**P**	**14 43 48.7**	**-0.9**
	0.2nm,0.3s,baz=201,slow=7.1,SNR=3.9							
FINES	**FINESS Array B**	**46.05**	**24**	P		**P**	**14 45 43.8**	**+0.3**
	3.5nm,1.0s,baz=224,slow=5.3,SNR=8.6							
MKAR	**Makanchi Array**	**75.82**	**45**	P		**P**	**14 49 07.0**	**+0.7**
	0.6nm,0.7s,baz=294,slow=5.7,SNR=11							
WRA	**Warramunga Arr**	**147.80**	**91**	PKPbc		**PKPdf**	**14 57 03.9**	**+1.1**
	0.5nm,0.7s,baz=287,slow=2.6,SNR=6.1							
ASAR	**Alice Springs**	**147.98**	**98**	PKPbc		**PKPbc**	**14 57 04.7**	**-1.4**
	0.6nm,0.7s,baz=284,slow=2.1,SNR=12							

*NEIC **28** 14:39:45.6±1.6, 26˚.4S±0˚.1×178˚.5E±0˚.2, h614km±4km, mb4.8/34, Error ellipse: s-maj=23.0km s-min=15.5km az=88.0*
*NOU **28** 14:39:46.2, 26˚.32S × 178˚.57E, h644km, mb4.5, South of Fiji Islands*
*IDC **28** 14:39:

PUZ			S	**S**	**14 44 27.8**	**+1.0**	
ONTNC	**Ouen Toro**	**11.68 288**	P	**P**	**14 42 22.2**	**+1.5**	
KARZ	**Kaharoa**	**11.70 189**	P	**P**	**14 42 23.6**	**+2.9**	
TWGZ	**Tauwhareparae**	**11.71 182**	P	**P**	**14 42 21.1**	**+0.2**	
TWGZ			S	**S**	**14 44 27.3**	**-1.5**	
LIFNC	**LIFOU**	**11.72 296**	P	**P**	**14 42 22.0**	**+0.9**	
DZM	**Mont Dzumac**	**11.78 289**	P	**P**	**14 42 23.1**	**+1.2**	
	14nm,0.3s,baz=119,slow=9.2,SNR=135						
DZM	**Mont Dzumac**	**11.78 289**	P	**P**	**14 42 23.5**	**+1.7**	
DZM	**Mont Dzumac**	**11.78 289**	P	**P**	**14 42 23.6**	**+1.7**	
URZ	**Urewera**	**11.84 185**	P	**P**	**14 42 20.8**	**-1.3**	
	0.6nm,0.3s,baz=118,slow=22,SNR=3.1						
URZ			S	**S**	**14 44 26.2**	**-4.9**	
	0.7nm,0.3s,baz=308,slow=20,SNR=1.8						
URZ	**Urewera**	**11.84 185**	P	**P**	**14 42 20.8**	**-1.3**	
URZ			S	**S**	**14 44 26.2**	**-4.9**	
MWZ	**Matawai**	**11.89 184**	P	**P**	**14 42 21.5**	**-1.1**	
MWZ			S	**S**	**14 44 28.6**	**-3.4**	
TKGZ	**Te Karaka**	**11.98 182**	P	**P**	**14 42 23.4**	**-0.1**	
TKGZ			S	**S**	**14 44 35.6**	**+2.0**	
RRRZ	**Republican Roa**	**11.98 187**	P	**P**	**14 42 22.0**	**-1.6**	
CNGZ	**Carnagh Statio**	**12.01 181**	P	**P**	**14 42 24.0**	**+0.2**	
MUGZ	**Murupara**	**12.09 186**	P	**P**	**14 42 24.6**	**0.0**	
TLZ	**Tolley Road**	**12.11 191**	P	**P**	**14 42 27.7**	**+2.9**	
PRRZ	**Plateau Road**	**12.15 188**	P	**P**	**14 42 26.8**	**+1.6**	
WPRZ	**Whakapapatarin**	**12.20 189**	P	**P**	**14 42 27.5**	**+1.8**	
SNGZ	**Shannon Statio**	**12.35 184**	P	**P**	**14 42 27.0**	**-0.2**	
SNGZ			S	**S**	**14 44 39.7**	**-0.8**	
HIZ	**Hauiti**	**12.41 193**		**P**	**14 42 30.8**	**+2.9**	
HATZ	**Hinemaiaia**	**12.57 188**	P	**P**	**14 42 29.6**	**+0.1**	
BKZ	**Black Stump Fm**	**12.80 187**	P	**P**	**14 42 30.4**	**-1.4**	
BFZ	**Birch Farm**	**14.32 187**	P	**P**	**14 42 44.6**	**-2.3**	
SNZO	**South Karori**	**15.15 191**	P	**P**	**14 42 53.8**	**-0.7**	
QRZ	**Quartz Range**	**15.17 197**	P	**P**	**14 42 56.5**	**+1.9**	
MSWZ	**Moikau Station**	**15.17 189**	P	**P**	**14 42 53.8**	**-0.9**	
BHW	**Baring Head**	**15.22 190**	P	**P**	**14 42 54.5**	**-0.6**	
PLWZ	**Palliser**	**15.32 189**	P	**P**	**14 42 55.1**	**-1.0**	
NNZ	**Nelson**	**15.33 195**	P	**P**	**14 42 57.1**	**+1.0**	
TUWZ	**Tuamarina**	**15.41 193**	P	**P**	**14 42 57.0**	**+0.1**	
AFI	**Afiamalu**	**15.46 38**	P	**P**	**14 42 56.8**	**-1.0**	
BSWZ	**Blackbirch Sta**	**15.70 193**	P	**P**	**14 43 00.3**	**+0.7**	
THZ	**Tophouse**	**15.96 195**	P	**P**	**14 43 02.9**	**+1.0**	
KHZ	**Kahutara**	**16.44 193**	P	**P**	**14 43 06.6**	**+0.4**	
LTZ	**Lake Taylor**	**17.07 196**	P	**P**	**14 43 12.4**	**+0.3**	
LTZ			IAmb	IAmb	14 43 14.4		
	comp=Z,67nm,0.6s						
OXZ	**Oxford**	**17.64 196**	P	**P**	**14 43 17.3**	**0.0**	
MQZ	**McQueen's Vall**	**17.86 194**	P	**P**	**14 43 19.4**	**+0.2**	
MQZ			IAmb	IAmb	14 43 21.4		
	comp=Z,34nm,0.9s						
RPZ	**Rata Peaks**	**18.25 197**	P	**P**	**14 43 22.6**	**-0.3**	
	comp=Z,8.8nm,0.3s,baz=16,slow=1.1,SNR=25						
RPZ	**Rata Peaks**	**18.25 197**	P	**P**	**14 43 23.1**	**+0.2**	
RPZ			IAmb	IAmb	14 43 29.9		
	comp=Z,32nm,0.6s						
FOZ	**Fox Glacier**	**18.44 200**	P	**P**	**14 43 24.6**	**0.0**	
FOZ			IAmb	IAmb	14 43 27.3		
	comp=Z,61nm,1.0s						
LBZ	**Lake Benmore**	**19.11 198**	P	**P**	**14 43 29.9**	**-0.8**	
WKZ	**Wanaka**	**19.86 200**		**P**	**14 43 37.2**	**-0.2**	
WKZ			IAmb	IAmb	14 43 51.0		
	comp=Z,25nm,0.9s						
MLZ	**Mavora Lakes**	**20.63 201**		**P**	**14 43 45.1**	**+0.8**	
MLZ			IAmb	IAmb	14 43 46.8		
	comp=Z,28nm,0.7s						
DCZ	**Deep Cove**	**21.03 203**	P	**P**	**14 43 48.7**	**+0.8**	
DCZ			IAmb	IAmb	14 43 50.3		
	comp=Z,34nm,0.9s						
WHZ	**Wether Hill Ro**	**21.15 201**	P	**P**	**14 43 50.0**	**+1.1**	
EIDS	**Eidsvold**	**24.63 266**	P	**P**	**14 44 20.9**	**+0.7**	
CTA	**Charters Tower**	**30.19 275**	P	**P**	**14 45 09.4**	**+0.7**	
	comp=Z,35nm,0.4s,baz=96,slow=11,SNR=125						
CTAO	**Charters Tower**	**30.19 275**	P	**P**	**14 45 09.4**	**+0.7**	
CTAO			IAmb	IAmb	14 45 10.1		
	comp=Z,35nm,0.6s						
STKA	**Stephens Creek**	**32.53 252**	P	**P**	**14 45 29.1**	**+0.7**	
	comp=Z,4.0nm,0.4s,baz=99,slow=12,SNR=48						
STKA	**Stephens Creek**	**32.53 252**	P	**P**	**14 45 28.7**	**+0.3**	
PMG	**Port Moresby**	**34.11 294**	P	**P**	**14 45 41.1**	**-0.7**	
	comp=Z,11nm,0.9s,baz=113,slow=1.1,SNR=3.9						
PMG	**Port Moresby**	**34.11 294**	IAmb	IAmb	14 45 44.0		
	comp=Z,12nm,0.9s						
COEN	**Coen**	**35.23 284**	P	**P**	**14 45 51.6**	**+0.4**	
COEN			IAmb	IAmb	14 45 52.5		
	comp=Z,10nm,0.7s						
AS31	**Alice Springs**	**40.30 264**	P	**P**	**14 46 32.1**	**-0.1**	
ASAR	**Alice Springs**	**40.30 264**	P	**P**	**14 46 32.1**	**-0.1**	
	comp=Z,13nm,0.5s,baz=88,slow=7.1,SNR=588						
ASAR			pP	**pP**	**14 48 15.8**	**+2.2**	
	comp=Z,1.5nm,0.7s,baz=108,slow=7.4,SNR=4.2						
ASAR			S	S	14 51 47.9	-10	
	comp=Z,1.4nm,1.1s,baz=108,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**40.30 264**	P	**P**	**14 46 31.7**	**-0.5**	
WR0	**Warramunga Arr**	**40.72 270**	P	**P**	**14 46 35.0**	**-0.6**	
WR0			IAmb	IAmb	14 46 35.3		
	comp=Z,13nm,0.5s						
WB2	**Warramunga Arr**	**40.90 270**	P	**P**	**14 46 36.3**	**-0.6**	
WB2			IAmb	IAmb	14 46 37.1		
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**40.90 270**	P	**P**	**14 46 36.2**	**-0.8**	
WRAB			IAmb	IAmb	14 46 37.1		
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**40.91 270**	P	**P**	**14 46 36.5**	**-0.6**	
	comp=Z,13nm,0.3s,baz=104,slow=7.9,SNR=244						
WRA			S	**S**	**14 52 01.1**	**-5.8**	
	comp=Z,2.5nm,1.0s,baz=100,slow=14,SNR=6.4						
WRA	**Warramunga Arr**	**40.91 270**	P	**P**	**14 46 35.9**	**-1.2**	
WB0	**Warramunga Arr**	**40.91 270**	P	**P**	**14 46 36.5**	**-0.6**	
WB0			IAmb	IAmb	14 46 37.2		
	comp=Z,18nm,0.7s						
FORT	**Forrest**	**44.15 252**	P	**P**	**14 47 01.4**	**-0.8**	
FORT			IAmb	IAmb	14 47 02.0		
	comp=Z,18nm,0.6s						
MTN	**Manton Dam**	**46.32 278**	P	**P**	**14 47 17.8**	**-1.1**	
VNDA	**Vanda**	**51.75 185**	P	**P**	**14 47 59.2**	**+1.5**	
	comp=Z,2.3nm,0.5s,baz=8.1,slow=7.7,SNR=12						
VNDA	**Vanda**	**51.75 185**	P	**P**	**14 47 58.0**	**+0.3**	
PSA00	**Pilbara Seismi**	**53.37 262**	P	**P**	**14 48 08.2**	**-2.0**	
QSPA	**South Pole Qui**	**63.66 180**	P	**P**	**14 49 19.7**	**+1.2**	
QSPA			IAmb	IAmb	14 49 20.3		
	comp=Z,20nm,0.7s						
BELA	**Belgrano 2**	**74.10 173**	P	**P**	**14 50 20.8**	**+0.1**	
BELA			IAmb	IAmb	14 50 21.8		
	comp=Z,14nm,0.8s						
MAW	**Mawson**	**74.89 201**	P	**P**	**14 50 25.6**	**+0.3**	
	comp=Z,6.6nm,0.6s,baz=148,slow=4.8,SNR=10						
MAW	**Mawson**	**74.89 201**	IAmb	IAmb	14 50 26.2		
	comp=Z,1.7nm,0.7s						
SYO	**Syowa Base**	**80.22 194**	*e*PcP	**P**	**14 50 55.8**	**+1.9**	
NJ2	**Nanjing**	**81.29 312**	*e*P	**P**	**14 50 58.5**	**-1.5**	
NJ2			pmax	pmax			
	comp=Z,9.0nm,0.5s						
SNAA	**Sanae**	**82.16 180**	P	**P**	**14 51 03.6**	**-0.3**	
SNAA	**Sanae**	**82.16 180**	P	**P**	**14 51 03.9**	**0.0**	
SNAA			IAmb	IAmb	14 51 04.2		
	comp=Z,8.7nm,0.6s						
VNA3	**Neumayer Olymp**	**82.42 177**	P	**P**	**14 51 04.9**	**-0.3**	
VNA2	**Neumayer--Watz**	**82.82 178**	P	**P**	**14 51 07.1**	**-0.1**	
	baz=181,slow=4.6						
ARCES	**ARCESS Array B**	**134.06 347**	PKP	**PKPdf**	**14 57 52.8**	**-1.7**	
	comp=Z,5.8nm,1.1s,baz=42,slow=1.5,SNR=1.7						
FINES	**FINESS Array B**	**140.36 340**	PKPdiff	PKPpre	14 57 59.8		
	comp=Z,1.6nm,0.9s,baz=14,slow=8.6,SNR=4.5						
NB2	**NORSAR Subarra**	**144.33 349**	PKP	**PKPdf**	**14 58 12.4**	**-0.9**	
	comp=Z,0.9nm,0.6s,baz=19,slow=4.6						
NOA	**NORSAR Array B**	**144.33 349**	PKP	**PKPdf**	**14 58 12.4**	**-0.9**	
	comp=Z,0.8nm,1.0s,baz=17,slow=4.6,SNR=3.2						
AKASG	**Malin Array Be**	**146.27 324**	PKPbc	**PKPdf**	**14 58 18.1**	**+1.2**	
	comp=Z,3.4nm,0.9s,baz=44,slow=3.4,SNR=4.8						
BRTR	**Keskin Array B**	**147.89 303**	PKPbc	**PKPbc**	**14 58 23.6**	**-0.4**	
	comp=Z,0.8nm,0.7s,baz=44,slow=5.0,SNR=5.1						
CLL	**Collm**	**152.81 340**	*e*PKPbc	**PKPbc**	**14 58 35.0**	**+0.2**	

*IDC **28** 14:44:36.3±0.5, 19.°46N×66.°08W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.5/30, mbtmp3.5/4, Error ellipse: s-maj=20.4km s-min=2.9km az=89.0*
*NEIC **28** 14:44:38.1±0.8, 19.°5N±0.°1×66.°09W±0.°04, h12km±15km, Error ellipse: s-maj=17.5km s-min=5.8km az=183.0*
*RSPR **28** 14:44:39.8, 19.°62N×66.°11W, h63km±7km, MD3.3/7*
ISC 28 14:44:38.4±0.9, 19.°52N±0.°05×66.°08W±0.°04, h14km, n52, σ0°43/57, mb3.5/3, 11C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**1.12 202**		*e*P	**Pn**	**14 44 59.6**	**0.0**
EMPR	**Esperanza - Ma**	**1.12 202**		*e*S	**Sn**	**14 45 15.3**	**+0.6**
EMPR	**Esperanza - Ma**	**1.12 202**			**Pn**	**14 44 59.6**	**0.0**
EMPR					**Sn**	**14 45 15.3**	**+0.6**
EMPR	**Esperanza - Ma**	**1.12 202**		IAML		14 45 27.2	
	comp=E,683nm,0.8s						
EMPR				IAML		14 45 32.7	
	comp=N,684nm,0.9s						
GCPR	**Guaynabo City**	**1.20 180**		*e*P	**Pb**	**14 45 01.0**	**+0.1**
GCPR	**Guaynabo City**	**1.20 180**		*e*S	**Sg**	**14 45 17.8**	**+0.6**
GCPR	**Guaynabo City**	**1.20 180**			**Pb**	**14 45 01.0**	**+0.1**
GCPR					**Sg**	**14 45 17.8**	**+0.6**
GCPR	**Guaynabo City**	**1.20 180**		IAML		14 45 27.1	
	comp=N,804nm,0.2s						
CBYP				IAML		14 45 46.3	
	comp=E,271nm,0.8s						
CBYP	**Canovanas**	**1.26 170**		*e*P	**Pn**	**14 45 01.6**	**0.0**
CBYP	**Canovanas**	**1.26 170**		*e*S	**Sg**	**14 45 19.5**	**+0.4**
CBYP	**Canovanas**	**1.26 170**			**Pn**	**14 45 01.6**	**0.0**
CBYP					**Sg**	**14 45 19.5**	**+0.4**
CBYP	**Canovanas**	**1.26 170**		IAML		14 45 24.2	
	comp=N,609nm,0.2s						
CBYP				IAML		14 45 46.3	
	comp=E,609nm,0.2s						
AOPR	**Arecibo Observ**	**1.33 209**		*e*P	**Pn**	**14 45 02.1**	**-0.4**
AOPR	**Arecibo Observ**	**1.33 209**		*e*S	**Sn**	**14 45 20.1**	**+0.1**
AOPR	**Arecibo Observ**	**1.33 209**			**Pn**	**14 45 02.1**	**-0.4**
AOPR					**Sn**	**14 45 20.1**	**+0.1**
SJG	**San Juan**	**1.40 183**		Pn	**Pn**	**14 45 02.5**	**-0.9**
	comp=E,28nm,0.3s,baz=7.1,slow=8.7,SNR=60						
SJG				Sn	**Sn**	**14 45 21.9**	**+0.2**
	comp=E,65nm,0.3s,baz=111,slow=5.1,SNR=18						
SJG	**San Juan**	**1.40 183**			**Pn**	**14 45 02.6**	**-0.9**
SJG				IAML		14 45 25.7	
	comp=E,284nm,0.7s						
SJG				IAML		14 45 36.6	
	comp=E,236nm,0.8s						
CUPR	**Culebra, Puert**	**1.42 148**		*e*P	**Pn**	**14 45 04.0**	**+0.2**
CUPR	**Culebra, Puert**	**1.42 148**		*e*S	**Sn**	**14 45 22.7**	**+0.3**
CUPR	**Culebra, Puert**	**1.42 148**			**Pn**	**14 45 03.0**	**-0.8**
CUPR	**Culebra, Puert**	**1.42 148**			**Sn**	**14 45 22.7**	**+0.3**
AGPR	**Aguadilla, PR**	**1.43 223**		*e*P	**Pn**	**14 45 04.0**	**+0.2**
AGPR	**Aguadilla, PR**	**1.43 223**		*e*S	**Sn**	**14 45 22.6**	**+0.1**
AGPR	**Aguadilla, PR**	**1.43 223**			**Pn**	**14 45 04.0**	**+0.2**
AGPR					**Sn**	**14 45 22.6**	**+0.1**
AGPR	**Aguadilla, PR**	**1.43 223**		IAML		14 45 35.0	
	comp=N,188nm,0.8s						
PDPR	**Patillas Dam,**	**1.49 178**			**Pn**	**14 45 04.5**	**-0.3**
PDPR				IAML		14 45 31.0	
	comp=E,190nm,0.7s						
CELP	**Cerrillos**	**1.51 198**		*e*P	**Pn**	**14 45 05.1**	**+0.1**
CELP	**Cerrillos**	**1.51 198**		*e*S	**Sn**	**14 45 25.0**	**+0.5**
CELP	**Cerrillos**	**1.51 198**			**Pn**	**14 45 05.1**	**+0.1**
CELP					**Sn**	**14 45 25.0**	**+0.5**
IGPR	**InterUniversit**	**1.54 181**		*e*P	**Pn**	**14 45 05.6**	**+0.1**
IGPR	**InterUniversit**	**1.54 181**		*e*S	**Sb**	**14 45 26.0**	**-0.2**
IGPR	**InterUniversit**	**1.54 181**			**Sb**	**14 45 26.0**	**-0.2**
OBIP	**Obispado Ponce**	**1.55 199**		*e*P	**Pn**	**14 45 05.3**	**-0.2**
OBIP	**Obispado Ponce**	**1.55 199**		*e*S	**Sn**	**14 45 25.8**	**+0.4**
OBIP	**Obispado Ponce**	**1.55 199**			**Pn**	**14 45 05.3**	**-0.2**
OBIP					**Sn**	**14 45 25.8**	**+0.4**
OBIP	**Obispado Ponce**	**1.55 199**		IAML		14 45 32.1	
	comp=N,237nm,0.8s						
OBIP				IAML		14 45 32.5	
	comp=E,220nm,0.9s						
LSP	**Las Mesas**	**1.64 216**		*e*P	**Pn**	**14 45 06.7**	**-0.1**
LSP	**Las Mesas**	**1.64 216**		*e*S	**Sn**	**14 45 27.8**	**+0.1**
LSP	**Las Mesas**	**1.64 216**			**Pn**	**14 45 06.7**	**-0.1**
LSP					**Sn**	**14 45 27.8**	**+0.1**
TBVI	**Tortola**	**1.77 128**		*e*P	**Pn**	**14 45 09.1**	**+0.6**
TBVI	**Tortola**	**1.77 128**		*e*S	**Sn**	**14 45 31.4**	**+0.5**
TBVI	**Tortola**	**1.77 128**			**Pn**	**14 45 09.1**	**+0.6**
TBVI					**Sn**	**14 45 31.4**	**+0.5**
MLPR	**Magueyes Islan**	**1.79 211**		*e*P	**Pn**	**14 45 09.0**	**+0.1**
MLPR	**Magueyes Islan**	**1.79 211**		*e*S	**Sn**	**14 45 31.7**	**+0.3**
MLPR	**Magueyes Islan**	**1.79 211**			**Pn**	**14 45 09.0**	**+0.1**
MLPR					**Sn**	**14 45 31.7**	**+0.3**
MLPR	**Magueyes Islan**	**1.79 211**		IAML		14 45 37.4	
	comp=E,134nm,0.7s						
CDVI	**St. Croix**	**2.15 144**			**Pn**	**14 45 13.6**	**-0.3**
SDDR	**Presa de Saban**	**4.95 265**			**Pn**	**14 45 52.9**	**+0.5**
SDDR				IAML		14 46 54.7	
	comp=E,43nm,1.0s						
PTGA	**Pitinga**	**21.00 163**		P	**P**	**14 49 20.5**	**-1.1**
	comp=E,1.9nm,0.5s,baz=352,slow=12,SNR=4.0						
TXAR	**Lajitas Array**	**35.46 293**		P	**P**	**14 51 35.3**	**+0.7**
	comp=E,0.5nm,0.7s,baz=110,slow=11,SNR=5.8						
YKA	**Yellowknife Ar**	**54.25 335**		P	**P**	**14 54 03.2**	**-0.4**
	comp=E,0.6nm,1.1s,baz=116,slow=7.9,SNR=4.0						
ILAR	**Eielson Array**	**68.61 333**		P	**P**	**14 55 40.1**	**-0.6**
	comp=E,0.3nm,0.7s,baz=79,slow=4.7,SNR=5.2						

*TAP **28** 14:59:40.3, 24.°84N×121.°99E, h14km, ML3.1, C*
*JMA **28** 14:59:41.2, 24.°83N×121.°93E, h31km±5km, M2.6*
ISC 28 14:59:40.7±0.8, 24.°85N±0.°01×122.°01E±0.°02, h11km±6km, n109, σ0°68/207, 12C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.16 273**		*i* P	**Pg**	**14 59 44.2**	**-0.1**
	baz=275						
NTC				*e*S	**Sg**	**14 59 47.1**	**+0.2**
	baz=275						
TWB1	**Santiao Chiao**	**0.16 354**		⇑*i* P	**Pg**	**14 59 44.5**	**+0.2**
	baz=352						
TWB1				S	**Sg**	**14 59 46.9**	**0.0**
	baz=352						
TIPB	**Shuangxi**	**0.21 307**		⇑*i* P	**Pg**	**14 59 45.2**	**+0.1**
	baz=304						
TIPB				S	**Sg**	**14 59 48.2**	**+0.1**
	baz=304						
ILA	**Ilan**	**0.25 251**		*i* P	**Pg**	**14 59 45.7**	**-0.1**
	baz=243						
ILA				*e*S	**Sg**	**14 59 49.6**	**+0.3**
	baz=243						
TWC	**Suao**	**0.28 211**		⇑*i* P	**Pg**	**14 59 46.0**	**-0.4**
	baz=210						
TWC				S	**Sb**	**14 59 51.6**	**-0.7**
	baz=210						
NWF	**Wu-fen Shan**	**0.30 317**		*e*P	**Pg**	**14 59 47.3**	**+0.4**
	baz=314						
NWF				*e*S	**Sb**	**14 59 53.0**	**-0.2**
	baz=314						
WFSB	**Wu-fen Shan**	**0.30 317**		⇑*i* P	**Pg**	**14 59 47.3**	**+0.5**
	baz=314						
WFSB				*e*S	**Sb**	**14 59 52.0**	**-1.1**
	baz=314						
TWE	**Neicheng**	**0.33 248**		⇑*i* P	**Pg**	**14 59 47.0**	**-0.3**
	baz=244						
TWE				*e*S	**Sg**	**14 59 52.2**	**+0.4**
	baz=244						
NDS	**Dongshan**	**0.34 231**		P	**Pg**	**14 59 47.1**	**-0.3**
	baz=225						
NDS				*e*S	**Sb**	**14 59 53.5**	**-0.6**
	baz=225						
TNOU	**National Taiwa**	**0.37 325**		⇑*i* P	**Pg**	**14 59 48.5**	**+0.5**
	baz=325						
TNOU				S	**Sg**	**14 59 53.6**	**+0.6**
	baz=325						
TWA	**Mucha**	**0.41 289**		⇑*i* P	**Pg**	**14 59 48.9**	**+0.1**
	baz=283						
TWA				*e*S	**Sg**	**14 59 54.1**	**0.0**
	baz=283						
ENTT	**Nioudou**	**0.45 243**		P	**Pg**	**14 59 49.2**	**-0.3**
	baz=244						
ENTT				*e*S	**Sb**	**14 59 57.8**	**+0.5**
	baz=244						
EWUT	**Wuta**	**0.45 207**		*e*P	**Pg**	**14 59 49.5**	**0.0**
	baz=213						
EWUT				*e*S	**Sg**	**14 59 55.2**	**-0.4**
	baz=213						
NHDH	**Xindian Distri**	**0.45 285**		*e*P	**Pg**	**14 59 49.8**	**+0.2**
	baz=279						
NHDH				*e*S	**Sg**	**14 59 55.6**	**+0.1**
	baz=279						
NWLT	**Wulai**	**0.46 261**		*e*P	**Pg**	**14 59 49.7**	**-0.1**
	baz=263						
NWLT				*e*S	**Sg**	**14 59 55.8**	**-0.2**
	baz=263						
NWRT	**Kuosheng**	**0.47 318**		*e*P	**Pb**	**14 59 50.6**	**-0.5**
	baz=318						
NWRT				*e*S	**Sb**	**14 59 57.2**	**-0.8**
	baz=318						
TAP1	**Taipei**	**0.48 294**		*e*P	**Pg**	**14 59 50.3**	**+0.3**
	baz=288						
TAP1				*e*S	**Sb**	**14 59 57.3**	**-0.8**
	baz=288						
ENA	**Nanau**	**0.48 210**		*e*P	**Pg**	**14 59 49.5**	**-0.6**
	baz=215						
ENA				*e*S	**Sg**	**14 59 56.5**	**0.0**
	baz=215						
TATO	**Taipei**	**0.49 285**		*e*P	**Pg**	**14 59 50.5**	**+0.2**
	baz=277						
TATO				*e*S	**Sg**	**14 59 56.7**	**0.0**
	baz=277						
TAP	**Taipei**	**0.49 293**		*e*P	**Pg**	**14 59 50.6**	**+0.3**
	baz=288						
TAP				*e*S	**Sb**	**14 59 57.6**	**-1.0**
	baz=288						
YM01	**YM01**	**0.50 307**		*e*P	**Pg**	**14 59 50.1**	**-0.3**
	baz=307						
YM01				*e*S	**Sg**	**14 59 56.3**	**-0.7**
	baz=307						
YM11	**YM11**	**0.51 309**		*e*P	**Pb**	**14 59 51.3**	**-0.3**
	baz=301						
YM11				*e*S	**Sb**	**14 59 58.9**	**-0.1**
	baz=301						
YM08	**YM08**	**0.51 312**		⇑*i* P	**Pb**	**14 59 51.1**	**-0.5**
	baz=312						
YM08				S	**Sg**	**14 59 57.1**	**-0.2**
	baz=312						
YM10	**YM10**	**0.51 307**		⇑*i* P	**Pb**	**14 59 51.4**	**-0.3**
	baz=307						
YM10				*e*S	**Sb**	**14 59 58.8**	**-0.3**
	baz=307						
YM05	**YM05**	**0.51 308**		⇑P	**Pb**	**14 59 51.4**	**-0.3**
	baz=301						
YM05				*e*S	**Sb**	**14 59 59.7**	**+0.5**
	baz=301						
NDT	**Datong Townshi**	**0.51 242**		P	**Pg**	**14 59 50.6**	**-0.1**
	baz=243						
NDT				*e*S	**Sb**	**14 59 59.0**	**-0.1**
	baz=243						
YM04	**YM04**	**0.53 306**		⇑P	**Pb**	**14 59 51.6**	**-0.3**
	baz=306						
YM04				*e*S	**Sb**	**15 00 00.1**	**+0.5**
	baz=306						
BACT	**New Taipei Cit**	**0.53 286**		*e*P	**Pg**	**14 59 51.4**	**+0.3**
	baz=279						
BACT				*e*S	**Sb**	**14 59 59.5**	**-0.2**
	baz=279						
ANP	**Anpu**	**0.56 308**		*e*P	**Pb**	**14 59 52.0**	**-0.4**
	baz=308						
ANP				*e*S	**Sb**	**14 59 60.0**	**-0.5**
	baz=308						
TWY	**Chenhua**	**0.56 319**		*e*P	**Pb**	**14 59 52.5**	**-0.1**
	baz=320						
TWY				*e*S	**Sb**	**14 59 60.0**	**-0.7**
	baz=320						
TWS1	**Kuangyinshan**	**0.59 295**		*e*P	**Pb**	**14 59 53.2**	**+0.2**
	baz=296						
TWS1				*e*S	**Sb**	**15 00 00.8**	**-0.6**
	baz=296						
NTST	**Danshui**	**0.60 302**		*e*P	**Pb**	**14 59 53.4**	**+0.3**
	baz=310						
NTST				*e*S	**Sn**	**15 00 03.5**	**-1.3**
	baz=310						
YHNB	**Yeheng**	**0.60 253**		⇑P	**Pg**	**14 59 51.8**	**-0.6**
	baz=261						
YHNB				*e*S	**Sb**	**15 00 01.0**	**-0.7**
	baz=261						
NSK	**Sanguang**	**0.61 254**		*e*P	**Pg**	**14 59 51.9**	**-0.7**
	baz=262						
NSK				*e*S	**Sg**	**15 00 00.2**	**-0.6**
	baz=262						
NTY	**Taoyuan**	**0.66 283**		*e*P	**Pb**	**14 59 54.7**	**+0.5**
	baz=271						
NTY				*e*S	**Sb**	**15 00 04.2**	**+0.8**
	baz=271						
NNSB	**Datong**	**0.70 234**		*e*P	**Pg**	**14 59 54.3**	**-0.1**
	baz=236						
NNSB				*e*S	**Sb**	**15 00 04.2**	**-0.5**
	baz=236						
NNSH	**Datong**	**0.70 234**		*e*P	**Pg**	**14 59 54.4**	**0.0**
	baz=236						
NNSH				*e*S	**Sb**	**15 00 04.4**	**-0.4**
	baz=236						
NNS	**Nan Shan**	**0.70 235**		*e*P	**Pg**	**14 59 54.1**	**-0.3**
	baz=236						
NNS				*e*S	**Sg**	**15 00 03.9**	**+0.3**
	baz=236						
NCU	**National Centr**	**0.75 280**		*e*P	**Pb**	**14 59 55.5**	**-0.4**
	baz=280						
NCU				*e*S	**Sn**	**15 00 07.8**	**-0.8**
	baz=280						
NCUH	**Zhongli**	**0.76 279**		*e*P	**Pg**	**14 59 55.2**	**-0.1**
	baz=280						
NCUH				*e*S	**Sb**	**15 00 06.6**	**+0.4**
	baz=280						
NACB	**Ninganchiao**	**0.77 209**		*e*P	**Pg**	**14 59 55.3**	**-0.2**
	baz=212						
NACB				*e*S	**Sg**	**15 00

	baz=218						
CHGB				*e*S	**Sb**	**15 00 16.6**	**+0.6**
	baz=218						
WHP	**Taichung City**	**1.12**	**240**	*e*P	**Pn**	**15 00 02.7**	**+0.4**
	baz=234						
WHP				*e*S	**Sg**	**15 00 17.2**	**+0.4**
	baz=234						
NMLH	**Miaoli**	**1.15**	**255**	*e*P	**Pn**	**15 00 04.1**	**+1.4**
	baz=256						
NMLH				*e*S	**Sn**	**15 00 20.4**	**+2.0**
	baz=256						
ESL	**Shilin**	**1.15**	**207**	*e*P	**Pb**	**15 00 01.8**	**-0.8**
	baz=210						
ESL				*e*S	**Sg**	**15 00 17.8**	**-0.1**
	baz=210						
NSY	**Sanyi**	**1.21**	**250**	*e*P	**Pn**	**15 00 02.9**	**-0.7**
	baz=252						
NSY				*e*S	**Sb**	**15 00 19.1**	**-0.2**
	baz=252						
TWQ1	**Liyutan**	**1.23**	**246**	*e*P	**Pg**	**15 00 05.0**	**+0.7**
	baz=261						
TWQ1				*e*S	**Sn**	**15 00 23.2**	**+2.8**
	baz=261						
WPL	**Puli Township**	**1.27**	**229**	*e*P	**Pb**	**15 00 04.7**	**+0.1**
	baz=238						
WPL				*e*S	**Sn**	**15 00 21.1**	**-0.2**
	baz=238						
WCS	**Beigang Elemen**	**1.27**	**232**	*e*P	**Pg**	**15 00 07.6**	**+2.4**
	baz=219						
DPDB	**Guoxing**	**1.27**	**231**	*e*P	**Pn**	**15 00 04.6**	**+0.1**
	baz=240						
DPDB				*e*S	**Sg**	**15 00 21.9**	**+0.1**
	baz=240						
EGFH	**Guangfu**	**1.29**	**204**	*e*P	**Pn**	**15 00 03.5**	**-1.1**
	baz=214						
EGFH				*e*S	**Sn**	**15 00 21.8**	**0.0**
	baz=214						
WDJ	**Dajia District**	**1.34**	**248**	*e*P	**Pg**	**15 00 07.2**	**+0.8**
	baz=241						
WDJ				*e*S	**Sg**	**15 00 25.1**	**+1.2**
	baz=241						
VWDT	**VWDT**	**1.34**	**216**	*e*P	**Pb**	**15 00 05.8**	**-0.1**
	baz=220						
VWDT				*e*S	**Sg**	**15 00 24.7**	**+0.7**
	baz=220						
SMLT	**Sun Moon Lake**	**1.39**	**227**	*e*P	**Pg**	**15 00 07.3**	**-0.1**
	baz=220						
TCU	**Taichung**	**1.40**	**240**	*e*P	**Pn**	**15 00 06.3**	**+0.2**
	baz=242						
TCU				*e*S	**Sn**	**15 00 24.3**	**-0.2**
	baz=242						
TYC	**Yuchr**	**1.41**	**228**	*e*P	**Pg**	**15 00 07.3**	**-0.4**
	baz=222						
SSLB	**Suanglung**	**1.43**	**223**	*e*P	**Pb**	**15 00 07.3**	**0.0**
	baz=219						
SSLB				*e*S	**Sn**	**15 00 25.0**	**-0.3**
	baz=219						
HGSD	**Ruisui**	**1.45**	**202**	*e*S	**Sn**	**15 00 25.8**	**0.0**
	baz=222						
EHY	**Hungye**	**1.47**	**205**	*e*P	**Pn**	**15 00 07.3**	**+0.2**
	baz=210						
EHY				*e*S	**Sn**	**15 00 25.2**	**-1.2**
	baz=210						
WNT1	**Nantou City**	**1.53**	**233**	*e*P	**Pn**	**15 00 07.8**	**-0.1**
	baz=253						
WNT1				*e*S	**Sn**	**15 00 27.5**	**-0.3**
	baz=253						
WNT	**Mingjian**	**1.54**	**232**	*e*P	**Pg**	**15 00 11.6**	**+1.2**
	baz=252						
WNT				*e*S	**Sg**	**15 00 31.9**	**+1.5**
	baz=252						
WJS	**Zhushan**	**1.55**	**229**	*e*P	**Pg**	**15 00 11.2**	**+0.8**
	baz=252						
WJS				*e*S	**Sg**	**15 00 32.8**	**+2.2**
	baz=252						
WHYT	**Xinyi Township**	**1.56**	**223**	*e*P	**Pg**	**15 00 11.6**	**+1.0**
	baz=221						
WHYT				*e*S	**Sg**	**15 00 30.3**	**-0.5**
	baz=221						
YULB	**Yu-li**	**1.59**	**204**	*e*P	**Pb**	**15 00 09.7**	**-0.3**
	baz=209						
YULB				*e*S	**Sn**	**15 00 29.7**	**+0.5**
	baz=209						
TWF1	**Yuli**	**1.62**	**204**	*e*P	**Pn**	**15 00 09.9**	**+0.6**
	baz=222						
TWF1				*e*S	**Sn**	**15 00 29.6**	**-0.6**
	baz=222						
IRIF	**Iriomote-Funau**	**1.65**	**108**	P	**Pn**	**15 00 08.9**	**-0.7**
YUS	**Yu-Shan**	**1.66**	**216**	*e*P	**Pb**	**15 00 12.0**	**+0.5**
	baz=206						
YUS				*e*S	**Sn**	**15 00 31.7**	**0.0**
	baz=206						
ALS	**Alishan**	**1.73**	**220**	*e*P	**Pg**	**15 00 13.5**	**-0.3**
	baz=210						
ALS				*e*S	**Sg**	**15 00 35.5**	**-0.7**
	baz=210						
CHN5	**Tsauling**	**1.74**	**225**	*e*P	**Pg**	**15 00 13.9**	**-0.2**
	baz=229						
CHN5				*e*S	**Sg**	**15 00 37.6**	**+0.9**
	baz=229						
HATJ	**Hateruma jima**	**1.82**	**115**	P	**Pn**	**15 00 11.9**	**0.0**
ELDTW	**Lidau**	**1.88**	**209**	*e*P	**Pb**	**15 00 14.5**	**-0.6**
	baz=214						
ELDTW				*e*S	**Sn**	**15 00 36.8**	**+0.1**
	baz=214						
JKRS	**Kuro-shima**	**1.92**	**108**	P	**Pn**	**15 00 13.2**	**-0.1**
CHN4	**Tsaushan**	**1.97**	**221**	*e*P	**Pg**	**15 00 17.8**	**-0.7**
	baz=226						
CHN4				*e*S	**Sg**	**15 00 44.3**	**+0.2**
	baz=226						
TPUB	**Ta-pu**	**1.99**	**220**	*e*P	**Pb**	**15 00 17.7**	**+0.8**
	baz=209						
TPUB				*e*S	**Sg**	**15 00 44.6**	**0.0**
	baz=209						
JIJ	**Ishigaki jima**	**2.00**	**103**	P	**Pn**	**15 00 14.6**	**+0.2**
STYH	**Taoyuan**	**2.01**	**214**	*e*P	**Pb**	**15 00 17.0**	**-0.2**
	baz=208						
STYH				*e*S	**Sg**	**15 00 44.0**	**-1.4**
	baz=208						
STYT	**Tauyuan**	**2.03**	**215**	*e*P	**Pb**	**15 00 18.1**	**+0.6**
	baz=220						
STYT				*e*S	**Sn**	**15 00 41.2**	**+1.0**
	baz=220						
WTP	**Ta-pu**	**2.04**	**219**	*e*P	**Pb**	**15 00 18.3**	**+0.5**
	baz=211						
WTP				*e*S	**Sb**	**15 00 44.0**	**+0.9**
	baz=211						
LONT	**Longtian**	**2.09**	**203**	*e*P	**Pb**	**15 00 17.3**	**-1.3**
	baz=188						
TWK	**Hsinying**	**2.10**	**222**	*e*P	**Pb**	**15 00 19.2**	**+0.4**
	baz=227						
TWK				*e*S	**Sg**	**15 00 47.8**	**-0.4**
	baz=227						
JISG	**Ishigakijimahi**	**2.11**	**97**	P	**Pn**	**15 00 16.6**	**+0.7**
SGST	**Jiashian**	**2.19**	**217**	*e*P	**Pb**	**15 00 19.5**	**-0.8**
	baz=210						
SGST				*e*S	**Sn**	**15 00 45.8**	**+1.7**
	baz=210						
TWG	**Pinlang**	**2.19**	**203**	*e*P	**Pb**	**15 00 19.0**	**-1.4**
	baz=195						
TWG				*e*S	**Sb**	**15 00 46.7**	**-0.8**
	baz=195						
TWGBT	**Beinan**	**2.19**	**203**	*e*P	**Pb**	**15 00 19.2**	**-1.1**
	baz=195						
TWGBT				*e*S	**Sn**	**15 00 44.0**	**-0.1**
	baz=195						
MATB	**Ma-tsu**	**2.27**	**305**	*e*P	**Pn**	**15 00 17.5**	**-0.6**
	baz=306						
MATB				*e*S	**Sn**	**15 00 46.1**	**+0.1**
	baz=306						
MSUT	**Lienchiang**	**2.30**	**305**	*e*P	**Pn**	**15 00 18.7**	**+0.2**
	baz=306						
MSUT				*e*S	**Sn**	**15 00 45.6**	**-1.1**
	baz=306						
JTJ	**Tarama**	**2.46**	**94**	P	**Pn**	**15 00 21.4**	**+0.7**
PTMZ	**Houxiangcun**	**2.63**	**275**	*e*P	**Pn**	**15 00 23.7**	**+0.7**
	baz=277						
PTMZ				*e*S	**Sn**	**15 00 54.1**	**-0.7**
	baz=277						
XPSS	**Dashiqiu**	**2.64**	**322**	*e*P	**Pn**	**15 00 22.7**	**-0.5**
	baz=319						
XPSS				*e*S	**Sn**	**15 00 56.3**	**+1.1**
	baz=319						
LYJJ	**Jianjiangzhen**	**2.64**	**310**	*e*P	**Pn**	**15 00 22.2**	**-1.0**
	baz=309						
LYJJ				*e*S	**Sn**	**15 00 53.8**	**-1.5**
	baz=309						
MHZQ	**Yeshan**	**2.97**	**296**	*e*P	**Pn**	**15 00 28.7**	**+1.1**
	baz=298						
MHZQ				*e*S	**Sn**	**15 01 03.2**	**0.0**
	baz=298						

TAP ***28*** *15:04:25.8, 24.˚84N×121.˚98E, h10km, ML2.6, D*
JMA ***28*** *15:04:26.7, 24.˚80N×121.˚96E, h8km*
ISC 28 15:04:26.7±0.9, 24.˚83N±0.˚02×121.˚97E±0.˚03, h13km±5km, n48, σ0°60/96, 5C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.13**	**279**	⇑*i*P		**Pg**	**15 04 29.8**	**-0.1**
	baz=275							
NTC				S		**Sg**	**15 04 32.1**	**-0.2**
	baz=275							
TWB1	**Santiao Chiao**	**0.17**	**6**	⇑*i*P		**Pg**	**15 04 30.1**	**-0.5**
	baz=5.0							
TWB1				S		**Sg**	**15 04 32.6**	**-0.9**
	baz=5.0							
TIPB	**Shuangxi**	**0.19**	**317**	⇑*i*P		**Pg**	**15 04 30.9**	**-0.1**
	baz=313							
TIPB				S		**Sg**	**15 04 33.9**	**0.0**
	baz=313							
ILA	**Ilan**	**0.21**	**251**	*e*P		**Pg**	**15 04 31.3**	**+0.1**
	baz=249							
ILA				*e*S		**Sg**	**15 04 34.9**	**+0.5**
	baz=249							
TWC	**Suao**	**0.25**	**206**	⇑*i*P		**Pg**	**15 04 31.7**	**-0.2**
	baz=205							
TWC				*e*S		**Sg**	**15 04 37.3**	**+1.9**
	baz=205							
NWF	**Wu-fen Shan**	**0.29**	**324**	*e*P		**Pg**	**15 04 33.0**	**+0.2**
	baz=321							
NWF				*e*S		**Sb**	**15 04 38.0**	**-0.7**
	baz=321							
WFSB	**Wu-fen Shan**	**0.29**	**324**	*i* P		**Pg**	**15 04 33.0**	**+0.3**
	baz=321							
WFSB				*e*S		**Sg**	**15 04 37.6**	**+0.9**
	baz=321							
TWE	**Neicheng**	**0.30**	**248**	⇑*i*P		**Pg**	**15 04 32.7**	**0.0**
	baz=245							
TWE				*e*S		**Sb**	**15 04 38.0**	**-0.7**
	baz=245							
NDS	**Dongshan**	**0.30**	**229**	P		**Pg**	**15 04 32.8**	**-0.1**
	baz=229							
NDS				*e*S		**Sb**	**15 04 39.3**	**+0.3**
	baz=229							
TNOU	**National Taiwa**	**0.36**	**331**	*i* P		**Pg**	**15 04 34.3**	**+0.3**
	baz=327							
TNOU				*e*S		**Sg**	**15 04 39.3**	**+0.5**
	baz=327							
TWA	**Mucha**	**0.38**	**293**	P		**Pb**	**15 04 34.6**	**-0.7**
	baz=291							
TWA				*e*S		**Sb**	**15 04 40.3**	**-0.8**
	baz=291							
ENTT	**Nioudou**	**0.41**	**242**	P		**Pb**	**15 04 35.2**	**-0.7**
	baz=241							
ENTT				*e*S		**Sb**	**15 04 41.9**	**-0.2**
	baz=241							
NHDH	**Xindian Distri**	**0.42**	**288**	*e*P		**Pg**	**15 04 35.2**	**+0.1**
	baz=286							
NHDH				*e*S		**Sb**	**15 04 41.5**	**-0.9**
	baz=286							
EWUT	**Wuta**	**0.42**	**204**	*e*P		**Pb**	**15 04 35.1**	**-1.0**
	baz=204							
EWUT				*e*S		**Sb**	**15 04 41.4**	**-1.0**
	baz=204							
NWLT	**Wulai**	**0.43**	**262**	P		**Pb**	**15 04 35.4**	**-0.8**
	baz=261							
NWLT				*e*S		**Sb**	**15 04 41.4**	**-1.1**
	baz=261							
ENA	**Nanau**	**0.45**	**207**	*e*P		**Pb**	**15 04 35.9**	**-0.7**
	baz=206							
ENA				*e*S		**Sb**	**15 04 43.2**	**-0.1**
	baz=206							
TATO	**Taipei**	**0.46**	**288**	*e*P		**Pb**	**15 04 36.2**	**-0.5**
	baz=286							
TATO				*e*S		**Sg**	**15 04 42.2**	**+0.3**
	baz=286							
TAP	**Taipei**	**0.47**	**296**	*e*P		**Pg**	**15 04 35.9**	**0.0**
	baz=294							
TAP				*e*S		**Sb**	**15 04 43.3**	**-0.3**
	baz=294							
NDT	**Datong Townshi**	**0.47**	**241**	*e*P		**Pb**	**15 04 36.2**	**-0.8**
	baz=240							
NDT				*e*S		**Sb**	**15 04 43.6**	**-0.3**
	baz=240							
YM01	**YM01**	**0.48**	**311**	*e*P		**Pg**	**15 04 35.8**	**-0.3**
	baz=309							
YM01				*e*S		**Sg**	**15 04 42.0**	**-0.5**
	baz=309							
YM11	**YM11**	**0.49**	**313**	*e*P		**Pb**	**15 04 37.3**	**+0.1**
	baz=311							
YM11				*e*S		**Sg**	**15 04 43.3**	**+0.5**
	baz=311							
YM10	**YM10**	**0.49**	**311**	*e*P		**Pb**	**15 04 37.2**	**-0.1**
	baz=309							
YM10				*e*S		**Sb**	**15 04 44.5**	**+0.2**
	baz=309							
YM05	**YM05**	**0.49**	**312**	*e*P		**Pb**	**15 04 37.0**	**-0.2**
	baz=310							
YM05				*e*S		**Sb**	**15 04 44.4**	**0.0**
	baz=310							
YM08	**YM08**	**0.49**	**316**	*e*P		**Pb**	**15 04 36.8**	**-0.4**
	baz=314							
YM08				*e*S		**Sb**	**15 04 43.8**	**-0.7**
	baz=314							
YM04	**YM04**	**0.51**	**309**	*e*P		**Pb**	**15 04 37.2**	**-0.2**
	baz=307							
YM04				*e*S		**Sb**	**15 04 44.8**	**0.0**
	baz=307							
ANP	**Anpu**	**0.54**	**311**	*e*P		**Pg**	**15 04 37.1**	**-0.1**
	baz=309							
ANP				*e*S		**Sb**	**15 04 45.2**	**-0.6**
	baz=309							
TWY	**Chenhua**	**0.55**	**323**	*e*P		**Pb**	**15 04 38.3**	**0.0**
	baz=321							
TWY				*e*S		**Sb**	**15 04 46.0**	**-0.1**
	baz=321							
YHNB	**Yeheng**	**0.56**	**253**	*e*P		**Pg**	**15 04 37.5**	**-0.3**
	baz=252							
YHNB				*e*S		**Sg**	**15 04 45.2**	**0.0**
	baz=252							
NSK	**Sanguang**	**0.58**	**254**	*e*P		**Pg**	**15 04 37.8**	**-0.2**
	baz=253							
NSK				*e*S		**Sb**	**15 04 46.9**	**0.0**
	baz=253							
NNSB	**Datong**	**0.67**	**233**	*e*P		**Pb**	**15 04 40.1**	**-0.2**
	baz=232							
NNSB				*e*S		**Sb**	**15 04 50.0**	**+0.4**
	baz=232							
NNSH	**Datong**	**0.67**	**233**	*e*P		**Pb**	**15 04 40.0**	**-0.3**
	baz=232							
NNSH				*e*S		**Sb**	**15 04 49.9**	**+0.3**
	baz=232							
NNS	**Nan Shan**	**0.67**	**234**	*e*P		**Pb**	**15 04 39.7**	**-0.7**
	baz=233							
NNS				*e*S		**Sb**	**15 04 49.8**	**+0.2**
	baz=233							
NCU	**National Centr**	**0.72**	**281**	*e*P		**Pg**	**15 04 40.3**	**-0.4**
	baz=280							
NCU				*e*S		**Sb**	**15 04 50.8**	**-0.2**
	baz=280							
NCUH	**Zhongli**	**0.72**	**281**	*e*P		**Pg**	**15 04 40.7**	**0.0**
	baz=279							
NCUH				*e*S		**Sn**	**15 04 52.7**	**-1.0**
	baz=279							
NACB	**Ninganchiao**	**0.74**	**207**	*e*P		**Pb**	**15 04 41.0**	**-0.4**
	baz=207							
NACB				*e*S		**Sg**	**15 04 50.5**	**-0.2**
	baz=207							
ETLH	**Xiulin Townshi**	**0.77**	**215**	*e*P		**Pb**	**15 04 41.5**	**-0.4**
	baz=215							
ETLH				*e*S		**Sb**	**15 04 52.9**	**+0.6**
	baz=215							
PCYT	**Pengchaiyu**	**0.80**	**7**	*e*P		**Pg**	**15 04 41.9**	**-0.3**
	baz=6.0							
PCYT				*e*S		**Sb**	**15 04 53.1**	**-0.1**
	baz=6.0							
TWD	**Chiawan**	**0.82**	**204**	*e*P		**Pb**	**15 04 42.6**	**-0.3**
	baz=204							
TWD				*e*S		**Sb**	**15 04 54.6**	**+0.7**
	baz=204							
NHW	**Xinwu Township**	**0.85**	**282**	*e*P		**Pn**	**15 04 44.6**	**+0.2**
	baz=281							
NHW				*e*S		**Sn**	**15 04 57.1**	**+0.2**
	baz=281							
FUSS	**Fushou**	**0.88**	**229**	*e*P		**Pb**	**15 04 43.5**	**-0.5**
	baz=228							
FUSS				*e*S		**Sb**	**15 04 56.5**	**+0.7**
	baz=228							
LIOB	**Emei**	**0.89**	**258**	*e*P		**Pn**	**15 04 45.4**	**+0.4**
	baz=257							
LIOB				*e*S		**Sn**	**15 04 58.1**	**+0.4**
	baz=257							
NSTT	**Nanjuang**	**0.90**	**257**	*e*P		**Pn**	**15 04 45.8**	**+0.6**
	baz=256							
NSTT				*e*S		**Sn**	**15 04 59.5**	**+1.4**
	baz=256							
JYNG	**Yonagunijimaku**	**0.97**	**113**	P		**Pb**	**15 04 45.1**	**-0.2**
JYNG				S		**Sb**	**15 04 58.3**	**+0.2**
CHGB	**Renai**	**1.06**	**223**	*e*P		**Pb**	**15 04 46.6**	**-0.4**
	baz=223							
CHGB				*e*S		**Sn**	**15 05 01.8**	**-0.4**
	baz=223							
WHP	**Taichung City**	**1.08**	**239**	*e*P		**Pn**	**15 04 48.0**	**+0.3**
	baz=239							
WHP				*e*S		**Sn**	**15 05 05.3**	**+2.6**
	baz=239							
ESL	**Shilin**	**1.13**	**206**	*e*P		**Pg**	**15 04 47.5**	**-0.9**
	baz=205							
ESL				*e*S		**Sn**	**15 05 03.7**	**+0.1**
	baz=205							
VWDT	**VWDT**	**1.31**	**215**	*e*P		**Pg**	**15 04 51.5**	**-0.4**
	baz=215							
VWDT				*e*S		**Sg**	**15 05 09.2**	**+0.2**
	baz=215							
SSLB	**Suanglung**	**1.39**	**222**	*e*P		**Pg**	**15 04 52.9**	**-0.6**
	baz=221							
SSLB				*e*S		**Sg**	**15 05 10.6**	**-1.0**
	baz=221							

JMA ***28*** *15:16:49.6±0.1, 28.˚10N×128.˚00E, h11km±2km, M3.9*
NIED ***28*** *15:16:49.7, 28.˚10N×128.˚00E, h11km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.56; Mθθ1.71; Mϕϕ-1.15; Mrθ-0.92; Mθϕ0.04; Mϕr-1.00; Fault plane solution: M₀2.03000×10¹⁵ NP1:ϕs50.00000°, δ79.00000°, λ-134.00000°. NP2:ϕs309.00000°, δ45.00000°, λ-16.00000°.*
IDC ***28*** *15:16:50.4±0.9, 27.˚88N×127.˚65E, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.5/34, mbtmp3.7/9, ML2.9/4, MS3.2/17, Ms1 3.2/17, ms1mx3.1/41 Error ellipse: s-maj=32.3km s-min=13.3km az=70.0*
ISC 28 15:16:50.7±1.4, 28.˚05N±0.˚04×128.˚08E±0.˚04, h9km±10km, n38, σ1°8/34, mb3.6/5, MS3.2/11, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.81**	**109**	P		**Pg**	**15 17 06.5**	**+0.1**
JTK				S		**Sg**	**15 17 18.3**	**+1.3**
JOKE	**Okinoerabujima**	**0.81**	**148**	P		**Pg**	**15 17 06.5**	**+0.1**
JOKE				S		**Sg**	**15 17 18.6**	**+1.6**
JAMN	**Amaminishikomi**	**0.98**	**79**	P		**Pb**	**15 17 09.3**	**-0.6**
JAMN				S		**Sb**	**15 17 23.5**	**+0.5**
JIH	**Iheya**	**1.02**	**186**	P		**Pg**	**15 17 09.6**	**-0.7**
JIH				S		**Sg**	**15 17 23.9**	**+0.3**
JYRO	**Yoronjima**	**1.08**	**162**	P		**Pg**	**15 17 10.6**	**-0.8**
JYRO				S		**Sg**	**15 17 25.7**	**+0.3**
JOW	**Kunigami**	**1.23**	**172**	Pn		**Pg**	**15 17 13.2**	**-1.1**
	676nm,0.3s,baz=163,slow=29,SNR=907							
JOW				Sn		**Sb**	**15 17 31.5**	**+1.4**
	179nm,0.3s,baz=166,slow=27,SNR=6.9							
JOW	**Kunigami**	**1.23**	**172**	P		**Pg**	**15 17 13.1**	**-1.2**
JOW				S		**Sg**	**15 17 30.3**	**+0.1**
JAM	**Amami Oshima**	**1.39**	**75**	P		**Pn**	**15 17 15.8**	**-0.5**
JAM				S		**Sb**	**15 17 34.7**	**0.0**
JTAJ	**Takarajima**	**1.47**	**42**	P		**Pb**	**15 17 16.4**	**-1.9**
JNTH	**Nagotoyohara**	**1.53**	**182**	P		**Pn**	**15 17 17.7**	**-0.5**
JNTH				S		**Sn**	**15 17 38.4**	**+0.2**
JAGN	**Aguni-jima**	**1.64**	**207**	P		**Pn**	**15 17 18.4**	**-1.3**
JZK	**Kikaishima**	**1.69**	**81**	P		**Pg**	**15 17 22.1**	**-1.0**
JJT3	**Tamagusuku3**	**1.92**	**188**	P		**Pn**	**15 17 23.7**	**+0.1**
JKE	**Kume jima 2**	**2.07**	**214**	P		**Pn**	**15 17 25.4**	**-0.3**
JKDJ	**Kitadaitoujima**	**3.55**	**125**	P		**Pn**	**15 17 45.7**	**-0.3**
JKDJ				S		**Sn**	**15 18 26.7**	**-1.5**
JMZ	**Minamidaito 2**	**3.58**	**128**	P		**Pn**	**15 17 45.9**	**-0.5**
JMZ				eS		**Sn**	**15 18 26.6**	**-2.2**
JNU	**Nakatsue**	**5.60**	**25**	Pn		Pb	15 18 19.5	-9.1
	0.8nm,0.3s,baz=24,slow=6.9,SNR=9.4							
KSRS	**Korea Array**	**9.38**	**359**	Pn		**Pn**	**15 19 07.3**	**+1.4**
	0.1nm,0.3s,baz=184,slow=14,SNR=4.9							
KSRS				LR		LR	15 22 56.0	
	comp=Z,174nm,18.4s,baz=164,slow=38							
JHJ	**Hachijo jima 2**	**11.27**	**61**	LR		LR	15 23 12.0	
	comp=Z,48nm,20.9s,baz=55,slow=33							
MJAR	**Matsushiro Arr**	**12.04**	**43**	Pn		Pn	15 19 50.2	+7.7
	0.0nm,0.3s,baz=237,slow=13,SNR=2.3							
MJAR				LR		LR	15 24 54.9	
	comp=Z,101nm,20.4s,baz=245,slow=39							
JCJ	**Chichijima**	**12.55**	**91**	LR		LR	15 24 36.6	
	comp=Z,59nm,18.1s,baz=156,slow=36							
USRK	**Ussuriysk Ar.**	**16.41**	**10**	Pn		**P**	**15 20 46.1**	**+2.0**
	baz=187,slow=12,SNR=5.8							
USRK				LR		LR	15 26 15.7	
	comp=Z,99nm,21.1s,baz=200,slow=34							
ASAJ	**Asahikawa**	**19.81**	**32**	LR		LR	15 28 30.0	
	comp=Z,75nm,20.1s,baz=306,slow=35							
KLR	**Kul'dur**	**21.33**	**7**	LR		LR	15 29 41.4	
	comp=Z,52nm,19.2s,baz=178,slow=36							
SONM	**Songino Array**	**25.97**	**325**	P		**P**	**15 22 24.5**	**+0.8**
	1.5nm,1.0s,baz=134,slow=8.0,SNR=7.1							
SONM				LR		LR	15 32 08.8	
	comp=Z,31nm,21.4s,baz=126,slow=36							
CMAR	**Chiang Mai Arr**	**28.36**	**257**	LR		LR	15 34 40.6	
	comp=Z,33nm,18.4s,baz=158,slow=38							
SIJI	**Sorong**	**28.92**	**173**	LR		LR	15 33 50.6	
	comp=Z,28nm,18.2s,baz=70,slow=35							
TLY	**Talaya**	**29.88**	**329**	LR		LR	15 36 09.8	
	comp=Z,52nm,18.5s,baz=128,slow=39							
YAK	**Yakutsk**	**33.99**	**1**	LR		LR	15 37 32.8	
	comp=Z,41nm,18.9s,baz=90,slow=36							
MA2	**Magadan**	**35.14**	**20**	LR		LR	15 37 32.2	
	comp=Z,25nm,20.2s,baz=202,slow=35							
MKAR	**Makanchi Array**	**40.24**	**310**	P		**P**	**15 24 27.5**	**-0.3**
	0.7nm,0.8s,baz=100,slow=10,SNR=8.5							
ZALV	**Zalesovo Beam**	**40.73**	**322**	P		**P**	**15 24 30.5**	**-1.2**
	0.3nm,0.3s,baz=123,slow=7.1,SNR=2.4							
NRIK	**Noril'sk**	**47.48**	**342**	LR		LR	15 47 08.8	
	comp=Z,50nm,18.0s,baz=184,slow=38							
WRA	**Warramunga Arr**	**48.10**	**172**	P		**P**	**15 25 30.6**	**-0.3**
	0.9nm,0.6s,baz=353,slow=8.1,SNR=12							
ASAR	**Alice Springs**	**51.73**	**173**	P		**P**	**15 25 59.7**	**+1.2**
	0.4nm,0.5s,baz=357,slow=9.7,SNR=16							
ARCES	**ARCESS Array B**	**68.27**	**338**	LR		LR	16 02 39.9	
	comp=Z,36nm,19.2s,baz=40,slow=40							
BRTR	**Keskin Array B**	**75.82**	**308**	LR		LR	16 06 12.9	
	comp=Z,24nm,19.6s,baz=118,slow=39							
NOA	**NORSAR Array B**	**77.62**	**334**	LR		LR	16 07 07.2	
	comp=Z,14nm,19.2s,baz=255,slow=39							

JMA 28 15:46:31.5±0.1, 24.˚61N×123.˚35E, h68km±2km, M1.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.34**	**245**	P		Pn	15 46 42.9	+0.1
YOJ

	baz=331							
TWB1	**Santiao Chiao**	**0.17**	**31**	*e*P		Pg	15 46 56.4	+0.4
	baz=41							
TWB1				*e*S		Sg	15 46 59.5	+0.4
	baz=41							
TWE	**Neicheng**	**0.25**	**236**	*e*P		Pb	15 46 57.1	0.0
	baz=233							
TWE				*e*S		Sb	15 47 00.9	0.0
	baz=233							
TWC	**Suao**	**0.25**	**189**	*e*P		Pb	15 46 57.5	+0.2
	baz=181							
TWC				*e*S		Sb	15 47 01.3	+0.1
	baz=181							
NWLT	**Wulai**	**0.36**	**257**	*e*P		Pg	15 46 59.1	+0.1
	baz=256							
NWLT				S		Sb	15 47 04.7	-0.1
	baz=256							
ENTT	**Nioudou**	**0.37**	**233**	*i* P		Pb	15 46 59.5	+0.1
	baz=232							
ENTT				*e*S		Sb	15 47 05.0	+0.1
	baz=232							
NDT	**Datong Townshi**	**0.43**	**233**	*e*P		Pb	15 47 00.5	-0.1
	baz=239							
NDT				*e*S		Sb	15 47 06.7	0.0
	baz=239							
ENA	**Nanau**	**0.45**	**198**	*e*P		Pb	15 47 00.8	0.0
	baz=196							
ENA				*e*S		Sb	15 47 07.2	0.0
	baz=196							
NACB	**Ninganchiao**	**0.74**	**202**	*e*P		Pg	15 47 05.8	-0.1
	baz=211							
NACB				*e*S		Sg	15 47 15.9	+0.2
	baz=211							

TAP ***28*** *15:52:39.0,24˚.83N×121˚.99E,h14km,ML3.7,C*
JMA ***28*** *15:52:39.9±0.1,24˚.81N×121˚.93E,h28km,M3.1*
ISC 28 15:52:39.3±0.9,24˚.83N±0˚.02×122˚.00E±0˚.02,h11km±6km,
n128,σ0s61/175,24C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.16**	**280**	⇑*i*P	Pg	**15 52 43.0**	**+0.2**
	baz=277						
NTC				*e*S	Sg	**15 52 45.0**	**-0.1**
	baz=277						
TWB1	**Santiao Chiao**	**0.18**	**357**	⇑*i*P	Pg	**15 52 43.2**	**0.0**
	baz=352						
TWB1				*i* S	Sg	**15 52 45.6**	**-0.2**
	baz=352						
TIPB	**Shuangxi**	**0.21**	**313**	⇑*i*P	Pg	**15 52 43.9**	**+0.2**
	baz=304						
TIPB				*i* S	Sg	**15 52 46.9**	**0.0**
	baz=304						
ILA	**Ilan**	**0.24**	**255**	⇑*i*P	Pg	**15 52 44.5**	**+0.4**
	baz=244						
ILA				*e*S	Sg	**15 52 47.7**	**+0.3**
	baz=244						
TWC	**Suao**	**0.26**	**212**	⇑*i*P	Pg	**15 52 44.7**	**+0.2**
	baz=213						
TWC				*e*S	Sg	**15 52 47.9**	**-0.1**
	baz=213						
WFSB	**Wu-fen Shan**	**0.31**	**321**	⇑*i*P	Pg	**15 52 46.0**	**+0.5**
	baz=314						
WFSB				*e*S	Sg	**15 52 50.6**	**+0.8**
	baz=314						
TWE	**Neicheng**	**0.32**	**251**	⇑*i*P	Pg	**15 52 45.8**	**+0.1**
	baz=241						
TWE				*e*S	Sg	**15 52 49.3**	**-0.6**
	baz=241						
NDS	**Dongshan**	**0.32**	**233**	⇑*i*P	Pg	**15 52 45.9**	**+0.2**
	baz=234						
NDS				*e*S	Sg	**15 52 49.7**	**-0.3**
	baz=234						
TNOU	**National Taiwa**	**0.38**	**328**	⇑*i*P	Pg	**15 52 47.3**	**+0.4**
	baz=318						
TNOU				*e*S	Sg	**15 52 51.4**	**-0.5**
	baz=318						
TWA	**Mucha**	**0.41**	**292**	⇑*i*P	Pg	**15 52 47.6**	**+0.3**
	baz=284						
TWA				*e*S	Sg	**15 52 52.5**	**-0.2**
	baz=284						
EWUT	**Wuta**	**0.43**	**208**	*e*P	Pg	**15 52 47.8**	**+0.1**
	baz=212						
ENTT	**Nioudou**	**0.43**	**245**	*i* P	Pg	**15 52 47.8**	**0.0**
	baz=245						
ENTT				*e*S	Sg	**15 52 53.6**	**0.0**
	baz=245						
NHDH	**Xindian Distri**	**0.45**	**288**	⇑*i*P	Pg	**15 52 48.6**	**+0.5**
	baz=280						
NHDH				*e*S	Sg	**15 52 54.3**	**+0.2**
	baz=280						
NWLT	**Wulai**	**0.45**	**264**	⇑*i*P	Pg	**15 52 48.1**	**0.0**
	baz=263						
NWLT				*e*S	Sg	**15 52 53.7**	**-0.5**
	baz=263						
ENA	**Nanau**	**0.46**	**211**	*e*P	Pg	**15 52 48.6**	**+0.3**
	baz=215						
ENA				*e*S	Sg	**15 52 54.5**	**+0.1**
	baz=215						
NWRT	**Kuosheng**	**0.48**	**321**	*e*P	Pg	**15 52 49.2**	**+0.4**
	baz=313						
TATO	**Taipei**	**0.49**	**288**	⇑*i*P	Pg	**15 52 49.2**	**+0.4**
	baz=278						
TATO				*e*S	Sg	**15 52 55.0**	**-0.2**
	baz=278						
NDT	**Datong Townshi**	**0.49**	**243**	*i* P	Pg	**15 52 49.1**	**+0.1**
	baz=244						
NDT				*e*S	Sg	**15 52 55.2**	**-0.3**
	baz=244						
YM01	**YM01**	**0.50**	**309**	⇑*i*P	Pg	**15 52 48.9**	**-0.2**
	baz=307						
YM11	**YM11**	**0.51**	**311**	*e*P	Pb	**15 52 50.2**	**-0.2**
	baz=304						
YM10	**YM10**	**0.52**	**310**	⇑*i*P	Pb	**15 52 50.1**	**-0.3**
	baz=307						
YM10				*e*S	Sg	**15 52 55.9**	**-0.3**
	baz=307						
YM05	**YM05**	**0.52**	**311**	⇑*i*P	Pb	**15 52 50.1**	**-0.3**
	baz=309						
YM08	**YM08**	**0.52**	**314**	⇑*i*P	Pb	**15 52 49.8**	**+0.5**
	baz=307						
YM04	**YM04**	**0.53**	**308**	⇑*i*P	Pb	**15 52 50.3**	**-0.3**
	baz=306						
BACT	**New Taipei Cit**	**0.53**	**289**	*e*P	Pg	**15 52 49.8**	**+0.2**
	baz=280						
BACT				*e*S	Sb	**15 52 58.2**	**-0.2**
	baz=280						
YM03	**YM03**	**0.54**	**310**	⇑*i*P	Pg	**15 52 50.4**	**+0.5**
	baz=301						
ANP	**Anpu**	**0.56**	**310**	⇑*i*P	Pg	**15 52 50.6**	**+0.4**
	baz=301						
TWY	**Chenhua**	**0.57**	**321**	⇑*i*P	Pb	**15 52 51.2**	**-0.2**
	baz=320						
YHNB	**Yeheng**	**0.59**	**255**	⇑*i*P	Pg	**15 52 50.5**	**-0.2**
	baz=262						
YHNB				*e*S	Sg	**15 52 57.3**	**-1.1**
	baz=262						
TWS1	**Kuangyinshan**	**0.59**	**297**	⇑*i*P	Pb	**15 52 51.9**	**+0.2**
	baz=296						
TWS1				*e*S	Sb	**15 52 59.7**	**-0.5**
	baz=296						
NSK	**Sanguang**	**0.60**	**256**	⇑*i*P	Pg	**15 52 50.7**	**-0.3**
	baz=263						
NSK				*e*S	Sg	**15 52 58.1**	**-0.8**
	baz=263						
NTST	**Danshui**	**0.60**	**304**	*e*P	Pb	**15 52 52.0**	**+0.1**
	baz=310						
NTST				*e*S	Sb	**15 53 00.0**	**-0.3**
	baz=310						
NTY	**Taoyuan**	**0.66**	**285**	*e*P	Pb	**15 52 53.5**	**+0.6**
	baz=272						
NTY				*e*S	Sb	**15 53 01.9**	**-0.1**
	baz=272						
NNS	**Nan Shan**	**0.69**	**236**	*e*P	Pg	**15 52 52.2**	**-0.4**
	baz=232						
NNS				*e*S	Sg	**15 53 00.1**	**-1.5**
	baz=232						
NNSB	**Datong**	**0.69**	**235**	P	Pg	**15 52 52.3**	**-0.3**
	baz=236						
NNSB				*e*S	Sb	**15 53 02.3**	**-0.6**
	baz=236						
NNSH	**Datong**	**0.69**	**235**	*e*P	Pg	**15 52 52.4**	**-0.2**
	baz=237						
NNSH				*e*S	Sg	**15 53 01.4**	**-0.2**
	baz=237						
NACB	**Ninganchiao**	**0.75**	**210**	*e*P	Pg	**15 52 53.6**	**-0.1**
	baz=212						
NACB				*e*S	Sg	**15 53 03.6**	**+0.1**
	baz=212						
NCU	**National Centr**	**0.75**	**281**	*e*P	Pb	**15 52 54.3**	**-0.1**
	baz=280						
NCU				*e*S	Sn	**15 53 06.1**	**-1.1**
	baz=280						
NCUH	**Zhongli**	**0.75**	**281**	*e*P	Pb	**15 52 54.9**	**+0.5**
	baz=280						
NCUH				*e*S	Sb	**15 53 05.2**	**+0.5**
	baz=280						
ETLH	**Xiulin Townshi**	**0.78**	**217**	*e*P	Pg	**15 52 54.1**	**-0.2**
	baz=220						
ETLH				*e*S	Sg	**15 53 03.9**	**-0.5**
	baz=220						
PCYT	**Pengchaiyu**	**0.80**	**5**	*e*P	Pg	**15 52 55.4**	**+0.7**
	baz=9.0						
TWD	**Chiawan**	**0.83**	**206**	*e*P	Pg	**15 52 55.0**	**-0.3**
	baz=208						
TWD				*e*S	Sg	**15 53 06.3**	**+0.2**
	baz=208						
NJD	**Zhudong**	**0.83**	**264**	*e*P	Pn	**15 52 56.3**	**-0.7**
	baz=258						
NJD				*e*S	Sb	**15 53 07.5**	**+0.4**
	baz=258						
HSN1	**Hsinchu**	**0.89**	**267**	*e*P	Pn	**15 52 57.8**	**0.0**
	baz=284						
HSN1				*e*S	Sn	**15 53 11.2**	**+0.4**
	baz=284						
FUSS	**Fushou**	**0.90**	**230**	*e*P	Pg	**15 52 56.4**	**-0.2**
	baz=226						
FUSS				*e*S	Sg	**15 53 08.3**	**0.0**
	baz=226						
LIOB	**Emei**	**0.91**	**259**	*e*P	Pb	**15 52 57.2**	**+0.1**
	baz=252						
HWA	**Hwalien**	**0.92**	**203**	*e*P	Pg	**15 52 57.1**	**+0.2**
	baz=204						
SBCB	**Hsinchu**	**0.92**	**268**	*e*P	Pn	**15 52 58.2**	**0.0**
	baz=284						
NSTT	**Nanjuang**	**0.93**	**258**	*e*P	Pb	**15 52 57.2**	**-0.2**
	baz=259						
NSTT				*e*S	Sn	**15 53 11.9**	**+0.2**
	baz=259						
HSN	**Hsinchu**	**0.94**	**269**	*e*P	Pn	**15 52 58.0**	**-0.4**
	baz=287						
HSN				*e*S	Sn	**15 53 11.1**	**-0.7**
	baz=287						
JYNG	**Yonagunijimaku**	**0.94**	**113**	P	Pg	**15 52 57.6**	**+0.2**
JYNG				S	Sb	**15 53 10.8**	**+0.7**
WHF	**Hehuan Shan**	**0.95**	**225**	*e*P	Pg	**15 52 57.1**	**-0.5**
	baz=225						
TDCB	**Techi**	**0.95**	**233**	*e*P	Pg	**15 52 57.3**	**-0.4**
	baz=223						
YOJ	**Yonaguni jima**	**0.99**	**111**	*e*P	Pg	**15 52 58.1**	**-0.2**
	baz=113						
YOJ	**Yonaguni jima**	**0.99**	**111**	P	Pg	**15 52 58.2**	**-0.1**
YOJ				S	Sb	**15 53 12.5**	**+1.0**
NJN	**Zhunan**	**1.04**	**262**	*e*P	Pn	**15 52 59.8**	**0.0**
	baz=254						
CHGB	**Renai**	**1.07**	**225**	*e*P	Pg	**15 52 59.3**	**-0.6**
	baz=226						
WHP	**Taichung City**	**1.10**	**241**	*e*P	Pb	**15 53 00.2**	**-0.3**
	baz=241						
ESL	**Shilin**	**1.13**	**207**	*e*P	Pb	**15 53 00.4**	**-0.5**
	baz=210						
ESL				*e*S	Sb	**15 53 15.2**	**-0.5**
	baz=210						
NMLH	**Miaoli**	**1.14**	**256**	*e*P	Pn	**15 53 02.3**	**+1.1**
	baz=257						
NMLH				*e*S	Sn	**15 53 18.7**	**+1.9**
	baz=257						
TWQ1	**Liyutan**	**1.21**	**247**	*e*P	Pg	**15 53 03.2**	**+0.6**
	baz=263						
WPL	**Puli Township**	**1.25**	**230**	*e*P	Pb	**15 53 03.0**	**+0.1**
	baz=239						
WPL				*e*S	Sg	**15 53 19.2**	**-0.3**
	baz=239						
WCS	**Beigang Elemen**	**1.25**	**232**	*e*P	Pn	**15 53 02.7**	**0.0**
	baz=242						
WCS				*e*S	Sn	**15 53 20.3**	**+0.7**
	baz=242						
DPDB	**Guoxing**	**1.26**	**231**	*e*P	Pg	**15 53 03.5**	**0.0**
	baz=223						
EGFH	**Guangfu**	**1.27**	**204**	*e*P	Pn	**15 53 03.1**	**+0.1**
	baz=220						
VWDT	**VWDT**	**1.32**	**216**	*e*P	Pb	**15 53 04.2**	**+0.1**
	baz=218						
WDJ	**Dajia District**	**1.32**	**249**	*e*P	Pg	**15 53 05.2**	**+0.5**
	baz=241						
WDJ				*e*S	Sg	**15 53 24.5**	**+2.6**
	baz=241						
SMLT	**Sun Moon Lake**	**1.37**	**227**	*e*P	Pb	**15 53 05.0**	**-0.1**
	baz=219						
TCU	**Taichung**	**1.38**	**241**	*e*P	Pg	**15 53 05.8**	**0.0**
	baz=262						
TYC	**Yuchr**	**1.39**	**229**	*e*P	Pb	**15 53 04.9**	**-0.3**
	baz=222						
SSLB	**Suanglung**	**1.41**	**223**	*e*P	Pn	**15 53 05.1**	**+0.2**
	baz=224						
WWF	**Wufeng**	**1.42**	**237**	*e*P	Pg	**15 53 07.3**	**+0.8**
	baz=230						
HGSD	**Ruisui**	**1.43**	**202**	*e*P	Pb	**15 53 06.3**	**+0.3**
	baz=190						
EHY	**Hungye**	**1.45**	**205**	*e*P	Pn	**15 53 05.5**	**-0.1**
	baz=206						
WCHH	**Zhanghua**	**1.51**	**241**	*e*P	Pb	**15 53 07.3**	**0.0**
	baz=261						
WNT	**Mingjian**	**1.53**	**232**	*e*P	Pg	**15 53 08.7**	**+0.1**
	baz=233						
WJS	**Zhushan**	**1.53**	**229**	*e*P	Pg	**15 53 08.7**	**0.0**
	baz=224						
WHYT	**Xinyi Township**	**1.54**	**223**	*e*P	Pg	**15 53 09.3**	**+0.5**
	baz=225						
YULB	**Yu-li**	**1.56**	**204**	*e*P	Pn	**15 53 07.6**	**+0.5**
	baz=206						
EYUL	**Yuli**	**1.60**	**203**	*e*P	Pn	**15 53 08.2**	**+0.7**
	baz=216						
TWF1	**Yuli**	**1.60**	**204**	*e*P	Pb	**15 53 08.4**	**-0.6**
	baz=217						
YUS	**Yu-Shan**	**1.64**	**216**	*e*P	Pg	**15 53 10.3**	**-0.5**
	baz=226						
IRIF	**Iriomote-Funau**	**1.65**	**107**	P	Pn	**15 53 07.6**	**-0.6**
IRIF				*e*S	Sn	**15 53 29.3**	**-0.2**
ALS	**Alishan**	**1.71**	**220**	*e*P	Pb	**15 53 11.3**	**+0.5**
	baz=206						
CHN5	**Tsauling**	**1.72**	**225**	*e*P	Pg	**15 53 11.9**	**-0.4**
	baz=227						
WGK	**Gukeng**	**1.73**	**229**	*e*P	Pg	**15 53 12.2**	**-0.4**
	baz=230						
FULB	**Fuli**	**1.74**	**202**	*e*P	Pn	**15 53 10.3**	**+0.7**
	baz=215						
WDLH	**Douliu**	**1.75**	**230**	*e*P	Pb	**15 53 11.9**	**+0.5**
	baz=230						
HATJ	**Hateruma jima**	**1.82**	**115**	P	Pn	**15 53 10.4**	**-0.1**
HATJ				*e*S	Sn	**15 53 33.7**	**+0.1**
WTK	**Tuku**	**1.86**	**233**	*e*P	Pb	**15 53 12.3**	**-0.9**
	baz=252						
ELDTW	**Lidau**	**1.86**	**209**	*e*P	Pb	**15 53 13.4**	**0.0**
	baz=210						
JKRS	**Kuro-shima**	**1.92**	**107**	P	Pn	**15 53 12.0**	**0.0**
CHN4	**Tsaushan**	**1.95**	**221**	*e*P	Pg	**15 53 16.2**	**-0.5**
	baz=222						
EDH	**Donghe**	**1.95**	**199**	*e*P	Pn	**15 53 12.0**	**-0.4**
	baz=186						
CHY	**Chiayi**	**1.95**	**228**	*e*P	Pb	**15 53 15.2**	**+0.2**
	baz=227						
TPUB	**Ta-pu**	**1.97**	**220**	*e*P	Pb	**15 53 15.5**	**+0.3**
	baz=221						
STYH	**Taoyuan**	**1.99**	**214**	*e*P	Pb	**15 53 14.7**	**-0.9**
	baz=204						
JIJ	**Ishigaki jima**	**2.01**	**103**	P	Pn	**15 53 12.5**	**-0.6**
JIJ				S	Sn	**15 53 38.2**	**-0.1**
WTP	**Ta-pu**	**2.02**	**219**	*e*P	Pb	**15 53 16.6**	**+0.5**
	baz=221						
LONT	**Longtian**	**2.07**	**203**	*e*P	Pn	**15 53 15.1**	**+1.0**
	baz=189						
TWK	**Hsinying**	**2.08**	**222**	*e*P	Pb	**15 53 17.6**	**+0.5**
	baz=223						
JISG	**Ishigakijimahi**	**2.12**	**96**	P	Pn	**15 53 15.3**	**+0.7**
JISG				*e*S	Sn	**15 53 41.1**	**+0.1**
CHN1	**Nanshi**	**2.12**	**220**	*e*P	Pb	**15 53 18.0**	**+0.3**
	baz=221						
ICHU	**Yijhu**	**2.15**	**227**	*e*P	Pb	**15 53 17.4**	**-0.7**
	baz=227						
SGST	**Jiashian**	**2.17**	**217**	*e*P	Pn	**15 53 16.8**	**+1.4**
	baz=204						
TWG	**Pinlang**	**2.17**	**203**	*e*P	Pb	**15 53 18.0**	**-0.6**
	baz=189						
CHN8	**Yiju**	**2.20**	**228**	*e*P	Pb	**15 53 17.6**	**-1.5**
	baz=228						
SLGT	**Liugui**	**2.21**	**214**	*e*P	Pb	**15 53 19.6**	**+0.4**
	baz=216						
MATB	**Ma-tsu**	**2.28**	**306**	*e*P	Pn	**15 53 15.8**	**-1.0**
	baz=305						
VWUC	**VWUC**	**2.32**	**275**	*e*P	Pn	**15 53 16.8**	**-0.7**
	baz=275						
SCST	**Cishan**	**2.37**	**216**	*e*P	Pb	**15 53 21.2**	**-0.8**
	baz=217						
TSMG	**Majia**	**2.45**	**211**	*e*P	Pb	**15 53 22.2**	**-1.2**
	baz=212						
TWM1	**Shoushan**	**2.46**	**216**	*e*P	Pb	**15 53 23.4**	**-0.2**
	baz=218						
MASBT	**Mashibuluo**	**2.54**	**210**	*e*P	Pb	**15 53 22.9**	**-1.9**
	baz=212						
PNG	**Penghu**	**2.56**	**241**	*e*P	Pn	**15 53 20.8**	**0.0**
	baz=241						
PHUB	**P'eng-hu**	**2.57**	**240**	*e*P	Pn	**15 53 21.5**	**+0.5**
	baz=240						
PTMZ	**Houxiangcun**	**2.62**	**275**	*e*P	Pn	**15 53 20.9**	**-0.7**
	baz=276						
WDGT	**Dungji**	**2.65**	**234**	*e*P	Pn	**15 53 22.8**	**+0.9**
	baz=251						
LYJJ	**Jianjiangzhen**	**2.65**	**311**	*e*P	Pn	**15 53 21.0**	**-1.0**
	baz=309						
EAST	**Anshuo**	**2.65**	**204**	*e*P	Pn	**15 53 23.6**	**+1.5**
	baz=193						
XPSS	**Dashiqiu**	**2.65**	**323**	*e*P	Pn	**15 53 21.5**	**-0.6**
	baz=320						
SSPT	**Xinbi**	**2.68**	**210**	*e*P	Pb	**15 53 26.9**	**-0.4**
	baz=212						
SCZT	**Fangliau**	**2.75**	**208**	*e*P	Pb	**15 53 27.2**	**-1.3**
	baz=210						
LAY	**Lan-yu**	**2.81**	**189**	*e*P	Pn	**15 53 25.1**	**+0.9**
	baz=178						
MHZQ	**Yeshan**	**2.97**	**296**	*e*P	Pn	**15 53 25.4**	**-0.9**
	baz=297						
KNM	**Kinmen**	**3.27**	**264**	*e*P	Pn	**15 53 31.8**	**+1.3**
	baz=266						
KNMB	**Chin-men Tao**	**3.31**	**264**	*e*P	Pn	**15 53 30.9**	**-0.1**
	baz=267						
AXDP	**Jialang**	**3.66**	**272**	*e*P	Pn	**15 53 36.8**	**+1.0**
	baz=274						

IDC ***28*** *15:52:57.2±6.6,24˚.75N×121˚.83E,h170km±67km,mb3.1/8,*
mb1 3.2/9,mb1mx3.0/34,mbtmp3.6/9,MS3.0/4,Ms1 3.0/4,
ms1mx2.6/19,Error ellipse: s-maj=36.4km s-min=16.5km
az=71.0
TAP ***28*** *15:53:04.2,24˚.90N×121˚.97E,h11km±1km,ML2.9,D*
ISC 28 15:52:50.3±1.0,24˚.8N±0˚.1×122˚.0E±0˚.2,h98km±6km,n13,
σ2s72/16,mb3.3/8,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.16**	**313**	*e*P	Pn	**15 53 07.4**	**+3.2**
	baz=249						
NTC				*e*S	Sn	**15 53 11.4**	**-3.1**
	baz=249						
TIPB	**Shuangxi**	**0.25**	**332**	*i* P	Pn	**15 53 08.3**	**+3.8**
	baz=298						
TIPB				S	Sn	**15 53 11.3**	**-3.8**
	baz=298						
TWB1	**Santiao Chiao**	**0.26**	**6**	*i* P	Pn	**15 53 07.6**	**+3.1**
	baz=13						
TWB1				*i* S	Sn	**15 53 10.2**	**-4.9**
	baz=13						
TNOU	**National Taiwa**	**0.43**	**337**	*e*P	Pn	15 53 11.8	+6.3
	baz=323						
TNOU				*e*S	Sn	**15 53 16.5**	**-0.2**
	baz=323						
KSRS	**Korea Array**	**13.65**	**21**	P	P	**15 56 05.7**	**+0.5**
	0.1nm,0.3s,baz=198,slow=12,SNR=7.2						
KSRS				LR	LR	16 01 15.4	
	comp=Z,18nm,19.6s,baz=215,slow=36						
USRK	**Ussuriysk Ar.**	**21.06**	**20**	P	P	**15 57 28.6**	**+2.2**
	1.1nm,0.8s,baz=224,slow=14,SNR=2.1						
KLR	**Kul'dur**	**25.61**	**15**	P	P	**15 58 09.8**	**-0.7**
	0.6nm,0.5s,baz=197,slow=8.5,SNR=3.6						
KLR				LR	LR	16 08 59.0	
	comp=Z,42nm,18.1s,baz=209,slow=38						
SONM	**Songino Array**	**26.14**	**336**	P	P	**15 58 14.5**	**-0.8**
	2.2nm,0.9s,baz=146,slow=8.3,SNR=11						
SONM				LR	LR	16 09 44.7	
	comp=Z,43nm,19.4s,baz=134,slow=39						
MKAR	**Makanchi Array**	**38.43**	**315**	P	P	**16 00 02.0**	**-0.5**
	0.2nm,0.5s,baz=93,slow=8.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**40.16**	**326**	P	P	**16 00 16.3**	**-0.3**
	1.2nm,0.7s,baz=103,slow=9.7,SNR=4.4						
ZALV				LR	LR	16 17 17.1	
	comp=Z,24nm,18.4s,baz=106,slow=36						
WRA	**Warramunga Arr**	**46.03**	**164**	P	P	**16 01 03.6**	**-0.6**
	0.6nm,0.6s,baz=346,slow=8.7,SNR=7.3						
ASAR	**Alice Springs**	**49.50**	**166**	P	P	**16 01 31.1**	**0.0**
	0.3nm,0.8s,baz=338,slow=6.5,SNR=4.5						
YKA	**Yellowknife Ar**	**82.18**	**23**	P	P	**16 04 59.9**	**-0.2**
	0.3nm,0.8s,baz=319,slow=5.0,SNR=3.2						

IDC ***28*** *16:00:20.4±4.4,29˚.63N×142˚.19E,h0km,mb3.4/4,*
mb1 3.5/7,mb1mx3.3/35,mbtmp3.5/7,ML2.8/3,Error
ellipse: s-maj=170.4km s-min=17.5km az=74.0
ISC 28 16:00:24.8±3.0,29.7N±0˚.2×142˚.0E±0˚.7,h30km,n7,
σ1s63/10,mb3.4/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.58**	**176**	Pn	Pn	**16 01 03.4**	**-1.1**
	2.6nm,0.3s,baz=339,slow=22,SNR=6.1						
JCJ				Sn	Sn	**16 01 33.5**	**-1.2**
	6.2nm,0.3s,baz=274,slow=21,SNR=1.8						
JHJ	**Hachijo jima 2**	**3.92**	**332**	Pn	Pn	**16 01 22.3**	**-0.7**
	2.2nm,0.3s,baz=80,slow=17,SNR=1.2						
JHJ				Sn	Sn	**16 02 04.8**	**-3.1**
	1.5nm,0.3s,baz=204,slow=23,SNR=1.1						
MJAR	**Matsushiro Arr**	**7.55**	**336**	Pn	Pn	**16 02 12.9**	**+0.1**
	0.1nm,0.3s,baz=162,slow=11,SNR=8.6						
MJAR				Sn	Sn	**16 03 36.5**	**-0.8**
	0.0nm,0.3s,baz=137,slow=22,SNR=2.2						
SONM	**Songino Array**	**32.78**	**314**	P	P	**16 06 57.2**	**+1.8**
	0.4nm,0.7s,baz=103,slow=6.2,SNR=2.8						
MKAR	**Makanchi Array**	**48.74**	**308**	P	P	**16 09 07.9**	**+1.2**
	0.1nm,0.3s,baz=91,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**49.88**	**189**	P	P	**16 09 15.3**	**-0.2**
	0.7nm,0.5s,baz=8.2,slow=7.9,SNR=14						
ASAR	**Alice Springs**	**53.60**	**189**	P	P	**16 09 43.4**	**0.0**
	0.2nm,0.5s,baz=5.7,slow=5.0,SNR=10.0						

IDC ***28*** *16:07:33.2±6.3,24˚.12N×122˚.63E,h0km,mb3.4/2,*
mb1 3.7/3,mb1mx3.2/44,mbtmp3.5/3,ML3.2/1,Error
ellipse: s-maj=308.1km s-min=41.1km az=96.0
TAP ***28*** *16:07:39.7,24˚.96N×121˚.95E,h110km,ML3.7,A*
JMA ***28*** *16:07:39.6±0.2,24˚.84N×121˚.99E,h108km±2km,M2.6*
ISC 28 16:07:39.6±0.9,24˚.95N±0˚.03×121˚.98E±0˚.02,h112km±4km,
n130,σ0s88/238,4C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.06**	**5**	P	Pn	**16 07 54.8**	**-0.1**
	baz=40						
TWB1				*e*S	Sn	**16 08 05.5**	**-1.0**
	baz=40						
TIPB	**Shuangxi**	**0.14**	**281**	*i* P	Pn	**16 07 54.9**	**-0.2**
	baz=276						
TIPB				*e*S	Sn	**16 08 06.5**	**-0.3**
	baz=276						
WFSB	**Wu-fen Shan**	**0.22**	**304**	P	Pn	**16 07 55.2**	**0.0**
	baz=306						
WFSB				S	Sn	**16 08 06.4**	**-0.6**
	baz=306						
ILA	**Ilan**

TWE	**Neicheng**	**0.36**	**232**	P	**Pn**	**16 07 56.3**	**+0.4**
	baz=225								
TWE				S	**Sn**	**16 08 08.2**	**+0.2**
	baz=225								
NDS	**Dongshan**	**0.39**	**218**	*i* P	**Pn**	**16 07 56.8**	**+0.7**
	baz=213								
NDS				*i* S	**Sn**	**16 08 08.6**	**+0.3**
	baz=213								
NHDH	**Xindian Distri**	**0.41**	**273**	*e*P	**Pn**	**16 07 56.5**	**+0.5**
	baz=270								
NHDH				*e*S	**Sn**	**16 08 08.2**	**-0.4**
	baz=270								
YM01	**YM01**	**0.42**	**298**	P	**Pn**	**16 07 55.2**	**-1.0**
	baz=298								
YM01				*e*S	**Sn**	**16 08 07.2**	**-1.6**
	baz=298								
YM08	**YM08**	**0.43**	**304**	*e*P	**Pn**	**16 07 56.8**	**+0.6**
	baz=304								
YM11	**YM11**	**0.43**	**301**	*e*P	**Pn**	**16 07 57.8**	**+1.5**
	baz=301								
YM11				*e*S	**Sn**	**16 08 09.0**	**+0.1**
	baz=301								
YM05	**YM05**	**0.44**	**300**	P	**Pn**	**16 07 56.4**	**0.0**
	baz=300								
YM05				*e*S	**Sn**	**16 08 08.2**	**-0.8**
	baz=300								
YM10	**YM10**	**0.44**	**299**	P	**Pn**	**16 07 56.1**	**-0.2**
	baz=299								
YM10				*e*S	**Sn**	**16 08 08.3**	**-0.5**
	baz=299								
TATO	**Taipei**	**0.45**	**274**	*e*P	**Pn**	**16 07 56.8**	**+0.5**
	baz=272								
YM04	**YM04**	**0.46**	**297**	*e*P	**Pn**	**16 07 56.2**	**-0.2**
	baz=297								
YM04				*e*S	**Sn**	**16 08 08.2**	**-0.9**
	baz=297								
NWLT	**Wulai**	**0.47**	**249**	P	**Pn**	**16 07 56.5**	**+0.1**
	baz=246								
NWLT				S	**Sn**	**16 08 09.1**	**-0.1**
	baz=246								
TWY	**Chenhua**	**0.48**	**314**	*e*P	**Pn**	**16 07 56.4**	**-0.1**
	baz=315								
ENTT	**Nioudou**	**0.48**	**231**	P	**Pn**	**16 07 56.8**	**+0.2**
	baz=227								
ENTT				*e*S	**Sn**	**16 08 09.3**	**0.0**
	baz=227								
BACT	**New Taipei Cit**	**0.49**	**276**	*e*P	**Pn**	**16 07 57.2**	**+0.7**
	baz=274								
BACT				*e*S	**Sn**	**16 08 09.9**	**+0.6**
	baz=274								
EWUT	**Wuta**	**0.53**	**200**	*i* P	**Pn**	**16 07 57.0**	**+0.2**
	baz=197								
EWUT				S	**Sn**	**16 08 09.5**	**-0.3**
	baz=197								
TWS1	**Kuangyinshan**	**0.54**	**287**	*e*P	**Pn**	**16 07 57.7**	**+0.9**
	baz=286								
TWS1				*e*S	**Sn**	**16 08 10.4**	**+0.6**
	baz=286								
NDT	**Datong Townshi**	**0.55**	**231**	P	**Pn**	**16 07 57.1**	**+0.1**
	baz=228								
NDT				S	**Sn**	**16 08 09.6**	**-0.5**
	baz=228								
ENA	**Nanau**	**0.56**	**203**	P	**Pn**	**16 07 57.1**	**0.0**
	baz=199								
ENA				S	**Sn**	**16 08 10.1**	**-0.1**
	baz=199								
YHNB	**Yeheng**	**0.62**	**244**	⇑*i* P	**Pn**	**16 07 57.3**	**-0.3**
	baz=241								
YHNB				S	**Sn**	**16 08 09.8**	**-1.3**
	baz=241								
NTY	**Taoyuan**	**0.62**	**275**	*e*P	**Pn**	**16 07 57.8**	**+0.3**
	baz=273								
NTY				*e*S	**Sn**	**16 08 10.0**	**-1.0**
	baz=273								
NSK	**Sanguang**	**0.63**	**245**	⇑*i* P	**Pn**	**16 07 57.3**	**-0.3**
	baz=241								
NSK				S	**Sn**	**16 08 10.0**	**-1.2**
	baz=241								
PCYT	**Pengchaiyu**	**0.69**	**7**	*e*P	**Pn**	**16 07 58.6**	**+0.6**
	baz=9.0								
NCU	**National Centr**	**0.72**	**272**	*e*P	**Pn**	**16 07 58.7**	**+0.4**
	baz=270								
NCU				*e*S	**Sn**	**16 08 12.8**	**+0.4**
	baz=270								
NCUH	**Zhongli**	**0.72**	**272**	*e*P	**Pn**	**16 07 58.7**	**+0.4**
	baz=270								
NCUH				*e*S	**Sn**	**16 08 12.7**	**+0.2**
	baz=270								
NNS	**Nan Shan**	**0.75**	**228**	⇑*i* P	**Pn**	**16 07 58.7**	**0.0**
	baz=225								
NNS				S	**Sn**	**16 08 12.8**	**-0.2**
	baz=225								
NNSB	**Datong**	**0.75**	**227**	⇑*i* P	**Pn**	**16 07 58.6**	**-0.1**
	baz=224								
NNSB				S	**Sn**	**16 08 12.4**	**-0.7**
	baz=224								
NNSH	**Datong**	**0.75**	**227**	*e*P	**Pn**	**16 07 58.7**	**0.0**
	baz=224								
NNSH				*e*S	**Sn**	**16 08 12.6**	**-0.5**
	baz=224								
NJD	**Zhudong**	**0.84**	**256**	*e*P	**Pn**	**16 08 00.1**	**+0.8**
	baz=254								
NJD				*e*S	**Sn**	**16 08 14.4**	**+0.1**
	baz=254								
NACB	**Ninganchiao**	**0.84**	**205**	P	**Pn**	**16 07 58.5**	**-0.9**
	baz=202								
NACB				*e*S	**Sn**	**16 08 13.1**	**-1.3**
	baz=202								
ETLH	**Xiulin Townshi**	**0.86**	**212**	*e*P	**Pn**	**16 07 59.5**	**-0.2**
	baz=209								
ETLH				*e*S	**Sn**	**16 08 14.3**	**-0.6**
	baz=209								
HSN1	**Hsinchu**	**0.89**	**259**	*e*P	**Pn**	**16 08 00.1**	**+0.3**
	baz=258								
HSN1				*e*S	**Sn**	**16 08 15.0**	**-0.1**
	baz=258								
SBCB	**Hsinchu**	**0.92**	**261**	*e*P	**Pn**	**16 08 00.4**	**+0.3**
	baz=259								
SBCB				*e*S	**Sn**	**16 08 15.1**	**-0.5**
	baz=259								
LIOB	**Emei**	**0.93**	**251**	*e*P	**Pn**	**16 08 00.3**	**+0.1**
	baz=249								
LIOB				*e*S	**Sn**	**16 08 15.3**	**-0.5**
	baz=249								
HSN	**Hsinchu**	**0.93**	**261**	*e*P	**Pn**	**16 08 00.1**	**-0.1**
	baz=261								
HSN				*e*S	**Sn**	**16 08 14.8**	**-1.0**
	baz=261								
TWD	**Chiawan**	**0.93**	**202**	*e*P	**Pn**	**16 07 59.4**	**-0.9**
	baz=199								
TWD				*e*S	**Sn**	**16 08 13.8**	**-2.0**
	baz=199								
NSTT	**Nanjuang**	**0.94**	**251**	*e*P	**Pn**	**16 08 00.3**	**-0.1**
	baz=249								
NSTT				*e*S	**Sn**	**16 08 15.3**	**-0.8**
	baz=249								
FUSS	**Fushou**	**0.97**	**224**	*e*P	**Pn**	**16 08 01.3**	**+0.4**
	baz=222								
FUSS				*e*S	**Sn**	**16 08 17.2**	**+0.3**
	baz=222								
JYNG	**Yonagunijimaku**	**1.00**	**119**	P	**Pn**	**16 08 00.5**	**-0.4**
JYNG				S	**Sn**	**16 08 15.8**	**-1.3**
TDCB	**Techi**	**1.02**	**228**	P	**Pn**	**16 08 01.6**	**+0.3**
	baz=225								
TDCB				*e*S	**Sn**	**16 08 16.9**	**-0.7**
	baz=225								
HWA	**Hwalien**	**1.02**	**200**	*e*S	**Sn**	**16 08 17.6**	**+0.2**
	baz=197								
WHF	**Hehuan Shan**	**1.03**	**219**	*e*P	**Pn**	**16 08 01.7**	**0.0**
	baz=217								
WHF				*e*S	**Sn**	**16 08 17.4**	**-1.0**
	baz=217								
YOJ	**Yonaguni jima**	**1.05**	**117**	*e*P	**Pn**	**16 08 01.6**	**+0.2**
	baz=116								
YOJ				*e*S	**Sn**	**16 08 16.7**	**-1.2**
	baz=116								
YOJ	**Yonaguni jima**	**1.05**	**117**	P	**Pn**	**16 08 00.9**	**-0.5**
YOJ				S	**Sn**	**16 08 16.5**	**-1.5**
CHGB	**Renai**	**1.15**	**220**	P	**Pn**	**16 08 03.0**	**+0.2**
	baz=218								
CHGB				*e*S	**Sn**	**16 08 19.7**	**-0.6**
	baz=218								
WHP	**Taichung City**	**1.15**	**235**	*e*P	**Pn**	**16 08 03.0**	**+0.3**
	baz=233								
WHP				*e*S	**Sn**	**16 08 19.7**	**-0.4**
	baz=233								
NMLH	**Miaoli**	**1.16**	**250**	*e*P	**Pn**	**16 08 03.0**	**+0.4**
	baz=248								
NMLH				*e*S	**Sn**	**16 08 20.2**	**+0.2**
	baz=248								
NSY	**Sanyi**	**1.23**	**245**	*e*P	**Pn**	**16 08 03.8**	**+0.4**
	baz=243								
NSY				*e*S	**Sn**	**16 08 21.7**	**+0.2**
	baz=243								
ESL	**Shilin**	**1.23**	**204**	*e*P	**Pn**	**16 08 04.4**	**+1.0**
	baz=202								
ESL				*e*S	**Sn**	**16 08 21.2**	**-0.3**
	baz=202								
TWQ1	**Liyutan**	**1.25**	**242**	*e*P	**Pn**	**16 08 03.6**	**-0.1**
	baz=240								
TWQ1				*e*S	**Sn**	**16 08 21.6**	**-0.3**
	baz=240								
WCS	**Beigang Elemen**	**1.32**	**228**	*e*P	**Pn**	**16 08 04.7**	**+0.3**
	baz=226								
WCS				*e*S	**Sn**	**16 08 23.4**	**+0.2**
	baz=226								
WPL	**Puli Township**	**1.32**	**225**	*e*P	**Pn**	**16 08 04.7**	**+0.3**
	baz=224								
WPL				*e*S	**Sn**	**16 08 23.8**	**+0.7**
	baz=224								
DPDB	**Guoxing**	**1.32**	**227**	*e*P	**Pn**	**16 08 05.0**	**+0.5**
	baz=225								
WDJ	**Dajia District**	**1.36**	**244**	*e*P	**Pn**	**16 08 05.2**	**+0.4**
	baz=243								
WDJ				*e*S	**Sn**	**16 08 24.1**	**+0.1**
	baz=243								
VWDT	**VWDT**	**1.41**	**213**	*e*P	**Pn**	**16 08 05.9**	**+0.5**
	baz=211								
VWDT				*e*S	**Sn**	**16 08 24.3**	**-0.8**
	baz=211								
TCU	**Taichung**	**1.43**	**237**	*e*P	**Pn**	**16 08 06.0**	**+0.4**
	baz=234								
TCU				*e*S	**Sn**	**16 08 25.7**	**+0.2**
	baz=234								
SMLT	**Sun Moon Lake**	**1.45**	**223**	*e*P	**Pn**	**16 08 06.2**	**+0.2**
	baz=221								
SMLT				*e*S	**Sn**	**16 08 26.9**	**+0.8**
	baz=221								
TYC	**Yuchr**	**1.46**	**225**	*e*P	**Pn**	**16 08 06.2**	**+0.2**
	baz=223								
TYC				*e*S	**Sn**	**16 08 26.8**	**+0.7**
	baz=223								
WWF	**Wufeng**	**1.48**	**233**	P	**Pn**	**16 08 06.6**	**+0.4**
	baz=231								
WWF				*e*S	**Sn**	**16 08 26.4**	**-0.1**
	baz=231								
SSLB	**Suanglung**	**1.49**	**219**	P	**Pn**	**16 08 06.5**	**+0.1**
	baz=217								
SSLB				*e*S	**Sn**	**16 08 26.6**	**-0.1**
	baz=217								
HGSD	**Ruisui**	**1.53**	**200**	*e*P	**Pn**	**16 08 06.6**	**-0.4**
	baz=198								
HGSD				*e*S	**Sn**	**16 08 27.8**	**+0.2**
	baz=198								
EHY	**Hungye**	**1.56**	**203**	*e*P	**Pn**	**16 08 07.4**	**+0.2**
	baz=201								
EHY				*e*S	**Sn**	**16 08 26.4**	**-1.8**
	baz=201								
WNT1	**Nantou City**	**1.57**	**229**	*e*P	**Pn**	**16 08 07.7**	**+0.3**
	baz=227								
WNT1				*e*S	**Sn**	**16 08 28.2**	**-0.3**
	baz=227								
WNT	**Mingjian**	**1.59**	**228**	P	**Pn**	**16 08 07.8**	**+0.2**
	baz=226								
WNT				*e*S	**Sn**	**16 08 28.6**	**-0.3**
	baz=226								
WJS	**Zhushan**	**1.60**	**226**	*e*P	**Pn**	**16 08 08.2**	**+0.4**
	baz=224								
WJS				*e*S	**Sn**	**16 08 29.0**	**-0.1**
	baz=224								
WHYT	**Xinyi Township**	**1.61**	**220**	P	**Pn**	**16 08 08.4**	**+0.5**
	baz=218								
WHYT				*e*S	**Sn**	**16 08 29.9**	**+0.4**
	baz=218								
YULB	**Yu-li**	**1.67**	**202**	*e*P	**Pn**	**16 08 09.0**	**+0.4**
	baz=200								
YULB				*e*S	**Sn**	**16 08 28.7**	**-1.9**
	baz=200								
EYUL	**Yuli**	**1.70**	**201**	*e*P	**Pn**	**16 08 10.1**	**+1.1**
	baz=199								
EYUL				*e*S	**Sn**	**16 08 31.6**	**+0.2**
	baz=199								
IRIF	**Iriomote-Funau**	**1.70**	**111**	P	**Pn**	**16 08 08.1**	**-0.8**
IRIF				S	**Sn**	**16 08 29.5**	**-1.8**
TWF1	**Yuli**	**1.71**	**202**	*e*P	**Pn**	**16 08 10.7**	**+1.6**
	baz=200								
TWF1				*e*S	**Sn**	**16 08 31.8**	**+0.4**
	baz=200								
ALS	**Alishan**	**1.79**	**217**	*e*P	**Pn**	**16 08 10.6**	**+0.2**
	baz=215								
ALS				*e*S	**Sn**	**16 08 33.3**	**-0.4**
	baz=215								
CHN5	**Tsauling**	**1.79**	**222**	*e*P	**Pn**	**16 08 10.2**	**0.0**
	baz=220								
CHN5				*e*S	**Sn**	**16 08 33.4**	**-0.1**
	baz=220								
WRL	**Guolierlin Hig**	**1.79**	**235**	*e*P	**Pn**	**16 08 10.1**	**0.0**
	baz=233								
WRL				*e*S	**Sn**	**16 08 32.0**	**-1.4**
	baz=233								
WGK	**Gukeng**	**1.80**	**226**	*e*P	**Pn**	**16 08 10.6**	**+0.4**
	baz=224								
WGK				*e*S	**Sn**	**16 08 34.1**	**+0.6**
	baz=224								
WDLH	**Douliu**	**1.82**	**227**	*e*P	**Pn**	**16 08 10.9**	**+0.6**
	baz=225								
WDLH				*e*S	**Sn**	**16 08 34.5**	**+0.7**
	baz=225								
FULB	**Fuli**	**1.85**	**200**	*e*P	**Pn**	**16 08 11.8**	**+1.0**
	baz=198								
FULB				*e*S	**Sn**	**16 08 34.1**	**-0.5**
	baz=198								
HATJ	**Hateruma jima**	**1.88**	**118**	P	**Pn**	**16 08 10.9**	**-0.2**
HATJ				S	**Sn**	**16 08 35.2**	**0.0**
WTK	**Tuku**	**1.92**	**230**	*e*P	**Pn**	**16 08 11.5**	**-0.2**
	baz=228								
WTK				*e*S	**Sn**	**16 08 35.9**	**-0.2**
	baz=228								
CHKT	**Chengkung**	**1.92**	**197**	*e*S	**Sn**	**16 08 33.7**	**-2.4**
	baz=195								
ELDTW	**Lidau**	**1.96**	**207**	*e*P	**Pn**	**16 08 13.0**	**+0.8**
	baz=205								
ELDTW				*e*S	**Sn**	**16 08 36.3**	**-0.9**
	baz=205								
JKRS	**Kuro-shima**	**1.98**	**110**	S	**Sn**	**16 08 36.0**	**-1.3**
CHY	**Chiayi**	**2.02**	**225**	*e*P	**Pn**	**16 08 13.0**	**0.0**
	baz=223								
CHY				*e*S	**Sn**	**16 08 37.5**	**-1.0**
	baz=223								
CHN4	**Tsaushan**	**2.03**	**219**	*e*P	**Pn**	**16 08 13.7**	**+0.6**
	baz=217								
CHN4				*e*S	**Sn**	**16 08 40.5**	**+1.8**
	baz=217								
JIJ	**Ishigaki jima**	**2.05**	**106**	P	**Pn**	**16 08 12.9**	**-0.4**
JIJ				S	**Sn**	**16 08 36.9**	**-2.1**
TPUB	**Ta-pu**	**2.05**	**217**	*e*P	**Pn**	**16 08 13.5**	**+0.2**
	baz=216								
TPUB				*e*S	**Sn**	**16 08 38.1**	**-1.0**
	baz=216								
EDH	**Donghe**	**2.06**	**198**	*e*P	**Pn**	**16 08 14.6**	**+1.1**
	baz=196								
EDH				*e*S	**Sn**	**16 08 37.0**	**-2.3**
	baz=196								
STYH	**Taoyuan**	**2.08**	**212**	*e*P	**Pn**	**16 08 14.1**	**+0.4**
	baz=211								
STYH				*e*S	**Sn**	**16 08 39.8**	**0.0**
	baz=211								
STYT	**Tauyuan**	**2.10**	**213**	*e*P	**Pn**	**16 08 14.3**	**+0.3**
	baz=211								
STYT				*e*S	**Sn**	**16 08 40.5**	**+0.2**
	baz=211								
WTP	**Ta-pu**	**2.10**	**217**	*e*P	**Pn**	**16 08 14.8**	**+0.7**
	baz=215								
WTP				*e*S	**Sn**	**16 08 39.4**	**-1.0**
	baz=215								
JISG	**Ishigakijimahi**	**2.15**	**99**	P	**Pn**	**16 08 14.5**	**0.0**
JISG				S	**Sn**	**16 08 40.4**	**-0.8**
TWK	**Hsinying**	**2.16**	**220**	*e*P	**Pn**	**16 08 14.8**	**0.0**
	baz=218								
TWK				*e*S	**Sn**	**16 08 40.7**	**-1.0**
	baz=218								
LONT	**Longtian**	**2.17**	**201**	*e*S	**Sn**	**16 08 40.2**	**-1.7**
	baz=200								
MATB	**Ma-tsu**	**2.20**	**304**	*e*P	**Pn**	**16 08 15.1**	**-0.1**
	baz=302								
MATB				*e*S	**Sn**	**16 08 41.0**	**-1.3**
	baz=302								
CHN1	**Nanshi**	**2.20**	**217**	*e*P	**Pn**	**16 08 15.6**	**+0.4**
	baz=216								
CHN1				*e*S	**Sn**	**16 08 41.5**	**-1.0**
	baz=216								
SGST	**Jiashian**	**2.25**	**215**	*e*P	**Pn**	**16 08 16.2**	**+0.3**
	baz=213								
SGST				*e*S	**Sn**	**16 08 42.3**	**-1.4**
	baz=213								
CHN8	**Yiju**	**2.27**	**226**	*e*S	**Sn**	**16 08 44.0**	**-0.1**
	baz=224								
TWG	**Pinlang**	**2.27**	**202**	*e*P	**Pn**	**16 08 17.8**	**+1.6**
	baz=200								
TWG				*e*S	**Sn**	**16 08 42.0**	**-2.2**
	baz=200								
TWGBT	**Beinan**	**2.27**	**201**	*e*P	**Pn**	**16 08 18.1**	**+2.0**
	baz=200								
TWGBT				*e*S	**Sn**	**16 08 42.2**	**-2.0**
	baz=200								
SLGT	**Liugui**	**2.30**	**212**	*e*P	**Pn**	**16 08 17.8**	**+1.3**
	baz=211								
SLGT				*e*S	**Sn**	**16 08 45.5**	**+0.8**
	baz=211								
VWUC	**VWUC**	**2.30**	**272**	P	**Pn**	**16 08 16.3**	**-0.2**
	baz=270								
VWUC				*e*S	**Sn**	**16 08 43.0**	**-1.7**
	baz=270								
JTJ	**Tarama**	**2.49**	**96**	P	**Pn**	**16 08 19.1**	**+0.2**
JTJ				S	**Sn**	**16 08 48.2**	**-0.9**
SSD	**Sandimen**	**2.51**	**210**	*e*P	**Pn**	**16 08 19.7**	**+0.4**
	baz=208								
SSD				*e*S	**Sn**	**16 08 50.1**	**+0.4**
	baz=208								
ECL	**Taimali**	**2.52**	**202**	*e*P	**Pn**	**16 08 22.2**	**+2.8**
	baz=201								
ECL				*e*S	**Sn**	**16 08 47.0**	**-2.8**
	baz=201								
XPSS	**Dashiqiu**	**2.55**	**321**	*e*P	**Pn**	**16 08 19.5**	**-0.2**
	baz=321								
LYJJ	**Jianjiangzhen**	**2.56**	**309**	*e*P	**Pn**	**16 08 19.9**	**0.0**
	baz=308								
LYJJ				*e*S	**Sn**	**16 08 48.7**	**-2.1**
	baz=308								
PTMZ	**Houxiangcun**	**2.60**	**273**	*e*P	**Pn**	**16 08 20.2**	**-0.2**
	baz=271								
PTMZ				*e*S	**Sn**	**16 08 49.5**	**-2.2**
	baz=271								
PHUB	**P'eng-hu**	**2.62**	**238**	*e*P	**Pn**	**16 08 19.6**	**-1.1**
	baz=236								
PHUB				*e*S	**Sn**	**16 08 49.8**	**-2.5**
	baz=236								
MASBT	**Mashibuluo**	**2.63**	**208**	P	**Pn**	**16 08 21.8**	**+0.9**
	baz=207								
MASBT				*e*S	**Sn**	**16 08 51.6**	**-0.8**
	baz=207								
WDGT	**Dungji**	**2.71**	**232**	*e*P	**Pn**	**16 08 21.1**	**-0.7**
	baz=230								
EAST	**Anshuo**	**2.75**	**202**	*e*S	**Sn**	**16 08 54.6**	**-0.8**
	baz=201								
SCZT	**Fangliau**	**2.85**	**206**	*e*P	**Pn**	**16 08 25.1**	**+1.5**
	baz=205								
SCZT				*e*S	**Sn**	**16 08 56.5**	**-1.1**
	baz=205								
JIRB	**Irabujima**	**2.90**	**92**	S	**Sn**	**16 08 59.0**	**+0.3**
VCHM	**Qimei**	**2.90**	**234**	*e*P	**Pn**	**16 08 24.5**	**+0.1**
	baz=232								
VCHM				*e*S	**Sn**	**16 08 57.1**	**-1.7**
	baz=232								
MHZQ	**Yeshan**	**2.91**	**294**	*e*P	**Pn**	**16 08 24.6**	**+0.3**
	baz=293								
JIKM	**Ikemajima**	**2.96**	**90**	*e*S	**Sn**	**16 09 02.1**	**+1.8**
JMJ	**Miyako jima 2**	**3.01**	**92**	*e*P	**Pn**	**16 08 27.3**	**+1.5**
	baz=92								
JMJ				*e*S	**Sn**	**16 09 01.8**	**+0.4**
	baz=92								
JMJ2	**Miyako jima3**	**3.05**	**93**	P	**Pn**	**16 08 26.1**	**-0.1**
JMJ2				*e*S	**Sn**	**16 09 02.2**	**0.0**
JOGS	**Gusukube**	**3.12**	**93**	*e*S	**Sn**	**16 09 04.2**	**+0.3**
KNMB	**Chin-men Tao**	**3.30**	**262**	*e*P	**Pn**	**16 08 29.9**	**+0.3**
	baz=261								
AXDP	**Jialang**	**3.64**	**270**	*e*P	**Pn**	**16 08 35.1**	**+0.9**
	baz=269								
AXDP				*e*S	**Sn**	**16 09 15.4**	**-1.0**
	baz=269								
ZPLA	**Ao Xicun**	**3.99**	**256**	*e*P	**Pn**	**16 08 38.5**	**-0.3**
	baz=255								
KSRS	**Korea Array**	**13.46**	**21**	Pn	**P**	**16 10 53.0**	**+1.8**
	0.1nm,0.3s,baz=202,slow=12,SNR=7.1								
WRA	**Warramunga Arr**	**46.21**	**164**	P	**P**	**16 15 52.5**	**-1.0**
	0.3nm,0.4s,baz=346,slow=8.7,SNR=10								
ASAR	**Alice Springs**	**49.69**	**166**	P	**P**	**16 16 19.9**	**-0.4**
	0.1nm,0.6s,baz=344,slow=6.8,SNR=6.7								

NEIC ***28*** *16:19:39.1±1.0,32°.69S±0°.09×179°.40W±0°.09, h64km±11km,mb4.1/9, Error ellipse: s-maj=14.0km s-min=10.1km az=150.0*

WEL ***28*** *16:19:42.9±0.5,33°.5S±8°×18°.0E±1°.7,h177km±14km, M4.1/18,mB4.6/9,MLv4.6/18,Mw(mB)3.8/9, Error ellipse: s-maj=0.0km s-min=0.0km az=114.1*

IDC ***28*** *16:19:46.4±7.1,33°.38S×179°.80W,h115km±56km,mb3.5/2, mb1 3.8/3,mb1mx3.4/30,mbtmp3.9/3, Error ellipse: s-maj=55.5km s-min=34.6km az=43.0*

ISC 28 16:19:53.6±0.9,33°.69S±0°.05×179°.57E±0°.10,h150km,n66, σ2s67/85,mb3.9/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.99**	**195**	Pn	**Pn**	**16 20 54.7**	**+1.0**
MXZ	**Matakaoa Point**	**3.99**	**195**	P	**Pn**	**16 20 51.9**	**-1.9**
MXZ				S	**Sn**	**16 21 42.8**	**+2.3**
WMGZ	**Waiomatatini S**	**4.22**	**192**	P	**Pn**	**16 20 55.5**	**-1.2**
WMGZ				S	**Sn**	**16 21 48.7**	**+2.8**
HAZ	**Te Kaha**	**4.30**	**199**	P	**Pn**	**16 20 57.9**	**+0.1**
HAZ				S	**Sn**	**16 21 55.8**	**+8.0**
PKGZ	**Pakihiroa**	**4.36**	**196**	P	**Pn**	**16 20 57.5**	**-1.1**
PKGZ				S	**Sn**	**16 21 51.9**	**+2.8**
KUZ	**Kuaotunu**	**4.38**	**225**	P	Pn	16 21 03.1	+4.3
PUZ	**Puketiti**	**4.50**	**193**	P	**Pn**	**16 20 58.3**	**-2.0**
PUZ				S	**Sn**	**16 21 53.6**	**+1.3**
RUGZ	**Raukumara Rang**	**4.53**	**199**	P	**Pn**	**16 21 00.3**	**-0.6**
RUGZ				S	**Sn**	**16 21 59.3**	**+6.0**
CNGZ	**Carnagh Statio**	**4.90**	**193**	P	**Pn**	**16 21 04.0**	**-1.8**
CNGZ				S	**Sn**	**16 22 05.1**	**+3.1**
MWZ	**Matawai**	**4.92**	**199**	P	**Pn**	**16 21 04.0**	**-2.0**
MWZ				S	**Sn**	**16 22 06.4**	**+4.1**
RAO	**Raoul Island**	**4.92**	**27**	Pn	Pn	16 20 33.0	-33
TKGZ	**Te Karaka**	**4.94**	**196**	P	**Pn**	**16 21 03.3**	**-2.8**
TKGZ				S	**Sn**	**16 22 07.0**	**+4.3**
URZ	**Urewera**	**4.97**	**203**	P	**Pn**	**16 21 05.4**	**-1.2**
	1.9nm,0.3s,baz=301,slow=24,SNR=77						
URZ				S	**Sn**	**16 22 08.2**	**+4.6**
	8.0nm,0.3s,baz=359,slow=23,SNR=7.1						
URZ	**Urewera**	**4.97**	**203**		**Pn**	**16 21 06.8**	**+0.2**
OUZ	**Omahuta**	**5.16**	**251**	Pn	**Pn**	**16 21 11.4**	**+2.3**
BKZ	**Black Stump Fm**	**6.00**	**204**	Pn	**Pn**	**16 21 19.5**	**-0.8**
PNHZ	**Pukenui**	**6.77**	**203**	P	**Pn**	**16 21 27.1**	**-3.4**
PNHZ				S	**Sn**	**16 22 48.8**	**+2.3**
WPHZ	**Waipukurau**	**6.83**	**201**	P	**Pn**	**16 21 28.6**	**-2.8**
WPHZ				S	**Sn**	**16 22 50.0**	**+

TCW	**Tory Channel**	**8.60**	**208**	P	**Pn**	**16 21 52.0**	**-2.9**
TCW				S	**Sn**	**16 23 30.5**	**+0.1**
TUWZ	**Tuamarina**	**8.92**	**208**	P	**Pn**	**16 21 55.9**	**-3.2**
TUWZ				S	**Sn**	**16 23 37.4**	**-0.6**
NNZ	**Nelson**	**8.97**	**211**	P	**Pn**	**16 21 56.8**	**-3.1**
BSWZ	**Blackbirch Sta**	**9.19**	**208**	P	**Pn**	**16 21 59.5**	**-3.2**
BSWZ				S	**Sn**	**16 23 44.3**	**-0.3**
THZ	**Tophouse**	**9.62**	**211**	P	**Pn**	**16 22 05.9**	**-2.7**
THZ				S	**Sn**	**16 23 56.1**	**+0.9**
KHZ	**Kahutara**	**9.92**	**207**	Pn	**Pn**	**16 22 08.9**	**-3.5**
KHZ	**Kahutara**	**9.92**	**207**	P	**Pn**	**16 22 08.3**	**-4.1**
KHZ				S	**Sn**	**16 24 00.2**	**-1.9**
RPZ	**Rata Peaks**	**12.00**	**211**	P	**Pn**	**16 22 35.9**	**-4.0**
	0.5nm,0.3s,baz=1.7,slow=16,SNR=1.4						
RPZ				S	**Sn**	**16 24 45.8**	**-6.7**
	0.3nm,0.3s,baz=39,slow=20,SNR=1.6						
TOO	**Toolangi**	**27.87**	**252**	P	**P**	**16 25 32.8**	**+3.5**
TOO				IAmb	IAmb	16 25 43.2	
	comp=Z,4.9nm,1.1s						
AS31	**Alice Springs**	**41.00**	**272**	P	**P**	**16 27 23.2**	**+1.1**
ASAR	**Alice Springs**	**41.00**	**272**	P	**P**	**16 27 22.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=109,slow=7.6,SNR=27						
ASAR				pP	**pP**	**16 27 52.0**	**-2.4**
	comp=Z,0.4nm,0.5s,baz=113,slow=7.7,SNR=2.7						
ASAR				PcP	**PcP**	**16 29 17.1**	**-2.2**
	comp=Z,0.4nm,1.1s,baz=114,slow=3.4,SNR=1.7						
ASAR	**Alice Springs**	**41.00**	**272**	P	**P**	**16 27 23.5**	**+1.4**
WB2	**Warramunga Arr**	**42.29**	**277**	P	**P**	**16 27 32.8**	**+0.2**
WB2				IAmb	IAmb	16 27 41.0	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**42.30**	**277**	P	**P**	**16 27 32.7**	**0.0**
	comp=Z,0.4nm,0.2s,baz=118,slow=7.9,SNR=14						
WRA				pP	**pP**	**16 28 01.6**	**-3.4**
	comp=Z,0.5nm,0.6s,baz=114,slow=7.6,SNR=2.6						
WRA	**Warramunga Arr**	**42.30**	**277**	P	**P**	**16 27 33.1**	**+0.5**
WB0	**Warramunga Arr**	**42.34**	**277**	P	**P**	**16 27 33.0**	**0.0**
WB0				IAmb	IAmb	16 27 43.6	
	comp=Z,2.7nm,1.1s						
FORT	**Forrest**	**43.30**	**259**	P	**P**	**16 27 43.6**	**+3.0**
FORT				IAmb	IAmb	16 27 53.7	
	comp=Z,7.6nm,0.9s						
SBA	**Scott Base**	**44.61**	**184**	P	**P**	**16 27 54.4**	**+4.0**
VNDA	**Vanda**	**44.62**	**185**	P	**P**	**16 27 52.4**	**+1.9**
MTN	**Manton Dam**	**48.59**	**283**	P	**P**	**16 28 20.7**	**-1.5**
FITZ	**Fitzroy Crossi**	**50.40**	**274**	P	**P**	**16 28 34.7**	**-1.1**
QSPA	**South Pole Qui**	**56.42**	**180**	P	**P**	**16 29 22.0**	**+2.7**
SNAA	**Sanae**	**74.91**	**179**	P	**P**	**16 31 18.0**	**+0.5**
SNAA	**Sanae**	**74.91**	**179**	P	**P**	**16 31 18.5**	**+0.9**
SNAA				IAmb	IAmb	16 31 36.9	
	comp=Z,3.1nm,1.0s						
VNA3	**Neumayer Olymp**	**75.15**	**177**	P	**P**	**16 31 19.7**	**+0.8**
VNA2	**Neumayer--Watz**	**75.56**	**178**	P	**P**	**16 31 22.0**	**+0.8**
	baz=185,slow=4.6						
VNA1	**Neumayer--Stat**	**75.80**	**177**	P	**P**	**16 31 23.0**	**+0.5**
H03S2	**Juan Fernandez**	**80.35**	**124**	T	T	18 00 13.3	
	baz=236						
H03S1	**Juan Fernandez**	**80.36**	**124**	T	T	18 00 17.3	
	baz=236						
H03S3	**Juan Fernandez**	**80.37**	**124**	T	T	18 00 17.4	
	baz=236						
H03N3	**Juan Fernandez**	**80.57**	**124**	T	T	18 00 24.4	
	baz=239,slow=72,SNR=10						
H03N2	**Juan Fernandez**	**80.57**	**124**	T	T	18 00 24.0	
	baz=239,slow=72,SNR=8.9						
H03N1	**Juan Fernandez**	**80.58**	**124**	T	T	18 00 29.7	
	baz=239,slow=72,SNR=12						
FINES	**FINESS Array B**	**147.43**	**337**	PKPbc	**PKPdf**	**16 39 15.2**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=32,slow=5.7,SNR=13						
TORD	**Torodi Ar. Bea**	**159.45**	**186**	PKPab	**PKPab**	**16 40 11.2**	**-2.0**
	comp=Z,0.6nm,0.5s,baz=172,slow=4.0,SNR=5.1						

*TAP **28** 16:21:01.5,24.8̄4N×121.9̄8E,h13km,ML3.3,C*
*JMA **28** 16:21:02.3,24.8̄2N×121.9̄2E,h32km,M2.7*

ISC 28 16:21:00.7±0.9,24.8̄7N±0.02×122.0̄4E±0.02,h14km±6km, n115,σ0.074/164,17C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.15**	**342**	⇑*i* P	**Pb**	**16 21 05.6**	**+0.3**
	baz=355						
TWB1				*i* S	**Sg**	**16 21 08.0**	**+1.1**
	baz=355						
NTC	**Toucheng**	**0.19**	**266**	⇑*i* P	**Pb**	**16 21 05.4**	**-0.6**
	baz=284						
NTC				*i* S	**Sg**	**16 21 07.5**	**-0.5**
	baz=284						
TIPB	**Shuangxi**	**0.22**	**298**	⇑*i* P	**Pb**	**16 21 06.3**	**-0.2**
	baz=305						
TIPB				*i* S	**Sg**	**16 21 09.3**	**+0.5**
	baz=305						
ILA	**Ilan**	**0.28**	**249**	*e*P	**Pg**	**16 21 06.8**	**+0.2**
	baz=242						
ILA				*e*S	**Sg**	**16 21 10.6**	**0.0**
	baz=242						
WFSB	**Wu-fen Shan**	**0.31**	**311**	⇑*i* P	**Pb**	**16 21 08.4**	**+0.3**
	baz=315						
WFSB				*e*S	**Sb**	**16 21 13.0**	**0.0**
	baz=315						
TWC	**Suao**	**0.31**	**214**	⇑*i* P	**Pg**	**16 21 07.1**	**0.0**
	baz=211						
TWC				*e*S	**Sg**	**16 21 10.7**	**-0.8**
	baz=211						
TWE	**Neicheng**	**0.37**	**247**	⇑*i* P	**Pg**	**16 21 08.2**	**0.0**
	baz=240						
TWE				*e*S	**Sg**	**16 21 12.5**	**-0.7**
	baz=240						
TNOU	**National Taiwa**	**0.37**	**320**	⇑*i* P	**Pb**	**16 21 09.7**	**+0.6**
	baz=319						
TNOU				*e*S	**Sb**	**16 21 14.2**	**-0.6**
	baz=319						
NDS	**Dongshan**	**0.37**	**231**	⇑*i* P	**Pg**	**16 21 08.2**	**-0.1**
	baz=225						
NDS				*e*S	**Sg**	**16 21 12.4**	**-1.0**
	baz=225						
TWA	**Mucha**	**0.43**	**285**	⇑*i* P	**Pb**	**16 21 10.0**	**-0.1**
	baz=283						
TWA				*e*S	**Sg**	**16 21 15.2**	**+0.1**
	baz=283						
NHDH	**Xindian Distri**	**0.47**	**282**	*e*P	**Pb**	**16 21 11.2**	**+0.3**
	baz=279						
NHDH				*e*S	**Sg**	**16 21 16.7**	**+0.2**
	baz=279						
NWRT	**Kuosheng**	**0.48**	**314**	*e*P	**Pn**	**16 21 11.6**	**-1.6**
	baz=318						
NWRT				*e*S	**Sb**	**16 21 17.5**	**-0.4**
	baz=318						
EWUT	**Wuta**	**0.48**	**209**	*e*P	**Pg**	**16 21 10.4**	**+0.1**
	baz=212						
EWUT				*e*S	**Sg**	**16 21 16.8**	**+0.1**
	baz=212						
ENTT	**Nioudou**	**0.48**	**242**	⇑*i* P	**Pg**	**16 21 10.1**	**-0.2**
	baz=243						
ENTT				*e*S	**Sb**	**16 21 17.8**	**-0.3**
	baz=243						
NWLT	**Wulai**	**0.49**	**260**	*e*P	**Pg**	**16 21 10.5**	**0.0**
	baz=262						
NWLT				*e*S	**Sg**	**16 21 16.3**	**-0.9**
	baz=262						
TAP1	**Taipei**	**0.50**	**290**	*e*P	**Pb**	**16 21 11.7**	**+0.4**
	baz=288						
TAP1				*e*S	**Sb**	**16 21 18.3**	**-0.1**
	baz=288						
YM01	**YM01**	**0.51**	**303**	⇑*i* P	**Pb**	**16 21 11.2**	**-0.3**
	baz=299						
YM01				*e*S	**Sb**	**16 21 18.1**	**-0.7**
	baz=299						
TATO	**Taipei**	**0.51**	**282**	*i* P	**Pb**	**16 21 11.6**	**+0.1**
	baz=278						
TATO				*e*S	**Sg**	**16 21 17.6**	**0.0**
	baz=278						
TAP	**Taipei**	**0.51**	**290**	*e*P	**Pb**	**16 21 11.8**	**+0.3**
	baz=288						
TAP				*e*S	**Sb**	**16 21 18.5**	**-0.4**
	baz=288						
YM11	**YM11**	**0.51**	**305**	*e*P	**Pn**	**16 21 12.5**	**-1.3**
	baz=310						
ENA	**Nanau**	**0.52**	**212**	*e*P	**Pg**	**16 21 10.7**	**-0.2**
	baz=214						
ENA				*e*S	**Sg**	**16 21 17.1**	**-0.6**
	baz=214						
YM08	**YM08**	**0.52**	**308**	⇑*i* P	**Pb**	**16 21 12.1**	**+0.5**
	baz=304						
YM08				*e*S	**Sb**	**16 21 20.4**	**+1.4**
	baz=304						
YM10	**YM10**	**0.52**	**304**	⇑*i* P	**Pn**	**16 21 12.5**	**-1.4**
	baz=308						
YM05	**YM05**	**0.52**	**305**	⇑*i* P	**Pn**	**16 21 12.5**	**-1.4**
	baz=309						
YM04	**YM04**	**0.54**	**302**	⇑*i* P	**Pn**	**16 21 12.7**	**-1.4**
	baz=306						
NDT	**Datong Townshi**	**0.55**	**241**	*e*P	**Pg**	**16 21 11.3**	**-0.1**
	baz=243						
NDT				*e*S	**Sg**	**16 21 17.7**	**-1.0**
	baz=243						
YM03	**YM03**	**0.55**	**305**	*i* P	**Pn**	**16 21 12.8**	**-1.4**
	baz=301						
BACT	**New Taipei Cit**	**0.56**	**284**	*e*P	**Pb**	**16 21 12.8**	**+0.5**
	baz=279						
BACT				*e*S	**Sb**	**16 21 20.1**	**0.0**
	baz=279						
ANP	**Anpu**	**0.57**	**304**	*e*P	**Pb**	**16 21 13.0**	**+0.4**
	baz=301						
TWY	**Chenhua**	**0.57**	**316**	P	**Pn**	**16 21 13.5**	**-0.9**
	baz=315						
TWS1	**Kuangyinshan**	**0.61**	**293**	⇑*i* P	**Pn**	**16 21 14.3**	**-0.7**
	baz=296						
TWS1				*e*S	**Sb**	**16 21 22.0**	**+0.4**
	baz=296						
NTST	**Danshui**	**0.61**	**299**	*e*P	**Pn**	**16 21 14.5**	**-0.5**
	baz=303						
NTST				*e*S	**Sb**	**16 21 22.3**	**+0.6**
	baz=303						
YHNB	**Yeheng**	**0.63**	**252**	*e*P	**Pg**	**16 21 12.8**	**-0.3**
	baz=261						
YHNB				*e*S	**Sg**	**16 21 20.6**	**-0.9**
	baz=261						
NSK	**Sanguang**	**0.65**	**253**	⇑*i* P	**Pg**	**16 21 13.1**	**-0.3**
	baz=262						
NSK				*e*S	**Sg**	**16 21 20.7**	**-1.3**
	baz=262						
NTY	**Taoyuan**	**0.68**	**281**	*e*P	**Pn**	**16 21 15.5**	**-0.6**
	baz=277						
NTY				*e*S	**Sb**	**16 21 24.4**	**+0.6**
	baz=277						
NNSB	**Datong**	**0.74**	**234**	*e*P	**Pg**	**16 21 14.5**	**-0.7**
	baz=235						
NNSH	**Datong**	**0.74**	**234**	*e*P	**Pg**	**16 21 14.8**	**-0.3**
	baz=236						
NNSH				*e*S	**Sg**	**16 21 24.9**	**+0.1**
	baz=236						
NNS	**Nan Shan**	**0.74**	**235**	*e*P	**Pg**	**16 21 14.5**	**-0.7**
	baz=236						
NNS				*e*S	**Sg**	**16 21 24.2**	**-0.7**
	baz=236						
PCYT	**Pengchaiyu**	**0.76**	**2**	*e*P	**Pn**	**16 21 17.9**	**+0.8**
	baz=2.0						
PCYT				*e*S	**Sn**	**16 21 29.1**	**+0.7**
	baz=2.0						
NCU	**National Centr**	**0.78**	**278**	*e*P	**Pn**	**16 21 17.5**	**+0.2**
	baz=280						
NCU				*e*S	**Sn**	**16 21 28.6**	**-0.3**
	baz=280						
NCUH	**Zhongli**	**0.78**	**277**	*e*P	**Pn**	**16 21 17.5**	**+0.1**
	baz=280						
NCUH				*e*S	**Sn**	**16 21 28.9**	**0.0**
	baz=280						
NACB	**Ninganchiao**	**0.80**	**210**	*i* P	**Pg**	**16 21 16.1**	**-0.1**
	baz=211						
NACB				*e*S	**Sg**	**16 21 26.7**	**-0.1**
	baz=211						
ETLH	**Xiulin Townshi**	**0.83**	**218**	*e*P	**Pg**	**16 21 16.1**	**-0.7**
	baz=219						
ETLH				*e*S	**Sg**	**16 21 28.0**	**+0.2**
	baz=219						
NJD	**Zhudong**	**0.87**	**261**	*e*P	**Pb**	**16 21 17.9**	**+0.3**
	baz=256						
TWD	**Chiawan**	**0.88**	**207**	P	**Pg**	**16 21 17.4**	**-0.4**
	baz=208						
TWD				*e*S	**Sg**	**16 21 28.3**	**-1.1**
	baz=208						
JYNG	**Yonaguni jima**	**0.93**	**117**	P	**Pn**	**16 21 20.2**	**+0.9**
JYNG				S	**Sn**	**16 21 32.8**	**+0.4**
HSN1	**Hsinchu**	**0.93**	**265**	*e*P	**Pn**	**16 21 19.7**	**+0.3**
	baz=261						
HSN1				*e*S	**Sn**	**16 21 33.5**	**+0.9**
	baz=261						
FUSS	**Fushou**	**0.95**	**230**	*e*P	**Pg**	**16 21 18.7**	**-0.5**
	baz=227						
FUSS				*e*S	**Sg**	**16 21 31.9**	**+0.3**
	baz=227						
LIOB	**Emei**	**0.95**	**257**	*e*P	**Pn**	**16 21 19.8**	**0.0**
	baz=253						
LIOB				*e*S	**Sn**	**16 21 33.1**	**-0.1**
	baz=253						
SBCB	**Hsinchu**	**0.96**	**266**	*e*P	**Pn**	**16 21 20.9**	**+1.1**
	baz=262						
SBCB				*e*S	**Sn**	**16 21 34.2**	**+0.9**
	baz=262						
HWA	**Hwalien**	**0.97**	**204**	*e*P	**Pn**	**16 21 20.0**	**0.0**
	baz=204						
NSTT	**Nanjuang**	**0.97**	**256**	*e*P	**Pb**	**16 21 19.6**	**+0.2**
	baz=250						
HSN	**Hsinchu**	**0.97**	**266**	*e*P	**Pb**	**16 21 19.4**	**0.0**
	baz=286						
YOJ	**Yonaguni jima**	**0.97**	**114**	*e*P	**Pn**	**16 21 20.7**	**+0.7**
	baz=113						
YOJ	**Yonaguni jima**	**0.97**	**114**	P	**Pn**	**16 21 21.1**	**+1.1**
YOJ				S	**Sn**	**16 21 34.8**	**+1.1**
TWT	**Tachien**	**0.99**	**232**	P	**Pn**	**16 21 20.3**	**-0.2**
	baz=228						
TWT				*e*S	**Sb**	**16 21 33.6**	**+0.7**
	baz=228						
WHF	**Hehuan Shan**	**1.01**	**224**	*e*P	**Pg**	**16 21 19.7**	**-0.5**
	baz=217						
TDCB	**Techi**	**1.01**	**233**	P	**Pb**	**16 21 20.4**	**+0.3**
	baz=229						
NJN	**Zhunan**	**1.08**	**260**	*e*P	**Pn**	**16 21 23.0**	**+1.6**
	baz=254						
CHGB	**Renai**	**1.12**	**225**	*e*P	**Pb**	**16 21 21.8**	**-0.3**
	baz=215						
WHP	**Taichung City**	**1.16**	**240**	*e*P	**Pg**	**16 21 23.2**	**+0.2**
	baz=234						
WHP				*e*S	**Sg**	**16 21 38.1**	**0.0**
	baz=234						
NMLH	**Miaoli**	**1.18**	**254**	*e*P	**Pg**	**16 21 24.9**	**+1.5**
	baz=254						
ESL	**Shilin**	**1.19**	**208**	*e*P	**Pn**	**16 21 22.6**	**-0.3**
	baz=208						
NSY	**Sanyi**	**1.25**	**249**	*e*P	**Pg**	**16 21 25.9**	**+1.2**
	baz=267						
TWQ1	**Liyutan**	**1.26**	**246**	*e*P	**Pg**	**16 21 26.1**	**+1.1**
	baz=238						
TWQ1				*e*S	**Sb**	**16 21 40.6**	**+0.2**
	baz=238						
WPL	**Puli Township**	**1.30**	**229**	*e*P	**Pg**	**16 21 25.5**	**-0.3**
	baz=225						
WPL				*e*S	**Sn**	**16 21 42.4**	**+0.6**
	baz=225						
WCS	**Beigang Elemen**	**1.30**	**232**	*e*P	**Pb**	**16 21 25.3**	**+0.2**
	baz=239						
DPDB	**Guoxing**	**1.31**	**231**	*e*P	**Pg**	**16 21 25.8**	**-0.2**
	baz=239						
EGFH	**Guangfu**	**1.32**	**205**	*e*P	**Pb**	**16 21 25.4**	**+0.1**
	baz=214						
EGFH				*e*S	**Sb**	**16 21 41.8**	**-0.2**
	baz=214						
WDJ	**Dajia District**	**1.37**	**248**	*e*P	**Pg**	**16 21 27.9**	**+0.7**
	baz=265						
VWDT	**VWDT**	**1.38**	**217**	*e*P	**Pg**	**16 21 27.0**	**-0.3**
	baz=218						
SMLT	**Sun Moon Lake**	**1.43**	**227**	*e*P	**Pb**	**16 21 27.5**	**+0.3**
	baz=219						
TCU	**Taichung**	**1.43**	**240**	*e*P	**Pb**	**16 21 27.4**	**+0.2**
	baz=261						
TYC	**Yuchr**	**1.44**	**229**	*e*P	**Pb**	**16 21 27.6**	**+0.2**
	baz=221						
SSLB	**Suanglung**	**1.46**	**223**	*e*P	**Pb**	**16 21 27.4**	**-0.3**
	baz=224						
HGSD	**Ruisui**	**1.48**	**202**	*e*P	**Pb**	**16 21 28.0**	**-0.1**
	baz=191						
EHY	**Hungye**	**1.50**	**206**	*e*P	**Pb**	**16 21 28.6**	**+0.1**
	baz=206						
WNT	**Mingjian**	**1.58**	**232**	*e*P	**Pg**	**16 21 31.9**	**+0.8**
	baz=225						
YULB	**Yu-li**	**1.62**	**205**	*e*P	**Pb**	**16 21 30.6**	**+0.1**
	baz=206						
IRIF	**Iriomote-Funau**	**1.63**	**109**	P	**Pb**	**16 21 29.9**	**-0.7**
EYUL	**Yuli**	**1.65**	**204**	*e*P	**Pg**	**16 21 32.3**	**-0.1**
	baz=217						
TWF1	**Yuli**	**1.65**	**204**	*e*P	**Pb**	**16 21 30.6**	**-0.5**
	baz=214						
YUS	**Yu-Shan**	**1.69**	**216**	*e*P	**Pb**	**16 21 32.3**	**+0.3**
	baz=225						
ALS	**Alishan**	**1.76**	**220**	*e*P	**Pg**	**16 21 33.8**	**-0.8**
	baz=222						
CHN5	**Tsauling**	**1.77**	**225**	*e*P	**Pg**	**16 21 34.7**	**-0.1**
	baz=227						
FULB	**Fuli**	**1.80**	**202**	*e*P	**Pb**	**16 21 33.6**	**+0.2**
	baz=216						
HATJ	**Hateruma jima**	**1.80**	**116**	P	**Pb**	**16 21 33.1**	**-0.4**
WDLH	**Douliu**	**1.80**	**230**	*e*P	**Pg**	**16 21 34.9**	**-0.5**
	baz=231						
JKRS	**Kuro-shima**	**1.90**	**109**	P	**Pb**	**16 21 34.2**	**-1.1**
ELDTW	**Lidau**	**1.91**	**209**	*e*P	**Pb**	**16 21 35.4**	**-0.1**
	baz=210						
JIJ	**Ishigaki jima**	**1.98**	**104**	P	**Pb**	**16 21 35.5**	**-1.1**
JIJ				*e*S	**Sb**	**16 22 01.3**	**+0.1**
CHN4	**Tsaushan**	**2.01**	**221**	*e*P	**Pg**	**16 21 38.2**	**-1.0**
	baz=222						
TPUB	**Ta-pu**	**2.02**	**220**	*e*P	**Pb**	**16 21 37.8**	**+0.5**
	baz=220						
STYH	**Taoyuan**	**2.05**	**215**	*e*P	**Pb**	**16 21 37.4**	**-0.3**
	baz=204						
STYT	**Tauyuan**	**2.06**	**215**	*e*P	**Pb**	**16 21 38.4**	**+0.3**
	baz=204						
WTP	**Ta-pu**	**2.07**	**219**	*e*P	**Pb**	**16 21 38.4**	**+0.1**
	baz=219						
JISG	**Ishigakijimahi**	**2.09**	**97**	P	**Pb**	**16 21 38.0**	**-0.4**
JISG				*e*S	**Sb**	**16 22 03.1**	**-1.1**
LONT	**Longtian**	**2.12**	**203**	*e*P	**Pn**	**16 21 37.4**	**+1.6**
	baz=188						
TWK	**Hsinying**	**2.13**	**222**	*e*P	**Pb**	**16 21 39.9**	**+0.6**
	baz=222						
CHN1	**Nanshi**	**2.17**	**220**	*e*P	**Pb**	**16 21 39.7**	**-0.1**
	baz=220						
SGST	**Jiashian**	**2.22**	**217**	*e*P	**Pb**	**16 21 40.3**	**-0.4**
	baz=204						
SLGT	**Liugui**	**2.26**	**215**	*e*P	**Pb**	**16 21 41.1**	**-0.3**
	baz=215						
MATB	**Ma-tsu**	**2.28**	**305**	*e*P	**Pn**	**16 21 37.8**	**-0.2**
	baz=305						
VWUC	**VWUC**	**2.35**	**274**	*e*P	**Pn**	**16 21 38.6**	**-0.4**
	baz=275						
SSD	**Sandimen**	**2.47**	**212**	*e*P	**Pb**	**16 21 45.2**	**+0.2**
	baz=213						
TSMG	**Majia**	**2.50**	**211**	*e*P	**Pb**	**16 21 45.0**	**-0.5**
	baz=212						
MASBT	**Mashibuluo**	**2.59**	**210**	*e*P	**Pb**	**16 21 46.5**	**-0.5**
	baz=212						
XPSS	**Dashiqiu**	**2.64**	**321**	*e*P	**Pn**	**16 21 43.9**	**+0.9**
	baz=320						
LYJJ	**Jianjiangzhen**	**2.65**	**310**	*e*P	**Pn**	**16 21 42.8**	**-0.3**
	baz=309						
PTMZ	**Houxiangcun**	**2.65**	**274**	*e*P	**Pn**	**16 21 43.2**	**+0.1**
	baz=275						
EAST	**Anshuo**	**2.70**	**204**	*e*P	**Pn**	**16 21 46.4**	**+2.6**
	baz=193						
SLIU	**Shizi**	**2.87**	**204**	*e*P	**Pb**	**16 21 49.2**	**-2.6**
	baz=194						
MHZQ	**Yeshan**	**2.98**	**295**	*e*P	**Pb**	**16 21 50.6**	**-3.0**
	baz=296						
AXDP	**Jialang**	**3.69**	**271**	*e*P	**Pn**	**16 21 58.9**	**+1.4**
	baz=272						
ZPLA	**Ao Xicun**	**4.02**	**257**	*e*P	**Pn**	**16 22 02.2**	**+0.3**
	baz=258						

*IDC **28** 16:27:24.5±0.6, 11.4̄1N×86.5̄5W, h0km, mb4.1/14, mb1 4.3/16, mb1mx4.1/41, mbtmp4.1/16, ML3.5/2, MS3.7/6, Ms1 3.7/6, ms1mx3.3/47, Error ellipse: s-maj=29.7km s-min=11.0km az=50.0*
*INET **28** 16:27:27.4, 10.̄9̄5N×86.̄9̄2W, h29km, MW4.5*
*SNET **28** 16:27:28.7±1.4, 11.0̄6N×87.2̄2W, h24km±258km, ML4.0*
*NEIC **28** 16:27:29.1±2.1, 11.1̄7N±0.0̄7×86.8̄1W±0.0̄8, h42km±8km, mb4.8/37, Error ellipse: s-maj=12.3km s-min=7.9km az=55.0*

ISC 28 16:27:25.9±1.3,11.1̄5N±0.0̄6×86.8̄3W±0.0̄6,h11km±8km, n107,σ1.839/92,mb4.8/32,MS3.9/5,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.56**	**352**		**Pn**	**16 27 53.7**	**+0.1**
ORTG	**Ortega, Santa**	**1.56**	**120**		Pn	16 27 51.8	-1.9
BOAB	**BOACO BROADBAN**	**1.72**	**41**	Pn	**Pn**	**16 27 55.6**	**-0.3**
ACON	**Acoyapa**	**1.82**	**63**		**Pn**	**16 27 57.5**	**+0.3**
MATN	**Matagalpa**	**1.98**	**27**		**Pn**	**16 28 00.1**	**+0.7**
JTS	**Las Juntas de**	**2.04**	**115**	Pn	**Pn**	**16 27 58.7**	**-1.5**
	19nm,0.3s,baz=3.9,slow=23,SNR=32						
JTS				Sn	**Sn**	**16 28 24.8**	**-0.8**
	204nm,0.3s,baz=303,slow=22,SNR=8.9						
JTS	**Las Juntas de**	**2.04**	**115**	Pn	Pn	16 27 58.2	-2.0
JTS	**Las Juntas de**	**2.04**	**115**	*e*P	**Pn**	**16 27 58.7**	**-1.5**
CNCH	**Conchagua**	**2.33**	**335**	*e*P	**Pn**	**16 28 05.1**	**+0.8**
CNCH				*e*S	**Sn**	**16 28 34.6**	**+1.5**
LCND	**La Caada**	**2.38**	**334**	*e*P	**Pn**	**16 28 05.7**	**+0.7**
LCND				*e*S	**Sn**	**16 28 35.1**	**+0.9**
LCND				IAML		16 28 40.4	
	comp=Z,773nm,0.2s						
ESPN	**Las Esperanzas**	**2.69**	**67**		**Pn**	**16 28 10.6**	**+1.5**
PACA	**Pacayal**	**2.73**	**328**	*e*P	**Pn**	**16 28 10.2**	**+0.4**
PACA				*e*S	**Sn**	**16 28 42.0**	**-0.9**
TGUH	**Tegucigalpa,Un**	**2.92**	**352**	*e*P	**Pn**	**16 28 14.0**	**+1.5**
TGUH	**Tegucigalpa,Un**	**2.92**	**352**	Pn	**Pn**	**16 28 13.8**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.92**	**352**	*e*P	**Pn**	**16 28 13.5**	**+1.0**
PQSS	**Presa 15 de Se**	**2.98**	**326**	*e*P	**Pn**	**16 28 12.4**	**-0.8**
PQSS				*e*S	**Sn**	**16 28 47.6**	**-1.4**
COEG	**Centro de Oper**	**3.17**	**321**	*e*S	**Sn**	**16 28 51.3**	**-2.4**
LFRS	**El Faro**	**3.28**	**319**	*e*P	**Pn**	**16 28 17.5**	**+0.1**
LFRS				*e*S	**Sn**	**16 28 54.3**	**-2.3**
BATAN	**Batan**	**3.56**	**107**		**Pn**	**16 28 23.7**	**+2.6**
PEZE	**Perez Zeledon,**	**3.57**	**119**		**Pn**	**16 28 21.7**	**+0.4**
CEVE	**Cerro Verde**	**3.81**	**315**	*e*P	**Pn**	**16 28 25.4**	**+0.5**
CEVE				IAML		16 29 16.5	
	comp=Z,288nm,0.3s						
MTO3	**Montecristo**	**4.06**	**323**	Pn	**Pn**	**16 28 28.5**	**+0.2**
RIOS	**Rincon, Osa**	**4.08**	**126**	Pn	**Pn**	**16 28 28.5**	**+0.2**
APG	**El Apazote**	**5.21**	**318**	Pn	Pn	16 28 48.8	+4.6
	comp=Z,3.2nm,0.3s,baz=175,slow=16,SNR=3.6						
CMIG

TX31					IAmb	IAmb	16 32 52.9	
	comp=Z,26nm,0.8s							
TX32	**Lajitas Array**	**23.96**	**321**		P	**P**	**16 32 40.6**	**+0.1**
SWET	**Sewanee**	**23.97**	**2**		P	**P**	**16 32 39.4**	**-1.1**
SWET					IAmb	IAmb	16 32 41.6	
	comp=Z,45nm,1.4s							
W50A	**Signal Mountai**	**23.98**	**3**		P	**P**	**16 32 39.6**	**-1.0**
W50A					IAmb	IAmb	16 32 42.9	
	comp=Z,18nm,0.7s							
BG3	**Lake Jocassee**	**24.00**	**8**		P	**P**	**16 32 40.7**	**0.0**
MIAR	**Mount Ida**	**24.09**	**346**		P	**P**	**16 32 39.1**	**-2.5**
MIAR	**Mount Ida**	**24.09**	**346**		P		16 32 42.5	
	baz=164,SNR=5.4							
CPCT	**Cooper Cave**	**24.28**	**5**		P	**P**	**16 32 42.7**	**-0.6**
CPCT					IAmb	IAmb	16 32 46.5	
	comp=Z,33nm,0.8s							
KMSC	**Kings Mountain**	**24.40**	**11**		P		16 32 45.4	
	baz=193							
H06E1	**SOCORRO T-PHAS**	**24.46**	**291**		T	T	16 58 02.7	
	SNR=8.3							
W56A	**Indian Trail**	**24.54**	**12**		P		16 32 47.1	
	baz=195							
TKL	**Tuckaleechee C**	**24.55**	**6**		P	**P**	**16 32 45.2**	**-0.6**
	comp=Z,14nm,0.8s,baz=176,slow=11,SNR=10							
TKL	**Tuckaleechee C**	**24.55**	**6**		P	**P**	**16 32 44.2**	**-1.7**
TKL					IAmb	IAmb	16 32 56.9	
	comp=Z,36nm,1.3s							
X37A	**Clayton**	**24.60**	**343**		P	**P**	**16 32 45.5**	**-0.7**
X37A					IAmb	IAmb	16 33 01.8	
	comp=Z,43nm,1.4s							
V53A	**Saluda**	**24.68**	**8**		P	**P**	**16 32 47.6**	**+0.5**
V53A					IAmb	IAmb	16 32 50.7	
	comp=Z,15nm,0.7s							
V56A	**Mocksville**	**25.21**	**12**		P		16 32 52.1	
	baz=194							
V57A	**Coltrane Farms**	**25.44**	**13**		P		16 32 54.5	
	baz=196							
V58A	**Windy Hill, Pi**	**25.51**	**15**		P	**P**	**16 32 54.2**	**-0.3**
V58A					IAmb	IAmb	16 32 56.2	
	comp=Z,32nm,0.8s							
U54A	**Nelsons Funny**	**25.66**	**9**		P		16 32 57.0	
	baz=191							
U40A	**Yellville**	**25.68**	**349**		P		16 32 55.3	
	baz=166,SNR=5.7							
U56A	**King**	**25.75**	**12**		P		16 32 57.7	
	baz=194							
WMOK	**Wichita Mounta**	**25.88**	**337**		P	**P**	**16 32 58.3**	**+0.4**
WMOK					IAmb	IAmb	16 33 11.4	
	comp=Z,20nm,1.1s							
WMOK	**Wichita Mounta**	**25.88**	**337**		P		16 32 59.0	
	baz=152,SNR=10.0							
TUL1	**Leonard**	**25.95**	**343**		P		16 32 58.3	
	baz=160							
U57A	**Blanch**	**26.07**	**14**		P		16 32 59.9	
	baz=197							
U58A	**Oxford**	**26.22**	**15**		P		16 33 01.3	
	baz=198							
T56A	**Rocky Mt**	**26.48**	**12**		P		16 33 03.3	
	baz=195							
MNTX	**Cornudas Mount**	**26.68**	**323**		P		16 33 06.8	
	baz=136							
MNTX	**Cornudas Mount**	**26.68**	**323**		P	**P**	**16 33 05.5**	**+0.4**
T58A	**Grand View Acr**	**26.75**	**15**		P		16 33 05.7	
	baz=198							
WCI	**Wyandotte Cave**	**26.97**	**1**		P		16 33 07.1	
	baz=181							
MSTX	**Muleshoe**	**26.99**	**330**		P		16 33 07.8	
	baz=144							
CCM	**Cathedral Cave**	**27.08**	**352**		P		16 33 08.1	
	baz=170							
AMTX	**Amarillo**	**27.22**	**333**		P	**P**	**16 33 08.5**	**-1.6**
AMTX					IAmb	IAmb	16 33 23.3	
	comp=Z,18nm,0.9s							
R54A	**Victor**	**27.42**	**10**		P		16 33 12.1	
	baz=192							
S57A	**Dark Hollow, R**	**27.42**	**14**		P		16 33 12.4	
	baz=197							
S58A	**Poland Farm, P**	**27.50**	**15**		P		16 33 13.3	
	baz=199							
R55A	**Marlinton**	**27.68**	**11**		P		16 33 15.4	
	baz=194							
R55A	**Marlinton**	**27.68**	**11**		P	**P**	**16 33 11.8**	**-2.3**
R55A					IAmb	IAmb	16 33 16.1	
	comp=Z,18nm,0.8s							
Q51A	**Peebles**	**27.93**	**6**		P	**P**	**16 33 13.6**	**-2.7**
R56A	**Bull Pasture M**	**27.94**	**13**		P		16 33 17.7	
	baz=196							
Q52A	**Bidwell**	**27.99**	**8**		P	**P**	**16 33 14.4**	**-2.4**
Q52A					IAmb	IAmb	16 33 18.3	
	comp=Z,30nm,0.9s							
Q53A	**Leroy**	**28.00**	**9**		P		16 33 17.1	
	baz=191							
R57A	**Stanardsville**	**28.04**	**14**		P		16 33 17.7	
	baz=197							
P49A	**Miami Univ. Ec**	**28.33**	**3**		P		16 33 19.3	
	baz=184							
Q56A	**Snyder Ridge,**	**28.60**	**12**		P		16 33 23.5	
	baz=196							
P52A	**Corning**	**28.67**	**8**		P		16 33 23.3	
	baz=190,SNR=10							
Q57A	**Strasburg**	**28.77**	**14**		P		16 33 24.4	
	baz=197							
Q58A	**Fox Den Farm,**	**28.85**	**15**		P		16 33 25.7	
	baz=199							
MCWV	**Mont Chateau**	**29.06**	**11**		P		16 33 27.1	
	baz=194							
P56A	**Dayton Farm, R**	**29.12**	**13**		P		16 33 28.3	
	baz=196,SNR=5.6							
ACSO	**Alum Creek Sta**	**29.16**	**6**		P		16 33 27.6	
	baz=188,SNR=6.3							
P57A	**Homestead Farm**	**29.29**	**14**		P		16 33 29.9	
	baz=198,SNR=5.4							
HDIL	**Hopedale**	**29.37**	**356**		P		16 33 28.6	
	baz=175							
O53A	**New Philadelph**	**29.41**	**9**		P		16 33 29.7	
	baz=191,SNR=10.0							
O53A	**New Philadelph**	**29.41**	**9**		P	**P**	**16 33 28.2**	**-1.1**
ANMO	**Albuquerque**	**29.67**	**326**		P	**P**	**16 33 31.3**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=155,slow=2.5,SNR=3.8							
ANMO					LR	LR	16 46 24.7	
	comp=Z,78nm,19.7s,baz=155,slow=38							
N49A	**Columbus Grove**	**29.75**	**4**		P	**P**	**16 33 31.1**	**-1.2**
P59A	**Jarrettsville**	**29.81**	**16**		P		16 33 33.9	
	baz=201							
O57A	**Amberson**	**30.07**	**14**		P		16 33 36.5	
	baz=198,SNR=5.5							
O58A	**Lewisberry**	**30.16**	**15**		P		16 33 36.4	
	baz=199							
SSPA	**Standing Stone**	**30.41**	**14**		P		16 33 38.6	
	baz=197							
SSPA	**Standing Stone**	**30.41**	**14**		P	**P**	**16 33 38.0**	**-0.3**
O59A	**Robesonia**	**30.53**	**16**		P		16 33 39.9	
	baz=201							
N56A	**West Decatur**	**30.59**	**13**		P		16 33 40.8	
	baz=196							
N57A	**Milroy**	**30.60**	**14**		P		16 33 40.7	
	baz=198							
M53A	**WI Miller and**	**30.65**	**9**		P		16 33 40.6	
	baz=192,SNR=9.3							
M54A	**Oil Creek Stat**	**30.89**	**11**		P	**P**	**16 33 41.9**	**-0.6**
M54A					IAmb	IAmb	16 33 43.8	
	comp=Z,16nm,0.7s							
M54A	**Oil Creek Stat**	**30.89**	**11**		P		16 33 42.1	
	baz=194,SNR=5.0							
N58A	**Sunbury**	**30.89**	**15**		P		16 33 43.4	
	baz=199,SNR=5.4							
N58A	**Sunbury**	**30.89**	**15**		P	**P**	**16 33 43.3**	**+0.8**
M56A	**Emporium**	**31.16**	**13**		P	P	16 33 42.0	-2.9
M56A	**Emporium**	**31.16**	**13**		P		16 33 45.1	
	baz=196							
N59A	**State Game Lan**	**31.21**	**16**		P		16 33 45.9	
	baz=201,SNR=11							
N59A	**State Game Lan**	**31.21**	**16**		P	**P**	**16 33 44.8**	**-0.6**
L53A	**Girard**	**31.22**	**9**		P		16 33 45.4	
	baz=192,SNR=12							
M57A	**Sunshine Farm,**	**31.26**	**14**		P		16 33 46.4	
	baz=198,SNR=6.7							
N60A	**Cedar Hill Far**	**31.36**	**17**		P		16 33 47.5	
	baz=202							
ERPA	**Erie**	**31.42**	**10**		P		16 33 47.1	
	baz=193,SNR=6.1							
JFWS	**Jewell Farm**	**31.78**	**355**		P		16 33 49.5	
	baz=174							
M59A	**Waymart**	**31.89**	**16**		P		16 33 51.9	
	baz=201							
L56A	**Greenwood**	**31.92**	**13**		P	**P**	**16 33 50.2**	**-1.4**
L56A					IAmb	IAmb	16 33 53.3	
	comp=Z,18nm,0.8s							
L56A	**Greenwood**	**31.92**	**13**		P		16 33 51.5	
	baz=197							
M60A	**Port Jervis**	**31.92**	**18**		P		16 33 52.2	
	baz=203							
L57A	**Andrews Acres**	**31.95**	**14**		P		16 33 52.0	
	baz=199							
M61A	**Granite Spring**	**32.16**	**19**		P		16 33 54.1	
	baz=204							
L58A	**Harry Jones Me**	**32.24**	**15**		P		16 33 54.5	
	baz=200,SNR=7.2							
BINY	**Binghamton**	**32.35**	**15**		P		16 33 55.8	
	baz=200,SNR=7.7							
MVCO	**Mesa Verde**	**32.45**	**327**		P		16 33 57.3	
	baz=138							
K56A	**Middlesex**	**32.50**	**13**		P		16 33 56.7	
	baz=197,SNR=5.1							
L59A	**Walton**	**32.59**	**16**		P		16 33 58.2	
	baz=202							
L60A	**Shokan**	**32.64**	**18**		P		16 33 58.6	
	baz=203							
I51A	**Listowel**	**32.92**	**8**		P		16 33 59.6	
	baz=190,SNR=9.7							
K58A	**Earlville**	**32.97**	**15**		P		16 34 00.7	
	baz=200							
J56A	**Wolcott**	**33.16**	**13**		P		16 34 02.2	
	baz=198,SNR=8.8							
K59A	**Cooperstown**	**33.19**	**16**		P		16 34 02.6	
	baz=202							
I37A	**Lemond, Waseca**	**33.23**	**351**		P	P	16 33 59.8	-3.3
I37A					IAmb	IAmb	16 34 11.7	
	comp=Z,12nm,0.9s							
J57A	**Williamstown**	**33.49**	**14**		P		16 34 04.8	
	baz=199							
J57A	**Williamstown**	**33.49**	**14**		P	**P**	**16 34 04.5**	**-0.7**
L61B	**Northampton**	**33.54**	**19**		P		16 34 05.5	
	baz=206							
ECSD	**EROS Data Cent**	**33.55**	**347**		P		16 34 04.8	
	baz=162,SNR=5.3							
J59A	**Piesco**	**33.92**	**16**		P		16 34 08.9	
	baz=202							
I58A	**Old Forge**	**34.01**	**15**		P		16 34 10.0	
	baz=201							
J60A	**Lant Hill Farm**	**34.03**	**18**		P		16 34 10.8	
	baz=204							
H53A	**Bobcaygeon**	**34.05**	**11**		P		16 34 09.2	
	baz=194,SNR=11							
I57A	**Carthage**	**34.07**	**14**		P		16 34 10.1	
	baz=200							
SPMN	**Marine on St.**	**34.34**	**353**		P		16 34 11.1	
	baz=170							
J61A	**Chester**	**34.39**	**19**		P		16 34 13.8	
	baz=205							
I59A	**Olmsteadville**	**34.41**	**17**		P		16 34 13.0	
	baz=203							
J62A	**Henniker**	**34.52**	**20**		P		16 34 14.8	
	baz=206							
O20A	**White River Ci**	**34.53**	**330**		P		16 34 15.3	
	baz=141							
H57A	**Richville**	**34.63**	**14**		P		16 34 14.8	
	baz=200							
H58A	**Gabriels**	**34.90**	**16**		P		16 34 16.6	
	baz=202							
G54A	**Lake Saint Pet**	**34.94**	**11**		P		16 34 16.7	
	baz=195,SNR=9.9							
LONY	**Lake Ozonia**	**34.98**	**15**		P	**P**	**16 34 17.0**	**-1.2**
LONY	**Lake Ozonia**	**34.98**	**15**		P		16 34 17.9	
	baz=201,SNR=5.4							
E43A	**Lone Tree Farm**	**35.11**	**360**		P	P	16 34 17.4	-1.9
E43A					IAmb	IAmb	16 34 18.8	
	comp=Z,16nm,0.9s							
H59A	**Cadyville**	**35.24**	**16**		P		16 34 20.2	
	baz=203							
ALGO	**Algonquin Park**	**35.48**	**11**		P		16 34 21.7	
	baz=195,SNR=6.4							
G62A	**West of Eustis**	**36.71**	**19**		P		16 34 33.3	
	baz=207							
EYMN	**Ely**	**36.88**	**355**		P		16 34 32.5	
	baz=172							
F60A	**Warwick**	**36.95**	**17**		P		16 34 34.2	
	baz=205							
D55A	**Sainte-Anne-du**	**37.02**	**13**		P		16 34 34.4	
	baz=199,SNR=7.8							
SIV	**San Ignacio**	**37.11**	**136**		P	**P**	**16 34 37.8**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=322,slow=8.9,SNR=20							
SIV					PcP	**PcP**	**16 36 57.6**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=98,slow=1.1,SNR=3.9							
PKME	**Peaks-Kenny Pk**	**37.17**	**21**		P		16 34 37.4	
	baz=209							
PDAR	**Pinedale Array**	**37.20**	**332**		P	**P**	**16 34 36.2**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=134,slow=11,SNR=11							
PDAR					ScP	**ScP**	**16 40 48.2**	**+3.4**
	comp=Z,0.9nm,0.9s,baz=158,slow=4.8,SNR=5.5							
PDAR	**Pinedale Array**	**37.20**	**332**		P	P	16 34 35.7	-1.9
D56A	**ZEC Mazanza, M**	**37.21**	**14**		P		16 34 36.5	
	baz=200							
R11A	**Troy Canyon, C**	**37.33**	**321**		P		16 34 42.8	
	baz=129							
D58A	**Chemin du LacG**	**37.72**	**16**		P		16 34 41.1	
	baz=203							
AGMN	**Agassiz Nation**	**37.79**	**350**		P		16 34 40.9	
	baz=165							
LATQ	**La Tuque**	**38.01**	**16**		P		16 34 43.7	
	baz=203							
D60A	**Saint Jean D'O**	**38.10**	**18**		P		16 34 44.2	
	baz=206							
E63A	**Oxbow**	**38.47**	**21**		P		16 34 48.0	
	baz=210							
D62A	**Allapoint, All**	**38.84**	**19**		P		16 34 51.1	
	baz=208							
NVAR	**Mina Array Bea**	**39.08**	**319**		P	**P**	**16 34 54.2**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=134,slow=7.6,SNR=9.2							
NVAR					PcP	**PcP**	**16 37 04.9**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=143,slow=3.3,SNR=6.8							
MATQ	**Matagami**	**39.24**	**9**		P		16 34 52.8	
	baz=194							
ULM	**Lac du Bonnet**	**39.69**	**351**		P	P	16 34 55.2	-2.9
	comp=Z,6.8nm,0.8s,baz=167,slow=8.9,SNR=16							
ULM					PcP	**PcP**	**16 37 04.1**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=118,slow=2.1,SNR=2.9							
H03N2	**Juan Fernandez**	**44.98**	**171**		T	T	17 23 36.7	
	baz=349,slow=76,SNR=7.9							
H03N1	**Juan Fernandez**	**44.98**	**171**		T	T	17 23 34.7	
	baz=349,slow=76,SNR=9.8							
H03N3	**Juan Fernandez**	**44.99**	**171**		T	T	17 23 36.3	
	baz=349,slow=76,SNR=9.3							
BDFB	**Brasilia**	**46.75**	**124**		P	**P**		
	comp=Z,3.6nm,0.5s,baz=307,slow=11,SNR=7.0						**16 35 54.6**	**-1.2**
CPUP	**Villa Florida**	**47.02**	**143**		P	**P**		
	comp=Z,1.1nm,0.7s,baz=348,slow=7.8,SNR=4.2						**16 35 57.4**	**-0.1**
CPUP	**Villa Florida**	**47.02**	**143**		IAmb	IAmb	16 36 06.6	
	comp=Z,2.2nm,1.1s							
PLCA	**Paso Flores**	**53.77**	**165**		P	**P**		
	comp=Z,1.4nm,0.7s,baz=334,slow=7.0,SNR=7.6						**16 36 48.2**	**-0.4**
PLCA	**Paso Flores**	**53.77**	**165**		IAmb	IAmb	16 36 56.7	
	comp=Z,6.5nm,1.4s							
FRB	**Frobisher Bay**	**54.09**	**10**		LR	LR	16 59 59.8	
	comp=Z,107nm,20.6s,baz=199,slow=36							
YKA	**Yellowknife Ar**	**55.02**	**345**		P	P	16 36 54.7	-2.5
	comp=Z,0.9nm,0.7s,baz=137,slow=7.9,SNR=13							
YKA					PcP	**PcP**	**16 37 57.6**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=144,slow=4.7,SNR=10							
YKA					ScP	**ScP**	**16 41 59.7**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=142,slow=4.4,SNR=5.5							
ILAR	**Eielson Array**	**67.45**	**336**		P	P	16 38 19.9	-1.5
	comp=Z,1.0nm,0.7s,baz=134,slow=3.6,SNR=9.7							
KDAK	**Kodiak Island**	**67.78**	**328**		LR	LR	17 08 08.0	
	comp=Z,86nm,21.4s,baz=213,slow=36							
MLY	**Manley**	**69.07**	**336**		P	P	16 38 30.1	-1.6
MLY	**Manley**	**69.07**	**336**		P		16 38 30.5	
	baz=109							
ESDC	**Sonseca Array**	**77.51**	**52**		P	P	16 39 18.8	-3.3
	comp=Z,0.4nm,0.6s,baz=275,slow=6.2,SNR=2.8							
BILL	**Bilibino**	**85.94**	**339**		P	**P**	**16 40 04.7**	**-1.2**
BILL					IAmb	IAmb	16 40 06.7	
	comp=Z,3.7nm,0.8s							
MJAR	**Matsushiro Arr**	**116.39**	**320**		PKP	**PKPdf**	**16 46 10.7**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=90,slow=1.6,SNR=2.2							
MKAR	**Makanchi Array**	**121.50**	**9**		PKP	**PKPdf**	**16 46 17.7**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=333,slow=2.5,SNR=3.1							
KSRS	**Korea Array**	**121.69**	**328**		PKP	**PKPdf**	**16 46 21.1**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=1.4,slow=1.6,SNR=16							
GTA	**Gaotai**	**129.32**	**353**		*e*PKP	**PKPdf**	**16 46 34.3**	**-0.9**
GTA					sPKP		16 46 51.3	
GTA					PP	**PP**	**16 48 43.0**	**+0.5**
GTA					AMB	AMB		
	comp=Z,75nm,6.9s							
GTA					LR	LR		
	comp=N,150nm,18.9s							
GTA					LR	LR		
	comp=E,130nm,18.5s							
GTA					LR	LR		
	comp=Z,120nm,19.3s							
ASAR	**Alice Springs**	**139.33**	**247**		PKhKP	PKPpre	16 46 46.5	
	comp=Z,0.3nm,0.7s,baz=127,slow=3.2,SNR=5.2							
WRA	**Warramunga Arr**	**139.47**	**252**		PKhKP	PKPpre	16 46 52.4	
	comp=Z,1.2nm,0.9s,baz=93,slow=2.6,SNR=7.4							
CMAR	**Chiang Mai Arr**	**150.03**	**349**		PKP	**PKPdf**	**16 47 13.1**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=326,slow=2.6,SNR=17							
CMAR					PKPbc	**pPKPdf**	**16 47 17.8**	**+1.5**
	comp=Z,4.2nm,0.8s,baz=323,slow=2.3,SNR=26							

FUNV ***28*** *16:35:44.6, 10°.33N×62°.61W, h5km, MW3.9*
TRN ***28*** *16:35:46.3, 10°.42N×62°.69W, h22km, MD3.7*

ISC 28 16:35:44.2±1.8, 10°.32N±0°.04×62°.68W±0°.03, h13km±13km, n20, σ1^{s}51/35, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.65**	**302**	*e*P	**Pg**	**16 35 56.2**	**-0.8**
TPP	**Pointe-a-Pierr**	**1.21**	**90**	*e*P	**Pn**	**16 36 09.0**	**+2.2**
TPP				*e*S	**Sb**	**16 36 25.0**	**+2.6**
TRN	**Trinidad (W)**	**1.29**	**75**	*e*P	**Pn**	**16 36 08.2**	**+0.1**
TRN				*e*S	**Sb**	**16 36 25.2**	**+0.2**
TBH	**Brigand Hill**	**1.59**	**84**	*e*P	**Pn**	**16 36 13.3**	**+1.1**
PCRV	**Puerto La Cruz**	**1.94**	**266**	*e*P	**Pn**	**16 36 17.9**	**+1.0**
PCRV				*e*S	**Sn**	**16 36 42.9**	**+1.7**
TPR	**Prospect**	**2.05**	**65**	*e*P	**Pn**	**16 36 20.1**	**+1.6**
GRGR	**Grenville**	**2.06**	**29**	*e*P	**Pn**	**16 36 18.7**	**+0.1**
GRGR				*e*S	**Sn**	**16 36 42.9**	**-1.2**
GRGR	**Grenville**	**2.06**	**29**	*e*P	**Pn**	**16 36 18.9**	**+0.4**
GRGR				*e*S	**Sn**	**16 36 43.6**	**-0.5**
RIOV	**Rio Grande**	**2.40**	**159**	*e*P	**Pn**	**16 36 23.4**	**+0.1**
RIOV				*e*S	**Sn**	**16 36 51.9**	**-0.6**
GCMP	**Grenada, Carri**	**2.47**	**30**	*e*P	**Pn**	**16 36 24.6**	**+0.3**
GCMP				*e*S	**Sn**	**16 36 52.7**	**-1.7**
SVB	**Belmont**	**3.25**	**25**	*e*P	**Pn**	**16 36 35.8**	**+0.9**
SVB				*e*S	**Sn**	**16 37 11.7**	**-1.8**
BIRV	**Birongo**	**3.54**	**273**	*e*P	**Pn**	**16 36 40.8**	**+1.8**
BIRV				*e*S	**Sn**	**16 37 21.7**	**+1.0**
MERV	**Las Mercedes**	**3.73**	**254**	*e*P	**Pn**	**16 36 43.1**	**+1.6**
MERV				*e*S	**Sn**	**16 37 24.8**	**-0.5**
TACV	**Tcata**	**4.29**	**268**	*e*P	**Pn**	**16 36 50.6**	**+1.4**
TACV				*e*S	**Sn**	**16 37 38.0**	**-1.2**
LUEV	**Luepa**	**4.61**	**165**	*e*P	**Pn**	**16 36 53.6**	**-0.2**
LUEV				*e*S	**Sn**	**16 37 45.0**	**-2.4**
TURV	**Turiamo**	**5.08**	**272**	*e*P	**Pn**	**16 36 59.6**	**-0.6**
TURV				*e*S	**Sn**	**16 37 56.4**	**-2.3**
BAUV	**El Baul**	**5.47**	**256**	*e*P	**Pn**	**16 37 07.6**	**+2.1**
BAUV	**El Baul**	**5.47**	**256**	*e*P	**Pn**	**16 37 06.6**	**+1.1**
BAUV				*e*S	**Sn**	**16 38 05.4**	**-2.9**
MAPV	**Macapo**	**5.71**	**266**	*e*P	**Pn**	**16 37 09.9**	**+1.0**
MAPV				*e*S	**Sn**	**16 38 12.4**	**-2.0**
PAYV	**Puerto Ayacuch**	**6.93**	**226**	*e*P	**Pn**	**16 37 26.0**	**+0.4**
PAYV				*e*S	Sn	16 38 39.3	-5.1

VAO ***28*** *16:36:51.5±0.2, 22°.11S×68°.39W, h82km, mb6.0*
MOS ***28*** *16:36:52.8±1.1, 21°.95S×68°.42W, h101km, mb6.1/4, MS5.1/4, Error ellipse: s-maj=10.4km s-min=6.7km az=108.0*
NEIC ***28*** *16:36:53.6, 22°.21S×68°.54W, h115km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr-2.32; Mθθ-0.55; Mϕϕ2.87; Mrθ0.21; Mrϕ-0.58; Mθϕ-2.26; Fault plane solution: M$_0$3.52000×10^{17} NP1:ϕ$_s$353.82000°, δ65.36000°, λ-86.81000°. NP2:ϕ$_s$166.21000°, δ24.83000°, λ-96.91000°. Principal axes: T 3.7970, Plg20.0000°, Azm81.0000°; N -0.6334, Plg3.0000°, Azm172.0000°; P -3.1636, Plg69.0000°, Azm270.0000°;*
NEIC ***28*** *16:36:53.9±1.6, 22°.22S±0°.04×68°.62W±0°.08, h112km±1km, mb6.0/264, Mwb5.7/37, Mwr5.6/32, Mww5.6, Mwc5.7(GCMT), Mwr5.9(GUC) Error ellipse: s-maj=11.8km s-min=7.6km az=272.0*
SJA ***28*** *16:36:53.0±0.8, 22°.21S×68°.71W, h113km±4km, ML5.7, MW5.5*
GUC ***28*** *16:36:53.4±0.9, 22°.20S×68°.66W, h105km±5km, ML5.8, MW5.9*
NEIC ***28*** *16:36:53.6, 22°.21S×68°.54W, h109km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr-2.47; Mθθ0.42; Mϕϕ2.06; Mrθ-0.32; Mθϕ-0.29; Mϕr-3.07; Fault plane solution: M$_0$3.86000×10^{17} NP1:ϕ$_s$2.39000°, δ71.87000°, λ-84.11000°. NP2:ϕ$_s$164.04000°, δ19.03000°, λ-107.41000°. Principal axes: T 3.6111, Plg27.0000°, Azm88.0000°; N 0.4492, Plg6.0000°, Azm181.0000°; P -4.0603, Plg63.0000°, Azm281.0000°;*
IDC ***28*** *16:36:54.7±0.3, 22°.12S×68°.42W, h112km±2km, mb5.4/32, mb1 5.4/37, mb1mx5.3/42, mbtmp5.7/37, MS4.6/19, Ms1 4.6/19, ms1mx4.3/35 Error ellipse: s-maj=9.1km s-min=7.4km az=73.0*
GCMT ***28*** *16:36:55.8±0.1, 22°.07S±0°.01×68°.76W±0°.01, h122km, MW5.7/153, Moment Tensor Solution. s144, c267; s153, c305; Duration: 1^{s}7 Moment tensor: Scale 10^{17} Nm; Mrr-2.95±.03; Mθθ-0.58±.04; Mϕϕ3.53±.05; Mrθ-0.20±.03; Mθϕ-0.98±.04; Mϕr-2.02±.03; Best double couple: M$_0$3.93800×10^{17} NP1:ϕ$_s$153.00000°, δ32.00000°, λ-113.00000°. NP2:ϕ$_s$359.00000°, δ61.00000°, λ-77.00000°. Principal axes: T 4.2730, Plg15.0000°, Azm79.0000°; N -0.6690, Plg12.0000°, Azm172.0000°; P -3.6030, Plg71.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***28*** *16:36:55.3±0.0, 22°.55S×68°.98W, h123km, mB5.4/51*
NEIC ***28*** *16:36:56, 22°.10S×68°.55W, h120km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr-3.24; Mθθ-0.08; Mϕϕ3.33; Mrθ0.19; Mθϕ-0.63; Mϕr-1.49; Fault plane solution: M$_0$3.67000×10^{17} NP1:ϕ$_s$168.00000°, δ33.00000°, λ-92.00000°. NP2:ϕ$_s$351.00000°, δ57.00000°, λ-88.00000°. Principal axes: T 3.7605, Plg12.0000°, Azm80.0000°; N -0.1951, Plg1.0000°, Azm170.0000

PB03 IAML 16 37 33.7
comp=E,242µm,0.5s
PB03 IPOC Station P 1.14 276 *i* P **Pn** **16 37 15.4 -0.8**
PB03 *eS* **Sn** **16 37 31.8 -1.5**
PB07 IPOC Station P 1.33 289 ⇑*i* P **Pn** **16 37 17.6 -0.9**
PB07 *i* S **Sn** **16 37 35.9 -1.4**
PB07 IAML 16 37 37.3
comp=N,156µm,0.8s
PB07 IPOC Station P 1.33 289 Pn **16 37 16.7 -1.7**
PB07 IPOC Station P 1.33 289 *i* P **Pn** **16 37 17.8 -0.7**
PB07 *eS* **Sn** **16 37 35.7 -1.6**
PB15 IPOC Station P 1.34 220 ⇑*i* P **Pn** **16 37 18.0 -0.6**
PB15 *i* S **Sn** **16 37 36.8 -0.7**
PB15 IPOC Station P 1.34 220 Pn **16 37 17.8 -0.8**
PB15 IPOC Station P 1.34 220 *eP* **Pn** **16 37 18.0 -0.6**
PB15 IAML 16 37 40.2
comp=Z,202µm,0.6s
PB01 IPOC Station P 1.44 322 ⇑*i* P **Pn** **16 37 19.1 -0.5**
PB01 *i* S **Sn** **16 37 38.5 -0.7**
PB01 IPOC Station P 1.44 322 Pn **16 37 18.7 -0.9**
PB01 IPOC Station P 1.44 322 *i* P **Pn** **16 37 19.2 -0.3**
PB01 *eS* **Sn** **16 37 38.6 -0.7**
PB04 IPOC Station P 1.50 264 ⇑*i* P **Pn** **16 37 19.2 -1.3**
PB04 *i* S **Sn** **16 37 38.9 -1.9**
PB04 IPOC Station P 1.50 264 Pn **16 37 18.9 -1.6**
PB04 IPOC Station P 1.50 264 *eP* **Pn** **16 37 19.1 -1.3**
PB04 IAML 16 37 41.0
comp=Z,61µm,1.1s
PB05 IPOC Station P 1.68 246 ⇑*i* P **Pn** **16 37 21.1 -1.4**
PB05 *eS* **Sn** **16 37 42.0 -2.6**
PB05 IPOC Station P 1.68 246 *eP* **Pn** **16 37 21.2 -1.4**
PB05 IAML 16 37 45.5
comp=Z,44µm,0.8s
PB08 IPOC Station P 2.11 344 ⇑*i* P **Pn** **16 37 29.0 +0.8**
PB08 *i* S **Sn** **16 37 56.1 +1.4**
PB08 IPOC Station P 2.11 344 Pn **16 37 29.1 +0.8**
PB08 IPOC Station P 2.11 344 *i* P **Pn** **16 37 29.6 +1.4**
PB08 *eS* **Sn** **16 37 55.8 +1.1**
TA01 Diego Aracena 2.22 316 ⇑*i* P **Pn** **16 37 27.7 -1.6**
TA01 *eS* **Sn** **16 37 55.1 -1.5**
TA01 IAML 16 37 57.9
comp=N,77µm,0.8s
TA01 Diego Aracena 2.22 316 Pn **Pn** **16 37 27.7 -1.6**
YJA Yavi 2.80 91 *eP* **Pn** **16 37 40.9 +3.6**
PSGC Pisagua 2.97 330 ⇑*i* P **Pn** **16 37 36.9 -2.3**
PSGC *i* S **Sn** **16 38 07.8 -6.6**
PSGC IAML 16 38 23.3
comp=N,27µm,0.6s
PSGCX Pisagua 2.97 330 Pn **Pn** **16 37 36.9 -2.3**
PB14 IPOC Station P 2.98 215 ⇑*i* P **Pn** **16 37 37.4 -2.2**
PB14 IAML 16 38 42.3
comp=E,28µm,0.9s
PB14 IPOC Station P 2.98 215 Pn **Pn** **16 37 37.8 -1.7**
PB14 IPOC Station P 2.98 215 *eP* **Pn** **16 37 37.9 -1.6**
PB14 IAML 16 38 38.3
comp=Z,31µm,0.8s
GO02 Mina Guanaco 3.12 198 ⇑*i* P **Pn** **16 37 40.4 -1.1**
GO02 IAML 16 38 48.8
comp=E,28µm,0.6s
GO02 Mina Guanaco 3.12 198 Pn **Pn** **16 37 40.4 -1.1**
MNMC Minye Minye 3.19 342 ⇑*i* P **Pn** **16 37 41.6 -0.7**
MNMC *i* S **Sn** **16 38 12.7 -7.2**
MNMC Minye Minye 3.19 342 Pn **Pn** **16 37 41.6 -0.7**
MNMCX Minye Minye 3.19 342 *i* P **Pn** **16 37 42.3 0.0**
SLA San Lorenzo 3.76 133 ⇑*i* P **Pn** **16 37 52.8 +3.0**
SLA San Lorenzo 3.76 133 *eP* **Pn** **16 37 52.3 +2.5**
AP01 Chacalluta 4.15 336 *eP* **Pn** **16 37 53.0 -2.0**
AP01 Chacalluta 4.15 336 Pn **16 37 53.1 -1.8**
AC01 Pan de Azucar 4.38 205 *eP* **Pn** **16 37 55.1 -2.9**
AC01 Pan de Azucar 4.38 205 Pn **Pn** **16 37 54.8 -3.2**
FSA Cafayete 4.56 150 *eP* **Pn** **16 38 02.2 +1.7**
AC02 Maricunga 4.67 187 ⇑*eP* **Pn** **16 38 01.6 -0.8**
AC02 Maricunga 4.67 187 Pn **16 38 01.4 -0.9**
AHML Horco Molle 5.43 148 *eP* **Pn** **16 38 14.0 +1.7**
GO03 Copiap 5.61 196 Pn **16 38 11.1 -3.6**
LPAZ La Paz 5.87 4 P **Pn** **16 38 20.2 +1.4**
comp=E,51nm,0.3s,baz=191,slow=2.4,SNR=397
LPAZ P3KPbc 17 16 05.0
comp=E,0.0nm,0.3s,baz=213,slow=1.0,SNR=4.1
LPAZ La Paz 5.87 4 Pn **16 38 20.3 +1.5**
LPAZ La Paz 5.87 4 ⇑*eP* **Pn** **16 38 20.1 +1.4**
AC04 Llanos de Chal 6.42 200 Pn Pn 16 38 18.9 -6.7
LCO Las Campanas 7.08 196 P Pn 16 38 29.9 -4.9
LCO Las Campanas 7.08 196 Pn Pn 16 38 29.9 -4.9
ACLC CERRO LA CRUZ 7.36 169 *eP* **Pn** **16 38 37.4 -1.0**
ACLC IAML 16 40 48.9
comp=Z,495nm,1.8s
GO04 Tololo Observa 8.22 194 Pn 16 38 45.1 -5.0
APLL PUNTA DE LOS L 8.38 168 *eP* **Pn** **16 38 50.4 -1.8**
CO03 El Pedregal 8.84 192 Pn 16 38 53.3 -5.2
SIV San Ignacio 9.36 50 P **Pn** **16 39 02.4 -3.2**
comp=Z,122nm,0.3s,baz=258,slow=9.8,SNR=857
SIV S Sn 16 40 41.9 -7.2
comp=Z,17nm,0.3s,baz=124,slow=23,SNR=4.6
VA03 San Esteban 10.70 189 Pn 16 39 18.9 -4.8
CPUP Villa Florida 11.03 114 P **Pn** **16 39 26.6 -1.4**
comp=Z,5.3nm,0.3s,baz=297,slow=12,SNR=95
CPUP LR LR 16 44 35.4
comp=Z,6µm,18.9s,baz=304,slow=42
CPUP P3KPbc 17 15 54.5
comp=Z,0.1nm,0.3s,baz=35,slow=2.0,SNR=4.7
CPUP Villa Florida 11.03 114 P **Pn** **16 39 27.0 -1.1**
CPUP Villa Florida 11.03 114 Pn **16 39 27.0 -1.1**
PEL Peldehue 11.09 189 P **Pn** **16 39 24.4 -4.6**
PEL Peldehue 11.09 189 Pn **16 39 24.4 -4.6**
PTLB Pontes e Lacer 11.13 55 *eP* **Pn** **16 39 26.6 -3.0**
MT02 Curacav 11.28 191 Pn 16 39 24.2 -7.2
VILB Vilhena 12.13 42 *eP* **Pn** **16 39 40.4 -2.5**
ETMB Extrema 12.49 11 *eP* **Pn** **16 39 44.3 -3.3**
BO02 Sierra Bellavi 12.72 188 Pn **Pn** **16 39 48.4 -2.2**
NNA Nana 12.87 321 P **Pn** **16 39 53.7 +1.1**
comp=Z,2.6nm,0.3s,baz=156,slow=10,SNR=13
NNA S **Sn** **16 42 15.7 +1.4**
comp=Z,5.5nm,0.3s,baz=212,slow=20,SNR=2.2
NNA Nana 12.87 321 *ceP* **Pn** **16 39 53.6 +1.0**
NNA pmax pmax
comp=Z,109nm,1.3s
NNA Nana 12.87 321 Pn **16 39 55.0 +2.4**
PP1B Ponte de Pedra 13.63 73 *eP* Pn 16 39 58.6 -3.9
H03N1 Juan Fernandez 14.49 217 P **Pn** **16 40 10.2 -3.0**
baz=110,slow=15,SNR=134
H03N1 T T 16 52 59.9
baz=40
H03N2 Juan Fernandez 14.50 217 P **Pn** **16 40 10.8 -2.5**
baz=110,slow=15,SNR=72
H03N2 T T 16 53 00.2
baz=40
H03N3 Juan Fernandez 14.50 217 P **Pn** **16 40 10.2 -3.2**
baz=110,slow=15,SNR=195
H03N3 T T 16 53 00.5
baz=40
VA04 Juan Fernndez 14.59 216 P **Pn** **16 40 12.2 -2.5**
BI02 San Fabin de 14.63 189 P **Pn** **16 40 14.0 -1.3**
H03S3 Juan Fernandez 14.77 216 P **Pn** **16 40 13.2 -3.5**
baz=33,slow=20,SNR=104
H03S1 Juan Fernandez 14.78 216 P **Pn** **16 40 13.1 -3.8**
baz=33,slow=20,SNR=60
H03S2 Juan Fernandez 14.79 216 P **Pn** **16 40 13.4 -3.5**
baz=33,slow=20,SNR=86
PTGB Pitanga 15.32 103 *eP* **Pn** **16 40 23.6 -0.6**
LPA La Plata 15.72 146 *eP* Pn 16 40 18.2 -11
LPA PP pP 16 40 50.8 -0.9
LPA S **Sn** **16 40 20.8 -2.1**
LPA PCP **PcP** **16 45 21.6 -0.8**
LPA SCS ScS 16 52 10.4 -15
LPA SKIKP 16 56 36.4
LPA PKIKS 16 56 48.2
ITAB Concordia 15.73 112 *eP* **Pn** **16 40 27.7 -1.4**
CPSB Cacapava Do Su 15.81 124 *eP* **Pn** **16 40 28.3 -1.8**
PCMB Pacaembu 16.04 91 *eP* **Pn** **16 40 32.2 -0.8**
PLTB Pedras Altas 16.36 129 *eP* **Pn** **16 40 34.4 -2.5**
CLDB Colider 16.58 49 *eP* **Pn** **16 40 38.0 -1.8**
ARAG Araguaiana, MT 17.07 71 *eP* **P** **16 40 43.5 -2.3**
ITRB Iturama 17.16 85 *eP* **P** **16 40 45.6 -1.1**
CNLB Canela 17.43 118 *eP* **P** **16 40 48.4 -1.3**
FRTB Fartura 17.54 97 *eP* **P** **16 40 50.6 -0.3**
ATAH Atahualpa 17.72 326 P **Pn** **16 40 55.6 +1.6**
comp=Z,1.9nm,0.3s,baz=191,slow=8.3,SNR=26
ATAH S **S** **16 44 11.6 -0.7**
comp=Z,0.2nm,0.3s,baz=77,slow=12,SNR=1.8
TIJ01 Guaruva-PR 18.15 104 *eP* **P** **16 40 57.8 +0.1**
PLCA Paso Flores 18.58 185 P **P** **16 41 02.0 -0.2**
comp=Z,6.0nm,0.3s,baz=9.0,slow=13,SNR=131
PLCA S **Sn** **16 44 29.6 -2.0**
baz=36,slow=16,SNR=1.0
PLCA PcP **PcP** **16 45 27.0 0.0**
comp=Z,0.9nm,0.3s,baz=340,slow=3.5,SNR=7.8
PLCA LR LR 16 49 39.5
comp=Z,3µm,18.4s,baz=13,slow=41
PLCA P3KPbc 17 15 38.2
comp=Z,0.0nm,0.3s,baz=243,slow=6.6,SNR=3.0
PLCA Paso Flores 18.58 185 P **P** **16 41 02.0 -0.2**
PLCA Paso Flores 18.58 185 *eP* **P** **16 41 02.1 -0.1**
PLCA Paso Flores 18.58 185 *eP* **P** **16 41 01.9 -0.2**
TER01 Tubaro-SC 18.63 114 *eP* **P** **16 41 00.8 -2.1**
BB19B Bebedouro 18.64 90 *eP* **P** **16 41 02.6 -0.4**
SNDB Serra Nova Dou 19.33 61 *eP* **P** **16 41 09.3 -1.3**
SPB Sao Paulo 19.50 98 P **P** **16 41 11.8 -0.4**
SPB IAmb IAmb 16 41 13.2
comp=Z,887nm,0.9s
SPB Sao Paulo 19.50 98 *eP* **P** **16 41 11.8 -0.4**
IPMB Ipameri, GO 19.54 81 *eP* **P** **16 41 12.0 -0.8**
PET01 Itanhaem-SP 19.65 100 *eP* **P** **16 41 13.0 -0.9**
NPGB Novo Progresso 19.70 42 *eP* **P** **16 41 12.3 -2.2**
VAO Valinhos 19.93 96 *eP* **P** **16 41 15.8 -1.3**
MACA Manacapuru-AM 20.38 23 *eP* **P** **16 41 20.3 -1.6**
BDFB Brasilia 20.46 75 P **P** **16 41 21.6 -1.3**
comp=Z,338nm,0.7s,baz=260,slow=12,SNR=278
BDFB S **S** **16 45 02.6 -3.7**
comp=Z,85nm,1.0s,baz=255,slow=27,SNR=1.7
BDFB LR LR 16 49 49.5
comp=Z,2µm,21.9s,baz=266,slow=38
BDFB Brasilia 20.46 75 P **P** **16 41 21.6 -1.3**
BDFB IAmb IAmb 16 41 24.8
comp=Z,604nm,1.0s
PARB Paraibuna 21.16 98 *eP* **P** **16 41 28.7 -1.6**
ITTB Itatuba 21.62 37 *eP* **P** **16 41 33.3 -1.8**
PEXB Peixe 21.75 66 *eP* **P** **16 41 34.9 -1.7**
BSCB Bom Sucesso 22.12 91 *eP* **P** **16 41 38.4 -2.1**
ESAR Angra dos Reis 22.26 97 *eP* **P** **16 41 40.0 -1.8**
MAN01 Angra dos Reis 22.70 96 *eP* **P** **16 41 44.4 -2.1**
PTGA Pitinga 22.89 23 P **P** **16 41 46.8 -1.4**
comp=Z,119nm,0.7s,baz=206,slow=11,SNR=61
PTGA S **S** **16 45 47.2 -2.7**
comp=Z,65nm,0.8s,baz=122,slow=22,SNR=8.7
PTGA Pitinga 22.89 23 P **P** **16 41 46.5 -1.8**
PTGA Pitinga 22.89 23 *eP* **P** **16 41 46.4 -1.8**
PTLC Puerto Leguiza 23.04 344 ||*iP* **P** **16 41 45.7 -3.9**
VAS01 Vassouras-RJ 23.22 95 *eP* **P** **16 41 49.9 -1.5**
DIAM Diamantina, MG 23.64 85 *eP* **P** **16 41 54.6 -0.7**
JANB Januaria 24.00 77 *eP* **P** **16 41 56.3 -2.3**
PRPB Parauapebas 24.09 51 *eP* **P** **16 41 57.0 -2.3**
SMTB Santa Maria do 24.09 60 *eP* **P** **16 41 57.9 -1.4**
DUB01 Friburgo-RJ 24.23 95 *eP* **P** **16 41 59.0 -1.5**
OTAV Otavalo 24.29 335 *eP* **P** **16 42 03.3 +1.8**
MALB Monte Alegre 24.51 36 *eP* **P** **16 42 01.8 -1.2**
SDBA SAO DESIDERIO 24.53 71 *eP* **P** **16 42 01.3 -2.0**
CMBC Cumbal 24.70 337 *eP* **P** **16 42 07.1 +1.9**
MACC Macarena, Meta 24.73 347 ||*eP* **P** **16 42 03.7 -1.3**
CPAS1 Pasto 24.76 339 *eP* **P** **16 42 08.3 +2.5**
CPAS2 Pasto 24.76 339 *eP* **P** **16 42 06.9 +1.1**
GCUF Volcan Galeras 24.80 339 ||*iP* **P** **16 42 08.2 +2.0**
GUVC San Jose del G 24.90 350 *eP* **P** **16 42 06.3 -0.2**
CAM01 Campos-RJ 24.91 94 *eP* **P** **16 42 05.2 -1.5**
GARC Garzon, Huila 25.15 343 ||*eP* **P** **16 42 09.8 +0.7**
SOTA Rioblanco 25.42 341 ||*iP* **P** **16 42 13.7 +1.8**
BBAC Balboa, Cauca 25.51 339 ||*iP* **P** **16 42 13.5 +1.1**
PCON Ponca Da Dias 25.54 342 ||*iP* **P** **16 42 15.1 +2.1**
BETC Betania 25.61 344 ||*iP* **P** **16 42 14.8 +1.7**
BOAV Boa Vista 25.65 19 *eP* **P** **16 42 13.8 +0.4**
POPC Popayan, Colom 25.82 341 ||*iP* **P** **16 42 16.3 +1.0**
SJMB Sao Joao De Ma 25.85 87 *eP* **P** **16 42 13.5 -1.7**
TUMC Tumaco 25.85 336 ||*iP* **P** **16 42 17.0 +1.8**
MARP Paez Belalcaza 25.91 343 ||*iP* **P** **16 42 16.9 +0.9**
ALF01 Guarapari-ES 25.93 92 *eP* **P** **16 42 14.3 -1.6**
PTGC Puerto Gaitan, 26.45 352 *eP* **P** **16 42 20.1 -0.5**
RIB01 Linhares ES 26.45 89 *eP* **P** **16 42 19.0 -1.6**
VILC Villavicencio, 26.61 348 ||*iP* **P** **16 42 22.8 +0.6**
ORTC Ortega, Tolima 26.75 345 ||*iP* **P** **16 42 24.2 +0.9**
MCPB Macapa, AP 26.98 39 *eP* **P** **16 42 24.3 -1.1**
YOTC Yotoco, Valle 27.10 343 ||*iP* **P** **16 42 26.7 +0.1**
ANIL Santa Ana 27.34 345 ||*iP* **P** **16 42 28.6 -0.3**
TOLC Tolima 27.42 345 ||*iP* **P** **16 42 29.6 0.0**
MALC Bahia Malaga 27.42 341 *eP* **P** **16 42 30.6 +1.3**
ROSC El Rosal 27.44 347 P **P** **16 42 31.1 +1.1**
comp=Z,123nm,1.0s,baz=167,slow=1.1,SNR=25
ROSC LR LR 16 55 15.6
comp=Z,2µm,18.1s,baz=192,slow=40
ROSC El Rosal 27.44 347 ||*iP* **P** **16 42 31.0 +1.1**
TMAB Tom-Au,PA,Br 27.97 48 *eP* **P** **16 42 33.9 -0.3**
GUY2C Guyana, Caldas 28.04 345 ||*iP* **P** **16 42 35.8 +0.4**
SPBC San Pablo de B 28.19 348 ||*iP* **P** **16 42 34.5 -1.6**
RUSC La Rusia 28.25 350 ||*iP* **P** **16 42 37.5 +0.3**
NORC Norcasia 28.26 347 ||*iP* **P** **16 42 36.0 -0.8**
PIZC Pizarro, Choco 28.33 341 *eP* **P** **16 42 34.4 -2.9**
NBIT Itapeh - BA 28.48 80 *eP* **P** **16 42 37.6 -1.2**
TAMC Tame, Arauca 28.62 353 *eP* **P** **16 42 39.0 -1.0**
GDU01 Guandu, BA 28.76 78 *eP* **P** **16 42 39.6 -1.7**
CBOC Ciudad Bolivar 28.82 344 ||*iP* **P** **16 42 41.5 -0.4**
BARC Barichara 28.95 350 *eP* **P** **16 42 41.4 -1.8**
ELOV Elorza 29.01 358 ||*iP* **P** **16 42 42.5 -0.9**
HELC Santa Helena 29.02 346 ||*iP* **P** **16 42 43.2 -0.7**
PTBC PUERTO BERRIO, 29.12 348 ||*iP* **P** **16 42 42.3 -2.1**
GO09 Cerro Castillo 29.19 185 P **P** **16 42 44.8 +0.1**
NBPN Ponto Novo - B 29.35 72 *eP* **P** **16 42 45.0 -1.5**
SOLC Bahia Solano 29.54 342 *eP* **P** **16 42 47.0 -1.1**
BRRC Barranca, Sant 29.54 350 *eP* **P** **16 42 43.6 -4.5**
PAMC Pamplona, Colo 29.62 352 *eP* **P** **16 42 48.2 -1.1**
DBBC Dabeiba 29.98 345 ||*iP* **P** **16 42 52.1 +0.1**
ZARC Zaragoza, Cauc 30.13 347 ||*iP* **P** **16 42 51.4 -1.9**
SOCV Socops 30.36 355 ||*iP* **P** **16 42 54.5 -0.8**
ROSB Rosrio 30.48 54 *eP* **P** **16 42 55.1 -1.4**
UREC San Jos de Ur 30.53 346 ||*iP* **P** **16 42 55.1 -1.7**
PTAC Punta Ardita, 30.53 342 *eP* **P** **16 42 56.1 -0.7**
EFI East Falkland 30.55 167 *ceP* **P** **16 42 55.2 -1.4**
EFI pmax pmax
comp=Z,151nm,2.5s
EFI East Falkland 30.55 167 P P **16 42 55.9 -0.7**
OCAC Ocana 30.59 351 *eP* **P** **16 42 54.4 -3.1**
SDV Santo Domingo 30.94 356 P **P** **16 42 59.5 -1.2**
comp=Z,77nm,0.7s,baz=174,slow=8.5,SNR=71
SDV Santo Domingo 30.94 356 *eP* **P** **16 42 59.0 -1.6**
SDV Santo Domingo 30.94 356 *eP* **P** **16 42 59.5 -1.2**
MDP Montagnes des 31.26 32 P **P** **16 43 03.0 -0.3**
comp=Z,213nm,0.8s,baz=205,slow=9.4,SNR=58
MDP LR LR 16 56 42.1
comp=Z,2µm,19.5s,baz=204,slow=38
SMLC San Martin de 31.26 349 *eP* **P** **16 43 00.2 -3.1**
NBLA Lagarto - SE 31.43 74 *eP* **P** **16 43 02.4 -2.4**
MOTC Monteria, Cord 31.55 346 ||*iP* **P** **16 43 04.6 -1.2**
NBPS Pedro II - PI 31.64 60 *eP* **P** **16 43 05.2 -1.5**
LCBC Los crdobas, 31.79 345 *eP* **P** **16 43 08.5 +0.6**
CAPC Capurgana 31.82 343 *eP* **P** **16 43 09.6 +1.4**
UPD2 Meteti 31.92 342 ||*iP* **P** **16 43 10.1 +1.0**
AZU Azuero 31.93 338 ||*iP* **P** **16 43 10.9 +1.8**
NBTA Tacaratu-PE 32.00 71 *eP* **P** **16 43 08.0 -1.9**
NBMA Muriti-CE 32.24 67 *eP* **P** **16 43 10.8 -1.2**
ARGC Ariguani, Magd 32.33 349 ||*iP* **P** **16 43 10.5 -2.1**
PCRV Puerto La Cruz 32.38 7 P **P** **16 43 13.4 +0.2**
comp=Z,52nm,0.7s,baz=174,slow=1.4,SNR=11
NBPB Pedra_Branca-C 32.51 64 *eP* **P** **16 43 13.2 -1.1**
SJCC San Jacinto, C 32.54 348 ||*iP* **P** **16 43 13.0 -1.5**
PNME Penonome 32.59 338 ||*iP* **P** **16 43 17.1 +2.1**
USHA Ushuaia 32.61 180 P **P** **16 43 15.6 +0.9**
comp=Z,69nm,0.6s,baz=344,slow=1.1,SNR=13
UPA Univ. de Panam 32.79 340 ||*iP* **P** **16 43 18.4 +1.8**
DABV Dabajuro 32.96 356 ||*iP* **P** **16 43 16.0 -2.2**
BCIP Isla Barro Col 33.06 339 P **P** **16 43 20.8 +1.7**
BCIP pmax pmax
comp=Z,182nm,0.7s
BCIP Isla Barro Col 33.06 339 P P **16 43 20.8 +1.7**
BCIP IAmb IAmb 16 43 22.0
comp=Z,182nm,0.7s
BCIP Isla Barro Col 33.06 339 ||*iP* **P** **16 43 20.8 +1.7**
CRJC Cerrejon, Guaj 33.27 352 *eP* **P** **16 43 18.4 -2.6**
NBAN Anadia - AL 33.34 73 *eP* **P** **16 43 19.8 -1.8**
NBMO Morrinhos-CE 33.40 60 *eP* **P** **16 43 20.6 -1.5**
SMRC Santa Marta, M 33.60 350 *eP* **P** **16 43 19.3 -4.4**
NBLI Livramento-PB 33.80 69 *eP* **P** **16 43 24.7 -1.0**
URIC Uribia, Colomb 33.84 354 ||*iP* **P** **16 43 21.9 -3.9**
RIOS Rincon, Osa 34.02 333 P **P** **16 43 29.1 +1.8**
NBCL Cascavel-CE 34.30 63 *eP* **P** **16 43 29.1 -0.8**
NBPA Parau_RN 34.47 66 *eP* **P** **16 43 30.1 -1.3**
GRGR Grenville 34.76 12 P **P** **16 43 33.0 -0.7**
NBRF Rio Formoso - 34.79 73 *eP* **P** **16 43 32.6 -1.5**
RCBR Riachuelo 35.47 68 P **P** **16 43 39.5 -0.4**
comp=Z,686nm,0.8s,baz=230,slow=10,SNR=331
RCBR Riachuelo 35.47 68 P **P** **16 43 39.7 -0.3**
RCBR Riachuelo 35.47 68 *eP* **P** **16 43 39.6 -0.4**
NBPV Pedro Velho 35.70 69 *eP* **P** **16 43 41.4 -0.5**
SVB Belmont 35.95 12 P **P** **16 43 42.6 -1.3**
SVB IAmb IAmb 16 43 47.0
comp=Z,154nm,1.0s
JTS Las Juntas de 36.06 332 P **P** **16 43 47.4 +2.4**
comp=Z,122nm,0.9s,baz=211,slow=2.7,SNR=67
JTS Las Juntas de 36.06 332 *diP* **P** **16 43 46.9 +2.0**
JTS pmax pmax
comp=Z,304nm,1.5s
JTS Las Juntas de 36.06 332 P P **16 43 46.9 +2.0**
JTS IAmb IAmb 16 43 48.6
comp=Z,165nm,0.9s
JTS Las Juntas de 36.06 332 ||*iP* **P** **16 43 47.4 +2.4**
H05S1 Guadeloupe/Mar 37.15 12 P **P** **16 43 52.9 -1.1**
SNR=6.8
RPN Rapa Nui 37.29 254 P **P** **16 43 57.0 +1.7**
comp=Z,140nm,0.9s,baz=93,slow=5.0,SNR=5.8
RPN sP **sP** **16 44 34.1 +1.4**
comp=Z,264nm,0.9s,baz=100,slow=6.5,SNR=6.3
FDF Fort de France 37.39 12 P **P** **16 43 54.7 -1.5**
FDF pmax pmax
comp=Z,424nm,0.6s
FDF Fort de France 37.39 12 P **P** **16 43 54.6 -1.5**
PRVC Isla de Provid 37.51 339 ||*iP* **P** **16 43 58.9 +1.8**
H05N1 Guadeloupe/Mar 38.95 11 P **P** **16 44 05.7 -3.5**
SNR=4.7
ICMP Isla Caja de M 39.87 3 P **P** **16 44 15.2 -1.6**
ICMP IAmb IAmb 16 44 17.6
comp=Z,154nm,0.6s
MLPR Magueyes Islan 39.93 2 P **P** **16 44 16.0 -1.3**
OBIP Obispado Ponce 40.02 3 P **P** **16 44 15.3 -2.7**
OBIP IAmb IAmb 16 44 17.6
comp=Z,170nm,0.8s
PDPR Patillas Dam, 40.02 4 P **P** **16 44 15.6 -2.4**
PDPR IAmb IAmb 16 44 16.8
comp=Z,173nm,0.8s
SJG San Juan 40.11 4 P **P** **16 44 15.3 -3.5**
SJG pmax pmax
comp=Z,156nm,0.7s
SJG San Juan 40.11 4 P **P** **16 44 15.3 -3.5**
SJG IAmb IAmb 16 44 17.5
comp=Z,156nm,0.7s
SJG San Juan 40.11 4 ||*iP* **P** **16 44 16.4 -2.4**
MPR Mayaguez 40.16 2 P **P** **16 44 16.3 -2.9**
MPR IAmb IAmb 16 44 18.3
comp=Z,136nm,0.8s
CBYP Canovanas 40.29 4 P **P** **16 44 16.8 -3.6**
AOPR Arecibo Observ 40.31 3 P **P** **16 44 17.0 -3.5**
TGUH Tegucigalpa,Un 40.43 331 P **P** **16 44 22.5 +0.9**
TGUH Tegucigalpa,Un 40.43 331 ||*iP* **P** **16 44 22.5 +0.9**
SDDR Presa de Saban 41.00 356 P **P** **16 44 24.7 -1.5**
SDDR Presa de Saban 41.00 356 *eP* **P** **16 44 24.3 -1.9**
MTDJ Mount Denham 41.11 347 *eP* **P** **16 44 26.4 -0.8**
MTO3 Montecristo 41.69 329 P **P** **16 44 33.1 +1.0**
MTO3 IAmb IAmb 16 44 34.6
comp=Z,383nm,0.8s
PMSA Palmer Station 42.68 177 P **P** **16 44 40.6 +1.3**
comp=Z,119nm,0.9s,baz=17,slow=6.4,SNR=10
PMSA Palmer Station 42.68 177 *eP* **P** **16 44 40.9 +1.6**
APG El Apazote 42.75 328 P **P** **16 44 42.3 +1.6**
comp=Z,336nm,1.0s,baz=153,slow=5.5,SNR=172
APG pP **pP** **16 45 07.2 +0.4**
comp=Z,82nm,0.8s,baz=119,slow=12,SNR=3.4
CCIG Comitan 44.67 327 P **P** **16 44 56.6 +0.6**
CCIG IAmb IAmb 16 44 58.1
comp=Z,384nm,1.2s
TEIG Tepich 46.35 334 P **P** **16 45 09.0 0.0**
comp=Z,169nm,0.9s,baz=158,slow=7.7,SNR=30
TEIG pP **pP** **16 45 35.1 -0.2**
comp=Z,70nm,0.5s,baz=71,slow=2.0,SNR=6.0
TEIG Tepich 46.35 334 P **P** **16 45 08.9 0.0**
TEIG IAmb IAmb 16 45 10.2
comp=Z,270nm,1.0s
TEIG Tepich 46.35 334 ||*iP* **P** **16 45 08.9 0.0**
CMIG Matias Romero 46.78 324 P **P** **16 45 13.4 +0.9**
comp=Z,137nm,1.0s,baz=129,slow=5.0,SNR=68
SOR Soroa 46.87 342 P **P** **16 45 13.5 +0.5**
SOR pmax pmax
comp=Z,289nm,1.4s
SOR Soroa 46.87 342 P **P** **16 45 13.5 +0.5**
SOR IAmb IAmb 16 45 14.5
comp=Z,289nm,1.4s
DWPF Disney Wildern 51.52 345 P 16 45 49.0
baz=165
DWPF Disney Wildern 51.52 345 P **P** **16 45 47.9 -0.4**
H10N3 ASCENSION HYDR 53.83 83 P **P** **16 46 05.6 +0.3**
baz=1.0,slow=75,SNR=5.9
H10N1 ASCENSION HYDR 53.84 83 P **P** **16 46 05.8 +0.3**
baz=1.0,slow=75,SNR=9.0
H10N2 ASCENSION HYDR 53.84 83 P **P** **16 46 06.1 +0.6**
baz=1.0,slow=75,SNR=5.8
456A Hilliard 54.17 346 P **P** **16 46 08.9 +1.1**
553A Crawfordville 54.26 343 P **P** **16 46 09.2 +0.8**
TIGA Tifton 55.23 344 P 16 46 15.4
baz=163,SNR=10
255A Hazlehurst 55.43 346 P **P** **16 46 15.6 -1.3**
255A IAmb IAmb 16 46 18.2
comp=Z,199nm,1.2s
352A Blakely 55.62 343 P **P** **16 46 17.6 -0.6**
ZAIG Zacatecas 55.63 321 P **P** **16 46 20.4 +1.6**
BRAL Brewton 55.94 341 P 16 46 20.6
baz=159,SNR=19
NHSC New Hope 56.09 348 P 16 46 22.5
baz=167,SNR=18
250A Grady 56.46 342 P **P** **16 46 24.2 0.0**
250A IAmb IAmb 16 46 25.0
comp=Z,268nm,1.1s
Y60A Bolivia 56.63 350 P **P** **16 46 25.5 +0.2**
Y58A Scranton 56.77 349 P **P** **16 46 26.9 +0.6**
GOGA Godfrey 57.08 345 P 16 46 28.4
baz=164,SNR=10
X60A Albert Glenn T 57.15 351 P 16 46 28.9
baz=170,SNR=13
X58A Rowland 57.35 349 P **P** **16 46 30.3 -0.1**
X58A IAmb IAmb 16 46 31.8
comp=Z,214nm,0.8s
344A Westbrook Farm 57.41 337 P **P** **16 46 30.9 -0.1**
344A IAmb IAmb 16 46 32.3
comp=Z,175nm,0.8s
JSC Jenkinsville 57.44 348 P **P** **16 46 31.2 +0.2**
JSC pmax pmax
comp=Z,127nm,1.4s
JSC Jenkinsville 57.44 348 P **P** **16 46 31.2 +0.2**
SACV Santiago Islan 57.46 54 P **P** **16 46 29.6 -1.9**
SACV IAmb IAmb 16 46 32.0
comp=Z,114nm,0.9s
BIRD Birdtown, Kers 57.64 348 P **P** **16 46 32.4 0.0**
BIRD IAmb IAmb 16 46 34.0
comp=Z,226nm,0.9s
LRAL Lakeview Retre 57.66 342 P 16 46 31.9
baz=160,SNR=9.5
CNNC Cliffs of the 57.79 351 P 16 46 34.0
baz=170,SNR=6.9
342A Flagon Creek P 57.93 336 P **P** **16 46 35.7 +1.1**
BELA Belgrano 2 58.03 172 P **P** **16 46 34.9 +0.2**
BELA IAmb IAmb 16 46 36.9
comp=Z,175nm,1.0s
VBMS Vicksburg 58.03 338 P 16 46 35.3
baz=156,SNR=5.3
W57A Gilead 58.04 349 P **P** **16 46 35.3 +0.1**
W57A IAmb IAmb 16 46 36.7
comp=Z,168nm,0.9s
HKT Hockley 58.10 332 *diP* **P** **16 46 36.2 +0.5**
HKT pmax pmax
comp=Z,262nm,1.2s
W56A Indian Trail 58.13 348 P 16 46 36.1
baz=167,SNR=31
H06N1 SOCORRO T-PHAS 58.20 311 P **P** **16 46 38.8 +2.1**
SNR=11
V60A Jim Taylor Roa 58.22 352 P 16 46 36.9
baz=170,SNR=6.9
Y49A Blount Mountai 58.27 343 P **P** **16 46 36.2 -0.7**
Y49A IAmb IAmb 16 46 37.4
comp=Z,142nm,1.1s
KMSC Kings Mountain 58.28 348 P 16 46 37.4
baz=166,SNR=14
V59A Middlesex 58.35 351 P 16 46 37.8
baz=170,SNR=18
833A Chaparral WMA, 58.38 328 P 16 46 38.0
baz=146,SNR=116

BG3 Lake Jocassee 58.48 346 P **P** **16 46 38.5 +0.2**
V58A Windy Hill, Pi 58.52 350 P **P** **16 46 38.6 0.0**
V58A IAmb IAmb 16 46 39.9
comp=Z,168nm,0.9s
X51A Calhoun 58.53 344 P **P** **16 46 38.5 -0.2**
X51A IAmb IAmb 16 46 39.6
comp=Z,271nm,1.1s
U61A Possum Corner 58.67 353 P 16 46 39.8
baz=172,SNR=9.8
U61A Possum Corner 58.67 353 P **P** **16 46 40.0 +0.4**
FPAL Fort Paine 58.70 344 P **P** **16 46 39.4 -0.5**
FPAL IAmb IAmb 16 46 40.5
comp=Z,158nm,1.2s
V57A Coltrane Farms 58.72 349 P 16 46 40.0
baz=168,SNR=35
V56A Mocksville 58.77 349 P 16 46 41.0
baz=167,SNR=45
143A Socs Landing, 58.79 337 P **P** **16 46 41.0 +0.5**
W52A Murphy 58.80 345 P **P** **16 46 40.6 0.0**
W52A IAmb IAmb 16 46 41.8
comp=Z,223nm,1.2s
U59A Littleton 58.87 351 P **P** **16 46 41.2 +0.3**
U59A IAmb IAmb 16 46 42.4
comp=Z,224nm,1.2s
U60A Pendleton 58.90 352 P 16 46 41.6
baz=171,SNR=13
V55A Taylorsville 58.95 348 P **P** **16 46 42.1 +0.5**
X48A Hartselle 59.00 342 P **P** **16 46 41.4 -0.5**
U58A Oxford 59.02 351 P 16 46 42.5
baz=169,SNR=29
V53A Saluda 59.10 346 P **P** **16 46 42.7 0.0**
V53A IAmb IAmb 16 46 43.8
comp=Z,138nm,1.1s
U57A Blanch 59.18 350 P 16 46 43.3
baz=168,SNR=38
NATX Nacogdoches 59.18 334 P 16 46 44.4
baz=152,SNR=51
Y45A Yeager Farm, C 59.22 340 P **P** **16 46 43.0 -0.5**
W50A Signal Mountai 59.24 344 P **P** **16 46 43.2 -0.4**
U56A King 59.27 349 P 16 46 44.8
baz=167,SNR=15
U56A King 59.28 349 P **P** **16 46 44.5 +0.6**
CPCT Cooper Cave 59.28 345 P **P** **16 46 43.8 -0.1**
CPCT IAmb IAmb 16 46 44.9
comp=Z,200nm,1.1s
TKL Tuckaleechee C 59.31 346 P **P** **16 46 43.7 -0.3**
TKL pmax pmax
comp=Z,210nm,1.0s
TKL Tuckaleechee C 59.31 346 P **P** **16 46 43.7 -0.3**
TKL IAmb IAmb 16 46 44.8
comp=Z,210nm,1.0s
SHEL Horse Pasture 59.32 96 P **P** **16 46 44.4 -0.2**
SHEL pmax pmax
comp=Z,318nm,0.7s
SHEL Horse Pasture 59.32 96 P **P** **16 46 44.4 -0.2**
VNA3 Neumayer Olymp 59.32 161 P **P** **16 46 44.0 +0.3**
SWET Sewanee 59.42 343 P **P** **16 46 44.5 -0.3**
V52A Sevierville 59.44 346 P **P** **16 46 44.8 -0.2**
T59A Double "B" Far 59.44 352 P **P** **16 46 44.9 0.0**
T59A IAmb IAmb 16 46 46.3
comp=Z,221nm,1.1s
T60A Surry 59.50 352 P 16 46 45.9
baz=171,SNR=5.5
VNA1 Neumayer--Stat 59.53 160 P **P** **16 46 46.0 +0.9**
VNA1 Neumayer--Stat 59.53 160 PcP **PcP** **16 47 31.7 +0.2**
T58A Grand View Acr 59.56 351 P 16 46 46.3
baz=169,SNR=44
V51A Loudon 59.58 345 P **P** **16 46 45.1 -0.8**
V51A IAmb IAmb 16 46 46.6
comp=Z,104nm,0.9s
435B Jarrell 59.59 331 P 16 46 46.4
baz=149,SNR=27
435B Jarrell 59.59 331 P **P** **16 46 45.5 -0.5**
U54A Nelsons Funny 59.72 348 P 16 46 47.1
baz=166,SNR=19
U54A Nelsons Funny 59.72 348 P **P** **16 46 47.0 0.0**
OXF Oxford 59.77 340 P 16 46 46.5
baz=158,SNR=37
OXF Oxford 59.77 340 P **P** **16 46 46.3 -0.9**
OXF pmax pmax
comp=Z,396nm,0.9s
OXF Oxford 59.77 340 P **P** **16 46 46.3 -0.9**
Z41A Richland Creek 59.79 337 P 16 46 47.8
baz=154,SNR=20
PLAL Pickwick Lake 59.80 341 P **P** **16 46 46.5 -0.9**
PLAL IAmb IAmb 16 46 47.6
comp=Z,217nm,1.1s
237A Washetta, Mont 59.87 333 P **P** **16 46 48.9 +1.0**
T56A Rocky Mt 59.88 349 P 16 46 48.5
baz=168,SNR=37
VNA2 Neumayer--Watz 59.90 161 P **P** **16 46 48.0 +0.3**
baz=279,slow=7.2
VNA2 Neumayer--Watz 59.90 161 PcP **PcP** **16 47 31.8 -1.2**
CCAR Cane Creek 60.01 338 P **P** **16 46 49.5 +0.6**
S60A Water View 60.05 353 P 16 46 49.8
baz=171
BLA Blacksburg 60.12 349 P 16 46 50.2
baz=167,SNR=27
BLA Blacksburg 60.12 349 P **P** **16 46 50.3 +0.6**
BLA pmax pmax
comp=Z,191nm,0.9s
BLA Blacksburg 60.12 349 P **P** **16 46 50.2 +0.6**
BLA IAmb IAmb 16 46 52.4
comp=Z,191nm,0.8s
S58A Poland Farm, P 60.14 351 P 16 46 50.2
baz=170,SNR=12
S58A Poland Farm, P 60.14 351 P **P** **16 46 50.1 +0.4**
S58A IAmb IAmb 16 46 51.2
comp=Z,120nm,1.2s
V48A Smith Brothers 60.15 343 P **P** **16 46 49.3 -0.5**
S59A Mechanicsville 60.19 352 P 16 46 50.5
baz=171,SNR=8.9
JSRW J. Sargeant Re 60.20 351 P **P** **16 46 50.7 +0.7**
X43A Marvell 60.25 339 P 16 46 50.9
baz=156,SNR=25
WLAR White Oak Lake 60.29 336 P **P** **16 46 51.7 +0.9**
W45A Hickory Valley 60.30 341 P **P** **16 46 50.2 -0.6**
CLTN Cedars of Leba 60.35 343 P **P** **16 46 50.8 -0.3**
CLTN IAmb IAmb 16 46 51.9
comp=Z,235nm,1.0s
JCT Junction City 60.36 329 P 16 46 51.9
baz=147,SNR=216
JCT Junction City 60.36 329 P **P** **16 46 51.2 -0.2**
JCT pmax pmax
comp=Z,491nm,0.8s
JCT Junction City 60.36 329 P **P** **16 46 51.2 -0.2**
S57A Dark Hollow, R 60.42 351 P 16 46 52.0
baz=169,SNR=32
S57A Dark Hollow, R 60.42 351 P **P** **16 46 52.0 +0.4**
S57A IAmb IAmb 16 46 53.4
comp=Z,266nm,1.1s
S56A Natural Bridge 60.43 350 P 16 46 52.3
baz=168,SNR=17
R58B Mineral 60.46 352 P 16 46 52.3
baz=170,SNR=50
R58B Mineral 60.46 352 P **P** **16 46 51.9 0.0**
R58B IAmb IAmb 16 46 53.6
comp=Z,250nm,1.1s
MET Memphis--Engin 60.50 340 P **P** **16 46 52.2 0.0**
WHTX Lake Whitney, 60.56 332 P 16 46 52.9
baz=149,SNR=82
WHTX Lake Whitney, 60.56 332 P **P** **16 46 53.0 +0.3**
R59A King George, V 60.59 352 P 16 46 53.4
baz=171,SNR=11
U49A Red Boiling Sp 60.61 344 P **P** **16 46 52.1 -0.8**
U49A IAmb IAmb 16 46 53.5
comp=Z,287nm,1.5s
HPIG 60.62 322 P **P** **16 46 54.6 +1.2**
HPIG IAmb IAmb 16 46 55.7
comp=Z,190nm,1.0s
Z38A Mt. Pleasant 60.63 335 P **P** **16 46 53.8 +0.7**
CBN Corbin Frederi 60.63 352 P 16 46 53.4
baz=171
CBN Corbin Frederi 60.63 352 P **P** **16 46 53.2 +0.2**
CBN IAmb IAmb 16 46 54.5
comp=Z,159nm,1.1s
WVT Waverly 60.80 342 P 16 46 53.3
baz=160
WVT Waverly 60.80 342 P **P** **16 46 53.3 -0.9**
WVT pmax pmax
comp=Z,315nm,1.0s
WVT Waverly 60.80 342 P **P** **16 46 53.3 -0.9**
R58A Rapidan 60.81 351 P 16 46 54.5
baz=170,SNR=22
RKT Rikitea 60.81 255 *e*S **S** **16 54 58.4 -5.6**

comp=Z,2µm,25.0s
S54A Dingess, Beckl 60.86 348 P 16 46 54.6
baz=166,SNR=26
T50A Nancy 60.86 345 P **P** **16 46 54.1 -0.5**
S54A Dingess, Beckl 60.86 348 P **P** **16 46 54.6 0.0**
S54A IAmb IAmb 16 46 56.0
comp=Z,388nm,1.4s
R57A Stanardsville 60.88 351 P 16 46 55.3
baz=170,SNR=27
X40A Basin Creek Fa 60.90 337 P 16 46 54.9
baz=154,SNR=5.3
LPAR Lepanto 61.05 340 P **P** **16 46 55.7 -0.2**
R55A Marlinton 61.12 350 P 16 46 57.2
baz=168,SNR=31
R55A Marlinton 61.12 350 P **P** **16 46 57.3 +0.9**
R56A Bull Pasture M 61.12 350 P 16 46 57.3
baz=169
R54A Victor 61.17 349 P 16 46 56.9
baz=167,SNR=26
MIAR Mount Ida 61.23 337 P 16 46 57.2
baz=154,SNR=34
LNXT Lenox 61.26 341 P **P** **16 46 57.2 -0.1**
W41B Gary Mavity, V 61.31 338 P 16 46 57.4
baz=155,SNR=31
TX32 Lajitas Array 61.38 325 P **P** **16 46 58.5 0.0**
TX32 IAmb IAmb 16 47 00.1
comp=Z,202nm,1.5s
TXAR Lajitas Array 61.38 325 P **P** **16 46 58.4 -0.1**
comp=Z,42nm,0.7s,baz=148,slow=8.5,SNR=425
TXAR pP **pP** **16 47 26.8 +0.7**
comp=Z,11nm,0.6s,baz=141,slow=7.1,SNR=2.9
TXAR sP **PcP** **16 47 39.0 -0.7**
comp=Z,16nm,0.9s,baz=128,slow=9.7,SNR=2.5
TXAR PKPPKP **P'P'df** **17 16 10.3 0.0**
comp=Z,1.1nm,0.9s,baz=278,slow=1.5,SNR=6.5
TXAR Lajitas Array 61.38 325 P **P** **16 46 58.2 -0.2**
TX31 Lajitas Ar. Si 61.38 325 P **P** **16 46 58.5 0.0**
Q58A Fox Den Farm, 61.40 352 P 16 46 58.5
baz=170,SNR=16
WHAR Wooly Hollow 61.44 338 P **P** **16 46 58.3 -0.2**
WHAR IAmb IAmb 16 46 59.4
comp=Z,163nm,1.0s
SNAA Sanae 61.53 161 P **P** **16 46 59.1 +0.2**
SNAA Sanae 61.53 161 PcP **PcP** **16 47 40.4 +0.8**
SNAA Sanae 61.53 161 LR LR 17 11 45.0
comp=Z,196nm,21.0s,baz=270,slow=34
SNAA Sanae 61.53 161 *ce*P **P** **16 46 59.2 +0.4**
SNAA pmax pmax
comp=Z,229nm,1.0s
SNAA Sanae 61.53 161 P **P** **16 46 59.0 +0.2**
SNAA IAmb IAmb 16 47 00.6
comp=Z,182nm,0.9s
Q57A Strasburg 61.59 351 P 16 47 00.3
baz=170,SNR=44
Q56A Snyder Ridge, 61.71 351 P 16 47 01.4
baz=169
SDMD Soldier's Deli 61.76 353 P **P** **16 47 00.5 -0.1**
LCAR Lake Charles 61.76 339 P **P** **16 47 00.2 -0.5**
LCAR IAmb IAmb 16 47 01.2
comp=Z,161nm,0.9s
PARMO Parma 61.86 341 P **P** **16 47 01.4 +0.1**
T45A Paducah 61.86 342 P **P** **16 47 01.0 -0.4**
W39A Magazine 61.88 337 P 16 47 02.3
baz=154,SNR=53
W39A Magazine 61.88 337 P **P** **16 47 02.2 +0.7**
P59A Jarrettsville 61.91 353 P 16 47 02.4
baz=172,SNR=30
FCAR Ozark Folk Cen 61.92 338 P **P** **16 47 01.2 -0.5**
FCAR IAmb IAmb 16 47 02.3
comp=Z,158nm,1.0s
Q54A Coxs Mills 61.92 349 P **P** **16 47 01.5 -0.2**
Q54A IAmb IAmb 16 47 02.9
comp=Z,299nm,1.6s
Q53A Leroy 61.92 349 P 16 47 01.9
baz=166,SNR=23
R50A Paris 61.94 346 P **P** **16 47 01.4 -0.5**
R50A IAmb IAmb 16 47 02.6
comp=Z,177nm,1.4s
X37A Clayton 61.95 335 P **P** **16 47 02.4 +0.4**
P57A Homestead Farm 61.98 352 P 16 47 03.2
baz=170,SNR=33
P57A Homestead Farm 61.98 352 P **P** **16 47 03.2 +1.2**
P57A IAmb IAmb 16 47 04.2
comp=Z,169nm,0.9s
P60A Greenville 62.02 354 P 16 47 02.6
baz=173,SNR=12
P60A Greenville 62.02 354 P **P** **16 47 02.6 +0.3**
ABTX Abilene, Hawle 62.07 330 P 16 47 03.3
baz=147,SNR=92
ABTX Abilene, Hawle 62.08 330 P **P** **16 47 02.7 -0.2**
P56A Dayton Farm, R 62.11 351 P 16 47 04.1
baz=169,SNR=22
WUPA West Chester U 62.14 354 P **P** **16 47 03.6 +0.5**
Q52A Bidwell 62.16 348 P **P** **16 47 03.2 -0.1**
PBMO Poplar Bluff 62.18 340 P **P** **16 47 02.9 -0.6**
PBMO IAmb IAmb 16 47 04.2
comp=Z,228nm,0.9s
O61A Allentown 62.20 355 P 16 47 04.0
baz=174,SNR=5.8
MBO M'Bour 62.26 59 P **P** **16 47 02.8 -1.7**
MBO IAmb IAmb 16 47 06.4
comp=Z,339nm,1.1s
WCI Wyandotte Cave 62.36 344 P 16 47 03.7
baz=162
WCI Wyandotte Cave 62.36 344 P **P** **16 47 02.9 -1.8**
WCI pmax pmax
comp=Z,202nm,1.1s
WCI Wyandotte Cave 62.36 344 P **P** **16 47 02.9 -1.8**
WCI IAmb IAmb 16 47 04.9
comp=Z,202nm,1.1s
MCWV Mont Chateau 62.41 350 P 16 47 05.7
baz=168,SNR=30
MCWV Mont Chateau 62.42 350 P **P** **16 47 05.6 +0.6**
MCWV IAmb IAmb 16 47 06.8
comp=Z,111nm,0.8s
Q51A Peebles 62.44 347 P **P** **16 47 05.0 -0.2**
O58A Lewisberry 62.47 353 P 16 47 06.0
baz=171,SNR=15
O60A Telford 62.50 354 P 16 47 06.0
baz=173,SNR=9.5
P53A Whipple 62.51 349 P **P** **16 47 06.0 +0.3**
P53A IAmb IAmb 16 47 07.0
comp=Z,294nm,1.2s
PAGS Pennsylvania G 62.55 353 P **P** **16 47 06.3 +0.5**
O59A Robesonia 62.57 353 P 16 47 06.6
baz=172
U40A Yellville 62.59 338 P 16 47 05.9
baz=155,SNR=39
U40A Yellville 62.59 338 P **P** **16 47 05.8 -0.5**
U40A IAmb IAmb 16 47 07.1
comp=Z,202nm,0.9s
T42A Van Buren 62.62 340 P **P** **16 47 05.6 -0.8**
O57A Amberson 62.64 352 P 16 47 07.4
baz=171,SNR=22
S44A Carbondale 62.66 342 P **P** **16 47 06.2 -0.4**
S44A IAmb IAmb 16 47 07.3
comp=Z,362nm,1.3s
SIUC Southern Illin 62.67 342 P **P** **16 47 06.2 -0.5**
SIUC IAmb IAmb 16 47 08.0
comp=Z,218nm,1.0s
P52A Corning 62.79 348 P 16 47 07.1
baz=166,SNR=15
P52A Corning 62.79 348 P **P** **16 47 06.9 -0.6**
O56A Blue Knob Stat 62.82 351 P 16 47 08.6
baz=170,SNR=27
O56A Blue Knob Stat 62.82 351 P **P** **16 47 08.5 +0.8**
O56A IAmb IAmb 16 47 09.7
comp=Z,168nm,0.9s
P51A Williamsport 62.82 347 P **P** **16 47 07.2 -0.6**
P51A IAmb IAmb 16 47 08.3
comp=Z,177nm,1.4s
N61A South Mountain 62.83 355 P 16 47 08.4
baz=174,SNR=11
HHAR Hobbs 62.91 337 P **P** **16 47 08.3 0.0**
HHAR IAmb IAmb 16 47 09.4
comp=Z,268nm,1.1s
N60A Cedar Hill Far 63.02 354 P 16 47 09.2
baz=173,SNR=10.0
PAL Palisades 63.06 355 P 16 47 09.8
baz=174,SNR=6.5
SSPA Standing Stone 63.09 352 P 16 47 10.1
baz=170
SSPA Standing Stone 63.09 352 P **P** **16 47 07.1 -2.4**
MGMO Mountain Grove 63.12 339 P **P** **16 47 09.3 -0.4**
MGMO IAmb IAmb 16 47 10.6
comp=Z,174nm,1.0s

N59A State Game Lan 63.13 354 P 16 47 10.4
baz=172,SNR=11
N59A State Game Lan 63.13 354 P **P** **16 47 10.5 +0.7**
N58A Sunbury 63.15 353 P 16 47 10.6
baz=172,SNR=26
N58A Sunbury 63.15 353 P **P** **16 47 10.6 +0.8**
N58A IAmb IAmb 16 47 11.6
comp=Z,164nm,0.9s
N57A Milroy 63.17 352 P 16 47 10.4
baz=171,SNR=30
ODNJ Ogdensburg 63.19 355 P **P** **16 47 10.5 +0.4**
O53A New Philadelph 63.22 349 P 16 47 10.3
baz=167,SNR=17
P49A Miami Univ. Ec 63.23 346 P 16 47 09.5
baz=163,SNR=21
P49A Miami Univ. Ec 63.23 346 P **P** **16 47 09.2 -1.2**
P49A IAmb IAmb 16 47 10.5
comp=Z,184nm,1.1s
TUL1 Leonard 63.27 335 P 16 47 10.8
baz=152,SNR=35
FVM French Village 63.28 341 P **P** **16 47 10.3 -0.5**
FVM pmax pmax
comp=Z,392nm,1.0s
FVM French Village 63.28 341 P **P** **16 47 10.3 -0.5**
BLO Bloomington 63.31 344 P **P** **16 47 10.1 -0.9**
BLO pmax pmax
comp=Z,283nm,1.4s
BLO Bloomington 63.31 344 P **P** **16 47 10.1 -0.9**
BLO IAmb IAmb 16 47 11.2
comp=Z,282nm,1.4s
P48A Milroy 63.32 345 P **P** **16 47 09.8 -1.2**
M63A Gales Ferry 63.34 357 P 16 47 11.3
baz=176
FNO Franklin 63.34 334 P **P** **16 47 11.7 +0.4**
M61A Granite Spring 63.35 356 P 16 47 11.3
baz=175
N56A West Decatur 63.42 352 P 16 47 12.7
baz=170,SNR=11
M62A Hamden 63.42 356 P 16 47 12.2
baz=176
M60A Port Jervis 63.43 355 P 16 47 12.1
baz=174,SNR=8.5
WMOK Wichita Mounta 63.48 332 P 16 47 11.5
baz=149,SNR=71
WMOK Wichita Mounta 63.48 332 P **P** **16 47 11.2 -1.0**
WMOK pmax pmax
comp=Z,385nm,1.8s
WMOK Wichita Mounta 63.48 332 P **P** **16 47 11.2 -1.0**
WMOK IAmb IAmb 16 47 12.8
comp=Z,385nm,1.8s
ACSO Alum Creek Sta 63.53 348 P 16 47 11.9
baz=165,SNR=25
ACSO Alum Creek Sta 63.53 348 P **P** **16 47 12.0 -0.4**
ACSO IAmb IAmb 16 47 13.1
comp=Z,185nm,1.1s
OK025 Westminster Rd 63.60 334 P **P** **16 47 12.5 -0.4**
CCM Cathedral Cave 63.60 340 P 16 47 12.5
baz=157
CCM Cathedral Cave 63.60 340 P **P** **16 47 12.2 -0.7**
CCM pmax pmax
comp=Z,250nm,0.9s
CCM Cathedral Cave 63.60 340 P **P** **16 47 12.2 -0.7**
CCM IAmb IAmb 16 47 13.6
comp=Z,250nm,0.9s
M58A Price's Panora 63.65 353 P 16 47 14.5
baz=172
OK030 Cody Creek RV 63.68 335 P **P** **16 47 13.3 -0.2**
M57A Sunshine Farm, 63.69 353 P 16 47 14.3
baz=171,SNR=19
M57A Sunshine Farm, 63.69 353 P **P** **16 47 14.2 +0.8**
N53A Lisbon 63.70 350 P **P** **16 47 13.7 +0.2**
N53A IAmb IAmb 16 47 14.9
comp=Z,193nm,1.4s
N54A Moraine State 63.71 350 P 16 47 13.9
baz=168,SNR=28
M59A Waymart 63.72 354 P 16 47 14.4
baz=173,SNR=27
Q44A Meyer Farm, Va 63.72 342 P **P** **16 47 12.1 -1.6**
Q44A IAmb IAmb 16 47 13.6
comp=Z,223nm,1.1s
OK031 S. Brethren Rd 63.72 335 P **P** **16 47 13.8 +0.1**
O49A Covington 63.77 347 P **P** **16 47 13.2 -0.7**
O49A IAmb IAmb 16 47 14.4
comp=Z,170nm,1.1s
BCOK Bluff Creek, N 63.77 334 P **P** **16 47 14.0 -0.1**
L63A North Scituate 63.78 357 P 16 47 14.4
baz=177,SNR=8.3
L63A North Scituate 63.78 357 P **P** **16 47 14.5 +0.6**
L63A IAmb IAmb 16 47 45.9
comp=Z,190nm,0.9s
SLM Saint Louis 63.83 341 P **P** **16 47 14.1 -0.3**
SLM pmax pmax
comp=Z,186nm,1.3s
SLM Saint Louis 63.83 341 P **P** **16 47 14.1 -0.3**
SLM IAmb IAmb 16 47 14.8
comp=Z,186nm,1.2s
BRYW Bryant College 63.83 358 P **P** **16 47 15.0 +0.7**
BRYW IAmb IAmb 16 47 46.3
comp=Z,171nm,0.9s
OK029 Liberty Lake 63.83 334 P **P** **16 47 14.4 -0.1**
QUOK Quay 63.86 335 P **P** **16 47 14.6 -0.1**
P46A Rosedale 63.90 344 P **P** **16 47 13.7 -1.1**
P46A IAmb IAmb 16 47 14.8
comp=Z,205nm,1.2s
S39A Bolivar 63.96 338 P **P** **16 47 14.8 -0.5**
M56A Emporium 63.97 352 P 16 47 15.6
baz=170,SNR=20
M56A Emporium 63.97 352 P **P** **16 47 15.4 +0.2**
M56A IAmb IAmb 16 47 16.7
comp=Z,131nm,0.8s
L62A Suffield 64.00 357 P 16 47 15.9
baz=176
L60A Shokan 64.06 355 P 16 47 16.6
baz=174,SNR=14
MNTX Cornudas Mount 64.15 325 P 16 47 16.1
baz=142,SNR=274
MNTX Cornudas Mount 64.15 325 P **P** **16 47 15.9 -0.8**
MNTX IAmb IAmb 16 47 17.7
comp=Z,223nm,1.1s
M54A Oil Creek Stat 64.20 351 P 16 47 16.9
baz=169,SNR=37
L61A Hillsdale 1, H 64.21 356 P 16 47 17.4
baz=175,SNR=6.4
L58A Harry Jones Me 64.25 354 P 16 47 17.8
baz=172,SNR=42
M53A WI Miller and 64.29 350 P 16 47 17.4
baz=168,SNR=19
M53A WI Miller and 64.29 350 P **P** **16 47 17.4 +0.1**
L57A Andrews Acres 64.31 353 P 16 47 18.0
baz=172,SNR=14
L59A Walton 64.32 355 P 16 47 18.4
baz=173,SNR=28
ALLY Alegheny Colle 64.41 350 P **P** **16 47 18.1 -0.1**
ALLY IAmb IAmb 16 47 19.3
comp=Z,210nm,0.9s
L61B Northampton 64.42 357 P 16 47 18.4
baz=176,SNR=6.4
HRV Adam Dziewonsk 64.42 358 P 16 47 18.6
baz=177
BINY Binghamton 64.42 354 P 16 47 18.9
baz=172,SNR=30
BINY Binghamton 64.42 354 P **P** **16 47 19.0 +0.8**
BINY IAmb IAmb 16 47 20.1
comp=Z,228nm,1.0s
M51A Elyria 64.44 349 P 16 47 17.7
baz=166,SNR=11
M52A Chesterland 64.50 349 P **P** **16 47 18.3 -0.4**
L56A Greenwood 64.53 353 P 16 47 19.3
baz=171,SNR=22
P43A Skaggs, Pawnee 64.55 342 P **P** **16 47 18.1 -0.9**
P43A IAmb IAmb 16 47 19.2
comp=Z,293nm,1.1s
SFIN Lafayette 64.59 344 P 16 47 17.9
baz=161,SNR=19
SFIN Lafayette 64.59 344 P **P** **16 47 18.0 -1.3**
SFIN IAmb IAmb 16 47 19.1
comp=Z,215nm,1.4s
K62A Royalston 64.61 357 P 16 47 19.8
baz=176
MSTX Muleshoe 64.65 329 P 16 47 20.2
baz=145
K60A Five Rivers En 64.66 356 P 16 47 20.7
baz=175,SNR=5.6
CROK Carrier 64.66 334 P **P** **16 47 19.7 -0.2**
K61A Williamstown 64.67 356 P 16 47 20.6
baz=175,SNR=6.0

M50A Fremont 64.67 348 P **P** 16 47 19.4 -0.4
M50A IAmb IAmb 16 47 20.4
comp=Z,417nm,1.9s
L53A Girard 64.72 350 P 16 47 20.2
baz=168,SNR=24
N47A Urbana 64.73 346 P **P** 16 47 19.1 -1.1
N47A IAmb IAmb 16 47 20.3
comp=Z,229nm,1.2s
ERPA Erie 64.84 351 P 16 47 21.0
baz=168,SNR=41
ERPA Erie 64.84 351 P **P** 16 47 20.9 0.0
ERPA IAmb IAmb 16 47 22.1
comp=Z,243nm,0.8s
K59A Cooperstown 64.89 355 P 16 47 22.2
baz=174,SNR=45
AMTX Amarillo 64.89 330 P 16 47 21.3
baz=146
AMTX Amarillo 64.89 330 P **P** 16 47 21.2 -0.3
AMTX IAmb IAmb 16 47 22.6
comp=Z,341nm,1.2s
GC02 Grant County # 64.91 334 P **P** 16 47 20.9 -0.6
WVNY West Valley, N 64.93 352 P **P** 16 47 21.8 +0.3
WVNY IAmb IAmb 16 47 23.1
comp=Z,193nm,0.8s
K58A Earlville 64.95 354 P 16 47 22.1
baz=173,SNR=29
K58A Earlville 64.95 354 P **P** 16 47 22.1 +0.5
K58A IAmb IAmb 16 47 23.4
comp=Z,206nm,0.9s
K57A Scipio Center 65.00 354 P 16 47 22.1
baz=172,SNR=18
OK032 Salt Plains WL 65.01 334 P **P** 16 47 22.1 0.0
OK032 IAmb IAmb 16 47 23.2
comp=Z,302nm,0.9s
KAN14 Manchester OK 65.04 334 P **P** 16 47 22.5 +0.1
KAN14 IAmb IAmb 16 47 23.4
comp=Z,255nm,1.0s
K56A Middlesex 65.06 353 P 16 47 22.6
baz=171,SNR=17
J62A Henniker 65.15 357 P 16 47 23.9
baz=177
MMNY Mt. Morris Dam 65.16 352 P **P** 16 47 23.0 0.0
MMNY IAmb IAmb 16 47 24.3
comp=Z,344nm,1.5s
J63A Strafford 65.17 358 P 16 47 23.9
baz=177
P40A Paris 65.20 340 P **P** 16 47 22.9 -0.4
P40A IAmb IAmb 16 47 24.0
comp=Z,219nm,1.0s
KAN10 Anthony SW Sta 65.24 334 P **P** 16 47 23.6 0.0
KAN10 IAmb IAmb 16 47 24.8
comp=Z,215nm,0.9s
J60A Lant Hill Farm 65.25 356 P 16 47 23.9
baz=175,SNR=6.1
KAN08 Anthony NE Sta 65.28 334 P **P** 16 47 23.9 0.0
HSIG 65.28 319 P **P** 16 47 23.4 -0.7
HSIG IAmb IAmb 16 47 26.7
comp=Z,378nm,1.3s
J61A Chester 65.30 357 P 16 47 24.9
baz=176,SNR=6.2
HDIL Hopedale 65.33 343 P 16 47 23.3
baz=159,SNR=18
HDIL Hopedale 65.34 343 P **P** 16 47 23.1 -1.0
HDIL IAmb IAmb 16 47 56.8
comp=Z,103nm,0.8s
KAN12 Harper NE Stat 65.35 334 P **P** 16 47 24.6 +0.3
J59A Piesco 65.55 355 P 16 47 26.1
baz=174,SNR=38
J59A Piesco 65.55 355 P **P** 16 47 26.1 +0.6
J59A IAmb IAmb 16 47 27.4
comp=Z,210nm,0.9s
J56A Wolcott 65.58 353 P 16 47 25.7
baz=172,SNR=21
J56A Wolcott 65.58 353 P **P** 16 47 25.8 +0.2
J56A IAmb IAmb 16 47 26.7
comp=Z,202nm,0.8s
J57A Williamstown 65.62 354 P 16 47 26.3
baz=172,SNR=18
J57A Williamstown 65.62 354 P **P** 16 47 26.3 +0.4
AAM Ann Arbor 65.66 348 P 16 47 25.7
baz=165
P38A Dawn 65.77 339 P **P** 16 47 26.5 -0.5
P38A IAmb IAmb 16 47 27.8
comp=Z,184nm,0.9s
I62A Tamworth 65.78 358 P 16 47 27.8
baz=177
M44A Midewin, Midew 65.78 344 P **P** 16 47 26.0 -1.0
J54A Appleton 65.79 352 P **P** 16 47 27.2 +0.3
I58A Old Forge 65.81 355 P 16 47 27.7
baz=174,SNR=24
I59A Olmsteadville 65.83 356 P 16 47 28.0
baz=175
I60A Shoreham 65.84 356 P 16 47 28.1
baz=175,SNR=15
N41A Harden Midland 65.92 342 P **P** 16 47 26.9 -0.9
N41A IAmb IAmb 16 47 28.1
comp=Z,240nm,1.1s
I63A Otisfield 65.93 358 P 16 47 28.7
baz=178
121A Cookes Peak, D 66.08 324 P 16 47 30.6
baz=140,SNR=150
I57A Carthage 66.11 354 P 16 47 29.6
baz=173,SNR=21
LBNH Lisbon 66.16 357 P 16 47 30.3
baz=177,SNR=7.0
KSU1 Kansas State U 66.38 336 P 16 47 30.6
baz=152,SNR=24
KSU1 Kansas State U 66.38 336 P **P** 16 47 30.5 -0.4
KSU1 IAmb IAmb 16 47 31.7
comp=Z,254nm,0.9s
H61A Lyndonville 66.46 357 P 16 47 32.0
baz=177,SNR=8.1
H62A Milan 66.47 358 P 16 47 32.2
baz=177
H58A Gabriels 66.47 356 P 16 47 31.7
baz=174,SNR=28
L44A Lake County Fo 66.49 344 P 16 47 30.7
baz=160,SNR=7.1
H64A Troy 66.50 359 P 16 47 32.6
baz=179,SNR=5.6
H60A Morristown 66.52 357 P 16 47 32.5
baz=176,SNR=7.0
H63A New Sharon 66.53 359 P 16 47 32.8
baz=178,SNR=16
H65A Eastbrook 66.55 0 P 16 47 32.3
baz=180,SNR=7.6
EMMW East Machias 66.57 1 P **P** 16 47 31.6 -0.3
H57A Richville 66.61 355 P 16 47 32.4
baz=173,SNR=37
HAL Halifax 66.64 4 P **P** 16 47 33.3 +0.9
HAL pmax pmax
comp=Z,105nm,0.9s
HAL Halifax 66.64 4 P **P** 16 47 33.3 +0.9
H66A Whiting 66.65 1 P 16 47 33.2
baz=181,SNR=10.0
I51A Listowel 66.65 350 P 16 47 32.0
baz=168,SNR=29
H59A Cadyville 66.66 356 P 16 47 33.1
baz=175,SNR=24
LONY Lake Ozonia 66.70 355 P 16 47 33.2
baz=174,SNR=28
LONY Lake Ozonia 66.70 355 P **P** 16 47 33.2 +0.4
L42A Oliver, Polo 66.79 343 P **P** 16 47 32.6 -0.7
Y22D IRIS PASSCAL I 66.81 326 P 16 47 36.0
baz=141,SNR=8.2
FRNY Flat Rock 66.85 356 P **P** 16 47 34.2 +0.5
G63A Kingsbury 66.97 359 P 16 47 35.4
baz=179,SNR=13
G60A Masonville 67.04 357 P 16 47 36.0
baz=176,SNR=13
G65A Princeton 67.06 1 P 16 47 35.6
baz=181,SNR=16
G65A Princeton 67.06 1 P **P** 16 47 35.6 +0.7
G65A IAmb IAmb 16 47 36.8
comp=Z,108nm,0.8s
H53A Bobcaygeon 67.06 352 P 16 47 35.1
baz=170,SNR=23
G59A Clarenceville 67.07 356 P 16 47 35.8
baz=175
K43A Burlington 67.09 344 P **P** 16 47 34.2 -1.1
K43A IAmb IAmb 16 47 35.7
comp=Z,297nm,1.1s
G62A West of Eustis 67.09 358 P 16 47 36.2
baz=178,SNR=42
G62A West of Eustis 67.09 358 P **P** 16 47 36.2 +1.0
G62A IAmb IAmb 16 47 37.5
comp=Z,257nm,0.9s

G64A Maxfield 67.10 360 P 16 47 36.1
baz=180,SNR=13
PKME Peaks-Kenny Pk 67.12 359 P 16 47 36.0
baz=179,SNR=16
G58A Ormstown 67.19 356 P 16 47 36.2
baz=174,SNR=22
G61A St-Isidore-de- 67.19 358 P 16 47 36.8
baz=177,SNR=21
G57A Newington 67.21 355 P 16 47 36.3
baz=174,SNR=42
MOQ Mont Orford 67.25 357 P **P** 16 47 37.1 +0.8
ANMO Albuquerque 67.25 327 P 16 47 38.0
baz=142
ANMO Albuquerque 67.25 327 P **P** 16 47 37.5 +0.8
comp=Z,250nm,0.8s,baz=137,slow=6.8,SNR=573
ANMO PKPPKP **P'P'df** 17 16 03.4 +2.8
comp=Z,7.1nm,1.2s,baz=268,slow=3.2,SNR=5.3
ANMO Albuquerque 67.25 327 P **P** 16 47 37.0 +0.2
ANMO IAmb IAmb 16 47 39.2
comp=Z,315nm,0.8s
SADO Sadowa 67.32 352 PKPPKP 17 16 02.9
comp=Z,6.1nm,1.0s,baz=324,slow=3.6,SNR=3.0
SADO LR LR 17 21 01.7
comp=Z,240nm,18.7s,baz=182,slow=39
SADO Sadowa 67.32 352 P **P** 16 47 36.1 -0.6
CBKS Cedar Bluff 67.35 334 P 16 47 37.4
baz=149,SNR=164
CBKS Cedar Bluff 67.35 334 P **P** 16 47 37.0 -0.1
CBKS pmax pmax
comp=Z,787nm,0.9s
CBKS Cedar Bluff 67.35 334 P **P** 16 47 37.0 -0.1
F63A Nahmakanta, Br 67.56 360 P 16 47 39.2
baz=179,SNR=8.9
TUC Tucson 67.58 322 P 16 47 40.0
baz=138
TUC Tucson 67.58 322 P **P** 16 47 39.4 +0.6
TUC pmax pmax
comp=Z,355nm,1.4s
TUC Tucson 67.58 322 P **P** 16 47 39.4 +0.6
TUC IAmb IAmb 16 47 41.5
comp=Z,355nm,1.4s
N35A Tabor 67.59 338 P **P** 16 47 38.2 -0.3
N35A IAmb IAmb 16 47 39.2
comp=Z,352nm,1.0s
F64A Sherman 67.71 0 P 16 47 39.8
baz=180,SNR=32
SCIA State Center 67.73 340 P 16 47 39.1
baz=155,SNR=14
SCIA State Center 67.73 340 P **P** 16 47 39.1 -0.2
SCIA IAmb IAmb 16 47 40.2
comp=Z,242nm,0.9s
JFWS Jewell Farm 67.79 343 P 16 47 39.2
baz=158,SNR=36
JFWS Jewell Farm 67.79 343 P **P** 16 47 39.2 -0.5
JFWS pmax pmax
comp=Z,188nm,1.0s
JFWS Jewell Farm 67.79 343 P **P** 16 47 39.1 -0.5
JFWS IAmb IAmb 16 47 40.4
comp=Z,188nm,0.9s
G54A Lake Saint Pet 67.81 353 P 16 47 39.8
baz=170,SNR=22
F59A Saint Guilaume 67.81 357 P 16 47 40.2
baz=176
F61A St Evariste 67.86 358 P 16 47 40.6
baz=178,SNR=14
F60A Warwick 67.89 357 P 16 47 40.5
baz=177,SNR=17
F57A Harrington 67.89 355 P 16 47 40.7
baz=174
T25A Trinidad 68.00 330 P 16 47 42.3
baz=144,SNR=142
LIC Lamto 68.25 73 *e*P **P** 16 47 43.0 -0.2
comp=Z,267nm,1.0s
E60A Ste Agathe de 68.27 358 P 16 47 43.0
baz=177,SNR=13
E64A Bridgewater 68.27 1 P 16 47 43.1
baz=181,SNR=26
E63A Oxbow 68.27 0 P 16 47 43.2
baz=180,SNR=20
E63A Oxbow 68.27 0 P **P** 16 47 43.2 +0.5
GLMI Grayling 68.28 348 P 16 47 42.0
baz=164,SNR=9.5
GLMI Grayling 68.28 348 P **P** 16 47 42.5 -0.3
TRQ Mont Tremblant 68.29 356 P **P** 16 47 43.0 +0.1
E61A Lac Etchemin 68.31 359 P 16 47 43.9
baz=178,SNR=12
I42A Draeger Farm, 68.35 344 P **P** 16 47 42.4 -0.8
I42A IAmb IAmb 16 47 44.1
comp=Z,307nm,1.4s
ALGO Algonquin Park 68.36 353 P 16 47 42.8
baz=171,SNR=42
E58A La Victoria 68.36 356 P 16 47 43.2
baz=175,SNR=39
E59A St. Maurice 68.43 357 P 16 47 44.5
baz=176,SNR=5.4
TIC Toumodi 68.44 73 *e*P **P** 16 47 44.3 -0.1
214A Organ Pipe Nat 68.50 320 P 16 47 46.0
baz=136,SNR=150
214A Organ Pipe Nat 68.50 320 P **P** 16 47 45.9 +1.4
214A IAmb IAmb 16 47 47.5
comp=Z,350nm,1.1s
PQI Presque Isle 68.53 0 P **P** 16 47 44.6 +0.5
KIC Kosan Boka 68.56 73 *e*P **P** 16 47 45.2 0.0
comp=Z,221nm,0.7s
DBIC Dimbokro 68.60 73 P **P** 16 47 45.6 +0.2
comp=Z,135nm,0.7s,baz=217,slow=6.3,SNR=144
DBIC pP **pP** 16 48 13.6 -0.2
comp=Z,115nm,0.9s,baz=221,slow=6.3,SNR=8.0
DBIC PKPPKP **P'P'df** 17 15 59.7 -1.1
comp=Z,5.2nm,0.9s,baz=42,slow=3.2,SNR=3.3
DBIC LR LR 17 18 49.5
comp=Z,548nm,18.4s,baz=246,slow=37
DBIC Dimbokro 68.60 73 P **P** 16 47 45.3 -0.1
DBIC IAmb IAmb 16 47 47.2
comp=Z,163nm,0.8s
PIX Pinacate 68.61 320 P **P** 16 47 46.3 +1.2
PIX IAmb IAmb 16 47 47.7
comp=Z,194nm,1.2s
E55A Montcerf-Lytto 68.64 354 P 16 47 45.1
baz=173,SNR=27
E56A St. Veronique 68.65 355 P 16 47 45.1
baz=174,SNR=63
KSCO Kaye Shedlock' 68.73 332 P 16 47 46.5
baz=146,SNR=29
KSCO Kaye Shedlock' 68.73 332 P **P** 16 47 46.6 +0.8
D60A Saint Jean D'O 68.80 358 P 16 47 46.4
baz=178,SNR=23
L34A Svendsen Farm, 68.83 338 P **P** 16 47 46.1 -0.1
D63A Stockholm 68.89 0 P 16 47 47.1
baz=180,SNR=28
D59A Saint-Raymond 68.92 358 P 16 47 47.2
baz=177,SNR=11
D62A Allapoint, All 68.94 360 P 16 47 47.3
baz=180
BGNE Belgrade 68.97 337 P 16 47 47.2
baz=151,SNR=78
BGNE Belgrade 68.97 337 P **P** 16 47 47.1 -0.1
D58A Chemin du LacG 69.06 357 P 16 47 47.8
baz=176,SNR=100
D61A St Aubert, Com 69.07 359 P 16 47 48.2
baz=178,SNR=24
W18A Petrified Fore 69.10 325 P 16 47 49.6
baz=139,SNR=97
D56A ZEC Mazanza, M 69.13 355 P 16 47 47.8
baz=174,SNR=45
D55A Sainte-Anne-du 69.16 355 P 16 47 47.8
baz=173,SNR=82
BATG Bathurst New B 69.17 2 P **P** 16 47 48.7 +0.5
BATG IAmb IAmb 16 47 49.8
comp=Z,152nm,0.8s
LATQ La Tuque 69.34 357 P 16 47 49.5
baz=176,SNR=40
S22A 4UR Ranch, Cre 69.64 328 P 16 47 52.6
baz=142,SNR=101
E46A Sault Ste Mari 69.70 348 P **P** 16 47 51.0 -0.5
I37A Lemond, Waseca 69.70 341 P **P** 16 47 50.8 -0.8
I37A IAmb IAmb 16 47 52.4
comp=Z,187nm,0.8s
TAOE Nuku Hiva Isla 69.74 268 *e*P **P** 16 47 54.3 +1.7
comp=Z,488nm,1.3s
TAOE *e*S **S** 16 56 48.7 -4.8
comp=Z,606nm,25.3s
TAOE Nuku Hiva Isla 69.74 268 *e*LR LR 17 08 51.4
comp=Z,1µm,33.8s
Q24A Divide 69.82 330 P 16 47 53.8
baz=144,SNR=291
G40A Rib Lake 69.97 344 P **P** 16 47 52.8 -0.4

MVCO Mesa Verde 70.05 327 P 16 47 55.2
baz=141,SNR=303
OGNE Ogallala 70.09 334 P 16 47 54.9
baz=147,SNR=29
K31A O'Neill 70.25 337 P **P** 16 47 55.5 +0.5
E43A Lone Tree Farm 70.25 347 P **P** 16 47 54.2 -0.6
WUAZ Wupatki 70.28 324 P 16 47 57.1
baz=138,SNR=193
VLDQ Val d'Or 70.42 354 P **P** 16 47 55.9 +0.1
VLDQ IAmb IAmb 16 47 57.4
comp=Z,202nm,0.9s
ECSD EROS Data Cent 70.47 339 P 16 47 56.0
baz=152,SNR=34
ECSD EROS Data Cent 70.47 339 P **P** 16 47 55.7 -0.6
ECSD IAmb IAmb 16 47 57.4
comp=Z,239nm,1.4s
GLA Glamis 70.48 320 P 16 47 58.2
baz=135,SNR=17
SPMN Marine on St. 70.63 342 P 16 47 56.6
baz=156,SNR=18
ISCO Idaho Springs 70.71 331 P 16 47 59.0
baz=144,SNR=218
PDMCI Parker Dam,Lak 70.96 321 P 16 48 00.9
baz=136,SNR=31
IKP In-Ko-Pah, Jac 70.97 319 P 16 48 01.2
baz=134,SNR=49
SWSC Sam W. Stewart 70.99 319 P 16 48 01.2
baz=134,SNR=26
BC3 Big Chuckawall 71.27 320 P 16 48 02.6
baz=134,SNR=162
MONP2 Monument Peak 71.33 319 P 16 48 03.5
baz=134,SNR=45
F36A Milaca 71.42 342 P **P** 16 48 01.1 -0.9
F36A IAmb IAmb 16 48 02.6
comp=Z,167nm,0.9s
IRM Iron Mountain 71.44 321 P 16 48 04.1
baz=135,SNR=123
E38A The Farm, Brul 71.56 343 P **P** 16 48 02.3 -0.5
NEE2 Needles Airpor 71.56 321 P 16 48 04.5
baz=135,SNR=10
N23A Red Feather La 71.74 331 P 16 48 05.6
baz=144,SNR=127
109C Camp Elliot, M 71.75 318 P 16 48 05.5
baz=133,SNR=6.6
DRLN Deer Lake 71.79 8 P **P** 16 48 03.8 -0.2
BELC Belle Mtn. Jos 71.84 320 P 16 48 06.6
baz=134,SNR=51
XPFO Pion Flat 71.84 319 P **P** 16 48 05.1 +0.1
PFO Pinyon Flats O 71.85 319 P 16 48 06.6
baz=134,SNR=59
PFO Pinyon Flats O 71.85 319 LR LR 17 16 14.2
comp=Z,234nm,21.2s,baz=134,slow=33
PFO Pinyon Flats O 71.85 319 *i* P **P** 16 48 06.3 +1.3
PFO pmax pmax
comp=Z,242nm,1.4s
SUSD Miller 71.90 338 P 16 48 04.8
baz=150,SNR=9.6
MATQ Matagami 72.07 354 P 16 48 04.8
baz=171,SNR=40
GMRC Granite Mounta 72.18 321 P 16 48 08.4
baz=135,SNR=181
O20A White River Ci 72.20 329 P 16 48 08.1
baz=142,SNR=420
MURC Murrieta 72.29 319 P 16 48 09.0
baz=133,SNR=27
BBRC Big Bear Solar 72.57 320 P 16 48 11.4
baz=134,SNR=9.9
HEC Hector Ludlow 72.61 320 P 16 48 11.3
baz=134,SNR=86
SCI2 San Clemente I 72.70 318 P 16 48 11.1
baz=132
EYMN Ely 72.78 344 P 16 48 09.2
baz=158,SNR=71
EYMN Ely 72.79 344 P **P** 16 48 09.1 -1.0
CIS Catalina Islan 72.90 318 P 16 48 12.0
baz=132
KOWA Kowa 72.97 66 S **S** 16 57 28.3 -2.1
comp=Z,1.9nm,0.8s,baz=339,slow=23,SNR=10
KOWA LR LR 17 20 53.4
comp=Z,723nm,18.8s,baz=225,slow=36
KOWA Kowa 72.97 66 P **P** 16 48 11.5 -0.3
BFSC Mount Baldy Ra 73.00 319 P 16 48 13.2
baz=133,SNR=42
FMP Fort Macarthur 73.04 318 P 16 48 13.1
baz=132
RRX Edison Barstow 73.04 320 P 16 48 13.9
baz=134,SNR=7.6
GSC Goldstone, Bar 73.22 320 P 16 48 14.8
baz=134,SNR=56
SHOC Shoshone, Teco 73.32 321 P 16 48 14.8
baz=134,SNR=7.7
K22A Casper 73.41 332 P 16 48 15.2
baz=144,SNR=57
DECC Green Verdugo 73.42 319 P 16 48 15.8
baz=132,SNR=13
PMOZ Porto Moniz, M 73.44 43 *e*S **S** 16 57 40.0 +4.7
SNCC San Nicolas Is 73.49 317 P 16 48 15.5
baz=132
RSSD Black Hills 73.56 334 P 16 48 15.8
baz=146
TBI Tubuai 73.61 251 *e*P **P** 16 48 17.5 +2.0
comp=Z,367nm,1.1s
TBI *e*S **SKiKP** 16 57 33.3 -1.9
comp=Z,1µm,27.0s
TBI Tubuai 73.61 251 *e*LQ LQ 17 07 39.9
comp=Z,357nm,38.2s
TBI *e*LR LR 17 10 44.5
comp=Z,544nm,39.5s
EDW2 Edwards Air Fo 73.64 319 P 16 48 16.4
baz=133,SNR=43
B35A Bob, Littlefor 73.76 343 P **P** 16 48 15.2 -0.5
LRMC Laurel Mtn Rad 73.86 320 P 16 48 18.2
baz=133,SNR=48
OSI Osito Audit: C 73.90 319 P 16 48 18.2
baz=132,SNR=8.8
TPNV Topopah Spring 74.04 322 P 16 48 19.5
baz=135,SNR=132
MEH Mehetia 74.04 257 *e*P **P** 16 48 20.0 +1.8
comp=Z,40nm,1.1s
MEH *e*pP **pP** 16 48 47.9 +1.5
comp=Z,34nm,1.1s
SCZ2 Santa Cruz Isl 74.06 318 P 16 48 18.9
baz=132,SNR=6.1
FURC Furnace Creek, 74.06 321 P 16 48 19.5
baz=134,SNR=32
MPMC Manual Prospec 74.14 321 P 16 48 19.3
baz=134,SNR=69
AGMN Agassiz Nation 74.31 341 P 16 48 18.9
baz=154,SNR=50
ARVC Arvin 74.31 319 P 16 48 20.8
baz=132
E28A Huff 74.36 338 P **P** 16 48 20.0 +0.6
ISA Isabella, Lake 74.46 320 P 16 48 21.6
baz=133,SNR=95
VAH Vaihoa 74.50 260 *e*P **P** 16 48 22.7 +1.9
VAH *e*pP **pP** 16 48 50.6 +1.6
comp=Z,127nm,1.0s
DUG Dugway, Tooele 74.51 326 P 16 48 22.1
baz=138,SNR=203
DUG Dugway, Tooele 74.51 326 P **P** 16 48 20.9 +0.4
DUG pmax pmax
comp=Z,243nm,1.1s
DUG Dugway, Tooele 74.51 326 P **P** 16 48 20.9 +0.4
DUG IAmb IAmb 16 48 23.4
comp=Z,243nm,1.1s
R11A Troy Canyon, C 74.65 323 P 16 48 23.1
baz=135,SNR=143
GRAC Grapevine Rang 74.72 321 P 16 48 23.4
baz=134,SNR=28
CWC Cottonwood Cre 74.75 321 P 16 48 23.6
baz=133
PKM Mcpherson Peak 74.75 318 P 16 48 23.7
baz=132,SNR=33
BW06 Boulder Array 74.87 330 P 16 48 23.2
baz=141,SNR=135
PD31 Pinedale Array 74.87 330 P **P** 16 48 23.0 +0.4
PDAR Pinedale Array 74.87 330 P **P** 16 48 22.7 +0.1
comp=Z,28nm,0.7s,baz=134,slow=6.4,SNR=194
PDAR pP **pP** 16 48 50.9 -0.4
comp=Z,21nm,0.8s,baz=150,slow=4.3,SNR=4.1
PDAR PKPPKP **P'P'df** 17 15 51.5 +4.3
comp=Z,1.0nm,1.0s,baz=29,slow=3.4,SNR=3.7
PDAR LR LR 17 22 44.4
comp=Z,101nm,21.8s,baz=148,slow=37
PDAR Pinedale Array 74.87 330 P **P** 16 48 21.6 -1.0
HWUT Hardware Ranch 74.94 328 P **P** 16 48 23.4 +0.4
HWUT IAmb IAmb 16 48 25.2

comp=Z,252nm,1.0s
VES Vestal, Richgr 74.94 319 P 16 48 24.4
baz=132,SNR=31
MDND Maddock 75.08 339 P 16 48 24.2
baz=150,SNR=59
MDND Maddock 75.09 339 P **P** **16 48 23.9 +0.4**
SMMC Simmler 75.15 319 P 16 48 26.4
baz=132
TIN Tinemaha, Big 75.26 321 P 16 48 26.7
baz=133,SNR=10
PAE Paea 75.48 257 *e*P **P** **16 48 28.3 +1.9**
PAE *e*pP **pP** **16 48 56.4 +1.7**
comp=Z,29nm,1.1s
PPT2 Papeete2 75.50 257 *e*P **P** **16 48 28.8 +2.1**
comp=Z,178nm,1.2s
PPT2 *e*pP **pP** **16 48 56.8 +1.8**
PPT2 comp=Z,138nm,1.3s *e*S **S** **16 57 54.5 -4.4**
comp=Z,2µm,25.2s
PPT2 Papeete2 75.50 257 *e*LQ LQ 17 08 26.3
comp=Z,831nm,27.0s
PPT2 *e*LR LR 17 11 34.5
comp=Z,2µm,36.0s,baz=109
PPT Papeete 75.50 257 P **P** **16 48 29.3 +2.7**
comp=Z,119nm,1.0s,baz=111,slow=7.6,SNR=16
PPT pP **pP** **16 48 56.2 +1.3**
comp=Z,100nm,1.0s,baz=97,slow=12,SNR=4.4
SYO Syowa Base 75.75 159|| *e*P **P** **16 48 27.4 +0.4**
SYO Syowa Base 75.75 159|| *e*PcP **PcP** **16 48 37.4 -1.8**
SYO Syowa Base 75.75 159|| *e*sP sP 16 49 05.0 -2.5
MLAC Mammoth, Mammo 76.00 321 P 16 48 30.9
baz=133,SNR=8.8
ULM Lac du Bonnet 76.07 342 P **P** **16 48 28.2 -0.7**
comp=Z,82nm,0.7s,baz=151,slow=6.0,SNR=122
ULM pP **pP** **16 48 57.6 0.0**
comp=Z,23nm,0.6s,baz=166,slow=6.3,SNR=4.0
ULM LR LR 17 24 39.2
comp=Z,199nm,21.7s,baz=148,slow=38
ULM Lac du Bonnet 76.07 342 P **P** **16 48 28.3 -0.7**
ULM IAmb IAmb 16 48 29.9
comp=Z,371nm,1.5s
NVAR Mina Array Bea 76.24 322 P **P** **16 48 31.7 +1.2**
comp=Z,44nm,0.9s,baz=153,slow=6.9,SNR=141
NVAR pP **pP** **16 49 00.4 +1.2**
comp=Z,6.3nm,0.7s,baz=134,slow=42,SNR=4.0
NVAR PKPPKP **P'P'df** **17 15 52.8 +7.4**
comp=Z,0.8nm,0.9s,baz=296,slow=1.2,SNR=3.9
NVAR LR LR 17 20 18.5
comp=Z,154nm,19.8s,baz=130,slow=34
NVAR Mina Array Bea 76.24 322 P **P** **16 48 30.5 0.0**
VNDA Vanda 76.24 190 P **P** **16 48 31.3 +1.5**
comp=Z,45nm,0.9s,baz=135,slow=4.8,SNR=134
VNDA PKPPKP **P'P'df** **17 15 48.6 +2.2**
comp=Z,0.8nm,0.9s,baz=216,slow=3.2,SNR=4.0
VNDA LR LR 17 23 02.6
comp=Z,188nm,18.2s,baz=138,slow=36
VNDA Vanda 76.24 190 P **P** **16 48 31.2 +1.5**
LAO LASA Array 76.54 334 P 16 48 32.9
baz=144,SNR=26
LAO LASA Array 76.54 334 P **P** **16 48 33.0 +1.1**
LAO IAmb IAmb 16 48 34.1
comp=Z,396nm,1.1s
KVN Kaiserville 76.55 322 P **P** **16 48 32.9 +0.7**
KVN pmax pmax
comp=Z,174nm,1.1s
KVN Kaiserville 76.55 322 P **P** **16 48 32.9 +0.7**
RLMT Red Lodge 76.57 332 P 16 48 33.4
baz=142,SNR=71
RLMT Red Lodge 76.57 332 P **P** **16 48 32.5 +0.2**
RLMT IAmb IAmb 16 48 34.8
comp=Z,450nm,1.3s
H17A Grant Village 76.60 330 P 16 48 34.3
baz=140,SNR=24
DGMT Dagmar 77.23 337 P 16 48 36.9
baz=146,SNR=43
TOA0 Torodi Ar. Sit 77.26 70 P **P** **16 48 35.7 -0.8**
TOA0 IAmb IAmb 16 48 40.0
comp=Z,232nm,0.8s
TORD Torodi Ar. Bea 77.26 70 P **P** **16 48 35.9 -0.7**
comp=Z,182nm,0.7s,baz=251,slow=3.4,SNR=274
TORD pP **pP** **16 49 04.2 -1.1**
comp=Z,86nm,0.6s,baz=254,slow=5.4,SNR=5.1
TORD S **S** **16 58 16.9 -1.1**
comp=Z,11nm,1.0s,baz=252,slow=9.6,SNR=17
TORD PKP2ab 17 15 30.6
comp=Z,1.2nm,1.0s,baz=28,slow=3.5,SNR=3.7
TORD Torodi Ar. Bea 77.26 70 P **P** **16 48 35.8 -0.7**
TORD IAmb IAmb 16 48 40.0
comp=Z,173nm,0.8s
HLID Hailey 77.80 328 P 16 48 41.0
baz=137,SNR=375
BOZ Bozeman (W) 78.00 331 P 16 48 41.2
baz=140,SNR=47
EGMT Eagleton 79.06 333 P 16 48 46.4
baz=142,SNR=11
O03E Paynes Creek 79.50 321 P 16 48 48.5
baz=131,SNR=54
TSUM Tsumeb 79.51 106 P **P** **16 48 49.6 +0.5**
MSO Missoula 79.98 330 P 16 48 52.3
baz=138,SNR=23
O02D Mt. Diablo Mer 80.00 321 P 16 48 51.6
baz=130,SNR=31
WDC Whiskeytown Da 80.11 321 P **P** **16 48 50.8 -0.8**
WDC pmax pmax
comp=Z,104nm,0.7s
WDC Whiskeytown Da 80.11 321 P **P** **16 48 50.8 -0.8**
BMO Blue Mountains 80.17 327 P **P** **16 48 51.4 -0.5**
BMO pmax pmax
comp=Z,271nm,1.1s
BMO Blue Mountains 80.17 327 P **P** **16 48 51.4 -0.5**
BMO IAmb IAmb 16 48 54.4
comp=Z,271nm,1.1s
N02D Trinity Center 80.46 322 P 16 48 53.6
baz=130,SNR=57
M04C Macdoel 80.50 323 P 16 48 54.5
baz=131,SNR=82
K05A Summer Lake 80.60 324 P **P** **16 48 56.1 +1.8**
K05A IAmb IAmb 16 48 57.2
comp=Z,338nm,0.9s
I07A Izee 80.77 325 P **P** **16 48 56.5 +1.4**
JTMT Jette 80.82 331 P **P** **16 48 56.7 +1.4**
M02C Callahan 80.82 322 P 16 48 55.9
baz=130,SNR=29
YBH Yreka Blue Hor 80.96 322 P **P** **16 48 55.9 -0.3**
YBH pmax pmax
comp=Z,62nm,0.9s
YBH Yreka Blue Hor 80.96 322 P **P** **16 48 55.9 -0.3**
K04D Chiloquin, OR 81.00 323 P 16 48 57.5
baz=131,SNR=14
L04D Klamath Falls 81.04 323 P 16 48 57.1
baz=131,SNR=21
J05D Fort Rock, OR 81.15 324 P 16 48 58.3
baz=132,SNR=77
PINE Pine Mountain 81.33 325 P **P** **16 48 59.0 +0.8**
PINE IAmb IAmb 16 49 01.1
comp=Z,326nm,0.9s
J04D Umpqua Nationa 81.60 324 P 16 49 00.5
baz=131,SNR=44
HUMO Hull Mountain 81.66 323 P **P** **16 48 60.0 +0.2**
MORF Marmelete 81.70 44 *e*P **P** **16 49 00.5 +0.3**
MORF IAmb IAmb 16 49 05.5
comp=Z,46nm,1.1s
MORF *e*S **S** **16 59 04.6 +0.4**
MORF Marmelete 81.70 44 *e*P **P** **16 49 00.4 +0.3**
MORF *e*S **S** **16 59 04.5 +0.4**
MORF Marmelete 81.70 44 *e*P **P** **16 49 02.3 +2.1**
comp=Z,60nm,1.3s
MORF *e*pP **pP** **16 49 31.2 +1.8**
L02E Cave Junction 81.74 322 P 16 49 01.3
baz=130,SNR=21
FFC Flin Flon 81.78 341 P **P** **16 48 59.9 -0.2**
FFC pmax pmax
comp=Z,144nm,1.2s
FFC Flin Flon 81.78 341 P **P** **16 48 59.9 -0.2**
PTEO Sao Teotonio 81.80 44 *e*P **P** **16 49 03.1 +2.5**
comp=Z,118nm,1.2s
PTEO *e*pP **pP** **16 49 32.2 +2.4**
I05D Terrebonne, OR 81.91 325 P 16 49 02.4
baz=132,SNR=89
MDT Midelt 81.92 50 P **P** **16 49 02.1 +0.6**
comp=Z,17nm,0.9s,baz=222,slow=5.3,SNR=19
MDT pP **pP** **16 49 32.1 +1.5**
comp=Z,44nm,1.0s,baz=231,slow=6.0,SNR=10
MDT LR LR 17 27 01.5
comp=Z,446nm,18.0s,baz=252,slow=37
K02D Willamette Mer 82.12 322 P 16 49 03.5
baz=130,SNR=39
PBDV Barranco-do-Ve 82.13 45 *e*P **P** **16 49 03.4 +1.0**
comp=Z,51nm,1.8s
PBDV *e*pP **pP** **16 49 33.6 +2.0**
I04A Tendick Farm, 82.13 324 P 16 49 02.5
baz=131,SNR=41
PNCL Nicolau / Gran 82.25 44 *e*P **P** **16 49 04.4 +1.5**
comp=Z,28nm,1.8s
PNCL *e*pP **pP** **16 49 33.0 +0.8**
PCVE Castro Verde 82.29 44 *e*P **P** **16 49 04.8 +1.6**
comp=Z,47nm,1.9s
PCVE *e*pP **pP** **16 49 33.4 +1.0**
MESJ Messejana 82.29 44 *e*P **P** **16 49 03.6 +0.4**
MESJ IAmb IAmb 16 49 06.3
comp=Z,25nm,1.0s
MESJ *e*S **S** **16 59 10.4 +0.4**
MESJ *i* 18 36 38.6
MESJ Messejana 82.29 44 *e*P **P** **16 49 03.6 +0.4**
MESJ *e*S **S** **16 59 10.4 +0.4**
MESJ Messejana 82.29 44 *e*P **P** **16 49 04.3 +1.1**
comp=Z,51nm,2.0s
MESJ *e*pP **pP** **16 49 34.3 +1.9**
PVAQ Vaqueiros 82.36 45 *e*P **P** **16 49 05.1 +1.5**
comp=Z,48nm,1.8s
PVAQ *e*pP **pP** **16 49 34.6 +1.8**
PVAQ *e*S S 16 59 21.4 +11
G05D Wamic, OR 82.50 325 P 16 49 05.7
baz=132,SNR=30
NEW Newport 82.50 330 P 16 49 04.2
baz=136,SNR=24
NEW Newport 82.51 330 P **P** **16 49 04.4 +0.3**
NEW pmax pmax
comp=Z,117nm,1.4s
NEW Newport 82.51 330 P **P** **16 49 04.4 +0.3**
D08A Wollman Farm, 82.52 328 P **P** **16 49 04.8 +0.6**
D08A IAmb IAmb 16 49 06.5
comp=Z,267nm,1.5s
J01E Myrtle Point 82.57 323 P 16 49 05.8
baz=130,SNR=10.0
I03D Drain, OR 82.59 323 P 16 49 05.4
baz=130,SNR=12
H04A Detroit Lake 82.60 325 P **P** **16 49 05.2 +0.6**
PBEJ Beja 82.63 44 *e*P **P** **16 49 06.1 +1.2**
comp=Z,17nm,1.0s
C09A Chrisman Ranch 82.72 329 P **P** **16 49 06.0 +0.7**
H04D Lebanon 82.79 324 P 16 49 06.0
baz=131,SNR=6.3
BOSA Boshof 82.82 118 P **P** **16 49 06.4 -0.1**
comp=Z,82nm,0.9s,baz=257,slow=4.6,SNR=73
BOSA pP **pP** **16 49 35.8 +0.3**
comp=Z,76nm,1.1s,baz=204,slow=4.1,SNR=6.3
BOSA LR LR 17 23 38.4
comp=Z,328nm,18.7s,baz=248,slow=34
BOSA Boshof 82.82 118 P **P** **16 49 06.3 -0.2**
PSBE So Bento 82.91 42 *e*P **P** **16 49 07.5 +1.1**
comp=Z,97nm,1.6s
PSBE *e*pP **pP** **16 49 37.8 +2.1**
PMTG Montargil 83.00 43 *e*P **P** **16 49 07.8 +1.0**
comp=Z,55nm,1.2s
PMTG *e*pP **pP** **16 49 37.8 +1.7**
F05D White Salmon 83.01 326 P 16 49 07.7
baz=132,SNR=12
I02D Swiftshome 83.12 323 P 16 49 08.6
baz=130,SNR=12
PBAR Barrancos 83.25 44 *e*P **P** **16 49 09.2 +1.1**
comp=Z,27nm,1.2s
PBAR *e*pP **pP** **16 49 39.1 +1.7**
PESTR Estremoz 83.29 43 *e*P **P** **16 49 09.6 +1.3**
comp=Z,40nm,1.2s
PESTR *e*pP **pP** **16 49 39.3 +1.6**
RAR Rarotonga 83.32 250 P **P** **16 49 10.4 +1.4**
comp=Z,34nm,0.8s,baz=208,slow=8.4,SNR=7.5
FCC Fort Churchill 83.37 347 P **P** **16 49 08.2 0.0**
FCC pmax pmax
comp=Z,158nm,1.0s
FCC Fort Churchill 83.37 347 P **P** **16 49 08.2 0.0**
FCC IAmb IAmb 16 49 09.8
comp=Z,158nm,0.9s
PCAS Casmilo, Conde 83.41 42 *e*P **P** **16 49 10.1 +1.2**
comp=Z,44nm,1.5s
G03D McMinnville, O 83.52 324 P 16 49 10.8
baz=130
COI Coimbra 83.55 42 *e*P **P** **16 49 11.9 +2.3**
comp=Z,62nm,1.4s
MAW Mawson 83.58 163 P **P** **16 49 10.1 +0.7**
comp=Z,112nm,0.9s,baz=214,slow=5.8,SNR=84
MAW pP **pP** **16 49 39.6 +1.4**
comp=Z,19nm,0.8s,baz=247,slow=7.1,SNR=2.2
MAW Mawson 83.58 163 P **P** **16 49 10.0 +0.6**
B08A Colville Reser 83.62 329 P **P** **16 49 09.9 0.0**
PMRV Marv??o 83.74 43 *e*P **P** **16 49 11.1 +0.5**
comp=Z,34nm,1.5s
PMRV *e*pP **pP** **16 49 41.4 +1.4**
PMRV *e*S S **16 59 28.7 +4.0**
PCBR Castelo Branco 83.92 43 *e*P **P** **16 49 12.1 +0.6**
comp=Z,30nm,1.4s
PCBR *e*pP **pP** **16 49 42.2 +1.3**
F04D Rainier, OR 83.95 325 P 16 49 12.7
baz=131
E04D Cinebar 84.03 326 P 16 49 12.1
baz=131,SNR=5.8
D05A Enumclaw 84.15 327 P **P** **16 49 10.8 -1.7**
D05A IAmb IAmb 16 49 14.1
comp=Z,195nm,0.9s
PVIS Viseu 84.17 42 *e*P **P** **16 49 09.5 -3.3**
comp=Z,55nm,1.3s
PVIS Viseu 84.17 42 *e*P **P** **16 49 14.3 +1.5**
comp=Z,55nm,1.3s
PVIS A A 16 49 16.4
comp=Z,38nm,1.2s
PVIS *e*pP **pP** **16 49 43.5 +1.3**
MTE Manteigas 84.20 42 *e*P **P** **16 49 13.9 +0.9**
comp=Z,58nm,1.2s
MTE *e*pP **pP** **16 49 43.9 +1.5**
MTE *e*S **S** **16 59 35.1 +5.7**
LBTB Lobatse 84.42 115 S **S** **16 59 32.0 -0.5**
comp=Z,2.9nm,0.9s,baz=56,slow=17,SNR=3.8
LBTB Lobatse 84.42 115 P **P** **16 49 14.9 +0.3**
LBTB pmax pmax
comp=Z,147nm,1.1s
LBTB Lobatse 84.42 115 P **P** **16 49 14.9 +0.3**
D04E Lakebay 84.54 326 P 16 49 16.1
baz=131
PVRL Vila Real 84.61 41 *e*P **P** **16 49 15.9 +0.9**
comp=Z,80nm,1.4s
PVRL *e*pP **pP** **16 49 45.6 +1.2**
POLO Lamas de Olo 84.62 41 *e*P **P** **16 49 15.6 +0.5**
comp=Z,31nm,1.8s
POLO *e*pP **pP** **16 49 45.7 +1.2**
PCAB Cabril 84.67 41 *e*P **P** **16 49 15.9 +0.6**
comp=Z,81nm,1.4s
PCAB *e*pP **pP** **16 49 46.0 +1.3**
PGAV Gavieira, Arco 84.67 41 *e*P **P** **16 49 15.9 +0.5**
comp=Z,61nm,1.5s
PGAV *e*pP **pP** **16 49 46.2 +1.4**
PGAV *e*S **S** **16 59 38.0 +3.9**
TAM Tamanrasset 84.81 63 P **P** **16 49 16.7 +0.1**
TAM pmax pmax
comp=Z,57nm,1.3s
TAM Tamanrasset 84.81 63 P **P** **16 49 16.7 +0.1**
B05A Bryant 84.92 327 P 16 49 16.4
baz=132,SNR=27
D03D Eldon 84.94 326 P 16 49 17.3
baz=131,SNR=18
MVO Moncorvo 84.97 42 *e*P **P** **16 49 18.0 +1.1**
comp=Z,91nm,1.3s
MVO *e*pP **pP** **16 49 47.5 +1.2**
MVO *e*S **S** **16 59 41.6 +4.7**
PBRG Braganca 85.51 41 *e*P **P** **16 49 20.3 +0.8**
comp=Z,62nm,1.5s
PBRG *e*pP **pP** **16 49 50.1 +1.1**
A04D Lummi Island 85.52 327 P 16 49 20.0
baz=131,SNR=7.0
PAB San Pablo 85.75 44 P **P** **16 49 20.9 +0.1**
PAB pmax pmax
comp=Z,76nm,1.1s
PAB San Pablo 85.75 44 P **P** **16 49 20.9 +0.1**
ESDC Sonseca Array 86.07 44 P **P** **16 49 23.6 +1.3**
comp=Z,25nm,1.1s,baz=237,slow=5.4,SNR=73
ESDC pP **pP** **16 49 52.0 +0.3**
comp=Z,39nm,1.2s,baz=240,slow=5.3,SNR=8.2
ESDC LR LR 17 25 56.7
comp=Z,295nm,19.5s,baz=235,slow=34
ESBB Sonseca Array 86.07 44 P **P** **16 49 22.3 -0.1**
SFJD Kangerlussuaq 89.91 7 P **P** **16 49 39.9 0.0**
SFJD pmax pmax
comp=Z,24nm,1.1s
SFJD Kangerlussuaq 89.91 7 P **P** **16 49 39.9 0.0**
YKA Yellowknife Ar 91.94 340 P **P** **16 49 49.2 -0.2**
comp=Z,97nm,0.9s,baz=132,slow=5.0,SNR=737
YKA pP **pP** **16 50 18.6 -0.1**
comp=Z,52nm,1.0s,baz=132,slow=5.1,SNR=6.1
YKA sP **sP** **16 50 31.9 +1.4**
comp=Z,30nm,0.8s,baz=134,slow=5.1,SNR=3.8
YKA PKKP **PKKPdf** **17 07 06.8 +0.2**
comp=Z,1.5nm,0.9s,baz=317,slow=2.5,SNR=7.7
YKA PKPPKP P'P'df 17 15 01.6 -13
comp=Z,0.4nm,0.9s,baz=306,slow=1.2,SNR=3.8
YKA LR LR 17 35 44.9
comp=Z,132nm,18.8s,baz=0.0,slow=38
URZ Urewera 93.98 226 P **P** **16 50 00.7 +1.1**
comp=Z,28nm,1.0s,baz=316,slow=9.0,SNR=4.1
WRAK Wrangell Islan 94.86 330 P 16 50 03.5
baz=124,SNR=5.3
DLBC Dease Lake 94.96 332 P **P** **16 50 04.2 +0.7**
DLBC IAmb IAmb 16 50 05.4
comp=Z,56nm,0.9s
EKA Eskdalemuir Ar 95.01 31 P **P** **16 50 03.1 -0.6**
comp=Z,21nm,1.1s,baz=245,slow=3.6,SNR=7.5
EKA pP **pP** **16 50 33.4 0.0**
comp=Z,9.2nm,1.0s,baz=252,slow=6.9,SNR=3.9
DOU Dourbes 96.54 38 *d*P **P** **16 50 11.1 +0.3**
DOU *d*pP **pP** **16 50 40.5 +0.1**
BMRD Maredsous 96.73 38 *d*P **P** **16 50 11.8 +0.1**
BMRD *d*pP **pP** **16 50 41.6 +0.3**
BGES Gesves 96.95 38 *d*P **P** **16 50 12.6 0.0**
WLF Walferdange 97.25 39 *d*P Pdif 16 50 14.8 +0.7
WLF *d*pP pP 16 50 43.4 -0.3
BTNL Ternell 97.64 38 *d*P **P** **16 50 16.0 +0.2**
VAE Valguarnera 97.87 53 PP **PP** **16 54 16.9 -0.4**
comp=Z,18nm,0.4s,baz=223,slow=4.7,SNR=6.3
BFO Black Forest 97.99 41 *e*L L 17 39 14.6
comp=Z,186nm,18.9s
RES Resolute Bay 98.11 353 PKKPbc PKKPbc 17 06 50.8 -2.0
comp=Z,2.8nm,0.8s,baz=329,slow=4.3,SNR=9.6
DAVOX Davos/Dischmat 98.32 43 P Pdif 16 50 20.0 +0.8
comp=Z,6.7nm,0.8s,baz=261,slow=4.0,SNR=9.3
DAVOX PP **PP** **16 54 16.9 -3.8**
comp=Z,8.0nm,0.9s,baz=219,slow=8.0,SNR=6.2
DAVOX LR LR 17 34 49.9
comp=Z,421nm,19.2s,baz=250,slow=35
DAVA Damuels 98.52 42 *e*P **P** **16 50 20.2 +0.2**
comp=Z,6.5nm,1.2s
DAVA *e*P **pP** **16 50 49.4 -0.3**
comp=Z,13nm,1.5s
DAVA *e*P **PP** **16 54 18.6 -3.6**
comp=Z,20nm,1.2s
DAVA *e*P **PKKPbc** **17 06 50.1 -0.8**
comp=Z,5.1nm,0.9s
TNS Taunus Mts 98.83 39 *e*L L 17 33 49.8
comp=Z,478nm,19.4s
FETA Feichten 98.95 43 *i* P **Pdif** **16 50 22.6 +0.6**
comp=Z,12nm,1.3s,SNR=5.8
FETA *e*P **pP** **16 50 51.9 +0.2**
comp=Z,14nm,1.3s
FETA *e*P **PP** **16 54 23.7 -1.8**
comp=Z,8.1nm,1.3s
FETA *e*P **PKKPbc** **17 06 48.7 -1.0**
comp=Z,4.1nm,1.0s
RETA Reutte 99.15 42 *e*P **Pdif** **16 50 22.9 +0.2**
comp=Z,8.9nm,1.1s
RETA *e*P **PP** **16 54 22.6 -4.3**
comp=Z,21nm,1.6s
RETA *e*P **PKKPbc** **17 06 48.3 -0.8**
comp=Z,4.2nm,1.1s
MOTA Moosalm 99.31 43 *e*P **Pdif** **16 50 23.9 +0.3**
comp=Z,20nm,1.4s
MOTA *e*P **pP** **16 50 53.1 -0.2**
comp=Z,21nm,1.5s
MOTA *e*P **PP** **16 54 24.0 -4.2**
comp=Z,13nm,1.5s
MOTA *e*P **PKKPbc** **17 06 47.3 -1.4**
comp=Z,4.4nm,0.7s
SQTA Sankt Quirin 99.33 43 *i* P **Pdif** **16 50 24.0 +0.4**
comp=Z,23nm,1.0s,SNR=6.6
SQTA *e*P **pP** **16 50 53.8 +0.5**
comp=Z,25nm,1.1s
SQTA *e*P **PP** **16 54 24.9 -3.4**
comp=Z,17nm,1.6s
SQTA *e*P **PKKPbc** **17 06 46.2 -2.4**
comp=Z,2.1nm,0.5s
WATA Walderalm 99.61 43 *i* P **Pdif** **16 50 25.4 +0.5**
comp=Z,17nm,1.4s,SNR=4.8
WATA *e*P **pP** **16 50 55.1 +0.5**
comp=Z,24nm,1.5s
WATA *e*P **PP** **16 54 25.4 -5.0**
comp=Z,7.7nm,1.2s
WTTA Wattenberg 99.62 43 *i* P **Pdif** **16 50 25.0 +0.1**
comp=Z,16nm,0.9s,SNR=13
WTTA *e*P **pP** **16 50 55.3 +0.6**
comp=Z,25nm,1.2s
WTTA *e*P **PP** **16 54 25.3 -5.3**
comp=Z,10nm,1.0s
WTTA *e*P **PKKPbc** **17 06 46.8 -1.1**
comp=Z,9.3nm,1.7s
FUR Furstenfeldbru 99.73 42 *e*L L 17 35 44.3
comp=Z,161nm,21.6s
ABTA Abfaltersbach 99.98 44 *i* P **Pdif** **16 50 26.3 -0.2**
comp=Z,14nm,1.3s,SNR=5.3
ABTA *e*P pP 16 50 56.5 +0.3
comp=Z,8.8nm,1.1s
ABTA *e*P **PP** **16 54 28.7 -4.5**
comp=Z,18nm,1.3s
ABTA *e*P **PKKPbc** **17 06 45.5 -1.2**
comp=Z,3.6nm,1.3s
GRF Grafenberg Arr 100.27 41 *e*Pdiff **Pdif** **16 50 28.3 +0.7**
comp=Z,4.8nm,0.6s
GRF *e*PP **PP** **16 54 34.5 -0.8**
GRF *e*L L 17 41 15.6
comp=Z,220nm,18.5s
KBA Koelnbreinsper 100.63 44 *i* P **Pdif** **16 50 29.4 -0.1**
comp=Z,8.6nm,1.4s,SNR=4.7
KBA *e*P pP 16 50 59.7 +0.5
comp=Z,8.4nm,1.1s
KBA *e*P **PP** **16 54 35.2 -3.1**
comp=Z,35nm,1.3s
MYKA Terra Mystica 100.66 44 *e*P **Pdif** **16 50 29.9 +0.5**
comp=Z,14nm,1.2s
MYKA *e*P pP 16 50 59.9 +0.6
comp=Z,14nm,1.1s
MYKA *e*P **PP** **16 54 35.6 -2.8**
comp=Z,52nm,1.4s
MOX Moxa 100.86 40 *e*L L 17 35 11.7
comp=Z,342nm,19.1s
WET Wettzell 101.08 41 *e*L L 17 31 06.2
comp=Z,247nm,21.0s
OBKA Obir 101.21 44 *i* P **Pdif** **16 50 32.6 +0.7**
comp=Z,14nm,1.0s,SNR=4.7
OBKA *e*P **pPdif** **16 51 01.1 -0.5**
comp=Z,19nm,1.9s
OBKA *e*P **PP** **16 54 41.2 -1.3**
comp=Z,16nm,1.1s
OBKA *e*P **PKKPdf** **17 06 47.0 -2.2**
comp=Z,8.8nm,1.4s
BSEG Bad Segeberg 101.34 36 *e*L L 17 35 02.6
comp=Z,244nm,20.3s
GEC2 GERESS Array S 101.48 42 *e*L L 17 32 03.2
comp=Z,169nm,21.6s
GERES GERESS Array B 101.48 42 P **Pdif** **16 50 32.8 -0.3**
comp=Z,0.9nm,0.7s,baz=245,slow=2.8,SNR=7.2
GERES pP **pPdif** **16 51 02.4 -0.3**
comp=Z,0.8nm,0.8s,baz=228,slow=7.0,SNR=3.3
GERES PP **PP** **16 54 43.9 -0.6**
comp=Z,3.9nm,1.1s,baz=217,slow=6.4,SNR=5.1
GERES PKIKP **PKiKP** **16 54 56.2 -0.4**
comp=Z,2.4nm,1.0s,baz=238,slow=2.5,SNR=5.4
GERES PKKPbc **PKKPbc** **17 06 39.9 -2.6**
comp=Z,1.7nm,0.8s,baz=118,slow=2.0,SNR=6.9
GERES PKKP PKKPdf 17 07 04.8 +16
comp=Z,3.5nm,1.1s,baz=72,slow=4.3,SNR=9.5
GERES PKPPKP **P'P'df** **17 15 01.4 +2.9**
comp=Z,1.1nm,1.1s,baz=98,slow=2.7,SNR=3.5
GERES GERESS Array B 101.48 42 **Pdif** **16 50 30.4 -2.7**
MOA Molln 101.49 43 *e*P **Pdif** **16 50 33.3 +0.2**
comp=Z,12nm,1.6s
MOA *e*P pP 16 51 03.0 +0.1
comp=Z,7.4nm,1.4s
MOA *e*P **PP** **16 54 40.5 -4.0**
comp=Z,14nm,1.2s
MOA *e*P **PKKPdf** **17 06 53.4 +4.7**
comp=Z,10.0nm,1.4s
KHC Kasperske Hory 101.51 42 *i* P **Pdif** **16 50 36.3 +3.2**
KHC *e* 16 54 41.3
KHC *e* 17 01 04.3

KHC	**Kasperske Hory**	**101.51**	**42**	*e*PDIFF	**Pdif**		**16 50 36.3**	**+3.2**		
KHC				*e*PP	**PP**		**16 54 41.3**	**-3.3**		
KHC				*e*SKS			17 01 04.3			
KHC				*e*PKKP	**PKKPbc**		**17 06 41.9**	**-0.4**		
KHC				*ex*	x		17 07 06.0			
SOKA	**Soboth**	**101.58**	**44**	*e*P	**Pdif**		**16 50 33.8**	**+0.2**		
	comp=Z,5.9nm,1.2s									
SOKA				*e*P	**PP**		**16 54 43.5**	**-1.8**		
	comp=Z,8.5nm,1.7s									
INK	**Inuvik**	**101.70**	**340**	PP	**PP**		**16 54 40.1**	**-5.3**		
	comp=Z,7.6nm,1.2s,baz=107,slow=12,SNR=3.7									
INK				PKKPbc	**PKKPbc**		**17 06 39.2**	**-3.1**		
	comp=Z,5.7nm,0.9s,baz=283,slow=2.5,SNR=11									
INK				PKKP	PKKPdf		17 06 58.7	+10		
	comp=Z,5.0nm,1.0s,baz=265,slow=3.5,SNR=6.1									
EPYK	**Eagle Plains**	**101.81**	**338**	P			16 50 34.3			
	baz=118									
CKRC	**Cesky Krumlov**	**101.85**	**42**	*e*PDIFF	**Pdif**		**16 50 35.0**	**+0.4**		
KIBA	**Kibaya**	**101.89**	**101**	*i* P	**Pdif**		**16 50 33.9**	**-2.0**		
CLL	**Collm**	**101.92**	**39**	*e*Pdif	**Pdif**		**16 50 35.0**	**+0.2**		
	comp=Z,14nm,1.5s									
CLL				*ep*Pdif	**pPdif**		**16 51 04.0**	**-0.5**		
CLL				*e*			16 54 38.0			
CLL				*i* PP	**PP**		**16 54 42.7**	**-4.9**		
	comp=Z,27nm,1.6s									
CLL				*e*PKiKP	**PKiKP**		**16 54 56.0**	**-1.1**		
CLL				*es*PP			16 55 26.0			
CLL				*e*SKSac	**SKSac**		**17 01 06.0**	**+1.9**		
CLL				*e*Sdif	**Sdif**		**17 02 00.0**	**-7.6**		
CLL				*es*Sdiff	**sSdif**		**17 02 54.0**	**-5.2**		
CLL				*e*SP	**SP**		**17 03 37.0**	**-4.0**		
CLL				*e*PPS	PPS		17 04 42.0			
CLL				*ep*PKKPbc			17 07 04.0			
CLL				*e*SS	**SS**		**17 09 13.0**	**-1.3**		
CLL				*e*SSS	SSS		17 13 00.0			
CLL				LmV			17 35 00.0			
	comp=Z,400nm,20.1s									
CLL	**Collm**	**101.92**	**39**	*e*P	**Pdif**		**16 50 35.0**	**+0.2**		
CLL				*i*			16 54 42.7			
CLL				*e*			17 01 06.0			
CLL				*e*S	**Sdif**		**17 02 00.0**	**-7.6**		
CLL				pmax	pmax					
	comp=Z,14nm,1.5s									
CLL				pmax	pmax					
	comp=Z,27nm,1.6s									
CLL	**Collm**	**101.92**	**39**	*e*L	L		17 35 33.0			
	comp=Z,357nm,20.1s									
ARSA	**Arzberg**	**102.09**	**44**	*e*P	**Pdif**		**16 50 33.4**	**-2.4**		
	comp=Z,6.0nm,1.5s									
ARSA				*e*P	**pPdif**		**16 51 05.5**	**+0.1**		
	comp=Z,9.7nm,1.6s									
ARSA				*e*P	**PP**		**16 54 43.0**	**-6.1**		
	comp=Z,8.9nm,1.4s									
MCARA	**McCarthy VSAT**	**102.10**	**332**	P			16 50 35.6			
	baz=114									
L27K	**Beaver Creek,**	**102.28**	**333**	P			16 50 36.5			
	baz=115									
BRG	**Berggiesshubel**	**102.33**	**40**	PP	**PP**		**16 54 47.8**	**-2.9**		
BRG				Amp			16 54 49.8			
	comp=Z,37nm,1.8s									
BRG				*ex*	x		17 01 13.0			
BRG				*ex*	x		17 03 50.0			
BRG				PKKP	PKKPdf		17 07 02.1	+15		
BRG				Amp			17 07 03.5			
	comp=Z,13nm,1.4s									
BRG				*ex*	x		17 09 15.0			
CONA	**Conrad Observa**	**102.53**	**43**	*e*P	**Pdif**		**16 50 35.6**	**-2.2**		
	comp=Z,1.9nm,1.0s									
CONA				*e*P	**pPdif**		**16 51 05.7**	**-1.7**		
	comp=Z,11nm,1.8s									
EGAK	**Eagle**	**102.74**	**335**	P			16 50 38.2			
	baz=115,SNR=6.5									
K27K	**Chicken**	**102.79**	**334**	P			16 50 39.2			
	baz=114									
KRUC	**Moravsky**	**103.23**	**42**	*e*PP	PP		16 54 49.8	-7.7		
KRUC				*e*			17 06 58.5			
ZST	**Bratislava**	**103.40**	**43**	*e*PDIFF	**Pdif**		**16 50 41.2**	**-0.3**		
KLU	**Klutina**	**103.43**	**331**	P			16 50 41.2			
	baz=112,SNR=6.1									
VRAC	**Vranov**	**103.43**	**42**	PP	**PP**		**16 54 55.3**	**-3.6**		
	comp=Z,6.8nm,1.0s,baz=253,slow=8.4,SNR=11									
VRAC				PKKP	PKKPdf		17 06 56.8	+12		
	comp=Z,4.2nm,0.8s,baz=161,slow=2.2,SNR=6.6									
VRAC	**Vranov**	**103.43**	**42**	⇓P	PP		16 54 51.5	-7.4		
VRAC	**Vranov**	**103.43**	**42**	*e*PP	**PP**		**16 54 52.5**	**-6.5**		
VRAC				*e*			17 06 57.5			
CHVC	**Chvalec**	**103.50**	**41**	*e*PKKP			17 06 36.5			
SCRK	**Sand Creek**	**103.54**	**334**	P			16 50 41.8			
	baz=113									
DPC	**Dobruska-Polom**	**103.59**	**41**	*i* P	**Pdif**		**16 50 43.3**	**+0.9**		
DPC				*e*			16 54 57.5			
DPC	**Dobruska-Polom**	**103.59**	**41**	*e*PDIFF	**Pdif**		**16 50 43.3**	**+0.9**		
DPC				*e*PP	**PKiKP**		**16 54 57.5**	**-2.8**		
DPC				*ex*	x		17 06 56.8			
OSTC	**Ostas**	**103.59**	**41**	*e*PP	**PKiKP**		**16 55 01.3**	**+1.0**		
M24K	**Tolsona, Glenn**	**103.76**	**332**	P			16 50 42.3			
	baz=111									
PAX	**Paxson**	**103.78**	**333**	P			16 50 42.3			
	baz=112									
KRLC	**Kraliky**	**103.78**	**41**	*i* P	**Pdif**		**16 50 44.5**	**+1.3**		
KRLC	**Kraliky**	**103.78**	**41**	*e*PDIFF	**Pdif**		**16 50 44.5**	**+1.3**		
KRLC				*e*PP	**PP**		**16 54 54.8**	**-6.8**		
KRLC				*e*PKKP	**PKKPbc**		**17 06 35.6**	**0.0**		
KRLC				*ex*	x		17 06 55.9			
MORH	**Mrgy, Hungar**	**103.79**	**46**	⇑P	**PKKPbc**		**17 06 35.3**	**0.0**		
MORC	**Moravsky Berou**	**104.16**	**42**	*e*PP	PP		16 54 56.7	-7.8		
MORC				*e*			17 06 54.0			
KMBO	**Kilima Mbogo**	**104.17**	**97**	PP	**PP**		**16 55 04.2**	**-1.2**		
	comp=Z,0.5nm,0.5s,baz=197,slow=10,SNR=3.4									
NOA	**NORSAR Array B**	**104.33**	**30**	PP	**PP**		**16 55 03.3**	**-2.1**		
	comp=Z,5.0nm,1.1s,baz=245,slow=7.0,SNR=3.6									
NOA				PKKP	**PKKPab**		**17 06 50.9**	**+1.5**		
	comp=Z,2.5nm,0.9s,baz=69,slow=4.6,SNR=5.6									
SML	**Sawmill**	**104.61**	**331**	P			16 50 46.1			
	baz=110									
WAT6	**Susitna Watana**	**104.61**	**332**	P			16 50 46.3			
	baz=110									
ILAR	**Eielson Array**	**105.00**	**334**	Pdiff	**Pdif**		**16 50 47.8**	**-0.5**		
	comp=Z,1.7nm,0.9s,baz=156,slow=4.4,SNR=11									
ILAR				PP	**PP**		**16 55 08.4**	**-1.8**		
	comp=Z,9.6nm,1.1s,baz=122,slow=5.7,SNR=6.2									
ILAR				PKKPbc	**PKKPbc**		**17 06 29.4**	**-3.0**		
	comp=Z,2.0nm,0.9s,baz=285,slow=3.4,SNR=11									
ILAR	**Eielson Array**	**105.00**	**334**	P	**Pdif**		**16 50 43.8**	**-4.5**		
ILAR	**Eielson Array**	**105.00**	**334**	Pdif	**Pdif**		**16 50 43.8**	**-4.5**		
PSZ	**Piszkesteto**	**105.11**	**44**	⇓P	**PKiKP**		**16 55 06.2**	**+3.0**		
WAT2	**Susitna Watana**	**105.11**	**332**	P			16 50 49.0			
	baz=109									
HFS	**Hagfors**	**105.20**	**31**	PP	**PP**		**16 55 10.6**	**-1.2**		
	comp=Z,11nm,1.0s,baz=222,slow=6.0,SNR=6.6									
HFS				PKKP	**PKKPab**		**17 06 47.4**	**+1.9**		
	comp=Z,5.1nm,0.8s,baz=343,slow=4.6,SNR=4.7									
NEA2	**Nenana**	**105.83**	**334**	P			16 50 52.0			
	baz=108									
TRF	**Thorofare Moun**	**106.00**	**332**	P			16 50 52.8			
	baz=107									
SKT	**Skwentna**	**106.11**	**331**	P			16 50 53.2			
	baz=107									
I23K	**Minto, Yukon-K**	**106.12**	**334**	P			16 50 53.2			
	baz=108									
STHS	**Stebnicka Huta**	**106.37**	**43**	*e*P	**Pdif**		**16 50 53.9**	**-0.8**		
STHS	**Stebnicka Huta**	**106.37**	**43**	*e*PDIFF	**Pdif**		**16 50 53.9**	**-0.8**		
BPAW	**Bear Paw Mtn.**	**106.48**	**333**	P			16 50 54.7			
	baz=107									
MLY	**Manley**	**106.65**	**334**	P			16 50 54.6			
	baz=107									
PPLA	**Purkeypile**	**106.66**	**332**	P			16 50 55.7			
	baz=106									
TOLK	**Toolik Lake Re**	**107.24**	**338**	P			16 55 07.5			
	baz=107									
ARR	**Arges**	**107.60**	**48**	⇓P	**PKKPab**		**17 06 38.0**	**+2.4**		
BURAR	**Bucovina Array**	**108.51**	**45**	⇑P	**PKKPab**		**17 06 35.1**	**+3.6**		
MLR	**Muntele Rosu**	**108.52**	**48**	PKKPbc	PKKPbc		17 06 21.0	+0.2		
	comp=Z,2.4nm,0.6s,baz=170,slow=4.0,SNR=5.7									
MLR				PKKP	**PKKPdf**		**17 06 34.4**	**-1.1**		
	comp=Z,8.0nm,0.8s,baz=83,slow=12,SNR=11									
MLR	**Muntele Rosu**	**108.52**	**48**	⇑P	**PKiKP**		**16 55 10.9**	**+1.2**		
MLR	**Muntele Rosu**	**108.52**	**48**	⇑P	**PKKPab**		**17 06 35.0**	**+3.4**		
BIZ	**Bicaz**	**108.95**	**46**	⇑P	**PKKPbc**		**17 06 19.9**	**+0.5**		
PLOR	**Plostina**	**109.08**	**47**	⇓P	**PKKPdf**		**17 06 32.8**	**-1.6**		
VRI	**Vrincioaia**	**109.14**	**47**	⇑P	**PKKPdf**		**17 06 31.5**	**-2.8**		
TESR	**Tescani**	**109.22**	**47**	⇓P	**PKKPdf**		**17 06 31.1**	**-2.9**		
CFR	**Carcaliu**	**109.97**	**48**	⇓P	**PKiKP**		**16 55 12.5**	**+0.3**		
CFR	**Carcaliu**	**109.97**	**48**	⇑P	**PKKPdf**		**17 06 28.0**	**-4.6**		
DZM	**Mont Dzumac**	**110.68**	**234**	*e*PP	**PP**		**16 55 50.8**	**-1.3**		
	comp=Z,221nm,24.6s									
DZM	**Mont Dzumac**	**110.68**	**234**	*e*PS	PS		17 05 23.3	-1.0		
	comp=Z,294nm,27.4s									
DZM				*e*SS	SS		17 11 11.7	-1.8		
	comp=Z,326nm,23.8s									
DZM	**Mont Dzumac**	**110.68**	**234**	*e*LR	LR		17 27 52.9			
	comp=Z,622nm,35.9s									
NACGM	**Naroch**	**110.86**	**38**	*i* PKP	**PKiKP**		**16 55 13.1**	**-0.5**		
NACGM				*i* PKP	**PKiKP**		**16 55 13.1**	**-0.5**		
NACGM				*i* PKP	**PKiKP**		**16 55 13.1**	**-0.5**		
NACGM				*i* pPKP	PP		16 55 33.7	-19		
NACGM				*i* sPKP			16 55 54.4			
NACGM				*i* PP	PP		16 56 54.1	+61		
NACGM				*i* PPP	PPP		16 59 05.6			
NACGM				*i* SKS	**SKSac**		**17 01 50.5**	**+7.1**		
NACGM				*i* SKKS	SKKSac		17 03 23.8	+39		
NACGM				*i* S	**sSdif**		**17 04 16.6**	**+3.1**		
NACGM				*i* PS	PKKPbc		17 06 04.8	-8.7		
NACGM				*i* PPS	PPS		17 08 01.1			
NACGM				*i* SS	SS		17 12 18.1	+63		
NACGM				*i* SSS	SSS		17 15 30.9			
FINES	**FINESS Array B**	**111.41**	**31**	PKiKP	**PKiKP**		**16 55 14.0**	**-0.4**		
	comp=Z,1.8nm,0.7s,baz=168,slow=9.8,SNR=4.0									
FINES				PP	**PP**		**16 55 56.2**	**-0.6**		
	comp=Z,7.9nm,1.2s,baz=46,slow=5.5,SNR=4.4									
FINES				PKKPbc	**PKKPbc**		**17 06 10.7**	**-1.1**		
	comp=Z,5.4nm,0.8s,baz=103,slow=6.1,SNR=5.5									
FINES				PKKP	**PKKPab**		**17 06 19.8**	**+1.7**		
	comp=Z,3.8nm,0.7s,baz=100,slow=8.3,SNR=4.1									
FINES	**FINESS Array B**	**111.41**	**31**	*i* PKiKP	**PKiKP**		**16 55 14.0**	**-0.4**		
MNK	**Minsk**	**111.43**	**39**	*i* PKP	**PKiKP**		**16 55 15.5**	**+0.9**		
	comp=E,2.0nm,0.8s									
MNK				*i* PKP	**PKiKP**		**16 55 15.5**	**+0.9**		
	comp=N,26nm,0.9s									
MNK				*i* PKP	**PKiKP**		**16 55 15.5**	**+0.9**		
	comp=Z,15nm,0.8s									
MNK				*i* PP	**PP**		**16 56 01.8**	**+4.6**		
MNK				*i* PPP	PPP		16 58 23.9			
MNK				*i* SKS	**SKSdf**		**17 02 19.3**	**+2.6**		
MNK				*i* SS	**SS**		**17 11 32.0**	**+9.0**		
MNK				*i* SSS	SSS		17 15 42.4			
MNK				*i* LRM	MLR		17 41 35.0			
	comp=N,167nm,18.1s									
MNK				*i* LRM	MLR		17 41 36.5			
	comp=Z,162nm,18.1s									
MNK				*i* LRM	MLR		17 41 39.4			
	comp=E,25nm,19.6s									
AKASG	**Malin Array Be**	**111.67**	**43**	PKiKP	**PKiKP**		**16 55 13.8**	**-1.5**		
	comp=E,4.1nm,0.6s,baz=271,slow=2.6,SNR=17									
AKASG				PP	PP		16 55 45.6	-13		
	comp=E,2.0nm,0.7s,baz=268,slow=4.3,SNR=6.6									
AKASG				PKKPbc	**PKKPbc**		**17 06 10.3**	**-0.4**		
	comp=E,4.8nm,0.8s,baz=69,slow=3.5,SNR=12									
ARCES	**ARCESS Array B**	**111.98**	**22**	PKKPbc	PKKPbc		17 06 08.2	-2.0		
	comp=E,5.4nm,0.8s,baz=83,slow=3.0,SNR=8.2									
ARCES				PKKP	**PKKPab**		**17 06 17.9**	**+2.6**		
	comp=E,14nm,0.9s,baz=90,slow=3.6,SNR=9.7									
BRTR	**Keskin Array B**	**112.93**	**55**	PKiKP	**PKiKP**		**16 55 18.3**	**+0.1**		
	comp=E,6.8nm,0.9s,baz=190,slow=3.3,SNR=27									
BRTR				PP	**PP**		**16 56 06.0**	**-2.6**		
	comp=E,16nm,1.2s,baz=235,slow=4.4,SNR=10									
BRTR				PKKP	**PKKPab**		**17 06 13.9**	**+1.5**		
	comp=E,1.8nm,0.8s,baz=72,slow=4.0,SNR=6.0									
MMAI	**Mount Meron Ar**	**113.02**	**62**	PKKP	**PKKPab**		**17 06 15.6**	**+3.3**		
	comp=E,14nm,0.9s,baz=80,slow=4.6,SNR=11									
APA	**Apatity**	**114.85**	**24**	⇑*i* PKiKP	PKPdf		16 55 35.3	+14		
APA				*i* *PP	**PP**		**16 56 23.8**	**+2.7**		
APA				pmax	pmax					
	comp=Z,8.0nm,1.1s									
APA				MLR	MLR					
	comp=Z,1μm,21.0s									
ANN	**Anapa**	**116.43**	**50**	*i* PKIKP	**PKPdf**		**16 55 23.7**	**-0.9**		
ANN				*e*			16 56 31.6			
ANN				*e*			17 02 03.6			
ANN				*e*SSS	SSS		17 16 53.1			
ANN				pmax	pmax					
	comp=Z,73nm,0.9s									
OBN	**Obninsk**	**116.48**	**38**	*i* PKIKP	**PKPdf**		**16 55 24.5**	**+0.2**		
OBN				*e*			16 56 33.0			
OBN				pmax	pmax					
	comp=Z,18nm,0.6s									
OBN				MLR	MLR					
	comp=Z,298nm,18.0s									
MOS	**Moscow**	**117.09**	**38**	*e*PKIKP	**PKPdf**		**16 55 19.6**	**-5.9**		
MOS				pmax	pmax					
	comp=Z,46nm,1.0s									
KTUT	**Trabzon**	**117.75**	**54**	⇑P	**PKiKP**		**16 55 27.9**	**+0.7**		
KLMR	**Klimovskoe**	**117.90**	**32**	*e*PKIKP	**PKPdf**		**16 55 25.4**	**-1.5**		
KLMR				pmax	pmax					
	comp=Z,72nm,1.3s									
KLMR	**Klimovskoe**	**117.90**	**32**	*e*PKPdf	**PKPdf**		**16 55 25.4**	**-1.5**		
KLMR				AMP			16 55 28.8			
	comp=Z,72nm,1.3s									
KLMR				*e*PP	**PP**		**16 56 35.7**	**-6.8**		
KLMR				*e*PKKPbc	**PKKPab**		**17 05 46.5**	**-3.0**		
KLMR				*e*SKKP			17 09 37.9			
SOC	**Sochi**	**117.96**	**51**	*i* PKIKP	**PKPdf**		**16 55 27.6**	**0.0**		
SOC				*e*			16 56 45.7			
SOC				*e*PPP	PPP		16 59 14.5			
SOC				*e*			17 02 11.3			
SOC				*e*PS	**PS**		**17 06 31.6**	**+1.2**		
SOC				*e*SS	SS		17 12 41.4	-8.0		
SOC				*e*SSS	SSS		17 17 13.9			
SOC				pmax	pmax					
	comp=Z,45nm,0.8s									
STKA	**Stephens Creek**	**119.00**	**209**	PKP	**PKiKP**		**16 55 30.4**	**+0.2**		
	comp=Z,13nm,1.0s,baz=64,slow=1.6,SNR=14									
STKA				PKKPbc	**PKKPbc**		**17 05 44.8**	**-0.1**		
	comp=Z,3.8nm,0.7s,baz=346,slow=7.4,SNR=9.5									
STKA	**Stephens Creek**	**119.00**	**209**	PKIKP	**PKiKP**		**16 55 30.6**	**+0.5**		
STKA	**Stephens Creek**	**119.00**	**209**	PKPdf	**PKiKP**		**16 55 30.6**	**+0.5**		
RAYN	**Ar Rayn**	**119.70**	**75**	*i* PKiKP	**PKiKP**		**16 55 32.2**	**+0.5**		
	SNR=16									
RAYN	**Ar Rayn**	**119.70**	**75**	PKIKP	**PKPdf**		**16 55 31.9**	**+0.3**		
RAYN	**Ar Rayn**	**119.70**	**75**	PKPdf	**PKPdf**		**16 55 31.9**	**+0.3**		
GEVA	**Gevas**	**120.00**	**58**	PKPdf	**PKiKP**		**16 55 32.5**	**+0.5**		
NEY	**Neytrino**	**120.12**	**52**	*i* PKIKP	**PKPdf**		**16 55 32.3**	**+0.3**		
KIV	**Kislovodsk**	**120.13**	**51**	⇑P	**PKPdf**		**16 55 31.9**	**0.0**		
KIV	**Kislovodsk**	**120.13**	**51**	*i* PKiKP	**PKPdf**		**16 55 32.1**	**+0.2**		
	SNR=6.9									
KIV	**Kislovodsk**	**120.13**	**51**	*i* PKIKP	**PKPdf**		**16 55 31.8**	**-0.1**		
KIV				*e*			16 56 59.9			
KIV				*e*PS	**PS**		**17 06 52.8**	**+2.7**		
KIV				*e*SS	SS		17 13 21.4	+3.8		
KIV				pmax	pmax					
	comp=Z,97nm,1.1s									
KIV				MLR	MLR					
	comp=Z,325nm,22.0s									
KIV	**Kislovodsk**	**120.13**	**51**	PKPdf	**PKPdf**		**16 55 31.9**	**0.0**		
KIV	**Kislovodsk**	**120.13**	**51**	P	**PKPdf**		**16 55 32.1**	**+0.2**		
KBZ	**Khabaz**	**120.27**	**51**	PKP	**PKiKP**		**16 55 32.7**	**+0.7**		
	comp=Z,36nm,0.9s,baz=238,slow=1.0,SNR=44									
KBZ	**Khabaz**	**120.27**	**51**	*d* PKIKP	**PKiKP**		**16 55 32.5**	**+0.4**		
KBZ				pmax	pmax					
	comp=Z,36nm,0.9s									
BBOO	**Buckleboo**	**120.49**	**204**	PKPdf	**PKPdf**		**16 55 33.0**	**+0.1**		
AKH	**Akhalkalaki**	**120.58**	**54**	⇑P	**PKiKP**		**16 55 34.1**	**+1.0**		
PRGR	**Permogore**	**120.73**	**30**	*e*PKIKP	**PKPdf**		**16 55 32.5**	**+0.2**		
PRGR				pmax	pmax					
	comp=Z,66nm,0.9s									
NCK	**Nalchik**	**120.77**	**52**	*i* PKIKP	**PKPdf**		**16 55 33.3**	**+0.3**		
NCK				pmax	pmax					
	comp=Z,29nm,0.9s									
ZEI	**Tsey**	**120.96**	**53**	*i* PKIKP	**PKPdf**		**16 55 33.9**	**+0.2**		
ZEI				pmax	pmax					
	comp=Z,21nm,0.9s									
GNI	**Garni**	**121.45**	**56**	PKiKP	**PKiKP**		**16 55 35.5**	**+0.7**		
GNI	**Garni**	**121.45**	**56**	*c* PKIKP	**PKPdf**		**16 55 35.0**	**+0.4**		
GNI				pmax	pmax					
	comp=Z,31nm,0.8s									
GNI	**Garni**	**121.45**	**56**	PKPdf	**PKiKP**		**16 55 35.5**	**+0.7**		
GNI	**Garni**	**121.45**	**56**	P	**PKiKP**		**16 55 35.8**	**+1.0**		
RST	**Umm Al-Ruwaisa**	**122.15**	**68**	*e*P			16 55 36.0			
GROC	**Groznyy**	**122.36**	**52**	*i* PKIKP	**PKPdf**		**16 55 36.3**	**+0.3**		
GROC				*e*			16 57 13.4			
GROC				pmax	pmax					
	comp=Z,40nm,1.1s									
MIB	**Mutribah**	**122.49**	**68**	*e*P			16 55 36.8			
RDF	**Al-Radifah**	**122.54**	**69**	*e*P			16 55 36.8			
UMR	**Umm Al-Rimmam**	**122.78**	**68**	*e*P			16 55 37.4			
BELG	**Belogornoye**	**123.16**	**41**	PKKPbc	PKKPbc		17 05 27.4	-2.1		
	comp=Z,5.7nm,0.7s,baz=203,slow=7.5,SNR=3.6									
BELG				PKKP	**PKKPdf**		**17 06 09.3**	**+1.8**		
	comp=Z,2.8nm,0.3s,baz=89,slow=7.3,SNR=6.7									
BELG	**Belogornoye**	**123.16**	**41**	*i* PKIKP	**PKiKP**		**16 55 37.9**	**+0.4**		
BILL	**Bilibino**	**123.28**	**338**	*c* PKIKP	**PKPdf**		**16 55 36.5**	**-0.6**		
BILL				*e*			16 57 15.8			
BILL				*e*PPP	PPP		16 59 56.5			
BILL				pmax	pmax					
	comp=Z,34nm,1.3s									
BILL	**Bilibino**	**123.28**	**338**	PKPdf	**PKiKP**		**16 55 37.4**	**+0.1**		
MAK	**Makhachkala**	**123.61**	**52**	*i* P	**Pdif**		**16 52 11.9**	**+0.4**		
MAK				*i*			16 55 37.1			
MAK				*i*			16 57 22.0			
MAK				*e*PPP	PPP		17 00 01.7			
MAK				pmax	pmax					
	comp=Z,430nm,1.5s									
AKT	**Akhty**	**123.77**	**54**	*e*PKIKP	**PKiKP**		**16 55 40.3**	**+1.1**		
AKT				*e*			16 56 12.2			
AKT				*e*			16 57 24.9			
AKT				pmax	pmax					
	comp=Z,51nm,1.2s									
SOCY	**Socotra**	**124.47**	**90**	PKPdf	**PKPdf**		**16 55 40.8**	**-0.2**		
SOCY	**Socotra**	**124.47**	**90**	P	**PKPdf**		**16 55 41.3**	**+0.3**		
	SNR=5.5									
NWAO	**Narrogin (SRO)**	**124.93**	**186**	PKP	**PKPdf**		**16 55 41.6**	**+0.2**		
	comp=Z,29nm,0.8s,baz=165,slow=3.8,SNR=13									
FORT	**Forrest**	**124.99**	**197**	PKPdf	**PKPdf**		**16 55 41.5**	**-0.2**		
ABTO	**Aybut**	**125.32**	**84**	P	**PKPdf**		**16 55 42.9**	**+0.4**		
	SNR=6.6									
WHFO	**Wadi Hawf**	**125.90**	**83**	P	**PKPdf**		**16 55 44.0**	**+0.4**		
	SNR=6.2									
CTA	**Charters Tower**	**125.97**	**221**	PKP	**PKiKP**		**16 55 44.0**	**-0.1**		
	comp=Z,30nm,1.0s,baz=166,slow=1.2,SNR=9.8									
DOK	**Doka**	**126.41**	**83**	P	**PKPdf**		**16 55 45.0**	**+0.5**		
	SNR=8.8									
DMTO	**DMTO**	**126.94**	**84**	P	**PKiKP**		**16 55 46.2**	**+0.2**		
MZWR	**Madinat Zayed**	**127.27**	**76**	P	**PKiKP**		**16 55 46.9**	**+0.4**		
SHAO	**Shalim**	**127.64**	**84**	PKiKP	**PKPdf**		**16 55 46.9**	**0.0**		
H11S2	**WAKE ISLAND Hyl**	**128.30**	**277**	T	T		19 16 01.8			
	baz=102,slow=74,SNR=205									
H11S1	**WAKE ISLAND Hyl**	**128.31**	**277**	T	T		19 16 10.4			
	baz=102,slow=74,SNR=183									
H11S3	**WAKE ISLAND Hyl**	**128.32**	**277**	T	T		19 16 10.6			
	baz=102,slow=74,SNR=164									
H11N3	**WAKE ISLAND Hyl**	**128.40**	**278**	T	T		19 16 16.1			
	baz=104,slow=75,SNR=226									
H11N2	**WAKE ISLAND Hyl**	**128.42**	**278**	T	T		19 16 14.0			
	baz=104,slow=75,SNR=227									
H11N1	**WAKE ISLAND Hyl**	**128.42**	**278**	T	T		19 16 18.1			
	baz=104,slow=75,SNR=149									
ARU	**Arti**	**128.51**	**34**	*i* PKIKP	**PKiKP**		**16 55 48.4**	**+0.4**		
ARU							16 57 54.1			
ARU							17 02 48.9			
ARU				SS	SS		17 14 54.4	-7.4		

PETK pPKP pPKPdf 16 56 27.1 -0.1
comp=Z,16nm,1.1s,baz=63,slow=2.1,SNR=2.3
PETK SKPbc **SKPbc** **16 59 14.6 -0.5**
comp=Z,12nm,1.1s,baz=180,slow=1.5,SNR=3.7
MA2 Magadan 133.48 334 PKhKP PKPpre 16 55 45.6
comp=Z,2.5nm,0.6s,baz=104,slow=6.1,SNR=5.6
MA2 PKP **PKPdf** **16 55 56.9 +0.2**
comp=Z,16nm,1.1s,baz=94,slow=1.2,SNR=11
MA2 PP **PP** **16 58 24.0 -1.8**
comp=Z,15nm,1.1s,baz=23,slow=7.0,SNR=5.6
MA2 Magadan 133.48 334*c i*PKIKP **PKPdf** **16 55 57.1 +0.4**
MA2 pmax pmax
comp=Z,42nm,1.7s
SKR Severo-Kuril's 135.16 321 *e*PKIKP PKiKP 16 56 17.9 +16
SKR *e* 16 58 39.9
SKR *e*PPP PPP 17 01 43.8
SKR MLR MLR
comp=Z,500nm,21.0s
SKR MLR MLR
comp=Z,300nm,21.0s
BRVK Borovoye 136.08 35*c i*PKIKP **PKPdf** **16 56 02.5 +0.7**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 136.08 35 PKPdf **PKPdf** **16 56 02.8 +1.0**
FITZ Fitzroy Crossi 137.63 200 PKhKP PKPpre 16 55 54.3
comp=Z,7.8nm,0.7s,baz=179,slow=8.8,SNR=9.5
FITZ PKP **PKPdf** **16 56 06.5 +0.8**
comp=Z,42nm,0.8s,baz=184,slow=4.1,SNR=22
YAK Yakutsk 138.25 347 PKhKP PKPpre 16 55 57.4
comp=Z,30nm,0.8s,baz=85,slow=0.4,SNR=23
YAK PKP **PKPdf** **16 56 06.1 +0.6**
comp=Z,24nm,0.7s,baz=218,slow=0.9,SNR=16
YAK Yakutsk 138.25 347 *e*PKHKP PKPpre 16 55 53.4
YAK pmax pmax
comp=Z,34nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,38nm,2.2s
YAK pmax pmax
comp=N,28nm,2.1s
YAK pmax pmax
comp=E,21nm,2.3s
BRZS Berezniki 138.85 38 *e*PKP **PKPdf** **16 56 07.2 +0.1**
baz=38
BRZS *e*SKP 16 59 31.6
baz=38
BRZS Berezniki 138.85 38 *e*PKIKP **PKPdf** **16 56 07.1 +0.1**
IUG luznay 140.15 50 *e*PKP **PKPdf** **16 56 09.3 -0.5**
baz=50
IUG *e*PP **PP** **16 59 09.8 +1.4**
baz=50
IUG luznay 140.15 50 *e*PKIKP **PKPdf** **16 56 09.3 -0.5**
IUG *e* 16 59 09.7
KK31 Karatay Array 140.20 49 *i* PKIKP **PKPdf** **16 56 10.5 +0.8**
KBL Kabul 140.96 62 P **PKiKP** **16 56 13.9 -0.5**
SNR=5.9
KURBB Kurchatov Arra 141.71 34 PP PP 16 59 29.9 +13
comp=E,5.3nm,1.0s,baz=284,slow=7.5,SNR=6.0
KURBB SKPbc **SKiKP** **16 59 41.9 +0.5**
comp=E,6.6nm,1.1s,baz=294,slow=3.0,SNR=4.5
KURBB SKKPbc SKKPab 17 07 48.5 -13
comp=E,2.0nm,1.0s,baz=138,slow=4.5,SNR=5.0
KURBB Kurchatov Arra 141.71 34 PKHKP PKPpre 16 56 07.7
JAY Jayapura 142.34 233 PKhKP PKPpre 16 56 11.2
comp=E,35nm,1.1s,baz=170,slow=4.5,SNR=6.5
ZALV Zalesovo Beam 142.41 26 PKhKP PKPpre 16 56 08.9
comp=E,13nm,0.7s,baz=337,slow=4.1,SNR=32
ZALV PKP **PKPdf** **16 56 14.1 +0.8**
comp=E,97nm,0.8s,baz=307,slow=2.1,SNR=58
ZALV SKKPbc SKKPbc 17 07 45.7 -15
comp=E,1.9nm,0.8s,baz=141,slow=5.0,SNR=4.2
EKS2 Erkin-Say 142.61 48 P **PKPdf** **16 56 11.8 -2.4**
SNR=14
AML Almayashu 142.74 49 P **PKPdf** **16 56 12.5 -2.3**
SNR=14
USP Ospenovka 142.87 47 P **PKPdf** **16 56 15.5 +1.0**
SNR=23
AAK Ala-Archa 143.11 48 P PKPbc 16 56 13.2 +0.9
SNR=40
AAK Ala-Archa 143.11 48 *i* PKPdf PKPbc 16 56 13.2 +0.9
SNR=71
AAK Ala-Archa 143.11 48 PKIKP PKPbc 16 56 13.0 +0.7
CHMS Chumysh 143.15 47 P PKPbc 16 56 13.2 +1.0
SNR=6.1
UCH Uchtor 143.27 48 P PKPbc 16 56 14.7 +1.5
SNR=63
KBK Karagaybulak 143.41 47 P PKPbc 16 56 14.3 +1.2
SNR=20
TKM2 Tokmak 2 143.75 47 P PKPbc 16 56 14.9 +0.8
SNR=28
TKM2 Tokmak 2 143.75 47 PKIKP PKPbc 16 56 14.3 +0.1
TRD Trivandrum 144.16 107 *e*P PKPbc 16 56 17.1 +1.1
TRD *i* x x 16 56 44.4
CHKK Chushkaly 144.28 45 *e*PKP **PKPab** **16 56 15.5 +0.3**
baz=45
CHKK Chushkaly 144.28 45 *e*PKIKP **PKPab** **16 56 15.4 +0.3**
BOD Bodaibo 144.35 358⇓*i*PKIKP **PKPab** **16 56 14.5 -0.4**
BOD pmax pmax
comp=Z,347nm,1.0s
ULHL Ulahol 144.45 47 P **PKPdf** **16 56 18.4 +0.9**
SNR=6.4
AAA Alma-Ata 144.51 46 *e*PKP PKPbc 16 56 16.8 +0.5
baz=46
AAA Alma-Ata 144.51 46 *e*PKIKP PKPbc 16 56 16.7 +0.4
NIL Nilore 144.54 63 PKIKP **PKPab** **16 56 16.5 +0.1**
NIL Nilore 144.54 63 PKPdf **PKPab** **16 56 16.5 +0.1**
POO Poona 144.60 89⇑*i*P **PKPab** **16 56 14.0 -3.1**
POO *i* x x 16 56 45.9
TNSS Tian-Shan 144.60 46 *e*PKP **PKPab** **16 56 17.1 +0.2**
baz=46
TNSS Tian-Shan 144.60 46 *e*PKIKP **PKPab** **16 56 17.0 +0.2**
MDOK Medeo 144.62 46 *e*PKP **PKPab** **16 56 16.0 -0.6**
baz=46
MDOK Medeo 144.62 46 *e*PKIKP **PKPab** **16 56 16.0 -0.6**
TDK Taldyqorghan 144.65 42 *e*PKP **PKPab** **16 56 16.1 -0.4**
baz=42
TDK Taldyqorghan 144.65 42 *e*PKIKP **PKPab** **16 56 16.1 -0.4**
YSS Yuzh-Sakhalins 144.69 322x *i*PKIKP **PKPdf** **16 56 17.2 -0.3**
YSS *e* 16 56 50.8
YSS *e* 16 59 37.9
YSS *e* 17 03 16.2
YSS pmax pmax
comp=Z,360nm,0.9s
YSS Yuzh-Sakhalins 144.69 322 PKPdf PKPbc 16 56 17.0 +0.4
KSH Kashi 145.25 52 PKPbc **PKPdf** **16 56 19.0 +0.1**
KSH pPKP pPKPdf 16 56 49.8 +0.4
GRNR Gornyy 145.44 332⇓*i*PKIKP **PKPab** **16 56 20.4 +1.2**
GRNR pmax pmax
comp=E,50nm,1.0s
GRNR pmax pmax
comp=N,50nm,1.2s
GRNR pmax pmax
comp=Z,380nm,1.1s
GRNR MLR MLR
comp=E,80nm,20.0s
KPKS Kokpek 145.55 44 *e*PKP **PKPdf** **16 56 18.3 -1.0**
baz=44
KPKS Kokpek 145.55 44 *e*PKP2 **PKPdf** **16 56 18.2 -1.0**
SATY Saty 145.56 45 *e*PKP **PKPdf** **16 56 18.2 -1.1**
baz=45
SATY Saty 145.56 45 *e*PKP2 **PKPdf** **16 56 18.2 -1.1**
BATI Baumata 145.66 202 PKPbc **PKPab** **16 56 20.9 -0.1**
comp=E,335nm,1.0s,baz=203,slow=1.4,SNR=48
MAKZ Makanchi 145.79 37 PKP2 **PKPdf** **16 56 20.0 +0.5**
MAKZ Makanchi 145.79 37 PKPdf **PKPdf** **16 56 20.0 +0.5**
UZB Uzynbulak 145.92 44 *e*PKP **PKPdf** **16 56 19.5 -0.5**
baz=44
UZB Uzynbulak 145.92 44 *e*PKIKP **PKPdf** **16 56 19.5 -0.5**
MK31 Makanchi Array 145.97 37 *i* PKP2 **PKPdf** **16 56 20.0 +0.2**
MKAR Makanchi Array 145.97 37 PKPbc **PKPdf** **16 56 20.2 +0.5**
comp=E,171nm,0.8s,baz=324,slow=1.8,SNR=670
MKAR pPKPbc pPKPab 16 56 52.4 +0.9
comp=E,41nm,1.0s,baz=332,slow=4.4,SNR=2.3
MKAR SKKPbc SKKPbc 17 07 25.6 -20
comp=E,1.9nm,0.9s,baz=116,slow=6.6,SNR=5.1
MKAR Makanchi Array 145.97 37 PKPdf **PKPdf** **16 56 20.4 +0.6**
SHLS Shalkode 146.20 44 *e*PKP **PKPdf** **16 56 20.2 -0.2**
baz=44
SHLS Shalkode 146.20 44 *e*PKIKP **PKPdf** **16 56 20.2 -0.2**
ZEA Zeya 146.28 343 *e*PKP2 **PKPbc** **16 56 20.8 -0.5**
ZEA pmax pmax
comp=N,40nm,0.8s
ZEA pmax pmax
comp=Z,140nm,1.7s
ZEA pmax pmax
comp=N,100nm,2.1s
ZEA pmax pmax
comp=Z,400nm,5.0s
ASAJ Asahikawa 146.29 318 PKPbc **PKPbc** **16 56 22.0 +0.3**
comp=Z,292nm,0.8s,baz=264,slow=5.0,SNR=126
ASAJ Asahikawa 146.29 318 PKP2 **PKPbc** **16 56 22.0 +0.3**
PALK Pallekele 146.86 112 PKPbc **PKPbc** **16 56 24.0 -0.2**
comp=Z,62nm,0.9s,baz=11,slow=3.3,SNR=22
PALK Pallekele 146.86 112 PKIKP **PKPdf** **16 56 23.5 +1.2**
PALK Pallekele 146.86 112 **PKPdf** **16 56 23.4 +1.2**
ERM Erimo 146.93 314*c i*PKP2 **PKiKP** **16 56 25.8 -0.2**
ERM pmax pmax
comp=Z,598nm,1.3s
ZSN Zaisan 146.94 34 *e*PKP **PKPdf** **16 56 20.5 -0.9**
baz=34
ZSN Zaisan 146.94 34 *e*PKIKP **PKPdf** **16 56 20.5 -0.9**
GUMO Guam 147.14 261 PKP2 **PKPbc** **16 56 25.2 +0.3**
GUMO Guam 147.14 261 **PKPbc** **16 56 25.2 +0.3**
WSI Waingapu 147.19 196 PKP **PKPbc** **16 56 25.2 +0.1**
WSI PKP **PKPab** **16 56 26.7 -0.2**
DHRM DHARAMSHALA 147.28 65 *e*P **PKPdf** **16 56 22.6 -0.2**
DHRM *i* x x 16 56 54.1
BHK Bhakra 147.50 66 *ex* **PKPdf** **16 56 21.2 -1.6**
SMLA Simla 148.18 66 *e*P **PKPdf** **16 56 25.0 +1.1**
SMLA *i* x x 16 56 57.0
SMLA *ex* x 16 57 21.6
NDI New Delhi 148.47 71 *e*P **PKPdf** **16 56 25.0 +0.5**
KLR Kul'dur 148.58 334 PKP **PKPdf** **16 56 24.3 +0.3**
comp=Z,60nm,0.8s,baz=28,slow=2.8,SNR=54
KLR PKPbc **PKPbc** **16 56 27.4 -0.3**
comp=Z,60nm,0.8s,baz=46,slow=3.3,SNR=65
KLR pPKPbc **pPKPbc** **16 56 57.9 -0.2**
comp=Z,16nm,0.8s,baz=67,slow=2.2,SNR=2.3
BHPL Bhopal 148.62 81 *e*P **PKPdf** **16 56 24.5 -0.4**
BHPL *i* x x 16 56 56.7
HYB Hyderabad 148.71 93 *i* PKP **PKPdf** **16 56 25.0 -0.2**
HYB Hyderabad 148.71 93 *e*P **PKPdf** **16 56 24.0 -1.1**
HYB *i* x x 16 56 56.2
DDI Dehra Dun 149.04 68 *e*P **PKPdf** **16 56 25.8 +0.4**
DDI *i* x x 16 56 59.8
DNP Denpasar 149.12 187 PKP **PKPbc** **16 56 30.2 0.0**
DNP PKP **PKiKP** **16 56 31.1 -0.3**
DNP PKP **PKPab** **16 56 31.9 -2.7**
TEY Ternei 149.28 324⇓*i*PKP2 **PKiKP** **16 56 30.4 -0.4**
TEY pmax pmax
comp=E,30nm,1.2s
TEY pmax pmax
comp=N,30nm,1.0s
TEY pmax pmax
comp=Z,120nm,1.6s
MOY Mondy 149.46 13 *e*PKHKP PKPpre 16 56 27.0
MOY pmax pmax
comp=Z,353nm,1.4s
IRK Irkutsk 149.48 9 *e*PKHKP PKPpre 16 56 25.8
IRK pmax pmax
comp=Z,330nm,1.8s
TLY Talaya 149.93 10⇓*i*PKHKP PKPpre 16 56 28.2
TLY *e* 16 56 33.0
TLY *e*SS SS 17 19 07.6 -4.6
TLY pmax pmax
comp=Z,113nm,1.5s
TLY pmax pmax
comp=Z,283nm,1.2s
SIJI Sorong 150.04 223 PKP **PKPdf** **16 56 28.2 +0.7**
comp=Z,23nm,0.9s,baz=120,slow=1.8,SNR=12
SIJI PKPbc **PKiKP** **16 56 33.4 0.0**
comp=Z,292nm,0.8s,baz=21,slow=2.0,SNR=117
SIJI PP **PP** **17 00 05.3 -1.3**
comp=Z,15nm,1.0s,baz=31,slow=0.9,SNR=3.8
CIT Chita 150.17 357 *e*PKHKP PKPpre 16 56 28.2
CIT pmax pmax
comp=Z,504nm,1.2s
WMQ Urumqi 150.81 37 *e*PKPbc **PKPdf** **16 56 28.5 +0.7**
LEM Lembang 150.93 172 PKP **PKPdf** **16 56 29.6 +0.6**
comp=Z,77nm,1.0s,baz=106,slow=7.6,SNR=14
LEM PKPbc **PKiKP** **16 56 36.2 +0.9**
comp=Z,604nm,0.7s,baz=341,slow=2.6,SNR=120
LEM pPKPbc **pPKPbc** **16 57 05.8 +0.9**
comp=Z,166nm,0.7s,baz=15,slow=20,SNR=2.9
LEM PP **PP** **17 00 15.1 +4.1**
comp=Z,28nm,0.8s,baz=172,slow=10,SNR=5.8
ZAK Zakamensk 151.13 11 *e*PKIKP **PKPdf** **16 56 29.1 +1.0**
ZAK pmax pmax
comp=Z,28nm,1.1s
JCJ Chichijima 151.69 286 PKPbc **PKPbc** **16 56 35.0 -0.9**
comp=Z,196nm,0.9s,baz=290,slow=16,SNR=4.8
KAPI Kappang 151.78 198 PKP **PKPdf** **16 56 31.3 +1.2**
comp=Z,27nm,0.8s,baz=219,slow=1.7,SNR=19
KAPI PKPbc **PKiKP** **16 56 37.8 +0.9**
comp=Z,230nm,0.9s,baz=208,slow=2.6,SNR=79
USRK Ussuriysk Ar. 152.26 327 PKP **PKPdf** **16 56 30.6 +0.7**
comp=Z,15nm,0.9s,baz=251,slow=1.2,SNR=27
USRK PKPbc **PKiKP** **16 56 37.2 +0.2**
comp=Z,71nm,0.8s,baz=345,slow=1.0,SNR=78
USRK pPKPbc **pPKPbc** **16 57 05.5 -1.6**
comp=Z,16nm,0.6s,baz=11,slow=1.2,SNR=2.4
JHJ Hachijo jima 2 152.73 300 PKPbc **PKPbc** **16 56 38.0 -0.1**
comp=Z,367nm,0.8s,baz=160,slow=6.6,SNR=17
MJAR Matsushiro Arr 152.76 308 PKP **PKPdf** **16 56 30.9 0.0**
comp=Z,4.3nm,0.8s,baz=241,slow=1.1,SNR=13
MJAR PKPbc **PKPbc** **16 56 37.8 -0.3**
comp=Z,90nm,0.9s,baz=85,slow=1.2,SNR=91
MJAR PKPab **PKPab** **16 56 49.1 -0.3**
comp=Z,14nm,0.9s,baz=356,slow=36,SNR=10
MJAR PP **PP** **17 00 23.8 +1.1**
comp=Z,2.9nm,0.9s,baz=77,slow=3.8,SNR=4.1
MJAR Matsushiro Arr 152.76 308 **PKPbc** **16 56 38.1 -0.1**
MAJO Matsushiro 152.76 308 PKIKP **PKiKP** **16 56 38.3 0.0**
MAJO Matsushiro 152.76 308 **PKiKP** **16 56 38.3 0.0**
MAT Matsushiro 152.76 308 PKP **PKPdf** **16 56 31.4 +0.5**
MDJ Mudanjiang 153.10 331 PKPbc **PKPdf** **16 56 31.8 +0.7**
MDJ AMB AMB
comp=Z,310nm,7.3s
MSHR Mys Shultsa 153.84 326*c i*PKIKP **PKiKP** **16 56 41.5 +1.2**
MSHR pmax pmax
comp=Z,80nm,1.7s
SONM Songino Array 154.08 8 PKP **PKPdf** **16 56 33.7 +1.1**
comp=Z,33nm,0.9s,baz=309,slow=0.8,SNR=213
SONM PKPbc **PKPbc** **16 56 40.2 -0.6**
comp=Z,40nm,0.9s,baz=299,slow=0.8,SNR=31
SONM PKPab **PKPab** **16 56 55.7 +1.1**
comp=Z,16nm,0.8s,baz=298,slow=1.2,SNR=7.6
SONM PP **PP** **17 00 34.1 +5.2**
comp=Z,4.8nm,0.9s,baz=29,slow=3.4,SNR=3.9
KBKI Kotabaru 154.26 191 PKP **PKPdf** **16 56 33.5 -0.2**
KBKI PKP **PKiKP** **16 56 42.9 +0.9**
GKN Gorkha 155.05 71 *e*P **PKPdf** **16 56 34.6 0.0**
comp=Z,86nm,1.2s
PBKI Pangkalan Bun 155.27 180 PKP **PKPdf** **16 56 38.4 +3.3**
PBKI PKP PKPab 16 56 46.7 -14
DMN Daman 155.51 72 *e*P **PKPdf** **16 56 35.5 +0.1**
CN2 Changchun 155.52 335 *e*PKP **PKPdf** **16 56 34.0 -0.5**
KKN Kakani 155.64 71 *e*P **PKPdf** **16 56 35.5 0.0**
comp=Z,40nm,0.9s
PKIN Phulchoki 155.77 72 *e*P **PKPdf** **16 56 35.3 -0.4**
comp=Z,40nm,1.1s
PKI Pulchoki 155.78 72 *e*P **PKPdf** **16 56 35.5 -0.3**
comp=Z,53nm,1.2s
GUN Gumba 156.15 71 *e*P **PKPdf** **16 56 36.5 +0.2**
comp=Z,119nm,1.1s
JIRN Jiri 156.46 71 *e*P **PKPdf** **16 56 36.3 -0.4**
comp=Z,60nm,1.3s
RAMN Ramite 156.91 73 *e*P **PKPdf** **16 56 37.7 +0.5**
comp=Z,75nm,0.9s
PSI Prapat 157.21 146 PKP **PKPdf** **16 56 38.3 +0.5**
comp=Z,18nm,1.0s,baz=180,slow=5.4,SNR=16
PSI PKPbc PKPbc 16 56 48.0
comp=Z,7.7nm,0.7s,baz=180,slow=19,SNR=5.4
PSI PKPab **PKPab** **16 57 09.6 +0.7**
comp=Z,55nm,0.9s,baz=179,slow=1.1,SNR=23
ODAN Odare 157.62 73 *e*P **PKPdf** **16 56 38.4 +0.3**
comp=Z,96nm,1.0s
TAPN Taplejung 157.84 72 *e*P **PKPdf** **16 56 38.8 +0.4**
comp=Z,52nm,1.0s
SNY Shenyang 157.92 335⇓PKP **PKPdf** **16 56 39.5 +1.9**
SNY PP **PP** **17 00 49.5 -0.9**
SNY AMB AMB
comp=Z,220nm,4.5s
GTK Tadong 158.63 72 *e*P **PKPdf** **16 56 39.6 +0.4**
KSRS Korea Array 159.18 321 PKP **PKPdf** **16 56 40.2 +0.9**
comp=Z,32nm,1.0s,baz=61,slow=0.9,SNR=102
KSRS PKPab **PKPab** **16 57 17.8 +1.0**
comp=Z,32nm,0.8s,baz=55,slow=4.8,SNR=34
KSRS PP **PP** **17 01 02.1 +4.4**
comp=Z,5.8nm,1.1s,baz=37,slow=4.9,SNR=7.1
JNU Nakatsue 159.67 307 PKPab **PKPab** **16 57 19.1 -0.1**
comp=Z,28nm,1.1s,baz=28,slow=7.5,SNR=4.0
GTA Gaotai 160.15 27 PKP **PKPdf** **16 56 41.8 +1.3**
GTA PKPab **sPKPdf** **16 57 22.0 -0.8**
GTA SKKS 17 07 41.8
LSA Lhasa 160.27 63 PKP **PKPdf** **16 56 42.0 +0.6**
LSA Lhasa 160.27 63 *i* PKPdf **PKPdf** **16 56 42.6 +1.2**
SNR=14
DL2 Dalian 161.19 335 PKP **PKPdf** **16 56 42.0 +0.5**
DL2 pPKP **pPKPdf** **16 57 12.0 -0.1**
DL2 sPKP 16 57 25.0
DL2 PP **PP** **17 01 07.8 -0.3**
DL2 SS SS 17 21 13.5 -0.6
DL2 AMB AMB
comp=Z,130nm,11.7s
AGT Agartala 161.32 81 *e*P **PKPdf** **16 56 42.8 +0.8**
HHC Hu-ho-hao-te 161.38 360 *e*P **PKPab** **16 57 30.0 +3.7**
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,110nm,6.6s
HHC Hu-ho-hao-te 161.38 360 *e*PKP **PKPdf** **16 56 43.5 +1.7**
HHC AMB AMB
comp=Z,190nm,7.7s
BELO BELONIA 161.50 83 *e*P **PKPdf** **16 56 42.3 +0.1**
BJI Beijing 161.75 348 P PKPab 16 57 38.0 +10
BJI pmax pmax
comp=Z,12nm,1.2s
BJI Beijing 161.75 348 PKP **PKPdf** **16 56 43.0 +1.0**
BJI sPKP 16 57 27.3
BJI PP **PP** **17 01 10.0 -0.7**
BJI SS SS 17 21 18.0 -1.3
SHL Shillong 161.78 75 *e*P **PKPdf** **16 56 43.2 +0.4**
SHL *i* pP **PKPab** **16 57 29.2 +0.4**
SHL esP **pPKPab** **16 57 57.5 -1.0**
SAIH SAIHA 162.90 85 *e*P **PKPdf** **16 56 45.2 +1.3**
ZIRO ZIRO 163.15 68 *e*P **PKPdf** **16 56 44.0 0.0**
KOHI KOHIMA 163.75 74 *e*P **PKPdf** **16 56 45.5 +0.9**
MOKO MOKOCHONG 164.00 72 *e*P **PKPdf** **16 56 45.9 +1.0**
TIY Taiyuan 164.50 357 *e*PKP **PKPdf** **16 56 46.0 +1.1**
TIY PKPab **PKPab** **16 57 40.5 +0.5**
TIY PP **PP** **17 01 25.8 +0.6**
TIY AMB AMB
comp=Z,170nm,4.1s
LZH Lanzhou 164.63 24 *e*PKP **PKPdf** **16 56 47.0 +1.9**
LZH PKP sPKPdf 16 57 22.0 -5.2
LZH SKKS 17 08 06.8
LZH SS **SS** **17 21 53.8 +3.8**
TIA Tai'an 165.18 342 P **PKPab** **16 57 43.0 +0.1**
TIA pmax pmax
comp=Z,70nm,0.9s
TIA Tai'an 165.18 342 PKP **PKPdf** **16 56 46.3 +0.9**
PHET Kaeng Krachan 165.44 127 P **PKPab** **16 57 46.8 +2.0**
PATY Pattaya 166.34 131 P **PKPab** **16 57 51.0 +2.3**
MHMT Maesarieng 166.68 105 P **PKPdf** **16 56 47.0 -0.1**
comp=Z,1µmcomp=Z,94nm,1.3s
CM13 Chiang Mai Arr 167.64 105 P **PKPdf** **16 56 48.6 +0.9**
comp=Z,184nmcomp=Z,20nm,1.1s
CM32 Chiang Mai Arr 167.66 104 P **PKPdf** **16 56 48.0 +0.2**
CM15 Chiang Mai Arr 167.66 105 P **PKPdf** **16 56 48.6 +0.8**
comp=Z,188nmcomp=Z,20nm,1.1s
CM05 Chiang Mai Arr 167.67 105 P **PKPdf** **16 56 48.7 +0.9**
comp=Z,182nmcomp=Z,20nm,1.1s
CM02 Chiang Mai Arr 167.68 105 P **PKPdf** **16 56 48.0 +0.2**
comp=Z,215nmcomp=Z,24nm,1.1s
CM31 Chiang Mai Arr 167.68 105 P **PKPdf** **16 56 48.7 +0.8**
comp=Z,5µmcomp=Z,541nm,1.1s
CMAR Chiang Mai Arr 167.68 105 PKP **PKPdf** **16 56 48.5 +0.6**
comp=Z,16nm,1.0s,baz=273,slow=1.9,SNR=99
CMAR PKPab **PKPab** **16 57 54.8 0.0**
comp=Z,8.1nm,0.8s,baz=247,slow=6.5,SNR=17
CMAR pPKPab **pPKPab** **16 58 24.1 -0.2**
comp=Z,9.4nm,1.0s,baz=255,slow=4.9,SNR=4.6
CMAR PP **PP** **17 01 44.9 +1.1**
comp=Z,6.2nm,1.2s,baz=252,slow=5.4,SNR=5.7
CMAR PKKP 17 04 42.5
comp=Z,1.3nm,0.9s,baz=62,slow=5.9,SNR=4.5
CM01 Chiang Mai Arr 167.69 105 P **PKPdf** **16 56 48.0 +0.2**
comp=Z,224nmcomp=Z,24nm,1.1s
CM04 Chiang Mai Arr 167.70 106 P **PKPdf** **16 56 48.7 +0.9**
comp=Z,235nmcomp=Z,29nm,1.1s
CM09 Chiang Mai Arr 167.72 105 P **PKPdf** **16 56 48.9 +1.0**
comp=Z,224nmcomp=Z,24nm,1.1s
CM33 Chiang Mai Arr 167.80 104 P **PKPdf** **16 56 47.0 -0.9**
CM36 Chiang Mai Arr 167.84 105 P **PKPdf** **16 56 48.0 +0.1**
SRAK Srakaew 167.91 131 P **PKPab** **16 57 58.8 +3.2**
SUKH Sukhothai 167.93 111 P **PKPdf** **16 56 49.0 +1.0**
CM35 Chiang Mai Arr 167.94 105 P **PKPdf** **16 56 48.0 0.0**
XAN Xi'an 167.97 10 PKP **PKPdf** **16 56 48.5 +0.8**
XAN SS SS 17 22 23.0 0.0
XAN AMB AMB
comp=Z,160nm,4.9s
NJ2 Nanjing 168.17 328⇓PKP **PKPdf** **16 56 48.0 +0.2**
NJ2 pPKP **pPKPdf** **16 57 20.0 +1.5**
NJ2 PKPab **PKPab** **16 57 55.3 -1.0**
NJ2 PP **PP** **17 01 44.3 -0.4**
NJ2 SS SS 17 22 24.8 -1.1
NJ2 AMB AMB
comp=Z,380nm,3.8s
LAMP Lampang 168.32 106 P **PKPdf** **16 56 49.3 +1.0**
comp=Z,582nmcomp=Z,70nm,1.1s
UTTA Uttaradit 168.83 111 P **PKPdf** **16 56 49.2 +0.6**
CD2 Chengdu 168.90 37 PKP **PKPdf** **16 56 49.5 +1.1**
CD2 PP **PP** **17 01 55.0 +6.3**
CD2 SKKS 17 08 23.8
CD2 SS **SS** **17 22 35.3 +1.7**
CD2 AMB AMB
comp=Z,260nm,10.6s
WHN Wuhan 171.28 343⇑PKP **PKPdf** **16 56 50.5 +0.9**
WHN PKPab **PKPab** **16 58 09.5 -0.5**
WHN AMB AMB
comp=Z,1µm,4.8s
KMI Kunming 171.48 68⇑PKP **PKPdf** **16 56 48.5 -1.7**
QZH Quanzhou 172.91 294 PKP **PKPdf** **16 56 51.0 +0.5**
QZH PKPab **PKPab** **16 58 18.3 +0.6**
QZH sPKP2 16 58 59.3
QZH PP **PP** **17 02 08.8 -0.8**
QZH sPP 17 02 48.3
QZH SS SS 17 23 12.0 -2.9
QZH AMB AMB
comp=Z,340nm,6.9s
GYA Guiyang 173.89 45⇑PKP **PKPdf** **16 56 51.8 +0.7**
GYA PKPab **PKPab** **16 58 22.5 +0.4**
GYA SKKS 17 08 47.3
GYA SS **SS** **17 23 20.0 -3.3**
GYA AMB AMB
comp=Z,84nm,7.6s
QIZ Qiongzhong 176.52 154 PKP **PKPdf** **16 56 51.5 -0.3**
QIZ pPKP **pPKPdf** **16 57 20.5 -1.9**
QIZ PKPab **PKPab** **16 58 34.0 +0.4**
QIZ PP **PP** **17 02 27.0 +1.5**
QIZ SS SS 17 23 48.0 +1.2**
QIZ AMB AMB
comp=Z,150nm,9.2s

*NEIC **28** 16:44:39.0±2.2,30.67S±0.08×178.5W±0.2,h19km±6km, mb4.6/20, Error ellipse: s-maj=25.0km s-min=7.1km az=110.0*
*IDC **28** 16:44:41.5±2.7,30.69S×178.06W,h62km±21km,mb4.2/6, mb1 4.4/7,mb1mx4.0/46,mbtmp4.5/7,MS3.5/1,Ms1 3.5/1, ms1mx3.0/33,Error ellipse: s-maj=30.0km s-min=16.4km az=129.0*

ISC 28 16:44:38.1±0.7,**30.91S**±0.06×**178.1W**±0.1,**h35**km,**n93,**
σ**29**02/94,**mb4.6**/16,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.64**	**4**	P	**Pn**	**16 45 04.8**	**+0.4**
GLKZ				S	**Sn**	**16 45 21.4**	**-2.9**
RAO	**Raoul Island**	**1.65**	**4**	P	**Pn**	**16 45 04.9**	**+0.3**
	598nm,0.3s,baz=95,slow=6.5,SNR=45						
RAO				S	**Sn**	**16 45 23.4**	**-1.2**
	2µm,0.3s,baz=139,slow=16,SNR=12						
RAO				LR	LR	16 45 47.3	
	comp=Z,225nm,19.0s,baz=236,slow=46						
RAO	**Raoul Island**	**1.65**	**4**	Pn	**Pn**	**16 45 04.8**	**+0.3**
RAO				Sn	**Sn**	**16 45 21.1**	**-3.4**
RIZ	**Raoul Island**	**1.66**	**4**	P	**Pn**	**16 45 05.8**	**+1.1**
RIZ				S	**Sn**	**16 45 24.2**	**-0.5**
MXZ	**Matakaoa Point**	**7.29**	**203**	S	**Sn**	**16 47 44.2**	**+0.6**
WMGZ	**Waiomatatini S**	**7.49**	**202**	P	**Pn**	**16 46 25.7**	**+0.9**

WMGZ				S	Sn	16 47 49.6	+1.1	
HAZ	**Te Kaha**	**7.65**	**206**	P	**Pn**	**16 46 27.0**	**0.0**	
HAZ				S	**Sn**	**16 47 57.0**	**+4.5**	
PKGZ	**Pakihiroa**	**7.66**	**204**	P	**Pn**	**16 46 26.7**	**-0.6**	
PKGZ				S	**Sn**	**16 47 53.8**	**+1.0**	
PUZ	**Puketiti**	**7.77**	**202**	P	**Pn**	**16 46 27.4**	**-1.2**	
PUZ				S	**Sn**	**16 47 54.6**	**-0.8**	
RUGZ	**Raukumara Rang**	**7.88**	**205**	P	**Pn**	**16 46 30.2**	**0.0**	
RUGZ				S	**Sn**	**16 47 59.5**	**+1.3**	
TWGZ	**Tauwhareparae**	**7.96**	**203**	P	**Pn**	**16 46 30.9**	**-0.3**	
TWGZ				S	**Sn**	**16 48 01.3**	**+1.3**	
WCZ	**Waipu Caves**	**8.10**	**230**	P	Pn	16 46 42.1	+9.0	
CNGZ	**Carnagh Statio**	**8.16**	**201**	P	**Pn**	**16 46 33.5**	**-0.5**	
OUZ	**Omahuta**	**8.22**	**236**	P	Pn	16 46 42.7	+7.9	
OPRZ	**Ohinepanea**	**8.23**	**211**	P	**Pn**	**16 46 38.6**	**+3.7**	
TKGZ	**Te Karaka**	**8.24**	**203**	P	**Pn**	**16 46 35.3**	**+0.3**	
TKGZ				S	**Sn**	**16 48 06.0**	**-0.8**	
MWZ	**Matawai**	**8.26**	**205**	P	**Pn**	**16 46 34.2**	**-1.1**	
MWZ				S	**Sn**	**16 48 07.7**	**+0.3**	
URZ	**Urewera**	**8.35**	**207**	P	**Pn**	**16 46 35.4**	**-1.2**	
	0.7nm,0.3s,baz=303,slow=23,SNR=19							
URZ				S	**Sn**	**16 48 08.6**	**-0.9**	
	3.0nm,0.3s,baz=193,slow=19,SNR=6.7							
URZ	**Urewera**	**8.35**	**207**	Pn	**Pn**	**16 46 36.1**	**-0.4**	
URZ				Sn	**Sn**	**16 48 11.1**	**+1.5**	
URZ	**Urewera**	**8.35**	**207**	P	**Pn**	**16 46 35.3**	**-1.2**	
URZ				S	**Sn**	**16 48 08.3**	**-1.2**	
RIGZ	**Rimuhau**	**8.51**	**203**	P	**Pn**	**16 46 37.8**	**-0.9**	
RIGZ				S	**Sn**	**16 48 13.9**	**+0.3**	
MUGZ	**Murupara**	**8.67**	**208**	P	**Pn**	**16 46 39.8**	**-1.2**	
MUGZ				S	**Sn**	**16 48 18.6**	**+1.1**	
RTZ	**Ruatahuna**	**8.71**	**207**	P	**Pn**	**16 46 40.8**	**-0.7**	
RTZ				S	**Sn**	**16 48 18.1**	**-0.5**	
SNGZ	**Shannon Statio**	**8.72**	**204**	P	**Pn**	**16 46 41.2**	**-0.5**	
SNGZ				S	**Sn**	**16 48 18.4**	**-0.4**	
RAHZ	**Arahi**	**8.93**	**205**	P	**Pn**	**16 46 43.5**	**-1.1**	
RAHZ				S	**Sn**	**16 48 23.7**	**-0.2**	
MTHZ	**Maungataniwha**	**8.97**	**206**	P	**Pn**	**16 46 45.3**	**+0.2**	
MTHZ				S	**Sn**	**16 48 23.4**	**-1.4**	
BKZ	**Black Stump Fm**	**9.37**	**207**	Pn	**Pn**	**16 46 52.6**	**+2.0**	
BKZ	**Black Stump Fm**	**9.37**	**207**	P	**Pn**	**16 46 48.3**	**-2.4**	
BKZ				S	**Sn**	**16 48 32.5**	**-2.3**	
TSZ	**Takapari Road**	**10.35**	**206**	P	**Pn**	**16 47 01.5**	**-2.6**	
TSZ				S	**Sn**	**16 48 54.6**	**-4.2**	
WAZ	**Wanganui**	**10.50**	**211**	P	Pn	16 47 14.7	+8.6	
MRZ	**Mangatainoka R**	**11.02**	**206**	P	**Pn**	**16 47 08.5**	**-4.6**	
MRZ				S	**Sn**	**16 49 08.9**	**-6.2**	
MSWZ	**Moikau Station**	**11.80**	**205**	Pn	**Pn**	**16 47 27.3**	**+3.5**	
TCW	**Tory Channel**	**12.01**	**209**	P	**Pn**	**16 47 22.3**	**-4.3**	
TCW				S	**Sn**	**16 49 30.6**	**-8.7**	
TCW	**Tory Channel**	**12.01**	**209**	P	**Pn**	**16 47 26.0**	**-0.6**	
TUWZ	**Tuamarina**	**12.33**	**209**	P	**Pn**	**16 47 28.4**	**-2.6**	
MSVF	**Nonsavu**	**13.58**	**344**	LR	LR	16 52 04.1		
	comp=Z,213nm,18.7s,baz=162,slow=33							
RPZ	**Rata Peaks**	**15.43**	**211**	P	**P**	**16 48 16.1**	**-1.1**	
	1.0nm,0.3s,baz=28,slow=2.7,SNR=5.8							
ARMA	**Armidale**	**26.05**	**263**	P	**P**	**16 50 10.2**	**+1.9**	
EIDS	**Eidsvold**	**27.72**	**274**	P	**P**	**16 50 23.9**	**+0.7**	
EIDS				IAmb	IAmb	16 50 27.1		
	comp=Z,12nm,1.0s							
CAN	**Canberra**	**27.87**	**252**	P	**P**	**16 50 25.7**	**+1.1**	
CAN				IAmb	IAmb	16 50 34.1		
	comp=Z,11nm,1.1s							
TOO	**Toolangi**	**30.73**	**248**	P	**P**	**16 50 51.0**	**+1.2**	
TOO				IAmb	IAmb	16 50 53.5		
	comp=Z,6.9nm,1.0s							
CTAO	**Charters Tower**	**33.84**	**280**	P	**P**	**16 51 19.6**	**+2.3**	
STKA	**Stephens Creek**	**34.32**	**258**	P	**P**	**16 51 24.2**	**+2.8**	
	comp=Z,19nm,0.8s,baz=99,slow=10.0,SNR=57							
STKA	**Stephens Creek**	**34.32**	**258**	P	**P**	**16 51 23.6**	**+2.2**	
STKA				IAmb	IAmb	16 51 24.8		
	comp=Z,5.0nm,0.9s							
BBOO	**Buckleboo**	**38.79**	**255**	P	**P**	**16 52 00.4**	**+1.0**	
COEN	**Coen**	**39.37**	**287**	P	**P**	**16 52 06.3**	**+1.9**	
AS31	**Alice Springs**	**43.04**	**268**	P	**P**	**16 52 35.2**	**+0.6**	
ASAR	**Alice Springs**	**43.04**	**267**	P	**P**	**16 52 35.1**	**+0.5**	
	comp=Z,6.6nm,0.5s,baz=106,slow=7.2,SNR=301							
ASAR	**Alice Springs**	**43.04**	**267**		**P**	**16 52 34.6**	**+0.1**	
WR0	**Warramunga Arr**	**43.89**	**273**	P	**P**	**16 52 41.9**	**+0.5**	
WR0				IAmb	IAmb	16 52 44.1		
	comp=Z,5.9nm,0.6s							
WB2	**Warramunga Arr**	**44.06**	**273**	P	**P**	**16 52 43.1**	**+0.3**	
WRAB	**Tennant Creek**	**44.07**	**273**	P	**P**	**16 52 43.5**	**+0.6**	
WRAB				IAmb	IAmb	16 52 44.2		
	comp=Z,9.2nm,0.8s							
WRA	**Warramunga Arr**	**44.07**	**273**	P	**P**	**16 52 43.5**	**+0.6**	
	comp=Z,7.4nm,0.3s,baz=111,slow=8.0,SNR=193							
WRA	**Warramunga Arr**	**44.07**	**273**	P	**P**	**16 52 43.0**	**+0.1**	
WB0	**Warramunga Arr**	**44.10**	**273**	P	**P**	**16 52 43.5**	**+0.4**	
WB0				IAmb	IAmb	16 52 44.4		
	comp=Z,10nm,0.7s							
FORT	**Forrest**	**45.88**	**256**	P	**P**	**16 52 57.4**	**+0.3**	
MTN	**Manton Dam**	**50.02**	**279**	P	**P**	**16 53 28.6**	**-0.7**	
MTN				IAmb	IAmb	16 53 42.0		
	comp=Z,6.6nm,1.2s							
FITZ	**Fitzroy Crossi**	**52.31**	**270**	P	**P**	**16 53 45.7**	**-0.9**	
	comp=Z,3.1nm,0.7s,baz=162,slow=22,SNR=3.4							
FITZ	**Fitzroy Crossi**	**52.31**	**270**	P	**P**	**16 53 46.0**	**-0.5**	
FITZ				IAmb	IAmb	16 54 01.1		
	comp=Z,8.9nm,1.2s							
QSPA	**South Pole Qui**	**59.21**	**180**	P	P	16 54 40.5	+5.1	
BELA	**Belgrano 2**	**69.29**	**172**	P	P	16 55 47.5	+6.3	
BELA				IAmb	IAmb	16 55 51.1		
	comp=Z,4.0nm,0.7s							
SNAA	**Sanae**	**77.65**	**178**	P	P	16 56 37.3	+6.7	
SNAA	**Sanae**	**77.65**	**178**	P	**P**	**16 56 32.1**	**+1.5**	
	comp=Z,2.0nm,1.1s,baz=176,slow=14,SNR=1.4							
SNAA	**Sanae**	**77.65**	**178**	P	P	16 56 37.4	+6.8	
SNAA				IAmb	IAmb	16 56 39.1		
	comp=Z,8.8nm,1.1s							
VNA3	**Neumayer Olymp**	**77.81**	**176**	P	P	16 56 38.7	+7.3	
VNA2	**Neumayer--Watz**	**78.24**	**177**	P	P	16 56 41.2	+7.5	
VNA1	**Neumayer--Stat**	**78.47**	**177**	P	P	16 56 42.1	+7.2	
H03S2	**Juan Fernandez**	**80.22**	**123**	T	T	18 25 47.1		
	baz=238,slow=74,SNR=34							
H03S1	**Juan Fernandez**	**80.24**	**124**	T	T	18 25 47.7		
	baz=238,slow=74,SNR=35							
H03S3	**Juan Fernandez**	**80.24**	**123**	T	T	18 25 48.7		
	baz=238,slow=74,SNR=39							
H03N3	**Juan Fernandez**	**80.42**	**123**	T	T	18 26 04.6		
	baz=241,slow=72,SNR=30							
H03N2	**Juan Fernandez**	**80.42**	**123**	T	T	18 26 04.3		
	baz=241,slow=72,SNR=31							
H03N1	**Juan Fernandez**	**80.44**	**123**	T	T	18 26 04.2		
	baz=241,slow=72,SNR=54							
NJ2	**Nanjing**	**86.54**	**311**	eP	P	16 57 09.0	-8.5	
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.6s							
NVAR	**Mina Array Bea**	**88.64**	**43**	P	**P**	**16 57 28.8**	**+1.0**	
	comp=Z,0.4nm,0.6s,baz=221,slow=9.5,SNR=2.7							
LZH	**Lanzhou**	**98.98**	**307**	eP	**Pdif**	**16 58 11.5**	**-3.8**	
LZH				pP	pP	16 58 15.8	-10	
LZH				sP	sP	16 58 18.3	-11	
LZH				pmax	pmax			
	comp=Z,38nm,1.0s							
MKAR	**Makanchi Array**	**118.06**	**310**	PKP	**PKPdf**	**17 03 19.5**	**-1.4**	
	comp=Z,0.4nm,0.4s,baz=218,slow=1.7,SNR=4.2							
KURBB	**Kurchatov Arra**	**121.40**	**313**	PKP	**PKPdf**	**17 03 25.8**	**-1.3**	
	comp=Z,0.5nm,0.5s,baz=117,slow=2.0,SNR=4.6							
H10S2	**ASCENSION HYDR**	**137.29**	**155**	T	T	19 38 31.9		
	baz=16,slow=74,SNR=6.1							
H10S3	**ASCENSION HYDR**	**137.29**	**155**	T	T	19 38 31.6		
	baz=204,slow=74,SNR=15							
H10N3	**ASCENSION HYDR**	**138.37**	**155**	T	T	19 39 53.0		
	baz=204,slow=75,SNR=39							
H10N1	**ASCENSION HYDR**	**138.38**	**155**	T	T	19 39 53.4		
	baz=204,slow=75,SNR=44							
H10N2	**ASCENSION HYDR**	**138.39**	**155**	T	T	19 39 54.3		
	baz=204,slow=75,SNR=48							
ARCES	**ARCESS Array B**	**139.07**	**348**	PKhKP	PKPpre	17 03 55.6		
	comp=Z,1.8nm,0.7s,baz=51,slow=2.2,SNR=7.4							
FINES	**FINESS Array B**	**145.60**	**340**	PKPbc	**PKPbc**	**17 04 11.5**	**-0.6**	
	comp=Z,10nm,0.6s,baz=51,slow=3.2,SNR=52							
NB2	**NORSAR Subarra**	**149.24**	**351**	PKP	**PKiKP**	**17 04 22.3**	**-1.2**	
	comp=Z,0.8nm,0.5s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**149.24**	**351**	PKPbc	**PKPbc**	**17 04 21.7**	**-0.6**	
	comp=Z,1.4nm,0.6s,baz=15,slow=4.1,SNR=6.3							
HFS	**Hagfors**	**149.73**	**348**	PKPbc	**PKPbc**	**17 04 21.9**	**-1.5**	
	comp=Z,2.3nm,0.7s,baz=93,slow=3.0,SNR=8.8							
MMAI	**Mount Meron Ar**	**151.60**	**283**	PKPbc	**PKiKP**	**17 04 28.5**	**-0.8**	
	comp=Z,2.6nm,0.6s,baz=76,slow=8.3,SNR=5.2							
AKASG	**Malin Array Be**	**151.67**	**322**	PKPbc	**PKiKP**	**17 04 27.9**	**-0.9**	
	comp=Z,2.9nm,0.5s,baz=49,slow=2.7,SNR=8.9							
BRTR	**Keskin Array B**	**152.79**	**298**	PKPbc	**PKiKP**	**17 04 34.6**	**+3.0**	
	comp=Z,1.1nm,0.5s,baz=143,slow=5.2,SNR=11							
GERES	**GERESS Array B**	**159.98**	**337**	PKPab	**PKPab**	**17 05 12.3**	**-0.6**	
	comp=Z,0.2nm,0.2s,baz=69,slow=5.4,SNR=2.4							
TORD	**Torodi Ar. Bea**	**162.33**	**179**	PKPab	**PKPab**	**17 05 25.3**	**+1.6**	
	comp=Z,0.5nm,0.5s,baz=169,slow=4.2,SNR=2.6							

TAP ***28*** *16:58:26.9,24.84N×121.99E,h7km,ML3.0,C*
JMA ***28*** *16:58:27.9±0.1,24.82N×121.93E,h29km,M2.3*
ISC 28 16:58:26.7±0.9,24.84N±0.02×122.04E±0.02,h10km±6km,
n101,o0%69/174,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.17**	**343**	*i* P	**Pg**	**16 58 30.8**	**+0.4**
	baz=2.0						
TWB1				*i* S	**Sg**	**16 58 33.2**	**+0.3**
	baz=2.0						
NTC	**Toucheng**	**0.19**	**273**	*i* P	**Pg**	**16 58 30.7**	**-0.1**
	baz=284						
NTC				*i* S	**Sg**	**16 58 33.2**	**-0.3**
	baz=284						
TIPB	**Shuangxi**	**0.23**	**303**	*i* P	**Pg**	**16 58 31.7**	**+0.2**
	baz=310						
TIPB				*i* S	**Sg**	**16 58 34.8**	**0.0**
	baz=310						
ILA	**Ilan**	**0.28**	**254**	*i* P	**Pg**	**16 58 32.9**	**+0.6**
	baz=250						
ILA				S	**Sg**	**16 58 36.5**	**+0.4**
	baz=250						
TWC	**Suao**	**0.29**	**217**	P	**Pg**	**16 58 32.5**	**-0.1**
	baz=208						
TWC				S	**Sg**	**16 58 36.0**	**-0.5**
	baz=208						
NWF	**Wu-fen Shan**	**0.33**	**314**	*e*P	**Pg**	**16 58 33.8**	**+0.5**
	baz=306						
NWF				S	**Sg**	**16 58 38.4**	**+0.7**
	baz=306						
WFSB	**Wu-fen Shan**	**0.33**	**314**	P	**Pg**	**16 58 33.8**	**+0.5**
	baz=319						
WFSB				S	**Sg**	**16 58 38.4**	**+0.8**
	baz=319						
TWE	**Neicheng**	**0.36**	**250**	*i* P	**Pg**	**16 58 33.7**	**-0.2**
	baz=247						
TWE				S	**Sg**	**16 58 37.8**	**-0.9**
	baz=247						
NDS	**Dongshan**	**0.36**	**235**	P	**Pg**	**16 58 33.8**	**-0.1**
	baz=231						
NDS				S	**Sg**	**16 58 37.8**	**-0.9**
	baz=231						
TNOU	**National Taiwa**	**0.39**	**321**	P	**Pb**	**16 58 35.0**	**-0.8**
	baz=315						
TNOU				S	**Sg**	**16 58 39.8**	**+0.3**
	baz=315						
TWA	**Mucha**	**0.44**	**288**	P	**Pg**	**16 58 35.5**	**+0.3**
	baz=290						
TWA				S	**Sg**	**16 58 41.0**	**-0.1**
	baz=290						
EWUT	**Wuta**	**0.46**	**211**	P	**Pg**	**16 58 36.1**	**+0.4**
	baz=213						
EWUT				*e*S	**Sg**	**16 58 42.0**	**+0.1**
	baz=213						
ENTT	**Nioudou**	**0.48**	**245**	P	**Pg**	**16 58 36.0**	**0.0**
	baz=242						
NHDH	**Xindian Distri**	**0.48**	**284**	P	**Pb**	**16 58 36.9**	**-0.5**
	baz=285						
NHDH				S	**Sg**	**16 58 42.6**	**0.0**
	baz=285						
NWLT	**Wulai**	**0.49**	**262**	P	**Pg**	**16 58 36.2**	**-0.2**
	baz=262						
NWLT				*e*S	**Sg**	**16 58 42.0**	**-0.9**
	baz=262						
ENA	**Nanau**	**0.50**	**213**	*e*P	**Pg**	**16 58 36.8**	**+0.4**
	baz=209						
ENA				*e*S	**Sg**	**16 58 42.5**	**-0.4**
	baz=209						
NWRT	**Kuosheng**	**0.50**	**316**	*e*P	**Pb**	**16 58 37.2**	**-0.4**
	baz=320						
TAP1	**Taipei**	**0.51**	**292**	*e*P	**Pb**	**16 58 37.8**	**+0.1**
	baz=293						
TAP1				*e*S	**Sg**	**16 58 44.0**	**+0.6**
	baz=293						
TATO	**Taipei**	**0.52**	**285**	*e*P	**Pg**	**16 58 37.2**	**+0.4**
	baz=277						
TATO				*e*S	**Sg**	**16 58 43.6**	**-0.1**
	baz=277						
YM01	**YM01**	**0.52**	**305**	P	**Pg**	**16 58 36.7**	**-0.2**
	baz=307						
YM01				*e*S	**Sg**	**16 58 43.9**	**+0.1**
	baz=307						
TAP	**Taipei**	**0.52**	**292**	*e*P	**Pg**	**16 58 37.4**	**+0.5**
	baz=293						
TAP				S	**Sg**	**16 58 44.3**	**+0.5**
	baz=293						
YM11	**YM11**	**0.53**	**307**	P	**Pb**	**16 58 38.1**	**-0.1**
	baz=310						
YM08	**YM08**	**0.53**	**310**	P	**Pb**	**16 58 37.6**	**-0.6**
	baz=313						
YM10	**YM10**	**0.54**	**305**	P	**Pb**	**16 58 37.9**	**-0.3**
	baz=308						
YM05	**YM05**	**0.54**	**306**	P	**Pb**	**16 58 37.9**	**-0.4**
	baz=309						
NDT	**Datong Townshi**	**0.54**	**244**	P	**Pg**	**16 58 37.1**	**-0.1**
	baz=242						
NDT				*e*S	**Sg**	**16 58 44.3**	**0.0**
	baz=242						
YM04	**YM04**	**0.55**	**304**	P	**Pb**	**16 58 38.1**	**-0.4**
	baz=307						
YM03	**YM03**	**0.56**	**306**	*e*P	**Pb**	**16 58 38.5**	**-0.3**
	baz=309						
BACT	**New Taipei Cit**	**0.57**	**286**	*e*S	**Sb**	**16 58 45.9**	**-1.0**
	baz=274						
ANP	**Anpu**	**0.58**	**306**	P	**Pb**	**16 58 39.1**	**0.0**
	baz=308						
ANP				*e*S	**Sb**	**16 58 46.5**	**-1.0**
	baz=308						
TWY	**Chenhua**	**0.59**	**317**	P	**Pb**	**16 58 39.1**	**0.0**
	baz=320						
TWS1	**Kuangyinshan**	**0.62**	**294**	P	**Pb**	**16 58 39.8**	**+0.1**
	baz=296						
TWS1				*e*S	**Sb**	**16 58 47.5**	**-1.0**
	baz=296						
NTST	**Danshui**	**0.62**	**301**	*e*P	**Pb**	**16 58 40.0**	**+0.2**
	baz=303						
YHNB	**Yeheng**	**0.63**	**254**	P	**Pg**	**16 58 38.5**	**-0.4**
	baz=253						
YHNB				*e*S	**Sg**	**16 58 45.5**	**-1.7**
	baz=253						
NSK	**Sanguang**	**0.64**	**255**	P	**Pg**	**16 58 38.6**	**-0.6**
	baz=254						
NSK				*e*S	**Sg**	**16 58 46.6**	**-1.1**
	baz=254						
NTY	**Taoyuan**	**0.69**	**283**	*e*P	**Pb**	**16 58 40.9**	**-0.1**
	baz=272						
NTY				*e*S	**Sg**	**16 58 49.5**	**+0.3**
	baz=272						
NNSB	**Datong**	**0.73**	**236**	P	**Pg**	**16 58 41.0**	**+0.2**
	baz=234						
NNSH	**Datong**	**0.73**	**235**	*e*P	**Pg**	**16 58 40.9**	**0.0**
	baz=234						
NNS	**Nan Shan**	**0.73**	**237**	P	**Pg**	**16 58 40.5**	**-0.3**
	baz=241						
NACB	**Ninganchiao**	**0.78**	**211**	P	**Pg**	**16 58 42.1**	**+0.3**
	baz=219						
NACB				S	**Sg**	**16 58 51.9**	**-0.2**
	baz=219						
PCYT	**Pengchaiyu**	**0.78**	**2**	*e*P	**Pn**	**16 58 43.4**	**-0.5**
	baz=3.0						
PCYT				*e*S	**Sn**	**16 58 54.9**	**-0.8**
	baz=3.0						
NCU	**National Centr**	**0.79**	**279**	*e*S	**Sb**	**16 58 53.5**	**+0.2**
	baz=279						
NCUH	**Zhongli**	**0.79**	**279**	*e*P	**Pn**	**16 58 43.4**	**-0.6**
	baz=279						
NCUH				*e*S	**Sn**	**16 58 54.8**	**-1.1**
	baz=279						
ETLH	**Xiulin Townshi**	**0.81**	**219**	*e*P	**Pg**	**16 58 42.1**	**-0.3**
	baz=227						
ETLH				*e*S	**Sg**	**16 58 52.8**	**-0.3**
	baz=227						
TWD	**Chiawan**	**0.86**	**208**	P	**Pb**	**16 58 43.2**	**-0.7**
	baz=197						
TWD				*e*S	**Sb**	**16 58 54.2**	**-1.2**
	baz=197						
NJD	**Zhudong**	**0.87**	**263**	*e*P	**Pn**	**16 58 44.5**	**-0.6**
	baz=253						
NJD				*e*S	**Sg**	**16 58 55.0**	**+0.1**
	baz=253						

JYNG	**Yonagunijimaku**	**0.91**	**115**	P	**Pn**	**16 58 45.6**	**0.0**	
JYNG				S	**Sn**	**16 58 58.6**	**-0.2**	
HSN1	**Hsinchu**	**0.93**	**266**	*e*P	**Pn**	**16 58 45.5**	**-0.5**	
	baz=284							
HSN1				*e*S	**Sn**	**16 58 58.3**	**-1.1**	
	baz=284							
FUSS	**Fushou**	**0.94**	**231**	*e*P	**Pb**	**16 58 44.5**	**-0.7**	
	baz=230							
LIOB	**Emei**	**0.95**	**258**	*e*P	**Pn**	**16 58 46.0**	**-0.3**	
	baz=249							
LIOB				*e*S	**Sg**	**16 58 57.9**	**+0.4**	
	baz=249							
SBCB	**Hsinchu**	**0.96**	**267**	*e*P	**Pn**	**16 58 46.3**	**-0.1**	
	baz=285							
SBCB				*e*S	**Sn**	**16 58 59.7**	**-0.4**	
	baz=285							
YOJ	**Yonaguni jima**	**0.96**	**113**	*e*P	**Pn**	**16 58 46.4**	**+0.1**	
	baz=113							
YOJ				*e*S	**Sn**	**16 59 00.2**	**+0.2**	
	baz=113							
YOJ	**Yonaguni jima**	**0.96**	**113**	P	**Pn**	**16 58 46.2**	**-0.1**	
YOJ				*e*S	**Sn**	**16 58 59.8**	**-0.2**	
NSTT	**Nanjuang**	**0.97**	**258**	*e*P	**Pn**	**16 58 46.1**	**-0.3**	
	baz=257							
NSTT				*e*S	**Sg**	**16 58 58.5**	**+0.5**	
	baz=257							
HSN	**Hsinchu**	**0.97**	**268**	*e*S	**Sg**	**16 58 59.0**	**+0.8**	
	baz=269							
TWT	**Tachien**	**0.98**	**233**	*e*P	**Pn**	**16 58 46.4**	**-0.4**	
	baz=225							
WHF	**Hehuan Shan**	**0.99**	**226**	*e*P	**Pb**	**16 58 46.0**	**-0.3**	
	baz=224							
WHF				*e*S	**Sb**	**16 58 59.2**	**-0.4**	
	baz=224							
TDCB	**Techi**	**1.00**	**234**	*e*P	**Pb**	**16 58 45.5**	**-0.7**	
	baz=228							
TDCB				*e*S	**Sb**	**16 58 58.5**	**-0.9**	
	baz=228							
CHGB	**Renai**	**1.11**	**226**	*e*P	**Pb**	**16 58 47.6**	**-0.6**	
	baz=225							
CHGB				*e*S	**Sb**	**16 59 02.6**	**-0.2**	
	baz=225							
WHP	**Taichung City**	**1.15**	**241**	*e*P	**Pg**	**16 58 49.5**	**+0.7**	
	baz=240							
WHP				*e*S	**Sb**	**16 59 03.6**	**-0.1**	
	baz=240							
ESL	**Shilin**	**1.17**	**209**	*e*P	**Pn**	**16 58 49.0**	**-0.2**	
	baz=208							
ESL				*e*S	**Sb**	**16 59 04.2**	**0.0**	
	baz=208							
NMLH	**Miaoli**	**1.18**	**255**	*e*P	**Pg**	**16 58 50.0**	**+0.7**	
	baz=255							
NMLH				*e*S	**Sg**	**16 59 05.6**	**+0.9**	
	baz=255							
NSY	**Sanyi**	**1.24**	**250**	*e*P	**Pg**	**16 58 51.5**	**+0.9**	
	baz=260							
NSY				*e*S	**Sg**	**16 59 08.3**	**+1.7**	
	baz=260							
WPL	**Puli Township**	**1.29**	**230**	*e*P	**Pb**	**16 58 51.2**	**+0.1**	
	baz=238							
WPL				*e*S	**Sn**	**16 59 07.8**	**-0.5**	
	baz=238							
WCS	**Beigang Elemen**	**1.29**	**233**	*e*P	**Pb**	**16 58 51.5**	**+0.3**	
	baz=241							
WCS				*e*S	**Sb**	**16 59 07.2**	**-0.7**	
	baz=241							
DPDB	**Guoxing**	**1.30**	**232**	*e*P	**Pg**	**16 58 52.1**	**+0.5**	
	baz=240							
EGFH	**Guangfu**	**1.30**	**206**	*e*P	**Pb**	**16 58 51.1**	**-0.1**	
	baz=213							
EGFH				*e*S	**Sb**	**16 59 07.7**	**-0.3**	
	baz=213							
VWDT	**VWDT**	**1.36**	**217**	*e*P	**Pb**	**16 58 52.4**	**+0.1**	
	baz=218							
VWDT				*e*S	**Sn**	**16 59 09.2**	**-0.7**	
	baz=218							
WDJ	**Dajia District**	**1.37**	**249**	*e*S	**Sg**	**16 59 11.8**	**+1.0**	
	baz=249							
SMLT	**Sun Moon Lake**	**1.41**	**228**	*e*P	**Pb**	**16 58 53.8**	**+0.5**	
	baz=227							
SMLT				*e*S	**Sb**	**16 59 11.8**	**+0.4**	
	baz=227							
TYC	**Yuchr**	**1.43**	**229**	*e*P	**Pb**	**16 58 54.0**	**+0.5**	
	baz=221							
TYC				*e*S	**Sb**	**16 59 12.3**	**+0.5**	
	baz=221							
SSLB	**Suanglung**	**1.45**	**224**	*e*P	**Pb**	**16 58 53.8**	**0.0**	
	baz=214							
SSLB				*e*S	**Sn**	**16 59 11.6**	**-0.5**	
	baz=214							
HGSD	**Ruisui**	**1.46**	**203**	*e*P	**Pb**	**16 58 54.1**	**+0.1**	
	baz=192							
HGSD				*e*S	**Sg**	**16 59 14.6**	**+0.9**	
	baz=192							
EHY	**Hungye**	**1.49**	**206**	*e*P	**Pn**	**16 58 53.2**	**-0.3**	
	baz=212							
EHY				*e*S	**Sb**	**16 59 13.2**	**-0.2**	
	baz=212							
WNT	**Mingjian**	**1.57**	**232**	*e*P	**Pg**	**16 58 57.9**	**+1.0**	
	baz=250							
WNT				*e*S	**Sg**	**16 59 17.8**	**+0.6**	
	baz=250							
YULB	**Yu-li**	**1.60**	**205**	*e*P	**Pb**	**16 58 55.9**	**-0.5**	
	baz=217							
YULB				*e*S	**Sb**	**16 59 16.9**	**+0.3**	
	baz=217							
IRIF	**Iriomote-Funau**	**1.62**	**108**	P	**Pb**	**16 58 56

	baz=220								
SCST				*e*S		**Sb**	**16 59 42.1**	**+2.1**
	baz=220								
MASBT	**Mashibuluo**	**2.57**	**210**	*e*P		**Pb**	**16 59 12.5**	**-0.5**
	baz=217								
MASBT				*e*S		**Sb**	**16 59 44.5**	**-0.1**
	baz=217								
XPSS	**Dashiqiu**	**2.66**	**322**	*e*S		**Sb**	**16 59 43.9**	**-3.4**
	baz=322								
LYJJ	**Jianjiangzhen**	**2.67**	**310**	*e*S		**Sn**	**16 59 43.8**	**+1.5**
	baz=310								
MHZQ	**Yeshan**	**3.00**	**295**	*e*P		**Pn**	**16 59 14.8**	**+0.5**
	baz=291								
MHZQ				*e*S		**Sn**	**16 59 51.9**	**+1.6**
	baz=291								

*THR **28** 17:03:46.8±0.3,27°.25N×61°.46E,h14km±9km, ML3.7*
*TEH **28** 17:03:48.4,27°.12N×61°.21E,h10km, ML3.7*
*NEIC **28** 17:03:51.9±0.8,27°.11N±0°.07×61°.3E±0°.1,h54km±7km, mb4.3/14,mb_Lg3.7(TEH), Error ellipse: s-maj=14.3km s-min=9.7km az=105.0*
*DSN **28** 17:03:52.6±1.2,27°.47N×60°.99E,h30km, ML4.0/12, Error ellipse: s-maj=36.0km s-min=10.3km az=158.0*
*IDC **28** 17:03:52.8±4.1,27°.16N×61°.10E,h51km±50km,mb3.5/12, mb1 3.6/13,mb1mx3.2/63,mbtmp3.7/13,ML3.6/1,MS3.9/3, Ms1 3.9/3,ms1mx3.0/45, Error ellipse: s-maj=46.7km s-min=23.3km az=139.0*
*OMAN **28** 17:03:56.3,26°.73N×61°.07E,h28km,mb5.5/6,ml3.9/17*
ISC 28 17:03:44.3±0.6,26°.69N±0°.03×60°.99E±0°.05,h10km,n112, σ=2.38/126,mb3.8/18,MS4.0/3,1C,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHBR	**Chabahar**	**1.18**	**203**	*e*Pg	**Sg**	**17 04 20.8**	**-1.5**
CHBR				IAML		17 04 42.0	
	comp=E,1μm,0.2s						
CHBR				IAML		17 04 42.7	
	comp=N,978nm,0.3s						
CHBR	**Chabahar**	**1.18**	**203**		**Sg**	**17 04 20.8**	**-1.5**
CHBR	**Chabahar**	**1.18**	**203**	*e*Pg	**Sg**	**17 04 20.8**	**-1.5**
SZD1	**Zahaedan-tmp**	**2.79**	**358**	*e*Pn	**Pn**	**17 04 30.0**	**+0.8**
ZHSF	**Zahedan**	**2.92**	**356**	*e*Pn	**Pn**	**17 04 28.3**	**-2.7**
ZHSF	**Zahedan**	**2.92**	**356**	*e*Pn	**Pn**	**17 04 28.3**	**-2.7**
KHNJ	**Kahnooj**	**3.18**	**294**	*e*Pn	**Pb**	**17 04 40.6**	**-0.3**
KBAM	**BAM**	**3.31**	**318**	*e*Pn	**Pb**	**17 04 40.2**	**-3.1**
KBAM				*e*		17 05 16.7	
	comp=Z,99nm,0.2s						
WSAR	**Wadi Sarin**	**4.05**	**212**	P	**Pg**	**17 04 57.8**	**-4.0**
	comp=Z,2.8nm,0.3s,baz=50,slow=4.0,SNR=53						
WSAR				S	**Sb**	**17 05 45.5**	**+0.8**
	comp=Z,7.8nm,0.3s,baz=32,slow=22,SNR=19						
BIDO	**Bidbid**	**4.08**	**220**	*e*Pn	**Pb**	**17 04 58.2**	**+1.9**
BIDO	**Bidbid**	**4.08**	**220**	P	**Pb**	**17 04 58.2**	**+1.9**
	SNR=17						
BIDO				S	**Sb**	**17 05 46.9**	**+1.2**
BANOM	**Banah**	**4.28**	**261**	*i* P	**Pb**	**17 04 59.2**	**-0.5**
	SNR=136						
BANOM				S	**Sb**	**17 05 49.6**	**-1.8**
BANOM	**Banah**	**4.28**	**261**	*e*Pn	**Pb**	**17 04 59.3**	**-0.4**
BANOM	**Banah**	**4.28**	**261**	P	**Pb**	**17 04 59.4**	**-0.3**
	SNR=135						
BANOM				S	**Sb**	**17 05 50.6**	**-0.8**
GENO	**Geno**	**4.35**	**280**	*e*Pn	**Pb**	**17 04 59.5**	**-1.6**
GENO				*e*		17 05 59.9	
	comp=Z,99nm,0.2s						
CHMN	**Cheshme madani**	**4.39**	**317**	*e*Pn	**Pn**	**17 04 55.5**	**+4.2**
SHME	**Shamm**	**4.39**	**263**	*i* P	**Pb**	**17 05 01.3**	**-0.3**
	SNR=81						
SHME				S	**Sb**	**17 05 51.5**	**-3.2**
SHME	**Shamm**	**4.39**	**263**	*e*Pn	**Pb**	**17 05 01.9**	**+0.2**
SHME	**Shamm**	**4.39**	**263**	P	**Pb**	**17 05 01.8**	**+0.2**
	SNR=81						
SHME				S	**Sb**	**17 05 53.9**	**-0.8**
MDH	**Madha**	**4.44**	**253**	*i* P	**Pb**	**17 05 01.5**	**-1.0**
	SNR=44						
MDH	**Madha**	**4.44**	**253**	*e*Pn	**Pb**	**17 05 01.7**	**-0.8**
MDH	**Madha**	**4.44**	**253**	P	**Pb**	**17 05 01.6**	**-0.8**
	SNR=44						
MDH				S	**Sb**	**17 05 52.7**	**-3.4**
WBK	**Wadi Bani Khal**	**4.46**	**205**	P	**Pb**	**17 05 03.0**	**+0.3**
	SNR=66						
WBK				S	**Sb**	**17 05 55.6**	**-0.9**
	SNR=42						
SMDO	**Samad**	**4.49**	**217**	P	**Pb**	**17 05 04.5**	**+1.1**
	SNR=29						
SMDO				S	**Sb**	**17 05 56.4**	**-1.2**
	SNR=6.2						
MASF	**Masafi**	**4.54**	**254**	P	**Pb**	**17 05 02.7**	**-1.4**
	SNR=20						
MASF				S	**Sb**	**17 05 53.9**	**-5.0**
MSFE	**Esma-Masafi**	**4.54**	**254**	*i* P	**Pb**	**17 05 02.9**	**-1.3**
	SNR=20						
MSFE	**Esma-Masafi**	**4.54**	**254**	*e*Pn	**Pb**	**17 05 03.2**	**-1.0**
HOQ	**Hoqain**	**4.55**	**228**	P	**Pb**	**17 05 04.0**	**-0.3**
	SNR=69						
HOQ				S	**Sb**	**17 05 55.1**	**-4.0**
	SNR=8.6						
UOSS	**Minazif**	**4.65**	**249**	*i* P	**Pb**	**17 05 04.0**	**-2.0**
	SNR=68						
UOSS	**Minazif**	**4.65**	**249**		**Pb**	**17 05 03.8**	**-2.2**
UOSS				Sn	**Sb**	**17 05 56.0**	**-6.0**
UOSS	**Minazif**	**4.65**	**249**	*e*Pn	**Pb**	**17 05 04.5**	**-1.5**
JLN	**Jalan Bani Buh**	**4.74**	**198**	P	**Pb**	**17 05 06.3**	**-1.2**
	SNR=27						
JLN				S	**Sb**	**17 06 02.0**	**-2.7**
	SNR=40						
HATD	**Hatta, Dubai**	**4.76**	**248**	*i* P	**Pb**	**17 05 06.2**	**-1.6**
	SNR=30						
HATD	**Hatta, Dubai**	**4.76**	**248**	*e*Pn	**Pb**	**17 05 06.2**	**-1.6**
HATD	**Hatta, Dubai**	**4.76**	**248**	P	**Pb**	**17 05 06.3**	**-1.5**
	SNR=30						
HATD				S	**Sb**	**17 05 59.2**	**-5.9**
NHDN	**Nehbandan**	**4.76**	**350**	*e*Pn	**Pn**	**17 04 56.4**	**+0.1**
NHDN				*e*		17 04 57.6	
	comp=Z,99nm,0.4s						
SOHO	**SOHO**	**4.76**	**239**	*i* P	**Pb**	**17 05 06.5**	**-1.4**
	SNR=27						
SOHO	**SOHO**	**4.76**	**239**	*e*Pn	**Pb**	**17 05 06.4**	**-1.4**
SOHO	**SOHO**	**4.76**	**239**	P	**Pb**	**17 05 06.6**	**-1.4**
SOHO				S	**Sb**	**17 05 59.5**	**-5.8**
NGRK	**Negar Kerman**	**4.78**	**309**	Pn	Pn	17 05 01.6	+4.9
NGRK	**Negar Kerman**	**4.78**	**309**	*e*Pn	Pn	17 05 01.6	+4.9
NGRK				*e*		17 06 06.8	
	comp=Z,99nm,0.2s						
ASHO	**Ashiyiah**	**4.88**	**247**	*i* P	**Pb**	**17 05 08.3**	**-1.6**
	SNR=152						
ASHO	**Ashiyiah**	**4.88**	**247**	*e*Pn	**Pb**	**17 05 06.4**	**-3.5**
ASHO	**Ashiyiah**	**4.88**	**247**	P	**Pb**	**17 05 08.4**	**-1.5**
	SNR=152						
ASHO				S	**Sb**	**17 06 04.6**	**-4.0**
KRBR	**Kerman**	**4.97**	**312**	*e*Pn	**Pn**	**17 05 03.3**	**+4.1**
KRBR				*e*Sg	**Sg**	**17 06 20.4**	**-3.5**
KRBR				IAML		17 06 22.0	
	comp=E,10nm,0.6s						
KRBR	**Kerman**	**4.97**	**312**	*e*Pn	**Pn**	**17 05 03.3**	**+4.1**
TVBK	**TV Kerman**	**4.97**	**312**	*e*Pn	Pb	17 05 05.1	-6.5
JMDO	**Jabal Madar**	**5.04**	**212**	P	**Pb**	**17 05 13.0**	**+0.4**
	SNR=12						
JMDO				S	**Sb**	**17 06 12.5**	**-0.7**
NAZ	**Nazwa, Dubai**	**5.09**	**252**	*i* P	**Pb**	**17 05 14.1**	**+0.6**
	SNR=9.2						
NAZ	**Nazwa, Dubai**	**5.09**	**252**	*e*Pn	**Pb**	**17 05 12.0**	**-1.5**
NAZ	**Nazwa, Dubai**	**5.09**	**252**	P	**Pb**	**17 05 13.6**	**+0.1**
	SNR=9.1						
NAZ				S	**Sb**	**17 06 11.9**	**-2.9**
BSY	**Bisya**	**5.22**	**222**	P	**Pb**	**17 05 16.2**	**+0.4**
	SNR=48						
BSY				S	**Sb**	**17 06 17.1**	**-1.5**
FAQ	**Al Faqa, Dubai**	**5.24**	**250**	*i* P	**Pb**	**17 05 15.6**	**-0.4**
	SNR=26						
FAQ	**Al Faqa, Dubai**	**5.24**	**250**	*e*Pn	**Pb**	**17 05 15.7**	**-0.3**
FAQ	**Al Faqa, Dubai**	**5.24**	**250**	P	**Pb**	**17 05 15.6**	**-0.4**
	SNR=26						
FAQ				S	**Sb**	**17 06 16.3**	**-2.7**
ARQ	**Araqi**	**5.25**	**232**	P	**Pb**	**17 05 16.9**	**+0.7**
	SNR=167						
ARQ				S	**Sb**	**17 06 18.7**	**-0.6**
KHGB	**Koh Gabri**	**5.41**	**314**	*e*Pn	Pn	17 05 10.2	+4.9
ALNE	**Al Ain**	**5.41**	**242**	*i* P	**Pb**	**17 05 17.9**	**-1.1**
	SNR=20						
ALNE	**Al Ain**	**5.41**	**242**	Pn	**Pb**	**17 05 17.9**	**-1.1**
ALNE	**Al Ain**	**5.41**	**242**	*e*Pn	**Pb**	**17 05 18.0**	**-1.0**
ALNE	**Al Ain**	**5.41**	**242**	P	**Pb**	**17 05 18.0**	**-1.0**
	SNR=20						
ASUD	**Al Ashush, Dub**	**5.50**	**249**	*i* P	**Pb**	**17 05 19.4**	**-1.1**
	SNR=170						
ASUD	**Al Ashush, Dub**	**5.50**	**249**	P	**Pb**	**17 05 19.5**	**-1.1**
	SNR=170						
ASUD				S	**Sb**	**17 06 23.4**	**-3.2**
AJN	**Ajban**	**5.82**	**250**	*i* P	**Pb**	**17 05 23.0**	**-2.9**
	SNR=18						
AJN	**Ajban**	**5.82**	**250**	P	**Pb**	**17 05 23.0**	**-2.9**
	SNR=18						
AJN				S	**Sb**	**17 06 29.6**	**-6.0**
IKOO	**Kooshah**	**5.97**	**344**	*e*Pn	**Pn**	**17 05 13.7**	**+0.7**
LAR1	**LAR**	**5.97**	**281**	*e*Pn	Pb	17 05 20.8	-7.8
MHTO	**MHTO**	**6.31**	**207**	P	**Pb**	**17 05 29.7**	**-4.6**
	SNR=12						
MHTO				S	**Sb**	**17 06 41.5**	**-8.4**
UMZA	**Um Al Zommool**	**6.61**	**235**	*e*Pn	Pb	17 05 33.4	-6.0
AFRZ	**Afriz**	**6.93**	**346**	Pn	**Pn**	**17 05 26.9**	**+0.9**
AFRZ	**Afriz**	**6.93**	**346**	*e*Pn	**Pn**	**17 05 27.0**	**+0.9**
TPRV	**Parvadeh(Tabas**	**7.34**	**330**	*e*Pn	**Pn**	**17 05 34.4**	**+2.7**
TKDS	**Koohdasht(Taba**	**7.67**	**335**	*e*Pn	**Pn**	**17 05 38.9**	**+2.7**
TNSJ	**Nastanj**	**8.18**	**334**	*e*Pn	**Pn**	**17 05 45.5**	**+2.3**
DOK	**Doka**	**10.22**	**220**	P	Pn	17 06 22.9	+12
	SNR=8.5						
WHFO	**Wadi Hawf**	**10.99**	**219**	P	Pn	17 06 33.0	+11
	SNR=26						
WHFO				P	Pn	17 06 34.1	+12
	SNR=9.1						
THW	**Thamme Wali**	**11.15**	**54**	P	**Pn**	**17 06 22.6**	**-1.2**
CEP	**Cherat**	**11.81**	**50**	⇑P	**Pn**	**17 06 31.9**	**-1.1**
NIL	**Nilore**	**12.67**	**54**		**Pn**	**17 06 43.2**	**-1.4**
RAYN	**Ar Rayn**	**14.38**	**261**	*i* P	**P**	**17 07 14.1**	**-1.1**
	SNR=16						
RAYN	**Ar Rayn**	**14.38**	**261**		**P**	**17 07 14.5**	**-0.6**
DHRM	**DHARAMSHALA**	**14.44**	**64**	*e*P	**Pn**	**17 07 07.4**	**-1.6**
ABKAR	**Akbulak array**	**22.55**	**358**	P	**P**	**17 08 42.5**	**-1.9**
ABKAR	**Akbulak array**	**22.55**	**358**	P	**P**	**17 08 42.8**	**-1.6**
ABKAR				IAmb	IAmb	17 08 51.0	
	comp=Z,6.3nm,1.3s						
MMAI	**Mount Meron Ar**	**23.04**	**292**	P	**P**	**17 08 54.8**	**+4.9**
	comp=Z,0.4nm,0.4s,baz=108,slow=14,SNR=2.5						
CSS	**Mathiatis**	**25.08**	**296**	P	**P**	**17 09 13.6**	**+4.4**
CSS				IAmb	IAmb	17 09 22.1	
	comp=Z,29nm,1.3s						
MKAR	**Makanchi Array**	**26.20**	**34**	P	**P**	**17 09 18.7**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=212,slow=8.6,SNR=1.3						
BRTR	**Keskin Array B**	**26.20**	**307**	P	**P**	**17 09 21.3**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=92,slow=7.2,SNR=2.8						
BVAR	**Borovoye Array**	**27.23**	**12**	P	**P**	**17 09 29.2**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=165,slow=12,SNR=2.6						
IDI	**Anoyia**	**31.97**	**294**	P	**P**	**17 10 13.4**	**+2.7**
AKASG	**Malin Array Be**	**34.06**	**323**	P	**P**	**17 10 29.1**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=124,slow=8.7,SNR=6.8						
AKBB	**Malin Array Si**	**34.06**	**323**	P	**P**	**17 10 29.3**	**+0.7**
AKBB				IAmb	IAmb	17 10 29.6	
	comp=Z,3.4nm,0.6s						
VTS	**Vitosha**	**34.56**	**307**	P	**P**	**17 10 32.0**	**-1.2**
VTS				IAmb	IAmb	17 10 33.5	
	comp=Z,1.8nm,0.6s						
BURAR	**Bucovina Array**	**34.91**	**316**	P	**P**	**17 10 37.2**	**+1.1**
BUR08	**Bucovina Ar. S**	**34.93**	**316**	P	**P**	**17 10 37.6**	**+1.3**
BUR08				IAmb	IAmb	17 10 38.3	
	comp=Z,9.3nm,1.6s						
FIA1	**FINESS Array S**	**41.90**	**336**	P	**P**	**17 11 34.4**	**-0.3**
FINES	**FINESS Array B**	**41.90**	**336**	P	**P**	**17 11 34.3**	**-0.4**
	comp=Z,2.9nm,0.3s,baz=136,slow=8.3,SNR=78						
GERES	**GERESS Array B**	**42.59**	**314**	P	**P**	**17 11 40.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=118,slow=7.9,SNR=2.2						
GERES				LR	LR	17 31 55.1	
	comp=Z,212nm,20.7s,baz=263,slow=40						
CLL	**Collm**	**43.65**	**317**	*e*P	**P**	**17 11 50.0**	**+1.1**
CLL				*e*pP	sP	17 12 04.0	+10
HFS	**Hagfors**	**46.34**	**329**	LR	LR	17 33 25.6	
	comp=Z,193nm,18.2s,baz=247,slow=39						
KEV	**Kevo**	**47.39**	**345**	P	**P**	**17 12 18.0**	**-0.3**
NC602	**NORSAR Array S**	**47.56**	**330**	P	**P**	**17 12 19.2**	**-0.5**
ARCES	**ARCESS Array B**	**47.59**	**344**	P	**P**	**17 12 19.4**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=134,slow=9.1,SNR=18						
NB201	**NORSAR Array S**	**47.79**	**330**	P	**P**	**17 12 21.9**	**+0.2**
NOA	**NORSAR Array B**	**47.82**	**330**	P	**P**	**17 12 21.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=130,slow=6.6,SNR=1.6						
NOA				LR	LR	17 34 49.3	
	comp=Z,44nm,19.2s,baz=245,slow=39						
NC303	**NORSAR Array S**	**47.83**	**330**	P	**P**	**17 12 22.3**	**+0.4**
NC204	**NORSAR Array S**	**48.12**	**330**	P	**P**	**17 12 24.3**	**+0.1**
ESDC	**Sonseca Array**	**54.80**	**301**	P	**P**	**17 13 17.2**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=90,slow=7.7,SNR=1.5						
ESDC	**Sonseca Array**	**54.80**	**301**	IAmb	IAmb	17 13 19.3	
	comp=Z,1.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**56.91**	**269**	P	**P**	**17 13 33.7**	**+3.8**
	comp=Z,0.4nm,0.5s,baz=57,slow=7.1,SNR=2.4						
KOWA	**Kowa**	**61.49**	**273**	P	**P**	**17 14 05.7**	**+4.0**
	comp=Z,0.7nm,0.3s,baz=84,slow=9.2,SNR=3.6						
ASAR	**Alice Springs**	**86.41**	**119**	pP	pP	17 16 46.2	+15
	comp=Z,0.3nm,0.7s,baz=310,slow=5.3,SNR=4.7						

JMA 28 17:20:21.4±0.1,24°.36N×123°.41E,h19km±2km,M2.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.29**	**95**	P	Pg	17 20 27.6	-0.3
IRIF				S	Sb	17 20 32.4	0.0
YOJ	**Yonaguni jima**	**0.38**	**286**	P	Pg	17 20 29.3	-0.1
YOJ				S	Sg	17 20 34.7	0.0
JYNG	**Yonagunijimaku**	**0.43**	**282**	P	Pg	17 20 30.2	-0.1
JYNG				S	Sg	17 20 36.3	-0.1
HATJ	**Hateruma jima**	**0.47**	**130**	P	Pg	17 20 30.5	-0.5
HATJ				S	Sb	17 20 37.7	0.0
JKRS	**Kuro-shima**	**0.56**	**102**	P	Pb	17 20 32.4	-0.1
JKRS				S	Sg	17 20 41.1	+0.9
JIJ	**Ishigaki jima**	**0.67**	**90**	P	Pb	17 20 33.9	-0.5
JIJ				S	Sb	17 20 42.9	-0.4
JISG	**Ishigakijimahi**	**0.85**	**74**	P	Pb	17 20 37.4	-0.2
JISG				S	Sn	17 20 50.1	-0.2
JTJ	**Tarama**	**1.21**	**76**	P	Pb	17 20 43.8	+0.1
JTJ				S	Sg	17 21 00.3	-0.4

TAP 28 17:20:30.9,24°.85N×122°.03E,h3km±1km,ML2.1,1C,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.16**	**347**	P	Pg	17 20 34.8	+0.8
	baz=350						
TWB1				S	Sg	17 20 37.3	+1.2
	baz=350						
NTC	**Toucheng**	**0.18**	**270**	P	Pg	17 20 35.0	+0.6
	baz=270						
NTC				*e*S	Sg	17 20 38.4	+1.6
	baz=270						
TIPB	**Shuangxi**	**0.22**	**303**	⇑*i*P	Pg	17 20 35.9	+0.8
	baz=304						
TIPB				*e*S	Sg	17 20 38.9	+0.9
	baz=304						
NWF	**Wu-fen Shan**	**0.31**	**314**	S	Sb	17 20 43.7	-0.9
	baz=315						
WFSB	**Wu-fen Shan**	**0.31**	**314**	S	Sb	17 20 43.4	-1.1
	baz=315						

*SKO **28** 17:29:01.3,41°.29N×22°.71E,h15km*
*SOF **28** 17:29:01.6,41°.30N×22°.69E,h10km, MD3.8*
*ATH **28** 17:29:02.7,41°.27N×22°.71E,h15km±1km,ML3.7/12, Error ellipse: s-maj=2.3km s-min=0.9km az=164.0*
*PDG **28** 17:29:02.1±0.3,41°.29N×22°.74E,h14km,ML3.4/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*IDC **28** 17:29:02.6±1.2,41°.43N×22°.78E,h0km, mb3.5/5, mb1 3.6/8,mb1mx3.4/45,mbtmp3.5/8,ML3.4/3,Error ellipse: s-maj=18.2km s-min=15.5km az=29.0*
*BEO **28** 17:29:02.5±0.3,41°.27N×22°.70E,h10km±1km, ML3.4/14*
*ISK **28** 17:29:02.9,41°.20N×22°.68E,h7km, ML3.9/32*
*THE **28** 17:29:02.3,41°.30N×22°.71E,h2km, ML3.6/14, Error ellipse: s-maj=1.0km s-min=0.4km az=165.0*
*PRU **28** 17:29:06.2±0.0,41°.44N×22°.57E,h0km*
ISC 28 17:29:02.8±0.7,41°.30N±0°.02×22°.69E±0°.01,h12km±4km, n242,σ1$49/317,mb3.6/3,46C-16D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.09**	**284**	*e*Pg	**Pg**	**17 29 05.5**	**0.0**
VAY				*e*Sg	**Sg**	**17 29 07.6**	**0.0**
VAY	**Valandovo**	**0.09**	**284**	⇓*i*Pg	**Pg**	**17 29 05.6**	**0.0**
VAY				*i* Sg	**Sg**	**17 29 07.7**	**+0.1**
VAY				*e*Lg	Lg	17 29 07.8	
	comp=E,47μm,0.2s						
KNT	**Kendrikon**	**0.21**	**131**	P	**Pg**	**17 29 07.0**	**-0.3**
KNT				S	**Sg**	**17 29 10.0**	**-0.4**
KNT				AML	AML	17 29 10.1	
	comp=E,97289μm,0.2s						
KNT				AML	AML	17 29 10.4	
KNT	**Kendrikon**	**0.21**	**131**	P	**Pg**	**17 29 07.0**	**-0.3**
KNT				S	**Sg**	**17 29 09.8**	**-0.6**
	comp=E,84μm,0.2s						
KNT	**Kendrikon**	**0.21**	**131**	PG	**Pg**	**17 29 07.0**	**-0.3**
KNT				SG	**Sg**	**17 29 09.7**	**-0.6**
KNT	**Kendrikon**	**0.21**	**131**	⇑*i*Pg	**Pg**	**17 29 07.0**	**-0.3**
KNT				*i* Sg	**Sg**	**17 29 10.0**	**-0.4**
GRG	**Griva**	**0.41**	**213**	P	**Pg**	**17 29 10.5**	**-0.4**
GRG				S	**Sg**	**17 29 16.6**	**+0.3**
GRG				AML	AML	17 29 16.8	
	comp=N,40873μm,0.3s						
GRG				AML	AML	17 29 17.2	
	comp=E,26114μm,0.2s						
GRG	**Griva**	**0.41**	**213**	P	**Pg**	**17 29 10.5**	**-0.4**
GRG				S	**Sg**	**17 29 16.4**	**+0.2**
	comp=E,14μm,0.2s						
GRG	**Griva**	**0.41**	**213**	PG	**Pg**	**17 29 09.9**	**-1.0**
GRG				SG	**Sg**	**17 29 14.9**	**-1.4**
GRG	**Griva**	**0.41**	**213**	⇑*i*Pg	**Pg**	**17 29 10.5**	**-0.4**
GRG				*i* Sg	**Sg**	**17 29 16.5**	**+0.2**
STIP	**Stip**	**0.55**	**316**	⇑*i*Pg	**Pg**	**17 29 11.8**	**-1.7**
STIP				*i* Sg	**Sg**	**17 29 18.9**	**-1.8**
STIP				*e*Lg	Lg	17 29 20.1	
	comp=N,3μm,0.3s						
KKB	**Krupnik**	**0.64**	**27**	*i* Pg	**Pg**	**17 29 14.7**	**-0.6**
SOH	**Sokhos**	**0.69**	**133**	P	**Pg**	**17 29 15.3**	**-0.9**
SOH				S	**Sg**	**17 29 24.1**	**-1.2**
SOH				AML	AML	17 29 26.3	
	comp=N,25366μm,0.3s						
SOH				AML	AML	17 29 26.7	
	comp=E,36190μm,0.3s						
SOH	**Sokhos**	**0.69**	**133**	P	**Pg**	**17 29 15.3**	**-0.9**
SOH				S	**Sg**	**17 29 24.8**	**-0.5**
	comp=E,12μm,0.4s						
SOH	**Sokhos**	**0.69**	**133**	⇑*i*Pg	**Pg**	**17 29 15.3**	**-0.9**
SOH				*i* Sg	**Sg**	**17 29 24.6**	**-0.8**
THE	**Thessaloniki**	**0.70**	**163**	P	**Pg**	**17 29 15.3**	**-1.0**
THE				S	**Sg**	**17 29 25.3**	**-0.2**
THE				AML	AML	17 29 27.3	
	comp=E,8607μm,0.4s						
THE				AML	AML	17 29 27.5	
	comp=N,8528μm,0.6s						
THE	**Thessaloniki**	**0.70**	**163**	P	**Pg**	**17 29 15.4**	**-1.0**
THE				S	**Sg**	**17 29 24.9**	**-0.6**
	comp=N,3μm,0.3s						
THE	**Thessaloniki**	**0.70**	**163**	*i* Pg	**Pg**	**17 29 15.1**	**-1.3**
THE				*i* Sg	**Sg**	**17 29 24.6**	**-0.8**
SRS	**Serrai**	**0.70**	**105**	P	**Pg**	**17 29 15.5**	**-1.0**
SRS				S	**Sg**	**17 29 24.6**	**-1.1**
SRS				AML	AML	17 29 25.3	
	comp=N,1676μm,0.9s						
SRS				AML	AML	17 29 32.8	
	comp=E,4590μm,0.3s						
SRS	**Serrai**	**0.70**	**105**	P	**Pg**	**17 29 15.4**	**-1.0**
SRS				S	**Sg**	**17 29 25.0**	**-0.7**
	comp=E,2μm,0.4s						
SRS	**Serrai**	**0.70**	**105**	*e*Pg	**Pg**	**17 29 15.4**	**-1.0**
SRS				*e*Sg	**Sg**	**17 29 25.1**	**-0.7**
SRS	**Serrai**	**0.70**	**105**	⇓*i*Pg	**Pg**	**17 29 15.5**	**-1.0**
SRS				*i* Sg	**Sg**	**17 29 24.7**	**-1.0**
HORT	**Hortiatis**	**0.77**	**156**	P	**Pg**	**17 29 16.9**	**-0.7**
HORT				S	**Sg**	**17 29 27.4**	**-0.3**
HORT				AML	AML	17 29 28.2	
	comp=E,7131μm,0.3s						
HORT				AML	AML	17 29 28.7	
	comp=N,12050μm,0.6s						
HORT	**Hortiatis**	**0.77**	**156**	P	**Pg**	**17 29 16.6**	**-1.0**
HORT				S	**Sg**	**17 29 27.7**	**0.0**
	comp=N,5μm,0.4s						
HORT	**Hortiatis**	**0.77**	**156**	PG	**Pg**	**17 29 16.8**	**-0.8**
HORT				SG	**Sg**	**17 29 26.7**	**-1.0**
MMB	**Musomiste**	**0.83**	**69**	*i* Pg	**Pg**	**17 29 18.2**	**-0.7**
NVR	**Nevrokopi**	**0.88**	**86**	P	**Pg**	**17 29 18.9**	**-1.0**
NVR				S	**Sg**	**17 29 31.0**	**-0.5**
NVR				AML	AML	17 29 31.6	
	comp=E,7840μm,0.3s						
NVR				AML	AML	17 29 34.6	
	comp=N,6458μm,0.3s						
NVR	**Nevrokopi**	**0.88**	**86**	P	**Pg**	**17 29 18.9**	**-1.0**
NVR				S	**Sg**	**17 29 30.9**	**-0.5**
	comp=N,3μm,0.3s						
PLG	**Polygyros**	**1.09**	**148**	P	**Pb**	**17 29 22.0**	**-1.6**
PLG				AML	AML	17 29 40.2	
	comp=N,4917μm,0.4s						
PLG				AML	AML	17 29 40.2	
	comp=E,8118μm,0.5s						
PLG	**Polygyros**	**1.09**	**

PENT	Pentalofos	1.61	227	P		Pn	17 29 31.3	+0.1
PENT				S		Sb	17 29 53.1	+0.2
	comp=N,825nm,0.7s							
BARS	Barje	1.65	337	*e*Pg		Pn	17 29 32.0	+0.4
BARS	Barje	1.65	337	*e*Pn		Sn	17 29 47.1	-5.7
BARS				*e*Sg		Sb	17 29 54.7	+0.8
BARS				*e*Sn		Sg	17 30 22.1	+26
BARS	Barje	1.65	337	*i* Pn		Pn	17 29 30.3	-1.3
KPRO	Kipourio	1.68	217	P		Pn	17 29 32.5	+0.4
THAS	Thassos island	1.69	114	P		Pn	17 29 30.9	-1.1
THAS				AML		AML	17 29 57.0	
	comp=E,4870µm,0.5s							
THAS				AML		AML	17 29 57.1	
	comp=N,5065µm,0.3s							
THAS	Thassos island	1.69	114	P		Pn	17 29 31.5	-0.5
PLD	Plovdiv	1.71	61	PN		Pg	17 29 34.8	-0.8
PLD				SN		Sg	17 29 57.9	+0.1
PLD	Plovdiv	1.71	61	P		Pb	17 29 34.4	+0.3
PRZK	Prizren	1.71	303	*i* Pn		Pb	17 29 33.7	-0.5
PHP	Peshkopia	1.73	284	P		Pn	17 29 33.1	+0.3
PHP				S		Sb	17 29 56.1	-0.2
THL	Klokotos Trika	1.81	197	P		Pn	17 29 33.1	-0.6
LSK	Leskovik	1.96	235	P		Pn	17 29 36.8	+0.9
XOR	Xorichti	1.97	169	P		Pn	17 29 35.2	-0.8
ZAPS	Zavoj	1.98	359	*e*Pn		Pn	17 29 36.6	+0.5
ZAPS				*e*Sn		Sb	17 30 03.0	-0.3
KDZ	Kurdzhali	2.08	79	PN		Pn	17 29 38.8	+1.3
KDZ				SN		Sb	17 30 05.0	-1.2
KDZ	Kurdzhali	2.08	79	P		Pb	17 29 39.5	-1.0
TIR	Tirane	2.13	272	*e*Pn		Pn	17 29 38.4	+0.2
RDO	Rodhopi	2.15	93	P		Pn	17 29 37.9	-0.6
RDO	Rodhopi	2.15	93	PN		Pn	17 29 39.6	+1.1
JAN	Janina	2.16	221	P		Pn	17 29 39.1	+0.5
JAN				S		Sb	17 30 07.9	-0.6
	comp=N,285nm,0.7s							
MPEP	Malo Peshtene	2.20	20	P		Pn	17 29 39.3	+0.2
MPEP	Malo Peshtene	2.20	20	Pg		Pb	17 29 43.6	+1.1
SELS	Selova	2.25	329	*e*Pn		Pn	17 29 39.0	-0.8
SELS				*e*Sn		Sn	17 30 08.6	+1.1
DIM	Dimitrovgrad	2.26	70	P		Pn	17 29 41.5	+1.6
AGG	Agios Georgios	2.29	187	P		Pn	17 29 40.2	-0.2
SMTH	Samothraki Isl	2.31	110	P		Pn	17 29 39.9	-0.7
MAKR	Makrakomi, Fth	2.32	191	P		Pn	17 29 41.0	+0.1
BLKB	Belogradchik	2.32	360	⇑S		Sn	17 30 09.7	+0.3
LIA	Limnos Island	2.36	126	P		Pn	17 29 40.9	-0.4
LIA				S		Sn	17 30 11.3	+1.2
	comp=N,1µm,0.5s							
PVY	Plav	2.41	303	⇑*i* Pn		Pn	17 29 42.8	+0.6
PVY				*e*Sn		Sb	17 30 14.3	-1.7
BOVS	Bovan	2.45	343	*e*Pn		Pn	17 29 44.0	+1.5
BOVS				*e*Sn		Sn	17 30 13.5	+1.1
BOVS	Bovan	2.45	343	⇑P		Pn	17 29 42.0	-0.5
BOVS				⇓S		Sn	17 30 13.4	+1.0
EVR	Evrytania	2.47	196	P		Pn	17 29 43.3	+0.3
IGT	Igoumenitsa	2.52	226	P		Pb	17 29 46.2	-1.8
IGT	Igoumenitsa	2.52	226	P		Pn	17 29 44.0	+0.4
AXAR	Agios Charalam	2.53	181	P		Pn	17 29 43.3	-0.4
PLVB	Pleven	2.53	34	⇑P		Pn	17 29 45.6	+1.9
PLVB				⇑S		Sn	17 30 15.1	+0.7
ZAGS	Zajecar	2.54	352	*e*Pn		Pn	17 29 43.3	-0.5
ZAGS				*e*Sn		Sb	17 30 17.3	-2.1
ALN	Alexandroupoli	2.57	98	P		Pn	17 29 43.8	-0.4
IVA	Berane	2.61	308	⇑*i* Pn		Pn	17 29 45.6	+0.7
IVA				*i* Sn		Sb	17 30 20.0	-1.6
ULC	Ulcinj	2.67	286	⇓*i* Pn		Pb	17 29 48.2	-2.3
ULC				*i* Sn		Sb	17 30 21.0	-2.2
GADA	Gvkgeada	2.68	113	PN		Pn	17 29 47.4	+1.7
ENEZ	Enez	2.68	101	PN		Pn	17 29 47.8	+2.1
PVL	Pavlikeni	2.74	45	P		Pb	17 29 50.7	-1.1
BAIL	Bailesti	2.76	10	⇓P		Pn	17 29 47.0	+0.1
DRME	Dracevica, Mon	2.77	290	*e*Pn		Pn	17 29 49.4	+2.4
DRME	Dracevica, Mon	2.77	290	⇑*i* Pn		Pn	17 29 47.9	+0.9
DRME				*i* Sn		Sb	17 30 23.6	-2.5
PDG	Podgorica	2.80	295	⇑P		Pn	17 29 47.3	-0.1
PDG				⇑S		Sn	17 30 21.0	-0.2
PDG	Podgorica	2.80	295	*e*Pn		Pn	17 29 49.8	+2.4
TTG	Podgorica	2.80	295	⇑*i* Pn		Pn	17 29 48.5	+1.1
TTG				*e*Sn		Sn	17 30 24.0	+2.9
SJES	Sjenica	2.81	315	*e*Pn		Pn	17 29 48.0	+0.3
KOME	Kolasin	2.83	304	⇑*i* Pn		Pn	17 29 48.8	+0.9
KOME				*i* Sn		Sn	17 30 24.1	+2.2
KALE	Kalithea	2.93	188	P		Pn	17 29 49.3	0.0
PDO	Prodromos	2.94	204	P		Pn	17 29 50.0	+0.8
BOZC	Bozcaada	2.95	118	PN		Pn	17 29 51.1	+1.7
IVAS	Ivanjica	2.95	321	*e*Pn		Pn	17 29 49.0	-0.5
IVAS				*e*Sn		Sn	17 30 25.9	+1.0
ERIK	Erikli-Kesan	2.96	101	PN		Pn	17 29 51.2	+1.6
GRUS	Gruza	2.97	331	*e*Pn		Pn	17 29 49.2	-0.5
VLAD	Vladila	2.98	25	⇑P		Pn	17 29 50.2	+0.3
VLAD				⇑S		Sn	17 30 27.9	+2.4
NYDR	Nydri-Lefkada	3.00	211	P		Pn	17 29 51.7	+1.6
GELI	Tayfur-Gelibol	3.01	106	PN		Pn	17 29 51.9	+1.7
BUM	Brajici-Budva	3.01	291	⇓*i* Pn		Pn	17 29 51.1	+0.8
BUM				*i* Sn		Sn	17 30 29.0	+2.6
ZIMR		3.08	39	⇓P		Pn	17 29 53.0	+1.8
CEME	Cevo	3.08	295	⇑*i* Pn		Pn	17 29 52.2	+0.9
CEME				*i* Sn		Sn	17 30 30.6	+2.5
EDRB	Edirne	3.09	78	P		Pn	17 29 51.3	-0.1
EDRB	Edirne	3.09	78	PN		Pn	17 29 53.4	+2.0
EZN	Ezine	3.14	117	PN		Pn	17 29 53.9	+1.9
NKY	Niksic	3.14	300	⇑*i* Pn		Pn	17 29 53.1	+0.9
NKY				*i* Sn		Sn	17 30 32.4	+2.7
NKME	Niksic	3.15	299	⇑*i* Pn		Pn	17 29 53.0	+0.8
NKME				*i* Sn		Sn	17 30 32.2	+2.5
KUBS	Kucevo	3.20	347	*e*Pn		Pn	17 29 53.7	+0.8
KUBS				*e*Sn		Sn	17 30 31.7	+0.7
LPK	Lapseki	3.22	105	PN		Pn	17 29 55.0	+1.8
HCY	Herceg Novi	3.34	292	*e*Pn		Pn	17 29 56.5	+1.7
HCY	Herceg Novi	3.34	292	⇑*i* Pn		Pn	17 29 55.6	+0.8
HCY				*i* Sn		Sn	17 30 36.8	+2.5
TRUS	Trudelj	3.37	331	*e*Pn		Pn	17 29 54.3	-1.0
SRE	Strehaia	3.38	6	⇑P		Pn	17 29 55.5	0.0
COPA	Copaceanca	3.39	32	⇑P		Pn	17 29 57.2	+1.7
UPM	Unac-Piva	3.39	305	⇓*i* Pn		Pn	17 29 56.4	+0.7
UPM				*i* Sn		Sn	17 30 38.2	+2.2
DIVS	Divibare	3.43	325	*e*Pn		Pn	17 29 55.8	-0.4
DIVS	Divibare	3.43	325	*e*Pn		Pn	17 29 55.7	-0.4
RKY	Sarkoy-Tekirda	3.45	99	PN		Pn	17 29 58.7	+2.3
BRY	Bratogost	3.48	299	*e*Pn		Pn	17 29 59.6	+2.7
BRY	Bratogost	3.48	299	⇓*i* Pn		Pn	17 29 57.6	+0.7
BRY				*i* Sn		Sn	17 30 40.1	+2.0
MAR6	Marsite Statio	3.51	98	PN		Pn	17 29 59.7	+2.5
MAR4	Marsite Statio	3.52	97	PN		Pn	17 29 59.8	+2.4
MAR3	Marsite Statio	3.53	98	PN		Pn	17 29 59.8	+2.4
BBLS	Lazići	3.53	318	*e*Pn		Pn	17 29 57.7	+0.2
TREB	Trebinje	3.53	295	*e*Pn		Pb	17 30 02.4	-2.8
MAR2	Marsite Statio	3.55	98	PN		Pn	17 29 59.7	+2.1
GZKV	Gazikoy-Tekird	3.55	97	PN		Pn	17 29 59.8	+2.1
MDVR	Moldovita	3.55	349	⇑P		Pn	17 29 56.8	-1.0
MDVR				⇑S		Sn	17 30 40.6	+0.8
HERR	Herculane	3.59	357	⇑P		Pn	17 29 57.3	-0.9
KRBG	Karabiga-Canak	3.61	103	PN		Pn	17 30 00.8	+2.3
RAZG	Razgrad	3.62	50	⇑P		Pn	17 30 00.5	+1.8
HUMR	Humele	3.64	27	⇓P		Pn	17 29 59.0	0.0
PHSR	Pinarhisar	3.65	83	PN		Pn	17 30 02.3	+3.2
TKR	Tekirdag	3.67	93	PN		Pn	17 30 01.7	+2.3
MRMT	Marmara Adasi	3.78	99	PN		Pn	17 30 02.9	+2.0
SGRR	Singureni	3.79	39	⇑P		Pn	17 30 01.5	+0.5
MAR9	Marsite Statio	3.86	98	PN		Pn	17 30 04.3	+2.4
HAPS	Han Pijesak,BI	3.92	317	*e*Pn		Pn	17 30 02.4	-0.5
DKL	Dikili	3.92	123	PN		Pn	17 30 04.8	+2.0
TEKS	Tekeris	3.99	326	*e*Pn		Pn	17 30 03.2	-0.6
TEKS	Tekeris	3.99	326	*e*Pn		Pn	17 30 03.1	-0.7
STON	Ston	4.03	295	*e*Pn		Pn	17 30 05.4	+1.1
STON				*e*Sn		Sn	17 30 49.9	-1.5
EDC	Edincik	4.04	102	PN		Pn	17 30 07.3	+2.9
GZR	Gura Zlata	4.09	1	⇑P		Pn	17 30 05.1	-0.2
SLVT	Silivri	4.16	89	PN		Pn	17 30 09.5	+3.4
URLA	Izmir	4.20	133	PN		Pn	17 30 08.2	+1.5
CTYL	Yalikoy Yolu	4.22	86	PN		Pn	17 30 09.8	+3.0
LOT	Lotru	4.22	10	⇓P		Pn	17 30 08.0	+1.0
SULR		4.27	37	⇑P		Pn	17 30 09.2	+1.6
CTKS	Kestanelik-??a	4.38	89	PN		Pn	17 30 12.4	+3.2
BZS	Buzias	4.39	350	⇑P		Pn	17 30 07.8	-1.4
FRGS	Fruska Gora	4.39	332	*e*Pn		Pn	17 30 07.9	-1.4
FRGS	Fruska Gora	4.39	332	⇑P		Pn	17 30 07.9	-1.4
FRGS	Fruska Gora	4.39	332	*e*Pn		Pn	17 30 07.2	-2.1
KCTX	Karacabey (Bur	4.42	102	PN		Pn	17 30 12.3	+2.6
VOIR		4.48	22	⇑P		Pn	17 30 10.9	+0.3
DEV	Deva	4.59	2	⇓P		Pn	17 30 12.4	+0.5
BGKT	Bogazkoy	4.59	89	PN		Pn	17 30 15.0	+3.0
RICI	Ricice	4.66	300	*e*Pn		Pn	17 30 14.9	+1.9
RICI				Sn		Sn	17 31 06.3	-0.7
ISR	Istrita	4.74	35	⇑P		Pn	17 30 15.3	+1.1
APE	Apeiranthos	4.76	151	PN		Pn	17 30 16.5	+2.0
KLYT	Kilyos	4.79	88	PN		Pn	17 30 17.9	+3.2
ISK	Istanbul-Kandi	4.81	91	PN		Pn	17 30 18.7	+3.7
KAVV	Kandilli-Istan	4.81	91	PN		Pn	17 30 18.4	+3.4
MLR	Muntele Rosu	4.81	28	Pn		Pn	17 30 16.0	+0.8
	comp=N,2.5nm,0.3s,baz=309,slow=3.9,SNR=19							
MLR				Lg		Lg	17 31 27.5	
	comp=N,3.7nm,0.3s,baz=116,slow=22,SNR=4.3							
MLR	Muntele Rosu	4.81	28	⇓P		Pn	17 30 16.8	+1.6
TRML	Termal-Yalova	4.96	96	PN		Pn	17 30 20.2	+3.2
HVAR	Hvar	5.00	294	*e*Pn		Pn	17 30 18.1	+0.4
DOPR	Dopca	5.06	22	⇑P		Pn	17 30 20.4	+2.0
YLV	Yalova	5.12	96	PN		Pn	17 30 22.4	+3.1
AYDB	Zeytinkoy-Aydi	5.23	128	PN		Pn	17 30 23.2	+2.3
SILT	Sile	5.25	89	PN		Pn	17 30 24.8	+3.8
TIRR	Tirgusor	5.26	51	⇑P		Pn	17 30 22.7	+1.6
HRT	Hereke	5.30	93	PN		Pn	17 30 25.0	+3.2
BLY	Banja Luka	5.31	312	*e*Pn		Pn	17 30 21.0	-0.9
PLOR	Plostina	5.38	31	⇑P		Pn	17 30 24.7	+1.8
VRI	Vrincioaia	5.43	31	⇑P		Pn	17 30 25.4	+1.9
TVSB	Tavsanli	5.49	107	PN		Pn	17 30 27.4	+2.9
DRGR		5.49	0	⇑P		Pn	17 30 24.8	+0.4
TPGR	Topolog	5.50	48	⇑P		Pn	17 30 26.3	+1.8
CFR	Carcaliu	5.55	44	⇑P		Pn	17 30 26.6	+1.4
ZIRJ	Zirje	5.72	297	*e*Pn		Pn	17 30 27.2	-0.2
ZIRJ				Sn		Sn	17 31 32.2	-0.8
MORH	Mrgy, Hungar	5.72	331	⇓P		Pn	17 30 27.2	-0.3
MORH	Mrgy, Hungar	5.72	331	*e*Pn		Pn	17 30 27.0	-0.5
MORI	Morici	5.76	299	*e*Pn		Pn	17 30 29.3	+1.2
TESR	Tescani	5.94	27	⇑P		Pn	17 30 31.2	+0.6
GULT	Gulveren	6.00	96	PN		Pn	17 30 35.0	+3.6
UDBI	Udbina	6.02	305	*e*Pn		Pn	17 30 35.3	+3.6
BORA	Eskisehir	6.08	101	PN		Pn	17 30 36.5	+4.0
DUGI	Dugi Otok	6.24	298	*i* Pn		Pn	17 30 35.4	+0.8
DUGI				Sn		Sn	17 31 45.5	-0.3
BURAR	Bucovina Array	6.57	15	⇑P		Pn	17 30 40.6	+1.3
NVLJ	Novalja	6.60	302	*e*Pn		Pn	17 30 40.3	+0.7
KOLS	Kolonicke sedl	7.64	358	*e*PN		Pn	17 30 54.3	+0.4
KOLS	Kolonicke sedl	7.64	358	*e*SG		Sg	17 33 04.6	-3.3
SOKA	Soboth	7.71	317	*e*Pn		Pn	17 30 55.7	+0.9
	comp=N,1.0nm,0.3s							
OBKA	Obir	7.85	314	*e*Pn		Pn	17 30 58.4	+1.5
	comp=N,1.7nm,0.4s							
ARSA	Arzberg	7.86	322	*e*Pn		Pn	17 30 58.3	+1.4
	comp=N,5.1nm,0.4s							
ZST	Bratislava	7.96	332	*e*PN		Pn	17 30 58.8	+0.6
MODS	Modra-Piesok	8.05	333	*e*PN		Pn	17 31 01.2	+1.7
CONA	Conrad Observa	8.22	326	*e*Pn		Pn	17 31 03.3	+1.4
	comp=N,1.2nm,0.3s							
MYKA	Terra Mystica	8.42	312	*e*Pn		Pn	17 31 05.3	+0.6
	comp=N,0.9nm,0.3s							
BRTR	Keskin Array B	8.49	97	Pn		Pn	17 31 09.0	+3.3
	comp=N,0.2nm,0.3s,baz=274,slow=14,SNR=5.7							
KBA	Koelnbreinsper	8.85	314	*e*Pn		Pn	17 31 10.5	-0.2
	comp=N,0.5nm,0.3s							
MOA	Molln	8.89	320	*e*Pn		Pn	17 31 12.3	+1.3
	comp=N,0.6nm,0.5s							
ABTA	Abfaltersbach	9.13	310	*e*Pn		Pn	17 31 16.4	+2.0
	comp=N,1.6nm,0.4s							
GERES	GERESS Array B	9.86	323	Pn		Pn	17 31 27.5	+3.1
	comp=N,0.2nm,0.3s,baz=152,slow=13,SNR=6.3							
WTTA	Wattenberg	9.91	311	*e*Pn		Pn	17 31 28.5	+3.3
	comp=N,0.9nm,0.3s							
WATA	Walderalm	9.99	311	*e*Pn		Pn	17 31 29.4	+3.2
	comp=N,1.0nm,0.3s							
KHC	Kasperske Hory	10.13	324	*e*PN		Pn	17 31 29.2	+1.2
KHC				*ex*		x	17 31 35.0	
SQTA	Sankt Quirin	10.14	310	*e*Pn		Pn	17 31 28.3	+0.1
	comp=N,0.5nm,0.2s							
MOTA	Moosalm	10.26	310	*e*Pn		Pn	17 31 31.1	+1.1
	comp=N,0.5nm,0.3s							
FETA	Feichten	10.32	308	*e*Pn		Pn	17 31 33.5	+2.8
	comp=N,0.8nm,0.6s							
FINES	FINESS Array B	20.28	5	P		P	17 33 36.5	-1.5
	comp=N,1.7nm,0.9s,baz=162,slow=10,SNR=1.5							
ESDC	Sonseca Array	20.31	274	P		Pn	17 33 43.4	+2.7
	comp=N,0.5nm,0.7s,baz=77,slow=13,SNR=4.0							
NOA	NORSAR Array B	20.98	344	P		P	17 33 44.0	-1.6
	comp=N,0.8nm,0.9s,baz=160,slow=9.4,SNR=1.2							
TORD	Torodi Ar. Bea	33.50	219	P		P	17 35 43.1	+0.9
	comp=N,0.7nm,0.6s,baz=29,slow=6.9,SNR=3.3							
MKAR	Makanchi Array	42.30	62	P		P	17 36 56.1	0.0
	comp=N,0.6nm,0.6s,baz=283,slow=7.2,SNR=9.2							
ZALV	Zalesovo Beam	42.39	51	P		P	17 36 56.7	-0.1
	comp=N,0.5nm,0.4s,baz=267,slow=5.9,SNR=3.5							

IDC 28 17:29:37.4±2.0, 2°45S×129°18E, h0km, **mb3.3**/2, **mb1 3.5**/4, **mb1mx3.3**/47, **mbtmp3.4**/4, **ML3.4**/2, **MS3.1**/1, **Ms1 3.1**/1, **ms1mx2.6**/21, **Error ellipse: s-maj=103.7km s-min=25.3km az=72.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.94	192	Pn	Pn	17 33 24.8	+1.6
	0.1nm,0.3s,baz=29,slow=10,SNR=6.9						
WRA	Warramunga Arr	18.11	164	P	Pn	17 33 48.6	-1.9
	0.1nm,0.3s,baz=343,slow=11,SNR=7.8						
ASAR	Alice Springs	21.59	168	P	P	17 34 29.4	+0.5
	0.5nm,0.7s,baz=346,slow=8.9,SNR=13						
MJAR	Matsushiro Arr	39.69	11	LR	LR	17 50 26.4	
	comp=Z,27nm,20.4s,baz=90,slow=32						
MKAR	Makanchi Array	64.00	326	P	P	17 40 12.8	0.0
	0.9nm,0.9s,baz=126,slow=6.2,SNR=7.3						

*IDC **28** 17:30:32.7±0.7, 0°67S×133°70E, h0km, mb4.0/12, mb1 4.2/17, mb1mx4.0/48, mbtmp4.1/17, ML4.4/4, MS3.5/4, Ms1 3.5/4, ms1mx3.0/42, Error ellipse: s-maj=19.8km s-min=14.0km az=61.0*

*DJA **28** 17:30:36.3±0.6, 1°S±7°×13°4E±°, h15km±5km, M4.7/12, mb4.9/8, mB5.2/5, MLv4.7/12, Mw(mB)4.6/5*

*NEIC **28** 17:30:37.1±2.2, 0°68S±0°04×133°72E±0°08, h29km±5km, mb4.4/35, Error ellipse: s-maj=11.5km s-min=5.8km az=103.0*

ISC 28 17:30:37.1±0.4, 0°78S±0°05×133°72E±0°05, **h29**km, **n89,** σ1s**44**/93, **mb4.4**/34, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	Biak	2.42	100	P	Pn	17 31 15.0	+0.2
SIJI	Sorong	2.45	268	Pn	Pn	17 31 15.2	0.0
	166nm,0.3s,baz=250,slow=22,SNR=212						
SIJI				Sn	Sn	17 31 47.3	+3.0
	76nm,0.3s,baz=244,slow=22,SNR=6.3						
SIJI				LR	LR	17 32 29.4	
	comp=Z,1µm,18.6s,baz=93,slow=48						
SWI	Sorong	2.46	268	P	Pn	17 31 15.3	0.0
FAKI	Fak Fak	2.58	215	Pn	Pn	17 31 18.2	+1.2
FAKI	Fak Fak	2.58	215	P	Pn	17 31 18.6	+1.6
SRPI	Serui, Papua	2.74	113	P	Pn	17 31 20.0	+0.8
BNDI	Bandanaira	5.32	226	P	Pn	17 31 56.7	+2.0
	3.3nm3µm282nm,0.6s						
TNTI	Ternate	6.54	284	Pn	Pn	17 32 12.5	+1.1
TNTI	Ternate	6.54	284	P	Pn	17 32 11.3	-0.1
	0.1nm28nm,0.8s						
GENI	Genyem	6.69	106	P	Pn	17 32 15.5	+2.0
	0.5nm2µm33nm,1.1s						
NLAI	Namlea	7.05	250	P	Pn	17 32 19.2	+0.7
	0.4nm97nm,0.6s						
JAY	Jayapura	7.19	104	Pn	Pn	17 32 21.4	+0.9
	0.4nm,0.3s,baz=249,slow=23,SNR=1.6						
JAY				Sn	Sn	17 33 42.1	+0.8
	0.2nm,0.3s,baz=22,slow=5.2,SNR=1.5						
JAY				LR	LR	17 35 29.2	
	comp=Z,339nm,18.7s,baz=225,slow=41						
SAUI	Saumlaki	7.55	199	Pn	Pn	17 32 27.4	+2.1
SANI	Sanana	7.83	261	P	Pn	17 32 30.0	+0.8
	0.1nm26nm,0.7s						
GTOI	Gorontalo	10.80	277	P	Pn	17 33 12.3	+2.4
	25nm,0.8s						
LUWI	Luwuk	10.95	269	Pn	Pn	17 33 12.3	+0.4
APSI	Ampana	12.07	269	P	Pn	17 33 27.7	+0.4
MTN	Manton Dam	12.26	192		Pn	17 33 28.4	-1.5
MTN					Sn	17 35 42.5	-3.0
BATI	Baumata	13.70	227	Pn	Pn	17 33 48.6	-1.0
	2.0nm,0.3s,baz=276,slow=1.1,SNR=5.4						
BATI				LR	LR	17 39 54.4	
	comp=Z,94nm,20.8s,baz=82,slow=41						
KAPI	Kappang	14.57	253	Pn	P	17 34 04.8	-2.8
	2.4nm,0.3s,baz=67,slow=10.0,SNR=10						
PMG	Port Moresby	15.88	123	Pn	P	17 34 22.3	+0.1
	0.3nm,0.3s,baz=303,slow=17,SNR=3.4						
COEN	Coen	16.09	145	P	P	17 34 24.2	-0.3
MYLDM	Lahad Datu	16.31	291	P	P	17 34 29.9	+2.9
MYLDM				IAmb	IAmb	17 34 31.4	
	comp=Z,34nm,1.0s						
GUMO	Guam	18.05	37	P	P	17 34 46.4	+0.1
KKM	Kota Kinabalu	18.74	291	P	Pn	17 34 55.1	+0.5
KKM				IAmb	IAmb	17 35 42.8	
	comp=Z,42nm,1.3s						
WB0	Warramunga Arr	18.88	178	P	P	17 34 55.1	-0.2
WB0				IAmb	IAmb	17 35 00.4	
	comp=Z,15nm,0.8s						
FITZ	Fitzroy Crossi	18.95	204	P	P	17 34 55.5	-0.6
	comp=Z,0.8nm,0.3s,baz=38,slow=10,SNR=18						
FITZ				S	Sn	17 38 12.1	-16
	comp=Z,0.1nm,0.3s,baz=343,slow=16,SNR=2.3						
FITZ	Fitzroy Crossi	18.95	204		P	17 34 56.1	0.0
WRAB	Tennant Creek	19.04	178	P	P	17 34 56.0	-1.1
WRAB				IAmb	IAmb	17 35 02.4	
	comp=Z,14nm,0.7s						
WB2	Warramunga Arr	19.05	178	P	P	17 34 57.1	-0.2
WB2				IAmb	IAmb	17 35 10.5	
	comp=Z,14nm,0.7s						
WRA	Warramunga Arr	19.05	178	P	P	17 34 57.4	+0.1
	comp=Z,1.2nm,0.3s,baz=356,slow=12,SNR=35						
WRA				S	Sn	17 38 24.1	-6.8
	comp=Z,0.3nm,0.3s,baz=1.8,slow=23,SNR=2.6						
WRA				LR	LR	17 43 19.9	
	comp=Z,267nm,18.6s,baz=140,slow=40						
WRA	Warramunga Arr	19.05	178	P	P	17 34 55.6	-1.6
WR0	Warramunga Arr	19.08	178	P	P	17 34 56.6	-0.9
WR0				IAmb	IAmb	17 35 02.8	
	comp=Z,18nm,0.6s						
JAGI	Jajag, Banyuwa	20.93	248	P	P	17 35 18.3	+0.5
JAGI				IAmb	IAmb	17 35 20.8	
	comp=Z,15nm,1.0s						
SBUM	Sibu	21.73	279	P	P	17 35 26.9	+0.6
AS31	Alice Springs	22.75	180	P	P	17 35 37.2	0.0
AS31				IAmb	IAmb	17 35 50.0	
	comp=Z,6.3nm,0.6s						
ASAR	Alice Springs	22.75	180	P	P	17 35 37.1	-0.1
	comp=Z,5.5nm,0.6s,baz=359,slow=12,SNR=78						
ASAR				S	S	17 39 48.5	+4.1
	comp=Z,0.6nm,0.7s,baz=359,slow=28,SNR=1.7						
ASAR	Alice Springs	22.75	180	P	P	17 35 36.8	-0.4
CTAO	Charters Tower	22.77	148	P	P	17 35 39.6	+2.2
CTAO				IAmb	IAmb	17 35 42.9	
	comp=Z,38nm,1.6s						
KSM	Kuching	23.52	275	P	P	17 35 44.7	-0.3
KSM				IAmb	IAmb	17 36 11.7	
	comp=Z,15nm,1.2s						
PSA00	Pilbara Seismi	24.70	212	P	P	17 35

0.1nm,0.3s,baz=229,slow=20,SNR=0.7
SIJI S **Sn** **18 03 39.8 -3.2**
0.2nm,0.3s,baz=135,slow=20,SNR=1.5
FITZ Fitzroy Crossi 10.91 197 P **Pn** **18 03 16.1 +0.8**
0.4nm,0.3s,baz=24,slow=11,SNR=18
FITZ S **Sn** **18 05 11.4 -4.2**
0.1nm,0.3s,baz=228,slow=22,SNR=1.8
WRA Warramunga Arr 13.25 158 P **Pn** **18 03 48.1 +2.1**
0.2nm,0.3s,baz=337,slow=13,SNR=14
WRA S **Sn** **18 06 09.2 -3.0**
0.4nm,0.3s,baz=339,slow=22,SNR=8.9
ASAR Alice Springs 16.59 164 P **P** **18 04 32.6 +4.6**
0.2nm,0.3s,baz=339,slow=9.8,SNR=24
ASAR S **Sn** **18 07 28.8 -3.9**
0.0nm,0.3s,baz=335,slow=22,SNR=2.1
MKAR Makanchi Array 68.26 327 P **P** **18 11 29.5 0.0**
0.2nm,0.4s,baz=115,slow=8.1,SNR=7.1

*IDC **28** 18:10:02.2±1.6,49°.16N×149°.67E,h409km±19km, mb2.9/12,mb1 3.0/16,mb1mx2.9/51,mbtmp3.7/16,Error ellipse: s-maj=18.1km s-min=12.8km az=120.0*

ISC 28 18:10:01.6±0.8,49°.2N±0°.1×149°.7E±0°.1,h400km,n17, σ0s57/17,mb3.1/12,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.38**	**49**	P	**Pn**	**18 11 37.8**	**-0.3**
	0.3nm,0.3s,baz=224,slow=6.2,SNR=7.0						
ASAJ	**Asahikawa**	**7.04**	**227**	P	**P**	**18 11 46.7**	**+0.5**
	0.9nm,0.3s,baz=50,slow=9.1,SNR=15						
SEY	**Seymchan**	**13.86**	**5**	P	**Pn**	**18 13 03.4**	**-0.4**
	0.2nm,0.3s,baz=189,slow=9.6,SNR=12						
MJAR	**Matsushiro Arr**	**15.17**	**218**	P	**P**	**18 13 15.9**	**+0.1**
	0.0nm,0.3s,baz=30,slow=13,SNR=6.0						
TIXI	**Tiksi**	**24.48**	**344**	P	**P**	**18 14 45.7**	**-0.3**
	0.7nm,0.4s,baz=142,slow=5.0,SNR=3.6						
SONM	**Songino Array**	**28.43**	**284**	P	**P**	**18 15 21.7**	**+0.2**
	0.7nm,0.8s,baz=87,slow=10,SNR=5.5						
ILAR	**Eielson Array**	**36.13**	**41**	P	**P**	**18 16 28.7**	**+1.5**
	0.3nm,0.8s,baz=277,slow=7.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**39.34**	**302**	P	**P**	**18 16 54.1**	**+0.3**
	0.5nm,0.4s,baz=55,slow=8.9,SNR=3.6						
INK	**Inuvik**	**40.85**	**34**	P	**P**	**18 17 06.0**	**+0.2**
	0.5nm,0.6s,baz=263,slow=3.4,SNR=2.4						
MKAR	**Makanchi Array**	**43.82**	**294**	P	**P**	**18 17 29.6**	**-0.1**
	0.7nm,0.8s,baz=65,slow=7.6,SNR=11						
YKA	**Yellowknife Ar**	**50.34**	**37**	P	**P**	**18 18 19.1**	**+0.1**
	0.2nm,0.8s,baz=306,slow=7.2,SNR=2.7						
ARCES	**ARCESS Array B**	**54.77**	**339**	P	**P**	**18 18 51.2**	**+0.2**
	2.6nm,0.9s,baz=50,slow=8.4,SNR=1.4						
FINES	**FINESS Array B**	**60.83**	**333**	P	**P**	**18 19 32.1**	**-0.5**
	1.1nm,0.4s,baz=44,slow=6.5,SNR=21						
NB2	**NORSAR Subarra**	**65.15**	**339**	P	**P**	**18 20 00.9**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**65.15**	**339**	P	**P**	**18 20 00.6**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=28,slow=6.5,SNR=7.6						
WRA	**Warramunga Arr**	**70.17**	**195**	P	**P**	**18 20 31.2**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=11,slow=6.8,SNR=2.3						
ASAR	**Alice Springs**	**73.88**	**195**	P	**P**	**18 20 53.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=12,slow=5.7,SNR=9.5						

IDC 28 18:15:23.6±3.2,4°.62N×127°.55E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.1/34,mbtmp3.1/3,MS3.4/1,Ms1 3.4/1, ms1mx2.7/17,Error ellipse: s-maj=269.1km s-min=28.9km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**22.10**	**2**	LR	LR	18 28 51.1	
	comp=Z,113nm,21.6s,baz=170,slow=36						
WRA	**Warramunga Arr**	**25.30**	**165**	P	P	18 20 51.4	-0.7
	0.3nm,0.6s,baz=345,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**28.79**	**168**	P	P	18 21 24.1	+0.8
	0.2nm,0.8s,baz=343,slow=8.7,SNR=1.2						
MKAR	**Makanchi Array**	**57.31**	**325**	P	P	18 25 13.2	-0.1
	0.1nm,0.6s,baz=125,slow=6.8,SNR=4.1						

*IDC **28** 18:17:55.1±0.5,2°.06N×126°.64E,h0km,mb4.2/21, mb1 4.3/21,mb1mx4.3/32,mbtmp4.2/21,MS3.2/2, Ms1 3.3/2,ms1mx2.7/40,Error ellipse: s-maj=27.7km s-min=11.4km az=79.0*

*DJA **28** 18:18:02.7±1.0,2°.N±2°.×12°.7E±°,h29km±11km,M4.5/13, mb4.9/9,mB5.0/6,MLv4.4/13,Mw(mB)4.4/6*

*NEIC **28** 18:18:02.1±2.0,2°.09N±0°.07×126°.67E±0°.06,h55km±6km, mb4.6/72,Error ellipse: s-maj=10.3km s-min=8.6km az=208.0*

ISC 28 18:18:01.6±0.3,2°.09N±0°.04×126°.72E±0°.05,h47km,n155, σ1s31/151,mb4.5/61,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.46**	**154**		**Pn**	**18 18 25.2**	**-0.4**
TNTI	**Ternate**	**1.46**	**154**	P	**Pn**	**18 18 25.5**	**-0.1**
TNTI				S	**Sn**	**18 18 46.4**	**+2.8**
SGSI	**Sangihe**	**1.98**	**323**	P	**Pn**	**18 18 33.6**	**+0.9**
SGSI				S	**Sn**	**18 18 59.5**	**+3.1**
KMSI	**Cibinong**	**3.13**	**241**	P	**Pn**	**18 18 50.7**	**+2.2**
KMSI				S	**Sn**	**18 19 27.0**	**+2.4**
GTOI	**Gorontalo**	**3.98**	**249**	P	**Pn**	**18 19 01.8**	**+1.6**
SANI	**Sanana**	**4.18**	**190**	P	**Pn**	**18 19 03.1**	**+0.2**
LUWI	**Luwuk**	**5.03**	**232**	Pn	**Pn**	**18 19 16.8**	**+2.2**
LUWI	**Luwuk**	**5.03**	**232**	P	**Pn**	**18 19 17.5**	**+2.9**
	2.4nm2μm283nm,0.9s						
MRSI	**Marisa**	**5.04**	**252**	P	**Pn**	**18 19 16.9**	**+2.1**
	0.6nm2μm154nm,0.5s						
NLAI	**Namlea**	**5.31**	**176**	P	**Pn**	**18 19 19.2**	**+0.8**
	0.2nm33nm,0.6s						
SWI	**Sorong**	**5.40**	**123**	P	**Pn**	**18 19 21.9**	**+2.2**
	0.1nm22nm,0.8s						
SIJI	**Sorong**	**5.41**	**123**	Pn	**Pn**	**18 19 22.3**	**+2.4**
	3.9nm,0.3s,baz=342,slow=20,SNR=20						
APSI	**Ampana**	**5.88**	**240**	P	**Pn**	**18 19 29.2**	**+2.9**
	0.5nm1μm155nm,0.7s						
TOLI2	**Tolitoli**	**6.02**	**261**	Pn	**Pn**	**18 19 27.4**	**-0.8**
FAKI	**Fak Fak**	**7.44**	**132**	Pn	**Pn**	**18 19 47.3**	**-0.3**
TTSI	**Tana Toraja**	**8.58**	**234**	P	Pn	18 20 08.9	+5.5
MYLDM	**Lahad Datu**	**8.76**	**291**	Pn	**Pn**	**18 20 08.5**	**+2.7**
SPSI	**Sidrap Palu**	**9.19**	**229**	P	Pn	18 20 21.1	+9.4
BNSI	**Bone**	**9.24**	**226**	P	Pn	18 20 18.8	+6.5
KAPI	**Kappang**	**9.92**	**225**	Pn	**Pn**	**18 20 23.8**	**+2.2**
	2.0nm,0.3s,baz=56,slow=3.6,SNR=4.2						
KAPI				Sn	**Sn**	**18 22 11.3**	**-0.3**
	0.7nm,0.3s,baz=102,slow=18,SNR=1.1						
KAPI	**Kappang**	**9.92**	**225**	Pn	**Pn**	**18 20 23.7**	**+2.1**
KKM	**Kota Kinabalu**	**11.19**	**291**	Pn	**Pn**	**18 20 40.9**	**+1.7**
MMRI	**Maumere**	**11.56**	**203**	Pn	**Pn**	**18 20 44.3**	**+0.2**
SOEI	**Soe**	**12.02**	**192**	Pn	**Pn**	**18 20 53.6**	**+3.1**
MTKI	**Muara Teweh, K**	**12.20**	**256**	P	P	18 21 10.0	+5.8
PGP	**Puerto Galera**	**12.69**	**334**	*eP*	P	18 21 19.5	+10
PLAI	**Plampang**	**14.04**	**219**	P	P	18 21 29.8	+5.1
GENI	**Genyem**	**14.22**	**109**	P	P	18 21 33.7	+7.0
SBUM	**Sibu**	**14.50**	**272**	P	P	**18 21 29.0**	**-0.8**
TWSI	**Taliwang, Sumb**	**14.56**	**222**	P	P	**18 21 31.3**	**+0.9**
MTN	**Manton Dam**	**15.47**	**164**	Pn	**Pn**	**18 21 35.1**	**-1.7**
KMMI	**Kalianget**	**15.64**	**234**	P	**P**	**18 21 44.3**	**+1.9**
JAGI	**Jajag, Banyuwa**	**16.35**	**230**		**P**	**18 21 51.5**	**+1.3**
JAGI				IAmb	IAmb	18 22 27.3	
	comp=Z,31nm,0.6s						
KSM	**Kuching**	**16.42**	**268**	Pn	**Pn**	**18 21 48.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.09**	**183**	P	**P**	**18 22 30.8**	**-0.6**
	comp=Z,7.3nm,0.7s,baz=17,slow=8.3,SNR=42						
FITZ	**Fitzroy Crossi**	**20.09**	**183**	P	**P**	**18 22 30.8**	**-0.6**
TWG	**Pinlang**	**21.32**	**346**	P	**P**	**18 22 42.0**	**-2.7**
TWG				IAmb	IAmb	18 22 53.6	
	comp=Z,49nm,1.5s						
TPUB	**Ta-pu**	**21.89**	**345**	P	**P**	**18 22 48.9**	**-2.0**
SSLB	**Suanglung**	**22.28**	**346**	P	**P**	**18 22 52.6**	**-2.4**
SSLB				IAmb	IAmb	18 23 33.8	
	comp=Z,42nm,1.5s						
COEN	**Coen**	**22.81**	**135**	P	**P**	**18 23 00.7**	**0.0**
MYKOM	**Kota Tinggi**	**22.86**	**270**	P	**P**	**18 23 00.8**	**-0.5**
MYKOM				IAmb	IAmb	18 23 02.3	
	comp=Z,52nm,1.6s						
WB0	**Warramunga Arr**	**22.99**	**161**	P	**P**	**18 23 01.2**	**-1.3**
YHNB	**Yeheng**	**23.03**	**347**	P	**P**	**18 23 02.9**	**-0.1**
YHNB				IAmb	IAmb	18 23 41.0	
	comp=Z,16nm,1.0s						
WRAB	**Tennant Creek**	**23.13**	**161**	P	**P**	**18 23 03.2**	**-0.7**
WRAB				IAmb	IAmb	18 23 21.3	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**23.14**	**162**	P	**P**	**18 23 02.5**	**-1.5**
	comp=Z,10nm,0.5s,baz=343,slow=11,SNR=132						
WRA				PcP	**PcP**	**18 26 52.3**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=338,slow=2.0,SNR=2.4						
WRA				S	**S**	**18 27 11.0**	**-1.1**
	comp=Z,2.5nm,1.0s,baz=344,slow=18,SNR=5.2						
WRA	**Warramunga Arr**	**23.14**	**162**	P	**P**	**18 23 02.6**	**-1.4**
WB2	**Warramunga Arr**	**23.14**	**161**	P	**P**	**18 23 02.4**	**-1.6**
WB2				IAmb	IAmb	18 23 09.2	
	comp=Z,19nm,0.7s						
WR0	**Warramunga Arr**	**23.22**	**161**	P	**P**	**18 23 03.6**	**-1.2**
WR0				IAmb	IAmb	18 23 08.8	
	comp=Z,14nm,0.6s						
PMG	**Port Moresby**	**23.34**	**120**	LR	LR	18 33 27.6	
	comp=Z,97nm,21.4s,baz=293,slow=40						
XMIS	**Christmas Isla**	**24.41**	**239**	P	**P**	**18 23 14.4**	**-1.6**
PSA00	**Pilbara Seismi**	**24.46**	**196**	P	**P**	**18 23 14.4**	**-1.9**
PSA00				IAmb	IAmb	18 23 48.4	
	comp=Z,36nm,1.6s						
MNAI	**Manna**	**24.60**	**255**	P	**P**	**18 23 17.4**	**-0.3**
IPM	**Ipoh**	**25.76**	**276**	P	**P**	**18 23 26.5**	**-1.8**
IPM				IAmb	IAmb	18 24 04.6	
	comp=Z,14nm,1.1s						
KULM	**Kulim**	**26.21**	**278**	P	**P**	**18 23 32.4**	**+0.1**
KULM				IAmb	IAmb	18 23 58.2	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**26.54**	**165**	P	**P**	**18 23 34.3**	**-0.9**
ASAR	**Alice Springs**	**26.54**	**165**	P	**P**	**18 23 34.6**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=344,slow=7.5,SNR=63						
ASAR				PcP	**PcP**	**18 27 00.0**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=353,slow=2.6,SNR=4.5						
ASAR	**Alice Springs**	**26.54**	**165**	P	**P**	**18 23 34.9**	**-0.3**
GSI	**Gunungsitoli**	**29.14**	**269**	P	**P**	**18 23 56.6**	**-2.0**
GSI				IAmb	IAmb	18 23 58.8	
	comp=Z,10nm,0.7s						
CTAO	**Charters Tower**	**29.21**	**140**	P	**P**	**18 23 58.7**	**-0.3**
CTAO				IAmb	IAmb	18 24 35.1	
	comp=Z,22nm,1.3s						
NJ2	**Nanjing**	**30.71**	**347**	*eP*	**P**	**18 24 12.8**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CM31	**Chiang Mai Arr**	**31.72**	**303**	P	**P**	**18 24 21.0**	**-0.3**
CMAR	**Chiang Mai Ar**	**31.72**	**303**	P	**P**	**18 24 21.4**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=116,slow=6.7,SNR=9.5						
CMAR				LR	LR	18 38 00.8	
	comp=Z,25nm,20.6s,baz=125,slow=38						
CMAR	**Chiang Mai Arr**	**31.72**	**303**	P	**P**	**18 24 20.1**	**-1.1**
CHTO	**Chiang Mai**	**31.88**	**303**	P	**P**	**18 24 22.0**	**-0.7**
CHTO				IAmb	IAmb	18 24 24.5	
	comp=Z,3.2nm,0.6s						
MORW	**Morawa**	**32.63**	**198**	P	**P**	**18 24 29.0**	**-0.1**
MORW				IAmb	IAmb	18 25 17.8	
	comp=Z,18nm,1.4s						
FORT	**Forrest**	**32.71**	**178**	P	**P**	**18 24 29.5**	**-0.3**
JWT	**Wachi**	**33.99**	**13**	P	**P**	**18 24 41.6**	**+0.7**
JWT				IAmb	IAmb	18 25 13.1	
	comp=Z,12nm,1.2s						
JSG	**Sagara**	**34.13**	**17**	P	**P**	**18 24 41.9**	**-0.2**
INU	**Inuyama**	**34.45**	**15**	P	**P**	**18 24 44.5**	**-0.3**
INU				IAmb	IAmb	18 25 00.3	
	comp=Z,19nm,1.4s						
JGF	**Kuroka**	**34.77**	**15**	P	**P**	**18 24 48.4**	**+0.6**
KSRS	**Korea Array**	**35.21**	**2**	P	**P**	**18 24 53.0**	**+1.7**
	comp=Z,2.0nm,0.7s,baz=180,slow=9.4,SNR=15						
KS19	**Wonju Array Si**	**35.25**	**2**	P	**P**	**18 24 51.0**	**-0.8**
BBOO	**Buckleboo**	**35.82**	**167**	P	**P**	**18 24 56.3**	**-0.4**
MAJO	**Matsushiro**	**35.89**	**16**	P	**P**	**18 24 58.8**	**+1.5**
MAJO				IAmb	IAmb	18 25 03.9	
	comp=Z,7.0nm,1.1s						
MAT	**Matsushiro**	**35.89**	**16**	P	**P**	**18 24 59.0**	**+1.7**
MJAR	**Matsushiro Arr**	**35.89**	**16**	P	**P**	**18 24 55.9**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=184,slow=8.9,SNR=7.1						
MJAR	**Matsushiro Arr**	**35.89**	**16**	P	**P**	**18 24 59.0**	**+1.7**
CD2	**Chengdu**	**35.96**	**325**	P	**P**	**18 25 00.0**	**+1.9**
NWAO	**Narrogin (SRO)**	**35.97**	**194**	P	**P**	**18 24 57.5**	**-0.5**
	comp=Z,2.8nm,0.5s,baz=17,slow=9.7,SNR=8.2						
NWAO	**Narrogin (SRO)**	**35.97**	**194**	P	**P**	**18 24 58.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**35.97**	**194**	P	**P**	**18 24 58.3**	**+0.3**
NWAO				IAmb	IAmb	18 25 44.6	
	comp=Z,30nm,1.5s						
EIDS	**Eidsvold**	**36.08**	**141**	P	**P**	**18 24 58.7**	**-0.4**
STKA	**Stephens Creek**	**36.61**	**159**	P	**P**	**18 25 03.4**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=350,slow=7.7,SNR=9.1						
STKA	**Stephens Creek**	**36.61**	**159**	P	**P**	**18 25 03.0**	**-0.5**
JMM	**Marumori**	**37.88**	**18**	P	**P**	**18 25 15.4**	**+1.3**
ARMA	**Armidale**	**40.12**	**146**	P	**P**	**18 25 33.7**	**+0.6**
ARMA				IAmb	IAmb	18 25 38.0	
	comp=Z,5.4nm,0.7s						
SHL	**Shillong**	**40.85**	**308**	P	**P**	**18 25 38.4**	**-1.0**
SHL				IAmb	IAmb	18 25 44.7	
	comp=Z,10nm,0.6s						
HHC	**Hu-ho-hao-te**	**40.94**	**342**	*eP*	**P**	**18 25 43.0**	**+3.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,59nm,6.6s						
USRK	**Ussuriysk Ar.**	**42.19**	**6**	P	**P**	**18 25 50.2**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=156,slow=6.1,SNR=4.3						
USRK	**Ussuriysk Ar.**	**42.19**	**6**	P	**P**	**18 25 48.9**	**-0.9**
H11S3	**WAKE ISLAND Hy**	**42.41**	**65**	T	T	19 11 29.4	
	baz=252,slow=74						
H11S2	**WAKE ISLAND Hy**	**42.43**	**65**	T	T	19 11 26.6	
	baz=252,slow=74						
H11S1	**WAKE ISLAND Hy**	**42.43**	**65**	T	T	19 11 27.0	
	baz=252						
TOO	**Toolangi**	**43.13**	**158**	P	**P**	**18 25 58.9**	**+1.3**
TOO				IAmb	IAmb	18 26 31.7	
	comp=Z,13nm,1.4s						
LSA	**Lhasa**	**43.52**	**313**	P	**P**	**18 26 01.3**	**-0.1**
LSA				IAmb	IAmb	18 26 03.3	
	comp=Z,5.4nm,0.7s						
GTA	**Gaotai**	**44.50**	**330**	*eP*	**P**	**18 26 09.5**	**+0.8**
GTA				pP	pP	18 26 20.0	-0.8
GTA				sP	pwP	18 26 24.0	+0.4
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,66nm,5.5s						
GTA				LR	LR		
	comp=N,55nm,13.8s						
GTA				LR	LR		
	comp=E,66nm,12.7s						
GTA				LR	LR		
	comp=Z,100nm,15.6s						
TAPN	**Taplejung**	**44.99**	**308**	*eP*	**P**	**18 26 12.2**	**-0.8**
	comp=Z,10nm,0.7s						
ODAN	**Odare**	**45.02**	**307**	*eP*	**P**	**18 26 12.4**	**-0.8**
	comp=Z,16nm,0.9s						
RAMN	**Ramite**	**45.70**	**307**	*eP*	**P**	**18 26 18.0**	**-0.6**
	comp=Z,7.1nm,0.5s						
JIRN	**Jiri**	**46.34**	**307**	*eP*	**P**	**18 26 23.0**	**-0.7**
	comp=Z,12nm,0.7s						
GUN	**Gumba**	**46.69**	**307**	*eP*	**P**	**18 26 25.5**	**-1.0**
	comp=Z,19nm,0.6s						
PKI	**Pulchoki**	**46.92**	**307**	*eP*	**P**	**18 26 27.8**	**-0.5**
PKIN	**Phulchoki**	**46.93**	**307**	*eP*	**P**	**18 26 27.7**	**-0.6**
GKN	**Gorkha**	**47.72**	**307**	*eP*	**P**	**18 26 33.0**	**-1.3**
SONM	**Songino Array**	**48.84**	**342**	P	**P**	**18 26 42.8**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=156,slow=9.1,SNR=8.8						
SONM	**Songino Array**	**48.84**	**342**	P	**P**	**18 26 42.9**	**+0.3**
WMQ	**Urumqi**	**54.06**	**326**	*eP*	**P**	**18 27 23.0**	**+1.4**
PETK	**Petropavlovsk-**	**56.94**	**22**	P	**P**	**18 27 43.9**	**+1.8**
	comp=Z,2.3nm,0.6s,baz=164,slow=7.7,SNR=4.9						
PETK	**Petropavlovsk-**	**56.94**	**22**	P	**P**	**18 27 44.0**	**+2.0**
MK31	**Makanchi Array**	**58.89**	**326**	P	**P**	**18 27 55.4**	**-0.5**
MKAR	**Makanchi Array**	**58.89**	**326**	P	**P**	**18 27 55.5**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=119,slow=7.7,SNR=56						
MKAR	**Makanchi Array**	**58.89**	**326**	P	**P**	**18 27 55.1**	**-0.7**
MAKZ	**Makanchi**	**59.08**	**326**	P	**P**	**18 27 56.4**	**-0.8**
KSH	**Kashi**	**59.20**	**316**	P	**P**	**18 28 01.8**	**+3.5**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,280nm,5.1s						
LBZ	**Lake Benmore**	**60.34**	**145**	P	**P**	**18 28 06.5**	**+0.6**
ZAA0	**Zalesovo Array**	**62.04**	**333**	P	**P**	**18 28 16.6**	**-0.6**
ZAA0				IAmb	IAmb	18 28 40.9	
	comp=Z,5.0nm,1.5s						
ZALV	**Zalesovo Beam**	**62.04**	**333**	P	**P**	**18 28 16.5**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=139,slow=7.1,SNR=8.0						
ZALV	**Zalesovo Beam**	**62.04**	**333**	P	**P**	**18 28 16.1**	**-1.1**
KBL	**Kabul**	**62.51**	**308**	P	**P**	**18 28 20.2**	**-0.8**
KK31	**Karatay Array**	**64.42**	**318**	P	**P**	**18 28 31.6**	**-1.6**
KK31				IAmb	IAmb	18 28 35.6	
	comp=Z,6.9nm,1.6s						
KKAR	**Karatay Array**	**64.42**	**318**	P	**P**	**18 28 32.3**	**-0.9**
KKAR				IAmb	IAmb	18 28 35.5	
	comp=Z,6.9nm,1.6s						
BRVK	**Borovoye**	**68.75**	**327**	P	**P**	**18 28 60.0**	**-0.7**
BRVK				IAmb	IAmb	18 29 12.1	
	comp=Z,3.5nm,0.8s						
GSTR	**Great Sitkin T**	**68.75**	**34**	P	**P**	**18 29 00.7**	**0.0**
TIXI	**Tiksi**	**69.47**	**1**	P	**P**	**18 29 04.9**	**+0.2**
GEYT	**Alibeck**	**71.91**	**309**	P	**P**	**18 29 19.9**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=38,slow=12,SNR=3.6						
GEYT	**Alibeck**	**71.91**	**309**	P	**P**	**18 29 18.9**	**-1.4**
GYA0B	**ALIBECK ARRAY**	**71.91**	**309**	P	**P**	**18 29 18.4**	**-1.9**
GYA0B				IAmb	IAmb	18 30 07.3	
	comp=Z,5.8nm,1.1s						
NRIK	**Noril'sk**	**72.01**	**346**	P	**P**	**18 29 20.4**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=131,slow=9.5,SNR=2.2						
NRIK	**Noril'sk**	**72.01**	**346**	P	**P**	**18 29 19.9**	**-0.3**
SOCY	**Socotra**	**72.69**	**282**	P	**P**	**18 29 22.8**	**-2.6**
SOCY				IAmb	IAmb	18 29 26.3	
	comp=Z,4.3nm,0.7s						
ABKAR	**Akbulak array**	**73.41**	**321**	P	**P**	**18 29 28.4**	**-0.5**
ABKAR	**Akbulak array**	**73.41**	**321**	P	**P**	**18 29 28.4**	**-0.5**
ARU	**Arti**	**76.31**	**328**	P	**P**	**18 29 44.9**	**-0.6**
ARU				IAmb	IAmb	18 29 45.9	
	comp=Z,6.1nm,0.7s						
ABPO	**Ambohimpanom**	**80.76**	**250**	P	**P**	**18 30 11.2**	**+0.3**
ABPO				IAmb	IAmb	18 30 48.3	
	comp=Z,12nm,1.4s						
RAYN	**Ar Rayn**	**81.12**	**293**	P	**P**	**18 30 11.6**	**-1.1**
VNDA	**Vanda**	**81.81**	**173**	P	**P**	**18 30 15.8**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=316,slow=5.4,SNR=10						
VNDA	**Vanda**	**81.81**	**173**	P	**P**	**18 30 15.4**	**+0.3**
VNDA				IAmb	IAmb	18 30 23.4	
	comp=Z,11nm,1.6s						
MAW	**Mawson**	**82.23**	**200**	P	**P**	**18 30 18.3**	**+0.8**
GEVA	**Gevas**	**83.73**	**308**	P	**P**	**18 30 25.6**	**-0.7**
GEVA				IAmb	IAmb	18 30 27.7	
	comp=Z,5.8nm,0.8s						
PPLA	**Purkeypile**	**84.08**	**27**	P	**P**	**18 30 27.3**	**-0.1**
KBZ	**Khabaz**	**84.09**	**314**	P	**P**	**18 30 27.9**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=72,slow=9.6,SNR=1.6						
SKT	**Skwentna**	**84.28**	**28**	P	**P**	**18 30 29.3**	**+1.0**
SKT				IAmb	IAmb	18 31 20.8	
	comp=Z,12nm,1.3s						
SUA	**Susitna One**	**84.59**	**29**	P	**P**	**18 30 29.5**	**-0.5**
MLY	**Manley**	**84.96**	**25**	P	**P**	**18 30 32.7**	**+1.0**
MLY				IAmb	IAmb	18 30 42.0	
	comp=Z,11nm,1.6s						
ILAR	**Eielson Array**	**86.58**	**25**	P	**P**	**18 30 39.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=232,slow=6.0,SNR=4.7						
BRTR	**Keskin Array B**	**91.05**	**310**	P	**P**	**18 31 00.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=144,slow=2.0,SNR=2.4						
ARCES	**ARCESS Array B**	**91.97**	**340**	P	**P**	**18 31 04.9**	**-0.1**
	comp=Z,6.5nm,1.1s,baz=82,slow=6.5,SNR=1.8						
FINES	**FINESS Array B**	**93.26**	**332**	P	**P**	**18 31 11.1**	**0.0**
	comp=Z,2.4nm,0.9s,baz=62,slow=3.6,SNR=2.3						
BURAR	**Bucovina Array**	**96.21**	**318**	P	**P**	**18 31 24.7**	**-0.3**
BUR08	**Bucovina Ar. S**	**96.22**	**318**	P	**P**	**18 31 24.5**	**-0.5**
KOLS	**Kolonicke sedl**	**97.89**	**320**	*e*PDIFF	**P**	**18 31 31.0**	**-1.5**
YKA	**Yellowknife Ar**	**100.98**	**25**	P	**Pdif**	**18 31 46.7**	**+0.8**
	comp=Z,0.1nm,0.6s,baz=295,slow=4.0,SNR=1.8						
TXAR	**Lajitas Array**	**122.59**	**53**	PKP	**PKPdf**	**18 36 53.0**	**0.0**
	comp=Z,0.2nm,0.7s,baz=238,slow=1.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**123.41**	**287**	PKP	**PKiKP**	**18 36 54.8**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=72,slow=2.6,SNR=1.6						

TAP 28 18:22:33.2,23°.09N×120°.84E,h59km±1km,ML1.5,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYH	**Taoyuan**	**0.10**	**324**	S	Sn	18 22 48.5	-0.1

STKA	Stephens Creek	35.74	246	P		P	18 42 32.9	+0.7	
	comp=Z,2.0nm,0.5s,baz=91,slow=9.2,SNR=7.8								
STKA	Stephens Creek	35.74	246	P		P	18 42 32.7	+0.5	
COEN	Coen	36.34	277	P		P	18 42 38.0	+0.6	
COEN				IAmb		IAmb	18 42 54.4		
	comp=Z,7.3nm,1.1s								
BBOO	Buckleboo	40.49	245	P		P	18 43 10.7	+0.1	
BBOO				IAmb		IAmb	18 43 14.6		
	comp=Z,13nm,1.5s								
AS31	Alice Springs	42.75	259	P		P	18 43 28.4	-0.1	
ASAR	Alice Springs	42.75	259	P		P	18 43 28.5	-0.1	
	comp=Z,6.2nm,0.7s,baz=101,slow=7.7,SNR=80								
ASAR	Alice Springs	42.75	259	P		P	18 43 28.2	-0.3	
WR0	Warramunga Arr	42.79	264	P		P	18 43 28.1	-0.7	
WB0	Warramunga Arr	42.97	265	P		P	18 43 29.6	-0.7	
WB0				IAmb		IAmb	18 43 30.3		
	comp=Z,5.8nm,0.8s								
WB2	Warramunga Arr	42.97	264			P	18 43 29.6	-0.7	
WB2				IAmb		IAmb	18 43 30.5		
	comp=Z,8.9nm,0.9s								
WRA	Warramunga Arr	42.98	264	P		P	18 43 29.5	-0.9	
	comp=Z,3.5nm,0.6s,baz=92,slow=7.9,SNR=75								
WRA	Warramunga Arr	42.98	264	P		P	18 43 29.2	-1.1	
JAY	Jayapura	43.34	291	P		P	18 43 32.7	-0.5	
	comp=Z,7.3nm,0.6s,baz=178,slow=6.2,SNR=8.0								
FORT	Forrest	47.29	248	P		P	18 44 02.8	-0.2	
FORT				IAmb		IAmb	18 44 11.8		
	comp=Z,9.3nm,0.9s								
NWAO	Narrogin (SRO)	56.30	245	P		P	18 45 09.0	+1.5	
NWAO				IAmb		IAmb	18 45 41.7		
	comp=Z,38nm,1.6s								
MORW	Morawa	57.84	249	P		P	18 45 17.9	-0.2	
MORW				IAmb		IAmb	18 45 52.8		
	comp=Z,34nm,1.6s								
TOLI2	Tolitoli	62.63	284	P		P	18 45 49.5	-0.3	
TOLI2				IAmb		IAmb	18 45 50.6		
	comp=Z,6.6nm,0.8s								
QSPA	South Pole Qui	67.74	180	P		P	18 46 22.8	+1.8	
MJAR	Matsushiro Arr	70.87	325	P		P	18 46 39.5	-0.4	
	comp=Z,1.6nm,0.7s,baz=152,slow=6.0,SNR=8.4								
MJAR	Matsushiro Arr	70.87	325	P		P	18 46 39.2	-0.7	
JSU	Suzuyama	71.85	316	P		P	18 46 46.2	+0.5	
KSM	Kuching	72.29	279	P		P	18 46 49.0	+0.4	
KSM				IAmb		IAmb	18 46 51.4		
	comp=Z,9.8nm,0.9s								
JHS	Saijyo	72.60	321	P		P	18 46 50.9	+0.9	
JHS				IAmb		IAmb	18 46 52.1		
	comp=Z,21nm,1.4s								
NACB	Ninganchiao	73.56	305	P		P	18 46 56.5	+0.9	
TPUB	Ta-pu	73.81	304	P		P	18 46 56.4	-0.7	
SSLB	Suanglung	73.83	305	P		P	18 46 56.6	-0.6	
SSLB				IAmb		IAmb	18 47 26.4		
	comp=Z,13nm,1.2s								
PETK	Petropavlovsk-	77.69	346	P		P	18 47 17.9	+0.1	
	comp=Z,3.9nm,0.9s,baz=149,slow=5.9,SNR=5.1								
PETK	Petropavlovsk-	77.69	346	P		P	18 47 17.3	-0.4	
NVAR	Mina Array Bea	83.32	44	P		P	18 47 48.6	+1.1	
	comp=Z,1.0nm,0.9s,baz=217,slow=7.3,SNR=5.1								
E08A	Dider Farm, El	87.58	37			pP	18 50 13.1	-2.3	
TXAR	Lajitas Array	89.22	58	P		P	18 48 17.5	+1.9	
	comp=Z,0.8nm,0.9s,baz=210,slow=4.8,SNR=3.7								
PDAR	Pinedale Array	91.26	44	P		P	18 48 26.6	+1.7	
	comp=Z,0.2nm,0.4s,baz=243,slow=4.0,SNR=2.2								
RWWY	Rawlins	92.27	46	P		P	18 48 28.2	-1.4	
FINES	FINESS Array B	137.10	342	PKP		PKPdf	18 54 37.6	+0.2	
	comp=Z,2.9nm,1.0s,baz=90,slow=2.8,SNR=2.5								
AKASG	Malin Array Be	143.89	329	PKP		PKPbc	18 54 49.0	-0.3	
	comp=Z,1.1nm,0.3s,baz=43,slow=4.1,SNR=9.1								
BRTR	Keskin Array B	146.96	309	PKPbc		PKPbc	18 54 59.1	+0.3	
	comp=Z,0.6nm,0.5s,baz=78,slow=2.7,SNR=7.1								
GERES	GERESS Array B	151.53	342	PKPbc		PKPbc	18 55 09.2	-0.2	
	comp=Z,0.1nm,0.3s,baz=5.7,slow=2.0,SNR=1.7								
GERES	GERESS Array B	151.53	342			PKPbc	18 55 09.0	-0.4	

NEIC ***28*** *18:41:12.9±2.1, 7°.26S±0°.06×128°.36E±0°.06, h168km±6km, mb4.8/92, Error ellipse: s-maj=8.8km s-min=8.0km az=154.0*

IDC ***28*** *18:41:13.9±1.5, 7°.24S×128°.33E, h173km±14km, mb4.2/17, mb1 4.2/20, mb1mx4.1/31, mbtmp4.7/20, Error ellipse: s-maj=13.8km s-min=8.9km az=72.0*

DJA ***28*** *18:41:14.6±0.2, 7°S±2°×12°9E±°, h178km±3km, M4.4/36, mb4.7/36, mB5.0/13, MLv4.6/10, Mw(mB)4.3/13, MwMwp5.5/1, Mwp5.7/1*

ISC 28 18:41:12.7±0.3, 7°30S±0°.04×128°41E±0°.04, h168km, n230, σ1§62/251, mb4.7/92, 1C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	2.94	103		Pn	18 42 02.2	+2.1
SAUI				Sn	Sn	18 42 37.8	+0.8
BNDI	Bandanaira	3.14	28	P	Pn	18 42 05.6	+3.1
NLAI	Namlea	4.24	342	P	Pn	18 42 20.2	+3.6
SOEI	Soe	4.77	239	Pn	Pn	18 42 25.6	+2.1
SOEI				Sn	Sn	18 43 17.5	-1.5
SOEI	Soe	4.77	239	P	Pn	18 42 28.8	+5.3
SOEI				S	Sn	18 43 20.4	+1.5
BATI	Baumata	5.51	238	P	Pn	18 42 35.0	+1.8
	21nm,0.3s,baz=123,slow=2.0,SNR=60						
BATI				S	Sn	18 43 34.8	-1.4
	40nm,0.3s,baz=154,slow=22,SNR=15						
BATI	Baumata	5.51	238	P	Pn	18 42 35.4	+2.2
	0.5nm1μm109nm,0.6s						
BATI				S	Sn	18 43 36.2	0.0
	0.5nm1μm109nm,0.6s						
SANI	Sanana	5.75	335	P	Pn	18 42 39.6	+3.3
	0.1nm25nm,0.8s						
FAKI	Fak Fak	5.79	41	Pn	Pn	18 42 37.0	+0.1
FAKI				Sn	Sn	18 43 39.5	-3.6
FAKI	Fak Fak	5.79	41	P	Pn	18 42 37.1	+0.1
	0.5nm1μm55nm,0.5s						
FAKI				S	Sn	18 43 42.3	-0.8
	0.5nm1μm55nm,0.5s						
MTN	Manton Dam	6.12	154	Pn	Pn	18 42 41.8	+0.6
MTN				Sn	Sn	18 43 46.2	-4.6
MMRI	Maumere	6.25	257		Pn	18 42 42.2	-0.8
EDFI	Ende, Flores	6.81	257	P	Pn	18 42 52.6	+2.2
	0.1nm215nm10nm,0.7s						
SIJI	Sorong	7.00	24	P	Pn	18 42 53.5	+0.6
	18nm,0.3s,baz=201,slow=11,SNR=92						
SIJI				S	Sn	18 44 09.3	-2.4
	6.0nm,0.3s,baz=168,slow=20,SNR=6.9						
SWI	Sorong	7.00	24	P	Pn	18 42 53.6	+0.7
	0.6nm2μm157nm,0.7s						
SWI				S	Sn	18 44 10.3	-1.4
	0.6nm2μm157nm,0.7s						
TNTI	Ternate	8.09	353	Pn	Pn	18 43 08.8	+1.6
KAPI	Kappang	8.90	284	Pn	Pn	18 43 17.8	-0.3
PLAI	Plampang	10.64	261	P	Pn	18 43 44.7	+3.8
	26nm,0.7s						
FITZ	Fitzroy Crossi	11.06	194	P	Pn	18 43 44.4	-2.0
	7.4nm,0.3s,baz=28,slow=11,SNR=124						
FITZ				S	Sn	18 45 39.4	-10
	16nm,0.3s,baz=80,slow=16,SNR=9.6						
FITZ	Fitzroy Crossi	11.06	194	Pn	Pn	18 43 44.3	-2.1
TOLI2	Tolitoli	11.30	317	Pn	Pn	18 43 51.1	+1.6
WB0	Warramunga Arr	13.68	155	Pn	Pn	18 44 17.6	-2.5
WRAB	Tennant Creek	13.81	156		Pn	18 44 20.5	-1.1
WRA	Warramunga Arr	13.82	156	P	Pn	18 44 19.3	-2.4
	8.5nm,0.3s,baz=337,slow=12,SNR=121						
WRA				S	Sn	18 46 43.6	-12
	32nm,0.3s,baz=330,slow=23,SNR=8.3						
WRA	Warramunga Arr	13.82	156		Pn	18 44 18.6	-3.1
WB2	Warramunga Arr	13.82	156	Pn	Pn	18 44 19.2	-2.6
WR0	Warramunga Arr	13.92	155	Pn	Pn	18 44 20.4	-2.6
BBKI	Banjar Baru	14.03	285	P	P	18 44 30.1	+3.0
	42nm,0.9s						
JAGI	Jajag, Banyuwa	14.17	264	Pn	Pn	18 44 25.7	-0.5
MTKI	Muara Teweh, K	14.88	295	P	P	18 44 40.6	+4.1
	61nm,0.8s						
MYLDM	Lahad Datu	15.86	321	P	Pn	18 44 44.5	-2.5
MYLDM				IAmb	IAmb	18 45 01.6	
	comp=Z,38nm,0.9s						
COEN	Coen	15.94	116		Pn	18 44 48.3	+0.3
COEN				IAmb	IAmb	18 44 51.0	
	comp=Z,28nm,0.5s						
PSA00	Pilbara Seismi	16.42	209		P	18 44 53.8	+0.3
PSA00				IAmb	IAmb	18 44 55.6	
	comp=Z,21nm,0.7s						
PSA00	Pilbara Seismi	16.42	209	P	P	18 44 53.0	-0.5
PSA00				IAmb	IAmb	18 44 55.4	
	comp=Z,8.8nm,0.8s						
AS31	Alice Springs	17.10	163		Pn	18 45 02.5	+0.5
ASAR	Alice Springs	17.11	163	P	Pn	18 45 02.9	+0.9
	comp=Z,24nm,0.3s,baz=340,slow=11,SNR=2230						
ASAR				S	S	18 48 02.3	-8.5
	comp=Z,2.3nm,0.3s,baz=331,slow=17,SNR=3.2						
ASAR				ScP	ScP	18 52 54.9	-1.1
	comp=Z,0.5nm,0.3s,baz=340,slow=1.5,SNR=5.4						
ASAR	Alice Springs	17.11	163		Pn	18 45 02.7	+0.7
PBKI	Pangkalan Bun	17.29	284	P	Pn	18 45 08.4	+4.2
	comp=Z,4μmcomp=Z,228nm,1.1s						
KKM	Kota Kinabalu	18.00	317	P	P	18 45 10.2	-0.7
STKI	Sintang	18.41	293	P	Pn	18 45 25.3	+7.9
PMG	Port Moresby	18.67	98	P	Pn	18 45 20.2	-0.3
	comp=Z,3.0nm,0.3s,baz=279,slow=6.4,SNR=24						
PMG	Port Moresby	18.67	98		P	18 45 18.6	+0.5
PMG	Port Moresby	18.67	98	P	Pn	18 45 22.2	+1.7
SBUM	Sibu	18.84	300		P	18 45 20.6	+0.7
SBUM				IAmb	IAmb	18 45 25.0	
	comp=Z,80nm,1.6s						
KSM	Kuching	20.05	295	P	P	18 45 33.1	0.0
GIRL	Giralia	20.47	220	P	P	18 45 37.9	+0.5
CTA	Charters Tower	21.47	128	P	P	18 45 49.9	+1.7
	comp=Z,16nm,0.5s,baz=302,slow=12,SNR=43						
CTAO	Charters Tower	21.47	128	P	P	18 45 48.9	+0.8
CTAO				IAmb	IAmb	18 45 50.5	
	comp=Z,20nm,0.6s						
TGY	Tagaytay City	22.52	341	P	P	18 46 00.2	+1.5
	comp=Z,102nm,0.3s,baz=136,slow=6.2,SNR=5.5						
XMIS	Christmas Isla	22.70	260	P	P	18 45 59.0	-1.4
XMIS				IAmb	IAmb	18 46 00.4	
	comp=Z,40nm,0.9s						
PPBI	Pangkal Pinang	22.77	282	P	P	18 46 01.8	+0.8
	comp=Z,38nm,1.1s						
FORT	Forrest	23.36	181	P	P	18 46 06.7	+0.6
RABL	Rabaul	23.83	84	P	P	18 46 14.1	+3.4
MORW	Morawa	24.59	207	P	P	18 46 17.9	+0.4
MYKOM	Kota Tinggi	26.12	289	P	P	18 46 31.6	+0.2
MYKOM				IAmb	IAmb	18 46 34.8	
	comp=Z,40nm,1.3s						
BBOO	Buckleboo	26.36	165	P	P	18 46 33.7	+0.4
STKA	Stephens Creek	27.37	155	P	P	18 46 43.5	+1.2
	comp=Z,13nm,0.5s,baz=331,slow=9.3,SNR=58						
STKA	Stephens Creek	27.37	155	P	P	18 46 42.9	+0.5
NWAO	Narrogin (SRO)	27.53	201	P	P	18 46 44.5	+0.7
	comp=Z,3.8nm,0.7s,baz=46,slow=11,SNR=1.6						
NWAO	Narrogin (SRO)	27.53	201	P	P	18 46 43.9	+0.2
NWAO				IAmb	IAmb	18 47 09.6	
	comp=Z,37nm,1.6s						
NWAO	Narrogin (SRO)	27.53	201	P	P	18 46 43.8	+0.1
NWAO				IAmb	IAmb	18 47 09.6	
	comp=Z,30nm,1.6s						
EIDS	Eidsvold	28.13	132	P	P	18 46 50.1	+0.9
EIDS				IAmb	IAmb	18 46 59.0	
	comp=Z,18nm,1.4s						
IPM	Ipoh	29.73	292	P	P	18 47 03.0	-0.5
IPM				IAmb	IAmb	18 47 05.1	
	comp=Z,15nm,0.8s						
MNSI	Mandailing Nat	29.86	284	P	P	18 47 04.6	0.0
	comp=Z,17nm,0.7s						
KULM	Kulim	30.39	294	P	P	18 47 09.0	-0.3
KULM				IAmb	IAmb	18 47 11.4	
	comp=Z,30nm,1.4s						
RPSI	Rantau Prapat	31.05	288	P	P	18 47 14.4	-0.7
RPSI				IAmb	IAmb	18 47 15.9	
	comp=Z,9.8nm,0.7s						
PSI	Prapat	31.09	288	P	P	18 47 14.7	-0.9
	comp=Z,10nm,0.8s,baz=179,slow=2.9,SNR=12						
TPUB	Ta-pu	31.35	346	P	P	18 47 15.8	-1.8
ARMA	Armidale	31.67	140	P	P	18 47 22.4	+2.0
ARMA				IAmb	IAmb	18 47 39.3	
	comp=Z,21nm,1.8s						
GSI	Gunungsitoli	31.93	284	P	P	18 47 23.2	+0.4
GSI				IAmb	IAmb	18 47 25.7	
	comp=Z,8.6nm,0.7s						
QIZ	Qiongzhong	31.93	325	P	P	18 47 22.6	-0.1
QIZ				IAmb	IAmb	18 47 41.0	
	comp=Z,34nm,1.4s						
UBPT	Khong Chiam	31.94	315	P	P	18 47 23.9	+1.1
	comp=Z,13nm,1.1s						
UBPT	Khong Chiam	31.94	315	P	P	18 47 23.2	+0.3
UBPT				IAmb	IAmb	18 47 24.5	
	comp=Z,17nm,0.8s						
YHNB	Yeheng	32.51	348	P	P	18 47 26.8	-1.0
CAN	Canberra	33.69	149	P	P	18 47 40.1	+2.2
CAN				IAmb	IAmb	18 47 41.1	
	comp=Z,48nm,1.5s						
TOO	Toolangi	33.89	155	P	P	18 47 41.9	+2.3
TOO				IAmb	IAmb	18 47 43.0	
	comp=Z,22nm,1.4s						
CHAI	Chaiyaphum	34.87	312	P	P	18 47 49.2	+0.9
	comp=Z,270nmcomp=Z,33nm,0.7s						
NONG	Nongkai	35.46	316	P	P	18 47 53.9	+0.7
	comp=Z,7μmcomp=Z,21nm,0.9s						
UTHA	Uthaitani	36.60	308	P	P	18 48 04.2	+1.3
	comp=Z,18nm,0.8s						
JCJ	Chichijima	36.71	21	P	P	18 48 02.6	-1.1
	comp=Z,66nm,0.8s,baz=201,slow=18,SNR=2.2						
JCJ	Chichijima	36.71	21	P	P	18 48 02.8	-0.9
UTTA	Uttaradit	37.10	312	P	P	18 48 08.4	+1.2
	comp=Z,208nmcomp=Z,28nm,0.9s						
SLVN	Son La	37.26	320	P	P	18 48 09.2	+0.6
SUKH	Sukhothai	37.62	311	P	P	18 48 13.2	+1.7
	comp=Z,31nm,0.9s						
LAMP	Lampang	38.27	312	P	P	18 48 19.2	+2.2
	comp=Z,20nm,1.0s						
CM36	Chiang Mai Arr	38.66	312	P	P	18 48 21.0	+0.7
CM04	Chiang Mai Arr	38.67	312	P	P	18 48 21.0	+0.6
	comp=Z,67nmcomp=Z,12nm,1.0s						
CM09	Chiang Mai Arr	38.69	312	P	P	18 48 22.0	+1.5
	comp=Z,94nmcomp=Z,12nm,1.1s						
CM05	Chiang Mai Arr	38.70	312	P	P	18 48 21.6	+1.0
	comp=Z,65nmcomp=Z,8.3nm,1.0s						
CM01	Chiang Mai Arr	38.70	312	P	P	18 48 22.2	+1.6
	comp=Z,91nmcomp=Z,12nm,1.1s						
CM35	Chiang Mai Arr	38.72	312	P	P	18 48 18.0	-2.7
CM02	Chiang Mai Arr	38.72	312	P	P	18 48 22.0	+1.3
	comp=Z,82nmcomp=Z,10nm,1.1s						
CM31	Chiang Mai Arr	38.73	312	P	P	18 48 22.5	+1.6
	comp=Z,2μmcomp=Z,240nm,1.1s						
CM31	Chiang Mai Arr	38.73	312	P	P	18 48 21.3	+0.4
CM31				IAmb	IAmb	18 48 23.4	
	comp=Z,12nm,1.0s						
CMAR	Chiang Mai Arr	38.73	312	P	P	18 48 19.1	-1.8
	comp=Z,6.6nm,0.9s,baz=142,slow=7.3,SNR=40						
CMAR				PcP	PcP	18 50 30.4	+1.2
	comp=Z,1.2nm,0.6s,baz=169,slow=2.6,SNR=8.3						
CMAR	Chiang Mai Arr	38.73	312	P	P	18 48 18.7	-2.2
CMAR					PcP	18 50 29.9	+0.7
CM13	Chiang Mai Arr	38.74	312	P	P	18 48 21.9	+1.0
	comp=Z,71nmcomp=Z,9.9nm,1.0s						
CM15	Chiang Mai Arr	38.74	312	P	P	18 48 22.0	+1.0
	comp=Z,75nmcomp=Z,11nm,1.1s						
CM34	Chiang Mai Arr	38.83	312	P	P	18 48 22.0	+0.3
SANVU	Saraoutou	38.83	106	P	P	18 48 21.6	-0.1
SANVU				IAmb	IAmb	18 48 30.9	
	comp=Z,28nm,1.1s						
CM32	Chiang Mai Arr	38.93	312	P	P	18 48 24.0	+1.5
CMMT	Chiang Mai	38.95	312	P	P	18 48 22.6	-0.1
	comp=Z,9.9nm,1.1s						
CHTO	Chiang Mai	38.96	312	P	P	18 48 22.5	-0.2
CHTO				IAmb	IAmb	18 48 25.1	
	comp=Z,15nm,0.8s						
CM33	Chiang Mai Arr	38.96	312	P	P	18 48 19.0	-3.7
DZM	Mont Dzumac	39.47	116	P	P	18 48 29.1	+2.0
DZM				IAmb	IAmb	18 48 47.6	
	comp=Z,14nm,1.1s						
GYA	Guiyang	39.64	329	⇓P	P	18 48 29.0	+0.6
GYA				pmax	pmax		
	comp=Z,14nm,0.7s						
NJ2	Nanjing	40.18	347	⇓P	P	18 48 33.3	+0.7
NJ2				pmax	pmax		
	comp=Z,25nm,0.6s						
KMI	Kunming	40.78	323	⇓P	P	18 48 40.0	+2.0
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
ENH	Enshi	41.54	335	P	P	18 48 42.7	-1.1
JHS	Saijyo	42.31	6	P	P	18 48 50.0	0.0
JHS				IAmb	IAmb	18 48 52.1	
	comp=Z,28nm,1.2s						
JSG	Sagara	42.76	12	P	P	18 48 52.4	-1.2
JWT	Wachi	42.87	8	P	P	18 48 54.2	-0.2
JWT				IAmb	IAmb	18 48 55.7	
	comp=Z,49nm,1.6s						
INU	Inuyama	43.19	10	P	P	18 48 57.2	+0.2
JGF	Kuroka	43.50	11	P	P	18 48 59.4	-0.1
JGF				IAmb	IAmb	18 49 22.2	
	comp=Z,30nm,1.7s						
KSAR	Wonju Array Be	44.51	359	P	P	18 49 06.2	-1.3
KSAR				PcP	PcP	18 50 47.6	-0.2
KSRS	Korea Array	44.52	359	P	P	18 49 08.2	+0.6
	comp=Z,2.6nm,0.7s,baz=177,slow=10,SNR=16						
MAT	Matsushiro	44.57	11	P	P	18 49 06.6	-1.4
MJAR	Matsushiro Arr	44.57	11	P	P	18 49 06.6	-1.4
	comp=Z,8.5nm,0.8s,baz=189,slow=9.5,SNR=31						
MJAR	Matsushiro Arr	44.57	11	P	P	18 49 06.3	-1.8
KS19	Wonju Array Si	44.57	359	P	P	18 49 07.6	-0.4
KS19				IAmb	IAmb	18 49 32.1	
	comp=Z,42nm,1.8s						
MAJO	Matsushiro	44.57	11	P	P	18 49 06.5	-1.6
CD2	Chengdu	44.74	329	P	P	18 49 09.5	0.0
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
XAN	Xi'an	45.07	337	P	P	18 49 11.5	-0.6
XAN				pmax	pmax		
	comp=Z,31nm,0.8s						
XAN				pmax	pmax		
	comp=Z,30nm,3.5s						
XAN	Xi'an	45.07	337	P	P	18 49 11.6	-0.5
XAN				IAmb	IAmb	18 49 12.3	
	comp=Z,19nm,0.8s						
JSD	Sado	46.03	11	P	P	18 49 17.7	-1.8
JSD				IAmb	IAmb	18 49 55.0	
	comp=Z,38nm,1.3s						
JMM	Marumori	46.40	14	P	P	18 49 21.6	-0.7
JMM				IAmb	IAmb	18 49 23.9	
	comp=Z,14nm,0.7s						
SHL	Shillong	48.26	314	P	P	18 49 36.3	-0.8
SHL				IAmb	IAmb	18 49 38.0	
	comp=Z,21nm,1.0s						
BJT	Baijiatuau	48.42	347	P	P	18 49 37.3	-0.6
BJT				IAmb	IAmb	18 49 38.9	
	comp=Z,18nm,1.0s						
BJI	Beijing	48.44	347	P	P	18 49 38.0	-0.1
BJI				pmax	pmax		
	comp=Z,19nm,0.8s						
LZH	Lanzhou	48.95	333	eP	P	18 49 43.0	+0.8
LZH				pP	pP	18 50 15.8	-2.6
LZH				sP	sP	18 50 34.5	-2.0
LZH				pmax	pmax		
	comp=Z,42nm,1.2s						
JTM	Tenmabayashi	49.25	13	P	P	18 49 44.0	-0.2
JTM				IAmb	IAmb	18 50 15.2	
	comp=Z,23nm,1.1s						
HHC	Hu-ho-hao-te	50.36	343	eP	P	18 49 56.3	+3.6
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,93nm,6.6s						
FOZ	Fox Glacier	51.11	142	P	P	18 49 59.9	+1.7
MLZ	Mavora Lakes	51.13	145	P	P	18 49 60.0	+1.5
MLZ				IAmb	IAmb	18 50 01.2	
	comp=Z,25nm,1.2s						
LSA	Lhasa	51.34	318	P	P	18 50 00.8	+0.1
WHZ	Wether Hill Ro	51.34	145	P	P	18 50 01.3	+1.4
WHZ				IAmb	IAmb	18 50 21.6	
	comp=Z,39nm,1.6s						
USA0B	Ussuriysk Arra	51.36	3	P	P	18 50 00.0	0.0
USA0B				IAmb	IAmb	18 50 17.8	
	comp=Z,33nm,1.6s						
USRK	Ussuriysk Ar.	51.36	3	P	P	18 50 00.3	+0.3
	comp=Z,4.1nm,0.7s,baz=202,slow=7.1,SNR=12						
USRK	Ussuriysk Ar.	51.36	3	P	P	18 50 00.2	+0.2
QRZ	Quartz Range	51.49	138	P	P	18 50 02.0	+0.9
LBZ	Lake Benmore	51.80	143	P	P	18 50 04.6	+1.2
LBZ				IAmb	IAmb	18 50 23.3	
	comp=Z,62nm,1.8s						
RPZ	Rata Peaks	51.97	141	P	P	18 50 06.9	+2.3
THZ	Tophouse	52.18	138	P	P	18 50 08.4	+2.1
THZ				IAmb	IAmb	18 50 47.0	
	comp=Z,34nm,1.3s						
LTZ	Lake Taylor	52.26	140	P	P	18 50 08.9	+2.0
LTZ				IAmb	IAmb	18 50 32.6	
	comp=Z,39nm,1.4s						
ODAN	Odare	52.27	312	eP	P	18 50 07.4	0.0
	comp=Z,24nm,0.7s						
TAPN	Taplejung	52.32	313	eP	P	18 50 07.7	-0.1
	comp=Z,62nm,1.1s						
TUWZ	Tuamarina	52.72	138	P	P	18 50 10.8	+0.6
KHZ	Kahutara	52.91	139	P	P	18 50 13.1	+1.6
RAMN	Ramite	52.91	312	eP	P	18 50 12.3	+0.2
	comp=Z,60nm,0.8s						
MCQ	Macquarie Isla	53.07	158	P	P	18 50 13.8	+1.4
GTA	Gaotai	53.49	333	⇑P	P	18 50 16.8	+0.8
GTA				pP	pP	18 50 48.5	-4.3
GTA				sP	pwP	18 51 04.3	+5.1
GTA				PcP	PcP	18 51 21.8	+1.1
GTA				ScP	ScP	18 55 01.0	-1.7
GTA				pmax	pmax		
	comp=Z,22nm,0.8s						
GTA				pmax	pmax		
	comp=Z,93nm,5.5s						
GTA				LR	LR		
	comp=N,68nm,13.4s						
GTA				LR	LR		
	comp=E,84nm,13.1s						
GTA				LR	LR		
	comp=Z,92nm,13.5s						
JIRN	Jiri	53.61	312	eP	P	18 50 17.0	-0.3
	comp=Z,25nm,0.9s						
URZ	Urewera	53.61	133	P	P	18 50 17.7	+1.0

YAK	**Yakutsk**	**69.13**	**1**	P		**P**	**18 52 00.0**	**-0.3**
KUU	**Kurty**	**69.29**	**322**	*e*P		**P**	**18 52 01.7**	**-0.1**
	comp=Z,15nm,1.0s,baz=322							
AAK	**Ala-Archa**	**69.76**	**321**	P		**P**	**18 52 05.8**	**+0.8**
SGDS	**Sogindy**	**70.10**	**321**	*e*P		**P**	**18 52 06.2**	**-0.7**
	baz=321							
SEM	**Semipalatinsk**	**70.95**	**330**	*e*P		**P**	**18 52 10.1**	**-1.9**
	baz=330							
ZAA0	**Zalesovo Array**	**71.17**	**334**	P		**P**	**18 52 12.5**	**-0.4**
ZAA0				IAmb		IAmb	18 52 13.6	
	comp=Z,13nm,1.1s							
ZALV	**Zalesovo Beam**	**71.17**	**334**	P		**P**	**18 52 12.5**	**-0.4**
	comp=Z,6.2nm,0.6s,baz=117,slow=5.2,SNR=36							
ZALV	**Zalesovo Beam**	**71.17**	**334**	P		**P**	**18 52 12.3**	**-0.7**
BTLS	**Baital**	**71.29**	**323**	*e*P		**P**	**18 52 13.4**	**-0.5**
	baz=322							
DZA	**Taraz**	**71.91**	**320**	*e*P		**P**	**18 52 17.6**	**-0.1**
	baz=320							
VNDA	**Vanda**	**72.34**	**173**	P		**P**	**18 52 20.6**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=339,slow=9.8,SNR=9.1							
VNDA	**Vanda**	**72.34**	**173**	P		**P**	**18 52 20.2**	**+0.6**
IUG	**Iuzhnay**	**72.40**	**318**	*e*P		**P**	**18 52 20.8**	**+0.1**
	baz=318							
KK31	**Karatay Array**	**72.53**	**319**	P		**P**	**18 52 21.3**	**-0.1**
KKAR	**Karatay Array**	**72.53**	**319**	P		**P**	**18 52 21.3**	**-0.1**
KKAR	**Karatay Array**	**72.53**	**319**	P		**P**	**18 52 20.9**	**-0.5**
AMKA	**Amchitka**	**72.92**	**31**	P		**P**	**18 52 23.5**	**+0.1**
BRZS	**Berezniki**	**74.68**	**326**	*e*P		**P**	**18 52 33.9**	**+0.1**
	comp=Z,10nm,0.9s,baz=326							
SOCY	**Socotra**	**76.47**	**284**	P		**P**	**18 52 44.0**	**-0.8**
BRVK	**Borovoye**	**77.56**	**328**	P		**P**	**18 52 49.7**	**-0.2**
TIXI	**Tiksi**	**78.79**	**0**	P		**P**	**18 52 55.2**	**-1.1**
TIXI				IAmb		IAmb	18 52 56.7	
	comp=Z,7.5nm,0.7s							
SPIA	**Saint Paul Isl**	**81.19**	**29**	P		**P**	**18 53 11.0**	**+1.5**
NRIK	**Noril'sk**	**81.47**	**346**	P		**P**	**18 53 11.1**	**+0.4**
	comp=Z,7.0nm,0.8s,baz=139,slow=4.2,SNR=11							
NRIK	**Noril'sk**	**81.47**	**346**	P		**P**	**18 53 10.9**	**+0.2**
ABKAR	**Akbulak array**	**81.77**	**322**	P		**P**	**18 53 12.4**	**-0.3**
ABKAR	**Akbulak array**	**81.77**	**322**	P		**P**	**18 53 12.1**	**-0.6**
GAMB	**Gambell**	**83.80**	**23**	P		**P**	**18 53 23.8**	**+1.0**
GAMB				IAmb		IAmb	18 53 24.8	
	comp=Z,8.3nm,0.8s							
ARU	**Arti**	**85.13**	**328**	P		**P**	**18 53 28.8**	**-0.9**
ARU				IAmb		IAmb	18 53 30.4	
	comp=Z,13nm,1.1s							
RAYN	**Ar Rayn**	**86.43**	**294**	P		**P**	**18 53 36.2**	**-0.7**
GEVA	**Gevas**	**90.84**	**308**	P		**P**	**18 53 57.2**	**-0.4**
RND	**Reindeer**	**93.23**	**27**	P		**P**	**18 54 06.4**	**-1.5**
ILAR	**Eielson Array**	**94.29**	**25**	P		**P**	**18 54 10.8**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=250,slow=4.5,SNR=6.9							
ARCES	**ARCESS Array B**	**101.31**	**340**	P		**Pdif**	**18 54 43.1**	**-1.1**
	comp=Z,3.0nm,0.9s,baz=67,slow=5.3,SNR=3.6							
MNK	**Minsk**	**102.02**	**324**	*i* P		**Pdif**	**18 54 44.6**	**-2.9**
	comp=E,1.0nm,0.7s							
MNK				*i* P		**Pdif**	**18 54 44.6**	**-2.9**
	comp=N,15nm,0.9s							
MNK				*i* P		**Pdif**	**18 54 44.6**	**-2.9**
	comp=Z,5.0nm,0.7s							
MNK				*i* pP		**pPdif**	**18 55 20.5**	**-8.3**
MNK				*i* PP		**PP**	**18 58 58.1**	**-3.0**
MNK				*i* PPP		PPP	19 01 08.4	
MNK				*i* SKS			19 05 11.5	
MNK				*i* S		**Sdif**	**19 06 16.7**	**+1.4**
MNK				*i* sS		**pS**	**19 07 04.0**	**-4.6**
MNK				*i* SS		SS	19 13 41.4	+18
MNK				*i* SSS		SSS	19 17 19.2	
MNK				*i* LRM		MLR	19 41 33.7	
	comp=E,27nm,17.9s							
MNK				*i* LRM		MLR	19 41 33.7	
	comp=N,430nm,20.4s							
MNK				*i* LRM		MLR	19 41 33.7	
	comp=Z,99nm,24.3s							
YKA	**Yellowknife Ar**	**108.71**	**26**	PKiKP		**PKiKP**	**18 59 20.9**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=298,slow=1.4,SNR=6.9							
GERES	**GERESS Array B**	**111.64**	**320**	PKiKP		**PKiKP**	**18 59 26.9**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=50,slow=3.0,SNR=2.2							
PDAR	**Pinedale Array**	**118.22**	**45**	PKP		**PKiKP**	**18 59 40.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=131,slow=0.5,SNR=6.4							
ULM	**Lac du Bonnet**	**123.55**	**33**	PKP		**PKPdf**	**18 59 49.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=353,slow=4.7,SNR=3.0							
TXAR	**Lajitas Array**	**126.44**	**59**	PKP		**PKiKP**	**18 59 57.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=224,slow=1.7,SNR=7.2							
TORD	**Torodi Ar. Bea**	**127.32**	**281**	PKP		**PKPdf**	**18 59 58.1**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=81,slow=3.1,SNR=5.0							
DBIC	**Dimbokro**	**133.62**	**272**	PKP		**PKiKP**	**19 00 11.3**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=59,slow=7.2,SNR=1.6							
CPUP	**Villa Florida**	**146.11**	**171**	PKPbc		**PKPbc**	**19 00 34.4**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=191,slow=4.9,SNR=2.8							
LPAZ	**La Paz**	**151.41**	**145**	PKPbc		**PKiKP**	**19 00 49.7**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=156,slow=0.3,SNR=6.9							

*GCG **28** 18:43:28.4±0.3, 15°.90N×93°.09W, h64km±158km, MD4.6*
*MEX **28** 18:43:32.4±1.1, 15°.31N×92°.89W, h104km±9km, MD4.4*
ISC 28 18:43:34.1±1.7, 15°.41N±0°.07×92°.93W±0°.07, h83km±13km, n10, σ1°82/15, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**0.40**	**317**	*i* P		**Pn**	**18 43 47.2**	**-0.1**
PCIG				*e*S		**Sn**	**18 43 59.2**	**+2.0**
THIG		**0.82**	**128**	*e*P		**Pn**	**18 43 49.4**	**-1.9**
THIG				*e*S		**Sn**	**18 44 02.7**	**-1.3**
CCIG	**Comitan**	**1.16**	**41**	*e*P		**Pn**	**18 43 55.3**	**-0.1**
CCIG				*i* S		**Sn**	**18 44 11.1**	**-0.2**
TGIG		**1.37**	**352**	*e*P		**Pn**	**18 43 57.3**	**-0.7**
TGIG				*e*S		**Sn**	**18 44 16.0**	**+0.1**
ERG	**Entre ros, C**	**1.64**	**126**	*e*P		**Pn**	**18 44 01.0**	**-0.3**
FUG	**Fuego 3**	**2.24**	**115**	*e*P		**Pn**	**18 44 09.0**	**-0.4**
PCG	**Pacaya**	**2.47**	**114**	*e*S		**Sn**	**18 44 46.7**	**+4.7**
CMIG	**Matias Romero**	**2.51**	**312**	*e*P		**Pn**	**18 44 12.2**	**-0.7**
CMIG				*i* S		**Sn**	**18 44 43.0**	**+0.4**
NBG	**Las Nubes**	**2.63**	**108**	*e*P		**Pn**	**18 44 14.2**	**-0.6**
MRL	**Marmol**	**3.15**	**96**	*e*P		**Pn**	**18 44 20.0**	**-1.8**

*SOF **28** 18:50:52.4, 41°.29N×22°.71E, h14km, MD2.8*
*SKO **28** 18:50:52.4, 41°.30N×22°.72E, h15km*
*THE **28** 18:50:53.5, 41°.29N×22°.71E, h6km±1km, ML2.0/6, Error ellipse: s-maj=1.8km s-min=0.8km az=168.0*
*ATH **28** 18:50:53.1, 41°.30N×22°.69E, h1km±1km, ML2.0/8, Error ellipse: s-maj=2.7km s-min=1.5km az=153.0*
*BEO **28** 18:50:54.1±0.3, 41°.33N×22°.72E, h0km, ML1.8/7*
ISC 28 18:50:53.1±0.8, 41°.31N±0°.02×22°.70E±0°.02, h14km±5km, n39, σ0°61/64, 3C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.10**	**275**	*e*Pg		**Pg**	**18 50 56.2**	**-0.1**
VAY				*e*Sg		**Sg**	**18 50 58.1**	**-0.3**
VAY	**Valandovo**	**0.10**	**275**	⇓ *i*Pg		**Pg**	**18 50 56.2**	**-0.1**
VAY				*i* Sg		**Sg**	**18 50 58.3**	**-0.1**
VAY				*e*Lg		Lg	18 50 58.6	
	comp=E,1μm,0.2s							
KNT	**Kendrikon**	**0.21**	**135**	P		**Pg**	**18 50 57.7**	**-0.1**
KNT				S		**Sg**	**18 51 00.8**	**-0.3**
KNT				AML		AML	18 51 01.2	
	comp=N,3703μm,0.2s							
KNT				AML		AML	18 51 01.6	
	comp=E,2112μm,0.1s							
KNT	**Kendrikon**	**0.21**	**135**	P		**Pg**	**18 50 57.8**	**-0.1**
KNT				S		**Sg**	**18 51 00.8**	**-0.3**
	comp=E,2μm,0.2s							
KNT	**Kendrikon**	**0.21**	**135**	⇑ *i*Pg		**Pg**	**18 50 57.7**	**-0.1**
KNT				*i* Sg		**Sg**	**18 51 00.7**	**-0.3**
GRG	**Griva**	**0.42**	**213**	P		**Pg**	**18 51 01.2**	**-0.4**
GRG				S		**Sg**	**18 51 06.8**	**-0.5**
GRG				AML		AML	18 51 07.7	
	comp=N,752μm,0.3s							
GRG				AML		AML	18 51 08.6	
	comp=E,748μm,0.1s							
GRG	**Griva**	**0.42**	**213**	P		**Pg**	**18 51 01.2**	**-0.4**
GRG				S		**Sg**	**18 51 07.1**	**-0.2**
	comp=E,332nm,0.1s							
GRG	**Griva**	**0.42**	**213**	*i* Pg		**Pg**	**18 51 01.2**	**-0.4**
GRG				*i* Sg		**Sg**	**18 51 07.4**	**+0.1**
STIP	**Stip**	**0.54**	**315**	⇑ *i*Pg		**Pg**	**18 51 02.5**	**-1.3**
STIP				*i* Sg		**Sg**	**18 51 09.4**	**-1.7**
STIP				*e*Lg		Lg	18 51 12.3	
	comp=E,94nm,0.4s							
KKB	**Krupnik**	**0.62**	**27**	*i* Pg		**Pg**	**18 51 05.4**	**0.0**
SOH	**Sokhos**	**0.70**	**135**	P		**Pg**	**18 51 06.0**	**-0.7**
SOH				AML		AML	18 51 17.1	
	comp=E,837μm,0.4s							
SOH				AML		AML	18 51 18.5	
	comp=N,460μm,0.3s							
SOH	**Sokhos**	**0.70**	**135**	P		**Pg**	**18 51 06.0**	**-0.7**
SOH	**Sokhos**	**0.70**	**135**	⇑ *i*Pg		**Pg**	**18 51 06.0**	**-0.7**
SOH				*i* Sg		**Sg**	**18 51 15.1**	**-0.8**
SRS	**Serrai**	**0.70**	**106**	P		**Pg**	**18 51 06.2**	**-0.7**
SRS				AML		AML	18 51 16.9	
	comp=E,160μm,0.1s							
SRS				AML		AML	18 51 20.6	
	comp=N,108μm,0.1s							
SRS	**Serrai**	**0.70**	**106**	P		**Pg**	**18 51 06.3**	**-0.5**
SRS				S		**Sg**	**18 51 16.0**	**0.0**
	comp=N,72nm,0.1s							
SRS	**Serrai**	**0.70**	**106**	*e*Pg		**Pg**	**18 51 06.1**	**-0.7**
SRS				*e*Sg		**Sg**	**18 51 15.3**	**-0.7**
SRS	**Serrai**	**0.70**	**106**	*i* Pg		**Pg**	**18 51 06.1**	**-0.7**
SRS				*i* Sg		**Sg**	**18 51 15.8**	**-0.2**
THE	**Thessaloniki**	**0.71**	**163**	P		**Pg**	**18 51 06.2**	**-0.6**
THE				S		**Sg**	**18 51 16.3**	**0.0**
THE				AML		AML	18 51 16.9	
	comp=N,146μm,0.2s							
THE				AML		AML	18 51 17.0	
	comp=E,247μm,0.5s							
THE	**Thessaloniki**	**0.71**	**163**	*i* Pg		**Pg**	**18 51 06.3**	**-0.6**
THE				*i* Sg		**Sg**	**18 51 16.2**	**0.0**
HORT	**Hortiatis**	**0.78**	**157**	P		**Pg**	**18 51 07.8**	**-0.4**
HORT				AML		AML	18 51 19.9	
	comp=N,179μm,0.4s							
HORT				AML		AML	18 51 20.8	
	comp=E,105μm,0.2s							
HORT	**Hortiatis**	**0.78**	**157**	P		**Pg**	**18 51 07.8**	**-0.4**
MMB	**Musomiste**	**0.82**	**70**	Pg		**Pg**	**18 51 08.9**	**-0.2**
NVR	**Nevrokopi**	**0.88**	**87**	P		**Pg**	**18 51 09.8**	**-0.3**
NVR				AML		AML	18 51 25.2	
	comp=N,111μm,0.2s							
NVR				AML		AML	18 51 25.4	
	comp=E,134μm,0.3s							
NVR	**Nevrokopi**	**0.88**	**87**	P		**Pg**	**18 51 09.8**	**-0.3**
PLG	**Polygyros**	**1.09**	**149**	P		**Pb**	**18 51 13.2**	**-0.7**
PLG				S		**Sb**	**18 51 28.6**	**+0.6**
PLG	**Polygyros**	**1.09**	**149**	P		**Pb**	**18 51 13.2**	**-0.7**
PLG				S		**Sn**	**18 51 29.1**	**+0.1**
	comp=E,42nm,0.3s							
FNA	**Florina**	**1.13**	**243**	*e*Pg		**Pn**	**18 51 15.5**	**+0.9**
FNA				*e*Sg		**Sg**	**18 51 29.8**	**+0.1**
BOSS	**Bosilegrad**	**1.19**	**352**	*e*Pg		**Pn**	**18 51 15.7**	**+0.3**
BOSS				*e*Sg		**Sb**	**18 51 31.2**	**+0.3**
VTS	**Vitosha**	**1.36**	**17**	*e*Pg		**Pn**	**18 51 18.3**	**+0.4**
VTS				*e*Sg		**Sb**	**18 51 35.9**	**0.0**
VTS	**Vitosha**	**1.36**	**17**	P		**Pn**	**18 51 18.7**	**+0.8**
VTS	**Vitosha**	**1.36**	**17**	*i* Pg		**Pn**	**18 51 18.6**	**+0.7**
VTS				*i* Sg		**Sb**	**18 51 36.6**	**+0.7**
KAVA	**Kavala**	**1.41**	**102**	P		**Pb**	**18 51 19.0**	**-0.1**
KAVA	**Kavala**	**1.41**	**102**	P		**Pb**	**18 51 19.0**	**-0.1**
KAVA				S		**Sg**	**18 51 37.8**	**-0.6**
	comp=E,52nm,0.3s							
BARS	**Barje**	**1.64**	**337**	*e*Pg		**Pn**	**18 51 22.9**	**+1.3**
BARS				*e*Sg		**Sb**	**18 51 44.3**	**+0.6**
THAS	**Thassos island**	**1.68**	**114**	P		**Pb**	**18 51 23.6**	**-0.3**
THAS				AML		AML	18 51 48.1	
	comp=E,107μm,0.3s							
THAS				AML		AML	18 51 48.4	
	comp=N,120μm,0.3s							
THAS	**Thassos island**	**1.68**	**114**	P		**Pn**	**18 51 22.9**	**+0.8**
THAS				S		**Sb**	**18 51 45.2**	**+0.3**
	comp=N,58nm,0.3s							
ZAPS	**Zavoj**	**1.96**	**359**	*e*Pn		**Pb**	**18 51 29.8**	**+1.2**
ZAPS				*e*Sn		**Sb**	**18 51 53.0**	**+0.1**
MPEP	**Malo Peshtene**	**2.18**	**20**	P		**Pb**	**18 51 32.3**	**-0.1**
ZAGS	**Zajecar**	**2.52**	**352**	*e*Pn		**Pb**	**18 51 36.7**	**-1.5**

*IDC **28** 18:52:24.1±2.0, 30°.61S×177°.39W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/40, mbtmp3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/32, Error ellipse: s-maj=47.0km s-min=25.2km az=97.0*
*NEIC **28** 18:52:29.6±2.0, 30°.67S±0°.06×177°.6W±0°.2, h35km±2km, mb4.3/11, Error ellipse: s-maj=22.6km s-min=10.4km az=94.0*
ISC 28 18:52:29.7±1.3, 30°.67S±0°.06×177°.8W±0°.2, h33km, n23, σ2°03/25, mb4.4/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.42**	**354**	Pn		**Pn**	**18 52 52.0**	**-1.2**
	353nm,0.3s,baz=95,slow=9.8,SNR=38							
RAO				Sn		**Sb**	**18 53 11.1**	**-2.3**
	309nm,0.3s,baz=108,slow=22,SNR=21							
RAO				LR		LR	18 53 17.1	
	comp=Z,106nm,20.1s,baz=143,slow=37							
RAO	**Raoul Island**	**1.42**	**354**			**Pn**	**18 52 51.8**	**-1.4**
RAO				Sn		**Sn**	**18 53 10.9**	**+0.1**
OUZ	**Omahuta**	**8.57**	**236**	Pn		**Pn**	**18 54 32.4**	**+0.9**
URZ	**Urewera**	**8.68**	**208**	Pn		**Pn**	**18 54 29.5**	**-3.4**
	0.7nm,0.3s,baz=301,slow=23,SNR=6.5							
URZ				Sn		**Sn**	**18 56 05.6**	**-4.0**
	0.8nm,0.3s,baz=120,slow=23,SNR=1.8							
THZ	**Tophouse**	**13.39**	**212**	Pn		**Pn**	**18 55 38.8**	**+1.4**
KHZ	**Kahutara**	**13.65**	**208**	Pn		**Pn**	**18 55 36.6**	**-4.3**
LTZ	**Lake Taylor**	**14.48**	**211**	Pn		**Pn**	**18 55 51.0**	**-1.4**
DZM	**Mont Dzumac**	**16.54**	**297**	LR		LR	19 01 07.9	
	comp=Z,102nm,21.2s,baz=48,slow=31							
ODZ	**Otahua Downs**	**17.00**	**209**			**Pn**	**18 56 25.2**	**+0.3**
ODZ				IAmb		IAmb	18 56 34.6	
	comp=Z,12nm,1.2s							
WHZ	**Wether Hill Ro**	**18.85**	**212**	P		**P**	**18 56 45.4**	**-1.5**
WHZ				IAmb		IAmb	18 57 05.0	
	comp=Z,30nm,1.5s							
CTAO	**Charters Tower**	**34.05**	**279**	P		**P**	**18 59 12.5**	**+1.4**
STKA	**Stephens Creek**	**34.63**	**257**	P		**P**	**18 59 18.9**	**+3.0**
	comp=Z,1.9nm,0.7s,baz=91,slow=11,SNR=4.4							
STKA	**Stephens Creek**	**34.63**	**257**	IAmb		IAmb	18 59 51.8	
	comp=Z,1.3nm,1.4s							
BBOO	**Buckleboo**	**39.10**	**254**	P		**P**	**18 59 55.9**	**+1.8**
BBOO				IAmb		IAmb	18 59 55.9	
	comp=Z,18nm,1.4s							
ASAR	**Alice Springs**	**43.31**	**267**	P		**P**	**19 00 30.3**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=107,slow=7.5,SNR=5.5							
ASAR				PcP		**PcP**	**19 02 17.5**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=117,slow=4.0,SNR=1.8							
WR0	**Warramunga Arr**	**44.14**	**272**	P		**P**	**19 00 36.4**	**+1.0**
WR0				IAmb		IAmb	19 01 10.4	
	comp=Z,12nm,1.5s							
WB2	**Warramunga Arr**	**44.31**	**272**	P		**P**	**19 00 37.3**	**+0.5**
WB2				IAmb		IAmb	19 01 04.5	
	comp=Z,10nm,1.6s							
WRA	**Warramunga Arr**	**44.32**	**272**	P		**P**	**19 00 37.6**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=111,slow=7.9,SNR=7.9							
WB0	**Warramunga Arr**	**44.35**	**273**	P		**P**	**19 00 36.9**	**-0.1**
WB0				IAmb		IAmb	19 00 44.6	
	comp=Z,14nm,1.6s							
FORT	**Forrest**	**46.19**	**255**	P		**P**	**19 00 52.2**	**+0.7**
QSPA	**South Pole Qui**	**59.44**	**180**	P		**P**	**19 02 32.1**	**+3.0**
MKAR	**Makanchi Array**	**118.11**	**310**	PKP		**PKiKP**	**19 11 12.8**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=116,slow=3.4,SNR=1.7							
FINES	**FINESS Array B**	**145.47**	**340**	PKPbc		**PKPab**	**19 12 02.7**	**-1.2**
	comp=Z,2.3nm,0.6s,baz=54,slow=3.8,SNR=17							

*TAP **28** 18:56:35.9, 24°.33N×122°.41E, h46km, ML3.7, B*
*JMA **28** 18:56:35.8±0.1, 24°.25N×122°.39E, h54km±2km, M3.3*
*IDC **28** 18:56:53.5±20.0, 24°.58N×122°.65E, h234km±242km, mb3.0/4, mb1 3.1/5, mb1mx2.7/46, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=170.3km s-min=17.0km az=60.0*
ISC 28 18:56:36.2±0.9, 24°.32N±0°.02×122°.40E±0°.02, h52km±7km, n145, σ1°35/274, mb3.5/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.51**	**75**	P		**Pn**	**18 56 47.9**	**+0.3**
JYNG				S		**Sn**	**18 56 56.6**	**+0.7**
YOJ	**Yonaguni jima**	**0.57**	**76**	*e*P		**Pn**	**18 56 48.8**	**+0.4**
	baz=75							
YOJ				*e*S		**Sn**	**18 56 57.8**	**+0.7**
	baz=75							
YOJ	**Yonaguni jima**	**0.57**	**76**	P		**Pn**	**18 56 48.6**	**+0.2**
YOJ				S		**Sn**	**18 56 57.7**	**+0.5**
TWC	**Suao**	**0.58**	**300**	P		**Pn**	**18 56 48.5**	**0.0**
	baz=299							
TWC				S		**Sn**	**18 56 56.9**	**-0.5**
	baz=299							
EWUT	**Wuta**	**0.58**	**282**	P		**Pn**	**18 56 48.4**	**-0.1**
	baz=281							
EWUT				S		**Sn**	**18 56 57.8**	**+0.3**
	baz=281							
ENA	**Nanau**	**0.61**	**280**	P		**Pn**	**18 56 48.9**	**0.0**
	baz=279							
ENA				*e*S		**Sn**	**18 56 58.7**	**+0.6**
	baz=279							
NDS	**Dongshan**	**0.70**	**297**	P		**Pn**	**18 56 50.5**	**+0.5**
	baz=295							
NDS				*e*S		**Sn**	**18 57 01.0**	**+0.9**
	baz=295							
ILA	**Ilan**	**0.74**	**307**	P		**Pn**	**18 56 51.1**	**+0.5**
	baz=306							
ILA				*e*S		**Sn**	**18 57 03.6**	**+2.6**
	baz=306							
NTC	**Toucheng**	**0.75**	**316**	*e*P		**Pn**	**18 56 50.6**	**0.0**
	baz=314							
NTC				*e*S		**Sn**	**18 57 01.2**	**+0.1**
	baz=314							
NACB	**Ninganchiao**	**0.75**	**259**	P		**Pn**	**18 56 50.5**	**-0.2**
	baz=258							
NACB				S		**Sn**	**18 57 01.0**	**-0.2**
	baz=258							
TWD	**Chiawan**	**0.78**	**252**	P		**Pn**	**18 56 50.7**	**-0.3**
	baz=251							
TWD				S		**Sn**	**18 57 01.5**	**-0.3**
	baz=251							
TWE	**Neicheng**	**0.78**	**301**	P		**Pn**	**18 56 51.5**	**+0.5**
	baz=300							
TWE				S		**Sn**	**18 57 02.9**	**+1.0**
	baz=300							
TWB1	**Santiao Chiao**	**0.78**	**331**	P		**Pn**	**18 56 51.0**	**-0.1**
	baz=331							
TWB1				S		**Sn**	**18 57 01.4**	**-0.5**
	baz=331							
HWA	**Hwalien**	**0.81**	**245**	P		**Pn**	**18 56 51.5**	**+0.1**
	baz=244							
HWA				*e*S		**Sn**	**18 57 03.4**	**+1.0**
	baz=244							
ENTT	**Nioudou**	**0.83**	**293**	*i* P		**Pn**	**18 56 52.4**	**+0.7**
	baz=292							
ENTT				*i* S		**Sn**	**18 57 03.9**	**+0.9**
	baz=292							
TIPB	**Shuangxi**	**0.84**	**321**	P		**Pn**	**18 56 52.0**	**+0.2**
	baz=320							
TIPB				S		**Sn**	**18 57 03.1**	**-0.1**
	baz=320							
ETLH	**Xiulin Townshi**	**0.85**	**263**	*e*P		**Pn**	**18 56 51.9**	**-0.1**
	baz=261							
ETLH				*e*S		**Sn**	**18 57 03.7**	**+0.1**
	baz=261							
NDT	**Datong Townshi**	**0.86**	**289**	P		**Pn**	**18 56 52.9**	**+0.8**
	baz=288							
NDT				*e*S		**Sn**	**18 57 04.6**	**+0.8**
	baz=288							
NNSB	**Datong**	**0.94**	**277**	P		**Pn**	**18 56 53.5**	**+0.2**
	baz=276							
NNSB				S		**Sn**	**18 57 06.1**	**+0.3**
	baz=276							
NNSH	**Datong**	**0.94**	**277**	*e*P		**Pn**	**18 56 53.5**	**+0.3**
	baz=276							
NNSH				*e*S		**Sn**	**18 57 06.0**	**+0.2**
	baz=276							
WFSB	**Wu-fen Shan**	**0.94**	**323**	*i* P		**Pn**	**18 56 53.4**	**+0.3**
	baz=322							
WFSB				*i* S		**Sn**	**18 57 05.2**	**-0.4**
	baz=322							
NWLT	**Wulai**	**0.94**	**299**	P		**Pn**	**18 56 54.1**	**+1.0**
	baz=298							
NWLT				S		**Sn**	**18 57 06.9**	**+1.2**
	baz=298							
NNS	**Nan Shan**	**0.95**	**277**	P		**Pn**	**18 56 53.6**	**+0.3**
	baz=276							
NNS				S		**Sn**	**18 57 06.3**	**+0.3**
	baz=276							
TWA	**Mucha**	**0.99**	**312**	*i* P		**Pn**	**18 56 54.3**	**+0.4**
	baz=311							
TWA				*i* S		**Sn**	**18 57 07.4**	**+0.4**
	baz=311							
YHNB	**Yeheng**	**1.00**	**291**	P		**Pn**	**18 56 54.8**	**+0.7**
	baz=289							
YHNB				S		**Sn**	**18 57 08.1**	**+1.0**
	baz=289							
TNOU	**National Taiwa**	**1.01**	**325**	P		**Pn**	**18 56 53.9**	**-0.1**
	baz=324							
TNOU				*e*S		**Sn**	**18 57 06.9**	**-0.3**
	baz=324							
NSK	**Sanguang**	**1.02**	**291**	P		**Pn**	**18 56 54.9**	**+0.6**
	baz=289							
NSK				S		**Sn**	**18 57 08.1**	**+0.5**
	baz=289							
ESL	**Shilin**	**1.02**	**241**	P		**Pn**	**18 56 53.8**	**-0.5**
	baz=239							
ESL				*e*S		**Sn**	**18 57 07.2**	**-0.3**
	baz=239							
NHDH	**Xindian Distri**	**1.02**	**309**	P		**Pn**	**18 56 54.

IRIF	**Iriomote-Funau**	**1.21**	**89**	P	**Pn**	**18 56 56.8**	**0.0**
IRIF				S	**Sn**	**18 57 12.3**	**+0.2**
NTY	**Taoyuan**	**1.21**	**304**	*e*P	**Pn**	**18 56 57.7**	**+0.9**
	baz=303						
NTY				*e*S	**Sn**	**18 57 14.5**	**+2.3**
	baz=303						
HGSD	**Ruisui**	**1.22**	**228**	P	**Pn**	**18 56 56.3**	**-0.6**
	baz=227						
HGSD				S	**Sn**	**18 57 11.8**	**-0.4**
	baz=227						
NJD	**Zhudong**	**1.27**	**289**	*e*P	**Pn**	**18 56 59.1**	**+1.6**
	baz=288						
NJD				*e*S	**Sn**	**18 57 16.1**	**+2.6**
	baz=288						
EHY	**Hungye**	**1.28**	**231**	P	**Pn**	**18 56 57.2**	**-0.5**
	baz=230						
EHY				*e*S	**Sn**	**18 57 12.1**	**-1.7**
	baz=230						
NCU	**National Centr**	**1.28**	**301**	*e*P	**Pn**	**18 56 58.8**	**+1.0**
	baz=300						
NCU				*e*S	**Sn**	**18 57 15.6**	**+1.7**
	baz=300						
NCUH	**Zhongli**	**1.28**	**300**	*e*P	**Pn**	**18 56 58.8**	**+1.0**
	baz=299						
NCUH				*e*S	**Sn**	**18 57 15.4**	**+1.5**
	baz=299						
VWDT	**VWDT**	**1.28**	**244**	P	**Pn**	**18 56 58.1**	**+0.4**
	baz=243						
VWDT				*e*S	**Sn**	**18 57 14.1**	**+0.2**
	baz=243						
HATJ	**Hateruma jima**	**1.31**	**101**	P	**Pn**	**18 56 58.6**	**+0.5**
HATJ				S	**Sn**	**18 57 15.2**	**+0.8**
LIOB	**Emei**	**1.31**	**285**	*e*P	**Pn**	**18 56 59.4**	**+1.3**
	baz=284						
LIOB				*e*S	**Sn**	**18 57 16.4**	**+2.0**
	baz=284						
NSTT	**Nanjuang**	**1.31**	**284**	*e*P	**Pn**	**18 56 59.5**	**+1.3**
	baz=283						
NSTT				*e*S	**Sn**	**18 57 16.0**	**+1.4**
	baz=283						
WHP	**Taichung City**	**1.33**	**268**	*e*P	**Pn**	**18 57 00.2**	**+1.7**
	baz=267						
WHP				*e*S	**Sn**	**18 57 16.3**	**+1.1**
	baz=267						
PCYT	**Pengchaiyu**	**1.34**	**347**	P	**Pn**	**18 56 58.7**	**+0.1**
	baz=347						
PCYT				*e*S	**Sn**	**18 57 13.8**	**-1.4**
	baz=347						
HSN1	**Hsinchu**	**1.34**	**290**	*e*P	**Pn**	**18 57 00.2**	**+1.6**
	baz=289						
HSN1				*e*S	**Sn**	**18 57 17.7**	**+2.4**
	baz=289						
WPL	**Puli Township**	**1.36**	**257**	P	**Pn**	**18 56 59.4**	**+0.6**
	baz=256						
WPL				*e*S	**Sn**	**18 57 15.7**	**0.0**
	baz=256						
YULB	**Yu-li**	**1.37**	**228**	P	**Pn**	**18 56 58.5**	**-0.5**
	baz=227						
YULB				*e*S	**Sn**	**18 57 14.6**	**-1.4**
	baz=227						
SBCB	**Hsinchu**	**1.38**	**290**	*e*P	**Pn**	**18 56 60.0**	**+1.0**
	baz=289						
DPDB	**Guoxing**	**1.38**	**258**	*e*P	**Pn**	**18 57 00.1**	**+0.9**
	baz=257						
DPDB				*e*S	**Sn**	**18 57 16.9**	**+0.6**
	baz=257						
EYUL	**Yuli**	**1.39**	**226**	P	**Pn**	**18 56 59.3**	**+0.1**
	baz=225						
EYUL				*e*S	**Sn**	**18 57 16.6**	**+0.2**
	baz=225						
WCS	**Beigang Elemen**	**1.39**	**259**	*e*P	**Pn**	**18 57 00.1**	**+0.9**
	baz=258						
WCS				*e*S	**Sn**	**18 57 17.5**	**+1.1**
	baz=258						
TWF1	**Yuli**	**1.40**	**227**	P	**Pn**	**18 56 59.0**	**-0.4**
	baz=225						
TWF1				*e*S	**Sn**	**18 57 15.5**	**-1.2**
	baz=225						
NHW	**Xinwu Township**	**1.41**	**299**	*e*P	**Pn**	**18 57 00.6**	**+1.1**
	baz=298						
NHW				*e*S	**Sn**	**18 57 18.7**	**+1.7**
	baz=298						
SSLB	**Suanglung**	**1.43**	**248**	P	**Pn**	**18 56 60.0**	**+0.2**
	baz=247						
SSLB				S	**Sn**	**18 57 16.6**	**-0.8**
	baz=247						
SMLT	**Sun Moon Lake**	**1.44**	**253**	P	**Pn**	**18 57 00.7**	**+0.7**
	baz=251						
SMLT				S	**Sn**	**18 57 18.5**	**+0.6**
	baz=251						
JKRS	**Kuro-shima**	**1.47**	**93**	P	**Pn**	**18 57 01.3**	**+1.1**
JKRS				S	**Sn**	**18 57 19.3**	**+1.0**
TYC	**Yuchr**	**1.47**	**254**	P	**Pn**	**18 57 01.1**	**+0.8**
	baz=253						
TYC				S	**Sn**	**18 57 19.0**	**+0.5**
	baz=253						
NMLH	**Miaoli**	**1.49**	**279**	*e*P	**Pn**	**18 57 02.0**	**+1.5**
	baz=278						
NMLH				*e*S	**Sn**	**18 57 21.1**	**+2.2**
	baz=278						
TWQ1	**Liyutan**	**1.49**	**271**	*e*P	**Pn**	**18 57 02.2**	**+1.6**
	baz=270						
TWQ1				*e*S	**Sn**	**18 57 21.0**	**+2.1**
	baz=270						
FULB	**Fuli**	**1.51**	**223**	P	**Pn**	**18 57 00.4**	**-0.5**
	baz=222						
FULB				S	**Sn**	**18 57 18.8**	**-0.6**
	baz=222						
CHKT	**Chengkung**	**1.54**	**218**	P	**Pn**	**18 57 00.4**	**-0.9**
	baz=217						
CHKT				S	**Sn**	**18 57 17.6**	**-2.7**
	baz=217						
WHYT	**Xinyi Township**	**1.55**	**247**	P	**Pn**	**18 57 02.5**	**+1.1**
	baz=246						
WHYT				*e*S	**Sn**	**18 57 21.6**	**+1.2**
	baz=246						
YUS	**Yu-Shan**	**1.56**	**238**	P	**Pn**	**18 57 02.5**	**+0.5**
	baz=237						
YUS				S	**Sn**	**18 57 20.8**	**-0.7**
	baz=237						
WWF	**Wufeng**	**1.58**	**260**	*e*P	**Pn**	**18 57 04.0**	**+2.2**
	baz=259						
WWF				*e*S	**Sn**	**18 57 24.1**	**+2.9**
	baz=259						
JIJ	**Ishigaki jima**	**1.59**	**88**	P	**Pn**	**18 57 01.9**	**0.0**
JIJ				S	**Sn**	**18 57 20.9**	**-0.4**
TCU	**Taichung**	**1.59**	**264**	*e*P	**Pn**	**18 57 03.5**	**+1.6**
	baz=263						
TCU				*e*S	**Sn**	**18 57 24.0**	**+2.7**
	baz=263						
WJS	**Zhushan**	**1.61**	**252**	*e*P	**Pn**	**18 57 04.1**	**+1.9**
	baz=251						
WJS				*e*S	**Sn**	**18 57 24.4**	**+2.6**
	baz=251						
WNT1	**Nantou City**	**1.63**	**256**	P	**Pn**	**18 57 04.7**	**+2.2**
	baz=255						
WNT1				S	**Sn**	**18 57 25.3**	**+3.0**
	baz=255						
WNT	**Mingjian**	**1.63**	**255**	*e*P	**Pn**	**18 57 04.4**	**+1.9**
	baz=253						
WNT				*e*S	**Sn**	**18 57 25.0**	**+2.6**
	baz=253						
ALS	**Alishan**	**1.67**	**241**	P	**Pn**	**18 57 04.5**	**+1.1**
	baz=240						
ALS				*e*S	**Sn**	**18 57 26.6**	**+2.8**
	baz=240						
EDH	**Donghe**	**1.68**	**217**	*e*P	**Pn**	**18 57 02.4**	**-0.7**
	baz=216						
EDH				*e*S	**Sn**	**18 57 21.6**	**-1.9**
	baz=216						
ELDTW	**Lidau**	**1.70**	**229**	*e*P	**Pn**	**18 57 03.1**	**-0.4**
	baz=228						
WCHH	**Zhanghua**	**1.70**	**262**	*e*P	**Pn**	**18 57 05.9**	**+2.4**
	baz=261						
WCHH				*e*S	**Sn**	**18 57 25.8**	**+1.7**
	baz=261						
CHN5	**Tsauling**	**1.73**	**246**	P	**Pn**	**18 57 05.6**	**+1.6**
	baz=245						
CHN5				S	**Sn**	**18 57 27.3**	**+2.2**
	baz=245						
JISG	**Ishigakijimahi**	**1.76**	**81**	P	**Pn**	**18 57 04.2**	**0.0**
JISG				S	**Sn**	**18 57 25.4**	**-0.1**
WGK	**Gukeng**	**1.80**	**250**	P	**Pn**	**18 57 06.7**	**+1.9**
	baz=249						
WGK				*e*S	**Sn**	**18 57 29.2**	**+2.8**
	baz=249						
WDLH	**Douliu**	**1.82**	**250**	P	**Pn**	**18 57 06.9**	**+1.9**
	baz=249						
WDLH				S	**Sn**	**18 57 29.6**	**+2.6**
	baz=249						
LONT	**Longtian**	**1.83**	**220**	*e*P	**Pn**	**18 57 04.7**	**-0.6**
	baz=219						
LONT				*e*S	**Sn**	**18 57 26.2**	**-1.0**
	baz=219						
LDUT	**Ludao**	**1.85**	**208**	*e*P	**Pn**	**18 57 04.4**	**-1.1**
	baz=207						
LDUT				*e*S	**Sn**	**18 57 25.8**	**-1.9**
	baz=207						
STYH	**Taoyuan**	**1.88**	**233**	*e*P	**Pn**	**18 57 07.2**	**+1.3**
	baz=232						
STYH				*e*S	**Sn**	**18 57 29.3**	**+0.8**
	baz=232						
STYT	**Tauyuan**	**1.90**	**233**	P	**Pn**	**18 57 07.3**	**+1.1**
	baz=232						
STYT				*e*S	**Sn**	**18 57 29.7**	**+0.7**
	baz=232						
TPUB	**Ta-pu**	**1.92**	**238**	*e*P	**Pn**	**18 57 08.0**	**+1.5**
	baz=237						
TPUB				*e*S	**Sn**	**18 57 31.2**	**+1.8**
	baz=237						
CHN4	**Tsaushan**	**1.92**	**240**	*e*P	**Pn**	**18 57 08.5**	**+2.1**
	baz=239						
CHN4				*e*S	**Sn**	**18 57 32.0**	**+2.6**
	baz=239						
TWGBT	**Beinan**	**1.93**	**219**	*e*P	**Pn**	**18 57 05.7**	**-0.9**
	baz=218						
TWGBT				*e*S	**Sn**	**18 57 27.9**	**-1.7**
	baz=218						
TWG	**Pinlang**	**1.93**	**220**	*e*P	**Pn**	**18 57 05.8**	**-0.8**
	baz=218						
TWG				*e*S	**Sn**	**18 57 28.6**	**-1.1**
	baz=218						
WTK	**Tuku**	**1.95**	**252**	*e*P	**Pn**	**18 57 09.0**	**+2.2**
	baz=250						
WTK				*e*S	**Sn**	**18 57 33.2**	**+3.1**
	baz=250						
WTP	**Ta-pu**	**1.96**	**237**	P	**Pn**	**18 57 08.7**	**+1.6**
	baz=236						
CHY	**Chiayi**	**1.99**	**246**	*e*P	**Pn**	**18 57 09.3**	**+1.9**
	baz=245						
CHY				*e*S	**Sn**	**18 57 34.5**	**+3.4**
	baz=245						
TWK	**Hsinying**	**2.04**	**240**	*e*P	**Pn**	**18 57 09.9**	**+1.7**
	baz=238						
TWK				*e*S	**Sn**	**18 57 35.3**	**+2.7**
	baz=238						
CHN1	**Nanshi**	**2.06**	**237**	*e*P	**Pn**	**18 57 10.5**	**+2.1**
	baz=236						
CHN1				*e*S	**Sn**	**18 57 36.2**	**+3.3**
	baz=236						
SNST	**Tainan City**	**2.06**	**238**	*e*P	**Pn**	**18 57 10.4**	**+2.0**
	baz=237						
SGST	**Jiashian**	**2.08**	**234**	*e*P	**Pn**	**18 57 09.6**	**+1.0**
	baz=233						
SGST				*e*S	**Sn**	**18 57 34.8**	**+1.5**
	baz=233						
SLGT	**Liugui**	**2.08**	**231**	*e*P	**Pn**	**18 57 10.4**	**+1.7**
	baz=230						
SLGT				*e*S	**Sn**	**18 57 35.6**	**+2.2**
	baz=230						
WSF	**Szhu**	**2.11**	**252**	*e*P	**Pn**	**18 57 10.5**	**+1.5**
	baz=250						
WSF				*e*S	**Sn**	**18 57 37.1**	**+3.1**
	baz=250						
JTJ	**Tarama**	**2.12**	**81**	P	**Pn**	**18 57 09.9**	**+0.8**
JTJ				S	**Sn**	**18 57 34.5**	**+0.2**
ECL	**Taimali**	**2.17**	**218**	*e*P	**Pn**	**18 57 09.0**	**-0.9**
	baz=217						
ECL				*e*S	**Sn**	**18 57 33.7**	**-1.9**
	baz=217						
SSD	**Sandimen**	**2.26**	**226**	*e*P	**Pn**	**18 57 11.9**	**+0.9**
	baz=225						
SSD				*e*S	**Sn**	**18 57 39.7**	**+1.9**
	baz=225						
SCST	**Cishan**	**2.26**	**231**	*e*P	**Pn**	**18 57 13.9**	**+2.8**
	baz=230						
TSMG	**Majia**	**2.28**	**225**	*e*P	**Pn**	**18 57 13.1**	**+1.8**
	baz=225						
TSMG				*e*S	**Sn**	**18 57 39.9**	**+1.7**
	baz=225						
TWM1	**Shoushan**	**2.35**	**231**	*e*P	**Pn**	**18 57 15.9**	**+3.5**
	baz=230						
MASBT	**Mashibuluo**	**2.35**	**224**	*e*P	**Pn**	**18 57 12.9**	**+0.5**
	baz=223						
MASBT				*e*S	**Sn**	**18 57 41.8**	**+1.7**
	baz=223						
EAST	**Anshuo**	**2.40**	**217**	*e*P	**Pn**	**18 57 12.8**	**-0.3**
	baz=216						
LAY	**Lan-yu**	**2.40**	**199**	*e*P	**Pn**	**18 57 11.9**	**-1.2**
	baz=198						
SSPT	**Xinbi**	**2.49**	**223**	*e*P	**Pn**	**18 57 16.9**	**+2.7**
	baz=222						
SCZT	**Fangliau**	**2.54**	**221**	*e*P	**Pn**	**18 57 17.7**	**+2.8**
	baz=219						
SLIU	**Shizi**	**2.56**	**215**	*e*P	**Pn**	**18 57 14.9**	**-0.4**
	baz=215						
SLIU				*e*S	**Sn**	**18 57 42.9**	**-2.4**
	baz=215						
JIRB	**Irabujima**	**2.57**	**78**	P	**Pn**	**18 57 16.6**	**+1.2**
JIRB				S	**Sn**	**18 57 46.5**	**+1.1**
JIKM	**Ikemajima**	**2.66**	**76**	P	**Pn**	**18 57 17.1**	**+0.6**
JIKM				S	**Sn**	**18 57 49.3**	**+1.8**
JMJ2	**Miyako jima3**	**2.70**	**80**	P	**Pn**	**18 57 18.3**	**+1.2**
JMJ2				*e*S	**Sn**	**18 57 49.9**	**+1.4**
PNG	**Penghu**	**2.71**	**255**	*e*P	**Pn**	**18 57 18.8**	**+1.5**
	baz=253						
PNG				*e*S	**Sn**	**18 57 48.1**	**-0.8**
	baz=253						
PHUB	**P'eng-hu**	**2.71**	**253**	*e*P	**Pn**	**18 57 18.2**	**+0.9**
	baz=252						
PHUB				*e*S	**Sn**	**18 57 47.8**	**-1.2**
	baz=252						
WDGT	**Dungji**	**2.73**	**248**	*e*P	**Pn**	**18 57 18.5**	**+1.0**
	baz=246						
WDGT				*e*S	**Sn**	**18 57 49.0**	**-0.2**
	baz=246						
HEN	**Hengchun**	**2.77**	**214**	*e*P	**Pn**	**18 57 20.7**	**+2.7**
	baz=213						
HEN				*e*S	**Sn**	**18 57 50.2**	**0.0**
	baz=213						
JOGS	**Gusukube**	**2.77**	**80**	P	**Pn**	**18 57 19.5**	**+1.4**
JOGS				*e*S	**Sn**	**18 57 52.3**	**+2.0**
VWUC	**VWUC**	**2.77**	**285**	*e*P	**Pn**	**18 57 17.7**	**-0.3**
	baz=283						
VWUC				*e*S	**Sn**	**18 57 47.7**	**-2.6**
	baz=283						
TWKBT	**Hengchun**	**2.79**	**212**	*e*P	**Pn**	**18 57 18.5**	**+0.2**
	baz=211						
TWKBT				*e*S	**Sn**	**18 57 49.7**	**-1.0**
	baz=211						
TWK1	**Hengchun**	**2.79**	**212**	*e*P	**Pn**	**18 57 18.4**	**+0.1**
	baz=211						
TWK1				*e*S	**Sn**	**18 57 49.8**	**-0.9**
	baz=211						
MATB	**Ma-tsu**	**2.88**	**310**	*e*P	**Pn**	**18 57 19.3**	**-0.3**
	baz=308						
MATB				*e*S	**Sn**	**18 57 51.1**	**-1.9**
	baz=308						
VCHM	**Qimei**	**2.94**	**249**	*e*P	**Pn**	**18 57 21.2**	**+0.7**
	baz=247						
VCHM				*e*S	**Sn**	**18 57 53.8**	**-0.7**
	baz=247						
PTMZ	**Houxiangcun**	**3.07**	**284**	*e*P	**Pn**	**18 57 22.1**	**-0.1**
	baz=283						
PTMZ				*e*S	**Sn**	**18 57 54.9**	**-2.8**
	baz=283						
LYJJ	**Jianjiangzhen**	**3.26**	**313**	*e*P	**Pn**	**18 57 24.4**	**-0.5**
	baz=312						
LYJJ				*e*S	**Sn**	**18 58 00.4**	**-2.0**
	baz=312						
XPSS	**Dashiqiu**	**3.28**	**323**	*e*P	**Pn**	**18 57 24.7**	**-0.4**
	baz=322						
XPSS				*e*S	**Sn**	**18 58 00.4**	**-2.4**
	baz=322						
KNMB	**Chin-men Tao**	**3.66**	**273**	*e*P	**Pn**	**18 57 30.0**	**-0.4**
	baz=272						
KNMB				*e*S	**Sn**	**18 58 09.4**	**-2.9**
	baz=272						
AXDP	**Jialang**	**4.08**	**279**	*e*P	**Pn**	**18 57 37.0**	**+1.0**
	baz=278						
AXDP				*e*S	**Sn**	**18 58 20.2**	**-2.3**
	baz=278						
KSRS	**Korea Array**	**13.92**	**19**	P	**P**	**18 59 57.1**	**-0.2**
	0.2nm,0.3s,baz=199,slow=12,SNR=7.7						
SONM	**Songino Array**	**26.69**	**336**	P	**P**	**19 02 09.7**	**-0.9**
	0.7nm,0.6s,baz=158,slow=10,SNR=7.1						
MKAR	**Makanchi Array**	**39.02**	**315**	P	**P**	**19 03 57.3**	**-0.5**
	0.4nm,0.6s,baz=102,slow=10,SNR=8.3						
WRA	**Warramunga Arr**	**45.51**	**164**	P	**P**	**19 04 50.6**	**-0.1**
	0.8nm,0.8s,baz=347,slow=8.1,SNR=4.8						
ASAR	**Alice Springs**	**48.99**	**166**	P	**P**	**19 05 18.4**	**+0.6**
	0.2nm,0.3s,baz=342,slow=6.8,SNR=12						

SKO ***28*** *19:00:28.9,41.°30N±22.°71E,h15km*
SOF ***28*** *19:00:29.7,41.°30N±22.°74E,h15km,MD3.5*
ATH ***28*** *19:00:30.4,41.°28N±22.°71E,h12km±1km,ML3.0/10,Error ellipse: s-maj=2.3km s-min=1.2km az=164.0*
THE ***28*** *19:00:30.4,41.°28N±22.°72E,h4km±1km,ML2.8/9,Error ellipse: s-maj=1.1km s-min=0.5km az=181.0*
ISK ***28*** *19:00:30.6,41.°20N±22.°67E,h5km,ML3.1/16*
BEO ***28*** *19:00:30.2±0.3,41.°30N±22.°70E,h12km±2km,ML2.6/14*

ISC 28 19:00:30.0±0.8, 41.°29N±0.°02×22.°71E±0.°02, h13km±5km, n112,σ1$32/149, 18C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.11**	**286**	*e*Pg		**Pg**	**19 00 33.1**	**0.0**
VAY				*e*Sg		**Sg**	**19 00 35.1**	**-0.2**
VAY	**Valandovo**	**0.11**	**286**	⇓*i*Pg		**Pg**	**19 00 33.2**	**0.0**
VAY				*i* Sg		**Sg**	**19 00 35.2**	**-0.1**
VAY				*e*Lg		Lg	19 00 35.2	
	comp=E,2μm,0.2s							
KNT	**Kendrikon**	**0.19**	**132**	P		**Pg**	**19 00 34.7**	**+0.3**
KNT				S		**Sg**	**19 00 37.4**	**+0.1**
KNT				AML		AML	19 00 37.9	
	comp=E,30951μm,0.1s							
KNT				AML		AML	19 00 38.0	
	comp=N,43472μm,0.2s							
KNT	**Kendrikon**	**0.19**	**132**	P		**Pg**	**19 00 34.7**	**+0.3**
KNT				S		**Sg**	**19 00 36.9**	**-0.5**
KNT	**Kendrikon**	**0.19**	**132**	PG		**Pg**	**19 00 34.6**	**+0.3**
KNT				SG		**Sg**	**19 00 37.7**	**+0.3**
KNT	**Kendrikon**	**0.19**	**132**	⇑*i*Pg		**Pg**	**19 00 34.7**	**+0.3**
KNT				*i* Sg		**Sg**	**19 00 37.7**	**+0.3**
GRG	**Griva**	**0.41**	**215**	P		**Pg**	**19 00 38.1**	**-0.1**
GRG				S		**Sg**	**19 00 43.7**	**0.0**
GRG				AML		AML	19 00 44.3	
	comp=N,5997μm,0.3s							
GRG				AML		AML	19 00 44.8	
	comp=E,3953μm,0.2s							
GRG	**Griva**	**0.41**	**215**	P		**Pg**	**19 00 38.1**	**-0.1**
GRG				S		**Sg**	**19 00 43.8**	**+0.2**
	comp=E,2μm,0.2s							
GRG	**Griva**	**0.41**	**215**	PG		**Pg**	**19 00 38.1**	**-0.1**
GRG				SG		**Sg**	**19 00 43.9**	**+0.2**
GRG	**Griva**	**0.41**	**215**	⇑*i*Pg		**Pg**	**19 00 38.1**	**-0.1**
GRG				*i* Sg		**Sg**	**19 00 43.9**	**+0.2**
STIP	**Stip**	**0.56**	**316**	⇑*i*Pg		**Pg**	**19 00 39.5**	**-1.6**
STIP				*i* Sg		**Sg**	**19 00 46.3**	**-2.2**
STIP				*e*Lg		Lg	19 00 46.8	
	comp=E,263nm,0.3s							
KKB	**Krupnik**	**0.64**	**26**	*i* Pg		**Pg**	**19 00 42.4**	**-0.1**
SOH	**Sokhos**	**0.68**	**134**	P		**Pg**	**19 00 43.0**	**-0.3**
SOH				S		**Sg**	**19 00 51.7**	**-0.4**
SOH				AML		AML	19 00 54.1	
	comp=E,7680μm,0.4s							
SOH				AML		AML	19 00 56.0	
	comp=N,6135μm,0.4s							
SOH	**Sokhos**	**0.68**	**134**	P		**Pg**	**19 00 42.9**	**-0.3**
SOH				S		**Sg**	**19 00 52.3**	**+0.1**
	comp=N,3μm,0.4s							
SOH	**Sokhos**	**0.68**	**134**	⇑*i*Pg		**Pg**	**19 00 43.0**	**-0.3**
SOH				*i* Sg		**Sg**	**19 00 51.9**	**-0.3**
THE	**Thessaloniki**	**0.69**	**163**	P		**Pg**	**19 00 43.2**	**-0.2**
THE				S		**Sg**	**19 00 52.3**	**-0.1**
THE				AML		AML	19 00 54.2	
	comp=E,1948μm,0.2s							
THE				AML		AML	19 00 55.5	
	comp=N,1337μm,0.3s							
THE	**Thessaloniki**	**0.69**	**163**	P		**Pg**	**19 00 43.1**	**-0.2**
THE				S		**Sg**	**19 00 52.5**	**+0.1**
	comp=N,612nm,0.2s							
THE	**Thessaloniki**	**0.69**	**163**	⇓*i*Pg		**Pg**	**19 00 43.2**	**-0.2**
THE				*i* Sg		**Sg**	**19 00 52.3**	**-0.1**
SRS	**Serrai**	**0.69**	**104**	P		**Pg**	**19 00 43.2**	**-0.2**
SRS				AML		AML	19 00 54.1	
	comp=E,1323μm,0.2s							
SRS				AML		AML	19 00 58.5	
	comp=N,880μm,0.3s							
SRS	**Serrai**	**0.69**	**104**	P		**Pg**	**19 00 43.2**	**-0.2**
SRS				S		**Sb**	**19 00 53.0**	**-0.4**
	comp=N,505nm,0.2s							
SRS	**Serrai**	**0.69**	**104**	*e*Pg		**Pg**	**19 00 43.2**	**-0.2**
SRS				*e*Sg		**Sb**	**19 00 52.7**	**-0.7**
SRS	**Serrai**	**0.69**	**104**	⇓*i*Pg		**Pg**	**19 00 43.2**	**-0.2**
SRS				*i* Sg		**Sb**	**19 00 52.7**	**-0.7**
HORT	**Hortiatis**	**0.75**	**157**	P		**Pg**	**19 00 44.5**	**-0.2**
HORT				S		**Sg**	**19 00 55.0**	**+0.4**
HORT				AML		AML	19 00 56.9	
	comp=N,1319μm,0.4s							
HORT				AML		AML	19 00 57.2	
	comp=E,1468μm,0.2s							
HORT	**Hortiatis**	**0.75**	**157**	P		**Pg**	**19 00 44.4**	**-0.2**
HORT				S		**Sg**	**19 00 54.7**	**+0.1**
	comp=E,688nm,0.5s							
HORT	**Hortiatis**	**0.75**	**157**	PG		**Pg**	**19 00 44.8**	**+0.1**
HORT				SG		**Sb**	**19 00 55.6**	**+0.3**
MMB	**Musomiste**	**0.82**	**68**	*i* Pg		**Pb**	**19 00 45.8**	**-0.4**
NVR	**Nevrokopi**	**0.87**	**86**	P		**Pg**	**19 00 46.7**	**-0.3**
NVR				AML		AML	19 00 59.1	
	comp=E,1266μm,0.2s							
NVR				AML		AML	19 01 02.3	
	comp=N,1014μm,0.3s							
NVR	**Nevrokopi**	**0.87**	**86**	P		**Pg**	**19 00 46.6**	**-0.3**
NVR				S		**Sb**	**19 00 58.9**	**+0.3**
	comp=N,565nm,0.3s							
PLG	**Polygyros**	**1.07**	**148**	P		**Pb**	**19 00 50.1**	**-0.4**
PLG				AML		AML	19 01 06.7	
	comp=N,1053μm,0.5s							
PLG				AML		AML	19 01 07.9	
	comp=E,1538μm,0.5s							
PLG	**Polygyros**	**1.07**	**148**	P		**Pb**	**19 00 50.1**	**-0.4**
PLG				S		**Sn**	**19 01 05.9**	**+0.3**
	comp=E,642nm,0.5s							
FNA	**Florina**	**1.13**	**244**	P		**Pb**	**19 00 51.1**	**-0.3**
FNA	**Florina**	**1.13**	**244**	*e*Pg		**Pb**	**19 00 51.1**	**-0.3**
FNA				*e*Sg		**Sg**	**19 01 07.3**	**+0.9**
FNA	**Florina**	**1.13**	**244**	PG		**Pb**	**19 00 51.1**	**-0.3**
FNA	**Florina**	**1.13**	**244**	*i* Pg		**Pb**	**19 00 51.1**	**-0.3**
SKO	**Skopje**	**1.17**	**306**	*e*Pg		**Pb**	**19 00 52.3**	**+0.2**
SKO				*e*Sg		**Sb**	**19 01 07.0**	**-0.2**
SKO	**Skopje**	**1.17**	**306**	*i* Pg		**Pb**	**19 00 52.4**	**+0.3**
SKO				*i* Sg		**Sb**	**19 01 07.4**	**+0.2**
SKO				*e*Lg		Lg	19 01 09.4	
	comp=N,5.7nm,0.4s							
LIT	**Litokhoron**	**1.20**	**188**	P		**Pn**	**19 00 52.3**	**-0.3**
LIT	**Litokhoron**	**1.20**	**188**	*i* Pg		**Pn**	**19 00 52.0**	**-0.6**
KZN	**Kozani**	**1.21**	**216**	P		**Pn**	**19 00 53.1**	**+0.3**
BOSS	**Bosilegrad**	**1.22**	**352**	*e*Pg		**Pn**	**19 00 52.6**	**-0.2**
BOSS				*e*Sg		**Sb**	**19 01 07.9**	**-0.6**
OUR	**Ouranopolis**	**1.36**	**134**	P		**Pb**	**19 00 55.5**	**+0.2**
OUR				S		**Sg**	**19 01 14.0**	**+0.2**
	comp=N,510nm,0.4s							
**OU

BARS				*e*Sn	**Sn**	19 01 20.4	+0.3	
BARS	**Barje**	**1.66**	**337**	*i* Pn	**Pn**	19 00 57.7	-1.2	
THAS	**Thassos island**	**1.67**	**114**	P	**Pg**	19 01 01.4	-0.7	
THAS				S	**Sb**	19 01 21.9	+0.4	
THAS				AML	AML	19 01 24.9		
	comp=E,1143µm,0.3s							
THAS				AML	AML	19 01 27.5		
	comp=N,901µm,0.4s							
THAS	**Thassos island**	**1.67**	**114**	P	**Pn**	19 00 58.9	-0.1	
KPRO	**Kipourio**	**1.68**	**218**	P	**Pn**	19 01 00.7	+1.5	
PLD	**Plovdiv**	**1.70**	**61**	PN	**Pg**	19 01 03.7	+1.0	
PLD	**Plovdiv**	**1.70**	**61**	*e*P	**Pg**	19 01 03.3	+0.6	
PLD	**Plovdiv**	**1.70**	**61**	*i* Pn	**Pb**	19 01 01.3	+0.2	
PRZK	**Prizren**	**1.72**	**303**	*i* Pn	**Pb**	19 01 01.2	-0.3	
ZAPS	**Zavoj**	**1.98**	**358**	*e*Pn	**Pn**	19 01 04.4	+1.1	
ZAPS				*e*Sn	**Sn**	19 01 29.3	+1.3	
KDZ	**Kurdzhali**	**2.07**	**79**	PN	**Pb**	19 01 07.5	+0.1	
RDO	**Rodhopi**	**2.14**	**93**	P	**Pn**	19 01 05.7	+0.3	
MPEP	**Malo Peshtene**	**2.20**	**20**	P	**Pn**	19 01 07.1	+0.8	
SELS	**Selova**	**2.26**	**329**	*e*Pn	**Pn**	19 01 06.6	-0.5	
SELS				*e*Sn	**Sn**	19 01 35.7	+0.9	
AGG	**Agios Georgios**	**2.29**	**187**	PN	**Pn**	19 01 09.5	+2.0	
SMTH	**Samothraki Isl**	**2.29**	**110**	P	**Pn**	19 01 07.5	0.0	
BLKB	**Belogradchik**	**2.33**	**359**	⇑S	**Sn**	19 01 37.2	+0.6	
BOVS	**Bovan**	**2.46**	**343**	⇑P	**Pn**	19 01 09.0	-0.8	
PLVB	**Pleven**	**2.53**	**33**	⇓P	**Pg**	19 01 17.9	-0.6	
ZAGS	**Zajecar**	**2.54**	**352**	*e*Pn	**Pn**	19 01 10.9	-0.1	
ZAGS				*e*Sn	**Sn**	19 01 41.4	-0.4	
ALN	**Alexandroupoli**	**2.55**	**98**	P	**Pn**	19 01 11.6	+0.5	
ALN	**Alexandroupoli**	**2.55**	**98**	PN	**Pb**	19 01 15.1	-0.6	
GADA	**Gvkgeada**	**2.66**	**113**	PN	**Pb**	19 01 16.3	-1.2	
ENEZ	**Enez**	**2.67**	**101**	PN	**Pb**	19 01 16.8	-0.8	
SJES	**Sjenica**	**2.83**	**315**	*e*Pn	**Pn**	19 01 15.0	0.0	
BOZC	**Bozcaada**	**2.93**	**119**	PN	**Pb**	19 01 19.8	-2.3	
ERIK	**Erikli-Kesan**	**2.95**	**101**	PN	**Pb**	19 01 21.4	-1.0	
IVAS	**Ivanjica**	**2.96**	**321**	*e*Pn	**Pn**	19 01 16.7	-0.1	
VLAD	**Vladila**	**2.98**	**24**	⇑P	**Pb**	19 01 22.3	-0.7	
VLAD				⇑S	**Sb**	19 01 57.9	-1.4	
GRUS	**Gruza**	**2.98**	**331**	*e*Pn	**Pn**	19 01 16.3	-0.7	
GELI	**Tayfur-Gelibol**	**2.99**	**106**	PN	**Pb**	19 01 20.8	-2.4	
EDRB	**Edirne**	**3.08**	**78**	PN	**Pb**	19 01 22.9	-1.7	
EZN	**Ezine**	**3.12**	**117**	PN	**Pb**	19 01 22.9	-2.5	
SIGR	**SIGRI**	**3.18**	**130**	PN	**Pb**	19 01 23.4	-3.0	
LPK	**Lapseki**	**3.21**	**105**	PN	**Pb**	19 01 24.2	-2.7	
KUBS	**Kucevo**	**3.21**	**347**	*e*Pn	**Pn**	19 01 19.0	-1.2	
TRUS	**Trudelj**	**3.38**	**331**	*e*Pn	**Pn**	19 01 21.5	-1.1	
SRE	**Strehaia**	**3.39**	**6**	⇑P	**Pn**	19 01 24.4	+1.8	
RKY	**Sarkoy-Tekirda**	**3.44**	**99**	PN	**Pb**	19 01 27.9	-2.9	
DIVS	**Divibare**	**3.45**	**325**	*e*Pn	**Pn**	19 01 23.6	+0.1	
MAR6	**Marsite Statio**	**3.50**	**98**	PN	**Pb**	19 01 28.9	-2.9	
MAR3	**Marsite Statio**	**3.51**	**97**	PN	**Pb**	19 01 28.9	-3.2	
GZKV	**Gazikoy-Tekird**	**3.54**	**97**	PN	**Pb**	19 01 28.7	-3.7	
MDVR	**Moldovita**	**3.56**	**349**	⇑P	**Pn**	19 01 24.5	-0.6	
HERR	**Herculane**	**3.59**	**357**	⇑P	**Pn**	19 01 25.9	+0.4	
KRBG	**Karabiga-Canak**	**3.60**	**103**	PN	**Pb**	19 01 30.1	-3.3	
RAZG	**Razgrad**	**3.62**	**50**	⇓P	**Pb**	19 01 32.1	-1.7	
RAZG				⇑S	**Sb**	19 02 19.5	+1.9	
MRMT	**Marmara Adasi**	**3.77**	**99**	PN	**Pb**	19 01 32.5	-3.9	
MAR9	**Marsite Statio**	**3.84**	**98**	PN	**Pb**	19 01 33.3	-4.3	
GZR	**Gura Zlata**	**4.10**	**1**	⇑P	**Pn**	19 01 33.6	+1.1	
CTYL	**Yalikoy Yolu**	**4.20**	**86**	PN	Pn	19 01 38.6	+4.8	
CTKS	**Kestenelik-??a**	**4.37**	**89**	PN	Pn	19 01 41.2	+5.1	
BZS	**Buzias**	**4.40**	**350**	⇑P	**Pn**	19 01 37.3	+0.8	
VOIR		**4.48**	**22**	⇑P	**Pn**	19 01 38.8	+1.1	
MLR	**Muntele Rosu**	**4.81**	**28**	⇑P	**Pn**	19 01 46.1	+3.8	
SILT	**Sile**	**5.23**	**89**	PN	Pn	19 01 53.3	+5.4	
PLOR	**Plostina**	**5.38**	**31**	⇑P	**Pn**	19 01 54.4	+4.4	
VRI	**Vrincioaia**	**5.42**	**31**	⇓P	**Pn**	19 01 55.3	+4.7	
CFR	**Carcaliu**	**5.55**	**44**	⇑P	**Pn**	19 01 56.8	+4.5	
MORH	**Mrgy, Hungar**	**5.73**	**330**	⇓P	**Pn**	19 01 55.0	+0.2	

IDC 28 19:08:46.2±2.8, 7°87S×119°34E, *h*0km, mb2.7/2, mb1 3.0/3, mb1mx2.9/35, mbtmp2.8/3, ML3.0/1, Error ellipse: s-maj=266.7km s-min=29.5km az=52.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.84**	**131**	P	P	19 13 07.3	-0.6
	0.1nm,0.3s,baz=300,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**21.02**	**140**	P	P	19 13 32.1	+0.4
	0.2nm,0.9s,baz=319,slow=8.6,SNR=6.1						
MKAR	**Makanchi Array**	**63.62**	**332**	P	P	19 19 19.1	0.0
	0.1nm,0.3s,baz=137,slow=6.7,SNR=1.5						

*IDC **28** 19:16:32.0±0.5, 18°.34S×176°.66E, h0km, mb4.7/24, mb1 4.9/26, mb1mx4.8/37, mbtmp4.7/26, ML4.1/2, MS4.9/27, Ms1 4.9/27, ms1mx4.9/31, Error ellipse: s-maj=17.3km s-min=12.9km az=146.0*

*NEIC **28** 19:16:33.1±1.6, 18°.28S±0°.07×176°.79E±0°.06, h8km±1km, mb5.2/121, Ms_20 5.2/396, Mwb5.5/26, Mwc5.5(GCMT), Error ellipse: s-maj=12.9km s-min=8.3km az=161.0*

*MOS **28** 19:16:34.2±1.4, 18°.44S×176°.74E, h26km, mb5.1/14, MS5.0/28, Error ellipse: s-maj=9.1km s-min=8.3km az=124.3*

*NEIC **28** 19:16:36.6, 18°.32S×176°.78E, h7km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.28; $M_{\theta\theta}$-1.71; $M_{\phi\phi}$ 1.43; $M_{r\theta}$0.48; $M_{r\phi}$-0.80; $M_{\theta\phi}$0.62; Fault plane solution: M_o1.94000×10^{17} NP1:ϕ_s-301.38000°, δ65.51000°, λ176.95000°. NP2:ϕ_s32.64000°, δ87.22000°, λ24.52000°. Principal axes: T 1.7891, Plg19.0000°, Azm260.0000°; N 0.2752, Plg65.0000°, Azm39.0000°; P -2.0643, Plg15.0000°, Azm164.0000°;*

*NEIC **28** 19:16:37, 18°.29S×176°.68E, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14; $M_{\theta\theta}$-1.92; $M_{\phi\phi}$2.06; $M_{r\theta}$0.20; $M_{\theta\phi}$-1.33; $M_{r\phi}$0.68; Fault plane solution: M_o2.50000×10^{17} NP1:ϕ_s298.00000°, δ74.00000°, λ178.00000°. NP2:ϕ_s28.00000°, δ88.00000°, λ16.00000°. Principal axes: T 2.5913, Plg12.0000°, Azm254.0000°; N -0.1983, Plg74.0000°, Azm34.0000°; P -2.3930, Plg10.0000°, Azm162.0000°;*

*GCMT **28** 19:16:38.1±0.1, 18°.27S±0°.01×176°.68E±0°.01, h12km, MW5.5/158, Moment Tensor Solution. s133,c237; s158,c320; Duration: 1ª4 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.14±.02; $M_{\theta\theta}$-1.73±.02; $M_{\phi\phi}$ 1.87±.02; $M_{r\theta}$0.21±.05; $M_{\theta\phi}$-1.17±.02; $M_{r\phi}$0.69±.05; Best double couple: M_o2.26100×10^{17} NP1:ϕ_s298.00000°, δ72.00000°, λ178.00000°. NP2:ϕ_s29.00000°, δ88.00000°, λ18.00000°. Principal axes: T 2.3650, Plg14.0000°, Azm255.0000°; N -0.2070, Plg72.0000°, Azm33.0000°; P -2.1580, Plg12.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **28** 19:16:39.4, 18°.34S×176°.72E, h47km, mb5.2, Fiji Islands Region*

ISC 28 19:16:36.9±0.2, 18°.41S±0°.04×176°.91E±0°.04, h35km, h36km:pP-P, n654, σ2s01/471, mb5.1/128, MS5.2/258, 9C-19D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.27**	**58**	Pn	**Pn**	**19 16 55.9**	**-2.3**
	494nm,0.3s,baz=240,slow=15,SNR=996						
MSVF				Sn	**Sn**	**19 17 14.0**	**-0.1**
	2µm,0.3s,baz=129,slow=23,SNR=7.8						
MSVF	**Nonsavu**	**1.27**	**58**	P	Pn	19 16 54.5	-3.8
MSVF						19 17 14.3	
MSVF	**Nonsavu**	**1.27**	**58**		Pn	19 16 54.5	-3.8
MSVF				Sn	**Sn**	**19 17 14.3**	**+0.2**
MARNC	**Mare, Loyalty**	**8.90**	**248**	P	**Pn**	**19 18 43.4**	**+0.4**
LIFNC	**LIFOU**	**9.42**	**254**	P	**Pn**	**19 18 49.5**	**-0.7**
SANVU	**Saraoutou**	**9.75**	**286**	Pn	**Pn**	**19 18 50.6**	**-4.1**
SANVU	**Saraoutou**	**9.75**	**286**	P	**Pn**	**19 18 54.8**	**+0.1**
PINNC	**Pines Island,**	**9.81**	**243**	P	**Pn**	**19 18 56.0**	**+0.5**
FUNA	**Funafuti**	**10.07**	**13**	Pn	**Pn**	**19 18 57.2**	**-1.9**
YATNC	**Mamie plateau,**	**10.09**	**247**	P	**Pn**	**19 18 59.5**	**+0.2**
OUENC	**Ouen Island, N**	**10.25**	**245**	P	**Pn**	**19 19 01.9**	**+0.3**
DZM	**Mont Dzumac**	**10.48**	**248**	Pn	**Pn**	**19 19 02.7**	**-2.1**
	0.4nm,0.3s,baz=71,slow=13,SNR=39						
DZM				LR	LR	19 22 30.5	
	comp=Z,20µm,21.0s,baz=61,slow=35						
DZM	**Mont Dzumac**	**10.48**	**248**	*e*P	**Pn**	**19 19 04.4**	**-0.4**
	709nm,1.8s						
DZM				*e*LQ	LQ	19 21 06.9	
	5µm,25.1s						
DZM				*e*LR	LR	19 21 33.9	
	comp=Z,31µm,25.9s						
DZM	**Mont Dzumac**	**10.48**	**248**	Pn	**Pn**	**19 19 03.8**	**-1.1**
ONTNC	**Ouen Toro**	**10.55**	**247**	P	**Pn**	**19 19 05.9**	**+0.2**
AFI	**Afiamalu**	**11.75**	**69**	P	**Pn**	**19 19 22.9**	**+0.7**
AFI	**Afiamalu**	**11.75**	**69**	Pn	**Pn**	**19 19 22.9**	**+0.7**
RAO	**Raoul Island**	**11.78**	**157**	LR	LR	19 23 08.1	
	comp=Z,17µm,19.4s,baz=7.0,slow=33						
RAO	**Raoul Island**	**11.78**	**157**	P	**Pn**	**19 19 23.7**	**+1.2**
RAO	**Raoul Island**	**11.78**	**157**	Pn	**Pn**	**19 19 23.7**	**+1.2**
OUZ	**Omahuta**	**17.00**	**189**	P	**P**	**19 20 34.1**	**+0.5**
OUZ				IAmb	IAmb	19 20 51.5	
	comp=Z,212nm,1.4s						
OUZ	**Omahuta**	**17.00**	**189**	P	**P**	**19 20 36.8**	**+3.2**
WCZ	**Waipu Caves**	**17.61**	**187**	P	**P**	**19 20 47.5**	**+7.2**
KUZ	**Kuaotunu**	**18.30**	**183**	P	**Pn**	**19 20 52.2**	**+4.2**
MKAZ	**Moumakai**	**18.69**	**184**	P	**Pn**	**19 20 57.2**	**+4.5**
HNR	**Honiara**	**18.72**	**296**	P	**P**	**19 20 46.8**	**-5.8**
	comp=Z,16nm,0.3s,baz=216,slow=13,SNR=4.6						
HNR				LR	LR	19 26 49.4	
	comp=Z,2µm,19.5s,baz=134,slow=33						
HNR	**Honiara**	**18.72**	**296**	P	**Pn**	**19 20 52.6**	**-0.6**
HNR				pmax	pmax		
	comp=Z,237nm,1.1s						
HNR	**Honiara**	**18.72**	**296**	P	**Pn**	**19 20 52.6**	**-0.6**
HNR				IAmb	IAmb	19 21 04.8	
	comp=Z,236nm,1.1s						
HNR	**Honiara**	**18.72**	**296**	P	**Pn**	**19 20 53.5**	**+0.3**
TOZ	**Tahuroa Road**	**19.29**	**183**	P	Pn	19 21 08.4	+8.4
HAZ	**Te Kaha**	**19.29**	**178**	P	**Pn**	**19 21 02.4**	**+2.4**
PKGZ	**Pakihiroa**	**19.44**	**177**	P	**Pn**	**19 21 04.7**	**+2.9**
RUGZ	**Raukumara Rang**	**19.50**	**178**	P	**Pn**	**19 21 04.5**	**+1.9**
PUZ	**Puketiti**	**19.63**	**177**	P	**Pn**	**19 21 10.9**	**+6.9**
URZ	**Urewera**	**19.78**	**180**	P	**P**	**19 21 04.6**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=9.8,slow=6.4,SNR=61						
URZ				LR	LR	19 26 53.2	
	comp=Z,5µm,21.6s,baz=31,slow=31						
URZ	**Urewera**	**19.78**	**180**	P	**Pn**	**19 21 06.0**	**+0.3**
URZ	**Urewera**	**19.78**	**180**	P	**Pn**	**19 21 07.6**	**+1.8**
MWZ	**Matawai**	**19.86**	**179**	P	**Pn**	**19 21 08.1**	**+1.3**
TWVZ	**Taurewa**	**20.63**	**183**	P	Pn	19 21 18.0	+2.2
WTVZ	**West Tongariro**	**20.67**	**183**	P	Pn	19 21 18.5	+2.1
LHI	**Lord Howe Isla**	**20.75**	**228**	P	**P**	**19 21 14.3**	**-0.4**
LHI				IAmb	IAmb	19 21 17.6	
	comp=Z,80nm,1.0s						
WNVZ	**Wahianoa**	**20.88**	**183**	P	Pn	19 21 20.2	+1.4
KWHZ	**Kaweka Forest**	**20.95**	**181**	P	**P**	**19 21 19.1**	**+2.2**
BHHZ	**Black Hill Sta**	**21.02**	**182**	P	**P**	**19 21 19.6**	**+2.0**
RAR	**Rarotonga**	**22.11**	**101**	LR	LR	19 28 28.8	
	comp=Z,µm,21.1s,baz=274,slow=32						
RAR	**Rarotonga**	**22.11**	**101**	P	**P**	**19 21 33.0**	**+3.7**
BFZ	**Birch Farm**	**22.21**	**181**	P	**P**	**19 21 29.8**	**-0.5**
SNZO	**South Karori**	**22.91**	**184**	P	**P**	**19 21 38.2**	**+0.5**
MSWZ	**Moikau Station**	**22.98**	**183**	P	**P**	**19 21 38.5**	**+0.1**
PLWZ	**Palliser**	**23.13**	**183**	P	**P**	**19 21 38.8**	**-1.2**
EIDS	**Eidsvold**	**24.93**	**249**	P	**P**	**19 21 55.2**	**-1.7**
	baz=25,SNR=7.2						
EIDS	**Eidsvold**	**24.93**	**249**	P	**P**	**19 21 55.1**	**-1.8**
EIDS				IAmb	IAmb	19 21 58.0	
	comp=Z,82nm,1.4s						
MQZ	**McQueen's Vall**	**25.48**	**187**	IAMs_20	IAMs_20	19 30 53.6	
	comp=Z,5µm,19.0s						
RPZ	**Rata Peaks**	**25.71**	**190**	P	**P**	**19 22 03.4**	**-0.5**
	comp=Z,82nm,1.0s,baz=0.6,slow=11,SNR=8.6						
RPZ				LR	LR	19 31 16.6	
	comp=Z,4µm,18.9s,baz=2.0,slow=34						
RPZ	**Rata Peaks**	**25.71**	**190**	P	**P**	**19 22 03.8**	**-0.1**
RPZ				IAmb	IAmb	19 22 08.9	
	comp=Z,81nm,0.9s						
ARMA	**Armidale**	**25.88**	**238**	P	**P**	**19 22 06.3**	**+0.6**
	baz=26,SNR=11						
ARMA				IAmb	IAmb	19 22 14.6	
	comp=Z,78nm,1.2s						
ARMA				IAMs_20	IAMs_20	19 30 46.8	
	comp=Z,5µm,19.0s						
RMQ	**Roma**	**27.19**	**248**	P	**P**	**19 22 17.6**	**+0.1**
	baz=27,SNR=13						
RABL	**Rabaul**	**28.02**	**297**	P	**P**	**19 22 23.8**	**-1.2**
CTA	**Charters Tower**	**28.98**	**262**	P	**P**	**19 22 30.6**	**-2.9**
	comp=Z,28nm,0.9s,baz=92,slow=12,SNR=14						
CTA				LR	LR	19 32 17.3	
	comp=Z,4µm,21.3s,baz=80,slow=33						
CTAO	**Charters Tower**	**28.98**	**262**	P	**P**	**19 22 32.1**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,51nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,4µm,20.0s						
CTAO	**Charters Tower**	**28.98**	**262**	P	**P**	**19 22 32.1**	**-1.4**
CTAO				IAmb	IAmb	19 22 33.9	
	comp=Z,51nm,1.1s						
PMG	**Port Moresby**	**30.20**	**283**	P	**P**	**19 22 40.5**	**-3.7**
	comp=Z,10nm,1.0s,baz=312,slow=23,SNR=2.0						
PMG				LR	LR	19 33 47.8	
	comp=Z,4µm,18.1s,baz=104,slow=35						
PMG	**Port Moresby**	**30.20**	**283**	*i* P	**P**	**19 22 42.4**	**-1.9**
PMG				pmax	pmax		
	comp=Z,45nm,1.8s						
PMG	**Port Moresby**	**30.20**	**283**	P	**P**	**19 22 42.6**	**-1.7**
PMG	**Port Moresby**	**30.20**	**283**	IAMs_20	IAMs_20	19 33 36.6	
	comp=Z,4µm,18.0s						
MTSU	**Mont Surprise**	**30.93**	**265**	P	**P**	**19 22 47.0**	**-3.9**
	baz=31,SNR=6.2						
CMSA	**Cobar Meteorol**	**31.06**	**239**	P	**P**	**19 22 50.2**	**-1.5**
	baz=31,SNR=9.6						
QLP	**Quilpie**	**31.20**	**249**	P	**P**	**19 22 51.8**	**-1.2**
	baz=31,SNR=10						
TBI	**Tubuai**	**31.75**	**105**	*e*S	**S**	**19 27 59.8**	**-5.9**
TBI				*e*LQ	LQ	19 29 58.3	
	comp=Z,11µm,28.8s						
TBI				*e*LR	LR	19 31 18.3	
	comp=Z,4µm,27.5s,baz=283						
PAE	**Paea**	**31.84**	**94**	*e*P	**P**	**19 22 56.9**	**-1.9**
	comp=Z,12nm,1.2s						
PPT2	**Papeete2**	**31.86**	**94**	*e*P	**P**	**19 22 57.5**	**-1.5**
	comp=Z,49nm,1.3s						
PPT2				*e*S	**S**	**19 28 01.6**	**-6.0**
	comp=Z,629nm,26.5s						
PPT2				*e*LQ	LQ	19 29 59.3	
	comp=Z,10µm,27.0s						
PPT2				*e*LR	LR	19 31 19.9	
	comp=Z,10nm,26.2s,baz=260						
PPT	**Papeete**	**31.86**	**94**	P	**P**	**19 23 00.4**	**+1.5**
	comp=Z,26nm,1.0s,baz=352,slow=13,SNR=3.8						
PPT				LR	LR	19 32 51.4	
	comp=Z,2µm,20.1s,baz=256,slow=30						
COEN	**Coen**	**32.67**	**273**	P	**P**	**19 23 03.2**	**-2.9**
TOO	**Toolangi**	**33.45**	**229**	P	**P**	**19 23 13.5**	**+0.8**
	baz=34,SNR=7.6						
TOO	**Toolangi**	**33.45**	**229**	P	**P**	**19 23 12.6**	**-0.1**
TOO				pmax	pmax		
	comp=Z,59nm,1.2s						
TOO				MLR	MLR		
	comp=Z,2µm,21.0s						
TOO	**Toolangi**	**33.45**	**229**	P	**P**	**19 23 12.6**	**-0.1**
TOO				IAmb	IAmb	19 23 26.7	
	comp=Z,59nm,1.2s						
STKA	**Stephens Creek**	**34.51**	**240**	P	**P**	**19 23 21.3**	**-0.6**
	comp=Z,32nm,1.1s,baz=67,slow=8.3,SNR=40						
STKA				LR	LR	19 36 28.7	
	comp=Z,3µm,18.4s,baz=74,slow=35						
STKA	**Stephens Creek**	**34.51**	**240**	P	**P**	**19 23 21.8**	**-0.1**
	baz=34,SNR=24						
STKA	**Stephens Creek**	**34.51**	**240**	P	**P**	**19 23 21.7**	**-0.2**
QIS	**Mount Isa**	**35.19**	**260**	P	**P**	**19 23 26.6**	**-1.4**
	baz=35,SNR=7.8						
HTT	**Hallett**	**37.08**	**239**	P	**P**	**19 23 43.8**	**-0.2**
	baz=37,SNR=22						
H11S2	**WAKE ISLAND Hy**	**38.01**	**344**	T	T	20 04 11.5	
	baz=160,slow=79						
H11S3	**WAKE ISLAND Hy**	**38.02**	**344**	T	T	20 04 15.9	
	baz=160,slow=79						
H11S1	**WAKE ISLAND Hy**	**38.03**	**344**	T	T	20 04 11.4	
	baz=160,slow=79						
H11N1	**WAKE ISLAND Hy**	**39.14**	**345**	T	T	20 05 38.6	
	baz=166,slow=76,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**39.14**	**345**	T	T	20 05 38.0	
	baz=166,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**39.16**	**345**	T	T	20 05 42.0	
	baz=166,slow=76,SNR=7.4						
GENI	**Genyem**	**39.27**	**289**	P	**P**	**19 24 02.8**	**+0.2**
	comp=Z,2µmcomp=Z,138nm,1.3s						
BBOO	**Buckleboo**	**39.28**	**240**	P	**P**	**19 24 01.9**	**-0.6**
	baz=39,SNR=19						
BBOO	**Buckleboo**	**39.28**	**240**	P	**P**	**19 24 01.9**	**-0.6**
BBOO				IAmb	IAmb	19 24 10.1	
	comp=Z,116nm,1.3s						
BBOO				IAMs_20	IAMs_20	19 39 05.6	
	comp=Z,5µm,18.0s						
WR0	**Warramunga Arr**	**39.98**	**261**	P	**P**	**19 24 05.8**	**-2.6**
WR0				IAMs_20	IAMs_20	19 38 48.8	
	comp=Z,3µm,21.0s						
WR9	**Warramunga Arr**	**40.00**	**261**	IAMs_20	IAMs_20	19 41 58.4	
	comp=Z,3µm,18.0s						
WR8	**Warramunga Arr**	**40.01**	**261**	IAMs_20	IAMs_20	19 38 40.8	
	comp=Z,3µm,22.0s						
WR3	**Warramunga Arr**	**40.12**	**261**	IAMs_20	IAMs_20	19 38 32.6	
	comp=Z,3µm,22.0s						
WB8	**Warramunga Arr**	**40.14**	**261**	IAMs_20	IAMs_20	19 40 15.1	
	comp=Z,2µm,19.0s						
WC2	**Warramunga Arr**	**40.14**	**261**	IAMs_20	IAMs_20	19 38 32.2	
	comp=Z,3µm,21.0s						
WR2	**Warramunga Arr**	**40.14**	**261**	IAMs_20	IAMs_20	19 42 27.2	
	comp=Z,4µm,18.0s						
WB6	**Warramunga Arr**	**40.15**	**261**	IAMs_20	IAMs_20	19 42 02.3	
	comp=Z,2µm,19.0s						
WB2	**Warramunga Arr**	**40.16**	**261**	P	**P**	**19 24 07.5**	**-2.4**
WB2				IAmb	IAmb	19 24 08.7	
	comp=Z,87nm,1.5s						
WB2				IAMs_20	IAMs_20	19 39 05.5	
	comp=Z,2µm,19.0s						
WRAB	**Tennant Creek**	**40.16**	**261**	*i* P	**P**	**19 24 06.4**	**-3.5**
WRAB				pmax	pmax		
	comp=Z,65nm,1.6s						
WRAB	**Tennant Creek**	**40.16**	**261**	IAMs_20	IAMs_20	19 40 24.3	
	comp=Z,2µm,18.0s						
WC4	**Warramunga Arr**	**40.16**	**261**	IAMs_20	IAMs_20	19 39 07.7	
	comp=Z,3µm,21.0s						
WRA	**Warramunga Arr**	**40.17**	**261**	P	**P**	**19 24 07.2**	**-2.8**
	comp=Z,17nm,0.9s,baz=93,slow=8.9,SNR=71						
WRA				LR	LR	19 40 44.5	
	comp=Z,2µm,18.2s,baz=115,slow=36						
AS31	**Alice Springs**	**40.37**	**255**	P	**P**	**19 24 09.9**	**-1.8**
ASAR	**Alice Springs**	**40.37**	**255**	P	**P**	**19 24 10.0**	**-1.8**
	comp=Z,37nm,0.9s,baz=85,slow=8.9,SNR=258						
ASAR				PcP	**PcP**	**19 26 14.6**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=90,slow=4.7,SNR=1.0						
ASAR				LR	LR	19 40 43.1	
	comp=Z,5µm,18.1s,baz=88,slow=36						
ASAR	**Alice Springs**	**40.37**	**255**	P	**P**	**19 24 08.4**	**-3.4**
ASAR	**Alice Springs**	**40.37**	**255**	P	**P**	**19 24 08.4**	**-3.4**
KDU	**Kakadu**	**43.11**	**271**	P	**P**	**19 24 32.2**	**-1.9**
	baz=43,SNR=4.5						
SRPI	**Serui, Papua**	**43.12**	**288**	P	**P**	**19 24 35.0**	**+0.7**
	comp=Z,66nm,1.3s						
BAKI	**Biak**	**43.53**	**288**	P	**P**	**19 24 36.5**	**-1.1**
	comp=Z,115nm,1.1s						
MTN	**Manton Dam**	**44.35**	**270**	P	**P**	**19 24 41.9**	**-2.2**
	baz=44,SNR=9.5						
MTN	**Manton Dam**	**44.35**	**270**	P	**P**	**19 24 41.9**	**-2.2**
MTN				IAmb	IAmb	19 24 54.1	
	comp=Z,39nm,0.9s						
RKT	**Rikitea**	**45.08**	**105**	*e*S	**S**	**19 31 20.3**	**-6.5**
	comp=Z,690nm,28.5s						
RKT				*e*LQ	LQ	19 35 14.7	
	comp=Z,4µm,36.5s						
RKT				*e*LR	LR	19 37 28.4	
	comp=Z,3µm,29.8s						
WRKA	**Warakurna**	**45.46**	**253**	P	**P**	**19 24 51.6**	**-1.3**
	baz=45,SNR=17						
FORT	**Forrest**	**45.77**	**245**	P	**P**	**19 24 54.6**	**-0.7**
	baz=46,SNR=7.0						
FORT	**Forrest**	**45.77**	**245**	P	**P**	**19 24 54.5**	**-0.7**
FORT				IAMs_20	IAMs_20	19 42 54.2	
	comp=Z,3µm,20.0s						
FAKI	**Fak Fak**	**46.35**	**284**	P	**P**	**19 24 57.5**	**-2.5**
FAKI				IAmb	IAmb	19 25 12.9	
	comp=Z,54nm,1.2s						
FAKI				IAMs_20	IAMs_20

VNDA pmax pmax
comp=Z,18nm,1.5s
VNDA Vanda 59.62 184 P **P** **19 26 37.1 +0.2**
SBA Scott Base 59.69 182 P **P** **19 26 38.0 +0.6**
SBA pmax pmax
comp=Z,52nm,1.4s
SBA Scott Base 59.69 182 P **P** **19 26 38.0 +0.6**
SRBI Singaraja 60.69 271 P **P** **19 26 49.2 +4.0**
JAGI Jajag, Banyuwa 61.59 270 P **P** **19 26 49.0 -2.4**
JAGI IAmb IAmb 19 26 57.1
comp=Z,36nm,1.1s
JAGI Jajag, Banyuwa 61.59 270 P **P** **19 26 53.3 +1.9**
comp=Z,32nm,1.2s
MYLDM Lahad Datu 62.15 286 P **P** **19 26 53.6 -1.5**
BBKI Banjar Baru 62.44 276 P **P** **19 26 57.8 +0.7**
comp=Z,19nm,1.1s
KKM Kota Kinabalu 64.58 286 P **P** **19 27 09.8 -1.5**
UGM Wanagama 65.19 270 IAMs_20 IAMs_20 19 55 37.5
comp=Z,1µm,22.0s
JMM Marumori 65.47 329 IAMs_20 IAMs_20 19 55 45.5
comp=Z,1µm,20.0s
JGF Kuroka 65.50 325 P **P** **19 27 16.0 -0.8**
JGF IAmb IAmb 19 27 27.1
comp=Z,15nm,1.0s
SMRI Semarang 65.52 271 P **P** **19 27 15.6 -1.8**
MJAR Matsushiro Arr 65.75 326 P **P** **19 27 17.1 -1.2**
comp=Z,3.8nm,0.9s,baz=158,slow=5.9,SNR=9.2
MJAR LR LR 19 55 37.8
comp=Z,396nm,18.7s,baz=140,slow=36
MJAR Matsushiro Arr 65.75 326 P **P** **19 27 17.2 -1.2**
MJAR pmax pmax
comp=Z,12nm,1.2s
MJAR Matsushiro Arr 65.75 326 P **P** **19 27 17.2 -1.2**
MAJO Matsushiro 65.76 326 P **P** **19 27 17.4 -1.0**
MAJO pmax pmax
comp=Z,23nm,1.1s
MAJO MLR MLR
comp=Z,500nm,20.0s
MAJO Matsushiro 65.76 326 P **P** **19 27 17.4 -1.0**
MAJO IAmb IAmb 19 27 29.2
comp=Z,23nm,1.1s
MAT Matsushiro 65.76 326 P **P** **19 27 15.7 -2.7**
MAT S **S** **19 35 57.4 -5.0**
JWT Wachi 66.35 324 P **P** **19 27 22.1 0.0**
JWT IAmb IAmb 19 27 32.0
comp=Z,17nm,0.9s
SBUM Sibu 66.91 281 P **P** **19 27 29.0 +2.8**
JHS Saijyo 67.45 322 P **P** **19 27 29.2 -0.1**
JTM Tenmabayashi 67.66 331 IAMs_20 IAMs_20 19 51 01.1
comp=Z,1µm,20.0s
ERM Erimo 67.73 333 IAMs_20 IAMs_20 19 53 29.4
comp=Z,1µm,20.0s
JEM Erimo 67.73 333 IAMs_20 IAMs_20 19 53 31.2
comp=Z,2µm,20.0s
LEM Lembang 68.26 270 P **P** **19 27 34.2 -0.8**
comp=Z,25nm,0.8s,baz=121,slow=13,SNR=3.7
YUK Yuzh-Kuril'sk 68.33 336 *e*P P 19 27 29.2 -5.3
YUK *e* 19 28 03.7
YUK *e*PPP PPP 19 31 40.4
YUK *e*S **S** **19 36 37.9 +4.9**
YUK *e* 19 37 02.7
YUK pmax pmax
comp=Z,65nm,1.3s
KSM Kuching 68.36 279 P **P** **19 27 38.0 +2.6**
KUR Kuril'sk 68.63 338 *e*P **P** **19 27 35.5 -0.8**
KUR *e*S **S** **19 36 45.0 +8.5**
KUR MLR MLR
comp=E,710nm,20.0s
KUR MLR MLR
comp=Z,1µm,20.0s
KUR MLR MLR
comp=N,741nm,12.0s
SSLB Suanglung 68.84 306 P **P** **19 27 35.8 -2.4**
SSLB IAmb IAmb 19 27 48.2
comp=Z,40nm,1.5s
SSLB IAMs_20 IAMs_20 19 52 27.0
comp=Z,1µm,22.0s
YHNB Yeheng 68.99 307 IAMs_20 IAMs_20 19 52 35.0
comp=Z,1µm,22.0s
TATO Taipei 69.07 307 IAMs_20 IAMs_20 19 52 37.9
comp=Z,953nm,19.0s
CBJI Citeko 69.11 270 P **P** **19 27 38.4 -1.7**
comp=Z,72nm,1.3s
JEW Eniwo 69.14 333 IAMs_20 IAMs_20 19 52 41.5
comp=Z,1µm,21.0s
DBJI Dramaga 69.17 270 P **P** **19 27 41.1 +0.7**
comp=Z,42nm,1.2s
JKA Kamikawa-asahi 69.69 334 IAMs_20 IAMs_20 19 51 42.2
comp=Z,1µm,21.0s
KASI Kota Agung 71.61 270 P **P** **19 27 55.9 +0.5**
comp=Z,52nm,1.1s
QSPA South Pole Qui 71.65 180 P **P** **19 27 55.6 +0.8**
YSS Yuzh-Sakhalins 71.97 336 *e*P **P** **19 27 57.0 +0.3**
YSS *e**PP **pP** **19 28 07.5 +0.9**
YSS *e* 19 28 15.4
YSS *e* 19 30 39.2
YSS *e*S **S** **19 37 16.2 +0.7**
YSS *e* 19 37 59.9
YSS *e*SS **SS** **19 41 57.0 +3.8**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS pmax pmax
comp=Z,200nm,3.5s
YSS Yuzh-Sakhalins 71.97 336 IAMs_20 IAMs_20 19 54 13.4
comp=Z,2µm,21.0s
KSRS Korea Array 72.20 321 P **P** **19 27 57.9 -0.4**
comp=Z,3.0nm,1.0s,baz=134,slow=6.1,SNR=11
KSRS LR LR 19 58 27.6
comp=Z,432nm,18.7s,baz=128,slow=35
KSAR Wonju Array Be 72.21 321 P **P** **19 27 57.6 -0.8**
KSAR Wonju Array Be 72.21 321 P **P** **19 27 57.6 -0.8**
SSE Sheshan 72.70 312 P **P** **19 28 02.3 +0.8**
SSE S **S** **19 37 26.8 +2.2**
SSE pmax pmax
comp=Z,19nm,0.7s
SSE pmax pmax
comp=Z,75nm,4.6s
SSE LR LR
comp=Z,190nm,16.1s
SSE LR LR
comp=Z,210nm,15.2s
PET Petropavlovsk 72.87 349 *e*P **P** **19 28 04.4 +2.4**
PET *e*S **S** **19 37 27.9 +2.3**
PET pmax pmax
comp=Z,200nm,15.2s
PET MLR MLR
comp=Z,700nm,20.0s
PET MLR MLR
comp=Z,900nm,17.0s
PEA0B Petropavlovsk- 73.13 348 P **P** **19 28 03.8 +0.2**
PEA0B pmax pmax
comp=Z,134nm,1.5s
PEA0B MLR MLR
comp=Z,1µm,21.0s
PEA0B Petropavlovsk- 73.13 348 P **P** **19 28 03.8 +0.2**
PEA0B IAMs_20 IAMs_20 19 53 51.5
comp=Z,1µm,21.0s
PETK Petropavlovsk- 73.13 348 P **P** **19 28 02.7 -0.9**
comp=Z,7.0nm,1.0s,baz=141,slow=7.4,SNR=2.6
PETK LR LR 19 54 55.4
comp=Z,1µm,20.8s,baz=165,slow=32
USRK Ussuriysk Ar. 74.61 328 P **P** **19 28 12.1 -0.3**
comp=Z,1.0nm,0.7s,baz=160,slow=4.6,SNR=2.2
USRK Ussuriysk Ar. 74.61 328 P **P** **19 28 12.3 -0.1**
USRK Ussuriysk Ar. 74.61 328 P **P** **19 28 12.3 -0.1**
NJ2 Nanjing 74.88 312 *e*P **P** **19 28 10.8 -3.5**
NJ2 pP **pP** **19 28 23.3 -1.2**
NJ2 S **S** **19 37 48.5 -0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.8s
NJ2 LR LR
comp=Z,260nm,11.4s
NJ2 LR LR
comp=Z,280nm,11.4s
NJ2 LR LR
comp=Z,490nm,14.2s
TYV Tymovskoe 75.25 338 *e*P **P** **19 28 17.8 +1.9**
TYV *e*S **S** **19 37 59.4 +6.9**
TYV pmax pmax
comp=Z,300nm,5.5s
TYV pmax pmax
comp=Z,15nm,1.1s
TYV smax smax
comp=E,400nm,8.0s
QIZ Qiongzhong 75.63 296 P **P** **19 28 17.5 -1.3**

QIZ S **S** **19 37 58.8 +0.9**
QIZ pmax pmax
comp=E,61nm,8.0s
QIZ LR LR
comp=E,470nm,20.1s
QIZ LR LR
comp=E,290nm,22.1s
QIZ LR LR
comp=E,450nm,24.0s
MDJ Mudanjiang 76.11 327 P **P** **19 28 23.0 +2.0**
MDJ pmax pmax
comp=E,10.0nm,1.1s
MDJ pmax pmax
comp=E,140nm,5.1s
BKNI Bangkinang 76.71 275 P **P** **19 28 24.2 -0.9**
DL2 Dalian 76.96 319 P **P** **19 28 29.5 +3.5**
DL2 S **S** **19 38 16.8 +5.0**
DL2 pmax pmax
comp=E,26nm,0.9s
DL2 pmax pmax
comp=E,210nm,4.6s
DL2 LR LR
comp=E,210nm,18.5s
DL2 LR LR
comp=E,350nm,17.9s
DL2 LR LR
comp=E,510nm,19.3s
WHN Wuhan 77.37 308 ⇑P P 19 28 38.0 +10
WHN S **S** **19 38 22.0 +5.5**
WHN LR LR
comp=N,4µm,27.9s
WHN LR LR
comp=E,950nm,13.8s
WHN LR LR
comp=Z,3µm,26.9s
GRNR Gornyy 77.52 335 ⇓ *i*P **P** **19 28 31.1 +2.2**
GRNR pmax pmax
comp=Z,7.0nm,0.9s
CN2 Changchun 77.77 325 *e*P **P** **19 28 30.8 +0.4**
CN2 *e*S **S** **19 38 26.5 +6.1**
CN2 pmax pmax
comp=Z,20nm,1.6s
CN2 LR LR
comp=Z,330nm,25.3s
CN2 LR LR
comp=Z,500nm,20.5s
CN2 LR LR
comp=Z,550nm,26.9s
IPM Ipoh 78.09 279 P **P** **19 28 31.0 -1.9**
IPM IAmb IAmb 19 28 40.6
comp=Z,24nm,1.2s
IPM Ipoh 78.09 279 P **P** **19 28 34.0 +1.1**
KLR Kul'dur 78.36 332 *i* P **P** **19 28 30.3 -3.2**
KLR pmax pmax
comp=Z,3.0nm,0.9s
TIA Tai'an 78.36 314 P **P** **19 28 34.5 +0.6**
TIA pmax pmax
comp=Z,13nm,1.5s
TIA pmax pmax
comp=Z,200nm,4.9s
TIA LR LR
comp=Z,280nm,19.6s
TIA LR LR
comp=Z,270nm,31.4s
TIA LR LR
comp=Z,650nm,27.3s
RPSI Rantau Prapat 79.47 276 IAMs_20 IAMs_20 20 05 23.9
comp=Z,955nm,20.0s
MCCM Marconi Confer 79.69 44 IAMs_20 IAMs_20 19 57 14.3
comp=Z,1µm,19.0s
SAO San Andreas Ge 79.91 46 P **P** **19 28 42.6 +0.2**
SAO pmax pmax
comp=Z,20nm,1.0s
SAO San Andreas Ge 79.91 46 P **P** **19 28 42.6 +0.2**
SAO IAmb IAmb 19 28 45.5
comp=Z,20nm,0.9s
KDAK Kodiak Island 80.03 16 LR LR 20 01 29.1
comp=Z,188nm,19.7s,baz=223,slow=34
HOPS Hopland Field 80.03 43 IAMs_20 IAMs_20 19 58 13.2
comp=Z,1µm,20.0s
PMPB Monarch Peak 80.07 47 IAMs_20 IAMs_20 19 55 29.6
comp=Z,1µm,22.0s
GDXM Geysers 80.11 44 IAMs_20 IAMs_20 19 58 55.3
comp=Z,1µm,20.0s
PAGB Antelope Grade 80.20 47 P **P** **19 28 44.1 +0.2**
GSI Gunungsitoli 80.30 275 P **P** **19 28 42.8 -2.1**
GSI IAmb IAmb 19 28 55.8
comp=Z,24nm,1.1s
GSI IAMs_20 IAMs_20 20 03 40.0
comp=Z,1µm,22.0s
GSI Gunungsitoli 80.30 275 P P 19 28 55.7 +11
MA2 Magadan 80.58 347 *i* P **P** **19 28 43.5 -1.9**
O02D Mt. Diablo Mer 80.86 42 P 19 28 50.2
baz=237,SNR=5.8
ENH Enshi 80.92 306 P **P** **19 28 46.9 -1.1**
MWC Mount Wilson 81.00 50 P **P** **19 28 49.3 +0.8**
MWC pmax pmax
comp=Z,15nm,1.1s
MWC Mount Wilson 81.00 50 P **P** **19 28 49.3 +0.8**
BJT Baijiatuau 81.06 317 P **P** **19 28 48.1 -0.3**
BJT pmax pmax
comp=Z,10.0nm,1.0s
BJT MLR MLR
comp=Z,300nm,20.0s
BJT Baijiatuau 81.06 317 P **P** **19 28 48.1 -0.3**
VES Vestal, Richgr 81.07 48 P 19 28 50.6
baz=240
BJI Beijing 81.07 317 P **P** **19 28 50.5 +2.1**
BJI S **S** **19 39 03.5 +8.0**
BJI pmax pmax
comp=Z,9.0nm,1.4s
BJI LR LR
comp=Z,240nm,25.5s
BJI LR LR
comp=Z,220nm,13.7s
WDC Whiskeytown Da 81.24 42 P **P** **19 28 50.2 +0.8**
WDC pmax pmax
comp=Z,25nm,1.4s
WDC MLR MLR
comp=Z,1µm,20.0s
WDC Whiskeytown Da 81.24 42 P **P** **19 28 50.2 +0.8**
WDC IAmb IAmb 19 29 06.9
comp=Z,25nm,1.4s
WDC IAMs_20 IAMs_20 19 57 36.2
comp=Z,984nm,20.0s
CMB Columbia Colle 81.30 45 P **P** **19 28 50.6 +0.8**
CMB pmax pmax
comp=Z,12nm,1.0s
CMB MLR MLR
comp=Z,1µm,22.0s
CMB Columbia Colle 81.30 45 P **P** **19 28 50.6 +0.8**
CMB IAMs_20 IAMs_20 19 56 10.0
comp=Z,1µm,22.0s
N02D Trinity Center 81.35 42 P 19 28 52.2
baz=237,SNR=6.0
ORV Oroville 81.36 43 IAMs_20 IAMs_20 19 56 24.4
comp=Z,809nm,21.0s
EDW2 Edwards Air Fo 81.37 49 P 19 28 52.3
baz=241,SNR=9.8
AFDM Forest Hills D 81.38 44 P **P** **19 28 51.7 +1.5**
AFDM IAMs_20 IAMs_20 19 58 08.2
comp=Z,935nm,19.0s
ISA Isabella, Lake 81.41 48 P 19 28 52.7
baz=240,SNR=9.0
ISA Isabella, Lake 81.41 48 IAMs_20 IAMs_20 19 59 55.3
comp=Z,974nm,19.0s
L02E Cave Junction 81.45 40 P 19 28 53.1
baz=236
GYA Guiyang 81.46 301 ⇑P P 19 28 58.0 +7.0
GYA pP pwP 19 29 17.3 +13
GYA Guiyang 81.46 301 S S 19 39 10.3 +10
GYA Guiyang 81.46 301 SS SS 19 44 27.0 +9.2
GYA pmax pmax
comp=Z,13nm,1.0s
GYA pmax pmax
comp=Z,150nm,4.4s
GYA LR LR
comp=N,260nm,23.7s
GYA LR LR
comp=E,360nm,23.2s
GYA LR LR
comp=Z,570nm,26.1s
M02C Callahan 81.49 41 P 19 28 53.4
baz=236
ESJX Sierra Juarez 81.50 52 IAMs_20 IAMs_20 20 01 05.0
comp=Z,887nm,18.0s

MONP2 Monument Peak 81.56 51 P 19 28 53.2
baz=242
O03E Paynes Creek 81.56 43 P 19 28 53.0
baz=237
SLVN Son La 81.65 296 P **P** **19 28 50.8 -1.2**
K02D Willamette Mer 81.72 40 P 19 28 54.0
baz=236
YBH Yreka Blue Hor 81.77 41 P **P** **19 28 53.7 +1.5**
comp=Z,8.8nm,0.9s,baz=210,slow=3.2,SNR=13
MAW Mawson 81.86 201 LR LR 20 03 43.6
comp=Z,492nm,18.1s,baz=103,slow=35
MAW Mawson 81.86 201 P **P** **19 28 52.7 +0.5**
baz=82,SNR=10
MAW Mawson 81.86 201 P **P** **19 28 52.7 +0.5**
MAW Mawson 81.86 201 P **P** **19 28 52.7 +0.5**
PFO Pinyon Flats O 81.87 51 P **P** **19 28 54.3 +1.3**
comp=Z,4.1nm,1.0s,baz=241,slow=6.1,SNR=3.8
PFO Pinyon Flats O 81.87 51 P **P** **19 28 53.9 +0.9**
PFO pmax pmax
comp=Z,6.0nm,1.1s
PFO Pinyon Flats O 81.87 51 P **P** **19 28 53.9 +0.9**
XPFO Pion Flat 81.87 51 P **P** **19 28 54.3 +1.3**
LRMC Laurel Mtn Rad 81.88 49 P 19 28 55.0
baz=241
SFX San Felipe 81.88 54 IAMs_20 IAMs_20 20 02 15.4
comp=Z,948nm,18.0s
RUBR Rubicon Trail 81.98 44 P **P** **19 28 53.8 +0.2**
RUBR IAmb IAmb 19 29 07.7
comp=Z,18nm,0.9s
RUBR IAMs_20 IAMs_20 19 56 31.0
comp=Z,1µm,22.0s
SWSC Sam W. Stewart 82.04 52 P 19 28 56.1
baz=242
CWC Cottonwood Cre 82.07 48 P 19 28 56.0
baz=240
HUMO Hull Mountain 82.10 40 IAMs_20 IAMs_20 19 55 20.7
comp=Z,749nm,21.0s
WAKR Walker 82.18 45 P **P** **19 28 55.5 +0.9**
WAKR IAmb IAmb 19 28 58.0
comp=Z,25nm,1.1s
WAKR IAMs_20 IAMs_20 19 56 49.3
comp=Z,2µm,22.0s
BELA Belgrano 2 82.20 174 P **P** **19 28 53.7 -0.3**
BRSE Bradley Lake S 82.20 16 P 19 28 55.1
baz=211
BEKR Beckworth 82.27 44 P **P** **19 28 56.2 +1.2**
BEKR IAmb IAmb 19 28 57.4
comp=Z,16nm,1.1s
BEKR IAMs_20 IAMs_20 19 56 41.6
comp=Z,938nm,21.0s
L04D Klamath Falls 82.29 41 P 19 28 56.9
baz=237
MPMC Manual Prospec 82.30 48 P 19 28 57.2
baz=241,SNR=8.6
RSO Redoubt South 82.33 15 P **P** **19 28 55.2 +0.3**
M04C Macdoel 82.34 41 P 19 28 57.4
baz=237
PNTR Pine Nut 82.37 45 P **P** **19 28 57.3 +1.6**
PNTR IAmb IAmb 19 28 58.8
comp=Z,31nm,0.9s
PNTR IAMs_20 IAMs_20 19 57 06.3
comp=Z,1µm,21.0s
BELC Belle Mtn. Jos 82.39 51 P 19 28 57.8
baz=242,SNR=6.5
GAMB Gambell 82.39 5 P 19 28 56.6
baz=191
GAMB Gambell 82.39 5 P **P** **19 28 55.9 +1.0**
GSC Goldstone, Bar 82.42 49 IAMs_20 IAMs_20 19 55 32.2
comp=Z,1µm,19.0s
GSC Goldstone, Bar 82.42 49 P 19 28 57.9
baz=241
VCNR Virginia City 82.44 44 IAMs_20 IAMs_20 19 56 46.2
comp=Z,1µm,21.0s
HEC Hector,Ludlow 82.54 50 P 19 28 58.5
baz=242
YERR Yerington 82.56 45 IAMs_20 IAMs_20 19 57 12.3
comp=Z,1µm,21.0s
BC3 Big Chuckawall 82.63 51 P 19 28 59.1
baz=242
LHV Little Huntoon 82.68 46 IAMs_20 IAMs_20 19 56 30.7
comp=Z,1µm,22.0s
PAHR Pah Rah Range 82.83 44 IAMs_20 IAMs_20 19 57 44.5
comp=Z,921nm,20.0s
GRAC Grapevine Rang 82.85 47 P 19 29 00.4
baz=241
RYN Ryan 82.86 45 IAMs_20 IAMs_20 19 57 22.3
comp=Z,1µm,22.0s
NVAR Mina Array Bea 82.91 46 P **P** **19 28 59.8 +1.4**
comp=Z,7.5nm,0.9s,baz=228,slow=9.2,SNR=42
NVAR LR LR 19 58 01.5
comp=Z,1µm,21.9s,baz=250,slow=30
NVAR Mina Array Bea 82.91 46 P **P** **19 29 00.1 +1.6**
FURC Furnace Creek, 82.94 48 P 19 29 00.5
baz=241
J04D Umpqua Nationa 82.97 40 P 19 29 00.8
baz=237
GMRC Granite Mounta 83.00 50 P 19 29 00.7
baz=242,SNR=7.4
NV11 Mina Array Sit 83.01 46 P **P** **19 29 00.2 +1.3**
NV11 IAmb IAmb 19 29 17.3
comp=Z,35nm,1.4s
NV11 IAMs_20 IAMs_20 19 57 26.4
comp=Z,1µm,22.0s
XAN Xi'an 83.08 309 P **P** **19 29 02.0 +2.8**
XAN pmax pmax
comp=Z,17nm,2.1s
XAN pmax pmax
comp=Z,27nm,4.7s
XAN Xi'an 83.08 309 P **P** **19 28 58.8 -0.4**
XAN pmax pmax
comp=Z,40nm,1.3s
XAN MLR MLR
comp=Z,300nm,20.0s
XAN Xi'an 83.08 309 P **P** **19 28 58.8 -0.4**
XAN IAmb IAmb 19 29 10.1
comp=Z,40nm,1.3s
IRM Iron Mountain 83.09 51 P 19 29 01.5
baz=242,SNR=7.9
PHIT Phitsanulok 83.12 291 P P 19 29 05.0 +5.3
PIX Pinacate 83.18 54 IAMs_20 IAMs_20 19 59 27.8
comp=Z,914nm,21.0s
SEY Seymchan 83.33 349 *i* P **P** **19 28 56.4 -3.4**
KVN Kaiserville 83.36 45 P **P** **19 29 02.1 +1.4**
KVN pmax pmax
comp=Z,22nm,1.2s
KVN MLR MLR
comp=Z,1µm,21.0s
KVN Kaiserville 83.36 45 P **P** **19 29 02.1 +1.4**
KVN IAmb IAmb 19 29 13.8
comp=Z,22nm,1.2s
KVN IAMs_20 IAMs_20 19 56 51.4
comp=Z,1µm,21.0s
J05D Fort Rock, OR 83.53 40 P 19 29 03.6
baz=238
ZEA Zeya 83.53 333 *e*P **P** **19 29 03.9 +2.9**
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA pmax pmax
comp=Z,100nm,8.2s
TPNV Topopah Spring 83.61 48 IAMs_20 IAMs_20 19 57 11.4
comp=Z,1µm,21.0s
TPNV Topopah Spring 83.61 48 P 19 29 04.1
baz=242,SNR=12
RC01 Rabbit Creek A 83.62 16 P 19 29 01.8
baz=212
SUA Susitna One 83.69 15 P 19 29 02.2
baz=211
SUA Susitna One 83.69 15 P **P** **19 29 01.9 +0.1**
PWL Port Wells 83.79 16 P **P** **19 29 02.7 +0.5**
ANM Nome 83.83 8 P 19 29 03.7
baz=197
ANM Nome 83.83 8 P **P** **19 29 02.5 +0.2**
ANM pmax pmax
comp=Z,39nm,1.4s
ANM Nome 83.83 8 P **P** **19 29 02.5 +0.2**
ANM IAmb IAmb 19 29 18.6
comp=Z,39nm,1.4s
214A Organ Pipe Nat 83.85 54 P **P** **19 29 04.5 +1.2**
214A IAmb IAmb 19 29 22.0
comp=Z,27nm,1.5s
214A IAMs_20 IAMs_20 19 57 35.5
comp=Z,1µm,20.0s
214A Organ Pipe Nat 83.85 54 P 19 29 05.6
baz=244
PDMCI Parker Dam,Lak 83.90 51 P 19 29 05.7
baz=243,SNR=5.1
SUKH Sukhothai 83.93 291 P **P** **19 29 08.2 +4.4**

PINE	**Pine Mountain**	**83.98**	**40**	P	**P**	**19 29 04.3**	**+0.5**		
PINE				IAmb	IAmb	19 29 16.8			
	comp=Z,22nm,0.9s								
KMI	**Kunming**	**84.13**	**299**	⇑P	**P**	**19 29 05.0**	**-0.1**		
KMI				pP	pP	19 29 16.3	+0.9		
KMI				S	**S**	**19 39 28.3**	**+0.3**		
KMI				pmax	pmax				
	comp=Z,17nm,1.1s								
KMI				pmax	pmax				
	comp=Z,68nm,3.5s								
KMI				LR	LR				
	comp=Z,480nm,23.3s								
KMI				LR	LR				
	comp=Z,350nm,23.8s								
KMI				LR	LR				
	comp=Z,470nm,30.4s								
KMI	**Kunming**	**84.13**	**299**	P	**P**	**19 29 04.1**	**-0.9**		
KMI				pmax	pmax				
	comp=Z,29nm,1.3s								
KMI				MLR	MLR				
	comp=Z,300nm,20.0s								
KMI	**Kunming**	**84.13**	**299**	P	**P**	**19 29 04.1**	**-0.9**		
KMI				IAmb	IAmb	19 29 16.8			
	comp=Z,29nm,1.3s								
GLI	**Glacier Island**	**84.14**	**17**	P	**P**	**19 29 04.8**	**+0.8**		
SHPR	**Sheep Range**	**84.17**	**49**	P	**P**	**19 29 06.2**	**+1.2**		
SHPR				IAMs_20	IAMs_20	19 59 22.4			
	comp=Z,717nm,20.0s								
PMR	**Palmer**	**84.20**	**16**	P		19 29 04.9			
	baz=212								
PMR	**Palmer**	**84.20**	**16**	P	**P**	**19 29 04.2**	**0.0**		
PMR				pmax	pmax				
	comp=Z,58nm,1.2s								
PMR	**Palmer**	**84.20**	**16**	P	**P**	**19 29 04.2**	**0.0**		
HIA	**Hailar**	**84.26**	**326**	P	**P**	**19 29 04.8**	**-0.1**		
HIA				pmax	pmax				
	comp=Z,7.0nm,1.0s								
HIA				MLR	MLR				
	comp=Z,600nm,21.0s								
HIA	**Hailar**	**84.26**	**326**	P	**P**	**19 29 04.8**	**-0.1**		
NLWA	**Neilton Lookou**	**84.27**	**36**	IAMs_20	IAMs_20	19 59 55.1			
	comp=Z,932nm,19.0s								
LAMP	**Lampang**	**84.31**	**292**	P	P	19 29 11.0	+5.2		
GHO	**Glory Hole Cre**	**84.41**	**16**	P	**P**	**19 29 06.1**	**+0.7**		
TNA	**Tin City**	**84.50**	**6**	P		19 29 07.2			
	baz=195								
TNA	**Tin City**	**84.50**	**6**	P	**P**	**19 29 07.1**	**+1.4**		
TNA				IAmb	IAmb	19 29 14.2			
	comp=Z,26nm,1.0s								
CUT	**Chulitna**	**84.61**	**15**	P		19 29 07.0			
	baz=211								
CUT	**Chulitna**	**84.61**	**15**	P	**P**	**19 29 06.6**	**+0.3**		
PRN	**Pahroc Range**	**84.67**	**48**	IAMs_20	IAMs_20	19 58 26.4			
	comp=Z,991nm,20.0s								
WVOR	**Wild Horse Val**	**84.71**	**42**	IAMs_20	IAMs_20	20 00 11.0			
	comp=Z,709nm,19.0s								
R11A	**Troy Canyon, C**	**84.73**	**47**	P		19 29 09.2			
	baz=242,SNR=7.0								
R11A	**Troy Canyon, C**	**84.73**	**47**	IAMs_20	IAMs_20	19 58 22.1			
	comp=Z,970nm,19.0s								
CM36	**Chiang Mai Arr**	**84.78**	**291**	P	**P**	**19 29 11.0**	**+2.8**		
CM35	**Chiang Mai Arr**	**84.78**	**292**	P	**P**	**19 29 10.2**	**+2.0**		
CM09	**Chiang Mai Arr**	**84.84**	**291**	P	**P**	**19 29 12.3**	**+3.8**		
CM34	**Chiang Mai Arr**	**84.85**	**292**	P	**P**	**19 29 11.0**	**+2.5**		
CM01	**Chiang Mai Arr**	**84.86**	**291**	P	**P**	**19 29 11.9**	**+3.3**		
CM05	**Chiang Mai Arr**	**84.87**	**291**	P	**P**	**19 29 11.9**	**+3.3**		
CM02	**Chiang Mai Arr**	**84.88**	**291**	P	**P**	**19 29 11.8**	**+3.1**		
CM31	**Chiang Mai Arr**	**84.89**	**291**	P	**P**	**19 29 12.1**	**+3.3**		
CM31	**Chiang Mai Arr**	**84.89**	**291**	P	**P**	**19 29 08.4**	**-0.4**		
CM31				IAmb	IAmb	19 29 20.6			
	comp=Z,32nm,1.1s								
CMAR	**Chiang Mai Arr**	**84.89**	**291**	P	**P**	**19 29 08.8**	**+0.1**		
	comp=Z,3.8nm,1.0s,baz=116,slow=3.3,SNR=22								
CMAR				LR	LR	20 07 30.0			
	comp=Z,116nm,19.5s,baz=156,slow=36								
CMAR	**Chiang Mai Arr**	**84.89**	**291**	P	**P**	**19 29 08.0**	**-0.7**		
CMAR	**Chiang Mai Arr**	**84.89**	**291**	P	**P**	**19 29 08.0**	**-0.7**		
CM15	**Chiang Mai Arr**	**84.91**	**291**	P	**P**	**19 29 11.4**	**+2.6**		
CM13	**Chiang Mai Arr**	**84.91**	**291**	P	**P**	**19 29 11.0**	**+2.2**		
BMRM	**Bremner River**	**84.92**	**18**	P		19 29 08.4			
	baz=216								
CMMT	**Chiang Mai**	**85.01**	**292**	P	**P**	**19 29 10.0**	**+0.6**		
CM33	**Chiang Mai Arr**	**85.02**	**292**	P	**P**	**19 29 11.0**	**+1.6**		
I07A	**Izee**	**85.02**	**40**	P	**P**	**19 29 10.2**	**+1.2**		
I07A				IAmb	IAmb	19 29 21.7			
	comp=Z,14nm,0.9s								
CHTO	**Chiang Mai**	**85.02**	**292**	P	**P**	**19 29 08.6**	**-0.8**		
CHTO				pmax	pmax				
	comp=Z,23nm,1.3s								
CHTO				MLR	MLR				
	comp=Z,400nm,21.0s								
CHTO	**Chiang Mai**	**85.02**	**292**	P	**P**	**19 29 08.6**	**-0.8**		
CHTO				IAmb	IAmb	19 29 21.5			
	comp=Z,23nm,1.2s								
CM32	**Chiang Mai Arr**	**85.05**	**291**	P	**P**	**19 29 14.0**	**+4.5**		
D05A	**Enumclaw**	**85.21**	**37**	P	**P**	**19 29 11.2**	**+1.5**		
D05A				IAmb	IAmb	19 29 13.9			
	comp=Z,37nm,1.3s								
WAT6	**Susitna Watana**	**85.39**	**16**	P		19 29 11.0			
	baz=214								
M24K	**Tolsona, Glenn**	**85.41**	**16**	P		19 29 11.6			
	baz=215								
CHUM	**Lake Minchumin**	**85.43**	**13**	P		19 29 10.2			
	baz=209								
N25K	**Chitina, Valde**	**85.43**	**17**	P		19 29 11.4			
	baz=216								
N25K	**Chitina, Valde**	**85.44**	**17**	P	**P**	**19 29 11.0**	**+0.4**		
N25K				IAmb	IAmb	19 29 25.1			
	comp=Z,24nm,1.0s								
KTH	**Kantishna Hill**	**85.45**	**14**	P	**P**	**19 29 11.3**	**+0.7**		
KTH				IAmb	IAmb	19 29 17.3			
	comp=Z,11nm,0.8s								
VRDI	**Verde Repeater**	**85.46**	**18**	P	**P**	**19 29 11.2**	**+0.3**		
VRDI				IAmb	IAmb	19 29 24.7			
	comp=Z,22nm,1.0s								
WAT2	**Susitna Watana**	**85.50**	**15**	P		19 29 13.5			
	baz=213								
TRF	**Thorofare Moun**	**85.51**	**14**	P		19 29 11.3			
	baz=211								
TRF	**Thorofare Moun**	**85.51**	**14**	P	**P**	**19 29 10.9**	**-0.1**		
TRF				IAmb	IAmb	19 29 18.6			
	comp=Z,16nm,0.9s								
GLB	**Gilahina Butte**	**85.53**	**18**	P	**P**	**19 29 11.5**	**+0.5**		
GLB				IAmb	IAmb	19 29 20.0			
	comp=Z,20nm,1.1s								
TUC	**Tucson**	**85.56**	**54**	P		19 29 14.5			
	baz=245								
TUC	**Tucson**	**85.56**	**54**	P	**P**	**19 29 12.5**	**+0.6**		
TUC				pmax	pmax				
	comp=Z,15nm,1.4s								
TUC				MLR	MLR				
	comp=Z,1µm,20.0s								
TUC	**Tucson**	**85.56**	**54**	P	**P**	**19 29 12.5**	**+0.6**		
TUC	**Tucson**	**85.56**	**54**	IAMs_20	IAMs_20	19 59 29.7			
	comp=Z,1µm,20.0s								
CD2	**Chengdu**	**85.64**	**304**	P	**P**	**19 29 15.5**	**+3.2**		
CD2				S	**S**	**19 39 44.5**	**+2.2**		
CD2				pmax	pmax				
	comp=Z,10.0nm,1.2s								
CD2				pmax	pmax				
	comp=Z,180nm,5.1s								
CD2				LR	LR				
	comp=Z,310nm,17.2s								
CD2				LR	LR				
	comp=Z,460nm,21.1s								
CD2				LR	LR				
	comp=Z,540nm,23.5s								
MHMT	**Maesarieng**	**85.69**	**291**	P	**P**	**19 29 17.1**	**+4.4**		
F07A	**Phinny Hill Vi**	**85.71**	**39**	IAMs_20	IAMs_20	20 03 07.0			
	comp=Z,715nm,18.0s								
RND	**Reindeer**	**85.81**	**15**	P	**P**	**19 29 12.9**	**+0.5**		
RND				pmax	pmax				
	comp=Z,41nm,1.1s								
RND	**Reindeer**	**85.81**	**15**	P	**P**	**19 29 12.9**	**+0.5**		
CTG	**Chitna Glacier**	**85.89**	**19**	P		19 29 13.8			
	baz=219								
CCUT	**Cedar City**	**85.92**	**48**	P	**P**	**19 29 14.8**	**+1.0**		
MCK	**McKinley**	**86.07**	**14**	P		19 29 14.3			
	baz=212								
MCK	**McKinley**	**86.07**	**14**	P	**P**	**19 29 13.9**	**+0.3**		
MCK				pmax	pmax				
	comp=Z,25nm,1.1s								
MCK				MLR	MLR				
	comp=Z,800nm,20.0s								
MCK	**McKinley**	**86.07**	**14**	P	**P**	**19 29 13.9**	**+0.3**		
MCK				IAmb	IAmb	19 29 26.7			
	comp=Z,25nm,1.1s								
MCK				IAMs_20	IAMs_20	20 00 47.9			
	comp=Z,849nm,20.0s								
ELK	**Elko**	**86.10**	**45**	P	**P**	**19 29 15.4**	**+0.8**		
ELK	**Elko**	**86.10**	**45**	P	**P**	**19 29 15.4**	**+0.8**		
ELK				IAMs_20	IAMs_20	19 59 26.1			
	comp=Z,908nm,20.0s								
B06A	**Marblemount**	**86.23**	**36**	IAMs_20	IAMs_20	20 01 27.3			
	comp=Z,769nm,19.0s								
WUAZ	**Wupatki**	**86.47**	**51**	P		19 29 18.8			
	baz=245								
WUAZ	**Wupatki**	**86.47**	**51**	P	**P**	**19 29 16.8**	**+0.4**		
BILL	**Bilibino**	**86.55**	**356**	*e*P	**P**	**19 29 13.6**	**-2.2**		
BILL				*e*		19 32 35.1			
BILL				pmax	pmax				
	comp=Z,6.0nm,2.0s								
BILL				MLR	MLR				
	comp=Z,182nm,19.0s								
BILL	**Bilibino**	**86.55**	**356**	P	**P**	**19 29 16.1**	**+0.3**		
BMO	**Blue Mountains**	**86.76**	**41**	IAMs_20	IAMs_20	20 06 41.1			
	comp=Z,620nm,19.0s								
MLY	**Manley**	**86.77**	**13**	P		19 29 20.5			
	baz=211								
WRH	**Wood River Hil**	**86.89**	**14**	IAMs_20	IAMs_20	20 02 53.7			
	comp=Z,793nm,21.0s								
MFID	**Camas Ranch**	**86.99**	**42**	P	**P**	**19 29 19.8**	**+1.1**		
MFID				IAmb	IAmb	19 29 31.9			
	comp=Z,15nm,1.1s								
MFID				IAMs_20	IAMs_20	20 00 50.3			
	comp=Z,794nm,20.0s								
HYT	**Haines Junctio**	**87.02**	**21**	IAMs_20	IAMs_20	19 59 24.6			
	comp=Z,691nm,21.0s								
CCB	**Clear Creek Bu**	**87.11**	**14**	IAMs_20	IAMs_20	20 01 08.4			
	comp=Z,838nm,22.0s								
HDA	**Harding Lake**	**87.11**	**15**	IAMs_20	IAMs_20	20 04 58.8			
	comp=Z,648nm,20.0s								
MDM	**Murphy Dome**	**87.27**	**14**	P	**P**	**19 29 20.3**	**+0.8**		
TCOL	**CIGO, UAF Yank**	**87.28**	**14**	IAMs_20	IAMs_20	20 03 25.1			
	comp=Z,644nm,20.0s								
B08A	**Colville Reser**	**87.35**	**37**	P	**P**	**19 29 20.5**	**+0.2**		
B08A				IAmb	IAmb	19 29 32.5			
	comp=Z,16nm,1.2s								
L27K	**Beaver Creek,**	**87.38**	**17**	P		19 29 26.9			
	baz=219								
BCAR	**Beaver Creek A**	**87.40**	**18**	P	**P**	**19 29 20.6**	**+0.4**		
IL31		**87.43**	**15**	P	**P**	**19 29 20.4**	**+0.3**		
ILAR	**Eielson Array**	**87.43**	**15**	P	**P**	**19 29 19.2**	**-1.0**		
	comp=Z,2.2nm,0.9s,baz=235,slow=5.6,SNR=13								
ILAR				LR	LR	20 01 28.6			
	comp=Z,596nm,21.9s,baz=226,slow=31								
DUG	**Dugway, Tooele**	**87.49**	**46**	IAMs_20	IAMs_20	20 00 32.1			
	comp=Z,1µm,21.0s								
SCRK	**Sand Creek**	**87.51**	**16**	P		19 29 22.0			
	baz=217								
SCRK	**Sand Creek**	**87.51**	**16**	P	**P**	**19 29 21.5**	**+0.7**		
W18A	**Petrified Fore**	**87.52**	**52**	IAMs_20	IAMs_20	20 05 26.4			
	comp=Z,893nm,18.0s								
POKR	**Poker Plat Res**	**87.59**	**14**	IAMs_20	IAMs_20	20 03 26.1			
	comp=Z,704nm,20.0s								
LZH	**Lanzhou**	**87.71**	**309**	*e*P	**P**	**19 29 26.5**	**+4.0**		
LZH				*e*S	S	19 40 11.0	+8.5		
LZH				SS	**SS**	**19 45 49.8**	**-0.1**		
LZH				pmax	pmax				
	comp=Z,19nm,1.2s								
LZH				pmax	pmax				
	comp=Z,310nm,4.3s								
LZH				LR	LR				
	comp=Z,180nm,14.9s								
LZH				LR	LR				
	comp=Z,570nm,16.3s								
LZH				LR	LR				
	comp=Z,400nm,20.1s								
HLID	**Hailey**	**87.96**	**43**	P		19 29 25.7			
	baz=242								
HLID	**Hailey**	**87.97**	**43**	IAMs_20	IAMs_20	20 00 19.2			
	comp=Z,782nm,20.0s								
K27K	**Chicken**	**88.07**	**17**	P		19 29 24.1			
	baz=219								
Q16A	**Castle Valley**	**88.08**	**48**	P	**P**	**19 29 25.6**	**+1.5**		
Q16A				IAmb	IAmb	19 29 33.4			
	comp=Z,13nm,1.4s								
PBA	**Port Blair**	**88.20**	**283**	IAMs_20	IAMs_20	20 11 59.8			
	comp=Z,742nm,20.0s								
SPUT	**South Promonto**	**88.24**	**45**	P	**P**	**19 29 25.8**	**+1.0**		
SPUT				IAmb	IAmb	19 29 27.1			
	comp=Z,11nm,1.3s								
YAK	**Yakutsk**	**88.44**	**340**	*e*P	**P**	**19 29 24.6**	**-0.4**		
YAK				pmax	pmax				
	comp=Z,12nm,1.3s								
YAK				pmax	pmax				
	comp=N,4.0nm,1.4s								
YAK				pmax	pmax				
	comp=E,6.0nm,1.4s								
YAK				MLR	MLR				
	comp=Z,590nm,17.0s								
YAK				MLR	MLR				
	comp=N,323nm,19.0s								
YAK				MLR	MLR				
	comp=E,438nm,19.0s								
YAK	**Yakutsk**	**88.44**	**340**	P	**P**	**19 29 25.2**	**+0.2**		
YAK				IAMs_20	IAMs_20	20 02 22.1			
	comp=Z,1µm,22.0s								
P17A	**Butcher Ranch,**	**88.62**	**48**	P	**P**	**19 29 27.4**	**+0.7**		
P17A				IAmb	IAmb	19 29 40.2			
	comp=Z,15nm,1.4s								
ZAIG	**Zacatecas**	**88.65**	**66**	P	**P**	**19 29 28.2**	**+0.8**		
ZAIG				IAmb	IAmb	19 29 47.0			
	comp=Z,10nm,1.1s								
EPT	**El Paso**	**88.67**	**56**	IAMs_20	IAMs_20	20 00 18.3			
	comp=Z,1µm,21.0s								
COLD	**Coldfoot**	**88.78**	**12**	P	**P**	**19 29 27.8**	**+1.2**		
DAWY	**Dawson**	**88.85**	**18**	P	**P**	**19 29 27.4**	**+0.4**		
DAWY				IAmb	IAmb	19 29 42.7			
	comp=Z,9.1nm,0.9s								
EGAK	**Eagle**	**88.90**	**17**	P		19 29 27.2			
	baz=220								
EGAK	**Eagle**	**88.91**	**17**	P	**P**	**19 29 27.3**	**+0.2**		
EGAK				IAmb	IAmb	19 29 39.7			
	comp=Z,22nm,1.0s								
HWUT	**Hardware Ranch**	**88.96**	**45**	IAMs_20	IAMs_20	20 01 28.9			
	comp=Z,1µm,20.0s								
MVCO	**Mesa Verde**	**89.28**	**50**	IAMs_20	IAMs_20	19 59 13.0			
	comp=Z,798nm,19.0s								
PV14	**Lion Creek, Pa**	**89.38**	**49**	IAMs_20	IAMs_20	20 09 23.2			
	comp=Z,726nm,18.0s								
PV16	**Nyswonger Mesa**	**89.43**	**49**	IAMs_20	IAMs_20	20 09 53.6			
	comp=Z,690nm,18.0s								
PV12	**Saucer Basin,**	**89.51**	**49**	P	**P**	**19 29 31.7**	**+0.8**		
PV12				IAmb	IAmb	19 29 33.3			
	comp=Z,15nm,1.4s								
MNTX	**Cornudas Mount**	**89.53**	**56**	P		19 29 33.1			
	baz=248								
MNTX	**Cornudas Mount**	**89.53**	**56**	P	**P**	**19 29 32.0**	**+1.1**		
MNTX				IAMs_20	IAMs_20	20 02 28.1			
	comp=Z,1µm,18.0s								
AHID	**Auburn Hatcher**	**89.78**	**44**	IAMs_20	IAMs_20	20 11 56.3			
	comp=Z,726nm,20.0s								
MSO	**Missoula**	**89.78**	**40**	IAMs_20	IAMs_20	20 04 02.8			
	comp=Z,690nm,18.0s								
ANMO	**Albuquerque**	**89.92**	**53**	LR	LR	20 02 33.5			
	comp=Z,929nm,20.5s,baz=244,slow=31								
ANMO	**Albuquerque**	**89.92**	**53**	*i* P	**P**	**19 29 31.3**	**-1.6**		
ANMO	**Albuquerque**	**89.92**	**53**	P	**P**	**19 29 33.8**	**+0.9**		
ANMO	**Albuquerque**	**89.92**	**53**	P		19 29 34.5			
	baz=248								
TX31	**Lajitas Ar. Si**	**90.04**	**59**	P	**P**	**19 29 34.7**	**+1.2**		
TXAR	**Lajitas Array**	**90.04**	**59**	P	**P**	**19 29 35.3**	**+1.8**		
	comp=Z,4.5nm,1.1s,baz=222,slow=5.0,SNR=20								
TXAR				LR	LR	20 04 08.7			
	comp=Z,1µm,18.1s,baz=0.0,slow=32								
TXAR	**Lajitas Array**	**90.04**	**59**	P	**P**	**19 29 34.9**	**+1.4**		
TXAR	**Lajitas Array**	**90.04**	**59**	P	**P**	**19 29 34.9**	**+1.4**		
SNAA	**Sanae**	**90.15**	**180**	P	P	19 29 28.7	-4.5		
SNAA	**Sanae**	**90.15**	**180**	*ce*P	**P**	**19 29 30.7**	**-2.5**		
SNAA				pmax	pmax				
	comp=Z,19nm,1.7s								
SNAA	**Sanae**	**90.15**	**180**	P	**P**	**19 29 33.0**	**-0.2**		
SNAA				IAmb	IAmb	19 29 41.9			
	comp=Z,14nm,1.2s								
BMAR	**Burnt Mountain**	**90.15**	**14**	P	**P**	**19 29 33.0**	**-0.1**		
REDW	**Red Top Meadow**	**90.20**	**44**	IAMs_20	IAMs_20	20 00 39.4			
	comp=Z,667nm,21.0s								
LOHW	**Long Hollow**	**90.47**	**44**	IAMs_20	IAMs_20	20 01 37.5			
	comp=Z,718nm,22.0s								
VNA3	**Neumayer Olymp**	**90.47**	**178**	P	**P**	**19 29 35.2**	**+0.5**		
FLWY	**Flagg Ranch**	**90.60**	**43**	IAMs_20	IAMs_20	20 01 53.1			
	comp=Z,656nm,21.0s								
BOZ	**Bozeman (W)**	**90.66**	**42**	IAMs_20	IAMs_20	20 03 32.3			
	comp=Z,848nm,20.0s								
ULN	**Ulaanbaatar**	**90.68**	**321**	*i* P	**P**	**19 29 33.5**	**-2.6**		
ULN				pmax	pmax				
	comp=Z,17nm,1.3s								
S22A	**4UR Ranch, Cre**	**90.72**	**50**	P		19 29 39.1			
	baz=247								
BW06	**Boulder Array**	**90.81**	**45**	IAMs_20	IAMs_20	20 04 40.6			
	comp=Z,781nm,19.0s								
PDAR	**Pinedale Array**	**90.81**	**45**	P	**P**	**19 29 37.9**	**+0.9**		
	comp=Z,1.6nm,0.9s,baz=197,slow=4.6,SNR=7.0								
PDAR	**Pinedale Array**	**90.81**	**45**	P	**P**	**19 29 37.3**	**+0.4**		
VNA2	**Neumayer--Watz**	**90.85**	**179**	P	**P**	**19 29 34.4**	**-2.1**		
SONM	**Songino Array**	**91.06**	**321**	P	**P**	**19 29 38.3**	**+0.5**		
	comp=Z,5.4nm,1.1s,baz=136,slow=3.7,SNR=13								
SONM	**Songino Array**	**91.06**	**321**	P	**P**	**19 29 37.8**	**-0.1**		
SONM				pmax	pmax				
	comp=Z,11nm,1.4s								
SONM	**Songino Array**	**91.06**	**321**	P	**P**	**19 29 37.8**	**-0.1**		
VNA1	**Neumayer--Stat**	**91.11**	**178**	P	**P**	**19 29 37.7**	**+0.1**		
EPYK	**Eagle Plains**	**91.32**	**17**	P		19 29 39.1			
	baz=224								
GTA	**Gaotai**	**91.96**	**311**	P	**P**	**19 29 44.5**	**+2.3**		
GTA				S	**S**	**19 40 42.8**	**+1.1**		
GTA				SS	**SS**	**19 46 53.5**	**+2.2**		
GTA				pmax	pmax				
	comp=Z,4.0nm,1.8s								
GTA				pmax	pmax				
	comp=Z,51nm,5.5s								
GTA				LR	LR				
	comp=Z,250nm,16.4s								
GTA				LR	LR				
	comp=Z,280nm,18.5s								
GTA				LR	LR				
	comp=Z,580nm,18.5s								
Q24A	**Divide**	**92.40**	**50**	P		19 29 46.5			
	baz=248								
K22A	**Casper**	**92.81**	**46**	IAMs_20	IAMs_20	20 03 12.8			
	comp=Z,849nm,20.0s								
PHWY	**Pilot Hill**	**93.04**	**47**	IAMs_20	IAMs_20	20 02 09.1			
	comp=Z,1µm,22.0s								
SHL	**Shillong**	**93.46**	**296**	P	**P**	**19 29 48.2**	**-1.4**		
SHL				pmax	pmax				
	comp=Z,17nm,1.1s								
SHL				MLR	MLR				
	comp=Z,300nm,22.0s								
SHL	**Shillong**	**93.46**	**296**	P	**P**	**19 29 48.1**	**-1.4**		
SHL				IAmb	IAmb	19 30 00.5			
	comp=Z,17nm,1.1s								
INK	**Inuvik**	**93.58**	**16**	P	**P**	**19 29 48.8**	**+0.1**		
	comp=Z,1.1nm,0.8s,baz=182,slow=6.1,SNR=4.1								
CMIG	**Matias Romero**	**93.62**	**73**	LR	LR	20 02 56.1			
	comp=Z,1µm,20.5s,baz=222,slow=30								
ZAK	**Zakamensk**	**94.00**	**322**	*e*P	**P**	**19 29 52.1**	**+0.8**		
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.7s								
PLCA	**Paso Flores**	**94.16**	**135**	P	**P**	**19 29 54.2**	**+1.7**		
	comp=Z,4.9nm,1.1s,baz=170,slow=9.2,SNR=3.3								
PLCA				LR	LR	20 02 43.2			
	comp=Z,248nm,21.4s,baz=245,slow=29								
KSCO	**Kaye Shedlock'**	**94.25**	**50**	IAMs_20	IAMs_20	20 05 28.5			
	comp=Z,904nm,18.0s								
TLY	**Talaya**	**94.33**	**323**	*e*P	**P**	**19 29 56.4**	**+3.7**		
TLY				*e*		19 40 59.7			
TLY				*e*SS	SS	19 47 27.1	+2.7		
TLY				pmax	pmax				
	comp=Z,8.0nm,1.0s								
TLY				MLR	MLR				
	comp=Z,485nm,15.0s								
LAO	**LASA Array**	**94.54**	**42**	IAMs_20	IAMs_20	20 06 35.0			
	comp=Z,875nm,20.0s								
RSSD	**Black Hills**	**95.04**	**45**	IAMs_20	IAMs_20	20 07 53.7			
	comp=Z,649nm,19.0s								
LSA	**Lhasa**	**95.38**	**299**	P	**P**	**19 29 57.5**	**-1.1**		
LSA				pmax	pmax				
	comp=Z,8.0nm,1.3s								
LSA	**Lhasa**	**95.38**	**299**	P	**P**	**19 29 57.5**	**-1.1**		
LSA				IAmb	IAmb	19 30 12.3			
	comp=Z,8.3nm,1.3s								
TIXI	**Tiksi**	**95.55**	**346**	*i* P	**P**	**19 29 56.4**	**-1.3**		
TIXI	**Tiksi**	**95.55**	**346**	IAMs_20	IAMs_20	20 08 17.6			
	comp=Z,986nm,21.0s								
WMOK	**Wichita Mounta**	**95.76**	**55**	IAMs_20	IAMs_20	20 05 25.1			
	comp=Z,1µm,21.0s								
CBKS	**Cedar Bluff**	**96.31**	**51**	IAMs_20	IAMs_20	20 04 58.2			
	comp=Z,822nm,20.0s								
YKA	**Yellowknife Ar**	**96.68**	**26**	P	**P**	**19 30 03.4**	**+0.3**		
	comp=Z,0.5nm,0.8s,baz=244,slow=4.4,SNR=7.0								
R32A	**Long Quarter,**	**96.96**	**52**	IAMs_20	IAMs_20	20 10 36.3			
	comp=Z,1µm,18.0s								
APG	**El Apazote**	**97.05**	**77**	LR	LR	20 08 36.6			
	comp=Z,343nm,18.5s,baz=200,slow=32								
OK029	**Liberty Lake**	**97.12**	**55**	IAMs_20	IAMs_20	20 05 07.0			
	comp=Z,1µm,20.0s								
OK025	**Westminster Rd**	**97.15**	**55**	IAMs_20	IAMs_20	20 06 37.7			
	comp=Z,1µm,21.0s								
E28A	**Huff**	**98.08**	**44**	IAMs_20	IAMs_20	20 05 42.8			
	comp=Z,944nm,22.0

comp=Z,831nm,19.0s
PENMO **Penman** **103.40** **56** IAMs_20 IAMs_20 20 12 19.5
comp=Z,964nm,19.0s
GLAT **Glass** **103.63** **56** IAMs_20 IAMs_20 20 16 06.5
comp=Z,979nm,18.0s
HICK **Hickman** **103.74** **56** IAMs_20 IAMs_20 20 09 56.3
comp=Z,970nm,21.0s
I40A **Norwalk** **104.26** **48** IAMs_20 IAMs_20 20 10 05.2
comp=Z,587nm,20.0s
T45A **Paducah** **104.30** **55** IAMs_20 IAMs_20 20 16 39.1
comp=Z,994nm,19.0s
JFWS **Jewell Farm** **104.33** **49** IAMs_20 IAMs_20 20 16 59.0
comp=Z,733nm,18.0s
L42A **Oliver, Polo** **104.56** **50** IAMs_20 IAMs_20 20 11 41.4
comp=Z,931nm,20.0s
WVT **Waverly** **104.75** **56** IAMs_20 IAMs_20 20 10 26.2
comp=Z,1µm,21.0s
LRAL **Lakeview Retre** **104.77** **60** IAMs_20 IAMs_20 20 10 07.0
comp=Z,1µm,22.0s
FCC **Fort Churchill** **105.02** **33** IAMs_20 IAMs_20 20 14 04.0
comp=Z,992nm,19.0s
T47A **Sharon Grove** **105.50** **56** IAMs_20 IAMs_20 20 15 18.9
comp=Z,967nm,20.0s
M44A **Midewin, Midew** **105.64** **51** IAMs_20 IAMs_20 20 12 56.9
comp=Z,748nm,19.0s
K43A **Burlington** **105.67** **50** IAMs_20 IAMs_20 20 12 24.6
comp=Z,1µm,21.0s
COWI **Conover** **105.72** **46** IAMs_20 IAMs_20 20 17 41.4
comp=Z,817nm,20.0s
HQIL **Hanson Quary C** **105.85** **51** IAMs_20 IAMs_20 20 16 31.5
comp=Z,868nm,18.0s
ZALV **Zalesovo Beam** **105.88** **322** Pdiff **Pdif** **19 30 45.5 +1.2**
comp=Z,0.3nm,0.3s,baz=90,slow=4.3,SNR=2.0
MKAR **Makanchi Array** **106.30** **314** Pdiff **Pdif** **19 30 49.2 +2.8**
comp=Z,0.3nm,0.8s,baz=100,slow=3.8,SNR=3.5
MKAR PKiKP **PKiKP** **19 34 59.7 +1.9**
comp=Z,0.3nm,0.7s,baz=90,slow=2.9,SNR=2.8
MKAR PKKPbc **PKKPbc** **19 46 19.8 -0.2**
comp=Z,0.4nm,0.8s,baz=304,slow=2.6,SNR=3.1
F42A **Maple Grove Fa** **106.35** **47** IAMs_20 IAMs_20 20 11 05.1
comp=Z,822nm,21.0s
152A **Waverly Hall** **106.57** **61** IAMs_20 IAMs_20 20 15 42.8
comp=Z,921nm,19.0s
NRIK **Noril'sk** **106.84** **338** IAMs_20 IAMs_20 20 14 11.3
comp=Z,579nm,22.0s
E43A **Lone Tree Farm** **107.23** **46** IAMs_20 IAMs_20 20 26 47.3
comp=Z,706nm,18.0s
I45A **Fountain** **107.40** **49** IAMs_20 IAMs_20 20 11 48.3
comp=Z,1µm,22.0s
L48A **N Adams** **108.39** **51** IAMs_20 IAMs_20 20 18 46.9
comp=Z,907nm,18.0s
N49A **Columbus Grove** **108.43** **52** IAMs_20 IAMs_20 20 16 44.0
comp=Z,909nm,19.0s
BG3 **Lake Jocassee** **108.46** **58** IAMs_20 IAMs_20 20 14 14.6
comp=Z,1µm,20.0s
AAM **Ann Arbor** **109.02** **51** IAMs_20 IAMs_20 20 22 46.3
comp=Z,892nm,18.0s
KURBB **Kurchatov Arra** **109.28** **318** PKiKP **PKiKP** **19 35 03.2 +0.1**
comp=Z,0.2nm,0.2s,baz=91,slow=4.6,SNR=1.6
K50A **Casco** **109.83** **50** IAMs_20 IAMs_20 20 18 36.9
comp=Z,881nm,20.0s
MTDJ **Mount Denham** **109.85** **77** IAMs_20 IAMs_20 20 10 52.9
comp=Z,900nm,21.0s
BVAR **Borovoye Array** **114.41** **321** PKP **PKiKP** **19 35 13.7 +0.8**
comp=Z,0.7nm,0.8s,baz=132,slow=2.1,SNR=1.5
TRY **Troy** **116.41** **51** IAMs_20 IAMs_20 20 19 37.0
comp=Z,818nm,19.0s
SJG **San Juan** **120.40** **79** IAMs_20 IAMs_20 20 17 46.3
comp=Z,498nm,21.0s
ARU **Arti** **120.76** **325** PKP **PKiKP** **19 35 25.6 +0.5**
comp=Z,0.3nm,0.2s,baz=356,slow=12,SNR=3.1
AKTO **Aktyubinsk** **122.32** **319** PKP **PKPdf** **19 35 27.3 -0.8**
comp=Z,0.6nm,0.6s,baz=135,slow=3.5,SNR=2.0
GEYT **Alibeck** **123.63** **304** PKP **PKiKP** **19 35 32.0 +0.6**
comp=Z,0.8nm,0.5s,baz=297,slow=26,SNR=2.1
GEYT **Alibeck** **123.63** **304** **PKiKP** **19 35 31.6 +0.2**
SOCY **Socotra** **124.78** **272** IAMs_20 IAMs_20 20 25 39.9
comp=Z,483nm,20.0s
ARCES **ARCESS Array B** **125.94** **348** PKP **PKiKP** **19 35 35.8 +0.8**
comp=Z,2.4nm,0.8s,baz=31,slow=2.1,SNR=4.7
BELG **Belogornoye** **128.06** **323** PKP **PKPdf** **19 35 39.5 +0.5**
comp=Z,3.2nm,0.7s,baz=192,slow=3.8,SNR=1.5
FINES **FINESS Array B** **132.35** **342** PKP **PKPdf** **19 35 47.1 +0.2**
comp=Z,1.0nm,0.8s,baz=52,slow=2.3,SNR=1.3
KIV **Kislovodsk** **134.06** **314** *i* PKiKP **PKPdf** **19 35 47.8 -3.0**
KIV pmax pmax
comp=Z,11nm,1.1s
KMBO **Kilima Mbogo** **135.84** **248** PKP **PKPdf** **19 35 54.9 -0.4**
comp=Z,0.4nm,0.4s,baz=93,slow=2.2,SNR=1.6
KOPT **Kop Dagi** **136.82** **309** IAMs_20 IAMs_20 20 39 45.4
comp=Z,590nm,21.0s
MNK **Minsk** **136.87** **334** *i* PKP **PKPdf** **19 35 53.7 -1.9**
comp=E,3.0nm,0.6s
MNK *i* PKP **PKPdf** **19 35 53.7 -1.9**
comp=N,18nm,0.8s
MNK *i* PKP **PKPdf** **19 35 53.7 -1.9**
comp=Z,25nm,0.7s
MNK *i* PP **PP** **19 38 37.3 -1.2**
MNK *i* PPP PPP 19 41 36.0
MNK *i* SKS **SKSdf** **19 42 54.1 -10**
MNK *i* PS PS 19 48 40.4 -25
MNK *i* SS **SS** **19 56 40.6 +0.5**
MNK *i* SSS SSS 20 02 23.5
MNK *i* LQ LQ 20 28 37.5
MNK *i* LR LR 20 31 24.0
MNK *i* LRM MLR 20 34 42.1
comp=Z,566nm,21.0s
MNK *i* LRM MLR 20 35 34.9
MNK *i* LRM MLR 20 35 34.9
comp=N,2µm,26.2s
NACGM **Naroch** **137.03** **335** *i* PKP **PKiKP** **19 36 02.7 +5.0**
NACGM *i* PKP **PKiKP** **19 36 02.7 +5.0**
NACGM *i* PKP **PKiKP** **19 36 02.7 +5.0**
NACGM *i* Pb **pPKPdf** **19 36 07.1 +0.7**
comp=N,14nm,1.4s
NACGM *i* Pb **sPKPdf** **19 36 09.0 -1.1**
comp=Z,11nm,1.2s
NACGM *i* PP PP 19 39 06.4 +27
NACGM *i* SKS 19 41 53.5
NACGM *i* PPP PPP 19 42 35.6
NACGM *i* SKKS 19 47 00.2
NACGM *i* SS SS 19 58 45.5
NACGM *i* SSS SSS 20 03 54.6
NACGM *i* LQ LQ 20 24 09.3
NACGM *i* LR LR 20 28 58.4
FURI **Furi** **138.42** **263** IAMs_20 IAMs_20 20 34 46.5
comp=Z,560nm,20.0s
AKASG **Malin Array Be** **138.81** **329** PKP **PKPdf** **19 35 59.6 +0.3**
comp=Z,0.2nm,0.4s,baz=51,slow=3.3,SNR=1.9
BRTR **Keskin Array B** **141.88** **312** PKP **PKPdf** **19 36 05.7 +0.3**
comp=Z,1.2nm,0.8s,baz=81,slow=2.7,SNR=6.6
BURAR **Bucovina Array** **142.82** **328** ⇓P **PKPdf** **19 36 01.8 -5.0**
BURAR **Bucovina Array** **142.82** **328** ⇓PKHKP PKPpre 19 36 01.8
BSEG **Bad Segeberg** **143.06** **347** *e*L L 20 38 38.7
comp=Z,371nm,21.1s
KOLS **Kolonicke sedl** **143.29** **332** *e*PKiKP **PKiKP** **19 36 15.9 +5.1**
KOLS **Kolonicke sedl** **143.29** **332** *e* **PKiKP** **19 36 15.9 +5.1**
KOLS *e* 19 40 05.0
UZH **Uzhgorod** **143.51** **331** *e*PKiKP **PKPdf** **19 36 08.4 +0.6**
UZH *e* 19 36 14.8
UZH *e* 19 36 18.4
CRVS **Cervenica-Dubn** **143.68** **332** *e* PKiKP 19 36 24.4 +13
CRVS *e* 19 40 09.6
CSS **Mathiatis** **143.76** **304** IAMs_20 IAMs_20 20 49 03.8
comp=Z,282nm,19.0s
DOPR **Dopca** **143.81** **326** ⇓P **PKPdf** **19 36 09.4 +0.9**
MLR **Muntele Rosu** **143.81** **325** ⇑P PKPbc 19 36 07.2 +0.9
MLR **Muntele Rosu** **143.81** **325** ⇑PKiKP PKPbc 19 36 07.2 +0.9
MLR **Muntele Rosu** **143.81** **325** PKPdf PKPbc 19 36 07.1 +0.8
MLR IAMs_20 IAMs_20 20 36 57.6
comp=Z,454nm,22.0s
OKC **Ostrava-Krasne** **144.31** **336** AMS AMS 20 34 50.0
comp=Z,600nm,21.8s
VOIR **144.33** **325** ⇓P **PKPdf** **19 36 10.6 +1.1**
VOIR **144.33** **325** ⇓PKiKP **PKiKP** **19 36 10.6 +1.1**
OSTC **Ostas** **144.42** **339** *e*PKP **PKPdf** **19 36 10.7 +1.3**
OSTC *ex* x 19 36 16.5
OSTC AMS AMS 20 41 00.0
comp=Z,700nm,22.2s
CHVC **Chvalec** **144.45** **339** *e*PKP **PKPab** **19 36 07.8 +0.1**
DPC **Dobruska-Polom** **144.56** **338** *e*PKiKP PKPbc 19 36 09.3 +0.9
DPC MLR MLR
comp=Z,600nm,20.5s
DPC **Dobruska-Polom** **144.56** **338** *e*PKP PKPbc 19 36 09.3 +0.9
DPC AMS AMS 20 40 30.0
comp=Z,600nm,20.5s
MORC **Moravsky Berou** **144.59** **337** *e*PKP **PKPdf** **19 36 10.5 +0.7**
MORC *e* 19 40 04.9
MORC **Moravsky Berou** **144.59** **337** PKIKP **PKPdf** **19 36 09.5 -0.3**
MORC MLR MLR
comp=Z,700nm,21.0s
MORC **Moravsky Berou** **144.59** **337** PKPdf **PKPdf** **19 36 09.5 -0.3**
ARR **Arges** **144.60** **326** ⇑P **PKPab** **19 36 08.6 0.0**
KRLC **Kraliky** **144.62** **338** *e*PKiKP PKPbc 19 36 09.5 +0.9
KRLC *e* 19 36 15.5
KRLC MLR MLR
comp=Z,500nm,19.0s
KRLC **Kraliky** **144.62** **338** *e*PKP PKPbc 19 36 09.5 +0.9
KRLC *ep*PKP **PKiKP** **19 36 15.5 +2.0**
KRLC AMS AMS 20 39 30.0
comp=Z,500nm,19.0s
CLL **Collm** **144.78** **342** *e*PKPdf **PKPab** **19 36 09.0 +0.1**
comp=Z,15nm,1.0s
CLL *e*(PKiKP) 19 36 16.0
comp=Z,23nm,1.1s
CLL *e* 19 36 19.0
comp=Z,171nm,2.1s
CLL *e*PP **PP** **19 39 22.0 -4.6**
CLL *e*PKSdf **PKSdf** **19 39 46.0 +0.7**
CLL *e*PPP PPP 19 42 30.0
CLL *e*PSKS 19 49 48.0
CLL *e* 19 54 36.0
CLL *e*SS SS 19 58 12.0 0.0
CLL *e*PSS PSS 19 58 54.0
CLL *e*SSS SSS 20 03 48.0
CLL *e*SSSS 20 07 18.0
CLL LmV 20 36 00.0
comp=Z,400nm,20.8s
CLL **Collm** **144.78** **342** *e*PKIKP **PKPab** **19 36 09.0 +0.1**
CLL *e* 19 36 16.0
CLL pmax pmax
comp=Z,15nm,1.0s
CLL **Collm** **144.78** **342** PKPdf **PKPab** **19 36 08.8 -0.1**
CLL **Collm** **144.78** **342** *e*L L 20 36 38.1
comp=Z,358nm,20.8s
ISP **Isparta** **144.87** **310** IAMs_20 IAMs_20 20 38 40.4
comp=Z,349nm,22.0s
BRG **Berggiesshubel** **144.89** **341** *e*PKP **PKPdf** **19 36 10.2 0.0**
BRG Amp 19 36 13.8
comp=Z,48nm,1.6s
BRG *ex* x 19 36 19.5
BRG Amp 19 36 22.9
comp=Z,147nm,1.9s
BRG *ex* x 19 36 30.8
BRG Amp 19 36 32.3
comp=Z,33nm,1.2s
HUMR **Humele** **144.94** **324** ⇓P **PKiKP** **19 36 17.4 +3.2**
PVCC **Panska Ves** **144.99** **340** *e*PKIKP **PKPdf** **19 36 11.0 +0.6**
PVCC MLR MLR
comp=Z,800nm,18.8s
PVCC **Panska Ves** **144.99** **340** *e*PKP **PKPdf** **19 36 11.0 +0.6**
PVCC AMS AMS 20 36 30.0
comp=Z,800nm,18.8s
PSZ **Piszkesteto** **145.11** **333** PKIKP **PKPab** **19 36 10.6 +0.3**
PSZ MLR MLR
comp=Z,800nm,22.0s
PSZ **Piszkesteto** **145.11** **333** PKPdf **PKPab** **19 36 10.6 +0.3**
VYHS **Vyhne** **145.11** **334** *e*PKIKP **PKPdf** **19 36 12.2 +1.5**
VYHS *e* 19 36 22.2
VYHS **Vyhne** **145.11** **334** *e*PKP **PKPdf** **19 36 12.2 +1.5**
VYHS *e* 19 36 22.2
VYHS *e* 19 40 10.8
JAVC **Velka Javorina** **145.29** **336** *e*PKP **PKPdf** **19 36 12.6 +1.6**
VRAC **Vranov** **145.33** **337** ⇑P **PKPbc** **19 36 10.2 -0.6**
VRAC **Vranov** **145.33** **337** *e*PKP **PKPdf** **19 36 11.5 +0.5**
VRAC *e* 19 40 09.8
VRAC **Vranov** **145.33** **337** ⇑PKIKP **PKPbc** **19 36 10.2 -0.6**
PRA **Prague** **145.43** **340** AMS AMS 20 36 50.0
comp=Z,800nm,22.4s
PRU **Pruhonice** **145.47** **340** *e*PKIKP **PKPab** **19 36 12.0 +0.6**
PRU *e* 19 36 17.2
PRU MLR MLR
comp=Z,800nm,20.4s
PRU **Pruhonice** **145.47** **340** *e*PKP **PKPab** **19 36 12.0 +0.6**
PRU *ex* x 19 36 17.2
PRU AMS AMS 20 37 00.0
comp=Z,800nm,20.4s
GZR **Gura Zlata** **145.56** **327** ⇓P **PKiKP** **19 36 15.3 -0.3**
GZR **Gura Zlata** **145.56** **327** ⇓PKP2 **PKiKP** **19 36 15.3 -0.3**
KRUC **Moravsky** **145.60** **337** *e*PKP **PKPab** **19 36 12.2 +0.2**
KRUC *e* 19 40 13.0
SMOL **Smolenice** **145.66** **336** *e*PKP2 **PKPab** **19 36 13.4 +1.2**
SMOL **Smolenice** **145.66** **336** *e*PKP **PKPab** **19 36 13.4 +1.2**
TREC **Trest** **145.74** **338** AMS AMS 20 40 10.0
comp=Z,600nm,19.0s
MOX **Moxa** **145.76** **343** *e*L L 20 39 30.5
comp=Z,319nm,21.9s
MODS **Modra-Piesok** **145.83** **336** *e*PKP2 **PKPab** **19 36 14.3 +1.3**
MODS **Modra-Piesok** **145.83** **336** *e*PKP **PKPab** **19 36 14.2 +1.3**
MODS *e* 19 40 11.8
SRO **Srobarova** **145.86** **334** *e*PKP2 **PKiKP** **19 36 17.9 +1.9**
SRO **Srobarova** **145.86** **334** *e*PKP **PKiKP** **19 36 17.9 +1.9**
NKC **Nyky kostel** **145.90** **342** AMS AMS 20 36 20.0
comp=Z,600nm,18.8s
PBCC **Pribram** **145.91** **340** *e*PKP **PKiKP** **19 36 15.4 -0.7**
BZS **Buzias** **145.99** **328** ⇓P **PKPab** **19 36 15.0 +1.4**
BZS **Buzias** **145.99** **328** ⇓PKP2 **PKPab** **19 36 15.0 +1.4**
KHC **Kasperske Hory** **146.52** **340** *e*PKP2 **PKPbc** **19 36 15.1 +0.6**
KHC MLR MLR
comp=Z,1µm,27.7s
KHC **Kasperske Hory** **146.52** **340** *e*PKP **PKPbc** **19 36 15.1 +0.6**
KHC *ex* x 19 36 21.9
KHC *ex* x 19 37 10.0
KHC AMS AMS 20 37 40.0
comp=Z,1µm,27.7s
KHC **Kasperske Hory** **146.52** **340** PKPdf **PKPdf** **19 36 13.2 +0.1**
CKRC **Cesky Krumlov** **146.55** **339** *e*PKP **PKPbc** **19 36 15.2 +0.6**
CKRC *ex* x 19 36 20.4
CKRC AMS AMS 20 37 50.0
comp=Z,600nm,19.6s
GEC2 **GERESS Array S** **146.73** **340** **PKPbc** **19 36 15.1 -0.1**
GEC2 **GERESS Array S** **146.73** **340** *e*L L 20 42 52.8
comp=Z,393nm,22.0s
GERES **GERESS Array B** **146.73** **340** PKPbc **PKPbc** **19 36 15.2 0.0**
comp=Z,2.4nm,0.8s,baz=55,slow=5.1,SNR=17
GERES **GERESS Array B** **146.73** **340** PKP2 **PKPbc** **19 36 15.0 -0.2**
GERES **GERESS Array B** **146.73** **340** **PKPbc** **19 36 15.0 -0.2**
GRF **Grafenberg Arr** **146.74** **343** *e*PKPbc **PKiKP** **19 36 18.5 +0.7**
baz=25,slow=2.9
GRF *e*L L 20 45 01.1
comp=Z,348nm,19.6s
WET **Wettzell** **146.74** **341** *e*L L 20 39 28.5
comp=Z,605nm,21.4s
CONA **Conrad Observa** **146.74** **337** *e*P **PKPdf** **19 36 14.2 +0.6**
comp=Z,21nm,1.4s
TNS **Taunus Mts** **146.94** **346** *e*L L 20 41 35.2
comp=Z,446nm,21.6s
BTNL **Ternell** **147.06** **349** *d*PKPdf **PKPdf** **19 36 09.2 -4.7**
BTNL *dx* x 19 36 17.8
BTNL *dp*PKPdf **pPKPdf** **19 36 25.5 +1.1**
VTS **Vitosha** **147.13** **323** IAMs_20 IAMs_20 20 43 17.8
comp=Z,493nm,21.0s
FRGS **Fruska Gora** **147.21** **329** ⇓P **PKiKP** **19 36 20.3 +1.3**
MOA **Molln** **147.39** **338** *e*P **PKPdf** **19 36 15.7 +1.2**
comp=Z,10.0nm,1.2s
ARSA **Arzberg** **147.43** **336** *e*P **PKPdf** **19 36 16.2 +1.6**
comp=Z,8.3nm,1.2s
BMRD **Maredsous** **147.56** **351** *dp*PKPdf pPKPdf 19 36 25.7 +0.5
DIVS **Divibare** **147.88** **328** **PKPbc** **19 36 19.2 +0.7**
DIVS IAMs_20 IAMs_20 20 42 00.2
comp=Z,395nm,21.0s
WLF **Walferdange** **147.94** **349** *dx* x 19 36 19.4
WLF *dp*PKPdf pPKPdf 19 36 25.6 -0.3
WLF **Walferdange** **147.94** **349** PKP2 **PKPbc** **19 36 18.1 -0.3**
WLF **Walferdange** **147.94** **349** **PKPbc** **19 36 18.1 -0.3**
FUR **Furstenfeldbru** **148.09** **342** *e*L L 20 41 59.8
comp=Z,465nm,21.7s
SOKA **Soboth** **148.10** **336** *e*P **PKPdf** **19 36 17.2 +1.4**
comp=Z,12nm,1.1s
STIP **Stip** **148.32** **322** *i* P **PKPab** **19 36 22.7 -0.1**
VAY **Valandovo** **148.33** **322** *i* P **PKPab** **19 36 25.4 +2.5**
KBA **Koelnbreinsper** **148.38** **338** *e*P **PKPdf** **19 36 17.4 +1.0**
comp=Z,10nm,1.6s
OBKA **Obir** **148.42** **336** *e*P **PKPdf** **19 36 13.7 -2.7**
comp=Z,2.7nm,0.7s
MYKA **Terra Mystica** **148.66** **338** *e*P **PKPbc** **19 36 19.2 -1.3**
comp=Z,20nm,1.5s
BFO **Black Forest** **148.74** **345** PKP2 **PKPbc** **19 36 20.8 +0.2**
BFO **Black Forest** **148.74** **345** **PKPbc** **19 36 20.8 +0.2**
BFO **Black Forest** **148.74** **345** *e*L L 20 41 53.8
comp=Z,462nm,21.5s
WATA **Walderalm** **148.74** **341** *e*P **PKPbc** **19 36 19.9 -0.8**
comp=Z,14nm,0.9s
WTTA **Wattenberg** **148.79** **340** *e*P **PKPbc** **19 36 20.1 -0.8**
comp=Z,24nm,1.5s
RETA **Reutte** **148.86** **342** *e*P **PKPbc** **19 36 20.4 -0.6**
comp=Z,31nm,1.9s
MOTA **Moosalm** **148.88** **341** *e*P **PKPbc** **19 36 19.7 -1.5**
comp=Z,9.1nm,1.0s
ABTA **Abfaltersbach** **148.95** **339** *e*P **PKPdf** **19 36 18.8 +1.6**
comp=Z,13nm,1.5s
SQTA **Sankt Quirin** **148.96** **341** *e*P **PKPdf** **19 36 18.7 +1.5**
comp=Z,20nm,1.7s
FETA **Feichten** **149.28** **341** *e*P **PKPbc** **19 36 21.4 -0.8**
comp=Z,13nm,1.1s
DAVA **Damuels** **149.29** **343** *e*P **PKPbc** **19 36 22.0 -0.2**
comp=Z,37nm,1.5s
FNA **Florina** **149.37** **322** PKHKP PKPpre 19 36 17.9
FNA **Florina** **149.37** **322** PKPdf **PKPdf** **19 36 17.9 -0.2**
PDG **Podgorica** **149.45** **326** IAMs_20 IAMs_20 20 47 28.6
comp=Z,452nm,20.0s
OHR **Ohrid** **149.49** **323** *i* P **PKiKP** **19 36 25.1 +1.3**
CTI **Castel Tesino** **149.85** **339** PKP2 **PKPbc** **19 36 22.9 -0.6**
CTI **Castel Tesino** **149.85** **339** **PKPbc** **19 36 22.9 -0.6**
IDI **Anoyia** **150.05** **310** PKPbc **PKPbc** **19 36 24.8 +0.5**
baz=281,slow=8.3
TUE **Stuetta** **150.19** **343** **PKPbc** **19 36 23.9 -0.6**
TEOL **Teolo** **150.45** **339** IAMs_20 IAMs_20 20 24 02.2
comp=Z,326nm,20.0s
OSSC **Osservatorio P** **152.19** **337** IAMs_20 IAMs_20 20 46 14.5
comp=Z,587nm,22.0s
AQU **L'Aquila** **152.31** **333** IAMs_20 IAMs_20 20 42 48.0
comp=Z,644nm,22.0s
INTR **Introdacqua** **152.37** **332** IAMs_20 IAMs_20 20 40 24.6
comp=Z,589nm,21.0s
TIP **Timpagrande** **153.08** **324** IAMs_20 IAMs_20 20 46 21.0
comp=Z,523nm,21.0s
COI **Coimbra** **157.79** **11** IAMs_20 IAMs_20 20 52 58.4
comp=Z,519nm,20.0s
ES19 **SONSECA Array** **158.77** **2** IAMs_20 IAMs_20 20 48 30.5
comp=Z,530nm,21.0s
ES07 **SONSECA Array** **158.78** **2** IAMs_20 IAMs_20 20 50 30.8
comp=Z,514nm,20.0s
ES06 **SONSECA Array** **158.79** **2** IAMs_20 IAMs_20 20 50 31.1
comp=Z,529nm,20.0s
ESDC **Sonseca Array** **158.79** **2** PKPab **PKPab** **19 37 07.4 +0.5**
comp=Z,1.1nm,1.0s,baz=6.9,slow=3.4,SNR=5.0
ES11 **SONSECA Array** **158.82** **2** IAMs_20 IAMs_20 20 47 59.9
comp=Z,462nm,21.0s
PESTR **Estremoz** **159.24** **10** IAMs_20 IAMs_20 20 43 55.6
comp=Z,313nm,20.0s
TOA0 **Torodi Ar. Sit** **173.04** **222** **PKPdf** **19 36 43.2 -0.1**
TORD **Torodi Ar. Bea** **173.04** **222** PKP **PKPdf** **19 36 43.9 +0.5**
comp=Z,0.9nm,1.0s,baz=103,slow=4.6,SNR=4.6
TORD PKPab **PKPab** **19 38 10.4 +0.1**
comp=Z,0.9nm,0.7s,baz=118,slow=3.9,SNR=2.4

*IDC **28** 19:20:23.0±1.4, 17°.31S×177°.20W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.0/44, mbtmp4.0/10, Error ellipse: s-maj=64.2km s-min=21.3km az=154.0*
ISC 28 19:20:27.4±1.3, 17°.5S±0°.4×177°.2W±0°.2, h35km, n32, σ1ₜ79/32, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	Az°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.69**	**260**	P		**P**		**19 27 13.4**	**-0.7**
comp=Z,0.9nm,0.9s,baz=101,slow=9.9,SNR=2.0									
WRA	**Warramunga Ar**	**45.88**	**259**	P		**P**		**19 28 47.2**	**+0.5**
2.3nm,0.9s,baz=93,slow=7.3,SNR=6.2									
ASAR	**Alice Springs**	**46.05**	**254**	P		**P**		**19 28 49.0**	**+0.9**
4.9nm,0.8s,baz=88,slow=8.3,SNR=15									
MJAR	**Matsushiro Arr**	**68.34**	**322**	P		**P**		**19 31 25.6**	**+0.4**
1.3nm,0.9s,baz=157,slow=5.9,SNR=3.5									
KSRS	**Korea Array**	**75.23**	**318**	P		**P**		**19 32 05.6**	**-1.0**
0.3nm,0.5s,baz=107,slow=4.1,SNR=1.3									
NVAR	**Mina Array Bea**	**78.33**	**43**	P		**P**		**19 32 24.5**	**+0.1**
0.9nm,0.9s,baz=225,slow=6.2,SNR=2.8									
TXAR	**Lajitas Array**	**84.78**	**57**	P		**P**		**19 32 59.4**	**+0.8**
0.9nm,1.0s,baz=216,slow=4.5,SNR=3.9									
ILAR	**Eielson Array**	**85.26**	**13**	P		**P**		**19 32 59.4**	**-0.6**
1.3nm,0.9s,baz=224,slow=5.0,SNR=4.2									
PDAR	**Pinedale Array**	**86.26**	**43**	P		**P**		**19 33 06.0**	**+0.2**
0.4nm,0.7s,baz=230,slow=5.6,SNR=2.4									
YKA	**Yellowknife Ar**	**93.50**	**24**	P		**P**		**19 33 38.0**	**-1.0**
0.4nm,0.8s,baz=236,slow=4.3,SNR=4.1									
BVAR	**Borovoye Array**	**117.31**	**321**	PKP		**PKiKP**		**19 39 09.8**	**+0.8**
0.9nm,0.9s,baz=100,slow=6.2,SNR=4.0									
CLL	**Collm**	**145.35**	**349**	*e*PKP		**PKiKP**		**19 40 04.0**	**-1.3**
comp=Z,8.0nm,1.0s									
CLL				*i*				19 40 08.5	
comp=Z,11nm,1.0s									
BRTR	**Keskin Array B**	**145.36**	**316**	PKPbc		**PKPab**		**19 40 02.4**	**+0.3**
comp=Z,2.8nm,1.1s,baz=70,slow=1.7,SNR=3.3									
MLR	**Muntele Rosu**	**146.12**	**330**	PKPbc		**PKPab**		**19 40 05.3**	**+0.7**
comp=Z,3.9nm,1.0s,baz=96,slow=6.4,SNR=3.3									
MMAI	**Mount Meron Ar**	**146.94**	**304**	PKPbc		**PKPab**		**19 40 07.2**	**-1.0**
comp=Z,3.4nm,0.8s,baz=46,slow=6.2,SNR=5.1									
GERES	**GERESS Array B**	**147.55**	**347**	PKPbc		**PKiKP**		**19 40 09.0**	**-1.2**
comp=Z,2.0nm,1.0s,baz=48,slow=2.9,SNR=6.2									
CONA	**Conrad Observa**	**147.87**	**343**	*e*P		**PKPab**		**19 40 16.2**	**+4.8**
comp=Z,9.3nm,1.3s									
MOA	**Molln**	**148.35**	**345**	*e*P		**PKPab**		**19 40 17.3**	**+4.1**
comp=Z,4.7nm,1.0s									
ARSA	**Arzberg**	**148.58**	**343**	*e*P		**PKPab**		**19 40 19.3**	**+5.1**
comp=Z,8.2nm,1.1s									
SOKA	**Soboth**	**149.24**	**343**	*e*P		**PKPab**		**19 40 16.9**	**0.0**
comp=Z,7.9nm,1.8s									
KBA	**Koelnbreinsper**	**149.29**	**346**	*e*P		**PKPdf**		**19 40 05.9**	**-2.5**
comp=Z,4.6nm,1.2s									
WATA	**Walderalm**	**149.43**	**348**	*e*P		**PKiKP**		**19 40 14.4**	**+0.3**
comp=Z,6.6nm,1.2s									
RETA	**Reutte**	**149.43**	**349**	*e*P		**PKPdf**		**19 40 06.0**	**-2.4**
comp=Z,5.5nm,1.1s									
WTTA	**Wattenberg**	**149.48**	**348**	*e*P		**PKPdf**		**19 40 09.2**	**+0.6**
comp=Z,9.3nm,1.7s									
MOTA	**Moosalm**	**149.51**	**349**	*e*P		**PKPab**		**19 40 17.7**	**-0.4**
comp=Z,5.7nm,1.0s									
OBKA	**Obir**	**149.53**	**344**	*e*P		**PKiKP**		**19 40 15.8**	**+1.5**
comp=Z,9.5nm,1.1s									
SQTA	**Sankt Quirin**	**149.61**	**349**	*e*P		**PKPab**		**19 40 17.4**	**-1.1**
comp=Z,6.5nm,1.0s									
MYKA	**Terra Mystica**	**149.64**	**345**	*e*P		**PKPbc**		**19 40 13.1**	**-0.3**
comp=Z,3.6nm,0.9s									
DAVA	**Damuels**	**149.77**	**350**	*e*P		**PKPab**		**19 40 18.9**	**-0.2**
comp=Z,8.3nm,1.3s									
ABTA	**Abfaltersbach**	**149.79**	**347**	*e*P		**PKiKP**		**19 40 14.6**	**-0.2**
comp=Z,5.5nm,1.0s									
FETA	**Feichten**	**149.89**	**349**	*e*P		**PKiKP**		**19 40 15.6**	**+0.6**
comp=Z,4.1nm,1.1s									
DAVOX	**Davos/Dischmat**	**150.26**	**350**	PKPbc		**PKiKP**		**19 40 15.9**	**0.0**
comp=Z,5.9nm,0.8s,baz=19,slow=2.0,SNR=8.0									

*IDC **28** 19:30:28.9±0.9, 2°.05S×138°.32E, h0km, mb3.7/7, mb1 4.0/11, mb1mx3.7/49, mbtmp3.8/11, ML3.8/4, Error ellipse: s-maj=25.5km s-min=17.6km az=83.0*
ISC 28 19:30:33.7±0.8, 2°.13S±0°.09×138°.41E±0°.08, h36km, n14, σ1ₜ12/13, mb3.6/6, Irian Jaya

Code	Station Name	Δ°	Az°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.33**	**99**	Pn		**Pn**		**19 31 09.7**	**+0.2**
9.3nm,0.3s,baz=231,slow=11,SNR=27									
JAY				Sn			**Sn**	**19 31 35.9**	**-1.1**
14nm,0.3s,baz=108,slow=23,SNR=6.2									
BATI	**Baumata**	**16.70**	**241**	Pn		**Pn**		**19 34 25.9**	**+0.8**
0.4nm,0.3s,baz=76,slow=4.2,SNR=2.1									
WRA	**Warramunga Arr**	**18.14**	**192**	P		**P**		**19 34 42.5**	**-0.5**
0.3nm,0.3s,baz=16,slow=12,SNR=19									
WRA				S		Sn		19 37 53.2	-11
0.2nm,0.3s,baz=8.0,slow=22,SNR=4.8									
CTA	**Charters Tower**	**19.42**	**157**	P		**Pn**		**19 35 00.1**	**+1.6**
0.4nm,0.3s,baz=338,slow=11,SNR=5.2									
FITZ	**Fitzroy Crossi**	**20.21**	**217**	P		**P**		**19 35 04.6**	**-1.1**
2.3nm,1.0s,baz=40,slow=16,SNR=1.8		

H11S2	**WAKE ISLAND Hy**	**34.58**	**52**	T	T	20 13 13.3		
	baz=236,slow=74,SNR=4.7							
H11S1	**WAKE ISLAND Hy**	**34.58**	**52**	T	T	20 13 15.8		
	baz=236							
MJAR	**Matsushiro Arr**	**38.48**	**360**	P	**P**	**19 37 52.3**	**0.0**	
	0.7nm,0.8s,baz=179,slow=9.0,SNR=1.8							
CMAR	**Chiang Mai Arr**	**43.89**	**300**	P	**P**	**19 38 36.5**	**-0.7**	
	0.6nm,0.7s,baz=123,slow=6.6,SNR=3.1							
MKAR	**Makanchi Array**	**69.15**	**322**	P	**P**	**19 41 36.8**	**+0.3**	
	0.9nm,0.7s,baz=107,slow=8.1,SNR=9.4							
ILAR	**Eielson Array**	**85.44**	**25**	P	**P**	**19 43 07.3**	**-0.1**	
	0.5nm,0.8s,baz=268,slow=4.5,SNR=4.9							

*IDC **28** 19:39:52.7±3.5, 17°.86S×178°.47W, h606km±22km, mb3.1/3, mb1 3.3/4, mb1mx2.8/26, mbtmp4.0/4, Error ellipse: s-maj=112.0km s-min=32.6km az=143.0*

ISC 28 19:39:50.9±2.8, 18°.0S±0°.6×178°.2W±0°.5, h600km, n6, σ0§46/8, mb3.7/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.58**	**274**	P		**P**		**19 41 14.1**	**+0.4**
	1.6nm,0.3s,baz=163,slow=20,SNR=8.9								
STKA	**Stephens Creek**	**38.76**	**241**	P		**P**		**19 46 25.8**	**+0.2**
	2.1nm,0.8s,baz=104,slow=11,SNR=5.4								
WRA	**Warramunga Arr**	**44.81**	**260**	P		**P**		**19 47 12.4**	**-0.7**
	0.7nm,0.4s,baz=96,slow=7.4,SNR=36								
WRA				PcP		**PcP**		**19 48 41.9**	**0.0**
	0.1nm,0.3s,baz=95,slow=3.4,SNR=1.8								
ASAR	**Alice Springs**	**44.96**	**254**	P		**P**		**19 47 14.2**	**0.0**
	4.8nm,0.5s,baz=87,slow=8.6,SNR=103								
ASAR				PcP		**PcP**		**19 48 41.8**	**-0.6**
	0.3nm,0.5s,baz=105,slow=3.6,SNR=4.2								
BRTR	**Keskin Array B**	**144.99**	**315**	PKP		**PKPbc**		**19 58 22.1**	**0.0**
	0.3nm,0.5s,baz=70,slow=2.2,SNR=4.3								
GERES	**GERESS Array B**	**147.75**	**345**	PKPbc		**PKPbc**		**19 58 29.4**	**+0.1**
	0.4nm,0.5s,baz=15,slow=4.1,SNR=4.9								

*DDA **28** 19:40:41.4, 37°.21N×30°.07E, h11km±3km, ML3.4*
*IDC **28** 19:40:41.2±1.0, 37°.33N×29°.97E, h0km, mb3.6/5, mb1 3.7/10, mb1mx3.4/39, mbtmp3.6/10, ML3.5/5, MS4.2/2, Ms1 4.2/2, ms1mx2.6/52, Error ellipse: s-maj=22.8km s-min=15.9km az=146.0*
*ISK **28** 19:40:41.2, 37°.22N×30°.06E, h1km, ML3.4/30*
*HLW **28** 19:40:44.8, 37°.31N×29°.98E, h10km±17km, Md3.8*
*NIC **28** 19:40:45.5±0.0, 37°.04N×29°.92E, h0km±1km, Ml3.6/3*

ISC 28 19:40:41.6±1.0, 37°.22N±0°.02×30°.02E±0°.02, h8km±7km, n97, σ1§76/134, mb3.7/5, 7C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.35**	**130**	PG		**Pg**		**19 40 48.7**	**+0.2**
KORT				SG		**Sg**		**19 40 53.9**	**+0.8**
KORT	**Korkueli**	**0.35**	**130**	*i* P		**Pg**		**19 40 47.4**	**-1.1**
KORT				*i* S		**Sg**		**19 40 51.4**	**-1.7**
GOLH	**Golhisar**	**0.36**	**272**	*i* P		**Pb**		**19 40 50.0**	**-0.4**
GOLH				*i* S		**Sb**		**19 40 55.2**	**-1.1**
GOLH				IAML				19 40 58.0	
	comp=N,5μm,0.4s								
GOLH				IAML				19 41 06.0	
	comp=E,4μm,0.3s								
BUCA	**Burdur, Bucak-**	**0.45**	**76**	*i* P		**Pg**		**19 40 50.0**	**-0.4**
BUCA				*i* S		**Sg**		**19 40 55.2**	**-1.0**
BRDR	**BURDUR-Merkez**	**0.47**	**4**	*i* P		**Pg**		**19 40 51.3**	**+0.4**
BRDR				*i* S		**Sg**		**19 40 57.8**	**+0.7**
ELL	**Elmali**	**0.48**	**190**	PG		**Pg**		**19 40 51.0**	**0.0**
ELL	**Elmali**	**0.48**	**190**	P		**Pg**		**19 40 50.8**	**-0.2**
ELL				S		**Sg**		**19 40 57.3**	**-0.1**
BCK	**Bucak**	**0.51**	**62**	PG		**Pg**		**19 40 51.8**	**+0.2**
BCK				SG		**Sg**		**19 40 58.9**	**+0.5**
CAEL	**Denizli, Camel**	**0.56**	**260**	*i* P		**Pb**		**19 40 53.3**	**-0.6**
CAEL				*i* S		**Sg**		**19 40 59.8**	**-0.2**
CAEL				IAML				19 41 08.0	
	comp=E,3μm,0.8s								
CAEL				IAML				19 41 11.0	
	comp=N,2μm,0.7s								
ANTB	**Antalya**	**0.60**	**122**	PG		**Pg**		**19 40 53.5**	**+0.2**
ANTB				SG		**Sg**		**19 41 02.8**	**+1.6**
BASM	**Basmaki-Afyon**	**0.69**	**2**	PG		**Pb**		**19 40 55.9**	**-0.2**
BASM				SG		**Sb**		**19 41 06.4**	**+0.6**
ISP	**Isparta**	**0.72**	**34**	PG		**Pg**		**19 40 55.5**	**0.0**
ISP				SG		**Sg**		**19 41 06.4**	**+1.4**
KEMT	**Kemer-ANTALYA**	**0.76**	**145**	PG		**Pg**		**19 40 56.3**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.91**	**286**	*i* P		**Pb**		**19 40 59.4**	**-0.4**
TAVA				*i* S		**Sg**		**19 41 10.0**	**-1.0**
AKUM	**Antalya-Kumluc**	**0.94**	**164**	*i* P		**Pg**		**19 40 59.3**	**-0.4**
AKUM				*i* S		**Sb**		**19 41 13.1**	**+0.5**
FETY	**Fethiye**	**0.95**	**232**	PG		**Pb**		**19 41 00.1**	**-0.2**
BAGO	**Egridir - ISPA**	**0.98**	**38**	*i* P		**Pg**		**19 41 00.4**	**-0.1**
BAGO				*i* S		**Sg**		**19 41 13.3**	**+0.1**
DEMR	**Demre-Antalya**	**0.99**	**185**	PG		**Pb**		**19 41 01.0**	**0.0**
KZIL	**AFYON_Kizioren**	**1.04**	**5**	*i* P		**Pg**		**19 41 01.8**	**+0.2**
KZIL				*i* S		**Sg**		**19 41 11.7**	**-3.4**
AKAS	**Kas**	**1.04**	**199**	PG		**Pb**		**19 41 02.5**	**+0.5**
AKAS	**Kas**	**1.04**	**199**	*i* P		**Pb**		**19 41 02.4**	**+0.4**
AKAS				*i* S		**Sn**		**19 41 17.6**	**+0.1**
KSL	**Kastellorizon**	**1.13**	**198**	⇑P		**Pn**		**19 41 04.1**	**+0.5**
DALY	**Dalyan (Mula)**	**1.16**	**250**	PN		**Pn**		**19 41 05.1**	**+0.9**
DALY	**Dalyan (Mula)**	**1.16**	**250**	*i* P		**Pn**		**19 41 05.0**	**+0.9**
DALY				*i* S		**Sg**		**19 41 18.0**	**-1.1**
DALY				IAML				19 41 26.0	
	comp=N,799nm,0.5s								
KHL	**Karahalli**	**1.17**	**341**	PN		**Pb**		**19 41 04.4**	**+0.3**
KHAL	**Karahalli**	**1.22**	**340**	*i* P		**Pn**		**19 41 06.0**	**+0.9**
KHAL				*i* S		**Sg**		**19 41 19.7**	**-1.2**
KEPZ	**Antalya-Kepez**	**1.31**	**104**	*i* P		**Pg**		**19 41 05.6**	**-1.1**
KEPZ				*i* S		**Sg**		**19 41 19.9**	**-3.9**
MULA	**Mugla, Merkez-**	**1.35**	**272**	*i* P		**Pb**		**19 41 07.9**	**+0.7**
MULA				*i* S		**Sn**		**19 41 25.4**	**+0.3**
YER	**Yerkesik**	**1.39**	**267**	PN		**Pb**		**19 41 09.1**	**+1.3**
SHUT	**Suhut-Afyon**	**1.39**	**18**	PN		**Pb**		**19 41 08.5**	**+0.5**
SEDI	**Konya, Seydise**	**1.40**	**80**	*i* P		**Pn**		**19 41 08.7**	**+1.1**
SEDI				*i* S		**Sg**		**19 41 20.4**	**-6.5**
SEDI				IAML				19 41 33.0	
	comp=E,466nm,0.6s								
YVAC	**Isparta, Yalva**	**1.43**	**42**	*i* P		**Pn**		**19 41 08.7**	**+0.8**
YVAC				*i* S		**Sg**		**19 41 25.0**	**-2.5**
TURN	**Turunc**	**1.49**	**253**	PN		**Pg**		**19 41 10.6**	**+0.4**
TURN	**Turunc**	**1.49**	**253**	*i* P		**Pg**		**19 41 09.7**	**-0.4**
TURN				*i* S		**Sg**		**19 41 26.7**	**-2.8**
MRSB	**Marmaris-Mugla**	**1.54**	**251**	PN		**Pg**		**19 41 11.6**	**+0.4**
AFYO	**Afyonkarahisar**	**1.58**	**8**	*i* P		**Pn**		**19 41 10.0**	**0.0**
AFYO				*i* S		**Sg**		**19 41 33.8**	**+1.4**
DOGA	**KONYA_Doganhis**	**1.58**	**56**	*i* P		**Pn**		**19 41 11.3**	**+1.2**
DOGA				*i* S		**Sn**		**19 41 25.8**	**-4.9**
KULA	**Kula-Manisa**	**1.68**	**321**	PN		**Pb**		**19 41 12.9**	**+0.1**
USAK	**Uak-Merkez**	**1.69**	**332**	*i* P		**Pb**		**19 41 13.1**	**+0.2**
USAK				*i* S		**Sn**		**19 41 32.4**	**-0.8**
USAK				IAML				19 42 16.0	
	comp=N,305nm,2.1s								
MANT	**Manisa**	**1.71**	**318**	*i* P		**Pb**		**19 41 13.3**	**-0.1**
MANT				*i* S		**Sn**		**19 41 32.5**	**-1.7**
AYDN	**Tasoluk**	**1.76**	**285**	*i* P		**Pg**		**19 41 15.0**	**-0.3**
AYDN				*i* S		**Sn**		**19 41 31.8**	**-3.1**
ARG	**Arkhangelos**	**1.82**	**237**	PN		**Pb**		**19 41 15.1**	**-0.1**
ARG	**Arkhangelos**	**1.82**	**237**	⇑P		**Pg**		**19 41 16.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.84**	**294**	PN		**Pb**		**19 41 15.4**	**-0.1**
GEDZ	**Gediz**	**1.88**	**345**	PN		**Pb**		**19 41 15.9**	**-0.3**
DATC	**Datca-Mugla**	**1.94**	**257**	PN		**Pb**		**19 41 17.1**	**-0.1**
KMER	**Konya-Meram**	**1.95**	**73**	*i* P		**Pb**		**19 41 17.9**	**+0.4**
KMER				*i* S		**Sn**		**19 41 33.1**	**-6.7**
KONT	**Konya--Tatoy**	**2.00**	**68**	PN		**Pn**		**19 41 17.1**	**+1.4**
KONT	**Konya--Tatoy**	**2.00**	**68**	*i* P		**Pb**		**19 41 18.3**	**+0.1**
KONT				*i* S		**Sn**		**19 41 42.1**	**+1.2**
SIMA	**Simav-Kutahya**	**2.03**	**337**	PN		**Pb**		**19 41 17.8**	**-1.0**
BDRM	**Kayabasi**	**2.06**	**266**	*i* P		**Pg**		**19 41 20.0**	**-1.2**
BDRM				*i* S		**Sb**		**19 41 45.8**	**+0.7**
GAZI	**Gazipasa**	**2.09**	**117**	PN		**Pn**		**19 41 18.3**	**+1.3**
GAZI	**Gazipasa**	**2.09**	**117**	*i* P		**Pn**		**19 41 18.6**	**+1.6**
GAZI				*i* S		**Sn**		**19 41 41.8**	**-1.5**
LADK	**Ladik-KONYA**	**2.10**	**62**	PN		**Pn**		**19 41 18.1**	**+0.9**
BODT	**Bodrum**	**2.17**	**267**	PN		**Pn**		**19 41 20.1**	**-1.0**
GCAM	**G?zelcaml?**	**2.27**	**283**	PN		**Pb**		**19 41 21.2**	**-1.5**
TVSB	**Tavsanli**	**2.27**	**349**	PN		**Pn**		**19 41 20.7**	**+1.3**
KKBE	**Karaman, Kazim**	**2.33**	**89**	*i* P		**Pn**		**19 41 23.0**	**+2.6**
KKBE				*i* S		**Sn**		**19 41 45.8**	**-3.5**
AUSIV	**SIVRIHISAR**	**2.52**	**28**	PN		**Pn**		**19 41 23.7**	**+0.8**
SVRH	**Sivrihisar-ESK**	**2.52**	**28**	PN		**Pn**		**19 41 24.4**	**+1.5**
KRMN	**Karaman**	**2.59**	**90**	PN		**Pn**		**19 41 25.2**	**+1.3**
CHBY	**Cihanbeyli**	**2.65**	**58**	PN		**Pn**		**19 41 26.2**	**+1.5**
DURS	**Dursunbey**	**2.67**	**333**	*i* P		**Pn**		**19 41 26.7**	**+1.8**
BORA	**Eskisehir**	**2.67**	**7**	PN		**Pn**		**19 41 26.8**	**+1.7**
AUBOZ	**BOZOYUK**	**2.68**	**0**	PN		**Pn**		**19 41 26.8**	**+1.6**
TEKE	**Tekeli-Mersin**	**2.71**	**112**	PN		**Pn**		**19 41 27.1**	**+1.6**
BERE	**Bereket-Mersin**	**2.72**	**108**	PN		**Pn**		**19 41 27.3**	**+1.6**
KARP	**Karpathos**	**2.85**	**235**	⇑P		**Pn**		**19 41 30.1**	**+2.7**
KARP				S		**Sb**		**19 42 05.0**	**-2.7**
KARP				AML	AML			19 42 10.7	
	comp=N,0.4nm,0.8s								
KARP				AML	AML			19 42 10.7	
	comp=N,0.4nm,0.8s								
TEVE	**Tevekalti-Mers**	**2.86**	**105**	PN		**Pn**		**19 41 29.1**	**+1.5**
AKMS	**Akamas**	**2.89**	**139**	P		**Pb**		**19 41 32.0**	**-1.4**
AKMS				AML	AML			19 42 15.0	
	comp=N,0.7nm,1.0s								
AKMS				AML	AML			19 42 21.4	
	comp=N,0.9nm,0.9s								
ZEDA	**zmir-Bergama**	**2.90**	**308**	*i* P		**Pn**		**19 41 29.9**	**+1.8**
ALFC	**Alefka**	**2.94**	**134**	⇑P		**Pn**		**19 41 29.1**	**+0.5**
ALFC				AML	AML			19 42 14.2	
	comp=N,0.6nm,1.2s								
ALFC				AML	AML			19 42 15.0	
	comp=N,0.4nm,0.5s								
KULU	**Kulu**	**2.97**	**51**	PN		**Pn**		**19 41 30.6**	**+1.4**
YESY	**Yesilyurt**	**3.02**	**78**	PN		**Pn**		**19 41 31.5**	**+1.7**
NATA	**Nata**	**3.20**	**139**	P		**Pn**		**19 41 36.1**	**+3.9**
SZAC	**Souni**	**3.39**	**136**	⇑P		**Pn**		**19 41 38.5**	**+3.7**
CSS	**Mathiatis**	**3.51**	**129**	⇑P		**Pn**		**19 41 39.5**	**+3.1**
ASGA	**Asgata**	**3.58**	**132**	P		**Pn**		**19 41 41.4**	**+4.1**
MVOU	**Mavrovouni**	**3.66**	**126**	⇑P		**Pn**		**19 41 39.6**	**+1.0**
BRTR	**Keskin Array B**	**3.78**	**48**	Pn		**Pn**		**19 41 42.1**	**+1.7**
	comp=N,0.9nm,0.3s,baz=230,slow=18,SNR=41								
BRTR				Sn		**Sn**		**19 42 25.9**	**+0.8**
	comp=N,1.5nm,0.3s,baz=220,slow=25,SNR=10								
OSC1	**CSNet OBS 1**	**3.85**	**164**	P		**Pn**		**19 41 43.6**	**+2.4**
OSC2	**CSNet OBS 4**	**4.53**	**155**	P		**Pn**		**19 41 52.0**	**+1.5**
IDI	**Anoyia**	**4.57**	**247**	Pn		**Pn**		**19 41 53.0**	**+1.9**
	comp=N,2.8nm,0.3s,baz=55,slow=16,SNR=14								
IDI				Sn		**Sn**		**19 42 45.7**	**+1.2**
	comp=N,1.0nm,0.3s,baz=223,slow=18,SNR=1.5								
IDI				LR	LR			19 43 16.1	
	comp=N,19nm,21.0s,baz=268,slow=34								
MMAI	**Mount Meron Ar**	**6.09**	**132**	Pn		**Pn**		**19 42 13.7**	**+1.7**
	comp=N,4.1nm,0.3s,baz=318,slow=12,SNR=43								
MMAI				Sn		**Sn**		**19 43 21.9**	**0.0**
	comp=N,1.7nm,0.3s,baz=311,slow=29,SNR=3.3								
SLUM	**Salum**	**6.96**	**216**	P		**Pn**		**19 42 25.2**	**+1.4**
	baz=216								
SLUM				S		**Sn**		**19 43 38.2**	**-5.0**
	baz=216								
HSAF	**As Saff**	**7.69**	**170**	P		**Pn**		**19 42 35.8**	**+1.9**
	baz=169								
GLL	**Jalalah**	**7.76**	**169**	P		**Pn**		**19 42 36.4**	**+1.5**
	baz=168								
EIL	**Elat**	**8.59**	**150**	Pn		**Pn**		**19 42 46.9**	**+0.7**
	comp=N,1.7nm,0.3s,baz=335,slow=12,SNR=15								
EIL				Sn		**Sn**		**19 44 20.8**	**-2.5**
	comp=N,0.3nm,0.3s,baz=18,slow=17,SNR=2.7								
SWA2		**8.83**	**207**	P		**Pn**		**19 42 50.8**	**+1.3**
	baz=207								
VAE	**Valguarnera**	**12.42**	**276**	LR	LR			19 49 11.6	
	comp=N,766nm,21.5s,baz=150,slow=41								
GERES	**GERESS Array B**	**16.61**	**320**	Pn		**Pn**		**19 44 33.8**	**-1.0**
	comp=N,0.1nm,0.3s,baz=135,slow=9.8,SNR=1.0								
FINES	**FINESS Array B**	**24.37**	**355**	P		**P**		**19 45 59.5**	**-0.4**
	comp=N,1.9nm,0.9s,baz=147,slow=11,SNR=5.7								
TORD	**Torodi Ar. Bea**	**34.85**	**234**	P		**P**		**19 47 34.7**	**+1.3**
	comp=N,0.1nm,0.4s,baz=34,slow=8.7,SNR=8.3								
MKAR	**Makanchi Array**	**39.35**	**59**	P		**P**		**19 48 12.0**	**+0.7**
	comp=N,0.6nm,0.6s,baz=278,slow=10.0,SNR=2.7								
ZALV	**Zalesovo Beam**	**40.73**	**48**	P		**P**		**19 48 24.3**	**+1.7**
	comp=N,0.6nm,0.6s,baz=278,slow=10.0,SNR=2.7								
FRB	**Frobisher Bay**	**60.88**	**330**	LR	LR			20 17 41.5	
	comp=N,278nm,21.9s,baz=316,slow=36								
CMAR	**Chiang Mai Arr**	**62.48**	**87**	P		**P**		**19 51 06.1**	**+0.3**
	comp=N,0.4nm,0.8s,baz=302,slow=7.6,SNR=3.1								

*TAP **28** 19:48:25.8, 24°.82N×121°.97E, h10km, ML3.0, B*
*JMA **28** 19:48:26.5, 24°.82N×121°.96E, h24km, M2.3*

ISC 28 19:48:26.1±0.8, 24°.81N±0°.01×121°.98E±0°.02, h13km±5km, n124, σ0§81/228, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.14**	**287**	P		**Pg**		**19 48 29.8**	**+0.2**
	baz=286								
NTC				S		**Sg**		**19 48 32.4**	**+0.3**
	baz=286								
TWB1	**Santiao Chiao**	**0.20**	**4**	P		**Pg**		**19 48 30.0**	**-0.5**
	baz=8.0								
TWB1				*e*S		**Sg**		**19 48 32.4**	**-1.1**
	baz=8.0								
TIPB	**Shuangxi**	**0.21**	**319**	P		**Pg**		**19 48 30.8**	**0.0**
	baz=320								
TIPB				S		**Sg**		**19 48 33.9**	**0.0**
	baz=320								
ILA	**Ilan**	**0.21**	**257**	*e*P		**Pg**		**19 48 31.2**	**+0.4**
	baz=254								
TWC	**Suao**	**0.23**	**210**	P		**Pg**		**19 48 31.4**	**+0.3**
	baz=205								
TWC				S		**Sg**		**19 48 35.4**	**+0.9**
	baz=205								
TWE	**Neicheng**	**0.29**	**252**	P		**Pg**		**19 48 32.5**	**+0.3**
	baz=249								
TWE				S		**Sb**		**19 48 37.0**	**-1.0**
	baz=249								
NDS	**Dongshan**	**0.30**	**233**	P		**Pg**		**19 48 32.6**	**+0.4**
	baz=231								
NDS				*e*S		**Sb**		**19 48 38.0**	**0.0**
	baz=231								
NWF	**Wu-fen Shan**	**0.31**	**326**	*e*P		**Pb**		**19 48 33.0**	**-0.6**
	baz=326								
NWF				*e*S		**Sg**		**19 48 37.5**	**+0.6**
	baz=326								
WFSB	**Wu-fen Shan**	**0.31**	**326**	P		**Pg**		**19 48 32.9**	**+0.3**
	baz=326								
WFSB				*e*S		**Sb**		**19 48 37.7**	**-0.9**
	baz=326								
TNOU	**National Taiwa**	**0.38**	**331**	P		**Pg**		**19 48 34.1**	**+0.2**
	baz=331								
TNOU				*e*S		**Sg**		**19 48 39.3**	**+0.3**
	baz=331								
TWA	**Mucha**	**0.39**	**295**	P		**Pb**		**19 48 34.4**	**-0.6**
	baz=295								
TWA				S		**Sb**		**19 48 40.0**	**-0.9**
	baz=295								
EWUT	**Wuta**	**0.41**	**206**	*e*P		**Pg**		**19 48 34.6**	**+0.4**
	baz=204								
EWUT				S		**Sb**		**19 48 40.7**	**-0.5**
	baz=204								
ENTT	**Nioudou**	**0.41**	**245**	P		**Pb**		**19 48 35.0**	**-0.2**
	baz=243								
ENTT				*e*S		**Sb**		**19 48 41.3**	**-0.1**
	baz=243								
NWLT	**Wulai**	**0.43**	**265**	P		**Pb**		**19 48 35.1**	**-0.5**
	baz=264								
NWLT				*e*S		**Sg**		**19 48 40.8**	**+0.3**
	baz=264								
NHDH	**Xindian Distri**	**0.43**	**290**	*e*P		**Pb**		**19 48 35.5**	**-0.2**
	baz=289								
NHDH				*e*S		**Sb**		**19 48 41.3**	**-0.8**
	baz=289								
ENA	**Nanau**	**0.44**	**209**	P		**Pg**		**19 48 35.2**	**+0.4**
	baz=207								
ENA				*e*S		**Sg**		**19 48 41.4**	**+0.7**
	baz=207								
TAP1	**Taipei**	**0.47**	**299**	*e*P		**Pb**		**19 48 36.2**	**0.0**
	baz=298								
TAP1				*e*S		**Sb**		**19 48 42.8**	**-0.2**
	baz=298								
NDT	**Datong Townshi**	**0.47**	**244**	P		**Pb**		**19 48 35.9**	**-0.4**
	baz=242								
NDT				*e*S		**Sb**		**19 48 43.0**	**-0.1**
	baz=242								
TATO	**Taipei**	**0.47**	**290**	*e*P		**Pb**		**19 48 35.8**	**-0.5**
	baz=290								
TATO				*e*S		**Sb**		**19 48 42.4**	**-0.7**
	baz=290								
NWRT	**Kuosheng**	**0.48**	**324**	*e*P		**Pb**		**19 48 36.1**	**-0.4**
	baz=324								
NWRT				*e*S		**Sb**		**19 48 43.2**	**-0.3**
	baz=324								
TAP	**Taipei**	**0.48**	**298**	P		**Pb**		**19 48 36.2**	**-0.2**
	baz=298								
TAP				S		**Sb**		**19 48 43.1**	**-0.4**
	baz=298								
YM01	**YM01**	**0.49**	**312**	*e*P		**Pg**		**19 48 35.8**	**-0.1**
	baz=312								
YM01				*e*S		**Sg**		**19 48 41.8**	**-0.7**
	baz=312								
YM11	**YM11**	**0.51**	**314**	P		**Pb**		**19 48 36.7**	**-0.2**
	baz=314								
YM10	**YM10**	**0.51**	**312**	P		**Pb**		**19 48 36.8**	**-0.2**
	baz=312								
YM10				S		**Sb**		**19 48 43.4**	**-0.9**
	baz=312								
YM05	**YM05**	**0.51**	**313**	P		**Pb**		**19 48 36.7**	**-0.2**
	baz=313								
YM05				*e*S		**Sb**		**19 48 44.2**	**-0.1**
	baz=313								
YM08	**YM08**	**0.51**	**317**	P		**Pb**		**19 48 36.6**	**-0.3**
	baz=317								
YM08				*e*S		**Sg**		**19 48 42.5**	**-0.6**
	baz=317								
BACT	**New Taipei Cit**	**0.52**	**291**	*e*P		**Pb**		**19 48 37.2**	**+0.2**
	baz=290								
BACT				S		**Sb**		**19 48 44.8**	**+0.3**
	baz=290								
YM04	**YM04**	**0.52**	**311**	P		**Pb**		**19 48 36.9**	**-0.3**
	baz=310								
YM04				*e*S		**Sb**		**19 48 45.1**	**+0.4**
	baz=310								
ANP	**Anpu**	**0.56**	**312**	P		**Pb**		**19 48 37.2**	**-0.5**
	baz=312								
ANP				*e*S		**Sb**		**19 48 45.0**	**-0.7**
	baz=312								
YHNB	**Yeheng**	**0.56**	**255**	P		**Pg**		**19 48 37.2**	**0.0**
	baz=254								
YHNB				*e*S		**Sb**		**19 48 46.7**	**+0.9**
	baz=254								
TWY	**Chenhua**	**0.57**	**324**	P		**Pb**		**19 48 37.8**	**-0.2**
	baz=324								
TWY				*e*S		**Sb**		**19 48 45.6**	**-0.5**
	baz=324								
NSK	**Sanguang**	**0.58**	**256**	P		**Pg**		**19 48 37.4**	**0.0**
	baz=255								
NSK				*e*S		**Sb**		**19 48 46.1**	**-0.2**
	baz=255								
TWS1	**Kuangyinshan**	**0.58**	**300**	P		**Pb**		**19 48 38.4**	**+0.3**
	baz=299								
TWS1				S		**Sb**		**19 48 46.3**	**0.0**
	baz=299								
NTST	**Danshui**	**0.59**	**306**	P		**Pb**		**19 48 38.6**	**+0.3**
	baz=306								
NTST				S		**Sb**		**19 48 46.9**	**+0.3**
	baz=306								
NTY	**Taoyuan**	**0.64**	**287**	*e*P		**Pb**		**19 48 39.2**	**0.0**
	baz=286								
NTY				*e*S		**Sb**		**19 48 48.6**	**+0.6**
	baz=286								
NNSB	**Datong**	**0.66**	**235**	P		**Pb**		**19 48 39.2**	**-0.3**
	baz=233								
NNSB				*e*S		**Sb**		**19 48 49.0**	**+0.3**
	baz=233								
NNSH	**Datong**	**0.66**	**235**	P		**Pb**		**19 48 39.5**	**0.0**
	baz=233								
NNSH				*e*S		**Sb**		**19 48 48.9**	**+0.2**
	baz=233								
NNS	**Nan Shan**	**0.66**	**236**	*e*P		**Pb**		**19 48 39.3**	**-0.3**
	baz=234								
NNS				S		**Sb**		**19 48 48.8**	**0.0**
	baz=234								
NACB	**Ninganchiao**	**0.72**	**209**	P		**Pg**		**19 48 40.5**	**+0.3**
	baz=207								
NACB				S		**Sb**		**19 48 51.1**	**+0.7**
	baz=207								
NCU	**National Centr**	**0.73**	**282**	*e*P		**Pn**		**19 48 41.5**	**-0.7**
	baz=282								
NCU				*e*S		**Sn**		**19 48 51.4**	**-1.8**
	baz=282								
NCUH	**Zhongli**	**0.73**	**282**	*e*P		**Pg**		**19 48 40.9**	**+0.6**
	baz=281								
NCUH				*e*S		**Sn**		**19 48 51.5**	**-1.8**
	baz=281						

	baz=231							
WCS				eS	Sg	19 49 06.6	+0.9	
	baz=231							
DPDB	**Guoxing**	**1.23**	**231**	eP	Pg	19 48 49.8	-0.1	
	baz=230							
DPDB				eS	Sg	19 49 06.5	+0.6	
	baz=230							
VWDT	**VWDT**	**1.30**	**216**	eP	Pb	19 48 50.6	+0.2	
	baz=215							
VWDT				eS	Sg	19 49 08.6	+0.5	
	baz=215							
WDJ	**Dajia District**	**1.30**	**249**	eP	Pb	19 48 50.5	+0.1	
	baz=248							
SMLT	**Sun Moon Lake**	**1.35**	**227**	eP	Pg	19 48 52.0	-0.1	
	baz=226							
TCU	**Taichung**	**1.36**	**241**	eP	Pb	19 48 50.8	-0.6	
	baz=240							
TYC	**Yuchr**	**1.36**	**229**	eP	Pg	19 48 52.1	-0.3	
	baz=227							
SSLB	**Suanglung**	**1.38**	**223**	eP	Pb	19 48 51.8	-0.1	
	baz=222							
SSLB				eS	Sg	19 49 09.8	-0.8	
	baz=222							
HGSD	**Ruisui**	**1.41**	**201**	eP	Pb	19 48 52.5	+0.2	
	baz=200							
HGSD				eS	Sg	19 49 11.0	-0.5	
	baz=200							
EHY	**Hungye**	**1.43**	**205**	eP	Pb	19 48 52.4	-0.3	
	baz=204							
WNT	**Mingjian**	**1.50**	**232**	eP	Pg	19 48 54.9	-0.1	
	baz=231							
WJS	**Zhushan**	**1.51**	**229**	eP	Pg	19 48 54.8	-0.3	
	baz=228							
WJS				eS	Sb	19 49 13.2	+0.2	
	baz=228							
WHYT	**Xinyi Township**	**1.51**	**223**	eP	Pb	19 48 53.8	-0.3	
	baz=222							
YULB	**Yu-li**	**1.54**	**204**	eP	Pb	19 48 53.8	-0.8	
	baz=203							
YULB				eS	Sb	19 49 13.9	-0.1	
	baz=203							
EYUL	**Yuli**	**1.58**	**202**	eP	Pb	19 48 54.9	-0.3	
	baz=202							
TWF1	**Yuli**	**1.58**	**203**	eP	Pb	19 48 54.5	-0.7	
	baz=202							
TWF1				eS	Sb	19 49 15.1	0.0	
	baz=202							
YUS	**Yu-Shan**	**1.62**	**216**	eP	Pb	19 48 55.3	-0.8	
	baz=214							
YUS				eS	Sb	19 49 16.4	-0.1	
	baz=214							
IRIF	**Iriomote-Funau**	**1.67**	**106**	P	Pn	19 48 54.5	-0.5	
ALS	**Alishan**	**1.68**	**220**	eP	Pb	19 48 57.0	-0.1	
	baz=218							
ALS				eS	Sb	19 49 17.5	-0.8	
	baz=218							
CHN5	**Tsauling**	**1.69**	**225**	eP	Pb	19 48 56.9	-0.3	
	baz=224							
CHN5				eS	Sb	19 49 18.2	-0.2	
	baz=224							
WGK	**Gukeng**	**1.71**	**229**	eP	Pb	19 48 56.6	-0.8	
	baz=228							
WGK				eS	Sb	19 49 18.7	-0.1	
	baz=228							
WRL	**Guolierlin Hig**	**1.72**	**238**	eS	Sb	19 49 18.5	-0.5	
	baz=237							
FULB	**Fuli**	**1.72**	**201**	eP	Pb	19 48 56.7	-0.9	
	baz=200							
FULB				eS	Sb	19 49 18.4	-0.8	
	baz=200							
WDLH	**Douliu**	**1.72**	**230**	eP	Pb	19 48 56.7	-1.0	
	baz=229							
WDLH				eS	Sb	19 49 18.9	-0.3	
	baz=229							
WTK	**Tuku**	**1.83**	**233**	eP	Pn	19 48 57.9	+0.6	
	baz=232							
WTK				eS	Sb	19 49 21.4	-0.9	
	baz=232							
ELDTW	**Lidau**	**1.84**	**209**	eP	Pb	19 48 59.1	-0.5	
	baz=207							
ELDTW				eS	Sb	19 49 21.5	-1.1	
	baz=207							
CHN4	**Tsaushan**	**1.93**	**221**	eP	Pb	19 49 01.7	+0.6	
	baz=220							
CHN4				eS	Sb	19 49 23.8	-1.3	
	baz=220							
CHY	**Chiayi**	**1.93**	**228**	eP	Pn	19 48 59.1	+0.5	
	baz=226							
CHY				eS	Sb	19 49 23.7	-1.4	
	baz=226							
EDH	**Donghe**	**1.93**	**199**	eP	Pn	19 48 59.6	+0.9	
	baz=198							
EDH				eS	Sb	19 49 23.8	-1.4	
	baz=198							
JKRS	**Kuro-shima**	**1.94**	**107**	P	Pn	19 48 58.8	+0.1	
JKRS				S	Sn	19 49 23.5	+0.5	
TPUB	**Ta-pu**	**1.94**	**220**	eP	Pb	19 49 01.7	+0.3	
	baz=219							
TPUB				eS	Sb	19 49 23.9	-1.6	
	baz=219							
STYH	**Taoyuan**	**1.97**	**214**	eP	Pb	19 49 01.0	-0.8	
	baz=213							
STYH				eS	Sb	19 49 24.7	-1.6	
	baz=213							
STYT	**Tauyuan**	**1.98**	**214**	eP	Pb	19 49 01.6	-0.5	
	baz=213							
STYT				eS	Sb	19 49 25.6	-1.2	
	baz=213							
WTP	**Ta-pu**	**2.00**	**219**	eP	Pb	19 49 02.4	+0.1	
	baz=218							
WTP				eS	Sb	19 49 26.6	-0.5	
	baz=218							
JIJ	**Ishigaki jima**	**2.02**	**102**	P	Pn	19 49 00.3	+0.4	
JIJ				eS	Sn	19 49 25.5	+0.4	
TWK	**Hsinying**	**2.05**	**222**	eP	Pb	19 49 03.6	+0.4	
	baz=220							
TWK				eS	Sb	19 49 27.5	-1.3	
	baz=220							
CHN1	**Nanshi**	**2.09**	**220**	eP	Pn	19 49 01.9	+1.1	
	baz=219							
CHN1				eS	Sb	19 49 28.2	-1.6	
	baz=219							
ICHU	**Yijhu**	**2.12**	**227**	eP	Pn	19 49 02.1	+0.9	
	baz=226							
ICHU				eS	Sb	19 49 28.6	-2.0	
	baz=226							
SGST	**Jiashian**	**2.14**	**217**	eP	Pb	19 49 03.3	-1.5	
	baz=216							
SGST				eS	Sb	19 49 29.7	-1.6	
	baz=216							
TWG	**Pinlang**	**2.15**	**203**	eP	Pn	19 49 02.8	+1.2	
	baz=202							
TWGBT	**Beinan**	**2.15**	**203**	eP	Pn	19 49 02.4	+0.7	
	baz=202							
LDUT	**Ludao**	**2.18**	**192**	eP	Pn	19 49 03.0	+0.9	
	baz=192							
LDUT				eS	Sn	19 49 29.5	+0.6	
	baz=192							
MATB	**Ma-tsu**	**2.27**	**306**	eP	Pn	19 49 04.1	+0.8	
	baz=305							
MATB				eS	Sn	19 49 32.0	+0.9	
	baz=305							
MSUT	**Lienchiang**	**2.29**	**306**	eP	Pn	19 49 04.9	+1.3	
	baz=306							
MSUT				eS	Sn	19 49 30.5	-1.3	
	baz=306							
VWUC	**VWUC**	**2.30**	**275**	eP	Pn	19 49 03.9	+0.2	
	baz=274							
VWUC				eS	Sn	19 49 31.6	-0.2	
	baz=274							
ECL	**Taimali**	**2.40**	**203**	eP	Pb	19 49 06.8	-2.3	
	baz=202							
ECL				eS	Sn	19 49 35.2	+0.9	
	baz=202							
TSMG	**Majia**	**2.43**	**210**	eP	Pn	19 49 06.7	+1.2	
	baz=209							
TSMG				eS	Sb	19 49 36.8	-2.7	
	baz=209							
MASBT	**Mashibuluo**	**2.51**	**210**	eP	Pn	19 49 08.1	+1.5	
	baz=209							
MASBT				eS	Sn	19 49 38.2	+1.0	
	baz=209							
PNG	**Penghu**	**2.53**	**241**	eP	Pn	19 49 08.3	+1.3	
	baz=240							
PHUB	**P'eng-hu**	**2.55**	**240**	eS	Sn	19 49 38.5	+0.5	
	baz=239							
PTMZ	**Houxiangcun**	**2.60**	**276**	eP	Pn	19 49 09.1	+1.3	
	baz=274							
PTMZ				eS	Sn	19 49 38.5	-0.9	
	baz=274							
WDGT	**Dungji**	**2.62**	**234**	eP	Pn	19 49 09.0	+0.9	
	baz=233							
WDGT				eS	Sn	19 49 40.7	+0.9	
	baz=233							
EAST	**Anshuo**	**2.63**	**203**	eP	Pb	19 49 11.0	-2.1	
	baz=202							
EAST				eS	Sn	19 49 42.0	+1.9	
	baz=202							
LYJJ	**Jianjiangzhen**	**2.64**	**311**	eP	Pn	19 49 08.7	+0.2	
	baz=310							
LYJJ				eS	Sn	19 49 42.1	+1.8	
	baz=310							
XPSS	**Dashiqiu**	**2.65**	**323**	eP	Pn	19 49 08.7	+0.1	
	baz=322							
XPSS				eS	Sn	19 49 41.9	+1.4	
	baz=322							
SCZT	**Fangliau**	**2.73**	**207**	eP	Pn	19 49 11.6	+2.0	
	baz=206							
SCZT				eS	Sb	19 49 44.9	-3.3	
	baz=206							
SLIU	**Shizi**	**2.80**	**203**	eP	Pn	19 49 12.2	+1.5	
	baz=202							
MHZQ	**Yeshan**	**2.96**	**296**	eP	Pn	19 49 14.8	+2.1	
	baz=295							
MHZQ				eS	Sn	19 49 49.1	+1.1	
	baz=295							
AXDP	**Jialang**	**3.64**	**272**	eP	Pn	19 49 22.7	+0.6	
	baz=271							

*IDC **28** 19:54:56.6±0.9, 18°.13S×176°.81E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.8/43, mbtmp3.8/8, MS3.7/5, Ms1 3.6/5, ms1mx3.3/32, Error ellipse: s-maj=34.3km s-min=15.5km az=159.0*
*NEIC **28** 19:54:57.1±1.5, 18°.1S±0°.1×176°.74E±0°.07, h10km±1km, mb4.2/8, Error ellipse: s-maj=20.4km s-min=11.6km az=352.0*

ISC 28 19:55:01.0±0.6, 18°.1S±0°.1×176°.80E±0°.08, h35km, n25, σ1°33/24, mb3.9/11, MS3.5/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.24**	**74**	Pn		**Pn**	**19 55 20.9**	**-1.0**
	187nm,0.3s,baz=248,slow=12,SNR=62							
MSVF				Sn		**Sn**	**19 55 39.1**	**+1.6**
	588nm,0.3s,baz=208,slow=21,SNR=9.4							
MSVF	**Nonsavu**	**1.24**	**74**			**Pn**	**19 55 20.5**	**-1.5**
MSVF				Sn		**Sn**	**19 55 38.7**	**+1.3**
FUNA	**Funafuti**	**9.78**	**14**	Pn		**Pn**	**19 57 16.2**	**-3.0**
DZM	**Mont Dzumac**	**10.51**	**246**	LR		LR	20 01 05.8	
	comp=Z,200nm,19.2s,baz=37,slow=35							
RAO	**Raoul Island**	**12.13**	**157**	LR		LR	20 01 32.1	
	comp=Z,491nm,18.4s,baz=328,slow=33							
URZ	**Urewera**	**20.11**	**179**	P		**P**	**19 59 31.8**	**0.0**
	20nm,1.1s,baz=300,slow=23,SNR=3.8							
URZ	**Urewera**	**20.11**	**179**	P		**P**	**19 59 31.2**	**-0.5**
BKZ	**Black Stump Fm**	**21.02**	**181**	P		**P**	**19 59 39.5**	**-2.2**
BKZ				IAmb		IAmb	19 59 43.9	
	comp=Z,28nm,1.4s							
TUWZ	**Tuamarina**	**23.40**	**185**	P		**P**	**20 00 05.8**	**-0.9**
PPT	**Papeete**	**31.99**	**94**	LR		LR	20 12 16.4	
	comp=Z,65nm,21.4s,baz=294,slow=32							
STKA	**Stephens Creek**	**34.58**	**240**	P		**P**	**20 01 47.7**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=66,slow=5.9,SNR=1.6							
STKA				LR		LR	20 14 28.0	
	comp=Z,88nm,20.2s,baz=22,slow=34							
STKA	**Stephens Creek**	**34.58**	**240**	P		**P**	**20 01 46.6**	**-0.1**
BBOO	**Buckleboo**	**39.35**	**240**	P		**P**	**20 02 26.4**	**-0.8**
BBOO				IAmb		IAmb	20 02 35.5	
	comp=Z,6.5nm,1.1s							
WB0	**Warramunga Arr**	**40.08**	**261**	P		**P**	**20 02 32.8**	**-0.6**
WB0				IAmb		IAmb	20 02 39.9	
	comp=Z,5.3nm,0.8s							
WRA	**Warramunga Arr**	**40.11**	**260**	P		**P**	**20 02 33.3**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=95,slow=8.3,SNR=5.8							
WRA	**Warramunga Arr**	**40.11**	**260**	P		**P**	**20 02 33.2**	**-0.5**
AS31	**Alice Springs**	**40.35**	**255**	P		**P**	**20 02 34.9**	**-0.8**
AS31				IAmb		IAmb	20 02 43.7	
	comp=Z,2.5nm,1.1s							
ASAR	**Alice Springs**	**40.35**	**255**	P		**P**	**20 02 35.8**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=85,slow=8.7,SNR=17							
ASAR				LR		LR	20 18 48.1	
	comp=Z,245nm,18.3s,baz=98,slow=36							
MJAR	**Matsushiro Arr**	**65.42**	**326**	P		**P**	**20 05 41.4**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=116,slow=8.3,SNR=1.4							
QSPA	**South Pole Qui**	**71.98**	**180**	P		**P**	**20 06 20.5**	**-0.5**
NVAR	**Mina Array Bea**	**82.76**	**46**	P		**P**	**20 07 23.7**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=236,slow=5.9,SNR=2.4							
CMAR	**Chiang Mai Arr**	**84.67**	**291**	P		**P**	**20 07 34.2**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=128,slow=4.4,SNR=1.8							
CMAR	**Chiang Mai Arr**	**84.67**	**291**	P		**P**	**20 07 32.0**	**+0.2**
ILAR	**Eielson Array**	**87.14**	**15**	P		**P**	**20 07 43.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=224,slow=6.1,SNR=2.6							
GERES	**GERESS Array B**	**146.38**	**340**	PKPbc		**PKPab**	**20 14 39.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=15,slow=4.1,SNR=2.9							

*WEL **28** 20:01:33.5±1.2, 31°.5S×174°.9E±6°.5, h314km±52km, M4.4/3, mB4.2/3, MLv4.5/3, Mw(mB)3.3/3, Error ellipse: s-maj=0.1km s-min=0.0km az=109.7*
*IDC **28** 20:01:33.3±8.1, 31°.77S×179°.88E, h453km±102km, mb2.6/2, mb1 3.0/3, mb1mx2.8/25, mbtmp3.7/3, Error ellipse: s-maj=111.6km s-min=39.8km az=8.0*

ISC 28 20:01:29.0±0.9, 31°.5S±0°.1×179°.6W±0°.2, h450km, n18, σ2°16/30, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.66**	**34**	P		**P**	**20 02 34.5**	**+0.8**
GLKZ				S		**S**	**20 03 23.1**	**-3.0**
RIZ	**Raoul Island**	**2.67**	**33**	S		**S**	**20 03 24.3**	**-1.9**
URZ	**Urewera**	**7.27**	**201**	P		**P**	**20 03 16.7**	**+0.3**
	4.1nm,0.3s,baz=302,slow=23,SNR=41							
URZ				S		**S**	**20 04 41.1**	**-3.4**
	2.3nm,0.3s,baz=300,slow=22,SNR=3.2							
RAHZ	**Arahi**	**7.88**	**199**	P		**P**	**20 03 25.4**	**+2.3**
RAHZ				S		**S**	**20 04 56.9**	**+0.3**
MTHZ	**Maungataniwha**	**7.90**	**201**	P		**P**	**20 03 25.9**	**+2.7**
WHHZ	**Waihua**	**8.00**	**198**	S		**S**	**20 04 58.3**	**-0.5**
ARHZ	**Aropaoanui**	**8.23**	**199**	P		**P**	**20 03 30.6**	**+3.8**
ARHZ				S		**S**	**20 05 03.0**	**-0.5**
BKZ	**Black Stump Fm**	**8.29**	**201**	P		**P**	**20 03 28.1**	**+0.6**
BKZ				S		**S**	**20 05 01.5**	**-3.3**
MCHZ	**McNeill Hill**	**8.49**	**200**	P		**P**	**20 03 32.5**	**+3.0**
MCHZ				S		**S**	**20 05 09.5**	**+0.9**
KWHZ	**Kaweka Forest**	**8.55**	**201**	P		**P**	**20 03 31.2**	**+0.9**
KWHZ				S		**S**	**20 05 07.3**	**-2.7**
BHHZ	**Black Hill Sta**	**8.72**	**203**	P		**P**	**20 03 32.6**	**+0.5**
BHHZ				S		**S**	**20 05 08.9**	**-4.5**
KAHZ	**Kahuranaki**	**8.76**	**198**	P		**P**	**20 03 34.9**	**+2.3**
KAHZ				S		**S**	**20 05 14.8**	**+0.7**
KRHZ	**Kereru**	**8.77**	**201**	P		**P**	**20 03 33.4**	**+0.8**
KRHZ				S		**S**	**20 05 11.7**	**-2.5**
PXZ	**Pawanui**	**8.99**	**198**	P		**P**	**20 03 35.7**	**+0.8**
PXZ				S		**S**	**20 05 17.2**	**-1.3**
PNHZ	**Pukenui**	**9.07**	**201**	P		**P**	**20 03 37.4**	**+1.5**
PNHZ				S		**S**	**20 05 17.8**	**-2.4**
ASAR	**Alice Springs**	**41.68**	**269**	P		**P**	**20 08 37.5**	**+0.4**
	0.4nm,0.9s,baz=106,slow=7.2,SNR=4.9							
WRA	**Warramunga Arr**	**42.77**	**274**	P		**P**	**20 08 46.3**	**+0.6**
	0.4nm,0.3s,baz=112,slow=8.0,SNR=13							
FINES	**FINESS Array B**	**145.67**	**338**	PKPbc		**PKiKP**	**20 20 19.1**	**+0.4**
	0.5nm,0.3s,baz=46,slow=4.3,SNR=11							

IDC 28 20:01:30.2±2.2, 2°.20N×126°.72E, h0km, mb3.0/4, mb1 3.3/4, mb1mx3.2/33, mbtmp3.1/4, Error ellipse: s-maj=127.7km s-min=27.6km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.20**	**183**	P		P	20 06 06.6	0.0
	1.8nm,0.9s,baz=0.0,slow=12,SNR=1.5							
WRA	**Warramunga Arr**	**23.24**	**162**	P		P	20 06 39.0	-0.2
	0.2nm,0.4s,baz=340,slow=11,SNR=4.5							
ASAR	**Alice Springs**	**26.64**	**165**	P		P	20 07 11.1	+0.3
	0.1nm,0.7s,baz=344,slow=11,SNR=1.6							
MKAR	**Makanchi Array**	**58.81**	**326**	P		P	20 11 30.3	-0.1
	0.1nm,0.3s,baz=111,slow=6.5,SNR=1.4							

*IDC **28** 20:19:43.9±1.1, 11°.43N×86°.61W, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/41, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=41.1km s-min=18.3km az=42.0*
*UCR **28** 20:19:45.7±2.1, 11°.01N×86°.79W, h0km±34km, MW4.4, mb4.3(NEIC)*
*NEIC **28** 20:19:45.0±1.6, 10°.96N±0°.03×86°.97W±0°.07, h10km±1km, mb4.3/7, Error ellipse: s-maj=11.1km s-min=4.4km az=260.0*
*INET **28** 20:19:47.6, 11°.00N×86°.90W, h18km, MW4.0*
*SNET **28** 20:19:48.3±1.0, 11°.05N×87°.10W, h30km, ML3.8*

ISC 28 20:19:46.9±2.4, 10°.99N±0°.06×86°.96W±0°.06, h30km±17km, n65, σ1°16/72, mb4.0/13, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LAPC	**Finca la Perla**	**1.52**	**98**	*i* P		**Pn**	**20 20 10.4**	**-1.6**
CNGN	**Cerro Negro**	**1.52**	**10**	*e*P		**Pn**	**20 20 12.3**	**+0.1**
BUEV	**Buena Vista**	**1.54**	**97**	*i* P		**Pn**	**20 20 11.8**	**-0.5**
BUEV				*i* S		**Sn**	**20 20 31.8**	**+0.4**
GB1A	**Borinquen Arri**	**1.54**	**96**	*i* P		**Pn**	**20 20 11.9**	**-0.5**
GUAI	**GUAI**	**1.59**	**116**	*i* P		**Pn**	**20 20 11.4**	**-1.6**
ORTG	**Ortega, Santa**	**1.60**	**113**			**Pn**	**20 20 12.3**	**-0.9**
BUAI	**Buenos Aires**	**1.60**	**94**	*i* P		**Pn**	**20 20 12.2**	**-1.0**
CRIN	**San Cristobal**	**1.70**	**357**			**Pn**	**20 20 15.3**	**+0.6**
CRIN					Sn	**Sb**	**20 20 37.5**	**-1.2**
CUI	**Cuipilapa**	**1.80**	**100**	*i* P		**Pn**	**20 20 14.4**	**-1.5**
CUI				*i* S		**Sn**	**20 20 38.8**	**+1.1**
BOAB	**BOACO BROADBAN**	**1.93**	**41**			**Pn**	**20 20 17.1**	**-0.6**
ACON	**Acoyapa**	**2.00**	**61**			**Pn**	**20 20 18.9**	**+0.2**
JTS	**Las Juntas de**	**2.09**	**109**	Pn		**Pn**	**20 20 19.2**	**-0.7**
	3.4nm,0.3s,baz=350,slow=24,SNR=14							
JTS				Sn		**Sn**	**20 20 45.0**	**0.0**
	24nm,0.3s,baz=214,slow=22,SNR=7.3							
JTS				LR		LR	20 21 07.4	
	comp=Z,182nm,21.5s,baz=350,slow=42							
JTS	**Las Juntas de**	**2.09**	**109**			**Pn**	**20 20 19.4**	**-0.6**
MATN	**Matagalpa**	**2.18**	**28**			**Pn**	**20 20 22.9**	**+1.7**
CAO2	**Cobano, Puntar**	**2.23**	**125**			**Pn**	**20 20 22.5**	**+0.6**
CNCH	**Conchagua**	**2.43**	**340**	*e*P		**Pn**	**20 20 25.5**	**+0.9**
LCND	**La Caada**	**2.48**	**339**	*e*P		**Pn**	**20 20 26.1**	**+0.8**
LCND				*e*S		**Sn**	**20 20 54.7**	**+0.2**
LCND				IAML			20 21 02.5	
	comp=Z,407nm,0.2s							
COVE	**Coope Vega, Sa**	**2.53**	**96**			**Pn**	**20 20 28.0**	**+2.1**
JUCU	**Jucuarn**	**2.58**	**331**	*e*P		**Pn**	**20 20 26.8**	**+0.1**
LCY	**Lacayo**	**2.75**	**332**	*e*S		**Sn**	**20 21 01.0**	**-0.3**
PACA	**Pacayal**	**2.80**	**332**	*e*P		**Pn**	**20 20 30.5**	**+0.7**
ALJI	**Alcalde de J**	**2.81**	**326**	*e*S		**Sn**	**20 21 02.0**	**-0.6**
ESPN	**Las Esperanzas**	**2.87**	**65**			**Pn**	**20 20 31.2**	**+0.6**
TECA	**Tecapa**	**2.91**	**329**	*e*S		**Sn**	**20 21 06.2**	**+0.8**
HDC	**Heredia**	**2.97**	**109**			**Pn**	**20 20 33.7**	**+1.6**
PQSS	**Presa 15 de Se**	**3.05**	**329**	*e*S		**Sn**	**20 21 08.1**	**-0.5**
TGUH	**Tegucigalpa,Un**	**3.07**	**354**	*e*P		**Pn**	**20 20 34.2**	**+0.8**
TGUH	**Tegucigalpa,Un**	**3.07**	**354**			**Pn**	**20 20 34.4**	**+0.9**
COEG	**Centro de Oper**	**3.22**	**325**	*e*P		**Pn**	**20 20 36.1**	**+0.6**
COEG				*e*S		**Sn**	**20 21 12.1**	**-0.7**
COEG				IAML			20 21 21.2	
	comp=Z,303nm,0.5s							
LFRS	**El Faro**	**3.33**	**322**	*e*P		**Pn**	**20 20 36.6**	**-0.4**
LFRS				*e*S		**Sn**	**20 21 14.8**	**-0.9**
JAYA	**Jayaque - finc**	**3.60**	**318**	*e*P		**Pn**	**20 20 40.3**	**-0.5**
JAYA				*e*S		**Sn**	**20 21 20.9**	**-1.4**
PEZE	**Perez Zeledon,**	**3.60**	**116**			**Pn**	**20 20 41.5**	**+0.7**
MRVA	**Moravia de Chi**	**3.65**	**108**	*e*P		**Pn**	**20 20 43.6**	**+2.2**
CEVE	**Cerro Verde**	**3.84**	**318**	IAML			20 21 35.9	
	comp=Z,228nm,0.4s							
DRK0	**Durika**	**4.04**	**115**	*e*P		**Pn**	**20 20 47.9**	**+1.0**
RIOS	**Rincon, Osa**	**4.09**	**123**	*e*P		**Pn**	**20 20 48.3**	**+1.0**
RIOS	**Rincon, Osa**	**4.09**	**123**			**Pn**	**20 20 46.5**	**-0.9**
MTO3	**Montecristo**	**4.12**	**326**			**Pn**	**20 20 48.4**	**+0.4**
CMIG	**Matias Romero**	**9.79**	**309**	Pn		**Pn**	**20 22 06.3**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=98,slow=7.9,SNR=5.8							
CMIG				Sn		**Sn**	**20 23 54.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=27,slow=17,SNR=1.0							
TLIG	**Tlapa**	**13.01**	**301**	Pn		**Pn**	**20 22 52.1**	**+2.2**
152A	**Waverly Hall**	**21.68**	**5**	P		**P**	**20 24 37.1**	**+2.0**
152A				IAmb		IAmb	20 24 39.9	
	comp=Z,14nm,1.0s							
GOGA	**Godfrey**	**22.55**	**8**	P		**P**	**20 24 44.9**	**+0.4**
TX31	**Lajitas Ar. Si**	**24.01**	**322**	P		**P**	**20 25 00.7**	**+1.4**
TX31				IAmb		IAmb	20 25 14.0	
	comp=Z,7.7nm,0.8s							
TXAR	**Lajitas Array**	**24.01**	**322**	P		**P**	**20 25 00.5**	**+1.3**
	comp=Z,2.2nm,0.9s,baz=136,slow=9.4,SNR=19							
TXAR				PcP		**PcP**	**20 28 43.4**	**+2.6**
	comp=Z,0.5nm,0.7s,baz=148,slow=5.3,SNR=4.9							
TXAR	**Lajitas Array**	**24.01**	**322**	P		**P**	**20 25 00.4**	**+1.2**
W50A	**Signal Mountai**	**24.15**	**3**	P		**P**	**20 25 00.2**	**-0.2**
BG3	**Lake Jocassee**	**24.18**	**8**	P		**P**	**20 25 01.8**	**+1.1**
BG3				IAmb		IAmb	20 25 13.7	
	comp=Z,3.6nm,0.9s							
H06E1	**SOCORRO T-PHAS**	**24.40**	**291**	T		T	20 50 19.2	
	SNR=8.8							
CPCT	**Cooper Cave**	**24.45**	**5**	P		**P**	**20 25 03.2**	**0.0**
CPCT				IAmb		IAmb	20 25 05.5	
	comp=Z,8.3nm,0.9s							
TKL	**Tuckaleechee C**	**24.73**	**6**	P		**P**	**20 25 03.6**	**-2.1**
	comp=Z,2.3nm,0.6s,baz=167,slow=10,SNR=1.7							
LPIG	**La Paz**	**25.75**	**304**	P		**P**	**20 25 16.4**	**+1.4**
	comp=Z,21nm,0.3s,baz=115,slow=19,SNR=3.5							
WMOK	**Wichita Mounta**	**25.98**	**337**	P		**P**	**20 25 17.4**	**+0.3**
WMOK				IAmb		IAmb	20 25 36.3	
	comp=Z,9.1nm,1.2s							
BNM	**Barren Site**	**29.23**	**325**	P		**P**	**20 25 47.6**	**+1.2**
SADO	**Sadowa**	**34.33**	**10**	P		**P**	**20 26 28.3**	**-2.5**
	comp=Z,3.3nm,0.9s,baz=221,slow=9.3,SNR=2.3							
PDAR	**P

comp=Z,24nm,1.0s
NNZ Nelson 23.30 186 P P 20 34 15.6 -0.2
ARMA Armidale 25.96 237 P P 20 34 40.0 -0.6
ARMA IAmb IAmb 20 34 55.3
comp=Z,7.2nm,1.1s
CTA Charters Tower 28.88 261 P P 20 35 05.9 -1.0
comp=Z,3.8nm,0.7s,baz=110,slow=12,SNR=1.8
CTAO Charters Tower 28.88 261 P P 20 35 06.3 -0.5
PMG Port Moresby 29.96 283 LR LR 20 44 09.3
comp=Z,67nm,19.8s,baz=112,slow=30
PPT2 Papeete2 32.04 95 *e*LQ LQ 20 42 38.2
comp=Z,390nm,27.2s
PPT2 *e*LR LR 20 44 00.9
comp=Z,240nm,25.2s
PPT Papeete 32.04 94 LR LR 20 45 16.0
comp=Z,97nm,18.9s,baz=232,slow=30
STKA Stephens Creek 34.57 240 P P 20 35 56.4 -0.3
comp=Z,2.1nm,1.0s,baz=80,slow=8.5,SNR=4.0
STKA LR LR 20 48 55.9
comp=Z,150nm,18.7s,baz=34,slow=34
STKA Stephens Creek 34.57 240 P P 20 35 56.4 -0.3
BBOO Buckleboo 39.34 240 P P 20 36 37.6 +0.4
BBOO IAmb IAmb 20 36 45.4
comp=Z,5.9nm,0.9s
WR0 Warramunga Arr 39.89 260 P P 20 36 41.7 -0.3
WR0 IAmb IAmb 20 36 49.0
comp=Z,5.3nm,1.1s
WB0 Warramunga Arr 40.04 261 P P 20 36 42.6 -0.6
WB0 IAmb IAmb 20 36 50.7
comp=Z,4.7nm,0.8s
WRA Warramunga Arr 40.08 260 P P 20 36 43.6 +0.1
comp=Z,1.9nm,0.7s,baz=95,slow=8.8,SNR=19
WRA LR LR 20 53 31.0
comp=Z,90nm,18.7s,baz=260,slow=36
WRA Warramunga Arr 40.08 260 P P 20 36 43.5 -0.1
AS31 Alice Springs 40.33 254 P P 20 36 46.0 +0.4
ASAR Alice Springs 40.33 254 P P 20 36 46.0 +0.4
comp=Z,4.7nm,0.8s,baz=85,slow=9.0,SNR=56
ASAR LR LR 20 53 19.6
comp=Z,186nm,18.2s,baz=96,slow=36
ASAR Alice Springs 40.33 254 P P 20 36 45.6 0.0
MTN Manton Dam 44.19 270 P P 20 37 17.4 +0.3
MTN IAmb IAmb 20 37 25.0
comp=Z,5.8nm,0.8s
FORT Forrest 45.80 244 P P 20 37 30.2 +0.4
FITZ Fitzroy Crossi 48.46 262 LR LR 20 57 20.2
comp=Z,115nm,19.4s,baz=104,slow=35
KSRS Korea Array 71.80 321 LR LR 21 10 52.8
comp=Z,30nm,18.4s,baz=36,slow=35
QSPA South Pole Qui 72.03 180 P P 20 40 32.6 +1.2
QSPA IAmb IAmb 20 40 47.6
comp=Z,4.5nm,1.0s
MA2 Magadan 80.18 347 LR LR 21 09 18.3
comp=Z,140nm,21.0s,baz=352,slow=30
YBH Yreka Blue Hor 81.58 41 LR LR 21 10 13.6
comp=Z,194nm,21.4s,baz=87,slow=30
NVAR Mina Array Bea 82.75 46 P P 20 41 31.6 -0.2
comp=Z,0.4nm,0.8s,baz=232,slow=3.6,SNR=3.0
CMAR Chiang Mai Arr 84.61 291 P P 20 41 42.1 +0.6
comp=Z,62nm,0.4s,baz=121,slow=4.1,SNR=1.0
GERES GERESS Array B 146.32 340 PKPbc PKPbc 20 48 48.8 +0.6
comp=Z,0.1nm,0.4s,baz=50,slow=3.1,SNR=1.4

IDC 28 20:53:58.0±1.3, 18°46S×176°90E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/34, mbtmp3.9/3, MS3.7/4, Ms1 3.7/4, ms1mx3.2/33, Error ellipse: s-maj=46.6km s-min=17.0km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.31**	**57**	Pn		20 54 23.7	0.0
	185nm,0.3s,baz=236,slow=21,SNR=86						
MSVF				Sn		20 54 41.4	+0.5
	177nm,0.3s,baz=308,slow=23,SNR=5.4						
JAY	**Jayapura**	**38.84**	**290**	LR	LR	21 16 07.6	
	comp=Z,56nm,19.9s,baz=148,slow=34						
WRA	**Warramunga Arr**	**40.15**	**261**	P		21 01 35.9	-0.3
	0.6nm,0.7s,baz=94,slow=8.9,SNR=8.5						
ASAR	**Alice Springs**	**40.35**	**255**	P		21 01 38.1	+0.2
	2.7nm,0.9s,baz=82,slow=9.1,SNR=25						
ASAR				LR	LR	21 18 13.0	
	comp=Z,66nm,18.7s,baz=85,slow=36						
FITZ	**Fitzroy Crossi**	**48.54**	**262**	P		21 02 42.0	-1.4
	2.4nm,1.0s,baz=79,slow=5.2,SNR=2.0						
LPIG	**La Paz**	**82.60**	**62**	LR	LR	21 35 23.2	
	comp=Z,70nm,19.4s,baz=56,slow=30						
ANMO	**Albuquerque**	**89.96**	**53**	LR	LR	21 39 17.0	
	comp=Z,86nm,21.0s,baz=78,slow=30						
GERES	**GERESS Array B 146.78 340**			PKPbc	PKPbc	21 13 42.6	+0.4
	0.2nm,0.3s,baz=15,slow=4.1,SNR=2.4						

*SOME **28** 20:55:11.6, 42°32N×75°78E, h15km*
*KNET **28** 20:55:11.4±0.5, 42°32N×75°75E, h18km±6km, ml3.2, Error ellipse: s-maj=5.2km s-min=4.4km az=57.0*
*NNC **28** 20:55:11.2±0.4, 42°32N×75°75E, h0km, mb4.2, mpv4.3, Error ellipse: s-maj=2.4km s-min=1.3km az=174.0*
*KRNET **28** 20:55:11.7±0.1, 42°32N×75°76E, h19km, mb4.2*
ISC 28 20:55:11.3±0.9, 42°34N±0'02×75°74E±0'01, h16km±8km, n93, σ1§45/172, 53C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOOM	**Boomskoye usch**	**0.21**	**45**	⇑*i*P	**Pb**	**20 55 16.6**	**-0.3**
	baz=38						
BOOM				⇑*i*S	**Sb**	**20 55 20.0**	**-0.6**
	baz=38						
ULHL	**Ulahol**	**0.38**	**104**	⇑*i*P	**Pg**	**20 55 19.1**	**-0.1**
	baz=1.0						
ULHL				⇑*i*S	**Sg**	**20 55 24.1**	**-0.5**
	baz=1.0						
ULHL	**Ulahol**	**0.38**	**104**	⇓P	**Pg**	**20 55 18.9**	**-0.3**
	3μm,0.1s						
ULHL				⇑S	**Sg**	**20 55 24.0**	**-0.6**
	2μm,0.1s						
TKM2	**Tokmak 2**	**0.59**	**350**	⇑*i*P	**Pb**	**20 55 23.6**	**+0.2**
	baz=49						
TKM2				⇑*i*S	**Sb**	**20 55 31.7**	**+0.1**
	baz=49						
TKM2	**Tokmak 2**	**0.59**	**350**	P	**Pb**	**20 55 23.7**	**+0.2**
	167nm,0.1s,SNR=201						
TKM2				⇑S	**Sb**	**20 55 32.0**	**+0.3**
	3μm,0.2s						
TKM2	**Tokmak 2**	**0.59**	**350**	⇑P	**Pb**	**20 55 23.5**	**+0.2**
	70nm,0.2s						
TKM2				⇓S	**Sb**	**20 55 31.9**	**+0.3**
	808nm,0.2s						
KBK	**Karagaybulak**	**0.67**	**298**	⇑*i*P	**Pb**	**20 55 25.2**	**+0.5**
	baz=0.0						
KBK				⇑*i*S	**Sb**	**20 55 34.7**	**+0.9**
	baz=0.0						
KBK	**Karagaybulak**	**0.67**	**298**	P	**Pn**	**20 55 25.4**	**-0.9**
	698nm,0.1s,SNR=927						
KBK				⇓S	**Sn**	**20 55 35.2**	**-1.3**
	2μm,0.2s						
KST	**Kastek**	**0.72**	**13**	*e*P	**Pn**	**20 55 25.9**	**-1.1**
	baz=12						
KST				*e*S	**Sn**	**20 55 36.1**	**-1.7**
	baz=12						
KST	**Kastek**	**0.72**	**13**	*e*P	**Pn**	**20 55 25.9**	**-1.1**
	268nm,0.1s						
KST				*e*S	**Sn**	**20 55 36.1**	**-1.7**
	368nm,0.2s						
KST	**Kastek**	**0.72**	**13**	P	**Pn**	**20 55 25.9**	**-1.1**
	268nm,0.1s						
KST				S	**Sn**	**20 55 36.1**	**-1.7**
	368nm,0.2s						
DGS	**Degeres**	**0.90**	**1**	*e*P	**Pn**	**20 55 29.2**	**-0.3**
	baz=1.0						
DGS				*e*S	**Sn**	**20 55 41.9**	**-0.3**
	baz=1.0						
DGS	**Degeres**	**0.90**	**1**	*e*P	**Pn**	**20 55 29.2**	**-0.3**
	74nm,0.1s						
DGS				*e*S	**Sn**	**20 55 41.9**	**-0.3**
	486nm,0.2s						
DGS	**Degeres**	**0.90**	**1**	P	**Pn**	**20 55 29.2**	**-0.3**
	74nm,0.1s						
DGS				S	**Sn**	**20 55 41.9**	**-0.3**
	486nm,0.2s						
UCH	**Uchtor**	**0.92**	**263**	⇑*i*P	**Pb**	**20 55 29.4**	**+0.2**
	baz=65						
UCH				⇑*i*S	**Sb**	**20 55 42.4**	**+1.1**
	baz=65						
UCH	**Uchtor**	**0.92**	**263**	⇑P	**Pb**	**20 55 29.3**	**+0.2**
	171nm,0.2s,SNR=347						
UCH				⇑S	**Sb**	**20 55 42.1**	**+0.8**
	324nm,0.3s						
FRU1	**Bishkek**	**0.94**	**300**	⇑*i*P	**Pn**	**20 55 30.2**	**+0.2**
	baz=2.0						
FRU1				⇑*i*S	**Sn**	**20 55 43.1**	**-0.2**
	baz=2.0						
IZV	**Izvestkoviy**	**0.94**	**43**	*e*P	**Pn**	**20 55 29.9**	**-0.2**
	baz=41						
IZV				*e*S	**Sn**	**20 55 43.1**	**-0.3**
	baz=41						
IZV	**Izvestkoviy**	**0.94**	**43**	*e*P	**Pn**	**20 55 29.9**	**-0.2**
	102nm,0.2s						
IZV				*e*S	**Sn**	**20 55 43.1**	**-0.3**
	709nm,0.3s						
IZV	**Izvestkoviy**	**0.94**	**43**	P	**Pn**	**20 55 29.9**	**-0.2**
	102nm,0.2s						
IZV				S	**Sn**	**20 55 43.1**	**-0.3**
	709nm,0.3s						
AAK	**Ala-Archa**	**0.97**	**288**	⇑*i*P	**Pn**	**20 55 30.3**	**-0.1**
	baz=89						
AAK				⇑*i*S	**Sn**	**20 55 43.8**	**-0.2**
	baz=89						
AAK	**Ala-Archa**	**0.97**	**288**	⇑P	**Pn**	**20 55 30.3**	**-0.1**
	233nm,0.2s,SNR=287						
AAK				⇑S	**Sn**	**20 55 43.4**	**-0.5**
	414nm,0.3s						
AAK	**Ala-Archa**	**0.97**	**288**	⇑P	**Pn**	**20 55 30.2**	**-0.1**
	64nm,0.2s						
AAK				⇑S	**Sn**	**20 55 43.5**	**-0.5**
	264nm,0.6s						
CHMS	**Chumysh**	**0.98**	**312**	⇓*i*P	**Pn**	**20 55 30.5**	**0.0**
	baz=13						
CHMS				⇓*i*S	**Sn**	**20 55 44.1**	**0.0**
	baz=13						
CHMS	**Chumysh**	**0.98**	**312**	P	**Pn**	**20 55 30.6**	**+0.1**
	44nm,0.1s,SNR=197						
CHMS				⇑S	**Sn**	**20 55 44.0**	**0.0**
	436nm,0.2s						
KDJ	**Kajisay**	**1.09**	**101**	⇑*i*P	**Pb**	**20 55 31.6**	**-0.3**
	baz=0.0						
KDJ				⇑*i*S	**Sb**	**20 55 46.0**	**0.0**
	baz=0.0						
TNSS	**Tian-Shan**	**1.13**	**52**	*e*P	**Pn**	**20 55 32.9**	**+0.1**
	baz=50						
TNSS				*e*S	**Sn**	**20 55 48.5**	**+0.2**
	baz=50						
TNSS	**Tian-Shan**	**1.13**	**52**	*e*P	**Pn**	**20 55 32.9**	**+0.1**
	120nm,0.2s						
TNSS				*e*S	**Sn**	**20 55 48.5**	**+0.2**
	372nm,0.3s						
TNSS	**Tian-Shan**	**1.13**	**52**	P	**Pn**	**20 55 32.9**	**+0.1**
	120nm,0.2s						
TNSS				S	**Sn**	**20 55 48.5**	**+0.2**
	372nm,0.3s						
ARLS	**Aral**	**1.16**	**246**	⇑*i*P	**Pg**	**20 55 33.6**	**-0.1**
	baz=47						
ARLS				⇑*i*S	**Sg**	**20 55 49.3**	**+0.5**
	baz=47						
AAA	**Alma-Ata**	**1.22**	**45**	*e*P	**Pg**	**20 55 35.1**	**+0.2**
	baz=43						
AAA				*e*S	**Sn**	**20 55 52.1**	**+2.0**
	baz=43						
AAA	**Alma-Ata**	**1.22**	**45**	*e*P	**Pg**	**20 55 35.1**	**+0.2**
	129nm,0.2s						
AAA				*e*S	**Sn**	**20 55 52.1**	**+2.0**
	633nm,0.2s						
AAA	**Alma-Ata**	**1.22**	**45**	P	**Pg**	**20 55 35.1**	**+0.2**
	129nm,0.2s						
AAA				S	**Sn**	**20 55 52.1**	**+2.0**
	633nm,0.2s						
KNDC	**Almaty**	**1.26**	**45**	⇑P	**Pg**	**20 55 35.6**	**+0.1**
	60nm,0.3s						
KNDC				⇑S	**Sg**	**20 55 53.1**	**+1.2**
	246nm,0.2s						
MDOK	**Medeo**	**1.27**	**49**	*e*P	**Pg**	**20 55 35.3**	**-0.4**
	baz=48						
MDOK				*e*S	**Sg**	**20 55 52.3**	**+0.1**
	baz=48						
MDOK	**Medeo**	**1.27**	**49**	*e*P	**Pg**	**20 55 35.3**	**-0.4**
	64nm,0.4s						
MDOK				*e*S	**Sg**	**20 55 52.3**	**+0.1**
	240nm,0.3s						
MDOK	**Medeo**	**1.27**	**49**	⇑P	**Pg**	**20 55 35.1**	**-0.6**
	23nm,0.3s						
MDOK				⇑S	**Sg**	**20 55 52.0**	**-0.2**
	170nm,0.5s						
MDOK	**Medeo**	**1.27**	**49**	Pg	**Pg**	**20 55 35.3**	**-0.4**
	64nm,0.4s						
MDOK				Lg	Lg	20 55 52.3	
	240nm,0.3s						
USP	**Ospenovka**	**1.30**	**316**	⇑*i*P	**Pg**	**20 55 36.1**	**-0.2**
	baz=16						
USP				⇑*i*S	**Sg**	**20 55 53.8**	**+0.6**
	baz=16						
USP	**Ospenovka**	**1.30**	**316**	⇑P	**Pg**	**20 55 36.2**	**-0.2**
	80nm,0.1s,SNR=115						
USP				⇓S	**Sg**	**20 55 53.8**	**+0.6**
	153nm,0.1s						
KRBS	**Karabastau**	**1.35**	**358**	*e*P	**Pg**	**20 55 37.3**	**0.0**
	baz=57						
KRBS				*e*S	**Sg**	**20 55 55.7**	**+0.7**
	baz=57						
KRBS	**Karabastau**	**1.35**	**358**	*e*P	**Pg**	**20 55 37.3**	**0.0**
	82nm,0.1s						
KRBS				*e*S	**Sg**	**20 55 55.7**	**+0.7**
	250nm,0.2s						
KRBS	**Karabastau**	**1.35**	**358**	P	**Pg**	**20 55 37.3**	**0.0**
	82nm,0.1s						
KRBS				S	**Sg**	**20 55 55.7**	**+0.7**
	250nm,0.2s						
SGDS	**Sogindy**	**1.38**	**324**	P	**Pg**	**20 55 37.6**	**-0.2**
	46nm,0.1s						
SGDS				S	**Sg**	**20 55 56.1**	**+0.4**
	212nm,0.1s						
EKS2	**Erkin-Say**	**1.49**	**283**	⇓*i*P	**Pg**	**20 55 39.6**	**-0.3**
	baz=84						
EKS2				⇓*i*S	**Sg**	**20 55 59.8**	**+0.6**
	baz=84						
EKS2	**Erkin-Say**	**1.49**	**283**	⇑P	**Pg**	**20 55 40.0**	**+0.1**
	43nm,0.1s,SNR=65						
EKS2				⇑S	**Sg**	**20 56 01.0**	**+1.8**
	99nm,0.2s						
ANVS	**Anan'yevo**	**1.49**	**72**	⇑*i*P	**Pg**	**20 55 38.8**	**-1.1**
	baz=71						
ANVS				⇑*i*S	**Sg**	**20 55 58.3**	**-1.0**
	baz=71						
KTBS	**Karatobe**	**1.53**	**26**	*e*P	**Pg**	**20 55 40.4**	**-0.3**
	baz=26						
KTBS				*e*S	**Sg**	**20 56 00.9**	**+0.2**
	baz=26						
KTBS	**Karatobe**	**1.53**	**26**	*e*P	**Pg**	**20 55 40.4**	**-0.3**
	187nm,0.1s						
KTBS				*e*S	**Sg**	**20 56 00.9**	**+0.2**
	502nm,0.2s						
KTBS	**Karatobe**	**1.53**	**26**	P	**Pg**	**20 55 40.4**	**-0.3**
	187nm,0.1s						
KTBS				S	**Sg**	**20 56 00.9**	**+0.2**
	502nm,0.2s						
AML	**Almayashu**	**1.54**	**263**	⇓*i*P	**Pg**	**20 55 40.3**	**-0.5**
	baz=64						
AML				⇓*i*S	**Sg**	**20 56 01.1**	**+0.3**
	baz=64						
AML	**Almayashu**	**1.54**	**263**	⇑P	**Pg**	**20 55 40.5**	**-0.3**
	40nm,0.1s,SNR=100						
AML				⇑S	**Sg**	**20 56 01.3**	**+0.4**
	212nm,0.2s						
KUU	**Kurty**	**1.61**	**16**	*e*P	**Pg**	**20 55 41.7**	**-0.5**
	baz=15						
KUU				*e*S	**Sg**	**20 56 03.3**	**+0.1**
	baz=15						
KUU	**Kurty**	**1.61**	**16**	*e*P	**Pg**	**20 55 41.7**	**-0.5**
	170nm,0.2s						
KUU				*e*S	**Sg**	**20 56 03.2**	**+0.1**
	261nm,0.4s						
KUU	**Kurty**	**1.61**	**16**	P	**Pg**	**20 55 41.7**	**-0.5**
	170nm,0.2s						
KUU				S	**Sg**	**20 56 03.3**	**+0.1**
	261nm,0.4s						
CHKK	**Chushkaly**	**1.77**	**31**	*e*P	**Pg**	**20 55 44.3**	**-0.9**
	baz=30						
CHKK				*e*S	**Sg**	**20 56 08.3**	**+0.1**
	baz=30						
CHKK	**Chushkaly**	**1.77**	**31**	*e*P	**Pg**	**20 55 44.3**	**-0.9**
	80nm,0.2s						
CHKK				*e*S	**Sg**	**20 56 08.2**	**+0.1**
	753nm,0.2s						
CHKK	**Chushkaly**	**1.77**	**31**	P	**Pg**	**20 55 44.3**	**-0.9**
	80nm,0.2s						
CHKK				S	**Sg**	**20 56 08.2**	**+0.1**
	753nm,0.2s						
PRZ	**Przheval'sk**	**1.97**	**85**	⇓*i*P	**Pb**	**20 55 46.5**	**-0.5**
	baz=84						
PRZ				⇓*i*S	**Sb**	**20 56 11.8**	**+0.4**
	baz=84						
SATY	**Saty**	**2.09**	**69**	*e*P	**Pb**	**20 55 49.2**	**+0.3**
	baz=68						
SATY				*e*S	**Sg**	**20 56 16.8**	**-1.8**
	baz=68						
SATY	**Saty**	**2.09**	**69**	*e*P	**Pb**	**20 55 49.2**	**+0.3**
	67nm,0.2s						
SATY				*e*S	**Sg**	**20 56 16.8**	**-1.8**
	591nm,0.2s						
SATY	**Saty**	**2.09**	**69**	Pg	**Pb**	**20 55 49.2**	**+0.3**
	67nm,0.2s						
SATY				Lg	Lg	20 56 16.8	
	591nm,0.2s						
ZHN	**Zhinishke**	**2.15**	**67**	*e*P	**Pb**	**20 55 50.3**	**+0.4**
	baz=66						
ZHN				*e*S	**Sg**	**20 56 18.6**	**-1.8**
	baz=66						
ZHN	**Zhinishke**	**2.15**	**67**	*e*P	**Pb**	**20 55 50.3**	**+0.4**
	246nm,0.5s						
ZHN				*e*S	**Sg**	**20 56 18.6**	**-1.8**
	151nm,0.2s						
ZHN	**Zhinishke**	**2.15**	**67**	Pg	**Pb**	**20 55 50.3**	**+0.4**
	246nm,0.5s						
ZHN				Lg	Lg	20 56 18.6	
	151nm,0.2s						
ARSB	**Arslanbob**	**2.30**	**245**	⇑*i*P	**Pb**	**20 55 51.4**	**-1.1**
	baz=45						
ARSB				⇑*i*S	**Sb**	**20 56 20.4**	**-0.3**
	baz=45						
MNAS	**Manas**	**2.40**	**275**	⇑*i*P	**Pb**	**20 55 53.0**	**-1.2**
	baz=75						
MNAS				⇑*i*S	**Sb**	**20 56 23.2**	**-0.5**
	baz=75						
ARXS	**Arharly**	**2.41**	**38**	*e*P	**Pb**	**20 55 54.9**	**+0.5**
	104nm,0.2s						
ARXS				*e*S	**Sg**	**20 56 26.2**	**-2.6**
	635nm,0.3s						
ARXS	**Arharly**	**2.41**	**38**	Pg	**Pb**	**20 55 54.8**	**+0.5**
	104nm,0.2s						
ARXS				Lg	Lg	20 56 26.2	
	635nm,0.3s						
KPKS	**Kokpek**	**2.44**	**62**	*e*P	**Pg**	**20 55 55.8**	**-2.2**
	127nm,0.1s						
KPKS				*e*S	**Sg**	**20 56 28.1**	**-1.5**
	592nm,0.3s						
SHLS	**Shalkode**	**2.86**	**72**	*e*P	**Pg**	**20 56 08.6**	**+2.5**
	40nm,0.3s						
SHLS				*e*S	**Sg**	**20 56 49.5**	**+6.4**
	198nm,0.4s						
SHLS	**Shalkode**	**2.86**	**72**	Pg	**Pg**	**20 56 08.6**	**+2.5**
	40nm,0.3s						
SHLS				Lg	Lg	20 56 49.5	
	198nm,0.4s						
OHH	**Osh**	**2.87**	**232**	⇑*i*P	**Pn**	**20 55 59.4**	**+2.9**
	baz=32						
OHH				⇑*i*S	**Sn**	**20 56 34.1**	**+3.3**
	baz=32						
BTLS	**Baital**	**2.96**	**336**	*e*P	**Pg**	**20 56 06.1**	**-1.9**
	8.3nm,0.2s						
BTLS				*e*S	**Sg**	**20 56 45.0**	**-1.4**
	192nm,0.2s						
BTLS	**Baital**	**2.96**	**336**	Pg	**Pg**	**20 56 05.4**	**-2.6**
	8.3nm,0.2s						
BTLS				Lg	Lg	20 56 45.0	
	192nm,0.2s						
TDK	**Taldyqorghan**	**3.29**	**35**	*e*P	**Pb**	**20 56 10.7**	**+1.5**
	43nm,0.3s						
TDK				*e*S	**Sg**	**20 56 53.2**	**-3.6**
	339nm,0.5s						
TDK	**Taldyqorghan**	**3.29**	**35**	Pg	**Pb**	**20 56 10.7**	**+1.5**
	43nm,0.3s						
TDK				Lg	Lg	20 56 53.2	
	339nm,0.5s						
DZA	**Taraz**	**3.30**	**281**	*e*P	**Pg**	**20 56 12.7**	**-1.8**
	90nm,0.3s						
DZA				*e*S	**Sg**	**20 56 57.2**	**-0.1**
	119nm,0.3s						
DZA	**Taraz**	**3.30**	**281**	Pg	**Pg**	**20 56 12.7**	**-1.8**
	90nm,0.3s						
DZA				Lg	Lg	20 56 57.2	
	119nm,0.3s						
TRKS	**Terek-Say**	**3.53**	**258**	⇓*i*P	**Pn**	**20 56 08.8**	**+3.2**
	baz=57						
TRKS				⇓*i*S	**Sn**	**20 56 50.0**	**+2.9**
	baz=57						
DJR	**Jarkent**	**3.56**	**55**	*e*P	**Pb**	**20 56 15.3**	**+1.4**
	16nm,0.3s						
DJR				*e*S	**Sg**	**20 57 01.3**	**-4.2**
	74nm,0.4s						
DJR	**Jarkent**	**3.56**	**55**	Pg	**Pb**	**20 56 15.3**	**+1.4**
	16nm,0.3s						
DJR				Lg	Lg	20 57 01.3	
	74nm,0.4s						
KTMS	**Ketmen**	**3.56**	**70**	*e*P	**Pb**	**20 56 15.1**	**+1.1**
	26nm,0.3s						
KTMS				*e*S	**Sg**	**20 57 00.8**	**-4.8**
	112nm,0.3s						
KTMS	**Ketmen**	**3.56**	**70**	Pg	**Pb**	**20 56 13.1**	**-0.9**
	7.4nm,0.2s						
KTMS				Lg	Lg	20 56 57.9	
	112nm,0.3s						
KK31	**Karatay Array**	**3.93**	**283**	Pg	**Pg**	**20 56 23.3**	**-3.2**
	6.2nm,0.4s,baz=103,slow=16,SNR=88						
KK31				⇓Lg	Lg	20 57 14.5	
	21nm,0.4s,baz=92,slow=27,SNR=7.8						
IUG	**Iuzhnay**	**4.24**	**269**	*e*P	**Pg**	**20 56 30.3**	**-2.2**
	9.5nm,0.3s						
IUG				*e*S	**Sg**	**20 57 27.3**	**-0.2**
	36nm,0.5s						
IUG	**Iuzhnay**	**4.24**	**269**	Pg	**Pg**	**20 56 31.1**	**-1.4**
	9.5nm,0.3s						
IUG				Lg	Lg	20 57 28.4	
	36nm,0.5s						
BTK	**Batken**	**4.36**	**240**	⇑*i*P	**Pn**	**20 56 20.1**	**+3.1**
	baz=40						
BTK				⇑*i*S	**Sn**	**20 57 09.8**	**+2.3**
	baz=40						
BRLS	**Boroldday**	**4.41**	**281**	*e*P	**Pg**	**20 56 34.3**	**-1.4**
	6.5nm,0.6s						
BRLS				*e*S	**Sg**	**20 57 33.6**	**+0.9**
	19nm,0.3s						
BRLS	**Boroldday**	**4.41**	**281**	Pg	**Pg**	**20 56 33.6**	**-2.0**
	17nm,0.1s						
BRLS				Lg	Lg	20 57 33.6	
	25nm,0.5s						
MAKZ	**Makanchi**	**6.30**	**43**	⇑Pn	**Pn**	**20 56 47.3**	**+3.7**
	1.4nm,0.3s						
MAKZ				⇑Sn	**Sn**	**20 57 59.3**	**+4.0**
	1.1nm,0.5s						
MAKZ				⇑Lg	Lg	20 58 25.7	
	6.7nm,0.7s						
MK31	**Makanchi Array**	**6.46**	**44**	Pn	**Pn**	**20 56 49.0**	**+3.4**
	0.8nm,0.3s,baz=219,slow=15,SNR=72						
MK31				Sn	**Sn**	**20 58 02.5**	**+3.5**
	5.1nm,0.7s,baz=224,slow=19,SNR=9.1						
MK31				⇑Lg	Lg	20 58 31.8	
	2.5nm,0.5s,baz=240,slow=28,SNR=3.7						
KURBB	**Kurchatov Arra**	**8.50**	**12**	⇓Pn	**Pn**	**20 57 16.0**	**+2.3**
	2.6nm,0.9s						
KURBB				⇓Lg	Lg	20 59 40.6	
	28nm,0.8s						

*IDC **28** 20:56:29.6±1.3, 36°13N×69°12E, h0km, mb3.6/6, mb1 3.7/10, mb1mx3.4/53, mbtmp3.7/10, ML3.6/4, Error ellipse: s-maj=24.0km s-min=20.7km az=72.0*
*NNC **28** 20:56:37.9±3.8, 36°63N×69°07E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=47.8km s-min=29.1km az=126.0*
ISC 28 20:56:31.8±0.8, 36°24N±0'08×68°92E±0'07, h10km, n19, σ1§51/24, mb3.6/5, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.97**	**10**	⇑Pn	**Pn**	**20 58 16.8**	**+2.9**
	1.5nm,0.2s,baz=36,slow=19,SNR=4.2						
KK31				⇑Sn	**Sn**	**20 59 31.2**	**-1.9**
	3.1nm,0.3s,baz=188,slow=22,SNR=5.0						
AAK	**Ala-Archa**	**7.71**	**32**	Pn	**Pn**	**20 58 26.2**	**+2.0**
	4.3nm,0.3s,baz=216,slow=4.0,SNR=4.2					

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2 8.3nm,0.5s	8.43	36	⇓Pn	Pn	20 58 35.6	+1.4
TKM2	8.1nm,0.8s			⇑Sn	Sn	21 00 08.8	-0.7
GEYT	Alibeck 0.2nm,0.3s,baz=112,slow=11,SNR=1.7	8.79	284	Pn	Pn	20 58 40.1	+1.1
GEYT	0.9nm,0.3s,baz=42,slow=25,SNR=2.3			Sn	Sn	21 00 16.5	-1.7
GKN	Gorkha	15.63	117	eP	Pn	21 00 12.8	+0.5
AKTO	Aktyubinsk 0.1nm,0.3s,baz=152,slow=15,SNR=1.9	16.23	334	Pn	Pn	21 00 19.2	-0.5
PKIN	Phulchoki	16.43	117	eP	Pn	21 00 22.8	+0.2
PKI	Pulchoki	16.44	117	eP	Pn	21 00 23.1	+0.2
BVAR	Borovoye Array 0.3nm,0.3s,baz=186,slow=13,SNR=2.7	16.82	3	Pn	Pn	21 00 24.0	-3.2
JIRN	Jiri	16.95	115	eP	Pn	21 00 30.2	+0.8
RAMN	Ramite	17.66	117	eP	Pn	21 00 38.6	+0.5
TAPN	Taplejung	18.24	114	eP	P	21 00 45.8	+0.2
ZALV	Zalesovo Beam 3.0nm,0.3s,baz=211,slow=10,SNR=12	20.88	27	P	P	21 01 12.7	-1.2
ARU	Arti 0.4nm,0.4s,baz=242,slow=22,SNR=2.1	21.38	344	P	P	21 01 18.7	-0.5
BELG	Belogornoye 4.5nm,0.6s,baz=78,slow=21,SNR=2.2	22.07	324	P	P	21 01 27.4	+0.7
FINES	FINESS Array B 1.0nm,0.8s,baz=124,slow=10,SNR=6.7	36.77	327	P	P	21 03 40.5	+1.3
WRA	Warramunga Arr 0.1nm,0.4s,baz=324,slow=4.5,SNR=1.4	83.29	121	P	P	21 08 57.3	-1.6
ASAR	Alice Springs 0.2nm,0.5s,baz=310,slow=5.0,SNR=8.0	85.50	124	P	P	21 09 08.5	-1.5

*JMA **28** 21:35:11.1±0.1,23°.94N×121°.93E,h37km±2km,M2.0*
*TAP **28** 21:35:11.4,23°.98N×121°.91E,h39km±1km,ML2.6,C*
ISC 28 21:35:11.2±1.1**,23°.97N**±0°.02×**121°.93E**±0°.02**,h29**km±11km**,**
n72,σ**0s.48**/129**,2C-2D,Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HWA	Hwalien baz=268	0.29	271	eP	Pn	21 35 20.2	+0.7
HWA	baz=268			eS	Sn	21 35 25.4	+0.4
TWD	Chiawan baz=289	0.32	290	⇑iP	Pn	21 35 20.1	+0.1
TWD	baz=289			iS	Sn	21 35 26.4	+0.8
NACB	Ninganchiao baz=303	0.36	304	⇑P	Pn	21 35 20.4	-0.1
NACB	baz=303			S	Sn	21 35 27.1	+0.4
ETLH	Xiulin Townshi baz=299	0.47	300	P	Pn	21 35 22.1	0.0
ETLH	baz=299			S	Sn	21 35 29.2	-0.3
ESL	Shilin baz=248	0.48	251	iP	Pn	21 35 22.1	0.0
ESL	baz=248			iS	Sn	21 35 29.9	+0.4
ENA	Nanau baz=341	0.48	340	iP	Pn	21 35 22.0	-0.2
ENA	baz=341			iS	Sn	21 35 30.1	+0.3
EWUT	Wuta baz=345	0.49	344	iP	Pn	21 35 22.4	+0.1
EWUT	baz=345			S	Sn	21 35 30.3	+0.4
EGFH	Guangfu baz=234	0.55	237	eP	Pn	21 35 23.1	0.0
EGFH	baz=234			eS	Sn	21 35 32.3	+1.0
WHF	Hehuan Shan baz=285	0.63	286	iP	Pn	21 35 24.3	-0.3
WHF	baz=285			S	Sn	21 35 33.5	-0.4
TWC	Suao baz=355	0.64	354	iP	Pn	21 35 24.5	+0.2
TWC	baz=355			iS	Sn	21 35 33.5	-0.1
HGSD	Ruisui baz=222	0.66	224	P	Pn	21 35 24.6	-0.1
HGSD	baz=222			S	Sn	21 35 35.3	+1.2
NNSB	Datong baz=312	0.67	313	P	Pn	21 35 24.8	-0.2
NNSB	baz=312			S	Sn	21 35 34.2	-0.4
NNSH	Datong baz=312	0.67	313	eP	Pn	21 35 24.6	-0.3
NNSH	baz=312			S	Sn	21 35 34.0	-0.5
FUSS	Fushou baz=293	0.68	294	P	Pb	21 35 24.8	0.0
FUSS	baz=293			S	Sn	21 35 34.9	-0.1
NDS	Dongshan baz=344	0.69	344	P	Pn	21 35 24.9	-0.1
NDS	baz=344			S	Sn	21 35 35.0	+0.3
NNS	Nan Shan baz=313	0.69	313	iP	Pn	21 35 24.9	-0.2
NNS	baz=313			iS	Sn	21 35 34.6	-0.4
CHGB	Renai baz=276	0.69	277	P	Pn	21 35 25.3	0.0
CHGB	baz=276			S	Sn	21 35 35.0	-0.2
EHY	Hungye baz=228	0.72	230	iP	Pb	21 35 25.1	-0.1
EHY	baz=228			iS	Sn	21 35 35.6	0.0
NDT	Datong Townshi baz=329	0.73	329	eP	Pn	21 35 25.6	0.0
NDT	baz=329			eS	Sn	21 35 35.3	-0.6
TWT	Tachien baz=291	0.74	292	iP	Pn	21 35 26.3	+0.4
TWT	baz=291			iS	Sn	21 35 36.3	-0.1
ENTT	Nioudou baz=334	0.74	334	P	Pn	21 35 25.6	-0.2
ENTT	baz=334			S	Sn	21 35 36.3	+0.2
VWDT	VWDT baz=251	0.75	253	⇓P	Pn	21 35 26.1	+0.3
VWDT	baz=251			eS	Sn	21 35 36.4	+0.1
TDCB	Techi baz=291	0.76	292	⇓P	Pn	21 35 26.2	+0.1
TDCB	baz=291			S	Sn	21 35 36.3	-0.4
TWE	Neicheng baz=344	0.78	342	iP	Pn	21 35 26.4	+0.1
TWE	baz=344			iS	Sn	21 35 37.3	+0.2
YULB	Yu-li baz=223	0.82	225	P	Pn	21 35 26.4	-0.4
YULB	baz=223			eS	Sb	21 35 37.5	0.0
EYUL	Yuli baz=220	0.83	222	eP	Pn	21 35 26.5	-0.5
EYUL	baz=220			eS	Sn	21 35 39.5	+1.1
TWF1	Yuli baz=221	0.84	223	iP	Pn	21 35 26.7	-0.5
TWF1	baz=221			S	Sb	21 35 37.7	-0.6
YHNB	Yeheng baz=324	0.86	324	P	Pb	21 35 27.4	-0.2
YHNB	baz=324			S	Sb	21 35 38.3	-0.5
NSK	Sanguang baz=324	0.87	324	iP	Pb	21 35 27.8	0.0
NSK	baz=324			S	Sb	21 35 38.8	-0.4
NTC	Toucheng baz=355	0.88	354	eS	Sn	21 35 40.1	+0.5
WPL	Puli Township baz=271	0.89	273	P	Pb	21 35 28.0	0.0
WPL	baz=271			S	Sn	21 35 40.1	+0.4
NWLT	Wulai baz=334	0.89	334	eP	Pb	21 35 28.0	-0.1
NWLT	baz=334			eS	Sn	21 35 40.1	+0.3
SSLB	Suanglung baz=257	0.91	259	P	Pn	21 35 27.9	-0.2
SSLB	baz=257			S	Sn	21 35 41.1	+0.9
DPDB	Guoxing baz=273	0.92	274	P	Pb	21 35 28.6	0.0
DPDB	baz=273			S	Sn	21 35 41.0	+0.5
WCS	Beigang Elemen baz=274	0.93	275	eP	Pb	21 35 28.6	-0.2
WCS	baz=274			eS	Sn	21 35 41.3	+0.5
SMLT	Sun Moon Lake baz=263	0.94	265	P	Pn	21 35 28.8	+0.1
SMLT	baz=263			S	Sn	21 35 42.0	+0.8
WHP	Taichung City baz=288	0.95	289	eP	Pb	21 35 29.5	+0.4
WHP	baz=288			eS	Sn	21 35 42.2	+0.9
FULB	Fuli baz=215	0.96	217	P	Pn	21 35 28.9	+0.1
FULB	baz=215			eS	Sb	21 35 42.6	+0.9
TYC	Yuchr baz=265	0.98	266	P	Pb	21 35 29.4	-0.2
TYC	baz=265			S	Sb	21 35 42.0	-0.1
TIPB	Shuangxi baz=355	1.00	355	eP	Pn	21 35 29.1	-0.3
TIPB	baz=355			eS	Sb	21 35 42.9	+0.1
YUS	Yu-Shan baz=240	1.01	242	iP	Pb	21 35 30.4	-0.1
YUS	baz=240			iS	Sb	21 35 44.0	+0.3
WHYT	Xinyi Township baz=253	1.02	255	P	Pb	21 35 30.4	+0.1
WHYT	baz=253			eS	Sb	21 35 43.2	-0.1
JYNG	Yonagunijimaku	1.05	63	P	Pn	21 35 30.1	+0.2
LIOB	Emei baz=308	1.07	309	P	Pb	21 35 31.8	+0.6
LIOB	baz=308			S	Sb	21 35 45.6	+0.9
NSTT	Nanjuang baz=307	1.07	308	P	Pb	21 35 32.0	+0.9
NSTT	baz=307			S	Sb	21 35 45.0	+0.3
YOJ	Yonaguni jima	1.10	64	P	Pn	21 35 31.0	+0.3
YOJ				eS	Sn	21 35 45.0	0.0
WJS	Zhushan baz=261	1.11	262	eP	Pn	21 35 31.1	+0.4
TWQ1	Liyutan baz=289	1.12	290	P	Pb	21 35 31.6	-0.3
ALS	Alishan baz=244	1.13	246	eP	Pb	21 35 32.3	+0.1
WNT	Mingjian baz=264	1.14	266	eP	Pn	21 35 31.1	-0.1
WNT	baz=264			eS	Sn	21 35 46.0	+0.1
ELDTW	Lidau baz=225	1.14	227	eP	Pn	21 35 30.9	-0.5
ELDTW	baz=225			eS	Sn	21 35 45.9	-0.2
EDH	Donghe baz=208	1.15	210	eP	Pn	21 35 30.2	-1.1
EDH	baz=208			eS	Sn	21 35 45.2	-0.9
NSY	Sanyi baz=292	1.15	293	P	Pb	21 35 32.2	-0.3
NSY	baz=292			eS	Sn	21 35 45.8	-0.5
NMLH	Miaoli baz=298	1.18	299	eP	Pb	21 35 32.6	-0.3
NMLH	baz=298			eS	Sb	21 35 48.4	+0.6
NCU	National Centr baz=326	1.20	326	eP	Pb	21 35 32.6	-0.7
CHN5	Tsauling baz=251	1.20	252	P	Pb	21 35 33.4	0.0
YM01	YM01 baz=344	1.21	345	eS	Sb	21 35 48.1	-0.8
YM11	YM11 baz=345	1.23	345	eS	Sn	21 35 48.4	+0.1
WDLH	Douliu baz=256	1.30	258	eP	Pn	21 35 33.4	-0.1
WDLH	baz=256			eS	Sn	21 35 50.4	+0.5
STYH	Taoyuan baz=232	1.32	233	eP	Pb	21 35 34.7	-0.7
STYH	baz=232			eS	Sn	21 35 50.8	+0.4
TPUB	Ta-pu baz=239	1.36	241	eP	Pb	21 35 36.1	0.0
CHN4	Tsaushan baz=242	1.37	243	eP	Pb	21 35 36.2	0.0
TWGBT	Beinan baz=213	1.39	214	eS	Sn	21 35 52.3	+0.3
TWG	Pinlang baz=213	1.39	215	eS	Sn	21 35 51.9	-0.2
WTP	Ta-pu baz=238	1.40	239	eP	Pb	21 35 36.4	-0.5
WTP	baz=238			eS	Sb	21 35 54.2	-0.1
WTK	Tuku baz=258	1.44	259	eP	Pb	21 35 36.5	-0.8
TWK	Hsinying baz=241	1.49	242	eP	Pb	21 35 37.7	-0.6
IRIF	Iriomote-Funau	1.69	77	P	Pn	21 35 39.4	+0.6
IRIF				eS	Sn	21 36 00.2	+0.8
JKRS	Kuro-shima	1.92	82	P	Pn	21 35 43.0	+1.0
JKRS				eS	Sn	21 36 06.6	+1.4
JIJ	Ishigaki jima	2.06	79	P	Pn	21 35 43.9	0.0
JIJ				eS	Sn	21 36 07.9	-0.8
JISG	Ishigakijimahi	2.26	74	P	Pn	21 35 46.7	+0.1
JISG				eS	Sn	21 36 12.7	-0.9
JTJ	Tarama	2.62	75	P	Pn	21 35 51.9	+0.3
JTJ				eS	Sn	21 36 21.7	-0.7

*JMA **28** 21:41:57.5±0.1,24°.55N×121°.88E,h69km±2km,M3.0*
*TAP **28** 21:41:57.7,24°.59N×121°.88E,h72km,ML3.6,B*
ISC 28 21:41:58.4±1.2**,24°.58N**±0°.03×**121°.91E**±0°.02**,h68**km±5km**,**
n109,σ**0s.57**/197**,16C,Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWC	Suao baz=311	0.06	297	⇑iP	Pn	21 42 08.3	0.0
TWC	baz=311			iS	Sn	21 42 16.1	+0.5
EWUT	Wuta baz=211	0.18	221	iP	Pn	21 42 08.6	-0.1
EWUT	baz=211			iS	Sn	21 42 16.5	+0.3
NDS	Dongshan baz=285	0.18	286	⇑iP	Pn	21 42 08.8	+0.1
NDS	baz=285			iS	Sn	21 42 16.9	+0.7
ENA	Nanau baz=214	0.21	224	iP	Pn	21 42 08.7	-0.2
ENA	baz=214			iS	Sn	21 42 17.0	+0.5
ILA	Ilan baz=326	0.23	322	⇑iP	Pn	21 42 09.4	+0.4
ILA	baz=326			iS	Sn	21 42 18.6	+1.9
TWE	Neicheng baz=304	0.26	302	iP	Pn	21 42 09.3	+0.2
TWE	baz=304			iS	Sn	21 42 17.9	+1.0
NTC	Toucheng baz=350	0.28	346	iP	Pn	21 42 09.5	+0.2
NTC	baz=350			S	Sn	21 42 17.4	+0.2
ENTT	Nioudou baz=278	0.32	281	iP	Pn	21 42 09.4	-0.1
ENTT	baz=278			iS	Sn	21 42 18.0	+0.4
NDT	Datong Townshi baz=271	0.36	273	⇑iP	Pn	21 42 09.7	-0.2
NDT	baz=271			S	Sn	21 42 17.9	-0.3
TIPB	Shuangxi baz=352	0.40	349	⇑iP	Pn	21 42 10.1	-0.1
TIPB	baz=352			iS	Sn	21 42 18.8	0.0
NWLT	Wulai baz=298	0.42	298	iP	Pn	21 42 10.1	-0.3
NWLT	baz=298			iS	Sn	21 42 18.7	-0.3
TWB1	Santiao Chiao baz=14	0.43	10	⇑iP	Pn	21 42 10.2	-0.3
TWB1	baz=14			iS	Sn	21 42 18.7	-0.5
YHNB	Yeheng baz=279	0.49	280	P	Pn	21 42 10.7	-0.4
YHNB	baz=279			S	Sn	21 42 19.7	-0.6
TWA	Mucha baz=325	0.49	324	⇑iP	Pn	21 42 10.9	-0.1
TWA	baz=325			iS	Sn	21 42 20.4	+0.2
NACB	Ninganchiao baz=211	0.50	215	P	Pn	21 42 10.1	-0.9
NACB	baz=211			S	Sn	21 42 19.3	-1.0
WFSB	Wu-fen Shan baz=349	0.50	347	⇑P	Pn	21 42 11.1	0.0
WFSB	baz=349			S	Sn	21 42 20.7	+0.4
NNSB	Datong baz=249	0.50	252	P	Pn	21 42 10.9	-0.3
NNSB	baz=249			S	Sn	21 42 20.2	-0.4
NNSH	Datong baz=249	0.50	252	iP	Pn	21 42 11.1	-0.1
NNSH	baz=249			iS	Sn	21 42 20.3	-0.3
NNS	Nan Shan baz=250	0.51	254	iP	Pn	21 42 11.2	-0.1
NNS	baz=250			iS	Sn	21 42 20.4	-0.3
NSK	Sanguang baz=279	0.51	281	iP	Pn	21 42 10.7	-0.5
NSK	baz=279			iS	Sn	21 42 20.1	-0.5
NHDH	Xindian Distri baz=318	0.51	318	eP	Pn	21 42 10.9	-0.3
NHDH	baz=318			eS	Sn	21 42 20.3	-0.2
ETLH	Xiulin Townshi baz=223	0.54	226	P	Pn	21 42 11.1	-0.5
ETLH	baz=223			S	Sn	21 42 20.9	-0.3
TATO	Taipei baz=317	0.55	316	⇑P	Pn	21 42 11.1	-0.4
TATO	baz=317			S	Sn	21 42 20.8	-0.4
TWD	Chiawan baz=205	0.57	210	iP	Pn	21 42 10.9	-0.9
TWD	baz=205			S	Sn	21 42 22.1	+0.5
TNOU	National Taiwa baz=349	0.58	348	⇑P	Pn	21 42 11.6	-0.3
TNOU	baz=349			S	Sn	21 42 21.5	-0.3
TAP	Taipei baz=323	0.58	321	iP	Pn	21 42 11.8	-0.1
TAP	baz=323			iS	Sn	21 42 21.8	0.0
BACT	New Taipei Cit baz=315	0.59	314	S	Sn	21 42 22.6	+0.6
YM01	YM01 baz=333	0.64	332	P	Pn	21 42 11.3	-1.3
YM01	baz=333			S	Sn	21 42 21.9	-1.1
YM10	YM10 baz=332	0.65	331	⇑P	Pn	21 42 12.5	-0.2
YM10	baz=332			S	Sn	21 42 23.1	-0.1
YM11	YM11 baz=334	0.66	333	P	Pn	21 42 12.6	-0.1
YM11	baz=334			S	Sn	21 42 23.2	-0.2
NWRT	Kuosheng baz=341	0.66	340	eP	Pn	21 42 13.2	+0.5
NWRT	baz=341			eS	Sn	21 42 23.9	+0.7
YM05	YM05 baz=333	0.66	332	⇑P	Pn	21 42 12.4	-0.4
YM05	baz=333			S	Sn	21 42 23.1	-0.2
YM04	YM04 baz=330	0.66	329	⇑P	Pn	21 42 12.3	-0.5
YM04	baz=330			S	Sn	21 42 23.1	-0.3
YM08	YM08 baz=336	0.67	335	⇑P	Pn	21 42 12.3	-0.6
YM08	baz=336			S	Sn	21 42 23.0	-0.5
TWS1	Kuangyinshan baz=320	0.68	319	⇑iP	Pn	21 42 12.8	-0.2
TWS1	baz=320			iS	Sn	21 42 24.4	+0.7
FUSS	Fushou baz=239	0.69	241	iP	Pn	21 42 13.2	-0.1
FUSS	baz=239			S	Sn	21 42 24.0	-0.3
NTY	Taoyuan baz=307	0.69	307	P	Pn	21 42 12.4	-0.7
NTY	baz=307			S	Sn	21 42 24.4	+0.4
ANP	Anpu baz=331	0.70	330	iP	Pn	21 42 12.6	-0.7
ANP	baz=331			S	Sn	21 42 24.0	-0.2
NTST	Danshui baz=325	0.71	324	eP	Pn	21 42 13.3	0.0
NTST	baz=325			eS	Sn	21 42 25.1	+0.8
WHF	Hehuan Shan baz=230	0.73	233	iP	Pn	21 42 14.8	+0.9
WHF	baz=230			iS	Sn	21 42 25.2	-0.2
TWT	Tachien baz=242	0.74	244	iP	Pn	21 42 14.1	+0.2
TWT	baz=242			iS	Sn	21 42 25.2	0.0
TWY	Chenhua baz=340	0.74	338	iP	Pn	21 42 13.6	-0.1
TWY	baz=340			iS	Sn	21 42 25.9	+0.9
TDCB	Techi baz=242	0.76	244	P	Pn	21 42 14.0	0.0
TDCB	baz=242			S	Sn	21 42 25.1	-0.4
NCU	National Centr baz=300	0.76	301	P	Pn	21 42 13.3	-0.5
NCU	baz=300			iS	Sn	21 42 25.3	+0.1
NCUH	Zhongli baz=300	0.76	300	iP	Pn	21 42 13.8	-0.1
NCUH	baz=300			iS	Sn	21 42 25.3	0.0
NJD	Zhudong baz=281	0.76	282	P	Pn	21 42 13.7	-0.2
NJD	baz=281			S	Sn	21 42 25.2	-0.1
LIOB	Emei baz=273	0.81	275	iP	Pn	21 42 14.1	-0.4
LIOB	baz=273			S	Sn	21 42 25.9	-0.6
NSTT	Nanjuang baz=272	0.83	274	iP	Pn	21 42 14.2	-0.5
NSTT	baz=272			iS	Sn	21 42 26.2	-0.5
HSN1	Hsinchu baz=283	0.83	284	P	Pn	21 42 14.4	-0.3
HSN1	baz=283			iS	Sn	21 42 26.6	-0.2
CHGB	Renai baz=230	0.85	232	P	Pn	21 42 14.8	-0.3
CHGB	baz=230			S	Sn	21 42 27.1	-0.4
SBCB	Hsinchu baz=283	0.86	284	P	Pn	21 42 14.7	-0.4
SBCB	baz=283			S	Sn	21 42 27.1	-0.3
ESL	Shilin baz=207	0.88	210	P	Pn	21 42 15.2	-0.1
HSN	Hsinchu baz=286	0.88	285	P	Pn	21 42 14.4	-0.9
HSN	baz=286			S	Sn	21 42 26.7	-1.1
NHW	Xinwu Township baz=298	0.89	299	P	Pn	21 42 15.0	-0.4
NHW	baz=298			eS	Sn	21 42 27.4	-0.6

WHP	**Taichung City**	**0.93**	**251**	*i* P	**Pn**	**21 42 16.3**	**+0.3**
	baz=249						
WHP				*i* S	**Sn**	**21 42 29.5**	**+0.5**
	baz=249						
NJN	**Zhunan**	**0.95**	**276**	P	**Pn**	**21 42 15.6**	**-0.5**
	baz=275						
NJN				S	**Sn**	**21 42 29.6**	**+0.3**
	baz=275						
JYNG	**Yonagunijimaku**	**0.95**	**98**	P	**Pn**	**21 42 15.8**	**-0.4**
JYNG				*e*S	**Sn**	**21 42 29.0**	**-0.5**
EGFH	**Guangfu**	**1.01**	**206**	*e*P	**Pn**	**21 42 17.2**	**+0.3**
	baz=204						
EGFH				*e*S	**Sn**	**21 42 29.8**	**-0.9**
	baz=204						
YOJ	**Yonaguni jima**	**1.01**	**97**	P	**Pn**	**21 42 16.7**	**-0.2**
	baz=96						
YOJ				S	**Sn**	**21 42 30.2**	**-0.5**
	baz=96						
YOJ	**Yonaguni jima**	**1.01**	**97**	P	**Pn**	**21 42 16.6**	**-0.3**
YOJ				*e*S	**Sn**	**21 42 30.1**	**-0.7**
NMLH	**Miaoli**	**1.02**	**268**	*i* P	**Pn**	**21 42 16.6**	**-0.4**
	baz=266						
NMLH				S	**Sn**	**21 42 30.6**	**-0.2**
	baz=266						
WPL	**Puli Township**	**1.04**	**237**	P	**Pn**	**21 42 17.8**	**+0.5**
	baz=235						
WPL				S	**Sn**	**21 42 31.7**	**+0.4**
	baz=235						
WCS	**Beigang Elemen**	**1.05**	**240**	*i* P	**Pn**	**21 42 17.9**	**+0.5**
	baz=238						
WCS				S	**Sn**	**21 42 32.8**	**+1.3**
	baz=238						
DPDB	**Guoxing**	**1.05**	**239**	P	**Pn**	**21 42 17.7**	**+0.3**
	baz=237						
DPDB				*e*S	**Sn**	**21 42 31.1**	**-0.5**
	baz=237						
PCYT	**Pengchaiyu**	**1.05**	**8**	*i* P	**Pn**	**21 42 17.2**	**-0.3**
	baz=10.0						
PCYT				S	**Sn**	**21 42 32.3**	**+0.6**
	baz=10.0						
NSY	**Sanyi**	**1.06**	**261**	⇑*i*P	**Pn**	**21 42 17.6**	**+0.1**
	baz=259						
NSY				*i* S	**Sn**	**21 42 31.9**	**+0.1**
	baz=259						
TWQ1	**Liyutan**	**1.06**	**258**	*i* P	**Pn**	**21 42 17.2**	**-0.4**
	baz=256						
TWQ1				*i* S	**Sn**	**21 42 31.7**	**-0.2**
	baz=256						
VWDT	**VWDT**	**1.08**	**220**	P	**Pn**	**21 42 17.6**	**-0.2**
	baz=218						
VWDT				S	**Sn**	**21 42 31.8**	**-0.4**
	baz=218						
SMLT	**Sun Moon Lake**	**1.15**	**233**	*i* P	**Pn**	**21 42 19.2**	**+0.4**
	baz=231						
SMLT				S	**Sn**	**21 42 34.8**	**+0.6**
	baz=231						
HGSD	**Ruisui**	**1.17**	**202**	*e*P	**Pn**	**21 42 18.3**	**-0.7**
	baz=200						
TYC	**Yuchr**	**1.17**	**235**	P	**Pn**	**21 42 19.3**	**+0.3**
	baz=233						
SSLB	**Suanglung**	**1.18**	**228**	P	**Pn**	**21 42 19.8**	**+0.7**
	baz=226						
SSLB				*e*S	**Sn**	**21 42 35.6**	**+1.1**
	baz=226						
WDJ	**Dajia District**	**1.18**	**259**	*i* P	**Pn**	**21 42 18.9**	**-0.1**
	baz=257						
WDJ				S	**Sn**	**21 42 34.5**	**-0.1**
	baz=257						
TCU	**Taichung**	**1.20**	**249**	*e*P	**Pn**	**21 42 19.7**	**+0.3**
	baz=247						
TCU				*e*S	**Sn**	**21 42 36.1**	**+1.0**
	baz=247						
WWF	**Wufeng**	**1.23**	**244**	P	**Pn**	**21 42 19.9**	**+0.2**
	baz=242						
WWF				S	**Sn**	**21 42 36.3**	**+0.7**
	baz=242						
WHYT	**Xinyi Township**	**1.30**	**228**	*e*P	**Pn**	**21 42 21.8**	**+1.0**
	baz=226						
WHYT				*e*S	**Sn**	**21 42 38.9**	**+1.3**
	baz=226						
WNT1	**Nantou City**	**1.31**	**239**	*e*P	**Pn**	**21 42 20.5**	**-0.3**
	baz=237						
WNT1				*e*S	**Sn**	**21 42 38.8**	**+1.3**
	baz=237						
YULB	**Yu-li**	**1.31**	**205**	*e*P	**Pn**	**21 42 19.2**	**-1.7**
	baz=203						
YULB				*e*S	**Sn**	**21 42 36.4**	**-1.2**
	baz=203						
WNT	**Mingjian**	**1.32**	**238**	*e*P	**Pn**	**21 42 20.3**	**-0.6**
	baz=236						
WNT				*e*S	**Sn**	**21 42 38.0**	**+0.2**
	baz=236						
WCHH	**Zhanghua**	**1.33**	**248**	*e*P	**Pn**	**21 42 20.1**	**-0.9**
	baz=246						
WCHH				*e*S	**Sn**	**21 42 37.5**	**-0.4**
	baz=246						
TWF1	**Yuli**	**1.34**	**205**	P	**Pn**	**21 42 21.4**	**+0.1**
	baz=202						
ALS	**Alishan**	**1.47**	**224**	P	**Pn**	**21 42 23.9**	**+0.8**
	baz=221						
FULB	**Fuli**	**1.49**	**202**	P	**Pn**	**21 42 23.3**	**+0.1**
	baz=201						
FULB				S	**Sn**	**21 42 43.5**	**+1.6**
	baz=201						
CHN5	**Tsauling**	**1.49**	**229**	P	**Pn**	**21 42 23.1**	**-0.1**
	baz=227						
WGK	**Gukeng**	**1.52**	**234**	*e*P	**Pn**	**21 42 24.1**	**+0.6**
	baz=232						
WDLH	**Douliu**	**1.53**	**235**	*e*P	**Pn**	**21 42 23.5**	**-0.2**
	baz=233						
WRL	**Guolierlin Hig**	**1.55**	**244**	*e*P	**Pn**	**21 42 23.5**	**-0.5**
	baz=243						
WRL				*e*S	**Sn**	**21 42 42.2**	**-1.1**
	baz=243						
CHKT	**Chengkung**	**1.56**	**199**	*e*P	**Pn**	**21 42 23.9**	**-0.1**
	baz=197						
ELDTW	**Lidau**	**1.61**	**211**	*e*P	**Pn**	**21 42 24.3**	**-0.5**
	baz=209						
WTK	**Tuku**	**1.65**	**238**	*e*P	**Pn**	**21 42 25.0**	**-0.3**
	baz=236						
IRIF	**Iriomote-Funau**	**1.68**	**98**	P	**Pn**	**21 42 25.2**	**-0.5**
IRIF				*e*S	**Sn**	**21 42 45.6**	**-0.8**
EDH	**Donghe**	**1.69**	**199**	*e*P	**Pn**	**21 42 24.8**	**-1.2**
	baz=198						
CHN4	**Tsaushan**	**1.72**	**225**	*e*P	**Pn**	**21 42 26.8**	**+0.6**
	baz=223						
TPUB	**Ta-pu**	**1.73**	**223**	*e*P	**Pn**	**21 42 27.0**	**+0.6**
	baz=221						
CHY	**Chiayi**	**1.73**	**232**	*e*P	**Pn**	**21 42 26.2**	**-0.2**
	baz=230						
CHY				*e*S	**Sn**	**21 42 48.1**	**+0.5**
	baz=230						
STYH	**Taoyuan**	**1.75**	**217**	*e*P	**Pn**	**21 42 27.2**	**+0.6**
	baz=215						
WTP	**Ta-pu**	**1.78**	**222**	*e*P	**Pn**	**21 42 27.2**	**+0.1**
	baz=220						
WTP				*e*S	**Sn**	**21 42 49.8**	**+0.9**
	baz=220						
HATJ	**Hateruma jima**	**1.81**	**106**	P	**Pn**	**21 42 27.6**	**+0.2**
LONT	**Longtian**	**1.81**	**203**	*e*P	**Pn**	**21 42 26.8**	**-0.8**
	baz=202						
LONT				*e*S	**Sn**	**21 42 49.4**	**-0.3**
	baz=202						
TWK	**Hsinying**	**1.84**	**225**	*e*P	**Pn**	**21 42 27.4**	**-0.6**
	baz=223						
CHN1	**Nanshi**	**1.88**	**222**	*e*P	**Pn**	**21 42 29.2**	**+0.8**
	baz=221						
TWG	**Pinlang**	**1.91**	**204**	*e*P	**Pn**	**21 42 29.0**	**+0.2**
	baz=202						
TWGBT	**Beinan**	**1.91**	**203**	*e*P	**Pn**	**21 42 29.0**	**+0.2**
	baz=202						
JKRS	**Kuro-shima**	**1.95**	**100**	P	**Pn**	**21 42 29.2**	**-0.1**
JKRS				S	**Sn**	**21 42 53.0**	**+0.2**
JIJ	**Ishigaki jima**	**2.05**	**96**	P	**Pn**	**21 42 30.2**	**-0.5**
JIJ				*e*S	**Sn**	**21 42 54.1**	**-1.2**
JISG	**Ishigakijimahi**	**2.19**	**89**	P	**Pn**	**21 42 32.2**	**-0.3**
JISG				*e*S	**Sn**	**21 42 58.6**	**0.0**
JTJ	**Tarama**	**2.54**	**88**	P	**Pn**	**21 42 37.7**	**+0.3**
JTJ				*e*S	**Sn**	**21 43 07.4**	**+0.1**
JIRB	**Irabujima**	**2.98**	**85**	P	**Pn**	**21 42 44.0**	**+0.7**
JIRB				*e*S	**Sn**	**21 43 18.5**	**+0.6**
JMJ2	**Miyako jima3**	**3.12**	**86**	P	**Pn**	**21 42 46.0**	**+0.8**
JMJ2				S	**Sn**	**21 43 22.2**	**+0.9**

*IDC **28** 21:42:12.7±1.1,35°.58N×27°.85E, h0km, mb3.6/4, mb1 3.6/10,mb1mx3.4/59,mbtmp3.4/10,ML3.2/6,Error*

ellipse: s-maj=22.3km s-min=16.4km az=177.0
*NIC **28** 21:42:14.1±0.0,35°.51N×27°.78E, h11km±2km, Ml3.5/3*
*DDA **28** 21:42:14.5,35°.53N×27°.80E, h22km±1km, ML3.2*
*ATH **28** 21:42:15.5,35°.65N×27°.67E, h22km±10km, ML2.8/3, Error ellipse: s-maj=10.7km s-min=1.3km az=289.0*
*THE **28** 21:42:15.1,35°.58N×27°.69E, h0km±1km, ML3.0/2, Error ellipse: s-maj=2.7km s-min=0.7km az=138.0*
*ISK **28** 21:42:15.3,35°.64N×27°.66E, h9km, ML3.2/24*

ISC 28 21:42:14.9±1.0, 35°.56N±0°.03×27°.76E±0°.02, h19km±3km, n98, σ1°95/135, mb3.6/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.49**	**269**	P		P	**Pg**	**21 42 24.0**	**-0.7**
KARP				S		S	**Sg**	**21 42 30.5**	**-0.9**
KARP				AML		AML		21 42 33.7	
	comp=N,3693μm,0.3s								
KARP				AML		AML		21 42 36.4	
	comp=E,3381μm,0.5s								
KARP	**Karpathos**	**0.49**	**269**	P		P	**Pg**	**21 42 24.1**	**-0.7**
KARP				S		S	**Sg**	**21 42 31.8**	**+0.4**
	comp=E,2μm,0.3s								
KARP	**Karpathos**	**0.49**	**269**	PG		**Pg**		**21 42 24.1**	**-0.7**
KARP	**Karpathos**	**0.49**	**269**	P		**Pg**		**21 42 23.9**	**-0.8**
KARP				S		**Sg**		**21 42 31.9**	**+0.5**
KARP				AML		AML		21 42 33.1	
	comp=E,3.7nm,0.3s								
KARP				AML		AML		21 42 33.1	
	comp=E,3.7nm,0.3s								
KARP				AML		AML		21 42 37.8	
	comp=E,4.4nm,0.3s								
KARP				AML		AML		21 42 37.8	
	comp=E,4.4nm,0.3s								
ARG	**Arkhangelos**	**0.72**	**25**	P		**Pg**		**21 42 28.7**	**-0.4**
ARG				S		**Sg**		**21 42 38.0**	**-0.6**
ARG				AML		AML		21 42 43.9	
	comp=E,1798μm,0.2s								
ARG				AML		AML		21 42 46.9	
	comp=N,1553μm,0.5s								
ARG	**Arkhangelos**	**0.72**	**25**	P		**Pb**		**21 42 28.9**	**+0.1**
ARG	**Arkhangelos**	**0.72**	**25**	PG		**Pb**		**21 42 29.0**	**+0.1**
ARG				SG		**Sb**		**21 42 39.5**	**+1.1**
ARG	**Arkhangelos**	**0.72**	**25**	P		**Pb**		**21 42 28.8**	**+0.1**
ARG				S		**Sb**		**21 42 39.8**	**+1.4**
NIS1	**Nisyros Isl.**	**1.14**	**336**	P		**Pb**		**21 42 35.3**	**-0.7**
NIS1	**Nisyros Isl.**	**1.14**	**336**	PG		**Pb**		**21 42 35.4**	**-0.6**
NISR	**Nisiros**	**1.17**	**334**	P		**Pb**		**21 42 36.8**	**+0.3**
DATC	**Datca-Mugla**	**1.20**	**356**	PN		**Pb**		**21 42 37.3**	**+0.3**
MRSB	**Marmaris-Mugla**	**1.21**	**17**	PN		**Pn**		**21 42 37.7**	**+0.9**
MRSB				SN		**Sn**		**21 42 54.5**	**+1.8**
TURN	**Turunc**	**1.27**	**18**	PN		**Pg**		**21 42 39.4**	**-0.1**
TURN				SN		**Sg**		**21 42 56.7**	**+0.5**
TURN	**Turunc**	**1.27**	**18**	*i* P		**Pb**		**21 42 38.6**	**+0.3**
TURN				*i* S		**Sg**		**21 42 56.7**	**+0.5**
ZKR	**Zakros**	**1.33**	**251**	P		**Pn**		**21 42 39.4**	**+0.8**
ZKR				S		**Sb**		**21 42 56.6**	**+0.6**
ZKR				AML		AML		21 43 07.1	
	comp=E,3422μm,0.7s								
ZKR				AML		AML		21 43 11.4	
	comp=N,757μm,1.0s								
ZKR	**Zakros**	**1.33**	**251**	P		**Pn**		**21 42 39.3**	**+0.8**
ZKR				S		**Sb**		**21 42 57.2**	**+1.1**
ZKR	**Zakros**	**1.33**	**251**	PN		**Pn**		**21 42 39.7**	**+1.1**
ZKR	**Zakros**	**1.33**	**251**	P		**Pn**		**21 42 39.3**	**+0.8**
KOSK	**Kos Island**	**1.35**	**332**	PN		**Pn**		**21 42 39.5**	**+0.8**
KOSK				SN		**Sb**		**21 42 57.5**	**-0.1**
STIA	**Sitia Lasithi**	**1.41**	**256**	P		**Pn**		**21 42 39.8**	**+0.3**
STIA				S		**Sn**		**21 42 59.1**	**+1.5**
DALY	**Dalyan (Mula)**	**1.45**	**30**	PN		**Pg**		**21 42 42.4**	**-0.4**
DALY	**Dalyan (Mula)**	**1.45**	**30**	*i* P		**Pg**		**21 42 42.4**	**-0.4**
DALY				*i* S		**Sg**		**21 43 02.0**	**+0.2**
FETY	**Fethiye**	**1.52**	**45**	P		**Pb**		**21 42 42.5**	**0.0**
FETY	**Fethiye**	**1.52**	**45**	PN		**Pb**		**21 42 42.8**	**+0.3**
BDRM	**Kayabasi**	**1.52**	**351**	*i* P		**Pn**		**21 42 41.3**	**+0.1**
BDRM				*i* S		**Sn**		**21 42 56.0**	**-4.5**
BODT	**Bodrum**	**1.54**	**347**	P		**Pn**		**21 42 41.6**	**+0.2**
BODT				S		**Sb**		**21 43 02.6**	**+0.5**
BODT	**Bodrum**	**1.54**	**347**	PN		**Pn**		**21 42 42.2**	**+0.8**
KSL	**Kastellorizon**	**1.60**	**68**	P		**Pb**		**21 42 43.7**	**-0.1**
KSL	**Kastellorizon**	**1.60**	**68**	P		**Pn**		**21 42 43.1**	**+1.0**
YKAV	**Yalikavak-Bodr**	**1.61**	**346**	PN		**Pn**		**21 42 43.4**	**+1.1**
YER	**Yerkesik**	**1.63**	**15**	P		**Pn**		**21 42 44.0**	**+1.4**
YER				S		**Sg**		**21 43 06.2**	**-1.3**
YER	**Yerkesik**	**1.63**	**15**	PN		**Pb**		**21 42 44.7**	**+0.3**
AKAS	**Kas**	**1.64**	**65**	PN		**Pb**		**21 42 45.2**	**+0.5**
AKAS	**Kas**	**1.64**	**65**	*i* P		**Pn**		**21 42 44.1**	**+1.1**
AKAS				*i* S		**Sg**		**21 43 06.5**	**-1.4**
MULA	**Mugla, Merkez-**	**1.75**	**15**	*i* P		**Pg**		**21 42 48.4**	**-0.3**
MULA				*i* S		**Sg**		**21 43 10.5**	**-0.9**
NPS	**Neapolis**	**1.78**	**261**	P		**Pn**		**21 42 46.7**	**+2.1**
NPS	**Neapolis**	**1.78**	**261**	P		**Pn**		**21 42 45.2**	**+0.6**
NPS				S		**Sn**		**21 43 07.7**	**+1.0**
	comp=N,410nm,0.5s								
DDIM	**Aydin, Didim**	**1.94**	**348**	*i* P		**Pb**		**21 42 50.0**	**+0.4**
DDIM				*i* S		**Sn**		**21 43 06.8**	**-3.9**
CAEL	**Denizli, Camel**	**2.01**	**39**	*i* P		**Pn**		**21 42 49.2**	**+1.2**
CAEL				*i* S		**Sb**		**21 43 16.8**	**+1.2**
CAEL				IAML				21 43 43.0	
	comp=E,205nm,0.9s								
SANT	**Santorini**	**2.03**	**294**	P		**Pn**		**21 42 49.1**	**+0.9**
SANT	**Santorini**	**2.03**	**294**	P		**Pn**		**21 42 48.8**	**+0.6**
SANT	**Santorini**	**2.03**	**294**	PN		**Pn**		**21 42 48.9**	**+0.7**
THR6	**Thira Island,**	**2.07**	**293**	P		**Pn**		**21 42 49.1**	**+0.4**
THR7	**Fira-Santorini**	**2.08**	**295**	P		**Pn**		**21 42 49.4**	**+0.7**
THT2	**Imerovigli**	**2.08**	**295**	PN		**Pn**		**21 42 49.9**	**+1.0**
THR3	**Thira Island,**	**2.09**	**295**	P		**Pn**		**21 42 49.7**	**+0.8**
AYDN	**Tasoluk**	**2.10**	**3**	*i* P		**Pn**		**21 42 51.2**	**+2.1**
AYDN				*i* S		**Sn**		**21 43 10.5**	**-4.2**
ELL	**Elmali**	**2.11**	**55**	PN		**Pb**		**21 42 52.0**	**-0.6**
TAVA	**DENIZLI_Tavas**	**2.12**	**26**	*i* P		**Pb**		**21 42 52.2**	**-0.5**
TAVA				*i* S		**Sn**		**21 43 17.1**	**+1.8**
GCAM	**G?zelcaml?**	**2.18**	**349**	PN		**Pn**		**21 42 51.8**	**+1.7**
GOLH	**Golhisar**	**2.22**	**40**	*i* P		**Pb**		**21 42 54.0**	**-0.5**
GOLH				*i* S		**Sn**		**21 43 18.4**	**+0.7**
AKUM	**Antalya-Kumluc**	**2.23**	**69**	*i* P		**Pn**		**21 42 52.1**	**+1.3**
AKUM				*i* S		**Sn**		**21 43 12.9**	**-5.1**
SMG	**Samos**	**2.27**	**341**	P		**Pn**		**21 42 52.7**	**+1.3**
APE	**Apeiranthos**	**2.34**	**311**	PN		**Pn**		**21 42 53.7**	**+1.2**
APE	**Apeiranthos**	**2.34**	**311**	P		**Pn**		**21 42 53.2**	**+0.7**
IDI	**Anoyia**	**2.36**	**264**	Pn		**Pn**		**21 42 55.0**	**+2.3**
	comp=E,7.3nm,0.3s,baz=65,slow=15,SNR=32								
IDI				Sn		**Sb**		**21 43 25.5**	**0.0**
	comp=E,8.5nm,0.3s,baz=289,slow=20,SNR=2.4								
IDI	**Anoyia**	**2.36**	**264**	P		**Pn**		**21 42 54.4**	**+1.8**
IDI	**Anoyia**	**2.36**	**264**	PN		**Pn**		**21 42 54.3**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**2.38**	**3**	PN		**Pn**		**21 42 54.9**	**+1.8**
KORT	**Korkueli**	**2.54**	**55**	PN		**Pn**		**21 42 57.9**	**+2.6**
KORT	**Korkueli**	**2.54**	**55**	*i* P		**Pn**		**21 42 57.9**	**+2.6**
KORT				*i* S		**Sn**		**21 43 24.8**	**-1.0**
DGB	**zmir**	**2.58**	**345**	*i* P		**Pn**		**21 42 55.6**	**-0.1**
DGB				*i* S		**Sn**		**21 43 26.9**	**+0.3**
BLCB	**Balcova**	**2.88**	**349**	PN		**Pn**		**21 43 01.5**	**+1.7**
URLA	**Izmir**	**2.95**	**342**	PN		**Pn**		**21 43 02.5**	**+1.8**
URLA	**Izmir**	**2.95**	**342**	*i* P		**Pn**		**21 43 01.1**	**+0.4**
URLA				*i* S		**Sn**		**21 43 30.0**	**-5.6**
BCK	**Bucak**	**2.97**	**49**	PN		**Pn**		**21 43 04.3**	**+3.2**
BASM	**Basmaki-Afyon**	**2.99**	**37**	PN		**Pn**		**21 43 04.1**	**+2.7**
KULA	**Kula-Manisa**	**3.04**	**14**	PN		**Pn**		**21 43 03.9**	**+1.9**
KHAL	**Karahalli**	**3.13**	**26**	*i* P		**Pn**		**21 43 05.2**	**+1.8**
KHAL				*i* S		**Sn**		**21 43 38.0**	**-2.3**
CHOS	**Chios island**	**3.13**	**335**	PN		**Pn**		**21 43 04.9**	**+1.5**
USAK	**Uak-Merkez**	**3.31**	**17**	*i* P		**Pn**		**21 43 08.1**	**+2.4**
USAK				*i* S		Sn		21 43 35.7	-8.9
KEPZ	**Antalya-Kepez**	**3.39**	**66**	*i* P		**Pn**		**21 43 09.4**	**+2.6**
KEPZ				*i* S		**Sn**		**21 43 38.8**	**-7.7**
DKL	**Dikili**	**3.57**	**349**	PN		**Pn**		**21 43 11.1**	**+1.8**
SIMA	**Simav-Kutahya**	**3.65**	**15**	PN		**Pn**		**21 43 10.1**	**+2.6**
SEDI	**Konya, Seydise**	**3.73**	**58**	*i* P		**Pn**		**21 43 16.0**	**+4.4**
SEDI				*i* S		**Sn**		**21 43 51.8**	**-3.4**
SEDI				IAML				21 44 05.0	
	comp=N,60nm,0.8s								
AKMS	**Akamas**	**3.78**	**97**	P		**Pn**		**21 43 12.5**	**+0.2**
AKMS				AML		AML		21 44 00.4	
	comp=N,0.3nm,0.5s								
AKMS				AML		AML		21 44 01.9	
	comp=N,0.2nm,0.4s								
STEP	**BALIKESIR_Sava**	**3.81**	**360**	*i* P		**Pn**		**21 43 15.2**	**+2.6**
STEP				*i* S		Sn		21 43 46.2	-11
SIGR	**SIGRI**	**3.95**	**338**	PN		**Pn**		**21 43 17.2**	**+2.8**
BUHA	**Balikesir, Bur**	**3.97**	**352**	*i* P		**Pn**		**21 43 16.6**	**+1.8**
BUHA				*i* S		Sn		21 43 51.0	-10
ALFC	**Alefka**	**3.98**	**94**	P		**Pn**		**21 43 15.2**	**+0.3**
ALFC				AML		AML		21 44 09.2	
	comp=N,0.2nm,0.5s								
ALFC				AML		AML		21 44 10.5	
	comp=N,0.2nm,0.5s								
NATA	**Nata**	**4.02**	**100**	P		**Pn**		**21 43 15.8**	**+0.3**
DURS	**Dursunbey**	**4.07**	**8**	*i* P		**Pn**		**21 43 18.4**	**+2.1**
DURS				*i* S		Sn		21 43 53.6	-10
BALY	**Balya**	**4.17**	**359**	*i* P		**Pn**		**21 43 19.3**	**+1.6**
BALY				*i* S		Sn		21 43 54.1	-12
SZAC	**Souni**	**4.28**	**99**	P		**Pn**		**21 43 19.2**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**4.28**	**347**	*i* P		**Pn**		**21 43 20.7**	**+1.6**
BAYC				*i* S		**Sn**		**21 44 00.7**	**-7.8**
ASGA	**Asgata**	**4.56**	**98**	P		**Pn**		**21 43 23.3**	**+0.4**
CSS	**Mathiatis**	**4.60**	**96**	P		**Pn**		**21 43 23.7**	**+0.3**
MVOU	**Mavrovouni**	**4.84**	**95**	P		**Pn**		**21 43 26.8**	**+0.1**
BRTR	**Keskin Array B**	**6.25**	**47**	Pn		**Pn**		**21 43 48.3**	**+2.1**
	comp=N,0.1nm,0.3s,baz=219,slow=19,SNR=5.6								
BRTR				Sn		**Sn**		**21 45 00.5**	**+3.3**
	comp=N,0.1nm,0.3s,baz=212,slow=27,SNR=3.5								
MMAI	**Mount Meron Ar**	**6.82**	**110**	Pn		**Pn**		**21 43 53.1**	**-0.9**
	comp=N,1.9nm,0.3s,baz=309,slow=13,SNR=28								
MMAI				Sn		**Sn**		**21 45 11.6**	**+0.4**
	comp=N,1.3nm,0.3s,baz=270,slow=26,SNR=6.0								
EIL	**Elat**	**8.44**	**132**	Pn		**Pn**		**21 44 15.4**	**-0.8**
	comp=N,0.3nm,0.3s,baz=212,slow=2.7,SNR=8.3								
EIL				Sn		**Sn**		**21 45 45.4**	**-5.7**
	comp=N,0.6nm,0.3s,baz=77,slow=7.2,SNR=5.5								
MLR	**Muntele Rosu**	**10.02**	**353**	Pn		**Pn**		**21 44 39.2**	**+1.3**
	comp=N,0.1nm,0.3s,baz=247,slow=8.3,SNR=2.4								
GERES	**GERESS Array B**	**16.83**	**326**	Pn		**Pn**		**21 46 10.9**	**+1.3**
	comp=N,0.0nm,0.3s,baz=130,slow=9.1,SNR=2.3								
ESDC	**Sonseca Array**	**25.39**	**289**	P		**P**		**21 47 42.3**	**+1.2**
	comp=N,0.7nm,0.6s,baz=83,slow=9.2,SNR=10								
TORD	**Torodi Ar. Bea**	**32.40**	**233**	P		**P**		**21 48 44.5**	**+0.8**
	comp=N,0.4nm,0.4s,baz=35,slow=8.1,SNR=5.8								
ARCES	**ARCESS Array B**	**34.05**	**359**	P		**P**		**21 48 57.0**	**-0.6**
	comp=N,2.3nm,1.0s,baz=173,slow=8.9,SNR=1.4								
MKAR	**Makanchi Array**	**41.78**	**57**	P		**P**		**21 50 03.9**	**+0.8**
	comp=N,0.1nm,0.5s,baz=281,slow=8.7,SNR=2.3								

*IDC **28** 21:48:14.3±0.4, 9°.12S×71°.32W, h608km±4km, mb3.5/19, mb1 3.7/27,mb1mx3.6/39,mbtmp4.5/27, Error ellipse: s-maj=9.4km s-min=7.8km az=59.0*
*NEIC **28** 21:48:14.4±1.4, 9°.12S±0°.08×71°.3W±0°.1, h610km±5km, mb4.4/72, Error ellipse: s-maj=16.7km s-min=11.5km az=70.0*
*VAO **28** 21:48:14.9±0.2, 9°.16S×71°.27W, h611km±3km, mb4.4*

ISC 28 21:48:13.8±0.3, 9°.11S±0°.04×71°.32W±0°.05, h603km, n245, σ0°96/283, mb4.4/47, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**1.94**	**315**	*e*P		**P**		**21 49 29.6**	**+1.3**
ETMB	**Extrema**	**5.09**	**98**	*e*P		**P**		**21 49 49.0**	**+1.4**
ETMB				*e*S		**S**		**21 51 05.4**	**+1.2**
NNA	**Nana**	**6.13**	**242**	P		**P**		**21 49 57.8**	**+1.4**
	16nm,0.3s,baz=87,slow=7.5,SNR=21								
NNA				S		**S**		**21 51 20.1**	**-0.1**
	2.5nm,0.3s,baz=173,slow=22,SNR=7.3								
NNA	**Nana**	**6.13**	**242**	P		**P**		**21 49 57.6**	**+1.3**
ATAH	**Atahualpa**	**7.27**	**285**	P		**P**		**21 50 09.2**	**+2.2**
	3.0nm,0.3s,baz=35,slow=1.7,SNR=26								
ATAH				S		**S**		**21 51 40.6**	**+1.1**
	3.4nm,0.3s,baz=292,slow=20,SNR=4.6								
LPAZ	**La Paz**	**7.78**	**157**	P		**P**		**21 50 13.1**	**+1.2**
	12nm,0.3s,baz=342,slow=5.0,SNR=208								
LPAZ				S		**S**		**21 51 47.2**	**-1.2**
	baz=220,slow=24,SNR=1.2								
LPAZ	**La Paz**	**7.78**	**157**	P		**P**		**21 50 13.2**	**+1.3**
LPAZ	**La Paz**	**7.78**	**157**	*e*P		**P**		**21 50 13.4**	**+1.5**
LPAZ				*e*S		**S**		**21 51 47.4**	**-1.0**
SAML	**Samuel**	**8.04**	**89**	P		**P**		**21 50 15.0**	**+1.3**
SAML	**Samuel**	**8.04**	**89**	*e*P		**P**		**21 50 15.0**	**+1.3**
SAML				*e*S		**S**		**21 51 53.

comp=Z,14nm,0.9s
SNDB Serra Nova Dou 19.89 100 *eP* **P 21 52 07.2 +0.6**
ARAG Araguaiana, MT 20.14 111 *eP* **P 21 52 08.9 +0.1**
PCRV Puerto La Cruz 20.29 19 P **P 21 52 11.7 +1.5**
comp=Z,7.3nm,0.3s,baz=308,slow=4.8,SNR=6.5
SMRC Santa Marta, M 20.35 352 *eP* **P 21 52 10.1 -0.6**
MCPB Macapa, AP 21.06 67 *eP* **P 21 52 18.0 +0.9**
PRPB Parauapebas 21.51 84 *eP* **P 21 52 22.1 +0.9**
CO03 El Pedregal 21.62 179 P **P 21 52 22.6 +0.5**
CO03 IAmb IAmb 21 52 24.4
comp=Z,16nm,1.3s
CPUP Villa Florida 21.66 144 P **P 21 52 21.9 -0.4**
comp=Z,1.5nm,0.5s,baz=336,slow=8.6,SNR=8.6
CPUP Villa Florida 21.66 144 P **P 21 52 22.0 -0.3**
GRGR Grenville 23.19 25 P **P 21 52 36.9 +0.8**
MDP Montagnes des 23.37 54 P **P 21 52 37.6 -0.1**
comp=Z,27nm,1.1s,baz=218,slow=3.0,SNR=11
SMTB Santa Maria do 23.44 91 *eP* **P 21 52 39.3 +0.9**
SMTB *eS* **S 21 56 11.1 +0.3**
VA03 San Esteban 23.55 178 P **P 21 52 40.3 +1.2**
BDFB Brasilia 23.66 108 P **P 21 52 41.2 +0.9**
comp=Z,8.3nm,0.5s,baz=276,slow=11,SNR=17
BDFB Brasilia 23.66 108 P **P 21 52 41.2 +0.9**
BDFB IAmb IAmb 21 52 42.1
comp=Z,8.3nm,0.7s
PTGB Pitanga 24.03 133 *eP* **P 21 52 43.3 -0.2**
IPMB Ipameri, GO 24.11 114 *eP* **P 21 52 44.4 +0.1**
SVB Belmont 24.38 24 P **P 21 52 48.2 +1.5**
ITQB Itaqui 24.65 148 *eP* **P 21 52 48.7 -0.1**
BB19B Bebedouro 24.97 121 *eP* **P 21 52 51.8 0.0**
FRTB Fartura 25.18 127 *eP* **P 21 52 53.1 -0.5**
ITAB Concordia 25.57 137 *eP* **P 21 52 56.8 -0.1**
SDBA SAO DESIDERIO 26.15 100 *eP* **P 21 53 02.9 +0.6**
CPSB Cacapava Do Su 26.97 144 *eP* **P 21 53 08.3 -0.9**
SPB Sao Paulo 27.00 125 *eP* **P 21 53 09.3 -0.3**
JANB Januaria 27.05 105 *eP* **P 21 53 10.5 +0.4**
VAO Valinhos 27.11 124 *eP* **P 21 53 09.3 -1.3**
MLPR Magueyes Islan 27.24 9 P **P 21 53 12.1 +0.5**
ICMP Isla Caja de M 27.24 10 P **P 21 53 11.5 -0.2**
BI02 San Fabin de 27.43 180 P **P 21 53 14.1 +0.9**
PDPR Patillas Dam, 27.46 11 P **P 21 53 13.6 0.0**
SJG San Juan 27.53 11 P **P 21 53 13.5 -0.6**
comp=Z,6.4nm,0.5s,baz=214,slow=3.6,SNR=4.2
AOPR Arecibo Observ 27.66 9 P **P 21 53 15.4 +0.1**
ROSB Rosrio 27.73 79 *eP* **P 21 53 16.6 +0.6**
CBYP Canovanas 27.74 11 P **P 21 53 15.8 -0.3**
CBYP IAmb IAmb 21 53 26.5
comp=Z,21nm,1.1s
CUPR Culebra, Puert 27.89 12 P **P 21 53 16.5 -0.8**
PLTB Pedras Altas 27.90 146 *eP* **P 21 53 16.9 -0.4**
SDDR Presa de Saban 27.92 0 P **P 21 53 19.0 +1.4**
SDDR IAmb IAmb 21 53 22.6
comp=Z,8.4nm,0.6s
BSCB Bom Sucesso 28.17 118 *eP* **P 21 53 19.9 0.0**
ANWB Willy Bob 28.23 20 P **P 21 53 18.8 -1.4**
DIAM Diamantina, MG 28.33 112 *eP* **P 21 53 21.9 +0.5**
PARB Paraibuna 28.37 123 *eP* **P 21 53 21.6 +0.1**
ESAR Angra dos Reis 29.23 121 *eP* **P 21 53 29.2 +0.4**
NBPS Pedro II - PI 30.02 83 *eP* **P 21 53 36.6 +0.6**
NBPN Ponto Novo - B 30.69 96 *eP* **P 21 53 42.2 +0.6**
SJMB Sao Joao De Ma 30.72 111 *eP* **P 21 53 41.7 -0.1**
PLCA Paso Flores 31.50 179 P **P 21 53 48.5 +0.4**
comp=Z,1.9nm,0.4s,baz=350,slow=10.0,SNR=28
PLCA PcP **PcP 21 56 22.5 +0.5**
comp=Z,1.8nm,0.5s,baz=0.2,slow=5.2,SNR=7.0
PLCA Paso Flores 31.50 179 P **P 21 53 48.8 +0.7**
PLCA Paso Flores 31.50 179 *eP* **P 21 53 48.0 -0.2**
NBPB Pedra_Branca-C 31.67 86 *eP* **P 21 53 49.7 -0.2**
NBIT Itapeh - BA 31.70 104 *eP* **P 21 53 51.2 +1.1**
NBMA Muriti-CE 32.26 89 *eP* **P 21 53 55.1 +0.2**
NBTA Tacaratu-PE 32.83 93 *eP* **P 21 54 00.2 +0.4**
NBLA Lagarto - SE 33.06 96 *eP* **P 21 54 01.2 -0.4**
TEIG Tepich 33.59 330 P **P 21 54 06.2 +0.2**
NBLI Livramento-PB 34.05 90 *eP* **P 21 54 10.8 +0.8**
NBAN Anadia - AL 34.57 94 *eP* **P 21 54 14.8 +0.5**
CMIG Matias Romero 34.94 318 P **P 21 54 17.7 +0.5**
comp=Z,5.7nm,0.4s,baz=122,slow=6.3,SNR=8.7
NBRF Rio Formoso - 35.75 92 *eP* **P 21 54 24.3 +0.3**
NBPV Pedro Velho 35.79 88 *eP* **P 21 54 24.6 +0.3**
NHSC New Hope 42.82 349 P **P 21 55 21.0 +0.8**
EFI East Falkland 43.81 168 P **P 21 55 28.3 +0.7**
GOGA Godfrey 43.84 345 P **P 21 55 28.1 0.0**
HODGE Hodges 44.34 347 P **P 21 55 32.0 +0.1**
HODGE IAmb IAmb 21 55 33.0
comp=Z,7.7nm,0.8s
LRAL Lakeview Retre 44.49 341 P **P 21 55 32.2 -1.0**
W57A Gilead 44.78 350 P **P 21 55 35.0 -0.3**
W57A IAmb IAmb 21 55 39.6
comp=Z,13nm,1.2s
Y49A Blount Mountai 45.08 342 P **P 21 55 36.9 -0.7**
V52A Sevierville 46.19 346 P **P 21 55 45.4 -0.6**
V52A IAmb IAmb 21 55 49.5
comp=Z,13nm,1.1s
BLA Blacksburg 46.86 350 P **P 21 55 51.4 +0.3**
BLA IAmb IAmb 21 56 08.9
comp=Z,12nm,1.0s
LCAR Lake Charles 48.67 339 P **P 21 56 03.5 -1.0**
FCAR Ozark Folk Cen 48.87 337 P **P 21 56 04.9 -1.1**
FCAR IAmb IAmb 21 56 05.7
comp=Z,8.0nm,0.5s
W39A Magazine 48.92 335 P **P 21 56 06.7 +0.4**
W39A IAmb IAmb 21 56 07.4
comp=Z,9.2nm,0.5s
X37A Clayton 49.07 334 P **P 21 56 07.8 +0.3**
X37A IAmb IAmb 21 56 08.9
comp=Z,9.6nm,0.9s
P53A Whipple 49.25 350 P **P 21 56 08.8 +0.1**
TXAR Lajitas Array 49.32 322 P **P 21 56 09.6 0.0**
comp=Z,2.7nm,1.1s,baz=154,slow=8.9,SNR=9.5
TXAR PcP **PcP 21 57 20.6 -0.1**
comp=Z,0.7nm,0.6s,baz=146,slow=6.1,SNR=7.3
TXAR ScP **ScP 22 00 18.4 -0.8**
comp=Z,0.6nm,0.7s,baz=143,slow=6.2,SNR=6.1
TXAR Lajitas Array 49.32 322 P **P 21 56 09.9 +0.3**
TX32 Lajitas Array 49.32 322 P **P 21 56 09.7 +0.1**
U40A Yellville 49.56 337 P **P 21 56 10.2 -0.8**
U40A IAmb IAmb 21 56 11.2
comp=Z,12nm,1.1s
O53A New Philadelph 49.96 350 P **P 21 56 13.8 -0.1**
O53A IAmb IAmb 21 56 14.6
comp=Z,12nm,0.8s
CCM Cathedral Cave 50.48 340 P **P 21 56 17.3 -0.4**
CCM IAmb IAmb 21 56 18.5
comp=Z,14nm,1.1s
S39A Bolivar 50.91 337 P **P 21 56 20.0 -0.8**
S39A IAmb IAmb 21 56 20.8
comp=Z,13nm,0.8s
M53A WI Miller and 51.03 351 P **P 21 56 21.6 0.0**
BINY Binghamton 51.24 356 P **P 21 56 23.1 0.0**
BINY IAmb IAmb 21 56 24.0
comp=Z,34nm,1.3s
HOPE Hope Point 52.93 155 P **P 21 56 35.6 +0.6**
EMMW East Machias 53.69 3 P **P 21 56 40.5 +0.1**
EMMW IAmb IAmb 21 56 57.8
comp=Z,31nm,1.2s
GGN Saint George 54.13 4 P **P 21 56 43.9 +0.4**
ANMO Albuquerque 54.99 325 P **P 21 56 50.5 +0.5**
PMSA Palmer Station 55.81 176 *eP* **P 21 56 55.8 +0.9**
MVCO Mesa Verde 57.76 325 P **P 21 57 09.6 +0.6**
DRLN Deer Lake 59.37 10 P **P 21 57 18.6 -0.6**
DRLN IAmb IAmb 21 57 19.5
comp=Z,35nm,1.4s
EYMN Ely 59.55 344 P **P 21 57 19.8 -0.7**
KNB Kanab 60.16 322 P **P 21 57 26.2 +1.2**
PDAR Pinedale Array 62.31 329 P **P 21 57 38.8 -0.1**
comp=Z,0.8nm,0.5s,baz=122,slow=10.0,SNR=8.7
PDAR PcP **PcP 21 58 11.0 -0.6**
comp=Z,0.7nm,0.5s,baz=128,slow=7.3,SNR=5.1
PDAR PP **pP 21 59 37.4 +0.7**
comp=Z,0.3nm,0.6s,baz=104,slow=7.5,SNR=2.3
ULM Lac du Bonnet 62.87 343 P **P 21 57 41.1 -0.9**
comp=Z,10nm,0.5s,baz=152,slow=5.6,SNR=23
ULM Lac du Bonnet 62.87 343 P **P 21 57 41.2 -0.9**
ULM IAmb IAmb 21 57 41.9
comp=Z,18nm,1.0s
NVAR Mina Array Bea 64.42 320 P **P 21 57 53.1 +0.6**
comp=Z,0.6nm,0.6s,baz=155,slow=7.0,SNR=5.4
NVAR PcP **PcP 21 58 20.6 +0.1**
comp=Z,1.0nm,0.7s,baz=130,slow=5.3,SNR=7.2
NVAR Mina Array Bea 64.42 320 P **P 21 57 54.0 +1.5**
LIC Lamto 67.80 79 *eP* **P 21 58 12.8 -0.8**
comp=Z,53nm,1.4s
TIC Toumodi 67.90 79 *eP* **P 21 58 11.4 -2.8**

DBIC Dimbokro 68.06 79 P **P 21 58 15.1 -0.1**
comp=Z,7.5nm,0.5s,baz=254,slow=6.1,SNR=16
DBIC Dimbokro 68.06 79 P **P 21 58 15.0 -0.2**
DBIC IAmb IAmb 21 58 15.8
comp=Z,19nm,1.2s
KIC Kosan Boka 68.11 79 *eP* **P 21 58 15.1 -0.3**
comp=Z,26nm,0.7s
PINE Pine Mountain 69.22 324 P **P 21 58 22.6 +0.9**
FCC Fort Churchill 70.11 348 P **P 21 58 26.2 -0.2**
FCC IAmb IAmb 21 58 26.5
comp=Z,6.6nm,0.5s
KOWA Kowa 70.74 71 P **P 21 58 31.1 0.0**
KOWA IAmb IAmb 21 58 31.6
comp=Z,10nm,0.6s
BELA Belgrano 2 71.27 172 P **P 21 58 33.4 +0.4**
VNA3 Neumayer Olymp 72.51 163 P **P 21 58 40.5 +0.2**
VNA2 Neumayer--Watz 73.06 162 P **P 21 58 43.8 +0.3**
SNAA Sanae 74.70 162 P **P 21 58 52.9 +0.2**
SNAA Sanae 74.70 162 P **P 21 58 52.9 +0.2**
SNAA IAmb IAmb 21 58 53.7
comp=Z,6.1nm,0.6s
TOA0 Tordoi Ar. Sit 75.79 74 P **P 21 58 59.3 -0.4**
TOA0 IAmb IAmb 21 59 00.3
comp=Z,9.1nm,0.8s
TORD Tordoi Ar. Bea 75.79 74 P **P 21 58 59.4 -0.4**
comp=Z,7.0nm,0.8s,baz=276,slow=6.3,SNR=34
TORD pP **pP 22 01 05.5 +1.2**
comp=Z,1.2nm,0.6s,baz=268,slow=5.3,SNR=6.5
TORD Tordoi Ar. Bea 75.79 74 P **P 21 58 59.2 -0.5**
TORD IAmb IAmb 21 59 00.3
comp=Z,7.4nm,0.8s
MDT Midelt 75.88 53 P **P 21 59 00.6 +0.5**
comp=Z,1.2nm,0.7s,baz=258,slow=10,SNR=2.2
YKA Yellowknife Ar 78.79 341 P **P 21 59 14.7 -0.2**
comp=Z,4.7nm,0.8s,baz=134,slow=5.9,SNR=68
YKA pP **pP 22 01 20.8 -0.1**
comp=Z,0.3nm,0.5s,baz=132,slow=6.6,SNR=4.2
ESDC Sonseca Array 78.85 47 P **P 21 59 16.6 +0.6**
comp=Z,1.1nm,0.6s,baz=260,slow=5.5,SNR=21
ESDC pP **pP 22 01 24.6 +2.8**
comp=Z,0.6nm,0.9s,baz=253,slow=5.6,SNR=3.3
ESDC Sonseca Array 78.85 47 P **P 21 59 16.5 +0.6**
QSPA South Pole Qui 81.00 180 P **P 21 59 27.3 +0.6**
QSPA IAmb IAmb 21 59 28.1
comp=Z,10nm,0.7s
TAM Tamanrasset 81.56 65 P **P 21 59 31.1 +0.7**
TAM IAmb IAmb 21 59 32.2
comp=Z,6.2nm,0.7s
SUMG Summit 84.27 9 *i* P **P 21 59 42.5 -0.7**
SUMG Summit 84.27 9 P **P 21 59 43.0 -0.2**
SUMG IAmb IAmb 21 59 45.3
comp=Z,9.3nm,0.9s
SUMG Summit 84.27 9 *i* P **P 21 59 42.5 -0.7**
RES Resolute Bay 84.90 354 P **P 21 59 46.0 +0.3**
TULEG Thule 85.52 1 P **P 21 59 48.5 0.0**
TULEG IAmb IAmb 21 59 49.6
comp=Z,8.3nm,0.8s
INK Inuvik 88.56 341 P **P 22 00 03.0 0.0**
INK IAmb IAmb 22 00 04.2
comp=Z,9.7nm,1.1s
VNDA Vanda 88.58 190 P **P 22 00 03.1 0.0**
comp=Z,1.4nm,0.8s,baz=142,slow=3.7,SNR=9.5
VNDA Vanda 88.58 190 P **P 22 00 04.0 +0.9**
BCAR Beaver Creek A 89.41 335 P **P 22 00 07.5 +0.3**
BMAR Burnt Mountain 92.03 338 P **P 22 00 19.6 +0.4**
ILAR Eielson Array 92.10 335 P **P 22 00 19.1 -0.4**
comp=Z,0.4nm,0.5s,baz=133,slow=3.2,SNR=7.6
ILAR Eielson Array 92.10 335 P **P 22 00 19.0 -0.5**
MDM Murphy Dome 92.70 335 P **P 22 00 22.0 -0.3**
MDM IAmb IAmb 22 00 22.8
comp=Z,4.0nm,0.9s
GERES GERESS Array B 93.53 41 P **P 22 00 25.3 -1.2**
comp=Z,1.0nm,0.8s,baz=228,slow=3.4,SNR=5.4
FINES FINESS Array B 101.48 29 PKKPbc PKKPbc 22 17 06.5 -2.9
comp=Z,1.3nm,1.0s,baz=96,slow=4.2,SNR=4.1
BRTR Keskin Array B 107.26 51 PP **PP 22 06 00.7 -3.7**
comp=Z,0.4nm,0.7s,baz=355,slow=7.6,SNR=3.8
KBZ Khabaz 113.71 46 PKiKP **PKiKP 22 05 44.6 -0.4**
comp=Z,3.5nm,1.0s,baz=248,slow=7.4,SNR=3.1
SEY Seymchan 117.81 339 PKP **PKiKP 22 05 52.4 0.0**
comp=Z,0.9nm,0.6s,baz=61,slow=19,SNR=5.5
ABKAR Akbulak array 123.07 36 PKPdf **PKPdf 22 06 02.5 -0.3**
STKA Stephens Creek 128.51 216 PKP **PKPdf 22 06 13.0 -0.9**
comp=Z,1.9nm,0.6s,baz=115,slow=4.6,SNR=8.9
STKA Stephens Creek 128.51 216 **PKPdf 22 06 13.5 -0.4**
ZAA0 Zalesovo Array 131.36 19 PKPdf **PKPdf 22 06 18.3 -0.2**
ZALV Zalesovo Beam 131.36 19 PKP **PKPdf 22 06 18.4 -0.1**
comp=Z,2.8nm,0.6s,baz=288,slow=3.4,SNR=14
ZALV pPKP **pPKPdf 22 08 37.7 -0.2**
comp=Z,1.1nm,0.6s,baz=343,slow=4.6,SNR=4.2
ZALV SKPbc **SKPbc 22 08 46.5 -1.7**
comp=Z,2.0nm,0.4s,baz=326,slow=4.0,SNR=8.5
ZALV SKP **SKPdf 22 08 56.0 -1.4**
comp=Z,0.7nm,0.5s,baz=314,slow=2.3,SNR=3.6
ZALV Zalesovo Beam 131.36 19 PKPdf **PKPdf 22 06 18.1 -0.4**
CTA Charters Tower 132.99 232 PKP **PKPdf 22 06 22.9 +0.3**
comp=Z,3.6nm,0.9s,baz=94,slow=6.2,SNR=1.2
KLR Kul'dur 135.60 338 PKP **PKPdf 22 06 25.8 -0.9**
comp=Z,0.9nm,0.5s,baz=321,slow=2.4,SNR=5.9
MAKZ Makanchi 136.08 26 **PKPdf 22 06 26.9 -0.7**
MK31 Makanchi Array 136.23 26 **PKPdf 22 06 27.5 -0.4**
MKAR Makanchi Array 136.23 26 PKhKP PKPpre 22 06 20.3
comp=Z,0.1nm,0.4s,baz=329,slow=1.7,SNR=2.5
MKAR PKP **PKPdf 22 06 27.5 -0.4**
comp=Z,1.3nm,0.7s,baz=340,slow=1.7,SNR=12
MKAR pPKP pPKPdf 22 08 46.6 -0.7
comp=Z,0.2nm,0.5s,baz=345,slow=1.2,SNR=2.7
MKAR SKPbc **SKPbc 22 09 03.0 -1.3**
comp=Z,0.9nm,0.5s,baz=309,slow=3.0,SNR=10
MKAR SKKPbc **SKKPbc 22 17 58.9 -5.4**
comp=Z,0.2nm,0.6s,baz=164,slow=2.7,SNR=3.7
ASAR Alice Springs 139.14 217 PKhKP PKPpre 22 06 24.4
comp=Z,0.7nm,0.4s,baz=140,slow=3.8,SNR=20
ASAR PKP **PKPdf 22 06 33.5 -0.4**
comp=Z,1.7nm,0.4s,baz=136,slow=1.9,SNR=11
ASAR pPKP pPKPdf 22 08 54.0 +0.5
comp=Z,0.6nm,0.8s,baz=151,slow=2.1,SNR=4.1
ASAR SKPbc **SKPbc 22 09 10.9 -2.4**
comp=Z,0.9nm,0.7s,baz=125,slow=2.8,SNR=6.9
USRK Ussuriysk Ar. 139.61 334 PKhKP PKPpre 22 06 24.8
comp=Z,0.5nm,0.6s,baz=7.6,slow=4.4,SNR=1.9
USRK PKP **PKPdf 22 06 33.5 -0.6**
comp=Z,1.8nm,0.8s,baz=326,slow=1.0,SNR=4.9
USRK SKPbc **SKPbc 22 09 12.6 -1.2**
comp=Z,1.8nm,0.6s,baz=184,slow=2.9,SNR=6.0
WMQ Urumqi 140.89 24 *eP* **PKPdf 22 06 35.8 -0.8**
SONM Songino Array 141.36 2 PKhKP PKPpre 22 06 32.6
comp=Z,0.8nm,0.4s,baz=301,slow=2.6,SNR=7.7
WRA Warramunga Arr 141.63 221 PKhKP PKPpre 22 06 32.2
comp=Z,1.7nm,0.4s,baz=140,slow=2.9,SNR=53
WRA PKP **PKPdf 22 06 37.3 -1.2**
comp=Z,3.1nm,0.4s,baz=142,slow=1.8,SNR=14
WRA SKPbc **SKPbc 22 09 18.0 -1.9**
comp=Z,1.5nm,0.6s,baz=141,slow=2.3,SNR=8.9
MJAR Matsushiro Arr 141.75 320 PKhKP PKPpre 22 06 34.0
comp=Z,1.0nm,0.5s,baz=86,slow=2.2,SNR=6.1
MAT Matsushiro 141.75 320 *e*PKP **PKPdf 22 06 35.2 -3.0**
KS19 Wonju Array Si 146.84 331 **PKPbc 22 06 50.2 +0.3**
KSRS Korea Array 146.85 331 PKPbc **PKPbc 22 06 49.8 -0.1**
comp=Z,9.8nm,0.7s,baz=33,slow=2.3,SNR=44
KSAR Wonju Array Be 146.88 331 **PKPdf 22 06 47.0 0.0**
KSAR PKPbc **PKPbc 22 06 50.0 +0.1**
PSA00 Pilbara Seismi 147.59 200 **PKPbc 22 06 51.8 -0.5**
PSA00 PKPab **PKPab 22 06 56.4 -0.1**
FITZ Fitzroy Crossi 148.19 212 PKP **PKPdf 22 06 49.0 -0.7**
comp=Z,4.4nm,0.5s,baz=210,slow=0.9,SNR=1.9
FITZ PKPbc **PKPbc 22 06 53.8 0.0**
comp=Z,8.3nm,0.5s,baz=255,slow=0.2,SNR=47
FITZ PKPab **PKPab 22 06 59.0 -0.1**
comp=Z,8.5nm,0.5s,baz=171,slow=5.3,SNR=13
FITZ pPKPbc **pPKPbc 22 09 11.1 -0.5**
comp=Z,8.3nm,1.0s,baz=79,slow=0.8,SNR=6.4
HHC Hu-ho-hao-te 148.29 356 *eP* PKPdf 22 06 41.0 -8.4
BJI Beijing 148.49 349 P **PKPbc 22 06 53.8 -0.1**
BJT Baijiatuan 148.51 349 **PKPbc 22 06 53.9 -0.2**
MTN Manton Dam 148.80 226 **PKPbc 22 06 55.3 -0.1**
GKN Gorkha 150.57 47 *eP* **PKPdf 22 06 53.5 +0.1**
comp=Z,38nm,0.4s
DMN Daman 151.13 47 *eP* **PKPdf 22 06 54.3 -0.1**
comp=Z,15nm,0.6s
PKIN Phulchoki 151.36 47 *eP* **PKPdf 22 06 54.5 -0.3**
comp=Z,10nm,0.5s
PKI Pulchoki 151.38 47 *eP* **PKPdf 22 06 54.6 -0.2**
comp=Z,13nm,0.8s
GUN Gumba 151.51 46 *eP* **PKPdf 22 06 55.8 +0.7**
comp=Z,19nm,0.7s

JIRN Jiri 151.88 46 *eP* **PKPdf 22 06 55.4 -0.3**
comp=Z,9.3nm,0.6s
RAMN Ramite 152.60 47 *eP* **PKPdf 22 06 56.4 -0.2**
comp=Z,32nm,0.7s
TAPN Taplejung 153.14 45 *eP* **PKPdf 22 06 57.5 +0.1**
comp=Z,8.3nm,0.5s
ODAN Odare 153.22 46 *eP* **PKPdf 22 06 57.6 +0.2**
comp=Z,6.9nm,0.6s
CMAR Chiang Mai Arr 166.75 44 PKP **PKPdf 22 07 11.7 -0.4**
comp=Z,1.5nm,0.8s,baz=303,slow=2.6,SNR=8.9
CMAR PKPab **PKPab 22 08 19.1 -0.2**
comp=Z,0.7nm,0.3s,baz=314,slow=6.5,SNR=4.2
CMAR Chiang Mai Arr 166.75 44 **PKPdf 22 07 11.2 -0.9**

*SKHL **28** 22:00:30.3±0.9, 42.°90N×141.°40E, h152km±5km, mb4.4/2, msha5.2/2*
*MOS **28** 22:00:30.7±0.8, 42.°92N×141.°41E, h169km, mb4.1/1, Error ellipse: s-maj=13.6km s-min=10.6km az=67.0*
*JMA **28** 22:00:31.7±0.1, 42.°89N×141.°39E, h158km±1km, M3.4*
*IDC **28** 22:00:31.7±0.9, 42.°94N×141.°42E, h160km±9km, mb3.1/8, mb1 3.2/11, mb1mx3.1/45, mbtmp3.5/11, Error ellipse: s-maj=20.5km s-min=14.3km az=113.0*

ISC 28 22:00:31.7±0.7, **42.°90N**±0.°05×**141.°43E**±0.°04, **h161**km±5km, **n45**, **σ0**.**85**/65, **mb3.6**/10, **4C-1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JEW	**Eniwo**	**0.06**	**163**	P		**Pn**		**22 00 53.0**	**-0.2**
JEW				*e*S		**Sn**		**22 01 08.9**	**-0.5**
JISS	**Ishikarishitsu**	**0.38**	**359**	P		**Pn**		**22 00 53.8**	**0.0**
JISS				*e*S		**Sn**		**22 01 10.4**	**-0.4**
JIAM	**Iburiatsuma**	**0.46**	**127**	P		**Pn**		**22 00 54.2**	**+0.1**
JIAM				*e*S		**Sn**		**22 01 11.2**	**+0.1**
JNB	**Noboribetsu**	**0.51**	**214**	P		**Pn**		**22 00 54.0**	**-0.4**
JBT2	**Biratori 2**	**0.70**	**99**	P		**Pn**		**22 00 55.2**	**-0.1**
JBT2				*e*S		**Sn**		**22 01 13.6**	**+0.2**
JSK	**Shakotan**	**0.83**	**304**	P		**Pn**		**22 00 55.8**	**-0.4**
JAB	**Ashibetsu**	**0.84**	**43**	P		**Pn**		**22 00 56.6**	**+0.3**
JAB				*e*S		**Sn**		**22 01 15.2**	**0.0**
JHR	**Hokuryu**	**0.87**	**14**	P		**Pn**		**22 00 56.9**	**+0.4**
JHR				*e*S		**Sn**		**22 01 16.1**	**+0.4**
JFR	**Furan**	**0.90**	**72**	P		**Pn**		**22 00 56.4**	**-0.3**
JFR				*e*S		**Sn**		**22 01 15.3**	**-0.6**
JKB	**Kayabe**	**1.05**	**196**	P		**Pn**		**22 00 57.6**	**-0.3**
JKB				*e*S		**Sn**		**22 01 16.8**	**-1.2**
JNBK	**Urakawa-nobuka**	**1.16**	**122**	P		**Pn**		**22 00 59.1**	**+0.3**
JKK2	**Kamakawa 2**	**1.37**	**44**	P		**Pn**		**22 01 00.8**	**0.0**
JKK2				*e*S		**Sn**		**22 01 22.6**	**-0.7**
JCH	**Churui**	**1.45**	**101**	P		**Pn**		**22 01 00.8**	**-0.8**
JCH				*e*S		**Sn**		**22 01 22.8**	**-1.8**
ASAJ	**Asahikawa**	**1.49**	**35**	P		**Pn**		**22 01 01.9**	**-0.1**
	27nm,0.3s,baz=216,slow=14,SNR=744								
ASAJ				S		**Sn**		**22 01 24.5**	**-0.8**
	7.6nm,0.3s,baz=40,slow=32,SNR=15								
JKA	**Kamikawa-asahi**	**1.49**	**35**	*e*P		**Pn**		**22 01 01.9**	**0.0**
JOT	**Ohata**	**1.54**	**191**	P		**Pn**		**22 01 02.2**	**-0.3**
JOMM	**Oshimamatsumae**	**1.73**	**218**	P		**Pn**		**22 01 04.9**	**+0.4**
JOMM				*e*S		**Sn**		**22 01 30.0**	**+0.3**
JAR	**Ashorobuto**	**1.76**	**76**	P		**Pn**		**22 01 04.8**	**0.0**
JAR				*e*S		**Sn**		**22 01 29.8**	**-0.5**
JTKR	**Abashiri--Toko**	**2.10**	**58**	P		**Pn**		**22 01 09.1**	**+0.5**
JTKR				*e*S		**Sn**		**22 01 37.7**	**+0.6**
JSE	**Soyaes**	**2.23**	**22**	P		**Pn**		**22 01 10.3**	**+0.3**
RUSJ	**Misakicho**	**3.03**	**65**	*e*PN		**Pn**		**22 01 21.1**	**+1.3**
NMR	**Nemuro--Hokkai**	**3.18**	**80**	*i*PN		**Pn**		**22 01 20.6**	**-1.1**
NMR				*i* S		**Sn**		**22 01 56.9**	**-3.7**
NMR	**Nemuro--Hokkai**	**3.18**	**80**	*i* P		**Pn**		**22 01 20.6**	**-1.1**
GRPR	**Tuman**	**3.35**	**69**	*e*PN		**Pn**		**22 01 24.1**	**+0.3**
GRPR				*e*S		**Sn**		**22 02 05.6**	**+1.3**
GRPR				pmax	pmax				
	comp=Z,41nm,0.2s								
GRPR				smax	smax				
	comp=E,106nm,0.3s								
GRPR				smax	smax				
	comp=N,138nm,0.2s								
GRPR	**Tuman**	**3.35**	**69**	*e*P		**Pn**		**22 01 24.2**	**+0.4**
GRPR				AMB	AMB			22 01 25.0	
	comp=N,40nm,0.5s								
GRPR				*e*S		**Sn**		**22 02 05.1**	**+0.8**
GRPR				A	A			22 02 08.0	
	comp=N,140nm,0.5s								
GRPR				A	A			22 02 08.0	
	comp=N,110nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**3.42**	**69**	*e*PN		**Pn**		**22 01 25.2**	**+0.5**
YUK				*e*S		**Sn**		**22 02 07.8**	**+1.8**
YUK				pmax	pmax				
	comp=Z,67nm,0.5s								
YUK				pmax	pmax				
	comp=N,21nm,0.2s								
YUK				smax	smax				
	comp=E,111nm,0.5s								
YUK				smax	smax				
	comp=N,78nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**3.42**	**69**	*e*P		**Pn**		**22 01 25.3**	**+0.5**
YUK				AMB	AMB			22 01 27.0	
	comp=N,30nm,0.5s								
YUK				*e*S		**Sn**		**22 02 07.8**	**+1.8**
YUK				A	A			22 02 13.0	
	comp=N,80nm,0.5s								
YUK				A	A			22 02 13.0	
	comp=N,110nm,0.5s								
TEY	**Ternei**	**4.09**	**303**	⇑*i*PN		**Pn**		**22 01 32.5**	**-0.8**
TEY				pmax	pmax				
	comp=Z,60nm,0.8s								
TEY				pmax	pmax				
	comp=N,50nm,0.8s								
TEY				pmax	pmax				
	comp=E,60nm,0.8s								
TEY	**Ternei**	**4.09**	**303**	*e*P		**Pn**		**22 01 32.5**	**-0.8**
YSS	**Yuzh-Sakhalins**	**4.17**	**13**	*α i*PN		**Pn**		**22 01 34.1**	**-0.2**
YSS				*e*S		**Sn**		**22 02 21.6**	**-1.6**
YSS				pmax	pmax				
	comp=Z,40nm,0.6s								
YSS				pmax	pmax				
	comp=Z,200nm,3.5s								
YSS				smax	smax				
	comp=N,30nm,0.9s								
YSS				smax	smax				
	comp=E,30nm,0.7s								
YSS				smax	smax				
	comp=Z,200nm,2.6s								
YSS	**Yuzh-Sakhalins**	**4.17**	**13**	*e*P		**Pn**		**22 01 34.1**	**-0.2**
YSS				AMB	AMB			22 01 35.0	
YSS				*e*S		**Sn**		**22 02 22.9**	**-0.3**
YSS				A	A			22 02 24.0	
	comp=Z,30nm,0.8s								
YSS				A	A			22 02 24.0	
	comp=Z,30nm,0.8s								
MJAR	**Matsushiro Arr**	**6.81**	**202**	P		**Pn**		**22 02 09.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=34,slow=13,SNR=8.3								
KLR	**Kul'dur**	**9.23**	**317**	P		**Pn**		**22 02 40.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=125,slow=16,SNR=11								
JHJ	**Hachijo jima 2**	**9.85**	**188**	S		Sn		22 04 27.8	-11
	comp=Z,12nm,0.3s,baz=288,slow=23,SNR=5.8								
KSRS	**Korea Array**	**11.67**	**247**	P		**Pn**		**22 03 13.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=68,slow=13,SNR=5.7								
SEY	**Seymchan**	**21.07**	**14**	P		**P**		**22 05 01.9**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=191,slow=16,SNR=18								
SONM	**Songino Array**	**24.96**	**294**	P		**P**		**22 05 40.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=87,slow=10,SNR=3.6						

mb4.2/23, Error ellipse: s-maj=17.6km s-min=8.6km az=190.0

IDC ***28*** *22:17:38.1±2.7, 20°.23S×177°.31W, h377km±28km, mb3.7/9, mb1 3.9/11, mb1mx3.5/38, mbtmp4.5/11, Error ellipse: s-maj=17.7km s-min=15.0km az=76.0*

NOU ***28*** *22:17:43.3, 19°.71S×177°.55W, h439km, mb4.3, Fiji Islands Region*

ISC 28 22:17:35.5±0.6, 20°.10S±0°.09×177°.27W±0°.09, h350km, n45, σ1§18/47, mb4.0/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.00**	**83**	Pn	**Pn**	**22 19 16.3**	**-1.5**
RAO	**Raoul Island**	**9.13**	**184**	P	**Pn**	**22 19 42.5**	**-0.5**
	115nm,0.3s,baz=265,slow=22,SNR=12						
RAO	**Raoul Island**	**9.13**	**184**		**Pn**	**22 19 42.4**	**-0.7**
MARNC	**Mare, Loyalty**	**13.82**	**262**	P	**Pn**	**22 20 38.6**	**-0.1**
YATNC	**Mamie plateau,**	**14.91**	**260**	P	**Pn**	**22 20 52.5**	**+1.1**
OUENC	**Ouen Island, N**	**14.99**	**258**	P	**Pn**	**22 20 53.1**	**+0.8**
DZM	**Mont Dzumac**	**15.33**	**260**	P	**Pn**	**22 20 55.4**	**-0.9**
	3.6nm,0.3s,baz=96,slow=10,SNR=39						
DZM	**Mont Dzumac**	**15.33**	**260**	P	**Pn**	**22 20 55.9**	**-0.4**
DZM	**Mont Dzumac**	**15.33**	**260**	P	**Pn**	**22 20 56.4**	**+0.1**
URZ	**Urewera**	**18.74**	**194**	P	**P**	**22 21 31.2**	**+1.1**
	1.5nm,0.3s,baz=301,slow=23,SNR=20						
URZ				S	**S**	**22 24 41.1**	**-3.7**
	0.5nm,0.3s,baz=122,slow=24,SNR=1.6						
URZ	**Urewera**	**18.74**	**194**	P	**P**	**22 21 30.8**	**+0.6**
URZ				IAmb	IAmb	22 21 42.3	
	comp=Z,11nm,0.9s						
BKZ	**Black Stump Fm**	**19.75**	**194**	P	**P**	**22 21 42.3**	**+1.4**
BKZ				IAmb	IAmb	22 21 47.5	
	comp=Z,13nm,1.3s						
THZ	**Tophouse**	**23.15**	**199**	P	**P**	**22 22 13.2**	**+1.1**
THZ				IAmb	IAmb	22 22 22.7	
	comp=Z,21nm,1.1s						
RPZ	**Rata Peaks**	**25.50**	**200**	P	**P**	**22 22 37.0**	**+3.9**
	comp=Z,4.8nm,0.5s,baz=5.7,slow=16,SNR=1.6						
EIDS	**Eidsvold**	**29.61**	**254**	P	**P**	**22 23 10.2**	**+0.5**
EIDS				IAmb	IAmb	22 23 24.4	
	comp=Z,11nm,1.1s						
ARMA	**Armidale**	**29.86**	**244**	P	**P**	**22 23 12.8**	**+0.9**
ARMA				IAmb	IAmb	22 23 14.1	
	comp=Z,8.1nm,1.1s						
CTA	**Charters Tower**	**34.21**	**264**	P	**P**	**22 23 49.5**	**-0.1**
	comp=Z,13nm,0.5s,baz=91,slow=9.6,SNR=30						
CTAO	**Charters Tower**	**34.21**	**264**	P	**P**	**22 23 49.6**	**-0.1**
CTAO				IAmb	IAmb	22 23 50.3	
	comp=Z,14nm,0.6s						
TOO	**Toolangi**	**36.69**	**234**	P	**P**	**22 24 11.0**	**+0.7**
TOO				IAmb	IAmb	22 24 13.9	
	comp=Z,8.5nm,0.9s						
STKA	**Stephens Creek**	**38.58**	**244**	P	**P**	**22 24 26.5**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=90,slow=11,SNR=13						
STKA	**Stephens Creek**	**38.58**	**244**	P	**P**	**22 24 26.6**	**+0.5**
BBOO	**Buckleboo**	**43.34**	**243**	P	**P**	**22 25 04.2**	**-0.2**
BBOO				IAmb	IAmb	22 25 05.1	
	comp=Z,8.8nm,0.7s						
WR0	**Warramunga Arr**	**45.15**	**262**	P	**P**	**22 25 17.5**	**-1.3**
WR0				IAmb	IAmb	22 25 18.8	
	comp=Z,3.1nm,0.5s						
AS31	**Alice Springs**	**45.28**	**256**	P	**P**	**22 25 19.4**	**-0.4**
ASAR	**Alice Springs**	**45.28**	**256**	P	**P**	**22 25 19.4**	**-0.4**
	comp=Z,9.1nm,0.5s,baz=96,slow=8.2,SNR=276						
ASAR				PcP	**PcP**	**22 26 52.9**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=81,slow=5.7,SNR=2.0						
ASAR	**Alice Springs**	**45.28**	**256**	P	**P**	**22 25 18.8**	**-1.0**
WB2	**Warramunga Arr**	**45.32**	**261**	P	**P**	**22 25 19.2**	**-1.0**
WRA	**Warramunga Arr**	**45.34**	**261**	P	**P**	**22 25 19.1**	**-1.2**
	comp=Z,2.8nm,0.3s,baz=98,slow=5.7,SNR=52						
WRA	**Warramunga Arr**	**45.34**	**261**	P	**P**	**22 25 19.1**	**-1.2**
MTN	**Manton Dam**	**49.84**	**270**	P	**P**	**22 25 53.6**	**-1.0**
MTN				IAmb	IAmb	22 25 53.9	
	comp=Z,6.5nm,0.7s						
FORT	**Forrest**	**50.08**	**246**	P	**P**	**22 25 55.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**53.76**	**262**	P	**P**	**22 26 23.0**	**-0.2**
SOEI	**Soe**	**57.17**	**271**	P	**P**	**22 26 47.7**	**+0.1**
BATI	**Baumata**	**57.61**	**271**	P	**P**	**22 26 51.1**	**+0.6**
	comp=Z,7.4nm,0.4s,baz=138,slow=5.6,SNR=4.0						
VNDA	**Vanda**	**58.37**	**185**	P	**P**	**22 26 53.8**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=1.3,slow=5.0,SNR=23						
PSA00	**Pilbara Seismi**	**58.43**	**257**	P	**P**	**22 26 55.4**	**-0.6**
PSA00				IAmb	IAmb	22 26 56.2	
	comp=Z,13nm,0.8s						
MORW	**Morawa**	**60.61**	**247**	P	**P**	**22 27 10.2**	**-0.5**
MORW				IAmb	IAmb	22 27 24.1	
	comp=Z,4.0nm,0.9s						
QSPA	**South Pole Qui**	**69.97**	**180**	P	**P**	**22 28 11.9**	**+2.3**
QSPA				IAmb	IAmb	22 28 12.8	
	comp=Z,4.1nm,0.8s						
MJAR	**Matsushiro Arr**	**70.30**	**323**	P	**P**	**22 28 10.6**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=163,slow=5.7,SNR=4.4						
KKM	**Kota Kinabalu**	**70.32**	**284**	P	**P**	**22 28 12.6**	**-0.1**
UGM	**Wanagama**	**70.66**	**268**	P	**P**	**22 28 14.2**	**-0.4**
BELA	**Belgrano 2**	**79.87**	**173**	P	**P**	**22 29 06.5**	**+1.1**
NVAR	**Mina Array Bea**	**80.26**	**43**	P	**P**	**22 29 09.0**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=231,slow=8.3,SNR=5.6						
NVAR	**Mina Array Bea**	**80.26**	**43**	P	**P**	**22 29 08.6**	**+0.1**
TXAR	**Lajitas Array**	**86.26**	**57**	P	**P**	**22 29 39.8**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=197,slow=5.6,SNR=3.5						

ARE ***28*** *22:19:32±1.9, 9°.99S±0°.08×78°.8W±0°.1, h39km±5km, Error ellipse: s-maj=16.7km s-min=9.3km az=63.0*

NEIC ***28*** *22:19:34.7±1.2, 9°.84S±0°.08×78°.5W±0°.1, h53km±6km, mb5.0/81, ML4.6(ARE), Error ellipse: s-maj=17.8km s-min=9.9km az=65.0*

IDC ***28*** *22:19:36.0±0.8, 9°.96S×78°.64W, h70km±6km, mb4.2/16, mb1 4.4/22, mb1mx4.3/36, mbtmp4.5/22, MS3.9/4, Ms1 3.9/4, ms1mx3.4/34, Error ellipse: s-maj=15.3km s-min=6.5km az=65.0*

VAO ***28*** *22:19:39.7±0.8, 9°.83S×78°.27W, h87km±5km, mb4.7*

ISC 28 22:19:34.9±0.4, 9°91S±0°.04×78°53W±0°.07, h55km, n251, σ1§02/248, mb4.9/71, 2C, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.65**	**141**	P	**Pn**	**22 20 17.2**	**+1.9**
	184nm,0.3s,baz=336,slow=12,SNR=112						
NNA				S	**Sn**	**22 20 48.8**	**+2.5**
	367nm,0.3s,baz=334,slow=19,SNR=8.4						
NNA	**Nana**	**2.65**	**141**	Pn	**Pn**	**22 20 17.1**	**+1.8**
NNA				Sn	**Sn**	**22 20 48.6**	**+2.3**
ATAH	**Atahualpa**	**2.76**	**3**	P	**Pn**	**22 20 20.1**	**+3.0**
	63nm,0.3s,baz=148,slow=2.3,SNR=156						
ATAH				S	**Sn**	**22 20 54.0**	**+4.6**
	174nm,0.3s,baz=62,slow=6.1,SNR=18						
CZSB	**Cruzeiro do Su**	**6.15**	**70**	eP	**Pn**	**22 21 04.9**	**+1.6**
OTAV	**Otavalo**	**10.08**	**0**		**Pn**	**22 21 59.1**	**+1.6**
OTAV	**Otavalo**	**10.08**	**0**	eP	**Pn**	**22 21 59.2**	**+1.6**
PTLC	**Puerto Leguiza**	**10.68**	**21**	eP	Pn	22 21 59.2	-6.1
BBAC	**Balboa, Cauca**	**11.92**	**6**	eP	**Pn**	**22 22 23.8**	**+1.3**
LPAZ	**La Paz**	**11.95**	**123**	P	**Pn**	**22 22 25.2**	**+2.0**
	0.2nm,0.3s,baz=313,slow=8.2,SNR=10						
LPAZ				LR	LR	22 27 26.1	
	comp=Z,506nm,20.9s,baz=287,slow=39						
LPAZ	**La Paz**	**11.95**	**123**		**Pn**	**22 22 24.8**	**+1.6**
LPAZ	**La Paz**	**11.95**	**123**	eP	**Pn**	**22 22 25.5**	**+2.3**
PB16	**IPOC Station P**	**12.11**	**135**		**Pn**	**22 22 24.8**	**-0.6**
SOTA	**Rioblanco**	**12.11**	**9**	eP	**Pn**	**22 22 26.9**	**+1.5**
PCON	**Cinco Dias**	**12.34**	**10**	eP	**Pn**	**22 22 29.5**	**+1.0**
GARC	**Garzon, Huila**	**12.39**	**14**	eP	**Pn**	**22 22 27.8**	**-1.1**
MNMC	**Minye Minye**	**12.60**	**138**	Pn	**Pn**	**22 22 31.0**	**-0.8**
PSGCX	**Pisagua**	**12.60**	**141**	Pn	**Pn**	**22 22 30.9**	**-0.8**
MACC	**Macarena, Meta**	**12.85**	**22**	eP	**Pn**	**22 22 34.2**	**-0.8**
PB08	**IPOC Station P**	**13.61**	**139**		**Pn**	**22 22 44.7**	**-1.0**
YOTC	**Yotoco, Valle**	**13.97**	**9**	eP	**Pn**	**22 22 49.3**	**-1.0**
PB01	**IPOC Station P**	**14.08**	**143**	Pn	**Pn**	**22 22 51.8**	**+0.1**
ORTC	**Ortega, Tolima**	**14.11**	**14**	eP	**Pn**	**22 22 52.8**	**+0.7**
ANIL	**Santa Ana**	**14.64**	**12**	eP	**P**	**22 23 06.1**	**+1.8**
VILC	**Villavicencio,**	**14.74**	**19**	eP	**Pn**	**22 23 01.7**	**+1.3**
TOLC	**Tolima**	**14.75**	**13**	eP	**P**	**22 23 08.6**	**+3.0**
PB09	**IPOC Station P**	**14.81**	**144**		**Pn**	**22 23 02.8**	**+1.4**
PAYG	**Puerto Ayora**	**14.86**	**307**	P	**P**	**22 23 06.1**	**-0.4**
SAML	**Samuel**	**15.17**	**88**		**Pn**	**22 23 04.8**	**-1.1**
SAML	**Samuel**	**15.17**	**88**	eP	**Pn**	**22 23 04.4**	**-1.5**
ROSC	**El Rosal**	**15.24**	**16**	P	**Pn**	**22 23 07.3**	**+0.2**
	1.3nm,0.3s,baz=230,slow=14,SNR=1.7						
ROSC				LR	LR	22 30 10.1	
	comp=Z,662nm,18.6s,baz=216,slow=41						
ROSC	**El Rosal**	**15.24**	**16**		**Pn**	**22 23 07.2**	**+0.1**
GUY2C	**Guyana, Caldas**	**15.36**	**12**	eP	**P**	**22 23 13.6**	**+1.1**
LVC	**Limon Verde**	**15.64**	**145**	P	**P**	**22 23 13.9**	**-1.5**
	0.1nm,0.3s,baz=330,slow=8.1,SNR=3.1						
LVC	**Limon Verde**	**15.64**	**145**		**Pn**	**22 23 13.7**	**+1.5**
LVC	**Limon Verde**	**15.64**	**145**	eP	**P**	**22 23 15.2**	**-0.3**
NORC	**Norcasia**	**15.79**	**14**	eP	**Pn**	**22 23 14.5**	**+0.5**
SPBC	**San Pablo de B**	**16.08**	**16**	eP	**P**	**22 23 22.0**	**+1.8**
RUSC	**La Rusia**	**16.61**	**19**	eP	**P**	**22 23 25.8**	**-0.6**
PTBC	**PUERTO BERRIO,**	**16.83**	**14**	eP	**Pn**	**22 23 26.1**	**-1.0**
BARC	**Barichara**	**17.23**	**18**	eP	**P**	**22 23 34.4**	**+1.3**
GO02	**Mina Guanaco**	**17.39**	**152**	P	**Pn**	**22 23 34.5**	**+0.4**
ZARC	**Zaragoza, Cauc**	**17.67**	**12**	eP	**P**	**22 23 38.6**	**+1.0**
SIV	**San Ignacio**	**18.05**	**111**	P	**Pn**	**22 23 42.7**	**+0.7**
	0.8nm,0.3s,baz=301,slow=11,SNR=46						
PAMC	**Pamplona, Colo**	**18.09**	**19**	eP	**Pn**	**22 23 43.6**	**+0.6**
VILB	**Vilhena**	**18.22**	**101**	eP	**P**	**22 23 43.5**	**-0.2**
OCAC	**Ocana**	**18.76**	**16**	eP	**Pn**	**22 23 50.4**	**-0.4**
MACA	**Manacapuru-AM**	**18.95**	**70**	eP	**P**	**22 23 50.1**	**-1.6**
AC02	**Maricunga**	**19.04**	**153**	P	**P**	**22 23 53.5**	**+0.4**
SMLC	**San Martn de**	**19.11**	**14**	eP	**P**	**22 23 53.5**	**0.0**
GO03	**Copiap**	**19.25**	**157**	P	**Pn**	**22 23 56.8**	**+0.3**
PTLB	**Pontes e Lacer**	**19.70**	**108**	eP	**Pn**	**22 24 01.1**	**-0.7**
SJCC	**San Jacinto, C**	**19.95**	**10**	eP	**Pn**	**22 24 04.1**	**-0.8**
SDV	**Santo Domingo**	**20.26**	**23**	P	**P**	**22 24 06.9**	**+0.7**
	5.6nm,0.7s,baz=212,slow=3.8,SNR=7.2						
SDV	**Santo Domingo**	**20.26**	**23**	P	**P**	**22 24 05.0**	**-1.2**
SDV	**Santo Domingo**	**20.26**	**23**	eP	Pn	22 24 07.8	-0.8
PTGA	**Pitinga**	**20.59**	**65**	P	**P**	**22 24 09.3**	**-0.3**
	19nm,0.7s,baz=250,slow=12,SNR=37						
PTGA	**Pitinga**	**20.59**	**65**	P	**P**	**22 24 08.7**	**-0.9**
PTGA	**Pitinga**	**20.59**	**65**	eP	**P**	**22 24 09.6**	**0.0**
BOAV	**Boa Vista**	**21.70**	**57**	eP	**P**	**22 24 21.7**	**+0.1**
CLDB	**Colider**	**22.38**	**94**	eP	**P**	**22 24 27.9**	**-1.0**
ESPN	**Las Esperanzas**	**22.69**	**345**	P	**P**	**22 24 32.5**	**+0.4**
NPGB	**Novo Progresso**	**23.09**	**85**	eP	**P**	**22 24 34.9**	**-1.4**
ITTB	**Itaituba**	**23.27**	**78**	eP	**P**	**22 24 37.4**	**-0.6**
H03N2	**Juan Fernandez**	**23.42**	**181**	T	T	22 48 39.3	
	baz=0.7,slow=75,SNR=445						
H03N1	**Juan Fernandez**	**23.43**	**181**	T	T	22 48 43.9	
	baz=0.7,slow=75,SNR=339						
H03N3	**Juan Fernandez**	**23.44**	**181**	T	T	22 48 41.9	
	baz=0.7,slow=75,SNR=340						
VA03	**San Esteban**	**23.91**	**163**	P	**P**	**22 24 44.4**	**+0.5**
PP1B	**Ponte de Pedra**	**24.19**	**111**	eP	**P**	**22 24 46.7**	**+0.2**
MT02	**Curacav**	**24.22**	**165**	P	**P**	**22 24 47.7**	**+1.1**
MT02				IAmb	IAmb	22 24 50.5	
	comp=Z,32nm,1.1s						
PCRV	**Puerto La Cruz**	**24.27**	**35**	P	**P**	**22 24 46.9**	**-0.3**
	comp=Z,18nm,0.9s,baz=202,slow=14,SNR=2.3						
PLCV	**Puerto La Cruz**	**24.29**	**35**	P	**P**	**22 24 46.9**	**-0.4**
MALB	**Monte Alegre**	**25.41**	**73**	eP	**P**	**22 24 57.2**	**-0.4**
BO02	**Sierra Bellavi**	**25.77**	**165**	P	**P**	**22 25 01.0**	**+0.3**
CPUP	**Villa Florida**	**25.87**	**132**	P	**P**	**22 25 03.5**	**+1.8**
	comp=Z,7.9nm,0.7s,baz=316,slow=9.9,SNR=23						
CPUP				PcP	**PcP**	**22 28 29.9**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=223,slow=1.9,SNR=3.2						
CPUP				LR	LR	22 37 01.0	
	comp=Z,125nm,19.7s,baz=327,slow=40						
CPUP	**Villa Florida**	**25.87**	**132**	P	**P**	**22 25 04.3**	**+2.6**
CPUP	**Villa Florida**	**25.87**	**132**	eP	**P**	**22 25 01.1**	**-0.6**
ARAG	**Araguaiana, MT**	**26.67**	**105**	eP	**P**	**22 25 08.5**	**-0.5**
SNDB	**Serra Nova Dou**	**26.82**	**97**	eP	**P**	**22 25 09.9**	**-0.4**
MCPB	**Macapa, AP**	**27.99**	**72**	eP	**P**	**22 25 20.2**	**-0.7**
ITQB	**Itaqui**	**28.39**	**137**	eP	**P**	**22 25 24.7**	**+0.5**
PCMB	**Pacaembu**	**28.65**	**117**	eP	**P**	**22 25 27.0**	**+0.3**
PRPB	**Parauapebas**	**28.67**	**85**	eP	**P**	**22 25 25.9**	**-1.0**
ITRB	**Iturama**	**28.88**	**113**	eP	**P**	**22 25 28.6**	**-0.2**
PTGB	**Pitanga**	**29.16**	**124**	eP	**P**	**22 25 31.9**	**+0.6**
PEXB	**Peixe**	**29.75**	**97**	eP	**P**	**22 25 36.2**	**-0.3**
ITAB	**Concordia**	**30.28**	**128**	eP	**P**	**22 25 41.1**	**+0.1**
BDFB	**Brasilia**	**30.28**	**104**	P	**P**	**22 25 40.4**	**-0.9**
	comp=Z,5.4nm,0.8s,baz=252,slow=11,SNR=9.2						
BDFB				PcP	**PcP**	**22 28 40.6**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=166,slow=12,SNR=3.9						
BDFB				LR	LR	22 38 32.6	
	comp=Z,325nm,19.9s,baz=287,slow=37						
BDFB	**Brasilia**	**30.28**	**104**	P	**P**	**22 25 41.0**	**-0.3**
IPMB	**Ipameri, GO**	**30.46**	**109**	eP	**P**	**22 25 42.0**	**-0.9**
SMTB	**Santa Maria do**	**30.54**	**91**	eP	**P**	**22 25 43.4**	**-0.1**
FRTB	**Fartura**	**30.72**	**119**	eP	**P**	**22 25 44.9**	**-0.1**
BB19B	**Bebedouro**	**30.91**	**115**	eP	**P**	**22 25 45.7**	**-1.0**
CUPR	**Culebra, Puert**	**30.93**	**25**	P	**P**	**22 25 44.9**	**-1.9**
CPSB	**Cacapava Do Su**	**31.02**	**135**	eP	**P**	**22 25 47.9**	**+0.4**
TMAB	**Tom-Au,PA,Br**	**31.15**	**78**	eP	**P**	**22 25 48.3**	**-0.5**
PLCA	**Paso Flores**	**31.50**	**168**	P	**P**	**22 25 52.2**	**+0.4**
	comp=Z,2.8nm,1.0s,baz=332,slow=9.6,SNR=3.3						
PLCA				pP	**pP**	**22 26 06.8**	**+1.2**
	comp=Z,2.1nm,0.9s,baz=325,slow=5.8,SNR=2.7						
PLCA				PcP	**PcP**	**22 28 43.5**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=49,slow=11,SNR=4.1						
PLCA	**Paso Flores**	**31.50**	**168**	eP	**P**	**22 25 53.7**	**+2.0**
PLTB	**Pedras Altas**	**31.72**	**137**	eP	**P**	**22 25 54.0**	**+0.3**
SPB	**Sao Paulo**	**32.65**	**119**	P	**P**	**22 26 01.9**	**0.0**
SPB	**Sao Paulo**	**32.65**	**119**	eP	**P**	**22 26 01.9**	**0.0**
VAO	**Valinhos**	**32.86**	**117**	eP	**P**	**22 26 03.1**	**-0.8**
SDBA	**SAO DESIDERIO**	**33.07**	**98**	eP	**P**	**22 26 05.4**	**-0.4**
JANB	**Januaria**	**33.77**	**102**	eP	**P**	**22 26 10.9**	**-1.0**
BSCB	**Bom Sucesso**	**34.28**	**113**	eP	**P**	**22 26 15.4**	**-0.8**
DIAM	**Diamantina, MG**	**34.77**	**108**	eP	**P**	**22 26 19.8**	**-0.8**
ROSB	**Rosrio**	**34.87**	**81**	eP	**P**	**22 26 20.7**	**-0.7**
ESAR	**Angra dos Reis**	**35.09**	**116**	eP	**P**	**22 26 22.8**	**-0.4**
NBPS	**Pedro II - PI**	**37.18**	**84**	eP	**P**	**22 26 40.4**	**-0.9**
NBPN	**Ponto Novo - B**	**37.70**	**95**	eP	**P**	**22 26 44.8**	**-0.8**
NBIT	**Itapeh - BA**	**38.47**	**102**	eP	**P**	**22 26 51.5**	**-0.4**
NBMO	**Morrinhos-CE**	**38.76**	**83**	eP	**P**	**22 26 54.0**	**-0.5**
NBPB	**Pedra_Branca-C**	**38.82**	**87**	eP	**P**	**22 26 54.0**	**-1.0**
NBMA	**Muriti-CE**	**39.38**	**90**	eP	**P**	**22 26 59.3**	**-0.4**
NBTA	**Tacaratu-PE**	**39.90**	**92**	eP	**P**	**22 27 03.2**	**-0.8**
NBLA	**Lagarto - SE**	**40.06**	**95**	eP	**P**	**22 27 03.8**	**-1.4**
NBCL	**Cascavel-CE**	**40.30**	**85**	eP	**P**	**22 27 07.4**	**+0.1**
NBLI	**Livramento-PB**	**41.17**	**90**	eP	**P**	**22 27 14.2**	**-0.3**
NBAN	**Anadia - AL**	**41.62**	**93**	eP	**P**	**22 27 17.5**	**-0.6**
344A	**Westbrook Farm**	**42.75**	**345**	P	**P**	**22 27 26.9**	**-0.1**
344A				IAmb	IAmb	22 27 28.7	
	comp=Z,53nm,1.1s						
HKT	**Hockley**	**42.98**	**338**	P	**P**	**22 27 29.1**	**+0.2**
LRAL	**Lakeview Retre**	**43.46**	**350**	P		22 27 31.5	
	baz=168						
NATX	**Nacogdoches**	**44.21**	**340**	P		22 27 39.7	
	baz=157,SNR=6.5						
NATX	**Nacogdoches**	**44.22**	**340**	P	**P**	**22 27 39.4**	**+0.6**
KMSC	**Kings Mountain**	**44.88**	**357**	P		22 27 43.3	
	baz=176						
Z41A	**Richland Creek**	**45.02**	**343**	P		22 27 45.8	
	baz=160						
WHTX	**Lake Whitney,**	**45.42**	**337**	P		22 27 48.5	
	baz=153						
WLAR	**White Oak Lake**	**45.52**	**343**	P	**P**	**22 27 49.5**	**+0.4**
TX32	**Lajitas Array**	**45.93**	**329**	P	**P**	**22 27 52.3**	**-0.3**
TXAR	**Lajitas Array**	**45.93**	**329**	P	**P**	**22 27 52.3**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=151,slow=9.6,SNR=15						
TXAR				pP	**pP**	**22 28 09.6**	**+2.6**
	comp=Z,1.0nm,0.9s,baz=140,slow=8.0,SNR=4.1						
TXAR	**Lajitas Array**	**45.93**	**329**	P	**P**	**22 27 52.5**	**0.0**
W45A	**Hickory Valley**	**45.94**	**348**	P	**P**	**22 27 51.2**	**-1.2**
X40A	**Basin Creek Fa**	**46.19**	**344**	P		22 27 54.6	
	baz=160						
MIAR	**Mount Ida**	**46.45**	**343**	P		22 27 56.6	
	baz=159						
Z35A	**Perchaven, San**	**46.55**	**338**	P	**P**	**22 27 57.1**	**-0.2**
T58A	**Grand View Acr**	**46.60**	**360**	P		22 27 56.3	
	baz=180						
WVT	**Waverly**	**46.62**	**350**	P		22 27 55.9	
	baz=167						
WVT	**Waverly**	**46.62**	**350**	P	**P**	**22 27 55.6**	**-2.1**
WVT				IAmb	IAmb	22 27 56.5	
	comp=Z,9.5nm,0.8s						
W41B	**Gary Mavity, V**	**46.67**	**345**	P		22 27 58.2	
	baz=161,SNR=9.7						
WHAR	**Wooly Hollow**	**46.80**	**345**	P	**P**	**22 27 58.6**	**-0.5**
WHAR				IAmb	IAmb	22 27 59.9	
	comp=Z,25nm,1.0s						
ABTX	**Abilene, Hawle**	**46.85**	**335**	P		22 28 00.1	
	baz=151,SNR=8.8						
ABTX	**Abilene, Hawle**	**46.85**	**335**	P	**P**	**22 27 59.4**	**-0.3**
ABTX				IAmb	IAmb	22 28 00.8	
	comp=Z,29nm,0.9s						
W39A	**Magazine**	**47.12**	**343**	P		22 28 01.9	
	baz=159,SNR=5.8						
R58B	**Mineral**	**47.62**	**1**	P		22 28 04.9	
	baz=181						
PBMO	**Poplar Bluff**	**47.77**	**347**	P	**P**	**22 28 05.7**	**-1.0**
PBMO				IAmb	IAmb	22 28 06.4	
	comp=Z,13nm,0.7s						
U40A	**Yellville**	**47.95**	**344**	P		22 28 07.9	
	baz=161,SNR=22						
U40A	**Yellville**	**47.95**	**344**	P	**P**	**22 28 07.7**	**-0.4**
WMOK	**Wichita Mounta**	**48.37**	**338**	P		22 28 10.8	
	baz=153,SNR=8.1						
TUL1	**Leonard**	**48.39**	**341**	P		22 28 11.0	
	baz=157,SNR=6.7						
SIUC	**Southern Illin**	**48.42**	**349**	P	**P**	**22 28 10.5**	**-1.1**
SIUC				IAmb	IAmb	22 28 11.2	
	comp=Z,24nm,0.8s						
WCI	**Wyandotte Cave**	**48.43**	**352**	P		22 28 10.0	
	baz=170						
MGMO	**Mountain Grove**	**48.56**	**345**	P	**P**	**22 28 12.1**	**-0.7**
MGMO				IAmb	IAmb	22 28 13.2	
	comp=Z,25nm,1.0s						
MNTX	**Cornudas Mount**	**48.71**	**329**	P	**P**	**22 28 13.5**	**-0.5**
MNTX	**Cornudas Mount**	**48.71**	**329**	P		22 28 13.8	
	baz=144,SNR=7.8						
FVM	**French Village**	**48.92**	**348**	P	**P**	**22 28 14.7**	**-0.8**
FVM				IAmb	IAmb	22 28 15.9	
	comp=Z,20nm,1.1s						
CCM	**Cathedral Cave**	**49.17**	**347**	P		22 28 16.3	
	baz=163						
CCM	**Cathedral Cave**	**49.17**	**347**	P	**P**	**22 28 16.6**	**-0.9**
CCM				IAmb	IAmb	22 28 18.3	
	comp=Z,9.4nm,0.8s						
S39A	**Bolivar**	**49.33**	**345**	P	**P**	**22 28 17.9**	**-0.8**
S39A				IAmb	IAmb	22 28 18.9	
	comp=Z,21nm,0.8s						
MSTX	**Muleshoe**	**49.34**	**333**	P		22 28 18.7	
	baz=148,SNR=7.0						
P49A	**Miami Univ. Ec**	**49.52**	**354**	P		22 28 18.3	
	baz=172						
R40A	**Maddies Statio**	**49.63**	**346**	P	**P**	**22 28 19.8**	**-1.1**
R40A				IAmb	IAmb	22 28 20.8	
	comp=Z,26nm,0.8s						
AMTX	**Amarillo**	**49.65**	**335**	P		22 28 20.8	
	baz=150						
AMTX	**Amarillo**	**49.65**	**335**	P	**P**	**22 28 20.5**	**-0.8**
AMTX				IAmb	IAmb	22 28 21.6	
	comp=Z,10nm,0.9s						
ACSO	**Alum Creek Sta**	**50.05**	**356**	P		22 28 22.3	
	baz=174						
P43A	**Skaggs, Pawnee**	**50.34**	**349**	P	**P**	**22 28 25.1**	**-1.3**
121A	**Cookes Peak, D**	**50.60**	**328**	P		22 28 29.8	
	baz=142						
N59A	**State Game Lan**	**50.63**	**3**	P	**P**	**22 28 28.0**	**-0.5**
SFIN	**Lafayette**	**50.66**	**352**	P		22 28 26.6	
	baz=169,SNR=9.5						
P40A	**Paris**	**50.76**	**347**	P	**P**	**22 28 28.2**	**-1.3**
P40A				IAmb	IAmb	22 28 29.2	
	comp=Z,14nm,0.9s						
HDIL	**Hopedale**	**51.19**	**349**	P		22 28 31.2	
	baz=166,SNR=7.6						
ANMO	**Albuquerque**	**51.85**	**331**	P		22 28

baz=187,SNR=5.2
D60A Saint Jean D'O 56.97 6 P 22 29 14.9
baz=189
F36A Milaca 57.12 348 P **P** **22 29 14.8 -1.0**
F36A IAmb IAmb 22 29 15.3
comp=Z,18nm,0.9s
LATQ La Tuque 57.26 5 P 22 29 16.3
baz=187,SNR=5.5
D62A Allapoint, All 57.36 8 P 22 29 17.8
baz=191
D62A Allapoint, All 57.36 8 P **P** **22 29 17.5 +0.1**
D62A IAmb IAmb 22 29 18.6
comp=Z,24nm,1.0s
D63A Stockholm 57.45 8 P 22 29 18.5
baz=192
MSU Marysvale 57.49 329 P **P** **22 29 18.8 -0.1**
GSC Goldstone, Bar 57.70 323 P 22 29 20.9
baz=134
VLDQ Val d'Or 57.77 1 P **P** **22 29 19.6 -0.7**
VLDQ IAmb IAmb 22 29 19.7
comp=Z,15nm,1.0s
BATG Bathurst New B 58.00 10 P **P** **22 29 21.2 -0.7**
TPNV Topopah Spring 58.53 325 P 22 29 26.5
baz=135
RSSD Black Hills 58.54 339 P 22 29 26.2
baz=150
RSSD Black Hills 58.54 339 P **P** **22 29 25.9 -0.2**
RSSD IAmb IAmb 22 29 26.7
comp=Z,16nm,1.4s
MPMC Manual Prospec 58.62 323 P 22 29 26.9
baz=134
EYMN Ely 58.73 350 P 22 29 25.4
baz=165
DUG Dugway, Tooele 59.09 330 P 22 29 30.5
baz=140,SNR=6.4
R11A Troy Canyon, C 59.16 327 P **P** **22 29 30.6 +0.2**
R11A Troy Canyon, C 59.16 327 P 22 29 31.1
baz=136
MATQ Matagami 59.41 1 P 22 29 30.0
baz=181,SNR=6.0
HWUT Hardware Ranch 59.58 332 P **P** **22 29 32.7 -0.6**
HWUT IAmb IAmb 22 29 33.8
comp=Z,17nm,1.1s
PDAR Pinedale Array 59.60 334 P **P** **22 29 32.4 -1.0**
comp=Z,3.0nm,0.9s,baz=147,slow=8.7,SNR=14
PDAR PcP **PcP** **22 30 18.2 -2.0**
comp=Z,0.7nm,0.6s,baz=140,slow=5.7,SNR=4.0
PDAR Pinedale Array 59.60 334 P **P** **22 29 32.2 -1.2**
AGMN Agassiz Nation 59.95 347 P 22 29 34.6
baz=160,SNR=5.2
NVAR Mina Array Bea 60.73 325 P **P** **22 29 41.8 +0.6**
comp=Z,3.9nm,0.9s,baz=138,slow=6.8,SNR=17
NVAR pP **pP** **22 29 57.8 +1.6**
comp=Z,1.1nm,0.7s,baz=158,slow=7.5,SNR=3.4
DRLN Deer Lake 61.74 15 P **P** **22 29 47.3 -0.3**
ULM Lac du Bonnet 61.79 347 P **P** **22 29 46.4 -1.5**
comp=Z,12nm,0.7s,baz=160,slow=6.4,SNR=27
ULM Lac du Bonnet 61.79 347 P **P** **22 29 46.1 -1.8**
ULM IAmb IAmb 22 29 47.4
comp=Z,21nm,1.0s
HLID Hailey 62.42 331 P 22 29 52.7
baz=139
MSO Missoula 64.72 334 P 22 30 08.1
baz=141
MSO Missoula 64.72 334 P **P** **22 30 07.2 -0.2**
M04C Macdoel 64.99 326 P 22 30 08.9
baz=132
FFC Flin Flon 67.35 346 P **P** **22 30 23.2 -0.8**
FFC IAmb IAmb 22 31 58.4
comp=Z,28nm,2.0s
FCC Fort Churchill 69.59 351 P **P** **22 30 36.9 -1.0**
FCC IAmb IAmb 22 30 37.8
comp=Z,22nm,1.1s
BELA Belgrano 2 71.51 171 P **P** **22 30 49.8 +0.3**
VNA3 Neumayer Olymp 73.94 162 P **P** **22 31 04.2 +0.2**
VNA1 Neumayer--Stat 74.22 161 P **P** **22 31 06.8 +1.2**
VNA2 Neumayer--Watz 74.56 161 P **P** **22 31 08.1 +0.5**
LIC Lamto 74.94 81 *e*PKP1 **P** **22 31 11.2 +0.3**
comp=Z,108nm,2.0s
TIC Toumodi 75.04 80 *e*PKP1 **P** **22 31 11.7 +0.2**
DBIC Dimbokro 75.20 80 P **P** **22 31 12.7 +0.3**
comp=Z,14nm,0.8s,baz=230,slow=4.9,SNR=17
DBIC Dimbokro 75.20 80 P **P** **22 31 12.2 -0.2**
DBIC IAmb IAmb 22 31 13.6
comp=Z,18nm,0.9s
KIC Kosan Boka 75.25 81 *e*PKP1 **P** **22 31 12.3 -0.4**
comp=Z,42nm,0.8s
SNAA Sanae 76.16 162 P **P** **22 31 17.2 +0.3**
SNAA Sanae 76.16 162 P **P** **22 31 16.8 -0.1**
SNAA IAmb IAmb 22 31 24.2
comp=Z,28nm,1.9s
YKA Yellowknife Ar 77.39 344 P **P** **22 31 22.4 -1.3**
comp=Z,2.8nm,0.7s,baz=139,slow=6.3,SNR=50
KOWA Kowa 77.74 73 P **P** **22 31 26.7 0.0**
KOWA IAmb IAmb 22 31 27.9
comp=Z,20nm,0.9s
QSPA South Pole Qui 80.21 180 P **P** **22 31 39.9 +0.5**
MORF Marmelete 80.38 49 *e*P **P** **22 31 42.1 +1.3**
comp=Z,67nm,1.2s
MORF Marmelete 80.38 49 *e*P **P** **22 31 42.2 +1.4**
MORF comp=Z,67nm,1.2s A A 22 31 43.3
comp=Z,67nm,1.2s
PNCL Nicolau / Gran 80.75 49 *e*P **P** **22 31 43.9 +1.2**
comp=Z,34nm,1.5s
PCVE Castro Verde 80.95 49 *e*P **P** **22 31 45.1 +1.4**
comp=Z,31nm,1.0s
PVAQ Vaqueiros 81.11 50 *e*P **P** **22 31 46.0 +1.4**
comp=Z,35nm,1.6s
PBEJ Beja 81.21 49 *e*P **P** **22 31 46.8 +1.7**
comp=Z,7.6nm,1.9s
PMTG Montargil 81.30 48 *e*P **P** **22 31 46.3 +0.7**
comp=Z,26nm,2.1s
PCAS Casmilo, Conde 81.45 47 *e*P **P** **22 31 47.3 +0.9**
comp=Z,25nm,1.5s
COI Coimbra 81.56 47 *e*P **P** **22 31 48.1 +1.2**
comp=Z,36nm,2.3s
PESTR Estremoz 81.70 48 *e*P **P** **22 31 49.5 +1.8**
comp=Z,33nm,1.7s
PESTR Estremoz 81.70 48 *e*P **P** **22 31 49.6 +1.8**
comp=Z,33nm,1.7s
PESTR A A 22 31 53.9
comp=Z,20nm,1.9s
PTO Porto 81.76 46 *e*P **P** **22 31 48.2 +0.3**
comp=Z,34nm,1.9s
PBAR Barrancos 81.88 49 *e*P **P** **22 31 49.2 +0.6**
comp=Z,16nm,1.6s
PVIS Viseu 82.11 46 *e*P **P** **22 31 50.1 +0.2**
comp=Z,33nm,1.1s
PVIS Viseu 82.11 46 *e*P **P** **22 31 50.2 +0.3**
comp=Z,33nm,1.1s
PVIS A A 22 32 00.4
comp=Z,20nm,1.8s
PCBR Castelo Branco 82.11 47 *e*P **P** **22 31 50.3 +0.5**
comp=Z,16nm,1.7s
MTE Manteigas 82.25 47 *e*P **P** **22 31 51.1 +0.4**
comp=Z,22nm,1.2s
MTE Manteigas 82.25 47 P **P** **22 31 50.3 -0.3**
MTE IAmb IAmb 22 33 39.5
comp=Z,38nm,1.5s
PCAB Cabril 82.36 45 *e*P **P** **22 31 51.8 +0.6**
comp=Z,28nm,2.1s
POLO Lamas de Olo 82.41 46 *e*P **P** **22 31 52.0 +0.5**
comp=Z,12nm,2.1s
PVRL Vila Real 82.43 46 *e*P **P** **22 31 50.7 -0.8**
comp=Z,19nm,1.9s
TOA0 Torodi Ar. Sit 82.86 75 P **P** **22 31 53.7 -0.6**
TOA0 IAmb IAmb 22 31 55.4
comp=Z,12nm,1.0s
TORD Torodi Ar. Bea 82.86 75 P **P** **22 31 53.9 -0.4**
comp=Z,10nm,0.9s,baz=269,slow=4.6,SNR=34
TORD Torodi Ar. Bea 82.86 75 P **P** **22 31 53.6 -0.6**
TORD IAmb IAmb 22 31 55.4
comp=Z,11nm,1.0s
MVO Moncorvo 82.88 46 *e*P **P** **22 31 54.5 +0.6**
comp=Z,24nm,1.8s
MVO Moncorvo 82.88 46 *e*P **P** **22 31 54.6 +0.6**
comp=Z,24nm,1.8s
PBRG Bragança 83.30 46 *e*P **P** **22 31 56.3 +0.3**
comp=Z,24nm,1.6s
PAB San Pablo 84.30 48 P **P** **22 32 01.5 +0.3**
PAB IAmb IAmb 22 32 03.2
comp=Z,11nm,0.9s
ESDC Sonseca Array 84.62 48 P **P** **22 32 03.0 +0.2**
comp=Z,3.9nm,0.6s,baz=259,slow=5.5,SNR=49
ESDC Sonseca Array 84.62 48 P **P** **22 32 03.0 +0.2**
ESDC IAmb IAmb 22 32 04.8
comp=Z,29nm,1.4s
ESBB Sonseca Array 84.63 48 P **P** **22 32 02.8 -0.1**
ESBB IAmb IAmb 22 32 04.4
comp=Z,5.7nm,0.8s
SUMG Summit 86.32 11 P **P** **22 32 10.6 -0.4**
TULEG Thule 86.48 2 P **P** **22 32 11.0 -0.2**
INK Inuvik 87.05 342 P **P** **22 32 13.1 -1.0**
comp=Z,6.9nm,1.0s,baz=103,slow=5.9,SNR=17
BCAR Beaver Creek A 87.15 336 P **P** **22 32 14.2 -0.6**
L27K Beaver Creek, 87.16 336 P 22 32 14.5
baz=118
L27K Beaver Creek, 87.16 336 P **P** **22 32 14.3 -0.6**
L27K IAmb IAmb 22 32 15.2
comp=Z,6.6nm,0.8s
K27K Chicken 87.72 337 P 22 32 17.1
baz=118
EGAK Eagle 87.73 338 P 22 32 16.7
baz=119
EGAK Eagle 87.73 338 P **P** **22 32 16.8 -0.7**
EGAK IAmb IAmb 22 32 17.4
comp=Z,8.7nm,0.9s
SCRK Sand Creek 88.44 336 P 22 32 20.1
baz=116
PAX Paxson 88.61 335 P 22 32 20.3
baz=115
SCO Scoresbysund 88.77 16 P **P** **22 32 21.8 -0.5**
WAT6 Susitna Watana 89.40 334 P 22 32 24.5
baz=113
ILAR Eielson Array 89.92 337 P **P** **22 32 26.4 -1.4**
comp=Z,2.1nm,0.9s,baz=157,slow=3.9,SNR=13
ILAR Eielson Array 89.92 337 P **P** **22 32 27.0 -0.8**
BMAR Burnt Mountain 90.19 339 P **P** **22 32 28.6 -0.5**
SYO Syowa Base 90.45 161⇑*e*pP pP 22 32 44.0 -2.1
SYO Syowa Base 90.45 161⇑*e*sP sP 22 32 51.0 -1.1
MDM Murphy Dome 90.53 336 P **P** **22 32 29.7 -0.9**
MDM IAmb IAmb 22 32 30.5
comp=Z,14nm,1.1s
NEA2 Nenana 90.72 336 P 22 32 30.3
baz=112
SKT Skwentna 90.84 333 P 22 32 30.5
baz=110
I23K Minto, Yukon-K 91.04 336 P 22 32 31.9
baz=111
BPAW Bear Paw Mtn. 91.33 335 P 22 32 32.9
baz=110
MLY Manley 91.55 336 P 22 32 34.0
baz=110
VYHS Vyhne 102.22 42 *e*PDIFF **Pdif** **22 33 25.1 +1.0**
KOLS Kolonicke sedl 104.49 42 *e*PDIFF **Pdif** **22 33 35.7 +1.5**
H11N3 WAKE ISLAND Hyl 16.30 287 T T 00 44 47.8
baz=92,slow=74,SNR=6.1
H11N2 WAKE ISLAND Hyl 16.32 287 T T 00 44 57.7
baz=92,slow=74,SNR=6.9
H11N1 WAKE ISLAND Hyl 16.32 287 T T 00 44 48.6
baz=92,slow=74,SNR=17
H11S2 WAKE ISLAND Hyl 16.46 286 T T 00 45 00.6
baz=93,slow=75,SNR=11
H11S1 WAKE ISLAND Hyl 16.47 286 T T 00 45 02.1
baz=93,slow=75,SNR=5.2
H11S3 WAKE ISLAND Hyl 16.48 286 T T 00 45 02.9
baz=93,slow=75,SNR=6.8
ARU Arti 122.89 27 PKP **PKPdf** **22 38 23.9 -0.9**
comp=Z,0.8nm,0.6s,baz=300,slow=6.5,SNR=4.2
RAYN Ar Rayn 125.03 68 **PKPdf** **22 38 30.0 +0.1**
AKTO Aktyubinsk 126.07 33 PKP **PKPdf** **22 38 30.7 -0.4**
comp=Z,2.6nm,0.8s,baz=296,slow=3.2,SNR=10
ABKAR Akbulak array 127.77 33 **PKPdf** **22 38 34.6 +0.3**
ABKAR Akbulak array 127.77 33 PKPdf **PKPdf** **22 38 34.5 +0.1**
BRVK Borovoye 130.17 24 PKPdf **PKPdf** **22 38 38.8 0.0**
BVAR Borovoye Array 130.24 24 PKP **PKPdf** **22 38 38.4 -0.6**
comp=Z,1.6nm,0.8s,baz=177,slow=11,SNR=13
ZAA0 Zalesovo Array 134.09 14 PKPdf **PKPdf** **22 38 45.1 -1.1**
ZALV Zalesovo Beam 134.09 14 PKP **PKPdf** **22 38 45.5 -0.7**
comp=Z,2.2nm,0.6s,baz=246,slow=3.0,SNR=16
KURBB Kurchatov Arra 135.21 21 PKP **PKPdf** **22 38 48.2 -0.1**
comp=Z,3.2nm,0.7s,baz=323,slow=2.3,SNR=28
WMQ Urumqi 144.15 17 *e*PKP **PKPdf** **22 39 04.3 -0.6**
NJ2 Nanjing 152.71 326 *e*PKPbc **PKPdf** **22 39 19.5 +0.4**

IDC ***28*** *22:25:36.2± 1.9, 43.°96N× 83.°56E, h0km, mb3.8/3, mb1 3.6/8, mb1mx3.3/59, mbtmp3.5/8, ML2.8/5, Error ellipse: s-maj=24.4km s-min=17.1km az=102.0*
SOME ***28*** *22:25:37.2, 43.°88N× 83.°70E, h10km*
NNC ***28*** *22:25:38.6± 1.5, 43.°91N× 83.°60E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=13.5km s-min=5.1km az=131.0*
ISC 28 22:25:34.8± 1.2, 43.°80N± 0.°06× 83.°71E± 0.°06, h10km, n44, σ 1° 83/66, mb3.8/3, 9C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.46**	**263**	*e*P		**Pg**	**22 26 22.2**	**+0.2**
	47nm,0.3s							
KTMS				*e*S		**Sg**	**22 26 54.8**	**+0.8**
	156nm,0.2s							
KTMS	**Ketmen**	**2.46**	**263**	Pg		**Pg**	**22 26 22.2**	**+0.2**
	47nm,0.3s							
KTMS				Lg		Lg	22 26 54.7	
	156nm,0.2s							
DJR	**Jarkent**	**2.88**	**282**	*e*P		**Pg**	**22 26 30.3**	**+0.5**
	19nm,0.4s							
DJR				*e*S		**Sg**	**22 27 08.9**	**+1.8**
	77nm,0.3s							
DJR	**Jarkent**	**2.88**	**282**	Pg		**Pg**	**22 26 30.3**	**+0.5**
	19nm,0.4s							
DJR				Lg		Lg	22 27 08.9	
	77nm,0.3s							
MK31	**Makanchi Array**	**3.16**	**342**	⇓Pn		**Pn**	**22 26 27.4**	**+2.8**
	0.6nm,0.2s,baz=157,slow=12,SNR=489							
MK31				⇓Pg		**Pg**	**22 26 34.7**	**-0.6**
	6.3nm,0.4s,baz=161,slow=16,SNR=29							
MK31				Lg		Lg	22 27 15.0	
	54nm,0.4s,baz=156,slow=28,SNR=8.8							
MKAR	**Makanchi Array**	**3.16**	**342**	Pn		**Pn**	**22 26 27.4**	**+2.9**
	1.2nm,0.3s,baz=160,slow=14,SNR=156							
MKAR				Pg		**Pg**	**22 26 34.1**	**-1.1**
	6.2nm,0.3s,baz=150,slow=18,SNR=29							
MKAR				Lg		Lg	22 27 10.7	
	48nm,0.3s,baz=159,slow=29,SNR=20							
SHLS	**Shalkode**	**3.16**	**260**	*e*P		**Pb**	**22 26 29.6**	**-1.4**
	46nm,0.3s							
SHLS				*e*S		**Sb**	**22 27 07.6**	**-2.1**
	391nm,0.4s							
SHLS	**Shalkode**	**3.16**	**260**	Pg		**Pb**	**22 26 29.6**	**-1.4**
	46nm,0.3s							
SHLS				Lg		Lg	22 27 07.6	
	391nm,0.4s							
MAKZ	**Makanchi**	**3.25**	**338**	⇑Pn		**Pn**	**22 26 28.5**	**+2.7**
	1.5nm,0.5s							
MAKZ				⇑Pg		**Pg**	**22 26 36.0**	**-1.0**
	5.6nm,0.4s							
MAKZ				⇑Lg		Lg	22 27 17.7	
	22nm,0.3s							
KPKS	**Kokpek**	**3.66**	**267**	*e*P		**Pg**	**22 26 44.0**	**-1.0**
	11nm,0.1s							
KPKS				*e*S		**Sg**	**22 27 31.9**	**-0.6**
	109nm,0.3s							
ZSN	**Zaisan**	**3.74**	**12**	*e*P		**Pg**	**22 26 45.0**	**-1.4**
	33nm,0.4s							
ZSN				*e*S		**Sg**	**22 27 34.4**	**-0.5**
	99nm,0.6s							
ZSN	**Zaisan**	**3.74**	**12**	Pg		**Pg**	**22 26 45.1**	**-1.4**
	33nm,0.4s							
ZSN				Lg		Lg	22 27 34.3	
	99nm,0.6s							
ZHN	**Zhinishke**	**3.89**	**262**	*e*P		**Pg**	**22 26 47.7**	**-1.6**
	124nm,0.2s							
ZHN				*e*S		**Sg**	**22 27 38.6**	**-1.1**
	16nm,0.2s							
ZHN	**Zhinishke**	**3.89**	**262**	Pg		**Pg**	**22 26 47.7**	**-1.6**
	124nm,0.2s							
ZHN				Lg		Lg	22 27 38.6	
	16nm,0.2s							
SATY	**Saty**	**3.93**	**261**	*e*P		**Pg**	**22 26 48.2**	**-2.0**
	6.1nm,0.1s							
SATY				*e*S		**Sg**	**22 27 39.8**	**-1.3**
	43nm,0.3s							
SATY	**Saty**	**3.93**	**261**	Pg		**Pg**	**22 26 48.2**	**-2.0**
	6.1nm,0.1s							
SATY				Lg		Lg	22 27 39.7	
	43nm,0.3s							
TDK	**Taldyqorghan**	**3.99**	**289**	*e*P		**Pg**	**22 26 51.4**	**+0.3**
	29nm,0.3s							
TDK				*e*S		**Sg**	**22 27 45.3**	**+2.5**
	175nm,0.4s							
TDK	**Taldyqorghan**	**3.99**	**289**	Pg		**Pg**	**22 26 51.4**	**+0.3**
	29nm,0.3s							
TDK				Lg		Lg	22 27 45.3	
	175nm,0.4s							
ARXS	**Arharly**	**4.26**	**278**	*e*P		**Pg**	**22 26 55.2**	**-1.3**
	19nm,0.4s							
ARXS				*e*S		**Sg**	**22 27 51.3**	**-0.4**
	50nm,0.3s							
CHKK	**Chushkaly**	**4.86**	**273**	*e*P		**Pg**	**22 27 06.3**	**-1.7**
	3.0nm,0.5s							
CHKK				*e*S		**Sg**	**22 28 10.5**	**-0.5**
	40nm,0.2s							
MDOK	**Medeo**	**4.89**	**265**	*e*P		**Pg**	**22 27 07.7**	**-0.8**
	3.8nm,0.4s							
MDOK				*e*S		**Sg**	**22 28 12.8**	**+1.0**
	21nm,0.7s							
MDOK	**Medeo**	**4.89**	**265**	⇑Pn		Pn	22 26 52.8	+4.3
	3.2nm,0.6s							
MDOK				⇑Pg		**Pg**	**22 27 09.6**	**+1.1**
	5.7nm,0.5s							
MDOK				⇓Lg		Lg	22 28 11.6	
	23nm,0.6s							
MDOK	**Medeo**	**4.89**	**265**	Pg		**Pg**	**22 27 07.7**	**-0.8**
	3.8nm,0.4s							
MDOK				Lg		Lg	22 28 12.8	
	21nm,0.7s							
TNSS	**Tian-Shan**	**4.99**	**264**	*e*P		**Pg**	**22 27 09.2**	**-1.1**
	4.1nm,0.2s							
TNSS				*e*S		**Sg**	**22 28 15.3**	**+0.4**
	8.4nm,0.3s							
TNSS	**Tian-Shan**	**4.99**	**264**	Pg		**Pb**	**22 27 05.7**	**+3.4**
	3.1nm,0.3s							
TNSS				Lg		Lg	22 28 10.1	
	8.4nm,0.3s							
KTBS	**Karatobe**	**5.09**	**271**	*e*P		**Pg**	**22 27 10.0**	**-2.3**
	3.3nm,0.5s							
KTBS				*e*S		**Sg**	**22 28 16.6**	**-1.7**
	30nm,0.7s							
KTBS	**Karatobe**	**5.09**	**271**	Pg		**Pg**	**22 27 10.0**	**-2.3**
	3.3nm,0.5s							
KTBS				Lg		Lg	22 28 16.6	
	30nm,0.7s							
IZV	**Izvestkoviy**	**5.23**	**264**	*e*P		**Pg**	**22 27 14.9**	**0.0**
	4.3nm,0.3s							
IZV				*e*S		**Sg**	**22 28 25.3**	**+2.8**
	28nm,0.4s							
IZV	**Izvestkoviy**	**5.23**	**264**	Pg		**Pg**	**22 27 14.9**	**0.0**
	4.3nm,0.3s							
IZV				Lg		Lg	22 28 25.3	
	28nm,0.4s							
KUU	**Kurty**	**5.33**	**274**	*e*P		**Pg**	**22 27 15.7**	**-1.2**
	3.1nm,0.5s							
KUU				*e*S		**Sg**	**22 28 26.1**	**+0.2**
	34nm,0.5s							
KUU	**Kurty**	**5.33**	**274**	Pg		**Pg**	**22 27 13.0**	**-3.9**
	1.8nm,0.3s							
KUU				Lg		Lg	22 28 21.8	
	34nm,0.5s							
KRBS	**Karabastau**	**5.82**	**272**	*e*P		**Pg**	**22 27 24.7**	**-1.6**
	1.5nm,0.3s							
KRBS				*e*S		**Sg**	**22 28 41.7**	**+0.1**
	10nm,0.5s							
KRBS	**Karabastau**	**5.82**	**272**	Pg		**Pg**	**22 27 24.7**	**-1.6**
	1.5nm,0.3s							
KRBS				Lg		Lg	22 28 41.7	
	10nm,0.5s							
TKM2	**Tokmak 2**	**5.98**	**264**	⇑Pg		**Pg**	**22 27 27.6**	**-1.7**
	4.5nm,0.8s							
TKM2				⇓Lg		Lg	22 28 46.1	
	11nm,0.5s							
AAK	**Ala-Archa**	**6.83**	**263**	Pn		Pn	22 27 19.8	+4.6
	0.1nm,0.3s,baz=122,slow=22,SNR=1.8							
AAK				Pg		**Pg**	**22 27 42.3**	**-3.3**
	0.3nm,0.3s,baz=72,slow=7.4,SNR=6.3							
AAK				Lg		Lg	22 29 11.3	
	0.4nm,0.3s,baz=26,slow=21,SNR=1.7							
AAK	**Ala-Archa**	**6.83**	**263**	⇓Pg		**Pg**	**22 27 43.2**	**-2.4**
	1.9nm,0.6s							
AAK				⇑Lg		Lg	22 29 15.0	
	12nm,0.9s							
KURBB	**Kurchatov Arra**	**7.68**	**335**	Pn		**Pn**	**22 27 27.7**	**+1.1**
	0.1nm,0.3s,baz=144,slow=13,SNR=5.3							
KURBB				Sn		**Sn**	**22 28 53.6**	**0.0**
	0.2nm,0.3s,baz=154,slow=20,SNR=2.8							
KURBB				Lg		Lg	22 29 32.0	
	0.3nm,0.3s,baz=150,slow=30,SNR=5.7							
KURBB	**Kurchatov Arra**	**7.68**	**335**	⇑Pn		**Pn**	**22 27 27.5**	**+0.9**
	0.7nm,0.4s							
KURBB				⇑Sn		**Sn**	**22 28 52.6**	**-1.1**
	6.0nm,0.6s							
KURBB				⇓Lg		Lg	22 29 41.1	
	52nm,0.7s							
ZALV	**Zalesovo Beam**	**10.18**	**4**	Pn		**Pn**	**22 28 00.3**	**-0.6**
	0.2nm,0.3s,baz=186,slow=13,SNR=3.0							
ZALV				Sn		**Sn**	**22 29 51.5**	**-3.6**
	1.0nm,0.3s,baz=186,slow=27,SNR=10							
ZALV				Lg		Lg	22 30 53.9	
	baz=187,slow=27,SNR=2.2							
BVAR	**Borovoye Array**	**12.77**	**321**	Sn		**Sn**	**22 30 52.3**	**-6.1**
	0.1nm,0.3s,baz=136,slow=23,SNR=1.2							
SONM	**Songino Array**	**16.30**	**68**	Pn		**P**	**22 29 27.6**	**+0.8**
	0.1nm,0.3s,baz=268,slow=12,SNR=10							
FINES	**FINESS Array B**	**37.71**	**318**	P		**P**	**22 32 51.8**	**+1.7**
	1.6nm,0.9s,baz=81,slow=8.7,SNR=3.4							
ARCES	**ARCESS Array B**	**38.76**	**331**	P		**P**	**22 33 00.4**	**+1.6**
	3.4nm,1.0s,baz=94,slow=7.5,SNR=7.8							
NOA	**NORSAR Array B**	**44.89**	**319**	P		**P**	**22 33 50.2**	**+1.1**
	0.2nm,0.4s,baz=77,slow=7.8,SNR=1.6							

BJI ***28*** *22:28:43.1± 0.0, 0.°27S× 122.°52E, h110km, mB5.7/61, mb5.8/87*
NEIC ***28*** *22:28:50.8, 0.°40N× 121.°99E, h118km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 7.46; Mθθ -5.21; Mφφ -2.25; Mrθ -5.66; Mθφ -0.89; Mφr 0.27; Fault plane solution: M0 8.76000×10^17 NP1: ϕs 262.51000°, δ 65.62000°, λ 94.19000°. NP2: ϕs 72.44000°, δ 24.72000°, λ 80.83000°. Principal axes: T 9.6191, Plg 69.0000°, Azm 181.0000°; N -2.0869, Plg 4.0000°, Azm 81.0000°; P -7.5322, Plg 21.0000°, Azm 349.0000°;*
NEIC ***28*** *22:28:50.8± 1.8, 0.°40N± 0.°06× 121.°99E± 0.°05, h118km± 1km, mb5.9/228, Mwb5.9/57, Mww5.9, Mwc5.9(GCMT) Error ellipse: s-maj=10.6km s-min=8.1km az=222.0*
GCMT ***28*** *22:28:51.8± 0.1, 0.°43N× 122.°00E, h131km, MW5.9/170, Moment Tensor Solution. s163,c374; s170,c535; Duration: 2s2 Moment tensor: Scale 10^18 Nm; Mrr 0.71±.01; Mθθ -0.64±.01; Mφφ -0.06±.01; Mrθ -0.61±.01; Mθφ -0.26±.01; Mφr 0.02±.01; Best double couple: M0 0.94700×10^18 NP1: ϕs 55.00000°, δ 28.00000°, λ 65.00000°. NP2: ϕs 263.00000°, δ 65.00000°, λ 103.00000°. Principal axes: T 0.9550, Plg 67.0000°, Azm 197.0000°; N -0.0170, Plg 11.0000°, Azm 78.0000°; P -0.9380, Plg 19.0000°, Azm 344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
IDC ***28*** *22:28:51.6± 0.3, 0.°33N× 121.°97E, h126km± 2km, mb5.2/49, mb1 5.2/55, mb1mx5.2/57, mbtmp5.6/55, MS4.8/27, Ms1 4.8/27, ms1mx4.6/40 Error ellipse: s-maj=8.1km s-min=5.3km az=73.0*
DJA ***28*** *22:28:52.2± 0.1, 0.°N± 2.°× 12.°2E± °, h111km± 2km, M5.8/47, mb6.0/47, mB6.2/47, MLv6.2/22, Mw(mB)5.8/47, MwMwp5.6/33, Mwp5.7/33*
MOS ***28*** *22:28:52.0± 1.0, 0.°40N× 121.°99E, h139km, mb5.7/51, MS4.9/9, Error ellipse: s-maj=6.5km s-min=3.7km az=110.0*
NEIC ***28*** *22:28:52, 0.°45N× 122.°04E, h129km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 7.25; Mθθ -6.21; Mφφ -1.04; Mrθ -6.02; Mθφ -2.66; Mφr 0.29; Fault plane solution: M0 9.46000×10^17 NP1: ϕs 53.00000°, δ 28.00000°, λ 64.00000°. NP2: ϕs 263.00000°, δ 65.00000°, λ 103.00000°. Principal axes: T 9.6924, Plg 67.0000°, Azm 198.0000°; N -0.4820, Plg 12.0000°, Azm 77.0000°; P -9.2105, Plg 19.0000°, Azm 343.0000°;*
KLM ***28*** *22:28:52, 0.°36N× 122.°14E, h127km, mb6.0*
NEIC ***28*** *22:28:52, 0.°40N× 122.°10E, h130km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 6.74; Mθθ -5.35; Mφφ -1.39; Mrθ -6.48; Mθφ -2.34; Mφr 0.64; Fault plane solution: M0 9.26000×10^17 NP1: ϕs 51.00000°, δ 26.00000°, λ 59.00000°. NP2: ϕs 265.00000°, δ 68.00000°, λ 104.00000°. Principal axes: T 9.7624, Plg 64.0000°,*

Azm199.0000°; N -1.1001, Plg13.0000°, Azm79.0000°; P -8.6623, Plg21.0000°, Azm344.0000°;

ISC 28 22:28:51.8±0.2,**0°37N**±0°02×**122°00E**±0°03,**h129**km±1km,
h129km:**pP-P,n1298,**σ1§62/1716,**mb5.8**/265,**76C-29D,**
Fault plane solution: NP1:φ≈272.08765°,δ54.21695°,λ84.96925°. **NP2:**φ≈100.64922°,δ36.08815°,λ96.93659°.
Principal axes: T Plg80.0236°, Azm161.1154°; N Plg4.0793°, Azm275.0342°; P Plg9.0887°, Azm5.6879°;
Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MRSI	**Marisa**	**0.12**	**330**	P		**Pn**	**22 29 07.3**	**-2.0**
MRSI				S		**Sn**	**22 29 18.9**	**-3.7**
GTOI	**Gorontalo**	**1.04**	**76**	P		**Pn**	**22 29 13.9**	**-1.1**
GTOI				S		**Sn**	**22 29 29.7**	**-2.9**
APSI	**Ampana**	**1.32**	**195**	P		**Pn**	**22 29 17.8**	**-0.1**
TOLI2	**Tolitoli**	**1.42**	**301**			**Pn**	**22 29 17.7**	**-1.2**
TOLI2				S	n	**Sn**	**22 29 37.4**	**-2.2**
LUWI	**Luwuk**	**1.60**	**151**			**Pn**	**22 29 20.7**	**-0.3**
LUWI				S	n	**Sn**	**22 29 43.3**	**0.0**
LUWI	**Luwuk**	**1.60**	**151**	P		**Pn**	**22 29 21.1**	**+0.1**
LUWI				S		**Sn**	**22 29 44.9**	**+1.6**
KMSI	**Cibinong**	**1.99**	**84**	P		**Pn**	**22 29 25.9**	**+0.3**
KMSI				S		**Sn**	**22 29 50.8**	**-0.6**
TTSI	**Tana Toraja**	**4.04**	**213**	P		**Pn**	**22 29 53.9**	**+1.9**
SGKI	**Sangatta, Kali**	**4.49**	**258**	P		**Pn**	**22 29 57.7**	**-0.3**
SGKI				S		**Sn**	**22 30 47.7**	**-1.8**
SANI	**Sanana**	**4.66**	**121**	P		**Pn**	**22 29 57.6**	**-2.7**
SANI				S		**Sn**	**22 30 48.6**	**-5.0**
SGSI	**Sangihe**	**4.82**	**47**	P		**Pn**	**22 30 02.2**	**-0.3**
SGSI				S		**Sn**	**22 30 53.8**	**-3.8**
SPSI	**Sidrap Palu**	**4.85**	**207**	P		**Pn**	**22 30 03.7**	**+0.8**
BNSI	**Bone** 22nm38µm75µm6µm,1.1s	**5.11**	**202**	P		**Pn**	**22 30 07.3**	**+1.0**
BKB	**Balikpapan**	**5.35**	**252**		Pn	**Pn**	**22 30 09.9**	**+0.3**
BKB	**Balikpapan** 12nm52µm21µm2µm,0.7s	**5.35**	**252**	P		**Pn**	**22 30 09.8**	**+0.2**
TNTI	**Ternate**	**5.38**	**86**		Pn	**Pn**	**22 30 09.0**	**-1.0**
TNTI	**Ternate** 6.8nm23µm13µm2µm,0.7s	**5.38**	**86**	P		**Pn**	**22 30 09.4**	**-0.6**
KAPI	**Kappang** 168nm,0.3s,baz=23,slow=10,SNR=207	**5.80**	**203**	P		**Pn**	**22 30 16.1**	**+0.5**
KAPI	baz=293,slow=12,SNR=1.4			S		**Sn**	**22 31 18.4**	**-2.7**
KAPI	**Kappang**	**5.80**	**203**	P		**Pn**	**22 30 16.0**	**+0.3**
KAPI	**Kappang**	**5.80**	**203**		Pn	**Pn**	**22 30 16.0**	**+0.3**
KAPI	**Kappang**	**5.80**	**203**	P		**Pn**	**22 30 16.5**	**+0.8**
MYLDM	**Lahad Datu**	**5.92**	**324**		Pn	**Pn**	**22 30 17.9**	**+0.7**
NLAI	**Namlea** 12nm26µm3µm,0.8s	**6.23**	**125**	P		**Pn**	**22 30 21.0**	**-0.5**
NLAI	12nm26µm3µm,0.8s			S		**Sn**	**22 31 29.3**	**-2.2**
SKMP	**Bagumbayan, Su**	**6.61**	**23**	*eP*		**Pn**	**22 30 23.8**	**-2.8**
DDMP	**Don Marcelino,**	**6.79**	**33**	*eP*		**Pn**	**22 30 29.1**	**+0.1**
KBKI	**Kotabaru** 4.0nm10µm1µm,0.7s	**6.88**	**238**	P		**Pn**	**22 30 30.1**	**0.0**
SPMM	**Sapulut**	**7.01**	**308**	P		**Pn**	**22 30 33.0**	**+1.1**
MTKI	**Muara Teweh, K** 4.7nm15µm7µm523nm,0.9s	**7.22**	**260**	P		**Pn**	**22 30 34.5**	**-0.3**
KCP	**Kidapawan**	**7.28**	**25⇑**	*eP*		**Pn**	**22 30 36.6**	**+1.0**
KCP				*i*	S	**Sn**	**22 31 56.3**	**-0.5**
DAV	**Davao City (W)** 158nm,0.3s,baz=244,slow=1.3,SNR=35	**7.55**	**28**	P		**Pn**	**22 30 41.4**	**+2.2**
DAV	347nm,0.3s,baz=142,slow=24,SNR=7.7			S		**Sn**	**22 32 07.0**	**+3.6**
DAV				LR		LR	22 33 47.3	
PAGZ	comp=Z,14µm,21.0s,baz=145,slow=39 **Pagadian**	**7.55**	**10**	*eP*		**Pn**	**22 30 37.8**	**-1.5**
MATI	**Mati**	**7.79**	**33**	*eP*		**Pn**	**22 30 41.2**	**-1.2**
KKM	**Kota Kinabalu**	**8.07**	**314**			**Pn**	**22 30 46.7**	**+0.4**
BBKI	**Banjar Baru** 14µm4µm415nm,0.8s	**8.11**	**242**	P		**Pn**	**22 30 48.0**	**+1.3**
CGP	**Cagayan de Oro**	**8.46**	**18⇓**	*eP*		**Pn**	**22 30 54.6**	**+3.0**
MMRI	**Maumere**	**8.95**	**178**		Pn	**Pn**	**22 30 58.7**	**+0.5**
MMRI	**Maumere** 43µm24µm950nm,0.9s	**8.95**	**178**	P		**Pn**	**22 30 59.0**	**+0.9**
EDFI	**Ende, Flores** 26µm6µm437nm,0.9s	**9.07**	**182**	P		**Pn**	**22 31 01.4**	**+1.6**
BUTP	**Butuan**	**9.27**	**23**	*eP*		**Pn**	**22 31 06.7**	**+4.3**
BNDI	**Bandanaira** 29µm47µm5µm,0.7s	**9.28**	**122**	P		**Pn**	**22 31 02.3**	**-0.2**
SWI	**Sorong** 13µm8µm531nm,0.7s	**9.34**	**98**	P		**Pn**	**22 31 03.0**	**-0.4**
SIJI	**Sorong** 17nm,0.3s,baz=296,slow=8.6,SNR=182	**9.35**	**98**	P		**Pn**	**22 31 03.4**	**-0.1**
SIJI	5.3nm,0.3s,baz=67,slow=21,SNR=6.3			S		**Sn**	**22 32 49.3**	**+2.4**
SIJI	comp=Z,4µm,21.6s,baz=304,slow=41			LR		LR	22 35 19.4	
BATP	**Bataraza**	**9.36**	**334**	*eP*		**Pn**	**22 31 01.5**	**-2.0**
CNOP	**Candoni, Negro**	**9.41**	**4**	*eP*		**Pn**	**22 31 05.4**	**+1.1**
SBUM	**Sibu**	**9.99**	**282**			**Pn**	**22 31 11.8**	**-0.3**
SBUM	**Sibu**	**9.99**	**282**	P		**Pn**	**22 31 13.0**	**+0.9**
PLAI	**Plampang** 30µm11µm1µm,1.0s	**10.06**	**205**	P		**Pn**	**22 31 15.2**	**+2.2**
MSLP	**Maasin**	**10.11**	**16**	*eP*		**Pn**	**22 31 15.4**	**+1.7**
WSI	**Waingapu** 24µm2µm,1.0s	**10.12**	**190**	P		**Pn**	**22 31 16.8**	**+3.0**
GUIM	**Jordan**	**10.20**	**3**	*eP*		**Pn**	**22 31 17.2**	**+2.3**
GLSP	**General Luna,**	**10.21**	**24**	*eP*		**Pn**	**22 31 16.7**	**+1.6**
SOEI	**Soe**	**10.31**	**167**			**Pn**	**22 31 19.1**	**+2.5**
SOEI	**Soe**	**10.31**	**167**	P		**Pn**	**22 31 20.9**	**+4.4**
TWSI	**Taliwang, Sumb** 17µm6µm441nm,1.0s	**10.39**	**209**	P		**Pn**	**22 31 19.9**	**+2.5**
STKI	**Sintang** 20µm204nm,0.9s	**10.53**	**268**	P		**Pn**	**22 31 21.3**	**+2.0**
BASI	**Baing, Sumba** 22µm20µm1µm,1.1s	**10.62**	**188**	P		**Pn**	**22 31 22.6**	**+2.1**
BATI	**Baumata** 12nm,0.3s,baz=262,slow=0.7,SNR=59	**10.64**	**171**	P		**Pn**	**22 31 24.1**	**+3.3**
BATI	**Baumata** 23µm16µm665nm,0.9s	**10.64**	**171**	P		**Pn**	**22 31 24.5**	**+3.7**
FAKI	**Fak Fak**	**10.76**	**108**			**Pn**	**22 31 19.7**	**-2.7**
FAKI	**Fak Fak**	**10.76**	**108**	P		**Pn**	**22 31 20.1**	**-2.3**
PBKI	**Pangkalan Bun** 6µm279nm,1.1s	**10.77**	**253**	P		**Pn**	**22 31 23.7**	**+1.2**
SRBI	**Singaraja** 23µm8µm549nm,0.8s	**10.79**	**219**	P		**Pn**	**22 31 24.5**	**+1.7**
OCLP	**Ormoc**	**10.92**	**14**	*eP*		**Pn**	**22 31 28.1**	**+3.5**
ENPP	**El Nido**	**11.06**	**347**	*eP*		**Pn**	**22 31 25.5**	**-0.9**
RCP	**Roxas**	**11.14**	**4⇑**	*eP*		**Pn**	**22 31 29.8**	**+2.3**
ABJI	**Asem Bagus** 21µm10µm989nm,1.1s	**11.22**	**223**	P		**Pn**	**22 31 31.3**	**+2.8**
DNP	**Denpasar** 27µm32µm2µm,1.2s	**11.25**	**217**	P		**Pn**	**22 31 32.2**	**+3.3**
KSM	**Kuching**	**11.74**	**275**			**Pn**	**22 31 34.5**	**-0.9**
KSM	**Kuching**	**11.74**	**275**	P		**Pn**	**22 31 36.0**	**+0.6**
JAGI	**Jajag, Banyuwa**	**11.76**	**221**			**Pn**	**22 31 37.0**	**+1.3**
JAGI	**Jajag, Banyuwa** 23µm16µm2µm,0.8s	**11.76**	**221**	P		**Pn**	**22 31 37.6**	**+1.9**
SAUI	**Saumlaki**	**12.45**	**132**			**Pn**	**22 31 45.6**	**+1.0**
SAUI	**Saumlaki** 34µm22µm1µm,1.0s	**12.45**	**132**	P		**Pn**	**22 31 45.9**	**+1.3**
AUQP	**San Andres**	**12.88**	**3**	*eP*		**P**	**22 31 54.0**	**-2.0**
PGP	**Puerto Galera**	**13.09**	**356⇑**	*eP*		**Pn**	**22 31 55.6**	**+2.6**
LUBP	**Lubang**	**13.39**	**353**	*eP*		**Pn**	**22 31 57.4**	**+0.6**
GQP	**Guinayangan**	**13.45**	**2**	*⇓i*	P	**Pn**	**22 31 59.9**	**+2.2**
TGY	**Tagaytay City** 78nm,0.3s,baz=187,slow=7.4,SNR=32	**13.68**	**356**	P		**Pn**	**22 32 02.8**	**+2.2**
SMRI	**Semarang**	**13.69**	**237**			**Pn**	**22 32 01.8**	**+1.1**
SMRI	**Semarang** 19µm26µm2µm,1.0s	**13.69**	**237**	P		**Pn**	**22 32 02.8**	**+2.1**
JCNP	**Jose Panganiba**	**13.84**	**3**	*eP*		**Pn**	**22 32 03.4**	**+0.7**
MACP	**Maragondon, Ca**	**13.86**	**355**	*eP*		**Pn**	**22 32 04.2**	**+1.3**
UGM	**Wanagama**	**14.09**	**234**			**Pn**	**22 32 07.1**	**+1.2**
UGM	**Wanagama** 19µm12µm1µm,1.2s	**14.09**	**234**	P		**P**	**22 32 08.2**	**-1.4**
BAKI	**Biak** 15µm769nm,0.8s	**14.19**	**96**	P		**Pn**	**22 32 07.9**	**+0.7**
QVP	**Quezon City--P**	**14.19**	**356**	*eP*		**P**	**22 32 10.0**	**-0.6**
I39PW	**PALAU INFRASON** baz=240,slow=308,SNR=2.2	**14.39**	**60**	*i*			23 46 30.0	
SRPI	**Serui, Papua**	**14.41**	**99**	P		**P**	**22 32 14.4**	**+1.3**
TPI	**Tanjungpandan**	**14.67**	**258**	P		**P**	**22 32 19.1**	**+3.1**
BALP	**Baler**	**15.28**	**358**	*eP*		**P**	**22 32 21.8**	**-0.8**
JCJI	**Jatiwangi** 21µm31µm2µm,1.0s	**15.30**	**243**	P		**P**	**22 32 25.1**	**+2.1**
MTN	**Manton Dam** baz=16,SNR=629	**15.95**	**146**	P		**Pn**	**22 32 29.4**	**+0.3**
MTN	**Manton Dam**	**15.95**	**146**	P		**Pn**	**22 32 29.2**	**0.0**
LEM	**Lembang** 16nm,0.3s,baz=34,slow=6.5,SNR=93	**16.03**	**243**	P		**P**	**22 32 32.9**	**+1.6**
BOLP	**Bolinao**	**16.04**	**353**	*eP*		**P**	**22 32 31.6**	**+0.5**
PPBI	**Pangkal Pinang** 9µm16µm125nm,1.3s	**16.06**	**261**	P		**P**	**22 32 31.3**	**0.0**
CBJI	**Citeko** 26µm38µm2µm,1.3s	**16.56**	**246**	P		**P**	**22 32 38.2**	**+1.4**
KDU	**Kakadu** baz=17,SNR=366	**16.62**	**142**	P		**P**	**22 32 37.5**	**0.0**
DBJI	**Dramaga** 12µm544nm,1.5s	**16.70**	**245**	P		**P**	**22 32 39.5**	**+1.0**
SZP	**Santa**	**17.14**	**355**			**Pn**	**22 32 43.5**	**-0.1**
SZP	comp=Z,475nm,0.9s				lAmb	lAmb	22 32 57.8	
PMBI	**Palembang**	**17.53**	**259**	P		**Pn**	**22 32 49.4**	**+1.0**
PMBI	comp=Z,723nm,1.1s				lAmb	lAmb	22 33 18.1	
PMBI	**Palembang** comp=Z,12µmcomp=Z,11µmcomp=Z,444nm,1.0s	**17.53**	**259**	P		**Pn**	**22 32 50.8**	**+2.4**
DLV	**T Lat**	**17.66**	**311**	P		**Pn**	**22 32 49.8**	**-0.4**
DLV	comp=Z,690nm,1.5s				lAmb	lAmb	22 32 53.7	
BLSI	**Bandar Lampung** comp=Z,13µmcomp=Z,10µmcomp=Z,599nm,1.1s	**17.68**	**251**	P		**Pn**	**22 32 52.4**	**+2.3**
KLSI		**17.97**	**254**	P		**Pn**	**22 32 54.5**	**+0.9**
MYKOM	comp=Z,6µmcomp=Z,3µmcomp=Z,109nm,1.6s **Kota Tinggi**	**18.20**	**275**	P		**Pn**	**22 32 56.2**	**-0.2**
GENI	**Genyem** comp=Z,19µmcomp=Z,14µmcomp=Z,509nm,0.7s	**18.40**	**99**	P		**Pn**	**22 32 58.5**	**-0.2**
KASI	**Kota Agung** comp=Z,19µmcomp=Z,8µmcomp=Z,711nm,0.9s	**18.43**	**251**	P		**Pn**	**22 32 58.9**	**-0.2**
JMBI	**JAMBI**	**18.46**	**264**	P		**Pn**	**22 33 02.7**	**+3.2**
FITZ	**Fitzroy Crossi** comp=Z,96nm,0.3s,baz=9.3,slow=9.4,SNR=1474	**18.70**	**169**	P		**Pn**	**22 33 01.3**	**-0.9**
FITZ	comp=Z,1.0nm,0.3s,baz=316,slow=22,SNR=3.9				S	**S**	**22 36 24.9**	**-1.8**
FITZ	**Fitzroy Crossi** baz=19,SNR=886	**18.70**	**169**	P		**P**	**22 33 01.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**18.70**	**169**	P		**P**	**22 33 00.8**	**+0.5**
LWLI	**Liwa** comp=Z,9µmcomp=Z,1µm,0.7s	**18.70**	**253**	P		**Pn**	**22 33 02.6**	**+0.2**
JAY	**Jayapura** comp=Z,7.7nm,0.3s,baz=235,slow=10,SNR=28	**18.92**	**99**	P		**P**	**22 33 03.8**	**+1.0**
JAY	**Jayapura** comp=Z,3µmcomp=Z,136nm,1.2s	**18.92**	**99**	P		**Pn**	**22 33 03.9**	**-1.0**
LHSI	**Lahat** comp=Z,9µmcomp=Z,837nm,0.8s	**18.93**	**257**	P		**Pn**	**22 33 04.5**	**-0.5**
XMI	**Christmas Isla**	**19.46**	**236**	P		**P**	**22 33 08.2**	**-0.5**
XMIS	**Christmas Isla**	**19.51**	**236**	P		**P**	**22 33 07.1**	**-2.1**
XMIS	comp=Z,883nm,0.9s				lAmb	lAmb	22 33 14.9	
XMIS	**Christmas Isla**	**19.51**	**236**	P		**P**	**22 33 08.3**	**-0.9**
KSI	**Kapahiang**	**19.80**	**258**	P		**P**	**22 33 13.3**	**+0.9**
JRMM	**Jerantut**	**19.82**	**280**	P		**Pn**	**22 33 15.0**	**-0.3**
BBP	**Basco**	**19.95**	**360**	*eP*		**P**	**22 33 10.8**	**-3.0**
MMPI	**Merauke**	**20.32**	**116**	P		**P**	**22 33 18.3**	**+0.4**
BKNI	**Bangkinang**	**20.96**	**270**	P		**P**	**22 33 25.6**	**+0.8**
IPM	**Ipoh**	**21.34**	**281**	P		**P**	**22 33 29.5**	**+0.5**
IPM	comp=Z,728nm,1.3s				lAmb	lAmb	22 33 57.5	
IPM	**Ipoh**	**21.34**	**281**	P		**P**	**22 33 30.0**	**+1.0**
MBWA	**Marble Bar**	**21.52**	**186**	P		**P**	**22 33 30.4**	**-0.2**
MBWA				P		**P**	**22 33 30.4**	**-0.2**
KULM	**Kulim**	**21.87**	**283**	P		**P**	**22 33 35.1**	**+0.6**
KULM	comp=Z,516nm,1.2s				lAmb	lAmb	22 34 02.8	
KULM	**Kulim**	**21.87**	**283**	P		**P**	**22 33 35.0**	**+0.5**
PSA00	**Pilbara Seismi**	**21.91**	**185**	P		**P**	**22 33 34.3**	**-0.6**
PSA00	comp=Z,690nm,0.9s				lAmb	lAmb	22 33 36.6	
PSA00	**Pilbara Seismi**	**21.91**	**185**	P		**P**	**22 33 34.7**	**-0.2**
PSA00	comp=Z,315nm,0.8s				lAmb	lAmb	22 33 36.4	
QIZ	**Qiongzhong**	**22.05**	**328**	P		**P**	**22 33 37.0**	**+0.7**
QIZ				pP		**pP**	**22 33 58.3**	**-1.1**
QIZ				sP		**sP**	**22 34 14.5**	**-0.7**
QIZ				S		**S**	**22 37 31.0**	**+0.1**
QIZ	comp=Z,210nm,1.9s			pmax		pmax		
QIZ	comp=Z,3µm,5.0s			pmax		pmax		
QIZ	**Qiongzhong**	**22.05**	**328**	P		**P**	**22 33 36.6**	**+0.3**
UBPT	**Khong Chiam**	**22.05**	**313**	P		**P**	**22 33 37.6**	**+1.3**
UBPT	**Khong Chiam**	**22.05**	**313**	P		**P**	**22 33 36.8**	**+0.5**
UBPT	comp=Z,324nm,0.8s				lAmb	lAmb	22 33 40.4	
TWG	**Pinlang**	**22.33**	**358**	P		**P**	**22 33 38.1**	**-1.0**
TWG	comp=Z,785nm,1.2s				lAmb	lAmb	22 33 46.8	
TPUB	**Ta-pu**	**22.83**	**357**	P		**P**	**22 33 44.3**	**+0.3**
TPUB	comp=Z,597nm,1.0s				lAmb	lAmb	22 34 18.1	
YULB	**Yu-li**	**22.89**	**358**	P		**P**	**22 33 43.3**	**-1.2**
HKC	**Hong Kong Obse**	**23.09**	**341**	*⇑i*	P	**P**	**22 33 47.0**	**+0.6**
RPSI	**Rantau Prapat**	**23.18**	**276**	P		**P**	**22 33 47.5**	**+0.2**
RPSI	comp=Z,295nm,0.8s				lAmb	lAmb	22 33 50.5	
PSI	**Prapat** comp=Z,228nm,0.7s,baz=178,slow=1.2,SNR=175	**23.19**	**276**	P		**P**	**22 33 48.8**	**+1.1**
PSI	comp=Z,37nm,0.8s,baz=180,slow=3.4,SNR=4.4			PcP		**PcP**	**22 37 31.9**	**-0.2**
PSI	comp=Z,16nm,0.9s,baz=180,slow=7.0,SNR=5.2			ScP		**ScP**	**22 40 57.0**	**-1.4**
PSI	comp=Z,1µm,19.3s,baz=90,slow=42			LR		LR	22 45 03.3	
SSLB	**Suanglung**	**23.30**	**358**	P		**P**	**22 33 47.9**	**-0.4**
SSLB	comp=Z,335nm,0.7s				lAmb	lAmb	22 33 52.4	
WB0	**Warramunga Arr**	**23.41**	**149**	P		**P**	**22 33 48.9**	**-0.6**
TRTT	**Trang**	**23.44**	**289**	P		**P**	**22 33 50.3**	**+0.6**
WRAB	**Tennant Creek**	**23.53**	**150**	*c*	*i*P	**P**	**22 33 50.1**	**-0.4**
WRAB	comp=Z,2µm,0.9s			pmax		pmax		
WRA	**Warramunga Arr** comp=Z,3µm,0.9s,baz=330,slow=10,SNR=1417	**23.54**	**150**	P		**P**	**22 33 50.4**	**-0.1**
WRA	comp=Z,11nm,0.5s,baz=318,slow=2.3,SNR=1.3			PcP		**PcP**	**22 37 32.6**	**+0.1**
WRA	comp=Z,18nm,1.0s,baz=325,slow=17,SNR=1.0			S		**S**	**22 37 51.3**	**-3.8**
WRA	comp=Z,26nm,0.8s,baz=346,slow=3.2,SNR=5.7			ScP		**ScP**	**22 40 58.0**	**-1.0**
WRA	comp=Z,3µm,21.5s,baz=325,slow=37			LR		LR	22 43 20.6	
WRA	**Warramunga Arr**	**23.54**	**150**	P		**P**	**22 33 49.1**	**-1.4**
WRA						**ScP**	**22 40 58.2**	**-0.8**
WB2	**Warramunga Arr**	**23.54**	**150**	P		**P**	**22 33 50.0**	**-0.6**
WR0	**Warramunga Arr**	**23.65**	**149**	P		**P**	**22 33 50.7**	**-0.9**
NACB	**Ninganchiao**	**23.66**	**359**	P		**P**	**22 33 50.9**	**-0.7**
SRIT	**Nakonsritamara**	**23.76**	**291**	P		**P**	**22 33 55.4**	**+2.8**
SRAK	**Srakaew**	**23.95**	**305**	P		**P**	**22 33 51.7**	**-2.6**
YOJ	**Yonaguni jima** comp=Z,393nm,1.0s	**23.97**	**2**	P		**P**	**22 33 55.4**	**+1.0**
YOJ	comp=Z,393nm,1.0s			pmax		pmax		
YOJ	**Yonaguni jima**	**23.97**	**2**	P		**P**	**22 33 55.4**	**+1.0**
YOJ	comp=Z,392nm,1.0s			lAmb		lAmb	22 34 01.3	
KRAB	**Krabi**	**24.02**	**290**	P		**P**	**22 33 57.3**	**+2.3**
GIRL	**Giralia** baz=24,SNR=60	**24.09**	**198**	P		**P**	**22 33 56.8**	**+1.2**
GIRL	**Giralia**	**24.09**	**198**	P		**P**	**22 33 55.5**	**-0.1**
GZH	**Guangzhou**	**24.09**	**340**	P		**P**	**22 34 01.3**	**+5.8**
GZH				pP		**pwP**	**22 34 27.8**	**+3.7**
GZH				sP		**sP**	**22 34 42.8**	**+5.6**
GZH				S		**S**	**22 38 13.8**	**+10**
GZH	comp=Z,5µm,3.2s			pmax		pmax		
KNMB	**Chin-men Tao**	**24.20**	**352**	P		**P**	**22 33 57.8**	**+1.3**
KNMB	comp=Z,735nm,1.1s			lAmb		lAmb	22 34 01.0	
PATY	**Pattaya**	**24.38**	**302**	P		**P**	**22 34 01.3**	**+3.1**
GSI	**Gunungsitoli**	**24.44**	**272**	P		**P**	**22 33 58.5**	**-0.4**
TATO	**Taipei**	**24.46**	**359**	P		**P**	**22 33 58.3**	**-0.6**
TATO	comp=Z,348nm,0.8s			lAmb		lAmb	22 34 00.3	
TATO	**Taipei**	**24.46**	**359**	P		**P**	**22 33 58.9**	**+0.1**
TATO				P		**P**	**22 33 58.9**	**+0.1**
SURT	**Suratani**	**24.63**	**291**	P		**P**	**22 34 03.3**	**+2.8**
QZH	**Quanzhou**	**24.65**	**353**	*⇓i*	P	**P**	**22 34 01.5**	**+1.0**
QZH				pP		**pwP**	**22 34 28.5**	**-1.0**
QZH				sP		**sP**	**22 34 41.0**	**-1.2**
QZH				S		**S**	**22 38 14.8**	**+2.1**
QZH				sS		**sS**	**22 38 59.0**	**-1.6**
QZH	comp=Z,400nm,0.9s			pmax		pmax		
QZH	comp=Z,2µm,4.3s			pmax		pmax		
QZH	comp=Z,2µm,15.2s			LR		LR		
QZH	comp=Z,2µm,14.9s			LR		LR		
QZH	comp=Z,4µm,16.4s			LR		LR		
KHON	**Khomkaen**	**24.68**	**311**	P		**P**	**22 34 04.5**	**+3.5**
NAYO	**Nakonayok**	**24.70**	**305**	P		**P**	**22 34 04.0**	**+2.8**
PKDT	**Phuket**	**24.74**	**288**	P		**P**	**22 34 03.0**	**+1.4**
COEN	**Coen**	**25.35**	**125**	P		**P**	**22 34 06.7**	**-0.3**
PHET	**Kaeng Krachan**	**25.43**	**300**	P		**P**	**22 34 09.8**	**+2.0**
LHMI	**Lhok Sumawe**	**25.48**	**281**	P		**P**	**22 34 09.3**	**+1.1**
LHMI	comp=Z,349nm,0.7s			lAmb		lAmb	22 34 12.9	
MANU	**Manus Island**	**25.48**	**96**	P		**P**	**22 34 08.8**	**+0.5**
MANU	comp=Z,222nm,0.8s			lAmb		lAmb	22 34 14.2	
NONG	**Nongkai**	**25.54**	**315**	P		**P**	**22 34 10.4**	**+1.7**
WRKA	**Warakurna** baz=26,SNR=1000	**25.99**	**167**	P		**P**	**22 34 12.7**	**0.0**
PBKT	**Sadao Pong**	**26.24**	**309**	P		**P**	**22 34 20.3**	**+5.2**
AS31	**Alice Springs**	**26.55**	**155**	P		**P**	**22 34 17.7**	**-0.1**
AS31	comp=Z,137nm,0.6s			lAmb		lAmb	22 34 23.1	
ASAR	**Alice Springs** comp=Z,291nm,0.8s,baz=330,slow=7.2,SNR=1598	**26.55**	**155**	P		**P**	**22 34 18.3**	**+0.5**
ASAR	comp=Z,49nm,0.6s,baz=348,slow=2.0,SNR=11			PcP		**PcP**	**22 37 39.0**	**-0.3**
ASAR	comp=Z,65nm,1.0s,baz=331,slow=17,SNR=8.0			S		**S**	**22 38 40.8**	**-2.1**
ASAR	comp=Z,28nm,0.8s,baz=344,slow=2.4,SNR=9.5			ScP		**ScP**	**22 41 06.2**	**-1.3**
ASAR	comp=Z,5µm,21.4s,baz=342,slow=37			LR		LR	22 45 08.1	
ASAR	comp=Z,0.6nm,0.8s,baz=145,slow=5.1,SNR=5.6			P3KPbc			23 06 58.6	
ASAR	**Alice Springs**	**26.55**	**155**	P		**P**	**22 34 17.5**	**-0.3**
ASAR						**PcP**	**22 37 39.3**	**0.0**
PMG	**Port Moresby** comp=Z,104nm,0.8s,baz=315,slow=7.5,SNR=26	**26.87**	**112**	P		**P**	**22 34 20.9**	**+0.1**
PMG	**Port Moresby**	**26.87**	**112**	P		**P**	**22 34 20.6**	**-0.1**
PMG	**Port Moresby**	**26.87**	**112**	P		**P**	**22 34 22.4**	**+1.7**
JOW	**Kunigami** comp=Z,129nm,0.8s,baz=228,slow=7.3,SNR=11	**26.99**	**12**	P		**P**	**22 34 22.4**	**+0.7**
JOW	comp=Z,66nm,0.9s,baz=227,slow=2.9,SNR=4.6			PcP		**PcP**	**22 37 40.8**	**+0.6**
JOW	**Kunigami**	**26.99**	**12**	P		**P**	**22 34 22.1**	**+0.4**
JOW	comp=Z,315nm,1.1s			lAmb		lAmb	22 35 04.7	
QIS	**Mount Isa** baz=27,SNR=850	**27.01**	**141**	P		**P**	**22 34 21.9**	**0.0**
PHIT	**Phitsanulok**	**27.03**	**309**	P		**P**	**22 34 24.9**	**+2.8**
UTTA	**Uttaradit**	**27.25**	**310**	P		**P**	**22 34 26.5**	**+2.3**
SLVN	**Son La**	**27.31**	**321**	P		**P**	**22 34 25.7**	**+1.0**
SLVN	comp=Z,326nm,1.4s			lAmb		lAmb	22 35 13.2	
UMPA	**Umpang Tak**	**27.72**	**306**	P		**P**	**22 34 30.4**	**+2.0**
NANT	**Nan**	**27.79**	**312**	P		**P**	**22 34 32.4**	**+3.5**
SUKH	**Sukhothai**	**27.81**	**309**	P		**P**	**22 34 32.8**	**+3.7**
LAMP	**Lampang**	**28.42**	**311**	P		**P**	**22 34 37.6**	**+3.0**
MTSU	**Mount Surprise** baz=29,SNR=302	**28.64**	**131**	P		**P**	**22 34 37.1**	**+0.7**
CM04	**Chiang Mai Arr**	**28.85**	**310**	P		**P**	**22 34 41.4**	**+3.0**
CM09	**Chiang Mai Arr**	**28.86**	**310**	P		**P**	**22 34 41.6**	**+3.1**
CM05	**Chiang Mai Arr**	**28.87**	**310**	P		**P**	**22 34 41.7**	**+3.2**
CM31	**Chiang Mai Arr**	**28.91**	**310**	P		**P**	**22 34 40.9**	**+2.0**
CMAR	**Chiang Mai Arr** comp=Z,49nm,0.9s,baz=131,slow=6.7,SNR=157	**28.91**	**310**	P		**P**	**22 34 41.0**	**+2.1**
CMAR	comp=Z,2.2nm,0.3s,baz=189,slow=2.4,SNR=6.1			PcP		**PcP**	**22 37 46.6**	**+1.5**
CMAR	comp=Z,47nm,1.0s,baz=166,slow=2.6,SNR=32			ScP		**ScP**	**22 41 15.5**	**+0.7**
CMAR	comp=Z,1.2nm,0.4s,baz=279,slow=1.3,SNR=6.4			PKiKP		**PKiKP**	**22 45 19.2**	**-0.2**
CMAR	comp=Z,2µm,21.8s,baz=152,slow=37			LR		LR	22 46 32.0	
CMAR	comp=Z,1.7nm,0.7s,baz=301,slow=5.5,SNR=12			P3KPbc			23 06 51.5	
CMAR	**Chiang Mai Arr**	**28.91**	**310**	P		**P**	**22 34 40.2**	**+1.4**
CMAR						**PcP**	**22 37 45.3**	**+0.2**
CRAI	**Chiangrai**	**28.93**	**314**	P		**P**	**22 34 41.4**	**+2.3**

CTAO	Charters Tower	31.27	132	P		P		22 35 00.5	+0.8
FORT	Forrest	31.51	170	P		P		22 35 01.8	+0.2
	baz=32,SNR=463								
FORT	Forrest	31.51	170	P		P		22 35 01.8	+0.2
KMBL	Kambalda	31.57	180	P		P		22 35 02.6	+0.4
	baz=32,SNR=90								
NJ2	Nanjing	31.65	355	⇓	*i* P		P	22 35 04.8	+2.0
NJ2					pP		pP	22 35 32.0	+1.6
NJ2					sP		sP	22 35 46.0	+0.9
NJ2					PP		PP	22 36 18.0	+1.1
NJ2					PcP		PcP	22 37 52.5	+0.6
NJ2					S		S	22 40 06.8	+4.2
NJ2					sS		sS	22 40 54.5	+3.2
NJ2					ScP		ScP	22 41 22.5	-1.0
NJ2					pmax		pmax		
	comp=Z,170nm,1.0s								
NJ2					pmax		pmax		
	comp=Z,460nm,5.2s								
NJ2					LR		LR		
	comp=Z,2μm,14.2s								
NJ2					LR		LR		
	comp=Z,870nm,12.8s								
NJ2					LR		LR		
	comp=Z,3μm,16.1s								
JSU	Suzuyama	31.98	14	P		P		22 35 06.0	+0.2
JSU						PcP		22 37 53.3	+0.4
ENH	Enshi	32.03	339	P		P		22 35 07.7	+1.4
KLBR	Kellerberrin	32.04	187	P		P		22 35 06.4	+0.1
	baz=32,SNR=108								
MUN	Mundaring	32.64	189	P		P		22 35 11.8	+0.3
	baz=33,SNR=67								
JCJ	Chichijima	32.90	34	LR		LR		22 47 11.3	
	comp=Z,931nm,20.6s,baz=210,slow=33								
JCJ	Chichijima	32.90	34	P		P		22 35 13.2	-0.6
NWAO	Narrogin (SRO)	33.43	187	P		P		22 35 18.5	+0.1
	baz=34,SNR=434								
NWAO	Narrogin (SRO)	33.43	187	P		P		22 35 18.5	+0.1
NWAO				pmax		pmax			
	comp=Z,814nm,0.8s								
NWAO	Narrogin (SRO)	33.43	187	P		P		22 35 18.4	+0.1
NWAO	Narrogin (SRO)	33.43	187	P		P		22 35 18.7	+0.4
NWAO				P		P		22 35 18.7	+0.4
JNU	Nakatsue	33.63	14	ScP		ScP		22 41 29.2	-1.2
	comp=Z,19nm,0.8s,baz=139,slow=3.2,SNR=7.1								
JNU				PKiKP		PKiKP		22 45 22.6	+0.2
	comp=Z,7.7nm,0.9s,baz=55,slow=22,SNR=7.1								
JNU				LR		LR		22 47 39.9	
	comp=Z,2μm,21.9s,baz=176,slow=34								
JNU	Nakatsue	33.63	14	P		P		22 35 19.3	-0.8
QLP	Quilpie	34.31	143	P		P		22 35 26.7	+0.6
	baz=34,SNR=89								
JTU	Tsushima	34.67	11	P		P		22 35 29.5	+0.4
JTU				IAmb		IAmb		22 36 12.2	
	comp=Z,334nm,1.5s								
CD2	Chengdu	34.96	332	⇓	P		P	22 35 33.0	+1.3
CD2					pP		pP	22 36 00.3	+0.4
CD2					PP		PP	22 36 55.0	+1.4
CD2					S		S	22 40 55.5	+1.5
CD2					ScP		ScP	22 41 35.5	+0.3
CD2					pmax		pmax		
	comp=Z,310nm,0.8s								
CD2					pmax		pmax		
	comp=Z,560nm,4.1s								
CD2					LR		LR		
	comp=Z,3μm,12.0s								
CD2					LR		LR		
	comp=Z,3μm,11.2s								
CD2					LR		LR		
	comp=Z,4μm,14.1s								
JMN	Monobe	35.01	17	P		P		22 35 32.3	+0.3
BBOO	Buckleboo	35.57	159	P		P		22 35 36.7	-0.2
	baz=36,SNR=380								
BBOO	Buckleboo	35.57	159	P		P		22 35 36.7	-0.2
XAN	Xi'an	35.66	341	P		P		22 35 38.8	+1.1
XAN				pmax		pmax			
	comp=Z,120nm,1.5s								
XAN				pmax		pmax			
	comp=Z,180nm,6.3s								
XAN	Xi'an	35.66	341	P		P		22 35 38.5	+0.8
XAN				S		S		22 41 06.3	+1.5
XAN				pmax		pmax			
	comp=Z,120nm,1.0s								
XAN				pmax		pmax			
	comp=Z,1μm,8.2s								
XAN				LR		LR			
	comp=Z,4μm,15.2s								
XAN				LR		LR			
	comp=Z,6μm,19.5s								
XAN				LR		LR			
	comp=Z,4μm,16.3s								
XAN	Xi'an	35.66	341	P		P		22 35 38.3	+0.6
XAN				pmax		pmax			
	comp=Z,186nm,1.1s								
XAN	Xi'an	35.66	341	P		P		22 35 38.3	+0.6
XAN				IAmb		IAmb		22 35 44.3	
	comp=Z,186nm,1.1s								
SAIH	SAIHA	35.78	310	*e*	P	P		22 35 40.2	+1.3
SAIH					IAmb	IAmb		22 35 43.0	
	comp=Z,256nm,1.0s								
SAIH				*i*	x	pP		22 36 07.3	-0.1
SAIH				*ex*		sP		22 36 21.5	-0.6
H01W3	Cape Leeuwin H	35.84	191	P		P		22 35 41.0	+2.3
	baz=22,slow=6.8,SNR=8.8								
H01W1	Cape Leeuwin H	35.84	191	P		P		22 35 40.8	+2.0
	baz=22,slow=6.8,SNR=9.4								
H01W2	Cape Leeuwin H	35.85	191	P		P		22 35 41.3	+2.4
	baz=22,slow=6.8,SNR=9.6								
TIA	Tai'an	35.94	353	P		P		22 35 40.5	+0.5
TIA				pmax		pmax			
	comp=Z,47nm,0.7s								
TIA				pmax		pmax			
	comp=Z,490nm,4.4s								
TIA				LR		LR			
	comp=Z,1μm,17.1s								
TIA				LR		LR			
	comp=Z,2μm,18.0s								
TIA				LR		LR			
	comp=Z,4μm,41.4s								
JHS	Saijyo	35.98	16	P		P		22 35 40.4	+0.1
JHS				IAmb		IAmb		22 35 43.3	
	comp=Z,94nm,0.8s								
TJN	Taejon	36.17	7	*ce*	P	P		22 35 41.9	+0.1
JHJ	Hachijo jima 2	36.62	25	LR		LR		22 49 20.2	
	comp=Z,2μm,21.2s,baz=204,slow=34								
JHJ2	Mitsune	36.63	25	P		P		22 35 46.0	+0.2
JHJ2				IAmb		IAmb		22 35 48.6	
	comp=Z,176nm,0.7s								
PATS	Pohnpei	36.78	79	P		P		22 35 48.2	+0.7
KOHI	KOHIMA	36.87	315	*ex*		P		22 35 48.8	+0.7
KOHI				IAmb		IAmb		22 35 52.9	
	comp=Z,299nm,1.2s								
JWT	Wachi	36.91	18	P		P		22 35 48.6	+0.4
JWT				IAmb		IAmb		22 35 50.2	
	comp=Z,178nm,0.7s								
MOKO	MOKOCHONG	36.96	316	*e*	P	P		22 35 50.5	+1.6
MOKO				IAmb		IAmb		22 35 54.8	
	comp=Z,907nm,1.6s								
STKA	Stephens Creek	37.05	152	P		P		22 35 49.9	+0.5
	comp=Z,1μm,0.8s,baz=322,slow=8.5,SNR=1379								
STKA					PcP	PcP		22 38 07.7	+0.1
	comp=Z,50nm,0.8s,baz=352,slow=15,SNR=1.6								
STKA				S		S		22 41 23.8	-2.1
	comp=Z,32nm,1.0s,baz=39,slow=23,SNR=3.1								
STKA				ScP		ScP		22 41 42.5	-0.3
	comp=Z,33nm,0.8s,baz=312,slow=4.8,SNR=4.9								
STKA				LR		LR		22 52 01.5	
	comp=Z,3μm,20.0s,baz=314,slow=38								
STKA	Stephens Creek	37.05	152	P		P		22 35 50.0	+0.6
	baz=37,SNR=1000								
STKA	Stephens Creek	37.05	152	P		P		22 35 49.9	+0.5
RMQ	Roma	37.12	138	P		P		22 35 50.5	+0.4
	baz=37,SNR=21								
INCN	Inchon	37.17	6	P		P		22 35 50.9	+0.5
INCN				pmax		pmax			
	comp=Z,149nm,1.6s								
INCN	Inchon	37.17	6	P		P		22 35 50.9	+0.5
HTT	Hallett	37.20	156	P		P		22 35 51.4	+0.7
	baz=37,SNR=1000								
KSAR	Wonju Array Be	37.28	8	P		P		22 35 52.1	+0.8
KSAR	Wonju Array Be	37.28	8	P		P		22 35 52.1	+0.8
KSRS	Korea Array	37.30	8	P		P		22 35 52.5	+1.1
	comp=Z,15nm,0.8s,baz=182,slow=11,SNR=40								
KSRS					pP	pP		22 36 19.2	-0.6
	comp=Z,32nm,1.1s,baz=171,slow=5.0,SNR=4.8								
KSRS					PcP	PcP		22 38 08.9	+0.7
	comp=Z,26nm,0.7s,baz=187,slow=2.7,SNR=24								
KSRS					ScP	ScP		22 41 43.1	-0.5
	comp=Z,32nm,0.9s,baz=187,slow=3.5,SNR=36								
KSRS					LR	LR		22 49 57.1	
	comp=Z,2μm,21.5s,baz=195,slow=34								
JSG	Sagara	37.33	22	P		P		22 35 52.6	+0.9
KS19	Wonju Array Si	37.34	8	P		P		22 35 52.4	+0.6
KS19				IAmb		IAmb		22 36 35.3	
	comp=Z,298nm,1.6s								
BELO	BELONIA	37.38	310	*ex*		P		22 35 55.4	+3.1
BELO				*i*	pP	pP		22 36 22.6	+1.8
BELO				*ex*		sP		22 36 35.7	+0.1
JORH	JORHAT	37.41	317	*e*	P	P		22 35 53.7	+1.2
JORH				IAmb		IAmb		22 35 55.6	
	comp=Z,427nm,0.4s								
INU	Inuyama	37.51	20	P		P		22 35 53.0	-0.2
INU				IAmb		IAmb		22 35 54.9	
	comp=Z,224nm,0.8s								
JGF	Kuroka	37.85	21	P		P		22 35 55.8	-0.4
JGF				IAmb		IAmb		22 35 57.4	
	comp=Z,138nm,0.8s								
AGT	Agartala	37.88	310	*ex*		P		22 36 00.5	+4.0
AGT				*i*	x	pP		22 36 26.1	+1.0
AGT				*ex*		sP		22 36 39.1	-0.7
EIDS	Eidsvold	38.02	134	P		P		22 35 56.9	-0.7
	baz=38,SNR=30								
EIDS	Eidsvold	38.02	134	P		P		22 35 56.8	-0.8
EIDS				IAmb		IAmb		22 35 58.3	
	comp=Z,108nm,0.9s								
ZIRO	ZIRO	38.19	317	*e*	P	P		22 36 00.9	+1.6
ZIRO				IAmb		IAmb		22 36 04.8	
	comp=Z,103nm,0.8s								
ZIRO				*i*	x	S		22 41 43.1	-0.4
TIY	Taiyuan	38.19	348	*e*	P	P		22 36 00.5	+1.5
TIY					pP	pP		22 36 29.8	+2.3
TIY					sP	sP		22 36 42.8	+0.7
TIY					S	S		22 41 44.8	+1.8
TIY					sS	sS		22 42 33.0	+0.4
TIY					pmax	pmax			
	comp=Z,190nm,0.7s								
DL2	Dalian	38.35	360	P		P		22 35 59.3	-0.9
DL2					pP	pP		22 36 28.8	+0.1
DL2					sP	sP		22 36 42.0	-1.3
DL2					PP	PnPn		22 37 36.8	+2.9
DL2					PcP	PcP		22 38 11.5	+0.1
DL2					S	S		22 41 45.5	+0.3
DL2					sS	sS		22 42 32.3	-2.4
DL2					SS	SS		22 44 36.3	-3.2
DL2					ScS	ScS		22 45 53.8	-3.9
DL2					pmax	pmax			
	comp=Z,190nm,0.8s								
DL2					pmax	pmax			
	comp=Z,470nm,3.5s								
CMSA	Cobar Meteorol	38.88	147	P		P		22 36 05.7	+0.9
	baz=39,SNR=1000								
GUWA	GUWAHATI	38.88	314	*e*	P	P		22 36 06.7	+1.8
GUWA				IAmb		IAmb		22 36 10.5	
	comp=Z,106nm,1.0s								
MAJO	Matsushiro	39.00	21	*d*	*i* P	P		22 36 04.5	-1.2
MAJO					pmax	pmax			
	comp=Z,229nm,0.9s								
MAJO	Matsushiro	39.00	21	P		P		22 36 04.7	-1.0
MAJO				IAmb		IAmb		22 36 06.6	
	comp=Z,205nm,0.8s								
MAT	Matsushiro	39.00	21	P		P		22 36 04.5	-1.2
MAT				S		S		22 41 52.4	-2.8
MJAR	Matsushiro Arr	39.00	21	P		P		22 36 05.4	-0.3
	comp=Z,256nm,0.8s,baz=192,slow=9.0,SNR=518								
MJAR					pP	pP		22 36 34.5	+0.1
	comp=Z,81nm,1.0s,baz=191,slow=8.5,SNR=3.4								
MJAR					PcP	PcP		22 38 14.2	+0.7
	comp=Z,42nm,0.9s,baz=193,slow=2.4,SNR=6.7								
MJAR					ScP	ScP		22 41 49.5	-0.6
	comp=Z,35nm,0.9s,baz=194,slow=4.3,SNR=27								
MJAR	Matsushiro Arr	39.00	21	P		P		22 36 04.7	-1.1
MJAR				IAmb		IAmb		22 36 06.2	
	comp=Z,107nm,0.8s								
MJB9	Matsu-Tunnel	39.00	21	P		P		22 36 05.2	-0.6
MJB9				IAmb		IAmb		22 36 06.6	
	comp=Z,235nm,0.8s								
HNR	Honiara	39.02	105	P		P		22 36 05.7	-0.5
HNR				pmax		pmax			
	comp=Z,469nm,0.9s								
HNR	Honiara	39.02	105	P		P		22 36 05.7	-0.5
LZH	Lanzhou	39.34	337	*e*	P	P		22 36 10.8	+2.1
LZH					pP	pP		22 36 37.0	-0.4
LZH					PP	PnPn		22 37 44.3	-1.4
LZH					ScP	ScP		22 41 51.0	-0.6
LZH				*e*	S	S		22 42 01.8	+1.3
LZH					sS	sS		22 42 51.8	+1.6
LZH					SS	SS		22 45 01.3	+1.7
LZH					pmax	pmax			
	comp=Z,130nm,1.1s								
LZH					pmax	pmax			
	comp=Z,620nm,4.6s								
LZH					LR	LR			
	comp=Z,1μm,13.6s								
LZH					LR	LR			
	comp=Z,1μm,14.1s								
LZH					LR	LR			
	comp=Z,1μm,14.4s								
BJT	Baijiatuau	39.81	353	P		P		22 36 13.1	+0.7
BJT				pmax		pmax			
	comp=Z,185nm,1.1s								
BJT	Baijiatuau	39.81	353	P		P		22 36 13.1	+0.7
BJT				IAmb		IAmb		22 36 42.9	
	comp=Z,185nm,1.1s								
BJI	Beijing	39.84	353	P		P		22 36 13.3	+0.8
BJI				pP		pP		22 36 41.0	-0.2
BJI				sP		sP		22 36 54.5	-1.2
BJI				PcP		PcP		22 38 16.8	+0.8
BJI				ScP		ScP		22 41 52.3	-0.9
BJI				PcS		PcS		22 42 07.8	+1.5
BJI				S		S		22 42 09.0	+1.6
BJI				SS		SnSn		22 45 17.0	-4.0
BJI				pmax		pmax			
	comp=Z,99nm,0.8s								
JSD	Sado	40.36	20	P		P		22 36 16.3	-0.6
JSD				IAmb		IAmb		22 36 18.0	
	comp=Z,150nm,0.8s								
JMM	Marumori	41.13	23	P		P		22 36 23.2	0.0
JMM				IAmb		IAmb		22 36 26.2	
	comp=Z,198nm,0.6s								
ARPS	Mount Arapiles	41.28	156	P		P		22 36 25.2	+0.7
	baz=41,SNR=452								
SNY	Shenyang	41.29	2	⇓	P	P		22 36 26.0	+1.5
SNY					pP	pP		22 36 53.8	+0.5
SNY					sP	sP		22 37 08.5	+0.7
SNY					S	S		22 42 30.0	+1.0
SNY					sS	sS		22 43 22.0	+3.0
SNY					pmax	pmax			
	comp=Z,50nm,1.0s								
SNY					LR	LR			
	comp=Z,3μm,16.6s								
SNY					LR	LR			
	comp=Z,880nm,11.6s								
SNY					LR	LR			
	comp=Z,4μm,17.1s								
HHC	Hu-ho-hao-te	41.39	348	*e*	P	P		22 36 26.8	+1.3
HHC					pP	pP		22 36 54.5	+0.3
HHC					sP	sP		22 37 08.8	+0.1
HHC					S	S		22 42 34.5	+3.8
HHC					SS	SS		22 45 48.3	+8.3
HHC					pmax	pmax			
	comp=Z,100nm,0.8s								
HHC					pmax	pmax			
	comp=Z,390nm,6.6s								
LSA	Lhasa	41.40	318	P		P		22 36 29.3	+3.1
LSA	Lhasa	41.40	318	P		P		22 36 29.2	+3.0
LSA	Lhasa	41.40	318	P		P		22 36 28.2	+2.0
LSA				pmax		pmax			
	comp=Z,179nm,0.6s								
LSA	Lhasa	41.40	318	P		P		22 36 28.2	+2.0
LSA				IAmb		IAmb		22 36 30.7	
	comp=Z,179nm,0.6s								
BTO	Baotou	41.50	346	P		P		22 36 27.8	+1.4
BTO				pmax		pmax			
	comp=Z,320nm,0.8s								
BTO				LR		LR			
	comp=Z,14μm,20.1s								
BTO				LR		LR			
	comp=Z,6μm,11.8s								
ARMA	Armidale	41.62	140	P		P		22 36 29.2	+1.7
	baz=42,SNR=197								
ARMA	Armidale	41.62	140	P		P		22 36 28.8	+1.3
PALK	Pallekele	41.74	280	ScP		ScP		22 42 01.1	-0.3
	comp=Z,6.4nm,0.7s,baz=215,slow=3.3,SNR=2.9								
PALK	Pallekele	41.74	280	*c*	*i* P	P		22 36 29.5	+0.8
PALK	Pallekele	41.74	280		P	P		22 36 29.1	+0.4
PALK					IAmb	IAmb		22 36 31.7	
	comp=Z,583nm,1.9s								
PALK	Pallekele	41.74	280		P	P		22 36 29.4	+0.6
PALK					P	P		22 36 29.4	+0.6
GTK	Tadong	41.78	313	*e*	P	P		22 36 31.3	+2.4
BOK	Bokaro	42.05	306	*e*	P	P		22 36 32.6	+1.6
ODAN	Odare	42.43	311	*e*	P	P		22 36 36.1	+1.8
YNG	Young	42.45	147	P		P		22 36 35.5	+1.4
	baz=43,SNR=202								
TAPN	Taplejung	42.45	312	*e*	P	P		22 36 36.4	+1.8
	comp=Z,129nm,0.4s								
MSHR	Mys Shultsa	42.82	10	*d*	*i* P	P		22 36 38.3	+1.4
MSHR					pmax	pmax			
	comp=Z,119nm,0.9s								
RAMN	Ramite	43.07	311	*e*	P	P		22 36 41.6	+2.1
	comp=Z,342nm,0.6s								
MGCD	Mangrove Creek	43.20	143	P		P		22 36 42.5	+2.3
	baz=43,SNR=67								
MDRS	Chennai	43.25	289	*i*	P	P		22 36 41.3	+0.5
CN2	Changchun	43.35	4	*e*	P	P		22 36 40.5	-0.6
CN2					pP	pP		22 37 08.0	-2.1
CN2					sP	sP		22 37 22.3	-2.5
CN2					PP	PP		22 38 26.0	+1.4
CN2					ScP	ScP		22 42 04.0	-3.1
CN2					pmax	pmax			
	comp=Z,20nm,0.8s								
CAN	Canberra	43.54	147	P		P		22 36 44.1	+1.2
CAN					pmax	pmax			
	comp=Z,870nm,0.9s								
CAN	Canberra	43.54	147	P		P		22 36 44.0	+1.2
TOO	Toolangi	43.55	153	P		P		22 36 44.5	+1.6
	baz=44,SNR=225								
TOO	Toolangi	43.55	153	P		P		22 36 44.5	+1.6
TOO					pmax	pmax			
	comp=Z,592nm,0.9s								
TOO	Toolangi	43.55	153	P		P		22 36 44.5	+1.6
RIV	Riverview	43.67	144	P		P		22 36 46.4	+2.6
	baz=44,SNR=12								
CNB	Canberra Magne	43.73	147	P		P		22 36 45.7	+1.2
	baz=44,SNR=175								
JIRN	Jiri	43.76	311	*e*	P	P		22 36 46.9	+1.8
	comp=Z,293nm,0.5s								
JTM	Tenmabayashi	43.79	21	P		P		22 36 44.8	+0.1
GUN	Gumba	44.12	311	*e*	P	P		22 36 49.6	+1.6
	comp=Z,494nm,0.6s								
PKI	Pulchoki	44.30	311	*e*	P	P		22 36 50.6	+1.2
	comp=Z,121nm,0.6s								
PKIN	Phulchoki	44.31	311	*e*	P	P		22 36 50.7	+1.2
	comp=Z,111nm,0.5s								
KKN	Kakani	44.51	311	*e*	P	P		22 36 52.4	+1.4
USA0B	Ussuriysk Arra	44.53	10	P		P		22 36 51.0	+0.4
USA0B					pmax	pmax			
	comp=Z,102nm,0.8s								
USA0B	Ussuriysk Arra	44.53	10	P		P		22 36 51.0	+0.4
USA0B					IAmb	IAmb		22 36 52.3	
	comp=Z,102nm,0.8s								
USRK	Ussuriysk Ar.	44.53	10	P		P		22 36 51.0	+0.4
	comp=Z,98nm,0.8s,baz=196,slow=7.2,SNR=289								
USRK					pP	pP		22 37 20.3	+0.4
	comp=Z,40nm,0.9s,baz=193,slow=6.4,SNR=3.5								
USRK					PcP	PcP		22 38 32.2	+0.6
	comp=Z,14nm,0.6s,baz=194,slow=3.4,SNR=2.1								
USRK					ScP	ScP		22 42 10.7	-1.3
	comp=Z,9.1nm,1.0s,baz=221,slow=2.6,SNR=4.9								
USRK	Ussuriysk Ar.	44.53	10	P		P		22 36 50.7	+0.1
USRK					ScP	ScP		22 42 10.8	-1.1
DMN	Daman	44.55	311	*e*	P	P		22 36 52.9	+1.6
	comp=Z,202nm,0.6s								
MDJ	Mudanjiang	44.57	8	P		P		22 36 51.5	+0.6
MDJ					pP	pP		22 37 19.5	-0.6
MDJ					sP	sP		22 37 33.8	-0.8
MDJ					pmax	pmax			
	comp=Z,120nm,0.9s								
MDJ	Mudanjiang	44.57	8	P		P		22 36 51.1	+0.3
MDJ					IAmb	IAmb		22 36 53.2	
	comp=Z,217nm,0.8s								
GKN	Gorkha	45.11	311	*e*	P	P		22 36 57.0	+1.4
TRD	Trivandrum	45.58	282	*i*	P	P		22 36 58.1	-1.3
ERM	Erimo	45.63	22	*ce*	P	P		22 37 00.1	+0.8
ERM					pmax	pmax			
	comp=Z,78nm,0.7s								
ERM	Erimo	45.63	22	P		P		22 37 00.1	+0.8
JEW	Eniwo	45.74	20	P		P		22 37 00.9	+0.8
JEW				IAmb		IAmb		22 37 44.0	
	comp=Z,306nm,1.1s								
HYB	Hyderabad	45.97	294	*i*	P	P		22 37 03.0	+0.6
	comp=Z,177nm,0.8s								
HYB				*e*	pP	pP		22 37 30.0	-2.1
HYB				*e*	sP	sP		22 37 43.0	-3.7
HYB				*e*	PcP	PcP		22 38 37.0	-0.2
HYB				*e*	ScP	ScP		22 42 16.0	-2.6
HYB				*e*	S	S		22 43 40.0	+2.1
HYB				*e*				22 44 26.0	
HYB				*e*	ScS	ScS		22 46 44.0	-1.5
HYB	Hyderabad	45.97	294	*i*	P	P		22 37 02.2	-0.2
TEY	Ternei	46.32	14	⇑	*i* P	P		22 37 05.1	+0.5
TEY				*e*				22 43 40.6	
TEY					pmax	pmax			
	comp=N,70nm,0.9s								
TEY					pmax	pmax			
	comp=Z,140nm,0.9s								
TEY					pmax	pmax			
	comp=E,200nm,8.0s								
TEY					pmax	pmax			
	comp=N,400nm,6.3s								
TEY					pmax	pmax			
	comp=Z,300nm,4.1s								
ASAJ	Asahikawa	47.26	20	P		P		22 37 12.7	+0.7
	comp=Z,162nm,0.7s,baz=230,slow=11,SNR=163								
ASAJ					ScP	ScP		22 42 22.5	-0.8
	comp=Z,10nm,1.1s,baz=80,slow=5.5,SNR=4.2								
JKA	Kamikawa-asahi	47.26	20	P		P		22 37 13.3	+1.3
JKA				IAmb		IAmb		22 37 14.3	
	comp=Z,184nm,0.8s								
LHI	Lord Howe Isla	47.30	136	P		P		22 37 14.2	+1.7
	baz=47,SNR=5.7								
LHI	Lord Howe Isla	47.30	136	P		P		22 37 13.6	+1.1
SANVU	Saraoutou	47.33	111	P		P		22 37 13.2	+0.2
SANVU				IAmb		IAmb		22 37 15.4	
	comp=Z,288nm,0.9s								
YUK	Yuzh-Kuril'sk	48.39	23	*c*	*i* P	P		22 37 21.0	+0.3
YUK					* P	pP		22 37 50.8	+0.4
YUK				*i*	S	S		22 44 08.8	-2.5
YUK				*i*	*SS	sS		22 45 02.9	+0.4
YUK				*i*				22 47 00.8	
YUK					pmax	pmax			
	comp=Z,339nm,1.1s								
YUK					pmax	pmax			
	comp=E,133nm,1.0s								
YUK					pmax	pmax			
	comp=N,97nm,0.8s								
DZM	Mont Dzumac	48.72	120

SONM pP **pP** **22 37 56.5 -0.1**
comp=Z,107nm,1.1s,baz=164,slow=7.0,SNR=7.1
SONM ScP **ScP** **22 42 30.4 -1.2**
comp=Z,12nm,0.9s,baz=155,slow=4.7,SNR=6.5
SONM S **S** **22 44 22.2 -0.5**
comp=Z,0.8nm,0.9s,baz=110,slow=40,SNR=2.1
SONM LR LR 22 59 09.1
comp=Z,2μm,20.8s,baz=192,slow=37
SONM Songino Array 49.18 346 P **P** **22 37 27.4 +0.5**
SONM lAmb lAmb 22 37 59.2
comp=Z,144nm,1.2s
KLR Kul'dur 49.39 8 P **P** **22 37 28.5 +0.3**
comp=Z,26nm,0.8s,baz=218,slow=4.8,SNR=3.8
KLR PcP **PcP** **22 38 49.4 +0.6**
comp=Z,18nm,0.7s,baz=209,slow=6.0,SNR=2.7
KLR S **S** **22 44 22.2 -3.0**
comp=Z,1.1nm,0.8s,baz=344,slow=23,SNR=1.5
KLR LR LR 22 57 02.7
comp=Z,1μm,20.1s,baz=219,slow=34
KLR Kul'dur 49.39 8*c* eP **P** **22 37 28.1 -0.1**
KLR pmax pmax
comp=Z,39nm,0.9s
MNCY Minicoy 49.41 281 *i* P **P** **22 37 27.2 -1.8**
YSS Yuzh-Sakhalins 49.81 19⇑ *e*P **P** **22 37 31.3 -0.2**
YSS *e**PP **pP** **22 37 58.4 -3.0**
YSS *e* 22 38 49.1
YSS *e* 22 39 34.1
YSS *e*PPP PPP 22 40 24.0
YSS *e*S **S** **22 44 28.9 -2.3**
YSS *e*SS **SS** **22 48 00.0 -5.6**
YSS pmax pmax
comp=Z,90nm,0.9s
YSS MLR MLR
comp=Z,900nm,18.0s
YSS MLR MLR
comp=N,600nm,16.0s
YSS MLR MLR
comp=E,500nm,16.0s
YSS Yuzh-Sakhalins 49.81 19 P **P** **22 37 31.4 0.0**
YSS lAmb lAmb 22 37 32.6
comp=Z,72nm,0.8s
GOA Goa 49.86 290 *i* P **P** **22 37 33.0 +0.7**
DGAR Diego Garcia 50.01 260 P **P** **22 37 33.4 -0.2**
DGAR pmax pmax
comp=Z,558nm,1.8s
DGAR Diego Garcia 50.01 260 P **P** **22 37 33.4 -0.2**
KUR Kuril'sk 50.18 24 *e*P **P** **22 37 35.1 +0.8**
KUR *e*PPP PPP 22 40 31.9
KUR *i* S **S** **22 44 33.3 -3.0**
KUR *e*SS **SS** **22 48 05.7 -5.8**
KUR pmax pmax
comp=Z,327nm,1.5s
KUR pmax pmax
comp=E,85nm,1.2s
KUR pmax pmax
comp=N,304nm,1.5s
KUR pmax pmax
comp=Z,2μm,4.0s
KUR MLR MLR
comp=Z,489nm,14.0s
POO Poona 50.58 294 *i* P **P** **22 37 36.5 -1.3**
POO lAmb lAmb 22 37 40.2
comp=Z,151nm,0.5s
DDI Dehra Dun 51.26 310 *i* P **P** **22 37 42.9 +0.2**
GRNR Gornyy 51.69 12⇑ *i*P **P** **22 37 46.4 +0.9**
GRNR *e* 22 44 47.2
GRNR pmax pmax
comp=N,40nm,0.9s
GRNR pmax pmax
comp=Z,80nm,0.9s
CIT Chita 51.95 353 *e*P **P** **22 37 49.0 +1.5**
CIT *e* 22 38 17.0
CIT *e* 22 38 59.0
CIT *e*S **S** **22 45 02.9 +2.2**
SMLA Simla 52.30 310 *i* P **P** **22 37 51.6 +1.2**
SMLA lAmb lAmb 22 37 58.6
comp=Z,309nm,1.0s
ZAK Zakamensk 52.32 345 *e*P **P** **22 37 51.2 +0.9**
ZAK pmax pmax
comp=Z,40nm,1.1s
WMQ Urumqi 52.96 329 *e*P **P** **22 37 57.5 +2.4**
WMQ Urumqi 52.96 329 P **P** **22 37 57.1 +2.0**
WMQ pmax pmax
comp=Z,114nm,0.8s
WMQ Urumqi 52.96 329 P **P** **22 37 57.1 +2.0**
WMQ lAmb lAmb 22 38 01.2
comp=Z,114nm,0.8s
TYV Tymovskoe 53.27 16 *e*P **P** **22 37 58.0 +0.9**
TYV *e*S **S** **22 45 20.2 +1.7**
TYV pmax pmax
comp=Z,39nm,0.8s
TYV pmax pmax
comp=Z,300nm,6.0s
TYV smax smax
comp=E,3μm,7.3s
ZEA Zeya 53.36 4 *e*P **P** **22 37 57.9 +0.2**
ZEA *e**PP **pP** **22 38 27.6 -0.5**
ZEA *e**SP **PP** **22 40 06.0 +6.6**
ZEA *e*S **S** **22 45 11.3 -8.3**
ZEA *e* 22 47 34.5
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.8s
ZEA pmax pmax
comp=N,100nm,6.3s
ZEA pmax pmax
comp=Z,100nm,5.8s
ZEA pmax pmax
comp=Z,400nm,12.0s
ZEA smax smax
comp=N,900nm,12.5s
TLY Talaya 53.42 346 P **P** **22 37 59.4 +1.2**
comp=N,22nm,0.6s,baz=179,slow=6.5,SNR=45
TLY pP **pP** **22 38 27.8 -0.8**
comp=N,14nm,0.7s,baz=187,slow=9.3,SNR=2.5
TLY S **S** **22 45 22.3 +1.8**
comp=N,3.1nm,0.6s,baz=62,slow=22,SNR=1.5
TLY Talaya 53.42 346*c* *i*P **P** **22 38 00.1 +1.9**
TLY *e*S **S** **22 45 18.6 -1.9**
TLY pmax pmax
comp=Z,116nm,0.9s
TLY MLR MLR
comp=Z,2μm,18.0s
TLY Talaya 53.42 346 P **P** **22 37 59.9 +1.6**
TLY lAmb lAmb 22 38 44.9
comp=Z,108nm,1.1s
DHRM DHARAMSHALA 53.47 311 *i* P **P** **22 37 58.0 -1.2**
IRK Irkutsk 53.79 347 *e*P P 22 37 45.6 -15
IRK *e* 22 38 28.8
IRK *e*S **S** **22 45 21.2 -4.3**
IRK pmax pmax
comp=Z,67nm,3.6s
MOY Mondy 54.09 344 *e*P **P** **22 38 05.1 +1.8**
MOY *e* 22 38 32.7
MOY pmax pmax
comp=Z,124nm,1.8s
NKL Nikolayevsk 54.85 14 *e*P **P** **22 38 09.6 +1.1**
NKL *e*S **S** **22 45 39.1 -0.5**
NKL *e*SS **SS** **22 49 28.2 +3.3**
NKL smax smax
comp=E,50nm,1.2s
NKL MLR MLR
comp=E,856nm,13.0s
NKL MLR MLR
comp=N,6.0nm,15.0s
NKL MLR MLR
comp=Z,490nm,14.0s
AIS Amsterdam Isla 55.82 222 P **P** **22 38 17.3 +1.5**
NIL Nilore 56.39 311 P **P** **22 38 20.8 +0.8**
NIL pmax pmax
comp=Z,470nm,1.4s
NIL Nilore 56.39 311 P **P** **22 38 20.8 +0.8**
NIL Nilore 56.39 311 P **P** **22 38 20.9 +0.9**
ZSN Zaisan 56.92 331⇑ *i*P **P** **22 38 24.1 +0.6**
comp=Z,86nm,1.0s,baz=331
ZSN *i* S **S** **22 46 10.0 +2.6**
comp=Z,347nm,3.0s,baz=331
ZSN Zaisan 56.92 331*c* *i*P **P** **22 38 24.9 +1.4**
ZSN *i* S **S** **22 46 09.9 +2.6**
ZSN pmax pmax
comp=Z,86nm,1.0s
ZSN smax smax
comp=N,347nm,3.0s
SHLS Shalkode 57.07 324⇑ *i*P **P** **22 38 24.9 +0.2**
comp=N,264nm,1.5s,baz=324
SHLS *i* pP **pP** **22 38 53.7 -1.8**
baz=324
SHLS *e*S **S** **22 46 09.5 -0.3**
comp=N,415nm,3.4s,baz=324
SHLS Shalkode 57.07 324*c* *i*P **P** **22 38 24.9 +0.2**
SHLS *i* *PP **pP** **22 38 53.7 -1.8**
SHLS *e*S **S** **22 46 09.4 -0.3**
SHLS pmax pmax
comp=Z,264nm,1.5s
SHLS smax smax
comp=N,415nm,3.4s
KSH Kashi 57.24 319 P **P** **22 38 28.0 +2.0**
KSH pP pP 22 38 57.5 +0.8
KSH S **S** **22 46 18.0 +6.0**
KSH ScS **ScS** **22 48 01.3 -1.8**
KSH SS **SS** **22 50 07.5 +4.2**
KSH pmax pmax
comp=N,71nm,0.8s
KSH pmax pmax
comp=N,2μm,2.9s
KSH LR LR
comp=N,2μm,15.0s
KSH LR LR
comp=N,1μm,11.9s
KSH LR LR
comp=N,2μm,15.1s
UZB Uzynbulak 57.33 324⇑ *i*P **P** **22 38 28.2 +1.6**
comp=N,161nm,1.4s,baz=324
UZB *i* pP **pP** **22 38 57.2 -0.1**
baz=324
UZB *i* S **S** **22 46 15.7 +2.6**
comp=N,489nm,3.5s,baz=324
UZB Uzynbulak 57.33 324*c* *i*P **P** **22 38 28.2 +1.6**
UZB *i* *PP **pP** **22 38 57.2 -0.1**
UZB *i* S **S** **22 46 15.7 +2.6**
UZB pmax pmax
comp=Z,161nm,1.4s
UZB smax smax
comp=E,489nm,3.5s
DGZ Jazzator, Alta 57.34 334*c* *i*P **P** **22 38 28.2 +1.6**
DGZ pmax pmax
comp=Z,219nm,0.8s
BOD Bodaibo 57.63 355 *e*P **P** **22 38 28.8 +0.6**
BOD pmax pmax
comp=Z,78nm,1.1s
SATY Saty 57.64 323⇑ *i*P **P** **22 38 30.7 +1.9**
comp=Z,249nm,1.3s,baz=323
SATY *i* S **S** **22 46 20.2 +3.0**
comp=Z,686nm,4.1s,baz=323
SATY Saty 57.64 323*c* *i*P **P** **22 38 30.6 +1.9**
SATY *i* S **S** **22 46 20.2 +3.0**
SATY pmax pmax
comp=Z,249nm,1.3s
SATY smax smax
comp=E,686nm,4.1s
FUNA Funafuti 57.66 100 P **P** **22 38 30.1 +0.9**
KPKS Kokpek 57.71 324⇑ *i*P **P** **22 38 30.7 +1.5**
comp=E,422nm,1.5s,baz=324
KPKS *e*S **S** **22 46 20.6 +2.5**
baz=324
KPKS Kokpek 57.71 324*c* *i*P **P** **22 38 30.7 +1.5**
KPKS *e*S **S** **22 46 20.6 +2.5**
KPKS pmax pmax
comp=Z,422nm,1.5s
MK31 Makanchi Array 57.77 329 *i* P **P** **22 38 30.7 +1.2**
MK31 pmax pmax
comp=Z,277nm,0.7s
MK31 Makanchi Array 57.77 329 P **P** **22 38 30.7 +1.2**
MKAR Makanchi Array 57.77 329 P **P** **22 38 30.9 +1.4**
comp=Z,274nm,0.7s,baz=121,slow=8.0,SNR=683
MKAR pP **pP** **22 39 00.5 +0.3**
comp=Z,47nm,0.8s,baz=126,slow=8.2,SNR=2.1
MKAR ScP **ScP** **22 43 07.7 -1.3**
comp=Z,8.1nm,0.9s,baz=190,slow=3.4,SNR=4.5
MKAR S **S** **22 46 20.6 +1.9**
comp=Z,5.5nm,1.0s,baz=130,slow=13,SNR=5.1
MKAR PKPPKP **P'P'df** **23 08 11.3 -1.2**
comp=Z,0.8nm,0.8s,baz=331,slow=3.2,SNR=5.3
MKAR P4KPbc 23 15 39.9
comp=Z,2.0nm,0.8s,baz=126,slow=4.9,SNR=19
MKAR Makanchi Array 57.77 329 P **P** **22 38 30.6 +1.1**
MAKZ Makanchi 57.95 329 P **P** **22 38 31.8 +1.1**
MAKZ pmax pmax
comp=Z,172nm,0.8s
MAKZ Makanchi 57.95 329 P **P** **22 38 31.8 +1.1**
MSVF Nonsavu 57.98 111 P **P** **22 38 33.1 +1.6**
MSVF pmax pmax
comp=Z,92nm,0.8s
MSVF Nonsavu 57.98 111 P **P** **22 38 33.1 +1.6**
MSVF lAmb lAmb 22 38 34.6
comp=Z,92nm,0.8s
TNSS Tian-Shan 58.51 323⇑ *e*P **P** **22 38 37.1 +1.9**
baz=322
TNSS Tian-Shan 58.51 323⇑ *e*P **P** **22 38 37.0 +1.9**
ULHL Ulahol 58.51 321 P **P** **22 38 37.5 +2.5**
SNR=20
MDOK Medeo 58.52 323 *i* P **P** **22 38 36.7 +1.7**
baz=323
MDOK *i* S **S** **22 46 31.4 +2.7**
baz=323
MDOK Medeo 58.52 323 *i* P **P** **22 38 36.6 +1.7**
MDOK *i* S **S** **22 46 31.3 +2.7**
AAA Alma-Ata 58.62 323⇑ *i*P **P** **22 38 37.4 +1.8**
comp=Z,93nm,0.9s,baz=322
AAA *e*S **S** **22 46 32.8 +2.9**
baz=322
AAA Alma-Ata 58.62 323*c* *i*P **P** **22 38 37.3 +1.8**
AAA *e*S **S** **22 46 32.7 +2.9**
AAA pmax pmax
comp=Z,93nm,0.9s
TDK Taldyqorghan 58.78 325 *i* P **P** **22 38 38.2 +1.7**
comp=Z,290nm,0.7s,baz=325
TDK *e*S **S** **22 46 34.5 +2.8**
comp=Z,781nm,2.5s,baz=325
TDK Taldyqorghan 58.78 325 *i* P **P** **22 38 38.1 +1.7**
TDK *e*S **S** **22 46 34.5 +2.8**
TDK pmax pmax
comp=Z,290nm,0.7s
TDK smax smax
comp=N,781nm,2.5s
CHKK Chushkaly 58.94 323 *i* P **P** **22 38 38.9 +1.2**
baz=323
CHKK Chushkaly 58.94 323 *i* P **P** **22 38 38.9 +1.2**
TKM2 Tokmak 2 59.27 322 P **P** **22 38 41.9 +1.7**
SNR=159
TKM2 Tokmak 2 59.27 322 *i* P **P** **22 38 41.6 +1.4**
TKM2 pmax pmax
comp=Z,220nm,0.9s
KUU Kurty 59.35 323⇑ *i*P **P** **22 38 42.0 +1.4**
comp=Z,374nm,0.9s,baz=323
KUU *i* S **S** **22 46 41.8 +2.6**
comp=Z,415nm,2.6s,baz=323
KUU Kurty 59.35 323*c* *i*P **P** **22 38 41.9 +1.4**
KUU *i* S **S** **22 46 41.8 +2.6**
KUU pmax pmax
comp=Z,374nm,0.9s
KUU smax smax
comp=N,415nm,2.6s
KBK Karagaybulak 59.54 321 P **P** **22 38 43.9 +2.0**
SNR=116
UCH Uchtor 59.59 321 P **P** **22 38 44.6 +2.0**
SNR=123
OUZ Omahuta 59.68 132 P **P** **22 38 44.5 +1.7**
AAK Ala-Archa 59.81 321 P **P** **22 38 45.7 +1.9**
comp=N,82nm,0.7s,baz=136,slow=5.2,SNR=257
AAK Ala-Archa 59.81 321 P **P** **22 38 45.7 +1.9**
SNR=180
AAK Ala-Archa 59.81 321 *i* P **P** **22 38 45.7 +1.9**
SNR=234
AAK Ala-Archa 59.81 321 *i* P **P** **22 38 45.4 +1.6**
AAK pmax pmax
comp=Z,812nm,1.6s
AAK Ala-Archa 59.81 321 P **P** **22 38 45.1 +1.3**
CHMS Chumysh 59.84 321 P **P** **22 38 45.1 +1.2**
SNR=68
KBL Kabul 59.94 310 P **P** **22 38 45.7 +0.8**
KBL pmax pmax
comp=Z,552nm,0.7s
KBL Kabul 59.94 310 P **P** **22 38 45.7 +0.8**
KBL Kabul 59.94 310 P **P** **22 38 46.0 +1.1**
SNR=308
KBL P **P** **22 38 46.0 +1.1**
SNR=308
AML Almayashu 60.06 320 P **P** **22 38 48.1 +2.2**
SNR=6.4
USP Ospenovka 60.14 322 P **P** **22 38 47.2 +1.3**
SNR=337
SGDS Sogindy 60.16 322⇑ *i*P **P** **22 38 47.1 +1.1**
comp=Z,165nm,1.7s,baz=322
SGDS *e*S **S** **22 46 51.7 +2.1**
comp=Z,360nm,3.9s,baz=322
SGDS Sogindy 60.16 322*c* *i*P **P** **22 38 47.1 +1.1**
SGDS *e*S **S** **22 46 51.7 +2.1**
SGDS pmax pmax
comp=Z,165nm,1.7s
SGDS smax smax
comp=N,360nm,3.9s
EKS2 Erkin-Say 60.28 321 P **P** **22 38 48.8 +1.9**
SNR=244
PEA0B Petropavlovsk- 60.35 24 P **P** **22 38 48.2 +1.2**
PEA0B pmax pmax
comp=Z,219nm,1.2s
PEA0B Petropavlovsk- 60.35 24 P **P** **22 38 48.2 +1.2**
PETK Petropavlovsk- 60.35 24 P **P** **22 38 48.1 +1.0**
comp=Z,28nm,1.0s,baz=204,slow=3.2,SNR=14
PETK pP **pP** **22 39 16.9 -1.2**
comp=Z,109nm,1.0s,baz=202,slow=3.2,SNR=12
PETK LR LR 23 04 11.1
comp=Z,864nm,21.8s,baz=224,slow=35
PETK Petropavlovsk- 60.35 24 P **P** **22 38 47.8 +0.7**
PETK Petropavlovsk- 60.35 24 P **P** **22 38 47.8 +0.7**
DCZ Deep Cove 60.55 145 P **P** **22 38 49.4 +0.8**
DCZ lAmb lAmb 22 38 50.6
comp=Z,82nm,1.0s
PET Petropavlovsk 60.67 24 *e*P **P** **22 38 48.0 -1.2**
PET *e**PP **pP** **22 39 18.3 -2.0**
PET *e**SP **PcP** **22 39 32.2 +0.1**
PET *e*S **S** **22 46 53.2 -2.4**
PET *e* 22 48 24.8
PET *e*SS **SS** **22 50 58.2 +1.7**
PET pmax pmax
comp=Z,94nm,1.3s
PET pmax pmax
comp=Z,400nm,12.3s
PET MLR MLR
comp=Z,1μm,20.0s
PET Petropavlovsk 60.67 24 P **P** **22 38 49.4 +0.1**
FOZ Fox Glacier 61.06 142 P **P** **22 38 52.5 +0.4**
FOZ lAmb lAmb 22 38 57.0
comp=Z,97nm,0.9s
SEM Semipalatinsk 61.16 331⇑ *i*P **P** **22 38 53.0 +0.1**
comp=Z,54nm,1.1s,baz=331
SEM *e*S **S** **22 47 02.0 -0.5**
baz=331
SEM Semipalatinsk 61.16 331*c* *i*P **P** **22 38 53.0 +0.1**
SEM *e*S **S** **22 47 01.9 -0.5**
SEM pmax pmax
comp=Z,54nm,1.1s
WKZ Wanaka 61.28 144 P **P** **22 38 54.1 +0.6**
WKZ lAmb lAmb 22 39 10.9
comp=Z,101nm,1.2s
BTLS Baital 61.35 323⇑ *i*P **P** **22 38 54.9 +0.9**
comp=Z,135nm,1.7s,baz=323
BTLS *e*S **S** **22 47 06.2 +1.5**
comp=Z,370nm,5.4s,baz=323
BTLS Baital 61.35 323*c* *i*P **P** **22 38 54.9 +0.9**
BTLS *e*S **S** **22 47 06.1 +1.5**
BTLS pmax pmax
comp=Z,135nm,1.7s
BTLS smax smax
comp=E,370nm,5.4s
QRZ Quartz Range 61.43 138 P **P** **22 38 56.2 +1.5**
QRZ lAmb lAmb 22 38 57.4
comp=Z,136nm,0.8s
ZAA0 Zalesovo Array 61.56 336 P **P** **22 38 55.1 -0.2**
ZAA0 lAmb lAmb 22 38 57.5
comp=Z,135nm,0.8s
ZALV Zalesovo Beam 61.56 336 P **P** **22 38 55.8 +0.6**
comp=Z,170nm,0.8s,baz=125,slow=5.6,SNR=298
ZALV pP **pP** **22 39 25.3 -1.1**
comp=Z,36nm,0.9s,baz=111,slow=8.1,SNR=2.4
ZALV S **S** **22 47 07.0 +0.1**
comp=Z,6.9nm,1.0s,baz=147,slow=13,SNR=7.2
ZALV PKPPKP 23 08 05.5
comp=Z,5.8nm,0.9s,baz=298,slow=3.1,SNR=5.8
ZALV LR LR 23 08 09.2
comp=Z,864nm,19.8s,baz=128,slow=38
ZALV Zalesovo Beam 61.56 336 P **P** **22 38 54.9 -0.3**
MKAZ Moumakai 61.61 133 P **P** **22 38 58.2 +2.3**
YAK Yakutsk 61.78 4 P **P** **22 38 57.0 +0.5**
comp=Z,100nm,0.7s,baz=79,slow=0.4,SNR=90
YAK pP **pP** **22 39 26.4 -1.5**
comp=Z,85nm,0.8s,baz=349,slow=2.2,SNR=4.9
YAK S **S** **22 47 06.1 -3.1**
comp=Z,5.1nm,0.4s,baz=314,slow=21,SNR=5.8
YAK Yakutsk 61.78 4*c* *i*P **P** **22 38 56.7 +0.2**
YAK *e**PP **pP** **22 39 25.6 -2.2**
YAK *e* 22 39 34.0
YAK *e* 22 41 12.7
YAK *e*PPP PPP 22 42 42.5
YAK *e*S **S** **22 47 08.5 -0.7**
YAK *e* 22 48 32.0
YAK *e*SS **SS** **22 51 15.0 +1.6**
YAK pmax pmax
comp=Z,115nm,0.7s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=N,33nm,1.0s
YAK pmax pmax
comp=Z,147nm,2.1s
YAK pmax pmax
comp=N,149nm,2.3s
YAK pmax pmax
comp=E,42nm,2.1s
YAK smax smax
comp=N,874nm,2.5s
YAK smax smax
comp=E,321nm,2.3s
YAK Yakutsk 61.78 4 P **P** **22 38 56.5 0.0**
KUZ Kuaotunu 61.87 133 P **P** **22 38 59.4 +1.8**
RPZ Rata Peaks 61.92 142 LR LR 23 04 55.6
comp=E,2μm,22.0s,baz=292,slow=35
RPZ Rata Peaks 61.92 142 P **P** **22 38 58.6 +0.7**
DZA Taraz 61.95 320 *e*P **P** **22 38 59.1 +1.0**
comp=E,143nm,1.5s,baz=320
DZA *e*S **S** **22 47 14.5 +2.2**
baz=320
DZA Taraz 61.95 320 *e*P **P** **22 38 59.1 +1.0**
DZA *e*S **S** **22 47 14.5 +2.2**
DZA pmax pmax
comp=Z,143nm,1.5s
HIZ Hauiti 61.99 135 P **P** **22 38 59.5 +1.1**
HIZ Hauiti 61.99 135 P **P** **22 39 00.5 +2.1**
TOZ Tahuroa Road 62.12 134 P **P** **22 39 01.6 +2.3**
KURBB Kurchatov Arra 62.14 330 P **P** **22 39 00.5 +1.3**
comp=Z,272nm,0.8s,baz=130,slow=5.8,SNR=587
KURBB pP **pP** **22 39 30.2 -0.2**
comp=Z,63nm,1.0s,baz=126,slow=6.5,SNR=2.6
KURBB S **S** **22 47 14.2 -0.1**
comp=Z,5.4nm,1.1s,baz=136,slow=12,SNR=8.6
KURK Kurchatov 62.16 330 P **P** **22 39 00.5 +1.2**
KURK *PP **pP** **22 39 30.2 -0.3**
KURK Kurchatov 62.16 330 P **P** **22 39 00.5 +1.2**
NNZ Nelson 62.19 138 P **P** **22 38 59.9 +0.3**
LTZ Lake Taylor 62.22 140 P **P** **22 39 00.5 +0.6**
LTZ lAmb lAmb 22 39 07.6
comp=Z,73nm,0.9s
OXZ Oxford 62.34 141 P **P** **22 39 00.9 +0.3**
ODZ Otahua Downs 62.37 143 P **P** **22 39 01.2 +0.4**
TLZ Tolley Road 62.39 134 P **P** **22 39 03.2 +2.0**
IUG Iuzhnay 62.45 319⇑ *i*P **P** **22 39 02.8 +1.2**
comp=Z,134nm,0.9s,baz=318
IUG *e*S **S** **22 47 21.1 +2.3**
comp=Z,410nm,2.5s,baz=318
IUG Iuzhnay 62.45 319*c* *i*P **P** **22 39 02.8 +1.2**
IUG *e*S **S** **22 47 21.1 +2.3**
IUG pmax pmax
comp=Z,134nm,0.9s
IUG smax smax
comp=E,410nm,2.5s
MCQ Macquarie Isla 62.56 157 P **P** **22 39 03.9 +2.1**
baz=63,SNR=21
MCQ Macquarie Isla 62.56 157 P **P** **22 39 03.3 +1.5**
MCQ pmax pmax
comp=Z,491nm,0.9s
MCQ Macquarie Isla 62.56 157 P **P** **22 39 03.3 +1.5**
KK31 Karatay Array 62.58 320 P **P** **22 39 02.7 +0.4**
KK31 pmax pmax
comp=Z,278nm,1.4s

KK31 Karatay Array 62.58 320 P **P** **22 39 02.7 +0.4**
KK31 IAmb IAmb 22 39 06.1
comp=Z,278nm,1.4s
KKAR Karatay Array 62.58 320 P **P** **22 39 02.8 +0.5**
KKAR Karatay Array 62.58 320 P **P** **22 39 02.8 +0.5**
KKAR IAmb IAmb 22 39 06.1
comp=Z,278nm,1.4s
KKAR Karatay Array 62.58 320 P **P** **22 39 02.4 0.0**
TWVZ Taurewa 62.64 135 P **P** **22 39 04.2 +1.4**
TUWZ Tuamarina 62.66 138 P **P** **22 39 03.0 +0.2**
WATZ Wairara 62.69 135 P **P** **22 39 05.2 +2.0**
BSWZ Blackbirch Sta 62.75 139 P **P** **22 39 03.7 +0.3**
WTVZ West Tongariro 62.76 135 P **P** **22 39 05.2 +1.5**
KATZ Kakaramea 62.78 135 P **P** **22 39 08.2 +4.3**
RATZ Rangitukua 62.79 135 P **P** **22 39 07.1 +3.3**
KRVZ Karewarewa 62.79 135 P **P** **22 39 05.7 +1.8**
FWVZ Far West T-bar 62.80 135 P **P** **22 39 06.1 +2.0**
NGZ Ngauruhoe 62.80 135 P **P** **22 39 05.9 +1.9**
TRVZ Turoa 62.81 135 P **P** **22 39 05.9 +1.7**
CHM Chimkent 62.81 319⇑ *i*P **P** **22 39 06.2 +2.3**
baz=319
CHM *e*S **S** **22 47 26.5 +3.4**
comp=Z,1μm,4.3s,baz=319
CHM Chimkent 62.81 319 *c i*P **P** **22 39 06.1 +2.3**
CHM *e*S **S** **22 47 26.5 +3.4**
CHM smax smax
comp=E,1μm,4.3s
TMVZ Te Maari 62.84 135 P **P** **22 39 06.2 +2.0**
ETVZ East Tongariro 62.86 135 P **P** **22 39 06.2 +1.8**
KHZ Kahutara 62.86 139 P **P** **22 39 04.5 +0.5**
KHZ IAmb IAmb 22 39 05.6
comp=Z,139nm,0.7s
WNVZ Wahianoa 62.86 135 P **P** **22 39 05.8 +1.4**
OMRZ Omania 62.90 134 P **P** **22 39 07.0 +2.5**
OPRZ Ohinepanea 62.93 134 P **P** **22 39 06.7 +2.1**
BRLS Boroldaу 62.99 319 *e*P **P** **22 39 05.8 +0.7**
comp=Z,171nm,1.4s,baz=319
BRLS *e*S **S** **22 47 27.0 +1.8**
baz=319
BRLS Boroldaу 62.99 319 *e*P **P** **22 39 05.7 +0.7**
BRLS *e*S **S** **22 47 27.0 +1.8**
BRLS pmax pmax
comp=Z,171nm,1.4s
MOVZ Moawhango 63.00 135 P **P** **22 39 05.8 +0.6**
ALRZ Allen Road 63.07 134 P **P** **22 39 05.2 -0.4**
RRRZ Republican Roa 63.10 134 P **P** **22 39 07.3 +1.5**
SNZO South Karori 63.12 138 P **P** **22 39 05.5 -0.3**
MA2 Magadan 63.15 16 S **S** **22 47 28.6 +2.0**
comp=Z,0.8nm,0.2s,baz=318,slow=22,SNR=7.7
MA2 Magadan 63.15 16 *c i*P **P** **22 39 06.6 +0.9**
MA2 pmax pmax
comp=Z,167nm,0.8s
MA2 Magadan 63.15 16 P **P** **22 39 06.5 +0.8**
OGWZ Otaki Gorge 63.21 137 P **P** **22 39 06.8 +0.3**
BHHZ Black Hill Sta 63.25 135 P **P** **22 39 07.1 +0.2**
BHW Baring Head 63.27 138 P **P** **22 39 06.6 -0.3**
MUGZ Murupara 63.34 134 P **P** **22 39 08.6 +1.2**
BKZ Black Stump Fm 63.42 135 P **P** **22 39 08.3 +0.3**
POWZ Post Office Ro 63.43 136 P **P** **22 39 08.2 +0.2**
KWHZ Kaweka Forest 63.48 135 P **P** **22 39 09.1 +0.7**
HOWZ Holdsworth Sta 63.48 137 P **P** **22 39 08.4 +0.1**
URZ Urewera 63.49 134 LR LR 23 07 45.2
comp=Z,791nm,19.9s,baz=211,slow=37
URZ Urewera 63.49 134 P **P** **22 39 08.6 +0.2**
URZ IAmb IAmb 22 39 13.0
comp=Z,132nm,1.0s
URZ Urewera 63.49 134 P **P** **22 39 08.4 0.0**
PNHZ Pukenui 63.53 136 P **P** **22 39 08.9 +0.2**
KRHZ Kereru 63.53 135 P **P** **22 39 08.9 +0.2**
PRWZ Pori Road 63.64 137 P **P** **22 39 09.8 +0.4**
MCHZ McNeill Hill 63.68 135 P **P** **22 39 10.7 +1.0**
TIWZ Tintock 63.68 137 P **P** **22 39 09.7 +0.1**
WPHZ Waipukurau 63.76 136 P **P** **22 39 10.7 +0.5**
RUGZ Raukumara Rang 63.79 133 P **P** **22 39 09.8 -0.7**
SNGZ Shannon Statio 63.87 134 P **P** **22 39 11.7 +0.8**
BFZ Birch Farm 63.89 137 P **P** **22 39 11.0 +0.1**
BFZ IAmb IAmb 22 39 13.0
comp=Z,195nm,1.0s
BFZ Birch Farm 63.89 137 P **P** **22 39 11.0 +0.1**
KAHZ Kahuranaki 63.95 135 P **P** **22 39 12.3 +0.8**
PKGZ Pakihiroa 64.05 133 P **P** **22 39 13.1 +0.9**
MXZ Matakaoa Point 64.09 133 P **P** **22 39 13.1 +0.8**
MXZ IAmb IAmb 22 39 16.1
comp=Z,107nm,0.7s
BRZS Berezniki 64.80 327⇑ *i*P **P** **22 39 17.6 +0.9**
comp=Z,192nm,1.5s,baz=327
BRZS *e*S **S** **22 47 49.5 +2.0**
comp=Z,318nm,2.8s,baz=327
BRZS Berezniki 64.80 327 *c i*P **P** **22 39 17.6 +0.9**
BRZS *e*S **S** **22 47 49.4 +2.0**
BRZS pmax pmax
comp=Z,192nm,1.5s
BRZS smax smax
comp=E,318nm,2.8s
WBK Wadi Bani Khal 65.07 295 P **P** **22 39 18.5 -0.5**
SNR=17
WBK P **P** **22 39 18.5 -0.5**
SNR=17
HRA Herat 65.15 308 P **P** **22 39 19.5 -0.1**
HRA IAmb IAmb 22 39 22.1
comp=Z,97nm,0.9s
WSAR Wadi Sarin 65.49 295 P **P** **22 39 21.1 -0.7**
comp=Z,79nm,0.9s,baz=117,slow=8.0,SNR=43
WSAR pP **PcP** **22 39 51.7 -0.9**
comp=Z,21nm,0.9s,baz=135,slow=7.2,SNR=1.9
MHTO MHTO 65.70 293 P **P** **22 39 22.1 -1.0**
SNR=38
MHTO P **P** **22 39 22.1 -1.0**
SNR=38
JMDO Jabal Madar 65.81 294 P **P** **22 39 23.0 -0.8**
SNR=30
JMDO P **P** **22 39 23.0 -0.8**
SNR=30
DQM DQM 65.93 292 P **P** **22 39 24.0 -0.6**
SNR=22
DQM P **P** **22 39 24.0 -0.6**
SNR=22
SMDO Samad 65.98 295 P **P** **22 39 24.3 -0.7**
SNR=9.8
SMDO P **P** **22 39 24.3 -0.7**
SNR=9.8
BIDO Bidbid 66.00 296 P **P** **22 39 24.5 -0.4**
SNR=24
KNTN Kanton 66.33 93 P **P** **22 39 28.4 +1.2**
KNTN IAmb IAmb 22 39 29.7
comp=Z,182nm,0.8s
SEY Seymchan 66.40 15 S **S** **22 48 08.1 +1.9**
comp=Z,0.8nm,0.6s,baz=72,slow=18,SNR=11
SEY Seymchan 66.40 15 *i*P **P** **22 39 27.6 +0.9**
PAF Port-aux-Franc 66.44 214 P **P** **22 39 28.3 +1.1**
PAF pmax pmax
comp=Z,358nm,1.5s
PAF Port-aux-Franc 66.44 214 P **P** **22 39 28.3 +1.1**
PAF IAmb IAmb 22 39 46.2
comp=Z,358nm,1.5s
BSY Bisya 66.70 295 P **P** **22 39 29.0 -0.5**
SNR=25
BSY P **P** **22 39 29.0 -0.5**
SNR=25
HOQ Hoqain 66.75 295 P **P** **22 39 29.1 -0.6**
SNR=17
HOQ P **P** **22 39 29.1 -0.6**
SNR=17
CASY Casey 67.01 185 P **P** **22 39 31.2 +0.7**
AFI Afiamalu 67.05 105 P **P** **22 39 33.0 +1.2**
AFI pmax pmax
comp=Z,122nm,0.8s
AFI Afiamalu 67.05 105 P **P** **22 39 33.0 +1.2**
AFI IAmb IAmb 22 39 34.9
comp=Z,122nm,0.8s
ARQ Araqi 67.42 295 P **P** **22 39 33.4 -0.6**
SNR=22
SHAO Shalim 67.46 289 *i*P **P** **22 39 33.7 -0.6**
SNR=12
SHAO Shalim 67.46 289 P **P** **22 39 33.6 -0.6**
SNR=13
SOHO SOHO 67.54 296 *i*P **P** **22 39 33.6 -1.1**
SNR=21
SOHO SOHO 67.54 296 P **P** **22 39 33.8 -1.0**
SOHO P **P** **22 39 33.8 -1.0**
BVAR Borovoye Array 67.65 329 P **P** **22 39 34.9 +0.1**
comp=Z,78nm,0.9s,baz=67,slow=11,SNR=137
BVAR pP **pP** **22 40 07.7 +1.0**
comp=Z,50nm,0.9s,baz=133,slow=13,SNR=4.3
BVAR S **S** **22 48 23.9 +2.2**
comp=Z,4.1nm,0.9s,baz=113,slow=13,SNR=7.5
BVAR PKP2bc 23 07 52.7
comp=Z,0.8nm,0.8s,baz=170,slow=9.0,SNR=5.0
BRVK Borovoye 67.72 329 P **P** **22 39 35.6 +0.3**
BRVK pmax pmax
comp=Z,229nm,1.1s
BRVK Borovoye 67.72 329 P **P** **22 39 35.6 +0.3**
BRVK IAmb IAmb 22 39 38.6
comp=Z,229nm,1.1s
MDH Madha 67.96 297 P **P** **22 39 35.3 -2.0**
UOSS Minazif 67.98 297 *i*P **P** **22 39 36.0 -1.4**
SNR=9.3
UOSS Minazif 67.98 297 P **P** **22 39 36.7 -0.8**
UOSS Minazif 67.98 297 P **P** **22 39 36.3 -1.1**
HATD Hatta, Dubai 68.03 297 *i*P **P** **22 39 36.8 -1.0**
SNR=24
HATD Hatta, Dubai 68.03 297 P **P** **22 39 37.2 -0.6**
SNR=18
HATD P **P** **22 39 37.2 -0.6**
SNR=18
DMTO DMTO 68.06 289 P **P** **22 39 37.1 -1.0**
SNR=6.2
DMTO P **P** **22 39 37.1 -1.0**
SNR=6.2
ASHO Ashiyiah 68.07 296 *i*P **P** **22 39 37.3 -0.8**
SNR=48
ASHO Ashiyiah 68.07 296 P **P** **22 39 38.0 -0.1**
SNR=20
BANOM Banah 68.08 298 *i*P **P** **22 39 37.4 -0.6**
SNR=8.5
BANOM Banah 68.08 298 P **P** **22 39 37.9 -0.2**
MSFE Esma-Masafi 68.10 297 *i*P **P** **22 39 37.4 -0.9**
SNR=9.6
MASF Masafi 68.10 297 P **P** **22 39 38.1 -0.2**
MASF P **P** **22 39 40.8 +2.6**
SNR=10
ALNE Al Ain 68.23 296 *i*P **P** **22 39 38.6 -0.5**
SNR=42
ALNE Al Ain 68.23 296 P **P** **22 39 39.1 0.0**
SNR=36
ALNE P **P** **22 39 39.1 0.0**
SNR=36
SHME Shamm 68.24 298 P **P** **22 39 38.2 -0.8**
SOCY Socotra 68.44 283 P **P** **22 39 39.2 -1.4**
SOCY Socotra 68.44 283 P **P** **22 39 38.9 -1.7**
SNR=19
NAZ Nazwa, Dubai 68.47 297 *i*P **P** **22 39 39.5 -1.0**
SNR=8.8
NAZ Nazwa, Dubai 68.47 297 P **P** **22 39 40.0 -0.6**
SNR=9.7
NAZ P **P** **22 39 40.0 -0.6**
SNR=9.7
FAQ Al Faqa, Dubai 68.49 296 *i*P **P** **22 39 39.6 -1.1**
SNR=32
FAQ Al Faqa, Dubai 68.49 296 P **P** **22 39 40.2 -0.5**
SNR=13
FAQ P **P** **22 39 40.2 -0.5**
SNR=13
ASUD Al Ashush, Dub 68.71 296 *i*P **P** **22 39 41.7 -0.3**
SNR=46
ASUD Al Ashush, Dub 68.71 296 P **P** **22 39 42.0 0.0**
SNR=19
ASUD P **P** **22 39 42.0 0.0**
SNR=19
RBK Rabkut 68.74 289 P **P** **22 39 41.3 -1.1**
SNR=12
RBK P **P** **22 39 41.3 -1.1**
SNR=12
RBK P **P** **22 39 41.3 -1.1**
RBK P **P** **22 39 41.3 -1.1**
DOK Doka 68.94 290 P **P** **22 39 42.1 -1.4**
SNR=34
DOK P **P** **22 39 43.0 -0.6**
SNR=16
AJN Ajban 69.01 296 *i*P **P** **22 39 42.9 -0.9**
SNR=14
AJN Ajban 69.01 296 P **P** **22 39 43.3 -0.6**
SNR=21
ASHT Ashkhabad 69.19 311 P **P** **22 39 45.1 +0.4**
ASHT pmax pmax
comp=Z,188nm,0.4s
ASHT Ashkhabad 69.19 311 P **P** **22 39 45.1 +0.4**
WHFO Wadi Hawf 69.20 289 P **P** **22 39 43.6 -1.6**
SNR=15
JOHN Johnston Islan 69.30 72 P **P** **22 39 46.7 +0.9**
GEYT Alibeck 69.39 311 P **P** **22 39 46.7 +0.7**
comp=Z,77nm,0.9s,baz=152,slow=4.7,SNR=84
GEYT pP **pP** **22 40 18.9 +1.0**
comp=Z,19nm,0.9s,baz=140,slow=5.8,SNR=2.2
GEYT S **S** **22 48 43.1 +0.2**
comp=Z,0.9nm,0.4s,baz=36,slow=46,SNR=1.3
GEYT PKP2bc 23 07 50.7
comp=Z,4.5nm,0.8s,baz=264,slow=7.4,SNR=7.5
GEYT Alibeck 69.39 311 P **P** **22 39 46.5 +0.5**
GYA0B ALIBECK ARRAY 69.39 311 P **P** **22 39 46.5 +0.5**
GYA0B IAmb IAmb 22 39 49.0
comp=Z,116nm,0.9s
NIUE Niue 69.45 110 P **P** **22 39 47.5 +0.8**
baz=70,SNR=6.7
NIUE Niue 69.45 110 P **P** **22 39 47.0 +0.3**
ABTO Aybut 69.59 288 P **P** **22 39 46.4 -1.2**
SNR=14
ABTO P **P** **22 39 46.4 -1.2**
SNR=14
AMKA Amchitka 69.90 34 P **P** **22 39 49.1 +0.3**
TIXI Tiksi 71.30 2 P **P** **22 39 56.8 -0.1**
comp=Z,90nm,0.9s,baz=156,slow=5.2,SNR=242
TIXI PKiKP **PKiKP** **22 46 01.8 -0.7**
comp=Z,1.6nm,0.6s,baz=93,slow=1.4,SNR=5.5
TIXI S **S** **22 48 58.3 -5.5**
comp=Z,1.7nm,0.8s,baz=332,slow=20,SNR=25
TIXI Tiksi 71.30 2 *c i*P **P** **22 39 55.8 -1.1**
TIXI Tiksi 71.30 2 P **P** **22 39 55.9 -0.9**
TIXI IAmb IAmb 22 39 57.4
comp=Z,89nm,0.8s
ABKAR Akbulak array 71.83 322 P **P** **22 39 60.0 -0.5**
ABKAR Akbulak array 71.83 322 P **P** **22 40 00.4 -0.1**
ABKAR IAmb IAmb 22 40 03.4
comp=Z,339nm,1.8s
ADK Adak 72.39 35 P **P** **22 40 04.4 +0.7**
ADK pmax pmax
comp=Z,258nm,1.4s
ADK Adak 72.39 35 P **P** **22 40 04.4 +0.7**
ADK IAmb IAmb 22 40 35.8
comp=Z,258nm,1.4s
NRIK Noril'sk 72.62 348 P **P** **22 40 04.7 -0.1**
comp=Z,72nm,0.7s,baz=133,slow=6.2,SNR=131
NRIK pP **pP** **22 40 34.6 -2.3**
comp=Z,33nm,0.9s,baz=150,slow=6.0,SNR=3.3
NRIK S **S** **22 49 16.0 -2.9**
comp=Z,1.9nm,1.0s,baz=356,slow=20,SNR=1.5
NRIK Noril'sk 72.62 348 P **P** **22 40 04.7 -0.1**
AKTO Aktyubinsk 73.41 323 P **P** **22 40 10.1 +0.3**
comp=Z,84nm,0.8s,baz=106,slow=6.4,SNR=79
AKTO pP **pP** **22 40 40.2 -1.8**
comp=Z,50nm,0.9s,baz=126,slow=4.8,SNR=4.5
AKTO S **SKiKP** **22 49 24.7 -3.4**
comp=Z,0.9nm,0.8s,baz=251,slow=16,SNR=1.1
ATKA Atka Island 73.93 35 P **P** **22 40 13.2 +0.4**
ATKA IAmb IAmb 22 40 44.2
comp=Z,222nm,0.9s
BILL Bilibino 74.02 16 *d i*P **P** **22 40 12.4 -0.6**
BILL *e* 22 40 28.5
BILL *e**PP **pP** **22 40 42.7 -2.6**
BILL pmax pmax
comp=Z,59nm,1.7s
BILL Bilibino 74.02 16 P **P** **22 40 12.6 -0.4**
BILL IAmb IAmb 22 40 45.1
comp=Z,172nm,1.4s
SVE Sverdlovsk 74.40 330 *d i*P **P** **22 40 15.0 -0.5**
SVE *i*S **S** **22 49 36.5 -3.0**
SVE pmax pmax
comp=Z,97nm,0.9s
ARU Arti 75.30 329 P **P** **22 40 20.5 -0.2**
comp=Z,24nm,0.8s,baz=98,slow=2.5,SNR=42
ARU pP **pP** **22 40 51.5 -1.4**
comp=Z,58nm,1.0s,baz=110,slow=3.7,SNR=11
ARU S **S** **22 49 46.0 -3.4**
comp=Z,0.2nm,0.3s,baz=332,slow=22,SNR=1.7
ARU Arti 75.30 329 *c i*P **P** **22 40 19.6 -1.0**
ARU pmax pmax
comp=Z,107nm,1.0s
ARU Arti 75.30 329 P **P** **22 40 19.8 -0.8**
ARU IAmb IAmb 22 40 53.6
comp=Z,195nm,1.0s
ABPO Ambohimpanom 75.73 250 P **P** **22 40 23.2 -0.9**
ABPO pmax pmax
comp=Z,19nm,0.8s
ABPO Ambohimpanom 75.73 250 P **P** **22 40 23.2 -0.9**
QRN Al-Qurain 75.88 299 *e*P **P** 22 40 22.6
UMR Umm Al-Rimmam 76.16 300 *e*P **P** 22 40 24.3
RDF Al-Radifah 76.22 300 *e*P **P** 22 40 24.8
MIB Mutribah 76.52 300 *e*P **P** 22 40 26.6
CRZF Crozet Islands 76.68 222 P **P** **22 40 28.4 -0.2**
CRZF IAmb IAmb 22 40 30.1
comp=Z,113nm,0.6s
RST Umm Al-Ruwaisa 76.78 300 *e*P **P** 22 40 27.6
RAYN Ar Rayn 77.47 294 *i*P **P** **22 40 32.3 -1.4**
SNR=68
RAYN Ar Rayn 77.47 294 P **P** **22 40 33.0 -0.7**
RAYN pmax pmax
comp=Z,56nm,1.0s
RAYN Ar Rayn 77.47 294 P **P** **22 40 33.0 -0.7**
AKT Akhty 78.00 312 *e*P **P** **22 40 36.9 +0.6**
AKT *e* 22 40 46.0
AKT *e**PP **pP** **22 41 07.4 -1.3**
AKT pmax pmax
comp=Z,96nm,0.8s
MAK Makhachkala 78.43 314 *e*P **P** **22 40 39.0 +0.6**
MAK *e* 22 43 33.9
MAK *e*PPP PPP 22 45 25.3
MAK *e*S **S** **22 50 26.6 +2.7**
MAK *e**SS **sS** **22 51 22.3 +2.5**
MAK *e*SS **SS** **22 55 27.7 -2.1**
MAK *e*SSS SSS 22 58 57.1
MAK pmax pmax
comp=Z,507nm,1.3s
MAW Mawson 79.01 200 P **P** **22 40 41.0 -0.1**
comp=Z,60nm,0.9s,baz=54,slow=7.6,SNR=28
MAW PKKPbc **PKKPbc** **22 59 32.9 -3.3**
comp=Z,3.8nm,0.6s,baz=264,slow=11,SNR=4.7
MAW LR LR 23 09 58.3
comp=Z,946nm,22.0s,baz=54,slow=31
MAW Mawson 79.01 200 P **P** **22 40 41.6 +0.5**
baz=79,SNR=20
MAW Mawson 79.01 200 P **P** **22 40 41.4 +0.3**
MAW pmax pmax
comp=Z,14nm,0.9s
MAW Mawson 79.01 200 P **P** **22 40 41.4 +0.3**
AKUT Akutan 79.35 35 P **P** **22 40 43.7 +0.5**
AKUT IAmb IAmb 22 40 47.2
comp=Z,215nm,0.7s
GAMB Gambell 79.37 24 P 22 40 44.1
baz=249
GROC Groznyy 79.70 314 *e*P **P** **22 40 44.9 -0.5**
GROC *e* 22 40 53.7
GROC *e**PP **pP** **22 41 17.7 -0.2**
GROC *e*S **S** **22 50 37.4 0.0**
GROC pmax pmax
comp=Z,77nm,1.2s
GNI Garni 80.03 311 P **P** **22 40 48.7 +1.3**
comp=Z,8.4nm,0.7s,baz=283,slow=3.5,SNR=12
GNI PKKPbc **PKKPbc** **22 59 32.2 -0.7**
comp=Z,3.9nm,0.8s,baz=17,slow=2.2,SNR=5.3
GNI Garni 80.03 311 P **P** **22 40 47.5 0.0**
GNI Garni 80.03 311 *ce*P **P** **22 40 49.1 +1.6**
GNI pmax pmax
comp=Z,47nm,1.7s
GNI Garni 80.03 311 P **P** **22 40 48.6 +1.1**
BELG Belogornoye 80.20 323 P **P** **22 40 47.8 -0.1**
comp=Z,165nm,0.9s,baz=86,slow=0.3,SNR=62
BELG S **S** **22 50 38.2 -4.1**
comp=Z,2.7nm,0.7s,baz=268,slow=23,SNR=1.3
KIP Kipapa 80.54 68 P **P** **22 40 51.2 +0.8**
KIP pmax pmax
comp=Z,451nm,1.9s
KIP Kipapa 80.54 68 P **P** **22 40 51.2 +0.8**
KIP IAmb IAmb 22 43 28.2
comp=Z,452nm,1.9s
HON Honolulu 80.55 69 P **P** **22 40 51.5 +1.1**
HON pmax pmax
comp=Z,197nm,0.8s
HON Honolulu 80.55 69 P **P** **22 40 51.5 +1.1**
HON IAmb IAmb 22 40 54.1
comp=Z,197nm,0.8s
XMAS Kiritimati 80.55 88 P **P** **22 40 50.8 +0.2**
KIRV Kirov 80.66 330 P **P** **22 40 49.7 -0.5**
comp=Z,74nm,0.7s,baz=89,slow=2.7,SNR=17
VNDA Vanda 80.75 172 P **P** **22 40 50.4 0.0**
comp=Z,96nm,0.7s,baz=315,slow=5.9,SNR=386
VNDA PKKPbc **PKKPbc** **22 59 29.6 -2.9**
comp=Z,5.4nm,0.8s,baz=256,slow=2.3,SNR=22
VNDA LR LR 23 18 13.8
comp=Z,570nm,18.1s,baz=328,slow=37
VNDA Vanda 80.75 172 P **P** **22 40 50.2 -0.2**
VNDA IAmb IAmb 22 40 52.5
comp=Z,97nm,0.7s
FALS False Pass 80.85 34 P **P** **22 40 51.7 +0.4**
FALS False Pass 80.85 34 P 22 40 51.5
baz=258
ZEI Tsey 81.01 313 *e*P **P** **22 40 53.4 +0.7**
ZEI pmax pmax
comp=Z,55nm,1.0s
GEVA Gevas 81.09 309 P **P** **22 40 53.3 +0.1**
GEVA IAmb IAmb 22 41 30.3
comp=Z,103nm,0.9s
AKH Akhalkalaki 81.13 312⇓ *i*P **P** **22 40 54.4 +1.0**
NCK Nalchik 81.33 314 *i*P **P** **22 40 54.8 +0.6**
NCK pmax pmax
comp=Z,41nm,0.8s
TNA Tin City 81.51 23 P **P** **22 40 55.0 +0.5**
TNA Tin City 81.51 23 P 22 40 55.1
baz=252
SBA Scott Base 81.72 171 P **P** **22 40 56.2 +0.8**
SBA pmax pmax
comp=Z,80nm,0.9s
SBA Scott Base 81.72 171 P **P** **22 40 56.2 +0.8**
KBZ Khabaz 81.86 314 P **P** **22 40 57.5 +0.7**
comp=Z,16nm,0.7s,baz=127,slow=4.8,SNR=34
KBZ PKKPbc **PKKPbc** **22 59 28.4 -0.2**
comp=Z,7.6nm,0.8s,baz=249,slow=2.2,SNR=14
NEY Neytrino 81.93 314 *i*P **P** **22 41 00.2 +2.7**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KVAR Kislovodsk Arr 82.04 314 P **P** **22 40 59.3 +1.3**
comp=Z,8.7nm,0.8s,baz=87,slow=22,SNR=4.7
KIV Kislovodsk 82.05 314⇓ P **P** **22 40 59.7 +1.7**
KIV Kislovodsk 82.05 314 *i*P **P** **22 40 57.1 -0.8**
SNR=8.6
KIV Kislovodsk 82.05 314 *e*P **P** **22 40 57.8 -0.2**
KIV *e**PP **pP** **22 41 28.1 -2.7**
KIV *e* 22 44 07.4
KIV *e*S **S** **22 51 01.7 -0.3**
KIV *e*SS **SS** **22 56 24.9 +0.9**
KIV *e*SSS SSS 22 59 53.7
KIV pmax pmax
comp=Z,68nm,1.0s
KIV pmax pmax
comp=Z,920nm,4.2s
KIV MLR MLR
comp=Z,689nm,19.0s
KIV Kislovodsk 82.05 314 P **P** **22 40 58.5 +0.5**
ANM Nome 82.25 25 P **P** **22 40 59.5 +1.0**
ANM pmax pmax
comp=Z,45nm,1.2s
ANM Nome 82.25 25 P **P** **22 40 59.5 +1.0**
ANM Nome 82.25 25 P 22 40 60.0
baz=254
CHVG Ch'k'valeri 82.33 313⇑ P **P** **22 41 00.0 +0.6**
SDPT Sand Point 82.61 34 P **P** **22 41 00.5 0.0**
SDPT IAmb IAmb 22 41 04.0
comp=Z,189nm,0.8s
SDPT Sand Point 82.61 34 P 22 41 00.5
baz=260
POHA Pohakuloa 82.78 70 P **P** **22 41 03.3 +0.9**
POHA IAmb IAmb 22 41 05.4
comp=Z,138nm,0.8s
MARD Mardin 82.78 307 P **P** **22 41 01.9 -0.1**
PUH Pauahi 83.07 71 P **P** **22 41 05.2 +1.4**
PUH IAmb IAmb 22 41 06.5
comp=Z,186nm,0.9s
PRGR Permogore 83.21 332 *e*P **P** **22 41 02.0 -1.5**
PRGR *e**PP **pP** **22 41 32.4 -3.9**
PRGR pmax pmax
comp=Z,50nm,0.7s
KOPT Kop Dagi 83.25 310 P **P** **22 41 05.8 +1.3**
FURI Furi 83.34 279 P **P** **22 41 06.2 +0.6**
VRH Novokhopyorsk 83.61 321 *e*P **P** **22 41 06.6 +0.9**
VRH pmax pmax
comp=Z,180nm,0.9s
CHGN Chignik 83.91 33 P **P** **22 41 07.7 +0.6**

CHGN Chignik 83.91 33 P 22 41 07.1
baz=262
KIBK Kibwezi 83.97 268 P **P** **22 41 08.2 -0.3**
SNR=14
RDOG Red Dog Mine 84.11 21 P **P** **22 41 09.0 +1.1**
RDOG IAmb IAmb 22 41 56.6
comp=Z,286nm,1.7s
RDOG Red Dog Mine 84.11 21 P 22 41 09.4
baz=256
SOC Sochi 84.14 314 *c iP* **P** **22 41 07.1 -1.6**
SOC *e**PP **pP** **22 41 38.3 -3.3**
SOC *e* 22 44 24.3
SOC *e*S **S** **22 51 18.5 -4.5**
SOC *e*SS **SS** **22 56 53.6 -1.2**
SOC *e*SSS SSS 23 00 26.5
SOC pmax pmax
comp=Z,36nm,0.8s
KMBO Kilima Mbogo 84.75 269 P **P** **22 41 12.5 -0.1**
comp=Z,15nm,0.9s,baz=66,slow=5.9,SNR=45
KMBO LR LR 23 17 54.7
comp=Z,211nm,18.7s,baz=92,slow=35
VORD Divnogorie 85.11 321 *e*P **P** **22 41 13.5 +0.2**
VORD pmax pmax
comp=Z,270nm,0.8s
VSR Storozhevoye 85.21 321 *e*P **P** **22 41 13.9 +0.1**
VSR pmax pmax
comp=Z,270nm,0.8s
VORR Voronezh 85.23 322 *e*P **P** **22 41 14.0 +0.1**
VORR pmax pmax
comp=Z,500nm,1.2s
LPSR Galich'ya Gora 85.49 323 *e*P **P** **22 41 15.6 +0.5**
LPSR pmax pmax
comp=Z,200nm,0.8s
ANN Anapa 85.87 315 *e*P **P** **22 41 14.3 -2.9**
ANN *e**PP **pP** **22 41 46.9 -3.4**
ANN *e* 22 44 35.6
ANN *e*S S 22 51 27.6 -12
ANN pmax pmax
comp=Z,162nm,0.8s
SVW2 Sparrevohn 86.00 29 P **P** **22 41 18.2 +0.6**
KLMR Klimovskoe 86.00 331 *e*P **P** **22 41 15.3 -2.2**
KLMR *e**PP **pP** **22 41 47.4 -3.0**
KLMR *e*S **SKSac** **22 51 29.0 -2.2**
KLMR *e*SS **SS** **22 57 21.5 +0.3**
KLMR pmax pmax
comp=Z,52nm,0.8s
KLMR Klimovskoe 86.00 331 *e*P **P** **22 41 15.4 -2.1**
KLMR AMP 22 41 19.1
comp=Z,52nm,0.8s
KLMR *e*pP **pP** **22 41 47.5 -3.0**
KLMR *e*sP **sP** **22 41 59.3 -4.8**
KLMR *e*S **SKSac** **22 51 29.1 -2.2**
KLMR *e*S **SKSac** **22 51 29.1 -2.2**
KLMR *e*SS **SS** **22 57 21.5 +0.3**
KLMR *e*SS **SS** **22 57 21.5 +0.3**
SII Sitkinak Islan 86.27 33 P 22 41 20.0
baz=265,SNR=5.6
TOKA Tokat 86.34 310 P **P** **22 41 20.2 +0.5**
TOKA IAmb IAmb 22 41 22.4
comp=Z,114nm,0.9s
MOS Moscow 86.52 326 *e*P **P** **22 41 17.9 -2.2**
MOS *e**SP **pP** **22 41 58.4 +5.3**
MOS *e* 22 44 38.2
MOS *e*S **SKSac** **22 51 30.7 -3.9**
MOS *e* 22 51 37.6
MOS *e*PS PS 22 52 38.3 -25
MOS pmax pmax
comp=Z,91nm,1.2s
LODK Lodwar 86.62 273 P **P** **22 41 21.6 -0.1**
SNR=8.1
QRWL Qaraoun 86.72 303 *e*P **P** **22 41 22.8 +1.0**
BHL Bhannes 86.75 304 *e*P **P** **22 41 20.8 -1.2**
OHAK Old Harbor 86.82 33 P 22 41 22.1
baz=266
DQRL Deir Qamar 86.82 304 *e*P **P** **22 41 23.0 +0.7**
A21K Barrow 86.88 19 P **P** **22 41 23.2 +1.7**
A21K Barrow 86.88 19 P 22 41 23.4
baz=262,SNR=18
A21K S 22 51 49.2
baz=262
MMAI Mount Meron Ar 86.94 303 P **P** **22 41 23.3 +0.5**
comp=Z,54nm,1.1s,baz=87,slow=6.8,SNR=35
MMAI pP **pP** **22 41 55.3 -0.6**
comp=Z,92nm,1.2s,baz=83,slow=8.5,SNR=7.9
OBN Obninsk 87.07 325 P **P** **22 41 22.8 0.0**
comp=Z,7.7nm,0.7s,baz=104,slow=3.8,SNR=9.9
OBN pP **pP** **22 41 54.3 -1.6**
comp=Z,27nm,1.1s,baz=104,slow=2.3,SNR=5.4
OBN Obninsk 87.07 325 ⇓ *iP* **P** **22 41 21.9 -0.9**
OBN *e**PP **pP** **22 41 53.5 -2.4**
OBN *e* 22 44 46.5
OBN pmax pmax
comp=Z,195nm,2.7s
OBN Obninsk 87.07 325 P **P** **22 41 22.8 0.0**
OBN IAmb IAmb 22 41 55.2
comp=Z,183nm,1.3s
KDAK Kodiak Island 87.23 32 P **P** **22 41 23.8 +0.2**
comp=Z,39nm,0.8s,baz=269,slow=3.0,SNR=9.7
KDAK Kodiak Island 87.23 32 P **P** **22 41 24.0 +0.4**
KDAK Kodiak Island 87.23 32 P 22 41 23.8
baz=266
EIL Elat 87.25 300 P **P** **22 41 24.7 +0.4**
comp=Z,12nm,0.9s,baz=114,slow=2.6,SNR=7.4
EIL pP **pP** **22 41 57.9 +0.6**
comp=Z,15nm,0.9s,baz=17,slow=1.2,SNR=4.3
IMAR Indian Mountai 87.31 24 P **P** **22 41 23.8 0.0**
RSO Redoubt South 87.33 30 P **P** **22 41 23.6 -0.6**
SYO Syowa Base 87.62 201 ⇑ *eP* **P** **22 41 24.6 -0.6**
SYO Syowa Base 87.62 201 ⇓ *e*PcP **P** **22 41 26.0 +0.8**
SYO Syowa Base 87.62 201 ⇓ *ep*P pP 22 41 56.0 -2.1
SPCR Spurr Chakacha 87.64 29 P 22 41 25.0
baz=266,SNR=8.1
SPCR S 22 51 54.9
baz=266
PPLA Purkeypile 87.75 27 P **P** **22 41 26.6 +0.4**
PPLA Purkeypile 87.75 27 P 22 41 25.4
baz=266
PPLA S 22 51 58.0
baz=266
CHUM Lake Minchumin 87.76 26 P 22 41 26.2
baz=266,SNR=20
CHUM S 22 51 59.4
baz=266
SKT Skwentna 88.01 28 P 22 41 26.0
baz=267,SNR=7.5
BRLK Bradley Lake 88.22 30 P **P** **22 41 27.9 -0.4**
BRLK IAmb IAmb 22 41 29.4
comp=Z,67nm,1.0s
BRSE Bradley Lake S 88.29 30 P 22 41 27.8
baz=268
BPAW Bear Paw Mtn. 88.36 26 P 22 41 28.8
baz=268,SNR=16
BPAW S 22 52 03.7
baz=268
SUA Susitna One 88.36 29 P **P** **22 41 28.4 -0.6**
SUA Susitna One 88.36 29 P 22 41 28.2
baz=268,SNR=9.7
ILGA Ilgaz 88.46 311 P **P** **22 41 29.9 -0.3**
ILGA IAmb IAmb 22 42 13.1
comp=Z,121nm,1.9s
BR131 Keskin Array S 88.50 310 P **P** **22 41 28.9 -1.3**
BR131 pmax pmax
comp=Z,46nm,0.9s
BR131 Keskin Array S 88.50 310 P **P** **22 41 28.9 -1.3**
BRTR Keskin Array B 88.50 310 P **P** **22 41 29.3 -0.9**
comp=Z,22nm,0.8s,baz=127,slow=4.7,SNR=97
BRTR pP **pP** **22 42 02.0 -1.4**
comp=Z,7.1nm,0.8s,baz=128,slow=4.1,SNR=3.1
BRTR PP **PP** **22 45 01.1 +1.0**
comp=Z,6.5nm,0.9s,baz=108,slow=7.9,SNR=4.3
BRTR PKKPbc **PKKPbc** **22 59 12.8 -0.2**
comp=Z,1.1nm,0.8s,baz=170,slow=3.6,SNR=6.3
BRTR LR LR 23 27 19.4
comp=Z,364nm,21.5s,baz=94,slow=40
BRTR Keskin Array B 88.50 310 P **P** **22 41 29.0 -1.3**
MLY Manley 88.50 25 P **P** **22 41 29.5 -0.1**
MLY Manley 88.50 25 P 22 41 29.9
baz=268,SNR=45
MLY S 22 52 05.4
baz=268
PAE Paea 88.61 108 *ep*P pP 22 42 05.0 +1.4
comp=Z,18nm,1.3s
PPT Papeete 88.61 107 P **P** **22 41 31.5 +0.6**
comp=Z,58nm,1.0s,baz=68,slow=24,SNR=4.3
PPT2 Papeete2 88.61 107 *eP* **P** **22 41 33.1 +2.0**
comp=Z,54nm,1.1s
PPT2 *ep*P **pP** **22 42 05.4 +1.6**
comp=Z,80nm,1.4s
PPT2 Papeete2 88.61 107 *e*S **S** **22 52 06.0 -1.3**
comp=Z,2μm,27.8s
PPT2 Papeete2 88.61 107 *e*LR LR 23 09 50.2
comp=Z,2μm,40.0s
CUT Chulitna 88.62 28 P 22 41 31.3
baz=268
CUT S 22 52 03.4
baz=268
TRF Thorofare Moun 88.64 27 P 22 41 29.8
baz=268,SNR=12
TRF S 22 52 04.3
baz=268
LVZ Lovozero 88.65 338 P **P** **22 41 29.4 -0.8**
LVZ pmax pmax
comp=Z,266nm,1.9s
LVZ Lovozero 88.65 338 P **P** **22 41 29.4 -0.8**
LVZ IAmb IAmb 22 43 58.7
comp=Z,266nm,1.9s
CSS Mathiatis 88.69 305 P **P** **22 41 30.6 -0.5**
CSS IAmb IAmb 22 42 09.9
comp=Z,82nm,1.3s
COLD Coldfoot 88.80 23 P **P** **22 41 31.1 +0.3**
COLD Coldfoot 88.80 23 P 22 41 31.6
baz=268,SNR=31
COLD S 22 52 09.0
baz=268
TBI Tubuai 88.80 113 *eP* **P** **22 41 33.9 +2.1**
comp=Z,78nm,0.8s
TBI Tubuai 88.80 113 *eS* **S** **22 52 07.6 -1.2**
comp=Z,2μm,29.8s
TBI Tubuai 88.80 113 *e*LR LR 23 09 56.3
comp=Z,1μm,40.0s
RC01 Rabbit Creek A 88.83 29 P 22 41 30.5
baz=269,SNR=5.4
RC01 S 22 52 05.8
baz=269
SEW Seward 88.95 30 P 22 41 31.7
baz=269
TOLK Toolik Lake Re 89.08 21 P **P** **22 41 32.4 +0.2**
TOLK Toolik Lake Re 89.08 21 P 22 41 32.9
baz=269,SNR=22
TOLK S 22 52 12.1
baz=269
I23K Minto, Yukon-K 89.09 25 P 22 41 32.5
baz=269,SNR=58
I23K S 22 52 11.4
baz=269
APA Apatity 89.12 337 ⇓ *iP* **P** **22 41 31.4 -0.9**
APA *i* *PP **pP** **22 42 02.5 -3.0**
APA *i* 22 45 05.6
APA *i* S **S** **22 52 05.0 -5.0**
APA *i* PS **PS** **22 53 21.0 -10**
APA *i* SS **SS** **22 58 05.0 -1.3**
APA pmax pmax
comp=Z,18nm,1.0s
APA MLR MLR
comp=Z,2μm,23.0s
PMR Palmer 89.13 29 P 22 41 31.8
baz=269
BR231 Keskin MP Arra 89.17 310 P **P** **22 41 32.9 -0.4**
NEA2 Nenana 89.20 26 P **P** **22 41 32.3 -0.5**
NEA2 Nenana 89.20 26 P 22 41 32.4
baz=269,SNR=22
NEA2 S 22 52 12.5
baz=269
MCK McKinley 89.25 26 P 22 41 32.5
baz=269,SNR=26
MCK S 22 52 10.3
baz=269
RND Reindeer 89.28 27 P **P** **22 41 32.6 -0.7**
RND pmax pmax
comp=Z,57nm,0.8s
RND Reindeer 89.28 27 P **P** **22 41 32.6 -0.7**
RND IAmb IAmb 22 41 34.1
comp=Z,57nm,0.8s
WAT2 Susitna Watana 89.40 27 P 22 41 33.2
baz=270,SNR=18
KNK Knik Glacier 89.45 29 P 22 41 33.2
baz=270
SML Sawmill 89.52 28 P **P** **22 41 34.0 -0.4**
SML IAmb IAmb 22 41 37.1
comp=Z,90nm,0.8s
SML Sawmill 89.52 28 P 22 41 34.3
baz=270,SNR=21
SML S 22 52 13.1
baz=270
WRH Wood River Hil 89.63 26 P **P** **22 41 33.8 -0.9**
TCOL CIGO, UAF Yank 89.72 25 P **P** **22 41 34.6 -0.6**
TCOL CIGO, UAF Yank 89.72 25 P 22 41 34.5
baz=270
COLA College 89.73 25 P 22 41 34.6
baz=270
CCB Clear Creek Bu 89.75 26 P **P** **22 41 34.4 -0.9**
WAT6 Susitna Watana 89.79 28 P 22 41 35.7
baz=270,SNR=22
WAT6 S 22 52 17.7
baz=270
POKR Poker Plat Res 89.90 25 P 22 41 36.0
baz=271
POKR S 22 52 20.0
baz=271
SCM Sheep Creek Mo 89.99 28 P **P** **22 41 36.9 +0.3**
SCM pmax pmax
comp=Z,56nm,1.0s
SCM Sheep Creek Mo 89.99 28 P **P** **22 41 36.9 +0.3**
MEH Mehetia 90.05 108 *eP* **P** **22 41 39.7 +2.0**
comp=Z,17nm,0.8s
MEH *ep*P **pP** **22 42 11.5 +1.0**
comp=Z,58nm,1.2s
GLI Glacier Island 90.12 29 P 22 41 37.5
baz=271
HDA Harding Lake 90.12 26 P 22 41 35.9
baz=271,SNR=23
HDA P 22 41 35.9
baz=271,SNR=23
IL31 90.14 25 P **P** **22 41 35.8 -1.3**
ILAR Eielson Array 90.14 25 P **P** **22 41 36.2 -0.9**
comp=Z,5.3nm,0.8s,baz=256,slow=4.8,SNR=76
ILAR S **SKSac** **22 51 49.4 -6.6**
comp=Z,1.0nm,0.9s,baz=322,slow=21,SNR=5.0
ILAR PKKPbc **PKKPdf** **22 59 06.8 +1.9**
comp=Z,1.4nm,1.0s,baz=84,slow=2.2,SNR=4.5
ILAR LR LR 23 20 52.6
comp=Z,313nm,22.0s,baz=270,slow=35
ILAR Eielson Array 90.14 25 P **P** **22 41 35.4 -1.7**
QSPA South Pole Qui 90.30 180 P **P** **22 41 37.9 -0.1**
MDUB Mudurnu 90.37 310 P **P** **22 41 37.5 -1.4**
MDUB IAmb IAmb 22 41 39.9
comp=Z,74nm,0.9s
VAH Vaihoa 90.46 105 *eP* **P** **22 41 41.8 +2.2**
comp=Z,65nm,0.8s
VAH *ep*P **pP** **22 42 13.6 +1.3**
comp=Z,266nm,1.4s
M24K Tolsona, Glenn 90.53 28 P 22 41 39.8
baz=272,SNR=13
KLU Klutina 90.67 29 P 22 41 40.0
baz=272,SNR=11
PAX Paxson 90.83 27 P 22 41 40.6
baz=272,SNR=14
BMAR Burnt Mountain 90.98 23 P **P** **22 41 41.4 +0.4**
MBAR Mbarara 91.27 269 P **P** **22 41 43.3 -0.4**
MBAR pmax pmax
comp=Z,26nm,1.1s
MBAR Mbarara 91.27 269 P **P** **22 41 43.3 -0.4**
N25K Chitina, Valde 91.30 29 P 22 41 43.2
baz=273,SNR=8.0
BMRM Brenner River 91.33 29 P 22 41 42.9
baz=273,SNR=5.9
DOT Dot Lake 91.42 26 P **P** **22 41 42.9 -0.3**
DOT IAmb IAmb 22 42 16.2
comp=Z,89nm,1.8s
SCRK Sand Creek 91.44 26 P **P** **22 41 43.0 -0.4**
SCRK IAmb IAmb 22 42 16.3
comp=Z,103nm,1.9s
SCRK Sand Creek 91.44 26 P 22 41 43.2
baz=274
ELL Elmali 91.46 307 P **P** **22 41 43.8 -0.3**
ELL pmax pmax
comp=Z,63nm,0.9s
ELL Elmali 91.46 307 P **P** **22 41 43.8 -0.3**
ELL IAmb IAmb 22 42 33.8
comp=Z,63nm,0.9s
AKASG Malin Array Be 91.48 321 P **P** **22 41 43.0 -0.6**
comp=Z,36nm,0.8s,baz=70,slow=4.7,SNR=74
AKASG PKKPbc **PKKPdf** **22 59 03.5 +1.2**
comp=Z,4.6nm,0.6s,baz=272,slow=3.2,SNR=20
AKASG LR LR 23 27 46.9
comp=Z,567nm,19.9s,baz=80,slow=39
AKASG Malin Array Be 91.48 321 P **P** **22 41 43.0 -0.6**
AKASG Malin Array Be 91.48 321 P **P** **22 41 42.4 -1.3**
AKBB Malin Array Si 91.48 321 P **P** **22 41 42.3 -1.3**
AKBB pmax pmax
comp=Z,34nm,0.8s
AKBB Malin Array Si 91.48 321 P **P** **22 41 42.3 -1.3**
ARA0 ARCESS Array S 91.93 340 *eP* **P** **22 41 44.2 -1.2**
ARCES ARCESS Array B 91.93 340 P **P** **22 41 44.4 -0.9**
comp=Z,12nm,0.8s,baz=67,slow=3.4,SNR=18
ARCES PKiKP **PKiKP** **22 46 35.4 +0.3**
comp=Z,3.1nm,0.8s,baz=82,slow=1.5,SNR=6.3
ARCES PKKPbc **PKKPdf** **22 59 00.8 -1.1**
comp=Z,2.3nm,0.6s,baz=256,slow=1.8,SNR=15
ARCES LR LR 23 27 11.3
comp=Z,491nm,20.0s,baz=100,slow=38
ARCES ARCESS Array B 91.93 340 P **P** **22 41 44.2 -1.2**
MCARA McCarthy VSAT 92.07 29 P 22 41 46.5
baz=275
MNK Minsk 92.10 324 *eP* **P** **22 41 46.0 -0.4**
MNK *e* 22 42 18.0
K27K Chicken 92.27 26 P **P** **22 41 48.1 +1.1**
K27K Chicken 92.27 26 P 22 41 48.3
baz=276
TIRR Tirgusor 92.31 314 ⇑ P **P** **22 41 47.4 -0.2**
TIRR Tirgusor 92.31 314 P **P** **22 41 46.3 -1.3**
TIRR pmax pmax
comp=Z,104nm,1.5s
TIRR Tirgusor 92.31 314 P **P** **22 41 46.3 -1.3**
TIRR IAmb IAmb 22 42 20.2
comp=Z,104nm,1.5s
HAMF Hammerfest 92.41 341 *eP* **P** **22 41 46.6 -1.0**
VSU Vasula 92.45 328 *eP* **P** **22 41 47.2 -0.7**
CFR Carcaliu 92.47 315 ⇑ P **P** **22 41 47.3 -1.0**
CFR Carcaliu 92.47 315 ⇑ P **PKKPdf** **22 59 02.2 +1.8**
MANT Manisa 92.47 308 P **P** **22 41 48.4 -0.5**
MANT IAmb IAmb 22 41 50.8
comp=Z,111nm,1.1s
L27K Beaver Creek, 92.48 27 P 22 41 49.1
baz=276
BCAR Beaver Creek A 92.50 27 P **P** **22 41 48.5 +0.4**
FIA1 FINESS Array S 92.52 331 P **P** **22 41 47.3 -0.9**
FINES FINESS Array B 92.52 331 P **P** **22 41 47.2 -1.0**
comp=Z,4.9nm,0.6s,baz=53,slow=4.4,SNR=22
FINES PKiKP **PKiKP** **22 46 35.9 -0.3**
comp=Z,3.4nm,0.8s,baz=106,slow=2.4,SNR=8.0
FINES PKKPbc **PKKPdf** **22 59 00.3 -0.4**
comp=Z,1.4nm,0.6s,baz=217,slow=2.3,SNR=6.2
EGAK Eagle 92.59 25 P **P** **22 41 48.3 -0.2**
EGAK IAmb IAmb 22 42 21.6
comp=Z,99nm,1.7s
EGAK Eagle 92.59 25 P 22 41 48.6
baz=276
IDID Didziasalis 92.70 325 *eP* **P** **22 41 50.0 +0.8**
NACGM Naroch 92.71 325 *i* P **P** **22 41 48.9 -0.4**
NACGM *i* P **P** **22 41 48.9 -0.4**
NACGM *i* P **P** **22 41 48.9 -0.4**
NACGM *i* Pb **PcP** **22 41 52.4 +2.6**
comp=Z,69nm,0.8s
NACGM *i* pP pP 22 42 11.9 -11
NACGM *i* sP sP 22 42 23.4 -13
NACGM *i* PP **PP** **22 45 34.6 +1.9**
NACGM *i* PPP PPP 22 47 30.9
NACGM *i* S **SKSac** **22 52 03.6 -7.3**
NACGM *i* sS pS 22 53 12.4 -13
NACGM *i* PS PS 22 53 38.4 -33
NACGM *i* SS SS 22 58 46.3 -12
NACGM *i* SSS SSS 23 02 02.1
BARN Barnard Glacie 92.75 29 P **P** **22 41 50.0 +0.5**
BARN IAmb IAmb 22 41 52.3
comp=Z,81nm,0.9s
KTK1 Kautokeino 92.80 339 *eP* **P** **22 41 48.0 -1.4**
CTG Chitna Glacier 92.92 29 P 22 41 51.4
baz=276
CTGM Chitina Glacie 92.92 29 P **P** **22 41 51.0 +0.7**
IIGN Ignalina 92.99 325 *eP* **P** **22 41 51.0 +0.5**
ISAL Salakas 93.03 326 *eP* **P** **22 41 50.8 +0.1**
BJO1 Bjornoya 93.11 345 *eP* **P** **22 41 50.7 0.0**
VRI Vrincioaia 93.42 316 ⇓ P **P** **22 41 52.5 -0.2**
VRI Vrincioaia 93.42 316 ⇓ P **PKKPdf** **22 59 00.1 +1.3**
TESR Tescani 93.42 316 ⇑ P **P** **22 41 52.0 -0.7**
KBS Kingsbay 93.44 350 *ceP* **P** **22 41 54.7 +2.6**
KBS pmax pmax
comp=Z,29nm,1.3s
KBS Kingsbay 93.44 350 P **P** **22 41 51.5 -0.7**
KBS IAmb IAmb 22 42 08.8
comp=Z,88nm,1.6s
KBS Kingsbay 93.44 350 *i* P **P** **22 41 50.6 -1.6**
DAWY Dawson 93.44 26 P **P** **22 41 52.3 -0.2**
DAWY IAmb IAmb 22 42 31.1
comp=Z,53nm,1.4s
BISRR Bisoca 93.45 315 ⇑ P **PKKPdf** **22 58 58.7 -0.1**
PLOR Plostina 93.47 316 ⇑ P **P** **22 41 52.5 -0.6**
PINM Pinnacle 93.55 30 P 22 41 53.9
baz=277
JETT Jettan, Norway 93.70 340 *eP* **P** **22 41 52.7 -0.9**
BIZ Bicaz 93.77 317 ⇑ P **P** **22 41 54.4 +0.1**
LSZ Lusaka 93.78 255 P **P** **22 41 54.3 -0.9**
LSZ pmax pmax
comp=Z,19nm,0.9s
LSZ Lusaka 93.78 255 P **P** **22 41 54.3 -0.9**
MTSE Matsula 93.94 329 *eP* **P** **22 41 53.2 -1.6**
MLR Muntele Rosu 93.99 315 P **P** **22 41 54.6 -1.0**
comp=Z,10nm,1.0s,baz=18,slow=1.8,SNR=12
MLR PP **PP** **22 45 45.1 +2.0**
comp=Z,5.5nm,0.9s,baz=146,slow=7.3,SNR=2.2
MLR PKKPbc **PKKPdf** **22 58 58.5 +0.6**
comp=Z,3.2nm,0.7s,baz=312,slow=2.1,SNR=8.7
MLR Muntele Rosu 93.99 315 ⇑ P **P** **22 41 55.5 0.0**
MLR Muntele Rosu 93.99 315 ⇑ P **PKKPdf** **22 58 58.2 +0.3**
MLR Muntele Rosu 93.99 315 P **P** **22 41 54.9 -0.6**
MLR pmax pmax
comp=Z,94nm,1.7s
MLR Muntele Rosu 93.99 315 P **P** **22 41 54.9 -0.6**
MLR IAmb IAmb 22 42 29.2
comp=Z,94nm,1.7s
EPYK Eagle Plains 94.18 23 P **P** **22 41 55.4 -0.4**
EPYK IAmb IAmb 22 42 28.6
comp=Z,102nm,1.4s
EPYK Eagle Plains 94.18 23 P 22 41 55.7
baz=280
TRO Tromso 94.19 340 *eP* **P** **22 41 56.1 +0.4**
PABE Paberze 94.25 326 *eP* **P** **22 41 55.8 -0.5**
ALN Alexandroupoli 94.27 311 P **P** **22 41 55.8 -0.9**
ALN pmax pmax
comp=Z,31nm,1.4s
ALN Alexandroupoli 94.27 311 P **P** **22 41 55.8 -0.9**
BURAR Bucovina Array 94.31 318 ⇑ P **P** **22 41 56.8 -0.1**
BURAR Bucovina Array 94.31 318 ⇑ P **PKKPdf** **22 58 58.4 +1.0**
BURAR Bucovina Array 94.31 318 P **P** **22 41 56.4 -0.5**
BUR08 Bucovina Ar. S 94.32 318 P **P** **22 41 56.7 -0.3**
BUR08 IAmb IAmb 22 41 58.9
comp=Z,30nm,0.9s
VOIR 94.62 315 ⇓ P **P** **22 41 57.2 -1.2**
HYT Haines Junctio 94.80 29 P **P** **22 41 59.6 +0.7**
LVV L'vov 94.87 320 *eP* **P** **22 41 59.3 0.0**
LVV *e**PP **pP** **22 42 30.4 -2.2**
LVV *e* 22 52 21.4
LVV *e*S **S** **22 52 55.8 -6.5**
LVV pmax pmax
comp=Z,50nm,1.1s
LVV MLR MLR
comp=N,200nm,20.0s
LVV MLR MLR
comp=E,300nm,20.0s
LVV MLR MLR
comp=Z,400nm,20.0s
SLIT Slitere, Latvi 94.89 328 *eP* **P** **22 41 58.6 -0.5**
SUW Suwalki 94.89 324 *eP* **P** **22 41 59.0 -0.3**
SUW Suwalki 94.89 324 *eP* **P** **22 41 59.0 -0.3**
SUW *e*SKSac **SKSac** **22 52 20.3 -2.5**
ARR Arges 94.92 315 ⇓ P **P** **22 41 59.3 -0.4**
ARR Arges 94.92 315 ⇓ P **PKKPdf** **22 58 56.0 -0.2**
INK Inuvik 94.99 21 P **P** **22 41 58.9 -0.5**
comp=Z,12nm,0.8s,baz=306,slow=4.5,SNR=42
INK PKiKP **PKiKP** **22 46 40.6 +0.3**
comp=Z,2.4nm,0.7s,baz=314,slow=8.0,SNR=5.3
INK Inuvik 94.99 21 P **P** **22 41 58.8 -0.5**
INK IAmb IAmb 22 42 02.0
comp=Z,75nm,1.8s
PLVB Pleven 95.12 313 ⇑ P **P** **22 42 00.0 -0.5**

PBUR Paburge 95.33 326 eP **P** **22 42 01.2 0.0**
IDI Anoyia 95.60 305 P **P** **22 42 02.7 -0.3**
comp=Z,9,8nm,0.8s,baz=87,slow=8.4,SNR=3.5
IDI PKKPbc **PKKPdf** **22 58 55.9 +1.2**
comp=Z,28nm,0.7s,baz=333,slow=1.5,SNR=11
KWP Kalwaria Pacla 95.74 320 eP **P** **22 42 03.6 +0.3**
KWP Kalwaria Pacla 95.74 320 eP **P** **22 42 03.6 +0.3**
KWP eSKSac **SKSac** **22 52 26.3 -1.3**
STEI Steigen 95.91 339 eP **P** **22 42 02.7 -0.9**
LBTB Lobatse 95.96 245 P **P** **22 42 04.1 -0.9**
LBTB pmax pmax
comp=Z,11nm,1.1s
LBTB Lobatse 95.96 245 P **P** **22 42 04.1 -0.9**
NOR Nord 95.97 354 *i* P **P** **22 42 02.1 -1.6**
comp=Z,7.4nm,0.8s
NOR Nord 95.97 354 *i* P **P** **22 42 02.1 -1.6**
NOR Nord 95.97 354 *i* P **P** **22 42 02.1 -1.6**
NOR IAmb IAmb 22 42 04.5
comp=Z,7.4nm,0.8s
FAUS Fauske 96.04 338 eP **P** **22 42 03.6 -0.7**
N2TV Tvrnvik 96.05 338 eP **P** **22 42 05.6 +1.4**
WHY Whitehorse 96.09 29 P **P** **22 42 05.5 +0.7**
DRGR 96.10 317 ⇑P **P** **22 42 04.2 -0.9**
DRGR 96.10 317 ⇑P **PKKPbc** **22 58 53.1 -0.6**
BOSA Boshof 96.10 241 P **P** **22 42 05.0 -0.5**
comp=Z,3.9nm,0.8s,baz=88,slow=4.2,SNR=6.4
BOSA PKKPbc **PKKPbc** **22 58 53.3 +0.3**
comp=Z,5.3nm,1.1s,baz=257,slow=3.3,SNR=6.5
BOSA LR LR 23 19 53.7
comp=Z,221nm,21.2s,baz=90,slow=32
SKAG Skagway 96.11 30 P 22 42 06.3
baz=281,SNR=16
KOLS Kolonicke sedl 96.12 319 eP **P** **22 42 05.5 +0.5**
KOLS Kolonicke sedl 96.12 319 ePDIFF **P** **22 42 05.5 +0.5**
UZH Uzhgorod 96.14 319 eP **P** **22 42 05.0 -0.1**
UZH e 22 42 36.2
UZH e 22 52 29.0
UZH eS **S** **22 53 12.0 -1.3**
UZH e 22 54 33.0
VTS Vitosha 96.21 313 ⇑P **P** **22 42 04.3 -1.4**
VTS Vitosha 96.21 313 ⇑P **PKKPbc** **22 58 53.1 -0.2**
VTS Vitosha 96.21 313 P **P** **22 42 04.8 -1.0**
VTS pmax pmax
comp=Z,17nm,1.1s
VTS Vitosha 96.21 313 P **P** **22 42 04.8 -1.0**
LOF Lofoten 96.47 339 eP **P** **22 42 06.7 +0.6**
HERR Herculane 96.53 315 ⇑P **P** **22 42 05.6 -1.4**
HERR Herculane 96.53 315 ⇑P **PKKPdf** **22 58 51.6 -1.6**
BEL Belsk 96.64 322 eP **P** **22 42 07.7 +0.4**
BEL Belsk 96.64 322 eP **P** **22 42 07.7 +0.4**
BEL eSKSac **SKSac** **22 52 32.7 +0.6**
CRVS Cervenica-Dubn 96.65 319 eP **P** **22 42 08.3 +0.9**
CRVS e 22 42 40.3
CRVS Cervenica-Dubn 96.65 319 ePDIFF **P** **22 42 08.3 +0.9**
CRVS e 22 42 40.3
MOR8 Moi Rana 96.70 337 eP **P** **22 42 07.1 -0.2**
UPP Uppsala 96.87 331 eP **P** **22 42 08.0 -0.1**
BZS Buzias 97.00 316 ⇓P **PKKPdf** **22 58 50.5 -1.9**
MDVR Moldovita 97.04 315 ⇑P **P** **22 42 08.3 -1.1**
MDVR Moldovita 97.04 315 ⇑P **PKKPdf** **22 58 50.6 -1.7**
STOK Stokkvaagen 97.20 337 eP Pdif 22 42 09.7 +0.2
NIE Niedzica 97.33 320 eP Pdif 22 42 11.4 +0.9
NIE Niedzica 97.33 320 eP Pdif 22 42 11.5 +0.9
NIE eSKSac **SKSac** **22 52 35.2 -0.6**
OJC Ojcow 97.52 321 eP Pdif 22 42 11.7 +0.3
OJC Ojcow 97.52 321 eP Pdif 22 42 11.7 +0.3
OJC eSKSac **SKSac** **22 52 35.4 -1.3**
PSZ Piszkesteto 97.83 318 ⇑P **P** **22 42 12.2 -0.6**
PSZ Piszkesteto 97.83 318 P **P** **22 42 12.4 -0.5**
PSZ pmax pmax
comp=Z,85nm,2.0s
PSZ Piszkesteto 97.83 318 P **P** **22 42 12.4 -0.5**
PSZ IAmb IAmb 22 42 45.7
comp=Z,85nm,2.0s
LANS Liptovska Anna 97.91 320 eP Pdif 22 42 14.2 +1.0
LANS Liptovska Anna 97.91 320 ePDIFF Pdif 22 42 14.2 +1.0
C36M Paulatuk 97.92 19 P **P** **22 42 10.9 -1.7**
C36M IAmb IAmb 22 42 14.2
comp=Z,28nm,0.8s
C36M Paulatuk 97.92 19 P 22 42 12.6
baz=293
NSS Namsos 98.18 336 ePdif Pdif 22 42 14.2 +0.2
EUNU Eureka 98.43 5 P **P** **22 42 14.1 -0.7**
EUNU IAmb IAmb 22 42 47.4
comp=Z,46nm,1.4s
VYHS Vyhne 98.43 319 eP Pdif 22 42 15.8 +0.3
VYHS Vyhne 98.43 319 ePDIFF Pdif 22 42 15.8 +0.3
KOLL Kolacno 98.70 319 ePDIFF Pdif 22 42 17.0 +0.4
HFS Hagfors 98.72 331 PKKPbc PKKPbc 22 58 43.9 -2.9
comp=Z,3.4nm,0.7s,baz=191,slow=3.0,SNR=4.6
DLBC Dease Lake 99.02 30 P **Pdif** **22 42 18.1 +0.1**
comp=Z,7.2nm,0.8s,baz=293,slow=4.5,SNR=11
DLBC PKiKP **PKiKP** **22 46 48.5 +0.7**
comp=Z,3.9nm,0.9s,baz=270,slow=7.6,SNR=3.4
DLBC LR LR 23 22 30.0
comp=Z,344nm,21.7s,baz=288,slow=32
DLBC Dease Lake 99.02 30 **Pdif** **22 42 18.3 +0.4**
DLBC IAmb IAmb 22 42 52.0
comp=Z,33nm,1.2s
MORC Moravsky Berou 99.03 321 ⇑P **Pdif** **22 42 17.1 -1.0**
MORC Moravsky Berou 99.03 321 ePDIFF **Pdif** **22 42 18.5 +0.4**
MORC e 22 42 50.2
MORC ePP **PP** **22 46 27.3 +5.6**
MORC Moravsky Berou 99.03 321 P **Pdif** **22 42 18.0 -0.1**
MORC pmax pmax
comp=Z,14nm,0.9s
MORC Moravsky Berou 99.03 321 **Pdif** **22 42 18.0 -0.1**
JAVC Velka Javorina 99.12 320 ePDIFF **Pdif** **22 42 19.7 +1.1**
JAVC e 22 42 51.3
KRLC Kraliky 99.45 321 *i* P **Pdif** **22 42 20.4 +0.4**
KRLC e 22 43 09.0
KRLC Kraliky 99.45 321 ePDIFF **Pdif** **22 42 20.4 +0.4**
KRLC ex x 22 43 09.0
KRLC ePKKP **PKKPbc** **22 58 43.7 -0.8**
MODS Modra-Piesok 99.47 319 eP **Pdif** **22 42 20.5 +0.4**
MODS Modra-Piesok 99.47 319 ePDIFF **Pdif** **22 42 20.5 +0.4**
NO02 NORSAR Array S 99.56 332 ePdif **Pdif** **22 42 19.9 -0.2**
KSP Ksiaz 99.59 322 eP **Pdif** **22 42 21.3 +0.7**
KSP Ksiaz 99.59 322 eP **Pdif** **22 42 21.3 +0.7**
KSP eSKSac **SKSac** **22 52 45.8 -1.3**
NB2 NORSAR Subarra 99.62 333 P **Pdif** **22 42 19.5 -1.0**
comp=Z,13nm,1.4s,baz=73,slow=4.6
NB2 NORSAR Subarra 99.62 333 P **Pdif** **22 42 19.5 -1.0**
baz=73,slow=4.6
NOA NORSAR Array B 99.62 333 P **Pdif** **22 42 20.2 -0.3**
comp=Z,1.6nm,0.7s,baz=73,slow=4.5,SNR=8.1
NOA PP **PP** **22 46 30.0 +4.2**
comp=Z,3.1nm,0.8s,baz=75,slow=8.0,SNR=4.9
NOA PKiKP **PKiKP** **22 46 48.9 +0.1**
comp=Z,1.6nm,0.9s,baz=263,slow=3.2,SNR=1.9
NOA LR LR 23 28 53.6
comp=Z,568nm,21.9s,baz=80,slow=36
DPC Dobruska-Polom 99.68 321 *i* P **Pdif** **22 42 21.9 +0.9**
DPC Dobruska-Polom 99.68 321 ePDIFF **Pdif** **22 42 21.9 +0.9**
OSTC Ostas 99.70 321 ePDIFF **Pdif** **22 42 21.7 +0.6**
OSTC ePKKP **PKKPbc** **22 58 42.3 -1.5**
VRAC Vranov 99.73 320 P **Pdif** **22 42 21.3 +0.1**
comp=Z,8.6nm,0.9s,baz=97,slow=3.9,SNR=9.0
VRAC PP **PP** **22 46 27.6 +0.7**
comp=Z,1.5nm,0.3s,baz=20,slow=4.9,SNR=3.5
VRAC PKKPbc **PKKPbc** **22 58 41.8 -1.8**
comp=Z,2.0nm,0.7s,baz=260,slow=7.2,SNR=6.0
VRAC Vranov 99.73 320 ⇓P **Pdif** **22 42 20.9 -0.4**
VRAC Vranov 99.73 320 ePDIFF **Pdif** **22 42 20.6 -0.6**
VRAC e 22 42 53.0
VRAC ePP **PP** **22 46 29.7 +2.8**
CHVC Chvalec 99.80 322 ePDIFF **Pdif** **22 42 22.4 +0.9**
CHVC ex x 22 43 14.1
DAG Danmarks Havn 99.89 351 *i* P **Pdif** **22 42 19.8 -1.5**
comp=Z,16nm,1.0s
DAG Danmarks Havn 99.89 351 *i* P **Pdif** **22 42 19.8 -1.5**
DAG Danmarks Havn 99.89 351 *i* P **Pdif** **22 42 19.9 -1.5**
DAG IAmb IAmb 22 42 22.5
comp=Z,16nm,1.0s
KRUC Moravsky 99.91 320 ePDIFF **Pdif** **22 42 21.5 -0.5**
KRUC e 22 42 54.0
KRUC ePP **PP** **22 46 32.3 +4.0**
OSL Oslo 100.20 332 ePdif **Pdif** **22 42 22.8 -0.2**
DOMB Dombas 100.25 334 ePdif **Pdif** **22 42 22.3 -1.0**
TREC Trest 100.44 320 eSKS 22 52 48.2
TREC ePKKP 22 58 40.8
CONA Conrad Observa 100.49 319 eP **Pdif** **22 42 24.9 +0.2**
comp=Z,3.7nm,1.2s
CONA eP **PP** **22 46 35.6 +2.7**
comp=Z,12nm,1.2s
CONA *i* P **PKKPbc** **22 58 40.3 -1.2**
comp=Z,4.9nm,0.6s,SNR=9.6
PVCC Panska Ves 100.73 322 *i* P **Pdif** **22 42 27.1 +1.5**
PVCC Panska Ves 100.73 322 ePDIFF **Pdif** **22 42 27.1 +1.5**
SNAA Sanae 100.77 195 PP **PP** **22 46 35.3 +1.1**
SNAA Sanae 100.77 195 Pdiff **Pdif** **22 42 26.2 +0.8**
SNAA Sanae 100.77 195 PKKPbc PKKPbc 22 58 38.1 -3.4
comp=Z,8.3nm,0.9s,baz=257,slow=2.8,SNR=15
SNAA Sanae 100.77 195 P **Pdif** **22 42 25.9 +0.4**
SNAA Sanae 100.77 195 Pdif **Pdif** **22 42 25.9 +0.4**
KONO Kongsberg 100.83 331 ePdif **Pdif** **22 42 26.0 +0.1**
ARSA Arzberg 100.86 318 eP **Pdif** **22 42 26.6 +0.3**
comp=Z,3.6nm,1.2s
ARSA eP **PP** **22 46 36.6 +1.0**
comp=Z,2.3nm,0.7s
ARSA eS **SKSac** **22 52 52.1 -1.4**
comp=Z,3.9nm,1.2s
ARSA *i* P **PKKPbc** **22 58 39.5 -0.9**
comp=Z,3.4nm,0.7s,SNR=4.7
PRU Pruhonice 100.88 321 *i* P **Pdif** **22 42 26.9 +0.6**
PRU Pruhonice 100.88 321 ePDIFF **Pdif** **22 42 26.9 +0.6**
BRG Berggiesshubel 101.03 322 ⇓Piff **Pdif** **22 42 27.0 0.0**
BRG ⇓*i*Piff **Pdif** **22 42 37.4 +10**
BRG Amp 22 42 39.4
comp=Z,14nm,1.1s
BRG ⇓pPiff 22 42 59.8
BRG Amp 22 43 02.7
comp=Z,11nm,1.3s
BRG PP **PP** **22 46 31.8 -4.9**
BRG Amp 22 46 32.8
comp=Z,12nm,1.3s
BRG PKiKP **PKiKP** **22 46 56.6 +5.1**
BRG Amp 22 47 00.2
comp=Z,15nm,1.2s
BRG ⇑SKS **SKSac** **22 52 53.0 -1.1**
BRG SP **SP** **22 55 25.0 -0.5**
BRG ex x 22 56 31.0
BRG SS **SS** **23 00 57.0 +1.1**
PBCC Pribram 101.29 321 ePDIFF **Pdif** **22 42 28.3 +0.1**
PBCC ePKKP **PKKPbc** **22 58 38.0 -1.2**
CKRC Cesky Krumlov 101.30 320 ePDIFF **Pdif** **22 42 27.5 -0.8**
CKRC ePKKP **PKKPbc** **22 58 36.0 -3.1**
SOKA Soboth 101.32 318 eP **PP** **22 46 38.3 -0.8**
comp=Z,0.4nm,0.3s
SOKA eP **PKKPbc** **22 58 35.5 -3.6**
comp=Z,4.0nm,0.7s
CLL Collm 101.50 323 ePdif **Pdif** **22 42 28.0 -1.0**
CLL e**p**Pdif **pPdif** **22 42 59.0 -3.4**
CLL e(PP) 22 46 33.0
CLL e**p**PP 22 47 05.0
CLL e(PPP) 22 48 40.0
CLL e**p**PPP 22 49 18.0
CLL eSKSac **SKSac** **22 52 52.0 -4.3**
CLL eSdif **Sdif** **22 53 56.0 -2.4**
CLL eSP **SP** **22 55 30.0 -0.4**
CLL ePPS PPS 22 56 42.0
CLL e 22 57 47.0
CLL ePKKPbc **PKKPbc** **22 58 37.0 -1.6**
CLL e 23 00 15.0
CLL eSS **SS** **23 01 06.0 +3.8**
CLL e 23 02 30.0
CLL eSSS SSS 23 04 36.0
CLL e 23 06 06.0
CLL eSSSS 23 08 24.0
CLL e 23 10 48.0
CLL Collm 101.50 323 eP **Pdif** **22 42 28.0 -1.0**
CLL e 22 52 52.0
CLL eS **Sdif** **22 53 56.0 -2.4**
CLL Collm 101.50 323 eL L 23 34 06.1
comp=Z,619nm,22.0s
MOA Molln 101.56 319 eP **Pdif** **22 42 30.0 +0.6**
comp=Z,4.7nm,0.9s
MOA eP **PP** **22 46 37.6 -3.2**
comp=Z,6.8nm,1.4s
MOA eP **PKKPbc** **22 58 37.0 -1.3**
comp=Z,5.6nm,0.7s
OBKA Obir 101.68 318 eP **Pdif** **22 42 30.7 +0.6**
comp=Z,8.6nm,1.3s
OBKA eP **PP** **22 46 41.5 -0.3**
comp=Z,7.8nm,1.2s
OBKA *i* P **PKKPbc** **22 58 37.4 -0.6**
comp=Z,6.9nm,0.7s,SNR=8.5
GEC2 GERESS Array S 101.69 320 eL L 23 31 32.7
comp=Z,485nm,20.4s
GERES GERESS Array B 101.69 320 P **Pdif** **22 42 29.8 -0.3**
comp=Z,3.5nm,0.9s,baz=84,slow=5.5,SNR=12
GERES PP **PP** **22 46 42.7 +0.9**
comp=Z,1.8nm,0.8s,baz=90,slow=7.8,SNR=3.8
GERES PKiKP **PKiKP** **22 46 53.0 +0.1**
comp=Z,1.8nm,0.7s,baz=93,slow=2.7,SNR=3.7
GERES PKPbc **PKKPbc** **22 58 37.2 -0.9**
comp=Z,3.3nm,0.8s,baz=222,slow=1.8,SNR=9.6
KHC Kasperske Hory 101.69 320 *i* P **Pdif** **22 42 30.3 +0.3**
KHC e 22 52 51.1
KHC MLR MLR
comp=Z,600nm,20.2s
KHC Kasperske Hory 101.69 320 ePDIFF **Pdif** **22 42 30.3 +0.3**
KHC ex x 22 43 17.3
KHC ex x 22 46 05.0
KHC e**P**KP **PKiKP** **22 46 54.5 +1.6**
KHC eSKS 22 52 51.1
KHC e**P**KKP **PKKPbc** **22 58 35.4 -2.6**
KHC AMS AMS 23 34 00.0
comp=Z,600nm,20.2s
DBG Daneborg 102.06 350 *i* P **Pdif** **22 42 31.4 +0.4**
RKT Rikitea 102.12 113 eLR LR 23 16 06.4
comp=Z,649nm,37.0s
WET Wettzell 102.14 321 eL L 23 34 56.1
comp=Z,648nm,18.7s
MYKA Terra Mystica 102.26 318 eP **PP** **22 46 40.8 -5.4**
comp=Z,7.9nm,1.1s
MYKA eS **SKSac** **22 52 59.5 -0.9**
comp=Z,4.5nm,1.0s
MYKA *i* P **PKKPbc** **22 58 35.4 -1.0**
comp=Z,7.9nm,0.6s,SNR=8.8
BSEG Bad Segeberg 102.31 326 eL L 23 35 43.4
comp=Z,837nm,19.6s
KBA Koelnbreinsper 102.35 318 eP **Pdif** **22 42 32.4 -0.7**
comp=Z,4.3nm,1.2s
KBA eP **PP** **22 46 46.6 -0.3**
comp=Z,9.1nm,1.1s
KBA eS **SKSac** **22 52 54.6 -6.4**
comp=Z,6.8nm,1.0s
KBA *i* P **PKKPbc** **22 58 34.8 -1.4**
comp=Z,4.3nm,0.6s,SNR=6.8
VNA2 Neumayer--Watz 102.40 195 Pdiff **Pdif** **22 42 33.7 +1.1**
MOX Moxa 102.52 322 eL L 23 35 57.5
comp=Z,628nm,20.8s
VNA3 Neumayer Olymp 102.78 194 Pdiff **Pdif** **22 42 34.3 0.0**
VNA1 Neumayer--Stat 102.80 195 Pdiff **Pdif** **22 42 34.7 +0.4**
ABTA Abfaltersbach 102.98 318 *i* P **Pdif** **22 42 35.0 -0.9**
comp=Z,8.7nm,1.1s,SNR=5.1
ABTA eP **PKiKP** **22 46 54.5 -0.9**
comp=Z,8.2nm,0.9s
ABTA eS **SKSac** **22 53 00.8 -3.0**
comp=Z,13nm,1.9s
ABTA *i* P **PKKPbc** **22 58 33.2 -1.0**
comp=Z,10nm,0.8s,SNR=9.7
GRF Grafenberg Arr 103.03 321 ePKKbc 22 58 33.9
GRF eL L 23 34 29.0
comp=Z,518nm,20.1s
FUR Furstenfeldbru 103.42 320 eL L 23 35 14.4
comp=Z,476nm,20.1s
WTTA Wattenberg 103.43 319 *i* P **Pdif** **22 42 37.6 -0.4**
comp=Z,9.1nm,0.9s,SNR=8.1
WTTA eP **PP** **22 46 48.9 -6.0**
comp=Z,9.6nm,0.8s
WTTA eS **SKSac** **22 53 04.4 -1.6**
comp=Z,4.2nm,0.8s
WTTA *i* P **PKKPbc** **22 58 32.3 -0.8**
comp=Z,8.2nm,0.7s,SNR=8.1
WATA Walderalm 103.45 319 eP **Pdif** **22 42 37.2 -0.8**
comp=Z,6.6nm,1.0s
WATA eP **PP** **22 46 50.7 -4.4**
comp=Z,7.7nm,1.2s
WATA eS **SKSac** **22 53 03.4 -2.7**
comp=Z,4.1nm,0.9s
WATA *i* P **PKKPbc** **22 58 32.0 -1.0**
comp=Z,4.8nm,0.6s,SNR=5.6
SQTA Sankt Quirin 103.72 319 *i* P **Pdif** **22 42 38.6 -0.5**
comp=Z,4.6nm,0.8s,SNR=4.1
SQTA eP **PKiKP** **22 46 53.0 -3.7**
comp=Z,8.4nm,1.1s
SQTA eS **SKSac** **22 53 04.5 -2.7**
comp=Z,11nm,1.2s
SQTA *i* P **PKKPbc** **22 58 30.9 -1.2**
comp=Z,11nm,0.7s,SNR=11
MOTA Moosalm 103.76 319 eP **Pdif** **22 42 38.8 -0.6**
comp=Z,8.9nm,1.0s
MOTA eP **PKiKP** **22 46 53.1 -3.7**
comp=Z,5.1nm,1.0s
MOTA eS **SKSac** **22 53 05.3 -2.2**
comp=Z,7.3nm,1.0s
MOTA *i* P **PKKPbc** **22 58 31.2 -0.9**
comp=Z,11nm,0.7s,SNR=12
RETA Reutte 103.94 319 eS **SKSac** **22 53 07.0 -1.2**
comp=Z,5.0nm,1.0s
RETA *i* P **PKKPbc** **22 58 31.0 -0.4**
comp=Z,3.4nm,0.7s,SNR=5.5
FETA Feichten 104.09 319 *i* P **Pdif** **22 42 40.8 -0.1**
comp=Z,5.7nm,1.0s,SNR=4.6
FETA eP **PP** **22 47 01.1 +1.2**
comp=Z,12nm,1.1s
FETA eS **SKSac** **22 53 01.2 -7.9**
FETA eP **PKKPbc** **22 58 30.2 -0.8**
comp=Z,8.0nm,0.8s
YKA Yellowknife Ar 104.47 24 Pdiff **Pdif** **22 42 43.7 +1.7**
comp=Z,3.0nm,0.7s,baz=301,slow=4.3,SNR=43
YKA PKiKP **PKiKP** **22 46 57.5 +0.1**
comp=Z,3.2nm,0.7s,baz=323,slow=1.4,SNR=22
YKA PKKPbc **PKKPbc** **22 58 26.2 -4.1**
comp=Z,1.7nm,0.8s,baz=113,slow=2.3,SNR=10
DAVA Damuels 104.57 319 eP **Pdif** **22 42 43.3 +0.3**
comp=Z,8.8nm,1.1s
DAVA eP **PKiKP** **22 46 55.3 -3.0**
comp=Z,12nm,1.1s
DAVA eS **SKSac** **22 53 06.8 -4.4**
comp=Z,6.7nm,1.5s
DAVA eP **PKKPbc** **22 58 29.0 -0.6**
comp=Z,7.3nm,0.7s
TNS Taunus Mts 104.58 323 eL L 23 38 57.8
comp=Z,498nm,20.3s
DAVOX Davos/Dischmat 104.72 319 PKKPbc PKKPbc 22 58 28.6 -0.6
comp=Z,6.2nm,0.8s,baz=265,slow=4.7,SNR=10
BFO Black Forest 105.25 321 eL L 23 32 40.0
comp=Z,545nm,20.3s
SUMG Summit 106.12 354 *i* P **Pdif** **22 42 46.7 -3.0**
SUMG Summit 106.12 354 *i* P **Pdif** **22 42 46.7 -3.0**
SUMG Summit 106.12 354 *i* P **Pdif** **22 42 46.7 -3.0**
B05A Bryant 106.68 39 P 22 47 02.9
baz=290,SNR=6.6
I03D Drain, OR 107.34 44 P 22 47 04.7
baz=288
K02D Willamette Mer 107.42 45 P 22 47 04.3
baz=287
H04D Lebanon 107.50 43 P 22 47 04.6
baz=289
I04A Tendick Farm, 107.96 43 P 22 47 04.9
baz=289
J04D Umpqua Nationa 108.34 44 P 22 47 06.4
baz=289,SNR=8.8
M02C Callahan 108.39 46 P 22 47 06.4
baz=288,SNR=5.4
YBH Yreka Blue Hor 108.39 45 PKiKP **PKiKP** **22 47 06.3 +0.8**
comp=Z,2.9nm,0.7s,baz=52,slow=5.8,SNR=7.0
I05D Terrebonne, OR 108.51 43 P 22 47 06.8
baz=290
L04D Klamath Falls 108.53 45 P 22 47 06.4
baz=288,SNR=5.5
N02D Trinity Center 108.62 46 P 22 47 06.7
baz=288,SNR=5.8
O02D Mt. Diablo Mer 108.80 47 P 22 47 07.6
baz=287
EKA Eskdalemuir Ar 108.89 330 PKKPbc PKKPbc 22 58 13.9 -2.4
comp=Z,1.6nm,0.5s,baz=237,slow=2.9,SNR=10.0
J05D Fort Rock, OR 108.93 44 P 22 47 07.4
baz=289
M04C Macdoel 108.99 45 P 22 47 07.0
baz=288
O03E Paynes Creek 109.48 47 P 22 47 07.9
baz=288,SNR=7.1
NEW Newport 109.76 38 Pdiff **Pdif** **22 43 08.5 +2.5**
comp=Z,3.5nm,0.7s,baz=318,slow=1.3,SNR=5.6
NEW PKiKP **PKiKP** **22 47 09.0 +1.2**
comp=Z,6.4nm,0.8s,baz=147,slow=0.9,SNR=10
NEW Newport 109.76 38 P 22 47 08.8
baz=294,SNR=6.1
MAHO Mahon 110.72 313 Pdif **Pdif** **22 43 05.4 -4.9**
MSO Missoula 112.32 38 P 22 47 12.8
baz=296,SNR=14
PKM Mcpherson Peak 112.62 52 P 22 47 15.2
baz=287
NVAR Mina Array Bea 112.65 48 Pdiff **Pdif** **22 43 20.4 +1.2**
comp=Z,0.9nm,1.0s,baz=284,slow=3.6,SNR=1.9
NVAR PKiKP **PKiKP** **22 47 14.7 +0.9**
comp=Z,10nm,0.7s,baz=248,slow=2.2,SNR=61
NVAR PKKPab **PKKPab** **22 58 09.6 -2.1**
comp=Z,1.5nm,0.8s,baz=124,slow=5.2,SNR=5.0
TIN Tinemaha, Big 113.16 49 P 22 47 16.2
baz=289
ISA Isabella, Lake 113.43 51 P 22 47 15.8
baz=289,SNR=5.4
HLID Hailey 113.43 41 P 22 47 16.2
baz=295,SNR=5.7
CWC Cottonwood Cre 113.48 50 P 22 47 16.2
baz=289
GRAC Grapevine Rang 113.83 49 P 22 47 17.2
baz=290
ELK Elko 114.01 44 PKP **PKiKP** **22 47 17.2 +0.8**
comp=Z,18nm,0.7s,baz=291,slow=2.8,SNR=72
EDW2 Edwards Air Fo 114.05 51 P 22 47 17.5
baz=289,SNR=25
MPMC Manual Prospec 114.06 50 P 22 47 17.6
baz=290,SNR=22
LRMC Laurel Mtn Rad 114.10 51 P 22 47 17.0
baz=289
BOZ Bozeman (W) 114.31 38 P 22 47 17.3
baz=298,SNR=14
FURC Furnace Creek, 114.39 49 P 22 47 18.3
baz=290
ECRI Cripan 114.45 318 PKIKP **PKiKP** **22 47 20.1 +3.2**
BFSC Mount Baldy Ra 114.51 52 P 22 47 18.2
baz=289,SNR=6.9
R11A Troy Canyon, C 114.68 47 P 22 47 18.5
baz=292,SNR=24
TPNV Topopah Spring 114.69 49 P 22 47 18.4
baz=291,SNR=14
GSC Goldstone, Bar 114.83 50 P 22 47 19.2
baz=290,SNR=14
SHOC Shoshone, Teco 115.03 50 P 22 47 19.5
baz=290
MURC Murrieta 115.08 52 P 22 47 19.5
baz=289
HVU Hansel Valley 115.28 43 PKIKP **PKPdf** **22 47 18.9 +0.2**
HVU Hansel Valley 115.28 43 **PKPdf** **22 47 18.9 +0.2**
YNR Norris Junctio 115.32 39 **PKPdf** **22 47 19.3 +0.5**
HEC Hector,Ludlow 115.35 51 P 22 47 20.1
baz=290,SNR=5.8
PRN Pahroc Range 115.42 48 **PKPdf** **22 47 20.0 +1.0**
PMSA Palmer Station 115.59 177 SKP 22 50 43.6
comp=Z,31nm,0.8s,baz=270,slow=10,SNR=3.1
ECR Eagle Creek 115.65 41 **PKPdf** **22 47 20.1 +0.7**
PFO Pinyon Flats O 115.66 52 PKP **PKiKP** **22 47 20.7 +1.1**
comp=Z,19nm,0.8s,baz=281,slow=2.1,SNR=27
PFO Pinyon Flats O 115.66 52 **PKiKP** **22 47 20.3 +0.7**
PFO Pinyon Flats O 115.66 52 P 22 47 20.7
baz=289,SNR=14
TPFO Pinon Flats 115.66 52 P 22 47 20.6
baz=289,SNR=13
SHPR Sheep Range 115.66 49 **PKPdf** **22 47 20.6 +1.0**
REDW Red Top Meadow 115.85 40 **PKiKP** **22 47 20.3 +0.4**
GMRC Granite Mounta 115.89 51 P 22 47 21.5
baz=290,SNR=50
BELC Belle Mtn. Jos 115.89 52 P 22 47 21.3
baz=290,SNR=23
CBX Cerro Bola 115.91 54 **PKiKP** **22 47 21.1 +1.0**
MONP2 Monument Peak 115.92 53 P 22 47 21.3
baz=289,SNR=14
DUG Dugway, Tooele 115.93 44 PKIKP **PKiKP** **22 47 20.4 +0.4**
DUG Dugway, Tooele 115.93 44 **PKiKP** **22 47 20.4 +0.4**
DUG Dugway, Tooele 115.93 44 P 22 47 20.8
baz=295,SNR=32
AHID Auburn Hatcher 115.96 41 **PKPdf** **22 47 18.8 -1.2**
HWUT Hardware Ranch 116.17 42 **PKPdf** **22 47 20.2 -0.2**
IKP In-Ko-Pah, Jac 116.25 53 P 22 47 22.0
baz=289,SNR=11
SWSC Sam W. Stewart 116.40 53 P 22 47 22.0
baz=289,SNR=11
BC3 Big Chuckawall 116.43 52 P 22 47 22.2
baz=290,SNR=17

IRM	**Iron Mountain**	**116.50**	**51**	P			22 47 22.4		
	baz=290,SNR=14								
ESJX	**Sierra Juarez**	**116.58**	**54**	PKPdf	**PKiKP**		**22 47 22.2**	**+0.7**	
ESBB	**Sonseca Array**	**116.69**	**316**	PKPdf	**PKiKP**		**22 47 21.4**	**+0.1**	
ESDC	**Sonseca Array**	**116.69**	**316**	PKP	**PKPdf**		**22 47 20.9**	**-0.4**	
	comp=Z,7.1nm,0.8s,baz=12,slow=3.5,SNR=44								
ESDC				PKKPbc	**PKKPbc**		**22 57 49.9**	**+0.1**	
	comp=Z,10nm,1.0s,baz=269,slow=3.5,SNR=9.9								
ESDC	**Sonseca Array**	**116.69**	**316**		**PKPdf**		**22 47 20.7**	**-0.6**	
PD31	**Pinedale Array**	**116.97**	**40**	PKPdf	**PKPdf**		**22 47 21.5**	**-0.5**	
PDAR	**Pinedale Array**	**116.97**	**40**	PKP	**PKPdf**		**22 47 21.9**	**-0.2**	
	comp=Z,7.4nm,0.8s,baz=215,slow=1.8,SNR=27								
PDAR				pPKP	pPKPdf		22 47 54.9	-1.6	
	comp=Z,9.3nm,1.1s,baz=288,slow=1.4,SNR=3.5								
PDAR				PKKPbc	**PKKPab**		**22 57 51.2**	**-1.4**	
	comp=Z,9.3nm,0.9s,baz=116,slow=6.5,SNR=23								
PDAR	**Pinedale Array**	**116.97**	**40**	PKPdf	**PKPdf**		**22 47 20.4**	**-1.6**	
LAO	**LASA Array**	**117.00**	**35**	P			22 47 22.8		
	baz=303								
PAB	**San Pablo**	**117.01**	**316**	PKiKP	**PKPdf**		**22 47 21.9**	**-0.1**	
PAB	**San Pablo**	**117.01**	**316**	PKPdf	**PKPdf**		**22 47 21.9**	**-0.1**	
DGMT	**Dagmar**	**117.12**	**33**	PKPdf	**PKPdf**		**22 47 21.3**	**-0.5**	
DGMT	**Dagmar**	**117.12**	**33**	P			22 47 22.5		
	baz=306,SNR=8.3								
GLA	**Glamis**	**117.13**	**52**	P			22 47 23.4		
	baz=290,SNR=5.9								
PDMCI	**Parker Dam,Lak**	**117.23**	**51**	P			22 47 23.6		
	baz=291,SNR=7.7								
SPX	**San Pedro Mart**	**117.28**	**55**	PKPdf	**PKiKP**		**22 47 23.3**	**+0.2**	
PBRG	**Braganca**	**117.62**	**319**	*e*PKPdf	**PKPdf**		**22 47 22.1**	**-0.9**	
PBRG	**Braganca**	**117.62**	**319**	*e*PKP			22 57 50.4		
NRS	**Narsarsuaq**	**117.88**	**353**	PKiKP	**PKPdf**		**22 47 22.8**	**0.0**	
NRS	**Narsarsuaq**	**117.88**	**353**		**PKPdf**		**22 47 22.8**	**0.0**	
MVO	**Moncorvo**	**118.11**	**318**	*e*PKPdf	**PKiKP**		**22 47 24.6**	**+0.5**	
MVO	**Moncorvo**	**118.11**	**318**	*e*PKP			22 57 48.7		
MVO				*e*SKS			22 58 11.6		
EMAL	**Malaga-Limoner**	**118.23**	**313**	PKKP			22 58 14.7		
PCAB	**Cabril**	**118.50**	**319**	*e*PKPdf	**PKiKP**		**22 47 25.3**	**+0.5**	
PCAB	**Cabril**	**118.50**	**319**	*e*PKP			22 57 46.0		
PVRL	**Vila Real**	**118.51**	**319**	*e*PKPdf	**PKiKP**		**22 47 25.3**	**+0.5**	
PVRL				*i* LQ	LQ		22 47 59.1		
POLO	**Lamas de Olo**	**118.52**	**319**	*e*PKPdf	**PKiKP**		**22 47 25.4**	**+0.5**	
POLO				*i* LQ	LQ		22 47 58.9		
PGAV	**Gavieira, Arco**	**118.54**	**320**	*e*PKPdf	**PKiKP**		**22 47 25.7**	**+0.8**	
PGAV				*i* LQ	LQ		22 48 03.5		
PGAV				*e*SKS			22 57 57.0		
MTE	**Manteigas**	**118.82**	**318**	*e*PKPdf	**PKPdf**		**22 47 25.4**	**0.0**	
MTE	**Manteigas**	**118.82**	**318**	*e*PKP			22 57 45.5		
MTE				*e*SKS			22 58 23.7		
MTE	**Manteigas**	**118.82**	**318**	PKPdf	**PKPdf**		**22 47 25.5**	**0.0**	
WUAZ	**Wupatki**	**118.88**	**48**	PKPdf	**PKiKP**		**22 47 26.7**	**+0.8**	
WUAZ	**Wupatki**	**118.88**	**48**	P			22 47 26.8		
	baz=294,SNR=27								
PVIS	**Viseu**	**118.90**	**318**	*e*PKPdf	**PKiKP**		**22 47 26.3**	**+0.7**	
PVIS	**Viseu**	**118.90**	**318**	*e*PKP			22 57 44.7		
PCBR	**Castelo Branco**	**119.04**	**317**	*e*PKPdf	**PKiKP**		**22 47 26.4**	**+0.6**	
PCBR				*i* LQ	LQ		22 47 59.8		
PCBR	**Castelo Branco**	**119.04**	**317**	*e*PKP			22 57 43.9		
O20A	**White River Ci**	**119.09**	**42**	P			22 47 26.8		
	baz=298,SNR=5.7								
214A	**Organ Pipe Nat**	**119.11**	**53**	P			22 47 27.1		
	baz=291,SNR=11								
PTO	**Porto**	**119.16**	**319**	*e*PKPdf	**PKiKP**		**22 47 26.9**	**+0.9**	
PMRV	**Marv??o**	**119.17**	**317**	*e*PKPdf	**PKiKP**		**22 47 26.2**	**+0.1**	
PMRV	**Marv??o**	**119.17**	**317**	*e*PKP			22 57 43.8		
PMRV				*e*SKS			22 58 25.3		
CEU	**Ceuta**	**119.28**	**312**	PKKP	**PKKPdf**		**22 58 16.4**	**+5.7**	
TOA0	**Torodi Ar. Sit**	**119.34**	**285**	PKPdf	**PKPdf**		**22 47 25.9**	**-1.1**	
TORD	**Torodi Ar. Bea**	**119.34**	**285**	PKP	**PKPdf**		**22 47 25.8**	**-1.2**	
	comp=Z,30nm,0.7s,baz=58,slow=1.9,SNR=118								
TORD				pPKP	**pPKPdf**		**22 47 59.3**	**-2.0**	
	comp=Z,21nm,0.8s,baz=57,slow=2.1,SNR=7.1								
TORD				PKKPbc	**PKKPab**		**22 57 41.5**	**-0.5**	
	comp=Z,17nm,0.7s,baz=284,slow=4.0,SNR=33								
COI	**Coimbra**	**119.49**	**318**	PKiKP	**PKiKP**		**22 47 27.3**	**+0.6**	
COI	**Coimbra**	**119.49**	**318**	*e*PKPdf	**PKiKP**		**22 47 27.4**	**+0.7**	
COI				*i* LQ	LQ		22 47 58.6		
COI	**Coimbra**	**119.49**	**318**	PKPdf	**PKiKP**		**22 47 27.3**	**+0.6**	
PBAR	**Barrancos**	**119.50**	**315**	*e*PKPdf	**PKiKP**		**22 47 27.2**	**+0.4**	
PBAR				*i* LQ	LQ		22 48 00.9		
PBAR	**Barrancos**	**119.50**	**315**	*e*PKP			22 57 40.2		
PESTR	**Estremoz**	**119.57**	**316**	PKPdf	**PKPdf**		**22 47 26.0**	**-0.8**	
PCAS	**Casmilo, Conde**	**119.62**	**318**	*e*PKPdf	**PKiKP**		**22 47 27.3**	**+0.3**	
PCAS	**Casmilo, Conde**	**119.62**	**318**	*e*PKP			22 57 41.9		
RSSD	**Black Hills**	**119.70**	**37**	PKiKP	**PKPdf**		**22 47 26.7**	**-0.5**	
RSSD	**Black Hills**	**119.70**	**37**	PKPdf	**PKPdf**		**22 47 26.7**	**-0.5**	
RSSD	**Black Hills**	**119.70**	**37**	P			22 47 26.9		
	baz=304								
PMTG	**Montargil**	**119.91**	**317**	*e*PKPdf	**PKiKP**		**22 47 27.5**	**0.0**	
PMTG	**Montargil**	**119.91**	**317**	*e*PKP			22 57 40.4		
MDND	**Maddock**	**119.93**	**31**	P			22 47 27.5		
	baz=310								
EVO	**Evora**	**120.02**	**316**	PKKP	PKKPdf		22 58 18.4	+9.1	
PSBE	**So Bento**	**120.09**	**317**	*e*PKPdf	**PKiKP**		**22 47 28.8**	**+0.9**	
PSBE	**So Bento**	**120.09**	**317**	*e*PKP			22 57 40.2		
ULM	**Lac du Bonnet**	**120.12**	**27**	PKP	**PKPdf**		**22 47 26.9**	**-0.7**	
	comp=Z,52nm,0.8s,baz=296,slow=2.9,SNR=102								
ULM				SKP	**SKPdf**		**22 50 49.6**	**-1.6**	
	comp=Z,6.0nm,1.0s,baz=329,slow=3.7,SNR=3.6								
ULM				PKKPbc	**PKKPbc**		**22 57 33.4**	**-4.4**	
	comp=Z,2.5nm,0.8s,baz=129,slow=7.4,SNR=3.6								
ULM	**Lac du Bonnet**	**120.12**	**27**	PKPdf	**PKPdf**		**22 47 26.7**	**-0.8**	
PBEJ	**Beja**	**120.15**	**315**	*e*PKPdf	**PKiKP**		**22 47 29.0**	**+1.0**	
PBEJ				*i* LQ	LQ		22 48 02.1		
N23A	**Red Feather La**	**120.24**	**41**	P			22 47 28.8		
	baz=301,SNR=5.9								
MVCO	**Mesa Verde**	**120.26**	**45**	PKPdf	**PKiKP**		**22 47 29.1**	**+0.5**	
MVCO	**Mesa Verde**	**120.26**	**45**	P			22 47 29.6		
	baz=297,SNR=23								
W18A	**Petrified Fore**	**120.26**	**48**	P			22 47 29.8		
	baz=295,SNR=33								
PVAQ	**Vaqueiros**	**120.33**	**315**	*e*PKPdf	**PKiKP**		**22 47 29.0**	**+0.6**	
PVAQ	**Vaqueiros**	**120.33**	**315**	*e*SKS			22 58 33.4		
PVAQ	**Vaqueiros**	**120.33**	**315**		**PKiKP**		**22 47 28.6**	**+0.2**	
PCVE	**Castro Verde**	**120.45**	**315**	*e*PKPdf	**PKiKP**		**22 47 29.2**	**+0.6**	
PCVE				*i* LQ	LQ		22 48 03.0		
MESJ	**Messejana**	**120.48**	**315**	*e*PKPdf	**PKPdf**		**22 47 28.4**	**-0.2**	
MESJ	**Messejana**	**120.48**	**315**	*e*PKPdf	**PKiKP**		**22 47 29.3**	**+0.6**	
MESJ				*i* LQ	LQ		22 48 03.1		
MESJ	**Messejana**	**120.48**	**315**	*e*PKP			22 57 37.9		
PBDV	**Barranco-do-Ve**	**120.55**	**315**	*e*PKPdf	**PKiKP**		**22 47 29.7**	**+0.8**	
PBDV				*i* LQ	LQ		22 48 03.6		
PNCL	**Nicolau / Gran**	**120.57**	**316**	*e*PKPdf	**PKiKP**		**22 47 29.1**	**+0.3**	
PNCL				*i* LQ	LQ		22 48 03.3		
PNCL	**Nicolau / Gran**	**120.57**	**316**	*e*PKP			22 57 36.7		
TUC	**Tucson**	**120.58**	**52**	PKIKP	**PKiKP**		**22 47 29.3**	**+0.1**	
TUC	**Tucson**	**120.58**	**52**	PKPdf	**PKiKP**		**22 47 29.3**	**+0.1**	
TUC	**Tucson**	**120.58**	**52**	P			22 47 30.1		
	baz=292								
PMAFR	**Mafra**	**120.69**	**317**	*e*PKPdf	**PKiKP**		**22 47 29.9**	**+0.8**	
PTEO	**Sao Teotonio**	**120.97**	**315**	*e*PKPdf	**PKiKP**		**22 47 30.4**	**+0.8**	
PTEO	**Sao Teotonio**	**120.97**	**315**	*e*PKP			22 57 37.1		
ISCO	**Idaho Springs**	**121.01**	**42**	P			22 47 30.3		
	baz=301,SNR=20								
MORF	**Marmelete**	**121.03**	**315**	*e*PKPdf	**PKPdf**		**22 47 29.5**	**-0.3**	
MORF	**Marmelete**	**121.03**	**315**	*e*PKPdf	**PKiKP**		**22 47 30.9**	**+1.0**	
MORF				*i* LQ	LQ		22 48 04.8		
S22A	**4UR Ranch, Cre**	**121.19**	**44**	P			22 47 31.4		
	baz=298,SNR=41								
PFVI	**Vila Bisbo**	**121.24**	**315**	*e*PKPdf	**PKiKP**		**22 47 31.1**	**+0.9**	
PFVI	**Vila Bisbo**	**121.24**	**315**	PKPdf	**PKiKP**		**22 47 30.2**	**+0.1**	
AGMN	**Agassiz Nation**	**121.49**	**29**	P			22 47 29.3		
	baz=314								
HSIG		**121.64**	**55**	PKPdf	**PKPdf**		**22 47 30.8**	**-0.2**	
Q24A	**Divide**	**121.75**	**42**	P			22 47 31.7		
	baz=301,SNR=11								
SUSD	**Miller**	**122.44**	**34**	P			22 47 31.8		
	baz=309,SNR=6.0								
ANMO	**Albuquerque**	**122.76**	**47**	PKP	**PKiKP**		**22 47 34.4**	**+0.9**	
	comp=Z,34nm,0.8s,baz=204,slow=3.1,SNR=92								
ANMO				pPKP	**pPKPdf**		**22 48 06.6**	**-1.3**	
	comp=Z,30nm,1.0s,baz=219,slow=2.1,SNR=6.1								
ANMO	**Albuquerque**	**122.76**	**47**	PKPdf	**PKiKP**		**22 47 33.7**	**+0.2**	
ANMO	**Albuquerque**	**122.76**	**47**	P			22 47 34.3		
	baz=297								
Y22D	**IRIS PASSCAL I**	**122.81**	**48**	P			22 47 35.0		
	baz=296								
121A	**Cookes Peak, D**	**122.82**	**50**	P			22 47 34.9		
	baz=295,SNR=24								
T25A	**Trinidad**	**123.17**	**44**	P			22 47 35.0		
	baz=300,SNR=24								
KSCO	**Kaye Shedlock'**	**123.40**	**41**	P			22 47 34.6		
	baz=303,SNR=12								
EYMN	**Ely**	**123.77**	**27**	P			22 47 34.2		
	baz=318								
RPN	**Rapa Nui**	**124.04**	**123**	PKP	**PKiKP**		**22 47 36.3**	**+0.3**	
	comp=Z,52nm,0.6s,baz=43,slow=1.0,SNR=3.6								
ECSD	**EROS Data Cent**	**124.19**	**33**	P			22 47 35.3		
	baz=311,SNR=61								
KOWA	**Kowa**	**124.60**	**288**	PKKPbc	PKKPbc		22 57 20.8	+1.3	
	comp=Z,4.9nm,0.7s,baz=261,slow=3.2,SNR=9.4								
KOWA	**Kowa**	**124.60**	**288**	PKPdf	**PKPdf**		**22 47 36.4**	**-0.7**	
E38A	**The Farm, Brul**	**124.74**	**28**	PKPdf	**PKPdf**		**22 47 36.4**	**-0.1**	
BGNE	**Belgrade**	**124.80**	**36**	P			22 47 36.3		
	baz=308,SNR=13								
MNTX	**Cornudas Mount**	**125.01**	**50**	P			22 47 38.3		
	baz=296,SNR=47								
SPMN	**Marine on St.**	**125.15**	**30**	P			22 47 37.3		
	baz=316								
CBKS	**Cedar Bluff**	**125.38**	**40**	P			22 47 37.9		
	baz=305,SNR=7.0								
MSTX	**Muleshoe**	**125.90**	**46**	P			22 47 39.6		
	baz=300,SNR=22								
AMTX	**Amarillo**	**126.22**	**45**	PKPdf	**PKiKP**		**22 47 40.2**	**-0.1**	
AMTX	**Amarillo**	**126.22**	**45**	P			22 47 40.2		
	baz=301								
R32A	**Long Quarter,**	**126.26**	**39**		**PKPdf**		**22 47 39.4**	**-0.3**	
KIC	**Kosan Boka**	**126.43**	**278**	*e*PKIKP	**PKPdf**		**22 47 39.5**	**-1.2**	
	comp=Z,96nm,0.7s								
DBIC	**Dimbokro**	**126.52**	**279**	PKP	**PKPdf**		**22 47 40.4**	**-0.4**	
	comp=Z,38nm,0.7s,baz=97,slow=2.0,SNR=40								
DBIC				pPKP	**pPKPdf**		**22 48 13.8**	**-1.3**	
	comp=Z,27nm,0.9s,baz=3.1,slow=4.9,SNR=5.3								
N35A	**Tabor**	**126.61**	**35**	PKPdf	**PKPdf**		**22 47 39.8**	**-0.5**	
TIC	**Toumodi**	**126.68**	**279**	*e*PKIKP	**PKPdf**		**22 47 39.9**	**-1.2**	
LIC	**Lamto**	**126.72**	**278**	*e*PKIKP	**PKPdf**		**22 47 39.8**	**-1.4**	
	comp=Z,172nm,0.7s								
E43A	**Lone Tree Farm**	**126.93**	**25**	PKPdf	**PKPdf**		**22 47 40.3**	**-0.4**	
K38A	**Parkersburg**	**126.99**	**32**		**PKPdf**		**22 47 40.1**	**-0.8**	
KSU1	**Kansas State U**	**127.15**	**38**	P			22 47 41.4		
	baz=309,SNR=40								
SCIA	**State Center**	**127.27**	**33**	P			22 47 41.4		
	baz=314								
MATQ	**Matagami**	**127.29**	**16**	P			22 47 40.3		
	baz=335								
TXAR	**Lajitas Array**	**127.38**	**52**	PKP	**PKiKP**		**22 47 43.3**	**+0.5**	
	comp=Z,19nm,0.8s,baz=280,slow=0.2,SNR=76								
TXAR				pPKP	**pPKPdf**		**22 48 15.2**	**-1.5**	
	comp=Z,17nm,1.0s,baz=273,slow=2.1,SNR=5.0								
TXAR				SKPbc	SKiKP		22 50 48.8	-18	
	comp=Z,4.8nm,0.8s,baz=277,slow=1.2,SNR=6.3								
TXAR				PKKPbc	PKKPbc		22 57 09.4		
	comp=Z,0.4nm,0.7s,baz=131,slow=3.8,SNR=3.7								
I42A	**Draeger Farm,**	**128.01**	**28**	PKPdf	**PKPdf**		**22 47 42.3**	**-0.6**	
E46A	**Sault Ste Mari**	**128.03**	**23**	PKPdf	**PKPdf**		**22 47 42.9**	**+0.1**	
JFWS	**Jewell Farm**	**128.09**	**30**	P			22 47 42.1		
	baz=317,SNR=5.8								
WMOK	**Wichita Mounta**	**128.31**	**43**	PKiKP	**PKPdf**		**22 47 44.0**	**+0.3**	
WMOK	**Wichita Mounta**	**128.31**	**43**	PKPdf	**PKPdf**		**22 47 44.0**	**+0.3**	
WMOK	**Wichita Mounta**	**128.31**	**43**	P			22 47 44.4		
	baz=304,SNR=18								
VLDQ	**Val d'Or**	**128.84**	**17**	PKPdf	**PKPdf**		**22 47 43.3**	**-0.9**	
ABTX	**Abilene, Hawle**	**128.84**	**46**	P			22 47 45.6		
	baz=302,SNR=7.7								
GLMI	**Grayling**	**129.17**	**24**	P			22 47 45.7		
	baz=325								
TUL1	**Leonard**	**129.62**	**40**	P			22 47 47.4		
	baz=307,SNR=8.1								
JCT	**Junction City**	**129.81**	**49**	P			22 47 47.3		
	baz=300,SNR=51								
HDIL	**Hopedale**	**130.31**	**31**	P			22 47 47.9		
	baz=317,SNR=17								
D55A	**Sainte-Anne-du**	**130.38**	**16**	P			22 47 47.9		
	baz=337,SNR=8.2								
D56A	**ZEC Mazanza, M**	**130.55**	**15**	P			22 47 48.2		
	baz=338,SNR=13								
DRLN	**Deer Lake**	**130.56**	**360**	PKPdf	**PKPdf**		**22 47 47.9**	**+0.4**	
ALGO	**Algonquin Park**	**130.60**	**18**	P			22 47 47.6		
	baz=333,SNR=8.5								
LATQ	**La Tuque**	**130.72**	**13**		**PKiKP**		**22 47 48.5**	**-0.3**	
LATQ	**La Tuque**	**130.72**	**13**	P			22 47 48.1		
	baz=340,SNR=13								
E55A	**Montcerf-Lytto**	**130.74**	**16**	P			22 47 48.4		
	baz=336,SNR=9.0								
WHTX	**Lake Whitney,**	**130.74**	**45**	P			22 47 49.4		
	baz=303								
ZAIG	**Zacatecas**	**130.93**	**59**	PKPdf	**PKiKP**		**22 47 50.4**	**+0.1**	
ZAIG				SKPbc	**SKPbc**		**22 51 01.7**	**-0.3**	
E56A	**St. Veronique**	**130.94**	**16**	P			22 47 49.0		
	baz=337,SNR=5.6								
D58A	**Chemin du LacG**	**130.96**	**13**	P			22 47 49.0		
	baz=340,SNR=6.6								
CCM	**Cathedral Cave**	**131.01**	**35**	PKPdf	**PKiKP**		**22 47 49.3**	**-0.4**	
CCM				SKPbc	**SKPbc**		**22 51 00.2**	**-1.3**	
CCM	**Cathedral Cave**	**131.01**	**35**	P			22 47 48.9		
	baz=314								
G54A	**Lake Saint Pet**	**131.08**	**19**	P			22 47 49.0		
	baz=333,SNR=10								
833A	**Chaparral WMA,**	**131.17**	**51**	P			22 47 51.0		
	baz=299,SNR=28								
U40A	**Yellville**	**131.19**	**38**	PKPdf	**PKPdf**		**22 47 48.6**	**-0.5**	
U40A				SKPbc	**SKPbc**		**22 51 00.5**	**-1.8**	
U40A	**Yellville**	**131.19**	**38**	P			22 47 49.1		
	baz=311,SNR=41								
435B	**Jarrell**	**131.30**	**47**	P			22 47 51.0		
	baz=302,SNR=8.3								
W39A	**Magazine**	**131.35**	**40**	P			22 47 49.5		
	baz=309,SNR=26								
TRQ	**Mont Tremblant**	**131.36**	**15**	PKPdf	**PKPdf**		**22 47 49.2**	**-0.1**	
TRQ				SKPbc	**SKPbc**		**22 51 01.1**	**-1.5**	
D61A	**St Aubert, Com**	**131.44**	**11**	P			22 47 49.4		
	baz=344,SNR=6.1								
I51A	**Listowel**	**131.44**	**22**	P			22 47 49.3		
	baz=329,SNR=8.5								
FVM	**French Village**	**131.53**	**34**	PKIKP	**PKPdf**		**22 47 50.0**	**+0.3**	
FVM	**French Village**	**131.53**	**34**		**PKPdf**		**22 47 50.0**	**+0.3**	
FVM				SKPbc	**SKPbc**		**22 51 02.1**	**-1.3**	
E58A	**La Victoria**	**131.55**	**14**	P			22 47 49.8		
	baz=340								
SFIN	**Lafayette**	**131.56**	**30**	P			22 47 50.3		
	baz=320,SNR=9.8								
D60A	**Saint Jean D'O**	**131.56**	**12**	P			22 47 49.9		
	baz=343								
L48A	**N Adams**	**131.58**	**26**		**PKPdf**		**22 47 49.5**	**-0.2**	
L48A				pPKPdf	**pPKPdf**		**22 48 23.3**	**-1.1**	
L48A				SKPbc	**SKPbc**		**22 51 02.6**	**-0.9**	
AAM	**Ann Arbor**	**131.63**	**25**	PKPdf	**PKPdf**		**22 47 49.3**	**-0.4**	
AAM				pPKPdf	**pPKPdf**		**22 48 23.0**	**-1.5**	
AAM				SKPbc	**SKPbc**		**22 51 02.5**	**-1.2**	
AAM	**Ann Arbor**	**131.63**	**25**	P			22 47 49.3		
	baz=325								
H53A	**Bobcaygeon**	**131.65**	**20**	P			22 47 50.3		
	baz=332,SNR=9.3								
F57A	**Harrington**	**131.71**	**16**	P			22 47 50.4		
	baz=338								
PLVO	**Plevna**	**131.72**	**18**	PKPdf	**PKiKP**		**22 47 50.5**	**-0.4**	
PLVO				pPKPdf	**pPKPdf**		**22 48 22.8**	**-1.8**	
PLVO				SKPbc	**SKPbc**		**22 51 02.3**	**-1.5**	
MIAR	**Mount Ida**	**131.89**	**40**	PKPdf	**PKiKP**		**22 47 51.9**	**+0.4**	
MIAR				pPKPdf	**pPKPdf**		**22 48 24.0**	**-1.0**	
MIAR				SKPbc	**SKPbc**		**22 51 04.6**	**-0.2**	
MIAR	**Mount Ida**	**131.89**	**40**	P			22 47 51.6		
	baz=309,SNR=30								
E60A	**Ste Agathe de**	**131.97**	**13**	P			22 47 50.8		
	baz=342								
DELO	**Deloro Mine**	**132.01**	**19**		**PKPdf**		**22 47 50.8**	**+0.3**	
DELO				pPKPdf	**pPKPdf**		**22 48 23.4**	**-1.7**	
DELO				SKPbc	**SKPbc**		**22 51 03.6**	**-1.3**	
BATG	**Bathurst New B**	**132.02**	**7**	PKPdf	**PKiKP**		**22 47 50.9**	**-0.5**	
BATG				pPKPdf	**pPKPdf**		**22 48 24.6**	**-0.5**	
BATG				SKPbc	**SKPbc**		**22 51 04.3**	**-0.6**	
E61A	**Lac Etchemin**	**132.11**	**12**	P			22 47 50.9		
	baz=343,SNR=15								
F59A	**Saint Guilaume**	**132.16**	**14**	P			22 47 50.7		
	baz=340								
F60A	**Warwick**	**132.24**	**13**	P			22 47 50.8		
	baz=341,SNR=11								
G57A	**Newington**	**132.28**	**16**	P			22 47 50.7		
	baz=337,SNR=6.9								
W41B	**Gary Mavity, V**	**132.34**	**39**	P			22 47 51.3		
	baz=311,SNR=6.0								
F61A	**St Evariste**	**132.45**	**12**	P			22 47 51.7		
	baz=342								
G58A	**Ormstown**	**132.49**	**15**	P			22 47 51.1		
	baz=338								
E63A	**Oxbow**	**132.51**	**10**	P			22 47 51.3		
	baz=346,SNR=5.7								
E64A	**Bridgewater**	**132.61**	**9**	P			22 47 51.1		
	baz=347								
M50A	**Fremont**	**132.63**	**26**	PKPdf	**PKPdf**		**22 47 51.2**	**-0.4**	
M50A				pPKPdf	**pPKPdf**		**22 48 25.4**	**-1.0**	
M50A				SKPbc	**SKPbc**		**22 51 05.9**	**-1.2**	
KVTX	**Kingsville**	**132.71**	**51**		**PKiKP**		**22 47 53.5**	**+0.1**	
PECO	**Prince Edward**	**132.74**	**19**		**PKiKP**		**22 47 52.6**	**-0.4**	
H57A	**Richville**	**132.75**	**17**	P			22 47 52.6		
	baz=336,SNR=6.1								
G59A	**Clarenceville**	**132.78**	**15**	P			22 47 51.6		
	baz=339								
MOQ	**Mont Orford**	**132.79**	**14**	PKPdf	**PKPdf**		**22 47 52.1**	**+0.1**	
MOQ				SKPbc	**SKPbc**		**22 51 06.4**	**-1.3**	
LONY	**Lake Ozonia**	**132.84**	**16**	P			22 47 52.5		
	baz=337								
NATX	**Nacogdoches**	**132.84**	**44**	P			22 47 54.1		
	baz=306,SNR=5.3								
MEDO	**Medina**	**132.93**	**20**		**PKPdf**		**22 47 52.7**	**+0.5**	
MEDO				pPKPdf	**pPKPdf**		**22 48 24.7**	**-2.2**	
MEDO				SKPbc	**SKPbc**		**22 51 07.2**	**-1.0**	
G60A	**Masonville**	**132.97**	**14**	P			22 47 52.9		
	baz=340								
G61A	**St-Isidore-de-**	**132.99**	**13**	P			22 47 52.7		
	baz=341								
HKT	**Hockley**	**133.02**	**47**	PKPdf	**PKPdf**		**22 47 52.7**	**+0.1**	
HKT				pPKPdf	**pPKPdf**		**22 48 26.4**	**-0.8**	
HKT				SKPbc	**SKPbc**		**22 51 08.8**	**0.0**	
H59A	**Cadyville**	**133.05**	**15**	P			22 47 52.5		
	baz=338								
M51A	**Elyria**	**133.06**	**25**	P			22 47 52.1		
	baz=326,SNR=5.7								
F64A	**Sherman**	**133.06**	**10**		**PKiKP**		**22 47 53.0**	**-0.5**	
F64A	**Sherman**	**133.06**	**10**	P			22 47 52.6		
	baz=346,SNR=7.6								
J55A	**Hilton**	**133.06**	**20**	PKPdf	**PKiKP**		**22 47 53.2**	**-0.4**	
F63A	**Nahmakanta, Br**	**133.08**	**11**	P			22 47 52.7		
	baz=345								
H58A	**Gabriels**	**133.13**	**16**	P			22 47 53.0		
	baz=338,SNR=5.7								
I57A	**Carthage**	**133.15**	**17**	P			22 47 52.7		
	baz=336,SNR=7.0								
Z41A	**Richland Creek**	**133.19**	**41**	P			22 47 53.6		
	baz=309,SNR=11								
G62A	**West of Eustis**	**133.26**	**12**	P			22 47 54.3		
	baz=343

K63A	**Dunstable**	**135.44**	**14**	P			22 47 58.5	
	baz=341							
N58A	**Sunbury**	**135.59**	**20**	P			22 47 57.4	
	baz=333,SNR=5.5							
HRV	**Adam Dziewonsk**	**135.60**	**14**	P			22 47 57.5	
	baz=340							
L62A	**Suffield**	**135.76**	**16**	P			22 47 58.2	
	baz=339							
O57A	**Amberson**	**135.82**	**22**	P			22 47 58.1	
	baz=331,SNR=5.8							
M60A	**Port Jervis**	**135.84**	**18**	P			22 47 58.8	
	baz=336							
N59A	**State Game Lan**	**135.84**	**19**	P			22 47 58.2	
	baz=334							
ASCN	**Ascension**	**135.87**	**259**	PKPdf		**PKPdf**	**22 47 58.7**	**+0.2**
P56A	**Dayton Farm, R**	**135.97**	**23**	P			22 47 57.7	
	baz=329							
N60A	**Cedar Hill Far**	**136.10**	**19**	P			22 47 58.3	
	baz=335							
M61A	**Granite Spring**	**136.12**	**17**	P			22 47 58.5	
	baz=337,SNR=5.3							
O58A	**Lewisberry**	**136.15**	**21**	P			22 47 58.5	
	baz=332							
R54A	**Victor**	**136.18**	**26**	P			22 47 58.0	
	baz=326							
Q56A	**Snyder Ridge,**	**136.22**	**24**	P			22 47 58.8	
	baz=329							
O59A	**Robesonia**	**136.25**	**20**	P			22 47 57.7	
	baz=333							
TLIG	**Tlapa**	**136.28**	**64**	PKPdf		**PKPdf**	**22 47 59.9**	**+0.6**
P57A	**Homestead Farm**	**136.31**	**23**	P			22 47 58.7	
	baz=330							
S54A	**Dingess, Beckl**	**136.35**	**27**	P			22 47 59.3	
	baz=325,SNR=9.0							
PAL	**Palisades**	**136.35**	**17**	P			22 47 58.8	
	baz=337							
O60A	**Telford**	**136.50**	**19**	P			22 47 59.2	
	baz=334							
Q57A	**Strasburg**	**136.54**	**23**	P			22 48 01.2	
	baz=330							
M64A	**Tiverton**	**136.59**	**14**	P			22 48 00.1	
	baz=341							
R56A	**Bull Pasture M**	**136.67**	**25**	P			22 47 59.7	
	baz=328,SNR=8.1							
P59A	**Jarrettsville**	**136.78**	**21**	P			22 47 59.8	
	baz=333							
P60A	**Greenville**	**136.88**	**20**	P			22 47 59.4	
	baz=334							
Q58A	**Fox Den Farm,**	**136.91**	**23**	P			22 47 59.1	
	baz=331,SNR=6.9							
LRAL	**Lakeview Retre**	**136.99**	**37**	P			22 48 00.6	
	baz=315							
R57A	**Stanardsville**	**137.13**	**24**	P			22 48 01.2	
	baz=329							
BLA	**Blacksburg**	**137.23**	**27**	P			22 48 02.2	
	baz=326,SNR=5.0							
T56A	**Rocky Mt**	**137.56**	**26**	P			22 48 00.7	
	baz=326							
CBN	**Corbin Frederi**	**137.66**	**23**	P			22 48 01.4	
	baz=331							
R58B	**Mineral**	**137.68**	**24**	P			22 48 01.1	
	baz=330							
R59A	**King George, V**	**137.77**	**23**	P			22 48 02.2	
	baz=331							
S59A	**Mechanicsville**	**138.08**	**23**	P			22 48 02.7	
	baz=330							
PLCA	**Paso Flores**	**138.24**	**166**	PKhKP		PKPpre	22 47 52.9	
	comp=Z,4.6nm,0.9s,baz=224,slow=5.1,SNR=6.1							
PLCA				PKP		**PKPdf**	**22 48 02.8**	**+0.5**
	comp=Z,9.8nm,0.9s,baz=202,slow=4.0,SNR=7.6							
PLCA				SKPbc		**SKPbc**	**22 51 25.4**	**+0.5**
	comp=Z,12nm,1.0s,baz=205,slow=5.2,SNR=6.2							
PLCA	**Paso Flores**	**138.24**	**166**			**PKPdf**	**22 48 02.3**	**0.0**
BRAL	**Brewton**	**138.25**	**39**	P			22 48 03.2	
	baz=313							
U57A	**Blanch**	**138.36**	**26**	P			22 48 02.3	
	baz=327							
V57A	**Coltrane Farms**	**138.62**	**27**	P			22 48 03.5	
	baz=326							
U60A	**Pendleton**	**139.25**	**24**	P			22 48 05.8	
	baz=330							
V59A	**Middlesex**	**139.40**	**26**	P			22 48 06.9	
	baz=328							
CMIG	**Matias Romero**	**139.74**	**63**	PKhKP		PKPpre	22 47 57.7	
	comp=Z,11nm,0.8s,baz=328,slow=2.0,SNR=11							
CMIG				PKP		**PKPdf**	**22 48 05.9**	**+0.4**
	comp=Z,24nm,0.8s,baz=317,slow=2.9,SNR=12							
TIGA	**Tifton**	**140.13**	**35**	P			22 48 06.9	
	baz=318							
ERG	**Entre ros, C**	**143.67**	**65**	*eP*		**PKPdf**	**22 48 13.9**	**+1.3**
DWPF	**Disney Wildern**	**143.85**	**37**	P			22 48 10.7	
	baz=318							
TEIG	**Tepich**	**143.97**	**54**	PKP		PKPbc	22 48 11.6	+0.5
	comp=Z,231nm,0.7s,baz=298,slow=3.7,SNR=95							
FUG	**Fuego 3**	**144.32**	**64**	*eP*		**PKPdf**	**22 48 14.7**	**+0.8**
APG	**El Apazote**	**144.45**	**63**	PKP		PKPbc	22 48 13.0	0.0
	comp=Z,153nm,0.9s,baz=313,slow=6.3,SNR=107							
PCG	**Pacaya**	**144.56**	**64**	*eP*		**PKiKP**	**22 48 16.7**	**-1.4**
NBG	**Las Nubes**	**144.72**	**64**	*eP*		**PKPdf**	**22 48 16.2**	**+1.5**
MT02	**Curacav**	**145.03**	**161**			**PKPbc**	**22 48 14.1**	**0.0**
MT05	**Renca**	**145.04**	**161**			**PKPbc**	**22 48 14.1**	**-0.1**
MRL	**Marmol**	**145.12**	**63**	*eP*		**PKiKP**	**22 48 18.1**	**-1.2**
PEL	**Peldehue**	**145.29**	**161**	PKP2		**PKPbc**	**22 48 15.0**	**0.0**
PEL	**Peldehue**	**145.29**	**161**	PKPdf		**PKPbc**	**22 48 15.0**	**0.0**
MT03	**Montecristo**	**145.67**	**63**			**PKPdf**	**22 48 16.1**	**-0.2**
VA03	**San Esteban**	**145.68**	**161**			**PKPbc**	**22 48 16.3**	**0.0**
SOR	**Soroa**	**146.49**	**45**	PKP2		**PKPbc**	**22 48 18.4**	**-0.5**
SOR	**Soroa**	**146.49**	**45**			**PKPbc**	**22 48 18.4**	**-0.5**
BBSR	**BB Station**	**146.82**	**10**			**PKPbc**	**22 48 19.4**	**-0.1**
ZON	**Zonda**	**147.39**	**163**	PKP2		**PKPbc**	**22 48 21.8**	**+0.6**
ZON	**Zonda**	**147.39**	**163**	PKPdf		**PKPdf**	**22 48 18.5**	**-0.1**
ZON				PKPbc		**PKPbc**	**22 48 21.8**	**+0.6**
CO03	**El Pedregal**	**147.39**	**159**	PKPdf		**PKPdf**	**22 48 18.1**	**-0.6**
CO03				PKPbc		**PKPbc**	**22 48 21.5**	**+0.2**
TGUH	**Tegucigalpa,Un**	**147.66**	**63**			**PKPdf**	**22 48 20.3**	**+0.7**
PAYG	**Puerto Ayora**	**147.72**	**91**			**PKPdf**	**22 48 18.2**	**-1.4**
GO04	**Tololo Observa**	**147.96**	**159**			**PKPdf**	**22 48 19.2**	**-0.7**
GO04				PKPbc		**PKPbc**	**22 48 22.8**	**-0.2**
CRIN	**San Cristobal**	**148.39**	**65**			**PKPbc**	**22 48 24.2**	**-0.1**
PLTB	**Pedras Altas**	**148.50**	**187**	*eP*		**PKPdf**	**22 48 20.8**	**+0.3**
LCO	**Las Campanas**	**149.04**	**158**			**PKPbc**	**22 48 26.2**	**+0.3**
LCO	**Las Campanas**	**149.04**	**158**	PKPdf		**PKPdf**	**22 48 21.4**	**-0.2**
LCO				PKPbc		**PKPbc**	**22 48 26.2**	**+0.3**
AC04	**Llanos de Chal**	**149.62**	**157**			**PKPbc**	**22 48 27.0**	**0.0**
BOAB	**BOACO BROADBAND**	**149.74**	**64**	PKPdf		**PKPdf**	**22 48 21.5**	**-1.3**
BOAB				PKPbc		**PKPbc**	**22 48 27.1**	**-0.5**
CPSB	**Cacapava Do Su**	**149.82**	**188**	*eP*		**PKPdf**	**22 48 23.3**	**+0.7**
ACON	**Acoyapa**	**150.37**	**65**	*eP*		**PKPdf**	**22 48 25.5**	**+1.7**
ACON	**Acoyapa**	**150.37**	**65**			**PKPdf**	**22 48 23.3**	**-0.5**
ACON				PKPbc		**PKPbc**	**22 48 29.1**	**0.0**
ACON				PKPab		**PKPab**	**22 48 37.0**	**+1.1**
GO03	**Copiap**	**150.50**	**158**			**PKPdf**	**22 48 23.1**	**-0.7**
GO03				PKPbc		**PKPbc**	**22 48 29.5**	**+0.3**
LCCY	**Blossom Villag**	**150.58**	**46**	PKPdf		**PKPdf**	**22 48 24.8**	**+0.8**
LCCY				PKPbc		**PKPbc**	**22 48 29.6**	**+0.1**
ORTG	**Ortega, Santa**	**150.68**	**68**			**PKPdf**	**22 48 25.3**	**+0.9**
ORTG				PKPbc		**PKiKP**	**22 48 30.8**	**+0.2**
PLVR	**Palo Verde**	**150.78**	**68**	*eP*		**PKPbc**	**22 48 30.2**	**-0.1**
ITQB	**Itaqui**	**150.84**	**182**	*eP*		**PKPdf**	**22 48 24.7**	**+0.6**
JTS	**Las Juntas de**	**151.17**	**68**	PKPbc		**PKPdf**	**22 48 24.8**	**-0.2**
	comp=Z,17nm,0.8s,baz=51,slow=2.3,SNR=9.8							
JTS				PKPab		**PKPab**	**22 48 40.4**	**+1.2**
	comp=Z,48nm,0.8s,baz=339,slow=8.9,SNR=9.2							
JTS	**Las Juntas de**	**151.17**	**68**	PKIKP		**PKPdf**	**22 48 24.5**	**-0.6**
JTS							22 48 39.0	
JTS	**Las Juntas de**	**151.17**	**68**			**PKPdf**	**22 48 24.5**	**-0.6**
JTS				PKPbc		**PKiKP**	**22 48 31.4**	**-0.1**
JTS				PKPab		**PKPab**	**22 48 39.0**	**-0.3**
AC02	**Maricunga**	**151.59**	**159**			**PKPdf**	**22 48 25.9**	**-0.1**
AC02				PKPbc		**PKiKP**	**22 48 32.6**	**-0.1**
AC01	**Pan de Azucar**	**151.64**	**156**			**PKPbc**	**22 48 31.5**	**-0.3**
HDC	**Heredia**	**152.05**	**68**	PKPdf		**PKPdf**	**22 48 26.1**	**-0.4**
HDC						**PKiKP**	**22 48 33.6**	**+0.1**
RAFA	**San Farael, Vo**	**152.34**	**68**	*eP*		**PKPdf**	**22 48 28.8**	**+1.6**
CVTR	**Volcan Turrial**	**152.37**	**67**	*eP*		**PKPdf**	**22 48 27.2**	**-0.2**
CDM	**Cerro de Muert**	**152.52**	**68**	*eP*		**PKPdf**	**22 48 29.5**	**+1.8**
ITAB	**Concordia**	**152.70**	**191**	*eP*		**PKPdf**	**22 48 28.1**	**+1.1**
GO02	**Mina Guanaco**	**152.93**	**156**	PKPdf		**PKPdf**	**22 48 27.3**	**-0.5**
GO02				PKPbc		**PKiKP**	**22 48 35.3**	**0.0**
GO02				PKPab		**PKPab**	**22 48 47.6**	**+1.0**
RIOS	**Rincon, Osa**	**153.03**	**70**	PKPdf		**PKPdf**	**22 48 27.9**	**+0.1**
RIOS				PKPbc		**PKiKP**	**22 48 36.4**	**+1.0**
PB14	**IPOC Station P**	**153.06**	**154**	PKPdf		**PKPdf**	**22 48 28.1**	**+0.1**
PB14				PKPbc		**PKiKP**	**22 48 35.7**	**+0.1**
PB14				PKPab		**PKPab**	**22 48 48.0**	**+0.8**
GTBY	**Guantanamo Bay**	**153.77**	**39**	PKPdf		**PKPdf**	**22 48 28.5**	**-0.2**
GTBY						**PKPbc**	**22 48 36.6**	**-0.1**
CPUP	**Villa Florida**	**154.19**	**181**	PKPbc		**PKPdf**	**22 48 29.9**	**+0.8**
	comp=Z,6.1nm,0.7s,baz=193,slow=0.7,SNR=25							
CPUP				PKPab		**PKPab**	**22 48 51.2**	**-0.2**
	comp=Z,23nm,1.1s,baz=43,slow=0.1,SNR=5.9							
CPUP	**Villa Florida**	**154.19**	**181**	PKPdf		**PKPdf**	**22 48 29.2**	**+0.1**
CPUP	**Villa Florida**	**154.19**	**181**	*eP*		**PKPdf**	**22 48 29.7**	**+0.6**
PARB	**Paraibuna**	**154.20**	**207**	*eP*		**PKPdf**	**22 48 29.5**	**+0.2**
PB15	**IPOC Station P**	**154.71**	**155**			**PKPdf**	**22 48 30.4**	**+0.1**
PB15						**PKiKP**	**22 48 39.5**	**+0.7**
PB15				PKPab		**PKPab**	**22 48 54.8**	**+0.8**
PTGB	**Pitanga**	**155.13**	**193**	*eP*		**PKPdf**	**22 48 31.2**	**+0.6**
SJMB	**Sao Joao De Ma**	**155.42**	**221**	*eP*		**PKPdf**	**22 48 31.4**	**+0.4**
LVC	**Limon Verde**	**155.48**	**155**	PKP		**PKPdf**	**22 48 32.5**	**+1.0**
	comp=Z,6.5nm,0.8s,baz=270,slow=4.9,SNR=6.7							
LVC				PKPab		**PKPab**	**22 48 58.4**	**+0.9**
	comp=Z,70nm,1.0s,baz=240,slow=3.5,SNR=12							
LVC	**Limon Verde**	**155.48**	**155**	PKPdf		**PKPdf**	**22 48 31.5**	**0.0**
LVC						**PKPab**	**22 48 58.5**	**+1.0**
LVC	**Limon Verde**	**155.48**	**155**	*eP*		**PKPdf**	**22 48 31.4**	**0.0**
FRTB	**Fartura**	**155.74**	**199**	*eP*		**PKPdf**	**22 48 32.2**	**+0.8**
BSCB	**Bom Sucesso**	**155.77**	**211**	*eP*		**PKPdf**	**22 48 32.2**	**+0.7**
NBRF	**Rio Formoso -**	**155.77**	**249**	*eP*		**PKPdf**	**22 48 32.2**	**+0.6**
PB09	**IPOC Station P**	**156.05**	**153**			**PKPdf**	**22 48 32.7**	**+0.7**
NBAN	**Anadia - AL**	**156.49**	**246**	*eP*		**PKPdf**	**22 48 33.5**	**+0.9**
NBPV	**Pedro Velho**	**156.56**	**255**	*eP*		**PKPdf**	**22 48 33.3**	**+0.6**
PB01	**IPOC Station P**	**156.59**	**152**			**PKPdf**	**22 48 32.4**	**-0.2**
PB01						**PKPab**	**22 49 02.7**	**+0.8**
TA01	**Diego Aracena**	**156.66**	**150**	PKPdf		**PKPdf**	**22 48 33.2**	**+0.6**
TA01						**PKPab**	**22 49 03.0**	**+0.8**
RCBR	**Riachuelo**	**157.29**	**256**	PKP		**PKPdf**	**22 48 33.7**	**+0.1**
	comp=Z,10nm,0.7s,baz=275,slow=1.1,SNR=9.6							
RCBR				PKPab		**PKPab**	**22 49 05.3**	**0.0**
	comp=Z,17nm,0.8s,baz=136,slow=6.4,SNR=3.6							
RCBR	**Riachuelo**	**157.29**	**256**	PKPdf		**PKPdf**	**22 48 33.5**	**-0.2**
RCBR	**Riachuelo**	**157.29**	**256**	*eP*		**PKPdf**	**22 48 34.3**	**+0.7**
DIAM	**Diamantina, MG**	**157.30**	**218**	*eP*		**PKPdf**	**22 48 33.4**	**-0.3**
NBLA	**Lagarto - SE**	**157.31**	**242**	*eP*		**PKPdf**	**22 48 34.5**	**+0.9**
BB19B	**Bebedouro**	**157.45**	**204**	*eP*		**PKPdf**	**22 48 34.3**	**+0.7**
NBLI	**Livramento-PB**	**157.89**	**251**	*eP*		**PKPdf**	**22 48 35.4**	**+0.9**
PCMB	**Pacaembu**	**157.89**	**197**	*eP*		**PKPdf**	**22 48 35.2**	**+1.0**
DR12	**Loma Pena Alta**	**157.92**	**30**	PKPdf		**PKPdf**	**22 48 33.9**	**-0.5**
NNA	**Nana**	**158.03**	**122**	PKP		**PKPdf**	**22 48 35.5**	**+1.0**
	comp=Z,13nm,0.5s,baz=198,slow=2.8,SNR=6.7							
NNA				PKPab		**pPKPdf**	**22 49 08.7**	**-0.2**
	comp=Z,30nm,0.8s,baz=255,slow=7.0,SNR=7.3							
NNA	**Nana**	**158.03**	**122**			**PKPdf**	**22 48 35.1**	**+0.5**
MNMC	**Minye Minye**	**158.16**	**149**	PKPdf		**PKPdf**	**22 48 35.1**	**+0.2**
NBTA	**Tacaratu-PE**	**158.33**	**246**	*eP*		**PKPdf**	**22 48 36.0**	**+1.1**
NBPA	**Parau_RN**	**158.47**	**255**	*eP*		**PKPdf**	**22 48 35.8**	**+0.7**
ATAH	**Atahualpa**	**158.58**	**105**	PKP		**PKPdf**	**22 48 36.1**	**+0.4**
	comp=Z,11nm,0.9s,baz=267,slow=1.1,SNR=9.5							
ATAH				PKPab		**PKPab**	**22 49 11.2**	**-0.2**
	comp=Z,26nm,0.8s,baz=178,slow=7.7,SNR=6.5							
ATAH				PP		**PP**	**22 52 53.4**	**+1.1**
	comp=Z,5.8nm,0.8s,baz=284,slow=5.4,SNR=4.5							
PB16	**IPOC Station P**	**158.87**	**148**			**PKPdf**	**22 48 36.1**	**-0.1**
ITRB	**Iturama**	**159.38**	**201**	*eP*		**PKPdf**	**22 48 36.4**	**+0.4**
NBPN	**Ponto Novo - B**	**159.47**	**239**	*eP*		**PKPdf**	**22 48 36.8**	**+0.6**
OTAV	**Otavalo**	**159.54**	**88**	PKIKP		**PKPdf**	**22 48 36.8**	**-0.1**
OTAV	**Otavalo**	**159.54**	**88**			**PKPdf**	**22 48 36.8**	**-0.1**
OTAV	**Otavalo**	**159.54**	**88**	*eP*		**PKPdf**	**22 48 37.2**	**+0.3**
NBMA	**Muriti-CE**	**159.60**	**250**	*eP*		**PKPdf**	**22 48 37.2**	**+0.6**
OBIP	**Obispado Ponce**	**159.84**	**24**	PKPdf		**PKPdf**	**22 48 35.0**	**-1.5**
NBCL	**Cascavel-CE**	**159.94**	**259**	*eP*		**PKPdf**	**22 48 37.2**	**+0.5**
SJG	**San Juan**	**159.96**	**23**	PKP		**PKPdf**	**22 48 36.2**	**-0.5**
	comp=Z,23nm,0.9s,baz=296,slow=8.3,SNR=6.3							
SJG				PKPab		**PKPab**	**22 49 16.1**	**-0.3**
	comp=Z,14nm,0.6s,baz=353,slow=13,SNR=6.6							
SJG				PP		**PP**	**22 53 00.8**	**+3.6**
	comp=Z,6.3nm,0.2s,baz=39,slow=19,SNR=11							
SJG	**San Juan**	**159.96**	**23**			**PKPdf**	**22 48 36.4**	**-0.2**
SJG	**San Juan**	**159.96**	**23**	*eP*		**PKPdf**	**22 48 39.5**	**+2.9**
ICMP	**Isla Caja de M**	**160.01**	**24**	PKPdf		**PKPdf**	**22 48 36.3**	**-0.4**
IPMB	**Ipameri, GO**	**160.03**	**208**	*eP*		**PKPdf**	**22 48 37.9**	**+1.1**
SJCC	**San Jacinto, C**	**160.09**	**59**	*eP*		**PKPdf**	**22 48 37.6**	**+0.6**
JANB	**Januaria**	**160.10**	**222**	*eP*		**PKPdf**	**22 48 37.7**	**+0.7**
MOTC	**Monteria, Cord**	**160.19**	**62**	*eP*		**PKPdf**	**22 48 36.7**	**-0.3**
SMRC	**Santa Marta, M**	**160.22**	**54**	*eP*		**PKPdf**	**22 48 36.6**	**-0.5**
BBAC	**Balboa, Cauca**	**160.61**	**83**	*eP*		**PKPdf**	**22 48 37.0**	**-0.8**
NBPB	**Pedra_Branca-C**	**160.91**	**254**	*eP*		**PKPdf**	**22 48 38.5**	**+0.6**
CBOC	**Ciudad Bolivar**	**160.98**	**71**	*eP*		**PKPdf**	**22 48 37.5**	**-0.6**
POPC	**Popayan, Colom**	**161.11**	**81**	*eP*		**PKPdf**	**22 48 37.6**	**-0.8**
YOTC	**Yotoco, Valle**	**161.16**	**77**	*eP*		**PKPdf**	**22 48 36.8**	**-1.5**
SOTA	**Rioblanco**	**161.23**	**82**	*eP*		**PKPdf**	**22 48 37.8**	**-1.0**
LPAZ	**La Paz**	**161.29**	**148**	PKP		**PKPdf**	**22 48 39.4**	**+0.4**
	comp=Z,11nm,0.9s,baz=30,slow=1.5,SNR=31							
LPAZ				PKPab		**PKPab**	**22 49 23.2**	**+0.1**
	comp=Z,42nm,0.7s,baz=206,slow=4.4,SNR=17							
LPAZ	**La Paz**	**161.29**	**148**	*eP*		**PKPdf**	**22 48 39.3**	**+0.4**
HELC	**Santa Helena**	**161.33**	**69**	*eP*		**PKPdf**	**22 48 37.6**	**-1.1**
PCON	**Cinco Dias**	**161.41**	**82**	*eP*		**PKPdf**	**22 48 38.0**	**-1.1**
ZARC	**Zaragoza, Cauc**	**161.46**	**65**	*eP*		**PKPdf**	**22 48 37.7**	**-0.7**
SMLC	**San Martn de**	**161.58**	**60**	*eP*		**PKPdf**	**22 48 37.1**	**-1.5**
MARP	**Paez Belalcaza**	**161.77**	**80**	*eP*		**PKPdf**	**22 48 38.9**	**-0.2**
GUY2C	**Guyana, Caldas**	**161.79**	**72**	*eP*		**PKPdf**	**22 48 38.3**	**-1.0**
RREF	**El Recreo**	**161.90**	**73**	*eP*		**PKPdf**	**22 48 43.3**	**+3.6**
BDFB	**Brasilia**	**161.91**	**213**	PKP		**PKPdf**	**22 48 39.0**	**+0.1**
	comp=Z,7.4nm,0.8s,baz=179,slow=4.1,SNR=15							
BDFB				PKPab		**PKPab**	**22 49 25.2**	**0.0**
	comp=Z,30nm,0.8s,baz=156,slow=3.8,SNR=15							
BDFB	**Brasilia**	**161.91**	**213**	PKIKP		**PKPdf**	**22 48 38.2**	**-0.8**
BDFB							22 49 24.7	
BDFB	**Brasilia**	**161.91**	**213**	PKPdf		**PKPdf**	**22 48 38.2**	**-0.8**
BDFB				PKPab		**PKPab**	**22 49 24.6**	**-0.6**
ANIL	**Santa Ana**	**161.96**	**74**	*eP*		**PKPdf**	**22 48 38.6**	**-0.8**
TOLC	**Tolima**	**162.01**	**74**	*eP*		**PKPdf**	**22 48 38.6**	**-0.8**
NORC	**Norcasia**	**162.15**	**70**	*eP*		**PKPdf**	**22 48 38.5**	**-0.7**
PTBC	**PUERTO BERRIO**	**162.20**	**67**	*eP*		**PKPdf**	**22 48 38.4**	**-0.8**
ORTC	**Ortega, Tolima**	**162.25**	**76**	*eP*		**PKPdf**	**22 48 38.6**	**-0.7**
BETC	**Betania**	**162.30**	**80**	*eP*		**PKPdf**	**22 48 39.7**	**+0.3**
GARC	**Garzon, Huila**	**162.33**	**82**	*eP*		**PKPdf**	**22 48 39.5**	**-0.2**
SDBA	**SAO DESIDERIO**	**162.34**	**227**	*eP*		**PKPdf**	**22 48 40.0**	**+0.6**
OCAC	**Ocana**	**162.50**	**60**	*eP*		**PKPdf**	**22 48 39.2**	**-0.4**
PP1B	**Ponte de Pedra**	**162.61**	**190**	*eP*		**PKPdf**	**22 48 40.2**	**+0.7**
BRRC	**Barranca, Sant**	**162.66**	**64**	*eP*		**PKPdf**	**22 48 38.9**	**-0.7**
SPBC	**San Pablo de B**	**162.87**	**69**	*eP*		**PKPdf**	**22 48 39.6**	**-0.4**
ROSC	**El Rosal**	**162.90**	**72**	PKP		**PKPdf**	**22 48 40.3**	**-0.1**
	comp=Z,29nm,0.8s,baz=68,slow=2.5,SNR=13							
ROSC				PKPab		**PKPab**	**22 49 32.7**	**+2.4**
	comp=Z,112nm,0.8s,baz=26,slow=1.3,SNR=18							
ROSC	**El Rosal**	**162.90**	**72**	PKIKP		**PKPdf**	**22 48 39.4**	**-1.0**
ROSC							22 49 31.5	
ROSC	**El Rosal**	**162.90**	**72**			**PKPdf**	**22 48 39.4**	**-1.0**
ROSC				PKPab		**PKPab**	**22 49 31.5**	**+1.2**
ROSC	**El Rosal**	**162.90**	**72**	*eP*		**PKPdf**	**22 48 41.2**	**+0.8**
NBPS	**Pedro II - PI**	**162.99**	**256**	*eP*		**PKPdf**	**22 48 40.8**	**+0.7**
PAMC	**Pamplona, Colo**	**163.46**	**62**	*eP*		**PKPdf**	**22 48 40.1**	**-0.9**
ARAG	**Araguaiana, MT**	**163.59**	**202**	*eP*		**PKPdf**	**22 48 41.2**	**+0.8**
CZSB	**Cruzeiro do Su**	**163.62**	**117**	*eP*		**PKPdf**	**22 48 41.0**	**+0.4**
VILC	**Villavicencio,**	**163.70**	**74**	*eP*		**PKPdf**	**22 48 40.1**	**-0.7**
RUSC	**La Rusia**	**163.71**	**67**	*eP*		**PKPdf**	**22 48 39.7**	**-1.5**
MACC	**Macarena, Meta**	**163.96**	**81**	*eP*		**PKPdf**	**22 48 39.9**	**-1.0**
SIV	**San Ignacio**	**164.19**	**169**	PKP		**PKPdf**	**22 48 41.3**	**+0.3**
	comp=Z,6.1nm,0.6s,baz=135,slow=1.0,SNR=38							
SIV				pPKP		**pPKPdf**	**22 49 14.4**	**-0.9**
	comp=Z,12nm,1.1s,baz=248,slow=2.0,SNR=4.7							
SIV				PKPab		**PKPab**	**22 49 35.5**	**+0.5**
	comp=Z,32nm,0.9s,baz=206,slow=3.9,SNR=16							
SIV				PP		**PP**	**22 53 21.4**	**+1.9**
	comp=Z,13nm,1.1s,baz=222,slow=6.9,SNR=6.2							
SDV	**Santo Domingo**	**164.41**	**54**	PKP		**PKPdf**	**22 48 40.5**	**-1.0**
	comp=Z,42nm,0.8s,baz=16,slow=1.3,SNR=37							
SDV				pPKP		**pPKPdf**	**22 49 14.6**	**-1.3**
	comp=Z,13nm,0.8s,baz=165,slow=2.3,SNR=2.5							
SDV				PKPab		**PKPab**	**22 49 36.4**	**-0.1**
	comp=Z,31nm,0.8s,baz=262,slow=2.8,SNR=7.3							
SDV	**Santo Domingo**	**164.41**	**54**			**PKPdf**	**22 48 40.3**	**-1.2**
SDV	**Santo Domingo**	**164.41**	**54**	*eP*		**PKPdf**	**22 48 40.6**	**-0.9**
SDV	**Santo Domingo**	**164.41**	**54**	*eP*		**PKPdf**	**22 48 41.8**	**+0.3**
TAMC	**Tame, Arauca**	**164.66**	**64**	*eP*		**PKPab**	**22 49 39.1**	**+1.6**
PEXB	**Peixe**	**164.88**	**219**	*eP*		**PKPdf**	**22 48 42.0**	**+0.4**
PTLB	**Pontes e Lacer**	**164.98**	**176**	*eP*		**PKPdf**	**22 48 41.8**	**+0.2**
ROSB	**Rosario**	**165.91**	**260**	*eP*		**PKPdf**	**22 48 43.5**	**+1.0**
SMTB	**Santa Maria do**	**166.63**	**231**	*eP*		**PKPdf**	**22 48 44.1**	**+1.0**
SNDB	**Serra Nova Dou**	**166.69**	**210**	*eP*		**PKPdf**	**22 48 43.9**	**+0.8**
VILB	**Vilhena**	**167.31**	**170**	*eP*		**PKPdf**	**22 48 44.8**	**+1.2**
ETMB	**Extrema**	**167.56**	**139**	*eP*		**PKPdf**	**22 48 45.1**	**+1.3**
PCRV	**Puerto La Cruz**	**167.61**	**32**	PKPab		**PKPab**	**22 49 50.3**	**0.0**
	comp=Z,18nm,0.8s,baz=19,slow=22,SNR=2.5							
CLDB	**Colider**	**169.34**	**192**	*eP*		**PKPdf**	**22 48 45.5**	**+0.5**
TMAB	**Tom-Au,PA,Br**	**169.90**	**259**	*eP*		**PKPdf**	**22 48 46.6**	**+1.3**
PRPB	**Parauapebas**	**170.00**	**235**	*eP*		**PKPdf**	**22 48 46.0**	**+0.6**
SAML	**Samuel**	**170.04**	**149**	PKIKP		**PKPdf**	**22 48 43.9**	**-1.4**
SAML							22 50 00.7	
SAML	**Samuel**	**170.04**	**149**			**PKPdf**	**22 48 43.9**	**-1.4**
SAML						**PKPab**	**22 50 00.7**	**-0.3**
SAML	**Samuel**	**170.04**	**149**	*eP*		**PKPdf**	**22 48 46.3**	**+1.0**
MDP	**Montagnes des**	**172.37**	**316**	PKP		**PKPdf**	**22 48 44.5**	**-2.1**
	comp=Z,23nm,1.1s,baz=93,slow=3.6,SNR=2.6							
NPGB	**Novo Progresso**	**172.87**	**202**	*eP*		**PKPdf**	**22 48 47.5**	**+0.7**
MCPB	**Macapa, AP**	**174.06**	**

*IDC **29** 00:02:29.1±0.6,6°94S×154°84E,h0km,mb4.2/18, mb1 4.3/22,mb1mx4.1/48,mbtmp4.2/22,ML3.8/3,MS4.1/13, Ms1 4.0/13,ms1mx3.6/42, Error ellipse: s-maj=16.2km s-min=15.7km az=176.0*

*NEIC **29** 00:02:34.4±1.4,6°93S±0°09×154°67E±0°08,h35km±1km, mb4.5/36, Error ellipse: s-maj=15.9km s-min=11.4km az=37.0*

ISC 29 00:02:35.1±0.4,6°94S±0°06×154°78E±0°06,h41km,n99, σ1ş51/95,mb4.5/50,MS4.0/10,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.77**	**316**	Pn		**Pn**	**00 03 29.7**	**-1.1**
HNR	**Honiara**	**5.68**	**116**	Pn		**Pn**	**00 03 54.1**	**-2.9**
	5.2nm,0.3s,baz=216,slow=6.5,SNR=1.3							
HNR				Sn		**Sn**	**00 05 02.7**	**+1.7**
	14nm,0.3s,baz=294,slow=20,SNR=1.5							
HNR				LR		LR	00 06 22.2	
	comp=Z,2μm,18.5s,baz=227,slow=41							
HNR	**Honiara**	**5.68**	**116**	Pn		**Pn**	**00 03 58.2**	**+1.2**
PMG	**Port Moresby**	**7.94**	**251**	Pn		**Pn**	**00 04 27.9**	**-0.1**
	1.1nm,0.3s,baz=61,slow=13,SNR=2.1							
PMG				Sn		**Sn**	**00 05 59.3**	**+2.8**
	1.6nm,0.3s,baz=70,slow=22,SNR=8.6							
PMG				LR		LR	00 07 44.5	
	comp=Z,976nm,18.9s,baz=49,slow=40							
PMG	**Port Moresby**	**7.94**	**251**	Pn		**Pn**	**00 04 27.2**	**-0.8**
MANU	**Manus Island**	**8.85**	**303**	Pn		**Pn**	**00 04 40.1**	**-0.4**
CTA	**Charters Tower**	**15.47**	**212**	Pn		**Pn**	**00 06 09.2**	**-1.3**
	0.2nm,0.3s,baz=349,slow=5.2,SNR=3.3							
CTAO	**Charters Tower**	**15.47**	**212**			**Pn**	**00 06 10.0**	**-0.5**
DZM	**Mont Dzumac**	**18.79**	**144**	P		**P**	**00 06 50.3**	**-0.9**
	0.3nm,0.3s,baz=259,slow=9.7,SNR=3.5							
DZM				LR		LR	00 13 00.7	
	comp=Z,272nm,21.1s,baz=273,slow=34							
DZM	**Mont Dzumac**	**18.79**	**144**	P		**Pn**	**00 06 52.4**	**+0.4**
WR0	**Warramunga Arr**	**23.52**	**235**	P		**P**	**00 07 40.3**	**-1.4**
WR0				IAmb		IAmb	00 07 53.2	
	comp=Z,12nm,0.8s							
WB0	**Warramunga Arr**	**23.55**	**235**	P		**P**	**00 07 40.8**	**-1.2**
WB0				IAmb		IAmb	00 07 58.5	
	comp=Z,17nm,1.4s							
WRA	**Warramunga Arr**	**23.68**	**235**	P		**P**	**00 07 42.5**	**-0.7**
	comp=Z,5.6nm,0.8s,baz=60,slow=9.6,SNR=28							
WRA				PcP		**PcP**	**00 11 27.2**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=54,slow=2.1,SNR=3.5							
WRA				LR		LR	00 17 19.9	
	comp=Z,412nm,18.7s,baz=60,slow=38							
WRA	**Warramunga Arr**	**23.68**	**235**	P		**P**	**00 07 41.6**	**-1.6**
MTN	**Manton Dam**	**24.02**	**254**	P		**P**	**00 07 45.0**	**-1.3**
MTN				IAmb		IAmb	00 07 50.3	
	comp=Z,35nm,1.4s							
SIJI	**Sorong**	**24.21**	**283**	P		**P**	**00 07 49.3**	**+1.1**
	comp=Z,6.7nm,0.6s,baz=153,slow=12,SNR=3.6							
MSVF	**Nonsavu**	**25.10**	**117**	P		**P**	**00 07 55.2**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=283,slow=19,SNR=2.4							
AS31	**Alice Springs**	**26.05**	**228**	P		**P**	**00 08 03.8**	**-1.0**
ASAR	**Alice Springs**	**26.05**	**228**	P		**P**	**00 08 04.5**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=60,slow=8.7,SNR=32							
ASAR				ScP		**ScP**	**00 15 13.6**	**+4.8**
	comp=Z,0.9nm,0.7s,baz=46,slow=2.8,SNR=8.9							
ASAR				LR		LR	00 18 41.3	
	comp=Z,450nm,18.0s,baz=66,slow=37							
ASAR	**Alice Springs**	**26.05**	**228**	P		**P**	**00 08 03.4**	**-1.5**
STKA	**Stephens Creek**	**27.70**	**205**	P		**P**	**00 08 19.3**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=15,slow=12,SNR=3.9							
STKA				LR		LR	00 19 55.4	
	comp=Z,465nm,18.8s,baz=29,slow=38							
STKA	**Stephens Creek**	**27.70**	**205**	P		**P**	**00 08 19.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**30.48**	**246**	LR		LR	00 21 46.9	
	comp=Z,328nm,18.4s,baz=62,slow=38							
FITZ	**Fitzroy Crossi**	**30.48**	**246**	P		**P**	**00 08 43.3**	**-1.1**
FITZ				IAmb		IAmb	00 08 43.7	
	comp=Z,14nm,1.4s							
BATI	**Baumata**	**30.93**	**262**	LR		LR	00 23 18.7	
	comp=Z,250nm,20.7s,baz=106,slow=40							
BBOO	**Buckleboo**	**31.07**	**212**	P		**P**	**00 08 47.6**	**-1.8**
BBOO				IAmb		IAmb	00 08 48.5	
	comp=Z,5.8nm,1.1s							
FORT	**Forrest**	**34.49**	**223**	P		**P**	**00 09 18.0**	**-1.3**
FORT				IAmb		IAmb	00 09 19.5	
	comp=Z,9.2nm,0.8s							
URZ	**Urewera**	**37.16**	**150**	LR		LR	00 24 04.2	
	comp=Z,230nm,18.4s,baz=31,slow=35							
RPZ	**Rata Peaks**	**39.31**	**161**	LR		LR	00 26 11.0	
	comp=Z,360nm,18.3s,baz=284,slow=36							
YULB	**Yu-li**	**44.49**	**314**	P		**P**	**00 10 40.0**	**-2.7**
KSRS	**Korea Array**	**50.79**	**332**	P		**P**	**00 11 30.9**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=139,slow=6.8,SNR=2.5							
ENH	**Enshi**	**57.05**	**313**	P		**P**	**00 12 16.6**	**-0.7**
KLR	**Kul'dur**	**59.45**	**343**	P		**P**	**00 12 35.1**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=162,slow=3.8,SNR=1.8							
XAN	**Xi'an**	**59.52**	**316**	P		**P**	**00 12 33.0**	**-1.5**
XAN				IAmb		IAmb	00 12 47.6	
	comp=Z,5.2nm,1.0s							
KMI	**Kunming**	**59.81**	**304**	P		**P**	**00 12 35.8**	**-1.1**
PETK	**Petropavlovsk-**	**59.87**	**2**	P		**P**	**00 12 36.4**	**-0.1**
	comp=Z,5.8nm,1.0s,baz=178,slow=4.2,SNR=2.0							
LAMP	**Lampang**	**59.98**	**296**	P		P	00 12 47.8	+10
	comp=Z,14nm,0.7s							
CM35	**Chiang Mai Arr**	**60.45**	**296**	P		**P**	**00 12 44.0**	**+2.8**
CM04	**Chiang Mai Arr**	**60.52**	**296**	P		**P**	**00 12 45.2**	**+3.6**
	comp=Z,5.0nm,0.8s							
CM09	**Chiang Mai Arr**	**60.52**	**296**	P		**P**	**00 12 45.0**	**+3.4**
	comp=Z,7.0nm,0.8s							
CM01	**Chiang Mai Arr**	**60.54**	**296**	P		**P**	**00 12 45.4**	**+3.6**
	comp=Z,117nmcomp=Z,6.8nm,0.8s							
CM05	**Chiang Mai Arr**	**60.55**	**296**	P		**P**	**00 12 45.0**	**+3.2**
	comp=Z,4.2nm,0.8s							
CM02	**Chiang Mai Arr**	**60.56**	**296**	P		**P**	**00 12 45.4**	**+3.5**
	comp=Z,5.4nm,0.8s							
CM31	**Chiang Mai Arr**	**60.57**	**296**	P		**P**	**00 12 41.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**60.57**	**296**	P		**P**	**00 12 43.0**	**+1.0**
	comp=Z,3.3nm,0.7s,baz=122,slow=5.2,SNR=20							
CMAR	**Chiang Mai Arr**	**60.57**	**296**	P		**P**	**00 12 40.8**	**-1.2**
CM15	**Chiang Mai Arr**	**60.59**	**296**	P		**P**	**00 12 45.0**	**+2.9**
	comp=Z,9.2nm,0.7s							
CM13	**Chiang Mai Arr**	**60.59**	**296**	P		**P**	**00 12 45.5**	**+3.4**
	comp=Z,90nmcomp=Z,5.9nm,0.8s							
CMMT	**Chiang Mai**	**60.68**	**296**	P		**P**	**00 12 46.1**	**+3.4**
	comp=Z,1.7nm,1.0s							
CHTO	**Chiang Mai**	**60.69**	**296**	P		**P**	**00 12 42.1**	**-0.6**
CHTO				IAmb		IAmb	00 12 56.2	
	comp=Z,2.8nm,0.8s							
MA2	**Magadan**	**66.38**	**358**	P		**P**	**00 13 20.8**	**+1.3**
ULN	**Ulaanbaatar**	**68.84**	**328**	P		**P**	**00 13 35.5**	**-0.1**
ULN				IAmb		IAmb	00 13 47.9	
	comp=Z,5.1nm,1.4s							
SHL	**Shillong**	**69.09**	**301**	P		**P**	**00 13 36.5**	**-1.0**
SONM	**Songino Array**	**69.17**	**327**	P		**P**	**00 13 37.6**	**0.0**
	comp=Z,1.5nm,0.9s,baz=135,slow=4.9,SNR=8.2							
SONM	**Songino Array**	**69.17**	**327**	P		**P**	**00 13 36.8**	**-0.8**
VNDA	**Vanda**	**70.64**	**178**	P		**P**	**00 13 46.9**	**+1.0**
LSA	**Lhasa**	**71.07**	**304**	P		**P**	**00 13 49.0**	**-0.9**
LSA				IAmb		IAmb	00 13 52.3	
	comp=Z,5.2nm,0.7s							
TAPN	**Taplejung**	**73.19**	**301**	*eP*		**P**	**00 14 03.5**	**+1.0**
ODAN	**Odare**	**73.32**	**301**	*eP*		**P**	**00 14 05.1**	**+1.9**
	comp=Z,21nm,0.3s							
RAMN	**Ramite**	**74.02**	**300**	*eP*		**P**	**00 14 08.2**	**+0.8**
	comp=Z,7.4nm,0.6s							
JIRN	**Jiri**	**74.58**	**301**	*eP*		**P**	**00 14 11.9**	**+1.2**
	comp=Z,10.0nm,0.7s							
GUN	**Gumba**	**74.91**	**301**	*eP*		**P**	**00 14 13.9**	**+1.3**
	comp=Z,22nm,0.7s							
PKI	**Pulchoki**	**75.22**	**301**	*eP*		**P**	**00 14 14.6**	**+0.2**
PKIN	**Phulchoki**	**75.23**	**301**	*eP*		**P**	**00 14 15.2**	**+0.8**
KKN	**Kakani**	**75.39**	**301**	*eP*		**P**	**00 14 16.2**	**+1.0**
DMN	**Daman**	**75.48**	**301**	*eP*		**P**	**00 14 16.9**	**+1.1**
	comp=Z,17nm,0.6s							
GKN	**Gorkha**	**75.99**	**301**	*eP*		**P**	**00 14 18.6**	**0.0**
	comp=Z,17nm,0.8s							
KDAK	**Kodiak Island**	**77.21**	**26**	LR		LR	00 44 09.3	
	comp=Z,24nm,21.9s,baz=167,slow=32							
KTH	**Kantishna Hill**	**81.25**	**22**	P		**P**	**00 14 47.4**	**+0.7**
KTH				IAmb		IAmb	00 14 53.3	
	comp=Z,7.9nm,1.2s							
SML	**Sawmill**	**81.26**	**24**	P		**P**	**00 14 47.8**	**+1.0**
TRF	**Thorofare Moun**	**81.42**	**22**	P		**P**	**00 14 48.8**	**+1.1**
TRF				IAmb		IAmb	00 14 55.1	
	comp=Z,7.6nm,0.9s							
RND	**Reindeer**	**81.93**	**22**	P		**P**	**00 14 50.7**	**+0.5**
RND				IAmb		IAmb	00 14 58.6	
	comp=Z,7.7nm,1.1s							
MLY	**Manley**	**82.17**	**20**	P		**P**	**00 14 51.8**	**+0.4**
MLY				IAmb		IAmb	00 14 58.0	
	comp=Z,2.1nm,0.9s							
QSPA	**South Pole Qui**	**83.04**	**180**	P		**P**	**00 14 56.0**	**-0.1**
MK31	**Makanchi Array**	**83.22**	**319**	P		**P**	**00 14 57.3**	**0.0**
MKAR	**Makanchi Array**	**83.22**	**319**	P		**P**	**00 14 57.4**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=105,slow=5.5,SNR=12							
MKAR	**Makanchi Array**	**83.22**	**319**	P		**P**	**00 14 56.5**	**-0.8**
ILAR	**Eielson Array**	**83.40**	**22**	P		**P**	**00 14 58.0**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=230,slow=4.1,SNR=4.6							
MAKZ	**Makanchi**	**83.43**	**319**	P		**P**	**00 14 58.4**	**0.0**
MAKZ				IAmb		IAmb	00 15 05.4	
	comp=Z,2.2nm,0.8s							
DOT	**Dot Lake**	**83.89**	**23**	P		**P**	**00 15 01.0**	**+0.6**
DOT				IAmb		IAmb	00 15 06.7	
	comp=Z,3.9nm,0.8s							
ZALV	**Zalesovo Beam**	**84.02**	**326**	P		**P**	**00 15 00.1**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=94,slow=6.1,SNR=3.9							
ZALV	**Zalesovo Beam**	**84.02**	**326**	P		**P**	**00 14 59.9**	**-1.2**
MAW	**Mawson**	**84.37**	**203**	LR		LR	00 51 13.3	
	comp=Z,88nm,18.6s,baz=246,slow=35							
KURK	**Kurchatov**	**86.66**	**322**	P		**P**	**00 15 14.7**	**+0.3**
KURBB	**Kurchatov Arra**	**86.69**	**322**	P		**P**	**00 15 14.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=98,slow=5.2,SNR=2.1							
NIL	**Nilore**	**86.80**	**304**	P		**P**	**00 15 15.0**	**-0.6**
NIL				IAmb		IAmb	00 15 17.4	
	comp=Z,4.2nm,0.8s							
AAK	**Ala-Archa**	**87.56**	**313**	P		**P**	**00 15 19.8**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=99,slow=1.6,SNR=2.4							
AAK	**Ala-Archa**	**87.56**	**313**	P		**P**	**00 15 19.8**	**+0.6**
EPYK	**Eagle Plains**	**87.89**	**22**	P		**P**	**00 15 21.1**	**+1.0**
YBH	**Yreka Blue Hor**	**89.01**	**48**	LR		LR	00 48 34.4	
	comp=Z,177nm,19.2s,baz=250,slow=31							
NVAR	**Mina Array Bea**	**91.85**	**52**	P		**P**	**00 15 39.8**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=251,slow=7.4,SNR=6.1							
YKA	**Yellowknife Ar**	**96.38**	**28**	P		**P**	**00 15 59.2**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=266,slow=4.1,SNR=23							
PDAR	**Pinedale Array**	**98.82**	**48**	P		**P**	**00 16 10.8**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=224,slow=5.0,SNR=3.7							
BRTR	**Keskin Array B**	**118.19**	**315**	PKP		**PKiKP**	**00 21 19.2**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=211,slow=1.4,SNR=4.0							
GERES	**GERESS Array B**	**126.89**	**329**	PKP		**PKPdf**	**00 21 35.1**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=11,slow=2.0,SNR=6.2							
GERES	**GERESS Array B**	**126.89**	**329**			**PKPdf**	**00 21 34.8**	**0.0**
BDFB	**Brasilia**	**148.17**	**135**	PKPbc		**PKPbc**	**00 22 17.6**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=237,slow=2.7,SNR=8.6							
BDFB	**Brasilia**	**148.17**	**135**			**PKPbc**	**00 22 17.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**152.81**	**285**	PKPbc		**PKPbc**	**00 22 28.7**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=63,slow=2.2,SNR=14							

*JMA **29** 00:04:44.0±0.2,28°.11N×128°.00E,h15km±2km,M3.7*
*NIED **29** 00:04:44.0,28°.11N×128°.00E,h15km,MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.35; Mθθ3.31; Mφφ-1.95; Mrθ-2.07; Mθφ0.43; Mφr-2.35; Fault plane solution: M₀4.28000×10¹⁵ NP1:φs49.00000°, δ78.00000°,λ-127.00000°. NP2:φs304.00000°, δ39.00000°,λ-19.00000°.*
*IDC **29** 00:04:45.4±0.9,27°.82N×127°.56E,h0km,mb3.7/5, mb1 3.8/8,mb1mx3.5/45,mbtmp3.7/8,ML3.3/3,MS3.6/14, Ms1 3.7/14,ms1mx3.3/72 Error ellipse: s-maj=35.7km s-min=10.4km az=61.0*

ISC 29 00:04:46.1±2.3,28°.03N±0°.05×128°.10E±0°.06,h14km±15km, n32,σ1ş08/25,mb3.6/5,MS3.8/9,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.79**	**148**	P		**Pb**	**00 05 00.9**	**-0.7**
JOKE				*eS*		**Sg**	**00 05 13.0**	**+1.2**
JTK	**Tokunoshima**	**0.80**	**108**	P		**Pb**	**00 05 00.8**	**-0.8**
JTK				S		**Sg**	**00 05 12.7**	**+0.7**
JAMN	**Amaminishikomi**	**0.98**	**77**	P		**Pb**	**00 05 03.4**	**-1.3**
JAMN				S		**Sb**	**00 05 17.8**	**+0.3**
JIH	**Iheya**	**1.00**	**187**	P		**Pb**	**00 05 03.7**	**-1.4**
JIH				S		**Sb**	**00 05 17.9**	**-0.2**
JYRO	**Yoronjima**	**1.05**	**162**	P		**Pb**	**00 05 04.9**	**-1.1**
JYRO				S		**Sb**	**00 05 20.1**	**+0.5**
JOW	**Kunigami**	**1.21**	**172**	Pg		**Pn**	**00 05 07.5**	**-1.0**
	374nm,0.3s,baz=296,slow=28,SNR=236							
JOW				Lg		Lg	00 05 24.1	
	144nm,0.3s,baz=80,slow=25,SNR=11							
JOW	**Kunigami**	**1.21**	**172**	P		**Pn**	**00 05 07.2**	**-1.3**
JOW				S		**Sn**	**00 05 24.6**	**0.0**
JAM	**Amami Oshima**	**1.39**	**74**	P		**Pn**	**00 05 09.9**	**-1.0**
JAM				S		**Sn**	**00 05 28.9**	**-0.1**
JTAJ	**Takarajima**	**1.48**	**41**	P		**Pn**	**00 05 10.5**	**-1.8**
JNTH	**Nagotoyohara**	**1.51**	**182**	P		**Pn**	**00 05 11.7**	**-0.9**
JAGN	**Aguni-jima**	**1.62**	**208**	P		**Pn**	**00 05 13.4**	**-0.8**
JNU	**Nakatsue**	**5.61**	**25**	Pn		Pn	00 06 14.7	+5.6
	1.8nm,0.3s,baz=195,slow=20,SNR=12							
KSRS	**Korea Array**	**9.40**	**359**	Pn		Pn	00 07 05.9	+4.9
	0.3nm,0.3s,baz=182,slow=13,SNR=4.7							
KSRS				LR		LR	00 10 40.9	
	comp=Z,399nm,19.3s,baz=160,slow=37							
JHJ	**Hachijo jima 2**	**11.27**	**60**	LR		LR	00 11 18.6	
	comp=Z,84nm,21.4s,baz=122,slow=33							
MJAR	**Matsushiro Arr**	**12.04**	**43**	Pn		**P**	**00 07 50.4**	**+0.2**
	0.0nm,0.3s,baz=229,slow=9.7,SNR=9.7							
JCJ	**Chichijima**	**12.54**	**91**	LR		LR	00 11 52.8	
	comp=Z,197nm,22.0s,baz=134,slow=33							
USRK	**Ussuriysk Ar.**	**16.44**	**10**	Pn		**P**	**00 08 41.2**	**+2.3**
	baz=192,slow=13,SNR=3.3							
USRK				LR		LR	00 14 19.8	
	comp=Z,178nm,20.4s,baz=150,slow=34							
ASAJ	**Asahikawa**	**19.83**	**32**	LR		LR	00 17 27.7	
	comp=Z,125nm,21.2s,baz=190,slow=38							
KLR	**Kul'dur**	**21.35**	**7**	LR		LR	00 19 23.4	
	comp=Z,69nm,18.8s,baz=200,slow=41							
SONM	**Songino Array**	**25.99**	**325**	P		**P**	**00 10 19.8**	**+1.3**
	1.4nm,1.0s,baz=140,slow=10,SNR=7.2							
CMAR	**Chiang Mai Arr**	**28.37**	**257**	LR		LR	00 22 58.7	
	comp=Z,48nm,18.1s,baz=155,slow=39							
YAK	**Yakutsk**	**34.02**	**1**	LR		LR	00 25 37.3	
	comp=Z,105nm,18.7s,baz=234,slow=37							
MKAR	**Makanchi Array**	**40.26**	**310**	P		**P**	**00 12 22.0**	**-0.6**
	0.4nm,0.7s,baz=92,slow=9.1,SNR=4.4							
KURBB	**Kurchatov Arra**	**43.48**	**315**	P		**P**	**00 12 48.6**	**-0.1**
	1.0nm,0.6s,baz=354,slow=8.3,SNR=5.7							
WRA	**Warramunga Arr**	**48.07**	**172**	P		**P**	**00 13 25.2**	**0.0**
ASAR	**Alice Springs**	**51.70**	**173**	P		**P**	**00 13 53.2**	**+0.4**
	0.5nm,0.6s,baz=359,slow=8.7,SNR=4.1							
ARCES	**ARCESS Array B**	**68.29**	**338**	LR		LR	00 52 03.3	
	comp=Z,59nm,18.3s,baz=255,slow=42							
FINES	**FINESS Array B**	**71.24**	**330**	LR		LR	00 51 03.0	
	comp=Z,99nm,18.4s,baz=242,slow=39							
RES	**Resolute Bay**	**73.81**	**11**	LR		LR	00 51 54.5	
	comp=Z,48nm,20.0s,baz=80,slow=38							
AKASG	**Malin Array Be**	**74.09**	**319**	LR		LR	00 50 54.1	
	comp=Z,102nm,18.2s,baz=120,slow=37							
NOA	**NORSAR Array B**	**77.65**	**334**	LR		LR	00 53 44.9	
	comp=Z,32nm,18.4s,baz=275,slow=38							
ULM	**Lac du Bonnet**	**92.87**	**27**	LR		LR	01 02 18.2	
	comp=Z,137nm,18.3s,baz=294,slow=37							

*IDC **29** 00:10:02.6±1.2,29°.19S×178°.72W,h335km±14km,mb3.2/3, mb1 3.5/4,mb1mx3.1/31,mbtmp4.1/4, Error ellipse: s-maj=49.4km s-min=27.3km az=110.0*

ISC 29 00:10:04.2±1.1,29°.30S±0°.10×179°.5W±0°.1,h300km,n40, σ1ş73/62,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**1.38**	**88**	P		**Pn**	**00 10 45.5**	**-1.1**
GLKZ	**Green Lake**	**1.39**	**89**	P		**Pn**	**00 10 45.5**	**-1.1**
GLKZ				S		**S**	**00 11 21.5**	**+1.1**
RAO	**Raoul Island**	**1.39**	**89**	P		**Pn**	**00 10 45.9**	**-0.7**
	89nm,0.3s,baz=345,slow=12,SNR=11							
RAO				S		**S**	**00 11 20.6**	**+0.1**
	40nm,0.3s,baz=79,slow=22,SNR=1.7							
MXZ	**Matakaoa Point**	**8.44**	**192**	P		**Pn**	**00 12 07.1**	**+4.1**
MXZ				S		**S**	**00 13 40.9**	**+1.3**
WMGZ	**Waiomatatini S**	**8.67**	**191**	P		**Pn**	**00 12 07.1**	**+1.2**
WMGZ				S		**S**	**00 13 44.8**	**0.0**
MWZ	**Matawai**	**9.34**	**194**	P		**Pn**	**00 12 11.9**	**-2.2**
MWZ				S		**S**	**00 14 00.7**	**+0.7**
CNGZ	**Carnagh Statio**	**9.36**	**191**	P		**Pn**	**00 12 13.5**	**-0.8**
URZ	**Urewera**	**9.37**	**197**	P		**P**	**00 12 17.9**	**-0.9**
	9.9nm,0.3s,baz=196,slow=1.6,SNR=30							
URZ				S		**S**	**00 14 03.3**	**+2.7**
	1.3nm,0.3s,baz=123,slow=24,SNR=2.1							
URZ	**Urewera**	**9.37**	**197**	P		**P**	**00 12 16.3**	**-2.4**
URZ				S		**S**	**00 14 03.4**	**+2.8**
TKGZ	**Te Karaka**	**9.38**	**193**	P		**P**	**00 12 17.4**	**-1.4**
TKGZ				S		**S**	**00 14 01.6**	**+0.8**
RIGZ	**Rimuhau**	**9.65**	**193**	P		**P**	**00 12 21.5**	**-0.5**
RIGZ				S		**S**	**00 14 06.1**	**-0.9**
MUGZ	**Murupara**	**9.66**	**198**	P		**P**	**00 12 20.2**	**-1.8**
SNGZ	**Shannon Statio**	**9.81**	**195**	P		**P**	**00 12 22.6**	**-1.1**
SNGZ				S		**S**	**00 14 12.0**	**+1.3**
TLZ	**Tolley Road**	**9.90**	**203**	P		**P**	**00 12 26.3**	**+1.5**
KNZ	**Kokohu**	**9.98**	**193**	P		**P**	**00 12 24.3**	**-1.2**
RAHZ	**Arahi**	**10.00**	**195**	P		**P**	**00 12 24.9**	**-0.9**
RAHZ				S		**S**	**00 14 15.9**	**+1.0**
WHHZ	**Waihua**	**10.12**	**195**	P		**P**	**00 12 26.3**	**-0.8**
WHHZ				S		**S**	**00 14 19.7**	**+2.1**
NMHZ	**Naumai**	**10.24**	**196**	P		**P**	**00 12 27.1**	**-1.4**
NMHZ				S		**S**	**00 14 25.4**	**+5.0**
HIZ	**Hauiti**	**10.31**	**205**	P		P	00 12 33.5	+4.3
ARHZ	**Aropaoanui**	**10.35**	**195**	P		**P**	**00 12 28.1**	**-1.5**
ARHZ				S		**S**	**00 14 24.1**	**+1.3**
BKZ	**Black Stump Fm**	**10.38**	**197**	P		**Pn**	**00 12 27.7**	**+0.7**
BKZ				S		**S**	**00 14 25.1**	**+1.5**
MCHZ	**McNeill Hill**	**10.60**	**196**	P		**P**	**00 12 30.8**	**-1.5**
MCHZ				S		**S**	**00 14 29.0**	**+0.6**
KWHZ	**Kaweka Forest**	**10.64**	**197**	P		**P**	**00 12 31.5**	**-1.5**
BHHZ	**Black Hill Sta**	**10.80**	**199**	P		**P**	**00 12 33.0**	**-1.8**
KRHZ	**Kereru**	**10.87**	**197**	P		**P**	**00 12 33.6**	**-1.8**
KRHZ				S		**S**	**00 14 33.9**	**-0.6**
KAHZ	**Kahuranaki**	**10.89**	**195**	P		**Pn**	**00 12 33.4**	**+0.3**
PXZ	**Pawanui**	**11.12**	**195**	P		**P**	**00 12 37.4**	**-0.7**
PNHZ	**Pukenui**	**11.16**	**197**	P		**Pn**	**00 12 36.7**	**+0.2**
TSZ	**Takapari Road**	**11.36**	**198**	P		**P**	**00 12 39.6**	**-1.4**
TSZ				S		**S**	**00 14 44.7**	**-1.5**
PRHZ	**Porangahau**	**11.39**	**195**	P		**P**	**00 12 40.8**	**-0.4**
ANWZ	**Angora Road**	**11.61**	**195**	P		**P**	**00 12 43.6**	**-0.1**
ANWZ				S		**S**	**00 14 54.3**	**+3.0**
PRWZ	**Pori Road**	**11.82**	**197**	P		**P**	**00 12 45.1**	**-0.9**
PRWZ				S		**S**	**00 14 56.3**	**+0.2**
BFZ	**Birch Farm**	**11.88**	**196**	P		**P**	**00 12 45.4**	**-1.2**
BFZ				S		**S**	**00 14 54.4**	**-2.9**
MRZ	**Mangatainoka R**	**12.03**	**198**	P		**Pn**	**00 12 46.5**	**-0.4**
MRZ				S		**S**	**00 14 56.3**	**-4.3**
OGWZ	**Otaki Gorge**	**12.29**	**199**	P		**Pn**	**00 12 49.4**	**-0.6**
OGWZ				S		**S**	**00 15 04.5**	**-2.0**
KIW	**Kapiti Island**	**12.40**	**200**	P		**P**	**00 12 52.1**	**-0.4**
KIW				S		**S**	**00 15 06.3**	**-2.9**
ASAR	**Alice Springs**	**41.86**	**266**	P		**P**	**00 17 26.7**	**+0.9**
	0.1nm,0.4s,baz=99,slow=6.7,SNR=4.2							
WRA	**Warramunga Arr**	**42.75**	**272**	P		**P**	**00 17 33.3**	**+0.4**
	0.6nm,0.4s,baz=109,slow=7.9,SNR=8.5							
FITZ	**Fitzroy Crossi**	**51.05**	**270**	P		**P**	**00 18 37.0**	**+0.3**
	0.6nm,0.4s,baz=99,slow=5.2,

CNGZ **Carnagh Statio** 12.45 186 P **P** 00 29 58.0 -0.2
CNGZ S **S** 00 32 10.3 -2.4
OUENC **Ouen Island, N** 12.47 284 P **P** 00 29 59.7 +1.1
YATNC **Mamie plateau,** 12.55 286 P **P** 00 29 59.8 +0.3
RIGZ **Rimuhau** 12.72 188 P **P** 00 30 00.2 -0.8
RIGZ S **S** 00 32 12.5 -5.4
LIFNC **LIFOU** 12.78 292 P **P** 00 30 01.7 -0.2
ONTNC **Ouen Toro** 12.85 284 P **P** 00 30 04.9 +2.3
92nm,1.1s
DZM **Mont Dzumac** 12.94 285 P **P** 00 30 03.7 0.0
9.1nm,0.3s,baz=101,slow=11,SNR=77
DZM **Mont Dzumac** 12.94 285 *e*P **P** 00 30 03.6 -0.1
397nm,1.0s
DZM **Mont Dzumac** 12.94 285 P **P** 00 30 03.6 -0.1
DZM **Mont Dzumac** 12.94 285 P **P** 00 30 04.2 +0.5
BKZ **Black Stump Fm** 13.36 192 P **P** 00 30 05.2 -2.6
AFI **Afiamalu** 14.40 34 P **P** 00 30 16.3 -2.8
AFI **Afiamalu** 14.40 34 P **P** 00 30 16.1 -3.0
SANVU **Saraoutou** 15.90 309 P **P** 00 30 34.5 -0.2
SANVU **Saraoutou** 15.90 309 P **P** 00 30 35.4 +0.7
QRZ **Quartz Range** 15.94 201 P **P** 00 30 33.5 -1.3
TUWZ **Tuamarina** 16.09 196 P **P** 00 30 34.5 -1.8
THZ **Tophouse** 16.68 199 P **P** 00 30 41.1 -1.5
THZ IAmb IAmb 00 30 43.4
comp=Z,46nm,1.1s
LTZ **Lake Taylor** 17.80 199 P **P** 00 30 51.5 -1.8
RPZ **Rata Peaks** 19.01 200 P **P** 00 31 02.3 -2.2
comp=Z,4.5nm,0.3s,baz=341,slow=2.8,SNR=35
RPZ S **S** 00 34 14.8 +3.5
comp=Z,1.2nm,0.3s,baz=337,slow=18,SNR=7.5
LHI **Lord Howe Isla** 19.05 249 P **P** 00 31 06.1 +1.1
LHI **Lord Howe Isla** 19.05 249 P **P** 00 31 06.8 +1.8
RAR **Rarotonga** 19.22 80 P **P** 00 31 06.2 -0.4
comp=Z,0.9nm,0.3s,baz=277,slow=3.3,SNR=5.9
KNTN **Kanton** 24.53 20 P **P** 00 31 53.2 -1.2
KNTN IAmb IAmb 00 32 00.8
comp=Z,44nm,1.0s
ARMA **Armidale** 25.26 254 P **P** 00 32 01.6 +0.6
ARMA IAmb IAmb 00 32 03.5
comp=Z,34nm,0.8s
EIDS **Eidsvold** 25.97 265 P **P** 00 32 06.9 -0.2
TBI **Tubuai** 27.92 91 *e*P **P** 00 32 25.0 +0.7
comp=Z,75nm,0.8s
CAN **Canberra** 28.04 243 P **P** 00 32 26.4 +1.0
CAN IAmb IAmb 00 32 27.7
comp=Z,27nm,0.8s
PAE **Paea** 29.46 80 *e*P **P** 00 32 38.5 +0.7
comp=Z,8.8nm,1.0s
TOO **Toolangi** 31.25 240 P **P** 00 32 53.1 0.0
TOO IAmb IAmb 00 32 55.8
comp=Z,39nm,1.2s
TAU **Tasmania Unive** 31.43 229 P **P** 00 32 54.9 +0.5
TAU IAmb IAmb 00 33 11.9
comp=Z,62nm,1.4s
CTA **Charters Tower** 31.48 274 P **P** 00 32 55.4 +0.2
comp=Z,154nm,0.7s,baz=102,slow=12,SNR=37
CTA ScP **ScP** 00 38 33.7 +4.7
comp=Z,7.8nm,0.7s,baz=56,slow=2.8,SNR=4.7
CTAO **Charters Tower** 31.48 274 P **P** 00 32 55.5 +0.2
VAH **Vaihoa** 32.14 77 *e*P **P** 00 33 01.1 +0.2
comp=Z,37nm,1.0s
STKA **Stephens Creek** 33.90 251 P **P** 00 33 15.5 -0.1
comp=Z,19nm,0.7s,baz=94,slow=11,SNR=46
STKA PcP **PcP** 00 35 40.6 +0.6
comp=Z,3.8nm,0.7s,baz=106,slow=4.6,SNR=2.8
STKA ScP **ScP** 00 38 40.8 +3.6
comp=Z,8.8nm,0.8s,baz=68,slow=5.3,SNR=9.3
STKA **Stephens Creek** 33.90 251 P **P** 00 33 15.4 -0.3
RABL **Rabaul** 34.36 305 P **P** 00 33 19.1 -0.7
PMG **Port Moresby** 35.19 292 P **P** 00 33 26.5 -0.2
PMG **Port Moresby** 35.19 292 P **P** 00 33 27.3 +0.6
comp=Z,90nm,1.0s
XMAS **Kiritimati** 35.51 41 P **P** 00 33 28.7 -0.6
COEN **Coen** 36.44 282 P **P** 00 33 36.9 -0.2
COEN IAmb IAmb 00 33 39.5
comp=Z,36nm,0.9s
BBOO **Buckleboo** 38.57 249 P **P** 00 33 53.1 -1.3
BBOO IAmb IAmb 00 33 54.8
comp=Z,51nm,1.2s
MANU **Manus Island** 39.37 302 P **P** 00 34 00.5 -0.6
TAOE **Nuku Hiva Isla** 41.55 73 P **P** 00 34 18.9 +0.2
AS31 **Alice Springs** 41.65 263 P **P** 00 34 18.8 -0.5
AS31 IAmb IAmb 00 34 20.9
comp=Z,27nm,1.1s
ASAR **Alice Springs** 41.65 263 P **P** 00 34 18.7 -0.6
comp=Z,54nm,0.9s,baz=93,slow=7.4,SNR=226
ASAR ScP **ScP** 00 39 11.2 +4.2
comp=Z,4.1nm,0.9s,baz=116,slow=4.1,SNR=9.1
ASAR S **S** 00 40 00.0 +0.6
comp=Z,6.1nm,0.8s,baz=99,slow=16,SNR=14
ASAR **Alice Springs** 41.65 263 P **P** 00 34 18.0 -1.3
WR0 **Warramunga Arr** 42.05 269 P **P** 00 34 21.4 -1.1
WR0 IAmb IAmb 00 34 23.1
comp=Z,43nm,1.0s
WB2 **Warramunga Arr** 42.22 269 P **P** 00 34 22.8 -1.0
WRA **Warramunga Arr** 42.23 269 P **P** 00 34 22.8 -1.1
comp=Z,21nm,0.5s,baz=100,slow=7.7,SNR=160
WRA ScP **ScP** 00 39 13.5 +4.2
comp=Z,5.4nm,1.0s,baz=105,slow=4.6,SNR=8.9
WRA S **S** 00 40 07.5 -0.3
comp=Z,4.7nm,0.9s,baz=100,slow=14,SNR=7.0
WRA **Warramunga Arr** 42.23 269 P **P** 00 34 22.7 -1.2
WB0 **Warramunga Arr** 42.23 269 P **P** 00 34 22.8 -1.1
GENI **Genyem** 44.73 295 P **P** 00 34 42.8 -0.6
comp=Z,122nm,0.8s
FORT **Forrest** 45.52 252 P **P** 00 34 47.7 -1.6
MTN **Manton Dam** 47.59 276 P **P** 00 35 03.8 -1.3
MTN IAmb IAmb 00 35 06.9
comp=Z,32nm,0.7s
SRPI **Serui, Papua** 48.38 293 P **P** 00 35 11.8 +0.7
comp=Z,205nm,0.6s
FITZ **Fitzroy Crossi** 50.62 267 P **P** 00 35 27.0 -0.6
FITZ IAmb IAmb 00 35 30.4
comp=Z,41nm,0.9s
FAKI **Fak Fak** 51.17 289 P **P** 00 35 30.4 -1.3
FAKI IAmb IAmb 00 35 38.2
comp=Z,29nm,1.0s
MLH **Mauna Loa** 51.26 30 P **P** 00 35 33.4 +1.0
HMH **Humu'ula Sheep** 51.31 30 P **P** 00 35 33.7 +0.8
SBA **Scott Base** 52.20 183 P **P** 00 35 40.1 +1.9
VNDA **Vanda** 52.21 185 P **P** 00 35 39.6 +1.4
comp=Z,1.0nm,0.7s,baz=4.3,slow=7.1,SNR=6.5
VNDA **Vanda** 52.21 185 P **P** 00 35 39.3 +1.1
SWI **Sorong** 53.09 290 P **P** 00 35 45.0 -0.5
comp=Z,2µmcomp=Z,234nm,0.8s
NWAO **Narrogin (SRO)** 54.29 247 P **P** 00 35 52.9 -0.9
PSA00 **Pilbara Seismi** 54.73 261 P **P** 00 35 55.7 -1.4
SOEI **Soe** 54.98 276 P **P** 00 35 59.4 +0.3
SOEI **Soe** 54.98 276 P **P** 00 35 59.0 -0.1
comp=Z,831nmcomp=Z,126nm,0.9s
BATI **Baumata** 55.34 276 P **P** 00 36 00.7 -0.7
comp=Z,646nmcomp=Z,40nm,0.9s
NLAI **Namlea** 55.45 285 P **P** 00 36 01.1 -1.0
comp=Z,27nm,0.9s
MORW **Morawa** 56.08 251 P **P** 00 36 05.5 -1.0
MORW IAmb IAmb 00 36 06.8
comp=Z,25nm,0.8s
SANI **Sanana** 57.00 286 P **P** 00 36 11.5 -1.4
comp=Z,56nm,0.9s
TNTI **Ternate** 57.25 289 P **P** 00 36 13.7 -0.9
TNTI IAmb IAmb 00 36 16.2
comp=Z,38nm,0.7s
MMRI **Maumere** 57.27 277 P **P** 00 36 13.8 -1.0
MMRI IAmb IAmb 00 36 16.9
comp=Z,56nm,1.1s
MMRI **Maumere** 57.27 277 P **P** 00 36 16.1 +1.3
EDFI **Ende, Flores** 57.71 276 P **P** 00 36 17.2 -0.7
comp=Z,259nmcomp=Z,26nm,0.8s
CASY **Casey** 58.13 206 P **P** 00 36 19.3 -0.4
CASY IAmb IAmb 00 36 20.8
comp=Z,29nm,0.8s
GIRL **Giralia** 59.37 258 P **P** 00 36 29.0 +0.1
LUWI **Luwuk** 60.28 285 P **P** 00 36 34.4 -0.7
LUWI IAmb IAmb 00 36 37.1
comp=Z,44nm,0.9s
LUWI **Luwuk** 60.28 285 P **P** 00 36 34.7 -0.4
comp=Z,2µmcomp=Z,59nm,0.9s
BNSI **Bone** 61.04 280 P **P** 00 36 39.7 -0.4
comp=Z,30nm,0.9s
KAPI **Kappang** 61.07 279 P **P** 00 36 39.6 -0.7
PLAI **Plampang** 61.18 274 P **P** 00 36 40.3 -0.7
comp=Z,900nmcomp=Z,109nm,0.9s
APSI **Ampana** 61.33 284 P **P** 00 36 41.4 -0.6
comp=Z,28nm,1.0s
SPSI **Sidrap Palu** 61.54 280 P **P** 00 36 41.2 -2.1
comp=Z,31nm,0.9s
TTSI **Tana Toraja** 61.92 281 P **P** 00 36 48.4 +2.6
TWSI **Taliwang, Sumb** 62.02 274 P **P** 00 36 45.5 -1.0
comp=Z,256nmcomp=Z,24nm,0.9s
TOLI2 **Tolitoli** 63.07 286 P **P** 00 36 52.5 -0.8
TOLI2 IAmb IAmb 00 36 53.4
comp=Z,18nm,0.9s
QSPA **South Pole Qui** 64.01 180 P **P** 00 37 00.0 +1.4
comp=Z,5.2nm,0.6s,baz=56,slow=3.7,SNR=14
QSPA **South Pole Qui** 64.01 180 P **P** 00 36 59.7 +1.0
QSPA IAmb IAmb 00 37 03.6
comp=Z,24nm,1.4s
JAGI **Jajag, Banyuwa** 64.59 273 P **P** 00 37 01.6 -1.4
JAGI **Jajag, Banyuwa** 64.59 273 P **P** 00 37 00.6 -2.4
comp=Z,73nm,0.8s
ABJI **Asem Bagus** 64.80 274 P **P** 00 37 03.2 -1.1
comp=Z,37nm,1.2s
KMMI **Kalianget** 65.35 274 P **P** 00 37 06.9 -0.9
comp=Z,60nm,0.8s
BBKI **Banjar Baru** 66.14 278 P **P** 00 37 13.5 +0.7
comp=Z,4µmcomp=Z,23nm,0.6s
UGM **Wanagama** 68.08 272 P **P** 00 37 23.9 -0.9
SBUM **Sibu** 71.19 282 P **P** 00 37 43.2 -0.1
SBUM **Sibu** 71.19 282 P **P** 00 37 44.0 +0.6
XMIS **Christmas Isla** 71.41 267 P **P** 00 37 44.0 -0.7
XMIS IAmb IAmb 00 37 45.4
comp=Z,39nm,0.8s
KSM **Kuching** 72.42 281 P **P** 00 37 50.2 -0.3
KSM IAmb IAmb 00 37 51.8
comp=Z,39nm,0.8s
KSM **Kuching** 72.42 281 P **P** 00 37 51.0 +0.4
JGF **Kuroka** 73.36 325 P **P** 00 37 55.0 -0.5
MJAR **Matsushiro Arr** 73.65 326 P **P** 00 37 56.8 -0.4
comp=Z,5.8nm,0.8s,baz=160,slow=5.4,SNR=20
MJAR **Matsushiro Arr** 73.65 326 P **P** 00 37 56.4 -0.7
MAJO **Matsushiro** 73.65 326 P **P** 00 37 57.0 -0.2
MAT **Matsushiro** 73.65 326 P **P** 00 37 56.7 -0.4
JWT **Wachi** 74.14 323 P **P** 00 38 00.0 +0.1
BELA **Belgrano 2** 74.29 173 P **P** 00 38 00.5 +0.3
PPBI **Pangkal Pinang** 74.49 275 P **P** 00 38 01.7 -0.7
comp=Z,28nm,0.4s
KASI **Kota Agung** 74.51 271 P **P** 00 38 01.1 -1.4
comp=Z,2µmcomp=Z,50nm,0.4s
KLSI **74.65 272** P **P** 00 38 01.1 -2.2
comp=Z,5.8nm,0.8s
JNU **Nakatsue** 75.11 319 P **P** 00 38 05.2 -0.3
comp=Z,9.2nm,0.9s,baz=358,slow=5.6,SNR=3.8
JNU **Nakatsue** 75.11 319 P **P** 00 38 05.0 -0.5
JNU IAmb IAmb 00 38 08.3
comp=Z,19nm,1.0s
LWLI **Liwa** 75.12 272 P **P** 00 38 05.0 -1.1
comp=Z,8µmcomp=Z,77nm,0.7s
MAW **Mawson** 75.69 201 P **P** 00 38 09.2 +1.1
comp=Z,7.9nm,0.7s,baz=131,slow=6.8,SNR=8.7
MAW **Mawson** 75.69 201 P **P** 00 38 08.6 +0.5
PMSA **Palmer Station** 76.94 157 P **P** 00 38 16.1 +1.1
PMSA IAmb IAmb 00 38 31.4
comp=Z,80nm,1.4s
KSI **Kapahiang** 77.02 272 P **P** 00 38 14.8 -1.8
comp=Z,88nm,0.7s
ADK **Adak** 77.68 2 P **P** 00 38 19.7 +0.5
ADK IAmb IAmb 00 38 24.6
comp=Z,71nm,1.2s
KSRS **Korea Array** 79.87 320 P **P** 00 38 31.8 +0.6
comp=Z,4.8nm,0.7s,baz=134,slow=5.6,SNR=24
KSAR **Wonju Array Be** 79.88 320 P **P** 00 38 31.4 +0.2
KS19 **Wonju Array Si** 79.94 320 P **P** 00 38 32.1 +0.6
JRMM **Jerantut** 80.46 279 P **P** 00 38 34.0 -0.9
SYO **Syowa Base** 80.88 193 *e*P **P** 00 38 36.4 +0.4
PEA0B **Petropavlovsk-** 81.19 347 P **P** 00 38 38.7 +1.0
PEA0B IAmb IAmb 00 38 57.3
comp=Z,44nm,1.2s
PETK **Petropavlovsk-** 81.19 347 P **P** 00 38 38.3 +0.6
comp=Z,6.5nm,0.8s,baz=112,slow=8.2,SNR=15
PETK **Petropavlovsk-** 81.19 347 P **P** 00 38 38.0 +0.2
MNSI **Mandailing Nat** 81.67 275 P **P** 00 38 40.1 -1.0
NJ2 **Nanjing** 82.03 311 *e*P **P** 00 38 45.3 +2.8
NJ2 pmax pmax
comp=Z,12nm,0.5s
SNAA **Sanae** 82.50 179 P **P** 00 38 45.1 +0.8
SNAA **Sanae** 82.50 179 P **P** 00 38 44.4 +0.1
USRK **Ussuriysk Ar.** 82.55 327 P **P** 00 38 45.3 +0.5
comp=Z,1.8nm,0.6s,baz=149,slow=1.6,SNR=5.1
USRK **Ussuriysk Ar.** 82.55 327 P **P** 00 38 44.9 0.0
VNA3 **Neumayer Olymp** 82.71 177 P **P** 00 38 45.9 +0.6
RPSI **Rantau Prapat** 83.10 276 P **P** 00 38 47.4 -0.9
VNA2 **Neumayer--Watz** 83.13 178 P **P** 00 38 44.7 -2.8
VNA1 **Neumayer--Stat** 83.36 177 P **P** 00 38 44.6 -4.0
PMPB **Monarch Peak** 83.44 44 P **P** 00 38 51.0 +1.5
PMPB IAmb IAmb 00 38 52.9
comp=Z,18nm,0.8s
PAGB **Antelope Grade** 83.48 45 P **P** 00 38 51.1 +1.4
GSI **Gunungsitoli** 83.69 275 P **P** 00 38 51.4 +0.1
GSI IAmb IAmb 00 38 53.4
comp=Z,45nm,1.2s
GSI **Gunungsitoli** 83.69 275 P **P** 00 38 53.4 +2.1
CBX **Cerro Bola** 83.79 50 P **P** 00 38 53.0 +1.5
SLBS **Sierra La Lagu** 83.95 60 P **P** 00 38 53.4 +1.0
SLBS IAmb IAmb 00 38 55.8
comp=Z,31nm,1.0s
MWC **Mount Wilson** 83.99 47 P **P** 00 38 53.5 +1.0
MWC IAmb IAmb 00 38 55.4
comp=Z,22nm,1.1s
ARVC **Arvin** 84.03 46 P 00 38 54.1
baz=232
ESJX **Sierra Juarez** 84.11 50 P **P** 00 38 54.5 +1.4
ESJX IAmb IAmb 00 38 56.9
comp=Z,19nm,1.2s
MURC **Murrieta** 84.19 48 P 00 38 55.7
baz=234,SNR=6.4
BFSC **Mont Baldy Ra** 84.26 48 P 00 38 55.3
baz=233
MONP2 **Monument Peak** 84.30 49 P 00 38 56.2
baz=234,SNR=10.0
VES **Vestal, Richgr** 84.30 46 P 00 38 55.8
baz=232
IKP **In-Ko-Pah, Jac** 84.37 50 P 00 38 56.7
baz=234
EDW2 **Edwards Air Fo** 84.42 47 P 00 38 56.5
baz=233,SNR=12
ISA **Isabella, Lake** 84.58 46 P 00 38 57.5
baz=233,SNR=15
ISA **Isabella, Lake** 84.58 46 P **P** 00 38 56.6 +1.4
ISA IAmb IAmb 00 38 58.5
comp=Z,28nm,0.9s
PFO **Pinyon Flats O** 84.69 49 P 00 38 58.1
baz=234,SNR=6.8
TPFO **Pinon Flats** 84.69 49 P 00 38 57.9
baz=234,SNR=6.6
PFO **Pinyon Flats O** 84.69 49 P **P** 00 38 57.7 +1.7
comp=Z,9.5nm,0.9s,baz=250,slow=4.1,SNR=13
PFO **Pinyon Flats O** 84.69 49 P **P** 00 38 57.2 +1.3
PFO IAmb IAmb 00 38 59.1
comp=Z,16nm,1.1s
XPFO **Pion Flat** 84.69 49 P **P** 00 38 57.2 +1.3
XPFO IAmb IAmb 00 38 59.2
comp=Z,15nm,1.0s
SWSC **Sam W. Stewart** 84.75 50 P 00 38 58.4
baz=234,SNR=8.6
O02D **Mt. Diablo Mer** 84.76 40 P 00 38 58.8
baz=229,SNR=13
ORV **Oroville** 85.12 41 P **P** 00 38 59.5 +1.8
WDC **Whiskeytown Da** 85.17 40 P **P** 00 38 59.0 +1.1
WDC IAmb IAmb 00 39 01.1
comp=Z,20nm,1.0s
BELC **Belle Mtn. Jos** 85.23 49 P 00 39 00.7
baz=234,SNR=16
CWC **Cottonwood Cre** 85.30 46 P 00 39 00.3
baz=233
N02D **Trinity Center** 85.33 40 P 00 39 01.7
baz=229,SNR=5.6
BC3 **Big Chuckawall** 85.40 49 P 00 39 01.8
baz=235,SNR=8.2
O03E **Paynes Creek** 85.41 41 P 00 39 01.1
baz=230,SNR=7.8
GSC **Goldstone, Bar** 85.45 47 P 00 39 01.2
baz=234,SNR=11
MPMC **Manual Prospec** 85.46 46 P 00 39 01.2
baz=233,SNR=8.1
GLA **Glamis** 85.48 50 P **P** 00 39 01.6 +1.9
GLA IAmb IAmb 00 39 03.5
comp=Z,34nm,0.9s
GLA **Glamis** 85.48 50 P 00 39 02.4
baz=235,SNR=6.8
HEC **Hector,Ludlow** 85.49 48 P 00 39 01.6
baz=234,SNR=27
M02C **Callahan** 85.51 39 P 00 39 02.3
baz=229,SNR=5.7
YBH **Yreka Blue Hor** 85.81 39 P **P** 00 39 03.0 +1.8
IRM **Iron Mountain** 85.90 49 P 00 39 04.1
baz=235,SNR=14
K02D **Willamette Mer** 85.91 38 P 00 39 04.3
baz=229
GMRC **Granite Mounta** 85.91 48 P 00 39 03.9
baz=234,SNR=9.7
BEKR **Beckworth** 86.00 42 P **P** 00 39 03.4 +1.3
BEKR IAmb IAmb 00 39 04.8
comp=Z,8.5nm,0.7s
GRAC **Grapevine Rang** 86.10 45 P 00 39 05.4
baz=233
FURC **Furnace Creek,** 86.11 46 P 00 39 04.8
baz=234
HUMO **Hull Mountain** 86.25 38 P **P** 00 39 05.6 +2.5
214A **Organ Pipe Nat** 86.27 52 P 00 39 05.9
baz=236
214A **Organ Pipe Nat** 86.27 52 P **P** 00 39 05.7 +2.2
214A IAmb IAmb 00 39 07.2
comp=Z,16nm,0.8s
M04C **Macdoel** 86.34 40 P 00 39 06.2
baz=230
L04D **Klamath Falls** 86.36 39 P 00 39 06.2
baz=230
NVAR **Mina Array Bea** 86.37 44 P **P** 00 39 05.3 +1.3
comp=Z,11nm,0.8s,baz=223,slow=8.5,SNR=64
NVAR **Mina Array Bea** 86.37 44 P **P** 00 39 04.9 +0.9
KLR **Kul'dur** 86.39 331 P **P** 00 39 04.5 +1.0
comp=Z,0.7nm,0.4s,baz=90,slow=4.9,SNR=4.5
NV11 **Mina Array Sit** 86.46 44 P **P** 00 39 05.7 +1.3
NV11 IAmb IAmb 00 39 07.1
comp=Z,12nm,0.9s
PDMCI **Parker Dam,Lak** 86.66 49 P 00 39 07.7
baz=235,SNR=5.5
I03D **Drain, OR** 86.74 37 P 00 39 07.4
baz=229
TPNV **Topopah Spring** 86.79 46 P 00 39 07.7
baz=234,SNR=16
PLCA **Paso Flores** 86.80 134 P **P** 00 39 08.0 +1.9
comp=Z,3.9nm,0.7s,baz=218,slow=5.4,SNR=8.3
PLCA **Paso Flores** 86.80 134 P **P** 00 39 07.6 +1.6
K04D **Chiloquin, OR** 86.93 39 P 00 39 08.8
baz=230
J04D **Umpqua Nationa** 87.13 38 P 00 39 09.5
baz=230,SNR=12
I04A **Tendick Farm,** 87.32 38 P 00 39 09.9
baz=230,SNR=5.8
EFI **East Falkland** 87.41 148 P **P** 00 39 09.7 +1.2
H04D **Lebanon** 87.62 37 P 00 39 11.7
baz=229
J05D **Fort Rock, OR** 87.65 39 P 00 39 11.8
baz=230,SNR=26
TUC **Tucson** 87.90 52 P 00 39 13.9
baz=237
TUC **Tucson** 87.90 52 P **P** 00 39 13.4 +2.2
TUC IAmb IAmb 00 39 15.3
comp=Z,23nm,0.9s
R11A **Troy Canyon, C** 88.03 45 P 00 39 13.6
baz=234,SNR=5.0
PINE **Pine Mountain** 88.14 38 P **P** 00 39 13.9 +1.8
I05D **Terrebonne, OR** 88.26 38 P 00 39 14.4
baz=230,SNR=12
BI02 **San Fabin de** 88.46 130 P **P** 00 39 15.0 +1.1
BI02 IAmb IAmb 00 39 16.8
comp=Z,11nm,0.8s
E04D **Cinebar** 89.03 36 P 00 39 18.4
baz=229
WUAZ **Wupatki** 89.22 49 P 00 39 19.9
baz=237
ZAIG **Zacatecas** 89.36 64 P **P** 00 39 20.3 +1.8
ZAIG IAmb IAmb 00 39 21.9
comp=Z,7.7nm,0.7s
D03D **Eldon** 89.40 35 P 00 39 20.3
baz=229
LON **Longmire** 89.56 36 P **P** 00 39 19.8 +1.3
LON IAmb IAmb 00 39 20.9
comp=Z,7.4nm,0.7s
D05A **Enumclaw** 89.75 35 P **P** 00 39 21.0 +1.7
BO02 **Sierra Bellavi** 89.79 129 P **P** 00 39 21.4 +1.4
BO02 IAmb IAmb 00 39 22.8
comp=Z,11nm,0.8s
121A **Cookes Peak, D** 90.17 54 P 00 39 24.5
baz=239
G08A **Pilot Rock** 90.18 38 P **P** 00 39 23.0 +1.5
G08A IAmb IAmb 00 39 24.5
comp=Z,31nm,1.5s
CMAR **Chiang Mai Arr** 90.21 290 P **P** 00 39 24.0 +1.9
comp=Z,2.0nm,0.7s,baz=135,slow=3.3,SNR=14
CMAR PP **PP** 00 43 04.4 -0.6
comp=Z,1.5nm,0.4s,baz=140,slow=6.2,SNR=4.7
CMAR **Chiang Mai Arr** 90.21 290 P **P** 00 39 23.0 +0.8
KMI **Kunming** 90.21 298 ⇑P **P** 00 39 24.0 +1.7
A04D **Lummi Island** 90.37 34 P 00 39 24.5
baz=229
CHTO **Chiang Mai** 90.37 291 P **P** 00 39 24.1 +1.2
CHTO IAmb IAmb 00 39 26.4
comp=Z,11nm,1.3s
B05A **Bryant** 90.39 35 P 00 39 24.4
baz=230
SUA **Susitna One** 90.40 14 P 00 39 22.6
baz=206
MFID **Camas Ranch** 90.85 41 P **P** 00 39 26.2 +1.6
MFID IAmb IAmb 00 39 27.4
comp=Z,12nm,0.9s
DUG **Dugway, Tooele** 90.85 45 P 00 39 26.6
baz=236
GHO **Glory Hole Cre** 91.08 14 P **P** 00 39 25.9 +0.7
GHO IAmb IAmb 00 39 26.4
comp=Z,16nm,0.9s
SEY **Seymchan** 91.38 348 P **P** 00 39 27.1 +0.7
comp=Z,1.8nm,0.7s,baz=169,slow=6.4,SNR=11
MPU **Maple Canyon** 91.51 46 P **P** 00 39 29.6 +1.7
MPU IAmb IAmb 00 39 30.9
comp=Z,10.0nm,0.8s
MNTX **Cornudas Mount** 91.51 55 P 00 39 29.5
baz=240
TX31 **Lajitas Ar. Si** 91.64 58 P **P** 00 39 30.1 +1.4
TXAR **Lajitas Array** 91.64 58 P **P** 00 39 30.4 +1.7
comp=Z,5.2nm,0.7s,baz=213,slow=6.6,SNR=62
TXAR **Lajitas Array** 91.64 58 P **P** 00 39 30.1 +1.4
HLID **Hailey** 91.77 42 P 00 39 30.6
baz=235
TRF **Thorofare Moun** 92.28 13 P 00 39 30.5
baz=207
TRF **Thorofare Moun** 92.29 13 P **P** 00 39 31.0 +0.1
TRF IAmb IAmb 00 39 32.8
comp=Z,13nm,0.8s
ANMO **Albuquerque** 92.35 52 P 00 39 33.7
baz=240
ANMO **Albuquerque** 92.35 52 P **P** 00 39 33.9 +2.0
S22A **4UR Ranch, Cre** 93.50 50 P 00 39 38.9
baz=240
O20A **White River Ci** 93.78 47 P 00 39 39.3
baz=239
HDA **Harding Lake** 93.83 14 P 00 39 37.6
baz=210
HDA P 00 39 37.6
baz=210
ILAR **Eielson Array** 94.16 14 P **P** 00 39 39.4 +0.2
comp=Z,13nm,1.4s,baz=225,slow=5.0,SNR=13
ILAR **Eielson Array** 94.16 14 P **P** 00 39 39.2 0.0
PD31 **Pinedale Array** 94.30 44 P **P** 00 39 41.2 +0.5
PDAR **Pinedale Array** 94.30 44 P **P** 00 39 41.5 +0.8
comp=Z,1.6nm,0.9s,baz=208,slow=3.4,SNR=10
PDAR **Pinedale Array** 94.30 44 P **P** 00 39 40.9 +0.2
K27K **Chicken** 94.62 16 P 00 39 42.7
baz=214
ISCO **Idaho Springs** 95.35 48 P 00 39 46.8
baz=240
EGAK **Eagle** 95.47 16 P 00 39 46.0
baz=215
RLMT **Red Lodge** 95.71 42 P 00 39 49.7
baz=239
GTA **Gaotai** 99.02 309 *e*P **Pdif** **00 40 05.8 +4.0**
GTA pmax pmax
comp=Z,3.0nm,0.7s
YKA **Yellowknife Ar** 102.36 26 PP **PP** **00 44 30.8 -5.7**
comp=Z,0.4nm,0.8s,baz=245,slow=7.2,SNR=3.1
MKAR **Makanchi Array** 113.56 312 PKiKP **PKiKP** **00 44 55.2 -0.6**
comp=Z,0.1nm,0.4s,baz=184,slow=1.0,SNR=5.9
MKAR PP **PP** **00 45 55.8 -1.6**
comp=Z,0.6nm,0.8s,baz=101,slow=6.3,SNR=4.9
RES **Resolute Bay** 113.67 17 PKiKP **PKiKP** **00 44 55.1 -0.1**
comp=Z,0.8nm,0.6s,baz=284,slow=2.0,SNR=5.6
KURK **Kurchatov** 116.71 316 **PKPdf** **00 45 01.2 -0.5**

KURBB	**Kurchatov Arra**	**116.76 316**	PKP		**PKPdf**	**00 45 01.2**	**-0.6**	
	comp=Z,0.3nm,0.5s,baz=103,slow=2.1,SNR=6.3							
KURBB			PP		**PP**	**00 46 12.4**	**-7.0**	
	comp=Z,0.3nm,0.7s,baz=83,slow=6.1,SNR=2.4							
KURBB			PKKPbc		**PKKPbc**	**00 55 31.6**	**+0.7**	
	comp=Z,0.2nm,0.3s,baz=273,slow=4.5,SNR=4.9							
ARU	**Arti**	**128.58 323**	PKP		**PKiKP**	**00 45 25.5**	**+0.5**	
	comp=Z,0.8nm,0.5s,baz=89,slow=4.6,SNR=3.6							
GEYT	**Alibeck**	**129.97 299**	SKPbc	SKPab		00 48 07.6	+3.9	
	comp=Z,16nm,0.8s,baz=183,slow=2.8,SNR=28							
ARCES	**ARCESS Array B**	**134.00 348**	PKhKP	PKPpre		00 45 25.2		
	comp=Z,3.3nm,0.9s,baz=101,slow=1.8,SNR=6.0							
ARCES			PKP		**PKiKP**	**00 45 35.3**	**-0.3**	
	comp=Z,2.6nm,0.8s,baz=50,slow=1.5,SNR=8.9							
ARCES			SKPbc		**SKPab**	**00 48 19.5**	**-0.4**	
	comp=Z,7.5nm,0.6s,baz=35,slow=3.9,SNR=21							
KMBO	**Kilima Mbogo**	**134.94 239**	SKPbc		**SKPab**	**00 48 25.8**	**-0.3**	
	comp=Z,6.7nm,0.9s,baz=72,slow=3.1,SNR=22							
FINES	**FINESS Array B**	**140.47 341**	PKhKP	PKPpre		00 45 39.8		
	comp=Z,0.7nm,0.3s,baz=48,slow=3.8,SNR=17							
MARD	**Mardin**	**143.73 298**			**PKPdf**	**00 45 52.2**	**-0.8**	
NC303	**NORSAR Array S**	**144.01 351**			**PKPab**	**00 45 51.9**	**-0.1**	
NC405	**NORSAR Array S**	**144.07 350**			**PKPdf**	**00 45 52.3**	**-0.4**	
NB201	**NORSAR Array S**	**144.19 351**			**PKPab**	**00 45 52.5**	**-0.2**	
NB2	**NORSAR Subarra**	**144.21 351**	PKP	PKPbc		00 45 52.2	-0.3	
	comp=Z,4.9nm,0.6s,baz=13,slow=4.3							
NOA	**NORSAR Array B**	**144.21 351**	PKP		**PKPab**	**00 45 52.6**	**-0.1**	
	comp=Z,17nm,0.9s,baz=20,slow=2.5,SNR=28							
NAO01	**NORSAR Array S**	**144.45 351**			**PKPab**	**00 45 53.5**	**-0.1**	
HFS	**Hagfors**	**144.66 348**	PKP		**PKPab**	**00 45 54.1**	**-0.3**	
	comp=Z,4.8nm,0.3s,baz=62,slow=3.4,SNR=72							
GAZ	**Gaziantep**	**146.57 299**	PKPdf		**PKPdf**	**00 45 58.2**	**+0.4**	
AKASG	**Malin Array Be**	**146.74 325**	PKPbc		**PKPbc**	**00 46 00.3**	**+0.2**	
	comp=Z,1.7nm,0.4s,baz=40,slow=3.5,SNR=9.1							
MMAI	**Mount Meron Ar**	**148.47 291**	PKPbc		**PKiKP**	**00 46 06.3**	**-0.2**	
	comp=Z,1.7nm,0.3s,baz=73,slow=5.6,SNR=18							
BR131	**Keskin Array S**	**148.79 304**			**PKPbc**	**00 46 05.3**	**-0.7**	
BR131			PKPab		**PKPab**	**00 46 11.3**	**-0.5**	
BRTR	**Keskin Array B**	**148.79 304**	PKPbc		**PKPbc**	**00 46 06.2**	**+0.2**	
	comp=Z,0.8nm,0.4s,baz=133,slow=2.7,SNR=16							
BRTR	**Keskin Array B**	**148.79 304**			**PKPbc**	**00 46 06.2**	**+0.2**	
BRTR			PKPab		**PKPab**	**00 46 11.7**	**-0.1**	
KWP	**Kalwaria Pacla**	**150.61 329**	*e*PKP		**PKPbc**	**00 46 07.9**	**-1.9**	
EKA	**Eskdalemuir Ar**	**150.69 4**	PKPbc		**PKiKP**	**00 46 10.5**	**+0.2**	
	comp=Z,1.9nm,0.4s,baz=342,slow=2.6,SNR=20							
NIE	**Niedzica**	**151.85 331**	*e*PKP		**PKPab**	**00 46 21.5**	**-2.6**	
CLL	**Collm**	**152.90 342**	*i* PKPbc		**PKiKP**	**00 46 15.6**	**+0.7**	
	comp=Z,6.0nm,0.8s							
CLL				*e*PKPab	**PKPab**	**00 46 28.0**	**-0.4**	
CLL				*e*pPKPbc	**pPKPbc**	**00 48 10.0**	**-2.2**	
CLL				*e*pPKPab	**pPKPab**	**00 48 19.0**	**-1.7**	
DAVOX	**Davos/Dischmat**	**157.88 342**	PKPbc		**PKPab**	**00 46 50.8**	**+0.5**	
	comp=Z,2.6nm,0.8s,baz=285,slow=5.9,SNR=7.8							
ESDC	**Sonseca Array**	**166.06 13**	PKPab		**PKPab**	**00 47 26.7**	**+0.5**	
	comp=Z,3.1nm,0.9s,baz=339,slow=4.8,SNR=14							
ESDC	**Sonseca Array**	**166.06 13**			**PKPab**	**00 47 26.0**	**-0.2**	
TORD	**Torodi Ar. Bea**	**167.03 188**	PKP		**PKPdf**	**00 46 24.3**	**+0.6**	
	comp=Z,1.0nm,0.6s,baz=328,slow=1.4,SNR=6.7							
TORD			PKPab		**PKPab**	**00 47 31.7**	**+0.9**	
	comp=Z,1.2nm,0.8s,baz=181,slow=2.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**167.03 188**			**PKPdf**	**00 46 24.1**	**+0.4**	
TORD					**PKPab**	**00 47 31.4**	**+0.5**	
KOWA	**Kowa**	**167.90 162**	PKPab		**PKPab**	**00 47 36.3**	**+1.6**	
	baz=195,slow=5.4							

*TEH **29** 00:29:39.3, 27°.32N×54°.49E, h10km, ML3.0*
*OMAN **29** 00:29:43.4, 26°.93N×54°.32E, h10km, mb4.9/1, ml2.4/2*
ISC 29 00:29:39.3±0.9,**27°.23N**±0°.05×**54°.49E**±0°.05,**h18km**,**n12,**
σ2°.19/20,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.45**	**347**	*e*Pg	**Pg**	**00 29 45.8**	**-2.7**
LAR1				*e*		00 29 57.3	
	comp=Z,99nm,0.4s						
LMD1	**Lamerd**	**1.18**	**275**	*e*		00 30 03.9	
	comp=Z,99nm,0.2s						
LMD1				*e*Pg	**Pg**	**00 30 02.5**	**+0.3**
LMD1				*e*Sg	**Sg**	**00 30 18.7**	**+1.0**
JHRM	**Jahrom**	**1.50**	**328**	*e*		00 30 35.2	
	comp=Z,99nm,0.4s						
JHRM				*e*Pg	**Pg**	**00 30 07.7**	**-0.6**
GENO	**Geno**	**1.51**	**83**	*e*Pg	**Pb**	**00 30 07.9**	**+1.0**
QIR1	**Qir**	**1.78**	**314**	*e*Pg	**Pg**	**00 30 12.3**	**-1.3**
QIR1				*e*		00 30 40.5	
	comp=Z,99nm,0.4s						
BANOM	**Banah**	**2.08**	**128**	P	**Pb**	**00 30 16.6**	**0.0**
BANOM				S	**Sg**	**00 30 44.2**	**-2.3**
ASUD	**Al Ashush, Dub**	**2.71**	**164**	P	**Pb**	**00 30 26.8**	**-0.4**
	SNR=13						
ASUD				S	**Sb**	**00 31 00.8**	**+0.8**
JMDO	**Jabal Madar**	**5.85**	**145**	P	**Pn**	**00 31 08.1**	**+2.9**
JMDO				S	**Sn**	**00 32 13.3**	**+1.4**
MHTO	**MHTO**	**6.99**	**152**	P	**Pn**	**00 31 23.8**	**+3.0**
	SNR=9.5						
MHTO				S	**Sn**	**00 32 39.1**	**-0.7**
DQM	**DQM**	**7.79**	**158**	P	**Pn**	**00 31 34.2**	**+2.3**
	SNR=6.0						
DQM				S	**Sn**	**00 32 58.6**	**-1.1**
WHFO	**Wadi Hawf**	**9.29**	**184**	P	**Pn**	**00 31 54.3**	**+1.7**
WHFO				S	**Sn**	**00 33 32.8**	**-3.9**
ABTO	**Aybut**	**9.89**	**187**	P	**Pn**	**00 32 02.0**	**+1.2**
	SNR=6.3						
ABTO				S	**Sn**	**00 33 47.2**	**-4.3**

*INET **29** 00:43:17.4, 13°.76N×89°.09W, h30km, ML3.7, MW3.3*
SNET 29 00:43:19.4±1.1,**13°.64N**×**88°.64W**,**h11**km±2km,**ML3.3,**
12C-18D,Fault plane solution: NP1:φs177.34000°,
δ47.85000°,λ39.32000°,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQSS	**Presa 15 de Se**	**0.08**	**98**	⇓*i*P	Pg	00 43 22.4	+0.6
	comp=Z,43μm,0.2s						
PQSS				*e*S	Sg	00 43 24.5	+0.9
UESV	**Universidad de**	**0.14**	**270**	⇓*i*P	Pg	00 43 23.2	+0.4
	comp=Z,19μm,0.5s						
UESV				*e*S	Sg	00 43 25.8	+0.7
UESV				AML	AML	00 43 29.5	
	comp=Z,22μm,0.5s						
TECA	**Tecapa**	**0.20**	**136**	⇓*i*P	Pg	00 43 24.3	+0.6
PAVA	**Las Pavas**	**0.30**	**285**	⇓*i*P	Pg	00 43 26.1	+0.6
PAVA				*e*S	Sb	00 43 31.0	-0.8
ALJI	**Alcalda de J**	**0.32**	**167**	⇓*i*P	Pg	00 43 26.3	+0.5
	comp=Z,4μm,0.6s						
ALJI				*e*S	Sg	00 43 30.8	+0.8
ALJI				IAML		00 43 32.1	
	comp=Z,4μm,0.6s						
PACA	**Pacayal**	**0.35**	**118**	⇑*e*P	Pb	00 43 27.2	-0.6
PACA				*e*S	Sb	00 43 32.5	-0.9
LCY	**Lacayo**	**0.40**	**122**	⇓*i*P	Pb	00 43 28.1	-0.5
LCY				*e*S	Sb	00 43 34.6	-0.1
LBRS	**Las Brisas**	**0.40**	**285**	⇓*i*P	Pg	00 43 28.0	+0.6
LFRS	**El Faro**	**0.41**	**268**	⇑*i*P	Pg	00 43 28.0	+0.4
VSM	**San Miguel**	**0.41**	**120**	⇓*i*P	Pb	00 43 28.3	-0.6
AEIL	**Aeropuerto Ilo**	**0.47**	**278**	⇓*i*P	Pb	00 43 29.7	0.0
AEIL				AML	AML	00 43 40.2	
	comp=Z,2μm,0.3s						
AEIL				IAML		00 43 40.3	
	comp=Z,2μm,0.3s						
LFU	**La Fuente**	**0.47**	**284**	⇑*i*P	Pg	00 43 29.1	+0.4
LFU				*e*S	Sb	00 43 36.9	+0.1
CNRM	**Centro Naciona**	**0.48**	**109**	*e*S	Sb	00 43 37.0	-0.1
UDBS	**Universidad Do**	**0.51**	**279**	⇑*i*P	Pb	00 43 29.9	-0.5
UDBS				*e*S	Sb	00 43 37.1	-0.7
UDBS				AML	AML	00 43 38.8	
	comp=Z,1μm,0.3s						
UDBS				IAML		00 43 40.4	
	comp=Z,1μm,0.3s						
IGN	**Direccin Gen**	**0.52**	**279**	⇓*i*P	Pb	00 43 30.1	-0.5
IGN				*e*S	Sb	00 43 37.7	-0.5
JUCU	**Jucuarn**	**0.54**	**135**	⇓*i*P	Pg	00 43 30.2	+0.2
JUCU				IAML		00 43 45.7	
	comp=Z,1μm,0.3s						
OPAM	**Oficina de Pla**	**0.55**	**278**	⇓*i*P	Pb	00 43 30.6	-0.5
OPAM				*e*S	Sb	00 43 38.5	-0.4
OPAM				IAML		00 43 39.0	
	comp=Z,1μm,0.2s						
SNET	**Serv Nac Est T**	**0.58**	**275**	⇑*i*P	Pg	00 43 31.1	+0.5
SNET				*e*S	Sb	00 43 39.7	-0.2
SNET				IAML		00 43 41.2	
	comp=Z,968nm,0.3s						
CPRS	**Casa Presidenc**	**0.58**	**275**	⇑*i*P	Pb	00 43 31.5	-0.2
LLGN	**La Laguna**	**0.60**	**331**	⇑*i*P	Pg	00 43 31.2	+0.1
	comp=Z,2μm,0.1s						
LLGN				*e*S	Sg	00 43 39.8	+0.7
LLGN				IAML		00 43 40.3	
	comp=Z,2μm,0.1s						
BOQS	**Boqueron**	**0.63**	**279**	⇓*i*P	Pb	00 43 32.1	-0.4
BOQS				*e*S	Sb	00 43 41.9	+0.4
PMON	**Piamonte**	**0.66**	**277**	⇑*i*P	Pb	00 43 32.6	-0.4
LALI	**Alcalda de L**	**0.68**	**258**	⇑*i*P	Pg	00 43 32.6	+0.1
	comp=Z,912nm,0.4s						
LALI				*e*S	Sb	00 43 43.3	+0.6
LALI				IAML		00 43 45.2	
	comp=Z,912nm,0.4s						
CEDA	**San Andres**	**0.75**	**283**	⇑*i*P	Pg	00 43 33.9	0.0
	comp=Z,1μm,0.3s						
CEDA				*e*S	Sb	00 43 44.6	-0.2
CEDA				IAML		00 43 51.2	
	comp=Z,1μm,0.3s						
TACO	**Tacachico**	**0.77**	**296**	⇓*i*P	Pg	00 43 34.0	-0.2
TACO				*e*S	Sg	00 43 44.3	-0.1
JAYA	**Jayaque - finc**	**0.79**	**271**	⇑*i*P	Pg	00 43 34.5	-0.1
	comp=Z,829nm,0.2s						
JAYA				*e*S	Sb	00 43 45.9	0.0
JAYA				IAML		00 43 47.5	
	comp=Z,829nm,0.2s						
CNCH	**Conchagua**	**0.86**	**114**	⇓*i*P	Pg	00 43 36.1	0.0
UNIC	**Universidad Ca**	**0.95**	**291**	⇓*i*P	Pg	00 43 37.2	-0.4
UNIC				*e*S	Sg	00 43 50.2	+0.2
UNIC				AML	AML	00 43 50.9	
	comp=Z,928nm,0.1s						
SNJE	**San Jose**	**0.96**	**284**	⇓*i*P	Pg	00 43 37.9	-0.1
CEVE	**Cerro Verde**	**0.97**	**281**	*i* P	Pg	00 43 37.7	-0.6
SBLS	**San Blas**	**0.97**	**282**	*e*P	Pg	00 43 38.3	0.0
RTR	**El Retiro**	**1.01**	**285**	*e*P	Pg	00 43 38.5	-0.4
MTO3	**Montecristo**	**1.03**	**317**	⇓*i*P	Pg	00 43 38.8	-0.5
MTO3				*e*S	Sg	00 43 52.8	0.0
TGUH	**Tegucigalpa,Un**	**1.39**	**72**	⇑*i*P	Pn	00 43 44.9	-0.1

*BEO **29** 00:44:48.7±0.7, 46°.18N×27°.67E, h137km±4km, ML4.4/19*
*MOS **29** 00:44:57.3±0.9, 45°.72N×26°.47E, h144km, mb4.2/20, Error ellipse: s-maj=4.6km s-min=3.8km az=117.9*
*BUC **29** 00:44:58.9, 45°.65N×26°.34E, h30km, MD4.9*
*IDC **29** 00:44:58.3±0.2, 45°.70N×26°.30E, h142km±2km, mb3.9/27, mb1 4.0/40, mb1mx3.9/57, mbtmp4.3/40, Error ellipse: s-maj=8.7km s-min=7.0km az=153.0*
*MED_RC **29** 00:44:58.0±0.7, 45°.62N×26°.46E, h160km±9km, MW4.5/11, Moment Tensor Solution.Mantle waves: s11,c11; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr4.10±.65; Mθθ-5.62±1.46; Mϕϕ 1.52±1.30; Mrθ 3.04±.54; Mθϕ4.04±1.29; Mϕr 3.23±.52; Best double couple: Mo7.83000×10¹⁵ NP1:φs328.00000°,δ51.00000°, λ147.00000°. NP2:φs80.00000°,δ65.00000°,λ44.00000°. Principal axes: T 8.0100, Plg48.0000°, Azm300.0000°; N -0.3600, Plg41.0000°, Azm104.0000°; P -7.6500, Plg8.0000°, Azm201.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*NEIC **29** 00:44:58.4±1.5, 45°.65N±0°.04×26°.43E±0°.04, h146km±3km Error ellipse: s-maj=5.8km s-min=4.3km az=176.0*
*SIGU **29** 00:44:58.6, 45°.68N×26°.47E, h142km*
*THE **29** 00:44:59.2, 45°.51N×26°.25E, h23km±13km, ML4.1/4, Error ellipse: s-maj=15.8km s-min=1.1km az=10.0*
ISC 29 00:44:58.1±0.4,**45°.67N**±0°.03×**26°.46E**±0°.02,**h144**km±4km,
h144km:pP-P,n799,σ1**42/961,mb4.3/79,193C-129D,**
Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.21**	**125**	⇑P	**Pn**	**00 45 18.7**	**+0.9**
BISRR	**Bisoca**	**0.21**	**125**	⇑P	**Pn**	**00 45 18.7**	**+0.9**
BISRR	**Bisoca**	**0.21**	**125**		**Pn**	**00 45 18.8**	**+0.9**
PLOR	**Plostina**	**0.22**	**36**	⇑*i*P	**Pn**	**00 45 18.1**	**+0.3**
PLOR				S	**Sn**	**00 45 31.4**	**-1.4**
PLOR	**Plostina**	**0.22**	**36**	⇑P	**Pn**	**00 45 18.2**	**+0.3**
PLOR	**Plostina**	**0.22**	**36**	⇑P	**Pn**	**00 45 18.2**	**+0.3**
PLOR	**Plostina**	**0.22**	**36**	P	**Pn**	**00 45 18.2**	**+0.4**
PLOR	**Plostina**	**0.22**	**36**		**Pn**	**00 45 18.2**	**+0.4**
NEHR	**Nehoiu**	**0.27**	**206**	⇑P	**Pn**	**00 45 18.7**	**+0.8**
NEHR	**Nehoiu**	**0.27**	**206**	⇑P	**Pn**	**00 45 18.7**	**+0.8**
NEHR	**Nehoiu**	**0.27**	**206**		**Pn**	**00 45 18.7**	**+0.8**
VRI	**Vrincioaia**	**0.27**	**44**	P	**Pn**	**00 45 18.4**	**+0.5**
VRI				S	**Sn**	**00 45 31.8**	**-1.2**
VRI	**Vrincioaia**	**0.27**	**44**	⇑P	**Pn**	**00 45 18.4**	**+0.5**
VRI				⇑S	**Sn**	**00 45 33.9**	**+0.9**
VRI	**Vrincioaia**	**0.27**	**44**	⇑P	**Pn**	**00 45 18.4**	**+0.5**
VRI				⇑S	**Sn**	**00 45 33.9**	**+0.9**
VRI	**Vrincioaia**	**0.27**	**44**	P	**Pn**	**00 45 18.4**	**+0.5**
VRI						00 45 33.9	
VRI	**Vrincioaia**	**0.27**	**44**		**Pn**	**00 45 18.4**	**+0.5**
VRI					**Sn**	**00 45 33.9**	**+0.9**
MLR	**Muntele Rosu**	**0.41**	**244**	⇑*i*P	**Pn**	**00 45 19.0**	**+0.5**
MLR				S	**Sn**	**00 45 34.2**	**+0.2**
MLR	**Muntele Rosu**	**0.41**	**244**	⇑P	**Pn**	**00 45 19.1**	**+0.5**
MLR				⇑S	**Sn**	**00 45 35.0**	**+1.0**
MLR	**Muntele Rosu**	**0.41**	**244**	P	**Pn**	**00 45 19.0**	**+0.5**
	2μm,0.3s,baz=141,slow=1.6						
MLR				S	**Sn**	**00 45 34.4**	**+0.4**
	3μm,0.3s,baz=172,slow=22,SNR=17						
MLR	**Muntele Rosu**	**0.41**	**244**	*e*Pg	**Pn**	**00 45 19.1**	**+0.5**
MLR				*e*Sg	**Sn**	**00 45 33.7**	**-0.3**
MLR	**Muntele Rosu**	**0.41**	**244**	⇑P	**Pn**	**00 45 19.1**	**+0.5**
MLR				⇑S	**Sn**	**00 45 35.0**	**+1.0**
ODBI	**Odobesti**	**0.43**	**77**	⇑P	**Pn**	**00 45 19.9**	**+1.5**
ODBI				⇑S	**Sn**	**00 45 34.9**	**+1.1**
ODBI	**Odobesti**	**0.43**	**77**	⇑P	**Pn**	**00 45 19.9**	**+1.5**
ODBI				⇑S	**Sn**	**00 45 34.9**	**+1.1**
GRER		**0.46**	**129**	⇑P	**Pn**	**00 45 20.2**	**+1.6**
GRER		**0.46**	**129**	⇑P	**Pn**	**00 45 20.2**	**+1.6**
PETR	**Petresti**	**0.54**	**84**	⇑*i*P	**Pn**	**00 45 20.1**	**+1.1**
PETR				S	**Sn**	**00 45 34.8**	**0.0**
PETR	**Petresti**	**0.54**	**84**	⇑P	**Pn**	**00 45 20.1**	**+1.1**
PETR				⇑S	**Sn**	**00 45 36.1**	**+1.2**
PETR	**Petresti**	**0.54**	**84**	⇑P	**Pn**	**00 45 20.1**	**+1.1**
PETR				⇑S	**Sn**	**00 45 36.1**	**+1.2**
PETR	**Petresti**	**0.54**	**84**		**Pn**	**00 45 20.1**	**+1.1**
PETR					**Sn**	**00 45 36.1**	**+1.2**
ISR	**Istrita**	**0.56**	**174**	⇑P	**Pn**	**00 45 19.9**	**+0.7**
ISR	**Istrita**	**0.56**	**174**	⇑P	**Pn**	**00 45 19.9**	**+0.7**
SECR		**0.69**	**204**	⇑P	**Pn**	**00 45 21.0**	**+1.0**
SECR		**0.69**	**204**	⇑P	**Pn**	**00 45 21.0**	**+1.0**
SECR		**0.69**	**204**		**Pn**	**00 45 21.0**	**+1.0**
GHRR		**0.77**	**59**	⇑P	**Pn**	**00 45 21.3**	**+0.9**
GHRR				⇑S	**Sn**	**00 45 38.8**	**+1.3**
GHRR		**0.77**	**59**	⇑P	**Pn**	**00 45 21.3**	**+0.9**
GHRR				⇑S	**Sn**	**00 45 38.8**	**+1.3**
GHRR		**0.77**	**59**		**Pn**	**00 45 21.3**	**+0.9**
GHRR					**Sn**	**00 45 38.8**	**+1.3**
DOPR	**Dopca**	**0.81**	**292**	⇑P	**Pn**	**00 45 21.2**	**+0.5**
DOPR				⇑S	**Sn**	**00 45 38.5**	**+0.5**
DOPR	**Dopca**	**0.81**	**292**	⇑P	**Pn**	**00 45 21.2**	**+0.5**
DOPR				⇑S	**Sn**	**00 45 38.5**	**+0.5**
PLAR	**PLOIESTI**	**0.82**	**202**	⇑P	**Pn**	**00 45 21.8**	**+1.0**
PLAR	**PLOIESTI**	**0.82**	**202**	⇑P	**Pn**	**00 45 21.8**	**+1.0**
PGOR	**Pogoanele**	**0.85**	**154**	⇑P	**Pn**	**00 45 21.9**	**+0.9**
PGOR	**Pogoanele**	**0.85**	**154**	⇑P	**Pn**	**00 45 21.9**	**+0.9**
PGOR	**Pogoanele**	**0.85**	**154**		**Pn**	**00 45 21.9**	**+0.9**
TESR	**Tescani**	**0.85**	**9**	P	**Pn**	**00 45 21.3**	**+0.3**
TESR				S	**Sn**	**00 45 37.5**	**-1.2**
TESR	**Tescani**	**0.85**	**9**	⇑P	**Pn**	**00 45 21.4**	**+0.3**
TESR	**Tescani**	**0.85**	**9**	⇑P	**Pn**	**00 45 21.4**	**+0.3**
TESR	**Tescani**	**0.85**	**9**		**Pn**	**00 45 21.4**	**+0.3**
TUDR		**0.85**	**95**	⇓P	**Pn**	**00 45 21.4**	**+0.3**
TUDR		**0.85**	**95**	⇓P	**Pn**	**00 45 21.4**	**+0.3**
TUDR		**0.85**	**95**		**Pn**	**00 45 21.4**	**+0.3**
SCHL	**Schela**	**0.98**	**100**	⇑P	**Pn**	**00 45 22.4**	**+0.3**
SCHL				⇓S	**Sn**	**00 45 40.1**	**-0.2**
SCHL	**Schela**	**0.98**	**100**	⇑P	**Pn**	**00 45 22.4**	**+0.3**
SCHL				⇓S	**Sn**	**00 45 40.1**	**-0.2**
VARL	**Varlezi**	**1.00**	**76**	⇑P	**Pn**	**00 45 23.1**	**+0.8**
VARL	**Varlezi**	**1.00**	**76**	⇑P	**Pn**	**00 45 23.1**	**+0.8**
VARL	**Varlezi**	**1.00**	**76**		**Pn**	**00 45 23.1**	**+0.8**
SULR		**1.00**	**188**	⇓P	**Pn**	**00 45 23.1**	**+0.7**
SULR				⇓S	**Sn**	**00 45 41.2**	**+0.4**
SULR		**1.00**	**188**	⇓P	**Pn**	**00 45 23.1**	**+0.7**
SULR				⇓S	**Sn**	**00 45 41.2**	**+0.4**
SULR		**1.00**	**188**		**Sn**	**00 45 39.7**	**-1.0**
BIR	**Birlad**	**1.01**	**53**	⇓P	**Pn**	**00 45 23.1**	**+0.7**
BIR				⇓S	**Sn**	**00 45 42.0**	**+1.1**
BIR	**Birlad**	**1.01**	**53**	⇓P	**Pn**	**00 45 23.1**	**+0.7**
BIR				⇓S	**Sn**	**00 45 42.0**	**+1.1**
BIR	**Birlad**	**1.01**	**53**		**Pn**	**00 45 23.1**	**+0.7**
BIR					**Sn**	**00 45 42.0**	**+1.1**
VOIR		**1.02**	**257**	⇑P	**Pn**	**00 45 22.7**	**+0.1**
VOIR				⇑S	**Sn**	**00 45 40.8**	**-0.4**
VOIR		**1.02**	**257**	⇑P	**Pn**	**00 45 22.7**	**+0.1**
VOIR				⇑S	**Sn**	**00 45 40.8**	**-0.4**
VOIR		**1.02**	**257**		**Pn**	**00 45 22.7**	**+0.1**
VOIR					**Sn**	**00 45 40.8**	**-0.4**
MTUR	**Matau**	**1.08**	**246**	⇑P	**Pn**	**00 45 23.8**	**+0.6**
MTUR	**Matau**	**1.08**	**246**	⇑P	**Pn**	**00 45 23.8**	**+0.6**
MTUR	**Matau**	**1.08**	**246**	P	**Pn**	**00 45 23.8**	**+0.6**
MTUR	**Matau**	**1.08**	**246**		**Pn**	**00 45 23.8**	**+0.6**
GISR	**Galati**	**1.14**	**101**	⇑P	**Pn**	**00 45 24.3**	**+0.7**
GISR				⇑S	**Sn**	**00 45 43.3**	**+0.4**
GISR	**Galati**	**1.14**	**101**	⇑P	**Pn**	**00 45 24.3**	**+0.7**
GISR				⇑S	**Sn**	**00 45 43.3**	**+0.4**
GISR	**Galati**	**1.14**	**101**		**Pn**	**00 45 24.3**	**+0.7**
GISR					**Sn**	**00 45 43.3**	**+0.4**
LEHL	**Lehliu**	**1.22**	**168**	⇑P	**Pn**	**00 45 25.0**	**+0.6**
LEHL				⇓S	**Sn**	**00 45 45.4**	**+1.1**
LEHL	**Lehliu**	**1.22**	**168**	⇑P	**Pn**	**00 45 25.0**	**+0.6**
LEHL				⇓S	**Sn**	**00 45 45.4**	**+1.1**
JOSR	**Joseni**	**1.23**	**328**	⇓P	**Pn**	**00 45 24.7**	**+0.2**
JOSR	**Joseni**	**1.23**	**328**	⇓P	**Pn**	**00 45 24.7**	**+0.2**
JOSR	**Joseni**	**1.23**	**328**		**Pn**	**00 45 24.7**	**+0.2**
AMRR	**Amara**	**1.23**	**149**	⇑P	**Pn**	**00 45 25.1**	**+0.6**
AMRR				⇑S	**Sn**	**00 45 44.9**	**+0.5**
AMRR	**Amara**	**1.23**	**149**	⇑P	**Pn**	**00 45 25.1**	**+0.6**
AMRR				⇑S	**Sn**	**00 45 44.9**	**+0.5**
AMRR	**Amara**	**1.23**	**149**		**Pn**	**00 45 25.1**	**+0.6**
AMRR					**Sn**	**00 45 44.9**	**+0.5**
GIUM	**Giurgiulesti**	**1.24**	**98**	⇑P	**Pn**	**00 45 25.3**	**+0.7**
GIUM	**Giurgiulesti**	**1.24**	**98**	⇑P	**Pn**	**00 45 25.3**	**+0.7**
GIUM	**Giurgiulesti**	**1.24**	**98**		**Pn**	**00 45 25.3**	**+0.7**
GIUM	**Giurgiulesti**	**1.24**	**98**	P	**Pn**	**00 45 25.2**	**+0.7**
INCR	**INCERC-Sediu C**	**1.25**	**190**	⇑P	**Pn**	**00 45 25.0**	**+0.4**
INCR	**INCERC-Sediu C**	**1.25**	**190**	⇑P	**Pn**	**00 45 25.0**	**+0.4**
INCR	**INCERC-Sediu C**	**1.25**	**190**		**Pn**	**00 45 25.0**	**+0.4**
CFR	**Carcaliu**	**1.28**	**112**	⇓P	**Pn**	**00 45 25.3**	**+0.4**
CFR				⇑S	**Sn**	**00 45 44.8**	**-0.6**
CFR	**Carcaliu**	**1.28**	**112**	⇓P	**Pn**	**00 45 25.3**	**+0.4**
CFR				⇑S	**Sn**	**00 45 44.8**	**-0.6**
GIRR	**Girov**	**1.28**	**1**	⇓P	**Pn**	**00 45 25.9**	**+1.0**
GIRR	**Girov**	**1.28**	**1**	⇓P	**Pn**	**00 45 25.9**	**+1.0**
GIRR	**Girov**	**1.28**	**1**		**Pn**	**00 45 25.9**	**+1.0**
BIZ	**Bicaz**	**1.29**	**349**	⇓P	**Pn**	**00 45 26.4**	**+1.4**
BIZ	**Bicaz**	**1.29**	**349**	⇓P	**Pn**	**00 45 26.4**	**+1.4**
BIZ	**

KIS	Kishinev	2.10	50			Pn	00 45 34.5 +0.4	MORS	Morshin	3.88	334 ⇓ i P	Pn	00 45 57.8 +1.3	LANS	Liptovska Anna	5.88	309	eP	Pn	00 46 23.8 +0.6
KIS	Kishinev	2.10	50	P		Pn	00 45 34.4 +0.4	BOVS	Bovan	3.96	241	⇓P	Pn	00 45 57.0 -0.7	LANS	Liptovska Anna	5.88	309	eP	Pn	00 46 23.8 +0.6
KIS				Pm			00 45 34.7	BOVS	Bovan	3.96	241	eP	Pn	00 45 56.8 -0.8	PHP	Peshkopia	5.91	230	P	Pn	00 46 23.4 -0.2
KIS				S		Sn	00 46 00.0 -1.7	BOVS				eSn	Sn	00 46 39.9 -3.9	VYHS	Vyhne	5.92	301	eP	Pn	00 46 24.1 +0.4
KIS				Sm			00 46 00.2	BOVS	Bovan	3.96	241	⇓P	Pn	00 45 57.0 -0.7	VYHS	Vyhne	5.92	301	eP	Pn	00 46 24.1 +0.4
KIS				m			00 46 01.0	HOLU	Holmets	3.99	317	⇓ i P	Pn	00 45 58.3 +0.3	SRO2	Moca	5.93	294	eP	Pn	00 46 23.6 -0.1
RAZG	Razgrad	2.10	179	⇑P		Pn	00 45 34.2 +0.1	AMBH	Ambrzfalva	4.05	282	⇑P	Pn	00 45 59.8 +1.0	SRO2	Moca	5.93	294	eP	Pn	00 46 23.6 -0.1
RAZG				⇓S		Sn	00 46 01.1 -0.7	AMBH	Ambrzfalva	4.05	282	⇑P	Pn	00 45 59.8 +1.0	UPM	Unac-Piva	5.95	248	ePn	Pn	00 46 24.5 +0.3
RAZG	Razgrad	2.10	179	⇑P		Pn	00 45 34.2 +0.1	KDZ	Kurdzhali	4.09	191	eP	Pn	00 45 59.9 +0.5	SRO	Srobarova	6.00	294	eP	Pn	00 46 25.6 +1.0
RAZG				⇓S		Sn	00 46 01.1 -0.7	UZH	Uzhgorod	4.11	318	eP	Pn	00 45 59.8 +0.2	SRO	Srobarova	6.00	294	eP	Pn	00 46 25.6 +1.0
BUR01	Bucovina Ar. S	2.12	337	⇓ i P		Pn	00 45 35.1 +0.7	UZH				eS	Sn	00 46 47.8 +0.6	PAIG	Paliouri	6.09	201	P	Pn	00 46 24.9 -1.1
BUR01				S		Sn	00 46 01.4 -1.0	UZH				MLR	MLR		PDG	Podgorica	6.12	241	⇑P	Pn	00 46 27.0 +0.7
BURAR	Bucovina Array	2.12	337	⇓P		Pn	00 45 36.2 +1.7		comp=N,20nm,1.0s						PDG				⇑S	Sn	00 47 34.4 -0.9
BURAR	Bucovina Array	2.12	337	⇓P		Pn	00 45 36.2 +1.7	UZH				MLR	MLR		PDG	Podgorica	6.12	241	⇑P	Pn	00 46 27.0 +0.7
BURAR	Bucovina Array	2.12	337	⇓P		Pn	00 45 35.3 +0.8		comp=E,16nm,1.0s						PDG				⇑S	Sn	00 47 34.4 -0.9
BURAR	Bucovina Array	2.12	337			Pn	00 45 36.1 +1.7	UZH				MLR	MLR		PDG	Podgorica	6.12	241	⇑ i Pn	Pn	00 46 27.2 +0.9
BUR08	Bucovina Ar. S	2.16	337	Pn		Pn	00 45 36.2 +1.3		comp=Z,9.0nm,1.0s						PDG	Podgorica	6.12	241	Pn	Pn	00 46 26.9 +0.6
ZIMR		2.16	202	⇑P		Pn	00 45 35.0 +0.2	UZH	Uzhgorod	4.11	318	eP	Pn	00 45 59.7 +0.2	FNA	Florina	6.13	219	P	Pn	00 46 26.8 +0.2
ZIMR				⇑S		Sn	00 46 01.5 -1.4	PHSR	Pinarhisar	4.11	169	eP	Pn	00 45 58.7 -1.0	OHR	Ohrid	6.15	224	ePn	Pn	00 46 26.0 -0.8
ZIMR		2.16	202	⇑P		Pn	00 45 35.0 +0.2	SHIU	Shidnytsya	4.13	331	⇑ i P	Pn	00 46 01.7 +1.8	MDUB	Mudurnu	6.25	145		Pn	00 46 27.1 -1.0
ZIMR				⇑S		Sn	00 46 01.5 -1.4	RZN	Rozhen	4.18	198	i P	Pn	00 46 00.7 -0.1	LIT	Litokhoron	6.28	209	P	Pn	00 46 27.8 -0.8
TSCT	Constanta Port	2.17	133	⇓P		Pn	00 45 35.3 +0.4	STZU	Stuzhytsa	4.24	323	⇑ i P	Pn	00 46 02.9 +1.6	LIT	Litokhoron	6.28	209		Pn	00 46 27.8 -0.8
TSCT	Constanta Port	2.17	133	⇓P		Pn	00 45 35.3 +0.4	BOSS	Bosilegrad	4.28	224	ePn	Pn	00 46 02.3 +0.4	DRME	Dracevica, Mon	6.30	239	⇓ i Pn	Pn	00 46 30.6 +1.8
TSCT	Constanta Port	2.17	133			Pn	00 45 35.3 +0.4	KOLS	Kolonicke sedl	4.33	320	eP	Pn	00 46 03.7 +1.2	BRY	Bratogost	6.32	247	ePn	Pn	00 46 30.2 +1.0
EFOR	EFORIE	2.22	135	P		Pn	00 45 35.9 +0.5	KOLS	Kolonicke sedl	4.33	320	eP	Pn	00 46 03.7 +1.2	FEO	Feodosiya	6.33	93	⇑ i P	Pn	00 46 26.7 -2.4
EFOR				⇑ i S		Sn	00 46 03.4 -0.7	BARS	Barje	4.39	231	ePn	Pn	00 46 02.6 -0.8	FEO				eS	Sn	00 47 46.3 +6.1
EFOR	EFORIE	2.22	135	⇑P		Pn	00 45 35.9 +0.5	CTYL	Yalikoy Yolu	4.40	162	eP	Pn	00 46 03.5 0.0	FEO	Feodosiya	6.33	93	P	Pn	00 46 26.7 -2.4
EFOR				⇓S		Sn	00 46 04.2 +0.1	GRUS	Gruza	4.46	248	ePn	Pn	00 46 04.1 -0.2	FEO				Pm		00 46 28.0
EFOR	EFORIE	2.22	135	⇑P		Pn	00 45 35.9 +0.5	LVV	L'vov	4.46	339	eP	Pn	00 46 04.8 +0.6	FEO				S	Sn	00 47 36.3 -3.9
EFOR				⇓S		Sn	00 46 04.2 +0.1	LVV				eS	Sn	00 46 56.5 +0.8	FEO				Sm		00 47 47.8
EFOR	EFORIE	2.22	135			Pn	00 45 36.0 +0.5	LVV				MLR	MLR		KZN	Kozani	6.37	214	P	Pn	00 46 29.5 -0.3
EFOR						Sn	00 46 04.2 +0.1		comp=Z,400nm,5.0s						PRK	Paraskevi	6.42	181	P	Pn	00 46 31.5 +1.1
VLAD	Vladila	2.22	222	⇑P		Pn	00 45 35.4 -1.2	LVV	L'vov	4.46	339	eP	Pn	00 46 04.8 +0.6	TIR	Tirane	6.45	230	⇓P	Pn	00 46 32.0 +1.2
VLAD	Vladila	2.22	222	⇑P		Pn	00 45 35.4 -0.2	KKB	Krupnik	4.52	214	i P	Pn	00 46 05.4 +0.3	TIR	Tirane	6.45	230	ePn	Pn	00 46 32.7 +1.9
VLAD	Vladila	2.22	222			Pn	00 45 35.4 -0.2	TRUS	Trudelj	4.54	254	ePn	Pn	00 46 05.0 -0.2	TIR	Tirane	6.45	230	⇓P	Pn	00 46 32.0 +1.2
CJR	Cluj-Napoca	2.25	299	⇓P		Pn	00 45 36.1 +0.2	MMB	Musomiste	4.54	207	i P	Pn	00 46 05.8 +0.5	TIR	Tirane	6.45	230	P	Pn	00 46 32.5 +1.7
CJR	Cluj-Napoca	2.25	299	⇓P		Pn	00 45 36.1 +0.2	SELS	Selova	4.54	239	ePn	Pn	00 46 04.8 -0.6	TIR	Tirane	6.45	230	Pn	Pn	00 46 32.5 +1.7
PSN	Preselentsi	2.34	148	i P		Pn	00 45 37.6 +0.6	RDO	Rodhopi	4.57	189	P	Pn	00 46 05.0 -0.8	SIGR	SIGRI	6.47	184	P	Pn	00 46 30.9 -0.1
TSSL	Sulina	2.36	101	⇑P		Pn	00 45 37.9 +0.8	RDO				S	Sn	00 46 55.8 -2.6	KBN	Korca	6.53	221	P	Pn	00 46 32.6 +0.7
TSSL	Sulina	2.36	101	⇑P		Pn	00 45 37.9 +0.8	RDO	Rodhopi	4.57	189	eP	Pn	00 46 05.4 -0.4	TREB	Trebinje	6.54	246	ePn	Pn	00 46 33.7 +1.8
TSSL	Sulina	2.36	101			Pn	00 45 38.0 +0.8	SLVT	Silivri	4.62	163	eP	Pn	00 46 06.8 +0.4	TREB	Trebinje	6.54	246	ePn	Pn	00 46 33.9 +2.0
TSMN	Mangalia Port-	2.41	140	⇓P		Pn	00 45 38.2 +0.3	CTYS	Kestanelik-??a	4.68	161	eP	Pn	00 46 06.7 -0.4	NEST	Nestorio	6.58	219	P	Pn	00 46 33.1 +0.5
TSMN	Mangalia Port-	2.41	140	⇓P		Pn	00 45 38.2 +0.3	CRVS	Cervenica-Dubn	4.69	315	eP	Pn	00 46 07.8 +0.5	HCY	Herceg Novi	6.58	244	ePn	Pn	00 46 34.7 +2.2
TSMN	Mangalia Port-	2.41	140			Pn	00 45 38.2 +0.3	CRVS	Cervenica-Dubn	4.69	315	eP	Pn	00 46 07.8 +0.5	BZK	Bozkurt	6.60	122	⇑P	Pn	00 46 31.6 -1.1
SZH	Strazhica	2.43	189	P		Pn	00 45 38.1 -0.1	FRGS	Fruska Gora	4.71	266	⇓P	Pn	00 46 07.9 +0.3	BZK	Bozkurt	6.60	122	⇑P	Pn	00 46 31.6 -1.1
DEV	Deva	2.50	276	⇓P		Pn	00 45 39.7 +0.8	FRGS	Fruska Gora	4.71	266	ePn	Pn	00 46 07.7 +0.1	BLY	Banja Luka	6.62	265	⇓ i Pn	Pn	00 46 33.5 +0.5
DEV	Deva	2.50	276	⇓P		Pn	00 45 39.7 +0.8	FRGS				eSn	Sn	00 46 56.1 -5.5	XOR	Xorichti	6.75	202	P	Pn	00 46 33.9 -0.9
DEV	Deva	2.50	276	P		Pn	00 45 39.7 +0.8	FRGS	Fruska Gora	4.71	266	⇓P	Pn	00 46 07.9 +0.3	MGRS	Mrkonjic Grad	6.76	263	ePn	Pn	00 46 36.2 +1.3
DEV	Deva	2.50	276			Pn	00 45 39.7 +0.8	FRGS	Fruska Gora	4.71	266	⇓ i Pn	Pn	00 46 07.5 -0.1	JAVC	Velka Javorina	6.78	301	ePN	Pn	00 46 36.1 +1.0
SRE	Strehaia	2.51	248	⇓P		Pn	00 45 39.1 0.0	NVR	Nevrokopi	4.71	205	P	Pn	00 46 06.5 -1.2	BEHE	Becsehely	6.79	280	ePn	Pn	00 46 37.2 +2.0
SRE	Strehaia	2.51	248	⇓P		Pn	00 45 39.1 0.0	NVR				S	Sn	00 46 59.1 -2.7	SMOL	Smolenice	6.79	298	eP	Pn	00 46 35.4 +0.2
SRE	Strehaia	2.51	248	P		Pn	00 45 39.1 0.0		comp=Z,415nm,0.5s						SMOL	Smolenice	6.79	298	eP	Pn	00 46 35.4 +0.2
SRE	Strehaia	2.51	248			Pn	00 45 39.1 0.0	TKR	Tekirdag	4.74	170	eP	Pn	00 46 11.7 +3.7	MODS	Modra-Piesok	6.83	297	eP	Pn	00 46 36.4 +0.5
PRD	Provadia	2.56	164	i P		Pn	00 45 40.6 +0.9	ALN	Alexandroupoli	4.78	184	P	Pn	00 46 08.2 -0.3	MODS	Modra-Piesok	6.83	297	eP	Pn	00 46 36.4 +0.5
PVL	Pavlikeni	2.58	199	i P		Pn	00 45 41.6 +1.6	ALN				S	Sn	00 47 01.4 -1.9	STON	Ston	6.88	249	ePn	Pn	00 46 37.4 +0.9
GZR	Gura Zlata	2.60	265	⇑P		Pn	00 45 40.6 +0.3		comp=Z,278nm,0.8s						STON				Sn	Sn	00 47 53.5 -0.1
GZR	Gura Zlata	2.60	265	ePn		Pn	00 45 40.2 -0.1	ALN	Alexandroupoli	4.78	184	eP	Pn	00 46 08.2 -0.3	THL	Klokotos Trika	6.93	210	P	Pn	00 46 37.1 0.0
GZR				eSn		Sn	00 46 05.9 -6.9	ALN	Alexandroupoli	4.78	184	P	Pn	00 46 08.4 -0.1	LSK	Leskovik	7.00	220	P	Pn	00 46 39.3 +1.1
GZR	Gura Zlata	2.60	265	⇑P		Pn	00 45 40.6 +0.3	ALN	Alexandroupoli	4.78	184		Pn	00 46 08.4 -0.1	RICI	Ricice	7.01	255	ePn	Pn	00 46 40.0 +1.8
GZR	Gura Zlata	2.60	265			Pn	00 45 40.6 +0.3	BGKT	Bogazkoy	4.79	159	eP	Pn	00 46 08.3 -0.4	ILGA	Ilgaz	7.02	129	Pn	Pn	00 46 38.0 -0.6
PLVB	Pleven	2.64	211	⇓P		Pn	00 45 40.6 -0.1	KLYT	Kilyos	4.80	156	eP	Pn	00 46 08.2 -0.5	MAKA	Makarska	7.16	254	ePn	Pn	00 46 41.0 +0.8
PLVB	Pleven	2.64	211	⇓P		Pn	00 45 40.6 -0.1	DIVS	Divibare	4.86	253	ePn	Pn	00 46 09.1 -0.5	MORC	Moravsky Berou	7.28	308	ePN	Pn	00 46 40.6 -1.3
PLVB	Pleven	2.64	211			Pn	00 45 40.6 -0.1	DIVS				eSn	Sn	00 46 58.7 -6.6	MORC	Moravsky Berou	7.28	308	P	Pn	00 46 40.8 -1.1
CHRU	Chernivtsi	2.65	352	⇑ i P		Pn	00 45 40.4 -0.4	DIVS	Divibare	4.86	253	⇓ i Pn	Pn	00 46 09.0 -0.5	MORC	Moravsky Berou	7.28	308	Pn	Pn	00 46 40.8 -1.1
CHRU				Pm			00 45 40.9	DIVS	Divibare	4.86	253		Pn	00 46 09.2 -0.5	AGG	Agios Georgios	7.31	206	P	Pn	00 46 42.1 -0.3
CHRU				i S		Sn	00 46 12.8 -1.0	KAVA	Kavala	4.88	198	P	Pn	00 46 08.7 -1.2	AGG	Agios Georgios	7.31	206	Pn	Pn	00 46 42.1 -0.3
CHRU				Sm			00 46 15.7	ENEZ	Enez	4.94	183	P	Pn	00 46 10.5 -0.1	KLIV	Kljevo	7.34	260	ePn	Pn	00 46 42.5 +2.2
ROIA	ROIAK	2.66	165	P		Pn	00 45 41.5 +0.5	ENEZ	Enez	4.94	183	eP	Pn	00 46 10.2 -0.4	MANT	Manisa	7.34	167	Pn	Pn	00 46 42.1 -0.9
KALB	Balgarevo	2.66	148	⇑P		Pn	00 45 41.8 +0.8	KECS	Kecovo	4.96	307	eP	Pn	00 46 11.1 +0.3	DIKM	Dikmen	7.54	119	⇑P	Pn	00 46 44.3 -1.0
KALB	Balgarevo	2.66	148	⇑P		Pn	00 45 41.8 +0.8	KECS	Kecovo	4.96	307	eP	Pn	00 46 11.1 +0.3	DIKM				⇓S	Sn	00 48 07.6 -1.8
BAIL	Bailesti	2.76	234	⇓P		Pn	00 45 42.1 -0.1	GZKV	Gazikoy-Tekird	4.96	172	eP	Pn	00 46 10.9 0.0	DIKM	Dikmen	7.54	119	⇑P	Pn	00 46 44.3 -1.0
BAIL				⇑S		Sn	00 46 14.8 -1.4	MAR3	Marsite Statio	4.96	173	eP	Pn	00 46 10.9 -0.1	DIKM				⇓S	Sn	00 48 07.6 -1.8
BAIL	Bailesti	2.76	234	⇓P		Pn	00 45 42.1 -0.1	IVAS	Ivanjica	4.97	247	ePn	Pn	00 46 10.0 -1.0	GOLS	Golise	7.58	276	⇓ i P	Pn	00 46 47.0 +1.2
BAIL				⇑S		Sn	00 46 14.8 -1.4	ISK	Istanbul-Kandi	4.98	157	P	Pn	00 46 11.1 0.0	HVAR	Hvar	7.59	254	ePn	Pn	00 46 47.2 +1.3
KSV	Kosov	2.81	341	⇓ i P		Pn	00 45 43.8 +1.0	ISK	Istanbul-Kandi	4.98	157	eP	Pn	00 46 10.7 -0.4	VRAC	Vranov	7.61	302	⇑P	Pn	00 46 47.1 +0.9
KSV				Pm			00 45 44.3	KAVV	Kandilli-Istan	4.98	157	eP	Pn	00 46 11.2 0.0	VRAC	Vranov	7.61	302	P	Pn	00 46 46.1 -0.1
KSV				eS		Sn	00 46 18.2 +0.8	ERIK	Erikli-Kesan	5.00	180	eP	Pn	00 46 10.9 -0.5		comp=E,0.3nm,0.3s,baz=112,slow=13,SNR=17					
KSV				Sm			00 46 36.1	MAR6	Marsite Statio	5.00	173	eP	Pn	00 46 11.3 -0.1	VRAC	Vranov	7.61	302	⇑P	Pn	00 46 47.1 +0.9
RAKU	Rahkiv	2.83	327	⇓ i P		Pn	00 45 43.9 +0.8	SRS	Serrai	5.01	206	P	Pn	00 46 10.6 -1.0	VRAC	Vranov	7.61	302	eP	Pn	00 46 46.1 -0.1
RAKU				Pm			00 45 46.1	SRS				S	Sn	00 47 05.8 -3.0	CONA	Conrad Observa	7.62	291	eP	Pn	00 46 46.4 0.0
RAKU				eS		Sn	00 46 19.1 +1.2		comp=Z,440nm,0.8s							comp=E,1.1nm,0.4s						
RAKU				Sm			00 46 27.6	RKY	Sarkoy-Tekirda	5.01	174	eP	Pn	00 46 10.1 -1.5	KRUC	Moravsky	7.63	300	ePN	Pn	00 46 45.8 -0.7
DRGR		2.83	295	⇓P		Pn	00 45 42.9 -0.3	TEKS	Tekeris	5.03	260	ePn	Pn	00 46 12.0 +0.1	UDBI	Udbina	7.66	265	ePN	Pn	00 46 48.4 +1.5
DRGR		2.83	295	⇓P		Pn	00 45 42.9 -0.3	TEKS	Tekeris	5.03	260	ePn	Pn	00 46 11.6 -0.3	CRES	Cresnjev	7.70	275	⇓ i P	Pn	00 46 48.5 +1.0
RMGR	Halanga-Turnu	2.85	251	⇓P		Pn	00 45 43.0 -0.3	PSZ	Piszkesteto	5.04	299	⇓P	Pn	00 46 11.9 0.0	CRES	Cresnjev	7.70	275	⇓ i Pn	Pn	00 46 48.4 +1.0
RMGR	Halanga-Turnu	2.85	251	⇓P		Pn	00 45 43.0 -0.3	PSZ	Piszkesteto	5.04	299	⇓P	Pn	00 46 11.9 0.0	ARSA	Arzberg	7.72	286	ePn	Pn	00 46 49.0 +1.3
BMR	Baia Mare	2.86	316	⇑P		Pn	00 45 44.1 +0.7	PSZ	Piszkesteto	5.04	299	P	Pn	00 46 11.7 -0.2		comp=E,3.7nm,0.4s,SNR=5.4					
BMR	Baia Mare	2.86	316	⇑P		Pn	00 45 44.1 +0.7	PSZ	Piszkesteto	5.04	299		Pn	00 46 11.7 -0.2	ANN	Anapa	7.79	93	eP	Pn	00 46 46.9 -1.8
PUNG	Punghina	2.87	242	⇓P		Pn	00 45 42.8 -0.7	STIP	Stip	5.04	219	⇓ ePn	Pn	00 46 09.2 -2.8	ANN				eS	Sn	00 48 12.4 -3.1
PUNG	Punghina	2.87	242	ePn		Pn	00 45 42.8 -0.7	MAR9	Marsite Statio	5.13	169	eP	Pn	00 46 12.9 -0.3	ANN			pmax	pmax		
PUNG				eSn		Sn	00 46 12.1 -6.4	MRMT	Marmara Adasi	5.13	170	eP	Pn	00 46 12.3 +0.1		comp=Z,98nm,1.5s					
PUNG	Punghina	2.87	242	⇓P		Pn	00 45 42.8 -0.7	SKO	Skopje	5.18	226	ePn	Pn	00 46 14.2 +0.3	KRLC	Kraliky	7.86	308	eP	Pn	00 46 50.7 +1.1
NSLU	Nyzhne Selyshc	2.88	332	⇑ i P		Pn	00 45 49.3 +5.7	VAY	Valandovo	5.19	214	⇓ i Pn	Pn	00 46 13.9 0.0	KRLC	Kraliky	7.86	308	ePN	Pn	00 46 50.7 +1.1
NSLU				Pm			00 45 50.5	KNT	Kendrikon	5.20	211	P	Pn	00 46 13.4 -0.7	MORI	Morici	7.86	261	ePn	Pn	00 46 52.1 +2.5
NSLU				eS		Sn	00 46 29.4 +11	THAS	Thassos island	5.22	195	P	Pn	00 46 13.5 -0.8	MORI				Sn	Sn	00 48 21.5 +4.4
NSLU				Sm			00 46 32.3	SEV	Sevastopol'	5.22	100	⇑ i P	Pn	00 46 14.4 +0.1	PERS	Pernice	7.94	281	⇓ i P	Pn	00 46 51.8 +1.1
KMPD	K-Podol'skiy	2.89	360	⇑ i P		Pn	00 45 42.6 -1.2	SEV				i S	Sn	00 47 11.7 -2.1	BR131	Keskin Array S	7.95	136	i P	Pn	00 46 50.7 -0.2
KMPD				⇓ i S		Sn	00 46 16.8 -2.4	SEV	Sevastopol'	5.22	100	P	Pn	00 46 13.4 -0.9	BR131	Keskin Array S	7.95	136	Pn	Pn	00 46 50.2 -0.8
DJES	Djerdap	2.96	252	ePn		Pn	00 45 44.3 -0.5	SEV				Pm		00 46 14.7	BRTR	Keskin Array B	7.95	136	P	Pn	00 46 51.0 0.0
DJES				eSn		Sn	00 46 16.3 -4.5	SEV				S	Sn	00 47 11.7 -2.1		comp=Z,0.4nm,0.3s,baz=324,slow=11,SNR=24					
HERR	Herculane	2.96	256	⇓P		Pn	00 45 44.4 -0.3	SEV				Sm		00 47 15.1	BRTR				PcP	PcP	00 53 13.9 +0.3
HERR	Herculane	2.96	256	⇓P		Pn	00 45 44.4 -0.3	SJES	Sjenica	5.23	245	ePn	Pn	00 46 14.4 -0.2		comp=Z,0.1nm,0.3s,baz=221,slow=1.8,SNR=6.7					
HERR	Herculane	2.96	256			Pn	00 45 44.4 -0.3	SJES				eSn	Sn	00 47 09.1 -5.1	BRTR	Keskin Array B	7.95	136	ce P	Pn	00 46 50.9 0.0
NDNU	Novodnistrovsk	2.99	12	⇓ i P		Pn	00 45 45.1 0.0	SMTH	Samothraki Isl	5.24	188	P	Pn	00 46 13.9 -0.8	BRTR				pmax	pmax	
NDNU				Pm			00 45 45.4	GELI	Tayfur-Gelibol	5.27	180	eP	Pn	00 46 14.4 -0.6		comp=Z,6.0nm,0.8s					
NDNU				i S		Sn	00 46 19.5 -1.9	LPK	Lapseki	5.30	178	eP	Pn	00 46 14.2 -1.2	BRTR	Keskin Array B	7.95	136		Pn	00 46 50.8 -0.2
NDNU				Sm			00 46 20.6	KRBG	Karabiga-Canak	5.31	179	eP	Pn	00 46 14.9 -0.7	ZIRJ	Zirje	7.97	259	ePn	Pn	00 46 53.5 +2.4
MPEP	Malo Peshtene	3.02	221	P		Pn	00 45 45.5 -0.1	BBLS	Lazići	5.34	253	ePn	Pn	00 46 15.7 -0.3	SOKA	Soboth	8.00	281	ePn	Pn	00 46 52.9 +1.4
JMB	Yambol	3.21	178	eP		Pn	00 45 47.8 -0.1	BBLS	Lazići	5.34	253	⇓ i Pn	Pn	00 46 15.7 -0.3		comp=Z,6.0nm,0.3s,SNR=4.8					
JMB	Yambol	3.21	178	i P		Pn	00 45 47.8 -0.1	SOH	Sokhos	5.35	206	P	Pn	00 46 15.0 -1.2	SCTE	Santa Cesarea	8.11	229	Pn	Pn	00 46 53.4 +0.5
STNU	Starunia	3.32	337	⇑ i P		Pn	00 45 50.3 +1.0	AKASG	Malin Array Be	5.36	19	P	Pn	00 46 15.9 -0.3	DPC	Dobruska-Polom	8.25	308	eP	Pn	00 46 53.9 -0.9
KORU	Korolevo	3.37	319	⇓ i P		Pn	00 45 50.3 +0.3		comp=Z,141nm,0.3s,baz=201,slow=12,SNR=166						DPC	Dobruska-Polom	8.25	308	ePN	Pn	00 46 53.9 -0.9
BLKB	Belogradchik	3.39	234	ePn		Pn	00 45 49.3 -1.0	AKASG				S	Sn	00 47 13.4 -3.6	NVLJ	Novalja	8.27	266	ePn	Pn	00 46 57.8 +2.7
BZS	Buzias	3.40	271	⇑P		Pn	00 45 50.3 0.0		comp=Z,39nm,0.3s,baz=200,slow=21,SNR=9.7						DUGI	Dugi Otok	8.28	262	ePn	Pn	00 46 57.7 +2.5
BZS	Buzias	3.40	271	ePn		Pn	00 45 50.2 -0.1	AKASG	Malin Array Be	5.36	19	ce P	Pn	00 46 13.5 -2.6	OBKA	Obir	8.32	280	i Pn	Pn	00 46 57.2 +1.3
BZS	Buzias	3.40	271	⇑P		Pn	00 45 50.3 0.0	AKASG				pmax	pmax			comp=Z,1.9nm,0.5s					
TRSU	Trosnyk	3.41	317	⇓ i P		Pn	00 45 51.0 +0.5		comp=Z,64nm,0.3s						ISP	Isparta	8.41	157	P	Pn	00 46 58.4 +1.3
MDVR	Moldovita	3.47	257	⇓P		Pn	00 45 51.0 -0.3	AKASG	Malin Array Be	5.36	19	Pn	Pn	00 46 14.0 -2.1	ISP	Isparta	8.41	157		Pn	00 46 58.4 +1.3
MDVR	Moldovita	3.47	257	ePn		Pn	00 45 51.3 0.0	AKBB	Malin Array Si	5.36	19	ci P	Pn	00 46 15.5 -0.6	OSTC	Ostas	8.42	309	ePN	Pn	00 46 57.2 +0.2
MDVR	Moldovita	3.47	257	⇓P		Pn	00 45 51.3 -0.3	AKBB	Malin Array Si	5.36	19	i Pn	Pn	00 46 15.6 -0.6	CEY	Cerknica	8.43	275	⇓ i Pn	Pn	00 46 58.0 +0.8
MEZ	Mezhgor'ye	3.48	326	i P		Pn	00 45 52.8 +1.4	EDC	Edincik	5.42	169	eP	Pn	00 46 16.6 -0.4	CHVC	Chvalec	8.52	309	ePN	Pn	00 46 58.5 +0.1
MEZ							00 45 54.1	TRML	Termal-Yalova	5.43	158	eP	Pn	00 46 17.1 -0.1	MOA	Molln	8.65	289	eP	Pn	00 47 01.7 +1.6
MEZ				eS		Sn	00 46 34.9 +2.1	SIM	Simferopol'	5.45	95	ci P	Pn	00 46 16.2 -1.1		comp=Z,2.0nm,0.6s					
MEZ				Sm			00 46 36.5	SIM				i S	Sn	00 47 16.5 -2.7	SGRT	San Giovanni R	8.69	247	Pn	Pn	00 47 00.1 -0.7
PGB	Panagyurishte	3.53	209	i P		Pn	00 45 52.6 +0.4	SIM				pmax	pmax		CKRC	Cesky Krumlov	8.85	295	ePN	Pn	00 47 03.7 +0.9
ZAGS	Zajecar	3.54	240	ePn		Pn	00 45 50.7 -1.5		comp=Z,96µm,0.5s						MNK	Minsk	8.89	5	eP	Pn	00 47 01.0 -2.2
ZAGS				eSn		Sn	00 46 28.9 -5.1	SIM				smax	smax		MNK				eS	Sn	00 48 38.0 -3.7
HORU	Horodok	3.54	360	⇑ i P		Pn	00 45 52.4 +0.2		comp=N,295nm,0.8s						MNK	Minsk	8.89	5	i P	Pn	00 47 00.4 -2.8
HORU				Pm			00 45 52.9	SIM				smax	smax			comp=E,3.0nm,1.2s					
HORU				eS		Sn	00 46 34.0 -0.2		comp=E,399nm,1.2s						MNK				i P	Pn	00 47 00.4 -2.8
HORU				Sm			00 46 35.2	SIM	Simferopol'	5.45	95

NACGM *i* S **Sn** **00 48 51.4 +1.0**
PBCC Pribram 9.32 300 *e*PN **Pn** **00 47 08.9 -0.1**
KHC Kasperske Hory 9.40 296 P **Pn** **00 47 10.0 -0.1**
KHC Kasperske Hory 9.40 296 *e*PN **Pn** **00 47 09.8 -0.3**
KHC Kasperske Hory 9.40 296 **Pn** **00 47 10.0 -0.1**
ZOU Zoufplan 9.41 280 Pn **Pn** **00 47 10.6 +0.1**
RJOB Jochberg 9.62 287 *e*P Pn 00 47 20.5 +7.4
baz=106,slow=14
IDID Didziasalis 9.66 1 *e*P **Pn** **00 47 10.4 -3.1**
IDID IAmb IAmb 00 47 33.7
comp=Z,11nm,0.7s
TIP Timpagrande 9.67 231 ⇑P **Pn** **00 47 13.5 -0.4**
TIP Timpagrande 9.67 231 ⇑P **Pn** **00 47 13.5 -0.4**
TIP Timpagrande 9.67 231 **Pn** **00 47 13.1 -0.7**
IIGN Ignalina 9.69 359 *e*P **Pn** **00 47 11.9 -2.1**
IIGN IAmb IAmb 00 47 32.7
comp=Z,12nm,0.7s
INTR Introdacqua 9.78 252 **Pn** **00 47 14.2 -1.1**
PAOL Paolisi 9.82 246 **Pn** **00 47 16.1 +0.3**
ISAL Salakas 9.91 359 *e*P **Pn** **00 47 13.9 -3.0**
ISAL IAmb IAmb 00 47 38.6
comp=Z,9.1nm,0.7s
PABE Paberze 9.97 352 *e*P **Pn** **00 47 14.9 -2.7**
AQU L'Aquila 9.97 255 P **Pn** **00 47 18.0 +0.1**
AQU L'Aquila 9.97 255 *e*Pn **Pn** **00 47 17.9 +0.1**
AQU L'Aquila 9.97 255 **Pn** **00 47 18.0 +0.1**
NRCA Norcia 9.99 258 **Pn** **00 47 17.5 -0.6**
VORD Divnogorie 10.05 54 *e*P **Pn** **00 47 18.7 0.0**
VORD *e*S **Sn** **00 49 03.7 -6.1**
VORD pmax pmax
comp=Z,10.0nm,0.4s
VORD smax smax
comp=N,180nm,0.8s
MURB Monte Urbino 10.25 261 Pn **Pn** **00 47 21.2 -0.3**
CTI Castel Tesino 10.34 277 P **Pn** **00 47 25.5 +2.7**
CTI Castel Tesino 10.34 277 **Pn** **00 47 25.5 +2.7**
VORR Voronezh 10.34 50 P **Pn** **00 47 25.0 +2.4**
VORR pmax pmax
comp=Z,350nm,1.4s
WTTA Wattenberg 10.35 284 *e*Pn **Pn** **00 47 25.3 +2.3**
comp=Z,1.9nm,0.3s
TEOL Teolo 10.39 274 Pn **Pn** **00 47 25.2 +1.9**
WATA Walderalm 10.40 285 *e*P Pn 00 47 29.1 +5.6
comp=Z,1.5nm,0.4s
IDI Anoyia 10.44 187 P **Pn** **00 47 25.8 +1.6**
comp=Z,0.7nm,0.3s,baz=315,slow=10.0,SNR=1.3
IDI Anoyia 10.44 187 Pn **Pn** **00 47 24.1 0.0**
NKC Novy Kostel 10.45 301 *e*P **Pn** **00 47 24.2 +0.2**
NKC Novy Kostel 10.45 301 *e*PN **Pn** **00 47 24.2 +0.2**
TANN Tannenbergstha 10.50 302 *e*P **Pn** **00 47 25.4 +0.6**
baz=106,slow=14
GUNZ Gunzen 10.56 301 *e*P **Pn** **00 47 26.1 +0.5**
comp=Z,14nm,1.1s,baz=106,slow=14
SQTA Sankt Quirin 10.64 284 *e*Pn **Pn** **00 47 28.5 +1.7**
comp=Z,4.4nm,0.6s
LPSR Galich'ya Gora 10.71 45 *e*P **Pn** **00 47 25.5 -1.9**
LPSR *e*S **Sn** **00 49 19.4 -6.1**
LPSR pmax pmax
comp=Z,90nm,0.6s
LPSR smax smax
comp=N,70nm,0.6s
MOTA Moosalm 10.72 284 *e*P **Pn** **00 47 32.1 +4.3**
comp=N,3.6nm,0.7s
PBUR Paburge 10.75 346 *e*P **Pn** **00 47 25.6 -2.4**
KTUT Trabzon 10.76 111 ⇓P **Pn** **00 47 26.8 -1.4**
KTUT Trabzon 10.76 111 ⇓P **Pn** **00 47 26.8 -1.4**
RETA Reutte 10.96 285 *i* P **Pn** **00 47 34.2 +3.3**
comp=N,5.3nm,0.6s
FETA Feichten 10.96 283 *e*P **Pn** **00 47 35.7 +4.7**
comp=N,2.4nm,0.7s
GRF Grafenberg Arr 11.03 297 *e*L L 00 51 32.1
comp=N,99nm,20.9s
OSSC Osservatorio P 11.06 264 Pn **Pn** **00 47 32.9 +0.6**
MOX Moxa 11.09 302 *e*L L 00 52 10.5
comp=N,132nm,18.2s
SALO Salr 11.16 275 **Pn** **00 47 35.6 +2.1**
UBR Ueberruh 11.42 286 *e*P **P** **00 47 44.1 -0.7**
baz=106,slow=14
OBN Obninsk 11.43 31 P **Pn** **00 47 33.9 -3.0**
comp=N,8.1nm,0.3s,baz=52,slow=7.0,SNR=37
OBN S **Sn** **00 49 34.8 -8.1**
comp=N,1.3nm,0.3s,baz=14,slow=19,SNR=5.5
OBN Obninsk 11.43 31 ⇓*i*P **Pn** **00 47 33.6 -3.3**
OBN *i* S **Sn** **00 49 35.3 -7.6**
OBN pmax pmax
comp=Z,97nm,1.0s
VRH Novokhopyorsk 11.54 56 *e*P **Pn** **00 47 36.0 -2.4**
VRH *e*S **Sn** **00 49 38.7 -7.0**
VRH pmax pmax
comp=Z,60nm,0.6s
VRH smax smax
comp=N,150nm,1.0s
DAVOX Davos/Dischmat 11.54 281 P **P** **00 47 47.2 +0.8**
comp=N,2.3nm,0.3s,baz=85,slow=9.1,SNR=40
DAVA Damuels 11.55 284 *e*P **Pn** **00 47 41.1 +2.4**
comp=N,9.8nm,0.4s,SNR=6.9
KIV Kislovodsk 11.65 93 ⇓P **Pn** **00 47 39.8 -0.3**
KIV Kislovodsk 11.65 93 ⇓P **Pn** **00 47 39.8 -0.3**
KIV Kislovodsk 11.65 93 *e*P **Pn** **00 47 40.4 +0.3**
KIV *e*S **Sn** **00 49 49.4 +0.7**
KIV pmax pmax
comp=Z,43nm,1.1s
KIV Kislovodsk 11.65 93 **Pn** **00 47 38.9 -1.1**
KVAR Kislovodsk Arr 11.66 93 P **Pn** **00 47 41.3 +1.1**
baz=255,slow=20,SNR=2.4
GOF Gofitskoye 11.69 87⇑ *e*P **Pn** **00 47 40.4 0.0**
GOF pmax pmax
comp=Z,74nm,0.9s
SHA1 Shidzhatmaz 11.69 94 *c i*P **Pn** **00 47 41.7 +1.0**
KBZ Khabaz 11.86 94 P **Pn** **00 47 42.6 0.0**
comp=Z,0.8nm,0.3s,baz=318,slow=8.1,SNR=16
MSSA Maissana 12.08 270 Pn **Pn** **00 47 48.3 +2.8**
VAE Valguarnera 12.17 232 P **Pn** **00 47 46.8 0.0**
comp=Z,0.5nm,0.3s,baz=63,slow=6.8,SNR=1.7
CLZ Clausthal 12.27 306 *e*P **P** **00 47 55.0 +0.8**
baz=106,slow=14
MOS Moscow 12.30 31 *e*P **Pn** **00 47 44.5 -3.7**
MOS *e*S Sn 00 49 54.7 -9.1
MOS pmax pmax
comp=Z,44nm,0.6s
MOS pmax pmax
comp=N,48nm,0.6s
RAFF Raffo Rosso 12.38 231 Pn **Pn** **00 47 49.5 -0.1**
NCK Nalchik 12.41 94 *i* P **Pn** **00 47 52.4 +2.6**
BFO Black Forest 12.66 289 P **Pn** **00 47 54.8 +1.8**
BFO Black Forest 12.66 289 **Pn** **00 47 54.8 +1.8**
BFO Black Forest 12.66 289 *e*P **P** **00 47 58.1 -0.5**
comp=N,8.0nm,0.8s,baz=106,slow=14
VSU Vasula 12.81 1 *e*P **Pn** **00 47 53.0 -1.8**
VSU IAmb IAmb 00 48 05.2
comp=Z,63nm,0.6s
VSU Vasula 12.81 1 *i* P **Pn** **00 47 52.4 -2.4**
ZEI Tsey 12.84 97 *e*P **Pn** **00 47 54.7 -0.8**
ZEI pmax pmax
comp=Z,13nm,0.9s
MTSE Matsula 13.16 354 *e*P P 00 48 09.4 +5.4
BSEG Bad Segeberg 13.28 314 *e*P **P** **00 48 07.0 +1.6**
baz=106,slow=14
SENIN Lac Senin/Sane 13.34 280 **Pn** **00 48 01.6 -0.4**
MARD Mardin 13.58 123 **Pn** **00 48 06.8 +1.7**
AHRW Bad Neuenahr-A 13.83 298 *e*P **P** **00 48 13.4 +1.9**
comp=Z,26nm,0.9s,baz=106,slow=14
BNI Bardonecchia 13.93 275 P **Pn** **00 48 10.7 +1.4**
BNI Bardonecchia 13.93 275 **Pn** **00 48 10.7 +1.4**
MMAI Mount Meron Ar 14.39 148 P **P** **00 48 17.2 -0.8**
comp=Z,0.5nm,0.3s,baz=338,slow=11,SNR=4.7
MMAI PcP **PcP** **00 53 20.9 +0.4**
comp=Z,0.3nm,0.3s,baz=46,slow=2.4,SNR=4.3
BTNL Ternell 14.43 297 *dx* **P** **00 48 20.5 +2.3**
GNI Garni 14.48 106 P **P** **00 48 19.1 +0.1**
comp=Z,0.3nm,0.3s,baz=217,slow=5.1,SNR=6.1
GNI Garni 14.48 106 *ce*P **P** **00 48 18.7 -0.3**
GNI pmax pmax
comp=Z,37nm,1.7s
GNI Garni 14.48 106 P **P** **00 48 18.8 -0.3**
MEM Membach 14.51 297 *dx* **P** **00 48 21.4 +2.3**
BEBN Eben Emael 14.75 298 *dx* **P** **00 48 24.3 +2.5**
BCLA Clavier 14.91 296 *dx* **P** **00 48 26.6 +3.0**
AAL Aland 15.03 347 *eP* **P** **00 48 24.3 -0.5**
BGES Gesves 15.04 296 *dx* **P** **00 48 27.6 +2.6**
BMRD Maredsous 15.23 296 *dx* **P** **00 48 29.9 +2.9**
MUD Monsted U'grnd 15.27 321 *i* P **P** **00 48 29.1 +1.7**
comp=Z,59nm,0.9s
MUD Monsted U'grnd 15.27 321 *i* P **P** **00 48 29.2 +1.7**
MUD IAmb IAmb 00 48 29.2
comp=Z,59nm,0.9s
MAK Makhachkala 15.30 93 *e*P **P** **00 48 27.3 -0.6**
MAK *e*S **S** **00 51 20.4 -0.7**
MAK pmax pmax
comp=Z,602nm,1.4s
MAK MLR MLR
comp=Z,124nm,10.0s
SSB Saint Sauveur 15.38 276 P **P** **00 48 28.6 -0.2**
SSB pmax pmax
comp=Z,11nm,0.8s
SSB Saint Sauveur 15.38 276 **P** **00 48 28.6 -0.2**
BELG Belogornoye 15.39 56 P **Pn** **00 48 25.6 -1.8**
comp=Z,3.3nm,0.3s,baz=304,slow=1.4,SNR=18
BELG Belogornoye 15.39 56 *i* P **Pn** **00 48 25.1 -2.3**
FINES FINESS Array B 15.80 359 P **Pn** **00 48 29.0 -3.4**
comp=Z,0.5nm,0.3s,baz=169,slow=12,SNR=21
FINES FINESS Array B 15.80 359 *i* P **Pn** **00 48 28.2 -4.2**
FINES pmax pmax
comp=Z,5.0nm,0.5s
HFS Hagfors 16.36 337 P **Pn** **00 48 37.6 -1.6**
comp=Z,1.0nm,0.3s,baz=148,slow=12,SNR=19
HOMB Homborsund 16.70 325 *e*P **Pn** **00 48 43.9 +0.5**
KLMR Klimovskoe 17.04 22 *e*P **P** **00 48 44.7 -2.2**
KLMR *e* 00 51 50.5
KLMR pmax pmax
comp=Z,27nm,0.8s
KLMR Klimovskoe 17.04 22 *e*Pn **P** **00 48 44.7 -2.2**
KLMR AMP 00 48 45.9
comp=Z,27nm,0.8s
KLMR *e*Sn **S** **00 51 50.5 -6.5**
KLMR *e*Sn **S** **00 51 50.5 -6.5**
OSL Oslo 17.09 332 *e*P **P** **00 48 47.8 +0.3**
KONO Kongsberg 17.26 330 P **P** **00 48 47.5 -1.8**
KONO pmax pmax
comp=Z,118nm,1.5s
KONO Kongsberg 17.26 330 **P** **00 48 47.5 -1.8**
KONO Kongsberg 17.26 330 *e*P **P** **00 48 49.5 +0.2**
SNART Snartemo 17.27 324 *e*P **P** **00 48 48.4 -1.2**
EIL Elat 17.31 154 P **Pn** **00 48 52.2 +1.2**
comp=Z,0.8nm,0.3s,baz=348,slow=14,SNR=9.5
NC602 NORSAR Array S 17.47 335 P **P** **00 48 50.6 -1.0**
NC602 NORSAR Array S 17.47 335 *e*P **P** **00 48 52.0 +0.4**
NC405 NORSAR Array S 17.72 336 P **P** **00 48 54.0 -0.5**
NAO01 NORSAR Array S 17.75 334 P **P** **00 48 53.6 -1.1**
NB2 NORSAR Subarra 17.81 335 P **P** **00 48 54.8 -0.6**
comp=Z,14nm,0.7s,baz=143,slow=11
NB2 NORSAR Subarra 17.81 335 P **P** **00 48 54.8 -0.6**
baz=143,slow=11
NOA NORSAR Array B 17.81 335 P **P** **00 48 54.9 -0.5**
comp=Z,0.1nm,0.3s,baz=146,slow=9.6,SNR=30
NBO00 NORSAR Array S 17.93 335 P **P** **00 48 56.1 -0.6**
BLS5 Blasjo 18.27 326 *e*P **P** **00 48 59.6 -0.8**
SKAR Skarslia 18.45 331 *e*P **P** **00 49 03.3 +0.8**
ODD1 Odda 18.52 327 *e*P **P** **00 49 03.9 +0.7**
KMY Karmoy 18.62 324 *e*P **Pn** **00 49 05.6 -0.5**
KIRV Kirov 19.00 39 P **P** **00 49 09.0 +0.7**
comp=Z,8.5nm,0.3s,baz=237,slow=4.3,SNR=15
DOMB Dombas 19.23 335 *e*P **P** **00 49 11.4 +0.5**
BER Bergen 19.32 327 *e*P **P** **00 49 12.8 +1.0**
ASK Askoy 19.44 327 *e*P **P** **00 49 13.9 +0.8**
PRGR Permogore 19.49 28 *e*P **Pn** **00 49 15.4 -0.9**
PRGR *e*S **S** **00 52 45.0 -0.7**
PRGR pmax pmax
comp=Z,38nm,0.6s
HYA Hoyanger 19.53 330 *e*P **P** **00 49 15.4 +1.3**
TBLU Trondheim 19.86 338 *e*P **P** **00 49 18.6 +1.0**
SUE Sulen 19.97 328 *e*P **P** **00 49 19.5 +0.7**
AKN Aaknes 19.98 333 *e*P **P** **00 49 20.2 +1.3**
MOL Molde 20.10 334 *e*P **P** **00 49 20.0 -0.2**
FOO Foro 20.23 330 *e*P **P** **00 49 22.0 +0.4**
NSS Namsos 20.54 342 *e*P **P** **00 49 24.8 -0.1**
EKA Eskdalemuir Ar 21.02 308 P **P** **00 49 29.8 -0.4**
comp=Z,12nm,0.9s,baz=119,slow=12,SNR=16
AKTO Aktyubinsk 21.53 66 P **P** **00 49 36.7 +1.1**
comp=Z,7.8nm,0.5s,baz=274,slow=9.5,SNR=20
MOR8 Moi Rana 21.55 347 *e*P **P** **00 49 37.6 +2.0**
STOK Stokkvaagen 21.93 345 *e*P **P** **00 49 41.1 +1.5**
CART Cartagena 21.98 258 P **P** **00 49 38.5 -1.9**
CART IAmb IAmb 00 49 53.5
comp=Z,13nm,1.1s
NBB28 Valnes 22.49 348 *e*P **P** **00 49 46.3 +1.2**
DSB Dublin 22.49 302 P **P** **00 49 44.8 -0.6**
FAUS Fauske 22.55 349 *e*P **P** **00 49 46.2 +0.5**
ARU Arti 22.66 50 P **P** **00 49 47.3 +0.4**
comp=Z,3.2nm,0.3s,baz=251,slow=8.1,SNR=24
ARU Arti 22.66 50 *i* P **P** **00 49 46.9 0.0**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 22.66 50 P **P** **00 49 46.7 -0.2**
ARU IAmb IAmb 00 49 49.8
comp=Z,8.6nm,0.7s
LVZ Lovozero 22.69 8 P **P** **00 49 47.4 +0.3**
LVZ pmax pmax
comp=Z,85nm,1.1s
LVZ Lovozero 22.69 8 P **P** **00 49 47.4 +0.3**
AB31 Akbulak array 22.81 69 *i* P **P** **00 49 49.3 +0.9**
ABKAR Akbulak array 22.81 69 P **P** **00 49 49.2 +0.8**
ABKAR Akbulak array 22.81 69 P **P** **00 49 49.1 +0.8**
ABKAR IAmb IAmb 00 49 58.5
comp=Z,11nm,1.1s
STEI Steigen 23.07 349 *e*P **P** **00 49 50.9 +0.4**
ESBB Sonseca Array 23.07 266 P **P** **00 49 49.4 -1.5**
ESDC Sonseca Array 23.07 266 P **P** **00 49 49.9 -1.1**
comp=Z,5.0nm,0.7s,baz=64,slow=8.5,SNR=54
ESDC Sonseca Array 23.07 266 P **P** **00 49 49.7 -1.3**
ESDC IAmb IAmb 00 49 51.4
comp=Z,18nm,1.1s
PAB San Pablo 23.39 266 P **P** **00 49 52.6 -1.4**
PAB pmax pmax
comp=Z,7.0nm,0.8s
PAB San Pablo 23.39 266 P **P** **00 49 52.6 -1.4**
KTK1 Kautokeino 23.46 357 *e*P **P** **00 49 54.3 +0.1**
LOF Lofoten 23.49 348 *e*P **P** **00 49 54.9 +0.5**
SVE Sverdlovsk 23.87 50 *e*P **P** **00 50 00.2 +2.2**
ARA0 ARCESS Array S 23.93 359 *e*P **P** **00 49 58.7 +0.3**
ARCES ARCESS Array B 23.93 359 P **P** **00 49 58.6 +0.2**
comp=Z,7.3nm,1.0s,baz=172,slow=9.1,SNR=11
ARCES pP **pP** **00 50 25.1 -2.2**
comp=Z,5.6nm,0.6s,baz=184,slow=12,SNR=5.3
ARCES ARCESS Array B 23.93 359 P **P** **00 49 58.4 0.0**
ARCES IAmb IAmb 00 49 59.2
comp=Z,10nm,1.1s
JETT Jettan, Norway 24.14 355 *e*P **P** **00 50 00.8 +0.4**
KEV Kevo 24.15 0 P **P** **00 49 59.4 -1.0**
KEV pmax pmax
comp=Z,11nm,1.0s
KEV Kevo 24.15 0 P **P** **00 49 59.4 -1.0**
KEV IAmb IAmb 00 50 18.1
comp=Z,11nm,1.0s
PBRG Braganca 24.20 273 *e*P **P** **00 50 01.4 +0.2**
comp=Z,22nm,2.6s
TRO Tromso 24.32 354 *e*P **P** **00 50 02.4 +0.4**
MVO Moncorvo 24.63 271 *e*P **P** **00 50 04.4 -0.7**
comp=Z,25nm,1.5s
GEYT Alibeck 24.71 97 P **P** **00 50 08.0 +2.1**
comp=Z,5.7nm,0.7s,baz=288,slow=11,SNR=8.0
GEYT Alibeck 24.71 97 P **P** **00 50 06.2 +0.3**
PVRL Vila Real 25.07 272 *e*P **P** **00 50 08.2 -0.9**
comp=Z,31nm,1.8s
HAMF Hammerfest 25.08 358 *e*P **P** **00 50 10.1 +1.3**
POLO Lamas de Olo 25.09 272 *e*P **P** **00 50 08.7 -0.6**
comp=Z,12nm,1.5s
PGAV Gavieira, Arco 25.21 274 *e*P **P** **00 50 09.6 -0.8**
comp=Z,37nm,2.0s
MTE Manteigas 25.28 270 *e*P **P** **00 50 10.1 -1.0**
comp=Z,18nm,1.6s
MTE Manteigas 25.28 270 P **P** **00 50 09.8 -1.3**
MTE IAmb IAmb 00 50 12.3
comp=Z,17nm,1.2s
PVIS Viseu 25.41 271 *e*P **P** **00 50 11.5 -0.7**
comp=Z,25nm,1.8s
PCBR Castelo Branco 25.46 269 *e*P **P** **00 50 11.3 -1.3**
comp=Z,16nm,1.6s
PMRV Marv??o 25.58 268 *e*P **P** **00 50 12.5 -1.2**
comp=Z,17nm,1.8s
PBAR Barrancos 25.89 265 *e*P **P** **00 50 15.3 -1.1**
comp=Z,14nm,1.6s
PESTR Estremoz 25.96 267 P **P** **00 50 15.5 -1.6**
PCAS Casmilo, Conde 26.09 270 *e*P **P** **00 50 19.4 +1.1**
comp=Z,35nm,2.1s
RAYN Ar Rayn 26.96 139 P **P** **00 50 27.9 +1.7**
RAYN pmax pmax
comp=Z,2.0nm,0.8s
RAYN Ar Rayn 26.96 139 P **P** **00 50 27.9 +1.7**
BRVK Borovoye 29.09 59 *ce*P **P** **00 50 46.6 +1.7**
BRVK pmax pmax
comp=Z,3.0nm,0.4s
BRVK Borovoye 29.09 59 P **P** **00 50 46.8 +1.9**
BRVK IAmb IAmb 00 50 47.3
comp=Z,4.2nm,0.5s
BVAR Borovoye Array 29.16 59 P **P** **00 50 47.2 +1.8**
comp=Z,0.9nm,0.6s,baz=263,slow=19,SNR=8.7
KK31 Karatay Array 31.29 79 P **P** **00 51 05.8 +1.4**
KK31 pmax pmax
comp=Z,1.0nm,0.7s
KK31 Karatay Array 31.29 79 P **P** **00 51 05.8 +1.4**
KKAR Karatay Array 31.29 79 P **P** **00 51 05.7 +1.4**
KKAR Karatay Array 31.29 79 P **P** **00 51 05.7 +1.4**
KBS Kingsbay 33.82 355 *ce*P **P** **00 51 26.8 +0.8**
KBS pmax pmax
comp=Z,57nm,2.5s
KBS Kingsbay 33.82 355 P **P** **00 51 26.6 +0.6**
AAK Ala-Archa 34.19 78 P **P** **00 51 31.5 +1.8**
comp=Z,1.3nm,0.8s,baz=240,slow=8.1,SNR=5.8
AAK pP **pP** **00 52 01.8 +1.0**
comp=Z,2.1nm,0.6s,baz=275,slow=8.3,SNR=5.7
AAK Ala-Archa 34.19 78 *ce*P **P** **00 51 31.3 +1.5**
AAK pmax pmax
comp=Z,6.0nm,1.2s
AAK Ala-Archa 34.19 78 P **P** **00 51 32.3 +2.6**
KURBB Kurchatov Arra 34.49 63 P **P** **00 51 33.2 +1.1**
comp=Z,1.6nm,0.4s,baz=287,slow=9.5,SNR=19
KURBB pP **pP** **00 52 03.7 +0.6**
comp=Z,0.4nm,0.5s,baz=286,slow=9.8,SNR=2.4
KURK Kurchatov 34.53 62 P **P** **00 51 33.2 +0.8**
KURK *PP **pP** **00 52 03.7 +0.3**
KURK Kurchatov 34.53 62 P **P** **00 51 33.2 +0.8**
ZAA0 Zalesovo Array 37.58 56 P **P** **00 51 58.8 +0.5**
ZAA0 IAmb IAmb 00 52 00.3
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 37.58 56 P **P** **00 51 59.5 +1.3**
comp=Z,3.1nm,0.4s,baz=284,slow=9.1,SNR=20
ZALV pP **pP** **00 52 30.2 +0.6**
comp=Z,1.3nm,0.4s,baz=278,slow=9.0,SNR=3.2
ZALV Zalesovo Beam 37.58 56 P **P** **00 51 59.2 +1.0**
MAKZ Makanchi 37.73 68 P **P** **00 51 59.8 +0.1**
MAKZ Makanchi 37.73 68 P **P** **00 51 59.8 +0.1**
MK31 Makanchi Array 37.94 68 *d i*P **P** **00 52 03.1 +1.6**
MK31 Makanchi Array 37.94 68 P **P** **00 52 02.9 +1.4**
MKAR Makanchi Array 37.94 68 P **P** **00 52 02.8 +1.3**
comp=Z,0.8nm,0.4s,baz=274,slow=7.9,SNR=25
MKAR pP **pP** **00 52 33.8 +0.9**
comp=Z,0.6nm,0.6s,baz=284,slow=6.7,SNR=3.9
MKAR Makanchi Array 37.94 68 *ce*P **P** **00 52 02.9 +1.4**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 37.94 68 P **P** **00 52 02.5 +1.0**
NRIK Noril'sk 38.11 30 P **P** **00 52 03.6 +1.1**
comp=Z,1.2nm,0.5s,baz=260,slow=6.1,SNR=5.1
NRIK Noril'sk 38.11 30 *i* P **P** **00 52 03.5 +1.0**
NRIK pmax pmax
comp=Z,3.0nm,1.3s
TOA0 Torodi Ar. Sit 38.62 221 P **P** **00 52 07.8 +0.5**
TOA0 IAmb IAmb 00 52 08.9
comp=Z,5.2nm,0.5s
TORD Torodi Ar. Bea 38.62 221 P **P** **00 52 07.8 +0.4**
comp=Z,5.2nm,0.4s,baz=25,slow=8.8,SNR=69
TORD PcP **PcP** **00 54 16.2 -0.5**
comp=Z,1.1nm,0.6s,baz=19,slow=1.8,SNR=3.6
TORD Torodi Ar. Bea 38.62 221 P **P** **00 52 07.7 +0.4**
SUMG Summit 39.70 335 P **P** **00 52 17.6 +1.4**
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG Summit 39.70 335 P **P** **00 52 17.6 +1.4**
SUMG IAmb IAmb 00 52 18.4
comp=Z,5.7nm,1.0s
DGZ Jazzator, Alta 40.26 61 ⇑ *i*P **P** **00 52 22.8 +2.0**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
KOWA Kowa 40.30 229 P **P** **00 52 21.5 +0.2**
comp=Z,2.2nm,0.5s,baz=37,slow=8.6,SNR=10
KOWA PcP **PcP** **00 54 21.8 -0.2**
comp=Z,1.4nm,0.5s,baz=40,slow=4.7,SNR=2.2
KOWA Kowa 40.30 229 P **P** **00 52 21.5 +0.2**
SOCY Socotra 40.75 136 P **P** **00 52 23.7 -1.4**
WMQ Urumqi 42.59 70 *e*P **P** **00 52 41.5 +1.7**
DBIC Dimbokro 47.37 225 P **P** **00 53 17.2 -0.5**
comp=Z,9.7nm,0.3s,baz=19,slow=7.3,SNR=46
DBIC Dimbokro 47.37 225 P **P** **00 53 17.1 -0.5**
TIC Toumodi 47.47 225 *e*P **P** **00 53 17.8 -0.7**
KIC Kosan Boka 47.58 224 *e*P **P** **00 53 18.7 -0.6**
comp=Z,18nm,0.5s
LIC Lamto 47.84 224 *e*P **P** **00 53 20.3 -1.0**
comp=Z,45nm,0.4s
TLY Talaya 49.10 53 *i* P **P** **00 53 32.9 +2.3**
EUNU Eureka 49.10 348 P **P** **00 53 30.9 +0.6**
EUNU IAmb IAmb 00 53 32.0
comp=Z,14nm,1.2s
TIXI Tiksi 51.06 23 *ce*P **P** **00 53 46.4 +1.4**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
FRB Frobisher Bay 52.31 326 P **P** **00 53 54.2 -0.1**
comp=Z,9.1nm,0.7s,baz=62,slow=7.8,SNR=47
SONM Songino Array 52.45 57 P **P** **00 53 56.8 +1.0**
comp=Z,2.2nm,0.6s,baz=297,slow=7.8,SNR=6.0
SONM Songino Array 52.45 57 P **P** **00 53 57.2 +1.3**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 52.45 57 P **P** **00 53 57.2 +1.3**
ULN Ulaanbaatar 52.82 56 *ce*P **P** **00 54 02.0 +3.4**
ULN pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 53.82 344 P **P** **00 54 05.2 -0.1**
comp=Z,0.5nm,0.5s,baz=47,slow=8.0,SNR=5.0
DRLN Deer Lake 54.06 306 P **P** **00 54 06.7 -0.7**
PALK Pallekele 60.25 112 P **P** **00 54 51.8 +0.4**
comp=Z,7.5nm,0.8s,baz=64,slow=11,SNR=4.8
PALK Pallekele 60.25 112 P **P** **00 54 50.7 -0.7**
PALK IAmb IAmb 00 54 53.0
comp=Z,7.6nm,0.8s
LSZ Lusaka 60.68 178 P **P** **00 54 55.1 +0.9**
LSZ pmax pmax
comp=Z,2.0nm,1.1s
LSZ Lusaka 60.68 178 P **P** **00 54 55.1 +0.9**
PQI Presque Isle 61.36 309 P **P** **00 54 58.1 -0.3**
E63A Oxbow 61.73 309 P **P** **00 55 00.5 -0.4**
BILL Bilibino 62.67 16 *ce*P **P** **00 55 07.1 +0.3**
BILL pmax pmax
comp=Z,5.0nm,1.3s
C36M Paulatuk 63.25 349 P **P** **00 55 10.9 +0.3**
LATQ La Tuque 63.48 311 P **P** **00 55 12.3 -0.1**
LATQ IAmb IAmb 00 55 21.7
comp=Z,7.0nm,1.5s
CMAR Chiang Mai Arr 64.87 89 P **P** **00 55 23.1 +1.2**
comp=Z,2.8nm,0.7s,baz=307,slow=7.6,SNR=17
CMAR Chiang Mai Arr 64.87 89 P **P** **00 55 22.8 +0.8**
TRQ Mont Tremblant 65.16 311 P **P** **00 55 23.1 -0.4**
KLR Kul'dur 65.34 44 *ce*P **P** **00 55 25.6 +1.0**
KLR pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 65.36 352 P **P** **00 55 24.4 0.0**
comp=Z,4.4nm,0.4s,baz=8.9,slow=6.4,SNR=59
INK Inuvik 65.36 352 P **P** **00 55 24.3 0.0**
INK IAmb IAmb 00 55 24.6
comp=Z,4.8nm,0.5s
TOLK Toolik Lake Re 65.97 358 P **P** **00 55 29.3 +1.0**
TOLK IAmb IAmb 00 55 30.6
comp=Z,11nm,1.3s
BMAR Burnt Mountain 67.02 356 P **P** **00 55 36.5 +1.4**
COLD Coldfoot 67.40 359 P **P** **00 55 38.5 +1.2**
COLD IAmb IAmb 00 55 40.0
comp=Z,4.4nm,0.9s
EPYK Eagle Plains 67.55 353 P **P** **00 55 38.4 0.0**
EPYK IAmb IAmb 00 55 39.3
comp=Z,12nm,0.9s
YKA Yellowknife Ar 67.78 342 P **P** **00 55 39.7 -0.1**
comp=Z,2.1nm,0.6s,baz=34,slow=6.1,SNR=44
YKA pP **pP** **00 56 15.6 +0.7**
comp=Z,1.0nm,0.7s,baz=25,slow=6.3,SNR=4.4
IMAR Indian Mountai 68.68 0 P **P** **00 55 46.5 +1.2**
NJ2 Nanjing 69.41 65 *eP* **P** **00 55 50.0 -0.4**
NJ2 pmax pmax
comp=Z,12nm,0.6s
EGAK Eagle 69.47 354 P **P** **00 55 52.1 +1.9**
EGAK IAmb IAmb 00 55 52.6
comp=Z,3.7nm,0.7s
MLY Manley 69.62 359 P **P** **00 55 52.4 +1.1**

MLY				IAmb	IAmb	00 55 54.3	
	comp=Z,5.0nm,1.0s						
MDM	**Murphy Dome**	**69.63**	**358**	P	**P**	**00 55 52.2**	**+1.0**
MDM				IAmb	IAmb	00 55 54.0	
	comp=Z,13nm,1.2s						
ILAR	**Eielson Array**	**69.78**	**357**	P	**P**	**00 55 52.5**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=2.4,slow=5.7,SNR=10						
ILAR	**Eielson Array**	**69.78**	**357**	P	**P**	**00 55 52.9**	**+0.8**
ILAR	**Eielson Array**	**69.78**	**357**	P	**P**	**00 55 52.9**	**+0.8**
E46A	**Sault Ste Mari**	**69.99**	**316**	P	**P**	**00 55 53.5**	**-0.2**
NEA2	**Nenana**	**70.02**	**358**	P	**P**	**00 55 54.3**	**+0.7**
NEA2				IAmb	IAmb	00 55 54.9	
	comp=Z,5.9nm,1.0s						
DAWY	**Dawson**	**70.04**	**353**	P	**P**	**00 55 54.7**	**+0.9**
DAWY				IAmb	IAmb	00 55 55.1	
	comp=Z,9.3nm,0.6s						
K27K	**Chicken**	**70.27**	**355**	P	**P**	**00 55 56.5**	**+1.4**
LBTB	**Lobatse**	**70.35**	**181**	P	**P**	**00 55 57.0**	**+0.9**
LBTB				pmax	pmax		
	comp=Z,9.0nm,1.3s						
LBTB	**Lobatse**	**70.35**	**181**	P	**P**	**00 55 57.0**	**+0.9**
LBTB				IAmb	IAmb	00 55 59.9	
	comp=Z,8.7nm,1.3s						
SCRK	**Sand Creek**	**70.44**	**356**	P	**P**	**00 55 56.9**	**+0.6**
SCRK				IAmb	IAmb	00 55 59.8	
	comp=Z,3.9nm,0.8s						
DOT	**Dot Lake**	**70.77**	**356**	P	**P**	**00 55 59.7**	**+1.4**
DOT				IAmb	IAmb	00 56 00.4	
	comp=Z,10nm,0.9s						
BCAR	**Beaver Creek A**	**71.21**	**354**	P	**P**	**00 56 02.3**	**+1.4**
L27K	**Beaver Creek,**	**71.21**	**354**	P	**P**	**00 56 02.1**	**+1.2**
L27K				IAmb	IAmb	00 56 03.3	
	comp=Z,8.8nm,1.1s						
D41A	**Chassel**	**71.49**	**319**	P	**P**	**00 56 02.8**	**0.0**
D41A				IAmb	IAmb	00 56 03.3	
	comp=Z,11nm,0.7s						
G45A	**Suttons Bay**	**71.60**	**316**	P	**P**	**00 56 03.1**	**-0.4**
ULM	**Lac du Bonnet**	**72.19**	**325**	P	**P**	**00 56 06.1**	**-0.8**
	comp=Z,5.6nm,0.7s,baz=42,slow=7.2,SNR=14						
ULM	**Lac du Bonnet**	**72.19**	**325**	P	**P**	**00 56 06.2**	**-0.7**
ULM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ULM	**Lac du Bonnet**	**72.19**	**325**		**P**	**00 56 06.2**	**-0.7**
ULM				IAmb	IAmb	00 56 06.6	
	comp=Z,4.8nm,0.7s						
COWI	**Conover**	**72.47**	**319**	P	**P**	**00 56 08.2**	**-0.4**
COWI				IAmb	IAmb	00 56 09.2	
	comp=Z,5.5nm,0.9s						
Q56A	**Snyder Ridge,**	**72.54**	**308**	P	**P**	**00 56 08.9**	**-0.3**
Q56A				IAmb	IAmb	00 56 10.5	
	comp=Z,16nm,1.2s						
SKT	**Skwentna**	**72.69**	**359**	P	**P**	**00 56 09.8**	**0.0**
SKT				IAmb	IAmb	00 56 11.9	
	comp=Z,19nm,1.3s						
G40A	**Rib Lake**	**73.58**	**319**	P	**P**	**00 56 14.8**	**-0.5**
BOSA	**Boshof**	**73.94**	**181**	P	**P**	**00 56 17.8**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=5.2,slow=8.2,SNR=7.0						
BOSA	**Boshof**	**73.94**	**181**	P	**P**	**00 56 17.2**	**-0.2**
BOSA				IAmb	IAmb	00 56 17.6	
	comp=Z,18nm,1.5s						
F36A	**Milaca**	**74.62**	**321**	P	**P**	**00 56 20.6**	**-0.7**
F36A				IAmb	IAmb	00 56 21.1	
	comp=Z,9.3nm,0.6s						
RCBR	**Riachuelo**	**75.42**	**246**	P	**P**	**00 56 27.1**	**+0.8**
RCBR				pmax	pmax		
	comp=Z,21nm,1.4s						
RCBR	**Riachuelo**	**75.42**	**246**	P	**P**	**00 56 27.1**	**+0.8**
RCBR				IAmb	IAmb	00 56 40.8	
	comp=Z,21nm,1.4s						
ECSD	**EROS Data Cent**	**77.66**	**322**	P	**P**	**00 56 38.0**	**-0.5**
SDDR	**Presa de Saban**	**81.89**	**289**	P	**P**	**00 57 02.7**	**+1.0**
SDDR				IAmb	IAmb	00 57 03.8	
	comp=Z,11nm,0.9s						
PD31	**Pinedale Array**	**83.64**	**329**	P	**P**	**00 57 10.3**	**-0.3**
PDAR	**Pinedale Array**	**83.64**	**329**	P	**P**	**00 57 10.4**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=68,slow=4.9,SNR=17						
PDAR	**Pinedale Array**	**83.64**	**329**	P	**P**	**00 57 10.1**	**-0.5**
TXAR	**Lajitas Array**	**92.70**	**318**	P	**P**	**00 57 53.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=52,slow=4.5,SNR=7.1						
WRA	**Warramunga Arr**	**116.38**	**92**	PKP		**PKPdf**	**01 03 24.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=223,slow=2.2,SNR=1.7						
ASAR	**Alice Springs**	**118.51**	**95**	PKP		**PKPdf**	**01 03 28.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=311,slow=1.5,SNR=5.8						

*NNC **29** 01:15:45.7±2.6,42°.43N×71°.84E,h0km,mb2.7,mpv2.5, Error ellipse: s-maj=42.9km s-min=6.9km az=16.0*
*KRNET **29** 01:15:46.1±0.1,42°.36N×71°.94E,h14km,mb2.3*
ISC 29 01:15:45.1±1.4,**42°.42N**±0°.07×**71°.87E**±0°.03,**h7**km±14km, **n15**,σ0°**77**/29,**18C-12D**,**Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**0.48**	**82**	⇓*i*P	**Pg**	**01 15 54.7**	**+0.4**
	baz=73						
MNAS				⇓*i*S	**Sg**	**01 16 00.7**	**+0.1**
	baz=73						
TRKS	**Terek-Say**	**1.04**	**212**	⇑*e*P	**Pn**	**01 16 06.4**	**+0.1**
	baz=13						
TRKS				⇑*i*S	**Sn**	**01 16 21.2**	**0.0**
	baz=13						
KK31	**Karatay Array**	**1.21**	**305**	⇑P	**Pg**	**01 16 08.1**	**-0.2**
	1.4nm,0.2s,baz=135,slow=18,SNR=43						
KK31				⇑S	**Sg**	**01 16 24.5**	**+0.5**
	3.6nm,0.2s,baz=123,slow=29,SNR=17						
ARSB	**Arslanbob**	**1.38**	**142**	⇓*i*P	**Pn**	**01 16 10.6**	**-0.2**
	baz=43						
ARSB				⇓*i*S	**Sb**	**01 16 28.6**	**-0.5**
	baz=43						
EKS2	**Erkin-Say**	**1.43**	**80**	⇓*i*P	**Pb**	**01 16 12.3**	**+0.1**
	baz=77						
EKS2				⇓*i*S	**Sg**	**01 16 31.5**	**+0.4**
	baz=77						
ARLS	**Aral**	**1.91**	**106**	⇓*i*P	**Pb**	**01 16 20.5**	**+0.2**
	baz=5.0						
ARLS				⇓*i*S	**Sb**	**01 16 45.0**	**+0.6**
	baz=5.0						
AAK	**Ala-Archa**	**1.95**	**83**	⇑*i*P	**Pb**	**01 16 21.4**	**+0.3**
	baz=81						
AAK				⇑*i*S	**Sg**	**01 16 47.2**	**-0.7**
	baz=81						
AAK	**Ala-Archa**	**1.95**	**83**	⇑Pn	**Pb**	**01 16 21.1**	**0.0**
	1.4nm,0.3s						
AAK				⇓Sn	**Sb**	**01 16 46.5**	**+0.8**
	1.9nm,0.4s						
UCH	**Uchtor**	**1.97**	**95**	⇑*i*P	**Pb**	**01 16 21.6**	**0.0**
	baz=93						
UCH				⇑*i*S	**Sb**	**01 16 47.5**	**+1.0**
	baz=93						
FRU1	**Bishkek**	**2.08**	**78**	⇓*i*P	**Pb**	**01 16 23.3**	**+0.2**
	baz=76						
FRU1				⇓*i*S	**Sb**	**01 16 50.5**	**+1.4**
	baz=76						
USP	**Ospenovka**	**2.11**	**66**	⇑*i*P	**Pb**	**01 16 23.9**	**+0.2**
	baz=64						
USP				⇑*i*S	**Sg**	**01 16 52.0**	**-0.9**
	baz=64						
CHMS	**Chumysh**	**2.20**	**74**	⇑*e*P	**Pb**	**01 16 25.2**	**-0.1**
	baz=72						
CHMS				⇑*i*S	**Sb**	**01 16 53.7**	**+0.9**
	baz=72						
KBK	**Karagaybulak**	**2.29**	**83**	⇑*e*P	**Pb**	**01 16 26.4**	**-0.4**
	baz=82						
KBK				⇑*i*S	**Sb**	**01 16 55.8**	**+0.4**
	baz=82						
TKM2	**Tokmak 2**	**2.79**	**78**	⇑*e*P	**Pb**	**01 16 33.7**	**-1.8**
	baz=77						
TKM2				⇑*i*S	**Sb**	**01 17 08.2**	**-1.8**
	baz=77						
TKM2	**Tokmak 2**	**2.79**	**78**	⇑Pn	**Pb**	**01 16 34.4**	**-1.1**
	1.1nm,0.7s						
TKM2				⇓Lg	Lg	01 17 11.9	
	2.4nm,0.6s						

*JMA **29** 01:16:15.0±0.2,28°.09N×128°.00E,h15km±3km,M3.3*
*IDC **29** 01:16:16.7±1.0,27°.99N×127°.98E,h0km,mb3.6/4, mb1 3.7/6,mb1mx3.4/39,mbtmp3.6/6,ML3.2/2,MS3.1/1, Ms1 3.3/1,ms1mx2.6/38,Error ellipse: s-maj=38.3km s-min=11.0km az=77.0*
ISC 29 01:16:16.9±1.8,**27°.99N**±0°.05×**128°.09E**±0°.07,**h5**km±13km, **n16**,σ1°**15**/21,**mb3.5**/4,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.76**	**146**	P	**Pg**	**01 16 31.8**	**+0.4**
JOKE				S	**Sg**	**01 16 42.9**	**+1.7**
JTK	**Tokunoshima**	**0.79**	**105**	P	**Pg**	**01 16 31.6**	**-0.4**
JTK				*e*S	**Sg**	**01 16 43.3**	**+1.0**
JIH	**Iheya**	**0.96**	**187**	P	**Pg**	**01 16 34.3**	**-1.0**
JIH				S	**Sb**	**01 16 48.3**	**-0.6**
JAMN	**Amaminishikomi**	**0.99**	**75**	P	**Pg**	**01 16 34.5**	**-1.4**
JAMN				S	**Sg**	**01 16 48.1**	**-0.7**
JYRO	**Yoronjima**	**1.01**	**162**	P	**Pg**	**01 16 35.7**	**-0.6**
JYRO				*e*S	**Sg**	**01 16 50.8**	**+1.4**
JOW	**Kunigami**	**1.16**	**172**	Pg	**Pg**	**01 16 38.5**	**-0.7**
	168nm,0.3s,baz=352,slow=16,SNR=27						
JOW				Lg	Lg	01 16 55.9	
	111nm,0.3s,baz=229,slow=26,SNR=8.4						
JOW	**Kunigami**	**1.16**	**172**	P	**Pg**	**01 16 37.8**	**-1.4**
JOW				S	**Sg**	**01 16 55.3**	**+1.0**
JAM	**Amami Oshima**	**1.40**	**72**	S	**Sn**	**01 17 00.3**	**-1.7**
JNTH	**Nagotoyohara**	**1.47**	**182**	P	**Pn**	**01 16 42.7**	**-1.3**
JNU	**Nakatsue**	**5.65**	**24**	Pn	**Pn**	**01 17 42.9**	**+1.2**
	0.9nm,0.3s,baz=270,slow=3.0,SNR=5.4						
KSRS	**Korea Array**	**9.44**	**359**	Pn	**Pn**	**01 18 34.8**	**+1.3**
	0.2nm,0.3s,baz=174,slow=18,SNR=1.4						
SONM	**Songino Array**	**26.03**	**325**	P	**P**	**01 21 50.7**	**-0.4**
	0.7nm,0.7s,baz=127,slow=9.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**28.36**	**257**	LR	LR	01 33 33.5	
	comp=Z,35nm,19.1s,baz=335,slow=37						
MKAR	**Makanchi Array**	**40.29**	**310**	P	**P**	**01 23 55.0**	**0.0**
	0.8nm,0.7s,baz=106,slow=9.0,SNR=10.0						
WRA	**Warramunga Arr**	**48.03**	**172**	P	**P**	**01 24 57.7**	**+0.5**
	0.7nm,0.9s,baz=353,slow=8.0,SNR=3.2						
YKA	**Yellowknife Ar**	**76.99**	**25**	P	**P**	**01 28 11.4**	**+1.0**
	0.2nm,0.6s,baz=298,slow=5.0,SNR=6.2						

*JMA **29** 01:20:45.1±0.1,28°.09N×128°.00E,h14km±2km,M3.4*
*IDC **29** 01:20:46.6±1.2,27°.87N×127°.70E,h0km,mb3.5/4, mb1 3.7/6,mb1mx3.4/43,mbtmp3.6/6,ML3.1/2,MS3.0/1, Ms1 3.0/1,ms1mx2.5/33,Error ellipse: s-maj=36.8km s-min=11.9km az=66.0*
ISC 29 01:20:45.2±2.0,**28°.05N**±0°.05×**128°.07E**±0°.06,**h1**km±14km, **n18**,σ0°**79**/22,**mb3.3**/4,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.82**	**147**	P	**Pg**	**01 21 01.6**	**+0.8**
JOKE				S	**Sb**	**01 21 13.5**	**-0.1**
JTK	**Tokunoshima**	**0.82**	**108**	P	**Pg**	**01 21 01.9**	**+1.0**
JTK				S	**Sb**	**01 21 13.7**	**-0.1**
JAMN	**Amaminishikomi**	**0.99**	**79**	P	**Pg**	**01 21 04.6**	**+0.4**
JAMN				S	**Sb**	**01 21 18.5**	**-0.2**
JIH	**Iheya**	**1.01**	**185**	P	**Pg**	**01 21 04.6**	**0.0**
JIH				S	**Sb**	**01 21 18.8**	**-0.5**
JYRO	**Yoronjima**	**1.07**	**162**	P	**Pg**	**01 21 06.0**	**+0.2**
JYRO				S	**Sb**	**01 21 21.2**	**+0.1**
JOW	**Kunigami**	**1.23**	**171**	Pg	**Pb**	**01 21 08.3**	**-0.8**
	204nm,0.3s,baz=323,slow=20,SNR=22						
JOW				Lg	Lg	01 21 24.9	
	147nm,0.3s,baz=170,slow=21,SNR=9.5						
JOW	**Kunigami**	**1.23**	**171**	P	**Pb**	**01 21 08.3**	**-0.8**
JOW				S	**Sg**	**01 21 24.8**	**+0.2**
JAM	**Amami Oshima**	**1.40**	**75**	P	**Pn**	**01 21 11.1**	**-0.7**
JAM				S	**Sb**	**01 21 29.8**	**-0.7**
JTAJ	**Takarajima**	**1.48**	**42**	P	**Pn**	**01 21 11.5**	**-1.5**
JNTH	**Nagotoyohara**	**1.52**	**182**	P	**Pn**	**01 21 13.1**	**-0.4**
JAGN	**Aguni-jima**	**1.63**	**207**	P	**Pn**	**01 21 14.2**	**-0.8**
JNU	**Nakatsue**	**5.61**	**25**	Pn	Pn	01 22 15.4	+5.7
	0.9nm,0.3s,baz=173,slow=9.1,SNR=8.7						
MJAR	**Matsushiro Arr**	**12.04**	**43**	Pn	Pn	01 23 44.9	+6.9
	0.0nm,0.3s,baz=223,slow=13,SNR=1.5						
SONM	**Songino Array**	**25.97**	**325**	P	**P**	**01 26 21.3**	**+1.9**
	0.8nm,1.1s,baz=131,slow=7.9,SNR=2.4						
PETK	**Petropavlovsk-**	**33.24**	**33**	LR	LR	01 42 24.9	
	comp=Z,24nm,18.8s,baz=102,slow=39						
MKAR	**Makanchi Array**	**40.24**	**310**	P	**P**	**01 28 23.6**	**+0.2**
	0.3nm,0.7s,baz=98,slow=9.2,SNR=2.8						
WRA	**Warramunga Arr**	**48.09**	**172**	P	**P**	**01 29 26.9**	**+0.3**
	0.7nm,0.6s,baz=354,slow=8.4,SNR=10						
ASAR	**Alice Springs**	**51.72**	**173**	P	**P**	**01 29 54.3**	**+0.2**
	0.2nm,0.6s,baz=358,slow=8.1,SNR=2.5						

*JMA **29** 01:27:53.5±0.1,28°.08N×128°.01E,h19km±2km,M3.5*
*IDC **29** 01:27:53.7±1.5,27°.84N×127°.60E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.3/44,mbtmp3.6/4,ML3.7/1,Error ellipse: s-maj=45.7km s-min=14.1km az=60.0*
ISC 29 01:27:52.4±1.7,**28°.00N**±0°.05×**128°.11E**±0°.06,**h3**km±12km, **n17**,σ0°**64**/24,**mb3.4**/3,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.76**	**147**	P	**Pn**	**01 28 09.8**	**-0.2**
JOKE				S	**Sn**	**01 28 21.3**	**-0.6**
JTK	**Tokunoshima**	**0.78**	**106**	P	**Pn**	**01 28 09.8**	**-0.4**
JTK				S	**Sn**	**01 28 21.4**	**-1.0**
JAMN	**Amaminishikomi**	**0.97**	**76**	P	**Pn**	**01 28 12.8**	**-0.1**
JAMN				S	**Sn**	**01 28 26.4**	**-0.8**
JIH	**Iheya**	**0.97**	**187**	P	**Pn**	**01 28 12.5**	**-0.4**
JIH				S	**Sn**	**01 28 26.5**	**-0.6**
JYRO	**Yoronjima**	**1.02**	**163**	P	**Pn**	**01 28 14.0**	**+0.5**
JYRO				S	**Sn**	**01 28 28.7**	**+0.3**
JOW	**Kunigami**	**1.18**	**173**	Pg	**Pn**	**01 28 16.2**	**+0.5**
	357nm,0.3s,baz=343,slow=17,SNR=108						
JOW				Lg	Lg	01 28 32.3	
	178nm,0.3s,baz=139,slow=20,SNR=6.5						
JOW	**Kunigami**	**1.18**	**173**	P	**Pn**	**01 28 16.2**	**+0.5**
JOW				S	**Sn**	**01 28 32.5**	**+0.3**
JAM	**Amami Oshima**	**1.38**	**73**	P	**Pb**	**01 28 18.8**	**-0.1**
JAM				S	**Sg**	**01 28 37.8**	**+0.9**
JNTH	**Nagotoyohara**	**1.48**	**183**	P	**Pg**	**01 28 20.5**	**-0.3**
JTAJ	**Takarajima**	**1.50**	**40**	P	**Pn**	**01 28 19.3**	**-0.8**
JTAJ				S	**Sn**	**01 28 39.3**	**-0.8**
JAGN	**Aguni-jima**	**1.60**	**209**	P	**Pb**	**01 28 22.1**	**-0.5**
JJT3	**Tamagusuku3**	**1.88**	**189**	P	**Pb**	**01 28 26.3**	**-0.9**
JYAK	**Yakushimahirau**	**3.06**	**43**	P	**Pn**	**01 28 42.4**	**+0.8**
JNU	**Nakatsue**	**5.63**	**24**	Pn	Pn	01 29 23.4	+6.4
	1.9nm,0.3s,baz=204,slow=7.7,SNR=11						
MKAR	**Makanchi Array**	**40.29**	**310**	P	**P**	**01 35 31.1**	**+0.4**
	0.1nm,0.4s,baz=108,slow=8.2,SNR=1.8						
WRA	**Warramunga Arr**	**48.04**	**172**	P	**P**	**01 36 33.5**	**+0.4**
	0.5nm,0.6s,baz=354,slow=8.3,SNR=2.0						
ASAR	**Alice Springs**	**51.67**	**173**	P	**P**	**01 37 01.2**	**+0.5**
	0.3nm,0.6s,baz=358,slow=14,SNR=4.1						

*JMA **29** 01:29:59.3±0.2,28°.09N×127°.99E,h22km±3km,M3.7*
*IDC **29** 01:29:59.4±1.0,27°.86N×127°.65E,h0km,mb3.6/4, mb1 3.8/7,mb1mx3.6/45,mbtmp3.7/7,ML3.1/3,MS3.1/3, Ms1 3.1/3,ms1mx2.8/29,Error ellipse: s-maj=33.5km s-min=11.3km az=65.0*
*NIED **29** 01:29:59.3,28°.09N×127°.99E,h22km,MW4.1,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.56; $M_{\theta\theta}$0.87; $M_{\phi\phi}$-0.31; $M_{r\theta}$-0.96; $M_{\theta\phi}$0.70; $M_{r\phi}$0.22; Fault plane solution: $M_0$1.42000×10^{15} NP1:ϕ_s98.00000°, δ75.00000°, λ-54.00000°. NP2:ϕ_s208.00000°, δ38.00000°, λ-156.00000°.*
ISC 29 01:29:59.1±3.4,**28°.01N**±0°.05×**128°.13E**±0°.06,**h6**km±23km, **n21**,σ0°**81**/22,**mb3.5**/5,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.76**	**149**	P	**Pn**	**01 30 15.6**	**-0.7**
JTK	**Tokunoshima**	**0.76**	**107**	P	**Pn**	**01 30 16.0**	**-0.4**
JTK				*e*S	**Sn**	**01 30 27.7**	**-0.5**
JAMN	**Amaminishikomi**	**0.95**	**76**	P	**Pn**	**01 30 18.6**	**-0.4**
JIH	**Iheya**	**0.98**	**188**	P	**Pb**	**01 30 18.3**	**-0.2**
JIH				S	**Sb**	**01 30 32.5**	**+0.8**
JYRO	**Yoronjima**	**1.02**	**164**	P	**Pn**	**01 30 19.8**	**-0.2**
JYRO				S	**Sn**	**01 30 34.6**	**0.0**
JOW	**Kunigami**	**1.18**	**174**	Pg	**Pn**	**01 30 21.8**	**-0.4**
	272nm,0.3s,baz=342,slow=16,SNR=29						
JOW				Lg	Lg	01 30 38.0	
	141nm,0.3s,baz=136,slow=24,SNR=8.7						
JOW	**Kunigami**	**1.18**	**174**	P	**Pn**	**01 30 22.1**	**-0.1**
JAM	**Amami Oshima**	**1.36**	**73**	P	**Pb**	**01 30 24.9**	**-0.1**
JAM				*e*S	**Sn**	**01 30 43.7**	**+0.7**
JTAJ	**Takarajima**	**1.48**	**40**	P	**Pn**	**01 30 25.4**	**-0.9**
JNTH	**Nagotoyohara**	**1.49**	**184**	P	**Pn**	**01 30 26.2**	**-0.2**
JNTH				S	**Sn**	**01 30 46.0**	**-0.1**
JAGN	**Aguni-jima**	**1.62**	**209**	P	**Pn**	**01 30 27.4**	**-0.8**
JNU	**Nakatsue**	**5.62**	**24**	Pn	Pb	01 31 29.1	-8.5
	2.0nm,0.3s,baz=194,slow=5.6,SNR=16						
KSRS	**Korea Array**	**9.42**	**359**	LR	LR	01 36 04.6	
	comp=Z,121nm,20.9s,baz=148,slow=38						

MJAR	**Matsushiro Arr**	**12.04**	**43**	Pn	**P**	**01 32 56.0**	**+4.8**
	0.0nm,0.3s,baz=226,slow=14,SNR=2.1						
USRK	**Ussuriysk Ar.**	**16.45**	**10**	Pn	**P**	**01 33 55.8**	**+2.6**
	baz=202,slow=11,SNR=5.2						
USRK				LR	LR	01 40 03.9	
	comp=Z,60nm,20.7s,baz=183,slow=36						
SONM	**Songino Array**	**26.03**	**325**	P	**P**	**01 35 33.3**	**+0.2**
	0.6nm,0.5s,baz=134,slow=8.2,SNR=5.7						
MKAR	**Makanchi Array**	**40.30**	**310**	P	**P**	**01 37 36.7**	**-0.4**
	0.4nm,0.7s,baz=100,slow=8.7,SNR=5.7						
ZALV	**Zalesovo Beam**	**40.79**	**322**	LR	LR	01 56 22.6	
	comp=Z,33nm,19.8s,baz=132,slow=39						
WRA	**Warramunga Arr**	**48.05**	**172**	P	**P**	**01 38 39.3**	**-0.1**
	0.8nm,0.6s,baz=354,slow=8.5,SNR=6.7						
ASAR	**Alice Springs**	**51.68**	**173**	P	**P**	**01 39 07.4**	**+0.4**
	0.4nm,0.7s,baz=357,slow=8.4,SNR=7.6						
YKA	**Yellowknife Ar**	**76.96**	**25**	P	**P**	**01 41 51.1**	**-1.1**
	0.4nm,0.9s,baz=296,slow=4.8,SNR=4.1						

*IDC **29** 01:33:45.6±0.7,48°.83S×106°.60E,h0km,mb4.4/7, mb1 4.5/7,mb1mx4.0/35,mbtmp4.3/7,MS3.7/9,Ms1 3.7/9, ms1mx3.4/27,Error ellipse: s-maj=33.6km s-min=19.2km az=111.0*
*NEIC **29** 01:33:46.8±1.1,48°.8S±0°.1×106°.5E±0°.2,h10km±1km, mb4.5/19, Error ellipse: s-maj=30.0km s-min=8.4km az=309.0*
ISC 29 01:33:47.0±0.5,**48°.9S**±0°.1×**106°.6E**±0°.2,**h10**km,**n50**, σ0°**84**/48,**mb4.5**/19,**MS3.7**/9,**1C**,**Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.02**	**25**	T	T	01 52 45.6	
	baz=199,slow=74,SNR=74						
H01W1	**Cape Leeuwin H**	**15.03**	**25**	T	T	01 52 41.6	
	baz=199,slow=74,SNR=68						
H01W3	**Cape Leeuwin H**	**15.03**	**25**	T	T	01 52 42.1	
	baz=199,slow=74,SNR=66						
NWAO	**Narrogin (SRO)**	**17.80**	**31**	LR	LR	01 42 49.4	
	comp=Z,387nm,21.6s,baz=174,slow=31						
MORW	**Morawa**	**21.05**	**24**		**P**	**01 38 29.4**	**-1.6**
FORT	**Forrest**	**24.31**	**50**	P	**P**	**01 39 05.8**	**+1.1**
FORT				IAmb	IAmb	01 39 14.3	
	comp=Z,11nm,0.8s						
BBOO	**Buckleboo**	**27.24**	**65**	P	**P**	**01 39 30.9**	**-0.2**
BBOO				IAmb	IAmb	01 39 32.4	
	comp=Z,11nm,0.9s						
MAW	**Mawson**	**28.78**	**213**	LR	LR	01 49 11.1	
	comp=Z,154nm,18.7s,baz=51,slow=32						
STKA	**Stephens Creek**	**31.26**	**70**	P	**P**	**01 40 06.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=200,slow=8.9,SNR=5.9						
STKA				PcP	**PcP**	**01 43 00.7**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=299,slow=7.2,SNR=4.7						
STKA				LR	LR	01 50 12.0	
	comp=Z,79nm,20.6s,baz=210,slow=32						
STKA	**Stephens Creek**	**31.26**	**70**	P	**P**	**01 40 06.8**	**-0.1**
ASAR	**Alice Springs**	**33.10**	**50**	P	**P**	**01 40 23.0**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=212,slow=8.3,SNR=36						
ASAR				PcP	**PcP**	**01 43 05.5**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=212,slow=2.1,SNR=10						
ASAR				LR	LR	01 52 20.9	
	comp=Z,139nm,20.4s,baz=206,slow=34						
ASAR	**Alice Springs**	**33.10**	**50**	P	**P**	**01 40 22.8**	**-0.2**
AS31	**Alice Springs**	**33.10**	**50**	P	**P**	**01 40 23.2**	**+0.2**
VNDA	**Vanda**	**35.45**	**162**	P	**P**	**01 40 43.1**	**+0.3**
	comp=Z,3.3nm,1.0s,baz=288,slow=8.4,SNR=11						
VNDA				PcP	**PcP**	**01 43 11.7**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=341,slow=4.3,SNR=1.6						
VNDA				LR	LR	01 53 47.4	
	comp=Z,176nm,20.5s,baz=286,slow=34						
VNDA	**Vanda**	**35.45**	**162**	P	**P**	**01 40 43.4**	**+0.5**
WRA	**Warramunga Arr**	**36.44**	**48**	P	**P**	**01 40 52.0**	**0.0**
	comp=Z,4.5nm,0.7s,baz=209,slow=8.7,SNR=31						
WRA				PcP	**PcP**	**01 43 15.4**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=220,slow=2.6,SNR=6.5						
WRA				LR	LR	01 53 45.1	
	comp=Z,145nm,21.9s,baz=320,slow=33						
WRA	**Warramunga Arr**	**36.44**	**48**	P	**P**	**01 40 51.9**	**0.0**
WB2	**Warramunga Arr**	**36.45**	**48**	P	**P**	**01 40 52.1**	**+0.1**
WB2				IAmb	IAmb	01 40 53.1	
	comp=Z,5.2nm,0.8s						
WR0	**Warramunga Arr**	**36.53**	**48**	P	**P**	**01 40 52.1**	**-0.5**
WR0				IAmb	IAmb	01 40 55.0	
	comp=Z,8.3nm,1.

PDAR Pinedale Array 154.27 90 PKPbc **PKiKP 01 53 47.2 +0.2**
comp=Z,0.2nm,0.5s,baz=288,slow=0.9,SNR=2.7

*NEIC **29** 01:45:12.2±2.6,21.0°S±0.1°×176.2°W±0.1,h191km±7km, mb4.5/27, Error ellipse: s-maj=20.3km s-min=14.1km az=176.0*
*NOU **29** 01:45:13.3,20.94°S×175.81°W,h233km,mb4.4, Tonga Islands*
*IDC **29** 01:45:18.4±2.7,21.00°S×176.57°W,h233km±23km, mb3.9/10,mb1 4.1/12,mb1mx3.8/24,mbtmp4.5/12, Error ellipse: s-maj=20.1km s-min=16.7km az=122.0*
ISC 29 01:45:12.5±0.5,21.13S±0.08×176.12W±0.07,h196km, n107,σ1ᵠ47/109,mb4.4/25,13C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.17**	**72**			**Pn**		**01 46 41.4**	**-0.6**
NIUE	**Niue**	**6.17**	**72**	P		**Pn**		**01 46 40.9**	**-1.1**
MSVF	**Nonsavu**	**6.46**	**301**	P		**Pn**		**01 46 46.6**	**+0.8**
	2.1nm,0.3s,baz=124,slow=15,SNR=13								
MSVF	**Nonsavu**	**6.46**	**301**			**Pn**		**01 46 46.9**	**+1.1**
MSVF	**Nonsavu**	**6.46**	**301**	P		**Pn**		**01 46 46.9**	**+1.1**
AFI	**Afiamalu**	**8.29**	**31**	Pn		**Pn**		**01 47 07.2**	**-2.6**
AFI	**Afiamalu**	**8.29**	**31**	P		**Pn**		**01 47 05.7**	**-4.0**
MARNC	**Mare, Loyalty**	**14.78**	**266**	P		**P**		**01 48 34.3**	**+1.0**
RAR	**Rarotonga**	**15.25**	**93**	P		P		01 48 47.0	+8.5
	1.4nm,0.3s,baz=261,slow=13,SNR=3.0								
RAR	**Rarotonga**	**15.25**	**93**	IAmb		IAmb		01 48 49.5	
	comp=Z,25nm,0.9s								
LIFNC	**LIFOU**	**15.55**	**268**	P		**P**		**01 48 44.5**	**+2.7**
YATNC	**Mamie plateau,**	**15.83**	**264**	P		**Pn**		**01 48 48.4**	**+3.3**
OUENC	**Ouen Island, N**	**15.88**	**262**	P		**Pn**		**01 48 48.6**	**+2.9**
DZM	**Mont Dzumac**	**16.25**	**264**	P		**Pn**		**01 48 52.5**	**+2.3**
	comp=Z,2.4nm,0.3s,baz=86,slow=14,SNR=29								
DZM	**Mont Dzumac**	**16.25**	**264**	P		**Pn**		**01 48 51.7**	**+1.5**
DZM	**Mont Dzumac**	**16.25**	**264**	P		**Pn**		**01 48 53.1**	**+2.9**
SANVU	**Saraoutou**	**16.81**	**287**	P		**Pn**		**01 48 56.5**	**-0.4**
SANVU	**Saraoutou**	**16.81**	**287**	P		**Pn**		**01 48 57.4**	**+0.5**
URZ	**Urewera**	**18.04**	**197**	P		**P**		**01 49 09.1**	**0.0**
	comp=Z,2.7nm,0.3s,baz=301,slow=22,SNR=17								
URZ				S		**S**		**01 52 18.9**	**-6.7**
	comp=Z,1.8nm,0.3s,baz=313,slow=22,SNR=6.9								
KWHZ	**Kaweka Forest**	**19.32**	**198**	P		**Pn**		**01 49 25.9**	**-0.4**
BHHZ	**Black Hill Sta**	**19.49**	**198**	P		**P**		**01 49 23.3**	**-1.4**
TSZ	**Takapari Road**	**20.04**	**198**	P		**P**		**01 49 30.0**	**-0.6**
MRZ	**Mangatainoka R**	**20.71**	**198**	P		**P**		**01 49 37.9**	**+0.2**
CAW	**Cannon Point**	**21.27**	**199**	P		**P**		**01 49 44.7**	**+1.1**
DUWZ	**D'Urville Isla**	**21.36**	**201**	P		**P**		**01 49 47.2**	**+2.7**
PLWZ	**Palliser**	**21.64**	**198**	P		**P**		**01 49 46.3**	**-1.1**
QRZ	**Quartz Range**	**21.88**	**204**	P		**P**		**01 49 49.4**	**-0.3**
NNZ	**Nelson**	**21.91**	**202**	P		**P**		**01 49 51.7**	**+1.6**
NNZ	**Nelson**	**21.91**	**202**	P		**P**		**01 49 51.7**	**+1.6**
TUWZ	**Tuamarina**	**21.92**	**200**	P		**P**		**01 49 48.6**	**-1.5**
CMWZ	**Cape Campbell**	**22.12**	**199**	P		**P**		**01 49 51.5**	**-0.6**
BSWZ	**Blackbirch Sta**	**22.20**	**200**	P		**P**		**01 49 53.8**	**+0.9**
THZ	**Tophouse**	**22.56**	**202**	P		**P**		**01 49 58.3**	**+2.0**
THZ	**Tophouse**	**22.56**	**202**	P		**P**		**01 49 58.5**	**+2.2**
RPZ	**Rata Peaks**	**24.93**	**202**	P		**P**		**01 50 20.0**	**+2.4**
	comp=Z,12nm,0.4s,baz=34,slow=4.5,SNR=14								
EIDS	**Eidsvold**	**30.39**	**256**	P		**P**		**01 51 06.7**	**+0.3**
ARMA	**Armidale**	**30.39**	**246**	P		**P**		**01 51 06.9**	**+0.3**
ARMA				IAmb		IAmb		01 51 17.9	
	comp=Z,21nm,1.4s								
CTAO	**Charters Tower**	**35.18**	**265**	P		**P**		**01 51 48.4**	**+0.3**
CTAO				IAmb		IAmb		01 51 48.8	
	comp=Z,11nm,0.8s								
TOO	**Toolangi**	**36.96**	**235**	P		**P**		**01 52 02.9**	**-0.1**
TOO				IAmb		IAmb		01 52 03.8	
	comp=Z,8.9nm,0.9s								
PMG	**Port Moresby**	**37.20**	**283**	P		**P**		**01 52 05.2**	**-0.1**
STKA	**Stephens Creek**	**39.11**	**245**	P		**P**		**01 52 20.8**	**-0.3**
	comp=Z,3.3nm,0.4s,baz=95,slow=10,SNR=12								
STKA				PcP		**PcP**		**01 54 26.9**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=90,slow=2.4,SNR=3.2								
STKA	**Stephens Creek**	**39.11**	**245**	P		**P**		**01 52 20.1**	**-0.9**
COEN	**Coen**	**39.38**	**274**	P		**P**		**01 52 23.2**	**-0.2**
COEN				IAmb		IAmb		01 52 24.2	
	comp=Z,13nm,0.8s								
MANU	**Manus Island**	**40.31**	**293**	P		**P**		**01 52 30.6**	**-0.5**
MANU				IAmb		IAmb		01 52 32.3	
	comp=Z,16nm,0.9s								
BBOO	**Buckleboo**	**43.85**	**244**	P		**P**		**01 52 58.5**	**-1.1**
BBOO				IAmb		IAmb		01 52 58.9	
	comp=Z,5.8nm,0.8s								
WR0	**Warramunga Arr**	**46.07**	**262**	P		**P**		**01 53 15.7**	**-1.5**
AS31	**Alice Springs**	**46.09**	**257**	P		**P**		**01 53 16.1**	**-1.3**
ASAR	**Alice Springs**	**46.09**	**257**	P		**P**		**01 53 16.4**	**-0.9**
	comp=Z,12nm,0.9s,baz=89,slow=8.3,SNR=102								
ASAR				PcP		**PcP**		**01 54 50.8**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=104,slow=4.3,SNR=6.0								
ASAR	**Alice Springs**	**46.09**	**257**	P		**P**		**01 53 16.1**	**-1.2**
WB0	**Warramunga Arr**	**46.24**	**262**	P		**P**		**01 53 17.1**	**-1.5**
WB0				IAmb		IAmb		01 53 17.7	
	comp=Z,9.7nm,0.8s								
WB2	**Warramunga Arr**	**46.25**	**262**	P		**P**		**01 53 17.1**	**-1.5**
WB2				IAmb		IAmb		01 53 17.8	
	comp=Z,13nm,0.9s								
WRA	**Warramunga Arr**	**46.26**	**262**	P		**P**		**01 53 17.0**	**-1.7**
	comp=Z,8.8nm,0.9s,baz=96,slow=7.7,SNR=49								
WRA				PcP		**PcP**		**01 54 51.3**	**+0.4**
	comp=Z,1.7nm,1.0s,baz=92,slow=3.9,SNR=4.2								
WRA	**Warramunga Arr**	**46.26**	**262**	P		**P**		**01 53 16.8**	**-1.9**
FORT	**Forrest**	**50.66**	**247**	P		**P**		**01 53 50.8**	**-1.3**
MTN	**Manton Dam**	**50.93**	**270**	P		**P**		**01 53 52.8**	**-1.4**
MTN				IAmb		IAmb		01 53 53.5	
	comp=Z,11nm,0.9s								
FITZ	**Fitzroy Crossi**	**54.69**	**262**	P		**P**		**01 54 22.1**	**+0.3**
SWI	**Sorong**	**55.11**	**284**	P		**P**		**01 54 24.0**	**-0.8**
	comp=Z,1μmcomp=Z,44nm,1.1s								
VNDA	**Vanda**	**57.45**	**186**	PKiKP		**PKiKP**		**02 01 56.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=15,slow=2.3,SNR=6.2								
SOEI	**Soe**	**58.28**	**271**	P		**P**		**01 54 46.8**	**-0.5**
SANI	**Sanana**	**59.43**	**281**	P		**P**		**01 54 53.3**	**-1.8**
EDFI	**Ende, Flores**	**61.01**	**272**	P		**P**		**01 55 06.7**	**+0.8**
MORW	**Morawa**	**61.22**	**248**	P		**P**		**01 55 05.7**	**-1.3**
MORW				IAmb		IAmb		01 55 08.2	
	comp=Z,13nm,1.2s								
LUWI	**Luwuk**	**62.78**	**280**	P		**P**		**01 55 16.6**	**-1.0**
MJAR	**Matsushiro Arr**	**71.77**	**323**	P		**P**		**01 56 13.0**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=152,slow=6.9,SNR=9.3								
MAT	**Matsushiro**	**71.77**	**323**	P		**P**		**01 56 12.8**	**-0.8**
KS19	**Wonju Array Si**	**78.59**	**318**	P		**P**		**01 56 50.2**	**-2.3**
KS19				IAmb		IAmb		01 57 08.1	
	comp=Z,8.8nm,0.7s								
USRK	**Ussuriysk Ar.**	**80.48**	**325**	P		**P**		**01 57 03.0**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=159,slow=1.5,SNR=5.6								
NJ2	**Nanjing**	**81.64**	**309**	*e*P		**P**		**01 57 09.0**	**+0.1**
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.5s								
H03S2	**Juan Fernandez**	**84.18**	**124**	T		T		03 30 06.6	
	baz=247,slow=74,SNR=14								
H03S1	**Juan Fernandez**	**84.20**	**124**	T		T		03 30 03.1	
	baz=247,slow=74,SNR=20								
H03S3	**Juan Fernandez**	**84.20**	**124**	T		T		03 30 05.7	
	baz=247,slow=74,SNR=19								
PLCA	**Paso Flores**	**87.56**	**133**	P		**P**		**01 57 42.0**	**+3.4**
	comp=Z,2.1nm,0.9s,baz=254,slow=7.4,SNR=3.2								
ENH	**Enshi**	**87.85**	**304**	P		**P**		**01 57 38.9**	**-1.2**
ENH				IAmb		IAmb		01 57 41.4	
	comp=Z,14nm,1.3s								
ILAR	**Eielson Array**	**88.55**	**12**	P		**P**		**01 57 43.3**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=217,slow=6.6,SNR=4.9								
HHC	**Hu-ho-hao-te**	**91.05**	**314**	*e*P		**P**		**01 57 55.0**	**+0.1**
HHC				pmax		pmax			
	comp=Z,11nm,0.9s								
HHC				pmax		pmax			
	comp=Z,110nm,7.6s								
CMAR	**Chiang Mai Arr**	**91.98**	**289**	P		**P**		**01 57 58.8**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=125,slow=2.5,SNR=5.3								
CMAR	**Chiang Mai Arr**	**91.98**	**289**	P		**P**		**01 57 59.5**	**-0.1**
YKA	**Yellowknife Ar**	**96.35**	**24**	P		**P**		**01 58 19.9**	**+1.5**
	comp=Z,0.2nm,0.8s,baz=231,slow=3.5,SNR=5.2								
ZALV	**Zalesovo Beam**	**112.09**	**321**	PKiKP		**PKiKP**		**02 03 24.1**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=167,slow=1.3,SNR=7.2								
MKAR	**Makanchi Array**	**112.91**	**313**	PKiKP		**PKiKP**		**02 03 26.1**	**0.0**
	comp=Z,1.6nm,0.7s,baz=219,slow=0.6,SNR=24								
ARCES	**ARCESS Array B**	**129.85**	**350**	PKP		**PKiKP**		**02 03 58.9**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=3.8,slow=1.8,SNR=6.5								
GEYT	**Alibeck**	**130.60**	**302**	PKP		**PKiKP**		**02 04 01.6**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=101,slow=7.9,SNR=3.9								
FINES	**FINESS Array B**	**136.86**	**345**	PKP		**PKiKP**		**02 04 12.3**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=214,slow=0.7,SNR=4.2								
AKASG	**Malin Array Be**	**144.40**	**332**	PKP		**PKPab**		**02 04 23.7**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=39,slow=4.8,SNR=12								
BURAR	**Bucovina Array**	**148.46**	**332**	⇓P		**PKiKP**		**02 04 37.9**	**+0.4**
BRTR	**Keskin Array B**	**148.56**	**313**	PKPbc		**PKPbc**		**02 04 37.0**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=147,slow=3.5,SNR=20								
BRTR	**Keskin Array B**	**148.56**	**313**			**PKPbc**		**02 04 36.5**	**-0.1**
BIZ	**Bicaz**	**148.56**	**330**	⇑P		**PKiKP**		**02 04 37.1**	**-0.4**
GHRR		**148.57**	**328**	⇑P		**PKiKP**		**02 04 38.0**	**+0.4**
CFR	**Carcaliu**	**148.80**	**326**	⇑P		**PKiKP**		**02 04 37.7**	**-0.4**
CLL	**Collm**	**149.05**	**349**	*i* PKPbc		**PKiKP**		**02 04 38.2**	**-0.2**
	comp=Z,15nm,1.0s								
CLL				*i* PKPab		**PKPab**		**02 04 42.6**	**+0.6**
	comp=Z,17nm,1.6s								
CLL				*e*PKPab		**pPKPab**		**02 05 30.0**	**-0.4**
CLL				*e*SKPdf		**SKPdf**		**02 07 45.0**	**-3.1**
UPC	**Upice**	**149.16**	**345**	⇑*e*PKP		**PKiKP**		**02 04 39.2**	**+0.5**
MLR	**Muntele Rosu**	**149.69**	**328**	⇓P		**PKiKP**		**02 04 40.2**	**+0.1**
PRU	**Pruhonice**	**149.99**	**346**	⇑*e*PKP		**PKiKP**		**02 04 40.7**	**+0.3**
DRGR		**150.17**	**334**	⇑P		**PKPbc**		**02 04 40.0**	**-0.2**
NKC	**Novy Kostel**	**150.18**	**349**	*e*PKPAB		**PKPab**		**02 04 46.9**	**+0.2**
VYHS	**Vyhne**	**150.18**	**340**	*e*PKP		**PKPdf**		**02 04 37.0**	**+2.2**
ARR	**Arges**	**150.41**	**330**	⇑P		**PKiKP**		**02 04 42.6**	**+1.1**
MODS	**Modra-Piesok**	**150.77**	**342**	*e*PKP		**PKiKP**		**02 04 43.6**	**+1.5**
LEF	**Lefka**	**150.99**	**305**	⇑P		**PKiKP**		**02 04 43.1**	**+0.2**
KHC	**Kasperske Hory**	**151.01**	**347**	⇑*e*PKP		**PKiKP**		**02 04 42.8**	**+0.2**
GZR	**Gura Zlata**	**151.24**	**332**	⇑P		**PKiKP**		**02 04 43.4**	**+0.2**
GERES	**GERESS Array B**	**151.25**	**346**	PKPbc		**PKiKP**		**02 04 44.0**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=114,slow=3.3,SNR=7.6								
BZS	**Buzias**	**151.57**	**333**	⇑P		**PKiKP**		**02 04 44.5**	**+0.6**
HERR	**Herculane**	**151.80**	**331**	⇓P		**PKiKP**		**02 04 44.8**	**+0.5**
FRGS	**Fruska Gora**	**152.68**	**335**	⇑P		**PKiKP**		**02 04 46.9**	**+0.7**
VTS	**Vitosha**	**153.12**	**327**	⇑P		**PKiKP**		**02 04 48.2**	**+0.9**

*JMA **29** 02:02:13.5±0.2,28.08N×128.01E,h19km±3km,M3.3*
*IDC **29** 02:02:14.0±1.0,28.00N×128.04E,h0km,mb3.4/5, mb1 3.6/6,mb1mx3.4/44,mbtmp3.4/6,ML3.3/1,MS3.0/5, Ms1 3.1/5,ms1mx2.7/39, Error ellipse: s-maj=31.8km s-min=11.4km az=78.0*
ISC 29 02:02:18.7±1.4,27.92N±0.05×128.24E±0.08,h37km±2km, n20,σ1ᵠ40/22,mb3.4/5,MS2.9/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.63**	**152**	P		**Pn**		**02 02 29.9**	**-1.3**
JOKE				S		**Sn**		**02 02 41.1**	**+1.1**
JTK	**Tokunoshima**	**0.65**	**101**	P		**Pn**		**02 02 29.7**	**-1.8**
JTK				S		**Sn**		**02 02 41.5**	**+1.1**
JAMN	**Amaminishikomi**	**0.89**	**68**	P		**Pn**		**02 02 32.6**	**-2.1**
JAMN				S		**Sn**		**02 02 46.8**	**+0.4**
JYRO	**Yoronjima**	**0.91**	**168**	P		**Pn**		**02 02 33.9**	**-1.0**
JYRO				S		**Sn**		**02 02 48.2**	**+1.4**
JIH	**Iheya**	**0.91**	**195**	P		**Pn**		**02 02 32.6**	**-2.4**
JIH				S		**Sn**		**02 02 46.8**	**0.0**
JOW	**Kunigami**	**1.08**	**178**	Pg		**Pn**		**02 02 36.5**	**-0.8**
	116nm,0.3s,baz=350,slow=15,SNR=23								
JOW				LR		LR		02 02 38.9	
	comp=Z,80nm,21.4s,baz=140,slow=21								
JOW				Lg		Lg		02 02 53.2	
	81nm,0.3s,baz=143,slow=22,SNR=12								
JOW	**Kunigami**	**1.08**	**178**	P		**Pn**		**02 02 36.1**	**-1.2**
JOW				S		**Sn**		**02 02 52.8**	**+1.8**
JAM	**Amami Oshima**	**1.31**	**67**	P		**Pn**		**02 02 38.7**	**-1.7**
JAM				S		**Sn**		**02 02 57.2**	**+0.6**
JNTH	**Nagotoyohara**	**1.40**	**188**	P		**Pn**		**02 02 40.8**	**-0.9**
JNU	**Nakatsue**	**5.67**	**23**	Pn		**Pn**		**02 03 41.5**	**+1.1**
	0.8nm,0.3s,baz=172,slow=6.4,SNR=8.8								
KSRS	**Korea Array**	**9.52**	**358**	LR		LR		02 08 10.0	
	comp=Z,86nm,19.2s,baz=195,slow=38								
MJAR	**Matsushiro Arr**	**12.04**	**42**	LR		LR		02 09 43.7	
	comp=Z,47nm,20.8s,baz=225,slow=37								
KLR	**Kul'dur**	**21.45**	**6**	LR		LR		02 15 04.0	
	comp=Z,46nm,18.4s,baz=322,slow=36								
SONM	**Songino Array**	**26.16**	**325**	P		**P**		**02 07 49.3**	**-0.3**
	0.3nm,0.4s,baz=134,slow=8.3,SNR=1.4								
CMAR	**Chiang Mai Arr**	**28.46**	**257**	LR		LR		02 20 27.5	
	comp=Z,18nm,19.4s,baz=55,slow=39								
MKAR	**Makanchi Array**	**40.43**	**310**	P		**P**		**02 09 52.4**	**-1.0**
	0.6nm,0.7s,baz=106,slow=9.6,SNR=7.7								
TIXI	**Tiksi**	**43.78**	**0**	LR		LR		02 28 51.9	
	comp=Z,50nm,18.5s,baz=212,slow=37								
WRA	**Warramunga Arr**	**47.94**	**172**	P		**P**		**02 10 53.9**	**+0.2**
	0.4nm,0.6s,baz=354,slow=8.3,SNR=2.7								
ASAR	**Alice Springs**	**51.57**	**173**	P		**P**		**02 11 23.0**	**+1.7**
	0.3nm,0.6s,baz=2.2,slow=9.6,SNR=4.9								
YKA	**Yellowknife Ar**	**77.00**	**25**	P		**P**		**02 14 07.5**	**+0.1**
	0.2nm,0.9s,baz=299,slow=4.7,SNR=2.8								

IDC 29 02:07:49.6±1.9,11.08N×126.32E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.5/37,mbtmp3.7/3,MS2.8/2,Ms1 2.8/2, ms1mx2.4/47, Error ellipse: s-maj=160.6km s-min=24.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.32**	**160**	P		P		02 12 49.0	0.0
	1.8nm,0.5s,baz=338,slow=11,SNR=26								
ASAR	**Alice Springs**	**25.68**	**164**	P		P		02 13 21.6	0.0
	1.1nm,0.6s,baz=340,slow=7.0,SNR=26								
KSRS	**Korea Array**	**36.23**	**2**	LR		LR		02 29 02.2	
	comp=Z,12nm,20.7s,baz=160,slow=35								
MKAR	**Makanchi Array**	**59.50**	**326**	P		P		02 17 54.6	-0.1
	0.2nm,0.3s,baz=122,slow=7.8,SNR=8.3								
OBN	**Obninsk**	**88.98**	**325**	LR		LR		03 04 12.6	
	comp=Z,5.8nm,19.0s,baz=165,slow=38								

*ATH **29** 02:11:31.7,35.70N×26.56E,h53km±8km, ML2.8/4, Error ellipse: s-maj=9.8km s-min=1.7km az=155.0*
*ISK **29** 02:11:31.8,35.70N×26.64E,h27km, ML2.7/23*
*HLW **29** 02:11:34.5,35.29N×27.01E,h10km±11km,Md3.9*
*THE **29** 02:11:34.7,35.70N×26.57E,h29km±13km,ML2.8/7, Error ellipse: s-maj=14.1km s-min=0.6km az=79.0*
ISC 29 02:11:30.9±2.1,35.71N±0.03×26.61E±0.02,h14km±16km, n54,σ1ᵠ42/70,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.48**	**109**	P		**Pn**		**02 11 44.3**	**+0.9**
KARP				S		**Sb**		**02 11 52.6**	**+4.6**
KARP				AML		AML		02 11 54.8	
	comp=N,1801μm,0.3s								
KARP				AML		AML		02 11 55.1	
	comp=E,1987μm,0.3s								
KARP	**Karpathos**	**0.48**	**109**	P		**Pn**		**02 11 44.3**	**+0.9**
KARP				S		**Sb**		**02 11 52.7**	**+4.6**
	comp=E,930nm,0.2s								
KARP	**Karpathos**	**0.48**	**109**	PG		**Pn**		**02 11 43.0**	**-0.4**
STIA	**Sitia Lasithi**	**0.66**	**220**	P		**Pn**		**02 11 46.3**	**+0.5**
STIA				S		**Sn**		**02 11 56.2**	**+0.2**
ZKR	**Zakros**	**0.67**	**208**	P		**Pn**		**02 11 46.7**	**+0.7**
ZKR				S		**Sb**		**02 11 56.1**	**+2.5**
ZKR				AML		AML		02 11 57.8	
	comp=N,695μm,0.2s								
ZKR				AML		AML		02 11 57.8	
	comp=E,1865μm,0.2s								
ZKR	**Zakros**	**0.67**	**208**	P		**Pn**		**02 11 46.8**	**+0.8**
ZKR				S		**Sn**		**02 11 56.8**	**+0.4**
	comp=E,645nm,0.1s								
ZKR	**Zakros**	**0.67**	**208**	PG		**Pn**		**02 11 46.5**	**+0.5**
ZKR				SG		**Sn**		**02 11 56.4**	**0.0**
NPS	**Neapolis**	**0.92**	**242**	P		**Pb**		**02 11 49.5**	**+0.8**
NPS				S		**Sb**		**02 12 01.5**	**+0.6**
NPS				AML		AML		02 12 02.1	
	comp=E,1185μm,0.2s								
NPS				AML		AML		02 12 02.2	
	comp=N,1037μm,0.2s								
NPS	**Neapolis**	**0.92**	**242**	P		**Pb**		**02 11 49.5**	**+0.8**
NPS				S		**Sb**		**02 12 02.0**	**+1.1**
	comp=N,560nm,0.2s								
NISR	**Nisiros**	**1.00**	**25**	P		**Pn**		**02 11 51.5**	**+1.0**
NIS1	**Nisyros Isl.**	**1.01**	**27**	PG		**Pn**		**02 11 50.4**	**-0.3**
KOSK	**Kos Island**	**1.08**	**16**	PN		**Pn**		**02 11 51.6**	**-0.1**
SANT	**Santorini**	**1.14**	**306**	P		**Pn**		**02 11 53.3**	**+0.7**
SANT				AML		AML		02 12 08.7	
	comp=N,383μm,0.2s								
SANT				AML		AML		02 12 09.7	
	comp=E,1646μm,0.1s								
SANT	**Santorini**	**1.14**	**306**	P		**Pn**		**02 11 53.6**	**+1.0**
SANT				S		**Sb**		**02 12 08.5**	**+1.3**
	comp=E,518nm,0.2s								
SANT	**Santorini**	**1.14**	**306**	PN		**Pb**		**02 11 52.8**	**+0.3**
SANT				SN		**Sb**		**02 12 08.1**	**+0.9**
THR8	**Santorini-Mono**	**1.15**	**308**	P		**Pn**		**02 11 53.2**	**+0.6**
THR6	**Thira Island,**	**1.18**	**304**	P		**Pn**		**02 11 54.0**	**+1.0**
SNT1	**Gialos, Santor**	**1.19**	**307**	P		**Pn**		**02 11 54.1**	**+1.0**
SFIR	**Foira Santorin**	**1.19**	**307**	P		**Pn**		**02 11 54.3**	**+1.1**
THR7	**Fira-Santorini**	**1.19**	**307**	P		**Pn**		**02 11 53.9**	**+0.7**
THR3	**Thira Island,**	**1.20**	**306**	P		**Pn**		**02 11 54.4**	**+1.1**
SNT5	**Nea Kammeni, S**	**1.20**	**306**	P		**Pn**		**02 11 54.4**	**+1.1**
SNT5				S		**Sb**		**02 12 10.5**	**+1.6**
	comp=E,560nm,0.1s								
THT2	**Imerovigli**	**1.20**	**307**	PN		**Pb**		**02 11 53.8**	**+0.3**
THT2				SN		**Sg**		**02 12 09.5**	**-0.3**
THR5	**Thira Island,**	**1.24**	**305**	P		**Pn**		**02 11 55.0**	**+1.1**
ARG	**Arkhangelos**	**1.33**	**67**	P		**Pn**		**02 11 56.3**	**+1.1**
ARG	**Arkhangelos**	**1.33**	**67**	PN		**Pn**		**02 11 54.9**	**-0.2**
ARG				SN		**Sb**		**02 12 11.6**	**-1.1**
IDI	**Anoyia**	**1.46**	**254**	P		**Pn**		**02 11 56.8**	**-0.2**
IDI	**Anoyia**	**1.46**	**254**	P		**Pn**		**02 11 56.8**	**-0.2**
IDI				S		**Sb**		**02 12 15.9**	**-0.5**
	comp=E,78nm,0.2s								
IDI	**Anoyia**	**1.46**	**254**	PN		**Pn**		**02 11 56.7**	**-0.3**
BODT	**Bodrum**	**1.47**	**23**	PN		**Pn**		**02 11 56.9**	**-0.1**
APE	**Apeiranthos**	**1.61**	**328**	P		**Pn**		**02 12 00.0**	**+1.0**
APE				S		**Sn**		**02 12 20.1**	**+0.4**
	comp=E,375nm,0.2s								
APE	**Apeiranthos**	**1.61**	**328**	PN		**Pn**		**02 11 59.4**	**+0.4**
APE				SN		**Sn**		**02 12 19.5**	**-0.2**
TURN	**Turunc**	**1.70**	**51**	PN		**Pn**		**02 12 00.2**	**0.0**
TURN				SN		**Sn**		**02 12 20.7**	**-1.0**
MLSB	**Milas**	**1.84**	**30**	PN		**Pn**		**02 12 02.4**	**+0.2**
YER	**Yerkesik**	**1.96**	**43**	PN		**Pn**		**02 12 03.9**	**0.0**
VAM	**Vamos**	**1.98**	**262**	P		**Pn**		**02 12 04.2**	**+0.1**
DALY	**Dalyan (Mula)**	**1.99**	**56**	PN		**Pn**		**02 12 04.4**	**+0.2**
GCAM	**G?zelcaml?**	**2.05**	**14**	PN		**Pn**		**02 12 05.7**	**+0.7**
IMMV	**Iera Moni Meta**	**2.15**	**264**	PN		**Pn**		**02 12 06.9**	**+0.5**
FETY	**Fethiye**	**2.21**	**64**	PN		**Pn**		**02 12 06.6**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**2.46**	**24**	PN		**Pn**		**02 12 11.4**	**+0.6**
AKAS	**Kas**	**2.49**	**77**	PN		**Pn**		**02 12 10.1**	**-1.1**
URLA	**Izmir**	**2.65**	**360**	PN		**Pn**		**02 12 13.2**	**-0.1**
BLCB	**Balcova**	**2.70**	**7**	PN		**Pn**		**02 12 14.6**	**+0.7**
CHOS	**Chios island**	**2.71**	**351**	PN		**Pn**		**02 12

JEW					Sn		**Sn**	**02 26 36.2**	**+1.9**
JISS	**Ishikarishitsu**	**0.55**	**296**	⇓	P		**Pn**	**02 26 19.6**	**+1.4**
JISS					eS		**Sn**	**02 26 35.9**	**+1.2**
JHR	**Hokuryu**	**0.76**	**339**	⇓	P		**Pn**	**02 26 21.0**	**+1.5**
JHR					eS		**Sn**	**02 26 38.6**	**+1.6**
JNBK	**Urakawa-nobuka**	**0.90**	**147**	⇑	P		**Pn**	**02 26 22.2**	**+1.6**
JKK2	**Kamakawa 2**	**0.96**	**29**	⇓	P		**Pn**	**02 26 22.3**	**+1.2**
JKK2					eS		**Sn**	**02 26 41.0**	**+1.2**
JCH	**Churui**	**1.02**	**114**	⇑	P		**Pn**	**02 26 21.7**	**+0.1**
JCH					eS		**Sn**	**02 26 39.8**	**-0.7**
ASAJ	**Asahikawa**	**1.14**	**18**		P		**Pn**	**02 26 23.7**	**+1.1**
	12nm,0.3s,baz=220,slow=10,SNR=123								
ASAJ					S		**Sn**	**02 26 43.1**	**+0.6**
	10nm,0.3s,baz=17,slow=28,SNR=33								
JKA	**Kamikawa-asahi**	**1.14**	**18**				**Pn**	**02 26 23.6**	**+1.1**
JKA	**Kamikawa-asahi**	**1.14**	**18**	*i*	P		**Pn**	**02 26 23.7**	**+1.1**
JKA					eS		**Sn**	**02 26 43.1**	**+0.6**
JSK	**Shakotan**	**1.23**	**285**		P		**Pn**	**02 26 24.3**	**+0.9**
JAR	**Ashorobuto**	**1.25**	**77**	⇓	P		**Pn**	**02 26 24.7**	**+1.1**
JAR					eS		**Sn**	**02 26 45.2**	**+0.9**
JEM	**Erimo**	**1.28**	**142**				**Pn**	**02 26 25.3**	**+1.3**
ERM	**Erimo**	**1.29**	**142**		PN		**Pn**	**02 26 25.4**	**+1.4**
ERM	**Erimo**	**1.29**	**142**				**Pn**	**02 26 25.4**	**+1.4**
JKB	**Kayabe**	**1.40**	**215**	⇑	P		**Pn**	**02 26 25.7**	**+0.6**
JKB					eS		**Sn**	**02 26 46.6**	**-0.2**
JTKR	**Abashiri--Toko**	**1.61**	**54**	⇓	P		**Pn**	**02 26 28.8**	**+1.5**
JTKR					eS		**Sn**	**02 26 52.5**	**+1.6**
JOT	**Ohata**	**1.83**	**206**	⇑	P		**Pn**	**02 26 30.3**	**+0.5**
JOT					eS		**Sn**	**02 26 55.0**	**-0.2**
JAK	**Akkeshi**	**1.90**	**90**	⇓	P		**Pn**	**02 26 30.8**	**+0.2**
JAK					eS		**Sn**	**02 26 56.1**	**-0.6**
JSE	**Soyaes**	**1.95**	**10**	⇑	P		**Pn**	**02 26 32.3**	**+1.1**
JSE					eS		**Sn**	**02 26 59.2**	**+1.5**
JOSM	**Okushiri--Mats**	**2.16**	**245**		P		**Pn**	**02 26 34.3**	**+0.6**
JOMM	**Oshimamatsumae**	**2.17**	**227**		P		**Pn**	**02 26 34.7**	**+1.0**
JWK2	**Keihoku**	**2.28**	**356**	⇑	P		**Pn**	**02 26 36.7**	**+1.6**
JTM	**Tenmabayashi**	**2.38**	**199**				**Pn**	**02 26 36.0**	**-0.3**
RUSJ	**Misakicho**	**2.52**	**64**	*e*	PN		**Pn**	**02 26 39.8**	**+1.8**
NMR	**Nemuro--Hokkai**	**2.67**	**82**	⇓	*i* PN		**Pn**	**02 26 39.8**	**-0.1**
NMR					*i* S		**Sn**	**02 27 11.1**	**-2.1**
NMR	**Nemuro--Hokkai**	**2.67**	**82**	*i*	P		**Pn**	**02 26 39.7**	**-0.1**
NMR					*i* S		**Sn**	**02 27 11.7**	**-1.5**
GRPR	**Tuman**	**2.84**	**69**	*d i*	PN		**Pn**	**02 26 43.2**	**+1.3**
GRPR					*i* S		**Sn**	**02 27 19.2**	**+2.4**
GRPR					pmax	pmax			
	comp=E,50nm,0.3s								
GRPR					pmax	pmax			
	comp=Z,419nm,0.3s								
GRPR					pmax	pmax			
	comp=N,65nm,0.2s								
GRPR					smax	smax			
	comp=E,225nm,0.1s								
GRPR					smax	smax			
	comp=N,338nm,0.4s								
GRPR	**Tuman**	**2.84**	**69**	*i*	P		**Pn**	**02 26 43.2**	**+1.3**
GRPR					AMB	AMB	02 26 43.7		
	comp=N,400nm,0.3s								
GRPR				*i*	S		**Sn**	**02 27 19.2**	**+2.4**
GRPR					A	A	02 27 21.0		
	comp=N,340nm,0.4s								
GRPR					A	A	02 27 21.0		
	comp=N,230nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**2.91**	**69**	*d i*	PN		**Pn**	**02 26 44.0**	**+1.2**
YUK				*i*	S		**Sn**	**02 27 20.1**	**+1.6**
YUK					pmax	pmax			
	comp=E,83nm,0.3s								
YUK					pmax	pmax			
	comp=Z,740nm,0.3s								
YUK					pmax	pmax			
	comp=N,42nm,0.2s								
YUK					pmax	pmax			
	comp=Z,544nm,1.3s								
YUK					smax	smax			
	comp=N,202nm,0.7s								
YUK					smax	smax			
	comp=E,554nm,1.1s								
YUK					smax	smax			
	comp=E,298nm,0.3s								
YUK					smax	smax			
	comp=N,100nm,0.1s								
YUK	**Yuzh-Kuril'sk**	**2.91**	**69**	*i*	P		**Pn**	**02 26 44.0**	**+1.2**
YUK					AMB	AMB	02 26 44.8		
	comp=N,80nm,0.2s								
YUK					AMB	AMB	02 26 49.4		
	comp=N,540nm,1.0s								
YUK				*i*	S		**Sn**	**02 27 20.1**	**+1.6**
YUK					A	A	02 27 21.5		
	comp=N,200nm,1.0s								
YUK					A	A	02 27 21.5		
	comp=N,550nm,1.0s								
YUK					A	A	02 27 23.0		
	comp=N,100nm,0.3s								
YUK					A	A	02 27 23.0		
	comp=N,300nm,0.3s								
YSS	**Yuzh-Sakhalins**	**3.94**	**7**	⇑ *i*	PN		**Pn**	**02 26 57.4**	**+1.3**
YSS					eS		**Sn**	**02 27 42.8**	**+0.5**
YSS					pmax	pmax			
	comp=Z,270nm,0.6s								
YSS					smax	smax			
	comp=E,40nm,1.2s								
YSS	**Yuzh-Sakhalins**	**3.94**	**7**		Pn		**Pn**	**02 26 57.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**3.94**	**7**	*i*	P		**Pn**	**02 26 57.4**	**+1.3**
YSS					AMB	AMB	02 26 58.1		
	comp=E,190nm,1.0s								
YSS					eS		**Sn**	**02 27 42.8**	**+0.5**
YSS					A	A	02 27 46.0		
	comp=E,40nm,0.9s								
TEY	**Ternei**	**4.44**	**299**	⇑ *i*	PN		**Pn**	**02 27 02.8**	**+0.2**
TEY					pmax	pmax			
	comp=Z,60nm,0.8s								
TEY					pmax	pmax			
	comp=N,40nm,0.7s								
TEY					pmax	pmax			
	comp=E,50nm,0.7s								
TEY	**Ternei**	**4.44**	**299**	*i*	P		**Pn**	**02 27 02.8**	**+0.2**
TEY					AMB	AMB	02 27 03.6		
	comp=E,40nm,0.8s								
TEY					AMB	AMB	02 27 03.6		
	comp=E,50nm,0.8s								
TEY					AMB	AMB	02 27 03.6		
	comp=E,60nm,0.8s								
KUR	**Kuril'sk**	**4.69**	**60**	*e*	P		**Pn**	**02 27 07.2**	**+1.3**
KUR					AMB	AMB	02 27 08.6		
	comp=E,50nm,0.4s								
JMM	**Marumori**	**5.26**	**191**		Pn		**Pn**	**02 27 12.7**	**-0.8**
JYT	**Yasato**	**6.96**	**193**		Pn		**Pn**	**02 27 33.4**	**-2.8**
MAJO	**Matsushiro**	**7.14**	**206**		PN		**Pn**	**02 27 38.3**	**-0.4**
MAJO	**Matsushiro**	**7.14**	**206**		Pn		**Pn**	**02 27 38.3**	**-0.4**
MAT	**Matsushiro**	**7.14**	**206**		P		**Pn**	**02 27 38.5**	**-0.2**
MAT					eS		**Sn**	**02 28 59.9**	**+1.2**
MJAR	**Matsushiro Arr**	**7.14**	**206**		P		**Pn**	**02 27 40.0**	**+1.3**
	comp=E,0.4nm,0.3s,baz=25,slow=13,SNR=20								
MJAR	**Matsushiro Arr**	**7.14**	**206**				**Pn**	**02 27 38.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**7.43**	**282**		P		**Pn**	**02 27 43.9**	**+1.5**
	baz=88,slow=14,SNR=7.5								
USRK	**Ussuriysk Ar.**	**7.43**	**282**		Pn		**Pn**	**02 27 42.1**	**-0.2**
TYV	**Tymovskoe**	**7.84**	**3**	*e*	P		**Pn**	**02 27 49.4**	**+1.7**
TYV					AMB	AMB	02 27 50.8		
	comp=E,30nm,0.7s								
NKL	**Nikolayevsk**	**10.16**	**355**	*e*	P		**Pn**	**02 28 20.1**	**+1.5**
NKL					AMB	AMB	02 28 21.7		
	comp=E,20nm,0.8s								
KS19	**Wonju Array Si**	**12.19**	**248**		Pn		**Pn**	**02 28 45.8**	**+0.4**
KSAR	**Wonju Array Be**	**12.21**	**248**		PN		**Pn**	**02 28 46.1**	**+0.5**
KSAR	**Wonju Array Be**	**12.21**	**248**		Pn		**Pn**	**02 28 46.1**	**+0.5**
MA2	**Magadan**	**17.40**	**15**		P		**P**	**02 29 49.0**	**0.0**
	comp=E,0.5nm,0.3s,baz=201,slow=12,SNR=12								
MA2	**Magadan**	**17.40**	**15**		P		**P**	**02 29 50.0**	**+1.0**
MA2					pmax	pmax			
	comp=Z,10.0nm,0.8s								
MA2	**Magadan**	**17.40**	**15**		P		**P**	**02 29 50.0**	**+1.0**
MA2					IAmb	IAmb	02 29 52.0		
	comp=Z,10nm,0.8s								
YAK	**Yakutsk**	**20.40**	**343**		P		**P**	**02 30 20.8**	**-0.7**
	comp=Z,6.2nm,0.3s,baz=135,slow=3.8,SNR=4.7								
YAK	**Yakutsk**	**20.40**	**343**		*e*P		**P**	**02 30 19.6**	**-1.9**
YAK					*e**PP		**pP**	**02 30 42.6**	**-5.3**
YAK					*e*S		**S**	**02 33 59.5**	**-2.0**
YAK					*e*			02 34 27.2	
YAK					*e**SS		**sS**	**02 34 42.5**	**-3.4**
YAK					*e*			02 41 27.6	
YAK					pmax	pmax			
	comp=Z,12nm,0.8s								
YAK					pmax	pmax			
	comp=N,4.0nm,0.9s								
YAK					pmax	pmax			
	comp=E,2.0nm,0.9s								
YAK					smax	smax			
	comp=E,31nm,2.7s								
SEY	**Seymchan**	**20.82**	**13**		P		**P**	**02 30 25.1**	**-0.8**
	comp=E,7.8nm,0.3s,baz=205,slow=10,SNR=73								
HHC	**Hu-ho-hao-te**	**22.76**	**275**	*e*	P		**P**	**02 30 45.5**	**-0.7**
HHC					pmax	pmax			
	comp=Z,18nm,0.9s								
HHC					pmax	pmax			
	comp=Z,54nm,7.4s								
SONM	**Songino Array**	**25.36**	**293**		P		**P**	**02 31 10.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=93,slow=8.6,SNR=6.7								
SONM	**Songino Array**	**25.36**	**293**		IAmb	IAmb	02 31 11.4		
	comp=Z,1.2nm,1.0s								
LZH	**Lanzhou**	**30.10**	**270**	*e*	P		P	02 31 58.8	+6.6
LZH					pP		pP	02 32 29.3	+5.3
LZH					sP		sP	02 32 47.5	+6.2
LZH					pmax	pmax			
	comp=Z,18nm,1.1s								
ZAA0	**Zalesovo Array**	**38.49**	**307**		P		**P**	**02 33 04.4**	**+0.5**
ZAA0					IAmb	IAmb	02 33 06.2		
	comp=Z,2.7nm,0.8s								
ZALV	**Zalesovo Beam**	**38.49**	**307**		P		**P**	**02 33 04.7**	**+0.9**
	comp=Z,3.6nm,0.7s,baz=81,slow=8.3,SNR=13								
ZALV	**Zalesovo Beam**	**38.49**	**307**		P		**P**	**02 33 04.5**	**+0.7**
WMQ	**Urumqi**	**38.91**	**290**	*e*	P		**P**	**02 33 08.8**	**+1.1**
MK31	**Makanchi Array**	**41.63**	**297**		P		**P**	**02 33 30.6**	**+0.7**
MK31					pmax	pmax			
	comp=Z,2.0nm,0.9s								
MK31	**Makanchi Array**	**41.63**	**297**		P		**P**	**02 33 30.6**	**+0.7**
MK31					IAmb	IAmb	02 33 34.3		
	comp=Z,2.3nm,0.8s								
MKAR	**Makanchi Array**	**41.63**	**297**		P		**P**	**02 33 30.7**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=81,slow=9.4,SNR=28								
MKAR	**Makanchi Array**	**41.63**	**297**		P		**P**	**02 33 30.2**	**+0.3**
MAKZ	**Makanchi**	**41.83**	**297**		P		**P**	**02 33 31.7**	**+0.2**
MAKZ					pmax	pmax			
	comp=Z,3.0nm,0.8s								
MAKZ	**Makanchi**	**41.83**	**297**		P		**P**	**02 33 31.7**	**+0.2**
MAKZ					IAmb	IAmb	02 33 33.2		
	comp=Z,3.0nm,0.8s								
KURK	**Kurchatov**	**42.86**	**303**		P		**P**	**02 33 41.1**	**+1.4**
KURK	**Kurchatov**	**42.86**	**303**		P		**P**	**02 33 41.1**	**+1.4**
KURK	**Kurchatov**	**42.86**	**303**	*e*	P		**P**	**02 33 41.1**	**+1.4**
KURBB	**Kurchatov Arra**	**42.94**	**303**		P		**P**	**02 33 41.1**	**+0.8**
	comp=Z,4.9nm,0.6s,baz=72,slow=8.8,SNR=28								
ILAR	**Eielson Array**	**44.22**	**36**		P		**P**	**02 33 51.1**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=260,slow=6.3,SNR=7.4								
INK	**Inuvik**	**48.85**	**29**		P		**P**	**02 34 27.1**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=290,slow=6.7,SNR=11								
KK31	**Karatay Array**	**50.76**	**296**		P		**P**	**02 34 41.2**	**0.0**
KK31					pmax	pmax			
	comp=Z,1.0nm,0.7s								
KK31	**Karatay Array**	**50.76**	**296**		P		**P**	**02 34 41.2**	**0.0**
KKAR	**Karatay Array**	**50.76**	**296**		P		**P**	**02 34 41.2**	**0.0**
KKAR	**Karatay Array**	**50.76**	**296**		P		**P**	**02 34 41.2**	**0.0**
ARU	**Arti**	**52.32**	**316**		P		**P**	**02 34 52.6**	**+0.1**
ARU					pmax	pmax			
	comp=Z,5.0nm,1.0s								
ARU	**Arti**	**52.32**	**316**		P		**P**	**02 34 52.6**	**+0.1**
ARU					IAmb	IAmb	02 34 55.4		
	comp=Z,4.9nm,1.0s								
ARU	**Arti**	**52.32**	**316**	*e*	P		**P**	**02 34 52.6**	**+0.1**
ABKAR	**Akbulak array**	**54.60**	**307**		P		**P**	**02 35 09.9**	**+0.7**
RES	**Resolute Bay**	**56.67**	**15**		P		**P**	**02 35 23.8**	**+0.2**
RES					pmax	pmax			
	comp=Z,7.0nm,0.5s								
RES	**Resolute Bay**	**56.67**	**15**		P		**P**	**02 35 23.8**	**+0.2**
YKA	**Yellowknife Ar**	**58.40**	**32**		P		**P**	**02 35 36.5**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=310,slow=6.1,SNR=16								
ARCES	**ARCESS Array B**	**58.59**	**338**		P		**P**	**02 35 37.4**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=55,slow=7.8,SNR=6.7								
ARCES	**ARCESS Array B**	**58.59**	**338**		IAmb	IAmb	02 35 46.8		
	comp=Z,13nm,1.4s								
FINES	**FINESS Array B**	**63.78**	**331**		P		**P**	**02 36 12.3**	**+0.2**
	comp=Z,2.6nm,0.5s,baz=55,slow=7.3,SNR=36								
NB2	**NORSAR Subarra**	**68.87**	**337**		P		**P**	**02 36 44.8**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=35,slow=6.5								
NOA	**NORSAR Array B**	**68.87**	**337**		P		**P**	**02 36 44.8**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=30,slow=5.1,SNR=5.3								
AKASG	**Malin Array Be**	**69.91**	**321**		P		**P**	**02 36 51.3**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=45,slow=5.8,SNR=4.5								
AKASG	**Malin Array Be**	**69.91**	**321**		IAmb	IAmb	02 36 56.4		
	comp=Z,2.0nm,1.4s								

JMA ***29*** *02:41:54.9±0.3, 22.89N×122.82E, h51km, M2.5*
TAP ***29*** *02:41:55.9, 22.83N×122.69E, h90km±1km, ML2.9, D*
ISC 29 02:41:51.3±1.6, 22.88N±0.05×122.82E±0.04, h8km±11km, n33, σ1s22/57, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**1.26**	**261**	*e*P	**Pg**	**02 42 16.8**	**+1.2**
	baz=262						
LDUT				*e*S	**Sg**	**02 42 30.8**	**-1.1**
	baz=262						
CHKT	**Chengkung**	**1.36**	**280**	*e*P	**Pn**	**02 42 17.5**	**+0.9**
	baz=284						
CHKT				*e*S	**Sg**	**02 42 32.8**	**-2.3**
	baz=284						
EDH	**Donghe**	**1.40**	**274**	*e*P	**Pn**	**02 42 18.7**	**+1.5**
	baz=273						
EDH				*e*S	**Sg**	**02 42 35.6**	**-0.8**
	baz=273						
HGSD	**Ruisui**	**1.42**	**296**	*e*P	**Pn**	**02 42 19.6**	**+2.1**
	baz=300						
HGSD				*e*S	**Sb**	**02 42 35.9**	**-0.6**
	baz=300						
LAY	**Lan-yu**	**1.44**	**235**	P	**Pn**	**02 42 18.8**	**+1.0**
	baz=239						
LAY				*i* S	**Sg**	**02 42 36.1**	**-1.5**
	baz=239						
FULB	**Fuli**	**1.44**	**283**	*e*P	**Pn**	**02 42 18.2**	**+0.4**
	baz=291						
FULB				*e*S	**Sb**	**02 42 35.1**	**-2.0**
	baz=291						
EYUL	**Yuli**	**1.46**	**289**	*e*P	**Pn**	**02 42 19.0**	**+0.9**
	baz=288						
EYUL				*e*S	**Sb**	**02 42 37.3**	**-0.2**
	baz=288						
TWF1	**Yuli**	**1.48**	**289**	*e*P	**Pn**	**02 42 19.0**	**+0.6**
	baz=288						
TWF1				*e*S	**Sb**	**02 42 36.8**	**-1.4**
	baz=288						
HATJ	**Hateruma jima**	**1.48**	**37**	P	**Pn**	**02 42 19.4**	**+1.1**
HATJ				*e*S	**Sb**	**02 42 37.1**	**-1.1**
YULB	**Yu-li**	**1.49**	**290**	*e*P	**Pn**	**02 42 19.9**	**+1.4**
	baz=290						
YULB				*e*S	**Sn**	**02 42 37.3**	**-1.0**
	baz=290						
EHY	**Hungye**	**1.52**	**295**	*e*P	**Pn**	**02 42 20.2**	**+1.4**
	baz=299						
EHY				S	**Sn**	**02 42 39.1**	**+0.3**
	baz=299						
LONT	**Longtian**	**1.56**	**271**	*e*P	**Pn**	**02 42 20.8**	**+1.4**
	baz=271						
LONT				*e*S	**Sn**	**02 42 39.6**	**-0.2**
	baz=271						
JYNG	**Yonagunijimaku**	**1.57**	**4**	P	**Pn**	**02 42 21.3**	**+1.7**
ESL	**Shilin**	**1.58**	**306**	*e*S	**Sn**	**02 42 41.2**	**+0.8**
	baz=315						
YOJ	**Yonaguni jima**	**1.59**	**6**	P	**Pn**	**02 42 22.0**	**+2.2**
TWGBT	**Beinan**	**1.61**	**268**	*e*P	**Pn**	**02 42 21.4**	**+1.3**
	baz=268						
TWGBT				*e*S	**Sn**	**02 42 40.9**	**-0.1**
	baz=268						
TWG	**Pinlang**	**1.61**	**268**	P	**Pn**	**02 42 21.9**	**+1.8**
	baz=268						
TWG				S	**Sn**	**02 42 40.2**	**-0.9**
	baz=268						
TWD	**Chiawan**	**1.64**	**317**	*e*P	**Pn**	**02 42 22.1**	**+1.5**
	baz=322						
TWD				*e*S	**Sn**	**02 42 41.8**	**-0.1**
	baz=322						
IRIF	**Iriomote-Funau**	**1.68**	**30**	P	**Pn**	**02 42 22.5**	**+1.5**
IRIF				*e*S	**Sn**	**02 42 42.3**	**-0.4**
ELDTW	**Lidau**	**1.69**	**281**	*e*P	**Pn**	**02 42 22.3**	**+1.0**
	baz=290						
ELDTW				*e*S	**Sn**	**02 42 42.6**	**-0.7**
	baz=290						
JKRS	**Kuro-shima**	**1.74**	**39**	P	**Pn**	**02 42 23.4**	**+1.5**
JKRS				*e*S	**Sn**	**02 42 43.3**	**-1.0**
ECL	**Taimali**	**1.75**	**261**	*e*P	**Pn**	**02 42 23.0**	**+1.0**
	baz=261						
ECL				*e*S	**Sn**	**02 42 43.6**	**-0.8**
	baz=261						
YUS	**Yu-Shan**	**1.82**	**290**	*e*S	**Sn**	**02 42 47.0**	**-0.1**
	baz=289						
EAST	**Anshuo**	**1.89**	**255**	P	**Pn**	**02 42 25.5**	**+1.6**
	baz=261						
EAST				*e*S	**Sn**	**02 42 47.1**	**-0.9**
	baz=261						
STYH	**Taoyuan**	**1.91**	**279**	*e*S	**Sn**	**02 42 48.1**	**-0.3**
	baz=281						
JIJ	**Ishigaki jima**	**1.91**	**39**	P	**Pn**	**02 42 25.6**	**+1.3**
JIJ				*e*S	**Sn**	**02 42 47.0**	**-1.6**
STYT	**Tauyuan**	**1.92**	**279**	*e*P	**Pn**	**02 42 26.3**	**+1.9**
	baz=280						
STYT				*e*S	**Sn**	**02 42 49.0**	**+0.1**
	baz=280						
SLIU	**Shizi**	**1.98**	**251**	*e*P	**Pn**	**02 42 26.8**	**+1.6**
	baz=242						
SLIU				*e*S	**Sn**	**02 42 49.9**	**-0.3**
	baz=242						
TSMG	**Majia**	**2.02**	**266**	*e*S	**Sn**	**02 42 50.5**	**-0.6**
	baz=266						
TSEB	**Hengchuen, Pin**	**2.02**	**242**	*e*S	**Sn**	**02 42 51.9**	**+0.5**
	baz=248						
MASBT	**Mashibuluo**	**2.04**	**263**	*e*S	**Sn**	**02 42 51.0**	**-0.7**
	baz=262						
TWKBT	**Hengchun**	**2.08**	**244**	*e*S	**Sn**	**02 42 52.4**	**-0.3**
	baz=243						
JISG	**Ishigakijimahi**	**2.18**	**38**	P	**Pn**	**02 42 29.1**	**+1.1**
JISG				*e*S	**Sn**	**02 42 53.9**	**-1.3**

TAP ***29*** *02:42:17.9, 24.86N×121.98E, h8km, ML2.8, B*
JMA ***29*** *02:42:19.0, 24.83N×121.95E, h20km*
ISC 29 02:42:18.5±0.9, 24.86N±0.02×121.98E±0.03, h13km±5km, n56, σ0s59/93, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.14**	**269**	*e*P	**Pg**	**02 42 21.9**	**-0.2**
	baz=266						
NTC				*e*S	**Sg**	**02 42 24.3**	**-0.2**
	baz=266						
TWB1	**Santiao Chiao**	**0.15**	**2**	*i* P	**Pg**	**02 42 22.2**	**0.0**
	baz=5.0						
TWB1				*i* S	**Sg**	**02 42 24.5**	**-0.2**
	baz=5.0						
TIPB	**Shuangxi**	**0.18**	**309**	P	**Pg**	**02 42 22.8**	**0.0**
	baz=307						
TIPB				S	**Sg**	**02 42 25.8**	**+0.1**
	baz=307						
ILA	**Ilan**	**0.23**	**247**	*e*P	**Pg**	**02 42 23.9**	**+0.4**
	baz=244						
ILA				*e*S	**Sg**	**02 42 27.9**	**+1.0**
	baz=244						
TWC	**Suao**	**0.28**	**206**	P	**Pg**	**02 42 23.4**	**-0.9**
	baz=203						
TWC				S	**Sb**	**02 42 29.3**	**-0.5**
	baz=203						
NWF	**Wu-fen Shan**	**0.28**	**319**	*e*S	**Sb**	**02 42 29.8**	**-0.3**
	baz=318						
WFSB	**Wu-fen Shan**	**0.28**	**319**	*e*P	**Pb**	**02 42 24.6**	**-0.7**
	baz=318						
WFSB				*e*S	**Sb**	**02 42 29.7**	**-0.3**
	baz=318						
TWE	**Neicheng**	**0.32**	**245**	P	**Pg**	**02 42 24.6**	**-0.4**
	baz=242						
TWE				*e*S	**Sb**	**02 42 29.9**	**-1.1**
	baz=242						
NDS	**Dongshan**	**0.33**	**228**	*e*P	**Pg**	**02 42 24.6**	**-0.6**
	baz=226						
NDS				S	**Sb**	**02 42 31.4**	**0.0**
	baz=226						
TNOU	**National Taiwa**	**0.35**	**327**	P	**Pb**	**02 42 26.1**	**-0.4**
	baz=325						
TNOU				S	**Sb**	**02 42 31.3**	**-0.6**
	baz=325						
TWA	**Mucha**	**0.38**	**289**	P	**Pg**	**02 42 26.1**	**-0.1**
	baz=288						
TWA				S	**Sb**	**02 42 32.4**	**-0.6**
	baz=288						
ENTT	**Nioudou**	**0.44**	**240**	*e*P	**Pg**	**02 42 26.6**	**-0.6**
	baz=238						
ENTT				*e*S	**Sb**	**02 42 35.7**	**+1.3**
	baz=238						
EWUT	**Wuta**	**0.45**	**204**	*e*P	**Pb**	**02 42 27.7**	**-0.5**
	baz=204						
TATO	**Taipei**	**0.47**	**285**	*e*P	**Pb**	**02 42 28.4**	**-0.1**
	baz=284						
TATO				*e*S	**Sg**	**02 42 34.1**	**+0.1**
	baz=284						
TAP	**Taipei**	**0.47**	**293**	*e*P	**Pb**	**02 42 28.9**	**+0.3**
	baz=292						
TAP				S	**Sb**	**02 42 35.1**	**-0.3**
	baz=292						
YM01	**YM01**	**0.47**	**308**	P	**Pg**	**02 42 27.5**	**-0.4**
	baz=307						
YM01				S	**Sg**	**02 42 34.3**	**+0.1**
	baz=307						
ENA	**Nanau**	**0.48**	**207**	*e*P	**Pb**	**02 42 29.3**	**+0.5**
	baz=206						
YM11	**YM11**	**0.48**	**310**	*e*P	**Pb**	**02 42 29.4**	**+0.6**
	baz=309						
YM11				*e*S	**Sb**	**02 42 36.4**	**+0.5**
	baz=309						
YM10	**YM10**	**0.48**	**308**	P	**Pg**	**02 42 28.8**	**-0.1**
	baz=307						
YM10				S	**Sb**	**02 42 35.6**	**-0.3**
	baz=307						
YM08	**YM08**	**0.49**	**313**	*e*P	**Pb**	**02 42 28.4**	**-0.5**
	baz=312						
YM08				*e*S	**Sb**	**02 42 35.1**	**-0.8**
	baz=312						
YM05	**YM05**	**0.49**	**309**	*e*P	**

PCYT	**Pengchaiyu**	**0.77**	**6**	*eP*		**Pb**	**02 42 33.8**	**0.0**
	baz=6.0								
PCYT				*eS*		**Sb**	**02 42 44.9**	**+0.7**
	baz=6.0								
NJD	**Zhudong**	**0.82**	**262**	*eS*		**Sn**	**02 42 47.0**	**-0.8**
	baz=261								
TWD	**Chiawan**	**0.85**	**205**	*eP*		**Pn**	**02 42 35.9**	**-0.2**
	baz=203								
NHW	**Xinwu Township**	**0.86**	**280**	*eP*		**Pn**	**02 42 36.6**	**+0.4**
	baz=279								
NHW				*eS*		**Sn**	**02 42 49.3**	**+0.6**
	baz=279								
HSN1	**Hsinchu**	**0.88**	**265**	*eS*		**Sn**	**02 42 48.6**	**-0.5**
	baz=264								
FUSS	**Fushou**	**0.91**	**228**	*eS*		**Sn**	**02 42 50.6**	**+0.4**
	baz=227								
SBCB	**Hsinchu**	**0.91**	**266**	*eS*		**Sn**	**02 42 49.2**	**-0.7**
	baz=265								
NSTT	**Nanjuang**	**0.92**	**256**	*eP*		**Pn**	**02 42 36.5**	**-0.6**
	baz=255								
NSTT				*eS*		**Sn**	**02 42 49.7**	**-0.5**
	baz=255								
HSN	**Hsinchu**	**0.92**	**267**	*eS*		**Sb**	**02 42 48.8**	**+0.3**
	baz=267								
TWT	**Tachien**	**0.95**	**231**	*eP*		**Pn**	**02 42 37.5**	**-0.1**
	baz=230								
TWT				*eS*		**Sn**	**02 42 51.6**	**+0.5**
	baz=230								
TDCB	**Techi**	**0.96**	**231**	*eP*		**Pg**	**02 42 36.5**	**-0.6**
	baz=230								
TDCB				*eS*		**Sn**	**02 42 52.6**	**+1.3**
	baz=230								
JYNG	**Yonagunijimaku**	**0.96**	**115**	P		**Pb**	**02 42 36.9**	**-0.1**
WHF	**Hehuan Shan**	**0.96**	**223**	*eP*		**Pg**	**02 42 36.6**	**-0.6**
	baz=222								
WHF				*eS*		**Sb**	**02 42 49.9**	**-0.2**
	baz=222								
YOJ	**Yonaguni jima**	**1.01**	**113**	*eP*		**Pn**	**02 42 38.7**	**+0.4**
	baz=112								
NJN	**Zhunan**	**1.03**	**261**	*eS*		**Sn**	**02 42 53.4**	**+0.7**
	baz=260								
CHGB	**Renai**	**1.08**	**223**	*eP*		**Pn**	**02 42 39.4**	**-0.2**
	baz=222								
TWQ1	**Liyutan**	**1.21**	**246**	*eP*		**Pg**	**02 42 43.2**	**+1.4**
	baz=244								
TWQ1				*eS*		**Sn**	**02 42 58.5**	**+1.1**
	baz=244								
WCS	**Beigang Elemen**	**1.26**	**231**	*eP*		**Pg**	**02 42 42.2**	**-0.5**
	baz=230								
WCS				*eS*		**Sn**	**02 42 60.0**	**+1.5**
	baz=230								
TYC	**Yuchr**	**1.40**	**227**	*eS*		**Sg**	**02 43 03.2**	**-0.3**
	baz=226								
SSLB	**Suanglung**	**1.42**	**222**	*eP*		**Pb**	**02 42 44.6**	**-0.2**
	baz=221								
WWF	**Wufeng**	**1.42**	**236**	*eS*		**Sg**	**02 43 04.6**	**+0.2**
	baz=235								

IDC ***29*** *02:43:52.8±5.2, 7.°21S×13.°28W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.6/49, mbtmp4.0/6, MS3.4/11, Ms1 3.4/11, ms1mx3.2/28, Error ellipse: s-maj=148.9km s-min=100.8km az=111.0*

NEIC ***29*** *02:43:54.0±1.3, 7.°2S±0.°3×13.°4W±0.°3, h10km±1km, mb4.4/13, Error ellipse: s-maj=63.9km s-min=13.1km az=135.0*

ISC 29 02:43:53.8±0.9, 7.°2S±0.°3×13.°4W±0.°3, h10km, n36, σ0s75/20, mb4.3/10, MS3.4/10, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASCN	**Ascension**	**1.18**	**230**			**Pn**	**02 44 16.3**	**-0.1**
H10N2	**ASCENSION HYDR**	**1.22**	**238**	T		T	02 45 49.4	
	baz=62,slow=73,SNR=35							
H10N1	**ASCENSION HYDR**	**1.23**	**237**	T		T	02 45 49.4	
	baz=62,slow=73,SNR=37							
H10N3	**ASCENSION HYDR**	**1.24**	**238**	T		T	02 45 55.0	
	baz=62,slow=73,SNR=41							
H10S2	**ASCENSION HYDR**	**2.14**	**214**	T		T	02 47 01.4	
	baz=176,slow=74,SNR=18							
H10S3	**ASCENSION HYDR**	**2.14**	**214**	T		T	02 47 02.2	
	baz=44,slow=74,SNR=57							
DBIC	**Dimbokro**	**16.20**	**32**	LR		LR	02 52 30.9	
	comp=Z,72nm,19.5s,baz=178,slow=32							
DBIC	**Dimbokro**	**16.20**	**32**	Pn		**Pn**	**02 47 40.1**	**-1.6**
RCBR	**Riachuelo**	**22.35**	**272**	LR		LR	02 55 26.7	
	comp=Z,103nm,19.7s,baz=108,slow=31							
KOWA	**Kowa**	**23.47**	**23**	P		**P**	**02 49 04.4**	**+0.6**
	3.0nm,0.6s,baz=204,slow=9.4,SNR=9.9							
KOWA				LR		LR	02 57 07.6	
	comp=Z,102nm,19.0s,baz=195,slow=34							
KOWA	**Kowa**	**23.47**	**23**	P		**P**	**02 49 04.8**	**+1.1**
KOWA				IAmb		IAmb	02 49 05.1	
	comp=Z,6.2nm,0.9s							
TOA0	**Torodi Ar. Sit**	**25.17**	**37**	P		**P**	**02 49 18.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**25.17**	**37**	P		**P**	**02 49 18.9**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=222,slow=9.0,SNR=11							
TORD				LR		LR	02 57 51.2	
	comp=Z,54nm,20.0s,baz=155,slow=33							
TORD	**Torodi Ar. Bea**	**25.17**	**37**	P		**P**	**02 49 19.0**	**-0.6**
BDFB	**Brasilia**	**34.87**	**253**	LR		LR	03 02 41.5	
	comp=Z,83nm,20.1s,baz=113,slow=32							
BOSA	**Boshof**	**42.27**	**125**	LR		LR	03 05 20.3	
	comp=Z,50nm,21.3s,baz=334,slow=31							
CPUP	**Villa Florida**	**45.85**	**240**	LR		LR	03 09 22.1	
	comp=Z,34nm,18.5s,baz=84,slow=33							
KMBO	**Kilima Mbogo**	**50.89**	**86**	LR		LR	03 12 43.1	
	comp=Z,68nm,19.7s,baz=290,slow=34							
LPAZ	**La Paz**	**54.17**	**255**	LR		LR	03 16 09.8	
	comp=Z,38nm,19.7s,baz=87,slow=36							
PB09	**IPOC Station P**	**55.66**	**249**	P		**P**	**02 53 30.3**	**-0.5**
GERES	**GERESS Array B**	**60.65**	**20**	P		**P**	**02 54 05.5**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=216,slow=6.1,SNR=5.9							
ROSC	**El Rosal**	**61.91**	**279**	LR		LR	03 19 08.8	
	comp=Z,55nm,19.8s,baz=54,slow=34							
MLR	**Muntele Rosu**	**63.17**	**30**	P		**P**	**02 54 22.5**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=198,slow=6.4,SNR=4.2							
MLR	**Muntele Rosu**	**63.17**	**30**	IAmb		IAmb	02 54 27.1	
	comp=Z,10nm,1.4s							
BR131	**Keskin Array S**	**63.76**	**39**	P		**P**	**02 54 27.1**	**+0.9**
BR131				IAmb		IAmb	02 54 28.1	
	comp=Z,4.4nm,1.0s							
BRTR	**Keskin Array B**	**63.76**	**39**	P		**P**	**02 54 26.9**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=241,slow=5.4,SNR=12							
BRTR	**Keskin Array B**	**63.76**	**39**	P		**P**	**02 54 27.3**	**+1.1**
AKASG	**Malin Array Be**	**68.39**	**28**	P		**P**	**02 54 55.4**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=226,slow=5.9,SNR=5.2							
AKASG	**Malin Array Be**	**68.39**	**28**	IAmb		IAmb	02 57 00.6	
	comp=Z,4.2nm,1.7s							
UOSS	**Minazif**	**74.85**	**62**	P		**P**	**02 55 34.9**	**-0.2**
GEYT	**Alibeck**	**80.08**	**50**	P		**P**	**02 56 04.5**	**+0.4**
GEYT				IAmb		IAmb	02 56 05.9	
	comp=Z,1.8nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**80.08**	**50**	P		**P**	**02 56 03.9**	**-0.3**
GYA0B				IAmb		IAmb	02 57 50.9	
	comp=Z,5.8nm,1.1s							
KBL	**Kabul**	**87.87**	**55**	P		**P**	**02 56 44.7**	**+0.5**
KBL				IAmb		IAmb	02 59 47.0	
	comp=Z,3.9nm,0.8s							
KK31	**Karatay Array**	**90.45**	**47**	P		**P**	**02 56 56.4**	**+0.5**
KK31				IAmb		IAmb	02 56 59.5	
	comp=Z,2.2nm,1.1s							
KKAR	**Karatay Array**	**90.45**	**47**	P		**P**	**02 56 56.4**	**+0.5**
PDAR	**Pinedale Array**	**99.31**	**312**	LR		LR	03 35 59.8	
	comp=Z,29nm,18.9s,baz=138,slow=31							

IDC ***29*** *03:11:36.5±1.7, 5.°83N×124.°28E, h501km±20km, mb2.8/8, mb1 3.1/9, mb1mx2.8/46, mbtmp3.9/9, Error ellipse: s-maj=37.9km s-min=10.2km az=78.0*

ISC 29 03:11:36.2±0.8, 5.°82N±0.°10×124.°3E±0.°3, h500km, n9, σ1s04/12, mb3.3/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**15.93**	**182**	P		**P**	**03 14 54.7**	**-1.5**
	1.7nm,0.3s,baz=126,slow=4.1,SNR=3.7							
FITZ	**Fitzroy Crossi**	**23.81**	**177**	P		**P**	**03 16 09.4**	**+0.2**
	3.1nm,1.0s,baz=6.8,slow=7.4,SNR=9.6							
WRA	**Warramunga Arr**	**27.46**	**159**	P		**P**	**03 16 41.6**	**+0.1**
	0.3nm,0.3s,baz=341,slow=8.7,SNR=11							
WRA				ScP		**ScP**	**03 22 38.3**	**+1.1**
	0.3nm,0.7s,baz=294,slow=4.2,SNR=4.8							
ASAR	**Alice Springs**	**30.78**	**163**	P		**P**	**03 17 11.4**	**+1.0**
	1.7nm,0.3s,baz=338,slow=7.5,SNR=53							
ASAR				S		**S**	**03 21 38.4**	**+0.2**
	0.5nm,0.8s,baz=356,slow=14,SNR=6.3							
ASAR				ScP		**ScP**	**03 22 45.8**	**-2.1**
	0.4nm,0.8s,baz=188,slow=8.5,SNR=4.5							
MJAR	**Matsushiro Arr**	**33.14**	**21**	P		**P**	**03 17 29.9**	**-0.5**
	0.7nm,0.6s,baz=199,slow=9.7,SNR=2.9							
KLR	**Kul'dur**	**43.72**	**7**	P		**P**	**03 18 56.1**	**-0.1**
	0.7nm,0.5s,baz=176,slow=3.5,SNR=2.3							
SONM	**Songino Array**	**44.56**	**343**	P		**P**	**03 19 03.4**	**+0.4**
	0.5nm,0.6s,baz=185,slow=12,SNR=2.9							
MKAR	**Makanchi Array**	**54.45**	**326**	P		**P**	**03 20 16.1**	**+0.1**
	0.3nm,0.4s,baz=120,slow=7.4,SNR=12							
ILAR	**Eielson Array**	**84.29**	**26**	P		**P**	**03 23 14.8**	**+0.2**
	0.2nm,0.9s,baz=226,slow=6.0,SNR=4.3							

IDC 29 03:12:09.9±3.5, 48.°80S×121.°60E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/38, mbtmp3.9/3, MS3.4/9, Ms1 3.4/9, ms1mx3.2/26, 1C-1D, Error ellipse: s-maj=87.5km s-min=61.6km az=150.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**14.95**	**336**	T		T	03 31 08.6	
	baz=160,slow=74,SNR=24							
H01W2	**Cape Leeuwin H**	**14.95**	**336**	T		T	03 31 08.4	
	baz=160,slow=74,SNR=12							
H01W3	**Cape Leeuwin H**	**14.96**	**336**	T		T	03 31 09.6	
	baz=160,slow=74,SNR=20							
NWAO	**Narrogin (SRO)**	**16.19**	**347**	LR		LR	03 20 39.2	
	comp=Z,148nm,20.1s,baz=132,slow=32							
STKA	**Stephens Creek**	**22.65**	**49**	LR		LR	03 24 28.5	
	comp=Z,65nm,21.4s,baz=206,slow=33							
ASAR	**Alice Springs**	**26.90**	**26**	P		P	03 17 52.1	-0.5
	0.9nm,0.9s,baz=193,slow=9.1,SNR=6.6							
ASAR				LR		LR	03 27 30.9	
	comp=Z,110nm,19.9s,baz=170,slow=34							
WRA	**Warramunga Arr**	**30.56**	**24**	P		P	03 18 25.5	+0.4
	0.3nm,0.7s,baz=197,slow=10,SNR=2.2							
WRA				LR		LR	03 29 36.5	
	comp=Z,71nm,20.4s,baz=195,slow=34							
FITZ	**Fitzroy Crossi**	**30.80**	**8**	LR		LR	03 29 60.0	
	comp=Z,43nm,20.1s,baz=186,slow=35							
VNDA	**Vanda**	**32.65**	**165**	LR		LR	03 30 46.2	
	comp=Z,65nm,21.0s,baz=296,slow=34							
SYO	**Syowa Base**	**42.87**	**212**	*eP*		P	03 20 03.6	-5.7
SYO	**Syowa Base**	**42.87**	**212**	*eP*		P	03 20 11.0	+1.7
CMAR	**Chiang Mai Arr**	**69.93**	**337**	P		P	03 23 22.8	0.0
	1.0nm,0.3s,baz=184,slow=4.3,SNR=6.0							
SUR	**Sutherland**	**72.83**	**240**	LR		LR	03 49 37.9	
	comp=Z,43nm,20.2s,baz=108,slow=31							
LSZ	**Lusaka**	**80.88**	**257**	LR		LR	03 53 01.0	
	comp=Z,34nm,20.9s,baz=59,slow=30							
PLCA	**Paso Flores**	**90.21**	**171**	LR		LR	04 02 53.8	
	comp=Z,20nm,19.3s,baz=164,slow=34							
YKA	**Yellowknife Ar**	**146.64**	**45**	PKPbc		PKPbc	03 31 51.5	-0.6
	0.3nm,0.7s,baz=270,slow=1.7,SNR=4.5							

BGR ***29*** *03:23:06.1±0.0, 30.°96N×131.°65E, h33km, mb5.1, Ms3.8*

BJI ***29*** *03:23:15.9±0.0, 31.°05N×131.°06E, h134km, mB4.6/30, mb4.5/44*

NEIC ***29*** *03:23:22.5±1.3, 31.°42N±0.°05×130.°54E±0.°09, h144km±3km, mb4.6/133, Error ellipse: s-maj=11.3km s-min=7.0km az=93.0*

IDC ***29*** *03:23:22.0±0.5, 31.°45N×130.°51E, h140km±3km, mb4.2/29, mb1 4.3/36, mb1mx4.2/43, mbtmp4.6/36, Error ellipse: s-maj=9.2km s-min=6.2km az=98.0*

JMA ***29*** *03:23:23.0±0.1, 31.°43N×130.°61E, h136km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕs216.00000°, δ29.00000°, λ116.00000°. NP2: ϕs7.00000°, δ64.00000°, λ76.00000°. Principal axes: T Plg68.0000°, Azm250.0000°; N Plg12.0000°, Azm13.0000°; P Plg18.0000°, Azm107.0000°;*

JMA Felt I J1.

NIED ***29*** *03:23:23.0, 31.°43N×130.°62E, h136km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr4.64; Mθθ-0.52; Mφφ-4.12; Mrθ0.80; Mrφ-1.80; Mθφ1.70; Fault plane solution: M=5.11000×10^15 NP1: ϕs24.00000°, δ56.00000°, λ91.00000°. NP2: ϕs201.00000°, δ34.00000°, λ88.00000°.*

ISC 29 03:23:22.4±0.4, 31.°39N±0.°04×130.°60E±0.°04, h144km±3km, h144km:pP-P, n343, σ1s09/355, mb4.6/121, 30C-12D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JSU	**Suzuyama**	**0.17**	**314**	↑P		**Pn**	**03 23 41.5**	**-0.4**
JSU				*eS*		**Sn**	**03 23 55.7**	**-1.1**
JSU	**Suzuyama**	**0.17**	**314**	Pn		**Pn**	**03 23 41.6**	**-0.4**
JTSR	**Tashiro 2**	**0.35**	**128**	↑P		**Pn**	**03 23 42.1**	**-0.4**
JTSR				*eS*		**Sn**	**03 23 56.4**	**-1.2**
JTZ	**Takazaki**	**0.66**	**39**	↑P		**Pn**	**03 23 43.5**	**-0.5**
JTZ				*eS*		**Sn**	**03 23 58.6**	**-1.9**
JTN	**Tanegashima 3**	**0.80**	**156**	↑P		**Pn**	**03 23 45.2**	**+0.2**
JTN				*eS*		**Sn**	**03 24 01.6**	**-0.6**
JSJ	**Shimokoshiki**	**0.81**	**291**	P		**Pn**	**03 23 44.4**	**-0.6**
JSJ				*eS*		**Sn**	**03 24 01.0**	**-1.3**
JMTN	**Minamitane**	**1.02**	**165**	↑P		**Pn**	**03 23 47.2**	**+0.4**
JMTN				*eS*		**Sn**	**03 24 05.1**	**-0.2**
JYAK	**Yakushimahirau**	**1.15**	**184**	↑P		**Pn**	**03 23 48.1**	**+0.1**
JYAK				*eS*		**Sn**	**03 24 06.5**	**-0.9**
JIU3	**Izumi3**	**1.17**	**9**	↑P		**Pn**	**03 23 47.7**	**-0.5**
JIU3				*eS*		**Sn**	**03 24 06.2**	**-1.7**
JNN	**Nakanoshima**	**1.66**	**202**	↑P		**Pn**	**03 23 53.8**	**+0.5**
JNU	**Nakatsue**	**1.75**	**8**	P		**Pn**	**03 23 53.7**	**-0.6**
	32nm,0.3s,baz=181,slow=16,SNR=356							
JNU				S		**Sn**	**03 24 16.3**	**-2.5**
	58nm,0.3s,baz=156,slow=3.4,SNR=7.3							
JTU	**Tsushima**	**3.29**	**342**	Pn		**Pn**	**03 24 12.1**	**-1.1**
JMN	**Monobe**	**3.62**	**49**	Pn		**Pn**	**03 24 16.9**	**-0.7**
JHS	**Saijyo**	**4.17**	**30**			**Pn**	**03 24 25.5**	**+0.7**
JOW	**Kunigami**	**4.97**	**205**	P		**Pn**	**03 24 35.0**	**-0.3**
	6.2nm,0.3s,baz=105,slow=25,SNR=14							
JOW				S		**Sn**	**03 25 28.3**	**-4.0**
	27nm,0.3s,baz=140,slow=23,SNR=8.9							
JWT	**Wachi**	**5.59**	**45**	Pn		**Pn**	**03 24 43.8**	**+0.2**
KSAR	**Wonju Array Be**	**6.44**	**340**	Pn		**Pn**	**03 24 54.6**	**-0.2**
KSRS	**Korea Array**	**6.44**	**341**	P		**Pn**	**03 24 54.6**	**-0.3**
	1.1nm,0.3s,baz=163,slow=14,SNR=56							
KS19	**Wonju Array Si**	**6.50**	**340**	Pn		**Pn**	**03 24 55.6**	**-0.1**
INU	**Inuyama**	**6.67**	**52**	Pn		**Pn**	**03 24 58.8**	**+0.9**
INCN	**Inchon**	**6.91**	**333**	Pn		**Pn**	**03 25 01.7**	**+0.6**
JGF	**Kuroka**	**7.04**	**52**	Pn		**Pn**	**03 25 03.5**	**+0.5**
JHJ	**Hachijo jima 2**	**7.97**	**75**	P		**Pn**	**03 25 17.4**	**+2.1**
	12nm,0.3s,baz=147,slow=23,SNR=8.1							
JHJ				S		**Sn**	**03 26 43.9**	**-0.1**
	2.5nm,0.3s,baz=253,slow=22,SNR=2.7							
MAJO	**Matsushiro**	**8.15**	**49**	Pn		**Pn**	**03 25 20.0**	**+2.3**
MAT	**Matsushiro**	**8.15**	**49**	P		**Pn**	**03 25 18.4**	**+0.7**
MAT				S		**Sn**	**03 26 46.9**	**-1.4**
MJAR	**Matsushiro Arr**	**8.15**	**49**	P		**Pn**	**03 25 18.3**	**+0.6**
	0.3nm,0.3s,baz=237,slow=13,SNR=37							
MJAR	**Matsushiro Arr**	**8.15**	**49**			**Pn**	**03 25 19.3**	**+1.5**
NJ2	**Nanjing**	**10.03**	**277**	*eP*		**Pn**	**03 25 42.3**	**-0.5**
NJ2				pmax		pmax		
	comp=Z,13nm,0.6s							
DL2	**Dalian**	**10.49**	**318**	P		**Pn**	**03 25 49.5**	**+0.6**
DL2				pmax		pmax		
	comp=Z,21nm,0.8s							
JCJ	**Chichijima**	**10.98**	**110**	P		**Pn**	**03 25 58.2**	**+2.7**
	4.3nm,0.3s,baz=149,slow=2.9,SNR=4.6							
USRK	**Ussuriysk Ar.**	**12.84**	**5**	P		**P**	**03 26 26.6**	**+1.8**
	baz=178,slow=11,SNR=13							
CN2	**Changchun**	**13.04**	**343**	*eP*		**P**	**03 26 29.0**	**+1.8**
CN2				pmax		pmax		
	comp=Z,20nm,1.0s							
WHN	**Wuhan**	**13.97**	**271**	P		**Pn**	**03 26 34.3**	**+0.2**
ASAJ	**Asahikawa**	**15.84**	**33**	P		**Pn**	**03 26 55.5**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=215,slow=11,SNR=8.1							
JKA	**Kamikawa-asahi**	**15.84**	**33**	P		**Pn**	**03 26 55.5**	**-1.8**
JKA	**Kamikawa-asahi**	**15.84**	**33**	IAmb		IAmb	03 27 11.7	
	comp=Z,46nm,1.5s							
TIY	**Taiyuan**	**16.23**	**298**	*eP*		**P**	**03 27 06.0**	**+3.3**
KLR	**Kul'dur**	**17.84**	**2**	P		**P**	**03 27 20.1**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=190,slow=6.9,SNR=28							
HHC	**Hu-ho-hao-te**	**18.02**	**307**	*eP*		**Pn**	**03 27 24.5**	**+0.8**
HHC				pmax		pmax		
	comp=Z,13nm,0.8s							
HHC				pmax		pmax		
	comp=Z,98nm,7.0s							
ENH	**Enshi**	**18.17**	**272**	P		**P**	**03 27 25.3**	**+1.4**
XAN	**Xi'an**	**18.43**	**284**	P		**Pn**	**03 27 33.8**	**+5.2**
XAN				pmax		pmax		
	comp=Z,19nm,0.5s							
XAN				pmax		pmax		
	comp=Z,19nm,3.7s							
XAN	**Xi'an**	**18.43**	**284**	P		**P**	**03 27 27.0**	**+0.2**
XAN				IAmb		IAmb	03 27 35.5	
	comp=Z,15nm,0.4s							
HIA	**Hailar**	**19.65**	**338**	P		**P**	**03 27 39.8**	**0.0**
GYA	**Guiyang**	**21.50**	**263**	⇑P		**P**	**03 27 59.8**	**-0.3**
GYA				pP		pP	03 28 21.5	-4.2
GYA				pmax		pmax		
	comp=Z,12nm,1.2s							
LZH	**Lanzhou**	**22.71**	**289**	*eP*		**P**	**03 28 12.3**	**+0.2**
LZH				pP		pP	03 28 42.8	+4.1
LZH				pmax		pmax		
	comp=Z,48nm,1.0s							
ULN	**Ulaanbaatar**	**24.35**	**319**	P		**P**	**03 28 27.1**	**+0.2**
SONM	**Songino Array**	**24.70**	**319**	P		**P**	**03 28 29.6**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=140,slow=9.4,SNR=19							
SONM				PcP		**PcP**	**03 32 02.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=162,slow=3.3,SNR=2.8							
SONM	**Songino Array**	**24.70**	**319**	P		**P**	**03 28 29.6**	**-0.5**
KMI	**Kunming**	**25.28**	**263**	⇓P		**P**	**03 28 37.5**	**+1.8**
KMI				pmax		pmax		
	comp=Z,12nm,0.9s							
KMI	**Kunming**	**25.28**	**263**	P		**P**	**03 28 36.8**	**+1.0**
KMI				IAmb		IAmb	03 28 38.5	
	comp=Z,15nm,1.1s							
SLVN	**Son La**	**25.87**	**254**	P		**P**	**03 28 41.2**	**+0.3**
GTA	**Gaotai**	**26.25**	**296**	*eP*		**P**	**03 28 44.0**	**-0.2**
GTA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
UBPT	**Khong Chiam**	**28.00**	**241**	P		**P**	**03 29 00.3**	**+0.5**
UBPT				IAmb		IAmb	03 29 01.5	
	comp=Z,7.1nm,0.7s							
PETK	**Petropavlovsk-**	**29.25**	**34**	PcP		**PcP**	**03 32 13.6**	**-0.3**
	comp=Z,5.2nm,0.9s,baz=131,slow=4.5,SNR=1.9							
CHTO	**Chiang Mai**	**31.16**	**254**	P		**P**	**03 29 28.4**	**+0.5**
CHTO				IAmb		IAmb	03 29 29.6	
	comp=Z,7.9nm,0.8s							
MA2	**Magadan**	**31.27**	**20**	P		**P**	**03 29 27.9**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=193,slow=6.6,SNR=6.4							
MA2	**Magadan**	**31.27**	**20**	P		**P**	**03 29 28.4**	**+0.1**
MA2				IAmb		IAmb	03 29 29.4	
	comp=Z,7.4nm,0.9s							
CMAR	**Chiang Mai Arr**	**31.34**	**253**	P		**P**	**03 29 29.9**	**+0.5**
	comp=Z,3.4nm,0.4s,baz=49,slow=6.4,SNR=10							
CMAR	**Chiang Mai Arr**	**31.34**	**253**	P		**P**	**03 29 29.8**	**+0.4**
SHL	**Shillong**	**34.40**	**270**	P		**P**	**03 29 56.1**	**0.0**
SEY	**Seymchan**	**34.50**	**17**	P		**P**	**03 29 56.6**	**+0.3**
	comp=Z,5.1nm,0.9s,baz=212,slow=7.7,SNR=20							
SEY				PcP		**PcP**	**03 32 27.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=217,slow=6.7,SNR=4.3							
WMQ	**Urumqi**	**35.80**	**303**	*eP*		**P**	**03 30 09.0**	**+1.1**
WMQ				pmax		pmax		
	comp=Z,14nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,67nm,4.9s							
TAPN	**Taplejung**	**37.42**	**275**	*eP*		**P**	**03 30 24.1**	**+2.1**
	comp=Z,5.4nm,0.4s							
ODAN	**Odare**	**37.84**	**274**	*eP*		**P**	**03 30 27.4**	**+1.9**
	comp=Z,14nm,0.4s							
ZSN	**Zaisan**	**38.21**	**308**	*eP*		**P**	**03 30 27.9**	**-0.2**
	baz=308							
KULM	**Kulim**	**38.24**	**233**	P		**P**	**03 30 29.0**	**+0.4**
KULM				IAmb		IAmb	03 30 30.2	
	comp=Z,9.6nm,0.8s							
RAMN	**Ramite**	**38.48**	**275**	*eP*		**P**	**03 30 31.9**	**+1.0**
	comp=Z,6.8nm,0.4s							
IPM	**Ipoh**	**38.58**	**232**	P		**P**	**03 30 31.5**	**0.0**
JIRN	**Jiri**	**38.63**	**276**	*eP*		**P**	**03 30 33.8**	**+1.6**
	comp=Z,13nm,0.4s							
GUN	**Gumba**	**38.82**	**277**	*eP*		**P**	**03 30 34.8**	**+1.0**
	comp=Z,23nm,0.3s							
PKI	**Pulchoki**	**39.32**	**276**	*eP*		**P**	**03 30 40.2**	**+2.3**
	comp=Z,8.0nm,0.4s							
PKIN	**Phulchoki**	**39.33**	**276**	*eP*		**P**	**03 30 39.9**	**+2.0**
	comp=Z,12nm,0.4s							
ZAA0	**Zalesovo Array**	**39.59**	**318**	P		**P**	**03 30 39.8**	**+0.4**
ZALV	**Zalesovo Beam**	**39.59**	**318**	P		**P**	**03 30 38.4**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=108,slow=9.1,SNR=6.9							
ZAL

KK31	Karatay Array	48.30	302	P		P	03 31 49.0	0.0	
KKAR	Karatay Array	48.30	302	P		P	03 31 48.8	-0.3	
IUG	luzhnay	48.78	301	*e*P		P	03 31 51.8	-1.0	
	baz=301								
FITZ	Fitzroy Crossi	49.43	186	P		P	03 31 58.5	+0.8	
	comp=Z,14nm,0.5s,baz=10,slow=8.1,SNR=78								
FITZ	Fitzroy Crossi	49.43	186	P		P	03 31 57.9	+0.2	
TNA	Tin City	50.12	28	P		P	03 32 03.0	+0.6	
WB0	Warramunga Arr	50.99	175	P		P	03 32 09.5	0.0	
WB0				IAmb		IAmb	03 32 10.1		
	comp=Z,6.5nm,0.5s								
ANM	Nome	51.01	30	P		P	03 32 10.0	+0.9	
ANM				IAmb		IAmb	03 32 11.4		
	comp=Z,9.4nm,0.7s								
WRA	Warramunga Arr	51.16	175	P		P	03 32 11.0	+0.2	
	comp=Z,4.2nm,0.5s,baz=354,slow=8.2,SNR=77								
WB2	Warramunga Arr	51.16	175	P		P	03 32 10.3	-0.5	
WB2				IAmb		IAmb	03 32 11.8		
	comp=Z,5.6nm,0.7s								
WR0	Warramunga Arr	51.19	175	P		P	03 32 10.7	-0.3	
PALK	Pallekele	52.29	254	P		P	03 32 19.6	+0.2	
	comp=Z,7.2nm,0.8s,baz=195,slow=4.2,SNR=5.2								
ARU	Arti	54.73	320	P		P	03 32 35.9	-0.7	
ARU				IAmb		IAmb	03 32 37.9		
	comp=Z,11nm,0.7s								
ABKAR	Akbulak array	54.75	311	P		P	03 32 37.1	+0.2	
AS31	Alice Springs	54.83	176	IAmb		IAmb	03 32 40.4		
	comp=Z,3.3nm,0.5s								
ASAR	Alice Springs	54.83	176	P		P	03 32 38.2	+0.6	
	comp=Z,5.7nm,0.5s,baz=357,slow=5.9,SNR=188								
ASAR				PcP		PcP	03 33 39.0	+0.9	
	comp=Z,1.2nm,0.8s,baz=355,slow=4.1,SNR=4.0								
ASAR	Alice Springs	54.83	176	P		P	03 32 38.0	+0.4	
A21K	Barrow	55.10	22	P		P	03 32 39.0	0.0	
A21K				IAmb		IAmb	03 32 40.1		
	comp=Z,7.6nm,0.8s								
IMAR	Indian Mountai	55.97	29	P		P	03 32 45.4	+0.1	
RSO	Redoubt South	56.77	35	P		P	03 32 51.7	+0.4	
MLY	Manley	57.27	30	IAmb		IAmb	03 32 56.2		
	comp=Z,4.4nm,0.6s								
MCK	McKinley	58.19	31	IAmb		IAmb	03 33 02.0		
	comp=Z,16nm,1.4s								
GEYT	Ailbeck	58.61	298	P		P	03 33 03.9	-0.5	
	comp=Z,2.8nm,0.6s,baz=185,slow=16,SNR=5.8								
POKR	Poker Plat Res	58.66	29	P		P	03 33 05.1	+0.9	
POKR				IAmb		IAmb	03 33 06.1		
	comp=Z,7.7nm,0.8s								
IL31		58.94	30	IAmb		IAmb	03 33 08.2		
	comp=Z,3.7nm,0.7s								
ILAR	Eielson Array	58.94	30	P		P	03 33 05.5	-0.6	
	comp=Z,1.5nm,0.7s,baz=268,slow=6.5,SNR=22								
ILAR	Eielson Array	58.94	30	P		P	03 33 05.1	-1.0	
SCRK	Sand Creek	60.31	30	P		P	03 33 15.5	-0.2	
SCRK				IAmb		IAmb	03 33 16.6		
	comp=Z,8.1nm,1.0s								
DOT	Dot Lake	60.34	31	P		P	03 33 15.5	-0.2	
DOT				IAmb		IAmb	03 33 16.5		
	comp=Z,7.2nm,0.8s								
MENT	Mentasta	60.64	32	IAmb		IAmb	03 33 19.6		
	comp=Z,9.4nm,0.8s								
K27K	Chicken	61.12	30	IAmb		IAmb	03 33 22.8		
	comp=Z,7.2nm,0.9s								
L27K	Beaver Creek,	61.45	31	IAmb		IAmb	03 33 25.3		
	comp=Z,8.5nm,0.9s								
BCAR	Beaver Creek A	61.47	31	P		P	03 33 23.6	+0.1	
FORT	Forrest	61.87	182	P		P	03 33 26.2	-0.1	
EPYK	Eagle Plains	62.73	27	P		P	03 33 31.9	+0.2	
KLMR	Klimovskoe	63.64	327	*e*P		P	03 33 34.9	-2.8	
KLMR				AMP			03 33 37.6		
	comp=Z,14nm,0.8s								
STKA	Stephens Creek	63.78	170	P		P	03 33 39.9	+1.0	
	comp=Z,6.2nm,0.5s,baz=345,slow=8.0,SNR=20								
STKA				pP		pP	03 34 13.3	0.0	
	comp=Z,2.0nm,0.7s,baz=354,slow=7.5,SNR=2.3								
STKA	Stephens Creek	63.78	170	P		P	03 33 39.4	+0.5	
BBOO	Buckleboo	64.06	175	P		P	03 33 40.7	0.0	
BBOO				IAmb		IAmb	03 33 41.9		
	comp=Z,5.3nm,0.8s								
BJO1	Bjornoya	65.51	344	*e*P		P	03 33 50.0	+0.3	
ARA0	ARCESS Array S	66.00	338	*e*P		P	03 33 52.3	-0.6	
ARCES	ARCESS Array B	66.00	338	P		P	03 33 51.6	-1.3	
	comp=Z,2.9nm,0.4s,baz=64,slow=8.0,SNR=44								
ARCES	ARCESS Array B	66.00	338	P		P	03 33 52.1	-0.8	
ARCES				IAmb		IAmb	03 33 53.0		
	comp=Z,10nm,1.1s								
HAMF	Hammerfest	66.07	340	*e*P		P	03 33 52.6	-0.7	
KTK1	Kautokeino	66.95	338	*e*P		P	03 33 58.2	-0.7	
OBN	Obninsk	67.07	322	P		P	03 33 59.1	-0.8	
OBN				IAmb		IAmb	03 33 60.0		
	comp=Z,11nm,0.9s								
KBZ	Khabaz	67.55	308	P		P	03 34 03.7	+0.5	
	comp=Z,28nm,0.7s,baz=86,slow=0.3,SNR=50								
JETT	Jettan, Norway	67.57	339	*e*P		P	03 34 02.4	-0.5	
KIV	Kislovodsk	67.61	309	⇑P		P	03 34 04.3	+0.7	
KIV	Kislovodsk	67.61	309	P		P	03 34 03.7	+0.1	
GNI	Garni	67.65	304	P		P	03 34 05.0	+0.8	
GNI				IAmb		IAmb	03 34 11.1		
	comp=Z,13nm,0.8s								
TRO	Tromso	67.98	339	*e*P		P	03 34 05.5	+0.1	
FIA1	FINESS Array S	69.42	330	P		P	03 34 13.4	-1.0	
FINES	FINESS Array B	69.42	330	P		P	03 34 13.4	-1.1	
	comp=Z,19nm,0.5s,baz=72,slow=5.9,SNR=309								
FINES	FINESS Array B	69.42	330	P		P	03 34 13.2	-1.2	
GEVA	Gevas	69.58	303	P		P	03 34 16.6	+0.5	
UMR	Umm Al-Rimmam	69.72	293	*e*P			03 34 17.0		
N2IH	Innhavet	69.80	339	*e*P		P	03 34 16.8	+0.2	
QRN	Al-Qurain	69.90	292	*e*P			03 34 17.9		
MIB	Mutribah	69.91	293	*e*P			03 34 17.8		
STEI	Steigen	70.04	339	*e*P		P	03 34 16.9	-1.2	
RDF	Al-Radifah	70.12	292	*e*P			03 34 19.2		
RST	Umm Al-Ruwaisa	70.31	293	*e*P			03 34 20.0		
FAUS	Fauske	70.34	338	*e*P		P	03 34 18.9	-1.0	
LOF	Lofoten	70.44	339	*e*P		P	03 34 20.5	-0.1	
VSU	Vasula	70.54	327	*e*P		P	03 34 20.9	-0.3	
NBB08	Skaug oppvekst	70.54	338	*e*P		P	03 34 19.6	-1.6	
KOPT	Kop Dagi	70.69	306	P		P	03 34 23.3	+0.4	
N2SV	S,rvÿgen	70.75	339	*e*P		P	03 34 22.4	0.0	
NBB05	Inndyr	70.94	338	*e*P		P	03 34 22.1	-1.5	
N2VA	Vr,y	70.98	339	*e*P		P	03 34 22.4	-1.4	
NBB30	Finnes	71.07	338	*e*P		P	03 34 23.2	-1.1	
N2RO	R,st	71.25	339	*e*P		P	03 34 24.8	-0.6	
MOR8	Moi Rana	71.31	337	*e*P		P	03 34 23.8	-2.1	
NBB40	Tonnes	71.58	338	*e*P		P	03 34 26.7	-0.7	
MTSE	Matsula	71.75	328	*e*P		P	03 34 25.7	-2.8	
MNK	Minsk	71.87	323	*i* P		P	03 34 29.4	0.0	
	comp=E,2.0nm,0.9s								
MNK				*i* P		P	03 34 29.4	0.0	
	comp=N,31nm,0.9s								
MNK				*i* P		P	03 34 29.4	0.0	
	comp=Z,23nm,0.9s								
MNK				*i* pP		pP	03 35 05.8	+1.3	
MNK				*i* PP		PP	03 37 10.6	+0.2	
MNK				*i* PPP		PPP	03 38 55.1		
MNK				*i* S		S	03 43 37.5	-0.8	
MNK				*i* sS		sS	03 44 42.0	+3.0	
MNK				*i* SS		SS	03 48 18.5	+1.8	
MNK				*i* SSS		SSS	03 51 39.1		
MNK				*i* LRM		MLR	04 09 14.9		
	comp=N,340nm,25.4s								
MNK				*i* LRM		MLR	04 09 15.8		
	comp=E,29nm,23.5s								
MNK				*i* LRM		MLR	04 09 23.9		
	comp=Z,89nm,17.2s								
IDID	Didziasalis	72.06	324	*e*P		P	03 34 30.5	0.0	
ISAL	Salakas	72.23	325	*e*P		P	03 34 31.3	-0.3	
NACGM	Naroch	72.23	324	*i* P		P	03 34 31.9	+0.3	
NACGM				*i* P		P	03 34 31.9	+0.3	
NACGM				*i* P		P	03 34 31.9	+0.3	
NACGM				*i* pP		PcP	03 34 57.4	+8.4	
NACGM				*i* sP		pP	03 35 08.8	+2.0	
NACGM				*i* PP		PP	03 37 15.3	+1.8	
NACGM				*i* PPP		PPP	03 38 59.5		
NACGM				*i* S		SKiKP	03 43 53.5	+0.7	
NACGM				*i* SS		SS	03 48 31.1	+8.9	
NACGM				*i* SSS		SSS	03 52 10.0		
NACGM				*i* LR		LR	04 04 47.2		
IIGN	Ignalina	72.29	324	*e*P		P	03 34 31.9	0.0	
SOCY	Socotra	72.40	274	P		P	03 34 31.6	-1.7	
AKASG	Malin Array Be	72.98	319	P		P	03 34 35.1	-0.9	
	comp=Z,12nm,0.4s,baz=55,slow=6.4,SNR=46								
YKA	Yellowknife Ar	72.99	26	P		P	03 34 35.9	-0.1	
	comp=Z,1.5nm,0.7s,baz=308,slow=5.1,SNR=31								
YKA				pP		pP	03 35 10.3	-1.0	
	comp=Z,0.8nm,0.7s,baz=309,slow=5.2,SNR=5.0								
NSS	Namsos	73.14	337	*e*P		P	03 34 35.5	-1.2	
PABE	Paberze	73.32	325	*e*P		P	03 34 37.4	-0.6	
UPP	Uppsala	73.80	331	*e*P		P	03 34 39.7	-1.0	
RAYN	Ar Rayn	74.17	288	P		P	03 34 43.3	-0.3	
BZK	Bozkurt	74.22	310	⇓P		P	03 34 43.1	-0.3	
ILGA	Ilgaz	74.84	309	IAmb		IAmb	03 34 49.1		
	comp=Z,20nm,0.9s								
BRTR	Keskin Array B	75.52	308	P		P	03 34 51.1	-0.1	
	comp=Z,18nm,0.8s,baz=99,slow=5.4,SNR=131								
BRTR				pP		pP	03 35 26.0	-0.7	
	comp=Z,2.4nm,0.9s,baz=79,slow=6.4,SNR=2.4								
BRTR	Keskin Array B	75.52	308	P		P	03 34 50.8	-0.4	
NB2	NORSAR Subarra	75.61	334	P		P	03 34 49.7	-1.5	
	comp=Z,3.8nm,0.5s,baz=47,slow=5.6								
NB2	NORSAR Subarra	75.61	334	P		P	03 34 49.7	-1.5	
	baz=47,slow=5.6								
NOA	NORSAR Array B	75.61	334	P		P	03 34 49.7	-1.5	
	comp=Z,5.9nm,0.6s,baz=49,slow=5.5,SNR=22								
NC602	NORSAR Array S	75.68	334	*e*P		P	03 34 50.1	-1.4	
DOMB	Dombas	75.74	336	*e*P		P	03 34 51.1	-0.8	
MOL	Molde	75.92	336	*e*P		P	03 34 53.2	+0.4	
SUMG	Summit	76.04	357	IAmb		IAmb	03 34 54.8		
	comp=Z,25nm,1.5s								
BR231	Keskin MP Arra	76.05	308	IAmb		IAmb	03 34 55.1		
	comp=Z,20nm,1.1s								
TPGR	Topolog	76.35	314	⇑P		P	03 34 55.3	-0.3	
CFR	Carcaliu	76.36	315	⇑P		P	03 34 54.3	-1.3	
OSL	Oslo	76.51	333	*e*P		P	03 34 55.4	-0.7	
TESR	Tescani	76.56	316	⇑P		P	03 34 56.3	-0.5	
BIZ	Bicaz	76.66	317	⇑P		P	03 34 57.2	-0.1	
HARR	Harsova	76.73	314	⇑P		P	03 34 57.6	-0.1	
BUR08	Bucovina Ar. S	76.81	318	IAmb		IAmb	03 34 59.0		
	comp=Z,8.2nm,0.8s								
BURAR	Bucovina Array	76.81	318	⇑P		P	03 34 58.7	+0.4	
BURAR	Bucovina Array	76.81	318	P		P	03 34 57.8	-0.5	
VRI	Vrincioaia	76.85	316	⇑P		P	03 34 59.0	+0.6	
SKAR	Skarslia	76.92	335	*e*P		P	03 34 58.3	-0.3	
BISRR	Bisoca	77.03	316	⇓P		P	03 35 00.4	+0.9	
KONO	Kongsberg	77.13	333	*e*P		P	03 34 58.9	-0.7	
MLR	Muntele Rosu	77.52	316	⇓P		P	03 35 02.1	-0.2	
MLR	Muntele Rosu	77.52	316	IAmb		IAmb	03 35 03.0		
	comp=Z,5.9nm,0.6s								
DOPR	Dopca	77.59	316	⇑P		P	03 35 03.0	+0.5	
KOLS	Kolonicke sedl	77.75	320	*e*P		P	03 35 03.1	-0.2	
SULR		77.76	315	⇑P		P	03 35 03.6	+0.2	
VOIR		78.08	316	⇑P		P	03 35 06.9	+1.6	
CRVS	Cervenica-Dubn	78.20	320	*e*P		P	03 35 06.1	+0.2	
OJC	Ojcow	78.34	322	*e*P		P	03 35 06.4	-0.2	
ARR	Arges	78.36	316	⇓P		P	03 35 07.7	+0.8	
NIE	Niedzica	78.54	321	*e*P		P	03 35 08.3	+0.6	
COPA	Copaceanca	78.68	315	⇑P		P	03 35 07.7	-0.9	
DRGR		78.69	318	⇑P		P	03 35 08.7	0.0	
LOT	Lotru	78.83	317	⇓P		P	03 35 09.6	+0.1	
LANS	Liptovska Anna	79.14	321	*e*P		P	03 35 12.0	+1.0	
GZR	Gura Zlata	79.44	317	⇓P		P	03 35 12.7	-0.1	
PLVB	Pleven	79.45	315	⇓P		P	03 35 12.6	-0.1	
PSZ	Piszkesteto	79.62	320	⇑P		P	03 35 14.4	+0.7	
PSZ	Piszkesteto	79.62	320	P		P	03 35 13.8	0.0	
PSZ				IAmb		IAmb	03 35 14.8		
	comp=Z,8.1nm,0.9s								
MORC	Moravsky Berou	79.78	323	⇑P		P	03 35 14.5	+0.1	
MORC	Moravsky Berou	79.78	323	*e*P		P	03 35 14.2	-0.3	
VYHS	Vyhne	79.86	321	*e*P		P	03 35 14.8	-0.1	
BZS	Buzias	79.98	318	⇑P		P	03 35 14.4	-1.1	
KRLC	Kraliky	79.99	323	*e*P		P	03 35 15.4	-0.2	
D08A	Wollman Farm,	80.00	41	P		P	03 35 16.0	+0.4	
DPC	Dobruska-Polom	80.06	324	*e*P		P	03 35 15.6	-0.4	
UPC	Upice	80.12	324	*e*P		P	03 35 15.9	-0.3	
JAVC	Velka Javorina	80.26	322	*e*P		P	03 35 18.1	+1.0	
SRO	Srobarova	80.55	321	*e*P		P	03 35 19.3	+0.8	
VRAC	Vranov	80.56	323	⇑P		P	03 35 19.1	+0.5	
VRAC	Vranov	80.56	323	*e*P		P	03 35 18.7	+0.1	
PINE	Pine Mountain	80.72	44	P		P	03 35 20.7	+0.8	
PINE				IAmb		IAmb	03 35 22.0		
	comp=Z,12nm,0.9s								
VTS	Vitosha	80.72	314	⇓P		P	03 35 20.3	+0.5	
VTS	Vitosha	80.72	314	IAmb		IAmb	03 35 21.0		
	comp=Z,8.8nm,0.8s								
MODS	Modra-Piesok	80.77	322	*e*P		P	03 35 20.9	+1.2	
KRUC	Moravsky	80.81	323	*e*P		P	03 35 19.7	-0.2	
ZST	Bratislava	80.97	322	*e*P		P	03 35 21.6	+0.8	
CLL	Collm	81.10	326	*i* P		P	03 35 20.4	-1.0	
	comp=Z,11nm,0.6s								
CLL				*e*pP		pP	03 35 57.0	-0.4	
CLL	Collm	81.10	326	IAmb		IAmb	03 35 21.8		
	comp=Z,12nm,0.6s								
CLL	Collm	81.10	326	*e*P		P	03 35 21.1	-0.3	
	comp=Z,11nm,0.6s,baz=56,slow=4.7								
FBE	Freiberg	81.17	325	*e*P		P	03 35 22.1	+0.3	
	comp=Z,15nm,1.2s,baz=56,slow=4.7								
PRU	Prunonice	81.18	324	*e*P		P	03 35 21.8	-0.1	
FLTG	Flechtingen	81.27	327	*e*P		P	03 35 21.7	-0.5	
	comp=Z,11nm,0.8s,baz=56,slow=4.7								
FRGS	Fruska Gora	81.29	318	⇓P		P	03 35 22.7	+0.1	
FRGS	Fruska Gora	81.29	318	⇑P		P	03 35 21.8	-0.8	
MORH	Mrgy, Hungar	81.32	319	⇑P		P	03 35 22.3	-0.3	
MORH	Mrgy, Hungar	81.32	319	*e*P		P	03 35 21.9	-0.8	
PBCC	Pribram	81.64	324	*e*P		P	03 35 23.7	-0.7	
CONA	Conrad Observa	81.79	322	*e*P		P	03 35 25.7	+0.4	
	comp=Z,8.4nm,0.7s,SNR=13								
DIVS	Divibare	81.81	317	*e*P		P	03 35 24.6	-0.8	
DIVS	Divibare	81.81	317	IAmb		IAmb	03 35 27.2		
	comp=Z,21nm,1.5s								
NKC	Novy Kostel	82.06	325	*e*P		P	03 35 25.7	-0.8	
MOX	Moxa	82.19	326	*e*L		L	04 13 37.8		
	comp=Z,45nm,20.7s								
KHC	Kasperske Hory	82.21	324	*e*P		P	03 35 27.1	-0.3	
GEC2	GERESS Array S	82.33	324	*e*P		P	03 35 27.6	-0.4	
	comp=Z,3.7nm,1.0s,baz=56,slow=4.7								
GERES	GERESS Array B	82.33	324	P		P	03 35 27.3	-0.8	
	comp=Z,1.5nm,0.7s,baz=53,slow=5.5,SNR=15								
HAPS	Han Pijesak,Bl	82.42	317	*e*P		P	03 35 27.7	-0.9	
JU8A	Circle Bar Ran	82.43	43	IAmb		IAmb	03 35 30.6		
	comp=Z,9.0nm,0.6s								
ROTZ	Rotzenmuhle	82.48	325	*e*P		P	03 35 28.8	0.0	
	comp=Z,14nm,1.5s,baz=56,slow=4.7								
MOA	Molln	82.67	323	*i* P		P	03 35 30.4	+0.7	
	SNR=4.4								
WVOR	Wild Horse Val	82.88	44	IAmb		IAmb	03 35 32.8		
	comp=Z,8.5nm,1.2s								
GRF	Grafenberg Arr	83.01	325	*e*P		P	03 35 31.8	+0.3	
	comp=Z,20nm,1.1s,baz=56,slow=4.7								
GRF				*e*L		L	04 11 44.1		
	comp=Z,45nm,20.4s								
BLY	Banja Luka	83.03	319	*e*P		P	03 35 32.0	+0.4	
FFC	Flin Flon	83.07	28	P		P	03 35 31.3	-0.3	
PDG	Podgorica	83.23	316	⇑*i*P		P	03 35 32.0	-0.7	
MGRS	Mrkonjic Grad	83.28	319	*e*P		P	03 35 33.5	+0.5	
CRES	Cresnjev	83.31	320	*e*P		P	03 35 31.9	-1.2	
BEKR	Beckworth	83.33	47	IAmb		IAmb	03 35 35.0		
	comp=Z,6.8nm,0.9s								
OBKA	Obir	83.37	321	*e*P		P	03 35 33.1	-0.4	
	comp=Z,6.4nm,0.7s								
DRME	Dracevica, Mon	83.42	316	*e*P		P	03 35 32.5	-1.2	
PDKS	Podkum	83.42	321	*i* P		P	03 35 33.4	-0.2	
RJOB	Jochberg	83.51	323	*e*P		P	03 35 34.3	+0.2	
	comp=Z,49nm,1.1s,baz=56,slow=4.7								
KBA	Koelnbreinsper	83.65	322	*e*P		P	03 35 35.0	0.0	
	comp=Z,5.2nm,0.7s,SNR=6.2								
MYKA	Terra Mystica	83.78	322	*e*P		P	03 35 34.9	-0.6	
	comp=Z,5.9nm,0.7s								
GBAS	Gorenja Brezov	83.80	321	*i* P		P	03 35 35.1	-0.5	
	comp=Z,26nm,1.0s								
CEY	Cerknica	83.93	321	⇑*i*P		P	03 35 35.6	-0.7	
FUR	Furstenfeldbru	84.00	324	*e*P		P	03 35 36.9	+0.4	
	comp=Z,33nm,1.1s,baz=56,slow=4.7								
JAVS	Javornik	84.03	321	*i* P		P	03 35 36.0	-0.8	
	comp=Z,34nm,0.8s								
VCNR	Virginia City	84.11	47	IAmb		IAmb	03 35 39.2		
	comp=Z,6.6nm,0.9s								
ZOU	Zoufplan	84.18	322	IAmb		IAmb	03 35 38.0		
	comp=Z,23nm,1.4s								
PNTR	Pine Nut	84.26	47	P		P	03 35 38.6	+0.3	
PNTR				IAmb		IAmb	03 35 40.5		
	comp=Z,7.2nm,0.6s								
ABTA	Abfaltersbach	84.30	322	*i* P		P	03 35 36.9	-1.3	
	comp=Z,4.4nm,0.7s								
TRI	Trieste	84.31	321	P		P	03 35 37.0	-1.1	
TRI				IAmb		IAmb	03 35 38.1		
	comp=Z,9.1nm,0.8s								
CMB	Columbia Colle	84.38	49	IAmb		IAmb	03 35 40.1		
	comp=Z,5.9nm,0.8s								
WTTA	Wattenberg	84.41	323	*e*P		P	03 35 37.7	-1.1	
	comp=Z,4.9nm,0.8s								
DLMT	Dillon	84.51	39	IAmb		IAmb	03 35 41.1		
	comp=Z,13nm,1.1s								
YERR	Yerington	84.55	47	IAmb		IAmb	03 35 41.4		
	comp=Z,7.1nm,0.9s								
STU	Stuttgart	84.62	325	P		P	03 35 39.4	-0.3	
STU				IAmb		IAmb	03 35 40.3		
	comp=Z,13nm,1.0s								
MOTA	Moosalm	84.63	324	*e*P		P	03 35 39.7	-0.2	
	comp=Z,4.6nm,0.9s								
SQTA	Sankt Quirin	84.66	323	*e*P		P	03 35 39.0	-1.0	
	comp=Z,4.6nm,0.9s								
RETA	Reutte	84.71	324	*e*P		P	03 35 40.4	+0.2	
	comp=Z,3.9nm,1.1s								
WAKR	Walker	84.71	48	IAmb		IAmb	03 35 42.4		
	comp=Z,6.3nm,0.7s								
BOZ	Bozeman (W)	84.88	39	P		P	03 35 41.4	+0.2	
UBR	Ueberruh	84.91	324	*e*P		P	03 35 40.8	-0.3	
	comp=Z,32nm,1.6s,baz=56,slow=4.7								
CTI	Castel Tesino	85.21	322	IAmb		IAmb	03 35 42.4		
	comp=Z,12nm,1.2s								
RYN	Ryan	85.21	47	IAmb		IAmb	03 35 44.8		
	comp=Z,6.5nm,0.9s								
KVN	Kaiserville	85.22	47	IAmb		IAmb	03 35 44.9		
	comp=Z,8.7nm,0.7s								
DAVA	Damuels	85.28	324	*e*P		P	03 35 43.2	0.0	
	comp=Z,9.6nm,1.3s								
BFO	Black Forest	85.34	326	P		P	03 35 43.0	-0.2	
BFO				IAmb		IAmb	03 35 44.3		
	comp=Z,13nm,1.1s								
BFO	Black Forest	85.34	326	*e*P		P	03 35 43.0	-0.2	
	comp=Z,13nm,1.1s,baz=56,slow=4.7								
WLF	Walferdange	85.43	327	*d*P		P	03 35 43.1	-0.6	
LHV	Little Huntoon	85.45	48	IAmb		IAmb	03 35 46.4		
	comp=Z,6.3nm,0.9s								
NVAR	Mina Array Bea	85.47	47	P		P	03 35 45.3	+1.0	
	comp=Z,5.2nm,0.7s,baz=298,slow=5.5,SNR=54								
NVAR				pP		pP	03 36 20.2	-0.5	
	comp=Z,1.6nm,0.7s,baz=305,slow=5.0,SNR=4.9								
NVAR	Mina Array Bea	85.47	47	P		P	03 35 45.0	+0.7	
BMRD	Maredsous	85.61	329	*d*P		P	03 35 44.2	-0.3	
TEOL	Teolo	85.65	322	P		P	03 35 44.6	-0.3	
TEOL				IAmb		IAmb	03 35 45.9		
	comp=Z,13nm,0.9s								
AQU	L'Aquila	86.67	319	*e*P		P	03 35 50.4	+0.4	
BW06	Boulder Array	87.87	40	P		P	03 35 55.7	-0.2	
PDAR	Pinedale Array	87.87	40	P		P	03 35 56.0	+0.1	
	comp=Z,1.9nm,0.7s,baz=13,slow=0.3,SNR=20								
PDAR				pP		pP	03 36 31.6	-0.8	
	comp=Z,0.9nm,0.8s,baz=340,slow=1.3,SNR=3.3								
PDAR	Pinedale Array	87.87	40	P		P	03 35 56.0	+0.1	
ULM	Lac du Bonnet	88.90	28	P		P	03 36 00.1	-0.2	
	comp=Z,6.8nm,0.7s,baz=320,slow=4.7,SNR=18								
ULM				pP		pP	03 36 36.0	-1.0	
	comp=Z,2.9nm,1.0s,baz=330,slow=2.9,SNR=2.4								
ULM	Lac du Bonnet	88.90	28	P		P	03 36 00.2	0.0	
ULM				IAmb		IAmb	03 36 01.

PMG S **Sn** **04 00 36.3 -0.5**
13nm,0.3s,baz=137,slow=20,SNR=22
WRA **Warramunga Arr 20.07 230** P **P** **04 03 24.4 -0.2**
0.3nm,0.3s,baz=54,slow=11,SNR=45
ASAR **Alice Springs 22.72 223** P **P** **04 03 53.1 -0.1**
3.0nm,0.8s,baz=54,slow=9.0,SNR=28
STKA **Stephens Creek 25.69 198** LR LR 04 15 04.4
comp=Z,37nm,18.2s,baz=27,slow=38
FITZ **Fitzroy Crossi 26.51 244** P **P** **04 04 26.8 -1.8**
2.5nm,0.6s,baz=62,slow=9.5,SNR=7.1
MKAR **Makanchi Array 80.94 320** P **P** **04 11 05.2 +0.2**
0.1nm,0.5s,baz=81,slow=3.8,SNR=2.0
ILAR **Eielson Array 85.45 22** P **P** **04 11 28.3 +0.5**
0.4nm,0.8s,baz=248,slow=6.1,SNR=2.9
TORD **Torodi Ar. Bea 148.94 283** PKPbc **PKPbc** **04 18 38.0 -1.4**
1.0nm,0.7s,baz=78,slow=3.0,SNR=4.6
BDFB **Brasilia 150.52 141** PKPbc **PKiKP** **04 18 44.3 +0.3**
0.8nm,0.5s,baz=122,slow=1.2,SNR=3.8

BJI ***29*** *04:16:10.2₀±0.0,26°.98N×57°.13E,h10km,mB4.8/27, mb4.8/45,Ms4.4/11,Ms7 4.1/9*
IDC ***29*** *04:16:14.6±0.6,27°.12N×57°.73E,h0km,mb4.5/31, mb1 4.6/33,mb1mx4.5/44,mbtmp4.5/33,ML4.0/2,MS3.3/19, Ms1 3.4/19,ms1mx3.2/46,Error ellipse: s-maj=13.5km s-min=11.6km az=147.0*
MOS ***29*** *04:16:16.3±0.8,27°.14N×57°.76E,h23km,mb5.2/38,Error ellipse: s-maj=6.5km s-min=4.2km az=113.3*
THR ***29*** *04:16:16.1±0.2,26°.93N×57°.58E,h15km,ML5.2*
NEIC ***29*** *04:16:17.8±1.7,26°.99N±0°.05×57°.70E±0°.07,h26km±4km, Error ellipse: s-maj=8.9km s-min=7.6km az=83.0*
DSN ***29*** *04:16:17.3±0.8,27°.13N×57°.68E,h10km,mb5.2/2, ML4.7/11,Error ellipse: s-maj=18.4km s-min=8.0km az=133.0*
TEH ***29*** *04:16:19.9,26°.94N×57°.68E,h60km,ML5.0*
OMAN ***29*** *04:16:20.9,26°.75N×57°.78E,h14km,mb5.5/3,ml4.5/16, ms3.3/2*
BGR ***29*** *04:16:35.2±0.0,28°.04N×55°.80E,h33km,mb4.8,Ms3.3*
ISC 29 04:16:18.1±0.7,26°.99N±0°.03×57°.77E±0°.03,h27km±5km, n583,σ1§47/599,mb4.9/146,MS3.4/22,42C-26D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.96**	**357**	Pg		**Pn**	**04 16 37.1**	**+1.3**
KHNJ						**Sn**	**04 16 49.7**	**+1.1**
KAHNJ	**Kahnooj**	**0.96**	**357**	*e*P		**Pn**	**04 16 35.7**	**-0.1**
GENO	**Geno**	**1.48**	**286**			**Pb**	**04 16 45.3**	**+0.2**
GENO	**Geno**	**1.48**	**286**	*e*P		**Pb**	**04 16 45.6**	**+0.5**
GENO				*e*			04 17 07.3	
	comp=Z,99nm,0.4s							
BANOM	**Banah**	**1.69**	**231**	*e*P		**Pb**	**04 16 48.2**	**-0.4**
	SNR=2360							
BANOM				S		**Sb**	**04 17 09.6**	**+0.1**
BANOM	**Banah**	**1.69**	**231**	*e*P		**Pb**	**04 16 48.3**	**-0.3**
BANOM	**Banah**	**1.69**	**231**	P		**Pb**	**04 16 48.2**	**-0.3**
	SNR=2360							
BANOM				S		**Sb**	**04 17 09.7**	**+0.2**
SHME	**Shamm**	**1.73**	**238**	*e*P		**Pb**	**04 16 49.3**	**+0.1**
	SNR=533							
SHME				S		**Sb**	**04 17 11.4**	**+0.9**
SHME	**Shamm**	**1.73**	**238**	*e*P		**Pb**	**04 16 49.4**	**+0.2**
SHME	**Shamm**	**1.73**	**238**	P		**Pb**	**04 16 49.3**	**+0.1**
	SNR=533							
SHME				S		**Sb**	**04 17 11.5**	**+0.9**
MDH	**Madha**	**2.14**	**218**	*e*P		**Pn**	**04 16 53.1**	**+1.0**
	SNR=90							
MDH	**Madha**	**2.14**	**218**	*e*P		**Pn**	**04 16 53.2**	**+1.1**
MDH	**Madha**	**2.14**	**218**	P		**Pn**	**04 16 53.1**	**+1.0**
	SNR=90							
MDH				S		**Sn**	**04 17 17.6**	**-0.1**
MASF	**Masafi**	**2.16**	**222**	P		**Pb**	**04 16 54.0**	**-2.7**
	SNR=61							
MSFE	**Esma-Masafi**	**2.17**	**222**	*e*P		**Pn**	**04 16 53.9**	**+1.4**
	SNR=296							
MSFE	**Esma-Masafi**	**2.17**	**222**	*e*P		**Pn**	**04 16 53.5**	**+1.0**
KBAM	**BAM**	**2.22**	**16**	*e*P		**Pb**	**04 16 56.4**	**-1.3**
KBAM				*e*			04 17 25.6	
	comp=Z,99nm,0.4s							
UOSS	**Minazif**	**2.47**	**215**	*e*P		**Pn**	**04 16 57.5**	**+0.8**
	SNR=142							
UOSS	**Minazif**	**2.47**	**215**			**Pn**	**04 16 56.9**	**+0.2**
UOSS	**Minazif**	**2.47**	**215**	*e*P		**Pn**	**04 16 57.5**	**+0.8**
UOSS	**Minazif**	**2.47**	**215**	P		**Pn**	**04 16 57.4**	**+0.8**
UOSS				S		**Sn**	**04 17 26.5**	**+0.5**
HATD	**Hatta, Dubai**	**2.61**	**215**	*e*P		**Pn**	**04 16 59.6**	**+1.1**
	SNR=160							
HATD	**Hatta, Dubai**	**2.61**	**215**	*e*P		**Pn**	**04 16 59.5**	**+1.0**
HATD	**Hatta, Dubai**	**2.61**	**215**	P		**Pn**	**04 16 59.3**	**+0.8**
	SNR=65							
HATD				S		**Sn**	**04 17 29.2**	**-0.1**
NAZ	**Nazwa, Dubai**	**2.75**	**224**	*e*P		**Pb**	**04 17 04.3**	**-2.3**
	SNR=236							
NAZ	**Nazwa, Dubai**	**2.75**	**224**	P		**Pb**	**04 17 04.3**	**-2.3**
	SNR=236							
ASHO	**Ashiyiah**	**2.76**	**214**	*e*P		**Pn**	**04 17 02.5**	**+1.9**
	SNR=213							
ASHO	**Ashiyiah**	**2.76**	**214**	*e*P		**Pn**	**04 17 02.3**	**+1.6**
ASHO	**Ashiyiah**	**2.76**	**214**	P		**Pn**	**04 17 02.9**	**+2.2**
	SNR=211							
NGRK	**Negar Kerman**	**2.80**	**341**	Pn		**Pb**	**04 17 04.1**	**-3.6**
NGRK	**Negar Kerman**	**2.80**	**341**	*e*P		**Pb**	**04 17 04.1**	**-3.6**
NGRK				*e*			04 17 44.9	
	comp=Z,99nm,0.3s							
CHBR	**Chabahar**	**2.81**	**119**	*e*Pn		**Pb**	**04 17 04.0**	**-3.5**
CHBR	**Chabahar**	**2.81**	**119**	*e*P		**Pb**	**04 17 04.0**	**-3.5**
CHMN	**Cheshme madani**	**2.87**	**356**	Pn		**Pb**	**04 17 05.8**	**-3.0**
CHMN	**Cheshme madani**	**2.87**	**356**	*e*			04 17 46.0	
	comp=Z,99nm,0.6s							
CHMN				*e*P		**Pb**	**04 17 05.5**	**-3.3**
FAQ	**Al Faqa, Dubai**	**2.97**	**222**	*i* P		**Pb**	**04 17 07.4**	**-3.0**
	SNR=53							
FAQ	**Al Faqa, Dubai**	**2.97**	**222**	P		**Pb**	**04 17 07.5**	**-3.0**
	SNR=53							
FAQ				S		**Sb**	**04 17 42.6**	**-3.7**
SOHO	**SOHO**	**3.05**	**202**	*i* P		**Pn**	**04 17 05.7**	**+1.1**
	SNR=242							
SOHO	**SOHO**	**3.05**	**202**	*e*P		**Pn**	**04 17 05.7**	**+1.1**
SOHO	**SOHO**	**3.05**	**202**	P		**Pn**	**04 17 05.8**	**+1.1**
SOHO				S		**Sn**	**04 17 38.5**	**-1.8**
LAR1	**LAR**	**3.09**	**283**	*e*			04 17 47.8	
	comp=Z,99nm,0.4s							
LAR1				*e*P		**Pn**	**04 17 06.7**	**+1.5**
TVBK	**TV Kerman**	**3.11**	**344**	*e*			04 17 51.0	
	comp=Z,99nm,0.7s							
TVBK				*e*P		**Pb**	**04 17 09.4**	**-3.6**
ASUD	**Al Ashush, Dub**	**3.22**	**224**	*i* P		**Pb**	**04 17 11.1**	**-3.6**
	SNR=401							
ASUD	**Al Ashush, Dub**	**3.22**	**224**	P		**Pb**	**04 17 11.2**	**-3.4**
	SNR=401							
HOQ	**Hoqain**	**3.42**	**187**	P		**Pn**	**04 17 11.5**	**+1.8**
	SNR=370							
HOQ				S		**Sn**	**04 17 47.6**	**-1.7**
ALNE	**Al Ain**	**3.44**	**212**	*i* P		**Pb**	**04 17 14.2**	**-4.2**
	SNR=39							
ALNE	**Al Ain**	**3.44**	**212**	*e*P		**Pb**	**04 17 14.2**	**-4.2**
ALNE	**Al Ain**	**3.44**	**212**	P		**Pb**	**04 17 14.2**	**-4.2**
	SNR=58							
ALNE				S		**Sn**	**04 17 53.7**	**+3.8**
BIDO	**Bidbid**	**3.47**	**175**	*e*P		**Pn**	**04 17 12.5**	**+2.2**
BIDO	**Bidbid**	**3.47**	**175**	P		**Pn**	**04 17 12.5**	**+2.2**
	SNR=54							
BIDO				S		**Sn**	**04 17 49.4**	**-1.2**
	SNR=10							
AJN	**Ajban**	**3.48**	**227**	*i* P		**Pn**	**04 17 13.9**	**+3.4**
	SNR=47							
AJN	**Ajban**	**3.48**	**227**	P		**Pn**	**04 17 13.9**	**+3.4**
	SNR=47							
AJN				S		**Sn**	**04 17 52.8**	**+1.9**
KHGB	**Koh Gabri**	**3.56**	**342**	*e*P		**Pn**	**04 17 15.5**	**+3.7**
KHGB				*e*			04 17 59.4	
	comp=Z,99nm,0.4s							
SZD1	**Zahaedan-tmp**	**3.70**	**47**	*e*P		**Pn**	**04 17 17.2**	**+3.6**
ZHSF	**Zahedan**	**3.72**	**45**	*e*Pn		**Pn**	**04 17 17.4**	**+3.4**
ZHSF	**Zahedan**	**3.72**	**45**	*e*P		**Pn**	**04 17 17.4**	**+3.4**
ARQ	**Araqi**	**3.81**	**197**	P		Pb	04 17 19.4	-5.3
ARQ				S		**Sn**	**04 18 02.5**	**+3.6**
WSAR	**Wadi Sarin**	**3.81**	**168**	Pn		**Pn**	**04 17 18.1**	**+3.0**
	comp=Z,76nm,0.3s,baz=347,slow=5.1,SNR=465							
WSAR				Sn		**Sn**	**04 17 58.8**	**-0.4**
	comp=Z,329nm,0.3s,baz=227,slow=20,SNR=49							
WSAR				LR		LR	04 18 37.4	
	comp=Z,104nm,21.0s,baz=7.5,slow=36							
JHRM	**Jahrom**	**4.01**	**293**	Pn		**Pn**	**04 17 18.7**	**+0.8**
JHRM	**Jahrom**	**4.01**	**293**	*e*P		**Pn**	**04 17 19.5**	**+1.6**
LMD1	**Lamerd**	**4.11**	**276**	*e*P		**Pn**	**04 17 20.7**	**+1.5**
QIR1	**Qir**	**4.44**	**291**	*e*P		**Pn**	**04 17 24.9**	**+1.1**
NHDN	**Nehbandan**	**4.82**	**24**	*e*P		**Pn**	**04 17 31.7**	**+2.6**
UMZA	**Um Al Zommool**	**4.87**	**210**	P		**Pn**	**04 17 32.1**	**+2.5**
UMZA				S		**Sn**	**04 18 25.5**	**+0.4**
IMEH	**Mehriz**	**5.18**	**329**	*e*P		**Pn**	**04 17 35.8**	**+1.7**
SHI	**Shiraz**	**5.33**	**301**	*e*P		**Pn**	**04 17 36.8**	**+0.7**
IKOO	**Kooshah**	**5.52**	**11**	*e*P		**Pn**	**04 17 40.9**	**+2.1**
ICHK	**Chekchek**	**6.00**	**332**	*e*P		**Pn**	**04 17 47.2**	**+1.9**
KAZ1	**Kazerun**	**6.00**	**297**	*e*P		**Pn**	**04 17 45.3**	**0.0**
IDAH	**Dahanechah**	**6.01**	**17**	*e*P		**Pn**	**04 17 49.0**	**+3.4**
AHBU	**AHRAM**	**6.02**	**290**	*e*P		**Pn**	**04 17 44.8**	**-0.6**
YZKH	**Yazd**	**6.05**	**334**	*e*Pn		**Pn**	**04 17 47.3**	**+1.4**
YZKH	**Yazd**	**6.05**	**334**	*e*P		**Pn**	**04 17 47.3**	**+1.4**
ISAD	**Sadrabad**	**6.06**	**325**	*e*P		**Pn**	**04 17 48.3**	**+2.1**
SLWR	**Sila**	**6.21**	**243**	P		**Pn**	**04 17 48.1**	**+0.1**
SLWR				S		**Sn**	**04 18 54.6**	**-3.5**
IMON	**Monand**	**6.40**	**14**	*e*P		**Pn**	**04 17 54.3**	**+3.5**
AFRZ	**Afriz**	**6.50**	**9**	*e*P		**Pn**	**04 17 54.9**	**+2.7**
IRAM	**Ramesheh**	**6.72**	**317**	*e*P		**Pn**	**04 17 56.0**	**+0.8**
KLNJ	**Kolanjah**	**6.73**	**308**	*e*P		**Pn**	**04 17 56.0**	**+0.5**
SHRT	**Shahrakht**	**6.98**	**18**	*e*Pn		**Pn**	**04 18 01.6**	**+2.9**
SHRT	**Shahrakht**	**6.98**	**18**	*e*P		**Pn**	**04 18 01.6**	**+2.9**
ANAR	**Anarak**	**7.10**	**331**	*e*P		**Pn**	**04 18 01.8**	**+1.4**
NASN	**Na'in**	**7.21**	**325**	*e*Pn		**Pn**	**04 18 03.2**	**+1.1**
NASN	**Na'in**	**7.21**	**325**	*e*P		**Pn**	**04 18 03.2**	**+1.1**
IGAR	**Gharneh**	**7.34**	**319**	*e*P		**Pn**	**04 18 04.3**	**+0.5**
ABEH	**Behbahan**	**7.51**	**300**	*e*P		**Pn**	**04 18 07.0**	**+1.1**
IPIR	**Pirpir**	**8.23**	**315**	*e*P		**Pn**	**04 18 16.6**	**+0.5**
IKLH	**Kolahrood**	**8.27**	**321**	*e*P		**Pn**	**04 18 16.6**	**0.0**
HRA	**Herat**	**8.32**	**27**	Pn		**Pn**	**04 18 18.5**	**+1.3**
KRSH	**Karshahi**	**8.48**	**326**	*e*P		**Pn**	**04 18 20.6**	**+1.2**
QAM	**Ghamsar**	**8.68**	**323**	*e*P		**Pn**	**04 18 23.3**	**+1.2**
ISFB	**Sefidab**	**8.74**	**328**	*e*P		**Pn**	**04 18 24.8**	**+1.9**
QRN	**Al-Qurain**	**8.89**	**284**	*e*P			04 18 22.8	
SHAO	**Shalim**	**9.14**	**193**	*i* P		**Pn**	**04 18 29.4**	**+1.1**
	SNR=46							
UMR	**Umm Al-Rimmam**	**9.22**	**288**	*e*P			04 18 27.7	
RDF	**Al-Radifah**	**9.24**	**284**	*e*P			04 18 27.8	
SBZV	**Sabzevar**	**9.37**	**359**	*e*P		**Pn**	**04 18 35.3**	**+3.7**
IPAY	**Payeh**	**9.49**	**6**	*e*P		**Pn**	**04 18 36.5**	**+3.3**
KHMZ	**Khomeyn**	**9.52**	**317**	*e*Pn		**Pn**	**04 18 34.5**	**+0.8**
KHMZ	**Khomeyn**	**9.52**	**317**	*e*P		**Pn**	**04 18 34.5**	**+0.8**
IMYA	**Miami**	**9.53**	**11**	*e*P		**Pn**	**04 18 38.1**	**+4.3**
MIB	**Mutribah**	**9.60**	**289**	*e*P			04 18 33.0	
IFIR	**Firoozkooh**	**9.63**	**335**	*e*P		**Pn**	**04 18 36.9**	**+1.7**
IQOM	**Qom**	**9.71**	**325**	*e*P		**Pn**	**04 18 38.0**	**+1.7**
RST	**Umm Al-Ruwaisa**	**9.82**	**287**	*e*P			04 18 35.9	
DAMV	**Damavand**	**9.94**	**332**	*e*Pn		**Pn**	**04 18 40.8**	**+1.5**
DAMV	**Damavand**	**9.94**	**332**	*e*P		**Pn**	**04 18 40.8**	**+1.5**
ISFR	**Sfrayin**	**10.04**	**1**	*e*P		**Pn**	**04 18 44.4**	**+3.6**
ASAO	**Ashtian**	**10.05**	**320**	*e*Pn		**Pn**	**04 18 42.1**	**+1.2**
ASAO	**Ashtian**	**10.05**	**320**	*e*P		**Pn**	**04 18 42.1**	**+1.2**
IGLO	**Ghaloghah**	**10.06**	**342**	*e*P		**Pn**	**04 18 44.4**	**+3.4**
IHSB	**Hasanabad**	**10.09**	**328**	*e*P		**Pn**	**04 18 43.5**	**+2.2**
IPRN	**Peran**	**10.32**	**335**	*e*P		**Pn**	**04 18 47.2**	**+2.7**
IKMR	**Kamar-syah**	**10.40**	**311**	*e*P		**Pn**	**04 18 44.0**	**-1.4**
IMHD	**Mahdasht**	**10.58**	**327**	*e*P		**Pn**	**04 18 49.8**	**+1.8**
HSAM	**Samen**	**10.68**	**315**	*e*P		**Pn**	**04 18 48.2**	**-1.4**
IDOB	**Doab**	**10.69**	**312**	*e*P		**Pn**	**04 18 48.8**	**-0.9**
IRAZ	**Razeghan**	**10.74**	**323**	*e*P		**Pn**	**04 18 51.2**	**+0.9**
HAGD	**Aghdareh**	**10.76**	**319**	*e*P		**Pn**	**04 18 51.7**	**+1.1**
IKFM	**Kafar-mosalman**	**10.77**	**310**	*e*P		**Pn**	**04 18 49.6**	**-0.9**
GEYT	**Alibeck**	**10.91**	**1**	Pn		**Pn**	**04 18 53.1**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=184,slow=17,SNR=13							
GEYT				LR		LR	04 23 16.7	
	comp=Z,185nm,20.9s,baz=165,slow=39							
GEYT	**Alibeck**	**10.91**	**1**			**Pn**	**04 18 54.7**	**+2.2**
GYA0B	**ALIBECK ARRAY**	**10.91**	**1**			**Pn**	**04 18 53.8**	**+1.2**
QABG	**Abgarm-Qazvin**	**11.15**	**323**	*e*P		**Pn**	**04 18 55.1**	**-0.9**
QALM	**Alamut, Qazvin**	**11.19**	**329**	*e*P		**Pn**	**04 18 58.2**	**+1.6**
IBZA	**Bozab**	**11.32**	**314**	*e*P		**Pn**	**04 18 57.7**	**-0.6**
IGZV	**Ghazvin**	**11.36**	**327**	*e*P		**Pn**	**04 19 01.2**	**+2.4**
RAYN	**Ar Rayn**	**11.62**	**255**	P		**Pn**	**04 18 60.0**	**-2.3**
RAYN	**Ar Rayn**	**11.62**	**255**	P		**Pn**	**04 19 00.1**	**-2.3**
RAYN	**Ar Rayn**	**11.62**	**255**	Pn		**Pn**	**04 19 00.1**	**-2.3**
KCHF	**Cheshme Sefid,**	**11.74**	**311**	*e*P		**Pn**	**04 19 02.0**	**-2.1**
KERH	**Kermanshah**	**11.75**	**311**	*e*P		**Pn**	**04 19 02.2**	**-1.8**
IGHG	**Ghaleghazi**	**12.10**	**310**	*e*P		**Pn**	**04 19 07.3**	**-1.6**
KBL	**Kabul**	**12.27**	**49**	P		**Pn**	**04 19 12.5**	**+1.3**
KBL	**Kabul**	**12.27**	**49**	Pn		**Pn**	**04 19 12.5**	**+1.3**
KBL	**Kabul**	**12.27**	**49**	P		**Pn**	**04 19 15.6**	**+4.4**
	SNR=7.3							
KBL				P		**Pn**	**04 19 15.6**	**+4.4**
	SNR=7.3							
IDHR	**Dehrash**	**12.43**	**311**	*e*P		**Pn**	**04 19 11.1**	**-2.3**
THW	**Thamme Wali**	**13.43**	**61**	P		**Pn**	**04 19 27.2**	**+0.2**
SARP	**Sargodha**	**13.88**	**66**	P		**Pn**	**04 19 33.4**	**+0.3**
CEP	**Cherat**	**13.97**	**57**	P		**Pn**	**04 19 35.3**	**+0.9**
IHRS	**Heris**	**14.45**	**324**	*e*P		**Pn**	**04 19 41.6**	**+0.5**
NIL	**Nilore**	**14.92**	**60**	P		**Pn**	**04 19 47.5**	**+0.2**
NIL				pmax		pmax		
	comp=Z,194nm,1.2s							
NIL	**Nilore**	**14.92**	**60**			**Pn**	**04 19 47.5**	**+0.2**
NIL	**Nilore**	**14.92**	**60**	P		**Pn**	**04 19 48.3**	**+1.0**
NIL				P		**Pn**	**04 19 48.3**	**+1.0**
SOCY	**Socotra**	**15.15**	**194**	Pn		**Pn**	**04 19 46.6**	**-3.8**
IMRD	**Marand**	**15.46**	**322**	*e*P		**P**	**04 19 58.0**	**-0.7**
CUKT	**Cukurca**	**15.74**	**314**	*e*P		**Pn**	**04 19 53.8**	**-4.3**
AKT	**Akhty**	**16.65**	**333**	*e*P		**Pn**	**04 20 09.3**	**-0.3**
AKT				pmax		pmax		
	comp=Z,33nm,0.4s							
VANB	**Van**	**16.71**	**317**	*e*P		**Pn**	**04 20 09.1**	**-1.3**
GEVA	**Gevas**	**16.73**	**316**	Pn		**Pn**	**04 20 10.0**	**-0.8**
GEVA				lAmb		lAmb	04 20 15.0	
	comp=Z,54nm,0.7s							
CLDR	**Caldiran**	**16.76**	**320**	*e*P		**Pn**	**04 20 09.6**	**-1.5**
AKDM	**Akdamar-Van**	**16.79**	**316**	*e*P		**Pn**	**04 20 12.4**	**+0.8**
GNI	**Garni**	**17.01**	**324**	Pn		**P**	**04 20 15.2**	**-0.7**
	comp=Z,3.4nm,0.3s,baz=121,slow=2.8,SNR=13							
GNI				LR		LR	04 28 00.6	
	comp=Z,75nm,18.5s,baz=76,slow=42							
GNI	**Garni**	**17.01**	**324**	*e*P		**P**	**04 20 16.8**	**+0.9**
GNI	**Garni**	**17.01**	**324**	*ce*P		**Pn**	**04 20 14.2**	**0.0**
GNI				pmax		pmax		
	comp=Z,77nm,1.3s							
GNI	**Garni**	**17.01**	**324**	Pn		**Pn**	**04 20 13.5**	**-0.7**
GNI				lAmb		lAmb	04 20 21.8	
	comp=Z,63nm,0.9s							
POO	**Poona**	**17.04**	**116**	*ex*		P	04 20 29.0	+13
GURO	**Guroymak-BITLI**	**17.52**	**315**	*e*P		**Pn**	**04 20 19.7**	**-0.9**
AGRB	**Hanur-Agry**	**17.58**	**319**	*e*P		**P**	**04 20 22.6**	**+0.3**
MARD	**Mardin**	**17.66**	**310**	Pn		**Pn**	**04 20 20.2**	**-2.1**
VRTB	**Varto-Mus**	**18.25**	**316**	*e*P		**P**	**04 20 30.8**	**+1.2**
DYBB	**Diyarbakir**	**18.43**	**311**	*e*P		**P**	**04 20 31.3**	**-0.2**
KOPR	**Koprukoy-ERZUR**	**18.52**	**318**	*e*P		**Pn**	**04 20 34.1**	**+1.2**
AKH	**Akhalkalaki**	**18.57**	**324**	⇓P		**Pn**	**04 20 34.8**	**+1.3**
KARO	**Karliova-Bingo**	**18.59**	**316**	*e*P		**Pn**	**04 20 34.8**	**+1.1**
GROC	**Groznyy**	**18.88**	**332**	*e*P		**P**	**04 20 35.7**	**-0.6**
GROC				pmax		pmax		
	comp=Z,67nm,1.2s							
YEDI	**Yedisu-Bingol**	**18.98**	**315**	*e*P		**Pn**	**04 20 38.9**	**+0.5**
URFA	**Urfa**	**19.09**	**308**	*e*P		**P**	**04 20 38.6**	**-0.1**
KK31	**Karatay Array**	**19.13**	**30**	*e*P		**P**	**04 20 38.4**	**-0.7**
KK31	**Karatay Array**	**19.13**	**30**	P		**P**	**04 20 38.7**	**-0.4**
KK31				lAmb		lAmb	04 20 42.0	
	comp=Z,76nm,0.8s							
KKAR	**Karatay Array**	**19.13**	**30**	P		**P**	**04 20 38.2**	**-0.9**
KKAR	**Karatay Array**	**19.13**	**30**	P		**P**	**04 20 38.1**	**-0.9**
KOPT	**Kop Dagi**	**19.35**	**317**	P		**P**	**04 20 40.5**	**-1.4**
KOPT				lAmb		lAmb	04 20 55.6	
	comp=Z,45nm,0.8s							
ZEI	**Tsey**	**19.39**	**328**	*e*P		**Pn**	**04 20 42.7**	**-0.7**
ZEI				pmax		pmax		
	comp=Z,31nm,0.8s							
KSH	**Kashi**	**19.65**	**46**	P		**P**	**04 20 39.0**	**-5.9**
KSH				pP		Pn	04 20 45.0	-1.4
KSH				pmax		pmax		
	comp=Z,150nm,0.6s							
KSH				pmax		pmax		
	comp=Z,250nm,5.1s							
MALT	**Malatya**	**19.77**	**310**	*e*P		**Pn**	**04 20 47.6**	**-0.3**
CHOM	**Cayeli-Rize**	**19.86**	**319**	*e*P		**Pn**	**04 20 48.6**	**-0.2**
AML	**Almayashu**	**19.95**	**37**	P		**P**	**04 20 48.4**	**-0.1**
	SNR=46							
NCK	**Nalchik**	**20.08**	**329**	*i* P		Pn	04 20 51.1	-0.3
NCK				pmax		pmax		
	comp=Z,54nm,0.9s							
HWQ	**Hawqa**	**20.11**	**296**	*e*P		Pn	04 20 51.6	-0.3
GAZ	**Gaziantep**	**20.12**	**305**	*e*P		Pn	04 20 51.2	-0.8
GAZ	**Gaziantep**	**20.12**	**305**	P		**P**	**04 20 49.8**	**-0.3**
GAZ				lAmb		lAmb	04 20 53.2	
	comp=Z,37nm,0.7s							
QRWL	**Qaraoun**	**20.14**	**294**	*e*P		Pn	04 20 51.5	-0.8
BHL	**Bhannes**	**20.25**	**295**	*e*P		Pn	04 20 52.6	-0.9
EIL	**Elat**	**20.26**	**283**	P		Pn	04 20 52.6	-0.9
	comp=Z,63nm,0.9s,baz=92,slow=4.1,SNR=30							
EIL				LR		LR	04 30 49.6	
	comp=Z,134nm,18.0s,baz=102,slow=43							
MMAI	**Mount Meron Ar**	**20.26**	**293**	P		Pn	04 20 52.8	-0.8
	comp=Z,14nm,0.7s,baz=94,slow=12,SNR=14							
MMAI				S		S	04 24 17.5	-20
	comp=Z,1.9nm,0.6s,baz=105,slow=23,SNR=2.2							
MMAI				LR		LR	04 30 48.0	
	comp=Z,48nm,19.4s,baz=20,slow=43							
DQRL	**Deir Qamar**	**20.27**	**295**	*e*P		Pn	04 20 53.1	-0.7
NEY	**Neytrino**	**20.31**	**327**	*c* iP		Pn	04 20 55.0	+0.8
NEY				pmax		pmax		
	comp=Z,9.0nm,0.8s							
EKS2	**Erkin-Say**	**20.37**	**36**	P		**P**	**04 20 53.5**	**+0.7**
	SNR=46							
KTUT	**Trabzon**	**20.38**	**318**	*e*P		Pn	04 20 53.8	-1.1
UCH	**Uchtor**	**20.46**	**38**	P		**P**	**04 20 54.1**	**0.0**
	SNR=31							
KMRS	**Kahramanmaras**	**20.49**	**306**	*e*P		Pn	04 20 55.1	-1.1
DARE	**Darende-Malaty**	**20.55**	**309**	*e*P		Pn	04 20 56.2	-0.8
TAHT	**Tahtakopru-Hat**	**20.58**	**302**	*e*P		Pn	04 20 56.2	-1.0
KBZ	**Khabaz**	**20.59**	**328**	P		**P**	**04 20 55.5**	**+0.6**
	comp=Z,6.4nm,0.8s,baz=270,slow=6.2,SNR=10							
AAK	**Ala-Archa**	**20.73**	**37**	P		**P**	**04 20 57.4**	**+0.7**
	comp=Z,15nm,0.5s,baz=204,slow=4.9,SNR=59							
AAK				LR		LR	04 29 02.9	
	comp=Z,30nm,20.1s,baz=253,slow=37							
AAK	**Ala-Archa**	**20.73**	**37**	P		**P**	**04 20 57.4**	**+0.7**
	SNR=28							
AAK	**Ala-Archa**	**20.73**	**37**	*i* P		**P**	**04 20 57.4**	**+0.7**
	SNR=42							
AAK	**Ala-Archa**	**20.73**	**37**	*ce*P		**P**	**04 20 57.2**	**+0.5**
AAK				pmax		pmax		
	comp=Z,109nm,1.3s							
AAK	**Ala-Archa**	**20.73**	**37**	P		**P**	**04 20 57.2**	**+0.5**
ATD	**Arta Tunnel**	**20.82**	**225**	LR		LR	04 29 51.7	
	comp=Z,78nm,20.5s,baz=38,slow=39							
KVAR	**Kislovodsk Arr**	**20.85**	**328**	LR		LR	04 31 21.4	
	comp=Z,122nm,21.7s,baz=132,slow=44							
KIV	**Kislovodsk**	**20.86**	**328**	⇑P		Pn	04 20 59.7	-0.8
KIV	**Kislovodsk**	**20.86**	**328**	*i* P	

comp=Z,24nm,1.1s
WMQ pmax pmax
comp=Z,120nm,4.5s
ARU Arti 29.42 1 LR LR 04 36 29.2
comp=Z,45nm,21.6s,baz=184,slow=42
TPGR Topolog 29.48 315 ⇑P **P 04 22 19.7 -0.1**
CFR Carcaliu 29.81 315 ⇑P **P 04 22 22.2 -0.4**
RAZG Razgrad 30.18 311 ⇑P **P 04 22 26.8 +0.8**
SHL Shillong 30.57 85 P **P 04 22 30.1 +0.2**
SHL pmax pmax
comp=Z,4.0nm,0.7s
SHL Shillong 30.57 85 P **P 04 22 30.1 +0.2**
SGRR Singureni 30.79 312 ⇓P **P 04 22 32.3 +0.9**
VRI Vrincioaia 31.00 316 ⇑P **P 04 22 33.6 +0.3**
PLOR Plostina 31.04 316 ⇑P **P 04 22 34.6 +0.9**
NEHR Nehoiu 31.08 315 ⇑P **P 04 22 34.0 0.0**
COPA Copaceanca 31.26 312 ⇓P **P 04 22 36.4 +0.8**
MLR Muntele Rosu 31.33 314 ⇑P **P 04 22 36.9 +0.5**
MLR Muntele Rosu 31.33 314 P **P 04 22 37.0 +0.7**
MLR pmax pmax
comp=Z,9.0nm,0.7s
MLR Muntele Rosu 31.33 314 P **P 04 22 37.0 +0.7**
MLR IAmb IAmb 04 22 39.6
comp=Z,8.5nm,0.7s
TESR Tescani 31.34 317 ⇑P **P 04 22 36.3 0.0**
PLVB Pleven 31.39 310 ⇑P **P 04 22 37.3 +0.7**
VLAD Vladila 31.75 311 ⇑P **P 04 22 40.7 +0.8**
BIZ Bicaz 31.88 317 ⇓P **P 04 22 41.2 +0.3**
VOIR 31.88 314 ⇑P **P 04 22 41.8 +0.7**
DOPR Dopca 31.89 315 ⇑P **P 04 22 41.6 +0.5**
OBN Obninsk 32.06 337 ⇓*eP* **P 04 22 42.1 -0.4**
OBN *e* 04 23 49.6
OBN *e* 04 25 32.1
OBN pmax pmax
comp=Z,38nm,1.4s
OBN MLR MLR
comp=Z,42nm,14.0s
OBN Obninsk 32.06 337 P **P 04 22 42.1 -0.4**
VTS Vitosha 32.10 308 ⇑P **P 04 22 43.6 +0.4**
VTS Vitosha 32.10 308 P **P 04 22 43.5 +0.4**
VTS pmax pmax
comp=Z,8.0nm,0.9s
VTS Vitosha 32.10 308 P **P 04 22 43.5 +0.4**
KIRV Kirov 32.12 352 *ce*P **P 04 22 42.0 -0.9**
ARR Arges 32.12 314 ⇓P **P 04 22 43.5 +0.3**
AKASG Malin Array Be 32.13 325 P **P 04 22 42.0 -1.1**
comp=Z,13nm,0.6s,baz=128,slow=8.6,SNR=62
AKASG Malin Array Be 32.13 325 P **P 04 22 41.5 -1.6**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 32.13 325 P **P 04 22 41.5 -1.6**
AKBB Malin Array Si 32.13 325 *ce*P **P 04 22 41.9 -1.2**
AKBB Malin Array Si 32.13 325 P **P 04 22 41.5 -1.6**
DGZ Jazzator, Ålta 32.14 37 *c iP* **P 04 22 43.8 +0.4**
DGZ pmax pmax
comp=Z,6.0nm,0.5s
MOS Moscow 32.21 339 *eP* **P 04 22 43.7 0.0**
MOS *e* 04 23 50.3
STIP Stip 32.58 306 ⇓*iP* **P 04 22 45.8 -1.4**
LOT Lotru 32.71 313 ⇑P **P 04 22 48.5 +0.1**
BURAR Bucovina Array 32.72 318 ⇑P **P 04 22 48.9 +0.4**
BURAR Bucovina Array 32.72 318 P **P 04 22 47.6 -0.9**
BUR08 Bucovina Ar. S 32.75 318 P **P 04 22 48.2 -0.5**
BUR08 IAmb IAmb 04 22 49.6
comp=Z,14nm,1.2s
SRE Strehaia 32.79 312 ⇑P **P 04 22 49.5 +0.4**
FNA Florina 32.95 304 P **P 04 22 51.1 +0.6**
FNA pmax pmax
comp=Z,28nm,0.7s
FNA Florina 32.95 304 P **P 04 22 51.1 +0.6**
ARCR ARCALIA 33.01 316 ⇑P **P 04 22 51.7 +0.7**
SKO Skopje 33.19 306 ⇓*iP* **P 04 22 52.3 -0.2**
CJR Cluj-Napoca 33.33 315 ⇓P **P 04 22 54.1 +0.4**
GZR Gura Zlata 33.34 313 ⇑P **P 04 22 53.5 -0.4**
HERR Herculane 33.40 312 ⇑P **P 04 22 54.7 +0.4**
DEV Deva 33.44 314 ⇑P **P 04 22 54.7 +0.1**
OHR Ohrid 33.45 304 ⇓*iP* **P 04 22 54.8 -0.1**
ZAA0 Zalesovo Array 33.50 29 P **P 04 22 54.3 -0.8**
ZAA0 IAmb IAmb 04 22 55.9
comp=Z,18nm,0.7s
ZALV Zalesovo Beam 33.50 29 P **P 04 22 54.6 -0.5**
comp=Z,18nm,0.5s,baz=243,slow=10.0,SNR=74
ZALV Zalesovo Beam 33.50 29 P **P 04 22 54.2 -0.9**
MDVR Moldovita 33.83 311 ⇓P **P 04 22 58.8 +0.6**
DRGR 33.91 315 ⇓P **P 04 22 59.2 +0.4**
BZS Buzias 34.18 313 ⇓P **P 04 23 01.5 +0.4**
KMBO Kilima Mbogo 34.23 219 P **P 04 23 04.7 +2.6**
comp=Z,1.9nm,0.8s,baz=57,slow=11,SNR=5.7
KMBO Kilima Mbogo 34.23 219 *ce*P **P 04 23 05.0 +2.9**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
BANR Banloc 34.42 312 ⇓P **P 04 23 03.9 +0.8**
LVV L'vov 34.45 321 *eP* **P 04 23 02.4 -1.0**
UZH Uzhgorod 34.93 318 *eP* **P 04 23 08.0 +0.5**
UZH *e* 04 23 16.4
KOLS Kolonicke sedl 35.07 318 *eP* **P 04 23 09.5 +0.7**
KOLS pmax pmax
comp=Z,69nm,0.8s
KOLS Kolonicke sedl 35.07 318 *eP* **P 04 23 09.5 +0.7**
MNK Minsk 35.12 330 *i* P **P 04 23 05.1 -4.0**
comp=E,1.0nm,0.5s
MNK *i* P **P 04 23 05.1 -4.0**
comp=N,8.0nm,0.6s
MNK *i* P **P 04 23 05.1 -4.0**
comp=Z,9.0nm,0.4s
MNK *i* PP **PnPn 04 24 22.4 -4.4**
MNK *i* PPP PPP 04 24 35.1
MNK *i* PcP **PcP 04 25 36.6 -3.5**
MNK *i* S **S 04 28 36.8 -3.3**
MNK *i* ScP **ScP 04 29 22.2 -1.7**
MNK *i* PcS **PcS 04 29 23.5 -3.2**
MNK *i* SS **SnSn 04 30 55.6 -2.0**
MNK *i* SSS SSS 04 31 11.9
MNK *i* ScS **ScS 04 33 26.4 -1.2**
MNK *i* LQ LQ 04 34 46.3
MNK *i* LR LR 04 37 26.6
MNK *i* LRM MLR 04 39 32.3
comp=E,10.0nm,13.8s
MNK *i* LRM MLR 04 39 33.9
comp=N,249nm,14.5s
MNK *i* LRM MLR 04 39 38.1
comp=Z,91nm,12.2s
KWP Kalwaria Pacla 35.13 320 *eP* **P 04 23 09.3 +0.1**
FRGS Fruska Gora 35.23 311 ⇑P **P 04 23 10.8 +0.6**
CRVS Cervenica-Dubn 35.54 318 *eP* **P 04 23 13.1 +0.3**
CRVS pmax pmax
comp=Z,47nm,1.3s
CRVS Cervenica-Dubn 35.54 318 *eP* **P 04 23 13.1 +0.3**
NACGM Naroch 35.87 330 *i* P **P 04 23 14.7 -0.8**
NACGM *i* P **P 04 23 14.7 -0.8**
NACGM *i* P **P 04 23 14.7 -0.8**
NACGM *i* PP **PnPn 04 24 31.2 -5.0**
NACGM *i* PPP PPP 04 24 47.2
NACGM *i* S **S 04 28 57.9 +6.3**
NACGM *i* SS **SS 04 31 23.2 -5.1**
NACGM *i* SSS SSS 04 31 52.4
NACGM *i* LQ LQ 04 35 39.7
NACGM *i* LR LR 04 38 13.8
KECS Kecovo 35.96 317 *eP* **P 04 23 16.9 +0.5**
KECS pmax pmax
comp=Z,10.0nm,0.8s
KECS Kecovo 35.96 317 *eP* **P 04 23 16.9 +0.5**
KLMR Klimovskoe 36.05 345 *eP* **P 04 23 15.3 -1.7**
KLMR pmax pmax
comp=Z,9.0nm,0.6s
KLMR Klimovskoe 36.05 345 *eP* **P 04 23 15.4 -1.6**
KLMR AMP 04 23 16.3
comp=Z,9.0nm,0.6s
PSZ Piszkesteto 36.12 316 ⇑P **P 04 23 18.1 +0.3**
PSZ Piszkesteto 36.12 316 P **P 04 23 17.3 -0.5**
PSZ pmax pmax
comp=Z,20nm,1.1s
PSZ Piszkesteto 36.12 316 P **P 04 23 17.3 -0.5**
PSZ IAmb IAmb 04 23 18.8
comp=Z,20nm,1.1s
IDID Didziasalis 36.15 330 *eP* **P 04 23 18.2 +0.4**
TIP Timpagrande 36.16 300 ⇑P **P 04 23 19.0 +0.7**
TIP Timpagrande 36.16 300 P **P 04 23 18.3 0.0**
MORH Mrgy, Hungar 36.34 312 ⇓P **P 04 23 20.0 +0.4**
IIGN Ignalina 36.40 330 *eP* **P 04 23 20.6 +0.5**
ISAL Salakas 36.58 330 *eP* **P 04 23 22.0 +0.4**
RICI Ricice 36.64 307 P **P 04 23 20.9 -1.4**
LANS Liptovska Anna 36.84 317 *eP* **P 04 23 24.5 +0.5**
LANS pmax pmax
comp=Z,12nm,0.8s
LANS Liptovska Anna 36.84 317 *eP* **P 04 23 24.5 +0.5**
VYHS Vyhne 36.98 316 *eP* **P 04 23 25.4 +0.2**
VYHS Vyhne 36.98 316 *eP* **P 04 23 25.4 +0.2**
GTA Gaotai 36.99 60 ⇑P **P 04 23 27.0 +1.6**
GTA pP pP 04 23 31.5 -2.5
GTA sP sP 04 23 34.0 -3.3
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,54nm,4.2s
GTA LR LR
comp=Z,81nm,15.6s
GTA LR LR
comp=Z,130nm,14.5s
SRO2 Moca 37.01 315 *eP* **P 04 23 24.6 -0.7**
SRO2 pmax pmax
comp=Z,46nm,1.0s
SRO2 Moca 37.01 315 *eP* **P 04 23 24.6 -0.7**
SRO Srobarova 37.07 315 *eP* **P 04 23 26.3 +0.4**
SRO pmax pmax
comp=Z,31nm,0.9s
SRO Srobarova 37.07 315 *eP* **P 04 23 26.3 +0.4**
OJC Ojcow 37.08 319 *eP* **P 04 23 25.7 -0.2**
PABE Paberze 37.52 329 *eP* **P 04 23 29.8 +0.2**
MORI Morici 37.73 308 *i* P **P 04 23 31.2 -0.3**
ZIRJ Zirje 37.73 307 *i* P **P 04 23 31.3 -0.2**
KALN Kalnik 37.77 311 *i* P **P 04 23 31.6 -0.2**
JAVC Velka Javorina 37.84 316 *eP* **P 04 23 33.0 +0.6**
UDBI Udbina 37.84 309 *i* P **P 04 23 31.3 -1.1**
SMOL Smolenice 37.87 315 *eP* **P 04 23 32.4 -0.2**
SMOL pmax pmax
comp=Z,10.0nm,0.8s
SMOL Smolenice 37.87 315 *eP* **P 04 23 32.4 -0.2**
MODS Modra-Piesok 37.92 315 *eP* **P 04 23 33.1 0.0**
MODS pmax pmax
comp=Z,26nm,1.2s
MODS Modra-Piesok 37.92 315 *eP* **P 04 23 33.1 0.0**
ZST Bratislava 37.97 315 *eP* **P 04 23 33.6 +0.1**
ZST pmax pmax
comp=Z,34nm,1.1s
ZST Bratislava 37.97 315 *eP* **P 04 23 33.6 +0.1**
KOGS Kog 37.99 312 ⇓*iP* **P 04 23 33.8 +0.2**
comp=Z,85nm,0.6s
PTJ Puntijarka 38.04 311 P **P 04 23 33.7 -0.4**
VSU Vasula 38.20 334 *eP* **P 04 23 35.1 0.0**
MORC Moravsky Berou 38.24 317 ⇑P **P 04 23 35.6 -0.2**
MORC Moravsky Berou 38.24 317 *eP* **P 04 23 35.1 -0.8**
MORC Moravsky Berou 38.24 317 P **P 04 23 35.0 -0.8**
MORC pmax pmax
comp=Z,12nm,0.9s
MORC Moravsky Berou 38.24 317 P **P 04 23 35.0 -0.8**
OZLJ Ozalj 38.30 310 *i* P **P 04 23 36.4 +0.1**
BOJS Bojanci 38.42 310 ⇓*iP* **P 04 23 37.7 +0.4**
comp=Z,70nm,0.7s
NVLJ Novalja 38.47 309 *i* P **P 04 23 35.9 -1.8**
VRAC Vranov 38.66 316 ⇑P **P 04 23 39.4 +0.1**
VRAC Vranov 38.66 316 *eP* **P 04 23 38.8 -0.5**
CONA Conrad Observa 38.67 314 *eP* **P 04 23 39.2 -0.3**
comp=Z,4.2nm,0.6s,SNR=5.8
ARSA Arzberg 38.70 313 *eP* **P 04 23 39.8 +0.1**
comp=Z,18nm,0.8s,SNR=11
KRUC Moravsky 38.70 316 *eP* **P 04 23 39.5 -0.1**
INTR Introdacqua 38.70 304 P **P 04 23 39.7 -0.1**
INTR IAmb IAmb 04 23 42.2
comp=Z,40nm,1.1s
CMAR Chiang Mai Arr 38.78 94 LR LR 04 41 39.0
comp=Z,49nm,19.4s,baz=310,slow=39
PERS Pernice 38.80 312 ⇓*iP* **P 04 23 40.4 -0.2**
KRLC Kraliky 38.81 318 *eP* **P 04 23 39.9 -0.7**
KRLC Kraliky 38.81 318 *eP* **P 04 23 39.9 -0.7**
SOKA Soboth 38.86 312 *eP* **P 04 23 41.1 0.0**
comp=Z,9.7nm,0.6s,SNR=6.5
AQU L'Aquila 39.12 305 P **P 04 23 44.0 +0.7**
AQU pmax pmax
comp=Z,28nm,0.8s
AQU L'Aquila 39.12 305 P **P 04 23 44.0 +0.7**
AQU IAmb IAmb 04 23 46.3
comp=Z,28nm,0.8s
OBKA Obir 39.14 311 *i* P **P 04 23 43.6 +0.1**
comp=Z,20nm,1.4s
DPC Dobruska-Polom 39.18 318 *eP* **P 04 23 43.0 -0.7**
DPC *e* 04 23 56.8
DPC Dobruska-Polom 39.18 318 *eP* **P 04 23 43.0 -0.7**
DPC *es*P **sP 04 23 56.8 +1.2**
OSTC Ostas 39.32 318 *eP* **P 04 23 43.7 -1.1**
TREC Trest 39.34 316 *eP* **P 04 23 44.8 -0.2**
TREC Trest 39.34 316 *eP* **P 04 23 44.8 -0.2**
KSP Ksiaz 39.38 319 *eP* **P 04 23 45.2 -0.1**
NRCA Norcia 39.40 305 P **P 04 23 45.9 +0.2**
NRCA IAmb IAmb 04 23 47.6
comp=Z,24nm,0.6s
UPC Upice 39.42 318 *eP* **P 04 23 45.0 -0.7**
UPC Upice 39.42 318 *eP* **P 04 23 45.0 -0.7**
CHVC Chvalec 39.43 318 *eP* **P 04 23 45.1 -0.6**
TRI Trieste 39.48 310 P **P 04 23 45.3 -0.9**
TRI pmax pmax
comp=Z,61nm,0.7s
TRI Trieste 39.48 310 P **P 04 23 45.3 -0.9**
MOA Molln 39.68 313 *i* P **P 04 23 47.7 -0.1**
comp=Z,12nm,0.6s,SNR=13
MYKA Terra Mystica 39.78 311 *eP* **P 04 23 48.7 0.0**
comp=Z,13nm,0.7s,SNR=7.4
MURB Monte Urbino 39.89 306 P **P 04 23 50.0 +0.2**
MURB IAmb IAmb 04 23 52.2
comp=Z,25nm,0.7s
CKRC Cesky Krumlov 39.93 315 *eP* **P 04 23 49.5 -0.4**
LZH Lanzhou 40.00 65 *eP* **P 04 23 53.0 +2.2**
LZH pP pP 04 23 56.0 -3.4
LZH sP sP 04 23 58.0 -4.7
LZH pmax pmax
comp=Z,19nm,1.2s
KBA Koelnbreinsper 40.09 312 *i* P **P 04 23 51.2 -0.2**
comp=Z,41nm,1.0s,SNR=16
PRU Pruhonice 40.14 317 *eP* **P 04 23 50.6 -1.0**
PRU Pruhonice 40.14 317 *eP* **P 04 23 50.6 -1.0**
ZOU Zoufplan 40.21 311 P **P 04 23 51.9 -0.6**
ZOU IAmb IAmb 04 23 53.3
comp=Z,18nm,0.9s
PVCC Panska Ves 40.30 318 *eP* **P 04 23 52.4 -0.5**
PVCC Panska Ves 40.30 318 *eP* **P 04 23 52.4 -0.5**
GEC2 GERESS Array S 40.32 315 P **P 04 23 52.5 -0.7**
GEC2 IAmb IAmb 04 23 53.7
comp=Z,38nm,1.4s
GEC2 GERESS Array S 40.32 315 *eP* **P 04 23 52.8 -0.4**
comp=Z,17nm,0.8s,baz=106,slow=8.3
GERES GERESS Array B 40.32 315 P **P 04 23 52.5 -0.4**
comp=Z,8.5nm,0.7s,baz=110,slow=9.5,SNR=81
GERES GERESS Array B 40.32 315 P **P 04 23 52.5 -0.7**
GERES GERESS Array B 40.32 315 P **P 04 23 52.5 -0.7**
LATE Laterza 40.32 305 P **P 04 23 52.4 -0.8**
PBCC Pribram 40.38 316 *eP* **P 04 23 52.9 -0.7**
FIA1 FINESS Array S 40.47 337 P **P 04 23 53.6 -0.5**
FIA1 IAmb IAmb 04 23 54.4
comp=Z,14nm,0.7s
FINES FINESS Array B 40.47 337 P **P 04 23 53.5 -0.6**
comp=Z,14nm,0.6s,baz=135,slow=9.4,SNR=125
FINES FINESS Array B 40.47 337 P **P 04 23 53.4 -0.7**
KHC Kasperske Hory 40.48 315 *eP* **P 04 23 53.8 -0.7**
KHC Kasperske Hory 40.48 315 *eP* **P 04 23 53.8 -0.7**
KHC Kasperske Hory 40.48 315 P **P 04 23 53.6 -0.8**
KHC IAmb IAmb 04 23 55.0
comp=Z,21nm,0.7s
ABTA Abteltersbach 40.56 311 *i* P **P 04 23 55.1 -0.2**
comp=Z,32nm,0.7s,SNR=16
RJOB Jochberg 40.61 313 *eP* **P 04 23 55.2 -0.4**
comp=Z,74nm,0.7s,baz=106,slow=8.3
MOY Mondy 40.70 41 *eP* **P 04 23 57.9 +1.5**
BRG Berggiesshubel 40.79 318 *eP* **P 04 23 56.4 -0.6**
BRG Amp 04 23 57.4
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 40.79 318 *eP* **P 04 23 56.5 -0.4**
comp=Z,8.0nm,0.9s,baz=106,slow=8.3
OSSC Osservatorio P 40.85 306 P **P 04 23 58.1 +0.5**
TEOL Teolo 40.85 309 P **P 04 23 57.0 -0.6**
WET Wettzell 40.92 315 *eP* **P 04 23 57.4 -0.8**
comp=Z,9.1nm,0.9s,baz=106,slow=8.3
CTI Castel Tesino 41.00 310 P **P 04 23 58.2 -0.7**
CTI pmax pmax
comp=Z,34nm,0.7s
CTI Castel Tesino 41.00 310 P **P 04 23 58.2 -0.7**
ZCCA Zocca 41.17 307 P **P 04 24 01.0 +0.8**
ZCCA IAmb IAmb 04 24 06.9
comp=Z,27nm,0.8s
WTTA Wattenberg 41.26 312 *i* P **P 04 24 00.4 -0.7**
comp=Z,44nm,0.7s,SNR=25
WATA Walderalm 41.32 312 *i* P **P 04 24 00.6 -0.9**
comp=Z,58nm,1.1s,SNR=18
CLL Collm 41.49 318 *i* P **P 04 24 02.1 -0.6**
comp=Z,21nm,1.0s
CLL Collm 41.49 318 P **P 04 24 02.2 -0.5**
CLL pmax pmax
comp=Z,23nm,1.1s
CLL Collm 41.49 318 P **P 04 24 02.1 -0.5**
CLL IAmb IAmb 04 24 03.6
comp=Z,23nm,1.1s
CLL Collm 41.49 318 *eP* **P 04 24 02.6 -0.1**
comp=Z,21nm,1.0s,baz=106,slow=8.3
NKC Novy Kostel 41.50 316 *eP* **P 04 24 02.3 -0.5**
NKC Novy Kostel 41.50 316 *eP* **P 04 24 02.3 -0.5**
ROTZ Rotzenmuhle 41.52 316 *eP* **P 04 24 02.7 -0.3**
comp=Z,13nm,0.8s,baz=106,slow=8.3
SQTA Sankt Quirin 41.54 312 *i* P **P 04 24 02.4 -0.9**
comp=Z,40nm,0.6s,SNR=25
MOTA Moosalm 41.63 312 *eP* **P 04 24 03.3 -0.9**
comp=Z,42nm,0.7s,SNR=16
SALO Salr 41.69 309 P **P 04 24 04.1 -0.4**
PRMA PARMA 41.70 308 P **P 04 24 05.6 +1.1**
FETA Feichten 41.82 311 *i* P **P 04 24 05.0 -0.6**
comp=Z,44nm,0.6s,SNR=34
RETA Reutte 41.89 312 *eP* **P 04 24 05.0 -1.1**
comp=Z,26nm,1.0s,SNR=7.5
GRA1 Grafenberg Arr 42.11 315 P **P 04 24 07.2 -0.6**
GRA1 IAmb IAmb 04 24 08.7
comp=Z,26nm,0.8s
GRF Grafenberg Arr 42.11 315 P **P 04 24 07.2 -0.6**
GRF pmax pmax
comp=Z,26nm,0.8s
GRF Grafenberg Arr 42.11 315 *eP* **P 04 24 07.8 -0.1**
comp=Z,30nm,0.9s,baz=106,slow=8.3
GRF *eL* L 04 44 41.3
comp=Z,47nm,20.2s
GRFO Grafenberg 42.11 315 P **P 04 24 07.5 -0.3**
GRFO pmax pmax
comp=Z,24nm,0.8s
GRFO Grafenberg 42.11 315 P **P 04 24 07.5 -0.3**
GRFO IAmb IAmb 04 24 08.7
comp=Z,24nm,0.8s
MOX Moxa 42.13 317 *eL* L 04 44 57.3
comp=Z,43nm,18.6s
NEUB Neuenburg 42.19 318 *eP* **P 04 24 08.4 0.0**
comp=Z,22nm,0.9s,baz=106,slow=8.3
MSSA Maissana 42.20 307 P **P 04 24 07.6 -1.2**
MSSA IAmb IAmb 04 24 10.5
comp=Z,17nm,0.8s
UBR Ueberruh 42.36 312 *eP* **P 04 24 09.2 -0.8**
comp=Z,72nm,1.4s,baz=106,slow=8.3
DAVA Damuels 42.44 312 *i* P **P 04 24 09.8 -0.9**
comp=Z,75nm,0.7s,SNR=26
TUE Stuetta 42.65 310 P **P 04 24 11.7 -0.8**
FLTG Flechtingen 42.85 319 *eP* **P 04 24 13.6 -0.2**
comp=Z,38nm,0.8s,baz=106,slow=8.3
SONM Songino Array 43.04 48 P **P 04 24 16.1 +0.6**
comp=Z,3.9nm,0.8s,baz=251,slow=9.4,SNR=22
SONM LR LR 04 44 48.1
comp=Z,95nm,19.6s,baz=37,slow=40
SONM Songino Array 43.04 48 P **P 04 24 16.2 +0.6**
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 43.04 48 P **P 04 24 16.1 +0.6**
ASSE Asse, Remlinge 43.12 319 *eP* **P 04 24 15.9 +0.1**
comp=Z,17nm,1.0s,baz=106,slow=8.3
LHMI Lhok Sumawe 43.14 113 P **P 04 24 16.9 +0.4**
CLZ Clausthal 43.22 318 *eP* **P 04 24 16.9 +0.1**
comp=Z,30nm,0.9s,baz=106,slow=8.3
ULN Ulaanbaatar 43.48 48 *ce*P **P 04 24 19.5 +0.4**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 43.48 48 P **P 04 24 19.9 +0.7**
TNS Taunus Mts 43.98 315 *eP* **P 04 24 23.0 0.0**
comp=Z,21nm,1.1s,baz=106,slow=8.3
SENIN Lac Senin/Sane 44.03 310 P **P 04 24 22.4 -1.3**
KASTN Kahler Asten 44.23 317 *eP* **P 04 24 25.3 +0.3**
comp=Z,14nm,0.8s,baz=106,slow=8.3
BNI Bardonecchia 44.30 308 P **P 04 24 24.6 -1.2**
BNI pmax pmax
comp=Z,31nm,0.8s
BNI Bardonecchia 44.30 308 P **P 04 24 24.6 -1.2**
ECH Echery 44.41 312 P **P 04 24 25.3 -1.2**
ECH pmax pmax
comp=Z,24nm,1.3s
ECH Echery 44.41 312 P **P 04 24 25.3 -1.2**
ECH IAmb IAmb 04 24 26.5
comp=Z,24nm,1.3s
WLF Walferdange 45.32 314 *dx* **P 04 24 33.2 -0.4**
BTNL Ternell 45.51 316 *dx* **P 04 24 35.4 +0.2**
MEM Membach 45.59 316 *dx* **P 04 24 36.4 +0.7**
NRIK Noril'sk 45.82 14 P **P 04 24 37.4 +0.1**
comp=Z,4.4nm,0.8s,baz=254,slow=4.3,SNR=8.0
NRIK LR LR 04 46 23.3
comp=Z,52nm,18.9s,baz=196,slow=40
NRIK Noril'sk 45.82 14 P **P 04 24 37.0 -0.3**
SSB Saint Sauveur 45.83 308 P **P 04 24 36.7 -1.1**
SSB pmax pmax
comp=Z,37nm,0.8s
SSB Saint Sauveur 45.83 308 P **P 04 24 36.7 -1.1**
NC602 NORSAR Array S 45.85 330 *eP* **P 04 24 36.5 -1.2**
OSL Oslo 45.88 329 *eP* **P 04 24 37.1 -0.7**
BCLA Clavier 45.99 315 *dP* **P 04 24 38.6 -0.3**
HHC Hu-ho-hao-te 46.06 58 *eP* **P 04 24 40.5 +0.8**
HHC PP **PP 04 26 29.5 +1.6**
HHC S **S 04 31 25.0 +1.3**
HHC SS **SS 04 34 43.5 -5.2**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,72nm,8.0s
HHC LR LR
comp=Z,74nm,18.0s
HHC LR LR
comp=Z,120nm,11.6s
HHC LR LR
comp=Z,120nm,13.6s
BGES Gesves 46.12 315 *dx* **P 04 24 40.6 +0.6**
NB2 NORSAR Subarra 46.13 331 P **P 04 24 38.4 -1.5**
comp=Z,1.3nm,0.5s,baz=113,slow=7.9
NB2 NORSAR Subarra 46.13 331 P **P 04 24 38.4 -1.5**
baz=113,slow=7.9
NOA NORSAR Array B 46.13 331 P **P 04 24 38.7 -1.3**
comp=Z,1.9nm,0.5s,baz=132,slow=7.7,SNR=14
NOA LR LR 04 47 28.2
comp=Z,39nm,18.4s,baz=125,slow=41
KONO Kongsberg 46.28 328 *eP* **P 04 24 40.0 -1.1**
BMRD Maredsous 46.31 315 *dx* **P 04 24 42.1 +0.7**
ARA0 ARCESS Array S 46.53 345 *eP* **P 04 24 42.5 -0.4**
ARCES ARCESS Array B 46.53 345 P **P 04 24 42.4 -0.6**
comp=Z,2.6nm,0.5s,baz=138,slow=8.5,SNR=38
ARCES PcP **PcP 04 26 16.6 -0.2**
comp=Z,3.3nm,0.9s,baz=136,slow=1.6,SNR=4.5
ARCES ARCESS Array B 46.53 345 IAmb IAmb 04 24 53.5
comp=Z,10nm,1.2s
KTK1 Kautokeino 46.69 344 *eP* **P 04 24 43.8 -0.4**
SKAR Skarslia 47.28 329 *eP* **P 04 24 48.6 -0.4**
TAM Tamanrasset 47.30 277 P **P 04 24 49.8 0.0**
TAM pmax pmax
comp=Z,8.0nm,0.8s
TAM Tamanrasset 47.30 277 P **P 04 24 49.8 0.0**
TAM IAmb IAmb 04 24 51.3
comp=Z,7.7nm,0.8s
MOR8 Moi Rana 47.45 338 *eP* **P 04 24 48.9 -1.2**
NSS Namsos 47.47 335 *eP* **P 04 24 49.6 -0.7**
DOMB Dombas 47.49 331 *eP* **P 04 24 50.1 -0.5**
HAMF Hammerfest 47.78 345 *eP* **P 04 24 52.2 -0.3**
JETT Jettan, Norway 47.79 343 *eP* **P 04 24 52.6 -0.2**
N2IH Innhavet 48.02 340 *eP* **P 04 24 55.2 +0.8**
STOK Stokkvaagen 48.02 338 *eP* **P 04 24 54.1 -0.4**
N2TV TYrnvik 48.03 340 *eP* **P 04 24 55.5 +1.0**
STEI Steigen 48.21 340 *eP* **P 04 24 55.1 -0.8**
TRO Tromso 48.23 343 *eP* **P 04 24 55.7 -0.3**
MOL Molde 48.36 332 *eP* **P 04 24 56.5 -0.6**
LOF Lofoten 48.84 340 *eP* **P 04 24 59.3 -1.5**
BJI Beijing 49.60 59 P **P 04 25 06.5 -0.5**
BJI pmax pmax
comp=Z,4.0nm,0.5s
BJI LR LR
comp=Z,86nm,8.9s
BJI LR LR
comp=Z,110nm,10.6s

BOD	**Bodaibo**	**49.71**	**36**	*eP*	**P**		**04 25 07.3**	**-0.3**
BOD				pmax	pmax				
	comp=Z,20nm,1.1s								
ESBB	**Sonseca Array**	**52.18**	**301**	P	**P**		**04 25 26.4**	**-0.2**
ESBB				IAmb	IAmb		04 25 27.1		
	comp=Z,8.9nm,0.6s								
ESDC	**Sonseca Array**	**52.18**	**301**	P	**P**		**04 25 25.6**	**-0.9**
	comp=Z,8.4nm,0.5s,baz=64,slow=7.7,SNR=55								
ESDC	**Sonseca Array**	**52.18**	**301**	P	**P**		**04 25 25.9**	**-0.7**
ESDC				IAmb	IAmb		04 25 27.1		
	comp=Z,10.0nm,0.8s								
PAB	**San Pablo**	**52.49**	**301**	P	**P**		**04 25 28.3**	**-0.6**
PAB				pmax	pmax				
	comp=Z,19nm,0.8s								
PAB	**San Pablo**	**52.49**	**301**	P	**P**		**04 25 28.3**	**-0.6**
PAB				IAmb	IAmb		04 25 29.8		
	comp=Z,19nm,0.8s								
NJ2	**Nanjing**	**52.79**	**69**	*eP*	**P**		**04 25 30.3**	**-0.8**
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
TOA0	**Torodi Ar. Sit**	**54.04**	**267**	P	**P**		**04 25 39.8**	**-0.7**
TOA0				IAmb	IAmb		04 25 40.7		
	comp=Z,10nm,0.6s								
TORD	**Torodi Ar. Bea**	**54.04**	**267**	P	**P**		**04 25 39.9**	**-0.6**
	comp=Z,9.7nm,0.6s,baz=59,slow=7.2,SNR=49								
TORD				LR	LR		04 50 05.6		
	comp=Z,42nm,19.1s,baz=145,slow=38								
TORD	**Torodi Ar. Bea**	**54.04**	**267**	P	**P**		**04 25 39.5**	**-1.0**
TORD				IAmb	IAmb		04 25 40.7		
	comp=Z,7.9nm,0.7s								
PBRG	**Braganca**	**54.06**	**304**	*eP*	**P**		**04 25 40.8**	**+0.4**
	comp=Z,30nm,1.9s								
MVO	**Moncorvo**	**54.34**	**303**	*eP*	**P**		**04 25 43.0**	**+0.5**
	comp=Z,32nm,0.8s								
PBAR	**Barrancos**	**54.74**	**299**	*eP*	**P**		**04 25 45.3**	**0.0**
	comp=Z,29nm,1.0s								
MTE	**Manteigas**	**54.83**	**302**	*eP*	**P**		**04 25 46.8**	**+0.8**
	comp=Z,46nm,1.6s								
MTE	**Manteigas**	**54.83**	**302**	P	**P**		**04 25 45.8**	**-0.1**
PMRV	**Marv??o**	**54.84**	**301**	*eP*	**P**		**04 25 46.1**	**+0.1**
	comp=Z,17nm,2.1s								
PVRL	**Vila Real**	**54.85**	**303**	*eP*	**P**		**04 25 46.8**	**+0.7**
	comp=Z,50nm,1.6s								
PCBR	**Castelo Branco**	**54.85**	**301**	*eP*	**P**		**04 25 46.5**	**+0.4**
	comp=Z,17nm,1.6s								
POLO	**Lamas de Olo**	**54.89**	**303**	*eP*	**P**		**04 25 47.3**	**+0.8**
	comp=Z,18nm,1.1s								
PCAB	**Cabril**	**55.03**	**304**	*eP*	**P**		**04 25 48.2**	**+0.8**
	comp=Z,47nm,1.5s								
PVIS	**Viseu**	**55.05**	**302**	*eP*	**P**		**04 25 48.6**	**+1.0**
	comp=Z,39nm,1.3s								
PGAV	**Gavieira, Arco**	**55.18**	**304**	*eP*	**P**		**04 25 48.8**	**+0.2**
	comp=Z,50nm,1.3s								
PBEJ	**Beja**	**55.41**	**299**	*eP*	**P**		**04 25 48.9**	**-1.3**
	comp=Z,6.3nm,0.9s								
EVO	**Evora**	**55.45**	**300**	*eP*	**P**		**04 25 50.8**	**+0.4**
	comp=Z,24nm,0.9s								
COI	**Coimbra**	**55.51**	**302**	P	**P**		**04 25 51.1**	**+0.3**
COI				pmax	pmax				
	comp=Z,36nm,0.6s								
COI	**Coimbra**	**55.51**	**302**	*eP*	**P**		**04 25 51.7**	**+0.9**
	comp=Z,37nm,1.3s								
COI	**Coimbra**	**55.51**	**302**	P	**P**		**04 25 51.1**	**+0.3**
PMTG	**Montargil**	**55.53**	**300**	*eP*	**P**		**04 25 51.9**	**+0.9**
	comp=Z,17nm,2.5s								
PCAS	**Casmilo, Conde**	**55.60**	**302**	*eP*	**P**		**04 25 52.1**	**+0.6**
	comp=Z,29nm,1.9s								
PCVE	**Castro Verde**	**55.61**	**299**	*eP*	**P**		**04 25 51.4**	**-0.2**
	comp=Z,28nm,1.8s								
PSBE	**So Bento**	**55.90**	**301**	*eP*	**P**		**04 25 54.5**	**+0.8**
	comp=Z,46nm,1.5s								
PNCL	**Nicolau / Gran**	**55.91**	**299**	*eP*	**P**		**04 25 54.3**	**+0.5**
	comp=Z,34nm,1.8s								
PTEO	**Sao Teotonio**	**56.16**	**299**	*eP*	**P**		**04 25 56.4**	**+0.9**
	comp=Z,65nm,1.3s								
ZEA	**Zeya**	**56.71**	**42**	*eP*	**P**		**04 25 59.8**	**+0.6**
ZEA				pmax	pmax				
	comp=Z,10.0nm,1.2s								
KOWA	**Kowa**	**58.60**	**271**	P	**P**		**04 26 12.1**	**-1.0**
KOWA				IAmb	IAmb		04 26 13.6		
	comp=Z,11nm,0.7s								
TIXI	**Tiksi**	**58.69**	**21**	*ce*P	**P**		**04 26 11.7**	**-1.1**
TIXI				pmax	pmax				
	comp=Z,8.0nm,0.7s								
TIXI	**Tiksi**	**58.69**	**21**	P	**P**		**04 26 12.0**	**-0.8**
KS19	**Wonju Array Si**	**58.99**	**61**	P	**P**		**04 26 16.8**	**+1.3**
KS19				IAmb	IAmb		04 26 17.3		
	comp=Z,7.4nm,0.7s								
KSAR	**Wonju Array Be**	**59.02**	**61**	P	**P**		**04 26 15.2**	**-0.4**
KSAR	**Wonju Array Be**	**59.02**	**61**	P	**P**		**04 26 15.2**	**-0.4**
KSRS	**Korea Array**	**59.04**	**61**	P	**P**		**04 26 15.7**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=269,slow=7.4,SNR=29								
KSRS				LR	LR		04 55 44.0		
	comp=Z,40nm,18.3s,baz=172,slow=40								
KLR	**Kul'dur**	**59.85**	**47**	*ce*P	**P**		**04 26 20.5**	**-0.7**
KLR				pmax	pmax				
	comp=Z,4.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**60.78**	**52**	P	**P**		**04 26 27.1**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=273,slow=6.6,SNR=4.6								
DBIC	**Dimbokro**	**62.63**	**263**		**P**		**04 26 40.6**	**0.0**
	comp=Z,1.2nm,0.4s,baz=59,slow=5.1,SNR=4.5								
DBIC				LR	LR		04 58 15.1		
	comp=Z,37nm,18.3s,baz=88,slow=40								
BOSA	**Boshof**	**63.48**	**212**	P	**P**		**04 26 46.7**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=25,slow=6.6,SNR=8.5								
SUMG	**Summit**	**66.34**	**341**	*i* P	**P**		**04 27 04.4**	**0.0**
SUMG	**Summit**	**66.34**	**341**	*i* P	**P**		**04 27 04.4**	**0.0**
SUMG	**Summit**	**66.34**	**341**	P	**P**		**04 27 04.3**	**-0.1**
SUMG				IAmb	IAmb		04 27 06.2		
	comp=Z,7.6nm,0.8s								
SUMG	**Summit**	**66.34**	**341**	*i* P	**P**		**04 27 04.5**	**0.0**
MJAR	**Matsushiro Arr**	**67.24**	**59**	LR	LR		04 57 56.4		
	comp=Z,39nm,18.9s,baz=90,slow=37								
YSS	**Yuzh-Sakhalins**	**67.53**	**48**	*eP*	**P**		**04 27 11.9**	**0.0**
YSS				*e*			04 27 34.5		
YSS				pmax	pmax				
	comp=Z,20nm,0.7s								
YSS	**Yuzh-Sakhalins**	**67.53**	**48**	P	**P**		**04 27 11.7**	**-0.2**
BILL	**Bilibino**	**71.84**	**22**‖	*eP*	**P**		**04 27 38.5**	**+0.4**
BILL				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BILL	**Bilibino**	**71.84**	**22**	P	**P**		**04 27 39.5**	**+1.5**
TOLK	**Toolik Lake Re**	**82.55**	**10**	P	**P**		**04 28 38.1**	**-0.1**
C36M	**Paulatuk**	**83.94**	**1**	P	**P**		**04 28 44.7**	**-0.5**
BMAR	**Burnt Mountain**	**84.39**	**8**	P	**P**		**04 28 48.3**	**+0.6**
ILAR	**Eielson Array**	**86.54**	**10**	P	**P**		**04 28 57.6**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=324,slow=4.9,SNR=9.3								
WRA	**Warramunga Arr**	**87.60**	**114**	P	**P**		**04 29 05.8**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=312,slow=4.0,SNR=2.8								
K27K	**Chicken**	**87.95**	**9**	P	**P**		**04 29 05.7**	**+0.5**
K27K				IAmb	IAmb		04 29 20.6		
	comp=Z,4.7nm,0.8s								
ASAR	**Alice Springs**	**89.09**	**117**	P	**P**		**04 29 12.9**	**+1.6**
	comp=Z,0.2nm,0.8s,baz=196,slow=42,SNR=3.7								
YKA	**Yellowknife Ar**	**90.62**	**356**	P	**P**		**04 29 17.9**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=2.6,slow=4.5,SNR=16								
YKA	**Yellowknife Ar**	**90.62**	**356**	*ce*P	**P**		**04 29 17.8**	**0.0**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
MAW	**Mawson**	**94.38**	**178**	P	**P**		**04 29 37.2**	**+2.6**
	comp=Z,3.1nm,0.7s,baz=41,slow=9.3,SNR=2.4								
SYO	**Syowa Base**	**96.64**	**186**	‖ *ip*P	pP		04 29 52.0	-2.4	
NVAR	**Mina Array Bea**	**114.82**	**357**	PKP	PKPdf		04 34 57.6	+0.8	
	comp=Z,0.3nm,0.6s,baz=35,slow=3.3,SNR=2.3								
TXAR	**Lajitas Array**	**121.24**	**341**	PKP	**PKPdf**		**04 35 08.9**	**-0.3**	
	comp=Z,0.3nm,0.6s,baz=138,slow=2.0,SNR=5.0								

*IDC **29** 04:17:22.8±0.9, 15°.67S×70°.60W, h185km±10km, mb3.6/6, mb1 3.8/12, mb1mx3.6/30, mbtmp4.2/12, Error ellipse: s-maj=18.5km s-min=12.1km az=31.0*

*NEIC **29** 04:17:23.4±2.3, 15°.70S±0°.09×70°.6W±0°.1, h215km±13km, mb4.1/8, Error ellipse: s-maj=17.2km s-min=12.6km az=92.0*

*VAO **29** 04:17:25.7±0.6, 15°.60S×70°.30W, h187km, mb4.0*

ISC 29 04:17:22.4±0.5, **15°.68S**±0°.06×**70°.60W**±0°.06, **h193**km, **n72**, σ1°.**52**/**75**, **mb4.0**/**8**, **Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.45**	**105**	P	**Pn**	**04 18 07.8**	**+1.8**
	26nm,0.3s,baz=350,slow=7.9,SNR=966						
LPAZ				S	**Sn**	**04 18 39.8**	**0.0**
	18nm,0.3s,baz=20,slow=23,SNR=18						
LPAZ	**La Paz**	**2.45**	**105**		**Pn**	**04 18 08.3**	**+2.3**
AP01	**Chacalluta**	**2.68**	**175**		**Pn**	**04 18 09.9**	**+2.0**
PB16	**IPOC Station P**	**2.84**	**158**		**Pn**	**04 18 13.3**	**+3.0**
MNMC	**Minye Minye**	**3.56**	**164**	Pn	**Pn**	**04 18 20.7**	**+1.9**
PSGCX	**Pisagua**	**3.92**	**173**	Pn	**Pn**	**04 18 23.8**	**+0.7**
PB08	**IPOC Station P**	**4.64**	**163**	Pn	**Pn**	**04 18 34.2**	**+1.8**
TA01	**Diego Aracena**	**4.87**	**175**	Pn	**Pn**	**04 18 35.8**	**+0.8**
PB01	**IPOC Station P**	**5.43**	**169**		**Pn**	**04 18 43.1**	**+0.7**
PB07	**IPOC Station P**	**6.05**	**174**		**Pn**	**04 18 51.2**	**+0.8**
PB09	**IPOC Station P**	**6.22**	**168**		**Pn**	**04 18 53.8**	**+1.3**
PB04	**IPOC Station P**	**6.63**	**176**	Pn	**Pn**	**04 18 58.5**	**+0.6**
PB06	**IPOC Station P**	**7.05**	**172**	Pn	**Pn**	**04 19 04.1**	**+0.6**
LVC	**Limon Verde**	**7.07**	**167**	P	**Pn**	**04 19 05.6**	**+1.7**
	28nm,0.3s,baz=22,slow=9.6,SNR=325						
LVC				S	**Sn**	**04 20 21.3**	**-3.0**
	9.2nm,0.3s,baz=245,slow=22,SNR=5.0						
LVC	**Limon Verde**	**7.07**	**167**	Pn	**Pn**	**04 19 05.5**	**+1.6**
LVC	**Limon Verde**	**7.07**	**167**	*eP*	**Pn**	**04 19 05.8**	**+1.8**
NNA	**Nana**	**7.09**	**300**	P	**Pn**	**04 19 04.6**	**+0.8**
	7.6nm,0.3s,baz=151,slow=9.8,SNR=10						
NNA				S	**Sn**	**04 20 22.8**	**-1.4**
	2.5nm,0.3s,baz=198,slow=16,SNR=1.6						
ETMB	**Extrema**	**7.23**	**37**	*eP*	**Pn**	**04 19 05.5**	**-0.3**
PB15	**IPOC Station P**	**7.56**	**172**		**Pn**	**04 19 10.3**	**+0.2**
PB14	**IPOC Station P**	**8.90**	**179**	Pn	**Pn**	**04 19 26.5**	**-1.2**
SIV	**San Ignacio**	**9.18**	**93**	P	**Pn**	**04 19 29.9**	**-1.2**
	2.6nm,0.3s,baz=290,slow=10,SNR=56						
GO02	**Mina Guanaco**	**9.48**	**174**	Pn	**Pn**	**04 19 36.6**	**+1.3**
SAML	**Samuel**	**9.87**	**48**		**Pn**	**04 19 39.3**	**-0.8**
AC01	**Pan de Azucar**	**10.41**	**180**	Pn	**Pn**	**04 19 46.3**	**-0.8**
VILB	**Vilhena**	**10.44**	**76**	*eP*	**Pn**	**04 19 46.2**	**-1.4**
AC02	**Maricunga**	**11.18**	**173**		**Pn**	**04 19 58.0**	**+0.5**
GO03	**Copiap**	**11.86**	**178**	Pn	**Pn**	**04 20 07.1**	**+1.3**
LCO	**Las Campanas**	**13.27**	**180**	Pn	**Pn**	**04 20 23.7**	**0.0**
GO04	**Tololo Observa**	**14.42**	**181**		**P**	**04 20 40.8**	**+1.2**
AQDB	**Aquidauana**	**14.95**	**111**	*eP*	**P**	**04 20 45.8**	**+0.6**
MACA	**Manacapuru-AM**	**15.82**	**39**	*eP*	**P**	**04 20 54.7**	**-0.2**
CPUP	**Villa Florida**	**16.29**	**133**	P	**Pn**	**04 21 02.0**	**+1.4**
	0.1nm,0.3s,baz=316,slow=11,SNR=4.9						
CPUP	**Villa Florida**	**16.29**	**133**	P	**P**	**04 20 58.3**	**-1.7**
NPGB	**Nuno Progresso**	**17.23**	**62**	*eP*	**Pn**	**04 21 11.7**	**-0.2**
OTAV	**Otavalo**	**17.62**	**333**	P	**Pn**	**04 21 17.5**	**+0.6**
OTAV				IAmb	IAmb	04 21 27.2	
	comp=Z,7.4nm,0.8s						
OTAV	**Otavalo**	**17.62**	**333**	*eP*	**Pn**	**04 21 20.1**	**+3.2**
OTAV	**Otavalo**	**17.62**	**333**	*eP*	**Pn**	**04 21 19.9**	**+3.0**
GCUF	**Volcan Galeras**	**18.07**	**338**	*eP*	**Pn**	**04 21 23.2**	**+0.8**
PTGA	**Pitinga**	**18.19**	**36**	P	**P**	**04 21 21.2**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=207,slow=12,SNR=11						
PTGA	**Pitinga**	**18.19**	**36**	P	**Pn**	**04 21 22.7**	**-0.5**
PTGA				IAmb	IAmb	04 21 24.6	
	comp=Z,6.1nm,0.8s						
SOTA	**Rioblanco**	**18.67**	**341**	*eP*	**P**	**04 21 27.8**	**+1.1**
BBAC	**Balboa, Cauca**	**18.78**	**339**	*eP*	**Pn**	**04 21 29.4**	**-0.9**
PCON	**Cinco Dias**	**18.79**	**342**	*eP*	**Pn**	**04 21 30.2**	**-0.6**
ITQB	**Itaqui**	**18.95**	**140**	*eP*	**Pn**	**04 21 31.6**	**-0.4**
POPC	**Popayan, Colom**	**19.08**	**341**	*eP*	**P**	**04 21 32.4**	**+1.6**
SNDB	**Serra Nova Dou**	**19.11**	**81**	*eP*	**P**	**04 21 32.1**	**+1.2**
PCMB	**Pacaembu**	**19.24**	**111**	*eP*	**Pn**	**04 21 34.4**	**-1.1**
PTGB	**Pitanga**	**19.56**	**120**	*eP*	**P**	**04 21 37.4**	**+1.6**
ITRB	**Iturama**	**19.70**	**105**	*eP*	**P**	**04 21 38.0**	**+0.8**
YOTC	**Yotoco, Valle**	**20.35**	**343**	*eP*	**P**	**04 21 43.8**	**-0.5**
FRTB	**Fartura**	**21.23**	**114**	*eP*	**P**	**04 21 55.3**	**+1.9**
GUY2C	**Guyana, Caldas**	**21.30**	**347**	*eP*	**P**	**04 21 54.3**	**-0.4**
CPSB	**Cacapava Do Su**	**21.50**	**136**	*eP*	**P**	**04 21 58.7**	**+2.5**
BDFB	**Brasilia**	**21.75**	**93**	P	**P**	**04 21 57.6**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=265,slow=10,SNR=4.6						
BDFB	**Brasilia**	**21.75**	**93**	P	**P**	**04 21 58.0**	**-1.0**
BDFB				IAmb	IAmb	04 21 58.6	
	comp=Z,8.8nm,1.4s						
PEXB	**Peixe**	**21.94**	**83**	*eP*	**P**	**04 22 00.5**	**-0.3**
ZARC	**Zaragoza, Cauc**	**23.41**	**349**	*eP*	**P**	**04 22 08.8**	**-5.4**
SDV	**Santo Domingo**	**24.41**	**360**	P	**P**	**04 22 24.4**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=358,slow=17,SNR=4.0						
JANB	**Januaria**	**25.36**	**92**	*eP*	**P**	**04 22 31.8**	**-0.2**
NBIT	**Itapeh - BA**	**30.06**	**93**	*eP*	**P**	**04 23 14.0**	**+0.2**
TXAR	**Lajitas Array**	**54.97**	**324**	P	**P**	**04 26 35.1**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=152,slow=9.3,SNR=11						
TX31	**Lajitas Ar. Si**	**54.98**	**324**	P	**P**	**04 26 31.3**	**-2.6**
TX31				IAmb	IAmb	04 26 55.3	
	comp=Z,5.4nm,1.5s						
TX32	**Lajitas Array**	**54.98**	**324**	P	**P**	**04 26 31.3**	**-2.6**
S44A	**Carbondale**	**55.92**	**342**	P	**P**	**04 26 40.0**	**-0.3**
SIUC	**Southern Illin**	**55.92**	**342**	P	**P**	**04 26 39.5**	**-0.9**
PDAR	**Pinedale Array**	**68.29**	**330**	P	**P**	**04 28 04.2**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=125,slow=8.8,SNR=12						
ULM	**Lac du Bonnet**	**69.31**	**343**	P	**P**	**04 28 08.9**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=150,slow=6.0,SNR=10.0						
TORD	**Torodi Ar. Bea**	**77.02**	**72**	P	**P**	**04 28 54.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=268,slow=4.4,SNR=3.9						
YKA	**Yellowknife Ar**	**85.19**	**341**	P	**P**	**04 29 38.0**	**+1.4**
	comp=Z,2.4nm,0.8s,baz=131,slow=5.6,SNR=45						
KLR	**Kul'dur**	**141.89**	**336**	PKP	**PKiKP**	**04 36 33.1**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=176,slow=2.4,SNR=3.5						
MJAR	**Matsushiro Arr**	**147.03**	**315**	PKPbc	**PKPab**	**04 36 44.6**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=80,slow=1.7,SNR=6.9						
SONM	**Songino Array**	**147.84**	**4**	PKPbc	**PKiKP**	**04 36 46.7**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=344,slow=1.2,SNR=8.9						

*IDC **29** 04:34:13.7±1.2, 29°.84N×140°.91E, h528km±16km, mb2.9/6, mb1 3.0/8, mb1mx2.7/43, mbtmp3.8/8, Error ellipse: s-maj=48.8km s-min=14.7km az=87.0*

ISC 29 04:34:11.4±0.9, **29°.8N**±0°.1×**140°.9E**±0°.3, **h500**km, **n9**, σ1°.**07**/**11**, **mb3.5**/**6**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.92**	**157**	P	P	04 35 28.6	+6.6
	2.1nm,0.3s,baz=216,slow=19,SNR=1.9						
JCJ				S	**S**	**04 36 18.8**	**-0.4**
	2.9nm,0.3s,baz=227,slow=22,SNR=1.8						
JHJ	**Hachijo jima 2**	**3.45**	**344**	P	**P**	**04 35 27.2**	**+1.8**
	4.5nm,0.3s,baz=62,slow=21,SNR=1.2						
JHJ				S	**S**	**04 36 25.5**	**-0.4**
	5.2nm,0.3s,baz=196,slow=12,SNR=2.5						
MJAR	**Matsushiro Arr**	**7.09**	**342**	P	**P**	**04 35 57.4**	**-1.0**
	0.3nm,0.3s,baz=171,slow=11,SNR=25						
PETK	**Petropavlovsk-**	**26.36**	**23**	P	**P**	**04 39 06.4**	**-0.2**
	2.2nm,0.8s,baz=236,slow=10,SNR=1.3						
ZALV	**Zalesovo Beam**	**46.72**	**318**	P	**P**	**04 41 54.5**	**0.0**
	0.8nm,0.7s,baz=96,slow=10,SNR=1.6						
WRA	**Warramunga Arr**	**49.84**	**188**	P	**P**	**04 42 18.6**	**+0.4**
	0.4nm,0.4s,baz=0.2,slow=7.7,SNR=28						
ASAR	**Alice Springs**	**53.57**	**188**	P	**P**	**04 42 45.6**	**+0.5**
	0.2nm,0.5s,baz=6.2,slow=6.7,SNR=6.2						
ASAR				PcP	**PcP**	**04 43 42.0**	**-1.9**
	0.2nm,0.7s,baz=344,slow=9.3,SNR=4.1						
ARCES	**ARCESS Array B**	**70.63**	**340**	P	**P**	**04 44 36.3**	**+0.8**
	3.2nm,1.1s,baz=72,slow=9.6,SNR=1.8						
FINES	**FINESS Array B**	**75.03**	**333**	P	**P**	**04 45 01.0**	**0.0**
	2.7nm,1.1s,baz=92,slow=4.2,SNR=1.8						

*DDA **29** 05:00:36.1, 37°.11N×28°.73E, h7km±5km, ML1.8*

ISC 29 05:00:35.9, 37°.16N×28°.74E, h10km, **ML2.1**/12, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAVA	**DENIZLI_Tavas**	**0.34**	**24**	*i* P	Pg	05 00 43.1	+0.4
TAVA				*i* S	Sg	05 00 46.6	-0.6
TAVA				IAML		05 00 51.0	
	comp=N,93nm,0.2s						
DALY	**Dalyan (Mula)**	**0.34**	**191**	PG	Pg	05 00 43.0	+0.3
DALY				SG	Sb	05 00 48.6	-1.0
DALY	**Dalyan (Mula)**	**0.34**	**191**	*i* P	Pg	05 00 43.3	+0.6
DALY				*i* S	Sg	05 00 47.0	-0.3
MULA	**Mugla, Merkez-**	**0.35**	**287**	*i* P	Pb	05 00 43.7	-0.5
MULA				IAML		05 00 53.0	
	comp=E,81nm,0.1s						
YER	**Yerkesik**	**0.36**	**267**	PG	Pb	05 00 43.9	-0.6
YER				SG	Sb	05 00 49.9	-0.4
CAEL	**Denizli, Camel**	**0.47**	**94**	*i* P	Pb	05 00 46.9	+0.6
CAEL				*i* S	Sb	05 00 53.0	-0.3
TURN	**Turunc**	**0.55**	**226**	PG	Pg	05 00 46.8	+0.3
TURN				SG	Sb	05 00 55.0	-0.5
FETY	**Fethiye**	**0.59**	**152**	PG	Pb	05 00 47.9	-0.4
GOLH	**Golhisar**	**0.66**	**83**	*i* P	Pg	05 00 48.2	-0.5
GOLH				*i* S	Sg	05 00 55.8	-1.7
AYDN	**Tasoluk**	**0.85**	**307**	*i* P	Pb	05 00 53.1	+0.3
AYDN				*i* S	Sg	05 01 01.6	-1.8
ELL	**Elmali**	**1.02**	**113**	PG	Pn	05 00 56.4	0.0
AYDB	**Zeytinkoy-Aydi**	**1.04**	**320**	PG	Pb	05 00 56.1	0.0
BDRM	**Kayabasi**	**1.04**	**265**	*i* P	Pn	05 00 56.9	+0.4
BDRM				*i* S	Sg	05 01 07.3	-2.0
BDRM				IAML		05 01 17.0	
	comp=N,21nm,0.3s						
ARG	**Arkhangelos**	**1.06**	**208**	PG	Pn	05 00 56.6	-0.2
BODT	**Bodrum**	**1.15**	**266**	PN	Pg	05 00 57.9	0.0
AKAS	**Kas**	**1.16**	**143**	PN	Pn	05 00 58.7	+0.4
KORT	**Korkueli**	**1.30**	**96**	PN	Pg	05 01 01.1	+0.3
GCAM	**G?zelcaml?**	**1.32**	**295**	PN	Pb	05 01 00.9	+0.2
KULA	**Kula-Manisa**	**1.36**	**357**	PN	Pn	05 01 01.1	+0.1

*DDA **29** 05:00:52.4, 38°.12N×26°.81E, h7km±3km, ML1.6*

ISC 29 05:00:52.0, 38°.12N×26°.82E, h5km, **ML1.9**/6, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGB	**zmir**	**0.09**	**145**	*i* P	Pg	05 00 55.0	+1.2
DGB				*i* S	Sg	05 00 56.3	+1.2
DGB	**zmir**	**0.09**	**145**	*i* P	Pg	05 00 55.0	+1.2
DGB				*i* S	Sg	05 00 56.3	+1.2
DGB				IAML		05 00 57.0	
	comp=E,196nm,0.3s						
GMLD	**Gumuldur**	**0.09**	**121**	PG	Pg	05 00 54.6	+0.7
ZEYE	**Izmir, Urla-Ze**	**0.28**	**295**	*i* P	Pb	05 00 58.5	-0.9
ZEYE				*i* S	Sg	05 01 01.8	+0.8
ZEYE	**Izmir, Urla-Ze**	**0.28**	**295**	*i* P	Pb	05 00 58.5	-0.9
ZEYE				*i* S	Sg	05 01 01.5	+0.5
ZEYE				IAML		05 01 03.0	
	comp=N,166nm,0.1s						
ZEYE				IAML		05 01 03.0	
	comp=E,79nm,0.2s						
URLA	**Izmir**	**0.30**	**323**	PG	Pg	05 00 58.0	+0.2
URLA				SG	Sg	05 01 03.0	+1.3
URLA	**Izmir**	**0.30**	**323**	*i* P	Pg	05 00 58.0	+0.2
URLA				*i* S	Sg	05 01 01.6	-0.1
URLA	**Izmir**	**0.30**	**323**	*i* P	Pg	05 00 57.9	+0.1
URLA				*i* S	Sg	05 01 01.4	-0.4
BLCB	**Balcova**	**0.32**	**34**	PG	Pg	05 00 58.9	+0.8
BLCB				SG	Sg	05 01 03.6	+1.3
GCAM	**G?zelcaml?**	**0.53**	**142**	PG	Pg	05 01 02.6	+0.4
GCAM				SG	Sg	05 01 10.4	+1.2
GCAM	**G?zelcaml?**	**0.53**	**142**	*i* P	Pg	05 01 02.6	+0.4
GCAM				*i* S	Sg	05 01 06.6	-2.5
GCAM				IAML		05 01 26.0	
	comp=E,18nm,0.3s						
GCAM				IAML		05 01 28.0	
	comp=N,13nm,0.4s						
CHOS	**Chios island**	**0.66**	**294**	PG	Pb	05 01 05.4	-0.6
CHOS				SG	Sb	05 01 15.0	-0.5
ZEDA	**zmir-Bergama**	**0.87**	**13**	*i* P	Pb	05 01 09.7	+0.2
ZEDA				*i* S	Sg	05 01 17.3	-2.6
SIGR	**SIGRI**	**1.32**	**326**	PN	Pg	05

W39A	**Magazine**	**3.07**	**101**			**Pn**	**05 06 50.4**	**+0.4**
W39A				IAmb_Lg			05 07 44.3	
	comp=Z,47nm,0.7s							
W39A	**Magazine**	**3.07**	**101**	P		**Pn**	**05 06 50.1**	**+0.1**
	baz=283,SNR=25							
W39A	**Magazine**	**3.07**	**101**	P			05 06 50.3	
	baz=283							
W39A	**Magazine**	**3.07**	**101**	P			05 06 50.1	
	baz=283,SNR=25							
KSU1	**Kansas State U**	**3.33**	**12**			**Pn**	**05 06 54.7**	**+1.0**
KSU1				IAmb_Lg			05 07 53.1	
	comp=Z,43nm,0.9s							
KSU1	**Kansas State U**	**3.33**	**12**	Pb			05 07 03.7	
	baz=192							
MIAR	**Mount Ida**	**3.43**	**111**	Pn		**Pn**	**05 06 55.8**	**+0.8**
MIAR	**Mount Ida**	**3.43**	**111**	P		**Pn**	**05 06 55.6**	**+0.6**
	baz=293,SNR=37							
MIAR	**Mount Ida**	**3.43**	**111**	P			05 06 55.7	
	baz=293							
MIAR				S			05 07 36.7	
	baz=293							
MIAR	**Mount Ida**	**3.43**	**111**	P			05 06 55.6	
	baz=293,SNR=37							
CBKS	**Cedar Bluff**	**3.48**	**329**	IAmb_Lg			05 07 56.1	
	comp=Z,56nm,0.7s							
CBKS	**Cedar Bluff**	**3.48**	**329**	Pb			05 07 04.7	
	baz=148							
CBKS				Sb			05 07 51.8	
	baz=148							
AMTX	**Amarillo**	**3.57**	**256**	IAmb_Lg			05 08 00.1	
	comp=Z,33nm,0.7s							
AMTX	**Amarillo**	**3.57**	**256**	Sb			05 07 52.2	
	baz=73							
ABTX	**Abilene, Hawle**	**3.67**	**210**	P		**Pn**	**05 06 58.3**	**-0.1**
	baz=29							
ABTX	**Abilene, Hawle**	**3.67**	**210**	P			05 06 58.3	
	baz=29							
U40A	**Yellville**	**3.77**	**81**	Pn		**Pn**	**05 07 00.3**	**+0.7**
U40A	**Yellville**	**3.77**	**81**	P		**Pn**	**05 06 59.6**	**0.0**
	baz=263							
U40A	**Yellville**	**3.77**	**81**	P			05 06 59.6	
	baz=263							
U40A				P			05 06 59.6	
	baz=263							
S39A	**Bolivar**	**3.81**	**60**	Pn		**Pn**	**05 07 00.6**	**+0.4**
S39A				IAmb_Lg			05 08 02.6	
	comp=Z,52nm,1.0s							
S39A	**Bolivar**	**3.81**	**60**	P		**Pn**	**05 07 00.5**	**+0.3**
	baz=242,SNR=11							
S39A	**Bolivar**	**3.81**	**60**	P			05 07 00.5	
	baz=242,SNR=11							
X40A	**Basin Creek Fa**	**4.02**	**108**			**Pn**	**05 07 03.8**	**+0.6**
X40A				IAmb_Lg			05 08 11.8	
	comp=Z,48nm,0.7s							
X40A	**Basin Creek Fa**	**4.02**	**108**	P			05 07 03.7	
	baz=291							
237A	**Washetta, Mont**	**4.06**	**160**	Pn		**Pn**	**05 07 04.0**	**+0.3**
237A	**Washetta, Mont**	**4.06**	**160**	S		**Sn**	**05 07 50.8**	**-0.7**
	baz=341							
237A	**Washetta, Mont**	**4.06**	**160**	S			05 07 50.8	
	baz=341							
WLAR	**White Oak Lake**	**4.17**	**120**	Pn		**Pn**	**05 07 05.4**	**+0.3**
WLAR				IAmb_Lg			05 08 14.7	
	comp=Z,32nm,0.8s							
WHAR	**Wooly Hollow**	**4.25**	**96**	Pn		**Pn**	**05 07 06.5**	**+0.2**
WHAR				IAmb_Lg			05 08 15.5	
	comp=Z,34nm,1.0s							
W41B	**Gary Mavity, V**	**4.31**	**97**	P		**Pn**	**05 07 07.2**	**+0.2**
	baz=280,SNR=18							
W41B	**Gary Mavity, V**	**4.31**	**97**	P			05 07 07.2	
	baz=280							
W41B	**Gary Mavity, V**	**4.31**	**97**	P			05 07 07.2	
	baz=280,SNR=18							
FCAR	**Ozark Folk Cen**	**4.34**	**88**	IAmb_Lg			05 08 26.3	
	comp=Z,26nm,0.8s							
MGMO	**Mountain Grove**	**4.39**	**71**	IAmb_Lg			05 08 21.4	
	comp=Z,48nm,0.8s							
R40A	**Maddies Statio**	**4.83**	**58**			**Pn**	**05 07 14.4**	**+0.3**
R40A	**Maddies Statio**	**4.83**	**58**	P		**Pn**	**05 07 14.2**	**+0.1**
	baz=241							
R40A	**Maddies Statio**	**4.83**	**58**	P			05 07 14.2	
	baz=241							
N33A	**J Bar K, Exete**	**4.90**	**0**	IAmb_Lg			05 08 40.5	
	comp=Z,38nm,0.8s							
P38A	**Dawn**	**4.90**	**38**	IAmb_Lg			05 08 44.9	
	comp=Z,26nm,0.8s							
435B	**Jarrell**	**5.04**	**181**	IAmb_Lg			05 08 50.7	
	comp=Z,32nm,0.8s							
CCAR	**Cane Creek**	**5.05**	**111**	P		**Pn**	**05 07 17.3**	**0.0**
	baz=294							
CCAR	**Cane Creek**	**5.05**	**111**	P			05 07 17.3	
	baz=294							
KSCO	**Kaye Shedlock'**	**5.19**	**309**	IAmb_Lg			05 08 51.0	
	comp=Z,25nm,0.7s							
BGNE	**Belgrade**	**5.59**	**355**	IAmb_Lg			05 09 13.2	
	comp=Z,43nm,0.7s							
P40A	**Paris**	**5.66**	**48**	IAmb_Lg			05 09 08.5	
	comp=Z,39nm,0.9s							
T25A	**Trinidad**	**5.75**	**285**	IAmb_Lg			05 09 06.5	
	comp=Z,28nm,0.7s							
PBMO	**Poplar Bluff**	**5.76**	**78**	IAmb_Lg			05 09 06.4	
	comp=Z,36nm,0.8s							
LPAR	**Lepanto**	**5.83**	**90**	IAmb_Lg			05 09 11.9	
	comp=Z,27nm,0.7s							
PEBM	**Pemiscott Bayo**	**6.17**	**85**	IAmb_Lg			05 09 28.9	
	comp=Z,43nm,0.7s							
SLM	**Saint Louis**	**6.41**	**62**	IAmb_Lg			05 09 26.7	
	comp=Z,38nm,0.8s							
OXF	**Oxford**	**6.73**	**99**	IAmb_Lg			05 09 39.8	
	comp=Z,22nm,1.1s							
W45A	**Hickory Valley**	**6.79**	**93**	IAmb_Lg			05 09 38.7	
	comp=Z,30nm,0.9s							
S44A	**Carbondale**	**6.85**	**72**	IAmb_Lg			05 09 39.5	
	comp=Z,28nm,0.7s							
SCIA	**State Center**	**6.91**	**27**	IAmb_Lg			05 09 55.1	
	comp=Z,31nm,0.8s							
N41A	**Harden Midland**	**7.12**	**45**	IAmb_Lg			05 09 45.0	
	comp=Z,34nm,0.8s							
T45A	**Paducah**	**7.21**	**78**	IAmb_Lg			05 10 00.3	
	comp=Z,34nm,0.9s							
K38A	**Parkersburg**	**7.72**	**27**	IAmb_Lg			05 10 09.0	
	comp=Z,33nm,0.9s							
L40A	**Anamosa**	**7.89**	**36**	IAmb_Lg			05 10 15.1	
	comp=Z,19nm,0.8s							
Y22D	**IRIS PASSCAL I**	**7.96**	**260**	IAmb_Lg			05 10 32.1	
	comp=Z,19nm,0.8s							
JFWS	**Jewell Farm**	**9.01**	**36**	IAmb_Lg			05 10 45.6	
	comp=Z,23nm,0.7s							
BLO	**Bloomington**	**9.31**	**66**	IAmb_Lg			05 11 10.5	
	comp=Z,25nm,0.9s							
K22A	**Casper**	**9.78**	**317**	IAmb_Lg			05 11 35.6	
	comp=Z,16nm,1.0s							

TRN ***29*** *05:51:00.3, 10°.80N×62°.39W, h5km, MD3.2*
FUNV ***29*** *05:51:01.6, 10°.48N×62°.47W, h28km, MW3.6*

ISC 29 05:50:57.2±3.3, 10°.51N±0°.05×62°.49W±0°.03, h17km±24km, n12, σ2°12/23, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.75**	**283**	*i* P	**Pn**	**05 51 15.3**	**+2.3**
CRUV				eS	**Sn**	**05 51 26.1**	**+2.1**
TRN	**Trinidad (W)**	**1.08**	**83**	⇑ P	**Pn**	**05 51 20.0**	**+2.4**
TRN				eS	**Sn**	**05 51 33.2**	**+1.0**
GRGR	**Grenville**	**1.81**	**27**	*e*P	**Pn**	**05 51 28.3**	**+0.7**
GRGR				eS	**Sn**	**05 51 49.2**	**-1.0**
TPR	**Prospect**	**1.81**	**68**	eS	**Sn**	**05 51 51.6**	**+1.3**
PCRV	**Puerto La Cruz**	**2.13**	**261**	*e*P	**Pb**	**05 51 35.1**	**-0.4**
PCRV				eS	**Sn**	**05 51 59.1**	**+0.8**
GCMP	**Grenada, Carri**	**2.23**	**28**	*e*P	**Pn**	**05 51 33.4**	**0.0**
GCMP				eS	**Sn**	**05 51 58.4**	**-2.0**
RIOV	**Rio Grande**	**2.52**	**165**	*e*P	**Pb**	**05 51 39.9**	**-2.1**
RIOV				eS	**Sn**	**05 52 08.0**	**+0.3**
BIRV	**Birongo**	**3.71**	**270**	*e*P	**Pn**	**05 51 57.2**	**+3.4**
BIRV				eS	**Sn**	**05 52 38.1**	**+0.8**
MERV	**Las Mercedes**	**3.95**	**252**	*e*P	**Pn**	**05 51 59.3**	**+2.2**
MERV				eS	**Sn**	**05 52 42.2**	**-0.9**
TACV	**Tcata**	**4.48**	**266**	*e*P	**Pn**	**05 52 06.5**	**+2.1**
TACV				eS	**Sn**	**05 52 54.7**	**-1.4**
BAUV	**El Baul**	**5.69**	**255**	*e*P	**Pn**	**05 52 21.7**	**+0.7**
BAUV				eS	**Sn**	**05 53 21.7**	**-4.2**
MAPV	**Macapo**	**5.91**	**264**	*e*P	**Pn**	**05 52 24.0**	**0.0**
MAPV				eS	**Sn**	**05 53 27.8**	**-3.7**

JMA ***29*** *06:00:26.8±0.2, 28°.11N×128°.01E, h16km±2km, M3.3*
IDC ***29*** *06:00:27.8±1.2, 27°.79N×127°.54E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/36, mbtmp3.6/6, ML3.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/27, Error ellipse: s-maj=41.7km s-min=11.8km az=57.0*

ISC 29 06:00:28.4±1.7, 28°.02N±0°.05×128°.13E±0°.07, h16km±10km, n17, σ0°86/23, mb3.3/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.76**	**108**	P	**Pg**	**06 00 43.5**	**+0.3**
JTK				eS	**Sn**	**06 00 55.0**	**-0.7**
JOKE	**Okinoerabujima**	**0.77**	**149**	P	**Pg**	**06 00 43.6**	**+0.3**
JOKE				S	**Sn**	**06 00 56.0**	**+0.2**
JAMN	**Amaminishikomi**	**0.94**	**76**	P	**Pb**	**06 00 46.3**	**-0.1**
JAMN				S	**Sn**	**06 00 59.9**	**-0.3**
JIH	**Iheya**	**1.00**	**189**	P	**Pb**	**06 00 46.4**	**-0.9**
JIH				eS	**Sg**	**06 01 00.5**	**-0.2**
JYRO	**Yoronjima**	**1.03**	**164**	P	**Pb**	**06 00 47.7**	**-0.2**
JYRO				S	**Sn**	**06 01 03.3**	**+0.9**
JOW	**Kunigami**	**1.19**	**174**	Pg	**Pn**	**06 00 50.3**	**-0.1**
	104nm,0.3s,baz=346,slow=20,SNR=102						
JOW				Lg	Lg	06 01 06.1	
	137nm,0.3s,baz=174,slow=18,SNR=18						
JOW	**Kunigami**	**1.19**	**174**	P	**Pn**	**06 00 50.0**	**-0.4**
JOW				S	**Sn**	**06 01 06.5**	**+0.1**
JAM	**Amami Oshima**	**1.35**	**73**	P	**Pn**	**06 00 52.7**	**+0.1**
JAM				eS	**Sb**	**06 01 10.9**	**+0.4**
JTAJ	**Takarajima**	**1.47**	**40**	P	**Pn**	**06 00 53.0**	**-1.2**
JNTH	**Nagotoyohara**	**1.50**	**184**	P	**Pn**	**06 00 54.7**	**0.0**
JNTH				eS	**Sb**	**06 01 14.8**	**+0.1**
JNU	**Nakatsue**	**5.61**	**24**	Pn	Pn	06 01 56.7	+5.6
	0.4nm,0.3s,baz=191,slow=5.6,SNR=3.6						
KSRS	**Korea Array**	**9.40**	**359**	LR	LR	06 06 32.2	
	comp=Z,40nm,19.8s,baz=175,slow=38						
SONM	**Songino Array**	**26.02**	**325**	P	**P**	**06 06 03.6**	**+2.8**
	0.5nm,0.7s,baz=126,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**40.29**	**310**	P	**P**	**06 08 04.4**	**-0.5**
	0.4nm,0.7s,baz=115,slow=9.7,SNR=2.1						
FITZ	**Fitzroy Crossi**	**45.91**	**183**	P	**P**	**06 08 49.2**	**-1.2**
	0.6nm,0.5s,baz=349,slow=5.2,SNR=1.4						
WRA	**Warramunga Arr**	**48.06**	**172**	P	**P**	**06 09 07.0**	**-0.2**
	1.1nm,1.0s,baz=354,slow=8.4,SNR=4.4						
ASAR	**Alice Springs**	**51.69**	**173**	P	**P**	**06 09 35.4**	**+0.6**
	0.2nm,0.6s,baz=356,slow=8.8,SNR=3.5						

IDC 29 06:05:44.8±1.3, 37°.02N×106°.27E, h0km, mb3.1/4, mb1 3.4/5, mb1mx3.2/36, mbtmp3.2/5, ML3.2/1, Error ellipse: s-maj=61.0km s-min=25.3km az=67.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**10.81**	**0**	Pn	Pn	06 08 23.0	+2.1
	0.2nm,0.3s,baz=180,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**20.28**	**306**	P	P	06 10 21.9	0.0
	0.3nm,0.6s,baz=107,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**62.54**	**150**	P	P	06 16 10.8	+0.4
	0.3nm,0.6s,baz=342,slow=6.6,SNR=4.8						
ASAR	**Alice Springs**	**65.74**	**152**	P	P	06 16 31.4	-0.1
	0.3nm,0.6s,baz=336,slow=6.4,SNR=5.4						
YKA	**Yellowknife Ar**	**75.53**	**18**	P	P	06 17 29.8	-0.8
	0.1nm,0.7s,baz=338,slow=5.5,SNR=2.5						

DDA ***29*** *06:15:38.9, 41°.62N×43°.56E, h5km±4km, ML3.0*
MOS ***29*** *06:15:39.7±1.2, 41°.53N×43°.49E, h6km, mb3.8/1, Error ellipse: s-maj=7.7km s-min=4.1km az=91.5*
TIF ***29*** *06:15:39.2, 41°.58N×43°.54E, h21km*
ISK ***29*** *06:15:40.6, 41°.58N×43°.40E, h8km, ML2.9/4*
NSSP ***29*** *06:15:41.4, 41°.57N×43°.58E, h8km, Ms3.0*
AZER ***29*** *06:15:44.8±0.2, 41°.68N×44°.11E, h2km±2km, ml3.2/13, Error ellipse: s-maj=7.6km s-min=1.3km az=319.0*

ISC 29 06:15:40.0±0.8, 41°.58N±0°.01×43°.57E±0°.01, h12km±6km, n95, σ1°15/169, 5C-6D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.18**	**198**	P	**Pb**	**06 15 44.6**	**-0.7**
AKH				S	**Sg**	**06 15 47.9**	**+1.0**
AKH	**Akhalkalaki**	**0.18**	**198**	PG	**Pb**	**06 15 44.7**	**-0.7**
AKH				SG	**Sg**	**06 15 48.0**	**+1.0**
AKH	**Akhalkalaki**	**0.18**	**198**	PG	**Pb**	**06 15 44.6**	**-0.7**
AKH				S	**Sg**	**06 15 47.9**	**+1.0**
BKRG	**Bakuriani**	**0.18**	**350**	P	**Pg**	**06 15 43.7**	**-0.5**
BKRG				S	**Sg**	**06 15 46.5**	**-0.6**
BKRG	**Bakuriani**	**0.18**	**350**	PG	**Pg**	**06 15 43.7**	**-0.5**
BRNG	**Burnasheti**	**0.20**	**77**	P	**Pb**	**06 15 45.1**	**-0.7**
BRNG				S	**Sg**	**06 15 49.0**	**+1.4**
BGD	**Bogdanovka**	**0.32**	**176**	P	**Pb**	**06 15 47.1**	**-0.6**
BGD				S	**Sb**	**06 15 52.1**	**-0.8**
BGD	**Bogdanovka**	**0.32**	**176**	PG	**Pb**	**06 15 47.1**	**-0.6**
BGD				S	**Sb**	**06 15 52.1**	**-0.8**
DMNI	**Dmanisi**	**0.53**	**118**	P	**Pb**	**06 15 50.7**	**-0.6**
DMNI				S	**Sb**	**06 15 58.2**	**-0.8**
DMNI	**Dmanisi**	**0.53**	**118**	PG	**Pb**	**06 15 50.7**	**-0.6**
DMNI				S	**Sb**	**06 15 58.2**	**-0.8**
ABS	**Abastumani**	**0.59**	**288**	P	**Pg**	**06 15 50.8**	**-0.7**
ABS				S	**Sg**	**06 15 59.6**	**+0.2**
ABS	**Abastumani**	**0.59**	**288**	PG	**Pg**	**06 15 50.8**	**-0.7**
ABS				S	**Sg**	**06 15 59.6**	**+0.2**
EPOS	**Posof**	**0.63**	**263**	*i* P	**Pg**	**06 15 51.1**	**-1.2**
EPOS				*i* S	**Sg**	**06 15 57.5**	**-3.2**
EPOS				IAML		06 16 02.0	
	comp=N,609nm,0.4s						
KZRT	**Kazreti**	**0.66**	**107**	P	**Pb**	**06 15 52.6**	**-0.8**
KZRT				S	**Sb**	**06 16 01.5**	**-1.0**
KZRT	**Kazreti**	**0.66**	**107**	*i* P	**Pb**	**06 15 52.5**	**-0.8**
KZRT				*i* S	**Sg**	**06 16 00.5**	**-0.8**
KZRT	**Kazreti**	**0.66**	**107**	PG	**Pb**	**06 15 52.6**	**-0.8**
KZRT				S	**Sb**	**06 16 01.5**	**-1.0**
STE	**Stepanavan**	**0.84**	**133**	⇓ *i* P	**Pn**	**06 15 57.3**	**-0.5**
STE				⇓ S	**Sn**	**06 16 09.3**	**-0.8**
TKB	**Tkibuli**	**0.88**	**331**	P	**Pg**	**06 15 56.1**	**-0.8**
TKB				S	**Sb**	**06 16 08.0**	**-1.0**
TKB	**Tkibuli**	**0.88**	**331**	PG	**Pg**	**06 15 56.2**	**-0.8**
TKB				S	**Sb**	**06 16 08.0**	**-1.0**
EAK	**Akyaka**	**0.89**	**178**	*i* P	**Pg**	**06 15 56.1**	**-1.1**
BTNK	**Botanikuri**	**0.93**	**83**	P	**Pb**	**06 15 57.4**	**-0.7**
BTNK				S	**Sn**	**06 16 10.7**	**-1.5**
BTNK	**Botanikuri**	**0.93**	**83**	*i* P	**Pb**	**06 15 57.3**	**-0.7**
BTNK				*i* S	**Sb**	**06 16 10.1**	**-0.3**
BTNK				IAML		06 16 12.0	
	comp=E,372nm,0.1s						
BTNK	**Botanikuri**	**0.93**	**83**	PG	**Pb**	**06 15 57.4**	**-0.7**
BTNK				S	**Sn**	**06 16 10.7**	**-1.5**
BTNK	**Botanikuri**	**0.93**	**83**	P	**Pb**	**06 15 57.4**	**-0.7**
BTNK				S	**Sg**	**06 16 08.8**	**-1.2**
ONI	**Oni**	**1.01**	**355**	P	**Pg**	**06 15 58.6**	**-0.9**
ONI				S	**Sb**	**06 16 12.5**	**-0.4**
ONI	**Oni**	**1.01**	**355**	*i* PG	**Pg**	**06 15 58.7**	**-0.8**
ONI				*e*S	**Sb**	**06 16 12.5**	**-0.4**
KARS	**Kars**	**1.02**	**201**	PG	**Pn**	**06 16 00.3**	**0.0**
KARS				SG	**Sn**	**06 16 14.4**	**-0.2**
GUDG	**Gudauri**	**1.11**	**37**	P	**Pn**	**06 16 01.6**	**-0.1**
GUDG				S	**Sn**	**06 16 17.0**	**-0.1**
GUDG	**Gudauri**	**1.11**	**37**	PG	**Pn**	**06 16 01.6**	**-0.1**
GUDG				S	**Sn**	**06 16 17.0**	**-0.1**
ZEI	**Tsey**	**1.23**	**12**	⇑ *i* PG	**Pg**	**06 16 02.9**	**-0.8**
ZEI				*e*S	**Sn**	**06 16 20.5**	**+0.5**
PNSH	**Pansheti**	**1.31**	**36**	P	**Pg**	**06 16 04.5**	**-0.8**
PNSH				S	**Sg**	**06 16 22.1**	**-0.2**
PNSH	**Pansheti**	**1.31**	**36**	PG	**Pg**	**06 16 04.5**	**-0.8**
PNSH				S	**Sg**	**06 16 22.1**	**-0.2**
MTEO	**Meteo**	**1.31**	**33**	P	**Pg**	**06 16 04.6**	**-0.7**
MTEO				S	**Sn**	**06 16 23.0**	**+0.7**
DIGR	**Digorskoe uzhe**	**1.32**	**0**	*e*PG	**Pg**	**06 16 04.4**	**-1.0**
DIGR				pmax	pmax		
	comp=Z,29nm,0.3s						
ARUZ	**Aruch**	**1.35**	**163**	*i* P	**Pg**	**06 16 05.8**	**-0.1**
ARUZ				*i* S	**Sg**	**06 16 24.5**	**+0.9**
LACR	**Lac**	**1.36**	**23**	*i* PG	**Pb**	**06 16 04.9**	**-0.6**
LACR				pmax	pmax		
	comp=Z,2μm,0.3s						
SENK	**Senkaya-Erzuru**	**1.37**	**223**	PN	**Pb**	**06 16 05.7**	**0.0**
BATM	**Batumi**	**1.41**	**272**	P	**Pn**	**06 16 05.0**	**-0.4**
BATM				S	**Sn**	**06 16 23.5**	**-0.4**
BATM	**Batumi**	**1.41**	**272**	PN	**Pn**	**06 16 05.1**	**-0.4**
BATM				SN	**Sn**	**06 16 23.2**	**-0.7**
BATM	**Batumi**	**1.41**	**272**	*i* P	**Pn**	**06 16 04.9**	**-0.4**
BATM				*i* S	**Sn**	**06 16 22.6**	**-1.2**
BATM	**Batumi**	**1.41**	**272**	PG	**Pn**	**06 16 05.0**	**-0.4**
BATM				S	**Sn**	**06 16 23.5**	**-0.4**
DBOC	**Borcka**	**1.45**	**261**	*i* P	**Pn**	**06 16 05.9**	**-0.1**
DBOC				*i* S	**Sn**	**06 16 24.3**	**-0.6**
DBOC				IAML		06 16 29.0	
	comp=E,392nm,0.4s						
QZX	**Qazax, Azerbai**	**1.46**	**110**	P	**Pb**	**06 16 06.6**	**-0.5**
	SNR=28						
QZX				S	**Sg**	**06 16 26.7**	**-0.1**
METS	**Metsamor**	**1.48**	**165**	*i* P	**Pg**	**06 16 08.2**	**-0.2**
METS				*i* S	**Sg**	**06 16 29.3**	**+1.7**
VNNZ	**Vanand**	**1.49**	**172**	*i* P	**Pg**	**06 16 08.1**	**-0.4**
VNNZ				*i* S	**Sg**	**06 16 28.2**	**+0.3**
DBAD	**Bademkaya**	**1.52**	**249**	*i* P	**Pb**	**06 16 07.7**	**-0.5**
DBAD				*i* S	**Sn**	**06 16 26.5**	**-0.4**
DBAD				IAML		06 16 28.0	
	comp=E,486nm,0.4s						
DBAD				IAML		06 16 31.0	
	comp=N,393nm,0.4s						
KAPZ	**Kaputan**	**1.52**	**145**	⇓ *i* P	**Pg**	**06 16 09.6**	**+0.4**
KAPZ				⇑ *i* S	**Sg**	**06 16 30.2**	**+1.2**
CHVG	**Ch'k'valeri**	**1.58**	**316**	P	**Pb**	**06 16 08.8**	**-0.4**
CHVG				S	**Sg**	**06 16 30.1**	**-0.9**
CHVG	**Ch'k'valeri**	**1.58**	**316**	PG	**Pb**	**06 16 08.8**	**-0.4**
CHVG				S	**Sg**	**06 16 30.1**	**-0.9**
TASB	**TASBURUN-IGDIR**	**1.67**	**162**	PN	**Pg**	**06 16 11.3**	**-0.8**
VLKR	**Vladikavkaz**	**1.68**	**29**	*e*PN	**Pg**	**06 16 12.7**	**+0.4**
VLKR				*e*S	**Sg**	**06 16 36.3**	**+2.2**
GNI	**Garni**	**1.68**	**148**	⇓ *i* P	**Pg**	**06 16 12.2**	**-0.1**
GNI				⇑ *i* S	**Sg**	**06 16 35.7**	**+1.5**
GNI	**Garni**	**1.68**	**148**	PN	**Pg**	**06 16 12.0**	**-0.3**
GNI				SN	**Sg**	**06 16 35.1**	**+1.0**
GNI	**Garni**	**1.68**	**148**	*d* PN	**Pg**	**06 16 12.0**	**-0.3**
ARNR	**Ardon**	**1.69**	**18**	*e*PN	**Pg**	**06 16 12.7**	**+0.4**
ARNR				*e*S	**Sg**	**06 16 36.9**	**+2.7**
LSNR	**Lesken**	**1.71**	**6**	⇑ *i* PN	**Pg**	**06 16 12.3**	**-0.5**
LSNR				*e*S	**Sg**	**06 16 36.4**	**+1.5**
IGDI	**IGDIR**	**1.75**	**167**	*i* P	**Pb**	**06 16 11.3**	**-0.9**
IGDI				*i* S	**Sb**	**06 16 34.6**	**+0.5**
IGDI				IAML		06 16 37.0	
	comp=E,117nm,0.3s						
KMGR	**Komgaron**	**1.76**	**33**	*e*PN	**Pg**	**06 16 14.2**	**+0.4**
KMGR				*e*S	**Sg**	**06 16 39.5**	**+2.8**
NEY	**Neytrino**	**1.78**	**340**	*e*PN	**Pb**	**06 16 12.6**	**-0.1**
NEY				*e*S	**Sg**	**06 16 35.9**	**-1.4**
NRKZ	**NAREK**	**1.78**	**152**	*i* P	**Pg**	**06 16 13.9**	**-0.3**
NRKZ				*i* S	**Sg**	**06 16 37.7**	**+0.4**
KOTA	**Agri, Merkez-K**	**1.80**	**189**	*i* P	**Pb**	**06 16 12.7**	**-0.2**
STDR	**Stavd-Durt**	**1.83**	**11**	⇑ *i* PN	**Pg**	**06 16 15.8**	**+0.8**
STDR				*e*S	**Sg**	**06 16 41.5**	**+2.8**
GDB	**GEDABAY**	**1.86**	**117**	P	**Pb**	**06 16 13.3**	**-0.8**
	SNR=6.0						
GDB				S	**Sb**	**06 16 36.9**	**-0.5**
NCK	**Nalchik**	**1.92**	**1**	*e*PN	**Pg**	**06 16 15.9**	**-0.8**
NCK				*e*S	**Sg**	**06 16 42.7**	**+1.1**
DDFL	**Dedoflistskaro**	**1.92**	**93**	*i* P	**Pg**	**06 16 15.7**	**-1.1**
DDFL				*i* S	**Sg**	**06 16 42.0**	**+0.3**
DDFL	**Dedoflistskaro**	**1.92**	**93**	P	**Pg**	**06 16 15.7**	**-1.1**
DDFL				S	**Sb**	**06 16 38.1**	**-0.9**
HOMI	**Horasan**	**1.98**	**220**	*i* P	**Pn**	**06 16 14.9**	**+1.2**
HOMI				IAML		06 16 54.0	
	comp=N,99nm,1.7s						
AGRB	**Hanur-Agry**	**2.05**	**193**	PN	**Pb**	**06 16 16.1**	**-1.1**
KOPR	**Koprukoy-ERZUR**	**2.05**	**220**	PN	**Pn**	**06 16 15.4**	**+0.9**
HYR	**Heyderabad**	**2.10**	**152**	P	**Pg**	**06 16 21.9**	**+1.7**
HYR				S	**Sg**	**06 16 48.3**	**+0.9**
CHOM	**Cayeli-Rize**	**2.17**	**258**	PN	**Pn**	**06 16 16.6**	**+0.7**
KBZ	**Khabaz**	**2.20**	**347**	*e*PN	**Pb**	**06 16 19.7**	**-0.1**
SHA1	**Shidzhatmaz**	**2.26**	**343**	*e*PN	**Pb**	**06 16 20.8**	**-0.1**
SHA1				*e*S	**Sg**	**06 16 50.8**	**-1.8**
GANJ	**Ganja**	**2.28**	**113**	P	**Pb**	**06 16 19.9**	**-1.2**
	SNR=13						
GANJ				S	**Sb**	**06 16 49.6**	**+0.2**
ZKTA	**Zakatala**	**2.29**	**88**	P	**Pb**	**06 16 19.9**	**-1.4**
	SNR=6.2						
ZKTA				S	**Sn**	**06 16 46.7**	**+0.8**
GROC	**Groznyy**	**2.32**	**45**	*e*PN	**Pg**	**06 16 22.5**	**-1.9**
GROC				*e*		06 16 55.1	
GROC				pmax	pmax		
	comp=Z,50nm,0.3s						
GROC				smax	smax		
	comp=N,160n

LSSE	Little Sitkin	0.58	59			Pn	06 21 50.6	+0.1
LSPA	Little Sitkin	0.60	57			Pn	06 21 50.9	+0.3
AMKA	Amchitka	1.00	104			Pn	06 21 55.1	-0.6
CETU	Semis' Tuman	1.13	72			Pn	06 21 58.0	+0.5
CESW	Semis' Southwe	1.15	76			Pn	06 21 57.8	0.0
CEAP	Semis' Anvil P	1.19	71			Pn	06 21 58.5	+0.3
CERAA	Semis' Rag'd T	1.23	76			Pn	06 21 58.8	0.0
GALAA	Gareloi Lava P	2.16	85			Pn	06 22 12.2	+0.7
GAEA	Gareloi East	2.18	85			Pn	06 22 12.1	+0.5
SMY	Shemya	2.50	297			Pn	06 22 16.3	+0.2
TASE	Tanaga Southea	2.62	84			Pn	06 22 18.5	+0.7
TAFP	Tanaga Falls P	2.66	83			Pn	06 22 18.5	+0.3
KIMD	Kanaga Island	3.12	86			Pn	06 22 25.3	+0.8
KICM	Kanaga Island	3.15	83			Pn	06 22 25.7	+0.8
KIKV	Kanaga Island	3.16	84			Pn	06 22 25.6	+0.5
ADK	Adak	3.46	84			Pn	06 22 29.4	+0.2
ADAG	Mount Adagdak	3.52	82			Pn	06 22 30.2	+0.2
GSTD	Great Sitkin T	3.80	81			Pn	06 22 35.3	+1.4
GSMY	Great Sitkin M	3.86	82			Pn	06 22 35.5	+0.9
GSTR	Great Sitkin T	3.86	81	Pn		Pn	06 22 33.4	-1.3
ATKA	Atka Island	5.01	80	Pn		Pn	06 22 51.5	+1.1
KOKL	Mount Kliuchef	5.02	79			Pn	06 22 51.5	+0.9
KOFP	Korovin Flat P	5.08	80			Pn	06 22 52.7	+1.3
MGOD	Makushin Gods	9.58	71			Pn	06 23 55.0	+2.1
AKUT	Akutan	10.26	69	Pn		Pn	06 24 04.9	+2.7
PETK	Petropavlovsk- 0.2nm,0.3s,baz=98,slow=18,SNR=1.3	12.35	285	P		Pn	06 24 31.3	+0.6
PETK				LR		LR	06 30 18.2	
	comp=Z,18nm,18.0s,baz=85,slow=42							
SUA	Susitna One	19.75	48	P		P	06 26 03.0	0.0
SUA				IAmb		IAmb	06 26 20.9	
	comp=Z,6.1nm,1.0s							
IMAR	Indian Mountai	20.33	34	P		Pn	06 26 12.9	+1.5
KTH	Kantishna Hill	20.34	42	P		P	06 26 09.5	+0.3
RND	Reindeer	21.16	43	P		P	06 26 20.1	+2.1
RND				IAmb		IAmb	06 26 41.2	
	comp=Z,7.6nm,1.2s							
MCK	McKinley	21.23	42	P		P	06 26 17.9	-0.9
MCK				IAmb		IAmb	06 26 40.5	
	comp=Z,5.5nm,1.1s							
SCM	Sheep Creek Mo	21.43	48	P		P	06 26 21.3	+0.4
I23K	Minto, Yukon-K	21.57	39	P		P	06 26 23.5	+1.2
ILAR	Eielson Array	22.42	41	P		P	06 26 30.1	-1.4
	comp=Z,0.3nm,0.7s,baz=239,slow=8.8,SNR=2.2							
TOLK	Toolik Lake Re	23.09	30	P		P	06 26 39.9	+1.4
TOLK				IAmb		IAmb	06 26 46.5	
	comp=Z,6.8nm,1.5s							
DOT	Dot Lake	23.30	44	P		P	06 26 40.1	-0.4
DOT				IAmb		IAmb	06 26 44.2	
	comp=Z,6.9nm,1.3s							
SCRK	Sand Creek	23.40	43	P		P	06 26 40.3	-1.3
L27K	Beaver Creek,	24.17	46	P		P	06 26 49.8	+1.3
L27K				IAmb		IAmb	06 26 50.9	
	comp=Z,4.2nm,0.9s							
BCAR	Beaver Creek A	24.19	46	P		P	06 26 49.6	+0.9
EGAK	Eagle	24.78	42	P		P	06 26 53.7	-0.3
EGAK				IAmb		IAmb	06 26 57.1	
	comp=Z,8.7nm,1.2s							
INK	Inuvik	28.49	36	P		P	06 27 27.5	+0.2
	comp=Z,0.2nm,0.3s,baz=260,slow=9.4,SNR=1.7							
KLR	Kul'dur	29.04	284	P		P	06 27 32.7	+0.3
	comp=Z,0.5nm,0.4s,baz=100,slow=8.9,SNR=4.0							
H11N2	WAKE ISLAND Hy	32.96	199	T		T	07 03 35.7	
	baz=11,slow=76,SNR=56							
H11N3	WAKE ISLAND Hy	32.97	199	T		T	07 03 36.6	
	baz=11,slow=76,SNR=45							
H11N1	WAKE ISLAND Hy	32.98	199	T		T	07 03 28.0	
	baz=11,slow=76,SNR=38							
H11S1	WAKE ISLAND Hy	34.19	199	T		T	07 04 52.0	
	baz=11,slow=76,SNR=18							
H11S2	WAKE ISLAND Hy	34.21	199	T		T	07 04 52.3	
	baz=11,slow=76,SNR=15							
H11S3	WAKE ISLAND Hy	34.21	199	T		T	07 04 51.3	
	baz=11,slow=76,SNR=19							
YKA	Yellowknife Ar	36.61	46	P		P	06 28 36.5	-1.7
	comp=Z,0.2nm,0.5s,baz=278,slow=10,SNR=5.7							
KSRS	Korea Array	37.49	268	LR		LR	06 43 16.0	
	comp=Z,7.0nm,20.4s,baz=70,slow=34							
SONM	Songino Array	44.59	295	P		P	06 29 45.8	+1.4
	comp=Z,0.9nm,0.4s,baz=64,slow=8.2,SNR=10							
SONM	Songino Array	44.59	295	P		P	06 29 45.9	+1.6
NVAR	Mina Array Bea	45.64	81	P		P	06 29 53.2	+0.3
	comp=Z,0.4nm,0.6s,baz=288,slow=7.6,SNR=5.8							
PDAR	Pinedale Array	48.26	70	P		P	06 30 11.6	-1.7
	comp=Z,0.5nm,0.6s,baz=294,slow=4.4,SNR=5.6							
SRU	San Rafael Swe	49.95	75	P		P	06 30 26.3	+0.2
ARCES	ARCESS Array B	57.45	349	P		P	06 31 18.8	-1.5
	comp=Z,1.3nm,0.7s,baz=23,slow=7.1,SNR=6.3							
MKAR	Makanchi Array	58.17	306	P		P	06 31 24.9	-0.8
	comp=Z,0.4nm,0.4s,baz=52,slow=5.8,SNR=7.4							
TXAR	Lajitas Array	60.73	79	P		P	06 31 43.6	-0.1
	comp=Z,0.3nm,0.5s,baz=300,slow=5.8,SNR=6.1							
FINES	FINESS Array B	65.03	345	P		P	06 32 11.0	-0.6
	comp=Z,1.9nm,0.8s,baz=348,slow=8.6,SNR=5.3							
AKASG	Malin Array Be	74.60	340	P		P	06 33 10.5	0.0
	comp=Z,0.4nm,0.4s,baz=21,slow=6.3,SNR=3.2							
WRA	Warramunga Arr	80.75	221	P		P	06 33 44.9	-0.2
	comp=Z,0.2nm,0.8s,baz=33,slow=6.1,SNR=1.4							

*IDC **29** 06:49:25.3±1.2,33°12N×76°96E, h0km, mb3.6/11, mb1 3.8/14, mb1mx3.6/43, mbtmp3.6/14, ML3.4/3, Error ellipse: s-maj=40.4km s-min=15.7km az=59.0*

ISC 29 06:49:27.1±0.8, 33°25N±0°08×77°1E±0°1, h10km, n15, σ1§88/17, mb3.6/10, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	1.38	234	eP	Pn	06 49 50.0	-2.5
THN				eS	Sn	06 50 11.5	+0.7
AAK	Ala-Archa	9.59	349	Pn	Pn	06 51 46.3	+1.0
	0.3nm,0.3s,baz=191,slow=10.0,SNR=2.5						
MKAR	Makanchi Array	14.11	15	Pn	Pn	06 52 47.3	+0.3
	0.4nm,0.3s,baz=190,slow=14,SNR=16						
MKAR				Sn	Sn	06 55 18.3	-5.3
	0.1nm,0.3s,baz=173,slow=23,SNR=3.2						
KURBB	Kurchatov Arra	17.40	3	P	Pn	06 53 31.4	+1.5
	0.1nm,0.3s,baz=162,slow=9.6,SNR=5.5						
BVAR	Borovoye Array	20.34	348	P	P	06 54 05.3	+1.9
	0.8nm,0.7s,baz=160,slow=18,SNR=6.2						
ZALV	Zalesovo Beam	21.42	13	P	P	06 54 15.5	+0.5
	0.6nm,0.4s,baz=193,slow=12,SNR=2.2						
AKTO	Aktyubinsk	22.16	326	P	P	06 54 24.3	+1.3
	0.8nm,0.4s,baz=123,slow=11,SNR=3.5						
CMAR	Chiang Mai Arr	24.53	121	P	P	06 54 47.0	0.0
	4.5nm,0.8s,baz=308,slow=9.5,SNR=20						
SONM	Songino Array	26.44	48	P	P	06 55 06.5	+2.2
	0.2nm,0.4s,baz=234,slow=8.7,SNR=2.8						
FINES	FINESS Array B	42.94	327	P	P	06 57 26.1	+0.3
	1.1nm,0.8s,baz=186,slow=3.5,SNR=4.9						
ARCES	ARCESS Array B	46.04	338	P	P	06 57 51.1	+0.5
	0.7nm,0.4s,baz=103,slow=9.4,SNR=10						
WRA	Warramunga Arr	76.06	125	P	P	07 01 14.3	-0.7
	0.3nm,0.5s,baz=316,slow=6.6,SNR=8.0						
ILAR	Eielson Array	76.44	18	P	P	07 01 17.2	+0.6
	0.2nm,0.5s,baz=317,slow=5.5,SNR=2.0						
ASAR	Alice Springs	78.33	128	P	P	07 01 27.4	-0.4
	0.4nm,0.7s,baz=314,slow=5.6,SNR=11						
YKA	Yellowknife Ar	84.13	5	P	P	07 01 58.0	0.0
	0.4nm,0.6s,baz=351,slow=4.9,SNR=11						

*IDC **29** 06:53:02.6±1.3,25°65N×127°56E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.3/45, mbtmp3.4/6, Error ellipse: s-maj=58.1km s-min=26.9km az=66.0*

*JMA **29** 06:53:05.9±0.3,25°57N×127°66E, h43km±3km, M3.3*

ISC 29 06:53:05.3±2.7,25°53N±0°07×127°75E±0°05, h25km±19km, n16, σ1§46/25, mb3.2/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	0.62	3	P	Pn	06 53 17.8	-0.6
JJT3				S	Sb	06 53 26.2	+0.4
JNTH	Nagotoyohara	1.02	14	P	Pn	06 53 23.5	-0.5
JNTH				eS	Sn	06 53 36.9	-0.6
JAGN	Aguni-jima	1.15	337	P	Pn	06 53 25.5	-0.3
JAGN				S	Sn	06 53 39.1	-1.6
JKE	Kume jima 2	1.18	313	P	Pn	06 53 25.3	-0.8
JKE				S	Sn	06 53 38.4	-2.9
JOW	Kunigami	1.39	20	P	Pn	06 53 29.0	0.0
JIH	Iheya	1.52	8	P	Pn	06 53 31.0	+0.2
JIH				S	Sn	06 53 48.9	-0.8
JYRO	Yoronjima	1.62	23	P	Pn	06 53 32.4	+0.1
JYRO				eS	Sn	06 53 51.7	-0.6
JOKE	Okinoerabujima	1.97	22	P	Pn	06 53 37.9	+0.8
JOKE				eS	Sn	06 54 00.4	-0.6
JMZ	Minamidaito 2	3.15	84	P	Pn	06 53 52.7	-0.6
JMZ				S	Sn	06 54 26.4	-3.7
JKDJ	Kitadaitoujima	3.23	82	P	Pn	06 53 54.1	-0.3
JKDJ				S	Sn	06 54 29.6	-2.5
SONM	Songino Array	27.91	328	P	P	06 58 54.0	+0.6
	0.3nm,0.5s,baz=141,slow=7.3,SNR=1.2						
MKAR	Makanchi Array	41.68	313	P	P	07 00 50.9	-1.0
	0.3nm,0.6s,baz=96,slow=12,SNR=3.6						
KURBB	Kurchatov Arra	45.06	317	P	P	07 01 17.8	-1.2
	0.1nm,0.3s,baz=103,slow=9.2,SNR=1.6						
ASAR	Alice Springs	49.26	173	P	P	07 01 54.4	+2.4
	0.2nm,0.5s,baz=359,slow=13,SNR=6.1						
FINES	FINESS Array B	73.26	331	P	P	07 04 34.2	+0.2
	2.9nm,0.9s,baz=230,slow=22,SNR=5.2						
YKA	Yellowknife Ar	79.34	25	P	P	07 05 09.7	+1.1
	0.1nm,0.6s,baz=306,slow=5.2,SNR=4.6						

*IDC **29** 06:53:34.0±1.4,5°87S×154°19E, h0km, mb3.3/5, mb1 3.6/6, mb1mx3.4/35, mbtmp3.4/6, ML2.2/1, Error ellipse: s-maj=59.4km s-min=24.9km az=127.0*

ISC 29 06:53:40.4±1.4, 6°0S±0°3×154°2E±0°2, h48km, n7, σ1§16/10, mb3.2/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.81	243	Pn	Pn	06 55 30.7	-0.9
	2.0nm,0.3s,baz=19,slow=13,SNR=2.9						
PMG				Sn	Sn	06 57 00.5	+1.7
	0.6nm,0.3s,baz=180,slow=20,SNR=2.3						
WRA	Warramunga Arr	23.82	232	P	P	06 58 48.1	-1.2
	0.6nm,0.8s,baz=58,slow=9.9,SNR=1.6						
WRA				PcP	PcP	07 02 32.5	+0.7
	0.3nm,0.5s,baz=56,slow=2.7,SNR=7.7						
ASAR	Alice Springs	26.33	226	P	P	06 59 11.8	-0.3
	0.2nm,0.4s,baz=57,slow=9.0,SNR=5.9						
ASAR				PcP	PcP	07 02 38.3	+0.9
	0.4nm,0.6s,baz=69,slow=2.4,SNR=9.4						
SONM	Songino Array	58.06	327	P	P	07 04 35.8	+0.6
	0.1nm,0.4s,baz=152,slow=6.5,SNR=1.7						
MKAR	Makanchi Array	82.13	319	P	P	07 05 54.7	-1.4
	0.1nm,0.5s,baz=107,slow=5.0,SNR=2.3						
ILAR	Eielson Array	82.68	22	P	P	07 05 59.4	+0.8
	0.6nm,1.0s,baz=260,slow=4.5,SNR=2.3						
TORD	Torodi Ar. Bea	152.02	287	PKPbc	PKPbc	07 13 31.5	0.0
	0.4nm,0.6s,baz=66,slow=4.5,SNR=1.3						

*IDC **29** 07:00:14.7±0.5,56°24S×24°87W, h0km, mb4.6/14, mb1 4.6/15, mb1mx4.5/23, mbtmp4.6/15, ML5.0/1, MS3.9/11, Ms1 3.8/11, ms1mx3.8/18, Error ellipse: s-maj=16.9km s-min=14.9km az=34.0*

*NEIC **29** 07:00:16.6±1.8, 56°2S±0°1×24°98W±0°06, h10km±1km, mb4.9/44, Error ellipse: s-maj=19.0km s-min=4.7km az=192.0*

ISC 29 07:00:16.5±0.3, 56°27S±0°07×24°86W±0°07, h10km, n131, σ1§09/126, mb4.8/30, MS3.8/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.93	282	Pn	Pn	07 01 57.2	-0.8
VNA1	Neumayer--Stat	16.13	160	P	Pn	07 04 02.7	-0.1
VNA3	Neumayer Olymp	16.37	162	P	Pn	07 04 05.5	-0.5
VNA3				S	Sn	07 06 56.5	-11
VNA2	Neumayer--Watz baz=325,slow=14	16.52	160	P	Pn	07 04 07.8	-0.1
VNA2				S	Sn	07 06 58.0	-13
SNAA	Sanae	18.03	157	P	P	07 04 27.7	+0.4
SNAA				S	Sn	07 07 33.8	-14
SNAA	Sanae	18.03	157	P	P	07 04 27.4	+0.1
	4.6nm,0.3s,baz=324,slow=21,SNR=68						
SNAA				S	Sn	07 07 31.3	-16
	0.1nm,0.3s,baz=183,slow=23,SNR=1.3						
SNAA				LR	LR	07 10 06.8	
	comp=Z,232nm,19.1s,baz=6.5,slow=33						
SNAA	Sanae	18.03	157		P	07 04 27.8	+0.6
EFI	East Falkland	19.94	269	P	P	07 04 48.2	0.0
EFI				IAmb	IAmb	07 04 48.8	
	comp=Z,39nm,0.8s						
PMSA	Palmer Station comp=Z,42nm,0.8s,baz=84,slow=8.2,SNR=8.8	20.75	230	P	P	07 04 57.6	+0.7
PMSA				LR	LR	07 11 26.5	
	comp=Z,504nm,21.6s,baz=81,slow=32						
PMSA	Palmer Station	20.75	230	P	P	07 04 57.4	+0.5
PMSA				IAmb	IAmb	07 05 01.4	
	comp=Z,35nm,0.8s						
BELA	Belgrano 2	21.97	185	P	P	07 05 09.2	-0.8
BELA				IAmb	IAmb	07 05 09.7	
	comp=Z,45nm,0.6s						
USHA	Ushuaia	24.39	255	P	P	07 05 34.2	-0.3
	comp=Z,55nm,0.4s,baz=277,slow=0.8,SNR=5.2						
GO09	Cerro Castillo	28.04	260	P	P	07 06 05.4	-2.2
GO09				IAmb	IAmb	07 06 07.1	
	comp=Z,34nm,1.4s						
PLTB	Pedras Altas	31.63	309	eP	P	07 06 41.7	+2.2
PLCA	Paso Flores	33.32	278	P	P	07 06 52.1	-2.1
	comp=Z,2.8nm,0.8s,baz=146,slow=8.9,SNR=8.9						
PLCA				LR	LR	07 19 41.9	
	comp=Z,165nm,21.3s,baz=130,slow=35						
PLCA	Paso Flores	33.32	278	P	P	07 06 52.8	-1.5
QSPA	South Pole Qui	33.98	180	P	P	07 07 00.6	+0.7
ITQB	Itaqui	34.76	307	eP	P	07 07 08.9	+2.2
PARB	Paraibuna	36.25	327	eP	P	07 07 20.2	+0.5
BO02	Sierra Bellavi	37.74	285	P	P	07 07 31.4	-0.9
CPUP	Villa Florida	37.95	308	P	P	07 07 34.4	+0.4
	comp=Z,5.6nm,0.8s,baz=148,slow=6.5,SNR=13						
CPUP				LR	LR	07 24 05.3	
	comp=Z,108nm,19.5s,baz=155,slow=38						
CPUP	Villa Florida	37.95	308	P	P	07 07 34.8	+0.8
CPUP				IAmb	IAmb	07 07 49.8	
	comp=Z,18nm,1.1s						
CPUP	Villa Florida	37.95	308	eP	P	07 07 35.0	+1.0
PEL	Peldehue	38.94	287	P	P	07 07 42.3	-0.1
PEL				IAmb	IAmb	07 07 45.8	
	comp=Z,36nm,1.3s						
MT02	Curacav	39.09	286	P	P	07 07 42.9	-0.8
MT02				IAmb	IAmb	07 07 57.9	
	comp=Z,16nm,0.7s						
ZON	Zonda	39.12	290	P	P	07 07 43.4	-0.6
ZON				IAmb	IAmb	07 07 44.3	
	comp=Z,13nm,0.7s						
VA03	San Esteban	39.16	287	P	P	07 07 44.7	+0.4
MAW	Mawson	39.20	143	P	P	07 07 44.6	+0.6
	comp=Z,3.8nm,0.6s,baz=220,slow=8.2,SNR=9.7						
MAW				LR	LR	07 21 18.1	
	comp=Z,184nm,21.2s,baz=242,slow=32						
MAW	Mawson	39.20	143	P	P	07 07 44.6	+0.6
SUR	Sutherland	39.45	72	P	P	07 07 47.5	+0.7
	comp=Z,6.2nm,0.9s,baz=17,slow=2.5,SNR=3.9						
SUR	Sutherland	39.45	72	P	P	07 07 48.2	+1.3
SUR				IAmb	IAmb	07 07 50.1	
	comp=Z,54nm,1.5s						
SJMB	Sao Joao De Ma	39.46	335	eP	P	07 07 47.6	+0.9
DIAM	Diamantina, MG	40.47	332	eP	P	07 07 55.0	-0.3
CO03	El Pedregal	40.74	289	P	P	07 07 57.3	-0.1
CO03				IAmb	IAmb	07 08 20.1	
	comp=Z,22nm,1.3s						
ITRB	Iturama	41.18	322	eP	P	07 08 01.9	+0.9
AQDB	Aquidauana	42.46	315	eP	P	07 08 12.3	+0.8
AC04	Llanos de Chal	43.03	291	P	P	07 08 16.7	+0.6
AC04				IAmb	IAmb	07 08 31.7	
	comp=Z,28nm,0.8s						
GO03	Copiap	43.09	292	P	P	07 08 16.8	+0.1
GO03				IAmb	IAmb	07 08 29.9	
	comp=Z,15nm,0.9s						
AC02	Maricunga	43.15	294	P	P	07 08 18.8	+1.2
AC02				IAmb	IAmb	07 08 32.9	
	comp=Z,38nm,1.0s						
JANB	Januaria	43.74	332	eP	P	07 08 21.9	0.0
BDFB	Brasilia	44.23	327	P	P	07 08 26.2	+0.4
	comp=Z,2.1nm,1.0s,baz=102,slow=19,SNR=2.2						
BDFB				LR	LR	07 23 42.0	
	comp=Z,231nm,21.1s,baz=132,slow=32						
BOSA	Boshof	44.77	73	P	P	07 08 30.1	-0.1
	comp=Z,8.4nm,1.0s,baz=213,slow=8.2,SNR=7.9						
BOSA				LR	LR	07 23 56.7	
	comp=Z,286nm,18.4s,baz=212,slow=32						
BOSA	Boshof	44.77	73	P	P	07 08 30.3	+0.1
BOSA				IAmb	IAmb	07 08 31.3	
	comp=Z,17nm,1.1s						
ARAG	Araguaiana, MT	45.39	322	eP	P	07 08 36.5	+1.4
SBA	Scott Base	45.95	183	P	P	07 08 40.9	+2.1
VNDA	Vanda	46.41	182	P	P	07 08 43.2	+0.8
	comp=Z,5.0nm,0.9s,baz=188,slow=7.6,SNR=18						
VNDA				LR	LR	07 26 55.3	
	comp=Z,110nm,21.5s,baz=174,slow=34						
VNDA	Vanda	46.41	182	P	P	07 08 43.4	+0.9
LVC	Limon Verde	46.54	298	P	P	07 08 46.2	+1.6
LVC	Limon Verde	46.54	298	eP	P	07 08 46.3	+1.7
NBAN	Anadia - AL	47.34	345	eP	P	07 08 50.3	0.0
PB09	IPOC Station P	47.39	298	P	P	07 08 49.6	-1.4
PB07	IPOC Station P	47.77	297	P	P	07 08 53.0	-0.9
LBTB	Lobatse	47.84	71	P	P	07 08 54.8	+0.5
PB01	IPOC Station P	48.15	298	P	P	07 08 56.2	-0.6
NBTA	Tacaratu-PE	48.16	342	eP	P	07 08 56.7	0.0
PTLB	Pontes e Lacer	48.37	313	eP	P	07 08 59.1	+0.8
SNDB	Serra Nova Dou	48.70	325	eP	P	07 09 01.4	+0.5
PSGCX	Pisagua	49.69	299	P	P	07 09 08.8	+0.2
PSGCX				IAmb	IAmb	07 09 19.4	
	comp=Z,22nm,1.2s						
MNMC	Minye Minye	49.83	299	P	P	07 09 11.1	+1.2
LPAZ	La Paz	51.58	303	P	P	07 09 24.4	+1.0
	comp=Z,17nm,0.7s,baz=130,slow=5.3,SNR=58						
LPAZ				LR	LR	07 30 50.2	
	comp=Z,70nm,21.9s,baz=156,slow=36						
LPAZ	La Paz	51.58	303	P	P	07 09 24.7	+1.3
LPAZ	La Paz	51.58	303	eP	P	07 09 24.8	+1.3
CASY	Casey	53.26	159	P	P	07 09 35.5	+1.0
SAML	Samuel	55.90	312	P	P	07 09 54.2	-0.1
SAML	Samuel	55.90	312	eP	P	07 09 54.6	+0.3
ETMB	Extrema	56.40	309	eP	P	07 09 58.1	+0.1
LSZ	Lusaka	57.25	66	P	P	07 10 03.5	-0.6
LSZ				IAmb	IAmb	07 10 05.1	
	comp=Z,14nm,1.0s						
MACA	Manacapuru-AM	60.19	318	eP	P	07 10 24.2	-0.2
CZSB	Cruzeiro do Su	61.18	303	eP	P	07 10 33.3	+2.0
LIC	Lamto	64.38	22	ePKP1	P	07 10 52.6	+0.2
	comp=Z,44nm,1.4s						
KIC	Kosan Boka	64.57	22	ePKP1	P	07 10 53.1	-0.6
	comp=Z,11nm,0.8s						
TIC	Toumodi	64.79	22	ePKP1	P	07 10 53.9	-1.2
DBIC	Dimbokro	64.85	22	P	P	07 10 55.2	-0.2
	comp=Z,4.5nm,0.7s,baz=165,slow=10,SNR=7.4						
DBIC				LR	LR	07 33 08.6	
	comp=Z,52nm,18.9s,baz=174,slow=30						
DBIC	Dimbokro	64.85	22	P	P	07 10 55.9	+0.4
DBIC				IAmb	IAmb	07 11 13.4	
	comp=Z,10nm,1.1s						
BOAV	Boa Vista	65.26	320	eP	P	07 10 57.5	-0.7
MACC	Macarena, Meta	70.42	307	eP	P	07 11 30.3	-0.5
OTAV	Otavalo	70.87	302	P	P	07 11 32.4	-1.6
OTAV	Otavalo	70.87	302	eP	P	07 11 37.5	+3.4
OTAV	Otavalo	70.87	302	eP	P	07 11 35.5	+1.5
SOTA	Rioblanco	71.67	304	eP	P	07 11 41.5	+2.6
BBAC	Balboa, Cauca	71.86	304	eP	P	07 11 37.5	-2.3
POPC	Popayan, Colom	72.06	304	eP	P	07 11 40.1	-0.9
ORTC	Ortega, Tolima	72.62	306	eP	P	07 11 37.5	-6.6
KOWA	Kowa	72.63	21	P	P	07 11 44.5	+0.6
TOA0	Torodi Ar. Sit	72.63	27	P	P	07 11 44.2	+0.3
TOA0				IAmb	IAmb	07 12 02.0	
	comp=Z,7.0nm,0.8s						
TORD	Torodi Ar. Bea	72.63	27	P	P	07 11 43.6	-0.3
	comp=Z,4.8nm,0.7s,baz=198,slow=6.5,SNR=18						
TORD	Torodi Ar. Bea	72.63	27	P	P	07 11 44.1	+0.1
TORD				IAmb	IAmb	07 12 02.0	
	comp=Z,5.5nm,0.8s						
ROSC	El Rosal	73.03	308	LR	LR	07 47 01.8	
	comp=Z,61nm,18.2s,baz=53,slow=38						
YOTC	Yotoco, Valle	73.18	305	eP	P	07 11 45.0	-2.4
TOLC	Tolima	73.25	307	eP	P	07 11 59.4	+11
RUSC	La Rusia	73.43	309	eP	P	07 11 57.6	+8.2
GUY2C	Guyana, Caldas	73.84	307	eP	P	07 11 51.3	-0.5
NORC	Norcasia	73.92	307	eP	P	07 11 46.7	-5.0
PTBC	PUERTO BERRIO,	74.61	308	eP	P	07 11 52.4	-3.2
SOCV	Socops	74.64	312	eP	P	07 11 55.9	0.0
CBOC	Ciudad Bolivar	74.69	307	eP	P	07 11 53.6	-2.8
SDV	Santo Domingo	75.10	313	eP	P	07 11 59.7	+1.0
SMLC	San Martn de	76.46	310	eP	P	07 12 04.0	-2.3
MLZ	Mavora Lakes	78.15	189	P	P	07 12 16.3	+0.8
RPZ	Rata Peaks	79.49	192	P	P	07 12 21.6	-1.3
RPZ				IAmb	IAmb	07 12 44.2	
	comp=Z,24nm,1.2s						
LTZ	Lake Taylor	80.27	193	P	P	07 12 27.2	+0.1
BBOO	Buckleboo	89.80	164	P	P	07 13 14.7	-0.3
BBOO				IAmb	IAmb	07 13 15.6	

MK31			⇓Lg		Lg	07 09 19.6	
	1.4nm,0.4s,baz=330,slow=24,SNR=21						
MKAR	**Makanchi Array**	**4.03 141**	Pn		**Pn**	**07 08 15.8**	**+1.2**
	0.3nm,0.3s,baz=321,slow=10,SNR=27						
MKAR			Pg		**Pb**	**07 08 21.8**	**-1.7**
	0.4nm,0.3s,baz=322,slow=13,SNR=14						
MKAR			Lg		Lg	07 09 15.9	
	1.1nm,0.3s,baz=324,slow=19,SNR=16						
ZALV	**Zalesovo Beam**	**5.52 42**	Pn		**Pn**	**07 08 36.2**	**+1.2**
	0.6nm,0.3s,baz=233,slow=14,SNR=6.6						
SONM	**Songino Array**	**18.35 86**	P		**Pn**	**07 11 26.5**	**-1.1**
	0.1nm,0.3s,baz=293,slow=12,SNR=1.9						

IDC ***29*** *07:17:51.4±0.9,21.67N×145.74E,h0km,mb3.6/10, mb1 3.8/11,mb1mx3.7/40,mbtmp3.6/11,ML3.9/1,MS2.6/1, Ms1 2.6/1,ms1mx2.3/28,Error ellipse: s-maj=31.0km s-min=20.3km az=84.0*

ISC 29 07:17:57.0±0.9,21.8N±0.1×145.6E±0.2,h35km,n11, σ1ŝ21/12,mb3.4/10,Mariana Islands region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.17 330**	Pn	**Pn**	**07 19 26.1**	**+0.5**
	2.9nm,0.3s,baz=265,slow=22,SNR=1.8					
JCJ			Sn	**Sn**	**07 20 32.6**	**-2.4**
	8.0nm,0.3s,baz=274,slow=20,SNR=1.3					
KSRS	**Korea Array**	**21.89 320**	P	**P**	**07 22 48.7**	**+1.8**
	0.8nm,0.6s,baz=146,slow=8.8,SNR=5.1					
KSRS			LR	LR	07 31 22.6	
	comp=Z,15nm,18.4s,baz=165,slow=37					
SONM	**Songino Array**	**40.76 319**	P	**P**	**07 25 35.8**	**+1.0**
	0.2nm,0.3s,baz=128,slow=8.1,SNR=1.9					
WRA	**Warramunga Ar**	**42.88 196**	P	**P**	**07 25 51.5**	**-0.6**
	0.6nm,0.6s,baz=12,slow=8.6,SNR=7.2					
ASAR	**Alice Springs**	**46.56 195**	P	**P**	**07 26 20.6**	**-0.8**
	0.1nm,0.4s,baz=9.1,slow=7.8,SNR=4.9					
ZALV	**Zalesovo Beam**	**55.58 321**	P	**P**	**07 27 28.7**	**-0.2**
	0.6nm,0.4s,baz=103,slow=8.4,SNR=2.3					
MKAR	**Makanchi Array**	**56.33 312**	P	**P**	**07 27 35.0**	**+0.5**
	0.3nm,0.5s,baz=89,slow=7.8,SNR=4.4					
ILAR	**Eielson Array**	**60.97 27**	P	**P**	**07 28 06.1**	**-0.2**
	0.3nm,0.6s,baz=252,slow=5.6,SNR=2.0					
YKA	**Yellowknife Ar**	**75.35 28**	P	**P**	**07 29 37.2**	**+0.7**
	0.2nm,0.5s,baz=293,slow=5.2,SNR=4.9					
NVAR	**Mina Array Bea**	**81.33 52**	P	**P**	**07 30 10.0**	**-0.4**
	0.2nm,0.6s,baz=297,slow=6.0,SNR=3.6					
FINES	**FINESS Array B**	**84.10 335**	P	**P**	**07 30 23.3**	**-0.7**
	2.4nm,0.9s,baz=67,slow=6.3,SNR=6.5					

MOS ***29*** *07:50:52.0±0.9,1.67N×126.38E,h37km,mb5.8/65, MS5.0/25,Error ellipse: s-maj=7.4km s-min=3.7km az=115.0*

IDC ***29*** *07:50:52.6±1.3,1.67N×126.39E,h27km±8km,mb5.1/44, mb1 5.1/49,mb1mx5.1/53,mbtmp5.3/49,ML4.7/5,MS4.7/31, Ms1 4.7/31,ms1mx4.6/40,Error ellipse: s-maj=10.0km s-min=5.6km az=80.0*

BJI ***29*** *07:50:53.0±0.0,1.65N×126.43E,h49km,mB5.4/75, mb5.3/86,Ms5.1/97,Ms7 5.1/89*

NEIC ***29*** *07:50:53.8,1.66N×126.49E,h54km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr3.58; Mθθ-0.67; Mϕϕ-2.91; Mrθ-0.18; Mθϕ-0.83; Mϕr0.42; Fault plane solution: M₀3.43000×10¹⁷ NP1:ϕs202.36000°, δ42.25000°,λ96.33000°. NP2:ϕs13.84000°,δ48.07000°, λ84.28000°. Principal axes: T 3.6149, Plg85.0000°, Azm232.0000°; N -0.4158, Plg4.0000°, Azm18.0000°; P -3.1991, Plg3.0000°, Azm108.0000°;*

NEIC ***29*** *07:50:54.3±1.9,1.65N±0.05×126.49E±0.05,h45km±3km, mb5.6/175,Ms_20 5.1/228,Mwb5.6/67,Mww5.6, Mwc5.7(GCMT) Error ellipse: s-maj=7.1km s-min=6.7km az=75.0*

KLM ***29*** *07:50:55,1.82N×126.91E,h77km,mb5.7*

DJA ***29*** *07:50:55.6±0.2,2.2N±2.2×12.7E±.1,h58km±2km,M5.4/115, mB5.8/91,mb5.6/115,MLv5.7/19,Mw5.7/41,Mw(mB)5.4/91, MwMwp5.4/60,Mwp5.6/60*

NEIC ***29*** *07:50:56,1.64N×126.55E,h46km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr3.76; Mθθ-0.65; Mϕϕ-3.11; Mrθ-1.17; Mθϕ-0.47; Mϕr0.09; Fault plane solution: M₀3.70000×10¹⁷ NP1:ϕs357.00000°, δ46.00000°,λ70.00000°. NP2:ϕs204.00000°,δ48.00000°, λ109.00000°. Principal axes: T 4.0561, Plg76.0000°, Azm187.0000°; N -0.8525, Plg14.0000°, Azm11.0000°; P -3.2036, Plg1.0000°, Azm281.0000°;*

GCMT ***29*** *07:50:57.3±0.1,1.79N±0.01×126.56E±0.01,h36km, MW5.7/160,Moment Tensor Solution. s160,c317; s153,c328; Duration: 1ŝ7 Moment tensor: Scale 10¹⁷ Nm; Mrr4.22±.05; Mθθ-0.38±.03; Mϕϕ-3.85±.04; Mrθ-0.01±.05; Mθϕ-1.27±.03; Mϕr0.66±.05; Best double couple: M₀4.29300×10¹⁷ NP1:ϕs201.00000°,δ41.00000°, λ94.00000°. NP2:ϕs15.00000°,δ49.00000°,λ86.00000°. Principal axes: T 4.2760, Plg85.0000°, Azm253.0000°; N 0.0290, Plg3.0000°, Azm18.0000°; P -4.3100, Plg4.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***29*** *07:50:59,1.77N×126.58E,h35km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr3.78; Mθθ0.03; Mϕϕ-3.81; Mrθ0.06; Mθϕ-1.19; Mϕr0.78; Fault plane solution: M₀4.05000×10¹⁷ NP1:ϕs199.00000°, δ40.00000°,λ94.00000°. NP2:ϕs13.00000°,δ50.00000°, λ87.00000°. Principal axes: T 3.8588, Plg84.0000°, Azm260.0000°; N 0.3630, Plg3.0000°, Azm15.0000°; P -4.2218, Plg5.0000°, Azm106.0000°;*

ISC 29 07:50:54.8±0.4,1.69N±0.02×126.49E±0.03,h46km±2km, h46km:pP-P,n1158,σ1ŝ70/1213,mb5.5/250,MS5.1/192, 89C-45D,Fault plane solution: NP1:ϕs187.28717°, δ33.84264°,λ95.13908°. **NP2:ϕs1.10719°,δ56.31166°,** λ86.56289°. **Principal axes:** T Plg78.3833°, Azm258.9538°; N Plg2.8594°, Azm3.0153°; P Plg11.2498°, Azm93.5845°; **Northern Molucca Sea**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.27 136**		**Pn**	**07 51 14.7**	**-1.4**
TNTI			Sn	**Sn**	**07 51 30.3**	**-1.7**
TNTI	**Ternate**	**1.27 136**	P	**Pn**	**07 51 14.6**	**-1.5**
SGSI	**Sangihe**	**2.20 334**	P	**Pn**	**07 51 30.6**	**+1.7**
SGSI			S	**Sn**	**07 51 57.7**	**+2.7**
KMSI	**Cibinong**	**2.75 246**	P	**Pn**	**07 51 37.7**	**+1.3**
GTOI	**Gorontalo**	**3.63 253**	P	**Pn**	**07 51 51.0**	**+2.4**
SANI	**Sanana**	**3.75 188**	P	**Pn**	**07 51 49.7**	**-0.5**
DDMP	**Don Marcelino,**	**4.45 350**	*e*P	**Pn**	**07 51 59.6**	**-0.3**
DDMP			*e*S	**Sn**	**07 52 51.1**	**+0.7**
LUWI	**Luwuk**	**4.61 234**	Pn	**Pn**	**07 52 04.5**	**+2.5**
LUWI			Sn	**Sn**	**07 52 55.8**	**+1.6**
LUWI	**Luwuk**	**4.61 234**	P	**Pn**	**07 52 03.2**	**+1.2**
MRSI	**Marisa**	**4.71 255**	P	**Pn**	**07 52 06.2**	**+2.9**
NLAI	**Namlea**	**4.94 173**	P	**Pn**	**07 52 06.7**	**+0.2**
SKMP	**Bagumbayan, Su**	**5.17 338**	*e*P	**Pn**	**07 52 09.8**	**0.0**
SKMP			*e*S	**Sn**	**07 53 06.2**	**-2.0**
MATI	**Mati**	**5.22 357**	*e*P	**Pn**	**07 52 12.2**	**+1.7**
MATI			*e*S	**Sn**	**07 53 16.9**	**+7.4**
SWI	**Sorong**	**5.40 118**	P	**Pn**	**07 52 12.5**	**-0.4**
	1.8nm51µm7µm596nm,1.0s					
SIJI	**Sorong**	**5.41 118**	Pn	**Pn**	**07 52 12.8**	**-0.2**
	8.6nm,0.3s,baz=312,slow=9.7,SNR=62					
KCP	**Kidapawan**	**5.46 345**	⇑*i*P	Pn	07 52 21.0	+7.2
KCP			*i* S	**Sn**	**07 53 07.4**	**-8.0**
APSI	**Ampana**	**5.49 242**	P	**Pn**	**07 52 17.5**	**+3.4**
	15nm20µm34µm3µm,1.1s					
TOLI2	**Tolitoli**	**5.74 264**	Pn	**Pn**	**07 52 17.9**	**+0.4**
BUKP	**Musuan**	**6.31 347**	*e*P	**Pn**	**07 52 27.6**	**+2.2**
ZCP	**Zamboanga City**	**6.82 320**	⇑*e*P	**Pn**	**07 52 33.8**	**+1.4**
ZCP			*e*S	**Sn**	**07 53 47.9**	**-0.7**
PAGZ	**Pagadian**	**6.85 333**	*e*P	**Pn**	**07 52 32.9**	**0.0**
PAGZ			*e*S	**Sn**	**07 53 50.0**	**+0.4**
CGP	**Cagayan de Oro**	**6.95 345**	⇓*e*P	**Pn**	**07 52 38.0**	**+3.9**
BNDI	**Bandanaira**	**7.05 151**	P	**Pn**	**07 52 35.5**	**-0.1**
	3.5nm29µm40µm722nm,0.8s					
BUTP	**Butuan**	**7.28 353**	*e*P	**Pn**	**07 52 41.5**	**+2.8**
FAKI	**Fak Fak**	**7.36 129**	Pn	**Pn**	**07 52 39.2**	**-0.5**
FAKI	**Fak Fak**	**7.36 129**	P	**Pn**	**07 52 39.6**	**-0.2**
	2.6nm35µm9µm753nm,1.1s					
GLSP	**General Luna,**	**8.05 357**	*e*P	**Pn**	**07 52 50.6**	**+1.4**
TTSI	**Tana Toraja**	**8.16 235**	P	**Pn**	**07 52 52.2**	**+1.4**
	21µm6µm645nm,1.0s					
MYLDM	**Lahad Datu**	**8.70 294**	Pn	**Pn**	**07 53 01.3**	**+3.2**
SPSI	**Sidrap Palu**	**8.76 230**	P	**Pn**	**07 53 00.8**	**+1.8**
	20µm5µm628nm,0.8s					
BNSI	**Bone**	**8.79 226**	P	**Pn**	**07 53 00.5**	**+1.0**
	17µm6µm702nm,0.7s					
LLP	**Lapu-Lapu**	**8.93 344**	*e*P	**Pn**	**07 53 05.2**	**+3.9**
CNOP	**Candoni, Negro**	**8.94 335**	*e*P	**Pn**	**07 53 03.3**	**+1.8**
BKSI	**Bulukumba**	**9.44 222**	P	**Pn**	**07 53 09.0**	**+0.8**
	15µm8µm347nm,0.6s					
KAPI	**Kappang**	**9.47 225**	Pn	**Pn**	**07 53 09.8**	**+1.0**
	34nm,0.3s,baz=358,slow=4.0,SNR=43					
KAPI			Sn	**Sn**	**07 54 53.8**	**-0.2**
	3.5nm,0.3s,baz=205,slow=22,SNR=0.7					
KAPI	**Kappang**	**9.47 225**	P	**Pn**	**07 53 10.8**	**+2.1**
KAPI	**Kappang**	**9.47 225**	Pn	**Pn**	**07 53 10.8**	**+2.1**
KAPI	**Kappang**	**9.47 225**	P	**Pn**	**07 53 11.0**	**+2.3**
KAPI			P	**Pn**	**07 53 11.0**	**+2.3**
KAPI			S	**Sn**	**07 54 57.5**	**+3.5**
KAPI			S	**Sn**	**07 54 57.5**	**+3.5**
BKB	**Balikpapan**	**10.03 253**		**Pn**	**07 53 15.8**	**-0.7**
BKB	**Balikpapan**	**10.03 253**	P	**Pn**	**07 53 18.1**	**+1.7**
	30µm4µm329nm,1.2s					
BAKI	**Biak**	**10.03 107**	P	**Pn**	**07 53 17.0**	**+0.6**
	30µm2µm,1.7s					
SRPI	**Serui, Papua**	**10.37 110**	P	**Pn**	**07 53 22.5**	**+1.4**
	12µm598nm,1.0s					
SPMM	**Sapulut**	**10.45 287**	P	Pn	07 53 28.0	+5.8
MMRI	**Maumere**	**11.10 202**	Pn	**Pn**	**07 53 26.7**	**-4.4**
MMRI	**Maumere**	**11.10 202**	P	**Pn**	**07 53 31.4**	**+0.3**
	8µm3µm292nm,1.2s					
KKM	**Kota Kinabalu**	**11.12 293**		**Pn**	**07 53 35.1**	**+3.6**
EDFI	**Ende, Flores**	**11.42 205**	P	**Pn**	**07 53 37.1**	**+1.5**
	5µm2µm142nm,1.2s					
KBKI	**Kotabaru**	**11.45 244**	P	**Pn**	**07 53 37.8**	**+2.0**
	166nm,1.5s					
SOEI	**Soe**	**11.59 191**	Pn	**Pn**	**07 53 42.3**	**+4.5**
SOEI	**Soe**	**11.59 191**	P	**Pn**	**07 53 37.1**	**-0.7**
	12µm8µm828nm,1.3s					
MTKI	**Muara Teweh, K**	**11.88 257**	P	**Pn**	**07 53 44.3**	**+2.5**
	13µm145nm,1.2s					
BATI	**Baturaja**	**12.15 193**	Pn	**Pn**	**07 53 44.5**	**-0.9**
	2.1nm,0.3s,baz=40,slow=21,SNR=1.3					
BATI			LR	LR	07 59 32.5	
	comp=Z,3µm,19.7s,baz=7.0,slow=43					
BATI	**Baumata**	**12.15 193**	P	**Pn**	**07 53 47.5**	**+2.0**
	5µm2µm214nm,0.9s					
AUQP	**San Andres**	**12.16 342**	*e*P	**P**	**07 53 54.5**	**-2.5**
BBKI	**Banjar Baru**	**12.72 246**	P	**Pn**	**07 53 55.1**	**+1.9**
	15µm4µm171nm,1.5s					
WSI	**Waingapu**	**12.86 209**	P	**Pn**	**07 53 58.2**	**+3.1**
	10µm506nm,1.3s					
BASI	**Baing, Sumba**	**13.22 206**	P	**Pn**	**07 54 02.6**	**+2.6**
	5µm3µm275nm,1.0s					
TGY	**Tagaytay City**	**13.50 336**	Pn	**Pn**	**07 54 03.6**	**-0.3**
	18nm,0.3s,baz=97,slow=10,SNR=1.2					
PLAI	**Plampang**	**13.59 220**	P	**Pn**	**07 54 08.6**	**+3.5**
	9µm6µm711nm,1.2s					
TWSI	**Taliwang, Sumb**	**14.11 223**	P	**Pn**	**07 54 13.0**	**+0.8**
	8µm5µm666nm,1.1s					
SBUM	**Sibu**	**14.28 273**		**Pn**	**07 54 17.4**	**+3.0**
SBUM	**Sibu**	**14.28 273**	P	**P**	**07 54 18.0**	**-2.6**
GENI	**Genyem**	**14.32 107**	P	**Pn**	**07 54 17.2**	**+2.2**
	15µm10µm435nm,1.4s					
BALP	**Baler**	**14.78 341**	*e*P	**Pn**	**07 54 20.4**	**-0.6**
JAY	**Jayapura**	**14.81 106**	Pn	**Pn**	**07 54 22.6**	**+1.0**
	0.6nm,0.3s,baz=250,slow=15,SNR=6.4					
JAY	**Jayapura**	**14.81 106**	P	**Pn**	**07 54 21.3**	**-0.3**
	1µm107nm,1.1s					
SRBI	**Singaraja**	**14.86 229**	P	**Pn**	**07 54 24.3**	**+2.2**
	9µm5µm524nm,1.2s					
STKI	**Sintang**	**15.10 264**	P	**Pn**	**07 54 27.3**	**+2.0**
MTN	**Manton Dam**	**15.16 162**	P	**Pn**	**07 54 24.6**	**-1.4**
	baz=15,SNR=6.2					
MTN	**Manton Dam**	**15.16 162**	Pn	**Pn**	**07 54 23.6**	**-2.5**
MTN			IAmb	IAmb	07 54 33.2	
	comp=Z,165nm,0.7s					
KMMI	**Kalianget**	**15.22 235**	P	**P**	**07 54 29.8**	**-1.3**
	comp=Z,10µmcomp=Z,7µmcomp=Z,861nm,1.0s					
DNP	**Denpasar**	**15.25 227**	P	**P**	**07 54 29.3**	**-2.1**
	comp=Z,29µmcomp=Z,3µm,1.3s					
ABJI	**Asem Bagus**	**15.44 232**	P	**Pn**	**07 54 30.4**	**+0.7**
	comp=Z,9µmcomp=Z,4µmcomp=Z,290nm,0.9s					
PBKI	**Pangkalan Bun**	**15.45 254**	P	**P**	**07 54 31.9**	**-1.7**
	comp=Z,263nm,1.1s					
JAGI	**Jajag, Banyuwa**	**15.91 230**		**P**	**07 54 37.8**	**-1.0**
JAGI			IAmb	IAmb	07 54 44.8	
	comp=Z,545nm,1.0s					
JAGI	**Jajag, Banyuwa**	**15.91 230**	P	**Pn**	**07 54 37.0**	**+1.2**
	comp=Z,8µmcomp=Z,5µmcomp=Z,541nm,1.2s					
BOLP	**Bolinao**	**15.97 336**	*e*P	**Pn**	**07 54 37.5**	**+1.0**
KSM	**Kuching**	**16.18 269**	P	**P**	**07 54 42.3**	**+0.6**
KSM			IAmb	IAmb	07 54 55.9	
	comp=Z,387nm,1.1s					
KSM	**Kuching**	**16.18 269**	P	**P**	**07 54 44.0**	**+2.3**
SZP	**Santa**	**16.84 340**		**Pn**	**07 54 47.2**	**-0.2**
SZP			IAmb	IAmb	07 55 14.8	
	comp=Z,394nm,1.1s					
APYP	**Conner**	**16.88 343**	*e*P	**Pn**	**07 54 48.0**	**+0.1**
MMPI	**Merauke**	**17.14 126**	P	**P**	**07 54 54.0**	**+1.6**
	comp=Z,11µmcomp=Z,359nm,0.5s					
WOJI	**Wonogiri, Jawa**	**18.19 238**	P	**Pn**	**07 55 06.2**	**+2.1**
	comp=Z,4µmcomp=Z,2µmcomp=Z,154nm,1.2s					
SMRI	**Semarang**	**18.22 241**	P	**P**	**07 55 02.9**	**-1.4**
SMRI	**Semarang**	**18.22 241**	P	**Pn**	**07 55 06.8**	**+2.3**
	comp=Z,9µmcomp=Z,4µmcomp=Z,227nm,0.9s					
UGM	**Wanagama**	**18.57 239**	P	**Pn**	**07 55 08.6**	**-0.1**
UGM			IAmb	IAmb	07 55 26.4	
	comp=Z,266nm,0.9s					
UGM	**Wanagama**	**18.57 239**	P	**Pn**	**07 55 10.5**	**+1.7**
	comp=Z,7µmcomp=Z,3µmcomp=Z,355nm,1.1s					
BBP	**Basco**	**19.15 347**	*e*P	**P**	**07 55 12.2**	**-2.2**
TPI	**Tanjungpandan**	**19.34 257**	P	**Pn**	**07 55 17.4**	**-0.7**
	comp=Z,9µmcomp=Z,156nm,1.3s					
FITZ	**Fitzroy Crossi**	**19.68 182**	P	**P**	**07 55 18.9**	**-1.4**
	comp=Z,7.4nm,0.3s,baz=18,slow=9.8,SNR=125					
FITZ			S	**S**	**07 58 58.6**	**-1.4**
	baz=123,slow=7.8,SNR=4.8					
FITZ			LR	LR	08 03 44.2	
	comp=Z,1µm,20.9s,baz=17,slow=39					
FITZ	**Fitzroy Crossi**	**19.68 182**	P	**P**	**07 55 19.0**	**-1.4**
	baz=20,SNR=135					
FITZ	**Fitzroy Crossi**	**19.68 182**	P	**P**	**07 55 19.2**	**-1.1**
JCJI	**Jatiwangi**	**19.92 246**	P	**P**	**07 55 23.2**	**+0.2**
	comp=Z,437nm,0.4s					
DLV	**T Lat**	**20.55 301**	P	**P**	**07 55 31.0**	**+0.9**
DLV			IAmb	IAmb	07 55 42.2	
	comp=Z,209nm,1.0s					
LEM	**Lembang**	**20.65 246**	P	**P**	**07 55 29.1**	**-1.9**
	comp=Z,132nm,0.9s,baz=54,slow=11,SNR=16					
LEM			LR	LR	08 05 22.3	
	comp=Z,3µm,19.9s,baz=60,slow=42					
LEM	**Lembang**	**20.65 246**	P	**P**	**07 55 30.1**	**-1.0**
	comp=Z,3µmcomp=Z,89nm,0.9s					
PPBI	**Pangkal Pinang**	**20.71 259**	P	**P**	**07 55 31.7**	**+0.2**
	comp=Z,7µmcomp=Z,32µmcomp=Z,223nm,1.2s					
CBJI	**Citeko**	**21.20 247**	P	**P**	**07 55 35.9**	**-0.9**
	comp=Z,156nm,0.7s					
MANU	**Manus Island**	**21.20 100**	P	**P**	**07 55 37.7**	**+0.9**
DBJI	**Dramaga**	**21.34 247**	P	**P**	**07 55 37.2**	**-1.1**
	comp=Z,62nm,0.7s					
TWG	**Pinlang**	**21.65 346**	P	**P**	**07 55 38.0**	**-3.5**
GUMO	**Guam**	**21.68 56**	P	**P**	**07 55 42.8**	**+0.8**
SKJI	**Sukabumi**	**21.69 246**	P	**P**	**07 55 42.4**	**+0.3**
	comp=Z,4µmcomp=Z,192nm,1.2s					
YULB	**Yu-li**	**22.15 347**	P	**P**	**07 55 43.9**	**-3.1**
YULB			IAmb	IAmb	07 55 50.6	
	comp=Z,225nm,1.1s					
YULB			IAMs_20	IAMs_20	08 05 25.5	
	comp=Z,6µm,22.0s					
PMBI	**Palembang**	**22.19 258**	P	**P**	**07 55 47.3**	**-0.2**
PMBI			IAMs_20	IAMs_20	08 04 53.3	
	comp=Z,7µm,22.0s					
PMBI	**Palembang**	**22.19 258**	P	**P**	**07 55 47.5**	**0.0**
	comp=Z,6µmcomp=Z,18µmcomp=Z,571nm,1.3s					
TPUB	**Ta-pu**	**22.22 346**	P	**P**	**07 55 45.5**	**-2.2**
TPUB			IAmb	IAmb	07 55 53.4	
	comp=Z,291nm,0.8s					
TPUB			IAMs_20	IAMs_20	08 04 58.3	
	comp=Z,6µm,21.0s					
BLSI	**Bandar Lampung**	**22.35 252**	P	**P**	**07 55 47.5**	**-1.7**
	comp=Z,198nm,0.7s					
SSLB	**Suanglung**	**22.61 347**	P	**P**	**07 55 50.3**	**-1.5**
SSLB			IAmb	IAmb	07 56 09.1	
	comp=Z,118nm,0.8s					
SSLB			IAMs_20	IAMs_20	08 05 50.6	
	comp=Z,5µm,22.0s					
MYKOM	**Kota Tinggi**	**22.63 271**	P	**P**	**07 55 52.4**	**+0.2**
MYKOM			IAmb	IAmb	07 55 55.6	
	comp=Z,328nm,1.2s					
MYKOM	**Kota Tinggi**	**22.63 271**	P	**P**	**07 55 55.0**	**+2.8**
KLSI		**22.65 254**	P	**P**	**07 55 50.8**	**-1.6**
	comp=Z,2µmcomp=Z,696nmcomp=Z,38nm,0.9s					
WB0	**Warramunga Arr**	**22.69 160**	P	**P**	**07 55 51.2**	**-1.6**
COEN	**Coen**	**22.70 134**	P	**P**	**07 55 51.5**	**-1.3**
WRAB	**Tennant Creek**	**22.83 161**	*ce*P	**P**	**07 55 52.9**	**-1.3**
WRAB			pmax	pmax		
	comp=Z,724nm,0.8s					
WRAB	**Tennant Creek**	**22.83 161**	P	**P**	**07 55 52.7**	**-1.5**
WRA	**Warramunga Arr**	**22.84 161**	P	**P**	**07 55 52.6**	**-1.6**
	comp=Z,774nm,0.8s,baz=340,slow=11,SNR=632					
WRA			S	**S**	**08 00 00.6**	**0.0**
	comp=Z,40nm,1.0s,baz=347,slow=22,SNR=6.8					
WRA			PKiKP	**PKiKP**	**08 07 28.5**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=313,slow=1.4,SNR=2.8					
WRA			P3KPbc		08 29 27.9	
	comp=Z,0.7nm,1.1s,baz=160,slow=4.0,SNR=2.8					
WRA	**Warramunga Arr**	**22.84 161**	P	**P**	**07 55 51.8**	**-2.5**
WB2	**Warramunga Arr**	**22.84 161**	P	**P**	**07 55 53.0**	**-1.4**
NACB	**Ninganchiao**	**22.84 348**	P	**P**	**07 55 52.2**	**-2.1**
YOJ	**Yonaguni jima**	**22.88 352**	P	**P**	**07 55 54.6**	**-0.1**
YOJ			pmax	pmax		
	comp=Z,123nm,1.0s					
YOJ	**Yonaguni jima**	**22.88 352**	P	**P**	**07 55 54.6**	**-0.1**
WR0	**Warramunga Arr**	**22.92 160**	P	**P**	**07 55 53.8**	**-1.4**
JMBI	**JAMBI**	**23.08 262**	P	**P**	**07 55 57.3**	**+0.5**
	comp=Z,8µmcomp=Z,851nm,1.4s					
KASI	**Kota Agung**	**23.11 252**	P	**P**	**07 55 56.5**	**-0.6**
	comp=Z,4µmcomp=Z,2µmcomp=Z,214nm,0.7s					
PMG	**Port Moresby**	**23.36 119**	P	**P**	**07 55 59.7**	**+0.3**
	comp=Z,84nm,1.1s,baz=331,slow=3.8,SNR=11					
PMG	**Port Moresby**	**23.36 119**	*ce*P	**P**	**07 55 58.9**	**-0.6**
PMG			pmax	pmax		
	comp=Z,105nm,1.0s					
PMG	**Port Moresby**	**23.36 119**	P	**P**	**07 55 58.9**	**-0.6**
PMG	**Port Moresby**	**23.36 119**	P	**P**	**07 56 00.2**	**+0.7**
YHNB	**Yeheng**	**23.37 348**	IAMs_20	IAMs_20	08 06 15.8	
	comp=Z,6µm,21.0s					
LWLI	**Liwa**	**23.38 253**	P	**P**	**07 55 59.0**	**-0.9**
	comp=Z,275µmcomp=Z,9µmcomp=Z,315nm,0.9s					
LHSI	**Lahat**	**23.60 257**	P	**P**	**07 56 01.1**	**-0.7**
	comp=Z,3µmcomp=Z,198nm,0.9s					
TATO	**Taipei**	**23.64 349**	P	**P**	**07 55 59.0**	**-3.1**
TATO	**Taipei**	**23.64 349**	P	**P**	**07 56 02.3**	**+0.2**
MBWA	**Marble Bar**	**23.66 196**	P	**P**	**07 56 01.1**	**-1.2**
MBWA			P	**P**	**07 56 01.1**	**-1.2**
QIZ	**Qiongzhong**	**23.73 318**	P	**P**	**07 56 02.0**	**-0.9**
QIZ			S	**S**	**08 00 17.8**	**+2.7**
QIZ			pmax	pmax		
	comp=Z,67nm,1.2s					
QIZ			pmax	pmax		
	comp=Z,990nm,3.1s					
QIZ			LR	LR		
	comp=Z,3µm,18.1s					
QIZ			LR	LR		
	comp=Z,3µm,23.0s					
QIZ			LR	LR		
	comp=Z,5µm,24.5s					
QIZ	**Qiongzhong**	**23.73 318**	P	**P**	**07 56 01.9**	**-1.1**
QIZ			IAmb	IAmb	07 56 14.4	
	comp=Z,195nm,1.3s					
QIZ	**Qiongzhong**	**23.73 318**	IAMs_20	IAMs_20	08 04 01.2	
	comp=Z,5µm,21.0s					
ANA2	**Anatahan**	**23.88 51**	P	**P**	**07 56 04.8**	**+0.3**
ANA2	**Anatahan**	**23.88 51**	P	**P**	**07 56 08.5**	**+4.1**
KNMB	**Chin-men Tao**	**23.95 342**	P	**P**	**07 56 04.4**	**-0.6**
KNMB			IAmb	IAmb	07 56 06.9	
	comp=Z,202nm,1.2s					
XMI	**Christmas Isla**	**23.96 239**	P	**P**	**07 56 04.7**	**-0.5**
	comp=Z,529nm,1.1s					
XMIS	**Christmas Isla**	**24.01 239**	P	**P**	**07 56 03.5**	**-2.2**
XMIS	**Christmas Isla**	**24.01 239**	P	**P**	**07 56 05.8**	**+0.2**
	comp=Z,458nm,1.1s					
PSA00	**Pilbara Seismi**	**24.02 195**	P	**P**	**07 56 04.7**	**-1.0**
PSA00			IAmb	IAmb	07 56 23.7	
	comp=Z,96nm,0.8s					
PSA00	**Pilbara Seismi**	**24.02 195**	P	**P**	**07 56 04.2**	**-1.4**
PSA00			IAmb	IAmb	07 56 17.2	
	comp=Z,46nm,0.8s					
JRMM	**Jerantut**	**24.08 276**	P	**P**	**07 56 06.0**	**-0.3**
RGRI	**Rengat**	**24.24 265**	P	**P**	**07 56 05.3**	**-2.5**
	comp=Z,16µmcomp=Z,188nm,0.9s					
MNAI	**Manna**	**24.27 256**	P	**P**	**07 56 07.1**	**-1.0**
MNAI	**Manna**	**24.27 256**	P	**P**	**07 56 08.4**	**+0.3**
	comp=Z,5µmcomp=Z,5µmcomp=Z,603nm,1.5s					
QZH	**Quanzh

KHON **Khomkaen** 27.48 303 P **P** **07 56 39.8 +2.8**
comp=Z,87nm,0.9s
RPSI **Rantau Prapat** 27.56 273 P **P** **07 56 36.6 -1.2**
RPSI IAmb IAmb 07 56 42.0
comp=Z,133nm,1.0s
PSI **Prapat** 27.57 273 P **P** **07 56 35.5 -2.5**
comp=Z,82nm,0.9s,baz=178,slow=0.8,SNR=43
PSI S **S** **08 01 16.7 +0.1**
comp=Z,1.5nm,0.3s,baz=360,slow=22,SNR=1.0
PSI LR LR 08 08 28.3
comp=Z,4µm,21.5s,baz=90,slow=38
TSI **Tuntungan** 27.95 274 P **P** **07 56 41.0 -0.3**
comp=Z,3µmcomp=Z,75nm,0.7s
CHAI **Chaiyaphum** 27.97 302 P **P** **07 56 41.0 -0.4**
comp=Z,1µmcomp=Z,117nm,0.9s
NONG **Nongkai** 28.10 307 P **P** **07 56 42.5 -0.1**
comp=Z,145nm,1.0s
SURT **Suratani** 28.49 286 P **P** **07 56 48.2 +2.2**
comp=Z,3.4nm,1.1s
PKDT **Phuket** 28.71 283 P **P** **07 56 47.4 -0.7**
comp=Z,97nm,0.7s
PHET **Kaeng Krachan** 28.84 294 P **P** **07 56 51.0 +1.8**
comp=Z,686nmcomp=Z,71nm,1.0s
GSI **Gunungsitoli** 28.91 270 P **P** **07 56 48.3 -1.6**
GSI IAmb IAmb 07 56 52.7
comp=Z,168nm,0.9s
GSI **Gunungsitoli** 28.91 270 P **P** **07 56 48.9 -0.9**
comp=Z,3µmcomp=Z,2µmcomp=Z,201nm,0.8s
CTA **Charters Tower** 29.06 139 P **P** **07 56 50.7 -0.3**
comp=Z,35nm,1.0s,baz=320,slow=11,SNR=14
CTA PcP **PcP** **07 59 59.8 +1.1**
comp=Z,14nm,0.7s,baz=334,slow=3.2,SNR=3.9
CTA LR LR 08 10 28.0
comp=Z,1µm,18.3s,baz=318,slow=40
CTAO **Charters Tower** 29.06 139 P **P** **07 56 51.1 0.0**
CTAO pmax pmax
comp=Z,93nm,1.3s
CTAO **Charters Tower** 29.06 139 P **P** **07 56 51.1 0.0**
TPTI 29.32 274 P **P** **07 56 52.9 -0.6**
comp=Z,556nmcomp=Z,35nm,1.1s
JCJ **Chichijima** 29.40 29 P **P** **07 56 53.1 -0.9**
comp=Z,104nm,0.5s,baz=199,slow=5.0,SNR=12
JCJ LR LR 08 06 30.5
comp=Z,1µm,20.2s,baz=238,slow=32
JCJ **Chichijima** 29.40 29 P **P** **07 56 53.7 -0.4**
SLVN **Son La** 29.42 313 P **P** **07 56 53.9 -0.5**
SLVN IAMs_20 IAMs_20 08 07 55.2
comp=Z,3µm,22.0s
SSE **Sheshan** 29.67 351 P **P** **07 56 58.0 +1.7**
SSE S **S** **08 01 53.5 +4.5**
SSE pmax pmax
comp=Z,13nm,0.5s
SSE pmax pmax
comp=Z,250nm,4.0s
SSE LR LR
comp=Z,690nm,28.2s
SSE LR LR
comp=Z,560nm,18.3s
JSU **Suzuyama** 29.89 7 P **P** **07 56 58.6 +0.3**
PHIT **Phitsanulok** 29.91 303 P **P** **07 57 00.0 +1.4**
comp=Z,4µmcomp=Z,214nm,0.8s
UTHA **Uthaitani** 30.02 299 P **P** **07 56 59.2 -0.4**
comp=Z,645nmcomp=Z,79nm,0.6s
UTTA **Uttaradit** 30.05 304 P **P** **07 57 01.0 +1.1**
comp=Z,541nmcomp=Z,69nm,0.9s
NANT **Nan** 30.46 306 P **P** **07 57 05.8 +2.3**
comp=Z,9µmcomp=Z,915nm,0.7s
SUKH **Sukhothai** 30.70 302 P **P** **07 57 06.0 +0.3**
comp=Z,85nm,0.7s
UMPA **Umpang Tak** 30.80 300 P **P** **07 57 06.9 +0.3**
comp=Z,70nm,1.2s
WHN **Wuhan** 30.92 339 ⇓P **P** **07 57 09.3 +1.9**
WHN sP **sP** **07 57 23.8 -0.4**
WHN S **S** **08 02 13.3 +4.7**
WHN pmax pmax
comp=Z,110nm,0.9s
WHN pmax pmax
comp=Z,750nm,4.0s
WHN LR LR
comp=Z,2µm,15.4s
WHN LR LR
comp=Z,8µm,25.3s
WHN LR LR
comp=Z,10µm,28.3s
NJ2 **Nanjing** 31.04 347 *e*P **P** **07 57 08.8 +0.3**
NJ2 pP **pP** **07 57 18.3 -1.7**
NJ2 S **S** **08 02 05.5 -5.0**
NJ2 pmax pmax
comp=Z,37nm,0.8s
NJ2 pmax pmax
comp=Z,550nm,3.8s
NJ2 LR LR
comp=Z,2µm,21.8s
NJ2 LR LR
comp=Z,1µm,21.2s
NJ2 LR LR
comp=Z,3µm,22.0s
GYA **Guiyang** 31.14 324 ⇓P **P** **07 57 09.8 +0.3**
GYA pP pP 07 57 20.8 -0.3
GYA PP **PP** **07 58 17.8 -2.7**
GYA PcP **PcP** **08 00 07.0 +2.9**
GYA S **S** **08 02 15.3 +2.9**
GYA sS sS 08 02 31.5 -0.5
GYA pmax pmax
comp=Z,36nm,1.4s
GYA pmax pmax
comp=Z,340nm,3.5s
GYA LR LR
comp=Z,2µm,21.4s
GYA LR LR
comp=Z,1µm,19.6s
GYA LR LR
comp=Z,2µm,20.8s
LAMP **Lampang** 31.20 304 P **P** **07 57 12.0 +2.0**
comp=Z,1µmcomp=Z,41nm,0.7s
JNU **Nakatsue** 31.53 7 P **P** **07 57 11.4 -1.4**
comp=Z,65nm,1.0s,baz=178,slow=4.6,SNR=4.1
JNU **Nakatsue** 31.53 7 P **P** **07 57 08.9 -3.9**
JNU IAmb IAmb 07 57 15.5
comp=Z,157nm,1.4s
CM36 **Chiang Mai Arr** 31.64 304 P **P** **07 57 14.0 +0.1**
CM35 **Chiang Mai Arr** 31.67 304 P **P** **07 57 14.0 -0.2**
CM04 **Chiang Mai Arr** 31.68 303 P **P** **07 57 15.6 +1.3**
comp=Z,229nmcomp=Z,23nm,1.0s
CM09 **Chiang Mai Arr** 31.69 303 P **P** **07 57 15.0 +0.6**
comp=Z,207nmcomp=Z,30nm,0.9s
CM01 **Chiang Mai Arr** 31.71 303 P **P** **07 57 15.9 +1.4**
comp=Z,254nmcomp=Z,28nm,1.0s
CM05 **Chiang Mai Arr** 31.71 303 P **P** **07 57 15.9 +1.3**
comp=Z,158nmcomp=Z,19nm,1.0s
CM02 **Chiang Mai Arr** 31.73 303 P **P** **07 57 16.0 +1.3**
comp=Z,204nmcomp=Z,30nm,1.0s
CM31 **Chiang Mai Arr** 31.74 303 P P 07 57 19.8 +5.0
CM31 **Chiang Mai Arr** 31.74 303 P **P** **07 57 14.6 -0.2**
CMAR **Chiang Mai Arr** 31.74 303 P **P** **07 57 13.5 -1.3**
comp=Z,2.6nm,0.4s,baz=124,slow=7.5,SNR=22
CMAR PcP **PcP** **08 00 07.5 +1.8**
comp=Z,8.4nm,0.9s,baz=156,slow=1.6,SNR=8.8
CMAR ScP **ScP** **08 03 49.0 +3.5**
comp=Z,0.9nm,0.3s,baz=137,slow=2.2,SNR=5.2
CMAR LR LR 08 09 36.5
comp=Z,2µm,21.9s,baz=164,slow=36
CMAR **Chiang Mai Arr** 31.74 303 *ce*P **P** **07 57 14.6 -0.2**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR **Chiang Mai Arr** 31.74 303 P **P** **07 57 14.3 -0.5**
CMAR PcP **PcP** **08 00 07.4 +1.7**
CM13 **Chiang Mai Arr** 31.75 303 P **P** **07 57 16.2 +1.3**
comp=Z,212nmcomp=Z,27nm,1.0s
CM15 **Chiang Mai Arr** 31.75 303 P **P** **07 57 17.1 +2.1**
comp=Z,485nmcomp=Z,25nm,1.0s
CM34 **Chiang Mai Arr** 31.76 304 P **P** **07 57 15.0 0.0**
CMMT **Chiang Mai** 31.91 304 P **P** **07 57 15.3 -1.0**
comp=Z,432nmcomp=Z,20nm,1.5s
CHTO **Chiang Mai** 31.91 304 **P** **07 57 15.6 -0.7**
CHTO **Chiang Mai** 31.91 304 P **P** **07 57 15.4 -0.9**
CHTO IAmb IAmb 07 57 18.7
comp=Z,27nm,0.7s
CHTO PcP **PcP** **08 00 07.7 +1.6**
CHTO IAMs_20 IAMs_20 08 09 42.3
comp=Z,3µm,22.0s
CHTO **Chiang Mai** 31.91 304 P **P** **07 57 16.0 -0.3**
CHTO P **P** **07 57 16.0 -0.3**
CM33 **Chiang Mai Arr** 31.91 304 P **P** **07 57 15.0 -1.3**
CM32 **Chiang Mai Arr** 31.91 304 P **P** **07 57 17.0 +0.7**
MORW **Morawa** 32.18 197 P **P** **07 57 18.1 -0.5**
baz=32,SNR=25
MORW **Morawa** 32.18 197 P **P** **07 57 17.4 -1.1**
MORW IAmb IAmb 07 57 20.0
comp=Z,76nm,1.0s
FORT **Forrest** 32.33 177 P **P** **07 57 19.2 -0.5**
baz=32,SNR=377
FORT **Forrest** 32.33 177 P **P** **07 57 18.6 -1.1**
MHMT **Maesarieng** 32.46 302 P **P** **07 57 21.1 0.0**
JMN **Monobe** 32.61 11 P **P** **07 57 23.1 +0.8**
JMN IAmb IAmb 07 57 26.7
comp=Z,77nm,1.0s
KMI **Kunming** 32.67 317 ⇑P **P** **07 57 23.8 +0.6**
KMI pP pP 07 57 31.0 -3.9
KMI PP **PnPn** **07 58 32.3 0.0**
KMI S **S** **08 02 32.8 -3.9**
KMI pmax pmax
comp=Z,71nm,1.2s
KMI pmax pmax
comp=Z,410nm,3.5s
KMI LR LR
comp=Z,940nm,24.1s
KMI LR LR
comp=Z,2µm,25.1s
KMI LR LR
comp=Z,5µm,25.5s
KMI **Kunming** 32.67 317 P **P** **07 57 24.1 +0.9**
KMI pmax pmax
comp=Z,104nm,1.2s
KMI MLR MLR
comp=Z,5µm,22.0s
KMI **Kunming** 32.67 317 P **P** **07 57 24.1 +0.9**
KMI IAmb IAmb 07 57 26.3
comp=Z,104nm,1.2s
KMI **Kunming** 32.67 317 IAMs_20 IAMs_20 08 09 33.3
comp=Z,5µm,22.0s
ENH **Enshi** 32.68 332 P **P** **07 57 22.0 -0.9**
ENH IAmb IAmb 07 57 33.6
comp=Z,105nm,0.9s
ENH IAMs_20 IAMs_20 08 11 55.6
comp=Z,4µm,21.0s
QLP **Quilpie** 32.92 150 P **P** **07 57 24.6 -0.4**
baz=33,SNR=6.5
KMBL **Kambalda** 33.17 187 P **P** **07 57 27.0 -0.1**
baz=33,SNR=22
BLDU **Ballidu** 33.45 195 P **P** **07 57 29.6 0.0**
baz=34,SNR=29
JHJ **Hachijo jima 2** 33.66 20 P **P** **07 57 31.4 0.0**
comp=Z,107nm,1.1s,baz=196,slow=18,SNR=2.8
JHJ LR LR 08 09 55.1
comp=Z,935nm,21.4s,baz=220,slow=34
JHS **Saijyo** 33.71 10 P **P** **07 57 33.3 +1.5**
KLBR **Kellerberrin** 34.13 193 P **P** **07 57 35.3 -0.2**
baz=34,SNR=17
JWT **Wachi** 34.43 13 P **P** **07 57 38.3 +0.3**
TJN **Taejon** 34.52 1 *ce*P **P** **07 57 39.5 +0.7**
JSG **Sagara** 34.58 17 P **P** **07 57 40.3 +1.0**
MUN **Mundaring** 34.88 195 P **P** **07 57 41.4 -0.6**
baz=35,SNR=15
INU **Inuyama** 34.89 15 P **P** **07 57 42.2 +0.2**
INU IAMs_20 IAMs_20 08 11 44.5
comp=Z,3µm,22.0s
PBA **Port Blair** 34.91 288 IAMs_20 IAMs_20 08 12 16.7
comp=Z,3µm,20.0s
JGF **Kuroka** 35.22 15 P **P** **07 57 44.8 -0.1**
JGF IAmb IAmb 07 57 47.7
comp=Z,109nm,1.5s
RMQ **Roma** 35.31 144 P **P** **07 57 45.4 -0.4**
baz=35,SNR=4.8
TIA **Tai'an** 35.43 347 P **P** **07 57 46.5 -0.1**
TIA S **S** **08 03 17.5 -1.0**
TIA pmax pmax
comp=Z,12nm,0.7s
TIA pmax pmax
comp=Z,440nm,4.2s
TIA LR LR
comp=Z,930nm,27.1s
TIA LR LR
comp=Z,870nm,23.9s
TIA LR LR
comp=Z,2µm,27.8s
BBOO **Buckeboo** 35.49 166 P **P** **07 57 46.4 -0.9**
baz=36,SNR=104
BBOO **Buckleboo** 35.49 166 P **P** **07 57 46.7 -0.6**
BBOO IAMs_20 IAMs_20 08 14 27.5
comp=Z,2µm,20.0s
NWAO **Narrogin (SRO)** 35.53 193 P **P** **07 57 47.2 -0.4**
comp=Z,69nm,1.1s,baz=27,slow=8.3,SNR=20
NWAO PcP **PcP** **08 00 17.5 +1.4**
comp=Z,22nm,0.8s,baz=11,slow=3.6,SNR=2.7
NWAO LR LR 08 14 47.8
comp=Z,839nm,19.7s,baz=20,slow=40
NWAO **Narrogin (SRO)** 35.53 193 P **P** **07 57 47.4 -0.2**
baz=36,SNR=22
NWAO **Narrogin (SRO)** 35.53 193 P **P** **07 57 47.1 -0.4**
NWAO **Narrogin (SRO)** 35.53 193 P **P** **07 57 47.3 -0.2**
NWAO IAmb IAmb 07 57 50.7
comp=Z,170nm,1.4s
NWAO **Narrogin (SRO)** 35.53 193 P **P** **07 57 48.0 +0.4**
NWAO P **P** **07 57 48.0 +0.4**
KSAR **Wonju Array Be** 35.60 2 P **P** **07 57 48.9 +0.8**
KSAR **Wonju Array Be** 35.60 2 P **P** **07 57 48.9 +0.8**
KSRS **Korea Array** 35.61 2 P **P** **07 57 48.6 +0.5**
comp=Z,19nm,0.7s,baz=179,slow=10.0,SNR=30
KSRS PcP **PcP** **08 00 17.4 +1.2**
comp=Z,6.1nm,0.9s,baz=198,slow=2.9,SNR=4.9
KSRS ScP **ScP** **08 04 00.6 +1.9**
comp=Z,2.8nm,1.1s,baz=177,slow=3.6,SNR=4.3
KSRS LR LR 08 16 18.6
comp=Z,571nm,18.2s,baz=170,slow=43
INCN **Inchon** 35.62 0 P **P** **07 57 48.6 +0.3**
INCN pmax pmax
comp=Z,37nm,0.9s
INCN MLR MLR
comp=Z,2µm,22.0s
INCN **Inchon** 35.62 0 P **P** **07 57 48.6 +0.3**
KS19 **Wonju Array Sa** 35.66 2 P **P** **07 57 47.7 -0.9**
EIDS **Eidsvold** 35.93 140 P **P** **07 57 50.7 -0.4**
baz=36,SNR=14
EIDS **Eidsvold** 35.93 140 P **P** **07 57 49.1 -2.0**
EIDS IAmb IAmb 07 57 52.1
comp=Z,120nm,1.1s
XAN **Xi'an** 36.13 335 P **P** **07 57 52.0 -0.8**
XAN S **S** **08 03 21.5 -7.9**
XAN SS **SnSn** **08 05 53.0 -5.2**
XAN pmax pmax
comp=Z,100nm,1.3s
XAN pmax pmax
comp=Z,120nm,5.5s
XAN LR LR
comp=Z,2µm,24.9s
XAN LR LR
comp=Z,2µm,21.7s
XAN LR LR
comp=Z,2µm,18.4s
XAN **Xi'an** 36.13 335 P **P** **07 57 51.4 -1.4**
XAN pmax pmax
comp=Z,205nm,1.5s
XAN MLR MLR
comp=Z,2µm,20.0s
XAN **Xi'an** 36.13 335 P **P** **07 57 51.4 -1.4**
CD2 **Chengdu** 36.16 326 P **P** **07 57 52.0 -1.1**
CD2 pP pP 07 58 01.5 -3.3
CD2 PP **PP** **07 59 18.0 +2.0**
CD2 S **S** **08 03 25.0 -4.9**
CD2 sS ScP 08 03 56.0 -5.0
CD2 pmax pmax
comp=Z,160nm,1.3s
CD2 pmax pmax
comp=Z,470nm,5.9s
CD2 LR LR
comp=Z,2µm,21.6s
CD2 LR LR
comp=Z,3µm,19.8s
CD2 LR LR
comp=Z,4µm,24.4s
MJAR **Matsushiro Arr** 36.33 16 P **P** **07 57 53.7 -0.7**
comp=Z,25nm,0.7s,baz=187,slow=8.9,SNR=36
MJAR PcP **PcP** **08 00 19.1 +0.6**
comp=Z,7.1nm,1.0s,baz=185,slow=3.5,SNR=2.9
MJAR ScP **ScP** **08 04 02.4 +1.0**
comp=Z,2.8nm,0.9s,baz=216,slow=5.2,SNR=5.1
MJAR **Matsushiro Arr** 36.33 16 P **P** **07 57 53.3 -1.1**
MAJO **Matsushiro** 36.33 16 P **P** **07 57 53.6 -0.8**
MAJO pmax pmax
comp=Z,123nm,1.3s
MAJO **Matsushiro** 36.33 16 P **P** **07 57 53.6 -0.8**
MAJO IAmb IAmb 07 57 58.3
comp=Z,123nm,1.2s
MAT **Matsushiro** 36.33 16 P **P** **07 57 53.4 -1.0**
MAT S **S** **08 03 31.6 -0.8**
STKA **Stephens Creek** 36.33 158 P **P** **07 57 54.1 -0.4**
comp=Z,102nm,1.0s,baz=330,slow=8.7,SNR=107
STKA PcP **PcP** **08 00 19.1 +0.6**
comp=Z,23nm,0.7s,baz=342,slow=2.2,SNR=4.3
STKA LR LR 08 15 22.5
comp=Z,1µm,21.2s,baz=335,slow=40
STKA **Stephens Creek** 36.33 158 P **P** **07 57 53.7 -0.7**
baz=36,SNR=176
STKA **Stephens Creek** 36.33 158 *c i*P **P** **07 57 53.2 -1.2**
STKA **Stephens Creek** 36.33 158 P **P** **07 57 53.4 -1.1**
JYT **Yasato** 36.63 19 P **P** **07 57 55.7 -1.2**
JYT IAmb IAmb 07 58 00.4
comp=Z,47nm,0.7s
HTT **Hallett** 36.85 163 P **P** **07 57 58.4 -0.5**
baz=37,SNR=50
DL2 **Dalian** 37.30 354 P **P** **07 58 03.5 +0.9**
DL2 S **S** **08 03 49.5 +2.5**
DL2 pmax pmax
comp=Z,110nm,0.9s
DL2 pmax pmax
comp=Z,710nm,4.9s
DL2 LR LR
comp=Z,770nm,23.2s
DL2 LR LR
comp=Z,1µm,22.6s
DL2 LR LR
comp=Z,2µm,22.7s
CMSA **Cobar Meteorol** 37.75 153 P **P** **07 58 06.4 -0.1**
baz=38,SNR=70
JSD **Sado** 37.75 15 P **P** **07 58 05.7 -0.7**
JSD IAmb IAmb 07 58 22.4
comp=Z,95nm,1.0s
TIY **Taiyuan** 38.11 342 *e*P **P** **07 58 09.3 -0.2**
TIY pP **pP** **07 58 21.5 +0.2**
TIY sP **sP** **07 58 26.3 -0.2**
TIY S **S** **08 04 00.0 +0.6**
TIY LR LR
comp=Z,770nm,13.5s
TIY LR LR
comp=Z,380nm,13.6s
TIY LR LR
comp=Z,3µm,25.2s
H01W3 **Cape Leeuwin H** 38.19 197 P **P** **07 58 13.1 +3.2**
baz=38,slow=7.6,SNR=3.1
H01W1 **Cape Leeuwin H** 38.19 197 P **P** **07 58 12.9 +3.0**
baz=38,slow=7.6,SNR=4.5
H01W2 **Cape Leeuwin H** 38.20 197 P **P** **07 58 13.2 +3.2**
baz=38,slow=7.6,SNR=3.9
JMM **Marumori** 38.32 18 P **P** **07 58 12.1 +0.8**
IMP **Imphal** 38.93 309 *e*P **P** **07 58 15.0 -1.7**
IMP *i* x **PcP** **08 00 27.4 +0.6**
KOHI **KOHIMA** 39.27 310 *e*P **P** **07 58 18.2 -1.4**
KOHI IAmb IAmb 07 58 20.9
comp=Z,284nm,1.3s
BJT **Baijiatuau** 39.28 347 P **P** **07 58 18.6 -0.7**
BJT pmax pmax
comp=Z,48nm,0.7s
BJT **Baijiatuau** 39.28 347 P **P** **07 58 18.6 -0.7**
BJT IAmb IAmb 07 58 26.2
comp=Z,48nm,0.7s
MOKO **MOKOCHONG** 39.29 311 *e*P **P** **07 58 18.4 -1.3**
MOKO IAmb IAmb 07 58 22.9
comp=Z,89nm,0.4s
BJI **Beijing** 39.30 347 P **P** **07 58 19.5 +0.1**
BJI PcP **PcP** **08 00 29.0 +1.5**
BJI ScP **ScP** **08 04 14.3 +1.8**
BJI S **S** **08 04 19.5 +2.3**
BJI sS **sS** **08 04 38.3 +1.1**
BJI pmax pmax
comp=Z,40nm,1.1s
BJI pmax pmax
comp=Z,560nm,4.1s
ARMA **Armidale** 39.92 145 P **P** **07 58 25.4 +0.5**
baz=40,SNR=31
ARMA **Armidale** 39.92 145 P **P** **07 58 24.7 -0.2**
ARMA IAmb IAmb 07 58 27.2
comp=Z,89nm,0.9s
SNY **Shenyang** 40.04 357 ⇑P **P** **07 58 27.5 +2.0**
SNY S **S** **08 04 33.8 +5.6**
SNY pmax pmax
comp=Z,60nm,1.5s
SNY pmax pmax
comp=Z,960nm,6.5s
SNY LR LR
comp=Z,1µm,20.2s
SNY LR LR
comp=Z,540nm,15.1s
SNY LR LR
comp=Z,2µm,21.8s
LZH **Lanzhou** 40.14 331 *e*P **P** **07 58 26.8 +0.1**
LZH pP pP 07 58 35.3 -3.2
LZH S **S** **08 04 25.5 -4.8**
LZH pmax pmax
comp=Z,160nm,1.3s
LZH pmax pmax
comp=Z,630nm,4.3s
LZH LR LR
comp=Z,2µm,14.6s
LZH LR LR
comp=Z,3µm,15.7s
LZH LR LR
comp=Z,3µm,16.8s
BELO **BELONIA** 40.16 305 *e*P **P** **07 58 25.6 -1.3**
ZIRO **ZIRO** 40.45 312 *e*P **P** **07 58 28.7 -0.7**
ZIRO IAmb IAmb 07 58 36.1
comp=Z,128nm,1.2s
ARPS **Mount Arapiles** 40.84 161 P **P** **07 58 32.2 0.0**
baz=41,SNR=65
SHL **Shillong** 40.92 308 P **P** **07 58 32.0 -1.2**
SHL pmax pmax
comp=Z,104nm,0.9s
SHL **Shillong** 40.92 308 *e*P **P** **07 58 31.6 -1.7**
SHL IAmb IAmb 07 58 34.5
comp=Z,74nm,0.7s
SHL *i* x **PcP** **08 00 32.9 -0.4**
SHL **Shillong** 40.92 308 P **P** **07 58 32.0 -1.2**
SHL IAmb IAmb 07 58 34.8
comp=Z,104nm,0.9s
SHL **Shillong** 40.92 308 P **P** **07 58 32.5 -0.8**
SNR=65
MSHR **Mys Shultsa** 40.92 5 *ce*P **P** **07 58 33.9 +1.1**
MSHR pmax pmax
comp=Z,73nm,1.7s
JTM **Tenmabayashi** 41.09 17 P **P** **07 58 35.1 +0.9**
JTM IAMs_20 IAMs_20 08 15 08.7
comp=Z,2µm,22.0s
HHC **Hu-ho-hao-te** 41.25 343 *e*P **P** **07 58 37.0 +1.3**
HHC PP **PnPn** **08 00 16.3 -0.1**
HHC S **S** **08 04 47.8 +1.2**
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,500nm,8.1s
HHC LR LR
comp=Z,1µm,18.8s
HHC LR LR
comp=Z,830nm,18.6s
HHC LR LR
comp=Z,3µm,19.2s
YNG **Young** 41.30 152 P **P** **07 58 36.7 +0.7**
baz=41,SNR=36
GUWA **GUWAHATI** 41.38 309 *e*P **P** **07 58 35.3 -1.5**
GUWA *i* x x 07 59 03.7
MGCD **Mangrove Creek** 41.77 148 P **P** **07 58 40.1 +0.2**
baz=42,SNR=7.7
CN2 **Changchun** 41.94 359 *e*P **P** **07 58 39.8 -1.3**
CN2 S **S** **08 05 00.3 +3.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,470nm,6.0s
CN2 LR LR
comp=Z,800nm,20.0s
CN2 LR LR
comp=Z,1µm,20.0s
CN2 LR LR
comp=Z,1µm,21.0s
RIV **Riverview** 42.28 149 P **P** **07 58 44.0 0.0**
baz=42,SNR=4.0
CAN **Canberra** 42.42 152 P **P** **07 58 45.1 -0.1**
CAN pmax pmax
comp=Z,218nm,1.3s

CAN Canberra 42.42 152 P P 07 58 45.1 -0.1
CAN IAmb IAmb 07 58 48.6
comp=Z,218nm,1.3s
CNB Canberra Magne 42.58 152 P P 07 58 46.7 +0.1
baz=43,SNR=18
USRK Ussuriysk Ar. 42.61 6 P P 07 58 46.7 +0.2
comp=Z,28nm,0.9s,baz=190,slow=6.4,SNR=40
USRK LR LR 08 19 06.1
comp=Z,336nm,18.9s,baz=181,slow=40
USA0B Ussuriysk Arra 42.61 6*c iP* **P 07 58 47.5 +1.0**
USA0B Ussuriysk Arra 42.61 6 P P **07 58 47.1 +0.5**
DHUB DHUBRI 42.62 308 *eP* **P 07 58 46.3 -0.6**
DHUB IAmb IAmb 07 58 49.2
comp=Z,74nm,1.0s
H11S3 WAKE ISLAND Hy 42.79 64 T T 08 44 44.2
baz=252,slow=74,SNR=33
H11S2 WAKE ISLAND Hy 42.81 64 T T 08 44 41.4
baz=252,slow=74,SNR=28
H11S1 WAKE ISLAND Hy 42.81 64 T T 08 44 45.2
baz=252,slow=74,SNR=22
MDJ Mudanjiang 42.83 3 P P **07 58 49.8 +1.4**
MDJ pP pP 07 59 00.8 +0.7
MDJ sP sP 07 59 06.3 +1.1
MDJ PP **PP** **08 00 29.0 +0.5**
MDJ S **S** **08 05 10.5 +1.0**
MDJ sS sS 08 05 31.3 +1.7
MDJ ScS **ScS** **08 08 44.8 -0.6**
MDJ pmax pmax
comp=Z,57nm,1.1s
MDJ LR LR
comp=Z,2µm,21.4s
MDJ LR LR
comp=Z,900nm,22.8s
MDJ LR LR
comp=Z,3µm,28.5s
MDJ Mudanjiang 42.83 3 P P **07 58 48.5 +0.1**
ERM Erimo 42.85 18*ceP* **P 07 58 49.8 +1.3**
ERM pmax pmax
comp=Z,78nm,1.0s
ERM Erimo 42.85 18 P P **07 58 48.0 -0.5**
TOO Toolangi 42.85 158 P P **07 58 48.5 -0.2**
baz=43,SNR=13
TOO Toolangi 42.85 158 P P **07 58 48.2 -0.5**
TOO pmax pmax
comp=Z,66nm,1.2s
TOO Toolangi 42.85 158 P P **07 58 48.2 -0.5**
JEW Eniwo 43.10 16 IAMs_20 IAMs_20 08 16 32.7
comp=Z,2µm,22.0s
H11N1 WAKE ISLAND Hy 43.37 63 T T 08 45 22.0
baz=247
H11N2 WAKE ISLAND Hy 43.38 63 T T 08 45 29.9
baz=247
H11N3 WAKE ISLAND Hy 43.38 63 T T 08 45 35.1
baz=247
LSA Lhasa 43.62 313 P P **07 58 56.0 +0.4**
LSA S S 08 05 10.3 -12
LSA pmax pmax
comp=Z,250nm,1.0s
LSA LR LR
comp=Z,3µm,21.4s
LSA LR LR
comp=Z,2µm,21.4s
LSA LR LR
comp=Z,3µm,21.4s
LSA Lhasa 43.62 313 P P **07 58 55.7 +0.1**
LSA Lhasa 43.62 313 P P **07 58 55.5 -0.1**
LSA pmax pmax
comp=Z,148nm,1.5s
LSA Lhasa 43.62 313 P P **07 58 55.5 -0.1**
LSA IAmb IAmb 07 58 58.7
comp=Z,148nm,1.5s
SANVU Saraoutou 43.71 114 P P **07 58 55.3 -0.5**
SANVU IAmb IAmb 07 59 00.2
comp=Z,120nm,0.9s
TEY Ternei 44.08 10⇑*eP* P **07 58 57.6 -0.8**
TEY pmax pmax
comp=Z,200nm,3.8s
TEY pmax pmax
comp=E,10.0nm,1.4s
TEY pmax pmax
comp=Z,10.0nm,1.6s
GTK Tadong 44.34 309 *eP* **P 07 59 00.1 -0.8**
ASAJ Asahikawa 44.60 17 P P **07 59 03.1 +0.6**
comp=Z,60nm,0.9s,baz=216,slow=8.8,SNR=25
JKA Kamikawa-asahi 44.60 17 P P **07 59 03.0 +0.4**
JKA IAmb IAmb 07 59 07.1
comp=Z,86nm,1.0s
GTA Gaotai 44.72 330 ⇑P P **07 59 03.5 -0.3**
GTA pP pP 07 59 12.3 -3.5
GTA PP **PP** **08 00 47.3 -1.7**
GTA S **S** **08 05 38.8 +1.2**
GTA sS sS 08 05 55.5 -2.3
GTA pmax pmax
comp=Z,26nm,1.2s
GTA pmax pmax
comp=Z,330nm,5.1s
GTA LR LR
comp=Z,2µm,18.5s
GTA LR LR
comp=Z,2µm,19.6s
GTA LR LR
comp=Z,3µm,20.7s
BOK Bokaro 45.02 303 *eP* **P 07 59 05.5 -0.7**
BOK IAmb IAmb 07 59 09.6
comp=Z,44nm,1.3s
TAPN Taplejung 45.05 308 *eP* **P 07 59 06.0 -0.8**
ODAN Odare 45.08 307 *eP* **P 07 59 05.9 -1.1**
comp=Z,130nm,0.8s
YUK Yuzh-Kuril'sk 45.54 20 *eP* P 07 59 01.7 -8.3
YUK *e* 08 00 44.4
YUK *eS* **S** **08 05 44.2 -4.7**
YUK *eSS* **ScS** **08 09 02.5 0.0**
YUK pmax pmax
comp=N,69nm,0.5s
YUK pmax pmax
comp=E,140nm,1.2s
YUK pmax pmax
comp=Z,198nm,1.2s
DZM Mont Dzumac 45.59 124 *eP* **P 07 59 11.2 +0.3**
comp=Z,132nm,1.2s
DZM *eS* **S** **08 05 48.1 -2.4**
comp=Z,2µm,38.4s
DZM *eLR* LR 08 12 01.4
comp=Z,5µm,25.6s
DZM Mont Dzumac 45.59 124 P P **07 59 10.3 -0.6**
RAMN Ramite 45.75 307 *eP* **P 07 59 11.7 -0.6**
PALK Pallekele 45.96 278 P P **07 59 13.1 -0.9**
comp=Z,16nm,0.6s,baz=197,slow=9.1,SNR=14
PALK PcP **PcP** **08 00 51.6 +1.2**
comp=Z,18nm,1.0s,baz=212,slow=3.7,SNR=2.9
PALK Pallekele 45.96 278 P P **07 59 13.3 -0.6**
PALK pmax pmax
comp=Z,90nm,1.5s
PALK MLR MLR
comp=Z,2µm,21.0s
PALK Pallekele 45.96 278 P P **07 59 13.3 -0.6**
PALK IAmb IAmb 07 59 15.5
comp=Z,90nm,1.4s
PALK Pallekele 45.96 278 IAMs_20 IAMs_20 08 21 30.7
comp=Z,2µm,21.0s
PALK Pallekele 45.96 278 P P **07 59 13.9 0.0**
PALK P P **07 59 13.9 0.0**
JIRN Jiri 46.39 308 *eP* **P 07 59 16.6 -0.9**
comp=Z,96nm,0.8s
GUN Gumba 46.75 308 *eP* **P 07 59 19.3 -1.0**
comp=Z,84nm,0.5s
PKI Pulchoki 46.97 307 *eP* **P 07 59 20.7 -1.3**
comp=Z,113nm,1.1s
PKIN Phulchoki 46.98 307 *eP* **P 07 59 20.7 -1.3**
comp=Z,45nm,0.5s
KKN Kakani 47.17 307 *eP* **P 07 59 21.8 -1.6**
DMN Daman 47.23 307 *eP* **P 07 59 22.8 -1.1**
comp=Z,112nm,1.1s
YSS Yuzh-Sakhalins 47.26 15⇑*eP* **P 07 59 24.0 +0.5**
YSS *e* 07 59 35.5
YSS *eS* **S** **08 06 11.0 -2.4**
YSS pmax pmax
comp=Z,80nm,1.3s
YSS pmax pmax
comp=Z,500nm,3.2s
YSS smax smax
comp=N,300nm,12.2s
YSS MLR MLR
comp=Z,700nm,16.0s
YSS MLR MLR
comp=N,600nm,20.0s
YSS MLR MLR
comp=E,400nm,20.0s
YSS Yuzh-Sakhalins 47.26 15 P **P 07 59 23.3 -0.1**
YSS IAmb IAmb 07 59 26.6
comp=Z,137nm,1.3s
KLR Kul'dur 47.57 5 P **P 07 59 25.9 0.0**
comp=Z,26nm,1.0s,baz=210,slow=5.4,SNR=36
KLR Kul'dur 47.57 5*ceP* **P 07 59 26.1 +0.2**
KLR pmax pmax
comp=Z,77nm,1.6s
HIA Hailar 47.75 354*c iP* **P 07 59 27.5 +0.2**
HIA pmax pmax
comp=Z,29nm,1.2s
HIA Hailar 47.75 354 P **P 07 59 28.0 +0.7**
HIA IAmb IAmb 07 59 36.5
comp=Z,94nm,1.2s
GKN Gorkha 47.77 307 *eP* **P 07 59 27.1 -1.0**
ULN Ulaanbaatar 48.97 343*ceP* **P 07 59 37.1 +0.2**
ULN pmax pmax
comp=Z,50nm,1.3s
ULN Ulaanbaatar 48.97 343 P **P 07 59 36.7 -0.2**
ULN IAmb IAmb 07 59 43.0
comp=Z,64nm,1.1s
ULN Ulaanbaatar 48.97 343 P **P 07 59 39.4 +2.4**
SONM Songino Array 49.15 342 P **P 07 59 38.3 +0.1**
comp=Z,21nm,0.8s,baz=162,slow=8.1,SNR=48
SONM LR LR 08 22 47.5
comp=Z,1µm,21.0s,baz=151,slow=39
SONM PKP2ab 08 31 31.9
comp=Z,1.8nm,1.1s,baz=333,slow=1.0,SNR=5.3
SONM Songino Array 49.15 342 P **P 07 59 37.8 -0.4**
SONM IAmb IAmb 07 59 44.1
comp=Z,45nm,1.2s
HYB Hyderabad 49.60 291 *i* P P 07 59 37.0 -5.1
comp=Z,275nm,1.4s
HYB Hyderabad 49.60 291 *eP* **P 07 59 39.3 -2.8**
GRNR Gornyy 49.62 8⇑*iP* **P 07 59 42.7 +1.1**
GRNR *eS* **S** **08 06 52.3 +5.6**
GRNR pmax pmax
comp=N,10.0nm,1.2s
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR smax smax
comp=N,4.0nm,0.5s
TYV Tymovskoe 50.87 13 *eP* **P 07 59 52.3 +1.3**
TYV *eS* **S** **08 07 08.6 +4.6**
TYV pmax pmax
comp=Z,800nm,3.7s
TYV pmax pmax
comp=Z,31nm,1.1s
TYV smax smax
comp=N,700nm,6.8s
CIT Chita 51.31 350 *eP* **P 07 59 56.0 +1.5**
CIT *e* 08 01 01.9
CIT pmax pmax
comp=Z,359nm,1.8s
ZEA Zeya 51.88 1 *eP* **P 07 59 58.6 +0.1**
ZEA *e* 08 02 03.4
ZEA *eS* **S** **08 07 17.4 -0.5**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA pmax pmax
comp=N,200nm,7.5s
ZEA pmax pmax
comp=Z,300nm,9.6s
ZEA pmax pmax
comp=N,200nm,5.1s
ZEA pmax pmax
comp=Z,200nm,6.1s
ZEA smax smax
comp=Z,100nm,10.2s
ZEA smax smax
comp=N,200nm,14.3s
BHPL Bhopal 52.13 298 *eP* **P 07 59 58.6 -2.4**
BHPL IAmb IAmb 08 00 02.0
comp=Z,53nm,0.9s
ZAK Zakamensk 52.36 341 *eP* **P 08 00 01.8 -0.6**
ZAK pmax pmax
comp=Z,21nm,1.3s
NKL Nikolayevsk 52.62 11 *eP* **P 08 00 03.6 -0.4**
NKL *e* 08 02 07.5
NKL *eS* S 08 07 39.3 +11
NKL smax smax
comp=E,71nm,1.3s
NKL smax smax
comp=N,1.0nm,2.6s
NKL MLR MLR
comp=E,1µm,14.0s
NKL MLR MLR
comp=N,22nm,20.0s
NKL MLR MLR
comp=Z,575nm,22.0s
TLY Talaya 53.38 342 P **P 08 00 10.7 +0.9**
comp=Z,8.1nm,0.5s,baz=172,slow=6.2,SNR=30
TLY Talaya 53.38 342*c iP* **P 08 00 10.4 +0.6**
TLY *eS* **S** **08 07 36.3 -2.3**
TLY pmax pmax
comp=Z,64nm,1.1s
TLY MLR MLR
comp=Z,1µm,19.0s
TLY Talaya 53.38 342 P **P 08 00 10.3 +0.5**
TLY IAmb IAmb 08 00 16.5
comp=Z,39nm,1.0s
TLY IAMs_20 IAMs_20 08 23 21.3
comp=Z,2µm,22.0s
TLY Talaya 53.38 342 P **P 08 00 11.2 +1.5**
FUNA Funafuti 53.51 102 P **P 08 00 10.3 -1.0**
GOA Goa 53.68 288 *eP* **P 08 00 11.7 -0.9**
GOA IAmb IAmb 08 00 16.8
comp=Z,25nm,0.9s
IRK Irkutsk 53.69 343 *eP* **P 08 00 11.3 -0.7**
IRK pmax pmax
comp=Z,178nm,2.8s
DDI Dehra Dun 53.97 307 *eP* **P 08 00 15.7 +1.2**
DDI IAmb IAmb 08 00 18.4
comp=Z,82nm,0.3s
MOY Mondy 54.21 341 *eP* **P 08 00 16.4 +0.5**
MOY pmax pmax
comp=Z,168nm,3.1s
POO Poona 54.22 292 *eP* **P 08 00 14.3 -2.2**
WMQ Urumqi 54.26 326 P **P 08 00 18.0 +1.6**
WMQ pP pP 08 00 27.5 -1.1
WMQ sP sP 08 00 33.3 -0.4
WMQ PcP **PcP** **08 01 21.5 +1.3**
WMQ S **S** **08 07 46.5 -4.3**
WMQ pmax pmax
comp=Z,86nm,1.3s
WMQ pmax pmax
comp=Z,640nm,3.9s
WMQ LR LR
comp=Z,3µm,23.3s
WMQ LR LR
comp=Z,3µm,20.5s
WMQ LR LR
comp=Z,3µm,23.5s
WMQ Urumqi 54.26 326 P **P 08 00 16.7 +0.3**
WMQ pmax pmax
comp=Z,121nm,1.3s
WMQ MLR MLR
comp=Z,2µm,22.0s
WMQ Urumqi 54.26 326 P **P 08 00 16.6 +0.3**
WMQ IAmb IAmb 08 00 20.3
comp=Z,121nm,1.3s
WMQ Urumqi 54.26 326 IAMs_20 IAMs_20 08 23 15.4
comp=Z,2µm,22.0s
MSVF Nonsavu 54.31 113 P **P 08 00 17.8 +0.6**
MSVF pmax pmax
comp=Z,90nm,1.0s
MSVF Nonsavu 54.31 113 P **P 08 00 17.8 +0.6**
MSVF IAmb IAmb 08 00 21.6
comp=Z,90nm,0.9s
DGAR Diego Garcia 54.66 260 P **P 08 00 18.5 -1.2**
DGAR pmax pmax
comp=Z,193nm,1.3s
DGAR Diego Garcia 54.66 260 P **P 08 00 18.5 -1.2**
SKR Severo-Kuril's 54.87 23 *eP* P 08 00 13.6 -7.0
SKR *eS* **S** **08 07 56.7 -1.9**
SKR pmax pmax
comp=Z,400nm,4.8s
SKR pmax pmax
comp=Z,200nm,5.1s
SKR MLR MLR
comp=Z,400nm,14.0s
SKR MLR MLR
comp=Z,700nm,14.0s
SMLA Simla 54.99 307 *eP* **P 08 00 20.5 -1.2**
SMLA IAmb IAmb 08 00 25.8
comp=Z,109nm,0.8s
DHRM DHARAMSHALA 56.09 308 *eP* **P 08 00 27.6 -2.4**
DHRM IAmb IAmb 08 00 32.5
comp=Z,130nm,0.7s
BOD Bodaibo 56.83 352 *eP* **P 08 00 34.5 0.0**
BOD pmax pmax
comp=Z,93nm,1.3s
PEA0B Petropavlovsk- 57.40 22 *i* P **P 08 00 39.8 +1.2**
PETK Petropavlovsk- 57.40 22 P **P 08 00 39.7 +1.1**
comp=Z,14nm,0.6s,baz=173,slow=4.7,SNR=40
PETK Petropavlovsk- 57.40 22 P **P 08 00 38.0 -0.6**
PET Petropavlovsk 57.69 22*c iP* **P 08 00 41.4 +0.8**
PET *e* 08 02 45.6
PET *eS* **S** **08 08 37.5 +1.6**
PET *eSS* **SS** **08 12 29.0 +2.2**
PET pmax pmax
comp=Z,500nm,11.7s
PET pmax pmax
comp=Z,110nm,1.3s
PET MLR MLR
comp=Z,600nm,19.0s
PET MLR MLR
comp=Z,700nm,18.0s
ZSN Zaisan 58.09 328 *eP* **P 08 00 44.1 +0.5**
comp=Z,37nm,1.4s,baz=328
ZSN *eS* **S** **08 08 43.3 +1.9**
baz=328
ZSN Zaisan 58.09 328 *eP* **P 08 00 44.0 +0.5**
ZSN *eS* **S** **08 08 43.3 +1.9**
ZSN pmax pmax
comp=Z,37nm,1.4s
DGZ Jazzator, Alta 58.24 331*c iP* **P 08 00 44.5 -0.3**
DGZ pmax pmax
comp=Z,12nm,0.8s
SHLS Shalkode 58.76 321⇑*iP* **P 08 00 46.6 -2.0**
comp=Z,56nm,1.3s,baz=322
SHLS Shalkode 58.76 321*c iP* **P 08 00 46.5 -2.0**
SHLS pmax pmax
comp=Z,56nm,1.3s
NIL Nilore 58.99 309 P **P 08 00 49.1 -1.1**
NIL pmax pmax
comp=Z,162nm,1.5s
NIL MLR MLR
comp=Z,600nm,21.0s
NIL Nilore 58.99 309 P **P 08 00 49.1 -1.1**
NIL Nilore 58.99 309 P **P 08 00 50.3 +0.1**
UZB Uzunbulak 59.03 321 *eP* **P 08 00 50.0 -0.4**
comp=Z,34nm,1.0s,baz=321
UZB *eS* **S** **08 08 54.8 +0.6**
baz=321
UZB Uzunbulak 59.03 321 *eP* **P 08 00 50.0 -0.4**
UZB *eS* **S** **08 08 54.7 +0.6**
UZB pmax pmax
comp=Z,34nm,1.0s
MK31 Makanchi Array 59.09 326 P **P 08 00 50.3 -0.3**
MK31 pmax pmax
comp=Z,51nm,0.9s
MK31 Makanchi Array 59.09 326 P **P 08 00 50.3 -0.3**
MK31 IAmb IAmb 08 01 04.1
comp=Z,50nm,0.9s
MKAR Makanchi Array 59.09 326 P **P 08 00 50.2 -0.4**
comp=Z,26nm,0.4s,baz=121,slow=7.7,SNR=171
MKAR S **S** **08 08 56.6 +2.1**
comp=Z,0.2nm,0.6s,baz=249,slow=31,SNR=2.9
MKAR LR LR 08 27 00.2
comp=Z,2µm,21.4s,baz=119,slow=37
MKAR PKPPKP **P'P'df** **08 30 24.2 +0.1**
comp=Z,0.8nm,0.9s,baz=267,slow=2.4,SNR=3.7
MKAR P4KPbc 08 37 58.6
comp=Z,0.4nm,0.7s,baz=107,slow=4.8,SNR=3.9
MKAR Makanchi Array 59.09 326 P **P 08 00 49.8 -0.8**
MAKZ Makanchi 59.27 326 P **P 08 00 51.8 -0.1**
MAKZ pmax pmax
comp=Z,124nm,1.2s
MAKZ MLR MLR
comp=Z,3µm,22.0s
MAKZ Makanchi 59.27 326 P **P 08 00 51.8 -0.1**
KSH Kashi 59.32 316 P **P 08 00 54.3 +1.8**
KSH pP pP 08 01 06.5 +1.5
KSH S **S** **08 09 03.5 +5.6**
KSH pmax pmax
comp=Z,57nm,0.9s
KSH pmax pmax
comp=Z,830nm,4.2s
KSH LR LR
comp=Z,2µm,16.8s
KSH LR LR
comp=Z,1µm,15.4s
KSH LR LR
comp=Z,2µm,20.0s
SATY Saty 59.38 321⇑*iP* **P 08 00 52.6 -0.2**
comp=Z,61nm,1.3s,baz=321
SATY *eS* **S** **08 08 59.6 +1.0**
baz=321
SATY Saty 59.38 321*c iP* **P 08 00 52.6 -0.2**
SATY *eS* **S** **08 08 59.5 +1.0**
SATY pmax pmax
comp=Z,61nm,1.3s
KPKS Kokpek 59.41 321⇑*iP* **P 08 00 52.5 -0.5**
comp=Z,68nm,0.9s,baz=321
KPKS Kokpek 59.41 321*c iP* **P 08 00 52.5 -0.5**
KPKS pmax pmax
comp=Z,68nm,0.9s
YAK Yakutsk 60.24 2 P **P 08 00 58.5 +0.4**
comp=Z,27nm,0.6s,baz=173,slow=0.9,SNR=14
YAK S **S** **08 09 10.2 +1.6**
comp=Z,5.3nm,0.4s,baz=357,slow=2.9,SNR=1.7
YAK Yakutsk 60.24 2*c iP* **P 08 00 58.5 +0.4**
YAK *e**PP **pP** **08 01 10.6 +0.1**
YAK *e* 08 01 42.7
YAK *e* 08 03 12.1
YAK *eS* **S** **08 09 08.6 0.0**
YAK *e**SS sS 08 09 36.8 +7.6
YAK *e* 08 10 43.6
YAK *eSS* **SS** **08 13 07.6 +1.0**
YAK pmax pmax
comp=Z,113nm,1.1s
YAK pmax pmax
comp=N,63nm,1.3s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=Z,53nm,1.6s
YAK pmax pmax
comp=N,34nm,1.5s
YAK pmax pmax
comp=E,29nm,1.4s
YAK smax smax
comp=N,202nm,3.0s
YAK smax smax
comp=E,127nm,3.0s
YAK MLR MLR
comp=Z,1µm,20.0s
YAK MLR MLR
comp=N,1µm,23.0s
YAK MLR MLR
comp=E,432nm,24.0s
YAK Yakutsk 60.24 2 P **P 08 00 58.5 +0.4**
YAK IAMs_20 IAMs_20 08 28 52.9
comp=Z,1µm,20.0s
RPZ Rata Peaks 60.25 144 LR LR 08 27 33.8
comp=Z,926nm,21.7s,baz=308,slow=36
MDOK Medeo 60.29 320 *eP* **P 08 00 59.0 -0.1**
baz=320
MDOK *eS* **S** **08 09 11.3 +0.9**
baz=320
MDOK Medeo 60.29 320 *eP* **P 08 00 59.0 -0.1**
MDOK *eS* **S** **08 09 11.3 +0.9**
TDK Taldyqorghan 60.37 323 *eP* **P 08 00 58.6 -0.9**
baz=323
TDK *eS* **S** **08 09 11.3 +0.3**
baz=323
TDK Taldyqorghan 60.37 323 *eP* **P 08 00 58.5 -0.9**
TDK *eS* **S** **08 09 11.3 +0.3**
ULHL Ulahol 60.38 319 P **P 08 01 01.3 +1.5**
SNR=18
AAA Alma-Ata 60.40 320 *eP* **P 08 00 59.4 -0.3**
baz=320
AAA Alma-Ata 60.40 320 *eP* **P 08 01 01.7 +2.0**
CHKK Chushkaly 60.67 321 *eP* **P 08 01 00.6 -0.9**
baz=321
CHKK Chushkaly 60.67 321 *eP* **P 08 01 00.6 -0.9**
MA2 Magadan 60.73 14 P **P 08 01 02.2 +0.7**

comp=Z,61nm,0.8s,baz=199,slow=7.1,SNR=62
MA2 Magadan 60.73 14 *ce* P **P** **08 01 02.7 +1.2**
MA2 pmax pmax
comp=Z,75nm,0.9s
MA2 Magadan 60.73 14 P **P** **08 01 02.4 +0.9**
TUWZ Tuamarina 60.73 141 P **P** **08 01 00.4 -1.5**
KHZ Kahutara 61.01 142 P **P** **08 01 02.6 -1.1**
KHZ IAmb IAmb 08 01 19.1
comp=Z,40nm,0.9s
KUU Kurty 61.10 321⇑ *i* P **P** **08 01 04.0 -0.5**
comp=Z,149nm,1.1s,baz=321
KUU Kurty 61.10 321 *c i* P **P** **08 01 03.9 -0.5**
KUU pmax pmax
comp=Z,149nm,1.1s
TKM2 Tokmak 2 61.12 319 P **P** **08 01 04.6 -0.2**
SNR=40
URZ Urewera 61.24 136 LR LR 08 28 59.5
comp=Z,726nm,19.5s,baz=211,slow=37
BKZ Black Stump Fm 61.25 137 P **P** **08 01 04.6 -0.9**
BKZ IAmb IAmb 08 01 25.3
comp=Z,74nm,1.3s
KBK Karagaybulak 61.42 319 P **P** **08 01 06.9 +0.1**
SNR=12
UCH Uchtor 61.51 318 P **P** **08 01 07.5 -0.3**
SNR=78
CHMS Chumysh 61.70 319 P **P** **08 01 09.2 +0.7**
SNR=12
AAK Ala-Archa 61.71 319 P **P** **08 01 07.9 -0.9**
comp=Z,16nm,1.0s,baz=125,slow=4.1,SNR=21
AAK Ala-Archa 61.71 319 *i* P **P** **08 01 08.7 -0.1**
SNR=20
AAK Ala-Archa 61.71 319 *i* P **P** **08 01 08.6 -0.1**
SNR=26
AAK Ala-Archa 61.71 319 *ce* P **P** **08 01 08.5 -0.2**
AAK pmax pmax
comp=Z,83nm,1.3s
AAK Ala-Archa 61.71 319 P **P** **08 01 08.2 -0.6**
AAK IAmb IAmb 08 01 15.9
comp=Z,69nm,1.3s
AAK Ala-Archa 61.71 319 P **P** **08 01 09.0 +0.3**
AAK P **P** **08 01 09.0 +0.3**
SGDS Sogindy 61.99 320⇑ *i* P **P** **08 01 09.8 -0.8**
comp=Z,36nm,1.8s,baz=320
SGDS Sogindy 61.99 320 *c i* P **P** **08 01 09.7 -0.8**
SGDS pmax pmax
comp=Z,36nm,1.8s
USP Ospenovka 61.99 319 P **P** **08 01 10.1 -0.4**
SNR=49
AML Almayashu 62.02 318 P **P** **08 01 11.3 +0.1**
SNR=66
EKS2 Erkin-Say 62.19 318 P **P** **08 01 12.1 +0.1**
SNR=45
ZAA0 Zalesovo Array 62.29 334 P **P** **08 01 10.9 -1.3**
ZAA0 IAmb IAmb 08 01 39.9
comp=Z,36nm,1.0s
ZAA0 IAMs_20 IAMs_20 08 28 31.6
comp=Z,979nm,22.0s
ZALV Zalesovo Beam 62.29 334 P **P** **08 01 11.3 -0.9**
comp=Z,7.2nm,0.4s,baz=130,slow=6.9,SNR=28
ZALV S **S** **08 09 37.5 +2.5**
comp=Z,0.6nm,0.4s,baz=352,slow=26,SNR=2.0
ZALV PKP2bc 08 30 22.9
comp=Z,1.8nm,0.7s,baz=299,slow=3.1,SNR=9.2
ZALV LR LR 08 30 47.4
comp=Z,603nm,20.4s,baz=132,slow=38
ZALV Zalesovo Beam 62.29 334 P **P** **08 01 10.9 -1.3**
SEM Semipalatinsk 62.30 329 *eP* **P** **08 01 11.9 -0.8**
baz=329
SEM Semipalatinsk 62.30 329 *eP* **P** **08 01 11.8 -0.8**
KBL Kabul 62.58 308 P **P** **08 01 13.7 -1.1**
KBL pmax pmax
comp=Z,103nm,1.2s
KBL Kabul 62.58 308 P **P** **08 01 13.7 -1.1**
KBL Kabul 62.58 308 P **P** **08 01 13.8 -1.0**
SNR=52
BTLS Baital 63.09 321⇑ *i* P **P** **08 01 16.9 -0.9**
comp=Z,18nm,1.4s,baz=321
BTLS Baital 63.09 321 *c i* P **P** **08 01 16.8 -0.9**
BTLS pmax pmax
comp=Z,18nm,1.4s
KURBB Kurchatov Arra 63.32 328 P **P** **08 01 18.8 -0.3**
comp=Z,34nm,0.5s,baz=128,slow=6.2,SNR=150
KURBB Kurchatov Arra 63.32 328 P **P** **08 01 18.1 -1.0**
KURK Kurchatov 63.33 328 P **P** **08 01 18.8 -0.3**
KURK Kurchatov 63.33 328 P **P** **08 01 18.8 -0.3**
DZA Taraz 63.92 318 *eP* **P** **08 01 22.6 -0.7**
baz=318
DZA Taraz 63.92 318 *eP* **P** **08 01 22.6 -0.7**
SEY Seymchan 64.06 13 P **P** **08 01 25.0 +1.3**
comp=Z,68nm,1.2s,baz=210,slow=6.0,SNR=78
SEY Seymchan 64.06 13 *i* P **P** **08 01 23.9 +0.2**
IUG luzhnay 64.51 317⇑ *eP* **P** **08 01 27.1 -0.2**
comp=Z,37nm,1.3s,baz=317
IUG luzhnay 64.51 317 *ce* P **P** **08 01 27.1 -0.2**
IUG pmax pmax
comp=Z,37nm,1.3s
KK31 Karatay Array 64.56 318 *i* P **P** **08 01 26.6 -0.9**
KK31 Karatay Array 64.56 318 P **P** **08 01 26.6 -0.9**
KK31 IAmb IAmb 08 01 30.5
comp=Z,66nm,1.1s
KKAR Karatay Array 64.56 318 P **P** **08 01 26.6 -0.9**
KKAR pmax pmax
comp=Z,66nm,1.2s
KKAR Karatay Array 64.56 318 P **P** **08 01 27.1 -0.4**
KKAR IAmb IAmb 08 01 30.5
comp=Z,66nm,1.1s
KKAR Karatay Array 64.56 318 P **P** **08 01 26.6 -0.9**
BRLS Boroldaу 64.98 317 *eP* **P** **08 01 29.5 -0.8**
baz=317
BRLS Boroldaу 64.98 317 *eP* **P** **08 01 29.4 -0.8**
BRZS Berezniki 66.21 325 *eP* **P** **08 01 37.5 -0.6**
baz=325
BRZS Berezniki 66.21 325 *eP* **P** **08 01 37.4 -0.6**
HRA Herat 67.93 307 P **P** **08 01 47.7 -1.8**
HRA IAMs_20 IAMs_20 08 35 36.1
comp=Z,890nm,22.0s
JLN Jalan Bani Buh 68.17 293 P **P** **08 01 51.1 +0.2**
JLN P **P** **08 01 51.1 +0.2**
WBK Wadi Bani Khal 68.63 294 P **P** **08 01 53.7 -0.1**
SNR=7.9
WBK P **P** **08 01 53.7 -0.1**
SNR=7.9
CASY Casey 68.78 187 P **P** **08 01 53.8 0.0**
CASY IAmb IAmb 08 01 56.7
comp=Z,49nm,0.9s
BVAR Borovoye Array 68.89 327 P **P** **08 01 54.0 -0.9**
comp=Z,14nm,0.7s,baz=217,slow=11,SNR=35
BVAR Borovoye Array 68.89 327 P **P** **08 01 54.0 -0.9**
BRVK Borovoye 68.96 327 *ce* P **P** **08 01 55.1 -0.2**
BRVK pmax pmax
comp=Z,90nm,1.3s
BRVK Borovoye 68.96 327 P **P** **08 01 55.0 -0.2**
BRVK IAmb IAmb 08 02 02.4
comp=Z,88nm,1.1s
BRVK Borovoye 68.96 327 IAMs_20 IAMs_20 08 32 20.8
comp=Z,1μm,22.0s
BRVK Borovoye 68.96 327 P **P** **08 01 55.5 +0.3**
BRVK P **P** **08 01 55.5 +0.3**
MHTO MHTO 69.36 292 P **P** **08 01 56.8 -1.5**
SNR=13
MHTO P **P** **08 01 56.8 -1.5**
SNR=13
JMDO Jabal Madar 69.40 293 P **P** **08 01 59.1 +0.5**
SNR=12
JMDO P **P** **08 01 59.1 +0.5**
SNR=12
BIDO Bidbid 69.52 294 P **P** **08 02 00.8 +1.5**
SNR=8.1
BIDO P **P** **08 02 00.8 +1.5**
SNR=8.1
SMDO Samad 69.53 294 P **P** **08 01 59.8 +0.2**
SNR=7.2
SMDO P **P** **08 01 59.8 +0.2**
SNR=7.2
SMDO P **P** **08 01 59.8 +0.2**
SNR=7.2
DQM DQM 69.65 291 P **P** **08 02 00.5 +0.3**
SNR=20
DQM P **P** **08 02 00.5 +0.3**
SNR=20
TIXI Tiksi 69.87 1 P **P** **08 01 59.7 -0.8**
comp=Z,11nm,0.6s,baz=152,slow=5.2,SNR=34
TIXI S **S** **08 11 08.6 +2.1**
comp=Z,0.5nm,0.3s,baz=130,slow=20,SNR=1.5
TIXI Tiksi 69.87 1 P **P** **08 01 59.9 -0.6**
TIXI IAmb IAmb 08 02 08.3
comp=Z,77nm,1.3s
TIXI IAMs_20 IAMs_20 08 33 38.6
comp=Z,904nm,21.0s
HOQ Hoqain 70.27 294 P **P** **08 02 04.7 +0.8**
SNR=7.6
BSY Bisya 70.27 293 P **P** **08 02 03.9 0.0**
SNR=8.0
BSY P **P** **08 02 03.9 0.0**
SNR=8.0
ARQ Araqi 70.96 294 P **P** **08 02 09.1 +1.0**
SNR=7.2
ARQ P **P** **08 02 09.1 +1.0**
SNR=7.2
SOHO SOHO 71.04 295 P **P** **08 02 08.4 -0.2**
SHAO Shalim 71.29 288 *i* P **P** **08 02 09.6 -0.6**
SNR=8.1
SHAO Shalim 71.29 288 P **P** **08 02 10.2 -0.1**
SNR=6.0
SHAO P **P** **08 02 10.2 -0.1**
SNR=6.0
UOSS Minazif 71.44 296 P **P** **08 02 11.6 +0.6**
UOSS Minazif 71.44 296 P **P** **08 02 11.5 +0.6**
UOSS P **P** **08 02 11.5 +0.6**
BANOM Banah 71.47 297 P **P** **08 02 11.4 +0.2**
BANOM Banah 71.47 297 P **P** **08 02 10.5 -0.7**
HATD Hatta, Dubai 71.48 296 P **P** **08 02 11.6 +0.3**
HATD Hatta, Dubai 71.48 296 P **P** **08 02 12.2 +0.9**
HATD P **P** **08 02 12.2 +0.9**
MSFE Esma-Masafi 71.53 296 P **P** **08 02 11.8 +0.2**
MASF Masafi 71.53 296 P **P** **08 02 14.5 +2.9**
MASF P **P** **08 02 14.5 +2.9**
ASHO Ashiyiah 71.53 295 P **P** **08 02 10.8 -0.9**
ASHO Ashiyiah 71.53 295 P **P** **08 02 11.5 -0.1**
ASHO P **P** **08 02 11.5 -0.1**
BILL Bilibino 71.57 15 *de* P **P** **08 02 10.9 0.0**
BILL pmax pmax
comp=Z,35nm,1.9s
BILL MLR MLR
comp=Z,446nm,22.0s
BILL Bilibino 71.57 15 P **P** **08 02 10.9 0.0**
SHME Shamm 71.63 297 P **P** **08 02 12.5 +0.4**
SHME Shamm 71.63 297 P **P** **08 02 13.1 +0.9**
ALNE Al Ain 71.74 295 *i* P **P** **08 02 13.6 +0.7**
SNR=11
ALNE Al Ain 71.74 295 P **P** **08 02 13.3 +0.4**
SNR=21
ASHT Ashkhabad 71.78 309 IAMs_20 IAMs_20 08 39 13.8
comp=Z,838nm,22.0s
DMTO DMTO 71.91 288 P **P** **08 02 14.2 +0.3**
DMTO P **P** **08 02 14.2 +0.3**
FAQ Al Faqa, Dubai 71.96 295 P **P** **08 02 14.3 +0.1**
FAQ Al Faqa, Dubai 71.96 295 P **P** **08 02 15.6 +1.4**
GEYT Alibeck 71.98 309 P **P** **08 02 13.9 -0.1**
comp=Z,22nm,0.9s,baz=158,slow=4.3,SNR=18
GEYT Alibeck 71.98 309 P **P** **08 02 14.1 0.0**
GYA0B ALIBECK ARRAY 71.98 309 IAMs_20 IAMs_20 08 39 21.0
comp=Z,910nm,22.0s
UMZA Um Al Zommool 72.14 293 P **P** **08 02 14.1 -1.2**
ASUD Al Ashush, Dub 72.19 295 *i* P **P** **08 02 17.0 +1.5**
SNR=12
ASUD Al Ashush, Dub 72.19 295 P **P** **08 02 16.4 +0.9**
SNR=9.0
NRIK Noril'sk 72.34 346 P **P** **08 02 15.5 0.0**
comp=Z,24nm,0.6s,baz=134,slow=6.4,SNR=37
NRIK S **S** **08 11 37.5 +2.2**
comp=Z,5.4nm,1.0s,baz=343,slow=22,SNR=12
NRIK Noril'sk 72.34 346 *ce* P **P** **08 02 15.7 +0.2**
NRIK Noril'sk 72.34 346 P **P** **08 02 15.2 -0.3**
NRIK IAmb IAmb 08 02 42.9
comp=Z,134nm,1.3s
NRIK IAMs_20 IAMs_20 08 39 00.4
comp=Z,930nm,20.0s
AJN Ajban 72.49 295 *i* P **P** **08 02 17.3 0.0**
SNR=5.7
AJN Ajban 72.49 295 P **P** **08 02 18.2 +0.9**
SNR=7.4
SOCY Socotra 72.54 282 P **P** **08 02 15.7 -2.2**
SOCY IAmb IAmb 08 02 20.5
comp=Z,63nm,0.7s
SOCY IAMs_20 IAMs_20 08 34 26.0
comp=Z,1μm,21.0s
SOCY Socotra 72.54 282 P **P** **08 02 15.8 -2.2**
SNR=16
RBK Rabkut 72.60 288 P **P** **08 02 18.5 +0.3**
SNR=11
RBK P **P** **08 02 18.5 +0.3**
SNR=11
RER Riviere de l'E 72.71 247 P **P** **08 02 21.1 +2.3**
DOK Doka 72.75 289 P **P** **08 02 17.4 -1.5**
SNR=33
DOK P **P** **08 02 17.4 -1.5**
SNR=33
WHFO Wadi Hawf 73.04 288 P **P** **08 02 18.6 -2.1**
SNR=18
WHFO P **P** **08 02 18.6 -2.1**
SNR=18
ABTO Aybut 73.46 287 P **P** **08 02 23.0 -0.3**
SNR=17
ABTO P **P** **08 02 23.0 -0.3**
SNR=17
AB31 Akbulak array 73.57 321 *i* P **P** **08 02 22.2 -1.0**
ABKAR Akbulak array 73.57 321 P **P** **08 02 22.4 -0.8**
ABKAR Akbulak array 73.57 321 P **P** **08 02 22.7 -0.5**
ABKAR IAmb IAmb 08 02 33.1
comp=Z,58nm,1.1s
AKTO Aktyubinsk 75.10 322 P **P** **08 02 31.6 -0.5**
RAR Rarotonga 75.48 112 LR LR 08 34 32.5
comp=Z,260nm,21.9s,baz=266,slow=35
SVE Sverdlovsk 75.56 329 *d i* P **P** **08 02 34.7 +0.1**
SVE *e* S **S** **08 12 10.7 -1.3**
SVE pmax pmax
comp=Z,231nm,1.3s
AKUT Akutan 75.72 34 P **P** **08 02 36.6 +1.1**
HON Honolulu 75.89 69 P **P** **08 02 37.5 +0.3**
HON pmax pmax
comp=Z,233nm,1.3s
HON Honolulu 75.89 69 P **P** **08 02 37.5 +0.3**
ARU Arti 76.52 328 P **P** **08 02 36.6 -0.4**
comp=Z,18nm,0.7s,baz=107,slow=3.9,SNR=55
ARU Arti 76.52 328 *ce* P **P** **08 02 39.4 -0.7**
ARU pmax pmax
comp=Z,111nm,0.9s
ARU MLR MLR
comp=Z,1μm,24.0s
ARU Arti 76.52 328 P **P** **08 02 39.2 -0.8**
ARU IAmb IAmb 08 02 41.5
comp=Z,91nm,0.9s
ARU IAMs_20 IAMs_20 08 37 28.6
comp=Z,1μm,21.0s
SBV Sambava 77.34 256 P **P** **08 02 46.7 +1.2**
SNR=6.2
TNA Tin City 78.55 23 P **P** **08 02 51.0 -0.1**
TNA Tin City 78.55 23 P **P** **08 02 52.8**
baz=248
SDPT Sand Point 79.01 34 P **P** **08 02 54.8**
baz=257
SDPT Sand Point 79.01 34 P **P** **08 02 53.9 0.0**
QRN Al-Qurain 79.17 299 *eP* **P** **08 02 54.2**
ANM Nome 79.21 24 P **P** **08 02 54.0 -0.8**
ANM pmax pmax
comp=Z,16nm,0.9s
ANM Nome 79.21 24 P **P** **08 02 54.0 -0.8**
ANM Nome 79.21 24 P **P** **08 02 56.6**
baz=251
UMR Umm Al-Rimmam 79.40 300 *eP* **P** **08 02 55.3**
RDF Al-Radifah 79.50 299 *eP* **P** **08 02 55.7**
MIB Mutribah 79.75 300 *eP* **P** **08 02 57.3**
RST Umm Al-Ruwaisa 80.02 300 *eP* **P** **08 02 58.5**
OPO Ambohidratompo 80.40 251 P **P** **08 03 03.0 +0.5**
comp=Z,56nm,0.7s,baz=69,slow=4.1,SNR=63
ABPO Ambohimpanom 80.41 251 P **P** **08 03 01.2 -1.3**
ABPO pmax pmax
comp=Z,45nm,0.9s
ABPO Ambohimpanom 80.41 251 P **P** **08 03 01.2 -1.3**
ABPO IAmb IAmb 08 03 07.7
comp=Z,46nm,0.8s
AKT Akhty 80.46 312 *eP* **P** **08 03 03.0 +0.7**
AKT *e* **08 03 09.8**
AKT pmax pmax
comp=Z,72nm,1.1s
MAK Makhachkala 80.79 313 *eP* **P** **08 03 01.5 -2.3**
MAK *e* 08 06 04.1
MAK *e*PPP PPP 08 07 55.9
MAK *e*S **S** **08 13 02.3 -6.3**
MAK *e*SS **SS** **08 18 22.7 -0.1**
MAK *e*SSS SSS 08 21 51.4
MAK pmax pmax
comp=Z,974nm,1.3s
MAK MLR MLR
comp=Z,409nm,13.0s
RAYN Ar Rayn 81.06 293 *i* P **P** **08 03 05.6 -0.1**
SNR=45
RAYN Ar Rayn 81.06 293 P **P** **08 03 04.8 -1.0**
RAYN pmax pmax
comp=Z,73nm,1.0s
RAYN MLR MLR
comp=Z,1μm,22.0s
RAYN Ar Rayn 81.06 293 P **P** **08 03 04.8 -1.0**
RAYN IAmb IAmb 08 03 31.1
comp=Z,73nm,0.9s
RAYN IAMs_20 IAMs_20 08 41 45.2
comp=Z,1μm,22.0s
VOI Vohitsoka 81.08 248 P **P** **08 03 06.3 +0.3**
SNR=7.1
RDOG Red Dog Mine 81.26 21 P **P** **08 03 07.0 +1.1**
RDOG IAmb IAmb 08 03 10.0
comp=Z,48nm,1.0s
RDOG Red Dog Mine 81.26 21 P **P** **08 03 07.7**
baz=252
VNDA Vanda 81.45 173 P **P** **08 03 06.8 +0.2**
comp=Z,39nm,0.8s,baz=317,slow=6.2,SNR=110
VNDA LR LR 08 37 51.3
comp=Z,392nm,22.0s,baz=342,slow=35
VNDA Vanda 81.45 173 P **P** **08 03 05.9 -0.8**
VNDA IAmb IAmb 08 03 09.1
comp=Z,83nm,1.1s
MAW Mawson 81.77 200 P **P** **08 03 09.4 +0.9**
comp=Z,53nm,1.0s,baz=62,slow=6.2,SNR=24
MAW LR LR 08 37 04.9
comp=Z,274nm,21.1s,baz=55,slow=34
MAW Mawson 81.77 200 P **P** **08 03 09.4 +0.9**
baz=82,SNR=13
MAW Mawson 81.77 200 P **P** **08 03 07.8 -0.6**
KIRV Kirov 81.83 329 *ce* P **P** **08 03 09.0 0.0**
BELG Belogornoye 81.87 323 *c i* P **P** **08 03 09.0 -0.3**
BELG pmax pmax
comp=Z,5.0nm,0.6s
BELG MLR MLR
comp=Z,140nm,25.0s
GROC Groznyy 82.06 313 *eP* **P** **08 03 09.5 -1.0**
GROC pmax pmax
comp=Z,203nm,1.2s
SBA Scott Base 82.36 172 P **P** **08 03 11.8 +0.4**
SBA pmax pmax
comp=Z,90nm,1.3s
SBA Scott Base 82.36 172 P **P** **08 03 11.8 +0.4**
SBA IAmb IAmb 08 03 35.2
comp=Z,90nm,1.3s
GNI Garni 82.60 310 P **P** **08 03 15.4 +1.7**
GNI Garni 82.60 310 *c i* P **P** **08 03 13.2 -0.5**
GNI pmax pmax
comp=Z,110nm,1.6s
GNI Garni 82.60 310 P **P** **08 03 14.3 +0.6**
GNI IAmb IAmb 08 03 39.4
comp=Z,76nm,1.1s
SVW2 Sparrevohn 82.69 29 P **P** **08 03 14.8 +1.3**
SVW2 IAmb IAmb 08 03 17.9
comp=Z,67nm,1.4s
TASB TASBURUN-IGDIR 82.97 310 *eP* **P** **08 03 16.4 +0.9**
CLDR Caldiran 83.17 309 *eP* **P** **08 03 16.6 -0.1**
OHAK Old Harbor 83.28 33 P **08 03 18.0**
baz=263
CUKT Cukurca 83.31 307 *eP* **P** **08 03 16.2 -1.2**
ZEI Tsey 83.41 313 *eP* **P** **08 03 16.4 -1.5**
ZEI pmax pmax
comp=Z,101nm,1.4s
VANB Van 83.55 308 *eP* **P** **08 03 18.9 +0.3**
AKH Akhalkalaki 83.63 311⇑ P **P** **08 03 20.7 +1.7**
AKH Akhalkalaki 83.63 311 *eP* **P** **08 03 20.2 +1.2**
GEVA Gevas 83.80 308 P **P** **08 03 20.2 +0.3**
AKDM Akdamar-Van 83.86 308 *eP* **P** **08 03 21.1 +0.9**
AGRB Hanur-Agry 83.91 309 *eP* **P** **08 03 21.7 +1.2**
RSO Redoubt South 83.97 29 P **P** **08 03 20.1 -0.2**
PYA1 Pyatigorsk 84.08 314 *d i* P **P** **08 03 21.4 +0.4**
PRGR Permogore 84.17 332 *eP* **P** **08 03 20.5 -0.5**
PRGR *e**SP **sP** **08 03 36.4 -2.7**
PRGR pmax pmax
comp=Z,77nm,0.8s
GOF Gofitskoye 84.17 315⇑ *eP* **P** **08 03 22.8 +1.4**
GOF pmax pmax
comp=Z,198nm,1.5s
KBZ Khabaz 84.20 314 P **P** **08 03 21.8 +0.2**
comp=Z,20nm,0.8s,baz=100,slow=6.0,SNR=21
KBZ LR LR 08 46 59.7
comp=Z,289nm,19.4s,baz=66,slow=40
KBZ Khabaz 84.20 314 *ce* P **P** **08 03 21.5 -0.1**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
A21K Barrow 84.21 18 P **P** **08 03 22.5 +1.5**
A21K Barrow 84.21 18 P **08 03 22.8**
baz=258,SNR=46
IMAR Indian Mountai 84.29 24 P **P** **08 03 22.6 +1.0**
NEY Neytrino 84.30 313 *eP* **P** **08 03 23.7 +1.3**
NEY pmax pmax
comp=Z,23nm,1.6s
SPCR Spurr Chakacha 84.33 29 P **08 03 23.1**
baz=263,SNR=7.6
KIV Kislovodsk 84.36 314⇓ P **P** **08 03 25.3 +2.7**
KIV Kislovodsk 84.36 314 *i* P **P** **08 03 23.0 +0.4**
SNR=14
KIV Kislovodsk 84.36 314⇓ P **P** **08 03 25.3 +2.7**
KIV Kislovodsk 84.36 314 P **P** **08 03 22.3 -0.3**
KIV IAmb IAmb 08 03 25.6
comp=Z,52nm,1.0s
KIV Kislovodsk 84.36 314 P **P** **08 03 24.4 +1.8**
SHA1 Shidzhatmaz 84.37 314 *c i* P **P** **08 03 22.7 -0.1**
SENK Senkaya-Erzuru 84.45 310 *eP* **P** **08 03 24.3 +1.1**
PPLA Purkeypile 84.54 27 P **P** **08 03 22.4 -0.6**
PPLA IAmb IAmb 08 03 26.6
comp=Z,54nm,1.4s
PPLA IAMs_20 IAMs_20 08 37 20.1
comp=Z,1μm,22.0s
PPLA Purkeypile 84.54 27 P **08 03 24.7**
baz=263
CHUM Lake Minchumin 84.60 26 P **08 03 25.4**
baz=263,SNR=11
GURO Guroymak-BITLI 84.61 308 *eP* **P** **08 03 25.2 +1.2**
PPT Papeete 84.72 108 LR LR 08 39 00.4
comp=Z,212nm,21.7s,baz=262,slow=34
PPT2 Papeete2 84.72 108 *e*S **S** **08 13 46.5 -3.3**
comp=Z,521nm,24.5s
PPT2 *e*SS **SS** **08 19 19.9 -2.6**
comp=Z,736nm,34.8s
PPT2 *e*LQ LQ 08 26 31.5
comp=Z,1μm,35.8s
PPT2 *e*LR LR 08 30 10.6
comp=Z,2μm,25.5s
SKT Skwentna 84.74 28 P **P** **08 03 23.1 -0.9**
SKT IAmb IAmb 08 03 34.0
comp=Z,34nm,1.1s
SKT Skwentna 84.74 28 P **08 03 24.5**
baz=264,SNR=9.9
CHVG Ch'k'valeri 84.74 313⇓ P **P** **08 03 24.5 +0.1**
CHVG Ch'k'valeri 84.74 313⇓ P **P** **08 03 24.5 +0.1**
KOPR Koprukoy-ERZUR 84.80 310 *eP* **P** **08 03 25.9 +0.9**
BRLK Bradley Lake 84.82 30 P **P** **08 03 23.4 -1.0**
BRLK IAmb IAmb 08 03 35.5
comp=Z,56nm,0.9s
BRSE Bradley Lake S 84.89 30 P **08 03 24.7**
baz=265
BATM Batumi 84.99 311⇓ P **P** **08 03 25.9 +0.3**
BATM Batumi 84.99 311 *eP* **P** **08 03 25.7 +0.1**
BATM Batumi 84.99 311⇓ P **P** **08 03 25.9 +0.3**
SUA Susitna One 85.05 29 P **P** **08 03 25.3 -0.4**
SUA Susitna One 85.05 29 P **08 03 26.2**
baz=264,SNR=16
VRTB Varto-Mus 85.08 309 *eP* **P** **08 03 28.1 +1.7**
TBI Tubuai 85.20 113 *e*S **S** **08 13 50.9 -3.3**
comp=Z,1μm,27.0s
TBI *e*SS **SS** **08 19 26.4 -2.8**
comp=Z,576nm,36.2s
TBI *e*LQ LQ 08 26 46.2
comp=Z,470nm,31.5s
TBI *e*LR LR 08 30 22.5
comp=Z,1μm,35.8s
BPAW Bear Paw Mtn. 85.21 26 P **08 03 27.4**
baz=264
CUT Chulitna 85.37 28 P **P** **08 03 24.6 -2.4**
CUT IAmb IAmb 08 03 41.5
comp=Z,33nm,1.0s

CUT Chulitna 85.37 28 P 08 03 28.4
baz=265
VRH Novokhopyorsk 85.40 321 eP **P** **08 03 26.6 -0.9**
VRH pmax pmax
comp=Z,210nm,1.0s
MLY Manley 85.41 25 P **P** **08 03 27.1 -0.2**
MLY Manley 85.41 25 P 08 03 28.6
baz=264,SNR=6.3
TRF Thorofare Moun 85.45 27 P 08 03 28.4
baz=265
O22K Cooper Landing 85.46 30 P 08 03 29.5
baz=265
RC01 Rabbit Creek A 85.51 29 P 08 03 28.5
baz=265,SNR=8.1
MARD Mardin 85.57 307 P **P** **08 03 29.2 +0.4**
MARD IAmb IAmb 08 03 33.9
comp=Z,50nm,0.9s
SEW Seward 85.57 30 P 08 03 29.2
baz=266
CHOM Cayeli-Rize 85.67 311 eP **P** **08 03 29.8 +0.7**
YEDI Yedisu-Bingol 85.80 309 eP **P** **08 03 30.9 +1.0**
PMR Palmer 85.84 29 P **P** **08 03 29.2 -0.2**
PMR pmax pmax
comp=Z,53nm,1.2s
PMR Palmer 85.84 29 P **P** **08 03 29.2 -0.2**
PMR IAmb IAmb 08 03 35.4
comp=Z,53nm,1.2s
PMR Palmer 85.84 29 P 08 03 30.3
baz=266,SNR=7.0
KOPT Kop Dagi 85.85 310 P **P** **08 03 31.6 +1.3**
KOPT IAMs_20 IAMs_20 08 49 41.1
comp=Z,564nm,22.0s
COLD Coldfoot 85.85 23 P **P** **08 03 30.4 +1.0**
COLD IAmb IAmb 08 03 40.2
comp=Z,22nm,0.8s
COLD Coldfoot 85.85 23 P 08 03 30.7
baz=264,SNR=29
I23K Minto, Yukon-K 86.00 25 P **P** **08 03 30.3 +0.1**
I23K Minto, Yukon-K 86.00 25 P 08 03 30.8
baz=265,SNR=11
MCK McKinley 86.08 26 P **P** **08 03 31.1 +0.5**
MCK pmax pmax
comp=Z,26nm,0.9s
MCK McKinley 86.08 26 P **P** **08 03 31.1 +0.5**
MCK IAmb IAmb 08 03 51.5
comp=Z,26nm,0.9s
MCK McKinley 86.08 26 P 08 03 31.8
baz=266,SNR=7.1
DYBB Diyarbakir 86.09 308 eP **P** **08 03 32.1 +0.8**
NEA2 Nenana 86.09 25 P 08 03 31.9
baz=266
KNK Knik Glacier 86.15 29 P **P** **08 03 31.8 +0.8**
KNK IAmb IAmb 08 03 35.0
comp=Z,51nm,1.0s
KNK Knik Glacier 86.15 29 P 08 03 31.8
baz=266
WAT2 Susitna Watana 86.19 27 P 08 03 32.9
baz=266
TOLK Toolik Lake Re 86.22 21 P **P** **08 03 32.2 +1.0**
TOLK Toolik Lake Re 86.22 21 P 08 03 32.7
baz=265,SNR=13
SML Sawmill 86.23 28 P **P** **08 03 32.0 +0.6**
SML IAmb IAmb 08 03 51.6
comp=Z,46nm,0.9s
SML Sawmill 86.23 28 P 08 03 33.5
baz=267,SNR=7.5
KTUT Trabzon 86.42 311 ⇓P **P** **08 03 33.6 +0.9**
KTUT Trabzon 86.42 311 eP **P** **08 03 33.3 +0.5**
WRH Wood River Hil 86.50 26 P **P** **08 03 32.0 -0.7**
SOC Sochi 86.50 313 eP **P** **08 03 31.2 -1.9**
SOC e 08 06 59.6
SOC ePPP PPP 08 08 47.8
SOC eS **SKSac** **08 13 53.9 -2.2**
SOC eSS **SS** **08 19 44.7 -2.6**
SOC pmax pmax
comp=Z,75nm,1.2s
SOC MLR MLR
comp=Z,525nm,22.0s
WAT6 Susitna Watana 86.55 28 P 08 03 34.0
baz=267
GLI Glacier Island 86.78 29 P 08 03 36.6
baz=268
HDA Harding Lake 86.99 26 P 08 03 33.9
baz=268
HDA P 08 03 33.9
baz=268
VORR Voronezh 86.99 321 eP **P** **08 03 34.0 -1.3**
VORR pmax pmax
comp=Z,400nm,1.2s
ILAR Eielson Array 87.03 25 P **P** **08 03 34.6 -0.6**
comp=Z,2.0nm,0.6s,baz=240,slow=5.1,SNR=28
ILAR Eielson Array 87.03 25 P **P** **08 03 33.7 -1.6**
KLMR Klimovskoe 87.05 331 eP **P** **08 03 33.4 -1.9**
KLMR e 08 06 53.5
KLMR eS **SKSac** **08 13 57.2 -1.5**
KLMR pmax pmax
comp=Z,90nm,0.9s
KLMR Klimovskoe 87.05 331 eP **P** **08 03 33.5 -1.9**
KLMR AMP 08 03 42.2
comp=Z,90nm,0.9s
KLMR ePP **PP** **08 06 53.5 -5.5**
KLMR eS **SKSac** **08 13 57.3 -1.5**
KLMR eS **SKSac** **08 13 57.3 -1.5**
KLMR LQ LQ 08 36 12.7
KLMR LQ LQ 08 36 12.7
KLMR LR LR 08 41 58.0
URFA Urfa 87.13 307 eP **P** **08 03 36.2 -0.2**
LPSR Galich'ya Gora 87.18 322 eP **P** **08 03 36.8 +0.6**
LPSR pmax pmax
comp=Z,120nm,1.0s
MALT Malatya 87.44 308 eP **P** **08 03 38.8 +0.9**
FURI Furi 87.58 279 IAMs_20 IAMs_20 08 43 54.2
comp=Z,1μm,20.0s
PAX Paxson 87.61 27 P **P** **08 03 37.4 -0.8**
PAX pmax pmax
comp=Z,23nm,1.4s
PAX Paxson 87.61 27 P **P** **08 03 37.4 -0.8**
PAX Paxson 87.61 27 P 08 03 39.3
baz=269,SNR=6.0
MOS Moscow 87.97 326 eP **P** **08 03 38.5 -1.4**
MOS e 08 07 09.4
MOS eS **SKSac** **08 14 05.4 +0.8**
MOS pmax pmax
comp=Z,67nm,0.8s
MOS MLR MLR
comp=Z,900nm,20.0s
N25K Chitina, Valde 88.00 29 P 08 03 41.5
baz=270
BMAR Burnt Mountain 88.03 23 P **P** **08 03 41.1 +1.1**
ANN Anapa 88.15 315 eP **P** **08 03 40.1 -0.9**
ANN e 08 07 04.1
ANN eS **SKSac** **08 14 06.2 +0.1**
ANN pmax pmax
comp=Z,116nm,0.7s
ANN pmax pmax
comp=N,42nm,0.8s
ANN MLR MLR
comp=Z,2μm,30.0s
DARE Darende-Malaty 88.18 308 eP **P** **08 03 42.3 +0.9**
DOT Dot Lake 88.25 27 P **P** **08 03 41.4 +0.3**
SCRK Sand Creek 88.28 26 P 08 03 41.7
baz=270
KIBK Kibwezi 88.52 268 P **P** **08 03 44.8 +1.2**
SNR=27
SVSK Karacayir 88.53 310 eP **P** **08 03 43.4 +0.5**
OBN Obninsk 88.58 325 ceP **P** **08 03 40.6 -2.2**
OBN e 08 07 12.1
OBN eS **SKSac** **08 14 10.5 +2.3**
OBN pmax pmax
comp=Z,65nm,1.1s
OBN MLR MLR
comp=Z,1μm,22.0s
OBN Obninsk 88.58 325 IAMs_20 IAMs_20 08 45 23.2
comp=Z,651nm,20.0s
KMRS Kahramanmaras 88.66 307 eP **P** **08 03 43.9 +0.3**
TOKT Tokat 88.88 310 eP **P** **08 03 44.5 -0.1**
TOKA Tokat 88.93 310 P **P** **08 03 44.3 -0.6**
SARI SarD1z-Kayseri 89.02 308 eP **P** **08 03 44.9 -0.6**
K27K Chicken 89.12 26 P **P** **08 03 44.7 -0.4**
K27K IAmb IAmb 08 03 49.0
comp=Z,59nm,1.4s
K27K IAMs_20 IAMs_20 08 41 21.1
comp=Z,771nm,21.0s
K27K Chicken 89.12 26 P 08 03 46.8
baz=272

LVZ Lovozero 89.14 338 i P **P** **08 03 43.0 -2.2**
LVZ pmax pmax
comp=Z,14nm,0.8s
LVZ Lovozero 89.14 338 P **P** **08 03 44.8 -0.5**
LVZ IAmb IAmb 08 04 05.5
comp=Z,37nm,1.2s
L27K Beaver Creek, 89.27 27 P **P** **08 03 47.2 +1.3**
L27K IAMs_20 IAMs_20 08 39 27.1
comp=Z,996nm,22.0s
L27K Beaver Creek, 89.27 27 P 08 03 46.7
baz=272
KMBO Kilima Mbogo 89.27 269 P **P** **08 03 47.1 -0.1**
comp=Z,25nm,1.1s,baz=50,slow=6.1,SNR=27
KMBO LR LR 08 41 48.6
comp=Z,474nm,20.2s,baz=94,slow=34
BCAR Beaver Creek A 89.29 27 P **P** **08 03 46.7 +0.6**
GRNC Granite Creek 89.40 29 P **P** **08 03 49.2 +2.4**
GRNC IAmb IAmb 08 03 51.3
comp=Z,26nm,1.1s
EGAK Eagle 89.49 25 P **P** **08 03 46.2 -0.6**
EGAK Eagle 89.49 25 P 08 03 47.2
baz=273
CEYT Ceyhan 89.59 307 eP **P** **08 03 48.4 +0.5**
CTG Chitna Glacier 89.59 29 P 08 03 49.9
baz=273
CTGM Chitina Glacie 89.59 29 IAMs_20 IAMs_20 08 41 28.7
comp=Z,746nm,21.0s
APA Apatity 89.63 337 ⇓i P **P** **08 03 45.5 -2.0**
APA pmax pmax
comp=Z,10.0nm,1.1s
TABL Table Mountain 89.71 30 P **P** **08 03 47.7 -0.6**
TABL IAmb IAmb 08 03 59.5
comp=Z,31nm,0.9s
DIKM Dikmen 89.81 311 ⇓P **P** **08 03 53.1 +4.2**
SNOP Sinop 89.83 312 eP **P** **08 03 50.2 +1.2**
MMLI Mount Malkishu 90.01 302 eP **P** **08 03 50.8 +0.7**
CORM Corum 90.34 310 eP **P** **08 03 49.6 -2.0**
HRFI Mount Harif 90.42 300 eP **P** **08 03 52.3 +0.2**
SYO Syowa Base 90.45 201⇑eP **P** **08 03 49.4 -1.8**
SYO Syowa Base 90.45 201⇓ePcP **PcP** **08 03 52.0 -0.3**
SIM Simferopol' 90.50 315 dⁱP **P** **08 03 52.0 0.0**
SIM pmax pmax
comp=Z,92μm,0.8s
EIL Elat 90.51 300 eP **P** **08 03 52.8 +0.4**
MERS Mersin 90.57 307 eP **P** **08 03 52.2 -0.5**
BZK Bozkurt 90.73 312 ⇑P **P** **08 03 54.4 +1.2**
EREN Erenkoy 90.92 305 eP **P** **08 03 54.2 0.0**
KAMT Kaman 91.09 309 eP **P** **08 03 54.2 -0.9**
BR131 Keskin Array S 91.13 310 i P **P** **08 03 54.3 -1.0**
BRTR Keskin Array B 91.13 310 P **P** **08 03 54.2 -1.0**
comp=Z,5.3nm,0.7s,baz=114,slow=3.0,SNR=27
BRTR LR LR 08 52 45.9
comp=Z,205nm,18.7s,baz=85,slow=41
BRTR Keskin Array B 91.13 310 eP **P** **08 03 54.2 -1.0**
BRTR Keskin Array B 91.13 310 P **P** **08 03 54.9 -0.4**
EPYK Eagle Plains 91.19 24 P 08 03 55.2
baz=277
IKL Isikli 91.28 306 eP **P** **08 03 55.3 -0.5**
TEVE Tevekalti-Mers 91.46 306 eP **P** **08 03 56.5 -0.3**
QSPA South Pole Qui 91.61 180 P **P** **08 03 57.0 +0.1**
QSPA IAmb IAmb 08 04 11.3
comp=Z,23nm,0.9s
CSS Mathiatis 91.63 305 eP **P** **08 03 56.9 -0.7**
BERE Bereket-Mersin 91.64 306 eP **P** **08 03 57.4 -0.3**
KURC Kurucasile-Bar 91.68 312 eP **P** **08 03 54.9 -2.7**
TEKE Tekeli-Mersin 91.74 306 eP **P** **08 03 58.7 +0.7**
LEF Lefka 91.99 305 ⇓P P 08 04 05.1 +6.0
INK Inuvik 92.13 21 P **P** **08 03 58.3 -0.8**
comp=Z,15nm,1.2s,baz=275,slow=6.2,SNR=17
INK PKKP **PKKPdf** **08 21 14.8 +0.1**
comp=Z,3.7nm,1.0s,baz=112,slow=3.4,SNR=6.3
INK Inuvik 92.13 21 PKKPdf 08 21 17.1 +2.5
ARA0 ARCESS Array S 92.27 340 eP **P** **08 03 59.5 -0.3**
ARCES ARCESS Array B 92.27 340 P **P** **08 03 58.7 -1.0**
comp=Z,23nm,1.1s,baz=91,slow=4.0,SNR=14
ARCES PKKP **PKKPdf** **08 21 13.5 -1.0**
comp=Z,1.9nm,0.8s,baz=264,slow=4.6,SNR=11
ARCES LR LR 08 49 17.6
comp=Z,652nm,21.5s,baz=105,slow=38
ARCES ARCESS Array B 92.27 340 P **P** **08 03 58.9 -0.9**
GAZI Gazipasa 92.38 306 eP **P** **08 03 58.3 -2.7**
AUSIV SIVRIHISAR 92.77 309 eP **P** **08 04 03.4 +0.6**
MDUB Mudurnu 92.94 310 eP **P** **08 04 01.6 -2.0**
MDUB Mudurnu 92.94 310 P **P** **08 04 00.4 -3.2**
KBS Kingsbay 92.95 350 IAMs_20 IAMs_20 08 52 59.1
comp=Z,830nm,20.0s
KTK1 Kautokeino 93.16 339 eP **P** **08 04 03.3 -0.6**
AKASG Malin Array Be 93.31 321 P **P** **08 04 03.8 -1.2**
comp=Z,11nm,1.1s,baz=68,slow=4.1,SNR=21
AKASG PKKP **PKKPdf** **08 21 11.2 -1.1**
comp=Z,0.3nm,0.3s,baz=260,slow=3.3,SNR=4.1
AKASG LR LR 08 49 58.8
comp=Z,691nm,21.7s,baz=85,slow=38
AKASG Malin Array Be 93.31 321 ceP **P** **08 04 03.7 -1.2**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 93.31 321 P **P** **08 04 03.3 -1.6**
AKBB Malin Array Si 93.31 321 ceP **P** **08 04 03.0 -1.9**
AKBB Malin Array Si 93.31 321 P **P** **08 04 03.3 -1.6**
AKBB IAmb IAmb 08 04 22.3
comp=Z,20nm,1.1s
JIS Juneau Island 93.37 32 IAMs_20 IAMs_20 08 39 29.8
comp=Z,1μm,22.0s
GULT Gulveren 93.47 310 eP **P** **08 04 04.8 -1.2**
FIA1 FINESS Array S 93.50 332 P **P** **08 04 02.7 -2.8**
FIA1 IAmb IAmb 08 04 11.5
comp=Z,30nm,1.1s
FINES FINESS Array B 93.50 332 P **P** **08 04 04.0 -1.6**
comp=Z,6.0nm,0.8s,baz=120,slow=0.9,SNR=18
FINES LR LR 08 49 14.6
comp=Z,648nm,21.9s,baz=73,slow=38
FINES FINESS Array B 93.50 332 ceP **P** **08 04 04.5 -1.0**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 93.50 332 P **P** **08 04 04.1 -1.4**
MNK Minsk 93.64 325 eP **P** **08 04 06.0 -0.3**
MNK Minsk 93.64 325 iⁱP **P** **08 04 06.1 -0.2**
comp=E,2.0nm,0.7s
MNK iⁱP **P** **08 04 06.1 -0.2**
comp=N,8.0nm,0.6s
MNK iⁱP **P** **08 04 06.1 -0.2**
comp=Z,31nm,1.1s
MNK iⁱPP **PP** **08 07 50.9 -0.5**
MNK iⁱPPP PPP 08 09 51.5
MNK iⁱSKS SKSac 08 14 24.6 -13
MNK iⁱS SKKSac 08 14 37.6 -19
MNK iⁱPS **PS** **08 16 30.8 -0.2**
MNK iⁱSS **SS** **08 21 31.1 +1.3**
MNK iⁱSSS SSS 08 25 12.8
MNK iⁱLQ LQ 08 40 27.1
MNK iⁱLR LR 08 44 07.8
MNK iⁱLRM MLR 08 47 19.9
comp=E,90nm,19.4s
MNK iⁱLRM MLR 08 47 25.7
comp=N,972nm,22.6s
MNK iⁱLRM MLR 08 47 28.3
comp=Z,533nm,20.6s
VSU Vasula 93.67 329 iⁱP **P** **08 04 07.5 +1.1**
VSU pmax pmax
comp=Z,68nm,1.3s
ISP Isparta 93.69 308 P **P** **08 04 04.2 -2.9**
ISP pmax pmax
comp=Z,22nm,1.1s
ISP Isparta 93.69 308 P **P** **08 04 04.2 -2.9**
ISP IAmb IAmb 08 04 13.1
comp=Z,22nm,1.1s
JETT Jettan, Norway 94.00 340 eP **P** **08 04 07.4 -0.4**
KIS Kishinev 94.01 317 ⇑P **P** **08 04 10.5 +2.3**
KIS Kishinev 94.01 317 ⇑P **P** **08 04 10.5 +2.3**
HRT Hereke 94.07 311 eP **P** **08 04 07.6 -1.1**
NACGM Naroch 94.21 325 iⁱP **P** **08 04 09.1 +0.2**
NACGM iⁱP **P** **08 04 09.1 +0.2**
NACGM iⁱP **P** **08 04 09.1 +0.2**
NACGM iⁱPP **PP** **08 07 55.5 -0.3**
NACGM iⁱPPP PPP 08 10 07.1
NACGM iⁱSKS SKiKP 08 13 22.1 +58
NACGM iⁱPS **PS** **08 16 23.9 -13**
NACGM iⁱSS SS 08 22 12.5 +35
NACGM iⁱSSS SSS 08 26 05.2
NACGM iⁱLQ LQ 08 41 06.9
NACGM iⁱLR LR 08 44 51.2
TLCR 94.22 315 ⇓P **P** **08 04 08.4 -0.8**
TLCR 94.22 315 ⇓P **P** **08 04 08.4 -0.8**
ELL Elmali 94.28 307 P **P** **08 04 08.6 -1.2**
ELL pmax pmax
comp=Z,64nm,0.8s
ELL Elmali 94.28 307 P **P** **08 04 08.6 -1.2**
TVSB Tavsanli 94.37 310 eP **P** **08 04 08.4 -1.8**
TRO Tromso 94.48 340 eP **P** **08 04 10.2 +0.4**
TPGR Topolog 94.54 315 ⇑P **P** **08 04 10.0 -0.8**
TIRR Tirgusor 94.59 315 ⇑P **P** **08 04 10.1 -0.8**
TIRR Tirgusor 94.59 315 ⇑P **P** **08 04 10.1 -0.8**
TIRR Tirgusor 94.59 315 P **P** **08 04 09.8 -1.1**
TIRR IAMs_20 IAMs_20 08 54 47.3
comp=Z,769nm,22.0s
CFR Carcaliu 94.70 315 ⇓P **P** **08 04 10.9 -0.5**
CFR Carcaliu 94.70 315 ⇑P **PKKPdf** **08 21 06.5 -3.1**
CFR Carcaliu 94.70 315 ⇓P **P** **08 04 10.9 -0.5**
VASR Vaslui 94.75 317 ⇓P **P** **08 04 13.6 +1.9**
HARR Harsova 94.91 315 ⇑P **P** **08 04 12.8 +0.4**
HARR Harsova 94.91 315 ⇑P **P** **08 04 12.8 +0.4**
NOR Nord 95.08 355 i P **P** **08 04 12.1 -0.4**
NOR Nord 95.08 355 i P **P** **08 04 12.1 -0.4**
NOR Nord 95.08 355 i P **P** **08 04 12.2 -0.4**
MANT Manisa 95.17 309 P **P** **08 04 12.3 -1.7**
C36M Paulatuk 95.20 20 P **P** **08 04 12.2 -0.9**
C36M IAmb IAmb 08 04 24.3
comp=Z,16nm,1.0s
C36M Paulatuk 95.20 20 P 08 04 13.1
baz=289
GRER 95.49 316 ⇓P **P** **08 04 14.9 -0.1**
TESR Tescani 95.55 317 ⇑P **P** **08 04 15.2 -0.1**
VRI Vrincioaia 95.59 316 ⇓P **P** **08 04 15.5 0.0**
VRI Vrincioaia 95.59 316 eP **P** **08 04 15.5 0.0**
VRI Vrincioaia 95.59 316 ⇓P **P** **08 04 15.5 0.0**
DLBC Dease Lake 95.60 31 LR LR 08 41 49.1
comp=Z,739nm,21.9s,baz=290,slow=32
PLOR Plostina 95.65 316 ⇑P **P** **08 04 15.9 +0.1**
PLOR Plostina 95.65 316 ⇑P **P** **08 04 15.9 +0.1**
BISRR Bisoca 95.65 316 ⇓P **P** **08 04 16.7 +0.9**
PRAR RASCA 95.71 318 ⇓P **P** **08 04 15.9 -0.2**
AYDB Zeytinkoy-Aydi 95.75 308 eP **P** **08 04 15.6 -1.0**
MBAR Mbarara 95.77 270 IAMs_20 IAMs_20 08 50 32.1
comp=Z,507nm,19.0s
ALE Alert 95.78 1 IAMs_20 IAMs_20 08 53 22.4
comp=Z,419nm,19.0s
ISR Istrita 95.83 315 ⇑P **P** **08 04 18.3 +1.6**
ISR Istrita 95.83 315 ⇑P **P** **08 04 18.3 +1.6**
BIZ Bicaz 95.86 317 ⇑P **P** **08 04 16.7 0.0**
NEHR Nehoiu 95.96 316 ⇓P **P** **08 04 17.1 -0.1**
MLR Muntele Rosu 96.19 316 ⇑P **P** **08 04 18.1 -0.3**
MLR Muntele Rosu 96.19 316 ⇑P **P** **08 04 18.1 -0.3**
MLR Muntele Rosu 96.19 316 P **P** **08 04 17.5 -0.9**
MLR IAmb IAmb 08 04 32.1
comp=Z,20nm,0.9s
MLR IAMs_20 IAMs_20 08 51 32.5
comp=Z,733nm,21.0s
STEI Steigen 96.30 339 eP **P** **08 04 18.8 +0.6**
BURAR Bucovina Array 96.35 318 ⇓P **P** **08 04 19.5 +0.4**
BURAR Bucovina Array 96.35 318 ⇓P **P** **08 04 19.5 +0.4**
BURAR Bucovina Array 96.35 318 P **P** **08 04 18.2 -0.8**
BUR08 Bucovina Ar. S 96.36 318 P **P** **08 04 18.7 -0.4**
SUW Suwalki 96.44 325 eP **P** **08 04 19.3 +0.2**
FAUS Fauske 96.47 339⇑eP **P** **08 04 17.6 -1.4**
DOPR Dopca 96.50 316 ⇓P **P** **08 04 18.8 -0.8**
URLA Izmir 96.71 309 eP **P** **08 04 17.2 -3.6**
EUNU Eureka 96.72 5 P **P** **08 04 19.0 -1.0**
LVV L'vov 96.74 320 eP P 08 04 10.5 -10
VOIR 96.82 316 ⇓P **P** **08 04 21.3 +0.1**
VOIR 96.82 316 ⇓P **P** **08 04 21.3 +0.1**
HUMR Humele 97.02 315 ⇑P Pdif 08 04 22.2 +0.1
ARCR ARCALIA 97.02 318 ⇓P Pdif 08 04 22.3 +0.2
ARR Arges 97.12 316 ⇑P **P** **08 04 22.0 -0.6**
ARR Arges 97.12 316 ⇑P **PKKPbc** **08 21 02.4 -1.5**
MOR8 Moi Rana 97.22 338 eP **P** **08 04 21.5 -1.0**
BMR Baia Mare 97.48 318 ⇑P **P** **08 04 20.8 -3.2**
BMR Baia Mare 97.48 318 ⇑P **P** **08 04 20.8 -3.2**
KOLS Kolonicke sedl 98.04 320 eP Pdif 08 04 27.4 +0.8
KOLS Kolonicke sedl 98.04 320 ePDIFF Pdif 08 04 27.4 +0.8
BBB Bella Bella 98.06 37 LR LR 08 38 39.7
comp=Z,149nm,21.8s,baz=272,slow=29
UZH Uzhgorod 98.09 319 eP Pdif 08 04 26.8 +0.1
UZH e 08 04 41.0
DRGR 98.18 318 ⇓P Pdif 08 04 27.3 0.0
DRGR 98.18 318 ⇓P Pdif 08 04 27.3 0.0
GZR Gura Zlata 98.40 316 ⇓P Pdif 08 04 28.6 +0.3
GZR Gura Zlata 98.40 316 ⇓P Pdif 08 04 28.6 +0.3
LSZ Lusaka 98.45 255 P **P** **08 04 28.8 -0.4**
LSZ pmax pmax
comp=Z,27nm,1.2s
LSZ Lusaka 98.45 255 P **P** **08 04 28.8 -0.4**
LSZ IAmb IAmb 08 04 31.2
comp=Z,27nm,1.2s
LSZ Lusaka 98.45 255 IAMs_20 IAMs_20 08 44 59.0
comp=Z,590nm,19.0s
RKT Rikitea 98.51 113 eSKSac **SKSac** **08 15 02.6 -1.4**
comp=Z,415nm,27.8s
RKT eSS **SS** **08 22 39.7 -1.0**
comp=Z,369nm,27.5s
RKT Rikitea 98.51 113 eLR LR 08 36 27.7
comp=Z,1μm,34.2s
CRVS Cervenica-Dubn 98.57 320 eP Pdif 08 04 29.0 +0.1
CRVS Cervenica-Dubn 98.57 320 ePDIFF Pdif 08 04 29.0 +0.1
VTS Vitosha 98.59 313 ⇑P **P** **08 04 28.8 -0.5**
VTS Vitosha 98.59 313 ⇑P **P** **08 04 28.8 -0.5**
VTS Vitosha 98.59 313 P **P** **08 04 26.7 -2.6**
VTS IAMs_20 IAMs_20 08 52 22.2
comp=Z,524nm,22.0s
HERR Herculane 98.75 316 ⇑P **P** **08 04 29.5 -0.3**
NSS Namsos 98.80 337 ePdif **P** **08 04 28.5 -1.0**
BZS Buzias 99.16 317 ⇑P **Pdif** **08 04 30.8 -0.8**
BZS Buzias 99.16 317 ⇑P **PKKPbc** **08 20 57.4 -0.7**
BZS Buzias 99.16 317 ⇑P **Pdif** **08 04 30.8 -0.8**
DAG Danmarks Havn 99.23 352 i P **Pdif** **08 04 31.5 +0.3**
DAG Danmarks Havn 99.23 352 i P **Pdif** **08 04 31.5 +0.3**
DAG Danmarks Havn 99.23 352 i P **Pdif** **08 04 31.5 +0.3**
MDVR Moldovita 99.26 316 ⇑P **Pdif** **08 04 31.7 -0.4**
OJC Ojcow 99.32 321 eP **Pdif** **08 04 33.1 +0.8**
BOVS Bovan 99.50 315 ⇓P **Pdif** **08 04 23.4 -10**
LANS Liptovska Anna 99.79 320 eP **Pdif** **08 04 37.8 +3.4**
LANS Liptovska Anna 99.79 320 ePDIFF **Pdif** **08 04 37.8 +3.4**
PSZ Piszkesteto 99.81 319 ⇓P **Pdif** **08 04 23.0 -12**
PSZ Piszkesteto 99.81 319 ⇓P **Pdif** **08 04 23.0 -12**
PSZ Piszkesteto 99.81 319 IAMs_20 IAMs_20 08 54 16.9
comp=Z,563nm,21.0s
RES Resolute Bay 99.85 10 LR LR 08 59 50.6
comp=Z,75nm,18.0s,baz=301,slow=41
TBLU Trondheim 100.00 336 ePdif **Pdif** **08 04 34.1 -0.8**
FNA Florina 100.30 312 IAMs_20 IAMs_20 08 52 05.4
comp=Z,406nm,21.0s
OKC Ostrava-Krasne 100.45 321 AMS AMS 08 51 10.0
comp=Z,400nm,17.1s
NB2 NORSAR Subarra 100.49 333 P **Pdif** **08 04 35.7 -1.5**
comp=Z,23nm,1.2s,baz=69,slow=4.8
NB2 NORSAR Subarra 100.49 333 P **Pdif** **08 04 35.7 -1.5**
baz=69,slow=4.8
NOA NORSAR Array B 100.49 333 P **Pdif** **08 04 35.6 -1.7**
comp=Z,4.3nm,1.0s,baz=4.7,slow=16,SNR=6.8
FRGS Fruska Gora 100.50 316 ⇑P **Pdif** **08 04 38.6 +1.0**
BOSA Boshof 100.67 241 P **Pdif** **08 04 37.9 -1.0**
comp=Z,6.1nm,1.0s,baz=151,slow=6.0,SNR=5.1
BOSA PP **PP** **08 08 45.7 -0.9**
comp=Z,6.9nm,1.1s,baz=124,slow=5.3,SNR=4.6
MORC Moravsky Berou 100.84 321 ePDIFF **Pdif** **08 04 39.9 +0.8**
JAVC Velka Javorina 101.01 320 ePDIFF **Pdif** **08 04 41.8 +2.0**
MORH Mrgy, Hungar 101.05 318 ⇓P **Pdif** **08 04 39.0 -1.0**
KRLC Kraliky 101.23 322 iⁱP **Pdif** **08 04 44.2 +3.4**
KRLC MLR MLR
comp=Z,800nm,26.4s
KRLC Kraliky 101.23 322 ePDIFF **Pdif** **08 04 44.2 +3.4**
KRLC AMS AMS 08 51 40.0
comp=Z,800nm,26.4s
KSP Ksiaz 101.31 323 eP **Pdif** **08 04 42.6 +1.6**
TULEG Thule 101.38 4 IAMs_20 IAMs_20 08 53 18.5
comp=Z,546nm,22.0s
DPC Dobruska-Polom 101.44 322 iⁱP **Pdif** **08 04 41.8 +0.1**
DPC MLR MLR
comp=Z,900nm,23.6s
DPC Dobruska-Polom 101.44 322 ePDIFF **Pdif** **08 04 41.8 +0.1**
DPC AMS AMS 08 51 50.0
comp=Z,900nm,23.6s
YKA Yellowknife Ar 101.44 24 P **Pdif** **08 04 41.5 +0.2**
comp=Z,1.6nm,0.9s,baz=299,slow=4.0,SNR=17
YKA PKiKP **PKiKP** **08 09 05.6 +0.4**
comp=Z,0.7nm,0.7s,baz=311,slow=0.9,SNR=14
YKA PKKPbc **PKKPbc** **08 20 49.4 -2.8**
comp=Z,2.1nm,0.9s,baz=111,slow=3.4,SNR=12

OSTC **Ostas** 101.44 322 *e*PDIFF **Pdif** 08 04 45.9 +4.2
OSTC AMS AMS 08 51 50.0
comp=Z,900nm,25.2s
CHVC Chvalec 101.53 322 *e*PDIFF **Pdif** 08 04 42.5 +0.4
CHVC AMS AMS 08 52 10.0
comp=Z,1µm,27.1s
VRAC Vranov 101.56 321 *e*PDIFF **Pdif** 08 04 43.2 +1.0
VRAC *e*PP **PP** 08 08 52.7 +0.3
UPC Upice 101.58 322 *i* P **Pdif** 08 04 46.2 +3.9
UPC MLR MLR
comp=Z,1µm,27.9s
UPC Upice 101.58 322 *e*PDIFF **Pdif** 08 04 46.2 +3.9
UPC AMS AMS 08 52 10.0
comp=Z,1µm,27.9s
KRUC Moravsky 101.76 321 *e*PDIFF **Pdif** 08 04 43.9 +0.8
KRUC *e*PP **PP** 08 08 53.7 -0.2
SKAR Skarslia 101.94 334 *e*Pdif **Pdif** 08 04 42.8 -0.9
TREC Trest 102.26 321 AMS AMS 08 52 40.0
comp=Z,500nm,19.1s
CONA Conrad Observa 102.42 320 *e*P **Pdif** 08 04 47.0 +0.8
comp=Z,2.7nm,1.2s
PVCC Panska Ves 102.45 323 AMS AMS 08 52 50.0
comp=Z,1µm,24.5s
PRU Pruhonice 102.64 322 AMS AMS 08 52 30.0
comp=Z,1µm,23.5s
PRA Prague 102.68 322 AMS AMS 08 52 40.0
comp=Z,1µm,28.5s
BRG Berggiesshubel 102.72 323 *e*Piff 08 04 47.8
BRG Amp 08 04 50.7
comp=Z,40nm,1.9s
BRG *ex* x 08 05 02.7
BRG Amp 08 05 05.9
comp=Z,6.0nm,1.1s
BRG *ex* x 08 05 15.4
BRG Amp 08 05 16.8
comp=Z,6.0nm,0.9s
BRG PP **PKiKP** **08 09 06.3 -1.6**
BRG Amp 08 09 08.1
comp=Z,16nm,1.4s
ARSA Arzberg 102.84 319 P **Pdif** 08 04 48.5 +0.6
comp=Z,5.0nm,1.4s
CLL Collm 103.13 324 *e*Pdif **Pdif** 08 04 52.0 +2.9
CLL *e* 08 08 49.0
CLL *e*PPlp 08 09 06.0
CLL *e*PPP PPP 08 11 12.0
CLL *e*SP SP 08 18 00.0 -7.4
CLL *e*PS **PS** **08 18 14.0 +0.3**
CLL *e*SS **SS** **08 23 42.0 -1.1**
CLL *e*SSSS 08 31 24.0
CLL Collm 103.13 324 *e*P **Pdif** 08 04 52.0 +2.9
CLL Collm 103.13 324 IAMs_20 IAMs_20 08 54 33.6
comp=Z,658nm,20.0s
CKRC Cesky Krumlov 103.14 321 *e*PDIFF **Pdif** 08 04 51.1 +1.8
LON Longmire 103.46 41 IAMs_20 IAMs_20 08 42 41.4
comp=Z,523nm,20.0s
MOA Molln 103.47 320 P **Pdif** 08 04 51.6 +0.8
comp=Z,8.2nm,1.6s
KHC Kasperske Hory 103.50 322 *i* P **Pdif** 08 04 52.3 +1.4
KHC MLR MLR
comp=Z,800nm,25.2s
KHC Kasperske Hory 103.50 322 *e*PDIFF **Pdif** 08 04 52.3 +1.4
KHC *es*P **sPdif** **08 05 09.5 +0.5**
KHC *ex* x 08 08 32.5
KHC *ex* x 08 09 30.5
KHC AMS AMS 08 50 10.0
comp=Z,800nm,25.2s
GERES GERESS Array P 103.52 321 Pdiff **Pdif** **08 04 50.1 -0.9**
comp=Z,1.8nm,0.9s,baz=69,slow=7.3,SNR=8.3
GERES PKiKP **PKiKP** **08 09 11.6 +2.0**
comp=Z,1.4nm,0.9s,baz=72,slow=4.3,SNR=3.9
KHMM Horse Mountain 103.73 47 IAMs_20 IAMs_20 08 46 45.9
comp=Z,530nm,18.0s
NKC Novy Kostel 103.83 323 AMS AMS 08 53 40.0
comp=Z,1µm,17.6s
HUMO Hull Mountain 103.84 45 IAMs_20 IAMs_20 08 46 22.8
comp=Z,474nm,20.0s
LTY Liberty 104.05 40 IAMs_20 IAMs_20 08 48 18.0
comp=Z,889nm,21.0s
YBH Yreka Blue Hor 104.25 46 IAMs_20 IAMs_20 08 45 39.7
comp=Z,954nm,22.0s
KBA Koelnbreinsper 104.31 320 P **Pdif** **08 05 03.0 +8.3**
comp=Z,6.1nm,1.6s
TRI Trieste 104.46 318 IAMs_20 IAMs_20 08 58 10.0
comp=Z,489nm,20.0s
WDC Whiskeytown Da 104.68 47 IAMs_20 IAMs_20 08 43 49.1
comp=Z,885nm,22.0s
WTTA Wattenberg 105.35 320 *e*P **Pdif** **08 04 59.6 +0.3**
comp=Z,7.8nm,1.3s
WATA Walderalm 105.36 320 *e*P **Pdif** **08 04 59.6 +0.3**
comp=Z,5.3nm,1.2s
SQTA Sankt Quirin 105.64 320 *e*P **Pdif** **08 05 01.4 +0.8**
comp=Z,3.2nm,0.8s
ORV Oroville 105.72 48 IAMs_20 IAMs_20 08 54 54.8
comp=Z,401nm,20.0s
G08A Pilot Rock 105.81 42 IAMs_20 IAMs_20 08 44 10.4
comp=Z,703nm,21.0s
RETA Reutte 105.83 321 *e*P **Pdif** **08 05 00.3 -1.0**
comp=Z,7.3nm,1.5s
FETA Feichten 106.01 320 P **Pdif** **08 05 01.9 -0.4**
comp=Z,3.6nm,1.1s
STU Stuttgart 106.33 322 IAMs_20 IAMs_20 08 58 25.4
comp=Z,867nm,20.0s
BEKR Beckworth 106.48 48 IAMs_20 IAMs_20 08 44 42.8
comp=Z,752nm,22.0s
F10A Beach Ranch, E 106.72 41 IAMs_20 IAMs_20 08 45 05.4
comp=Z,869nm,21.0s
J08A Circle Bar Ran 106.77 44 IAMs_20 IAMs_20 08 44 48.0
comp=Z,805nm,21.0s
RUBR Rubicon Trail 106.86 48 IAMs_20 IAMs_20 08 55 32.0
comp=Z,483nm,19.0s
CMB Columbia Colle 106.97 49 IAMs_20 IAMs_20 08 44 54.0
comp=Z,644nm,22.0s
BMO Blue Mountains 107.06 42 IAMs_20 IAMs_20 08 45 13.5
comp=Z,860nm,22.0s
VCNR Virginia City 107.17 48 IAMs_20 IAMs_20 08 45 01.1
comp=Z,555nm,22.0s
VLC Villacollemand 107.23 317 IAMs_20 IAMs_20 08 56 57.4
comp=Z,719nm,22.0s
PAHR Pah Rah Range 107.25 47 IAMs_20 IAMs_20 08 46 42.0
comp=Z,660nm,22.0s
PNTR Pine Nut 107.27 48 IAMs_20 IAMs_20 08 56 07.7
comp=Z,528nm,20.0s
MDPB Devils Postpil 108.08 49 IAMs_20 IAMs_20 08 43 51.3
comp=Z,806nm,22.0s
RYN Ryan 108.21 48 IAMs_20 IAMs_20 08 44 02.6
comp=Z,824nm,22.0s
BMRD Maredsous 108.33 325 *d*PKiKP PKiKP 08 09 29.4 +11
NVAR Mina Array Bea 108.43 49 Pdiff **Pdif** **08 05 14.8 +1.5**
comp=Z,0.5nm,0.7s,baz=283,slow=5.0,SNR=4.9
NVAR PKiKP **PKiKP** **08 09 20.6 +1.5**
comp=Z,0.6nm,0.6s,baz=237,slow=4.0,SNR=3.9
NVAR PP **PP** **08 09 43.4 -0.5**
comp=Z,1.5nm,1.0s,baz=282,slow=9.1,SNR=3.6
NVAR PKKPab **PKKPab** **08 20 43.3 0.0**
comp=Z,5.3nm,1.0s,baz=116,slow=4.1,SNR=18
MSO Missoula 108.50 39 P 08 09 19.9
baz=294
MFID Camas Ranch 108.56 43 IAMs_20 IAMs_20 08 45 57.4
comp=Z,843nm,22.0s
HLID Hailey 109.46 42 IAMs_20 IAMs_20 08 46 15.2
comp=Z,710nm,22.0s
HLID Hailey 109.46 42 P 08 09 23.4
baz=292
ELK Elko 109.92 45 IAMs_20 IAMs_20 08 49 57.5
comp=Z,669nm,20.0s
BOZ Bozeman (W) 110.47 40 P 08 09 21.9
baz=295
GMRC Granite Mounta 111.57 51 P 08 09 27.7
baz=288
FCC Fort Churchill 111.75 21 IAMs_20 IAMs_20 09 01 24.2
comp=Z,734nm,19.0s
DUG Dugway, Tooele 111.84 45 IAMs_20 IAMs_20 08 49 51.4
comp=Z,526nm,19.0s
RMX La Rumorosa 111.90 54 IAMs_20 IAMs_20 09 05 13.1
comp=Z,692nm,20.0s
LOHW Long Hollow 111.98 41 IAMs_20 IAMs_20 08 48 24.7
comp=Z,900nm,21.0s
HWUT Hardware Ranch 112.16 43 IAMs_20 IAMs_20 08 47 49.1
comp=Z,818nm,21.0s
UABX UABC, Campus M 112.40 54 IAMs_20 IAMs_20 08 58 46.0
comp=Z,750nm,20.0s
PDAR Pinedale Array 113.03 42 PKiKP **PKiKP** **08 09 27.8 +0.1**
comp=Z,0.7nm,0.7s,baz=208,slow=2.9,SNR=6.6
PDAR PKKPbc **PKKPbc** **08 20 14.7 -1.0**
comp=Z,0.9nm,0.5s,baz=116,slow=5.1,SNR=11
PDAR PKKPab **PKKPab** **08 20 22.0 -0.9**
comp=Z,2.1nm,0.8s,baz=114,slow=4.2,SNR=9.6

PDAR Pinedale Array 113.03 42 PKiKP **PKiKP** **08 09 29.2 +1.4**
BW06 Boulder Array 113.03 42 P 08 09 29.4
baz=296
FRB Frobisher Bay 113.77 7 PKKPbc PKKPbc 08 20 10.6 -2.9
comp=Z,3.0nm,1.0s,baz=140,slow=6.5,SNR=4.9
O20A White River Ci 115.06 44 P 08 09 32.8
baz=296
PV19 Morning Glory 115.31 46 IAMs_20 IAMs_20 08 47 22.4
comp=Z,773nm,20.0s
PV01 Paradox Valley 115.68 46 IAMs_20 IAMs_20 08 51 03.2
comp=Z,468nm,19.0s
RSSD Black Hills 115.93 38 P 08 09 33.4
baz=301
MVCO Mesa Verde 116.12 47 P 08 09 36.0
baz=294
TUC Tucson 116.23 53 P 08 09 35.1
baz=290
ULM Lac du Bonnet 116.85 29 PKP **PKPdf** **08 09 33.4 -1.1**
comp=Z,3.4nm,0.6s,baz=306,slow=2.7,SNR=10
ULM PKKPbc **PKKPbc** **08 20 01.6 -0.9**
comp=Z,2.6nm,0.7s,baz=105,slow=3.4,SNR=5.6
ISCO Idaho Springs 117.02 43 P 08 09 36.9
baz=298
S22A 4UR Ranch, Cre 117.09 46 P 08 09 36.7
baz=296
TAM Tamanrasset 117.60 297 IAMs_20 IAMs_20 09 07 35.8
comp=Z,307nm,20.0s
121A Conkes Peak, D 118.51 51 P 08 09 39.8
baz=293
ANMO Albuquerque 118.56 48 *c* iPKIKP **PKPdf** **08 09 38.5 0.0**
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO Albuquerque 118.56 48 **PKiKP** **08 09 39.1 +0.5**
ANMO Albuquerque 118.56 48 P 08 09 39.7
baz=295
ES09 SONSECA Array 118.76 318 IAMs_20 IAMs_20 09 06 03.7
comp=Z,630nm,19.0s
ESBB Sonseca Array 118.81 318 IAMs_20 IAMs_20 09 06 33.8
comp=Z,620nm,21.0s
ESDC Sonseca Array 118.81 318 PKP **PKPdf** **08 09 38.2 -0.5**
comp=Z,0.3nm,0.6s,baz=88,slow=1.1,SNR=2.7
ESDC PP **PP** **08 11 01.0 +3.9**
comp=Z,3.9nm,1.0s,baz=58,slow=6.4,SNR=6.7
ESDC PKKPbc **PKKPbc** **08 19 55.1 -0.1**
comp=Z,0.9nm,0.9s,baz=268,slow=3.4,SNR=5.1
ES16 SONSECA Array 118.82 318 IAMs_20 IAMs_20 09 06 28.2
comp=Z,665nm,21.0s
ES15 SONSECA Array 118.84 318 IAMs_20 IAMs_20 09 06 18.7
comp=Z,684nm,20.0s
T25A Trinidad 119.08 45 IAMs_20 IAMs_20 08 52 47.2
comp=Z,603nm,19.0s
T25A Trinidad 119.09 45 P 08 09 40.2
baz=298
ECSD EROS Data Cent 120.58 35 **PKPdf** **08 09 41.2 -0.7**
ECSD EROS Data Cent 120.58 35 P 08 09 42.0
baz=308
MNTX Cornudas Mount 120.71 51 **PKPdf** **08 09 41.9 -0.6**
MNTX Cornudas Mount 120.71 51 P 08 09 43.5
baz=294
F36A Milaca 120.93 32 **PKPdf** **08 09 42.5 0.0**
BGNE Belgrade 121.04 38 **PKPdf** **08 09 42.2 -0.7**
BGNE Belgrade 121.04 38 P 08 09 43.0
baz=305
COI Coimbra 121.43 321 IAMs_20 IAMs_20 08 45 05.1
comp=Z,404nm,20.0s
CBKS Cedar Bluff 121.46 41 IAMs_20 IAMs_20 08 54 30.7
comp=Z,824nm,22.0s
MSTX Muleshoe 121.72 48 P 08 09 44.9
baz=297
SPMN Marine on St. 121.73 32 P 08 09 44.4
baz=312
SFS San Fernando 121.94 316 IAMs_20 IAMs_20 09 00 34.0
comp=Z,716nm,22.0s
PVAQ Vaqueiros 122.50 317 IAMs_20 IAMs_20 09 09 05.6
comp=Z,590nm,20.0s
D41A Chassel 122.55 28 PKPdf **PKiKP** **08 09 46.2 +0.4**
MESJ Messejana 122.60 318 *e*PP PP 08 11 22.5 -0.4
MESJ IAMs_20 IAMs_20 09 04 10.8
comp=Z,508nm,15.0s
TX31 Lajitas Ar. Si 123.02 53 PKPdf **PKPdf** **08 09 46.8 -0.3**
TX32 Lajitas Array 123.02 53 **PKiKP** **08 09 47.3 -0.1**
TXAR Lajitas Array 123.02 53 PKP **PKiKP** **08 09 47.7 +0.3**
comp=Z,2.2nm,0.6s,baz=266,slow=0.5,SNR=35
TXAR PKKPbc **PKKPbc** **08 19 39.6 +0.5**
comp=Z,3.4nm,1.1s,baz=128,slow=5.4,SNR=14
TXAR SKKPbc SKKPbc 08 23 25.5 +0.4
comp=Z,1.7nm,1.1s,baz=130,slow=3.8,SNR=4.7
TXAR Lajitas Array 123.02 53 PKiKP **PKiKP** **08 09 47.3 -0.1**
TXAR Lajitas Array 123.02 53 **PKiKP** **08 09 47.3 -0.1**
G40A Rib Lake 123.04 30 **PKPdf** **08 09 46.3 -0.3**
TOC3 Torodi Ar. Sit 123.28 287 IAMs_20 IAMs_20 09 08 05.9
comp=Z,375nm,22.0s
TOC1 Torodi Ar. Sit 123.29 287 IAMs_20 IAMs_20 09 08 04.2
comp=Z,402nm,20.0s
TOB3 Torodi Ar. Sit 123.29 287 IAMs_20 IAMs_20 09 03 35.4
comp=Z,371nm,21.0s
TOA2 Torodi Ar. Sit 123.29 287 IAMs_20 IAMs_20 09 03 35.4
comp=Z,379nm,21.0s
TOB1 Torodi Ar. Sit 123.30 287 IAMs_20 IAMs_20 09 01 09.5
comp=Z,396nm,21.0s
TOA0 Torodi Ar. Sit 123.30 287 **PKiKP** **08 09 48.0 -0.1**
TOA0 IAMs_20 IAMs_20 09 03 35.5
comp=Z,386nm,22.0s
TOC4 Torodi Ar. Sit 123.30 287 IAMs_20 IAMs_20 09 03 35.6
comp=Z,404nm,22.0s
TORD Torodi Ar. Bea 123.30 287 PKP **PKPdf** **08 09 47.5 -0.4**
comp=Z,7.9nm,0.8s,baz=44,slow=2.0,SNR=19
TORD PP **PP** **08 11 32.4 +3.6**
comp=Z,6.3nm,1.0s,baz=62,slow=5.4,SNR=5.4
TORD PKKPbc **PKKPab** **08 19 38.4 +0.6**
comp=Z,2.4nm,0.7s,baz=278,slow=3.5,SNR=9.4
TORD Torodi Ar. Bea 123.30 287 **PKPdf** **08 09 47.0 -0.8**
TOA3 Torodi Ar. Sit 123.30 287 IAMs_20 IAMs_20 09 03 35.6
comp=Z,370nm,22.0s
TOB4 Torodi Ar. Sit 123.31 287 IAMs_20 IAMs_20 09 03 36.9
comp=Z,399nm,22.0s
TOB5 Torodi Ar. Sit 123.31 287 IAMs_20 IAMs_20 09 03 35.2
comp=Z,436nm,22.0s
TOC5 Torodi Ar. Sit 123.32 287 IAMs_20 IAMs_20 09 04 24.1
comp=Z,385nm,20.0s
KSU1 Kansas State U 123.33 40 P 08 09 47.7
baz=305
WMOK Wichita Mounta 124.24 45 P 08 09 49.4
baz=301
JFWS Jewell Farm 124.65 32 PKiKP **PKPdf** **08 09 48.4 -1.3**
JFWS Jewell Farm 124.65 32 PKPdf **PKPdf** **08 09 48.4 -1.3**
JFWS Jewell Farm 124.65 32 P 08 09 48.2
baz=314
MATQ Matagami 124.70 19 P 08 09 49.0
baz=330
OK030 Cody Creek RV 125.00 43 IAMs_20 IAMs_20 08 57 14.4
comp=Z,731nm,21.0s
JCT Junction City 125.55 50 P 08 09 52.2
baz=298
TUL1 Leonard 125.68 42 P 08 09 51.6
baz=304
S39A Bolivar 126.24 39 **PKPdf** **08 09 52.2 -0.8**
WHTX Lake Whitney, 126.59 47 IAMs_20 IAMs_20 09 06 14.0
comp=Z,593nm,19.0s
WHTX Lake Whitney, 126.59 47 P 08 09 54.4
baz=300
HDIL Hopedale 126.79 34 P 08 09 55.0
baz=313
833A Chaparral WMA, 126.84 52 P 08 09 56.1
baz=296
CCM Cathedral Cave 127.30 37 P 08 09 55.0
baz=310
U40A Yellville 127.35 40 P 08 09 55.4
baz=307
W39A Magazine 127.43 42 **PKiKP** **08 09 55.6 -0.2**
W39A Magazine 127.43 42 P 08 09 55.3
baz=306
D55A Sainte-Anne-du 127.80 19 P 08 09 56.5
baz=332
ALGO Algonquin Park 127.83 22 P 08 09 55.9
baz=328
MIAR Mount Ida 127.94 42 P 08 09 57.7
baz=305
D56A ZEC Mazanza, M 128.00 18 P 08 09 56.3
baz=333
T42A Van Buren 128.05 38 **PKiKP** **08 09 57.4 +0.4**
SFIN Lafayette 128.11 32 P 08 09 57.2
baz=316
G54A Lake Saint Pet 128.29 22 P 08 09 57.4
baz=328
LATQ La Tuque 128.29 17 P 08 09 57.0
baz=335

WHAR Wooly Hollow 128.36 41 IAMs_20 IAMs_20 09 01 46.2
comp=Z,678nm,21.0s
D58A Chemin du LacG 128.52 17 P 08 09 57.5
baz=335
E58A La Victoria 129.06 18 P 08 09 58.6
baz=334
F60A Warwick 129.82 17 P 08 10 00.2
baz=336
EFI East Falkland 130.05 176 *c* iPKIKP **PKiKP** **08 10 00.3 -0.2**
EFI pmax pmax
comp=Z,60nm,2.5s
WCI Wyandotte Cave 130.07 34 P 08 10 01.3
baz=315
ERPA Erie 130.25 26 P 08 10 00.7
baz=324
ACSO Alum Creek Sta 130.34 30 P 08 10 01.3
baz=320
M53A WI Miller and 130.49 27 P 08 10 01.6
baz=323
H58A Gabriels 130.52 19 P 08 10 01.3
baz=332
WVT Waverly 130.62 37 P 08 10 02.2
baz=312
KIC Kosan Boka 130.66 280 *e*PKIKP **PKiKP** **08 10 04.3 +1.4**
comp=Z,17nm,0.9s
DBIC Dimbokro 130.73 280 PKP **PKiKP** **08 10 03.1 +0.1**
comp=Z,4.7nm,0.7s,baz=48,slow=1.0,SNR=8.3
M54A Oil Creek Stat 130.88 26 **PKPdf** **08 10 01.4 -0.3**
M54A Oil Creek Stat 130.88 26 P 08 10 01.5
baz=324
TIC Toumodi 130.90 280 *e*PKIKP **PKiKP** **08 10 05.0 +1.6**
LIC Lamto 130.96 280 *e*PKIKP **PKiKP** **08 10 04.4 +0.9**
comp=Z,38nm,1.0s
K57A Scipio Center 131.15 22 P 08 10 03.9
baz=329
N54A Moraine State 131.18 27 P 08 10 01.7
baz=324
O53A New Philadelph 131.18 28 P 08 10 03.4
baz=322
P52A Corning 131.22 29 **PKiKP** **08 10 03.1 -0.2**
P52A Corning 131.22 29 P 08 10 02.9
baz=321
PLAL Pickwick Lake 131.23 38 **PKPdf** **08 10 02.8 +0.3**
L56A Greenwood 131.25 24 P 08 10 04.7
baz=327
J59A Piesco 131.25 20 P 08 10 03.7
baz=332
K58A Earlville 131.45 22 P 08 10 04.7
baz=330
M56A Emporium 131.54 25 P 08 10 03.7
baz=326
L57A Andrews Acres 131.65 23 P 08 10 05.5
baz=328
Q53A Leroy 132.12 30 P 08 10 06.0
baz=321
X48A Hartselle 132.22 38 IAMs_20 IAMs_20 09 02 48.2
comp=Z,490nm,20.0s
MCWV Mont Chateau 132.29 28 P 08 10 06.3
baz=323
SSPA Standing Stone 132.36 25 P 08 10 06.8
baz=326
O56A Blue Knob Stat 132.37 26 P 08 10 07.2
baz=325
P56A Dayton Farm, R 132.88 27 P 08 10 07.7
baz=324
S54A Dingess, Beckl 133.04 30 P 08 10 07.3
baz=320
LRAL Lakeview Retre 133.18 39 P 08 10 07.3
baz=311
Q58A Fox Den Farm, 133.85 26 P 08 10 07.9
baz=326
250A Grady 134.34 40 IAMs_20 IAMs_20 09 09 55.5
comp=Z,625nm,20.0s
V57A Coltrane Farms 135.30 31 P 08 10 10.4
baz=321
LL01 San Ignacio de 136.09 160 IAMs_20 IAMs_20 09 06 46.3
comp=Z,588nm,20.0s
PLCA Paso Flores 138.19 160 PKhKP PKPpre 08 10 06.2
comp=Z,1.4nm,0.5s,baz=219,slow=5.3,SNR=15
PLCA PKP **PKiKP** **08 10 16.7 -0.9**
comp=Z,7.8nm,0.7s,baz=231,slow=4.5,SNR=8.0
PLCA Paso Flores 138.19 160 *e*P **PKiKP** **08 10 17.1 -0.4**
TGUH Tegucigalpa,Un 143.07 64 *e*P PKPbc 08 10 22.9 +1.0
PAYG Puerto Ayora 143.22 89 *e*P **PKPdf** **08 10 24.0 -1.2**
BO02 Sierra Bellavi 143.34 156 PKPdf PKPbc 08 10 23.0 +1.0
MT02 Curacav 144.51 154 PKPdf PKPbc 08 10 26.2 +0.6
MT05 Renca 144.57 155 PKPbc 08 10 26.0 +0.2
BOAB BOACO BROADBA 146.12 65 **PKPdf** **08 10 29.0 +0.6**
VA03 San Esteban 145.19 154 **PKPdf** **08 10 29.0 +0.7**
ACON Acoyapa 145.74 66 IAMs_20 IAMs_20 09 05 39.2
comp=Z,487nm,22.0s
ESPN Las Esperanzas 146.45 65 **PKPab** **08 10 33.8 +0.8**
ESPN IAMs_20 IAMs_20 09 05 46.0
comp=Z,527nm,22.0s
JTS Las Juntas de 146.52 69 PKPbc **PKPbc** **08 10 32.2 -0.1**
comp=Z,20nm,0.7s,baz=230,slow=5.1,SNR=13
JTS Las Juntas de 146.52 69 **PKPab** **08 10 34.2 +0.8**
JTS Las Juntas de 146.52 69 *e*P **PKPdf** **08 10 31.1 +0.3**
COVE Coope Vega, Sa 146.88 67 **PKPab** **08 10 34.8 0.0**
ZON Zonda 147.03 156 PKP2 **PKPbc** **08 10 34.1 +0.7**
ZON Zonda 147.03 156 **PKPbc** **08 10 34.1 +0.7**
GO04 Tololo Observa 147.26 152 **PKPbc** **08 10 34.4 +0.1**
LCO Las Campanas 148.27 151 PKP2 **PKPbc** **08 10 37.9 +0.8**
LCO Las Campanas 148.27 151 **PKPbc** **08 10 37.9 +0.8**
PRVC Isla de Provid 148.58 61 *e*P **PKPdf** **08 10 27.2 -7.0**
AC04 Llanos de Chal 148.75 149 **PKiKP** **08 10 39.3 -0.1**
MTDJ Mount Denham 149.16 49 *e*P **PKiKP** **08 10 41.8 +1.1**
GTBY Guantanamo Bay 149.82 44 *e*P **PKPbc** **08 10 38.7 -2.2**
PLTB Pedras Altas 150.09 180 *e*P **PKPdf** **08 10 38.3 +2.0**
PLTB Pedras Altas 150.09 180 *e*P **PKPdf** **08 10 38.1 +1.8**
PNME Penonome 151.42 69 *e*P **PKPdf** **08 10 37.8 -0.9**
CPSB Cacapava Do Su 151.44 180 *e*P **PKPdf** **08 10 40.6 +2.2**
CPSB Cacapava Do Su 151.44 180 *e*P **PKPbc** **08 10 41.7 -2.8**
BCIP Isla Barro Col 151.64 67 *e*P **PKPdf** **08 10 39.5 +0.4**
AZU Azuero 151.69 70 *e*P **PKPbc** **08 10 45.5 0.0**
PB14 IPOC Station P 151.96 146 **PKiKP** **08 10 47.5 +0.9**
UPA Univ. de Panam 151.98 67 *e*P **PKPbc** **08 10 46.1 0.0**
ITQB Itaqui 152.02 174 *e*P **PKPdf** **08 10 41.0 +1.8**
ITQB Itaqui 152.02 174 *e*P **PKPdf** **08 10 40.4 +1.1**
SDDR Presa de Saban 153.03 40 *e*P **PKPbc** **08 10 46.2 -2.2**
CAPC Capurgana 154.11 66 *e*P **PKiKP** **08 10 51.5 +0.6**
LVC Limon Verde 154.38 145 PKPbc **PKiKP** **08 10 52.4 +0.7**
comp=Z,9.3nm,0.7s,baz=257,slow=1.8,SNR=9.3
LVC Limon Verde 154.38 145 PKiKP **PKPbc** **08 10 51.5 -0.2**
LVC Limon Verde 154.38 145 **PKPbc** **08 10 51.5 -0.2**
LVC Limon Verde 154.38 145 *e*P **PKPdf** **08 10 44.8 +1.5**
ITAB Concordia 154.57 183 *e*P **PKPdf** **08 10 44.8 +1.8**
ITAB Concordia 154.57 183 *e*P **PKPdf** **08 10 44.8 +1.8**
ATAH Atahualpa 154.62 103 PKP **PKPdf** **08 10 44.6 +0.6**
comp=Z,5.0nm,0.6s,baz=137,slow=4.5,SNR=4.2
ATAH PKPbc **PKPbc** **08 10 54.8 +2.3**
comp=Z,23nm,0.8s,baz=183,slow=3.3,SNR=9.8
NNA Nana 154.71 115 PKP **PKPdf** **08 10 44.9 +1.3**
comp=Z,3.8nm,0.4s,baz=8.2,slow=12,SNR=2.3
NNA Nana 154.71 115 **PKiKP** **08 10 52.6 +0.5**
OTAV Otavalo 154.99 86 *e*P **PKPbc** **08 10 51.6 -1.7**
OTAV Otavalo 154.99 86 *e*P **PKPdf** **08 10 45.4 +0.9**
CPUP Villa Florida 155.23 172 PKP **PKPdf** **08 10 44.8 +0.9**
comp=Z,7.9nm,1.1s,baz=39,slow=1.5,SNR=9.9
CPUP PKPbc PKPbc 08 10 54.3
comp=Z,9.5nm,0.8s,baz=47,slow=0.2,SNR=16
CPUP PKPab **PKPab** **08 11 08.1 -0.7**
comp=Z,50nm,1.2s,baz=211,slow=3.5,SNR=9.0
CPUP Villa Florida 155.23 172 PKIKP **PKPdf** **08 10 42.8 -1.1**
CPUP 08 10 53.7
CPUP Villa Florida 155.23 172 PKPdf **PKPdf** **08 10 42.8 -1.1**
CPUP PKPbc PKPbc 08 10 53.7
CPUP Villa Florida 155.23 172 *e*P **PKPdf** **08 10 46.3 +2.4**
CPUP Villa Florida 155.23 172 *e*P **PKPdf** **08 10 45.7 +1.8**
SJCC San Jacinto, C 155.54 62 *e*P **PKPdf** **08 10 43.3 -1.4**
MOTC Monteria, Cord 155.59 64 *e*P **PKPdf** **08 10 46.8 +2.1**
BBAC Balboa, Cauca 155.98 81 *e*P **PKPdf** **08 10 45.3 -0.2**
GCUF Volcan Galeras 155.99 83 *e*P **PKPdf** **08 10 46.7 +0.8**
UREC San Jos de Ur 156.11 67 *e*P **PKPdf** **08 10 47.6 +2.2**
CBOC Ciudad Bolivar 156.31 71 *e*P **PKPdf** **08 10 41.6 -4.4**
POPC Popayan, Colom 156.46 80 *e*P **PKPdf** **08 10 45.1 -1.1**
YOTC Yotoco, Valle 156.49 76 *e*P **PKPdf** **08 10 42.8 -3.4**
SOTA Rioblanco 156.59 81 *e*P **PKPdf** **08 10 46.2 -0.5**
HELC Santa Helena 156.66 70 *e*P **PKPdf** **08 10 47.6 +1.0**
SJG San Juan 156.71 32 IAMs_20 IAMs_20 09 22 21.3
comp=Z,399nm,22.0s
SJG San Juan 156.71 32 *e*P **PKPdf** **08 10 48.5 +2.4**
PCON Cinco Dias 156.77 80 *e*P **PKPdf** **08 10 49.2 +2.2**
ZARC Zaragoza, Cauc 156.83 67 *e*P **PKPdf** **08 10 40.3 -6.1**
CRJC Cerrejon, Guaj 156.96 56 *e*P **PKPdf** **08 10 48.7 +2.0**

SMLC	**San Martn de**	**157.01**	**63**	*e*P	**PKPdf**	**08 10 46.5**	**-0.1**
ESAR	**Angra dos Reis**	**157.04**	**202**	*e*P	**PKPdf**	**08 10 48.6**	**+2.2**
PTGB	**Pitanga**	**157.07**	**183**	*e*P	**PKPdf**	**08 10 45.2**	**-1.4**
GUY2C	**Guyana, Caldas**	**157.11**	**72**	*e*P	**PKPdf**	**08 10 47.0**	**-0.4**
MARP	**Paez Belalcaza**	**157.11**	**79**	*e*P	**PKPdf**	**08 10 44.6**	**-2.5**
PARB	**Paraibuna**	**157.16**	**199**	*e*P	**PKPdf**	**08 10 48.4**	**+1.7**
URIC	**Uribia, Colomb**	**157.32**	**54**	*e*P	**PKPdf**	**08 10 47.6**	**+0.7**
TOLC	**Tolima**	**157.33**	**74**	*e*P	**PKPdf**	**08 10 47.0**	**-0.4**
SPB	**Sao Paulo**	**157.45**	**195**	*e*P	**PKPdf**	**08 10 48.8**	**+1.9**
NORC	**Norcasia**	**157.48**	**71**	*e*P	**PKPab**	**08 11 18.7**	**-0.3**
PTBC	**PUERTO BERRIO**	**157.55**	**68**	*e*P	**PKPdf**	**08 10 46.0**	**-1.3**
ORTC	**Ortega, Tolima**	**157.57**	**76**	*e*P	**PKPdf**	**08 10 48.7**	**+1.3**
VAO	**Valinhos**	**157.89**	**196**	*e*P	**PKPdf**	**08 10 49.2**	**+1.6**
VAO	**Valinhos**	**157.89**	**196**	*e*P	**PKPab**	**08 11 22.3**	**+1.9**
OCAC	**Ocana**	**157.92**	**63**	*e*P	**PKPdf**	**08 10 47.5**	**-0.4**
BRRC	**Barranca, Sant**	**158.03**	**66**	*e*P	**PKPdf**	**08 10 48.1**	**+0.2**
FRTB	**Fartura**	**158.14**	**190**	*e*P	**PKPab**	**08 11 18.4**	**-2.9**
SPBC	**San Pablo de B**	**158.21**	**70**	*e*P	**PKPdf**	**08 10 47.1**	**-1.1**
ROSC	**El Rosal**	**158.22**	**73**	PKP	**PKPdf**	**08 10 49.2**	**+0.6**
	comp=Z,15nm,0.7s,baz=168,slow=21,SNR=7.9						
ROSC	**El Rosal**	**158.22**	**73**	*e*P	**PKPdf**	**08 10 48.5**	**-0.1**
BARC	**Barichara**	**158.71**	**67**	*e*P	**PKPdf**	**08 10 49.2**	**+0.2**
PAMC	**Pamplona, Colo**	**158.85**	**65**	*e*P	**PKPdf**	**08 10 48.9**	**-0.6**
BSCB	**Bom Sucesso**	**159.00**	**203**	*e*P	**PKPdf**	**08 10 50.9**	**+1.9**
BSCB	**Bom Sucesso**	**159.00**	**203**	*e*P	**PKPdf**	**08 10 49.2**	**+0.2**
RUSC	**La Rusia**	**159.05**	**69**	*e*P	**PKPdf**	**08 10 51.4**	**+1.7**
SJMB	**Sao Joao De Ma**	**159.22**	**215**	*e*P	**PKPdf**	**08 10 51.1**	**+1.9**
MACC	**Macarena, Meta**	**159.31**	**79**	*e*P	**PKPdf**	**08 10 49.1**	**-0.3**
LPAZ	**La Paz**	**159.56**	**136**	PKP	**PKPdf**	**08 10 51.3**	**+0.9**
	comp=Z,5.8nm,0.8s,baz=267,slow=3.6,SNR=21						
LPAZ	**La Paz**	**159.56**	**136**	*e*P	**PKPdf**	**08 10 51.4**	**+1.0**
LPAZ	**La Paz**	**159.56**	**136**	*e*P	**PKPdf**	**08 10 51.3**	**+0.9**
SDV	**Santo Domingo**	**159.96**	**58**	PKP	**PKPdf**	**08 10 50.3**	**-0.1**
	comp=Z,14nm,0.8s,baz=254,slow=3.6,SNR=13						
SDV				PKPab	**PKPab**	**08 11 32.2**	**+2.3**
	comp=Z,9.8nm,0.7s,baz=130,slow=9.2,SNR=2.7						
SDV	**Santo Domingo**	**159.96**	**58**	*e*P	**PKPdf**	**08 10 50.4**	**0.0**
SDV	**Santo Domingo**	**159.96**	**58**	*e*P	**PKPdf**	**08 10 51.5**	**+1.1**
CZSB	**Cruzeiro do Su**	**159.96**	**108**	*e*P	**PKPdf**	**08 10 52.4**	**+2.2**
SOCV	**Socops**	**160.06**	**60**	*e*P	**PKPdf**	**08 10 48.3**	**-2.0**
PCMB	**Pacaembu**	**160.09**	**186**	*e*P	**PKPdf**	**08 10 52.4**	**+2.3**
PCMB	**Pacaembu**	**160.09**	**186**	*e*P	**PKPdf**	**08 10 51.1**	**+1.0**
BB19B	**Bebedouro**	**160.14**	**194**	*e*P	**PKPdf**	**08 10 52.4**	**+2.1**
BB19B	**Bebedouro**	**160.14**	**194**	*e*P	**PKPdf**	**08 10 52.0**	**+1.7**
NBRF	**Rio Formoso -**	**160.43**	**249**	*e*P	**PKPdf**	**08 10 53.0**	**+2.3**
PTGC	**Puerto Gaitan,**	**160.49**	**72**	*e*P	**PKPdf**	**08 10 48.3**	**-2.5**
NBIT	**Itapeh - BA**	**160.87**	**226**	*e*P	**PKPdf**	**08 10 53.0**	**+1.9**
DIAM	**Diamantina, MG**	**160.88**	**210**	*e*P	**PKPab**	**08 11 35.0**	**+1.4**
NBAN	**Anadia - AL**	**161.12**	**245**	*e*P	**PKPdf**	**08 10 53.8**	**+2.4**
AQDB	**Aquidauana**	**161.21**	**174**	*e*P	**PKPdf**	**08 10 53.2**	**+1.9**
AQDB	**Aquidauana**	**161.21**	**174**	*e*P	**PKPdf**	**08 10 51.1**	**-0.2**
NBPV	**Pedro Velho**	**161.24**	**255**	*e*P	**PKPdf**	**08 10 53.8**	**+2.3**
ITRB	**Iturama**	**161.84**	**190**	*e*P	**PKPdf**	**08 10 53.4**	**+1.4**
ITRB	**Iturama**	**161.84**	**190**	*e*P	**PKPdf**	**08 10 53.6**	**+1.6**
ELOV	**Elorza**	**161.87**	**61**	*e*P	**PKPdf**	**08 10 52.2**	**0.0**
RCBR	**Riachuelo**	**161.96**	**256**	PKP	**PKPdf**	**08 10 53.1**	**+0.7**
	comp=Z,10nm,1.0s,baz=358,slow=0.6,SNR=4.4						
RCBR				PKPab	**PKPab**	**08 11 39.4**	**+0.8**
	comp=Z,46nm,1.1s,baz=118,slow=3.4,SNR=8.3						
RCBR	**Riachuelo**	**161.96**	**256**	PKPab	**PKPab**	**08 11 39.9**	**+1.3**
RCBR	**Riachuelo**	**161.96**	**256**	*e*P	**PKPdf**	**08 10 54.3**	**+1.9**
NBTA	**Tacaratu-PE**	**162.95**	**244**	*e*P	**PKPdf**	**08 10 55.3**	**+2.0**
IPMB	**Ipameri, GO**	**163.00**	**197**	*e*P	**PKPdf**	**08 10 55.3**	**+2.0**
IPMB	**Ipameri, GO**	**163.00**	**197**	*e*P	**PKPdf**	**08 10 53.5**	**+0.2**
NBPA	**Parau_RN**	**163.15**	**256**	*e*P	**PKPdf**	**08 10 55.1**	**+1.6**
NBPN	**Ponto Novo - B**	**163.96**	**235**	*e*P	**PKPdf**	**08 10 56.4**	**+2.1**
NBPN	**Ponto Novo - B**	**163.96**	**235**	*e*P	**PKPab**	**08 11 48.1**	**+0.9**
SIV	**San Ignacio**	**163.96**	**153**	PKP	**PKPdf**	**08 10 54.8**	**+0.7**
	comp=Z,7.6nm,0.8s,baz=155,slow=1.0,SNR=24						
SIV				PKPab	**PKPab**	**08 11 47.6**	**+0.7**
	comp=Z,13nm,0.6s,baz=243,slow=6.9,SNR=26						
SIV				PP	**PP**	**08 15 37.9**	**+6.5**
	comp=Z,4.9nm,1.2s,baz=214,slow=7.3,SNR=4.0						
PP1B	**Ponte de Pedra**	**164.13**	**175**	*e*P	**PKPdf**	**08 10 56.8**	**+2.5**
ETMB	**Extrema**	**165.01**	**123**	*e*P	**PKPdf**	**08 10 57.2**	**+2.1**
BDFB	**Brasilia**	**165.12**	**201**	PKP	**PKPdf**	**08 10 55.9**	**+0.6**
	comp=Z,10nm,1.0s,baz=42,slow=3.3,SNR=10						
BDFB				PKPab	**PKPab**	**08 11 52.7**	**+0.6**
	comp=Z,18nm,1.0s,baz=39,slow=1.7,SNR=9.0						
PTLB	**Pontes e Lacer**	**165.25**	**158**	*e*P	**PKPdf**	**08 10 57.0**	**+1.7**
PTLB	**Pontes e Lacer**	**165.25**	**158**	*e*P	**PKPdf**	**08 10 55.3**	**+0.1**
NBPB	**Pedra_Branca-C**	**165.59**	**254**	*e*P	**PKPdf**	**08 10 58.0**	**+2.4**
ARAG	**Araguaiana, MT**	**165.98**	**187**	*e*P	**PKPdf**	**08 10 57.8**	**+2.0**
SDBA	**SAO DESIDERIO**	**166.36**	**218**	*e*P	**PKPab**	**08 11 59.0**	**+1.4**
NBMO	**Morrinhos-CE**	**166.45**	**263**	*e*P	**PKPdf**	**08 10 58.9**	**+2.5**
VILB	**Vilhena**	**167.00**	**150**	*e*P	**PKPdf**	**08 10 58.7**	**+1.9**
NBPS	**Pedro II - PI**	**167.66**	**257**	*e*P	**PKPdf**	**08 10 59.1**	**+1.7**
SAML	**Samuel**	**167.97**	**127**	PKIKP	**PKPdf**	**08 10 56.1**	**-1.3**
SAML	**Samuel**	**167.97**	**127**		**PKPdf**	**08 10 56.1**	**-1.3**
SAML	**Samuel**	**167.97**	**127**	*e*P	**PKPdf**	**08 10 59.5**	**+2.1**
PEXB	**Peixe**	**168.44**	**206**	*e*P	**PKPdf**	**08 11 00.1**	**+2.4**
PEXB	**Peixe**	**168.44**	**206**	*e*P	**PKPdf**	**08 10 57.7**	**0.0**
SNDB	**Serra Nova Dou**	**169.55**	**192**	*e*P	**PKPdf**	**08 10 58.9**	**+0.4**
ROSB	**Rosrio**	**170.55**	**263**	*e*P	**PKPab**	**08 12 15.9**	**-0.6**
CLDB	**Colider**	**170.60**	**166**	*e*P	**PKPdf**	**08 11 01.2**	**+2.1**
SMTB	**Santa Maria do**	**170.76**	**219**	*e*P	**PKPdf**	**08 11 01.0**	**+1.8**
SMTB	**Santa Maria do**	**170.76**	**219**	*e*P	**PKPdf**	**08 10 59.0**	**-0.2**
BOAV	**Boa Vista**	**171.90**	**60**	*e*P	**PKPdf**	**08 10 59.7**	**0.0**
MACA	**Manacapuru-AM**	**172.69**	**102**	*e*P	**PKPdf**	**08 11 00.3**	**+0.2**
PTGA	**Pitinga**	**173.47**	**82**	PKP	**PKPdf**	**08 11 00.7**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=345,slow=18,SNR=4.5						
PTGA				PKPab	**PKPab**	**08 12 29.5**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=345,slow=22,SNR=1.5						
PTGA	**Pitinga**	**173.47**	**82**	*e*P	**PKPdf**	**08 11 02.7**	**+2.2**
PRPB	**Paraupebas**	**174.22**	**220**	*e*P	**PKPdf**	**08 11 02.5**	**+1.8**
TMAB	**Tom-Au,PA,Br**	**174.55**	**263**	*e*P	**PKPdf**	**08 11 02.7**	**+1.9**
ITTB	**Itaituba**	**176.54**	**140**	*e*P	**PKPdf**	**08 11 03.3**	**+2.0**
ITTB	**Itaituba**	**176.54**	**140**	*e*P	**PKPdf**	**08 10 59.5**	**-1.7**
MCPB	**Macapa, AP**	**178.03**	**312**	*e*P	**PKPdf**	**08 11 03.9**	**+2.4**
MCPB	**Macapa, AP**	**178.03**	**312**	*e*P	**PKPdf**	**08 11 02.2**	**+0.7**
MALB	**Monte Alegre**	**179.23**	**102**	*e*P	**PKPdf**	**08 11 03.7**	**+2.1**

NNC ***29*** *08:22:42.4±1.6,47.°13N×75.°65E,h26km±17km,mb3.5, mpv3.1 Error ellipse: s-maj=14.5km s-min=7.9km az=115.0,Suspected Mining explosion.*

SOME ***29*** *08:22:43.9,47.°03N×75.°67E*

ISC 29 08:22:41.1±1.2,47°03N±0°.08×75°63E±0°.07,h0km,n16, σ1§25/17,5C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUU	**Kurty**	**3.18**	**171**	Pg	**Pg**	**08 23 43.0**	**+1.1**
	2.5nm,0.3s						
KUU				Lg	Lg	08 24 25.8	
	5.8nm,0.2s						
ARXS	**Arharly**	**3.21**	**151**	Pg	**Pg**	**08 23 43.8**	**+1.1**
	4.0nm,0.4s						
ARXS				Lg	Lg	08 24 27.5	
	17nm,0.3s						
CHKK	**Chushkaly**	**3.32**	**163**	Pg	**Pg**	**08 23 44.9**	**+0.2**
	0.7nm,0.1s						
CHKK				Lg	Lg	08 24 28.5	
	9.2nm,0.4s						
KTBS	**Karatobe**	**3.40**	**167**	Pg	**Pg**	**08 23 46.5**	**+0.2**
	3.8nm,0.5s						
KTBS				Lg	Lg	08 24 31.7	
	18nm,0.3s						
MNBS	**Baschi**	**3.54**	**146**	Pg	**Pg**	**08 23 49.3**	**+0.4**
	1.8nm,0.3s						
MNBS				Lg	Lg	08 24 36.7	
	14nm,0.4s						
DGS	**Degeres**	**3.79**	**178**	Pg	**Pg**	**08 23 55.2**	**+1.4**
	5.6nm,0.4s						
DGS				Lg	Lg	08 24 46.3	
	12nm,0.5s						
KOTS	**Kotyrbulak**	**3.94**	**164**	Pg	**Pg**	**08 23 58.1**	**+1.5**
	5.6nm,0.5s						
KOTS				Lg	Lg	08 24 51.6	
	7.1nm,0.5s						
DJR	**Jarkent**	**3.98**	**131**	Pg	**Pg**	**08 23 57.9**	**+0.7**
	0.6nm,0.2s						
DJR				Lg	Lg	08 24 50.7	
	4.9nm,0.4s						
KST	**Kastek**	**4.00**	**176**	Pg	**Pg**	**08 23 59.3**	**+1.7**
	3.3nm,0.3s						
KST				Lg	Lg	08 24 53.4	
	6.9nm,1.0s						
MDOK	**Medeo**	**4.00**	**165**	Pg	**Pg**	**08 23 57.3**	**-0.4**
	3.1nm,0.4s						
MDOK				Lg	Lg	08 24 50.1	
	3.1nm,0.4s						
IZV	**Izvestkoviy**	**4.06**	**170**	Pg	**Pg**	**08 23 58.8**	**0.0**
	1.9nm,0.4s						
IZV				Lg	Lg	08 24 52.4	
	3.6nm,0.3s						
KURBB	**Kurchatov Arra**	**4.07**	**27**	⇑Pg	**Pb**	**08 23 53.3**	**-0.3**
	1.0nm,0.5s						
KURBB				⇑Lg	Lg	08 24 48.9	
	13nm,0.6s						
MAKZ	**Makanchi**	**4.36**	**91**	⇑Pg	**Pb**	**08 23 57.6**	**-0.9**
	0.4nm,0.6s						
MAKZ				⇓Lg	Lg	08 24 59.2	
	1.4nm,0.4s						
UZB	**Uzynbulak**	**4.57**	**147**	Pg	**Pg**	**08 24 08.4**	**-0.2**
	3.3nm,0.3s						
UZB				Lg	Lg	08 25 09.1	
	2.3nm,0.4s						
MK31	**Makanchi Array**	**4.57**	**91**	⇑Pn	**Pn**	**08 23 51.8**	**+0.4**
	0.2nm,0.6s,baz=266,slow=12,SNR=4.5						
MK31				⇓Lg	Lg	08 25 05.3	
	0.4nm,0.3s,baz=258,slow=25,SNR=6.2						
KK31	**Karatay Array**	**5.35**	**225**	⇑Pn	**Pn**	**08 24 03.0**	**+0.9**
	0.1nm,0.2s,baz=53,slow=12,SNR=2.5						
KK31				⇓Sn	**Sn**	**08 25 01.3**	**-3.1**
	0.3nm,0.3s,baz=82,slow=43,SNR=5.9						
KK31				⇓Lg	Lg	08 25 32.0	
	0.6nm,0.4s,baz=38,slow=27,SNR=5.1						

NORS ***29*** *08:23:11.7±0.0,42.°98N×47.°21E,h9km,MPVA3.7,FELT I=III MSK at Dubki*

MOS ***29*** *08:23:11.8±0.0,42.°99N×47.°24E,h6km,MPVA3.7*

DRS ***29*** *08:23:11.3±0.0,43.°10N×47.°28E,h14km,ML2.7/10*

ISC 29 08:23:13.2±0.8,43°02N±0°.03×47°18E±0°.02,h10km,n42, σ1§24/69,4C-6D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUJR	**Buynaksk**	**0.20**	**196**	*i*PG	**Pg**	**08 23 17.4**	**0.0**
BUJR				*i*Pmax	pmax		
	comp=Z,956nm,0.4s						
BUJR	**Buynaksk**	**0.20**	**196**	⇓*i*Pg	**Pg**	**08 23 17.4**	**0.0**
	comp=Z,956nm,0.4s						
BUJR				*e*Sg	**Sg**	**08 23 22.0**	**+1.7**
	comp=Z,2μm,0.4s						
MAK	**Makhachkala**	**0.24**	**103**	*e*PG	**Pg**	**08 23 16.8**	**-1.4**
MAK				*e*		08 23 20.6	
MAK				pmax	pmax		
	comp=Z,249nm,0.2s						
MAK				smax	smax		
	comp=E,3μm,0.4s						
MAK				smax	smax		
	comp=E,2μm,0.4s						
MAK	**Makhachkala**	**0.24**	**103**	*e*Pg	**Pg**	**08 23 17.1**	**-1.1**
MAK				*e*Sg	**Sg**	**08 23 22.7**	**+1.1**
DBC	**Dubki**	**0.26**	**271**	*e*PG	**Pg**	**08 23 17.8**	**-0.7**
DBC				pmax	pmax		
	comp=Z,292nm,0.2s						
DBC	**Dubki**	**0.26**	**271**	*e*Pg	**Pg**	**08 23 17.8**	**-0.7**
	comp=Z,292nm,0.2s						
DBC				*e*Sg	**Sg**	**08 23 22.9**	**+0.8**
	comp=Z,887nm,0.5s						
KRNR	**Karanay**	**0.28**	**227**	⇑*e*PG	**Pg**	**08 23 18.2**	**-0.7**
KRNR				pmax	pmax		
	comp=Z,46nm,0.5s						
KRNR	**Karanay**	**0.28**	**227**	*e*Pg	**Pg**	**08 23 18.3**	**-0.7**
	comp=Z,46nm,0.5s						
KRNR				*e*Sg	**Sg**	**08 23 23.3**	**+0.7**
	comp=Z,666nm,0.5s						
KANR	**Karaman**	**0.29**	**51**	*e*Pg	**Pg**	**08 23 19.7**	**+0.7**
	comp=Z,505nm,0.2s						
KANR				*e*Sg	**Sg**	**08 23 24.4**	**+1.5**
	comp=Z,1μm,0.6s						
DLMR	**Dylym**	**0.41**	**278**	⇑*e*PG	**Pg**	**08 23 21.4**	**+0.1**
DLMR				*e*		08 23 29.0	
DLMR				pmax	pmax		
	comp=Z,157nm,0.2s						
DLMR				smax	smax		
	comp=N,3μm,0.4s						
DLMR	**Dylym**	**0.41**	**278**	*e*Pg	**Pg**	**08 23 21.4**	**+0.1**
	comp=N,157nm,0.2s						
DLMR				*e*Sg	**Sb**	**08 23 29.0**	**+0.2**
	comp=N,3μm,0.4s						
ARKR	**Arakani**	**0.44**	**199**	⇓*i*PG	**Pg**	**08 23 21.3**	**-0.5**
ARKR				*e*		08 23 28.7	
ARKR				pmax	pmax		
	comp=Z,114nm,0.4s						
ARKR				smax	smax		
	comp=N,161nm,0.3s						
ARKR	**Arakani**	**0.44**	**199**	⇓*i*Pg	**Pg**	**08 23 21.4**	**-0.5**
	comp=N,114nm,0.4s						
ARKR				*e*Sg	**Sg**	**08 23 28.8**	**+1.2**
	comp=N,161nm,0.3s						
GNBR	**Gunib**	**0.65**	**194**	⇑*e*PG	**Pg**	**08 23 25.7**	**-0.1**
GNBR				*e*		08 23 36.4	
GNBR				pmax	pmax		
	comp=Z,51nm,0.6s						
GNBR				smax	smax		
	comp=N,124nm,0.4s						
GNBR	**Gunib**	**0.65**	**194**	*e*Pg	**Pg**	**08 23 25.8**	**-0.1**
GNBR				*e*Sg	**Sb**	**08 23 36.5**	**+0.7**
	comp=N,124nm,0.4s						
SGKR	**Sergokala**	**0.66**	**148**	⇓*e*PG	**Pg**	**08 23 24.3**	**-1.7**
SGKR				*e*		08 23 34.5	
SGKR				pmax	pmax		
	comp=Z,29nm,0.2s						
SGKR				smax	smax		
	comp=N,155nm,0.5s						
SGKR	**Sergokala**	**0.66**	**148**	*e*Pg	**Pg**	**08 23 25.5**	**-0.4**
SGKR				*e*Sg	**Sb**	**08 23 35.6**	**-0.5**
	comp=N,155nm,0.5s						
DVE	**Vedeno**	**0.78**	**266**	*e*PG	**Pg**	**08 23 27.9**	**-0.3**
DVE				*e*S	**Sb**	**08 23 41.1**	**+1.6**
DVE	**Vedeno**	**0.78**	**266**	*e*Pg	**Pg**	**08 23 28.3**	**+0.1**
DVE				*e*Sg	**Sb**	**08 23 41.1**	**+1.6**
URKR	**Urkarakh**	**0.91**	**158**	⇓*e*PG	**Pn**	**08 23 31.9**	**-0.4**
URKR				*e*		08 23 44.7	
URKR				pmax	pmax		
	comp=Z,21nm,0.5s						
URKR				smax	smax		
	comp=N,141nm,0.2s						
URKR	**Urkarakh**	**0.91**	**158**	*e*Pg	**Pb**	**08 23 31.1**	**-0.1**
URKR				*e*Sg	**Sb**	**08 23 44.3**	**+0.8**
	comp=N,141nm,0.2s						
GROC	**Groznyy**	**1.03**	**281**	*e*PG	**Pg**	**08 23 30.2**	**-2.9**
GROC				*e*		08 23 45.2	
GROC				smax	smax		
	comp=E,94nm,1.1s						
GROC	**Groznyy**	**1.03**	**281**	*e*Pg	**Pn**	**08 23 33.4**	**-0.3**
GROC				*e*Sg	**Sn**	**08 23 51.3**	**+3.0**
AKT	**Akhty**	**1.59**	**165**	*e*PN	**Pg**	**08 23 43.3**	**-0.4**
AKT				*e*S	**Sg**	**08 24 04.4**	**+0.1**
AKT	**Akhty**	**1.59**	**165**	*e*Pg	**Pg**	**08 23 43.2**	**-0.6**
AKT				*e*Sg	**Sg**	**08 24 04.5**	**+0.1**
	comp=E,77nm,0.6s						
KMGR	**Komgaron**	**1.70**	**272**	*e*Pg	**Pb**	**08 23 44.5**	**-0.1**
KMGR				*e*Sg	**Sg**	**08 24 11.4**	**+3.5**
VLKR	**Vladikavkaz**	**1.84**	**272**	*e*Pg	**Pg**	**08 23 47.8**	**-0.7**
VLKR				*e*Sg	**Sg**	**08 24 15.4**	**+3.2**
LACR	**Lac**	**2.13**	**266**	*e*PN	**Pb**	**08 23 51.6**	**-0.3**
LACR				*e*S	**Sg**	**08 24 20.7**	**-0.9**
LACR	**Lac**	**2.13**	**266**	*e*Pg	**Pb**	**08 23 51.6**	**-0.3**
LACR				*e*Sg	**Sg**	**08 24 20.7**	**-0.9**
STDR	**Stavd-Durt**	**2.31**	**280**	*e*Pn	**Pb**	**08 23 54.2**	**-0.8**
STDR				*e*Sn	**Sg**	**08 24 25.9**	**-1.5**
ZEI	**Tsey**	**2.42**	**266**	*e*PN	**Pg**	**08 23 58.4**	**-1.2**
ZEI				*e*S	**Sg**	**08 24 30.8**	**-0.2**
ZEI	**Tsey**	**2.42**	**266**	*e*Pn	**Pg**	**08 23 58.4**	**-1.2**
ZEI				*e*Sn	**Sg**	**08 24 29.9**	**-1.2**
LSNR	**Lesken**	**2.47**	**277**	*e*Pn	**Pb**	**08 23 58.3**	**+0.6**
LSNR				*e*Sn	**Sn**	**08 24 25.3**	**+1.5**
DIGR	**Digorskoe uzhe**	**2.65**	**269**	*e*PN	**Pb**	**08 24 01.8**	**+1.0**
DIGR				*e*S	**Sb**	**08 24 35.9**	**+2.4**
DIGR	**Digorskoe uzhe**	**2.65**	**269**	*e*Pn	**Pb**	**08 23 60.0**	**-0.9**
DIGR				*e*Sn	**Sb**	**08 24 34.2**	**+0.8**
ONI	**Oni**	**2.78**	**262**	*e*Pn	**Pb**	**08 24 01.1**	**-1.9**
ONI				*e*Sn	**Sb**	**08 24 37.1**	**0.0**
KBZ	**Khabaz**	**3.20**	**284**	*i*PN	**Pn**	**08 24 01.9**	**-1.7**
KBZ	**Khabaz**	**3.20**	**284**	*e*Pn	**Pn**	**08 24 02.4**	**-1.2**
KBZ				*e*Sn	**Sn**	**08 24 42.2**	**+0.4**
SHA1	**Shidzhatmaz**	**3.38**	**284**	*i*PN	**Pn**	**08 24 04.4**	**-1.8**
SHA1	**Shidzhatmaz**	**3.38**	**284**	*e*Pn	**Pn**	**08 24 05.3**	**-0.9**
SHA1				*e*Sn	**Sn**	**08 24 44.5**	**-1.9**
KIV	**Kislovodsk**	**3.40**	**288**	*i*PN	**Pn**	**08 24 06.6**	**+0.1**
KIV				pmax	pmax		
	comp=Z,1.0nm,1.1s						
GOF	**Gofitskoye**	**3.62**	**306**	⇑*e*PN	Pn	08 24 00.0	-9.3

IDC 29 08:45:14.5±30.0,20°59S×173°71W,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.6/35,mbtmp3.9/4,Error ellipse: s-maj=565.6km s-min=175.7km az=76.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.48**	**264**	P	P	08 52 31.1	+0.9
	3.9nm,1.0s,baz=124,slow=11,SNR=1.6						
STKA	**Stephens Creek**	**41.38**	**245**	P	P	08 53 02.4	-0.3
	0.4nm,0.4s,baz=90,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**48.41**	**256**	P	P	08 53 58.5	-0.3
	0.6nm,0.4s,baz=88,slow=8.4,SNR=15						
WRA	**Warramunga Arr**	**48.57**	**261**	P	P	08 53 59.5	-0.5
	0.3nm,0.3s,baz=100,slow=8.8,SNR=21						

SKHL ***29*** *08:59:04.6±0.9,47.°10N×146.°50E,h368km±8km,mb5.3/18, mbv5.3/5,msh4.8/5,msha5.2/11*

MOS ***29*** *08:59:04.5±0.8,47.°14N×146.°32E,h375km,mb4.2/30, Error ellipse: s-maj=6.2km s-min=4.8km az=103.1*

NEIC ***29*** *08:59:05.7±1.4,47.°10N±0°.09×146.°3E±0°.1,h372km±6km, mb4.3/107,Error ellipse: s-maj=15.0km s-min=11.5km az=126.0*

IDC ***29*** *08:59:06.2±0.5,47.°22N×146.°22E,h373km±4km,mb3.8/35, mb1 3.9/44,mb1mx3.7/69,mbtmp4.6/44,Error ellipse: s-maj=8.4km s-min=6.1km az=153.0*

JMA ***29*** *08:59:08.2±0.5,46.°46N×146.°29E,h397km,M3.8*

ISC 29 08:59:05.1±0.3,47°07N±0°.04×146°39E±0°.04,h370km±3km, h369km:pP-pN,n473,σ1§39/546,mb4.3/122,50C-21D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.10**	**150**	*d*PN	**Pn**	**08 59 59.3**	**+0.3**
KUR				*i* S	**S**	**09 00 42.5**	**+0.1**
KUR				pmax	pmax		
	comp=Z,304nm,1.0s						
KUR				pmax	pmax		
	comp=Z,120nm,0.4s						
KUR				pmax	pmax		
	comp=N,16nm,0.2s						
KUR				smax	smax		
	comp=N,158nm,0.7s						
KUR				smax	smax		
	comp=E,64nm,0.3s						
KUR				smax	smax		
	comp=N,331nm,0.9s						
KUR				smax	smax		
	comp=E,812nm,1.5s						
KUR	**Kuril'sk**	**2.10**	**150**	*i* P	**Pn**	**08 59 59.3**	**+0.3**
KUR				AMB	AMB	08 59 59.8	
	comp=E,600nm,1.0s						
KUR				AMB	AMB	08 59 59.9	
	comp=E,330nm,0.5s						
KUR				*i* S	**S**	**09 00 42.1**	**-0.3**
KUR				A	A	09 00 44.0	
	comp=E,1μm,2.0s						
KUR				A	A	09 00 44.0	
	comp=E,2μm,2.0s						
KUR				A	A	09 00 49.0	
	comp=E,250nm,0.7s						
KUR				A	A	09 00 49.0	
	comp=E,210nm,0.7s						
YSS	**Yuzh-Sakhalins**	**2.49**	**269**	α *i*PN	**Pn**	**09 00 03.4**	**+1.7**
YSS				*e*S	**S**	**09 00 47.9**	**+0.6**
YSS				pmax	pmax		
	comp=Z,990nm,1.0s						
YSS				smax	smax		
	comp=N,190nm,0.9s						
YSS	**Yuzh-Sakhalins**	**2.49**	**269**	Pn	**Pn**	**09 00 03.4**	**+1.7**
YSS	**Yuzh-Sakhalins**	**2.49**	**269**	*i* P	**Pn**	**09 00 03.4**	**+1.7**
YSS				AMB	AMB

JRBN eS S 09 01 12.7 0.0
JKK2 Kamakawa 2 4.09 220 P Pn 09 00 17.3 +1.0
JAR Ashorobuto 4.20 207 P Pn 09 00 17.4 0.0
JAK Akkeshi 4.24 197 P Pn 09 00 16.1 -1.7
JAK eS S 09 01 11.0 -5.6
TYV Tymovskoe 4.52 328 ePN Pn 09 00 21.2 +0.8
TYV eS S 09 01 20.7 -0.8
TYV pmax pmax
comp=Z,261nm,0.6s
TYV pmax pmax
comp=Z,600nm,2.2s
TYV smax smax
comp=E,9.0nm,0.8s
TYV smax smax
comp=E,300nm,2.2s
TYV Tymovskoe 4.52 328 eP Pn 09 00 21.2 +0.8
TYV AMB AMB 09 00 21.4
comp=E,260nm,0.6s
TYV AMB AMB 09 00 21.5
comp=E,600nm,2.0s
TYV eS S 09 01 20.7 -0.8
TYV A A 09 01 21.8
comp=E,40nm,0.8s
TYV A A 09 01 22.5
comp=E,300nm,2.0s
JFR Furan 4.74 216 P Pn 09 00 23.5 +0.6
JCH Churui 4.94 207 P Pn 09 00 23.4 -1.7
JCH eS S 09 01 23.4 -6.5
JNBK Urakawa-nobuka 5.44 210 P Pn 09 00 28.6 -1.9
JNBK eS S 09 01 30.9 -8.8
JEW Eniwo 5.49 221 eS S 09 01 37.5 -3.1
JEW Eniwo 5.49 221 Pn Pn 09 00 30.3 -0.7
ERM Erimo 5.55 206 cePN Pn 09 00 31.2 -0.5
ERM pmax pmax
comp=Z,31nm,0.5s
ERM Erimo 5.55 206 Pn Pn 09 00 30.6 -1.1
JKB Kayabe 6.44 218 P Pn 09 00 40.2 -1.4
JKB eS S 09 01 53.0 -7.0
JOT Ohata 6.85 216 P Pn 09 00 44.4 -1.9
JOT eS S 09 02 00.1 -8.7
OKH Okha 6.86 342 eP P 09 00 47.9 +0.7
OKH AMB AMB 09 00 49.5
comp=Z,170nm,0.6s
JOSM Okushiri--Mats 7.01 227 P Pn 09 00 47.5 -0.6
TEY Ternei 7.10 257 ⇑ *i* PN P 09 00 51.0 +0.8
TEY *e* 09 02 09.6
TEY pmax pmax
comp=N,40nm,0.7s
TEY pmax pmax
comp=E,220nm,0.7s
TEY pmax pmax
comp=Z,280nm,0.6s
TEY Ternei 7.10 257 *i* P P 09 00 51.0 +0.8
TEY AMB AMB 09 00 52.0
comp=Z,280nm,0.6s
NKL Nikolayevsk 7.11 331 eP P 09 00 49.7 -0.4
NKL AMB AMB 09 00 50.7
comp=Z,410nm,0.7s
JTM Tenmabayashi 7.36 213 Pn Pn 09 00 50.5 -1.6
SKR Severo-Kuril's 7.37 57 ePN P 09 00 53.1 0.0
SKR eS S 09 02 16.3 -3.0
SKR pmax pmax
comp=Z,187nm,0.7s
SKR pmax pmax
comp=Z,300nm,2.4s
SKR MLR MLR
comp=Z,500nm,16.0s
SKR Severo-Kuril's 7.37 57 eP Pn 09 00 52.0 0.0
SKR AMB AMB 09 00 53.0
comp=Z,190nm,0.7s
SKR AMB AMB 09 00 55.0
comp=Z,300nm,2.0s
SKR eS S 09 02 15.6 -3.7
SKR A A 09 02 18.7
comp=Z,330nm,3.0s
SKR A A 09 02 18.7
comp=Z,310nm,3.0s
GRNR Gornyy 7.54 303 ⇑ *i* PN P 09 00 54.9 -0.1
GRNR pmax pmax
comp=E,40nm,0.9s
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=Z,50nm,1.0s
GRNR MLR MLR
comp=E,70nm,14.0s
GRNR MLR MLR
comp=N,150nm,17.0s
GRNR MLR MLR
comp=Z,100nm,13.0s
GRNR Gornyy 7.54 303 eP P 09 00 54.9 -0.1
GRNR AMB AMB 09 00 55.4
comp=Z,50nm,0.6s
GRNR AMS AMS 09 05 20.0
comp=Z,200nm,15.0s
GRNR AMS AMS 09 05 20.0
comp=Z,100nm,15.0s
JANG Nango 7.56 210 P Pn 09 00 52.0 -2.5
PAU Pauzhetka 8.12 53 eP Pn 09 00 59.5 -1.2
PAU AMB AMB 09 01 02.3
comp=Z,200nm,0.7s
PAU eS S 09 02 30.5 -4.8
PAU A A 09 02 38.4
comp=Z,160nm,1.0s
PAU A A 09 02 38.4
comp=Z,130nm,1.0s
PEA0B Petropavlovsk- 9.45 46 cePN P 09 01 17.4 0.0
PETK Petropavlovsk- 9.45 46 P P 09 01 17.4 0.0
comp=Z,1.1nm,0.3s,baz=219,slow=7.6,SNR=22
PETK S S 09 03 07.0 +2.9
baz=236,slow=1.6,SNR=3.4
PETK Petropavlovsk- 9.45 46 P Pn 09 01 15.8 -0.6
KLR Kul'dur 10.02 288 P P 09 01 24.6 +0.8
comp=Z,1.6nm,0.3s,baz=93,slow=12,SNR=46
KLR S S 09 03 17.2 +0.9
baz=273,slow=20,SNR=6.0
KLR Kul'dur 10.02 288 *d* iPN P 09 01 24.6 +0.8
KLR pmax pmax
comp=Z,34nm,1.0s
JMM Marumori 10.08 206 Pn 09 01 23.4 -0.6
USA0B Ussuriysk Arra 10.48 259 *d* iPN Pn 09 01 28.5 -0.2
USA0B Ussuriysk Arra 10.48 259 Pn 09 01 28.2 -0.5
USRK Ussuriysk Ar. 10.48 259 P Pn 09 01 28.6 -0.1
baz=70,slow=12,SNR=38
USRK Ussuriysk Ar. 10.48 259 Pn 09 01 27.8 -0.9
EKMR Ekimchan 10.51 310 eP P 09 01 30.3 +1.1
EKMR AMB AMB 09 01 33.0
comp=Z,40nm,0.8s
JSD Sado 10.83 216 P Pn 09 01 32.7 -0.1
MSHR Mys Shultsa 11.70 253 cePN Pn 09 01 43.0 -0.1
MSHR pmax pmax
comp=Z,55nm,1.7s
JYT Yasato 11.77 205 P 09 01 43.5 +0.2
MDJ Mudanjiang 11.97 264 P P 09 01 44.8 -0.6
MJB9 Matsu-Tunnel 12.15 213 P P 09 01 47.8 +0.2
MAJO Matsushiro 12.15 213 *d* iPN Pn 09 01 49.1 +0.7
MAJO pmax pmax
comp=Z,101nm,1.2s
MAJO Matsushiro 12.15 213 P Pn 09 01 48.1 -0.3
MAT Matsushiro 12.15 213 P Pn 09 01 48.6 +0.2
MAT eS S 09 03 52.3 -10
MJAR Matsushiro Arr 12.15 213 P Pn 09 01 49.2 +0.8
comp=Z,1.8nm,0.3s,baz=12,slow=13,SNR=146
MJAR Matsushiro Arr 12.15 210 P Pn 09 01 48.4 0.0
MA2 Magadan 12.80 10 P Pn 09 01 55.2 -0.5
comp=Z,0.3nm,0.3s,baz=200,slow=10,SNR=9.5
MA2 Magadan 12.80 10 *i* PN P 09 01 54.0 -0.3
MA2 pmax pmax
comp=Z,3.0nm,0.9s
MA2 Magadan 12.80 10 eP P 09 01 54.0 -0.3
JGF Kuroka 13.30 214 P P 09 01 59.7 -0.6
INU Inuyama 13.65 214 P 09 02 03.9 -0.2
JSG Sagara 13.84 209 P 09 02 06.0 -0.1
ZEA Zeya 13.89 306 eP P 09 02 06.6 +0.2
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA Zeya 13.89 306 eP Pn 09 02 09.3 +0.9
KROS Kirovskiy 14.30 308 eP P 09 02 11.8 +0.9
KROS AMB AMB 09 02 12.4
comp=Z,40nm,0.8s
JWT Wachi 14.37 219 P P 09 02 12.6 +0.7
CN2 Changchun 15.05 265 eP P 09 02 18.5 -0.7
CN2 pmax pmax
comp=Z,30nm,0.5s
JHS Saijyo 15.64 224 P P 09 02 26.4 +0.6

SEY Seymchan 16.25 10 P P 09 02 32.7 +0.7
comp=Z,0.8nm,0.3s,baz=178,slow=8.9,SNR=24
SEY S S 09 05 24.2 +0.8
comp=Z,0.1nm,0.3s,baz=8.4,slow=23,SNR=1.1
KSRS Korea Array 16.67 241 P P 09 02 38.3 +1.6
comp=Z,1.8nm,0.3s,baz=45,slow=10.0,SNR=84
KSRS ScP ScP 09 10 03.8 +1.0
comp=Z,0.1nm,0.3s,baz=13,slow=1.0,SNR=20
KS19 Wonju Array Si 16.67 242 P P 09 02 37.2 +0.4
KSAR Wonju Array Be 16.70 242 P P 09 02 37.6 +0.5
KSAR Wonju Array Be 16.70 242 P P 09 02 37.6 +0.5
INCN Inchon 17.43 244 P P 09 02 46.0 +1.0
INCN pmax pmax
comp=Z,36nm,0.8s
INCN Inchon 17.43 244 P P 09 02 46.0 +1.0
TJN Taejon 17.72 240 ceP P 09 02 49.1 +1.1
YAK Yakutsk 17.76 334 P P 09 02 46.6 -1.4
comp=Z,1.4nm,0.3s,baz=116,slow=0.4,SNR=25
YAK S S 09 05 49.0 -3.8
comp=Z,0.1nm,0.3s,baz=201,slow=5.1,SNR=17
YAK Yakutsk 17.76 334 *d* iP P 09 02 46.9 -1.2
YAK eS S 09 05 49.8 -3.0
YAK pmax pmax
comp=Z,119nm,0.9s
YAK pmax pmax
comp=E,15nm,1.0s
YAK pmax pmax
comp=N,16nm,0.9s
YAK smax smax
comp=N,248nm,1.9s
YAK smax smax
comp=E,167nm,2.2s
YAK Yakutsk 17.76 334 P P 09 02 47.4 -0.6
YAK Yakutsk 17.76 334 eP P 09 02 47.4 -0.6
HIA Hailar 17.88 287 P P 09 02 47.6 -2.0
HIA pmax pmax
comp=Z,7.0nm,0.7s
HIA Hailar 17.88 287 P P 09 02 47.6 -2.0
HIA IAmb IAmb 09 02 53.6
comp=Z,7.1nm,0.7s
JTU Tsushima 17.91 232 P P 09 02 50.3 +0.3
JTU IAmb IAmb 09 02 54.5
comp=Z,19nm,0.7s
JNU Nakatsue 18.25 226 P P 09 02 54.5 +0.8
comp=Z,2.0nm,0.3s,baz=6.0,slow=1.8,SNR=26
JNU Nakatsue 18.25 226 P P 09 02 54.2 +0.5
JSU Suzuyama 19.78 224 P P 09 03 09.9 +0.4
DL2 Dalian 19.80 255 P P 09 03 10.8 +1.2
DL2 *es*P **sP** 09 04 51.0 +1.2
DL2 S S 09 06 33.5 +3.6
DL2 pmax pmax
comp=Z,39nm,1.1s
BJT Baijiatuau 22.91 263 P P 09 03 39.2 +1.2
BJT pmax pmax
comp=Z,26nm,0.6s
BJT Baijiatuau 22.91 263 P P 09 03 39.2 +1.2
BILL Bilibino 23.36 19 *i* P P 09 03 41.2 -0.5
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL Bilibino 23.36 19 eP P 09 03 41.2 -0.5
JOW Kunigami 24.74 222 P P 09 03 54.3 -0.2
comp=Z,12nm,0.4s,baz=109,slow=12,SNR=7.4
JOW Kunigami 24.74 222 P P 09 03 54.8 +0.2
TIXI Tiksi 26.00 347 P P 09 04 03.5 -1.8
comp=Z,2.3nm,0.7s,baz=137,slow=8.1,SNR=11
TIXI Tiksi 26.00 347 *d* iP P 09 04 03.2 -2.0
TIXI Tiksi 26.00 347 P P 09 04 03.5 -1.8
ULN Ulaanbaatar 26.41 286 ceP P 09 04 09.6 +0.2
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 26.41 286 P P 09 04 09.1 -0.3
ULN IAmb IAmb 09 04 13.6
comp=Z,8.2nm,0.8s
ULN Ulaanbaatar 26.41 286 eP P 09 04 09.6 +0.2
SONM Songino Array 26.85 287 P P 09 04 13.1 -0.2
comp=Z,2.3nm,0.7s,baz=71,slow=8.5,SNR=15
SONM pP **pP** 09 05 19.3 -0.4
comp=Z,1.2nm,0.8s,baz=62,slow=9.9,SNR=2.1
SONM PcP **PcP** 09 07 25.2 +0.6
comp=Z,0.7nm,0.8s,baz=150,slow=3.2,SNR=3.6
SONM ScP **ScP** 09 10 28.1 -0.6
comp=Z,1.9nm,1.1s,baz=100,slow=4.5,SNR=7.3
SONM Songino Array 26.85 287 P P 09 04 12.5 -0.8
TLY Talaya 27.91 295 P P 09 04 22.0 -0.3
comp=Z,1.8nm,0.5s,baz=80,slow=8.5,SNR=6.2
TLY Talaya 27.91 295 ceP P 09 04 22.8 +0.4
TLY pmax pmax
comp=Z,11nm,2.5s
TLY Talaya 27.91 295 P P 09 04 21.5 -0.9
TLY Talaya 27.91 295 eP P 09 04 22.8 +0.4
WHN Wuhan 29.66 248 ⇓ *i* P P 09 04 38.5 +0.5
WHN pP **pP** 09 05 39.3 -7.0
WHN pmax pmax
comp=Z,52nm,0.5s
YHNB Yeheng 29.94 230 P P 09 04 43.2 +2.6
SSLB Suanglung 30.88 230 P P 09 04 49.8 +1.0
SSLB IAmb IAmb 09 04 54.7
comp=Z,11nm,0.9s
XAN Xi'an 30.99 259 P P 09 04 49.9 +0.2
XAN pmax pmax
comp=Z,13nm,0.8s
XAN Xi'an 30.99 259 P P 09 04 49.9 +0.2
XAN IAmb IAmb 09 04 50.9
comp=Z,13nm,0.8s
YULB Yu-li 31.02 229 P P 09 04 50.3 +0.3
YULB IAmb IAmb 09 05 00.1
comp=Z,9.3nm,0.9s
LZH Lanzhou 33.28 266 eP P 09 05 10.8 +1.3
LZH pmax pmax
comp=Z,31nm,1.2s
GTA Gaotai 34.35 274 ⇑ P P 09 05 20.0 +1.4
GTA pmax pmax
comp=Z,20nm,1.2s
GTA pmax pmax
comp=Z,89nm,4.9s
GTA LR LR
comp=N,99nm,17.4s
GTA LR LR
comp=E,79nm,18.2s
GTA LR LR
comp=Z,99nm,16.7s
A21K Barrow 35.81 27 P P 09 05 29.7 -0.6
A21K IAmb IAmb 09 05 30.0
comp=Z,5.9nm,0.6s
NRIK Noril'sk 36.11 329 *i* P P 09 05 32.0 -0.8
NRIK pmax pmax
comp=Z,2.0nm,1.3s
IMAR Indian Mountai 36.26 37 P P 09 05 34.2 +0.1
KDAK Kodiak Island 37.47 50 P P 09 05 43.8 -0.4
comp=Z,13nm,1.0s,baz=123,slow=23,SNR=1.3
KTH Kantishna Hill 37.53 41 P P 09 05 45.8 +0.9
TOLK Toolik Lake Re 37.93 32 P P 09 05 47.8 -0.3
NEA2 Nenana 38.26 39 P P 09 05 51.5 +0.8
DGZ Jazzator, Alta 38.37 296 *c* iP P 09 05 52.7 +0.6
DGZ pmax pmax
comp=Z,6.0nm,0.7s
MCK McKinley 38.40 40 P P 09 05 52.7 +0.8
MCK pmax pmax
comp=Z,6.0nm,1.2s
MCK McKinley 38.40 40 P P 09 05 52.6 +0.8
RND Reindeer 38.47 41 P P 09 05 52.8 +0.2
RND pmax pmax
comp=Z,5.0nm,1.1s
RND Reindeer 38.47 41 P P 09 05 52.8 +0.2
ZALV Zalesovo Beam 38.64 304 P P 09 05 52.9 -1.1
comp=Z,1.9nm,0.3s,baz=69,slow=7.5,SNR=11
ZALV PcP **PcP** 09 07 57.5 +0.1
comp=Z,1.1nm,0.5s,baz=48,slow=2.2,SNR=5.3
ZALV ScP **ScP** 09 11 08.8 -0.4
comp=Z,0.3nm,0.3s,baz=92,slow=4.7,SNR=4.9
ZALV Zalesovo Beam 38.64 304 P P 09 05 53.1 -0.8
ZALV PcP 09 07 57.3 0.0
IL31 39.18 39 P P 09 05 58.5 +0.3
ILAR Eielson Array 39.18 39 P P 09 05 58.5 +0.2
comp=Z,2.2nm,0.7s,baz=278,slow=8.0,SNR=21
ILAR pP **pP** 09 07 09.1 -0.2
comp=Z,0.5nm,0.8s,baz=277,slow=7.2,SNR=2.1
ILAR Eielson Array 39.18 39 P P 09 05 58.6 +0.4
BMAR Burnt Mountain 39.85 34 P P 09 06 04.0 +0.2
SCRK Sand Creek 40.54 40 P P 09 06 09.4 -0.1
ZSN Zaisan 40.78 294 eP P 09 06 10.2 -1.4
baz=294
ZSN Zaisan 40.78 294 eP P 09 06 10.1 -1.4
KMI Kunming 40.84 253 ⇓ P P 09 06 13.3 +0.8
KMI pP pP 09 07 30.5 +6.0

KMI sP sP 09 08 09.0 +2.5
KMI S **S** 09 11 59.0 +3.4
KMI pmax pmax
comp=Z,19nm,0.8s
KMI pmax pmax
comp=Z,32nm,3.5s
KMI LR LR
comp=N,110nm,9.6s
KMI LR LR
comp=E,140nm,12.4s
KMI LR LR
comp=Z,140nm,12.0s
K27K Chicken 41.36 39 P P 09 06 16.6 +0.6
EGAK Eagle 41.60 38 P P 09 06 17.8 0.0
BCAR Beaver Creek A 41.68 41 P P 09 06 19.6 +1.0
SEM Semipalatinsk 42.45 300 eP P 09 06 23.6 -1.6
baz=300
SEM Semipalatinsk 42.45 300 eP P 09 06 23.5 -1.6
MK31 Makanchi Array 42.65 294 *i* P P 09 06 26.5 0.0
MK31 Makanchi Array 42.65 294 P P 09 06 26.5 0.0
MK31 IAmb IAmb 09 06 27.1
comp=Z,12nm,0.7s
MKAR Makanchi Array 42.65 294 P P 09 06 26.2 -0.3
comp=Z,9.8nm,0.6s,baz=71,slow=7.6,SNR=133
MKAR pP **pP** 09 07 39.4 +0.2
comp=Z,2.4nm,0.9s,baz=77,slow=6.4,SNR=2.6
MKAR PcP **PcP** 09 08 11.0 +0.3
comp=Z,0.7nm,0.6s,baz=46,slow=4.2,SNR=2.9
MKAR ScP **ScP** 09 11 25.1 -0.3
comp=Z,0.6nm,0.8s,baz=59,slow=4.7,SNR=4.2
MKAR S **S** 09 12 19.8 -1.4
comp=Z,0.1nm,0.4s,baz=266,slow=40,SNR=2.8
MKAR Makanchi Array 42.65 294 P P 09 06 26.6 +0.1
MAKZ Makanchi 42.84 294 P P 09 06 28.0 0.0
MAKZ pmax pmax
comp=Z,10.0nm,0.6s
MAKZ Makanchi 42.84 294 P P 09 06 28.0 0.0
MAKZ IAmb IAmb 09 06 28.6
comp=Z,9.6nm,0.6s
KURK Kurchatov 43.29 301 P P 09 06 32.0 +0.5
KURK *PP **pP** 09 07 45.5 +1.1
KURK 09 08 13.2
KURK S S 09 12 28.9 -1.3
KURK Kurchatov 43.29 301 P P 09 06 32.0 +0.5
KURK **pP** 09 07 45.5 +1.1
KURK Kurchatov 43.29 301 eP P 09 06 32.0 +0.5
KURBB Kurchatov Arra 43.38 301 P P 09 06 32.0 -0.2
comp=Z,18nm,0.7s,baz=70,slow=8.6,SNR=84
KURBB pP **pP** 09 07 45.5 +0.4
comp=Z,1.3nm,0.7s,baz=65,slow=9.4,SNR=2.2
KURBB PcP **PcP** 09 08 13.2 +0.1
comp=Z,1.9nm,0.6s,baz=74,slow=3.3,SNR=7.2
KURBB S S 09 12 28.9 -2.6
comp=Z,0.1nm,0.3s,baz=122,slow=37,SNR=1.0
KURBB Kurchatov Arra 43.38 301 P P 09 06 31.0 -1.2
INK Inuvik 43.84 32 P P 09 06 35.2 -0.3
comp=Z,3.2nm,0.4s,baz=288,slow=8.7,SNR=36
INK Inuvik 43.84 32 P P 09 06 35.5 0.0
INK pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 43.84 32 P P 09 06 35.5 0.0
HYT Haines Junctio 44.22 43 P P 09 06 40.7 +1.8
WHY Whitehorse 45.49 43 P P 09 06 50.4 +1.7
NONG Nongkai 45.68 246 P P 09 06 53.0 +2.5
TDK Taldyqorghan 45.88 294 eP P 09 06 51.6 -0.2
comp=Z,25nm,1.1s,baz=294
TDK Taldyqorghan 45.88 294 eP P 09 06 51.6 -0.2
TDK pmax pmax
comp=Z,25nm,1.1s
SHLS Shalkode 46.09 291 eP P 09 06 50.8 -2.8
baz=290
SHLS Shalkode 46.09 291 eP P 09 06 50.8 -2.8
UZB Uzynbulak 46.38 291 eP P 09 06 55.5 -0.3
baz=291
UZB Uzynbulak 46.38 291 eP P 09 06 55.5 -0.3
KPKS Kokpek 46.44 292 eP P 09 06 56.1 -0.2
baz=292
KPKS Kokpek 46.44 292 eP P 09 06 56.0 -0.2
SATY Saty 46.81 291 eP P 09 06 59.2 0.0
baz=291
SATY Saty 46.81 291 eP P 09 06 59.1 0.0
C36M Paulatuk 46.82 29 P P 09 06 58.2 -0.4
BVAR Borovoye Array 47.03 307 P P 09 06 59.5 -1.0
comp=Z,2.3nm,0.5s,baz=48,slow=20,SNR=27
BRZS Berezniki 47.06 302 eP P 09 06 59.7 -1.2
baz=302
BRZS Berezniki 47.06 302 eP P 09 06 59.6 -1.2
BRVK Borovoye 47.08 307 ceP P 09 07 00.6 -0.3
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 47.08 307 P P 09 07 01.0 +0.1
BRVK IAmb IAmb 09 07 01.9
comp=Z,8.3nm,0.7s
BRVK Borovoye 47.08 307 eP P 09 07 00.6 -0.3
LOEI Loei 47.27 247 P P 09 07 02.1 -0.8
CHKK Chushkaly 47.32 293 eP P 09 07 02.1 -0.8
baz=293
CHKK Chushkaly 47.32 293 eP P 09 07 02.1 -0.8
UTTA Uttaradit 47.54 248 P P 09 07 06.6 +1.8
LAMP Lampang 47.56 249 P P 09 07 07.2 +2.2
MDOK Medeo 47.62 292 eP P 09 07 05.1 -0.3
baz=292
MDOK Medeo 47.62 292 eP P 09 07 05.1 -0.3
CM34 Chiang Mai Arr 47.62 250 P P 09 07 06.0 +0.5
AAA Alma-Ata 47.69 292 eP P 09 07 06.0 +0.2
comp=Z,9.3nm,0.5s,baz=292
AAA Alma-Ata 47.69 292 eP P 09 07 05.9 +0.2
AAA pmax pmax
comp=Z,9.0nm,0.5s
AAA Alma-Ata 47.69 292 eP P 09 07 05.9 +0.2
KUU Kurty 47.71 293 eP P 09 07 04.8 -1.1
comp=Z,8.1nm,0.6s,baz=293
KUU Kurty 47.71 293 eP P 09 07 04.7 -1.1
KUU pmax pmax
comp=Z,8.0nm,0.6s
CM35 Chiang Mai Arr 47.75 250 P P 09 07 07.0 +0.6
TNSS Tian-Shan 47.75 292 eP P 09 07 06.5 -0.2
baz=292
TNSS Tian-Shan 47.75 292 eP P 09 07 06.4 -0.2
CM33 Chiang Mai Arr 47.78 250 P P 09 07 07.0 +0.3
CMMT Chiang Mai 47.78 250 P P 09 07 06.7 0.0
CHTO Chiang Mai 47.78 250 P P 09 07 07.5 +0.8
CHTO pmax pmax
comp=Z,20nm,1.0s
CHTO Chiang Mai 47.78 250 P P 09 07 07.5 +0.8
CHTO IAmb IAmb 09 07 08.5
comp=Z,20nm,1.0s
SHL Shillong 47.80 263 P P 09 07 06.9 -0.1
SHL pmax pmax
comp=Z,35nm,0.7s
SHL Shillong 47.80 263 P P 09 07 06.8 -0.1
CM32 Chiang Mai Arr 47.97 250 P P 09 07 10.0 +1.9
CM09 Chiang Mai Arr 48.02 250 P P 09 07 10.8 +2.3
CMAR Chiang Mai Arr 48.05 250 P P 09 07 10.0 +1.3
comp=Z,3.1nm,0.6s,baz=34,slow=6.9,SNR=20
CMAR ScP **ScP** 09 11 49.6 +1.5
comp=Z,0.5nm,0.3s,baz=12,slow=2.7,SNR=5.4
CMAR Chiang Mai Arr 48.05 250 ceP P 09 07 10.1 +1.4
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 48.05 250 P P 09 07 09.8 +1.1
CM02 Chiang Mai Arr 48.06 250 P P 09 07 10.6 +1.8
CM01 Chiang Mai Arr 48.06 250 P P 09 07 11.1 +2.3
CM04 Chiang Mai Arr 48.06 250 P P 09 07 10.6 +1.7
CM05 Chiang Mai Arr 48.09 250 P P 09 07 10.0 +1.0
CM13 Chiang Mai Arr 48.10 250 P P 09 07 10.9 +1.9
SUKH Sukhothai 48.33 249 P P 09 07 12.9 +2.2
BTLS Baital 48.56 296 eP P 09 07 11.4 -0.9
baz=296
BTLS Baital 48.56 296 eP P 09 07 11.4 -0.9
ULHL Ulahol 48.60 291 P P 09 07 13.4 +0.6
SNR=6.0
DLBC Dease Lake 48.63 44 P P 09 07 14.8 +2.2
comp=Z,1.9nm,0.8s,baz=270,slow=4.0,SNR=4.5
TKM2 Tokmak 2 48.66 293 P P 09 07 13.9 +0.5
SNR=6.2
USP Ospenovka 49.18 293 P P 09 07 17.6 +0.6
SNR=6.4
KBK Karagaybulak 49.21 293 P P 09 07 17.9 +0.5
SNR=6.6
TAPN Taplejung 49.48 268 eP P 09 07 20.5 +0.7
comp=Z,24nm,0.6s
AAK Ala-Archa 49.51 293 ceP P 09 07 19.9 +0.3
AAK pmax pmax
comp=Z,25nm,0.8s

AAK	**Ala-Archa**	**49.51**	**293**	P		**P**		**09 07 19.8**	**+0.3**
AAK				lAmb		lAmb		09 07 20.8	
	comp=Z,7.5nm,0.8s								
AAK	**Ala-Archa**	**49.51**	**293**	*e*P		**P**		**09 07 19.8**	**+0.2**
EUNU	**Eureka**	**49.69**	**10**	P		**P**		**09 07 19.9**	**-0.4**
UMPA	**Umpang Tak**	**49.76**	**248**	P		**P**		**09 07 24.0**	**+2.4**
	comp=Z,0.3nmcomp=Z,4μmcomp=Z,29nm,0.6s								
EKS2	**Erkin-Say**	**49.94**	**293**	P		**P**		**09 07 23.4**	**+0.6**
	SNR=7.8								
ODAN	**Odare**	**50.02**	**268**	*e*P		**P**		**09 07 24.4**	**+0.7**
	comp=Z,18nm,0.6s								
JIRN	**Jiri**	**50.33**	**270**	*e*P		**P**		**09 07 26.9**	**+0.8**
	comp=Z,48nm,0.5s								
GUN	**Gumba**	**50.38**	**270**	*e*P		**P**		**09 07 27.0**	**+0.5**
	comp=Z,19nm,0.4s								
RAMN	**Ramite**	**50.50**	**269**	*e*P		**P**		**09 07 27.6**	**+0.4**
	comp=Z,84nm,0.6s								
KKN	**Kakani**	**50.87**	**270**	*e*P		**P**		**09 07 30.0**	**+0.1**
PKI	**Pulchoki**	**50.92**	**270**	*e*P		**P**		**09 07 30.9**	**+0.5**
	comp=Z,16nm,0.5s								
PKIN	**Phulchoki**	**50.92**	**270**	*e*P		**P**		**09 07 30.9**	**+0.5**
	comp=Z,24nm,0.5s								
DMN	**Daman**	**51.10**	**270**	*e*P		**P**		**09 07 32.4**	**+0.7**
	comp=Z,38nm,0.7s								
GKN	**Gorkha**	**51.17**	**271**	*e*P		**P**		**09 07 32.8**	**+0.7**
	comp=Z,16nm,0.3s								
DZA	**Taraz**	**51.35**	**295**	*e*P		**P**		**09 07 33.1**	**0.0**
	baz=294								
DZA	**Taraz**	**51.35**	**295**	*e*P		**P**		**09 07 33.1**	**0.0**
ARU	**Arti**	**51.59**	**315**	*d* P		**P**		**09 07 34.0**	**-0.5**
ARU				*PP		**pP**		**09 08 52.0**	**+1.6**
ARU								09 09 28.6	
ARU				SS		**SS**		**09 18 01.5**	**-5.5**
ARU				pmax		pmax			
	comp=Z,14nm,1.3s								
ARU	**Arti**	**51.59**	**315**	P		**P**		**09 07 33.6**	**-0.9**
ARU				lAmb		lAmb		09 07 34.6	
	comp=Z,19nm,1.3s								
ARU	**Arti**	**51.59**	**315**	*e*P		**P**		**09 07 34.1**	**-0.5**
KK31	**Karatay Array**	**51.75**	**295**	P		**P**		**09 07 36.0**	**+0.1**
KK31				pmax		pmax			
	comp=Z,13nm,0.8s								
KK31	**Karatay Array**	**51.75**	**295**	P		**P**		**09 07 36.0**	**+0.1**
KK31				lAmb		lAmb		09 07 36.7	
	comp=Z,13nm,0.8s								
KKAR	**Karatay Array**	**51.75**	**295**	P		**P**		**09 07 36.1**	**+0.2**
KKAR				pmax		pmax			
	comp=Z,13nm,0.8s								
KKAR	**Karatay Array**	**51.75**	**295**	P		**P**		**09 07 36.1**	**+0.2**
KKAR				lAmb		lAmb		09 07 36.7	
	comp=Z,13nm,0.8s								
KKAR	**Karatay Array**	**51.75**	**295**	P		**P**		**09 07 35.9**	**-0.1**
RES	**Resolute Bay**	**51.95**	**17**	P		**P**		**09 07 36.2**	**-0.6**
	comp=Z,2.6nm,0.6s,baz=313,slow=7.5,SNR=15								
RES				PcP		**PcP**		**09 08 44.2**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=299,slow=3.3,SNR=6.6								
SANI	**Sanana**	**52.09**	**206**	P		**P**		**09 07 40.2**	**+1.5**
	comp=Z,7.7nm,0.8s								
IUG	**Iuzhnay**	**52.56**	**294**	*e*P		**P**		**09 07 42.2**	**+0.2**
	baz=294								
IUG	**Iuzhnay**	**52.56**	**294**	*e*P		**P**		**09 07 42.2**	**+0.2**
YKA	**Yellowknife Ar**	**53.37**	**35**	P		**P**		**09 07 47.0**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=303,slow=6.7,SNR=30								
YKA				PcP		**PcP**		**09 08 49.6**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=312,slow=3.3,SNR=4.7								
YKA				pP		**pP**		**09 09 04.7**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=306,slow=6.5,SNR=2.9								
YKA				ScP		**ScP**		**09 12 10.8**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=299,slow=3.8,SNR=6.3								
AB31	**Akbulak array**	**54.61**	**307**	*i* P		**P**		**09 07 56.0**	**-0.4**
ABKAR	**Akbulak array**	**54.61**	**307**	P		**P**		**09 07 56.3**	**-0.1**
ABKAR				lAmb		lAmb		09 07 56.9	
	comp=Z,15nm,1.1s								
NIL	**Nilore**	**55.39**	**284**	P		**P**		**09 08 03.2**	**+1.0**
NIL				pmax		pmax			
	comp=Z,44nm,0.9s								
NIL	**Nilore**	**55.39**	**284**	P		**P**		**09 08 03.2**	**+1.0**
KEV	**Kevo**	**55.42**	**338**	P		**P**		**09 08 01.0**	**-0.8**
KEV				pmax		pmax			
	comp=Z,54nm,1.4s								
KEV	**Kevo**	**55.42**	**338**	P		**P**		**09 08 01.0**	**-0.8**
HAMF	**Hammerfest**	**55.60**	**340**	*e*P		**P**		**09 08 01.8**	**-1.3**
ARA0	**ARCESS Array S**	**55.95**	**339**	*e*P		**P**		**09 08 05.6**	**0.0**
ARCES	**ARCESS Array B**	**55.95**	**339**	P		**P**		**09 08 04.5**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=35,slow=4.6,SNR=17								
KTK1	**Kautokeino**	**56.89**	**339**	*i* P		**P**		**09 08 11.8**	**-0.3**
PGC	**Sidney**	**56.98**	**52**	P		**P**		**09 08 13.5**	**+0.5**
JETT	**Jettan, Norway**	**57.16**	**340**	*e*P		**P**		**09 08 13.6**	**-0.4**
TRO	**Tromso**	**57.44**	**341**	*e*P		**P**		**09 08 15.1**	**-0.8**
KBL	**Kabul**	**57.62**	**287**	P		**P**		**09 08 17.7**	**-0.2**
KBL				pmax		pmax			
	comp=Z,27nm,0.7s								
KBL	**Kabul**	**57.62**	**287**	P		**P**		**09 08 17.7**	**-0.2**
BELG	**Belogornoye**	**59.14**	**315**	P		**P**		**09 08 26.7**	**-1.0**
	comp=Z,5.9nm,0.3s,baz=45,slow=8.6,SNR=6.4								
BELG	**Belogornoye**	**59.14**	**315**	*i* P		**P**		**09 08 26.2**	**-1.5**
BELG				pmax		pmax			
	comp=Z,1.0nm,0.9s								
N2IH	**Innhavet**	**59.43**	**341**	*e*P		**P**		**09 08 29.6**	**+0.1**
STEI	**Steigen**	**59.62**	**341**	*e*P		**P**		**09 08 30.0**	**-0.7**
LOF	**Lofoten**	**59.83**	**341**	*e*P		**P**		**09 08 32.0**	**-0.1**
N2ST	**Straumen**	**60.01**	**340**	*e*P		**P**		**09 08 32.6**	**-0.8**
H04A	**Detroit Lake**	**60.04**	**55**	P		**P**		**09 08 35.8**	**+1.7**
H04A				lAmb		lAmb		09 08 36.6	
	comp=Z,8.6nm,0.9s								
FAUS	**Fauske**	**60.05**	**340**	*e*P		**P**		**09 08 32.9**	**-0.7**
N2SV	**S_rv∜gen**	**60.14**	**342**	*e*P		**P**		**09 08 33.8**	**-0.5**
PSI	**Prapat**	**60.20**	**238**	P		**P**		**09 08 36.3**	**+0.7**
	comp=Z,7.0nm,0.9s,baz=3.4,slow=1.1,SNR=4.9								
RPSI	**Rantau Prapat**	**60.28**	**238**	P		**P**		**09 08 36.0**	**0.0**
RPSI				lAmb		lAmb		09 08 38.1	
	comp=Z,7.8nm,0.9s								
RPSI	**Rantau Prapat**	**60.28**	**238**	P		**P**		**09 08 36.3**	**+0.3**
NEW	**Newport**	**60.57**	**50**	P		**P**		**09 08 38.2**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=307,slow=8.4,SNR=7.2								
NEW	**Newport**	**60.57**	**50**	P		**P**		**09 08 38.7**	**+1.2**
SUMG	**Summit**	**60.61**	**2**	P		**P**		**09 08 37.8**	**0.0**
SUMG				pmax		pmax			
	comp=Z,2.0nm,0.5s								
SUMG	**Summit**	**60.61**	**2**	P		**P**		**09 08 37.8**	**0.0**
N2RO	**R_st**	**60.65**	**342**	*e*P		**P**		**09 08 36.4**	**-1.2**
MOR8	**Moi Rana**	**61.23**	**340**	*e*P		**P**		**09 08 39.6**	**-2.0**
PINE	**Pine Mountain**	**61.30**	**56**	P		**P**		**09 08 45.1**	**+2.4**
PINE				lAmb		lAmb		09 08 45.6	
	comp=Z,6.5nm,0.8s								
STOK	**Stokkvaagen**	**61.43**	**340**	*e*P		**P**		**09 08 42.5**	**-0.4**
YBH	**Yreka Blue Hor**	**61.58**	**58**	P		**P**		**09 08 46.2**	**+1.8**
	comp=Z,3.1nm,0.9s,baz=44,slow=13,SNR=8.6								
FIA1	**FINESS Array S**	**61.68**	**332**	P		**P**		**09 08 43.6**	**-1.0**
FIA1				lAmb		lAmb		09 08 44.5	
	comp=Z,12nm,0.7s								
FINES	**FINESS Array B**	**61.68**	**332**	P		**P**		**09 08 43.7**	**-1.0**
	comp=Z,8.6nm,0.5s,baz=40,slow=7.2,SNR=108								
FINES				pP		**pP**		**09 10 04.1**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=34,slow=8.4,SNR=3.5								
WALA	**Waterton Lakes**	**61.71**	**47**	P		**P**		**09 08 46.3**	**+1.1**
I07A	**Izee**	**61.92**	**55**	P		**P**		**09 08 48.6**	**+1.9**
K05A	**Summer Lake**	**62.00**	**56**	P		**P**		**09 08 49.4**	**+2.1**
K05A				lAmb		lAmb		09 08 50.3	
	comp=Z,14nm,1.2s								
HRA	**Herat**	**62.09**	**291**	P		**P**		**09 08 48.7**	**+0.6**
GEYT	**Alibeck**	**62.41**	**297**	P		**P**		**09 08 50.4**	**+0.5**
	comp=Z,24nm,0.6s,baz=29,slow=3.4,SNR=28								
GEYT	**Alibeck**	**62.41**	**297**	P		**P**		**09 08 50.3**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**62.41**	**297**	P		**P**		**09 08 50.6**	**+0.7**
NSS	**Namsos**	**63.18**	**340**	*e*P		**P**		**09 08 53.7**	**-0.6**
FCC	**Fort Churchill**	**63.43**	**30**	P		**P**		**09 08 56.1**	**+0.1**
FCC				pmax		pmax			
	comp=Z,6.0nm,1.3s								
FCC	**Fort Churchill**	**63.43**	**30**	P		**P**		**09 08 56.1**	**+0.1**
FCC				lAmb		lAmb		09 09 15.0	
	comp=Z,6.2nm,1.2s								
WVOR	**Wild Horse Val**	**63.47**	**56**	P		**P**		**09 08 56.6**	**-0.2**
WVOR				pmax		pmax			
	comp=Z,6.0nm,1.2s								
WVOR	**Wild Horse Val**	**63.47**	**56**	P		**P**		**09 08 56.6**	**-0.2**
WVOR				lAmb		lAmb		09 08 59.8	
	comp=Z,6.0nm,1.1s								
VSU	**Vasula**	**63.69**	**329**	*e*P		**P**		**09 08 57.7**	**-0.1**
BEKR	**Beckworth**	**64.14**	**59**	P		**P**		**09 09 02.5**	**+1.2**
BEKR				lAmb		lAmb		09 09 03.2	
	comp=Z,6.0nm,1.0s								
AFDM	**Forest Hills D**	**64.38**	**60**	P		**P**		**09 09 03.7**	**+1.0**
AFDM				lAmb		lAmb		09 09 04.6	
	comp=Z,8.0nm,1.3s								
EGMT	**Eagleton**	**64.47**	**46**	P		**P**		**09 09 03.9**	**+0.7**
EGMT				lAmb		lAmb		09 09 05.3	
	comp=Z,18nm,1.4s								
AAL	**Aland**	**64.57**	**334**	*e*P		**P**		**09 09 03.1**	**-0.2**
TBLU	**Trondheim**	**64.67**	**340**	*e*P		**P**		**09 09 01.4**	**-2.6**
DLMT	**Dillon**	**64.82**	**50**	P		**P**		**09 09 05.6**	**+0.1**
DLMT				lAmb		lAmb		09 09 07.7	
	comp=Z,6.1nm,0.8s								
HLID	**Hailey**	**65.06**	**52**	P		**P**		**09 09 08.7**	**+1.6**
BOZ	**Bozeman (W)**	**65.16**	**49**	P		**P**		**09 09 08.6**	**+0.9**
BOZ				pmax		pmax			
	comp=Z,5.0nm,0.6s								
BOZ	**Bozeman (W)**	**65.16**	**49**	P		**P**		**09 09 08.6**	**+0.9**
BOZ				lAmb		lAmb		09 09 09.7	
	comp=Z,5.2nm,0.6s								
CMB	**Columbia Colle**	**65.33**	**60**	P		**P**		**09 09 09.2**	**+0.4**
CMB				pmax		pmax			
	comp=Z,8.0nm,1.2s								
CMB	**Columbia Colle**	**65.33**	**60**	P		**P**		**09 09 09.2**	**+0.4**
CMB				lAmb		lAmb		09 09 11.4	
	comp=Z,8.1nm,1.2s								
YERR	**Yerington**	**65.38**	**59**	P		**P**		**09 09 09.2**	**0.0**
YERR				lAmb		lAmb		09 09 11.4	
	comp=Z,9.9nm,1.1s								
QLMT	**Earthquake Lak**	**65.78**	**50**	P		**P**		**09 09 12.8**	**+1.1**
DOMB	**Dombas**	**65.99**	**340**	*e*P		**P**		**09 09 12.1**	**-0.4**
KVN	**Kaiserville**	**66.00**	**58**	P		**P**		**09 09 14.9**	**+1.8**
KVN				pmax		pmax			
	comp=Z,6.0nm,0.8s								
KVN	**Kaiserville**	**66.00**	**58**	P		**P**		**09 09 14.9**	**+1.8**
KVN				lAmb		lAmb		09 09 15.4	
	comp=Z,5.9nm,0.8s								
IDID	**Didziasalis**	**66.07**	**327**	*e*P		**P**		**09 09 13.0**	**0.0**
ISAL	**Salakas**	**66.10**	**328**	*e*P		**P**		**09 09 13.0**	**-0.3**
NC303	**NORSAR Array S**	**66.12**	**338**	P		**P**		**09 09 12.8**	**-0.5**
NC405	**NORSAR Array S**	**66.13**	**338**	P		**P**		**09 09 12.9**	**-0.5**
IIGN	**Ignalina**	**66.24**	**327**	*e*P		**P**		**09 09 13.6**	**-0.5**
MNK	**Minsk**	**66.26**	**326**	*i* P		**P**		**09 09 11.8**	**-2.4**
	comp=E,3.0nm,1.0s								
MNK				*i* P		**P**		**09 09 11.8**	**-2.4**
	comp=N,33nm,1.1s								
MNK				*i* P		**P**		**09 09 11.8**	**-2.4**
	comp=Z,10.0nm,0.8s								
MNK				*i* pP		**pP**		**09 10 32.1**	**-2.5**
MNK				*i* PP		**PP**		**09 11 44.1**	**-0.9**
MNK				*i* PPP		PPP		09 13 25.4	
MNK				*i* S		**S**		**09 17 28.7**	**-4.0**
MNK				*i* sS		**sS**		**09 19 53.8**	**0.0**
MNK				*i* SS		**SS**		**09 21 55.3**	**-0.7**
MNK				*i* SSS		SSS		09 25 12.5	
MNK				*i* LRM		MLR		09 41 54.5	
	comp=Z,108nm,14.1s								
MNK				*i* LRM		MLR		09 41 55.6	
	comp=N,335nm,15.0s								
MNK				*i* LRM		MLR		09 41 58.0	
	comp=E,30nm,13.7s								
NVAR	**Mina Array Bea**	**66.29**	**59**	P		**P**		**09 09 16.6**	**+1.6**
	comp=E,3.0nm,0.8s,baz=292,slow=6.4,SNR=24								
NB2	**NORSAR Subarra**	**66.32**	**338**	P		**P**		**09 09 13.7**	**-0.9**
	comp=Z,3.8nm,0.5s,baz=30,slow=6.5								
NB2	**NORSAR Subarra**	**66.32**	**338**	P		**P**		**09 09 13.7**	**-0.9**
	baz=30,slow=6.5								
NOA	**NORSAR Array B**	**66.32**	**338**	P		**P**		**09 09 13.7**	**-0.9**
	comp=Z,5.3nm,0.6s,baz=32,slow=6.6,SNR=57								
NOA				pP		**pP**		**09 10 35.4**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=33,slow=6.4,SNR=2.3								
NC602	**NORSAR Array S**	**66.50**	**338**	*e*P		**P**		**09 09 14.7**	**-0.9**
DGMT	**Dagmar**	**66.83**	**43**	P		**P**		**09 09 18.9**	**+0.9**
REDW	**Red Top Meadow**	**67.09**	**51**	P		**P**		**09 09 21.7**	**+1.7**
REDW				lAmb		lAmb		09 09 25.9	
	comp=Z,12nm,1.5s								
KIV	**Kislovodsk**	**67.17**	**310**	⇓P		**P**		**09 09 21.5**	**+1.2**
KIV	**Kislovodsk**	**67.17**	**310**	*e*P		**P**		**09 09 21.7**	**+1.4**
KIV				pmax		pmax			
	comp=Z,111nm,1.0s								
KIV	**Kislovodsk**	**67.17**	**310**	*e*P		**P**		**09 09 21.7**	**+1.4**
KBZ	**Khabaz**	**67.22**	**310**	P		**P**		**09 09 21.3**	**+0.9**
	comp=Z,19nm,0.9s,baz=66,slow=3.9,SNR=21								
KBZ	**Khabaz**	**67.22**	**310**	*ce*P		**P**		**09 09 21.4**	**+1.0**
KBZ				pmax		pmax			
	comp=Z,5.0nm,0.7s								
SHA1	**Shidzhatmaz**	**67.34**	**310**	*i* P		**P**		**09 09 20.9**	**-0.6**
ZEI	**Tsey**	**67.34**	**309**	*e*P		**P**		**09 09 20.6**	**-0.9**
ZEI				pmax		pmax			
	comp=Z,18nm,0.9s								
SKAR	**Skarslia**	**67.36**	**339**	*e*P		**P**		**09 09 20.8**	**-0.3**
OSL	**Oslo**	**67.39**	**338**	*e*P		**P**		**09 09 21.4**	**+0.3**
WB0	**Warramunga Arr**	**67.39**	**192**	P		**P**		**09 09 21.9**	**+0.2**
WB0				lAmb		lAmb		09 09 34.2	
	comp=Z,4.8nm,1.2s								
WR0	**Warramunga Arr**	**67.56**	**192**	P		**P**		**09 09 23.1**	**+0.4**
WB2	**Warramunga Arr**	**67.57**	**192**	P		**P**		**09 09 23.3**	**+0.5**
WB2				lAmb		lAmb		09 09 26.9	
	comp=Z,6.3nm,1.4s								
WRA	**Warramunga Arr**	**67.58**	**192**	P		**P**		**09 09 23.4**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=9.8,slow=6.6,SNR=21								
WRA	**Warramunga Arr**	**67.58**	**192**	*ce*P		**P**		**09 09 27.5**	**+4.7**
WRA	**Warramunga Arr**	**67.58**	**192**	P		**P**		**09 09 23.3**	**+0.5**
KONO	**Kongsberg**	**67.93**	**338**	*e*P		**P**		**09 09 24.2**	**-0.3**
BW06	**Boulder Array**	**68.19**	**50**	P		**P**		**09 09 27.5**	**+0.8**
BW06				lAmb		lAmb		09 09 28.4	
	comp=Z,4.5nm,0.9s								
PD31	**Pinedale Array**	**68.19**	**50**	P		**P**		**09 09 27.7**	**+1.0**
PD31				lAmb		lAmb		09 09 28.4	
	comp=Z,4.3nm,0.9s								
PDAR	**Pinedale Array**	**68.19**	**50**	P		**P**		**09 09 27.6**	**+0.8**
	comp=Z,3.7nm,0.6s,baz=35,slow=1.1,SNR=44								
PDAR				pP		**pwP**		**09 10 49.6**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=318,slow=4.9,SNR=2.7								
DUG	**Dugway, Tooele**	**68.22**	**54**	P		**P**		**09 09 27.9**	**+1.0**
DUG				pmax		pmax			
	comp=Z,4.0nm,0.7s								
DUG	**Dugway, Tooele**	**68.22**	**54**	P		**P**		**09 09 27.9**	**+1.0**
DUG				lAmb		lAmb		09 09 28.9	
	comp=Z,4.4nm,0.7s								
PALK	**Pallekele**	**68.22**	**257**	P		**P**		**09 09 27.4**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=132,slow=5.9,SNR=5.0								
PALK	**Pallekele**	**68.22**	**257**	P		**P**		**09 09 26.9**	**-0.1**
PALK				lAmb		lAmb		09 09 43.8	
	comp=Z,14nm,1.2s								
TPNV	**Topopah Spring**	**68.49**	**59**	P		**P**		**09 09 28.5**	**-0.1**
TPNV				pmax		pmax			
	comp=Z,4.0nm,0.9s								
TPNV	**Topopah Spring**	**68.49**	**59**	P		**P**		**09 09 28.5**	**-0.1**
TPNV				lAmb		lAmb		09 09 30.8	
	comp=Z,4.3nm,0.8s								
AKASG	**Malin Array Be**	**68.60**	**323**	P		**P**		**09 09 28.0**	**-0.8**
	comp=Z,12nm,0.6s,baz=36,slow=6.3,SNR=27								
AKASG				pP		**pP**		**09 10 50.5**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=39,slow=6.5,SNR=3.1								
AKASG	**Malin Array Be**	**68.60**	**323**	P		**P**		**09 09 27.8**	**-1.0**
AKASG				lAmb		lAmb		09 09 28.4	
	comp=Z,2.5nm,0.6s								
AKBB	**Malin Array Si**	**68.60**	**323**	*ce*P		**P**		**09 09 28.3**	**-0.5**
AKBB	**Malin Array Si**	**68.60**	**323**	P		**P**		**09 09 28.1**	**-0.7**
NLU	**North Lily Min**	**68.79**	**54**	P		**P**		**09 09 31.2**	**+0.7**
NLU				lAmb		lAmb		09 09 33.1	
	comp=Z,3.7nm,0.8s								
MPU	**Maple Canyon**	**68.99**	**54**	P		**P**		**09 09 31.1**	**-0.6**
MPU				lAmb		lAmb		09 09 34.4	
	comp=Z,8.8nm,1.3s								
ULM	**Lac du Bonnet**	**69.19**	**37**	P		**P**		**09 09 31.9**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=323,slow=3.7,SNR=5.6								
ASAR	**Alice Springs**	**71.30**	**192**	P		**P**		**09 09 46.8**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=8.4,slow=5.3,SNR=14								
PV22	**Blue Mesa, Par**	**71.60**	**53**	P		**P**		**09 09 47.1**	**-0.2**
PV22				lAmb		lAmb		09 09 49.2	
	comp=Z,5.5nm,0.7s								
PV16	**Nyswonger Mesa**	**71.69**	**53**	P		**P**		**09 09 48.6**	**+0.7**
PV16				lAmb		lAmb		09 09 49.4	
	comp=Z,3.9nm,0.8s								
DIKM	**Dikmen**	**72.63**	**313**	⇑P		**P**		**09 09 53.5**	**+0.5**
BUR08	**Bucovina Ar. S**	**72.64**	**323**	P		**P**		**09 09 53.2**	**+0.1**
BUR08				lAmb		lAmb		09 09 53.9	
	comp=Z,7.3nm,0.7s								
BURAR	**Bucovina Array**	**72.66**	**323**	⇓P		**P**		**09 09 53.0**	**-0.2**
BURAR	**Bucovina Array**	**72.66**	**323**	⇓P		**P**		**09 09 53.0**	**-0.2**
BURAR	**Bucovina Array**	**72.66**	**323**	P		**P**		**09 09 53.0**	**-0.2**
MVCO	**Mesa Verde**	**72.71**	**54**	P		**P**		**09 09 54.5**	**+0.5**
MVCO				lAmb		lAmb		09 09 55.9	
	comp=Z,3.3nm,0.8s								
EYMN	**Ely**	**72.79**	**37**	P		**P**		**09 09 53.9**	**0.0**
EYMN				lAmb		lAmb		09 09 54.5	
	comp=Z,7.9nm,0.7s								
KOLS	**Kolonicke sedl**	**72.79**	**325**	*e*P		**P**		**09 09 53.7**	**-0.2**
KOLS	**Kolonicke sedl**	**72.79**	**325**	*e*P		**P**		**09 09 53.7**	**-0.2**
BIZ	**Bicaz**	**72.82**	**322**	⇑P		**P**		**09 09 54.0**	**0.0**
TESR	**Tescani**	**72.92**	**321**	⇑P		**P**		**09 09 54.4**	**-0.3**
TLCR		**73.00**	**319**	⇑P		**P**		**09 09 54.9**	**-0.2**
TLCR		**73.00**	**319**	⇑P		**P**		**09 09 54.9**	**-0.2**
CRVS	**Cervenica-Dubn**	**73.13**	**326**	*e*P		**P**		**09 09 56.0**	**+0.2**
CRVS	**Cervenica-Dubn**	**73.13**	**326**	*e*P		**P**		**09 09 56.0**	**+0.2**
CFR	**Carcaliu**	**73.31**	**319**	⇓P		**P**		**09 09 56.9**	**0.0**
CFR	**Carcaliu**	**73.31**	**319**	⇓P		**P**		**09 09 56.9**	**0.0**
ODBI	**Odobesti**	**73.33**	**320**	⇑P		**P**		**09 09 58.3**	**+1.3**
VRI	**Vrincioaia**	**73.39**	**321**	⇑P		**P**		**09 09 58.0**	**+0.6**
VRI	**Vrincioaia**	**73.39**	**321**	⇑P		**P**		**09 09 58.0**	**+0.6**
TPGR	**Topolog**	**73.44**	**319**	⇑P		**P**		**09 09 57.7**	**0.0**
LANS	**Liptovska Anna**	**73.69**	**327**	*e*P		**P**		**09 10 00.0**	**+0.9**
LANS				pmax		pmax			
	comp=Z,5.0nm,0.8s								
LANS	**Liptovska Anna**	**73.69**	**327**	*e*P		**P**		**09 10 00.0**	**+0.9**
OSTC	**Ostas**	**73.69**	**329**	*e*P		**P**		**09 09 56.5**	**-2.6**
CHVC	**Chvalec**	**73.72**	**330**	*e*P		**P**		**09 09 59.3**	**+0.1**
TIRR	**Tirgusor**	**73.75**	**319**	⇑P		**P**		**09 09 59.8**	**+0.3**
TIRR	**Tirgusor**	**73.75**	**319**	⇑P		**P**		**09 09 59.8**	**+0.3**
HARR	**Harsova**	**73.78**	**319**	⇑P		**P**		**09 10 00.0**	**+0.4**
HARR	**Harsova**	**73.78**	**319**	⇑P		**P**		**09 10 00.0**	**+0.4**
UPC	**Upice**	**73.80**	**330**	*e*P		**P**		**09 09 58.9**	**-0.8**
UPC	**Upice**	**73.80**	**330**	*e*P		**P**		**09 09 58.9**	**-0.8**
DPC	**Dobruska-Polom**	**73.83**	**329**	*e*P		**P**		**09 09 59.8**	**-0.1**
DPC	**Dobruska-Polom**	**73.83**	**329**	*e*P		**P**		**09 09 59.8**	**-0.1**
MORC	**Moravsky Berou**	**73.87**	**328**	⇑P		**P**		**09 10 00.3**	**+0.1**
MORC	**Moravsky Berou**	**73.87**	**328**	*e*P		**P**		**09 10 00.3**	**+0.1**
MORC	**Moravsky Berou**	**73.87**	**328**	⇑P		**P**		**09 10 00.3**	**+0.1**
MORC	**Moravsky Berou**	**73.87**	**328**	P		**P**		**09 10 00.2**	**+0.1**
MORC				lAmb		lAmb		09 10 01.2	
	comp=Z,10nm,0.9s								
KRLC	**Kraliky**	**73.89**	**329**	*e*P		**P**		**09 10 00.3**	**0.0**
KRLC	**Kraliky**	**73.89**	**329**	*e*P		**P**		**09 10 00.3**	**0.0**
MLR	**Muntele Rosu**	**74.03**	**321**	⇑P		**P**		**09 10 01.3**	**+0.1**
MLR	**Muntele Rosu**	**74.03**	**321**	⇑P		**P**		**09 10 01.3**	**+0.1**
MLR	**Muntele Rosu**	**74.03**	**321**	P		**P**		**09 10 00.9**	**-0.3**
MLR				lAmb		lAmb		09 10 03.0	
	comp=Z,5.6nm,0.8s								
ISR	**Istrita**	**74.06**	**320**	⇓P		**P**		**09

KMBO	**Kilima Mbogo**	**20.22**	**226**	P		**P**	**09 05 26.8**	**-0.4**
	1.0nm,0.4s,baz=47,slow=19,SNR=2.0							
MMAI	**Mount Meron Ar**	**24.58**	**326**	P		**P**	**09 06 13.2**	**+1.3**
	0.4nm,0.3s,baz=11,slow=23,SNR=2.4							
GEYT	**Alibeck**	**25.20**	**12**	P		**P**	**09 06 16.6**	**-0.8**
	2.4nm,0.7s,baz=180,slow=10,SNR=2.2							
GNI	**Garni**	**27.42**	**348**	LR		LR	09 19 46.0	
	comp=Z,164nm,19.8s,baz=149,slow=42							
BRTR	**Keskin Array B**	**30.72**	**332**	P		**P**	**09 07 07.8**	**+0.8**
	0.4nm,0.7s,baz=127,slow=9.2,SNR=2.1							
KBZ	**Khabaz**	**31.23**	**348**	P		**P**	**09 07 11.0**	**-0.2**
	5.0nm,1.0s,baz=43,slow=7.2,SNR=3.6							
KBZ				LR		LR	09 22 11.7	
	comp=Z,176nm,19.4s,baz=146,slow=41							
BELG	**Belogornoye**	**39.12**	**356**	P		**P**	**09 08 19.5**	**+0.5**
	4.4nm,0.8s,baz=211,slow=12,SNR=2.0							
MATP	**Matopo**	**40.51**	**215**	P		**P**	**09 08 31.0**	**-0.1**
	1.4nm,0.9s,baz=18,slow=9.6,SNR=2.3							
AKASG	**Malin Array Be**	**41.51**	**339**	P		**P**	**09 08 38.7**	**-0.2**
	0.8nm,0.5s,baz=149,slow=7.5,SNR=4.5							
MKAR	**Makanchi Array**	**42.14**	**31**	P		**P**	**09 08 45.4**	**+1.1**
	0.5nm,0.5s,baz=222,slow=8.6,SNR=2.9							
KURBB	**Kurchatov Arra**	**43.18**	**25**	P		**P**	**09 08 53.5**	**+1.0**
	0.8nm,0.5s,baz=228,slow=8.2,SNR=4.1							
CMAR	**Chiang Mai Arr**	**45.70**	**77**	P		**P**	**09 09 14.8**	**+1.6**
	1.0nm,0.4s,baz=280,slow=10.0,SNR=8.3							
LBTB	**Lobatse**	**45.77**	**214**	P		**P**	**09 09 14.4**	**+0.8**
	1.2nm,0.9s,baz=15,slow=16,SNR=2.1							
ZALV	**Zalesovo Beam**	**48.24**	**26**	P		**P**	**09 09 33.5**	**+1.0**
	1.8nm,0.6s,baz=246,slow=11,SNR=8.0							
TORD	**Torodi Ar. Bea**	**48.53**	**276**	P		**P**	**09 09 34.9**	**-0.5**
	1.3nm,0.8s,baz=88,slow=7.6,SNR=4.1							
BOSA	**Boshof**	**48.86**	**211**	P		**P**	**09 09 37.9**	**+0.2**
	2.4nm,0.7s,baz=30,slow=7.4,SNR=5.4							
FINES	**FINESS Array B**	**51.49**	**345**	P		**P**	**09 09 55.7**	**-1.3**
	1.1nm,0.7s,baz=128,slow=9.1,SNR=1.2							
ESDC	**Sonseca Array**	**55.25**	**309**	P		**P**	**09 10 24.1**	**-1.0**
	1.1nm,1.0s,baz=109,slow=8.0,SNR=3.2							
ARCES	**ARCESS Array B**	**58.57**	**350**	P		**P**	**09 10 47.2**	**-1.0**
	1.1nm,0.7s,baz=90,slow=2.4,SNR=1.5							
WRA	**Warramunga Arr**	**87.79**	**111**	P		**P**	**09 13 43.0**	**+1.4**
	0.5nm,0.8s,baz=296,slow=4.8,SNR=2.3							
ASAR	**Alice Springs**	**88.36**	**115**	P		**P**	**09 13 45.0**	**+0.7**
	0.2nm,0.8s,baz=290,slow=4.7,SNR=1.7							

IDC 29 09:06:54.0±14.0, **14°52S**×**167°07E, h0**km, **mb3.4**/3, **mb1 3.7**/4, **mb1mx3.4**/33, **mbtmp3.5**/4, **ML3.7**/1, **Error ellipse: s-maj=251.4km s-min=41.5km az=64.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.54**	**184**	Pn	Pn	09 08 45.4	+0.1
	1.1nm,0.3s,baz=306,slow=14,SNR=18						
DZM				Sn	Sn	09 10 12.4	+0.8
	0.2nm,0.3s,baz=221,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**28.99**	**229**	P	P	09 12 55.3	-0.2
	0.7nm,0.7s,baz=69,slow=14,SNR=1.4						
WRA	**Warramunga Arr**	**31.69**	**256**	P	P	09 13 19.8	+0.2
	0.6nm,1.1s,baz=85,slow=8.8,SNR=1.6						
ASAR	**Alice Springs**	**32.57**	**249**	P	P	09 13 27.2	-0.1
	0.2nm,0.6s,baz=76,slow=9.2,SNR=2.1						

ATH 29 09:08:08.8, 37°56N×**21°65E, h23**km±7km, **ML1.9**/1, **Error ellipse: s-maj=7.8km s-min=1.1km az=158.0, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRO	**Drossia**	**0.40**	**7**	P	Pb	09 08 16.8	-0.4
DRO				S	Sb	09 08 23.3	+0.2
DRO				AML	AML	09 08 23.8	
	comp=N,353μm,0.2s						
DRO				AML	AML	09 08 25.7	
	comp=E,408μm,0.4s						
ITM	**Ithomi**	**0.43**	**150**	P	Pb	09 08 17.7	-0.2
ITM				S	Sb	09 08 23.8	-0.2
VTN	**Vitineika**	**0.52**	**314**	P	Pb	09 08 18.9	-0.3
PYL	**PYLOS**	**0.66**	**174**	P	Pb	09 08 21.7	0.0
LAKA	**Lakka**	**0.73**	**21**	P	Pb	09 08 22.5	-0.4
LAKA				S	Sb	09 08 32.8	+0.3
TRIZ	**Trizonia**	**0.87**	**22**	P	Pb	09 08 24.9	-0.4
KALE	**Kalithea**	**0.92**	**25**	P	Pb	09 08 25.6	-0.6

*ATH **29** 09:09:11.8, 39°28N×24°74E, h18km±4km, ML2.4/4, Error ellipse: s-maj=4.9km s-min=1.1km az=221.0*
*THE **29** 09:09:12.0, 39°30N×24°74E, h12km±1km, ML2.3/7, Error ellipse: s-maj=1.4km s-min=0.7km az=167.0*
*DDA **29** 09:09:13.0, 39°27N×24°96E, h20km±1km, ML2.1*
ISC 29 09:09:11.4±1.0, **39°29N**±0°02×**24°74E**±0°02, **h12**km±9km, **n28,σ0§81/44, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKY	**Skiros Island**	**0.44**	**199**	P	**Pg**	**09 09 19.9**	**0.0**
SKY				S	**Sg**	**09 09 26.6**	**+0.8**
SKY	**Skiros Island**	**0.44**	**199**	P	**Pg**	**09 09 20.0**	**0.0**
LIA	**Limnos Island**	**0.70**	**30**	P	**Pg**	**09 09 25.5**	**+0.6**
LIA				S	**Sg**	**09 09 34.7**	**+0.6**
LIA				AML	AML	09 09 36.6	
	comp=E,640μm,0.2s						
LIA				AML	AML	09 09 36.7	
	comp=N,1207μm,0.2s						
LIA	**Limnos Island**	**0.70**	**30**	P	**Pg**	**09 09 25.5**	**+0.6**
LIA				S	**Sg**	**09 09 34.6**	**+0.4**
	comp=N,462nm,0.2s						
KYMI	**Kymi, Euboea I**	**0.82**	**217**	P	**Pg**	**09 09 27.4**	**+0.2**
KYMI				S	**Sb**	**09 09 40.4**	**+1.8**
	comp=N,355nm,0.5s						
SIGR	**SIGRI**	**0.87**	**95**	P	**Pg**	**09 09 28.3**	**0.0**
SIGR				S	**Sg**	**09 09 39.6**	**0.0**
SIGR				AML	AML	09 09 43.4	
	comp=E,255μm,0.4s						
SIGR				AML	AML	09 09 44.6	
	comp=N,264μm,0.7s						
SIGR	**SIGRI**	**0.87**	**95**	P	**Pg**	**09 09 28.6**	**+0.4**
PAIG	**Palíouri**	**1.03**	**308**	P	**Pg**	**09 09 31.4**	**+0.1**
PAIG	**Palíouri**	**1.03**	**308**	P	**Pg**	**09 09 31.4**	**+0.1**
PAIG				S	**Sn**	**09 09 46.9**	**+0.9**
	comp=N,85nm,0.8s						
EREA	**Eretria**	**1.07**	**216**	P	**Pg**	**09 09 31.4**	**-0.6**
EREA				AML	AML	09 09 49.5	
	comp=N,582μm,0.3s						
EREA				AML	AML	09 09 52.0	
	comp=E,448μm,0.4s						
KOCA	**Canakkale, Ayv**	**1.11**	**79**	*i* P	**Pg**	**09 09 33.3**	**+0.6**
KOCA				*i* S	**Sg**	**09 09 43.9**	**-3.2**
KOCA				IAML		09 09 49.0	
	comp=E,50nm,0.2s						
BOZC	**Bozcaada**	**1.16**	**61**	*i* P	**Pb**	**09 09 32.8**	**-0.6**
BOZC				*i* S	**Sb**	**09 09 47.3**	**-1.0**
BOZC				IAML		09 09 49.0	
	comp=N,45nm,0.3s						
BOZC				IAML		09 09 50.0	
	comp=E,41nm,0.8s						
OUR	**Ouranopolis**	**1.19**	**331**	P	**Pb**	**09 09 33.8**	**-0.1**
PRK	**Paraskevi**	**1.19**	**92**	P	**Pb**	**09 09 34.0**	**+0.1**
PRK				S	**Sg**	**09 09 50.2**	**+0.3**
	comp=E,122nm,0.6s						
XOR	**Xorichti**	**1.20**	**274**	P	**Pb**	**09 09 33.4**	**-0.6**
XOR	**Xorichti**	**1.20**	**274**	P	**Pb**	**09 09 33.9**	**-0.1**
GOKA	**anakkale-Gk**	**1.28**	**45**	*i* P	**Pn**	**09 09 35.0**	**+0.1**
GOKA				*i* S	**Sb**	**09 09 51.5**	**-0.2**
KARY	**Karystos**	**1.28**	**191**	P	**Pn**	**09 09 34.3**	**-0.7**
THAS	**Thassos island**	**1.31**	**359**	P	**Pn**	**09 09 35.1**	**-0.4**
THAS	**Thassos island**	**1.31**	**359**	P	**Pn**	**09 09 35.1**	**-0.4**
THAS				S	**Sb**	**09 09 52.7**	**-0.1**
	comp=E,45nm,0.3s						
SMTH	**Samothraki Isl**	**1.33**	**27**	P	**Pn**	**09 09 34.9**	**-0.8**
SMTH				S	**Sb**	**09 09 53.8**	**+0.6**
	comp=E,55nm,0.4s						
DION	**Dionisos Attik**	**1.36**	**208**	P	**Pn**	**09 09 35.8**	**-0.4**
DION				AML	AML	09 09 58.1	
	comp=N,299μm,0.4s						
DION				AML	AML	09 10 00.3	
	comp=E,353μm,0.2s						
DION	**Dionisos Attik**	**1.36**	**208**	P	**Pn**	**09 09 36.0**	**-0.2**
DION				S	**Sb**	**09 09 53.9**	**-0.3**
	comp=E,220nm,0.3s						
CHOS	**Chios island**	**1.37**	**131**	P	**Pn**	**09 09 36.2**	**-0.1**
CHOS	**Chios island**	**1.37**	**131**	P	**Pn**	**09 09 36.2**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.47**	**72**	*i* P	**Pn**	**09 09 37.7**	**0.0**
BAYC				*i* S	**Sn**	**09 09 56.5**	**-0.4**
KESN	**Edirne-Kesan**	**2.14**	**44**	*i* P	**Pn**	**09 09 47.0**	**-0.3**
KESN				*i* S	**Sn**	**09 10 13.2**	**-0.7**
KESN				IAML		09 10 23.0	
	comp=E,18nm,0.3s						
KESN				IAML		09 10 24.0	
	comp=N,15nm,0.4s						
BALY	**Balya**	**2.28**	**78**	*i* P	**Pn**	**09 09 50.2**	**+1.4**
BALY				*i* S	**Sn**	**09 10 18.3**	**+1.5**
BALY				IAML		09 10 24.0	
	comp=E,11nm,0.5s						
BALY				IAML		09 10 27.0	
	comp=N,15nm,0.4s						

IDC 29 09:38:10.8±1.7, **0°20N**×**129°38E, h0**km, **mb3.2**/3, **mb1 3.4**/4, **mb1mx3.2**/36, **mbtmp3.2**/4, **ML2.8**/1, **Error ellipse: s-maj=49.3km s-min=24.5km az=50.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.16**	**119**	Pn	Pn	09 38 47.7	-0.4
	2.8nm,0.3s,baz=318,slow=17,SNR=2.2						
SIJI				Sn	Sn	09 39 16.9	+1.2
	1.4nm,0.3s,baz=24,slow=20,SNR=1.4						
WRA	**Warramunga Arr**	**20.59**	**167**	P	P	09 42 51.5	-0.2
	0.4nm,0.6s,baz=346,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**24.12**	**170**	P	P	09 43 28.8	+0.2
	1.7nm,0.9s,baz=350,slow=8.0,SNR=19						
MKAR	**Makanchi Array**	**61.95**	**325**	P	P	09 48 32.5	0.0
	0.1nm,0.5s,baz=124,slow=7.9,SNR=1.7						

IDC 29 09:38:20.1±5.4, **3°14S**×**100°71E, h0**km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.2**/40, **mbtmp3.3**/3, **Error ellipse: s-maj=262.8km s-min=30.4km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**28.44**	**260**	T	T	10 13 31.5	
	baz=83,slow=76,SNR=8.3						
H08S3	**Diego Garcia H**	**28.45**	**260**	T	T	10 13 31.6	
	baz=83,slow=76,SNR=28						
H08S1	**Diego Garcia H**	**28.46**	**260**	T	T	10 13 31.3	
	baz=83,slow=76,SNR=7.7						
WRA	**Warramunga Arr**	**36.81**	**120**	P	P	09 45 28.9	-1.2
	0.4nm,0.9s,baz=294,slow=8.1,SNR=1.5						
ASAR	**Alice Springs**	**38.01**	**125**	P	P	09 45 41.0	+0.6
	0.2nm,0.8s,baz=297,slow=8.0,SNR=7.2						
MKAR	**Makanchi Array**	**52.31**	**344**	P	P	09 47 33.4	-0.2
	0.2nm,0.5s,baz=164,slow=7.8,SNR=3.0						
TXAR	**Lajitas Array**	**145.15**	**39**	PKPbc	PKPbc	09 57 59.3	-0.7
	0.1nm,0.4s,baz=318,slow=1.2,SNR=3.9						

*IDC **29** 09:41:09.7±7.9, 6°20S×12°54W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/26, mbtmp3.7/4, MS3.6/4, Ms1 3.6/4, ms1mx3.2/27, Error ellipse: s-maj=239.7km s-min=126.8km az=148.0*
ISC 29 09:41:06.4±3.5, **7°S**±1°×**12°8W**±0°9, **h10**km, **n12**, **σ1§15/7, mb3.9/4, MS3.6/3, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**1.92**	**240**	Pn	**Pn**	**09 41 38.8**	**-0.1**
H10N2				T	T	09 43 48.8	
	baz=69,slow=74,SNR=685						
H10N1	**ASCENSION HYDR**	**1.92**	**239**	Pn	**Pn**	**09 41 38.8**	**-0.1**
H10N1				T	T	09 43 48.8	
	baz=69,slow=74,SNR=665						
H10N3	**ASCENSION HYDR**	**1.94**	**240**	Pn	**Pn**	**09 41 39.1**	**-0.1**
H10N3				T	T	09 43 55.3	
	baz=69,slow=74,SNR=721						
H10S2	**ASCENSION HYDR**	**2.77**	**221**	T	T	09 44 47.4	
	baz=172,slow=74,SNR=82						
H10S3	**ASCENSION HYDR**	**2.77**	**221**	T	T	09 44 48.0	
	baz=48,slow=74,SNR=144						
DBIC	**Dimbokro**	**15.61**	**31**	LR	LR	09 49 35.5	
	comp=Z,259nm,20.5s,baz=242,slow=34						
TORD	**Torodi Ar. Bea**	**24.55**	**36**	P	**P**	**09 46 24.8**	**-1.8**
	2.9nm,0.9s,baz=218,slow=8.4,SNR=10						
TORD				LR	LR	09 54 55.5	
	comp=Z,180nm,20.6s,baz=250,slow=35						
GERES	**GERESS Array B**	**60.14**	**20**	P	**P**	**09 51 15.0**	**+0.8**
	0.4nm,0.7s,baz=224,slow=8.3,SNR=2.7						
PLCA	**Paso Flores**	**61.32**	**227**	LR	LR	10 15 03.1	
	comp=Z,57nm,20.1s,baz=60,slow=33						
ROSC	**El Rosal**	**62.48**	**279**	LR	LR	10 18 13.7	
	comp=Z,42nm,18.4s,baz=48,slow=36						
BRTR	**Keskin Array B**	**63.12**	**39**	P	**P**	**09 51 35.7**	**+1.0**
	0.8nm,0.8s,baz=241,slow=3.0,SNR=3.7						
AKASG	**Malin Array Be**	**67.83**	**27**	P	**P**	**09 52 04.2**	**-0.4**
	0.8nm,0.6s,baz=227,slow=6.5,SNR=6.5						

*TIF **29** 09:51:57.6, 42°53N×43°59E, h15km±1km*
*NORS **29** 09:51:58.2±0.0, 42°50N×43°54E, h14km, MPVA3.4*
ISC 29 09:51:57.9±0.9, **42°52N**±0°03×**43°57E**±0°03, **h16**km±6km, **n15,σ0§43/30, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.11**	**312**	P	**Pg**	**09 52 01.4**	**-0.1**
ONI				S	**Sg**	**09 52 03.7**	**-0.2**
ONI	**Oni**	**0.11**	**312**	*i* Pg	**Pb**	**09 52 01.6**	**-0.2**
ONI				*e*Sg	**Sg**	**09 52 03.9**	**0.0**
ZEI	**Tsey**	**0.37**	**42**	*i* Pg	**Pb**	**09 52 06.0**	**-0.2**
ZEI				*e*Sg	**Sb**	**09 52 11.5**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.39**	**2**	*i* Pg	**Pb**	**09 52 06.2**	**-0.3**
DIGR				*e*Sg	**Sb**	**09 52 11.9**	**-0.4**
TKB	**Tkibuli**	**0.45**	**249**	P	**Pb**	**09 52 07.6**	**0.0**
TKB				S	**Sb**	**09 52 14.6**	**+0.5**
LACR	**Lac**	**0.62**	**60**	*e*Pg	**Pb**	**09 52 10.8**	**+0.3**
LACR				*e*Sg	**Sb**	**09 52 19.4**	**+0.4**
KORR	**Kora**	**0.68**	**33**	*e*Pg	**Pb**	**09 52 12.3**	**+0.9**
KORR				*e*Sg	**Sn**	**09 52 22.9**	**-0.3**
MTEO	**Meteo**	**0.73**	**77**	P	**Pb**	**09 52 12.7**	**+0.1**
MTEO				S	**Sg**	**09 52 21.9**	**-0.1**
BKRG	**Bakuriani**	**0.76**	**183**	P	**Pb**	**09 52 13.3**	**+0.5**
BKRG				S	**Sn**	**09 52 24.3**	**-1.0**
PNSH	**Pansheti**	**0.78**	**81**	P	**Pb**	**09 52 13.5**	**+0.2**
PNSH				S	**Sg**	**09 52 23.5**	**-0.1**
LSNR	**Lesken**	**0.79**	**14**	*e*Pg	**Pn**	**09 52 14.2**	**-0.2**
LSNR				*e*Sg	**Sn**	**09 52 25.5**	**-0.4**
ABS	**Abastumani**	**0.94**	**217**	P	**Pg**	**09 52 16.3**	**+0.1**
ABS				S	**Sn**	**09 52 29.4**	**-0.5**
NEY	**Neytrino**	**0.96**	**320**	*e*Pg	**Pg**	**09 52 16.7**	**+0.1**
NEY				*e*Sg	**Sg**	**09 52 29.8**	**+0.6**
DMNI	**Dmanisi**	**1.27**	**158**	P	**Pb**	**09 52 21.9**	**+0.3**
DMNI				S	**Sg**	**09 52 39.2**	**+0.1**
SHA1	**Shidzhatmaz**	**1.39**	**332**	*e*Pg	**Pg**	**09 52 25.6**	**+0.8**
SHA1				*e*Sg	**Sg**	**09 52 43.5**	**+0.5**

IDC 29 10:11:38.9±5.1, **24°20N**×**95°98E, h0**km, **mb3.3**/4, **mb1 3.5**/4, **mb1mx3.1**/47, **mbtmp3.3**/4, **MS3.5**/1, **Ms1 3.5**/1, **ms1mx2.5**/32, **Error ellipse: s-maj=543.5km s-min=23.4km az=59.0, Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**25.08**	**337**	P	P	10 17 05.4	+0.3
	0.7nm,0.6s,baz=145,slow=10,SNR=9.2						
KURBB	**Kurchatov Arra**	**29.65**	**337**	P	P	10 17 45.6	-0.4
	0.8nm,0.5s,baz=147,slow=8.7,SNR=1.2						
AKASG	**Malin Array Be**	**57.07**	**316**	LR	LR	10 46 28.5	
	comp=Z,45nm,21.5s,baz=305,slow=37						
WRA	**Warramunga Arr**	**57.62**	**136**	P	P	10 21 31.5	+0.4
	0.2nm,0.6s,baz=325,slow=7.2,SNR=2.0						
ASAR	**Alice Springs**	**60.14**	**139**	P	P	10 21 48.2	-0.4
	0.2nm,0.5s,baz=320,slow=6.7,SNR=5.8						

*IDC **29** 10:36:50.2±1.3, 14°67S×167°96E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/32, mbtmp4.1/12, ML4.2/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/29, Error ellipse: s-maj=41.4km s-min=20.0km az=124.0*
*NOU **29** 10:36:53.7, 14°65S×167°30E, h8km, MLv4.7, Vanuatu Islands*
ISC 29 10:36:51.7±0.8, **14°71S**±0°07×**168°0E**±0°2, **h10**km, **n21**, **σ1§55/20, mb4.0/11, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.07**	**227**	P	Pn	10 37 09.2	-3.5
DVP	**Devils Point**	**3.00**	**177**	P	**Pb**	**10 37 43.9**	**-1.3**
YATNC	**Mamie plateau,**	**7.38**	**188**	P	**Pn**	**10 38 41.5**	**+1.9**
DZM	**Mont Dzumac**	**7.47**	**191**	Pn	**Pn**	**10 38 41.8**	**+1.0**
	3.7nm,0.3s,baz=66,slow=3.5,SNR=30						
DZM				Sn	**Sn**	**10 40 03.7**	**-2.0**
	0.7nm,0.3s,baz=308,slow=18,SNR=1.1						
DZM				LR	LR	10 40 31.7	
	comp=Z,51nm,19.7s,baz=22,slow=30						
DZM	**Mont Dzumac**	**7.47**	**191**	P	**Pn**	**10 38 42.0**	**+1.2**
ONTNC	**Ouen Toro**	**7.70**	**191**	P	**Pn**	**10 38 46.2**	**+2.3**
OUENC	**Ouen Island, N**	**7.74**	**188**	P	**Pn**	**10 38 46.7**	**+2.2**
PINNC	**Pines Island,**	**7.88**	**184**	P	**Pn**	**10 38 49.4**	**+3.1**
HNR	**Honiara**	**9.47**	**303**	LR	LR	10 42 44.4	
	comp=Z,78nm,19.0s,baz=203,slow=38						
CTA	**Charters Tower**	**21.43**	**252**	P	**P**	**10 41 41.4**	**+1.2**
	5.1nm,0.8s,baz=124,slow=21,SNR=3.7						
STKA	**Stephens Creek**	**29.55**	**230**	P	**P**	**10 42 57.7**	**+1.0**
	1.6nm,0.4s,baz=47,slow=7.3,SNR=7.2						
STKA				LR	LR	10 54 10.4	
	comp=Z,52nm,19.3s,baz=194,slow=35						
WRA	**Warramunga Arr**	**32.52**	**256**	P	**P**	**10 43 21.3**	**-1.8**
	0.6nm,0.6s,baz=86,slow=8.9,SNR=9.3						
ASAR	**Alice Springs**	**33.35**	**249**	P	**P**	**10 43 29.2**	**-1.1**
	1.0nm,0.6s,baz=83,slow=8.8,SNR=14						
MJAR	**Matsushiro Arr**	**58.23**	**332**	P	**P**	**10 46 45.9**	**-0.4**
	1.6nm,0.9s,baz=164,slow=9.3,SNR=4.4						
KSRS	**Korea Array**	**64.13**	**325**	P	**P**	**10 47 26.4**	**0.0**
	0.7nm,0.8s,baz=136,slow=6.9,SNR=5.0						
SONM	**Songino Array**	**82.91**	**323**	P	**P**	**10 49 18.1**	**+1.3**
	0.6nm,0.6s,baz=141,slow=5.0,SNR=5.2						
ILAR	**Eielson Array**	**86.29**	**18**	P	**P**	**10 49 33.1**	**-0.3**
	1.1nm,0.8s,baz=235,slow=5.9,SNR=8.7						
YKA	**Yellowknife Ar**	**97.20**	**27**	P	**P**	**10 50 23.9**	**-0.4**
	0.4nm,0.9s,baz=251,slow=4.0,SNR=6.7						
MKAR	**Makanchi Array**	**97.69**	**316**	P	**P**	**10 50 26.8**	**-0.1**
	1.1nm,0.7s,baz=99,slow=6.1,SNR=14						
ZALV	**Zalesovo Beam**	**97.80**	**324**	P	**P**	**10 50 26.6**	**-0.6**
	0.5nm,0.5s,baz=107,slow=4.8,SNR=2.2						
ARCES	**ARCESS Array B**	**120.42**	**346**	PKP	**PKPdf**	**10 55 42.1**	**-0.7**
	2.3nm,0.8s,baz=38,slow=4.6,SNR=3.6						

*SOF **29** 10:46:12.4, 40°93N×22°24E, h10km, MD2.6*
*SKO **29** 10:46:13.0, 40°87N×22°36E, h15km*
*ATH **29** 10:46:14.1, 40°87N×22°37E, h6km±2km, ML2.3/16, Error ellipse: s-maj=3.1km s-min=0.8km az=339.0*
*THE **29** 10:46:14.1, 40°87N×22°37E, h5km, ML2.2/9, Error ellipse: s-maj=0.9km s-min=0.4km az=340.0*
*BEO **29** 10:46:15.5±0.3, 40°96N×22°35E, h9km±2km, ML2.3/8*
ISC 29 10:46:13.6±0.8, **40°88N**±0°02×**22°31E**±0°02, **h9**km±5km, **n70,σ1§37/104, 16C-11D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRG	**Griva**	**0.11**	**42**	P	**Pg**	**10 46 16.0**	**-0.2**
GRG				S	**Sg**	**10 46 17.9**	**-0.2**
GRG				AML	AML	10 46 18.3	
	comp=E,18483μm,0.2s						
GRG				AML	AML	10 46 18.4	
	comp=N,15482μm,0.2s						
GRG	**Griva**	**0.11**	**42**	P	**Pg**	**10 46 16.0**	**-0.2**
GRG				S	**Sg**	**10 46 17.6**	**-0.5**
GRG	**Griva**	**0.11**	**42**	↑ *i*Pg	**Pg**	**10 46 16.1**	**-0.2**
GRG				*i* Sg	**Sg**	**10 46 18.1**	**-0.1**
VAY	**Valandovo**	**0.49**	**24**	*e*Pg	**Pg**	**10 46 22.9**	**-0.2**
VAY				*e*Sg	**Sg**	**10 46 30.6**	**+1.1**
VAY	**Valandovo**	**0.49**	**24**	↑ *i*Pg	**Pg**	**10 46 23.1**	**0.0**
VAY				*i* Sg	**Sg**	**10 46 30.5**	**+0.9**
VAY				*e*Lg	Lg	10 46 33.5	
	comp=N,573nm,0.8s						
VAY				*e*Lg	Lg	10 46 34.1	
	comp=E,288nm,0.7s						
KNT	**Kendrikon**	**0.53**	**57**	P	**Pg**	**10 46 23.8**	**-0.1**
KNT				S	**Sg**	**10 46 30.2**	**-0.7**
KNT				AML	AML	10 46 31.6	
	comp=N,1034μm,0.3s						
KNT				AML	AML	10 46 32.9	
	comp=E,631μm,0.2s						
KNT	**Kendrikon**	**0.53**	**57**	P	**Pg**	**10 46 23.7**	**-0.1**
KNT				S	**Sg**	**10 46 31.2**	**+0.3**
	comp=E,422nm,0.3s						
KNT	**Kendrikon**	**0.53**	**57**	↑ *i*Pg	**Pg**	**10 46 23.8**	**-0.1**
KNT				*i* Sg	**Sg**	**10 46 31.5**	**+0.6**
THE	**Thessaloniki**	**0.56**	**116**	P	**Pg**	**10 46 23.4**	**-1.0**
THE				S	**Sg**	**10 46 30.6**	**-1.1**
THE				AML	AML	10 46 33.1	
	comp=E,287μm,0.2s						
THE				AML	AML	10 46 36.7	
	comp=N,447μm,0.4s						
THE	**Thessaloniki**	**0.56**	**116**	P	**Pg**	**10 46 23.6**	**-0.8**
THE				S	**Sg**	**10 46 31.0**	**-0.7**
	comp=N,155nm,0.4s						
THE	**Thessaloniki**	**0.56**	**116**	*e*Pg	**Pg**	**10 46 23.6**	**-0.8**
THE				*i* Sg	**Sg**	**10 46 30.8**	**-0.9**
HORT	**Hortiatis**	**0.67**	**114**	P	**Pg**	**10 46 25.5**	**-0.9**
HORT		

NEST					AML	AML	10 46 54.5	
	comp=N,315µm,0.6s							
NEST					AML	AML	10 46 58.3	
	comp=E,397µm,0.7s							
KKB	**Krupnik**	**1.15**	**30**	Pg	**Pg**		**10 46 34.8**	**-0.9**
OHR	**Ohrid**	**1.16**	**282**	*i* Pg	**Pn**		**10 46 36.3**	**+0.2**
OHR				*i* Sg	**Sn**		**10 46 53.6**	**+1.4**
OHR				*e*Lg	Lg		10 46 57.9	
	comp=N,85nm,0.7s							
OHR				*e*Lg	Lg		10 46 58.3	
	comp=E,114nm,0.9s							
KPRO	**Kipourio**	**1.17**	**218**	P	**Pn**		**10 46 36.4**	**+0.3**
KPRO				AML	AML		10 47 00.5	
	comp=E,310µm,1.3s							
KPRO				AML	AML		10 47 02.7	
	comp=N,322µm,0.8s							
NVR	**Nevrokopi**	**1.27**	**68**	P	**Pn**		**10 46 37.2**	**-0.3**
NVR				AML	AML		10 46 59.1	
	comp=N,143µm,0.7s							
NVR				AML	AML		10 47 01.2	
	comp=E,133µm,0.5s							
NVR	**Nevrokopi**	**1.27**	**68**	P	**Pn**		**10 46 37.1**	**-0.4**
NVR				S	**Sg**		**10 46 54.6**	**+0.2**
	comp=E,70nm,0.6s							
SKO	**Skopje**	**1.27**	**330**	*e*Pg	**Pb**		**10 46 38.0**	**+0.2**
SKO				*e*Sg	**Sn**		**10 46 55.1**	**+0.2**
MMB	**Musomiste**	**1.29**	**56**	Pg	**Pg**		**10 46 38.6**	**+0.3**
OUR	**Ouranopolis**	**1.39**	**112**	P	**Pn**		**10 46 39.1**	**0.0**
OUR				AML	AML		10 47 03.7	
	comp=E,341µm,0.7s							
OUR				AML	AML		10 47 06.0	
	comp=N,230µm,0.6s							
PAIG	**Paliouri**	**1.41**	**132**	P	**Pn**		**10 46 39.4**	**-0.1**
PAIG				AML	AML		10 47 02.4	
	comp=N,410µm,0.5s							
PAIG				AML	AML		10 47 05.8	
	comp=E,224µm,0.7s							
PAIG	**Paliouri**	**1.41**	**132**	P	**Pn**		**10 46 39.0**	**-0.5**
PAIG				S	**Sb**		**10 46 57.9**	**-0.3**
	comp=E,160nm,0.6s							
BOSS	**Bosilegrad**	**1.62**	**5**	*e*Pn	**Pb**		**10 46 43.4**	**-0.4**
BOSS				*e*Sn	**Sn**		**10 47 03.8**	**+0.3**
KAVA	**Kavala**	**1.68**	**85**	P	**Pn**		**10 46 43.6**	**+0.5**
KAVA				AML	AML		10 47 11.7	
	comp=E,154µm,0.8s							
KAVA				AML	AML		10 47 11.8	
	comp=N,347µm,0.8s							
GJIK	**Gjilan**	**1.71**	**338**	*e*Pn	**Pb**		**10 46 45.6**	**+0.4**
VTS	**Vitosha**	**1.88**	**21**	*e*Pn	**Pn**		**10 46 46.1**	**+0.1**
VTS	**Vitosha**	**1.88**	**21**	⇓S	**Sb**		**10 47 11.3**	**-0.4**
VTS	**Vitosha**	**1.88**	**21**	*e*Pn	**Pn**		**10 46 46.8**	**+0.8**
BARS	**Barje**	**1.97**	**349**	*e*Pn	**Pn**		**10 46 47.1**	**-0.1**
BARS				*e*Sn	**Sn**		**10 47 11.8**	**-0.3**
RZN	**Rozhen**	**1.99**	**65**	P	**Pb**		**10 46 50.0**	**-0.1**
IGT	**Igoumenitsa**	**2.02**	**229**	*e*Pn	**Pg**		**10 46 52.3**	**0.0**
IGT				*e*Sn	**Sg**		**10 47 17.8**	**0.7**
PLD	**Plovdiv**	**2.18**	**55**	*e*Pg	Pg		10 47 01.6	+6.2
ZAPS	**Zavoj**	**2.41**	**6**	*e*Pn	**Pb**		**10 46 54.3**	**+1.1**
PDG	**Podgorica**	**2.76**	**305**	⇓P	**Pb**		**10 47 00.9**	**-2.2**
PDG				⇓S	**Sn**		**10 47 30.8**	**-0.7**
BOVS	**Bovan**	**2.79**	**351**	*e*Pn	**Pn**		**10 46 58.9**	**+0.4**
BOVS	**Bovan**	**2.79**	**351**	⇑P	**Pn**		**10 46 59.4**	**+0.9**
BOVS				⇓S	**Sn**		**10 47 28.0**	**-4.3**
PLVB	**Pleven**	**3.04**	**34**	⇑P	**Pb**		**10 47 07.6**	**-0.3**
GRUS	**Gruza**	**3.23**	**339**	*e*Pn	**Pn**		**10 47 05.1**	**+0.6**
MDVR	**Moldovita**	**3.93**	**354**	⇓P	**Pn**		**10 47 14.9**	**+0.8**
MDVR				⇓S	**Sn**		**10 47 57.6**	**-2.7**
HERR	**Herculane**	**4.00**	**1**	⇑P	**Pn**		**10 47 15.8**	**+0.7**
HERR				⇑S	**Sn**		**10 47 59.2**	**-2.9**
GZR	**Gura Zlata**	**4.53**	**4**	⇑P	**Pn**		**10 47 22.8**	**+0.4**
GZR				⇓S	**Sn**		**10 48 11.9**	**-3.3**
BZS	**Buzias**	**4.77**	**354**	⇓P	**Pn**		**10 47 26.4**	**+0.8**
BZS				⇓S	**Sn**		**10 48 17.9**	**-3.0**
SULR		**4.79**	**36**	⇓P	Pn		10 47 31.6	+5.8
ARR	**Arges**	**4.80**	**20**	⇓P	**Pn**		**10 47 30.2**	**+4.1**
RASA	**Rasa**	**4.89**	**45**	⇑S	**Sn**		**10 48 30.0**	**+6.0**
VOIR		**4.98**	**23**	⇓P	**Pn**		**10 47 31.2**	**+2.6**
SANT	**Santorini**	**5.13**	**150**	⇑P	**Pb**		**10 47 46.7**	**+3.2**
MLR	**Muntele Rosu**	**5.33**	**29**	⇑P	**Pn**		**10 47 38.0**	**+4.6**
DRGR		**5.92**	**3**	⇑P	**Pn**		**10 47 42.7**	**+1.2**

NOU ***29*** *10:48:28.6, 40.˙28S×174.˙23E, h119km, MLv3.8, Cook Strait, New Zealand*
WEL 29 10:48:29.1, 40.˙S±1.˚×17.˚4E±.˚, h111km±3km, M3.7/47, ML4.3/7, MLv3.7/47, Error ellipse: s-maj=0.0km s-min=0.0km az=46.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.53**	**202**	P	Pn	10 48 46.6	+0.3
DUWZ				S	Sn	10 48 58.5	-0.7
KIW	**Kapiti Island**	**0.78**	**135**	P	Pn	10 48 48.6	+0.4
KIW				S	Sn	10 49 01.4	-1.3
WAZ	**Wanganui**	**0.83**	**48**	P	Pn	10 48 49.4	+0.7
WAZ				S	Sn	10 49 04.5	+1.0
LREZ	**Lake Rotokare**	**0.87**	**12**	P	Pn	10 48 49.9	+0.8
LREZ				S	Sn	10 49 05.0	+0.9
OHWZ	**Ohakea**	**0.88**	**83**	P	Pn	10 48 49.9	+0.8
OHWZ				S	Sn	10 49 04.6	+0.4
TCW	**Tory Channel**	**0.90**	**175**	P	Pn	10 48 50.2	+0.8
TCW				S	Sn	10 49 04.5	-0.1
OGWZ	**Otaki Gorge**	**0.91**	**124**	P	Pn	10 48 50.0	+0.6
OGWZ				S	Sn	10 49 04.5	-0.3
NMEZ	**Namu Road**	**0.93**	**345**	P	Pn	10 48 49.8	+0.2
NMEZ				S	Sn	10 49 05.1	0.0
PREZ	**Palmer Road**	**0.97**	**359**	P	Pn	10 48 50.5	+0.4
PREZ				S	Sn	10 49 05.9	0.0
CAW	**Cannon Point**	**1.04**	**140**	P	Pn	10 48 51.6	+0.8
CAW				S	Sn	10 49 06.8	-0.4
NEZ	**North Egmont**	**1.04**	**356**	P	Pn	10 48 51.0	+0.1
NEZ				S	Sn	10 49 06.1	-1.2
NNZ	**Nelson**	**1.09**	**214**	P	Pn	10 48 51.9	+0.6
NNZ				S	Sn	10 49 08.0	0.0
MRZ	**Mangatainoka R**	**1.12**	**108**	P	Pn	10 48 52.1	+0.5
MRZ				S	Sn	10 49 08.3	-0.3
PKE	**Pukeiti**	**1.13**	**352**	P	Pn	10 48 52.0	+0.2
PKE				S	Sn	10 49 08.4	-0.4
TUWZ	**Tuamarina**	**1.13**	**189**	P	Pn	10 48 52.2	+0.5
TUWZ				S	Sn	10 49 08.9	+0.1
HOWZ	**Holdsworth Sta**	**1.17**	**120**	P	Pn	10 48 52.6	+0.5
HOWZ				S	Sn	10 49 09.2	+0.1
BHW	**Baring Head**	**1.21**	**155**	P	Pn	10 48 53.2	+0.6
BHW				S	Sn	10 49 09.3	-1.1
POWZ	**Post Office Ro**	**1.22**	**94**	P	Pn	10 48 52.9	+0.2
MHEZ	**Mangahewa**	**1.24**	**5**	P	Pn	10 48 53.5	+0.6
MHEZ				S	Sn	10 49 11.2	+0.3
VRZ	**Vera Road**	**1.27**	**21**	P	Pn	10 48 53.6	+0.3
VRZ				S	Sn	10 49 11.5	0.0
MTW	**Mount Morrison**	**1.31**	**130**	P	Pn	10 48 54.2	+0.5
MTW				S	Sn	10 49 11.2	-1.3
QRZ	**Quartz Range**	**1.36**	**247**	P	Pn	10 48 54.2	-0.1
QRZ				S	Sn	10 49 12.5	-0.8
MTVZ	**Mangateitei**	**1.36**	**47**	P	Pn	10 48 54.5	+0.2
MTVZ				S	Sn	10 49 13.3	-0.2
PKVZ	**Pokaka**	**1.36**	**42**	P	Pn	10 48 54.6	+0.2
PKVZ				S	Sn	10 49 13.4	-0.1
MSWZ	**Moikau Station**	**1.37**	**144**	P	Pn	10 48 55.1	+0.7
TIWZ	**Tintock**	**1.38**	**110**	P	Pn	10 48 55.0	+0.5
TSZ	**Takapari Road**	**1.39**	**80**	P	Pn	10 48 54.6	-0.1
TSZ				S	Sn	10 49 12.5	-1.6
PRWZ	**Pori Road**	**1.39**	**101**	P	Pn	10 48 55.2	+0.6
BSWZ	**Blackbirch Sta**	**1.42**	**189**	P	Pn	10 48 56.2	+1.3
PAWZ	**Paruwai Farm**	**1.43**	**139**	P	Pn	10 48 55.7	+0.6
CMWZ	**Cape Campbell**	**1.44**	**179**	P	Pn	10 48 56.8	+1.6
TRVZ	**Turoa**	**1.46**	**47**	P	Pn	10 48 56.0	+0.3
WNVZ	**Wahianoa**	**1.47**	**48**	P	Pn	10 48 56.0	+0.2
FWVZ	**Far West T-bar**	**1.50**	**46**	P	Pn	10 48 56.4	+0.2
WHVZ	**Whangaehu Hut**	**1.50**	**47**	P	Pn	10 48 56.9	+0.8
PLWZ	**Palliser**	**1.50**	**147**	P	Pn	10 48 56.5	+0.6
MOVZ	**Moawhango**	**1.51**	**54**	P	Pn	10 48 55.9	-0.2
DVHZ	**Dannevirke**	**1.52**	**90**	P	Pn	10 48 56.1	-0.1
TMWZ	**Te Maipa**	**1.52**	**122**	P	Pn	10 48 56.7	+0.4
TMWZ				P		10 48 56.7	
TMWZ				S	Sn	10 49 17.0	+0.1
TUVZ	**Tukino**	**1.54**	**48**	P	Pn	10 48 56.8	+0.1
TWVZ	**Taurewa**	**1.58**	**38**	P	Pn	10 48 57.3	+0.4
TRWZ	**Traveller**	**1.58**	**134**	P	Pn	10 48 57.3	+0.5
NGZ	**Ngauruhoe**	**1.58**	**44**	P	Pn	10 48 57.3	+0.2
PNHZ	**Pukenui**	**1.60**	**76**	P	Pn	10 48 56.9	-0.3
WTVZ	**West Tongariro**	**1.62**	**43**	P	Pn	10 48 57.5	0.0

BFZ	**Birch Farm**	**1.62**	**104**	P	Pn		10 48 57.5	+0.1
OTVZ	**Oturere**	**1.62**	**45**	P	Pn		10 48 57.8	+0.2
CPWZ	**Castlepoint**	**1.65**	**112**	P	Pn		10 48 58.7	+1.0
KRVZ	**Karewarewa**	**1.66**	**43**	P	Pn		10 48 57.9	-0.1
BHHZ	**Black Hill Sta**	**1.67**	**61**	P	Pn		10 48 57.6	-0.4
ETVZ	**East Tongariro**	**1.67**	**46**	P	Pn		10 48 58.1	0.0
TMVZ	**Te Maari**	**1.68**	**45**	P	Pn		10 48 58.3	+0.1
THZ	**Tophouse**	**1.74**	**213**	P	Pn		10 48 59.5	+0.6
WPHZ	**Waipukurau**	**1.75**	**83**	P	Pn		10 48 58.8	-0.1
ANWZ	**Angora Road**	**1.76**	**96**	P	Pn		10 48 59.2	+0.1
KATZ	**Kakaramea**	**1.78**	**42**	P	Pn		10 48 59.8	+0.3
KRHZ	**Kereru**	**1.81**	**69**	P	Pn		10 48 59.3	-0.5
RITZ	**Rihia Road**	**1.86**	**45**	P	Pn		10 49 00.4	0.0
HIZ	**Hauiti**	**1.87**	**16**	P	Pn		10 49 00.4	-0.1
PRHZ	**Porangahau**	**1.88**	**89**	P	Pn		10 49 00.6	0.0
RATZ	**Rangitukua**	**1.90**	**41**	P	Pn		10 49 01.1	+0.3
KWHZ	**Kaweka Forest**	**1.94**	**64**	P	Pn		10 49 00.9	-0.5
WATZ	**Wairara**	**2.00**	**37**	P	Pn		10 49 02.8	+0.6
PXZ	**Pawanui**	**2.08**	**83**	P	Pn		10 49 02.8	-0.2
BKZ	**Black Stump Fm**	**2.12**	**58**	P	Pn		10 49 02.7	-0.9
MCHZ	**McNeill Hill**	**2.12**	**67**	P	Pn		10 49 03.3	-0.3
KAHZ	**Kahuranaki**	**2.13**	**77**	P	Pn		10 49 03.6	-0.3
KHZ	**Kahutara**	**2.16**	**193**	P	Pn		10 49 04.9	+0.9
KUTZ	**Kaahu Road**	**2.22**	**36**	P	Pn		10 49 06.5	+1.5
TLZ	**Tolley Road**	**2.24**	**28**	P	Pn		10 49 05.1	-0.2
MRHZ	**Matea Rd**	**2.27**	**50**	P	Pn		10 49 04.4	-1.3
DSZ	**Denniston Nort**	**2.30**	**231**	P	Pn		10 49 06.3	+0.4
CKHZ	**Cape Kidnapper**	**2.32**	**75**	P	Pn		10 49 05.9	-0.3
NMHZ	**Naumai**	**2.36**	**60**	P	Pn		10 49 06.5	-0.3
ARHZ	**Aropaoanui**	**2.41**	**65**	P	Pn		10 49 06.6	-0.8
ALRZ	**Allen Road**	**2.42**	**44**	P	Pn		10 49 06.9	-0.7
MTHZ	**Maungataniwha**	**2.52**	**56**	P	Pn		10 49 07.7	-1.2
RAHZ	**Arahi**	**2.64**	**59**	P	Pn		10 49 08.2	-1.2
WHHZ	**Waihua**	**2.66**	**63**	P	Pn		10 49 09.6	-1.1
MUGZ	**Murupara**	**2.72**	**48**	P	Pn		10 49 10.0	-1.4
TOZ	**Tahuroa Road**	**2.78**	**22**	P	Pn		10 49 11.7	-0.4
GVZ	**Greta Valley S**	**2.79**	**198**	P	Pn		10 49 12.3	0.0
LTZ	**Lake Taylor**	**2.85**	**209**	P	Pn		10 49 12.8	-0.3
KNZ	**Kokohu**	**2.99**	**66**	P	Pn		10 49 13.1	-1.8
URZ	**Urewera**	**3.06**	**49**	P	Pn		10 49 13.9	-2.0
AMCZ	**Amberley**	**3.08**	**201**	P	Pn		10 49 15.8	-0.3
MHGZ	**Mahia Peninsul**	**3.10**	**69**	P	Pn		10 49 15.2	-1.3
INZ	**Inchbonnie**	**3.17**	**220**	P	Pn		10 49 17.9	+0.6
PRGZ	**Paritu Road**	**3.18**	**65**	P	Pn		10 49 15.8	-1.8
RIGZ	**Rimuhau**	**3.20**	**61**	P	Pn		10 49 16.2	-1.7
AWAZ	**Awhitu Peninsu**	**3.26**	**7**	P	Pn		10 49 18.8	+0.2
MWZ	**Matawai**	**3.26**	**54**	P	Pn		10 49 16.4	-2.2
MKAZ	**Moumakai**	**3.29**	**14**	P	Pn		10 49 18.9	-0.1
WTAZ	**Waiatarua**	**3.39**	**5**	P	Pn		10 49 21.0	+0.7
TKGZ	**Te Karaka**	**3.40**	**58**	P	Pn		10 49 18.7	-1.8
ETAZ	**East Tamaki Re**	**3.41**	**10**	P	Pn		10 49 20.6	+0.1
OXZ	**Oxford**	**3.41**	**207**	P	Pn		10 49 19.5	-1.1
OKCZ	**Okains Bay**	**3.51**	**193**	P	Pn		10 49 21.0	-0.8
RVAZ	**Riverhead Bore**	**3.55**	**5**	P	Pn		10 49 22.6	+0.2
MQZ	**McQueen's Vall**	**3.58**	**198**	P	Pn		10 49 21.1	-1.6
MBAZ	**Motutapu North**	**3.58**	**9**	P	Pn		10 49 23.3	+0.5
RUGZ	**Raukumara Rang**	**3.59**	**50**	P	Pn		10 49 20.9	-2.2
TWGZ	**Tauwhareparae**	**3.64**	**55**	P	Pn		10 49 22.3	-1.4
AKCZ	**Akaroa Harbour**	**3.68**	**194**	P	Pn		10 49 23.0	-1.1
RACZ	**Rakaia**	**3.73**	**203**	P	Pn		10 49 23.6	-1.2
KUZ	**Kuaotunu**	**3.76**	**19**	P	Pn		10 49 24.7	-0.5
WVZ	**Waitaha Valley**	**3.77**	**222**	P	Pn		10 49 28.2	+2.8
HAZ	**Te Kaha**	**3.79**	**49**	P	Pn		10 49 22.7	-2.9
PUZ	**Puketiti**	**3.88**	**56**	P	Pn		10 49 24.3	-2.5
PKGZ	**Pakihiroa**	**3.88**	**53**	P	Pn		10 49 24.8	-2.1
WACZ	**Wakanui South**	**4.02**	**205**	P	Pn		10 49 28.2	-0.4
RPZ	**Rata Peaks**	**4.12**	**213**	P	Pn		10 49 30.6	+0.6
GCSZ	**Grant Creek Bo**	**4.16**	**223**	P	Pn		10 49 30.0	-0.5
ARCZ	**Arundel**	**4.26**	**211**	P	Pn		10 49 31.9	0.0
WCZ	**Waipu Caves**	**4.37**	**2**	P	Pn		10 49 33.6	+0.2
FOZ	**Fox Glacier**	**4.58**	**224**	P	Pn		10 49 36.1	0.0
TMZ	**Timaru**	**4.70**	**209**	P	Pn		10 49 37.5	-0.3
LBZ	**Lake Benmore**	**5.03**	**215**	P	Pn		10 49 42.4	+0.1
OUZ	**Omahuta**	**5.11**	**355**	P	Pn		10 49 43.6	+0.3
ODZ	**Otahua Downs**	**5.40**	**208**	P	Pn		10 49 46.9	-0.4
JCZ	**Jackson Bay**	**5.49**	**225**	P	Pn		10 49 48.4	-0.2
CTZ	**Chatham Island**	**7.66**	**120**	P	Pn		10 50 17.9	+0.1

IDC ***29*** *10:48:45.1±1.3, 38.˙33N×16.˙28E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/48, mbtmp3.6/8, ML3.3/1, MS2.7/1, Ms1 2.7/1, ms1mx2.0/50, Error ellipse: s-maj=27.6km s-min=20.1km az=153.0*
ROM ***29*** *10:48:46.4±0.2, 38.˙085N±0.˙010×16.˙21E±0.˙01, h15km±1km, ML3.6/39, Error ellipse: s-maj=1.2km s-min=0.8km az=308.0*
ISC 29 10:48:46.5±0.9, 38.˙11N±0.˙03×16.˙22E±0.˙03, h19km±2km, n61, σ1.˚14/73, mb3.7/7, 9C-4D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOI	**Samo**	**0.14**	**255**	⇓P	**Pg**	**10 48 50.1**	**-0.6**
SOI				S	**Sg**	**10 48 52.5**	**-1.1**
MPAZ	**Palizzi**	**0.23**	**228**	⇑P	**Pg**	**10 48 51.6**	**-0.5**
MPAZ				S	**Sg**	**10 48 55.3**	**-0.5**
MPAZ				AML	AML		
	comp=E,50850µm,1.4s						
MPAZ				AML	AML		
	comp=N,48300µm,1.6s						
MPAZ				AML	AML		
	comp=E,50850µm,1.4s						
MPAZ				AML	AML		
	comp=N,48300µm,1.6s						
CEL	**Celeste**	**0.30**	**300**	⇑P	**Pb**	**10 48 53.0**	**-0.2**
CEL				S	**Sg**	**10 48 57.9**	**+0.2**
CEL				AML	AML		
	comp=N,28600µm,0.6s						
CEL				AML	AML		
	comp=E,54950µm,0.7s						
CEL				AML	AML		
	comp=E,46550µm,0.7s						
CEL				AML	AML		
	comp=N,28550µm,0.6s						
CEL				AML	AML		
	comp=N,36150µm,0.6s						
CEL				AML	AML		
	comp=E,46500µm,0.7s						
CEL				AML	AML		
	comp=N,28550µm,0.6s						
CEL				AML	AML		
	comp=N,36150µm,0.6s						
CEL				AML	AML		
	comp=E,54950µm,0.7s						
GMB	**Gambarie**	**0.32**	**281**	⇑P	**Pb**	**10 48 53.0**	**-0.6**
GMB				S	**Sb**	**10 48 57.6**	**-0.8**
GMB				AML	AML		
GMB				AML	AML		
MSCL	**Scilla**	**0.36**	**290**	⇑P	**Pb**	**10 48 54.0**	**-0.5**
MSCL				S	**Sb**	**10 48 59.6**	**-0.2**
MSCL				AML	AML		
	comp=N,49650µm,1.0s						
MSCL				AML	AML		
	comp=E,58600µm,0.9s						
MSCL				AML	AML		
	comp=E,58600µm,0.9s						
MSCL				AML	AML		
	comp=N,49650µm,1.0s						
PLAC	**Placanica**	**0.38**	**26**	⇑P	**Pb**	**10 48 54.7**	**-0.1**
PLAC				S	**Sb**	**10 49 01.0**	**+0.6**
PLAC				AML	AML		
	comp=E,4900µm,0.5s						
PLAC				AML	AML		
	comp=N,4130µm,0.4s						
PLAC				AML	AML		
	comp=E,4280µm,0.4s						
PLAC				AML	AML		
	comp=N,4880µm,0.5s						
MTTG	**Motta San Giov**	**0.43**	**256**	⇑P	**Pg**	**10 48 54.8**	**-0.6**
MTTG				S	**Sb**	**10 49 01.1**	**-0.6**
MTTG				AML	AML		
	comp=E,17550µm,0.9s						
MTTG				AML	AML		
	comp=N,18500µm,1.1s						
JOPP	**Joppolo**	**0.56**	**332**	⇓P	**Pb**	**10 48 57.2**	**-0.5**
JOPP				AML	AML		
	comp=E,3255µm,0.4s						
JOPP				AML	AML		
	comp=E,3250µm,0.4s						
JOPP				AML	AML		
	comp=N,3860µm,0.5s						
MPNC	**Port Mandanici**	**0.69**	**273**	P	**Pg**	**10 48 59.1**	**-1.0**
MPNC				AML	AML		
	comp=E,17600µm,0.5s						
MPNC				AML	AML		
	comp=N,13900µm,0.9s						
MCSR	**Castroreale**	**0.77**	**267**	⇑P	**Pg**	**10 49 00.5**	**-1.2**
MCSR				AML	AML		
	comp=E,11700µm,0.4s						
MCSR				AML	AML		
	comp=N,13500µm,0.4s						
MILZ	**Milazzo**	**0.80**	**282**	P	**Pg**	**10 49 01.0**	**-1.1**
MILZ				S	**Sb**	**10 49 12.7**	**+0.6**
MILZ				AML	AML		
	comp=E,8785µm,0.9s						
MILZ				AML	AML		
	comp=N,7490µm,0.4s						
MILZ				AML	AML		
	comp=E,8790µm,0.9s						
NOV	**Novara**	**0.86**	**265**	P	**Pg**	**10 49 02.2**	**-1.1**
NOV				AML	AML		
	comp=E,4365µm,1.0s						
NOV				AML	AML		
	comp=N,4510µm,0.4s						
SERS	**Sersale**	**1.00**	**21**	P	**Pg**	**10 49 04.7**	**-1.2**
VPL	**Vulcano Piano**	**1.01**	**286**	P	**Pg**	**10 49 04.8**	**-1.4**
VPL				AML	AML		
	comp=E,16400µm,0.4s						
VPL				AML	AML		
	comp=N,22350µm,0.5s						
VPL				AML	AML		
	comp=E,16400µm,0.4s						
VPL				AML	AML		
	comp=N,22350µm,0.5s						
IST3	**Stromboli F**	**1.04**	**312**	P	**Pg**	**10 49 05.4**	**-1.4**
IST3				AML	AML		
	comp=N,4215µm,0.2s						
IST3				AML	AML		
	comp=E,3070µm,0.3s						
EMSG	**Monte Spagnolo**	**1.05**	**254**	P	**Pn**	**10 49 06.8**	**+0.5**
EMSG				AML	AML		
	comp=E,5155µm,0.7s						
EMSG				AML	AML		
	comp=N,5210µm,0.5s						
ISTR	**Stromboli Gino**	**1.05**	**310**	P	**Pn**	**10 49 07.0**	**+0.8**
ISTR				AML	AML		
	comp=N,2955µm,0.4s						
ISTR				AML	AML		
	comp=N,2950µm,0.4s						
ISTR				AML	AML		
	comp=E,2590µm,0.5s						
LLI	**Lipari**	**1.06**	**289**	P	**Pg**	**10 49 05.8**	**-1.2**
LLI				AML	AML		
	comp=E,33750µm,0.6s						
LLI				AML	AML		
	comp=N,42550µm,0.5s						
LLI				AML	AML		
	comp=E,33750µm,0.6s						
LLI				AML	AML		
	comp=N,42550µm,0.5s						
MUCR	**Ucria**	**1.07**	**267**	P	**Pg**	**10 49 05.8**	**-1.4**
MUCR				AML	AML		
	comp=E,3545µm,0.5s						
MUCR				AML	AML		
	comp=N,3925µm,0.6s						
EPZF	**Pizzo Felice**	**1.12**	**256**	P	**Pn**	**10 49 08.2**	**+0.9**
EPZF				AML	AML		
	comp=E,3315µm,0.9s						
EPZF				AML	AML		
	comp=N,4130µm,0.5s						
CAR1	**CAROLEI**	**1.14**	**360**	P	**Pb**	**10 49 07.8**	**+0.1**
CAR1				AML	AML		
	comp=N,2830µm,0.6s						
CAR1				AML	AML		
	comp=E,3635µm,0.7s						
TIP	**Timpagrande**	**1.15**	**21**	P	**Pb**	**10 49 07.7**	**-0.1**
TIP				AML	AML		
	comp=N,686µm,1.0s						
TIP				AML	AML		
	comp=E,628µm,0.9s						
TIP				AML	AML		
	comp=E,735µm,0.9s						
TIP				AML	AML		
	comp=N,686µm,1.0s						
TIP				AML	AML		
	comp=N,558µm,1.0s						
HAGA	**Augusta**	**1.18**	**226**	P	**Pb**	**10 49 07.2**	**-1.0**
MSFR	**San Fratello**	**1.29**	**267**	P	**Pn**	**10 49 09.9**	**+0.3**
MSFR				AML	AML		
	comp=E,881µm,0.7s						
MSFR				AML	AML		
	comp=N,928µm,0.4s						
MSFR				AML	AML		
	comp=N,928µm,0.4s						
ECNV	**Catenanuova**	**1.30**	**247**	P	**Pg**	**10 49 11.5**	**-0.1**
CELI	**Celico**	**1.31**	**10**	P	**Pg**	**10 49 11.7**	**-0.2**
CELI				AML	AML		
	comp=N,1595µm,0.8s						
CELI				AML	AML		
	comp=E,1465µm,0.7s						
HLNI	**Lentini**	**1.31**	**235**	⇓P	**Pn**	**10 49 09.4**	**-0.3**
HLNI				S	**Sb**	**10 49 27.8**	**+0.9**
HLNI				AML	AML		
	comp=E,780µm,0.3s						
HLNI				AML	AML		
	comp=E,779µm,0.3s						
HLNI				AML	AML		
	comp=N,1010µm,1.0s						
LADO	**San Nicola del**	**1.31**	**27**	P	**Pg**	**10 49 12.9**	**+1.0**
GALF	**Gagliano Caste**	**1.37**	**254**	P	**Pg**	**10 49 12.8**	**-0.2**
GALF				AML	AML		
	comp=N,1950µm,0.6s						
GALF				AML	AML		
	comp=E,2005µm,0.6s						
IFIL	**Fil

	comp=N,640μm,0.3s							
RAFF					AML	AML		
	comp=E,589μm,0.4s							
SALB	**San Lorenzo Be**	**1.77**	**3**	P	**Pb**	**10 49 18.3**	**-0.1**
MMN	**Mormanno**	**1.79**	**354**	P	**Pb**	**10 49 18.4**	**-0.3**
SIRI	**Monte Sirino -**	**2.09**	**353**	P	**Pn**	**10 49 21.6**	**+1.0**
SIRI					AML	AML		
	comp=E,342μm,0.4s							
SIRI					AML	AML		
	comp=N,288μm,0.8s							
CRAC	**Craco**	**2.26**	**4**	⇑P	**Pb**	**10 49 26.7**	**0.0**
CRAC					AML	AML		
	comp=N,347μm,1.0s							
CRAC					AML	AML		
	comp=E,320μm,1.0s							
CMPR	**Campora**	**2.32**	**342**	P	**Pn**	**10 49 23.9**	**+0.2**
CMPR					AML	AML		
	comp=N,145μm,0.5s							
CMPR					AML	AML		
	comp=E,178μm,0.5s							
MATE	**Matera**	**2.56**	**8**	P	**Pn**	**10 49 28.3**	**+1.3**
MATE					AML	AML		
	comp=E,98μm,0.6s							
MATE					AML	AML		
	comp=N,98μm,1.5s							
ACER	**Acerenza**	**2.68**	**355**	AML	AML			
	comp=E,181μm,0.6s							
ACER					AML	AML		
	comp=N,188μm,1.0s							
NOCI	**Noci**	**2.75**	**13**	P	**Pn**	**10 49 30.3**	**+0.7**
NOCI					AML	AML		
	comp=E,112μm,1.3s							
NOCI					AML	AML		
	comp=N,123μm,1.1s							
MCRV	**Calabrutti - M**	**2.79**	**343**	AML	AML			
	comp=E,79μm,0.8s							
MCRV					AML	AML		
	comp=N,80μm,0.7s							
AMUR	**Altamura**	**2.81**	**6**	P	**Pn**	**10 49 31.4**	**+1.0**
AMUR					AML	AML		
	comp=N,93μm,0.6s							
AMUR					AML	AML		
	comp=E,84μm,0.9s							
MRVN	**Minervino Murg**	**2.95**	**360**	P	**Pn**	**10 49 34.0**	**+1.7**
MRVN					AML	AML		
	comp=E,73μm,1.2s							
MRVN					AML	AML		
	comp=N,54μm,1.6s							
IDI	**Anoyia**	**7.51**	**109**	Pn	**Pn**	**10 50 36.8**	**+1.8**
	comp=N,0.5nm,0.3s,baz=297,slow=14,SNR=2.7							
IDI					Sn	**Sn**	**10 51 54.8**	**-4.9**
	comp=N,0.4nm,0.3s,baz=100,slow=23,SNR=3.0							
GERES	**GERESS Array B**	**10.89**	**351**	LR	LR	10 56 49.3		
	comp=N,43nm,21.2s,baz=283,slow=45							
EKA	**Eskdalemuir Ar**	**21.63**	**329**	P	**P**	**10 53 35.5**	**+0.1**
	comp=N,0.9nm,0.6s,baz=145,slow=12,SNR=4.7							
HFS	**Hagfors**	**22.10**	**357**	P	**P**	**10 53 39.5**	**-0.9**
	comp=N,4.3nm,0.7s,baz=182,slow=7.2,SNR=6.8							
NB2	**NORSAR Subarra**	**23.17**	**354**	P	**P**	**10 53 51.2**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=170,slow=11							
NOA	**NORSAR Array B**	**23.17**	**354**	P	**P**	**10 53 50.3**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=168,slow=11,SNR=4.6							
FINES	**FINESS Array B**	**24.16**	**12**	P	**P**	**10 54 00.5**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=185,slow=8.4,SNR=10							
MKAR	**Makanchi Array**	**48.21**	**57**	P	**P**	**10 57 26.1**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=273,slow=8.2,SNR=6.9							
ZALV	**Zalesovo Beam**	**48.25**	**48**	P	**P**	**10 57 25.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=271,slow=9.4,SNR=2.2							
SONM	**Songino Array**	**63.09**	**49**	P	**P**	**10 59 12.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=291,slow=6.7,SNR=4.0							

*JMA **29** 11:20:01.9±0.2,28°.11N×127°.99E,h13km±2km,M3.5*
*IDC **29** 11:20:01.9±0.7,28°.00N×127°.82E,h0km,mb3.6/8,*
mb1 3.8/12,mb1mx3.7/36,mbtmp3.6/12,ML3.1/3,MS3.4/15,
Ms1 3.4/15,ms1mx3.2/37,Error ellipse: s-maj=28.0km
s-min=10.2km az=76.0
*NIED **29** 11:20:01.9,28°.11N×127°.99E,h13km,MW4.3,Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm;
Mrr-0.83; Mθθ2.94; Mφφ-2.11; Mrθ-1.44; Mθφ0.41; Mφr-1.69;
Fault plane solution: M₀3.46000×10¹⁵ NP1:φs46.00000°,
δ81.00000°,λ-137.00000°. NP2:φs307.00000°,
δ47.00000°,λ-13.00000°.

ISC 29 11:20:02.5±1.6,28°.02N±0°.04×128°.03E±0°.05,h5km±10km, n35,σ1ᵠ35/36,mb3.7/8,MS3.3/11,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.81**	**144**	P	**Pb**	**11 20 18.9**	**-0.3**
JOKE				eS	**Sn**	**11 20 31.8**	**-1.3**
JTK	**Tokunoshima**	**0.85**	**106**	P	**Pg**	**11 20 18.9**	**+0.1**
JTK				eS	**Sg**	**11 20 30.9**	**+1.1**
JIH	**Iheya**	**0.99**	**183**	P	**Pn**	**11 20 21.9**	**-1.1**
JIH				eS	**Sn**	**11 20 36.4**	**-0.9**
JAMN	**Amaminishikomi**	**1.03**	**77**	P	**Pg**	**11 20 21.5**	**-0.9**
JAMN				eS	**Sg**	**11 20 35.5**	**-0.3**
JYRO	**Yoronjima**	**1.06**	**159**	P	**Pn**	**11 20 23.2**	**-0.9**
JYRO				eS	**Sn**	**11 20 38.1**	**-1.1**
JOW	**Kunigami**	**1.21**	**170**	Pg	**Pn**	**11 20 25.5**	**-0.5**
	197nm,0.3s,baz=355,slow=12,SNR=317						
JOW				Lg	Lg	11 20 42.8	
	86nm,0.3s,baz=119,slow=19,SNR=12						
JOW	**Kunigami**	**1.21**	**170**	P	**Pn**	**11 20 25.5**	**-0.5**
JOW				eS	**Sn**	**11 20 42.4**	**-0.4**
JAM	**Amami Oshima**	**1.44**	**74**	P	**Pn**	**11 20 28.3**	**-1.0**
JAM				eS	**Sn**	**11 20 46.9**	**-1.7**
JNTH	**Nagotoyohara**	**1.50**	**180**	P	**Pb**	**11 20 30.0**	**-0.8**
JNTH				eS	**Sg**	**11 20 50.4**	**-0.3**
JTAJ	**Takarajima**	**1.53**	**42**	P	**Pn**	**11 20 28.7**	**-1.8**
JTAJ				eS	**Sn**	**11 20 47.3**	**-3.4**
JAGN	**Aguni-jima**	**1.59**	**206**	P	**Pb**	**11 20 31.2**	**-1.2**
JKE	**Kume jima 2**	**2.02**	**214**	P	**Pn**	**11 20 37.5**	**+0.2**
JKDJ	**Kitadaitoujima**	**3.57**	**125**	P	**Pn**	**11 20 58.7**	**+0.1**
JKDJ				eS	**Sn**	**11 21 40.1**	**-1.1**
JNU	**Nakatsue**	**5.64**	**25**	Pn	**Pn**	**11 21 29.9**	**+2.8**
	0.7nm,0.3s,baz=180,slow=16,SNR=5.9						
KSRS	**Korea Array**	**9.40**	**359**	Pn	**Pn**	**11 22 19.9**	**+1.2**
	0.1nm,0.3s,baz=171,slow=14,SNR=2.6						
KSRS				LR	LR	11 26 08.4	
	comp=Z,305nm,19.3s,baz=178,slow=39						
MJAR	**Matsushiro Arr**	**12.09**	**43**	Pn	**Pn**	**11 22 58.2**	**+2.7**
	0.1nm,0.3s,baz=288,slow=16,SNR=5.6						
MJAR				LR	LR	11 28 17.7	
	comp=Z,135nm,20.4s,baz=240,slow=40						
USRK	**Ussuriysk Ar.**	**16.45**	**10**	Pn	**Pn**	**11 23 55.8**	**+1.7**
	baz=198,slow=9.1,SNR=2.4						
USRK				LR	LR	11 29 48.6	
	comp=Z,140nm,20.2s,baz=180,slow=36						
ASAJ	**Asahikawa**	**19.86**	**32**	LR	LR	11 33 26.8	
	comp=Z,94nm,18.0s,baz=214,slow=40						
KLR	**Kul'dur**	**21.37**	**7**	LR	LR	11 32 54.9	
	comp=Z,69nm,21.5s,baz=178,slow=36						
SONM	**Songino Array**	**25.97**	**325**	P	**P**	**11 25 35.7**	**-0.4**
	1.6nm,1.0s,baz=134,slow=6.2,SNR=6.7						
SONM				LR	LR	11 36 56.0	
	comp=Z,85nm,18.2s,baz=133,slow=39						
CMAR	**Chiang Mai Arr**	**28.31**	**257**	LR	LR	11 36 43.1	
	comp=Z,34nm,19.9s,baz=65,slow=36						
PETK	**Petropavlovsk-**	**33.28**	**33**	LR	LR	11 39 20.8	
	comp=Z,46nm,21.4s,baz=212,slow=35						
YAK	**Yakutsk**	**34.03**	**1**	LR	LR	11 40 46.4	
	comp=Z,65nm,19.0s,baz=82,slow=36						
MKAR	**Makanchi Array**	**40.23**	**310**	P	**P**	**11 27 39.1**	**-1.0**
	0.7nm,0.8s,baz=92,slow=11,SNR=5.8						
MKAR				PcP	**PcP**	**11 29 45.3**	**+1.2**
	0.6nm,1.0s,baz=98,slow=3.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**40.73**	**322**	P	**P**	**11 27 43.3**	**-0.8**
	0.3nm,0.3s,baz=99,slow=4.5,SNR=1.8						
TIXI	**Tiksi**	**43.67**	**0**	LR	LR	11 46 51.0	
	comp=Z,99nm,20.0s,baz=92,slow=37						
NRIK	**Noril'sk**	**47.50**	**342**	LR	LR	11 50 01.2	
	comp=Z,33nm,21.1s,baz=140,slow=38						
WRA	**Warramunga Arr**	**48.07**	**172**	P	**P**	**11 28 42.5**	**-0.6**
	1.2nm,0.7s,baz=354,slow=8.2,SNR=16						
WRA				LR	LR	11 47 30.9	
	comp=Z,15nm,21.9s,baz=45,slow=34						
ASAR	**Alice Springs**	**51.70**	**173**	P	**P**	**11 29 10.5**	**-0.3**
	0.5nm,0.6s,baz=5.9,slow=12,SNR=11						
ILAR	**Eielson Array**	**62.95**	**29**	P	**P**	**11 30 29.0**	**-0.8**
	0.6nm,1.0s,baz=278,slow=6.9,SNR=2.7						
ARCES	**ARCESS Array B**	**68.28**	**338**	LR	LR	12 05 28.9	
	comp=Z,47nm,18.9s,baz=250,slow=40						
BRTR	**Keskin Array B**	**75.80**	**308**	LR	LR	12 09 03.6	
	comp=Z,24nm,19.9s,baz=62,slow=39						
YKA	**Yellowknife Ar**	**76.98**	**25**	P	**P**	**11 31 56.1**	**+0.1**
	0.9nm,0.9s,baz=300,slow=4.9,SNR=11						
NOA	**NORSAR Array B**	**77.63**	**334**	LR	LR	12 10 17.3	
	comp=Z,21nm,19.3s,baz=60,slow=39						
NVAR	**Mina Array Bea**	**89.39**	**46**	P	**P**	**11 33 02.9**	**+2.1**
	0.4nm,0.7s,baz=291,slow=2.8,SNR=2.7						

TAP 29 11:27:09.1,24°.84N×121°.99E,h11km±1km,ML1.8,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.14**	**276**	*e*P	Pb	11 27 13.3	-0.5
	baz=275						
NTC				S	Sg	11 27 16.1	+1.3
	baz=275						
TWB1	**Santiao Chiao**	**0.17**	**1**	P	Pb	11 27 13.7	-0.6
	baz=3.0						
TWB1				S	Sg	11 27 16.3	+0.8
	baz=3.0						
TIPB	**Shuangxi**	**0.20**	**312**	P	Pb	11 27 14.5	-0.3
	baz=312						
TIPB				S	Sg	11 27 17.6	+1.4
	baz=312						
TWC	**Suao**	**0.26**	**208**	P	Pb	11 27 15.3	-0.5
	baz=206						
TWC				*e*S	Sg	11 27 18.7	+0.7
	baz=206						
WFSB	**Wu-fen Shan**	**0.29**	**321**	*e*S	Sb	11 27 21.2	-0.1
	baz=321						
TWE	**Neicheng**	**0.31**	**248**	*e*P	Pb	11 27 16.5	-0.1
	baz=246						
TWE				*e*S	Sb	11 27 21.0	-0.8
	baz=246						
NDS	**Dongshan**	**0.32**	**230**	*e*P	Pb	11 27 17.0	+0.2
	baz=229						
NDS				*e*S	Sb	11 27 21.2	-0.8
	baz=229						
ENTT	**Nioudou**	**0.43**	**242**	*e*P	Pb	11 27 18.9	+0.2
	baz=241						
NWLT	**Wulai**	**0.44**	**262**	*e*P	Pb	11 27 19.0	0.0
	baz=261						
NWLT				*e*S	Sb	11 27 25.4	-0.1
	baz=261						
ENA	**Nanau**	**0.47**	**208**	*e*S	Sb	11 27 25.9	-0.3
	baz=207						
NDT	**Datong Townshi**	**0.49**	**241**	*e*P	Pb	11 27 19.9	+0.2
	baz=241						
YHNB	**Yeheng**	**0.58**	**253**	*e*P	Pb	11 27 21.4	+0.1
	baz=252						
NSK	**Sanguang**	**0.59**	**254**	*e*P	Pb	11 27 21.4	-0.1
	baz=253						
NNSB	**Datong**	**0.68**	**233**	*e*P	Pb	11 27 23.2	+0.1
	baz=233						
NNS	**Nan Shan**	**0.69**	**235**	*e*P	Pb	11 27 23.1	0.0
	baz=233						
NACB	**Ninganchiao**	**0.75**	**208**	*e*P	Pb	11 27 24.8	+0.6
	baz=208						
NACB				*e*S	Sb	11 27 35.0	+0.6
	baz=208						
ETLH	**Xiulin Townshi**	**0.78**	**216**	*e*P	Pb	11 27 25.1	+0.3
	baz=216						
ETLH				*e*S	Sb	11 27 35.1	-0.2
	baz=216						
FUSS	**Fushou**	**0.90**	**229**	*e*P	Pb	11 27 27.1	+0.3
	baz=228						

JMA 29 11:27:17.5±0.3,23°.83N×123°.32E,h28km±4km,M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.50**	**63**	P	Pb	11 27 27.5	-0.3
HATJ				S	Sb	11 27 35.1	+0.3
IRIF	**Iriomote-Funau**	**0.63**	**37**	P	Pb	11 27 29.4	-0.6
IRIF				S	Sb	11 27 37.8	-0.6
YOJ	**Yonaguni jima**	**0.69**	**336**	P	Pb	11 27 30.7	-0.3
YOJ				*e*S	Sb	11 27 40.4	+0.2
JYNG	**Yonagunijimaku**	**0.71**	**331**	P	Pb	11 27 30.8	-0.5
JYNG				*e*S	Sb	11 27 40.8	+0.1
JKRS	**Kuro-shima**	**0.75**	**57**	P	Pb	11 27 32.1	+0.1
JKRS				*e*S	Sn	11 27 42.3	-0.4
JIJ	**Ishigaki jima**	**0.92**	**55**	P	Pn	11 27 34.6	0.0
JIJ				S	Sb	11 27 46.4	-0.4
JISG	**Ishigakijimahi**	**1.18**	**50**	P	Pn	11 27 37.6	-0.5
JISG				*e*S	Sn	11 27 52.1	-1.1

IDC 29 11:29:15.0±2.5,3°.98N×127°.27E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.2/35,mbtmp3.3/3,Error ellipse: s-maj=196.8km s-min=27.8km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.77**	**164**	P	P	11 34 38.9	+0.2
	0.8nm,0.8s,baz=343,slow=9.6,SNR=8.4						
ASAR	**Alice Springs**	**28.23**	**167**	P	P	11 35 09.6	-0.3
	0.1nm,0.3s,baz=357,slow=14,SNR=1.7						
MKAR	**Makanchi Array**	**57.66**	**325**	P	P	11 39 07.2	-0.1
	0.2nm,0.4s,baz=122,slow=7.7,SNR=5.0						

IDC 29 11:46:54.7±3.3,48°.95S×110°.01E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/26,mbtmp3.6/3,MS3.2/1,Ms1 3.2/1, ms1mx2.6/23,Error ellipse: s-maj=170.6km s-min=27.1km az=113.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.37**	**14**	T	T	12 04 50.0	
	baz=191,slow=74,SNR=8.7						
H01W1	**Cape Leeuwin H**	**14.37**	**14**	T	T	12 04 53.6	
	baz=191,slow=74,SNR=6.7						
H01W3	**Cape Leeuwin H**	**14.38**	**14**	T	T	12 04 51.3	
	baz=191,slow=74,SNR=6.8						
ASAR	**Alice Springs**	**31.48**	**45**	P	P	11 53 18.2	+0.1
	0.5nm,0.8s,baz=208,slow=8.3,SNR=6.6						
ASAR				LR	LR	12 03 05.5	
	comp=Z,44nm,21.1s,baz=257,slow=31						
WRA	**Warramunga Arr**	**34.91**	**43**	P	P	11 53 48.1	+0.1
	0.7nm,0.6s,baz=204,slow=10,SNR=9.5						
QSPA	**South Pole Qui**	**41.19**	**180**	P	P	11 54 40.9	+0.2
	1.0nm,0.8s,baz=302,slow=2.6,SNR=5.9						
TXAR	**Lajitas Array**	**147.73**	**115**	PKPbc	PKPbc	12 06 40.0	-1.2
	0.4nm,1.0s,baz=212,slow=5.0,SNR=2.5						
YKA	**Yellowknife Ar**	**152.11**	**44**	PKPbc	PKPbc	12 06 50.2	-0.5
	0.2nm,1.0s,baz=280,slow=2.2,SNR=3.9						

ROM 29 12:00:57.9±0.1,44°.201N±0°.008×10°.911E±0°.009, h17km±2km,ML1.3/1,1C,Error ellipse: s-maj=1.0km s-min=0.5km az=144.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNVD	**Fontana Vidola**	**0.16**	**102**	P	Pb	12 01 02.3	-0.1
FNVD				S	Sb	12 01 05.3	-0.2
ZCCA	**Zocca**	**0.16**	**17**	P	Pb	12 01 02.6	+0.1
MTCR	**Monte La Croce**	**0.18**	**160**	P	Pb	12 01 02.8	-0.1
MTCR				S	Sb	12 01 06.3	0.0
POPM	**Popiglio**	**0.19**	**215**	⇑P	Pb	12 01 02.9	-0.1
POPM				S	Sb	12 01 06.6	+0.2
POPM				AML	AML		
	comp=E,165μm,0.1s						
POPM				AML	AML		
	comp=N,162μm,0.2s						
BDI	**Bagni Di Lucca**	**0.27**	**239**	P	Pg	12 01 03.9	+0.1
BDI				S	Sb	12 01 08.3	-0.2
SARO	**Sassorosso**	**0.37**	**268**	P	Pg	12 01 05.6	0.0
SARO				S	Sb	12 01 11.3	-0.3
SFI	**Santa Sofia**	**0.74**	**113**	AML	AML		
	comp=E,26μm,1.5s						
SFI				AML	AML		
	comp=N,25μm,1.6s						

*TIR **29** 12:02:28.3,41°.10N×20°.29E,h1km±1km,Md2.6,Ml2.6*
*SKO **29** 12:02:29.5,41°.03N×20°.19E,h5km*
*THE **29** 12:02:29.4,41°.07N×20°.27E,h0km±2km,ML2.2/3,Error*
ellipse: s-maj=2.3km s-min=0.4km az=227.0
*PDG **29** 12:02:29.5±0.3,41°.10N×20°.25E,h4km,ML2.8/12,Error*
ellipse: s-maj=0.6km s-min=0.8km az=0.0
*BEO **29** 12:02:30.5±0.3,41°.02N×20°.22E,h0km,ML2.3/13*
*ATH **29** 12:02:30.0,41°.17N×20°.35E,h8km±6km,ML2.4/2,Error*
ellipse: s-maj=6.6km s-min=1.6km az=12.0

ISC 29 12:02:29.7±1.0,41°.13N±0°.02×20°.31E±0°.02,h8km±9km, n77,σ1ᵠ07/122,18C-4D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.37**	**92**	*i* Pg	**Pb**	**12 02 37.6**	**-0.9**
OHR				*i* Sg	**Sb**	**12 02 44.4**	**-0.1**
OHR				*e*Lg	Lg	12 02 44.5	
	comp=N,215nm,0.3s						
TIR	**Tirane**	**0.40**	**304**	P	**Pg**	**12 02 37.1**	**-0.4**
TIR				S	**Sb**	**12 02 44.6**	**-0.7**
TIR				AML	AML	12 02 46.4	
	comp=E,1952μm,0.3s						
TIR				AML	AML	12 02 46.4	
	comp=N,2723μm,0.2s						
TIR	**Tirane**	**0.40**	**304**	P	**Pg**	**12 02 37.1**	**-0.4**
TIR				S	**Sg**	**12 02 43.8**	**+1.0**
	comp=N,468nm,0.2s						
TIR	**Tirane**	**0.40**	**304**	*e*Pg	**Pg**	**12 02 37.0**	**-0.5**
TIR				*e*Sg	**Sb**	**12 02 44.7**	**-0.6**
TIR	**Tirane**	**0.40**	**304**	⇑P	**Pg**	**12 02 36.9**	**-0.5**
TIR				⇑S	**Sg**	**12 02 44.5**	**+1.7**
TIR	**Tirane**	**0.40**	**304**	P	**Pg**	**12 02 37.1**	**-0.5**
	baz=309						
TIR				S	**Sg**	**12 02 43.7**	**+1.0**
	baz=309						
TIR				AMP			
	comp=N,2.2nm,0.2s,baz=309						
TIR	**Tirane**	**0.40**	**304**	*i* Pg	**Pg**	**12 02 37.3**	**-0.2**
PHP	**Peshkopia**	**0.57**	**10**	P	**Pb**	**12 02 41.0**	**-0.9**
PHP				S	**Sb**	**12 02 50.5**	**+0.4**
PHP	**Peshkopia**	**0.57**	**10**	P	**Pb**	**12 02 41.0**	**-0.9**
	baz=10.0						
PHP				S	**Sb**	**12 02 50.1**	**0.0**
	baz=10.0						
PHP				AMP			
	comp=N,1.8nm,0.3s,baz=10.0						
KBN	**Korca**	**0.62**	**144**	P	**Pg**	**12 02 41.0**	**-0.6**
KBN				S	**Sg**	**12 02 49.4**	**-0.3**
	comp=N,530nm,0.7s						
KBN	**Korca**	**0.62**	**144**	P	**Pg**	**12 02 40.8**	**-0.9**
	baz=141						
KBN				S	**Sg**	**12 02 50.4**	**+0.6**
	baz=141						
KBN				AMP			
	comp=N,2.6nm,0.9s,baz=141						
FNA	**Florina**	**0.88**	**113**	P	**Pg**	**12 02 46.3**	**-0.3**
FNA				S	**Sb**	**12 02 59.5**	**+0.4**
FNA				AML	AML	12 03 06.8	
	comp=N,399μm,0.3s						
FNA				AML	AML	12 03 07.1	
	comp=E,341μm,0.3s						
FNA	**Florina**	**0.88**	**113**	P	**Pg**	**12 02 46.0**	**-0.5**
FNA				S	**Sb**	**12 02 59.4**	**+0.4**
	comp=E,180nm,0.3s						
FNA	**Florina**	**0.88**	**113**	*e*Pg	**Pg**	**12 02 46.2**	**-0.3**
FNA				*e*Sg	**Sb**	**12 02 59.6**	**+0.6**
FNA	**Florina**	**0.88**	**113**	P	**Pg**	**12 02 46.2**	**-0.3**
	baz=110						
FNA				S	**Sb**	**12 02 59.6**	**+0.6**
	baz=110						
FNA	**Florina**	**0.88**	**113**	*i* Pg	**Pg**	**12 02 46.2**	**-0.4**
FNA				*i* Sg	**Sn**	**12 03 00.7**	**-0.6**
NEST	**Nestorio**	**0.91**	**141**	P	**Pg**	**12 02 46.9**	**-0.2**
NEST	**Nestorio**	**0.91**	**141**	P	**Pg**	**12 02 46.0**	**-1.1**
PUK	**Puka**	**0.97**	**341**	P	**Pg**	**12 02 48.1**	**-0.2**
	baz=343						
PUK				S	**Sn**	**12 03 03.4**	**-0.1**
	baz=343						
PUK				AMP			
	comp=E,0.7nm,0.2s,baz=343						
LSK	**Leskovik**	**1.00**	**167**	P	**Pg**	**12 02 46.9**	**-2.0**
PRZK	**Prizren**	**1.14**	**17**	*i* Pg	**Pn**	**12 02 51.6**	**-0.2**
PRZK				*i* Sg	**Sn**	**12 03 10.1**	**+2.4**
ULC	**Ulcinj**	**1.16**	**317**	*i* Pg	**Pb**	**12 02 50.5**	**-1.4**
ULC	**Ulcinj**	**1.16**	**317**	⇓*i*Pg	**Pb**	**12 02 50.3**	**-1.6**
ULC				*i* Sg	**Sn**	**12 03 08.8**	**+0.7**
SKO	**Skopje**	**1.20**	**45**	*i* Pg	**Pn**	**12 02 53.2**	**+0.6**
SKO				*i* Sg	**Sn**	**12 03 10.9**	**+1.7**
SKO				*e*Lg	Lg	12 03 11.6	
	comp=N,16nm,0.3s						
ZATK	**Zatriq**	**1.34**	**10**	*i* Pg	**Pg**	**12 02 55.0**	**-0.4**
DRME	**Dracevica, Mon**	**1.35**	**322**	⇑*i*Pg	**Pn**	**12 02 53.9**	**-0.9**
DRME				*i* Sg	**Sg**	**12 03 15.5**	**+2.3**
KZN	**Kozani**	**1.38**	**126**	P	**Pn**	**12 02 55.2**	**0.0**
KZN	**Kozani**	**1.38**	**126**	P	**Pn**	**12 02 55.3**	**0.0**
KPRO	**Kipourio**	**1.42**	**145**	P	**Pn**	**12 02 55.8**	**0.0**
KEK	**Kerkira**	**1.46**	**196**	P	**Pn**	**12 02 57.4**	**+1.1**
KEK				S	**Sg**	**12 03 19.6**	**+2.9**
PVY	**Plav**	**1.49**	**350**	⇓*i*Pg	**Pb**	**12 02 57.6**	**-0.1**
PVY				*i* Sg	**Sg**	**12 03 21.0**	**+3.4**
PDG	**Podgorica**	**1.52**	**329**	*e*Pn	**Pb**	**12 02 58.3**	**+0.2**
PDG				*e*Sn	**Sg**	**12 03 20.9**	**+2.3**
PDG	**Podgorica**	**1.52**	**329**	⇑S	**Sg**	**12 03 19.6**	**+0.9**
PDG	**Podgorica**	**1.52**	**329**	*i* Pn	**Pb**	**12 02 57.7**	**-0.4**
PDG	**Podgorica**	**1.52**	**329**	⇑P	**Pn**	**12 02 57.3**	**+0.2**
STIP	**Stip**	**1.52**	**67**	*i* Pn	**Pg**	**12 03 01.0**	**+2.1**
TTG	**Podgorica**	**1.52**	**329**	⇑*i*Pg	**Pn**	**12 02 57.5**	**+0.4**
TTG				*i* Sg	**Sg**	**12 03 21.4**	**+2.8**
GJIK	**Gjilan**	**1.58**	**32**	*i* Pn	**Pg**	**12 03 00.6**	**+0.6**
BUM	**Brajici-Budva**	**1.58**	**316**	⇑*i*Pg	**Pn**	**12 02 58.3**	**+0.4**
BUM				*i* Sg	**Sg**	**12 03 22.8**	**+2.3**
IGT	**Igoumenitsa**	**1.59**	**179**	P	**Pb**	**12 02 59.6**	**+0.4**
IGT	**Igoumenitsa**	**1.59**	**179**	*e*Pn	**Pn**	**12 02 58.9**	**+0.8**
IGT				*e*Sn	**Sn**	**12 03 19.8**	**+1.0**
IGT	**Igoumenitsa**	**1.59**	**179**	*i* Pn	**Pn**	**12 02 56.4**	**-1.7**
GRG	**Griva**	**1.59**	**95**	P	**Pb**	**12 02 58.9**	**-0.4**
GRG	**Griva**	**1.59**	**95**	*i* Pn	**Pb**	**12 02 58.9**	**-0.4**
VAY	**Valandovo**	**1.72**	**83**	*e*Pn	**Pg**	**12 03 01.7**	**-0.9**
VAY				*e*Sn	**Sg**	**12 03 25.5**	**+0.6**
CEME	**Cevo**	**1.76**	**324**	⇑*i*Pn	**Pb**	**12 03 01.6**	**-0.6**
CEME				*e*Sn	**Sg**	**12 03 27.2**	**+1.0**
BEY	**Berane

*IDC **29** 12:39:58.1±0.9,34°.67N×23°.82E,h0km,mb3.8/14, mb1 3.9/20,mb1mx3.7/50,mbtmp3.8/20,ML3.8/6,MS2.9/2, Ms1 3.0/2,ms1mx2.5/36,Error ellipse: s-maj=19.6km s-min=10.7km az=157.0*
*ATH **29** 12:40:01.5,34°.61N×23°.82E,h22km±7km,ML3.8/3,Error ellipse: s-maj=7.4km s-min=3.3km az=28.0*
*ISK **29** 12:40:02.8,34°.71N×23°.99E,h29km,ML3.7/14*
*DDA **29** 12:40:04.3,34°.74N×24°.23E,h5km±5km,ML3.5*
*THE **29** 12:40:04.8,34°.72N×23°.99E,h14km,ML3.8/6,Error ellipse: s-maj=2.1km s-min=0.9km az=15.0*
*HLW **29** 12:40:06.0,34°.57N×24°.12E,h3km±11km,Ml3.9*

ISC 29 12:40:02.1±0.8,34°64N±0°.04×23°96E±0°.03,h28km±5km, n152,σ1§78/182,mb3.9/14,7C-7D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.22**	**27**	P	**Pb**	**12 40 08.8**	**+0.5**
GVD				S	**Sb**	**12 40 13.2**	**+0.6**
GVD	**Gavdhos**	**0.22**	**27**	P	**Pb**	**12 40 08.8**	**+0.5**
GVD				S	**Sb**	**12 40 12.1**	**-0.5**
	157µm,0.2s						
GVD	**Gavdhos**	**0.22**	**27**	PG	**Pb**	**12 40 08.8**	**+0.5**
GVD				SG	**Sb**	**12 40 13.3**	**+0.6**
GVDS	**Gavdos**	**0.23**	**27**	P	**Pb**	**12 40 08.7**	**+0.3**
GVDS				S	**Sb**	**12 40 11.8**	**-0.9**
	105µm,0.2s						
GVDS	**Gavdos**	**0.23**	**27**	PG	**Pb**	**12 40 08.7**	**+0.3**
GVDS				SG	**Sb**	**12 40 13.0**	**+0.3**
KNDR	**Palaiochora Ch**	**0.64**	**339**	P	**Pn**	**12 40 16.3**	**+1.1**
KNDR				S	**Sn**	**12 40 25.7**	**+1.3**
KNDR	**Palaiochora Ch**	**0.64**	**339**	PG	**Pn**	**12 40 15.7**	**+0.5**
TMBK	**Timbaki Herakl**	**0.79**	**57**	P	**Pn**	**12 40 17.9**	**+0.6**
VAM	**Vamos**	**0.79**	**14**	P	**Pb**	**12 40 17.2**	**-0.1**
VAM				S	**Sn**	**12 40 29.0**	**+0.8**
VAM				AML	AML	12 40 33.4	
	comp=E,16901µm,0.4s						
VAM				AML	AML	12 40 34.5	
	comp=N,13143µm,0.3s						
VAM	**Vamos**	**0.79**	**14**	P	**Pb**	**12 40 16.8**	**-0.4**
SIVA	**Sivas**	**0.79**	**61**	P	**Pn**	**12 40 18.3**	**+0.9**
SIVA				S	**Sn**	**12 40 30.8**	**+2.6**
SIVA				AML	AML	12 40 34.9	
	comp=E,30204µm,0.3s						
SIVA				AML	AML	12 40 37.7	
	comp=N,15491µm,0.4s						
SIVA	**Sivas**	**0.79**	**61**	P	**Pn**	**12 40 18.3**	**+0.9**
SIVA				S	**Sn**	**12 40 28.9**	**+0.7**
	comp=N,11µm,0.5s						
IMMV	**Iera Moni Meta**	**0.82**	**1**	P	**Pb**	**12 40 17.7**	**-0.1**
IMMV	**Iera Moni Meta**	**0.82**	**1**	P	**Pb**	**12 40 17.3**	**-0.4**
IMMV				S	**Sn**	**12 40 29.9**	**+0.9**
	comp=N,7µm,0.5s						
IMMV	**Iera Moni Meta**	**0.82**	**1**	PG	**Pb**	**12 40 17.4**	**-0.3**
PRNS	**Prines Rethymn**	**0.85**	**31**	P	**Pb**	**12 40 17.6**	**-0.6**
PRNS				S	**Sb**	**12 40 29.2**	**0.0**
IDI	**Anoyia**	**1.00**	**49**	Pg	**Pn**	**12 40 20.6**	**+0.3**
	comp=N,97nm,0.3s,baz=222,slow=13,SNR=174						
IDI				Lg	Lg	12 40 35.0	
	comp=N,219nm,0.3s,baz=326,slow=20,SNR=23						
IDI				LR	LR	12 40 57.1	
	comp=N,130nm,19.7s,baz=258,slow=55						
IDI	**Anoyia**	**1.00**	**49**	P	**Pn**	**12 40 20.8**	**+0.5**
IDI				S	**Sn**	**12 40 36.6**	**+3.1**
IDI				AML	AML	12 40 37.6	
	comp=N,5656µm,0.5s						
IDI				AML	AML	12 40 39.7	
	comp=E,7119µm,0.6s						
IDI	**Anoyia**	**1.00**	**49**	P	**Pb**	**12 40 21.1**	**+0.3**
IDI				S	**Sn**	**12 40 36.0**	**+2.5**
	comp=E,3µm,0.5s						
IDI	**Anoyia**	**1.00**	**49**	⇑P	**Pn**	**12 40 20.6**	**+0.3**
IDI				⇓S	**Sn**	**12 40 35.6**	**+2.1**
IDI	**Anoyia**	**1.00**	**49**	PG	**Pn**	**12 40 20.6**	**+0.3**
KSTL	**Kastelli Herak**	**1.12**	**54**	P	**Pb**	**12 40 26.6**	**+3.7**
IACM	**Heraklion**	**1.13**	**54**	P	**Pb**	**12 40 24.8**	**+1.9**
ANKY	**Antikythira Is**	**1.34**	**336**	P	**Pb**	**12 40 27.4**	**+0.9**
NPS	**Neapolis**	**1.49**	**65**	P	**Pb**	**12 40 30.5**	**+1.4**
NPS	**Neapolis**	**1.49**	**65**	P	**Pb**	**12 40 30.2**	**+1.1**
NPS				S	**Sb**	**12 40 48.8**	**+1.2**
	comp=E,1µm,0.7s						
KTHA	**Kythira Island**	**1.77**	**336**	P	**Pb**	**12 40 33.9**	**0.0**
KTHA	**Kythira Island**	**1.77**	**336**	PN	**Pn**	**12 40 31.7**	**+0.8**
KTHR	**Kythira**	**1.80**	**334**	P	**Pb**	**12 40 33.9**	**-0.4**
STIA	**Sitia Lasithi**	**1.84**	**72**	P	**Pb**	**12 40 34.5**	**-0.5**
ZKR	**Zakros**	**1.91**	**75**	P	**Pb**	**12 40 36.1**	**-0.2**
ZKR	**Zakros**	**1.91**	**75**	PN	**Pn**	**12 40 33.7**	**+0.9**
THR6	**Thira Island,**	**2.07**	**34**	P	**Pn**	**12 40 37.2**	**+2.2**
MHLO	**Agia Marina, M**	**2.08**	**10**	P	**Pn**	**12 40 36.9**	**+1.9**
THR5	**Thira Island,**	**2.10**	**32**	P	**Pn**	**12 40 37.5**	**+2.1**
SNT5	**Nea Kammeni, S**	**2.11**	**33**	P	**Pn**	**12 40 37.6**	**+2.1**
SANT	**Santorini**	**2.12**	**35**	P	**Pn**	**12 40 37.5**	**+1.9**
SANT	**Santorini**	**2.12**	**35**	⇑P	**Pn**	**12 40 37.5**	**+1.9**
SANT				⇑S	**Sn**	**12 41 03.2**	**+2.2**
SANT	**Santorini**	**2.12**	**35**	PN	**Pn**	**12 40 36.4**	**+0.8**
THR3	**Thira Island,**	**2.12**	**33**	P	**Pn**	**12 40 37.7**	**+2.1**
THT2	**Imerovigli**	**2.15**	**33**	PN	**Pn**	**12 40 36.7**	**+0.6**
THR8	**Santorini-Mono**	**2.15**	**35**	P	**Pn**	**12 40 37.6**	**+1.5**
THR2	**Thira island,**	**2.17**	**33**	P	**Pn**	**12 40 37.7**	**+1.4**
VLI	**Veliai**	**2.24**	**338**	P	**Pn**	**12 40 39.7**	**+2.5**
APE	**Apeiranthos**	**2.74**	**27**	⇓P	**Pn**	**12 40 45.2**	**+1.0**
APE				⇑S	**Sn**	**12 41 18.0**	**+1.6**
KARP	**Karpathos**	**2.77**	**70**	P	**Pn**	**12 40 47.5**	**+2.8**
KARP	**Karpathos**	**2.77**	**70**	PN	**Pn**	**12 40 46.2**	**+1.5**
KRND	**KRANIDI**	**2.82**	**347**	P	**Pn**	**12 40 46.7**	**+1.5**
ITM	**Ithomi**	**3.03**	**327**	PN	**Pn**	**12 40 49.6**	**+1.5**
KOSK	**Kos Island**	**3.23**	**48**	PN	**Pn**	**12 40 52.5**	**+1.6**
NIS1	**Nisyros Isl.**	**3.27**	**52**	PN	**Pn**	**12 40 52.9**	**+1.4**
SLUM	**Salum**	**3.31**	**161**	P	**Pn**	**12 40 54.0**	**+2.1**
	baz=163						
SLUM				AMP		12 41 00.0	
	baz=163						
SLUM				S	**Sn**	**12 41 31.3**	**+0.9**
	baz=163						
ATHU	**Athens Univers**	**3.32**	**358**	P	**Pn**	**12 40 53.5**	**+1.3**
PTL	**Penteli**	**3.40**	**359**	P	**Pn**	**12 40 54.7**	**+1.4**
DION	**Dionisos Attik**	**3.43**	**360**	P	**Pn**	**12 40 55.0**	**+1.3**
LOUT	**Loutraki**	**3.44**	**347**	P	**Pn**	**12 40 55.7**	**+2.0**
LTK	**Loutraki**	**3.47**	**347**	P	**Pn**	**12 40 55.9**	**+1.7**
THAL	**Thalero**	**3.55**	**343**	P	**Pn**	**12 40 57.1**	**+1.8**
VILL	**Villia**	**3.56**	**352**	P	**Pn**	**12 40 56.9**	**+1.5**
BODT	**Bodrum**	**3.64**	**47**	PN	**Pn**	**12 40 57.5**	**+1.0**
DATC	**Datca-Mugla**	**3.68**	**54**	PN	**Pn**	**12 40 58.2**	**+1.2**
BDRM	**Kayabasi**	**3.72**	**48**	*i* P	**Pn**	**12 40 58.7**	**+1.0**
ARG	**Arkhangelos**	**3.75**	**64**	P	**Pn**	**12 41 00.4**	**+2.4**
ARG	**Arkhangelos**	**3.75**	**64**	PN	**Pn**	**12 40 58.9**	**+0.9**
DDIM	**Aydin, Didim**	**3.87**	**42**	*i* P	**Pn**	**12 41 03.5**	**+3.8**
DDIM				IAML		12 42 18.0	
	comp=E,85nm,1.5s						
TRIZ	**Trizonia**	**4.02**	**338**	P	**Pn**	**12 41 03.9**	**+2.2**
MRSB	**Marmaris-Mugla**	**4.02**	**58**	PN	**Pn**	**12 41 03.5**	**+1.7**
KALE	**Kalithea**	**4.02**	**339**	P	**Pn**	**12 41 03.7**	**+1.9**
LKR	**Lokris**	**4.08**	**349**	P	**Pn**	**12 41 03.9**	**+1.4**
TURN	**Turunc**	**4.08**	**57**	PN	**Pn**	**12 41 04.5**	**+1.9**
TURN	**Turunc**	**4.08**	**57**	*i* P	**Pn**	**12 41 04.1**	**+1.5**
TURN				*i* S	**Sn**	**12 41 48.5**	**-1.0**
CHOS	**Chios island**	**4.10**	**24**	PN	**Pn**	**12 41 04.5**	**+1.6**
ATAL	**Atalanti**	**4.12**	**350**	P	**Pn**	**12 41 04.6**	**+1.5**
AXAR	**Agios Charalam**	**4.25**	**346**	P	**Pn**	**12 41 06.8**	**+1.9**
URLA	**Izmir**	**4.28**	**29**	PN	**Pn**	**12 41 06.7**	**+1.4**
YER	**Yerkesik**	**4.30**	**53**	P	**Pn**	**12 41 08.8**	**+3.1**
YER	**Yerkesik**	**4.30**	**53**	PN	**Pn**	**12 41 08.0**	**+2.3**
AYDN	**Tasoluk**	**4.37**	**45**	*i* P	**Pn**	**12 41 09.0**	**+2.3**
DALY	**Dalyan (Mula)**	**4.39**	**59**	PN	**Pn**	**12 41 09.3**	**+2.5**
DALY	**Dalyan (Mula)**	**4.39**	**59**	*i* P	**Pn**	**12 41 09.6**	**+2.8**
DALY				*i* S	**Sn**	**12 41 56.9**	**-0.1**
MULA	**Mugla, Merkez-**	**4.39**	**52**	*i* P	**Pn**	**12 41 10.1**	**+3.1**
MULA				*i* S	**Sn**	**12 41 57.1**	**-0.2**
AGG	**Agios Georgios**	**4.57**	**344**	PN	**Pn**	**12 41 11.2**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**4.58**	**43**	PN	**Pn**	**12 41 11.6**	**+2.1**
FETY	**Fethiye**	**4.62**	**63**	PN	**Pn**	**12 41 10.6**	**+0.6**
SIGR	**SIGRI**	**4.81**	**18**	PN	**Pn**	**12 41 14.5**	**+1.9**
AKAS	**Kas**	**4.87**	**69**	PN	**Pn**	**12 41 14.6**	**+1.0**
AKAS	**Kas**	**4.87**	**69**	*i* P	**Pn**	**12 41 13.6**	**0.0**
AKAS				*i* S	**Sn**	**12 42 04.4**	**-4.7**
AKAS				IAML		12 42 12.0	
	comp=N,83nm,0.3s						
TAVA	**DENIZLI_Tavas**	**4.90**	**53**	*i* P	**Pn**	**12 41 16.3**	**+2.3**
TAVA				*i* S	**Sn**	**12 42 06.7**	**-3.1**
CAEL	**Denizli, Camel**	**5.00**	**59**	*i* P	**Pn**	**12 41 16.3**	**+0.8**
CAEL				*i* S	**Sn**	**12 42 12.1**	**-0.3**
CAEL				IAML		12 42 24.0	
	comp=E,99nm,0.6s						
CAEL				IAML		12 42 40.0	
	comp=N,102nm,1.1s						
GOLH	**Golhisar**	**5.23**	**59**	*i* P	**Pn**	**12 41 20.6**	**+2.2**
GOLH				*i* S	**Sn**	**12 42 15.8**	**-2.1**
GOLH				IAML		12 42 19.0	
	comp=N,45nm,0.4s						
MANT	**Manisa**	**5.33**	**43**	*i* P	**Pn**	**12 41 21.7**	**+1.7**
AKUM	**Antalya-Kumluc**	**5.47**	**70**	*i* P	**Pn**	**12 41 22.7**	**+1.0**
AKUM				*i* S	**Sn**	**12 42 18.5**	**-5.1**
AKUM				IAML		12 42 26.0	
	comp=E,35nm,0.4s						
AKUM				IAML		12 42 57.0	
	comp=N,46nm,1.8s						
SWA2		**5.53**	**166**	P	**Pn**	**12 41 24.7**	**+2.2**
	baz=167						
SWA2				S	**Sn**	**12 42 22.3**	**-2.8**
	baz=167						
KORT	**Korkueli**	**5.70**	**64**	*i* P	**Pn**	**12 41 26.1**	**+1.1**
KORT				*i* S	**Sn**	**12 42 22.8**	**-6.7**
KORT				IAML		12 42 31.0	
	comp=E,42nm,0.4s						
KORT				IAML		12 42 33.0	
	comp=N,28nm,0.5s						
USAK	**Uak-Merkez**	**5.75**	**43**	*i* P	**Pn**	**12 41 27.0**	**+1.4**
KHAL	**Karahalli**	**5.80**	**48**	*i* P	**Pn**	**12 41 27.8**	**+1.5**
KHAL				*i* S	**Sn**	**12 42 28.8**	**-3.2**
BUCA	**Burdur, Bucak-**	**5.98**	**61**	*i* P	**Pn**	**12 41 29.2**	**+0.4**
BUCA				*i* S	**Sn**	**12 42 33.4**	**-3.0**
TIP	**Timpagrande**	**7.34**	**310**	⇓P	**Pn**	**12 41 47.4**	**0.0**
VTS	**Vitosha**	**7.99**	**356**	⇓P	**Pn**	**12 41 56.6**	**+0.2**
GLL	**Jalalah**	**8.28**	**125**	P	**Pn**	**12 42 00.4**	**+0.1**
	baz=125						
MATE	**Matera**	**8.31**	**318**	⇑P	**Pn**	**12 42 01.0**	**+0.3**
HHAG	**Hagoal**	**8.32**	**122**	P	**Pn**	**12 42 03.2**	**+2.4**
	baz=122						
HHAG				S	Sn	12 43 20.2	-14
	baz=122						
HFRF	**Wahat Farafira**	**8.35**	**152**	P	**Pn**	**12 42 03.5**	**+2.3**
	baz=152						
DRME	**Dracevica, Mon**	**8.41**	**335**	*e*Pn	**Pn**	**12 42 01.7**	**-0.4**
PDG	**Podgorica**	**8.61**	**336**	*e*Pn	**Pn**	**12 42 03.7**	**-1.0**
PDG	**Podgorica**	**8.61**	**336**	*e*Pn	**Pn**	**12 42 01.7**	**-3.0**
HCY	**Herceg Novi**	**8.89**	**333**	*e*Pn	**Pn**	**12 42 06.5**	**-2.1**
SUZ	**Suez**	**8.90**	**120**	P	**Pn**	**12 42 10.9**	**+2.1**
	baz=120						
BOVS	**Bovan**	**9.15**	**350**	⇑P	**Pn**	**12 42 11.9**	**-0.3**
TREB	**Trebinje**	**9.18**	**333**	*e*Pn	Pn	12 42 27.7	+15
BRTR	**Keskin Array B**	**9.24**	**54**	Pn	**Pn**	**12 42 14.9**	**+1.4**
	comp=N,0.2nm,0.3s,baz=234,slow=13,SNR=7.3						
BRTR				LR	LR	12 46 30.2	
	comp=N,99nm,18.1s,baz=244,slow=42						
BRY	**Bratogost**	**9.27**	**334**	*e*Pn	**Pn**	**12 42 11.2**	**-2.8**
UPM	**Unac-Piva**	**9.41**	**337**	*e*Pn	**Pn**	**12 42 14.8**	**-1.1**
STON	**Ston**	**9.56**	**331**	*e*Pn	**Pn**	**12 42 14.2**	**-3.5**
STON				Sn	Sn	12 43 52.0	-12
MMAI	**Mount Meron Ar**	**9.65**	**96**	Pn	**Pn**	**12 42 18.6**	**-0.6**
	comp=N,3.1nm,0.3s,baz=320,slow=16,SNR=4.4						
MMAI				Sn	Sn	12 43 59.5	-7.3
	comp=N,3.2nm,0.3s,baz=298,slow=20,SNR=3.5						
BBLS	**Lazići**	**9.87**	**340**	*e*Pn	**Pn**	**12 42 19.4**	**-2.6**
DIVS	**Divibare**	**9.93**	**343**	*e*Pn	**Pn**	**12 42 20.6**	**-2.4**
MAKA	**Makarska**	**10.18**	**330**	*e*Pn	**Pn**	**12 42 24.3**	**-2.0**
MAKA				Sn	Sn	12 44 09.7	-10
HAPS	**Han Pijesak,Bl**	**10.20**	**339**	*e*Pn	**Pn**	**12 42 23.1**	**-3.5**
RICI	**Ricice**	**10.31**	**331**	*e*Pn	**Pn**	**12 42 25.8**	**-2.3**
RICI				Sn	Sn	12 44 12.3	-10
HVAR	**Hvar**	**10.34**	**328**	*e*Pn	**Pn**	**12 42 26.3**	**-2.1**
EIL	**Elat**	**10.55**	**115**	Pn	**Pn**	**12 42 31.8**	**+0.4**
	comp=N,0.5nm,0.3s,baz=256,slow=3.4,SNR=11						
EIL				Sn	Sn	12 44 22.1	-6.4
	comp=N,0.9nm,0.3s,baz=331,slow=21,SNR=3.4						
VOIR		**10.82**	**4**	⇓P	**Pn**	**12 42 35.4**	**+0.3**
MLR	**Muntele Rosu**	**10.94**	**7**	⇓P	**Pn**	**12 42 37.1**	**+0.3**
KIJV	**Kijevo**	**11.03**	**330**	*e*Pn	**Pn**	**12 42 35.9**	**-2.0**
KIJV				Sn	Sn	12 44 30.9	-9.3
ZIRJ	**Zirje**	**11.07**	**327**	*e*Pn	**Pn**	**12 42 37.2**	**-1.3**
BZS	**Buzias**	**11.11**	**351**	⇓P	**Pn**	**12 42 39.6**	**+0.6**
MORI	**Morici**	**11.21**	**328**	*e*Pn	**Pn**	**12 42 38.7**	**-1.7**
MORI				Sn	Sn	12 44 35.9	-8.8
DUGI	**Dugi Otok**	**11.60**	**326**	*e*Pn	**Pn**	**12 42 44.5**	**-1.2**
DUGI				Sn	Sn	12 44 40.8	-13
UDBI	**Udbina**	**11.72**	**330**	*e*Pn	**Pn**	**12 42 46.4**	**-1.0**
NVLJ	**Novalja**	**12.13**	**327**	*e*Pn	**Pn**	**12 42 51.9**	**-1.0**
MORH	**Mrgy, Hungar**	**12.25**	**342**	*e*Pn	**Pn**	**12 42 51.4**	**-3.1**
CRES	**Cresnjev**	**12.92**	**332**	*e*Pn	**Pn**	**12 43 00.5**	**-3.2**
GERES	**GERESS Array B**	**16.11**	**335**	Pn	**Pn**	**12 43 47.1**	**+0.6**
	comp=N,0.3nm,0.3s,baz=137,slow=13,SNR=4.3						
KHC	**Kasperske Hory**	**16.39**	**335**	*e*P	**P**	**12 43 52.4**	**-0.3**
AKASG	**Malin Array Be**	**16.50**	**12**	Pn	**Pn**	**12 43 50.3**	**-1.1**
	comp=N,1.3nm,0.3s,baz=151,slow=22,SNR=4.3						
KBZ	**Khabaz**	**17.23**	**53**	P	**Pn**	**12 44 01.4**	**+0.9**
	comp=N,0.1nm,0.3s,baz=212,slow=13,SNR=2.6						
ESDC	**Sonseca Array**	**22.77**	**291**	P	**P**	**12 45 02.8**	**+0.5**
	comp=N,0.2nm,0.5s,baz=82,slow=9.5,SNR=2.7						
HFS	**Hagfors**	**26.37**	**348**	P	**P**	**12 45 35.7**	**+0.1**
	comp=N,1.7nm,0.4s,baz=155,slow=11,SNR=18						
FINES	**FINESS Array B**	**26.86**	**2**	P	**P**	**12 45 38.5**	**-1.4**
	comp=N,1.3nm,0.8s,baz=169,slow=9.9,SNR=6.3						
NOA	**NORSAR Array B**	**27.66**	**347**	P	**P**	**12 45 46.1**	**-1.1**
	comp=N,0.3nm,0.5s,baz=152,slow=9.1,SNR=1.6						
NOA				LR	LR	12 59 45.1	
	comp=N,17nm,18.7s,baz=340,slow=43						
EKA	**Eskdalemuir Ar**	**27.91**	**326**	P	**P**	**12 45 49.5**	**-0.1**
	comp=N,1.0nm,0.7s,baz=64,slow=12,SNR=1.8						
TORD	**Torodi Ar. Bea**	**29.41**	**229**	P	**P**	**12 46 04.5**	**+1.3**
	comp=N,1.0nm,0.5s,baz=34,slow=9.1,SNR=6.7						
TORD				PcP	**PcP**	**12 49 08.6**	**-0.2**
	comp=N,0.4nm,0.6s,baz=9.5,slow=4.4,SNR=1.4						
ARCES	**ARCESS Array B**	**34.96**	**1**	P	**P**	**12 46 50.0**	**-1.4**
	comp=N,1.2nm,0.6s,baz=188,slow=9.8,SNR=8.5						
KURBB	**Kurchatov Arra**	**42.21**	**51**	P	**P**	**12 47 52.9**	**+0.5**
	comp=N,1.2nm,0.3s,baz=277,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	**44.88**	**56**	P	**P**	**12 48 14.1**	**+0.1**
	comp=N,0.8nm,0.4s,baz=272,slow=8.2,SNR=18						
ZALV	**Zalesovo Beam**	**46.07**	**46**	P	**P**	**12 48 22.5**	**-0.7**
	comp=N,1.5nm,0.3s,baz=264,slow=8.1,SNR=7.9						
SONM	**Songino Array**	**60.57**	**50**	P	**P**	**12 50 11.0**	**+0.9**
	comp=N,0.5nm,0.3s,baz=293,slow=8.0,SNR=5.7						
INK	**Inuvik**	**75.99**	**352**	P	**P**	**12 51 46.7**	**+0.6**
	comp=N,1.3nm,1.0s,baz=27,slow=2.0,SNR=3.2						
YKA	**Yellowknife Ar**	**77.64**	**342**	P	**P**	**12 51 55.9**	**+0.4**
	comp=N,0.1nm,0.5s,baz=40,slow=5.7,SNR=2.3						
ILAR	**Eielson Array**	**80.66**	**356**	P	**P**	**12 52 12.0**	**+0.1**
	comp=N,0.2nm,0.7s,baz=343,slow=4.2,SNR=1.5						
ASAR	**Alice Springs**	**118.93**	**100**	PKP	**PKiKP**	**12 58 49.3**	**+1.0**
	comp=N,0.2nm,1.0s,baz=335,slow=1.7,SNR=1.7						

*IDC **29** 13:30:57.5±0.7,1°.24N×126°.20E,h0km,mb3.9/14, mb1 4.0/16,mb1mx3.8/40,mbtmp3.9/16,ML3.4/2,MS3.2/3, Ms1 3.2/3,ms1mx2.6/43,Error ellipse: s-maj=35.6km s-min=13.1km az=77.0*
*DJA **29** 13:31:02.1±0.8,1°.N±2°×12°.6E±°,h21km±7km,M4.2/12, mb4.4/6,mB5.3/1,MLv4.1/12,Mw(mB)4.7/1*
*NEIC **29** 13:31:03.1±1.6,1°.24N±0°.05×126°.31E±0°.07,h40km±7km, mb4.1/16,Error ellipse: s-maj=11.7km s-min=6.2km az=61.0*

ISC 29 13:31:03.2±0.5,1°.24N±0°.04×126°.37E±0°.04,h39km,n54, σ1§22/57,mb4.0/19,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.10**	**115**		**Pn**	**13 31 22.0**	**-0.1**
TNTI	**Ternate**	**1.10**	**115**	P	**Pn**	**13 31 22.4**	**+0.3**
TNTI				S	**Sn**	**13 31 38.6**	**+2.5**
KMSI	**Cibinong**	**2.48**	**255**	P	**Pn**	**13 31 41.1**	**+0.1**
KMSI				S	**Sn**	**13 32 10.6**	**+0.6**
SGSI	**Sangihe**	**2.58**	**341**	P	**Pn**	**13 31 43.1**	**+0.7**
SGSI				S	**Sn**	**13 32 15.0**	**+2.5**
SANI	**Sanana**	**3.29**	**187**	P	**Pn**	**13 31 53.0**	**+0.8**
SANI				S	**Sn**	**13 32 28.5**	**-1.5**
GTOI	**Gorontalo**	**3.41**	**260**	P	**Pn**	**13 31 55.5**	**+1.6**
GTOI				S	**Sn**	**13 32 36.9**	**+3.8**
LUWI	**Luwuk**	**4.25**	**238**	Pn	**Pn**	**13 32 06.0**	**+0.5**
LUWI	**Luwuk**	**4.25**	**238**	P	**Pn**	**13 32 03.7**	**-1.7**
LUWI				S	**Sn**	**13 32 56.3**	**+2.5**
MRSI	**Marisa**	**4.49**	**260**	P	**Pn**	**13 32 08.2**	**-0.6**
APSI	**Ampana**	**5.18**	**246**	P	**Pn**	**13 32 16.4**	**-1.8**
	0.4nm55nm,1.2s						
SIJI	**Sorong**	**5.33**	**113**	Pn	**Pn**	**13 32 20.0**	**-0.3**
	0.6nm,0.3s,baz=29,slow=19,SNR=2.5						
SIJI				Sn	**Sn**	**13 33 22.5**	**+2.1**
	0.4nm,0.3s,baz=103,slow=24,SNR=1.4						
SIJI				LR	LR	13 34 45.8	
	comp=Z,95nm,20.0s,baz=253,slow=42						
TOLI2	**Tolitoli**	**5.59**	**269**	Pn	**Pn**	**13 32 22.8**	**-1.1**
DAV	**Davao City (W)**	**5.85**	**352**	Sn	**Sn**	**13 33 34.0**	**+0.7**
	36nm,0.3s,baz=249,slow=21,SNR=1.5						
FAKI	**Fak Fak**	**7.18**	**125**	Pn	**Pn**	**13 32 47.2**	**+1.4**
TTSI	**Tana Toraja**	**7.81**	**237**	P	**Pn**	**13 32 55.8**	**+1.5**
	0.1nm2µm15nm,0.8s						
MYLDM	**Lahad Datu**	**8.78**	**297**	Pn	**Pn**	**13 33 07.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.23**	**182**	P	**P**	**13 35 24.5**	**+0.3**
	0.1nm,0.3s,baz=3.6,slow=11,SNR=2.3						
FITZ	**Fitzroy Crossi**	**19.23**	**182**	P	**P**	**13 35 23.1**	**-1.1**
WB0	**Warramunga Arr**	**22.31**	**160**	P	**P**	**13 35 56.7**	**-0.8**
WB0				IAmb	IAmb	13 36 01.8	
	comp=Z,9.3nm,0.8s						
WRAB	**Tennant Creek**	**22.45**	**160**	P	**P**	**13 35 58.8**	**-0.3**
WRAB				IAmb	IAmb	13 36 03.5	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**22.45**	**160**	P	**P**	**13 35 58.5**	**-0.6**
	comp=Z,7.3nm,0.7s,baz=337,slow=11,SNR=61						
WRA	**Warramunga Arr**	**22.45**	**160**	P	**P**	**13 35 57.5**	**-1.6**
WB2	**Warramunga Arr**	**22.46**	**160**	P	**P**	**13 35 58.1**	**-1.1**
WR0	**Warramunga Arr**	**22.54**	**160**	P	**P**	**13 35 59.2**	**-0.8**
WR0				IAmb	IAmb	13 36 06.9	
	comp=Z,5.4nm,1.0s						
TPUB	**Ta-pu**	**22.63**	**346**	P	**P**	**13 36 00.5**	**-0.5**
PMG	**Port Moresby**	**23.25**	**117**	LR	LR	13 47 50.9	
	comp=Z,37nm,19.1s,baz=56,slow=43						
AS31	**Alice Springs**	**25.81**	**164**	P	**P**	**13 36 30.7**	**-0.3**
ASAR	**Alice Springs**	**25.81**	**164**	P	**P**	**13 36 30.6**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=345,slow=6.2,SNR=34						
CTA	**Charters Tower**	**28.80**	**138**	LR	LR	13 50 07.5	
	comp=Z,148nm,20.8s,baz=70,slow=40						
CTAO	**Charters Tower**	**28.80**	**138**	P	**P**	**13 36 58.3**	**+0.5**
BBOO	**Buckleboo**	**35.08**	**166**	P	**P**	**13 37 51.3**	**-1.4**
STKA	**Stephens Creek**	**35.96**	**158**	P	**P**	**13 38 00.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=306,slow=12,SNR=2.2						
STKA	**Stephens Creek**	**35.96**	**158**	P	**P**	**13 38 00.2**	**-0.1**
KSAR	**Wonju Array Be**	**36.06**	**2**	P	**P**	**13 38 00.3**	**-0.7**
KSRS	**Korea Array**	**36.07**	**2**	P	**P**	**13 38 01.1**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=182,slow=9.2,SNR=4.5						
MJAR	**Matsushiro Arr**	**36.80**	**16**	P	**P**	**13 38 07.4**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=194,slow=9.1,SNR=4.3						
MJAR	**Matsushiro Arr**	**36.80**	**16**	IAmb	IAmb	13 38 18.4	

comp=N,0.6nm,0.8s,baz=242,slow=5.6,SNR=2.1

YKA	**Yellowknife Ar**	**90.00**	**341**	P		**P**	**13 53 45.6**	**-0.4**
	comp=N,0.4nm,0.8s,baz=130,slow=5.0,SNR=8.6							

*IDC **29** 13:52:25.5±1.0,34˚.51N×137˚.02E, h328km±20km, mb2.6/3, mb1 2.8/6, mb1mx2.6/40, mbtmp3.3/6, Error ellipse: s-maj=55.6km s-min=16.5km az=51.0*

*JMA **29** 13:52:26.7±0.1,34˚.70N×137˚.19E, h340km, M3.0*

ISC 29 13:52:25.6±1.0, 34˚68N±0˚.09×137˚.2E±0˚.1, h341km±10km, n18, σ1§29/24, mb2.9/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAO	**Obara**	**0.59**	**7**	P		**Pn**	**13 53 09.9**	**+0.8**
JNY	**Yasuok**	**0.88**	**40**	P		**Pn**	**13 53 10.9**	**+0.9**
JYTA	**Yamagatataniai**	**0.98**	**339**	P		**Pn**	**13 53 10.8**	**+0.5**
JRY	**Ryogami san**	**1.94**	**46**	P		**Pn**	**13 53 17.4**	**+1.7**
JRY				*e*S		**S**	**13 53 57.1**	**+1.2**
MJAR	**Matsushiro Arr**	**2.04**	**24**	P		**Pn**	**13 53 17.4**	**+1.1**
	0.4nm,0.3s,baz=206,slow=8.2,SNR=49							
MAT	**Matsushiro**	**2.04**	**24**	P		**Pn**	**13 53 17.8**	**+1.4**
JHU	**Hanno**	**2.08**	**55**	P		**Pn**	**13 53 17.9**	**+1.2**
JHU				*e*S		**S**	**13 53 57.0**	**-0.7**
JAG	**Ashikaga**	**2.55**	**46**	P		**Pn**	**13 53 20.6**	**+0.3**
JAG				S		**S**	**13 54 02.9**	**-1.3**
JHJ	**Hachijo jima 2**	**2.67**	**125**	P		**Pn**	**13 53 21.7**	**+0.2**
	4.3nm,0.3s,baz=285,slow=20,SNR=1.8							
JHJ				S		**S**	**13 54 04.3**	**-2.1**
	2.0nm,0.3s,baz=253,slow=18,SNR=2.2							
BSO3	**Boso 3**	**2.75**	**87**	*e*S		**S**	**13 54 08.2**	**+1.2**
JYT	**Yasato**	**2.91**	**57**	P		**Pn**	**13 53 24.1**	**+0.7**
JYT				S		**S**	**13 54 07.4**	**-2.5**
BSO1	**Boso 1**	**3.14**	**89**	P		**Pn**	**13 53 26.3**	**+1.3**
JHO	**Hitachi**	**3.37**	**54**	P		**Pn**	**13 53 28.3**	**+0.6**
JFK	**Kawauchi**	**4.02**	**47**	P		**Pn**	**13 53 34.9**	**+0.6**
JFK				S		**S**	**13 54 27.4**	**-2.3**
KSRS	**Korea Array**	**7.98**	**293**	P		**Pn**	**13 54 19.0**	**-0.3**
	0.2nm,0.3s,baz=107,slow=12,SNR=10.0							
MKAR	**Makanchi Array**	**42.50**	**304**	P		**P**	**13 59 48.3**	**-0.1**
	0.1nm,0.5s,baz=81,slow=8.9,SNR=2.1							
WRA	**Warramunga Arr**	**54.39**	**183**	P		**P**	**14 01 18.2**	**-0.2**
	0.2nm,0.3s,baz=360,slow=7.6,SNR=8.3							
ASAR	**Alice Springs**	**58.11**	**184**	P		**P**	**14 01 44.6**	**+0.2**
	0.2nm,0.5s,baz=0.8,slow=6.3,SNR=5.6							

*IDC **29** 14:00:33.1±3.5, 11˚.47S×162˚.86E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/26, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=63.7km s-min=40.4km az=75.0*

*NEIC **29** 14:00:38.4±1.4, 11˚.4S±0˚.1×162˚.8E±0˚.1, h40km±12km, mb4.3/4, Error ellipse: s-maj=22.9km s-min=13.5km az=221.0*

ISC 29 14:00:38.1±1.1, 11˚4S±0˚2×162˚8E±0˚1, h35km, n17, σ1§24/12, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**3.46**	**305**	Pn		**Pn**	**14 01 29.6**	**0.0**
	12nm,0.3s,baz=191,slow=12,SNR=6.5							
HNR				Sn		**Sn**	**14 02 11.7**	**+2.3**
	23nm,0.3s,baz=205,slow=18,SNR=5.8							
HNR	**Honiara**	**3.46**	**305**			**Pn**	**14 01 29.1**	**-0.5**
SANVU	**Saraoutou**	**5.83**	**134**	Pn		**Pn**	**14 02 03.5**	**+1.4**
WB0	**Warramunga Arr**	**28.57**	**250**	P		**P**	**14 06 30.9**	**-0.2**
WB0				IAmb		IAmb	14 06 50.7	
	comp=Z,6.5nm,1.4s							
WRA	**Warramunga Arr**	**28.66**	**249**	P		**P**	**14 06 32.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=79,slow=9.1,SNR=5.1							
H11S2	**WAKE ISLAND Hy**	**29.99**	**7**	T		T	14 37 35.0	
	baz=188,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hy**	**29.99**	**7**	T		T	14 37 45.5	
	baz=188,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy**	**30.00**	**7**	T		T	14 37 34.8	
	baz=188,slow=76,SNR=11							
ASAR	**Alice Springs**	**30.07**	**242**	P		**P**	**14 06 44.4**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=66,slow=10,SNR=8.2							
ASAR	**Alice Springs**	**30.07**	**242**	P		**P**	**14 06 43.8**	**-0.5**
TOO	**Toolangi**	**30.32**	**208**	P		**P**	**14 06 45.5**	**-0.8**
H11N1	**WAKE ISLAND Hy**	**31.21**	**7**	T		T	14 39 09.1	
	baz=188,slow=76,SNR=6.1							
H11N3	**WAKE ISLAND Hy**	**31.22**	**7**	T		T	14 39 11.8	
	baz=188,slow=76,SNR=6.9							
H11N2	**WAKE ISLAND Hy**	**31.23**	**7**	T		T	14 39 17.2	
	baz=188,slow=76,SNR=6.1							
USA0B	**Ussuriysk Arra**	**62.06**	**335**	P		**P**	**14 10 53.6**	**-1.6**
USA0B				IAmb		IAmb	14 10 54.5	
	comp=Z,2.6nm,0.8s							
USRK	**Ussuriysk Ar.**	**62.06**	**335**	P		**P**	**14 10 53.5**	**-1.6**
MKAR	**Makanchi Array**	**91.86**	**317**	P		**P**	**14 13 43.4**	**+0.6**
	comp=Z,0.2nm,0.9s,baz=100,slow=4.8,SNR=1.9							

TAP 29 14:15:28.6, 24˚03N×121˚58E, h10km±1km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HWA	**Hwalien**	**0.05**	**159**	P		Pg	14 15 31.2	+0.7
	baz=151							
HWA				S		Sg	14 15 32.9	+1.0
	baz=151							
TWD	**Chiawan**	**0.06**	**12**	*i* P		Pg	14 15 31.3	+0.7
	baz=18							
TWD				S		Sg	14 15 32.8	+0.7
	baz=18							
NACB	**Ninganchiao**	**0.15**	**4**	P		Pg	14 15 32.7	+0.8
	baz=3.0							
NACB				S		Sg	14 15 35.1	+0.9
	baz=3.0							
ETLH	**Xiulin Townshi**	**0.20**	**333**	P		Pg	14 15 34.0	+1.1
	baz=332							
ETLH				*e*S		Sg	14 15 37.5	+1.7
	baz=332							
ESL	**Shilin**	**0.25**	**213**	P		Pg	14 15 34.4	+0.7
	baz=211							
ESL				*e*S		Sg	14 15 38.1	+1.0
	baz=211							
WHF	**Hehuan Shan**	**0.32**	**292**	P		Pb	14 15 36.0	-0.7
	baz=292							
WHF				S		Sb	14 15 40.9	-1.1
	baz=292							
FUSS	**Fushou**	**0.38**	**305**	*e*P		Pb	14 15 37.8	+0.1
	baz=305							
FUSS				*e*S		Sb	14 15 43.4	-0.4
	baz=305							
HGSD	**Ruisui**	**0.55**	**195**	*e*S		Sb	14 15 48.8	+0.4
	baz=195							

*NEIC **29** 14:19:37.9±2.4, 24˚.92S±0˚.1×177˚.4W±0˚.2, h138km±7km, mb4.4/22, Error ellipse: s-maj=24.5km s-min=13.3km az=105.0*

*IDC **29** 14:19:46.0±4.1, 25˚.06S×177˚.60W, h202km±31km, mb3.7/4, mb1 3.8/6, mb1mx3.4/34, mbtmp4.2/6, Error ellipse: s-maj=42.1km s-min=22.0km az=120.0*

ISC 29 14:19:39.6±0.6, 24˚81S±0˚.07×177˚.5W±0˚.1, h150km, n53, σ1§64/48, mb4.3/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**4.44**	**185**	S		**Sn**	**14 21 37.9**	**+0.9**
	51nm,0.3s,baz=54,slow=21,SNR=1.9							
RAO	**Raoul Island**	**4.44**	**185**	Pn		**Pn**	**14 20 43.0**	**-2.6**
GLKZ	**Green Lake**	**4.45**	**185**	P		**Pn**	**14 20 47.9**	**+2.2**
GLKZ				S		**Sn**	**14 21 39.5**	**+2.3**
MSVF	**Nonsavu**	**8.20**	**328**	P		Pn	14 21 44.0	+8.2
	2.9nm,0.3s,baz=139,slow=10,0,SNR=15							
MSVF	**Nonsavu**	**8.20**	**328**			Pn	14 21 42.4	+6.6
NIUE	**Niue**	**9.02**	**52**	Pn		**Pn**	**14 21 47.6**	**+1.1**
AFI	**Afiamalu**	**12.09**	**27**	Pn		**Pn**	**14 22 25.2**	**-2.0**
URZ	**Urewera**	**14.18**	**198**	P		**Pn**	**14 22 53.7**	**+0.1**
	1.2nm,0.3s,baz=302,slow=22,SNR=13							
URZ				S		Sn	14 25 14.9	-16
	1.1nm,0.3s,baz=130,slow=22,SNR=2.3							
DZM	**Mont Dzumac**	**15.03**	**277**	P		P	14 23 13.0	+6.7
	0.6nm,0.3s,baz=198,slow=19,SNR=6.1							
DZM	**Mont Dzumac**	**15.03**	**277**	IAmb		IAmb	14 23 14.5	
	comp=Z,20nm,1.1s							
BKZ	**Black Stump Fm**	**15.20**	**198**	Pn		**Pn**	**14 23 03.1**	**-3.2**
BKZ				IAmb		IAmb	14 23 05.9	
	comp=Z,27nm,1.4s							
MRZ	**Mangatainoka R**	**16.84**	**199**	P		**P**	**14 23 21.4**	**-4.7**

MRZ				S		S	14 26 10.4	-23
HOWZ	**Holdsworth Sta**	**17.08**	**198**	P		P	14 23 19.4	-9.2
HOWZ				S		S	14 26 16.2	-23
MTW	**Mount Morrison**	**17.33**	**198**	P		**P**	**14 23 30.2**	**-1.2**
MTW				S		S	14 26 18.2	-26
DUWZ	**D'Urville Isla**	**17.50**	**202**	P		P	14 23 24.3	-8.9
DUWZ				S		S	14 26 31.8	-16
PAWZ	**Paruwai Farm**	**17.55**	**198**	P		**Pn**	**14 23 35.1**	**+0.1**
PAWZ				S		S	14 26 27.0	-22
MSWZ	**Moikau Station**	**17.64**	**198**	P		**P**	**14 23 31.8**	**-2.9**
MSWZ	**Moikau Station**	**17.64**	**198**	P		**P**	**14 23 32.1**	**-2.6**
MSWZ				S		S	14 26 27.0	-23
TCW	**Tory Channel**	**17.75**	**201**	P		**Pn**	**14 23 36.0**	**-1.2**
TCW				S		S	14 26 31.8	-21
FOZ	**Fox Glacier**	**21.39**	**206**	P		**P**	**14 24 12.4**	**-2.8**
MLZ	**Mavora Lakes**	**23.59**	**206**	P		**P**	**14 24 35.3**	**-1.3**
MLZ				IAmb		IAmb	14 24 44.5	
	comp=Z,25nm,1.3s							
WHZ	**Wether Hill Ro**	**24.09**	**206**	P		**P**	**14 24 38.5**	**-2.7**
WHZ				IAmb		IAmb	14 24 58.0	
	comp=Z,18nm,1.2s							
EIDS	**Eidsvold**	**28.47**	**262**	P		**P**	**14 25 22.1**	**+1.4**
EIDS				IAmb		IAmb	14 25 47.3	
	comp=Z,13nm,1.3s							
CTAO	**Charters Tower**	**33.81**	**271**	P		**P**	**14 26 09.2**	**+1.7**
TOO	**Toolangi**	**33.94**	**239**	P		**P**	**14 26 10.6**	**+2.1**
TOO				IAmb		IAmb	14 26 27.7	
	comp=Z,15nm,1.4s							
STKA	**Stephens Creek**	**36.56**	**249**	P		**P**	**14 26 31.9**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=95,slow=11,SNR=6.6							
STKA	**Stephens Creek**	**36.56**	**249**	IAmb		IAmb	14 26 35.4	
	comp=Z,1.3nm,1.2s							
COEN	**Coen**	**38.55**	**279**	P		**P**	**14 26 49.4**	**+1.4**
COEN				IAmb		IAmb	14 27 13.2	
	comp=Z,7.2nm,1.1s							
BBOO	**Buckleboo**	**41.24**	**248**	P		**P**	**14 27 09.5**	**-0.5**
BBOO				IAmb		IAmb	14 27 13.0	
	comp=Z,13nm,1.5s							
AS31	**Alice Springs**	**44.18**	**261**	P		**P**	**14 27 33.4**	**-0.5**
ASAR	**Alice Springs**	**44.18**	**261**	P		**P**	**14 27 33.5**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=92,slow=6.9,SNR=94							
ASAR				PcP		**PcP**	**14 29 15.8**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=100,slow=4.8,SNR=4.1							
WR0	**Warramunga Arr**	**44.48**	**266**	P		**P**	**14 27 35.4**	**-0.8**
WB2	**Warramunga Arr**	**44.66**	**266**	P		**P**	**14 27 36.6**	**-1.0**
WB2				IAmb		IAmb	14 27 38.6	
	comp=Z,4.6nm,0.8s							
WB0	**Warramunga Arr**	**44.66**	**266**	P		**P**	**14 27 37.3**	**-0.4**
WB0				IAmb		IAmb	14 27 39.0	
	comp=Z,5.4nm,0.8s							
WRA	**Warramunga Arr**	**44.67**	**266**	P		**P**	**14 27 37.1**	**-0.6**
	comp=Z,2.4nm,0.4s,baz=101,slow=7.5,SNR=60							
WRA				PcP		**PcP**	**14 29 16.3**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=104,slow=3.7,SNR=6.3							
WRA	**Warramunga Arr**	**44.67**	**266**	P		**P**	**14 27 36.9**	**-0.7**
FORT	**Forrest**	**48.18**	**250**	P		**P**	**14 28 04.1**	**-0.8**
FORT				IAmb		IAmb	14 28 04.9	
	comp=Z,6.9nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.08**	**265**	P		**P**	**14 28 42.8**	**+1.0**
SBA	**Scott Base**	**53.62**	**184**	P		**P**	**14 28 47.2**	**+2.4**
MORW	**Morawa**	**58.75**	**250**	P		**P**	**14 29 21.5**	**-0.5**
CASY	**Casey**	**60.32**	**206**	P		**P**	**14 29 31.5**	**-0.5**
QSPA	**South Pole Qui**	**65.27**	**180**	P		**P**	**14 30 04.8**	**-0.2**
QSPA				IAmb		IAmb	14 30 06.1	
	comp=Z,2.0nm,1.0s							
JAGI	**Jajag, Banyuwa**	**66.92**	**271**	P		**P**	**14 30 15.8**	**-0.4**
BELA	**Belgrano 2**	**75.23**	**172**	P		**P**	**14 31 04.3**	**-1.0**
MAW	**Mawson**	**77.70**	**200**	P		**P**	**14 31 20.1**	**+0.9**
PETK	**Petropavlovsk-**	**80.55**	**345**	P		**P**	**14 31 36.3**	**+1.5**
	comp=Z,4.0nm,1.0s,baz=114,slow=3.7,SNR=7.0							
MKAR	**Makanchi Array**	**114.48**	**312**	PKP		PKPdf	14 38 00.8	-0.8
	comp=Z,0.2nm,0.5s,baz=74,slow=0.9,SNR=4.0							
ARCES	**ARCESS Array B**	**133.24**	**349**	PKP		**PKPdf**	**14 38 37.1**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=335,slow=4.0,SNR=2.3							
AKASG	**Malin Array Be**	**146.98**	**328**	PKPbc		**PKPbc**	**14 39 04.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=41,slow=3.8,SNR=4.8							
AKASG	**Malin Array Be**	**146.98**	**328**			**PKPbc**	**14 39 03.5**	**-0.8**
BRTR	**Keskin Array B**	**149.98**	**307**	PKPbc		**PKPbc**	**14 39 12.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=142,slow=6.3,SNR=5.3							
BRTR	**Keskin Array B**	**149.98**	**307**			**PKPbc**	**14 39 11.4**	**-1.2**
MMAI	**Mount Meron Ar**	**150.20**	**294**	PKPbc		**PKiKP**	**14 39 14.3**	**+0.3**
	comp=Z,1.9nm,0.4s,baz=88,slow=5.3,SNR=5.1							

*IDC **29** 14:24:00.5±0.7, 28˚.61N×66˚.25E, h0km, mb3.9/24, mb1 4.0/25, mb1mx3.9/55, mbtmp3.9/25, ML3.9/1, MS3.4/18, Ms1 3.4/18, ms1mx3.2/47, Error ellipse: s-maj=16.7km s-min=14.5km az=171.0*

*NEIC **29** 14:24:01.1±2.1, 28˚.60N±0˚.10×66˚.4E±0˚.1, h11km±1km, mb4.2/18, Error ellipse: s-maj=15.9km s-min=10.0km az=140.0*

*MOS **29** 14:24:04.2±1.7, 28˚.70N×66˚.30E, h35km, mb4.4/15, Error ellipse: s-maj=9.6km s-min=5.1km az=77.5*

ISC 29 14:24:02.9±0.4, 28˚60N±0˚.05×66˚35E±0˚.04, h20km, n170, σ2§26/197, mb4.1/43, MS3.4/20, 10C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THW	**Thamme Wali**	**6.25**	**47**	P		**Pn**	**14 25 33.1**	**-0.9**
KBL	**Kabul**	**6.35**	**21**	P		**Pn**	**14 25 35.1**	**-0.5**
KBL	**Kabul**	**6.35**	**21**			**Pn**	**14 25 35.1**	**-0.5**
KBL	**Kabul**	**6.35**	**21**	P		**Pn**	**14 25 35.8**	**+0.1**
	SNR=9.4							
HRA	**Herat**	**6.75**	**330**			**Pn**	**14 25 40.8**	**-0.3**
CEP	**Cherat**	**7.05**	**41**	P		**Pn**	**14 25 44.6**	**-0.6**
NIL	**Nilore**	**7.77**	**48**	P		**Pn**	**14 25 53.5**	**-1.4**
NIL	**Nilore**	**7.77**	**48**	Pn		**Pn**	**14 25 53.5**	**-1.4**
NIL	**Nilore**	**7.77**	**48**	P		**Pn**	**14 25 54.6**	**-0.2**
WSAR	**Wadi Sarin**	**8.76**	**234**	Pn		**Pn**	**14 26 08.3**	**-0.2**
	1.5nm,0.3s,baz=71,slow=5.1,SNR=30							
WSAR				Sn		Sn	14 27 33.9	-13
	0.6nm,0.3s,baz=319,slow=3.3,SNR=1.4							
WBK	**Wadi Bani Khal**	**8.94**	**230**	P		**Pn**	**14 26 12.3**	**+1.4**
WBK				P		**Pn**	**14 26 12.3**	**+1.4**
WBK				S		**Sn**	**14 27 46.6**	**-4.5**
WBK				S		**Sn**	**14 27 46.6**	**-4.5**
BIDO	**Bidbid**	**8.96**	**238**	P		**Pn**	**14 26 13.6**	**+1.4**
BIDO				S		**Sn**	**14 27 47.1**	**-4.4**
JLN	**Jalan Bani Buh**	**8.98**	**226**	P		**Pn**	**14 26 13.2**	**+1.7**
JLN				P		**Pn**	**14 26 13.2**	**+1.7**
JLN				S		**Sn**	**14 27 45.4**	**-6.6**
JLN				S		**Sn**	**14 27 45.4**	**-6.6**
SMDO	**Samad**	**9.29**	**235**	P		**Pn**	**14 26 17.8**	**+2.0**
	SNR=9.3							
SMDO				P		**Pn**	**14 26 17.8**	**+2.0**
	SNR=9.3							
SMDO				S		**Sn**	**14 27 54.5**	**-5.4**
SMDO				S		**Sn**	**14 27 54.5**	**-5.4**
DHRM	**DHARAMSHALA**	**9.33**	**65**	*e*P		**Pn**	**14 26 15.1**	**-1.4**
DHRM				*e*S		**Sn**	**14 27 56.2**	**-4.7**
DHRM				IAML			14 28 07.8	
	comp=N,106nm,0.7s							
DHRM				IAML			14 28 08.0	
	comp=E,127nm,0.5s							
BANOM	**Banah**	**9.33**	**256**	*i* P		**Pn**	**14 26 17.4**	**+1.0**
	SNR=18							
BANOM				S		**Sn**	**14 27 56.7**	**-4.1**
BANOM	**Banah**	**9.33**	**256**	P		**Pn**	**14 26 17.6**	**+1.2**
BANOM				S		**Sn**	**14 27 57.6**	**-3.2**
SHME	**Shamm**	**9.43**	**257**	*i* P		**Pn**	**14 26 19.3**	**+1.6**
	SNR=14							
SHME	**Shamm**	**9.43**	**257**	P		**Pn**	**14 26 19.5**	**+1.8**
HOQ	**Hoqain**	**9.54**	**240**	P		**Pn**	**14 26 20.3**	**+1.2**
	SNR=15							
NDI	**New Delhi**	**9.55**	**87**	*e*P		**Pn**	**14 26 21.5**	**+2.2**
NDI				*e*S		**Sn**	**14 28 04.0**	**-2.0**
MDH	**Madha**	**9.55**	**252**	*i* P		**Pn**	**14 26 19.1**	**-0.2**
	SNR=10							
MDH	**Madha**	**9.55**	**252**	P		**Pn**	**14 26 20.0**	**+0.7**
	SNR=10							
MDH				P		**Pn**	**14 26 20.0**	**+0.7**
	SNR=10							
MDH				S		**Sn**	**14 27 59.8**	**-6.4**
MDH				S		**Sn**	**14 27 59.8**	**-6.4**
MASF	**Masafi**	**9.64**	**253**	P		**Pn**	**14 26 21.6**	**+1.0**
	SNR=6.9							
MASF				P		**Pn**	**14 26 21.6**	**+1.0**
	SNR=6.9							
MSFE	**Esma-Masafi**	**9.65**	**253**	*i* P		**Pn**	**14 26 20.8**	**+0.2**
	SNR=14							
JMDO	**Jabal Madar**	**9.69**	**232**	P		**Pn**	**14 26 24.1**	**+2.8**
JMDO				P		**Pn**	**14 26 24.1**	**+2.8**
SMLA	**Simla**	**9.72**	**72**	*e*P		**Pn**	**14 26 21.9**	**+0.2**

SMLA				*e*S		**Sn**	**14 28 05.1**	**-5.1**
SMLA				IAML			14 28 13.7	
	comp=N,76nm,0.8s							
SMLA				IAML			14 28 14.2	
	comp=E,81nm,0.4s							
UOSS	**Minazif**	**9.77**	**250**	P		**Pn**	**14 26 21.4**	**-1.0**
UOSS	**Minazif**	**9.77**	**250**	Pn		**Pn**	**14 26 20.1**	**-2.2**
UOSS	**Minazif**	**9.77**	**250**	P		**Pn**	**14 26 22.9**	**+0.5**
UOSS				P		**Pn**	**14 26 22.9**	**+0.5**
SOHO	**SOHO**	**9.86**	**245**	*i* P		**Pn**	**14 26 24.0**	**+0.4**
	SNR=13							
SOHO	**SOHO**	**9.86**	**245**	P		**Pn**	**14 26 24.0**	**+0.4**
SOHO				P		**Pn**	**14 26 24.0**	**+0.4**
HATD	**Hatta, Dubai**	**9.88**	**250**	P		**Pn**	**14 26 23.4**	**-0.4**
HATD	**Hatta, Dubai**	**9.88**	**250**	P		**Pn**	**14 26 24.2**	**+0.3**
HATD				P		**Pn**	**14 26 24.2**	**+0.3**
ASHO	**Ashiyiah**	**10.00**	**249**	*i* P		**Pn**	**14 26 26.0**	**+0.5**
	SNR=18							
ASHO	**Ashiyiah**	**10.00**	**249**	P		**Pn**	**14 26 26.7**	**+1.2**
	SNR=18							
ASHO				P		**Pn**	**14 26 26.7**	**+1.2**
	SNR=18							
BSY	**Bisya**	**10.10**	**237**	P		**Pn**	**14 26 30.0**	**+3.0**
	SNR=12							
BSY				P		**Pn**	**14 26 30.0**	**+3.0**
	SNR=12							
NAZ	**Nazwa, Dubai**	**10.20**	**252**	P		**Pn**	**14 26 30.6**	**+2.3**
NAZ	**Nazwa, Dubai**	**10.20**	**252**	P		**Pn**	**14 26 30.6**	**+2.3**
NAZ				P		**Pn**	**14 26 30.6**	**+2.3**
ARQ	**Araqi**	**10.28**	**242**	P		**Pn**	**14 26 32.8**	**+3.5**
	SNR=7.3							
ARQ				P		**Pn**	**14 26 32.8**	**+3.5**
	SNR=7.3							
FAQ	**Al Faqa, Dubai**	**10.36**	**251**	P		**Pn**	**14 26 33.7**	**+3.4**
FAQ	**Al Faqa, Dubai**	**10.36**	**251**	P		**Pn**	**14 26 33.8**	**+3.4**
FAQ				P		**Pn**	**14 26 33.8**	**+3.4**
FAQ				S		**Sn**	**14 28 25.5**	**-0.4**
FAQ				S		**Sn**	**14 28 25.5**	**-0.4**
ALNE	**Al Ain**	**10.53**	**247**	P		**Pn**	**14 26 35.2**	**+2.5**
ALNE	**Al Ain**	**10.53**	**247**	P		**Pn**	**14 26 33.7**	**+1.0**
ASUD	**Al Ashush, Dub**	**10.62**	**251**	P		**Pn**	**14 26 36.5**	**+2.4**
ASUD	**Al Ashush, Dub**	**10.62**	**251**	P		**Pn**	**14 26 36.9**	**+2.9**
ASUD				P		**Pn**	**14 26 36.9**	**+2.9**
MHTO	**MHTO**	**10.74**	**227**	P		**Pn**	**14 26 37.0**	**+1.4**
MHTO				P		**Pn**	**14 26 37.0**	**+1.4**
BHPL	**Bhopal**	**11.30**	**116**	*e*P		**Pn**	**14 26 44.2**	**+0.8**
BHPL				*e*S		**Sn**	**14 28 46.6**	**-2.5**
GEYT	**Alibeck**	**11.57**	**326**	Pn		**Pn**	**14 26 51.6**	**+4.6**
	comp=E,0.2nm,0.3s,baz=166,slow=19,SNR=2.4							
GEYT				Lg		Lg	14 30 07.6	
	comp=E,0.3nm,0.3s,baz=132,slow=36,SNR=1.6							
GEYT				LR		LR	14 32 05.8	
	comp=E,117nm,19.8s,baz=185,slow=42							
UMZA	**Um Al Zommool**	**11.67**	**242**	P		**Pn**	**14 26 51.2**	**+2.8**
UMZA				P		**Pn**	**14 26 51.2**	**+2.8**
KSH	**Kashi**	**13.49**	**34**	Pn		Pn	14 27 06.3	-7.0
KSH				Sn		Sn	14 29 27.3	-15
KSH				smax		smax		
	comp=N,55nm,0.9s							
KSH				smax		smax		
	comp=E,70nm,1.0s							
IUG	**Iuzhnay**	**13.85**	**12**	*e*P		**Pn**	**14 27 15.6**	**-2.6**
	baz=13							
IUG	**Iuzhnay**	**13.85**	**12**	*e*P		**Pn**	**14 27 15.5**	**-2.6**
DZA	**Taraz**	**14.82**	**14**	*e*P		**Pn**	**14 27 29.4**	**-2.0**
	baz=16							
DZA	**Taraz**	**14.82**	**14**	*e*P		**Pn**	**14 27 29.3**	**-2.0**
KK31	**Karatay Array**	**14.86**	**12**	P		**P**	**14 27 36.3**	**-1.2**
KK31	**Karatay Array**	**14.86**	**12**	P		**P**	**14 27 36.3**	**-1.2**
KKAR	**Karatay Array**	**14.86**	**12**	P		**Pn**	**14 27 30.4**	**-1.5**
KKAR	**Karatay Array**	**14.86**	**12**	Pn		**Pn**	**14 27 30.4**	**-1.5**
AAK	**Ala-Archa**	**15.48**	**23**	Pn		**Pn**	**14 27 37.6**	**-2.6**
	comp=E,0.4nm,0.3s,baz=210,slow=5.8,SNR=10							
AAK				Sn		**Sn**	**14 30 23.5**	**-7.8**
	comp=E,0.0nm,0.3s,baz=200,slow=17,SNR=1.7							
AAK				LR		LR	14 35 18.0	
	comp=E,105nm,18.1s,baz=209,slow=44							
AAK	**Ala-Archa**	**15.48**	**23**	*ce*P		**Pn**

KIV MLR MLR
comp=Z,70nm,14.0s
KIV Kislovodsk 24.35 315 P **P** **14 29 17.8 -1.8**
KIV IAmb IAmb 14 29 41.8
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 24.59 6 P **P** **14 29 22.1 +0.6**
comp=Z,5.9nm,0.7s,baz=168,slow=24,SNR=25
BRVK Borovoye 24.61 6 *ce*P **P** **14 29 22.3 +0.6**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
BRVK Borovoye 24.61 6 P **P** **14 29 21.9 +0.2**
BRVK IAmb IAmb 14 29 26.9
comp=Z,9.1nm,0.8s
DGZ Jazzator, Alta 26.50 32 *i* P **P** **14 29 40.9 +1.8**
DGZ pmax pmax
comp=Z,7.0nm,1.2s
MMAI Mount Meron Ar 26.89 287 LR LR 14 42 06.1
comp=Z,41nm,18.6s,baz=115,slow=40
EIL Elat 27.41 280 LR LR 14 42 52.1
comp=Z,44nm,18.8s,baz=94,slow=41
BELG Belogornoye 27.55 335 P **P** **14 29 48.3 +0.1**
comp=Z,8.4nm,0.7s,baz=108,slow=17,SNR=2.8
BELG LR LR 14 43 14.0
comp=Z,24nm,19.8s,baz=9.4,slow=42
ATD Arta Tunnel 27.76 237 LR LR 14 41 50.7
comp=Z,59nm,19.8s,baz=67,slow=39
ARU Arti 28.36 351 LR LR 14 42 04.5
comp=Z,47nm,18.4s,baz=152,slow=38
ARU Arti 28.36 351 *di* P **P** **14 29 56.6 +1.1**
ARU 14 30 41.6
ARU S **S** **14 34 36.8 -4.2**
ARU pmax pmax
comp=Z,5.0nm,1.2s
ZALV Zalesovo Beam 28.70 23 P **P** **14 29 59.9 +1.3**
comp=Z,2.0nm,0.7s,baz=230,slow=8.9,SNR=8.2
ZALV LR LR 14 42 37.3
comp=Z,107nm,19.2s,baz=257,slow=39
ZALV Zalesovo Beam 28.70 23 *e*P **P** **14 30 00.1 +1.6**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 28.70 23 P **P** **14 29 58.9 +0.4**
BRTR Keskin Array B 29.11 301 P **P** **14 30 03.7 +1.3**
comp=Z,0.4nm,0.6s,baz=91,slow=7.2,SNR=2.3
ANTO Ankara 29.77 301 P **P** **14 30 06.4 -1.9**
ANTO Ankara 29.77 301 P **P** **14 30 06.4 -1.9**
CMAR Chiang Mai Arr 31.45 102 P **P** **14 30 24.6 +1.4**
comp=Z,0.2nm,0.3s,baz=290,slow=10,SNR=0.9
KIRV Kirov 32.19 343 *ce*P **P** **14 30 28.5 -0.8**
KMI Kunming 32.57 87 ⇑P P 14 30 44.0 +11
KMI pmax pmax
comp=Z,11nm,0.9s
KMI LR LR
comp=N,130nm,23.7s
KMI LR LR
comp=E,150nm,23.2s
KMI LR LR
comp=Z,220nm,19.7s
OBN Obninsk 34.08 329 ⇑ *e*P **P** **14 30 48.5 +2.7**
OBN *e* 14 31 59.7
OBN pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 35.58 319 P **P** **14 30 58.8 0.0**
comp=Z,0.2nm,0.3s,baz=117,slow=7.3,SNR=2.3
AKBB Malin Array Si 35.58 319 P **P** **14 30 58.3 -0.5**
AKBB pmax pmax
comp=Z,8.0nm,1.4s
AKBB Malin Array Si 35.58 319 P **P** **14 30 58.3 -0.5**
AKBB IAmb IAmb 14 31 00.8
comp=Z,7.6nm,1.4s
SONM Songino Array 36.35 47 P **P** **14 31 07.3 +1.7**
comp=Z,0.7nm,0.6s,baz=272,slow=10.0,SNR=5.8
SONM LR LR 14 49 02.0
comp=Z,150nm,18.6s,baz=289,slow=41
SONM Songino Array 36.35 47 P **P** **14 31 04.0 -1.6**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 36.35 47 P **P** **14 31 04.0 -1.6**
VOIR 36.56 309 ⇑P **P** **14 31 07.8 +0.4**
ARR Arges 36.83 308 ⇑P **P** **14 31 10.1 +0.5**
BURAR Bucovina Array 36.99 312 P **P** **14 31 11.5 +0.5**
BUR08 Bucovina Ar. S 37.01 312 P **P** **14 31 11.4 +0.1**
BUR08 IAmb IAmb 14 31 33.2
comp=Z,7.8nm,1.5s
HHC Hu-ho-hao-te 38.72 59 *e*P **P** **14 31 25.0 -0.8**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,47nm,7.0s
BZS Buzias 38.96 308 ⇑P **P** **14 31 27.0 -0.6**
KOLS Kolonicke sedl 39.24 314 *e*P **P** **14 31 34.0 +4.1**
KOLS Kolonicke sedl 39.24 314 *e*P **P** **14 31 34.0 +4.1**
QIZ Qiongzhong 40.73 94 P **P** **14 31 39.3 -3.3**
QIZ S **S** **14 37 49.8 -2.4**
QIZ pmax pmax
comp=Z,120nm,3.5s
QIZ LR LR
comp=N,350nm,9.3s
QIZ LR LR
comp=E,190nm,10.2s
QIZ LR LR
comp=Z,280nm,31.4s
FIA1 FINESS Array S 42.27 332 P **P** **14 31 55.9 +1.2**
FINES FINESS Array B 42.27 332 P **P** **14 31 54.6 -0.1**
comp=Z,2.1nm,0.6s,baz=128,slow=9.0,SNR=11
FINES LR LR 14 53 04.7
comp=Z,46nm,18.9s,baz=42,slow=41
FINES FINESS Array B 42.27 332 P **P** **14 31 54.4 -0.3**
FINES FINESS Array B 42.27 332 P **P** **14 31 54.4 -0.3**
GERES GERESS Array B 44.77 312 P **P** **14 32 15.3 +0.1**
comp=Z,0.3nm,0.4s,baz=74,slow=10.0,SNR=4.3
GERES GERESS Array B 44.77 312 P **P** **14 32 14.5 -0.7**
GERES GERESS Array B 44.77 312 P **P** **14 32 14.5 -0.7**
ARCES ARCESS Array B 47.18 342 P **P** **14 32 34.6 +0.9**
comp=Z,2.4nm,0.8s,baz=137,slow=8.1,SNR=7.9
ARCES LR LR 14 52 43.0
comp=Z,61nm,18.4s,baz=155,slow=36
NB2 NORSAR Subarra 48.65 328 P **P** **14 32 44.8 -0.5**
comp=Z,0.7nm,0.6s,baz=107,slow=7.4
NOA NORSAR Array B 48.65 328 P **P** **14 32 44.8 -0.5**
comp=Z,1.4nm,0.8s,baz=107,slow=7.6,SNR=4.2
NOA LR LR 14 56 52.8
comp=Z,30nm,18.1s,baz=5.0,slow=41
KSRS Korea Array 51.57 63 P **P** **14 33 09.8 +2.0**
comp=Z,1.4nm,0.6s,baz=275,slow=7.6,SNR=11
KSRS LR LR 14 57 32.2
comp=Z,77nm,18.0s,baz=178,slow=39
KLR Kul'dur 53.16 48 *ce*P **P** **14 33 22.4 +3.0**
KLR pmax pmax
comp=Z,10.0nm,2.3s
TIXI Tiksi 54.53 20 *e*P **P** **14 33 32.4 +3.4**
ESDC Sonseca Array 57.90 301 P **P** **14 33 53.4 -0.3**
comp=Z,0.8nm,1.0s,baz=63,slow=6.5,SNR=2.5
TORD Torodi Ar. Bea 61.69 270 P **P** **14 34 19.8 -0.2**
comp=Z,1.6nm,0.8s,baz=55,slow=5.9,SNR=4.9
TORD Torodi Ar. Bea 61.69 270 IAmb IAmb 14 34 27.1
comp=Z,1.6nm,0.9s
SEY Seymchan 63.17 31 *i* P **P** **14 34 32.7 +3.5**
LBTB Lobatse 66.16 220 P **P** **14 34 49.9 +0.6**
LBTB pmax pmax
comp=Z,3.0nm,0.9s
LBTB Lobatse 66.16 220 P **P** **14 34 49.9 +0.6**
LBTB IAmb IAmb 14 34 54.5
comp=Z,3.0nm,0.9s
BILL Bilibino 67.40 24 *i* P **P** **14 34 59.1 +2.6**
BILL pmax pmax
comp=Z,8.0nm,1.8s
PETK Petropavlovsk- 68.44 40 LR LR 15 06 58.5
comp=Z,78nm,20.1s,baz=256,slow=38
BOSA Boshof 69.16 218 P **P** **14 35 08.7 +0.6**
comp=Z,1.0nm,0.6s,baz=45,slow=6.1,SNR=5.3
DBIC Dimbokro 70.35 267 P **P** **14 35 15.8 0.0**
comp=Z,4.0nm,0.8s,baz=253,slow=1.2,SNR=6.9
DBIC LR LR 15 10 09.9
comp=Z,39nm,19.1s,baz=182,slow=39
DBIC Dimbokro 70.35 267 P **P** **14 35 14.6 -1.1**
DBIC pmax pmax
comp=Z,14nm,1.3s
DBIC Dimbokro 70.35 267 P **P** **14 35 14.6 -1.1**
TULEG Thule 71.53 350 P **P** **14 35 19.2 -2.7**
WRA Warramunga Arr 81.45 118 P **P** **14 36 21.1 +2.2**
comp=Z,1.3nm,1.3s,baz=284,slow=4.4,SNR=1.9
WRAB Tennant Creek 81.46 118 *i* P P 14 36 26.8 +7.8
WRAB pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 82.27 7 P **P** **14 36 23.4 +0.9**
comp=Z,0.9nm,0.7s,baz=316,slow=3.2,SNR=4.0

ASAR Alice Springs 83.23 121 P **P** **14 36 29.2 +1.0**
comp=Z,0.3nm,0.6s,baz=303,slow=5.2,SNR=14
ILAR Eielson Array 83.39 14 P **P** **14 36 28.1 -0.4**
comp=Z,0.2nm,0.5s,baz=316,slow=4.2,SNR=2.3
YKA Yellowknife Ar 89.22 0 P **P** **14 36 57.9 +0.8**
comp=Z,0.4nm,0.7s,baz=356,slow=4.6,SNR=11
STKA Stephens Creek 93.42 124 *e*P P 14 37 28.1 +11

*THE **29** 14:35:25.6,36.°19N×27.°15E,h0km±1km,ML2.6/2,Error ellipse: s-maj=2.0km s-min=1.2km az=188.0*
*ATH **29** 14:35:27.3,36.°14N×27.°12E,h10km±6km,ML2.7/1,Error ellipse: s-maj=6.5km s-min=1.2km az=65.0*
*DDA **29** 14:35:29.3,36.°24N×27.°28E,h7km±5km,ML2.0*
ISC 29 14:35:26.4±1.2,36.°16N±0.°03×27.°12E±0.°04,h6km±11km, n17,σ0s85/28,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
NIS1	**Nisyros Isl.**	**0.44**	**6**	P		**Pb**	**14 35 36.2**	**-0.3**
NISR	**Nisiros**	**0.45**	**1**	P		**Pg**	**14 35 36.1**	**+1.1**
NISR				S		**Sb**	**14 35 43.2**	**-0.4**
NISR	**Nisiros**	**0.45**	**1**	P		**Pg**	**14 35 34.6**	**-0.5**
KARP	**Karpathos**	**0.61**	**177**	P		**Pg**	**14 35 38.0**	**-0.2**
KARP				S		**Sg**	**14 35 47.2**	**+1.0**
KARP	**Karpathos**	**0.61**	**177**	P		**Pg**	**14 35 38.0**	**-0.2**
ARG	**Arkhangelos**	**0.82**	**86**	P		**Pg**	**14 35 42.6**	**+0.6**
ARG				S		**Sb**	**14 35 53.9**	**-0.3**
ARG				AML	AML		14 35 56.5	
	comp=E,1468μm,0.3s							
ARG				AML	AML		14 35 56.6	
	comp=N,717μm,0.3s							
ARG	**Arkhangelos**	**0.82**	**86**	P		**Pg**	**14 35 42.1**	**+0.1**
ARG				S		**Sb**	**14 35 53.9**	**-0.3**
	comp=N,545nm,0.3s							
BODT	**Bodrum**	**0.91**	**10**	P		**Pg**	**14 35 42.6**	**-1.3**
BODT				S		**Sb**	**14 35 56.4**	**-0.6**
BDRM	**Kayabasi**	**0.94**	**16**	*i* P		**Pg**	**14 35 44.6**	**+0.2**
BDRM				*i* S		**Sg**	**14 35 56.4**	**-0.2**
BDRM				IAML			14 36 00.0	
	comp=N,38nm,0.3s							
TURN	**Turunc**	**1.09**	**56**	*i* P		**Pg**	**14 35 46.4**	**-1.0**
TURN				*i* S		**Sg**	**14 36 01.5**	**-0.1**
TURN				IAML			14 36 05.0	
	comp=E,56nm,0.5s							
TURN				IAML			14 36 06.0	
	comp=N,52nm,0.3s							
STIA	**Sitia Lasithi**	**1.27**	**221**	P		**Pn**	**14 35 50.0**	**-0.6**
ZKR	**Zakros**	**1.28**	**215**	P		**Pn**	**14 35 50.5**	**-0.2**
DDIM	**Aydin, Didim**	**1.30**	**4**	*i* P		**Pg**	**14 35 53.1**	**+1.8**
DDIM				*i* S		**Sn**	**14 36 09.9**	**+1.3**
DDIM				IAML			14 36 14.0	
	comp=N,31nm,0.7s							
DALY	**Dalyan (Mula)**	**1.40**	**62**	*i* P		**Pn**	**14 35 52.8**	**+0.5**
DALY				*i* S		**Sb**	**14 36 10.1**	**-0.8**
DALY				IAML			14 36 16.0	
	comp=N,28nm,0.4s							
SNT5	**Nea Kammeni, S**	**1.41**	**280**	P		**Pn**	**14 35 50.9**	**-1.7**
SNT5				S		**Sb**	**14 36 12.4**	**+1.0**
	comp=N,192nm,0.3s							
MULA	**Mugla, Merkez-**	**1.46**	**41**	*i* P		**Pg**	**14 35 55.0**	**+0.7**
MULA				IAML			14 36 20.0	
	comp=E,27nm,0.4s							
AYDN	**Tasoluk**	**1.62**	**22**	*i* P		**Pb**	**14 35 56.9**	**+0.3**
AYDN				*i* S		**Sg**	**14 36 17.7**	**-0.6**

*BJI **29** 14:35:38.0±0.0,2.°90N×126.°00E,h80km,mB4.9/34, mb4.6/49,Ms4.3/12,Ms7 3.9/10*
*NEIC **29** 14:35:38.9±2.0,2.°71N±0.°07×125.°84E±0.°07,h83km±5km, mb4.8/103,Error ellipse: s-maj=11.6km s-min=8.7km az=210.0*
*IDC **29** 14:35:39.3±1.8,2.°68N×125.°69E,h80km±16km,mb4.5/35, mb1 4.5/37,mb1mx4.4/47,mbtmp4.8/37,MS3.5/18, Ms1 3.5/18,ms1mx3.3/42,Error ellipse: s-maj=13.1km s-min=8.1km az=86.0*
*GCMT **29** 14:35:39.9±0.3,2.°74N±0.°02×125.°91E±0.°02,h74km±2km, MW4.9/83,Moment Tensor Solution. s51,c58; s83,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.60±.11; $M_{\theta\theta}$-0.09±.10; $M_{\phi\phi}$-2.51±.11; $M_{r\theta}$0.16±.07; $M_{r\phi}$-1.24±.10; $M_{\theta\phi}$1.06±.09; Best double couple: M_o3.01700×10^{16} NP1:ϕs17.00000°,δ55.00000°,λ83.00000°. NP2: ϕs210.00000°,δ35.00000°,λ100.00000°. Principal axes: T 2.8140, Plg78.0000°, Azm261.0000°; N 0.4010, Plg6.0000°, Azm21.0000°; P -3.2190, Plg10.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **29** 14:35:40,2.°70N×126.°20E,h91km,mb4.9*
*DJA **29** 14:35:40.6±0.2,3.°N±2.°×12.°6E±.°,h93km±2km,M4.8/59, mb5.0/59,mB5.3/34,MLv5.3/16,Mw(mB)4.7/34, MwMwp4.5/4,Mwp4.9/4*
ISC 29 14:35:39.8±0.5,2.°68N±0.°03×125.°81E±0.°04,h89km±4km, h89km:pP-P,n317,σ1s71/364,mb4.8/111,41C-24D,Fault plane solution: NP1:ϕs9.17040°,δ46.00150°, λ66.93931°. **NP2:ϕs220.67339°,δ48.55701°,λ112.07967°. Principal axes:** T Plg73.5769°, Azm200.7453°; N Plg16.3663°, Azm25.6447°; P Plg1.3276°, Azm295.2548°;
Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
SGSI	**Sangihe**	**1.04**	**345**	P		**Pn**	**14 36 00.8**	**+0.9**
SGSI				S		**Sn**	**14 36 15.9**	**+0.9**
TNTI	**Ternate**	**2.46**	**141**			**Pn**	**14 36 17.3**	**-0.7**
TNTI	**Ternate**	**2.46**	**141**	P		**Pn**	**14 36 17.6**	**-0.5**
KMSI	**Cibinong**	**2.77**	**221**	P		**Pn**	**14 36 24.8**	**+2.5**
DDMP	**Don Marcelino,**	**3.40**	**358**	*e*P		**Pn**	**14 36 32.5**	**+1.7**
DDMP				*e*S		**Sn**	**14 37 08.4**	**-1.8**
GTOI	**Gorontalo**	**3.45**	**234**	P		**Pn**	**14 36 34.2**	**+2.7**
SKMP	**Bagumbayan, Su**	**4.02**	**342**	*e*P		**Pn**	**14 36 39.0**	**-0.1**
SKMP				*e*S		**Sn**	**14 37 24.8**	**-0.3**
MATI	**Mati**	**4.26**	**6**	*e*P		**Pn**	**14 36 44.5**	**+2.0**
MATI				*e*S		**Sn**	**14 37 30.5**	**-0.6**
KCP	**Kidapawan**	**4.36**	**351**	⇓ *e*P		**Pn**	**14 36 47.2**	**+3.4**
MRSI	**Marisa**	**4.44**	**241**	P		**Pn**	**14 36 48.3**	**+3.4**
SANI	**Sanana**	**4.70**	**178**	P		**Pn**	**14 36 46.9**	**-1.5**
LUWI	**Luwuk**	**4.78**	**219**			**Pn**	**14 36 52.5**	**+3.0**
LUWI	**Luwuk**	**4.78**	**219**	P		**Pn**	**14 36 53.9**	**+4.4**
BUKP	**Musuan**	**5.22**	**352**	*e*P		**Pn**	**14 36 56.0**	**+0.4**
BUKP				*e*S		**Sn**	**14 37 53.5**	**-0.9**
TOLI2	**Tolitoli**	**5.26**	**253**	Pn		**Pn**	**14 36 57.7**	**+1.7**
APSI	**Ampana**	**5.48**	**229**	P		**Pn**	**14 37 03.7**	**+4.7**
	3.7nm842nm4μm478nm,1.0s							
ZCP	**Zamboanga City**	**5.63**	**319**	⇓ *e*P		**Pn**	**14 37 02.6**	**+1.6**
ZCP				*e*S		**Sn**	**14 38 05.6**	**+1.3**
PAGZ	**Pagadian**	**5.67**	**335**	*e*P		**Pn**	**14 37 01.2**	**-0.4**
PAGZ				*e*S		**Sn**	**14 38 02.0**	**-3.4**
CGP	**Cagayan de Oro**	**5.84**	**349**	⇓ *e*P		**Pn**	**14 37 08.4**	**+4.4**
NLAI	**Namlea**	**6.02**	**168**	P		**Pn**	**14 37 05.6**	**-0.8**
	2.3nm5μm180nm,0.6s							
BUTP	**Butuan**	**6.25**	**358**	*e*P		**Pn**	**14 37 11.4**	**+1.9**
BUTP				*e*S		**Sn**	**14 38 21.4**	**+1.9**
SWI	**Sorong**	**6.49**	**123**	P		**Pn**	**14 37 12.1**	**-0.7**
	0.3nm2μm1μm86nm,0.8s							
SIJI	**Sorong**	**6.50**	**123**	P		**Pn**	**14 37 12.3**	**-0.6**
	3.7nm,0.3s,baz=319,slow=7.9,SNR=45							
SIJI				S		**Sn**	**14 38 29.4**	**+3.7**
	baz=339,slow=22,SNR=1.0							
MYLDM	**Lahad Datu**	**7.70**	**289**	Pn		**Pn**	**14 37 33.1**	**+3.8**
CNOP	**Candoni, Negro**	**7.77**	**336**	*e*P		**Pn**	**14 37 32.8**	**+2.6**
BNDI	**Bandanaira**	**8.24**	**150**	P		**Pn**	**14 37 36.6**	**-0.1**
	5μm133nm,0.9s							
TTSI	**Tana Toraja**	**8.26**	**226**	P		**Pn**	**14 37 40.3**	**+3.4**
	2μm204nm,1.0s							
FAKI	**Fak Fak**	**8.51**	**131**	Pn		**Pn**	**14 37 40.2**	**-0.2**
FAKI	**Fak Fak**	**8.51**	**131**	P		**Pn**	**14 37 37.4**	**-3.0**
	2μm166nm,1.1s							
SPSI	**Sidrap Palu**	**8.94**	**222**	P		**Pn**	**14 37 49.7**	**+3.5**
	918nm89nm,0.8s							
BNSI	**Bone**	**9.05**	**219**	P		**Pn**	**14 37 50.0**	**+2.3**
	916nm96nm,0.7s							
SPMM	**Sapulut**	**9.54**	**282**	P		**Pn**	**14 37 59.0**	**+4.6**
KAPI	**Kappang**	**9.75**	**218**	P		**Pn**	**14 38 00.0**	**+2.8**
	2.9nm,0.3s,baz=14,slow=8.2,SNR=24							
KAPI				S		**Sn**	**14 39 45.7**	**+0.8**
	1.5nm,0.3s,baz=27,slow=23,SNR=1.0							
KAPI	**Kappang**	**9.75**	**218**	Pn		**Pn**	**14 37 58.6**	**+1.4**
BKSI	**Bulukumba**	**9.77**	**216**	P		**Pn**	**14 37 59.1**	**+1.6**

41nm,0.9s
KKM Kota Kinabalu 10.13 290 Pn **Pn** **14 38 06.2 +3.7**
BAKI Biak 10.99 110 P **Pn** **14 38 15.8 +1.6**
9μm753nm,1.2s
KBKI Kotabaru 11.32 238 P **Pn** **14 38 22.0 +3.4**
654nm83nm,1.0s
SRPI Serui, Papua 11.37 113 P **Pn** **14 38 18.2 -1.1**
120nm,0.8s
MTKI Muara Teweh, K 11.48 252 P **Pn** **14 38 23.9 +3.0**
1μm54nm,0.9s
MMRI Maumere 11.79 198 **Pn** **14 38 26.2 +1.2**
MMRI Maumere 11.79 198 P **Pn** **14 38 28.7 +3.7**
2μm229nm,0.8s
EDFI Ende, Flores 12.07 200 P **Pn** **14 38 31.5 +2.6**
356nm43nm,0.9s
BBKI Banjar Baru 12.54 241 P **P** **14 38 39.6 -3.5**
1μm52nm,1.0s
BATI Baumata 12.98 189 P **Pn** **14 38 44.0 +3.0**
2.2nm,0.3s,baz=325,slow=0.4,SNR=3.6
BATI S **Sn** **14 41 06.7 +3.1**
0.9nm,0.3s,baz=101,slow=22,SNR=1.3
BATI Baumata 12.98 189 P **Pn** **14 38 43.6 +2.7**
62nm,0.8s
WSI Waingapu 13.44 204 P **P** **14 38 51.8 -1.3**
215nm,0.8s
SBUM Sibu 13.57 269 P **P** **14 38 53.5 -1.1**
SBUM Sibu 13.57 269 P **P** **14 38 53.0 -1.6**
BASI Baing, Sumba 13.83 202 P **Pn** **14 38 54.4 +2.3**
850nm79nm,1.1s
PLAI Plampang 13.96 215 P **P** **14 38 56.4 -2.4**
2μm245nm,0.8s
TWSI Taliwang, Sumb 14.41 218 P **P** **14 39 02.3 -1.6**
426nm44nm,0.8s
SRBI Singaraja 15.03 225 P **P** **14 39 10.2 -0.6**
680nm79nm,1.1s
PBKI Pangkalan Bun 15.11 249 P **P** **14 39 11.8 +0.1**
4μm138nm,1.0s
KMMI Kalianget 15.27 231 P **P** **14 39 12.8 -0.6**
38nm,0.7s
GENI Genyem 15.28 110 P **Pn** **14 39 11.1 +0.3**
3μm276nm,1.2s
KSM Kuching 15.53 266 **Pn** **14 39 14.8 +0.8**
KSM IAmb IAmb 14 39 22.6
comp=Z,64nm,1.0s
JAY Jayapura 15.76 109 P **Pn** **14 39 17.1 +0.2**
comp=Z,1.3nm,0.3s,baz=282,slow=7.2,SNR=16
JAGI Jajag, Banyuwa 16.05 226 **Pn** **14 39 21.3 +0.8**
JAGI IAmb IAmb 14 39 35.2
comp=Z,57nm,1.0s
MTN Manton Dam 16.30 161 Pn **Pn** **14 39 21.4 -2.2**
MTN IAmb IAmb 14 39 22.6
comp=Z,52nm,0.7s
UGM Wanagama 18.52 235 P **Pn** **14 39 50.3 -0.3**
UGM IAmb IAmb 14 40 15.8
comp=Z,91nm,1.4s
TPI Tanjungpandan 18.93 254 P **Pn** **14 39 57.3 +1.8**
comp=Z,10μmcomp=Z,53nm,0.9s
DLV T Lat 19.47 299 Pn **Pn** **14 40 02.9 +0.9**
PPBI Pangkal Pinang 20.24 256 P **P** **14 40 08.3 +0.2**
comp=Z,7μmcomp=Z,29nm,1.0s
LEM Lembang 20.46 242 P **P** **14 40 11.7 +0.9**
comp=Z,24nm,0.8s,baz=52,slow=6.7,SNR=6.7
LEM LR LR 14 48 52.1
comp=Z,219nm,20.9s,baz=31,slow=39
LEM Lembang 20.46 242 P **P** **14 40 11.6 +0.9**
comp=Z,50nm,0.8s
TWG Pinlang 20.54 347 P **P** **14 40 10.2 -1.0**
FITZ Fitzroy Crossi 20.65 180 P **P** **14 40 12.3 -0.1**
comp=Z,30nm,0.6s,baz=19,slow=10,SNR=20
FITZ S **S** **14 43 52.5 -5.7**
comp=Z,9.4nm,0.9s,baz=182,slow=21,SNR=5.3
FITZ Fitzroy Crossi 20.65 180 P **P** **14 40 11.9 -0.5**
FITZ IAmb IAmb 14 40 17.2
comp=Z,33nm,0.7s
YULB Yu-li 21.05 348 P **P** **14 40 14.0 -2.7**
TPUB Ta-pu 21.10 347 P **P** **14 40 15.3 -2.0**
TPUB IAmb IAmb 14 40 17.2
comp=Z,36nm,1.0s
DBJI Dramaga 21.12 244 P **P** **14 40 22.4 +4.8**
SSLB Suanglung 21.50 348 P **P** **14 40 19.2 -2.3**
MYKOM Kota Tinggi 21.96 268 P **P** **14 40 28.5 +2.0**
MYKOM IAmb IAmb 14 40 31.4
comp=Z,33nm,1.0s
MYKOM Kota Tinggi 21.96 268 P **P** **14 40 30.0 +3.5**
BLSI Bandar Lampung 22.04 249 P **P** **14 40 29.9 +2.5**
comp=Z,56nm,0.4s
YHNB Yeheng 22.28 349 P **P** **14 40 28.2 -1.6**
YHNB IAmb IAmb 14 40 51.8
comp=Z,55nm,1.4s
KLSI 22.29 251 P **P** **14 40 31.1 +1.0**
comp=Z,288nmcomp=Z,24nm,1.0s
JMBI JAMBI 22.57 259 P **P** **14 40 36.6 +3.6**
comp=Z,67nm,0.4s
KASI Kota Agung 22.79 249 P **P** **14 40 36.1 +0.8**
comp=Z,73nm,1.0s
LWLI Liwa 23.03 251 P **P** **14 40 38.8 +1.0**
comp=Z,11μmcomp=Z,93nm,0.5s
LHSI Lahat 23.19 254 P **P** **14 40 41.1 +2.0**
comp=Z,1μmcomp=Z,39nm,0.9s
JRMM Jerantut 23.32 274 P **P** **14 40 43.0 +2.6**
UBPT Khong Chiam 23.63 303 P **P** **14 40 45.1 +1.9**
comp=Z,19nm,1.5s
UBPT Khong Chiam 23.63 303 P **P** **14 40 43.1 -0.1**
UBPT IAmb IAmb 14 41 04.1
comp=Z,32nm,1.1s
WB0 Warramunga Arr 23.85 160 P **P** **14 40 44.2 -0.9**
WB0 IAmb IAmb 14 41 13.7
comp=Z,39nm,0.8s
MNAI Manna 23.88 253 P **P** **14 40 46.7 +1.3**
WRAB Tennant Creek 23.99 160 P **P** **14 40 45.6 -0.7**
WRAB IAmb IAmb 14 40 49.5
comp=Z,40nm,0.8s
WRA Warramunga Arr 23.99 160 P **P** **14 40 46.2 -0.2**
comp=Z,34nm,0.8s,baz=341,slow=10,SNR=45
WRA PcP **PcP** **14 44 27.2 +0.8**
comp=Z,2.8nm,0.7s,baz=331,slow=1.9,SNR=3.6
WRA S **S** **14 44 52.7 -4.4**
comp=Z,15nm,1.0s,baz=330,slow=16,SNR=14
WRA Warramunga Arr 23.99 160 P **P** **14 40 44.7 -1.6**
WB2 Warramunga Arr 24.00 160 P **P** **14 40 45.5 -0.9**
WB2 IAmb IAmb 14 40 49.6
comp=Z,53nm,0.8s
KSI Kapahiang 24.04 255 P **P** **14 40 48.5 +1.6**
comp=Z,55nm,0.8s
WR0 Warramunga Arr 24.08 160 P **P** **14 40 46.6 -0.5**
WR0 IAmb IAmb 14 41 16.1
comp=Z,40nm,0.9s
JOW Kunigami 24.13 5 P **P** **14 40 47.9 +0.4**
comp=Z,29nm,0.7s,baz=233,slow=9.9,SNR=6.5
JOW Kunigami 24.13 5 P **P** **14 40 47.6 +0.1**
JOW IAmb IAmb 14 40 50.3
comp=Z,38nm,0.8s
PMG Port Moresby 24.43 120 P **P** **14 40 50.8 +0.5**
comp=Z,15nm,1.0s,baz=313,slow=5.4,SNR=3.7
PMG LR LR 14 51 59.6
comp=Z,108nm,20.6s,baz=293,slow=40
PMG Port Moresby 24.43 120 P **P** **14 40 49.9 -0.5**
PMG IAmb IAmb 14 41 14.3
comp=Z,34nm,1.1s
IPM Ipoh 24.80 275 P **P** **14 40 54.7 +0.9**
IPM IAmb IAmb 14 41 17.6
comp=Z,94nm,1.5s
PSA00 Pilbara Seismi 24.80 193 P **P** **14 40 53.6 0.0**
PSA00 IAmb IAmb 14 40 55.1
comp=Z,52nm,1.1s
PSA00 Pilbara Seismi 24.80 193 P **P** **14 40 52.0 -1.6**
PSA00 IAmb IAmb 14 40 55.3
comp=Z,19nm,0.9s
BKNI Bangkinang 24.87 265 P **P** **14 40 54.8 +0.4**
KULM Kulim 25.23 277 P **P** **14 40 58.2 +0.5**
KULM IAmb IAmb 14 41 21.7
comp=Z,42nm,1.2s
KULM Kulim 25.23 277 P **P** **14 41 02.0 +4.3**
MNSI Mandailing Nat 26.28 266 P **P** **14 41 07.2 0.0**
comp=Z,1μmcomp=Z,33nm,0.8s
PSI Prapat 26.85 271 P **P** **14 41 13.1 +0.7**
comp=Z,8.2nm,0.7s,baz=0.6,slow=1.5,SNR=10
PSI PcP **PcP** **14 44 33.5 +0.4**
comp=Z,4.6nm,1.0s,baz=0.0,slow=1.0,SNR=5.0
PSI LR LR 14 52 51.3
comp=Z,112nm,20.3s,baz=90,slow=39
RPSI Rantau Prapat 26.85 271 P **P** **14 41 12.8 +0.5**
RPSI Rantau Prapat 26.85 271 P **P** **14 41 13.1 +0.8**
CHAI Chaiyaphum 26.88 301 P **P** **14 41 15.3 +2.8**
comp=Z,23nm,0.9s
NONG Nongkai 26.97 306 P **P** **14 41 14.0 +0.7**

comp=Z,15nm,1.0s
AS31 Alice Springs 27.35 164 P **P** **14 41 15.9 -0.8**
ASAR Alice Springs 27.35 164 P **P** **14 41 16.5 -0.2**
comp=Z,9.2nm,0.8s,baz=337,slow=8.3,SNR=102
ASAR PcP **PcP** **14 44 35.0 +1.0**
comp=Z,6.6nm,0.7s,baz=335,slow=1.9,SNR=10
ASAR S **S** **14 45 49.1 -1.2**
comp=Z,6.8nm,1.0s,baz=352,slow=1.9,SNR=8.8
ASAR Alice Springs 27.35 164 P **P** **14 41 16.1 -0.6**
GIRL Giralia 27.59 204 P **P** **14 41 19.5 +0.7**
GSI Gunungsitoli 28.25 268 P **P** **14 41 24.9 +0.1**
GSI IAmb IAmb 14 41 25.7
comp=Z,30nm,0.9s
UTTA Uttaradit 28.95 303 P **P** **14 41 35.6 +4.6**
comp=Z,9.6nm,0.8s
NANT Nan 29.34 305 P **P** **14 41 38.3 +3.9**
comp=Z,9µmcomp=Z,248nm,0.8s
SUKH Sukhothai 29.60 302 P **P** **14 41 41.0 +4.2**
comp=Z,12nm,0.7s
NJ2 Nanjing 29.94 348 *e*P **P** **14 41 41.0 +1.5**
NJ2 pmax pmax
comp=Z,12nm,0.6s
CM04 Chiang Mai Arr 30.57 303 P **P** **14 41 48.0 +2.6**
comp=Z,52nmcomp=Z,6.8nm,1.0s
CM02 Chiang Mai Arr 30.62 303 P **P** **14 41 48.0 +2.3**
comp=Z,55nmcomp=Z,7.3nm,1.1s
CMAR Chiang Mai Arr 30.63 303 P **P** **14 41 46.4 +0.5**
comp=Z,4.2nm,0.9s,baz=119,slow=7.0,SNR=25
CMAR PcP **PcP** **14 44 44.0 +1.7**
comp=Z,2.7nm,0.9s,baz=170,slow=1.5,SNR=9.4
CMAR Chiang Mai Arr 30.63 303 P **P** **14 41 46.2 +0.3**
CM34 Chiang Mai Arr 30.64 304 P **P** **14 41 47.0 +1.0**
JNU Nakatsue 30.66 8 P **P** **14 41 45.7 -0.3**
comp=Z,7.7nm,0.8s,baz=101,slow=16,SNR=2.5
JNU Nakatsue 30.66 8 P **P** **14 41 45.6 -0.3**
JNU IAmb IAmb 14 42 11.1
comp=Z,27nm,1.1s
CMMT Chiang Mai 30.79 303 P **P** **14 41 47.6 +0.3**
comp=Z,8.8nm,1.0s
CHTO Chiang Mai 30.80 303 P **P** **14 41 47.1 -0.2**
MHMT Maesarieng 31.36 301 P **P** **14 41 54.5 +2.2**
JMN Monobe 31.80 13 P **P** **14 41 55.5 -0.4**
JMN IAmb IAmb 14 41 58.2
comp=Z,16nm,0.9s
JTU Tsushima 31.86 6 P **P** **14 41 58.1 +1.7**
JTU IAmb IAmb 14 41 58.3
comp=Z,26nm,1.2s
JHS Saijyo 32.87 11 P **P** **14 42 04.4 -0.8**
JHS IAmb IAmb 14 42 23.8
comp=Z,14nm,1.1s
MORW Morawa 32.93 196 P **P** **14 42 05.4 -0.5**
FORT Forrest 33.34 176 P **P** **14 42 09.6 +0.2**
JWT Wachi 33.64 14 P **P** **14 42 10.9 -1.0**
JWT IAmb IAmb 14 42 13.9
comp=Z,28nm,1.3s
INU Inuyama 34.13 16 P **P** **14 42 15.4 -0.8**
JGF Kuroka 34.46 17 P **P** **14 42 18.6 -0.5**
JGF IAmb IAmb 14 42 21.4
comp=Z,9.2nm,0.8s
INCN Inchon 34.64 1 P **P** **14 42 20.0 -0.6**
INCN IAmb IAmb 14 42 22.8
comp=Z,21nm,0.8s
KSAR Wonju Array Be 34.65 3 P **P** **14 42 20.6 0.0**
KSAR PcP **PcP** **14 44 54.1 +1.0**
KSRS Korea Array 34.66 3 P **P** **14 42 21.9 +1.1**
comp=Z,7.4nm,0.7s,baz=179,slow=9.9,SNR=63
KSRS PcP **PcP** **14 44 54.6 +1.5**
comp=Z,4.9nm,0.7s,baz=186,slow=2.7,SNR=20
KSRS ScP **ScP** **14 48 30.9 +0.3**
comp=Z,0.5nm,0.7s,baz=206,slow=3.0,SNR=4.2
KS19 Wonju Array Si 34.71 3 P **P** **14 42 21.0 -0.2**
KS19 IAmb IAmb 14 42 23.9
comp=Z,21nm,1.2s
KS19 PcP **PcP** **14 44 52.4 -0.9**
XAN Xi'an 34.95 335 P **P** **14 42 23.0 -0.5**
XAN IAmb IAmb 14 42 24.4
comp=Z,7.0nm,0.8s
MJAR Matsushiro Arr 35.59 17 P **P** **14 42 28.4 -0.4**
comp=Z,10nm,0.8s,baz=196,slow=8.7,SNR=35
MJAR PcP **PcP** **14 44 56.3 +0.4**
comp=Z,3.5nm,0.8s,baz=182,slow=2.8,SNR=6.9
MJAR LR LR 14 54 33.8
comp=Z,34nm,21.3s,baz=185,slow=32
MJAR Matsushiro Arr 35.59 17 P **P** **14 42 27.5 -1.3**
MAJO Matsushiro 35.59 17 P **P** **14 42 27.2 -1.6**
MAJO IAmb IAmb 14 42 29.3
comp=Z,15nm,0.8s
MAT Matsushiro 35.59 17 P **P** **14 42 28.1 -0.7**
MAT *e*S **S** **14 47 58.0 -0.3**
HNR Honiara 36.08 110 LR LR 14 58 16.5
comp=Z,80nm,18.9s,baz=38,slow=38
NWAO Narrogin (SRO) 36.33 192 P **P** **14 42 34.9 -0.2**
comp=Z,17nm,0.9s,baz=16,slow=8.2,SNR=5.8
NWAO Narrogin (SRO) 36.33 192 P **P** **14 42 35.4 +0.2**
BBOO Buckleboo 36.61 165 P **P** **14 42 37.4 -0.1**
BBOO IAmb IAmb 14 43 05.3
comp=Z,14nm,0.9s
JSD Sado 36.99 16 P **P** **14 42 40.1 -0.6**
STKA Stephens Creek 37.50 158 P **P** **14 42 45.5 +0.4**
comp=Z,7.8nm,0.5s,baz=335,slow=8.7,SNR=57
STKA PcP **PcP** **14 45 03.2 +1.5**
comp=Z,6.0nm,0.7s,baz=30,slow=4.6,SNR=2.8
STKA S **S** **14 48 26.5 -1.0**
comp=Z,3.5nm,0.9s,baz=110,slow=19,SNR=6.4
STKA LR LR 14 59 19.0
comp=Z,45nm,19.1s,baz=1.2,slow=38
STKA Stephens Creek 37.50 158 P **P** **14 42 45.2 +0.2**
JMM Marumori 37.62 20 P **P** **14 42 46.5 +0.5**
BJT Baijiatuan 38.18 348 P **P** **14 42 50.1 -0.6**
BJT IAmb IAmb 14 42 52.9
comp=Z,10nm,1.1s
BJI Beijing 38.20 348 P **P** **14 42 50.8 0.0**
BJI PcP **PcP** **14 45 05.0 +1.3**
BJI S **S** **14 48 41.0 +3.1**
BJI pmax pmax
comp=Z,7.0nm,0.9s
LZH Lanzhou 38.95 331 *e*P **P** **14 42 58.0 +0.5**
LZH pP pP 14 43 14.3 -4.1
LZH sP sP 14 43 24.0 -4.7
LZH pmax pmax
comp=Z,17nm,1.2s
SHL Shillong 39.77 308 P **P** **14 43 03.0 -1.4**
SHL IAmb IAmb 14 43 06.1
comp=Z,23nm,1.0s
SHL PcP **PcP** **14 45 09.5 +0.3**
HHC Hu-ho-hao-te 40.12 343 *e*P **P** **14 43 08.3 +1.3**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,47nm,6.7s
JTM Tenmabayashi 40.36 18 P **P** **14 43 08.5 -0.3**
CN2 Changchun 40.95 360 *e*P **P** **14 43 13.3 -0.3**
ARMA Armidale 41.12 145 P **P** **14 43 15.1 -0.3**
ARMA IAmb IAmb 14 43 39.5
comp=Z,21nm,1.0s
USA0B Ussuriysk Arra 41.71 7 P **P** **14 43 20.4 +0.6**
USA0B IAmb IAmb 14 43 22.0
comp=Z,18nm,1.1s
USA0B **pP** **14 43 37.8 -2.6**
USRK Ussuriysk Ar. 41.71 7 P **P** **14 43 20.8 +1.0**
comp=Z,9.9nm,0.7s,baz=194,slow=8.0,SNR=22
USRK PcP **PcP** **14 45 15.8 +0.9**
comp=Z,2.8nm,0.6s,baz=213,slow=2.0,SNR=4.5
USRK LR LR 14 59 49.6
comp=Z,41nm,20.3s,baz=178,slow=35
USRK Ussuriysk Ar. 41.71 7 P **P** **14 43 19.9 +0.1**
MDJ Mudanjiang 41.90 4 P **P** **14 43 22.5 +1.1**
MDJ pmax pmax
comp=Z,23nm,0.8s
MDJ pmax pmax
comp=Z,210nm,7.2s
MDJ Mudanjiang 41.90 4 P **P** **14 43 21.1 -0.2**
MDJ IAmb IAmb 14 43 23.5
comp=Z,15nm,0.7s
MDJ pP **pP** **14 43 39.0 -3.0**
LSA Lhasa 42.45 313 P **P** **14 43 27.3 +0.6**
LSA IAmb IAmb 14 43 29.0
comp=Z,8.0nm,0.8s
GTA Gaotai 43.53 330 ⇓P **P** **14 43 35.0 +0.1**
GTA PcP **PcP** **14 45 22.5 +1.2**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,130nm,6.4s
GTA LR LR
comp=Z,170nm,18.5s
GTA LR LR
comp=Z,130nm,17.5s
GTA LR LR
comp=Z,100nm,17.4s
H11N1 WAKE ISLAND Hy 43.54 64 T T 15 31 07.4
baz=247
H11N2 WAKE ISLAND Hy 43.55 64 T T 15 31 10.6
baz=247
H11N3 WAKE ISLAND Hy 43.56 64 T T 15 31 11.8
baz=247
CAN Canberra 43.60 152 P **P** **14 43 35.8 +0.4**
CAN IAmb IAmb 14 43 59.7
comp=Z,33nm,1.3s
ASAJ Asahikawa 43.86 17 P **P** **14 43 39.0 +1.8**
comp=Z,31nm,0.7s,baz=232,slow=12,SNR=33
JKA Kamikawa-asahi 43.86 17 P **P** **14 43 38.5 +1.2**
TAPN Taplejung 43.91 308 *e*P **P** **14 43 38.6 +0.3**
comp=Z,34nm,0.9s
ODAN Odare 43.94 307 *e*P **P** **14 43 37.6 -0.9**
comp=Z,50nm,0.9s
TOO Toolangi 44.02 157 P **P** **14 43 37.7 -0.9**
TOO IAmb IAmb 14 43 41.6
comp=Z,14nm,1.1s
RAMN Ramite 44.61 307 *e*P **P** **14 43 44.4 +0.5**
comp=Z,49nm,1.0s
PALK Pallekele 45.15 278 PcP **PcP** **14 45 28.4 +1.2**
comp=Z,11nm,0.7s,baz=176,slow=3.1,SNR=7.2
PALK Pallekele 45.15 278 P **P** **14 43 48.3 +0.2**
PALK IAmb IAmb 14 44 10.8
comp=Z,15nm,1.2s
JIRN Jiri 45.25 307 *e*P **P** **14 43 49.0 -0.1**
comp=Z,21nm,0.5s
GUN Gumba 45.61 307 *e*P **P** **14 43 52.0 +0.1**
comp=Z,58nm,0.8s
PKI Pulchoki 45.84 307 *e*P **P** **14 43 53.0 -0.6**
comp=Z,3.8nm,0.2s
PKIN Phulchoki 45.85 307 *e*P **P** **14 43 53.1 -0.6**
comp=Z,4.4nm,0.3s
DMN Daman 46.09 307 *e*P **P** **14 43 55.6 0.0**
comp=Z,40nm,0.9s
YSS Yuzh-Sakhalins 46.50 16 P **P** **14 43 57.9 -0.1**
GKN Gorkha 46.64 307 *e*P **P** **14 43 59.3 -0.4**
comp=Z,37nm,0.9s
KLR Kul'dur 46.66 5 P **P** **14 43 59.8 +0.5**
comp=Z,18nm,1.1s,baz=194,slow=4.8,SNR=29
KLR PcP **PcP** **14 45 32.5 +0.8**
comp=Z,6.7nm,0.8s,baz=270,slow=1.2,SNR=4.8
ULN Ulaanbaatar 47.84 343 P **P** **14 44 07.3 -1.4**
SONM Songino Array 48.00 342 P **P** **14 44 09.4 -0.6**
comp=Z,2.1nm,0.7s,baz=154,slow=9.1,SNR=11
SONM PcP **PcP** **14 45 37.3 +0.6**
comp=Z,3.5nm,0.9s,baz=160,slow=3.0,SNR=6.1
SONM LR LR 15 05 54.8
comp=Z,54nm,21.9s,baz=60,slow=38
SONM Songino Array 48.00 342 P **P** **14 44 09.2 -0.7**
HYB Hyderabad 48.61 291 *i* P **P** **14 44 14.0 -1.0**
HYB *e*pP **pP** **14 44 36.0 -0.2**
HYB *e*PcP **PcP** **14 45 39.0 -0.4**
WMQ Urumqi 53.06 326 *e*P **P** **14 44 50.3 +2.3**
WMQ pmax pmax
comp=Z,41nm,0.9s
WMQ pmax pmax
comp=Z,120nm,4.7s
PEA0B Petropavlovsk- 56.74 22 P **P** **14 45 15.4 +1.0**
PETK Petropavlovsk- 56.74 22 P **P** **14 45 15.8 +1.5**
comp=Z,11nm,0.7s,baz=210,slow=3.0,SNR=20
PETK PcP **PcP** **14 46 09.8 +0.5**
comp=Z,6.7nm,0.9s,baz=159,slow=6.2,SNR=4.0
PETK Petropavlovsk- 56.74 22 P **P** **14 45 15.5 +1.2**
ZSN Zaisan 56.89 328 *e*P **P** **14 45 14.2 -1.3**
baz=328
SHLS Shalkode 57.57 321 *e*P **P** **14 45 17.8 -2.8**
comp=Z,4.0nm,1.1s,baz=321
UZB Uzynbulak 57.84 321 *e*P **P** **14 45 21.5 -1.0**
baz=321
NIL Nilore 57.84 309 P **P** **14 45 21.7 -0.8**
NIL IAmb IAmb 14 45 23.0
comp=Z,14nm,1.3s
MK31 Makanchi Array 57.90 326 P **P** **14 45 21.8 -0.8**
MKAR Makanchi Array 57.90 326 P **P** **14 45 22.2 -0.4**
comp=Z,3.9nm,0.3s,baz=119,slow=7.3,SNR=198
MKAR PcP **PcP** **14 46 14.2 +0.1**
comp=Z,10nm,0.8s,baz=123,slow=4.5,SNR=20
MKAR ScP **ScP** **14 50 05.9 -0.3**
comp=Z,0.2nm,0.5s,baz=137,slow=3.8,SNR=2.1
MKAR LR LR 15 11 49.0
comp=Z,72nm,19.3s,baz=110,slow=38
MKAR Makanchi Array 57.90 326 P **P** **14 45 21.5 -1.1**
MAKZ Makanchi 58.08 326 P **P** **14 45 22.9 -0.9**
SATY Saty 58.19 321 *e*P **P** **14 45 24.0 -0.8**
comp=Z,3.6nm,0.7s,baz=321
KPKS Kokpek 58.22 321 *e*P **P** **14 45 24.1 -0.9**
comp=Z,5.8nm,0.7s,baz=321
MDOK Medeo 59.10 320 *e*P **P** **14 45 30.5 -0.7**
baz=320
TNSS Tian-Shan 59.11 320 *e*P **P** **14 45 31.0 -0.5**
baz=320
TDK Taldyorghan 59.17 323 *e*P **P** **14 45 30.7 -0.8**
comp=Z,5.7nm,0.5s,baz=322
YAK Yakutsk 59.28 2 P **P** **14 45 32.2 +0.3**
KUU Kurty 59.91 321 *e*P **P** **14 45 35.5 -1.0**
comp=Z,9.7nm,0.9s,baz=321
MA2 Magadan 59.94 14 P **P** **14 45 37.9 +1.5**
comp=Z,27nm,0.8s,baz=201,slow=6.8,SNR=59
MA2 PcP **PcP** **14 46 21.9 +0.1**
comp=Z,12nm,0.7s,baz=182,slow=5.1,SNR=7.1
MA2 Magadan 59.94 14 P **P** **14 45 37.2 +0.8**
AAK Ala-Archa 60.52 319 P **P** **14 45 41.4 +0.4**
SEM Semipalatinsk 61.10 329 *e*P **P** **14 45 43.3 -1.5**
baz=328
ZALV Zalesovo Beam 61.11 334 P **P** **14 45 43.0 -1.5**
comp=Z,1.2nm,0.5s,baz=129,slow=5.9,SNR=5.1
ZALV LR LR 15 13 45.5
comp=Z,37nm,20.4s,baz=132,slow=37
ZALV Zalesovo Beam 61.11 334 P **P** **14 45 42.0 -2.4**
LBZ Lake Benmore 61.34 145 P **P** **14 45 46.9 +0.7**
KBL Kabul 61.43 308 P **P** **14 45 46.0 -1.3**
KBL IAmb IAmb 14 45 47.4
comp=Z,7.6nm,0.8s
BTLS Baital 61.89 321 *e*P **P** **14 45 48.6 -1.3**
baz=321
DZA Taraz 62.74 318 *e*P **P** **14 45 54.8 -0.9**
baz=318
IUG Iuzhnay 63.33 317 *e*P **P** **14 45 58.6 -1.1**
baz=316
KKAR Karatay Array 63.37 318 **PcP** **14 46 35.9 -0.2**
KKAR Karatay Array 63.37 318 P **P** **14 45 58.4 -1.4**
BRZS Berezniki 65.01 325 *e*P **P** **14 46 09.6 -0.9**
baz=325
BRVK Borovoye 67.77 327 P **P** **14 46 26.8 -1.2**
BRVK IAmb IAmb 14 46 54.4
comp=Z,7.5nm,0.9s
TIXI Tiksi 68.90 1 P **P** **14 46 33.8 -0.8**
TIXI IAmb IAmb 14 46 35.5
comp=Z,18nm,1.0s
CASY Casey 69.67 187 P **P** **14 46 40.3 +0.8**
CASY IAmb IAmb 14 47 03.9
comp=Z,24nm,0.9s
BILL Bilibino 70.80 15 P **P** **14 46 45.9 -0.5**
GEYT Alibeck 70.83 309 P **P** **14 46 46.5 -0.7**
comp=Z,2.3nm,0.7s,baz=112,slow=1.6,SNR=4.1
GEYT pP **PcP** **14 47 08.6 +1.2**
comp=Z,3.7nm,0.8s,baz=206,slow=9.7,SNR=4.3
GEYT LR LR 15 21 35.0
comp=Z,18nm,18.6s,baz=20,slow=39
GEYT Alibeck 70.83 309 P **P** **14 46 46.9 -0.4**
NRIK Noril'sk 71.23 347 P **P** **14 46 49.4 +0.5**
comp=Z,37nm,0.7s,baz=132,slow=6.4,SNR=80
NRIK Noril'sk 71.23 347 P **P** **14 46 48.6 -0.3**
SOCY Socotra 71.67 282 P **P** **14 46 50.0 -2.8**
ABKAR Akbulak array 72.38 321 P **P** **14 46 54.8 -1.4**
AKTO Aktyubinsk 73.91 322 LR LR 15 22 38.7
comp=Z,37nm,20.8s,baz=108,slow=38
ARU Arti 75.33 328 LR LR 15 22 42.3
comp=Z,35nm,18.9s,baz=142,slow=38
ARU Arti 75.33 328 P **P** **14 47 11.6 -1.7**
RAYN Ar Rayn 80.05 293 P **P** **14 47 39.2 -1.1**
OPO Ambohidratompo 80.08 251 P **P** **14 47 39.9 -0.8**
comp=Z,4.0nm,0.6s,baz=147,slow=2.6,SNR=5.8
OPO pP **pP** **14 48 03.6 -0.1**
comp=Z,4.0nm,0.8s,baz=139,slow=4.9,SNR=2.8
ABPO Ambohimpanom 80.09 250 P **P** **14 47 40.0 -0.7**
KIRV Kirov 80.64 329 LR LR 15 26 40.6
comp=Z,37nm,18.7s,baz=96,slow=38
MAW Mawson 82.46 200 P **P** **14 47 53.2 +1.2**
comp=Z,6.2nm,0.8s,baz=89,slow=6.4,SNR=6.4
MAW Mawson 82.46 200 P **P** **14 47 52.5 +0.6**
AKH Akhalkalaki 82.47 311 ⇓P **P** **14 47 54.0 +1.0**
VNDA Vanda 82.51 173 P **P** **14 47 53.2 +1.1**
comp=Z,12nm,0.8s,baz=317,slow=5.9,SNR=53
VNDA LR LR 15 26 14.3
comp=Z,54nm,18.4s,baz=278,slow=37
VNDA Vanda 82.51 173 P **P** **14 47 53.0 +0.8**
VNDA IAmb IAmb 14 47 54.2
comp=Z,14nm,0.9s
GEVA Gevas 82.65 308 P **P** **14 47 53.2 -0.7**
GEVA IAmb IAmb 14 47 55.9
comp=Z,19nm,0.8s
KBZ Khabaz 83.03 314 P **P** **14 47 55.2 -0.3**
comp=Z,2.4nm,0.8s,baz=104,slow=5.7,SNR=2.9
SBA Scott Base 83.43 172 P **P** **14 47 58.5 +1.6**
SBA IAmb IAmb 14 48 26.3
comp=Z,16nm,1.4s
I23K Minto, Yukon-K 85.41 25 P **P** **14 48 07.6 +0.5**
TOLK Toolik Lake Re 85.55 21 P **P** **14 48 09.3 +1.5**
TOLK IAmb IAmb 14 48 10.9
comp=Z,14nm,0.9s
KLMR Klimovskoe 85.86 331 *e*P **P** **14 48 07.7 -1.7**
KLMR AMP 14 48 10.1
comp=Z,19nm,0.6s
ILAR Eielson Array 86.44 25 P **P** **14 48 11.4 -0.8**
comp=Z,1.0nm,0.7s,baz=236,slow=5.2,SNR=14
KMBO Kilima Mbogo 88.61 269 P **P** **14 48 23.8 -0.2**
comp=Z,1.3nm,0.6s,baz=51,slow=7.1,SNR=6.7
BRTR Keskin Array B 89.97 310 P **P** **14 48 28.4 -1.3**
comp=Z,0.9nm,0.7s,baz=104,slow=5.2,SNR=5.3
BRTR LR LR 15 35 57.5
comp=Z,17nm,18.3s,baz=97,slow=40
EPYK Eagle Plains 90.57 24 P **P** **14 48 31.9 +0.1**
EPYK IAmb IAmb 14 48 32.9
comp=Z,12nm,1.2s
ANTO Ankara 90.62 310 P **P** **14 48 33.0 +0.3**
ARCES ARCESS Array B 91.11 340 P **P** **14 48 33.6 -0.6**
comp=Z,8.1nm,0.8s,baz=79,slow=5.2,SNR=12
ARCES LR LR 15 33 33.2
comp=Z,22nm,18.1s,baz=245,slow=38
ARCES ARCESS Array B 91.11 340 IAmb IAmb 14 48 35.1
comp=Z,12nm,0.9s
SYO Syowa Base 91.12 201⇑*e*P **P** **14 48 35.1 +0.9**
SYO Syowa Base 91.12 201⇑*e*pP pP 14 48 58.0 +0.4
INK Inuvik 91.47 21 P **P** **14 48 35.5 -0.4**
INK IAmb IAmb 14 48 37.8
comp=Z,12nm,1.4s
AKASG Malin Array Be 92.12 321 P **P** **14 48 38.2 -1.0**
comp=Z,7.8nm,0.9s,baz=68,slow=4.7,SNR=22
AKASG Malin Array Be 92.12 321 P **P** **14 48 37.5 -1.7**
AKASG IAmb IAmb 14 48 39.2
comp=Z,4.9nm,1.1s
AKBB Malin Array Si 92.12 321 P **P** **14 48 37.9 -1.4**
AKBB IAmb IAmb 14 48 38.9
comp=Z,7.2nm,1.1s
WHY Whitehorse 92.25 29 P **P** **14 48 39.3 -0.5**
FIA1 FINESS Array S 92.31 332 P **P** **14 48 38.3 -1.6**
FINES FINESS Array B 92.31 332 P **P** **14 48 39.2 -0.7**
comp=Z,12nm,0.7s,baz=47,slow=6.0,SNR=26
FINES FINESS Array B 92.31 332 P **P** **14 48 38.8 -1.1**
MNK Minsk 92.44 325 *i* P **P** **14 48 38.0 -2.7**
comp=E,3.0nm,0.9s
MNK *i* P **P** **14 48 38.0 -2.7**
comp=N,16nm,2.1s
MNK *i* P **P** **14 48 38.0 -2.7**
comp=Z,47nm,0.9s
MNK *i* pP **pP** **14 49 04.4 +0.2**
MNK *i* PP **PP** **14 52 19.1 -3.5**
MNK *i* PPP PPP 14 54 19.6
MNK *i* SKS SKSac 14 58 40.7 -25
MNK *i* S SKKSac 14 59 01.6 -22
MNK *i* sS **ScS** **14 59 49.4 +10**
MNK *i* PS **PS** **15 00 57.9 -1.7**
MNK *i* SS **SS** **15 05 46.4 -3.3**
MNK *i* SSS SSS 15 09 24.3
MNK *i* LQ LQ 15 24 34.5
MNK *i* LR LR 15 29 47.3
MNK *i* LRM MLR 15 32 03.6
comp=N,718nm,14.8s
MNK *i* LRM MLR 15 32 11.3
comp=Z,99nm,14.8s
MNK *i* LRM MLR 15 32 28.1
comp=E,144nm,23.2s
TPGR Topolog 93.36 315 ⇓P **P** **14 48 43.8 -1.3**
CFR Carcaliu 93.52 315 ⇑P **P** **14 48 46.3 +0.5**
TESR Tescani 94.37 317 ⇓P **P** **14 48 49.3 -0.4**
VRI Vrincioaia 94.41 316 ⇑P **P** **14 48 49.2 -0.7**
PLOR Plostina 94.47 316 ⇓P **P** **14 48 50.3 0.0**
C36M Paulatuk 94.50 20 P **P** **14 48 49.4 -0.4**
BIZ Bicaz 94.68 317 ⇓P **P** **14 48 50.8 -0.4**
MLR Muntele Rosu 95.01 316 ⇓P **P** **14 48 52.3 -0.6**
MLR Muntele Rosu 95.01 316 P **P** **14 48 51.6 -1.3**
BURAR Bucovina Array 95.16 318 ⇓P **P** **14 48 53.5 0.0**
BURAR Bucovina Array 95.16 318 P **P** **14 48 52.9 -0.6**
BUR08 Bucovina Ar. S 95.17 318 P **P** **14 48 52.4 -1.2**
DOPR Dopca 95.32 316 ⇓P **P** **14 48 54.8 +0.6**
CJR Cluj-Napoca 96.41 317 ⇓P **P** **14 48 59.8 +0.7**
KOLS Kolonicke sedl 96.85 320 *e*PDIFF **P** **14 49 01.2 +0.2**
DRGR 96.99 318 ⇓P **P** **14 49 01.6 -0.2**
GZR Gura Zlata 97.22 316 ⇑P **P** **14 49 02.9 0.0**
CRVS Cervenica-Dubn 97.38 320 *e*PDIFF Pdif 14 49 04.1 +0.6
MATP Matopo 97.77 250 P **P** **14 49 04.4 -1.5**
comp=E,2.8nm,0.9s,baz=92,slow=4.6,SNR=5.9
BZS Buzias 97.98 317 ⇑P **P** **14 49 05.6 -0.5**
MDVR Moldovita 98.08 316 ⇓P **P** **14 49 06.5 -0.2**
LANS Liptovska Anna 98.60 320 *e*PDIFF Pdif 14 49 09.7 +0.8
RES Resolute Bay 99.00 10 **Pdif** **14 49 09.8 -0.3**
NB2 NORSAR Subarra 99.31 333 P **Pdif** **14 49 10.1 -1.7**
comp=Z,3.5nm,0.8s,baz=70,slow=4.4
NB2 NORSAR Subarra 99.31 333 P **Pdif** **14 49 10.1 -1.7**
baz=70,slow=4.4
NOA NORSAR Array B 99.31 333 P **Pdif** **14 49 10.6 -1.2**
comp=Z,3.0nm,0.8s,baz=69,slow=4.5,SNR=8.6
NOA LR LR 15 37 43.7
comp=Z,22nm,18.5s,baz=75,slow=38
MORC Moravsky Berou 99.65 321 ⇑P **Pdif** **14 49 13.2 -0.4**
MORH Mrgy, Hungar 99.86 318 ⇓P **Pdif** **14 49 14.3 -0.2**
YKA Yellowknife Ar 100.83 24 P **Pdif** **14 49 16.6 -1.8**
comp=Z,5.8nm,0.6s,baz=300,slow=4.0,SNR=18
YKA PP **PP** **14 53 30.4 +3.6**
comp=Z,0.1nm,0.4s,baz=307,slow=5.2,SNR=4.5
YKA PKiKP **PKiKP** **14 53 43.7 0.0**
comp=Z,0.2nm,0.5s,baz=309,slow=0.9,SNR=6.7
YKA PKKPbc **PKKPbc** **15 05 30.3 -3.4**
comp=Z,0.8nm,1.1s,baz=112,slow=2.8,SNR=5.5
BRG Berggiesshubel 101.52 323 *e*P **Pdif** **14 49 22.1 +0.3**
BRG Amp 14 49 23.5
comp=Z,13nm,1.2s
GERES GERESS Array B 102.32 321 P **Pdif** **14 49 25.8 +0.2**
comp=Z,1.8nm,1.0s,baz=5.1,slow=6.0,SNR=3.9
NVAR Mina Array Bea 108.29 48 PKKPbc PKKPbc 15 05 10.3 -0.3
comp=Z,0.1nm,0.3s,baz=144,slow=3.0,SNR=4.5
NVAR PKKP **PKKPab** **15 05 23.4 -0.5**
comp=Z,0.3nm,0.6s,baz=134,slow=4.5,SNR=7.3
PDAR Pinedale Array 112.75 41 PKiKP **PKiKP** **14 54 07.8 +1.0**
comp=Z,0.2nm,0.4s,baz=291,slow=1.3,SNR=3.9
PDAR PKKPbc **PKKPab** **15 05 03.1 -1.0**
comp=Z,1.5nm,0.8s,baz=112,slow=7.2,SNR=9.5
ULM Lac du Bonnet 116.32 28 PKP **PKPdf** **14 54 12.8 -0.3**
comp=Z,1.0nm,0.5s,baz=11,slow=4.3,SNR=4.0
ESDC Sonseca Array 117.62 318 PKP **PKiKP** **14 54 16.7 +0.6**
comp=Z,0.3nm,0.7s,baz=73,slow=1.8,SNR=1.8
ECSD EROS Data Cent 120.17 34 PKPdf **PKPdf** **14 54 20.8 0.0**
F36A Milaca 120.44 31 PKPdf **PKiKP** **14 54 21.3 0.0**
TORD Torodi Ar. Bea 122.36 287 PKP **PKPdf** **14 54 25.4 -0.3**
comp=Z,5.5nm,0.8s,baz=41,slow=2.0,SNR=22
TORD PKKPbc **PKKPab** **15 04 22.9 +1.1**
comp=Z,0.8nm,0.6s,baz=250,slow=4.2,SNR=2.7
TXAR Lajitas Array 122.97 52 PKP **PKiKP** **14 54 27.6 +0.7**
comp=Z,1.1nm,0.8s,baz=209,slow=1.4,SNR=14
TXAR PKKPbc **PKKPbc** **15 04 18.6 -0.6**
comp=Z,0.2nm,0.6s,baz=124,slow=4.7,SNR=4.0
KOWA Kowa 127.45 290 PKP **PKiKP** **14 54 36.5 +0.6**
comp=Z,1.2nm,0.6s,baz=310,slow=2.8,SNR=5.7
DBIC Dimbokro 129.88 281 PKP **PKPdf** **14 54 39.0 -1.0**
comp=Z,2.1nm,0.7s,baz=81,slow=2.9,SNR=4.1
PLCA Paso Flores 139.34 161 PKP **PKPdf** **14 54 56.8 -0.4**
comp=Z,2.9nm,0.9s,baz=118,slow=4.8,SNR=4.1
CPUP Villa Florida 156.29 173 PKP **PKPdf** **14 55 24.2 -0.7**
comp=Z,1.5nm,0.7s,baz=183,slow=4.7,SNR=4.1
CPUP PKPab **PKPab** **14 55 54.1 +1.0**
comp=Z,5.6nm,1.0s,baz=192,slow=3.2,SNR=6.6
LPAZ La Paz 160.74 135 PKP **PKPdf** **14 55 33.1 +1.8**
comp=Z,2.8nm,0.9s,baz=54,slow=2.4,SNR=9.1

LPAZ			PKPab	**PKPab**	**14 56 15.6**	**+2.1**
	comp=Z,1.4nm,0.7s,baz=174,slow=4.4,SNR=6.0						
RCBR	**Riachuelo**	**161.49 260**	PKPab	**PKPab**	**14 56 13.8**	**-2.5**
	comp=Z,9.7nm,1.0s,baz=59,slow=7.7,SNR=4.0						
BDFB	**Brasilia**	**165.75 205**	PKPab	**PKPab**	**14 56 35.1**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=164,slow=5.6,SNR=4.3						

IDC ***29*** *14:38:33.4±2.2,23°.88S×66°.63W,h193km±24km,mb3.3/1, mb1 3.3/6,mb1mx3.1/26,mbtmp3.8/6 Error ellipse: s-maj=39.3km s-min=22.4km az=141.0*

ISC 29 14:38:33.3±0.9,23°.83S±0°.10×66°.7W±0°.1,h195km,n9, σ0°70/11,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.38**	**300**	P	**Pn**	**14 39 16.4**	**+0.4**
	5.8nm,0.3s,baz=127,slow=8.2,SNR=85						
LVC				S	**Sn**	**14 39 48.4**	**-0.7**
	9.7nm,0.3s,baz=164,slow=6.6,SNR=8.7						
LPAZ	**La Paz**	**7.63**	**349**	P	**Pn**	**14 40 23.4**	**+1.1**
	0.6nm,0.3s,baz=165,slow=8.2,SNR=16						
LPAZ				S	**Sn**	**14 41 48.3**	**-0.5**
	0.1nm,0.3s,baz=288,slow=24,SNR=2.3						
SIV	**San Ignacio**	**9.41**	**35**	P	**Pn**	**14 40 45.1**	**-0.1**
	0.7nm,0.3s,baz=225,slow=10,SNR=16						
PLCA	**Paso Flores**	**17.16**	**190**	P	**P**	**14 42 20.9**	**+0.6**
	0.1nm,0.3s,baz=348,slow=14,SNR=2.0						
BDFB	**Brasilia**	**19.35**	**69**	P	**P**	**14 42 44.6**	**+0.2**
	0.2nm,0.3s,baz=239,slow=11,SNR=5.6						
TORD	**Torodi Ar. Bea**	**76.24**	**69**	P	**P**	**14 50 00.3**	**-0.4**
	0.6nm,0.7s,baz=251,slow=4.4,SNR=1.7						
ASAR	**Alice Springs**	**128.73**	**204**	PKP	**PKPdf**	**14 57 17.5**	**-0.6**
	0.3nm,0.7s,baz=153,slow=2.7,SNR=1.9						
WRA	**Warramunga Arr**	**131.91**	**207**	PKP	**PKPdf**	**14 57 23.7**	**-0.5**
	0.2nm,0.6s,baz=174,slow=1.5,SNR=1.5						
MKAR	**Makanchi Array**	**146.21**	**40**	PKPbc	**PKPbc**	**14 57 51.5**	**+0.8**
	0.2nm,0.5s,baz=278,slow=4.2,SNR=3.0						

GUC 29 14:57:34.1±0.5,23°.65S×67°.13W,h241km±8km,ML3.9, 5C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.94**	**302**	*e*P	Pn	14 58 15.2	-0.5
LVC				*e*S	S	14 58 46.7	-1.7
PB15	**IPOC Station P**	**2.19**	**281**	⇑*i*P	Pn	14 58 18.1	+0.1
PB15				*i* S	S	14 58 51.5	-0.7
PB06	**IPOC Station P**	**2.43**	**292**	⇑*i*P	Pn	14 58 20.4	+0.1
PB06				*i* S	S	14 58 55.2	-1.3
PB06				IAML		14 58 55.9	
	comp=N,511nm,0.2s						
PB09	**IPOC Station P**	**2.68**	**313**	*e*P	Pn	14 58 23.0	+0.1
PB09				*i* S	S	14 59 00.7	-0.6
PB09				IAML		14 59 02.4	
	comp=N,76nm,0.5s						
GO02	**Mina Guanaco**	**2.70**	**236**	⇓*i*P	Pn	14 58 23.5	+0.4
GO02				*i* S	S	14 59 01.2	-0.5
GO02				IAML		14 59 04.4	
	comp=E,136nm,0.1s						
PB03	**IPOC Station P**	**2.90**	**303**	⇑*i*P	Pn	14 58 25.1	-0.1
PB03				*i* S	S	14 59 03.4	-1.9
PB03				IAML		14 59 05.7	
	comp=E,178nm,0.1s						
PB05	**IPOC Station P**	**2.93**	**285**	*e*P	Pn	14 58 25.9	+0.4
PB05				*i* S	S	14 59 04.4	-1.5
PB04	**IPOC Station P**	**3.07**	**295**	⇑*i*P	Pn	14 58 27.6	+0.6
PB04				*i* S	S	14 59 07.4	-1.4
PB07	**IPOC Station P**	**3.18**	**306**	⇑*i*P	Pn	14 58 28.2	-0.1
PB07				*e*S	S	14 59 08.4	-2.7
PB01	**IPOC Station P**	**3.39**	**320**	*e*P	Pn	14 58 30.2	-0.4
PB01				*e*S	S	14 59 11.8	-3.4
PB08	**IPOC Station P**	**3.97**	**331**	*i* P	Pn	14 58 37.6	0.0
PB08				*i* S	S	14 59 25.7	-2.1
TA01	**Diego Aracena**	**4.17**	**317**	*i* P	Pn	14 58 40.2	+0.5
MNMC	**Minye Minye**	**5.05**	**333**	*i* P	Pn	14 58 49.7	-0.9

IDC ***29*** *15:17:09.0±0.8,45°.18N×90°.83E,h0km,mb3.6/10, mb1 3.7/16,mb1mx3.5/56,mbtmp3.5/16,ML3.1/6,MS3.0/2, Ms1 3.0/2,ms1mx2.4/48,Error ellipse: s-maj=24.6km s-min=11.6km az=22.0*

NNC ***29*** *15:17:08.9±3.7,45°.19N×91°.02E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=38.2km s-min=26.8km az=159.0*

BJI ***29*** *15:17:09.1±0.0,45°.27N×91°.09E,h6km,mb3.9/4,ML3.7/8*

ISC 29 15:17:10.6±0.6,45°.26N±0°.07×90°.87E±0°.05,h10km,n25, σ1°72/27,mb3.6/10,3C-6D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.69**	**239**	*e*Pn	**Pb**	**15 18 00.0**	**+1.2**
WMQ				Sn	**Sb**	**15 18 35.0**	**+3.1**
WMQ				Sg	**Sg**	**15 18 37.3**	**+0.4**
WMQ				smax	smax		
	comp=N,420nm,0.7s						
WMQ				smax	smax		
	comp=E,630nm,0.9s						
MK31	**Makanchi Array**	**6.17**	**287**	⇑Pn	**Pn**	**15 18 42.6**	**+0.9**
	0.5nm,0.2s,baz=98,slow=14,SNR=136						
MK31				⇓Pg	Pb	15 19 03.7	+5.6
	15nm,0.8s,baz=93,slow=18,SNR=15						
MK31				Lg	Lg	15 20 30.2	
	4.0nm,0.3s,baz=106,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	**6.17**	**287**	Pn	**Pn**	**15 18 43.2**	**+1.5**
	0.9nm,0.3s,baz=104,slow=13,SNR=40						
MKAR				Sn	**Sn**	**15 19 53.9**	**+1.6**
	6.3nm,0.3s,baz=99,slow=28,SNR=12						
MKAR				Lg	Lg	15 20 23.0	
	5.0nm,0.3s,baz=116,slow=21,SNR=2.2						
MAKZ	**Makanchi**	**6.38**	**287**	⇑Pn	**Pn**	**15 18 45.8**	**+1.2**
	1.1nm,0.3s						
MAKZ				⇓Pg	**Pg**	**15 19 09.3**	**-3.4**
	5.3nm,0.7s						
MAKZ				⇑Lg	Lg	15 20 35.6	
	5.7nm,0.4s						
GTA	**Gaotai**	**8.83**	**128**	*e*P	**Pn**	**15 19 15.0**	**-3.4**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				smax	smax		
	comp=N,16nm,1.0s						
GTA				smax	smax		
	comp=E,14nm,1.1s						
ZAA0	**Zalesovo Array**	**9.54**	**338**	⇓Pn	**Pn**	**15 19 30.5**	**+2.7**
	0.3nm,0.5s						
ZAA0				⇓Lg	Lg	15 22 12.5	
	5.1nm,1.1s						
ZALV	**Zalesovo Beam**	**9.54**	**338**	Pn	**Pn**	**15 19 29.6**	**+1.7**
	0.3nm,0.3s,baz=161,slow=14,SNR=6.3						
ZALV				Lg	Lg	15 22 10.3	
	0.5nm,0.3s,baz=155,slow=29,SNR=1.8						
KURBB	**Kurchatov Arra**	**9.86**	**307**	Pn	**Pn**	**15 19 31.5**	**-0.8**
	0.1nm,0.3s,baz=112,slow=14,SNR=9.9						
KURBB				Sn	**Sn**	**15 21 21.1**	**-1.8**
	0.2nm,0.3s,baz=103,slow=28,SNR=5.2						
KURBB				Lg	Lg	15 22 24.2	
	0.3nm,0.3s,baz=115,slow=31,SNR=7.7						
KURBB	**Kurchatov Arra**	**9.86**	**307**	⇓Pn	**Pn**	**15 19 31.2**	**-1.0**
	1.6nm,0.6s						
KURBB				⇓Lg	Lg	15 22 25.1	
	52nm,0.9s						
TLY	**Talaya**	**10.63**	**48**	Lg	Lg	15 22 39.0	
	0.0nm,0.3s,baz=76,slow=10,SNR=6.4						
SONM	**Songino Array**	**11.00**	**71**	Pn	**Pn**	**15 19 50.4**	**+2.3**
	0.2nm,0.3s,baz=250,slow=15,SNR=5.3						
SONM				Lg	Lg	15 22 53.1	
	0.7nm,0.3s,baz=257,slow=31,SNR=5.5						
AAK	**Ala-Archa**	**12.09**	**263**	Pn	**Pn**	**15 20 02.4**	**-0.7**
	0.0nm,0.3s,baz=39,slow=14,SNR=1.5						
AAK				Lg	Lg	15 23 32.5	
	0.1nm,0.3s,baz=15,slow=20,SNR=1.6						
BVAR	**Borovoye Array**	**15.45**	**308**	Pn	**Pn**	**15 20 46.5**	**-2.0**
	0.2nm,0.3s,baz=118,slow=2.2,SNR=8.1						
BVAR				Lg	Lg	15 25 19.7	
	0.0nm,0.3s,baz=105,slow=32,SNR=1.7						
ARU	**Arti**	**23.04**	**311**	LR	LR	15 31 22.1	
	comp=Z,43nm,19.4s,baz=164,slow=37						
KSRS	**Korea Array**	**28.69**	**93**	LR	LR	15 35 18.5	
	comp=Z,20nm,18.1s,baz=210,slow=38						
FINES	**FINESS Array B**	**40.06**	**318**	P	**P**	**15 24 46.4**	**+0.9**
	3.2nm,0.9s,baz=81,slow=8.6,SNR=5.3						
AKASG	**Malin Array Be**	**40.57**	**301**	P	**P**	**15 24 49.4**	**-0.5**
	0.2nm,0.3s,baz=76,slow=7.9,SNR=1.3						
BRTR	**Keskin Array B**	**41.80**	**283**	P	**P**	**15 25 00.9**	**+0.5**
	0.3nm,0.6s,baz=69,slow=8.2,SNR=2.1						
PETK	**Petropavlovsk-**	**42.91**	**54**	P	**P**	**15 25 10.4**	**+1.3**
	3.4nm,0.9s,baz=272,slow=11,SNR=2.4						
NOA	**NORSAR Array B**	**47.14**	**319**	P	**P**	**15 25 42.8**	**+0.2**
	0.8nm,0.9s,baz=69,slow=6.0,SNR=1.7						
ESDC	**Sonseca Array**	**66.16**	**303**	P	**P**	**15 27 58.3**	**+0.1**
	0.3nm,0.7s,baz=52,slow=8.3,SNR=2.2						
YKA	**Yellowknife Ar**	**70.67**	**12**	P	**P**	**15 28 25.4**	**-0.5**
	0.3nm,0.7s,baz=342,slow=6.0,SNR=6.1						
WRA	**Warramunga Arr**	**75.98**	**138**	P	**P**	**15 28 56.6**	**-1.2**
	0.3nm,0.8s,baz=348,slow=7.5,SNR=2.9						
ASAR	**Alice Springs**	**79.00**	**140**	P	**P**	**15 29 14.6**	**-0.1**
	0.6nm,0.8s,baz=328,slow=5.2,SNR=10.0						
NVAR	**Mina Array Bea**	**92.64**	**23**	P	**P**	**15 30 23.2**	**+0.5**
	0.2nm,0.6s,baz=24,slow=6.9,SNR=1.9						

IDC ***29*** *15:35:48.9±3.0,6°.79N×124°.95E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/39,mbtmp3.5/3,Error ellipse: s-maj=296.1km s-min=28.6km az=65.0*

ISC 29 15:35:51.5±1.4,6°.39N±0°.10×124°.1E±0°.3,h10km,n4, σ0°95/5,mb3.5/3,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**2.13**	**15**	⇑*e*P	**Pb**	**15 36 30.6**	**+0.4**
CGP				*e*S	**Sg**	**15 36 59.5**	**-0.5**
WRA	**Warramunga Arr**	**28.03**	**159**	P	**P**	**15 41 44.0**	**+1.0**
	0.4nm,0.3s,baz=341,slow=10,SNR=1.4						
ASAR	**Alice Springs**	**31.36**	**163**	P	**P**	**15 42 11.9**	**-0.7**
	0.2nm,0.3s,baz=343,slow=6.9,SNR=6.9						
MKAR	**Makanchi Array**	**53.91**	**325**	P	**P**	**15 45 15.2**	**0.0**
	0.3nm,0.8s,baz=116,slow=7.9,SNR=4.2						

IDC 29 15:36:50.3±7.8,22°.08S×170°.73E,h89km±54km,mb3.4/3, mb1 3.6/4,mb1mx3.3/21,mbtmp3.5/4,ML2.2/1,Error ellipse: s-maj=101.0km s-min=41.9km az=153.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.97**	**269**	P	Pn	15 37 50.0	+0.9
	0.2nm,0.3s,baz=118,slow=16,SNR=7.6						
DZM				S	Sn	15 38 34.5	-0.1
	0.1nm,0.3s,baz=95,slow=19,SNR=2.1						
ASAR	**Alice Springs**	**33.91**	**260**	P	P	15 43 24.0	-1.0
	0.2nm,0.5s,baz=97,slow=7.7,SNR=5.0						
WRA	**Warramunga Arr**	**33.99**	**267**	P	P	15 43 26.6	+0.9
	0.4nm,0.3s,baz=97,slow=8.4,SNR=11						
ILAR	**Eielson Array**	**92.53**	**17**	P	P	15 49 50.4	-0.6
	0.8nm,1.1s,baz=216,slow=5.6,SNR=3.3						

ATH ***29*** *15:43:51.7,37°.82N×21°.04E,h14km±1km,ML2.3/4,Error ellipse: s-maj=2.2km s-min=0.9km az=5.0*

THE ***29*** *15:43:51.4,37°.82N×21°.01E,h13km±1km,ML2.6/2,Error ellipse: s-maj=1.4km s-min=0.6km az=356.0*

ISC 29 15:43:51.4±1.0,37°.83N±0°.04×21°.02E±0°.02,h14km±7km, n30,σ0°49/43,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.16**	**56**	P	**Pg**	**15 43 54.9**	**-0.4**
VTN				S	**Sg**	**15 43 58.0**	**+0.1**
VTN	**Vitineika**	**0.16**	**56**	P	**Pg**	**15 43 55.0**	**-0.4**
VTN				S	**Sg**	**15 43 58.4**	**+0.4**
VLMS	**Volimes, Zakyn**	**0.29**	**280**	P	**Pg**	**15 43 57.9**	**+0.5**
VLMS				S	**Sb**	**15 44 02.7**	**-0.3**
VLMS	**Volimes, Zakyn**	**0.29**	**280**	P	**Pg**	**15 43 57.9**	**+0.5**
RLS	**Riolos of Patr**	**0.42**	**57**	P	**Pg**	**15 43 59.6**	**-0.2**
RLS				S	**Sg**	**15 44 06.1**	**+0.6**
RLS				AML	AML	15 44 09.2	
	comp=E,931μm,0.3s						
RLS				AML	AML	15 44 09.5	
	comp=N,965μm,0.4s						
RLS	**Riolos of Patr**	**0.42**	**57**	P	**Pg**	**15 43 59.4**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.45**	**310**	P	**Pg**	**15 44 00.0**	**-0.3**
PSDA				S	**Sb**	**15 44 08.0**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.45**	**310**	P	**Pg**	**15 44 00.0**	**-0.3**
PSDA				S	**Sg**	**15 44 06.8**	**+0.4**
VLS	**Valsamata**	**0.49**	**316**	P	**Pg**	**15 44 00.7**	**-0.4**
VLS				S	**Sb**	**15 44 08.8**	**0.0**
VLS	**Valsamata**	**0.49**	**316**	P	**Pg**	**15 44 00.7**	**-0.4**
DRO	**Drossia**	**0.56**	**77**	P	**Pg**	**15 44 02.5**	**+0.1**
DRO				AML	AML	15 44 13.9	
	comp=E,1475μm,0.3s						
DRO				AML	AML	15 44 18.5	
	comp=N,1122μm,0.4s						
DRO	**Drossia**	**0.56**	**77**	P	**Pg**	**15 44 02.4**	**0.0**
DRO				S	**Sb**	**15 44 11.1**	**+0.2**
	comp=N,650nm,0.4s						
KEF5	**Kardakata, Kep**	**0.63**	**316**	P	**Pg**	**15 44 03.1**	**-0.6**
KEF5				S	**Sb**	**15 44 13.1**	**+0.3**
KEF3	**Kipouria, Keph**	**0.65**	**305**	P	**Pg**	**15 44 03.7**	**-0.4**
KEF3				S	**Sb**	**15 44 14.5**	**+1.1**
DMLN	**Damoulianata-K**	**0.66**	**309**	P	**Pg**	**15 44 03.9**	**-0.3**
PDO	**Prodromos**	**0.78**	**9**	P	**Pg**	**15 44 06.3**	**-0.2**
PDO				S	**Sg**	**15 44 17.4**	**+0.6**
PDO				AML	AML	15 44 20.7	
	comp=E,532μm,0.3s						
PDO				AML	AML	15 44 21.3	
	comp=N,886μm,0.3s						
PDO	**Prodromos**	**0.78**	**9**	P	**Pg**	**15 44 06.0**	**-0.6**
PDO				S	**Sb**	**15 44 18.4**	**+1.2**
	comp=N,490nm,0.3s						
LAKA	**Lakka**	**0.86**	**61**	P	**Pg**	**15 44 08.1**	**0.0**
PVO	**Paravola**	**0.88**	**27**	P	**Pg**	**15 44 08.5**	**0.0**
KLV	**Kalavryta, Ach**	**0.92**	**76**	P	**Pb**	**15 44 08.5**	**-0.6**
KLV	**Kalavryta, Ach**	**0.92**	**76**	P	**Pb**	**15 44 08.5**	**-0.6**
NYDR	**Nydri-Lefkada**	**0.92**	**344**	P	**Pb**	**15 44 08.6**	**-0.5**
ALIK	**Aliki, Aigiali**	**0.96**	**63**	P	**Pb**	**15 44 09.2**	**-0.6**
ALIK				S	**Sn**	**15 44 24.0**	**+0.1**
ITM	**Ithomi**	**0.97**	**132**	P	**Pg**	**15 44 10.2**	**0.0**
TRIZ	**Trizonia**	**0.99**	**57**	P	**Pb**	**15 44 10.0**	**-0.3**
TRIZ	**Trizonia**	**0.99**	**57**	P	**Pb**	**15 44 10.0**	**-0.3**
LKD2	**Lefkada island**	**1.00**	**344**	P	**Pb**	**15 44 09.7**	**-0.8**
KALE	**Kalithea**	**1.05**	**57**	P	**Pb**	**15 44 10.9**	**-0.4**
KALE				AML	AML	15 44 34.9	
	comp=E,166μm,0.6s						
KALE				AML	AML	15 44 36.9	
	comp=N,200μm,0.5s						
PYL	**PYLOS**	**1.09**	**148**	P	**Pb**	**15 44 11.4**	**-0.7**
AGG	**Agios Georgios**	**1.57**	**40**	P	**Pb**	**15 44 20.3**	**0.0**

IDC ***29*** *15:50:19.1±1.7,2°.50N×125°.40E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/35,mbtmp3.7/5,Error ellipse: s-maj=117.4km s-min=23.9km az=66.0*

DJA ***29*** *15:50:27.7±2.1,3°.N±6°×12°.6E±°,h11km±21km,M3.7/7, mb3.9/1,mB5.7/1,MLv3.7/7,Mw(mB)5.2/1,MwMwp6.6/1, Mwp6.5/1*

ISC 29 15:50:29.3±1.1,2°.70N±0°.08×126°.00E±0°.10,h100km,n11, σ1°47/11,mb3.6/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.09**	**334**	P	**Pn**	**15 50 49.0**	**-1.7**
TNTI	**Ternate**	**2.35**	**145**	P	**Pn**	**15 51 06.5**	**0.0**
GTOI	**Gorontalo**	**3.62**	**236**	P	**Pn**	**15 51 22.7**	**-0.8**
MRSI	**Marisa**	**4.62**	**242**	P	**Pn**	**15 51 37.2**	**+0.3**
SANI	**Sanana**	**4.72**	**180**	P	**Pn**	**15 51 35.6**	**-2.7**
NLAI	**Namlea**	**6.00**	**169**	P	**Pn**	**15 51 54.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**20.67**	**181**	P	**P**	**15 55 00.2**	**-1.2**
	1.1nm,0.8s,baz=7.1,slow=8.1,SNR=2.3						
WRA	**Warramunga Arr**	**23.95**	**160**	P	**P**	**15 55 34.9**	**+0.5**
	1.5nm,0.3s,baz=336,slow=10,SNR=62						
ASAR	**Alice Springs**	**27.32**	**164**	P	**P**	**15 56 05.5**	**+0.6**
	0.4nm,0.4s,baz=335,slow=7.1,SNR=46						
STKA	**Stephens Creek**	**37.44**	**158**	P	**P**	**15 57 34.6**	**+1.5**
	0.9nm,0.3s,baz=342,slow=7.2,SNR=5.2						
MKAR	**Makanchi Array**	**57.99**	**326**	P	**P**	**16 00 12.2**	**+0.6**
	0.1nm,0.3s,baz=121,slow=7.3,SNR=4.8						

AEIC ***29*** *15:53:11±3.2,57°.11N±0°.07×132°.6W±0°.1,h10km±8km, Error ellipse: s-maj=11.3km s-min=7.4km az=139.0*

NEIC ***29*** *15:53:13.1±1.1,57°.44N±0°.08×132°.5W±0°.1,h2km±6km, Error ellipse: s-maj=12.8km s-min=6.7km az=148.0*

PGC ***29*** *15:53:13.5±0.8,57°.44N×132°.59W,h1km,ML2.5/3,144km Ese of Juneau, Ak Southeastern Alaska*

ISC 29 15:53:13.1±0.8,57°.46N±0°.04×132°.55W±0°.04,h10km,n12, σ1°86/22,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRAK	**Wrangell Islan**	**1.04**	**174**	Pg	**Pg**	**15 53 32.8**	**-0.3**
SIT	**Sitka**	**1.56**	**256**	Pn	**Pn**	**15 53 41.5**	**+0.7**
SIT				IAML		15 54 04.8	
	comp=E,44nm,0.2s						
SIT				IAML		15 54 05.8	
	comp=N,47nm,0.4s						
DLBC	**Dease Lake**	**1.67**	**53**	Pn	**Pn**	**15 53 42.6**	**+0.2**
DLBC				Pg	**Pb**	**15 53 43.8**	**-0.1**
DLBC				Sn	**Sb**	**15 54 06.0**	**+1.1**
DLBC				Sg	**Sg**	**15 54 07.1**	**+0.4**
DLBC	**Dease Lake**	**1.67**	**53**		**Pn**	**15 53 43.4**	**+0.9**
SKAG	**Skagway**	**2.48**	**325**		**Pn**	**15 53 55.5**	**+2.0**
SKAG				IAML		15 54 31.1	
	comp=E,16nm,2.1s						
PLBC	**Pleasant Camp**	**2.84**	**317**	Pn	**Pn**	**15 53 58.8**	**+0.4**
PLBC				Pg	**Pb**	**15 54 03.9**	**+0.1**
PLBC				Sg	**Sb**	**15 54 41.4**	**+3.0**
RUBB	**Prince Rupert**	**3.39**	**157**	Sn	**Sn**	**15 54 46.8**	**+0.6**
RUBB				Sg	**Sg**	**15 55 00.1**	**-1.9**
WHY	**Whitehorse**	**3.43**	**340**	Pn	**Pn**	**15 54 07.8**	**+1.1**
WHY				Pg	**Pb**	**15 54 14.6**	**+0.6**
WHY				Sg	**Sg**	**15 55 01.1**	**-2.1**
WHY	**Whitehorse**	**3.43**	**340**	Pn	**Pn**	**15 54 07.4**	**+0.8**
WHY				IAML		15 55 02.2	
	comp=N,18nm,4.8s						
WHY				IAML		15 55 28.2	
	comp=E,14nm,3.9s						
HYT	**Haines Junctio**	**4.23**	**325**	Pn	**Pn**	**15 54 19.0**	**+1.4**
HYT				Pg	**Pb**	**15 54 29.2**	**+1.6**
HYT				Sg	**Sg**	**15 55 25.4**	**-3.5**
HYT	**Haines Junctio**	**4.23**	**325**	Pn	**Pn**	**15 54 19.7**	**+2.0**
HYT				IAML		15 55 06.5	
	comp=E,11nm,5.0s						
DAWY	**Dawson**	**7.42**	**336**	Sn	**Sn**	**15 56 21.3**	**-4.3**

IDC ***29*** *16:28:51.5±1.2,19°.35S×34°.58E,h0km,mb3.6/4, mb1 3.9/10,mb1mx3.6/51,mbtmp3.8/10,ML4.0/6,MS3.0/2, Ms1 3.0/2,ms1mx2.6/28,Error ellipse: s-maj=33.0km s-min=20.9km az=148.0*

NEIC ***29*** *16:28:53.7±0.9,19°.4S±0°.1×34°.5E±0°.1,h17km±5km, mb4.0/5,Error ellipse: s-maj=17.8km s-min=13.7km az=161.0*

ISC 29 16:28:52.3±0.7,19°.46S±0°.08×34°.40E±0°.07,h10km,n23, σ2°49/26,mb3.9/6,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATP	**Matopo**	**5.63**	**259**	Pn	**Pn**	**16 30 18.4**	**+2.2**
	0.5nm,0.3s,baz=76,slow=13,SNR=13						
MATP				Sn	**Sn**	**16 31 19.4**	**-1.7**
	9.8nm,0.3s,baz=355,slow=24,SNR=13						
MATP				Lg	Lg	16 31 50.6	
	7.9nm,0.3s,baz=165,slow=20,SNR=7.8						
LSZ	**Lusaka**	**7.24**	**304**	Pn	**Pn**	**16 30 40.4**	**+2.0**
	1.0nm,0.3s,baz=127,slow=15,SNR=20						
LSZ				Sn	**Sn**	**16 31 55.8**	**-5.1**
	4.1nm,0.3s,baz=60,slow=17,SNR=4.3						
LSZ				Lg	Lg	16 32 32.5	
	16nm,0.3s,baz=30,slow=16,SNR=14						
LSZ	**Lusaka**	**7.24**	**304**	Pn	**Pn**	**16 30 40.0**	**+1.5**
LBTB	**Lobatse**	**9.85**	**234**	Pn	**Pn**	**16 31 17.2**	**+3.1**
	0.5nm,0.3s,baz=51,slow=13,SNR=11						
LBTB				Sn	**Sn**	**16 33 03.6**	**-1.2**
	1.1nm,0.3s,baz=151,slow=19,SNR=5.9						
LBTB				Lg	Lg	16 33 57.5	
	2.8nm,0.3s,baz=148,slow=23,SNR=4.4						
LBTB				LR	LR	16 35 14.7	
	comp=Z,87nm,19.6s,baz=66,slow=38						
LBTB	**Lobatse**	**9.85**	**234**	Pn	**Pn**	**16 31 17.0**	**+2.8**
ABPO	**Ambohimpanom**	**12.13**	**90**	Pn	**Pn**	**16 31 44.9**	**-0.5**
OPO	**Ambohidratompo**	**12.13**	**88**	Pn	**Pn**	**16 31 43.8**	**-1.6**
	1.2nm,0.3s,baz=263,slow=15,SNR=8.1						
OPO				Sn	Sn	16 33 48.4	-13
	1.2nm,0.3s,baz=287,slow=20,SNR=3.1						
BOSA	**Boshof**	**12.36**	**221**	Pn	**Pn**	**16 31 49.9**	**+1.4**
	1.1nm,0.3s,baz=45,slow=12,SNR=20						
BOSA				Sn	**Sn**	**16 34 01.2**	**-5.2**
	1.0nm,0.3s,baz=312,slow=15,SNR=6.1						
BOSA				Lg	Lg	16 35 22.3	
	0.8nm,0.3s,baz=119,slow=19,SNR=4.7						
BOSA	**Boshof**	**12.36**	**221**	Pn	**Pn**	**16 31 50.0**	**+1.5**
SUR	**Sutherland**	**17.72**	**221**	P	**P**	**16 33 03.3**	**+3.0**
	1.1nm,0.3s,baz=49,slow=13,SNR=19						
SUR				S	**Sn**	**16 36 12.0**	**-5.1**
	0.2nm,0.3s,baz=162,slow=20,SNR=2.0						
SUR				Lg	Lg	16 38 15.5	
	0.4nm,0.3s,baz=311,slow=19,SNR=1.3						
SUR	**Sutherland**	**17.72**	**221**	P	**P**	**16 33 02.9**	**+2.5**
KMBO	**Kilima Mbogo**	**18.43**	**9**	LR	LR	16 40 35.0	
	comp=Z,38nm,18.4s,baz=93,slow=38						
TORD	**Torodi Ar. Bea**	**45.69**	**313**	P	**P**	**16 37 14.4**	**+0.7**
	0.7nm,0.6s,baz=122,slow=7.8,SNR=3.5						
ESDC	**

VAF				SG	Sg	16 31 33.8	+1.2
ARCES	**ARCESS Array B**	**7.71**	**342**	Pn	**Pn**	**16 31 01.7**	**-1.5**
	baz=151,slow=15,SNR=6.0						
ARCES				Sn	**Sn**	**16 32 24.8**	**-6.3**
	baz=149,slow=21,SNR=1.5						
ARCES				Lg	Lg	16 33 06.3	
	baz=153,slow=28,SNR=2.4						
HFS	**Hagfors**	**9.19**	**264**	Pn	**Pn**	**16 31 27.4**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=68,slow=16,SNR=4.2						
HFS				Sn	**Sn**	**16 33 08.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=71,slow=23,SNR=1.3						
HFS				Lg	Lg	16 34 01.0	
	comp=Z,0.3nm,0.3s,baz=69,slow=29,SNR=6.7						
NOA	**NORSAR Array B**	**10.05**	**272**	Pn	**Pn**	**16 31 38.5**	**+3.2**
	comp=Z,0.0nm,0.3s,baz=70,slow=12,SNR=1.4						
NOA				Sn	**Sn**	**16 33 23.5**	**-5.2**
	comp=Z,0.0nm,0.3s,baz=104,slow=17,SNR=2.7						
NOA				Lg	Lg	16 34 27.1	
	comp=Z,0.0nm,0.3s,baz=63,slow=20,SNR=1.3						

JMA ***29*** *17:13:30.5±0.1,23°.70N×121°.69E,h35km×3km,M2.3*
TAP ***29*** *17:13:31.2,23°.71N×121°.68E,h37km,ML2.9,C*
ISC 29 17:13:31.6±0.9,23°.70N±0°.02×121°.70E±0°.02,h30km±7km, n108,σ0s92/201,1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.25**	**262**	*i*	P		**Pn**	**17 13 38.8**	**-0.5**
	baz=271								
EGFH					S		**Sn**	**17 13 43.8**	**-0.4**
	baz=271								
ESL	**Shilin**	**0.27**	**294**	*i*	P		**Pb**	**17 13 38.5**	**-0.1**
	baz=287								
ESL				*i*	S		**Sn**	**17 13 43.9**	**-0.8**
	baz=287								
HWA	**Hwalien**	**0.29**	**342**	*i*	P		**Pb**	**17 13 39.2**	**+0.3**
	baz=353								
HWA					S		**Sb**	**17 13 45.0**	**+1.3**
	baz=353								
HGSD	**Ruisui**	**0.33**	**231**		P		**Pb**	**17 13 39.9**	**+0.5**
	baz=224								
HGSD					S		**Sn**	**17 13 46.3**	**+0.2**
	baz=224								
TWD	**Chiawan**	**0.39**	**346**	*i*	P		**Pb**	**17 13 40.0**	**-0.3**
	baz=358								
TWD				*i*	S		**Sb**	**17 13 46.8**	**+0.6**
	baz=358								
EHY	**Hungye**	**0.40**	**241**	*i*	P		**Pb**	**17 13 40.0**	**-0.4**
	baz=248								
EHY				*i*	S		**Sb**	**17 13 46.1**	**-0.4**
	baz=248								
NACB	**Ninganchiao**	**0.48**	**348**		P		**Pb**	**17 13 41.1**	**-0.6**
	baz=354								
NACB					S		**Sb**	**17 13 48.2**	**-0.4**
	baz=354								
YULB	**Yu-li**	**0.48**	**230**		P		**Pb**	**17 13 41.2**	**-0.6**
	baz=238								
YULB					S		**Sb**	**17 13 48.3**	**-0.3**
	baz=238								
EYUL	**Yuli**	**0.50**	**225**	*i*	P		**Pb**	**17 13 41.7**	**-0.3**
	baz=235								
EYUL					S		**Sb**	**17 13 49.7**	**+0.7**
	baz=235								
TWF1	**Yuli**	**0.51**	**227**	*i*	P		**Pb**	**17 13 41.6**	**-0.6**
	baz=236								
TWF1					S		**Sb**	**17 13 48.8**	**-0.6**
	baz=236								
VWDT	**VWDT**	**0.52**	**276**		P		**Pb**	**17 13 41.9**	**-0.3**
	baz=276								
VWDT					S		**Sb**	**17 13 49.1**	**-0.5**
	baz=276								
ETLH	**Xiulin Townshi**	**0.54**	**338**		P		**Pb**	**17 13 41.9**	**-0.9**
	baz=331								
ETLH					S		**Sb**	**17 13 49.5**	**-0.9**
	baz=331								
WHF	**Hehuan Shan**	**0.59**	**318**	*i*	P		**Pb**	**17 13 42.7**	**-1.1**
	baz=313								
WHF					S		**Sb**	**17 13 51.4**	**-0.8**
	baz=313								
CHGB	**Renai**	**0.60**	**306**		P		**Pn**	**17 13 43.1**	**-1.1**
	baz=308								
CHGB					S		**Sb**	**17 13 51.4**	**-0.7**
	baz=308								
FULB	**Fuli**	**0.63**	**217**	*i*	P		**Pn**	**17 13 43.8**	**-0.6**
	baz=228								
FULB					S		**Sn**	**17 13 53.9**	**+0.5**
	baz=228								
CHKT	**Chengkung**	**0.68**	**207**	*i*	P		**Pn**	**17 13 43.7**	**-1.4**
	baz=195								
CHKT					S		**Sn**	**17 13 53.1**	**-1.5**
	baz=195								
FUSS	**Fushou**	**0.69**	**322**	*i*	P		**Pn**	**17 13 44.3**	**-1.2**
	baz=318								
FUSS				*i*	S		**Sb**	**17 13 53.8**	**-0.7**
	baz=318								
SSLB	**Suanglung**	**0.69**	**277**		P		**Pn**	**17 13 44.1**	**-1.2**
	baz=278								
SSLB					S		**Sn**	**17 13 54.1**	**-1.0**
	baz=278								
YUS	**Yu-Shan**	**0.72**	**253**	*i*	P		**Pn**	**17 13 45.3**	**-0.8**
	baz=252								
YUS				*i*	S		**Sb**	**17 13 54.8**	**-0.9**
	baz=252								
ENA	**Nanau**	**0.72**	**3**	*i*	P		**Pn**	**17 13 44.6**	**-1.1**
	baz=13								
ENA					S		**Sn**	**17 13 54.9**	**-1.0**
	baz=13								
TWT	**Tachien**	**0.73**	**319**	*i*	P		**Pn**	**17 13 45.3**	**-0.7**
	baz=316								
TWT				*i*	S		**Sn**	**17 13 54.8**	**-1.4**
	baz=316								
TDCB	**Techi**	**0.74**	**318**		P		**Pn**	**17 13 45.3**	**-0.9**
	baz=316								
TDCB					S		**Sn**	**17 13 54.5**	**-1.9**
	baz=316								
EWUT	**Wuta**	**0.74**	**5**	*i*	P		**Pn**	**17 13 45.3**	**-0.7**
	baz=7.0								
EWUT					S		**Sn**	**17 13 55.5**	**-0.8**
	baz=7.0								
WPL	**Puli Township**	**0.75**	**294**		P		**Pn**	**17 13 45.2**	**-0.9**
	baz=300								
WPL				*e*	S		**Sn**	**17 13 54.7**	**-1.8**
	baz=300								
SMLT	**Sun Moon Lake**	**0.76**	**284**	⇓*i*	P		**Pn**	**17 13 45.4**	**-0.9**
	baz=289								
SMLT					S		**Sn**	**17 13 55.4**	**-1.4**
	baz=289								
WHYT	**Xinyi Township**	**0.78**	**270**		P		**Pn**	**17 13 46.6**	**0.0**
	baz=270								
WHYT				*e*	S		**Sn**	**17 13 56.5**	**-0.7**
	baz=270								
NNSB	**Datong**	**0.78**	**338**		P		**Pn**	**17 13 45.6**	**-1.1**
	baz=340								
NNSB					S		**Sn**	**17 13 55.2**	**-2.2**
	baz=340								
NNSH	**Datong**	**0.78**	**338**	*i*	P		**Pn**	**17 13 45.6**	**-1.0**
	baz=340								
NNSH				*i*	S		**Sn**	**17 13 55.1**	**-2.3**
	baz=340								
DPDB	**Guoxing**	**0.78**	**295**		P		**Pn**	**17 13 45.9**	**-0.8**
	baz=303								
NNS	**Nan Shan**	**0.79**	**338**	*i*	P		**Pn**	**17 13 46.0**	**-0.9**
	baz=341								
NNS				*i*	S		**Sn**	**17 13 56.0**	**-1.7**
	baz=341								
TYC	**Yuchr**	**0.80**	**285**	*i*	P		**Pn**	**17 13 45.8**	**-1.0**
	baz=292								
TYC					S		**Sn**	**17 13 57.4**	**-0.3**
	baz=292								
WCS	**Beigang Elemen**	**0.81**	**296**	*i*	P		**Pn**	**17 13 46.1**	**-0.7**
	baz=300								
WCS				*e*	S		**Sn**	**17 13 56.8**	**-1.1**
	baz=300								
ELDTW	**Lidau**	**0.81**	**231**	*i*	P		**Pn**	**17 13 45.7**	**-1.4**
	baz=230								
ELDTW					S		**Sn**	**17 13 56.0**	**-2.2**
	baz=230								
EDH	**Donghe**	**0.81**	**207**	*i*	P		**Pn**	**17 13 45.6**	**-1.4**
	baz=198								
EDH				*i*	S		**Sn**	**17 13 56.8**	**-1.2**
	baz=198								
ALS	**Alishan**	**0.84**	**257**	*i*	P		**Pn**	**17 13 47.3**	**-0.4**
	baz=264								
ALS					S		**Sn**	**17 13 58.5**	**-0.7**
	baz=264								
WHP	**Taichung City**	**0.90**	**310**	*i*	P		**Pn**	**17 13 47.7**	**-0.5**
	baz=310								
WHP				*i*	S		**Sn**	**17 13 59.8**	**-0.5**
	baz=310								
WJS	**Zhushan**	**0.90**	**278**	*i*	P		**Pn**	**17 13 48.3**	**+0.1**
	baz=278								
WJS				*i*	S		**Sn**	**17 14 00.1**	**-0.1**
	baz=278								
NDT	**Datong Townshi**	**0.91**	**349**	*i*	P		**Pn**	**17 13 48.1**	**-0.2**
	baz=343								
NDT				*e*	S		**Sn**	**17 13 59.2**	**-1.3**
	baz=343								
TWC	**Suao**	**0.91**	**8**		P		**Pn**	**17 13 48.6**	**+0.2**
	baz=10.0								
TWC					S		**Sn**	**17 14 00.4**	**-0.1**
	baz=10.0								
NDS	**Dongshan**	**0.93**	**1**	*i*	P		**Pn**	**17 13 48.8**	**+0.2**
	baz=351								
NDS					S		**Sn**	**17 14 01.0**	**+0.1**
	baz=351								
ENTT	**Nioudou**	**0.94**	**352**	*i*	P		**Pn**	**17 13 47.9**	**-0.9**
	baz=347								
ENTT					S		**Sn**	**17 14 01.2**	**-0.1**
	baz=347								
CHN5	**Tsauling**	**0.94**	**264**	*i*	P		**Pn**	**17 13 48.9**	**0.0**
	baz=264								
CHN5				*i*	S		**Sn**	**17 14 01.2**	**-0.2**
	baz=264								
WNT	**Mingjian**	**0.95**	**281**	*i*	P		**Pn**	**17 13 49.1**	**+0.2**
	baz=281								
WNT					S		**Sb**	**17 14 02.7**	**+1.0**
	baz=281								
LONT	**Longtian**	**0.95**	**214**		P		**Pn**	**17 13 47.1**	**-1.8**
	baz=213								
LONT					S		**Sn**	**17 13 59.7**	**-1.8**
	baz=213								
WNT1	**Nantou City**	**0.96**	**282**		P		**Pn**	**17 13 48.8**	**-0.2**
	baz=283								
WNT1					S		**Sb**	**17 14 02.6**	**+0.7**
	baz=283								
WWF	**Wufeng**	**0.98**	**290**		P		**Pn**	**17 13 50.0**	**+0.7**
	baz=281								
WWF					S		**Sb**	**17 14 04.2**	**+1.6**
	baz=281								
STYH	**Taoyuan**	**1.00**	**238**	*i*	P		**Pn**	**17 13 49.4**	**-0.1**
	baz=238								
STYH					S		**Sn**	**17 14 02.2**	**-0.4**
	baz=238								
YHNB	**Yeheng**	**1.01**	**343**		P		**Pn**	**17 13 49.2**	**-0.5**
	baz=346								
YHNB					S		**Sn**	**17 14 01.3**	**-1.7**
	baz=346								
TWE	**Neicheng**	**1.01**	**358**	*i*	P		**Pn**	**17 13 49.4**	**-0.4**
	baz=351								
TWE					S		**Sb**	**17 14 04.0**	**+0.5**
	baz=351								
STYT	**Tauyuan**	**1.02**	**238**	*i*	P		**Pn**	**17 13 49.7**	**-0.2**
	baz=238								
STYT					S		**Sn**	**17 14 02.9**	**-0.3**
	baz=238								
TCU	**Taichung**	**1.04**	**295**	*i*	P		**Pn**	**17 13 50.7**	**+0.6**
	baz=297								
TCU				*i*	S		**Sb**	**17 14 05.5**	**+1.3**
	baz=297								
WGK	**Gukeng**	**1.04**	**269**	*i*	P		**Pn**	**17 13 51.0**	**+0.9**
	baz=269								
WGK					S		**Sn**	**17 14 04.3**	**+0.5**
	baz=269								
LDUT	**Ludao**	**1.05**	**192**	*i*	P		**Pn**	**17 13 48.4**	**-1.8**
	baz=190								
LDUT				*i*	S		**Sn**	**17 14 01.5**	**-2.2**
	baz=190								
TWGBT	**Beinan**	**1.05**	**213**		P		**Pn**	**17 13 48.4**	**-1.8**
	baz=212								
TWGBT					S		**Sn**	**17 14 01.8**	**-2.1**
	baz=212								
TWG	**Pinlang**	**1.05**	**214**		P		**Pn**	**17 13 48.6**	**-1.7**
	baz=212								
TWG					S		**Sn**	**17 14 01.9**	**-2.1**
	baz=212								
TPUB	**Ta-pu**	**1.06**	**248**		P		**Pn**	**17 13 50.8**	**+0.3**
	baz=248								
TPUB					S		**Sn**	**17 14 04.8**	**+0.6**
	baz=248								
TWQ1	**Liyutan**	**1.06**	**307**	*i*	P		**Pn**	**17 13 50.9**	**+0.4**
	baz=309								
TWQ1					S		**Sb**	**17 14 05.2**	**+0.2**
	baz=309								
WDLH	**Douliu**	**1.07**	**269**	*i*	P		**Pn**	**17 13 50.8**	**+0.3**
	baz=270								
WDLH				*i*	S		**Sn**	**17 14 05.1**	**+0.8**
	baz=270								
CHN4	**Tsaushan**	**1.08**	**251**	*i*	P		**Pn**	**17 13 51.2**	**+0.6**
	baz=251								
CHN4					S		**Sn**	**17 14 05.3**	**+0.7**
	baz=251								
NWLT	**Wulai**	**1.08**	**350**	*i*	P		**Pn**	**17 13 51.0**	**+0.2**
	baz=346								
NWLT					S		**Sn**	**17 14 04.1**	**-0.8**
	baz=346								
WTP	**Ta-pu**	**1.10**	**246**	*i*	P		**Pn**	**17 13 51.2**	**+0.3**
	baz=245								
WTP				*i*	S		**Sb**	**17 14 06.3**	**+0.3**
	baz=245								
WCHH	**Zhanghua**	**1.11**	**290**		P		**Pn**	**17 13 51.6**	**+0.6**
	baz=291								
WCHH					S		**Sb**	**17 14 06.7**	**+0.4**
	baz=291								
NSY	**Sanyi**	**1.12**	**310**	*i*	P		**Pn**	**17 13 51.8**	**+0.7**
	baz=312								
NSY				*i*	S		**Sb**	**17 14 07.8**	**+1.3**
	baz=312								
NSTT	**Nanjuang**	**1.12**	**325**		P		**Pn**	**17 13 52.0**	**+0.7**
	baz=328								
NSTT				*i*	S		**Sn**	**17 14 05.8**	**0.0**
	baz=328								
LIOB	**Emei**	**1.13**	**326**	*i*	P		**Pn**	**17 13 52.0**	**+0.6**
	baz=329								
LIOB					S		**Sn**	**17 14 06.9**	**+1.0**
	baz=329								
CHN2	**Minshiung**	**1.14**	**262**		S		**Sb**	**17 14 07.8**	**+0.7**
	baz=262								
NTC	**Toucheng**	**1.15**	**6**		S		**Sn**	**17 14 07.2**	**+0.8**
	baz=15								
WDJ	**Dajia District**	**1.16**	**304**		P		**Pn**	**17 13 52.4**	**+0.5**
	baz=305								
WDJ					S		**Sn**	**17 14 07.6**	**+0.9**
	baz=305								
NMLH	**Miaoli**	**1.18**	**315**		P		**Pn**	**17 13 52.0**	**+0.1**
	baz=316								
CHY	**Chiayi**	**1.19**	**260**		P		**Pn**	**17 13 52.9**	**+0.7**
	baz=260								
CHY				*i*	S		**Sn**	**17 14 07.8**	**+0.5**
	baz=260								
CHN1	**Nanshi**	**1.20**	**245**	*i*	P		**Pn**	**17 13 53.1**	**+0.8**
	baz=245								
CHN1				*i*	S		**Sn**	**17 14 08.2**	**+0.7**
	baz=245								
TWK	**Hsinying**	**1.20**	**249**	*i*	P		**Pn**	**17 13 53.3**	**+1.0**
	baz=248								
TWK				*i*	S		**Sn**	**17 14 08.2**	**+0.7**
	baz=248								
SGST	**Jiashian**	**1.20**	**239**	*i*	P		**Pn**	**17 13 52.0**	**-0.3**
	baz=239								
SGST				*i*	S		**Sn**	**17 14 08.6**	**+1.0**
	baz=239								
SLGT	**Liugui**	**1.20**	**234**	*i*	P		**Pn**	**17 13 52.9**	**+0.6**
	baz=240								
SLGT				*i*	S		**Sn**	**17 14 08.4**	**+0.8**
	baz=240								
WTK	**Tuku**	**1.20**	**270**	*i*	P		**Pn**	**17 13 53.2**	**+0.9**
	baz=270								
WTK				*i*	S		**Sb**	**17 14 09.2**	**+0.2**
	baz=270								
SNST	**Tainan City**	**1.21**	**247**	*i*	P		**Pn**	**17 13 53.1**	**+0.7**
	baz=246								
SNST				*i*	S		**Sn**	**17 14 08.8**	**+1.1**
	baz=246								
WRL	**Guolierlin Hig**	**1.23**	**280**		P		**Pb**	**17 13 54.3**	**+0.1**
	baz=280								
WRL				*i*	S		**Sn**	**17 14 08.8**	**+0.5**
	baz=280								
NHDH	**Xindian Distri**	**1.27**	**353**		P		**Pn**	**17 13 53.6**	**+0.4**
	baz=356								
NHDH					S		**Sn**	**17 14 09.0**	**-0.2**
	baz=356								
TIPB	**Shuangxi**	**1.27**	**5**		P		**Pn**	**17 13 53.9**	**+0.6**
	baz=357								
TIPB					S		**Sb**	**17 14 10.8**	**-0.1**
	baz=357								
TWA	**Mucha**	**1.28**	**355**	*e*	S		**Sn**	**17 14 10.0**	**+0.4**
	baz=349								
TATO	**Taipei**	**1.28**	**351**		P		**Pn**	**17 13 53.6**	**+0.2**
	baz=354								
TATO					S		**Sn**	**17 14 09.8**	**+0.2**
	baz=354								
ECL	**Taimali**	**1.30**	**212**	*i*	P		**Pn**	**17 13 51.8**	**-1.8**
	baz=210								
ICHU	**Yijhu**	**1.35**	**256**		P		**Pn**	**17 13 54.2**	**-0.2**
	baz=256								
ICHU				*i*	S		**Sn**	**17 14 11.9**	**+0.7**
	baz=256								
JYNG	**Yonagunijimaku**	**1.36**	**56**		P		**Pn**	**17 13 54.6**	**+0.1**
JYNG					S		**Sn**	**17 14 11.8**	**+0.3**
WSF	**Szhu**	**1.36**	**268**		P		**Pn**	**17 13 54.8**	**+0.4**
	baz=268								
WSF					S		**Sn**	**17 14 12.2**	**+0.7**
	baz=268								
SSD	**Sandimen**	**1.37**	**226**	*i*	P		**Pn**	**17 13 55.0**	**+0.4**
	baz=225								
SSD					S		**Sb**	**17 14 14.1**	**+0.4**
	baz=225								
SCST	**Cishan**	**1.38**	**234**	*i*	P		**Pn**	**17 13 56.2**	**+1.5**
	baz=247								
SCST				*i*	S		**Sb**	**17 14 15.0**	**+1.1**
	baz=247								
TSMG	**Majia**	**1.39**	**225**	*i*	P		**Pn**	**17 13 55.5**	**+0.6**
	baz=224								
TSMG				*i*	S		**Sb**	**17 14 14.4**	**+0.1**
	baz=224								
CHN8	**Yiju**	**1.41**	**256**	*e*	P		**Pn**	**17 13 55.4**	**+0.2**
	baz=256								
CHN8					S		**Sn**	**17 14 14.0**	**+1.2**
	baz=256								
YOJ	**Yonaguni jima**	**1.42**	**57**	*e*	P		**Pn**	**17 13 55.9**	**+0.6**
	baz=56								
YOJ				*e*	S		**Sn**	**17 14 13.6**	**+0.7**
	baz=56								
YOJ	**Yonaguni jima**	**1.42**	**57**		P		**Pn**	**17 13 55.3**	**0.0**
YOJ					S		**Sn**	**17 14 12.7**	**-0.2**
YM04	**YM04**	**1.45**	**354**	*e*	P		**Pn**	**17 13 56.0**	**+0.1**
	baz=356								
YM05	**YM05**	**1.46**	**355**	*e*	P		**Pn**	**17 13 57.1**	**+1.1**
	baz=357								
MASBT	**Mashibuluo**	**1.47**	**222**		P		**Pn**	**17 13 55.9**	**0.0**
	baz=222								
MASBT					S		**Sn**	**17 14 15.0**	**+0.9**
	baz=222								
TWM1	**Shoushan**	**1.47**	**234**	*e*	P		**Pb**	**17 13 58.5**	**+0.3**
	baz=246								
TWM1					S		**Sb**	**17 14 19.4**	**+2.9**
	baz=246								
YM03	**YM03**	**1.48**	**354**	*e*	P		**Pn**	**17 13 56.8**	**+0.6**
	baz=356								
YM08	**YM08**	**1.48**	**356**	*e*	P		**Pn**	**17 13 56.5**	**+0.2**
	baz=358								
ANP	**Anpu**	**1.49**	**354**	*e*	P		**Pn**	**17 13 56.3**	**-0.1**
	baz=356								
EAST	**Anshuo**	**1.53**	**211**	*i*	P		**Pn**	**17 13 56.1**	**-0.8**
	baz=209								
SSPT	**Xinbi**	**1.60**	**221**	*e*	P		**Pn**	**17 13 59.5**	**+1.7**
	baz=220								
SCZT	**Fangliau**	**1.66**	**217**	*i*	P		**Pn**	**17 13 59.1**	**+0.5**
	baz=205								
SCZT					S		**Sn**	**17 14 20.8**	**+1.9**
	baz=205								
HATJ	**Hateruma jima**	**1.96**	**79**		P		**Pn**	**17 14 02.9**	**+0.2**
IRIF	**Iriomote-Funau**	**1.96**	**71**		P		**Pn**	**17 14 03.4**	**+0.7**
IRIF					S		**Sn**	**17 14 26.6**	**+0.3**
JKRS	**Kuro-shima**	**2.18**	**75**		P		**Pn**	**17 14 06.6**	**+0.9**
JKRS				*e*	S		**Sn**	**17 14 32.7**	**+1.0**
JIJ	**Ishigaki jima**	**2.33**	**73**		P		**Pn**	**17 14 07.8**	**0.0**
JIJ					S		**Sn**	**17 14 34.7**	**-0.7**
JISG	**Ishigakijimahi**	**2.54**	**69**		P		**Pn**	**17 14 10.7**	**0.0**
JISG					S		**Sn**	**17 14 39.5**	**-1.2**
JTJ	**Tarama**	**2.90**	**71**		P		**Pn**	**17 14 16.0**	**+0.4**
JTJ					S		**Sn**	**17 14 49.4**	**0.0**
JMJ2	**Miyako jima3**	**3.47**	**72**	*e*	S		**Sn**	**17 15 04.2**	**+0.6**

IDC 29 17:29:47.0±4.7,3°.59S×146°.27E,h0km,mb3.5/3, mb1 3.8/5,mb1mx3.5/35,mbtmp3.6/5,ML3.2/1,MS3.2/2, Ms1 3.2/2,ms1mx2.5/28,Error ellipse: s-maj=95.5km s-min=32.4km az=75.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.85**	**171**			Pn	Pn	17 31 15.7	+0.6
	0.7nm,0.3s,baz=356,slow=11,SNR=2.2								
WRA	**Warramunga Arr**	**19.99**	**215**			P	P	17 34 21.7	+0.4
	0.1nm,0.3s,baz=38,slow=12,SNR=13								
ASAR	**Alice Springs**	**23.26**	**210**			P	P	17 34 56.5	+0.1
	1.2nm,1.0s,baz=45,slow=8.2,SNR=9.3								
FITZ	**Fitzroy Crossi**	**24.82**	**233**			P	P	17 35 09.9	-1.3
	1.3nm,0.9s,baz=56,slow=11,SNR=1.8								
FITZ						LR	LR	17 47 09.2	
	comp=Z,39nm,18.1s,baz=48,slow=42								
CMAR	**Chiang Mai Arr**	**51.49**	**297**			P	P	17 38 55.2	+0.3
	0.7nm,1.0s,baz=116,slow=6.1,SNR=5.1								
YAK	**Yakutsk**	**66.66**	**352**			LR	LR	18 08 23.4	
	comp=Z,21nm,19.9s,baz=130,slow=35								

IDC ***29*** *17:34:44.3±1.3,55°.77N×35°.05W,h0km,mb3.5/6, mb1 3.7/6,mb1mx3.4/47,mbtmp3.5/6,MS3.2/2,Ms1 3.2/2, ms1mx2.6/38,Error ellipse: s-maj=48.7km s-min=23.6km az=21.0*

ISC 29 17:34:45.7±1.1,55°.8N±0°.3×35°.1W±0°.2,h10km,n9,σ0s83/7, mb3.8/6,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**11.28**	**31**			LR	LR	17 40 37.0	
	comp=Z,150nm,18.7s,baz=241,slow=31								
ESDC	**Sonseca Array**	**26.09**	**115**			LR	LR	17 47 57.4	
	comp=Z,37nm,20.2s,baz=320,slow=30								
YKA	**Yellowknife Ar**	**38.91**	**313**			P	**P**	**17 42 09.8**	**-1.1**
	0.2nm,0.7s,baz=62,slow=9.2,SNR=4.4								
BRTR	**Keskin Array B**	**46.89**	**80**			P	**P**	**17 43 16.4**	**+0.4**
	1.0nm,0.9s,baz=308,slow=4.7,SNR=4.4								
PDAR	**Pinedale Array**	**47.98**	**287**			P	**P**	**17 43 25.3**	**+0.7**
	0.6nm,0.8s,baz=55,slow=7.9,SNR=5.0								
ILAR	**Eielson Array**	**49.07**	**328**			P	**P**	**17 43 33.1**	**+0.7**
	0.4nm,0.8s,baz=36,slow=9.4,SNR=3.1								
TORD	**Torodi Ar. Bea**	**51.12**	**132**			P	**P**	**17 43 48.3**	**-0.2**
	1.1nm,1.0s,baz=353,slow=7.4,SNR=2.9								
MKAR	**Makanchi Array**	**65.11**	**42**			P	**P**	**17 45 26.1**	**-0.1**
	0.8nm,0.8s,baz=312,slow=6.0,SNR=6.8								
ASAR	**Alice Springs**	**146.93**	**19**			PKPbc	**PKPbc**	**17 54 27.5**	**-0.6**
	0.4nm,0.6s,baz=342,slow=2.7,SNR=8.9								

IDC ***29*** *17:35:11.0±6.9,23°.32S×179°.79W,h499km±81km,mb3.3/8, mb1 3.5/9,mb1mx3.2/29,mbtmp4.3/9,Error ellipse: s-maj=45.0km s-min=24.1km az=29.0*
NEIC ***29*** *17:35:13.7±1.7,23°.6S±0°.2×179°.80W±0°.08,h538km±22km, mb4.2/17,Error ellipse: s-maj=30.5km s-min=10.2km az=173.0*

ISC 29 17:35:13.8±0.8,23°.61S±0°.09×179°.8W±0°.1,h532km,n29, σ0s95/30,mb4.1/17,South of Fiji Islands

| Code | Station Name | Δ° | AZ

	comp=Z,8.6nm,1.1s						
STKA	**Stephens Creek**	**34.97**	**248**	P	**P**	**17 41 22.2**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=95,slow=11,SNR=9.8						
STKA	**Stephens Creek**	**34.97**	**248**	P	**P**	**17 41 22.1**	**+0.7**
BBOO	**Buckleboo**	**39.70**	**247**	P	**P**	**17 41 59.8**	**-0.3**
BBOO				IAmb	IAmb	17 42 08.9	
	comp=Z,6.9nm,1.2s						
AS31	**Alice Springs**	**42.23**	**260**	P	**P**	**17 42 20.0**	**-0.4**
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**17 42 20.4**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=98,slow=7.2,SNR=27						
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**17 42 19.9**	**-0.5**
WR0	**Warramunga Arr**	**42.39**	**266**	P	**P**	**17 42 20.9**	**-0.8**
WB2	**Warramunga Arr**	**42.56**	**266**	P	**P**	**17 42 22.4**	**-0.7**
WB2				IAmb	IAmb	17 42 23.0	
	comp=Z,3.4nm,0.6s						
WB0	**Warramunga Arr**	**42.57**	**266**	P	**P**	**17 42 22.4**	**-0.7**
WB0				IAmb	IAmb	17 42 23.0	
	comp=Z,4.1nm,0.6s						
WRAB	**Tennant Creek**	**42.57**	**266**	P	**P**	**17 42 21.7**	**-1.4**
WRAB				IAmb	IAmb	17 42 30.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**17 42 22.4**	**-0.7**
	comp=Z,2.8nm,0.4s,baz=101,slow=8.6,SNR=8						
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**17 42 22.1**	**-1.0**
FORT	**Forrest**	**46.55**	**249**	P	**P**	**17 42 53.2**	**-0.5**
MTN	**Manton Dam**	**47.58**	**274**	P	**P**	**17 43 00.8**	**-0.9**
MTN				IAmb	IAmb	17 43 05.0	
	comp=Z,7.3nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.00**	**265**	P	**P**	**17 43 26.8**	**0.0**
	comp=Z,1.8nm,0.7s,baz=85,slow=9.6,SNR=10						
SIJI	**Sorong**	**52.48**	**288**	P	**P**	**17 43 36.7**	**-0.9**
	comp=Z,3.5nm,0.6s,baz=90,slow=14,SNR=2.1						
VNDA	**Vanda**	**54.68**	**185**	P	**P**	**17 43 53.8**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=19,slow=6.9,SNR=1.8						
TXAR	**Lajitas Array**	**90.15**	**58**	P	**P**	**17 47 17.1**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=220,slow=6.8,SNR=3.9						

*SCB **29** 17:49:50.5±10.0, 21.˚40S×67.˚44W, h15km±166km, ML3.4/3, Error ellipse: s-maj=32.8km s-min=14.5km az=0.0*
*GUC **29** 17:49:50.0±0.5, 22.˚06S×67.˚83W, h217km±5km, ML4.1*
*IDC **29** 17:49:53.4±7.6, 21.˚78S×67.˚05W, h205km±57km, mb3.6/2, mb1 3.6/3, mb1mx3.2/19, mbtmp4.0/3, Error ellipse: s-maj=78.7km s-min=45.2km az=20.0*

ISC 29 17:49:50.5±1.3**, 22.˚09S**±0.˚06×**67.˚6W**±0.˚2**, h200**km±12km**, n29**, σ0**91**/39**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
LVC	**Limon Verde**	**1.33**	**247**	P		**Pn**	**17 50 22.9**	**-0.3**
PB09	**IPOC Station P**	**1.57**	**280**	*e*P		**Pn**	**17 50 25.2**	**+0.3**
PB09				*i* S		**S**	**17 50 52.0**	**+0.7**
PB09	**IPOC Station P**	**1.57**	**280**	P		**Pn**	**17 50 25.3**	**+0.3**
PB09				S		**S**	**17 50 48.7**	**-2.5**
PB09				IAML			17 50 54.1	
	120nm,0.4s							
YJA	**Yavi**	**1.92**	**93**	P		Pn	17 50 24.6	-4.1
PB06	**IPOC Station P**	**1.94**	**251**	*i* S		**S**	**17 50 58.3**	**+0.7**
PB06	**IPOC Station P**	**1.94**	**251**	P		**Pn**	**17 50 28.5**	**0.0**
MOCB	**Mochara**	**1.99**	**66**	P		Pn	17 50 25.7	-3.7
MOCB				S		S	17 50 49.7	-9.3
MOCB				IAML			17 50 53.0	
	855nm,0.4s							
PB03	**IPOC Station P**	**2.01**	**271**	*e*P		**Pn**	**17 50 29.2**	**-0.1**
PB03				*i* S		**S**	**17 50 58.9**	**+0.1**
PB03				IAML			17 50 60.0	
	comp=E,2μm,0.2s							
PB01	**IPOC Station P**	**2.06**	**300**	*e*P		**Pn**	**17 50 29.6**	**-0.1**
PB01				*i* S		**S**	**17 50 59.8**	**+0.3**
PB01				IAML			17 51 01.6	
	comp=E,873nm,0.1s							
PB01	**IPOC Station P**	**2.06**	**300**	P		**Pn**	**17 50 29.6**	**-0.1**
PB01				S		**S**	**17 50 58.4**	**-1.1**
PB01				IAML			17 51 01.2	
	comp=E,374nm,0.3s							
PB15	**IPOC Station P**	**2.07**	**237**	*i* S		**S**	**17 51 00.9**	**+0.9**
PB07	**IPOC Station P**	**2.17**	**279**	*e*P		**Pn**	**17 50 30.9**	**0.0**
PB07				*i* S		**S**	**17 51 01.6**	**-0.1**
PB04	**IPOC Station P**	**2.39**	**264**	*e*P		**Pn**	**17 50 33.4**	**0.0**
PB04				*i* S		**S**	**17 51 06.2**	**+0.2**
PB04				IAML			17 51 08.7	
	comp=N,927nm,0.1s							
PB04	**IPOC Station P**	**2.39**	**264**	P		**Pn**	**17 50 33.5**	**+0.2**
PB08	**IPOC Station P**	**2.43**	**323**	*e*P		**Pn**	**17 50 34.6**	**+0.6**
PB08				*i* S		**S**	**17 51 08.6**	**+1.4**
PB08				IAML			17 51 11.4	
	comp=E,185nm,0.6s							
PB08	**IPOC Station P**	**2.43**	**323**	P		**Pn**	**17 50 34.8**	**+0.8**
PB05	**IPOC Station P**	**2.54**	**252**	*e*P		**Pn**	**17 50 34.9**	**-0.1**
PB05				*i* S		**S**	**17 51 08.5**	**-0.4**
TA01	**Diego Aracena**	**2.86**	**302**	*e*P		**Pn**	**17 50 37.8**	**-0.6**
TA01				*i* S		**S**	**17 51 14.6**	**-0.6**
MNMC	**Minye Minye**	**3.49**	**327**	*e*P		**Pn**	**17 50 46.3**	**0.0**
MNMC				*i* S		**S**	**17 51 29.1**	**-0.3**
MNMC	**Minye Minye**	**3.49**	**327**	P		**Pn**	**17 50 46.3**	**0.0**
BBOE	**La Paz, Chanca**	**5.26**	**356**	P		**Pn**	**17 51 09.8**	**+1.0**
BBOD	**La Paz, Gloria**	**5.51**	**350**	P		**Pn**	**17 51 12.9**	**+0.9**
LPAZ	**La Paz**	**5.79**	**355**	P		**Pn**	**17 51 15.6**	**-0.1**
	comp=E,2.2nm,0.3s,baz=149,slow=5.9,SNR=62							
LPAZ				S		**S**	**17 52 21.2**	**-1.4**
	comp=E,0.1nm,0.3s,baz=317,slow=18,SNR=4.5							
LPAZ	**La Paz**	**5.79**	**355**	P		**Pn**	**17 51 16.0**	**+0.3**
BBOB	**La Paz, Bander**	**5.94**	**355**	P		**Pn**	**17 51 17.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.40**	**70**	P		**P**	**18 01 17.4**	**-0.8**
	comp=E,2.5nm,0.3s,baz=259,slow=5.2,SNR=15							
YKA	**Yellowknife Ar**	**92.15**	**340**	P		**P**	**18 02 38.1**	**+1.5**
	comp=E,0.2nm,0.7s,baz=128,slow=5.6,SNR=5.3							
WRA	**Warramunga Arr**	**133.05**	**209**	PKP		**PKiKP**	**18 08 45.5**	**+1.4**
	comp=E,0.5nm,1.1s,baz=152,slow=1.8,SNR=2.0							
MKAR	**Makanchi Array**	**145.37**	**37**	PKP		**PKiKP**	**18 09 05.9**	**-2.5**
	comp=E,0.3nm,0.5s,baz=323,slow=2.2,SNR=4.8							

*ISK **29** 17:50:25.4, 35.˚54N×29.˚42E, h15km, ML2.5/13*
*NIC **29** 17:50:27.3±0.0, 35.˚57N×29.˚48E, h14km±1km, MI3.0/3*
*DDA **29** 17:50:29.0, 35.˚71N×29.˚43E, h46km±44km, ML2.2*

ISC 29 17:50:26.0±1.7**, 35.˚66N**±0.˚05×**29.˚45E**±0.˚04**, h5**km±13km**, n29**, σ0**84**/36**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
KSL	**Kastellorizon**	**0.51**	**12**	P		**Pn**	**17 50 38.6**	**-1.3**
KSL				S		**Sb**	**17 50 47.7**	**+2.7**
AKAS	**Kas**	**0.59**	**12**	PG		**Pn**	**17 50 39.8**	**-1.4**
AKAS				SG		**Sn**	**17 50 50.1**	**-1.1**
AKAS	**Kas**	**0.59**	**12**	*i* P		**Pn**	**17 50 39.8**	**-1.4**
AKAS				*i* S		**Sn**	**17 50 50.2**	**-1.1**
AKAS				IAML			17 50 52.0	
	comp=E,145nm,0.4s							
DEMR	**Demre-Antalya**	**0.69**	**32**	PG		**Pb**	**17 50 40.9**	**+0.4**
AKUM	**Antalya-Kumluc**	**0.98**	**47**	*i* P		**Pn**	**17 50 46.1**	**-0.4**
AKUM				IAML			17 51 00.0	
	comp=N,46nm,0.2s							
AKUM				IAML			17 51 01.0	
	comp=E,83nm,0.3s							
FETY	**Fethiye**	**1.02**	**343**	*i* P		**Pn**	**17 50 48.0**	**+1.0**
FETY				IAML			17 50 58.0	
	comp=E,38nm,0.2s							
FETY				*i* S		**Sg**	**17 50 58.3**	**-0.6**
ELL	**Elmali**	**1.15**	**19**	PN		**Pn**	**17 50 49.4**	**+0.5**
ELL	**Elmali**	**1.15**	**19**	P		**Pn**	**17 50 49.7**	**+0.8**
ARG	**Arkhangelos**	**1.21**	**298**	PN		**Pg**	**17 50 49.3**	**+0.1**
DALY	**Dalyan (Mula)**	**1.33**	**331**	PN		**Pb**	**17 50 51.4**	**+0.1**
DALY	**Dalyan (Mula)**	**1.33**	**331**	*i* P		**Pn**	**17 50 50.8**	**-0.3**
TURN	**Turunc**	**1.48**	**319**	PN		**Pn**	**17 50 53.6**	**+0.3**
KORT	**Korkueli**	**1.53**	**28**	PN		**Pb**	**17 50 54.4**	**-0.5**
KORT	**Korkueli**	**1.53**	**28**	*i* P		**Pb**	**17 50 54.2**	**-0.6**
ANTB	**Antalya**	**1.58**	**38**	PN		**Pb**	**17 50 55.2**	**-0.4**
GOLH	**Golhisar**	**1.58**	**3**	*i* P		**Pb**	**17 50 55.5**	**-0.2**
YER	**Yerkesik**	**1.75**	**328**	PN		**Pn**	**17 50 57.3**	**+0.3**
YER				SN		**Sn**	**17 51 19.0**	**-0.7**
DATC	**Datca-Mugla**	**1.82**	**308**	PN		**Pn**	**17 50 57.8**	**-0.1**
KARP	**Karpathos**	**1.87**	**267**	PN		**Pn**	**17 50 57.5**	**-1.1**
KARP	**Karpathos**	**1.87**	**267**	P		**Pn**	**17 50 59.0**	**+0.4**
NIS1	**Nisyros Isl.**	**2.07**	**298**	PN		**Pn**	**17 51 00.9**	**-0.4**
AKMS	**Akamas**	**2.44**	**104**	P		**Pn**	**17 51 06.3**	**-0.3**
AKMS				S		**Sn**	**17 51 36.4**	**-0.4**
AKMS				AML		AML	17 51 38.4	
	comp=E,0.2nm,0.5s							
AKMS				AML		AML	17 51 38.4	
	comp=E,0.2nm,0.5s							
AKMS				AML		AML	17 51 42.4	
	comp=E,0.2nm,0.9s							
AYDB	**Zeytinkoy-Aydi**	**2.61**	**332**	PN		**Pn**	**17 51 09.5**	**+0.6**
ALFC	**Alefka**	**2.62**	**100**	P		**Pn**	**17 51 08.7**	**-0.3**
ALFC				AML		AML	17 51 40.7	
	comp=E,0.2nm,0.3s							
ALFC				AML		AML	17 51 40.7	
	comp=E,0.2nm,0.3s							
ALFC				S		**Sn**	**17 51 41.0**	**-0.2**
ALFC				AML		AML	17 51 42.1	
	comp=E,0.2nm,0.3s							
ALFC				AML		AML	17 51 42.1	
	comp=E,0.2nm,0.3s							
GCAM	**G?zelcaml?**	**2.71**	**320**	PN		**Pn**	**17 51 10.2**	**+0.1**
SZAC	**Souni**	**2.95**	**107**	P		**Pn**	**17 51 14.0**	**+0.4**
SZAC				AML		AML	17 51 47.9	
	comp=E,0.1nm,0.4s							
SZAC				AML		AML	17 51 47.9	
	comp=E,0.2nm,0.4s							
ASGA	**Asgata**	**3.23**	**104**	P		**Pn**	**17 51 17.2**	**-0.1**
CSS	**Mathiatis**	**3.25**	**101**	P		**Pn**	**17 51 17.4**	**-0.2**
MVOU	**Mavrovouni**	**3.48**	**99**	P		**Pn**	**17 51 21.4**	**+0.6**

*SJA **29** 17:53:22.4±0.5, 21.˚09S×68.˚75W, h130km±3km, ML4.3, MW4.2*
*NEIC **29** 17:53:22.6±3.4, 21.˚11S±0.˚05×68.˚9W±0.˚1, h134km±9km, Error ellipse: s-maj=15.1km s-min=7.4km az=81.0*
*GUC **29** 17:53:22.5±0.8, 21.˚08S×68.˚75W, h127km±5km, ML4.4*
*VAO **29** 17:53:23.6±0.5, 21.˚05S×68.˚55W, h122km±6km, mb4.5*
*IDC **29** 17:53:24.1±1.0, 21.˚05S×68.˚36W, h119km±7km, mb4.0/6, mb1 4.1/9, mb1mx3.9/19, mbtmp4.4/9, Error ellipse: s-maj=24.0km s-min=15.0km az=89.0*

ISC 29 17:53:22.5±0.5**, 21.˚11S**±0.˚03×**68.˚70W**±0.˚05**, h123**km±5km**, n117**, σ1§**48**/137**, mb4.4**/11**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
PB01	**IPOC Station P**	**0.74**	**275**	*e*P		**Pn**	**17 53 43.0**	**+0.4**
PB01				*i* S		**Sn**	**17 53 58.5**	**+0.7**
PB01				IAML			17 54 01.6	
	comp=E,10μm,0.2s							
PB01	**IPOC Station P**	**0.74**	**275**	Pn		**Pn**	**17 53 42.7**	**+0.2**
PB01	**IPOC Station P**	**0.74**	**275**	*e*P		**Pn**	**17 53 43.2**	**+0.7**
PB01				*e*S		**Sn**	**17 53 58.9**	**+1.2**
PB01				IAML			17 54 00.2	
	comp=Z,6μm,0.2s							
PB09	**IPOC Station P**	**0.85**	**216**	*e*P		**Pn**	**17 53 44.7**	**+1.0**
PB09				*i* S		**Sn**	**17 54 01.3**	**+1.6**
PB09				IAML			17 54 02.7	
	comp=N,8μm,0.8s							
PB09	**IPOC Station P**	**0.85**	**216**	Pn		**Pn**	**17 53 44.7**	**+1.0**
PB09	**IPOC Station P**	**0.85**	**216**	*e*P		**Pn**	**17 53 44.7**	**+1.0**
PB09				*e*S		**Sn**	**17 54 01.3**	**+1.6**
PB09				IAML			17 54 02.2	
	comp=Z,5μm,1.0s							
PB08	**IPOC Station P**	**1.05**	**336**	*e*P		**Pn**	**17 53 46.7**	**+0.9**
PB08				*i* S		**Sn**	**17 54 04.2**	**+0.9**
PB08	**IPOC Station P**	**1.05**	**336**	Pn		**Pn**	**17 53 46.6**	**+0.9**
PB08	**IPOC Station P**	**1.05**	**336**	*e*P		**Pn**	**17 53 46.7**	**+0.9**
PB08				*e*S		**Sn**	**17 54 04.5**	**+1.2**
PB08				IAML			17 54 08.2	
	comp=Z,3μm,0.4s							
PB07	**IPOC Station P**	**1.27**	**241**	*e*P		**Pn**	**17 53 48.5**	**+0.9**
PB07				*i* S		**Sn**	**17 54 08.0**	**+1.2**
PB07				IAML			17 54 12.8	
	comp=E,4μm,0.5s							
PB07	**IPOC Station P**	**1.27**	**241**	Pn		**Pn**	**17 53 48.1**	**+0.4**
PB07	**IPOC Station P**	**1.27**	**241**	*e*P		**Pn**	**17 53 48.6**	**+0.9**
PB07				*e*S		**Sn**	**17 54 08.2**	**+1.3**
PB07				IAML			17 54 10.9	
	comp=Z,3μm,0.2s							
PB03	**IPOC Station P**	**1.36**	**226**	*e*P		**Pn**	**17 53 49.5**	**+0.9**
PB03				*i* S		**Sn**	**17 54 09.3**	**+0.7**
PB03				IAML			17 54 14.0	
	comp=E,4μm,0.5s							
PB03	**IPOC Station P**	**1.36**	**226**	*e*P		**Pn**	**17 53 49.6**	**+0.9**
PB03				*e*S		**Sn**	**17 54 09.7**	**+1.1**
PB03				IAML			17 54 12.1	
	comp=Z,4μm,0.4s							
TA01	**Diego Aracena**	**1.48**	**291**	*e*P		**Pn**	**17 53 50.5**	**+0.6**
TA01				*i* S		**Sn**	**17 54 11.4**	**+0.6**
TA01	**Diego Aracena**	**1.48**	**291**	Pn		**Pn**	**17 53 50.4**	**+0.5**
LVC	**Limon Verde**	**1.51**	**187**	Pn		**Pn**	**17 53 51.6**	**+1.0**
LVC	**Limon Verde**	**1.51**	**187**	*e*P		**Pn**	**17 53 51.9**	**+1.3**
LVC	**Limon Verde**	**1.51**	**187**	*e*P		**Pn**	**17 53 51.7**	**+1.1**
LVC				*e*S		**Sn**	**17 54 12.6**	**+0.5**
PB06	**IPOC Station P**	**1.79**	**207**	*e*P		**Pn**	**17 53 54.6**	**+1.0**
PB06				IAML			17 54 20.3	
	comp=E,6μm,0.4s							
PB06	**IPOC Station P**	**1.79**	**207**			**Pn**	**17 53 54.2**	**+0.6**
PB06	**IPOC Station P**	**1.79**	**207**	*e*P		**Pn**	**17 53 54.7**	**+1.0**
PB06				*e*S		**Sn**	**17 54 18.6**	**+1.1**
PB06				IAML			17 54 21.2	
	comp=Z,3μm,0.3s							
PB04	**IPOC Station P**	**1.82**	**228**	*e*P		**Pn**	**17 53 54.7**	**+0.6**
PB04				*i* S		**Sn**	**17 54 19.5**	**+1.3**
PB04				IAML			17 54 27.3	
	comp=N,3μm,0.7s							
PB04	**IPOC Station P**	**1.82**	**228**			**Pn**	**17 53 54.8**	**+0.8**
PB04	**IPOC Station P**	**1.82**	**228**	*e*P		**Pn**	**17 53 55.1**	**+1.0**
PB04				*e*S		**Sn**	**17 54 19.4**	**+1.3**
PB04				IAML			17 54 26.6	
	comp=Z,3μm,0.2s							
PSGC	**Pisagua**	**2.01**	**318**	*e*P		**Pn**	**17 53 56.5**	**+0.2**
PSGC				*i* S		**Sn**	**17 54 22.3**	**+0.1**
PSGC				IAML			17 54 24.4	
	comp=E,5μm,0.5s							
PSGCX	**Pisagua**	**2.01**	**318**	Pn		**Pn**	**17 53 56.1**	**-0.3**
PSGCX	**Pisagua**	**2.01**	**318**	*e*P		**Pn**	**17 53 54.3**	**-2.0**
PSGCX				*e*P			17 53 55.9	
MNMC	**Minye Minye**	**2.14**	**337**	*e*P		**Pn**	**17 53 59.2**	**+1.0**
MNMC				*i* S		**Sn**	**17 54 26.8**	**+1.4**
MNMC				IAML			17 54 34.3	
	comp=E,5μm,0.6s							
MNMC	**Minye Minye**	**2.14**	**337**	Pn		**Pn**	**17 53 59.0**	**+0.9**
MNMCX	**Minye Minye**	**2.14**	**337**	*e*P		**Pn**	**17 53 59.2**	**+1.0**
PB15	**IPOC Station P**	**2.21**	**199**	Pn		**Pn**	**17 54 00.3**	**+1.4**
PB15	**IPOC Station P**	**2.21**	**199**	*e*P		**Pn**	**17 54 00.3**	**+1.4**
PB15				*e*S		**Sn**	**17 54 28.8**	**+1.9**
PB05	**IPOC Station P**	**2.23**	**218**	*e*P		**Pn**	**17 54 00.2**	**+1.1**
PB05				*e*S		**Sn**	**17 54 27.5**	**+0.4**
PB05				IAML			17 54 34.9	
	comp=Z,940nm,0.5s							
PB16	**IPOC Station P**	**2.86**	**344**			**Pn**	**17 54 08.9**	**+1.3**
AP01	**Chacalluta**	**3.13**	**330**			**Pn**	**17 54 10.4**	**-0.2**
YJA	**Yavi**	**3.15**	**110**	*e*P		**Pn**	**17 54 13.6**	**+2.4**
YJA				*e*S		**Sn**	**17 54 51.7**	**+2.9**
PB14	**IPOC Station P**	**3.84**	**204**	Pn		**Pn**	**17 54 21.0**	**+0.8**
PB14	**IPOC Station P**	**3.84**	**204**	*e*P		**Pn**	**17 54 21.4**	**+1.2**
PB14				*e*S		**Sn**	**17 55 05.2**	**+0.2**
PB14				IAML			17 55 18.1	
	comp=Z,527nm,0.8s							
GO02	**Mina Guanaco**	**4.12**	**191**	Pn		**Pn**	**17 54 24.0**	**0.0**
SLA	**San Lorenzo**	**4.65**	**141**	*e*P		**Pn**	**17 54 33.1**	**+2.1**
LPAZ	**La Paz**	**4.82**	**7**	P		**Pn**	**17 54 35.5**	**+1.8**
	comp=Z,24nm,0.3s,baz=169,slow=7.1,SNR=228							
LPAZ				S		**Sn**	**17 55 28.8**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=209,slow=17,SNR=2.1							
AC01	**Pan de Azucar**	**5.31**	**199**	Pn		**Pn**	**17 54 38.4**	**-1.3**
FSA	**Cafayete**	**5.57**	**154**	*e*P		**Pn**	**17 54 44.7**	**+1.4**
AC02	**Maricunga**	**5.72**	**184**	Pn		**Pn**	**17 54 45.3**	**-0.3**
AHML	**Horco Molle**	**6.44**	**152**	*e*P		**Pn**	**17 54 55.9**	**+1.0**
GO03	**Copiap**	**6.61**	**192**			**Pn**	**17 54 55.1**	**-2.1**
GO03	**Copiap**	**6.61**	**192**	*e*P		**Pn**	**17 54 55.2**	**-2.0**
GO03				*e*S		**Sn**	**17 56 08.3**	**-2.9**
AC04	**Llanos de Chal**	**7.39**	**197**	Pn		**Pn**	**17 55 03.9**	**-3.7**
LCO	**Las Campanas**	**8.08**	**193**	Pn		**Pn**	**17 55 13.7**	**-3.6**
GO04	**Tololo Observa**	**9.22**	**191**	Pn		**Pn**	**17 55 28.8**	**-3.9**
CO03	**El Pedregal**	**9.86**	**190**			**Pn**	**17 55 37.2**	**-3.9**
ETMB	**Extrema**	**11.48**	**12**	*e*P		**Pn**	**17 56 04.1**	**+1.4**
VILB	**Vilhena**	**11.48**	**46**	*e*P		**Pn**	**17 56 01.1**	**-1.7**
CPUP	**Villa Florida**	**11.64**	**119**	P		**Pn**	**17 56 02.7**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=310,slow=15,SNR=6.3							
CPUP	**Villa Florida**	**11.64**	**119**	Pn		**Pn**	**17 56 02.2**	**-2.6**
VA03	**San Esteban**	**11.73**	**188**			**Pn**	**17 56 01.9**	**-4.1**
AQDB	**Aquidauana**	**12.18**	**89**	*e*P		**Pn**	**17 56 10.2**	**-1.7**
MT02	**Curacav**	**12.30**	**190**			**Pn**	**17 56 13.4**	**0.0**
SAML	**Samuel**	**13.21**	**25**			**Pn**	**17 56 22.3**	**-3.0**
BO02	**Sierra Bellavi**	**13.76**	**187**	P		**Pn**	**17 56 33.7**	**+1.3**
BI02	**San Fabin de**	**15.66**	**188**	P		**Pn**	**17 56 56.8**	**+0.4**
BI02				IAmb		IAmb	17 56 58.5	
	comp=Z,25nm,0.8s							
CLDB	**Colider**	**16.03**	**53**	*e*P		**Pn**	**17 57 02.2**	**+0.2**
ITAB	**Concordia**	**16.30**	**115**	*e*P		**Pn**	**17 57 04.8**	**+0.6**
CPSB	**Cacapava Do Su**	**16.56**	**127**	*e*P		**Pn**	**17 57 06.9**	**-0.5**
ARAG	**Araguaiana, MT**	**16.90**	**74**	*e*P		**P**	**17 57 11.5**	**-0.2**
PLTB	**Pedras Altas**	**17.17**	**131**	*e*P		**P**	**17 57 13.7**	**-0.9**
ITRB	**Iturama**	**17.25**	**89**	*e*P		**P**	**17 57 16.1**	**+0.5**
FRTB	**Fartura**	**17.86**	**101**	*e*P		**P**	**17 57 22.7**	**+0.5**
BB19B	**Bebedouro**	**18.83**	**94**	*e*P		**P**	**17 57 32.9**	**+0.1**
SNDB	**Serra Nova Dou**	**18.98**	**64**	*e*P		**P**	**17 57 34.1**	**-0.3**
NPGB	**Novo Progresso**	**19.03**	**45**	*e*P		**P**	**17 57 33.8**	**-1.2**
IPMB	**Ipameri, GO**	**19.56**	**84**	*e*P		**P**	**17 57 40.3**	**-0.5**
PLCA	**Paso Flores**	**19.63**	**184**	P		**Pn**	**17 57 43.6**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=357,slow=12,SNR=27							
PLCA	**Paso Flores**	**19.63**	**184**	P		**Pn**	**17 57 43.5**	**-0.5**
PLCA				IAmb		IAmb	17 57 48.4	
	comp=Z,18nm,0.9s							
PLCA	**Paso Flores**	**19.63**	**184**	*e*P		**Pn**	**17 57 44.1**	**+0.2**
VAO	**Valinhos**	**20.23**	**99**	*e*P		**P**	**17 57 47.5**	**-0.6**
BDFB	**Brasilia**	**20.36**	**78**	P		**P**	**17 57 48.9**	**-0.7**
	comp=Z,8.3nm,0.5s,baz=254,slow=11,SNR=24							
BDFB	**Brasilia**	**20.36**	**78**	P		**P**	**17 57 49.1**	**-0.4**
ITTB	**Itaituba**	**20.87**	**39**	*e*P		**P**	**17 57 53.7**	**-1.2**
PEXB	**Peixe**	**21.48**	**69**	*e*P		**P**	**17 58 00.4**	**-1.1**
PTGA	**Pitinga**	**21.97**	**24**	P		**P**	**17 58 04.8**	**-1.8**
	comp=Z,6.2nm,0.3s,baz=277,slow=23,SNR=3.8							
PTGA	**Pitinga**	**21.97**	**24**	P		**P**	**17 58 05.3**	**-1.3**
PTGA	**Pitinga**	**21.97**	**24**	*e*P		**P**	**17 58 05.6**	**-1.0**
PRPB	**Parauapebas**	**23.56**	**54**	*e*P		**P**	**17 58 21.1**	**-0.9**
SMTB	**Santa Maria do**	**23.71**	**62**	*e*P		**P**	**17 58 23.4**	**+0.1**
MALB	**Monte Alegre**	**23.75**	**38**	*e*P		**P**	**17 58 23.0**	**-0.7**
JANB	**Januaria**	**23.94**	**80**	*e*P		**P**	**17 58 24.7**	**-0.7**
SDBA	**SAO DESIDERIO**	**24.35**	**73**	*e*P		**P**	**17 58 29.0**	**-0.2**
MCPB	**Macapa, AP**	**26.26**	**40**	*e*P		**P**	**17 58 46.8**	**+0.5**
NBIT	**Itapeh - BA**	**28.47**	**82**	*e*P		**P**	**17 59 06.6**	**+0.4**
NBLA	**Lagarto - SE**	**31.30**	**76**	*e*P		**P**	**17 59 31.0**	**-0.2**
RCBR	**Riachuelo**	**35.22**	**69**	P		**P**	**18 00 05.1**	**-0.2**
RCBR				IAmb		IAmb	18 00 07.5	
	comp=Z,8.2nm,0.9s							
OBIP	**Obispado Ponce**	**38.96**	**3**	P		**P**	**18 00 35.3**	**-1.4**
PDPR	**Patillas Dam,**	**38.97**	**4**	P		**P**	**18 00 34.3**	**-2.4**
PDPR				IAmb		IAmb	18 00 36.7	
	comp=Z,9.3nm,0.8s							
AOPR	**Arecibo Observ**	**39.26**	**3**	P		**P**	**18 00 35.2**	**-3.9**
VNA3	**Neumayer Olymp**	**60.38**	**161**	P		**P**	**18 03 20.8**	**+2.6**
TXAR	**Lajitas Array**	**60.42**	**325**	pP		pP	18 03 50.4	+0.4
	comp=Z,0.2nm,0.5s,baz=144,slow=7.7,SNR=3.0							
VNA1	**Neumayer--Stat**	**60.59**	**161**	P		**P**	**18 03 22.4**	**+2.7**
VNA2	**Neumayer--Watz**	**60.96**	**161**	P		**P**	**18 03 23.7**	**+1.6**
SNAA	**Sanae**	**62.59**	**161**	P		**P**	**18 03 35.5**	**+2.4**
**DBI

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=327						
EDH	Donghe baz=336	1.16	342	iP	Pn	18 25 08.8	+0.7
EDH	baz=336			iS	Sn	18 25 26.8	-0.2
SSPT	Xinbi baz=304	1.20	301	iP	Pn	18 25 09.9	+1.4
SSPT	baz=304			S	Sn	18 25 27.0	-0.7
MASBT	Mashibuluo baz=305	1.22	307	P	Pn	18 25 09.6	+0.8
MASBT	baz=305			S	Sn	18 25 26.9	-1.2
CHKT	Chengkung baz=349	1.26	347	P	Pn	18 25 09.8	+0.6
CHKT	baz=349			iS	Sn	18 25 29.1	+0.3
TSMG	Majia baz=303	1.27	311	iP	Pn	18 25 10.0	+0.7
TSMG	baz=303			S	Sn	18 25 27.7	-1.4
WLCH	Liuqiu baz=289	1.30	292	iP	Pn	18 25 12.0	+2.5
WLCH	baz=289			S	Sn	18 25 31.1	+1.6
SSD	Sandimen baz=303	1.31	312	iP	Pn	18 25 10.5	+0.8
SSD	baz=303			S	Sn	18 25 28.2	-1.5
TWP	Hsiaoliuchiu baz=289	1.31	292	iP	Pn	18 25 12.0	+2.3
TWP	baz=289			S	Sn	18 25 31.3	+1.6
TSPT	Pingtung City baz=310	1.36	306	P	Pn	18 25 11.9	+1.7
TSPT	baz=310			S	Sn	18 25 29.6	-1.1
FULB	Fuli baz=340	1.37	345	iP	Pn	18 25 11.3	+0.9
FULB	baz=340			iS	Sn	18 25 31.2	+0.2
SGLT	Jiouru baz=306	1.40	308	P	Pn	18 25 12.8	+2.2
SGLT	baz=306			S	Sn	18 25 31.2	-0.1
ELDTW	Lidau baz=334	1.45	335	iP	Pn	18 25 11.6	+0.2
ELDTW	baz=334			S	Sn	18 25 30.4	-2.3
KAU	Kaohsiung baz=297	1.45	299	S	Sn	18 25 34.1	+1.7
SLGT	Liugui baz=309	1.48	320	iP	Pn	18 25 12.6	+1.1
SLGT	baz=309			S	Sn	18 25 32.4	-0.5
SCST	Cishan baz=311	1.50	313	P	Pn	18 25 12.9	+1.2
SCST	baz=311			S	Sn	18 25 33.5	+0.3
TWM1	Shoushan baz=315	1.51	309	iP	Pn	18 25 13.5	+1.6
TWM1	baz=315			S	Sn	18 25 34.5	+0.9
EYUL	Yuli baz=338	1.51	347	iP	Pn	18 25 12.8	+0.9
EYUL	baz=338			S	Sn	18 25 33.7	+0.1
TWF1	Yuli baz=338	1.52	346	iP	Pn	18 25 12.4	+0.4
TWF1	baz=338			iS	Sn	18 25 33.6	-0.2
SNJT	Kaohsiung City baz=304	1.53	305	iP	Pn	18 25 13.6	+1.5
SNJT	baz=304			S	Sn	18 25 34.8	+0.9
STYH	Taoyuan baz=318	1.55	327	iP	Pn	18 25 13.3	+1.1
STYH	baz=318			S	Sn	18 25 33.8	-0.5
STYT	Tauyuan baz=318	1.55	327	iP	Pn	18 25 13.2	+0.9
STYT	baz=318			S	Sn	18 25 33.8	-0.7
YULB	Yu-li baz=339	1.56	347	P	Pn	18 25 12.7	+0.3
YULB	baz=339			S	Sn	18 25 32.8	-1.8
SGST	Jiashian baz=311	1.58	320	⇓iP	Pn	18 25 12.7	+0.1
SGST	baz=311			S	Sn	18 25 33.9	-1.1
HGSD	Ruisui baz=353	1.64	352	P	Pn	18 25 13.7	+0.4
HGSD	baz=353			S	Sn	18 25 38.1	+2.0
EHY	Hungye baz=341	1.67	348	iP	Pn	18 25 14.0	+0.4
EHY	baz=341			S	Sn	18 25 35.1	-1.7
WTP	Ta-pu baz=316	1.69	324	⇓iP	Pn	18 25 14.8	+0.8
WTP	baz=316			S	Sn	18 25 36.9	-0.4
CHN1	Nanshi baz=313	1.69	321	iP	Pn	18 25 14.8	+0.8
CHN1	baz=313			S	Sn	18 25 36.7	-0.6
CHN3	Shinhua baz=313	1.71	315	iP	Pn	18 25 16.0	+1.8
CHN3	baz=313			S	Sn	18 25 38.2	+0.6
TPUB	Ta-pu baz=317	1.73	326	⇓P	Pn	18 25 15.2	+0.8
TPUB	baz=317			S	Sn	18 25 37.2	-0.9
SNST	Tainan City baz=320	1.74	321	iP	Pn	18 25 15.3	+0.8
SNST	baz=320			iS	Sn	18 25 38.0	-0.2
YUS	Yu-Shan baz=337	1.75	337	iP	Pn	18 25 16.3	+1.2
TWK	Hsinying baz=314	1.78	322	iP	Pn	18 25 15.6	+0.7
TWK	baz=314			iS	Sn	18 25 38.5	-0.6
TAI1	Yung-k'ang baz=310	1.78	311	S	Sn	18 25 39.3	+0.2
CHN4	Tsaushan baz=318	1.79	326	⇓iP	Pn	18 25 15.8	+0.8
CHN4	baz=318			S	Sn	18 25 38.4	-0.9
EGFH	Guangfu baz=345	1.81	353	P	Pn	18 25 15.7	+0.4
EGFH	baz=345			S	Sn	18 25 39.9	+0.1
ALS	Alishan baz=324	1.83	334	P	Pn	18 25 16.6	+0.8
ALS	baz=324			S	Sn	18 25 40.6	0.0
SCLT	Jiali baz=312	1.90	314	iP	Pn	18 25 17.4	+1.1
SCLT	baz=312			iS	Sn	18 25 41.9	+0.5
VWDT	VWDT baz=349	1.94	345	P	Pn	18 25 18.7	+1.8
VWDT	baz=349			S	Sn	18 25 40.9	-1.6
ESL	Shilin baz=348	1.95	353	iP	Pn	18 25 17.6	+0.6
ESL	baz=348			S	Sn	18 25 42.1	-0.7
CHN5	Tsauling baz=323	1.96	332	iP	Pn	18 25 17.7	+0.6
CHN5	baz=323			S	Sn	18 25 42.5	-0.5
ICHU	Yijhu baz=318	1.97	319	iP	Pn	18 25 17.8	+0.6
ICHU	baz=318			iS	Sn	18 25 42.3	-0.9
WHYT	Xinyi Township baz=328	1.98	337	iP	Pn	18 25 18.1	+0.7
WHYT	baz=328			S	Sn	18 25 43.0	-0.3
CHY	Chiayi baz=333	2.00	325	iP	Pn	18 25 18.2	+0.7
CHY	baz=333			S	Sn	18 25 42.7	-1.0
CHN2	Minshiung baz=325	2.00	326	P	Pn	18 25 18.3	+0.8
CHN2	baz=325			S	Sn	18 25 44.3	+0.6
CHN8	Yiju baz=317	2.00	318	iP	Pn	18 25 18.2	+0.6
CHN8	baz=317			S	Sn	18 25 42.0	-1.8
SSLB	Suanglung baz=331	2.03	341	P	Pn	18 25 18.5	+0.6
SSLB	baz=331			S	Sn	18 25 44.2	-0.2
WGK	Gukeng baz=330	2.09	330	iP	Pn	18 25 19.3	+0.7
WGK	baz=330			S	Sn	18 25 44.9	-0.8
WDLH	Douliu baz=329	2.10	330	iP	Pn	18 25 19.4	+0.6
WDLH	baz=329			S	Sn	18 25 45.5	-0.4
SMLT	Sun Moon Lake baz=332	2.13	340	iP	Pn	18 25 20.0	+0.7
SMLT	baz=332			S	Sn	18 25 47.7	+0.9
WJS	Zhushan baz=335	2.14	336	iP	Pn	18 25 19.9	+0.7
WJS	baz=335			iS	Sn	18 25 46.2	-0.6
TYC	Yuchr baz=331	2.17	340	iP	Pn	18 25 20.2	+0.6
TYC	baz=331			S	Sn	18 25 47.4	0.0
WTK	Tuku baz=333	2.17	327	iP	Pn	18 25 20.0	+0.4
WTK	baz=333			iS	Sn	18 25 46.3	-1.2
WNT	Mingjian baz=335	2.20	335	iP	Pn	18 25 21.1	+1.0
WNT	baz=335			iS	Sn	18 25 48.3	+0.1
TWD	Chiawan baz=7.0	2.21	358	iP	Pn	18 25 20.8	+0.8
TWD	baz=7.0			S	Sn	18 25 48.7	+0.5
WSF	Szhu baz=314	2.22	323	iP	Pn	18 25 20.5	+0.3
WSF	baz=314			iS	Sn	18 25 48.1	-0.4
WNT1	Nantou City baz=335	2.23	336	P	Pn	18 25 21.6	+1.2
WNT1	baz=335			S	Sn	18 25 49.3	+0.5
CHGB	Renai baz=352	2.23	348	P	Pn	18 25 22.0	+1.4
CHGB	baz=352			S	Sn	18 25 49.8	+0.6
WPL	Puli Township baz=334	2.24	343	P	Pn	18 25 21.2	+0.7
WPL	baz=334			S	Sn	18 25 50.0	+1.0
DPDB	Guoxing baz=334	2.27	342	P	Pn	18 25 21.8	+0.8
DPDB	baz=334			S	Sn	18 25 49.9	+0.1
WCS	Beigang Elemen baz=334	2.29	342	iP	Pn	18 25 21.9	+0.8
WCS	baz=334			S	Sn	18 25 50.1	-0.1
NACB	Ninganchiao baz=5.0	2.30	358	P	Pn	18 25 21.7	+0.5
NACB	baz=5.0			S	Sn	18 25 49.9	-0.4
WHF	Hehuan Shan baz=357	2.30	350	iP	Pn	18 25 22.6	+1.0
WHF	baz=357			S	Sn	18 25 51.0	0.0
WDGT	Dungji baz=311	2.33	307	iP	Pn	18 25 21.8	+0.2
WDGT	baz=311			S	Sn	18 25 48.9	-2.0
ETLH	Xiulin Townshi baz=356	2.34	355	P	Pn	18 25 22.0	+0.2
ETLH	baz=356			S	Sn	18 25 51.3	0.0
WWF	Wufeng baz=330	2.35	337	P	Pn	18 25 22.9	+1.1
WWF	baz=330			S	Sn	18 25 52.2	+0.8
WRL	Guolierlin Hig baz=329	2.36	329	P	Pn	18 25 22.8	+0.8
WRL	baz=329			iS	Sn	18 25 50.4	-1.2
WTCT	Ta-ch'eng baz=332	2.37	327	P	Pn	18 25 22.6	+0.4
WTCT	baz=332			S	Sn	18 25 51.8	-0.1
FUSS	Fushou baz=356	2.40	350	iP	Pn	18 25 24.4	+1.6
FUSS	baz=356			S	Sn	18 25 53.1	+0.1
TWT	Tachien baz=343	2.42	349	P	Pn	18 25 24.2	+1.2
TWT	baz=343			S	Sn	18 25 55.0	+1.6
TDCB	Techi baz=343	2.42	349	P	Pn	18 25 24.4	+1.4
TDCB	baz=343			eS	Sn	18 25 53.9	+0.6
WCHH	Zhanghua baz=334	2.44	335	P	Pn	18 25 23.6	+0.7
WCHH	baz=334			S	Sn	18 25 53.6	+0.3
TCU	Taichung baz=331	2.45	338	iP	Pn	18 25 24.3	+1.1
TCU	baz=331			S	Sn	18 25 54.2	+0.5
VCHM	Qimei baz=301	2.48	303	P	Pn	18 25 23.5	+0.1
VCHM	baz=301			S	Sn	18 25 52.6	-1.6
WHP	Taichung City baz=335	2.49	344	iP	Pn	18 25 24.7	+1.0
WHP	baz=335			S	Sn	18 25 56.2	+1.4
PHUB	P'eng-hu baz=309	2.55	310	P	Pn	18 25 24.3	0.0
PHUB	baz=309			S	Sn	18 25 53.7	-2.1
ENA	Nanau baz=9.0	2.55	1	P	Pn	18 25 25.8	+1.4
ENA	baz=9.0			eS	Sn	18 25 55.5	-0.4
NNSB	Datong baz=358	2.56	354	P	Pn	18 25 25.9	+1.2
NNSB	baz=358			S	Sn	18 25 57.0	+0.6
NNSH	Datong baz=357	2.56	354	iP	Pn	18 25 26.0	+1.3
NNSH	baz=357			S	Sn	18 25 56.5	0.0
NNS	Nan Shan baz=358	2.58	354	iP	Pn	18 25 26.2	+1.3
NNS	baz=358			S	Sn	18 25 58.3	+1.5
PNG	Penghu baz=310	2.59	311	iP	Pn	18 25 25.0	+0.1
PNG	baz=310			iS	Sn	18 25 55.3	-1.6
TWQ1	Liyutan baz=341	2.61	341	iP	Pn	18 25 25.8	+0.6
TWQ1	baz=341			iS	Sn	18 25 58.1	+0.8
WDJ	Dajia District baz=332	2.65	339	P	Pn	18 25 26.3	+0.6
WDJ	baz=332			S	Sn	18 25 58.3	+0.1
NSY	Sanyi baz=341	2.68	342	P	Pn	18 25 26.6	+0.6
NSY	baz=341			S	Sn	18 26 00.2	+1.3
JYNG	Yonagunijimaku	2.82	24	P	Pn	18 25 29.4	+1.6
YOJ	Yonaguni jima	2.86	25	P	Pn	18 25 30.3	+2.0
HATJ	Hateruma jima	2.93	41	P	Pn	18 25 30.2	+1.0
IRIF	Iriomote-Funau	3.10	37	P	Pn	18 25 32.4	+1.0
JKRS	Kuro-shima	3.19	42	P	Pn	18 25 33.7	+1.2
JKRS				eS	Sn	18 26 09.1	-1.4
JIJ	Ishigaki jima	3.36	42	P	Pn	18 25 35.4	+0.6
JIJ				eS	Sn	18 26 13.9	-0.7
JISG	Ishigakijimahi	3.63	41	P	Pn	18 25 38.6	+0.3
JTJ	Tarama	3.92	45	P	Pn	18 25 43.4	+1.3
JIRB	Irabujima	4.36	47	P	Pn	18 25 48.9	+1.0
JOW	Kunigami 1.1nm,0.3s,baz=126,slow=28,SNR=1.0	7.78	49	P	Pn	18 26 35.6	+1.7
MKAR	Makanchi Array 0.4nm,0.4s,baz=104,slow=7.6,SNR=12	40.34	318	P	P	18 32 09.9	+2.1
MKAR	0.1nm,0.5s,baz=103,slow=3.1,SNR=1.9			PcP	PcP	18 34 07.0	-1.6
ZALV	Zalesovo Beam 1.6nm,0.8s,baz=114,slow=8.2,SNR=4.9	42.44	328	P	P	18 32 25.9	+1.0
ZALV	0.5nm,0.4s,baz=129,slow=2.0,SNR=1.9			PcP	PcP	18 34 12.3	-3.1
ASAR	Alice Springs 0.3nm,1.0s,baz=338,slow=7.1,SNR=4.2	46.80	165	P	P	18 32 59.4	-0.4
ILAR	Eielson Array 0.3nm,0.8s,baz=282,slow=5.3,SNR=2.0	71.06	27	P	P	18 35 46.2	-0.5
YKA	Yellowknife Ar 0.1nm,0.6s,baz=313,slow=4.2,SNR=3.9	84.92	23	P	P	18 37 03.0	-0.2

IDC 29 18:25:30.7±2.4, **8°.59S**×**130°.79E**, **h0**km, **mb3.2**/1, **mb1 3.3**/4, **mb1mx3.1**/37, **mbtmp3.2**/4, **ML3.0**/3, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.5**/13, **Error ellipse: s-maj=73.5km s-min=31.0km az=79.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 0.2nm,0.3s,baz=28,slow=14,SNR=9.0	10.70	207	Pn	Pn	18 28 05.5	+0.1
FITZ	0.1nm,0.3s,baz=169,slow=22,SNR=1.3			Sn	Sn	18 29 59.2	-6.6
WRA	Warramunga Arr 0.1nm,0.3s,baz=346,slow=13,SNR=6.1	11.80	163	Pn	Pn	18 28 20.6	+0.2
WRA	0.1nm,0.3s,baz=343,slow=24,SNR=2.7			Sn	Sn	18 30 27.9	-5.1
ASAR	Alice Springs 0.0nm,0.3s,baz=351,slow=13,SNR=2.0	15.29	169	Pn	Pn	18 29 07.5	-0.4
USRK	Ussuriysk Ar. comp=Z,41nm,21.6s,baz=193,slow=35	52.55	1	LR	LR	18 56 10.3	
MKAR	Makanchi Array 0.1nm,0.5s,baz=119,slow=7.3,SNR=2.5	69.98	327	P	P	18 36 44.1	0.0

IDC 29 18:42:02.8±2.2, 7°.35S×129°.06E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.1/47, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=51.9km s-min=33.5km az=70.0

ISC 29 18:42:10.2±2.6, **8°.4S**±0°.2×**128°.00E**±0°.08, **h10**km, **n8**, σ**1s.62**/10, **Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	3.93	250	S	Sg	18 44 15.2	-1.2
SOEI	Soe	3.93	250	P	Pg	18 43 23.4	-2.0
BATI	Baumata 21nm,0.3s,baz=315,slow=1.0,SNR=58	4.64	247	Pn	Pb	18 43 32.6	+0.8
BATI	6.1nm,0.3s,baz=250,slow=23,SNR=7.2			Sn	Sb	18 44 30.5	+2.7
BATI	Baumata	4.64	247	P	Pb	18 43 32.7	+0.9
BASI	Baing, Sumba	7.54	256	P	Pn	18 44 00.2	-0.1
WRA	Warramunga Arr 0.2nm,0.3s,baz=343,slow=12,SNR=13	13.02	153	Pn	Pn	18 45 16.6	+1.2
WRA	0.7nm,0.3s,baz=335,slow=20,SNR=12			Sn	Sn	18 47 38.9	-1.5
ASAR	Alice Springs 0.1nm,0.3s,baz=341,slow=9.9,SNR=7.9	16.21	160	Pn	P	18 46 00.9	-0.4
ASAR	0.2nm,0.3s,baz=332,slow=17,SNR=5.4			Sn	Sn	18 48 58.2	+0.1
MKAR	Makanchi Array 0.3nm,0.6s,baz=109,slow=7.8,SNR=2.2	68.32	328	P	P	18 53 04.2	-7.5

DJA 29 18:42:47.9±0.8, **4°S**±6°×**12°7E**±°, **h12**km±3km, **M3.1**/5, **MLv3.1**/5, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.29	336	P	Pb	18 42 55.9	+0.8
NLAI				S	Sb	18 42 59.8	-0.2
SANI	Sanana	1.90	320	P	Pn	18 43 19.2	-1.0
SANI				S	Sn	18 43 45.1	+1.0

IDC 29 18:44:54.1±1.5, 39°.87N×50°.76E, h0km, mb3.5/6, mb1 3.6/15, mb1mx3.5/54, mbtmp3.5/15, ML2.9/5, MS2.6/2, Ms1 2.6/2, ms1mx2.1/54, Error ellipse: s-maj=27.5km s-min=12.0km az=169.0

AZER 29 18:45:00.8±0.3, 39°.85N×50°.94E, h59km±3km, ml3.4/35, Error ellipse: s-maj=4.7km s-min=3.3km az=279.0

ISC 29 18:45:00.4±0.9, **39°.96N**±0°.04×**51°.08E**±0°.05, **h71**km±10km, **n57**, σ**2s.39**/96, **mb3.5**/6, **3C-1D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	Gala	0.84	303	P	Pn	18 45 18.2	+1.2
GALA				Sg	Sn	18 45 32.2	+2.8
NDR	Nardaran SNR=10	1.04	307	P	Pn	18 45 20.6	+1.1
NDR				Sg	Sn	18 45 36.4	+2.7
GOBA	Gobu	1.12	294	P	Pn	18 45 21.8	+1.3
GOBA				Sg	Sn	18 45 38.1	+2.6
ALIB	Äli-Bayra	1.59	271	Pn	Pn	18 45 26.7	+0.1
ALIB				Sg	Sn	18 45 51.0	+4.5
GBS	Qobustan SNR=3.0	1.73	290	Pn	Pn	18 45 29.7	+1.1
GBS				Sg	Sn	18 45 55.8	+5.9
ATGJ	Altiaghaj	1.87	300	Pn	Pn	18 45 31.0	+0.6
ATGJ				Sn	Sn	18 45 54.9	+1.7
SIZA	Siyzn SNR=7.2	2.00	305	Pn	Pn	18 45 33.2	+1.0
SIZA				Sn	Sn	18 45 58.6	+2.2
SAAT	Saatly	2.04	268	Sn	Sn	18 45 59.1	+1.9
PQL	Pirkuli SNR=5.7	2.07	294	Pn	Pn	18 45 33.5	+0.3
PQL				Sn	Sn	18 45 58.5	+0.3
LKRN	Lenkeran, Azer SNR=3.2	2.17	236	Pn	Pn	18 45 34.5	+0.1
LKRN				Sn	Sn	18 45 59.9	-0.5
GLBA	Clilabad SNR=9.4	2.19	252	Pn	Pn	18 45 34.4	-0.3
GLBA				Sn	Sn	18 46 00.4	-0.5
KDMR	Kurdemir	2.26	282	Pn	Pn	18 45 35.6	+0.1
KDMR				Sn	Sn	18 46 02.6	+0.2
ASTR	Astara SNR=4.0	2.26	233	Pn	Pn	18 45 35.0	-0.6
ASTR				Sn	Sn	18 46 01.5	-1.0
IML	Ismayilli SNR=7.5	2.36	292	Pn	Pn	18 45 36.9	-0.2
IML				Sn	Sn	18 46 06.0	+0.9
QUBA	Quba, Azerbaij	2.41	306	Pn	Pn	18 45 38.2	+0.6
QUBA				Sn	Sn	18 46 06.5	+0.3
YRD	Yardimli SNR=16	2.43	246	Pn	Pn	18 45 37.6	-0.5
YRD				Sn	Sn	18 46 04.5	-2.4
LRK	Lerik SNR=52	2.50	239	Pn	Pn	18 45 38.4	-0.6
LRK				Sn	Sn	18 46 06.9	-1.6
XNQ	Khinaliq SNR=19	2.55	299	Pn	Pn	18 45 39.7	0.0
XNQ				Sn	Sn	18 46 09.5	-0.3
ZRD	Zardab	2.62	278	Pn	Pn	18 45 40.3	-0.1
ZRD				Sn	Sn	18 46 10.4	-0.8
QSAR	Qusar SNR=5.5	2.65	307	Pn	Pn	18 45 41.4	+0.5
QSAR				Sn	Sn	18 46 12.4	+0.5
QBL	Gabala SNR=7.5	2.66	293	Pn	Pn	18 45 40.4	-0.7
QBL				Sn	Sn	18 46 11.8	-0.6
BLQ	Beylaqan	2.72	266	Pn	Pn	18 45 41.3	-0.5
BLQ				Sn	Sn	18 46 11.3	-2.3
QRD	Qoradiz	2.94	262	Pn	Pn	18 45 44.3	-0.6
QRD				Sn	Sn	18 46 17.6	-1.4
BRDA	Brd	3.00	277	Pn	Pn	18 45 45.9	+0.3
BRDA				Sn	Sn	18 46 21.0	+0.4
AGDM	Agdam SNR=3.0	3.05	274	Pn	Pn	18 45 45.7	-0.6
AGDM				Sn	Sn	18 46 21.4	-0.3
MNGR	Mingechevir, A	3.16	286	Pn	Pn	18 45 47.4	-0.3
MNGR				Sn	Sn	18 46 23.8	-0.5
SEKA	Sheki SNR=3.4	3.21	294	Pn	Pn	18 45 48.1	-0.4
SEKA				Sn	Sn	18 46 24.8	-0.9
GANJ	Ganja SNR=4.2	3.70	282	Pn	Pn	18 45 54.4	-0.8
GANJ				Sn	Sn	18 46 35.7	-1.9
ZKTA	Zakatala	3.78	298	Pn	Pn	18 45 56.6	+0.4

SNR=8.4
ZKTA Sn **Sn** **18 46 41.1 +1.7**
DDFL Dedoflistskaro 4.05 293 Pn **Pn** **18 46 01.1 +1.1**
DDFL Sn **Sn** **18 46 47.5 +1.2**
ORD Ordubad 4.07 257 Pn **Pn** **18 45 59.9 -0.4**
SNR=17
ORD Sn **Sn** **18 46 45.2 -1.5**
GDB GEDABAY 4.14 282 Pn **Pn** **18 46 01.1 -0.2**
SNR=4.6
GDB Sn **Sn** **18 46 47.4 -1.2**
SBZ Shahbuz 4.30 264 Pn **Pn** **18 46 03.8 +0.3**
SNR=9.4
SBZ Sn **Sn** **18 46 51.5 -0.9**
NAX Nakhchivan 4.38 262 Pn **Pn** **18 46 04.3 -0.3**
SNR=6.3
NAX Sn **Sn** **18 46 52.3 -2.2**
QZX Qazax, Azerbai 4.49 286 Pn **Pn** **18 46 05.2 -0.7**
QZX Sn **Sn** **18 46 54.6 -2.2**
HYR Heyderabad 4.80 269 Pn **Pn** **18 46 10.8 +0.6**
HYR Sn **Sn** **18 47 04.6 +0.1**
GNI Garni 4.87 274 Pn **Pn** **18 46 07.2 -4.0**
0.4nm,0.3s,baz=71,slow=13,SNR=1.6
GNI Lg Lg 18 47 10.1
0.7nm,0.3s,baz=351,slow=17,SNR=1.5
BTNK Botanikuri 5.07 292 Sn **Sn** **18 47 12.3 +1.2**
GEYT Alibeck 5.85 108 Pn **Pn** **18 46 25.8 +1.2**
1.1nm,0.3s,baz=270,slow=16,SNR=23
GEYT Sn **Sn** **18 47 27.2 -3.0**
0.2nm,0.3s,baz=270,slow=27,SNR=1.4
KBZ Khabaz 7.17 304 Pn **Pn** **18 46 40.6 -1.9**
0.2nm,0.3s,baz=212,slow=7.5,SNR=5.2
KBZ Sn **Sn** **18 47 54.8 -7.7**
0.2nm,0.3s,baz=58,slow=7.0,SNR=1.8
KVAR Kislovodsk Bar 7.41 305 Sn **Sn** **18 48 01.4 -7.3**
baz=346,slow=23,SNR=2.7
AB31 Akbulak array 11.23 31 ⇓Pn **Pn** **18 47 35.7 -2.3**
0.5nm,0.5s,baz=228,slow=12,SNR=11
AB31 ⇑Sn **Sn** **18 49 37.1 -4.5**
0.5nm,0.3s,baz=221,slow=23,SNR=7.4
AKTO Aktyubinsk 11.56 23 Pn **Pn** **18 47 40.2 -2.1**
0.7nm,0.3s,baz=198,slow=12,SNR=12
AKTO Sn **Sn** **18 49 41.0 -8.5**
0.2nm,0.3s,baz=5.0,slow=17,SNR=2.6
AKTO LR LR 18 53 51.6
comp=Z,12nm,18.1s,baz=195,slow=46
AKTO Aktyubinsk 11.56 23 ⇑Pn **Pn** **18 47 39.8 -2.6**
2.4nm,0.5s
AKTO ⇑Sn **Sn** **18 49 42.1 -7.5**
2.6nm,0.5s
BELG Belogorsk 12.66 350 Sn Sn 18 50 06.5 -10
0.7nm,0.3s,baz=169,slow=19,SNR=2.9
BRTR Keskin Array B 13.41 275 Pn **Pn** **18 48 06.7 -1.0**
0.1nm,0.3s,baz=81,slow=12,SNR=1.5
ARU Arti 17.20 14 Pn **Pn** **18 48 53.6 -2.2**
0.0nm,0.3s,baz=270,slow=23,SNR=5.9
AAK Ala-Archa 17.79 74 P **Pn** **18 49 05.7 +2.4**
0.1nm,0.3s,baz=294,slow=20,SNR=2.3
BVAR Borovoye Array 18.57 39 P **Pn** **18 49 13.9 +1.5**
0.5nm,0.3s,baz=185,slow=15,SNR=14
AKASG Malin Array Be 18.68 312 P **P** **18 49 11.2 -1.4**
1.8nm,0.3s,baz=114,slow=12,SNR=8.0
KURBB Kurchatov Arra 21.94 52 P **P** **18 49 51.0 +3.2**
1.2nm,0.9s,baz=255,slow=12,SNR=5.3
MKAR Makanchi Array 23.59 63 P **P** **18 50 08.6 +3.9**
0.5nm,0.8s,baz=256,slow=9.9,SNR=5.9
MKAR LR LR 19 01 47.2
comp=Z,32nm,19.6s,baz=262,slow=42
FINES FINESS Array B 26.40 333 P **P** **18 50 32.9 +3.0**
2.1nm,0.8s,baz=144,slow=9.6,SNR=7.1
GERES GERESS Array B 27.90 301 P **P** **18 50 46.2 +2.5**
0.3nm,0.3s,baz=85,slow=11,SNR=1.6
NB2 NORSAR Subarra 32.23 324 P **P** **18 51 23.5 +1.9**
comp=Z,0.6nm,0.5s,baz=112,slow=8.6
NOA NORSAR Array B 32.23 324 P **P** **18 51 23.5 +1.9**
comp=Z,0.8nm,1.0s,baz=125,slow=10.0,SNR=4.6
ESDC Sonseca Array 41.70 288 P **P** **18 52 44.3 +2.2**
comp=Z,0.6nm,0.5s,baz=62,slow=8.0,SNR=9.1

*IDC **29** 18:46:34.0±0.9,28.°16N×128.°31E, h0km, mb3.5/8, mb1 3.6/9, mb1mx3.4/48, mbtmp3.4/9, MS2.8/5, Ms1 2.9/5, ms1mx2.6/34, Error ellipse: s-maj=34.6km s-min=16.3km az=78.0*
*JMA **29** 18:46:35.3±0.2,28.°10N×127.°99E, h13km±2km, M3.6*
*NIED **29** 18:46:35.4,28.°10N×127.°99E, h13km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.32; $M_{\theta\theta}$0.85; $M_{\phi\phi}$-0.53; $M_{r\theta}$-0.70; $M_{\theta\phi}$0.44; $M_{\phi r}$0.26; Fault plane solution: $M_0$1.13000×10^{15} NP1: ϕ_s111.00000°,δ80.00000°,λ-47.00000°. NP2: ϕ_s212.00000°,δ44.00000°,λ-165.00000°.*
ISC 29 18:46:36.6±1.5,28.°08N±0.°04×128.°08E±0.°05, h19km±5km, n28, σ0.°86/30, mb3.5/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.82**	**110**	P	**Pb**	**18 46 52.3**	**0.0**
JTK				S	**Sn**	**18 47 04.5**	**-0.3**
JOKE	**Okinoerabujima**	**0.83**	**148**	P	**Pb**	**18 46 52.2**	**-0.3**
JOKE				S	**Sg**	**18 47 04.3**	**+0.3**
JAMN	**Amaminishikomi**	**0.98**	**80**	P	**Pb**	**18 46 55.1**	**+0.1**
JAMN				S	**Sn**	**18 47 09.7**	**+1.0**
JIH	**Iheya**	**1.04**	**186**	P	**Pb**	**18 46 55.1**	**-0.9**
JIH				S	**Sb**	**18 47 09.3**	**0.0**
JYRO	**Yoronjima**	**1.10**	**162**	P	**Pn**	**18 46 56.5**	**-0.5**
JYRO				S	**Sb**	**18 47 11.4**	**+0.5**
JOW	**Kunigami**	**1.25**	**172**	Pn	**Pn**	**18 46 59.0**	**-0.1**
348nm,0.3s,baz=27,slow=13,SNR=36							
JOW				Sn	**Sb**	**18 47 15.4**	**+0.1**
128nm,0.3s,baz=158,slow=23,SNR=5.3							
JOW	**Kunigami**	**1.25**	**172**	P	**Pn**	**18 46 58.7**	**-0.4**
JAM	**Amami Oshima**	**1.39**	**76**	P	**Pb**	**18 47 01.5**	**-0.4**
JTAJ	**Takarajima**	**1.46**	**42**	P	**Pn**	**18 47 02.0**	**0.0**
JNTH	**Nagotoyohara**	**1.55**	**182**	P	**Pn**	**18 47 03.2**	**0.0**
JAGN	**Aguni-jima**	**1.66**	**207**	P	**Pn**	**18 47 04.2**	**-0.5**
JJT3	**Tamagusuku3**	**1.94**	**188**	P	**Pn**	**18 47 09.7**	**+1.1**
JKDJ	**Kitadaitoujima**	**3.56**	**126**	P	**Pn**	**18 47 31.4**	**+0.5**
JKDJ				S	**Sn**	**18 48 12.4**	**-0.1**
JMZ	**Minamidaito 2**	**3.59**	**128**	eS	**Sn**	**18 48 12.7**	**-0.5**
JNU	**Nakatsue**	**5.58**	**25**	Pn	Pb	18 48 05.9	-7.5
2.9nm,0.3s,baz=334,slow=5.4,SNR=17							
KSRS	**Korea Array**	**9.35**	**359**	LR	LR	18 52 32.0	
comp=Z,81nm,20.6s,baz=164,slow=39							
JHJ	**Hachijo jima 2**	**11.26**	**61**	LR	LR	18 53 35.8	
comp=Z,47nm,18.4s,baz=220,slow=38							
MJAR	**Matsushiro Arr**	**12.02**	**43**	Pn	**Pn**	**18 49 25.1**	**-1.9**
baz=241,slow=14,SNR=2.0							
MJAR				LR	LR	18 53 57.2	
comp=Z,44nm,21.1s,baz=205,slow=38							
ASAJ	**Asahikawa**	**19.80**	**32**	LR	LR	18 58 15.9	
comp=Z,36nm,20.8s,baz=234,slow=36							
SONM	**Songino Array**	**25.95**	**325**	P	**P**	**18 52 10.1**	**+2.1**
0.8nm,1.0s,baz=127,slow=9.3,SNR=4.3							
CMAR	**Chiang Mai Arr**	**28.37**	**257**	LR	LR	19 03 39.8	
comp=Z,17nm,18.2s,baz=155,slow=36							
MKAR	**Makanchi Array**	**40.23**	**310**	P	**P**	**18 54 12.4**	**+0.4**
0.4nm,0.8s,baz=111,slow=6.5,SNR=2.9							
ZALV	**Zalesovo Beam**	**40.71**	**322**	P	**P**	**18 54 16.8**	**+0.9**
0.4nm,0.4s,baz=125,slow=7.2,SNR=1.7							
KURBB	**Kurchatov Arra**	**43.44**	**315**	P	**P**	**18 54 38.5**	**+0.3**
0.4nm,0.5s,baz=102,slow=8.6,SNR=2.1							
WRA	**Warramunga Arr**	**48.12**	**172**	P	**P**	**18 55 16.4**	**+0.9**
0.7nm,0.6s,baz=354,slow=8.2,SNR=7.9							
ASAR	**Alice Springs**	**51.75**	**173**	P	**P**	**18 55 44.3**	**+1.3**
0.3nm,0.5s,baz=4.9,slow=11,SNR=6.5							
YKA	**Yellowknife Ar**	**76.92**	**25**	P	**P**	**18 58 26.8**	**-0.6**
0.1nm,0.5s,baz=304,slow=5.4,SNR=2.1							
PDAR	**Pinedale Array**	**91.81**	**38**	P	**P**	**18 59 42.2**	**-1.5**
0.5nm,0.9s,baz=318,slow=1.2,SNR=2.5							

IDC 29 18:55:42.1±284.0,53.°80N×159.°03E, h0km, Error ellipse: s-maj=117.6km s-min=23.8km az=49.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK- 1.05 229**		*i*			19 00 00.0	
baz=48,slow=328,SNR=15							
I45RU	**USSURIYSK INFR 20.07 252**		*i*			21 06 10.0	
baz=48,slow=340,SNR=1.0							
I53US	**FAIRBANKS INFR 28.36 46**		*i*			21 47 50.0	
baz=278,slow=337,SNR=0.8							

*AEIC **29** 19:08:13±2.7,61.°59N±0.°03×141.°07W±0.°05, h8km±5km, ML3.0,ML3.2/23(NEIC), Error ellipse: s-maj=4.2km s-min=3.7km az=196.0*
*NEIC **29** 19:08:14.8±2.2,61.°60N±0.°01×141.°10W±0.°02, h1km±8km, Error ellipse: s-maj=2.0km s-min=1.2km az=164.0*
*PGC **29** 19:08:15.1±0.5,61.°60N×141.°11W, h5km, ML2.8/9, ML2.6/9,213km Wnw of Haines Jct., Yt Southern Alaska*
*IDC **29** 19:08:15.4±0.9,61.°72N×141.°05W, h0km, mb3.4/1, mb1 3.5/7, mb1mx3.3/54, mbtmp3.5/7, ML3.0/6, Error ellipse: s-maj=17.1km s-min=10.5km az=36.0*
ISC 29 19:08:14.4±1.1,61.°61N±0.°02×141.°16W±0.°02, h4km±9km, n98, σ1.°67/120, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK2	**White River**	**0.24**	**40**	P	**Pg**	**19 08 18.9**	**-0.2**
YUK2				S	**Sg**	**19 08 22.2**	**0.0**
YUK2	**White River**	**0.24**	**40**		**Pg**	**19 08 18.9**	**-0.2**
YUK2					**Sg**	**19 08 22.5**	**+0.3**
YUK3	**Moose Creek**	**0.38**	**63**	P	**Pg**	**19 08 21.2**	**-0.6**
YUK3				S	**Sg**	**19 08 26.2**	**-0.5**
YUK3	**Moose Creek**	**0.38**	**63**		**Pg**	**19 08 21.2**	**-0.6**
YUK3					**Sg**	**19 08 26.4**	**-0.3**
BARN	**Barnard Glacie**	**0.60**	**204**		**Pg**	**19 08 25.5**	**-0.4**
BARN					**Sb**	**19 08 34.5**	**-1.9**
CTGM	**Chitina Glacie**	**0.65**	**187**		**Pg**	**19 08 26.2**	**-0.6**
CTGM					**Sb**	**19 08 35.8**	**-2.1**
PTPK	**Patty Peak**	**0.76**	**237**		**Pb**	**19 08 29.0**	**-1.2**
PTPK					**Sb**	**19 08 40.2**	**-0.8**
LOGN	**Logan Glacier**	**0.79**	**174**		**Pg**	**19 08 28.8**	**-0.7**
LOGN					**Sg**	**19 08 39.7**	**0.0**
BALM	**Baldy**	**0.81**	**226**		**Pg**	**19 08 29.6**	**-0.4**
BVCY	**Beaver Creek**	**0.82**	**10**		**Pg**	**19 08 30.1**	**-0.2**
KIAG	**Kiagna River**	**0.90**	**221**		**Pg**	**19 08 31.2**	**-0.4**
MCARA	**McCarthy VSAT**	**0.92**	**257**		**Pb**	**19 08 32.3**	**-0.7**
MCARA					**Sn**	**19 08 46.2**	**-1.7**
GRNC	**Granite Creek**	**0.92**	**198**		**Pg**	**19 08 31.5**	**-0.6**
GRNC					**Sb**	**19 08 44.7**	**-1.1**
VRDI	**Verde Repeater**	**1.17**	**252**		**Pg**	**19 08 36.3**	**-0.4**
TABL	**Table Mountain**	**1.17**	**180**		**Pg**	**19 08 35.7**	**-1.1**
TABL					**Sb**	**19 08 52.1**	**-0.9**
YUK4	**Talbot Arm**	**1.23**	**101**	P	**Pg**	**19 08 36.9**	**-1.2**
YUK4				S	**Sg**	**19 08 53.3**	**-0.8**
YUK4	**Talbot Arm**	**1.23**	**101**		**Pg**	**19 08 37.1**	**-1.0**
YAH	**Yahtse**	**1.28**	**193**		**Pg**	**19 08 38.0**	**-0.9**
YAH					**Sn**	**19 08 55.8**	**-1.3**
GLB	**Gilahina Butte**	**1.28**	**264**		**Pb**	**19 08 38.5**	**-0.7**
GLB					**Sn**	**19 08 56.7**	**-0.1**
SAMH	**Samovar Hills**	**1.49**	**173**		**Pb**	**19 08 42.1**	**-0.6**
BC03		**1.50**	**349**		**Pn**	**19 08 42.2**	**+0.1**
YUK6	**Outpost Mounta**	**1.51**	**115**	Pn	**Pn**	**19 08 41.3**	**-1.1**
YUK6				Sg	**Sn**	**19 09 01.0**	**-1.7**
YUK6	**Outpost Mounta**	**1.51**	**115**		**Pn**	**19 08 41.4**	**-1.1**
KHIT	**Khitrov Hills**	**1.55**	**222**		**Pg**	**19 08 43.5**	**-0.6**
CHX	**Chaix Hills**	**1.55**	**179**		**Pg**	**19 08 43.7**	**-0.3**
KULT	**Kultieth River**	**1.56**	**210**		**Pg**	**19 08 43.9**	**-0.4**
PCA	**Pinnacle**	**1.58**	**163**		**Pb**	**19 08 43.6**	**-0.6**
PCA					**Sg**	**19 09 05.2**	**+0.2**
N25K	**Chitina, Valde**	**1.64**	**272**		**Pb**	**19 08 45.0**	**-0.4**
SNH	**Sunshine Point**	**1.65**	**211**		**Pg**	**19 08 45.7**	**-0.3**
CYK	**Cape Yakataga**	**1.66**	**204**		**Sg**	**19 09 10.4**	**+2.8**
YUK5	**Granite Creek**	**1.66**	**105**	Pn	**Pn**	**19 08 43.7**	**-0.8**
YUK5				Sg	**Sn**	**19 09 06.0**	**-0.3**
YUK5	**Granite Creek**	**1.66**	**105**		**Pn**	**19 08 43.9**	**-0.6**
GRIN	**Grindle Hills**	**1.70**	**219**		**Pg**	**19 08 46.2**	**-0.7**
BMRM	**Bremner River**	**1.78**	**250**		**Pb**	**19 08 46.5**	**-1.2**
MENT	**Mentasta**	**1.79**	**319**		**Pn**	**19 08 46.7**	**+0.4**
BCPM	**Bancas Point**	**1.82**	**155**		**Pn**	**19 08 46.6**	**0.0**
YUK7	**Dusty Glacier**	**1.82**	**125**	Pn	**Pn**	**19 08 47.1**	**+0.3**
YUK7				Sg	**Sb**	**19 09 10.8**	**-0.9**
YUK7	**Dusty Glacier**	**1.82**	**125**		**Pb**	**19 08 47.5**	**-1.0**
PS12	**TAPS Pump St12**	**1.91**	**268**		**Pb**	**19 08 49.7**	**-0.2**
HYT	**Haines Junctio**	**1.94**	**112**	Pn	**Pn**	**19 08 48.1**	**-0.2**
HYT				Sg	**Sb**	**19 09 14.6**	**-0.3**
HYT	**Haines Junctio**	**1.94**	**112**		**Pn**	**19 08 48.1**	**-0.2**
HYT	**Haines Junctio**	**1.94**	**112**	IAML		19 09 18.8	
comp=N,199nm,0.9s							
HYT				IAML		19 09 20.9	
comp=E,164nm,0.8s							
NICHA	**Nichawak Mount**	**1.94**	**226**		**Pg**	**19 08 51.3**	**-0.2**
HMT	**Hamilton**	**1.98**	**231**		**Pg**	**19 08 51.5**	**-0.7**
SUCK	**Suckling Hills**	**2.00**	**221**		**Pb**	**19 08 50.9**	**-0.5**
GOAT	**Goat Mountain**	**2.01**	**241**		**Pb**	**19 08 50.5**	**-1.2**
RAGM	**Ragged Mountai**	**2.10**	**236**		**Pb**	**19 08 52.8**	**-0.3**
PNL	**Peninsula**	**2.13**	**155**	Pn	**Pn**	**19 08 51.3**	**+0.4**
PNL				Sg	**Sb**	**19 09 19.8**	**-0.5**
PNL	**Peninsula**	**2.13**	**155**		**Pn**	**19 08 51.6**	**+0.8**
DIV	**Divide**	**2.27**	**260**		**Pb**	**19 08 55.0**	**-1.8**
KLU	**Klutina**	**2.28**	**269**		**Pb**	**19 08 55.9**	**-0.4**
M24K	**Tolsona, Glenn**	**2.43**	**284**		**Pb**	**19 08 58.5**	**-0.2**
M24K	**Tolsona, Glenn**	**2.43**	**284**	IAML		19 09 49.0	
comp=N,85nm,1.9s							
M24K				IAML		19 09 50.0	
comp=E,96nm,2.5s							
PAX	**Paxson**	**2.44**	**306**		**Pn**	**19 08 56.7**	**+1.6**
DOT	**Dot Lake**	**2.45**	**328**		**Pn**	**19 08 55.5**	**+0.2**
EYAK	**Cordova Ski Ar**	**2.47**	**247**		**Pb**	**19 08 58.3**	**-1.0**
K27K	**Chicken**	**2.47**	**351**		**Pn**	**19 08 55.9**	**+0.4**
K27K	**Chicken**	**2.47**	**351**	IAML		19 09 35.0	
comp=E,101nm,0.7s							
DAWY	**Dawson**	**2.60**	**17**	Pn	**Pn**	**19 08 57.3**	**0.0**
DAWY				Sg	**Sb**	**19 09 35.1**	**+1.2**
DAWY	**Dawson**	**2.60**	**17**		**Pn**	**19 08 57.2**	**-0.1**
SCRK	**Sand Creek**	**2.71**	**333**		**Pn**	**19 08 59.0**	**+0.1**
FID	**Port Fidalgo**	**2.71**	**254**		**Pb**	**19 09 02.2**	**-1.4**
FID	**Port Fidalgo**	**2.71**	**254**	IAML		19 09 45.4	
comp=E,87nm,0.6s							
FID				IAML		19 09 46.5	
comp=N,91nm,1.0s							
SCM	**Sheep Creek Mo**	**2.94**	**277**		**Pb**	**19 09 04.9**	**-2.6**
GLI	**Glacier Island**	**2.96**	**258**		**Pb**	**19 09 04.5**	**-3.2**
GLI	**Glacier Island**	**2.96**	**258**	IAML		19 09 52.0	
comp=N,79nm,1.7s							
GLI				IAML		19 09 54.6	
comp=E,53nm,0.5s							
EGAK	**Eagle**	**3.19**	**0**	Pn	**Pn**	**19 09 06.0**	**+0.8**
WHY	**Whitehorse**	**3.19**	**105**	Pn	**Pn**	**19 09 05.1**	**-0.4**
WHY				Sn	**Sn**	**19 09 42.2**	**-1.8**
WHY				Sg	**Sb**	**19 09 52.9**	**+1.9**
WHY	**Whitehorse**	**3.19**	**105**		**Pn**	**19 09 05.1**	**-0.4**
WHY	**Whitehorse**	**3.19**	**105**	IAML		19 09 57.3	
comp=N,69nm,0.6s							
WHY				IAML		19 10 01.7	
comp=E,69nm,0.7s							
PLBC	**Pleasant Camp**	**3.20**	**130**	Pn	**Pn**	**19 09 05.6**	**0.0**
PLBC				Sg	**Sg**	**19 09 54.2**	**-3.0**
WAT6	**Susitna Watana**	**3.25**	**290**		**Pn**	**19 09 09.2**	**+2.9**
SML	**Sawmill**	**3.42**	**277**		**Pn**	**19 09 11.1**	**+2.5**
KNK	**Knik Glacier**	**3.50**	**270**		**Pn**	**19 09 12.7**	**+3.0**
GHO	**Glory Hole Cre**	**3.70**	**276**		**Pn**	**19 09 15.0**	**+2.6**
PMR	**Palmer**	**3.81**	**273**		**Pn**	**19 09 13.4**	**-0.4**
PMR				IAML		19 10 11.2	
comp=N,30nm,4.5s							
PMR				IAML		19 10 48.6	
comp=E,25nm,4.0s							
IL31		**4.10**	**323**	Pn	**Pn**	**19 09 17.1**	**-0.7**
ILAR	**Eielson Array**	**4.10**	**323**	Pn	**Pn**	**19 09 17.1**	**-0.8**
comp=E,0.7nm,0.3s,baz=140,slow=14,SNR=42							
ILAR				Lg	Lg	19 10 23.8	
comp=E,5.4nm,0.3s,baz=132,slow=29,SNR=14							
ILAR	**Eielson Array**	**4.10**	**323**	Pn	**Pn**	**19 09 17.0**	**-0.9**
HUR	**Hurricane**	**4.19**	**293**		**Pn**	**19 09 22.9**	**+3.8**
SLKM	**Skilak Lake**	**4.54**	**260**		**Pn**	**19 09 26.3**	**+2.4**
TRF	**Thorofare Moun**	**4.62**	**298**		**Pn**	**19 09 28.6**	**+3.5**
JIS	**Juneau Island**	**4.77**	**131**		**Pn**	**19 09 26.9**	**-0.1**
KTH	**Kantishna Hill**	**4.92**	**298**		**Pn**	**19 09 32.9**	**+3.7**
BPAW	**Bear Paw Mtn.**	**5.15**	**303**		**Pn**	**19 09 35.1**	**+2.8**
FYU	**Fort Yukon**	**5.29**	**342**		**Pn**	**19 09 35.5**	**+1.3**
BMAR	**Burnt Mountain**	**6.03**	**347**		**Pn**	**19 09 45.1**	**+0.7**
DLBC	**Dease Lake**	**6.42**	**115**	Pn	**Pn**	**19 09 52.1**	**+2.3**
comp=E,0.1nm,0.3s,baz=302,slow=13,SNR=2.0							
DLBC				Pg	**Pb**	**19 10 06.7**	**0.0**
comp=E,0.2nm,0.3s,baz=357,slow=19,SNR=2.0							
DLBC				Lg	Lg	19 11 33.9	
comp=E,0.4nm,0.3s,baz=29,slow=27,SNR=3.0							
DLBC	**Dease Lake**	**6.42**	**115**	Pg	**Pb**	**19 10 10.2**	**+3.6**
DLBC				Sg	**Sb**	**19 11 31.8**	**+8.0**
COLD	**Coldfoot**	**6.86**	**329**		**Pn**	**19 09 56.6**	**+0.8**
KDAK	**Kodiak Island**	**6.93**	**242**	Pn	**Pn**	**19 09 58.4**	**+1.7**
comp=E,0.4nm,0.3s,baz=74,slow=1.7,SNR=6.4							
KDAK				Sn	**Sn**	**19 11 14.0**	**-1.9**
comp=E,0.1nm,0.3s,baz=98,slow=13,SNR=1.5							
INK	**Inuvik 7.46 22**			Pn	**Pn**	**19 10 04.1**	**+0.2**
comp=E,0.3nm,0.3s,baz=190,slow=22,SNR=6.7							
INK				Sn	**Sn**	**19 11 23.1**	**-5.8**
comp=E,0.4nm,0.3s,baz=240,slow=15,SNR=4.2							
INK	**Inuvik 7.46 22**			Pn	**Pn**	**19 10 03.9**	**-0.1**
TOLK	**Toolik Lake Re 7.89 337**			Pn	**Pn**	**19 10 11.1**	**+1.2**
C36M	**Paulatuk 10.48 35**			Pn	**Pn**	**19 10 43.1**	**-2.2**
BBB	**Bella Bella 11.81 137**			Pn	**Pn**	**19 11 06.4**	**+2.9**
comp=E,0.3nm,0.3s,baz=306,slow=18,SNR=3.8							
YKA	**Yellowknife Ar 12.46 74**			Pn	**Pn**	**19 11 10.7**	**-1.6**
comp=E,0.1nm,0.3s,baz=274,slow=11,SNR=5.8							
AKASG	**Malin Array Be 67.78 7**			P	**P**	**19 19 14.3**	**+1.5**
comp=E,0.1nm,0.2s,baz=10.0,slow=7.2,SNR=4.3							

IDC 29 19:09:02.5±1.3,19.°92N×120.°93E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.2/48, mbtmp3.3/4, Error ellipse: s-maj=81.3km s-min=25.5km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.32**	**319**	P	P	19 16 49.7	-0.3
0.3nm,0.6s,baz=116,slow=9.6,SNR=6.1							
WRA	**Warramunga Arr**	**41.74**	**161**	P	P	19 16 53.0	-0.6
0.2nm,0.6s,baz=344,slow=9.4,SNR=1.8							
ASAR	**Alice Springs**	**45.13**	**163**	P	P	19 17 21.2	+0.2
0.4nm,0.6s,baz=344,slow=7.1,SNR=9.4							
YKA	**Yellowknife Ar**	**86.97**	**23**	P	P	19 21 49.6	+0.1
0.2nm,0.7s,baz=315,slow=4.0,SNR=4.0							

*IDC **29** 19:10:54.6±2.1,55.°46S×28.°46W, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.6/22, mbtmp3.8/3, ML2.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/17, Error ellipse: s-maj=115.2km s-min=28.0km az=64.0*
*NEIC **29** 19:10:57.8±2.6,55.°5S±0.°1×29.°1W±0.°2, h35km±2km, mb4.4/11, Error ellipse: s-maj=19.1km s-min=16.5km az=159.0*
ISC 29 19:10:56.6±0.9,55.°5S±0.°1×29.°0W±0.°1, h24km, n25, σ1.°52/18, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.48**	**282**	Pn	**Pn**	**19 12 01.7**	**-1.2**
EFI	**East Falkland**	**17.61**	**270**		**Pn**	**19 14 59.8**	**-0.3**
EFI				IAmb	IAmb	19 15 08.7	
comp=Z,73nm,1.4s							
PMSA	**Palmer Station**	**19.54**	**227**	P	**P**	**19 15 21.8**	**-0.2**
PMSA				IAmb	IAmb	19 15 22.3	
comp=Z,56nm,1.3s							
SNAA	**Sanae**	**19.71**	**156**	P	**P**	**19 15 23.6**	**-0.3**
comp=Z,0.0nm,0.3s,baz=41,slow=21,SNR=1.2							
SNAA	**Sanae**	**19.71**	**156**	P	**P**	**19 15 23.7**	**-0.3**
SNAA				IAmb	IAmb	19 15 35.8	
comp=Z,14nm,1.4s							
PLCA	**Paso Flores**	**30.89**	**281**	LR	LR	19 28 45.0	
comp=Z,46nm,19.6s,baz=168,slow=34							
BI02	**San Fabin de**	**34.15**	**286**	P	**P**	**19 17 40.0**	**+0.3**
BI02				IAmb	IAmb	19 17 46.6	
comp=Z,2.9nm,1.0s							
QSPA	**South Pole Qui**	**34.80**	**180**	P	**P**	**19 17 44.0**	**-1.2**
BO02	**Sierra Bellavi**	**35.27**	**288**	P	**P**	**19 17 48.8**	**-0.6**
BO02				IAmb	IAmb	19 17 52.6	
comp=Z,8.6nm,1.1s							
CPUP	**Villa Florida**	**35.65**	**313**	LR	LR	19 31 51.5	
comp=Z,20nm,19.3s,baz=163,slow=35							
CO03	**El Pedregal**	**38.27**	**292**	P	**P**	**19 18 16.2**	**+1.3**
LVC	**Limon Verde**	**44.11**	**302**	P	**P**	**19 19 00.6**	**-2.7**
LVC				IAmb	IAmb	19 19 14.2	
comp=Z,2.3nm,0.7s							
VNDA	**Vanda**	**47.12**	**183**	P	**P**	**19 19 27.7**	**+1.7**
comp=Z,1.3nm,0.7s,baz=173,slow=4.1,SNR=8.4							
VNDA	**Vanda**	**47.12**	**183**	P	**P**	**19 19 27.1**	**+1.0**
H10S2	**ASCENSION HYDR 47.74**		**19**	T	T	20 11 30.4	
baz=29,slow=74,SNR=5.4							
H10S3	**ASCENSION HYDR 47.75**		**19**	T	T	20 11 27.2	
baz=191,slow=74,SNR=10							
H10N1	**ASCENSION HYDR 48.86**		**19**	T	T	20 12 49.4	
baz=191,slow=76,SNR=6.4							
H10N3	**ASCENSION HYDR 48.88**		**19**	T	T	20 12 48.8	
baz=191,slow=76,SNR=21							
H10N2	**ASCENSION HYDR 48.88**		**19**	T	T	20 12 53.5	
baz=191,slow=76,SNR=11							
LPAZ	**La Paz**	**49.20**	**307**	P	**P**	**19 19 46.8**	**+3.4**
comp=Z,1.2nm,0.6s,baz=158,slow=5.4,SNR=7.2							
LPAZ	**La Paz**	**49.20**	**307**	P	**P**	**19 19 45.3**	**+1.8**
LPAZ

SONM	**Songino Array**	**56.64**	**348**	P		**P**	**19 34 18.5**	**-0.2**
	0.3nm,0.7s,baz=168,slow=7.8,SNR=4.5							
MKAR	**Makanchi Array**	**64.24**	**331**	P		**P**	**19 35 09.4**	**+0.6**
	0.6nm,0.5s,baz=137,slow=8.6,SNR=11							
ZALV	**Zalesovo Beam**	**68.51**	**338**	P		**P**	**19 35 34.6**	**-0.4**
	0.7nm,0.4s,baz=131,slow=4.5,SNR=4.0							

TAP 29 19:42:21.6, 22.80N×120.72E, h19km, ML1.2, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SSD	**Sandimen**	**0.10**	**234**	*i* P	Pg	19 42 25.8	+0.4
	baz=230						
SSD				*i* S	Sg	19 42 28.9	+1.0
	baz=230						
TSMG	**Majia**	**0.12**	**215**	*e*P	Pg	19 42 26.3	+0.7
	baz=214						
TSMG				*e*S	Sg	19 42 29.1	+0.8
	baz=214						
SLGT	**Liugui**	**0.20**	**340**	P	Pg	19 42 26.7	-0.1
	baz=340						
SLGT				S	Sg	19 42 30.4	+0.2
	baz=340						
MASBT	**Mashibuluo**	**0.21**	**203**	P	Pg	19 42 27.4	+0.6
	baz=202						
SCST	**Cishan**	**0.22**	**291**	*e*P	Pg	19 42 27.6	+0.6
	baz=291						
SGLT	**Jiouru**	**0.23**	**250**	P	Pg	19 42 27.4	+0.4
	baz=248						
TSPT	**Pingtung City**	**0.24**	**238**	*e*P	Pg	19 42 27.7	+0.4
	baz=239						
TWM1	**Shoushan**	**0.27**	**274**	P	Pb	19 42 28.1	+0.2
	baz=273						
ECL	**Taimali**	**0.30**	**133**	P	Pg	19 42 27.7	-0.5
	baz=132						
ECL				S	Sb	19 42 34.1	+1.2
	baz=132						
SGST	**Jiashian**	**0.30**	**336**	*e*P	Pg	19 42 28.4	0.0
	baz=336						
TWG	**Pinlang**	**0.33**	**87**	P	Pb	19 42 29.6	+0.7
	baz=87						
TWG				S	Sb	19 42 35.1	+1.3
	baz=87						
TWGBT	**Beinan**	**0.33**	**88**	*e*P	Pb	19 42 29.9	+0.8
	baz=87						
TWGBT				*e*S	Sb	19 42 35.2	+1.2
	baz=87						
SSPT	**Xinbi**	**0.35**	**204**	*e*P	Pb	19 42 29.6	+0.3
	baz=203						
SSPT				*e*S	Sb	19 42 35.4	+0.9
	baz=203						
SNJT	**Kaohsiung City**	**0.36**	**262**	P	Pb	19 42 29.9	+0.4
	baz=261						
SNJT				*e*S	Sb	19 42 35.8	+1.0
	baz=261						
STYT	**Tauyuan**	**0.36**	**6**	P	Pb	19 42 29.6	0.0
	baz=6.0						
STYT				*i* S	Sb	19 42 35.9	+1.0
	baz=6.0						
STYH	**Taoyuan**	**0.37**	**8**	*e*P	Pb	19 42 30.2	+0.5
	baz=8.0						
STYH				*e*S	Sb	19 42 36.2	+1.1
	baz=8.0						
TTN	**Taitung**	**0.40**	**97**	*e*P	Pb	19 42 30.1	-0.1
	baz=97						
TTN				*e*S	Sb	19 42 37.1	+1.1
	baz=97						
CHN3	**Shinhua**	**0.42**	**310**	*e*P	Pb	19 42 30.9	+0.3
	baz=309						
CHN3				*e*S	Sb	19 42 37.3	+0.6
	baz=309						
EAST	**Anshuo**	**0.44**	**164**	*e*P	Pb	19 42 31.1	+0.3
	baz=163						
EAST				*e*S	Sb	19 42 38.3	+1.2
	baz=163						
SCZT	**Fangliau**	**0.44**	**192**	*e*P	Pb	19 42 31.3	+0.4
	baz=191						
WTP	**Ta-pu**	**0.45**	**348**	P	Pb	19 42 31.5	+0.4
	baz=348						
WTP				S	Sb	19 42 38.7	+1.2
	baz=348						
SNST	**Tainan City**	**0.46**	**334**	*e*S	Sb	19 42 39.1	+1.4
	baz=333						
TPUB	**Ta-pu**	**0.50**	**351**	*e*P	Pb	19 42 32.1	+0.2
	baz=350						
TPUB				*e*S	Sb	19 42 40.1	+1.3
	baz=350						
TWK	**Hsinying**	**0.51**	**335**	P	Pb	19 42 32.6	+0.6
	baz=336						
TWK				S	Sb	19 42 40.5	+1.5
	baz=336						
TAI1	**Yung-k'ang**	**0.51**	**298**	*e*P	Pb	19 42 32.2	+0.2
	baz=297						
TAI1				*e*S	Sb	19 42 40.2	+1.2
	baz=297						
CHN4	**Tsaushan**	**0.56**	**348**	*e*P	Pg	19 42 33.3	+0.4
	baz=348						
CHN4				*e*S	Sg	19 42 41.6	+1.3
	baz=348						
TWP	**Hsiaoliuchiu**	**0.56**	**216**	*e*P	Pg	19 42 33.6	+0.7
	baz=215						

TAP 29 19:42:26.1, 22.79N×120.72E, h20km, ML1.1, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SSD	**Sandimen**	**0.09**	**240**	*i* P	Pb	19 42 30.4	+0.4
	baz=235						
SSD				*i* S	Sb	19 42 33.3	+0.6
	baz=235						
TSMG	**Majia**	**0.11**	**218**	*e*P	Pb	19 42 30.4	-0.7
	baz=217						
TSMG				*e*S	Sb	19 42 33.6	-1.0
	baz=217						
MASBT	**Mashibuluo**	**0.20**	**204**	P	Pb	19 42 31.5	+0.1
	baz=203						
MASBT				S	Sb	19 42 36.0	+0.8
	baz=203						
MASBT	**Mashibuluo**	**0.20**	**204**	S	Pb	19 42 31.5	+0.1
	baz=202						
SLGT	**Liugui**	**0.21**	**342**	P	Pb	19 42 31.5	-0.1
	baz=341						
SLGT				*e*S	Sb	19 42 36.1	+0.6
	baz=341						
SGLT	**Jiouru**	**0.22**	**252**	*e*P	Pb	19 42 31.5	-0.2
	baz=251						
SGLT				*e*S	Sb	19 42 36.0	+0.4
	baz=251						
SGLT	**Jiouru**	**0.22**	**252**	*i* S	Pb	19 42 31.8	+0.1
	baz=248						
SCST	**Cishan**	**0.23**	**294**	P	Pb	19 42 32.1	+0.3
	baz=294						
SCST				S	Sb	19 42 36.5	+0.8
	baz=294						
SCST	**Cishan**	**0.23**	**294**	*e*S	Pb	19 42 32.2	+0.4
	baz=291						
TSPT	**Pingtung City**	**0.23**	**241**	*e*S	Sb	19 42 37.5	+1.7
	baz=241						
TWM1	**Shoushan**	**0.27**	**276**	P	Pb	19 42 32.6	+0.2
	baz=276						
TWM1				S	Sb	19 42 37.9	+1.2
	baz=276						
TWM1	**Shoushan**	**0.27**	**276**	S	Pb	19 42 33.1	+0.6
	baz=273						
ECL	**Taimali**	**0.29**	**132**	P	Pb	19 42 33.4	+0.7
	baz=131						
ECL				S	Sb	19 42 38.8	+1.7
	baz=131						
SGST	**Jiashian**	**0.31**	**337**	P	Pb	19 42 33.5	+0.5
	baz=337						
SGST				S	Sb	19 42 39.1	+1.4
	baz=337						
SGST	**Jiashian**	**0.31**	**337**	S	Pb	19 42 33.1	+0.1
	baz=336						
TWG	**Pinlang**	**0.33**	**85**	P	Pb	19 42 33.4	+0.2
	baz=85						
TWG				S	Sb	19 42 39.6	+1.5
	baz=85						
TWGBT	**Beinan**	**0.34**	**86**	*e*P	Pb	19 42 33.6	+0.3
	baz=85						
TWGBT				*e*S	Sb	19 42 39.7	+1.4
	baz=85						
SSPT	**Xinbi**	**0.34**	**204**	*e*P	Pb	19 42 33.9	+0.6
	baz=204						
SSPT				*e*S	Sb	19 42 39.8	+1.5
	baz=204						
SNJT	**Kaohsiung City**	**0.36**	**264**	*e*P	Pb	19 42 34.6	+0.9
	baz=263						
SNJT				S	Sb	19 42 40.3	+1.5
	baz=263						
STYT	**Tauyuan**	**0.37**	**6**	*e*P	Pb	19 42 34.6	+0.6
	baz=6.0						
STYT				S	Sb	19 42 40.6	+1.3
	baz=6.0						
STYH	**Taoyuan**	**0.38**	**8**	P	Pb	19 42 34.9	+0.8
	baz=8.0						
STYH				*e*S	Sb	19 42 41.0	+1.5
	baz=8.0						
TTN	**Taitung**	**0.40**	**96**	*e*P	Pb	19 42 34.9	+0.5
	baz=95						
TTN				S	Sn	19 42 42.1	-1.5
	baz=95						
EAST	**Anshuo**	**0.42**	**164**	*e*P	Pb	19 42 35.4	+0.6
	baz=162						
EAST				*e*S	Sb	19 42 41.9	+1.1
	baz=162						
CHN1	**Nanshi**	**0.43**	**336**	*e*S	Sb	19 42 42.4	+1.4
	baz=335						
SCZT	**Fangliau**	**0.43**	**192**	*e*P	Pb	19 42 35.3	+0.4
	baz=191						
SCZT				*e*S	Sn	19 42 42.7	-1.6
	baz=191						
CHN3	**Shinhua**	**0.43**	**311**	P	Pb	19 42 35.2	+0.3
	baz=310						
CHN3				S	Sb	19 42 42.3	+1.3
	baz=310						
WTP	**Ta-pu**	**0.46**	**348**	*e*S	Sb	19 42 43.4	+1.4
	baz=348						

*NEIC **29** 19:50:13.2±1.9, 1.9N±0.1×124.32E±0.09, h279km±13km, mb4.1/17, Error ellipse: s-maj=15.0km s-min=12.3km az=202.0*
*DJA **29** 19:50:14.0±0.5,2.1N±4.1×12.4E±., h279km±3km, M4.0/12, mB4.6/2, mb4.2/4, MLv4.0/12, Mw(mB)3.8/2*
*IDC **29** 19:50:15.2±2.7,1.84N×124.41E,h298km±31km, mb3.8/3, mb1 3.9/7, mb1mx3.1/57, mbtmp4.5/7, Error ellipse: s-maj=25.4km s-min=14.9km az=66.0*
ISC 29 19:50:15.1±0.7, 1.70N±0.07×124.32E±0.07, h300km, n48, σ28 33/52, mb4.0/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.17**	**197**	P	**Pn**	**19 50 54.1**	**-2.2**
KMSI				S	**S**	**19 51 25.5**	**-3.6**
GTOI	**Gorontalo**	**1.68**	**231**	P	**Pn**	**19 50 57.1**	**-2.4**
GTOI				S	**S**	**19 51 31.0**	**-3.8**
MRSI	**Marisa**	**2.67**	**243**	P	**Pn**	**19 51 06.1**	**-1.6**
MRSI				S	**S**	**19 51 47.3**	**-2.3**
LUWI	**Luwuk**	**3.13**	**210**		**Pn**	**19 51 10.2**	**-1.9**
LUWI	**Luwuk**	**3.13**	**210**	P	**Pn**	**19 51 10.3**	**-1.9**
LUWI				S	**S**	**19 51 53.1**	**-4.7**
TNTI	**Ternate**	**3.19**	**107**	Pn	Pn	19 51 09.4	-3.3
TNTI	**Ternate**	**3.19**	**107**	P	Pn	19 51 08.9	-3.8
TOLI2	**Tolitoli**	**3.58**	**261**		**Pn**	**19 51 14.3**	**-2.5**
APSI	**Ampana**	**3.72**	**226**	P	**Pn**	**19 51 17.2**	**-1.1**
APSI				S	**S**	**19 52 05.6**	**-3.4**
SANI	**Sanana**	**4.08**	**156**	P	**Pn**	**19 51 19.1**	**-3.3**
SANI				S	S	19 52 07.1	-9.0
NLAI	**Namlea**	**5.64**	**150**	P	**Pn**	**19 51 37.7**	**-2.5**
	0.2nm2μm20nm,1.2s						
NLAI				S	**S**	**19 52 42.2**	**-6.5**
	0.2nm2μm20nm,1.2s						
TTSI	**Tana Toraja**	**6.52**	**224**	P	**Pn**	**19 51 48.4**	**-2.2**
	0.1nm590nm20nm,1.0s						
TTSI				S	**S**	**19 53 04.6**	**-3.2**
	0.1nm590nm20nm,1.0s						
MYLDM	**Lahad Datu**	**6.76**	**301**	Pn	Pn	19 51 46.3	-7.2
SIJI	**Sorong**	**7.40**	**110**	P	**Pn**	**19 52 01.4**	**0.0**
	0.7nm,0.3s,baz=310,slow=16,SNR=4.1						
BKB	**Balikpapan**	**7.98**	**248**	Pn	**Pn**	**19 52 05.0**	**-3.5**
MMRI	**Maumere**	**10.48**	**191**	P	**Pn**	**19 52 37.8**	**-1.3**
	46nm,0.8s						
SOEI	**Soe**	**11.38**	**180**		**P**	**19 52 53.6**	**+1.2**
SOEI	**Soe**	**11.38**	**180**	P	**Pn**	**19 52 46.3**	**-4.0**
BATI	**Baumata**	**11.85**	**183**	P	**P**	**19 52 58.2**	**+0.8**
	9.6nm,0.3s,baz=355,slow=2.1,SNR=13						
BATI				S	**S**	**19 55 11.6**	**+3.6**
	0.5nm,0.3s,baz=119,slow=18,SNR=1.6						
SAUI	**Saumlaki**	**11.88**	**144**	Pn	**Pn**	**19 52 55.0**	**-1.3**
SBUM	**Sibu**	**12.11**	**274**	P	**P**	**19 53 01.2**	**+0.8**
KSM	**Kuching**	**14.01**	**269**		**Pn**	**19 53 22.5**	**+0.6**
JAGI	**Jajag, Banyuwa**	**14.31**	**225**		Pn	19 53 29.1	+3.6
MTN	**Manton Dam**	**15.96**	**155**	P	**P**	**19 53 43.9**	**+1.1**
LEM	**Lembang**	**18.70**	**243**	P	**P**	**19 54 15.8**	**+3.2**
	1.3nm,0.3s,baz=9.0,slow=20,SNR=6.1						
FITZ	**Fitzroy Crossi**	**19.72**	**176**	P	**P**	**19 54 23.2**	**0.0**
	1.5nm,0.3s,baz=4.8,slow=8.9,SNR=57						
FITZ	**Fitzroy Crossi**	**19.72**	**176**	P	**P**	**19 54 23.4**	**+0.2**
FITZ				IAmb	IAmb	19 54 26.3	
	comp=Z,8.2nm,1.1s						
TPUB	**Ta-pu**	**21.77**	**351**	P	**P**	**19 54 42.1**	**-0.9**
TPUB				IAmb	IAmb	19 54 46.0	
	comp=Z,18nm,1.1s						
WB0	**Warramunga Arr**	**23.52**	**156**	P	**P**	**19 54 60.0**	**+1.0**
PSA00	**Pilbara Seismi**	**23.54**	**190**	P	**P**	**19 55 00.2**	**+1.0**
PSA00				IAmb	IAmb	19 55 14.8	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**23.65**	**156**	P	**P**	**19 55 01.1**	**+0.9**
	comp=Z,13nm,0.7s,baz=335,slow=9.8,SNR=118						
WRA	**Warramunga Arr**	**23.65**	**156**	P	**P**	**19 55 00.3**	**+0.1**
WB2	**Warramunga Arr**	**23.66**	**156**	P	**P**	**19 55 01.2**	**+0.9**
WR0	**Warramunga Arr**	**23.75**	**156**	P	**P**	**19 55 01.9**	**+0.8**
WR0				IAmb	IAmb	19 55 06.1	
	comp=Z,8.9nm,0.9s						
AS31	**Alice Springs**	**26.89**	**160**	P	**P**	**19 55 30.5**	**+1.3**
ASAR	**Alice Springs**	**26.89**	**160**	P	**P**	**19 55 30.6**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=339,slow=8.2,SNR=43						
ASAR	**Alice Springs**	**26.89**	**160**	P	**P**	**19 55 30.7**	**+1.5**
MORW	**Morawa**	**31.61**	**194**	P	**P**	**19 56 11.3**	**+0.7**
MORW				IAmb	IAmb	19 56 17.8	
	comp=Z,4.3nm,0.9s						
FORT	**Forrest**	**32.50**	**174**	P	**P**	**19 56 19.9**	**+1.5**
NWAO	**Narrogin (SRO)**	**35.09**	**190**	P	**P**	**19 56 41.4**	**+0.9**
NWAO				IAmb	IAmb	19 56 41.5	
	comp=Z,9.8nm,1.1s						
BBOO	**Buckleboo**	**36.08**	**163**	P	**P**	**19 56 50.3**	**+1.4**
BBOO				IAmb	IAmb	19 57 02.0	
	comp=Z,3.3nm,1.0s						
STKA	**Stephens Creek**	**37.20**	**155**	P	**P**	**19 57 00.2**	**+1.8**
	comp=Z,4.4nm,0.7s,baz=324,slow=9.1,SNR=17						
STKA	**Stephens Creek**	**37.20**	**155**	P	**P**	**19 57 00.3**	**+2.0**
ARMA	**Armidale**	**41.21**	**143**	P	**P**	**19 57 31.6**	**+0.2**
CAN	**Canberra**	**43.47**	**150**	P	**P**	**19 57 51.4**	**+2.0**
CAN				IAmb	IAmb	19 57 53.2	
	comp=Z,6.7nm,0.8s						
TOO	**Toolangi**	**43.72**	**155**	P	**P**	**19 57 54.0**	**+2.6**
TOO				IAmb	IAmb	19 57 55.2	
	comp=Z,9.7nm,0.9s						
SONM	**Songino Array**	**48.50**	**344**	P	**P**	**19 58 28.5**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=169,slow=8.7,SNR=2.1						
MKAR	**Makanchi Array**	**57.89**	**327**	P	**P**	**19 59 35.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=120,slow=7.8,SNR=5.1						

*IDC **29** 19:55:20.7±0.9, 25.87N×65.16E, h0km, mb3.7/15, mb1 3.9/16, mb1mx3.6/54, mbtmp3.8/16, ML4.5/2, MS3.4/12, Ms1 3.4/12, ms1mx3.1/54, Error ellipse: s-maj=21.5km s-min=17.1km az=179.0*
*DSN **29** 19:55:30.2±3.1, 26.02N×64.39E, h10km, ML4.2/10, Error ellipse: s-maj=62.6km s-min=21.9km az=14.0*
*OMAN **29** 19:55:32.4, 25.81N×64.21E, h10km, mb5.9/20, ms2.5/8*
ISC 29 19:55:21.1±0.6, 25.90N±0.08×64.98E±0.05, h10km, n66, σ36 11/99, mb3.8/15, MS3.5/9, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JLN	**Jalan Bani Buh**	**6.31**	**235**	P	**Pn**	**19 56 55.0**	**+0.8**
	SNR=41						
WSAR	**Wadi Sarin**	**6.36**	**247**	Pn	**Pn**	**19 56 56.5**	**+1.5**
	40nm,0.3s,baz=108,slow=9.4,SNR=901						
WSAR				Sn	**Sn**	**19 58 03.1**	**-4.5**
	2.2nm,0.3s,baz=135,slow=1.4,SNR=1.3						
WSAR				LR	LR	19 59 50.6	
	comp=Z,132nm,19.5s,baz=81,slow=42						
WBK	**Wadi Bani Khal**	**6.39**	**240**	P	**Pn**	**19 56 57.0**	**+1.7**
	SNR=246						
WBK				S	**Sn**	**19 58 04.8**	**-3.6**
BIDO	**Bidbid**	**6.67**	**251**	P	**Pn**	**19 57 00.6**	**+1.5**
	SNR=20						
BIDO				S	**Sn**	**19 58 11.3**	**-3.9**
SMDO	**Samad**	**6.92**	**247**	P	**Pn**	**19 57 04.3**	**+1.7**
	SNR=42						
SMDO				S	**Sn**	**19 58 17.4**	**-4.1**
JMDO	**Jabal Madar**	**7.20**	**242**	P	**Pn**	**19 57 09.1**	**+2.7**
	SNR=9.2						
JMDO				S	**Sn**	**19 58 24.8**	**-3.5**
HOQ	**Hoqain**	**7.34**	**253**	P	**Pn**	**19 57 09.4**	**+0.9**
	SNR=29						
HOQ				S	**Sn**	**19 58 28.7**	**-3.2**
BSY	**Bisya**	**7.76**	**248**	P	**Pn**	**19 57 17.2**	**+3.0**
	SNR=23						
BSY				P	**Pn**	**19 57 17.2**	**+3.0**
	SNR=23						
BSY				S	**Sn**	**19 58 39.3**	**-2.9**
BSY				S	**Sn**	**19 58 39.3**	**-2.9**
BANOM	**Banah**	**7.82**	**272**	*i* P	**Pn**	**19 57 16.3**	**+1.3**
	SNR=36						
BANOM				S	**Sn**	**19 58 40.4**	**-3.2**
BANOM	**Banah**	**7.82**	**272**	P	**Pn**	**19 57 16.5**	**+1.5**
	SNR=6.2						
BANOM				S	**Sn**	**19 58 40.0**	**-3.6**
SOHO	**SOHO**	**7.86**	**259**	P	**Pn**	**19 57 16.3**	**+0.8**
SOHO	**SOHO**	**7.86**	**259**	P	**Pn**	**19 57 16.4**	**+0.8**
SOHO				P	**Pn**	**19 57 16.4**	**+0.8**
SOHO				S	**Sn**	**19 58 38.6**	**-6.0**
SOHO				S	**Sn**	**19 58 38.6**	**-6.0**
MDH	**Madha**	**7.86**	**268**	*i* P	**Pn**	**19 57 16.5**	**+1.0**
	SNR=5.1						
MDH	**Madha**	**7.86**	**268**	P	**Pn**	**19 57 16.7**	**+1.1**
MDH				P	**Pn**	**19 57 16.7**	**+1.1**
MDH				S	**Sn**	**19 58 39.8**	**-4.8**
MDH				S	**Sn**	**19 58 39.8**	**-4.8**
SHME	**Shamm**	**7.96**	**273**	*i* P	**Pn**	**19 57 18.9**	**+2.1**
	SNR=31						
SHME	**Shamm**	**7.96**	**273**	P	**Pn**	**19 57 18.8**	**+1.9**
	SNR=31						
SHME				S	**Sn**	**19 58 40.9**	**-6.0**
MASF	**Masafi**	**7.98**	**268**	P	**Pn**	**19 57 18.1**	**+0.9**
	SNR=13						
MASF				P	**Pn**	**19 57 18.1**	**+0.9**
	SNR=13						
MASF				S	**Sn**	**19 58 44.0**	**-3.6**
MASF				S	**Sn**	**19 58 44.0**	**-3.6**
MSFE	**Esma-Masafi**	**7.98**	**268**	P	**Pn**	**19 57 17.6**	**+0.4**
UOSS	**Minazif**	**7.99**	**265**	P	**Pn**	**19 57 17.7**	**+0.3**
UOSS	**Minazif**	**7.99**	**265**	P	**Pn**	**19 57 17.7**	**+0.3**
UOSS				P	**Pn**	**19 57 17.7**	**+0.3**
UOSS				S	**Sn**	**19 58 42.3**	**-5.6**
UOSS				S	**Sn**	**19 58 42.3**	**-5.6**
HATD	**Hatta, Dubai**	**8.07**	**264**	*i* P	**Pn**	**19 57 20.1**	**+1.6**
	SNR=26						
HATD	**Hatta, Dubai**	**8.07**	**264**	P	**Pn**	**19 57 19.9**	**+1.4**
	SNR=35						
HATD				S	**Sn**	**19 58 44.8**	**-5.1**
MHTO	**MHTO**	**8.08**	**234**	P	**Pn**	**19 57 20.4**	**+1.8**
	SNR=9.3						
ARQ	**Araqi**	**8.11**	**253**	P	**Pn**	**19 57 22.5**	**+3.5**
	SNR=60						
ARQ				P	**Pn**	**19 57 22.5**	**+3.5**
	SNR=60						
ARQ				S	**Sn**	**19 58 46.6**	**-4.1**
ARQ				S	**Sn**	**19 58 46.6**	**-4.1**
ASHO	**Ashiyiah**	**8.16**	**263**	*i* P	**Pn**	**19 57 21.4**	**+1.6**
	SNR=57						
ASHO	**Ashiyiah**	**8.16**	**263**	P	**Pn**	**19 57 20.9**	**+1.1**
	SNR=60						
ASHO				P	**Pn**	**19 57 20.9**	**+1.1**
	SNR=60						
ASHO				S	**Sn**	**19 58 45.9**	**-6.2**
ASHO				S	**Sn**	**19 58 45.9**	**-6.2**
NAZ	**Nazwa, Dubai**	**8.47**	**266**	P	**Pn**	**19 57 27.8**	**+3.9**
NAZ	**Nazwa, Dubai**	**8.47**	**266**	P	**Pn**	**19 57 24.6**	**+0.7**
NAZ				P	**Pn**	**19 57 24.6**	**+0.7**
FAQ	**Al Faqa, Dubai**	**8.57**	**264**	*i* P	**Pn**	**19 57 29.2**	**+3.9**
	SNR=33						
FAQ	**Al Faqa, Dubai**	**8.57**	**264**	P	**Pn**	**19 57 29.0**	**+3.7**
	SNR=33						
FAQ				S	**Sn**	**19 58 55.6**	**-6.5**
ALNE	**Al Ain**	**8.57**	**260**	*i* P	**Pn**	**19 57 28.9**	**+3.6**
	SNR=11						
ALNE	**Al Ain**	**8.57**	**260**	P	**Pn**	**19 57 27.0**	**+1.6**
	SNR=11						
ALNE				S	**Sn**	**19 58 58.2**	**-4.0**
ASUD	**Al Ashush, Dub**	**8.83**	**264**	*i* P	**Pn**	**19 57 32.8**	**+3.9**
	SNR=10						
ASUD	**Al Ashush, Dub**	**8.83**	**264**	P	**Pn**	**19 57 31.0**	**+2.2**
	SNR=10						
ASUD				S	**Sn**	**19 59 02.2**	**-6.2**
THW	**Thamme Wali**	**9.06**	**39**	P	**Pn**	**19 57 29.3**	**-2.7**
UMZA	**Um Al Zommool**	**9.50**	**253**	P	**Pn**	**19 57 40.8**	**+2.7**
UMZA				S	**Sn**	**19 59 20.1**	**-4.8**
CEP	**Cherat**	**9.93**	**36**	P	**Pn**	**19 57 41.3**	**-2.7**
CEP				S	Sn	19 59 25.0	-11
GEYT	**Alibeck**	**13.33**	**336**	LR	LR	20 04 21.0	
	comp=Z,126nm,20.6s,baz=45,slow=40						
GKN	**Gorkha**	**17.65**	**79**	*e*P	**Pn**	**19 59 24.4**	**-3.0**
DMN	**Daman**	**18.06**	**80**	*e*P	**Pn**	**19 59 29.4**	**-3.1**
KKN	**Kakani**	**18.21**	**80**	*e*P	**Pn**	**19 59 31.7**	**-2.7**
PKIN	**Phulchoki**	**18.31**	**80**	*e*P	**Pn**	**19 59 32.0**	**-3.6**
PKI	**Pulchoki**	**18.32**	**80**	*e*P	**Pn**	**19 59 33.3**	**-2.5**
	11nm,0.7s						
AAK	**Ala-Archa**	**18.43**	**23**	P	**Pn**	**19 59 36.0**	**-0.9**
	0.4nm,0.3s,baz=165,slow=5.9,SNR=7.8						
AAK				LR	LR	20 08 43.5	
	comp=Z,79nm,19.4s,baz=202,slow=44						
GUN	**Gumba**	**18.75**	**79**	*e*P	**P**	**19 59 38.3**	**-2.3**
	18nm,0.5s						
JIRN	**Jiri**	**19.02**	**80**	*e*P	**P**	**19 59 42.5**	**-1.1**
	29nm,0.7s						
RAMN	**Ramite**	**19.39**	**82**	*e*P	**P**	**19 59 46.3**	**-1.3**
	24nm,0.7s						
ODAN	**Odare**	**20.10**	**82**	*e*P	**P**	**19 59 55.2**	**-0.1**
	16nm,0.6s						
TAPN	**Taplejung**	**20.37**	**81**	*e*P	**P**	**19 59 58.3**	**0.0**
	39nm,1.0s						
PALK	**Pallekele**	**23.83**	**138**	LR	LR	20 10 33.2	
	comp=Z,89nm,18.6s,baz=60,slow=38						
MKAR	**Makanchi Array**	**24.98**	**29**	P	**P**	**20 00 45.0**	**+0.1**
	2.1nm,0.5s,baz=213,slow=10.0,SNR=26						
MKAR				LR	LR	20 11 20.9	
	comp=Z,68nm,19.4s,baz=214,slow=38						
AKTO	**Aktyubinsk**	**25.08**	**349**	P	**P**	**20 00 46.6**	**+0.9**
	1.0nm,0.7s,baz=157,slow=13,SNR=2.3						
AKTO				LR	LR	20 13 01.6	
	comp=Z,55nm,18.3s,baz=154,slow=42						
KBZ	**Khabaz**	**25.27**	**320**	P	**P**	**20 00 51.0**	**+3.5**
	2.8nm,1.0s,baz=92,slow=13,SNR=2.3						
EIL	**Elat**	**26.80**	**285**	P	**P**	**20 01 04.8**	**+3.4**
	3.7nm,0.9s,baz=41,slow=12,SNR=3.7						
EIL				LR	LR	20 14 25.1	
	comp=Z,157nm,18.1s,baz=98,slow=42						
**KURB

*IDC **29** 20:05:43.0±1.9, 43°.66N×105°.44W, h0km, mb1 3.3/4, mb1mx3.2/43, mbtmp3.0/4, ML2.4/3, Error ellipse: s-maj=42.7km s-min=10.9km az=151.0*
*NEIC **29** 20:05:43.0±1.6, 43°.65N±0°.06×105°.21W±0°.07, h0km±2km, ML2.9/16, Error ellipse: s-maj=11.9km s-min=6.9km az=327.0*
ISC 29 20:05:42.9±1.1, **43°.72N**±0°.07×**105°.16W**±0°.08, **h0km, n16, σ0s97/15, Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**63**	Pg		**Pb**	**20 06 02.1**	**+0.5**
K22A	**Casper**	**1.46**	**224**			**Pn**	**20 06 09.3**	**-1.3**
K22A				IAML			20 06 33.6	
	comp=E,236nm,0.7s							
K22A				IAML			20 06 35.0	
	comp=N,194nm,0.7s							
PHWY	**Pilot Hill**	**2.42**	**185**			**Pn**	**20 06 23.3**	**-0.7**
RWWY	**Rawlins**	**2.53**	**217**			**Pn**	**20 06 26.1**	**+0.7**
RLMT	**Red Lodge**	**3.26**	**297**	Pn		**Pn**	**20 06 34.7**	**-0.7**
RLMT				IAML			20 07 27.6	
	comp=N,29nm,0.9s							
RLMT				IAML			20 07 29.3	
	comp=N,35nm,0.9s							
BW06	**Boulder Array**	**3.35**	**255**			**Pn**	**20 06 36.1**	**-0.6**
BW06				IAML			20 07 25.8	
	comp=N,26nm,0.8s							
BW06				IAML			20 07 28.1	
	comp=N,30nm,0.8s							
PD31	**Pinedale Array**	**3.35**	**255**			**Pn**	**20 06 35.7**	**-1.0**
PDAR	**Pinedale Array**	**3.35**	**255**	Pn		**Pn**	**20 06 36.9**	**+0.2**
	comp=N,2.4nm,0.3s,baz=78,slow=16,SNR=45							
PDAR				Lg		Lg	20 07 20.6	
	comp=N,2.0nm,0.3s,baz=76,slow=31,SNR=11							
PDAR	**Pinedale Array**	**3.35**	**255**			**Pn**	**20 06 36.6**	**-0.1**
YNE	**Yellowstone No**	**3.71**	**292**	Pn		**Pn**	**20 06 40.2**	**-1.4**
ISCO	**Idaho Springs**	**3.93**	**185**	Pn		**Pn**	**20 06 43.2**	**-1.5**
ISCO				IAML			20 07 53.3	
	comp=N,16nm,0.9s							
LOHW	**Long Hollow**	**3.95**	**270**			**Pn**	**20 06 46.2**	**+1.3**
LOHW				IAML			20 07 49.7	
	comp=N,16nm,0.9s							
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn		**Pn**	**20 07 55.4**	**0.0**
	comp=N,0.3nm,0.3s,baz=226,slow=11,SNR=2.3							
ULM				Lg		Lg	20 10 22.9	
	comp=N,0.2nm,0.3s,baz=221,slow=9.3,SNR=2.1							
NEW	**Newport**	**9.49**	**303**	Lg		Lg	20 10 32.5	
	comp=N,0.1nm,0.3s,baz=41,slow=21,SNR=1.8							
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn		**Pn**	**20 08 25.4**	**+0.5**
	comp=N,0.1nm,0.3s,baz=70,slow=13,SNR=3.7							
YKA	**Yellowknife Ar**	**19.61**	**347**	P		**Pn**	**20 10 13.3**	**-0.4**
	comp=N,0.0nm,0.3s,baz=153,slow=13,SNR=5.6							

*IDC **29** 20:11:28.9±1.5, 34°.35N×45°.69E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/33, mbtmp3.6/6, Error ellipse: s-maj=37.8km s-min=25.9km az=4.0*
*ISN **29** 20:11:29.4±0.8, 34°.38N×45°.59E, h15km±5km, ML3.7*
*TEH **29** 20:11:30.0, 34°.18N×45°.59E, h12km, ML3.7*
*KISR **29** 20:11:35.0±1.1, 33°.60N×45°.90E, h2km±999km, Hypocentre not reviewed by the ISC*
*OMAN **29** 20:11:40.8, 33°.01N×45°.90E, h5km, mb5.2/6*
ISC 29 20:11:29.8±0.6, **34°.12N**±0°.03×**45°.73E**±0°.04, **h10km, n53, σ3s01/63, mb4.3/12, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.73**	**73**	*e*Pg		**Pn**	**20 11 46.6**	**+0.2**
IGHG				*e*			20 12 00.4	
	comp=Z,99nm,0.5s							
IDHR	**Dehrash**	**0.80**	**43**	*e*Pg		**Pg**	**20 11 45.4**	**+0.1**
IDHR				*e*			20 11 60.0	
	comp=Z,99nm,0.3s							
IBDR	**Badra**	**1.02**	**170**	*e*Pg		**Pn**	**20 11 53.4**	**+3.2**
IBDR				*e*Sg		**Sn**	**20 12 10.4**	**+5.8**
IBDR				AML		AML	20 12 13.7	
	comp=N,734nm,0.3s							
IBDR				AML		AML	20 12 14.2	
	comp=E,2μm,0.5s							
KCHF	**Cheshme Sefid,**	**1.10**	**82**	*e*Pg		**Pn**	**20 11 53.0**	**+1.5**
KCHF				*e*			20 12 14.8	
	comp=Z,99nm,0.4s							
KER	**Kermanshah**	**1.19**	**77**	*e*Pg		**Pg**	**20 11 54.9**	**+2.1**
ILIN	**Lien**	**1.29**	**52**	*e*Pg		**Pg**	**20 11 55.7**	**+0.9**
ILIN				*e*			20 12 17.7	
	comp=Z,99nm,0.5s							
BHD	**Baghdad**	**1.41**	**233**	*e*Pn		**Pg**	**20 11 57.4**	**+0.6**
BHD				*e*Sn		**Sg**	**20 12 17.9**	**+2.8**
BHD				AML		AML	20 12 20.6	
	comp=E,2μm,0.4s							
IBZA	**Bozab**	**1.80**	**78**	*e*Pn		**Pg**	**20 12 04.7**	**+0.3**
IKFM	**Kafar-mosalman**	**1.86**	**108**	*e*			**20 12 43.4**	
	comp=Z,99nm,0.4s							
IKFM				*e*Pn		**Pg**	**20 12 06.0**	**+0.4**
DHL1	**Dehloran**	**1.94**	**137**	*e*Pg		**Pg**	**20 12 08.3**	**+1.3**
IDOB	**Doab**	**2.06**	**99**	*e*Pn		**Pb**	**20 12 08.4**	**+0.9**
IALM	**Almabolaq**	**2.15**	**69**	*e*Pn		**Pb**	**20 12 09.9**	**+0.9**
IKMR	**Kamar-syah**	**2.29**	**104**	*e*Pn		**Pb**	**20 12 11.6**	**+0.4**
HSAM	**Samen**	**2.39**	**87**	*e*Pn		**Pb**	**20 12 12.9**	**-0.2**
MAHB	**Mahabad**	**2.64**	**360**	*e*Pn		**Pn**	**20 12 14.3**	**+1.6**
MAHB				*e*			20 12 56.1	
	comp=Z,99nm,0.4s							
HAGD	**Aghdareh**	**2.91**	**75**	*e*Pn		**Pb**	**20 12 20.7**	**-1.2**
HAGD				*e*			20 13 10.7	
	comp=Z,99nm,0.7s							
NSR	**Nassriya**	**3.12**	**173**	*e*Pn		**Pb**	**20 12 23.5**	**-1.9**
NSR				*e*Sn		**Sb**	**20 13 04.0**	**+0.5**
NSR				AML		AML	20 13 22.2	
	comp=E,313nm,0.6s							
QABG	**Abgarm-Qazvin**	**3.54**	**62**	*e*Pn		**Pn**	**20 12 26.3**	**+1.2**
IRAZ	**Razeghan**	**3.69**	**68**	*e*Pn		**Pn**	**20 12 30.5**	**+3.4**
ITBZ	**Tabriz**	**4.12**	**5**	*e*Pn		**Pn**	**20 12 32.9**	**-0.1**
IHRS	**Heris**	**4.32**	**14**	*e*Pn		**Pn**	**20 12 37.1**	**+1.2**
MIB	**Mutribah**	**4.52**	**162**	*e*P			20 12 41.8	
IPIR	**Pirpir**	**4.55**	**107**	*e*Pn		**Pn**	**20 12 42.1**	**+3.0**
IPIR				*e*			20 13 41.7	
	comp=Z,99nm,0.5s							
IMRD	**Marand**	**4.58**	**360**	*e*Pn		**Pn**	**20 12 40.0**	**+0.6**
SHK1	**Shahrekord**	**4.68**	**111**	*e*Pn		**Pn**	**20 12 43.5**	**+2.8**
SHK1				*e*			20 13 49.5	
	comp=Z,99nm,0.4s							
QAM	**Ghamsar**	**4.76**	**93**	*e*Pn		**Pn**	**20 12 45.0**	**+3.1**
IKLH	**Kolahrood**	**4.94**	**98**	*e*Pn		**Pn**	**20 12 48.1**	**+3.7**
IKLH				*e*			20 13 59.5	
	comp=Z,99nm,0.6s							
KRSH	**Karshahi**	**5.32**	**90**	*e*Pn		**Pn**	**20 12 52.5**	**+2.9**
RDF	**Al-Radifah**	**5.41**	**163**	*e*P			20 12 53.8	
IGAR	**Gharneh**	**5.56**	**106**	*e*		**Sn**	**20 14 02.8**	**+5.8**
	comp=Z,99nm,0.5s							
IZEF	**Zefreh**	**5.65**	**101**	*e*Pn		**Pn**	**20 12 57.1**	**+3.0**
KLNJ	**Kolanjah**	**5.84**	**120**	*e*Pn		**Pn**	**20 12 59.1**	**+2.2**
IRAM	**Ramesheh**	**6.05**	**111**	*e*Pn		**Pn**	**20 13 02.1**	**+2.5**
IMEH	**Mehriz**	**7.96**	**108**	*e*Pn		**Pn**	**20 13 28.4**	**+2.5**
BANOM	**Banah** SNR=14	**12.27**	**129**	P		**Pn**	**20 14 25.8**	**+1.2**
BANOM				S		**Sn**	**20 16 35.9**	**-5.7**
MASF	**Masafi** SNR=9.1	**12.57**	**131**	P		**Pn**	**20 14 29.9**	**+1.1**
MASF				S		**Sn**	**20 16 43.1**	**-5.8**
MDH	**Madha**	**12.71**	**131**	P		**Pn**	**20 14 30.4**	**-0.2**
MDH				S		**Sn**	**20 16 46.2**	**-6.0**
UOSS	**Minazif**	**12.91**	**132**	P		**Pn**	**20 14 34.1**	**+0.7**
UOSS				S		**Sn**	**20 16 49.9**	**-7.2**
ASHO	**Ashiyiah** SNR=7.2	**13.01**	**134**	P		**Pn**	**20 14 35.3**	**+0.4**
ASHO				S		**Sn**	**20 16 53.7**	**-6.0**
UMZA	**Um Al Zommool**	**14.06**	**141**	P		**Pn**	**20 14 49.0**	**-0.1**
UMZA				S		**Sn**	**20 17 17.3**	**-8.0**
MHTO	**MHTO** SNR=7.0	**16.98**	**137**	P		**Pn**	**20 15 26.4**	**-1.1**
MHTO				S		**Sn**	**20 18 27.8**	**-8.5**
AKASG	**Malin Array Be**	**20.49**	**329**	P		**P**	**20 16 05.2**	**-2.5**
	comp=Z,0.6nm,0.5s,baz=141,slow=11,SNR=4.1							
FINES	**FINESS Array B**	**30.11**	**341**	P		**P**	**20 17 37.5**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=134,slow=12,SNR=4.1							
MKAR	**Makanchi Array**	**30.29**	**54**	P		**P**	**20 17 42.2**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=250,slow=9.9,SNR=4.1							
GKN	**Gorkha**	**33.74**	**90**	*e*P		**P**	**20 18 12.4**	**+0.6**
	comp=Z,6.0nm,0.6s							
ZALV	**Zalesovo Beam**	**33.80**	**42**	P		**P**	**20 18 11.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=226,slow=7.7,SNR=2.8							
KKN	**Kakani**	**34.35**	**90**	*e*P		**P**	**20 18 18.1**	**+1.0**
PKIN	**Phulchoki**	**34.52**	**90**	*e*P		**P**	**20 18 19.3**	**+0.6**
	comp=Z,4.3nm,0.5s							
PKI	**Pulchoki**	**34.53**	**90**	*e*P		**P**	**20 18 19.5**	**+0.6**
	comp=Z,7.0nm,0.8s							
GUN	**Gumba**	**34.80**	**89**	*e*P		**P**	**20 18 22.2**	**+1.0**
	comp=Z,8.1nm,0.7s							
JIRN	**Jiri**	**35.15**	**89**	*e*P		**P**	**20 18 25.3**	**+1.1**
	comp=Z,7.0nm,0.5s							
RAMN	**Ramite**	**35.74**	**90**	*e*P		**P**	**20 18 29.8**	**+0.6**
	comp=Z,8.0nm,0.6s							
TAPN	**Taplejung**	**36.52**	**89**	*e*P		**P**	**20 18 37.0**	**+1.1**
	comp=Z,10.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**44.99**	**253**	P		**P**	**20 19 47.1**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=44,slow=8.1,SNR=1.6							
CMAR	**Chiang Mai Arr**	**49.67**	**94**	P		**P**	**20 20 22.1**	**0.0**
	comp=Z,0.7nm,0.7s,baz=296,slow=8.3,SNR=8.5							

KRSC 29 20:19:35.1±1.4, **50°.98N**×**158°.15E, h42km**±21**km, ML3.6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.83**	**357**	*e*P		Pn	20 19 51.5	+1.2
KDTR				*e*S		Sn	20 20 02.4	+1.0
PAU	**Pauzhetka**	**0.97**	**301**	*e*P		Pn	20 19 53.6	+1.4
PAU				*e*S		Sn	20 20 06.0	+1.1
SKR	**Severo-Kuril's**	**1.32**	**258**	*e*P		Pn	20 19 58.1	+1.1
SKR				*e*S		Sn	20 20 14.1	+0.7
ASAK	**Asacha**	**1.42**	**354**	*e*P		Pn	20 20 00.6	+2.2
MTVR	**Mutnovka**	**1.51**	**1**	*e*P		Pn	20 20 01.4	+1.7
MTVR				*e*S		Sn	20 20 19.7	+1.5
GRL	**Gorelyy**	**1.58**	**358**	*e*P		Pn	20 20 02.9	+2.3
GRL				*e*S		Sn	20 20 22.2	+2.3
ALID	**Alaid**	**1.65**	**267**	*e*P		Pn	20 20 03.3	+1.7
KRMR	**Karymshinskiy**	**1.85**	**360**	*e*P		Pn	20 20 07.9	+3.6
APC	**Apacha**	**2.04**	**343**	*e*P		Pn	20 20 10.2	+3.3
PET	**Petropavlovsk**	**2.07**	**8**	*e*P		Pn	20 20 08.9	+1.6
PET				*e*S		Sn	20 20 32.3	+0.5
DALK	**Dalny**	**2.09**	**10**	*e*P		Pn	20 20 09.5	+2.0
DALK				*e*S		Sn	20 20 34.0	+1.7
UGLR	**Uglovaya**	**2.27**	**10**	*e*P		Pn	20 20 12.7	+2.5
NLC	**Nalytchevo**	**2.32**	**18**	*e*S		Sn	20 20 39.7	+1.9
AVH	**Avacha**	**2.32**	**4**	*e*P		Pn	20 20 14.4	+3.6
SMAR	**Samna**	**2.32**	**10**	*e*P		Pn	20 20 13.4	+2.4
KOK	**Koryaka**	**2.34**	**7**	*e*P		Pn	20 20 14.3	+3.3
SDLR	**Sedlovina**	**2.35**	**11**	*e*P		Pn	20 20 13.5	+2.3
KRER	**Koryakskii**	**2.36**	**9**	*e*P		Pn	20 20 15.1	+3.7
KRX	**Arik**	**2.40**	**7**	*e*P		Pn	20 20 15.1	+3.1
KRX				*e*S		Sn	20 20 44.9	+4.6
SPN	**Mys Shipunski**	**2.42**	**28**	*e*P		Pn	20 20 15.3	+3.3
SPN				*e*S		Sn	20 20 43.0	+2.6
GNL	**Ganaly**	**2.72**	**357**	*e*P		Pn	20 20 20.5	+4.1
MKZ	**Mys Kozlova**	**4.19**	**30**	*e*P		Pn	20 20 38.9	+2.6
KZV	**Kizimen**	**4.34**	**16**	*e*P		Pn	20 20 44.0	+5.4
TUMR	**Tumrok**	**4.48**	**15**	*e*P		Pn	20 20 45.4	+5.0
KBTR	**Krutoberegovo**	**5.93**	**26**	*e*P		Pn	20 21 03.5	+3.3

*SKHL **29** 20:34:19.7±0.2, 45°.10N×151°.10E, h40km±5km, mb4.1/2*
*JMA **29** 20:34:22.6±0.5, 45°.11N×150°.78E, h102km, M3.6*
ISC 29 20:34:22.1±4.3, **45°.0N**±0°.1×**151°.0E**±0°.2, **h35km, n15, σ1s53/23, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.22**	**279**	*e*P		**Pn**	**20 34 55.2**	**-1.1**
KUR				AMB		AMB	20 34 55.9	
	20nm,0.3s							
KUR				*e*S		**Sn**	**20 35 22.0**	**-0.5**
KUR				A		A	20 35 24.0	
	230nm,0.3s							
KUR				A		A	20 35 24.0	
	100nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.77**	**258**	*e*P		**Pn**	**20 35 18.6**	**+1.0**
YUK				AMB		AMB	20 35 21.3	
	40nm,0.5s							
YUK				*e*S		**Sn**	**20 36 02.0**	**+1.3**
YUK				A		A	20 36 09.4	
	90nm,0.5s							
YUK				A		A	20 36 09.4	
	180nm,0.5s							
GRPR	**Tuman**	**3.84**	**257**	*e*S		**Sn**	**20 36 03.5**	**+1.0**
NEM2	**Nemuro 2**	**4.08**	**249**	P		**Pn**	**20 35 23.1**	**+1.2**
NEM2				*e*S		**Sn**	**20 36 09.8**	**+1.4**
NMR	**Nemuro--Hokkai**	**4.09**	**249**	*e*P		**Pn**	**20 35 23.0**	**+1.0**
NMR				*e*S		**Sn**	**20 36 10.3**	**+1.7**
JNK	**Nakash**	**4.69**	**255**	P		**Pn**	**20 35 31.7**	**+1.4**
JAK	**Akkeshi**	**4.93**	**249**	P		**Pn**	**20 35 34.3**	**+0.7**
JTKR	**Abashiri--Toko**	**5.15**	**262**	P		**Pn**	**20 35 36.6**	**0.0**
JOB	**Onbets**	**5.54**	**251**	P		**Pn**	**20 35 43.4**	**+1.4**
JOB				*e*S		**Sn**	**20 36 45.5**	**+1.0**
JCH	**Churui**	**5.98**	**250**	P		**Pn**	**20 35 49.0**	**+1.0**
JCH				*e*S		**Sn**	**20 36 55.0**	**-0.2**
JKK2	**Kamakawa 2**	**5.99**	**263**	P		**Pn**	**20 35 49.0**	**+0.9**
JNBK	**Urakawa-nobuka**	**6.53**	**249**	P		**Pn**	**20 35 56.3**	**+0.7**
JKB	**Kayabe**	**7.85**	**251**	P		**Pn**	**20 36 13.4**	**-0.3**
JKB				*e*S		**Sn**	**20 37 37.6**	**-3.7**
JANG	**Nango**	**8.33**	**240**	P		**Pn**	**20 36 20.1**	**-0.2**
JANG				*e*S		**Sn**	**20 37 50.5**	**-2.6**
JTH	**Tanohata**	**8.39**	**237**	*e*S		**Sn**	**20 37 51.9**	**-2.6**

*IDC **29** 20:40:07.6±1.4, 33°.69N×76°.00E, h0km, mb3.6/8, mb1 3.7/11, mb1mx3.4/55, mbtmp3.5/11, ML2.8/3, MS2.9/3, Ms1 2.9/3, ms1mx2.5/51, Error ellipse: s-maj=40.4km s-min=18.8km az=60.0*
ISC 29 20:40:15.5±0.7, **34°.06N**±0°.06×**76°.70E**±0°.10, **h35km, n28, σ2s06/29, mb3.7/7, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**1.82**	**207**	*e*P		**Pn**	**20 40 43.8**	**-0.5**
THN				*e*S		**Sn**	**20 41 09.2**	**+2.9**
BHK	**Bhakra**	**2.65**	**185**	*e*P		**Pn**	**20 40 57.0**	**+1.3**
BHK				*e*S		**Sn**	**20 41 32.2**	**+5.6**
SONA	**Sohna**	**5.80**	**177**	*e*P		**Pn**	**20 41 40.1**	**+1.0**
SONA				*e*S		**Sn**	**20 42 42.3**	**-2.1**
KUDL	**Kundal**	**5.90**	**182**	*e*P		**Pn**	**20 41 40.2**	**-0.2**
KUDL				*e*S		**Sn**	**20 42 46.1**	**-0.7**
AAK	**Ala-Archa**	**8.74**	**349**	Pn		**Pn**	**20 42 22.4**	**+3.0**
	0.2nm,0.3s,baz=177,slow=11,SNR=4.2							
GKN	**Gorkha**	**9.10**	**129**	*e*P		**Pn**	**20 42 24.7**	**+0.2**
	14nm,0.5s							
KKN	**Kakani**	**9.66**	**128**	*e*P		**Pn**	**20 42 31.7**	**-0.5**
DMN	**Daman**	**9.67**	**129**	*e*P		**Pn**	**20 42 32.1**	**-0.3**
	14nm,0.7s							
PKIN	**Phulchoki**	**9.88**	**129**	*e*P		**Pn**	**20 42 34.9**	**-0.4**
	7.0nm,0.4s							
PKI	**Pulchoki**	**9.89**	**128**	*e*P		**Pn**	**20 42 35.0**	**-0.5**
	4.3nm,0.4s							
GUN	**Gumba**	**9.98**	**125**	*e*P		**Pn**	**20 42 36.3**	**-0.4**
	9.3nm,0.5s							
JIRN	**Jiri**	**10.35**	**125**	*e*P		**Pn**	**20 42 41.9**	**+0.1**
	11nm,0.3s							
RAMN	**Ramite**	**11.09**	**127**	*e*P		**Pn**	**20 42 51.0**	**-0.9**
	15nm,0.6s							
TAPN	**Taplejung**	**11.60**	**122**	*e*P		**Pn**	**20 42 58.3**	**-0.5**
	7.1nm,0.4s							
ODAN	**Odare**	**11.68**	**125**	*e*P		**Pn**	**20 42 58.4**	**-1.5**
	7.3nm,0.5s							
MKAR	**Makanchi Array**	**13.41**	**17**	Pn		**Pn**	**20 43 26.5**	**+3.3**
	0.1nm,0.3s,baz=195,slow=12,SNR=2.1							
KURBB	**Kurchatov Arra**	**16.61**	**4**	Pn		**Pn**	**20 44 05.7**	**+0.3**
	0.0nm,0.3s,baz=191,slow=10,SNR=2.4							
WSAR	**Wadi Sarin**	**19.14**	**240**	LR		LR	20 52 54.9	
	comp=Z,57nm,20.3s,baz=105,slow=42							
ZALV	**Zalesovo Beam**	**20.70**	**14**	P		**P**	**20 44 53.4**	**+1.0**
	0.6nm,0.5s,baz=200,slow=9.1,SNR=4.0							
AKTO	**Aktyubinsk**	**21.33**	**326**	P		**P**	**20 44 56.5**	**-2.7**
	2.3nm,0.7s,baz=131,slow=7.2,SNR=1.8							
CMAR	**Chiang Mai Arr**	**25.21**	**122**	P		**P**	**20 45 38.0**	**0.0**
	0.8nm,0.6s,baz=317,slow=10,SNR=8.8							
SONM	**Songino Array**	**26.13**	**49**	P		**P**	**20 45 50.2**	**+3.9**
	0.5nm,0.6s,baz=234,slow=11,SNR=3.9							
TLY	**Talaya**	**26.23**	**40**	LR		LR	20 58 28.6	
	comp=Z,14nm,18.8s,baz=294,slow=41							
FINES	**FINESS Array B**	**42.10**	**326**	P		**P**	**20 48 01.0**	**-2.7**
	2.9nm,1.0s,baz=111,slow=7.7,SNR=8.0							
KLR	**Kul'dur**	**42.88**	**52**	LR		LR	21 06 49.5	
	comp=Z,15nm,20.7s,baz=325,slow=37							
WRA	**Warramunga Arr**	**76.76**	**125**	P		**P**	**20 52 03.2**	**-0.3**
	0.7nm,0.9s,baz=321,slow=6.4,SNR=3.4							
YKA	**Yellowknife Ar**	**83.35**	**5**	P		**P**	**20 52 37.1**	**-1.4**
	0.1nm,0.6s,baz=354,slow=4.8,SNR=2.2							
STKA	**Stephens Creek**	**89.62**	**130**	P		**P**	**20 53 07.5**	**-2.0**
	0.4nm,0.4s,baz=329,slow=8.6,SNR=3.8							

*ATH **29** 20:46:37.6, 36°.85N×28°.16E, h117km±6km, ML3.6/5, Error ellipse: s-maj=6.3km s-min=1.6km az=136.0*
*ISK **29** 20:46:43.9, 36°.85N×28°.09E, h65km, ML3.3/30*
*DDA **29** 20:46:44.6, 36°.77N×28°.10E, h65km, ML3.3*
*HLW **29** 20:46:45.9, 36°.29N×28°.24E, h12km±18km, Md4.1, Ml4.1*
*NIC **29** 20:46:45.9±0.0, 36°.44N×28°.33E, h89km±1km, Ml3.7/4*
*THE **29** 20:46:45.0, 36°.84N×28°.12E, h71km±2km, ML3.1/8, Error ellipse: s-maj=2.2km s-min=0.7km az=55.0*
ISC 29 20:46:43.8±1.1, **36°.80N**±0°.03×**28°.13E**±0°.02, **h70km**±5**km, n116, σ1s14/157, 3C-3D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.10**	**104**	PG		**Pn**	**20 46 54.3**	**+0.2**
TURN				SG		**Sn**	**20 47 01.5**	**-0.1**
TURN	**Turunc**	**0.10**	**104**	*i* P		**Pn**	**20 46 54.3**	**+0.2**
TURN				*i* S		**Sn**	**20 47 01.5**	**-0.1**
TURN				IAML			20 47 02.0	
	comp=N,3μm,0.2s							
TURN				IAML			20 47 02.0	
	comp=E,2μm,0.2s							
MRSB	**Marmaris-Mugla**	**0.10**	**146**	PG		**Pn**	**20 46 54.1**	**-0.1**
MRSB				SG		**Sn**	**20 47 01.6**	**-0.1**
YER	**Yerkesik**	**0.36**	**20**	P		**Pn**	**20 46 56.0**	**+0.4**
YER				S		**Sn**	**20 47 04.5**	**+0.4**
YER	**Yerkesik**	**0.36**	**20**	PG		**Pn**	**20 46 55.8**	**+0.2**
YER				SG		**Sn**	**20 47 03.9**	**-0.2**
DATC	**Datca-Mugla**	**0.38**	**264**	PG		**Pn**	**20 46 55.7**	**+0.1**
DATC				SG		**Sn**	**20 47 04.2**	**0.0**
DALY	**Dalyan (Mula)**	**0.42**	**87**	PG		**Pn**	**20 46 56.5**	**+0.6**
DALY				SG		**Sn**	**20 47 05.1**	**+0.3**
DALY	**Dalyan (Mula)**	**0.42**	**87**	*i* P		**Pn**	**20 46 56.5**	**+0.6**
DALY				IAML			20 47 05.0	
	comp=N,4μm,0.4s							
DALY				IAML			20 47 05.0	
	comp=E,2μm,0.2s							
DALY				*i* S		**Sn**	**20 47 05.3**	**+0.5**
MULA	**Mugla, Merkez-**	**0.48**	**19**	*i* P		**Pn**	**20 46 57.1**	**+0.5**
MULA				*i* S		**Sn**	**20 47 06.5**	**+0.5**
MULA				IAML			20 47 07.0	
	comp=E,2μm,0.3s							
MULA				IAML			20 47 08.0	
	comp=N,795nm,0.2s							
ARG	**Arkhangelos**	**0.58**	**180**	P		**Pn**	**20 46 58.6**	**+1.1**
ARG				AML		AML	20 47 09.5	
	comp=N,8584μm,0.5s							
ARG				AML		AML	20 47 10.1	
	comp=E,13200μm,0.4s							
ARG	**Arkhangelos**	**0.58**	**180**	P		**Pn**	**20 46 58.6**	**+1.1**
ARG				S		**Sn**	**20 47 09.3**	**+1.8**
	comp=E,3μm,0.2s							
ARG	**Arkhangelos**	**0.58**	**180**	PG		**Pn**	**20 46 58.5**	**+1.0**
ARG				SG		**Sn**	**20 47 08.8**	**+1.3**
ARG	**Arkhangelos**	**0.58**	**180**	P		**Pn**	**20 46 58.6**	**+1.1**
ARG				S		**Sn**	**20 47 09.4**	**+1.9**
BDRM	**Kayabasi**	**0.61**	**296**	*i* P		**Pn**	**20 46 58.1**	**+0.3**
BDRM				*i* P			20 46 58.1	
BDRM				IAML			20 47 08.0	
	comp=E,1μm,0.3s							
BDRM				IAML			20 47 08.0	
	comp=N,2μm,0.4s							
BDRM				IAML			20 47 08.0	
	comp=E,1μm,0.3s							
BDRM				*i* S		**Sn**	**20 47 08.1**	**0.0**
BODT	**Bodrum**	**0.71**	**292**	P		**Pn**	**20 46 58.3**	**-0.5**
BODT				S		**Sn**	**20 47 09.1**	**-0.8**
BODT	**Bodrum**	**0.71**	**292**	PG		**Pn**	**20 46 58.3**	**-0.5**
BODT				SG		**Sn**	**20 47 09.3**	**-0.6**
YKAV	**Yalikavak-Bodr**	**0.75**	**296**	PG		**Pn**	**20 46 59.6**	**+0.3**
YKAV				SG		**Sn**	**20 47 10.6**	**-0.2**
FETY	**Fethiye**	**0.78**	**102**	P		**Pn**	**20 46 59.5**	**-0.3**
FETY				S		**Sn**	**20 47 12.3**	**+0.8**
FETY	**Fethiye**	**0.78**	**102**	PG		**

KARP				AML	AML	20 47 28.5
	comp=E,2.7nm,0.2s					
KARP				AML	AML	20 47 28.5
	comp=E,2.7nm,0.2s					
DGB	**zmir**	**1.60**	**322**	*i* P	**Pn**	**20 47 10.4 +0.4**
DGB				*i* S	**Sn**	**20 47 29.3 -0.6**
DGB				IAML		20 47 31.0
	comp=E,180nm,0.5s					
GMLD	**Gumuldur**	**1.60**	**323**	PN	**Pn**	**20 47 10.4 +0.3**
KULA	**Kula-Manisa**	**1.76**	**14**	P	**Pn**	**20 47 12.8 +0.4**
KULA	**Kula-Manisa**	**1.76**	**14**	PN	**Pn**	**20 47 12.9 +0.5**
BRDR	**BURDUR-Merkez**	**1.78**	**59**	*i* P	**Pn**	**20 47 14.4 +1.8**
KORT	**Korkueli**	**1.79**	**83**	PN	**Pn**	**20 47 14.0 +1.2**
BLCB	**Balcova**	**1.80**	**332**	P	**Pn**	**20 47 13.2 +0.4**
BLCB				S	**Sn**	**20 47 35.0 +0.2**
BLCB	**Balcova**	**1.80**	**332**	PN	**Pn**	**20 47 12.8 0.0**
AKUM	**Antalya-Kumluc**	**1.84**	**104**	*i* P	**Pn**	**20 47 15.1 +1.7**
BASM	**Basmaki-Afyon**	**1.90**	**53**	PN	**Pn**	**20 47 15.0 +0.9**
KHAL	**Karahalli**	**1.91**	**34**	*i* P	**Pn**	**20 47 13.2 -1.2**
KHAL				IAML		20 47 37.0
	comp=E,127nm,0.4s					
GOMA	**Golmarmara-Man**	**1.91**	**355**	PN	**Pn**	**20 47 14.5 +0.2**
ZEYE	**Izmir, Urla-Ze**	**1.93**	**319**	*i* P	**Pn**	**20 47 14.9 +0.3**
ZEYE				IAML		20 47 37.0
	comp=N,139nm,0.3s					
KEMT	**Kemer-ANTALYA**	**1.96**	**95**	PN	**Pn**	**20 47 16.8 +1.9**
URLA	**Izmir**	**1.98**	**322**	PN	**Pn**	**20 47 14.6 -0.6**
ANTB	**Antalya**	**2.03**	**86**	PN	**Pn**	**20 47 17.6 +1.8**
USAK	**Uak-Merkez**	**2.04**	**20**	*i* P	**Pn**	**20 47 16.7 +0.7**
APE	**Apeiranthos**	**2.10**	**278**	P	**Pn**	**20 47 17.9 +1.1**
APE	**Apeiranthos**	**2.10**	**278**	PN	**Pn**	**20 47 17.5 +0.7**
ISP	**Isparta**	**2.17**	**61**	PN	**Pn**	**20 47 19.2 +1.4**
THR8	**Santorini-Mono**	**2.17**	**260**	P	**Pn**	**20 47 19.6 +1.9**
THR8	**Santorini-Mono**	**2.17**	**260**	P	**Pn**	**20 47 19.0 +1.3**
KRBN	**Karaburun**	**2.19**	**326**	PN	**Pn**	**20 47 18.3 +0.4**
SANT	**Santorini**	**2.19**	**260**	P	**Pn**	**20 47 20.0 +1.9**
SANT	**Santorini**	**2.19**	**260**	PN	**Pn**	**20 47 19.6 +1.5**
SNT1	**Gialos, Santor**	**2.21**	**261**	P	**Pn**	**20 47 20.3 +2.1**
THT2	**Imerovigli**	**2.21**	**261**	P	**Pn**	**20 47 20.4 +2.2**
THT2	**Imerovigli**	**2.21**	**261**	PN	**Pn**	**20 47 19.4 +1.1**
FOCM	**Foa**	**2.21**	**330**	PN	**Pn**	**20 47 18.5 +0.2**
THR3	**Thira Island,**	**2.23**	**261**	P	**Pn**	**20 47 19.8 +1.2**
THR3	**Thira Island,**	**2.23**	**261**	P	**Pn**	**20 47 19.7 +1.2**
SNT5	**Nea Kammeni, S**	**2.23**	**261**	P	**Pn**	**20 47 20.8 +2.1**
CHOS	**Chios island**	**2.29**	**315**	P	**Pn**	**20 47 20.0 +0.7**
CHOS	**Chios island**	**2.29**	**315**	P	**Pn**	**20 47 20.1 +0.7**
CHOS				S	**Sn**	**20 47 45.8 -0.8**
	comp=N,238nm,0.4s					
CHOS	**Chios island**	**2.29**	**315**	PN	**Pn**	**20 47 20.2 +0.8**
ZKR	**Zakros**	**2.29**	**223**	P	**Pn**	**20 47 20.9 +1.5**
ZKR	**Zakros**	**2.29**	**223**	P	**Pn**	**20 47 20.9 +1.5**
ZKR				S	**Sn**	**20 47 48.1 +1.6**
	comp=N,110nm,0.5s					
ZKR	**Zakros**	**2.29**	**223**	PN	**Pn**	**20 47 20.9 +1.5**
ZKR	**Zakros**	**2.29**	**223**	P	**Pn**	**20 47 20.7 +1.4**
ZKR				S	**Sn**	**20 47 48.0 +1.5**
ZKR				AML	AML	20 47 50.8
	comp=N,0.3nm,0.4s					
ZKR				AML	AML	20 47 50.8
	comp=N,0.3nm,0.4s					
ZKR				AML	AML	20 47 54.6
	comp=N,0.1nm,0.7s					
ZKR				AML	AML	20 47 54.6
	comp=N,0.1nm,0.7s					
STIA	**Sitia Lasithi**	**2.29**	**227**	P	**Pn**	**20 47 20.9 +1.5**
STIA				S	**Sn**	**20 47 47.6 +0.9**
SIMA	**Simav-Kutahya**	**2.38**	**16**	PN	**Pn**	**20 47 20.3 -0.4**
GEDZ	**Gediz**	**2.46**	**24**	PN	**Pn**	**20 47 22.9 +1.1**
DKL	**Dikili**	**2.47**	**337**	PN	**Pn**	**20 47 22.6 +0.8**
NPS	**Neapolis**	**2.55**	**234**	P	**Pn**	**20 47 23.9 +1.0**
NPS				AML	AML	20 47 54.9
	comp=N,337μm,0.3s					
NPS				AML	AML	20 47 55.5
	comp=E,448μm,0.2s					
NPS	**Neapolis**	**2.55**	**234**	P	**Pn**	**20 47 23.7 +0.8**
NPS				S	**Sn**	**20 47 54.2 +1.3**
	comp=E,192nm,0.2s					
PRK	**Paraskevi**	**2.85**	**330**	P	**Pn**	**20 47 28.9 +2.0**
SIGR	**SIGRI**	**3.00**	**324**	PN	**Pn**	**20 47 30.0 +0.9**
IDI	**Anoyia**	**3.03**	**241**	⇓P	**Pn**	**20 47 31.0 +1.6**
IDI	**Anoyia**	**3.03**	**241**	PN	**Pn**	**20 47 31.1 +1.6**
AKMS	**Akamas**	**3.85**	**116**	P	**Pn**	**20 47 39.6 -1.0**
AKMS				AML	AML	20 48 23.7
	comp=E,1.0nm,0.4s					
AKMS				AML	AML	20 48 23.8
	comp=E,0.6nm,0.3s					
ALFC	**Alefka**	**3.98**	**113**	P	**Pn**	**20 47 41.4 -1.0**
ALFC				AML	AML	20 48 26.7
	comp=E,0.3nm,0.3s					
ALFC				AML	AML	20 48 27.2
	comp=E,0.4nm,0.2s					
NATA	**Nata**	**4.13**	**118**	⇑P	**Pn**	**20 47 44.0 -0.5**
OSC1	**CSNet OBS 1**	**4.18**	**141**	P	**Pn**	**20 47 43.8 -1.3**
SZAC	**Souni**	**4.37**	**116**	⇑P	**Pn**	**20 47 46.9 -0.8**
CSS	**Mathiatis**	**4.60**	**112**	P	**Pn**	**20 47 50.1 -0.8**
ASGA	**Asgata**	**4.62**	**114**	P	**Pn**	**20 47 50.5 -0.7**
OSC2	**CSNet OBS 4**	**5.03**	**136**	P	**Pn**	**20 47 55.1 -1.7**
SLUM	**Salum**	**5.82**	**205**	P	**Pn**	**20 48 06.8 -0.7**
	baz=209					
SLUM				AMP		20 49 00.0
	baz=209					
SLUM				S	**Sn**	**20 49 06.2 -6.7**
	baz=209					
KOT	**Kottamia**	**7.52**	**155**	P	**Pn**	**20 48 29.4 -1.5**
	baz=153					
HHAG	**Hagoal**	**7.59**	**153**	P	**Pn**	**20 48 31.3 -0.5**
	baz=151					
GLL	**Jalalah**	**7.80**	**156**	P	**Pn**	**20 48 33.3 -1.4**
	baz=155					
SWA2		**7.86**	**197**	P	**Pn**	**20 48 34.5 -0.9**
	baz=200					
SWA2				S	Sn	20 49 53.9 -9.0
	baz=200					
SWA2				AMP		20 50 00.0
	baz=200					
SUZ	**Suez**	**7.98**	**149**	P	**Pn**	**20 48 36.0 -1.0**
	baz=147					
ZAF	**Zafarana**	**8.36**	**152**	P	**Pn**	**20 48 41.2 -1.1**
	baz=151					
ZAF				AMP		20 50 00.0
	baz=151					
VOIR		**8.94**	**346**	⇑P	**Pn**	**20 48 51.1 +0.9**
VRI	**Vrincioaia**	**9.12**	**354**	⇓P	**Pn**	**20 48 52.2 -0.4**
HKAT	**Jabal Katrina**	**9.62**	**147**	P	**Pn**	**20 48 58.2 -1.5**
	baz=146					

IDC 29 21:00:46.6±4.9, 5.77S×147.62E, h218km±45km, mb3.1/2, mb1 3.2/4, mb1mx2.8/49, mbtmp3.6/4, Error ellipse: s-maj=86.5km s-min=46.0km az=125.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.64**	**187**	P	Pn	21 01 45.8	+1.1
	5.0nm,0.3s,baz=0.0,slow=6.1,SNR=7.9						
PMG				S	S	21 02 30.5	+0.2
	4.7nm,0.3s,baz=74,slow=23,SNR=5.2						
WRA	**Warramunga Arr**	**19.11**	**221**	P	P	21 04 52.9	-0.4
	0.4nm,0.3s,baz=46,slow=11,SNR=21						
ASAR	**Alice Springs**	**22.16**	**215**	P	P	21 05 25.6	+0.8
	0.6nm,0.6s,baz=52,slow=8.0,SNR=7.2						
FITZ	**Fitzroy Crossi**	**24.71**	**238**	P	P	21 05 48.4	+0.3
	0.9nm,0.5s,baz=45,slow=11,SNR=2.3						
TORD	**Torodi Ar. Bea**	**145.63**	**285**	PKPbc	PKPdf	21 19 59.0	-0.9
	0.4nm,0.7s,baz=80,slow=5.0,SNR=1.7						

*JMA **29** 21:05:21.6±0.1, 37.32N×141.72E, h42km±3km, M3.4*
*IDC **29** 21:05:22.4±2.4, 37.31N×142.01E, h43km±22km, mb3.3/5, mb1 3.4/8, mb1mx3.1/56, mbtmp3.5/8, ML2.9/3, MS3.5/1, Ms1 3.5/1, ms1mx2.1/31, Error ellipse: s-maj=22.5km s-min=14.4km az=115.0*

ISC 29 21:05:19.2±2.3, 37.29N±0.04×141.81E±0.07, h16km±12km, n31, σ1°22/36, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.75**	**276**	P	**Pb**	**21 05 34.8**	**+0.9**
JFK				S	**Sg**	**21 05 43.7**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.83**	**257**	P	**Pb**	**21 05 36.0**	**+0.7**
ONAJ				S	**Sg**	**21 05 45.7**	**-0.5**
JMST	**Minamisoumatoc**	**0.85**	**301**	P	**Pb**	**21 05 36.1**	**+0.5**
JMST				S	**Sg**	**21 05 46.0**	**-1.0**
JMM	**Marumori**	**0.99**	**306**	P	**Pb**	**21 05 38.2**	**+0.2**
JMM				S	**Sb**	**21 05 49.7**	**-1.2**
JFFD	**Fukushimafurud**	**1.01**	**259**	P	**Pb**	**21 05 38.6**	**+0.2**
JFFD				S	**Sb**	**21 05 50.6**	**-0.9**
JFT	**Otama**	**1.19**	**282**	P	**Pb**	**21 05 42.1**	**+0.6**
JFT				S	**Sb**	**21 05 56.1**	**-0.6**
JHO	**Hitachi**	**1.20**	**236**	P	**Pn**	**21 05 41.2**	**-0.2**
JHO				S	**Sb**	**21 05 54.8**	**-2.1**
JIO	**Ouri**	**1.22**	**343**	P	**Pn**	**21 05 41.6**	**-0.1**
JIO				S	**Sb**	**21 05 55.8**	**-1.7**
JOU	**Okura**	**1.41**	**320**	P	**Pn**	**21 05 45.0**	**+0.7**
JOU				S	**Sn**	**21 06 01.7**	**-0.8**
JYS	**Shirataka**	**1.66**	**305**	P	**Pn**	**21 05 49.1**	**+1.3**
JYS				S	**Sn**	**21 06 08.9**	**0.0**
JFY	**Yanaizu**	**1.68**	**275**	P	**Pb**	**21 05 50.1**	**+0.3**
JFY				eS	**Sn**	**21 06 09.7**	**+0.5**
JMK	**Ichinoseki**	**1.73**	**345**	P	**Pn**	**21 05 49.2**	**+0.6**
MJAR	**Matsushiro Arr**	**2.98**	**257**	P	**Pn**	**21 06 08.5**	**+2.7**
	0.2nm,0.3s,baz=77,slow=12,SNR=8.2						
MJAR				S	**Sb**	**21 06 45.7**	**-2.4**
	0.4nm,0.3s,baz=254,slow=25,SNR=6.2						
MAT	**Matsushiro**	**2.98**	**257**	P	**Pn**	**21 06 08.9**	**+3.0**
MAT				eS	**Sn**	**21 06 39.7**	**-1.6**
JHJ	**Hachijo jima 2**	**4.48**	**202**	P	**Pn**	**21 06 27.9**	**+1.4**
	8.7nm,0.3s,baz=343,slow=22,SNR=25						
JHJ				S	**Sn**	**21 07 16.4**	**-1.9**
	4.1nm,0.3s,baz=87,slow=20,SNR=1.7						
ASAJ	**Asahikawa**	**6.85**	**5**	P	**Pn**	**21 06 59.5**	**+0.5**
	0.3nm,0.3s,baz=191,slow=16,SNR=6.8						
ASAJ				S	**Sn**	**21 08 17.5**	**+0.9**
	0.2nm,0.3s,baz=237,slow=25,SNR=2.0						
SONM	**Songino Array**	**27.91**	**303**	P	**P**	**21 11 09.1**	**+0.5**
	0.3nm,0.4s,baz=105,slow=9.0,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.01**	**122**	T	T	21 40 41.4	
	baz=314,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**28.02**	**122**	T	T	21 40 38.1	
	baz=314,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**28.03**	**122**	T	T	21 40 45.6	
	baz=314,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**28.74**	**124**	T	T	21 41 39.7	
	baz=316,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**28.74**	**124**	T	T	21 41 42.0	
	baz=316,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**28.75**	**124**	T	T	21 41 35.0	
	baz=316,slow=76,SNR=29						
JAY	**Jayapura**	**39.61**	**182**	LR	LR	21 29 50.1	
	comp=Z,59nm,18.7s,baz=294,slow=37						
MKAR	**Makanchi Array**	**44.25**	**302**	P	**P**	**21 13 28.0**	**+0.1**
	0.4nm,0.7s,baz=90,slow=11,SNR=5.2						
KURBB	**Kurchatov Arra**	**46.09**	**308**	P	**P**	**21 13 42.4**	**0.0**
	0.7nm,0.5s,baz=82,slow=8.0,SNR=5.7						
WRA	**Warramunga Arr**	**57.36**	**188**	P	**P**	**21 15 06.7**	**-0.1**
	0.3nm,0.3s,baz=6.7,slow=7.5,SNR=6.2						
ASAR	**Alice Springs**	**61.08**	**188**	P	**P**	**21 15 32.6**	**+0.1**
	0.2nm,0.5s,baz=15,slow=8.0,SNR=1.7						
H03N2	**Juan Fernandez**	**146.74**	**96**	T	T	00 09 08.2	
	baz=291,slow=76,SNR=7.4						
H03N3	**Juan Fernandez**	**146.75**	**96**	T	T	00 09 12.8	
	baz=291,slow=76,SNR=9.5						
H03N1	**Juan Fernandez**	**146.75**	**96**	T	T	00 09 09.5	
	baz=291,slow=76,SNR=8.1						

*IDC **29** 21:08:30.7±1.6, 13.44N×120.00E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.2/50, mbtmp3.6/3, Error ellipse: s-maj=31.5km s-min=13.5km az=128.0*
*MAN **29** 21:08:33.0, 13.51N×120.06E, h26km, MS2.8*

ISC 29 21:08:32.9±1.0, 13.50N±0.07×120.07E±0.09, h16km, n9, σ0°60/13, mb3.5/3, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.29**	**36**	*e*P	**Pb**	**21 08 39.8**	**0.0**
LUBP				*e*S	**Sb**	**21 08 44.9**	**+0.6**
PGP	**Puerto Galera**	**0.86**	**90**	⇓*e*P	**Pn**	**21 08 50.1**	**-0.3**
PGP				*/*S	**Sg**	**21 09 01.3**	**+0.4**
MACP	**Maragondon, Ca**	**0.99**	**40**	*e*P	**Pb**	**21 08 50.8**	**-0.9**
MACP				*e*S	**Sb**	**21 09 05.1**	**+0.7**
TGY	**Tagaytay City**	**1.03**	**54**	Pg	**Pn**	**21 08 52.6**	**-0.3**
	160nm,0.3s,baz=192,slow=4.5,SNR=7.7						
TGY				Lg	Lg	21 09 07.4	
	120nm,0.3s,baz=358,slow=16,SNR=7.4						
ENPP	**El Nido**	**2.36**	**196**	*e*P	**Pn**	**21 09 11.3**	**+0.2**
ENPP				*e*S	**Sn**	**21 09 38.7**	**-1.0**
CUYO	**Cuyo Island**	**2.79**	**161**	*e*P	**Pn**	**21 09 17.6**	**+0.6**
WRA	**Warramunga Arr**	**36.08**	**157**	P	**P**	**21 15 33.8**	**-0.3**
	0.9nm,0.6s,baz=338,slow=9.4,SNR=12						
SONM	**Songino Array**	**36.08**	**344**	P	**P**	**21 15 34.4**	**+0.4**
	0.3nm,0.7s,baz=161,slow=6.1,SNR=2.2						
ASAR	**Alice Springs**	**39.34**	**160**	P	**P**	**21 16 01.9**	**+0.2**
	0.6nm,0.6s,baz=338,slow=7.0,SNR=8.9						

*IDC **29** 21:23:18.3±1.4, 5.68S×151.50E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/41, mbtmp3.9/9, ML2.5/1, MS3.1/5, Ms1 3.1/5, ms1mx2.9/27, Error ellipse: s-maj=55.1km s-min=19.9km az=115.0*

ISC 29 21:23:24.0±1.1, 5.75S±0.2×151.4E±0.2, h35km, n15, σ1°05/13, mb3.7/8, MS3.1/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.55**	**229**	Pn	**Pn**	**21 24 45.7**	**+1.5**
	9.5nm,0.3s,baz=37,slow=9.1,SNR=12						
PMG				Sn	**Sn**	**21 25 44.8**	**-2.0**
	7.4nm,0.3s,baz=352,slow=4.3,SNR=4.6						
HNR	**Honiara**	**9.24**	**114**	LR	LR	21 28 44.9	
	comp=Z,104nm,20.7s,baz=248,slow=36						
CTA	**Charters Tower**	**15.11**	**199**	Pn	**P**	**21 26 59.1**	**-0.6**
	0.2nm,0.3s,baz=16,slow=9.8,SNR=3.6						
WRA	**Warramunga Arr**	**21.77**	**228**	P	**P**	**21 28 12.8**	**-0.1**
	1.9nm,0.6s,baz=52,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.51**	**222**	P	**P**	**21 28 40.5**	**+0.2**
	2.3nm,0.8s,baz=52,slow=9.1,SNR=29						
STKA	**Stephens Creek**	**27.57**	**198**	P	**P**	**21 29 08.7**	**+0.8**
	1.2nm,0.9s,baz=20,slow=16,SNR=3.7						
STKA				LR	LR	21 39 20.3	
	comp=Z,66nm,20.0s,baz=29,slow=35						
FITZ	**Fitzroy Crossi**	**27.97**	**242**	P	**P**	**21 29 11.8**	**+0.2**
	1.4nm,0.5s,baz=52,slow=8.9,SNR=2.1						
MJAR	**Matsushiro Arr**	**43.84**	**345**	LR	LR	21 49 40.5	
	comp=Z,21nm,18.9s,baz=120,slow=36						
CMAR	**Chiang Mai Arr**	**57.01**	**296**	LR	LR	22 01 00.0	
	comp=Z,5.9nm,18.1s,baz=150,slow=40						
SONM	**Songino Array**	**66.38**	**329**	P	**P**	**21 34 10.7**	**+1.1**
	0.5nm,0.9s,baz=147,slow=8.7,SNR=3.8						
SONM				LR	LR	22 02 59.6	
	comp=Z,20nm,19.4s,baz=160,slow=36						
MKAR	**Makanchi Array**	**80.11**	**319**	P	**P**	**21 35 29.5**	**-1.1**
	0.1nm,0.4s,baz=134,slow=5.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**81.16**	**327**	P	**P**	**21 35 35.6**	**-0.2**
	0.4nm,0.4s,baz=123,slow=5.3,SNR=2.4						
ILAR	**Eielson Array**	**83.56**	**22**	P	**P**	**21 35 47.2**	**-1.0**
	0.5nm,0.6s,baz=252,slow=5.7,SNR=6.0						
GERES	**GERESS Array B**	**124.10**	**328**	PKP	**PKiKP**	**21 42 19.6**	**+0.2**
	0.5nm,0.6s,baz=132,slow=1.5,SNR=2.1						
TORD	**Torodi Ar. Bea**	**149.24**	**286**	PKPbc	**PKPbc**	**21 43 09.6**	**-0.4**
	3.0nm,0.7s,baz=68,slow=2.8,SNR=10						

NNC 29 21:30:41.6±7.7, 36.85N×70.83E, h0km, mb3.5, mpv3.1, 3C-3D, Error ellipse: s-maj=62.5km s-min=57.4km az=123.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.25**	**358**	⇓P	Pn	21 32 17.4	+2.2
	0.6nm,0.3s,baz=170,slow=12,SNR=7.6						
KK31				⇑S	Sn	21 33 27.7	+0.4
	0.6nm,0.5s,baz=179,slow=24,SNR=3.9						
AAK	**Ala-Archa**	**6.43**	**25**	⇑P	Pn	21 32 16.0	-1.7
	1.9nm,1.0s						
AAK				⇓S	Sn	21 33 31.6	-0.3
	1.7nm,0.8s						
TKM2	**Tokmak 2**	**7.08**	**30**	⇓P	Pn	21 32 26.0	-0.8
	1.3nm,0.8s						
TKM2				⇑S	Sn	21 33 52.2	+4.2
	2.5nm,0.9s						

*IDC **29** 21:34:25.2±2.0, 47.91N×157.37E, h0km, mb3.3/1, mb1 3.8/4, mb1mx3.3/42, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=48.8km s-min=28.0km az=133.0*

*KRSC **29** 21:34:45.8±2.0, 49.75N×155.38E, h216km±17km, ML4.0*

ISC 29 21:34:44.5±1.1, 49.8N±0.2×154.8E±0.2, h200km, n27, σ2°02/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALID	**Alaid**	**1.18**	**25**	*e*P	**Pn**	**21 35 17.5**	**+1.9**
SKR	**Severo-Kuril's**	**1.23**	**44**	*e*P	**Pn**	**21 35 18.9**	**+3.0**
PAU	**Pauzhetka**	**2.11**	**37**	*e*P	**Pn**	**21 35 26.1**	**+2.1**
MIPR	**Malaya Ipel'ka**	**2.77**	**26**	*e*P	**Pn**	**21 35 32.8**	**+1.4**
KDTR	**Khodutka, Kamc**	**2.90**	**45**	*e*P	**Pn**	**21 35 34.4**	**+1.5**
KDTR				*e*S	**Sn**	**21 36 10.9**	**+0.1**
ASAK	**Asacha**	**3.25**	**36**	*e*P	**Pn**	**21 35 38.2**	**+1.1**
MTVR	**Mutnovka**	**3.44**	**37**	*e*P	**Pn**	**21 35 41.2**	**+1.8**
MTVR				*e*S	**Sn**	**21 36 22.1**	**-0.4**
GRL	**Gorelyy**	**3.45**	**36**	*e*P	**Pn**	**21 35 41.5**	**+2.0**
RUS	**Russkaya**	**3.54**	**40**	*e*P	**Pn**	**21 35 41.8**	**+1.4**
KRMR	**Karymshinskiy**	**3.69**	**34**	*e*P	**Pn**	**21 35 44.7**	**+2.4**
PETK	**Petropavlovsk-**	**3.78**	**28**	Pn	**Pn**	**21 35 44.4**	**+1.0**
	0.5nm,0.3s,baz=198,slow=8.8,SNR=9.8						
PETK				Sn	Sn	21 36 45.7	+16
	0.2nm,0.3s,baz=128,slow=19,SNR=1.8						
DALK	**Dalny**	**4.08**	**36**	*e*P	**Pn**	**21 35 49.0**	**+1.9**
DALK				*e*S	**Sn**	**21 36 35.4**	**-1.0**
KOK	**Koryaka**	**4.25**	**33**	*e*P	**Pn**	**21 35 51.5**	**+2.2**
UGLR	**Uglovaya**	**4.25**	**35**	*e*P	**Pn**	**21 35 51.4**	**+2.1**
AVH	**Avacha**	**4.26**	**34**	*e*P	**Pn**	**21 35 51.9**	**+2.4**
SMAR	**Somma**	**4.28**	**35**	*e*P	**Pn**	**21 35 52.6**	**+2.7**
KRER	**Koryakskii**	**4.29**	**34**	*e*P	**Pn**	**21 35 52.7**	**+2.7**
SDLR	**Sedlovina**	**4.32**	**35**	*e*P	**Pn**	**21 35 52.2**	**+1.9**
SDLR				*e*S	**Sn**	**21 36 40.4**	**-1.7**
SPN	**Mys Shipunski**	**4.66**	**43**	*e*P	**Pn**	**21 35 54.9**	**+0.6**
SPN				*e*S	**Sn**	**21 36 45.1**	**-4.3**
KZV	**Kizimen**	**6.30**	**30**	*e*P	**Pn**	**21 36 17.3**	**+1.7**
MKZ	**Mys Kozlova**	**6.40**	**39**	*e*P	**Pn**	**21 36 15.8**	**-0.9**
ASAJ	**Asahikawa**	**10.07**	**240**	Pn	**Pn**	**21 37 03.7**	**-0.9**
	1.0nm,0.3s,baz=94,slow=15,SNR=5.2						
MJAR	**Matsushiro Arr**	**17.88**	**228**	P	**P**	**21 38 37.5**	**-1.3**
	0.1nm,0.3s,baz=38,slow=8.6,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**32.66**	**159**	T	T	22 12 20.0	
	baz=350						
H11S3	**WAKE ISLAND Hy**	**32.67**	**159**	T	T	22 12 19.5	
	baz=350,SNR=2.0						
H11S2	**WAKE ISLAND Hy**	**32.68**	**159**	T	T	22 12 22.7	
	baz=350						
TXAR	**Lajitas Array**	**75.06**	**62**	P	**P**	**21 46 05.1**	**+0.8**
	0.1nm,0.5s,baz=318,slow=5.2,SNR=3.0						

*IDC **29** 21:46:25.6±3.4, 19.28N×122.38E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.4/54, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=75.6km s-min=31.0km az=156.0*
*NEIC **29** 21:46:30.6±1.2, 19.56N±0.05×122.28E±0.09, h25km±6km, mb4.4/5, Error ellipse: s-maj=14.3km s-min=4.6km az=117.0*

ISC 29 21:46:32.0±0.9, 19.58N±0.07×122.3E±0.1, h35km, n27, σ0°86/25, mb4.1/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SZP	**Santa**	**2.64**	**221**	Pn	**Pn**	**21 47 11.2**	**-1.0**
SZP				Sn	**Sn**	**21 47 42.7**	**-0.3**
TWG	**Pinlang**	**3.41**	**341**	Pn	**Pn**	**21 47 22.8**	**0.0**
TWG				Sn	**Sn**	**21 48 00.7**	**-1.3**
YULB	**Yu-li**	**3.90**	**347**	Pn	**Pn**	**21 47 29.0**	**-0.6**
YULB				Sn	**Sn**	**21 48 14.2**	**0.0**
TPUB	**Ta-pu**	**4.01**	**338**	Pn	**Pn**	**21 47 29.9**	**-1.0**
SSLB	**Suanglung**	**4.36**	**344**	Pn	**Pn**	**21 47 35.9**	**0.0**
NACB	**Ninganchiao**	**4.62**	**352**	Pn	**Pn**	**21 47 37.7**	**-1.6**
YHNB	**Yeheng**	**5.14**	**351**		**Pn**	**21 47 47.3**	**+0.7**
YHNB				Sn	**Sn**	**21 48 45.1**	**+0.5**
JOW	**Kunigami**	**9.10**	**36**	Pn	**Pn**	**21 48 40.2**	**-0.7**
	1.0nm,0.3s,baz=214,slow=16,SNR=4.9						
JOW	**Kunigami**	**9.10**	**36**		**Pn**	**21 48 40.4**	**-0.5**
KSRS	**Korea Array**	**18.49**	**14**	P	**Pn**	**21 50 46.9**	**+1.6**
	0.2nm,0.3s,baz=191,slow=12,SNR=6.6						
BJT	**Baijiatuan**	**21.04**	**347**	P	**P**	**21 51 12.4**	**-0.4**
BJT				IAmb	IAmb	21 51 19.1	
	comp=Z,6.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**22.07**	**271**	P	**P**	**21 51 24.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=75,slow=12,SNR=1.8						
H11S3	**WAKE ISLAND Hy**	**41.92**	**84**	T	T	22 39 19.9	
	baz=279,slow=75,SNR=17						
H11S1	**WAKE ISLAND

comp=E,347nm,0.6s
AGPR IAML 22 27 31.6
comp=N,482nm,0.6s
MPR Mayaguez 2.06 250 Pn **Pn** **22 26 55.3 +0.4**
MPR Sn **Sn** **22 27 18.5 -1.1**
MPR IAML 22 27 36.8
comp=N,270nm,0.9s
MLPR Magueyes Islan 2.08 242 Pn **Pn** **22 26 56.3 +1.2**
MLPR Sn **Sn** **22 27 20.6 +0.6**
MLPR IAML 22 27 36.9
comp=N,247nm,0.6s
SEUS St. Eustatius 2.49 125 *eP* **Pn** **22 27 00.2 -0.6**
SEUS *eS* **Sn** **22 27 30.7 +0.5**
SEUS St. Eustatius 2.49 125 **Pn** **22 27 00.4 -0.4**
SEUS IAML 22 27 20.8
comp=E,362nm,0.6s
SKOC St. Kitts, UWI 2.80 126 *eS* **Sn** **22 27 38.5 +0.7**
ANWB Willy Bob 3.41 111 *eP* **Pn** **22 27 12.8 -0.6**
ANWB *eS* **Sn** **22 27 52.9 0.0**
ANWB Willy Bob 3.41 111 **Pn** **22 27 11.8 -1.7**
ANWB Sn **Sn** **22 27 52.3 -0.6**
ANWB IAML 22 28 04.1
comp=E,159nm,1.1s
ANWB IAML 22 28 06.2
comp=E,155nm,0.9s
MLYT Lee's Yard 3.55 128 *eP* **Pn** **22 27 15.5 0.0**
MLYT *eS* **Sn** **22 27 56.4 -0.2**
BPA Boggy Peak 3.63 121 *eP* **Pn** **22 27 16.0 -0.5**
BPA *eS* **Sn** **22 27 57.6 -0.8**
BPA Boggy Peak 3.63 121 **Pn** **22 27 16.0 -0.5**
BPA **Sn** **22 27 57.6 -0.8**
ANBD Bethesda, Anti 3.70 120 *eP* **Pn** **22 27 17.2 -0.3**
ANBD *eS* **Sn** **22 27 59.1 -1.1**
ANBD Bethesda, Anti 3.70 120 **Pn** **22 27 17.2 -0.3**
ANBD **Sn** **22 27 59.1 -1.1**
CBE Ff, Capester 4.40 130 *eP* **Pn** **22 27 27.1 -0.1**
MAGL Barre de l'ile 4.71 129 *eP* **Pn** **22 27 31.9 +0.4**
MAGL Barre de l'ile 4.71 129 **Pn** **22 27 31.9 +0.4**
DSLB Salisbury 4.96 134 *eP* **Pn** **22 27 34.4 -0.5**
DSLB Salisbury 4.96 134 *eS* **Sn** **22 28 28.7 -2.6**
DSLB Salisbury 4.96 134 **Pn** **22 27 34.4 -0.5**
DSLB **Sn** **22 28 28.7 -2.6**
BANI BANI 5.00 265 Pn **Pn** **22 27 36.6 +1.1**
SDDR Presa de Saban 5.85 271 **Pn** **22 27 45.3 -1.8**
SDDR Sn **Sn** **22 28 50.4 -2.7**
MPOM Morne Pois Mar 6.05 137 *eP* **Pn** **22 27 50.4 +0.6**
PCRV Puerto La Cruz 8.73 177 Pn **Pn** **22 28 29.3 +2.6**
comp=E,0.4nm,0.3s,baz=9.4,slow=23,SNR=1.1
PCRV Sn **Sn** **22 30 02.2 -2.0**
comp=E,1.2nm,0.3s,baz=113,slow=11,SNR=1.8
SDV Santo Domingo 11.34 209 Pn **Pn** **22 29 03.1 +0.4**
comp=E,0.2nm,0.3s,baz=353,slow=17,SNR=1.3
SDV Sn **Sn** **22 31 07.0 -1.6**
comp=E,0.2nm,0.3s,baz=316,slow=20,SNR=1.7
SDV LR LR 22 32 54.7
comp=E,43nm,21.2s,baz=44,slow=35
ROSC El Rosal 16.65 214 LR LR 22 36 49.5
comp=E,70nm,21.0s,baz=34,slow=38
TXAR Lajitas Array 36.53 294 P **P** **22 33 25.7 +0.1**
comp=E,0.5nm,0.8s,baz=120,slow=13,SNR=4.9
PDAR Pinedale Array 44.28 312 P **P** **22 34 28.9 -0.8**
comp=E,0.3nm,0.6s,baz=103,slow=6.6,SNR=2.6
NVAR Mina Array Bea 49.82 305 P **P** **22 35 13.3 +0.3**
comp=E,0.5nm,0.9s,baz=93,slow=8.6,SNR=2.0
YKA Yellowknife Ar 55.16 335 P **P** **22 35 49.7 -2.2**
comp=E,0.3nm,0.7s,baz=111,slow=8.4,SNR=5.4
PLCA Paso Flores 59.59 185 LR LR 23 03 04.0
comp=E,40nm,19.1s,baz=190,slow=37
TORD Torodi Ar. Bea 64.15 84 P **P** **22 36 58.1 +3.5**
comp=E,0.3nm,0.6s,baz=308,slow=4.7,SNR=1.8

*IDC **29** 23:01:09.7±0.9, 44°.06N×105°.69W, h0km, mb3.8/1, mb1 3.6/7, mb1mx3.4/49, mbtmp3.3/7, ML3.2/6, Error ellipse: s-maj=25.4km s-min=7.5km az=146.0*
*NEIC **29** 23:01:10.2±1.1, 43°.73N±0°.05×105°.29W±0°.05, h0km±2km, ML3.3/68, Error ellipse: s-maj=8.7km s-min=6.4km az=339.0*
ISC 29 23:01:09.1±0.8, **43°.78N**±0°.06×**105°.32W**±0°.06, **h0km, n96, σ1s96, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**69**		**Pg**	**23 01 28.7**	**+0.6**
K22A	**Casper**	**1.43**	**218**	Pn	**Pn**	**23 01 35.4**	**-1.1**
K22A				IAML		23 01 57.6	
	comp=E,317nm,0.6s						
K22A				IAML		23 01 59.9	
	comp=N,593nm,0.3s						
PHWY	**Pilot Hill**	**2.48**	**182**		**Pn**	**23 01 51.4**	**+0.4**
RWWY	**Rawlins**	**2.51**	**214**		**Pn**	**23 01 50.1**	**-1.3**
RWWY				IAML		23 02 29.8	
	comp=N,204nm,0.8s						
RWWY				IAML		23 02 29.9	
	comp=N,193nm,0.8s						
LAO	**LASA Array**	**2.98**	**348**		**Pn**	**23 01 58.8**	**+1.0**
RLMT	**Red Lodge**	**3.13**	**297**	Pn	**Pn**	**23 02 00.7**	**+0.8**
RLMT				IAML		23 02 48.1	
	comp=N,56nm,0.6s						
RLMT				IAML		23 02 57.7	
	comp=N,60nm,0.4s						
BW06	**Boulder Array**	**3.25**	**253**		**Pn**	**23 02 02.2**	**+0.6**
BW06				IAML		23 02 50.5	
	comp=N,50nm,0.6s						
PD31	**Pinedale Array**	**3.25**	**253**	Pn	**Pn**	**23 02 01.3**	**-0.3**
PDAR	**Pinedale Array**	**3.25**	**253**	Pn	**Pn**	**23 02 02.0**	**+0.4**
	comp=N,2.7nm,0.3s,baz=67,slow=16,SNR=52						
PDAR				Pg	**Pb**	**23 02 07.5**	**-0.4**
	comp=N,14nm,0.3s,baz=59,slow=19,SNR=47						
PDAR				Lg	Lg	23 02 48.0	
	comp=N,18nm,0.3s,baz=76,slow=31,SNR=19						
PDAR	**Pinedale Array**	**3.25**	**253**		**Pn**	**23 02 02.3**	**+0.7**
YNE	**Yellowstone No**	**3.58**	**292**		**Pn**	**23 02 06.3**	**+0.2**
YNE				IAML		23 03 02.9	
	comp=N,57nm,0.7s						
YNE				IAML		23 03 52.2	
	comp=E,52nm,0.6s						
YMP	**Mirror Lake Pl**	**3.60**	**287**		**Pn**	**23 02 07.7**	**+1.2**
YMP				IAML		23 03 06.5	
	comp=E,86nm,0.6s						
GCMT	**Greycliff**	**3.69**	**305**		**Pn**	**23 02 09.1**	**+1.6**
OGNE	**Ogallala**	**3.73**	**138**		**Pn**	**23 02 08.3**	**+0.2**
LKWY	**Lake**	**3.74**	**284**		**Pn**	**23 02 10.0**	**+1.7**
LKWY				IAML		23 02 35.9	
	comp=E,52nm,0.6s						
LOHW	**Long Hollow**	**3.83**	**269**		**Pn**	**23 02 11.2**	**+1.6**
H17A	**Grant Village**	**3.83**	**281**		**Pn**	**23 02 11.5**	**+1.9**
H17A				IAML		23 03 13.5	
	comp=N,32nm,0.7s						
FLWY	**Flagg Ranch**	**3.90**	**276**		**Pn**	**23 02 12.0**	**+1.6**
FLWY				IAML		23 03 28.4	
	comp=N,30nm,0.9s						
SNOW	**Snow King Moun**	**3.96**	**267**		**Pn**	**23 02 12.6**	**+1.2**
SNOW				IAML		23 03 06.4	
	comp=N,42nm,0.3s						
SNOW				IAML		23 03 27.7	
	comp=N,27nm,0.9s						
YNR	**Norris Junctio**	**3.96**	**286**		**Pn**	**23 02 12.5**	**+1.1**
ISCO	**Idaho Springs**	**3.98**	**183**		**Pn**	**23 02 12.8**	**+1.1**
YPP	**Pitchstone Pla**	**3.98**	**279**		**Pn**	**23 02 13.0**	**+1.2**
REDW	**Red Top Meadow**	**4.04**	**266**		**Pn**	**23 02 13.5**	**+1.1**
REDW				IAML		23 03 20.3	
	comp=N,40nm,0.7s						
REDW				IAML		23 03 20.5	
	comp=N,50nm,0.7s						
YHH	**Holmes Hill**	**4.10**	**286**		**Pn**	**23 02 15.3**	**+2.0**
YHH				IAML		23 03 26.4	
	comp=N,24nm,0.9s						
YMR	**Madison River**	**4.15**	**284**		**Pn**	**23 02 15.1**	**+1.1**
YMR				IAML		23 03 37.4	
	comp=N,51nm,0.8s						
YMR				IAML		23 03 43.3	
	comp=E,34nm,0.8s						
O20A	**White River Ci**	**4.24**	**212**		**Pn**	**23 02 15.9**	**+0.7**
O20A				IAML		23 03 28.7	
	comp=N,37nm,1.0s						
O20A				IAML		23 03 41.0	
	comp=E,41nm,0.8s						
E28A	**Huff**	**4.31**	**48**		**Pn**	**23 02 16.4**	**+0.5**
YHB	**Horse Butte**	**4.33**	**285**		**Pn**	**23 02 17.5**	**+1.1**
AHID	**Auburn Hatcher**	**4.34**	**259**		**Pn**	**23 02 15.7**	**-0.9**
AHID				IAML		23 03 30.2	
	comp=N,46nm,0.9s						
AHID				IAML		23 03 40.4	
	comp=E,27nm,1.1s						
YHL	**Hebgen Lake**	**4.34**	**286**	Pn	**Pn**	**23 02 17.7**	**+1.1**
YHL				IAML		23 03 38.7	
	comp=N,22nm,0.6s						
YHL				IAML		23 03 40.4	
	comp=E,26nm,0.7s						
ECR	**Eagle Creek**	**4.46**	**263**		**Pn**	**23 02 20.5**	**+2.2**
RDMU	**Red Mountain**	**4.50**	**226**		**Pn**	**23 02 19.0**	**+0.3**
RDMU				IAML		23 03 36.5	
	comp=N,35nm,0.8s						
RDMU				IAML		23 03 42.7	
	comp=E,23nm,0.6s						
QLMT	**Earthquake Lak**	**4.51**	**286**		**Pn**	**23 02 21.6**	**+2.8**
SMCO	**Snowmass**	**4.76**	**196**		**Pn**	**23 02 23.8**	**+1.3**
SMCO				IAML		23 03 42.1	
	comp=E,20nm,0.7s						
SMCO				IAML		23 03 48.7	
	comp=E,28nm,0.8s						
DGMT	**Dagmar**	**4.76**	**9**		**Pn**	**23 02 23.2**	**+1.1**
BOZ	**Bozeman (W)**	**4.85**	**294**	IAML		23 03 46.8	
	comp=E,16nm,0.8s						
BOZ				IAML		23 03 52.9	
	comp=E,15nm,0.8s						
K31A	**O'Neill**	**4.94**	**101**	Pn	**Pn**	**23 02 24.1**	**-0.5**
HWUT	**Hardware Ranch**	**5.08**	**247**	Pn	**Pn**	**23 02 27.2**	**+0.5**
HWUT				IAML		23 03 51.7	
	comp=E,25nm,1.2s						
HWUT				IAML		23 04 05.7	
	comp=E,30nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.17**	**156**		**Pn**	**23 02 28.2**	**+0.2**
TCUT	**Toone Canyon**	**5.23**	**242**		**Pn**	**23 02 29.5**	**+0.7**
EGMT	**Eagleton**	**5.25**	**326**	Pn	**Pn**	**23 02 31.4**	**+2.4**
DLMT	**Dillon**	**5.43**	**289**	Pn	**Pn**	**23 02 33.3**	**+1.8**
HRY	**Holter Researc**	**5.45**	**305**	Pn	**Pn**	**23 02 32.6**	**+0.9**
LRM	**Limekiln Ridge**	**5.47**	**294**		**Pn**	**23 02 33.2**	**+1.1**
MCMT	**McKenzie Canyo**	**5.50**	**284**		**Pn**	**23 02 33.8**	**+1.2**
JLU	**Jordanelle**	**5.55**	**237**		**Pn**	**23 02 34.3**	**+1.1**
CTU	**Camp Tracy**	**5.68**	**239**	Pn	**Pn**	**23 02 36.0**	**+1.0**
BGNE	**Belgrade**	**5.80**	**112**	Pn	**Pn**	**23 02 37.0**	**+0.5**
SPUT	**South Promonto**	**5.81**	**247**		**Pn**	**23 02 38.0**	**+1.3**
HVU	**Hansel Valley**	**5.83**	**253**		**Pn**	**23 02 38.3**	**+1.3**
BCYI	**Bear Canyon**	**5.85**	**278**		**Pn**	**23 02 39.1**	**+1.8**
PV22	**Blue Mesa, Par**	**5.85**	**208**		**Pn**	**23 02 37.7**	**+0.4**
PV07	**Paradox Valley**	**5.89**	**206**		**Pn**	**23 02 38.8**	**+0.9**
P17A	**Butcher Ranch,**	**5.91**	**225**		**Pn**	**23 02 39.1**	**+1.0**
PV15	**Paradox Valley**	**5.93**	**205**		**Pn**	**23 02 38.7**	**+0.3**
PV04	**Paradox Valley**	**6.02**	**208**		**Pn**	**23 02 39.7**	**+0.1**
MPU	**Maple Canyon**	**6.02**	**234**	Pn	**Pn**	**23 02 40.6**	**+1.0**
PV12	**Saucer Basin,**	**6.05**	**207**		**Pn**	**23 02 40.7**	**+0.6**
PV14	**Lion Creek, Pa**	**6.08**	**209**		**Pn**	**23 02 41.6**	**+1.1**
PV10	**Paradox Valley**	**6.08**	**209**	Pn	**Pn**	**23 02 43.5**	**+2.9**
SRU	**San Rafael Swe**	**6.08**	**222**		**Pn**	**23 02 41.1**	**+0.6**
PV20	**West Nyswonger**	**6.09**	**208**		**Pn**	**23 02 41.2**	**+0.6**
PV11	**David Mesa, Pa**	**6.09**	**207**		**Pn**	**23 02 41.6**	**+1.0**
PV16	**Nyswonger Mesa**	**6.10**	**208**		**Pn**	**23 02 41.9**	**+1.2**
PV19	**Morning Glory**	**6.12**	**208**	Pn	**Pn**	**23 02 42.4**	**+1.3**
PV03	**Paradox Valley**	**6.13**	**207**		**Pn**	**23 02 42.4**	**+1.3**
PV02	**Paradox Valley**	**6.13**	**206**		**Pn**	**23 02 42.1**	**+0.9**
PV01	**Paradox Valley**	**6.15**	**205**		**Pn**	**23 02 42.1**	**+0.7**
PV18	**Skein Mesa, Pa**	**6.15**	**207**		**Pn**	**23 02 41.6**	**+0.1**
PV13	**Radium Mtn., P**	**6.20**	**206**		**Pn**	**23 02 43.2**	**+1.0**
TMUT	**Trail Mountain**	**6.29**	**227**		**Pn**	**23 02 44.8**	**+1.4**
ECSD	**EROS Data Cent**	**6.31**	**87**	Pn	**Pn**	**23 02 44.1**	**+0.7**
NLU	**North Lily Min**	**6.32**	**235**	Pn	**Pn**	**23 02 44.8**	**+1.0**
PV05	**Paradox Valley**	**6.37**	**208**		**Pn**	**23 02 43.3**	**+1.1**
BGU	**Big Grassy Mou**	**6.38**	**246**	Pn	**Pn**	**23 02 45.8**	**+1.3**
CBKS	**Cedar Bluff**	**6.50**	**138**	Pn	**Pn**	**23 02 47.1**	**+1.0**
Q16A	**Castle Valley**	**6.55**	**224**	Pn	**Pn**	**23 02 47.9**	**+1.0**
HLID	**Hailey**	**6.60**	**271**		**Pn**	**23 02 49.7**	**+2.2**
T25A	**Trinidad**	**6.67**	**174**	Pn	**Pn**	**23 02 50.1**	**+1.6**
D32A	**Dogwood Acres,**	**6.74**	**57**	Pn	**Pn**	**23 02 50.0**	**+0.8**
F33A	**5 Mile Ranch,**	**6.75**	**69**	Pn	**Pn**	**23 02 49.2**	**-0.2**
MSO	**Missoula**	**6.80**	**300**	Pn	**Pn**	**23 02 51.8**	**+1.6**
MVCO	**Mesa Verde**	**6.99**	**201**	Pn	**Pn**	**23 02 55.1**	**+2.1**
R32A	**Long Quarter,**	**7.32**	**135**	Pn	**Pn**	**23 02 57.6**	**+0.3**
MSU	**Marysvale**	**7.37**	**227**		**Pn**	**23 02 59.1**	**+0.9**
JTMT	**Jette**	**7.42**	**305**	Pn	**Pn**	**23 02 59.9**	**+1.2**
MTPU	**Mount Pierson**	**7.73**	**225**	Pn	**Pn**	**23 03 03.6**	**+0.3**
ELK	**Elko**	**7.95**	**251**	Pn	**Pn**	**23 03 08.1**	**+1.9**
	comp=E,0.4nm,0.3s,baz=87,slow=9.2,SNR=6.6						
ELK	**Elko**	**7.95**	**251**		**Pn**	**23 03 07.0**	**+0.8**
PKCU	**Pink Cliffs**	**8.26**	**222**	Pn	**Pn**	**23 03 10.8**	**+0.3**
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn	**Pn**	**23 03 20.1**	**-2.1**
	comp=E,1.0nm,0.3s,baz=228,slow=12,SNR=11						
ULM				Lg	Lg	23 05 50.8	
	comp=E,0.3nm,0.3s,baz=121,slow=16,SNR=4.3						
NVAR	**Mina Array Bea**	**11.15**	**246**	Pn	**Pn**	**23 03 51.9**	**+1.9**
	comp=E,0.1nm,0.3s,baz=51,slow=12,SNR=6.8						
NVAR	**Mina Array Bea**	**11.15**	**246**		**Pn**	**23 03 51.4**	**+1.4**
TXAR	**Lajitas Array**	**14.47**	**174**	Pn	**P**	**23 04 42.2**	**-0.1**
	comp=E,0.0nm,0.3s,baz=352,slow=12,SNR=2.3						
YKA	**Yellowknife Ar**	**19.52**	**347**	P	**P**	**23 05 36.3**	**-1.5**
	comp=E,0.1nm,0.3s,baz=162,slow=13,SNR=7.9						
MKAR	**Makanchi Array**	**89.56**	**355**	P	**P**	**23 14 07.8**	**-0.6**
	comp=E,0.4nm,0.6s,baz=10.0,slow=4.8,SNR=4.2						

*IDC **29** 23:15:59.7±1.5, 34°.36N×24°.31E, h0km, mb3.6/4, mb1 3.5/9, mb1mx3.3/51, mbtmp3.4/9, ML3.7/4, MS2.1/1, Ms1 2.1/1, ms1mx1.9/57, Error ellipse: s-maj=21.4km s-min=15.4km az=122.0*
*ATH **29** 23:16:03.0, 34°.49N×24°.28E, h45km±3km, ML3.5/6, Error ellipse: s-maj=7.0km s-min=2.1km az=9.0*
*ISK **29** 23:16:03.2, 34°.55N×24°.51E, h7km, ML3.1/7*
*THE **29** 23:16:03.0, 34°.42N×24°.40E, h11km±1km, ML3.5/6, Error ellipse: s-maj=2.0km s-min=1.2km az=8.0*
ISC 29 23:16:02.4±1.9, **34°.47N**±0°.08×**24°.39E**±0°.04, **h10km**±10km, **n45, σ0s93/57, mb3.8/4, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.45**	**326**	P	**Pb**	**23 16 12.7**	**+0.3**
GVD				S	**Sb**	**23 16 20.3**	**+1.1**
GVD				AML	AML	23 16 21.0	
	comp=E,64387μm,0.4s						
GVD				AML	AML	23 16 23.6	
	comp=N,64964μm,0.3s						
GVD	**Gavdhos**	**0.45**	**326**	P	**Pb**	**23 16 12.6**	**+0.3**
GVD				S	**Sb**	**23 16 20.2**	**+1.1**
	comp=N,32μm,0.4s						
GVD	**Gavdhos**	**0.45**	**326**	PG	**Pb**	**23 16 12.5**	**+0.1**
GVD				SG	**Sb**	**23 16 19.6**	**+0.5**
GVDS	**Gavdos**	**0.45**	**326**	PG	**Pb**	**23 16 12.9**	**+0.5**
GVDS				SG	**Sb**	**23 16 20.0**	**+0.8**
SIVA	**Sivas**	**0.64**	**32**	P	**Pb**	**23 16 16.5**	**+0.8**
SIVA				S	**Sn**	**23 16 27.5**	**-0.4**
SIVA				AML	AML	23 16 30.0	
	comp=E,21078μm,0.6s						
SIVA				AML	AML	23 16 33.8	
	comp=N,17298μm,0.6s						
SIVA	**Sivas**	**0.64**	**32**	P	**Pb**	**23 16 16.6**	**+0.8**
SIVA				S	**Sn**	**23 16 26.5**	**-1.4**
	comp=N,10μm,0.6s						
IDI	**Anoyia**	**0.91**	**26**	Pg	**Pb**	**23 16 20.7**	**+0.3**
	comp=N,18nm,0.3s,baz=212,slow=14,SNR=129						
IDI				Lg	Lg	23 16 33.9	
	comp=N,32nm,0.3s,baz=145,slow=23,SNR=12						
IDI	**Anoyia**	**0.91**	**26**	P	**Pb**	**23 16 20.7**	**+0.3**
IDI				AML	AML	23 16 38.5	
	comp=E,1660μm,0.6s						
IDI				AML	AML	23 16 38.8	
	comp=N,1486μm,0.8s						
IDI	**Anoyia**	**0.91**	**26**	P	**Pb**	**23 16 20.6**	**+0.3**
IDI				S	**Sn**	**23 16 34.2**	**-0.5**
	comp=N,795nm,0.7s						
IDI	**Anoyia**	**0.91**	**26**	PG	**Pg**	**23 16 18.9**	**-1.0**
IDI				SG	**Sg**	**23 16 31.0**	**-0.8**
VAM	**Vamos**	**0.95**	**350**	P	**Pg**	**23 16 20.5**	**-0.1**
VAM				AML	AML	23 16 47.6	
	comp=E,5392μm,0.7s						
VAM				AML	AML	23 16 48.1	
	comp=N,3150μm,0.8s						
VAM	**Vamos**	**0.95**	**350**	P	**Pg**	**23 16 20.6**	**0.0**
VAM				S	**Sn**	**23 16 36.1**	**+0.7**
	comp=N,2μm,0.6s						
KNDR	**Palaiochora Ch**	**0.96**	**323**	PG	**Pn**	**23 16 23.1**	**+1.2**
KNDR				SG	**Sn**	**23 16 37.2**	**+1.5**
IMMV	**Iera Moni Meta**	**1.04**	**341**	P	**Pb**	**23 16 22.0**	**-0.6**
IMMV				AML	AML	23 16 43.9	
	comp=E,6912μm,0.5s						
IMMV				AML	AML	23 16 48.5	
	comp=N,4938μm,0.4s						
IMMV	**Iera Moni Meta**	**1.04**	**341**	P	**Pb**	**23 16 22.0**	**-0.6**
IMMV				S	**Sn**	**23 16 38.6**	**+0.8**
	comp=N,3μm,0.4s						
IMMV	**Iera Moni Meta**	**1.04**	**341**	PG	**Pb**	**23 16 22.3**	**-0.3**
IMMV				SG	**Sn**	**23 16 37.2**	**-0.6**
NPS	**Neapolis**	**1.28**	**51**	P	**Pg**	**23 16 27.9**	**+1.0**
NPS	**Neapolis**	**1.28**	**51**	P	**Pn**	**23 16 25.9**	**-0.4**
NPS				S	**Sn**	**23 16 43.4**	**-0.2**
	comp=N,432nm,0.7s						
ZKR	**Zakros**	**1.63**	**66**	P	**Pg**	**23 16 34.0**	**+0.3**
ZKR				AML	AML	23 17 21.0	
	comp=N,237μm,1.1s						
ZKR				AML	AML	23 17 27.6	
	comp=E,542μm,1.2s						
ZKR	**Zakros**	**1.63**	**66**	P	**Pn**	**23 16 31.5**	**+0.3**
ZKR	**Zakros**	**1.63**	**66**	PN	**Pn**	**23 16 31.5**	**+0.3**
ANKY	**Antikythira Is**	**1.66**	**328**	P	**Pn**	**23 16 32.3**	**+0.7**
SANT	**Santorini**	**2.09**	**24**	PN	**Pn**	**23 16 38.2**	**+0.7**
KTHA	**Kythira Island**	**2.09**	**329**	P	**Pn**	**23 16 38.6**	**+1.1**
KTHA	**Kythira Island**	**2.09**	**329**	P	**Pn**	**23 16 38.1**	**+0.6**
KTHA	**Kythira Island**	**2.09**	**329**	PN	**Pb**	**23 16 39.4**	**-1.0**
THT2	**Imerovigli**	**2.13**	**23**	PN	**Pn**	**23 16 38.6**	**+0.5**
KARP	**Karpathos**	**2.51**	**64**	PN	**Pn**	**23 16 44.1**	**+0.7**
VLI	**Veliai**	**2.54**	**333**	P	**Pn**	**23 16 44.9**	**+1.2**
VLI	**Veliai**	**2.54**	**333**	P	**Pn**	**23 16 44.3**	**+0.6**
APE	**Apeiranthos**	**2.75**	**19**	PN	**Pn**	**23 16 47.6**	**+0.9**
BODT	**Bodrum**	**3.51**	**42**	PN	**Pn**	**23 16 58.2**	**+1.2**
ARG	**Arkhangelos**	**3.51**	**59**	PN	**Pn**	**23 16 57.9**	**+0.8**
TURN	**Turunc**	**3.89**	**53**	PN	**Pn**	**23 17 03.1**	**+0.9**
AKAS	**Kas**	**4.61**	**66**	PN	**Pn**	**23 17 14.2**	**+1.9**
BRTR	**Keskin Array B**	**9.06**	**52**	Pn	**Pn**	**23 18 14.6**	**+1.3**
	comp=E,0.0nm,0.3s,baz=212,slow=13,SNR=2.7						
MMAI	**Mount Meron Ar**	**9.28**	**96**	Pn	**Pn**	**23 18 16.9**	**+0.5**
	comp=E,0.5nm,0.3s,baz=288,slow=10,SNR=1.8						
EIL	**Elat**	**10.15**	**115**	Pn	**Pn**	**23 18 27.8**	**-0.5**
	comp=E,0.2nm,0.3s,baz=335,slow=18,SNR=1.6						
ASF	**Jabal al Asfar**	**10.71**	**99**	LR	LR	23 24 01.3	
	comp=E,9.7nm,21.4s,baz=162,slow=45						
MLR	**Muntele Rosu**	**11.07**	**6**	Pn	**Pn**	**23 18 43.3**	**+2.5**
	comp=E,0.1nm,0.3s,baz=185,slow=11,SNR=1.9						
AKASG	**Malin Array Be**	**16.60**	**11**	Pn	**Pn**	**23 19 54.4**	**-0.7**
	comp=E,0.7nm,0.3s,baz=201,slow=10,SNR=5.0						
ESDC	**Sonseca Array**	**23.16**	**291**	P	**P**	**23 21 08.7**	**-0.4**
	comp=E,0.3nm,0.6s,baz=83,slow=9.6,SNR=5.7						
HFS	**Hagfors**	**26.61**	**348**	P	**P**	**23 21 38.7**	**-2.0**
	comp=E,1.6nm,0.8s,baz=155,slow=11,SNR=1.2						
MKAR	**Makanchi Array**	**44.68**	**56**	P	**P**	**23 24 14.1**	**-1.4**
	comp=E,0.9nm,0.6s,baz=281,slow=6.7,SNR=12						
ZALV	**Zalesovo Beam**	**45.94**	**46**	P	**P**	**23 24 25.6**	**+0.4**
	comp=E,0.5nm,0.4s,baz=243,slow=9.5,SNR=2.5						

*HLW **29** 23:17:41.8, 34°.71N×24°.39E, h11km±25km, Md3.7, Ml3.8*
*ISK **29** 23:17:44.2, 34°.41N×24°.44E, h12km, ML3.4/13*
*ATH **29** 23:17:47.5, 34°.58N×24°.34E, h37km±3km, ML3.5/7, Error ellipse: s-maj=4.6km s-min=1.6km az=8.0*
*IDC **29** 23:17:47.4±2.4, 34°.48N×24°.45E, h35km±15km, mb3.7/10, mb1 3.7/15, mb1mx3.5/50, mbtmp3.8/15, ML4.0/5, MS2.5/2, Ms1 2.6/2, ms1mx2.1/70, Error ellipse: s-maj=20.9km s-min=18.1km az=166.0*
*THE **29** 23:17:47.2, 34°.53N×24°.35E, h0km±1km, ML3.5/7, Error ellipse: s-maj=3.1km s-min=0.9km az=190.0*
ISC 29 23:17:46.5±1.0, **34°.47N**±0°.04×**24°.38E**±0°.03, **h30km**±7km, **n75, σ1s65/97, mb3.8/10, Crete**

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.44**	**327**	P	**Pb**	**23 17 55.4**	**-0.6**
GVD				S	**Sb**	**23 18 02.5**	**-0.1**
GVD				AML	AML	23 18 04.9	
	comp=N,36562μm,0.6s						
GVD				AML	AML	23 18 08.3	
	comp=E,40490μm,0.4s						
GVD	**Gavdhos**	**0.44**	**327**	P	**Pb**	**23 17 55.4**	**-0.6**
GVD				S	**Sb**	**23 18 01.6**	**-0.9**
	comp=E,18μm,0.3s						
GVD	**Gavdhos**	**0.44**	**327**	PG	**Pb**	**23 17 55.4**	**-0.6**
GVD				SG	**Sb**	**23 18 02.9**	**+0.4**
GVDS	**Gavdos**	**0.44**	**328**	P	**Pb**	**23 17 55.6**	**-0.5**
GVDS				S	**Sb**	**23 18 01.8**	**-0.8**
GVDS	**Gavdos**	**0.44**	**328**	PG	**Pb**	**23 17 55.3**	**-0.8**
GVDS				SG	**Sb**	**23 18 03.1**	**+0.5**
SIVA	**Sivas**	**0.65**	**33**	P	**Pb**	**23 17 59.2**	**-0.3**
SIVA				S	**Sb**	**23 18 07.6**	**-0.7**
SIVA				AML	AML	23 18 15.8	
	comp=N,35657μm,0.5s						
SIVA				AML	AML	23 18 15.9	
	comp=E,33093μm,0.7s						
SIVA	**Sivas**	**0.65**	**33**	P	**Pn**	**23 17 59.3**	**-0.5**
SIVA				S	**Sn**	**23 18 08.5**	**-0.6**
	comp=E,18μm,0.5s						
TMBK	**Timbaki Herakl**	**0.68**	**28**	P	**Pn**	**23 18 00.1**	**-0.1**
TMBK				S	**Sn**	**23 18 10.1**	**+0.3**
	comp=E,5μm,0.7s						
PRNS	**Prines Rethymn**	**0.90**	**6**	P	**Pn**	**23 18 02.2**	**-1.0**
PRNS				S	**Sn**	**23 18 15.4**	**+0.2**
IDI	**Anoyia**	**0.92**	**

SLUM				S	Sn	23 19 11.1	+2.9
	baz=167						
KOSK	Kos Island	3.11	42	PN	Pn	23 18 34.8	+1.3
NIS1	Nisyros Isl.	3.12	46	PN	Pn	23 18 34.8	+1.1
BODT	Bodrum	3.52	42	PN	Pn	23 18 40.3	+1.1
ARG	Arkhangelos	3.53	59	PN	Pn	23 18 40.6	+1.3
MRSB	Marmaris-Mugla	3.84	53	PN	Pn	23 18 45.1	+1.6
TURN	Turunc	3.90	53	PN	Pn	23 18 45.9	+1.5
MATC	Matruh	3.93	142	P	Pn	23 18 45.8	+1.0
	baz=143						
MATC				AMP		23 19 00.0	
	baz=143						
GCAM	G?zelcaml?	3.97	35	PN	Pn	23 18 47.4	+2.1
YER	Yerkesik	4.14	49	PN	Pn	23 18 49.6	+1.8
DALY	Dalyan (Mula)	4.20	55	PN	Pn	23 18 49.9	+1.4
FETY	Fethiye	4.40	59	PN	Pn	23 18 51.7	+0.3
AYDB	Zeytinkoy-Aydi	4.49	38	PN	Pn	23 18 54.6	+2.0
AKAS	Kas	4.62	66	PN	Pn	23 18 55.7	+1.3
SWA2		5.29	170	P	Pn	23 19 05.1	+1.6
	baz=170						
SWA2				AMP		23 20 00.0	
	baz=170						
SWA2				S	Sn	23 20 02.7	-0.7
	baz=170						
HNAT	Natroun	7.16	131	P	Pn	23 19 30.0	+0.8
	baz=132						
RYAN	Fayoum	7.35	135	P	Pn	23 19 32.5	+0.7
	baz=136						
HHAG	Hagoal	7.94	122	P	Pn	23 19 40.7	+0.8
	baz=123						
HFRF	Wahat Farafira	8.04	154	P	Pn	23 19 42.0	+0.7
	baz=154						
SUZ	Suez	8.52	120	P	Pn	23 19 48.0	+0.1
	baz=121						
ZAF	Zafarana	8.66	124	P	Pn	23 19 49.5	-0.2
	baz=125						
TAMRE	El Minia	8.78	139	P	Pn	23 19 52.6	+1.1
	baz=139						
ZNM	Zenema	8.82	123	P	Pn	23 19 53.1	+1.1
	baz=124						
BRTR	Keskin Array B	9.07	52	Pn	Pn	23 19 56.6	+1.2
	comp=N,0.2nm,0.3s,baz=219,slow=12,SNR=8.0						
BRTR				LR	LR	23 24 09.7	
	comp=N,38nm,21.1s,baz=236,slow=42						
MMAI	Mount Meron Ar	9.30	96	Pn	Sn	23 19 57.7	-0.8
	comp=N,2.9nm,0.3s,baz=274,slow=12,SNR=14						
MMAI				Sn	Sn	23 21 36.9	-5.3
	comp=N,3.9nm,0.3s,baz=278,slow=20,SNR=7.1						
GRB	Gharib	9.47	128	P	Pn	23 20 01.3	+0.3
	baz=129						
EIL	Elat	10.16	115	Pn	Pn	23 20 09.2	-1.2
	comp=N,2.6nm,0.3s,baz=211,slow=3.8,SNR=18						
EIL				Sn	Sn	23 21 55.4	-8.0
	comp=N,2.1nm,0.3s,baz=28,slow=18,SNR=4.3						
MLR	Muntele Rosu	11.07	6	Pn	Pn	23 20 22.2	-0.8
	comp=N,0.2nm,0.3s,baz=161,slow=15,SNR=1.4						
AKASG	Malin Array Be	16.61	11	Pn	Pn	23 21 37.6	+0.7
	comp=N,2.1nm,0.3s,baz=201,slow=10,SNR=7.5						
ESDC	Sonseca Array	23.15	291	P	P	23 22 52.1	+1.7
	comp=N,0.3nm,0.4s,baz=84,slow=8.9,SNR=5.2						
HFS	Hagfors	26.61	348	P	P	23 23 21.2	-0.8
	comp=N,0.5nm,0.4s,baz=153,slow=10,SNR=6.5						
FINES	FINESS Array B	27.02	2	P	P	23 23 23.8	-1.9
	comp=N,7.6nm,0.9s,baz=183,slow=17,SNR=3.4						
NOA	NORSAR Array B	27.91	346	P	P	23 23 34.9	+1.2
	comp=N,0.6nm,0.7s,baz=155,slow=8.4,SNR=1.4						
NOA				LR	LR	23 36 27.6	
	comp=N,9.3nm,18.9s,baz=160,slow=40						
AKTO	Aktyubinsk	29.19	47	P	P	23 23 44.4	-0.8
	comp=N,1.1nm,0.5s,baz=250,slow=9.6,SNR=4.2						
TORD	Torodi Ar. Bea	29.55	230	P	P	23 23 49.5	+0.8
	comp=N,0.7nm,0.5s,baz=38,slow=8.3,SNR=5.5						
KURBB	Kurchatov Arra	42.06	50	P	P	23 25 34.9	-0.5
	comp=N,0.7nm,0.4s,baz=274,slow=8.6,SNR=10						
MKAR	Makanchi Array	44.69	56	P	P	23 25 57.1	+0.4
	comp=N,2.4nm,0.6s,baz=273,slow=7.2,SNR=16						
ZALV	Zalesovo Beam	45.95	46	P	P	23 26 05.8	-0.6
	comp=N,0.8nm,0.4s,baz=273,slow=8.6,SNR=5.2						
SONM	Songino Array	60.42	50	P	P	23 27 54.2	+0.9
	comp=N,0.3nm,0.4s,baz=282,slow=7.2,SNR=2.2						

*BJI **29** 23:48:28.8±0.0, 4.7°S×152.5°E, h30km, mB6.4/72, mb6.1/77, Ms7.2/99, Ms7 7.2/92*

*MOS **29** 23:48:29.8±1.0, 4.6°S×152.5°E, h40km, mb6.2/27, MS7.3/45, Error ellipse: s-maj=6.5km s-min=4.6km az=109.3 Broadband fault plane solution: P waves. M₀1.70000×10²⁰ NP1:φs81.00000°, δ58.00000°, λ89.00000°. NP2:φs264.00000°, δ32.00000°, λ92.00000°. Principal axes: T Plg77.0000°, Azm347.0000°; N Plg1.0000°, Azm82.0000°; P Plg13.0000°, Azm172.0000°;*

*IDC **29** 23:48:30.4±2.8, 4.7°S×152.5°E, h33km±20km, mb5.5/48, mb1 5.5/50, mb1mx5.5/53, mbtmp5.7/50, ML3.7/2, MS7.3/45, Ms1 7.3/45, ms1mx7.2/59 Error ellipse: s-maj=10.9km s-min=7.9km az=75.0*

*NEIC **29** 23:48:31.0±2.7, 4.7°S±0.0°×152.5°E±0.0°, h41km±1km, mb6.5/407, Ms_20 7.7/936, Mwc7.5/73, Mww7.5, Mwc7.4(GCMT), Error ellipse: s-maj=11.5km s-min=9.8km az=218.0*

*DJA **29** 23:48:34.7±0.3, 5°S×2°×15°E±°, h71km±3km, M7.2/129, mB7.2/129, mb6.3/129, MLv6.9/3, Mw7.5/57, Mw(mB)7.1/129, MwMwp7.2/122, Mwp7.0/122*

*NEIC **29** 23:48:53, 5.18°S×152.55°E, h37km, Moment Tensor Solution. Moment tensor: Scale 10²⁰Nm; Mrr1.53; Mθθ-1.54; Mφφ0.01; Mrθ0.71; Mrφ-0.27; Mθφ0.10; Fault plane solution: M₀1.72000×10²⁰ NP1:φs259.00000°, δ33.00000°, λ89.00000°. NP2:φs81.00000°, δ57.00000°, λ91.00000°. Principal axes: T 1.6877, Plg78.0000°, Azm354.0000°; N 0.0554, Plg1.0000°, Azm261.0000°; P -1.7432, Plg12.0000°, Azm170.0000°;*

*NEIC **29** 23:48:54, 4.95°S×152.66°E, h36km, Moment Tensor Solution. Moment tensor: Scale 10²⁰Nm; Mrr1.65; Mθθ-1.49; Mφφ-0.16; Mrθ1.87; Mrφ-0.28; Mθφ0.20; Fault plane solution: M₀2.47000×10²⁰ NP1:φs255.00000°, δ20.00000°, λ83.00000°. NP2:φs82.00000°, δ70.00000°, λ92.00000°. Principal axes: T 2.5221, Plg65.0000°, Azm357.0000°; N -0.1088, Plg2.0000°, Azm262.0000°; P -2.4133, Plg25.0000°, Azm170.0000°;*

*GCMT **29** 23:48:54.0±0.1, 5.18°S×152.59°E, h38km, MW7.5/178, Moment Tensor Solution. s178,c486; s175,c880; Duration: 13s0 Moment tensor: Scale 10²⁰Nm; Mrr1.57±.01; Mθθ-1.58±.00; Mφφ0.00±.00; Mrθ0.99±.02; Mrφ-0.27±.00; Mθφ0.17±.02; Best double couple: M₀1.88900×10²⁰ NP1:φs260.00000°, δ29.00000°, λ90.00000°. NP2:φs81.00000°, δ61.00000°, λ90.00000°. Principal axes: T 1.8610, Plg74.0000°, Azm351.0000°; N 0.0520, Plg0.0000°, Azm261.0000°; P -1.9170, Plg16.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s. Triangular moment-rate function*

*NEIC **29** 23:49:05.9, 5.27°S×152.62°E, h41km, Moment Tensor Solution. Moment tensor: Scale 10²⁰Nm; Mrr1.91; Mθθ-1.82; Mφφ-0.09; Mrθ0.96; Mrφ-0.30; Mθφ0.28; Fault plane solution: M₀2.14000×10²⁰ NP1:φs263.55000°, δ31.27000°, λ95.26000°. NP2:φs77.40000°, δ58.88000°, λ86.81000°. Principal axes: T 2.1635, Plg76.0000°, Azm338.0000°; N -0.0456, Plg3.0000°, Azm79.0000°; P -2.1179, Plg14.0000°, Azm170.0000°;*

ISC 29 23:48:31.0±0.2, 4.78S±0.03×152.58E±0.03, h41km±1km, h41km:pP-P,n2080,σ2s21/1682,mb6.4/367,MS7.6/607, 130C-85D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	0.71	325		Pn	23 48 46.9	+2.2
RABL	Rabaul	0.71	325	P	Pn	23 48 46.8	+2.1
MANU	Manus Island	5.87	297		Pn	23 49 57.9	+2.4
PMG	Port Moresby	7.08	229	Pn	Pn	23 50 13.9	+1.9
	14nm,0.3s,baz=25,slow=8.2,SNR=52						
PMG	Port Moresby	7.08	229	ceP	Pn	23 50 14.7	+2.6
PMG				pmax	pmax		
	comp=Z,365nm,1.0s						
PMG	Port Moresby	7.08	229	Pn	Pn	23 50 13.5	+1.4
PMG	Port Moresby	7.08	229	P	Pn	23 50 15.6	+3.5
	comp=Z,6μm,0.8s						
HNR	Honiara	8.65	123	Pn	Pn	23 50 36.9	+3.1
	comp=Z,22nm,0.3s,baz=197,slow=2.3,SNR=30						
HNR				LR	LR	23 54 10.4	
	comp=Z,5691μm,21.7s,baz=290,slow=39						
HNR	Honiara	8.65	123	P	Pn	23 50 35.6	+1.9
HNR	Honiara	8.65	123	Pn	Pn	23 50 35.6	+1.9
HNR	Honiara	8.65	123	P	Pn	23 50 36.8	+3.1
	comp=Z,10μm,1.0s						
JAY	Jayapura	12.06	280	Pn	Pn	23 51 24.2	+3.8
	comp=Z,1.2nm,0.3s,baz=215,slow=0.8,SNR=14						
GENI	Genyem	12.57	279	P	Pn	23 51 29.3	+1.9
	comp=Z,117μmcomp=Z,2μm,1.2s						
PATS	Pohnpei	12.88	26	P	Pn	23 51 32.6	+1.0
	baz=13,SNR=19						
PATS	Pohnpei	12.88	26	Pn	Pn	23 51 32.0	+0.4
COEN	Coen	13.01	225	P	Pn	23 51 36.3	+3.0
	baz=13						
COEN	Coen	13.01	225	Pn	Pn	23 51 34.1	+0.8
MTSU	Mount Surprise	15.54	211	P	P	23 52 10.1	-1.1
	baz=16,SNR=165						
CTA	Charters Tower	16.42	201	Pn	P	23 52 20.4	-0.5
	comp=Z,1.3nm,0.3s,baz=27,slow=13,SNR=27						
CTAO	Charters Tower	16.42	201	P	Pn	23 52 20.1	+1.5
CTAO				pmax	pmax		
	comp=Z,9μm,2.0s						
CTAO	Charters Tower	16.42	201		Pn	23 52 20.1	+1.5
CTAO				IAmb	IAmb	23 52 54.3	
	comp=Z,9μm,1.9s						
SRPI	Serui, Papua	16.56	279	P	P	23 52 21.6	-0.9
	comp=Z,80μmcomp=Z,1μm,0.9s						
BAKI	Biak	16.83	282	P	P	23 52 26.5	+1.1
	comp=Z,106μmcomp=Z,1μm,0.9s						
SANVU	Saraoutou	17.86	127		Pn	23 52 36.4	-0.2
SANVU				IAmb	IAmb	23 53 20.3	
	comp=Z,8μm,1.2s						
SANVU	Saraoutou	17.86	127	P	P	23 52 38.5	+1.6
GUMO	Guam	19.79	337	P	Pn	23 52 59.3	-0.4
GUMO	Guam	19.79	337	Pn	Pn	23 52 59.3	-0.4
GUMO	Guam	19.79	337	P	Pn	23 53 02.2	+2.5
	comp=Z,9μm,1.5s						
DVP	Devils Point	19.97	131	P	Pn	23 53 04.2	+2.3
	comp=Z,939μm,1.5s						
QIS	Mount Isa	20.13	218	P	Pn	23 53 03.2	-0.6
	baz=20,SNR=93						
KWAJ	Kwajalein Atol	20.17	48	P	Pn	23 53 03.1	-1.1
KWAJ				pmax	pmax		
	comp=Z,3μm,0.8s						
KWAJ				MLR	MLR		
	comp=Z,1768μm,19.0s						
KWAJ	Kwajalein Atol	20.17	48	P	Pn	23 53 03.0	-1.2
KWAJ				IAmb	IAmb	23 53 54.5	
	comp=Z,3μm,0.8s						
KWAJ	Kwajalein Atol	20.17	48	P	Pn	23 53 04.7	+0.5
FAKI	Fak Fak	20.37	274	P	Pn	23 53 06.0	-0.6
FAKI	Fak Fak	20.37	274	P	Pn	23 53 06.3	-0.3
	comp=Z,110μmcomp=Z,1μm,1.1s						
EIDS	Eidsvold	20.53	184	P	P	23 53 07.0	+1.0
	baz=21,SNR=29						
EIDS	Eidsvold	20.53	184	P	P	23 53 06.9	+1.0
EIDS				IAmb	IAmb	23 53 43.6	
	comp=Z,3μm,1.4s						
EIDS				IAMs_20	IAMs_20	00 00 23.2	
	comp=Z,3453μm,20.0s						
KDU	Kakadu	21.36	247	P	P	23 53 14.5	-0.4
	baz=21,SNR=57						
LIFNC	LIFOU	21.36	139	P	P	23 53 16.8	+1.9
	comp=Z,7μm,1.3s						
SAUI	Saumlaki	21.38	260	P	P	23 53 17.0	+1.7
SIJI	Sorong	21.63	280	P	P	23 53 19.7	+1.7
	comp=Z,128nm,0.7s,baz=81,slow=7.3,SNR=44						
SWI	Sorong	21.64	280	P	P	23 53 20.3	+2.3
	comp=Z,93μmcomp=Z,2μm,0.8s						
I39PW	PAU INFRASON21.75	304		*i*		02 01 10.0	
	baz=125,slow=313,SNR=1.6						
DZM	Mont Dzumac	21.82	143	P	P	23 53 21.0	+1.1
	comp=Z,355nm,1.0s,baz=8.2,slow=8.1,SNR=22						
DZM				S	S	23 57 14.5	-4.6
	comp=Z,92nm,1.2s,baz=220,slow=15,SNR=0.8						
DZM	Mont Dzumac	21.82	143	eP	P	23 53 20.9	+0.9
	comp=Z,7μm,1.0s						
DZM				eLQ	LQ	23 57 42.0	
	comp=Z,1352μm,22.8s						
DZM				eLR	LR	23 58 39.2	
	comp=Z,4638μm,23.5s						
DZM	Mont Dzumac	21.82	143	P	P	23 53 20.8	+0.9
DZM				IAmb	IAmb	23 53 46.1	
	comp=Z,3μm,0.9s						
DZM				IAMs_20	IAMs_20	00 00 38.8	
	comp=Z,2692μm,22.0s						
DZM	Mont Dzumac	21.82	143	P	P	23 53 21.7	+1.7
	comp=Z,3μm,0.9s						
RMQ	Roma	21.89	189	P	P	23 53 21.7	+1.1
	baz=22,SNR=52						
ONTNC	Ouen Toro	22.00	144	P	P	23 53 24.2	+2.4
	comp=Z,3μm,1.0s						
ANA2	Anatahan	22.05	342	P	P	23 53 24.3	+1.9
ANA2				IAmb	IAmb	23 54 13.8	
	comp=Z,2μm,0.8s						
ANA2	Anatahan	22.05	342	P	P	23 53 25.9	+3.5
YATNC	Mamie plateau,	22.08	142	P	P	23 53 25.3	+2.6
	comp=Z,2μm,0.9s						
OUENC	Ouen Island, N	22.32	143	P	P	23 53 27.3	+2.1
	comp=Z,2μm,0.8s						
MARNC	Mare, Loyalty	22.37	139	P	P	23 53 27.2	+1.4
	comp=Z,43nm,0.9s						
SARN	Sarigan	22.37	343	P	P	23 53 27.7	+1.8
BNDI	Bandanaira	22.60	270	P	P	23 53 31.0	+2.6
	comp=Z,103μmcomp=Z,649nm,1.3s						
MTN	Manton Dam	22.64	248	P	P	23 53 29.0	+0.3
	baz=23,SNR=27						
MTN	Manton Dam	22.64	248	P	P	23 53 28.1	-0.7
MTN				IAmb	IAmb	23 54 08.7	
	comp=Z,2μm,0.9s						
PINNC	Pines Island,	22.83	142	P	P	23 53 34.2	+3.5
	comp=Z,3μm,1.4s						
QLP	Quilpie	23.11	199	P	P	23 53 34.0	+0.6
	baz=23,SNR=28						
WB0	Warramunga Arr	23.15	228	IAMs_20	IAMs_20	00 02 50.5	
	comp=Z,1673μm,20.0s						
WR0	Warramunga Arr	23.16	228	P	P	23 53 33.6	-0.4
WR0				IAMs_20	IAMs_20	00 02 50.7	
	comp=Z,1933μm,20.0s						
WR8	Warramunga Arr	23.18	228	IAMs_20	IAMs_20	00 02 51.4	
	comp=Z,1995μm,21.0s						
WB8	Warramunga Arr	23.18	228	IAMs_20	IAMs_20	00 02 41.5	
	comp=Z,1802μm,21.0s						
WR7	Warramunga Arr	23.20	228	IAMs_20	IAMs_20	00 02 41.9	
	comp=Z,2016μm,21.0s						
WR6	Warramunga Arr	23.22	228	IAMs_20	IAMs_20	00 02 52.3	
	comp=Z,1900μm,20.0s						
WR4	Warramunga Arr	23.25	228	IAMs_20	IAMs_20	00 02 54.2	
	comp=Z,1806μm,20.0s						
WC3	Warramunga Arr	23.28	228	P	P	23 53 34.9	-0.4
	baz=23						
WRAB	Tennant Creek	23.28	228	ceP	P	23 53 34.9	-0.4
WRAB				pmax	pmax		
	comp=Z,554nm,1.3s						
WRAB	Tennant Creek	23.28	228	P	P	23 53 35.5	+0.2
WRAB	Tennant Creek	23.28	228	IAMs_20	IAMs_20	00 02 54.8	
	comp=Z,1821μm,21.0s						
WB2	Warramunga Arr	23.29	228	IAMs_20	IAMs_20	00 02 55.1	
	comp=Z,1847μm,20.0s						
WRA	Warramunga Arr	23.30	228	P	P	23 53 35.0	-0.4
	comp=Z,387nm,1.1s,baz=51,slow=9.7,SNR=191						
WRA				S	S	23 57 52.3	+7.2
	comp=Z,58nm,0.9s,baz=54,slow=15,SNR=1.4						
WRA				LR	LR	00 03 06.3	
	comp=Z,1839μm,20.8s,baz=55,slow=38						
WRA	Warramunga Arr	23.30	228	*i* P	P	23 53 35.0	-0.4
WRA				pmax	pmax		
	comp=Z,387nm,1.1s						
WRA	Warramunga Arr	23.30	228	P	P	23 53 33.8	-1.7
WB1	Warramunga Ar.	23.30	228	IAMs_20	IAMs_20	00 02 55.5	
	comp=Z,1902μm,21.0s						
NLAI	Namlea	25.46	272	P	P	23 53 56.0	+0.6
	comp=Z,646μmcomp=Z,27μmcomp=Z,225nm,0.5s						
ARMA	Armidale	25.52	182	P	P	23 53 57.0	+1.0
	baz=26,SNR=28						
ARMA	Armidale	25.52	182	P	P	23 53 56.5	+0.5
ARMA				IAmb	IAmb	23 54 47.3	
	comp=Z,2μm,1.3s						
TNTI	Ternate	25.78	282	P	P	23 53 59.0	+0.6
TNTI				IAmb	IAmb	23 54 50.2	
	comp=Z,3μm,1.8s						
TNTI	Ternate	25.78	282	P	P	23 53 58.7	+0.3
	comp=Z,407μmcomp=Z,28μmcomp=Z,669nm,1.1s						
ASAR	Alice Springs	26.02	222	P	P	23 54 00.2	-0.2
	comp=Z,52nm,0.6s,baz=54,slow=8.5,SNR=228						
ASAR				S	S	23 58 41.8	+13
	comp=Z,27nm,0.7s,baz=38,slow=6.1,SNR=1.7						
ASAR				LR	LR	00 04 16.5	
	comp=Z,1568μm,21.8s,baz=47,slow=36						
ASAR				P3KPbc		00 26 52.4	
	comp=Z,2.7nm,0.9s,baz=224,slow=3.9,SNR=2.9						
ASAR	Alice Springs	26.02	222	P	P	23 53 59.7	-0.8
ASAR	Alice Springs	26.02	222	P	P	23 53 59.7	-0.8
ASPA	Alice Springs	26.02	222	P	P	23 54 00.8	+0.3
	baz=26						
SANI	Sanana	26.68	275	P	P	23 54 06.7	+0.2
	comp=Z,619μmcomp=Z,36μmcomp=Z,595nm,1.4s						
FUNA	Funafuti	26.70	99	P	P	23 54 06.4	-0.2
H11S3	WAKE ISLAND Hy	26.98	31	P	P	23 54 10.1	+1.2
	SNR=8.0						
H11S3				T	T	00 22 17.9	
	baz=210,slow=76,SNR=345						
H11S2	WAKE ISLAND Hy	26.99	31	P	P	23 54 10.7	+1.8
	baz=254,slow=74,SNR=9.4						
H11S2				T	T	00 22 10.4	
	baz=210,slow=76,SNR=805						
H11S1	WAKE ISLAND Hy	27.00	31	P	P	23 54 09.7	+0.6
	baz=76,slow=74,SNR=7.3						
H11S1				T	T	00 22 05.5	
	baz=210,slow=76,SNR=322						
LHI	Lord Howe Isla	27.29	168	P	P	23 54 13.6	+1.9
	baz=27,SNR=5.2						
LHI	Lord Howe Isla	27.29	168	P	P	23 54 13.2	+1.5
LHI				IAmb	IAmb	23 54 44.4	
	comp=Z,2μm,1.1s						
LHI				IAMs_20	IAMs_20	00 04 04.8	
	comp=Z,2085μm,19.0s						
LHI	Lord Howe Isla	27.29	168	P	P	23 54 13.9	+2.1
CMSA	Cobar Meteorol	27.40	193	P	P	23 54 13.3	+0.6
	baz=28,SNR=17						
WAKE	Wake Island	27.63	30	P	P	23 54 15.7	+0.8
WAKE				IAmb	IAmb	23 55 07.3	
	comp=Z,1μm,1.4s						
MSVF	Nonsavu	28.05	119	P	P	23 54 19.5	+0.6
	comp=Z,35nm,0.6s,baz=263,slow=8.5,SNR=16						
MSVF				S	S	23 59 05.4	+4.4
	comp=Z,31nm,1.0s,baz=102,slow=5.1,SNR=1.1						
MSVF				LR	LR	00 04 51.0	
	comp=Z,1430μm,21.4s,baz=299,slow=35						
MSVF	Nonsavu	28.05	119	P	P	23 54 19.1	+0.3
MSVF				pmax	pmax		
	comp=Z,654nm,1.2s						
MSVF				MLR	MLR		
	comp=Z,1305μm,20.0s						
MSVF	Nonsavu	28.05	119	P	P	23 54 19.1	+0.3
MSVF	Nonsavu	28.05	119	IAMs_20	IAMs_20	00 04 40.6	
	comp=Z,1305μm,20.0s						
MSVF	Nonsavu	28.05	119	P	P	23 54 20.0	+1.2
	comp=Z,242nm,0.9s						
H11N1	WAKE ISLAND Hy	28.11	30	P	P	23 54 19.3	+0.3
	baz=264,slow=27,SNR=16						
H11N1				T	T	00 25 00.1	
	baz=185,slow=75,SNR=186						
H11N3	WAKE ISLAND Hy	28.13	30	P	P	23 54 22.0	+2.9
	baz=264,slow=27,SNR=18						
H11N3				T	T	00 24 42.5	
	baz=185,slow=75,SNR=528						
H11N2	WAKE ISLAND Hy	28.13	30	P	P	23 54 22.3	+3.1
	baz=264,slow=27,SNR=14						
H11N2				T	T	00 24 44.3	
	baz=185,slow=75,SNR=124						
NFK	Norfolk Island	28.19	151	P	P	23 54 23.6	+3.8
SGSI	Sangihe	28.30	287	P	P	23 54 24.5	+3.5
	comp=Z,5μmcomp=Z,15μmcomp=Z,949nm,1.1s						
MGCD	Mangrove Creek	28.32	183	P	P	23 54 22.4	+1.5
	baz=28,SNR=10						
SOEI	Soe	28.50	258	P	P	23 54 23.6	+0.6
SOEI	Soe	28.50	258	P	P	23 54 23.9	+0.9
	comp=Z,796μmcomp=Z,60μmcomp=Z,368nm,1.2s						
MATI	Mati	28.73	294	eP	P	23 54 55.2	+30
STKA	Stephens Creek	28.86	200	P	P	23 54 25.5	-0.3
	comp=Z,34nm,0.7s,baz=0.6,slow=8.5,SNR=42						
STKA				S	S	23 59 22.1	+8.8
	comp=Z,49nm,1.0s,baz=343,slow=13,SNR=1.4						
STKA				LR	LR	00 06 55.9	
	comp=Z,939μm,18.2s,baz=14,slow=38						
STKA				P3KPbc		00 26 37.5	
	comp=Z,9.8nm,0.9s,baz=183,slow=5.5,SNR=3.9						
STKA				PKPPKP	P'P'df	00 28 31.9	-5.2
	comp=Z,12nm,0.9s,baz=7.8,slow=4.4,SNR=4.1						
STKA	Stephens Creek	28.86	200	P	P	23 54 25.5	-0.3
	baz=29,SNR=69						
STKA	Stephens Creek	28.86	200	*i* P	P	23 54 25.6	-0.2
STKA	Stephens Creek	28.86	200	P	P	23 54 25.4	-0.3
DDMP	Don Marcelino,	28.92	292	eP	P	23 54 26.1	-0.4
RIV	Riverview	28.94	182	P	P	23 54 31.4	+5.0
	baz=29,SNR=3.2						
KMSI	Cibinong	29.06	280	P	P	23 54 29.2	+1.5
	comp=Z,3μmcomp=Z,19μmcomp=Z,2μm,1.0s						
BATI	Baumata	29.16	258	P	P	23 54 29.4	+0.7
	comp=Z,43nm,0.5s,baz=114,slow=1.9,SNR=10						
BATI				S	S	23 59 21.1	+2.7
	comp=Z,42nm,0.5s,baz=263,slow=22,SNR=0.8						
BATI				LR	LR	00 08 50.2	
	comp=Z,2099μm,21.8s,baz=102,slow=42						
BATI	Baumata	29.16	258	P	P	23 54 30.3	+1.6
	comp=Z,364μmcomp=Z,28μmcomp=Z,480nm,0.7s						
DAV	Davao City (W)	29.40	293	P	P	23 54 33.4	+2.6
	comp=Z,74nm,0.3s,baz=171,slow=12,SNR=1.2						
DAV				LR	LR	00 06 09.5	
	comp=Z,353μm,19.6s,baz=94,slow=36						
FITZ	Fitzroy Crossi	29.48	241	P	P	23 54 30.5	-0.8
	comp=Z,140nm,0.7s,baz=58,slow=7.6,SNR=487						
FITZ				S	S	23 59 37.5	+14
	comp=Z,93nm,0.9s,baz=111,slow=21,SNR=1.1						
FITZ				LR	LR	00 08 20.2	
	comp=Z,1229μm,18.4s,baz=74,slow=40						
FITZ	Fitzroy Crossi	29.48	241	P	P	23 54 30.6	-0.8
	baz=30,SNR=199						
FITZ	Fitzroy Crossi	29.48	241	IAmb	IAmb	23 55 24.5	
	comp=Z,2μm,1.2s						
YNG	Young	29.63	187	P	P	23 54 34.2	+1.6
	baz=30,SNR=5.8						
LUWI	Luwuk	29.99	276	P	P	23 54 36.4	+0.3
LUWI				IAmb	IAmb	23 55 23.6	
	comp=Z,2μm,1.2s						
LUWI	Luwuk	29.99	276	P	P	23 54

comp=Z,93µmcomp=Z,2µm,0.9s
KAPI Kappang 32.70 268 LR LR 00 10 44.9
comp=Z,321µm,21.2s,baz=98,slow=41
KAPI Kappang 32.70 268 P **P** **23 54 59.9 0.0**
KAPI pmax pmax
comp=Z,316nm,1.0s
KAPI MLR MLR
comp=Z,239µm,21.0s
KAPI Kappang 32.70 268 P **P** **23 54 59.9 0.0**
KAPI Kappang 32.70 268 P **P** **23 54 59.0 -1.0**
KAPI P **P** **23 54 59.0 -1.0**
KAPI P **P** **23 54 59.0 -1.0**
SPSI Sidrap Palu 32.72 270 P **P** **23 54 59.2 -0.9**
comp=Z,386µmcomp=Z,20µmcomp=Z,430nm,1.0s
TTSI Tana Toraja 32.73 272 P **P** **23 54 59.9 -0.2**
comp=Z,380µmcomp=Z,21µmcomp=Z,222nm,1.6s
CNOP Candoni, Negro 33.17 296 *e*P P 23 55 12.0 +8.1
JCJ Chichijima 33.24 343 P **P** **23 55 04.3 0.0**
comp=Z,83nm,0.5s,baz=286,slow=20,SNR=2.2
JCJ S S 00 00 33.9 +12
comp=Z,32nm,0.3s,baz=294,slow=22,SNR=1.3
JCJ Chichijima 33.24 343 P **P** **23 55 05.8 +1.4**
JCJ IAmb IAmb 23 55 27.1
comp=Z,508nm,0.7s
TOO Toolangi 33.28 190 P **P** **23 55 06.6 +1.9**
baz=33,SNR=6.9
TOO Toolangi 33.28 190 P **P** **23 55 05.6 +0.9**
TOO pmax pmax
comp=Z,1µm,2.0s
TOO MLR MLR
comp=Z,4025µm,18.0s
TOO Toolangi 33.28 190 P **P** **23 55 05.6 +0.9**
TOO IAmb IAmb 23 55 35.1
comp=Z,1µm,1.9s
ARPS Mount Arapiles 33.33 196 P **P** **23 55 06.6 +1.5**
baz=34,SNR=16
GUIM Jordan 33.55 297 *e*P **P** **23 55 04.5 -2.8**
FORT Forrest 34.67 219 P **P** **23 55 16.3 -0.5**
baz=35,SNR=123
FORT Forrest 34.67 219 IAMs_20 IAMs_20 00 09 04.7
comp=Z,1335µm,22.0s
PLAI Plampang 34.78 261 P **P** **23 55 15.1 -2.9**
comp=Z,314µmcomp=Z,19µmcomp=Z,398nm,0.7s
CUYO Cuyo Island 35.04 296 *e*P **P** **23 55 21.8 +1.6**
GQP Guinayangan 35.19 302‖ *e*P **P** **23 55 24.3 +2.9**
MYLDM **Lahad Datu 35.44 286** P **P** **23 55 24.8 +1.1**
MYLDM IAmb IAmb 23 55 59.8
comp=Z,1µm,1.0s
BOAC Boac 35.49 301 *e*P P 23 55 34.7 +11
TWSI Taliwang, Sumb 35.65 262 P **P** **23 55 23.9 -1.6**
comp=Z,172µmcomp=Z,10µmcomp=Z,98nm,1.3s
KNTN Kanton 35.68 88 P **P** **23 55 26.8 +1.1**
KNTN IAmb IAmb 23 56 12.1
comp=Z,1µm,1.4s
KNTN Kanton 35.68 88 P **P** **23 55 28.1 +2.4**
comp=Z,362nm,1.5s
MBWA Marble Bar 35.79 240 IAMs_20 IAMs_20 00 12 20.3
comp=Z,1254µm,18.0s
MBWA Marble Bar 35.79 240 P **P** **23 55 25.9 -0.7**
MBWA P **P** **23 55 25.9 -0.7**
MBWA P **P** **23 55 25.9 -0.7**
BKB Balikpapan 35.80 274 P **P** **23 55 27.6 +0.9**
BKB IAmb IAmb 23 56 00.5
comp=Z,496nm,1.0s
BKB Balikpapan 35.80 274 P **P** **23 55 28.6 +1.9**
comp=Z,478µmcomp=Z,31µmcomp=Z,465nm,1.1s
PSAB2 Pilbara Seismi 35.83 239 IAMs_20 IAMs_20 00 12 21.4
comp=Z,1643µm,18.0s
PSAA3 Pilbara Seismi 35.85 239 IAMs_20 IAMs_20 00 12 12.8
comp=Z,1515µm,18.0s
PSAA2 Pilbara Seismi 35.85 239 IAMs_20 IAMs_20 00 12 12.8
comp=Z,1468µm,18.0s
PSA00 Pilbara Seismi 35.85 239 P **P** **23 55 26.4 -0.7**
PSA00 IAMs_20 IAMs_20 00 12 30.9
comp=Z,1615µm,18.0s
PSA00 Pilbara Seismi 35.85 239 P **P** **23 55 27.0 -0.1**
PSA00 IAmb IAmb 23 56 11.2
comp=Z,515nm,1.1s
PSAB3 Pilbara Seismi 35.85 239 IAMs_20 IAMs_20 00 12 21.9
comp=Z,1673µm,18.0s
PSAA1 Pilbara Seismi 35.86 239 IAMs_20 IAMs_20 00 12 22.2
comp=Z,1647µm,18.0s
PSAC1 Pilbara Seismi 35.87 239 IAMs_20 IAMs_20 00 12 31.4
comp=Z,1662µm,18.0s
PSAB1 Pilbara Seismi 35.87 239 IAMs_20 IAMs_20 00 12 31.4
comp=Z,1623µm,18.0s
PSAC3 Pilbara Seismi 35.89 239 IAMs_20 IAMs_20 00 12 13.9
comp=Z,1513µm,18.0s
PSAD3 Pilbara Seismi 35.94 239 IAMs_20 IAMs_20 00 12 16.2
comp=Z,1540µm,18.0s
OUZ Omahuta 35.99 150 P **P** **23 55 29.6 +1.6**
OUZ IAmb IAmb 23 56 11.9
comp=Z,1µm,1.3s
OUZ IAMs_20 IAMs_20 00 08 44.1
comp=Z,827µm,20.0s
LQP Lukban 36.06 302 *e*P P 23 55 36.5 +7.4
BUSP Coron 36.26 298 *e*P P 23 55 38.3 +7.7
AFI Afiamalu 36.28 107 P **P** **23 55 31.2 +0.3**
AFI pmax pmax
comp=Z,497nm,1.1s
AFI MLR MLR
comp=Z,642µm,19.0s
AFI Afiamalu 36.28 107 P **P** **23 55 31.2 +0.3**
AFI IAmb IAmb 23 56 11.8
comp=Z,496nm,1.1s
AFI Afiamalu 36.28 107 P **P** **23 55 32.1 +1.2**
comp=Z,374nm,1.1s
KBKI Kotabaru 36.35 271 P **P** **23 55 31.2 -0.2**
comp=Z,4µmcomp=Z,2µmcomp=Z,225nm,0.9s
ENPP El Nido 36.61 296 *e*P **P** **23 55 34.0 +0.3**
JMZ Minamidaito 2 36.80 327 IAmb IAmb 23 56 33.2
comp=Z,1µm,1.2s
MACP Maragondon, Ca 36.83 301 *e*P **P** **23 55 38.5 +3.0**
BALP Baler 36.84 304 *e*P **P** **23 55 36.8 +1.2**
RAO Raoul Island 37.05 134 P **P** **23 55 38.2 +1.0**
comp=Z,114nm,0.4s,baz=277,slow=23,SNR=2.5
RAO Raoul Island 37.05 134 P **P** **23 55 38.8 +1.6**
RAO pmax pmax
comp=Z,3µm,1.2s
RAO Raoul Island 37.05 134 P **P** **23 55 38.8 +1.6**
RAO Raoul Island 37.05 134 IAMs_20 IAMs_20 00 08 33.3
comp=Z,1039µm,22.0s
RAO Raoul Island 37.05 134 P **P** **23 55 39.1 +1.9**
BATP Bataraza 37.20 291 *e*P **P** **23 55 41.3 +2.6**
SRBI Singaraja 37.27 263 P **P** **23 55 37.2 -2.0**
comp=Z,284µmcomp=Z,18µmcomp=Z,173nm,1.3s
SPMM Sapulut 37.28 284 P **P** **23 55 43.0 +3.6**
BBKI Banjar Baru 37.66 271 P **P** **23 55 42.7 +0.1**
comp=Z,211µmcomp=Z,18µmcomp=Z,388nm,0.9s
SGCP Mt. Cagua 37.81 308 *e*P P 23 55 52.8 +9.1
MTKI Muara Teweh, K 37.82 275 P **P** **23 55 43.6 -0.4**
comp=Z,215µmcomp=Z,17µmcomp=Z,242nm,1.9s
KKM Kota Kinabalu 37.87 286 P **P** **23 55 45.8 +1.4**
KKM IAmb IAmb 23 55 56.9
comp=Z,979nm,1.2s
ABJI Asem Bagus 38.22 264 P **P** **23 55 46.4 -0.9**
comp=Z,293µmcomp=Z,17µmcomp=Z,202nm,1.2s
APYP Conner 38.23 307 *e*P **P** **23 55 48.2 +0.8**
TAU Tasmania Unive 38.26 186 P **P** **23 55 48.9 +1.7**
TAU pmax pmax
comp=Z,1µm,1.4s
TAU Tasmania Unive 38.26 186 P **P** **23 55 48.9 +1.7**
TAU IAmb IAmb 23 56 28.6
comp=Z,1µm,1.4s
TAU Tasmania Unive 38.26 186 IAMs_20 IAMs_20 00 10 02.5
comp=Z,1639µm,22.0s
JAGI Jajag, Banyuwa 38.33 262 P **P** **23 55 45.2 -3.1**
JAGI IAmb IAmb 23 56 27.1
comp=Z,635nm,0.8s
JAGI Jajag, Banyuwa 38.33 262 P **P** **23 55 45.1 -3.2**
comp=Z,284µmcomp=Z,23µmcomp=Z,462nm,1.1s
KMMI Kalianget 38.46 265 P **P** **23 55 49.5 +0.1**
comp=Z,317µmcomp=Z,20µmcomp=Z,178nm,1.1s
BOLP Bolinao 38.54 304 *e*P P 23 55 57.6 +7.7
SZP Santa 38.70 306 P **P** **23 55 52.0 +0.8**
SZP IAmb IAmb 23 56 54.4
comp=Z,753nm,1.1s
KMBL Kambalda 39.12 224 P **P** **23 55 53.8 -0.8**
baz=39,SNR=35
BBP Basco 39.14 311 *e*P P 23 55 59.7 +4.8
HIZ Hauiti 39.22 152 P **P** **23 55 56.7 +1.3**
HIZ IAMs_20 IAMs_20 00 14 43.6
comp=Z,700µm,18.0s
NIUE Niue 39.23 114 P **P** **23 55 56.4 +0.7**
NIUE IAMs_20 IAMs_20 00 10 00.1
comp=Z,782µm,22.0s
NIUE Niue 39.23 114 P **P** **23 55 58.4 +2.7**
JOW Kunigami 39.25 324 P **P** **23 55 57.2 +1.5**
comp=Z,249nm,0.9s,baz=145,slow=8.0,SNR=28
JOW S **S** **00 02 01.0 +7.4**
comp=Z,71nm,1.0s,baz=213,slow=7.0,SNR=3.6
JOW Kunigami 39.25 324 IAmb IAmb 23 56 21.2
comp=Z,2µm,1.2s
KARZ Kaharoa 39.50 150 P **P** **23 55 56.5 -1.2**
JHJ2 Mitsune 39.58 343 P **P** **23 56 01.1 +2.8**
WATZ Wairara 39.79 151 P **P** **23 56 01.8 +1.7**
HRRZ Handcock Road 39.81 150 P **P** **23 56 03.0 +2.7**
QRZ Quartz Range 40.12 156 P **P** **23 56 04.5 +1.8**
QRZ IAmb IAmb 23 56 30.9
comp=Z,539nm,0.9s
QRZ IAMs_20 IAMs_20 00 12 59.3
comp=Z,1038µm,19.0s
URZ Urewera 40.12 150 P **P** **23 56 04.2 +1.4**
comp=Z,76nm,0.7s,baz=327,slow=0.6,SNR=19
URZ LR LR 00 10 28.3
comp=Z,733µm,21.1s,baz=328,slow=33
URZ Urewera 40.12 150 P **P** **23 56 04.3 +1.4**
URZ IAmb IAmb 23 56 37.2
comp=Z,1µm,1.1s
URZ IAMs_20 IAMs_20 00 10 17.5
comp=Z,743µm,21.0s
URZ Urewera 40.12 150 P **P** **23 56 05.0 +2.1**
FWVZ Far West T-bar 40.14 152 P **P** **23 56 07.2 +3.9**
TRVZ Turoa 40.17 152 P P 23 56 09.2 +5.7
MXZ Matakaoa Point 40.22 148 P **P** **23 56 05.3 +1.7**
MXZ IAmb IAmb 23 56 45.7
comp=Z,1µm,1.2s
MXZ IAMs_20 IAMs_20 00 13 37.0
comp=Z,815µm,18.0s
MXZ Matakaoa Point 40.22 148 P P 23 56 08.7 +5.1
WNVZ Wahianoa 40.22 152 P P 23 56 09.8 +5.9
PKGZ Pakihiroa 40.34 148 P **P** **23 56 07.4 +2.7**
MOVZ Moawhango 40.35 152 P **P** **23 56 08.6 +3.7**
MWZ Matawai 40.39 149 P **P** **23 56 08.3 +3.2**
MTHZ Maungataniwha 40.44 150 P **P** **23 56 08.3 +2.7**
RAGZ Rawiri 40.45 149 P **P** **23 56 09.2 +3.5**
WMGZ Waiomatatini S 40.46 148 P **P** **23 56 07.7 +2.0**
TWGZ Tauwhareparae 40.50 149 P **P** **23 56 08.2 +2.2**
BKZ Black Stump Fm 40.51 151 P **P** **23 56 08.0 +1.8**
BKZ IAmb IAmb 23 57 03.9
comp=Z,979nm,1.4s
BKZ IAMs_20 IAMs_20 00 10 04.9
comp=Z,835µm,22.0s
RAHZ Arahi 40.61 150 P **P** **23 56 08.7 +1.7**
TKGZ Te Karaka 40.63 149 P **P** **23 56 09.5 +2.4**
SNGZ Shannon Statio 40.63 150 P **P** **23 56 09.1 +2.0**
RIGZ Rimuhau 40.79 149 P **P** **23 56 09.3 +0.9**
NNZ Nelson 40.79 156 P **P** **23 56 09.0 +0.7**
NNZ IAMs_20 IAMs_20 00 10 20.2
comp=Z,1177µm,22.0s
WHHZ Waihua 40.81 150 P **P** **23 56 12.4 +3.8**
KRHZ Kereru 40.83 152 P **P** **23 56 11.2 +2.4**
MCHZ McNeill Hill 40.83 151 P **P** **23 56 12.4 +3.6**
ARHZ Aropaoanui 40.84 151 P **P** **23 56 12.4 +3.7**
CNGZ Carnagh Statio 40.85 149 P **P** **23 56 11.5 +2.6**
PBKI Pangkalan Bun 40.87 271 P **P** **23 56 10.5 +1.1**
comp=Z,350µmcomp=Z,34µmcomp=Z,4µm,1.0s
YOJ Yonaguni jima 40.90 317 P **P** **23 56 11.0 +1.5**
YOJ pmax pmax
comp=Z,635nm,1.0s
YOJ MLR MLR
comp=Z,174µm,19.0s
YOJ Yonaguni jima 40.90 317 P **P** **23 56 11.0 +1.5**
YOJ IAmb IAmb 23 57 11.4
comp=Z,635nm,1.0s
SBUM Sibu 40.96 279 P **P** **23 56 11.2 +1.1**
SBUM Sibu 40.96 279 P **P** **23 56 12.0 +1.9**
PNHZ Pukenui 40.96 152 P **P** **23 56 11.8 +1.9**
TSZ Takapari Road 40.97 152 P **P** **23 56 12.4 +2.5**
KNZ Kokohu 40.98 150 P **P** **23 56 13.9 +3.9**
THZ Tophouse 41.06 157 IAmb IAmb 23 57 04.6
comp=Z,718nm,0.9s
THZ IAMs_20 IAMs_20 00 12 40.3
comp=Z,1061µm,20.0s
GIRL Giralia 41.08 241 P **P** **23 56 11.5 +0.5**
baz=41,SNR=19
GIRL Giralia 41.08 241 IAMs_20 IAMs_20 00 16 01.6
comp=Z,1225µm,18.0s
TUWZ Tuamarina 41.20 155 P **P** **23 56 13.2 +1.4**
MHGZ Mahia Peninsul 41.20 150 P P 23 56 16.0 +4.3
TWG Pinlang 41.23 313 P **P** **23 56 13.9 +1.6**
TWG IAmb IAmb 23 57 10.6
comp=Z,2µm,2.0s
DVHZ Dannevirke 41.25 152 P **P** **23 56 14.6 +2.4**
MRZ Mangatainoka R 41.28 153 P **P** **23 56 15.2 +2.8**
STKI Sintang 41.33 276 P **P** **23 56 14.7 +1.5**
comp=Z,29µmcomp=Z,264nm,1.0s
PXZ Pawanui 41.37 151 P **P** **23 56 14.6 +1.4**
BSWZ Blackbirch Sta 41.41 156 P **P** **23 56 14.5 +1.0**
YULB Yu-li 41.42 314 P **P** **23 56 13.6 -0.2**
YULB IAmb IAmb 23 56 59.2
comp=Z,2µm,1.8s
SNZO South Karori 41.42 155 P **P** **23 56 15.3 +1.7**
SNZO IAmb IAmb 23 56 43.9
comp=Z,3µm,1.7s
SNZO South Karori 41.42 155 IAMs_20 IAMs_20 00 11 02.9
comp=Z,1500µm,22.0s
FOZ Fox Glacier 41.49 161 P **P** **23 56 14.8 +0.7**
FOZ IAmb IAmb 23 56 46.9
comp=Z,721nm,1.1s
JSG Sasara 41.52 342 P **P** **23 56 14.1 -0.3**
BHW Baring Head 41.57 155 P **P** **23 56 15.3 +0.5**
CMWZ Cape Campbell 41.58 155 P **P** **23 56 16.2 +1.3**
BFZ Birch Farm 41.60 153 IAmb IAmb 23 56 44.0
comp=Z,1µm,1.2s
BFZ IAMs_20 IAMs_20 00 16 11.5
comp=Z,906µm,18.0s
BFZ Birch Farm 41.60 153 P **P** **23 56 17.1 +2.1**
LTZ Lake Taylor 41.69 158 P **P** **23 56 17.2 +1.4**
LTZ IAMs_20 IAMs_20 00 11 10.5
comp=Z,1569µm,22.0s
NACB Ninganchiao 41.70 315 P **P** **23 56 16.6 +0.5**
NACB IAmb IAmb 23 57 07.3
comp=Z,689nm,0.9s
JSU Suzuyama 41.79 331 IAmb IAmb 23 56 45.4
comp=Z,792nm,1.3s
TPUB Ta-pu 41.85 313 IAmb IAmb 23 56 54.4
comp=Z,2µm,1.6s
KHZ Kahutara 41.87 157 IAmb IAmb 23 57 08.4
comp=Z,781nm,1.2s
UGM Wanagama 41.90 264 P **P** **23 56 19.1 +1.1**
UGM IAmb IAmb 23 57 02.6
comp=Z,769nm,1.0s
UGM Wanagama 41.90 264 P **P** **23 56 16.0 -1.9**
comp=Z,298µmcomp=Z,27µmcomp=Z,393nm,1.8s
SMRI Semarang 41.96 265 P **P** **23 56 18.7 +0.3**
SMRI Semarang 41.96 265 P **P** **23 56 17.8 -0.6**
comp=Z,329µmcomp=Z,30µmcomp=Z,454nm,1.1s
RPZ Rata Peaks 42.07 160 P **P** **23 56 20.9 +2.1**
comp=Z,230nm,0.8s,baz=317,slow=2.9,SNR=41
RPZ LR LR 00 13 21.7
comp=Z,3398µm,18.5s,baz=325,slow=35
RPZ Rata Peaks 42.07 160 P **P** **23 56 20.3 +1.5**
RPZ IAmb IAmb 23 56 51.8
comp=Z,1µm,1.0s
OXZ Oxford 42.08 159 IAmb IAmb 23 56 50.1
comp=Z,1µm,1.3s
OXZ IAMs_20 IAMs_20 00 11 34.2
comp=Z,1361µm,22.0s
KLBR Kellerberrin 42.16 227 P **P** **23 56 18.5 -1.3**
baz=42,SNR=28
YHNB Yeheng 42.17 315 P **P** **23 56 20.5 +0.5**
MORW Morawa 42.19 231 P **P** **23 56 19.1 -0.9**
baz=42,SNR=59
MORW Morawa 42.19 231 P **P** **23 56 19.1 -0.9**
MORW IAmb IAmb 23 56 51.5
comp=Z,1µm,1.2s
MORW IAMs_20 IAMs_20 00 15 40.8
comp=Z,1014µm,20.0s
TATO Taipei 42.28 316 P **P** **23 56 20.8 0.0**
TATO IAmb IAmb 23 57 03.5
comp=Z,1µm,1.3s
TATO Taipei 42.28 316 P **P** **23 56 22.5 +1.7**
TATO P **P** **23 56 22.5 +1.7**
LBZ Lake Benmore 42.38 161 P **P** **23 56 22.5 +1.2**
LBZ IAmb IAmb 23 57 18.9
comp=Z,995nm,1.4s
JYT Yasato 42.41 345 IAmb IAmb 23 56 58.9
comp=Z,1µm,1.4s
WKZ Wanaka 42.41 163 P **P** **23 56 22.6 +0.9**
WKZ IAmb IAmb 23 57 56.1
comp=Z,2µm,1.6s
BLDU Ballidu 42.43 228 P **P** **23 56 21.0 -1.0**
baz=42,SNR=20
DCZ Deep Cove 42.48 165 IAmb IAmb 23 56 54.2
comp=Z,642nm,1.0s
DCZ IAMs_20 IAMs_20 00 12 09.8
comp=Z,1176µm,20.0s
MQZ McQueen's Vall 42.63 158 P **P** **23 56 24.6 +1.3**
MQZ IAMs_20 IAMs_20 00 12 00.8
comp=Z,1094µm,22.0s
JGF Kuroka 42.63 342 P **P** **23 56 23.3 -0.2**
MLZ Mavora Lakes 42.65 164 P **P** **23 56 25.3 +1.8**
MLZ IAmb IAmb 23 57 11.4
comp=Z,1µm,1.1s
KSM Kuching 42.68 277 P **P** **23 56 24.4 +0.1**
KSM IAmb IAmb 23 56 37.0
comp=Z,995nm,1.1s
KSM Kuching 42.68 277 P **P** **23 56 25.0 +0.7**
JNU Nakatsue 42.94 333 P **P** **23 56 26.9 +0.8**
comp=Z,348nm,0.8s,baz=125,slow=4.8,SNR=74
JNU Nakatsue 42.94 333 P **P** **23 56 27.3 +1.3**
JNU IAmb IAmb 23 56 36.6
comp=Z,2µm,1.0s
PYZ Puysegur Point 43.01 166 P **P** **23 56 28.1 +1.7**
PYZ IAmb IAmb 23 56 58.8
comp=Z,1µm,1.3s
PYZ IAMs_20 IAMs_20 00 11 33.9
comp=Z,1045µm,20.0s
WHZ Wether Hill Ro 43.09 164 P **P** **23 56 27.9 +0.8**
WHZ IAmb IAmb 23 57 12.1
comp=Z,2µm,2.1s
WHZ IAMs_20 IAMs_20 00 12 38.8
comp=Z,1068µm,21.0s
ODZ Otahua Downs 43.11 161 P **P** **23 56 27.9 +0.7**
ODZ IAmb IAmb 23 57 10.6
comp=Z,2µm,1.8s
JOHN Johnston Islan 43.12 59 P **P** **23 56 28.1 +0.4**
JOHN IAmb IAmb 23 57 18.3
comp=Z,1µm,1.1s
MJAR Matsushiro Arr 43.24 343 P **P** **23 56 27.4 -1.0**
comp=Z,24nm,1.0s,baz=168,slow=8.6,SNR=32
MJAR PcP **PcP** **23 58 18.8 +1.7**
comp=Z,101nm,0.9s,baz=167,slow=3.6,SNR=4.9
MJAR PKiKP **PKiKP** **00 05 24.9 +4.6**
comp=Z,1.6nm,0.3s,baz=298,slow=5.4,SNR=4.8
MJAR LR LR 00 13 19.8
comp=Z,200µm,21.7s,baz=175,slow=34
MJAR Matsushiro Arr 43.24 343 P **P** **23 56 28.1 -0.4**
MJAR pmax pmax
comp=Z,53nm,0.9s
MJAR Matsushiro Arr 43.24 343 P **P** **23 56 28.1 -0.4**
MAJO Matsushiro 43.25 343 *i* P **P** **23 56 27.6 -0.8**
MAJO pmax pmax
comp=Z,114nm,1.0s
MAJO MLR MLR
comp=Z,118µm,21.0s
MAJO Matsushiro 43.25 343 P **P** **23 56 27.6 -0.8**
MAT Matsushiro 43.25 343 P **P** **23 56 25.8 -2.6**
MAT S **S** **00 02 48.8 -4.0**
NWAO Narrogin (SRO) 43.25 225 P **P** **23 56 27.0 -1.6**
comp=Z,42nm,1.0s,baz=42,slow=6.2,SNR=13
NWAO LR LR 00 16 15.8
comp=Z,1511µm,18.1s,baz=58,slow=38
NWAO Narrogin (SRO) 43.25 225 P **P** **23 56 27.2 -1.4**
baz=43,SNR=7.7
NWAO Narrogin (SRO) 43.25 225 P **P** **23 56 25.6 -3.0**
NWAO pmax pmax
comp=Z,415nm,1.2s
NWAO MLR MLR
comp=Z,1444µm,20.0s
NWAO Narrogin (SRO) 43.25 225 P **P** **23 56 25.6 -3.0**
NWAO Narrogin (SRO) 43.25 225 P **P** **23 56 28.0 -0.6**
NWAO IAmb IAmb 23 56 57.2
comp=Z,415nm,1.1s
NWAO Narrogin (SRO) 43.25 225 P **P** **23 56 27.5 -1.0**
NWAO P **P** **23 56 27.5 -1.0**
MJB9 Matsu-Tunnel 43.25 343 P **P** **23 56 28.6 +0.1**
MUN Mundaring 43.49 227 P **P** **23 56 30.0 -0.5**
baz=44,SNR=37
MIDW Midway 43.75 40 P **P** **23 56 32.1 -0.5**
MIDW IAmb IAmb 23 57 04.2
comp=Z,534nm,0.8s
JCJI Jatiwangi 44.12 266 P **P** **23 56 35.1 -0.7**
comp=Z,304µmcomp=Z,36µmcomp=Z,1µm,1.9s
KNMB Chin-men Tao 44.18 313 P **P** **23 56 36.9 +0.7**
KNMB IAmb IAmb 23 57 07.5
comp=Z,954nm,1.3s
QZH Quanzhou 44.32 313↑ *i* P **P** **23 56 38.0 +0.8**
QZH S **S** **00 03 11.3 +2.6**
QZH pmax pmax
comp=Z,280nm,1.2s
QZH pmax pmax
comp=Z,10µm,6.9s
QZH LR LR
comp=Z,144µm,17.5s
QZH LR LR
comp=Z,77µm,16.6s
QZH LR LR
comp=Z,273µm,18.0s
JTU Tsushima 44.78 333 IAmb IAmb 23 56 51.4
comp=Z,596nm,0.9s
TPI Tanjungpandan 44.87 271 P **P** **23 56 41.7 -0.1**
comp=Z,49µmcomp=Z,1µm,1.0s
CBJI Citeko 45.53 266 P **P** **23 56 45.0 -2.1**
comp=Z,294µmcomp=Z,40µmcomp=Z,477nm,0.7s
DBJI Dramaga 45.63 266 P **P** **23 56 47.3 -0.6**
comp=Z,24µmcomp=Z,260nm,1.4s
PPBI Pangkal Pinang 46.42 272 P **P** **23 56 54.0 -0.1**
H01W1 Cape Leeuwin H 46.46 225 P P 23 56 48.7 -5.2
baz=212,slow=74,SNR=30
H01W3 Cape Leeuwin H 46.47 225 P **P** **23 56 51.0 -2.9**
baz=36,slow=74,SNR=30
H01W2 Cape Leeuwin H 46.48 225 P **P** **23 56 52.2 -1.8**
SNR=2.9
JTM Tenmabayashi 46.55 348 IAmb IAmb 23 57 33.3
comp=Z,1µm,1.0s
SSE Sheshan 46.59 322 P **P** **23 56 58.3 +3.2**
SSE S **S** **00 03 42.0 +0.7**
SSE pmax pmax
comp=Z,33nm,0.7s
SSE pmax pmax
comp=Z,2µm,5.4s
SSE Sheshan 46.59 322 P **P** **23 56 58.7 +3.6**
SSE IAmb IAmb 23 57 44.8
comp=Z,542nm,1.1s
MCO Taipa Grande 46.61 307 P P 23 57 06.0 +11
XMI Christmas Isla 46.78 260 P **P** **23 56 58.8 +1.9**
comp=Z,1µm,2.1s
XMIS Christmas Isla 46.82 260 P **P** **23 56 55.6 -1.6**
XMIS IAmb IAmb 23 57 29.2
comp=Z,683nm,1.1s
XMIS Christmas Isla 46.82 260 P **P** **23 56 58.6 +1.4**
comp=Z,512nm,0.9s
DLV T Lat 46.88 291 P **P** **23 56 58.5 +0.6**
BLSI Bandar Lampung 47.14 267 P **P** **23 56 58.0 -1.8**
comp=Z,247µmcomp=Z,16µmcomp=Z,187nm,1.0s
TJN Taejon 47.25 332*ce*P **P** **23 57 00.2 0.0**
GZH Guangzhou 47.27 308 P **P** **23 57 03.0 +2.5**
GZH sP **sP** **23 57 16.3 +0.1**
GZH PP **PP** **23 58 52.3 +0.2**
GZH S **S** **00 03 55.5 +4.3**
GZH LR LR
comp=Z,198µm,17.0s
GZH LR LR
comp=Z,229µm,18.0s
ERM Erimo 47.35 350 *i* P **P** **23 57 01.3 +0.5**
ERM pmax pmax
comp=Z,103nm,0.8s
ERM Erimo 47.35 350 P **P** **23 57 01.4 +0.5**
ERM IAmb IAmb 23 58 25.1
comp=Z,586nm,1.4s
KLSI 47.68 268 P **P** **23 57 02.3 -1.6**
comp=Z,91µmcomp=Z,6µmcomp=Z,74nm,1.4s
PMBI Palembang 47.73 270 P **P** **23 57 05.5 +1.2**
PMBI Palembang 47.73 270 P **P** **23 57 04.1 -0.2**
comp=Z,361µmcomp=Z,29µmcomp=Z,1µm,1.4s
KSRS Korea Array 47.88 333 P **P** **23 57 05.7 +0.6**
comp=Z,54nm,0.8s,baz=150,slow=8.9,SNR=105
KSRS S S 00 04 12.7 +13
comp=Z,0.8nm,0.4s,baz=171,slow=40,SNR=1.0
KSRS PKPPKP 00 28 04.2
comp=Z,3.7nm,0.8s,baz=358,slow=3.7,SNR=5.5
KSRS P4KPbc 00 34 56.1
comp=Z,0.7nm,0.6s,baz=142,slow=6.2,SNR=4.8
KASI Kota Agung 47.88 267 P **P** **23 57 03.0 -2.5**
comp=Z,264µmcomp=Z,19µmcomp=Z,885nm,1.0s

KSAR Wonju Array Be 47.89 333 P **P** **23 57 04.7 -0.4**
KSAR pP **pP** **23 57 14.4 -2.2**
KS19 Wonju Array Si 47.94 333 IAmb IAmb 23 57 51.5
comp=Z,489nm,1.1s
QIZ Qiongzhong 48.27 301 P **P** **23 57 09.8 +1.4**
QIZ pP **pP** **23 57 17.3 -2.9**
QIZ sP **sP** **23 57 26.0 +1.0**
QIZ S **S** **00 04 07.8 +2.2**
QIZ sS **sS** **00 04 23.8 +0.4**
QIZ pmax pmax
comp=Z,42nm,1.0s
QIZ pmax pmax
comp=Z,3μm,10.8s
QIZ LR LR
comp=Z,98μm,26.5s
QIZ LR LR
comp=Z,168μm,23.5s
QIZ LR LR
comp=Z,245μm,30.9s
QIZ Qiongzhong 48.27 301 P **P** **23 57 07.3 -1.0**
QIZ IAmb IAmb 23 57 39.4
comp=Z,543nm,1.2s
LWLI Liwa 48.33 268 P **P** **23 57 06.9 -2.2**
comp=Z,18μmcomp=Z,958nm,0.9s
INCN Inchon 48.49 332 P **P** **23 57 11.0 +1.2**
INCN pmax pmax
comp=Z,2μm,0.9s
INCN Inchon 48.49 332 P **P** **23 57 11.0 +1.2**
INCN Inchon 48.49 332 P **P** **23 57 11.9 +2.1**
INCN P **P** **23 57 11.9 +2.1**
NJ2 Nanjing 48.69 321 ⇑*i*P **P** **23 57 12.5 +1.1**
NJ2 pP **pP** **23 57 23.3 +0.6**
NJ2 sP **sP** **23 57 28.8 +1.5**
NJ2 PP **PP** **23 59 07.5 +2.7**
NJ2 S **S** **00 04 12.3 +1.2**
NJ2 SS **SS** **00 07 40.8 -1.2**
NJ2 pmax pmax
comp=Z,37nm,1.1s
NJ2 pmax pmax
comp=Z,65μm,11.1s
NJ2 LR LR
comp=Z,143μm,18.6s
NJ2 LR LR
comp=Z,140μm,20.6s
NJ2 LR LR
comp=Z,190μm,18.2s
LHSI Lahat 48.92 269 P **P** **23 57 12.1 -1.4**
comp=Z,278μmcomp=Z,19μmcomp=Z,695nm,1.2s
JMBI JAMBI 48.95 272 P **P** **23 57 14.3 +0.6**
comp=Z,235μmcomp=Z,19μmcomp=Z,905nm,1.2s
YUK Yuzh-Kuril'sk 48.96 354*c i*P **P** **23 57 15.6 +2.4**
YUK *i* 23 59 08.6
YUK *i* SSS SSS 00 09 05.4
YUK pmax pmax
comp=Z,630nm,1.2s
YUK pmax pmax
comp=E,274nm,1.1s
YUK pmax pmax
comp=Z,2μm,15.9s
RAR Rarotonga 48.99 114 LR LR 00 15 12.3
comp=Z,290μm,21.4s,baz=280,slow=33
RAR Rarotonga 48.99 114 P **P** **23 57 14.2 +0.3**
RAR pmax pmax
comp=Z,2μm,1.9s
RAR Rarotonga 48.99 114 P **P** **23 57 14.2 +0.3**
RAR IAmb IAmb 23 58 12.5
comp=Z,2μm,1.9s
MYKOM Kota Tinggi 49.12 276 IAmb IAmb 23 57 48.5
comp=Z,452nm,0.9s
MYKOM Kota Tinggi 49.12 276 P **P** **23 57 17.0 +2.0**
JKA Kamikawa-asahi 49.49 351 IAmb IAmb 23 57 50.7
comp=Z,597nm,1.0s
ASAJ Asahikawa 49.49 351 P **P** **23 57 17.4 +0.1**
comp=Z,247nm,0.8s,baz=234,slow=18,SNR=54
ASAJ LR LR 00 15 24.0
comp=Z,102μm,21.7s,baz=198,slow=33
ASAJ PKP2bc 00 28 40.4
comp=Z,9.4nm,0.9s,baz=311,slow=7.0,SNR=4.1
MCQ Macquarie Isla 49.84 175 P **P** **23 57 22.4 +2.6**
baz=50,SNR=3.9
MCQ Macquarie Isla 49.84 175 P **P** **23 57 21.1 +1.3**
MCQ pmax pmax
comp=Z,1μm,1.4s
MCQ MLR MLR
comp=Z,358μm,18.0s
MCQ Macquarie Isla 49.84 175 P **P** **23 57 21.1 +1.3**
KSI Kapahiang 49.85 269 P **P** **23 57 20.9 +0.2**
comp=Z,18μmcomp=Z,317nm,1.5s
KUR Kuril'sk 49.96 356 *i* P **P** **23 57 21.7 +0.8**
RGRI Rengat 50.37 273 P **P** **23 57 24.3 -0.3**
comp=Z,2μmcomp=Z,78μmcomp=Z,287nm,1.2s
XMAS Kiritimati 50.39 83 P **P** **23 57 25.4 +0.7**
XMAS Kiritimati 50.39 83 P **P** **23 57 25.8 +1.1**
WHN Wuhan 50.69 316 ⇑P **P** **23 57 28.0 +1.4**
WHN pP **pP** **23 57 38.3 +0.4**
WHN pmax pmax
comp=Z,92nm,1.1s
WHN LR LR
comp=Z,199μm,18.2s
WHN LR LR
comp=Z,232μm,16.8s
WHN LR LR
comp=Z,811μm,28.4s
UBPT Khong Chiam 50.73 294 P **P** **23 57 28.0 +0.8**
JRMM Jerantut 50.79 279 P **P** **23 57 28.0 +0.3**
MSHR Mys Shultsa 50.99 340*ce*P **P** **23 57 28.5 -0.2**
MSHR pmax pmax
comp=Z,195nm,0.9s
MSHR MLR MLR
comp=Z,117μm,17.0s
TEY Ternei 51.61 346⇑*e*P **P** **23 57 32.7 -0.6**
TEY *e* 23 57 40.9
TEY pmax pmax
comp=Z,20nm,0.9s
TEY pmax pmax
comp=N,10.0nm,0.9s
TEY pmax pmax
comp=E,10.0nm,0.9s
BKNI Bangkinang 51.73 274 P **P** **23 57 33.8 -1.0**
comp=E,370μmcomp=E,28μmcomp=E,1μm,1.1s
DL2 Dalian 52.04 329 P **P** **23 57 38.0 +1.4**
DL2 PcP **PcP** **23 58 50.0 +1.6**
DL2 S **S** **00 04 59.0 +1.5**
DL2 sS **sS** **00 05 16.0 +0.6**
DL2 pmax pmax
comp=E,520nm,1.2s
DL2 pmax pmax
comp=E,34μm,11.6s
DL2 LR LR
comp=E,112μm,18.4s
DL2 LR LR
comp=E,98μm,18.2s
DL2 LR LR
comp=E,180μm,21.6s
USA0B Ussuriysk Arra 52.15 341*c i*P **P** **23 57 37.1 -0.3**
USA0B Ussuriysk Arra 52.15 341 IAmb IAmb 23 57 48.8
comp=Z,332nm,0.8s
USRK Ussuriysk Ar. 52.15 341 P **P** **23 57 37.6 +0.3**
comp=Z,90nm,0.8s,baz=164,slow=8.3,SNR=57
USRK PKP2bc 00 28 39.5
comp=Z,10.0nm,1.1s,baz=48,slow=2.8,SNR=4.7
USRK Ussuriysk Ar. 52.15 341 P **P** **23 57 37.2 -0.2**
USRK Ussuriysk Ar. 52.15 341 P **P** **23 57 37.2 -0.2**
YSS Yuzh-Sakhalins 52.23 351⇓*i*P **P** **23 57 37.9 0.0**
YSS *e* 23 57 45.8
YSS *e*S **S** **00 04 51.7 -8.2**
YSS pmax pmax
comp=Z,70nm,0.9s
YSS pmax pmax
comp=Z,2μm,5.3s
YSS Yuzh-Sakhalins 52.23 351 P **P** **23 57 37.4 -0.5**
YSS IAmb IAmb 23 57 49.4
comp=Z,302nm,0.7s
IPM Ipoh 52.31 279 IAmb IAmb 23 58 11.6
comp=Z,338nm,0.9s
IPM Ipoh 52.31 279 P **P** **23 57 40.0 +0.9**
TIA Tai'an 52.56 324 P **P** **23 57 40.3 -0.3**
TIA pmax pmax
comp=Z,3μm,9.1s
TIA LR LR
comp=Z,76μm,17.1s
TIA LR LR
comp=Z,88μm,19.4s
TIA LR LR
comp=Z,136μm,19.6s
KULM Kulim 52.81 280 IAmb IAmb 23 58 33.4
comp=Z,642nm,1.3s
KULM Kulim 52.81 280 P **P** **23 57 44.0 +1.2**
MNSI Mandailing Nat 53.23 275 P **P** **23 57 44.6 -1.3**
comp=Z,302μmcomp=Z,21μmcomp=Z,620nm,1.2s
MDJ Mudanjiang 53.32 340 P **P** **23 57 46.3 +0.3**
MDJ pP pP 23 57 57.8 +0.8
MDJ sP sP 23 58 02.5 +1.0
MDJ PP **PP** **23 59 47.5 +0.8**
MDJ pmax pmax
comp=Z,54nm,1.1s
MDJ pmax pmax
comp=Z,4μm,5.1s
MDJ LR LR
comp=Z,48μm,27.1s
MDJ LR LR
comp=Z,111μm,25.5s
MDJ LR LR
comp=Z,260μm,25.6s
MDJ Mudanjiang 53.32 340 IAmb IAmb 23 58 17.9
comp=Z,697nm,1.1s
SNY Shenyang 53.38 333 ⇑P **P** **23 57 48.8 +2.3**
SNY pmax pmax
comp=Z,3μm,5.9s
SNY LR LR
comp=Z,99μm,25.3s
SNY LR LR
comp=Z,126μm,29.1s
SNY LR LR
comp=Z,264μm,27.0s
KHON Khomkaen 53.48 294 P **P** **23 57 48.9 +1.3**
comp=Z,9μmcomp=Z,1μm,1.0s
SRAK Srakaew 53.49 291 P **P** **23 57 44.7 -3.1**
comp=Z,24μmcomp=Z,3μm,0.8s
NONG Nongkai 53.77 296 P **P** **23 57 50.5 +0.7**
comp=Z,28μmcomp=Z,1μm,0.9s
CHAI Chaiyaphum 54.11 293 P **P** **23 57 52.0 -0.3**
comp=Z,5μmcomp=Z,717nm,1.0s
RPSI Rantau Prapat 54.12 277 IAmb IAmb 23 58 17.6
comp=Z,489nm,1.2s
PSI Prapat 54.13 277 PKP2bc PKPPKPbc 00 28 34.4
comp=Z,10nm,0.7s,baz=358,slow=0.5,SNR=5.5
CN2 Changchun 54.19 336 *e*P **P** **23 57 52.3 0.0**
CN2 S **S** **00 05 29.5 +2.9**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,4μm,10.5s
CN2 LR LR
comp=Z,84μm,22.0s
CN2 LR LR
comp=Z,116μm,22.0s
CN2 LR LR
comp=Z,106μm,21.0s
GYA Guiyang 54.20 307 ⇓P **P** **23 57 54.3 +1.3**
GYA pP pP 23 58 03.8 -0.4
GYA S **S** **00 05 33.0 +5.4**
GYA pmax pmax
comp=Z,200nm,1.0s
GYA pmax pmax
comp=Z,3μm,9.2s
GYA LR LR
comp=Z,82μm,24.1s
GYA LR LR
comp=Z,139μm,21.3s
GYA LR LR
comp=Z,232μm,21.4s
PATY Pattaya 54.29 290 P **P** **23 57 54.9 +1.3**
comp=Z,933nm,0.9s
SLVN Son La 54.29 300 IAmb IAmb 23 58 24.9
comp=Z,556nm,1.3s
TSI Tuntungan 54.59 278 P **P** **23 57 54.4 -1.4**
comp=Z,322μmcomp=Z,27μmcomp=Z,560nm,1.1s
KRAB Krabi 54.78 283 P P 23 58 05.3 +8.1
HON Honolulu 54.93 60 P **P** **23 57 58.2 0.0**
HON pmax pmax
comp=Z,889nm,0.9s
HON Honolulu 54.93 60 P **P** **23 57 58.2 0.0**
KIP Kipapa 54.96 60*ce*P **P** **23 57 59.2 +0.8**
KIP pmax pmax
comp=Z,613nm,1.4s
KIP Kipapa 54.96 60 P **P** **23 57 58.8 +0.4**
KIP IAmb IAmb 23 58 31.9
comp=Z,646nm,1.0s
GSI Gunungsitoli 55.28 275 P **P** **23 57 58.7 -2.2**
GSI IAmb IAmb 23 58 25.5
comp=Z,907nm,1.1s
GSI Gunungsitoli 55.28 275 P **P** **23 57 58.8 -2.1**
comp=Z,319μmcomp=Z,21μmcomp=Z,767nm,1.2s
SKR Severo-Kuril's 55.32 3 *eP* **P** **23 58 02.3 +1.9**
SKR *e* 00 00 02.2
SKR *e*S S 00 06 03.3 +22
SKR pmax pmax
comp=Z,341nm,1.1s
SKR pmax pmax
comp=Z,21μm,13.9s
SKR MLR MLR
comp=Z,92μm,19.0s
SKR MLR MLR
comp=Z,90μm,18.0s
SURT Suratani 55.32 284 P **P** **23 58 03.0 +1.9**
comp=Z,122nmcomp=Z,15nm,1.1s
PHET Kaeng Krachan 55.45 289 P **P** **23 58 03.3 +1.3**
comp=Z,8μmcomp=Z,1μm,1.0s
COCO West Island 55.54 259 P **P** **23 58 03.4 +0.8**
COCO pmax pmax
comp=Z,3μm,1.9s
COCO MLR MLR
comp=Z,236μm,21.0s
COCO West Island 55.54 259 P **P** **23 58 03.4 +0.8**
PKDT Phuket 55.55 283 P **P** **23 58 02.9 +0.1**
comp=Z,17μmcomp=Z,321nm,1.2s
BJT Baijiatuao 55.74 327 P **P** **23 58 02.5 -1.2**
BJT pmax pmax
comp=Z,341nm,1.1s
BJT MLR MLR
comp=Z,150μm,22.0s
BJT Baijiatuao 55.74 327 P **P** **23 58 02.5 -1.2**
BJI Beijing 55.75 327 P **P** **23 58 03.5 -0.2**
BJI sP **sP** **23 58 22.3 +2.3**
BJI PP **PP** **00 00 08.3 -0.3**
BJI PcS **PcS** **00 03 02.3 -0.4**
BJI S **S** **00 05 52.8 +5.2**
BJI pmax pmax
comp=Z,3μm,7.8s
TPTI 55.92 277 P **P** **23 58 02.9 -2.5**
comp=Z,154μmcomp=Z,10μmcomp=Z,132nm,1.0s
PHIT Phitsanulok 55.94 294 P **P** **23 58 06.0 +0.5**
comp=Z,24μmcomp=Z,4μm,1.0s
PHIT Phitsanulok 55.94 294 P **P** **23 58 06.0 +0.5**
UTTA Uttaradit 55.99 295 P **P** **23 58 06.8 +1.0**
TYV Tymovskoe 56.07 352 *eP* **P** **23 58 09.7 +3.9**
TYV *e*S S 00 06 06.4 +15
TYV pmax pmax
comp=Z,288nm,1.0s
TYV pmax pmax
comp=Z,5μm,6.6s
KHLU Kahalu`u 56.15 63 P **P** **23 58 07.8 +0.6**
KHLU IAmb IAmb 23 58 38.8
comp=Z,722nm,1.0s
HUH Hualalai 56.24 63 P **P** **23 58 07.7 -0.2**
HUH IAmb IAmb 23 59 27.6
comp=Z,1μm,1.4s
HLK Haleakala 56.25 61 P **P** **23 58 08.6 +0.6**
HLK IAmb IAmb 23 58 55.5
comp=Z,816nm,1.0s
KHU Kahuku 56.28 63 P **P** **23 58 08.4 +0.2**
KHU pmax pmax
comp=Z,912nm,0.9s
KHU Kahuku 56.28 63 P **P** **23 58 08.4 +0.2**
TIY Taiyuan 56.37 322 *eP* **P** **23 58 11.0 +2.7**
TIY S **S** **00 06 00.3 +4.1**
TIY LR LR
comp=Z,117μm,20.8s
TIY LR LR
comp=Z,138μm,21.0s
TIY LR LR
comp=Z,191μm,23.8s
MWH Moku'aweowe 56.38 63 P **P** **23 58 10.6 +1.4**
MWH IAmb IAmb 23 59 05.0
comp=Z,447nm,0.9s
MLOA Mauna Loa Obse 56.42 63 P **P** **23 58 09.9 +0.5**
MLOA IAmb IAmb 23 59 37.5
comp=Z,753nm,1.2s
LHMI Lhok Sumawe 56.44 279 P **P** **23 58 08.0 -1.2**
LHMI Lhok Sumawe 56.44 279 P **P** **23 58 08.9 -0.2**
comp=Z,348μmcomp=Z,33μmcomp=Z,860nm,1.0s
XAN Xi'an 56.45 317 P **P** **23 58 09.3 +0.4**
XAN pmax pmax
comp=Z,260nm,0.8s
XAN pmax pmax
comp=Z,56μm,10.9s
XAN LR LR
comp=Z,246μm,16.3s
XAN LR LR
comp=Z,87μm,18.6s
XAN LR LR
comp=Z,281μm,17.3s
XAN Xi'an 56.45 317 P **P** **23 58 08.4 -0.5**
XAN pmax pmax
comp=Z,482nm,0.8s
XAN MLR MLR
comp=Z,254μm,19.0s
XAN Xi'an 56.45 317 P **P** **23 58 08.4 -0.5**
XAN IAmb IAmb 23 58 48.0
comp=Z,482nm,0.8s
AIN Ainahou 56.47 63 P **P** **23 58 08.7 -0.7**
AIN IAmb IAmb 23 58 39.3
comp=Z,694nm,1.0s
HMH Humu'ula Sheep 56.52 63 P **P** **23 58 10.9 +0.9**
POHA Pohakuloa 56.53 63 P **P** **23 58 10.2 +0.2**
POHA IAmb IAmb 23 58 54.0
comp=Z,580nm,0.9s
MLH Mauna Loa 56.57 63 P **P** **23 58 11.6 +1.3**
HLP Hilina Pali 56.57 63 P **P** **23 58 10.1 0.0**
HLP IAmb IAmb 23 58 42.5
comp=Z,604nm,1.0s
SUKH Sukhothai 56.74 294 P **P** **23 58 12.5 +1.3**
KLR Kul'dur 56.76 344 P **P** **23 58 10.6 -0.1**
comp=Z,113nm,0.8s,baz=150,slow=6.4,SNR=70
KLR S S 00 06 14.5 +14
comp=Z,3.8nm,0.7s,baz=259,slow=21,SNR=1.8
KLR LR LR 00 22 15.0
comp=Z,46μm,20.4s,baz=177,slow=36
KLR Kul'dur 56.76 344*ce*P **P** **23 58 10.5 -0.2**
KLR pmax pmax
comp=Z,546nm,0.9s
KMI Kunming 56.79 304 ⇑P **P** **23 58 13.0 +1.3**
KMI pP pP 23 58 23.3 +0.3
KMI sP sP 23 58 26.8 -0.7
KMI pmax pmax
comp=Z,290nm,1.1s
KMI LR LR
comp=Z,38μm,28.3s
KMI LR LR
comp=Z,165μm,24.6s
KMI LR LR
comp=Z,280μm,26.5s
KMI Kunming 56.79 304 P **P** **23 58 12.6 +0.9**
KMI pmax pmax
comp=Z,779nm,1.3s
KMI MLR MLR
comp=Z,166μm,20.0s
KMI Kunming 56.79 304 P **P** **23 58 12.6 +0.9**
KMI IAmb IAmb 23 58 43.1
comp=Z,779nm,1.3s
GRNR Gornyy 57.05 348⇓*i*P **P** **23 58 13.0 +0.2**
GRNR *e*S **S** **00 06 05.6 +1.1**
GRNR pmax pmax
comp=E,5.0nm,1.0s
GRNR pmax pmax
comp=N,7.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR smax smax
comp=N,4.0nm,0.9s
LAMP Lampang 57.07 296 P **P** **23 58 14.8 +1.3**
CM36 Chiang Mai Arr 57.55 295 P **P** **23 58 17.0 +0.1**
CM34 Chiang Mai Arr 57.60 296 P **P** **23 58 18.0 +0.7**
CM01 Chiang Mai Arr 57.64 295 P **P** **23 58 18.9 +1.3**
CM02 Chiang Mai Arr 57.66 295 P **P** **23 58 19.0 +1.3**
CMAR Chiang Mai Arr 57.67 295 P **P** **23 58 18.8 +1.1**
comp=N,239nm,1.0s,baz=112,slow=5.2,SNR=300
CMAR ScP **ScP** **00 03 09.4 +1.9**
comp=N,11nm,0.9s,baz=83,slow=2.5,SNR=3.1
CMAR S S 00 06 24.6 +11
comp=N,2.1nm,0.3s,baz=224,slow=52,SNR=1.9
CMAR LR LR 00 22 53.2
comp=N,89μm,19.9s,baz=158,slow=36
CMAR PKPPKP P'P'bc 00 27 56.4 -20
comp=N,2.2nm,0.4s,baz=311,slow=4.4,SNR=5.0
CMAR PKP2bc 00 28 24.4
comp=N,23nm,0.9s,baz=276,slow=3.5,SNR=9.4
CMAR P4KPbc 00 35 32.6
comp=N,0.5nm,0.3s,baz=109,slow=2.7,SNR=4.1
CMAR Chiang Mai Arr 57.67 295 P **P** **23 58 18.4 +0.7**
CM15 Chiang Mai Arr 57.68 295 P **P** **23 58 19.2 +1.3**
CMMT Chiang Mai 57.77 296 P **P** **23 58 18.1 -0.4**
CM33 Chiang Mai Arr 57.78 296 P **P** **23 58 18.0 -0.5**
CHTO Chiang Mai 57.78 296 P **P** **23 58 19.2 +0.6**
CHTO Chiang Mai 57.78 296 P **P** **23 58 19.2 +0.6**
CHTO IAmb IAmb 23 58 32.0
comp=Z,665nm,1.1s
CHTO Chiang Mai 57.78 296 P **P** **23 58 19.1 +0.6**
CHTO P **P** **23 58 19.1 +0.6**
CHTO P **P** **23 58 19.1 +0.6**
PET Petropavlovsk 57.81 4*ce*P **P** **23 58 18.4 +0.3**
PET pmax pmax
comp=Z,724nm,0.7s
PET Petropavlovsk 57.81 4 P **P** **23 58 18.2 +0.1**
CM32 Chiang Mai Arr 57.81 295 P **P** **23 58 20.0 +1.2**
PEA0B Petropavlovsk- 57.83 4*ce*P **P** **23 58 18.2 0.0**
PETK Petropavlovsk- 57.83 4 P **P** **23 58 18.7 +0.5**
comp=Z,127nm,0.5s,baz=150,slow=5.9,SNR=106
PETK LR LR 00 19 55.2
comp=Z,169μm,22.0s,baz=184,slow=33
PETK PKP2ab 00 28 42.9
comp=Z,19nm,1.1s,baz=72,slow=6.4,SNR=4.2
PETK Petropavlovsk- 57.83 4 P **P** **23 58 18.2 0.0**
PETK pP **pP** **23 58 26.5 -3.2**
PPT Papeete 57.94 108 P **P** **23 58 20.5 +0.8**
comp=Z,65nm,0.8s,baz=157,slow=0.6,SNR=5.4
PPT S S 00 06 25.2 +7.8
comp=Z,30nm,1.2s,baz=230,slow=19,SNR=1.5
PPT LR LR 00 22 18.3
comp=Z,149μm,18.2s,baz=270,slow=35
PPT PKP2ab 00 28 26.8
comp=Z,67nm,1.0s,baz=120,slow=1.2,SNR=7.1
PPT2 Papeete2 57.95 108 *eP* **P** **23 58 21.5 +1.7**
comp=Z,263nm,1.1s
PPT2 *e*S **S** **00 06 16.3 -1.3**
comp=Z,379μm,28.2s
PPT2 *e*LQ LQ 00 12 51.5
comp=Z,550μm,27.5s
PPT2 *e*LR LR 00 15 10.6
comp=Z,236μm,21.8s,baz=280
PPT2 Papeete2 57.95 108 *e*P'P'bc P'P'bc 00 28 14.0 -2.5
comp=Z,256nm,1.4s
PAE Paea 57.95 108 *eP* **P** **23 58 21.2 +1.5**
comp=Z,68nm,1.1s
PAE Paea 57.95 108 *e*P'P'bc P'P'bc 00 28 13.7 -2.7
comp=Z,59nm,1.2s
PPTF Pamatai, Papee 57.96 108 P **P** **23 58 20.2 +0.3**
PPTF IAmb IAmb 23 58 55.7
comp=Z,400nm,1.0s
CD2 Chengdu 58.55 311 P **P** **23 58 24.0 +0.2**
CD2 sP sP 23 58 39.0 -0.7
CD2 SS SS 00 10 22.5 +4.1
CD2 pmax pmax
comp=Z,830nm,0.7s
CD2 LR LR
comp=Z,205μm,18.7s
CD2 LR LR
comp=Z,231μm,18.7s
CD2 LR LR
comp=Z,390μm,20.1s
NKL Nikolayevsk 58.58 352 *eP* **P** **23 58 23.6 +0.2**
NKL *e*S **S** **00 06 19.1 -5.3**
NKL smax smax
comp=N,1.0nm,2.8s
NKL smax smax
comp=E,168nm,1.9s
NKL MLR MLR
comp=Z,44μm,19.0s
TBI Tubuai 58.77 114 *eP* **P** **23 58 27.1 +1.7**
comp=Z,623nm,1.0s
TBI *e*S **S** **00 06 28.1 +0.1**
comp=Z,252μm,30.8s
TBI *e*LQ LQ 00 13 16.8
comp=Z,1237μm,32.8s
TBI *e*LR LR 00 15 36.3
comp=Z,1180μm,30.0s,baz=283
HHC Hu-ho-hao-te 58.90 324 *eP* **P** **23 58 29.0 +2.9**

HHC				PP	**PP**	**00 00 41.0**	**+4.3**
HHC				S	**S**	**00 06 28.0**	**-1.3**
HHC				SS	**SS**	**00 10 26.0**	**+2.4**
HHC				pmax	pmax		
	comp=Z,28nm,1.0s						
HHC				pmax	pmax		
	comp=Z,4µm,7.0s						
HHC				LR	LR		
	comp=Z,91µm,18.7s						
HHC				LR	LR		
	comp=Z,64µm,17.3s						
HHC				LR	LR		
	comp=Z,92µm,15.6s						
MEH	**Mehetia**	**59.41**	**108**	*e*P	**P**	**23 58 31.2**	**+1.3**
	comp=Z,181nm,1.2s						
MEH	**Mehetia**	**59.41**	**108**	*e*P'P'bc	P'P'bc	00 28 11.7	-1.3
	comp=Z,29nm,1.1s						
VAH	**Vaihoa**	**59.63**	**105**	*e*P	**P**	**23 58 32.7**	**+1.3**
	comp=Z,832nm,1.2s						
VAH	**Vaihoa**	**59.63**	**105**	*e*P'P'bc	P'P'bc	00 28 11.7	-0.8
	comp=Z,107nm,1.1s						
BTO	**Baotou**	**59.65**	**323**	P	**P**	**23 58 32.0**	**+0.7**
BTO				pmax	pmax		
	comp=Z,85nm,0.9s						
BTO				LR	LR		
	comp=Z,410µm,36.3s						
BTO				LR	LR		
	comp=Z,577µm,31.4s						
SMY	**Shemya**	**60.12**	**15**	IAMs_20	IAMs_20	00 19 50.9	
	comp=Z,552µm,22.0s						
AMKA	**Amchitka**	**60.43**	**19**	P	**P**	**23 58 36.1**	**-0.2**
HIA	**Hailar**	**60.92**	**336**	*c i*P	**P**	**23 58 39.2**	**-0.5**
HIA				pmax	pmax		
	comp=Z,154nm,0.8s						
HIA	**Hailar**	**60.92**	**336**	P	**P**	**23 58 39.3**	**-0.4**
LZH	**Lanzhou**	**61.06**	**316**	*e*P	**P**	**23 58 42.3**	**+1.2**
LZH				pP	pP	23 58 52.0	-0.7
LZH				sP	sP	23 58 57.5	+0.2
LZH				S	**S**	**00 07 00.0**	**+2.6**
LZH				SS	**SS**	**00 11 03.0**	**+5.2**
LZH				pmax	pmax		
	comp=Z,800nm,1.0s						
LZH				pmax	pmax		
	comp=Z,3µm,5.4s						
LZH				LR	LR		
	comp=Z,108µm,17.1s						
LZH				LR	LR		
	comp=Z,172µm,17.3s						
LZH				LR	LR		
	comp=Z,185µm,18.4s						
PBA	**Port Blair**	**61.71**	**286**	*e*P	P	23 58 43.3	-2.3
PBA				IAmb	IAmb	23 59 16.5	
	comp=Z,488nm,1.3s						
PBA				IAMs_20	IAMs_20	00 32 38.0	
	comp=Z,157µm,16.1s						
PBA	**Port Blair**	**61.71**	**286**	P	P	23 58 45.4	-0.2
PBA				IAmb	IAmb	23 59 60.0	
	comp=Z,746nm,1.1s						
DGPR	**DIGLIPUR**	**61.85**	**288**	*e*P	**P**	**23 58 46.6**	**0.0**
DGPR				IAmb	IAmb	23 59 02.6	
	comp=Z,288nm,0.8s						
DGPR				IAMs_20	IAMs_20	00 33 42.4	
	comp=Z,100µm,25.3s						
ZEA	**Zeya**	**62.06**	**343**	*e*P	**P**	**23 58 47.5**	**+0.3**
ZEA				*e*		23 59 35.4	
ZEA				*e*S	S	00 07 20.7	+12
ZEA				pmax	pmax		
	comp=Z,280nm,1.2s						
ZEA				pmax	pmax		
	comp=E,5µm,16.3s						
ZEA				pmax	pmax		
	comp=N,8µm,16.7s						
ZEA				pmax	pmax		
	comp=Z,17µm,16.8s						
ADK	**Adak**	**62.22**	**21**	P	**P**	**23 58 48.0**	**-0.3**
ADK				pmax	pmax		
	comp=Z,1µm,1.1s						
ADK	**Adak**	**62.22**	**21**	P	**P**	**23 58 48.0**	**-0.3**
GSTR	**Great Sitkin T**	**62.62**	**21**	P	**P**	**23 58 51.7**	**+0.6**
MA2	**Magadan**	**64.17**	**359**	P	**P**	**23 59 00.6**	**-0.5**
	comp=Z,264nm,0.7s,baz=156,slow=6.4,SNR=58						
MA2				S	S	00 07 49.4	+14
	comp=Z,1.6nm,0.2s,baz=204,slow=22,SNR=1.1						
MA2				LR	LR	00 27 44.4	
	comp=Z,102µm,18.9s,baz=178,slow=37						
MA2				PKP2ab		00 28 14.5	
	comp=Z,6.2nm,0.5s,baz=342,slow=3.2,SNR=3.7						
MA2	**Magadan**	**64.17**	**359**	*ce*P	**P**	**23 59 00.2**	**-0.9**
MA2				pmax	pmax		
	comp=Z,528nm,0.8s						
MA2				MLR	MLR		
	comp=Z,162µm,20.0s						
MA2	**Magadan**	**64.17**	**359**	P	**P**	**23 59 00.4**	**-0.7**
MA2				IAmb	IAmb	23 59 10.1	
	comp=Z,573nm,0.8s						
GTA	**Gaotai**	**65.49**	**317**	⇑P	**P**	**23 59 10.8**	**+0.5**
GTA				S	**S**	**00 07 53.8**	**+1.3**
GTA				pmax	pmax		
	comp=Z,41nm,1.2s						
GTA				pmax	pmax		
	comp=Z,3µm,7.6s						
GTA				LR	LR		
	comp=Z,67µm,21.4s						
GTA				LR	LR		
	comp=Z,101µm,22.2s						
GTA				LR	LR		
	comp=Z,122µm,23.3s						
CIT	**Chita**	**65.58**	**335**	*e*P	P	23 59 15.1	+4.5
CIT				*e*		00 01 43.4	
CIT				pmax	pmax		
	comp=Z,2µm,2.7s						
ULN	**Ulaanbaatar**	**65.86**	**328**	*ce*P	**P**	**23 59 12.8**	**+0.2**
ULN				pmax	pmax		
	comp=Z,96nm,1.1s						
ULN	**Ulaanbaatar**	**65.86**	**328**	P	**P**	**23 59 13.5**	**+1.0**
ULN				IAmb	IAmb	00 00 28.4	
	comp=Z,461nm,1.3s						
ULN	**Ulaanbaatar**	**65.86**	**328**	P	**P**	**23 59 13.8**	**+1.3**
ULN				P	**P**	**23 59 13.8**	**+1.3**
NIKH	**Nikolski High**	**66.08**	**24**	P		23 59 13.4	
	baz=223,SNR=8.8						
SHL	**Shillong**	**66.10**	**301**	P	**P**	**23 59 14.9**	**+0.3**
SHL				pmax	pmax		
	comp=Z,2µm,1.4s						
SHL	**Shillong**	**66.10**	**301**	*e*P	**P**	**23 59 13.4**	**-1.2**
SHL				IAmb	IAmb	23 59 26.5	
	comp=Z,528nm,1.0s						
SHL				*i* x	x	23 59 40.0	
SHL	**Shillong**	**66.10**	**301**	P	**P**	**23 59 14.8**	**+0.3**
SHL	**Shillong**	**66.10**	**301**	P	**P**	**23 59 15.2**	**+0.5**
	SNR=253						
SONM	**Songino Array**	**66.19**	**328**	P	**P**	**23 59 15.5**	**+0.9**
	comp=Z,27nm,0.8s,baz=141,slow=4.9,SNR=41						
SONM				S	S	00 08 15.0	+14
	comp=Z,2.2nm,0.9s,baz=181,slow=4.7,SNR=1.1						
SONM				PKP2ab		00 28 00.5	
	comp=Z,18nm,1.0s,baz=300,slow=2.1,SNR=9.1						
SONM				P4KPbc		00 36 14.8	
	comp=Z,2.0nm,0.9s,baz=149,slow=4.0,SNR=4.9						
SONM	**Songino Array**	**66.19**	**328**	P	**P**	**23 59 13.8**	**-0.9**
SONM				*PP	**pP**	**23 59 25.0**	**-1.6**
SONM	**Songino Array**	**66.19**	**328**	P	**P**	**23 59 13.8**	**-0.9**
SONM				pP	**pP**	**23 59 25.0**	**-1.6**
TAOE	**Nuku Hiva Isla**	**66.85**	**98**	*e*P	**P**	**23 59 20.4**	**+0.9**
	comp=Z,792nm,1.2s						
TAOE				*e*S	**S**	**00 08 07.4**	**-2.4**
	comp=Z,162µm,32.0s						
TAOE				*e*LQ	LQ	00 16 41.3	
	comp=Z,353µm,38.5s						
TAOE				*e*LR	LR	00 19 33.3	
	comp=Z,209µm,24.8s,baz=266						
TAOE	**Nuku Hiva Isla**	**66.85**	**98**	*e*T	T	01 08 58.0	
	comp=Z,48nm,0.2s						
SEY	**Seymchan**	**67.52**	**360**	P	**P**	**23 59 22.3**	**-0.3**
	comp=Z,22nm,0.7s,baz=165,slow=6.4,SNR=27						
SEY				S	S	00 08 27.9	+12
	comp=Z,1.1nm,0.2s,baz=176,slow=21,SNR=0.8						
SEY				LR	LR	00 27 50.9	
	comp=Z,49µm,19.6s,baz=149,slow=35						
SEY	**Seymchan**	**67.52**	**360**	⇑*i*P	**P**	**23 59 21.8**	**-0.8**
LSA	**Lhasa**	**68.04**	**305**	P	**P**	**23 59 27.8**	**+0.6**
LSA				pmax	pmax		
	comp=Z,190nm,1.2s						
LSA				LR	LR		
	comp=Z,210µm,27.0s						
LSA				LR	LR		
	comp=Z,368µm,24.2s						
LSA				LR	LR		
	comp=Z,548µm,24.9s						
LSA	**Lhasa**	**68.04**	**305**	*i* P	**P**	**23 59 27.5**	**+0.3**
	SNR=49						
LSA	**Lhasa**	**68.04**	**305**	IAmb	IAmb	23 59 54.9	
	comp=Z,308nm,0.8s						
LSA	**Lhasa**	**68.04**	**305**	P	**P**	**23 59 28.7**	**+1.5**
LSA				P	**P**	**23 59 28.7**	**+1.5**
SPIA	**Saint Paul Isl**	**68.71**	**21**	P		23 59 30.4	
	baz=220						
YAK	**Yakutsk**	**68.91**	**349**	P	**P**	**23 59 32.0**	**+0.7**
	comp=Z,6.0nm,0.3s,baz=327,slow=2.3,SNR=19						
YAK				S	**S**	**00 08 37.4**	**+5.0**
	comp=Z,17nm,0.5s,baz=144,slow=1.8,SNR=1.6						
YAK				LR	LR	00 28 27.6	
	comp=Z,96µm,21.8s,baz=156,slow=35						
YAK	**Yakutsk**	**68.91**	**349**	*e*P	**P**	**23 59 32.3**	**+1.0**
YAK				*e*'PP	**sP**	**23 59 47.0**	**-0.2**
YAK				*e*		23 59 56.0	
YAK				*e*S	**S**	**00 08 32.0**	**-0.4**
YAK				*e*SS	**SS**	**00 12 52.5**	**-6.1**
YAK				*e*SSS	SSS	00 16 07.4	
YAK				pmax	pmax		
	comp=Z,504nm,1.4s						
YAK				pmax	pmax		
	comp=N,167nm,1.1s						
YAK				pmax	pmax		
	comp=E,24nm,1.4s						
YAK				smax	smax		
	comp=N,8µm,9.6s						
YAK				smax	smax		
	comp=E,4µm,8.1s						
YAK				MLR	MLR		
	comp=Z,135µm,27.0s						
YAK				MLR	MLR		
	comp=N,68µm,20.0s						
YAK				MLR	MLR		
	comp=E,35µm,23.0s						
YAK	**Yakutsk**	**68.91**	**349**	P	**P**	**23 59 30.5**	**-0.8**
ZAK	**Zakamensk**	**69.36**	**329**	*e*P	**P**	**23 59 34.7**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,80nm,1.0s						
BOD	**Bodaibo**	**69.69**	**339**	*e*P	**P**	**23 59 35.7**	**-0.6**
BOD				pmax	pmax		
	comp=Z,456nm,1.4s						
FALS	**False Pass**	**69.70**	**25**	P		23 59 36.3	
	baz=228						
TLY	**Talaya**	**69.95**	**330**	P	**P**	**23 59 38.7**	**+0.7**
	comp=Z,18nm,0.8s,baz=237,slow=3.2,SNR=8.9						
TLY				S	S	00 08 54.7	+9.5
	comp=Z,2.7nm,0.6s,baz=227,slow=24,SNR=1.3						
TLY				PKPPKP		00 27 51.4	
	comp=Z,11nm,0.9s,baz=242,slow=3.6,SNR=6.9						
TLY				LR	LR	00 29 11.2	
	comp=Z,61µm,21.2s,baz=124,slow=35						
TLY	**Talaya**	**69.95**	**330**	*c i*P	**P**	**23 59 37.3**	**-0.7**
TLY				*e*PPP	PPP	00 03 53.7	
TLY				*e*S	**S**	**00 08 49.3**	**+4.1**
TLY				*e*PS		00 09 16.3	
TLY				pmax	pmax		
	comp=Z,687nm,1.6s						
TLY				MLR	MLR		
	comp=Z,228µm,17.0s						
TLY	**Talaya**	**69.95**	**330**	P	**P**	**23 59 37.6**	**-0.4**
TLY	**Talaya**	**69.95**	**330**	P	**P**	**23 59 40.6**	**+2.6**
IRK	**Irkutsk**	**69.98**	**331**	*e*P	**P**	**23 59 41.8**	**+3.6**
IRK				pmax	pmax		
	comp=Z,862nm,2.8s						
BWNR	**Bhubaneshwar**	**70.10**	**293**	*ex*	**P**	**23 59 36.0**	**-3.5**
TAPN	**Taplejung**	**70.20**	**301**	*e*P	**P**	**23 59 40.6**	**+0.1**
	comp=Z,551nm,0.9s						
ODAN	**Odare**	**70.34**	**301**	*e*P	**P**	**23 59 41.3**	**+0.1**
	comp=Z,684nm,0.8s						
BOK	**Bokaro**	**70.85**	**297**	*e*P	**P**	**23 59 44.3**	**+0.2**
BOK				*i* pP	**pP**	**23 59 55.5**	**-0.3**
BOK				IAmb	IAmb	23 59 56.8	
	comp=Z,266nm,0.9s						
BOK				IAMs_20	IAMs_20	00 34 33.6	
	comp=Z,91µm,27.6s						
RAMN	**Ramite**	**71.04**	**300**	*e*P	**P**	**23 59 45.3**	**-0.2**
	comp=Z,312nm,0.9s						
MOY	**Mondy**	**71.28**	**329**	*e*P	**P**	**23 59 46.1**	**-0.2**
MOY				pmax	pmax		
	comp=Z,1µm,2.8s						
SDPT	**Sand Point**	**71.29**	**26**	P		23 59 45.4	
	baz=230,SNR=6.3						
SDPT	**Sand Point**	**71.30**	**26**	P	**P**	**23 59 45.7**	**-0.4**
SDPT				IAMs_20	IAMs_20	00 28 03.6	
	comp=Z,310µm,20.0s						
JIRN	**Jiri**	**71.59**	**301**	*e*P	**P**	**23 59 48.8**	**-0.1**
	comp=Z,295nm,0.7s						
GUN	**Gumba**	**71.92**	**301**	*e*P	**P**	**23 59 51.0**	**+0.1**
	comp=Z,1µm,1.0s						
RKT	**Rikitea**	**72.00**	**113**	*e*S	**S**	**00 09 09.7**	**-0.4**
	comp=Z,184µm,35.5s						
RKT				*e*LQ	LQ	00 18 47.0	
	comp=Z,410µm,33.5s						
RKT				*e*LR	LR	00 21 52.9	
	comp=Z,934µm,27.2s						
PKI	**Pulchoki**	**72.23**	**301**	*e*P	**P**	**23 59 52.2**	**-0.6**
	comp=Z,566nm,1.0s						
PKIN	**Phulchoki**	**72.24**	**301**	*e*P	**P**	**23 59 52.2**	**-0.6**
	comp=Z,426nm,1.0s						
KKN	**Kakani**	**72.40**	**301**	*e*P	**P**	**23 59 53.3**	**-0.3**
	comp=Z,616nm,1.0s						
DMN	**Daman**	**72.50**	**301**	*e*P	**P**	**23 59 54.3**	**0.0**
	comp=Z,857nm,1.0s						
PALK	**Pallekele**	**72.71**	**279**	*c i*P	**P**	**23 59 54.6**	**-0.9**
PALK	**Pallekele**	**72.71**	**279**	P	**P**	**23 59 55.3**	**-0.2**
PALK	**Pallekele**	**72.71**	**279**	P	**P**	**23 59 55.4**	**-0.2**
CHGN	**Chignik**	**72.80**	**26**	P		23 59 54.5	
	baz=232,SNR=11						
CHGN	**Chignik**	**72.80**	**26**	IAmb	IAmb	00 00 30.1	
	comp=Z,564nm,0.9s						
VNDA	**Vanda**	**72.86**	**178**	P	**P**	**23 59 55.7**	**+0.6**
	comp=Z,57nm,0.9s,baz=334,slow=6.5,SNR=128						
VNDA				S	**SKiKP**	**00 09 27.4**	**+2.2**
	comp=Z,2.7nm,0.9s,baz=108,slow=17,SNR=2.0						
VNDA				LR	LR	00 29 57.5	
	comp=Z,348µm,18.9s,baz=356,slow=34						
VNDA	**Vanda**	**72.86**	**178**	P	**P**	**23 59 55.6**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,340nm,1.1s						
VNDA	**Vanda**	**72.86**	**178**	P	**P**	**23 59 55.6**	**+0.4**
GKN	**Gorkha**	**73.00**	**301**	*e*P	**P**	**23 59 56.8**	**-0.3**
	comp=Z,804nm,1.0s						
BILL	**Bilibino**	**73.29**	**5**	*de*P	**P**	**23 59 57.9**	**+0.1**
BILL				pmax	pmax		
	comp=Z,532nm,1.0s						
BILL				MLR	MLR		
	comp=Z,119µm,19.0s						
BILL	**Bilibino**	**73.29**	**5**	P	**P**	**23 59 57.8**	**0.0**
BILL				IAmb	IAmb	00 00 31.4	
	comp=Z,748nm,0.8s						
SBA	**Scott Base**	**73.41**	**177**	P	**P**	**00 00 00.1**	**+1.7**
SBA				pmax	pmax		
	comp=Z,2µm,2.0s						
SBA				MLR	MLR		
	comp=Z,227µm,18.0s						
SBA	**Scott Base**	**73.41**	**177**	P	**P**	**00 00 00.1**	**+1.7**
SBA	**Scott Base**	**73.41**	**177**	IAMs_20	IAMs_20	00 32 47.4	
	comp=Z,227µm,18.0s						
GAMB	**Gambell**	**73.42**	**16**	P		23 59 59.0	
	baz=217,SNR=21						
GAMB	**Gambell**	**73.42**	**16**	IAmb	IAmb	00 00 26.4	
	comp=Z,1µm,1.2s						
GAMB				IAMs_20	IAMs_20	00 27 23.8	
	comp=Z,392µm,22.0s						
MDRS	**Chennai**	**73.97**	**285**	*e*P	**P**	**00 00 02.6**	**-0.2**
MDRS				IAmb	IAmb	00 00 14.6	
	comp=Z,130nm,0.6s						
MDRS				*i* x	**sP**	**00 00 25.5**	**+6.4**
MDRS				IAMs_20	IAMs_20	00 32 54.1	
	comp=Z,64µm,20.7s						
MDRS				IAMs_20	IAMs_20	00 35 57.0	
	comp=Z,89µm,19.6s						
SII	**Sitkinak Islan**	**74.85**	**27**	P		00 00 07.1	
	baz=236						
SII	**Sitkinak Islan**	**74.85**	**27**	IAMs_20	IAMs_20	00 29 28.7	
	comp=Z,302µm,20.0s						
AIS	**Amsterdam Isla**	**75.25**	**232**	P	**P**	**00 00 10.3**	**+0.5**
AIS				IAMs_20	IAMs_20	00 30 37.1	
	comp=Z,312µm,22.0s						
WMQ	**Urumqi**	**75.57**	**317**	P	**P**	**00 00 12.5**	**+0.8**
WMQ				pP	pP	00 00 22.0	-1.7
WMQ				sP	sP	00 00 26.5	-1.7
WMQ				PP	**PP**	**00 03 01.8**	**+0.3**
WMQ				S	**S**	**00 09 49.0**	**-0.7**
WMQ				SKS	**SKSac**	**00 10 14.5**	**-4.1**
WMQ				pmax	pmax		
	comp=Z,490nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,46µm,8.7s						
WMQ				LR	LR		
	comp=Z,88µm,21.7s						
WMQ				LR	LR		
	comp=Z,59µm,21.9s						
WMQ				LR	LR		
	comp=Z,168µm,22.3s						
WMQ	**Urumqi**	**75.57**	**317**	P	**P**	**00 00 11.1**	**-0.6**
WMQ				pmax	pmax		
	comp=Z,741nm,1.3s						
WMQ	**Urumqi**	**75.57**	**317**	P	**P**	**00 00 11.1**	**-0.6**
WMQ				IAmb	IAmb	00 00 53.3	
	comp=Z,741nm,1.3s						
OHAK	**Old Harbor**	**75.63**	**27**	P		00 00 11.5	
	baz=236,SNR=13						
OHAK	**Old Harbor**	**75.63**	**27**	IAmb	IAmb	00 00 45.6	
	comp=Z,476nm,0.8s						
ANM	**Nome**	**75.82**	**17**	P		00 00 13.3	
	baz=224,SNR=116						
ANM	**Nome**	**75.82**	**17**	P	**P**	**00 00 13.2**	**+0.7**
ANM				pmax	pmax		
	comp=Z,716nm,1.0s						
ANM	**Nome**	**75.82**	**17**	P	**P**	**00 00 13.2**	**+0.7**
ANM				IAmb	IAmb	00 00 45.7	
	comp=Z,716nm,1.0s						
ANM				IAMs_20	IAMs_20	00 28 43.9	
	comp=Z,337µm,22.0s						
TNA	**Tin City**	**75.83**	**16**	IAmb	IAmb	00 00 45.2	
	comp=Z,354nm,1.0s						
TNA				IAMs_20	IAMs_20	00 29 04.2	
	comp=Z,311µm,21.0s						
TNA	**Tin City**	**75.83**	**16**	P		00 00 12.9	
	baz=221,SNR=37						
KDAK	**Kodiak Island**	**76.25**	**27**	P		00 00 15.2	
	baz=237						
KDAK	**Kodiak Island**	**76.25**	**27**	P	**P**	**00 00 15.1**	**-0.1**
	comp=Z,115nm,0.9s,baz=236,slow=3.5,SNR=24						
KDAK				S	S	00 10 05.0	+8.6
	comp=Z,10nm,1.0s,baz=251,slow=20,SNR=1.7						
KDAK				LR	LR	00 29 03.4	
	comp=Z,342µm,21.7s,baz=253,slow=32						
KDAK	**Kodiak Island**	**76.25**	**27**	P	**P**	**00 00 15.0**	**-0.1**
KDAK				pmax	pmax		
	comp=Z,773nm,1.2s						
KDAK	**Kodiak Island**	**76.25**	**27**	P	**P**	**00 00 15.0**	**-0.1**
KDAK				IAmb	IAmb	00 00 46.6	
	comp=Z,773nm,1.2s						
KDAK	**Kodiak Island**	**76.25**	**27**	IAMs_20	IAMs_20	00 28 41.8	
	comp=Z,356µm,22.0s						
HYB	**Hyderabad**	**76.28**	**289**	*i* P	**P**	**00 00 14.0**	**-2.1**
	comp=Z,560nm,1.0s						
HYB				*e*PcP	**pP**	**00 00 26.0**	**-2.0**
HYB	**Hyderabad**	**76.28**	**289**	*e*P	**P**	**00 00 13.7**	**-2.5**
HYB				*i* x	**sP**	**00 00 39.4**	**+7.0**
HYB				IAMs_20	IAMs_20	00 33 38.4	
	comp=Z,72µm,27.6s						
HYB				IAMs_20	IAMs_20	00 38 18.9	
	comp=Z,79µm,22.1s						
TRD	**Trivandrum**	**76.55**	**280**	*e*P	**P**	**00 00 19.4**	**+1.7**
TRD				*i* x	sP	00 00 41.6	+8.1
TRD				IAMs_20	IAMs_20	00 38 07.8	
	comp=Z,317µm,19.6s						
SVW2	**Sparrevohn**	**76.89**	**23**	IAmb	IAmb	00 00 53.1	
	comp=Z,861nm,1.2s						
HOM	**Homer**	**77.69**	**25**	IAMs_20	IAMs_20	00 29 24.5	
	comp=Z,368µm,22.0s						
HOM	**Homer**	**77.69**	**25**	P		00 00 23.3	
	baz=238,SNR=11						
CNPM	**China Poot**	**77.79**	**26**	IAMs_20	IAMs_20	00 29 37.3	
	comp=Z,554µm,22.0s						
TIXI	**Tiksi**	**77.84**	**353**	P	**P**	**00 00 22.5**	**-1.2**
	comp=Z,4.9nm,0.4s,baz=132,slow=6.6,SNR=21						
TIXI				S	**S**	**00 10 17.4**	**+4.1**
	comp=Z,1.7nm,0.3s,baz=337,slow=9.5,SNR=1.6						
TIXI				LR	LR	00 32 52.3	
	comp=Z,40µm,21.9s,baz=102,slow=34						
TIXI	**Tiksi**	**77.84**	**353**	P	**P**	**00 00 22.6**	**-1.2**
TIXI				IAmb	IAmb	00 01 05.4	
	comp=Z,521nm,1.4s						
DGZ	**Jazzator, Alta**	**77.93**	**323**	*c i*P	**P**	**00 00 24.5**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,336nm,0.8s						
BRLK	**Bradley Lake**	**78.07**	**26**	IAmb	IAmb	00 00 60.0	
	comp=Z,567nm,0.8s						
BRLK				IAMs_20	IAMs_20	00 29 46.0	
	comp=Z,522µm,22.0s						
BRSE	**Bradley Lake S**	**78.12**	**26**	P		00 00 25.6	
	baz=238						
SPCR	**Spurr Chakacha**	**78.29**	**24**	P		00 00 25.7	
	baz=237,SNR=13						
BHPL	**Bhopal**	**78.32**	**295**	*e*P	**P**	**00 00 26.2**	**-1.3**
BHPL				IAmb	IAmb	00 00 38.5	
	comp=Z,352nm,1.0s						
BHPL				*i* x	**sP**	**00 00 50.3**	**+6.4**
BHPL				IAMs_20	IAMs_20	00 34 08.3	
	comp=Z,122µm,31.0s						
CAPN	**Captain Cook N**	**78.49**	**25**	P		00 00 28.5	
	baz=238						
CAPN	**Captain Cook N**	**78.49**	**25**	IAMs_20	IAMs_20	00 32 08.8	
	comp=Z,281µm,20.0s						
ZSN	**Zaisan**	**78.71**	**320**	*e*P	**P**	**00 00 29.4**	**+0.2**
	comp=Z,57nm,1.3s,baz=320						
ZSN	**Zaisan**	**78.71**	**320**	*e*P	**P**	**00 00 29.3**	**+0.2**
ZSN				pmax	pmax		
	comp=Z,57nm,1.3s						
SEW	**Seward**	**78.86**	**26**	P		00 00 29.7	
	baz=239,SNR=30						
O22K	**Cooper Landing**	**78.94**	**25**	P		00 00 30.0	
	baz=239,SNR=19						
SKT	**Skwentna**	**78.99**	**23**	IAMs_20	IAMs_20	00 38 52.9	
	comp=Z,256µm,19.0s						
SKT	**Skwentna**	**78.99**	**23**	P		00 00 28.9	
	baz=237,SNR=23						
RDOG	**Red Dog Mine**	**79.02**	**16**	P		00 00 31.3	
	baz=225						
RDOG	**Red Dog Mine**	**79.02**	**16**	IAMs_20	IAMs_20	00 30 45.1	
	comp=Z,306µm,22.0s						
SUA	**Susitna One**	**79.03**	**24**	IAmb	IAmb	00 01 03.2	
	comp=Z,638nm,0.8s						
SUA	**Susitna One**	**79.03**	**24**	P		00 00 29.9	
	baz=238,SNR=120						
FIS	**Fire Island**	**79.07**	**25**	IAMs_20	IAMs_20	00 32 49.0	
	comp=Z,222µm,20.0s						
DDI	**Dehra Dun**	**79.14**	**302**	*e*P	**P**	**00 00 31.1**	**-0.9**
DDI				IAmb	IAmb	00 00 43.9	
	comp=Z,229nm,0.9s						
DDI				*i* x	sP	00 00 56.5	+8.1
DDI				IAMs_20	IAMs_20	00 34 21.5	
	comp=Z,92µm,33.3s						
PPLA	**Purkeypile**	**79.23**	**23**	IAmb	IAmb	00 01 04.4	
	comp=Z,1µm,1.3s						
PPLA				IAMs_20	IAMs_20	00 33 08.4	
	comp=Z,218µm,20.0s						
PPLA	**Purkeypile**	**79.23**	**23**	P		00 00 31.2	
	baz=236,SNR=37						
RC01	**Rabbit Creek A**	**79.25**	**25**	IAMs_20	IAMs_20	00 32 14.8	
	comp=Z,287µm,20.0s						
RC01	**Rabbit Creek A**	**79.25**	**25**	P		00 00 31.5	
	baz=239,SNR=34						
NDI	**New Delhi**	**79.53**	**300**	*e*P	**P**	**00 00 33.0**	**-1.0**
NDI				*e*S	S	00 11 07.0	+34
H08S2	**Diego Garcia H**	**79.57**	**263**	P	**P**	**00 00 37.1**	**+2.9**
	baz=24,slow=9.1,SNR=28						
H08S3	**Diego Garcia H**	**

comp=Z,280µm,20.0s
PMR Palmer 79.75 24 P 00 00 34.1
baz=240,SNR=37
Q23K Middleton Isla 79.90 27 IAMs_20 IAMs_20 00 29 30.3
comp=Z,350µm,22.0s
MID Middleton Isla 79.91 27 IAMs_20 IAMs_20 00 29 30.4
comp=Z,325µm,22.0s
GHO Glory Hole Cre 79.93 24 IAmb IAmb 00 01 08.0
comp=Z,693nm,0.8s
GHO IAMs_20 IAMs_20 00 33 06.6
comp=Z,245µm,20.0s
KNK Knik Glacier 79.94 25 IAMs_20 IAMs_20 00 31 01.0
comp=Z,533µm,22.0s
KNK Knik Glacier 79.94 25 P 00 00 35.7
baz=240
SMLA Simla 80.05 303 *eP* **P 00 00 36.5 -0.2**
SMLA IAmb IAmb 00 00 50.9
comp=Z,529nm,1.3s
SMLA *i* x **sP 00 01 00.4 +7.1**
SMLA IAMs_20 IAMs_20 00 33 32.0
comp=Z,74µm,26.4s
KTH Kantishna Hill 80.08 22 IAmb IAmb 00 01 08.2
comp=Z,946nm,1.0s
KTH IAMs_20 IAMs_20 00 34 14.6
comp=Z,285µm,21.0s
MK31 Makanchi Array 80.16 319*c i* P **P 00 00 36.6 -0.5**
MK31 Makanchi Array 80.16 319 P **P 00 00 36.6 -0.5**
MKAR Makanchi Array 80.16 319 P **P 00 00 37.3 +0.3**
comp=Z,74nm,0.9s,baz=104,slow=4.9,SNR=119
MKAR S **S 00 10 45.5 +6.5**
comp=Z,1.8nm,0.8s,baz=282,slow=5.4,SNR=1.3
MKAR PKKPbc **PKKPbc 00 19 21.5 -1.2**
comp=Z,3.8nm,0.9s,baz=318,slow=1.6,SNR=4.5
MKAR PKPPKP **P'P'df 00 27 21.1 -3.3**
comp=Z,1.0nm,0.8s,baz=29,slow=2.8,SNR=3.8
MKAR LR LR 00 35 17.9
comp=Z,104µm,21.3s,baz=103,slow=35
MKAR Makanchi Array 80.16 319*ce* P **P 00 00 37.2 +0.1**
MKAR pmax pmax
comp=Z,74nm,0.9s
MKAR Makanchi Array 80.16 319 P **P 00 00 37.0 -0.1**
MKAR pP **PcP 00 00 46.4 +2.2**
SML Sawmill 80.19 24 P 00 00 37.0
baz=240,SNR=119
SML Sawmill 80.19 24 P **P 00 00 36.9 -0.1**
SML IAMs_20 IAMs_20 00 33 35.8
comp=Z,366µm,21.0s
GLI Glacier Island 80.26 26 IAMs_20 IAMs_20 00 31 02.6
comp=Z,446µm,22.0s
GLI Glacier Island 80.26 26 P 00 00 37.2
baz=242,SNR=12
TRF Thorofare Moun 80.26 23 IAmb IAmb 00 01 07.3
comp=Z,427nm,0.8s
TRF IAMs_20 IAMs_20 00 33 58.5
comp=Z,256µm,20.0s
TRF Thorofare Moun 80.26 23 P 00 00 36.4
baz=238,SNR=78
HIN Hinchinbrook I 80.29 26 IAMs_20 IAMs_20 00 32 41.9
comp=Z,334µm,21.0s
BPAW Bear Paw Mtn. 80.35 22 P 00 00 37.0
baz=237,SNR=91
BPAW Bear Paw Mtn. 80.35 22 IAmb IAmb 00 01 09.2
comp=Z,451nm,1.0s
BPAW IAMs_20 IAMs_20 00 31 49.8
comp=Z,230µm,22.0s
MNCI Minicoy 80.35 279 P **P 00 00 40.3 +1.6**
MAKZ Makanchi 80.37 319 P **P 00 00 37.6 -0.6**
MAKZ pmax pmax
comp=Z,347nm,0.8s
MAKZ MLR MLR
comp=Z,131µm,20.0s
MAKZ Makanchi 80.37 319 P **P 00 00 37.6 -0.6**
MAKZ IAmb IAmb 00 00 48.7
comp=Z,347nm,0.8s
MNCY Minicoy 80.38 279 *eP* **P 00 00 42.2 +3.3**
MNCY *i* x sP 00 01 03.7 +8.9
MNCY IAMs_20 IAMs_20 00 32 40.3
comp=Z,166µm,25.3s
MNCY IAMs_20 IAMs_20 00 32 54.9
comp=Z,178µm,29.9s
KAD Karad 80.38 288 *li iP* **P 00 00 38.3 -0.6**
IMAR Indian Mountai 80.44 20 P **P 00 00 38.3 +0.2**
FID Port Fidalgo 80.46 26 IAmb IAmb 00 01 06.5
comp=Z,717nm,1.0s
FID IAMs_20 IAMs_20 00 37 11.4
comp=Z,237µm,19.0s
GOA Goa 80.48 286 *eP* **P 00 00 41.6 +2.3**
GOA IAmb IAmb 00 00 50.3
comp=Z,130nm,0.3s
GOA *i* x sP 00 01 03.7 +7.9
GOA IAMs_20 IAMs_20 00 33 55.0
comp=Z,82µm,27.6s
SCM Sheep Creek Mo 80.62 25 P **P 00 00 39.2 -0.1**
SCM pmax pmax
comp=Z,1µm,1.0s
SCM Sheep Creek Mo 80.62 25 P **P 00 00 39.2 -0.1**
SCM IAmb IAmb 00 01 10.8
comp=Z,1µm,1.0s
WAT2 Susitna Watana 80.67 23 P 00 00 39.0
baz=240
EYAK Cordova Ski Ar 80.69 26 P 00 00 39.7
baz=243
EYAK Cordova Ski Ar 80.69 26 P **P 00 00 39.5 0.0**
BHK Bhakra 80.74 303 *eP* **P 00 00 40.0 -0.5**
BHK *ex* sP 00 02 05.0 +68
RND Reindeer 80.79 23 IAmb IAmb 00 01 10.8
comp=Z,960nm,1.0s
RND IAMs_20 IAMs_20 00 39 51.5
comp=Z,259µm,20.0s
WAT6 Susitna Watana 80.82 24 P 00 00 40.2
baz=241
POO Poona 80.87 290 *eP* **P 00 00 40.2 -1.2**
POO *i* x **sP 00 01 05.0 +7.1**
POO *eS* **S 00 10 40.0 -7.5**
POO IAMs_20 IAMs_20 00 32 58.7
comp=Z,106µm,27.6s
POO IAMs_20 IAMs_20 00 38 41.8
comp=Z,105µm,25.9s
MCK McKinley 80.92 23 P 00 00 40.1
baz=239,SNR=208
MLY Manley 80.94 21 IAMs_20 IAMs_20 00 32 51.4
comp=Z,230µm,21.0s
MLY Manley 80.94 21 P 00 00 41.0
baz=238,SNR=420
BWN Browne 80.95 22 P **P 00 00 40.5 -0.4**
BWN IAMs_20 IAMs_20 00 33 23.4
comp=Z,251µm,21.0s
DHRM DHARAMSHALA 81.00 304 *eP* **P 00 00 40.0 -2.1**
DHRM IAmb IAmb 00 00 52.6
comp=Z,447nm,0.8s
DHRM *i* x **sP 00 01 04.4 +5.6**
DHRM IAMs_20 IAMs_20 00 34 19.2
comp=Z,146µm,40.2s
KAIM Kayak Island 81.00 27 P 00 00 42.0
baz=244
ZALV Zalesovo Beam 81.01 326 P **P 00 00 40.8 -0.6**
comp=Z,37nm,0.6s,baz=109,slow=5.8,SNR=104
ZALV S **S 00 10 52.5 +5.0**
comp=Z,10nm,1.1s,baz=108,slow=4.8,SNR=3.2
ZALV PKKPbc **PKKPbc 00 19 26.2 +5.1**
comp=Z,5.4nm,0.8s,baz=283,slow=2.1,SNR=5.5
ZALV PKP2ab 00 27 04.8
comp=Z,5.0nm,1.1s,baz=300,slow=2.9,SNR=3.8
ZALV LR LR 00 38 38.2
comp=Z,82µm,20.3s,baz=120,slow=37
ZALV Zalesovo Beam 81.01 326 P **P 00 00 39.9 -1.5**
KLU Klutina 81.05 25 P 00 00 42.0
baz=242,SNR=100
KLU Klutina 81.05 25 IAMs_20 IAMs_20 00 31 16.5
comp=Z,443µm,22.0s
SHLS Shalkode 81.06 315 *eP* **P 00 00 40.6 -1.5**
comp=Z,40nm,0.9s,baz=315
SHLS Shalkode 81.06 315 *eP* **P 00 00 40.6 -1.5**
SHLS pmax pmax
comp=Z,39nm,0.9s
M24K Tolsona, Glenn 81.23 25 P 00 00 43.2
baz=242,SNR=50
M24K Tolsona, Glenn 81.23 25 IAMs_20 IAMs_20 00 31 51.3
comp=Z,516µm,22.0s
NEA2 Nenana 81.32 22 IAMs_20 IAMs_20 00 33 00.4
comp=Z,290µm,21.0s
NEA2 Nenana 81.32 22 P 00 00 42.0
baz=239,SNR=397
SUCK Suckling Hills 81.36 27 P **P 00 00 44.1 +1.0**
SUCK IAmb IAmb 00 01 15.4
comp=Z,1µm,1.3s
SUCK IAMs_20 IAMs_20 00 30 46.7
comp=Z,466µm,22.0s
UZB Uzyndulak 81.37 315 *eP* **P 00 00 43.6 -0.1**
comp=Z,38nm,1.0s,baz=315
UZB Uzyndulak 81.37 315 *eP* **P 00 00 43.6 -0.1**
UZB pmax pmax
comp=Z,38nm,1.0s
AJM Ajmer 81.37 298 *ri iP* **P 00 00 43.0 -1.0**
BMRM Bremner River 81.38 26 IAMs_20 IAMs_20 00 33 46.3
comp=Z,456µm,20.0s
BMRM Bremner River 81.38 26 P 00 00 43.4
baz=244,SNR=19
PAF Port-aux-Franc 81.42 221 IAMs_20 IAMs_20 00 36 58.1
comp=Z,269µm,19.0s
I23K Minto, Yukon-K 81.50 21 IAMs_20 IAMs_20 00 32 37.2
comp=Z,212µm,21.0s
I23K Minto, Yukon-K 81.50 21 P 00 00 43.4
baz=239,SNR=115
N25K Chitina, Valde 81.67 25 P **P 00 00 44.8 -0.1**
N25K IAmb IAmb 00 01 17.5
comp=Z,801nm,1.1s
N25K Chitina, Valde 81.67 25 P 00 00 45.3
baz=244,SNR=39
KPKS Kokpek 81.69 315 *eP* **P 00 00 45.2 -0.2**
baz=315
KPKS Kokpek 81.69 315 *eP* **P 00 00 45.1 -0.2**
SATY Saty 81.78 315 *eP* **P 00 00 46.0 +0.1**
comp=Z,30nm,1.1s,baz=315
SATY *eS* **S 00 10 56.7 +0.5**
baz=315
SATY Saty 81.78 315 *eP* **P 00 00 46.0 +0.1**
SATY *eS* **S 00 10 56.7 +0.5**
SATY pmax pmax
comp=Z,30nm,1.1s
MDM Murphy Dome 81.81 22 IAmb IAmb 00 01 17.4
comp=Z,1µm,1.3s
MDM IAMs_20 IAMs_20 00 33 15.5
comp=Z,278µm,22.0s
CCB Clear Creek Bu 81.81 22 IAMs_20 IAMs_20 00 32 33.6
comp=Z,237µm,22.0s
TCOL CIGO, UAF Yank 81.91 22 P 00 00 45.0
baz=240,SNR=114
TCOL CIGO, UAF Yank 81.91 22 IAMs_20 IAMs_20 00 33 40.0
comp=Z,245µm,21.0s
COLA College 81.91 22 P **P 00 00 45.0 -0.9**
COLA College 81.91 22 P **P 00 00 45.0 -0.9**
COLA College 81.91 22 IAMs_20 IAMs_20 00 33 40.0
comp=Z,228µm,21.0s
COLA College 81.91 22 P 00 00 45.1
baz=240
PAX Paxson 81.92 24 P 00 00 45.8
baz=243,SNR=45
PAX Paxson 81.92 24 IAmb IAmb 00 01 28.7
comp=Z,603nm,1.4s
PAX IAMs_20 IAMs_20 00 34 30.5
comp=Z,322µm,20.0s
GLB Gilahina Butte 81.93 26 IAMs_20 IAMs_20 00 32 53.9
comp=Z,244µm,20.0s
VRDI Verde Repeater 82.00 26 IAMs_20 IAMs_20 00 32 11.3
comp=Z,485µm,22.0s
HDA Harding Lake 82.02 22 IAMs_20 IAMs_20 00 36 20.8
comp=Z,211µm,20.0s
HDA Harding Lake 82.02 22 P 00 00 45.6
baz=241,SNR=52
HDA P 00 00 45.6
baz=241,SNR=52
POKR Poker Plat Res 82.19 22 IAmb IAmb 00 01 19.0
comp=Z,409nm,1.0s
POKR IAMs_20 IAMs_20 00 33 38.4
comp=Z,261µm,22.0s
POKR Poker Plat Res 82.19 22 P 00 00 46.2
baz=241,SNR=25
IL31 82.22 22 IAmb IAmb 00 01 19.0
comp=Z,656nm,0.8s
ILAR Eielson Array 82.22 22 P **P 00 00 46.2 -1.4**
comp=Z,181nm,0.9s,baz=250,slow=5.1,SNR=657
ILAR S **S 00 11 06.3 +6.7**
comp=Z,1.7nm,0.8s,baz=253,slow=3.3,SNR=1.3
ILAR PKPPKP **P'P'df 00 27 19.5 +0.1**
comp=Z,2.3nm,1.0s,baz=357,slow=1.2,SNR=5.0
ILAR LR LR 00 35 22.1
comp=Z,196µm,19.7s,baz=234,slow=34
ILAR P4KP 00 38 00.9
comp=Z,3.1nm,1.2s,baz=249,slow=3.8,SNR=7.4
ILAR Eielson Array 82.22 22 P **P 00 00 46.4 -1.2**
ILAR Eielson Array 82.22 22 P **P 00 00 46.4 -1.2**
MCARA McCarthy VSAT 82.25 26 IAMs_20 IAMs_20 00 32 19.3
comp=Z,393µm,22.0s
MCARA McCarthy VSAT 82.25 26 P 00 00 48.2
baz=245
TDK Taldyqorghan 82.27 316 *eP* **P 00 00 48.5 +0.2**
comp=Z,134nm,1.2s,baz=316
TDK *eS* **S 00 11 01.9 +1.0**
baz=316
TDK Taldyqorghan 82.27 316 *eP* **P 00 00 48.5 +0.2**
TDK *eS* **S 00 11 01.9 +1.0**
TDK pmax pmax
comp=Z,134nm,1.2s
COLD Coldfoot 82.31 19 P **P 00 00 48.6 +0.7**
COLD IAMs_20 IAMs_20 00 32 35.4
comp=Z,237µm,22.0s
COLD Coldfoot 82.31 19 P 00 00 48.8
baz=238,SNR=115
YAH Yahtse 82.40 27 IAMs_20 IAMs_20 00 34 53.2
comp=Z,351µm,20.0s
GRNC Granite Creek 82.55 27 IAmb IAmb 00 01 21.3
comp=Z,349nm,0.8s
MENT Mentasta 82.62 24 IAmb IAmb 00 01 43.0
comp=Z,535nm,1.2s
TABL Table Mountain 82.71 27 IAmb IAmb 00 01 33.5
comp=Z,964nm,1.2s
TABL IAMs_20 IAMs_20 00 34 51.4
comp=Z,295µm,20.0s
BARN Barnard Glacie 82.72 27 IAMs_20 IAMs_20 00 31 55.4
comp=Z,394µm,22.0s
KSH Kashi 82.75 311 P **P 00 00 53.0 +1.9**
KSH pP pP 00 01 04.0 +0.8
KSH S **S 00 11 08.5 +2.2**
KSH sS sS 00 11 30.5 +3.5
KSH pmax pmax
comp=Z,64nm,1.2s
KSH pmax pmax
comp=Z,12µm,5.9s
KSH LR LR
comp=Z,112µm,17.3s
KSH LR LR
comp=Z,121µm,19.4s
KSH LR LR
comp=Z,75nm,21.0s
MDOK Medeo 82.77 314 *eP* **P 00 00 51.3 +0.1**
baz=314
MDOK Medeo 82.77 314 *eP* **P 00 00 51.2 +0.1**
DOT Dot Lake 82.80 24 IAMs_20 IAMs_20 00 35 09.5
comp=Z,290µm,20.0s
TNSS Tian-Shan 82.81 314 *eP* **P 00 00 51.8 +0.1**
baz=314
TNSS Tian-Shan 82.81 314 *eP* **P 00 00 51.8 +0.1**
CTG Chitna Glacier 82.82 27 P 00 00 51.6
baz=247
CTGM Chitina Glacie 82.83 27 IAMs_20 IAMs_20 00 32 08.2
comp=Z,310µm,22.0s
A21K Barrow 82.84 15 IAMs_20 IAMs_20 00 33 50.4
comp=Z,432µm,22.0s
A21K Barrow 82.84 15 P 00 00 50.8
baz=231,SNR=31
AAA Alma-Ata 82.88 314 *eP* **P 00 00 51.9 +0.3**
baz=314
AAA Alma-Ata 82.88 314 *eP* **P 00 00 51.9 +0.3**
LOGN Logan Glacier 82.92 27 IAmb IAmb 00 01 23.3
comp=Z,534nm,0.9s
LOGN IAMs_20 IAMs_20 00 31 34.8
comp=Z,336µm,22.0s
SCRK Sand Creek 82.97 23 IAmb IAmb 00 01 23.1
comp=Z,687nm,1.1s
SCRK IAMs_20 IAMs_20 00 41 18.2
comp=Z,260µm,19.0s
SCRK Sand Creek 82.97 23 P 00 00 51.7
baz=244,SNR=132
CHKK Chushkaly 82.97 315 *eP* **P 00 00 51.4 -0.6**
baz=315
CHKK Chushkaly 82.97 315 *eP* **P 00 00 51.4 -0.6**
PCA Pinnacle 82.98 28 IAMs_20 IAMs_20 00 32 37.7
comp=Z,317µm,22.0s
PINM Pinnacle 82.98 28 P 00 00 52.2
baz=248
PRP Porcupine Dome 83.08 22 IAMs_20 IAMs_20 00 33 12.1
comp=Z,296µm,22.0s
PRP Porcupine Dome 83.08 22 P 00 00 50.3
baz=242
ULHL Ulahol 83.14 313 P **P 00 00 53.8 +0.7**
SNR=5.9
BCPM Bancas Point 83.22 28 IAMs_20 IAMs_20 00 32 20.9
comp=Z,318µm,21.0s
TOLK Toolik Lake Re 83.26 18 IAmb IAmb 00 01 20.1
comp=Z,992nm,1.2s
TOLK IAMs_20 IAMs_20 00 33 30.7
comp=Z,337µm,22.0s
TOLK Toolik Lake Re 83.26 18 P 00 00 53.6
baz=238,SNR=358
L27K Beaver Creek, 83.46 25 IAMs_20 IAMs_20 00 32 56.9
comp=Z,371µm,22.0s
L27K Beaver Creek, 83.46 25 P 00 00 54.6
baz=246
BCAR Beaver Creek A 83.48 25 P **P 00 00 54.3 +0.1**
KURK Kurchatov 83.61 322 P **P 00 00 54.5 -0.6**
KURK Kurchatov 83.61 322 P **P 00 00 54.5 -0.6**
KURBB Kurchatov Arra 83.64 322 P **P 00 00 54.5 -0.7**
comp=Z,28nm,0.9s,baz=106,slow=4.3,SNR=130
KURBB PKKPbc **PKKPbc 00 19 13.7 -1.1**
comp=Z,4.2nm,0.9s,baz=294,slow=2.8,SNR=4.8
KURBB PKP2ab 00 27 10.7
comp=Z,1.3nm,0.8s,baz=299,slow=2.1,SNR=5.6
FYU Fort Yukon 83.68 21 P **P 00 00 55.4 +0.4**
FYU IAMs_20 IAMs_20 00 42 06.7
comp=Z,202µm,19.0s
TKM2 Tokmak 2 83.75 314 P **P 00 00 56.9 +0.6**
SNR=45
K27K Chicken 83.75 24 IAmb IAmb 00 01 24.8
comp=Z,733nm,1.2s
K27K IAMs_20 IAMs_20 00 33 13.0
comp=Z,450µm,22.0s
K27K Chicken 83.75 24 P 00 00 56.5
baz=246
NIL Nilore 83.78 304 P **P 00 00 56.2 -0.2**
NIL Nilore 83.78 304 P **P 00 00 56.2 -0.2**
NIL Nilore 83.78 304 P **P 00 00 54.7 -1.6**
NIL P **P 00 00 54.7 -1.6**
KBK Karagaybulak 84.17 314 P **P 00 00 58.6 +0.3**
SNR=28
BMAR Burnt Mountain 84.30 20 P **P 00 00 58.0 -0.3**
SIT Sitka 84.37 31 P 00 00 59.4
baz=252
SIT Sitka 84.37 31 P **P 00 00 59.1 +0.3**
SIT pmax pmax
comp=Z,431nm,1.1s
SIT Sitka 84.37 31 P **P 00 00 59.0 +0.3**
SIT IAmb IAmb 00 01 31.4
comp=Z,431nm,1.1s
SIT IAMs_20 IAMs_20 00 33 31.6
comp=Z,386µm,20.0s
CHMS Chumysh 84.38 314 P **P 00 00 59.2 0.0**
SNR=43
UCH Uchtor 84.39 313 P **P 00 01 00.8 +0.9**
SNR=33
EGAK Eagle 84.42 23 P 00 00 59.2
baz=246,SNR=144
EGAK Eagle 84.42 23 IAmb IAmb 00 01 30.8
comp=Z,772nm,1.1s
EGAK IAMs_20 IAMs_20 00 42 12.6
comp=Z,266µm,19.0s
AAK Ala-Archa 84.49 314 PKKPbc PKKPbc 00 19 13.7 +1.1
comp=Z,5.5nm,0.8s,baz=111,slow=4.1,SNR=6.4
AAK LR LR 00 39 19.1
comp=Z,47µm,19.7s,baz=106,slow=36
AAK Ala-Archa 84.49 314 P **P 00 01 00.2 +0.3**
SNR=29
AAK Ala-Archa 84.49 314 *i* P **P 00 01 00.4 +0.4**
SNR=74
AAK Ala-Archa 84.49 314*ce* P **P 00 00 59.9 0.0**
AAK pmax pmax
comp=Z,737nm,0.8s
AAK Ala-Archa 84.49 314 P **P 00 00 59.9 0.0**
AAK Ala-Archa 84.49 314 P **P 00 01 00.1 +0.1**
AAK P **P 00 01 00.1 +0.1**
SGDS Sogindy 84.56 314 *eP* **P 00 00 59.9 -0.3**
baz=314
SGDS *eS* **S 00 11 19.6 -4.7**
baz=314
SGDS Sogindy 84.56 314 *eP* **P 00 00 59.8 -0.3**
SGDS *eS* **S 00 11 19.5 -4.7**
USP Ospenovka 84.61 314 P **P 00 01 00.2 -0.3**
SNR=48
H02N1 VAN INLET T-PH 84.83 36 P **P 00 01 03.4 +2.0**
SNR=5.2
H02N1 T T 01 34 19.5
SNR=51
DIB Dawson Inlet, 84.86 36 IAMs_20 IAMs_20 00 37 30.8
comp=Z,186µm,19.0s
H02S1 DAWSON INLET T 84.86 36 P **P 00 01 02.8 +1.5**
SNR=8.7
H02S1 T T 01 34 21.1
SNR=178
AML Almayashu 84.97 313 P **P 00 01 03.4 +0.7**
SNR=46
EKS2 Erkin-Say 85.01 313 P **P 00 01 02.9 +0.3**
SNR=31
CRAG Craig 85.09 33 IAmb IAmb 00 01 32.5
comp=Z,423nm,1.4s
CRAG IAMs_20 IAMs_20 00 36 15.8
comp=Z,211µm,20.0s
CRAG Craig 85.09 33 P 00 01 03.1
baz=254
SKAG Skagway 85.10 29 P 00 01 03.2
baz=252
SKAG Skagway 85.10 29 IAmb IAmb 00 02 04.2
comp=Z,386nm,1.2s
SKAG IAMs_20 IAMs_20 00 32 30.9
comp=Z,327µm,21.0s
G05D7 G05D7 85.13 49 P P 00 01 30.9 +29
G05D7 PP PP 00 04 43.5 +23
G05D7 S S 00 12 12.0 +43
G05D7 G05D7 85.13 49 P P 00 01 08.8 +6.5
G05D7 S S 00 12 12.0 +43
G13D G13D 85.16 49 P P 00 01 31.9 +29
G13D PP PP 00 04 55.8 +35
G13D S S 00 12 06.9 +38
G13D SS SS 00 17 29.3 +25
G13D G13D 85.16 49 P P 00 01 08.6 +6.0
G13D S S 00 12 06.9 +38
G13D PS PnS 00 13 10.5 +41
G13D SS SS 00 17 29.3 +25
QSPA South Pole Qui 85.18 180 P **P 00 01 02.9 0.0**
QSPA South Pole Qui 85.18 180 IAMs_20 IAMs_20 00 39 07.9
comp=Z,295µm,19.0s
JIS Juneau Island 85.22 30 IAmb IAmb 00 01 56.9
comp=Z,514nm,1.3s
G22D G22D 85.22 48 P P 00 01 36.0 +33
G22D PP PP 00 04 54.8 +34
G22D S S 00 12 15.1 +45
G22D SS SS 00 17 38.4 +33
G22D G22D 85.22 48 P **P 00 01 05.3 +2.4**
G22D PP PP 00 04 54.8 +34
G22D S S 00 12 15.1 +45
G22D SS SS 00 17 38.4 +33
BTLS Baital 85.29 316 *eP* **P 00 01 03.7 0.0**
comp=Z,82nm,1.3s,baz=316
BTLS Baital 85.29 316 *eP* **P 00 01 03.7 0.0**
BTLS pmax pmax
comp=Z,82nm,1.3s
MAW Mawson 85.51 203 P **P 00 01 04.5 +0.2**
comp=Z,52nm,0.9s,baz=87,slow=6.9,SNR=33
MAW S **S 00 11 25.0 -7.5**
comp=Z,2.4nm,0.9s,baz=268,slow=21,SNR=1.1
MAW PKKPbc **PKKPbc 00 19 12.6 +1.9**
comp=Z,12nm,0.7s,baz=287,slow=5.7,SNR=8.4
MAW LR LR 00 36 05.3
comp=Z,655µm,21.6s,baz=90,slow=33
MAW Mawson 85.51 203 P **P 00 01 04.1 -0.2**
baz=86,SNR=35
MAW Mawson 85.51 203 P **P 00 01 04.1 -0.2**
MAW pmax pmax
comp=Z,94nm,1.1s
MAW Mawson 85.51 203 P **P 00 01 04.1 -0.2**
G21D G21D 85.59 48 P P 00 01 36.0 +31
G21D PP PP 00 04 54.8 +31
G21D S S 00 12 17.1 +44
G21D SS SS 00 17 35.4 +25
G21D G21D 85.59 48 P P 00 01 11.1 +6.4
G21D PP PP 00 04 54.8 +31
G21D S S 00 12 17.1 +44
G21D SS SS 00 17 35.4 +25
G29D G29D 85.67 47 P P 00 01 36.0 +31
G29D PP PP 00 04 56.8 +32

G29D					S	S	00 12 18.1	+44	
G29D					SS	SS	00 17 38.4	+27	
G29D	**G29D**	**85.67**	**47**		P	**P**	**00 01 06.4**	**+1.3**	
G29D					PP	PP	00 04 56.8	+32	
G29D					S	S	00 12 18.1	+44	
G29D					SS	SS	00 17 38.4	+27	
WHY	**Whitehorse**	**85.68**	**28**		IAmb	IAmb	00 01 38.2		
	comp=Z,440nm,1.1s								
WHY					IAMs_20	IAMs_20	00 33 58.2		
	comp=Z,363µm,21.0s								
WRAK	**Wrangell Islan**	**85.76**	**33**		P	**P**	**00 01 06.6**	**+0.8**	
WRAK					IAmb	IAmb	00 02 00.9		
	comp=Z,712nm,1.4s								
WRAK	**Wrangell Islan**	**85.76**	**33**		IAMs_20	IAMs_20	00 32 10.6		
	comp=Z,329µm,22.0s								
WRAK	**Wrangell Islan**	**85.76**	**33**		P		00 01 06.4		
	baz=255								
NRIK	**Noril'sk**	**85.87**	**341**		P	**P**	**00 01 05.2**	**-0.8**	
	comp=Z,56nm,0.7s,baz=115,slow=3.9,SNR=45								
NRIK					S	**S**	**00 11 28.4**	**-7.6**	
	comp=Z,2.7nm,0.7s,baz=142,slow=15,SNR=1.4								
NRIK					PKP2ab		00 27 33.5		
	comp=Z,0.8nm,0.3s,baz=14,slow=7.5,SNR=3.8								
NRIK					LR	LR	00 38 25.1		
	comp=Z,84µm,21.4s,baz=112,slow=35								
NRIK	**Noril'sk**	**85.87**	**341**	*ce*	P	**P**	**00 01 05.0**	**-1.0**	
NRIK					pmax	pmax			
	comp=Z,188nm,0.7s								
NRIK					MLR	MLR			
	comp=Z,101µm,22.0s								
G04D	**G04D**	**85.92**	**49**		P	P	00 01 34.0	+28	
G04D					PP	PP	00 04 58.9	+32	
G04D					S	S	00 12 28.4	+52	
G04D					SS	SS	00 17 44.4	+29	
G04D	**G04D**	**85.92**	**49**		P	P	00 01 30.7	+25	
G04D					S	S	00 12 28.4	+52	
G04D					PS		00 13 24.5		
G04D					SS	SS	00 17 44.4	+29	
G37D	**G37D**	**85.96**	**47**		P	P	00 01 33.0	+26	
G37D					PP	PP	00 04 58.9	+32	
G37D					S	S	00 12 18.1	+41	
G37D					SS	SS	00 17 39.9	+24	
G37D	**G37D**	**85.96**	**47**		P	**P**	**00 01 07.6**	**+1.0**	
G37D					PP	PP	00 04 58.9	+32	
G37D					S	S	00 12 18.1	+41	
G37D					SS	SS	00 17 39.9	+24	
G20D	**G20D**	**86.08**	**48**		P	P	00 01 36.0	+29	
G20D					PP	PP	00 04 56.8	+29	
G20D					S	S	00 12 23.3	+45	
G20D					SS	SS	00 17 41.4	+24	
G20D	**G20D**	**86.08**	**48**		P	**P**	**00 01 11.1**	**+3.9**	
G20D					S	S	00 12 23.3	+45	
G20D					PS		00 13 24.5		
G20D					SS	SS	00 17 41.4	+24	
G36D	**G36D**	**86.23**	**47**		P	P	00 01 36.0	+28	
G36D					PP	PP	00 04 56.8	+28	
G36D					S	S	00 12 29.4	+50	
G36D					SS	SS	00 17 47.4	+28	
G36D	**G36D**	**86.23**	**47**		P	**P**	**00 01 11.1**	**+3.3**	
G36D					PP	PP	00 04 56.8	+28	
G36D					S	S	00 12 29.4	+50	
G36D					SS	SS	00 17 47.4	+28	
G03D7	**G03D7**	**86.38**	**49**		P	P	00 01 34.0	+25	
G03D7					PP	PP	00 04 58.9	+29	
G03D7					S	S	00 12 29.4	+48	
G03D7					SS	SS	00 17 48.9	+27	
G03D7	**G03D7**	**86.38**	**49**		P	P	00 01 34.7	+26	
G03D7					S	S	00 12 29.4	+48	
G03D7					SS	SS	00 17 48.9	+27	
J20D	**J20D**	**86.41**	**45**		P	P	00 01 35.0	+26	
J20D					PP	PP	00 04 59.9	+29	
J20D					S	S	00 12 15.1	+34	
J20D					SS	SS	00 17 42.9	+21	
J20D	**J20D**	**86.41**	**45**		P	**P**	**00 01 08.8**	**0.0**	
J20D					PP	PP	00 04 59.9	+29	
J20D					S	S	00 12 15.1	+34	
J20D					SS	SS	00 17 42.9	+21	
J28D	**J28D**	**86.49**	**44**		P	P	00 01 36.7	+28	
J28D					PP	PP	00 05 04.0	+33	
J28D					S	S	00 12 04.8	+23	
J28D					SS	SS	00 17 42.9	+19	
J28D	**J28D**	**86.49**	**44**		P	P	00 01 13.4	+4.3	
J28D					PP	PP	00 05 04.0	+33	
J28D					S	S	00 12 04.8	+23	
J28D					SS	SS	00 17 42.9	+19	
G35D	**G35D**	**86.61**	**47**		P	P	00 01 36.0	+26	
G35D					PP	PP	00 04 58.9	+27	
G35D					S	S	00 12 20.2	+37	
G35D					SS	SS	00 17 50.4	+25	
G35D	**G35D**	**86.61**	**47**		P	**P**	**00 01 13.4**	**+3.6**	
G35D					PP	PP	00 04 58.9	+27	
G35D					S	S	00 12 20.2	+37	
G35D					SS	SS	00 17 50.4	+25	
EPYK	**Eagle Plains**	**86.73**	**22**		P		00 01 10.8		
	baz=250								
EPYK	**Eagle Plains**	**86.73**	**22**		IAMs_20	IAMs_20	00 35 26.5		
	comp=Z,360µm,22.0s								
J11D	**J11D**	**86.79**	**46**		P	P	00 01 38.1	+27	
J11D					PP	PP	00 04 58.9	+25	
J11D					S	S	00 12 07.9	+23	
J11D					SS	SS	00 17 45.9	+18	
J11D	**J11D**	**86.79**	**46**		P	**P**	**00 01 12.2**	**+1.6**	
J11D					PP	PP	00 04 58.9	+25	
J11D					S	S	00 12 07.9	+23	
J11D					SS	SS	00 17 45.9	+18	
DZA	**Taraz**	**86.83**	**313**	*eP*		**P**	**00 01 10.9**	**-0.5**	
	comp=Z,81nm,1.0s,baz=313								
DZA	**Taraz**	**86.83**	**313**	*eP*		**P**	**00 01 10.9**	**-0.5**	
DZA					pmax	pmax			
	comp=Z,81nm,1.0s								
G10D	**G10D**	**86.95**	**49**		P	P	00 01 38.1	+27	
G10D					PP	PP	00 04 59.6	+25	
G10D					S	S	00 12 08.9	+22	
G10D					SS	SS	00 17 50.4	+20	
G10D	**G10D**	**86.95**	**49**		P	**P**	**00 01 14.6**	**+3.2**	
G10D					S	S	00 12 08.9	+22	
G10D					PS		00 13 28.6		
G10D					SS	SS	00 17 50.4	+20	
J19D	**J19D**	**86.97**	**45**		P	P	00 01 38.1	+27	
J19D					PP	PP	00 05 05.0	+30	
J19D					S	S	00 12 07.9	+21	
J19D					SS	SS	00 17 45.9	+15	
J19D	**J19D**	**86.97**	**45**		P	**P**	**00 01 12.2**	**+0.8**	
J19D					PP	PP	00 05 05.0	+30	
J19D					S	S	00 12 07.9	+21	
J19D					PS		00 13 28.6		
J19D					SS	SS	00 17 45.9	+15	
J27D	**J27D**	**87.06**	**45**		P	P	00 01 40.1	+28	
J27D					PP	PP	00 05 06.0	+30	
J27D					S	S	00 12 07.9	+20	
J27D					SS	SS	00 17 48.9	+17	
J27D	**J27D**	**87.06**	**45**		P	**P**	**00 01 14.6**	**+2.7**	
J27D					PP	PP	00 05 06.0	+30	
J27D					S	S	00 12 07.9	+20	
J27D					PS	PS	00 13 28.6	+35	
J27D					SS	SS	00 17 48.9	+17	
BRZS	**Berezniki**	**87.15**	**320**	*eP*		**P**	**00 01 12.7**	**-0.1**	
	baz=320								
BRZS	**Berezniki**	**87.15**	**320**	*eP*		**P**	**00 01 12.6**	**-0.1**	
BBB	**Bella Bella**	**87.21**	**37**	P		**P**	**00 01 12.2**	**-0.7**	
	comp=Z,14nm,0.8s,baz=266,slow=10.0,SNR=2.2								
BBB					S	**S**	**00 11 47.8**	**-1.9**	
	comp=Z,29nm,1.1s,baz=201,slow=14,SNR=2.3								
BBB					LR	LR	00 36 17.1		
	comp=Z,69µm,19.0s,baz=273,slow=33								
BBB	**Bella Bella**	**87.21**	**37**		IAmb	IAmb	00 02 45.9		
	comp=Z,562nm,1.6s								
KBL	**Kabul**	**87.37**	**305**		P	**P**	**00 01 12.6**	**-1.8**	
KBL					pmax	pmax			
	comp=Z,178nm,0.9s								
KBL					MLR	MLR			
	comp=Z,67µm,21.0s								
KBL	**Kabul**	**87.37**	**305**		P	**P**	**00 01 12.6**	**-1.8**	
KBL					IAmb	IAmb	00 01 50.0		
	comp=Z,178nm,0.9s								
KBL	**Kabul**	**87.37**	**305**		P	**P**	**00 01 13.1**	**-1.3**	
	SNR=54								
KBL					P	**P**	**00 01 13.1**	**-1.3**	
	SNR=54								
FS02D	**FS02D**	**87.45**	**49**		SS	SS	00 18 14.4	+36	
FS02D					P	P	00 01 42.8	+29	
FS02D					PS	PS	00 13 38.6	+39	
FS06D	**FS06D**	**87.45**	**49**		P	P	00 01 41.2	+27	
FS06D					S	S	00 12 07.9	+16	
FS06D					PS	PS	00 13 30.6	+32	
FS06D					SS	SS	00 18 20.1	+42	
KK31	**Karatay Array**	**87.45**	**313**		IAmb	IAmb	00 01 46.7		
	comp=Z,875nm,1.7s								
KKAR	**Karatay Array**	**87.45**	**313**		P	**P**	**00 01 13.7**	**-0.7**	
KKAR	**Karatay Array**	**87.45**	**313**		P	**P**	**00 01 13.7**	**-0.7**	
KKAR	**Karatay Array**	**87.45**	**313**		IAmb	IAmb	00 01 46.7		
	comp=Z,875nm,1.7s								
FS09D	**FS09D**	**87.46**	**49**		P	P	00 01 40.1	+26	
FS09D					S	S	00 12 06.9	+15	
FS09D					PS	PS	00 13 36.6	+38	
FS09D					SS	SS	00 18 26.2	+48	
FS13D	**FS13D**	**87.47**	**49**		P	P	00 01 41.2	+27	
FS13D					PP	PP	00 05 17.9	+39	
FS13D					S	S	00 12 30.2	+38	
FS13D					PS	PS	00 13 34.6	+36	
FS13D					SS	SS	00 18 32.2	+54	
DLBC	**Dease Lake**	**87.47**	**31**		P	**P**	**00 01 15.1**	**+0.9**	
	comp=Z,78nm,0.9s,baz=264,slow=4.6,SNR=95								
DLBC					S	**SKSac**	**00 11 33.5**	**-5.1**	
	comp=Z,3.4nm,1.0s,baz=37,slow=12,SNR=1.6								
DLBC					PKPPKP		00 27 21.2		
	comp=Z,2.1nm,0.9s,baz=97,slow=6.6,SNR=3.0								
DLBC					LR	LR	00 35 01.0		
	comp=Z,527µm,20.3s,baz=271,slow=32								
DLBC	**Dease Lake**	**87.47**	**31**		IAmb	IAmb	00 01 47.2		
	comp=Z,624nm,1.1s								
FS16D	**FS16D**	**87.52**	**49**		P	P	00 01 41.2	+27	
FS16D					PP	PP	00 05 19.9	+40	
FS16D					PS	PS	00 13 30.6	+31	
FS16D					SS	SS	00 17 47.4	+8.3	
FS41D	**FS41D**	**87.54**	**49**		P	P	00 01 41.2	+27	
FS41D					S	S	00 12 21.2	+28	
FS41D					PS	PS	00 13 36.6	+36	
FS41D					SS	SS	00 18 08.1	+29	
FS10D	**FS10D**	**87.54**	**49**		P	P	00 01 41.2	+27	
FS10D					PP	PP	00 05 24.0	+44	
FS10D					S	S	00 12 09.9	+17	
FS10D					PS	PS	00 13 44.6	+45	
FS10D					SS	SS	00 18 22.1	+43	
G01D	**G01D**	**87.55**	**50**		P	P	00 01 40.1	+25	
G01D					S	S	00 12 10.1	+17	
G01D					PS	PS	00 13 30.6	+30	
G09D	**G09D**	**87.55**	**49**		P	P	00 01 42.2	+27	
G09D					PP	PP	00 05 00.9	+21	
G09D					S	S	00 12 07.9	+15	
G09D					PS	PS	00 13 36.6	+36	
G09D					SS	SS	00 18 14.4	+35	
FS07D	**FS07D**	**87.56**	**49**		P	P	00 01 38.1	+23	
FS07D					PP	PP	00 05 26.0	+46	
FS07D					PS	PS	00 13 34.6	+34	
FS07D					SS	SS	00 17 59.4	+20	
FS44D	**FS44D**	**87.58**	**49**		P	P	00 01 43.2	+28	
FS44D					S	S	00 12 11.0	+17	
FS44D					PS	PS	00 13 36.6	+36	
FS44D					SS	SS	00 18 18.1	+38	
M16D	**M16D**	**87.64**	**48**		P	P	00 01 40.8	+26	
M16D					PP	PP	00 05 10.1	+29	
M16D					S	S	00 12 04.8	+11	
M16D					PS	PS	00 13 30.6	+29	
M16D					SS	**SS**	**00 17 48.9**	**+8.1**	
IUG	**Iuzhnay**	**87.66**	**312**	*eP*		**P**	**00 01 15.3**	**-0.2**	
	baz=312								
IUG	**Iuzhnay**	**87.66**	**312**	*eP*		**P**	**00 01 15.3**	**-0.2**	
FS04D	**FS04D**	**87.66**	**49**		SS	SS	00 17 59.4	+18	
FS04D	**FS04D**	**87.66**	**49**		SS	SS	00 18 30.2	+49	
G33D	**G33D**	**87.79**	**47**		S	S	00 12 22.2	+27	
G33D					P	**P**	**00 01 15.7**	**-0.1**	
G33D					PS	PS	00 13 26.5	+24	
G33D					SS	SS	00 17 56.4	+13	
JCC	**Jacoby Creek,**	**88.10**	**49**		IAMs_20	IAMs_20	00 33 57.5		
	comp=Z,356µm,21.0s								
KBO	**Bosley Butte**	**88.15**	**48**		IAMs_20	IAMs_20	00 33 20.7		
	comp=Z,238µm,21.0s								
KEBM	**Edson Butte**	**88.16**	**47**		IAMs_20	IAMs_20	00 35 32.0		
	comp=Z,277µm,20.0s								
KMRM	**Mail Ridge**	**88.26**	**50**		P	**P**	**00 01 19.2**	**+0.8**	
KMRM					IAmb	IAmb	00 02 23.2		
	comp=Z,325nm,1.4s								
KCPM	**Cahto Peak**	**88.29**	**50**		P	**P**	**00 01 19.1**	**+0.5**	
KCPM					IAmb	IAmb	00 02 23.4		
	comp=Z,215nm,1.3s								
KRMB	**Red Mountain**	**88.29**	**48**		P	**P**	**00 01 18.5**	**0.0**	
KRMB					IAMs_20	IAMs_20	00 32 51.4		
	comp=Z,359µm,22.0s								
KHMM	**Horse Mountain**	**88.33**	**49**		P	**P**	**00 01 19.0**	**+0.2**	
KHMM					IAMs_20	IAMs_20	00 34 15.6		
	comp=Z,414µm,21.0s								
J01E	**Myrtle Point**	**88.49**	**47**		P		00 01 19.9		
	baz=262								
INK	**Inuvik**	**88.51**	**21**		P	**P**	**00 01 18.4**	**-0.3**	
	comp=Z,256nm,1.0s,baz=247,slow=4.2,SNR=299								
INK					PKKPbc	**PKKPbc**	**00 19 10.0**	**+6.3**	
	comp=Z,12nm,1.0s,baz=75,slow=2.7,SNR=4.6								
INK					PKPPKP	P'P'df	00 27 17.8	+10	
	comp=Z,2.8nm,0.9s,baz=53,slow=4.6,SNR=4.0								
INK					LR	LR	00 37 54.7		
	comp=Z,189µm,21.9s,baz=225,slow=34								
INK	**Inuvik**	**88.51**	**21**		IAMs_20	IAMs_20	00 44 58.5		
	comp=Z,198µm,19.0s								
L02E	**Cave Junction**	**88.60**	**48**		P		00 01 20.2		
	baz=262								
K02D	**Willamette Mer**	**88.62**	**47**		P		00 01 20.4		
	baz=262								
I02D	**Swisshome**	**88.68**	**46**		P		00 01 20.8		
	baz=262								
GDXM	**Geysers**	**88.78**	**51**		P	**P**	**00 01 21.0**	**+0.1**	
O02D	**Mt. Diablo Mer**	**88.95**	**50**		P		00 01 23.8		
	baz=263								
I03D	**Drain, OR**	**88.99**	**46**		P		00 01 23.4		
	baz=262,SNR=6.9								
M02C	**Callahan**	**89.05**	**49**		P		00 01 22.8		
	baz=263,SNR=14								
N02D	**Trinity Center**	**89.11**	**49**		P		00 01 24.0		
	baz=263								
NLWA	**Neilton Lookou**	**89.12**	**42**		P	**P**	**00 01 20.3**	**-2.0**	
NLWA					IAmb	IAmb	00 02 28.8		
	comp=Z,228nm,1.4s								
NLWA					IAMs_20	IAMs_20	00 33 42.1		
	comp=Z,188µm,21.0s								
HUMO	**Hull Mountain**	**89.13**	**47**		IAMs_20	IAMs_20	00 34 35.7		
	comp=Z,344µm,21.0s								
BRVK	**Borovoye**	**89.16**	**323**	*ce*	P	**P**	**00 01 21.1**	**-1.1**	
BRVK					pmax	pmax			
	comp=Z,156nm,0.8s								
BRVK	**Borovoye**	**89.16**	**323**		P	**P**	**00 01 20.8**	**-1.4**	
BRVK					IAmb	IAmb	00 01 31.3		
	comp=Z,304nm,0.8s								
BRVK	**Borovoye**	**89.16**	**323**		P	**P**	**00 01 21.7**	**-0.5**	
BRVK					P	**P**	**00 01 21.7**	**-0.5**	
WDC	**Whiskeytown Da**	**89.19**	**49**		P	**P**	**00 01 21.0**	**-1.6**	
WDC					pmax	pmax			
	comp=Z,337nm,1.7s								
WDC	**Whiskeytown Da**	**89.19**	**49**		P	**P**	**00 01 21.0**	**-1.6**	
WDC					IAmb	IAmb	00 02 57.4		
	comp=Z,337nm,1.7s								
YBH	**Yreka Blue Hor**	**89.20**	**48**		P	**P**	**00 01 22.9**	**+0.1**	
	comp=Z,16nm,0.8s,baz=272,slow=0.8,SNR=27								
YBH					PKPPKP	**P'P'df**	**00 27 14.2**	**+5.8**	
	comp=Z,0.8nm,0.5s,baz=158,slow=5.5,SNR=3.6								
YBH					LR	LR	00 34 06.3		
	comp=Z,449µm,21.9s,baz=268,slow=31								
E03A	**Lebam**	**89.21**	**43**		IAmb	IAmb	00 02 19.7		
	comp=Z,404nm,1.0s								
E03A					IAMs_20	IAMs_20	00 33 46.6		
	comp=Z,344µm,22.0s								
G03D	**McMinnville, O**	**89.24**	**45**		P		00 01 23.8		
	baz=262								
H04D	**Lebanon**	**89.53**	**45**		P		00 01 24.8		
	baz=263,SNR=13								
F04D	**Rainier, OR**	**89.53**	**44**		P		00 01 26.8		
	baz=263								
L04D	**Klamath Falls**	**89.56**	**48**		P		00 01 24.7		
	baz=263								
SAO	**San Andreas Ge**	**89.61**	**53**		IAMs_20	IAMs_20	00 34 46.7		
	comp=Z,320µm,20.0s								
D03D	**Eldon**	**89.66**	**42**		P		00 01 25.8		
	baz=263								
I04A	**Tendick Farm,**	**89.67**	**46**		P		00 01 25.3		
	baz=263,SNR=10								
O03E	**Paynes Creek**	**89.72**	**50**		P		00 01 26.3		
	baz=264								
J04D	**Umpqua Nationa**	**89.83**	**47**		P		00 01 26.0		
	baz=263,SNR=22								
M04C	**Macdoel**	**89.86**	**48**		P		00 01 26.1		
	baz=264,SNR=20								
ORV	**Oroville**	**89.87**	**50**		P	**P**	**00 01 25.3**	**-0.6**	
ORV					pmax	pmax			
	comp=Z,473nm,2.3s								
ORV	**Oroville**	**89.87**	**50**		P	**P**	**00 01 25.3**	**-0.6**	
ORV					IAmb	IAmb	00 03 05.9		
	comp=Z,473nm,2.3s								
ORV					IAMs_20	IAMs_20	00 35 19.4		
	comp=Z,347µm,20.0s								
E04D	**Cinebar**	**89.90**	**43**		P		00 01 25.9		
	baz=263,SNR=5.4								
H04A	**Detroit Lake**	**89.94**	**45**		IAmb	IAmb	00 02 16.7		
	comp=Z,314nm,1.6s								
H04A					IAMs_20	IAMs_20	00 33 55.9		
	comp=Z,424µm,22.0s								
K04D	**Chiloquin, OR**	**90.01**	**47**		P		00 01 28.3		
	baz=264								
PMPB	**Monarch Peak**	**90.07**	**54**			**P**	**00 01 26.9**	**-0.1**	
PMPB					IAmb	IAmb	00 02 47.8		
	comp=Z,320nm,1.5s								
PMPB					IAMs_20	IAMs_20	00 35 57.9		
	comp=Z,311µm,20.0s								
A04D	**Lummi Island**	**90.07**	**41**		P		00 01 27.9		
	baz=263								
AFDM	**Forest Hills D**	**90.21**	**51**		IAmb	IAmb	00 03 03.0		
	comp=Z,403nm,1.8s								
D05A	**Enumclaw**	**90.36**	**43**		IAmb	IAmb	00 02 26.5		
	comp=Z,250nm,1.1s								
D05A					IAMs_20	IAMs_20	00 41 19.6		
	comp=Z,178µm,18.0s								
B05A	**Bryant**	**90.42**	**42**		P		00 01 27.9		
	baz=263								
LON	**Longmire**	**90.44**	**43**		IAMs_20	IAMs_20	00 34 12.9		
	comp=Z,375µm,22.0s								
PAGB	**Antelope Grade**	**90.46**	**54**		P	**P**	**00 01 29.4**	**+0.7**	
PAGB					IAMs_20	IAMs_20	00 36 08.5		
	comp=Z,268µm,20.0s								
J05D	**Fort Rock, OR**	**90.47**	**47**		P		00 01 28.9		
	baz=264,SNR=40								
I05D	**Terrebonne, OR**	**90.50**	**46**		P		00 01 29.3		
	baz=264,SNR=14								
A05A	**Maple Falls**	**90.51**	**41**		IAMs_20	IAMs_20	00 35 07.7		
	comp=Z,264µm,22.0s								
F05D	**White Salmon**	**90.58**	**44**		P		00 01 28.2		
	baz=264								
G05D	**Wamic, OR**	**90.61**	**45**		P		00 01 29.2		
	baz=264								
SMMC	**Simmler**	**90.63**	**55**		P		00 01 31.1		
	baz=265								
K05A	**Summer Lake**	**90.66**	**47**		IAmb	IAmb	00 02 27.2		
	comp=Z,278nm,1.1s								
K05A					IAMs_20	IAMs_20	00 36 47.1		
	comp=Z,287µm,20.0s								
PINE	**Pine Mountain**	**90.73**	**46**		IAmb	IAmb	00 02 26.9		
	comp=Z,176nm,0.9s								
PINE					IAMs_20	IAMs_20	00 37 35.9		
	comp=Z,288µm,20.0s								
PKM	**Mcpherson Peak**	**90.74**	**55**		P		00 01 31.6		
	baz=265								
SBC	**Santa Barbara**	**90.78**	**56**		P		00 01 33.0		
	baz=265								
SCZ2	**Santa Cruz Isl**	**90.81**	**56**		P		00 01 33.1		
	baz=265								
SNCC	**San Nicolas Is**	**90.83**	**57**		IAMs_20	IAMs_20	00 38 45.4		
	comp=Z,218µm,19.0s								
B06A	**Marblemount**	**90.85**	**42**		IAMs_20	IAMs_20	00 40 19.7		
	comp=Z,271µm,19.0s								
RUBR	**Rubicon Trail**	**90.85**	**51**		P	**P**	**00 01 31.1**	**+0.3**	
RUBR					IAmb	IAmb	00 03 10.9		
	comp=Z,285nm,1.3s								
C06D	**Leavenworth**	**91.18**	**42**		P		00 01 32.8		
	baz=264								
VOG	**Valley Oaks Go**	**91.22**	**54**		P		00 01 32.9		
	baz=265								
LTY	**Liberty**	**91.27**	**43**		IAMs_20	IAMs_20	00 34 51.9		
	comp=Z,291µm,22.0s								
PNTR	**Pine Nut**	**91.29**	**51**		IAmb	IAmb	00 02 49.7		
	comp=Z,181nm,1.1s								
WAKR	**Walker**	**91.36**	**52**		P	**P**	**00 01 33.3**	**+0.2**	
WAKR					IAmb	IAmb	00 02 39.4		
	comp=Z,301nm,1.7s								
VES	**Vestal, Richgr**	**91.42**	**54**		P		00 01 33.3		
	baz=265								
ARVC	**Arvin**	**91.56**	**55**		P		00 01 33.8		
	baz=265								
OSI	**Osito Audit: C**	**91.61**	**56**		IAMs_20	IAMs_20	00 35 11.9		
	comp=Z,322µm,22.0s								
OSI	**Osito Audit: C**	**91.61**	**56**		P		00 01 34.9		
	baz=265								
F07A	**Phinny Hill Vi**	**91.65**	**44**		IAmb	IAmb	00 02 25.0		
	comp=Z,534nm,1.9s								
E07A	**Sunnyside**	**91.76**	**44**		IAmb	IAmb	00 02 39.5		
	comp=Z,175nm,1.1s								
MLAC	**Mammoth, Mammo**	**91.76**	**53**		P		00 01 36.8		
	baz=265								
CIS	**Catalina Islan**	**91.77**	**57**		P		00 01 35.8		
	baz=266								
I07A	**Izee**	**91.79**	**46**		IAmb	IAmb	00 02 25.9		
	comp=Z,185nm,1.2s								
I07A					IAMs_20	IAMs_20	00 35 50.6		
	comp=Z,310µm,21.0s								
ISA	**Isabella, Lake**	**91.90**	**55**		IAMs_20	IAMs_20	00 36 52.5		
	comp=Z,246µm,20.0s								
ISA	**Isabella, Lake**	**91.90**	**55**		P		00 01 36.1		
	baz=266								
DECC	**Green Verdugo**	**91.90**	**56**		P		00 01 37.5		
	baz=266								
HAWA	**Hanford**	**91.97**	**44**		IAmb	IAmb	00 02 26.4		
	comp=Z,320nm,1.6s								
PASC	**Pasadena Art C**	**92.02**	**56**		IAmb	IAmb	00 03 11.5		
	comp=Z,454nm,1.6s								
PASC	**Pasadena Art C**	**92.02**	**56**		IAMs_20	IAMs_20	00 35 12.7		
	comp=Z,225µm,22.0s								
LHV	**Little Huntoon**	**92.07**	**52**		IAmb	IAmb	00 02 53.2		
	comp=Z,250nm,1.3s								
C36M	**Paulatuk**	**92.08**	**21**		P		00 01 34.8		
	baz=262								
C36M	**Paulatuk**	**92.09**	**21**		IAmb	IAmb	00

MPMC	Manual Prospec	92.72	54	P			00 01 40.0		
	baz=266,SNR=22								
MURC	Murrieta	92.80	57	P			00 01 40.7		
	baz=266								
109C	Camp Elliot, M	92.83	57	IAMs_20	IAMs_20		00 39 10.3		
	comp=Z,213µm,20.0s								
109C	Camp Elliot, M	92.83	57	P			00 01 39.5		
	baz=266								
TJX	Tijuana	92.85	58	IAMs_20	IAMs_20		00 39 20.8		
	comp=Z,270µm,19.0s								
GRAC	Grapevine Rang	92.89	53	P			00 01 40.6		
	baz=266								
C09A	Chrisman Ranch	92.93	42	IAMs_20	IAMs_20		00 35 18.8		
	comp=Z,263µm,22.0s								
HRA	Herat	92.94	304	IAmb	IAmb		00 02 06.3		
	comp=Z,242nm,1.1s								
RRX	Edison Barstow	93.05	55	P			00 01 41.2		
	baz=266								
BBRC	Big Bear Solar	93.07	56	P			00 01 41.1		
	baz=266								
CCX	Cicese	93.13	58	IAMs_20	IAMs_20		00 37 16.5		
	comp=Z,186µm,20.0s								
BAR	Barrett	93.18	58	IAMs_20	IAMs_20		00 39 39.6		
	comp=Z,288µm,19.0s								
TKX	Tecate	93.23	58	IAMs_20	IAMs_20		00 39 40.9		
	comp=Z,293µm,19.0s								
GSC	Goldstone, Bar	93.23	55	IAMs_20	IAMs_20		00 36 55.8		
	comp=Z,206µm,20.0s								
GSC	Goldstone, Bar	93.23	55	P			00 01 41.0		
	baz=266								
FURC	Furnace Creek,	93.25	54	P			00 01 42.1		
	baz=266,SNR=11								
MONP2	Monument Peak	93.40	57	P			00 01 43.2		
	baz=267,SNR=15								
PFO	Pinyon Flats O	93.41	57	P			00 01 43.3		
	baz=267,SNR=14								
PFO	Pinyon Flats O	93.41	57	P	P		00 01 42.3	-0.3	
	comp=Z,13nm,0.9s,baz=277,slow=6.1,SNR=20								
PFO				PKPPKP	P'P'df		00 27 07.6	+6.4	
	comp=Z,3.4nm,1.0s,baz=126,slow=2.3,SNR=2.9								
PFO				LR	LR		00 40 41.3		
	comp=Z,83µm,18.1s,baz=266,slow=34								
PFO	Pinyon Flats O	93.41	57	P	P		00 01 42.9	+0.3	
PFO				pmax	pmax				
	comp=Z,97nm,1.2s								
PFO				MLR	MLR				
	comp=Z,172µm,19.0s								
PFO	Pinyon Flats O	93.41	57	P	P		00 01 42.9	+0.3	
PFO	Pinyon Flats O	93.41	57	IAMs_20	IAMs_20		00 43 56.9		
	comp=Z,172µm,19.0s								
BMO	Blue Mountains	93.42	45	IAmb	IAmb		00 02 33.0		
	comp=Z,160nm,1.1s								
TPFO	Pinon Flats	93.42	57	P			00 01 43.3		
	baz=267								
XPFO	Pion Flat	93.42	57	IAMs_20	IAMs_20		00 43 56.8		
	comp=Z,170µm,19.0s								
F10A	Beach Ranch, E	93.53	44	IAmb	IAmb		00 02 30.3		
	comp=Z,126nm,0.9s								
HEC	Hector,Ludlow	93.59	56	P			00 01 43.7		
	baz=267,SNR=16								
SYO	Syowa Base	93.62	199⇑	*e*P	P		00 01 42.8	+0.2	
SYO	Syowa Base	93.62	199⇑	*i*X	P		00 01 51.0	+8.4	
SYO	Syowa Base	93.62	199⇓	*i*X	PKiKP		00 06 25.0	-2.9	
SYO	Syowa Base	93.62	199⇓	*i*pPKiKP	pPKiKP		00 06 42.2	+2.2	
IKP	In-Ko-Pah, Jac	93.65	58	P			00 01 45.2		
	baz=267,SNR=7.1								
SHOC	Shoshone, Teco	93.70	54	P			00 01 43.8		
	baz=267,SNR=9.7								
NEW	Newport	93.73	42	P			00 01 42.5		
	baz=267								
NEW	Newport	93.73	42	P	P		00 01 42.9	-0.7	
	comp=Z,24nm,0.9s,baz=244,slow=3.7,SNR=29								
NEW				S	SKSac		00 12 16.5	+1.4	
	comp=Z,3.9nm,1.0s,baz=260,slow=21,SNR=2.0								
NEW				LR	LR		00 36 58.6		
	comp=Z,188µm,21.8s,baz=274,slow=31								
NEW	Newport	93.73	42	IAmb	IAmb		00 02 33.5		
	comp=Z,168nm,1.2s								
NEW	Newport	93.73	42	IAMs_20	IAMs_20		00 38 32.9		
	comp=Z,219µm,21.0s								
ESJX	Sierra Juarez	93.75	58	IAmb	IAmb		00 03 20.7		
	comp=Z,317nm,1.6s								
ESJX				IAMs_20	IAMs_20		00 37 45.8		
	comp=Z,231µm,20.0s								
TPNV	Topopah Spring	93.78	53	IAmb	IAmb		00 02 39.0		
	comp=Z,174nm,1.1s								
TPNV				IAMs_20	IAMs_20		00 35 53.1		
	comp=Z,258µm,22.0s								
TPNV	Topopah Spring	93.78	53	P			00 01 45.7		
	baz=267,SNR=29								
BELC	Belle Mtn. Jos	93.82	56	P			00 01 45.1		
	baz=267,SNR=24								
CRZF	Crozet Islands	93.92	223	IAMs_20	IAMs_20		00 43 43.9		
	comp=Z,175µm,18.0s								
SWSC	Sam W. Stewart	93.93	57	P			00 01 46.4		
	baz=267,SNR=9.0								
SPX	San Pedro Mart	94.11	59	P	P		00 01 46.7	+0.6	
SPX				IAmb	IAmb		00 03 06.3		
	comp=Z,234nm,1.9s								
SPX				IAMs_20	IAMs_20		00 37 09.4		
	comp=Z,293µm,20.0s								
GMRC	Granite Mounta	94.14	56	P			00 01 46.5		
	baz=267,SNR=21								
UABX	UABC, Campus M	94.21	58	IAMs_20	IAMs_20		00 40 20.9		
	comp=Z,235µm,20.0s								
BC3	Big Chuckawall	94.25	57	P			00 01 50.1		
	baz=267,SNR=26								
CPBX	Cerro Prieto	94.32	58	IAMs_20	IAMs_20		00 40 14.8		
	comp=Z,180µm,20.0s								
R11A	Troy Canyon, C	94.37	52	P			00 01 47.2		
	baz=267,SNR=37								
MFID	Camas Ranch	94.41	47	IAmb	IAmb		00 02 38.0		
	comp=Z,247nm,1.6s								
MFID				IAMs_20	IAMs_20		00 36 55.3		
	comp=Z,234µm,22.0s								
IRM	Iron Mountain	94.53	56	P			00 01 48.0		
	baz=267,SNR=15								
SHPR	Sheep Range	94.63	54	IAmb	IAmb		00 03 24.2		
	comp=Z,210nm,1.4s								
SHPR				IAMs_20	IAMs_20		00 41 33.8		
	comp=Z,241µm,20.0s								
SFX	San Felipe	94.64	59	IAMs_20	IAMs_20		00 37 14.3		
	comp=Z,243µm,20.0s								
ELK	Elko	94.74	50	P	P		00 01 49.0	+0.3	
	comp=Z,5.3nm,0.9s,baz=257,slow=4.7,SNR=13								
ELK				LR	LR		00 38 38.5		
	comp=Z,424µm,20.7s,baz=278,slow=32								
GLA	Glamis	94.75	57	P	P		00 01 49.8	+1.1	
GLA				pmax	pmax				
	comp=Z,298nm,1.5s								
GLA	Glamis	94.75	57	P	P		00 01 49.8	+1.1	
GLA				IAmb	IAmb		00 03 25.0		
	comp=Z,298nm,1.4s								
GLA				IAMs_20	IAMs_20		00 40 28.2		
	comp=Z,198µm,20.0s								
GLA	Glamis	94.75	57	P			00 01 50.3		
	baz=267,SNR=5.9								
PRN	Pahroc Range	94.75	53	IAmb	IAmb		00 03 01.9		
	comp=Z,179nm,1.1s								
PRN				IAMs_20	IAMs_20		00 36 46.9		
	comp=Z,358µm,22.0s								
NEE2	Needles Airpor	95.00	56	P			00 01 49.8		
	baz=268								
RPN	Rapa Nui	95.02	118	P	P		00 01 50.7	+0.7	
	comp=Z,87nm,0.9s,baz=223,slow=2.6,SNR=4.8								
RPN				LR	LR		00 38 20.0		
	comp=Z,204µm,20.8s,baz=266,slow=31								
RPN	Rapa Nui	95.02	118	IAMs_20	IAMs_20		00 38 16.8		
	comp=Z,185µm,20.0s								
SVE	Sverdlovsk	95.03	327	*de*P	P		00 01 47.2	-2.1	
SVE				*e*S	SKSac		00 12 18.1	-3.5	
SVE				*e*			00 14 50.2		
SVE				pmax	pmax				
	comp=Z,479nm,2.1s								
SVE				MLR	MLR				
	comp=Z,116µm,20.0s								
SVE				MLR	MLR				
	comp=E,111µm,21.0s								
SVE				MLR	MLR				
	comp=N,46µm,19.0s								
ABKAR	Akbulak array	95.31	319	P	P		00 01 48.8	-1.9	
ABKAR				pP	pP		00 01 58.1	-4.3	
ABKAR	Akbulak array	95.31	319	IAmb	IAmb		00 02 19.7		
	comp=Z,154nm,1.2s								
PDMCI	Parker Dam,Lak	95.37	56	P			00 01 51.5		
	baz=268								
HLID	Hailey	95.44	47	IAMs_20	IAMs_20		00 37 16.6		
	comp=Z,307µm,22.0s								
HLID	Hailey	95.44	47	P			00 01 53.3		
	baz=269								
YKA	Yellowknife Ar	95.51	28	P	P		00 01 51.2	-0.1	
	comp=Z,41nm,0.8s,baz=268,slow=4.1,SNR=313								
YKA				PKiKP	PKiKP		00 06 35.5	+4.2	
	comp=Z,9.8nm,0.9s,baz=296,slow=1.2,SNR=4.1								
YKA				PKKPbc	PKKPdf		00 18 49.0	+3.4	
	comp=Z,4.4nm,0.8s,baz=90,slow=2.9,SNR=7.6								
YKA				PKPPKP	P'P'df		00 26 55.4	+0.3	
	comp=Z,1.4nm,1.0s,baz=46,slow=1.9,SNR=4.2								
YKA				P4KP			00 38 25.2		
	comp=Z,0.3nm,0.9s,baz=273,slow=4.0,SNR=3.9								
YKA				LR	LR		00 39 41.3		
	comp=Z,373µm,21.9s,baz=0.0,slow=32								
MSO	Missoula	95.84	44	P	P		00 01 53.7	+0.3	
MSO	Missoula	95.84	44	P			00 01 52.1		
	baz=269								
PIX	Pinacate	95.85	59	IAMs_20	IAMs_20		00 37 40.4		
	comp=Z,176µm,21.0s								
WALA	Waterton Lakes	95.88	41	P	P		00 01 53.3	-0.2	
WALA				IAmb	IAmb		00 02 44.1		
	comp=Z,163nm,1.0s								
WALA				IAMs_20	IAMs_20		00 41 36.8		
	comp=Z,237µm,20.0s								
JMDO	Jabal Madar	95.93	292	P	P		00 01 53.9	-0.3	
	SNR=18								
BIDO	Bidbid	95.96	293	P	P		00 01 54.2	-0.1	
	SNR=43								
CCUT	Cedar City	96.10	53	P	P		00 01 55.0	+0.1	
ARU	Arti	96.17	326	S	SKSac		00 12 32.6	+4.9	
	comp=Z,1.2nm,0.7s,baz=250,slow=23,SNR=1.3								
ARU				PKKPbc	PKKPbc		00 18 43.7	+0.2	
	comp=Z,2.1nm,0.6s,baz=196,slow=2.4,SNR=4.2								
ARU	Arti	96.17	326	*d*P	P		00 01 52.9	-1.6	
ARU				*PP	pP		00 02 05.0	-1.2	
ARU							00 05 46.9		
ARU				S	SKSac		00 12 25.8	-1.9	
ARU				SS	SS		00 19 45.2	+2.2	
ARU				pmax	pmax				
	comp=Z,62nm,0.8s								
ARU				MLR	MLR				
	comp=Z,107µm,21.0s								
ARU	Arti	96.17	326	P	P		00 01 52.6	-1.9	
ARU				IAmb	IAmb		00 02 03.0		
	comp=Z,253nm,1.0s								
LCMT	Little Creek M	96.18	53	IAmb	IAmb		00 03 07.8		
	comp=Z,293nm,1.8s								
SZCU	Shurtz Canyon	96.32	53	P	P		00 01 56.0	+0.1	
SZCU				IAmb	IAmb		00 03 31.8		
	comp=Z,220nm,1.6s								
214A	Organ Pipe Nat	96.41	58	IAMs_20	IAMs_20		00 38 05.3		
	comp=Z,221µm,21.0s								
214A	Organ Pipe Nat	96.41	58	P			00 01 57.6		
	baz=268								
BGU	Big Grassy Mou	96.42	49	P	P		00 01 56.8	+0.5	
GEYT	Aliibeck	96.43	308	P	P		00 01 55.8	-0.4	
	comp=Z,11nm,1.1s,baz=132,slow=2.2,SNR=11								
GEYT				S	SKSac		00 12 32.9	+3.0	
	comp=Z,1.4nm,0.5s,baz=5.1,slow=18,SNR=1.2								
GEYT				PKKPbc	PKKPdf		00 18 51.2	+7.7	
	comp=Z,5.3nm,0.7s,baz=98,slow=3.0,SNR=6.6								
GEYT				LR	LR		00 49 41.3		
	comp=Z,51µm,18.5s,baz=80,slow=38								
GEYT	Alibeck	96.43	308	P	P		00 01 56.1	-0.1	
GEYT				pP	pP		00 02 04.7	-3.9	
KNB	Kanab	96.52	53	IAmb	IAmb		00 03 09.7		
	comp=Z,261nm,1.3s								
AKTO	Aktyubinsk	96.56	320	S	SKSac		00 12 42.0	+12	
	comp=Z,3.2nm,0.8s,baz=245,slow=19,SNR=1.5								
AKTO				PKKPbc	PKKPbc		00 18 45.1	+2.9	
	comp=Z,5.3nm,0.9s,baz=285,slow=3.2,SNR=4.7								
DUG	Dugway, Tooele	96.58	50	P	P		00 01 57.9	+1.0	
DUG				pmax	pmax				
	comp=Z,170nm,1.9s								
DUG	Dugway, Tooele	96.58	50	P	P		00 01 57.9	+1.0	
DUG				IAMs_20	IAMs_20		00 39 44.9		
	comp=Z,303µm,20.0s								
DUG	Dugway, Tooele	96.58	50	P			00 01 55.4		
	baz=269								
SRIG	Santa Rosalia	96.77	63	IAMs_20	IAMs_20		00 40 51.0		
	comp=Z,252µm,20.0s								
LRM	Limekiln Ridge	96.86	45	P	P		00 01 58.1	-0.2	
PKCU	Pink Cliffs	96.93	53	P	P		00 01 59.4	+0.5	
PKCU				IAmb	IAmb		00 02 48.6		
	comp=Z,200nm,1.1s								
MTPU	Mount Pierson	97.04	52	P	Pdif		00 02 00.1	+0.7	
MTPU				IAmb	IAmb		00 03 12.7		
	comp=Z,215nm,1.5s								
MSU	Marysvale	97.05	52	P	Pdif		00 02 00.7	+1.4	
MSU	Marysvale	97.05	52	P	Pdif		00 02 00.7	+1.4	
NLU	North Lily Min	97.14	50	P	Pdif		00 01 59.6	-0.1	
BELA	Belgrano 2	97.36	178	IAmb	IAmb		00 02 30.0		
	comp=Z,144nm,1.2s								
CTU	Camp Tracy	97.39	50		Pdif		00 02 00.9	+0.1	
SOHO	SOHO	97.44	294	*i* P	P		00 01 60.0	-1.0	
	SNR=39								
BOZ	Bozeman (W)	97.44	45	P			00 02 00.6		
	baz=271,SNR=28								
MPU	Maple Canyon	97.48	50	P	Pdif		00 02 01.6	+0.4	
HWUT	Hardware Ranch	97.53	49	IAMs_20	IAMs_20		00 42 26.0		
	comp=Z,290µm,20.0s								
QLMT	Earthquake Lak	97.59	46	P	P		00 02 01.1	-0.4	
H06N1	SOCORRO T-PHAS	97.61	72	T	T		01 50 23.5		
	SNR=54								
JLU	Jordanelle	97.62	50	P	Pdif		00 02 02.3	+0.5	
JLU				IAmb	IAmb		00 03 35.9		
	comp=Z,273nm,2.3s								
H06S1	SOCORRO T	97.63	72	T	T		01 50 24.3		
	SNR=11								
ECR	Eagle Creek	97.66	47	P	P		00 02 01.7	-0.2	
H06E1	SOCORRO T-PHAS	97.66	72	T	T		01 50 25.6		
	SNR=37								
WUAZ	Wupatki	97.67	55	P			00 02 03.4		
	baz=270								
WUAZ	Wupatki	97.67	55	IAMs_20	IAMs_20		00 43 24.4		
	comp=Z,158µm,20.0s								
MDH	Madha	97.69	295	*i* P	P		00 02 01.4	-0.8	
	SNR=18								
BANOM	Banah	97.71	295	*i* P	P		00 02 02.0	-0.3	
	SNR=18								
BANOM	Banah	97.71	295	P	P		00 02 01.5	-0.7	
	SNR=32								
YHB	Horse Butte	97.76	46	P	Pdif		00 02 02.7	+0.3	
YHB				IAmb	IAmb		00 03 08.7		
	comp=Z,192nm,1.9s								
UOSS	Minazif	97.77	294	*i* P	P		00 02 00.5	-2.0	
	SNR=17								
UOSS	Minazif	97.77	294	P	P		00 02 00.7	-1.8	
UOSS				IAmb	IAmb		00 02 44.3		
	comp=Z,135nm,1.1s								
UOSS	Minazif	97.77	294	P	Pdif		00 02 02.7	+0.2	
YHL	Hebgen Lake	97.77	46	P	Pdif		00 02 02.7	+0.2	
MSFE	Esma-Masafi	97.82	295	*i* P	P		00 02 00.8	-1.9	
	SNR=18								
HATD	Hatta, Dubai	97.83	294	*i* P	P		00 02 01.0	-1.8	
	SNR=13								
SHME	Shamm	97.85	296	*i* P	P		00 02 01.3	-1.6	
	SNR=14								
ASHO	Ashiyiah	97.89	294	*i* P	P		00 01 60.0	-3.1	
	SNR=31								
YMR	Madison River	97.93	46	P	Pdif		00 02 03.8	+0.7	
HSIG		97.95	61	IAMs_20	IAMs_20		00 40 52.3		
	comp=Z,282µm,20.0s								
YPP	Pitchstone Pla	98.05	46	P	Pdif		00 02 04.9	+1.2	
SHAO	Shalim	98.06	287	*i* P	P		00 02 01.6	-2.3	
	SNR=5.3								
FLWY	Flagg Ranch	98.13	46	IAMs_20	IAMs_20		00 40 09.7		
	comp=Z,212µm,22.0s								
TUC	Tucson	98.14	58	IAMs_20	IAMs_20		00 42 22.0		
	comp=Z,245µm,19.0s								
TUC	Tucson	98.14	58	P			00 02 06.8		
	baz=270								
ALNE	Al Ain	98.15	294	*i* P	P		00 02 02.4	-1.9	
	SNR=14								
H17A	Grant Village	98.21	46	P			00 02 05.9		
	baz=271,SNR=17								
NAZ	Nazwa, Dubai	98.26	294	*i* Pdiff	P		00 02 02.9	-1.8	
	SNR=12								
FAQ	Al Faqa, Dubai	98.32	294	*i* Pdiff	P		00 02 02.4	-2.5	
	SNR=17								
FAQ	Al Faqa, Dubai	98.32	294	P	P		00 02 03.9	-1.1	
	SNR=28								
FAQ				P	P		00 02 03.9	-1.1	
	SNR=28								
LPIG	La Paz	98.42	66	LR	LR		00 41 32.4		
	comp=Z,196µm,19.3s,baz=276,slow=32								
ASUD	Al Ashush, Dub	98.55	294	*i* Pdiff	P		00 02 04.4	-1.6	
	SNR=16								
EGMT	Eagleton	98.66	42	IAmb	IAmb		00 02 56.9		
	comp=Z,151nm,1.4s								
EGMT				IAMs_20	IAMs_20		00 41 29.4		
	comp=Z,286µm,21.0s								
EGMT	Eagleton	98.66	42	P			00 02 06.1		
	baz=272								
SLBS	Sierra La Lagu	98.74	67	IAMs_20	IAMs_20		00 41 39.6		
	comp=Z,251µm,20.0s								
AJN	Ajban	98.86	294	*i* Pdiff	Pdif		00 02 07.6	+0.3	
	SNR=13								
BW06	Boulder Array	99.00	48	P			00 02 07.4		
	baz=272,SNR=13								
PDAR	Pinedale Array	99.00	48	P	P		00 02 07.0	-0.8	
	comp=Z,9.3nm,0.8s,baz=236,slow=1.7,SNR=19								
PDAR				PP	PP		00 06 10.6	+0.3	
	comp=Z,7.5nm,1.0s,baz=282,slow=4.5,SNR=2.9								
PDAR				S	SKSac		00 12 58.0	+15	
	comp=Z,1.2nm,0.7s,baz=45,slow=2.3,SNR=2.1								
PDAR				PKKPbc	PKKPdf		00 18 46.0	+6.7	
	comp=Z,1.7nm,0.6s,baz=100,slow=5.4,SNR=6.8								
PDAR				PKPPKP			00 26 54.0		
	comp=Z,2.2nm,1.0s,baz=104,slow=1.8,SNR=5.9								
PDAR				LR	LR		00 43 34.6		
	comp=Z,294µm,18.7s,baz=264,slow=33								
PDAR	Pinedale Array	99.00	48		P		00 02 06.5	-1.4	
W18A	Petrified Fore	99.01	55	P	Pdif		00 02 09.1	+1.0	
W18A				IAMs_20	IAMs_20		00 39 34.9		
	comp=Z,156µm,21.0s								
W18A	Petrified Fore	99.01	55	P			00 02 09.9		
	baz=270								
RLMT	Red Lodge	99.12	45	P			00 02 07.4		
	baz=272								
SOCY	Socotra	99.38	282	P	Pdif		00 02 06.8	-3.2	
	SNR=19								
RBK	Rabkut	99.39	287	P	Pdif		00 02 08.9	-1.0	
	SNR=50								
PV10	Paradox Valley	99.52	52		Pdif		00 02 10.6	+0.2	
PV14	Lion Creek, Pa	99.53	52	P	Pdif		00 02 11.4	+1.0	
PV14				IAmb	IAmb		00 03 38.4		
	comp=Z,146nm,1.5s								
MZWR	Madinat Zayed	99.86	293	P	Pdif		00 02 11.3	-0.6	
MVCO	Mesa Verde	99.97	53	IAMs_20	IAMs_20		00 39 42.2		
	comp=Z,209µm,22.0s								
MVCO	Mesa Verde	99.97	53	P			00 02 12.7		
	baz=272								
O20A	White River Ci	100.08	50	P			00 02 12.2		
	baz=272								
NVL	N'lazarevskaya	100.24	192	*e*P	Pdif		00 02 26.5	+14	
NVL				pmax	pmax				
	comp=Z,51nm,1.4s								
121A	Cookes Peak, D	100.67	58	IAMs_20	IAMs_20		00 44 01.1		
	comp=Z,226µm,20.0s								
121A	Cookes Peak, D	100.67	58	P			00 02 17.3		
	baz=271								
RWWY	Rawlins	100.78	49	IAMs_20	IAMs_20		00 40 41.2		
	comp=Z,202µm,22.0s								
KIRV	Kirov	100.91	329	S	SKSac		00 13 02.1	+11	
	comp=Z,2.8nm,0.5s,baz=276,slow=20,SNR=7.1								
KIRV				PKKPbc	PKKPbc		00 18 37.4	+7.1	
	comp=Z,12nm,0.5s,baz=136,slow=0.6,SNR=7.5								
KIRV	Kirov	100.91	329	*i* P	Pdif		00 02 15.5	-0.2	
LAO	LASA Array	101.14	43	IAMs_20	IAMs_20		00 41 35.2		
	comp=Z,346µm,21.0s								
LAO	LASA Array	101.14	43	P			00 02 18.0		
	baz=275								
K22A	Casper	101.23	48	IAMs_20	IAMs_20		00 42 57.0		
	comp=Z,302µm,20.0s								
K22A	Casper	101.23	48	P			00 02 19.0		
	baz=274								
S22A	4UR Ranch, Cre	101.28	53	P			00 02 18.5		
	baz=273								
Y22D	IRIS PASSCAL I	101.36	56	IAMs_20	IAMs_20		00 42 19.0		
	comp=Z,182µm,21.0s								
Y22D	IRIS PASSCAL I	101.36	56	P			00 02 19.6		
	baz=272								
ANMO	Albuquerque	101.70	55	P	Pdif		00 02 21.1	+1.0	
	comp=Z,5.0nm,1.0s,baz=244,slow=5.8,SNR=10								
ANMO	Albuquerque	101.70	55	P			00 02 21.1		
	baz=272								
EPT	El Paso	101.78	59	IAMs_20	IAMs_20		00 44 38.3		
	comp=Z,242µm,19.0s								
N23A	Red Feather La	101.79	49	P			00 02 20.7		
	baz=274								
SLWR	Sila	101.86	293	P	Pdif		00 02 19.7	-1.0	
SNAA	Sanae	102.02	188	Pdiff	Pdif		00 02 20.2	-0.3	
SNAA	Sanae	102.02	188	P	Pdif		00 02 20.5	0.0	
	comp=Z,4.7nm,1.0s,baz=225,slow=7.6,SNR=3.8								
SNAA				PKKPbc	PKKPdf		00 18 32.8	-0.7	
	comp=Z,12nm,0.9s,baz=262,slow=7.8,SNR=9.3								
SNAA	Sanae	102.02	188	P	Pdif		00 02 22.3	+1.8	
SNAA	Sanae	102.02	188	Pdif	Pdif		00 02 22.3	+1.8	
ISCO	Idaho Springs	102.11	50	IAMs_20	IAMs_20		00 42 05.6		
	comp=Z,292µm,21.0s								
ISCO	Idaho Springs	102.11	50	P			00 02 22.2		
	baz=274								
PRGR	Permogore	102.20	332⇑	*i*P	Pdif		00 02 18.8	-2.6	
PRGR				*e*			00 06 33.5		
PRGR				pmax	pmax				
	comp=Z,132nm,0.9s								
DGMT	Dagmar	102.33	42	IAMs_20	IAMs_20		00 54 39.3		
	comp=Z,168µm,18.0s								
DGMT	Dagmar	102.33	42	P			00 02 20.9		
	baz=277,SNR=6.1								
Q24A	Divide	102.53	51	P			00 02 25.3		
	baz=274								
MNTX	Cornudas Mount	102.73	59	IAMs_20	IAMs

APA					*i*			00 13 12.0		
APA					*i* S		**Sdif**	**00 14 22.0**		**-4.4**
KLMR	**Klimovskoe**	**105.26**	**332**		*e*P		**Pdif**	**00 02 32.7**		**-2.3**
KLMR					*e*			00 06 55.4		
KLMR					*e*			00 13 09.5		
KLMR					*e*PS	PS		00 16 12.7	+0.6	
KLMR					*e*SS	SS		00 21 52.6	+3.7	
KLMR					pmax	pmax				
	comp=Z,134nm,1.4s									
KLMR	**Klimovskoe**	**105.26**	**332**		*e*Pdif		**Pdif**	**00 02 32.7**		**-2.3**
KLMR					AMP			00 02 50.1		
	comp=Z,134nm,1.4s									
KLMR					*e*PP		**PP**	**00 06 55.5**		**-0.8**
KLMR					*e*SKSac		**SKSac**	**00 13 09.5**		**-2.1**
KLMR					*e*SKSac		**SKSac**	**00 13 09.5**		**-2.1**
KLMR					*e*PS		**PS**	**00 16 12.7**		**+0.6**
KLMR					*e*PS		**PS**	**00 16 12.7**		**+0.6**
KLMR					*e*PKKPab		**PKKPab**	**00 18 33.8**		**+0.9**
KLMR					*e*SS		**SS**	**00 21 52.7**		**+3.8**
KLMR					*e*SS		**SS**	**00 21 52.7**		**+3.8**
KLMR					LQ		LQ	00 43 09.9		
KLMR					LQ		LQ	00 43 09.9		
KLMR					LR		LR	00 49 52.8		
KLMR					AMP			00 55 24.2		
	comp=Z,122µm,18.8s									
BJO1	**Bjornoya**	**105.33**	**348**		*e*PP		**PP**	**00 06 56.3**		**-0.1**
MDND	**Maddock**	**105.46**	**42**		IAMs_20	IAMs_20		00 45 25.2		
	comp=Z,207µm,22.0s									
MDND	**Maddock**	**105.46**	**42**		P			00 02 37.7		
	baz=280									
GROC	**Groznyy**	**105.47**	**313**		*e*P		**Pdif**	**00 02 43.1**		**+6.7**
GROC					*e*			00 06 59.3		
GROC					*e*			00 13 57.8		
GROC					pmax	pmax				
	comp=Z,61nm,1.1s									
AMTX	**Amarillo**	**105.63**	**55**		IAMs_20	IAMs_20		00 47 23.0		
	comp=Z,207µm,20.0s									
AMTX	**Amarillo**	**105.63**	**55**		P			00 02 39.3		
	baz=275									
SUSD	**Miller**	**106.49**	**45**		P			00 02 41.3		
	baz=280									
HAMF	**Hammerfest**	**106.66**	**344**		*e*Pdif		**Pdif**	**00 02 40.9**		**-0.1**
GNI	**Garni**	**106.68**	**310**		Pdiff		**Pdif**	**00 02 39.5**		**-2.5**
VRH	**Novokhopyorsk**	**106.71**	**322**		*e*P		**Pdif**	**00 02 42.1**		**+0.5**
VRH					pmax	pmax				
	comp=Z,40nm,0.9s									
VRH					MLR	MLR				
	comp=Z,69µm,24.0s									
CBKS	**Cedar Bluff**	**106.75**	**51**		P			00 02 42.2		
	baz=278									
ARA0	**ARCESS Array S**	**106.78**	**343**		*e*Pdif		**Pdif**	**00 02 42.6**		**+1.0**
ARCES	**ARCESS Array B**	**106.78**	**343**		Pdiff		**Pdif**	**00 02 42.7**		**+1.1**
	comp=Z,5.8nm,0.8s,baz=90,slow=1.2,SNR=7.2									
ARCES					PKiKP		**PKiKP**	**00 06 52.8**		**+1.2**
	comp=Z,8.7nm,0.7s,baz=54,slow=2.1,SNR=7.0									
ARCES					PKKPbc		**PKKPbc**	**00 18 14.5**		**+1.5**
	comp=Z,4.3nm,0.8s,baz=250,slow=1.8,SNR=6.5									
ARCES	**ARCESS Array B**	**106.78**	**343**		P		**Pdif**	**00 02 43.4**		**+1.8**
ARCES	**ARCESS Array B**	**106.78**	**343**				**Pdif**	**00 02 43.4**		**+1.8**
ZEI	**Tsey**	**106.91**	**313**		*e*P		**Pdif**	**00 02 43.6**		**+0.5**
ZEI					pmax	pmax				
	comp=Z,20nm,0.9s									
D32A	**Dogwood Acres,**	**107.32**	**42**		IAMs_20	IAMs_20		00 46 42.0		
	comp=Z,262µm,20.0s									
ULM	**Lac du Bonnet**	**107.36**	**39**		Pdiff		**Pdif**	**00 02 44.6**		**0.0**
	comp=Z,3.1nm,0.7s,baz=303,slow=3.8,SNR=8.0									
ULM					PKiKP		**PKiKP**	**00 06 53.8**		**+0.6**
	comp=Z,18nm,0.9s,baz=267,slow=2.7,SNR=7.3									
ULM	**Lac du Bonnet**	**107.36**	**39**		P		**Pdif**	**00 02 45.0**		**+0.4**
ULM	**Lac du Bonnet**	**107.36**	**39**				**Pdif**	**00 02 45.0**		**+0.4**
ULM					IAMs_20	IAMs_20		00 45 58.8		
	comp=Z,212µm,20.0s									
AKH	**Akhalkalaki**	**107.43**	**312**		⇓P		**Pdif**	**00 02 54.7**		**+9.3**
KBZ	**Khabaz**	**107.47**	**314**		Pdiff		**Pdif**	**00 02 46.3**		**+1.1**
	comp=Z,3.8nm,1.0s,baz=19,slow=5.5,SNR=3.0									
KBZ					PP		**PP**	**00 07 18.2**		**+5.0**
	comp=Z,21nm,1.0s,baz=150,slow=9.0,SNR=3.5									
KBZ					PKKPbc		**PKKPbc**	**00 18 16.6**		**+6.6**
	comp=Z,9.4nm,0.8s,baz=71,slow=3.7,SNR=8.4									
ABTX	**Abilene, Hawle**	**107.53**	**57**		IAMs_20	IAMs_20		00 48 42.5		
	comp=Z,139µm,20.0s									
BGNE	**Belgrade**	**107.57**	**48**		IAMs_20	IAMs_20		00 45 34.5		
	comp=Z,169µm,21.0s									
KIV	**Kislovodsk**	**107.58**	**315**		⇓P		**Pdif**	**00 02 48.1**		**+2.2**
KIV	**Kislovodsk**	**107.58**	**315**		Pdiff		**Pdif**	**00 02 47.2**		**+1.4**
KIV	**Kislovodsk**	**107.58**	**315**		*e*P		**Pdif**	**00 02 43.2**		**-2.7**
KIV					*e*			00 07 12.2		
KIV					*e*PS	PS		**00 16 34.7**		**-2.4**
KIV					*e*SS	SS		00 22 21.9		+0.1
KIV					pmax	pmax				
	comp=Z,52nm,1.0s									
U32A	**Winter Ranch,**	**107.64**	**53**		IAMs_20	IAMs_20		00 46 18.7		
	comp=Z,195µm,21.0s									
KTK1	**Kautokeino**	**107.74**	**343**		*e*Pdif		**Pdif**	**00 02 47.2**		**+1.3**
MOS	**Moscow**	**107.82**	**327**		*e*P		**Pdif**	**00 02 47.2**		**+0.7**
MOS					*e*			00 07 15.6		
MOS					*e*PPP	PPP		00 09 35.2		
MOS					*e*			00 13 23.5		
MOS					*e*PS	PS		00 16 37.9		-0.8
MOS					*e*SS	SS		00 22 33.9		+10
MOS					*e*SSS	SSS		00 26 30.4		
MOS					pmax	pmax				
	comp=Z,47nm,0.7s									
AGMN	**Agassiz Nation**	**107.83**	**41**		IAMs_20	IAMs_20		00 44 16.7		
	comp=Z,170µm,22.0s									
DAG	**Danmarks Havn**	**107.90**	**358**		*i* P		Pdif	00 03 02.8		+16
DAG	**Danmarks Havn**	**107.90**	**358**		*i* P		Pdif	00 03 02.8		+16
DAG	**Danmarks Havn**	**107.90**	**358**		*i* P		Pdif	00 03 02.9		+16
WMOK	**Wichita Mounta**	**108.01**	**55**		IAMs_20	IAMs_20		00 49 50.2		
	comp=Z,129µm,20.0s									
WMOK	**Wichita Mounta**	**108.01**	**55**		P			00 06 56.6		
	baz=277									
LPSR	**Galich'ya Gora**	**108.02**	**324**		*e*P		**Pdif**	**00 02 47.5**		**0.0**
LPSR					pmax	pmax				
	comp=Z,40nm,0.9s									
LPSR					MLR	MLR				
	comp=Z,74µm,25.0s									
KULLO	**Kullorsuaq**	**108.12**	**8**		*i* P		PKiKP	00 07 02.4		+8.5
	comp=Z,70µm,22.0s									
KULLO	**Kullorsuaq**	**108.12**	**8**		*e*P		PKiKP	00 07 02.5		+8.6
KULLO					IAMs_20	IAMs_20		01 00 09.8		
	comp=Z,70µm,21.6s									
N33A	**J Bar K, Exete**	**108.20**	**49**		IAMs_20	IAMs_20		00 51 20.2		
	comp=Z,271µm,19.0s									
JETT	**Jettan, Norway**	**108.21**	**344**		*e*Pdif		**Pdif**	**00 02 47.8**		**-0.3**
OK032	**Salt Plains WL**	**108.21**	**53**		IAMs_20	IAMs_20		00 56 18.9		
	comp=Z,134µm,18.0s									
CHVG	**Ch'k'valeri**	**108.24**	**313**		⇑P		**Pdif**	**00 02 55.3**		**+6.6**
CHVG	**Ch'k'valeri**	**108.24**	**313**		⇑P		**Pdif**	**00 02 55.3**		**+6.6**
VSR	**Storozhevoye**	**108.26**	**323**		*e*P		**Pdif**	**00 02 48.5**		**-0.1**
VSR					pmax	pmax				
	comp=Z,30nm,0.9s									
VSR					MLR	MLR				
	comp=Z,31µm,22.0s									
ECSD	**EROS Data Cent**	**108.28**	**46**		P			00 06 55.0		
	baz=281									
CROK	**Carrier**	**108.43**	**53**		IAMs_20	IAMs_20		00 47 10.8		
	comp=Z,255µm,20.0s									
TRO	**Tromso**	**108.56**	**345**		*e*Pdif		**Pdif**	**00 02 50.2**		**+0.8**
TRO					IVMs_BB	IVMs_BB		00 54 04.5		
	comp=Z,48µm,21.9s									
OBN	**Obninsk**	**108.59**	**327**		PKiKP		**PKiKP**	**00 06 56.6**		**+1.4**
	comp=Z,3.1nm,0.5s,baz=330,slow=11,SNR=3.0									
OBN	**Obninsk**	**108.59**	**327**		⇓P		**Pdif**	**00 02 49.5**		**-0.4**
OBN	**Obninsk**	**108.59**	**327**		*i* P		**Pdif**	**00 02 48.1**		**-1.8**
OBN					pmax	pmax				
	comp=Z,16nm,1.0s									
UNM	**Universidad Na**	**108.77**	**71**		IAMs_20	IAMs_20		00 46 38.5		
	comp=Z,158µm,20.0s									
OK029	**Liberty Lake**	**108.95**	**54**		IAMs_20	IAMs_20		00 46 48.7		
	comp=Z,178µm,21.0s									
OKCFA	**Oklahoma City**	**109.01**	**54**		IAMs_20	IAMs_20		00 48 42.2		
	comp=Z,174µm,20.0s									
OK025	**Westminster Rd**	**109.08**	**54**		IAMs_20	IAMs_20		00 46 43.0		
	comp=Z,187µm,21.0s									
B35A	**Bob, Littlefor**	**109.19**	**40**		IAMs_20	IAMs_20		00 46 02.4		
	comp=Z,175µm,22.0s									
OK031	**S. Brethren Rd**	**109.43**	**54**		IAMs_20	IAMs_20		00 47 52.2		
	comp=Z,169µm,20.0s									
WHTX	**Lake Whitney,**	**109.44**	**58**		IAMs_20	IAMs_20		00 49 39.9		
	comp=Z,225µm,20.0s									
Z35A	**Perchaven, San**	**109.44**	**56**		IAMs_20	IAMs_20		00 46 10.9		
	comp=Z,177µm,22.0s									
435B	**Jarrell**	**109.46**	**59**		IAMs_20	IAMs_20		00 46 55.6		
	comp=Z,250µm,20.0s									
735A	**Kenedy**	**109.46**	**61**		IAMs_20	IAMs_20		00 45 08.8		
	comp=Z,246µm,22.0s									
OK030	**Cody Creek RV**	**109.48**	**54**		IAMs_20	IAMs_20		00 47 43.4		
	comp=Z,176µm,21.0s									
QUOK	**Quay**	**109.50**	**53**		IAMs_20	IAMs_20		00 53 58.1		
	comp=Z,125µm,19.0s									
KVTX	**Kingsville**	**109.50**	**63**		IAMs_20	IAMs_20		00 58 21.3		
	comp=Z,234µm,18.0s									
N35A	**Tabor**	**109.53**	**48**		IAMs_20	IAMs_20		00 51 15.4		
	comp=Z,206µm,20.0s									
T35A	**Sooner Cattle**	**109.54**	**53**		IAMs_20	IAMs_20		00 46 17.1		
	comp=Z,195µm,22.0s									
SOC	**Sochi**	**109.77**	**315**		*e*P	Pdif		00 03 13.8		+18
SOC					*e*PPP	PPP		00 09 47.0		
SOC					*e*			00 13 29.8		
SOC					*e*SS	SS		00 22 50.1		-0.8
SOC					*e*SSS	SSS		00 26 53.6		
SOC					pmax	pmax				
	comp=Z,36nm,1.9s									
SOC					MLR	MLR				
	comp=Z,63µm,18.0s									
UPNV	**Upernavik**	**109.83**	**9**		*i* P		**Pdif**	**00 02 55.4**		**+0.3**
UPNV	**Upernavik**	**109.83**	**9**		*e*P		**PKiKP**	**00 07 03.1**		**+6.0**
TUL1	**Leonard**	**110.27**	**54**		P			00 07 00.3		
	baz=279									
DBG	**Daneborg**	**110.41**	**358**		*e*P	PKiKP		00 07 06.3		+8.2
DBG					IAMs_20	IAMs_20		00 54 01.7		
	comp=Z,128µm,22.7s									
N2IH	**Innhavet**	**110.49**	**344**		*e*Pdif		**Pdif**	**00 02 57.6**		**-0.5**
N2IH					IVmB_BB			00 03 02.7		
	comp=Z,1µm,3.2s									
N2IH					*e*PP	PP		00 07 42.1		+8.0
N2IH					IVMs_BB	IVMs_BB		00 54 33.8		
	comp=Z,45µm,21.1s									
SPMN	**Marine on St.**	**110.60**	**43**		IAMs_20	IAMs_20		00 46 58.1		
	comp=Z,294µm,22.0s									
STEI	**Steigen**	**110.70**	**344**		*e*Pdif		**Pdif**	**00 02 58.3**		**-0.7**
STEI					IVmB_BB			00 03 32.4		
	comp=Z,2µm,3.6s									
STEI					*e*SKSdf		**SKSdf**	**00 14 07.5**		**0.0**
EYMN	**Ely**	**110.74**	**40**		IAMs_20	IAMs_20		00 53 34.9		
	comp=Z,153µm,20.0s									
EYMN	**Ely**	**110.74**	**40**		P			00 06 59.8		
	baz=287									
X37A	**Clayton**	**110.82**	**55**		IAMs_20	IAMs_20		00 48 35.1		
	comp=Z,255µm,21.0s									
237A	**Washetta, Mont**	**110.82**	**58**		IAMs_20	IAMs_20		00 52 02.6		
	comp=Z,202µm,19.0s									
FINES	**FINESS Array B**	**110.94**	**336**		Pdiff		**Pdif**	**00 02 58.9**		**-1.3**
	comp=Z,7.0nm,0.7s,baz=62,slow=5.9,SNR=18									
FINES					PKiKP		**PKiKP**	**00 06 60.0**		**+0.5**
	comp=Z,18nm,0.8s,baz=243,slow=2.1,SNR=7.2									
FINES					PKKPbc		**PKKPab**	**00 18 06.0**		**-1.6**
	comp=Z,6.0nm,0.8s,baz=226,slow=2.4,SNR=11									
FINES	**FINESS Array B**	**110.94**	**336**		P		**Pdif**	**00 02 58.2**		**-2.0**
FINES	**FINESS Array B**	**110.94**	**336**				**Pdif**	**00 02 58.2**		**-2.0**
N2TV	**TVrnvik**	**110.99**	**344**		*e*Pdif		**Pdif**	**00 03 01.2**		**+0.9**
LOF	**Lofoten**	**111.02**	**345**		*e*Pdif		**Pdif**	**00 03 01.9**		**+1.5**
LOF					IVMs_BB	IVMs_BB		00 49 15.2		
	comp=Z,33µm,25.0s									
FAUS	**Fauske**	**111.07**	**344**		*e*Pdif		**Pdif**	**00 03 01.8**		**+1.1**
FAUS					*e*SP		SP	00 17 06.3		+2.3
ANN	**Anapa**	**111.07**	**316**		*e*P		**Pdif**	**00 02 59.6**		**-1.6**
ANN					*e*			00 07 39.2		
ANN					*i*			00 14 09.1		
ANN					*i* SS	SS		00 23 05.7		-2.6
ANN					pmax	pmax				
	comp=N,22nm,1.2s									
ANN					pmax	pmax				
	comp=Z,56nm,1.0s									
ANN					pmax	pmax				
	comp=E,16nm,1.0s									
ANN					pmax	pmax				
	comp=E,462nm,5.5s									
ANN					pmax	pmax				
	comp=Z,4µm,15.5s									
ANN					pmax	pmax				
	comp=N,224nm,3.1s									
ANN					MLR	MLR				
	comp=E,45µm,20.0s									
ANN					MLR	MLR				
	comp=N,120µm,23.0s									
ANN					MLR	MLR				
	comp=Z,103µm,23.0s									
E38A	**The Farm, Brul**	**111.08**	**42**		IAMs_20	IAMs_20		00 49 07.5		
	comp=Z,243µm,20.0s									
NBB08	**Skaug oppvekst**	**111.25**	**344**		IVMs_BB	IVMs_BB		00 55 16.9		
	comp=Z,39µm,21.6s									
K38A	**Parkersburg**	**111.25**	**46**		IAMs_20	IAMs_20		00 51 22.0		
	comp=Z,214µm,20.0s									
U38A	**Gravette**	**111.31**	**53**		IAMs_20	IAMs_20		00 50 45.9		
	comp=Z,129µm,19.0s									
N2SV	**S rvven**	**111.33**	**345**		*e*PP	PP		00 07 52.2		+12
N38A	**Joes South For**	**111.34**	**48**		IAMs_20	IAMs_20		00 47 26.0		
	comp=Z,245µm,22.0s									
Z38A	**Mt. Pleasant**	**111.34**	**56**		IAMs_20	IAMs_20		00 47 28.0		
	comp=Z,201µm,22.0s									
HHAR	**Hobbs**	**111.69**	**53**		IAMs_20	IAMs_20		00 51 26.0		
	comp=Z,120µm,19.0s									
NATX	**Nacogdoches**	**111.82**	**58**		IAMs_20	IAMs_20		00 54 05.4		
	comp=Z,209µm,19.0s									
N2RO	**R,st**	**111.83**	**345**		*e*Pdif		**Pdif**	**00 03 03.1**		**-0.9**
N2RO					*e*PP	PP		00 07 55.0		+11
NBB17	**Glomfjord BYr**	**111.84**	**344**		IVMs_BB	IVMs_BB		00 54 54.2		
	comp=Z,43µm,22.2s									
SUMG	**Summit**	**111.94**	**4**		*i* P		**Pdif**	**00 03 08.7**		**+3.7**
SUMG	**Summit**	**111.94**	**4**		*i* P		PKiKP	00 07 10.2		+8.5
	comp=Z,93µm,22.0s									
SUMG	**Summit**	**111.94**	**4**		*i* P		**Pdif**	**00 03 08.7**		**+3.7**
SUMG	**Summit**	**111.94**	**4**		*e*P		PKiKP	00 07 10.2		+8.6
SUMG					IAMs_20	IAMs_20		00 59 36.5		
	comp=Z,93µm,21.5s									
W39A	**Magazine**	**112.01**	**54**		IAMs_20	IAMs_20		00 51 25.5		
	comp=Z,152µm,20.0s									
W39A	**Magazine**	**112.01**	**54**		P			00 07 02.6		
	baz=280									
MOR8	**Moi Rana**	**112.15**	**343**		*e*Pdif		**Pdif**	**00 03 04.4**		**-1.2**
GO09	**Cerro Castillo**	**112.27**	**151**		IAMs_20	IAMs_20		00 45 21.2		
	comp=Z,233µm,22.0s									
MIAR	**Mount Ida**	**112.29**	**55**		IAMs_20	IAMs_20		00 50 38.3		
	comp=Z,175µm,20.0s									
MIAR	**Mount Ida**	**112.29**	**55**		P			00 03 08.9		
	baz=280									
MIAR					P			00 07 05.4		
	baz=280									
STOK	**Stokkvaagen**	**112.45**	**344**		*e*Pdif		**Pdif**	**00 03 07.8**		**+1.0**
L40A	**Anamosa**	**112.51**	**46**		IAMs_20	IAMs_20		00 49 01.9		
	comp=Z,190µm,21.0s									
U40A	**Yellville**	**112.54**	**53**		P			00 07 03.4		
	baz=281									
WLAR	**White Oak Lake**	**112.81**	**56**		IAMs_20	IAMs_20		00 54 25.0		
	comp=Z,160µm,19.0s									
COWI	**Conover**	**112.83**	**42**		IAMs_20	IAMs_20		00 50 52.2		
	comp=Z,291µm,21.0s									
X40A	**Basin Creek Fa**	**112.90**	**55**		IAMs_20	IAMs_20		00 51 25.2		
	comp=Z,175µm,20.0s									
X40A	**Basin Creek Fa**	**112.90**	**55**		P			00 03 12.9		
	baz=280									
D41A	**Chassel**	**112.90**	**41**		IAMs_20	IAMs_20		00 52 40.6		
	comp=Z,165µm,22.0s									
CMIG	**Matias Romero**	**112.92**	**74**		PKiKP		**PKiKP**	**00 07 04.4**		**-0.1**
	comp=Z,3.6nm,0.6s,baz=293,slow=3.3,SNR=5.3									
CMIG					PKKPbc		**PKKPab**	**00 17 59.9**		**+0.4**
	comp=Z,5.5nm,0.9s,baz=52,slow=6.1,SNR=4.4									
JFWS	**Jewell Farm**	**112.98**	**45**		IAMs_20	IAMs_20		00 52 47.7		
	comp=Z,264µm,20.0s									
JFWS	**Jewell Farm**	**112.98**	**45**		P			00 07 03.5		
	baz=286									
WHAR	**Wooly Hollow**	**113.19**	**54**		IAMs_20	IAMs_20		00 50 18.9		
	comp=Z,147µm,20.0s									
FCAR	**Ozark Folk Cen**	**113.21**	**53**		IAMs_20	IAMs_20		00 57 31.2		
	comp=Z,125µm,19.0s									
441A	**DeRidder**	**113.22**	**59**		IAMs_20	IAMs_20		00 52 00.1		
	comp=Z,170µm,21.0s									
W41B	**Gary Mavity, V**	**113.25**	**54**		P			00 07 05.4		
	baz=281									
DIKM	**Dikmen**	**113.42**	**313**		⇓P	Pdif		00 03 57.4		+46
DIKM	**Dikmen**	**113.42**	**313**		⇓P		**PKiKP**	**00 07 10.0**		**+5.2**
CCM	**Cathedral Cave**	**113.44**	**51**		P			00 07 04.4		
	baz=283									
L42A	**Oliver, Polo**	**113.64**	**46**		IAMs_20	IAMs_20		00 52 47.9		
	comp=Z,202µm,20.0s									
IDID	**Didziasalis**	**113.67**	**330**		*e*P		**PKiKP**	**00 07 05.8**		**+0.9**
ILULI	**Ilulissat**	**113.77**	**9**		*i* P		**PKiKP**	**00 07 10.1**		**+5.4**
ILULI	**Ilulissat**	**113.77**	**9**		*e*PKIKP		**PKiKP**	**00 07 10.1**		**+5.4**
ILULI	**Ilulissat**	**113.77**	**9**		IAMs_20	IAMs_20		00 58 28.4		
	comp=Z,126µm,20.0s									
ILULI	**Ilulissat**	**113.77**	**9**		*e*P		**PKiKP**	**00 07 10.1**		**+5.4**
ISAL	**Salakas**	**113.85**	**330**		*e*P		**PKiKP**	**00 07 04.9**		**-0.4**
342A	**Flagon Creek P**	**113.85**	**58**		IAMs_20	IAMs_20		00 52 23.1		
	comp=Z,143µm,20.0s									
CCAR	**Cane Creek**	**113.87**	**55**		IAMs_20	IAMs_20		00 51 26.0		
	comp=Z,173µm,20.0s									
IIGN	**Ignalina**	**113.91**	**330**		*e*P		**PKiKP**	**00 07 05.8**		**+0.4**
LCAR	**Lake Charles**	**113.94**	**53**		IAMs_20	IAMs_20		00 50 24.6		
	comp=Z,149µm,21.0s									
NSS	**Namsos**	**114.06**	**343**		*e*Pdif		**Pdif**	**00 03 14.0**		**0.0**
NSS					*e*PKPdf	PKPdf		00 07 05.0		-0.4
NSS					*e*pPKPdf	PKiKP		00 07 15.5		+10
E43A	**Lone Tree Farm**	**114.15**	**41**		IAMs_20	IAMs_20		00 56 10.6		
	comp=Z,203µm,20.0s									
BZK	**Bozkurt**	**114.24**	**314**		⇑P		**PKiKP**	**00 07 06.7**		**+0.3**
H43A	**Windswept, Lux**	**114.25**	**43**		IAMs_20	IAMs_20		00 48 14.6		
	comp=Z,257µm,22.0s									
SCO	**Scoresbysund**	**114.29**	**358**		*i* P		PKPdf	00 07 12.5		+6.8
SCO	**Scoresbysund**	**114.29**	**358**		*e*PKIKP		PKPdf	00 07 12.5		+6.8
SCO	**Scoresbysund**	**114.29**	**358**		*e*P		PKPdf	00 07 12.6		+6.9
HDIL	**Hopedale**	**114.30**	**48**		P			00 07 06.6		
	baz=286									
AKASG	**Malin Array Be**	**114.35**	**324**		Pdiff		**Pdif**	**00 03 14.7**		**-1.0**
	comp=Z,4.9nm,0.8s,baz=52,slow=4.5,SNR=9.9									
AKASG					PKP		PKPdf	00 07 05.7		-0.7
	comp=Z,34nm,0.7s,baz=53,slow=2.6,SNR=17									
AKASG					PKKPbc		**PKKPbc**	**00 17 45.6**		**-2.2**
	comp=Z,1.1nm,0.4s,baz=261,slow=3.2,SNR=9.6									
AKASG	**Malin Array Be**	**114.35**	**324**				**Pdif**	**00 03 15.1**		**-0.6**
AKASG					pPdif		**pPdif**	**00 03 23.2**		**-4.1**
AKASG					PKiKP		PKPdf	00 07 05.4		-0.9
AKBB	**Malin Array Si**	**114.35**	**324**	*c*	*i* PKIKP		PKPdf	00 07 05.6		-0.7
P43A	**Skaggs, Pawnee**	**114.37**	**49**		IAMs_20	IAMs_20		00 56 16.4		
	comp=Z,159µm,20.0s									
143A	**Socs Landing,**	**114.40**	**56**		IAMs_20	IAMs_20		00 55 38.0		
	comp=Z,189µm,19.0s									
HBAR	**Harrisburg**	**114.44**	**53**		IAMs_20	IAMs_20		00 58 37.3		
	comp=Z,160µm,18.0s									
LPAR	**Lepanto**	**114.72**	**53**		IAMs_20	IAMs_20		00 59 03.2		
	comp=Z,137µm,19.0s									
L44A	**Lake County Fo**	**114.85**	**45**		IAMs_20	IAMs_20		00 54 22.7		
	comp=Z,213µm,20.0s									
L44A	**Lake County Fo**	**114.85**	**45**		P			00 07 08.0		
	baz=287									
GNAR	**Gosnell**	**114.86**	**53**		IAMs_20	IAMs_20		00 51 02.0		
	comp=Z,228µm,21.0s									
PEBM	**Pemiscott Bayo**	**114.95**	**52**		IAMs_20	IAMs_20		00 50 31.3		
	comp=Z,243µm,21.0s									
M44A	**Midewin, Midew**	**114.98**	**46**		IAMs_20	IAMs_20		00 52 21.4		
	comp=Z,224µm,20.0s									
HQIL	**Hansen Quary C**	**115.00**	**46**		IAMs_20	IAMs_20		00 54 17.8		
	comp=Z,250µm,20.0s	

VARL	Varlezi	117.11	320	⇑P		PKiKP	00 07 12.3	+0.5	
TPGR	Topolog	117.14	319	⇓P		Pdif	00 03 28.6	+0.3	
TPGR	Topolog	117.14	319	⇑P		PKPdf	00 07 11.9	-0.1	
TPGR	Topolog	117.14	319	⇓P		PKKPbc	00 17 37.2	-0.7	
WCI	Wyandotte Cave	117.17	49	PKPdf		PKPdf	00 07 12.0	-0.2	
WCI				pPKPdf		pPKPdf	00 07 20.3	-4.2	
WCI	Wyandotte Cave	117.17	49	P			00 07 12.2		
	baz=287								
CFR	Carcaliu	117.20	319	⇓P		Pdif	00 03 34.1	+5.7	
CFR	Carcaliu	117.20	319	⇑P		PKPdf	00 07 11.6	-0.4	
CFR	Carcaliu	117.20	319	⇑PKiKP		PKPdf	00 07 11.6	-0.4	
APG	El Apazote	117.25	76	PKP		PKPdf	00 07 12.2	-1.0	
	comp=Z,6.2nm,0.8s,baz=352,slow=6.6,SNR=5.3								
APG				PKKPbc		PKKPab	00 17 39.4	-1.4	
	comp=Z,8.3nm,0.9s,baz=104,slow=7.4,SNR=3.8								
SCHL	Schela	117.28	319	⇓P		PKiKP	00 07 12.7	+0.6	
TIRR	Tirgusor	117.29	318	⇑P		PKiKP	00 07 13.4	+1.2	
TIRR	Tirgusor	117.29	318	⇑P		PKiKP	00 07 13.4	+1.2	
TIRR	Tirgusor	117.29	318	⇓P		PKKPbc	00 17 38.1	+0.8	
TIRR	Tirgusor	117.29	318	⇑PKiKP		PKiKP	00 07 13.4	+1.2	
TIRR	Tirgusor	117.29	318	pPKPdf		pPKPdf	00 07 21.9	-2.5	
TIRR				IAMs_20	IAMs_20		00 59 02.9		
	comp=Z,176μm,22.0s								
AKN	Aaknes	117.31	343	ePKPdf		PKiKP	00 07 12.2	+0.4	
AKN				epPKPdf		pPKPdf	00 07 22.7	-1.2	
GHRR		117.33	320	⇑P		PKiKP	00 07 13.3	+1.0	
GHRR		117.33	320	⇓P		PKKPbc	00 17 37.0	-0.2	
TUDR		117.34	320	⇑P		PKPdf	00 07 09.7	-2.5	
L48A	N Adams	117.38	45	IAMs_20	IAMs_20		00 51 37.6		
	comp=Z,246μm,20.0s								
MFTR	Murfatlar	117.39	318	⇓P		PKPdf	00 07 10.7	-1.7	
TLBR	Topalu	117.50	318	⇓P		PKiKP	00 07 12.9	+0.3	
TLBR	Topalu	117.50	318	⇑P		PKKPbc	00 17 37.2	+0.6	
HARR	Harsova	117.52	319	⇑P		Pdif	00 03 34.0	+4.1	
HARR	Harsova	117.52	319	⇓P		PKiKP	00 07 12.8	+0.2	
HARR	Harsova	117.52	319	⇑P		PKKPbc	00 17 36.8	+0.3	
HARR	Harsova	117.52	319	⇓PKiKP		PKiKP	00 07 12.8	+0.2	
PRAR	RASCA	117.53	322	⇑P		PKiKP	00 07 14.5	+1.8	
PRAR	RASCA	117.53	322	⇑P		PKKPbc	00 17 35.7	-0.9	
X48A	Hartselle	117.58	54	IAMs_20	IAMs_20		00 53 32.1		
	comp=Z,166μm,20.0s								
CVDA	Cernavoda	117.59	318	⇑P		PKiKP	00 07 13.4	+0.6	
TESR	Tescani	117.62	321	⇓P		Pdif	00 03 34.7	+4.4	
TESR	Tescani	117.62	321	⇑P		PKiKP	00 07 12.9	0.0	
ODBI	Odobesti	117.67	320	⇑P		PKiKP	00 07 13.8	+0.9	
ODBI	Odobesti	117.67	320	⇓P		PKKPbc	00 17 36.4	+0.4	
LVV	L'vov	117.73	325	eP		Pdif	00 03 38.0	+7.3	
LVV				pmax	pmax				
	comp=Z,40nm,1.2s								
CLTN	Cedars of Leba	117.73	52	pPKPdf		pPKPdf	00 07 20.5	-5.0	
CLTN				IAMs_20	IAMs_20		00 53 33.8		
	comp=Z,188μm,20.0s								
OSL	Oslo	117.78	339	ePKPdf		PKiKP	00 07 12.9	+0.3	
BIZ	Bicaz	117.79	321	⇓P		PKiKP	00 07 13.3	+0.2	
BIZ	Bicaz	117.79	321	⇑P		PKKPbc	00 17 39.5	+3.8	
AAM	Ann Arbor	117.80	44	pPKPdf		pPKPdf	00 07 20.6	-4.9	
AAM	Ann Arbor	117.80	44	P			00 07 13.4		
	baz=291								
LL01	San Ignacio de	117.82	144			PKiKP	00 07 14.4	+1.1	
LL01				IAMs_20	IAMs_20		00 50 09.7		
	comp=Z,246μm,21.0s								
VRI	Vrincioaia	117.84	320	⇑P		Pdif	00 03 34.4	+3.0	
VRI	Vrincioaia	117.84	320	⇑P		PKPdf	00 07 13.1	-0.2	
VRI	Vrincioaia	117.84	320	⇓P		PKKPbc	00 17 34.6	-0.8	
VRI	Vrincioaia	117.84	320	⇑PKiKP		PKPdf	00 07 13.1	-0.2	
PLOR	Plostina	117.89	320	⇑P		Pdif	00 03 33.6	+2.0	
PLOR	Plostina	117.89	320	⇑P		PKiKP	00 07 14.9	+1.5	
PLOR	Plostina	117.89	320	⇑P		PKKPbc	00 17 37.5	+2.2	
PLOR	Plostina	117.89	320	⇑PKiKP		PKiKP	00 07 14.9	+1.5	
N49A	Columbus Grove	117.90	46	IAMs_20	IAMs_20		00 55 27.5		
	comp=Z,222μm,20.0s								
LRAL	Lakeview Retre	117.96	55	IAMs_20	IAMs_20		00 55 01.4		
	comp=Z,238μm,20.0s								
LRAL	Lakeview Retre	117.96	55	P			00 07 13.9		
	baz=284,SNR=16								
P49A	Miami Univ. Ec	117.96	47	P			00 07 13.6		
	baz=288,SNR=17								
BISRR	Bisoca	117.98	320	⇑P		PKiKP	00 07 13.8	+0.2	
EFI	East Falkland	117.98	159	IAMs_20	IAMs_20		01 02 46.0		
	comp=Z,144μm,20.0s								
R49A	Shelbyville	118.00	49	IAMs_20	IAMs_20		00 51 20.6		
	comp=Z,168μm,22.0s								
O49A	Covington	118.03	47	IAMs_20	IAMs_20		00 55 48.0		
	comp=Z,171μm,20.0s								
BURAR	Bucovina Array	118.04	322	⇓P		Pdif	00 03 35.2	+2.9	
BURAR	Bucovina Array	118.04	322	⇓P		PKiKP	00 07 14.9	+1.2	
BURAR	Bucovina Array	118.04	322	⇑P		PKKPbc	00 17 36.4	+1.5	
BURAR	Bucovina Array	118.04	322	⇓PKiKP		PKiKP	00 07 14.9	+1.2	
BURAR	Bucovina Array	118.04	322	PKPdf		PKiKP	00 07 14.4	+0.7	
SKAR	Skarslia	118.05	341	ePKPdf		PKiKP	00 07 13.3	0.0	
SKAR				epPKPdf		pPKPdf	00 07 24.0	-1.5	
SKAR				ePP		PP	00 08 30.9	+3.2	
NUUK	Nuuk	118.17	12	eP		PKiKP	00 07 18.5	+5.2	
NUUK				IAMs_20	IAMs_20		00 55 09.7		
	comp=Z,163μm,21.9s								
RASA	Rasa	118.22	318	⇑P		PKPdf	00 07 13.7	-0.3	
RASA	Rasa	118.22	318	⇑P		PKKPbc	00 17 36.3	+2.4	
VA04	Juan Fernndez	118.23	132	IAMs_20	IAMs_20		00 50 29.7		
	comp=Z,149μm,20.0s								
Y49A	Blount Mountai	118.24	54	IAMs_20	IAMs_20		00 52 29.4		
	comp=Z,176μm,22.0s								
ISR	Istrita	118.26	319	⇑P		PKKPbc	00 17 33.6	-0.4	
NEHR	Nehoiu	118.30	320	⇑P		PKiKP	00 07 14.4	+0.2	
NEHR	Nehoiu	118.30	320	⇓P		PKKPbc	00 17 30.1	-3.7	
BRAL	Brewton	118.33	57			PKiKP	00 07 15.2	+0.6	
LEHL	Lehliu	118.34	319	⇑P		PKiKP	00 07 17.7	+3.4	
MATQ	Matagami	118.46	35	P			00 07 13.2		
	baz=300,SNR=6.9								
BEL	Belsk	118.48	328	ePKiKP		PKiKP	00 07 14.2	0.0	
BEL				ePP		PP	00 09 01.9	+31	
BEL				ePS		PS	00 18 45.9	+28	
BEL				eSS		SS	00 26 02.4	+78	
BEL				eL		L	01 09 04.3		
	comp=Z,79μm,20.8s								
SNET	Serv Nac Est T	118.49	77	IAMs_20	IAMs_20		00 52 20.5		
	comp=Z,162μm,20.0s								
MLR	Muntele Rosu	118.49	320	PKP		PKPdf	00 07 13.1	-1.5	
	comp=Z,9.4nm,0.6s,baz=338,slow=7.6,SNR=8.7								
MLR				PKKPbc		PKKPab	00 17 36.3	+1.7	
	comp=Z,10.0nm,0.6s,baz=241,slow=3.6,SNR=24								
MLR	Muntele Rosu	118.49	320	⇑P		Pdif	00 03 44.8	+10	
MLR	Muntele Rosu	118.49	320	⇑P		PKPdf	00 07 12.8	-1.9	
MLR	Muntele Rosu	118.49	320	⇑P		PKKPbc	00 17 33.5	+0.3	
MLR	Muntele Rosu	118.49	320	⇑PKiKP		PKPdf	00 07 12.8	-1.9	
M50A	Fremont	118.54	45	IAMs_20	IAMs_20		00 54 25.4		
	comp=Z,239μm,20.0s								
KWP	Kalwaria Pacla	118.57	325	ePKiKP		PKiKP	00 07 15.5	+0.9	
KWP				ePP		PP	00 09 02.3	+31	
KWP				ePS		PKKPdf	00 18 48.4	+46	
KWP				eSS		SS	00 25 59.4	+73	
KWP				eL		L	01 03 19.6		
	comp=Z,133μm,22.4s								
SECR		118.60	320	⇑P		PKiKP	00 07 14.9	+0.1	
SULR		118.63	319	⇓P		PKPdf	00 07 14.6	-0.2	
R50A	Paris	118.64	49	IAMs_20	IAMs_20		00 51 16.4		
	comp=Z,264μm,22.0s								
DOPR	Dopca	118.65	321	⇑P		PKPdf	00 07 14.7	-0.2	
DOPR	Dopca	118.65	321	⇑P		PKKPbc	00 17 31.6	-1.0	
FPAL	Fort Paine	118.71	53	IAMs_20	IAMs_20		00 55 59.8		
	comp=Z,193μm,20.0s								
ISOG	Isortoq, Green	118.79	5	eP		PKiKP	00 07 20.9	+6.5	
250A	Grady	118.80	56	IAMs_20	IAMs_20		00 55 37.6		
	comp=Z,188μm,20.0s								
RAZG	Razgrad	118.90	318	⇓P		PKPdf	00 07 15.2	-0.2	
TEIG	Tepich	118.96	70	PKP		PKPdf	00 07 15.8	-0.2	
	comp=Z,13nm,0.8s,baz=33,slow=6.4,SNR=3.6								
TEIG	Tepich	118.96	70	pPKPdf		pPKPdf	00 07 24.6	-3.7	
ACSO	Alum Creek Sta	118.99	46	IAMs_20	IAMs_20		00 56 10.8		
	comp=Z,174μm,21.0s								
ACSO	Alum Creek Sta	118.99	46	P			00 07 15.5		
	baz=290,SNR=20								
SGRR	Singureni	118.99	319	⇓P		PKPdf	00 07 15.3	-0.1	
I51A	Listowel	119.03	42	P			00 07 16.1		
	baz=294								
BMR	Baia Mare	119.05	323	⇑P		PKPdf	00 07 14.3	-1.2	
BMR	Baia Mare	119.05	323	⇑PKiKP		PKPdf	00 07 14.3	-1.2	
VOIR		119.09	320	⇓P		Pdif	00 03 42.2	+5.3	
VOIR		119.09	320	⇓P		PKiKP	00 07 16.8	+1.0	
VOIR		119.09	320	⇑P		PKKPbc	00 17 28.0	-3.0	
VOIR		119.09	320	⇓PKiKP		PKiKP	00 07 16.8	+1.0	
Q51A	Peebles	119.13	48	pPKPdf		pPKPdf	00 07 23.9	-4.4	
AKAS	Kas	119.16	309	pPKPdf		pPKPdf	00 07 23.5	-4.6	
KOLS	Kolonicke sedl	119.16	325	ePKiKP		PKPdf	00 07 15.6	-0.1	
KOLS				e			00 07 25.2		
M51A	Elyria	119.17	45	P			00 07 15.8		
	baz=291,SNR=12								
N51A	Ashland	119.19	45	pPKPdf		pPKPdf	00 07 23.4	-4.9	
P51A	Williamsport	119.19	47	IAMs_20	IAMs_20		00 56 43.1		
	comp=Z,205μm,20.0s								
MANT	Manisa	119.26	312	pPKPdf		pPKPdf	00 07 25.3	-3.3	
UZH	Uzhgorod	119.30	325	eP		Pdif	00 03 41.9	+4.2	
UZH				e			00 14 28.5		
CPCT	Cooper Cave	119.32	52	IAMs_20	IAMs_20		00 56 09.9		
	comp=Z,199μm,19.0s								
V51A	Loudon	119.36	51	IAMs_20	IAMs_20		00 51 41.7		
	comp=Z,165μm,22.0s								
VLDQ	Val d'Or	119.37	36	pPKPdf		pPKPdf	00 07 22.8	-5.6	
VLDQ				IAMs_20	IAMs_20		00 56 22.9		
	comp=Z,221μm,21.0s								
Z51A	Franklin	119.37	54	pPKPdf		pPKPdf	00 07 24.8	-4.0	
Z51A				IAMs_20	IAMs_20		00 55 11.5		
	comp=Z,160μm,21.0s								
ARR	Arges	119.38	320	⇓P		Pdif	00 03 46.8	+8.5	
ARR	Arges	119.38	320	⇑P		PKiKP	00 07 17.4	+1.0	
ARR	Arges	119.38	320	⇓P		PKKPbc	00 17 33.1	+3.2	
S51A	Beattyville	119.39	49	pPKPdf		pPKPdf	00 07 24.5	-4.3	
S51A				IAMs_20	IAMs_20		00 56 50.7		
	comp=Z,227μm,20.0s								
BSD	Bornholm Skovb	119.40	334	i P		PKPdf	00 07 15.8	-0.1	
BSD	Bornholm Skovb	119.40	334	ePKiKP		PKPdf	00 07 15.8	-0.1	
BSD	Bornholm Skovb	119.40	334	i P		PKPdf	00 07 15.9	-0.1	
BSD				eP		PKPdf	00 07 15.9	-0.1	
CJR	Cluj-Napoca	119.43	322	⇓P		PKiKP	00 07 16.4	0.0	
CJR	Cluj-Napoca	119.43	322	⇓PKiKP		PKiKP	00 07 16.4	0.0	
BOSA	Boshof	119.46	233	PKP		PKPdf	00 07 16.9	-0.2	
	comp=Z,8.0nm,0.7s,baz=103,slow=1.8,SNR=11								
BOSA				PKKPbc		PKKPbc	00 17 29.4	+0.1	
	comp=Z,9.8nm,0.8s,baz=340,slow=1.0,SNR=8.3								
HUMR	Humele	119.52	319	⇑P		PKPdf	00 07 15.8	-0.7	
HUMR	Humele	119.52	319	⇑P		PKKPbc	00 17 28.5	-0.7	
COPA	Copaceanca	119.53	319	⇓P		PKPdf	00 07 16.3	-0.2	
COPA	Copaceanca	119.53	319	⇑P		PKKPbc	00 17 30.6	+1.4	
451A	Vernon	119.54	57	IAMs_20	IAMs_20		00 54 51.4		
	comp=Z,138μm,21.0s								
ZIMR		119.63	318	⇑P		PKPdf	00 07 16.1	-0.6	
ZIMR		119.63	318	⇑PKiKP		PKPdf	00 07 16.1	-0.6	
CRVS	Cervenica-Dubn	119.64	325	ePKiKP		PKPdf	00 07 16.5	-0.1	
HOMB	Homborsund	119.78	339	i P		PKPdf	00 07 16.4	-0.1	
P52A	Corning	119.81	47	IAMs_20	IAMs_20		00 56 26.6		
	comp=Z,178μm,20.0s								
P52A	Corning	119.81	47	P			00 07 16.8		
	baz=290,SNR=18								
TKL	Tuckaleechee C	119.85	51	pPKPdf		pPKPdf	00 07 25.0	-4.6	
TKL				IAMs_20	IAMs_20		00 52 08.7		
	comp=Z,170μm,22.0s								
O52A	Adamsville	119.86	46	IAMs_20	IAMs_20		00 57 06.7		
	comp=Z,196μm,20.0s								
SADO	Sadowa	119.86	40	PKKPbc		PKKPbc	00 17 35.9	+7.9	
	comp=Z,10nm,1.0s,baz=135,slow=12,SNR=3.7								
SADO	Sadowa	119.86	40	IAMs_20	IAMs_20		00 53 56.5		
	comp=Z,246μm,21.0s								
OJC	Ojcow	119.88	327	ePKiKP		PKPdf	00 07 16.9	-0.1	
OJC				ePP		PP	00 09 03.7	+23	
OJC				ePS		PS	00 18 57.5	+26	
OJC				eSS		SS	00 26 16.5	+73	
OJC				eL		L	01 00 45.6		
	comp=Z,88μm,21.7s								
W52A	Murphy	119.89	52	pPKPdf		pPKPdf	00 07 24.9	-4.8	
W52A				IAMs_20	IAMs_20		00 54 42.9		
	comp=Z,251μm,20.0s								
LOT	Lotru	119.89	321	⇑P		PKPdf	00 07 15.5	-1.9	
LOT	Lotru	119.89	321	⇑P		PKKPbc	00 17 31.8	+3.7	
152A	Waverly Hall	119.91	55	pPKPdf		pPKPdf	00 07 24.6	-5.2	
152A				IAMs_20	IAMs_20		01 00 02.1		
	comp=Z,164μm,20.0s								
PLCA	Paso Flores	119.93	143	PKP		PKiKP	00 07 18.0	+0.4	
	comp=Z,11nm,0.9s,baz=238,slow=2.4,SNR=13								
PLCA				PKKPbc		PKKPbc	00 17 25.6	-2.3	
	comp=Z,7.9nm,1.0s,baz=41,slow=6.7,SNR=4.8								
V52A	Sevierville	119.93	51	pPKPdf		pPKPdf	00 07 25.3	-4.5	
V52A				IAMs_20	IAMs_20		00 52 21.0		
	comp=Z,265μm,22.0s								
DRGR		119.94	323	⇑P		Pdif	00 03 45.1	+4.4	
DRGR		119.94	323	⇓P		PKPdf	00 07 16.9	-0.4	
DRGR		119.94	323	⇓P		PKKPbc	00 17 29.8	+1.9	
DRGR		119.94	323	⇓PKiKP		PKPdf	00 07 16.9	-0.4	
Q52A	Bidwell	119.94	47	pPKPdf		pPKPdf	00 07 24.2	-5.6	
Q52A				IAMs_20	IAMs_20		00 57 06.0		
	comp=Z,245μm,20.0s								
BORG	Borgarnes	119.98	357	PKP		PKiKP	00 07 17.3	+0.5	
	comp=Z,32nm,1.0s,baz=322,slow=5.4,SNR=3.0								
ALGO	Algonquin Park	120.02	39	P			00 07 17.1		
	baz=297,SNR=20								
352A	Blakely	120.03	56	pPKPdf		pPKPdf	00 07 26.3	-3.7	
352A				IAMs_20	IAMs_20		00 56 34.4		
	comp=Z,164μm,21.0s								
NIE	Niedzica	120.03	326	ePKiKP		PKiKP	00 07 18.0	+0.5	
NIE				ePP		PP	00 09 05.8	+24	
NIE				ePS		PS	00 19 01.8	+29	
NIE				eSS		SS	00 26 22.5	+77	
NIE				eL		L	00 59 50.0		
	comp=Z,76μm,24.5s								
COP	Copenhagen	120.09	335	i P		PKPdf	00 07 17.1	-0.1	
COP	Copenhagen	120.09	335	ePKiKP		PKPdf	00 07 17.1	-0.1	
COP	Copenhagen	120.09	335	eP		PKPdf	00 07 17.1	-0.1	
VLAD	Vladila	120.12	319	⇑P		PKiKP	00 07 18.2	+0.4	
LTVH	Ltavrtes, Hu	120.14	323	⇓P		PKiKP	00 07 18.2	+0.6	
KMY	Karmoy	120.16	341	ePKPdf		PKPdf	00 07 16.7	-0.5	
KMY				epPKPdf		pPKPdf	00 07 27.8	-1.6	
M53A	WI Miller and	120.19	44	P			00 07 17.6		
	baz=293,SNR=15								
PLVB	Pleven	120.23	318	⇓P		PKPdf	00 07 17.8	-0.1	
DEV	Deva	120.24	322	⇓P		PKPdf	00 07 17.5	-0.3	
DEV	Deva	120.24	322	⇓P		PKKPbc	00 17 27.7	+1.0	
DEV	Deva	120.24	322	⇓PKiKP		PKPdf	00 07 17.5	-0.3	
ALN	Alexandroupoli	120.24	315	pPKPdf		pPKPdf	00 07 25.4	-4.7	
G54A	Lake Saint Pet	120.25	39	P			00 07 17.6		
	baz=297,SNR=22								
O53A	New Philadelph	120.25	46	IAMs_20	IAMs_20		00 57 37.1		
	comp=Z,200μm,20.0s								
O53A	New Philadelph	120.25	46	P			00 07 18.0		
	baz=292,SNR=18								
L53A	Girard	120.27	43	P			00 07 17.7		
	baz=293,SNR=8.7								
H53A	Bobcaygeon	120.30	40	P			00 07 17.9		
	baz=296,SNR=14								
N53A	Lisbon	120.31	45	pPKPdf		pPKPdf	00 07 26.3	-4.2	
TGUH	Tegucigalpa,Un	120.38	77	PKPdf		PKPdf	00 07 18.7	-0.4	
TGUH				pPKPdf		pPKPdf	00 07 28.1	-3.2	
TGUH				IAMs_20	IAMs_20		00 54 44.5		
	comp=Z,151μm,20.0s								
ERPA	Erie	120.39	43	P			00 07 18.2		
	baz=294								
P53A	Whipple	120.40	47	IAMs_20	IAMs_20		00 57 14.2		
	comp=Z,217μm,20.0s								
ALLY	Alegheny Colle	120.47	44	pPKPdf		pPKPdf	00 07 26.2	-4.6	
RGN	Rugen	120.47	334	IAMs_20	IAMs_20		01 05 45.6		
	comp=Z,118μm,20.0s								
Q53A	Leroy	120.52	47	P			00 07 18.5		
	baz=291,SNR=17								
GZR	Gura Zlata	120.54	321	⇑P		PKPdf	00 07 17.8	-0.8	
GZR	Gura Zlata	120.54	321	⇑P		PKKPbc	00 17 28.3	+2.7	
GZR	Gura Zlata	120.54	321	⇑PKiKP		PKPdf	00 07 17.8	-0.8	
V53A	Saluda	120.59	51	pPKPdf		pPKPdf	00 07 26.3	-4.8	
SRE	Strehaia	120.60	320	⇓P		PKPdf	00 07 18.1	-0.5	
SRE	Strehaia	120.60	320	⇓PKiKP		PKPdf	00 07 18.1	-0.5	
LBTB	Lobatse	120.61	237	PKP		PKPdf	00 07 18.6	-0.7	
	comp=Z,9.6nm,0.7s,baz=47,slow=2.0,SNR=10								
LBTB	Lobatse	120.61	237	PKPdf		PKPdf	00 07 19.1	-0.2	
LBTB				pPKPdf		pPKPdf	00 07 27.7	-3.6	
LANS	Liptovska Anna	120.63	326	ePKiKP		PKiKP	00 07 19.7	+1.0	
CRIN	San Cristobal	120.65	78			PKiKP	00 07 20.4	+0.7	
BI03	Tigo	120.66	138	IAMs_20	IAMs_20		00 55 26.9		
	comp=Z,145μm,18.0s								
HOPE	Hope Point	120.67	174	PKIKP		PKPdf	00 07 18.1	-0.3	
HOPE							00 07 27.2		
HOPE	Hope Point	120.67	174			PKPdf	00 07 18.1	-0.3	
HOPE				pPKPdf		pPKPdf	00 07 27.1	-3.3	
BG3	Lake Jocassee	120.70	52	pPKPdf		pPKPdf	00 07 27.6	-3.7	
BG3				IAMs_20	IAMs_20		01 02 12.7		
	comp=Z,138μm,19.0s								
GOGA	Godfrey	120.72	54	IAMs_20	IAMs_20		00 54 13.6		
	comp=Z,212μm,21.0s								
GOGA	Godfrey	120.72	54	P			00 07 19.1		
	baz=286,SNR=9.4								
553A	Crawfordville	120.74	58			PKiKP	00 07 20.4	+1.1	
553A				pPKPdf		pPKPdf	00 07 26.7	-4.8	
553A				IAMs_20	IAMs_20		00 56 16.6		
	comp=Z,147μm,20.0s								
BAIL	Bailesti	120.80	319	⇑P		PKiKP	00 07 19.4	+0.4	
N54A	Moraine State	120.85	44	pPKPdf		pPKPdf	00 07 26.6	-5.0	
N54A	Moraine State	120.85	44	P			00 07 19.2		
	baz=293,SNR=17								
M54A	Oil Creek Stat	120.86	44	pPKPdf		pPKPdf	00 07 26.3	-5.2	
M54A	Oil Creek Stat	120.86	44	P			00 07 19.1		
	baz=294,SNR=30								
MUD	Monsted U'grnd	120.86	337	i P		PKPdf	00 07 18.5	-0.2	
MUD	Monsted U'grnd	120.86	337	ePKiKP		PKPdf	00 07 18.5	-0.2	
MUD	Monsted U'grnd	120.86	337	eP		PKPdf	00 07 18.5	-0.2	
O54A	Avella	120.87	45	IAMs_20	IAMs_20		00 58 34.4		
	comp=Z,193μm,20.0s								
DELO	Deloro Mine	120.94	40	PKPdf		PKPdf	00 07 18.3	-0.9	
DELO				IAMs_20	IAMs_20		00 57 23.7		
	comp=Z,177μm,21.0s								
PUNG	Punghina	120.95	320	⇓P		PKPdf	00 07 19.1	-0.1	
OKC	Ostrava-Krasne	120.98	327	ePKiKP		PKiKP	00 07 19.8	+0.5	
OKC				e			00 07 27.8		
OKC				MLR	MLR				
	comp=Z,93μm,24.3s								
OKC	Ostrava-Krasne	120.98	327	ePKP		PKiKP	00 07 19.8	+0.5	
OKC				ex	x		00 07 27.8		
OKC				ePP	PP		00 09 08.8	+21	
OKC				AMS	AMS		00 58 20.0		
	comp=Z,93μm,24.3s								
Q54A	Coxs Mills	120.98	47	IAMs_20	IAMs_20		00 58 26.6		
	comp=Z,194μm,19.0s								
E55A	Montcerf-Lytto	121.00	37	P			00 07 18.9		
	baz=299,SNR=8.6								
HERR	Herculane	121.00	321	⇑P		PKPdf	00 07 19.3	-0.1	
HERR	Herculane	121.00	321	⇑P		PKKPbc	00 17 22.7	-1.0	
PSZ	Piszkesteto	121.04	325	⇓P		PKPdf	00 07 19.4	0.0	
PSZ	Piszkesteto	121.04	325	⇓PKiKP		PKPdf	00 07 19.4	0.0	
PSZ	Piszkesteto	121.04	325	PKPdf		PKPdf	00 07 18.7	-0.7	
S54A	Dingess, Beckl	121.05	48	P			00 07 19.5		
	baz=290,SNR=20								
PLVO	Plevna	121.05	39	IAMs_20	IAMs_20		00 54 41.4		
	comp=Z,226μm,22.0s							

255A	**Hazlehurst**	**121.93**	**55**	IAMs_20	IAMs_20	00 59 17.8			
	comp=Z,163µm,20.0s								
K56A	**Middlesex**	**121.94**	**42**	*e*P		00 07 21.2			
	baz=296,SNR=6.2								
SRO2	**Moca**	**121.98**	**325**	*e*PKIKP	**PKPdf**	**00 07 20.3**	**-0.8**		
SRO2				*e*		00 07 29.2			
J56A	**Wolcott**	**121.99**	**41**	pPKPdf	pPKPdf	00 07 29.0	-4.6		
J56A	**Wolcott**	**121.99**	**41**	P		00 07 21.1			
	baz=297,SNR=20								
APE	**Apeiranthos**	**122.00**	**311**	⇑P	**PKPdf**	**00 07 20.6**	**-1.0**		
APE	**Apeiranthos**	**122.00**	**311**	⇑PKIKP	**PKPdf**	**00 07 20.6**	**-1.0**		
BOAB	**BOACO BROADBAND**	**122.01**	**78**	IAMs_20	IAMs_20	00 52 19.7			
	comp=Z,169µm,22.0s								
TRQ	**Mont Tremblant**	**122.02**	**37**	pPKPdf	pPKPdf	00 07 28.5	-5.2		
BOVS	**Bovan**	**122.03**	**320**	⇑P	**PKPdf**	**00 07 20.3**	**-1.1**		
L56A	**Greenwood**	**122.03**	**42**	P		00 07 21.1			
	baz=296,SNR=28								
N56A	**West Decatur**	**122.04**	**44**	P		00 07 21.5			
	baz=294,SNR=27								
SMOL	**Smolenice**	**122.11**	**326**	*e*PKIKP	**PKiKP**	**00 07 21.8**	**+0.3**		
SMOL				*e*		00 07 31.1			
VRAC	**Vranov**	**122.11**	**328**	PKP	**PKiKP**	**00 07 21.7**	**+0.2**		
	comp=Z,21nm,0.9s,baz=39,slow=2.0,SNR=18								
VRAC				PKKPbc	PKKPbc	00 17 27.6	+7.9		
	comp=Z,8.4nm,1.1s,baz=214,slow=1.5,SNR=4.4								
VRAC	**Vranov**	**122.11**	**328**	⇑P	**PKiKP**	**00 07 22.1**	**+0.6**		
VRAC	**Vranov**	**122.11**	**328**	*e*PDIFF	**Pdif**	**00 03 54.5**	**+4.2**		
VRAC	**Vranov**	**122.11**	**328**	*e*PKP	**PKPdf**	**00 07 21.4**	**0.0**		
VRAC				*e*PP	**PP**	**00 08 59.6**	**+3.6**		
VRAC				*e*		00 18 51.8			
VRAC				*e*		00 25 59.9			
VRAC				*e*		00 30 36.4			
VRAC	**Vranov**	**122.11**	**328**	⇑PKIKP	**PKiKP**	**00 07 22.1**	**+0.6**		
O56A	**Blue Knob Stat**	**122.12**	**45**	P		00 07 21.8			
	baz=294,SNR=21								
NRS	**Narsarsuaq**	**122.13**	**10**	IAMs_20	IAMs_20	00 57 53.5			
	comp=Z,201µm,21.0s								
Q56A	**Snyder Ridge,**	**122.15**	**46**	P		00 07 21.0			
	baz=292,SNR=15								
BSEG	**Bad Segeberg**	**122.19**	**335**	*e*L	L	01 04 13.6			
	comp=Z,109µm,21.6s								
P56A	**Dayton Farm, R**	**122.22**	**46**	P		00 07 21.5			
	baz=293,SNR=24								
R56A	**Bull Pasture M**	**122.24**	**47**	P		00 07 21.9			
	baz=292,SNR=11								
U56A	**King**	**122.24**	**50**	P		00 07 22.4			
	baz=290,SNR=7.8								
ORTG	**Ortega, Santa**	**122.27**	**81**	pPKPdf	**pPKPdf**	**00 07 31.0**	**-3.9**		
ORTG				IAMs_20	IAMs_20	00 59 53.7			
	comp=Z,102µm,18.0s								
T56A	**Rocky Mt**	**122.27**	**49**	P		00 07 21.9			
	baz=291,SNR=15								
MODS	**Modra-Piesok**	**122.27**	**326**	*e*PKIKP	**PKiKP**	**00 07 22.1**	**+0.2**		
MODS				*e*		00 07 31.3			
MODS				MLR	MLR				
	comp=Z,148µm,26.6s								
SANT	**Santorini**	**122.29**	**310**	⇑P	**PKPdf**	**00 07 21.2**	**-1.0**		
SANT	**Santorini**	**122.29**	**310**	pPKPdf	pPKPdf	00 07 29.9	-4.3		
G57A	**Newington**	**122.32**	**38**	P		00 07 21.5			
	baz=300,SNR=22								
V56A	**Mocksville**	**122.33**	**50**	P		00 07 22.1			
	baz=290,SNR=21								
KRUC	**Moravsky**	**122.36**	**327**	*e*PDIFF	**Pdif**	**00 03 53.6**	**+2.2**		
KRUC	**Moravsky**	**122.36**	**327**	*e*PKP	**PKPdf**	**00 07 21.6**	**-0.2**		
KRUC				*e*PP	**PP**	**00 09 02.3**	**+4.7**		
KRUC				*e*		00 18 45.0			
KRUC				*e*		00 26 00.6			
KRUC				*e*		00 30 37.9			
H57A	**Richville**	**122.38**	**39**	P		00 07 22.0			
	baz=299,SNR=12								
S56A	**Natural Bridge**	**122.38**	**48**	P		00 07 21.9			
	baz=291,SNR=11								
PVCC	**Panska Ves**	**122.44**	**330**	*e*PKIKP	**PKPdf**	**00 07 21.9**	**0.0**		
PVCC				*e*		00 07 31.5			
PVCC				MLR	MLR				
	comp=Z,87µm,23.6s								
PVCC	**Panska Ves**	**122.44**	**330**	*e*PKP	**PKPdf**	**00 07 21.9**	**0.0**		
PVCC				*ex*	x	00 07 31.5			
PVCC				*e*PP	PP	00 09 19.3	+21		
PVCC				*e*PS	PS	00 19 16.7	+23		
PVCC				AMS	AMS	01 00 40.0			
	comp=Z,87µm,23.6s								
SSPA	**Standing Stone**	**122.44**	**44**		**PKPdf**	**00 07 22.2**	**0.0**		
SSPA				pPKPdf	**pPKPdf**	**00 07 30.0**	**-4.6**		
SSPA	**Standing Stone**	**122.44**	**44**	P		00 07 22.2			
	baz=294								
LATQ	**La Tuque**	**122.45**	**35**	P		00 07 21.6			
	baz=303,SNR=15								
I57A	**Carthage**	**122.46**	**40**	P		00 07 21.9			
	baz=298,SNR=22								
K57A	**Scipio Center**	**122.46**	**41**	P		00 07 21.9			
	baz=297,SNR=14								
ZST	**Bratislava**	**122.47**	**326**	*e*PKIKP	**PKiKP**	**00 07 22.4**	**+0.2**		
ZST				*e*		00 07 31.2			
VAY	**Valandovo**	**122.48**	**317**	*i* P	**PKPdf**	**00 07 21.1**	**-1.2**		
W56A	**Indian Trail**	**122.49**	**51**	P		00 07 23.0			
	baz=289,SNR=11								
J57A	**Williamstown**	**122.49**	**40**	P		00 07 22.0			
	baz=298,SNR=12								
FRGS	**Fruska Gora**	**122.50**	**322**	⇓P	**PKPdf**	**00 07 22.1**	**-0.1**		
FRGS	**Fruska Gora**	**122.50**	**322**	⇑P	**PKPdf**	**00 07 21.5**	**-0.7**		
ACON	**Acoyapa**	**122.51**	**79**	pPKPdf	pPKPdf	00 07 32.1	-3.1		
BRG	**Berggiesshubel**	**122.54**	**330**	⇓*e*Piff		00 04 00.3			
BRG				Amp		00 04 02.3			
	comp=Z,6.3nm,1.0s								
BRG				*ex*	x	00 04 07.2			
BRG				Amp		00 04 08.4			
	comp=Z,7.2nm,0.9s								
BRG				⇓PKPf		00 07 22.0			
BRG				⇓PKPf		00 07 22.2			
BRG				Amp		00 07 23.8			
	comp=Z,54nm,1.0s								
BRG				*ex*	x	00 07 31.7			
BRG				Amp		00 07 32.5			
	comp=Z,146nm,1.0s								
BRG				*ex*	x	00 07 46.4			
BRG				Amp		00 07 47.8			
	comp=Z,103nm,0.9s								
BRG				PP	PP	00 09 33.0	+34		
BRG				PKKP	PKKPbc	00 17 26.2	+8.0		
BRG				Amp		00 17 27.9			
	comp=Z,33nm,1.5s								
BRG				PS	PS	00 19 23.0	+28		
BRG				*ex*	x	00 20 40.0			
BRG				SKKP		00 21 12.3			
BRG				Amp		00 21 27.1			
	comp=Z,67nm,1.9s								
BRG				SS	SS	00 26 36.0	+59		
656A	**Willston**	**122.54**	**58**	pPKPdf	**pPKPdf**	**00 07 31.9**	**-3.0**		
656A				IAMs_20	IAMs_20	00 58 13.2			
	comp=Z,148µm,20.0s								
D58A	**Chemin du LacG**	**122.55**	**35**	P		00 07 21.2			
	baz=303,SNR=20								
L57A	**Andrews Acres**	**122.57**	**42**	P		00 07 22.3			
	baz=296,SNR=20								
STIP	**Stip**	**122.58**	**317**	*i* P	**PKPdf**	**00 07 21.2**	**-1.2**		
CAO2	**Cobano, Puntar**	**122.62**	**82**	IAMs_20	IAMs_20	00 57 31.2			
	comp=Z,142µm,18.0s								
N57A	**Milroy**	**122.62**	**44**	P		00 07 22.5			
	baz=295,SNR=15								
456A	**Hilliard**	**122.63**	**56**	pPKPdf	**pPKPdf**	**00 07 30.8**	**-4.3**		
456A				IAMs_20	IAMs_20	00 56 47.3			
	comp=Z,118µm,21.0s								
MORH	**Mrgy, Hungar**	**122.66**	**324**	⇑P	**Pdif**	**00 03 53.0**	**+0.3**		
MORH	**Mrgy, Hungar**	**122.66**	**324**	⇓P	**PKPdf**	**00 07 22.3**	**-0.2**		
MORH	**Mrgy, Hungar**	**122.66**	**324**	⇑*i*P	**PKPdf**	**00 07 21.9**	**-0.6**		
M57A	**Sunshine Farm,**	**122.67**	**43**	P		00 07 22.9			
	baz=296,SNR=25								
E58A	**La Victoria**	**122.70**	**36**	P		00 07 22.4			
	baz=302,SNR=18								
TREC	**Trest**	**122.71**	**328**	*e*PKIKP	**PKPdf**	**00 07 21.7**	**-0.8**		
TREC				*e*		00 07 31.7			
TREC				MLR	MLR				
	comp=Z,92µm,22.6s								
TREC	**Trest**	**122.71**	**328**	*e*PKP	**PKPdf**	**00 07 21.7**	**-0.8**		
TREC				*ex*	x	00 07 31.7			
TREC				*e*PP	PP	00 09 21.9	+22		
TREC				*e*PS	PS	00 19 16.3	+20		
TREC				AMS	AMS	01 01 20.0			
	comp=Z,92µm,22.6s								
Q57A	**Strasburg**	**122.71**	**46**	P		00 07 22.7			
	baz=293,SNR=21								
CLL	**Collm**	**122.72**	**331**	*e*P	**Pdif**	**00 03 59.0**	**+6.1**		
CLL				*i*		00 07 22.3			
CLL				pmax	pmax				
	comp=Z,61nm,1.0s								
CLL				MLR	MLR				
	comp=Z,110µm,21.3s								
CLL	**Collm**	**122.72**	**331**	pPKPdf	**pPKPdf**	**00 07 31.9**	**-2.7**		
CLL				IAMs_20	IAMs_20	01 04 59.3			
	comp=Z,113µm,21.0s								
CLL	**Collm**	**122.72**	**331**	*e*L	L	01 04 58.7			
	comp=Z,110µm,21.3s								
BIRD	**Birdtown, Kers**	**122.74**	**52**	pPKPdf	**pPKPdf**	**00 07 32.4**	**-2.8**		
BIRD				IAMs_20	IAMs_20	00 54 10.7			
	comp=Z,215µm,22.0s								
JTS	**Las Juntas de**	**122.77**	**81**	PKP	**PKiKP**	**00 07 23.9**	**+0.1**		
	comp=Z,26nm,0.9s,baz=34,slow=3.3,SNR=15								
JTS	**Las Juntas de**	**122.77**	**81**	IAMs_20	IAMs_20	01 00 32.0			
	comp=Z,106µm,18.0s								
JTS	**Las Juntas de**	**122.77**	**81**	*e*P	**PKiKP**	**00 07 24.2**	**+0.4**		
PRU	**Pruhonice**	**122.78**	**329**	*e*PKIKP	**PKPdf**	**00 07 21.9**	**-0.7**		
PRU				*e*		00 07 31.6			
PRU				MLR	MLR				
	comp=Z,97µm,23.2s								
PRU	**Pruhonice**	**122.78**	**329**	*e*PDIFF	**Pdif**	**00 03 59.6**	**+6.4**		
PRU				*ex*	x	00 04 20.3			
PRU				*e*PKP	**PKPdf**	**00 07 21.9**	**-0.7**		
PRU				*ex*	x	00 07 31.6			
PRU				*e*PP	PP	00 09 15.6	+15		
PRU				*e*PKKP	PKKPbc	00 17 24.9	+7.8		
PRU				*ex*	x	00 17 34.4			
PRU				*e*PS	PS	00 19 14.7	+18		
PRU				AMS	AMS	01 01 00.0			
	comp=Z,97µm,23.2s								
PRA	**Prague**	**122.79**	**329**	*e*PKIKP	**PKiKP**	**00 07 24.3**	**+1.5**		
PRA				MLR	MLR				
	comp=Z,105µm,23.0s								
PRA	**Prague**	**122.79**	**329**	*e*PKP	**PKiKP**	**00 07 24.3**	**+1.5**		
PRA				*e*PP	PP	00 09 23.0	+23		
PRA				*e*PS	PS	00 19 04.4	+7.5		
PRA				AMS	AMS	01 01 00.0			
	comp=Z,105µm,23.0s								
O57A	**Amberson**	**122.79**	**44**	P		00 07 22.9			
	baz=294,SNR=17								
S57A	**Dark Hollow, R**	**122.81**	**48**	P		00 07 23.2			
	baz=292,SNR=30								
LONY	**Lake Ozonia**	**122.81**	**39**	IAMs_20	IAMs_20	00 58 32.9			
	comp=Z,144µm,20.0s								
LONY	**Lake Ozonia**	**122.81**	**39**	P		00 07 22.6			
	baz=300,SNR=19								
P57A	**Homestead Farm**	**122.82**	**45**	pPKPdf	**pPKPdf**	**00 07 31.2**	**-4.2**		
P57A				IAMs_20	IAMs_20	00 55 18.1			
	comp=Z,222µm,21.0s								
P57A	**Homestead Farm**	**122.82**	**45**	P		00 07 23.0			
	baz=294,SNR=18								
V57A	**Coltrane Farms**	**122.86**	**50**	P		00 07 23.1			
	baz=290,SNR=18								
G58A	**Ormstown**	**122.87**	**38**	P		00 07 22.4			
	baz=300,SNR=14								
DIVS	**Divibare**	**122.90**	**321**	⇑*i*P	**PKPdf**	**00 07 20.5**	**-2.6**		
R57A	**Stanardsville**	**122.92**	**47**	P		00 07 23.6			
	baz=293,SNR=17								
SKO	**Skopje**	**122.96**	**318**	*i* P	**PKPdf**	**00 07 22.9**	**-0.3**		
TEKS	**Tekeris**	**122.97**	**321**	*e*P	**PKPdf**	**00 07 19.7**	**-3.5**		
Y57A	**Sumter**	**123.00**	**52**	IAMs_20	IAMs_20	01 03 50.5			
	comp=Z,169µm,18.0s								
U57A	**Blanch**	**123.00**	**49**	P		00 07 23.3			
	baz=291,SNR=28								
I58A	**Old Forge**	**123.01**	**40**	P		00 07 23.1			
	baz=299,SNR=17								
K58A	**Earlville**	**123.02**	**41**	P		00 07 23.3			
	baz=298,SNR=14								
LIT	**Litokhoron**	**123.05**	**316**	pPKPdf	pPKPdf	00 07 31.9	-3.7		
BINY	**Binghamton**	**123.05**	**42**	IAMs_20	IAMs_20	01 01 20.7			
	comp=Z,206µm,19.0s								
BINY	**Binghamton**	**123.05**	**42**	P		00 07 23.2			
	baz=297,SNR=24								
IDI	**Anoyia**	**123.09**	**309**	⇑P	**PKiKP**	**00 07 24.2**	**+0.3**		
257A	**Skidaway Islan**	**123.10**	**55**	IAMs_20	IAMs_20	00 55 41.7			
	comp=Z,247µm,21.0s								
M58A	**Price's Panora**	**123.10**	**43**	P		00 07 23.0			
	baz=296								
H58A	**Gabriels**	**123.16**	**39**	P		00 07 23.4			
	baz=300,SNR=31								
N58A	**Sunbury**	**123.16**	**43**	P		00 07 23.6			
	baz=296,SNR=26								
D59A	**Saint-Raymond**	**123.19**	**35**	P		00 07 23.5			
	baz=304,SNR=27								
L58A	**Harry Jones Me**	**123.21**	**42**	P		00 07 23.7			
	baz=297,SNR=22								
PBCC	**Pribram**	**123.25**	**329**	*e*PKP	**PKPdf**	**00 07 23.6**	**+0.1**		
PBCC				*ex*	x	00 07 32.3			
PBCC				*e*PP	PP	00 09 21.9	+18		
PBCC				*e*PS	**PS**	**00 19 06.3**	**+5.3**		
F59A	**Saint Guilaume**	**123.27**	**36**	P		00 07 24.0			
	baz=302								
Q58A	**Fox Dan Farm,**	**123.27**	**46**	P		00 07 24.1			
	baz=294,SNR=19								
R58A	**Rapidan**	**123.30**	**47**	P		00 07 24.1			
	baz=293,SNR=12								
COVE	**Coope Vega, Sa**	**123.30**	**80**	IAMs_20	IAMs_20	00 58 16.1			
	comp=Z,106µm,18.0s								
CONA	**Conrad Observa**	**123.31**	**327**	*e*P	**Pdif**	**00 03 56.6**	**+0.9**		
	comp=Z,11nm,1.0s								
CONA				*i* P	**PKPdf**	**00 07 23.1**	**-0.7**		
	comp=Z,35nm,0.8s,SNR=20								
CONA				*e*P	**PKKPbc**	**00 17 20.6**	**+5.5**		
	comp=Z,36nm,1.2s								
FRNY	**Flat Rock**	**123.31**	**38**	IAMs_20	IAMs_20	00 57 37.2			
	comp=Z,216µm,20.0s								
ITZ	**Itezhi-Tezhi**	**123.32**	**248**	*i* P	**PKiKP**	**00 07 25.0**	**0.0**		
ITZ				*i*		00 09 27.0			
ITZ				*i*		00 09 27.0			
ITZ				*i*		00 09 27.0			
ITZ	**Itezhi-Tezhi**	**123.32**	**248**	*i* P	**PKiKP**	**00 07 25.0**	**0.0**		
ITZ				*i*		00 09 27.0			
ITZ				*i*		00 09 27.0			
ITZ				*i*		00 09 27.0			
BO02	**Sierra Bellavi**	**123.32**	**137**	IAMs_20	IAMs_20	00 51 49.5			
	comp=Z,149µm,22.0s								
O58A	**Lewisberry**	**123.32**	**44**	P		00 07 23.9			
	baz=295,SNR=29								
H59A	**Cadyville**	**123.35**	**38**	P		00 07 24.5			
	baz=301,SNR=10								
NCB	**Newcomb**	**123.35**	**39**	IAMs_20	IAMs_20	00 58 49.3			
	comp=Z,185µm,20.0s								
BBLS	**Lazići**	**123.39**	**321**	*e*P	**PKPdf**	**00 07 23.9**	**-0.2**		
T58A	**Grand View Acr**	**123.42**	**48**	P		00 07 24.5			
	baz=292,SNR=32								
PAGS	**Pennsylvania G**	**123.42**	**44**	pPKPdf	pPKPdf	00 07 31.7	-4.7		
J59A	**Piesco**	**123.42**	**40**	pPKPdf	**pPKPdf**	**00 07 31.7**	**-4.7**		
J59A				IAMs_20	IAMs_20	01 04 12.3			
	comp=Z,143µm,20.0s								
J59A	**Piesco**	**123.42**	**40**	P		00 07 23.3			
	baz=299,SNR=64								
NHSC	**New Hope**	**123.45**	**53**	P		00 07 25.1			
	baz=288								
R58B	**Mineral**	**123.52**	**47**	pPKPdf	pPKPdf	00 07 32.0	-4.7		
R58B	**Mineral**	**123.52**	**47**	P		00 07 24.2			
	baz=293,SNR=31								
S58A	**Poland Farm, P**	**123.52**	**47**	P		00 07 24.2			
	baz=293,SNR=32								
K59A	**Cooperstown**	**123.53**	**41**	P		00 07 23.6			
	baz=298,SNR=18								
RUDO	**Rudo**	**123.53**	**321**	*e*P	**PKPdf**	**00 07 22.7**	**-1.6**		
HAPS	**Han Pijesak,BI**	**123.56**	**321**	⇑*i*P	**PKPdf**	**00 07 23.5**	**-0.9**		
HDC	**Heredia**	**123.59**	**81**	IAMs_20	IAMs_20	00 58 38.1			
	comp=Z,121µm,18.0s								
AGG	**Agios Georgios**	**123.60**	**314**	pPKPdf	pPKPdf	00 07 32.6	-4.1		
Y58A	**Scranton**	**123.60**	**52**	IAMs_20	IAMs_20	01 04 43.6			
	comp=Z,151µm,19.0s								
U58A	**Oxford**	**123.61**	**49**	P		00 07 24.7			
	baz=291,SNR=29								
BEHE	**Becsehely**	**123.61**	**325**	⇑*i*P	**PKiKP**	**00 07 26.1**	**+1.5**		
CKRC	**Cesky Krumlov**	**123.61**	**328**	*e*PDIFF	**Pdif**	**00 04 00.1**	**+3.1**		
CKRC				*ex*	x	00 04 24.9			
CKRC				*e*PKP	**PKPdf**	**00 07 24.0**	**-0.3**		
CKRC				*ex*	x	00 07 47.4			
CKRC				*e*PP	PP	00 09 25.7	+20		
CKRC				*e*PKKP	PKKPbc	00 17 22.0	+8.1		
CKRC				*ex*	x	00 17 32.8			
CKRC				*e*PS	PS	00 19 33.2	+29		
I59A	**Olmsteadville**	**123.66**	**39**	P		00 07 24.6			
	baz=300								
L59A	**Walton**	**123.68**	**41**		**PKPdf**	**00 07 24.3**	**-0.3**		
L59A	**Walton**	**123.68**	**41**	P		00 07 24.7			
	baz=298,SNR=20								
SDMD	**Soldier's Deli**	**123.68**	**45**	IAMs_20	IAMs_20	00 56 03.8			
	comp=Z,135µm,21.0s								
NKC	**Novy Kostel**	**123.68**	**330**	*e*PKIKP	**PKiKP**	**00 07 24.6**	**0.0**		
NKC				*e*		00 07 33.7			
NKC				MLR	MLR				
	comp=Z,87µm,20.2s								
NKC	**Novy Kostel**	**123.68**	**330**	*e*PKP	**PKiKP**	**00 07 24.6**	**0.0**		
NKC				*ex*	x	00 07 33.7			
NKC				*e*PP	PP	00 09 28.0	+22		
NKC				*e*PS	PS	00 19 27.5	+23		
NKC				AMS	AMS	01 04 20.0			
	comp=Z,87µm,20.2s								
F60A	**Warwick**	**123.70**	**36**	P		00 07 24.3			
	baz=303,SNR=33								
M59A	**Waymart**	**123.72**	**42**	P		00 07 25.0			
	baz=297,SNR=69								
O59A	**Robesonia**	**123.75**	**44**	P		00 07 24.9			
	baz=296,SNR=29								
D60A	**Saint Jean D'O**	**123.76**	**35**	P		00 07 24.4			
	baz=304,SNR=24								
E60A	**Ste Agathe de**	**123.77**	**35**	P		00 07 24.4			
	baz=304,SNR=31								
OHR	**Ohrid**	**123.77**	**317**	*i* P	**PKPdf**	**00 07 24.4**	**-0.5**		
N59A	**State Game Lan**	**123.77**	**43**	P		00 07 25.1			
	baz=296,SNR=26								
DWPF	**Disney Wildern**	**123.78**	**59**	IAMs_20	IAMs_20	00 57 02.3			
	comp=Z,159µm,21.0s								
DWPF	**Disney Wildern**	**123.78**	**59**	P		00 07 26.1			
	baz=284								
CBN	**Corbin Frederi**	**123.79**	**47**	P		00 07 25.1			
	baz=294,SNR=11								
KHC	**Kasperske Hory**	**123.81**	**329**	*e*PKIKP	**PKPdf**	**00 07 24.4**	**-0.3**		
KHC				*e*		00 07 34.6			
KHC				*e*		00 09 16.3			
KHC				MLR	MLR				
	comp=Z,109µm,22.6s								
KHC	**Kasperske Hory**	**123.81**	**329**	*e*PDIFF	**Pdif**	**00 04 01.4**	**+3.6**		
KHC				*ex*	x	00 04 24.5			
KHC				*e*PKP	**PKPdf**	**00 07 24.4**	**-0.3**		
KHC				*ex*	x	00 07 34.6			
KHC				*e*PP	PP	00 09 16.3	+8.9		
KHC				*e*PKKP	PKKPbc	00 17 20.6	+7.4		
KHC				*ex*	x	00 17 33.2			
KHC				*e*PS	PS	00 19 28.7	+23		
KHC				AMS	AMS	01 01 20.0			
	comp=Z,109µm,22.6s								
MOX	**Moxa**	**123.82**	**331**	*e*L	L	01 10 33.7			
	comp=Z,74µm,20.8s								
P59A	**Jarrettsville**	**123.88**	**45**	P		00 07 24.9			
	baz=295,SNR=16								
ARSA	**Arzberg**	**123.88**	**326**	*e*P	**Pdif**	**00 04 02.4**	**+4.2**		
	comp=Z,8.1nm,1.0s								
ARSA				*e*P	**PKPdf**	**00 07 24.0**	**-0.9**		
	comp=Z,22nm,0.9s,SNR=11								
ARSA				*e*P	**PKKPbc**	**00 17 18.1**	**+5.4**		
	comp=Z,22nm,1.2s								
ARSA				*e*S	**PKKSbc**	**00 21 11.3**	**+6.4**		
	comp=Z,14nm,1.1s								
GEC2	**GERESS Array S**	**123.92**	**328**	pPKPdf	pPKPdf	00 07 34.0	-3.1		
GEC2	**GERESS Array S**	**123.92**	**328**	*e*L	L	01 05 08.3			
	comp=Z,95µm,22.0s								
GERES	**GERESS Array B**	**123.92**	**328**	Pdiff	**Pdif**	**00 04 00.9**	**+2.5**		
	comp=Z,1.0nm,0.5s,baz=316,slow=2.7,SNR=2.7								
GERES				PKP	**PKPdf**	**00 07 24.5**	**-0.4**		
	comp=Z,35nm,0.7s,baz=95,slow=1.5,SNR=22								
GERES				PKKPbc	PKKPbc	00 17 20.6	+7.8		
	comp=Z,8.6nm,1.0s,baz=318,slow=7.7,SNR=6.8								
GERES	**GERESS Array B**	**123.92**	**328**	PKPdf	**PKPdf**	**00 07 24.5**	**-0.4**		
GERES				pPKPdf	**pPKPdf**	**00 07 34.3**	**-2.8**		
G60A	**Masonville**	**123.94**	**37**	P		00 07 24.8			
	baz=302								
MT02	**Curacav**	**123.94**	**136**	IAMs_20	IAMs_20	00 53 16.1			
	comp=Z,129µm,20.0s								
R59A	**King George, V**	**123.97**	**46**	P		00 07 25.5			
	baz=294,SNR=17								
KALN	**Kalnik**	**123.99**	**324**	*i* P	**PKPdf**	**00 07 24.5**	**-0.6**		
ACCN	**Adirondack Com**	**123.99**	**39**	IAMs_20	IAMs_20	00 56 27.3			
	comp=Z,164µm,22.0s								
H60A	**Morristown**	**124.00**	**38**	P		00 07 25.4			
	baz=302,SNR=22								
I60A	**Shoreham**	**124.00**	**39**	P		00 07 25.5			
	baz=300,SNR=68								
D61A	**St Aubert, Com**	**124.01**	**34**	P		00 07 24.6			
	baz=305,SNR=9.0								
MCD	**Coleburn Disti**	**124.02**	**345**	*e*P	**PKPdf**	**00 07 24.1**	**-0.6**		
S59A	**Mechanicsville**	**124.02**	**47**	P		00 07 25.7			
	baz=293,SNR=15								
UPM	**Unac-Piva**	**124.03**	**320**	*e*P	**PKPdf**	**00 07 24.8**	**-0.7**		
PEZE	**Perez Zeledon,**	**124.03**	**82**	IAMs_20	IAMs_

KAC Achnashellach 124.61 346 eP PKiKP 00 07 26.9 +0.7
U60A Pendleton 124.62 48 P 00 07 26.5
baz=293,SNR=12
TREB Trebinje 124.62 320 eP PKPdf 00 07 23.2 -3.2
VA03 San Esteban 124.63 136 pPKPdf pPKPdf 00 07 36.4 -2.8
VA03 IAMs_20 IAMs_20 00 57 33.3
comp=Z,116µm,19.0s
ITM Ithomi 124.63 313 pPKPdf pPKPdf 00 07 35.1 -3.6
GRF Grafenberg Arr 124.64 330 ePKPdf PKPdf 00 07 26.2 0.0
baz=49,slow=1.2
GRF eL L 01 07 32.3
comp=Z,86µm,20.8s
LBNH Lisbon 124.64 38 P 00 07 26.8
baz=302,SNR=14
GRFO Grafenberg 124.64 330 PKIKP PKiKP 00 07 26.6 +0.1
GRFO Grafenberg 124.64 330 PKPdf PKiKP 00 07 26.6 +0.1
L61A Hillsdale 1, H 124.65 41 P 00 07 26.3
baz=299,SNR=6.6
HCY Herceg Novi 124.67 320 eP PKPdf 00 07 23.5 -3.0
T60A Surry 124.67 47 pPKPdf pPKPdf 00 07 35.2 -3.7
T60A Surry 124.67 47 P 00 07 26.7
baz=293,SNR=26
X60A Albert Glenn T 124.69 51 P 00 07 27.1
baz=291,SNR=18
HNH Hanover 124.69 38 IAMs_20 IAMs_20 01 00 27.8
comp=Z,224µm,20.0s
Y60A Bolivia 124.70 52 pPKPdf pPKPdf 00 07 35.6 -3.4
J61A Chester 124.71 39 P 00 07 27.2
baz=301,SNR=22
CRES Cresnjev 124.73 325 eP PKPdf 00 07 23.4 -3.1
061Z Ochoppi 124.76 62 PKPdf PKiKP 00 07 28.1 +0.7
061Z pPKPdf pPKPdf 00 07 35.8 -3.4
061Z IAMs_20 IAMs_20 00 59 56.4
comp=Z,137µm,21.0s
V60A Jim Taylor Roa 124.81 49 IAMs_20 IAMs_20 00 55 26.1
comp=Z,237µm,22.0s
V60A Jim Taylor Roa 124.81 49 P 00 07 27.3
baz=292,SNR=9.8
N61A South Mountain 124.84 43 P 00 07 27.6
baz=298,SNR=12
OZLJ Ozalj 124.85 324 i P PKPdf 00 07 26.5 -0.2
OBKA Obir 124.86 326 eP Pdif 00 04 03.7 +1.0
comp=Z,1.6nm,0.8s
OBKA eP PKPdf 00 07 25.2 -1.6
comp=Z,19nm,0.9s,SNR=7.8
OBKA eP PKKPbc 00 17 11.4 +2.5
comp=Z,30nm,1.6s
OBKA eS PKKSbc 00 20 60.0 -1.8
comp=Z,18nm,1.2s
H62A Milan 124.92 37 IAMs_20 IAMs_20 01 03 16.7
comp=Z,193µm,20.0s
H62A Milan 124.92 37 P 00 07 27.4
baz=303,SNR=16
M61A Granite Spring 124.94 42 P 00 07 27.3
baz=299,SNR=31
G62A West of Eustis 124.94 36 IAMs_20 IAMs_20 01 01 12.0
comp=Z,224µm,20.0s
G62A West of Eustis 124.94 36 P 00 07 27.1
baz=304,SNR=10
060A Indiantown 124.97 60 IAMs_20 IAMs_20 00 59 50.7
comp=Z,136µm,20.0s
O61A Allentown 124.97 43 P 00 07 27.7
baz=297
PAL Palisades 124.99 42 P 00 07 27.6
baz=298,SNR=16
RICI Ricice 125.00 321 P PKPdf 00 07 25.9 -1.1
L61B Northampton 125.09 40 P 00 07 27.4
baz=300,SNR=17
VISS Visnje 125.10 325 i PKPdf PKPdf 00 07 26.9 -0.3
VISS i 00 08 12.8
VISS ePS PS 00 19 41.9 +24
VISS e 00 27 26.6
VISS i 00 34 28.5
LJU Ljubljana 125.14 325 ePdiff Pdif 00 04 03.1 -0.7
LJU e 00 04 30.9
LJU i PKPdf PKPdf 00 07 27.1 -0.2
LJU i 00 08 12.9
LJU i 00 09 49.4
LJU ePS PS 00 19 43.7 +26
KIJV Kijevo 125.17 322 i P PKPdf 00 07 26.5 -0.9
MAKA Makarska 125.17 321 i P PKPdf 00 07 26.3 -1.1
KBA Koelnbreinsper 125.19 327 eP Pdif 00 04 07.9 +3.7
comp=Z,4.7nm,1.1s
KBA eP PKPdf 00 07 26.2 -1.3
comp=Z,37nm,1.1s,SNR=8.2
KBA eS Sdif 00 17 12.6 -1.6
comp=Z,14nm,1.0s
KBA eS SKKPdf 00 21 10.3 -12
comp=Z,30nm,2.1s
I62A Tamworth 125.19 38 P 00 07 27.9
baz=302,SNR=15
U61A Possum Corner 125.20 48 pPKPdf pPKPdf 00 07 35.7 -4.3
U61A Possum Corner 125.20 48 P 00 07 28.3
baz=293
FFD Franklin Falls 125.21 38 pPKPdf pPKPdf 00 07 35.7 -4.1
FFD IAMs_20 IAMs_20 01 00 52.4
comp=Z,189µm,20.0s
J62A Henniker 125.24 39 P 00 07 28.3
baz=302,SNR=9.9
INVG Invergeldie, C 125.24 344 eP PKPdf 00 07 26.5 -0.6
INVG IAMs_20 IAMs_20 01 10 02.3
comp=Z,100µm,24.0s
D63A Stockholm 125.26 33 P 00 07 27.3
baz=307,SNR=6.7
K62A Royalston 125.26 40 IAMs_20 IAMs_20 00 57 14.0
comp=Z,206µm,22.0s
K62A Royalston 125.26 40 P 00 07 28.0
baz=301,SNR=10.0
UDBI Udbina 125.28 323 i P PKPdf 00 07 26.8 -0.8
ESY Stoneypath 125.28 343 eP PKPdf 00 07 26.1 -1.1
MYKA Terra Mystica 125.29 326 eP PKPdf 00 07 25.7 -2.0
comp=Z,15nm,0.9s,SNR=9.1
MYKA eS Sdif 00 17 11.9 -2.9
comp=Z,30nm,1.6s
MYKA eS SKKPbc 00 21 02.0 +6.3
comp=Z,22nm,1.3s
WSPT Westport, CT 125.29 42 IAMs_20 IAMs_20 00 56 02.0
comp=Z,253µm,22.0s
L62A Suffield 125.31 40 P 00 07 28.0
baz=300,SNR=6.7
V61A Roper 125.31 49 IAMs_20 IAMs_20 00 55 52.5
comp=Z,245µm,22.0s
N62A Caumsett State 125.31 42 P 00 07 27.9
baz=299
CEY Cerknica 125.38 325 i P PKPdf 00 07 27.3 -0.5
QUA2 Belchertown 125.38 40 IAMs_20 IAMs_20 01 01 05.2
comp=Z,220µm,20.0s
M62A Hamden 125.45 41 P 00 07 28.3
baz=299
E63A Oxbow 125.45 34 pPKPdf pPKPdf 00 07 35.2 -5.0
E63A IAMs_20 IAMs_20 00 58 53.3
comp=Z,197µm,22.0s
E63A Oxbow 125.45 34 P 00 07 27.3
baz=307,SNR=7.2
F63A Nahmakanta, Br 125.49 35 pPKPdf pPKPdf 00 07 35.5 -4.8
F63A IAMs_20 IAMs_20 01 02 22.5
comp=Z,220µm,22.0s
F63A Nahmakanta, Br 125.49 35 P 00 07 28.2
baz=306
PQI Presque Isle 125.53 33 pPKPdf pPKPdf 00 07 35.5 -4.9
PQI IAMs_20 IAMs_20 01 03 51.2
comp=Z,184µm,21.0s
EAB Aberfoyle 125.53 344 eP PKiKP 00 07 28.6 +0.5
G63A Kingsbury 125.53 36 P 00 07 28.3
baz=305,SNR=20
H63A New Sharon 125.54 36 P 00 07 28.8
baz=304,SNR=6.9
I63A Otisfield 125.56 37 P 00 07 28.6
baz=303
RIY Rijeka 125.58 325 P PKPdf 00 07 27.0 -1.1
HVAR Hvar 125.59 321 i P PKPdf 00 07 26.8 -1.4
FUR Furstenfeldbru 125.60 329 eL L 01 03 15.5
comp=Z,72µm,20.6s
TNS Taunus Mts 125.60 332 eL L 01 05 49.1
comp=Z,118µm,21.9s
AAGR Agrelo 125.63 137 eP PKiKP 00 07 29.3 +0.2
PKME Peaks-Kenny Pk 125.64 35 pPKPdf pPKPdf 00 07 35.9 -4.6
PKME Peaks-Kenny Pk 125.64 35 P 00 07 28.9
baz=305,SNR=10
J63A Strafford 125.67 38 P 00 07 28.9
baz=302,SNR=11
MORI Morici 125.67 323 i P PKPdf 00 07 27.5 -0.9
K63A Dunstable 125.70 39 IAMs_20 IAMs_20 00 57 47.4
comp=Z,215µm,21.0s
K63A Dunstable 125.70 39 P 00 07 29.3
baz=302,SNR=8.4

FSCY Frank Sound, G 125.70 70 PKPdf PKiKP 00 07 29.6 +0.2
FSCY pPKPdf pPKPdf 00 07 37.9 -3.3
ARCO CERRO ARCO 125.70 137 eP PKPdf 00 07 29.2 +0.2
LAWE Loch Awe, Argy 125.74 345 eP PKPdf 00 07 27.4 -0.6
LAWE IAMs_20 IAMs_20 01 11 35.9
comp=Z,109µm,20.2s
AUSP Uspallata 125.75 136 eP PKiKP 00 07 30.1 +0.4
TRI Trieste 125.77 325 pPKPdf pPKPdf 00 07 37.1 -3.5
HRV Adam Dziewonsk 125.77 39 PKIKP PKiKP 00 07 29.4 +0.5
HRV Adam Dziewonsk 125.77 39 PKiKP 00 07 29.4 +0.5
HRV Adam Dziewonsk 125.77 39 IAMs_20 IAMs_20 01 00 09.4
comp=Z,184µm,20.0s
HRV Adam Dziewonsk 125.77 39 P 00 07 28.9
baz=301
E64A Bridgewater 125.78 34 P 00 07 28.2
baz=307,SNR=12
NVLJ Novalja 125.79 324 i P PKPdf 00 07 27.6 -0.9
WVL Waterville 125.82 36 pPKPdf pPKPdf 00 07 36.4 -4.5
WVL IAMs_20 IAMs_20 01 04 18.3
comp=Z,212µm,20.0s
F64A Sherman 125.83 34 pPKPdf pPKPdf 00 07 36.5 -4.4
F64A IAMs_20 IAMs_20 01 07 43.2
comp=Z,171µm,19.0s
F64A Sherman 125.83 34 P 00 07 28.4
baz=306,SNR=14
SCTE Santa Cesarea 125.83 317 pPKPdf pPKPdf 00 07 38.3 -2.6
ZIRJ Zirje 125.83 322 i P PKPdf 00 07 27.6 -1.0
ABTA Abfaltersbach 125.84 327 eP Pdif 00 04 06.5 -0.5
comp=Z,4.1nm,1.2s
ABTA eP PKPdf 00 07 26.9 -1.8
comp=Z,29nm,0.8s,SNR=19
ABTA eS Sdif 00 17 10.8 -8.6
comp=Z,24nm,1.1s
ABTA S SKKPdf 00 21 04.9 -16
comp=Z,51nm,1.4s
GO04 Tololo Observa 125.87 133 IAMs_20 IAMs_20 00 50 55.4
comp=Z,150µm,22.0s
V62A Hyde County Ai 125.87 49 P 00 07 30.3
baz=293
PGBU Glenifferbraes 125.90 344 eP PKPdf 00 07 27.4 -1.0
PGBU IAMs_20 IAMs_20 01 02 14.9
comp=Z,87µm,27.2s
ASAL Salagasta 125.92 136 eP PKiKP 00 07 29.8 +0.1
EKA Eskdalemuir Ar 125.94 343 PKhKP PKPpre 00 07 13.8
comp=Z,3.6nm,1.0s,baz=118,slow=12,SNR=3.6
EKA PKP PKPdf 00 07 26.9 -1.6
comp=Z,15nm,0.8s,baz=345,slow=2.0,SNR=12
EKA PKKPbc PKKPbc 00 17 15.7 +11
comp=Z,5.1nm,0.9s,baz=222,slow=4.0,SNR=4.3
G64A Maxfield 125.95 35 P 00 07 29.0
baz=306
ESK Eskdalemuir 125.97 343 eP PKiKP 00 07 29.2 +0.2
ESK IAMs_20 IAMs_20 01 05 44.8
comp=Z,106µm,22.1s
ESK Eskdalemuir 125.97 343 IAMs_20 IAMs_20 01 13 34.4
comp=Z,103µm,20.0s
WATA Walderalm 125.97 328 eP PKPdf 00 07 28.5 -0.5
comp=Z,58nm,1.1s,SNR=12
WATA eS Sdif 00 17 11.6 -9.1
comp=Z,16nm,1.4s
WATA eS SKKPdf 00 21 08.8 -12
comp=Z,55nm,1.8s
WES Weston 125.98 39 IAMs_20 IAMs_20 00 59 27.1
comp=Z,201µm,21.0s
WTTA Wattenberg 125.99 328 eP Pdif 00 04 07.3 -0.5
comp=Z,5.3nm,1.1s
WTTA i P PKPdf 00 07 28.6 -0.5
comp=Z,43nm,0.7s,SNR=22
WTTA S PKKSbc 00 21 08.8 +11
comp=Z,76nm,1.8s
DUGI Dugi Otok 126.00 323 i P PKPdf 00 07 28.2 -0.8
GDLE Glaisdale, N Y 126.00 341 eP PKiKP 00 07 29.3 +0.3
GDLE IAMs_20 IAMs_20 01 11 26.4
comp=Z,80µm,18.7s
M63A Gales Ferry 126.02 41 P 00 07 28.9
baz=300
H64A Troy 126.04 36 P 00 07 29.1
baz=305,SNR=13
RTLS Leoncito 126.05 135 eP PKiKP 00 07 30.3 +0.1
L63A North Scituate 126.07 40 P 00 07 29.4
baz=301,SNR=11
BCX Boston College 126.11 39 IAMs_20 IAMs_20 00 59 30.3
comp=Z,202µm,21.0s
I64A Boothbay 126.20 37 P 00 07 29.8
baz=304,SNR=11
MOTA Moosalm 126.22 328 P Pdif 00 04 11.7 +3.0
comp=Z,4.9nm,1.2s
MOTA i P PKPdf 00 07 29.1 -0.4
comp=Z,70nm,1.0s,SNR=29
MOTA eS Sdif 00 17 10.5 -12
comp=Z,26nm,1.2s
MOTA eS SKKPdf 00 21 08.9 -11
comp=Z,33nm,1.2s
SQTA Sankt Quirin 126.24 328 eP PKPdf 00 07 28.4 -1.0
comp=Z,70nm,1.1s,SNR=24
SQTA eS Sdif 00 17 11.2 -12
comp=Z,24nm,1.4s
SQTA eS SKKPdf 00 20 51.9 -28
comp=Z,43nm,1.7s
RETA Reutte 126.30 329 i P PKPdf 00 07 29.3 -0.2
comp=Z,39nm,1.1s,SNR=8.9
RETA eS PKKSbc 00 21 07.7 +11
comp=Z,54nm,1.6s
BTNL Ternell 126.38 334 dPKP PKiKP 00 07 29.9 -0.1
MEM Membach 126.42 334 dPKP PKPdf 00 07 29.5 0.0
NEWG New Galloway 126.44 344 eP PKPdf 00 07 29.6 +0.2
NEWG IAMs_20 IAMs_20 01 12 02.3
comp=Z,123µm,19.3s
M64A Tiverton 126.49 40 P 00 07 30.6
baz=301,SNR=8.2
L64A Middleborough 126.53 40 IAMs_20 IAMs_20 01 01 51.4
comp=Z,199µm,20.0s
L64A Middleborough 126.53 40 P 00 07 29.6
baz=302
RTCV Cerro Valdivia 126.54 136 eP PKPdf 00 07 30.5 0.0
LCO Las Campanas 126.56 132 PKIKP PKPdf 00 07 31.0 +0.2
LCO Las Campanas 126.56 132 PKPdf PKPdf 00 07 31.0 +0.2
LCO Las Campanas 126.56 132 IAMs_20 IAMs_20 00 51 15.8
comp=Z,149µm,22.0s
H65A Eastbrook 126.57 35 P 00 07 30.5
baz=306,SNR=9.6
KESW Keswick, Cumbr 126.57 343 eP PKPdf 00 07 28.5 -1.2
KESW IAMs_20 IAMs_20 01 06 15.4
comp=Z,107µm,21.7s
FETA Feichten 126.62 328 eP Pdif 00 04 09.0 -1.6
comp=Z,4.2nm,1.7s
FETA eP PKPdf 00 07 29.3 -1.0
comp=Z,78nm,1.0s
FETA S PKKSbc 00 21 01.4 +5.4
comp=Z,25nm,1.2s
ZON Zonda 126.63 135 pPKPdf pPKPdf 00 07 40.4 -2.5
ZON IAMs_20 IAMs_20 00 55 56.1
comp=Z,156µm,20.0s
BSTI Sart Tilman 126.63 334 dPcP PKiKP 00 07 30.5 +0.1
LMK Market Rasen 126.64 340 eP PKiKP 00 07 31.8 +1.4
LMK IAMs_20 IAMs_20 01 06 30.2
comp=Z,106µm,23.2s
HPK Haverah Park 126.65 341 eP PKPdf 00 07 29.9 0.0
HPK IAMs_20 IAMs_20 01 06 43.6
comp=Z,117µm,22.4s
G65A Princeton 126.66 35 IAMs_20 IAMs_20 00 59 17.5
comp=Z,191µm,22.0s
G65A Princeton 126.66 35 P 00 07 30.2
baz=307,SNR=13
MATE Matera 126.72 319 ⇑P PKPdf 00 07 27.1 -3.4
GAL1 Galloway 126.79 344 eP PKPdf 00 07 28.8 -1.4
GAL1 IAMs_20 IAMs_20 01 12 22.2
comp=Z,110µm,19.2s
BCLA Clavier 126.86 334 dPKP PKPdf 00 07 30.4 0.0
DAVA Damuels 126.89 329 i P PKPdf 00 07 30.3 -0.5
comp=Z,61nm,0.9s,SNR=17
WACR West Acre 126.91 339 eP PKiKP 00 07 30.9 0.0
WACR IAMs_20 IAMs_20 00 58 08.8
comp=Z,181µm,26.2s
BFO Black Forest 126.96 331 PKIKP PKPdf 00 07 30.3 -0.4
BFO Black Forest 126.96 331 PKPdf PKPdf 00 07 30.3 -0.4
BFO Black Forest 126.96 331 eL L 01 06 24.8
comp=Z,49µm,22.0s
CBCY The Bluff, Cay 126.97 69 PKPdf PKiKP 00 07 32.1 +0.1
UCC Uccle 126.98 335 dPKP PKiKP 00 07 31.0 -0.1
UCC Uccle 126.98 335 pPKPdf pPKPdf 00 07 40.4 -2.4
UCC IAMs_20 IAMs_20 01 09 37.6
comp=Z,117µm,20.0s
BGES Gesves 126.98 334 dPKP PKPdf 00 07 30.7 +0.1
EMMW East Machias 127.02 35 IAMs_20 IAMs_20 01 01 13.9
comp=Z,189µm,22.0s

WLF Walferdange 127.04 333 dPKP PKiKP 00 07 31.9 +0.6
WLF Walferdange 127.04 333 IAMs_20 IAMs_20 01 06 26.4
comp=Z,177µm,22.0s
H66A Whiting 127.06 35 P 00 07 30.9
baz=307,SNR=9.5
RCHB Rochefort 127.09 334 dPKP PKiKP 00 07 31.4 +0.1
RCHB dpPKP pPKPdf 00 07 43.2 +0.3
GGN Saint George 127.12 34 pPKPdf pPKPdf 00 07 38.5 -4.9
GGN IAMs_20 IAMs_20 00 59 30.8
comp=Z,198µm,22.0s
LBWR Ladybower, Pea 127.15 341 eP PKiKP 00 07 31.2 -0.2
LBWR IAMs_20 IAMs_20 01 04 04.5
comp=Z,129µm,26.5s
BMRD Maredsous 127.18 335 dPKP PKiKP 00 07 31.4 -0.1
DAVOX Davos/Dischmat 127.22 328 PKhKP PKPpre 00 07 24.6
comp=Z,7.7nm,0.9s,baz=286,slow=2.7,SNR=7.1
DAVOX PKP PKPdf 00 07 31.1 -0.4
comp=Z,59nm,0.9s,baz=153,slow=2.4,SNR=9.0
SNF Seneffe 127.23 335 dPKP PKiKP 00 07 31.6 0.0
AZU Azuero 127.41 84 eP PKPdf 00 07 32.3 -0.2
DOU Dourbes 127.41 335 dPKP PKiKP 00 07 32.0 0.0
TIP Timpagrande 127.41 317 ⇑P PKiKP 00 07 32.7 +0.3
TIP Timpagrande 127.41 317 PKPdf PKiKP 00 07 32.2 -0.3
TIP pPKPdf pPKPdf 00 07 41.8 -2.3
CWF Charnwood Fore 127.57 340 eP PKPdf 00 07 30.5 -1.1
CWF IAMs_20 IAMs_20 01 13 48.2
comp=Z,112µm,19.1s
STNC Stoke 127.57 341 eP PKiKP 00 07 32.3 +0.1
STNC IAMs_20 IAMs_20 00 56 03.3
comp=Z,121µm,31.0s
ECH Echery 127.61 331 pPKPdf pPKPdf 00 07 41.3 -2.8
ECH IAMs_20 IAMs_20 01 07 55.5
comp=Z,120µm,21.0s
SALO Salr 127.62 327 IAMs_20 IAMs_20 01 13 42.4
comp=Z,153µm,22.0s
GO03 Copiap 127.64 130 IAMs_20 IAMs_20 01 00 27.7
comp=Z,96µm,19.0s
TUE Stuetta 127.70 328 IAMs_20 IAMs_20 01 04 35.2
comp=Z,174µm,21.0s
ATAH Atahualpa 127.77 103 PKhKP PKPpre 00 07 28.0
comp=Z,5.3nm,0.8s,baz=54,slow=4.0,SNR=3.9
ATAH PKP PKiKP 00 07 35.3 +1.0
comp=Z,81nm,0.8s,baz=129,slow=0.4,SNR=33
LMN Caledonia Moun 127.78 32 IAMs_20 IAMs_20 00 57 45.7
comp=Z,221µm,22.0s
BCIP Isla Barro Col 127.83 82 eP PKPdf 00 07 31.1 -2.2
AQU L'Aquila 127.92 322 eP PKPdf 00 07 29.6 -3.2
AVFE Valle Fertil 127.99 135 eP PKPdf 00 07 33.4 0.0
FOEL Foel Wylfa 128.06 342 eP PKPdf 00 07 32.4 -0.2
FOEL IAMs_20 IAMs_20 01 04 08.0
comp=Z,129µm,24.4s
WLF1 Llynfaes 128.08 343 eP PKiKP 00 07 32.9 -0.3
WLF1 IAMs_20 IAMs_20 01 06 59.1
comp=Z,199µm,22.5s
AC01 Pan de Azucar 128.09 129 IAMs_20 IAMs_20 00 59 15.9
comp=Z,123µm,18.0s
NNA Nana 128.12 109 PKP PKiKP 00 07 35.1 +0.6
comp=Z,48nm,0.9s,baz=277,slow=5.0,SNR=16
NNA Nana 128.12 109 PKIKP PKiKP 00 07 34.5 0.0
NNA 00 07 43.4
NNA Nana 128.12 109 PKPdf PKiKP 00 07 34.5 0.0
NNA pPKPdf pPKPdf 00 07 43.4 -2.7
NNA Nana 128.12 109 IAMs_20 IAMs_20 01 03 29.4
comp=Z,121µm,18.0s
MRA San Martin 128.13 138 eP PKPdf 00 07 32.8 -0.8
MRA eP PKiKP 00 07 34.0 -0.2
MRA eP PKPdf 00 07 34.4 +0.2
UPA Univ. de Panam 128.13 82 eP PKPdf 00 07 29.8 -4.0
YLL Llanberis 128.14 342 eP PKiKP 00 07 33.4 0.0
ACHE Chepes 128.25 136 eP PKPdf 00 07 33.9 0.0
HLM1 Long Mynd 128.28 341 eP PKiKP 00 07 33.4 -0.3
HLM1 IAMs_20 IAMs_20 01 14 14.6
comp=Z,94µm,20.5s
RUDU RUNDU 128.32 243 i P PKiKP 00 07 39.0 +4.1
WIN Windhoek 128.70 236 i P PKPpre 00 07 22.6
TUMC Tumaco 128.71 91 eP PKPdf 00 07 33.9 -1.1
CTUM2 Tumaco 128.71 91 eP PKiKP 00 07 45.1 +9.5
MCH1 Michaelchurch 128.76 341 eP PKiKP 00 07 34.4 -0.3
SWN1 Swindon 128.76 340 eP PKiKP 00 07 34.4 -0.2
SWN1 IAMs_20 IAMs_20 00 57 28.0
comp=Z,133µm,27.3s
APLL PUNTA DE LOS L 128.80 136 eP PKPdf 00 07 35.0 +0.2
OTAV Otavalo 128.84 94 PKIKP PKPdf 00 07 35.5 -0.3
OTAV Otavalo 128.84 94 PKPdf PKPdf 00 07 35.5 -0.3
OTAV Otavalo 128.84 94 IAMs_20 IAMs_20 00 59 17.1
comp=Z,102µm,19.0s
OTAV Otavalo 128.84 94 eP PKiKP 00 07 37.9 +1.4
OTAV Otavalo 128.84 94 eP PKiKP 00 07 37.3 +0.8
AC02 Maricunga 128.88 130 pPKPdf pPKPdf 00 07 44.8 -3.0
AC02 IAMs_20 IAMs_20 00 53 10.4
comp=Z,139µm,22.0s
ACLC CERRO LA CRUZ 129.06 134 eP PKPdf 00 07 35.2 -0.3
MTDJ Mount Denham 129.28 70 eP PKiKP 00 07 41.9 +5.2
GO02 Mina Guanaco 129.37 128 IAMs_20 IAMs_20 01 00 45.8
comp=Z,119µm,18.0s
TCA Tanti 129.54 138 eP PKPdf 00 07 36.7 +0.4
PTAC Punta Ardita, 129.85 85 eP PKiKP 00 07 42.1 +4.2
CLF Chambon-Foret 129.98 334 IAMs_20 IAMs_20 01 08 42.0
comp=Z,191µm,22.0s
CCUFI Cufio, Nario 130.03 92 eP PKPdf 00 07 35.5 -2.6
GCUF Volcan Galeras 130.03 92 eP PKiKP 00 07 39.0 +0.1
BNI Bardonecchia 130.04 329 PKIKP PKPdf 00 07 36.9 +0.1
BNI Bardonecchia 130.04 329 PKiKP 00 07 36.9 +0.1
CPAS1 Pasto 130.05 92 eP PKiKP 00 07 40.1 +1.2
BBAC Balboa, Cauca 130.20 91 eP PKPdf 00 07 37.8 -0.3
MALC Bahia Malaga 130.24 89 eP PKiKP 00 07 39.0 +0.3
SOLC Bahia Solano 130.24 86 eP PKiKP 00 07 44.1 +5.4
PIZC Pizarro, Choco 130.25 88 eP PKiKP 00 07 44.9 +6.2
PB04 IPOC Station P 130.28 125 pPKPdf pPKPdf 00 07 47.5 -2.7
CAPC Capurgana 130.29 83 eP PKPdf 00 07 38.0 0.0
PB15 IPOC Station P 130.43 126 pPKPdf pPKPdf 00 07 48.5 -2.1
PB15 IAMs_20 IAMs_20 00 54 11.9
comp=Z,168µm,21.0s
PB07 IPOC Station P 130.78 124 pPKPdf pPKPdf 00 07 48.3 -2.9
PB07 IAMs_20 IAMs_20 00 55 38.5
comp=Z,153µm,22.0s
POPC Popayan, Colom 130.81 91 eP PKPdf 00 07 37.5 -1.8
SOTA Rioblanco 130.84 91 eP PKiKP 00 07 40.8 +0.2
SSB Saint Sauveur 130.96 330 PKIKP PKPdf 00 07 38.5 +0.1
SSB Saint Sauveur 130.96 330 PKPdf 00 07 38.5 +0.1
SSB Saint Sauveur 130.96 330 IAMs_20 IAMs_20 01 09 46.3
comp=Z,134µm,22.0s
TA01 Diego Aracena 131.05 122 PKPdf PKiKP 00 07 40.5 +0.4
TA01 pPKPdf pPKPdf 00 07 49.4 -2.1
TA01 IAMs_20 IAMs_20 00 55 21.0
comp=Z,165µm,21.0s
PCON Cinco Dias 131.07 91 eP PKiKP 00 07 42.4 +1.3
LVC Limon Verde 131.16 126 PKhKP PKPpre 00 07 02.8
comp=Z,3.1nm,0.3s,baz=74,slow=23,SNR=9.1
LVC PKP PKiKP 00 07 41.5 +0.6
comp=Z,15nm,0.9s,baz=276,slow=1.4,SNR=7.0
LVC SKP 00 11 09.5
comp=Z,54nm,1.0s,baz=346,slow=4.3,SNR=5.9
LVC Limon Verde 131.16 126 PKPdf PKiKP 00 07 41.4 +0.6
LVC pPKPdf pPKPdf 00 07 49.9 -2.3
LVC Limon Verde 131.16 126 IAMs_20 IAMs_20 00 54 46.5
comp=Z,117µm,22.0s
LPA La Plata 131.19 146 PKIKP PKPpre 00 07 26.3
LPA pPP 00 10 20.8
LPA SKP 00 11 00.2
LPA PPP PPP 00 13 16.6
LPA SKIKS 00 14 48.9
LPA SDIFF 00 18 03.8
LPA PSP PSP 00 22 04.7
LPA SS SS 00 27 36.9 +12
LPA SSS SSS 00 31 51.1
YOTC Yotoco, Valle 131.22 89 eP PKiKP 00 07 48.9 +8.0
YOTC Yotoco, Valle 131.22 89 eP PKiKP 00 07 45.9 +5.1
GTBY Guantanamo Bay 131.24 68 eP PKPdf 00 07 40.0 +0.4
LCBC Los crdobas, 131.26 82 eP PKiKP 00 07 46.0 +5.3
PB09 IPOC Station P 131.28 124 IAMs_20 IAMs_20 00 54 07.7
comp=Z,116µm,22.0s
DBBC Dabeiba 131.44 85 eP PKiKP 00 07 42.1 +0.8
MARP Paez Belalcaza 131.54 90 eP PKiKP 00 07 46.3 +4.5
CBOC Ciudad Bolivar 131.62 86 eP PKiKP 00 07 43.9 +2.2
AP01 Chacalluta 131.85 120 IAMs_20 IAMs_20 00 59 16.3
comp=Z,125µm,20.0s
MOTC Monteria, Cord 131.96 83 eP PKiKP 00 07 42.4 +0.3
GARC Garzon, Huila 131.96 91 eP PKiKP 00 07 46.6 +4.1
BETC Betania 132.04 91 eP PKiKP 00 07 42.2 -0.2
PB08 IPOC Station P 132.10 123 IAMs_20 IAMs_20 00 54 29.8
comp=Z,190µm,22.0s
HELC Santa Helena 132.10 86 eP PKPdf 00 07 42.1 +0.2

UREC	**San Jos de Ur**	**132.10**	**84**	*e*P		**PKiKP**	**PKPdf**	**00 07 45.9**	**+3.4**
MNMC	**Minye Minye**	**132.17**	**121**			**PKPdf**	**PKPdf**	**00 07 42.3**	**+0.6**
MNMC					IAMs_20	IAMs_20		00 54 59.7	
	comp=Z,202µm,22.0s								
ANIL	**Santa Ana**	**132.18**	**88**	*e*P		**PKiKP**	**PKPdf**	**00 07 44.1**	**+1.0**
GUY2C	**Guyana, Caldas**	**132.25**	**87**	*e*P		**PKiKP**	**PKPdf**	**00 07 43.7**	**+0.4**
ORTC	**Ortega, Tolima**	**132.31**	**89**	*e*P		**PKiKP**	**PKPdf**	**00 07 41.0**	**-0.9**
SJCC	**San Jacinto, C**	**132.40**	**81**	*e*P		**PKiKP**	**PKPdf**	**00 07 42.5**	**+0.5**
PTLC	**Puerto Leguiza**	**132.46**	**94**	*e*P		**PKiKP**	**PKPdf**	**00 07 42.7**	**+0.6**
PB16	**IPOC Station P**	**132.58**	**120**				**PKPdf**	**00 07 41.3**	**-1.6**
PB16					IAMs_20	IAMs_20		01 02 31.7	
	comp=Z,92µm,19.0s								
CNOCA	**NORCASIA, CALDA**	**132.75**	**87**	*e*P		**PKiKP**	**PKPdf**	**00 07 45.4**	**+1.6**
NORC	**Norcasia**	**132.75**	**87**	*e*P		**PKiKP**	**PKPdf**	**00 07 42.2**	**-0.5**
ZARC	**Zaragoza, Cauc**	**132.78**	**84**	*e*P		PKPpre		00 07 33.9	
PTBC	**PUERTO BERRIO**	**133.18**	**86**	*e*P		**PKiKP**	**PKPdf**	**00 07 46.4**	**+1.7**
SMRC	**Santa Marta, M**	**133.26**	**79**	*e*P		**PKiKP**	**PKPdf**	**00 07 48.8**	**+4.0**
CROSA	**EL ROSAL, CUNDI**	**133.27**	**88**	*e*P		PKiKP		00 07 53.9	+8.6
ROSC	**El Rosal**	**133.28**	**88**	PKhKP		PKPpre		00 07 39.4	
	comp=Z,14nm,0.7s,baz=44,slow=22,SNR=7.1								
ROSC				PKP		**PKiKP**	**PKPdf**	**00 07 46.0**	**+0.7**
	comp=Z,153nm,0.6s,baz=78,slow=22,SNR=19								
ROSC				SKP				00 11 14.1	
	comp=Z,59nm,0.7s,baz=68,slow=23,SNR=2.8								
ROSC	**El Rosal**	**133.28**	**88**	*e*P			**PKPdf**	**00 07 44.7**	**+0.5**
ARGC	**Ariguani, Magd**	**133.32**	**81**	*e*P			**PKiKP**	**00 07 45.5**	**+0.6**
SMLC	**San Martn de**	**133.53**	**82**	*e*P			**PKiKP**	**00 07 47.8**	**+2.4**
SPBC	**San Pablo de B**	**133.54**	**87**	*e*P			**PKiKP**	**00 07 47.1**	**+1.6**
MACC	**Macarena, Meta**	**133.59**	**92**	*e*P			**PKPdf**	**00 07 42.4**	**-1.9**
BRRC	**Barranca, Sant**	**133.91**	**85**	*e*P			**PKPdf**	**00 07 44.2**	**-0.6**
YJA	**Yavi**	**134.10**	**127**	*e*P		PKPpre		00 07 32.5	
LL3C	**La Loma 3 Cana**	**134.14**	**81**	*e*P			**PKiKP**	**00 07 48.8**	**+2.2**
OCAC	**Ocana**	**134.29**	**83**	*e*P			**PKPdf**	**00 07 43.2**	**-2.5**
BARC	**Barichara**	**134.44**	**85**	*e*P			**PKPdf**	**00 07 44.6**	**-1.5**
GRTK	**Grand Turk**	**134.50**	**64**		IAMs_20	IAMs_20		01 03 07.7	
	comp=Z,141µm,22.0s								
RUSC	**La Rusia**	**134.53**	**86**	*e*P			**PKPdf**	**00 07 44.0**	**-2.6**
CRJC	**Cerrejon, Guaj**	**134.59**	**79**	*e*P			**PKiKP**	**00 07 47.2**	**-0.3**
LPAZ	**La Paz**	**134.62**	**118**	PKhKP		PKPpre		00 07 31.3	
	comp=Z,2.8nm,0.8s,baz=184,slow=1.6,SNR=7.0								
LPAZ				PKP		**PKiKP**	**PKPdf**	**00 07 47.9**	**-0.4**
	comp=Z,43nm,0.8s,baz=18,slow=3.7,SNR=21								
LPAZ				SKP				00 11 20.0	
	comp=Z,60nm,1.1s,baz=235,slow=3.9,SNR=2.7								
LPAZ				SKKPbc		SKKPbc		00 20 20.8	-1.0
	comp=Z,13nm,1.0s,baz=45,slow=6.1,SNR=3.5								
LPAZ	**La Paz**	**134.62**	**118**	PKiKP		**PKiKP**	**PKPdf**	**00 07 47.8**	**-0.5**
LPAZ	**La Paz**	**134.62**	**118**			**PKiKP**	**PKPdf**	**00 07 48.0**	**-0.5**
LPAZ	**La Paz**	**134.62**	**118**	*e*P		**PKiKP**	**PKPdf**	**00 07 50.0**	**+1.8**
PAMC	**Pamplona, Colo**	**134.92**	**84**	*e*P			**PKPdf**	**00 07 46.7**	**-0.6**
SDDR	**Presa de Saban**	**134.96**	**68**		IAMs_20	IAMs_20		01 04 44.3	
	comp=Z,165µm,20.0s								
SDDR	**Presa de Saban**	**134.96**	**68**	*e*P			**PKPdf**	**00 07 46.5**	**-0.2**
CMAH	**Djebel Manchou**	**135.00**	**319**	P			**PKPdf**	**00 07 43.3**	**-3.0**
URIC	**Uribia, Colomb**	**135.40**	**78**	*e*P			**PKiKP**	**00 07 54.0**	**+4.9**
PTGC	**Puerto Gaitan,**	**135.43**	**89**	*e*P			**PKPdf**	**00 07 46.7**	**-1.0**
CKFL	**Kef-Lekhel**	**135.59**	**320**	P			**PKPdf**	**00 07 44.1**	**-3.4**
BBSR	**BB Station**	**135.65**	**47**		IAMs_20	IAMs_20		01 00 47.1	
	comp=Z,191µm,22.0s								
ITQB	**Itaqui**	**135.75**	**143**	*e*P			**PKiKP**	**00 07 49.7**	**+0.2**
CASM	**Ain Smara**	**135.82**	**320**	P			**PKiKP**	**00 07 49.0**	**-0.5**
TAMC	**Tame, Arauca**	**135.82**	**86**	*e*P			PKiKP	00 07 58.0	+7.9
TAMC	**Tame, Arauca**	**135.82**	**86**	*e*P			**PKPdf**	**00 07 41.9**	**-6.6**
BANI	**BANI**	**135.95**	**68**	pPKPdf		pPKPdf		00 07 58.8	-2.0
CTEI	**Djebel Teioual**	**135.99**	**320**	P		PKiKP		00 07 58.9	+9.0
DFRA	**Djebel Bou Aff**	**136.04**	**320**	P			**PKPdf**	**00 07 44.9**	**-3.5**
SOCV	**Socops**	**136.72**	**83**	*e*P			**PKPdf**	**00 07 50.6**	**+0.5**
DABV	**Dabajuro**	**136.79**	**79**	*e*P			**PKPdf**	**00 07 50.8**	**+0.6**
SDV	**Santo Domingo**	**136.92**	**82**	SKP				00 11 26.9	
	comp=Z,38nm,0.7s,baz=311,slow=21,SNR=2.4								
SDV	**Santo Domingo**	**136.92**	**82**				**PKPdf**	**00 07 51.2**	**+0.5**
SDV				pPKPdf			**pPKPdf**	**00 08 00.2**	**-2.7**
SDV	**Santo Domingo**	**136.92**	**82**	*e*P			**PKPdf**	**00 07 47.3**	**-3.3**
CPUP	**Villa Florida**	**137.63**	**138**	PKhKP		PKPpre		00 07 40.0	
	comp=Z,5.7nm,0.8s,baz=247,slow=4.1,SNR=13								
CPUP				SKP				00 11 27.9	
	comp=Z,44nm,1.2s,baz=235,slow=6.5,SNR=2.5								
CPUP	**Villa Florida**	**137.63**	**138**	PKiKP			**PKPdf**	**00 07 50.0**	**-1.4**
CPUP	**Villa Florida**	**137.63**	**138**				**PKPdf**	**00 07 50.0**	**-1.4**
ELOV	**Elorza**	**138.11**	**85**	*e*P			**PKiKP**	**00 07 54.7**	**0.0**
PBRG	**Braganca**	**138.76**	**336**	*e*PKP		PKPpre		00 07 46.0	
MPR	**Mayaguez**	**138.97**	**68**	pPKPdf		pPKPdf		00 08 03.5	-2.7
PGAV	**Gavieira, Arco**	**139.22**	**338**	*e*PKP			**PKiKP**	**00 07 56.2**	**-0.1**
PGAV	**Gavieira, Arco**	**139.22**	**338**	*e*SS		SS		00 30 11.6	+71
PGAV	**Gavieira, Arco**	**139.22**	**338**	*e*LR		LR		01 00 15.5	
	comp=Z,86µm,20.0s								
AOPR	**Arecibo Observ**	**139.29**	**67**	PKPdf		**PKPdf**	**00 07 54.4**	**-0.2**	
ESBB	**Sonseca Array**	**139.30**	**332**	PKPdf		**PKiKP**	**00 07 55.3**	**-1.1**	
ESDC	**Sonseca Array**	**139.30**	**332**	PKhKP		PKPpre		00 07 48.4	
	comp=Z,7.4nm,1.0s,baz=19,slow=3.3,SNR=19								
ESDC				SKP				00 11 28.3	
	comp=Z,12nm,0.8s,baz=22,slow=6.5,SNR=4.2								
ESDC				SKKPbc		SKKPbc		00 20 08.8	+4.4
	comp=Z,12nm,1.1s,baz=211,slow=4.2,SNR=5.9								
ESDC	**Sonseca Array**	**139.30**	**332**			PKPpre		00 07 47.1	
PCAB	**Cabril**	**139.34**	**338**	*e*PKP		**PKPdf**	**00 07 51.3**	**-2.9**	
CART	**Cartagena**	**139.40**	**327**	PKPdf		**PKiKP**	**00 07 56.3**	**-0.4**	
MVO	**Moncorvo**	**139.42**	**336**	*e*PKP		**PKPdf**	**00 07 52.5**	**-1.9**	
MVO	**Moncorvo**	**139.42**	**336**	*e*SS		SS		00 30 10.1	+67
MVO	**Moncorvo**	**139.42**	**336**	*e*LR		LR		00 58 39.6	
	comp=Z,90µm,20.0s								
EMPR	**Esperanza - Ma**	**139.46**	**67**	pPKPdf		pPKPdf		00 08 03.1	-4.0
BAUV	**El Baul**	**139.48**	**82**	*e*P		**PKPdf**	**00 07 54.3**	**-0.8**	
OBIP	**Obispado Ponce**	**139.50**	**68**	PKPdf		**PKPdf**	**00 07 55.1**	**+0.1**	
OBIP				pPKPdf		**PKiKP**	**PKPdf**	**00 08 02.1**	**+4.7**
OBIP					IAMs_20	IAMs_20		01 06 45.5	
	comp=Z,101µm,20.0s								
POLO	**Lamas de Olo**	**139.54**	**337**	*e*PKP		PKPdf		00 07 47.0	-7.6
PVRL	**Vila Real**	**139.60**	**337**	*e*PKP		PKPdf		00 07 46.0	-8.7
SJG	**San Juan**	**139.90**	**67**	SKP				00 11 29.9	
	comp=Z,23nm,0.8s,baz=314,slow=8.6,SNR=1.8								
SJG	**San Juan**	**139.90**	**67**	PKiKP		**PKPdf**	**00 07 55.3**	**-0.5**	
SJG				MLR		MLR			
	comp=Z,103µm,20.0s								
SJG	**San Juan**	**139.90**	**67**			**PKPdf**	**00 07 55.3**	**-0.5**	
SJG	**San Juan**	**139.90**	**67**		IAMs_20	IAMs_20		01 07 28.2	
	comp=Z,103µm,20.0s								
SJG	**San Juan**	**139.90**	**67**	*e*P		**PKPdf**	**00 07 54.8**	**-1.0**	
GCPR	**Guaynabo City**	**139.91**	**67**			**PKPdf**	**00 07 53.1**	**-2.7**	
PDPR	**Patillas Dam,**	**140.04**	**68**	PKPdf		**PKPdf**	**00 07 56.8**	**+0.8**	
PTO	**Porto**	**140.06**	**338**	*e*PKP		**PKiKP**	**00 07 57.1**	**-0.8**	
PVIS	**Viseu**	**140.15**	**337**	*e*PKP		PKPdf	00 07 48.0	-7.7	
MTE	**Manteigas**	**140.28**	**336**	*e*PKP		**PKPdf**	**00 07 50.4**	**-5.6**	
MTE	**Manteigas**	**140.28**	**336**	*e*SS		SS		00 30 26.6	+73
MTE	**Manteigas**	**140.28**	**336**	*e*LR		LR		00 59 20.8	
	comp=Z,80µm,20.0s								
MTE	**Manteigas**	**140.28**	**336**	PKPdf		**PKPdf**	**00 07 56.7**	**+0.7**	
MTE					IAMs_20	IAMs_20		01 17 35.3	
	comp=Z,89µm,20.0s								
CUPR	**Culebra, Puert**	**140.65**	**67**	PKPdf		**PKPdf**	**00 07 55.2**	**-1.9**	
PCBR	**Castelo Branco**	**140.72**	**335**	*e*PKP		**PKPdf**	**00 07 56.2**	**-0.5**	
COI	**Coimbra**	**140.78**	**337**	PKiKP		**PKPdf**	**00 07 57.4**	**+0.6**	
COI	**Coimbra**	**140.78**	**337**	*e*PKP		**PKPdf**	**00 07 51.5**	**-5.3**	
COI	**Coimbra**	**140.78**	**337**	PKPdf		**PKPdf**	**00 07 57.4**	**+0.6**	
COI					IAMs_20	IAMs_20		01 16 00.7	
	comp=Z,116µm,21.0s								
SIV	**San Ignacio**	**140.83**	**122**	PKhKP		PKPpre		00 07 50.1	
	comp=Z,24nm,0.9s,baz=241,slow=3.4,SNR=26								
SIV				SKP				00 11 29.2	
	comp=Z,16nm,0.7s,baz=352,slow=17,SNR=1.6								
PCAS	**Casmilo, Conde**	**140.95**	**337**	*e*PKP		**PKPdf**	**00 07 52.5**	**-4.6**	
PMRV	**Marv??o**	**141.03**	**335**	*e*PKP		**PKPdf**	**00 07 51.3**	**-6.0**	
PMRV	**Marv??o**	**141.03**	**335**	*e*SS		SS		00 30 27.1	+65
PMRV	**Marv??o**	**141.03**	**335**	*e*LR		LR		00 57 04.3	
	comp=Z,53µm,24.0s								
PSBE	**So Bento**	**141.53**	**337**	*e*PKP		**PKPdf**	**00 07 52.8**	**-5.4**	
PESTR	**Estremoz**	**141.59**	**335**	PKPdf		**PKPdf**	**00 07 58.2**	**-0.1**	
PMTG	**Montargil**	**141.68**	**336**	*e*PKP		**PKPdf**	**00 07 53.9**	**-4.5**	
SAML	**Samuel**	**141.83**	**111**	PKiKP		**PKPdf**	**00 07 58.4**	**-1.0**	
SAML								00 08 09.5	
SAML	**Samuel**	**141.83**	**111**			**PKPdf**	**00 07 58.4**	**-1.0**	
SAML				pPKPdf		**pPKPdf**	**00 08 09.5**	**-2.1**	
SAML	**Samuel**	**141.83**	**111**		IAMs_20	IAMs_20		01 03 17.1	
	comp=Z,149µm,22.0s								
SAML	**Samuel**	**141.83**	**111**	*e*P		PKPdf		00 07 50.3	-9.1
PBAR	**Barrancos**	**141.92**	**334**	*e*PKP		**PKPdf**	**00 07 53.5**	**-5.4**	
EVO	**Evora**	**142.04**	**335**	*e*PKP		**PKPdf**	**00 07 54.5**	**-4.6**	
PMAFR	**Mafra**	**142.20**	**337**	*e*PKP		**PKPdf**	**00 07 56.9**	**-2.5**	
LIS	**Lisbon**	**142.36**	**336**	*e*PKPdf		**PKPdf**	**00 07 58.8**	**-0.8**	
LIS					IAMs_20	IAMs_20		01 17 15.2	
	comp=Z,106µm,17.5s								
LIS	**Lisbon**	**142.36**	**336**	*e*PKIKP		**PKPdf**	**00 07 58.8**	**-0.8**	
LIS	**Lisbon**	**142.36**	**336**	*e*PKP		PKPdf		00 07 52.4	-7.2

PBEJ	**Beja**	**142.41**	**334**	*e*PKP		**PKPdf**	**00 07 55.5**	**-4.3**	
PNCL	**Nicolau / Gran**	**142.62**	**335**	*e*PKP		**PKPdf**	**00 07 55.6**	**-4.5**	
MESJ	**Messejana**	**142.72**	**335**	*e*PKPdf		**PKPdf**	**00 07 59.5**	**-0.8**	
MESJ					IAMs_20	IAMs_20		01 13 57.2	
	comp=Z,118µm,24.8s								
MESJ	**Messejana**	**142.72**	**335**	*e*PKIKP		**PKPdf**	**00 07 59.5**	**-0.8**	
MESJ	**Messejana**	**142.72**	**335**	*e*PKP		**PKPdf**	**00 07 56.7**	**-3.6**	
PCRV	**Puerto La Cruz**	**142.74**	**80**	SKPbc		**SKiKP**	**00 11 41.9**	**+4.6**	
	comp=Z,39nm,0.9s,baz=241,slow=22,SNR=3.1								
PCVE	**Castro Verde**	**142.81**	**334**	*e*PKP		**PKPdf**	**00 07 57.3**	**-3.2**	
PVAQ	**Vaqueiros**	**142.86**	**334**	*e*PKP		**PKPdf**	**00 07 57.4**	**-3.2**	
PVAQ	**Vaqueiros**	**142.86**	**334**	*e*SS		SS	00 31 10.2	+87	
PVAQ	**Vaqueiros**	**142.86**	**334**	*e*LR		LR	01 00 21.2		
	comp=Z,77µm,18.0s								
PVAQ	**Vaqueiros**	**142.86**	**334**		IAMs_20	IAMs_20		01 20 24.9	
	comp=Z,87µm,19.0s								
SFS	**San Fernando**	**142.93**	**331**		IAMs_20	IAMs_20		01 17 14.7	
	comp=Z,190µm,21.0s								
SEUS	**St. Eustatius**	**142.98**	**67**	*e*		PKiKP	00 08 14.7	+10	
SEUS	**St. Eustatius**	**142.98**	**67**		IAMs_20	IAMs_20		01 06 30.6	
	comp=Z,111µm,22.0s								
PBDV	**Barranco-do-Ve**	**143.09**	**334**	*e*PKP		**PKPdf**	**00 08 01.4**	**+0.4**	
PTEO	**Sao Teotonio**	**143.18**	**335**	*e*PKP		PKPbc	00 07 58.6	+0.5	
MORF	**Marmelete**	**143.35**	**335**	*e*PKPdf		**PKPdf**	**00 08 00.6**	**-0.9**	
MORF					IAMs_20	IAMs_20		01 12 05.1	
	comp=Z,86µm,18.7s								
MORF	**Marmelete**	**143.35**	**335**	*e*PKIKP		**PKPdf**	**00 08 00.6**	**-0.9**	
MORF	**Marmelete**	**143.35**	**335**	*e*PKP		**PKPdf**	**00 08 01.8**	**+0.3**	
EKNA	**AfricaArray -**	**143.36**	**271**	*e*P		PKPbc	00 07 59.5	+0.2	
PFVI	**Vila Bisbo**	**143.57**	**335**	*e*PKP		PKPbc	00 08 00.2	+1.0	
PFVI	**Vila Bisbo**	**143.57**	**335**		IAMs_20	IAMs_20		01 15 03.6	
	comp=Z,103µm,22.0s								
MLYT	**Lee's Yard**	**143.91**	**68**	*e*P		PKPab	00 07 58.9	-1.3	
ANWB	**Willy Bob**	**144.03**	**66**	*e*P		**PKPab**	**00 07 58.2**	**-2.4**	
ANWB	**Willy Bob**	**144.03**	**66**		IAMs_20	IAMs_20		01 06 55.2	
	comp=Z,182µm,22.0s								
BPA	**Boggy Peak**	**144.13**	**67**	*e*P		**PKPab**	**00 08 00.7**	**-0.3**	
ANBD	**Bethesda, Anti**	**144.22**	**67**	*e*P		**PKPab**	**00 07 58.7**	**-2.5**	
CBE	**Ff, Capester**	**144.62**	**69**	*e*P		**PKPab**	**00 08 01.7**	**-1.2**	
ABD	**La Joyeuse, An**	**144.63**	**68**	*e*P		**PKPab**	**00 08 02.6**	**-0.2**	
TBG	**Guadaloupe-3**	**144.64**	**69**	*e*P		PKPbc	00 08 03.1	+0.1	
TDBA	**Terre de Bas,**	**144.65**	**69**	*e*P		**PKPab**	**00 08 02.0**	**-0.9**	
PP1B	**Ponte de Pedra**	**144.94**	**130**	*e*P		**PKPdf**	**00 08 05.7**	**+0.9**	
DSLB	**Salisbury**	**144.95**	**70**	*e*P		**PKPab**	**00 08 03.7**	**-0.4**	
MAGL	**Barre de l'ile**	**144.95**	**69**	*e*P		**PKPab**	**00 08 00.8**	**-3.3**	
H05N1	**Guadeloupe/Mar**	**145.07**	**68**	PKPbc		**PKPdf**	**00 08 05.8**	**+0.8**	
	SNR=126								
H07N1	**FLORES T-PHASE**	**145.08**	**5**	PKPbc		**PKiKP**	**00 08 09.7**	**+1.4**	
	SNR=224								
DLPL	**La Plaine**	**145.14**	**70**	*e*P		**PKPbc**	**00 08 02.8**	**-1.9**	
DLPL	**La Plaine**	**145.14**	**70**			**PKPbc**	**00 08 02.8**	**-1.9**	
DLPL	**La Plaine**	**145.14**	**70**		IAMs_20	IAMs_20		01 08 02.1	
	comp=Z,159µm,22.0s								
FDF	**Fort de France**	**145.37**	**71**	*e*P		**PKPbc**	**00 08 02.9**	**-2.6**	
FDF	**Fort de France**	**145.37**	**71**	PKP2		**PKPbc**	**00 08 02.9**	**-2.6**	
FDF				MLR		MLR			
	comp=Z,101µm,21.0s								
FDF	**Fort de France**	**145.37**	**71**			**PKPbc**	**00 08 02.9**	**-2.6**	
FDF	**Fort de France**	**145.37**	**71**		IAMs_20	IAMs_20		01 11 29.4	
	comp=Z,101µm,21.0s								
H07S1	**FLORES T-PHASE**	**145.38**	**5**	PKPbc		**PKiKP**	**00 08 11.5**	**+2.6**	
	SNR=621								
H07S1	**FLORES T-PHASE**	**145.38**	**5**	*e*PKP		**PKiKP**	**00 08 10.7**	**+1.8**	
GRGR	**Grenville**	**145.39**	**76**	*e*P		**PKPbc**	**00 08 00.1**	**-5.5**	
GRGR	**Grenville**	**145.39**	**76**		IAMs_20	IAMs_20		01 13 07.3	
	comp=Z,126µm,20.0s								
BIM	**Bigot**	**145.49**	**71**	*e*P		**PKPdf**	**00 08 05.0**	**-0.8**	
GCMP	**Grenada, Carri**	**145.55**	**75**	*e*P		**PKPdf**	**00 08 00.6**	**-5.2**	
SVB	**Belmont**	**145.58**	**74**	*e*P		**PKPdf**	**00 08 04.3**	**-1.6**	
SVB	**Belmont**	**145.58**	**74**	PKPdf		**PKPdf**	**00 08 04.6**	**-1.3**	
SVB					IAMs_20	IAMs_20		01 12 58.0	
	comp=Z,104µm,20.0s								
SVV	**Soufriere Volc**	**145.60**	**73**	*e*P		**PKPdf**	**00 08 05.3**	**-0.7**	
ILAM	**Ilet Lapin Mar**	**145.62**	**71**	*e*P		**PKPdf**	**00 08 03.1**	**-2.9**	
SFAN	**Fancy Village**	**145.63**	**73**	*e*P		**PKPdf**	**00 08 04.7**	**-1.3**	
SLDE	**Delcer**	**145.66**	**73**	*e*P		**PKPab**	**00 08 07.5**	**+0.8**	
SLB	**Belfond**	**145.67**	**72**	*e*P		**PKPdf**	**00 08 05.0**	**-1.1**	
SLBI	**Saint Lucia, B**	**145.69**	**72**	*e*P		**PKPdf**	**00 08 03.8**	**-2.3**	
SPB	**Sao Paulo**	**145.71**	**146**		IAMs_20	IAMs_20		01 10 59.2	
	comp=Z,159µm,21.0s								
SPB	**Sao Paulo**	**145.71**	**146**	*e*P		**PKPab**	**00 08 08.1**	**+1.5**	
MPOM	**Morne Pois Mar**	**145.71**	**71**	*e*P		**PKPdf**	**00 08 02.6**	**-3.5**	
SLW	**Petit Monier**	**145.72**	**72**	*e*P		**PKPdf**	**00 08 05.6**	**-0.6**	
H05S1	**Guadeloupe/Mar**	**145.73**	**71**	PKPbc		**PKPdf**	**00 08 05.8**	**-0.3**	
	SNR=79								
SLPA	**Patience**	**145.78**	**72**	*e*P		**PKPab**	**00 08 07.1**	**0.0**	
MCLT	**Moule a Chique**	**145.79**	**73**	*e*P		**PKPdf**	**00 08 03.8**	**-2.5**	
MCLT	**Moule a Chique**	**145.79**	**73**			**PKPdf**	**00 08 03.8**	**-2.5**	
MCLT	**Moule a Chique**	**145.79**	**73**		IAMs_20	IAMs_20		01 12 47.8	
	comp=Z,93µm,20.0s								
TPP	**Pointe-a-Pierr**	**145.84**	**79**	*e*P		**PKPbc**	**00 08 06.8**	**-0.2**	
TRN	**Trinidad (W)**	**145.84**	**78**	*e*P		**PKPdf**	**00 08 05.8**	**-0.6**	
MACA	**Manacapuru-AM**	**145.85**	**103**	*e*P		**PKPab**	**00 08 07.6**	**+0.1**	
SRBC	**Serra Branca**	**145.89**	**1**	*e*PKP		**PKiKP**	**00 08 09.7**	**-0.2**	
PGRA	**Graciosa**	**145.90**	**1**	*e*PKP		**PKiKP**	**00 08 08.8**	**-1.2**	
PAGU	**Agualva, Azore**	**146.16**	**360**	*e*PKP		**PKiKP**	**00 08 09.6**	**-0.9**	
ROSA	**Rosais**	**146.20**	**1**	*e*PKP		**PKPab**	**00 08 09.2**	**+1.1**	
ROSA	**Rosais**	**146.20**	**1**			**PKPab**	**00 08 08.2**	**+0.2**	
PSCM	**Serra do Cume**	**146.23**	**360**	*e*PKP		**PKiKP**	**00 08 10.0**	**-0.7**	
ADH	**Angra Heroismo**	**146.28**	**360**	*e*PKP		**PKPbc**	**00 08 07.7**	**+0.1**	
PCED	**Cedros**	**146.28**	**2**	*e*PKP		**PKiKP**	**00 08 10.4**	**-0.3**	
PMAN	**Manadas**	**146.29**	**1**	*e*PKP		**PKPab**	**00 08 09.2**	**+0.8**	
CALA	**Caldeira**	**146.33**	**2**	*e*PKP		**PKPab**	**00 08 08.8**	**+0.2**	
TPR	**Prospect**	**146.38**	**77**	*e*P		**PKPbc**	**00 08 08.6**	**0.0**	
PFCBR	**Castelo Branco**	**146.39**	**2**	*e*PKP		**PKiKP**	**00 08 11.1**	**+0.2**	
PICO	**Pico**	**146.42**	**1**	*e*PKP		**PKPbc**	**00 08 08.1**	**0.0**	
VAO	**Valinhos**	**146.43**	**146**	*e*P		**PKPdf**	**00 08 07.9**	**+0.6**	
PCAN	**Candelaria**	**146.45**	**2**	*e*PKP		**PKiKP**	**00 08 11.9**	**+0.8**	
ITRB	**Iturama**	**146.82**	**138**	*e*P		**PKPdf**	**00 08 09.0**	**+1.0**	
PARB	**Paraibuna**	**146.89**	**148**	*e*P		**PKPbc**	**00 08 10.3**	**+0.4**	
BB19B	**Bebedouro**	**147.01**	**142**	*e*P		**PKPbc**	**00 08 10.8**	**+0.5**	
PTGA	**Pitinga**	**147.03**	**99**	PKP		**PKPdf**	**00 08 09.1**	**+0.7**	
	comp=Z,326nm,0.9s,baz=256,slow=3.3,SNR=103								
PTGA				PKPbc		**PKPbc**	**00 08 10.9**	**+0.4**	
	comp=Z,326nm,0.9s,baz=251,slow=3.2,SNR=79								
PTGA	**Pitinga**	**147.03**	**99**			**PKPbc**	**00 08 10.7**	**+0.2**	
PTGA					IAMs_20	IAMs_20		01 18 40.3	
	comp=Z,105µm,21.0s								
PTGA	**Pitinga**	**147.03**	**99**	*e*P		**PKPbc**	**00 08 10.0**	**-0.6**	
PTGA	**Pitinga**	**147.03**	**99**	*e*P		**PKPdf**	**00 08 08.6**	**+0.1**	
PSET	**Sete Cidades**	**147.07**	**358**	*e*PKP		**PKPab**	**00 08 11.5**	**0.0**	
PCALD	**Caldeiras da R**	**147.09**	**357**	*e*PKP		**PKPab**	**00 08 11.5**	**0.0**	
BART	**Pico Bartolome**	**147.09**	**357**	*e*PKP		**PKPab**	**00 08 11.1**	**-0.5**	
GRON	**Grota Negra**	**147.12**	**357**	*e*PKP		**PKiKP**	**00 08 13.2**	**+0.6**	
CMLA	**Cha da Macela**	**147.12**	**357**	*e*PKP		**PKPab**	**00 08 11.1**	**-0.5**	
CMLA	**Cha da Macela**	**147.12**	**357**	PKP2		**PKPab**	**00 08 11.3**	**-0.3**	
CMLA				MLR		MLR			
	comp=Z,81µm,22.0s								
CMLA	**Cha da Macela**	**147.12**	**357**			**PKPab**	**00 08 11.3**	**-0.3**	
BCHC	**Barbados, Cave**	**147.15**	**73**	*e*P		**PKiKP**	**00 08 14.8**	**+1.7**	
BBGH	**Gun Hill**	**147.22**	**73**	*e*P		PKPdf	00 07 55.2	-14	
BBSP	**Saint Philip**	**147.32**	**73**	*e*P		**PKiKP**	**00 08 15.5**	**+2.0**	
ESAR	**Angra dos Reis**	**147.76**	**150**	*e*P		**PKPbc**	**00 08 12.0**	**-0.2**	
CLDB	**Colider**	**147.76**	**119**	*e*P		**PKPdf**	**00 08 10.3**	**+0.7**	
PSMN	**Pico do Norte,**	**147.85**	**356**	*e*PKP		**PKPab**	**00 08 16.7**	**+2.2**	
PSMA	**Santa Maria**	**147.87**	**357**	*e*PKP		**PKPab**	**00 08 15.2**	**+0.6**	
ARAG	**Araguaiana, MT**	**148.42**	**131**	*e*P		**PKPdf**	**00 08 11.1**	**+0.4**	
BSCB	**Bom Sucesso**	**149.25**	**147**	*e*P		**PKPdf**	**00 08 12.1**	**+0.1**	
IPMB	**Ipameri, GO**	**149.47**	**138**	*e*P		**PKPdf**	**00 08 13.3**	**+0.9**	
NPGB	**Novo Progresso**	**149.75**	**113**	*e*P		**PKPdf**	**00 08 13.2**	**+0.3**	
PMPST	**Porto Santo, M**	**150.

mb1 4.6/20,mb1mx4.4/47,mbtmp4.5/20,Error ellipse: s-maj=30.0km s-min=18.3km az=127.0

ISC 30 00:01:52.3±1.0,**5°1S**±0.2×**152°5E**±0.2,**h55**km,**n22,** σ0**72**/22,**mb4.5**/20,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**21.59**	**281**	P	**P**	**00 06 36.9**	**-0.8**
	5.4nm,0.4s,baz=107,slow=11,SNR=1.6						
WRA	**Warramunga Arr**	**22.97**	**229**	P	**P**	**00 06 51.7**	**-0.7**
	8.3nm,0.9s,baz=53,slow=9.9,SNR=2.5						
ASAR	**Alice Springs**	**25.68**	**222**	P	**P**	**00 07 17.7**	**+0.4**
	3.6nm,0.8s,baz=52,slow=8.8,SNR=2.1						
FITZ	**Fitzroy Crossi**	**29.20**	**242**	P	**P**	**00 07 48.5**	**-0.4**
	18nm,1.1s,baz=68,slow=8.2,SNR=1.9						
JNU	**Nakatsue**	**43.21**	**333**	P	**P**	**00 09 47.8**	**-0.4**
	6.8nm,0.6s,baz=90,slow=4.0,SNR=1.9						
KSRS	**Korea Array**	**48.15**	**334**	P	**P**	**00 10 27.3**	**+0.3**
	1.6nm,0.7s,baz=152,slow=8.0,SNR=4.5						
USRK	**Ussuriysk Ar.**	**52.46**	**342**	P	**P**	**00 10 58.9**	**-0.6**
	1.8nm,0.8s,baz=180,slow=7.2,SNR=2.7						
KLR	**Kul'dur**	**57.08**	**344**	P	**P**	**00 11 31.8**	**-1.0**
	2.4nm,0.8s,baz=110,slow=1.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**57.72**	**295**	P	**P**	**00 11 39.2**	**+1.2**
	5.2nm,0.9s,baz=100,slow=4.7,SNR=8.5						
PETK	**Petropavlovsk-**	**58.20**	**4**	P	**P**	**00 11 40.8**	**+0.2**
	3.4nm,0.6s,baz=151,slow=9.7,SNR=7.1						
MA2	**Magadan**	**64.53**	**359**	P	**P**	**00 12 22.8**	**-0.4**
	5.9nm,0.6s,baz=162,slow=6.2,SNR=4.6						
SONM	**Songino Array**	**66.43**	**328**	P	**P**	**00 12 37.4**	**+1.4**
	2.7nm,0.8s,baz=140,slow=5.3,SNR=5.7						
KDAK	**Kodiak Island**	**76.63**	**27**	P	**P**	**00 13 36.4**	**-0.6**
	9.4nm,0.8s,baz=307,slow=5.1,SNR=2.0						
MKAR	**Makanchi Array**	**80.36**	**319**	P	**P**	**00 13 57.5**	**-0.4**
	3.1nm,0.8s,baz=94,slow=7.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**81.25**	**326**	P	**P**	**00 14 02.7**	**+0.4**
	2.1nm,0.4s,baz=121,slow=5.9,SNR=6.6						
ILAR	**Eielson Array**	**82.60**	**22**	P	**P**	**00 14 08.4**	**-0.8**
	8.4nm,1.0s,baz=250,slow=5.5,SNR=11						
NRIK	**Noril'sk**	**86.17**	**341**	P	**P**	**00 14 27.8**	**+0.5**
	5.5nm,0.5s,baz=114,slow=4.7,SNR=8.8						
INK	**Inuvik**	**88.89**	**21**	P	**P**	**00 14 39.5**	**-0.8**
	4.2nm,1.0s,baz=303,slow=4.5,SNR=5.6						
BVAR	**Borovoye Array**	**89.31**	**323**	P	**P**	**00 14 42.4**	**-0.2**
	2.8nm,0.6s,baz=169,slow=8.0,SNR=6.5						
YKA	**Yellowknife Ar**	**95.88**	**28**	P	**P**	**00 15 13.4**	**+0.7**
	0.9nm,0.6s,baz=269,slow=4.4,SNR=6.8						
TORD	**Torodi Ar. Bea**	**150.09**	**287**	PKPbc	**PKPbc**	**00 21 38.0**	**0.0**
	3.4nm,0.7s,baz=76,slow=3.3,SNR=2.5						
BDFB	**Brasilia**	**151.06**	**136**	PKPbc	**PKPbc**	**00 21 40.8**	**+0.3**
	2.7nm,0.7s,baz=143,slow=5.1,SNR=1.1						

*IDC **30** 00:04:11.1±0.8,5°.31S×152°.97E,h0km,mb4.3/18, mb1 4.4/18,mb1mx4.3/50,mbtmp4.3/18,Error ellipse: s-maj=25.6km s-min=17.3km az=94.0*

ISC 30 00:04:16.6±0.7,**5°3S**±0.1×**153°0E**±0.2,**h37**km,**n20,** σ0**53**/20,**mb4.3**/18,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**21.15**	**143**	P	**P**	**00 08 58.1**	**-0.6**
	4.1nm,0.8s,baz=57,slow=23,SNR=2.2						
SIJI	**Sorong**	**22.09**	**281**	P	**P**	**00 09 08.3**	**-0.5**
	4.3nm,0.3s,baz=140,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**23.21**	**230**	P	**P**	**00 09 20.3**	**-0.2**
	17nm,1.1s,baz=48,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**25.86**	**223**	P	**P**	**00 09 44.5**	**-0.5**
	3.6nm,0.8s,baz=51,slow=9.2,SNR=4.2						
FITZ	**Fitzroy Crossi**	**29.54**	**242**	P	**P**	**00 10 18.2**	**+0.3**
	12nm,1.1s,baz=72,slow=11,SNR=2.3						
JNU	**Nakatsue**	**43.60**	**333**	P	**P**	**00 12 17.4**	**0.0**
	12nm,0.8s,baz=149,slow=3.3,SNR=5.7						
KSRS	**Korea Array**	**48.54**	**333**	P	**P**	**00 12 55.0**	**-1.1**
	1.7nm,0.9s,baz=146,slow=6.9,SNR=2.5						
ASAJ	**Asahikawa**	**50.10**	**350**	P	**P**	**00 13 07.8**	**-0.1**
	2.6nm,0.3s,baz=242,slow=11,SNR=3.6						
KLR	**Kul'dur**	**57.39**	**344**	P	**P**	**00 14 01.5**	**+0.3**
	2.5nm,0.9s,baz=128,slow=9.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**58.24**	**295**	P	**P**	**00 14 08.3**	**+0.6**
	1.2nm,0.4s,baz=104,slow=5.7,SNR=5.0						
PETK	**Petropavlovsk-**	**58.36**	**3**	P	**P**	**00 14 08.0**	**+0.1**
	2.6nm,0.6s,baz=194,slow=3.6,SNR=3.0						
SONM	**Songino Array**	**66.85**	**328**	P	**P**	**00 15 04.4**	**-0.5**
	0.8nm,0.5s,baz=137,slow=5.7,SNR=2.5						
VNDA	**Vanda**	**72.30**	**178**	P	**P**	**00 15 38.4**	**+0.6**
	1.0nm,0.6s,baz=355,slow=6.9,SNR=2.3						
MKAR	**Makanchi Array**	**80.82**	**319**	P	**P**	**00 16 27.7**	**+1.0**
	1.4nm,0.8s,baz=89,slow=8.3,SNR=4.5						
ZALV	**Zalesovo Beam**	**81.67**	**326**	P	**P**	**00 16 30.8**	**-0.2**
	3.9nm,0.7s,baz=132,slow=4.4,SNR=4.4						
ILAR	**Eielson Array**	**82.53**	**22**	P	**P**	**00 16 36.0**	**+0.5**
	0.9nm,0.7s,baz=252,slow=5.1,SNR=2.8						
AAK	**Ala-Archa**	**85.14**	**313**	P	**P**	**00 16 49.5**	**+0.3**
	2.1nm,0.7s,baz=125,slow=14,SNR=2.2						
BVAR	**Borovoye Array**	**89.75**	**323**	P	**P**	**00 17 10.9**	**-0.2**
	2.6nm,0.7s,baz=156,slow=16,SNR=6.5						
BDFB	**Brasilia**	**150.59**	**135**	PKPbc	**PKPbc**	**00 24 05.4**	**-0.3**
	5.6nm,0.8s,baz=270,slow=3.0,SNR=2.4						
TORD	**Torodi Ar. Bea**	**150.61**	**287**	PKPbc	**PKiKP**	**00 24 06.3**	**-0.1**
	5.6nm,0.8s,baz=47,slow=3.0,SNR=4.3						

IDC 30 00:05:52.1±2.6,**4°31S×152°49E,h0**km,**mb4.0**/3, **mb1 4.3**/3,**mb1mx3.8**/51,**mbtmp4.0**/3,**Error ellipse: s-maj=187.6km s-min=32.4km az=126.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.54**	**227**	P	P	00 11 05.7	+1.3
	4.5nm,0.9s,baz=52,slow=9.7,SNR=2.9						
ASAR	**Alice Springs**	**26.30**	**221**	P	P	00 11 29.1	-0.7
	1.1nm,0.7s,baz=56,slow=8.7,SNR=1.6						
ILAR	**Eielson Array**	**81.83**	**22**	P	P	00 18 13.1	+0.2
	1.6nm,1.0s,baz=252,slow=5.5,SNR=2.4						
TORD	**Torodi Ar. Bea**	**149.85**	**289**	PKPbc	PKPbc	00 25 44.5	-1.0
	1.6nm,0.9s,baz=90,slow=2.9,SNR=2.5						

*IDC **30** 00:06:36.3±1.0,5°.23S×153°.00E,h0km,mb4.1/10, mb1 4.4/10,mb1mx4.1/51,mbtmp4.2/10,Error ellipse: s-maj=31.3km s-min=20.7km az=111.0*

ISC 30 00:06:41.4±0.9,**5°3S**±0.1×**153°0E**±0.2,**h35**km,**n11,** σ0**58**/11,**mb4.0**/10,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**21.17**	**143**	P	**P**	**00 11 23.6**	**-0.3**
	3.8nm,0.8s,baz=49,slow=14,SNR=1.8						
WRA	**Warramunga Arr**	**23.31**	**230**	P	**P**	**00 11 45.8**	**-0.6**
	1.5nm,0.4s,baz=54,slow=9.3,SNR=1.7						
ASAR	**Alice Springs**	**25.96**	**223**	P	**P**	**00 12 11.5**	**+0.6**
	2.9nm,0.6s,baz=58,slow=8.9,SNR=5.6						
FITZ	**Fitzroy Crossi**	**29.63**	**242**	P	**P**	**00 12 43.9**	**+0.1**
	5.1nm,0.8s,baz=67,slow=8.7,SNR=2.1						
KSRS	**Korea Array**	**48.50**	**333**	P	**P**	**00 15 19.9**	**-1.0**
	0.6nm,0.5s,baz=144,slow=8.7,SNR=1.8						
CMAR	**Chiang Mai Arr**	**58.27**	**295**	P	**P**	**00 16 33.2**	**+0.2**
	1.3nm,0.3s,baz=110,slow=5.3,SNR=6.9						
PETK	**Petropavlovsk-**	**58.28**	**3**	P	**P**	**00 16 32.6**	**+0.1**
	1.8nm,0.4s,baz=161,slow=8.0,SNR=7.3						
SONM	**Songino Array**	**66.83**	**328**	P	**P**	**00 17 29.8**	**0.0**
	0.4nm,0.4s,baz=133,slow=6.1,SNR=2.5						
MKAR	**Makanchi Array**	**80.81**	**319**	P	**P**	**00 18 52.0**	**+0.3**
	0.5nm,0.4s,baz=95,slow=7.1,SNR=6.9						
ILAR	**Eielson Array**	**82.50**	**22**	P	**P**	**00 19 00.8**	**+0.6**
	7.2nm,0.8s,baz=241,slow=5.6,SNR=17						
TORD	**Torodi Ar. Bea**	**150.65**	**287**	PKPbc	**PKPbc**	**00 26 30.3**	**-0.6**
	1.7nm,0.6s,baz=75,slow=2.3,SNR=5.6						

*IDC **30** 00:08:13.4±1.0,5°.03S×152°.76E,h0km,mb4.3/10, mb1 4.4/10,mb1mx4.1/56,mbtmp4.3/10,Error ellipse: s-maj=30.7km s-min=21.6km az=78.0*

ISC 30 00:08:19.3±0.9,**5°1S**±0.1×**152°8E**±0.1,**h43**km,**n14,** σ0**82**/14,**mb4.3**/10,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.07**	**232**	Sn	**Sn**	**00 11 20.0**	**+0.5**
	2.4nm,0.3s,baz=197,slow=23,SNR=3.5						
DZM	**Mont Dzumac**	**21.46**	**143**	P	**P**	**00 13 05.1**	**+0.8**
	26nm,1.1s,baz=344,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**23.27**	**229**	P	**P**	**00 13 23.4**	**0.0**
	12nm,1.0s,baz=52,slow=9.5,SNR=4.3						
ASAR	**Alice Springs**	**25.96**	**223**	P	**P**	**00 13 47.0**	**-1.1**
	2.3nm,0.7s,baz=58,slow=8.5,SNR=1.5						
FITZ	**Fitzroy Crossi**	**29.54**	**242**	P	**P**	**00 14 20.1**	**+0.1**
	4.7nm,0.6s,baz=62,slow=9.8,SNR=2.6						
JNU	**Nakatsue**	**43.29**	**333**	P	**P**	**00 16 16.5**	**-0.5**
	5.4nm,0.8s,baz=47,slow=4.6,SNR=3.9						
KSRS	**Korea Array**	**48.23**	**333**	P	**P**	**00 16 55.8**	**-0.1**
	0.4nm,0.3s,baz=132,slow=8.7,SNR=1.4						
CMAR	**Chiang Mai Arr**	**57.98**	**295**	P	**P**	**00 18 07.8**	**-0.3**
	2.0nm,0.7s,baz=116,slow=5.6,SNR=5.0						
SONM	**Songino Array**	**66.54**	**328**	P	**P**	**00 19 06.9**	**+1.9**
	0.5nm,0.5s,baz=134,slow=4.2,SNR=1.7						
ZALV	**Zalesovo Beam**	**81.36**	**326**	P	**P**	**00 20 31.4**	**0.0**
	4.4nm,0.6s,baz=113,slow=4.0,SNR=2.3						
BVAR	**Borovoye Array**	**89.44**	**323**	P	**P**	**00 21 10.8**	**-0.9**
	3.1nm,0.8s,baz=101,slow=4.7,SNR=3.6						
LPAZ	**La Paz**	**134.30**	**118**	PKP	**PKiKP**	**00 27 35.0**	**-0.7**
	6.7nm,1.3s,baz=210,slow=7.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.38**	**288**	PKPbc	**PKiKP**	**00 28 07.6**	**-0.3**
	7.0nm,0.9s,baz=48,slow=2.6,SNR=7.5						
BDFB	**Brasilia**	**150.89**	**135**	PKPbc	**PKPbc**	**00 28 08.4**	**-0.1**
	7.7nm,0.8s,baz=199,slow=3.0,SNR=7.1						

IDC 30 00:12:16.3±3.6,**5°24S×153°38E,h0**km,**mb3.8**/5, **mb1 4.0**/5,**mb1mx3.6**/56,**mbtmp3.9**/5,**Error ellipse: s-maj=121.7km s-min=32.0km az=114.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.60**	**230**	P	P	00 17 28.0	-1.1
	2.1nm,0.7s,baz=55,slow=9.9,SNR=4.6						
ASAR	**Alice Springs**	**26.23**	**224**	P	P	00 17 52.6	-0.6
	1.0nm,0.8s,baz=56,slow=9.9,SNR=2.5						
FITZ	**Fitzroy Crossi**	**29.96**	**242**	P	P	00 18 28.4	+1.7
	1.6nm,0.9s,baz=90,slow=9.1,SNR=1.5						
MKAR	**Makanchi Array**	**81.03**	**319**	P	P	00 24 32.9	-0.4
	0.8nm,0.9s,baz=99,slow=4.5,SNR=2.1						
ZALV	**Zalesovo Beam**	**81.84**	**326**	P	P	00 24 36.7	-0.6
	1.0nm,0.6s,baz=123,slow=5.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**150.99**	**288**	PKPbc	PKiKP	00 32 12.9	0.0
	0.4nm,0.5s,baz=86,slow=2.8,SNR=4.3						

*IDC **30** 00:12:48.0±1.7,5°.03S×152°.77E,h0km,mb4.0/10, mb1 4.2/10,mb1mx3.8/56,mbtmp4.0/10,Error ellipse: s-maj=61.1km s-min=22.3km az=125.0*

ISC 30 00:12:53.3±1.7,**5°1S**±0.3×**152°7E**±0.4,**h35**km,**n11,** σ0**76**/11,**mb4.0**/10,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.21**	**229**	P	**P**	**00 17 58.0**	**+0.6**
	1.1nm,0.7s,baz=53,slow=9.9,SNR=1.9						
ASAR	**Alice Springs**	**25.90**	**223**	P	**P**	**00 18 23.2**	**+0.9**
	1.0nm,0.8s,baz=53,slow=9.7,SNR=2.9						
FITZ	**Fitzroy Crossi**	**29.46**	**242**	P	**P**	**00 18 52.9**	**-1.3**
	2.4nm,0.8s,baz=60,slow=8.8,SNR=2.7						
CMAR	**Chiang Mai Arr**	**57.92**	**295**	P	**P**	**00 22 43.2**	**+0.7**
	1.4nm,0.3s,baz=116,slow=4.9,SNR=5.0						
PETK	**Petropavlovsk-**	**58.11**	**4**	P	**P**	**00 22 42.8**	**-0.3**
	1.8nm,0.6s,baz=187,slow=8.0,SNR=2.4						
MKAR	**Makanchi Array**	**80.47**	**319**	P	**P**	**00 25 02.0**	**+0.2**
	0.4nm,0.7s,baz=96,slow=5.3,SNR=2.1						
ZALV	**Zalesovo Beam**	**81.33**	**326**	P	**P**	**00 25 06.3**	**+0.2**
	0.5nm,0.3s,baz=125,slow=7.0,SNR=2.8						
ILAR	**Eielson Array**	**82.43**	**22**	P	**P**	**00 25 11.3**	**-0.4**
	0.9nm,0.7s,baz=250,slow=5.0,SNR=5.7						
NRIK	**Noril'sk**	**86.19**	**341**	P	**P**	**00 25 30.5**	**-0.1**
	0.9nm,0.4s,baz=78,slow=4.9,SNR=2.1						
INK	**Inuvik**	**88.73**	**21**	P	**P**	**00 25 43.7**	**+0.8**
	1.1nm,0.8s,baz=277,slow=4.7,SNR=1.5						
TORD	**Torodi Ar. Bea**	**150.31**	**288**	PKPbc	**PKPbc**	**00 32 41.5**	**-0.5**
	0.7nm,0.3s,baz=78,slow=2.2,SNR=3.6						

IDC 30 00:14:29.8±1.9,**5°07S×152°59E,h0**km,**mb4.1**/5, **mb1 4.4**/5,**mb1mx3.7**/61,**mbtmp4.2**/5,**Error ellipse: s-maj=63.8km s-min=27.5km az=124.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.11**	**229**	P	P	00 19 38.2	+0.5
	2.1nm,0.5s,baz=56,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**25.81**	**222**	P	P	00 20 03.1	+0.2
	1.7nm,0.5s,baz=57,slow=9.1,SNR=2.2						
FITZ	**Fitzroy Crossi**	**29.35**	**242**	P	P	00 20 34.0	-0.6
	2.5nm,0.5s,baz=66,slow=9.3,SNR=2.6						
CMAR	**Chiang Mai Arr**	**57.80**	**295**	P	P	00 24 23.2	-0.3
	1.9nm,0.3s,baz=115,slow=6.5,SNR=5.3						
ILAR	**Eielson Array**	**82.48**	**22**	P	P	00 26 54.2	+0.2
	0.6nm,0.7s,baz=253,slow=4.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.19**	**288**	PKPbc	PKPbc	00 34 23.4	-0.5
	0.7nm,0.6s,baz=84,slow=2.7,SNR=3.2						

*IDC **30** 00:15:24.8±0.3,5°.15S×152°.58E,h0km,mb5.0/49, mb1 5.1/52,mb1mx5.0/64,mbtmp5.0/52,ML4.4/3,Error ellipse: s-maj=10.9km s-min=9.2km az=82.0*
*MOS **30** 00:15:29.2±1.1,4°.99S×152°.55E,h30km,mb5.4/31, MS6.5/7,Error ellipse: s-maj=9.4km s-min=5.9km az=112.6*
*BJI **30** 00:15:30.0±0.0,4°.61S×152°.93E,h35km,mB5.2/4, mb5.2/45*
*NEIC **30** 00:15:31.4±2.1,5°.21S±0°.05×152°.60E±0°.05,h42km±4km, mb5.7/184,Error ellipse: s-maj=7.9km s-min=6.5km az=224.0*
*DJA **30** 00:15:33.1±0.3,5°.S±2°×15°.3E±°,h66km±3km,M6.1/50, mB6.7/7,mb5.5/50,ML v6.0/3,Mw(mB)6.6/7*

ISC 30 00:15:32.5±0.2,**5°22S**±0°.04×**152°.63E**±0°.04,**h55**km,**n603,** σ1**32**/547,**mb5.4**/188,**38C-27D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.12**	**335**	Pn	**Pn**	**00 15 50.4**	**-1.6**
RABL				Sn	**Sn**	**00 16 06.8**	**+0.3**
RABL	**Rabaul**	**1.12**	**335**	P	**Pn**	**00 15 51.1**	**-0.9**
MANU	**Manus Island**	**6.13**	**301**	Pn	**Pn**	**00 17 01.9**	**+1.4**
PMG	**Port Moresby**	**6.84**	**232**	Pn	**Pn**	**00 17 09.1**	**-1.1**
	34nm,0.3s,baz=54,slow=7.4,SNR=46						
PMG				Sn	**Sn**	**00 18 23.9**	**-2.9**
	28nm,0.3s,baz=95,slow=3.9,SNR=1.7						
PMG	**Port Moresby**	**6.84**	**232**	*ceP*	**Pn**	**00 17 10.8**	**+0.5**
PMG				pmax	pmax		
	comp=Z,586nm,0.8s						
PMG	**Port Moresby**	**6.84**	**232**	Pn	**Pn**	**00 17 09.6**	**-0.7**
PMG				Sn	**Sn**	**00 18 26.4**	**-0.4**
PMG	**Port Moresby**	**6.84**	**232**	P	**Pn**	**00 17 10.7**	**+0.5**
HNR	**Honiara**	**8.38**	**120**	Pn	**Pn**	**00 17 29.4**	**-1.9**
	comp=Z,16nm,0.3s,baz=217,slow=5.3,SNR=3.8						
HNR				Sn	**Sn**	**00 18 59.7**	**-4.8**
	baz=292,slow=15,SNR=1.2						
HNR	**Honiara**	**8.38**	**120**	P	**Pn**	**00 17 31.9**	**+0.6**
HNR	**Honiara**	**8.38**	**120**	Pn	**Pn**	**00 17 31.9**	**+0.6**
HNR	**Honiara**	**8.38**	**120**	P	**Pn**	**00 17 31.2**	**-0.1**
JAY	**Jayapura**	**12.20**	**282**	Pn	**Pn**	**00 18 19.6**	**-4.1**
	comp=Z,1.0nm,0.3s,baz=99,slow=19,SNR=2.0						
MMPI	**Merauke**	**12.58**	**254**	P	**Pn**	**00 18 29.0**	**+0.2**
GENI	**Genyem**	**12.70**	**281**	P	**Pn**	**00 18 31.4**	**+0.9**
	comp=Z,239nm,2.0s						
COEN	**Coen**	**12.74**	**226**	Pn	**Pn**	**00 18 30.6**	**-0.4**
PATS	**Pohnpei**	**13.25**	**25**	P	**Pn**	**00 18 38.0**	**+0.1**
	baz=13,SNR=5.7						
PATS	**Pohnpei**	**13.25**	**25**	Pn	**Pn**	**00 18 35.0**	**-2.9**
MTSU	**Mount Surprise**	**15.20**	**212**	P	**Pn**	**00 19 03.9**	**+0.2**
	baz=15,SNR=42						
CTA	**Charters Tower**	**16.03**	**202**	Pn	**Pn**	**00 19 12.1**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=26,slow=14,SNR=2.4						
CTA	**Charters Tower**	**16.03**	**202**		**Pn**	**00 19 12.1**	**-2.4**
CTAO	**Charters Tower**	**16.03**	**202**	P	**Pn**	**00 19 14.8**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,373nm,1.7s						
CTAO	**Charters Tower**	**16.03**	**202**		**Pn**	**00 19 14.8**	**+0.3**
SRPI	**Serui, Papua**	**16.69**	**281**	P	**P**	**00 19 25.3**	**+0.9**
BAKI	**Biak**	**16.97**	**283**	P	**P**	**00 19 28.0**	**+0.5**
	comp=Z,236nm,2.1s						
SANVU	**Saraoutou**	**17.56**	**126**		**Pn**	**00 19 33.2**	**-0.3**
SANVU	**Saraoutou**	**17.56**	**126**	P	**Pn**	**00 19 33.5**	**0.0**
DVP	**Devils Point**	**19.65**	**131**	P	**Pn**	**00 20 00.2**	**+1.6**
	comp=Z,357µm,0.9s						
QIS	**Mount Isa**	**19.82**	**219**	P	**P**	**00 19 58.9**	**+0.2**
	baz=20,SNR=38						
EIDS	**Eidsvold**	**20.09**	**184**	P	**P**	**00 20 01.9**	**+0.3**
	baz=20,SNR=7.4						
EIDS	**Eidsvold**	**20.09**	**184**	P	**P**	**00 20 01.9**	**+0.3**
GUMO	**Guam**	**20.21**	**338**	P	**P**	**00 20 02.2**	**-0.8**
GUMO				pmax	pmax		
	comp=Z,1µm,1.4s						
GUMO	**Guam**	**20.21**	**338**	P	**P**	**00 20 02.2**	**-0.8**
GUMO	**Guam**	**20.21**	**338**	P	Pn	00 20 04.8	-0.5
FAKI	**Fak Fak**	**20.46**	**276**		**P**	**00 20 05.7**	**0.0**
FAKI	**Fak Fak**	**20.46**	**276**	P	**P**	**00 20 06.2**	**+0.5**
	comp=Z,158nm,1.3s						
LIFNC	**LIFOU**	**20.99**	**139**	P	**P**	**00 20 11.7**	**+0.3**
KDU	**Kakadu**	**21.24**	**248**	P	**P**	**00 20 12.9**	**-1.2**
	baz=21,SNR=45						
DZM	**Mont Dzumac**	**21.44**	**143**	P	**P**	**00 20 16.1**	**-0.2**
	comp=Z,105nm,0.9s,baz=350,slow=9.0,SNR=25						
DZM	**Mont Dzumac**	**21.44**	**143**	*eP*	**P**	**00 20 16.9**	**+0.6**
DZM	**Mont Dzumac**	**21.44**	**143**	P	**P**	**00 20 16.7**	**+0.5**
DZM				lAmb	lAmb	00 21 04.7	
	comp=Z,257nm,1.2s						
DZM	**Mont Dzumac**	**21.44**	**143**	P	**P**	**00 20 16.8**	**+0.5**
RMQ	**Roma**	**21.47**	**190**	P	**P**	**00 20 16.7**	**+0.2**
	baz=22,SNR=7.8						
ONTNC	**Quen Toro**	**21.62**	**143**	P	**P**	**00 20 19.5**	**+1.4**
YATNC	**Mamie plateau,**	**21.70**	**142**	P	**P**	**00 20 19.6**	**+0.6**
SIJI	**Sorong**	**21.76**	**281**	P	**P**	**00 20 17.9**	**-1.8**
	comp=Z,25nm,0.6s,baz=84,slow=8.6,SNR=14						
SIJI	**Sorong**	**21.76**	**281**	P	**P**	**00 20 17.9**	**-1.8**
SWI	**Sorong**	**21.77**	**281**	P	**P**	**00 20 19.9**	**+0.1**
	comp=Z,260nm,0.7s						
OUENC	**Ouen Island, N**	**21.94**	**143**	P	**P**	**00 20 20.7**	**-0.8**
MARNC	**Mare, Loyalty**	**22.01**	**139**	P	**P**	**00 20 24.5**	**+2.3**
PINNC	**Pines Island,**	**22.45**	**142**	P	**P**	**00 20 29.1**	**+2.0**
MTN	**Manton Dam**	**22.53**	**249**	P	**P**	**00 20 27.3**	**-0.6**
	baz=22,SNR=28						
MTN	**Manton Dam**	**22.53**	**249**	P	**P**	**00 20 27.4**	**-0.6**
MTN				lAmb	lAmb	00 21 00.4	
	comp=Z,148nm,1.0s						
QLP	**Quilpie**	**22.71**	**200**	P	**P**	**00 20 29.1**	**-0.7**
	baz=23,SNR=7.4						
WB0	**Warramunga Arr**	**22.90**	**229**	P	**P**	**00 20 30.9**	**-1.0**
WB0				lAmb	lAmb	00 20 34.2	
	comp=Z,973nm,1.8s						
WR0	**Warramunga Arr**	**22.91**	**229**	P	**P**	**00 20 31.4**	**-0.4**
WRAB	**Tennant Creek**	**23.03**	**229**	*ceP*	**P**	**00 20 32.5**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,486nm,1.7s						
WRAB	**Tennant Creek**	**23.03**	**229**	P	**P**	**00 20 31.0**	**-2.2**
WRAB				lAmb	lAmb	00 20 35.5	
	comp=Z,720nm,1.6s						
WB2	**Warramunga Arr**	**23.04**	**229**	P	**P**	**00 20 32.4**	**-0.8**
	baz=23						
WB2	**Warramunga Arr**	**23.04**	**229**	P	**P**	**00 20 32.3**	**-0.8**
WB2				lAmb	lAmb	00 20 35.6	
	comp=Z,739nm,1.6s						
WRA	**Warramunga Arr**	**23.05**	**229**	P	**P**	**00 20 31.8**	**-1.6**
	comp=Z,39nm,0.5s,baz=53,slow=9.9,SNR=46						
WRA				S	**S**	**00 24 41.4**	**+1.2**
	comp=Z,6.9nm,0.8s,baz=52,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**23.05**	**229**	*ceP*	**P**	**00 20 32.7**	**-0.6**
WRA				pmax	pmax		
	comp=Z,48nm,0.6s						
WRA	**Warramunga Arr**	**23.05**	**229**	P	**P**	**00 20 31.4**	**-1.9**
ARMA	**Armidale**	**25.09**	**182**	P	**P**	**00 20 52.7**	**+0.6**
	baz=25,SNR=7.7						
ARMA	**Armidale**	**25.09

JOW Kunigami 39.63 325 P P 00 22 59.8 +0.7
JOW IAmb IAmb 00 23 27.7
comp=Z,85nm,1.1s

URZ Urewera 39.72 149 P P 00 23 00.4 +0.8
comp=Z,14nm,0.7s,baz=298,slow=19,SNR=5.5

URZ Urewera 39.72 149 P P 00 23 00.6 +1.1
BKZ Black Stump Fm 40.11 151 IAmb IAmb 00 23 51.6
comp=Z,108nm,1.7s

THZ Tophouse 40.64 157 IAmb IAmb 00 23 26.6
comp=Z,63nm,0.8s

PBKI Pangkalan Bun 40.93 272 P P 00 23 10.4 +0.4
comp=Z,93nm,0.9s

SBUM Sibu 41.08 280 P P 00 23 10.7 -0.6
SBUM Sibu 41.08 280 P P 00 23 11.0 -0.2
LTZ Lake Taylor 41.27 158 P P 00 23 13.0 +0.6
LTZ IAmb IAmb 00 23 14.1
comp=Z,254nm,1.7s

KHZ Kahutara 41.44 156 P P 00 23 12.7 -1.0
KHZ IAmb IAmb 00 23 43.0
comp=Z,144nm,1.7s

RPZ Rata Peaks 41.64 160 P P 00 23 15.6 +0.2
comp=Z,17nm,0.9s,baz=347,slow=5.9,SNR=5.4

RPZ Rata Peaks 41.64 160 P P 00 23 16.7 +1.3
YULB Yu-li 41.76 314 P P 00 23 15.9 -0.8
KLBR Kellerberrin 41.90 227 P P 00 23 16.3 -1.4
baz=42,SNR=12

MORW Morawa 41.96 231 P P 00 23 17.5 -0.8
baz=42,SNR=13

MORW Morawa 41.96 231 P P 00 23 16.9 -1.3
BLDU Ballidu 42.18 229 P P 00 23 19.1 -0.9
baz=42,SNR=8.8

YHNB Yeheng 42.52 316 P P 00 23 23.6 +0.7
YHNB IAmb IAmb 00 23 57.1
comp=Z,89nm,1.0s

KSM Kuching 42.80 278 P P 00 23 26.0 +0.8
NWAO Narrogin (SRO) 42.98 226 P P 00 23 25.2 -1.3
comp=Z,9.2nm,0.8s,baz=204,slow=14,SNR=3.5

NWAO Narrogin (SRO) 42.98 226 P P 00 23 25.2 -1.3
NWAO pmax pmax
comp=Z,26nm,1.4s

NWAO Narrogin (SRO) 42.98 226 P P 00 23 25.2 -1.3
MUN Mundaring 43.23 227 P P 00 23 27.8 -0.7
baz=43,SNR=5.3

JNU Nakatsue 43.35 333 P P 00 23 28.8 -0.7
comp=Z,40nm,0.8s,baz=159,slow=2.8,SNR=12

JNU Nakatsue 43.35 333 P P 00 23 29.4 -0.1
JNU IAmb IAmb 00 23 41.4
comp=Z,84nm,1.1s

MJAR Matsushiro Arr 43.68 343 P P 00 23 29.5 -2.5
comp=Z,5.4nm,0.9s,baz=172,slow=8.2,SNR=9.9

MJAR ScP **ScP 00 29 10.6 +5.1**
comp=Z,8.6nm,0.9s,baz=159,slow=4.6,SNR=9.7

MAJO Matsushiro 43.68 343 P P 00 23 29.7 -2.3
MAJO pmax pmax
comp=Z,11nm,0.9s

MAJO Matsushiro 43.68 343 P P 00 23 29.7 -2.3
MAT Matsushiro 43.68 343 P P 00 23 29.1 -2.9
JHS Saijyo 44.02 337 P P 00 23 34.0 -0.8
MIDW Midway 44.05 39 P P 00 23 33.6 -1.5
MIDW IAmb IAmb 00 23 35.9
comp=Z,190nm,0.9s

LEM Lembang 44.78 266 P P 00 23 40.6 -0.8
comp=Z,20nm,0.5s,baz=359,slow=13,SNR=3.9

TPI Tanjungpandan 44.93 271 P P 00 23 42.0 -0.4
JTM Tenmabayashi 46.99 348 P P 00 23 57.2 -0.9
JTM IAmb IAmb 00 23 58.0
comp=Z,64nm,0.9s

TJN Taejon 47.66 332 *ce*P **P 00 24 02.7 -0.7**
KLSI 47.72 268 P P 00 24 03.6 -0.7
PMBI Palembang 47.78 271 P P 00 24 05.0 +0.2
comp=Z,232nm,0.4s

ERM Erimo 47.79 350 *i* P **P 00 24 04.0 -0.3**
KASI Kota Agung 47.91 267 P P 00 24 05.1 -0.7
comp=Z,42nm,1.3s

KSRS Korea Array 48.29 334 P P 00 24 07.3 -1.0
comp=Z,5.9nm,0.9s,baz=148,slow=8.4,SNR=21

KSAR Wonju Array Be 48.30 333 P P 00 24 07.6 -0.8
KSAR Wonju Array Be 48.30 333 P P 00 24 07.6 -0.8
LWLI Liwa 48.37 268 P P 00 24 07.8 -1.7
comp=Z,52nm,0.5s

QIZ Qiongzhong 48.54 301 P P 00 24 11.3 +0.8
QIZ S S **00 31 13.0 +4.7**
JEW Eniwo 48.90 349 P P 00 24 12.1 -0.7
JEW IAmb IAmb 00 24 30.9
comp=Z,200nm,1.4s

INCN Inchon 48.90 332 P P 00 24 12.7 -0.3
INCN pmax pmax
comp=Z,70nm,0.9s

INCN Inchon 48.90 332 P P 00 24 12.7 -0.3
INCN IAmb IAmb 00 24 38.9
comp=Z,70nm,0.8s

LHSI Lahat 48.97 269 P P 00 24 12.5 -1.4
comp=Z,36nm,0.9s

JMBI JAMBI 49.02 272 P P 00 24 15.0 +0.7
NJ2 Nanjing 49.06 321 *eP* **P 00 24 16.0 +1.7**
NJ2 pmax pmax
comp=Z,18nm,0.5s

JKA Kamikawa-asahi 49.93 351 P P 00 24 20.7 0.0
ASAJ Asahikawa 49.93 351 P P 00 24 20.5 -0.2
comp=Z,23nm,0.7s,baz=230,slow=12,SNR=23

ASAJ Asahikawa 49.93 351 P P 00 24 20.7 0.0
ASAJ pmax pmax
comp=Z,30nm,0.9s

XMAS Kiritimati 50.39 83 P P 00 24 25.8 +1.0
XMAS Kiritimati 50.39 83 P P 00 24 25.1 +0.4
RGRI Rengat 50.45 274 P P 00 24 24.7 -0.5
comp=Z,17µmcomp=Z,62nm,0.4s

WHN Wuhan 51.04 317 ⇑P **P 00 24 30.8 +1.5**
BKNI Bangkinang 51.82 275 P P 00 24 34.4 -1.1
comp=Z,106µmcomp=Z,94nm,0.9s

IPM Ipoh 52.44 280 P P 00 24 40.0 -0.1
USA0B Ussuriysk Arra 52.59 341 ⇓ *i* P **P 00 24 40.2 -0.4**
USA0B Ussuriysk Arra 52.59 341 P P 00 24 40.3 -0.3
USRK Ussuriysk Ar. 52.59 341 P P 00 24 40.2 -0.4
comp=Z,8.4nm,0.7s,baz=174,slow=7.5,SNR=17

USRK Ussuriysk Ar. 52.59 341 P P 00 24 39.8 -0.8
USRK Ussuriysk Ar. 52.59 341 P P 00 24 39.8 -0.8
YSS Yuzh-Sakhalins 52.67 352 *eP* **P 00 24 40.8 -0.4**
YSS *e* 00 24 50.6
YSS *e* 00 25 52.0
YSS pmax pmax
comp=Z,20nm,1.1s

KULM Kulim 52.95 281 P P 00 24 44.0 +0.2
TIA Tai'an 52.95 324 P P 00 24 43.5 +0.1
TIA pmax pmax
comp=Z,7.0nm,0.6s

MNSI Mandailing Nat 53.32 275 P P 00 24 44.8 -1.8
comp=Z,45nm,0.7s

PSI Prapat 54.24 277 P P 00 24 52.0 -1.5
comp=Z,3.4nm,0.4s,baz=180,slow=2.3,SNR=5.0

ENH Enshi 54.31 313 P P 00 24 53.0 -0.6
ENH IAmb IAmb 00 24 56.4
comp=Z,48nm,0.9s

GYA Guiyang 54.51 308 ⇑P **P 00 24 56.0 +0.8**
GYA pP pP 00 25 05.3 -3.6
GYA pmax pmax
comp=Z,9.0nm,0.8s

CN2 Changchun 54.61 336 *eP* **P 00 24 54.8 -0.6**
TSI Tuntungan 54.70 278 P P 00 24 54.6 -2.0
KIP Kipapa 55.13 59 *ce*P **P 00 24 57.9 -1.7**
KIP pmax pmax
comp=Z,57nm,0.9s

GSI Gunungsitoli 55.37 275 P P 00 25 03.4 +1.9
GSI IAmb IAmb 00 25 15.1
comp=Z,34nm,0.8s

GSI Gunungsitoli 55.37 275 P P 00 24 59.8 -1.7
comp=Z,67nm,1.3s

BJI Beijing 56.15 327 P P 00 25 05.8 -0.7
KHLU Kahalu`u 56.31 62 P P 00 25 09.2 +1.0
KHLU IAmb IAmb 00 25 09.4
comp=Z,93nm,0.8s

KHU Kahuku 56.43 63 P P 00 25 09.9 +0.6
KHU pmax pmax
comp=Z,196nm,0.8s

KHU Kahuku 56.43 63 P P 00 25 09.9 +0.6
TYV Tymovskoe 56.51 352 *eP* **P 00 25 08.6 -0.3**
TYV pmax pmax
comp=Z,23nm,1.4s

XAN Xi'an 56.81 317 IAmb IAmb 00 25 12.1
comp=Z,26nm,0.6s

SUKH Sukhothai 56.97 295 P P 00 25 16.0 +3.2
KMI Kunming 57.08 304 ⇓P **P 00 25 15.0 +1.2**
KMI pP pP 00 25 27.0 -0.5
KMI sP pwP 00 25 30.5 -1.7
KMI pmax pmax
comp=Z,13nm,0.9s

KLR Kul'dur 57.20 344 P P 00 25 13.0 -0.8
comp=Z,9.7nm,0.7s,baz=172,slow=2.4,SNR=29

KLR Kul'dur 57.20 344 *ce*P **P 00 25 13.2 -0.6**
KLR pmax pmax
comp=Z,74nm,2.0s

KLR MLR MLR
comp=Z,48µm,17.0s

LAMP Lampang 57.30 296 P P 00 25 16.7 +1.5
GRNR Gornyy 57.49 348 ⇓ *i* P **P 00 25 15.4 -0.5**
GRNR pmax pmax
comp=Z,4.0nm,1.2s

GRNR MLR MLR
comp=N,11µm,16.0s

GRNR MLR MLR
comp=E,15µm,16.0s

GRNR MLR MLR
comp=Z,22µm,16.0s

CM35 Chiang Mai Arr 57.78 296 P P 00 25 19.0 +0.5
CM36 Chiang Mai Arr 57.78 296 P P 00 25 19.0 +0.4
CM34 Chiang Mai Arr 57.84 296 P P 00 25 20.0 +1.0
CM04 Chiang Mai Arr 57.85 295 P P 00 25 20.2 +1.2
CM09 Chiang Mai Arr 57.85 295 P P 00 25 20.6 +1.5
CM01 Chiang Mai Arr 57.88 295 P P 00 25 20.8 +1.5
CM05 Chiang Mai Arr 57.88 295 P P 00 25 20.4 +1.2
CM02 Chiang Mai Arr 57.89 295 P P 00 25 20.9 +1.6
CM31 Chiang Mai Arr 57.90 295 P P 00 25 22.0 +2.6
CMAR Chiang Mai Arr 57.90 295 P P 00 25 18.4 -0.9
comp=Z,14nm,0.9s,baz=111,slow=5.1,SNR=29

CMAR PKP2bc 00 55 14.8
comp=Z,0.9nm,0.3s,baz=291,slow=4.1,SNR=5.6

CMAR Chiang Mai Arr 57.90 295 *i* P **P 00 25 20.6 +1.2**
CMAR pmax pmax
comp=Z,15nm,0.9s

CMAR Chiang Mai Arr 57.90 295 P P 00 25 20.1 +0.7
CM15 Chiang Mai Arr 57.92 295 P P 00 25 21.9 +2.4
CM13 Chiang Mai Arr 57.92 295 P P 00 25 20.9 +1.4
CMMT Chiang Mai 58.01 296 P P 00 25 20.0 -0.2
CM33 Chiang Mai Arr 58.01 296 P P 00 25 20.0 -0.2
CHTO Chiang Mai 58.02 296 P P 00 25 21.1 +0.9
CHTO pmax pmax
comp=Z,29nm,1.2s

CHTO Chiang Mai 58.02 296 P P 00 25 21.1 +0.9
CM32 Chiang Mai Arr 58.05 296 P P 00 25 22.0 +1.6
PET Petropavlovsk 58.24 4 *eP* **P 00 25 20.8 -0.3**
PET pmax pmax
comp=Z,105nm,0.9s

PET MLR MLR
comp=Z,174µm,17.0s

PEA0B Petropavlovsk- 58.26 4 ⇑ *eP* **P 00 25 21.3 +0.1**
PEA0B Petropavlovsk- 58.26 4 P P 00 25 21.6 +0.4
PEA0B IAmb IAmb 00 25 22.5
comp=Z,198nm,1.6s

PETK Petropavlovsk- 58.26 4 P P 00 25 20.6 -0.6
comp=Z,19nm,0.7s,baz=174,slow=8.4,SNR=33

PETK Petropavlovsk- 58.26 4 P P 00 25 21.0 -0.2
PETK Petropavlovsk- 58.26 4 P P 00 25 21.0 -0.2
MHMT Maesarieng 58.73 295 P P 00 25 26.0 +0.9
CD2 Chengdu 58.88 311 P P 00 25 26.5 +0.4
CD2 pmax pmax
comp=Z,90nm,0.6s

HHC Hu-ho-hao-te 59.29 325 *eP* **P 00 25 30.3 +1.6**
HHC pmax pmax
comp=Z,22nm,1.2s

VAH Vaihoa 59.47 105 *eP* **P 00 25 31.5 +1.2**
comp=Z,40nm,0.9s

VAH *e*pP **pP 00 25 40.0 -4.4**
comp=Z,88nm,1.1s

AMKA Amchitka 60.83 19 P P 00 25 39.5 +0.5
HIA Hailar 61.34 336 *i* P **P 00 25 41.8 -0.7**
LZH Lanzhou 61.41 316 *eP* **P 00 25 44.5 +1.1**
LZH pP pP 00 25 55.0 -2.3
LZH sP pwP 00 26 00.5 -1.5
LZH pmax pmax
comp=Z,35nm,1.3s

ZEA Zeya 62.49 343 *eP* **P 00 25 50.2 +0.1**
ZEA *e* 00 28 14.8
ZEA pmax pmax
comp=Z,20nm,1.7s

ADK Adak 62.61 21 P P 00 25 50.4 -0.5
ADK pmax pmax
comp=Z,171nm,0.9s

ADK Adak 62.61 21 P P 00 25 50.4 -0.5
MA2 Magadan 64.61 359 P P 00 26 03.1 -0.8
comp=Z,21nm,0.7s,baz=157,slow=6.3,SNR=27

MA2 Magadan 64.61 359 *ce*P **P 00 26 03.1 -0.8**
MA2 pmax pmax
comp=Z,30nm,1.0s

MA2 MLR MLR
comp=Z,31µm,16.0s

MA2 Magadan 64.61 359 P P 00 26 03.1 -0.8
GTA Gaotai 65.85 317 ⇓P **P 00 26 13.8 +1.2**
GTA pP pP 00 26 22.8 -3.8
GTA sP pwP 00 26 27.3 -4.0
GTA pmax pmax
comp=Z,17nm,0.9s

ULN Ulaanbaatar 66.26 328 *ce*P **P 00 26 14.9 -0.2**
ULN pmax pmax
comp=Z,48nm,2.3s

ULN MLR MLR
comp=Z,19µm,17.0s

ULN Ulaanbaatar 66.26 328 P P 00 26 15.9 +0.8
SHL Shillong 66.37 301 P P 00 26 16.7 +0.4
SHL pmax pmax
comp=Z,211nm,1.5s

SHL Shillong 66.37 301 P P 00 26 16.6 +0.4
SHL IAmb IAmb 00 28 37.4
comp=Z,211nm,1.5s

NIKH Nikolski High 66.46 24 P 00 26 15.8
baz=222

SONM Songino Array 66.58 328 P P 00 26 17.1 0.0
comp=Z,5.6nm,0.6s,baz=150,slow=4.4,SNR=23

SONM Songino Array 66.58 328 P P 00 26 17.4 +0.2
SONM pmax pmax
comp=Z,81nm,1.4s

SONM Songino Array 66.58 328 P P 00 26 17.4 +0.2
SONM IAmb IAmb 00 28 29.9
comp=Z,81nm,1.4s

SEY Seymchan 67.96 360 P P 00 26 24.3 -1.0
comp=Z,6.0nm,0.7s,baz=183,slow=4.5,SNR=9.2

SEY Seymchan 67.96 360 *i* P **P 00 26 25.0 -0.3**
SPIA Saint Paul Isl 69.10 21 P 00 26 33.1
baz=220

YAK Yakutsk 69.35 349 *ce*P **P 00 26 33.9 0.0**
YAK pmax pmax
comp=Z,60nm,1.2s

YAK MLR MLR
comp=Z,24µm,18.0s

ZAK Zakamensk 69.76 329 *eP* **P 00 26 36.7 -0.2**
ZAK pmax pmax
comp=Z,31nm,1.4s

FALS False Pass 70.07 25 P 00 26 38.1
baz=227

BOD Bodaibo 70.12 339 *eP* **P 00 26 37.9 -0.9**
BOD pmax pmax
comp=Z,39nm,1.6s

TLY Talaya 70.35 330 P P 00 26 40.9 +0.5
comp=Z,2.3nm,0.5s,baz=143,slow=5.6,SNR=3.9

TLY Talaya 70.35 330 *i* P **P 00 26 40.6 +0.2**
TLY MLR MLR
comp=Z,23µm,16.0s

TAPN Taplejung 70.48 301 *eP* **P 00 26 42.3 +0.3**
ODAN Odare 70.61 301 *eP* **P 00 26 42.9 +0.1**
comp=Z,77nm,0.6s

RAMN Ramite 71.31 301 *eP* **P 00 26 46.6 -0.5**
comp=Z,20nm,0.5s

SDPT Sand Point 71.66 26 P P 00 26 47.7 -0.5
SDPT Sand Point 71.66 26 P 00 26 48.0
baz=230,SNR=7.3

MOY Mondy 71.68 329 *eP* **P 00 26 49.1 +0.5**
MOY pmax pmax
comp=Z,59nm,1.9s

JIRN Jiri 71.86 301 *eP* **P 00 26 50.1 -0.4**
comp=Z,44nm,0.9s

GUN Gumba 72.19 301 *eP* **P 00 26 52.1 -0.4**
comp=Z,44nm,0.6s

VNDA Vanda 72.42 178 P P 00 26 53.0 +0.6
comp=Z,6.0nm,0.9s,baz=333,slow=6.7,SNR=14

VNDA Vanda 72.42 178 P P 00 26 52.7 +0.2
VNDA pmax pmax
comp=Z,50nm,1.5s

VNDA Vanda 72.42 178 P P 00 26 52.7 +0.2
PKI Pulchoki 72.50 301 *eP* **P 00 26 54.0 -0.3**
comp=Z,73nm,1.2s

PKIN Phulchoki 72.51 301 *eP* **P 00 26 53.6 -0.7**
comp=Z,67nm,1.1s

KKN Kakani 72.67 301 *eP* **P 00 26 54.3 -0.9**
comp=Z,66nm,0.9s

DMN Daman 72.77 301 *eP* **P 00 26 55.8 0.0**
comp=Z,142nm,1.0s

PALK Pallekele 72.84 279 *i* P **P 00 26 55.5 -0.7**
SBA Scott Base 72.97 177 P P 00 26 57.6 +1.9
SBA pmax pmax
comp=Z,89nm,1.6s

SBA Scott Base 72.97 177 P P 00 26 57.6 +1.9
SBA IAmb IAmb 00 28 08.8
comp=Z,89nm,1.6s

CHGN Chignik 73.17 26 IAmb IAmb 00 26 57.6
comp=Z,75nm,0.8s

CHGN Chignik 73.17 26 P 00 26 56.8
baz=232,SNR=7.5

GKN Gorkha 73.28 301 *eP* **P 00 26 58.4 -0.3**
comp=Z,124nm,1.1s

BILL Bilibino 73.72 5 ⇑ *eP* **P 00 27 01.0 +0.8**
BILL pmax pmax
comp=Z,127nm,1.2s

BILL MLR MLR
comp=Z,29µm,17.0s

BILL Bilibino 73.72 5 P P 00 27 01.1 +0.8
BILL IAmb IAmb 00 27 02.0
comp=Z,107nm,1.1s

GAMB Gambell 73.82 16 P 00 27 01.9
baz=217

GAMB Gambell 73.83 16 IAmb IAmb 00 27 02.9
comp=Z,135nm,1.0s

SII Sitkinak Islan 75.21 27 P 00 27 09.7
baz=236,SNR=8.0

WMQ Urumqi 75.93 317 *eP* **P 00 27 14.5 +0.9**
WMQ sP pP 00 27 29.5 +1.6
WMQ pmax pmax
comp=Z,21nm,1.3s

WMQ pmax pmax
comp=Z,240nm,6.1s

WMQ Urumqi 75.93 317 IAmb IAmb 00 28 13.7
comp=Z,114nm,1.8s

OHAK Old Harbor 75.99 27 P 00 27 13.7
baz=236,SNR=16

OHAK Old Harbor 75.99 27 IAmb IAmb 00 27 14.8
comp=Z,103nm,0.8s

ANM Nome 76.22 17 IAmb IAmb 00 27 16.9
comp=Z,137nm,0.8s

ANM Nome 76.22 17 P 00 27 15.4
baz=223

TNA Tin City 76.24 16 IAmb IAmb 00 27 16.5
comp=Z,67nm,0.8s

TNA Tin City 76.24 16 P 00 27 15.5
baz=221

HYB Hyderabad 76.47 289 *i* P **P 00 27 15.0 -2.1**
KDAK Kodiak Island 76.62 27 P 00 27 17.7
baz=237

KDAK Kodiak Island 76.62 27 P P 00 27 17.1 0.0
comp=Z,77nm,0.9s,baz=262,slow=4.3,SNR=23

KDAK Kodiak Island 76.62 27 P P 00 27 17.8 +0.7
KDAK pmax pmax
comp=Z,69nm,0.9s

KDAK Kodiak Island 76.62 27 P P 00 27 17.8 +0.7
KDAK IAmb IAmb 00 27 18.4
comp=Z,69nm,0.9s

SVW2 Sparrevohn 77.27 23 IAmb IAmb 00 27 23.8
comp=Z,108nm,0.8s

HOM Homer 78.06 25 P 00 27 25.5
baz=237

TIXI Tiksi 78.28 353 P P 00 27 25.7 -0.4
comp=Z,3.6nm,0.5s,baz=138,slow=8.2,SNR=10

TIXI Tiksi 78.28 353 ⇓ *i* P **P 00 27 25.6 -0.5**
TIXI Tiksi 78.28 353 P P 00 27 24.0 -2.1
DGZ Jazzator, Alta 78.31 323 *i* P **P 00 27 27.0 0.0**
DGZ pmax pmax
comp=Z,50nm,1.9s

BRLK Bradley Lake 78.44 26 IAmb IAmb 00 27 28.4
comp=Z,105nm,0.8s

BRSE Bradley Lake S 78.49 26 P 00 27 28.2
baz=236

SPCR Spurr Chakacha 78.67 24 P 00 27 28.3
baz=236,SNR=12

ZSN Zaisan 79.08 320 *eP* **P 00 27 32.4 +1.4**
baz=320

ZSN Zaisan 79.08 320 *eP* **P 00 27 32.4 +1.4**
SEW Seward 79.23 26 P 00 27 32.1
baz=239,SNR=14

SEW Seward 79.23 26 IAmb IAmb 00 27 33.0
comp=Z,151nm,0.9s

O22K Cooper Landing 79.31 25 P 00 27 32.7
baz=239,SNR=12

SKT Skwentna 79.37 23 P 00 27 31.5
baz=237,SNR=14

SKT Skwentna 79.37 23 IAmb IAmb 00 27 33.0
comp=Z,49nm,0.9s

SUA Susitna One 79.40 24 P 00 27 32.3
baz=238,SNR=46

RDOG Red Dog Mine 79.42 16 P 00 27 33.9
baz=225

PPLA Purkeypile 79.62 22 IAmb IAmb 00 27 37.7
comp=Z,150nm,1.3s

PPLA Purkeypile 79.62 22 P 00 27 33.1
baz=236,SNR=12

RC01 Rabbit Creek A 79.62 25 P 00 27 33.8
baz=239,SNR=29

CUT Chulitna 80.10 23 IAmb IAmb 00 27 36.7
comp=Z,143nm,1.0s

CUT Chulitna 80.10 23 P 00 27 36.0
baz=238,SNR=11

CHUM Lake Minchumin 80.12 22 P 00 27 37.0
baz=236,SNR=112

PMR Palmer 80.13 24 P 00 27 36.4
baz=239,SNR=32

PMR Palmer 80.13 24 IAmb IAmb 00 27 37.5
comp=Z,115nm,0.9s

KNK Knik Glacier 80.32 25 P 00 27 37.9
baz=240

KNK Knik Glacier 80.32 25 IAmb IAmb 00 27 39.1
comp=Z,160nm,1.2s

KTH Kantishna Hill 80.46 22 IAmb IAmb 00 27 38.8
comp=Z,135nm,0.8s

MK31 Makanchi Array 80.53 319 *i* P **P 00 27 37.0 -1.9**
MKAR Makanchi Array 80.53 319 P P 00 27 39.1 +0.2
comp=Z,6.4nm,0.7s,baz=91,slow=4.8,SNR=12

MKAR PKKP **PKKPdf 00 46 13.4 +2.2**
comp=Z,0.8nm,1.1s,baz=270,slow=2.5,SNR=2.2

MKAR PKPPKP **P'P'df 00 54 24.1 +0.5**
comp=Z,0.5nm,0.9s,baz=282,slow=1.3,SNR=2.9

SML Sawmill 80.57 24 P 00 27 39.3
baz=240,SNR=48

GLI Glacier Island 80.63 26 P 00 27 39.4
baz=241,SNR=9.8

TRF Thorofare Moun 80.64 22 IAmb IAmb 00 27 41.7
comp=Z,89nm,0.7s

TRF Thorofare Moun 80.64 22 P 00 27 38.7
baz=238,SNR=30

HIN Hinchinbrook I 80.66 26 IAmb IAmb 00 27 40.9
comp=Z,128nm,0.8s

BPAW Bear Paw Mtn. 80.73 22 P 00 27 39.3
baz=237,SNR=16

IMAR Indian Mountai 80.83 19 P P 00 27 38.8 -1.2
WAT2 Susitna Watana 81.05 23 P 00 27 41.3
baz=240

EYAK Cordova Ski Ar 81.06 26 IAmb IAmb 00 27 42.5
comp=Z,44nm,0.8s

EYAK Cordova Ski Ar 81.06 26 P 00 27 42.1
baz=242

WAT6 Susitna Watana 81.19 24 P 00 27 42.5
baz=240

MCK McKinley 81.31 23 P 00 27 42.5
baz=239,SNR=86

MLY Manley 81.33 21 P 00 27 43.2
baz=237,SNR=76

SHLS Shalkode 81.40 315 *eP* **P 00 27 43.0 -0.9**
baz=315

SHLS Shalkode 81.40 315 *eP* **P 00 27 42.9 -0.9**
ZALV Zalesovo Beam 81.40 326 P P 00 27 42.9 -0.5
comp=Z,14nm,0.6s,baz=112,slow=5.5,SNR=26

ZALV Zalesovo Beam 81.40 326 P P 00 27 42.9 -0.5
KLU Klutina 81.42 25 P 00 27 44.4
baz=242,SNR=32

M24K Tolsona, Glenn 81.61 25 P 00 27 45.4
baz=242,SNR=25

NEA2 Nenana 81.70 22 P 00 27 44.4
baz=239,SNR=66

UZB Uzynbulak 81.71 315 *eP* **P 00 27 46.2 +0.7**
baz=315

UZB Uzynbulak 81.71 315 *eP* **P 00 27 46.1 +0.7**
BMRM Bremner River 81.75 26 IAmb IAmb 00 27 46.8

comp=Z,90nm,1.0s
BMRM Bremner River 81.75 26 P 00 27 45.8
baz=244,SNR=11
I23K Minto, Yukon-K 81.89 21 IAmb IAmb 00 27 48.2
comp=Z,54nm,0.8s
I23K Minto, Yukon-K 81.89 21 P 00 27 46.0
baz=239,SNR=37
KPKS Kokpek 82.03 315 *e*P **P** **00 27 47.7 +0.7**
KPKS Kokpek 82.03 315 *e*P **P** **00 27 47.7 +0.7**
N25K Chitina, Valde 82.04 25 P 00 27 47.5
baz=243,SNR=8.8
N25K Chitina, Valde 82.04 25 IAmb IAmb 00 27 48.7
comp=Z,101nm,1.1s
MDM Murphy Dome 82.20 22 IAmb IAmb 00 27 48.0
comp=Z,102nm,1.1s
TCOL CIGO, UAF Yank 82.29 22 P 00 27 47.5
baz=240,SNR=34
COLA College 82.30 22 P 00 27 47.5
baz=240
COLA College 82.30 22 P **P** **00 27 47.2 -0.6**
COLA College 82.30 22 P **P** **00 27 47.2 -0.6**
PAX Paxson 82.30 24 IAmb IAmb 00 27 50.6
comp=Z,51nm,1.0s
PAX Paxson 82.30 24 P 00 27 48.4
baz=242,SNR=21
VRDI Verde Repeater 82.37 26 IAmb IAmb 00 27 50.2
comp=Z,110nm,0.9s
HDA Harding Lake 82.40 22 P 00 27 47.8
baz=241,SNR=13
HDA P 00 27 47.8
baz=241,SNR=13
POKR Poker Plat Res 82.57 22 IAmb IAmb 00 27 49.7
comp=Z,61nm,0.8s
POKR Poker Plat Res 82.57 22 P 00 27 48.9
baz=240,SNR=14
IL31 82.61 22 IAmb IAmb 00 27 49.7
comp=Z,119nm,0.8s
ILAR Eielson Array 82.61 22 P **P** **00 27 48.7 -0.8**
comp=Z,53nm,0.9s,baz=11,slow=1.5,SNR=42
MCARA **McCarthy VSAT** 82.62 26 P 00 27 50.5
baz=245
TDK Taldyqorghan 82.62 316 *e*P **P** **00 27 49.8 -0.2**
baz=316
TDK Taldyqorghan 82.62 316 *e*P **P** **00 27 49.8 -0.2**
COLD Coldfoot 82.70 19 P 00 27 51.4
baz=238,SNR=17
GRNC Granite Creek 82.91 27 IAmb IAmb 00 27 53.1
comp=Z,45nm,0.8s
TABL Table Mountain 83.07 27 IAmb IAmb 00 27 54.0
comp=Z,97nm,0.8s
KSH Kashi 83.08 311 *e*P **P** **00 27 55.5 +2.9**
KSH pP pP 00 28 07.8 +0.4
KSH pmax pmax
comp=Z,34µm,13.4s
BARN Barnard Glacie 83.09 27 IAmb IAmb 00 27 54.3
comp=Z,105nm,0.8s
MDOK Medeo 83.11 314 *e*P **P** **00 27 53.1 +0.3**
baz=314
MDOK Medeo 83.11 314 *e*P **P** **00 27 53.9 +1.1**
CTG Chitna Glacier 83.19 27 P 00 27 53.7
baz=246
AAA Alma-Ata 83.22 314 *e*P **P** **00 27 53.4 +0.1**
comp=Z,33nm,1.3s,baz=314
AAA Alma-Ata 83.22 314 *e*P **P** **00 27 53.3 +0.1**
AAA pmax pmax
comp=Z,33nm,1.3s
A21K Barrow 83.25 15 P 00 27 53.3
baz=231,SNR=21
LOGN Logan Glacier 83.29 27 IAmb IAmb 00 27 56.7
comp=Z,153nm,1.4s
PCA Pinnacle 83.34 28 IAmb IAmb 00 27 55.3
comp=Z,80nm,0.8s
PINM Pinnacle 83.34 28 P 00 27 54.2
baz=248,SNR=6.9
SCRK Sand Creek 83.35 23 IAmb IAmb 00 27 55.0
comp=Z,80nm,0.9s
SCRK Sand Creek 83.35 23 P 00 27 53.8
baz=244,SNR=32
PRP Porcupine Dome 83.47 22 P 00 27 52.7
baz=242,SNR=6.9
TOLK Toolik Lake Re 83.66 18 P 00 27 56.0
baz=238,SNR=24
L27K Beaver Creek, 83.83 25 P 00 27 57.2
baz=246
KURBB **Kurchatov Arra** 84.02 322 P **P** **00 27 56.6 -0.4**
comp=Z,5.4nm,0.9s,baz=281,slow=2.2,SNR=7.3
KURBB PP **PP** **00 31 10.3 -1.2**
comp=Z,1.8nm,0.9s,baz=95,slow=6.7,SNR=4.1
K27K Chicken 84.13 24 P 00 27 59.1
baz=245
BMAR Burnt Mountain 84.69 20 P **P** **00 28 00.9 +0.7**
SIT Sitka 84.71 31 IAmb IAmb 00 28 29.2
comp=Z,80nm,1.2s
SIT Sitka 84.71 31 P 00 28 01.8
baz=252
EGAK Eagle 84.81 23 P 00 28 01.6
baz=246
AAK Ala-Archa 84.83 314 P **P** **00 28 02.4 +0.8**
comp=Z,25nm,0.8s,baz=124,slow=5.0,SNR=27
AAK Ala-Archa 84.83 314 *i* P **P** **00 28 02.7 +1.2**
AAK pmax pmax
comp=Z,110nm,0.9s
AAK Ala-Archa 84.83 314 P **P** **00 28 02.4 +0.8**
AAK Ala-Archa 84.83 314 IAmb IAmb 00 28 05.4
comp=Z,33nm,0.9s
SGDS Sogindy 84.90 314 *e*P **P** **00 28 02.7 +0.9**
comp=Z,17nm,1.2s,baz=314
SGDS Sogindy 84.90 314 *e*P **P** **00 28 02.6 +0.9**
SGDS pmax pmax
comp=Z,17nm,1.2s
MAW Mawson 85.12 203 P **P** **00 28 02.5 +0.2**
comp=Z,5.7nm,0.5s,baz=130,slow=17,SNR=6.9
DAWY Dawson 85.23 24 IAmb IAmb 00 28 05.4
comp=Z,159nm,1.6s
BTLS Baital 85.64 316 *e*P **P** **00 28 06.3 +0.9**
comp=Z,61nm,1.5s,baz=316
BTLS Baital 85.64 316 *e*P **P** **00 28 06.2 +0.9**
BTLS pmax pmax
comp=Z,61nm,1.5s
NRIK Noril'sk 86.30 341 P **P** **00 28 07.5 -0.5**
comp=Z,12nm,0.5s,baz=116,slow=4.1,SNR=22
NRIK Noril'sk 86.30 341 *ce*P **P** **00 28 07.5 -0.5**
NRIK pmax pmax
comp=Z,21nm,1.0s
NRIK Noril'sk 86.30 341 IAmb IAmb 00 28 10.1
comp=Z,24nm,0.8s
EPYK Eagle Plains 87.11 22 P 00 28 13.1
baz=250
DZA Taraz 87.17 313 *e*P **P** **00 28 13.7 +0.8**
comp=Z,15nm,1.1s,baz=313
DZA Taraz 87.17 313 *e*P **P** **00 28 13.6 +0.7**
DZA pmax pmax
comp=Z,15nm,1.1s
BRZS Berezniki 87.53 320 *e*P **P** **00 28 15.0 +0.6**
baz=320
BRZS Berezniki 87.53 320 *e*P **P** **00 28 15.0 +0.6**
KBL Kabul 87.66 305 P **P** **00 28 15.2 -0.5**
KBL pmax pmax
comp=Z,90nm,2.0s
KBL Kabul 87.66 305 P **P** **00 28 15.2 -0.5**
KBL IAmb IAmb 00 28 16.8
comp=Z,90nm,2.0s
KK31 Karatay Array 87.79 313 P **P** **00 28 16.2 +0.3**
KK31 pmax pmax
comp=Z,30nm,1.4s
KK31 Karatay Array 87.79 313 P **P** **00 28 16.2 +0.3**
KKAR Karatay Array 87.79 313 P **P** **00 28 15.8 -0.1**
KKAR Karatay Array 87.79 313 P **P** **00 28 15.8 -0.1**
DLBC Dease Lake 87.82 31 P **P** **00 28 15.7 0.0**
comp=Z,30nm,0.9s,baz=236,slow=3.9,SNR=19
DLBC Dease Lake 87.82 31 IAmb IAmb 00 28 18.4
comp=Z,69nm,1.1s
IUG luzhnay 87.99 312 *e*P **P** **00 28 18.0 +1.0**
baz=312
IUG luzhnay 87.99 312 *e*P **P** **00 28 18.0 +1.0**
INK Inuvik 88.90 21 P **P** **00 28 20.4 -0.1**
comp=Z,38nm,1.0s,baz=247,slow=4.0,SNR=17
O02D Mt. Diablo Mer 89.19 50 P 00 28 24.2
baz=263
I03D Drain, OR 89.25 46 P 00 28 23.5
baz=262
M02C Callahan 89.30 49 P 00 28 24.3
baz=262
YBH Yreka Blue Hor 89.45 48 P **P** **00 28 24.1 +0.3**
comp=Z,4.8nm,0.8s,baz=258,slow=2.6,SNR=7.1
YBH Yreka Blue Hor 89.45 48 P **P** **00 28 25.3 +1.4**
YBH pmax pmax
comp=Z,67nm,1.9s
YBH Yreka Blue Hor 89.45 48 P **P** **00 28 25.3 +1.4**
YBH IAmb IAmb 00 28 26.3
comp=Z,67nm,1.9s
BVAR Borovoye Array 89.47 323 P **P** **00 28 22.7 -0.9**
comp=Z,7.8nm,0.8s,baz=195,slow=14,SNR=36
E03A Lebam 89.49 43 IAmb IAmb 00 28 27.9
comp=Z,59nm,1.1s
BRVK Borovoye 89.54 323 *i* P **P** **00 28 24.1 +0.2**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 89.54 323 P **P** **00 28 24.0 +0.2**
BRVK IAmb IAmb 00 28 42.7
comp=Z,32nm,1.1s
J04D Umpqua Nationa 90.08 47 P 00 28 27.9
baz=263
A04D Lummi Island 90.36 41 P 00 28 29.6
baz=263
J05D Fort Rock, OR 90.72 47 P 00 28 30.8
baz=264
I05D Terrebonne, OR 90.77 46 P 00 28 30.4
baz=264
SMMC Simmler 90.84 55 P 00 28 31.5
baz=264
PKM Mcpherson Peak 90.94 55 P 00 28 32.5
baz=264
PNTR Pine Nut 91.52 51 IAmb IAmb 00 28 36.8
comp=Z,18nm,0.7s
I07A Izee 92.06 46 IAmb IAmb 00 29 00.6
comp=Z,21nm,1.2s
ISA Isabella, Lake 92.11 55 P 00 28 37.2
baz=265
HAWA Hanford 92.24 44 P **P** **00 28 36.0 -0.6**
HAWA IAmb IAmb 00 28 38.3
comp=Z,26nm,1.2s
TIN Tinemaha, Big 92.42 53 P 00 28 39.0
baz=265,SNR=5.6
EDW2 Edwards Air Fo 92.43 55 P 00 28 39.1
baz=265,SNR=5.6
NVAR Mina Array Bea 92.47 52 P **P** **00 28 38.5 +0.4**
comp=Z,10nm,0.7s,baz=253,slow=6.5,SNR=34
NVAR Mina Array Bea 92.47 52 P **P** **00 28 38.6 +0.5**
C36M Paulatuk 92.47 21 P 00 28 37.3
baz=262
C36M Paulatuk 92.48 21 IAmb IAmb 00 28 38.3
comp=Z,37nm,0.8s
CWC Cottonwood Cre 92.49 54 P 00 28 39.0
baz=265
WVOR Wild Horse Val 92.54 48 IAmb IAmb 00 28 51.1
comp=Z,21nm,1.3s
G08A Pilot Rock 92.55 45 IAmb IAmb 00 28 38.9
comp=Z,68nm,2.0s
E08A Dider Farm, El 92.58 44 IAmb IAmb 00 28 42.0
comp=Z,34nm,1.4s
BFSC Mount Baldy Ra 92.66 56 P 00 28 39.7
baz=266
D08A Wollman Farm, 92.72 43 IAmb IAmb 00 28 42.4
comp=Z,37nm,1.6s
LRMC Laurel Mtn Rad 92.73 55 P 00 28 40.6
baz=266,SNR=5.6
MPMC Manual Prospec 92.94 54 P 00 28 41.4
baz=266,SNR=6.5
SYO Syowa Base 93.22 199 ⇓ *e*X P 00 28 51.0 +10
SYO Syowa Base 93.22 199 ⇓ *es*P sP 00 28 58.4 -2.2
HRA Herat 93.23 304 IAmb IAmb 00 28 43.9
comp=Z,14nm,0.9s
GSC Goldstone, Bar 93.44 55 P 00 28 43.6
baz=266
FURC Furnace Creek, 93.47 54 P 00 28 43.7
baz=266,SNR=7.4
MONP2 **Monument Peak** 93.59 57 P 00 28 45.0
baz=266,SNR=5.9
PFO Pinyon Flats O 93.61 57 P **P** **00 28 43.7 +0.3**
comp=Z,6.1nm,0.7s,baz=273,slow=5.2,SNR=9.7
PFO Pinyon Flats O 93.61 57 P **P** **00 28 44.0 +0.7**
PFO pmax pmax
comp=Z,8.0nm,0.9s
PFO Pinyon Flats O 93.61 57 P **P** **00 28 44.0 +0.7**
PFO Pinyon Flats O 93.61 57 P 00 28 44.1
baz=266
HEC Hector,Ludlow 93.79 56 P 00 28 45.5
baz=266
F10A Beach Ranch, E 93.81 44 IAmb IAmb 00 28 46.5
comp=Z,62nm,1.8s
SHOC Shoshone, Teco 93.91 54 P 00 28 45.6
baz=266,SNR=6.5
TPNV Topopah Spring 93.99 53 IAmb IAmb 00 28 48.2
comp=Z,16nm,1.0s
TPNV Topopah Spring 93.99 53 P 00 28 45.8
baz=266,SNR=7.3
BELC Belle Mtn. Jos 94.02 56 P 00 28 46.4
baz=266,SNR=5.6
NEW Newport 94.02 42 P **P** **00 28 44.5 -0.3**
comp=Z,8.7nm,1.0s,baz=246,slow=2.3,SNR=7.0
NEW Newport 94.02 42 IAmb IAmb 00 28 45.9
comp=Z,21nm,1.2s
NEW Newport 94.02 42 P 00 28 44.9
baz=267,SNR=5.0
GMRC Granite Mounta 94.34 56 P 00 28 47.7
baz=267,SNR=6.2
BC3 Big Chuckawall 94.45 57 P 00 28 48.7
baz=267
R11A Troy Canyon, C 94.60 52 P 00 28 48.7
baz=267
MFID Camas Ranch 94.67 47 IAmb IAmb 00 28 50.8
comp=Z,28nm,1.7s
IRM Iron Mountain 94.73 56 P 00 28 49.7
baz=267
ELK Elko 94.98 50 P **P** **00 28 49.4 -0.2**
comp=Z,1.7nm,0.7s,baz=228,slow=3.4,SNR=4.7
PDMCI Parker Dam,Lak 95.57 56 P 00 28 53.9
baz=268
HLID Hailey 95.70 47 P 00 28 53.4
baz=268
WSAR Wadi Sarin 95.70 293 P **P** **00 28 52.6 -0.4**
comp=Z,3.3nm,0.6s,baz=185,slow=3.5,SNR=5.3
YKA Yellowknife Ar 95.87 28 P **P** **00 28 53.2 +0.4**
comp=Z,10nm,0.8s,baz=269,slow=4.2,SNR=56
YKA PKKPbc **PKKPbc** **00 45 40.3 -4.0**
comp=Z,0.2nm,0.8s,baz=93,slow=3.2,SNR=2.2
YKA Yellowknife Ar 95.87 28 P **P** **00 28 53.2 +0.4**
WALA Waterton Lakes 96.17 41 IAmb IAmb 00 28 56.1
comp=Z,27nm,1.1s
ARU Arti 96.57 326 P **P** **00 28 56.3 +0.2**
ARU 00 32 51.5
ARU S **SKSac** **00 39 30.4 +2.2**
ARU SS **SS** **00 46 49.4 +1.9**
214A Organ Pipe Nat 96.59 59 P 00 28 59.2
baz=268
GEYT Alibeck 96.73 307 P **P** **00 28 57.1 -0.3**
comp=Z,1.4nm,0.6s,baz=79,slow=7.6,SNR=2.5
KNB Kanab 96.74 53 IAmb IAmb 00 29 01.4
comp=Z,20nm,1.2s
AKTO Aktyubinsk 96.93 320 P **P** **00 28 58.0 +0.1**
comp=Z,1.8nm,0.7s,baz=75,slow=8.2,SNR=2.8
AKTO Aktyubinsk 96.93 320 P **P** **00 28 58.0 +0.1**
PKCU Pink Cliffs 97.15 53 IAmb IAmb 00 29 26.1
comp=Z,30nm,1.3s
MTPU Mount Pierson 97.27 52 IAmb IAmb 00 29 04.3
comp=Z,17nm,1.4s
BOZ Bozeman (W) 97.71 45 P 00 29 02.2
baz=270
WUAZ Wupatki 97.88 55 P 00 29 05.2
baz=269
TUC Tucson 98.32 58 P 00 29 06.5
baz=269
H17A Grant Village 98.48 46 P 00 29 07.2
baz=271
PDAR Pinedale Array 99.25 48 P **Pdif** **00 29 07.8 -1.0**
comp=Z,1.7nm,0.8s,baz=222,slow=2.2,SNR=6.2
PDAR PP **PP** **00 33 11.5 -0.7**
comp=Z,1.2nm,0.8s,baz=258,slow=7.4,SNR=4.5
PDAR Pinedale Array 99.25 48 P **Pdif** **00 29 07.8 -1.0**
MVCO Mesa Verde 100.19 53 P 00 29 14.6
baz=271
RES Resolute Bay 100.85 14 P **Pdif** **00 29 15.5 +0.6**
comp=Z,6.6nm,1.0s,baz=181,slow=2.2,SNR=9.4
KIRV Kirov 101.31 329 *i* P **Pdif** **00 29 15.2 -2.1**
PRGR Permogore 102.62 332 *e*P **Pdif** **00 29 20.8 -2.2**
PRGR pmax pmax
comp=Z,14nm,0.9s
APA Apatity 105.66 340 ⇓ *i*P **Pdif** **00 29 34.4 -2.1**
APA pmax pmax
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 105.67 332 *e*P **Pdif** **00 29 34.5 -2.2**
KLMR pmax pmax
comp=Z,19nm,1.3s
KLMR Klimovskoe 105.67 332 *e*Pdif **Pdif** **00 29 34.5 -2.2**
KLMR AMP 00 29 51.2
comp=Z,19nm,1.3s
ARCES ARCESS Array B 107.21 343 Pdiff **Pdif** **00 29 42.8 -0.6**
comp=Z,4.1nm,0.9s,baz=57,slow=3.3,SNR=2.4
ARCES PKIKP **PKiKP** **00 33 52.4 +0.3**
comp=Z,2.4nm,0.7s,baz=50,slow=1.4,SNR=4.8
ULM Lac du Bonnet 107.67 39 PKiKP **PKiKP** **00 33 53.4 -0.1**
comp=Z,2.1nm,0.8s,baz=332,slow=3.4,SNR=4.9
KVAR Kislovodsk Arr 107.92 314 PKiKP **PKiKP** **00 33 54.3 0.0**
comp=Z,5.5nm,1.0s,baz=346,slow=4.2,SNR=1.8
KVAR Kislovodsk Arr 107.92 314 **PKiKP** **00 33 54.3 0.0**
FINES FINESS Array B 111.36 336 Pdiff **Pdif** **00 30 01.1 -0.9**
comp=Z,2.7nm,0.7s,baz=74,slow=4.9,SNR=2.5
FINES PKiKP **PKiKP** **00 34 00.5 +0.4**
comp=Z,3.5nm,0.8s,baz=84,slow=4.3,SNR=8.5
FINES FINESS Array B 111.36 336 *c i*PKiKP **PKiKP** **00 34 01.7 +1.6**
FINES pmax pmax
comp=Z,4.0nm,0.8s
U40A Yellville 112.76 53 P 00 34 04.7
baz=281
CCM Cathedral Cave 113.68 51 P 00 34 06.9
baz=283
AKASG **Malin Array Be** 114.73 324 PKP **PKiKP** **00 34 06.4 -0.4**
comp=Z,2.6nm,0.7s,baz=62,slow=2.6,SNR=9.9
AKASG **Malin Array Be** 114.73 324 *c i*PKiKP PKPdf 00 34 06.9 +0.1
AKASG pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 115.45 312 PKP **PKiKP** **00 34 07.5 -1.3**
comp=Z,0.5nm,0.6s,baz=81,slow=1.4,SNR=5.4
BRTR PKKPbc **PKKPbc** **00 44 42.9 -0.8**
comp=Z,1.0nm,0.7s,baz=220,slow=4.1,SNR=7.6
BRTR Keskin Array B 115.45 312 *c i*PKiKP **PKiKP** **00 34 08.6 -0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 115.45 312 **PKiKP** **00 34 08.3 -0.5**
TLCR 117.12 319 ⇑P **PKiKP** **00 34 17.5 +5.9**
TLCR 117.12 319 ⇑PKiKP **PKiKP** **00 34 17.5 +5.9**
NB2 NORSAR Subarra 117.24 340 PKPdf **PKPdf** **00 34 10.6 -0.9**
comp=Z,1.3nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 117.24 340 PKP **PKiKP** **00 34 11.7 +0.2**
comp=Z,2.0nm,0.8s,baz=45,slow=1.8,SNR=9.2
WCI Wyandotte Cave 117.42 49 P 00 34 13.9
baz=286
CFR Carcaliu 117.57 319 ⇓P **PKiKP** **00 34 12.8 +0.4**
CFR Carcaliu 117.57 319 ⇓PKiKP **PKiKP** **00 34 12.8 +0.4**
MFTR Murfatlar 117.75 318 ⇓P **PKiKP** **00 34 18.6 +5.8**
TLBR Topalu 117.86 318 ⇑P **PKiKP** **00 34 14.1 +1.0**
BIZ Bicaz 118.16 321 ⇑P **PKiKP** **00 34 14.9 +1.3**
BIZ Bicaz 118.16 321 ⇑P **PKKPab** **00 44 38.1 +2.4**
LRAL Lakeview Retre 118.16 55 PKPdf **PKiKP** **00 34 14.8 +0.8**
LRAL Lakeview Retre 118.16 55 P 00 34 14.7
baz=283
P49A Miami Univ. Ec 118.22 48 P 00 34 15.1
baz=288
BURAR **Bucovina Array** 118.42 322 ⇓P **PKiKP** **00 34 15.2 +1.0**
BURAR **Bucovina Array** 118.42 322 ⇓P **PKKPab** **00 44 37.0 +2.3**
BURAR **Bucovina Array** 118.42 322 ⇓PKiKP **PKiKP** **00 34 15.2 +1.0**
BURAR **Bucovina Array B** 118.42 322 PKPdf **PKiKP** **00 34 16.0 +1.7**
MATQ Matagami 118.79 35 P 00 34 15.8
baz=299
MLR Muntele Rosu 118.86 320 PKP **PKPdf** **00 34 14.5 -0.6**
comp=Z,2.5nm,0.7s,baz=349,slow=2.9,SNR=5.4
MLR Muntele Rosu 118.86 320 ⇑P **PKPdf** **00 34 14.5 -0.6**
MLR Muntele Rosu 118.86 320 ⇓P **PKKPbc** **00 44 31.3 -0.4**
DOPR Dopca 119.02 321 ⇑P **PKiKP** **00 34 16.0 +0.6**
BOSA Boshof 119.24 233 PKP **PKiKP** **00 34 16.8 +0.4**
comp=Z,0.6nm,0.7s,baz=153,slow=4.5,SNR=1.1
ACSO Alum Creek Sta 119.25 46 **PKiKP** **00 34 17.1 +1.1**
ACSO Alum Creek Sta 119.25 46 P 00 34 17.0
baz=290
RAZG Razgrad 119.26 318 ⇑P **PKiKP** **00 34 16.7 +0.8**
I51A Listowel 119.32 42 P 00 34 17.8
baz=293
M51A Elyria 119.44 45 P 00 34 18.0
baz=291
VOIR 119.46 320 ⇑P **PKKPbc** **00 44 27.7 -1.8**
PLCA Paso Flores 119.55 143 PKP **PKiKP** **00 34 16.8 +0.1**
comp=Z,4.0nm,0.9s,baz=216,slow=8.1,SNR=5.3
KOLS Kolonicke sedl 119.55 325 *e*PKiKP **PKiKP** **00 34 17.6 +1.3**
KOLS Kolonicke sedl 119.55 325 *e*PKP **PKiKP** **00 34 17.6 +1.3**
UZH Uzhgorod 119.69 324 *e*PKiKP **PKiKP** **00 34 23.9 +7.4**
UZH *e* 00 34 35.3
ARR Arges 119.75 320 ⇑P **PKiKP** **00 34 18.5 +1.6**
ARR Arges 119.75 320 ⇑P **PKKPbc** **00 44 30.2 +1.8**
HUMR 119.88 319 ⇑P **PKiKP** **00 34 17.1 +0.1**
CRVS Cervenica-Dubn 120.03 325 *e*PKiKP **PKiKP** **00 34 18.9 +1.7**
CRVS Cervenica-Dubn 120.03 325 *e*PKP **PKiKP** **00 34 18.9 +1.7**
P52A Corning 120.07 47 P 00 34 18.0
baz=290
TKL Tuckaleechee C 120.08 52 PKP **PKiKP** **00 34 18.6 +0.9**
comp=Z,9.3nm,0.8s,baz=165,slow=5.9,SNR=13
SADO Sadowa 120.16 40 PKP **PKPdf** **00 34 17.5 0.0**
comp=Z,10nm,0.7s,baz=325,slow=3.8,SNR=13
LOT Lotru 120.27 321 ⇑P **PKPdf** **00 34 17.6 -0.2**
DRGR 120.31 322 ⇑P **PKPdf** **00 34 17.0 -0.8**
DRGR 120.31 322 ⇑PKiKP **PKPdf** **00 34 17.0 -0.8**
ALGO Algonquin Park 120.33 39 P 00 34 18.4
baz=297
M53A WI Miller and 120.46 44 P 00 34 19.2
baz=292
O53A New Philadelph 120.52 46 P 00 34 19.2
baz=291
G54A Lake Saint Pet 120.55 39 P 00 34 18.4
baz=297
ALN Alexandroupoli 120.59 315 PKiKP **PKiKP** **00 34 18.5 0.0**
ALN Alexandroupoli 120.59 315 PKPdf **PKiKP** **00 34 18.4 0.0**
PLVB Pleven 120.59 318 ⇑P **PKiKP** **00 34 19.0 +0.5**
H53A Bobcaygeon 120.60 40 P 00 34 19.1
baz=296
Q53A Leroy 120.78 47 P 00 34 19.5
baz=290
GZR Gura Zlata 120.92 321 ⇓P **PKiKP** **00 34 19.3 +0.2**
GZR Gura Zlata 120.92 321 ⇓PKiKP **PKiKP** **00 34 19.3 +0.2**
GOGA Godfrey 120.94 54 P 00 34 20.7
baz=286
N54A Moraine State 121.12 45 P 00 34 20.8
baz=292
M54A Oil Creek Stat 121.14 44 P 00 34 20.3
baz=293
S54A Dingess, Beckl 121.30 49 P 00 34 20.8
baz=290
E55A Montcerf-Lytto 121.32 37 P 00 34 21.1
baz=299
TIGA Tifton 121.34 56 P 00 34 21.7
baz=284
HERR Herculane 121.38 321 ⇓P **PKiKP** **00 34 20.1 +0.1**
D55A Sainte-Anne-du 121.39 37 P 00 34 21.3
baz=300
R54A Victor 121.41 48 P 00 34 21.4
baz=290
MCWV Mont Chateau 121.71 46 P 00 34 21.6
baz=292
MORC Moravsky Berou 121.74 327 ⇓P **PKiKP** **00 34 21.1 +0.5**
MORC Moravsky Berou 121.74 327 *e*PKP **PKiKP** **00 34 20.7 +0.1**
MORC Moravsky Berou 121.74 327 ⇓PKiKP **PKiKP** **00 34 21.1 +0.5**
D56A ZEC Mazanza, M 121.80 36 P 00 34 21.2
baz=300,SNR=8.6
VTS Vitosha 121.84 318 ⇓P **PKiKP** **00 34 21.5 +0.4**
VTS Vitosha 121.84 318 ⇓PKiKP **PKiKP** **00 34 21.5 +0.4**
VTS Vitosha 121.84 318 PKPdf **PKiKP** **00 34 21.6 +0.4**
MDVR Moldovita 121.87 321 ⇑P **PKiKP** **00 34 21.1 +0.1**
E56A St. Veronique 121.89 37 P 00 34 21.1
baz=300
R55A Marlinton 122.01 48 P 00 34 22.3
baz=291,SNR=7.6
DPC Dobruska-Polom 122.05 329 *e*PKiKP **PKiKP** **00 34 22.0 +0.8**
DPC Dobruska-Polom 122.05 329 *e*PKPDF **PKiKP** **00 34 22.0 +0.8**
KMSC Kings Mountain 122.13 52 P 00 34 23.0
baz=288
BLA Blacksburg 122.16 49 PKiKP **PKiKP** **00 34 22.7 +0.9**
BLA Blacksburg 122.16 49 **PKiKP** **00 34 22.6 +0.9**
BLA Blacksburg 122.16 49 P 00 34 22.4
baz=290
M56A Emporium 122.17 43 P 00 34 22.4
baz=294
JAVC Velka Javorina 122.18 326 *e*PKP **PKiKP** **00 34 23.0 +1.5**
J56A Wolcott 122.29 41 P 00 34 23.3
baz=296
L56A Greenwood 122.32 43 P 00 34 22.4
baz=295
N56A West Decatur 122.32 44 P 00 34 22.8
baz=294,SNR=6.3
O56A Blue Knob Stat 122.39 45 P 00 34 22.8

baz=293
P56A Dayton Farm, R 122.49 46 P 00 34 23.0
baz=293
R56A Bull Pasture M 122.49 47 P 00 34 23.2
baz=292
VRAC Vranov 122.51 327 *e*PKP PKiKP **00 34 22.2 +0.1**
T56A Rocky Mt 122.52 49 P 00 34 23.2
baz=290
V56A Mocksville 122.57 50 P 00 34 23.6
baz=289
G57A Newington 122.63 38 P 00 34 22.9
baz=299
S56A Natural Bridge 122.64 48 P 00 34 23.5
baz=291
MODS Modra-Piesok 122.67 326 *e*PKIKP PKiKP **00 34 23.7 +1.3**
MODS Modra-Piesok 122.67 326 *e*PKP PKiKP **00 34 23.7 +1.3**
H57A Richville 122.68 39 P 00 34 22.6
baz=298
SSPA Standing Stone 122.72 44 PKiKP **00 34 23.5 +0.8**
SSPA Standing Stone 122.72 44 P 00 34 23.5
baz=294
K57A Scipio Center 122.75 42 P 00 34 22.8
baz=296
KRUC Moravsky 122.76 327 *e*PKP PKiKP **00 34 22.7 +0.1**
I57A Carthage 122.76 40 P 00 34 23.3
baz=298
J57A Williamstown 122.79 41 P 00 34 23.2
baz=297
PVCC Panska Ves 122.84 329 *e*PKIKP PKiKP **00 34 23.5 +0.8**
PVCC Panska Ves 122.84 329 *e*PKPDF PKiKP **00 34 23.5 +0.8**
L57A Andrews Acres 122.85 42 P 00 34 24.6
baz=296
ZST Bratislava 122.86 326 *e*PKIKP PKiKP **00 34 23.2 +0.4**
ZST Bratislava 122.86 326 *e*PKP PKiKP **00 34 23.2 +0.4**
D58A Chemin du LacG 122.87 35 P 00 34 22.4
baz=302
FRGS Fruska Gora 122.87 322 ⇑P PKiKP **00 34 23.5 +0.6**
N57A Milroy 122.90 44 P 00 34 23.6
baz=294
BRG Berggiesshubel 122.94 330 *i* PKP PKiKP **00 34 23.7 +0.9**
BRG Amp 00 34 26.4
comp=Z,8.9nm,0.8s
BRG *ex* x 00 34 28.3
BRG Amp 00 34 29.6
comp=Z,7.9nm,0.7s
BRG Amp 01 02 28.0
comp=N,35nm,21.7s
BRG Amp 01 02 28.0
comp=E,40nm,20.9s
BRG Amp 01 02 36.0
comp=Z,84nm,20.5s
BRG Amp 01 47 35.0
comp=Z,44nm,20.1s
BRG Amp 01 47 40.0
comp=N,19nm,17.8s
BRG Amp 01 48 34.0
comp=E,32nm,20.6s
BRG Berggiesshubel 122.94 330 *e*PKPdf PKiKP **00 34 23.8 +1.0**
baz=49,slow=2.0
M57A Sunshine Farm, 122.95 43 P 00 34 23.8
baz=295
Q57A Strasburg 122.98 46 P 00 34 24.1
baz=293
E58A La Victoria 123.02 36 P 00 34 23.7
baz=302
MORH Mrgy, Hungar 123.04 323 ⇑P PKiKP **00 34 23.3 +0.1**
O57A Amberson 123.06 45 P 00 34 24.3
baz=294
P57A Homestead Farm 123.09 46 P 00 34 24.3
baz=293
V57A Coltrane Farms 123.10 50 P 00 34 24.9
baz=290
CLL Collm 123.13 331 ⇓*i*PKPdf PKiKP **00 34 24.0 +0.8**
comp=Z,10.0nm,0.8s
CLL *es*PKPdf **pPKPdf 00 34 40.0 +1.4**
CLL Collm 123.13 331 ⇓*i*PKIKP PKiKP **00 34 24.0 +0.8**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 123.13 331 *e*PKPdf PKiKP **00 34 24.2 +1.0**
baz=49,slow=2.0
G58A Ormstown 123.18 38 P 00 34 23.8
baz=300
PRU Pruhonice 123.19 329 *e*PKIKP PKiKP **00 34 23.4 0.0**
PRU Pruhonice 123.19 329 *e*PKPDF PKiKP **00 34 23.4 0.0**
FBE Freiberg 123.21 330 *e*PKPdf PKiKP **00 34 24.6 +1.3**
baz=49,slow=2.0
U57A Blanch 123.25 49 P 00 34 25.0
baz=290
FLTG Flechtingen 123.29 333 *e*PKPdf PKiKP **00 34 24.3 +0.8**
baz=49,slow=2.0
K58A Earlville 123.31 41 P 00 34 25.3
baz=297
I58A Old Forge 123.32 40 P 00 34 25.4
baz=298
BINY Binghamton 123.34 42 P 00 34 25.3
baz=297
IDI Anoyia 123.41 309 PKP PKPdf **00 34 24.2 0.0**
comp=Z,7.8nm,1.0s,baz=14,slow=18,SNR=2.2
IDI Anoyia 123.41 309 ⇑P PKiKP **00 34 26.5 +2.1**
N58A Sunbury 123.44 44 P 00 34 25.5
baz=295,SNR=5.1
H58A Gabriels 123.47 39 P 00 34 24.9
baz=300,SNR=6.9
L58A Harry Jones Me 123.50 42 P 00 34 25.8
baz=297
D59A Saint-Raymond 123.52 35 P 00 34 25.5
baz=303
Q58A Fox Dan Farm, 123.54 46 P 00 34 25.7
baz=293
O58A Lewisberry 123.60 44 P 00 34 26.1
baz=295
FRNY Flat Rock 123.62 38 PKPdf PKiKP **00 34 24.9 +0.5**
PBCC Pribram 123.65 329 *e*PKPDF PKiKP **00 34 24.7 +0.4**
NCB Newcomb 123.66 39 PKiKP **00 34 26.3 +1.8**
T58A Grand View Acr 123.67 49 P 00 34 25.5
baz=291
CONA Conrad Observa 123.70 326 *i* P PKiKP **00 34 25.2 +0.7**
comp=Z,3.4nm,0.6s
J59A Piesco 123.72 40 P 00 34 25.3
baz=299,SNR=7.2
R58B Mineral 123.77 47 P 00 34 25.3
baz=292
U58A Oxford 123.85 49 P 00 34 25.9
baz=291
FNA Florina 123.88 317 PKIKP PKPdf **00 34 24.8 -0.1**
FNA Florina 123.88 317 PKPdf PKPdf **00 34 24.8 -0.1**
I59A Olmsteadville 123.96 39 P 00 34 25.9
baz=300
L59A Walton 123.97 41 P 00 34 26.3
baz=298
M59A Waymart 124.01 42 P 00 34 26.2
baz=297,SNR=5.9
CKRC Cesky Krumlov 124.01 328 *e*PKPDF PKiKP **00 34 25.4 +0.3**
CLZ Clausthal 124.02 333 *e*PKPdf PKiKP **00 34 26.3 +1.3**
baz=49,slow=2.0
F60A Warwick 124.02 36 P 00 34 25.7
baz=303
O59A Robesonia 124.03 44 P 00 34 26.9
baz=295
N59A State Game Lan 124.06 43 P 00 34 26.1
baz=296
WERN Wernitzgruen 124.09 330 *e*PKPdf PKiKP **00 34 26.0 +0.8**
baz=49,slow=2.0
D60A Saint Jean D'O 124.09 35 P 00 34 26.3
baz=304
E60A Ste Agathe de 124.09 36 P 00 34 26.4
baz=303,SNR=5.6
KHC Kasperske Hory 124.21 329 *e*PKIKP PKiKP **00 34 26.0 +0.5**
KHC *e* 00 34 31.9
KHC Kasperske Hory 124.21 329 *e*PKPDF PKiKP **00 34 26.0 +0.5**
KHC *ex* x 00 34 31.9
MOX Moxa 124.23 331 *e*L L 01 26 21.2
comp=Z,27µm,20.4s
R59A King George, V 124.24 47 P 00 34 27.2
baz=293
I60A Shoreham 124.31 39 P 00 34 26.9
baz=300,SNR=8.5
V59A Middlesex 124.31 50 P 00 34 27.6
baz=291
GEC2 GERESS Array S 124.32 328 *e*PKPdf PKiKP **00 34 26.6 +0.8**
baz=49,slow=2.0
GERES GERESS Array B 124.32 328 PKP PKiKP **00 34 26.0 +0.2**
comp=Z,4.7nm,0.6s,baz=93,slow=2.7,SNR=8.2
GERES GERESS Array B 124.32 328 PKIKP PKiKP **00 34 26.3 +0.5**
GERES GERESS Array B 124.32 328 PKPdf PKiKP **00 34 26.3 +0.5**
J60A Lant Hill Farm 124.52 40 P 00 34 27.0
baz=300
N60A Cedar Hill Far 124.53 43 P 00 34 27.9
baz=297
O60A Telford 124.57 44 P 00 34 27.4
baz=296
F61A St Evariste 124.58 36 P 00 34 28.3
baz=304
L60A Shokan 124.61 41 P 00 34 28.4
baz=298
E61A Lac Etchemin 124.61 35 P 00 34 27.3
baz=304,SNR=11
MOA Molln 124.62 327 *e*P PKiKP **00 34 26.6 +0.2**
comp=Z,1.1nm,0.6s
P60A Greenville 124.63 44 P 00 34 28.1
baz=296
G61A St-Isidore-de- 124.64 37 P 00 34 27.9
baz=303
U60A Pendleton 124.87 49 P 00 34 28.6
baz=292
K61A Williamstown 124.90 40 P 00 34 29.3
baz=299
X60A Albert Glenn T 124.93 51 P 00 34 29.1
baz=290
T60A Surry 124.93 48 P 00 34 29.0
baz=293
LBNH Lisbon 124.95 38 P 00 34 28.2
baz=302
J61A Chester 125.02 39 P 00 34 28.9
baz=300
GRF Grafenberg Arr 125.04 330 *e*L L 01 25 19.8
comp=Z,39µm,20.0s
V60A Jim Taylor Roa 125.05 49 P 00 34 28.5
baz=292
M61A Granite Spring 125.22 42 P 00 34 28.5
baz=298
H62A Milan 125.24 37 P 00 34 29.3
baz=303
G62A West of Eustis 125.26 36 PKPdf PKiKP **00 34 28.4 +0.8**
G62A West of Eustis 125.26 36 P 00 34 28.3
baz=304
PAL Palisades 125.27 42 P 00 34 29.6
baz=298
KASTN Kahler Asten 125.34 333 *e*PKPdf PKiKP **00 34 28.6 +1.0**
baz=49,slow=2.0
L61B Northampton 125.39 40 P 00 34 29.8
baz=300
J62A Henniker 125.55 39 P 00 34 30.3
baz=301
K62A Royalston 125.56 40 P 00 34 30.3
baz=300
KBA Koelnbreinsper 125.58 327 *i* P PKPdf **00 34 28.0 0.0**
comp=Z,1.4nm,0.5s
D63A Stockholm 125.59 33 P 00 34 29.4
baz=307
MYKA Terra Mystica 125.69 326 *i* P PKPdf **00 34 28.1 0.0**
comp=Z,2.9nm,0.9s
E63A Oxbow 125.78 34 P 00 34 29.4
baz=306
F63A Nahmakanta, Br 125.82 35 P 00 34 30.5
baz=305
G63A Kingsbury 125.86 36 P 00 34 30.5
baz=304
PKME Peaks-Kenny Pk 125.96 36 P 00 34 30.9
baz=305
J63A Strafford 125.98 39 P 00 34 30.6
baz=302
HRV Adam Dziewonsk 126.08 40 P 00 34 31.1
baz=301
F64A Sherman 126.16 35 P 00 34 30.9
baz=306
LCO Las Campanas 126.22 132 PKIKP PKiKP **00 34 31.6 +1.2**
LCO Las Campanas 126.22 132 PKiKP **00 34 31.6 +1.2**
ABTA Abfaltersbach 126.23 327 *e*P PKPdf **00 34 28.9 -0.3**
comp=Z,3.9nm,0.7s,SNR=7.6
G64A Maxfield 126.28 35 P 00 34 31.3
baz=305
H64A Troy 126.36 36 P 00 34 31.4
baz=304
L63A North Scituate 126.37 40 P 00 34 31.8
baz=300
WATA Walderalm 126.37 328 *e*P PKPdf **00 34 29.6 0.0**
comp=Z,3.3nm,0.5s,SNR=4.8
WTTA Wattenberg 126.39 328 *i* P PKPdf **00 34 29.7 +0.1**
comp=Z,9.4nm,0.9s,SNR=9.7
MOTA Moosalm 126.62 328 *i* P PKiKP **00 34 30.6 +0.1**
comp=Z,5.5nm,0.5s,SNR=9.0
SQTA Sankt Quirin 126.64 328 *e*P PKiKP **00 34 30.4 -0.1**
comp=Z,5.9nm,0.7s,SNR=6.3
M64A Tiverton 126.78 40 P 00 34 32.1
baz=301
MEM Membach 126.83 334 *d*PKP PKiKP **00 34 31.1 +0.5**
H65A Eastbrook 126.89 36 P 00 34 32.7
baz=306
G65A Princeton 126.99 35 P 00 34 32.9
baz=306
FETA Feichten 127.02 328 *i* P PKiKP **00 34 31.2 -0.1**
comp=Z,5.4nm,0.7s
DAVA Damuels 127.29 329 *e*P PKiKP **00 34 31.6 -0.2**
comp=Z,4.7nm,0.5s,SNR=6.9
WLF Walferdange 127.45 333 *d*PKP PKiKP **00 34 32.8 +0.9**
BMRD Maredsous 127.60 334 *d*PKP PKiKP **00 34 32.5 +0.4**
BMRD *dp*PKP **pPKPdf 00 34 45.0 -2.1**
TUE Stuetta 128.10 328 PKPdf PKiKP **00 34 33.5 0.0**
GO02 Mina Guanaco 129.06 128 PKPdf PKiKP **00 34 37.5 +1.3**
SOTA Rioblanco 130.78 92 *e*P PKiKP **00 34 44.9 +4.7**
PCON Cinco Dias 131.00 91 *e*P PKiKP **00 34 44.9 +4.2**
HELC Santa Helena 132.08 86 *e*P PKPpre 00 34 32.9
GUY2C Guyana, Caldas 132.21 88 *e*P PKPdf **00 34 36.9 -5.1**
ORTC Ortega, Tolima 132.26 89 *e*P PKiKP **00 34 44.9 +2.3**
NORC Norcasia 132.72 87 *e*P PKiKP **00 34 44.9 +1.4**
ROSC El Rosal 133.24 88 PKP PKiKP **00 34 45.0 0.0**
comp=Z,11nm,0.5s,baz=299,slow=17,SNR=7.2
ROSC El Rosal 133.24 88 PKIKP PKiKP **00 34 45.5 +0.4**
ROSC El Rosal 133.24 88 PKPdf PKiKP **00 34 45.5 +0.4**
SPBC San Pablo de B 133.51 87 *e*P PKPpre 00 34 36.9
OCAC Ocana 134.28 84 *e*P PKPdf **00 34 44.9 -0.5**
LPAZ La Paz 134.37 119 PKhKP PKPpre 00 34 36.2
comp=Z,1.5nm,0.7s,baz=347,slow=3.3,SNR=6.5
LPAZ PKP PKiKP **00 34 46.9 -0.6**
comp=Z,7.0nm,0.6s,baz=228,slow=3.3,SNR=19
LPAZ La Paz 134.37 119 *e*P PKPpre 00 34 36.9
PAMC Pamplona, Colo 134.91 85 *e*P PKPdf **00 34 44.9 -2.1**
SDV Santo Domingo 136.93 83 PKPpre 00 34 43.1
SDV Santo Domingo 136.93 83 *e*P PKPpre 00 34 40.9
CPUP Villa Florida 137.26 139 PKhKP PKPpre 00 34 39.6
comp=Z,1.5nm,0.9s,baz=265,slow=2.3,SNR=1.4
CPUP PKP PKPdf **00 34 51.0 +0.4**
comp=Z,9.0nm,0.9s,baz=223,slow=3.3,SNR=14
CPUP Villa Florida 137.26 139 PKIKP PKiKP **00 34 53.5 +1.1**
CPUP Villa Florida 137.26 139 PKPdf PKiKP **00 34 53.5 +1.1**
ESDC Sonseca Array 139.71 332 PKP PKPdf **00 34 54.0 -0.7**
comp=Z,1.2nm,0.7s,baz=25,slow=1.9,SNR=7.7
ESDC Sonseca Array 139.71 332 PKPdf **00 34 55.6 +0.9**
SJG San Juan 140.02 68 PKIKP PKiKP **00 34 57.1 -1.1**
SJG San Juan 140.02 68 PKiKP **00 34 57.1 -1.1**
SAML Samuel 141.62 111 PKHKP PKPpre 00 34 53.4
SAML Samuel 141.62 111 PKPpre 00 34 53.4
SAML Samuel 141.62 111 *e*P PKPpre 00 34 49.0
TAM Tamanrasset 143.76 302 PKIKP PKPbc 00 35 00.8 +0.6
TAM Tamanrasset 143.76 302 PKPdf PKPbc 00 35 00.8 +0.6
SPB Sao Paulo 145.31 146 PKPdf **00 35 06.7 +1.7**
GRGR Grenville 145.44 76 PKPdf **00 35 04.3 -1.2**
H07N1 FLORES T-PHASE 145.51 5 *e*PKP PKiKP **00 35 08.1 -0.8**
SVB Belmont 145.65 74 PKPdf **00 35 06.0 -0.1**
H07S1 FLORES T-PHASE 145.81 5 *e*PKP PKiKP **00 35 09.0 -0.6**
PAGU Aguaiva, Azore 146.60 361 *e*PKP PKiKP **00 35 10.9 -0.3**
ROSA Rosais 146.64 1 *e*PKP PKiKP **00 35 12.4 +1.1**
PSCM Serra do Cume 146.67 360 *e*PKP PKiKP **00 35 11.5 +0.2**
ADH Angra Heroismo 146.71 360 *e*PKP PKPab **00 35 09.6 -0.2**
PMAN Manadas 146.73 1 *e*PKP PKPab **00 35 10.3 +0.4**
PICO Pico 146.85 2 *e*PKP PKPab **00 35 10.9 +0.4**
PTGA Pitinga 146.91 99 PKPdf PKPbc **00 35 09.4 -0.6**
PTGA Pitinga 146.91 99 *e*P PKPpre 00 35 01.1
PSET Sete Cidades 147.51 358 *e*PKP PKPab **00 35 12.7 -0.3**
CMLA Cha da Macela 147.56 357 *e*PKP PKiKP **00 35 15.2 +2.0**
PSMN Pico do Norte, 148.29 356 *e*PKP PKPbc **00 35 11.8 -1.2**
TOA0 Torodi Ar. Sit 150.27 287 PKPbc **00 35 18.6 0.0**
TORD Torodi Ar. Bea 150.27 287 PKPbc PKPbc **00 35 18.6 0.0**
comp=Z,13nm,0.8s,baz=67,slow=2.5,SNR=24
TORD Torodi Ar. Bea 150.27 287 PKPdf **00 35 14.2 +0.8**
BDFB Brasilia 150.89 136 PKP PKPdf **00 35 15.2 +0.7**
comp=Z,6.5nm,0.9s,baz=202,slow=1.8,SNR=8.2
BDFB PKPbc PKiKP **00 35 21.5 +0.7**
comp=Z,48nm,0.8s,baz=194,slow=3.0,SNR=49
BDFB Brasilia 150.89 136 PKIKP PKPdf **00 35 16.2 +1.7**
BDFB Brasilia 150.89 136 PKPdf PKPdf **00 35 16.2 +1.7**
KOWA Kowa 155.24 994 PKPdf **00 35 27.8 +7.2**
KIC Kosan Boka 157.46 274 *e*P PKPab **00 35 55.1 -0.4**
comp=Z,35nm,0.6s
DBIC Dimbokro 157.56 275 PKPab PKPab **00 35 56.1 +0.2**
comp=Z,12nm,0.6s,baz=76,slow=4.0,SNR=23
DBIC Dimbokro 157.56 275 PKP2 PKPab **00 35 56.3 +0.4**
DBIC Dimbokro 157.56 275 PKPab **00 35 56.3 +0.4**
TIC Toumodi 157.73 275 *e*P PKPab **00 35 56.5 -0.1**
LIC Lamto 157.75 274 *e*P PKPab **00 35 56.6 -0.1**
comp=Z,89nm,1.4s

*IDC **30** 00:27:17.3±2.5,5°.12S×152°.46E,h0km,mb4.0/4, mb1 4.2/5,mb1mx3.7/53,mbtmp4.1/5,ML1.2/1,Error ellipse: s-maj=52.0km s-min=35.7km az=180.0*
ISC 30 00:27:23.0±2.0,5°.1S±0°.3×152°.5E±0°.2,h55km,n6,σ2s35/7, mb3.9/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.84**	**231**	Pn	**Pn**	**00 28 57.6**	**-3.3**
	0.3nm,0.3s,baz=318,slow=16,SNR=1.2						
PMG				Sn	**Sn**	**00 30 20.5**	**+3.0**
	2.4nm,0.3s,baz=338,slow=18,SNR=4.6						
DZM	**Mont Dzumac**	**21.59**	**143**	P	**P**	**00 32 08.9**	**+0.4**
	6.4nm,0.9s,baz=327,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**23.06**	**229**	P	**P**	**00 32 23.9**	**-0.1**
	2.7nm,0.8s,baz=51,slow=9.6,SNR=6.5						
ASAR	**Alice Springs**	**25.76**	**222**	P	**P**	**00 32 49.0**	**+0.2**
	1.6nm,0.5s,baz=56,slow=9.1,SNR=11						
FITZ	**Fitzroy Crossi**	**29.29**	**242**	P	**P**	**00 33 21.1**	**+0.7**
	1.7nm,0.5s,baz=53,slow=7.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	**150.15**	**288**	PKPbc	**PKiKP**	**00 47 11.0**	**+1.3**
	0.6nm,0.6s,baz=76,slow=2.4,SNR=1.8						

*IDC **30** 00:29:59.0±1.1,27°.22N×110°.81W,h0km,mb3.4/3, mb1 3.7/9,mb1mx3.6/66,mbtmp3.4/9,ML3.1/6,Error ellipse: s-maj=23.0km s-min=12.6km az=72.0*
ISC 30 00:30:00.6±0.8,27°.17N±0°.07×110°.8W±0°.1,h10km,n13, σ1s27/10,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**3.09**	**171**	Pn	**Pn**	**00 30 48.8**	**-0.7**
	11nm,0.3s,baz=330,slow=8.3,SNR=3.4						
LPIG				Pg	**Pb**	**00 30 56.6**	**+0.9**
	8.5nm,0.3s,baz=180,slow=20,SNR=2.7						
LPIG				Lg	Lg	00 31 39.8	
	3.4nm,0.3s,baz=215,slow=13,SNR=1.9						
TXAR	**Lajitas Array**	**6.66**	**69**	Pn	**Pn**	**00 31 36.7**	**-1.9**
	0.1nm,0.3s,baz=241,slow=13,SNR=6.9						
TXAR				Pg	Pb	00 31 45.3	-11
	0.4nm,0.3s,baz=240,slow=13,SNR=15						
TXAR				Lg	Lg	00 33 32.4	
	0.4nm,0.3s,baz=286,slow=42,SNR=1.3						
PFO	**Pinyon Flats O**	**8.06**	**324**	Pn	**Pn**	**00 31 55.8**	**-2.0**
	0.1nm,0.3s,baz=135,slow=14,SNR=2.4						
PFO				Lg	Lg	00 34 13.4	
	0.1nm,0.3s,baz=238,slow=8.9,SNR=3.3						
ANMO	**Albuquerque**	**8.60**	**25**	Pn	**Pn**	**00 32 05.2**	**-0.1**
	0.1nm,0.3s,baz=169,slow=16,SNR=1.6						
ANMO				Lg	Lg	00 34 33.6	
	0.1nm,0.3s,baz=329,slow=23,SNR=2.3						
NVAR	**Mina Array Bea**	**12.86**	**333**	Pn	**Pn**	**00 33 05.0**	**+1.3**
	0.0nm,0.3s,baz=158,slow=15,SNR=6.5						
PDAR	**Pinedale Array**	**15.59**	**3**	Lg	Lg	00 38 06.8	
	0.0nm,0.3s,baz=182,slow=25,SNR=1.5						
CMIG	**Matias Romero**	**17.83**	**121**	P	**P**	**00 34 10.1**	**+0.5**
	0.1nm,0.3s,baz=312,slow=12,SNR=1.5						
NEW	**Newport**	**21.62**	**349**	P	**P**	**00 34 51.5**	**+0.6**
	2.9nm,0.9s,baz=98,slow=8.5,SNR=4.0						
YKA	**Yellowknife Ar**	**35.41**	**357**	P	**P**	**00 36 56.5**	**+0.1**
	0.1nm,0.7s,baz=183,slow=9.0,SNR=2.1						
ILAR	**Eielson Array**	**44.03**	**339**	P	**P**	**00 38 08.3**	**+0.1**
	1.0nm,0.9s,baz=146,slow=6.6,SNR=4.4						
H03N2	**Juan Fernandez**	**67.46**	**151**	T	T	01 55 07.4	
	baz=323						
H03N1	**Juan Fernandez**	**67.47**	**151**	T	T	01 55 07.7	
	baz=323						
H03N3	**Juan Fernandez**	**67.47**	**151**	T	T	01 55 04.1	
	baz=323						

*IDC **30** 00:30:36.8±2.3,5°.17S×153°.05E,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.7/48,mbtmp3.8/8,Error ellipse: s-maj=80.1km s-min=23.2km az=120.0*
ISC 30 00:30:43.3±1.8,5°.2S±0°.3×152°.9E±0°.3,h43km,n9, σ0s46/10,mb3.6/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.09**	**234**	Pn	**Pn**	**00 32 25.0**	**+0.5**
	baz=77,slow=20,SNR=1.7						
PMG				Sn	**Sn**	**00 33 43.1**	**-0.7**
	1.2nm,0.3s,baz=77,slow=15,SNR=3.2						
WRA	**Warramunga Arr**	**23.28**	**229**	P	**P**	**00 35 47.3**	**-0.1**
	1.6nm,0.8s,baz=54,slow=9.8,SNR=5.2						
ASAR	**Alice Springs**	**25.94**	**223**	P	**P**	**00 36 11.5**	**-0.3**
	1.1nm,0.9s,baz=61,slow=9.0,SNR=5.1						
FITZ	**Fitzroy Crossi**	**29.59**	**242**	P	**P**	**00 36 45.0**	**+0.6**
	1.6nm,1.0s,baz=60,slow=8.1,SNR=1.6						
SONM	**Songino Array**	**66.75**	**328**	P	**P**	**00 41 30.3**	**0.0**
	0.4nm,0.7s,baz=129,slow=4.6,SNR=2.1						
MKAR	**Makanchi Array**	**80.73**	**319**	P	**P**	**00 42 52.4**	**+0.2**
	0.7nm,0.8s,baz=116,slow=3.6,SNR=5.0						
ZALV	**Zalesovo Beam**	**81.57**	**326**	P	**P**	**00 42 56.0**	**-0.4**
	0.6nm,0.4s,baz=116,slow=6.6,SNR=2.6						
ILAR	**Eielson Array**	**82.49**	**22**	P	**P**	**00 43 01.0**	**-0.1**
	0.2nm,0.7s,baz=253,slow=5.4,SNR=1.6						
TORD	**Torodi Ar. Bea**	**150.57**	**288**	PKPbc	**PKiKP**	**00 50 32.0**	**-0.3**
	0.8nm,0.8s,baz=77,slow=2.8,SNR=3.3						

IDC 30 00:33:01.3±2.0,5°.37S×153°.05E,h0km,mb3.9/5, mb1 4.2/5,mb1mx3.7/45,mbtmp3.9/5,Error ellipse: s-maj=78.0km s-min=27.9km az=127.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.26**	**230**	P	P	00 38 11.4	+0.7
	0.7nm,0.8s,baz=42,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**25.90**	**224**	P	P	00 38 34.4	-0.9
	0.9nm,0.7s,baz=46,slow=10.0,SNR=4.5						
FITZ	**Fitzroy Crossi**	**29.61**	**242**	P	P	00 39 08.3	-0.3
	1.5nm,0.6s,baz=67,slow=8.5,SNR=2.2						
CMAR	**Chiang Mai Arr**	**58.35**	**295**	P	P	00 42 59.0	+0.1
	1.1nm,0.3s,baz=105,slow=6.8,SNR=2.1						
ILAR	**Eielson Array**	**82.59**	**22**	P	P	00 45 25.9	-0.2
	0.5nm,0.6s,baz=237,slow=5.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**150.72**	**287**	PKPbc	PKiKP	00 52 57.1	-0.3
	0.6nm,0.7s,baz=82,slow=1.8,SNR=1.7						

*IDC **30** 00:36:11.6±1.6,5°.52S×153°.08E,h0km,mb4.0/10, mb1 4.2/11,mb1mx4.0/39,mbtmp4.0/11,ML2.2/1,Error ellipse: s-maj=55.8km s-min=19.2km az=123.0*
ISC 30 00:36:17.7±1.4,5°.5S±0°.2×152°.9E±0°.3,h37km,n12, σ1s09/13,mb3.9/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.91**	**236**	Pn	**Pn**	**00 37 58.0**	**+1.5**
	2.4nm,0.3s,baz=238,slow=0.6,SNR=4.0						
PMG				Sn	**Sn**	**00 39 11.9**	**-1.9**
	1.8nm,0.3s,baz=158,slow=1.4,SNR=1.8						
WRA	**Warramunga Arr**	**23.08**	**230**	P	**P**	**00 41 21.2**	**+0.9**
	3.3nm,0.8s,baz=54,slow=9.9,SNR=9.9						
ASAR	**Alice Springs**	**25.72**	**224**	P	**P**	**00 41 43.7**	**-1.1**
	1.7nm,0.8s,baz=54,slow=7.9,SNR=7.9						
FITZ	**Fitzroy Crossi**	**29.44**	**243**	P	**P**	**00 42 18.4**	**+0.3**
	1.7nm,0.5s,baz=60,slow=6.9,SNR=7.2						
CMAR	**Chiang Mai Arr**	**58.30**	**296**	P	**P**	**00 46 09.8**	**+0.5**
	0.7nm,0.3s,baz=124,slow=5.7,SNR=4.3						
PETK	**Petropavlovsk-**	**58.55**	**3**	P	**P**	**00 46 10.5**	**+0.1**
	3.7nm,0.9s,baz=235,slow=5.2,SNR=4.9						
SONM	**Songino Array**	**67.00**	**328**	P	**P**	**00 47 06.9**	**-0.1**
	0.4nm,0.5s,baz=167,slow=7.2,SNR=4.4						
MKAR	**Makanchi Array**	**80.95**	**319**	P	**P**	**00 48 28.8**	**+0.3**
	1.3nm,0.8s,baz=98,slow=6.5,SNR=5.5						
ZALV	**Zalesovo Beam**	**81.82**	**326**	P	**P**	**00 48 32.0**	**-0.8**
	1.6nm,0.8s,baz=98,slow=6.0,SNR=4.5						
ILAR	**Eielson Array**	**82.77**	**22**	P	**P**	**00 48 36.7**	**-0.9**
	0.5nm,0.8s,baz=255,slow=5.2,SNR=1.9						
YKA	**Yellowknife Ar**	**96.00**	**28**	P	**P**	**00 49 41.6**	**+0.8**
	0.1nm,0.7s,baz=268,slow=4.5,SNR=1.8						

TORD Torodi Ar. Bea 150.65 287 PKPbc **PKPbc 00 56 05.8 -1.1**
1.1nm,0.8s,baz=66,slow=0.8,SNR=4.0

*IDC **30** 00:39:34.6±0.7,5˚14S×152˚70E,h0km,mb4.0/13, mb1 4.2/14,mb1mx4.1/36,mbtmp4.1/14,ML2.2/1,Error ellipse: s-maj=24.6km s-min=16.4km az=114.0*
*NEIC **30** 00:39:36.8±2.0,5˚24S±0˚06×152˚9E±0˚1,h10km±1km, mb4.2/11,Error ellipse: s-maj=20.1km s-min=9.4km az=74.0*

ISC 30 00:39:40.1±0.6,5˚22S±0˚07×152˚8E±0˚1,h35km,n34, σ0ş93/35,mb4.1/18,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.19**	**329**		Pn	**Pn**	**00 40 01.1**	**+0.8**
PMG	**Port Moresby**	**6.95**	**233**		Pn	**Pn**	**00 41 18.1**	**-1.4**
	2.6nm,0.3s,baz=20,slow=15,SNR=1.4							
PMG					Sn	**Sn**	**00 42 37.8**	**+0.5**
	5.4nm,0.3s,baz=108,slow=17,SNR=5.9							
PMG	**Port Moresby**	**6.95**	**233**		Pn	**Pn**	**00 41 21.5**	**+2.1**
DZM	**Mont Dzumac**	**21.35**	**143**		P	**P**	**00 44 24.0**	**-0.5**
	2.5nm,0.6s,baz=160,slow=23,SNR=1.1							
DZM	**Mont Dzumac**	**21.35**	**143**		P	**P**	**00 44 25.7**	**+1.2**
DZM					IAmb	IAmb	00 44 42.0	
	comp=Z,13nm,1.0s							
MTN	**Manton Dam**	**22.66**	**249**		P	**P**	**00 44 39.8**	**+1.3**
MTN					IAmb	IAmb	00 44 53.4	
	comp=Z,16nm,1.2s							
WB0	**Warramunga Arr**	**23.00**	**229**		P	**P**	**00 44 42.6**	**+0.5**
WB0					IAmb	IAmb	00 44 52.5	
	comp=Z,4.8nm,0.8s							
WR0	**Warramunga Arr**	**23.01**	**229**		P	**P**	**00 44 42.9**	**+0.8**
WR0					IAmb	IAmb	00 44 58.1	
	comp=Z,6.6nm,0.9s							
WB2	**Warramunga Arr**	**23.14**	**229**		P	**P**	**00 44 43.3**	**-0.1**
WB2					IAmb	IAmb	00 45 01.8	
	comp=Z,4.4nm,0.6s							
WRA	**Warramunga Arr**	**23.15**	**229**		P	**P**	**00 44 42.7**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=52,slow=9.7,SNR=7.2							
AS31	**Alice Springs**	**25.82**	**223**		P	**P**	**00 45 09.0**	**+0.7**
ASAR	**Alice Springs**	**25.82**	**223**		P	**P**	**00 45 08.1**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=56,slow=9.1,SNR=18							
ASAR	**Alice Springs**	**25.82**	**223**		P	**P**	**00 45 10.4**	**+2.1**
FITZ	**Fitzroy Crossi**	**29.43**	**242**		P	**P**	**00 45 39.6**	**-1.0**
	comp=Z,2.3nm,0.5s,baz=56,slow=8.9,SNR=13							
FITZ	**Fitzroy Crossi**	**29.43**	**242**		P	**P**	**00 45 40.0**	**-0.6**
FORT	**Forrest**	**34.45**	**220**		P	**P**	**00 46 24.2**	**-0.4**
FORT					IAmb	IAmb	00 46 25.7	
	comp=Z,5.0nm,0.7s							
BHW	**Baring Head**	**41.09**	**154**		P	**P**	**00 47 20.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**58.03**	**295**		P	**P**	**00 49 29.6**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=114,slow=6.4,SNR=5.5							
PEA0B	**Petropavlovsk-**	**58.26**	**3**		P	**P**	**00 49 31.1**	**+0.2**
PETK	**Petropavlovsk-**	**58.26**	**3**		P	**P**	**00 49 30.7**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=164,slow=6.6,SNR=4.3							
PETK	**Petropavlovsk-**	**58.26**	**3**		P	**P**	**00 49 31.4**	**+0.4**
ADK	**Adak**	**62.57**	**21**		P	**P**	**00 50 01.7**	**+1.3**
SONM	**Songino Array**	**66.66**	**328**		P	**P**	**00 50 27.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=135,slow=4.6,SNR=4.2							
SONM	**Songino Array**	**66.66**	**328**		P	**P**	**00 50 27.6**	**+0.2**
SONM					IAmb	IAmb	00 50 43.5	
	comp=Z,0.7nm,0.9s							
VNDA	**Vanda**	**72.41**	**178**		P	**P**	**00 51 03.1**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=320,slow=3.5,SNR=5.4							
MKAR	**Makanchi Array**	**80.62**	**319**		P	**P**	**00 51 49.2**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=108,slow=5.4,SNR=5.0							
IMAR	**Indian Mountai**	**80.79**	**19**		P	**P**	**00 51 49.9**	**+0.2**
ZALV	**Zalesovo Beam**	**81.48**	**326**		P	**P**	**00 51 52.7**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=112,slow=6.2,SNR=4.7							
ILAR	**Eielson Array**	**82.56**	**22**		P	**P**	**00 51 58.2**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=252,slow=5.2,SNR=10							
NRIK	**Noril'sk**	**86.35**	**341**		P	**P**	**00 52 17.1**	**-1.1**
	comp=Z,2.7nm,0.5s,baz=103,slow=4.2,SNR=12							
YKA	**Yellowknife Ar**	**95.81**	**28**		P	**P**	**00 53 03.1**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=267,slow=4.4,SNR=4.3							
GERES	**GERESS Array B**	**124.39**	**328**		PKP	**PKPdf**	**00 58 35.3**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=44,slow=5.8,SNR=2.4							
TORD	**Torodi Ar. Bea**	**150.41**	**287**		PKPbc	**PKPbc**	**00 59 27.6**	**-1.3**
	comp=Z,1.8nm,1.0s,baz=56,slow=2.4,SNR=4.9							
BDFB	**Brasilia**	**150.79**	**136**		PKPbc	**PKiKP**	**00 59 31.1**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=76,slow=0.8,SNR=5.2							

*NEIC **30** 00:40:46.4±1.6,18˚68S±0˚06×70˚7W±0˚1,h40km±29km, ML4.0(GUC),Error ellipse: s-maj=17.6km s-min=8.7km az=92.0*
*GUC **30** 00:40:47.9±0.8,18˚74S×70˚68W,h33km±4km,ML4.0*
*IDC **30** 00:40:53.3±2.3,18˚85S×70˚06W,h119km±24km,mb3.2/5, mb1 3.3/8,mb1mx3.2/33,mbtmp3.6/8,Error ellipse: s-maj=37.6km s-min=15.0km az=98.0*

ISC 30 00:40:45.1±1.7,18.75S±0.05×70.83W±0.09,h26km±13km, n50,σ1ş42/52,mb3.5/4,6C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.60**	**51**	⇑*iP*		**Pb**	**00 40 57.4**	**+0.5**
AP01				*i* S		**Sb**	**00 41 04.8**	**-0.3**
AP01				IAML			00 41 05.4	
	comp=E,29μm,0.4s							
AP01	**Chacalluta**	**0.60**	**51**			**Pb**	**00 40 57.3**	**+0.3**
AP01					Sn	**Sb**	**00 41 04.2**	**-0.8**
PSGC	**Pisagua**	**1.08**	**142**	⇓*iP*		**Pn**	**00 41 05.0**	**+0.4**
PSGC				*i* S		**Sn**	**00 41 17.9**	**-0.9**
PSGCX	**Pisagua**	**1.08**	**142**		Pn	**Pn**	**00 41 05.2**	**+0.6**
PSGCX					Sn	**Sn**	**00 41 18.0**	**-0.8**
MNMC	**Minye Minye**	**1.23**	**108**	⇓*iP*		**Pn**	**00 41 06.5**	**-0.4**
MNMC				*i* S		**Sn**	**00 41 21.9**	**-0.9**
MNMC				IAML			00 41 23.4	
	comp=N,6μm,0.2s							
MNMC	**Minye Minye**	**1.23**	**108**			**Pn**	**00 41 06.4**	**-0.5**
PB16	**IPOC Station P**	**1.32**	**72**			**Pn**	**00 41 07.8**	**-0.6**
TA01	**Diego Aracena**	**1.91**	**161**	⇓*iP*		**Pn**	**00 41 17.8**	**+1.9**
TA01				*i* S		**Sn**	**00 41 40.5**	**+1.4**
TA01				IAML			00 41 46.1	
	comp=E,1μm,0.8s							
TA01	**Diego Aracena**	**1.91**	**161**	Pn		**Pn**	**00 41 17.9**	**+2.0**
PB08	**IPOC Station P**	**2.10**	**131**	⇑*iP*		**Pn**	**00 41 20.2**	**+1.2**
PB08				*i* S		**Sn**	**00 41 46.1**	**+1.6**
PB08				IAML			00 41 47.7	
	comp=E,806nm,0.3s							
PB08	**IPOC Station P**	**2.10**	**131**			**Pn**	**00 41 20.1**	**+1.1**
PB01	**IPOC Station P**	**2.61**	**151**	⇑*iP*		**Pn**	**00 41 26.9**	**+1.2**
PB01				*i* S		**Sn**	**00 41 56.8**	**+0.2**
PB01				IAML			00 42 08.5	
	comp=E,526nm,0.4s							
PB01	**IPOC Station P**	**2.61**	**151**			**Pn**	**00 41 26.9**	**+1.2**
PB07	**IPOC Station P**	**3.09**	**163**	⇑*iP*		**Pn**	**00 41 34.2**	**+1.9**
PB07				IAML			00 42 26.9	
	comp=E,391nm,0.5s							
PB07	**IPOC Station P**	**3.09**	**163**			**Pn**	**00 41 34.3**	**+1.9**
PB09	**IPOC Station P**	**3.38**	**154**	*eP*		**Pn**	**00 41 38.7**	**+2.3**
PB09				*i* S		**Sn**	**00 42 17.7**	**+1.9**
PB09				IAML			00 42 36.7	
	comp=E,472nm,0.4s							
PB09	**IPOC Station P**	**3.38**	**154**			**Pn**	**00 41 38.2**	**+1.9**
PB03	**IPOC Station P**	**3.43**	**163**	*i* P		**Pn**	**00 41 38.8**	**+1.7**
PB03				IAML			00 42 35.9	
	comp=E,228nm,0.4s							
LPAZ	**La Paz**	**3.56**	**47**	P		**Pn**	**00 41 42.6**	**+3.5**
	comp=E,0.6nm,0.3s,baz=221,slow=11,SNR=11							
LPAZ				S		**Sn**	**00 42 24.0**	**+3.3**
	comp=E,1.0nm,0.3s,baz=48,slow=16,SNR=1.5							
LPAZ	**La Paz**	**3.56**	**47**	Pn		**Pn**	**00 41 38.4**	**-0.8**
PB04	**IPOC Station P**	**3.62**	**170**	⇑*iP*		**Pn**	**00 41 41.0**	**+1.3**
PB04				*i* S		**Sn**	**00 42 20.9**	**-0.8**
PB04	**IPOC Station P**	**3.62**	**170**	Pn		**Pn**	**00 41 41.1**	**+1.3**
PB06	**IPOC Station P**	**4.11**	**164**	⇑*iP*		**Pn**	**00 41 47.3**	**+0.9**
PB06	**IPOC Station P**	**4.11**	**164**			**Pn**	**00 41 47.3**	**+0.9**
PB05	**IPOC Station P**	**4.12**	**172**	*i* P		**Pn**	**00 41 47.3**	**+0.7**
LVC	**Limon Verde**	**4.24**	**155**	P		**Pn**	**00 41 50.3**	**+1.9**
	comp=E,6.1nm,0.3s,baz=1.2,slow=8.5,SNR=56							
LVC				S		**Sn**	**00 42 37.4**	**+0.2**
	comp=E,5.3nm,0.3s,baz=310,slow=22,SNR=3.1							
LVC	**Limon Verde**	**4.24**	**155**			**Pn**	**00 41 49.8**	**+1.5**
PB15	**IPOC Station P**	**4.61**	**164**			**Pn**	**00 41 54.0**	**+0.7**
PB14	**IPOC Station P**	**5.86**	**176**	Pn		**Pn**	**00 42 10.7**	**0.0**
GO02	**Mina Guanaco**	**6.48**	**170**			**Pn**	**00 42 19.7**	**+0.5**
AC01	**Pan de Azucar**	**7.37**	**178**	Pn		**Pn**	**00 42 30.7**	**-0.3**
AC02	**Maricunga**	**8.20**	**169**	Pn		**Pn**	**00 42 43.5**	**+0.6**
GO03	**Copiap**	**8.82**	**177**	Pn		**Pn**	**00 42 51.0**	**0.0**
SIV	**San Ignacio**	**9.71**	**75**	P		**Pn**	**00 43 01.8**	**-1.5**
	comp=E,0.9nm,0.3s,baz=275,slow=12,SNR=15							
LCO	**Las Campanas**	**10.21**	**179**	Pn		**Pn**	**00 43 11.2**	**+0.9**
GO04	**Tololo Observa**	**11.37**	**180**	Pn		**Pn**	**00 43 24.8**	**-1.3**
H03N1	**Juan Fernandez**	**16.32**	**205**	T		T	01 01 29.7	
	baz=30,slow=73,SNR=204							
H03N2	**Juan Fernandez**	**16.33**	**205**	T		T	01 01 29.5	
	baz=30,slow=73,SNR=124							
H03N3	**Juan Fernandez**	**16.34**	**205**	T		T	01 01 28.5	
	baz=30,slow=73,SNR=135							
PTGA	**Pitinga**	**20.84**	**32**	P		**P**	**00 45 22.2**	**-2.8**
	comp=E,1.5nm,0.3s,baz=318,slow=22,SNR=1.8							
PLCA	**Paso Flores**	**21.91**	**179**	P		**P**	**00 45 37.0**	**+0.6**
	comp=E,1.6nm,0.7s,baz=305,slow=2.6,SNR=3.3							
TXAR	**Lajitas Array**	**57.35**	**326**	P		**P**	**00 50 32.3**	**+1.0**
	comp=E,0.1nm,0.5s,baz=138,slow=6.9,SNR=1.8							
TORD	**Torodi Ar. Bea**	**78.17**	**72**	P		P	00 52 36.0	-6.7
	comp=E,0.3nm,0.5s,baz=248,slow=4.9,SNR=1.4							
YKA	**Yellowknife Ar**	**88.01**	**341**	P		**P**	**00 53 31.7**	**-0.8**
	comp=E,0.1nm,0.5s,baz=128,slow=5.5,SNR=5.3							
H11S2	**WAKE ISLAND Hyl**	**25.69**	**280**	T		T	03 18 41.1	
	baz=100,slow=74,SNR=68							
H11S1	**WAKE ISLAND Hyl**	**25.70**	**280**	T		T	03 18 48.8	
	baz=100,slow=74,SNR=41							
H11N3	**WAKE ISLAND Hyl**	**25.71**	**281**	T		T	03 18 41.0	
	baz=100,slow=75,SNR=7.2							
H11S3	**WAKE ISLAND Hyl**	**25.71**	**280**	T		T	03 18 49.8	
	baz=100,slow=74,SNR=35							
H11N2	**WAKE ISLAND Hyl**	**25.72**	**281**	T		T	03 18 43.3	
	baz=100,slow=75,SNR=9.9							
H11N1	**WAKE ISLAND Hyl**	**25.72**	**281**	T		T	03 18 42.1	
	baz=100,slow=75,SNR=6.6							

*IDC **30** 00:43:08.0±0.5,5˚09S×152˚56E,h0km,mb4.5/20, mb1 4.6/21,mb1mx4.5/35,mbtmp4.5/21,ML2.6/1,Error ellipse: s-maj=16.5km s-min=13.3km az=102.0*
*MOS **30** 00:43:11.2±0.9,5˚12S×152˚70E,h34km,mb4.9/16,Error ellipse: s-maj=11.5km s-min=8.8km az=91.9*
*BJI **30** 00:43:11.3±0.0,5˚03S×152˚86E,h34km,mB5.2/2, mb5.0/31*
*NEIC **30** 00:43:13.6±1.4,5˚12S±0˚07×152˚6E±0˚1,h35km±1km, mb5.1/87,Error ellipse: s-maj=17.1km s-min=11.2km az=87.0*
*DJA **30** 00:43:15.8±0.8,5˚S±4˚×15˚3E±1˚0,h67km±5km,M5.3/11, mB5.9/2,mb4.7/11,MLv5.6/3,Mw(mB)5.5/2*

ISC 30 00:43:15.3±0.4,5˚19S±0˚06×152˚64E±0˚07,h55km,n193, σ1ş03/169,mb5.0/89,6C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.10**	**334**			**Pn**	**00 43 33.5**	**-1.1**
RABL	**Rabaul**	**1.10**	**334**		P	**Pn**	**00 43 33.6**	**-1.1**
MANU	**Manus Island**	**6.13**	**301**		Pn	**Pn**	**00 44 44.8**	**+1.5**
PMG	**Port Moresby**	**6.86**	**232**		Pn	**Pn**	**00 44 51.8**	**-1.6**
	7.4nm,0.3s,baz=48,slow=8.5,SNR=13							
PMG					Sn	**Sn**	**00 46 09.4**	**-0.8**
	5.4nm,0.3s,baz=69,slow=9.3,SNR=3.1							
PMG	**Port Moresby**	**6.86**	**232**	*i* P		**Pn**	**00 44 53.4**	**0.0**
PMG	**Port Moresby**	**6.86**	**232**		Pn	**Pn**	**00 44 54.5**	**+1.1**
PMG	**Port Moresby**	**6.86**	**232**		P	**Pn**	**00 44 55.2**	**+1.8**
COEN	**Coen**	**12.76**	**226**		Pn	**Pn**	**00 46 13.2**	**-0.9**
EIDS	**Eidsvold**	**20.12**	**184**			**P**	**00 47 45.5**	**+0.7**
SAUI	**Saumlaki**	**21.38**	**261**		P	**P**	**00 47 57.9**	**-0.6**
DZM	**Mont Dzumac**	**21.45**	**143**		P	**P**	**00 47 59.8**	**+0.5**
	8.6nm,0.8s,baz=12,slow=11,SNR=4.4							
SIJI	**Sorong**	**21.77**	**281**		P	**P**	**00 48 01.1**	**-1.7**
	13nm,0.6s,baz=66,slow=18,SNR=3.3							
WB0	**Warramunga Arr**	**22.92**	**229**		P	**P**	**00 48 15.3**	**+0.4**
WB0					IAmb	IAmb	00 48 34.3	
	comp=Z,82nm,1.4s							
WR0	**Warramunga Arr**	**22.93**	**229**		P	**P**	**00 48 15.5**	**+0.6**
WR0					IAmb	IAmb	00 48 33.6	
	comp=Z,78nm,1.4s							
WRAB	**Tennant Creek**	**23.05**	**229**	*i* P		**P**	**00 48 15.1**	**-1.2**
WRAB					pmax	pmax		
	comp=Z,28nm,1.1s							
WB2	**Warramunga Arr**	**23.06**	**229**		P	**P**	**00 48 16.6**	**+0.3**
WB2					IAmb	IAmb	00 48 35.5	
	comp=Z,62nm,1.4s							
WRA	**Warramunga Arr**	**23.07**	**229**		P	**P**	**00 48 15.6**	**-0.8**
	comp=Z,6.7nm,0.7s,baz=54,slow=10,SNR=15							
WRA	**Warramunga Arr**	**23.07**	**229**		P	**P**	**00 48 15.6**	**-0.8**
WRA					pmax	pmax		
	comp=Z,1.0nm,1.1s							
AS31	**Alice Springs**	**25.75**	**223**		P	**P**	**00 48 42.9**	**+1.8**
ASAR	**Alice Springs**	**25.76**	**223**		P	**P**	**00 48 40.9**	**-0.3**
	comp=Z,7.4nm,0.6s,baz=57,slow=8.7,SNR=32							
ASAR	**Alice Springs**	**25.76**	**223**		P	**P**	**00 48 42.8**	**+1.7**
ASAR	**Alice Springs**	**25.76**	**223**		P	**P**	**00 48 42.8**	**+1.7**
SANI	**Sanana**	**26.78**	**276**		P	**P**	**00 48 49.2**	**-1.2**
	comp=Z,15nm,1.4s							
MSVF	**Nonsavu**	**27.79**	**119**		P	**P**	**00 49 01.0**	**+1.5**
	comp=Z,1.4nm,0.4s,baz=288,slow=20,SNR=1.7							
MSVF	**Nonsavu**	**27.79**	**119**	*i* P		**P**	**00 48 57.9**	**-1.6**
STKA	**Stephens Creek**	**28.49**	**200**	P		**P**	**00 49 04.6**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=3.9,slow=9.3,SNR=6.1							
STKA	**Stephens Creek**	**28.49**	**200**	P		**P**	**00 49 05.0**	**-0.5**
STKA					pmax	pmax		
	comp=Z,3.0nm,1.1s							
STKA	**Stephens Creek**	**28.49**	**200**	P		**P**	**00 49 05.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**29.33**	**242**	P		**P**	**00 49 12.6**	**-0.5**
	comp=Z,7.3nm,0.5s,baz=47,slow=6.7,SNR=13							
FITZ	**Fitzroy Crossi**	**29.33**	**242**		P	**P**	**00 49 12.6**	**-0.5**
BBOO	**Buckleboo**	**31.54**	**207**		P	**P**	**00 49 32.8**	**+0.3**
FORT	**Forrest**	**34.39**	**219**		P	**P**	**00 49 56.7**	**-0.6**
FORT					IAmb	IAmb	00 50 04.6	
	comp=Z,19nm,0.8s							
MORW	**Morawa**	**41.98**	**231**		P	**P**	**00 51 01.0**	**-0.3**
YHNB	**Yeheng**	**42.51**	**316**		P	**P**	**00 51 06.4**	**+0.7**
YHNB					IAmb	IAmb	00 51 16.7	
	comp=Z,53nm,1.5s							
JNU	**Nakatsue**	**43.34**	**333**		P	**P**	**00 51 11.1**	**-1.1**
	comp=Z,9.9nm,0.8s,baz=128,slow=3.8,SNR=3.7							
JNU	**Nakatsue**	**43.34**	**333**		IAmb	IAmb	00 51 19.3	
	comp=Z,39nm,0.8s							
MAJO	**Matsushiro**	**43.66**	**343**	*i* P		**P**	**00 51 13.5**	**-1.2**
MAJO					pmax	pmax		
	comp=Z,12nm,1.3s							
JHS	**Saijyo**	**44.01**	**337**	P		**P**	**00 51 16.9**	**-0.7**
JTU	**Tsushima**	**45.18**	**333**	P		**P**	**00 51 27.4**	**+0.5**
JTU					IAmb	IAmb	00 51 46.5	
	comp=Z,43nm,1.4s							
KSRS	**Korea Array**	**48.28**	**334**	P		**P**	**00 51 49.3**	**-1.7**
	comp=Z,2.0nm,0.7s,baz=148,slow=8.4,SNR=8.0							
NJ2	**Nanjing**	**49.05**	**321**	*eP*		**P**	**00 51 59.5**	**+2.4**
NJ2					pmax	pmax		
	comp=Z,11nm,0.5s							
USA0B	**Ussuriysk Arra**	**52.57**	**341**	*i* P		**P**	**00 52 22.7**	**-0.6**
USA0B	**Ussuriysk Arra**	**52.57**	**341**	P		**P**	**00 52 22.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.57**	**341**	P		**P**	**00 52 23.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=143,slow=8.3,SNR=5.6							
USRK	**Ussuriysk Ar.**	**52.57**	**341**	P		**P**	**00 52 23.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**52.57**	**341**	P		**P**	**00 52 23.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**52.66**	**351**	*i* P		**P**	**00 52 22.9**	**-1.0**
YSS					pmax	pmax		
	comp=Z,6.0nm,1.2s							
MDJ	**Mudanjiang**	**53.73**	**340**	P		**P**	**00 52 31.9**	**0.0**
ENH	**Enshi**	**54.31**	**313**	P		**P**	**00 52 36.5**	**+0.1**
ENH					IAmb	IAmb	00 52 37.4	
	comp=Z,15nm,0.9s							
CN2	**Changchun**	**54.59**	**336**	*eP*		**P**	**00 52 41.0**	**+2.8**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.8s							
GSI	**Gunungsitoli**	**55.38**	**275**	P		**P**	**00 52 41.7**	**-2.7**
GSI					IAmb	IAmb	00 52 43.4	
	comp=Z,17nm,1.0s							
GSI	**Gunungsitoli**	**55.38**	**275**	P		**P**	**00 52 42.1**	**-2.4**
COCO	**West Island**	**55.52**	**259**	*i* P		**P**	**00 52 45.0**	**-0.4**
UTTA	**Uttaradit**	**56.22**	**295**	P		**P**	**00 52 51.7**	**+1.4**
XAN	**Xi'an**	**56.80**	**317**		IAmb	IAmb	00 52 54.7	
	comp=Z,10nm,0.5s							
SUKH	**Sukhothai**	**56.97**	**295**	P		**P**	**00 52 57.9**	**+2.2**
KMI	**Kunming**	**57.08**	**304**	⇑P		**P**	**00 52 57.5**	**+0.9**
KMI					pP	pP	00 53 08.3	-2.1
KMI					sP	pwP	00 53 13.8	-1.2
KMI					pmax	pmax		
	comp=Z,10.0nm,0.6s							
KLR	**Kul'dur**	**57.18**	**344**	*i* P		**P**	**00 52 56.5**	**-0.1**
KLR					pmax	pmax		
	comp=Z,4.0nm,0.9s							
LAMP	**Lampang**	**57.30**	**296**	P		**P**	**00 52 59.8**	**+1.8**
CM36	**Chiang Mai Arr**	**57.78**	**296**	P		**P**	**00 53 02.0**	**+0.6**
CM04	**Chiang Mai Arr**	**57.85**	**295**	P		**P**	**00 53 03.3**	**+1.4**
CM01	**Chiang Mai Arr**	**57.88**	**295**	P		**P**	**00 53 03.0**	**+0.9**
CM02	**Chiang Mai Arr**	**57.89**	**295**	P		**P**	**00 53 03.9**	**+1.7**
CM31	**Chiang Mai Arr**	**57.90**	**295**	P		**P**	**00 53 02.9**	**+0.6**
CM31					IAmb	IAmb	00 53 04.4	
	comp=Z,15nm,1.1s							
CMAR	**Chiang Mai Arr**	**57.90**	**295**	P		**P**	**00 53 01.8**	**-0.5**
	comp=Z,6.1nm,0.8s,baz=107,slow=5.2,SNR=25							
CMAR	**Chiang Mai Arr**	**57.90**	**295**	P		**P**	**00 53 02.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**57.90**	**295**	P		**P**	**00 53 02.7**	**+0.5**
CMMT	**Chiang Mai**	**58.01**	**296**	P		**P**	**00 53 03.0**	**0.0**
CHTO	**Chiang Mai**	**58.02**	**296**	P		**P**	**00 53 03.6**	**+0.6**
CHTO					pmax	pmax		
	comp=Z,12nm,1.2s							
CHTO	**Chiang Mai**	**58.02**	**296**	P		**P**	**00 53 03.6**	**+0.6**
CM32	**Chiang Mai Arr**	**58.05**	**296**	P		**P**	**00 53 05.0**	**+1.7**
PETK	**Petropavlovsk-**	**58.24**	**4**	P		**P**	**00 53 03.7**	**-0.3**
	comp=Z,4.3nm,0.5s,baz=157,slow=7.3,SNR=15							
CD2	**Chengdu**	**58.87**	**311**		P	**P**	**00 53 09.5**	**+0.6**
CD2					pmax	pmax		
	comp=Z,90nm,0.6s							
HHC	**Hu-ho-hao-te**	**59.27**	**325**	*eP*		**P**	**00 53 15.0**	**+3.5**
HHC					pmax	pmax		
	comp=Z,30nm,1.2s							
AMKA	**Amchitka**	**60.81**	**19**	P		**P**	**00 53 21.9**	**+0.3**
MA2	**Magadan**	**64.58**	**359**	*i* P		**P**	**00 53 46.6**	**0.0**
MA2					pmax	pmax		
	comp=Z,6.0nm,0.9s							
MA2	**Magadan**	**64.58**	**359**	P		**P**	**00 53 46.0**	**-0.7**
MA2					IAmb	IAmb	00 53 47.0	
	comp=Z,7.4nm,0.7s							
GTA	**Gaotai**	**65.84**	**317**	P		**P**	**00 53 56.5**	**+1.1**
GTA					pP	pP	00 54 05.5	-3.9
GTA					sP	pwP	00 54 09.8	-4.3
GTA					pmax	pmax		
	comp=Z,6.0nm,1.1s							
ULN	**Ulaanbaatar**	**66.25**	**328**	*i* P		**P**	**00 53 57.9**	**0.0**
ULN					pmax	pmax		
	comp=Z,110nm,10.6s							
SHL	**Shillong**	**66.37**	**301**	P		**P**	**00 53 59.1**	**0.0**
SHL					pmax	pmax		
	comp=Z,25nm,0.3s							
SHL	**Shillong**	**66.37**	**301**	P		**P**	**00 53 59.1**	**0.0**
SONM	**Songino Array**	**66.57**	**328**	P		**P**	**00 53 59.9**	**0.0**
	comp=Z,2.3nm,0.5s,baz=150,slow=7.5,SNR=11							
SONM	**Songino Array**	**66.57**	**328**	P		**P**	**00 54 00.0**	**0.0**
SONM					pmax	pmax		
	comp=Z,2.0nm,0.6s							
SONM	**Songino Array**	**66.57**	**328**	P		**P**	**00 53 60.0**	**0.0**
SEY	**Seymchan**	**67.94**	**360**	*i* P		**P**	**00 54 08.1**	**+0.1**
YAK	**Yakutsk**	**69.33**	**349**	*i* P		**P**	**00 54 17.0**	**+0.3**
YAK					pmax	pmax		
	comp=Z,6.0nm,0.9s							
TAPN	**Taplejung**	**70.47**	**301**	*eP*		**P**	**00 54 22.7**	**-2.2**
	comp=Z,26nm,0.9s							
ODAN	**Odare**	**70.61**	**301**	*eP*		**P**	**00 54 25.7**	**0.0**
	comp=Z,44nm,0.9s							
RAMN	**Ramite**	**71.31**	**301**	*eP*		**P**	**00 54 29.6**	**-0.3**
	comp=Z,8.3nm,0.6s							
JIRN	**Jiri**	**71.86**	**301**	*eP*		**P**	**00 54 33.8**	**+0.4**
	comp=Z,8.5nm,0.5s							
GUN	**Gumba**	**

	comp=Z,24nm,0.7s							
NEA2	**Nenana**	**81.68**	**22**	P			00 55 27.3	
	baz=239,SNR=8.5							
BMRM	**Bremner River**	**81.72**	**26**	P			00 55 28.5	
	baz=244							
I23K	**Minto, Yukon-K**	**81.86**	**21**	P			00 55 28.7	
	baz=239,SNR=11							
I23K	**Minto, Yukon-K**	**81.86**	**21**	IAmb	IAmb		00 55 30.9	
	comp=Z,13nm,0.7s							
WRH	**Wood River Hil**	**81.98**	**22**	IAmb	IAmb		00 55 29.6	
	comp=Z,20nm,1.0s							
N25K	**Chitina, Valde**	**82.01**	**25**	P			00 55 30.4	
	baz=243							
CCB	**Clear Creek Bu**	**82.17**	**22**	IAmb	IAmb		00 55 30.4	
	comp=Z,18nm,0.8s							
MDM	**Murphy Dome**	**82.17**	**22**	IAmb	IAmb		00 55 30.6	
	comp=Z,15nm,1.1s							
TCOL	**CIGO, UAF Yank**	**82.27**	**22**	P			00 55 30.4	
	baz=240,SNR=5.2							
COLA	**College**	**82.27**	**22**	*ce*P		**P**	**00 55 30.3**	**-0.2**
COLA				pmax		pmax		
	comp=Z,41nm,1.0s							
COLA	**College**	**82.27**	**22**	P		**P**	**00 55 30.5**	**0.0**
COLA	**College**	**82.27**	**22**	P			00 55 30.4	
	baz=240							
PAX	**Paxson**	**82.27**	**24**	P			00 55 31.2	
	baz=242							
GLB	**Gilahina Butte**	**82.28**	**26**	IAmb	IAmb		00 55 32.5	
	comp=Z,31nm,1.0s							
CRQE	**Cirque**	**82.30**	**27**	P			00 55 31.9	
	baz=245							
VRDI	**Verde Repeater**	**82.34**	**26**	IAmb	IAmb		00 55 32.9	
	comp=Z,17nm,0.9s							
HDA	**Harding Lake**	**82.38**	**22**	P			00 55 30.9	
	baz=241,SNR=6.7							
HDA				P			00 55 30.9	
	baz=241,SNR=6.7							
IL31		**82.58**	**22**	IAmb	IAmb		00 55 32.4	
	comp=Z,18nm,0.8s							
ILAR	**Eielson Array**	**82.58**	**22**	P		**P**	**00 55 31.2**	**-0.9**
	comp=Z,15nm,0.8s,baz=249,slow=5.4,SNR=88							
ILAR	**Eielson Array**	**82.58**	**22**	P		**P**	**00 55 31.1**	**-1.1**
ILAR	**Eielson Array**	**82.58**	**22**	P		**P**	**00 55 31.1**	**-1.1**
MCARA	**McCarthy VSAT**	**82.59**	**26**	P			00 55 33.6	
	baz=245							
MCARA	**McCarthy VSAT**	**82.60**	**26**	IAmb	IAmb		00 55 34.3	
	comp=Z,22nm,0.9s							
COLD	**Coldfoot**	**82.68**	**19**	P			00 55 33.7	
	baz=238							
MENT	**Mentasta**	**82.97**	**24**	IAmb	IAmb		00 55 39.9	
	comp=Z,11nm,0.8s							
CTG	**Chitna Glacier**	**83.17**	**27**	P			00 55 36.7	
	baz=246							
CTGM	**Chitina Glacie**	**83.17**	**27**	IAmb	IAmb		00 55 38.4	
	comp=Z,20nm,0.8s							
A21K	**Barrow**	**83.23**	**15**	P			00 55 36.0	
	baz=231							
SCRK	**Sand Creek**	**83.33**	**23**	IAmb	IAmb		00 55 37.6	
	comp=Z,11nm,0.8s							
SCRK	**Sand Creek**	**83.33**	**23**	P			00 55 36.6	
	baz=244,SNR=11							
PRP	**Porcupine Dome**	**83.44**	**22**	P			00 55 35.7	
	baz=242							
TOLK	**Toolik Lake Re**	**83.64**	**18**	IAmb	IAmb		00 55 39.8	
	comp=Z,17nm,0.8s							
TOLK	**Toolik Lake Re**	**83.64**	**18**	P			00 55 38.6	
	baz=238							
L27K	**Beaver Creek,**	**83.81**	**25**	IAmb	IAmb		00 55 40.8	
	comp=Z,17nm,1.1s							
L27K	**Beaver Creek,**	**83.81**	**25**	P			00 55 39.7	
	baz=246							
BCAR	**Beaver Creek A**	**83.83**	**25**	P		**P**	**00 55 38.7**	**0.0**
NIL	**Nilore**	**84.07**	**304**	P		**P**	**00 55 41.0**	**+0.4**
NIL				pmax		pmax		
	comp=Z,17nm,0.7s							
NIL	**Nilore**	**84.07**	**304**	P		**P**	**00 55 41.0**	**+0.4**
TKM2	**Tokmak 2**	**84.09**	**314**	P		**P**	**00 55 42.2**	**+1.4**
	SNR=8.4							
K27K	**Chicken**	**84.11**	**24**	IAmb	IAmb		00 55 42.6	
	comp=Z,12nm,0.9s							
K27K	**Chicken**	**84.11**	**24**	P			00 55 41.3	
	baz=246							
KBK	**Karagaybulak**	**84.50**	**314**	P		**P**	**00 55 44.1**	**+1.4**
	SNR=6.9							
BMAR	**Burnt Mountain**	**84.67**	**20**	P		**P**	**00 55 44.1**	**+1.3**
CHMS	**Chumysh**	**84.71**	**314**	P		**P**	**00 55 45.0**	**+1.3**
	SNR=11							
EGAK	**Eagle**	**84.78**	**23**	P		**P**	**00 55 44.3**	**+0.9**
EGAK				IAmb	IAmb		00 55 45.5	
	comp=Z,12nm,0.9s							
EGAK	**Eagle**	**84.78**	**23**	P			00 55 44.2	
	baz=246							
AAK	**Ala-Archa**	**84.82**	**314**	P		**P**	**00 55 46.0**	**+1.6**
	SNR=9.6							
AAK	**Ala-Archa**	**84.82**	**314**	*i* P		**P**	**00 55 44.5**	**+0.1**
AAK				pmax		pmax		
	comp=Z,42nm,1.0s							
AAK	**Ala-Archa**	**84.82**	**314**	P		**P**	**00 55 45.4**	**+1.0**
AAK				IAmb	IAmb		00 55 46.4	
	comp=Z,12nm,0.9s							
USP	**Ospenovka**	**84.95**	**314**	P		**P**	**00 55 46.3**	**+1.4**
	SNR=15							
EKS2	**Erkin-Say**	**85.35**	**313**	P		**P**	**00 55 48.7**	**+1.8**
	SNR=12							
NRIK	**Noril'sk**	**86.28**	**341**	P		**P**	**00 55 50.2**	**-0.6**
	comp=Z,4.9nm,0.6s,baz=103,slow=4.4,SNR=14							
NRIK	**Noril'sk**	**86.28**	**341**	*i* P		**P**	**00 55 51.4**	**+0.6**
NRIK				pmax		pmax		
	comp=Z,5.0nm,0.9s							
NRIK	**Noril'sk**	**86.28**	**341**	P		**P**	**00 55 50.8**	**0.0**
NRIK				IAmb	IAmb		00 55 52.7	
	comp=Z,5.5nm,0.7s							
EPYK	**Eagle Plains**	**87.09**	**22**	P			00 55 56.1	
	baz=250							
KKAR	**Karatay Array**	**87.79**	**313**	P		**P**	**00 55 58.5**	**-0.2**
KKAR	**Karatay Array**	**87.79**	**313**	P		**P**	**00 55 58.5**	**-0.2**
INK	**Inuvik**	**88.88**	**21**	IAmb	IAmb		00 56 04.7	
	comp=Z,10nm,0.9s							
BRVK	**Borovoye**	**89.53**	**323**	*ce*P		**P**	**00 56 06.5**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
NVAR	**Mina Array Bea**	**92.45**	**52**	P		**P**	**00 56 21.9**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=251,slow=6.2,SNR=11							
NVAR	**Mina Array Bea**	**92.45**	**52**	P		**P**	**00 56 21.4**	**+0.5**
C36M	**Paulatuk**	**92.45**	**21**	IAmb	IAmb		00 56 20.9	
	comp=Z,6.9nm,0.8s							
C36M	**Paulatuk**	**92.45**	**21**	P			00 56 19.9	
	baz=262							
HRA	**Herat**	**93.23**	**304**	IAmb	IAmb		00 56 24.9	
	comp=Z,5.5nm,1.0s							
PFO	**Pinyon Flats O**	**93.59**	**57**	*ce*P		**P**	**00 56 24.1**	**-2.0**
PFO				pmax		pmax		
	comp=Z,5.0nm,1.1s							
YKA	**Yellowknife Ar**	**95.84**	**28**	P		**P**	**00 56 36.0**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=269,slow=4.2,SNR=23							
YKA	**Yellowknife Ar**	**95.84**	**28**	P		**P**	**00 56 36.0**	**+0.4**
ARU	**Arti**	**96.56**	**326**	*i* P		**P**	**00 56 37.4**	**-1.6**
ARU				pmax		pmax		
	comp=Z,3.0nm,1.1s							
FINES	**FINESS Array B**	**111.34**	**336**	Pdiff		**Pdif**	**00 57 43.2**	**-1.6**
	comp=Z,2.4nm,0.9s,baz=64,slow=6.3,SNR=5.9							
KHC	**Kasperske Hory**	**124.19**	**329**	*e*PKIKP		**PKiKP**	**01 02 08.7**	**+0.4**
KHC	**Kasperske Hory**	**124.19**	**329**	*e*P		**PKiKP**	**01 02 08.7**	**+0.4**
GERES	**GERESS Array B**	**124.31**	**328**	PKP		**PKiKP**	**01 02 08.9**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=202,slow=0.7,SNR=4.4							
ABTA	**Abfaltersbach**	**126.22**	**327**	*i* P		**PKiKP**	**01 02 12.2**	**-0.3**
	comp=Z,3.8nm,0.9s							
WTTA	**Wattenberg**	**126.37**	**328**	*i* P		**PKiKP**	**01 02 13.2**	**+0.3**
	comp=Z,2.6nm,0.7s							
MOTA	**Moosalm**	**126.60**	**328**	*i* P		**PKiKP**	**01 02 13.4**	**+0.1**
	comp=Z,3.4nm,0.7s							
SQTA	**Sankt Quirin**	**126.63**	**328**	*i* P		**PKiKP**	**01 02 13.4**	**+0.1**
	comp=Z,6.9nm,1.1s							
FETA	**Feichten**	**127.01**	**328**	*i* P		**PKiKP**	**01 02 14.8**	**+0.7**
	comp=Z,3.6nm,1.1s							
BFO	**Black Forest**	**127.36**	**331**	*c i*PKIKP		**PKPdf**	**01 02 10.6**	**-3.5**
LPAZ	**La Paz**	**134.37**	**119**	PKP		**PKPdf**	**01 02 28.6**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=324,slow=4.5,SNR=5.8							
SDV	**Santo Domingo**	**136.91**	**83**	PKPdf		**PKiKP**	**01 02 34.7**	**-0.4**
RTC	**Rabat Centre**	**145.60**	**329**			**PKPab**	**01 02 49.6**	**+0.9**
SVB	**Belmont**	**145.63**	**74**	PKPdf		**PKPbc**	**01 02 48.8**	**-0.1**
PTGA	**Pitinga**	**146.90**	**99**	PKPbc		**PKPab**	**01 02 53.7**	**-0.5**
	comp=Z,17nm,0.8s,baz=251,slow=2.8,SNR=21							
PTGA	**Pitinga**	**146.90**	**99**			**PKPab**	**01 02 54.1**	**-0.1**
TOA0	**Torodi Ar. Sit**	**150.28**	**287**			**PKPbc**	**01 03 01.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**150.28**	**287**	PKPbc		**PKPbc**	**01 03 01.4**	**-0.1**
	comp=Z,6.0nm,0.7s,baz=69,slow=2.5,SNR=17							
TORD	**Torodi Ar. Bea**	**150.28**	**287**			**PKPbc**	**01 03 01.2**	**-0.3**
BDFB	**Brasilia**	**150.90**	**136**	PKPbc		**PKiKP**	**01 03 04.0**	**+0.4**
	comp=Z,7.8nm,0.8s,baz=149,slow=2.3,SNR=11							
KIC	**Kosan Boka**	**157.47**	**274**	*e*PKP1		**PKPab**	**01 03 38.4**	**0.0**
	comp=Z,16nm,0.7s							
DBIC	**Dimbokro**	**157.57**	**275**	PKPab		**PKPab**	**01 03 39.0**	**+0.2**
	comp=Z,4.7nm,0.6s,baz=93,slow=4.7,SNR=9.3							
DBIC	**Dimbokro**	**157.57**	**275**	PKP2		**PKPab**	**01 03 39.0**	**+0.2**
TIC	**Toumodi**	**157.74**	**275**	*e*PKP1		**PKPab**	**01 03 39.4**	**-0.1**
LIC	**Lamto**	**157.76**	**274**	*e*PKP1		**PKPab**	**01 03 39.4**	**-0.2**
	comp=Z,47nm,1.4s							

*IDC **30** 00:44:28.4±0.6,5.°32S×152.°67E, h0km, mb4.4/17, mb1 4.6/17, mb1mx4.4/33, mbtmp4.4/17, Error ellipse: s-maj=23.1km s-min=16.0km az=94.0*
*NEIC **30** 00:44:30.5±1.0,5.°28S±0.°06×152.°8E±0.°1, h10km± 1km, mb4.7/16, Error ellipse: s-maj=19.9km s-min=10.1km az=77.0*

ISC 30 00:44:34.1±0.5,5.°35S±0.°06×152.°78E±0.°09, h35km, n66, σ0s99/64, mb4.5/25, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.31**	**332**	Pn	**Pn**		**00 44 56.3**	**+0.3**
PMG	**Port Moresby**	**6.88**	**234**	Sn	**Sn**		**00 47 30.2**	**+0.5**
	15nm,0.3s,baz=136,slow=23,SNR=4.7							
PMG	**Port Moresby**	**6.88**	**234**	Pn	**Pn**		**00 46 11.7**	**-0.8**
COEN	**Coen**	**12.76**	**227**	Pn	**Pn**		**00 47 35.1**	**+1.9**
EIDS	**Eidsvold**	**19.97**	**185**	P	**P**		**00 49 04.3**	**+0.7**
DZM	**Mont Dzumac**	**21.24**	**143**	P	**P**		**00 49 18.8**	**+1.4**
	9.0nm,0.7s,baz=327,slow=18,SNR=1.7							
DZM	**Mont Dzumac**	**21.24**	**143**	IAmb	IAmb		00 49 31.6	
	comp=Z,38nm,1.0s							
WRA	**Warramunga Arr**	**23.07**	**229**	P	**P**		**00 49 34.0**	**-2.8**
	comp=Z,5.1nm,0.8s,baz=52,slow=10.0,SNR=0.5							
ASAR	**Alice Springs**	**25.74**	**223**	P	**P**		**00 50 00.2**	**-1.4**
	comp=Z,4.5nm,0.7s,baz=54,slow=8.8,SNR=1.5							
STKA	**Stephens Creek**	**28.39**	**200**	P	**P**		**00 50 23.8**	**-1.6**
	comp=Z,3.9nm,0.6s,baz=28,slow=13,SNR=3.0							
STKA	**Stephens Creek**	**28.39**	**200**	P	**P**		**00 50 25.6**	**+0.2**
SOEI	**Soe**	**28.59**	**259**	P	**P**		**00 50 27.8**	**+0.3**
SOEI				IAmb	IAmb		00 50 45.9	
	comp=Z,16nm,0.9s							
FITZ	**Fitzroy Crossi**	**29.38**	**242**	P	**P**		**00 50 33.2**	**-1.1**
	comp=Z,8.7nm,0.6s,baz=53,slow=10,SNR=2.5							
FITZ	**Fitzroy Crossi**	**29.38**	**242**	P	**P**		**00 50 34.2**	**-0.1**
FITZ				IAmb	IAmb		00 50 37.7	
	comp=Z,10nm,0.8s							
BBOO	**Buckleboo**	**31.46**	**208**	P	**P**		**00 50 52.9**	**+0.4**
BBOO				IAmb	IAmb		00 50 59.0	
	comp=Z,11nm,0.9s							
URZ	**Urewera**	**39.52**	**149**	P	**P**		**00 52 01.4**	**-0.2**
URZ				IAmb	IAmb		00 52 12.8	
	comp=Z,21nm,1.1s							
MXZ	**Matakaoa Point**	**39.62**	**148**	P	**P**		**00 52 01.9**	**-0.6**
KHZ	**Kahutara**	**41.26**	**157**	P	**P**		**00 52 16.3**	**+0.4**
KHZ				IAmb	IAmb		00 52 20.2	
	comp=Z,21nm,1.1s							
KSRS	**Korea Array**	**48.48**	**333**	P	**P**		**00 53 11.5**	**-1.9**
	comp=Z,1.4nm,0.5s,baz=153,slow=9.3,SNR=4.7							
USRK	**Ussuriysk Ar.**	**52.76**	**341**	P	**P**		**00 53 44.7**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=117,slow=5.0,SNR=3.1							
USRK	**Ussuriysk Ar.**	**52.76**	**341**	P	**P**		**00 53 44.2**	**-1.4**
CM36	**Chiang Mai Arr**	**57.98**	**296**	P	**P**		**00 54 24.0**	**+0.3**
CM01	**Chiang Mai Arr**	**58.07**	**295**	P	**P**		**00 54 26.4**	**+2.0**
	comp=Z,9.2nm,1.1s							
CM05	**Chiang Mai Arr**	**58.08**	**295**	P	**P**		**00 54 27.0**	**+2.6**
CM02	**Chiang Mai Arr**	**58.08**	**295**	P	**P**		**00 54 26.4**	**+2.0**
	comp=Z,7.8nm,1.1s							
CMAR	**Chiang Mai Arr**	**58.09**	**295**	P	**P**		**00 54 23.8**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=105,slow=5.2,SNR=7.0							
CM13	**Chiang Mai Arr**	**58.12**	**295**	P	**P**		**00 54 26.0**	**+1.3**
	comp=Z,6.7nm,1.1s							
CMMT	**Chiang Mai**	**58.20**	**296**	P	**P**		**00 54 25.2**	**-0.1**
	comp=Z,2.1nm,1.8s							
CM33	**Chiang Mai Arr**	**58.21**	**296**	P	**P**		**00 54 26.0**	**+0.7**
CM32	**Chiang Mai Arr**	**58.24**	**296**	P	**P**		**00 54 27.0**	**+1.4**
PEA0B	**Petropavlovsk-**	**58.39**	**3**	P	**P**		**00 54 25.6**	**-0.4**
PETK	**Petropavlovsk-**	**58.39**	**3**	P	**P**		**00 54 25.4**	**-0.5**
	comp=Z,3.4nm,0.5s,baz=158,slow=6.7,SNR=9.7							
PETK	**Petropavlovsk-**	**58.39**	**3**	P	**P**		**00 54 25.6**	**-0.3**
SONM	**Songino Array**	**66.78**	**328**	P	**P**		**00 55 22.4**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=144,slow=5.4,SNR=5.2							
SONM	**Songino Array**	**66.78**	**328**	IAmb	IAmb		00 55 23.5	
	comp=Z,4.8nm,1.2s							
VNDA	**Vanda**	**72.28**	**178**	P	**P**		**00 55 55.9**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=324,slow=6.6,SNR=7.6							
BILL	**Bilibino**	**73.84**	**5**	P	**P**		**00 56 05.0**	**+0.2**
MKAR	**Makanchi Array**	**80.73**	**319**	P	**P**		**00 56 43.8**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=94,slow=7.9,SNR=6.0							
MKAR	**Makanchi Array**	**80.73**	**319**	P	**P**		**00 56 44.1**	**+0.2**
IMAR	**Indian Mountai**	**80.91**	**19**	P	**P**		**00 56 44.5**	**+0.1**
ZAA0	**Zalesovo Array**	**81.60**	**326**	P	**P**		**00 56 47.5**	**-0.8**
ZALV	**Zalesovo Beam**	**81.60**	**326**	P	**P**		**00 56 47.3**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=112,slow=6.4,SNR=6.1							
ZALV	**Zalesovo Beam**	**81.60**	**326**	P	**P**		**00 56 48.0**	**-0.4**
ILAR	**Eielson Array**	**82.67**	**22**	P	**P**		**00 56 52.3**	**-1.5**
	comp=Z,5.5nm,1.0s,baz=259,slow=4.8,SNR=5.5							
ILAR	**Eielson Array**	**82.67**	**22**	P	**P**		**00 56 53.0**	**-0.8**
BCAR	**Beaver Creek A**	**83.91**	**25**	P	**P**		**00 57 00.3**	**+0.1**
NIL	**Nilore**	**84.27**	**304**	P	**P**		**00 57 02.8**	**+0.1**
TKM2	**Tokmak 2**	**84.30**	**314**	P	**P**		**00 57 03.3**	**+0.4**
	SNR=7.2							
KBK	**Karagaybulak**	**84.71**	**314**	P	**P**		**00 57 05.8**	**+0.8**
	SNR=5.4							
BMAR	**Burnt Mountain**	**84.77**	**20**	P	**P**		**00 57 05.1**	**+0.6**
CHMS	**Chumysh**	**84.92**	**314**	P	**P**		**00 57 06.4**	**+0.6**
	SNR=8.7							
UCH	**Uchtor**	**84.93**	**313**	P	**P**		**00 57 07.7**	**+1.2**
	SNR=8.0							
AAK	**Ala-Archa**	**85.03**	**314**	P	**P**		**00 57 07.5**	**+0.9**
	SNR=5.7							
USP	**Ospenovka**	**85.16**	**314**	P	**P**		**00 57 07.6**	**+0.6**
	SNR=8.3							
AML	**Almayashu**	**85.51**	**313**	P	**P**		**00 57 10.2**	**+1.0**
	SNR=12							
EKS2	**Erkin-Say**	**85.55**	**313**	P	**P**		**00 57 09.7**	**+0.6**
	SNR=6.8							
NRIK	**Noril'sk**	**86.47**	**341**	P	**P**		**00 57 12.4**	**-0.5**
	comp=Z,3.8nm,0.5s,baz=116,slow=5.2,SNR=10.0							
NRIK	**Noril'sk**	**86.47**	**341**	P	**P**		**00 57 12.5**	**-0.4**
NRIK				IAmb	IAmb		00 57 19.7	
	comp=Z,6.9nm,1.1s							
NVAR	**Mina Array Bea**	**92.44**	**52**	P	**P**		**00 57 42.1**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=254,slow=6.5,SNR=5.2							
YKA	**Yellowknife Ar**	**95.92**	**28**	P	**P**		**00 57 57.2**	**+0.2**
	comp=Z,3.7nm,1.1s,baz=268,slow=4.1,SNR=8.0							
BRTR	**Keskin Array B**	**115.65**	**312**	PKP		**PKiKP**	**01 03 12.7**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=110,slow=2.1,SNR=2.9							
GERES	**GERESS Array B**	**124.51**	**328**	PKP		**PKPdf**	**01 03 29.6**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=68,slow=6.4,SNR=1.6							
SIV	**San Ignacio**	**140.35**	**123**	PKP		**PKPdf**	**01 04 00.1**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=167,slow=3.0,SNR=5.2							
PTGA	**Pitinga**	**146.74**	**99**	PKPbc		**PKPdf**	**01 04 12.5**	**+0.6**
	comp=Z,15nm,0.8s,baz=270,slow=5.4,SNR=7.9							
TORD	**Torodi Ar. Bea**	**150.46**	**287**	PKPbc		**PKPbc**	**01 04 22.9**	**-0.2**
	comp=Z,7.0nm,0.9s,baz=41,slow=2.0,SNR=5.3							
BDFB	**Brasilia**	**150.69**	**136**	PKPbc		**PKPbc**	**01 04 23.9**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=127,slow=9.8,SNR=2.1							

IDC 30 00:49:46.9±2.1,4.°71S×152.°56E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/30, mbtmp3.4/4, Error ellipse: s-maj=99.4km s-min=29.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.32**	**228**	P		P	00 54 56.9	0.0
	0.7nm,0.8s,baz=52,slow=9.7,SNR=1							
ASAR	**Alice Springs**	**26.05**	**222**	P		P	00 55 22.3	+0.1
	0.3nm,0.6s,baz=61,slow=8.0,SNR=1.4							
MKAR	**Makanchi Array**	**80.10**	**319**	P		P	01 01 58.9	0.0
	0.1nm,0.4s,baz=98,slow=5.2,SNR=1.8							
ILAR	**Eielson Array**	**82.17**	**22**	P		P	01 02 09.4	0.0
	0.6nm,0.6s,baz=237,slow=5.9,SNR=7.7							
TORD	**Torodi Ar. Bea**	**150.05**	**288**	PKPbc		PKPbc	01 09 40.1	-0.5
	0.8nm,1.0s,baz=63,slow=2.1,SNR=2.6							

*KRNET **30** 00:58:37.1±0.1,43.°18N×70.°24E, mb2.6*
NNC 30 00:58:36.1±0.1,42.°97N×70.°12E, h0km, mpv1.1,21C-7D, Error ellipse: s-maj=0.6km s-min=0.4km az=154.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KK08	**Karatay Array**	**0.30**	**63**	⇓P		Pg	00 58 42.1	+0.3
KK08				⇑S		Sg	00 58 46.5	+0.7
KK07	**Karatay Array**	**0.30**	**67**	⇓P		Pg	00 58 42.2	+0.3
KK07				⇑S		Sg	00 58 46.4	+0.5
KK03	**Karatay Array**	**0.31**	**64**	⇑P		Pg	00 58 42.2	+0.2
KK03				⇑S		Sg	00 58 46.6	+0.6
KK01	**Karatay Array**	**0.31**	**64**	⇑P		Pg	00 58 42.3	+0.2
KK01				⇑S		Sg	00 58 46.8	+0.7
KK02	**Karatay Array**	**0.32**	**65**	⇑P		Pg	00 58 42.4	+0.2
KK02				⇑S		Sg	00 58 46.8	+0.6
KK04	**Karatay Array**	**0.32**	**63**	⇓P		Pg	00 58 42.4	+0.3
KK04				⇑S		Sg	00 58 46.8	+0.6
KK31	**Karatay Array**	**0.32**	**65**	⇑P		Pg	00 58 42.4	+0.2
	0.4nm,0.3s,baz=244,slow=18,SNR=41							
KK31				⇑*i*S		Sg	00 58 46.8	+0.6
	2.9nm,0.5s,baz=246,slow=31,SNR=7.2							
KK09	**Karatay Array**	**0.32**	**61**	⇓P		Pg	00 58 42.3	+0.2
KK09				⇑S		Sg	00 58 46.9	+0.6
KK06	**Karatay Array**	**0.32**	**67**	⇓P		Pg	00 58 42.5	+0.3
KK06				⇑S		Sg	00 58 47.0	+0.6
KK05	**Karatay Array**	**0.33**	**63**	⇑P		Pg	00 58 42.7	+0.3
KK05				⇑S		Sg	00 58 47.3	+0.6
TRKS	**Terek-Say**	**1.62**	**152**	⇑*i*P		Pg	00 59 09.6	+2.4
	baz=58							
TRKS				⇑*i*S		Sg	00 59 33.5	+5.2
	baz=58							
MNAS	**Manas**	**1.82**	**105**	⇑*i*P		Pn	00 59 09.1	+0.3
	baz=12							
MNAS				⇑*i*S		Sn	00 59 32.4	-0.3
	baz=12							
ARSB	**Arslanbob**	**2.69**	**127**	⇑*i*P		Pn	00 59 22.2	+1.5
	baz=31							
ARSB				⇑*i*S		Sn	00 59 55.2	+1.1
	baz=31							
AML	**Almayashu**	**2.77**	**106**	⇓*i*P		Pn	00 59 22.5	+0.4
	baz=11							
AML				⇓*i*S		Sn	00 59 55.8	-0.6
	baz=11							

IDC 30 01:02:48.9±3.6,4.°56S×152.°80E, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.7/37, mbtmp4.3/3, Error ellipse: s-maj=131.0km s-min=51.3km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.60**	**228**	P		P	01 08 01.9	+0.2
	3.5nm,0.5s,baz=54,slow=9.9,SNR=21							
ASAR	**Alice Springs**	**26.32**	**222**	P		P	01 08 26.9	+0.2
	0.4nm,0.6s,baz=53,slow=8.7,SNR=4.3							
FITZ	**Fitzroy Crossi**	**29.77**	**241**	P		P	01 08 57.1	-0.4
	0.5nm,0.3s,baz=62,slow=9.2,SNR=7.3							
TORD	**Torodi Ar. Bea**	**150.23**	**289**	PKPbc		PKPbc	01 22 42.8	-0.3
	0.6nm,0.7s,baz=67,slow=3.4,SNR=2.6							

*IDC **30** 01:04:22.9±1.1,33.°06N×48.°53E, h0km, mb3.6/11, mb1 3.8/14, mb1mx3.6/44, mbtmp3.6/14, ML3.3/3, Error ellipse: s-maj=27.9km s-min=18.8km az=6.0*
*ISN **30** 01:04:23.8±1.5,33.°35N×48.°74E, h0km±220km, ML3.2*
*TEH **30** 01:04:25.8,33.°29N×48.°69E, h8km, ML3.6*
*THR **30** 01:04:28.0±0.3,33.°23N×48.°85E, h14km±4km, ML3.4*
*OMAN **30** 01:04:33.0,32.°31N×48.°47E, h12km, mb4.6/4*

**ISC 30 01:04:24.6±0.5,33.°13N±0.°03×48.°61E±0.°03, h10km, n69, σ2s81/75, mb3.4/11, 6C-3D, Western Iran

ABTO	**Aybut**	**16.27**	**164**	P		**Pn**	**01 08 13.0**	**-0.4**
	SNR=10.0							
ABTO				S		**Sn**	**01 11 05.7**	**-8.3**
DMTO	**DMTO**	**16.38**	**158**	P		**Pn**	**01 08 14.1**	**-0.6**
DMTO				S		**Sn**	**01 11 07.9**	**-8.6**
AKTO	**Aktyubinsk**	**18.63**	**19**	P		**Pn**	**01 08 44.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=194,slow=12,SNR=2.0							
IDI	**Anoyia**	**19.73**	**283**	⇓P		**P**	**01 08 51.7**	**-2.8**
ODBI	**Odobesti**	**20.81**	**314**	⇑P		**P**	**01 09 07.9**	**+1.8**
VRI	**Vrincioaia**	**21.06**	**314**	⇑P		**P**	**01 09 10.2**	**+1.5**
PLOR	**Plostina**	**21.10**	**313**	⇑P		**P**	**01 09 12.0**	**+2.8**
MLR	**Muntele Rosu**	**21.36**	**312**	⇑P		**P**	**01 09 18.4**	**+6.2**
TESR	**Tescani**	**21.43**	**315**	⇓P		**P**	**01 09 14.3**	**+1.5**
PRAR	**RASCA**	**22.12**	**317**	⇑P		P	01 09 12.7	-7.5
AKASG	**Malin Array Be**	**22.61**	**327**	P		**P**	**01 09 25.6**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=133,slow=9.7,SNR=6.6							
BURAR	**Bucovina Array**	**22.84**	**316**	⇓P		**P**	**01 09 33.0**	**+5.1**
DRGR		**23.95**	**312**	⇑P		**P**	**01 09 41.3**	**+2.3**
MKAR	**Makanchi Array**	**28.95**	**52**	P		**P**	**01 10 24.7**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=239,slow=8.1,SNR=1.9							
FINES	**FINESS Array B**	**31.84**	**340**	P		**P**	**01 10 50.5**	**+1.1**
	comp=Z,3.9nm,0.9s,baz=150,slow=11,SNR=5.1							
ZALV	**Zalesovo Beam**	**32.96**	**40**	P		**P**	**01 11 00.6**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=234,slow=7.1,SNR=4.0							
NOA	**NORSAR Array B**	**36.90**	**331**	P		**P**	**01 11 31.9**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=116,slow=10,SNR=2.0							
ESDC	**Sonseca Array**	**42.31**	**294**	P		**P**	**01 12 18.6**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=83,slow=7.8,SNR=4.4							
SONM	**Songino Array**	**45.30**	**53**	P		**P**	**01 12 44.1**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=262,slow=4.4,SNR=2.1							
TORD	**Torodi Ar. Bea**	**47.06**	**256**	P		**P**	**01 12 56.4**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=52,slow=7.4,SNR=8.4							
CMAR	**Chiang Mai Arr**	**47.19**	**95**	P		**P**	**01 12 57.5**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=300,slow=9.0,SNR=1.3							
ILAR	**Eielson Array**	**81.66**	**7**	P		**P**	**01 16 42.8**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=345,slow=3.1,SNR=4.7							
YKA	**Yellowknife Ar**	**83.75**	**352**	P		**P**	**01 16 52.4**	**-1.1**
	comp=Z,0.1nm,0.6s,baz=12,slow=5.3,SNR=2.5							

IDC 30 01:08:19.6±3.3, 5.42S×153.27E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/32, mbtmp3.9/5, Error ellipse: s-maj=110.2km s-min=29.3km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.40**	**230**	P		P	01 13 30.3	-0.1
	1.1nm,0.4s,baz=55,slow=9.7,SNR=10							
ASAR	**Alice Springs**	**26.02**	**224**	P		P	01 13 55.5	+0.8
	0.4nm,0.4s,baz=60,slow=9.0,SNR=3.2							
FITZ	**Fitzroy Crossi**	**29.78**	**243**	P		P	01 14 27.2	-1.2
	1.1nm,0.5s,baz=84,slow=10,SNR=2.7							
MKAR	**Makanchi Array**	**81.09**	**319**	P		P	01 20 38.8	+1.9
	0.7nm,0.9s,baz=111,slow=6.3,SNR=5.0							
ZALV	**Zalesovo Beam**	**81.92**	**326**	P		P	01 20 39.9	-1.2
	1.7nm,0.7s,baz=116,slow=3.4,SNR=7.0							
TORD	**Torodi Ar. Bea**	**150.94**	**287**	PKPbc		PKPbc	01 28 15.1	-0.4
	2.1nm,0.8s,baz=58,slow=2.0,SNR=9.1							

IDC 30 01:12:48.1±3.9, 4.40S×151.01E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/28, mbtmp3.9/4, Error ellipse: s-maj=132.9km s-min=35.3km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.42**	**225**	P		P	01 17 49.5	+0.8
	0.5nm,0.8s,baz=55,slow=9.9,SNR=2.6							
ASAR	**Alice Springs**	**25.29**	**219**	P		P	01 18 15.4	-1.1
	0.2nm,0.3s,baz=45,slow=8.8,SNR=1.3							
FITZ	**Fitzroy Crossi**	**28.30**	**239**	P		P	01 18 44.0	+0.2
	1.1nm,0.9s,baz=51,slow=8.4,SNR=1.8							
ZALV	**Zalesovo Beam**	**79.84**	**327**	P		P	01 24 58.8	+0.3
	0.3nm,0.4s,baz=97,slow=5.2,SNR=1.7							
TORD	**Torodi Ar. Bea**	**148.49**	**288**	PKPbc		PKPbc	01 32 37.2	-0.8
	0.6nm,0.6s,baz=84,slow=2.0,SNR=4.5							

*IDC **30** 01:13:35.3±3.7, 4.97S×152.06E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/27, mbtmp3.8/5, ML2.1/1, Error ellipse: s-maj=134.4km s-min=30.0km az=119.0*
ISC 30 01:13:39.1±2.6, 5.1S±0.4×152.3E±0.5, h35km, n6, σ0s56/7, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.65**	**230**	Pn		**Pn**	**01 15 13.9**	**-0.5**
	2.5nm,0.3s,baz=276,slow=6.0,SNR=1.6							
PMG				Sn		**Sn**	**01 16 29.8**	**+0.6**
	baz=37,slow=9.4,SNR=1.5							
WRA	**Warramunga Arr**	**22.87**	**228**	P		**P**	**01 18 39.5**	**-0.2**
	1.1nm,0.7s,baz=53,slow=9.8,SNR=3.5							
ASAR	**Alice Springs**	**25.59**	**222**	P		**P**	**01 19 05.8**	**+0.5**
	0.5nm,0.5s,baz=55,slow=8.9,SNR=2.3							
FITZ	**Fitzroy Crossi**	**29.08**	**241**	P		**P**	**01 19 36.2**	**-0.4**
	0.9nm,0.5s,baz=47,slow=8.3,SNR=1.7							
ZALV	**Zalesovo Beam**	**81.16**	**326**	P		**P**	**01 25 51.1**	**+0.1**
	0.5nm,0.4s,baz=116,slow=6.7,SNR=2.2							
TORD	**Torodi Ar. Bea**	**149.95**	**287**	PKPbc		**PKiKP**	**01 33 28.1**	**+0.2**
	0.6nm,0.7s,baz=72,slow=2.8,SNR=2.3							

*IDC **30** 01:25:57.0±1.0, 5.29S×152.74E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/38, mbtmp4.0/14, ML2.0/1, Error ellipse: s-maj=37.5km s-min=16.4km az=125.0*
*NEIC **30** 01:26:03.7±1.5, 5.3S±0.1×152.7E±0.2, h40km±9km, mb4.3/24, Error ellipse: s-maj=26.0km s-min=16.5km az=76.0*
ISC 30 01:26:03.1±0.8, 5.38S±0.10×152.7E±0.1, h40km, n44, σ0s93/45, mb4.3/25, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.31**	**334**			**Pn**	**01 26 24.7**	**-0.2**
PMG	**Port Moresby**	**6.82**	**234**	Pn		**Pn**	**01 27 39.2**	**-1.5**
	1.6nm,0.3s,baz=214,slow=7.5,SNR=1.8							
PMG				Sn		**Sn**	**01 28 57.8**	**+0.6**
	5.6nm,0.3s,baz=100,slow=15,SNR=7.7							
MTN	**Manton Dam**	**22.57**	**249**	P		**P**	**01 31 02.3**	**+2.1**
MTN				IAmb		IAmb	01 31 10.1	
	comp=Z,16nm,1.4s							
WB0	**Warramunga Arr**	**22.87**	**230**	P		**P**	**01 31 04.3**	**+1.0**
WR0	**Warramunga Arr**	**22.88**	**229**	P		**P**	**01 31 05.0**	**+1.6**
WB2	**Warramunga Arr**	**23.01**	**229**	P		**P**	**01 31 05.5**	**+0.7**
WRA	**Warramunga Arr**	**23.02**	**229**	P		**P**	**01 31 05.3**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=53,slow=9.8,SNR=7.1							
WRA	**Warramunga Arr**	**23.02**	**229**	P		**P**	**01 31 06.2**	**+1.3**
ASAR	**Alice Springs**	**25.68**	**223**	P		**P**	**01 31 31.1**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=61,slow=8.8,SNR=10							
ASAR	**Alice Springs**	**25.68**	**223**	P		**P**	**01 31 32.0**	**+2.4**
STKA	**Stephens Creek**	**28.35**	**200**	P		**P**	**01 31 52.2**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=13,slow=13,SNR=3.1							
STKA	**Stephens Creek**	**28.35**	**200**	P		**P**	**01 31 54.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**29.33**	**242**	P		**P**	**01 32 01.4**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=43,slow=8.7,SNR=11							
FITZ	**Fitzroy Crossi**	**29.33**	**242**	P		**P**	**01 32 01.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**58.06**	**296**	P		**P**	**01 35 52.5**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=116,slow=7.2,SNR=4.6							
SONM	**Songino Array**	**66.77**	**328**	P		**P**	**01 36 50.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=157,slow=7.7,SNR=3.9							
SONM	**Songino Array**	**66.77**	**328**	P		**P**	**01 36 50.2**	**-0.4**
ANM	**Nome**	**76.34**	**17**	P		**P**	**01 37 48.9**	**+1.1**
ANM				IAmb		IAmb	01 37 49.5	
	comp=Z,2.9nm,0.8s							
SKT	**Skwentna**	**79.47**	**23**	P		**P**	**01 38 05.2**	**-0.1**
KTH	**Kantishna Hill**	**80.57**	**22**	P		**P**	**01 38 10.7**	**-0.5**
SML	**Sawmill**	**80.67**	**24**	P		**P**	**01 38 12.1**	**+0.3**
MKAR	**Makanchi Array**	**80.71**	**319**	P		**P**	**01 38 12.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=120,slow=6.0,SNR=5.5							
MKAR	**Makanchi Array**	**80.71**	**319**	P		**P**	**01 38 13.3**	**+1.0**
TRF	**Thorofare Moun**	**80.75**	**22**	P		**P**	**01 38 12.7**	**+0.4**
TRF				IAmb		IAmb	01 38 18.9	
	comp=Z,5.1nm,1.1s							
BPAW	**Bear Paw Mtn.**	**80.84**	**22**	P		**P**	**01 38 12.4**	**-0.2**
BPAW				IAmb		IAmb	01 38 30.5	
	comp=Z,3.9nm,1.2s							
MCK	**McKinley**	**81.42**	**23**	P		**P**	**01 38 15.6**	**-0.1**
MLY	**Manley**	**81.44**	**21**	P		**P**	**01 38 16.1**	**+0.3**
MLY				IAmb		IAmb	01 38 17.4	
	comp=Z,3.4nm,0.8s							
ZALV	**Zalesovo Beam**	**81.59**	**326**	P		**P**	**01 38 16.1**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=118,slow=5.6,SNR=4.3							
ZALV	**Zalesovo Beam**	**81.59**	**326**	P		**P**	**01 38 16.5**	**-0.2**
NEA2	**Nenana**	**81.81**	**22**	P		**P**	**01 38 17.7**	**0.0**
NEA2				IAmb		IAmb	01 38 18.9	
	comp=Z,2.2nm,0.7s							
I23K	**Minto, Yukon-K**	**82.00**	**21**	P		**P**	**01 38 19.5**	**+0.9**
I23K				IAmb		IAmb	01 38 28.8	
	comp=Z,6.3nm,1.5s							
WRH	**Wood River Hil**	**82.11**	**22**	P		**P**	**01 38 19.0**	**-0.2**
WRH				IAmb		IAmb	01 38 21.1	
	comp=Z,4.6nm,1.3s							
CCB	**Clear Creek Bu**	**82.31**	**22**	P		**P**	**01 38 19.9**	**-0.4**
CCB				IAmb		IAmb	01 38 21.3	
	comp=Z,5.9nm,1.4s							
ILAR	**Eielson Array**	**82.72**	**22**	P		**P**	**01 38 21.5**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=241,slow=5.5,SNR=14							
ILAR	**Eielson Array**	**82.72**	**22**	P		**P**	**01 38 22.0**	**-0.4**
DOT	**Dot Lake**	**83.28**	**24**	P		**P**	**01 38 25.7**	**+0.3**
DOT				IAmb		IAmb	01 38 26.3	
	comp=Z,2.3nm,0.8s							
SCRK	**Sand Creek**	**83.46**	**23**	P		**P**	**01 38 27.2**	**+0.8**
SCRK				IAmb		IAmb	01 38 33.7	
	comp=Z,4.0nm,1.2s							
TOLK	**Toolik Lake Re**	**83.78**	**18**	P		**P**	**01 38 28.8**	**+0.9**
TOLK				IAmb		IAmb	01 38 48.6	
	comp=Z,3.7nm,1.1s							
EGAK	**Eagle**	**84.91**	**23**	P		**P**	**01 38 34.9**	**+1.3**
NRIK	**Noril'sk**	**86.48**	**341**	P		**P**	**01 38 40.4**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=89,slow=5.9,SNR=3.9							
INK	**Inuvik**	**89.01**	**21**	P		**P**	**01 38 53.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=225,slow=1.4,SNR=2.4							
NVAR	**Mina Array Bea**	**92.49**	**52**	P		**P**	**01 39 10.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=241,slow=5.0,SNR=1.8							
YKA	**Yellowknife Ar**	**95.96**	**28**	P		**P**	**01 39 25.9**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=268,slow=4.1,SNR=7.6							
TORD	**Torodi Ar. Bea**	**150.41**	**287**	PKPbc		**PKPbc**	**01 45 50.7**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=62,slow=2.5,SNR=8.7							

IDC 30 01:28:03.6±5.3, 5.02S×152.78E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/38, mbtmp3.6/3, Error ellipse: s-maj=184.0km s-min=43.6km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.29**	**229**	P		P	01 33 13.4	+0.2
	0.9nm,1.0s,baz=52,slow=10,SNR=1.6							
MKAR	**Makanchi Array**	**80.48**	**319**	P		P	01 40 18.9	+1.3
	0.2nm,0.6s,baz=109,slow=7.0,SNR=2.0							
ZALV	**Zalesovo Beam**	**81.33**	**326**	P		P	01 40 21.2	-0.7
	1.2nm,0.7s,baz=106,slow=5.2,SNR=5.0							
TORD	**Torodi Ar. Bea**	**150.36**	**288**	PKPbc		PKPbc	01 47 57.3	-0.8
	0.8nm,0.9s,baz=91,slow=1.9,SNR=4.1							

*GCG **30** 01:28:40.9±0.3, 14.71N×90.96W, h170km±5km, MD3.5*
*SNET **30** 01:28:42.7±1.1, 13.24N×90.29W, h28km±5km, ML3.1*
ISC 30 01:28:43.2±2.6, 13.2N±0.1×90.27W±0.09, h28km±17km, n18, σ1s16/23, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEVE	**Cerro Verde**	**0.88**	**46**	↑*eP*		**Pn**	**01 28 59.3**	**-0.7**
CEVE				*eS*		**Sn**	**01 29 13.1**	**+1.2**
CEVE				IAML			01 29 14.9	
	comp=Z,2μm,0.2s							
SBLS	**San Blas**	**0.88**	**45**	*i* P		**Pn**	**01 28 59.4**	**-0.7**
JAYA	**Jayaque - finc**	**0.91**	**61**	*eP*		**Pn**	**01 28 59.3**	**-1.1**
JAYA				*eS*		**Sn**	**01 29 12.4**	**-0.2**
JAYA				IAML			01 29 14.5	
	comp=Z,916nm,0.2s							
RTR	**El Retiro**	**0.91**	**42**	*eP*		**Pn**	**01 28 59.8**	**-0.6**
SNJE	**San Jose**	**0.92**	**45**	*eP*		**Pn**	**01 28 59.7**	**-0.8**
LALI	**Alcalda de L**	**0.96**	**74**	IAML			01 29 16.0	
	comp=Z,161nm,0.3s							
PMON	**Piamonte**	**1.05**	**62**	*eP*		**Pn**	**01 29 01.4**	**-0.9**
PMON				*eS*		**Sb**	**01 29 17.3**	**+0.9**
TACO	**Tacachico**	**1.17**	**50**	*eP*		**Pn**	**01 29 03.0**	**-0.7**
PCG	**Pacaya**	**1.21**	**344**	*eP*		**Pb**	**01 29 05.5**	**-0.3**
PCG				*eS*		**Sb**	**01 29 24.7**	**+3.5**
LFRS	**El Faro**	**1.24**	**71**	*eP*		**Pn**	**01 29 04.2**	**-0.7**
LBRS	**Las Brisas**	**1.30**	**66**	*eS*		**Sb**	**01 29 22.6**	**-0.9**
FUG	**Fuego 3**	**1.34**	**336**	*eS*		**Sb**	**01 29 23.0**	**-1.9**
NBG	**Las Nubes**	**1.37**	**357**	*eP*		**Pb**	**01 29 07.9**	**-0.5**
NBG				*eS*		**Sb**	**01 29 25.9**	**+0.4**
PAVA	**Las Pavas**	**1.39**	**69**	*eP*		**Pn**	**01 29 07.3**	**+0.4**
MTO3	**Montecristo**	**1.47**	**37**	*eP*		**Pn**	**01 29 08.1**	**-0.1**
TECA	**Tecapa**	**1.74**	**81**	*eP*		**Pn**	**01 29 12.0**	**+0.1**
PACA	**Pacayal**	**1.91**	**82**	*eP*		**Pn**	**01 29 15.0**	**+0.9**
JUCU	**Jucuarˌn**	**1.97**	**89**	*eP*		**Pn**	**01 29 14.9**	**+0.1**
JUCU				*eS*		**Sn**	**01 29 39.0**	**+0.3**

*IDC **30** 01:34:59.8±1.3, 5.20S×152.87E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.0/49, mbtmp4.0/13, ML2.4/1, Error ellipse: s-maj=45.5km s-min=17.2km az=125.0*
*NEIC **30** 01:35:07.8±1.3, 5.14S±0.08×152.6E±0.1, h46km±8km, mb4.5/32, Error ellipse: s-maj=18.4km s-min=11.1km az=99.0*
ISC 30 01:35:08.7±0.8, 5.13S±0.09×152.5E±0.1, h55km, n55, σ0s96/56, mb4.4/27, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**0.99**	**339**			**Pn**	**01 35 26.0**	**-0.5**
PMG	**Port Moresby**	**6.80**	**231**	Pn		**Pn**	**01 36 45.4**	**-0.7**
	4.3nm,0.3s,baz=282,slow=12,SNR=2.4							
PMG				Sn		**Sn**	**01 38 01.3**	**-0.9**
	2.0nm,0.3s,baz=71,slow=4.7,SNR=1.8							
PMG	**Port Moresby**	**6.80**	**231**			**Pn**	**01 36 45.7**	**-0.3**
DZM	**Mont Dzumac**	**21.58**	**143**	P		**P**	**01 39 55.5**	**+1.5**
MTN	**Manton Dam**	**22.45**	**249**	P		**P**	**01 40 05.9**	**+2.5**
WB0	**Warramunga Arr**	**22.87**	**229**	P		**P**	**01 40 09.1**	**+1.2**
WR0	**Warramunga Arr**	**22.88**	**228**	P		**P**	**01 40 09.3**	**+1.4**
WB2	**Warramunga Arr**	**23.01**	**229**	P		**P**	**01 40 10.7**	**+1.5**
WRA	**Warramunga Arr**	**23.02**	**229**	P		**P**	**01 40 08.9**	**-0.4**
	1.7nm,0.5s,baz=51,slow=9.5,SNR=17							
ASAR	**Alice Springs**	**25.72**	**222**	P		**P**	**01 40 34.7**	**+0.5**
	1.2nm,0.7s,baz=60,slow=8.7,SNR=9.2							
ASAR	**Alice Springs**	**25.72**	**222**	P		**P**	**01 40 32.2**	**-2.0**
FITZ	**Fitzroy Crossi**	**29.25**	**242**	P		**P**	**01 41 05.5**	**-0.4**
	2.7nm,0.6s,baz=71,slow=6.8,SNR=15							
FITZ	**Fitzroy Crossi**	**29.25**	**242**	P		**P**	**01 41 05.7**	**-0.1**
KLR	**Kul'dur**	**57.08**	**344**	P		**P**	**01 44 48.5**	**-0.8**
	0.6nm,0.7s,baz=186,slow=1.9,SNR=3.7							
CMAR	**Chiang Mai Arr**	**57.76**	**295**	P		**P**	**01 44 55.6**	**+1.0**
	1.0nm,0.3s,baz=111,slow=5.6,SNR=12							
CMAR	**Chiang Mai Arr**	**57.76**	**295**	P		**P**	**01 44 55.5**	**+0.8**
PEA0B	**Petropavlovsk-**	**58.18**	**4**	P		**P**	**01 44 56.9**	**0.0**
PETK	**Petropavlovsk-**	**58.18**	**4**	P		**P**	**01 44 56.5**	**-0.4**
	1.9nm,0.7s,baz=130,slow=6.2,SNR=4.2							
PETK	**Petropavlovsk-**	**58.18**	**4**	P		**P**	**01 44 56.8**	**-0.2**
SONM	**Songino Array**	**66.45**	**328**	P		**P**	**01 45 54.5**	**+1.9**
	0.4nm,0.5s,baz=145,slow=5.2,SNR=3.6							
SONM	**Songino Array**	**66.45**	**328**	P		**P**	**01 45 54.8**	**+2.3**
OHAK	**Old Harbor**	**75.97**	**27**	P		**P**	**01 46 49.5**	**-0.2**
OHAK				IAmb		IAmb	01 47 07.7	
	comp=Z,9.4nm,1.0s							
ANM	**Nome**	**76.17**	**17**	P		**P**	**01 46 51.7**	**+1.1**
ANM				IAmb		IAmb	01 46 57.6	
	comp=Z,8.7nm,1.4s							
SVW2	**Sparrevohn**	**77.23**	**23**	P		**P**	**01 46 56.9**	**+0.1**
SVW2				IAmb		IAmb	01 47 11.4	
	comp=Z,7.3nm,1.3s							
CNPM	**China Poot**	**78.13**	**26**	P		**P**	**01 47 02.1**	**+0.3**
SUA	**Susitna One**	**79.37**	**24**	P		**P**	**01 47 08.2**	**-0.5**
RDOG	**Red Dog Mine**	**79.37**	**16**	P		**P**	**01 47 09.8**	**+1.3**
RC01	**Rabbit Creek A**	**79.59**	**25**	P		**P**	**01 47 10.1**	**+0.4**
MKAR	**Makanchi Array**	**80.39**	**319**	P		**P**	**01 47 14.7**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=95,slow=7.4,SNR=4.7							
KTH	**Kantishna Hill**	**80.42**	**22**	P		**P**	**01 47 14.1**	**-0.2**
KTH				IAmb		IAmb	01 47 29.8	
	comp=Z,8.1nm,1.2s							
SML	**Sawmill**	**80.54**	**24**	P		**P**	**01 47 15.1**	**+0.2**
TRF	**Thorofare Moun**	**80.61**	**23**	P		**P**	**01 47 15.0**	**-0.4**
TRF				IAmb		IAmb	01 47 25.6	
	comp=Z,11nm,1.3s							
BPAW	**Bear Paw Mtn.**	**80.69**	**22**	P		**P**	**01 47 15.1**	**-0.5**
BPAW				IAmb		IAmb	01 47 19.2	
	comp=Z,8.5nm,1.4s							
IMAR	**Indian Mountai**	**80.78**	**20**	P		**P**	**01 47 16.7**	**+0.6**
RND	**Reindeer**	**81.14**	**23**	P		**P**	**01 47 17.8**	**-0.3**
RND				IAmb		IAmb	01 47 18.4	
	comp=Z,4.7nm,0.7s							
ZALV	**Zalesovo Beam**	**81.27**	**326**	P		**P**	**01 47 18.2**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=121,slow=4.9,SNR=6.9							
ZALV	**Zalesovo Beam**	**81.27**	**326**	P		**P**	**01 47 19.1**	**+0.2**
MCK	**McKinley**	**81.27**	**23**	P		**P**	**01 47 18.4**	**-0.3**
MLY	**Manley**	**81.29**	**21**	P		**P**	**01 47 19.0**	**+0.1**
NEA2	**Nenana**	**81.66**	**22**	P		**P**	**01 47 20.8**	**0.0**
NEA2				IAmb		IAmb	01 47 21.1	
	comp=Z,3.1nm,0.6s							
I23K	**Minto, Yukon-K**	**81.85**	**21**	P		**P**	**01 47 22.1**	**+0.4**
I23K				IAmb		IAmb	01 47 23.4	
	comp=Z,2.6nm,0.7s							
WRH	**Wood River Hil**	**81.97**	**22**	P		**P**	**01 47 22.1**	**-0.3**
WRH				IAmb		IAmb	01 47 27.4	
	comp=Z,5.2nm,1.3s							
CCB	**Clear Creek Bu**	**82.16**	**22**	P		**P**	**01 47 22.6**	**-0.7**
CCB				IAmb		IAmb	01 47 23.1	
	comp=Z,2.8nm,0.7s							
IL31		**82.57**	**22**	P		**P**	**01 47 24.7**	**-0.8**
IL31				IAmb		IAmb	01 47 25.1	
	comp=Z,4.0nm,0.8s							
ILAR	**Eielson Array**	**82.57**	**22**	P		**P**	**01 47 24.3**	**-1.2**
	comp=Z,2.7nm,0.8s,baz=241,slow=5.8,SNR=24							
ILAR	**Eielson Array**	**82.57**	**22**	P		**P**	**01 47 24.9**	**-0.6**
DOT	**Dot Lake**	**83.14**	**24**	P		**P**	**01 47 28.5**	**-0.1**
DOT				IAmb		IAmb	01 47 29.3	
	comp=Z,5.8nm,0.9s							
CTGM	**Chitina Glacie**	**83.17**	**27**	P		**P**	**01 47 29.6**	**+0.7**
CTGM				IAmb		IAmb	01 47 44.4	
	comp=Z,6.7nm,0.9s							
SCRK	**Sand Creek**	**83.32**	**23**	P		**P**	**01 47 29.9**	**+0.3**
TOLK	**Toolik Lake Re**	**83.61**	**18**	P		**P**	**01 47 31.6**	**+0.6**
TOLK				IAmb		IAmb	01 47 32.3	
	comp=Z,3.5nm,0.8s							
BMAR	**Burnt Mountain**	**84.65**	**20**	P		**P**	**01 47 37.5**	**+1.3**
INK	**Inuvik**	**88.86**	**21**	P		**P**	**01 47 55.0**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=215,slow=9.7,SNR=3.3							
YKA	**Yellowknife Ar**	**95.85**	**28**	P		**P**	**01 48 27.6**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=271,slow=3.8,SNR=6.2							
TORD	**Torodi Ar. Bea**	**150.14**	**287**	PKPbc		**PKPbc**	**01 54 53.2**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=80,slow=2.5,SNR=6.5							
TORD	**Torodi Ar. Bea**	**150.14**	**287**	PKPbc		**PKPbc**	**01 54 54.3**	**-0.3**

IDC 30 01:37:24.4±4.0, 4.95S×152.75E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/50, mbtmp3.6/3, Error ellipse: s-maj=154.9km s-min=54.4km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.31**	**229**	P		P	01 42 33.7	-0.6
	0.4nm,0.5s,baz=51,slow=8.7,SNR=1.9							
ASAR	**Alice Springs**	**26.01**	**222**	P		P	01 42 58.6	-0.8
	0.6nm,0.6s,baz=54,slow=9.4,SNR=2.4							
FITZ	**Fitzroy Crossi**	**29.54**	**242**	P		P	01 43 32.0	+1.0
	2.0nm,0.8s,baz=70,slow=9.4,SNR=2.2							
TORD	**Torodi Ar. Bea**	**150.30**	**288**	PKPbc		PKPbc	01 57 18.6	-0.2
	0.5nm,0.8s

NEIC ***30*** *01:47:36.0±2.0,26˚.69N±0˚.06×108˚.81E±0˚.07,h17km±3km, mb5.4/230, Error ellipse: s-maj=9.1km s-min=8.3km az=103.0*

MOS ***30*** *01:47:36.9±0.9,26˚.65N×108˚.82E,h39km,mb5.5/78, MS5.8/8, Error ellipse: s-maj=5.0km s-min=3.5km az=117.7*

BGR ***30*** *01:47:44.2±0.0,26˚.90N×107˚.81E,h33km,mb5.5,Ms5.9*

ISC 30 01:47:36.4±0.7, 26.74N±0.03×108.80E±0.03, h19km±2km, n851, σ1ş40/862, mb5.4/280, MS5.8/12, 73C-51D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**1.94**	**262**	⇓Pn	**Pn**	**01 48 08.5**	**+0.2**
GYA				Pg	**Pg**	**01 48 13.3**	**-0.3**
GYA				Sg	**Sb**	**01 48 35.3**	**+0.4**
GYA				smax	smax		
	comp=N,16μm,1.2s						
GYA				smax	smax		
	comp=E,9μm,1.1s						
ENH	**Enshi**	**3.57**	**10**	Pn	**Pn**	**01 48 32.1**	**+1.4**
GZH	**Guangzhou**	**5.50**	**130**	Pn	Pn	01 48 52.3	-4.9
GZH				Sn	**Sn**	**01 49 53.3**	**-6.6**
GZH				Sg	**Sb**	**01 50 23.0**	**+5.6**
GZH				smax	smax		
	comp=N,9μm,1.2s						
GZH				smax	smax		
	comp=E,10μm,1.0s						
KMI	**Kunming**	**5.69**	**255**	⇓Pn	**Pn**	**01 49 00.0**	**-0.1**
KMI				Sn	**Sn**	**01 50 04.8**	**-0.2**
KMI				smax	smax		
	comp=N,1μm,1.5s						
KMI				smax	smax		
	comp=E,850nm,1.2s						
KMI				LR	LR		
	comp=N,11μm,6.9s						
KMI				LR	LR		
	comp=E,20μm,8.9s						
KMI				LR	LR		
	comp=Z,19μm,9.8s						
KMI	**Kunming**	**5.69**	**255**	P	**Pn**	**01 48 59.9**	**-0.1**
KMI	**Kunming**	**5.69**	**255**	Pn	**Pn**	**01 48 59.9**	**-0.1**
CD2	**Chengdu**	**6.07**	**314**	Pn	**Pn**	**01 49 06.0**	**+1.0**
CD2				Sn	**Sn**	**01 50 14.5**	**+0.5**
CD2				smax	smax		
	comp=N,6μm,1.1s						
CD2				smax	smax		
	comp=E,6μm,1.3s						
CD2				LR	LR		
	comp=Z,68μm,13.7s						
WHN	**Wuhan**	**6.17**	**51**	Pn	**Pn**	**01 49 07.0**	**+0.6**
WHN				Sn	**Sn**	**01 50 18.8**	**+2.4**
WHN				LR	LR		
	comp=N,34μm,3.8s						
WHN				LR	LR		
	comp=E,34μm,5.4s						
WHN				LR	LR		
	comp=Z,26μm,8.6s						
SLVN	**Son La**	**7.00**	**221**	Pn	**Pn**	**01 49 16.6**	**-1.4**
XAN	**Xi'an**	**7.27**	**1**	Pn	**Pn**	**01 49 20.5**	**-1.1**
XAN				P*	**Pb**	**01 49 39.5**	**-2.5**
XAN				Pg	**Pg**	**01 49 54.0**	**-1.5**
XAN				Sn	**Sn**	**01 50 39.5**	**-4.1**
XAN				S*	**Sb**	**01 51 03.5**	**-4.8**
XAN				Sg	Sg	01 51 20.0	-10
XAN				smax	smax		
	comp=N,2μm,1.0s						
XAN				smax	smax		
	comp=E,2μm,1.4s						
XAN				LR	LR		
	comp=N,17μm,3.9s						
XAN				LR	LR		
	comp=E,39μm,6.7s						
XAN				LR	LR		
	comp=Z,29μm,10.2s						
XAN	**Xi'an**	**7.27**	**1**	Pn	**Pn**	**01 49 20.8**	**-0.8**
XAN				Sg	Sg	01 51 19.5	-10
XAN				smax	smax		
	comp=Z,2μm,1.4s						
XAN				smax	smax		
	comp=Z,2μm,1.6s						
XAN	**Xi'an**	**7.27**	**1**	P	**Pn**	**01 49 20.0**	**-1.6**
XAN	**Xi'an**	**7.27**	**1**	Pn	**Pn**	**01 49 20.0**	**-1.6**
QIZ	**Qiongzhong**	**7.74**	**173**	Pn	**Pn**	**01 49 23.5**	**-4.5**
QIZ				Sn	**Sn**	**01 50 59.3**	**+4.2**
QIZ				LR	LR		
	comp=Z,28μm,8.4s						
QIZ				LR	LR		
	comp=Z,21μm,13.3s						
QIZ				LR	LR		
	comp=Z,26μm,8.8s						
QIZ	**Qiongzhong**	**7.74**	**173**	Pn	**Pn**	**01 49 23.7**	**-4.3**
KNMB	**Chin-men Tao**	**8.95**	**103**	Pn	**Pn**	**01 49 42.0**	**-2.5**
QZH	**Quanzhou**	**9.00**	**99**	P	**Pn**	**01 49 43.3**	**-2.0**
QZH				S	**Sn**	**01 51 20.3**	**-5.8**
QZH				smax	smax		
	comp=Z,2μm,1.2s						
QZH				smax	smax		
	comp=Z,1μm,1.0s						
QZH				LR	LR		
	comp=Z,34μm,5.9s						
QZH				LR	LR		
	comp=Z,37μm,6.4s						
NONG	**Nongkai**	**10.10**	**212**	P	**Pn**	**01 49 59.5**	**-0.9**
	comp=Z,10μmcomp=Z,139nm,1.0s						
LZH	**Lanzhou**	**10.23**	**337**	*e*P	**Pn**	**01 50 02.5**	**+0.3**
LZH				pP		01 50 08.5	
LZH				S	**Sn**	**01 51 58.8**	**+2.3**
LZH				sS		01 52 07.8	
LZH				pmax	pmax		
	comp=Z,260nm,1.2s						
LZH				pmax	pmax		
	comp=Z,1μm,4.3s						
LZH				LR	LR		
	comp=Z,22μm,11.1s						
LZH				LR	LR		
	comp=Z,26μm,11.9s						
NJ2	**Nanjing**	**10.23**	**57**	⇑P	**Pn**	**01 50 02.3**	**+0.1**
NJ2				pP		01 50 08.5	
NJ2				S	**Sn**	**01 51 57.5**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,29nm,0.8s						
NJ2				LR	LR		
	comp=Z,14μm,9.0s						
NJ2				LR	LR		
	comp=Z,9μm,7.8s						
TPUB	**Ta-pu**	**11.26**	**105**	Pn	**Pn**	**01 50 15.5**	**-0.7**
TIY	**Taiyuan**	**11.36**	**15**	*e*P	**Pn**	**01 50 21.0**	**+3.4**
TIY				LR	LR		
	comp=Z,3μm,6.8s						
TIY				LR	LR		
	comp=Z,14μm,17.2s						
TIY				LR	LR		
	comp=Z,11μm,18.3s						
SSLB	**Suanglung**	**11.38**	**102**	Pn	**Pn**	**01 50 16.8**	**-1.2**
YHNB	**Yeheng**	**11.53**	**98**		**Pn**	**01 50 18.4**	**-1.5**
LOEI	**Loei**	**11.54**	**219**	P	**Pn**	**01 50 16.0**	**-4.1**
	comp=Z,252nm,0.8s						
TATO	**Taipei**	**11.56**	**96**	Pn	**Pn**	**01 50 19.8**	**-0.5**
SSE	**Sheshan**	**11.68**	**65**	P	**Pn**	**01 50 23.0**	**+1.0**
SSE				pmax	pmax		
	comp=Z,66nm,1.0s						
SSE				LR	LR		
	comp=Z,4μm,6.5s						
SSE	**Sheshan**	**11.68**	**65**	Pn	**Pn**	**01 50 23.0**	**+1.0**
KHON	**Khomkaen**	**11.75**	**209**	P	**Pn**	**01 50 22.0**	**-1.0**
	comp=Z,250nm,0.8s						
LAMP	**Lampang**	**11.77**	**228**	P	**Pn**	**01 50 26.8**	**+3.5**
	comp=Z,34nm,0.9s						
TIA	**Tai'an**	**11.81**	**35**	P	**Pn**	**01 50 25.5**	**+1.8**
TIA				pmax	pmax		
	comp=Z,80nm,1.1s						
TIA				LR	LR		
	comp=Z,3μm,5.9s						
TIA				LR	LR		
	comp=Z,2μm,2.2s						
TIA				LR	LR		
	comp=Z,14μm,14.2s						
YULB	**Yu-li**	**11.81**	**104**		**Pn**	**01 50 23.8**	**+0.1**
TWG	**Pinlang**	**11.81**	**107**	Pn	**Pn**	**01 50 24.2**	**+0.4**
NACB	**Ninganchiao**	**11.84**	**100**		**Pn**	**01 50 26.0**	**+1.8**
CM34	**Chiang Mai Arr**	**11.87**	**231**	P	**Pn**	**01 50 24.0**	**-0.6**
CM35	**Chiang Mai Arr**	**11.98**	**230**	P	**Pn**	**01 50 26.0**	**-0.2**
CM33	**Chiang Mai Arr**	**12.03**	**231**	P	**Pn**	**01 50 26.0**	**-0.8**
CMMT	**Chiang Mai**	**12.03**	**231**	P	**Pn**	**01 50 26.2**	**-0.7**
	comp=Z,36nm,1.4s						
CHTO	**Chiang Mai**	**12.04**	**231**	P	**Pn**	**01 50 26.1**	**-0.8**
CHTO	**Chiang Mai**	**12.04**	**231**	Pn	**Pn**	**01 50 26.1**	**-0.8**
CM36	**Chiang Mai Arr**	**12.13**	**230**	P	**Pn**	**01 50 28.0**	**-0.2**
CM32	**Chiang Mai Arr**	**12.21**	**231**	P	**Pn**	**01 50 30.0**	**+0.7**
CM09	**Chiang Mai Arr**	**12.26**	**230**	P	**Pn**	**01 50 30.7**	**+0.8**
	comp=Z,264nmcomp=Z,28nm,1.3s						
CM31	**Chiang Mai Arr**	**12.28**	**230**	P	**Pn**	**01 50 32.1**	**+1.9**
	comp=Z,460nm,0.9s						
CM31	**Chiang Mai Arr**	**12.28**	**230**	Pn	**Pn**	**01 50 29.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**12.28**	**230**	Pn	**Pn**	**01 50 29.6**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=37,slow=11,SNR=48						
CMAR				Lg	Lg	01 54 02.7	
	comp=Z,0.3nm,0.3s,baz=324,slow=28,SNR=2.7						
CMAR	**Chiang Mai Arr**	**12.28**	**230**	Pn	**Pn**	**01 50 30.6**	**+0.3**
PHIT	**Phitsanulok**	**12.28**	**221**	P	**Pn**	**01 50 31.0**	**+0.8**
	comp=Z,3μmcomp=Z,337nm,1.1s						
CM02	**Chiang Mai Arr**	**12.29**	**230**	P	**Pn**	**01 50 31.2**	**+0.8**
	comp=Z,272nmcomp=Z,29nm,1.2s						
CM01	**Chiang Mai Arr**	**12.29**	**230**	P	**Pn**	**01 50 31.6**	**+1.2**
	comp=Z,258nmcomp=Z,32nm,1.1s						
CM04	**Chiang Mai Arr**	**12.29**	**230**	P	**Pn**	**01 50 31.1**	**+0.7**
	comp=Z,311nmcomp=Z,26nm,1.3s						
CM15	**Chiang Mai Arr**	**12.29**	**230**	P	**Pn**	**01 50 32.6**	**+2.2**
	comp=Z,30nm,0.4s						
CM05	**Chiang Mai Arr**	**12.32**	**230**	P	**Pn**	**01 50 31.4**	**+0.6**
	comp=Z,216nmcomp=Z,26nm,1.1s						
CM13	**Chiang Mai Arr**	**12.33**	**230**	P	**Pn**	**01 50 31.0**	**+0.1**
	comp=Z,188nmcomp=Z,21nm,1.2s						
CHAI	**Chaiyaphum**	**12.51**	**212**	P	**Pn**	**01 50 32.1**	**-1.3**
	comp=Z,2μmcomp=Z,66nm,0.7s						
SUKH	**Sukhothai**	**12.53**	**225**	P	**Pn**	**01 50 34.8**	**+1.2**
	comp=Z,20nm,0.9s						
MOKO	**MOKOCHONG**	**12.80**	**271**	*e*P	**Pn**	**01 50 36.2**	**-1.3**
YOJ	**Yonaguni jima**	**13.02**	**97**	P	**Pn**	**01 50 42.0**	**+1.6**
YOJ	**Yonaguni jima**	**13.02**	**97**	Pn	**Pn**	**01 50 42.0**	**+1.6**
MHMT	**Maesarieng**	**13.17**	**232**	P	**Pn**	**01 50 43.0**	**+0.6**
	comp=Z,72nm,1.5s						
KOHI	**KOHIMA**	**13.23**	**269**	*e*P	**Pn**	**01 50 42.5**	**-0.9**
KOHI				IAmb	IAmb	01 50 47.0	
	comp=Z,98nm,0.6s						
ZIRO	**ZIRO**	**13.34**	**277**	*e*P	**Pn**	**01 50 43.9**	**-0.9**
ZIRO				IAmb	IAmb	01 50 46.4	
	comp=Z,82nm,1.0s						
IMP	**Imphal**	**13.52**	**265**	*e*P	**Pn**	**01 50 47.7**	**+0.5**
IMP				IAmb	IAmb	01 50 56.6	
	comp=Z,38nm,0.8s						
UMPA	**Umpang Tak**	**13.98**	**223**	P	**P**	**01 50 58.6**	**-2.8**
UTHA	**Uthaitani**	**14.13**	**220**	P	**Pn**	**01 50 56.8**	**+1.2**
	comp=Z,374nmcomp=Z,42nm,1.0s						
SRAK	**Srakaew**	**14.16**	**208**	P	Pn	01 50 50.9	-5.0
	comp=Z,3μmcomp=Z,331nm,0.8s						
HHC	**Hu-ho-hao-te**	**14.25**	**9**	*e*P	**Pn**	**01 50 59.0**	**+1.8**
HHC				pmax	pmax		
	comp=Z,25nm,1.1s						
HHC				pmax	pmax		
	comp=Z,2μm,5.5s						
BJT	**Baijiatuau**	**14.59**	**23**	P	**Pn**	**01 51 03.0**	**+1.3**
BJT	**Baijiatuau**	**14.59**	**23**	Pn	**Pn**	**01 51 03.0**	**+1.3**
BJI	**Beijing**	**14.61**	**23**	P	**Pn**	**01 51 03.5**	**+1.5**
BJI				pmax	pmax		
	comp=Z,220nm,1.2s						
GTA	**Gaotai**	**14.70**	**332**	⇓P	**Pn**	**01 51 01.8**	**-1.5**
GTA				pP	P	01 51 06.8	-2.5
GTA				sP		01 51 09.5	
GTA				pmax	pmax		
	comp=Z,82nm,1.2s						
GTA				pmax	pmax		
	comp=Z,2μm,5.5s						
GTA				LR	LR		
	comp=Z,15μm,12.7s						
GTA				LR	LR		
	comp=Z,12μm,13.1s						
SAIH	**SAIHA**	**14.99**	**257**	*e*P	**Pn**	**01 51 05.4**	**-1.9**
SHL	**Shillong**	**15.24**	**269**	P	**Pn**	**01 51 08.0**	**-2.7**
SHL				pmax	pmax		
	comp=Z,85nm,1.2s						
SHL	**Shillong**	**15.24**	**269**	*e*P	**Pn**	**01 51 07.3**	**-3.4**
SHL				IAmb	IAmb	01 51 24.4	
	comp=Z,126nm,1.6s						
SHL	**Shillong**	**15.24**	**269**	Pn	**Pn**	**01 51 08.0**	**-2.7**
SHL	**Shillong**	**15.24**	**269**	P	**Pn**	**01 51 09.2**	**-1.5**
	SNR=25						
GUWA	**GUWAHATI**	**15.34**	**272**	*e*P	**Pn**	**01 51 09.3**	**-2.5**
GUWA				IAmb	IAmb	01 51 16.5	
	comp=Z,59nm,0.5s						
PATY	**Pattaya**	**15.64**	**210**	P	**P**	**01 51 21.0**	**+1.2**
LSA	**Lhasa**	**15.84**	**285**	P	**Pn**	**01 51 17.8**	**-1.0**
LSA				pmax	pmax		
	comp=Z,740nm,1.0s						
LSA	**Lhasa**	**15.84**	**285**	P	**Pn**	**01 51 18.2**	**-0.5**
LSA	**Lhasa**	**15.84**	**285**	P	**Pn**	**01 51 17.7**	**-1.0**
LSA				pmax	pmax		
	comp=Z,352nm,1.0s						
LSA	**Lhasa**	**15.84**	**285**	Pn	**Pn**	**01 51 17.7**	**-1.0**
LSA				IAmb	IAmb	01 51 26.7	
	comp=Z,352nm,1.0s						
LSA	**Lhasa**	**15.84**	**285**	P	**Pn**	**01 51 18.7**	**-0.1**
DL2	**Dalian**	**16.20**	**38**	P	**Pn**	**01 51 24.3**	**+1.4**
DL2				S	**S**	**01 54 29.5**	**-5.4**
DL2				pmax	pmax		
	comp=Z,150nm,1.1s						
DL2				pmax	pmax		
	comp=Z,3μm,8.4s						
DL2				LR	LR		
	comp=Z,4μm,16.1s						
DL2				LR	LR		
	comp=Z,4μm,10.7s						
DL2				LR	LR		
	comp=Z,6μm,13.1s						
PHET	**Kaeng Krachan**	**16.23**	**214**	P	**Pn**	**01 51 24.3**	**+1.0**
	comp=Z,936nmcomp=Z,104nm,1.0s						
JOW	**Kunigami**	**17.39**	**85**	P	**Pn**	**01 51 37.7**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=279,slow=13,SNR=5.5						
JOW	**Kunigami**	**17.39**	**85**		**Pn**	**01 51 37.5**	**-0.5**
GTK	**Tadong**	**18.01**	**276**	*e*P	**Pn**	**01 51 43.3**	**-2.4**
TJN	**Taejon**	**18.48**	**54**	*ce*P	**Pn**	**01 51 52.2**	**+0.9**
INCN	**Inchon**	**18.48**	**50**	P	**Pn**	**01 51 51.8**	**+0.4**
INCN				pmax	pmax		
	comp=Z,136nm,1.0s						
INCN	**Inchon**	**18.48**	**50**		**Pn**	**01 51 51.8**	**+0.4**
JTU	**Tsushima**	**19.32**	**61**		**Pn**	**01 52 01.4**	**-0.1**
KSAR	**Wonju Array Be**	**19.33**	**52**	P	**P**	**01 52 00.7**	**+0.2**
KSAR	**Wonju Array Be**	**19.33**	**52**	P	**P**	**01 52 00.7**	**+0.2**
KS19	**Wonju Array Si**	**19.35**	**52**		**P**	**01 52 00.9**	**+0.3**
KSRS	**Korea Array**	**19.37**	**52**	P	**Pn**	**01 52 01.5**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=241,slow=11,SNR=123						
KSRS				S	**S**	**01 55 40.8**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=282,slow=27,SNR=1.0						
KSRS				Lg	Lg	01 57 56.8	
	comp=Z,0.3nm,0.3s,baz=119,slow=44,SNR=2.3						
JSU	**Suzuyama**	**19.49**	**71**		**Pn**	**01 52 03.9**	**+0.2**
JSU				IAmb	IAmb	01 52 11.8	
	comp=Z,239nm,1.0s						
DGPR	**DIGLIPUR**	**20.09**	**231**	*e*P	**P**	**01 52 07.6**	**-1.2**
DGPR				IAmb	IAmb	01 52 11.5	
	comp=Z,134nm,1.1s						
JNU	**Nakatsue**	**20.14**	**66**	P	**P**	**01 52 10.2**	**+0.8**
	comp=Z,194nm,1.1s,baz=255,slow=6.2,SNR=20						
JNU				Lg	Lg	01 58 22.4	
	comp=Z,10.0nm,1.0s,baz=273,slow=23,SNR=2.1						
JNU	**Nakatsue**	**20.14**	**66**	P	Pn	01 52 10.4	-1.0
JNU				IAmb	IAmb	01 52 18.1	
	comp=Z,117nm,1.0s						
KRAB	**Krabi**	**20.55**	**208**	P	Pn	01 52 16.0	-0.2
	comp=Z,836nm,1.1s						
TRTT	**Trang**	**20.70**	**206**	P	**P**	**01 52 15.2**	**-0.3**
	comp=Z,62nm,1.3s						
BOK	**Bokaro**	**20.93**	**267**	*e*P	**P**	**01 52 18.6**	**+0.7**
BOK				IAmb	IAmb	01 52 19.6	
	comp=Z,118nm,0.9s						
ULN	**Ulaanbaatar**	**21.13**	**357**	*ce*P	**P**	**01 52 21.4**	**+1.3**
ULN				pmax	pmax		
	comp=Z,329nm,1.2s						
ULN	**Ulaanbaatar**	**21.13**	**357**	P	**P**	**01 52 21.7**	**+1.6**
ULN	**Ulaanbaatar**	**21.13**	**357**	P	**P**	**01 52 21.7**	**+1.6**
SONM	**Songino Array**	**21.14**	**356**	P	**P**	**01 52 21.1**	**+0.9**
	comp=Z,164nm,1.0s,baz=173,slow=11,SNR=568						
SONM				S	**S**	**01 56 15.9**	**+1.4**
	comp=Z,4.9nm,1.0s,baz=181,slow=13,SNR=2.4						
SONM	**Songino Array**	**21.14**	**356**	P	**P**	**01 52 21.6**	**+1.5**
SONM				IAmb	IAmb	01 52 23.1	
	comp=Z,150nm,1.0s						
PKDT	**Phuket**	**21.22**	**210**	P	**P**	**01 52 21.7**	**+0.6**
PBA	**Port Blair**	**21.30**	**228**	P	P	01 52 22.8	+0.8
PBA				IAmb	IAmb	01 52 35.8	
	comp=Z,109nm,0.9s						
CN2	**Changchun**	**21.71**	**34**	*e*P	**P**	**01 52 27.5**	**+1.3**
CN2				pmax	pmax		
	comp=Z,270nm,1.1s						
KKM	**Kota Kinabalu**	**21.76**	**160**	P	**P**	**01 52 27.8**	**+0.8**
KKM				IAmb	IAmb	01 52 29.9	
	comp=Z,199nm,1.1s						
JHS	**Saijyo**	**22.39**	**63**	P	**P**	**01 52 33.2**	**-0.5**
KULM	**Kulim**	**22.71**	**201**	P	**P**	**01 52 36.6**	**-0.4**
KULM	**Kulim**	**22.71**	**201**	P	**P**	**01 52 37.0**	**-0.1**
JMN	**Monobe**	**22.72**	**66**	P	**P**	**01 52 35.7**	**-1.5**
JMN				IAmb	IAmb	01 52 41.7	
	comp=Z,86nm,1.0s						
IPM	**Ipoh**	**23.36**	**200**	P	**P**	**01 52 41.9**	**-1.8**
MYLDM	**Lahad Datu**	**23.36**	**155**	P	**P**	**01 52 45.0**	**+1.3**
MYLDM				IAmb	IAmb	01 52 57.9	
	comp=Z,65nm,1.0s						
JRMM	**Jerantut**	**23.52**	**196**	P	**P**	**01 52 45.0**	**-0.3**
ZAK	**Zakamensk**	**23.98**	**351**	*e*P	**P**	**01 52 50.6**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,156nm,1.2s						
HIA	**Hailar**	**24.03**	**18**	*i* P	**P**	**01 52 50.5**	**+0.5**
HIA				pmax	pmax		
	comp=Z,68nm,1.1s						
HIA	**Hailar**	**24.03**	**18**	IAmb	IAmb	01 52 52.3	
	comp=Z,70nm,1.1s						
WMQ	**Urumqi**	**24.12**	**320**	P	**P**	**01 52 52.5**	**+1.5**
WMQ				sP	sP	01 52 59.0	-0.7
WMQ				PP	**PnPn**	**01 53 28.8**	**+8.5**
WMQ				S	**S**	**01 57 13.8**	**+6.0**
WMQ				pmax	pmax		
	comp=Z,100nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,4μm,11.7s						
WMQ				LR	LR		
	comp=Z,17μm,12.7s						
WMQ				LR	LR		
	comp=Z,12μm,13.1s						
WMQ				LR	LR		
	comp=Z,13μm,14.3s						
WMQ	**Urumqi**	**24.12**	**320**	P	**P**	**01 52 51.9**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,52nm,1.0s						
WMQ	**Urumqi**	**24.12**	**320**	P	**P**	**01 52 51.9**	**+0.9**
MSHR	**Mys Shultsa**	**24.14**	**43**	*ce*P	**P**	**01 52 50.4**	**-0.6**
MSHR				pmax	pmax		
	comp=Z,110nm,1.7s						
MSHR				MLR	MLR		
	comp=Z,8μm,17.0s						
LHMI	**Lhok Sumawe**	**24.20**	**210**	P	**P**	**01 52 52.2**	**+0.3**
LHMI				IAmb	IAmb	01 52 53.2	
	comp=Z,107nm,1.1s						
LHMI	**Lhok Sumawe**	**24.20**	**210**	P	**P**	**01 52 53.0**	**+1.2**
	comp=Z,125nm,1.5s						
JWT	**Wachi**	**24.28**	**63**	P	**P**	**01 52 53.4**	**+1.0**
SBUM	**Sibu**	**24.38**	**172**	P	**P**	**01 52 53.8**	**+0.3**
SBUM	**Sibu**	**24.38**	**172**	P	**P**	**01 52 54.0**	**+0.6**
MDJ	**Mudanjiang**	**24.45**	**38**	P	**P**	**01 52 54.0**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,45nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,3μm,14.2s						
TSI	**Tuntungan**	**25.11**	**205**	P	**P**	**01 53 00.3**	**+0.3**
	comp=Z,244nm,0.7s						
KSM	**Kuching**	**25.17**	**176**	P	**P**	**01 53 00.4**	**-0.1**
KSM				IAmb	IAmb	01 53 01.7	
	comp=Z,59nm,1.0s						
KSM	**Kuching**	**25.17**	**176**	P	**P**	**01 53 01.0**	**+0.4**
TLY	**Talaya**	**25.21**	**352**	P	**P**	**01 53 02.6**	**+1.9**
	comp=Z,14nm,0.8s,baz=177,slow=9.3,SNR=14						
TLY				Lg	Lg	02 00 56.7	
	comp=Z,3.5nm,0.7s,baz=143,slow=1.0,SNR=2.0						
TLY	**Talaya**	**25.21**	**352**	*e*P	**P**	**01 53 01.9**	**+1.2**
TLY				pmax	pmax		
	comp=Z,173nm,1.4s						
TLY	**Talaya**	**25.21**	**352**	P	**P**	**01 53 02.4**	**+1.8**
MYKOM	**Kota Tinggi**	**25.26**	**192**	P	**P**	**01 53 01.9**	**+0.4**
CIT	**Chita**	**25.50**	**7**	*e*P	**P**	**01 53 05.4**	**+2.1**
CIT				*e*		01 53 19.4	
CIT				pmax	pmax		
	comp=Z,237nm,1.3s						
USA0B	**Ussuriysk Arra**	**25.55**	**41**	*c* P	**P**	**01 53 03.3**	**-0.5**
USA0B	**Ussuriysk Arra**	**25.55**	**41**	IAmb	IAmb	01 53 05.1	
	comp=Z,86nm,1.1s						
USRK	**Ussuriysk Ar.**	**25.55**	**41**	P	**P**	**01 53 03.6**	**-0.2**
	comp=Z,52nm,0.9s,baz=232,slow=7.3,SNR=90						
USRK	**Ussuriysk Ar.**	**25.55**	**41**	P	**P**	**01 53 03.3**	**-0.5**
USRK	**Ussuriysk Ar.**	**25.55**	**41**	P	**P**	**01 53 03.3**	**-0.5**
INU	**Inuyama**	**25.58**	**64**	IAmb	IAmb	01 53 08.8	
	comp=Z,78nm,1.0s						
MOY	**Mondy**	**25.58**	**349**	*e*P	**P**	**01 53 05.5**	**+1.3**
MOY				pmax	pmax		
	comp=Z,71nm,2.4s						
PSI	**Prapat**	**25.62**	**203**	P	**P**	**01 53 04.7**	**-0.2**
	comp=Z,15nm,1.0s,baz=360,slow=6.7,SNR=18						
IRK	**Irkutsk**	**25.70**	**354**	*e*P	**P**	**01 53 06.3**	**+1.2**
IRK				pmax	pmax		
	comp=Z,211nm,2.0s						
JGF	**Kuroka**	**25.91**	**63**	IAmb	IAmb	01 53 10.5	
	comp=Z,107nm,1.0s						
STKI	**Sintang**	**26.65**	**174**	P	**P**	**01 53 14.0**	**0.0**
MJB9	**Matsu-Tunnel**	**26.78**	**61**	P	**P**	**01 53 14.8**	**-0.3**
MAJO	**Matsushiro**	**26.78**	**61**	P	**P**	**01 53 13.9**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,29nm,1.0s						
MAJO	**Matsushiro**	**26.78**	**61**	P	**P**	**01 53 13.9**	**-1.2**
MAT	**Matsushiro**	**26.78**	**61**	P	**P**	**01 53 13.8**	**-1.3**
MJAR	**Matsushiro Arr**	**26.78**	**61**	P	**P**	**01 53 14.8**	**-0.3**
	comp=Z,30nm,1.1s,baz=260,slow=9.2,SNR=27						
MJAR	**Matsushiro Arr**	**26.78**	**61**	P	**P**	**01 53 13.9**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MJAR	**Matsushiro Arr**	**26.78**	**61**	P	**P**	**01 53 13.9**	**-1.2**
SBSI	**Sibolga**	**26.80**	**202**	P	**P**	**01 53 13.4**	**-2.0**
	comp=Z,22nm,1.3s						
JSD	**Sado**	**27.20**	**58**	P	**P**	**01 53 17.1**	**-1.7**
JSD				IAmb	IAmb	01 53 18.9	
	comp=Z,62nm,0.9s						
DDI	**Dehra Dun**	**27.20**	**285**	*e*P	**P**	**01 53 19.5**	**+0.5**
DDI				IAmb	IAmb	01 53 22.0	
	comp=Z,157nm,1.1s						
MNSI	**Mandailing Nat**	**27.28**	**200**	P	**P**	**01 53 21.1**	**+1.4**
GSI	**Gunungsitoli**	**27.50**	**205**	P	**P**	**01 53 19.2**	**-2.4**
**GSI

SHLS Shalkode 28.90 312 *e*P **P** **01 53 31.3 -2.7**
SHLS *e*S **S** **01 58 21.1 -2.5**
SHLS pmax pmax
comp=Z,107nm,1.5s
BKB Balikpapan 28.91 163 P **P** **01 53 33.7 -0.6**
BKB lAmb lAmb 01 53 35.1
comp=Z,98nm,0.9s
MK31 Makanchi Array 28.95 321 *i* P **P** **01 53 34.8 +0.4**
MKAR Makanchi Array 28.95 321 P **P** **01 53 35.5 +1.0**
comp=Z,5.1nm,0.7s,baz=119,slow=9.9,SNR=37
MKAR PcP **PcP** **01 56 43.1 +0.1**
comp=Z,6.2nm,0.9s,baz=80,slow=3.3,SNR=3.5
MKAR Makanchi Array 28.95 321 P **P** **01 53 34.4 0.0**
MKAR 01 56 42.6
MKAR Makanchi Array 28.95 321 P **P** **01 53 34.4 0.0**
MKAR **PcP** **01 56 42.6 -0.4**
MRSI Marisa 29.01 152 P **P** **01 53 35.5 +0.3**
comp=Z,35nm,1.1s
JMM Marumori 29.09 60 lAmb lAmb 01 53 36.6
comp=Z,40nm,1.0s
MAKZ Makanchi 29.14 320 P **P** **01 53 36.7 +0.6**
MAKZ pmax pmax
comp=Z,21nm,1.2s
MAKZ Makanchi 29.14 320 P **P** **01 53 36.7 +0.6**
UZB Uzynbulak 29.18 312 *e*P **P** **01 53 36.6 -0.1**
comp=Z,86nm,1.5s,baz=312
UZB *e*S **S** **01 58 30.3 +2.1**
baz=312
UZB Uzynbulak 29.18 312 *e*P **P** **01 53 36.5 -0.1**
UZB *e*S **S** **01 58 30.3 +2.1**
UZB pmax pmax
comp=Z,86nm,1.5s
TPI Tanjungpandan 29.35 182 P **P** **01 53 38.5 +0.4**
comp=Z,26nm,1.2s
PBKI Pangkalan Bun 29.41 174 P **P** **01 53 39.1 +0.5**
comp=Z,149nm,0.5s
HYB Hyderabad 29.46 258 *i* P **P** **01 53 39.0 -0.2**
KPKS Kokpek 29.54 312 *e*P **P** **01 53 39.4 -0.3**
comp=Z,43nm,1.0s,baz=312
KPKS Kokpek 29.54 312 *e*P **P** **01 53 39.4 -0.3**
KPKS pmax pmax
comp=Z,43nm,1.0s
SATY Saty 29.56 311 *e*P **P** **01 53 39.8 -0.3**
comp=Z,38nm,1.2s,baz=311
SATY Saty 29.56 311 *e*P **P** **01 53 39.7 -0.3**
SATY pmax pmax
comp=Z,38nm,1.2s
KSH Kashi 30.13 303 P **P** **01 53 49.3 +4.3**
KSH sP sP 01 53 57.5 +3.7
KSH pmax pmax
comp=Z,110nm,1.2s
ZEA Zeya 30.23 22 *e*P **P** **01 53 46.8 +1.2**
ZEA pmax pmax
comp=N,40nm,1.2s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,70nm,0.9s
TDK Taldyqorghan 30.38 315 *e*P **P** **01 53 47.7 +0.5**
baz=315
TDK Taldyqorghan 30.38 315 *e*P **P** **01 53 47.6 +0.5**
MDOK Medeo 30.52 311 *e*P **P** **01 53 48.6 +0.1**
baz=311
MDOK Medeo 30.52 311 *e*P **P** **01 53 48.5 +0.1**
TNSS Tian-Shan 30.54 310 *e*P **P** **01 53 49.7 +0.7**
baz=310
TNSS Tian-Shan 30.54 310 *e*P **P** **01 53 49.7 +0.7**
AAA Alma-Ata 30.63 311 *e*P **P** **01 53 50.7 +1.4**
comp=Z,68nm,1.1s,baz=311
AAA Alma-Ata 30.63 311 *e*P **P** **01 53 50.7 +1.4**
AAA pmax pmax
comp=Z,67nm,1.1s
KBKI Kotabaru 30.70 165 P **P** **01 53 50.0 -0.1**
comp=Z,44nm,1.2s
LUWI Luwuk 30.73 152 P **P** **01 53 50.1 -0.3**
LUWI lAmb lAmb 01 53 51.4
comp=Z,64nm,1.0s
ULHL Ulahol 30.75 309 P **P** **01 53 53.5 +2.9**
SNR=12
LHSI Lahat 30.82 190 P **P** **01 53 51.9 +0.8**
comp=Z,148nm,1.2s
CHKK Chushkaly 30.82 312 *e*P **P** **01 53 51.3 +0.3**
baz=312
CHKK Chushkaly 30.82 312 *e*P **P** **01 53 51.3 +0.3**
JEW Eniwo 31.01 50 P **P** **01 53 52.7 +0.1**
JEW lAmb lAmb 01 53 59.1
comp=Z,76nm,1.0s
BOD Bodaibo 31.27 5 *e*P **P** **01 53 57.3 +2.6**
NIL Nilore 31.38 291 P **P** **01 53 56.1 +0.1**
NIL pmax pmax
comp=Z,73nm,1.0s
NIL Nilore 31.38 291 P **P** **01 53 56.1 +0.1**
NIL lAmb lAmb 01 53 58.3
comp=Z,73nm,0.9s
NIL Nilore 31.38 291 P **P** **01 53 56.2 +0.2**
TKM2 Tokmak 2 31.42 310 P **P** **01 53 58.4 +1.9**
SNR=25
TTSI Tana Toraja 31.47 159 P **P** **01 53 57.0 +0.1**
comp=Z,42nm,1.4s
KLSI 31.50 188 P **P** **01 53 56.6 -0.5**
comp=Z,16nm,1.2s
KBK Karagaybulak 31.79 309 P **P** **01 54 02.1 +2.4**
SNR=50
GRNR Gornyy 31.91 34 ⇓ *i* P **P** **01 54 00.7 +0.3**
GRNR pmax pmax
comp=Z,6.0nm,1.1s
ERM Erimo 31.94 53 *ce*P **P** **01 54 01.1 +0.3**
ERM pmax pmax
comp=Z,67nm,1.7s
ERM Erimo 31.94 53 P **P** **01 54 00.8 0.0**
ERM lAmb lAmb 01 54 01.8
comp=Z,58nm,1.1s
UCH Uchtor 31.96 308 P **P** **01 54 04.0 +2.5**
SNR=67
CHMS Chumysh 32.03 309 P **P** **01 54 03.3 +1.6**
SNR=14
AAK Ala-Archa 32.10 308 P **P** **01 54 04.5 +2.1**
SNR=20
AAK Ala-Archa 32.10 308 *i* P **P** **01 54 04.6 +2.1**
SNR=25
AAK Ala-Archa 32.10 308 *ce*P **P** **01 54 04.4 +2.0**
AAK pmax pmax
comp=Z,141nm,1.3s
AAK Ala-Archa 32.10 308 P **P** **01 54 04.0 +1.6**
AAK lAmb lAmb 01 54 11.1
comp=Z,34nm,1.1s
SEM Semipalatinsk 32.16 325 *e*P **P** **01 54 03.0 +0.1**
comp=Z,36nm,1.0s,baz=325
SEM Semipalatinsk 32.16 325 *e*P **P** **01 54 03.0 +0.1**
SEM pmax pmax
comp=Z,35nm,1.0s
ASAJ Asahikawa 32.25 49 P **P** **01 54 02.8 -0.7**
comp=Z,92nm,1.0s,baz=255,slow=13,SNR=40
SGDS Sogindy 32.27 310 *e*P **P** **01 54 04.6 +0.8**
baz=310
SGDS Sogindy 32.27 310 *e*P **P** **01 54 04.6 +0.8**
USP Ospenovka 32.30 310 P **P** **01 54 05.7 +1.7**
SNR=65
ZALV Zalesovo Beam 32.44 333 P **P** **01 54 05.5 +0.5**
comp=Z,76nm,0.9s,baz=126,slow=7.5,SNR=207
ZALV Zalesovo Beam 32.44 333 P **P** **01 54 05.3 +0.3**
ZALV Zalesovo Beam 32.44 333 P **P** **01 54 05.3 +0.3**
AML Almayashu 32.51 307 P **P** **01 54 08.6 +2.3**
SNR=84
EKS2 Erkin-Say 32.61 308 P **P** **01 54 08.3 +1.4**
SNR=24
BNSI Bone 32.84 159 P **P** **01 54 08.7 -0.2**
comp=Z,3µmcomp=Z,57nm,1.3s
PALK Pallekele 32.98 239 P **P** **01 54 10.0 -0.2**
comp=Z,16nm,1.0s,baz=138,slow=12,SNR=6.0
PALK Pallekele 32.98 239 *i* P **P** **01 54 09.6 -0.6**
PALK pmax pmax
comp=Z,24nm,1.0s
PALK Pallekele 32.98 239 P **P** **01 54 09.7 -0.6**
DBJI Dramaga 33.16 184 P **P** **01 54 13.1 +1.4**
KURBB Kurchatov Arra 33.18 324 P **P** **01 54 12.2 +0.7**
BTLS Baital 33.22 312 *e*P **P** **01 54 11.9 -0.2**
comp=Z,27nm,1.3s,baz=312
BTLS Baital 33.22 312 *e*P **P** **01 54 11.8 -0.2**
BTLS pmax pmax
comp=Z,27nm,1.3s
KAPI Kappang 33.30 160 P **P** **01 54 13.1 +0.2**
comp=Z,151nm,1.1s,baz=320,slow=5.8,SNR=30
KAPI Kappang 33.30 160 P **P** **01 54 12.9 0.0**
KAPI pmax pmax
comp=Z,61nm,1.1s
KAPI Kappang 33.30 160 P **P** **01 54 12.9 0.0**
KAPI lAmb lAmb 01 54 20.3
comp=Z,61nm,1.1s
LEM Lembang 33.39 182 P **P**
comp=Z,18nm,0.4s,baz=55,slow=8.7,SNR=5.9 **01 54 13.4 -0.5**
YSS Yuzh-Sakhalins 33.47 44 *e*P **P**
YSS pmax pmax **01 54 14.9 +0.8**
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 33.47 44 P **P** **01 54 14.6 +0.5**
SMRI Semarang 33.63 177 P **P** **01 54 16.0 +0.2**
SMRI lAmb lAmb 01 54 21.1
comp=Z,48nm,1.1s
KMMI Kalianget 33.96 171 P **P** **01 54 20.0 +1.3**
comp=Z,95nm,1.4s
DZA Taraz 34.40 308 *e*P **P** **01 54 22.2 -0.2**
comp=Z,34nm,1.0s,baz=308
DZA Taraz 34.40 308 *e*P **P** **01 54 22.1 -0.2**
DZA pmax pmax
comp=Z,34nm,1.0s
UGM Wanagama 34.49 177 P **P** **01 54 23.4 +0.1**
UGM lAmb lAmb 01 54 31.7
comp=Z,59nm,1.1s
UGM Wanagama 34.49 177 P **P** **01 54 23.4 +0.1**
comp=Z,104nm,1.3s
NLAI Namlea 34.66 147 P **P** **01 54 25.3 +0.6**
comp=Z,26nm,1.4s
ABJI Asem Bagus 34.74 171 P **P** **01 54 26.1 +0.7**
comp=Z,115nm,1.2s
KBL Kabul 34.91 293 P **P** **01 54 27.7 +0.7**
KBL pmax pmax
comp=Z,214nm,1.2s
KBL Kabul 34.91 293 P **P** **01 54 27.7 +0.7**
KBL Kabul 34.91 293 P **P** **01 54 27.8 +0.8**
SNR=119
KBL P **P** **01 54 27.8 +0.8**
SNR=119
SWI Sorong 34.95 138 P **P** **01 54 27.3 0.0**
comp=Z,15nm,0.5s
SIJI Sorong 34.96 138 P **P** **01 54 26.0 -1.4**
comp=Z,3.4nm,0.3s,baz=333,slow=11,SNR=7.6
KK31 Karatay Array 35.03 308 *i* P **P** **01 54 28.4 +0.6**
KK31 Karatay Array 35.03 308 lAmb lAmb 01 54 30.6
comp=Z,83nm,1.1s
KKAR Karatay Array 35.03 308 P **P** **01 54 28.8 +1.0**
KKAR Karatay Array 35.03 308 P **P** **01 54 28.8 +1.0**
KKAR Karatay Array 35.03 308 lAmb lAmb 01 54 30.6
comp=Z,83nm,1.1s
IUG luznay 35.14 306 *e*P **P** **01 54 28.6 -0.3**
comp=Z,28nm,1.0s,baz=306
IUG luznay 35.14 306 *e*P **P** **01 54 28.5 -0.3**
IUG pmax pmax
comp=Z,28nm,1.0s
SRBI Singaraja 35.17 169 P **P** **01 54 29.3 +0.1**
comp=Z,113nm,1.3s
TYV Tymovskoe 35.23 38 *e*P **P** **01 54 29.9 +0.6**
TYV pmax pmax
comp=Z,34nm,1.2s
JAGI Jajag, Banyuwa 35.39 171 P **P** **01 54 31.5 +0.5**
comp=Z,122nm,1.2s
MSAI Masohi 35.68 144 P **P** **01 54 30.0 -3.6**
BRZS Berezniki 36.09 320 *e*P **P** **01 54 36.5 -0.3**
comp=Z,31nm,1.4s,baz=320
BRZS Berezniki 36.09 320 *e*P **P** **01 54 36.4 -0.3**
BRZS pmax pmax
comp=Z,31nm,1.4s
TWSI Taliwang, Sumb 36.13 166 P **P** **01 54 36.9 -0.5**
comp=Z,62nm,1.3s
GUMO Guam 36.16 104 P **P** **01 54 38.9 +1.2**
GUMO pmax pmax
comp=Z,234nm,1.0s
GUMO Guam 36.16 104 P **P** **01 54 38.9 +1.2**
PLAI Plampang 36.42 165 P **P** **01 54 39.9 +0.1**
comp=Z,132nm,1.2s
FAKI Fak Fak 37.18 139 P **P** **01 54 44.9 -1.5**
EDFI Ende, Flores 37.43 159 P **P** **01 54 47.5 -1.1**
comp=Z,42nm,1.3s
MMRI Maumere 37.51 158 P **P** **01 54 48.0 -1.1**
MMRI Maumere 37.51 158 P **P** **01 54 49.0 -0.1**
comp=Z,168nm,1.2s
YAK Yakutsk 37.94 16 *e*P **P** **01 54 52.4 +0.1**
YAK *e**PP **sP** **01 55 02.3 +1.2**
YAK *e* 01 56 19.0
YAK ePPP PPP 01 57 04.0
YAK *e*S **S** **02 00 43.5 +0.6**
YAK pmax pmax
comp=Z,233nm,0.9s
YAK pmax pmax
comp=N,78nm,1.2s
YAK pmax pmax
comp=E,51nm,1.0s
YAK pmax pmax
comp=Z,3µm,12.2s
YAK pmax pmax
comp=N,3µm,14.1s
YAK pmax pmax
comp=E,1µm,13.6s
YAK smax smax
comp=E,644nm,9.9s
YAK smax smax
comp=N,774nm,9.0s
YAK Yakutsk 37.94 16 P **P** **01 54 52.1 -0.2**
BASI Baing, Sumba 38.48 161 P **P** **01 54 56.4 -0.9**
comp=N,149nm,1.5s
BRVK Borovoye 38.82 323 *ce*P **P** **01 55 01.0 +1.2**
BRVK pmax pmax
comp=Z,88nm,1.3s
BRVK Borovoye 38.82 323 P **P** **01 55 00.8 +1.0**
BRVK lAmb lAmb 01 55 01.9
comp=Z,54nm,1.1s
BRVK Borovoye 38.82 323 P **P** **01 55 00.6 +0.8**
BRVK P **P** **01 55 00.6 +0.8**
BATI Baumata 39.46 157 P **P** **01 55 03.8 -1.8**
comp=Z,24nm,0.4s,baz=231,slow=4.5,SNR=2.3
COCO West Island 40.41 198 P **P** **01 55 13.6 +0.2**
COCO pmax pmax
comp=Z,77nm,0.5s
COCO West Island 40.41 198 P **P** **01 55 13.6 +0.2**
HRA Herat 40.52 292 P **P** **01 55 15.0 +0.5**
HRA lAmb lAmb 01 55 16.0
comp=Z,71nm,1.1s
GENI Genyem 42.04 129 P **P** **01 55 27.7 +0.8**
comp=Z,115nm,1.3s
SKR Severo-Kuril's 43.03 43 *i* P **P** **01 55 34.9 +0.4**
ASHT Ashkhabad 43.57 298 P **P** **01 55 41.5 +2.4**
ASHT pmax pmax
comp=Z,249nm,1.1s
ASHT Ashkhabad 43.57 298 P **P** **01 55 41.5 +2.4**
MA2 Magadan 43.64 30 P **P** **01 55 39.4 0.0**
comp=Z,14nm,0.7s,baz=240,slow=7.8,SNR=25
MA2 Magadan 43.64 30 *ce*P **P** **01 55 39.3 0.0**
MA2 pmax pmax
comp=Z,45nm,1.3s
MA2 MLR MLR
comp=Z,8µm,18.0s
MA2 Magadan 43.64 30 P **P** **01 55 38.9 -0.4**
MA2 lAmb lAmb 01 55 40.3
comp=Z,42nm,1.1s
AB31 Akbulak array 43.65 314 *i* P **P** **01 55 39.9 +0.4**
ABKAR Akbulak array 43.65 314 P **P** **01 55 40.4 +0.8**
GEYT Alibeck 43.78 298 P **P** **01 55 43.0 +2.1**
comp=Z,188nm,1.0s,baz=111,slow=8.1,SNR=190
GEYT Alibeck 43.78 298 P **P** **01 55 42.6 +1.8**
GYA0 ALIBECK ARRAY 43.78 298 P **P** **01 55 42.5 +1.6**
NRIK Noril'sk 44.42 349 P **P** **01 55 46.5 +1.1**
comp=Z,113nm,0.9s,baz=138,slow=7.3,SNR=127
NRIK Noril'sk 44.42 349 *ce*P **P** **01 55 46.1 +0.7**
NRIK pmax pmax
comp=Z,184nm,1.1s
NRIK Noril'sk 44.42 349 P **P** **01 55 45.9 +0.5**
PETK Petropavlovsk- 44.64 40 P **P** **01 55 46.5 -1.0**
comp=Z,6.4nm,1.0s,baz=134,slow=4.3,SNR=5.3
PETK Petropavlovsk- 44.64 40 P **P** **01 55 47.0 -0.5**
JLN Jalan Bani Buh 44.98 275 P **P** **01 55 50.5 -0.1**
SNR=9.4
AKTO Aktyubinsk 45.12 316 P **P** **01 55 52.2 +0.9**
PET Petropavlovsk 45.17 41 *i* P **P** **01 55 52.0 +0.4**
PET pmax pmax
comp=Z,109nm,1.1s
WBK Wadi Bani Khal 45.24 276 P **P** **01 55 53.1 +0.4**
SNR=8.0
SVE Sverdlovsk 45.43 325 *c i* P **P** **01 55 55.5 +1.8**
SVE pmax pmax
comp=Z,161nm,1.2s
BIDO Bidbid 45.75 278 P **P** **01 55 56.7 0.0**
SNR=7.8
SMDO Samad 45.94 277 P **P** **01 55 58.5 +0.1**
SNR=11
SEY Seymchan 46.02 26 P **P** **01 55 58.9 +0.7**
comp=Z,13nm,1.0s,baz=248,slow=7.7,SNR=22
JMDO Jabal Madar 46.08 276 P **P** **01 55 59.4 0.0**
SNR=7.0
TIXI Tiksi 46.32 9 P **P** **01 56 00.1 -0.4**
comp=Z,73nm,1.0s,baz=184,slow=4.8,SNR=87
TIXI Tiksi 46.32 9 *c i* P **P** **01 55 59.8 -0.7**
TIXI Tiksi 46.32 9 P **P** **01 55 59.8 -0.7**
ARU Arti 46.38 324 *c i* P **P** **01 56 02.0 +0.8**
ARU 01 57 47.8
ARU S **S** **02 02 49.5 +2.0**
ARU SS **ScS** **02 06 03.8 +8.6**
ARU pmax pmax
comp=Z,156nm,1.1s
ARU Arti 46.38 324 P **P** **01 56 01.5 +0.4**
HOQ Hoqain 46.46 278 P **P** **01 56 02.4 +0.1**
SNR=10
MHTO MHTO 46.60 274 P **P** **01 56 02.9 -0.5**
SNR=7.1
MHTO P **P** **01 56 02.9 -0.5**
SNR=7.1
BSY Bisya 46.78 277 P **P** **01 56 05.1 +0.3**
SNR=14
MDH Madha 46.92 281 P **P** **01 56 04.9 -1.0**
MANU Manus Island 46.93 121 P **P** **01 56 07.1 +1.1**
MANU lAmb lAmb 01 56 13.0
comp=Z,26nm,1.1s
SOHO SOHO 47.00 279 *i* P **P** **01 56 04.9 -1.6**
SNR=5.2
MSFE Esma-Masafi 47.03 281 P **P** **01 56 07.4 +0.6**
UOSS Minazif 47.09 280 P **P** **01 56 06.6 -0.6**
UOSS Minazif 47.09 280 P **P** **01 56 06.4 -0.8**
HATD Hatta, Dubai 47.19 280 *i* P **P** **01 56 08.6 +0.6**
SNR=5.4
HATD Hatta, Dubai 47.19 280 P **P** **01 56 08.8 +0.8**
SNR=6.9
ARQ Araqi 47.22 278 P **P** **01 56 08.5 +0.2**
SNR=7.3
ASHO Ashiyiah 47.28 280 P **P** **01 56 08.8 0.0**
DQM DQM 47.30 273 P **P** **01 56 08.4 -0.5**
FITZ Fitzroy Crossi 47.48 158 P **P** **01 56 08.9 -1.2**
comp=Z,14nm,1.0s,baz=350,slow=8.9,SNR=9.6
FITZ Fitzroy Crossi 47.48 158 P **P** **01 56 08.8 -1.2**
FITZ lAmb lAmb 01 56 09.9
comp=Z,22nm,1.1s
ALNE Al Ain 47.72 279 P **P** **01 56 12.2 +0.1**
SNR=8.7
ASUD Al Ashush, Dub 47.94 280 P **P** **01 56 14.2 +0.4**
ASUD Al Ashush, Dub 47.94 280 P **P** **01 56 14.0 +0.2**
PSA00 Pilbara Seismi 49.21 166 P **P** **01 56 22.7 -0.7**
SHAO Shalim 49.64 271 P **P** **01 56 24.8 -2.1**
DOK Doka 50.77 273 P **P** **01 56 34.4 -1.1**
SNR=8.9
RBK Rabkut 51.09 271 P **P** **01 56 36.8 -1.2**
SNR=17
RBK P **P** **01 56 36.8 -1.2**
SNR=17
WHFO Wadi Hawf 51.33 272 P **P** **01 56 38.1 -1.6**
SNR=9.8
WHFO P **P** **01 56 38.1 -1.6**
SNR=9.8
AKT Akhty 51.66 303 *e*P **P** **01 56 42.8 +0.8**
AKT *e* 01 57 55.3
AKT *e* 01 58 42.3
AKT pmax pmax
comp=Z,121nm,1.5s
KIRV Kirov 51.70 325 *ce*P **P** **01 56 42.8 +1.0**
PMG Port Moresby 51.74 129 P **P** **01 56 43.7 +1.0**
comp=Z,58nm,1.0s,baz=333,slow=6.1,SNR=5.6
PMG Port Moresby 51.74 129 *ce*P **P** **01 56 42.9 +0.2**
PMG pmax pmax
comp=Z,98nm,1.3s
PMG Port Moresby 51.74 129 P **P** **01 56 43.7 +1.0**
MAK Makhachkala 51.74 305 *e*P P 01 56 36.5 -5.9
MAK *e* 01 58 35.6
MAK *e*S **S** **02 03 57.2 -6.1**
MAK *e*SS **SS** **02 07 36.7 -2.9**
MAK MLR MLR
comp=Z,9µm,18.0s
ABTO Aybut 51.95 272 P **P** **01 56 42.8 -1.6**
SNR=9.7
WB0 Warramunga Arr 52.48 149 P **P** **01 56 46.4 -1.7**
WB0 lAmb lAmb 01 56 48.5
comp=Z,37nm,1.1s
WRAB Tennant Creek 52.60 149 *ce*P **P** **01 56 48.7 -0.3**
WRAB pmax pmax
comp=Z,79nm,1.3s
WRAB Tennant Creek 52.60 149 P **P** **01 56 47.5 -1.6**
WRAB lAmb lAmb 01 56 48.5
comp=Z,28nm,0.9s
WRA Warramunga Arr 52.60 149 P **P** **01 56 48.3 -0.7**
comp=Z,59nm,1.2s,baz=335,slow=8.1,SNR=21
WRA PcP **PcP** **01 57 58.6 -0.5**
comp=Z,6.7nm,1.0s,baz=329,slow=4.4,SNR=2.2
WRA Warramunga Arr 52.60 149 P **P** **01 56 47.5 -1.6**
WB2 Warramunga Arr 52.61 149 P **P** **01 56 47.8 -1.3**
WB2 lAmb lAmb 01 56 49.0
comp=Z,63nm,1.1s
WR0 Warramunga Arr 52.71 149 P **P** **01 56 48.8 -1.0**
WR0 lAmb lAmb 01 56 49.7
comp=Z,40nm,1.1s
GROC Groznyy 52.98 305 *e*P **P** **01 56 48.4 -3.2**
GROC *e* 01 57 56.7
GROC *e*S **S** **02 04 22.6 +2.4**
GROC pmax pmax
comp=Z,73nm,1.4s
SOCY Socotra 53.30 265 P **P** **01 56 51.5 -2.9**
SOCY lAmb lAmb 01 56 58.8
comp=Z,24nm,1.0s
SOCY Socotra 53.30 265 P **P** **01 56 51.7 -2.7**
SNR=8.4
BILL Bilibino 53.44 23 *ce*P **P** **01 56 54.6 -0.1**
BILL pmax pmax
comp=Z,35nm,1.3s
BILL MLR MLR
comp=Z,39µm,22.0s
BILL Bilibino 53.44 23 P **P** **01 56 54.1 -0.6**
GNI Garni 54.03 302 P **P** **01 57 00.6 +0.9**
GNI Garni 54.03 302 *ce*P **P** **01 56 57.7 -2.0**
GNI pmax pmax
comp=Z,93nm,1.3s
GNI Garni 54.03 302 P **P** **01 57 01.4 +1.7**
GNI Garni 54.03 302 P **P** **01 57 01.4 +1.7**
PRGR Permogore 54.13 328 *e*P **P** **01 56 59.6 -0.2**
PRGR *e*S **S** **02 04 37.6 +2.4**
PRGR pmax pmax
comp=Z,55nm,1.0s
ZEI Tsey 54.40 305 *e*P **P** **01 57 00.0 -2.3**
ZEI pmax pmax
comp=Z,57nm,1.4s
AKH Akhalkalaki 54.84 303 ⇑ P **P** **01 57 08.0 +2.4**
KBZ Khabaz 55.04 306 P **P** **01 57 07.6 +0.9**
comp=Z,17nm,1.0s,baz=121,slow=7.1,SNR=14
KBZ Khabaz 55.04 306 *ce*P **P** **01 57 07.4 +0.7**
KBZ pmax pmax
comp=Z,82nm,2.3s
KIV Kislovodsk 55.17 306 ⇑ P **P** **01 57 08.5 +0.7**
KIV Kislovodsk 55.17 306 *i* P **P** **01 57 09.0 +1.2**
SNR=11
KIV Kislovodsk 55.17 306 P **P** **01 57 08.9 +1.1**
KIV pmax pmax
comp=Z,98nm,1.0s
KIV Kislovodsk 55.17 306 P **P** **01 57 08.9 +1.1**
KIV Kislovodsk 55.17 306 P **P** **01 57 08.8 +1.1**
NEY Neytrino 55.21 306 *i* P **P** **01 57 08.1 -0.1**
NEY pmax pmax
comp=Z,6.0nm,1.1s
SHA1 Shidzhatmaz 55.22 306 *d i* P **P** **01 57 09.5 +1.2**
VRH Novokhopyorsk 55.46 315 *e*P **P** **01 57 09.7 +0.1**
VRH pmax pmax
comp=Z,200nm,1.2s
GEVA Gevas 55.57 300 lAmb lAmb 01 57 13.4
comp=Z,42nm,1.1s
AS31 Alice Springs 55.68 152 P **P** **01 57 10.3 -1.2**
ASAR Alice Springs 55.68 152 P **P** **01 57 10.4 -1.1**
comp=Z,20nm,1.0s,baz=332,slow=7.1,SNR=30
ASAR PcP **PcP** **01 58 10.5 -0.3**
comp=Z,8.2nm,0.9s,baz=356,slow=3.6,SNR=6.9
ASAR Alice Springs 55.68 152 P **P** **01 57 11.2 -0.3**
CHVG Ch'k'valeri 55.73 305 ⇑ P **P** **01 57 13.0 +1.2**
MORW Morawa 55.93 172 P **P** **01 57 12.2 -0.9**
RAYN Ar Rayn 56.88 282 *i* P **P** **01 57 20.0 -0.2**
SNR=30
RAYN Ar Rayn 56.88 282 P **P** **01 57 19.3 -0.9**

RAYN pmax pmax
comp=Z,40nm,1.2s
RAYN Ar Rayn 56.88 282 P **P 01 57 19.3 -0.9**
RAYN IAmb IAmb 01 57 20.6
comp=Z,40nm,1.1s
KLMR Klimovskoe 56.97 327 *e*P **P 01 57 18.5 -1.7**
KLMR *e* 01 59 24.6
KLMR pmax pmax
comp=Z,270nm,1.5s
KLMR Klimovskoe 56.97 327 *e*P **P 01 57 18.5 -1.7**
KLMR AMP 01 57 23.1
comp=Z,270nm,1.5s
KLMR *e*PP **PP 01 59 24.7 -1.9**
VORR Voronezh 57.02 316 *e*P **P 01 57 20.0 -0.7**
VORR pmax pmax
comp=Z,350nm,1.4s
VSR Storozhevoye 57.06 315 *e*P **P 01 57 20.7 -0.3**
VSR pmax pmax
comp=Z,100nm,1.3s
LPSR Galich'ya Gora 57.16 317 *e*P **P 01 57 22.0 +0.4**
LPSR pmax pmax
comp=Z,150nm,1.2s
KOPT Kop Dagi 57.28 302 P **P 01 57 23.6 +0.5**
KOPT IAmb IAmb 01 57 41.2
comp=Z,31nm,1.2s
SOC Sochi 57.35 306 *e*P **P 01 57 21.9 -1.3**
SOC *e* 01 59 34.7
SOC *e*S **S 02 05 21.1 +2.3**
SOC *e*SS **SS 02 09 11.8 +3.7**
SOC pmax pmax
comp=Z,50nm,1.0s
MARD Mardin 57.52 299 IAmb IAmb 01 57 27.7
comp=Z,55nm,1.1s
AMKA Amchitka 57.60 44 P **P 01 57 24.6 -0.2**
MOS Moscow 57.84 321 *e*P **P 01 57 25.5 -0.9**
MOS *e* 01 58 15.9
MOS *e* 01 59 34.5
MOS *e*S **S 02 05 25.1 +0.3**
MOS pmax pmax
comp=Z,257nm,1.4s
MOS MLR MLR
comp=Z,14µm,17.0s
MOS MLR MLR
comp=E,10µm,16.0s
OBN Obninsk 58.46 320 ⇑P **P 01 57 30.7 -0.1**
OBN Obninsk 58.46 320*c i*P **P 01 57 31.2 +0.5**
OBN *i* 01 57 37.6
OBN *i* 01 58 21.3
OBN pmax pmax
comp=Z,240nm,1.5s
OBN MLR MLR
comp=Z,12µm,16.0s
OBN Obninsk 58.46 320 P **P 01 57 30.9 +0.1**
OBN IAmb IAmb 01 57 46.9
comp=Z,42nm,1.1s
ANN Anapa 58.82 308 *e*P **P 01 57 33.3 -0.2**
ANN *e*S **S 02 05 44.3 +6.4**
ANN pmax pmax
comp=Z,86nm,1.1s
CTA Charters Tower 59.04 138 P **P 01 57 34.9 -0.4**
comp=Z,70nm,1.2s,baz=335,slow=9.1,SNR=12
CTAO Charters Tower 59.04 138 P **P 01 57 35.5 +0.2**
CTAO pmax pmax
comp=Z,27nm,1.1s
CTAO Charters Tower 59.04 138 P **P 01 57 35.5 +0.2**
CTAO IAmb IAmb 01 57 43.7
comp=Z,27nm,1.1s
LVZ Lovozero 59.55 335*ce*P **P 01 57 39.4 +1.2**
LVZ pmax pmax
comp=Z,62nm,1.7s
NWAO Narrogin (SRO) 59.88 172 P **P 01 57 40.0 -0.8**
comp=Z,45nm,1.1s,baz=351,slow=3.8,SNR=8.4
NWAO Narrogin (SRO) 59.88 172 P **P 01 57 40.5 -0.3**
NWAO IAmb IAmb 01 57 40.7
comp=Z,28nm,1.1s
NWAO Narrogin (SRO) 59.88 172 P **P 01 57 40.6 -0.2**
NWAO IAmb IAmb 01 57 40.6
comp=Z,22nm,1.1s
NWAO Narrogin (SRO) 59.88 172 P **P 01 57 40.5 -0.3**
NWAO P **P 01 57 40.5 -0.3**
APA Apatity 60.01 335⇓*i*P **P 01 57 39.2 -2.1**
APA pmax pmax
comp=Z,14nm,1.1s
APA MLR MLR
comp=Z,15µm,18.0s
FORT Forrest 60.09 161 P **P 01 57 42.1 -0.1**
FORT IAmb IAmb 01 57 43.3
comp=Z,53nm,1.1s
GAZ Gaziantep 60.34 299 IAmb IAmb 01 57 47.3
comp=Z,34nm,1.1s
SIM Simferopol' 61.13 309*c i*P **P 01 57 48.6 -0.7**
SIM S **S 02 06 06.7 -0.9**
SIM *e*SS **SS 02 10 05.0 -2.3**
SIM *e*SSS SSS 02 12 48.0
SIM pmax pmax
comp=Z,43nm,1.1s
SIM MLR MLR
comp=Z,4µm,19.5s
HNR Honiara 61.27 119 P **P 01 57 48.7 -1.9**
comp=Z,62nm,0.7s,baz=119,slow=4.9,SNR=4.3
PUL Pulkovo 61.55 326*ce*P **P 01 57 52.9 +1.0**
PUL pmax pmax
comp=Z,72nm,0.6s
GAMB Gambell 61.74 30 P **P 01 57 53.3 +0.2**
GAMB IAmb IAmb 01 57 54.5
comp=Z,28nm,1.0s
GAMB Gambell 61.74 30 P 01 57 53.8
baz=273
BZK Bozkurt 61.77 305 ⇑P **P 01 57 53.4 -0.3**
BR131 Keskin Array S 62.51 303 P **P 01 57 58.4 -0.6**
BR131 pmax pmax
comp=Z,22nm,1.2s
BR131 Keskin Array S 62.51 303 P **P 01 57 58.4 -0.6**
BR131 IAmb IAmb 01 57 60.0
comp=Z,22nm,1.1s
BRTR Keskin Array B 62.52 303 P **P 01 57 59.0 0.0**
comp=Z,8.0nm,0.9s,baz=101,slow=6.4,SNR=34
BRTR Keskin Array B 62.52 303 P **P 01 57 58.6 -0.3**
BRTR Keskin Array B 62.52 303 P **P 01 57 58.6 -0.3**
ARCES ARCESS Array B 62.89 337 P **P 01 58 01.5 +0.8**
comp=Z,33nm,0.8s,baz=81,slow=8.2,SNR=51
ARCES PcP **PcP 01 58 39.0 +0.1**
comp=Z,3.3nm,0.6s,baz=81,slow=5.6,SNR=3.9
ARCES ARCESS Array B 62.89 337 P **P 01 58 00.9 +0.1**
ARCES pmax pmax
comp=Z,37nm,0.9s
ARCES ARCESS Array B 62.89 337 P **P 01 58 00.8 +0.1**
ARCES IAmb IAmb 01 58 02.8
comp=Z,37nm,0.9s
BR231 Keskin MP Arra 63.13 303 P **P 01 58 03.4 +0.4**
BR231 IAmb IAmb 01 58 06.4
comp=Z,24nm,1.1s
TNA Tin City 63.22 28 P **P 01 58 03.7 +0.8**
TNA IAmb IAmb 01 58 05.3
comp=Z,30nm,1.1s
TNA Tin City 63.22 28 P 01 58 04.1
baz=276
AKASG Malin Array Be 63.37 316 P **P 01 58 04.5 +0.3**
comp=Z,24nm,0.6s,baz=69,slow=6.4,SNR=128
AKASG Malin Array Be 63.37 316 P **P 01 58 04.1 -0.1**
AKASG pmax pmax
comp=Z,16nm,1.1s
AKASG Malin Array Be 63.37 316 **P 01 58 04.0 -0.1**
AKBB Malin Array Si 63.37 316*ce*P **P 01 58 04.3 +0.1**
AKBB Malin Array Si 63.37 316 P **P 01 58 04.3 +0.1**
FIA1 FINESS Array S 63.45 328 P **P 01 58 04.5 -0.1**
FIA1 IAmb IAmb 01 58 05.3
comp=Z,40nm,1.1s
FINES FINESS Array B 63.45 328 P **P 01 58 05.1 +0.5**
comp=Z,32nm,0.9s,baz=88,slow=8.2,SNR=43
MNK Minsk 63.52 320⇑*e*P **P 01 58 07.0 +1.8**
MNK pmax pmax
comp=Z,220nm,1.0s
MNK Minsk 63.52 320 *i* P **P 01 58 01.6 -3.6**
comp=E,8.0nm,1.2s
MNK *i* P **P 01 58 01.6 -3.6**
comp=N,10.0nm,1.2s
MNK *i* P **P 01 58 01.6 -3.6**
comp=Z,50nm,0.9s
MNK *i* PcP **PcP 01 58 39.9 -1.8**
MNK *i* PP **PP 02 00 19.6 -5.0**
MNK *i* PPP PPP 02 01 47.2
MNK *i* S **S 02 06 32.0 -5.4**
MNK *i* ScS **SKKSac 02 07 54.2 -3.2**
MNK *i* SS **SS 02 10 37.3 -6.9**
MNK *i* SSS SSS 02 13 30.9
MNK *i* LQ LQ 02 20 50.2
MNK *i* LR LR 02 25 36.9
MNK *i* LRM MLR 02 27 44.3
comp=E,779nm,12.8s
MNK *i* LRM MLR 02 27 44.3
comp=N,4µm,16.0s
MNK *i* LRM MLR 02 27 59.5
comp=Z,6µm,19.8s
VSU Vasula 63.53 324 *e*P **P 01 58 06.0 +0.8**
VSU Vasula 63.53 324*d i*P **P 01 58 05.8 +0.6**
VSU pmax pmax
comp=Z,264nm,1.2s
CSS Mathiatis 63.92 298 P **P 01 58 07.7 -0.5**
CSS IAmb IAmb 01 58 14.6
comp=Z,22nm,1.0s
IDID Didziasalis 64.03 321 *e*P **P 01 58 09.6 +1.0**
NACGM Naroch 64.08 321 *i* P **P 01 58 09.8 +1.0**
NACGM *i* P **P 01 58 09.8 +1.0**
NACGM *i* P **P 01 58 09.8 +1.0**
NACGM *i* PP **PP 02 00 30.5 +0.9**
NACGM *i* PPP PPP 02 02 00.5
NACGM *i* S **S 02 06 46.9 +2.5**
NACGM *i* SS SS 02 10 18.7 -34
NACGM *i* SSS SSS 02 14 31.2
NACGM *i* LQ LQ 02 21 27.3
NACGM *i* LR LR 02 26 22.4
LEF Lefka 64.23 298 ⇑P **P 01 58 09.4 -0.8**
IIGN Ignalina 64.32 321 *e*P **P 01 58 10.9 +0.5**
ISAL Salakas 64.33 321 *e*P **P 01 58 11.2 +0.7**
ANM Nome 64.42 29 P **P 01 58 11.9 +1.0**
ANM pmax pmax
comp=Z,33nm,1.1s
ANM Nome 64.42 29 P **P 01 58 11.9 +1.0**
ANM IAmb IAmb 01 58 12.9
comp=Z,33nm,1.1s
ANM Nome 64.42 29 P 01 58 11.7
baz=279
TLCR 64.76 310 ⇑P **P 01 58 13.1 -0.4**
TLCR 64.76 310 ⇑P **P 01 58 13.1 -0.4**
JURR Jurilovca 64.81 309 ⇑P **P 01 58 14.7 +0.9**
RDOG Red Dog Mine 64.86 25 P **P 01 58 14.2 +0.4**
RDOG Red Dog Mine 64.86 25 P 01 58 14.3
baz=279
TPGR Topolog 65.11 309 ⇓P **P 01 58 16.5 +0.7**
VASR Vaslui 65.12 311 ⇓P **P 01 58 16.5 +0.7**
TIRR Tirgusor 65.21 309 ⇑P **P 01 58 16.5 +0.1**
TIRR Tirgusor 65.21 309 ⇑P **P 01 58 16.5 +0.1**
TIRR Tirgusor 65.21 309 IAmb IAmb 01 58 22.1
comp=Z,38nm,0.9s
CFR Carcaliu 65.23 310 ⇓P **P 01 58 17.0 +0.5**
CFR Carcaliu 65.23 310 ⇓P **P 01 58 17.0 +0.5**
VARL Varlezi 65.26 311 ⇑P **P 01 58 18.0 +1.3**
MFTR Murfatlar 65.27 309 ⇑P **P 01 58 17.3 +0.6**
BIR Birlad 65.32 311 ⇑P **P 01 58 18.5 +1.4**
BIR Birlad 65.32 311 ⇑P **P 01 58 18.5 +1.4**
ISP Isparta 65.34 301 IAmb IAmb 01 58 20.0
comp=Z,43nm,1.1s
HARR Harsova 65.49 309 ⇑P **P 01 58 19.2 +1.0**
HARR Harsova 65.49 309 ⇑P **P 01 58 19.2 +1.0**
GHRR 65.52 311 ⇓P **P 01 58 20.0 +1.6**
PABE Paberze 65.55 322 *e*P **P 01 58 19.1 +0.8**
ODBI Odobesti 65.83 311 ⇓P **P 01 58 22.5 +2.2**
TESR Tescani 65.92 311 ⇓P **P 01 58 21.4 +0.4**
EIDS Eidsvold 65.93 138 P **P 01 58 21.1 -0.1**
EIDS IAmb IAmb 01 58 22.5
comp=Z,46nm,1.1s
GRER 65.98 310 ⇓P **P 01 58 24.3 +3.0**
PRAR RASCA 66.00 312 ⇑P **P 01 58 22.3 +0.8**
SLIT Slitere, Latvi 66.01 324 *e*P **P 01 58 22.0 +0.7**
VRI Vrincioaia 66.02 311 ⇓P **P 01 58 23.0 +1.3**
VRI Vrincioaia 66.02 311 ⇓P **P 01 58 23.0 +1.3**
PLOR Plostina 66.08 311 ⇓P **P 01 58 23.4 +1.3**
PLOR Plostina 66.08 311 ⇓P **P 01 58 23.4 +1.3**
BISRR Bisoca 66.11 310 ⇓P **P 01 58 24.1 +1.8**
STKA Stephens Creek 66.15 150 P **P 01 58 21.5 -1.0**
comp=Z,17nm,0.9s,baz=327,slow=8.0,SNR=11
BIZ Bicaz 66.18 312 ⇓P **P 01 58 23.2 +0.6**
SUW Suwalki 66.32 320 *e*P **P 01 58 23.8 +0.4**
ISR Istrita 66.34 310 ⇑P **P 01 58 25.7 +1.9**
ISR Istrita 66.34 310 ⇑P **P 01 58 25.7 +1.9**
A21K Barrow 66.38 21 P 01 58 24.0
baz=283,SNR=10
NEHR Nehoiu 66.43 310 ⇓P **P 01 58 25.9 +1.6**
PBUR Paburge 66.56 322 *e*P **P 01 58 25.7 +0.8**
BURAR Bucovina Array 66.60 313 ⇓P **P 01 58 25.9 +0.4**
BURAR Bucovina Array 66.60 313 ⇓P **P 01 58 25.9 +0.4**
BURAR Bucovina Array 66.60 313 P **P 01 58 25.6 +0.2**
BUR08 Bucovina Ar. S 66.60 313 P **P 01 58 26.2 +0.7**
BUR08 IAmb IAmb 01 58 29.1
comp=Z,33nm,1.1s
SULR 66.65 310 ⇑P **P 01 58 27.3 +1.6**
MLR Muntele Rosu 66.65 311 ⇓P **P 01 58 26.9 +1.1**
MLR Muntele Rosu 66.65 311 ⇓P **P 01 58 26.9 +1.1**
MLR Muntele Rosu 66.65 311 IAmb IAmb 01 58 30.8
comp=Z,30nm,1.1s
MANT Manisa 66.65 303 P **P 01 58 25.4 -0.7**
MANT IAmb IAmb 01 58 27.2
comp=Z,31nm,1.0s
LVV L'vov 66.81 315 *e*P **P 01 58 27.3 +0.7**
LVV *e*S **S 02 07 17.0 -1.0**
LVV MLR MLR
comp=E,7µm,17.0s
LVV MLR MLR
comp=N,2µm,16.0s
LVV MLR MLR
comp=Z,7µm,18.0s
DOPR Dopca 66.90 311 ⇓P **P 01 58 28.6 +1.2**
VOIR 67.27 311 ⇑P **P 01 58 30.3 +0.6**
VOIR 67.27 311 ⇑P **P 01 58 30.3 +0.6**
ARCR ARCALIA 67.30 313 ⇓P **P 01 58 31.1 +1.3**
MTUR Matau 67.32 310 ⇑P **P 01 58 30.5 +0.4**
MTUR Matau 67.32 310 ⇑P **P 01 58 30.5 +0.4**
COPA Copaceanca 67.51 309 ⇓P **P 01 58 31.0 -0.1**
ZIMR 67.54 309 ⇑P **P 01 58 32.4 +1.1**
ZIMR 67.54 309 ⇑P **P 01 58 32.4 +1.1**
HUMR Humele 67.56 310 ⇑P **P 01 58 31.7 +0.2**
ARR Arges 67.57 311 ⇓P **P 01 58 32.6 +0.9**
KWP Kalvaria Pacla 67.69 315 *e*P **P 01 58 33.5 +1.3**
BMR Baia Mare 67.71 313 ⇓P **P 01 58 33.9 +1.6**
BMR Baia Mare 67.71 313 ⇓P **P 01 58 33.9 +1.6**
UPP Uppsala 67.84 327 *e*P **P 01 58 33.6 +0.7**
CJR Cluj-Napoca 67.90 312 ⇑P **P 01 58 35.0 +1.3**
CJR Cluj-Napoca 67.90 312 ⇑P **P 01 58 35.0 +1.3**
VLAD Vladila 68.11 309 ⇑P **P 01 58 36.2 +1.2**
PLVB Pleven 68.13 309 ⇓P **P 01 58 35.7 +0.6**
LOT Lotru 68.14 311 ⇓P **P 01 58 35.9 +0.7**
KOLS Kolonicke sedl 68.15 315 *e*P **P 01 58 36.0 +0.9**
KOLS pmax pmax
comp=Z,28nm,1.5s
KOLS Kolonicke sedl 68.15 315 *e*P **P 01 58 36.0 +0.9**
UZH Uzhgorod 68.22 315 *e*P **P 01 58 34.3 -1.2**
UZH *e* 01 58 51.1
UZH *i* 01 59 01.5
BEL Belsk 68.27 318 *e*P **P 01 58 36.9 +1.1**
DRGR 68.46 313 ⇑P **P 01 58 37.9 +0.7**
DRGR 68.46 313 ⇑P **P 01 58 37.9 +0.7**
NOR Nord 68.51 353 *i* P **P 01 58 37.0 +0.2**
comp=Z,62nm,1.3s
NOR Nord 68.51 353 *i* P **P 01 58 37.0 +0.2**
NOR Nord 68.51 353 *i* P **P 01 58 37.0 +0.2**
NOR IAmb IAmb 01 58 38.2
comp=Z,62nm,1.3s
DEV Deva 68.59 312 ⇓P **P 01 58 39.6 +1.7**
DEV Deva 68.59 312 ⇓P **P 01 58 39.6 +1.7**
CRVS Cervenica-Dubn 68.67 315 *e*P **P 01 58 39.6 +1.2**
CRVS Cervenica-Dubn 68.67 315 *e*P **P 01 58 39.6 +1.2**
GZR Gura Zlata 68.82 311 ⇓P **P 01 58 40.2 +0.7**
GZR Gura Zlata 68.82 311 ⇓P **P 01 58 40.2 +0.7**
HERR Herculane 69.22 311 ⇑P **P 01 58 42.8 +0.9**
NIE Niedzica 69.25 316 *e*P **P 01 58 43.6 +1.6**
OJC Ojcow 69.33 317 *e*P **P 01 58 43.2 +0.8**
VTS Vitosha 69.33 308 ⇓P **P 01 58 43.1 +0.3**
VTS Vitosha 69.33 308 ⇓P **P 01 58 43.1 +0.3**
VTS Vitosha 69.33 308 IAmb IAmb 01 58 50.3
comp=Z,25nm,1.0s
KECS Kecovo 69.41 315 *e*P **P 01 58 44.1 +1.0**
KECS Kecovo 69.41 315 *e*P **P 01 58 44.0 +1.0**
TOLK Toolik Lake Re 69.48 23 P **P 01 58 43.3 +0.2**
TOLK IAmb IAmb 01 58 44.7
comp=Z,39nm,1.0s
TOLK Toolik Lake Re 69.48 23 P 01 58 44.0
baz=291,SNR=26
BZS Buzias 69.53 312 ⇓P **P 01 58 44.4 +0.6**
BZS Buzias 69.53 312 ⇓P **P 01 58 44.4 +0.6**
MDVR Moldovita 69.72 311 ⇓P **P 01 58 46.0 +1.0**
COLD Coldfoot 69.76 24 IAmb IAmb 01 58 46.7
comp=Z,29nm,1.1s
COLD Coldfoot 69.77 24 P 01 58 45.7
baz=291,SNR=16
LANS Liptovska Anna 69.85 316 *e*P **P 01 58 47.4 +1.6**
LANS pmax pmax
comp=Z,9.0nm,1.3s
LANS Liptovska Anna 69.85 316 *e*P **P 01 58 47.4 +1.6**
AMBH Ambrzfalva 69.90 313 ⇑P **P 01 58 48.0 +1.9**
CHUM Lake Minchumin 70.11 28 P 01 58 48.6
baz=290,SNR=30
VAY Valandovo 70.20 307 *i* P **P 01 58 48.4 +0.4**
MLY Manley 70.34 26 P 01 58 49.8
baz=291,SNR=79
STIP Stip 70.36 307 *i* P **P 01 58 47.8 -1.2**
VYHS Vyhne 70.45 315 *e*P **P 01 58 50.2 +0.8**
VYHS Vyhne 70.45 315 *e*P **P 01 58 50.2 +0.8**
PPLA Purkeypile 70.50 29 P **P 01 58 50.1 +0.5**
PPLA Purkeypile 70.50 29 P 01 58 50.5
baz=290,SNR=19
NB2 NORSAR Subarra 70.52 329 P **P 01 58 48.9 -0.7**
comp=Z,116nm,1.4s,baz=71,slow=6.2
NB2 NORSAR Subarra 70.52 329 P **P 01 58 48.9 -0.7**
baz=71,slow=6.2
NOA NORSAR Array B 70.52 329 P **P 01 58 49.4 -0.2**
comp=Z,36nm,1.0s,baz=70,slow=6.0,SNR=54
NOA PP **PP 02 01 25.1 -0.4**
comp=Z,6.4nm,1.0s,baz=68,slow=8.9,SNR=4.1
SANVU Saraoutou 70.53 119 P **P 01 58 53.3 +3.1**
BPAW Bear Paw Mtn. 70.58 27 P 01 58 50.9
baz=291,SNR=34
LIT Litokhoron 70.65 306 IAmb IAmb 01 58 55.6
comp=Z,21nm,1.2s
NBO00 NORSAR Array S 70.72 329 P **P 01 58 50.7 -0.1**
NBO00 IAmb IAmb 01 58 51.2
comp=Z,33nm,1.1s
NAO01 NORSAR Array S 70.73 329 IAmb IAmb 01 58 54.0
comp=Z,48nm,1.1s
SKO Skopje 70.80 308 *i* P **P 01 58 52.2 +0.6**
KTH Kantishna Hill 70.81 28 IAmb IAmb 01 58 54.7
comp=Z,44nm,1.2s
I23K Minto, Yukon-K 70.84 26 IAmb IAmb 01 58 53.4
comp=Z,46nm,1.1s
I23K Minto, Yukon-K 70.84 26 P 01 58 52.5
baz=292,SNR=27
MORC Moravsky Berou 70.85 317 ⇑P **P 01 58 52.7 +0.8**
MORC Moravsky Berou 70.85 317 *e*P **P 01 58 52.7 +0.8**
MORC Moravsky Berou 70.85 317 ⇑P **P 01 58 52.7 +0.8**
FRGS Fruska Gora 70.89 312 ⇑P **P 01 58 52.9 +0.7**
FRGS Fruska Gora 70.89 312 *e*P **P 01 58 51.4 -0.7**
SRO2 Moca 70.97 314 *e*P **P 01 58 52.7 +0.2**
SRO2 pmax pmax
comp=Z,39nm,1.5s
SRO2 Moca 70.97 314 *e*P **P 01 58 52.7 +0.2**
SRO Srobarova 71.00 315 *e*P **P 01 58 53.9 +1.2**
SRO pmax pmax
comp=Z,33nm,1.4s
SRO Srobarova 71.00 315 *e*P **P 01 58 53.9 +1.2**
JAVC Velka Javorina 71.07 316 *e*P **P 01 58 54.8 +1.6**
SPCR Spurr Chakacha 71.10 30 P 01 58 54.1
baz=291,SNR=5.4
TRF Thorofare Moun 71.11 28 IAmb IAmb 01 58 56.6
comp=Z,33nm,1.2s
TRF Thorofare Moun 71.11 28 P 01 58 53.6
baz=292
DIVS Divibare 71.11 310 *e*P **P 01 58 53.3 -0.3**
SKT Skwentna 71.11 29 P 01 58 53.4
baz=291,SNR=21
AGG Agios Georgios 71.12 305 IAmb IAmb 01 59 09.0
comp=Z,21nm,1.0s
NEA2 Nenana 71.17 26 P 01 58 54.4
baz=292,SNR=81
KSP Ksiaz 71.26 318 *e*P **P 01 58 55.3 +1.1**
MORH Mrgy, Hungar 71.31 313 ⇑P **P 01 58 54.9 +0.2**
MORH Mrgy, Hungar 71.31 313 *e*P **P 01 58 54.6 0.0**
SMOL Smolenice 71.33 315 *e*P **P 01 58 56.4 +1.6**
SMOL pmax pmax
comp=Z,23nm,1.4s
SMOL Smolenice 71.33 315 *e*P **P 01 58 56.4 +1.6**
MDM Murphy Dome 71.36 26 P **P 01 58 55.3 +0.7**
OSTC Ostas 71.40 318 *e*P **P 01 58 56.2 +1.1**
DPC Dobruska-Polom 71.40 318 *e*P **P 01 58 56.1 +0.9**
DPC Dobruska-Polom 71.40 318 *e*P **P 01 58 56.1 +0.9**
MODS Modra-Piesok 71.47 315 *e*P **P 01 58 57.0 +1.4**
MODS pmax pmax
comp=Z,56nm,1.6s
MODS Modra-Piesok 71.47 315 *e*P **P 01 58 57.0 +1.4**
CHVC Chvalec 71.48 318 *e*P **P 01 58 56.8 +1.1**
CUT Chulitna 71.51 29 IAmb IAmb 01 59 09.6
comp=Z,38nm,0.8s
OHR Ohrid 71.53 307 *i* P P 01 58 50.8 -5.3
UPC Upice 71.54 318 *e*P **P 01 58 56.9 +1.0**
UPC Upice 71.54 318 *e*P **P 01 58 56.9 +1.0**
TCOL CIGO, UAF Yank 71.54 26 P 01 58 57.0
baz=294,SNR=13
COLA College 71.54 26 P **P 01 58 56.1 +0.5**
COLA pmax pmax
comp=Z,48nm,0.9s
COLA College 71.54 26 P **P 01 58 56.1 +0.5**
COLA College 71.54 26 P 01 58 56.9
baz=294
MCK McKinley 71.56 27 P 01 58 56.1
baz=293,SNR=8.3
BBLS Lazići 71.58 310 *e*P **P 01 58 56.3 -0.1**
VRAC Vranov 71.59 316 ⇓P **P 01 58 57.4 +1.1**
VRAC Vranov 71.59 316 *e*P **P 01 58 56.7 +0.4**
VRAC Vranov 71.59 316 ⇓P **P 01 58 57.4 +1.1**
POKR Poker Plat Res 71.61 26 P 01 58 57.2
baz=294,SNR=16
WRH Wood River Hil 71.61 26 IAmb IAmb 01 58 58.8
comp=Z,52nm,1.1s
ZST Bratislava 71.64 315 *e*P **P 01 58 55.6 -1.0**
ZST Bratislava 71.64 315 *e*P **P 01 58 55.6 -1.0**
CCB Clear Creek Bu 71.65 26 IAmb IAmb 01 58 57.7
comp=Z,18nm,0.9s
SUA Susitna One 71.66 30 P 01 58 56.9
baz=292,SNR=19
KONO Kongsberg 71.76 328*ce*P **P 01 58 57.7 +0.6**
KONO pmax pmax
comp=Z,57nm,1.3s
KONO Kongsberg 71.76 328 P **P 01 58 57.5 +0.4**
KONO IAmb IAmb 01 58 59.5
comp=Z,42nm,1.1s
KRUC Moravsky 71.79 316 *e*P **P 01 58 58.1 +0.6**
HAPS Han Pijesak,Bl 71.82 311 *e*P **P 01 58 57.2 -0.7**
FYU Fort Yukon 71.83 24 IAmb IAmb 01 59 12.6
comp=Z,28nm,1.2s
ILAR Eielson Array 71.96 26 P **P 01 58 57.5 -0.7**
comp=Z,7.5nm,0.9s,baz=286,slow=5.2,SNR=43
ILAR PP **PP 02 01 35.6 -2.1**
comp=Z,3.7nm,1.1s,baz=293,slow=7.8,SNR=4.7
ILAR Eielson Array 71.96 26 P **P 01 58 57.7 -0.5**
WAT2 Susitna Watana 72.01 28 P 01 58 58.3
baz=293
OHAK Old Harbor 72.02 35 P 01 58 58.7
baz=291
HDA Harding Lake 72.09 26 P 01 58 58.3
baz=294,SNR=17
HDA P 01 58 58.3
baz=294,SNR=17
KDAK Kodiak Island 72.17 34 P **P 01 58 59.9 +0.3**
comp=Z,48nm,0.9s,baz=284,slow=4.1,SNR=18
KDAK Kodiak Island 72.17 34 P **P 01 59 00.1 +0.5**
KDAK Kodiak Island 72.17 34 P 01 58 59.8
baz=292
PRP Porcupine Dome 72.17 25 P 01 59 00.5
baz=295,SNR=71
PDG Podgorica 72.17 309 ⇑P **P 01 58 59.7 -0.2**
PDG Podgorica 72.17 309 *e*P **P 01 58 59.8 -0.1**
PDG Podgorica 72.17 309 IAmb IAmb 01 59 00.9
comp=Z,21nm,1.1s
RC01 Rabbit Creek A 72.25 30 IAmb IAmb 01 59 01.4
comp=Z,62nm,1.1s
RC01 Rabbit Creek A 72.25 30 P 01 59 00.1
baz=293,SNR=5.5
DRME Dracevica, Mon 72.31 309 *e*P **P 01 59 00.5 -0.2**
BRSE Bradley Lake S 72.32 32 P 01 59 00.1
baz=293
PMR Palmer 72.32 29 P 01 59 00.4
baz=293,SNR=13
GHO Glory Hole Cre 72.34 29 IAmb IAmb 01 59 04.0

PVCC **Panska Ves** 72.39 318 *eP* P 01 59 02.1 +1.0
PVCC **Panska Ves** 72.39 318 *eP* P 01 59 02.1 +1.0
BEHE **Becsehely** 72.44 314 *eP* P 01 59 04.4 +2.9
BRY **Bratogost** 72.51 310 *eP* P 01 59 01.6 -0.5
CONA **Conrad Observa** 72.52 315 *eP* P 01 59 02.4 +0.4
comp=Z,5.1nm,0.9s,SNR=20
WAT6 **Susitna Watana** 72.52 28 P 01 59 02.0
baz=294
SML **Sawmill** 72.58 29 P 01 59 02.5
baz=294,SNR=11
PRU **Pruhonice** 72.60 318 *eP* P 01 59 03.0 +0.7
PRU **Pruhonice** 72.60 318 *eP* P 01 59 03.0 +0.7
PRA **Prague** 72.64 318 *eP* P 01 59 04.5 +2.0
PRA **Prague** 72.64 318 *eP* P 01 59 04.5 +2.0
BRG **Berggiesshubel** 72.64 319 *eP* P 01 59 03.2 +0.7
BRG Amp 01 59 05.0
comp=Z,48nm,1.4s
BRG *ex* x 01 59 08.5
BRG Amp 01 59 10.4
comp=Z,16nm,1.2s
BRG *ex* x 01 59 21.0
BRG Amp 01 59 22.2
comp=Z,20nm,1.3s
BRG **Berggiesshubel** 72.64 319 *eP* P 01 59 02.9 +0.3
comp=Z,48nm,1.4s,baz=67,slow=5.9
TOO **Toolangi** 72.66 150 P P 01 59 02.9 +0.2
TOO pmax pmax
comp=Z,27nm,1.1s
TOO **Toolangi** 72.66 150 P P 01 59 02.9 +0.2
TOO IAmb IAmb 01 59 03.8
comp=Z,27nm,1.1s
KNK **Knik Glacier** 72.69 29 P 01 59 03.0
baz=294
SEW **Seward** 72.77 31 P P 01 59 03.2 +0.1
SEW **Seward** 72.77 31 P 01 59 03.1
baz=294
BLY **Banja Luka** 72.78 312 *eP* P 01 59 03.5 0.0
KOGS **Kog** 72.79 314 *i P* P 01 59 04.2 +0.6
MGRS **Mrkonjic Grad** 72.96 311 *eP* P 01 59 04.8 +0.2
ARSA **Arzberg** 72.97 315 *eP* P 01 59 04.6 0.0
comp=Z,2.1nm,0.4s,SNR=10.0
FBE **Freiberg** 72.97 319 *eP* P 01 59 05.2 +0.7
comp=Z,63nm,1.4s,baz=67,slow=5.9
SCM **Sheep Creek Mo** 73.00 29 IAmb IAmb 01 59 06.0
comp=Z,41nm,1.0s
CLL **Collm** 73.04 319 *eP* P 01 59 05.0 +0.1
comp=Z,44nm,1.3s
CLL **Collm** 73.04 319 *eP* P 01 59 05.0 +0.1
CLL pmax pmax
comp=Z,44nm,1.3s
CLL **Collm** 73.04 319 IAmb IAmb 01 59 06.1
comp=Z,23nm,1.1s
CLL **Collm** 73.04 319 *eP* P 01 59 05.0 +0.1
comp=Z,44nm,1.3s,baz=67,slow=5.9
PBCC **Pribram** 73.04 317 *eP* P 01 59 05.6 +0.6
CKRC **Cesky Krumlov** 73.17 316 *eP* P 01 59 07.4 +1.7
PAX **Paxson** 73.30 27 P P 01 59 06.6 +0.3
PAX pmax pmax
comp=Z,21nm,1.1s
PAX **Paxson** 73.30 27 P P 01 59 06.6 +0.3
PAX **Paxson** 73.30 27 P 01 59 06.6
baz=296,SNR=13
M24K **Tolsona, Glenn** 73.38 28 IAmb IAmb 01 59 08.5
comp=Z,44nm,0.8s
M24K **Tolsona, Glenn** 73.38 28 P 01 59 08.1
baz=296,SNR=11
SCRK **Sand Creek** 73.44 26 IAmb IAmb 01 59 08.1
comp=Z,40nm,1.1s
SCRK **Sand Creek** 73.44 26 P 01 59 07.2
baz=297,SNR=22
PERS **Pernice** 73.45 314 *i P* P 01 59 08.0 +0.4
SOKA **Soboth** 73.49 314 *eP* P 01 59 07.6 -0.2
comp=Z,6.6nm,0.5s,SNR=12
KHC **Kasperske Hory** 73.50 317 *eP* P 01 59 08.3 +0.6
KHC **Kasperske Hory** 73.50 317 *eP* P 01 59 08.3 +0.6
GEC2 **GERESS Array S** 73.53 317 *eP* P 01 59 08.4 +0.4
comp=Z,49nm,1.3s,baz=67,slow=5.9
GERES **GERESS Array B** 73.53 317 P P 01 59 08.4 +0.4
comp=Z,3.9nm,0.5s,baz=66,slow=4.5,SNR=12
CRES **Cresnjev** 73.53 313 *eP* P 01 59 08.2 +0.3
MOA **Molln** 73.55 316 *eP* P 01 59 08.2 +0.2
comp=Z,16nm,1.2s,SNR=13
DOT **Dot Lake** 73.56 26 P P 01 59 07.3 -0.5
BSEG **Bad Segeberg** 73.56 322 *eP* P 01 59 09.0 +1.1
comp=Z,63nm,1.4s,baz=67,slow=5.9
FLTG **Flechtingen** 73.67 321 *eP* P 01 59 08.7 +0.2
comp=Z,51nm,1.4s,baz=67,slow=5.9
LODK **Lodwar** 73.68 266 P P 01 59 09.6 +0.2
SNR=5.6
TANN **Tannenbergstha** 73.69 319 *eP* P 01 59 09.2 +0.3
comp=Z,45nm,1.4s,baz=67,slow=5.9
KLU **Klutina** 73.76 29 IAmb IAmb 01 59 11.2
comp=Z,37nm,1.0s
KLU **Klutina** 73.76 29 P 01 59 09.7
baz=296,SNR=9.8
NKC **Novy Kostel** 73.77 318 *eP* P 01 59 10.0 +0.8
NKC **Novy Kostel** 73.77 318 *eP* P 01 59 10.0 +0.8
WERD **Werda** 73.77 319 *eP* P 01 59 09.7 +0.4
comp=Z,20nm,1.3s,baz=67,slow=5.9
GUNZ **Gunzen** 73.79 318 *eP* P 01 59 09.9 +0.5
comp=Z,59nm,1.4s,baz=67,slow=5.9
WERN **Wernitzgruen** 73.79 318 *eP* P 01 59 09.6 +0.3
comp=Z,43nm,1.3s,baz=67,slow=5.9
NEUB **Neuenburg** 73.79 319 *eP* P 01 59 09.9 +0.6
comp=Z,74nm,1.4s,baz=67,slow=5.9
PLN **Plauen** 73.84 319 *eP* P 01 59 10.1 +0.4
comp=Z,48nm,1.5s,baz=67,slow=5.9
OBKA **Obir** 73.87 314 *eP* P 01 59 10.4 +0.4
comp=Z,2.2nm,0.7s,SNR=6.7
DBG **Daneborg** 73.89 347 *i P* P 01 59 10.4 +0.9
WET **Wettzell** 73.92 317 *eP* P 01 59 10.6 +0.4
comp=Z,40nm,1.4s,baz=67,slow=5.9
DZM **Mont Dzumac** 73.94 125 P P 01 59 12.0 +1.4
comp=Z,61nm,1.1s,baz=358,slow=6.1,SNR=10
DZM **Mont Dzumac** 73.94 125 P P 01 59 12.7 +2.1
VISS **Visnje** 73.94 313 *eP* P 01 59 10.8 +0.5
KIBK **Kibwezi** 73.96 259 P P 01 59 11.2 +0.2
SNR=12
MANZ **Manzenberg** 74.06 318 *eP* P 01 59 12.1 +1.1
comp=Z,42nm,1.3s,baz=67,slow=5.9
KMBO **Kilima Mbogo** 74.08 260 P P 01 59 12.2 +0.3
comp=Z,18nm,1.1s,baz=48,slow=8.5,SNR=39
KMBO **Kilima Mbogo** 74.08 260 *ceP* P 01 59 12.6 +0.7
KMBO pmax pmax
comp=Z,18nm,1.1s
ROTZ **Rotzenmuhle** 74.09 318 *eP* P 01 59 12.2 +1.1
comp=Z,83nm,1.4s,baz=67,slow=5.9
MOX **Moxa** 74.10 319 *eP* P 01 59 11.5 +0.3
comp=Z,33nm,1.4s,baz=67,slow=5.9
MOX *eL* L 02 32 58.3
comp=Z,7μm,19.1s
EGAK **Eagle** 74.15 25 IAmb IAmb 01 59 12.8
comp=Z,23nm,1.1s
EGAK **Eagle** 74.15 25 P 01 59 11.4
baz=299,SNR=14
K27K **Chickna** 74.16 26 P 01 59 12.3
baz=299
CEY **Cerknica** 74.23 313 *eP* P 01 59 12.2 +0.1
NRDL **Niedersach Rie** 74.24 321 *eP* P 01 59 13.2 +1.4
comp=Z,80nm,1.5s,baz=67,slow=5.9
EYAK **Cordova Ski Ar** 74.25 30 P 01 59 13.0
baz=296
YATNC **Mamie plateau,** 74.25 125 P P 01 59 15.4 +3.0
N25K **Chitina, Valde** 74.27 28 P P 01 59 12.8 +0.7
N25K **Chitina, Valde** 74.28 28 P 01 59 13.2
baz=297,SNR=8.5
CLZ **Clausthal** 74.35 320 *eP* P 01 59 13.8 +1.2
comp=Z,84nm,1.5s,baz=67,slow=5.9
KBA **Koelnbreinsper** 74.42 315 *eP* P 01 59 13.2 -0.1
comp=Z,12nm,1.1s
RJOB **Jochberg** 74.51 316 *eP* P 01 59 14.4 +0.7
comp=Z,196nm,1.6s,baz=67,slow=5.9
BMRM **Brenner River** 74.56 29 P 01 59 14.2
baz=297,SNR=7.8
TRI **Trieste** 74.67 314 IAmb IAmb 01 59 21.8
comp=Z,22nm,1.0s
GLB **Gilahina Butte** 74.69 28 IAmb IAmb 01 59 16.2
comp=Z,65nm,1.1s
GTTG **Gottingen** 74.70 320 *eP* P 01 59 15.7 +1.1
comp=Z,43nm,1.2s,baz=67,slow=5.9
GRA1 **Grafenberg Arr** 74.71 318 IAmb IAmb 01 59 25.6
comp=Z,30nm,1.0s
GRF **Grafenberg Arr** 74.71 318 *eP* P 01 59 15.8 +1.1
comp=Z,128nm,1.5s,baz=67,slow=5.9
GRF *eL* L 02 39 31.2
comp=Z,7μm,18.8s
GRFO **Grafenberg** 74.71 318 P P 01 59 16.3 +1.6
GRFO pmax pmax
comp=Z,28nm,0.9s
GRFO **Grafenberg** 74.71 318 P P 01 59 16.3 +1.6
GRFO IAmb IAmb 01 59 25.5
comp=Z,28nm,0.9s
L27K **Beaver Creek,** 74.73 26 P 01 59 16.0
baz=299
INK **Inuvik** 74.86 20 P P 01 59 15.2 0.0
comp=Z,32nm,1.2s,baz=304,slow=7.4,SNR=42
INK **Inuvik** 74.86 20 IAmb IAmb 01 59 19.6
comp=Z,22nm,1.0s
EPYK **Eagle Plains** 74.91 22 IAmb IAmb 01 59 16.8
comp=Z,40nm,1.1s
EPYK **Eagle Plains** 74.92 22 P 01 59 15.4
baz=303
MCARA **McCarthy VSAT** 75.05 28 P 01 59 17.6
baz=298
ABPO **Ambohimpanom** 75.06 239 P P 01 59 16.6 -0.7
ABPO pmax pmax
comp=Z,12nm,1.2s
ABPO **Ambohimpanom** 75.06 239 P P 01 59 16.6 -0.7
ABTA **Abfaltersbach** 75.07 315 *eP* P 01 59 16.7 -0.2
comp=Z,1.5nm,0.5s,SNR=5.8
DAWY **Dawson** 75.17 25 IAmb IAmb 01 59 18.9
comp=Z,45nm,1.0s
FUR **Furstenfeldbru** 75.28 317 *eP* P 01 59 19.1 +1.0
comp=Z,141nm,1.4s,baz=67,slow=5.9
WTTA **Wattenberg** 75.42 316 *eP* P 01 59 18.9 -0.1
comp=Z,6.1nm,0.6s,SNR=10
WATA **Walderalm** 75.43 316 *eP* P 01 59 18.7 -0.4
comp=Z,0.7nm,0.2s,SNR=11
SQTA **Sankt Quirin** 75.70 316 *eP* P 01 59 20.2 -0.5
comp=Z,7.7nm,0.5s,SNR=12
MOTA **Moosalm** 75.72 316 *eP* P 01 59 20.2 -0.5
comp=Z,6.7nm,0.7s,SNR=10
BARN **Barnard Glacie** 75.78 28 P P 01 59 22.3 +1.4
BARN IAmb IAmb 01 59 23.7
comp=Z,37nm,1.0s
RETA **Reutte** 75.87 316 *eP* P 01 59 22.3 +0.7
comp=Z,18nm,1.6s
CTG **Chitna Glacier** 75.97 28 P 01 59 23.3
baz=300
FETA **Feichten** 76.08 316 *i P* P 01 59 22.8 -0.1
comp=Z,14nm,1.3s,SNR=16
TEOL **Teolo** 76.16 314 IAmb IAmb 01 59 27.8
comp=Z,30nm,1.0s
LOGN **Logan Glacier** 76.18 28 IAmb IAmb 01 59 26.6
comp=Z,48nm,1.2s
UBR **Ueberruh** 76.20 317 *eP* P 01 59 23.8 +0.5
comp=Z,62nm,1.6s,baz=67,slow=5.9
NRCA **Norcia** 76.23 311 IAmb IAmb 01 59 31.8
comp=Z,22nm,1.1s
BUG **Bochum--Univer** 76.28 321 *eP* P 01 59 24.3 +0.7
comp=Z,70nm,1.4s,baz=67,slow=5.9
STU **Stuttgart** 76.30 318 P P 01 59 24.5 +0.7
STU pmax pmax
comp=Z,18nm,0.7s
STU **Stuttgart** 76.30 318 P P 01 59 24.5 +0.7
STU IAmb IAmb 01 59 25.4
comp=Z,18nm,0.7s
AHRW **Bad Neuenahr-A** 76.78 320 *eP* P 01 59 27.7 +1.2
comp=Z,63nm,1.3s,baz=67,slow=5.9
PINM **Pinnacle** 76.87 29 P 01 59 28.5
baz=307
C36M **Paulatuk** 76.88 17 IAmb IAmb 01 59 27.8
comp=Z,52nm,1.1s
C36M **Paulatuk** 76.88 17 P 01 59 26.3
baz=313
TULEG **Thule** 76.95 359 *i P* P 01 59 27.8 +0.7
TULEG IAmb IAmb 01 59 28.5
comp=Z,65nm,1.2s
BFO **Black Forest** 77.00 318 P P 01 59 28.1 +0.2
BFO pmax pmax
comp=Z,13nm,1.1s
BFO **Black Forest** 77.00 318 P P 01 59 28.1 +0.2
BFO **Black Forest** 77.00 318 *eP* P 01 59 28.0 +0.2
comp=Z,35nm,1.4s,baz=67,slow=5.9
ZCCA **Zocca** 77.03 313 IAmb IAmb 01 59 43.5
comp=Z,40nm,1.0s
TUE **Stuetta** 77.18 316 IAmb IAmb 01 59 33.2
comp=Z,22nm,1.1s
BSTI **Sart Tilman** 77.62 321 *dP* P 01 59 29.9 -1.3
HYT **Haines Junctio** 77.64 27 P P 01 59 31.9 +0.6
RES **Resolute Bay** 77.65 6 P P 01 59 31.7 +0.7
comp=Z,66nm,1.0s,baz=348,slow=5.3,SNR=30
RES **Relute Bay** 77.65 6 IAmb IAmb 01 59 33.1
comp=Z,33nm,1.1s
WLF **Walferdange** 77.70 320 *dP* P 01 59 32.4 +0.7
comp=Z,43nm,1.3s
WLF **Walferdange** 77.70 320 IAmb IAmb 01 59 35.3
comp=Z,60nm,1.1s
WLF **Walferdange** 77.70 320 *eP* P 01 59 32.8 +1.1
comp=Z,86nm,1.3s,baz=67,slow=5.9
BCLA **Clavier** 77.85 320 *dP* P 01 59 31.9 -0.6
comp=Z,32nm,1.5s
BMRD **Maredsous** 78.21 321 *dP* P 01 59 34.5 0.0
comp=Z,26nm,2.0s
DOU **Dourbes** 78.40 320 *dP* P 01 59 35.7 +0.2
comp=Z,14nm,1.6s
SUMG **Summit** 78.45 350 *i P* P 01 59 37.0 +1.1
comp=Z,99nm,1.1s
SUMG **Summit** 78.45 350 *i P* P 01 59 37.1 +1.1
SUMG **Summit** 78.45 350 *i P* P 01 59 37.1 +1.1
SUMG IAmb IAmb 01 59 38.1
comp=Z,99nm,1.1s
KULLO **Kullorsuaq** 78.52 356 *i P* P 01 59 37.0 +1.3
KULLO **Kullorsuaq** 78.52 356 *i P* P 01 59 37.0 +1.3
KULLO **Kullorsuaq** 78.52 356 IAmb IAmb 01 59 37.0
comp=Z,84nm,1.2s
KULLO *i P* P 01 59 37.1 +1.3
SKAG **Skagway** 79.31 28 P 01 59 41.9
baz=305
BNI **Bardonecchia** 79.48 315 IAmb IAmb 01 59 51.5
comp=Z,28nm,1.1s
MBAR **Mbarara** 79.61 264 *ceP* P 01 59 43.8 +0.7
MBAR pmax pmax
comp=Z,20nm,1.0s
MBAR **Mbarara** 79.61 264 P P 01 59 43.4 +0.3
MBAR **Mbarara** 79.61 264 P P 01 59 43.6 +0.6
BESE **Bessie Mountai** 80.02 28 IAmb IAmb 01 59 47.0
comp=Z,44nm,1.0s
MSVF **Nonsavu** 80.42 115 P P 01 59 48.0 +0.9
comp=Z,16nm,0.9s,baz=201,slow=2.6,SNR=6.3
MSVF **Nonsavu** 80.42 115 P P 01 59 48.9 +1.8
MSVF IAmb IAmb 01 59 50.4
comp=Z,30nm,1.4s
NUUG **Nuugaatsiaq** 81.18 354 *i P* P 01 59 50.6 +0.3
NUUG IAmb IAmb 01 59 51.3
comp=Z,29nm,1.1s
WRAK **Wrangell Islan** 82.39 29 IAmb IAmb 01 59 58.9
comp=Z,29nm,1.0s
WRAK **Wrangell Islan** 82.40 29 P 01 59 58.0
baz=308
YKA **Yellowknife Ar** 84.56 19 P P 02 00 07.7 -0.2
comp=Z,9.6nm,0.6s,baz=327,slow=4.6,SNR=208
YKA PP PP 02 03 21.7 -1.1
comp=Z,4.8nm,1.0s,baz=332,slow=7.3,SNR=9.8
YKA **Yellowknife Ar** 84.56 19 *ceP* P 02 00 07.4 -0.5
YKA pmax pmax
comp=Z,10.0nm,0.6s
SFJD **Kangerlussuaq** 85.27 352 *i P* P 02 00 12.1 +0.8
comp=Z,54nm,1.2s
SFJD **Kangerlussuaq** 85.27 352 P P 02 00 11.2 -0.2
SFJD pmax pmax
comp=Z,63nm,1.1s
SFJD **Kangerlussuaq** 85.27 352 P P 02 00 11.2 -0.2
SFJD **Kangerlussuaq** 85.27 352 *i P* P 02 00 12.2 +0.8
SFJD IAmb IAmb 02 00 12.8
comp=Z,54nm,1.2s
ESDC **Sonseca Array** 88.99 315 P P 02 00 30.4 +0.3
comp=Z,4.0nm,1.1s,baz=33,slow=5.8,SNR=10
ESDC PP PP 02 04 00.2 +0.9
comp=Z,1.3nm,0.8s,baz=54,slow=7.9,SNR=5.4
B05A **Bryant** 92.51 31 P 02 00 47.2
baz=316
FCC **Fort Churchill** 92.71 12 P P 02 00 46.3 -0.6
FCC pmax pmax
comp=Z,18nm,1.2s
FCC **Fort Churchill** 92.71 12 P P 02 00 46.3 -0.6
FCC IAmb IAmb 02 00 47.8
comp=Z,18nm,1.1s
E04D **Cinebar** 93.52 33 P 02 00 53.0
baz=316
C09A **Chrisman Ranch** 94.59 30 IAmb IAmb 02 00 57.3
comp=Z,9.4nm,0.9s
FFC **Flin Flon** 94.65 17 P P 02 00 55.3 -0.6
FFC pmax pmax
comp=Z,17nm,1.0s
FFC **Flin Flon** 94.65 17 P P 02 00 55.3 -0.6
FFC IAmb IAmb 02 00 56.5
comp=Z,16nm,1.0s
NEW **Newport** 94.74 29 P P 02 00 57.3 +0.8
comp=Z,3.9nm,1.0s,baz=297,slow=4.4,SNR=4.7
NEW **Newport** 94.74 29 P 02 00 57.5
baz=320
TORD **Torodi Ar. Bea** 98.92 290 PP PP 02 05 19.0 +1.3
comp=Z,2.6nm,0.9s,baz=51,slow=7.1,SNR=4.9
HLID **Hailey** 99.58 30 P 02 01 19.7
baz=322
SYO **Syowa Base** 107.65 201 *i* Pdiff Pdif 02 01 52.6 -0.8
TXAR **Lajitas Array** 116.14 31 PKP PKiKP 02 06 17.9 -1.0
comp=Z,0.5nm,0.6s,baz=191,slow=1.6,SNR=4.0
TXAR PKKPbc PKKPbc 02 16 47.8 -0.9
comp=Z,1.0nm,1.1s,baz=130,slow=5.1,SNR=5.2
SNAA **Sanae** 121.93 200 PKPdf PKPdf 02 06 27.8 -0.7
SNAA **Sanae** 121.93 200 *c i* PKIKP PKiKP 02 06 29.3 +0.6
SNAA pmax pmax
comp=Z,5.0nm,1.3s
VNA2 **Neumayer--Watz** 123.54 201 PKPdf PKPdf 02 06 31.0 -0.6
VNA1 **Neumayer--Stat** 123.89 201 PKPdf PKPdf 02 06 31.9 -0.3
VNA3 **Neumayer Olymp** 124.16 200 PKPdf PKPdf 02 06 32.1 -0.6
BELA **Belgrano 2** 126.11 189 PKPdf PKPdf 02 06 35.5 -0.8
NBPV **Pedro Velho** 140.31 294 *eP* PKPdf 02 07 05.5 +0.7
RCBR **Riachuelo** 140.47 295 *eP* PKPdf 02 07 06.1 +0.9
NBPA **Parau_RN** 141.40 297 *eP* PKPdf 02 07 07.3 +0.6
NBCL **Cascavel-CE** 141.40 300 *eP* PKPdf 02 07 07.3 +0.6
PMSA **Palmer Station** 141.69 185 *eP* PKPdf 02 07 06.8 +1.1
NBMO **Morrinhos-CE** 142.15 303 *eP* PKPdf 02 07 08.2 +0.1
NBLI **Livramento-PB** 142.20 294 *eP* PKPdf 02 07 08.9 +0.6
NBMA **Muriti-CE** 143.67 296 *eP* PKPdf 02 07 11.5 +0.7
NBPS **Pedro II - PI** 143.92 303 *eP* PKPdf 02 07 11.2 -0.1
SDV **Santo Domingo** 144.58 359 PKPdf PKPab 02 07 10.4 -0.7
SDV **Santo Domingo** 144.58 359 *eP* PKPab 02 07 10.7 -0.3
ROSB **Rosrio** 144.86 308 *eP* PKPab 02 07 08.9 -3.0
NBLA **Lagarto - SE** 144.86 290 *eP* PKPbc 02 07 12.2 +0.2
NBPN **Ponto Novo - B** 146.79 293 *eP* PKPdf 02 07 16.7 +0.5
TMAB **Tom-Au,PA,Br** 147.16 314 *eP* PKPdf 02 07 17.7 +0.9
MCPB **Macapa, AP** 147.95 322 *eP* PKPdf 02 07 18.7 +0.6
NBIT **Itapeh - BA** 148.16 285 *eP* PKPdf 02 07 19.1 +0.8
ROSC **El Rosal** 148.46 6 PKPbc PKPbc 02 07 23.5 +0.6
comp=Z,107nm,1.1s,baz=52,slow=3.8,SNR=22
ROSC **El Rosal** 148.46 6 PKP2 PKPdf 02 07 20.2 +0.7
ROSC **El Rosal** 148.46 6 PKPdf PKPdf 02 07 20.1 +0.7
BOAV **Boa Vista** 149.25 339 *eP* PKPdf 02 07 20.6 +0.3
MALB **Monte Alegre** 150.39 324 *eP* PKPdf 02 07 22.6 +0.6
PRPB **Parauapebas** 151.13 311 *eP* PKPdf 02 07 24.1 +0.9
SJMB **Sao Joao De Ma** 151.24 280 *eP* PKPdf 02 07 24.3 +1.1
SMTB **Santa Maria do** 151.43 304 *eP* PKPdf 02 07 24.9 +1.3
SDBA **SAO DESIDERIO** 151.50 295 *eP* PKPdf 02 07 24.3 +0.5
PTGA **Pitinga** 151.97 336 PKPbc PKPbc 02 07 30.7 -0.3
comp=Z,11nm,0.8s,baz=42,slow=3.4,SNR=16
PTGA **Pitinga** 151.97 336 PKPbc 02 07 29.7 -1.3
PTGA **Pitinga** 151.97 336 *eP* PKPdf 02 07 24.9 +0.4
OTAV **Otavalo** 152.28 16 PKIKP PKPdf 02 07 26.0 +0.5
OTAV 02 07 32.1
OTAV 02 07 42.7
OTAV **Otavalo** 152.28 16 PKPdf PKPdf 02 07 26.0 +0.5
OTAV PKPbc PKPbc 02 07 32.0 -0.2
OTAV PKPab PKPab 02 07 42.7 +0.7
OTAV **Otavalo** 152.28 16 *eP* PKPdf 02 07 25.7 +0.2
JANB **Januaria** 152.39 290 *eP* PKPdf 02 07 25.3 +0.3
DIAM **Diamantina, MG** 153.26 283 *eP* PKPdf 02 07 26.8 +0.4
ITTB **Itaituba** 153.28 324 *eP* PKPdf 02 07 27.4 +1.0
BSCB **Bom Sucesso** 155.19 278 *eP* PKPdf 02 07 29.2 +0.3
NPGB **Novo Progresso** 155.29 320 *eP* PKPdf 02 07 29.4 +0.2
BDFB **Brasilia** 155.77 292 PKPab PKPab 02 07 54.6 -1.8
comp=Z,8.6nm,1.1s,baz=99,slow=5.7,SNR=5.3
BDFB **Brasilia** 155.77 292 PKP2 PKPab 02 07 54.2 -2.2
BDFB **Brasilia** 155.77 292 PKPab 02 07 54.2 -2.2
SNDB **Serra Nova Dou** 156.21 304 *eP* PKPdf 02 07 31.2 +0.8
PARB **Paraibuna** 156.59 273 *eP* PKPdf 02 07 31.4 +0.6
IPMB **Ipameri, GO** 157.05 288 *eP* PKPdf 02 07 32.2 +0.8
SPB **Sao Paulo** 158.27 273 *eP* PKPdf 02 07 33.6 +0.9
BB19B **Bebedouro** 158.53 280 *eP* PKPdf 02 07 33.6 +0.5
ARAG **Araguaiana, MT** 158.88 297 *eP* PKPdf 02 07 34.3 +0.6
FRTB **Fartura** 160.11 275 *eP* PKPdf 02 07 35.5 +0.5
SAML **Samuel** 160.74 335 *eP* PKPdf 02 07 36.3 +0.5
PCMB **Pacaembu** 161.11 281 *eP* PKPdf 02 07 36.7 +0.7
ETMB **Extrema** 162.52 343 *eP* PKPdf 02 07 38.4 +0.7
VILB **Vilhena** 162.83 321 *eP* PKPdf 02 07 38.4 +0.4
ITAB **Concordia** 163.00 264 *eP* PKPdf 02 07 38.8 +1.0
PLTB **Pedras Altas** 163.85 248 *eP* PKPdf 02 07 38.8 +0.3
CPSB **Cacapava Do Su** 163.98 253 *eP* PKPdf 02 07 39.6 +1.0
PTLB **Pontes e Lacer** 164.11 313 *eP* PKPdf 02 07 38.5 -0.6
AQDB **Aquidauana** 164.49 290 *eP* PKPdf 02 07 39.1 -0.2
SIV **San Ignacio** 165.75 317 PKP PKPdf 02 07 40.3 -0.3
comp=Z,3.4nm,1.0s,baz=36,slow=0.5,SNR=12
SIV PKPab PKPab 02 08 39.1 -0.6
comp=Z,4.6nm,1.0s,baz=88,slow=5.8,SNR=7.8
PLCA **Paso Flores** 166.04 182 PKPab PKPab 02 08 40.2 -0.1
comp=Z,9.9nm,1.1s,baz=178,slow=3.8,SNR=5.2
PLCA **Paso Flores** 166.04 182 pmax pmax
comp=Z,3.0nm,0.9s
PLCA **Paso Flores** 166.04 182 *eP* PKPdf 02 07 40.8 +0.7
ITQB **Itaqui** 166.82 254 *eP* PKPdf 02 07 41.7 +0.7
CPUP **Villa Florida** 167.57 269 PKPab PKPab 02 08 47.1 -0.5
comp=Z,2.9nm,0.9s,baz=139,slow=6.4,SNR=4.7
CPUP **Villa Florida** 167.57 269 PKP2 PKPab 02 08 46.6 -1.1
CPUP **Villa Florida** 167.57 269 PKPab 02 08 46.6 -1.1
CPUP **Villa Florida** 167.57 269 *eP* PKPdf 02 07 42.9 +1.2
LPAZ **La Paz** 169.21 344 PKP PKPdf 02 07 44.0 +0.2
comp=Z,3.2nm,0.9s,baz=24,slow=6.0,SNR=8.7
LPAZ PKPab PKPab 02 08 54.6 -0.9
comp=Z,2.7nm,1.0s,baz=7.4,slow=6.4,SNR=4.2
LPAZ **La Paz** 169.21 344 PKIKP PKPdf 02 07 43.7 -0.1
LPAZ 02 08 54.3
LPAZ **La Paz** 169.21 344 PKPdf 02 07 43.7 -0.1
LPAZ PKPab 02 08 54.3 -1.2
LPAZ **La Paz** 169.21 344 *eP* PKPdf 02 07 44.1 +0.4
LVC **Limon Verde** 175.39 333 PKPab PKPab 02 09 22.3 -0.2
comp=Z,5.8nm,1.0s,baz=62,slow=6.6,SNR=5.2
LVC **Limon Verde** 175.39 333 *eP* PKPdf 02 07 46.2 +0.1

*MAN **30** 01:47:47.9, 10°.06N×124°.21E, h11km, mb5.6, ML4.6, MS4.9*
MAN INTENSITY V - SAN MIGUEL AND SAGBAYAN.
*DJA **30** 01:47:48.1±0.5, 10°.N±3°×12°.5E±°, h31km±4km, M5.6/33, mB6.2/7, mb4.8/33, MLv5.7/1, Mw(mB)5.9/7*
*NEIC **30** 01:47:48.9±2.5, 10°.03N±0°.08×124°.23E±0°.09, h10km±1km, mb4.9/36, Error ellipse: s-maj=14.9km s-min=12.3km az=66.0*
*IDC **30** 01:48:01.5±2.7, 9°.91N×124°.20E, h125km±26km, mb4.1/17, mb1 4.2/21, mb1mx4.0/60, mbtmp4.6/21, Error ellipse: s-maj=27.2km s-min=10.1km az=79.0*
ISC 30 01:47:48.3±0.9, **10°.04N**±0°.03×**124°.20E**±0°.03, **h7**km±6km, **n140**, σ1**s59**/152, **mb4.8**/39, **1C-7D, Leyte**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
LLP	**Lapu-Lapu**	0.36	320	‖ *eP*		**Pg**	01 47 55.5	+0.1
LLP				*eS*		**Sg**	01 48 00.7	+0.5
MSLP	**Maasin**	0.66	81	*eP*		**Pg**	01 48 00.6	-0.3
MSLP				*eS*		**Sb**	01 48 11.5	+0.1
MSLP	**Maasin**	0.66	81	*eP*		**Pg**	01 48 00.6	-0.3
MSLP				*eS*		**Sb**	01 48 10.9	-0.5
OCLP	**Ormoc**	1.09	22	*eP*		**Pg**	01 48 07.5	-1.7
OCLP				*eS*		**Sb**	01 48 24.2	+0.4
OCLP	**Ormoc**	1.09	22	*eP*		**Pg**	01 48 07.5	-1.7
OCLP				*eS*		**Sn**	01 48 26.1	+0.8
CNOP	**Candoni, Negro**	1.55	262	*eP*		**Pn**	01 48 14.8	-1.6
CNOP				*eS*		**Sn**	01 48 34.6	-2.2
CNOP	**Candoni, Negro**	1.55	262	*eP*		**Pn**	01 48 14.8	-1.6
CNOP				*eS*		**Sn**	01 48 35.8	-1.0
CGP	**Cagayan de Oro**	1.64	163	⇑ *iP*		**Pn**	01 48 17.2	-0.4
CGP				*i S*		**Sn**	01 48 38.4	-0.7
GUIM	**Jordan**	1.69	290	*eP*		**Pn**	01 48 16.7	-1.6
GUIM				*eS*		**Sb**	01 48 41.2	-0.1
GUIM	**Jordan**	1.69	290	*eP*		**Pn**	01 48 16.7	-1.6
GUIM				*eS*		**Sn**	01 48 40.0	-0.2
BUTP	**Butuan**	1.76	127	*eP*		**Pn**	01 48 18.5	-0.7
BUTP				*eS*		**Sg**	01 48 44.6	-0.3
BUTP	**Butuan**	1.76	127	*eP*		**Pn**	01 48 18.7	-0.5
BUTP				*eS*		**Sg**	01 48 45.6	+0.7
GLSP	**General Luna,**	1.91	97	*eP*		**Pn**	01 48 19.4	-2.0
RCP	**Roxas**	2.08	317	‖ *iP*		**Pg**	01 48 28.4	+0.1

RCP			*i* S		**Sn**	01 48 50.7	**+0.8**
BUKP	**Musuan**	**2.31 158**	*e*P		**Pn**	01 48 26.4	**-0.4**
BUKP			*e*S		**Sn**	01 48 56.9	**+1.4**
BUKP	**Musuan**	**2.31 158**	*e*P		**Pn**	01 48 26.8	**0.0**
BUKP			*e*S		**Sb**	01 48 58.0	**-1.0**
PAGZ	**Pagadian**	**2.32 200**	*e*P		**Pn**	01 48 25.4	**-1.5**
PAGZ			*e*S		**Sn**	01 48 56.0	**+0.3**
PAGZ	**Pagadian**	**2.32 200**	*e*P		**Pn**	01 48 25.5	**-1.5**
PAGZ			*e*S		**Sn**	01 48 56.4	**+0.6**
JAP	**San Jose, Anti**	**2.33 288**	⫴*e*P		**Sn**	01 48 49.0	**-7.0**
KCP	**Kidapawan**	**3.13 164**	⫴*e*P		**Pn**	01 48 41.0	**+2.8**
CUYO	**Cuyo Island**	**3.23 285**	*e*P		**Pn**	01 48 38.9	**-0.7**
SKMP	**Bagumbayan, Su**	**3.51 174**	*e*P		**Pn**	01 48 42.0	**-1.3**
SKMP	**Bagumbayan, Su**	**3.51 174**	*e*P		**Pn**	01 48 42.5	**-0.9**
MATI	**Mati**	**3.68 146**	*e*P		**Pn**	01 48 46.0	**+0.3**
ZCP	**Zamboanga City**	**3.73 214**	⫴*i*P		**Pn**	01 48 48.3	**+1.9**
ZCP			*i* S		**Sn**	01 49 34.0	**+3.3**
SJMP	**San Jose**	**3.87 309**	*e*P		**Pn**	01 48 48.8	**+0.6**
BOAC	**Boac**	**4.11 326**	*e*P		**Pn**	01 48 53.3	**+1.7**
BOAC			*e*S		**Sn**	01 49 37.2	**-2.8**
DDMP	**Don Marcelino,**	**4.18 159**	*e*P		**Pn**	01 48 53.6	**+1.0**
DDMP	**Don Marcelino,**	**4.18 159**	*e*P		**Pn**	01 48 53.7	**+1.1**
BUSP	**Coron**	**4.39 297**	*e*P		**Pn**	01 48 55.5	**0.0**
JCNP	**Jose Panganiba**	**4.48 341**	*e*P		**Pn**	01 48 56.4	**-0.3**
LQP	**Lukban**	**4.82 328**	⫴*e*P		**Pn**	01 49 02.9	**+1.4**
LQP			*i* S		**Sb**	01 50 13.9	**+2.4**
ENPP	**El Nido**	**4.84 284**	*e*P		**Pn**	01 49 00.5	**-1.1**
TGY	**Tagaytay City**	**5.15 322**	P		**Pb**	01 49 18.7	**-0.1**
	48nm,0.3s,baz=196,slow=5.6,SNR=4.1						
BALP	**Baler**	**6.22 336**	*e*P		**Pn**	01 49 22.3	**+1.7**
MYLDM	**Lahad Datu**	**7.43 230**			**Pn**	01 49 38.7	**+1.5**
APYP	**Conner**	**8.29 340**	*e*P		**Pn**	01 49 46.6	**-2.4**
KKM	**Kota Kinabalu**	**8.85 244**			**Pn**	01 49 57.8	**+1.0**
GTOI	**Gorontalo**	**9.41 187**	P		**Pn**	01 50 04.8	**+0.3**
	16nm,0.8s						
TOLI2	**Tolitoli**	**9.49 201**			**Pn**	01 50 07.3	**+1.7**
TNTI	**Ternate**	**9.73 161**	Pn		**Pn**	01 50 08.9	**+0.1**
LUWI	**Luwuk**	**11.10 187**	P		**Pn**	01 50 31.4	**+3.8**
	130nm,0.8s						
SANI	**Sanana**	**12.14 171**	P		**Pn**	01 50 40.5	**-1.3**
	27nm,1.0s						
NLAI	**Namlea**	**13.50 168**	P		**Pn**	01 50 58.6	**-1.8**
	16nm,0.9s						
TTSI	**Tana Toraja**	**13.71 199**	P		**Pn**	01 51 06.6	**+3.3**
	49nm,0.8s						
SBUM	**Sibu**	**14.09 238**			**Pn**	01 51 09.6	**+1.1**
SPSI	**Sidrap Palu**	**14.59 198**	P		**P**	01 51 19.1	**-2.8**
	30nm,0.9s						
BNSI	**Bone**	**14.91 196**	P		**Pn**	01 51 21.8	**+2.1**
	4µm24nm,1.0s						
BNSI			pP		**P**	01 51 28.7	**+3.2**
	4µm24nm,1.0s						
FAKI	**Fak Fak**	**15.16 148**	Pn		**Pn**	01 51 22.9	**-0.2**
FAKI	**Fak Fak**	**15.16 148**	P		**Pn**	01 51 20.1	**-3.0**
	18nm,0.8s						
FAKI			pP		**pP**	01 51 29.6	**-0.7**
	18nm,0.8s						
KAPI	**Kappang**	**15.59 197**	P		**P**	01 51 32.9	**-0.2**
	2.8nm,0.3s,baz=73,slow=11,SNR=5.3						
KAPI	**Kappang**	**15.59 197**	Pn		**Pn**	01 51 27.4	**-1.3**
JOW	**Kunigami**	**17.14 12**	P		**P**	01 51 54.8	**+4.5**
	1.2nm,0.3s,baz=202,slow=9.2,SNR=5.1						
JOW	**Kunigami**	**17.14 12**	P		**P**	01 51 51.4	**+1.1**
JOW			IAmb		IAmb	01 51 58.2	
	comp=Z,128nm,1.1s						
MMRI	**Maumere**	**18.65 186**	P		**Pn**	01 52 09.3	**+2.1**
MMRI			IAmb		IAmb	01 52 12.6	
	comp=Z,35nm,0.8s						
EDFI	**Ende, Flores**	**18.83 188**	P		**Pn**	01 52 11.9	**+2.4**
	comp=Z,13nm,0.8s						
SAUI	**Saumlaki**	**19.25 158**	P		**Pn**	01 52 13.9	**-0.5**
SOEI	**Soe**	**19.66 180**	P		**P**	01 52 18.6	**+0.4**
SOEI			IAmb		IAmb	01 52 29.0	
	comp=Z,38nm,0.7s						
SOEI	**Soe**	**19.66 180**	P		**P**	01 52 16.8	**-1.3**
	comp=Z,60nm,1.5s						
KMMI	**Kalianget**	**19.80 211**	P		**Pn**	01 52 22.8	**+1.8**
	comp=Z,100nm,1.5s						
PLAI	**Plampang**	**19.80 199**	P		**P**	01 52 19.8	**+0.3**
	comp=Z,39nm,1.0s						
TWSI	**Taliwang, Sumb**	**20.02 202**	P		Pn	01 52 23.4	-0.3
	comp=Z,31nm,1.3s						
SRBI	**Singaraja**	**20.10 207**	P		Pn	01 52 24.2	-0.4
	comp=Z,32nm,0.7s						
BATI	**Baumata**	**20.12 182**	P		Pn	01 52 24.9	+0.1
	comp=Z,12nm,0.3s,baz=61,slow=1.5,SNR=12						
BATI	**Baumata**	**20.12 182**	P		Pn	01 52 23.9	-0.9
	comp=Z,2µmcomp=Z,81nm,0.9s						
ABJI	**Asem Bagus**	**20.30 210**	P		Pn	01 52 26.7	-0.3
	comp=Z,55nm,1.5s						
JAGI	**Jajag, Banyuwa**	**20.93 209**	P		Pn	01 52 33.8	-0.6
JAGI			IAmb		IAmb	01 52 35.9	
	comp=Z,107nm,1.2s						
JAGI	**Jajag, Banyuwa**	**20.93 209**	P		Pn	01 52 34.2	-0.1
	comp=Z,77nm,1.5s						
PPBI	**Pangkal Pinang**	**21.69 237**	P		**P**	01 52 40.9	**+0.9**
	comp=Z,10µmcomp=Z,40nm,1.0s						
SMRI	**Semarang**	**21.82 219**	P		**P**	01 52 38.6	**-2.8**
SMRI			IAmb		IAmb	01 52 46.5	
	comp=Z,52nm,1.1s						
UGM	**Wanagama**	**22.44 218**	P		**P**	01 52 50.4	**+2.3**
UGM			IAmb		IAmb	01 52 50.7	
	comp=Z,64nm,1.1s						
NJ2	**Nanjing**	**22.46 348**	*e*P		P	01 53 01.0	+13
NJ2			pmax		pmax		
	comp=Z,98nm,0.6s						
LEM	**Lembang**	**23.52 225**	P		**P**	01 53 00.6	**+1.1**
	comp=Z,15nm,0.5s,baz=125,slow=20,SNR=6.1						
IPM	**Ipoh**	**23.63 258**	P		**P**	01 53 01.0	**+0.5**
MTN	**Manton Dam**	**23.75 163**	P		**P**	01 53 01.1	**-0.4**
KULM	**Kulim**	**23.80 260**	P		**P**	01 53 02.9	**+0.8**
KLSI		**24.29 234**	P		**P**	01 53 05.2	**-1.5**
	comp=Z,6.2nm,1.9s						
LHSI	**Lahat**	**24.78 237**	P		**P**	01 53 12.7	**+1.7**
	comp=Z,40nm,0.6s						
BKNI	**Bangkinang**	**24.98 249**	P		**P**	01 53 14.7	**+1.9**
BKNI	**Bangkinang**	**24.98 249**	P		**P**	01 53 12.2	**-0.7**
KSI	**Kapahiang**	**25.46 239**	P		**P**	01 53 18.7	**+1.4**
	comp=Z,42nm,0.7s						
MNSI	**Mandailing Nat**	**26.15 251**	P		**P**	01 53 22.6	**-0.9**
LHMI	**Lhok Sumawe**	**27.42 262**	P		**P**	01 53 36.1	**+1.1**
	comp=Z,126nm,0.9s						
SISI	**Saibi**	**27.43 247**	P		**P**	01 53 33.4	**-1.6**
	comp=Z,10nm,0.7s						
KSRS	**Korea Array**	**27.50 6**	P		**P**	01 53 38.8	**+3.4**
	comp=Z,5.0nm,0.8s,baz=198,slow=9.9,SNR=2.7						
FITZ	**Fitzroy Crossi**	**27.99 177**	P		**P**	01 53 38.9	**-1.1**
	comp=Z,4.8nm,0.7s,baz=8.1,slow=7.3,SNR=22						
FITZ	**Fitzroy Crossi**	**27.99 177**	P		**P**	01 53 38.7	**-1.2**
FITZ			IAmb		IAmb	01 53 39.6	
	comp=Z,18nm,1.3s						
WB0	**Warramunga Arr**	**31.27 161**	P		**P**	01 54 06.9	**-2.1**
WRA	**Warramunga Arr**	**31.42 161**	P		**P**	01 54 08.5	**-1.9**
	comp=Z,5.8nm,1.2s,baz=340,slow=10,SNR=9.3						
WRA	**Warramunga Arr**	**31.42 161**	P		**P**	01 54 08.4	**-2.0**
WB2	**Warramunga Arr**	**31.42 161**	P		**P**	01 54 09.2	**-1.2**
WB2			IAmb		IAmb	01 54 11.7	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**31.50 161**	P		**P**	01 54 10.1	**-0.9**
WR0			IAmb		IAmb	01 54 11.5	
	comp=Z,9.8nm,1.2s						
HHC	**Hu-ho-hao-te**	**32.66 342**	*e*P		P	01 54 33.8	+13
HHC			pmax		pmax		
	comp=Z,20nm,1.0s						
BTO	**Baotou**	**32.94 340**	P		**P**	01 54 24.5	**+0.8**
USRK	**Ussuriysk Ar.**	**34.70 10**	P		**P**	01 54 39.0	**+0.2**
	comp=Z,11nm,0.9s,baz=199,slow=7.3,SNR=3.0						
USRK	**Ussuriysk Ar.**	**34.70 10**	P		**P**	01 54 41.1	**+2.3**
AS31	**Alice Springs**	**34.81 164**	P		**P**	01 54 39.3	**-0.7**
ASAR	**Alice Springs**	**34.81 164**	P		**P**	01 54 39.1	**-0.9**
	comp=Z,3.5nm,0.5s,baz=338,slow=6.4,SNR=47						
ASAR	**Alice Springs**	**34.81 164**	P		**P**	01 54 38.8	**-1.3**
GTA	**Gaotai**	**36.45 327**	⫴P		**P**	01 54 54.8	**+0.7**
GTA			pP		sP	01 55 04.3	+7.2
GTA			sP		pP	01 55 08.5	+12
GTA			pmax		pmax		
	comp=Z,24nm,1.3s						
GTA			pmax		pmax		
	comp=Z,520nm,4.9s						
GTA			LR		LR		
	comp=N,6µm,17.8s						
GTA			LR		LR		
	comp=E,7µm,17.8s						
GTA			LR		LR		
	comp=Z,12µm,17.8s						

SONM	**Songino Array**	**40.56 342**	P		**P**	01 55 29.8	**+1.3**
	comp=Z,4.1nm,1.0s,baz=169,slow=9.3,SNR=1.2						
SONM	**Songino Array**	**40.56 342**	P		**P**	01 55 28.6	**+0.1**
FORT	**Forrest**	**40.75 175**	P		**P**	01 55 28.9	**-1.1**
FORT			IAmb		IAmb	01 55 30.0	
	comp=Z,34nm,0.8s						
EIDS	**Eidsvold**	**43.87 144**	P		**P**	01 55 55.7	**+0.1**
BBOO	**Buckleboo**	**44.08 166**	P		**P**	01 55 56.4	**-0.8**
BBOO			IAmb		IAmb	01 55 57.4	
	comp=Z,24nm,1.0s						
HYB	**Hyderabad**	**44.86 285**	*i* P		**P**	01 56 04.0	**+0.2**
STKA	**Stephens Creek**	**44.88 159**	P		**P**	01 56 02.9	**-0.7**
	comp=Z,7.0nm,1.0s,baz=355,slow=8.9,SNR=11						
STKA	**Stephens Creek**	**44.88 159**			**P**	01 56 02.7	**-0.9**
WMQ	**Urumqi**	**46.17 323**	*e*P		P	01 56 24.3	+10
WMQ			pmax		pmax		
	comp=Z,23nm,1.1s						
ARMA	**Armidale**	**48.09 148**	P		**P**	01 56 29.8	**+0.8**
ARMA			IAmb		IAmb	01 56 35.8	
	comp=Z,14nm,1.2s						
PETK	**Petropavlovsk-**	**50.71 25**	P		**P**	01 56 49.1	**+0.6**
	comp=Z,2.0nm,0.7s,baz=217,slow=4.0,SNR=1.3						
PETK	**Petropavlovsk-**	**50.71 25**	P		**P**	01 56 52.2	**+3.6**
MK31	**Makanchi Array**	**51.00 324**	P		**P**	01 56 49.9	**-1.0**
MK31			IAmb		IAmb	01 56 51.4	
	comp=Z,18nm,1.2s						
MKAR	**Makanchi Array**	**51.00 324**	P		**P**	01 56 51.3	**+0.4**
	comp=Z,7.0nm,0.8s,baz=130,slow=6.2,SNR=5.4						
MKAR	**Makanchi Array**	**51.00 324**	P		**P**	01 56 50.0	**-0.9**
TOO	**Toolangi**	**51.39 158**			**P**	01 56 54.1	**+0.2**
TOO			IAmb		IAmb	01 56 55.1	
	comp=Z,12nm,0.9s						
LHI	**Lord Howe Isla**	**53.12 142**	P		**P**	01 57 06.1	**-0.8**
ZALV	**Zalesovo Beam**	**53.87 332**	P		**P**	01 57 10.6	**-1.5**
	comp=Z,1.6nm,0.5s,baz=121,slow=7.4,SNR=1.7						
ZALV	**Zalesovo Beam**	**53.87 332**	P		**P**	01 57 11.1	**-1.0**
KK31	**Karatay Array**	**56.97 315**	P		**P**	01 57 35.4	**+0.7**
KKAR	**Karatay Array**	**56.97 315**	P		**P**	01 57 34.7	**0.0**
BRVK	**Borovoye**	**60.78 326**	P		**P**	01 58 01.3	**+0.4**
BRVK			IAmb		IAmb	01 58 01.4	
	comp=Z,16nm,0.9s						
ATKA	**Atka Island**	**64.87 37**	P		**P**	01 58 29.0	**+0.9**
ABKAR	**Akbulak array**	**65.73 320**	P		**P**	01 58 32.9	**-0.9**
ARU	**Arti**	**68.31 327**	P		**P**	01 58 49.1	**-1.0**
SOCY	**Socotra**	**68.76 279**	P		**P**	01 58 54.3	**+0.5**
SOCY			IAmb		IAmb	01 58 55.2	
	comp=Z,5.8nm,0.8s						
BKZ	**Black Stump Fm**	**68.94 139**	P		**P**	01 58 54.6	**+0.3**
BFZ	**Birch Farm**	**69.62 140**	P		**P**	01 58 58.5	**+0.1**
RAYN	**Ar Rayn**	**75.77 292**	P		**P**	01 59 35.2	**-0.3**
RAYN			IAmb		IAmb	01 59 39.9	
	comp=Z,15nm,1.2s						
RSD	**Rainshed**	**77.86 72**	P		**P**	01 59 47.4	**-0.1**
ARCES	**ARCESS Array B**	**83.70 340**	P		**P**	02 00 15.3	**-2.3**
	comp=Z,4.6nm,0.9s,baz=81,slow=5.7,SNR=1.8						
BRTR	**Keskin Array B**	**84.10 309**	P		**P**	02 00 18.9	**-1.5**
	comp=Z,3.7nm,1.0s,baz=91,slow=3.9,SNR=3.9						
BRTR	**Keskin Array B**	**84.10 309**	P		**P**	02 00 21.3	**+0.8**
FINES	**FINESS Array B**	**85.13 331**	P		**P**	02 00 23.9	**-1.1**
	comp=Z,9.8nm,1.1s,baz=73,slow=4.7,SNR=2.5						
AKASG	**Malin Array Be**	**85.45 321**	P		**P**	02 00 24.8	**-2.0**
	comp=Z,3.8nm,0.8s,baz=65,slow=5.3,SNR=3.0						
VNDA	**Vanda**	**89.96 172**	P		**P**	02 00 45.5	**-2.4**
	comp=Z,0.7nm,0.7s,baz=320,slow=7.5,SNR=2.6						
NOA	**NORSAR Array B**	**92.06 333**	P		**P**	02 00 58.1	**-0.1**
	comp=Z,0.6nm,0.6s,baz=60,slow=2.0,SNR=1.8						
CLL	**Collm**	**95.09 324**	*e*P		**P**	02 01 12.0	**-0.2**
CLL			*e*			02 01 18.0	
PLCA	**Paso Flores**	**146.75 159**	PKPbc		**PKPdf**	02 07 30.4	**+0.5**
	comp=Z,3.0nm,0.9s,baz=214,slow=2.8,SNR=6.4						
PLCA	**Paso Flores**	**146.75 159**			**PKPbc**	02 07 30.9	**-0.7**

IDC 30 01:50:34.6±4.4, 5.16S×152.83E, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/52, mbtmp3.9/2, Error ellipse: s-maj=209.7km s-min=53.5km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.23**	**229**	P	P	01 55 43.6	-0.1
	1.9nm,0.5s,baz=56,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**25.91**	**223**	P	P	01 56 08.9	+0.3
	1.7nm,0.8s,baz=54,slow=9.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**150.44**	**288**	PKPbc	PKPbc	02 10 28.8	-0.5
	0.4nm,0.6s,baz=58,slow=2.4,SNR=1.6						

*IDC **30** 01:51:19.5±0.6, 5.01S×153.07E, h0km, mb4.5/22, mb1 4.6/23, mb1mx4.4/52, mbtmp4.5/23, ML2.7/1, MS5.6/1, Ms1 5.6/1, ms1mx4.4/57, Error ellipse: s-maj=18.9km s-min=13.1km az=104.0*

*NEIC **30** 01:51:27.0±1.9, 5.01S±0.07×153.03E±0.09, h53km±5km, mb4.6/29, Error ellipse: s-maj=14.4km s-min=9.8km az=64.0*

ISC 30 01:51:26.0±0.4, 5.06S±0.06×153.06E±0.08, h43km, n89, σ1s25/92, mb4.6/38, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.24**	**314**	Pn	**Pn**	01 51 46.8	**-0.2**
RABL				Sn	**Sn**	01 52 04.5	**+1.9**
MANU	**Manus Island**	**6.42**	**298**	Pn	**Pn**	01 52 58.4	**+0.2**
PMG	**Port Moresby**	**7.27**	**233**	Pn	**Pn**	01 53 09.4	**-0.4**
	7.0nm,0.3s,baz=42,slow=8.9,SNR=19						
PMG				Sn	**Sn**	01 54 30.8	**-0.4**
	3.2nm,0.3s,baz=88,slow=21,SNR=4.8						
PMG	**Port Moresby**	**7.27**	**233**	Pn	**Pn**	01 53 11.7	**+1.8**
EIDS	**Eidsvold**	**20.28**	**185**	P	**P**	01 55 58.3	**+0.1**
EIDS				IAmb	IAmb	01 56 02.3	
	comp=Z,15nm,1.1s						
DZM	**Mont Dzumac**	**21.30**	**144**	P	**P**	01 56 09.3	**-0.1**
	comp=Z,15nm,0.5s,baz=270,slow=7.2,SNR=34						
DZM	**Mont Dzumac**	**21.30**	**144**	P	**P**	01 56 10.8	**+1.4**
DZM				IAmb	IAmb	01 56 14.9	
	comp=Z,24nm,0.9s						
SIJI	**Sorong**	**22.16**	**280**	P	**P**	01 56 18.3	**-0.2**
	comp=Z,12nm,0.7s,baz=137,slow=19,SNR=4.5						
MTN	**Manton Dam**	**22.98**	**249**	P	**P**	01 56 26.0	**-1.2**
MTN				IAmb	IAmb	01 56 28.5	
	comp=Z,27nm,1.3s						
WB0	**Warramunga Arr**	**23.32**	**230**	P	**P**	01 56 29.7	**-0.9**
WB0				IAmb	IAmb	01 56 31.7	
	comp=Z,27nm,1.0s						
WR0	**Warramunga Arr**	**23.33**	**229**	P	**P**	01 56 29.5	**-1.1**
WR0				IAmb	IAmb	01 56 31.7	
	comp=Z,36nm,1.1s						
WRAB	**Tennant Creek**	**23.46**	**229**	P	**P**	01 56 32.1	**+0.2**
WRAB				IAmb	IAmb	01 56 44.0	
	comp=Z,17nm,0.7s						
WB2	**Warramunga Arr**	**23.46**	**229**	P	**P**	01 56 31.0	**-0.9**
WB2				IAmb	IAmb	01 56 32.4	
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**23.47**	**229**	P	**P**	01 56 29.9	**-2.1**
	comp=Z,18nm,0.9s,baz=53,slow=9.7,SNR=29						
WRA	**Warramunga Arr**	**23.47**	**229**		**P**	01 56 31.1	**-0.9**
AS31	**Alice Springs**	**26.13**	**223**	P	**P**	01 56 56.9	**+0.5**
ASAR	**Alice Springs**	**26.14**	**223**	P	**P**	01 56 55.6	**-0.8**
	comp=Z,3.8nm,0.8s,baz=56,slow=9.2,SNR=9.5						
ASAR				ScP	**ScP**	02 04 06.4	**+6.9**
	comp=Z,0.6nm,0.9s,baz=60,slow=5.5,SNR=3.5						
ASAR	**Alice Springs**	**26.14**	**223**	P	**P**	01 56 56.6	**+0.2**
STKA	**Stephens Creek**	**28.76**	**201**	P	**P**	01 57 19.8	**0.0**
FITZ	**Fitzroy Crossi**	**29.76**	**242**	P	**P**	01 57 27.2	**-1.6**
	comp=Z,6.7nm,0.8s,baz=48,slow=8.2,SNR=7.1						
FITZ	**Fitzroy Crossi**	**29.76**	**242**	P	**P**	01 57 27.2	**-1.6**
FITZ				IAmb	IAmb	01 57 29.3	
	comp=Z,21nm,1.4s						
KAPI	**Kappang**	**33.18**	**269**	P	**P**	01 57 56.5	**-2.4**
KAPI				IAmb	IAmb	01 58 07.6	
	comp=Z,8.5nm,0.9s						
FORT	**Forrest**	**34.75**	**220**	P	**P**	01 58 10.9	**-1.5**
RAO	**Raoul Island**	**36.51**	**135**	LR	LR	02 09 43.4	
	comp=Z,10µm,20.7s,baz=58,slow=30						
JNU	**Nakatsue**	**43.41**	**333**	P	**P**	01 59 24.1	**-0.7**
	comp=Z,28nm,0.8s,baz=117,slow=7.4,SNR=7.1						
JNU	**Nakatsue**	**43.41**	**333**	P	**P**	01 59 24.5	**-0.2**
JWT	**Wachi**	**43.43**	**339**	P	**P**	01 59 24.3	**-0.5**
MJAR	**Matsushiro Arr**	**43.66**	**343**	PcP	**PcP**	02 01 14.3	**+0.9**
	comp=Z,0.9nm,0.4s,baz=136,slow=3.7,SNR=4.9						
NJ2	**Nanjing**	**49.21**	**321**	*e*P	**P**	02 00 12.0	**+1.8**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
JKA	**Kamikawa-asahi**	**49.85**	**350**	P	**P**	02 00 14.7	**-0.3**
JKA				IAmb	IAmb	02 00 15.8	
	comp=Z,8.9nm,1.1s						
ASAJ	**Asahikawa**	**49.85**	**350**	P	**P**	02 00 14.6	**-0.3**
	comp=Z,6.2nm,0.8s,baz=228,slow=16,SNR=5.5						
USRK	**Ussuriysk Ar.**	**52.58**	**341**	P	**P**	02 00 34.9	**-0.4**
	comp=Z,3.4nm,0.8s,baz=178,slow=7.9,SNR=8.5						
USRK	**Ussuriysk Ar.**	**52.58**	**341**	P	**P**	02 00 34.5	**-0.8**
GYA	**Guiyang**	**54.76**	**307**	*e*P	**P**	02 00 52.5	**+0.7**
GYA				pmax	pmax		
	comp=Z,21nm,1.3s						
KLR	**Kul'dur**	**57.17**	**344**	P	**P**	02 01 08.0	**-0.5**
	comp=Z,4.0nm,0.8s,baz=170,slow=5.4,SNR=11						
KLR				PcP	**PcP**	02 02 02.0	**-0.7**
	comp=Z,3.5nm,0.8s,baz=14,slow=2.5,SNR=4.8						
PEA0B	**Petropavlovsk-**	**58.08**	**3**	P	**P**	02 01 15.3	**+0.4**
PETK	**Petropavlovsk-**	**58.08**	**3**	P	**P**	02 01 14.9	**+0.1**
	comp=Z,4.0nm,0.5s,baz=156,slow=6.1,SNR=25						
PETK	**Petropavlovsk-**	**58.08**	**3**	P	**P**	02 01 15.2	**+0.3**
CMAR	**Chiang Mai Arr**	**58.22**	**295**	P	**P**	02 01 17.1	**+0.7**
	comp=Z,1.0nm,0.3s,baz=108,slow=5.2,SNR=5.7						
CMAR	**Chiang Mai Arr**	**58.22**	**295**	P	**P**	02 01 17.3	**+0.8**
HHC	**Hu-ho-hao-te**	**59.41**	**324**	*e*P	**P**	02 01 26.3	**+1.8**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,2µm,5.7s						
MA2	**Magadan**	**64.46**	**359**	P	**P**	02 01 57.0	**-0.8**
	comp=Z,12nm,0.8s,baz=143,slow=6.0,SNR=10						
MA2	**Magadan**	**64.46**	**359**	P	**P**	02 01 56.6	**-1.2**
GTA	**Gaotai**	**66.02**	**317**	P	**P**	02 02 09.3	**+0.7**
GTA				pP	pP	02 02 19.8	-1.0
GTA				sP	sP	02 02 24.3	-1.3
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SONM	**Songino Array**	**66.68**	**328**	P	**P**	02 02 12.9	**+0.2**
	comp=Z,1.3nm,0.6s,baz=150,slow=4.3,SNR=6.2						
SONM	**Songino Array**	**66.68**	**328**	P	**P**	02 02 13.2	**+0.6**
SEY	**Seymchan**	**67.80**	**360**	P	**P**	02 02 18.4	**-0.8**
	comp=Z,1.2nm,0.3s,baz=172,slow=7.2,SNR=5.4						
VNDA	**Vanda**	**72.56**	**178**	P	**P**	02 02 49.2	**+1.0**
	comp=Z,2.3nm,1.0s,baz=348,slow=6.5,SNR=6.4						
BILL	**Bilibino**	**73.52**	**5**	P	**P**	02 02 54.5	**+0.5**
BILL				IAmb	IAmb	02 02 55.2	
	comp=Z,10nm,1.1s						
ANM	**Nome**	**75.94**	**17**	P	**P**	02 03 08.6	**+0.5**
ANM				IAmb	IAmb	02 03 16.9	
	comp=Z,8.9nm,1.5s						
WMQ	**Urumqi**	**76.11**	**317**	*e*P	**P**	02 03 10.0	**+0.5**
WMQ				pP	pP	02 03 23.0	+1.0
WMQ				pmax	pmax		
	comp=Z,23nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,9.5s						
TIXI	**Tiksi**	**78.19**	**352**	P	**P**	02 03 19.7	**-0.8**
	comp=Z,1.1nm,0.3s,baz=129,slow=14,SNR=1.8						
TIXI	**Tiksi**	**78.19**	**352**	P	**P**	02 03 19.7	**-0.8**
TIXI				IAmb	IAmb	02 03 22.7	
	comp=Z,12nm,1.5s						
KTH	**Kantishna Hill**	**80.16**	**22**	P	**P**	02 03 30.4	**-1.1**
KTH				IAmb	IAmb	02 03 30.9	
	comp=Z,13nm,1.2s						
MK31	**Makanchi Array**	**80.69**	**319**	P	**P**	02 03 34.6	**-0.1**
MKAR	**Makanchi Array**	**80.69**	**319**	P	**P**	02 03 34.9	**+0.1**
	comp=Z,5.1nm,1.0s,baz=100,slow=7.3,SNR=14						
MKAR	**Makanchi Array**	**80.69**	**319**	P	**P**	02 03 34.5	**-0.3**
MLY	**Manley**	**81.03**	**21**	P	**P**	02 03 35.6	**-0.5**
MLY				IAmb	IAm

HGSD	**Ruisui**	**0.27**	**182**	*e*P	**Pb**	**02 00 03.0**	**-0.1**
	baz=186								
HGSD				e*S*	**Sn**	**02 00 10.0**	**-0.8**
	baz=186								
VWDT	**VWDT**	**0.27**	**269**	⇑ *i*P	**Pb**	**02 00 03.1**	**0.0**
	baz=269								
VWDT				e*S*	**Sb**	**02 00 07.4**	**-0.1**
	baz=269								
EHY	**Hungye**	**0.27**	**202**	⇓ *i*P	**Pb**	**02 00 02.5**	**-0.8**
	baz=195								
EHY				e*S*	**Sb**	**02 00 07.5**	**-0.2**
	baz=195								
TWD	**Chiawan**	**0.35**	**25**	*e*P	**Pb**	**02 00 04.3**	**-0.1**
	baz=27								
TWD				e*S*	**Sb**	**02 00 09.5**	**0.0**
	baz=27								
CHGB	**Renai**	**0.38**	**321**	*i* P	**Pb**	**02 00 04.8**	**-0.2**
	baz=326								
CHGB				e*S*	**Sb**	**02 00 10.4**	**-0.3**
	baz=326								
YULB	**Yu-li**	**0.39**	**199**	*e*P	**Pb**	**02 00 04.1**	**-0.9**
	baz=191								
YULB				e*S*	**Sb**	**02 00 10.7**	**+0.2**
	baz=191								
WHF	**Hehuan Shan**	**0.41**	**338**	⇑ *i*P	**Pb**	**02 00 05.2**	**-0.5**
	baz=340								
WHF				e*S*	**Sb**	**02 00 10.8**	**-0.9**
	baz=340								
EYUL	**Yuli**	**0.42**	**195**	*e*P	**Pb**	**02 00 05.4**	**-0.1**
	baz=200								
EYUL				e*S*	**Sb**	**02 00 12.2**	**+0.7**
	baz=200								
TWF1	**Yuli**	**0.43**	**197**	*e*P	**Pb**	**02 00 05.3**	**-0.4**
	baz=195								
TWF1				S	**Sb**	**02 00 11.7**	**+0.1**
	baz=195								
NACB	**Ninganchiao**	**0.44**	**19**	*e*P	**Pb**	**02 00 05.1**	**-0.7**
	baz=20								
NACB				e*S*	**Sb**	**02 00 11.3**	**-0.7**
	baz=20								
SSLB	**Suanglung**	**0.44**	**274**	⇓ *i*P	**Pb**	**02 00 05.2**	**-0.7**
	baz=277								
SSLB				e*S*	**Sb**	**02 00 10.8**	**-1.3**
	baz=277								
ETLH	**Xiulin Townshi**	**0.45**	**5**	*e*P	**Pb**	**02 00 05.4**	**-0.7**
	baz=15								
ETLH				S	**Sb**	**02 00 11.7**	**-0.7**
	baz=15								
WPL	**Puli Township**	**0.51**	**300**	*e*P	**Pb**	**02 00 06.6**	**-0.4**
	baz=303								
WPL				e*S*	**Sb**	**02 00 13.0**	**-0.9**
	baz=303								
SMLT	**Sun Moon Lake**	**0.51**	**284**	⇓ *i*P	**Pb**	**02 00 06.6**	**-0.5**
	baz=287								
SMLT				e*S*	**Sb**	**02 00 13.4**	**-0.7**
	baz=287								
FUSS	**Fushou**	**0.52**	**340**	*e*P	**Pb**	**02 00 07.2**	**-0.2**
	baz=336								
FUSS				e*S*	**Sb**	**02 00 13.9**	**-0.6**
	baz=336								
YUS	**Yu-Shan**	**0.52**	**239**	*e*P	**Pb**	**02 00 07.4**	**-0.2**
	baz=238								
YUS				e*S*	**Sb**	**02 00 14.0**	**-0.8**
	baz=238								
WHYT	**Xinyi Township**	**0.54**	**263**	*e*P	**Pb**	**02 00 06.8**	**-0.8**
	baz=261								
WHYT				e*S*	**Sb**	**02 00 14.4**	**-0.6**
	baz=261								
DPDB	**Guoxing**	**0.54**	**300**	*e*P	**Pb**	**02 00 07.3**	**-0.4**
	baz=304								
DPDB				e*S*	**Sb**	**02 00 14.6**	**-0.4**
	baz=304								
TWT	**Tachien**	**0.55**	**334**	*e*P	**Pb**	**02 00 07.7**	**-0.1**
	baz=333								
TWT				e*S*	**Sb**	**02 00 14.6**	**-0.8**
	baz=333								
TDCB	**Techi**	**0.55**	**333**	*e*P	**Pb**	**02 00 07.7**	**-0.2**
	baz=333								
TDCB				e*S*	**Sb**	**02 00 14.6**	**-0.9**
	baz=333								
WCS	**Beigang Elemen**	**0.56**	**302**	*e*P	**Pb**	**02 00 07.7**	**-0.4**
	baz=305								
WCS				e*S*	**Sb**	**02 00 15.1**	**-0.6**
	baz=305								
FULB	**Fuli**	**0.57**	**193**	*e*P	**Pb**	**02 00 08.0**	**-0.3**
	baz=202								
FULB				e*S*	**Sb**	**02 00 17.0**	**+1.0**
	baz=202								
ALS	**Alishan**	**0.63**	**247**	P	**Pb**	**02 00 09.2**	**-0.1**
	baz=246								
ALS				e*S*	**Sb**	**02 00 17.8**	**0.0**
	baz=246								
WJS	**Zhushan**	**0.65**	**276**	*e*P	**Pb**	**02 00 09.9**	**+0.4**
	baz=276								
WJS				e*S*	**Sb**	**02 00 19.4**	**+1.2**
	baz=276								
CHKT	**Chengkung**	**0.66**	**186**	*e*P	**Pb**	**02 00 08.9**	**-0.7**
	baz=174								
CHKT				e*S*	**Sn**	**02 00 19.7**	**-0.8**
	baz=174								
NNSB	**Datong**	**0.67**	**356**	*e*P	**Pb**	**02 00 09.6**	**-0.3**
	baz=5.0								
NNSB				S	**Sb**	**02 00 18.3**	**-0.5**
	baz=5.0								
NNSH	**Datong**	**0.67**	**356**	*e*P	**Pb**	**02 00 09.6**	**-0.3**
	baz=3.0								
NNSH				e*S*	**Sb**	**02 00 18.3**	**-0.5**
	baz=3.0								
NNS	**Nan Shan**	**0.68**	**355**	*e*P	**Pb**	**02 00 10.1**	**0.0**
	baz=5.0								
NNS				e*S*	**Sb**	**02 00 18.6**	**-0.5**
	baz=5.0								
WHP	**Taichung City**	**0.68**	**319**	*e*P	**Pb**	**02 00 09.9**	**-0.2**
	baz=320								
WHP				e*S*	**Sb**	**02 00 18.5**	**-0.7**
	baz=320								
ELDTW	**Lidau**	**0.69**	**214**	*e*P	**Pb**	**02 00 09.0**	**-1.2**
	baz=206								
ELDTW				e*S*	**Sb**	**02 00 18.9**	**-0.4**
	baz=206								
WNT	**Mingjian**	**0.70**	**280**	P	**Pb**	**02 00 10.7**	**+0.4**
	baz=280								
WNT				e*S*	**Sn**	**02 00 21.0**	**-0.4**
	baz=280								
WNT1	**Nantou City**	**0.71**	**282**	*e*P	**Pb**	**02 00 10.3**	**-0.1**
	baz=283								
WNT1				e*S*	**Sb**	**02 00 20.5**	**+0.7**
	baz=283								
CHN5	**Tsauling**	**0.71**	**257**	P	**Pb**	**02 00 10.9**	**+0.3**
	baz=249								
CHN5				e*S*	**Sb**	**02 00 21.0**	**+1.0**
	baz=249								
ENA	**Nanau**	**0.72**	**23**	*e*P	**Pb**	**02 00 09.5**	**-1.2**
	baz=25								
WWF	**Wufeng**	**0.73**	**293**	*e*P	**Pn**	**02 00 11.7**	**-0.1**
	baz=295								
EWUT	**Wuta**	**0.75**	**25**	*e*P	**Pn**	**02 00 11.9**	**-0.2**
	baz=17								
EWUT				e*S*	**Sn**	**02 00 22.0**	**-0.8**
	baz=17								
EDH	**Donghe**	**0.79**	**189**	P	**Pb**	**02 00 11.6**	**-0.3**
	baz=187								
EDH				e*S*	**Sn**	**02 00 22.8**	**-1.0**
	baz=187								
TCU	**Taichung**	**0.80**	**299**	*e*P	**Pn**	**02 00 12.4**	**-0.3**
	baz=301								
WDLH	**Douliu**	**0.83**	**265**	P	**Pb**	**02 00 12.8**	**+0.3**
	baz=265								
WDLH				e*S*	**Sn**	**02 00 24.6**	**0.0**
	baz=265								
NDT	**Datong Townshi**	**0.84**	**5**	*e*P	**Pb**	**02 00 12.9**	**+0.2**
	baz=5.0								
NDT				e*S*	**Sb**	**02 00 22.6**	**-1.0**
	baz=5.0								
TWQ1	**Liyutan**	**0.84**	**314**	P	**Pn**	**02 00 13.2**	**-0.2**
	baz=315								
TWQ1				e*S*	**Sn**	**02 00 25.1**	**0.0**
	baz=315								
STYH	**Taoyuan**	**0.84**	**226**	P	**Pn**	**02 00 13.1**	**-0.3**
	baz=226								
STYH				e*S*	**Sb**	**02 00 24.1**	**+0.5**
	baz=226								
STYT	**Tauyuan**	**0.86**	**226**	*e*P	**Pn**	**02 00 13.5**	**-0.2**
	baz=218								
STYT				e*S*	**Sb**	**02 00 24.7**	**+0.5**
	baz=218								
WCHH	**Zhanghua**	**0.86**	**292**	*e*P	**Pn**	**02 00 13.5**	**-0.1**
	baz=292								
WCHH				e*S*	**Sn**	**02 00 25.6**	**0.0**
	baz=292								
TPUB	**Ta-pu**	**0.87**	**238**	*e*P	**Pn**	**02 00 13.6**	**-0.1**
	baz=238								
TPUB				e*S*	**Sb**	**02 00 24.6**	**+0.1**
	baz=238								
CHN4	**Tsaushan**	**0.87**	**242**	*e*P	**Pn**	**02 00 14.1**	**+0.3**
	baz=233								
CHN4				e*S*	**Sb**	**02 00 25.2**	**+0.7**
	baz=233								
ENTT	**Nioudou**	**0.88**	**8**	*e*P	**Pn**	**02 00 14.1**	**+0.2**
	baz=9.0								
ENTT				e*S*	**Sb**	**02 00 24.8**	**0.0**
	baz=9.0								
LONT	**Longtian**	**0.90**	**198**	*e*P	**Pb**	**02 00 13.1**	**-0.6**
	baz=183								
LONT				e*S*	**Sb**	**02 00 24.0**	**-1.1**
	baz=183								
NSY	**Sanyi**	**0.90**	**317**	*e*P	**Pb**	**02 00 14.0**	**+0.3**
	baz=320								
NDS	**Dongshan**	**0.91**	**16**	P	**Pn**	**02 00 14.5**	**+0.3**
	baz=28								
NDS				e*S*	**Sb**	**02 00 26.0**	**+0.5**
	baz=28								
YHNB	**Yeheng**	**0.91**	**357**	P	**Pn**	**02 00 14.2**	**-0.2**
	baz=357								
YHNB				e*S*	**Sb**	**02 00 26.0**	**+0.4**
	baz=357								
CHN2	**Minshiung**	**0.91**	**256**	*e*P	**Pb**	**02 00 13.1**	**-0.8**
	baz=256								
CHN2				e*S*	**Sn**	**02 00 27.5**	**+0.8**
	baz=256								
WTP	**Ta-pu**	**0.91**	**236**	*e*P	**Pn**	**02 00 14.6**	**+0.3**
	baz=235								
WTP				e*S*	**Sn**	**02 00 27.2**	**+0.4**
	baz=235								
NSK	**Sanguang**	**0.92**	**356**	P	**Pn**	**02 00 14.3**	**-0.1**
	baz=357								
NSK				e*S*	**Sb**	**02 00 25.5**	**-0.3**
	baz=357								
TWC	**Suao**	**0.93**	**24**	*e*P	**Pn**	**02 00 14.8**	**+0.4**
	baz=18								
TWC				S	**Sn**	**02 00 27.5**	**+0.4**
	baz=18								
WDJ	**Dajia District**	**0.93**	**309**	*e*P	**Pn**	**02 00 14.8**	**+0.2**
	baz=321								
WDJ				e*S*	**Sn**	**02 00 27.2**	**-0.1**
	baz=321								
NSTT	**Nanjuang**	**0.95**	**335**	*e*P	**Pn**	**02 00 14.9**	**0.0**
	baz=344								
NSTT				e*S*	**Sb**	**02 00 27.0**	**+0.1**
	baz=344								
LIOB	**Emei**	**0.96**	**337**	P	**Pn**	**02 00 15.6**	**+0.5**
	baz=337								
LIOB				e*S*	**Sb**	**02 00 27.6**	**+0.6**
	baz=337								
WTK	**Tuku**	**0.96**	**266**	*e*P	**Pb**	**02 00 14.8**	**+0.1**
	baz=266								
WTK				e*S*	**Sn**	**02 00 27.7**	**-0.2**
	baz=266								
CHY	**Chiayi**	**0.96**	**254**	*e*P	**Pb**	**02 00 14.7**	**-0.1**
	baz=254								
CHY				e*S*	**Sn**	**02 00 28.1**	**+0.1**
	baz=254								
NMLH	**Miaoli**	**0.97**	**323**	*e*P	**Pn**	**02 00 16.1**	**+1.0**
	baz=324								
NMLH				e*S*	**Sn**	**02 00 28.6**	**+0.4**
	baz=324								
TWE	**Neicheng**	**0.98**	**12**	*e*P	**Pn**	**02 00 15.9**	**+0.6**
	baz=25								
TWE				e*S*	**Sb**	**02 00 27.9**	**+0.3**
	baz=25								
WRL	**Guolierlin Hig**	**0.98**	**278**	*e*P	**Pb**	**02 00 15.1**	**0.0**
	baz=279								
TWG	**Pinlang**	**0.99**	**200**	*e*P	**Pb**	**02 00 14.2**	**-1.1**
	baz=186								
TWG				e*S*	**Sb**	**02 00 27.5**	**-0.5**
	baz=186								
TWGBT	**Beinan**	**0.99**	**199**	*e*P	**Pb**	**02 00 14.1**	**-1.2**
	baz=180								
TWK	**Hsinying**	**1.00**	**241**	*e*P	**Pn**	**02 00 16.1**	**+0.6**
	baz=239								
TWK				e*S*	**Sn**	**02 00 28.8**	**-0.2**
	baz=239								
CHN1	**Nanshi**	**1.01**	**236**	P	**Pn**	**02 00 16.4**	**+0.7**
	baz=235								
CHN1				e*S*	**Sn**	**02 00 30.2**	**+1.0**
	baz=235								
NWLT	**Wulai**	**1.01**	**3**	*e*P	**Pn**	**02 00 16.1**	**+0.4**
	baz=13								
NWLT				e*S*	**Sb**	**02 00 28.4**	**-0.2**
	baz=13								
SGST	**Jiashian**	**1.03**	**229**	*e*P	**Pn**	**02 00 16.0**	**0.0**
	baz=228								
SGST				e*S*	**Sn**	**02 00 29.8**	**0.0**
	baz=228								
LDUT	**Ludao**	**1.08**	**178**	*e*P	**Pn**	**02 00 16.2**	**-0.5**
	baz=177								
LDUT				e*S*	**Sb**	**02 00 29.2**	**-1.3**
	baz=177								
ICHU	**Yijhu**	**1.13**	**250**	*e*P	**Pb**	**02 00 17.9**	**+0.2**
	baz=249								
ICHU				e*S*	**Sn**	**02 00 33.8**	**+1.6**
	baz=249								
CHN8	**Yiju**	**1.20**	**250**	*e*P	**Pn**	**02 00 17.6**	**-0.6**
	baz=249								
CHN8				e*S*	**Sn**	**02 00 35.8**	**+2.1**
	baz=249								
NHDH	**Xindian Distri**	**1.20**	**4**	*e*P	**Pb**	**02 00 20.4**	**+1.6**
	baz=14								
SCST	**Cishan**	**1.23**	**225**	*e*P	**Pb**	**02 00 20.5**	**+1.2**
	baz=238								
SCST				e*S*	**Sb**	**02 00 38.1**	**+3.4**
	baz=238								
ECL	**Taimali**	**1.24**	**201**	*e*P	**Pb**	**02 00 19.3**	**-0.2**
	baz=182								
SSD	**Sandimen**	**1.25**	**216**	*e*P	**Pb**	**02 00 19.9**	**+0.2**
	baz=210								
TIPB	**Shuangxi**	**1.26**	**16**	*e*P	**Pb**	**02 00 19.8**	**0.0**
	baz=17								
TIPB				e*S*	**Sn**	**02 00 35.3**	**0.0**
	baz=17								
TSMG	**Majia**	**1.28**	**215**	*e*P	**Pb**	**02 00 20.7**	**+0.6**
	baz=213								
TSMG				e*S*	**Sb**	**02 00 37.4**	**+1.3**
	baz=213								
WFSB	**Wu-fen Shan**	**1.34**	**13**	*e*P	**Pn**	**02 00 19.6**	**-0.7**
	baz=28								
MASBT	**Mashibuluo**	**1.36**	**213**	*e*P	**Pb**	**02 00 21.0**	**-0.6**
	baz=205								
YM01	**YM01**	**1.39**	**5**	*e*P	**Pb**	**02 00 21.8**	**-0.2**
	baz=10.0								
YM10	**YM10**	**1.39**	**5**	*e*P	**Pn**	**02 00 21.5**	**+0.5**
	baz=27								
YM05	**YM05**	**1.40**	**5**	*e*P	**Pn**	**02 00 21.4**	**+0.3**
	baz=19								
YM05				e*S*	**Sb**	**02 00 40.1**	**+0.3**
	baz=19								
ANP	**Anpu**	**1.42**	**3**	*e*P	**Pb**	**02 00 22.8**	**+0.1**
	baz=26								
SSPT	**Xinbi**	**1.50**	**212**	*e*P	**Pb**	**02 00 24.7**	**+0.7**
	baz=201								
SCZT	**Fangliau**	**1.57**	**209**	*e*P	**Pb**	**02 00 24.7**	**-0.5**
	baz=182								
YOJ	**Yonaguni jima**	**1.60**	**64**	*e*P	**Pn**	**02 00 23.9**	**+0.2**
	baz=67								
YOJ	**Yonaguni jima**	**1.60**	**64**	P	**Pn**	**02 00 23.8**	**+0.1**
WDGT	**Dungji**	**1.70**	**253**	*e*P	**Pn**	**02 00 24.6**	**-0.6**
	baz=246								
PHUB	**P'eng-hu**	**1.73**	**262**	*e*P	**Pn**	**02 00 25.0**	**-0.5**
	baz=238								
PNG	**Penghu**	**1.73**	**264**	*e*P	**Pn**	**02 00 25.3**	**-0.3**
	baz=260								
VCHM	**Qimei**	**1.92**	**254**	*e*P	**Pn**	**02 00 27.8**	**-0.4**
	baz=247								
IRIF	**Iriomote-Funau**	**2.17**	**74**	P	**Pn**	**02 00 32.1**	**+0.5**
IRIF				S	**Sn**	**02 00 58.6**	**+0.7**
VWUC	**VWUC**	**2.19**	**304**	*e*P	**Pn**	**02 00 30.7**	**-1.1**
	baz=310								
JKRS	**Kuro-shima**	**2.40**	**78**	e*S*	**Sn**	**02 01 04.4**	**+0.9**
PTMZ	**Houxiangcun**	**2.47**	**302**	*e*P	**Pn**	**02 00 34.9**	**-0.8**
	baz=307								
JIJ	**Ishigaki jima**	**2.55**	**76**	P	**Pn**	**02 00 36.7**	**-0.1**
JIJ				e*S*	**Sn**	**02 01 06.3**	**-0.8**
MATB	**Ma-tsu**	**2.74**	**331**	*e*P	**Pn**	**02 00 39.2**	**-0.2**
	baz=339								
KNMB	**Chin-men Tao**	**2.87**	**285**	*e*P	**Pn**	**02 00 40.5**	**-0.7**
	baz=289								
JTJ	**Tarama**	**3.11**	**73**	P	**Pn**	**02 00 45.3**	**+0.8**
JTJ				e*S*	**Sn**	**02 01 21.9**	**+0.9**
AXDP	**Jialang**	**3.36**	**290**	*e*P	**Pn**	**02 00 47.4**	**-0.5**
	baz=296								

BJI ***30*** *02:05:09.6±0.0,47.°11N×154.°43E,h46km,mB5.0/2, mb5.1/9*
MOS ***30*** *02:05:10.4±1.1,47.°39N×154.°01E,h39km,mb4.3/13,Error ellipse: s-maj=9.1km s-min=5.7km az=70.2*
SKHL ***30*** *02:05:11.5±0.4,47.°30N×154.°20E,h60km±3km,mb4.7/8*
NEIC ***30*** *02:05:13.1±1.5,47.°4N±0.°1×154.°1E±0.°1,h48km±7km, mb4.4/54,Error ellipse: s-maj=19.1km s-min=10.9km az=145.0*
IDC ***30*** *02:05:13.9±2.5,47.°43N×154.°05E,h55km±21km,mb3.7/18, mb1 3.9/22,mb1mx3.8/53,mbtmp4.0/22,ML4.5/2,Error ellipse: s-maj=19.4km s-min=12.1km az=142.0*

ISC 30 02:05:10.9±0.5,47.°34N±0.°07×154.°03E±0.°06,h31km,n210, σ1§44/211,mb4.3/55,20C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.61**	**22**	*e*PN	**Pn**	**02 06 05.5**	**+0.8**
SKR				e*S*	**Sn**	**02 06 44.0**	**-2.2**
SKR				pmax	pmax		
	comp=Z,74nm,0.9s						
SKR				smax	smax		
	comp=E,190nm,0.8s						
SKR				smax	smax		
	comp=N,196nm,0.5s						
SKR	**Severo-Kuril's**	**3.61**	**22**	*e*P	**Pn**	**02 06 05.2**	**+0.5**
SKR				AMB	AMB	02 06 11.3	
	comp=N,50nm,0.4s						
SKR				e*S*	**Sn**	**02 06 45.2**	**-1.0**
SKR				A	A	02 06 47.0	
	comp=N,120nm,0.2s						
SKR				A	A	02 06 47.0	
	comp=N,80nm,0.2s						
PAU	**Pauzhetka**	**4.51**	**23**	*e*P	**Pn**	**02 06 18.1**	**+1.1**
PAU				AMB	AMB	02 06 20.4	
	comp=N,30nm,0.4s						
PAU				e*S*	**Sn**	**02 07 06.9**	**-1.4**
PAU				A	A	02 07 10.3	
	comp=N,110nm,0.5s						
PAU				A	A	02 07 10.3	
	comp=N,160nm,0.5s						
KUR	**Kuril'sk**	**4.77**	**246**	*e*PN	**Pn**	**02 06 23.0**	**+2.4**
KUR				e*S*	**Sn**	**02 07 17.5**	**+2.8**
KUR				pmax	pmax		
	comp=Z,134nm,0.4s						
KUR				pmax	pmax		
	comp=E,46nm,0.3s						
KUR				pmax	pmax		
	comp=N,57nm,0.5s						
KUR				smax	smax		
	comp=N,153nm,0.5s						
KUR				smax	smax		
	comp=E,109nm,0.5s						
KUR	**Kuril'sk**	**4.77**	**246**	*e*P	**Pn**	**02 06 22.8**	**+2.2**
KUR				AMB	AMB	02 06 25.0	
	comp=E,130nm,0.4s						
KUR				e*S*	**Sn**	**02 07 16.6**	**+1.9**
KUR				A	A	02 07 25.3	
	comp=E,150nm,0.5s						
KUR				A	A	02 07 25.3	
	comp=E,110nm,0.5s						
PEA0B	**Petropavlovsk-**	**6.23**	**21**	*i* PN	**Pn**	**02 06 41.3**	**+0.6**
PEA0B	**Petropavlovsk-**	**6.23**	**21**	Pn	**Pn**	**02 06 41.6**	**+1.0**
PETK	**Petropavlovsk-**	**6.23**	**21**	P	**Pn**	**02 06 41.6**	**+0.9**
	comp=E,1.9nm,0.3s,baz=176,slow=12,SNR=15						
PETK				S	**Sn**	**02 07 52.0**	**+1.3**
	comp=E,0.3nm,0.3s,baz=166,slow=25,SNR=1.5						
PET	**Petropavlovsk**	**6.41**	**26**	*i* PN	**Pn**	**02 06 46.0**	**+2.9**
PET	**Petropavlovsk**	**6.41**	**26**	*e*P	**Pn**	**02 06 45.0**	**+1.9**
PET				e*S*	**Sn**	**02 07 52.4**	**-2.8**
PET				A	A	02 07 55.5	
	comp=E,100nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**6.61**	**243**	*e*PN	**Pn**	**02 06 47.6**	**+1.7**
YUK				pmax	pmax		
	comp=N,84nm,0.2s						
YUK				pmax	pmax		
	comp=E,131nm,0.2s						
YUK				pmax	pmax		
	comp=Z,163nm,0.2s						
YUK				pmax	pmax		
	comp=Z,388nm,1.3s						
YUK	**Yuzh-Kuril'sk**	**6.61**	**243**	*e*P	**Pn**	**02 06 47.7**	**+1.8**
YUK				AMB	AMB	02 06 50.0	
	comp=Z,20nm,0.2s						
YUK				e*S*	**Sn**	**02 07 58.7**	**-1.4**
YUK				A	A	02 08 01.0	
	comp=Z,500nm,2.0s						
YUK				A	A	02 08 01.0	
	comp=Z,700nm,2.0s						
GRPR	**Tuman**	**6.69**	**243**	*e*PN	**Pn**	**02 06 48.0**	**+1.0**
GRPR				pmax	pmax		
	comp=Z,167nm,0.5s						
GRPR				pmax	pmax		
	comp=N,157nm,0.3s						
GRPR				pmax	pmax		
	comp=E,107nm,0.4s						
GRPR	**Tuman**	**6.69**	**243**	*e*P	**Pn**	**02 06 48.0**	**+1.0**
GRPR				AMB	AMB	02 06 51.0	
	comp=E,20nm,0.4s						
GRPR				e*S*	**Sn**	**02 08 01.2**	**-0.8**
RUSJ	**Misakicho**	**6.95**	**245**	*e*PN	**Pn**	**02 06 53.4**	**+2.9**
NEM2	**Nemuro 2**	**7.07**	**239**	P	**Pn**	**02 06 50.9**	**-1.2**
NEM2				e*S*	**Sn**	**02 08 07.3**	**-4.0**
NMR	**Nemuro--Hokkai**	**7.07**	**239**	*e*PN	**Pn**	**02 06 50.9**	**-1.3**
NMR	**Nemuro--Hokkai**	**7.07**	**239**	*e*P	**Pn**	**02 06 51.3**	**-0.9**
JNK	**Nakash**	**7.55**	**244**	P	**Pn**	**02 06 59.9**	**+1.1**
YSS	**Yuzh-Sakhalins**	**7.70**	**271**	*e*PN	Pn	02 07 06.5	+5.7
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.70**	**271**	Pn	Pn	02 07 06.7	+5.8
YSS	**Yuzh-Sakhalins**	**7.70**	**271**	*e*P	**Pn**	**02 07 04.2**	**+3.4**
YSS				AMB	AMB	02 07 07.8	
	comp=Z,20nm,0.4s						
JTKR	**Abashiri--Toko**	**7.85**	**248**	P	**Pn**	**02 07 04.9**	**+2.0**
JAK	**Akkeshi**	**7.90**	**240**	P	**Pn**	**02 07 02.6**	**-1.0**
JAK				e*S*	**Sn**	**02 08 27.1**	**-4.7**
JMP	**Maruseppu**	**8.19**	**250**	P	**Pn**	**02 07 10.0**	**+2.5**
TYV	**Tymovskoe**	**8.25**	**299**	*e*P	**Pn**	**02 07 11.5**	**+3.1**
JAR	**Ashorobuto**	**8.29**	**245**	P	**Pn**	**02 07 10.1**	**+1.2**
JAR				e*S*	**Sn**	**02 08 41.5**	**+0.1**
JOB	**Onbets**	**8.47**	**242**	P	**Pn**	**02 07 11.0**	**-0.3**
JOB				e*S*	**Sn**	**02 08 43.2**	**-2.6**
JKA	**Kamikawa-asahi**	**8.62**	**252**	Pn	**Pn**	**02 07 18.3**	**+4.8**
ASAJ	**Asahikawa**	**8.63**	**252**	P	**Pn**	**02 07 16.7**	**+3.1**
	comp=Z,2.6nm,0.3s,baz=96,slow=16,SNR=14						
ASAJ	**Asahikawa**	**8.63**	**252**	P	**Pn**	**02 07 17.1**	**+3.6**
ASAJ	**Asahikawa**	**8.63**	**252**	PN	**Pn**	**02 07 18.3**	**+4.8**
JKK2	**Kamakawa 2**	**8.64**	**250**	P	**Pn**	**02 07 16.4**	**+2.7**
JWK2	**Keihoku**	**8.64**	**261**	P	Pn	02 07 21.4	+7.7
JCH	**Churui**	**8.92**	**242**	P	**Pn**	**02 07 16.9**	**-0.6**
JCH				e*S*	**Sn**	**02 08 52.7**	**-4.2**
JRBN	**Rebuntou**	**9.17**	**263**	P	Pn	02 07 26.9	+5.9
JEM	**Erimo**	**9.40**	**239**	P	**Pn**	**02 07 24.4**	**+0.3**
ERM	**Erimo**	**9.40**	**239**	PN	**Pn**	**02 07 24.6**	**+0.5**
ERM	**Erimo**	**9.40**	**239**	Pn	**Pn**	**02 07 24.6**	**+0.5**
JBT2	**Biratori 2**	**9.43**	**245**	P	**Pn**	**02 07 25.3**	**+0.7**
JNBK	**Urakawa-nob

MAJO pmax pmax
comp=Z,14nm,0.8s
MAJO Matsushiro 15.94 233 Pn 02 08 52.7 -0.1
MAJO IAmb IAmb 02 09 02.1
comp=Z,13nm,0.7s
MJAR Matsushiro Arr 15.94 233 P Pn 02 08 52.3 -0.5
comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=12
MJAR Matsushiro Arr 15.94 233 P **Pn 02 08 53.1 +0.3**
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 15.94 233 Pn **Pn 02 08 53.1 +0.3**
MAT Matsushiro 15.94 233 P P 02 08 57.4 +1.2
MAT eS **S 02 12 01.8 -0.1**
JGF Kuroka 17.10 233 Pn 02 09 07.7 +0.1
JWT Wachi 18.41 236 P **Pn 02 09 24.6 +0.9**
YAK Yakutsk 20.17 326 *i* P **P 02 09 41.4 -1.1**
YAK pmax pmax
comp=Z,6.0nm,0.4s
KSRS Korea Array 21.58 252 P **P 02 09 59.8 +2.0**
comp=Z,4.1nm,0.6s,baz=62,slow=9.9,SNR=20
KSRS Korea Array 21.58 252 *e*P **P 02 09 59.9 +2.0**
KSRS pmax pmax
comp=Z,5.0nm,0.6s
KS19 Wonju Array Si 21.59 252 P **P 02 09 60.0 +2.0**
KSAR Wonju Array Be 21.61 252 P **P 02 09 58.9 +0.7**
KSAR Wonju Array Be 21.61 252 P **P 02 09 58.9 +0.7**
BILL Bilibino 21.67 12 *i* P **P 02 09 58.5 -0.1**
BILL pmax pmax
comp=Z,10.0nm,2.2s
BILL Bilibino 21.67 12 *e*P **P 02 09 58.6 -0.1**
TIXI Tiksi 27.08 343 *i* P **P 02 10 50.1 -0.2**
TIXI Tiksi 27.08 343 *e*P **P 02 10 50.1 -0.2**
H11N2 WAKE ISLAND Hy 29.47 155 T T 02 42 08.0
baz=343,slow=74,SNR=21
H11N1 WAKE ISLAND Hy 29.49 155 T T 02 42 05.7
baz=343,slow=74,SNR=26
H11N3 WAKE ISLAND Hy 29.49 155 T T 02 42 08.1
baz=343,slow=74,SNR=18
H11S1 WAKE ISLAND Hy 30.58 156 T T 02 43 40.5
baz=343,slow=76,SNR=156
H11S3 WAKE ISLAND Hy 30.59 156 T T 02 43 33.5
baz=343,slow=76,SNR=226
H11S2 WAKE ISLAND Hy 30.60 156 T T 02 43 42.6
baz=343,slow=76,SNR=226
NJ2 Nanjing 30.77 253 *e*P **P 02 11 25.5 +2.0**
NJ2 pmax pmax
comp=Z,15nm,0.5s
HHC Hu-ho-hao-te 30.88 274 *e*P **P 02 11 26.5 +2.0**
HHC pmax pmax
comp=Z,14nm,1.1s
SVW2 Sparrevohn 31.63 46 P **P 02 11 31.3 +0.5**
SVW2 IAmb IAmb 02 11 31.9
comp=Z,17nm,1.5s
SKT Skwentna 33.59 44 P **P 02 11 46.3 -1.6**
SKT IAmb IAmb 02 11 49.9
comp=Z,5.3nm,1.0s
BPAW Bear Paw Mtn. 33.89 40 P **P 02 11 50.7 +0.1**
BPAW IAmb IAmb 02 11 53.8
comp=Z,9.6nm,1.4s
KTH Kantishna Hill 33.90 41 P **P 02 11 51.3 +0.6**
TRF Thorofare Moun 34.18 41 P **P 02 11 53.2 0.0**
TRF IAmb IAmb 02 11 55.2
comp=Z,4.8nm,1.0s
COLD Coldfoot 34.49 35 P **P 02 11 55.5 -0.1**
COLD IAmb IAmb 02 11 56.5
comp=Z,7.6nm,1.4s
RND Reindeer 34.83 41 P **P 02 11 58.2 -0.5**
RND pmax pmax
comp=Z,7.0nm,1.0s
RND Reindeer 34.83 41 P **P 02 11 58.2 -0.5**
RND IAmb IAmb 02 11 59.1
comp=Z,6.6nm,1.0s
TOLK Toolik Lake Re 34.91 32 P **P 02 11 59.8 +0.5**
TOLK IAmb IAmb 02 12 16.3
comp=Z,2.7nm,0.9s
SML Sawmill 35.10 44 P **P 02 12 01.2 +0.2**
MDM Murphy Dome 35.12 39 P **P 02 12 01.7 +0.6**
MDM IAmb IAmb 02 12 09.4
comp=Z,5.7nm,1.3s
CCB Clear Creek Bu 35.30 39 P **P 02 12 03.6 +1.0**
IL31 35.69 39 P **P 02 12 06.3 +0.3**
ILAR Eielson Array 35.69 39 P **P 02 12 05.6 -0.4**
comp=Z,1.4nm,1.0s,baz=260,slow=7.0,SNR=8.6
ILAR Eielson Array 35.69 39 P **P 02 12 06.8 +0.8**
M24K Tolsona, Glenn 36.10 44 P **P 02 12 10.6 +0.9**
FYU Fort Yukon 36.40 36 P **P 02 12 13.0 +1.0**
N25K Chitina, Valde 36.89 44 P **P 02 12 17.2 +0.8**
BMRM Bremner River 36.96 45 P **P 02 12 17.5 +0.5**
EGAK Eagle 38.14 39 P **P 02 12 26.4 -0.4**
EGAK IAmb IAmb 02 12 27.2
comp=Z,5.9nm,1.1s
BARN Barnard Glacie 38.37 45 P **P 02 12 29.7 +0.7**
BARN IAmb IAmb 02 12 30.4
comp=Z,6.8nm,0.8s
LZH Lanzhou 38.50 272 *e*P **P 02 12 26.0 -4.4**
LZH pP pP 02 12 35.0 -3.8
LZH sP pwP 02 12 40.0 -1.8
LZH pmax pmax
comp=Z,8.0nm,1.3s
CTGM Chitina Glacie 38.54 45 P **P 02 12 31.1 +0.6**
NRIK Noril'sk 38.58 329 *i* P **P 02 12 28.6 -1.8**
NRIK pmax pmax
comp=Z,18nm,3.0s
LOGN Logan Glacier 38.73 45 P **P 02 12 32.5 +0.5**
GTA Gaotai 39.50 279 *e*P P 02 12 43.8 +5.1
GTA sP sP 02 12 56.8 +6.2
HYT Haines Junctio 40.41 45 P **P 02 12 47.2 +1.2**
HYT IAmb IAmb 02 12 48.2
comp=Z,5.4nm,0.8s
INK Inuvik 40.81 33 P **P 02 12 49.7 +0.7**
comp=Z,2.2nm,0.4s,baz=280,slow=5.7,SNR=14
INK Inuvik 40.81 33 P **P 02 12 49.9 +0.9**
ZALV Zalesovo Beam 42.78 306 P **P 02 13 05.0 -0.2**
comp=Z,0.8nm,0.5s,baz=63,slow=8.9,SNR=3.8
ZALV Zalesovo Beam 42.78 306 *e*P **P 02 13 03.5 -1.7**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 42.78 306 P **P 02 13 04.9 -0.2**
C36M Paulatuk 43.99 30 P **P 02 13 15.1 +0.3**
C36M IAmb IAmb 02 13 15.8
comp=Z,3.6nm,0.6s
DLBC Dease Lake 44.73 46 P **P 02 13 22.6 +1.7**
WMQ Urumqi 45.30 291 *e*P **P 02 13 28.0 +2.3**
WMQ pmax pmax
comp=Z,27nm,0.7s
WMQ pmax pmax
comp=Z,140nm,6.1s
MK31 Makanchi Array 47.23 297 P **P 02 13 40.1 -0.7**
MK31 pmax pmax
comp=Z,1.0nm,1.1s
MK31 Makanchi Array 47.23 297 P **P 02 13 40.1 -0.7**
MKAR Makanchi Array 47.23 297 P **P 02 13 40.6 -0.1**
comp=Z,0.3nm,0.5s,baz=71,slow=8.3,SNR=4.2
MKAR PcP **PcP 02 15 11.8 +0.1**
comp=Z,0.3nm,0.7s,baz=67,slow=3.7,SNR=2.5
MKAR Makanchi Array 47.23 297 P **P 02 13 40.4 -0.4**
YKA Yellowknife Ar 50.07 37 P **P 02 14 02.5 +0.1**
comp=Z,2.1nm,0.9s,baz=297,slow=7.0,SNR=21
RES Resolute Bay 50.07 19 P **P 02 14 02.9 +0.8**
RES pmax pmax
comp=Z,1.0nm,0.9s
RES Resolute Bay 50.07 19 P **P 02 14 02.9 +0.8**
BRVK Borovoye 51.01 309 P **P 02 14 10.7 +1.2**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BRVK Borovoye 51.01 309 P **P 02 14 10.7 +1.2**
BRVK IAmb IAmb 02 14 13.3
comp=Z,2.1nm,0.8s
LTY Liberty 54.92 56 P **P 02 14 38.0 -0.6**
ARU Arti 55.00 318 *c i*P **P 02 14 37.8 -1.1**
ARU 02 16 48.4
ARU S **S 02 22 13.1 -5.5**
ARU pmax pmax
comp=Z,20nm,3.8s
ARU Arti 55.00 318 *e*P **P 02 14 37.8 -1.1**
B08A Colville Reser 55.05 54 P **P 02 14 39.2 -0.3**
B08A IAmb IAmb 02 14 49.8
comp=Z,5.5nm,1.4s
ARCES ARCESS Array B 57.50 341 P **P 02 14 55.7 -0.9**
comp=Z,3.9nm,1.0s,baz=27,slow=8.2,SNR=1.7
ABKAR Akbulak array 58.53 310 P **P 02 15 03.9 -0.1**
ABKAR IAmb IAmb 02 15 04.2
comp=Z,2.4nm,1.1s
FFC Flin Flon 59.88 41 P **P 02 15 13.8 +0.5**

FFC pmax pmax
comp=Z,4.0nm,0.8s
FFC Flin Flon 59.88 41 P **P 02 15 13.8 +0.5**
SUMG Summit 60.06 4 *i* P **P 02 15 15.0 +0.2**
SUMG Summit 60.06 4 P **P 02 15 15.0 +0.2**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 60.06 4 P **P 02 15 15.0 +0.2**
SUMG Summit 60.06 4 *i* P **P 02 15 15.0 +0.2**
FCC Fort Churchill 60.42 34 P **P 02 15 17.0 +0.1**
FCC pmax pmax
comp=Z,4.0nm,0.9s
FCC Fort Churchill 60.42 34 P **P 02 15 17.0 +0.1**
FCC IAmb IAmb 02 15 17.6
comp=Z,3.9nm,0.8s
NVAR Mina Array Bea 61.60 63 P **P 02 15 25.4 -0.1**
comp=Z,0.4nm,0.6s,baz=293,slow=7.7,SNR=2.2
NVAR Mina Array Bea 61.60 63 P **P 02 15 25.9 +0.4**
FIA1 FINESS Array S 63.77 335 P **P 02 15 38.9 -0.5**
FINES FINESS Array B 63.77 335 P **P 02 15 38.9 -0.5**
comp=Z,1.7nm,0.4s,baz=34,slow=7.0,SNR=16
FINES FINESS Array B 63.77 335 *e*P **P 02 15 38.6 -0.7**
FINES pmax pmax
comp=Z,2.0nm,0.4s
PDAR Pinedale Array 63.89 55 P **P 02 15 40.5 -0.3**
comp=Z,0.6nm,0.8s,baz=104,slow=0.6,SNR=4.7
PDAR Pinedale Array 63.89 55 P **P 02 15 40.7 -0.1**
RDMU Red Mountain 65.34 56 P **P 02 15 50.6 +0.4**
RDMU IAmb IAmb 02 15 50.9
comp=Z,3.1nm,0.7s
ULM Lac du Bonnet 65.66 41 P **P 02 15 51.4 -0.5**
comp=Z,1.4nm,0.5s,baz=307,slow=7.7,SNR=4.6
ULM Lac du Bonnet 65.66 41 *e*P **P 02 15 52.5 +0.6**
ULM pmax pmax
comp=Z,1.0nm,0.6s
ULM Lac du Bonnet 65.66 41 P **P 02 15 51.6 -0.2**
PV17 East Wray Mesa 67.23 58 P **P 02 16 02.4 0.0**
PV17 IAmb IAmb 02 16 02.5
comp=Z,2.2nm,0.6s
NC405 NORSAR Array S 67.69 341 P **P 02 16 05.0 +0.3**
NC405 IAmb IAmb 02 16 09.2
comp=Z,3.7nm,0.9s
NB2 NORSAR Subarra 67.87 341 P **P 02 16 05.4 -0.4**
comp=Z,2.1nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 67.87 341 P **P 02 16 05.8 0.0**
comp=Z,2.9nm,0.7s,baz=27,slow=6.3,SNR=18
NC602 NORSAR Array S 68.07 341 P **P 02 16 06.8 -0.2**
WRA Warramunga Arr 69.28 200 P **P 02 16 16.7 +1.7**
comp=Z,0.2nm,0.5s,baz=18,slow=6.2,SNR=1.3
ECSD EROS Data Cent 70.02 47 P **P 02 16 18.9 -0.5**
KIV Kislovodsk 70.83 315 *e*P **P 02 16 23.8 -0.7**
KIV pmax pmax
comp=Z,16nm,0.9s
KIV Kislovodsk 70.83 315 *e*P **P 02 16 23.8 -0.7**
KBZ Khabaz 70.90 314 *e*P **P 02 16 23.8 -0.9**
KBZ pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 70.90 314 *e*P **P 02 16 23.8 -0.9**
AKASG Malin Array Be 71.40 327 P **P 02 16 27.3 -0.4**
comp=Z,1.8nm,0.5s,baz=34,slow=6.2,SNR=10.0
AKASG Malin Array Be 71.40 327 *e*P **P 02 16 27.1 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 71.40 327 P **P 02 16 28.1 +0.5**
AKBB Malin Array Si 71.40 327 P **P 02 16 27.6 -0.1**
AKBB pmax pmax
comp=Z,10.0nm,1.4s
AKBB Malin Array Si 71.40 327 P **P 02 16 27.6 -0.1**
AKBB IAmb IAmb 02 16 28.0
comp=Z,10nm,1.4s
ASAR Alice Springs 72.97 199 P **P 02 16 37.5 +0.2**
comp=Z,0.8nm,0.7s,baz=8.9,slow=5.8,SNR=7.9
BUR08 Bucovina Ar. S 75.42 327 **P 02 16 51.9 +0.4**
BUR08 IAmb IAmb 02 16 52.4
comp=Z,2.4nm,0.7s
BURAR Bucovina Array 75.44 327 ⇑P **P 02 16 52.1 +0.5**
BURAR Bucovina Array 75.44 327 ⇑P **P 02 16 52.1 +0.5**
BURAR Bucovina Array 75.44 327 **P 02 16 51.9 +0.3**
BIZ Bicaz 75.67 326 ⇑P **P 02 16 53.4 +0.6**
TESR Tescani 75.81 326 ⇑P **P 02 16 53.1 -0.6**
VARL Varlezi 75.85 324 ⇑P **P 02 16 54.6 +0.7**
DIKM Dikmen 76.11 317 ⇑P **P 02 16 53.7 -1.8**
VRI Vrincioaia 76.32 325 ⇑P P 02 17 03.6 +7.0
VRI Vrincioaia 76.32 325 ⇑P P 02 17 03.6 +7.0
PLOR Plostina 76.36 325 ⇑P **P 02 16 57.7 +0.8**
PLOR Plostina 76.36 325 ⇑P **P 02 16 57.7 +0.8**
TPGR Topolog 76.48 324 ⇑P **P 02 16 57.9 +0.3**
BISRR Bisoca 76.59 325 ⇓P **P 02 17 01.0 +2.8**
TX31 Lajitas Ar. Si 76.65 61 P **P 02 16 58.7 -0.2**
TX31 IAmb IAmb 02 16 59.2
comp=Z,6.3nm,0.8s
TX32 Lajitas Array 76.65 61 P **P 02 16 58.6 -0.2**
TX32 IAmb IAmb 02 16 59.2
comp=Z,2.3nm,0.9s
TXAR Lajitas Array 76.65 61 P **P 02 16 58.5 -0.3**
comp=Z,2.5nm,0.8s,baz=302,slow=4.4,SNR=23
CJR Cluj-Napoca 76.79 327 ⇑P **P 02 16 58.1 -1.2**
CJR Cluj-Napoca 76.79 327 ⇑P **P 02 16 58.1 -1.2**
HARR Harsova 76.82 324 ⇑P **P 02 16 59.4 0.0**
HARR Harsova 76.82 324 ⇑P **P 02 16 59.4 0.0**
MLR Muntele Rosu 76.94 325 ⇑P **P 02 17 01.0 +0.8**
MLR Muntele Rosu 76.94 325 ⇑P **P 02 17 01.0 +0.8**
MLR Muntele Rosu 76.94 325 **P 02 17 01.0 +0.8**
MLR IAmb IAmb 02 17 05.1
comp=Z,2.7nm,0.6s
VOIR 77.33 326 ⇓P **P 02 17 02.6 +0.2**
VOIR 77.33 326 ⇓P **P 02 17 02.6 +0.2**
KHC Kasperske Hory 77.97 335 *e*P **P 02 17 07.0 +1.1**
KHC Kasperske Hory 77.97 335 *e*P **P 02 17 07.0 +1.1**
GERES GERESS Array B 78.19 334 P **P 02 17 06.7 -0.4**
comp=Z,0.4nm,0.5s,baz=24,slow=7.5,SNR=2.0
BRTR Keskin Array B 78.38 317 P **P 02 17 09.1 +0.7**
comp=Z,0.8nm,0.8s,baz=46,slow=7.1,SNR=6.1
BRTR Keskin Array B 78.38 317 P **P 02 17 09.6 +1.2**
MOQ Mont Orford 79.17 31 P **P 02 17 12.7 +0.2**
BATG Bathurst New B 79.47 26 P **P 02 17 14.2 +0.1**
BATG IAmb IAmb 02 17 21.8
comp=Z,9.9nm,1.2s
M55A Ridgway 79.94 37 P **P 02 17 16.6 -0.2**
VTS Vitosha 80.41 325 ⇑P **P 02 17 18.9 -0.5**
VTS Vitosha 80.41 325 ⇑P **P 02 17 18.9 -0.5**
LMN Caledonia Moun 81.13 26 P **P 02 17 22.8 -0.2**
LMN IAmb IAmb 02 17 23.4
comp=Z,5.5nm,0.9s
H03N2 Juan Fernandez 138.13 90 T T 04 58 11.8
baz=309,slow=77,SNR=7.7
H03N1 Juan Fernandez 138.14 90 T T 04 58 13.1
baz=309,slow=77,SNR=10
H03N3 Juan Fernandez 138.14 90 T T 04 58 15.6
baz=309,slow=77,SNR=7.9
PLCA Paso Flores 147.63 95 PKPbc **PKPbc 02 24 50.9 -0.9**
comp=Z,1.9nm,0.7s,baz=278,slow=4.6,SNR=6.0
PLCA Paso Flores 147.63 95 **PKPbc 02 24 51.5 -0.3**

*TAP **30** 02:08:22.2,24.°97N×122.°41E,h37km±1km,ML2.8,D*
*JMA **30** 02:08:22.6±0.2,24.°89N×122.°38E,h8km±5km,M2.3*
ISC 30 02:08:22.8±1.4,24.°90N±0.°04×122.°38E±0.°03,h21km±3km, n25,σ0°80/49,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.37**	**287**	P	**Pb**	**02 08 30.8**	**+0.3**
TWB1	baz=276			S	**Sb**	**02 08 35.3**	**-0.6**
TIPB	**Shuangxi**	**0.51**	**278**	P	**Pb**	**02 08 33.4**	**+0.3**
TIPB	baz=268			S	**Sb**	**02 08 40.8**	**+0.7**
TWC	**Suao**	**0.57**	**239**	P	**Pb**	**02 08 33.6**	**-0.4**
TWC	baz=228			S	**Sb**	**02 08 42.8**	**+1.0**
WFSB	**Wu-fen Shan**	**0.57**	**287**	P	**Pb**	**02 08 34.5**	**+0.3**
WFSB	baz=280			S	**Sn**	**02 08 43.0**	**-1.4**
NDS	**Dongshan**	**0.66**	**246**	*i* P	**Pb**	**02 08 35.4**	**-0.3**
NDS	baz=231			*e*S	**Sn**	**02 08 47.0**	**+0.3**
TWE	**Neicheng**	**0.68**	**255**	*i* P	**Pb**	**02 08 35.8**	**-0.1**
JYNG	**Yonagunijimaku**	**0.68**	**131**	P	**Pb**	**02 08 35.6**	**-0.4**
JYNG	baz=250			S	**Sb**	**02 08 44.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.72**	**127**	P	**Pb**	**02 08 36.5**	**-0.1**
YOJ	baz=129			S	**Sb**	**02 08 46.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.72**	**127**	P	**Pb**	**02 08 36.3**	**-0.3**
YOJ				S	**Sb**	**02 08 45.4**	**-0.7**
ENA	**Nanau**	**0.75**	**231**	*e*P	**Pn**	**02 08 39.2**	**+1.1**
ENA	baz=229			S	**Sb**	**02 08 47.0**	**+0.1**
YM01	**YM01**	**0.78**	**288**	P	**Pb**	**02 08 37.0**	**-0.6**
YM01	baz=283			*e*S	**Sb**	**02 08 48.1**	**+0.4**
ENTT	**Nioudou**	**0.79**	**251**	P	**Pb**	**02 08 37.9**	**+0.2**
ENTT	baz=235			*e*S	**Sb**	**02 08 46.8**	**-1.2**
YM10	**YM10**	**0.79**	**289**	P	**Pn**	**02 08 38.6**	**-0.1**
YM10	baz=284			*e*S	**Sn**	**02 08 49.6**	**-0.2**
TWY	**Chenhua**	**0.80**	**298**	*e*P	**Pn**	**02 08 39.2**	**+0.4**
TWY	baz=293			*i* S	**Sb**	**02 08 48.5**	**+0.2**
NWLT	**Wulai**	**0.81**	**261**	*i* P	**Pb**	**02 08 38.3**	**+0.1**
NWLT	baz=270			S	**Sn**	**02 08 50.9**	**+0.6**
NDT	**Datong Townshi**	**0.84**	**250**	P	**Pn**	**02 08 39.5**	**0.0**
NDT	baz=236			S	**Sn**	**02 08 51.4**	**+0.2**
YHNB	**Yeheng**	**0.94**	**256**	P	**Pb**	**02 08 40.4**	**-0.1**
YHNB	baz=263			*e*S	**Sb**	**02 08 51.0**	**-1.5**
NSK	**Sanguang**	**0.96**	**257**	P	**Pn**	**02 08 41.2**	**+0.2**
NSK	baz=263			S	**Sn**	**02 08 54.0**	**-0.1**
NACB	**Ninganchiao**	**1.02**	**225**	P	**Pn**	**02 08 41.6**	**-0.3**
NACB	baz=228			*e*S	**Sb**	**02 08 52.6**	**-2.1**
NNSB	**Datong**	**1.02**	**243**	P	**Pb**	**02 08 42.0**	**+0.2**
NNSB	baz=233			S	**Sb**	**02 08 55.2**	**+0.3**
NNSH	**Datong**	**1.02**	**243**	P	**Pn**	**02 08 41.8**	**-0.2**
NNSH	baz=234			S	**Sb**	**02 08 54.5**	**-0.4**
ETLH	**Xiulin Townshi**	**1.07**	**230**	P	**Pn**	**02 08 42.5**	**-0.1**
ETLH	baz=237			S	**Sb**	**02 08 56.2**	**0.0**
WHF	**Hehuan Shan**	**1.27**	**234**	*i* P	**Pb**	**02 08 46.4**	**+0.2**
WHF	baz=238			*e*S	**Sn**	**02 09 00.7**	**-1.5**
IRIF	**Iriomote-Funau**	**1.35**	**114**	P	**Pb**	**02 08 47.4**	**+0.1**
IRIF				S	**Sb**	**02 09 05.8**	**+1.6**
CHGB	**Renai**	**1.38**	**233**	*e*P	**Pb**	**02 08 49.0**	**+1.0**
CHGB	baz=232			*e*S	**Sb**	**02 09 08.0**	**+2.6**
	baz=232						

*BGR **30** 02:12:39.6±0.0,22.°52S×172.°11E,h10km,Ms5.8*
*IDC **30** 02:12:39.6±0.4,22.°44S×170.°91E,h0km,mb4.7/27, mb1 4.8/28,mb1mx4.6/47,mbtmp4.7/28,ML4.7/1,Error ellipse: s-maj=14.9km s-min=12.4km az=162.0*
*BJI **30** 02:12:45.6±0.0,22.°40S×170.°70E,h50km,mB5.1/3, mb4.9/39*
*MOS **30** 02:12:47.0±1.2,22.°40S×170.°74E,h60km,mb5.3/22,Error ellipse: s-maj=9.1km s-min=8.1km az=23.8*
*NEIC **30** 02:12:47.4±2.0,22.°53S±0.°08×170.°70E±0.°07,h54km±4km, mb5.0/68,Error ellipse: s-maj=11.5km s-min=9.9km az=169.0*
*NOU **30** 02:12:53.8,22.°42S×170.°09E,h59km,mb5.1,Southeast of Loyalty Islands*
ISC 30 02:12:45.7±0.3,22.°55S±0.°05×170.°80E±0.°05,h42km,n499, σ1°15/483,mb5.0/94,42C-35D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.78**	**292**	P	**Pn**	**02 13 25.9**	**-1.8**
PINNC	**Pines Island,**	**3.10**	**268**	P	**Pn**	**02 13 30.6**	**-1.4**
YATNC	**Mamie plateau,**	**3.65**	**277**	P	**Pn**	**02 13 37.9**	**-1.8**
OUENC	**Ouen Island, N**	**3.66**	**271**	P	**Pn**	**02 13 38.9**	**-0.9**
ONTNC	**Ouen Toro**	**4.02**	**273**	P	**Pn**	**02 13 43.9**	**-0.9**
DZM	**Mont Dzumac**	**4.06**	**276**	Pn	**Pn**	**02 13 44.4**	**-1.0**
DZM	48nm,0.3s,baz=115,slow=12,SNR=685			Sn	**Sn**	**02 14 29.5**	**-2.2**
DZM	75nm,0.3s,baz=96,slow=15,SNR=4.4 **Mont Dzumac**	**4.06**	**276**	*e*Pn	**Pn**	**02 13 44.2**	**-1.1**
DZM	266nm,0.2s			*e*Sn	**Sn**	**02 14 27.3**	**-4.4**
DZM	441nm,0.3s **Mont Dzumac**	**4.06**	**276**	Pn	**Pn**	**02 13 44.3**	**-1.1**
DZM				Sn	**Sn**	**02 14 30.6**	**-1.1**
DZM	**Mont Dzumac**	**4.06**	**276**	P	**Pn**	**02 13 44.1**	**-1.3**
DVP	**Devils Point**	**5.39**	**332**	P	**Pn**	**02 14 07.3**	**+3.7**
NFK	**Norfolk Island**	**6.96**	**201**	P	**Pn**	**02 14 23.4**	**-1.8**
NFK	baz=6.9,SNR=7.0			S	**Sn**	**02 15 37.9**	**-5.2**
SANVU	baz=6.9 **Saraoutou**	**7.84**	**334**	Pn	**Pn**	**02 14 37.5**	**+0.2**
SANVU	**Saraoutou**	**7.84**	**334**	P	**Pn**	**02 14 40.0**	**+2.8**
MSVF	**Nonsavu**	**8.33**	**56**	Pn	**Pn**	**02 14 47.8**	**+3.7**
MSVF	3.0nm,0.3s,baz=227,slow=11,SNR=37 **Nonsavu**	**8.33**	**56**	*i* P	**Pn**	**02 14 46.8**	**+2.8**
MSVF	comp=Z,132nm,1.0s			pmax	pmax		
MSVF	**Nonsavu**	**8.33**	**56**	Pn	Pn	02 14 48.6	+4.5
OUZ	**Omahuta**	**12.86**	**170**	Pn	**Pn**	**02 15 47.1**	**+1.2**
LHI	**Lord Howe Isla**	**13.74**	**227**	Pn	**Pn**	**02 15 57.7**	**-0.3**
URZ	**Urewera**	**16.57**	**162**	Pn	**P**	**02 16 37.5**	**+0.5**
URZ	comp=Z,0.5nm,0.3s,baz=308,slow=20,SNR=5.4 **Urewera**	**16.57**	**162**		**P**	**02 16 38.7**	**+1.7**
HNR	**Honiara**	**16.68**	**320**	Pn	**P**	**02 16 37.2**	**-1.2**
HNR	comp=Z,10nm,0.3s,baz=231,slow=5.3,SNR=8.2 **Honiara**	**16.68**	**320**	P	**P**	**02 16 38.7**	**+0.3**
HNR	comp=Z,274nm,1.2s			pmax	pmax		
HNR	**Honiara**	**16.68**	**320**		**P**	**02 16 38.7**	**+0.3**
BKZ	**Black Stump Fm**	**17.27**	**165**		**P**	**02 16 46.3**	**+1.6**
EIDS	**Eidsvold**	**18.23**	**257**	P	**Pn**	**02 16 56.9**	**+1.2**
EIDS	baz=18,SNR=4.7 **Eidsvold**	**18.23**	**257**	P	**Pn**	**02 16 58.5**	**+2.9**
AFI	**Afiamalu**	**18.64**	**66**	P	**Pn**	**02 17 00.5**	**-0.2**
AFI	comp=Z,123nm,1.4s			pmax	pmax		
AFI	**Afiamalu**	**18.64**	**66**	P	**Pn**	**02 17 00.5**	**-0.2**
AFI	comp=Z,123nm,1.4s			IAmb	IAmb	02 17 29.6	
BFZ	**Birch Farm**	**18.66**	**167**	P	**Pn**	**02 17 01.3**	**+0.7**
ARMA	**Armidale**	**18.85**	**241**	P	**Pn**	**02 17 08.6**	**+5.5**
ARMA	baz=19,SNR=6.3 **Armidale**	**18.85**	**241**	P	**Pn**	**02 17 05.3**	**+2.1**
SNZO	**South Karori**	**19.00**	**171**	P	**Pn**	**02 17 05.7**	**+1.0**
SNZO	comp=Z,171nm,1.4s			IAmb	IAmb	02 17 08.0	
TUWZ	**Tuamarina**	**19.01**	**173**	P	**Pn**	**02 17 06.8**	**+1.9**
BHW	**Baring Head**	**19.12**	**171**	P	**Pn**	**02 17 06.4**	**+0.3**
MSWZ	**Moikau Station**	**19.18**	**170**	P	**Pn**	**02 17 07.2**	**+0.2**
THZ	**Tophouse**	**19.24**	**175**	P	**P**	**02 17 06.9**	**+0.4**
THZ	comp=Z,60nm,1.0s			IAmb	IAmb	02 17 15.5	
BSWZ	**Blackbirch Sta**	**19.29**	**173**	P	**Pn**	**02 17 09.8**	**+1.6**
PLWZ	**Palliser**	**19.33**	**170**	P	**P**	**02 17 07.8**	**+0.4**
CMWZ	**Cape Campbell**	**19.36**	**172**	P	**Pn**	**02 17 10.8**	**+1.7**
KHZ	**Kahutara**	**19.95**	**174**		**Pn**	**02 17 17.3**	**+1.4**
KHZ	comp=Z,200nm,1.4s			IAmb	IAmb	02 17 18.9	
LTZ	**Lake Taylor**	**20.22**	**177**	P	Pn	02 17 19.4	+0.2
MGCD	**Mangrove Creek**	**20.35**	**234**	P	Pn	02 17 22.1	+1.1
RMQ	baz=20,SNR=6.4 **Roma**	**20.43**	**254**	P	Pn	02 17 21.1	-0.7
	baz=20,SNR=17						

OXZ **Oxford** **20.75 177** P Pn 02 17 26.3 +0.8
OXZ IAmb IAmb 02 17 27.8
comp=Z,78nm,0.8s
RPZ **Rata Peaks** **21.11 179** P **P** **02 17 27.5 +0.8**
comp=Z,37nm,0.8s,baz=4.4,slow=13,SNR=6.0
RPZ **Rata Peaks** **21.11 179** **P**
RPZ IAmb IAmb 02 17 42.8
comp=Z,62nm,1.0s
ODZ **Otahua Downs** **22.44 180** P **P** **02 17 43.5 +2.5**
ODZ IAmb IAmb 02 17 47.9
comp=Z,149nm,1.7s
CNB **Canberra Magne** **22.61 231** P **P** **02 17 44.1 +1.2**
baz=22,SNR=10
YNG **Young** **22.86 234** P **P** **02 17 46.3 +0.8**
baz=23,SNR=8.0
CAN **Canberra** **22.87 231** P **P** **02 17 47.5 +1.8**
CAN pmax pmax
comp=Z,107nm,1.8s
CAN **Canberra** **22.87 231** P **P** **02 17 47.5 +1.8**
CAN IAmb IAmb 02 17 52.7
comp=Z,107nm,1.8s
CTA **Charters Tower** **22.99 272** P **P** **02 17 47.6 +0.7**
comp=Z,7.4nm,0.6s,baz=92,slow=12,SNR=8.0
CTAO **Charters Tower** **22.99 272** P **P** **02 17 47.9 +1.0**
CTAO pmax pmax
comp=Z,30nm,1.3s
CTAO **Charters Tower** **22.99 272** P **P** **02 17 47.9 +1.0**
CMSA **Cobar Meteorol** **24.04 243** P **P** **02 17 58.7 +1.7**
baz=24,SNR=42
QLP **Quilpie** **24.47 255** P **P** **02 18 02.5 +1.6**
baz=24,SNR=5.8
MTSU **Mount Surprise** **25.20 275** P **P** **02 18 09.1 +1.5**
baz=25,SNR=20
PMG **Port Moresby** **26.16 296** P **P** **02 18 16.4 +0.1**
comp=Z,29nm,0.8s,baz=95,slow=8.8,SNR=8.7
PMG **Port Moresby** **26.16 296** P **P** **02 18 15.7 -0.6**
PMG pmax pmax
comp=Z,33nm,0.9s
PMG **Port Moresby** **26.16 296** P **P** **02 18 15.7 -0.6**
PMG IAmb IAmb 02 18 20.8
comp=Z,33nm,0.9s
PMG **Port Moresby** **26.16 296** P **P** **02 18 16.9 +0.6**
TOO **Toolangi** **26.42 230** P **P** **02 18 19.7 +1.2**
TOO pmax pmax
comp=Z,18nm,1.0s
TOO **Toolangi** **26.42 230** P **P** **02 18 19.7 +1.2**
STKA **Stephens Creek** **27.51 244** P **P** **02 18 29.6 +1.2**
comp=Z,6.8nm,0.7s,baz=91,slow=10,SNR=18
STKA **Stephens Creek** **27.51 244** P **P** **02 18 30.0 +1.7**
baz=27,SNR=16
STKA **Stephens Creek** **27.51 244** *i* P **P** **02 18 29.0 +0.7**
STKA **Stephens Creek** **27.51 244** P **P** **02 18 29.0 +0.7**
COEN **Coen** **27.55 283** P **P** **02 18 30.1 +1.3**
baz=27
COEN **Coen** **27.55 283** P **P** **02 18 29.7 +0.9**
QIS **Mount Isa** **29.05 268** P **P** **02 18 43.5 +1.3**
baz=29
HTT **Hallett** **30.05 242** P **P** **02 18 51.9 +0.9**
baz=30,SNR=8.1
BBOO **Buckleboo** **32.29 244** P **P** **02 19 11.3 +0.7**
baz=32,SNR=11
BBOO **Buckleboo** **32.29 244** P **P** **02 19 10.6 -0.1**
BBOO IAmb IAmb 02 19 22.5
comp=Z,23nm,0.9s
AS31 **Alice Springs** **33.89 261** P **P** **02 19 24.4 -0.4**
ASAR **Alice Springs** **33.89 261** P **P** **02 19 24.7 -0.1**
comp=Z,16nm,0.7s,baz=87,slow=9.1,SNR=172
ASAR PcP **PcP** **02 22 03.3 +0.5**
comp=Z,1.7nm,0.8s,baz=90,slow=3.7,SNR=3.7
ASAR ScP **ScP** **02 25 50.2 +5.8**
comp=Z,0.6nm,0.9s,baz=110,slow=3.3,SNR=2.7
ASAR **Alice Springs** **33.89 261** P **P** **02 19 23.9 -0.9**
ASAR PcP **PcP** **02 22 02.3 -0.5**
ASPA **Alice Springs** **33.89 261** P **P** **02 19 24.5 -0.3**
baz=34
WC3 **Warramunga Arr** **33.99 267** P **P** **02 19 25.2 -0.5**
baz=34
WB0 **Warramunga Arr** **34.01 268** P **P** **02 19 26.0 +0.2**
WB0 IAmb IAmb 02 19 35.5
comp=Z,15nm,1.2s
WB2 **Warramunga Arr** **34.02 267** P **P** **02 19 24.5 -1.4**
WRAB **Tennant Creek** **34.02 267** *i* P **P** **02 19 24.8 -1.1**
WRAB pmax pmax
comp=Z,6.0nm,1.0s
WRA **Warramunga Arr** **34.03 267** P **P** **02 19 25.1 -0.9**
comp=Z,1.8nm,0.6s,baz=106,slow=7.3,SNR=21
WRA PcP **PcP** **02 22 03.6 +0.4**
comp=Z,1.3nm,0.7s,baz=89,slow=2.6,SNR=3.0
WRA S **S** **02 24 54.5 +5.7**
comp=Z,0.7nm,0.9s,baz=100,slow=15,SNR=2.9
WRA **Warramunga Arr** **34.03 267** P **P** **02 19 23.8 -2.2**
WRA PcP **PcP** **02 22 03.1 -0.1**
JAY **Jayapura** **35.34 300** P **P** **02 19 37.5 +0.2**
comp=Z,20nm,0.8s,baz=125,slow=2.0,SNR=8.2
JAY **Jayapura** **35.34 300** P **P** **02 19 37.6 +0.2**
comp=Z,14nm,0.8s
KDU **Kakadu** **37.72 278** P **P** **02 19 57.4 -0.2**
baz=38,SNR=7.4
WRKA **Warakurna** **38.85 258** P **P** **02 20 07.2 +0.1**
baz=39,SNR=16
FORT **Forrest** **38.87 249** P **P** **02 20 06.7 -0.5**
FORT IAmb IAmb 02 20 37.8
comp=Z,22nm,0.8s
MTN **Manton Dam** **38.89 278** P **P** **02 20 07.4 -0.1**
baz=39,SNR=10
MTN **Manton Dam** **38.89 278** P **P** **02 20 07.0 -0.5**
MTN IAmb IAmb 02 20 08.0
comp=Z,26nm,0.7s
BAKI **Biak** **39.84 297** P **P** **02 20 16.2 +0.8**
comp=Z,102nm,0.9s
FAKI **Fak Fak** **42.15 292** P **P** **02 20 33.7 -0.7**
FAKI IAmb IAmb 02 20 35.4
comp=Z,65nm,1.5s
FAKI **Fak Fak** **42.15 292** P **P** **02 20 34.2 -0.2**
comp=Z,34nm,1.4s
FITZ **Fitzroy Crossi** **42.46 267** P **P** **02 20 37.4 +0.5**
comp=Z,23nm,0.8s,baz=121,slow=6.8,SNR=50
FITZ **Fitzroy Crossi** **42.46 267** P **P** **02 20 37.4 +0.5**
baz=42,SNR=33
FITZ **Fitzroy Crossi** **42.46 267** P **P** **02 20 37.6 +0.8**
FITZ IAmb IAmb 02 20 38.5
comp=Z,23nm,0.8s
SIJI **Sorong** **44.05 294** P **P** **02 20 50.0 +0.2**
comp=Z,33nm,0.7s,baz=84,slow=9.4
SWI **Sorong** **44.06 294** P **P** **02 20 50.2 +0.4**
comp=Z,74nm,0.7s
KMBL **Kambalda** **44.18 248** P **P** **02 20 51.0 +0.3**
baz=44,SNR=5.7
SOEI **Soe** **46.28 278** P **P** **02 21 09.2 +1.6**
comp=Z,27nm,0.8s
NLAI **Namlea** **46.47 288** P **P** **02 21 09.9 +0.9**
comp=Z,24nm,1.6s
BATI **Baumata** **46.67 277** P **P** **02 21 11.4 +0.8**
comp=Z,20nm,0.3s,baz=133,slow=7.4,SNR=4.1
BATI **Baumata** **46.67 277** P **P** **02 21 11.8 +1.2**
comp=Z,23nm,0.7s
KLBR **Kellerberrin** **47.69 247** P **P** **02 21 18.4 0.0**
baz=48,SNR=7.3
SANI **Sanana** **48.01 289** P **P** **02 21 21.2 +0.2**
comp=Z,77nm,0.9s
NWAO **Narrogin (SRO)** **48.08 245** P **P** **02 21 21.9 +0.5**
comp=Z,14nm,0.9s,baz=102,slow=7.8,SNR=8.4
NWAO **Narrogin (SRO)** **48.08 245** P **P** **02 21 21.9 +0.5**
baz=48,SNR=4.6
NWAO **Narrogin (SRO)** **48.08 245** P **P** **02 21 21.9 +0.5**
BLDU **Ballidu** **48.65 248** P **P** **02 21 25.6 -0.1**
baz=48,SNR=7.4
EDFI **Ende, Flores** **49.01 278** P **P** **02 21 29.4 +0.6**
comp=Z,8.0nm,0.8s
LUWI **Luwuk** **51.31 288** P **P** **02 21 47.1 +1.0**
LUWI **Luwuk** **51.31 288** P **P** **02 21 47.1 +1.0**
comp=Z,8µmcomp=Z,60nm,0.8s
BNSI **Bone** **52.19 282** P **P** **02 21 53.7 +1.0**
comp=Z,17nm,1.1s
KAPI **Kappang** **52.26 282** P **P** **02 21 54.1 +1.0**
comp=Z,13nm,0.8s,baz=133,slow=4.9,SNR=9.4
KAPI **Kappang** **52.26 282** P **P** **02 21 53.8 +0.6**
KAPI pmax pmax
comp=Z,83nm,1.6s
KAPI **Kappang** **52.26 282** P **P** **02 21 53.8 +0.6**
PLAI **Plampang** **52.57 276** P **P** **02 21 55.9 +0.4**
comp=Z,36nm,1.0s
MLOA **Mauna Loa Obse** **53.18 41** P **P** **02 22 00.3 -0.1**
TWSI **Taliwang, Sumb** **53.43 276** P **P** **02 22 02.6 +0.8**
comp=Z,21nm,0.9s
TOLI2 **Tolitoli** **54.08 289** P **P** **02 22 06.2 -0.4**

VNDA **Vanda** **55.20 182** P **P** **02 22 15.0 +1.2**
comp=Z,0.8nm,0.9s,baz=23,slow=7.7,SNR=3.9
VNDA **Vanda** **55.20 182** P **P** **02 22 15.0 +1.2**
SRBI **Singaraja** **55.20 276** P **P** **02 22 14.8 +0.1**
comp=Z,22nm,0.4s
SBA **Scott Base** **55.39 181** P **P** **02 22 17.4 +2.2**
SBA pmax pmax
comp=Z,17nm,1.3s
SBA **Scott Base** **55.39 181** P **P** **02 22 17.4 +2.2**
SBA IAmb IAmb 02 22 18.6
comp=Z,17nm,1.2s
JAGI **Jajag, Banyuwa** **56.04 275** P **P** **02 22 19.6 -1.2**
JAGI **Jajag, Banyuwa** **56.04 275** P **P** **02 22 20.6 -0.2**
BBKI **Banjar Baru** **57.35 281** P **P** **02 22 29.4 -0.7**
UGM **Wanagama** **59.59 274** P **P** **02 22 44.6 -1.1**
comp=Z,64nm,1.9s
KKM **Kota Kinabalu** **60.47 291** P **P** **02 22 52.5 +0.7**
KSM **Kuching** **63.54 284** P **P** **02 23 13.2 +0.8**
KASI **Kota Agung** **66.02 274** P **P** **02 23 26.1 -2.4**
comp=Z,17nm,0.7s
MJAR **Matsushiro Arr** **66.34 332** P **P** **02 23 29.2 -0.9**
comp=Z,2.6nm,0.7s,baz=166,slow=6.9,SNR=4.6
MJAR **Matsushiro Arr** **66.34 332** P **P** **02 23 30.7 +0.6**
MAJO **Matsushiro** **66.34 332** *i* P **P** **02 23 28.4 -1.7**
MAJO pmax pmax
comp=Z,29nm,2.4s
JWT **Wachi** **66.59 329** P **P** **02 23 31.2 -0.5**
JWT IAmb IAmb 02 23 36.1
comp=Z,16nm,0.9s
NACB **Ninganchiao** **66.64 311** P **P** **02 23 32.2 -0.1**
NACB IAmb IAmb 02 23 32.9
comp=Z,21nm,0.9s
SSLB **Suanglung** **66.84 310** P **P** **02 23 32.1 -1.5**
SSLB IAmb IAmb 02 23 33.6
comp=Z,18nm,0.8s
YHNB **Yeheng** **67.11 311** P **P** **02 23 34.9 -0.5**
QSPA **South Pole Qui** **67.52 180** P **P** **02 23 38.1 +0.7**
comp=Z,5.8nm,0.8s,baz=62,slow=4.6,SNR=17
QSPA **South Pole Qui** **67.52 180** P **P** **02 23 38.2 +0.8**
QSPA IAmb IAmb 02 24 07.0
comp=Z,18nm,1.0s
KSI **Kapahiang** **68.49 275** P **P** **02 23 39.5 -4.7**
COCO **West Island** **70.75 264** *ce* P **P** **02 24 00.8 +2.7**
TJN **Taejon** **71.54 324** *ce* P **P** **02 24 01.1 -1.2**
KSRS **Korea Array** **72.04 325** P **P** **02 24 05.3 0.0**
comp=Z,2.3nm,0.7s,baz=141,slow=6.1,SNR=10
KSAR **Wonju Array Be** **72.06 325** P **P** **02 24 05.0 -0.4**
KSAR **Wonju Array Be** **72.06 325** P **P** **02 24 05.0 -0.4**
SISI **Saibi** **72.61 276** P **P** **02 24 10.0 +0.7**
comp=Z,13nm,1.4s
INCN **Inchon** **72.75 325** P **P** **02 24 10.6 +1.0**
INCN pmax pmax
comp=Z,28nm,1.1s
INCN **Inchon** **72.75 325** P **P** **02 24 10.6 +1.0**
INCN IAmb IAmb 02 24 11.0
comp=Z,28nm,1.1s
MNSI **Mandailing Nat** **73.00 278** P **P** **02 24 11.2 -0.4**
comp=Z,27nm,0.7s
IPM **Ipoh** **73.19 282** P **P** **02 24 12.2 -0.5**
NJ2 **Nanjing** **73.58 316** *eP* **P** **02 24 15.8 +1.2**
NJ2 pmax pmax
comp=Z,17nm,0.5s
KULM **Kulim** **73.87 283** P **P** **02 24 16.9 +0.2**
KULM IAmb IAmb 02 24 17.8
comp=Z,16nm,0.8s
GSI **Gunungsitoli** **75.04 278** P **P** **02 24 24.4 +0.9**
GSI **Gunungsitoli** **75.04 278** P **P** **02 24 24.6 +1.1**
comp=Z,16µmcomp=Z,55nm,0.9s
USRK **Ussuriysk Ar.** **75.33 332** P **P** **02 24 24.7 +0.2**
comp=Z,1.3nm,0.6s,baz=203,slow=1.4,SNR=4.9
USRK **Ussuriysk Ar.** **75.33 332** P **P** **02 24 23.8 -0.7**
USRK **Ussuriysk Ar.** **75.33 332** P **P** **02 24 23.8 -0.7**
PETK **Petropavlovsk-** **76.19 352** P **P** **02 24 29.1 -0.2**
comp=Z,8.1nm,0.7s,baz=154,slow=7.4,SNR=14
PETK **Petropavlovsk-** **76.19 352** P **P** **02 24 27.7 -1.5**
PETK **Petropavlovsk-** **76.19 352** P **P** **02 24 27.7 -1.5**
KHON **Khomkaen** **76.92 294** P **P** **02 24 36.0 +1.9**
comp=Z,62nm,1.0s
TIA **Tai'an** **77.37 318** P **P** **02 24 36.3 0.0**
TIA pmax pmax
comp=Z,21nm,0.6s
BELA **Belgrano 2** **78.69 175** P **P** **02 24 42.3 -0.7**
BELA IAmb IAmb 02 24 44.2
comp=Z,13nm,1.0s
ENH **Enshi** **78.89 309** P **P** **02 24 44.7 -0.2**
ENH IAmb IAmb 02 24 54.4
comp=Z,20nm,1.0s
GYA **Guiyang** **78.89 305** ⇑ P **P** **02 24 45.5 +0.4**
GYA pP pwP 02 25 04.8 +3.2
GYA pmax pmax
comp=Z,13nm,1.3s
KLR **Kul'dur** **79.47 335** P **P** **02 24 48.3 +0.7**
comp=Z,1.7nm,0.8s,baz=147,slow=6.0,SNR=7.0
KLR **Kul'dur** **79.47 335** *ce* P **P** **02 24 47.9 +0.4**
KLR pmax pmax
comp=Z,14nm,1.9s
UTTA **Uttaradit** **79.49 294** P **P** **02 24 50.7 +2.3**
comp=Z,16nm,0.8s
SUKH **Suokhai** **80.15 294** P **P** **02 24 54.2 +2.2**
BJT **Baijiatuau** **80.40 321** P **P** **02 24 52.6 -0.2**
BJT pmax pmax
comp=Z,10.0nm,1.2s
BJT **Baijiatuau** **80.40 321** P **P** **02 24 52.6 -0.2**
BJI **Beijing** **80.41 321** P **P** **02 24 53.0 +0.2**
BJI pmax pmax
comp=Z,8.0nm,0.8s
LAMP **Lampang** **80.63 294** P **P** **02 24 56.9 +2.4**
comp=Z,790nmcomp=Z,49nm,0.8s
CM04 **Chiang Mai Arr** **81.12 294** P **P** **02 24 59.0 +1.8**
comp=Z,220nmcomp=Z,24nm,0.8s
CM01 **Chiang Mai Arr** **81.15 294** P **P** **02 24 59.0 +1.7**
comp=Z,204nmcomp=Z,23nm,0.7s
CM05 **Chiang Mai Arr** **81.15 294** P **P** **02 24 59.6 +2.3**
comp=Z,165nmcomp=Z,17nm,0.7s
CM02 **Chiang Mai Arr** **81.17 294** P **P** **02 24 59.8 +2.4**
comp=Z,179nmcomp=Z,19nm,0.8s
CM31 **Chiang Mai Arr** **81.18 294** P **P** **02 24 59.3 +1.9**
CM31 IAmb IAmb 02 25 00.2
comp=Z,16nm,0.8s
CMAR **Chiang Mai Arr** **81.18 294** P **P** **02 24 59.5 +2.1**
comp=Z,9.8nm,0.7s,baz=138,slow=4.3,SNR=41
CMAR PP **PP** **02 28 00.8 -2.6**
comp=Z,0.8nm,0.3s,baz=143,slow=5.0,SNR=4.0
CMAR PKKPbc **PKKPbc** **02 43 32.3 -0.9**
comp=Z,1.0nm,0.3s,baz=284,slow=4.1,SNR=5.2
CMAR **Chiang Mai Arr** **81.18 294** P **P** **02 24 59.0 +1.5**
CM13 **Chiang Mai Arr** **81.19 294** P **P** **02 24 59.9 +2.3**
comp=Z,169nmcomp=Z,18nm,0.8s
KMI **Kunming** **81.25 302** ⇑ P **P** **02 24 59.5 +1.6**
KMI pP sP 02 25 13.3 -0.3
KMI sP pwP 02 25 18.0 +3.6
KMI pmax pmax
comp=Z,23nm,1.8s
KMI **Kunming** **81.25 302** P **P** **02 25 00.1 +2.1**
KMI pmax pmax
comp=Z,111nm,2.0s
KMI **Kunming** **81.25 302** P **P** **02 25 00.1 +2.1**
CHTO **Chiang Mai** **81.34 294** P **P** **02 24 59.6 +1.3**
CHTO pmax pmax
comp=Z,18nm,0.9s
CHTO **Chiang Mai** **81.34 294** P **P** **02 24 59.6 +1.3**
CHTO IAmb IAmb 02 25 00.8
comp=Z,18nm,0.8s
XAN **Xi'an** **81.40 312** P **P** **02 24 59.0 +0.6**
XAN pP pP 02 25 07.5 -2.2
XAN sP pwP 02 25 15.5 +0.5
XAN pmax pmax
comp=Z,15nm,1.0s
XAN pmax pmax
comp=Z,13nm,4.3s
XAN **Xi'an** **81.40 312** P **P** **02 24 58.8 +0.4**
XAN pmax pmax
comp=Z,47nm,1.7s
XAN **Xi'an** **81.40 312** P **P** **02 24 58.8 +0.4**
XAN IAmb IAmb 02 24 59.9
comp=Z,47nm,1.7s
MHMT **Maesarieng** **81.91 293** P **P** **02 25 03.0 +1.7**
comp=Z,3µmcomp=Z,31nm,0.8s
SYO **Syowa Base** **82.17 196** ⇑ *i* sP sP 02 25 26.0 +8.5
MA2 **Magadan** **83.46 350** *i* P **P** **02 25 07.9 -0.5**
MA2 pmax pmax
comp=Z,4.0nm,1.6s
HHC **Hu-ho-hao-te** **83.66 319** *eP* **P** **02 25 09.5 -0.6**
HHC pmax pmax
comp=Z,17nm,1.0s

HIA **Hailar** **84.69 329** *i* P **P** **02 25 15.4 +0.5**
HIA pmax pmax
comp=Z,3.0nm,0.9s
ZEA **Zeya** **84.76 336** *eP* **P** **02 25 15.7 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
SNAA **Sanae** **85.93 182** P **P** **02 25 20.6 -0.4**
SNAA **Sanae** **85.93 182** PKiKP **PKiKP** **02 30 29.3 -0.2**
SNAA **Sanae** **85.93 182** sP sP 02 25 43.1 +6.4
SNAA **Sanae** **85.93 182** *ce* P **P** **02 25 20.8 -0.2**
SNAA pmax pmax
comp=Z,16nm,0.7s
SNAA **Sanae** **85.93 182** P **P** **02 25 20.2 -0.8**
SNAA IAmb IAmb 02 25 26.1
comp=Z,17nm,0.9s
LZH **Lanzhou** **86.01 312** *eP* **P** **02 25 23.5 +1.5**
LZH pP pP 02 25 33.5 +0.1
LZH sP pwP 02 25 40.3 +1.6
LZH pmax pmax
comp=Z,29nm,1.1s
SEY **Seymchan** **86.43 352** P **P** **02 25 22.6 -0.7**
comp=Z,5.2nm,0.7s,baz=159,slow=7.3,SNR=25
SEY **Seymchan** **86.43 352** *i* P **P** **02 25 23.1 -0.1**
VNA3 **Neumayer Olymp** **86.46 180** P **P** **02 25 23.2 -0.4**
VNA3 **Neumayer Olymp** **86.46 180** pP pP 02 25 40.2 +5.2
VNA2 **Neumayer--Watz** **86.77 181** P **P** **02 25 25.0 -0.1**
baz=147,slow=3.2
VNA2 **Neumayer--Watz** **86.77 181** PKiKP **PKiKP** **02 30 32.7 +1.9**
VNA2 **Neumayer--Watz** **86.77 181** pP pP 02 25 41.1 +4.6
VNA2 **Neumayer--Watz** **86.77 181** sP sP 02 25 46.8 +6.0
VNA1 **Neumayer--Stat** **87.06 180** P **P** **02 25 26.4 0.0**
VNA1 **Neumayer--Stat** **87.06 180** pP pP 02 25 43.4 +5.5
VNA1 **Neumayer--Stat** **87.06 180** sP sP 02 25 48.5 +6.3
YBH **Yreka Blue Hor** **88.67 43** P **P** **02 25 35.2 +0.6**
comp=Z,1.4nm,0.7s,baz=223,slow=3.1,SNR=3.9
YBH **Yreka Blue Hor** **88.67 43** IAmb IAmb 02 26 04.8
comp=Z,27nm,1.8s
PAHR **Pah Rah Range** **89.80 46** P **P** **02 25 39.5 -0.5**
PAHR IAmb IAmb 02 25 43.3
comp=Z,15nm,1.7s
NVAR **Mina Array Bea** **89.91 48** P **P** **02 25 40.8 0.0**
comp=Z,2.0nm,0.8s,baz=226,slow=8.4,SNR=11
NVAR **Mina Array Bea** **89.91 48** P **P** **02 25 40.2 -0.5**
SHL **Shillong** **90.17 298** P **P** **02 25 42.3 +0.1**
SHL pmax pmax
comp=Z,17nm,0.9s
SHL **Shillong** **90.17 298** P **P** **02 25 42.2 +0.1**
PIX **Pinacate** **90.24 56** P **P** **02 25 41.5 -0.6**
PIX IAmb IAmb 02 25 53.7
comp=Z,7.6nm,1.6s
KVN **Kaiserville** **90.35 47** P **P** **02 25 42.1 -0.6**
KVN pmax pmax
comp=Z,4.0nm,1.0s
KVN **Kaiserville** **90.35 47** P **P** **02 25 42.1 -0.6**
ULN **Ulaanbaatar** **90.37 323** *ce* P **P** **02 25 42.7 +0.2**
ULN pmax pmax
comp=Z,24nm,1.2s
ULN **Ulaanbaatar** **90.37 323** P **P** **02 25 42.4 -0.1**
BILL **Bilibino** **90.38 358** *i* P **P** **02 25 40.5 -1.4**
BILL *i* 02 26 01.3
BILL pmax pmax
comp=Z,7.0nm,0.8s
BILL **Bilibino** **90.38 358** P **P** **02 25 41.5 -0.4**
BILL IAmb IAmb 02 25 43.7
comp=Z,6.8nm,0.9s
GTA **Gaotai** **90.44 313** *eP* **P** **02 25 44.0 +1.0**
GTA pP pP 02 25 53.5 -1.0
GTA sP sP 02 25 57.5 -1.3
GTA pmax pmax
comp=Z,6.0nm,1.0s
YAK **Yakutsk** **90.45 342** *ce* P **P** **02 25 42.0 -0.3**
YAK pmax pmax
comp=Z,21nm,1.0s
TPH **Tonopah** **90.48 49** P **P** **02 25 43.2 -0.2**
TPH pmax pmax
comp=Z,36nm,1.4s
TPH **Tonopah** **90.48 49** P **P** **02 25 43.1 -0.2**
TPNV **Topopah Spring** **90.64 50** P **P** **02 25 44.8 +0.7**
TPNV pmax pmax
comp=Z,6.0nm,1.1s
TPNV **Topopah Spring** **90.64 50** P **P** **02 25 44.8 +0.7**
TPNV IAmb IAmb 02 25 55.9
comp=Z,5.9nm,1.1s
SONM **Songino Array** **90.72 323** P **P** **02 25 44.3 +0.1**
comp=Z,9.9nm,0.9s,baz=139,slow=4.9,SNR=53
SONM **Songino Array** **90.72 323** P **P** **02 25 43.8 -0.3**
SONM pmax pmax
comp=Z,12nm,0.9s
SONM **Songino Array** **90.72 323** P **P** **02 25 43.8 -0.3**
PRN **Pahroc Range** **91.70 50** P **P** **02 25 50.1 +1.2**
PRN IAmb IAmb 02 26 04.5
comp=Z,4.0nm,0.9s
ILAR **Eielson Array** **92.95 17** P **P** **02 25 52.4 -1.5**
comp=Z,0.9nm,0.8s,baz=236,slow=4.2,SNR=11
ILAR **Eielson Array** **92.95 17** P **P** **02 25 52.9 -1.0**
H03S2 **Juan Fernandez** **93.17 129** T T 04 09 38.7
baz=238,slow=74
H03S1 **Juan Fernandez** **93.19 129** T T 04 09 40.2
baz=238,slow=74
H03S3 **Juan Fernandez** **93.19 129** T T 04 09 36.7
baz=238
ZAK **Zakamensk** **93.81 324** *eP* **P** **02 25 57.5 -0.9**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
TLY **Talaya** **94.29 325** P **P** **02 26 00.4 0.0**
comp=Z,4.7nm,0.7s,baz=212,slow=2.6,SNR=12
TLY **Talaya** **94.29 325** *eP* **P** **02 25 59.9 -0.5**
TLY pmax pmax
comp=Z,16nm,0.9s
TXAR **Lajitas Array** **97.07 61** P Pdif 02 26 13.3 -0.5
comp=Z,0.2nm,0.7s,baz=210,slow=5.4,SNR=4.5
TXAR PKKPbc **PKKPbc** **02 42 53.3 -0.9**
comp=Z,0.2nm,0.6s,baz=105,slow=3.0,SNR=4.1
PDAR **Pinedale Array** **97.79 47** P Pdif 02 26 17.6 +0.7
comp=Z,0.3nm,0.8s,baz=123,slow=2.5,SNR=3.1
TIXI **Tiksi** **98.27 348** *eP* **P** **02 26 15.3 -2.6**
WMQ **Urumqi** **100.53 313** *eP* **Pdif** **02 26 30.5 +1.7**
WMQ pmax pmax
comp=Z,19nm,0.7s
DGZ **Jazzator, Alta** **102.74 319** *i* P **Pdif** **02 26 38.4 -0.2**
DGZ pmax pmax
comp=Z,2.0nm,0.7s
YKA **Yellowknife Ar** **102.93 27** Pdiff **Pdif** **02 26 41.1 +2.2**
comp=Z,0.5nm,1.0s,baz=247,slow=4.0,SNR=4.1
YKA PKiKP **PKiKP** **02 30 58.1 -0.7**
comp=Z,0.4nm,0.7s,baz=232,slow=1.0,SNR=8.6
MKAR **Makanchi Array** **105.10 315** Pdiff **Pdif** **02 26 50.3 +1.3**
comp=Z,1.2nm,0.7s,baz=93,slow=5.5,SNR=12
MKAR PKiKP **PKiKP** **02 31 03.5 +0.1**
comp=Z,0.5nm,0.7s,baz=122,slow=1.6,SNR=4.0
MKAR PKKPbc **PKKPbc** **02 42 29.9 -1.6**
comp=Z,0.8nm,0.8s,baz=291,slow=3.6,SNR=6.0
MKAR **Makanchi Array** **105.10 315** P **Pdif** **02 26 49.6 +0.6**
MKAR **Makanchi Array** **105.10 315** Pdif **Pdif** **02 26 49.6 +0.6**
ZALV **Zalesovo Beam** **105.62 322** Pdiff **Pdif** **02 26 50.6 -0.5**
comp=Z,0.8nm,0.6s,baz=99,slow=4.5,SNR=2.2
ZALV **Zalesovo Beam** **105.62 322** P **Pdif** **02 26 50.0 -1.1**
ZALV **Zalesovo Beam** **105.62 322** **Pdif** **02 26 50.0 -1.1**
KURBB **Kurchatov Arra** **108.49 318** PKiKP **PKiKP** **02 31 09.2 -0.3**
comp=Z,0.7nm,0.7s,baz=110,slow=1.9,SNR=8.1
KURBB PP **PP** **02 31 33.5 -1.7**
comp=Z,0.8nm,0.8s,baz=104,slow=7.0,SNR=5.0
KURBB PKKPbc **PKKPbc** **02 42 19.6 -1.3**
comp=Z,0.2nm,0.4s,baz=294,slow=4.1,SNR=4.3
RES **Resolute Bay** **112.70 17** PKiKP **PKiKP** **02 31 15.7 -1.1**
comp=Z,2.1nm,0.7s,baz=216,slow=4.0,SNR=15
BVAR **Borovoye Array** **113.87 319** PKiKP **PKiKP** **02 31 19.1 -0.6**
comp=Z,0.3nm,0.4s,baz=267,slow=5.3,SNR=3.5
UOSS **Minazif** **120.61 286** **PKPdf** **02 31 32.4 -1.1**
ARU **Arti** **120.75 323** PKP **PKiKP** **02 31 32.6 -0.3**
comp=Z,1.1nm,0.3s,baz=0.0,slow=3.0,SNR=6.4
ARU **Arti** **120.75 323** *i* PKiKP **PKiKP** **02 31 32.8 -0.1**
ARU **Arti** **120.75 323** **PKPdf** **02 31 32.3 -0.5**
NOR **Nord** **120.79 1** *i* P **PKPdf** **02 31 31.2 -1.0**
NOR **Nord** **120.79 1** *i* PKiKP **PKPdf** **02 31 31.2 -1.0**
NOR **Nord** **120.79 1** *i* P **PKPdf** **02 31 31.3 -1.0**
GEYT **Alibeck** **121.01 302** PKP **PKiKP** **02 31 34.2 +0.1**
comp=Z,2.6nm,0.8s,baz=92,slow=7.2,SNR=4.2
GEYT **Alibeck** **121.01 302** **PKPdf** **02 31 33.8 -0.2**
AKTO **Aktyubinsk** **121.47 316** PKP **PKPdf** **02 31 34.0 -0.4**
comp=Z,2.2nm,0.7s,baz=88,slow=1.6,SNR=13
AKTO **Aktyubinsk** **121.47 316** PKiKP **PKPdf** **02 31 34.0 -0.4**
LBTB **Lobatse** **121.90 218** PKP **PKiKP** **02 31 36.4 +0.1**
comp=Z,1.7nm,0.7s,baz=243,slow=2.3,SNR=2.0
FRB **Frobisher Bay** **123.44 27** PKP **PKPdf** **02 31 36.8 -0.9**

comp=Z,7.0nm,0.8s,baz=296,slow=2.5,SNR=29
UPNV Upernavik 123.50 15 *i* P **PKPdf** 02 31 36.9 -0.7
UPNV IAmb IAmb 02 31 37.9
comp=Z,12nm,0.6s
PRGR Permogore 126.10 331 *e*PKIKP **PKPdf** 02 31 38.3 -4.5
PRGR pmax pmax
comp=Z,5.0nm,0.9s
BDFB Brasilia 126.29 131 PKP **PKiKP** 02 31 45.1 -0.1
comp=Z,3.7nm,0.7s,baz=224,slow=2.1,SNR=8.1
BDFB Brasilia 126.29 131 PKIKP **PKiKP** 02 31 44.8 -0.4
BDFB Brasilia 126.29 131 **PKiKP** 02 31 44.8 -0.4
SUMG Summit 127.34 11 *i* P **PKiKP** 02 31 45.4 -0.6
SUMG Summit 127.34 11 *i* PKIKP **PKiKP** 02 31 45.4 -0.6
SUMG Summit 127.34 11 *i* P **PKiKP** 02 31 45.4 -0.6
BELG Belogornoye 127.68 320 PKP **PKPdf** 02 31 46.0 -0.1
comp=Z,11nm,0.9s,baz=311,slow=4.1,SNR=3.8
BELG Belogornoye 127.68 320 *i* PKIKP **PKPdf** 02 31 45.2 -0.9
DBG Daneborg 127.87 4 *i* P **PKPdf** 02 31 45.5 -0.4
ARCES ARCESS Array B 128.62 345 PKP **PKPdf** 02 31 47.3 -0.2
comp=Z,2.9nm,0.5s,baz=71,slow=1.6,SNR=20
ARCES ARCESS Array B 128.62 345 PKIKP **PKPdf** 02 31 46.7 -0.8
ARCES ARCESS Array B 128.62 345 **PKPdf** 02 31 46.7 -0.8
KLMR Klimovskoe 129.12 332 *e*PKIKP **PKPdf** 02 31 46.9 -1.7
KLMR pmax pmax
comp=Z,20nm,1.3s
KLMR Klimovskoe 129.12 332 *e*PKPdf **PKPdf** 02 31 47.0 -1.7
KLMR AMP 02 31 49.1
comp=Z,20nm,1.3s
KLMR *e*SKP 02 35 21.9
MAK Makhachkala 129.15 308 *i* P **Pdif** 02 28 35.3 -0.7
MAK *e* 02 33 59.8
MAK *e*PPP PPP 02 36 45.1
MAK pmax pmax
comp=Z,676nm,1.3s
KIV Kislovodsk 132.51 310 *e*PKIKP **PKiKP** 02 31 56.2 -0.7
KIV pmax pmax
comp=Z,12nm,1.0s
OBN Obninsk 133.04 326 *i* PKIKP **PKPdf** 02 31 55.6 -0.6
OBN pmax pmax
comp=Z,7.0nm,1.3s
FINES FINESS Array B 134.19 337 PKhKP PKPpre 02 31 47.1
comp=Z,4.0nm,1.0s,baz=134,slow=4.0,SNR=1.8
FINES PKP **PKPdf** 02 31 57.7 -0.5
comp=Z,8.1nm,1.0s,baz=14,slow=0.6,SNR=4.9
FINES FINESS Array B 134.19 337 PKIKP **PKPdf** 02 31 56.7 -1.5
FINES FINESS Array B 134.19 337 **PKPdf** 02 31 56.7 -1.5
NB2 NORSAR Subarra139.00 345 PKPdf PKPpre 02 31 56.7
comp=Z,0.7nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 139.00 345 PKhKP PKPpre 02 31 57.9
comp=Z,0.5nm,0.7s,baz=25,slow=4.4,SNR=2.1
NOA PKP **PKPdf** 02 32 07.0 -0.3
comp=Z,0.9nm,0.7s,baz=50,slow=1.6,SNR=6.0
AKASG Malin Array Be 139.01 323 PKhKP PKPpre 02 31 59.1
comp=Z,0.2nm,0.3s,baz=46,slow=3.9,SNR=4.2
AKASG PKP **PKPdf** 02 32 07.8 +0.3
comp=Z,1.5nm,0.7s,baz=62,slow=2.3,SNR=7.4
AKASG SKPbc **SKiKP** 02 35 42.0 -0.5
comp=Z,1.7nm,0.8s,baz=49,slow=3.8,SNR=6.2
HFS Hagfors 139.14 343 PKhKP PKPpre 02 31 58.6
comp=Z,2.3nm,0.8s,baz=64,slow=6.8,SNR=4.3
MMAI Mount Meron Ar 139.44 295 PKP **PKPdf** 02 32 09.4 +0.5
comp=Z,2.2nm,0.7s,baz=52,slow=4.7,SNR=4.4
EIL Elat 139.9 290 PKP **PKPdf** 02 32 09.4 -0.4
comp=Z,3.9nm,0.8s,baz=63,slow=2.3,SNR=3.6
BRTR Keskin Array B 139.95 305 PKhKP PKPpre 02 32 01.8
comp=Z,0.9nm,1.1s,baz=10,slow=7.5,SNR=3.9
BRTR Keskin Array B 139.95 305*c* *i*PKIKP **PKiKP** 02 32 11.8 -0.4
BRTR pmax pmax
comp=Z,1.0nm,0.9s
CFR Carcaliu 142.13 316 ⇓P **PKPdf** 02 32 11.3 -1.9
CFR Carcaliu 142.13 316 ⇓PKIKP **PKPdf** 02 32 11.4 -1.9
TESR Tescani 142.49 318 ⇑P **PKPdf** 02 32 11.3 -2.7
BIZ Bicaz 142.62 319 ⇑P **PKPdf** 02 32 10.7 -3.5
VRI Vrincioaia 142.73 317 ⇓P **PKPdf** 02 32 13.7 -0.7
VRI Vrincioaia 142.73 317 ⇓PKIKP **PKPdf** 02 32 13.7 -0.7
BURAR Bucovina Array 142.82 321 ⇑P **PKPdf** 02 32 14.0 -0.6
BURAR Bucovina Array 142.82 321 ⇑PKIKP **PKPdf** 02 32 14.0 -0.6
BISRR Bisoca 142.88 317 ⇑P **PKPdf** 02 32 14.0 -0.7
NEHR Nehoiu 143.20 317 ⇑P PKPbc 02 32 13.4 +1.1
MLR Muntele Rosu 143.39 317 PKP **PKPdf** 02 32 14.7 -1.1
comp=Z,2.5nm,0.6s,baz=306,slow=6.6,SNR=9.7
MLR Muntele Rosu 143.39 317 ⇑P PKPbc 02 32 13.6 +0.6
MLR Muntele Rosu 143.39 317 ⇑PKIKP PKPbc 02 32 13.6 +0.6
DOPR Dopca 143.51 318 ⇓P PKPbc 02 32 13.9 +0.7
ARCR ARCALIA 143.59 320 ⇑P PKPbc 02 32 14.1 +0.7
KOLS Kolonicke sedl 143.76 324 *e*PKIKP PKPbc 02 32 14.6 +0.8
KOLS Kolonicke sedl 143.76 324 *e*PKP PKPbc 02 32 14.6 +0.8
BMR Baia Mare 143.78 322 ⇓P **PKPdf** 02 32 15.1 -1.1
BMR Baia Mare 143.78 322 ⇓PKIKP **PKPdf** 02 32 15.1 -1.1
UZH Uzhgorod 143.92 324 *e*PKHKP PKPab 02 32 12.4 -1.2
UZH *i* 02 32 15.4
UZH *i* 02 32 32.7
VOIR 143.97 318 ⇓P PKPbc 02 32 14.9 +0.3
VOIR 143.97 318 ⇓PKIKP PKPbc 02 32 14.9 +0.3
MDB Medias 144.05 319 ⇓P **PKPdf** 02 32 16.3 -0.4
MDB Medias 144.05 319 ⇓PKIKP **PKPdf** 02 32 16.3 -0.4
CRVS Cervenica-Dubn 144.21 325 *e*PKIKP **PKPdf** 02 32 16.0 -0.9
CRVS Cervenica-Dubn 144.21 325 *e*PKP **PKPdf** 02 32 16.0 -0.9
CJR Cluj-Napoca 144.23 320 ⇓P **PKPdf** 02 32 16.0 -1.0
CJR Cluj-Napoca 144.23 320 ⇓PKIKP **PKPdf** 02 32 16.0 -1.0
ARR Arges 144.26 318 ⇑P **PKPdf** 02 32 16.3 -0.9
HUMR Humele 144.43 316 ⇑P PKPbc 02 32 16.1 +0.1
COPA Copaceanca 144.46 316 ⇓P PKPbc 02 32 16.0 0.0
ZIMR 144.56 315 ⇓P PKPbc 02 32 16.7 +0.3
ZIMR 144.56 315 ⇓PKIKP PKPbc 02 32 16.7 +0.3
DRGR 144.70 321 ⇑P **PKPdf** 02 32 17.1 -0.8
DRGR 144.70 321 ⇑PKIKP **PKPdf** 02 32 17.1 -0.8
LOT Lotru 144.76 318 ⇑P **PKPdf** 02 32 17.6 -0.5
LTVH Ltavrtes, Hu 144.84 322 ⇑P **PKPdf** 02 32 18.1 -1.0
KECS Kecovo 144.98 325 *e*PKIKP **PKPdf** 02 32 18.3 +0.1
KECS Kecovo 144.98 325 *e*PKP **PKPdf** 02 32 18.3 +0.1
VLAD Vladila 145.04 316 ⇑P **PKPdf** 02 32 18.3 -0.2
PLVB Pleven 145.17 315 ⇓P **PKPdf** 02 32 19.4 +0.7
ALN Alexandroupoli 145.18 310 PKP2 **PKPbc** 02 32 17.2 -1.2
ALN Alexandroupoli 145.18 310 **PKPbc** 02 32 17.2 -1.2
RUE Ruedersdorf 145.30 335 *e*PKPbc **PKPdf** 02 32 18.8 +0.2
baz=36,slow=2.7
BSEG Bad Segeberg 145.35 340 *e*PKPbc **PKPab** 02 32 18.7 0.0
baz=36,slow=2.7
GZR Gura Zlata 145.39 319 ⇓P **PKPbc** 02 32 18.2 -0.9
KSP Ksiaz 145.47 331 *e*PKP **PKPab** 02 32 19.2 -0.1
PSZ Piszkesteto 145.64 325 ⇓P **PKPab** 02 32 19.8 -0.3
PSZ Piszkesteto 145.64 325 ⇓PKIKP **PKPab** 02 32 19.8 -0.3
PSZ Piszkesteto 145.64 325 PKPdf **PKPab** 02 32 19.8 -0.3
MORC Moravsky Berou 145.64 329 ⇑P **PKPab** 02 32 19.6 -0.5
MORC Moravsky Berou 145.64 329 *e*PKP **PKPab** 02 32 19.9 -0.1
MORC Moravsky Berou 145.64 329 ⇑PKIKP **PKPab** 02 32 19.6 -0.5
MORC Moravsky Berou 145.64 329 PKPdf **PKPab** 02 32 20.1 +0.1
OSTC Ostas 145.71 331 *e*PKP **PKPab** 02 32 20.3 0.0
CHVC Chvalec 145.76 331 *e*PKP **PKPab** 02 32 20.7 +0.2
DPC Dobruska-Polom 145.81 331 *e*PKP2 **PKPab** 02 32 20.6 -0.1
DPC Dobruska-Polom 145.81 331 *e*PKP **PKPab** 02 32 20.6 -0.1
VYHS Vyhne 145.84 326 *e*PKP2 **PKPab** 02 32 20.7 -0.1
VYHS Vyhne 145.84 326 *e*PKP **PKPab** 02 32 20.7 -0.1
UPC Upice 145.84 331 *e*PKP2 **PKPab** 02 32 20.9 +0.2
UPC Upice 145.84 331 *e*PKP **PKPab** 02 32 20.9 +0.2
KARP Karpathos 145.87 300 **PKPbc** 02 32 20.8 -0.1
HERR Herculane 145.87 318 ⇓P **PKPbc** 02 32 20.3 -0.2
BZS Buzias 145.97 320 ⇓P **PKPab** 02 32 21.0 -0.4
BZS Buzias 145.97 320 ⇓PKP2 **PKPab** 02 32 21.0 -0.4
JAVC Velka Javorina 146.19 328 *e*PKP **PKPab** 02 32 22.7 +0.5
MDVR Moldovita 146.35 319 ⇑P **PKPab** 02 32 21.6 -0.4
FLTG Flechtingen 146.37 337 *e*PKPbc **PKPbc** 02 32 21.7 -0.1
baz=36,slow=2.7
VRAC Vranov 146.41 329 PKPbc **PKPab** 02 32 22.4 -0.6
comp=Z,15nm,0.7s,baz=35,slow=3.8,SNR=26
VRAC Vranov 146.41 329 ⇑P **PKPab** 02 32 22.2 -0.8
VRAC Vranov 146.41 329 *e*PKP **PKPab** 02 32 22.1 -0.8
VRAC Vranov 146.41 329 ⇑PKP2 **PKPab** 02 32 22.2 -0.8
VTS Vitosha 146.42 314 ⇑P **PKPdf** 02 32 21.4 +0.3
VTS Vitosha 146.42 314 ⇑PKP2 **PKPdf** 02 32 21.4 +0.3
VTS Vitosha 146.42 314 PKPbc **PKPab** 02 32 23.1 -0.3
PVCC Panska Ves 146.46 332 *e*PKP2 **PKPab** 02 32 22.7 -0.3
PVCC Panska Ves 146.46 332 *e*PKP **PKPab** 02 32 22.7 -0.3
BRG Berggiesshubel 146.47 333 *i* PKP **PKPab** 02 32 22.3 -0.8
BRG Amp 02 32 24.5
comp=Z,40nm,0.9s
BRG Berggiesshubel 146.47 333 *e*PKPbc **PKPbc** 02 32 22.2 +0.1
baz=36,slow=2.7
CLL Collm 146.51 335 ⇑ *i*PKPbc **PKPbc** 02 32 22.1 -0.1
comp=Z,47nm,0.8s
CLL Collm 146.51 335 ⇑ *i*PKP2 **PKPbc** 02 32 22.1 -0.1
CLL pmax pmax
comp=Z,47nm,0.8s
CLL Collm 146.51 335 PKPbc **PKPab** 02 32 23.0 -0.2
CLL Collm 146.51 335 *e*PKPbc **PKPbc** 02 32 22.1 -0.1
baz=36,slow=2.7
SMOL Smolenice 146.54 327 *e*PKP2 **PKPab** 02 32 23.7 +0.3
SMOL Smolenice 146.54 327 *e*PKP **PKPab** 02 32 23.7 +0.3
SRO Srobarova 146.54 326 *e*PKP2 **PKPab** 02 32 23.7 +0.3
SRO Srobarova 146.54 326 *e*PKP **PKPab** 02 32 23.7 +0.3
NRDL Niedersach Rie 146.63 338 *e*PKPbc **PKPbc** 02 32 22.4 0.0
baz=36,slow=2.7
FBE Freiberg 146.67 334 *e*PKPbc **PKPab** 02 32 23.2 -0.6
baz=36,slow=2.7
KRUC Moravsky 146.67 329 *e*PKP **PKPbc** 02 32 22.9 +0.1
MODS Modra-Piesok 146.71 327 *e*PKP2 **PKPab** 02 32 24.2 +0.1
MODS Modra-Piesok 146.71 327 *e*PKP **PKPab** 02 32 24.2 +0.1
PRA Prague 146.85 332 *e*PKP2 **PKPab** 02 32 23.6 -1.0
PRA Prague 146.85 332 *e*PKP **PKPab** 02 32 23.6 -1.0
PRU Pruhonice 146.87 332 *e*PKP2 **PKPab** 02 32 23.7 -1.0
PRU Pruhonice 146.87 332 *e*PKP **PKPab** 02 32 23.7 -1.0
NEUB Neuenburg 147.07 336 *e*PKPbc **PKPbc** 02 32 23.8 0.0
baz=36,slow=2.7
CLZ Clausthal 147.08 338 *e*PKPbc **PKPbc** 02 32 24.1 +0.3
baz=36,slow=2.7
FRGS Fruska Gora 147.29 321 ⇑P **PKPbc** 02 32 24.9 +0.3
FRGS Fruska Gora 147.29 321 ⇑ *i*P **PKPbc** 02 32 24.4 -0.3
PBCC Pribram 147.33 332 *e*PKP **PKPbc** 02 32 24.8 +0.2
MORH Mrgy, Hungar 147.35 323 ⇓P **PKPbc** 02 32 24.8 +0.1
MORH Mrgy, Hungar 147.35 323 ⇑ *i*P **PKPbc** 02 32 24.6 -0.1
TANN Tannenbergstha 147.42 334 *e*PKPbc **PKPbc** 02 32 25.2 +0.3
baz=36,slow=2.7
VAY Valandovo 147.43 313 *i* P **PKPbc** 02 32 25.1 0.0
WERD Werda 147.46 334 *e*PKPbc **PKPbc** 02 32 25.4 +0.4
baz=36,slow=2.7
GTTG Gottingen 147.47 338 *e*PKPbc **PKPbc** 02 32 25.3 +0.4
baz=36,slow=2.7
PLN Plauen 147.49 334 *e*PKPbc **PKPbc** 02 32 25.3 +0.2
baz=36,slow=2.7
GUNZ Gunzen 147.52 334 *e*PKPbc **PKPbc** 02 32 25.4 +0.3
baz=36,slow=2.7
STIP Stip 147.53 313 *i* P **PKPbc** 02 32 25.9 +0.5
WERN Wernitzgruen 147.56 334 *e*PKPbc **PKPbc** 02 32 25.7 +0.4
baz=36,slow=2.7
NKC Novy Kostel 147.57 334 *e*PKP2 **PKPbc** 02 32 25.8 +0.5
NKC Novy Kostel 147.57 334 *e*PKP **PKPbc** 02 32 25.8 +0.5
MOX Moxa 147.58 335 *e*L L 03 40 47.9
comp=Z,1µm,21.8s
CONA Conrad Observa 147.71 328 *e*P **PKPbc** 02 32 26.0 +0.1
comp=Z,6.7nm,0.9s,SNR=8.5
IDI Anoyia 147.73 301 PKPbc **PKPbc** 02 32 26.8 +0.5
comp=Z,17nm,0.7s,baz=29,slow=2.4,SNR=13
IDI Anoyia 147.73 301 ⇓P **PKPbc** 02 32 26.7 +0.5
IDI Anoyia 147.73 301 PKPbc **PKPbc** 02 32 26.6 +0.3
DIVS Divibare 147.76 319 *e*P **PKPbc** 02 32 26.0 -0.1
DIVS Divibare 147.76 319 **PKPbc** 02 32 26.7 +0.6
CKRC Cesky Krumlov 147.82 330 *e*PKP **PKPbc** 02 32 26.3 +0.3
MANZ Manzenberg 147.90 334 *e*PKPbc **PKPbc** 02 32 26.5 +0.3
baz=36,slow=2.7
SKO Skopje 147.90 314 *i* P **PKPbc** 02 32 27.0 +0.6
KHC Kasperske Hory 147.92 331 *e*PKP2 **PKPbc** 02 32 26.2 -0.1
KHC Kasperske Hory 147.92 331 *e*PKP **PKPbc** 02 32 26.2 -0.1
KHC Kasperske Hory 147.92 331 PKPbc **PKiKP** 02 32 26.9 -1.2
LIT Litokhoron 147.99 311 PKP2 **PKPbc** 02 32 26.3 -0.5
LIT Litokhoron 147.99 311 **PKPbc** 02 32 26.3 -0.5
GEC2 GERESS Array S 148.08 331 PKPbc **PKPbc** 02 32 27.0 +0.2
GEC2 GERESS Array S 148.08 331 *e*PKPbc **PKPbc** 02 32 26.9 +0.1
baz=36,slow=2.7
GERES GERESS Array B 148.08 331 PKPbc **PKPbc** 02 32 26.6 -0.2
comp=Z,6.9nm,0.6s,baz=51,slow=4.3,SNR=10
WET Wettzell 148.22 332 *e*PKPbc **PKPbc** 02 32 27.3 +0.3
baz=36,slow=2.7
BBLS Lazići 148.24 319 ⇑ *i*P **PKPbc** 02 32 27.5 +0.1
KASTN Kahler Asten 148.28 339 *e*PKPbc **PKPbc** 02 32 27.2 0.0
baz=36,slow=2.7
ARSA Arzberg 148.34 327 *e*P **PKiKP** 02 32 28.0 -1.1
comp=Z,4.5nm,0.8s
HAPS Han Pijesak,Bl 148.40 320 *e*P **PKPab** 02 32 30.5 -0.6
FNA Florina 148.48 312 PKP2 **PKPbc** 02 32 27.3 -0.7
FNA Florina 148.48 312 PKPbc **PKPbc** 02 32 27.3 -0.7
GRF Grafenberg Arr 148.49 334 *e*L L 03 44 23.2
comp=Z,2µm,20.4s
MOA Molln 148.54 329 *e*P **PKPbc** 02 32 27.7 -0.2
comp=Z,5.6nm,0.8s
OHR Ohrid 148.72 313 *i* P **PKPbc** 02 32 28.8 +0.2
UPM Unac-Piva 148.91 318 *e*P **PKPbc** 02 32 28.7 -0.5
BLY Banja Luka 149.05 322 *e*P **PKPbc** 02 32 29.2 -0.1
PDG Podgorica 149.09 317 ⇑P **PKPbc** 02 32 28.4 -1.0
PDG Podgorica 149.09 317 *e*P **PKPbc** 02 32 28.4 -1.0
TNS Taunus Mts 149.10 338 *e*PKPbc **PKiKP** 02 32 29.6 -1.0
baz=36,slow=2.7
BRY Bratogost 149.29 318 *e*P **PKPab** 02 32 35.0 +0.2
RJOB Jochberg 149.30 330 *e*PKPbc **PKPbc** 02 32 29.7 -0.2
baz=36,slow=2.7
MGRS Mrkonjic Grad 149.30 322 *e*P **PKPab** 02 32 35.7 +1.1
CRES Cresnjev 149.32 325 ⇑ *i*P **PKPab** 02 32 29.5 -0.4
KBA Koelnbreinsper 149.52 329 *e*P **PKPbc** 02 32 29.8 -0.8
comp=Z,8.6nm,0.6s,SNR=8.1
BTNL Ternell 149.55 341 *d*PKP **PKPbc** 02 32 29.9 -0.4
MEM Membach 149.57 341 *d*PKP **PKPbc** 02 32 30.2 -0.2
MYKA Terra Mystica 149.70 328 *e*P **PKPbc** 02 32 30.1 -0.9
comp=Z,5.5nm,0.6s
BSTI Sart Tilman 149.72 341 *d*PKP **PKPbc** 02 32 30.7 0.0
UCC Uccle 149.88 343 PKP2 **PKPbc** 02 32 31.0 -0.1
UCC Uccle 149.88 343 PKPbc **PKPbc** 02 32 31.0 -0.1
CEY Cerknica 149.92 326 ⇑ *i*P **PKPbc** 02 32 30.6 -0.8
BCLA Clavier 149.95 341 *d*PKP **PKPbc** 02 32 29.8 -1.5
BCLA *ds*PKP 02 32 52.3
BGES Gesves 150.04 342 *d*PKP **PKiKP** 02 32 32.2 -0.2
ZOU Zoufplan 150.07 329 PKPbc **PKPbc** 02 32 31.6 -0.4
WATA Walderalm 150.15 331 *e*P **PKPbc** 02 32 31.6 -0.5
comp=Z,20nm,1.0s,SNR=6.8
ABTA Abfaltersbach 150.16 329 *e*P **PKPbc** 02 32 31.3 -0.8
comp=Z,11nm,0.7s,SNR=7.4
SNF Seneffe 150.16 343 *d*PKP **PKiKP** 02 32 31.9 -0.7
WTTA Wattenberg 150.18 331 *e*P **PKPbc** 02 32 32.0 -0.2
comp=Z,17nm,0.8s,SNR=6.6
BMRD Maredsous 150.21 342 *d*PKP **PKPbc** 02 32 31.6 -0.3
TRI Trieste 150.28 327 PKIKP **PKPbc** 02 32 33.3 +0.1
TRI Trieste 150.28 327 PKPbc **PKPbc** 02 32 32.3 +0.1
WLF Walferdange 150.35 340 *d*PKP **PKiKP** 02 32 32.4 -0.7
WLF Walferdange 150.35 340 PKIKP **PKiKP** 02 32 32.9 -0.1
WLF Walferdange 150.35 340 PKPbc **PKiKP** 02 32 32.9 -0.1
WLF Walferdange 150.35 340 *e*PKPbc **PKiKP** 02 32 33.0 -0.1
baz=36,slow=2.7
MOTA Moosalm 150.36 331 *i* P **PKPbc** 02 32 32.2 -0.5
comp=Z,26nm,0.8s,SNR=7.7
RETA Reutte 150.40 332 *i* P **PKPbc** 02 32 32.3 -0.4
comp=Z,9.7nm,0.8s
SQTA Sankt Quirin 150.41 331 *e*P **PKPbc** 02 32 32.3 -0.4
comp=Z,16nm,0.7s,SNR=13
DOU Dourbes 150.44 342 *d*PKP **PKiKP** 02 32 32.8 -0.4
UBR Ueberruh 150.53 333 *e*PKPbc **PKPbc** 02 32 32.8 -0.1
baz=36,slow=2.7
BFO Black Forest 150.72 336 PKIKP **PKPbc** 02 32 32.8 -0.5
BFO Black Forest 150.72 336 PKPbc **PKPbc** 02 32 32.8 -0.5
BFO Black Forest 150.72 336 *e*PKPbc **PKPbc** 02 32 33.0 -0.2
baz=36,slow=2.7
FETA Feichten 150.77 331 *i* P **PKPbc** 02 32 33.4 -0.3
comp=Z,8.4nm,0.8s,SNR=7.0
CTI Castel Tesino 151.08 329 PKIKP **PKPbc** 02 32 34.2 -0.1
CTI Castel Tesino 151.08 329 PKPbc **PKPbc** 02 32 34.2 -0.1
ECH Echery 151.25 337 PKIKP **PKPbc** 02 32 34.2 -0.3
ECH Echery 151.25 337 PKPbc **PKPbc** 02 32 34.2 -0.3
DAVOX Davos/Dischmat 151.33 332 PKPbc **PKiKP** 02 32 35.0 -0.4
comp=Z,23nm,0.7s,baz=360,slow=0.7,SNR=52
SGRT San Giovanni R 151.66 318 PKPbc **PKPbc** 02 32 35.0 -0.8
TUE Stuetta 151.80 332 PKPbc **PKPbc** 02 32 35.5 -0.6
NRCA Norcia 152.54 323 **PKiKP** 02 32 37.7 -0.2
SENIN Lac Senin/Sane 152.73 335 **PKiKP** 02 32 38.4 -0.1
ESDC Sonseca Array 162.35 347 PKPab **PKPab** 02 33 30.4 0.0
comp=Z,1.0nm,0.8s,baz=15,slow=3.9,SNR=6.0
TORD Torodi Ar. Bea 166.04 230 PKP **PKPdf** 02 32 46.9 -0.1
comp=Z,3.2nm,0.9s,baz=343,slow=1.7,SNR=11
TORD PKPab **PKPab** 02 33 47.9 +0.7
comp=Z,2.9nm,1.0s,baz=125,slow=4.2,SNR=5.3
TORD Torodi Ar. Bea 166.04 230 **PKPdf** 02 32 46.3 -0.7
TORD **PKPab** 02 33 47.1 -0.1
KOWA Kowa 170.60 212 PKP **PKPdf** 02 32 50.1 +0.1
comp=Z,2.4nm,0.8s,baz=56,slow=2.9,SNR=6.3
KOWA PKPab **PKPab** 02 34 08.1 +0.8
comp=Z,4.9nm,0.8s,baz=148,slow=5.7,SNR=11

IDC 30 02:21:02.8±2.4,5°23S×152°79E,h0km,mb3.6/4,
mb1 3.8/4,mb1mx3.4/60,mbtmp3.6/4,Error ellipse: s-maj=139.0km s-min=29.9km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.16**	**229**	P	P		02 26 11.1	0.0
	0.3nm,0.3s,baz=54,slow=9.8,SNR=4.9							
ASAR	**Alice Springs**	**25.83**	**223**	P	P		02 26 36.4	+0.3
	0.5nm,0.5s,baz=56,slow=10,SNR=5.1							
FITZ	**Fitzroy Crossi**	**29.45**	**242**	P	P		02 27 07.5	-1.1
	2.0nm,1.0s,baz=51,slow=6.5,SNR=1.9							
ILAR	**Eielson Array**	**82.55**	**22**	P	P		02 33 27.1	-0.2
	0.3nm,0.5s,baz=241,slow=6.9,SNR=1.9							
TORD	**Torodi Ar. Bea**	**150.43**	**287**	PKPbc	PKiKP		02 40 57.9	-0.3
	0.9nm,1.1s,baz=77,slow=2.3,SNR=1.5							

IDC ***30*** *02:23:16.8±0.6,5°27S×152°72E,h0km,mb4.3/26, mb1 4.4/27,mb1mx4.3/59,mbtmp4.3/27,ML2.3/1,Error ellipse: s-maj=20.9km s-min=13.0km az=117.0*
NEIC ***30*** *02:23:18.6±1.6,5°31S±0°07×152°8E±0°1,h10km±1km, mb4.8/52,Error ellipse: s-maj=17.8km s-min=11.6km az=94.0*
DJA ***30*** *02:23:24.4±0.9,5°S±5°×15°3E±1°0,h52km±8km,M4.9/12, mB6.0/2,mb4.5/12,MLv5.1/3,Mw(mB)5.6/2*
ISC 30 02:23:22.7±0.5,5°28S±0°06×152°75E±0°08,h37km,n111, σ0°89/112**,mb4.6/53,1D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.23**	**332**			**Pn**	**02 23 44.3**	**+0.9**
RABL	**Rabaul**	**1.23**	**332**	P		**Pn**	**02 23 44.4**	**+1.0**
PMG	**Port Moresby**	**6.90**	**233**	Pn		**Pn**	**02 25 01.3**	**0.0**
	3.2nm,0.3s,baz=44,slow=7.4,SNR=7.7							
PMG				Sn		**Sn**	**02 26 18.8**	**+0.2**
	8.6nm,0.3s,baz=88,slow=12,SNR=9.1							
PMG	**Port Moresby**	**6.90**	**233**	Pn		**Pn**	**02 25 02.1**	**+0.9**
PMG						**Sn**	**02 26 18.9**	**+0.4**
PMG	**Port Moresby**	**6.90**	**233**	P		**Pn**	**02 25 03.6**	**+2.3**
EIDS	**Eidsvold**	**20.04**	**184**	P		**P**	**02 27 52.0**	**-0.6**
DZM	**Mont Dzumac**	**21.31**	**143**	P		**P**	**02 28 06.4**	**-0.1**
	10.0nm,1.0s,baz=336,slow=18,SNR=2.7							
DZM	**Mont Dzumac**	**21.31**	**143**	P		**P**	**02 28 06.9**	**+0.4**
SIJI	**Sorong**	**21.89**	**281**	P		**P**	**02 28 11.8**	**-1.0**
	5.2nm,0.4s,baz=143,slow=20,SNR=1.7							
SWI	**Sorong**	**21.90**	**281**	P		**P**	**02 28 15.8**	**+3.0**
	20nm,0.8s							
MTN	**Manton Dam**	**22.62**	**249**	P		**P**	**02 28 20.1**	**-0.4**
MTN				IAmb		IAmb	02 28 35.5	
	comp=Z,10.0nm,0.6s							
WB0	**Warramunga Arr**	**22.95**	**230**	P		**P**	**02 28 23.5**	**-0.4**
WR0	**Warramunga Arr**	**22.95**	**229**	P		**P**	**02 28 24.9**	**+0.9**
WR0				IAmb		IAmb	02 28 42.1	
	comp=Z,28nm,1.4s							
WRAB	**Tennant Creek**	**23.08**	**229**	P		**P**	**02 28 24.3**	**-1.0**
WRAB				IAmb		IAmb	02 28 26.4	
	comp=Z,22nm,0.6s							
WB2	**Warramunga Arr**	**23.09**	**229**	P		**P**	**02 28 25.1**	**-0.2**
WRA	**Warramunga Arr**	**23.09**	**229**	P		**P**	**02 28 24.2**	**-1.2**
	comp=Z,3.6nm,0.8s,baz=53,slow=9.6,SNR=11							
WRA	**Warramunga Arr**	**23.09**	**229**	P		**P**	**02 28 25.1**	**-0.4**
AS31	**Alice Springs**	**25.76**	**223**	P		**P**	**02 28 51.0**	**+0.8**
ASAR	**Alice Springs**	**25.77**	**223**	P		**P**	**02 28 49.3**	**-0.9**
	comp=Z,3.1nm,0.8s,baz=58,slow=8.8,SNR=21							
ASAR	**Alice Springs**	**25.77**	**223**	P		**P**	**02 28 49.8**	**-0.4**
STKA	**Stephens Creek**	**28.45**	**200**	P		**P**	**02 29 12.8**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=26,slow=14,SNR=4.4							
STKA	**Stephens Creek**	**28.45**	**200**	P		**P**	**02 29 13.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**29.39**	**242**	P		**P**	**02 29 21.9**	**-0.8**
	comp=Z,3.1nm,0.5s,baz=68,slow=7.2,SNR=11							
FITZ	**Fitzroy Crossi**	**29.39**	**242**	P		**P**	**02 29 22.3**	**-0.4**
WSI	**Waingapu**	**32.46**	**260**	P		**P**	**02 29 48.3**	**-1.5**
FORT	**Forrest**	**34.39**	**220**	P		**P**	**02 30 05.6**	**-0.9**
FORT				IAmb		IAmb	02 30 06.1	
	comp=Z,15nm,1.1s							
TATO	**Taipei**	**42.77**	**316**	P		**P**	**02 31 16.9**	**0.0**
NWAO	**Narrogin (SRO)**	**43.02**	**226**	P		**P**	**02 31 18.9**	**+0.1**
NWAO				IAmb		IAmb	02 31 30.4	
	comp=Z,15nm,1.1s							
KSRS	**Korea Array**	**48.41**	**333**	P		**P**	**02 32 00.7**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=151,slow=8.6,SNR=4.5							
NJ2	**Nanjing**	**49.19**	**321**	*e*P		**P**	**02 32 08.5**	**+1.2**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
JKA	**Kamikawa-asahi**	**50.02**	**350**	P		**P**	**02 32 12.1**	**-1.3**
JKA				IAmb		IAmb	02 32 16.6	
	comp=Z,4.8nm,0.7s							
ASAJ	**Asahikawa**	**50.02**	**350**	P		**P**	**02 32 12.7**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=203,slow=7.9,SNR=5.7							
USRK	**Ussuriysk Ar.**	**52.69**	**341**	P		**P**	**02 32 32.9**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=185,slow=8.7,SNR=5.7							
USRK	**Ussuriysk Ar.**	**52.69**	**341**	P		**P**	**02 32 32.3**	**-1.1**
ENH	**Enshi**	**54.45**	**313**	P		**P**	**02 32 46.6**	**-0.1**
SLVN	**Son La**	**54.70**	**301**	P		**P**	**02 32 47.6**	**-1.1**
XAN	**Xi'an**	**56.94**	**317**	P		**P**	**02 33 03.6**	**-0.9**
XAN				IAmb		IAmb	02 33 04.3	
	comp=Z,4.6nm,0.8s							
KLR	**Kul'dur**	**57.29**	**344**	P		**P**	**02 33 05.9**

comp=Z,1.3nm,0.4s,baz=100,slow=6.2,SNR=6.4
ZALV Zalesovo Beam 81.53 326 P P 02 35 35.3 -0.9
NEA2 Nenana 81.72 22 P P 02 35 36.7 -0.4
NEA2 IAmb IAmb 02 35 38.7
comp=Z,5.6nm,0.8s
WRH Wood River Hil 82.02 22 P P 02 35 38.0 -0.7
CCB Clear Creek Bu 82.22 22 P P 02 35 39.2 -0.4
CCB IAmb IAmb 02 35 39.4
comp=Z,4.3nm,0.9s
IL31 82.62 22 P P 02 35 41.5 -0.3
IL31 IAmb IAmb 02 35 43.0
comp=Z,6.0nm,0.8s
ILAR Eielson Array 82.62 22 P P 02 35 41.2 -0.6
comp=Z,3.9nm,0.7s,baz=243,slow=5.2,SNR=32
ILAR Eielson Array 82.62 22 P P 02 35 41.4 -0.4
DOT Dot Lake 83.19 24 P P 02 35 45.8 +1.0
DOT IAmb IAmb 02 35 46.2
comp=Z,5.6nm,0.8s
KSH Kashi 83.21 311 P P 02 35 46.5 +0.9
KSH pmax pmax
comp=Z,21nm,0.5s
KSH pmax pmax
comp=Z,12µm,16.8s
SCRK Sand Creek 83.36 23 P P 02 35 46.7 +0.9
SCRK IAmb IAmb 02 35 53.2
comp=Z,4.5nm,1.1s
TOLK Toolik Lake Re 83.69 18 P P 02 35 48.3 +1.0
TOLK IAmb IAmb 02 35 49.3
comp=Z,10nm,1.3s
KURBB Kurchatov Arra 84.15 322 P P 02 35 49.6 -0.3
comp=Z,1.7nm,0.8s,baz=103,slow=4.3,SNR=10
TKM2 Tokmak 2 84.23 314 P P 02 35 51.5 +0.6
SNR=5.9
EGAK Eagle 84.82 23 P P 02 35 53.8 +0.7
EGAK IAmb IAmb 02 35 58.0
comp=Z,5.0nm,1.0s
CHMS Chumysh 84.85 314 P P 02 35 54.5 +0.7
SNR=7.3
UCH Uchtor 84.86 313 P P 02 35 55.8 +1.5
SNR=7.8
AAK Ala-Archa 84.96 314 P P 02 35 54.7 +0.3
comp=Z,7.0nm,0.8s,baz=133,slow=5.1,SNR=17
AAK Ala-Archa 84.96 314 P P 02 35 55.5 +1.0
SNR=6.6
USP Ospenovka 85.09 314 P P 02 35 55.8 +0.9
SNR=7.6
AML Almayashu 85.44 313 P P 02 35 58.5 +1.4
SNR=12
NRIK Noril'sk 86.40 341 P P 02 36 00.3 -0.5
comp=Z,4.4nm,0.5s,baz=94,slow=5.3,SNR=9.9
NRIK Noril'sk 86.40 341 P P 02 36 00.4 -0.5
EPYK Eagle Plains 87.13 22 P P 02 36 04.0 -0.4
DLBC Dease Lake 87.82 31 P P 02 36 08.9 +0.9
comp=Z,4.0nm,1.0s,baz=219,slow=9.7,SNR=4.6
KKAR Karatay Array 87.93 313 P P 02 36 08.1 -0.7
INK Inuvik 88.92 21 P P 02 36 12.8 -0.1
comp=Z,2.0nm,0.9s,baz=324,slow=3.9,SNR=7.4
INK Inuvik 88.92 21 P P 02 36 13.0 +0.1
INK IAmb IAmb 02 36 14.2
comp=Z,8.6nm,1.5s
BVAR Borovoye Array 89.60 323 P P 02 36 15.1 -1.3
comp=Z,3.1nm,0.8s,baz=132,slow=11,SNR=15
NVAR Mina Array Bea 92.42 52 P P 02 36 29.8 -0.4
comp=Z,0.7nm,0.8s,baz=252,slow=7.8,SNR=3.7
SYO Syowa Base 93.20 199||epP P 02 36 36.0 +3.2
YKA Yellowknife Ar 95.87 28 P P 02 36 45.4 +0.2
comp=Z,0.8nm,0.7s,baz=268,slow=4.2,SNR=19
GERES GERESS Array B 124.44 328 PKP PKiKP 02 42 18.3 -0.1
comp=Z,0.5nm,0.4s,baz=73,slow=1.3,SNR=2.1
GERES GERESS Array B 124.44 328 PKPdf PKPdf 02 42 17.5 -0.7
SVB Belmont 145.55 74 PKPdf PKPdf 02 42 58.1 0.0
TOA0 Torodi Ar. Sit 150.41 287 PKPbc PKPbc 02 43 10.5 -0.8
TORD Torodi Ar. Bea 150.41 287 PKPbc PKPbc 02 43 10.7 -0.6
comp=Z,1.9nm,0.5s,baz=57,slow=2.1,SNR=11
BDFB Brasilia 150.76 136 PKPbc PKPbc 02 43 12.5 +0.2
comp=Z,2.6nm,0.9s,baz=143,slow=7.6,SNR=3.2
BDFB Brasilia 150.76 136 PKPbc 02 43 11.9 -0.4
KOWA Kowa 155.38 294 PKPbc PKPbc 02 43 22.5
comp=Z,2.1nm,0.8s,baz=94,slow=4.0,SNR=5.3
KOWA PKPab sPKPbc 02 43 38.0 +0.6
comp=Z,2.2nm,0.7s,baz=110,slow=3.8,SNR=5.8

*IDC **30** 02:24:37.5±1.4,2˚.04N×124˚.53E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.5/73, mbtmp3.9/5, Error ellipse: s-maj=198.4km s-min=19.6km az=63.0*
*NEIC **30** 02:24:45.2±2.7, 1˚.7N±0˚.2×123˚.8E±0˚.1, h52km±11km, mb4.2/8, Error ellipse: s-maj=29.6km s-min=10.5km az=205.0*

ISC 30 02:24:43.7±2.1,3˚.1N±0˚.7×12˚.7E±˚, h63km, n16, σ0s52/14, mb4.0/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	2.41	162	Pn	Pn	02 25 39.9	+19
WB0	Warramunga Arr	23.95	162		P	02 29 52.1	-0.3
WB0				IAmb	IAmb	02 30 06.7	
comp=Z,8.1nm,1.1s							
WRA	Warramunga Arr	24.10	162	P	P	02 29 53.1	-0.6
comp=Z,1.9nm,0.3s,baz=335,slow=11,SNR=6.5							
WRA	Warramunga Arr	24.10	162	P	P	02 29 53.4	-0.3
WB2	Warramunga Arr	24.11	162	P	P	02 29 54.6	+0.9
WB2				IAmb	IAmb	02 29 54.7	
comp=Z,3.6nm,0.7s							
WR0	Warramunga Arr	24.18	162	P	P	02 29 54.3	-0.1
WR0				IAmb	IAmb	02 30 02.9	
comp=Z,11nm,1.3s							
ASAR	Alice Springs	27.52	165	P	P	02 30 23.6	-1.0
comp=Z,0.6nm,0.8s,baz=341,slow=11,SNR=1.3							
CMAR	Chiang Mai Arr	31.10	301	P	P	02 30 45.0	-11
BBOO	Buckleboo	36.80	167	P	P	02 31 46.2	+0.6
STKA	Stephens Creek	37.57	159	P	P	02 31 52.1	-0.1
comp=Z,1.9nm,0.6s,baz=329,slow=9.9,SNR=4.8							
STKA	Stephens Creek	37.57	159	P	P	02 31 52.5	+0.3
MK31	Makanchi Array	58.02	326	P	P	02 34 30.1	-0.2
MK31				IAmb	IAmb	02 34 38.4	
comp=Z,3.0nm,1.3s							
MKAR	Makanchi Array	58.02	326	P	P	02 34 30.1	-0.2
comp=Z,0.4nm,0.4s,baz=117,slow=7.6,SNR=10							
MKAR	Makanchi Array	58.02	326	P	P	02 34 30.2	0.0
KURBB	Kurchatov Arra	62.22	328	P	P	02 34 59.0	+0.2
comp=Z,0.6nm,0.7s,baz=131,slow=6.1,SNR=6.3							
ABKAR	Akbulak array	72.58	321	P	P	02 36 04.3	0.0

IDC 30 02:31:07.9±4.2,5˚.22S×151˚.49E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.2/46, mbtmp3.4/2, Error ellipse: s-maj=161.6km s-min=55.5km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.20	227	P	P	02 36 06.4	+0.4
0.9nm,0.7s,baz=54,slow=10,SNR=3.9							
ASAR	Alice Springs	24.97	221	P	P	02 36 32.9	-0.5
0.7nm,0.7s,baz=50,slow=9.9,SNR=4.5							
TORD	Torodi Ar. Bea	149.19	287	PKPbc	PKPbc	02 50 59.2	-0.3
0.5nm,0.9s,baz=80,slow=2.5,SNR=1.4							

*NEIC **30** 02:34:04.0±2.0,52˚.3N±0˚.2×173˚.94W±0˚.07, h168km±11km, mb3.9/28, ML3.0(AEIC), Error ellipse: s-maj=29.3km s-min=6.2km az=178.0*

AEIC 30 02:34:04±4.8,52˚.1N±0˚.2×174˚.0W±0˚.1, h158km±7km, Error ellipse: s-maj=36.6km s-min=9.8km az=165.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	Atka Island	0.13	306		Sn	02 34 43.6	+2.5
ATKA	Atka Island	0.13	306	Pn	Pn	02 34 26.5	+1.5
KOFP	Korovin Flat P	0.15	344		Pn	02 34 26.9	+1.7
KOWE	Korovin West	0.28	330		Pn	02 34 27.2	+1.9
GSTR	Great Sitkin T	1.25	269		Pn	02 34 33.8	+2.0
GSMY	Great Sitkin M	1.25	267		Pn	02 34 33.7	+2.0
GSTD	Great Sitkin T	1.31	268		Pn	02 34 34.2	+2.0
GSTD					Sn	02 34 56.3	+2.3
ADAG	Mount Adagdak	1.60	266		Pn	02 34 37.5	+2.4
ADK	Adak	1.66	263		Pn	02 34 38.0	+2.2
ADK					Sn	02 35 02.9	+2.7
KIMD	Kanaga Island	2.02	261		Pn	02 34 42.1	+2.4
KIMD					Sn	02 35 10.2	+2.9
TAFP	Tanaga Falls P	2.46	266		Pn	02 34 46.9	+2.0
TAFP					Sn	02 35 18.6	+2.1
AMKA	Amchitka	4.21	262		Pn	02 35 08.9	+1.8
CHGN	Chignik	10.05	59	Pn	Pn	02 36 21.3	-3.0
SVW2	Sparrevohn	13.51	41		P	02 37 11.2	-1.7
CNPM	China Poot	14.74	51	Pn	Pn	02 37 21.7	-2.8
BRLK	Bradley Lake	14.99	50	Pn	Pn	02 37 23.6	-4.0
SKT	Skwentna	15.63	42	P	Pn	02 37 34.2	-1.4
SKT				IAmb	IAmb	02 37 42.7	
comp=Z,12nm,1.4s							
SEW	Seward	15.78	50	P	Pn	02 37 33.3	-4.1
PPLA	Purkeypile	15.84	39	P	Pn	02 37 38.2	0.0
KTH	Kantishna Hill	16.68	38	P	P	02 37 45.4	-2.6
KTH				IAmb	IAmb	02 37 48.9	
comp=Z,9.6nm,1.2s							
TRF	Thorofare Moun	16.87	39	P	P	02 37 47.9	-2.3
BPAW	Bear Paw Mtn.	16.96	36	P	P	02 37 49.0	-2.0
BPAW				IAmb	IAmb	02 37 49.9	
comp=Z,5.5nm,1.2s							
SCM	Sheep Creek Mo	17.37	46	P	P	02 37 52.0	-3.5
FID	Port Fidalgo	17.39	49	P	P	02 37 51.1	-4.6
RND	Reindeer	17.40	40	P	P	02 37 52.7	-3.2
RND				IAmb	IAmb	02 37 54.1	
comp=Z,4.2nm,0.6s							
MCK	McKinley	17.53	39	P	P	02 37 54.3	-2.9
MCK				IAmb	IAmb	02 37 57.4	
comp=Z,5.5nm,1.1s							
MLY	Manley	17.59	34	P	P	02 37 57.3	-0.6
KLU	Klutina	17.88	47	P	P	02 37 57.9	-3.2
KLU				IAmb	IAmb	02 37 59.2	
comp=Z,7.9nm,1.2s							
NEA2	Nenana	17.93	36	P	P	02 37 57.9	-3.6
M24K	Tolsona, Glenn	17.97	45	P	P	02 38 01.2	-0.9
WRH	Wood River Hil	18.23	37	P	P	02 38 00.4	-4.4
CCB	Clear Creek Bu	18.42	37	P	P	02 38 01.5	-5.3
MDM	Murphy Dome	18.43	36	P	P	02 38 03.4	-3.6
MDM				IAmb	IAmb	02 38 10.4	
comp=Z,6.9nm,1.4s							
N25K	Chitina, Valde	18.51	48	P	P	02 38 05.7	-2.4
N25K				IAmb	IAmb	02 38 12.6	
comp=Z,5.3nm,1.1s							
IL31		18.82	37	P	P	02 38 07.9	-3.3
IL31				IAmb	IAmb	02 38 24.8	
comp=Z,4.9nm,1.4s							
ILAR	Eielson Array	18.82	37	P	P	02 38 06.4	-4.9
VRDI	Verde Repeater	18.94	49	P	P	02 38 11.7	-1.1
VRDI				IAmb	IAmb	02 38 19.0	
comp=Z,6.8nm,1.2s							
DOT	Dot Lake	19.45	42	P	P	02 38 14.4	-3.7
SCRK	Sand Creek	19.60	41	P	P	02 38 16.4	-3.5
TOLK	Toolik Lake Re	20.25	26	P	P	02 38 23.9	-2.8
K27K	Chicken	20.41	42	P	P	02 38 25.1	-3.1
K27K				IAmb	IAmb	02 38 28.4	
comp=Z,2.1nm,0.6s							
EGAK	Eagle	21.05	40	P	P	02 38 31.5	-3.6
EGAK				IAmb	IAmb	02 38 33.2	
comp=Z,3.6nm,0.6s							
DAWY	Dawson	21.53	43	P	P	02 38 38.3	-2.1

IDC 30 02:47:21.7±3.7,4˚.59S×152˚.63E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/30, mbtmp3.7/3, Error ellipse: s-maj=140.6km s-min=51.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.46	228	P	P	02 52 32.9	-0.2
1.6nm,0.8s,baz=52,slow=9.6,SNR=7.7							
ASAR	Alice Springs	26.19	222	P	P	02 52 58.2	0.0
0.2nm,0.3s,baz=58,slow=9.2,SNR=1.9							
FITZ	Fitzroy Crossi	29.61	241	P	P	02 53 29.4	+0.5
1.1nm,0.5s,baz=69,slow=11,SNR=1.4							
TORD	Torodi Ar. Bea	150.08	288	PKPbc	PKPbc	03 07 14.8	-0.7
0.9nm,0.8s,baz=86,slow=2.7,SNR=3.7							

IDC 30 02:47:28.7±3.1,4˚.29S×152˚.24E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/30, mbtmp4.0/3, Error ellipse: s-maj=112.1km s-min=44.2km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.37	227	P	P	02 52 39.0	-0.2
3.3nm,0.5s,baz=54,slow=10,SNR=25							
ASAR	Alice Springs	26.16	221	P	P	02 53 05.9	+0.9
0.5nm,0.5s,baz=59,slow=8.8,SNR=4.4							
FITZ	Fitzroy Crossi	29.42	240	P	P	02 53 34.5	+0.3
2.5nm,0.8s,baz=70,slow=10,SNR=12							
TORD	Torodi Ar. Bea	149.62	289	PKPbc	PKPbc	03 07 19.9	-1.5
0.7nm,0.8s,baz=80,slow=2.6,SNR=3.7							

*IDC **30** 02:48:03.2±0.8,5˚.13S×152˚.51E, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.2/32, mbtmp4.3/12, ML2.3/1, Error ellipse: s-maj=28.7km s-min=15.7km az=117.0*
*NEIC **30** 02:48:10.4±2.1, 5˚.08S±0˚.07×152˚.5E±0˚.1, h47km±2km, mb4.6/56, Error ellipse: s-maj=18.9km s-min=9.3km az=101.0*

ISC 30 02:48:10.9±0.6,5˚.12S±0˚.07×152˚.5E±0˚.1, h55km, n76, σ0s86/77, mb4.5/36, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	0.98	341	Pn	Pn	02 48 27.4	-1.1
PMG	Port Moresby	6.78	231	Pn	Pn	02 49 45.8	-1.9
3.3nm,0.3s,baz=15,slow=14,SNR=10							
PMG				Sn	Sn	02 51 04.1	+0.4
5.8nm,0.3s,baz=169,slow=22,SNR=8.4							
PMG	Port Moresby	6.78	231		Pn	02 49 49.0	+1.2
PMG	Port Moresby	6.78	231	P	Pn	02 49 49.0	+1.2
DZM	Mont Dzumac	21.60	143	P	P	02 52 56.0	-0.5
6.1nm,0.7s,baz=302,slow=17,SNR=6.5							
DZM	Mont Dzumac	21.60	143	P	P	02 52 57.0	+0.6
WB0	Warramunga Arr	22.84	229	P	P	02 53 08.5	-1.1
WB0				IAmb	IAmb	02 53 11.2	
comp=Z,13nm,0.8s							
WR0	Warramunga Arr	22.85	228	P	P	02 53 09.2	-0.6
WR0				IAmb	IAmb	02 53 10.8	
comp=Z,21nm,1.1s							
WB2	Warramunga Arr	22.98	229	P	P	02 53 10.1	-1.0
WB2				IAmb	IAmb	02 53 12.2	
comp=Z,16nm,0.9s							
WRA	Warramunga Arr	22.99	229	P	P	02 53 09.9	-1.3
comp=Z,8.0nm,0.6s,baz=55,slow=9.9,SNR=28							
WRA	Warramunga Arr	22.99	229	P	P	02 53 11.0	-0.2
ARMA	Armidale	25.17	182	P	P	02 53 29.7	-1.6
ARMA				IAmb	IAmb	02 53 30.9	
comp=Z,18nm,1.4s							
AS31	Alice Springs	25.69	222	P	P	02 53 36.0	-0.1
ASAR	Alice Springs	25.70	222	P	P	02 53 35.6	-0.5
comp=Z,5.5nm,0.5s,baz=57,slow=9.0,SNR=40							
ASAR	Alice Springs	25.70	222	P	P	02 53 35.8	-0.3
STKA	Stephens Creek	28.50	200	P	P	02 53 60.0	-1.2
comp=Z,2.3nm,0.8s,baz=17,slow=7.0,SNR=7.9							
STKA	Stephens Creek	28.50	200	P	P	02 54 00.3	-0.9
FITZ	Fitzroy Crossi	29.22	242	P	P	02 54 06.7	-1.0
comp=Z,13nm,0.7s,baz=61,slow=6.4,SNR=39							
FITZ	Fitzroy Crossi	29.22	242	P	P	02 54 06.8	-1.0
FITZ				IAmb	IAmb	02 54 07.2	
comp=Z,11nm,0.6s							
BBOO	Buckleboo	31.52	207	P	P	02 54 27.6	-0.3
PSA00	Pilbara Seismi	35.59	240	P	P	02 55 02.0	-1.4
PSA00				IAmb	IAmb	02 55 09.0	
comp=Z,9.9nm,1.1s							
GIRL	Giralia	40.83	241	P	P	02 55 48.5	+1.0
SNZO	South Karori	41.15	154	P	P	02 55 49.5	-0.3
PETK	Petropavlovsk-	58.18	4	P	P	02 57 59.4	+0.3
comp=Z,1.4nm,0.6s,baz=229,slow=1.6,SNR=4.9							
PETK	Petropavlovsk-	58.18	4	P	P	02 57 59.6	+0.5
SONM	Songino Array	66.43	328	P	P	02 58 55.4	+0.8
comp=Z,0.4nm,0.7s,baz=128,slow=5.9,SNR=2.7							
SONM	Songino Array	66.43	328	P	P	02 58 54.8	+0.3
VNDA	Vanda	72.52	178	P	P	02 59 32.1	+0.6
SII	Sitkinak Islan	75.20	27	P	P	02 59 47.6	+0.2
OHAK	Old Harbor	75.98	27	P	P	02 59 51.6	-0.3
ANM	Nome	76.18	17	P	P	02 59 54.1	+1.2
SVW2	Sparrevohn	77.25	23	P	P	02 59 59.9	+0.9
CNPM	China Poot	78.14	26	P	P	03 00 04.2	+0.2
BRLK	Bradley Lake	78.42	26	P	P	03 00 05.7	+0.1
RDOG	Red Dog Mine	79.38	16	P	P	03 00 11.5	+0.9
RDOG				IAmb	IAmb	03 00 12.1	
comp=Z,7.9nm,0.6s							
SUA	Susitna One	79.38	24	P	P	03 00 10.8	-0.2
SUA				IAmb	IAmb	03 00 11.7	
comp=Z,9.7nm,0.7s							
PPLA	Purkeypile	79.59	23	P	P	03 00 12.7	+0.7
RC01	Rabbit Creek A	79.60	25	P	P	03 00 12.1	+0.1
PWL	Port Wells	80.08	25	P	P	03 00 14.8	+0.2
PMR	Palmer	80.11	24	P	P	03 00 14.6	-0.1
PMR				IAmb	IAmb	03 00 30.6	
comp=Z,16nm,1.4s							
GHO	Glory Hole Cre	80.29	24	P	P	03 00 16.1	+0.4
MKAR	Makanchi Array	80.36	319	P	P	03 00 17.0	+0.6
comp=Z,1.3nm,0.9s,baz=102,slow=5.1,SNR=6.1							
KTH	Kantishna Hill	80.43	22	P	P	03 00 15.7	-0.8
KTH				IAmb	IAmb	03 00 16.0	
comp=Z,9.1nm,1.2s							
SML	Sawmill	80.55	24	P	P	03 00 17.5	+0.4
TRF	Thorofare Moun	80.62	23	P	P	03 00 17.2	-0.4
TRF				IAmb	IAmb	03 00 19.2	
comp=Z,8.0nm,0.8s							
BPAW	Bear Paw Mtn.	80.70	22	P	P	03 00 17.2	-0.7
IMAR	Indian Mountai	80.79	20	P	P	03 00 18.7	+0.5
RND	Reindeer	81.15	23	P	P	03 00 19.8	-0.6
RND				IAmb	IAmb	03 00 20.7	
comp=Z,6.4nm,0.6s							
ZALV	Zalesovo Beam	81.24	326	P	P	03 00 21.9	+1.0
comp=Z,1.3nm,0.7s,baz=108,slow=5.0,SNR=4.9							
MCK	McKinley	81.28	23	P	P	03 00 20.4	-0.6
MCK				IAmb	IAmb	03 00 20.6	
comp=Z,9.4nm,1.0s							
MLY	Manley	81.30	21	P	P	03 00 21.4	+0.4
NEA2	Nenana	81.67	22	P	P	03 00 22.4	-0.6
NEA2				IAmb	IAmb	03 00 23.2	
comp=Z,5.4nm,0.6s							
I23K	Minto, Yukon-K	81.86	21	P	P	03 00 24.4	+0.5
I23K				IAmb	IAmb	03 00 25.9	
comp=Z,3.5nm,0.6s							
WRH	Wood River Hil	81.98	22	P	P	03 00 23.9	-0.6
WRH				IAmb	IAmb	03 00 24.8	
comp=Z,13nm,1.5s							
N25K	Chitina, Valde	82.02	25	P	P	03 00 26.1	+1.1
N25K				IAmb	IAmb	03 00 42.6	
comp=Z,14nm,1.4s							
CCB	Clear Creek Bu	82.17	22	P	P	03 00 24.8	-0.8
CCB				IAmb	IAmb	03 00 25.6	
comp=Z,3.8nm,0.6s							
COLA	College	82.27	22	P	P	03 00 25.6	-0.5
POKR	Poker Plat Res	82.54	22	P	P	03 00 27.3	-0.2
POKR				IAmb	IAmb	03 00 35.3	
comp=Z,7.3nm,1.2s							
IL31		82.58	22	P	P	03 00 27.0	-0.7
IL31				IAmb	IAmb	03 00 27.2	
comp=Z,4.0nm,0.7s							
ILAR	Eielson Array	82.58	22	P	P	03 00 26.8	-1.0
comp=Z,3.4nm,0.6s,baz=242,slow=5.7,SNR=71							
ILAR	Eielson Array	82.58	22	P	P	03 00 26.5	-1.2
GRNC	Granite Creek	82.90	27	P	P	03 00 30.5	+0.8
BARN	Barnard Glacie	83.07	27	P	P	03 00 31.8	+1.2
BARN				IAmb	IAmb	03 00 44.4	
comp=Z,15nm,1.4s							
DOT	Dot Lake	83.15	24	P	P	03 00 30.9	+0.1
DOT				IAmb	IAmb	03 00 31.5	
comp=Z,4.3nm,0.7s							
SCRK	Sand Creek	83.33	23	P	P	03 00 32.1	+0.3
TOLK	Toolik Lake Re	83.62	18	P	P	03 00 33.6	+0.5
TOLK				IAmb	IAmb	03 00 34.7	
comp=Z,3.5nm,0.7s							
L27K	Beaver Creek,	83.81	25	P	P	03 00 35.3	+1.1
BCAR	Beaver Creek A	83.83	25	P	P	03 00 35.1	+0.8
K27K	Chicken	84.11	24	P	P	03 00 36.9	+1.3
K27K				IAmb	IAmb	03 00 50.1	
comp=Z,6.0nm,1.4s							
BMAR	Burnt Mountain	84.66	20	P	P	03 00 39.4	+1.0
EGAK	Eagle	84.78	23		P	03 00 39.5	+0.6
QSPA	South Pole Qui	84.84	180	P	P	03 00 39.4	-0.1
QSPA				IAmb	IAmb	03 00 40.2	
comp=Z,9.3nm,1.2s							
HYT	Haines Junctio	84.87	28	P	P	03 00 42.5	+2.8
HYT				IAmb	IAmb	03 00 53.6	
comp=Z,9.2nm,1.2s							
EPYK	Eagle Plains	87.09	22	P	P	03 00 51.5	+1.1
YKA	Yellowknife Ar	95.86	28	P	P	03 01 31.5	+0.3
comp=Z,0.4nm,0.6s,baz=269,slow=4.3,SNR=11							
TORD	Torodi Ar. Bea	150.10	287	PKPbc	PKPbc	03 07 56.0	-0.5
comp=Z,3.3nm,0.8s,baz=96,slow=2.1,SNR=4.0							

IDC 30 02:59:57.8±2.1,5˚.04S×152˚.65E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/45, mbtmp3.7/4, Error ellipse: s-maj=124.9km s-min=26.7km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.18	229	P	P	03 05 06.2	0.0
0.6nm,0.4s,baz=53,slow=9.6,SNR=14							
ASAR	Alice Springs	25.87	222	P	P	03 05 31.4	-0.1
0.7nm,0.4s,baz=57,slow=8.9,SNR=11							
FITZ	Fitzroy Crossi	29.41	242	P	P	03 06 03.1	-0.2
0.6nm,0.5s,baz=58,slow=9.5,SNR=5.2							
ILAR	Eielson Array	82.44	22	P	P	03 12 21.9	+0.2
0.2nm,0.7s,baz=244,slow=6.1,SNR=5.6							
TORD	Torodi Ar. Bea	150.24	288	PKPbc	PKPbc	03 19 51.6	-0.4
0.6nm,0.8s,baz=92,slow=2.4,SNR=2.4							

*IDC **30** 03:16:42.1±0.9,5˚.47S×152˚.99E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.9/35, mbtmp3.9/11, ML2.1/1, Error ellipse: s-maj=30.3km s-min=17.1km az=115.0*
*NEIC **30** 03:16:44.0±2.3,5˚.53S±0˚.08×153˚.06E±0˚.06, h10km±1km, mb4.3/12, Error ellipse: s-maj=13.4km s-min=10.5km az=9.0*

ISC 30 03:16:47.8±0.7,5˚.51S±0˚.07×153˚.0E±0˚.1, h37km, n32, σ1s14/13, mb3.9/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	1.54	328		Pn	03 17 11.9	-0.8
PMG	Port Moresby	6.96	236	Pn	Pn	03 18 26.9	-0.2
2.1nm,0.3s,baz=19,slow=18,SNR=2.7							
PMG				Sn	Sn	03 19 46.5	+1.4
3.2nm,0.3s,baz=352,slow=23,SNR=7.6							
PMG	Port Moresby	6.96	236	Pn	Pn	03 18 26.7	-0.5
FAKI	Fak Fak	20.84	276	P	P	03 21 23.8	-2.7
FAKI				IAmb	IAmb	03 21 24.3	
comp=Z,12nm,1.0s							
DZM	Mont Dzumac	20.99	143	P	P	03 21 28.6	+0.4
comp=Z,5.1nm,0.5s,baz=256,slow=4.9,SNR=7.4							
DZM	Mont Dzumac	20.99	143	P	P	03 21 29.4	+1.2
DZM				IAmb	IAmb	03 21 33.8	
comp=Z,8.5nm,0.7s							
MTN	Manton Dam	22.76	250	P	P	03 21 49.7	+2.6
WR0	Warramunga Arr	22.98	230	P	P	03 21 50.7	+1.3
WB0	Warramunga Arr	22.98	230	P	P	03 21 50.2	+0.8
WB2	Warramunga Arr	23.12	230	P	P	03 21 51.2	+0.5
WB2				IAmb	IAmb	03 21 59.1	
comp=Z,3.5nm,0.6s							
WRA	Warramun

ILAR	**Eielson Array**	**82.74**	**22**	P		**P**	**03 29 06.7**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=257,slow=4.4,SNR=3.6							
QSPA	**South Pole Qui**	**84.46**	**180**	P		**P**	**03 29 16.6**	**+0.1**
QSPA				IAmb		IAmb	03 29 35.8	
	comp=Z,8.5nm,1.5s							
TORD	**Torodi Ar. Bea**	**150.69**	**287**	PKPbc		**PKPbc**	**03 36 36.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=70,slow=1.9,SNR=5.7							
TORD	**Torodi Ar. Bea**	**150.69**	**287**			**PKPbc**	**03 36 35.9**	**-1.2**

*IDC **30** 03:18:46.2±1.6,5.°15S×152.°63E,h0km,mb3.8/8, mb1 4.0/8,mb1mx3.8/34,mbtmp3.8/8, Error ellipse: s-maj=54.8km s-min=23.7km az=126.0*
*NEIC **30** 03:18:54.5±1.8,5.°18S±0.°09×152.°3E±0.°2,h54km±10km, mb4.1/7, Error ellipse: s-maj=30.3km s-min=13.4km az=94.0*

ISC 30 03:18:54.4±1.2,5.°2S±0.°1×152.°4E±0.°2,h55km,n21, σ1°02/21,mb3.9/11,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.01**	**348**		**Pn**	**03 19 12.2**	**-0.3**
FAKI	**Fak Fak**	**20.20**	**276**	P	**P**	**03 23 22.2**	**-2.7**
FAKI				IAmb	IAmb	03 23 27.4	
	comp=Z,18nm,1.2s						
WB0	**Warramunga Arr**	**22.72**	**229**	P	**P**	**03 23 52.9**	**+1.0**
WB0				IAmb	IAmb	03 24 10.5	
	comp=Z,6.2nm,1.1s						
WR0	**Warramunga Arr**	**22.73**	**228**	P	**P**	**03 23 52.4**	**+0.4**
WR0				IAmb	IAmb	03 24 03.9	
	comp=Z,5.5nm,1.0s						
WB2	**Warramunga Arr**	**22.86**	**229**	P	**P**	**03 23 52.8**	**-0.5**
WRA	**Warramunga Arr**	**22.87**	**229**	P	**P**	**03 23 53.8**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=50,slow=9.8,SNR=3.3						
ASAR	**Alice Springs**	**25.58**	**222**	P	**P**	**03 24 20.0**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=58,slow=8.4,SNR=4.2						
ASAR	**Alice Springs**	**25.58**	**222**	P	**P**	**03 24 18.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**29.18**	**242**	P	**P**	**03 24 50.0**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=48,slow=9.0,SNR=2.0						
FITZ	**Fitzroy Crossi**	**29.10**	**242**	P	**P**	**03 24 50.6**	**+0.5**
FITZ				IAmb	IAmb	03 25 00.8	
	comp=Z,3.4nm,0.8s						
KS19	**Wonju Array Si**	**48.22**	**334**	P	**P**	**03 27 30.9**	**+1.2**
USRK	**Ussuriysk Ar.**	**52.48**	**342**	P	**P**	**03 28 02.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**57.66**	**296**	P	**P**	**03 28 40.2**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=111,slow=5.1,SNR=5.4						
SONM	**Songino Array**	**66.43**	**328**	P	**P**	**03 29 38.7**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=139,slow=6.2,SNR=2.4						
ANM	**Nome**	**76.27**	**17**	P	**P**	**03 30 37.2**	**+0.3**
ANM				IAmb	IAmb	03 30 37.5	
	comp=Z,4.9nm,1.1s						
MKAR	**Makanchi Array**	**80.34**	**319**	P	**P**	**03 31 00.5**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=107,slow=5.0,SNR=4.3						
IMAR	**Indian Mountai**	**80.89**	**20**	P	**P**	**03 31 02.3**	**0.0**
ILAR	**Eielson Array**	**82.68**	**22**	P	**P**	**03 31 10.2**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=252,slow=5.0,SNR=6.7						
ILAR	**Eielson Array**	**82.68**	**22**	P	**P**	**03 31 10.6**	**-1.2**
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**03 32 14.3**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=268,slow=4.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**150.02**	**287**	PKPbc		**PKPbc**	**03 38 39.7**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=81,slow=2.8,SNR=3.5							

*IDC **30** 03:35:27.7±2.2,5.°44S×153.°13E,h0km,mb3.6/5, mb1 3.9/5,mb1mx3.6/29,mbtmp3.6/5, Error ellipse: s-maj=98.8km s-min=27.8km az=126.0*

ISC 30 03:35:33.1±2.2,5.°5S±0.°4×153.°2E±0.°5,h37km,n6,σ0°51/6, mb3.4/5,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.25**	**230**	P	**P**	**03 40 36.6**	**-0.7**
	1.0nm,1.0s,baz=54,slow=9.5,SNR=3.3						
ASAR	**Alice Springs**	**25.87**	**224**	P	**P**	**03 41 01.4**	**-0.1**
	0.9nm,0.8s,baz=55,slow=8.5,SNR=2.5						
FITZ	**Fitzroy Crossi**	**29.64**	**243**	P	**P**	**03 41 35.6**	**+0.3**
	1.2nm,0.6s,baz=77,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**81.12**	**319**	P	**P**	**03 47 44.5**	**-0.2**
	0.2nm,0.5s,baz=104,slow=6.1,SNR=2.5						
ILAR	**Eielson Array**	**82.70**	**22**	P	**P**	**03 47 52.6**	**0.0**
	0.6nm,0.8s,baz=248,slow=5.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**150.88**	**287**	PKPbc	**PKiKP**	**03 55 23.7**	**+0.2**
	0.5nm,0.9s,baz=78,slow=3.2,SNR=1.1						

*IDC **30** 03:45:40.5±1.4,4.°97S×152.°83E,h0km,mb4.2/5, mb1 4.4/6,mb1mx3.8/37,mbtmp4.3/6,ML2.0/1, Error ellipse: s-maj=31.0km s-min=26.9km az=168.0*
*NEIC **30** 03:45:47.7±1.3,5.°01S±0.°09×152.°9E±0.°1,h59km±8km, mb4.3/9, Error ellipse: s-maj=16.1km s-min=13.2km az=89.0*

ISC 30 03:45:46.3±0.8,5.°06S±0.°09×152.°9E±0.°1,h43km,n24, σ1°00/25,mb4.3/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.16**	**318**	Pn	**Pn**	**03 46 07.1**	**+1.1**
PMG	**Port Moresby**	**7.18**	**233**	Pn	**Pn**	**03 47 27.3**	**-1.4**
	1.6nm,0.3s,baz=29,slow=9.7,SNR=3.0						
PMG				Sn	**Sn**	**03 48 49.9**	**+0.9**
	1.3nm,0.3s,baz=67,slow=10,SNR=3.9						
PMG	**Port Moresby**	**7.18**	**233**	Pn	**Pn**	**03 47 30.8**	**+2.0**
FAKI	**Fak Fak**	**20.75**	**275**		**P**	**03 50 23.1**	**-0.5**
FAKI				IAmb	IAmb	03 50 42.4	
	comp=Z,13nm,1.1s						
DZM	**Mont Dzumac**	**21.38**	**144**	P	**P**	**03 50 31.9**	**+1.5**
	comp=Z,4.8nm,0.5s,baz=312,slow=12,SNR=7.3						
DZM	**Mont Dzumac**	**21.38**	**144**	P	**P**	**03 50 32.0**	**+1.5**
DZM				IAmb	IAmb	03 50 37.7	
	comp=Z,15nm,1.2s						
WB0	**Warramunga Arr**	**23.23**	**229**	P	**P**	**03 50 49.5**	**-0.5**
WB0				IAmb	IAmb	03 50 50.4	
	comp=Z,15nm,1.1s						
WR0	**Warramunga Arr**	**23.24**	**229**	P	**P**	**03 50 49.8**	**-0.2**
WR0				IAmb	IAmb	03 50 51.1	
	comp=Z,20nm,1.2s						
WB2	**Warramunga Arr**	**23.37**	**229**	P	**P**	**03 50 50.2**	**-1.1**
WB2				IAmb	IAmb	03 50 52.3	
	comp=Z,22nm,1.4s						
WRA	**Warramunga Arr**	**23.38**	**229**	P	**P**	**03 50 50.2**	**-1.1**
	comp=Z,11nm,1.0s,baz=53,slow=9.5,SNR=35						
WRA	**Warramunga Arr**	**23.38**	**229**	P	**P**	**03 50 50.7**	**-0.7**
ASAR	**Alice Springs**	**26.05**	**223**	P	**P**	**03 51 16.0**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=56,slow=9.2,SNR=20						
ASAR	**Alice Springs**	**26.05**	**223**	P	**P**	**03 51 15.2**	**-0.6**
STKA	**Stephens Creek**	**28.72**	**200**	P	**P**	**03 51 39.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**29.65**	**242**	P	**P**	**03 51 46.9**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=78,slow=9.2,SNR=8.0						
NWAO	**Narrogin (SRO)**	**43.30**	**226**	P	**P**	**03 53 43.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**58.11**	**295**	P	**P**	**03 55 36.2**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=92,slow=4.3,SNR=7.0						
CMAR	**Chiang Mai Arr**	**58.11**	**295**	P	**P**	**03 55 36.6**	**+0.6**
SML	**Sawmill**	**80.30**	**24**	P	**P**	**03 57 52.1**	**-0.5**
IMAR	**Indian Mountai**	**80.58**	**19**	P	**P**	**03 57 53.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**150.51**	**288**	PKPbc	**PKPbc**	**04 05 33.9**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=74,slow=2.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**150.51**	**288**		**PKPbc**	**04 05 33.8**	**-0.7**
BDFB	**Brasilia**	**150.79**	**135**	PKPbc	**PKiKP**	**04 05 36.2**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=243,slow=2.3,SNR=4.2						
BDFB	**Brasilia**	**150.79**	**135**		**PKPbc**	**04 05 33.7**	**-1.5**

*IDC **30** 03:50:58.2±1.8,5.°31S×153.°04E,h0km,mb3.9/10, mb1 4.0/11,mb1mx3.7/45,mbtmp3.9/11,ML1.9/1,MS4.5/1, Ms1 4.5/1,ms1mx3.7/51,Error ellipse: s-maj=60.8km s-min=18.0km az=120.0*

ISC 30 03:51:03.7±1.8,5.°4S±0.°3×153.°1E±0.°3,h37km,n13, σ0°42/13,mb3.8/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.09**	**235**	Pn	**Pn**	**03 52 44.6**	**-0.3**
	1.3nm,0.3s,baz=56,slow=11,SNR=1.5						
PMG				Sn	**Sn**	**03 54 04.6**	**+0.2**
	2.4nm,0.3s,baz=115,slow=21,SNR=5.0						
WRA	**Warramunga Arr**	**23.27**	**230**	P	**P**	**03 56 07.8**	**-0.4**
	1.7nm,0.9s,baz=55,slow=9.9,SNR=6.2						
ASAR	**Alice Springs**	**25.91**	**223**	P	**P**	**03 56 32.5**	**0.0**
	1.2nm,0.8s,baz=56,slow=9.5,SNR=10.0						
FITZ	**Fitzroy Crossi**	**29.62**	**242**	P	**P**	**03 57 06.0**	**+0.3**
	2.2nm,0.9s,baz=64,slow=6.2,SNR=2.9						
KSRS	**Korea Array**	**48.60**	**333**	P	**P**	**03 59 43.7**	**+0.1**
	0.5nm,0.3s,baz=156,slow=8.5,SNR=4.7						
USRK	**Ussuriysk Ar.**	**52.85**	**341**	P	**P**	**04 00 15.0**	**-0.6**
	1.0nm,0.7s,baz=150,slow=6.0,SNR=5.3						
PPT	**Papeete**	**57.32**	**107**	LR	LR	04 20 07.0	
	comp=Z,421nm,21.2s,baz=132,slow=30						
PETK	**Petropavlovsk-**	**58.38**	**3**	P	**P**	**04 00 55.6**	**+0.5**
	1.8nm,0.9s,baz=176,slow=8.5,SNR=3.7						
MKAR	**Makanchi Array**	**80.91**	**319**	P	**P**	**04 03 14.6**	**+0.4**
	0.8nm,0.8s,baz=99,slow=7.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**81.75**	**326**	P	**P**	**04 03 17.8**	**-0.6**
	0.6nm,0.3s,baz=140,slow=4.7,SNR=4.0						
ILAR	**Eielson Array**	**82.58**	**22**	P	**P**	**04 03 22.5**	**0.0**
	0.5nm,0.8s,baz=262,slow=5.1,SNR=5.9						
KURBB	**Kurchatov Arra**	**84.39**	**322**	P	**P**	**04 03 31.7**	**-0.4**
	0.4nm,0.8s,baz=106,slow=4.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**150.71**	**287**	PKPbc	**PKPbc**	**04 10 53.2**	**+0.2**
	0.9nm,0.7s,baz=98,slow=1.7,SNR=4.7						

IDC 30 04:00:35.9±2.0,0.°71N×127.°78E,h0km,mb3.4/4, mb1 3.6/5,mb1mx3.4/48,mbtmp3.5/5,ML3.4/1,Error ellipse: s-maj=107.4km s-min=27.0km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.81**	**186**	P	P	04 04 55.6	-1.6
	0.1nm,0.3s,baz=40,slow=7.9,SNR=1.6						
WRA	**Warramunga Arr**	**21.51**	**163**	P	P	04 05 26.4	-0.2
	1.5nm,0.7s,baz=344,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**24.95**	**167**	P	P	04 06 02.6	+1.4
	0.2nm,0.3s,baz=341,slow=7.1,SNR=2.0						
STKA	**Stephens Creek**	**34.95**	**159**	P	P	04 07 29.2	-0.6
	0.8nm,0.6s,baz=352,slow=16,SNR=1.6						
MKAR	**Makanchi Array**	**60.62**	**326**	P	P	04 10 48.7	0.0
	0.3nm,0.8s,baz=117,slow=5.0,SNR=2.2						

*IDC **30** 04:07:11.1±1.4,4.°54S×152.°32E,h0km,mb3.7/6, mb1 4.0/6,mb1mx3.6/45,mbtmp3.7/6, Error ellipse: s-maj=120.1km s-min=21.9km az=133.0*

ISC 30 04:07:18.9±1.3,4.°6S±0.°6×152.°3E±0.°6,h58km,n7,σ0°60/7, mb3.5/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.18**	**227**	P	**P**	**04 12 20.4**	**-0.4**
	0.9nm,0.4s,baz=53,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**25.94**	**221**	P	**P**	**04 12 45.8**	**-0.3**
	0.4nm,0.5s,baz=54,slow=8.8,SNR=6.7						
FITZ	**Fitzroy Crossi**	**29.29**	**241**	P	**P**	**04 13 16.3**	**+0.3**
	1.3nm,0.3s,baz=51,slow=7.5,SNR=13						
ILAR	**Eielson Array**	**82.18**	**22**	P	**P**	**04 19 32.5**	**-0.8**
	0.4nm,0.8s,baz=241,slow=4.6,SNR=4.4						
NVAR	**Mina Array Bea**	**92.39**	**52**	P	**P**	**04 20 24.0**	**+0.2**
	0.3nm,0.6s,baz=272,slow=5.1,SNR=2.1						
YKA	**Yellowknife Ar**	**95.51**	**28**	P	**P**	**04 20 37.9**	**+0.6**
	0.1nm,0.7s,baz=268,slow=4.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**149.74**	**288**	PKPbc	**PKPbc**	**04 27 03.7**	**+0.3**
	0.4nm,0.5s,baz=68,slow=2.1,SNR=2.5						

*IDC **30** 04:14:39.7±1.1,4.°98S×152.°85E,h0km,mb3.9/12, mb1 3.9/12,mb1mx3.8/48,mbtmp3.9/12,Error ellipse: s-maj=39.9km s-min=18.4km az=107.0*
*NEIC **30** 04:14:47.7±1.6,5.°12S±0.°09×152.°94E±0.°09,h55km±6km, mb4.1/12, Error ellipse: s-maj=16.5km s-min=8.4km az=134.0*

ISC 30 04:14:45.8±0.8,5.°1S±0.°1×153.°1E±0.°2,h43km,n34, σ1°02/34,mb4.0/14,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.29**	**316**		**Pn**	**04 15 08.1**	**+0.7**
CTAO	**Charters Tower**	**16.29**	**203**		**P**	**04 18 33.8**	**-0.3**
CTAO				IAmb	IAmb	04 18 46.7	
	comp=Z,18nm,1.4s						
MTN	**Manton Dam**	**22.97**	**249**	P	**P**	**04 19 48.8**	**+2.0**
MTN				IAmb	IAmb	04 19 54.4	
	comp=Z,3.4nm,0.6s						
WB0	**Warramunga Arr**	**23.29**	**230**	P	**P**	**04 19 50.1**	**+0.1**
WR0	**Warramunga Arr**	**23.29**	**229**	P	**P**	**04 19 51.2**	**+1.2**
WB2	**Warramunga Arr**	**23.43**	**229**	P	**P**	**04 19 50.8**	**-0.6**
WB2				IAmb	IAmb	04 20 08.6	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**23.43**	**229**	P	**P**	**04 19 50.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=54,slow=10.0,SNR=8.6						
ASAR	**Alice Springs**	**26.09**	**223**	P	**P**	**04 20 15.5**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=36,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**26.09**	**223**	P	**P**	**04 20 15.8**	**+0.1**
SOEI	**Soe**	**28.92**	**259**	P	**P**	**04 20 41.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**29.74**	**242**	P	**P**	**04 20 46.7**	**-1.7**
	comp=Z,1.4nm,0.5s,baz=88,slow=5.7,SNR=12						
FITZ	**Fitzroy Crossi**	**29.74**	**242**	P	**P**	**04 20 47.2**	**-1.2**
FITZ				IAmb	IAmb	04 20 50.5	
	comp=Z,2.8nm,0.8s						
KLR	**Kul'dur**	**57.23**	**344**	P	**P**	**04 24 27.2**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=356,slow=1.6,SNR=3.9						
PEA0B	**Petropavlovsk-**	**58.14**	**3**	P	**P**	**04 24 35.9**	**+0.8**
PETK	**Petropavlovsk-**	**58.14**	**3**	P	**P**	**04 24 35.2**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=172,slow=6.8,SNR=8.2						
PETK	**Petropavlovsk-**	**58.14**	**3**	P	**P**	**04 24 36.1**	**+1.0**
SONM	**Songino Array**	**66.74**	**328**	P	**P**	**04 25 32.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=139,slow=6.4,SNR=2.6						
SONM	**Songino Array**	**66.74**	**328**	P	**P**	**04 25 34.0**	**+1.3**
TIXI	**Tiksi**	**78.25**	**352**	P	**P**	**04 26 39.5**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=124,slow=3.0,SNR=6.3						
TIXI	**Tiksi**	**78.25**	**352**	P	**P**	**04 26 41.4**	**+0.8**
TIXI				IAmb	IAmb	04 26 43.2	
	comp=Z,2.6nm,1.2s						
SML	**Sawmill**	**80.31**	**24**	P	**P**	**04 26 51.8**	**-0.3**
IMAR	**Indian Mountai**	**80.60**	**19**	P	**P**	**04 26 54.5**	**+0.9**
MKAR	**Makanchi Array**	**80.74**	**319**	P	**P**	**04 26 52.3**	**-2.5**
	comp=Z,0.8nm,0.8s,baz=99,slow=7.5,SNR=6.3						
MKAR	**Makanchi Array**	**80.74**	**319**	P	**P**	**04 26 55.4**	**+0.6**
ZALV	**Zalesovo Beam**	**81.57**	**326**	P	**P**	**04 26 58.3**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=107,slow=4.9,SNR=11						
ZALV	**Zalesovo Beam**	**81.57**	**326**	P	**P**	**04 26 59.0**	**+0.1**
KURBB	**Kurchatov Arra**	**84.22**	**322**	P	**P**	**04 27 11.8**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=109,slow=4.3,SNR=9.2						
QSPA	**South Pole Qui**	**84.84**	**180**	P	**P**	**04 27 17.0**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=214,slow=0.7,SNR=6.5						
QSPA	**South Pole Qui**	**84.84**	**180**	P	**P**	**04 27 16.4**	**+0.6**
QSPA				IAmb	IAmb	04 27 19.0	
	comp=Z,1.9nm,0.9s						
BVAR	**Borovoye Array**	**89.66**	**323**	P	**P**	**04 27 37.7**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=148,slow=15,SNR=4.3						
BDFB	**Brasilia**	**150.65**	**135**	PKPbc	**PKPbc**	**04 34 34.9**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=199,slow=3.8,SNR=4.2						
BDFB	**Brasilia**	**150.65**	**135**		**PKPbc**	**04 34 34.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**150.66**	**288**	PKPbc	**PKPbc**	**04 34 33.6**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=52,slow=2.1,SNR=7.6						
TORD	**Torodi Ar. Bea**	**150.66**	**288**		**PKPbc**	**04 34 33.8**	**-0.5**

*NEIC **30** 04:16:09.9±1.7,5.°43S±0.°06×152.°53E±0.°09,h10km±1km, mb5.3/174, Error ellipse: s-maj=14.4km s-min=10.1km az=95.0*
*MOS **30** 04:16:11.5±1.0,5.°20S×152.°39E,h26km,mb5.4/41, Error ellipse: s-maj=10.1km s-min=6.1km az=104.9*
*BJI **30** 04:16:12.4±0.0,5.°00S×152.°88E,h40km,mB5.3/35, mb5.1/67,Ms5.0/32,Ms7.4/8/30*
*DJA **30** 04:16:13.4±0.6,5.°S±3.°×15.°3E±.°,h39km±6km,M5.1/34, mb5.1/34,mB5.4/17,MLv5.9/3,Mw(mB)4.9/17*
*IDC **30** 04:16:13.3±2.5,5.°37S×152.°43E,h33km±18km,mb4.7/34, mb1 4.7/36,mb1mx4.6/51,mbtmp4.9/36,ML3.0/2,MS4.8/7, Ms1 4.8/7,ms1mx4.3/33,Error ellipse: s-maj=13.2km s-min=9.2km az=109.0*

ISC 30 04:16:14.3±0.7,5.°38S±0.°04×152.°53E±0.°05,h41km±6km, n449,σ1°17/425,mb5.2/173,MS4.7/13,22C-3D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.24**	**343**	Pn	**Pn**	**04 16 35.8**	**+0.6**
RABL	**Rabaul**	**1.24**	**343**	P	**Pn**	**04 16 36.2**	**+1.0**
MANU	**Manus Island**	**6.13**	**303**	Pn	**Pn**	**04 17 46.0**	**+3.6**
PMG	**Port Moresby**	**6.66**	**233**	Pn	**Pn**	**04 17 49.2**	**-0.5**
	2.4nm,0.3s,baz=57,slow=11,SNR=5.7						
PMG				Sn	**Sn**	**04 19 06.0**	**+1.6**
	23nm,0.3s,baz=46,slow=15,SNR=8.3						
PMG	**Port Moresby**	**6.66**	**233**	*de*P	**Pn**	**04 17 49.5**	**-0.2**
PMG				pmax	pmax		
	comp=Z,216nm,0.8s						
PMG	**Port Moresby**	**6.66**	**233**	Pn	**Pn**	**04 17 51.5**	**+1.7**
PMG	**Port Moresby**	**6.66**	**233**	P	**Pn**	**04 17 51.7**	**+2.0**
JAY	**Jayapura**	**12.14**	**283**	P	**Pn**	**04 19 03.9**	**-0.9**
	comp=Z,866nmcomp=Z,37nm,1.7s						
COEN	**Coen**	**12.55**	**227**	Pn	**Pn**	**04 19 14.2**	**+3.7**
PATS	**Pohnpei**	**13.44**	**25**	P	**Pn**	**04 19 21.3**	**-1.3**
	baz=14						
PATS	**Pohnpei**	**13.44**	**25**	Pn	**Pn**	**04 19 23.8**	**+1.3**
MTSU	**Mount Surprise**	**15.00**	**212**	P	**Pn**	**04 19 43.3**	**-0.4**
	baz=15,SNR=40						
CTA	**Charters Tower**	**15.84**	**202**	Pn	**Pn**	**04 19 53.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=26,slow=16,SNR=7.5						
CTA				LR	LR	04 26 28.2	
	comp=Z,3μm,18.0s,baz=31,slow=39						
CTAO	**Charters Tower**	**15.84**	**202**	P	**Pn**	**04 19 53.9**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,65nm,1.1s						
CTAO	**Charters Tower**	**15.84**	**202**		**Pn**	**04 19 53.9**	**-0.6**
SANVU	**Saraoutou**	**17.54**	**126**		**Pn**	**04 20 14.8**	**-1.2**
SANVU				IAmb	IAmb	04 20 28.6	
	comp=Z,217nm,0.9s						
SANVU	**Saraoutou**	**17.54**	**126**	P	**Pn**	**04 20 16.0**	**+0.1**
QIS	**Mount Isa**	**19.63**	**219**	P	**P**	**04 20 40.1**	**+0.5**
	baz=20,SNR=37						
EIDS	**Eidsvold**	**19.92**	**184**	P	**P**	**04 20 42.6**	**-0.1**
	baz=20,SNR=6.5						
EIDS	**Eidsvold**	**19.92**	**184**	P	**P**	**04 20 42.4**	**-0.3**
EIDS				IAmb	IAmb	04 20 45.7	
	comp=Z,131nm,1.2s						
FAKI	**Fak Fak**	**20.38**	**276**	P	Pn	04 20 50.5	+0.4
FAKI	**Fak Fak**	**20.38**	**276**	P	Pn	04 20 49.2	-0.9
	comp=Z,59nm,1.2s						
KDU	**Kakadu**	**21.09**	**248**	P	**P**	**04 20 55.1**	**-0.3**
	baz=21,SNR=36						
RMQ	**Roma**	**21.29**	**189**	P	**P**	**04 20 57.7**	**+0.2**
	baz=21,SNR=55						
DZM	**Mont Dzumac**	**21.36**	**142**	P	**P**	**04 20 58.1**	**-0.4**
	comp=Z,77nm,1.0s,baz=343,slow=9.9,SNR=17						
DZM				LR	LR	04 28 32.8	
	comp=Z,2μm,19.4s,baz=316,slow=34						
DZM	**Mont Dzumac**	**21.36**	**142**	*e*P	**P**	**04 20 57.6**	**-0.8**
	comp=Z,219nm,1.1s						
DZM				*e*LR	LR	04 26 05.7	
DZM	**Mont Dzumac**	**21.36**	**142**	P	**P**	**04 20 58.0**	**-0.4**
DZM	**Mont Dzumac**	**21.36**	**142**	P	**P**	**04 20 57.9**	**-0.5**
ONTNC	**Ouen Toro**	**21.55**	**143**	P	**P**	**04 20 59.9**	**-0.4**
YATNC	**Mamie plateau,**	**21.63**	**141**	P	**P**	**04 21 02.4**	**+1.2**
SIJI	**Sorong**	**21.70**	**281**	P	**P**	**04 21 02.0**	**0.0**
	comp=Z,20nm,0.8s,baz=71,slow=8.6,SNR=12						
SWI	**Sorong**	**21.70**	**281**	P	**P**	**04 21 02.4**	**+0.4**
	comp=Z,2μmcomp=Z,114nm,1.1s						
OUENC	**Ouen Island, N**	**21.87**	**142**	P	**P**	**04 21 03.6**	**-0.1**
MARNC	**Mare, Loyalty**	**21.95**	**138**	P	**P**	**04 21 05.8**	**+1.3**
MTN	**Manton Dam**	**22.38**	**249**	P	**P**	**04 21 10.5**	**+1.2**
	baz=22,SNR=23						
MTN	**Manton Dam**	**22.38**	**249**	P	**P**	**04 21 08.6**	**-0.7**
MTN				IAmb	IAmb	04 21 13.7	
	comp=Z,212nm,1.3s						
PINNC	**Pines Island,**	**22.39**	**141**	P	**P**	**04 21 10.6**	**+1.4**
QLP	**Quilpie**	**22.52**	**200**	P	**P**	**04 21 10.2**	**-0.5**
	baz=23,SNR=3.9						
WB0	**Warramunga Arr**	**22.72**	**229**	P	**P**	**04 21 12.0**	**-0.9**
WB0				IAmb	IAmb	04 21 40.7	
	comp=Z,83nm,1.1s						
WR0	**Warramunga Arr**	**22.72**	**229**	P	**P**	**04 21 12.0**	**-0.9**
WR0				IAmb	IAmb	04 21 18.4	
	comp=Z,83nm,1.0s						
WC3	**Warramunga Arr**	**22.85**	**229**	P	**P**	**04 21 13.3**	**-0.9**
	baz=23						
WRAB	**Tennant Creek**	**22.85**	**229**	*ce*P	**P**	**04 21 13.7**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,108nm,1.7s						
WRAB	**Tennant Creek**	**22.85**	**229**	P	**P**	**04 21 14.2**	**0.0**
WRAB

comp=Z,56nm,1.2s
RAO Raoul Island 36.66 134 LR LR 04 36 04.3
comp=Z,942nm,20.6s,baz=268,slow=32
KMBL Kambalda 38.65 224 P **P** **04 23 33.5 -0.5**
baz=39
URZ Urewera 39.62 149 P **P** **04 23 42.3 +0.2**
URZ IAmb IAmb 04 23 56.9
comp=Z,108nm,1.7s
JOW Kunigami 39.71 325 P **P** **04 23 44.0 +1.1**
JOW IAmb IAmb 04 23 44.9
comp=Z,63nm,1.0s
TUWZ Tuamarina 40.67 155 P **P** **04 23 50.0 -0.7**
BSWZ Blackbirch Sta 40.88 155 P **P** **04 23 51.9 -0.5**
CMWZ Cape Campbell 41.05 155 P **P** **04 23 52.8 -1.0**
MSWZ Moikau Station 41.22 154 P **P** **04 23 54.1 -1.1**
PLWZ Palliser 41.35 154 P **P** **04 23 54.6 -1.7**
RPZ Rata Peaks 41.52 160 LR LR 04 40 51.6
comp=Z,3µm,18.3s,baz=298,slow=36
KLBR Kellerberrin 41.72 227 P **P** **04 23 58.4 -1.1**
baz=42,SNR=5.1
MORW Morawa 41.77 231 P **P** **04 23 59.4 -0.6**
YULB Yu-li 41.81 314 P **P** **04 23 58.5 -1.7**
NACB Ninganchiao 42.09 316 P **P** **04 24 02.8 +0.2**
YHNB Yeheng 42.57 316 P **P** **04 24 05.8 -0.7**
YHNB IAmb IAmb 04 24 17.9
comp=Z,144nm,1.7s
JMN Monobe 42.72 337 P **P** **04 24 07.9 +0.3**
JNU Nakatsue 43.46 333 P **P** **04 24 12.8 -0.8**
comp=Z,24nm,0.9s,baz=54,slow=21,SNR=8.5
JNU Nakatsue 43.46 333 P **P** **04 24 13.7 +0.2**
JNU IAmb IAmb 04 24 14.5
comp=Z,58nm,1.1s
MJAR Matsushiro Arr 43.81 343 P **P** **04 24 14.1 -2.1**
comp=Z,3.8nm,0.7s,baz=164,slow=9.0,SNR=10
MJAR PcP **PcP** **04 26 03.1 +0.7**
comp=Z,3.5nm,0.8s,baz=147,slow=4.2,SNR=6.9
MJAR ScP **ScP** **04 29 53.3 +2.4**
comp=Z,0.8nm,0.2s,baz=184,slow=4.6,SNR=4.5
MJAR LR LR 04 39 50.2
comp=Z,494nm,21.9s,baz=165,slow=32
MJAR Matsushiro Arr 43.81 343 P **P** **04 24 13.5 -2.8**
MJAR pmax pmax
comp=Z,4.0nm,1.2s
MJAR Matsushiro Arr 43.81 343 P **P** **04 24 13.5 -2.8**
MAJO Matsushiro 43.81 343 *i* P **P** **04 24 14.3 -2.0**
MAJO pmax pmax
comp=Z,6.0nm,0.9s
MAT Matsushiro 43.81 343 P **P** **04 24 13.9 -2.4**
MJB9 Matsu-Tunnel 43.81 343 P **P** **04 24 14.9 -1.5**
MJB9 IAmb IAmb 04 24 47.9
comp=Z,26nm,0.5s
JHS Saijyo 44.13 337 P **P** **04 24 17.9 -1.0**
DLV T Lat 47.06 292 P **P** **04 24 42.2 -0.4**
TJN Taejon 47.76 332 *ce* P **P** **04 24 44.5 -3.0**
KSRS Korea Array 48.40 334 P **P** **04 24 51.6 -0.7**
comp=Z,4.9nm,0.9s,baz=148,slow=9.3,SNR=22
KSRS PcP **PcP** **04 26 19.6 +1.3**
comp=Z,0.8nm,0.6s,baz=179,slow=5.0,SNR=4.3
KSAR Wonju Array Be 48.41 334 P **P** **04 24 51.7 -0.7**
KSAR Wonju Array Be 48.41 334 P **P** **04 24 51.7 -0.7**
QIZ Qiongzhong 48.54 301 P **P** **04 24 54.8 +1.0**
QIZ pP **pP** **04 25 04.0 -0.5**
QIZ S **S** **04 31 56.0 +3.3**
QIZ pmax pmax
comp=Z,10.0nm,0.9s
INCN Inchon 49.00 333 P **P** **04 24 57.0 0.0**
INCN pmax pmax
comp=Z,90nm,1.4s
INCN Inchon 49.00 333 P **P** **04 24 57.0 0.0**
NJ2 Nanjing 49.13 321 *e* P **P** **04 24 59.8 +1.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 LR LR
comp=Z,790nm,17.1s
NJ2 LR LR
comp=Z,740nm,17.1s
NJ2 LR LR
comp=Z,1µm,20.8s
JKA Kamikawa-asahi 50.08 351 P **P** **04 25 04.8 -0.3**
JKA IAmb IAmb 04 25 23.8
comp=Z,75nm,1.6s
ASAJ Asahikawa 50.08 351 P **P** **04 25 04.7 -0.4**
comp=Z,14nm,0.8s,baz=231,slow=14,SNR=12
ASAJ Asahikawa 50.08 351 P **P** **04 25 04.8 -0.3**
ASAJ pmax pmax
comp=Z,75nm,1.6s
WHN Wuhan 51.09 317 ⇓P **P** **04 25 14.0 +1.0**
WHN pmax pmax
comp=Z,70nm,1.1s
MSHR Mys Shultsa 51.54 340 *i* P **P** **04 25 15.0 -1.1**
MSHR pmax pmax
comp=Z,7.0nm,1.1s
IPM Ipoh 52.37 280 P **P** **04 25 21.9 -0.9**
USA0B Ussuriysk Arra 52.71 342 *i* P **P** **04 25 24.1 -0.7**
USA0B Ussuriysk Arra 52.71 342 P **P** **04 25 23.7 -1.0**
USRK Ussuriysk Ar. 52.71 342 P **P** **04 25 23.9 -0.8**
comp=Z,6.6nm,0.9s,baz=160,slow=8.6,SNR=13
USRK PcP **PcP** **04 26 34.5 +0.3**
comp=Z,4.2nm,1.0s,baz=172,slow=3.9,SNR=4.0
USRK Ussuriysk Ar. 52.71 342 P **P** **04 25 24.0 -0.8**
USRK Ussuriysk Ar. 52.71 342 P **P** **04 25 24.0 -0.8**
YSS Yuzh-Sakhalins 52.82 352 *e* P **P** **04 25 25.1 -0.5**
YSS *e* 04 25 39.2
YSS *e* 04 26 35.0
YSS pmax pmax
comp=Z,20nm,0.7s
MDJ Mudanjiang 53.87 340 P **P** **04 25 33.3 0.0**
MDJ pmax pmax
comp=Z,11nm,0.8s
MDJ pmax pmax
comp=Z,490nm,21.1s
MDJ Mudanjiang 53.87 340 P **P** **04 25 32.7 -0.7**
NONG Nongkai 53.99 297 P **P** **04 25 35.0 +0.3**
comp=Z,39nm,0.9s
GYA Guiyang 54.54 308 ⇑P **P** **04 25 39.5 +0.8**
GYA pP pwP 04 25 52.5 -1.1
GYA PcP **PcP** **04 26 43.0 +1.3**
GYA S **S** **04 33 13.0 -2.4**
GYA pmax pmax
comp=Z,12nm,1.4s
GYA pmax pmax
comp=Z,240nm,12.5s
GYA LR LR
comp=Z,360nm,16.9s
GYA LR LR
comp=Z,380nm,18.3s
GYA LR LR
comp=Z,770nm,18.5s
SLVN Son La 54.56 301 P **P** **04 25 39.4 +0.5**
GSI Gunungsitoli 55.29 275 P **P** **04 25 42.3 -1.9**
GSI IAmb IAmb 04 25 43.5
comp=Z,25nm,0.9s
PHET Kaeng Krachan 55.61 290 P **P** **04 25 49.8 +3.4**
comp=Z,16nm,1.0s
SKR Severo-Kuril's 55.93 3 *e* P P 04 25 33.4 -15
SKR pmax pmax
comp=Z,200nm,4.1s
UTTA Uttaradit 56.20 295 P **P** **04 25 51.6 +1.0**
comp=Z,291nmcomp=Z,26nm,1.0s
BJI Beijing 56.23 327 P **P** **04 25 50.5 +0.1**
BJI S **S** **04 33 41.0 +3.7**
BJI pmax pmax
comp=Z,6.0nm,0.4s
BJI LR LR
comp=Z,470nm,16.9s
BJI LR LR
comp=Z,190nm,19.2s
NANT Nan 56.43 297 P **P** **04 25 53.5 +1.2**
SRDT SRDT 56.48 291 P **P** **04 25 52.9 +0.3**
comp=Z,12nm,1.4s
UTHA Uthaitani 56.53 293 P **P** **04 25 54.0 +1.0**
comp=Z,17nm,0.9s
TYV Tymovskoe 56.66 353 *e* P **P** **04 25 52.9 -0.4**
TYV *e* S **S** **04 33 42.8 +0.1**
TYV pmax pmax
comp=Z,13nm,1.4s
TYV pmax pmax
comp=Z,400nm,6.0s
TYV smax smax
comp=N,600nm,8.7s
XAN Xi'an 56.86 317 P **P** **04 25 55.0 -0.1**
XAN pP pwP 04 26 09.5 -0.3
XAN pmax pmax
comp=N,41nm,1.4s
XAN pmax pmax
comp=N,32nm,4.7s
XAN Xi'an 56.86 317 IAmb IAmb 04 25 56.1
comp=Z,39nm,1.1s
SUKH Sukhothai 56.95 295 P **P** **04 25 57.5 +1.6**
comp=Z,15nm,0.9s
KMI Kunming 57.09 304 ⇑P **P** **04 25 58.5 +1.4**
KMI pP pwP 04 26 11.5 -0.6
KMI sP sP 04 26 14.5 +1.9
KMI pmax pmax
comp=Z,26nm,1.3s
KMI LR LR
comp=Z,280nm,17.1s
KMI LR LR
comp=Z,480nm,18.1s
KMI LR LR
comp=Z,910nm,30.8s
KMI Kunming 57.09 304 IAmb IAmb 04 25 59.4
comp=Z,30nm,1.1s
UMPA Umpang Tak 57.26 293 P **P** **04 26 00.4 +2.2**
comp=Z,4µmcomp=Z,16nm,0.9s
LAMP Lampang 57.29 296 P **P** **04 25 59.9 +1.5**
comp=Z,34nm,1.0s
KLR Kul'dur 57.33 344 P **P** **04 25 57.3 -0.8**
comp=Z,4.8nm,0.9s,baz=150,slow=5.9,SNR=12
KLR PcP **PcP** **04 26 52.2 +0.4**
comp=Z,13nm,1.1s,baz=301,slow=1.4,SNR=4.5
KLR Kul'dur 57.33 344 *ce* P **P** **04 25 57.5 -0.6**
KLR pmax pmax
comp=Z,15nm,1.1s
CM35 Chiang Mai Arr 57.77 296 P **P** **04 26 02.7 +1.0**
CM36 Chiang Mai Arr 57.77 296 P **P** **04 26 03.0 +1.2**
CM34 Chiang Mai Arr 57.83 296 P **P** **04 26 03.0 +0.8**
CM04 Chiang Mai Arr 57.83 296 P **P** **04 26 03.5 +1.3**
comp=Z,144nmcomp=Z,16nm,1.1s
CM09 Chiang Mai Arr 57.84 296 P **P** **04 26 03.5 +1.3**
comp=Z,17nm,1.1s
CM01 Chiang Mai Arr 57.86 296 P **P** **04 26 04.0 +1.6**
comp=Z,141nmcomp=Z,17nm,1.1s
CM05 Chiang Mai Arr 57.86 296 P **P** **04 26 03.6 +1.2**
comp=Z,120nmcomp=Z,13nm,1.1s
CM02 Chiang Mai Arr 57.87 296 P **P** **04 26 04.0 +1.5**
comp=Z,140nmcomp=Z,15nm,1.1s
CM31 Chiang Mai Arr 57.88 296 P **P** **04 26 04.8 +2.2**
comp=Z,412nm,1.1s
CM31 Chiang Mai Arr 57.88 296 P **P** **04 26 03.3 +0.8**
CM31 IAmb IAmb 04 26 04.6
comp=Z,30nm,1.1s
CMAR Chiang Mai Arr 57.88 296 P **P** **04 26 02.2 -0.3**
comp=Z,8.7nm,0.9s,baz=111,slow=5.3,SNR=38
CMAR PcP **PcP** **04 26 55.0 +0.3**
comp=Z,1.0nm,0.3s,baz=329,slow=5.3,SNR=5.1
CMAR Chiang Mai Arr 57.88 296 *ce* P **P** **04 26 03.4 +0.8**
CMAR pmax pmax
comp=Z,8.0nm,0.9s
CMAR Chiang Mai Arr 57.88 296 P **P** **04 26 03.1 +0.5**
CM15 Chiang Mai Arr 57.90 296 P **P** **04 26 04.2 +1.6**
comp=Z,591nmcomp=Z,20nm,1.1s
CM13 Chiang Mai Arr 57.91 296 P **P** **04 26 04.2 +1.5**
comp=Z,112nmcomp=Z,14nm,1.1s
CMMT Chiang Mai 57.99 296 P **P** **04 26 03.3 -0.1**
comp=Z,10nm,1.3s
CM33 Chiang Mai Arr 58.00 296 P **P** **04 26 04.0 +0.6**
CHTO Chiang Mai 58.00 296 P **P** **04 26 03.6 +0.2**
CHTO pmax pmax
comp=Z,42nm,1.4s
CHTO Chiang Mai 58.00 296 P **P** **04 26 03.6 +0.2**
CHTO IAmb IAmb 04 26 05.1
comp=Z,42nm,1.4s
CM32 Chiang Mai Arr 58.03 296 P **P** **04 26 05.0 +1.4**
PEA0B Petropavlovsk- 58.43 4 P **P** **04 26 05.8 0.0**
PEA0B pmax pmax
comp=Z,67nm,1.4s
PEA0B Petropavlovsk- 58.43 4 P **P** **04 26 05.8 0.0**
PEA0B IAmb IAmb 04 26 59.4
comp=Z,67nm,1.4s
PETK Petropavlovsk- 58.43 4 P **P** **04 26 05.7 -0.1**
comp=Z,10nm,0.8s,baz=183,slow=10,SNR=13
PETK Petropavlovsk- 58.43 4 P **P** **04 26 05.2 -0.6**
PETK Petropavlovsk- 58.43 4 P **P** **04 26 05.2 -0.6**
CD2 Chengdu 58.91 311 P **P** **04 26 10.0 +0.4**
CD2 pmax pmax
comp=Z,50nm,0.9s
HHC Hu-ho-hao-te 59.36 325 *e* P **P** **04 26 13.5 +0.9**
HHC pmax pmax
comp=Z,26nm,1.2s
HHC pmax pmax
comp=Z,370nm,6.0s
HIA Hailar 61.45 336 *c i* P **P** **04 26 25.9 -0.7**
HIA pmax pmax
comp=Z,7.0nm,1.0s
LZH Lanzhou 61.46 316 *e* P **P** **04 26 28.0 +0.9**
LZH pP sP 04 26 40.8 -1.5
LZH sP pwP 04 26 48.3 +5.3
LZH pmax pmax
comp=Z,41nm,1.2s
LZH LR LR
comp=Z,520nm,17.4s
LZH LR LR
comp=Z,510nm,14.4s
LZH LR LR
comp=Z,650nm,18.2s
ZEA Zeya 62.62 343 *e* P **P** **04 26 34.5 +0.2**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ADK Adak 62.80 21 P **P** **04 26 35.7 +0.2**
ADK pmax pmax
comp=Z,65nm,1.0s
ADK Adak 62.80 21 P **P** **04 26 35.7 +0.2**
MA2 Magadan 64.77 359 *ce* P **P** **04 26 47.6 -0.7**
MA2 pmax pmax
comp=Z,20nm,1.0s
MA2 Magadan 64.77 359 P **P** **04 26 47.4 -1.0**
MA2 IAmb IAmb 04 26 49.1
comp=Z,18nm,0.8s
GTA Gaotai 65.90 318 ⇑P **P** **04 26 57.0 +0.7**
GTA pP pP 04 27 06.8 -0.5
GTA sP sP 04 27 11.0 -0.6
GTA pmax pmax
comp=Z,16nm,1.2s
GTA pmax pmax
comp=Z,250nm,6.2s
GTA LR LR
comp=Z,350nm,17.1s
GTA LR LR
comp=Z,500nm,17.4s
GTA LR LR
comp=Z,500nm,17.4s
ULN Ulaanbaatar 66.35 328 *ce* P **P** **04 26 59.7 +0.7**
ULN pmax pmax
comp=Z,22nm,1.2s
ULN Ulaanbaatar 66.35 328 P **P** **04 26 59.4 +0.4**
ULN IAmb IAmb 04 27 01.2
comp=Z,26nm,1.3s
SHL Shillong 66.37 301 P **P** **04 26 59.6 -0.1**
SHL pmax pmax
comp=Z,61nm,1.1s
SHL Shillong 66.37 301 P **P** **04 26 59.6 -0.1**
SONM Songino Array 66.67 328 P **P** **04 27 01.6 +0.6**
comp=Z,21nm,1.2s,baz=139,slow=5.8,SNR=48
SONM Songino Array 66.67 328 P **P** **04 27 01.1 0.0**
SONM pmax pmax
comp=Z,22nm,1.2s
SONM Songino Array 66.67 328 P **P** **04 27 01.1 0.0**
SONM IAmb IAmb 04 27 03.7
comp=Z,22nm,1.2s
SEY Seymchan 68.12 360 *i* P **P** **04 27 09.8 +0.1**
LSA Lhasa 68.35 305 P **P** **04 27 13.5 +1.1**
LSA pmax pmax
comp=Z,84nm,1.1s
LSA Lhasa 68.35 305 IAmb IAmb 04 27 15.0
comp=Z,26nm,1.1s
SPIA Saint Paul Isl 69.29 21 P 04 27 17.7
baz=220
YAK Yakutsk 69.49 349 P **P** **04 27 18.5 +0.3**
comp=Z,7.1nm,0.4s,baz=8.5,slow=0.5,SNR=4.6
YAK Yakutsk 69.49 349 *ce* P **P** **04 27 18.1 -0.1**
YAK pmax pmax
comp=Z,12nm,0.6s
YAK Yakutsk 69.49 349 P **P** **04 27 18.9 +0.6**
ZAK Zakamensk 69.85 329 *e* P **P** **04 27 20.7 -0.2**
ZAK pmax pmax
comp=Z,23nm,1.3s
BOD Bodaibo 70.24 339 *e* P **P** **04 27 22.4 -0.5**
BOD pmax pmax
comp=Z,19nm,1.8s
TLY Talaya 70.45 330 *e* P **P** **04 27 24.7 +0.3**
TLY pmax pmax
comp=Z,25nm,1.3s
TLY Talaya 70.45 330 P **P** **04 27 24.3 -0.1**
MOY Mondy 71.77 329 *e* P **P** **04 27 32.9 +0.4**
MOY pmax pmax
comp=Z,39nm,1.5s
VNDA Vanda 72.26 178 P **P** **04 27 33.8 -1.1**
comp=Z,2.2nm,1.0s,baz=338,slow=5.0,SNR=6.3
VNDA Vanda 72.26 178 P **P** **04 27 32.5 -2.4**
VNDA pmax pmax
comp=Z,18nm,1.6s
VNDA Vanda 72.26 178 P **P** **04 27 32.5 -2.4**
BILL Bilibino 73.89 5 *de* P **P** **04 27 44.6 0.0**
BILL pmax pmax
comp=Z,80nm,1.1s
BILL Bilibino 73.89 5 P **P** **04 27 45.2 +0.6**
GAMB Gambell 74.01 16 P **P** **04 27 46.3 +0.9**
GAMB Gambell 74.01 16 P 04 27 46.3
baz=217
SII Sitkinak Islan 75.41 27 P 04 27 54.2
baz=236
WMQ Urumqi 75.99 318 P **P** **04 27 59.3 +2.0**
WMQ pP PcP 04 28 10.8 +1.3
WMQ pmax pmax
comp=Z,34nm,1.3s
WMQ pmax pmax
comp=Z,300nm,4.3s
WMQ LR LR
comp=Z,470nm,23.9s
WMQ LR LR
comp=Z,1µm,25.1s
WMQ LR LR
comp=Z,2µm,26.1s
WMQ Urumqi 75.99 318 IAmb IAmb 04 27 59.5
comp=Z,60nm,1.5s
OHAK Old Harbor 76.19 27 P 04 27 58.7
baz=236
ANM Nome 76.41 17 P 04 28 00.5
baz=223
ANM Nome 76.41 17 P **P** **04 28 00.2 +1.0**
ANM pmax pmax
comp=Z,66nm,1.1s
ANM Nome 76.41 17 P **P** **04 28 00.2 +1.0**
TNA Tin City 76.43 16 P 04 28 00.5
baz=221
TNA Tin City 76.43 16 P **P** **04 27 59.9 +0.7**
TNA IAmb IAmb 04 28 01.2
comp=Z,32nm,1.0s
HYB Hyderabad 76.43 289 *i* P **P** **04 27 57.0 -3.3**
KDAK Kodiak Island 76.81 27 P **P** **04 28 01.4 -0.2**
comp=Z,31nm,1.2s,baz=207,slow=2.3,SNR=2.9
KDAK Kodiak Island 76.81 27 P **P** **04 28 01.2 -0.4**
KDAK pmax pmax
comp=Z,178nm,1.9s
KDAK Kodiak Island 76.81 27 P **P** **04 28 01.2 -0.4**
SVW2 Sparrevohn 77.46 23 P **P** **04 28 05.9 +0.7**
SVW2 IAmb IAmb 04 28 07.2
comp=Z,28nm,1.0s
CNPM China Poot 78.35 26 P **P** **04 28 11.1 +0.9**
DGZ Jazzator, Alta 78.39 323 *c i* P **P** **04 28 10.5 -0.3**
DGZ pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 78.44 353 P **P** **04 28 09.7 -0.6**
comp=Z,10nm,1.0s,baz=118,slow=4.4,SNR=14
TIXI Tiksi 78.44 353 *c i* P **P** **04 28 09.5 -0.8**
BRLK Bradley Lake 78.63 26 P **P** **04 28 12.5 +0.8**
BRLK IAmb IAmb 04 28 13.8
comp=Z,36nm,1.0s
BRSE Bradley Lake S 78.68 26 P 04 28 12.7
baz=238
SPCR Spurr Chakacha 78.86 24 P 04 28 12.8
baz=236
ZSN Zaisan 79.14 320 *e* P **P** **04 28 14.6 -0.2**
comp=Z,11nm,1.1s,baz=320
ZSN *e* S **S** **04 38 12.2 +0.6**
baz=320
ZSN Zaisan 79.14 320 *e* P **P** **04 28 14.6 -0.2**
ZSN *e* S **S** **04 38 12.1 +0.6**
ZSN pmax pmax
comp=Z,11nm,1.1s
SEW Seward 79.42 26 P **P** **04 28 16.5 +0.5**
SKT Skwentna 79.56 23 P 04 28 15.8
baz=237
SKT Skwentna 79.56 23 P **P** **04 28 15.8 -0.9**
SUA Susitna One 79.59 24 P 04 28 16.9
baz=238
SUA Susitna One 79.59 24 P **P** **04 28 17.1 0.0**
SUA IAmb IAmb 04 28 19.3
comp=Z,23nm,0.8s
RDOG Red Dog Mine 79.61 16 P 04 28 18.4
baz=225
RDOG Red Dog Mine 79.61 16 P **P** **04 28 19.3 +2.4**
PPLA Purkeypile 79.81 22 P **P** **04 28 18.3 0.0**
PPLA IAmb IAmb 04 28 19.6
comp=Z,74nm,1.5s
PPLA Purkeypile 79.81 22 P 04 28 18.9
baz=236,SNR=5.9
RC01 Rabbit Creek A 79.81 25 P 04 28 18.4
baz=239,SNR=12
RC01 Rabbit Creek A 79.81 25 P **P** **04 28 18.5 +0.4**
PWL Port Wells 80.28 25 P **P** **04 28 21.6 +0.9**
CHUM Lake Minchumin 80.31 22 P 04 28 21.9
baz=236,SNR=32
PMR Palmer 80.32 24 P 04 28 21.1
baz=239,SNR=9.6
PMR Palmer 80.32 24 P **P** **04 28 21.2 +0.4**
PMR pmax pmax
comp=Z,37nm,1.1s
PMR Palmer 80.32 24 P **P** **04 28 21.2 +0.4**
PMR IAmb IAmb 04 28 22.7
comp=Z,37nm,1.1s
GHO Glory Hole Cre 80.50 24 P **P** **04 28 22.4 +0.5**
GHO IAmb IAmb 04 28 23.4
comp=Z,77nm,1.4s
KNK Knik Glacier 80.51 25 P 04 28 22.8
baz=240
KNK Knik Glacier 80.51 25 P **P** **04 28 23.1 +1.2**
KNK IAmb IAmb 04 28 23.8
comp=Z,66nm,1.3s
MK31 Makanchi Array 80.59 319 *c i* P **P** **04 28 22.8 +0.2**
MK31 Makanchi Array 80.59 319 P **P** **04 28 24.2 +1.6**
MKAR Makanchi Array 80.59 319 P **P** **04 28 23.0 +0.4**
comp=Z,19nm,1.0s,baz=101,slow=6.3,SNR=75
MKAR Makanchi Array 80.59 319 *ce* P **P** **04 28 23.7 +1.1**
MKAR pmax pmax
comp=Z,19nm,1.0s
MKAR Makanchi Array 80.59 319 P **P** **04 28 23.4 +0.8**
KTH Kantishna Hill 80.65 22 P **P** **04 28 22.6 0.0**
KTH IAmb IAmb 04 28 23.4
comp=Z,86nm,1.4s
SML Sawmill 80.76 24 P **P** **04 28 24.0 +0.7**
SML Sawmill 80.76 24 P 04 28 23.7
baz=240,SNR=12
GLI Glacier Island 80.82 26 P **P** **04 28 24.0 +0.5**
TRF Thorofare Moun 80.83 22 P **P** **04 28 23.9 +0.1**
TRF IAmb IAmb 04 28 24.5
comp=Z,49nm,1.4s
TRF Thorofare Moun 80.83 22 P 04 28 23.4
baz=238,SNR=8.9
BPAW Bear Paw Mtn. 80.92 22 P **P** **04 28 24.0 -0.1**
BPAW IAmb IAmb 04 28 25.2
comp=Z,37nm,1.3s
BPAW Bear Paw Mtn. 80.92 22 P 04 28 23.8
baz=237,SNR=13
IMAR Indian Mountai 81.02 20 P **P** **04 28 24.5 0.0**
SCM Sheep Creek Mo 81.19 25 P **P** **04 28 25.7 +0.1**
SCM pmax pmax
comp=Z,67nm,1.3s
SCM Sheep Creek Mo 81.19 25 P **P** **04 28 25.7 +0.1**
SCM IAmb IAmb 04 28 27.5
comp=Z,67nm,1.3s
WAT2 Susitna Watana 81.24 23 P 04 28 25.7
baz=240
RND Reindeer 81.36 23 P **P** **04 28 26.2 -0.3**
RND pmax pmax
comp=Z,76nm,1.4s
RND Reindeer 81.36 23 P **P** **04 28 26.2 -0.3**
WAT6 Susitna Watana 81.39 24 P 04 28 26.8
baz=240,SNR=16
SHLS Shalkode 81.45 315 *e* P **P** **04 28 25.6 -1.9**
comp=Z,27nm,1.3s,baz=315
SHLS Shalkode 81.45 315 *e* P **P** **04 28 25.6 -1.9**
SHLS pmax pmax
comp=Z,27nm,1.3s
ZALV Zalesovo Beam 81.49 326 P **P** **04 28 27.1 -0.1**
comp=Z,11nm,0.8s,baz=106,slow=4.9,SNR=39

ZALV	Zalesovo Beam	81.49	326	P		P		04 28 27.7	+0.5	
ZALV	Zalesovo Beam	81.49	326	P		P		04 28 27.7	+0.5	
MCK	McKinley	81.50	23	P				04 28 26.8		
	baz=239,SNR=50									
MCK	McKinley	81.50	23	P		P		04 28 27.0	-0.1	
MCK				pmax	pmax					
	comp=Z,96nm,1.1s									
MCK	McKinley	81.50	23	P		P		04 28 26.9	-0.1	
MLY	Manley	81.52	21	P		P		04 28 27.9	+0.6	
MLY	Manley	81.52	21	P				04 28 27.7		
	baz=237,SNR=28									
KLU	Klutina	81.61	25	P		P		04 28 28.8	+1.0	
KLU	Klutina	81.61	25	P				04 28 28.6		
	baz=242,SNR=16									
UZB	Uzynbulak	81.76	315	*e*P		P		04 28 28.4	-0.7	
	comp=Z,27nm,1.3s,baz=315									
UZB	Uzynbulak	81.76	315	*e*P		P		04 28 28.4	-0.7	
UZB				pmax	pmax					
	comp=Z,27nm,1.3s									
M24K	Tolsona, Glenn	81.80	25	P		P		04 28 30.2	+1.4	
M24K	Tolsona, Glenn	81.80	25	P				04 28 29.8		
	baz=242,SNR=6.9									
NEA2	Nenana	81.89	22	P				04 28 28.9		
	baz=239,SNR=22									
NEA2	Nenana	81.89	22	P		P		04 28 28.8	-0.3	
NEA2				IAmb	IAmb	IAmb		04 28 30.1		
	comp=Z,67nm,1.4s									
SUCK	Suckling Hills	81.92	27	P		P		04 28 30.0	+0.6	
BMRM	Bremner River	81.94	26	P		P		04 28 29.8	+0.3	
BMRM	Bremner River	81.94	26	P				04 28 30.0		
	baz=243,SNR=6.2									
I23K	Minto, Yukon-K	82.08	21	P				04 28 30.1		
	baz=239,SNR=8.7									
I23K	Minto, Yukon-K	82.08	21	P		P		04 28 31.1	+1.0	
KPKS	Kokpek	82.08	315	*e*P		P		04 28 30.3	-0.4	
	comp=Z,42nm,1.4s,baz=315									
KPKS	Kokpek	82.08	315	*e*P		P		04 28 30.3	-0.4	
KPKS				pmax	pmax					
	comp=Z,42nm,1.4s									
WRH	Wood River Hil	82.20	22	P		P		04 28 30.7	-0.1	
WRH				IAmb	IAmb	IAmb		04 28 31.6		
	comp=Z,52nm,1.2s									
N25K	Chitina, Valde	82.23	25	P				04 28 31.8		
	baz=243,SNR=7.1									
N25K	Chitina, Valde	82.23	25	P		P		04 28 32.1	+1.0	
N25K				IAmb	IAmb	IAmb		04 28 33.3		
	comp=Z,61nm,1.4s									
CCB	Clear Creek Bu	82.39	22	P		P		04 28 31.5	-0.2	
CCB				IAmb	IAmb	IAmb		04 28 32.4		
	comp=Z,48nm,1.3s									
MDM	Murphy Dome	82.39	22	P		P		04 28 32.4	+0.6	
MDM				IAmb	IAmb	IAmb		04 28 32.6		
	comp=Z,52nm,1.4s									
TCOL	CIGO, UAF Yank	82.48	22	P		P		04 28 32.8	+0.6	
TCOL	CIGO, UAF Yank	82.48	22	P				04 28 31.7		
	baz=240,SNR=11									
COLA	College	82.49	22	*i* P		P		04 28 31.6	-0.6	
COLA				pmax	pmax					
	comp=Z,55nm,1.2s									
COLA	College	82.49	22	P		P		04 28 32.7	+0.5	
COLA	College	82.49	22	P				04 28 31.7		
	baz=240									
PAX	Paxson	82.49	24	P				04 28 32.8		
	baz=242									
PAX	Paxson	82.49	24	IAmb	IAmb	IAmb		04 28 43.3		
	comp=Z,25nm,1.3s									
CRQE	Cirque	82.51	27	P				04 28 33.3		
	baz=245									
HDA	Harding Lake	82.59	22	P				04 28 32.3		
	baz=241,SNR=11									
HDA				P				04 28 32.3		
	baz=241,SNR=11									
TDK	Taldyqorghan	82.67	317	*e*P		P		04 28 33.6	-0.2	
	comp=Z,48nm,1.3s,baz=316									
TDK	Taldyqorghan	82.67	317	*e*P		P		04 28 33.5	-0.2	
TDK				pmax	pmax					
	comp=Z,48nm,1.3s									
POKR	Poker Plat Res	82.76	22	P				04 28 33.3		
	baz=240									
POKR	Poker Plat Res	82.76	22	IAmb	IAmb	IAmb		04 28 34.3		
	comp=Z,34nm,1.4s									
IL31		82.80	22	IAmb	IAmb	IAmb		04 28 46.0		
	comp=Z,24nm,1.0s									
ILAR	Eielson Array	82.80	22	P		P		04 28 32.9	-1.0	
	comp=Z,19nm,1.1s,baz=255,slow=4.7,SNR=67									
ILAR	Eielson Array	82.80	22	P		P		04 28 33.2	-0.7	
ILAR	Eielson Array	82.80	22	P		P		04 28 33.2	-0.7	
MCARA	McCarthy VSAT	82.81	26	P				04 28 35.2		
	baz=245									
COLD	Coldfoot	82.89	19	IAmb	IAmb	IAmb		04 28 37.0		
	comp=Z,48nm,1.4s									
COLD	Coldfoot	82.89	19	P				04 28 35.7		
	baz=238,SNR=18									
SEM	Semipalatinsk	82.98	322	*e*P		P		04 28 33.7	-1.8	
	comp=Z,18nm,1.3s,baz=322									
SEM	Semipalatinsk	82.98	322	*e*P		P		04 28 33.6	-1.8	
SEM				pmax	pmax					
	comp=Z,18nm,1.3s									
KSH	Kashi	83.11	311	P		P		04 28 39.3	+3.1	
KSH				pmax	pmax					
	comp=Z,130nm,1.3s									
KSH				pmax	pmax					
	comp=Z,390nm,4.4s									
MDOK	Medeo	83.16	314	*e*P		P		04 28 35.8	-0.6	
	baz=314									
MDOK	Medeo	83.16	314	*e*P		P		04 28 35.8	-0.6	
MENT	Mentasta	83.19	24	IAmb	IAmb	IAmb		04 28 52.1		
	comp=Z,25nm,1.1s									
TNSS	Tian-Shan	83.20	314	*e*P		P		04 28 37.4	+0.4	
	baz=314									
TNSS	Tian-Shan	83.20	314	*e*P		P		04 28 37.4	+0.4	
AAA	Alma-Ata	83.27	315	*e*P		P		04 28 37.5	+0.6	
	baz=314									
AAA	Alma-Ata	83.27	315	*e*P		P		04 28 37.4	+0.6	
BARN	Barnard Glacie	83.28	27	IAmb	IAmb	IAmb		04 28 40.7		
	comp=Z,44nm,1.2s									
CHKK	Chushkaly	83.37	315	*e*P		P		04 28 36.6	-0.8	
	baz=315									
CHKK	Chushkaly	83.37	315	*e*P		P		04 28 36.5	-0.8	
CTG	Chitna Glacier	83.38	27	P				04 28 38.0		
	baz=246									
CTGM	Chitina Glacie	83.39	27	P		P		04 28 37.6	+0.4	
A21K	Barrow	83.44	15	P				04 28 37.8		
	baz=231									
LOGN	Logan Glacier	83.48	27	IAmb	IAmb	IAmb		04 28 40.9		
	comp=Z,25nm,0.9s									
PINM	Pinnacle	83.54	28	P				04 28 38.7		
	baz=247									
SCRK	Sand Creek	83.54	23	P				04 28 38.3		
	baz=244,SNR=13									
TOLK	Toolik Lake Re	83.85	18	P				04 28 40.3		
	baz=238,SNR=16									
L27K	Beaver Creek,	84.03	25	P				04 28 41.2		
	baz=246									
L27K	Beaver Creek,	84.03	25	IAmb	IAmb	IAmb		04 28 42.6		
	comp=Z,52nm,1.4s									
BCAR	Beaver Creek A	84.05	25	P		P		04 28 40.7	+0.3	
KURK	Kurchatov	84.06	322	P		P		04 28 39.9	-0.8	
KURK	Kurchatov	84.06	322	P		P		04 28 39.9	-0.8	
NIL	Nilore	84.08	305	P		P		04 28 41.5	+0.2	
NIL				pmax	pmax					
	comp=Z,100nm,1.2s									
NIL	Nilore	84.08	305	P		P		04 28 41.5	+0.2	
KURBB	Kurchatov Arra	84.09	322	P		P		04 28 39.9	-0.9	
	comp=Z,24nm,1.0s,baz=105,slow=4.1,SNR=23									
TKM2	Tokmak 2	84.14	314	P		P		04 28 43.0	+1.4	
	SNR=40									
K27K	Chicken	84.33	24	P				04 28 43.0		
	baz=245									
KBK	Karagaybulak	84.55	314	P		P		04 28 45.1	+1.5	
	SNR=22									
QSPA	South Pole Qui	84.58	180	P		P		04 28 43.0	-0.2	
QSPA				IAmb	IAmb	IAmb		04 29 20.2		
	comp=Z,16nm,1.1s									
CHMS	Chumysh	84.76	314	P		P		04 28 45.8	+1.4	
	SNR=43									
UCH	Uchtor	84.77	313	P		P		04 28 46.5	+1.5	
	SNR=59									
AAK	Ala-Archa	84.87	314	P		P		04 28 46.3	+1.1	
	SNR=28									
AAK	Ala-Archa	84.87	314	*ce*P		P		04 28 46.0	+0.8	
AAK				pmax	pmax					
	comp=Z,248nm,1.3s									
AAK	Ala-Archa	84.87	314	P		P		04 28 46.1	+0.9	
BMAR	Burnt Mountain	84.88	20	P		P		04 28 44.4	-0.1	
MAW	Mawson	84.93	203	P		P		04 28 45.9	+1.2	
	comp=Z,4.4nm,0.8s,baz=103,slow=7.6,SNR=4.4									
SGDS	Sogindy	84.95	314	*e*P		P		04 28 44.9	-0.5	
	comp=Z,16nm,1.1s,baz=314									
SGDS	Sogindy	84.95	314	*e*P		P		04 28 44.9	-0.5	
SGDS				pmax	pmax					
	comp=Z,16nm,1.1s									
EGAK	Eagle	85.00	23	P				04 28 45.8		
	baz=246									
USP	Ospenovka	85.00	314	P		P		04 28 46.5	+0.8	
	SNR=59									
HYT	Haines Junctio	85.07	28	IAmb	IAmb			04 28 50.2		
	comp=Z,32nm,0.9s									
AML	Almayashu	85.35	313	P		P		04 28 49.3	+1.4	
	SNR=52									
EKS2	Erkin-Say	85.39	313	P		P		04 28 48.9	+1.2	
	SNR=44									
DAWY	Dawson	85.42	24	IAmb	IAmb			04 28 50.0		
	comp=Z,39nm,1.3s									
BESE	Bessie Mountai	85.61	30	IAmb	IAmb			04 28 50.9		
	comp=Z,43nm,1.2s									
JIS	Juneau Island	85.76	30	IAmb	IAmb			04 29 45.3		
	comp=Z,57nm,1.6s									
WHY	Whitehorse	86.24	28	P		P		04 28 52.1	+0.6	
WHY				IAmb	IAmb			04 28 53.8		
	comp=Z,18nm,1.0s									
NRIK	Noril'sk	86.42	341	P		P		04 28 51.4	-0.7	
	comp=Z,12nm,0.8s,baz=133,slow=4.2,SNR=22									
NRIK	Noril'sk	86.42	341	*ce*P		P		04 28 51.7	-0.4	
NRIK				pmax	pmax					
	comp=Z,35nm,1.2s									
NRIK	Noril'sk	86.42	341	IAmb	IAmb			04 28 54.2		
	comp=Z,30nm,1.1s									
DZA	Taraz	87.21	313	*e*P		P		04 28 56.1	-0.4	
	comp=Z,24nm,1.1s,baz=313									
DZA	Taraz	87.21	313	*e*P		P		04 28 56.1	-0.4	
DZA				pmax	pmax					
	comp=Z,24nm,1.1s									
EPYK	Eagle Plains	87.30	22	P				04 28 57.3		
	baz=250									
BRZS	Berezniki	87.59	321	*e*P		P		04 28 56.2	-2.0	
	comp=Z,9.7nm,1.4s,baz=320									
BRZS	Berezniki	87.59	321	*e*P		P		04 28 56.2	-2.0	
BRZS				pmax	pmax					
	comp=Z,10.0nm,1.4s									
KK31	Karatay Array	87.83	313	IAmb	IAmb			04 29 02.3		
	comp=Z,40nm,1.4s									
KKAR	Karatay Array	87.83	313	P		P		04 29 00.1	+0.6	
KKAR	Karatay Array	87.83	313	P		P		04 29 00.1	+0.6	
IUG	luzhnay	88.03	312	*e*P		P		04 28 59.9	-0.7	
	comp=Z,10nm,1.4s,baz=312									
IUG	luzhnay	88.03	312	*e*P		P		04 28 59.9	-0.7	
IUG				pmax	pmax					
	comp=Z,10.0nm,1.4s									
INK	Inuvik	89.09	21	IAmb	IAmb			04 29 07.9		
	comp=Z,29nm,1.1s									
BVAR	Borovoye Array	89.55	323	P		P		04 29 06.2	-1.1	
	comp=Z,8.8nm,0.7s,baz=134,slow=13,SNR=41									
HUMO	Hull Mountain	89.57	47	P		P		04 29 09.3	+1.6	
BRVK	Borovoye	89.61	323	*ce*P		P		04 29 06.9	-0.7	
BRVK				pmax	pmax					
	comp=Z,23nm,1.1s									
BRVK	Borovoye	89.61	323	P		P		04 29 08.0	+0.4	
BRVK				IAmb	IAmb			04 29 08.2		
	comp=Z,16nm,0.9s									
B05A	Bryant	90.90	42	P				04 29 14.7		
	baz=263									
J05D	Fort Rock, OR	90.91	47	P				04 29 14.8		
	baz=264									
K05A	Summer Lake	91.10	47	IAmb	IAmb			04 29 39.5		
	comp=Z,16nm,1.2s									
PINE	Pine Mountain	91.18	46	IAmb	IAmb			04 29 17.4		
	comp=Z,34nm,1.6s									
MOD	Modoc Plateau	91.45	48	IAmb	IAmb			04 29 21.2		
	comp=Z,22nm,1.8s									
E07A	Sunnyside	92.22	44	IAmb	IAmb			04 29 21.7		
	comp=Z,13nm,1.2s									
HAWA	Hanford	92.43	44	P		P		04 29 21.8	+0.8	
HAWA				IAmb	IAmb			04 29 23.3		
	comp=Z,18nm,1.3s									
NVAR	Mina Array Bea	92.65	52	P		P		04 29 22.5	+0.1	
	comp=Z,2.3nm,0.8s,baz=255,slow=6.0,SNR=16									
NVAR	Mina Array Bea	92.65	52	P		P		04 29 21.9	-0.5	
C36M	Paulatuk	92.67	21	P				04 29 21.4		
	baz=262									
C36M	Paulatuk	92.67	21	IAmb	IAmb			04 29 24.1		
	comp=Z,18nm,0.9s									
WVOR	Wilforse Val	92.73	48	IAmb	IAmb			04 29 24.4		
	comp=Z,23nm,1.8s									
G08A	Pilot Rock	92.73	45	IAmb	IAmb			04 29 24.0		
	comp=Z,20nm,1.4s									
E08A	Dider Farm, El	92.77	44	IAmb	IAmb			04 29 24.3		
	comp=Z,30nm,1.5s									
D08A	Wollman Farm,	92.91	43	P		P		04 29 23.9	+0.8	
D08A				IAmb	IAmb			04 29 24.7		
	comp=Z,13nm,1.4s									
LRMC	Laurel Mtn Rad	92.91	55	P				04 29 24.9		
	baz=265									
J08A	Circle Bar Ran	92.92	47	IAmb	IAmb			04 29 25.1		
	comp=Z,12nm,1.4s									
SYO	Syowa Base	93.03	199	*ep*	P		P	04 29 27.4	+4.2	
MPMC	Manual Prospec	93.11	54	P				04 29 25.4		
	baz=266									
HRA	Herat	93.24	304	IAmb	IAmb			04 29 25.9		
	comp=Z,16nm,0.9s									
C09A	Chrisman Ranch	93.40	42	IAmb	IAmb			04 29 26.6		
	comp=Z,15nm,1.3s									
GSC	Goldstone, Bar	93.61	55	P				04 29 27.9		
	baz=266									
FURC	Furnace Creek,	93.65	54	P				04 29 28.3		
	baz=266									
BMO	Blue Mountain	93.87	45	IAmb	IAmb			04 29 29.1		
	comp=Z,12nm,1.2s									
F10A	Beach Ranch, E	94.00	44	IAmb	IAmb			04 29 29.5		
	comp=Z,11nm,1.1s									
SHOC	Shoshone, Teco	94.08	54	P				04 29 29.9		
	baz=266									
TPNV	Topopah Spring	94.17	53	P				04 29 30.1		
	baz=266									
BELC	Belle Mtn. Jos	94.19	56	P				04 29 31.5		
	baz=266									
NEW	Newport	94.20	42	P				04 29 29.4		
	baz=267									
GMRC	Granite Mounta	94.52	56	P				04 29 33.0		
	baz=267									
R11A	Troy Canyon, C	94.78	52	P				04 29 32.8		
	baz=267									
MFID	Camas Ranch	94.85	47	IAmb	IAmb			04 29 46.0		
	comp=Z,16nm,1.8s									
IRM	Iron Mountain	94.91	56	P				04 29 33.8		
	baz=267									
ABKAR	Akbulak array	95.73	319	P		P		04 29 34.1	-1.9	
HLID	Hailey	95.89	47	P				04 29 38.4		
	baz=268									
YKA	Yellowknife Ar	96.06	28	P		P		04 29 37.5	+0.3	
	comp=Z,4.4nm,0.9s,baz=268,slow=4.1,SNR=59									
YKA				LR		LR		05 09 19.7		
	comp=Z,737nm,20.1s,baz=0.0,slow=33									
CCUT	Cedar City	96.50	53	IAmb	IAmb			04 30 36.0		
	comp=Z,16nm,1.7s									
ARU	Arti	96.65	326	P		P		04 29 38.3	-1.7	
	comp=Z,0.8nm,0.3s,baz=116,slow=1.3,SNR=8.6									
ARU	Arti	96.65	326	*ci* P		P		04 29 38.5	-1.5	
ARU								04 33 33.5		
ARU				S		SKSac		04 40 12.6	-0.8	
ARU				SS		SS		04 47 25.9	-7.1	
ARU				pmax	pmax					
	comp=Z,3.0nm,1.0s									
ARU	Arti	96.65	326	P		P		04 29 38.1	-1.9	
ARU				IAmb	IAmb			04 29 39.5		
	comp=Z,11nm,1.0s									
GEYT	Alibeck	96.76	307	P		P		04 29 40.0	-1.0	
	comp=Z,1.3nm,0.4s,baz=270,slow=8.3,SNR=3.8									
AKTO	Aktyubinsk	96.99	320	P		P		04 29 39.7	-2.0	
	comp=Z,2.9nm,0.9s,baz=67,slow=3.1,SNR=5.2									
BOZ	Bozeman (W)	97.90	45	IAmb	IAmb			04 30 13.2		
	comp=Z,7.8nm,1.5s									
BOZ	Bozeman (W)	97.90	45	P				04 29 46.6		
	baz=270									
TMUT	Trail Mountain	98.22	51	IAmb	IAmb			04 29 51.0		
	comp=Z,20nm,2.0s									
PDAR	Pinedale Array	99.44	48	P		Pdif		04 29 52.7	-0.5	
	comp=Z,0.8nm,0.8s,baz=245,slow=2.5,SNR=7.3									
PDAR				PP		PP		04 34 00.5	+3.5	
	comp=Z,0.6nm,0.9s,baz=276,slow=5.8,SNR=3.9									
PDAR	Pinedale Array	99.44	48	P		Pdif		04 29 53.5	+0.3	
TXAR	Lajitas Array	104.64	61	PP		PP		04 34 45.6	+9.3	
	comp=Z,0.7nm,1.1s,baz=270,slow=7.5,SNR=4.1									
AKASG	Malin Array Be	114.81	324	*ci* PKIKP		PKiKP		04 34 49.9	-0.6	
AKASG				pmax	pmax					
	comp=Z,1.0nm,0.4s									
BRTR	Keskin Array B	115.49	312	PKP		PKPdf		04 34 53.1	+0.8	
	comp=Z,0.8nm,0.9s,baz=116,slow=5.0,SNR=3.6									
NB2	NORSAR Subarra	117.37	340	PKPdf		PKPdf		04 34 54.9	-0.3	
	comp=Z,0.7nm,0.7s,baz=45,slow=1.9									
NOA	NORSAR Array B	117.37	340	PKP		PKPdf		04 34 54.5	-0.7	
	comp=Z,1.7nm,0.9s,baz=47,slow=1.9,SNR=5.0									
BOSA	Boshof	119.06	233	PKP		PKPdf		04 34 59.5	-0.1	
	comp=Z,1.0nm,0.7s,baz=237,slow=13,SNR=1.7									
BOSA	Boshof	119.06	233	PKIKP		PKiKP		04 35 00.0	+0.4	
BOSA	Boshof	119.06	233			PKiKP		04 35 00.0	+0.4	
PLCA	Paso Flores	119.47	143	PKP		PKPdf		04 34 59.9	-0.1	
	comp=Z,2.5nm,1.1s,baz=156,slow=8.5,SNR=3.4									
PLCA	Paso Flores	119.47	143	PKIKP		PKPdf		04 34 59.7	-0.3	
PLCA	Paso Flores	119.47	143			PKPdf		04 34 59.7	-0.3	
KOLS	Kolonicke sedl	119.63	325	*e*PKIKP		PKiKP		04 35 01.0	+1.0	
KOLS	Kolonicke sedl	119.63	325	*e*PKP		PKiKP		04 35 01.0	+1.0	
DPC	Dobruska-Polom	122.14	328	*e*PKIKP		PKiKP		04 35 06.2	+1.3	
DPC	Dobruska-Polom	122.14	328	*e*PKPDF		PKiKP		04 35 06.2	+1.3	
MODS	Modra-Piesok	122.75	326	*e*PKIKP		PKiKP		04 35 07.3	+1.2	
MODS	Modra-Piesok	122.75	326	*e*PKP		PKiKP		04 35 07.3	+1.2	
ZST	Bratislava	122.94	326	*e*PKIKP		PKiKP		04 35 07.8	+1.3	
ZST	Bratislava	122.94	326	*e*PKP		PKiKP		04 35 07.8	+1.3	
BRG	Berggiesshubel	123.04	330	*e*PKP		PKiKP		04 35 07.3	+0.7	
BRG				Amp				04 35 09.5		
	comp=Z,7.2nm,1.2s									
BRG				*ex*	x			04 35 19.2		
BRG				Amp				04 35 21.0		
	comp=Z,3.1nm,0.7s									
CLL	Collm	123.23	331	*e*PKPdf		PKiKP		04 35 07.0	+0.1	
	comp=Z,7.0nm,1.0s									
CLL	Collm	123.23	331	*e*PKIKP		PKiKP		04 35 07.0	+0.1	
CLL				pmax	pmax					
	comp=Z,7.0nm,1.0s									
FNA	Florina	123.93	316	PKIKP		PKPdf		04 35 07.1	-1.4	
FNA	Florina	123.93	316	PKPdf		PKPdf		04 35 07.1	-1.4	
CKRC	Cesky Krumlov	124.10	328	*e*PKPDF		PKiKP		04 35 09.4	+0.6	
CKRC				*ex*	x			04 35 21.2		
KHC	Kasperske Hory	124.30	329	*e*PKIKP		PKiKP		04 35 09.6	+0.4	
KHC				*e*				04 35 21.3		
KHC	Kasperske Hory	124.30	329	*e*PKPDF		PKiKP		04 35 09.6	+0.4	
KHC				*ex*	x			04 35 21.3		
GERES	GERESS Array B	124.41	328	PKP		PKPdf		04 35 08.7	-0.5	
	comp=Z,2.3nm,0.8s,baz=86,slow=2.0,SNR=7.0									
GERES	GERESS Array B	124.41	328	PKIKP		PKPdf		04 35 08.5	-0.7	
GERES	GERESS Array B	124.41	328	PKPdf		PKPdf		04 35 08.5	-0.7	
SOKA	Soboth	124.96	325	*e*P		PKPdf		04 35 10.3	0.0	
	comp=Z,5.1nm,0.9s									
KBA	Koelnbreinsper	125.67	327	*e*P		PKPdf		04 35 10.7	-1.0	
	comp=Z,1.8nm,0.6s									
ABTA	Abfaltersbach	126.32	327	*e*P		PKPdf		04 35 12.3	-0.6	
	comp=Z,6.2nm,1.0s									
WATA	Walderalm	126.46	328	*e*P		PKiKP		04 35 13.5	-0.1	
	comp=Z,3.0nm,0.6s									
WTTA	Wattenberg	126.47	328	*e*P		PKPdf		04 35 13.5	+0.2	
	comp=Z,9.5nm,1.0s									
MOTA	Moosalm	126.70	328	*e*P		PKiKP		04 35 14.1	-0.1	
	comp=Z,14nm,1.3s									
SQTA	Sankt Quirin	126.73	328	*e*P		PKiKP		04 35 14.1	-0.1	
	comp=Z,4.9nm,0.7s									
FETA	Feichten	127.11	328	*e*P		PKiKP		04 35 15.1	0.0	
	comp=Z,11nm,1.1s									
DAVA	Damuels	127.38	329	*e*P		PKiKP		04 35 15.8	+0.2	
	comp=Z,6.1nm,1.0s									
NRCA	Norcia	128.27	322			PKiKP		04 35 17.8	+0.5	
ROSC	El Rosal	133.34	88	PKP		PKPdf		04 35 27.4	-0.2	
	comp=Z,3.4nm,0.5s,baz=318,slow=7.6,SNR=3.9									
LPAZ	La Paz	134.38	119	PKP		PKiKP		04 35 30.9	-0.2	
	comp=Z,3.1nm,1.0s,baz=35,slow=1.7,SNR=8.4									
LPAZ	La Paz	134.38	119	PKIKP		PKiKP		04 35 31.0	-0.1	
LPAZ	La Paz	134.38	119	PKPdf		PKiKP		04 35 31.0	-0.1	
CPUP	Villa Florida	137.20	139	PKP		PKiKP		04 35 35.7	-0.1	
	comp=Z,1.9nm,1.0s,baz=56,slow=20,SNR=2.4									
SIV	San Ignacio	140.54	123	PKhKP		PKPdf		04 35 36.7	-3.7	
	comp=Z,7.0nm,0.9s,baz=297,slow=2.3,SNR=6.8									
SAML	Samuel	141.65	112	PKIKP		PKPdf		04 35 42.4	+0.1	
SAML	Samuel	141.65	112			PKPdf		04 35 42.4	+0.1	
SVB	Belmont	145.79	74	PKPdf		PKPdf		04 35 49.3	-0.3	
PTGA	Pitinga	146.98	100	PKPbc		PKPbc		04 35 54.4	+0.7	
	com

*IDC **30** 04:32:42.6±1.0,33°.00N×141°.27E,h0km,mb3.7/7, mb1 3.9/9,mb1mx3.6/53,mbtmp3.8/9,ML3.3/2,Error ellipse: s-maj=22.3km s-min=16.9km az=58.0*
*JMA **30** 04:32:43.9±0.2,33°.20N×141°.48E,h16km,M3.5*

ISC 30 04:32:43.6±0.8,33.04N±0°.06×141°.40E±0°.07,h10km,n18, σ1§50/24,mb3.7/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.33**	**274**	P	**Pb**	**04 33 08.9**	**+0.3**
JHCJ	**Hachijojimakas**	**1.34**	**272**	P	**Pb**	**04 33 09.3**	**+0.4**
JHJ	**Hachijo jima 2**	**1.36**	**274**	Pn	**Pn**	**04 33 08.1**	**-0.6**
	38nm,0.3s,baz=55,slow=23,SNR=22						
JHJ				Sn	**Sn**	**04 33 25.6**	**-1.2**
	116nm,0.3s,baz=59,slow=22,SNR=15						
JAOM	**Aogashimamukai**	**1.49**	**248**	P	**Pb**	**04 33 12.2**	**+0.8**
BSO1	**Boso 1**	**1.65**	**348**	P	**Pn**	**04 33 10.8**	**-1.4**
JMKN	**Mikurajimanish**	**1.74**	**300**	P	**Pn**	**04 33 13.8**	**0.0**
JMKN				S	**Sn**	**04 33 36.2**	**+0.2**
BSO3	**Boso 3**	**1.91**	**338**	P	**Pn**	**04 33 14.6**	**-1.4**
JIM2	**Oshima 3**	**2.34**	**316**	P	**Pn**	**04 33 22.2**	**0.0**
JIM2				S	**Sn**	**04 33 48.4**	**-2.7**
MJAR	**Matsushiro Arr**	**4.37**	**324**	Pn	**Pn**	**04 33 50.6**	**+0.5**
	0.2nm,0.3s,baz=152,slow=12,SNR=6.8						
MJAR				Sn	**Sn**	**04 34 41.0**	**-0.2**
	0.5nm,0.3s,baz=188,slow=18,SNR=5.6						
MAT	**Matsushiro**	**4.38**	**324**	P	**Pn**	**04 33 50.4**	**+0.3**
MAT				*e*S	**Sn**	**04 34 38.4**	**-2.8**
JCJ	**Chichijima**	**5.96**	**173**	Pn	**Pn**	**04 34 12.5**	**+0.6**
	6.1nm,0.3s,baz=88,slow=23,SNR=5.3						
JCJ				Sn	**Sn**	**04 35 16.8**	**-3.4**
	4.1nm,0.3s,baz=306,slow=20,SNR=1.5						
MKAR	**Makanchi Array**	**46.33**	**305**	P	**P**	**04 41 08.6**	**-1.0**
	0.4nm,0.5s,baz=90,slow=9.4,SNR=6.5						
ILAR	**Eielson Array**	**52.90**	**31**	P	**P**	**04 42 00.9**	**+1.5**
	0.3nm,0.6s,baz=320,slow=33,SNR=1.8						
FITZ	**Fitzroy Crossi**	**53.03**	**199**	P	**P**	**04 42 01.4**	**+0.6**
	0.9nm,0.7s,baz=4.8,slow=12,SNR=1.8						
WRA	**Warramunga Arr**	**53.11**	**188**	P	**P**	**04 42 01.1**	**-0.4**
	1.3nm,0.5s,baz=4.9,slow=7.5,SNR=27						
ASAR	**Alice Springs**	**56.84**	**188**	P	**P**	**04 42 28.1**	**-0.3**
	0.3nm,0.5s,baz=353,slow=7.1,SNR=6.7						
FINES	**FINESS Array B**	**72.35**	**333**	P	**P**	**04 44 08.3**	**-1.0**
	2.3nm,0.8s,baz=187,slow=32,SNR=2.0						
TXAR	**Lajitas Array**	**92.57**	**52**	P	**P**	**04 45 58.7**	**+3.0**
	0.3nm,1.0s,baz=278,slow=6.3,SNR=2.1						

*DJA **30** 04:37:58.8±1.6,5°.5±7°×15°.3E±1°.5,h48km±11km,M5.2/7, mB4.8/2,mb4.8/7,MLv5.3/2,Mw(mB)4.1/2*
*NEIC **30** 04:37:59.8±1.5,5°.29S±0°.07×152°.9E±0°.1,h39km±6km, mb4.7/41,Error ellipse: s-maj=16.5km s-min=10.6km az=85.0*
*IDC **30** 04:38:00.3±2.4,5°.34S×152°.79E,h41km±20km,mb4.2/22, mb1 4.3/23,mb1mx4.2/40,mbtmp4.4/23,ML2.5/1,MS4.1/3, Ms1 4.1/3,ms1mx3.7/29,Error ellipse: s-maj=17.3km s-min=10.2km az=113.0*

ISC 30 04:37:59.7±0.4,5°.34S±0°.05×152°.90E±0°.08,h37km,n109, σ0§84/99,mb4.7/47,3C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.35**	**327**		**Pn**	**04 38 22.5**	**+0.4**
RABL	**Rabaul**	**1.35**	**327**	P	**Pn**	**04 38 23.0**	**+0.9**
PMG	**Port Moresby**	**6.99**	**234**	P	**Pn**	**04 39 39.7**	**+0.2**
	5.0nm,0.3s,baz=39,slow=7.2,SNR=17						
PMG				S	**Sn**	**04 40 56.5**	**-1.2**
	20nm,0.3s,baz=354,slow=22,SNR=14						
PMG	**Port Moresby**	**6.99**	**234**	Pn	**Pn**	**04 39 41.5**	**+2.0**
PMG	**Port Moresby**	**6.99**	**234**	P	**Pn**	**04 39 41.7**	**+2.2**
HNR	**Honiara**	**8.08**	**121**	LR	LR	04 43 22.9	
	comp=Z,725nm,20.4s,baz=268,slow=39						
CTAO	**Charters Tower**	**16.03**	**203**	P	**P**	**04 41 45.4**	**-0.1**
EIDS	**Eidsvold**	**20.00**	**185**		**P**	**04 42 29.5**	**+0.3**
FAKI	**Fak Fak**	**20.74**	**276**	P	Pn	04 42 39.9	0.0
	28nm,1.2s						
DZM	**Mont Dzumac**	**21.18**	**143**	P	**P**	**04 42 43.0**	**+0.9**
	4.3nm,0.5s,baz=318,slow=19,SNR=9.4						
DZM	**Mont Dzumac**	**21.18**	**143**	P	**P**	**04 42 43.0**	**+0.9**
DZM				IAmb	IAmb	04 42 53.9	
	comp=Z,25nm,0.9s						
DZM	**Mont Dzumac**	**21.18**	**143**	P	**P**	**04 42 41.1**	**-1.0**
SIJI	**Sorong**	**22.05**	**281**	P	**P**	**04 42 51.4**	**-0.1**
	comp=Z,17nm,0.6s,baz=245,slow=23,SNR=2.3						
MTN	**Manton Dam**	**22.74**	**249**	P	**P**	**04 42 59.3**	**+0.5**
WB0	**Warramunga Arr**	**23.03**	**230**	P	**P**	**04 43 01.8**	**0.0**
WB0				IAmb	IAmb	04 43 13.2	
	comp=Z,34nm,1.0s						
WR0	**Warramunga Arr**	**23.03**	**229**	P	**P**	**04 43 02.1**	**+0.4**
WR0				IAmb	IAmb	04 43 13.2	
	comp=Z,24nm,0.9s						
WRAB	**Tennant Creek**	**23.16**	**230**	P	**P**	**04 43 02.8**	**-0.3**
WRAB				IAmb	IAmb	04 43 14.0	
	comp=Z,24nm,0.8s						
WB2	**Warramunga Arr**	**23.16**	**230**	P	**P**	**04 43 02.5**	**-0.7**
WB2				IAmb	IAmb	04 43 14.1	
	comp=Z,17nm,0.7s						
WRA	**Warramunga Arr**	**23.17**	**230**	P	**P**	**04 43 02.4**	**-0.9**
	comp=Z,10.0nm,0.8s,baz=54,slow=9.9,SNR=48						
WRA				S	**S**	**04 47 11.1**	**-1.5**
	comp=Z,6.9nm,1.3s,baz=54,slow=16,SNR=5.7						
WRA				LR	LR	04 51 45.0	
	comp=Z,386nm,20.9s,baz=250,slow=36						
WRA	**Warramunga Arr**	**23.17**	**230**	P	**P**	**04 43 03.1**	**-0.1**
AS31	**Alice Springs**	**25.83**	**223**	P	**P**	**04 43 27.6**	**-0.2**
ASAR	**Alice Springs**	**25.83**	**223**	P	**P**	**04 43 27.4**	**-0.3**
	comp=Z,9.2nm,0.9s,baz=58,slow=8.8,SNR=36						
ASAR				PcP	**PcP**	**04 46 57.4**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=44,slow=3.4,SNR=1.0						
STKA	**Stephens Creek**	**28.45**	**200**	P	**P**	**04 43 49.9**	**-1.3**
	comp=Z,5.1nm,0.8s,baz=2.5,slow=8.0,SNR=10						
STKA	**Stephens Creek**	**28.45**	**200**	P	**P**	**04 43 50.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**29.50**	**242**	P	**P**	**04 43 59.5**	**-1.1**
	comp=Z,9.4nm,0.9s,baz=52,slow=6.0,SNR=15						
FITZ	**Fitzroy Crossi**	**29.50**	**242**	P	**P**	**04 44 00.1**	**-0.5**
FORT	**Forrest**	**34.44**	**220**	P	**P**	**04 44 43.2**	**-0.7**
SSLB	**Suanglung**	**42.53**	**314**	P	**P**	**04 45 52.4**	**+0.4**
SSLB				IAmb	IAmb	04 46 09.3	
	comp=Z,26nm,1.4s						
JNU	**Nakatsue**	**43.58**	**333**	P	**P**	**04 46 00.9**	**+0.6**
MJAR	**Matsushiro Arr**	**43.87**	**343**	P	**P**	**04 46 00.2**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=157,slow=10,SNR=4.2						
MJAR				PcP	**PcP**	**04 47 49.8**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=182,slow=4.3,SNR=5.4						
MJB9	**Matsu-Tunnel**	**43.88**	**343**	P	**P**	**04 46 01.3**	**-1.3**
JTM	**Tenmabayashi**	**47.17**	**348**	P	**P**	**04 46 28.2**	**-0.3**
KSRS	**Korea Array**	**48.52**	**333**	P	**P**	**04 46 39.1**	**0.0**
	comp=Z,2.0nm,0.6s,baz=150,slow=7.5,SNR=11						
KSAR	**Wonju Array Be**	**48.53**	**335**	P	**P**	**04 46 38.3**	**-0.9**
INCN	**Inchon**	**49.13**	**332**	P	**P**	**04 46 44.4**	**+0.5**
NJ2	**Nanjing**	**49.32**	**321**	*e*P	**P**	**04 46 45.8**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**52.78**	**341**	P	**P**	**04 47 11.1**	**-0.1**
USA0B				IAmb	IAmb	04 47 12.0	
	comp=Z,9.7nm,1.1s						
USRK	**Ussuriysk Ar.**	**52.78**	**341**	P	**P**	**04 47 10.4**	**-0.7**
	comp=Z,4.2nm,0.8s,baz=174,slow=7.7,SNR=10						
ENH	**Enshi**	**54.59**	**313**	P	**P**	**04 47 24.5**	**-0.2**
ENH				IAmb	IAmb	04 47 27.3	
	comp=Z,11nm,1.0s						
XAN	**Xi'an**	**57.08**	**317**	P	**P**	**04 47 41.9**	**-0.7**
XAN				IAmb	IAmb	04 47 42.5	
	comp=Z,7.6nm,0.9s						
KMI	**Kunming**	**57.37**	**304**	⇑P	**P**	**04 47 45.3**	**+0.3**
KMI				pP	pwP	04 47 57.0	-1.2
KMI				sP	sP	04 48 04.3	+5.2
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KMI				LR	LR		
	comp=N,210nm,20.8s						
KMI				LR	LR		
	comp=E,240nm,23.0s						
KMI				LR	LR		
	comp=Z,460nm,59.7s						
KMI	**Kunming**	**57.37**	**304**	P	**P**	**04 47 46.0**	**+1.0**
KLR	**Kul'dur**	**57.38**	**344**	P	**P**	**04 47 43.6**	**-0.7**
	comp=Z,8.0nm,1.2s,baz=140,slow=6.5,SNR=12						
CM35	**Chiang Mai Arr**	**58.08**	**296**	P	P	04 47 40.0	-10
CM34	**Chiang Mai Arr**	**58.14**	**296**	P	P	04 47 43.0	-7.2
CM04	**Chiang Mai Arr**	**58.15**	**295**	P	P	04 47 43.5	-6.8
CM09	**Chiang Mai Arr**	**58.15**	**295**	P	P	04 47 44.0	-6.3
CM01	**Chiang Mai Arr**	**58.17**	**295**	P	P	04 47 43.3	-7.1
CM05	**Chiang Mai Arr**	**58.18**	**295**	P	P	04 47 43.6	-6.9
CM02	**Chiang Mai Arr**	**58.19**	**295**	P	P	04 47 43.7	-6.8
CM31	**Chiang Mai Arr**	**58.20**	**295**	P	P	04 47 45.2	-5.4
CM15	**Chiang Mai Arr**	**58.21**	**295**	P	P	04 47 44.9	-5.9
CM13	**Chiang Mai Arr**	**58.22**	**295**	P	P	04 47 43.9	-6.8
CMMT	**Chiang Mai**	**58.31**	**296**	P	**P**	**04 47 52.2**	**+0.9**
CM33	**Chiang Mai Arr**	**58.31**	**296**	P	P	04 47 46.0	-5.4
CHTO	**Chiang Mai**	**58.31**	**296**	P	**P**	**04 47 52.2**	**+0.8**
CHTO				IAmb	IAmb	04 48 05.4	
	comp=Z,8.1nm,0.8s						
CM32	**Chiang Mai Arr**	**58.34**	**296**	P	P	04 47 46.0	-5.6
PEA0B	**Petropavlovsk-**	**58.37**	**3**	P	**P**	**04 47 51.4**	**+0.3**
PETK	**Petropavlovsk-**	**58.37**	**3**	P	**P**	**04 47 51.6**	**+0.5**
	comp=Z,13nm,0.9s,baz=162,slow=6.2,SNR=15						
PETK	**Petropavlovsk-**	**58.37**	**3**	P	**P**	**04 47 51.2**	**+0.1**
HHC	**Hu-ho-hao-te**	**59.54**	**324**	*e*P	**P**	**04 48 01.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,280nm,5.5s						
HIA	**Hailar**	**61.56**	**336**	P	**P**	**04 48 13.4**	**+0.2**
HIA				IAmb	IAmb	04 48 14.8	
	comp=Z,4.5nm,0.8s						
LZH	**Lanzhou**	**61.68**	**316**	*e*P	**P**	**04 48 15.5**	**+1.1**
LZH				pP	sP	04 48 29.5	+0.8
LZH				sP	pwP	04 48 35.5	+7.6
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
MA2	**Magadan**	**64.73**	**359**	P	**P**	**04 48 34.2**	**+0.3**
	comp=Z,5.2nm,0.5s,baz=170,slow=7.6,SNR=14						
MA2	**Magadan**	**64.73**	**359**	P	**P**	**04 48 33.2**	**-0.8**
GTA	**Gaotai**	**66.12**	**317**	*e*P	**P**	**04 48 44.5**	**+1.0**
GTA				pP	pP	04 48 55.5	+1.4
GTA				sP	sP	04 48 59.5	+1.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,130nm,4.4s						
GTA				LR	LR		
	comp=N,200nm,16.0s						
GTA				LR	LR		
	comp=E,210nm,17.5s						
GTA				LR	LR		
	comp=Z,330nm,17.4s						
ULN	**Ulaanbaatar**	**66.50**	**328**	P	**P**	**04 48 46.3**	**+0.5**
ULN				IAmb	IAmb	04 48 47.8	
	comp=Z,6.0nm,1.1s						
SHL	**Shillong**	**66.67**	**301**	P	**P**	**04 48 47.3**	**-0.1**
SONM	**Songino Array**	**66.83**	**328**	P	**P**	**04 48 48.0**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=144,slow=5.4,SNR=14						
SONM				PcP	**PcP**	**04 49 17.5**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=133,slow=4.3,SNR=2.4						
SONM	**Songino Array**	**66.83**	**328**	P	**P**	**04 48 47.6**	**-0.3**
VNDA	**Vanda**	**72.29**	**178**	P	**P**	**04 49 21.3**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=344,slow=6.6,SNR=7.9						
BILL	**Bilibino**	**73.81**	**5**	P	**P**	**04 49 30.7**	**+0.7**
WMQ	**Urumqi**	**76.20**	**317**	*e*P	**P**	**04 49 45.5**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,7.1s						
TIXI	**Tiksi**	**78.44**	**352**	P	**P**	**04 49 54.9**	**-1.3**
TIXI				IAmb	IAmb	04 49 58.3	
	comp=Z,12nm,1.5s						
RDOG	**Red Dog Mine**	**79.47**	**15**	P	**P**	**04 50 03.0**	**+1.1**
RDOG				IAmb	IAmb	04 50 04.2	
	comp=Z,9.0nm,0.9s						
MK31	**Makanchi Array**	**80.79**	**319**	P	**P**	**04 50 09.5**	**-0.1**
MKAR	**Makanchi Array**	**80.79**	**319**	P	**P**	**04 50 09.8**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=106,slow=5.7,SNR=20						
MKAR	**Makanchi Array**	**80.79**	**319**	P	**P**	**04 50 09.2**	**-0.4**
IMAR	**Indian Mountai**	**80.85**	**19**	P	**P**	**04 50 09.1**	**-0.4**
MLY	**Manley**	**81.34**	**21**	P	**P**	**04 50 12.0**	**-0.2**
ZAA0	**Zalesovo Array**	**81.65**	**326**	P	**P**	**04 50 12.9**	**-1.1**
ZALV	**Zalesovo Beam**	**81.65**	**326**	P	**P**	**04 50 13.1**	**-0.9**
	comp=Z,4.4nm,0.7s,baz=98,slow=6.1,SNR=6.7						
ZALV				LR	LR	05 25 33.2	
	comp=Z,217nm,21.5s,baz=242,slow=35						
ZALV	**Zalesovo Beam**	**81.65**	**326**	P	**P**	**04 50 12.9**	**-1.0**
ILAR	**Eielson Array**	**82.61**	**22**	P	**P**	**04 50 17.6**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=251,slow=4.7,SNR=9.0						
KSH	**Kashi**	**83.36**	**311**	P	**P**	**04 50 26.3**	**+2.9**
KSH				sP	pwP	04 50 45.0	+7.4
KSH				pmax	pmax		
	comp=Z,14nm,0.7s						
KSH				pmax	pmax		
	comp=Z,300nm,4.0s						
KURBB	**Kurchatov Arra**	**84.28**	**322**	P	**P**	**04 50 27.4**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=109,slow=3.9,SNR=4.7						
QSPA	**South Pole Qui**	**84.63**	**180**	P	**P**	**04 50 30.0**	**+0.6**
QSPA				IAmb	IAmb	04 50 40.0	
	comp=Z,5.5nm,0.8s						
BMAR	**Burnt Mountain**	**84.71**	**20**	P	**P**	**04 50 29.0**	**-0.6**
AAK	**Ala-Archa**	**85.11**	**313**	P	**P**	**04 50 31.9**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=169,slow=6.1,SNR=7.4						
AAK	**Ala-Archa**	**85.11**	**313**	P	**P**	**04 50 32.4**	**+0.1**
AAK				IAmb	IAmb	04 50 33.6	
	comp=Z,5.4nm,0.9s						
NRIK	**Noril'sk**	**86.50**	**341**	P	**P**	**04 50 38.0**	**-0.3**
	comp=Z,4.0nm,0.5s,baz=111,slow=4.7,SNR=6.3						
NRIK	**Noril'sk**	**86.50**	**341**	P	**P**	**04 50 37.9**	**-0.4**
NRIK				IAmb	IAmb	04 50 52.0	
	comp=Z,12nm,1.3s						
EPYK	**Eagle Plains**	**87.12**	**22**	P	**P**	**04 50 41.2**	**-0.3**
EPYK				IAmb	IAmb	04 50 59.2	
	comp=Z,4.9nm,0.8s						
KKAR	**Karatay Array**	**88.07**	**313**	P	**P**	**04 50 45.8**	**-0.8**
INK	**Inuvik**	**88.92**	**21**	P	**P**	**04 50 49.9**	**0.0**
INK				IAmb	IAmb	04 50 51.2	
	comp=Z,5.7nm,1.2s						
BRVK	**Borovoye**	**89.80**	**323**	P	**P**	**04 50 53.4**	**-1.0**
BRVK				IAmb	IAmb	04 50 54.6	
	comp=Z,4.3nm,0.9s						
NVAR	**Mina Array Bea**	**92.33**	**52**	P	**P**	**04 51 07.0**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=262,slow=7.8,SNR=4.1						
C36M	**Paulatuk**	**92.49**	**21**	P	**P**	**04 51 06.1**	**-0.4**
C36M				IAmb	IAmb	04 51 07.5	
	comp=Z,3.4nm,0.9s						
SYO	**Syowa Base**	**93.20**	**199**	⇑*e*P	P	04 51 02.2	-7.6
SYO	**Syowa Base**	**93.20**	**199**	⇑*e*P	**P**	**04 51 09.4**	**-0.4**
YKA	**Yellowknife Ar**	**95.85**	**28**	P	**P**	**04 51 21.9**	**-0.2**
	comp=Z,0.9nm,1.0s,baz=271,slow=4.0,SNR=7.4						
GERES	**GERESS Array B**	**124.56**	**328**	PKP	**PKPdf**	**04 56 55.3**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=282,slow=1.2,SNR=3.1						
LPAZ	**La Paz**	**134.07**	**119**	PKP	**PKiKP**	**04 57 16.2**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=277,slow=6.3,SNR=10.0						
LPAZ	**La Paz**	**134.07**	**119**	PKPdf	**PKiKP**	**04 57 17.1**	**+0.7**
TOA0	**Torodi Ar. Sit**	**150.57**	**287**	PKPbc	**PKPbc**	**04 57 47.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**150.57**	**287**	PKPbc	**PKPbc**	**04 57 48.3**	**-0.4**
	comp=Z,4.2nm,0.8s,baz=39,slow=2.2,SNR=16						
TORD	**Torodi Ar. Bea**	**150.57**	**287**	PKPbc	**PKPbc**	**04 57 48.1**	**-0.6**
BDFB	**Brasilia**	**150.62**	**135**	PKPbc	**PKPbc**	**04 57 49.1**	**+0.1**
	comp=Z,8.9nm,1.0s,baz=186,slow=3.2,SNR=7.6						
BDFB	**Brasilia**	**150.62**	**135**	PKPbc	**PKPbc**	**04 57 49.2**	**+0.3**

JMA 30 04:42:24.4±0.1,24°.39N×122°.97E,h49km±2km,M1.6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.07**	**340**	P	Pn	04 42 31.8	-0.2
JYNG				S	Sn	04 42 37.2	-0.2
YOJ	**Yonaguni jima**	**0.08**	**28**	P	Pn	04 42 32.0	-0.1
YOJ				S	Sn	04 42 37.3	-0.2
IRIF	**Iriomote-Funau**	**0.69**	**94**	P	Pn	04 42 38.1	+0.1
IRIF				*e*S	Sn	04 42 47.9	0.0
JKRS	**Kuro-shima**	**0.96**	**99**	P	Pn	04 42 42.0	+0.5
JKRS				S	Sn	04 42 54.9	+0.7
JIJ	**Ishigaki jima**	**1.07**	**91**	P	Pn	04 42 42.8	-0.2
JIJ				S	Sn	04 42 56.4	-0.4
JISG	**Ishigakijimahi**	**1.24**	**81**	S	Sn	04 43 01.4	+0.5

TAP 30 04:43:02.9,24°.86N×121°.99E,h16km,ML2.6,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.15**	**269**	P	Pg	04 43 06.9	0.0
	baz=269						
NTC				S	Sg	04 43 09.5	0.0
	baz=269						
TWB1	**Santiao Chiao**	**0.15**	**359**	P	Pb	04 43 07.2	-0.2
	baz=359						
TWB1				S	Sg	04 43 09.7	+0.1
	baz=359						
TIPB	**Shuangxi**	**0.19**	**308**	P	Pb	04 43 07.8	-0.2
	baz=306						
TIPB				S	Sg	04 43 10.8	+0.2
	baz=306						
TWC	**Suao**	**0.28**	**207**	P	Pg	04 43 08.9	0.0
	baz=208						
TWC				S	Sg	04 43 12.5	-0.5
	baz=208						
WFSB	**Wu-fen Shan**	**0.28**	**318**	P	Pb	04 43 09.6	-0.1
	baz=317						
WFSB				S	Sb	04 43 14.4	+0.2
	baz=317						
TWE	**Neicheng**	**0.32**	**245**	P	Pg	04 43 09.9	+0.3
	baz=241						
TWE				S	Sb	04 43 14.9	-0.4
	baz=241						
NDS	**Dongshan**	**0.33**	**228**	*e*P	Pb	04 43 10.3	-0.2
	baz=227						
NDS				*e*S	Sb	04 43 15.9	+0.3
	baz=227						
TNOU	**National Taiwa**	**0.35**	**326**	P	Pb	04 43 11.1	+0.3
	baz=325						
TNOU				S	Sb	04 43 15.9	-0.2
	baz=325						
TWA	**Mucha**	**0.39**	**288**	*e*P	Pb	04 43 11.9	+0.5
	baz=282						
TWA				*e*S	Sb	04 43 17.4	+0.2
	baz=282						
ENTT	**Nioudou**	**0.44**	**241**	P	Pb	04 43 12.3	0.0
	baz=241						
NWLT	**Wulai**	**0.45**	**260**	P	Pb	04 43 12.4	-0.1
	baz=261						
NWLT				*e*S	Sg	04 43 18.1	0.0
	baz=261						
EWUT	**Wuta**	**0.45**	**205**	*e*P	Pb	04 43 12.8	+0.3
	baz=209						
EWUT				*e*S	Sb	04 43 18.8	-0.2
	baz=209						
TATO	**Taipei**	**0.47**	**285**	*e*P	Pb	04 43 12.8	0.0
	baz=279						
TATO				*e*S	Sb	04 43 19.9	+0.3
	baz=279						
YM01	**YM01**	**0.48**	**307**	*e*P	Pb	04 43 13.0	0.0
	baz=307						
YM01				*e*S	Sg	04 43 18.8	-0.2
	baz=307						
ENA	**Nanau**	**0.48**	**208**	*e*P	Pb	04 43 14.0	+1.0
	baz=211						
ENA				*e*S	Sb	04 43 19.9	-0.1
	baz=211						
YM11	**YM11**	**0.49**	**309**	*e*P	Pn	04 43 14.7	-0.6
	baz=309						
YM11				*e*S	Sb	04 43 20.5	+0.4
	baz=309						
YM08	**YM08**	**0.49**	**312**	*e*P	Pb	04 43 13.5	+0.3
	baz=312						
YM08				*e*S	Sb	04 43 20.5	+0.3
	baz=312						
YM10	**YM10**	**0.49**	**307**	P	Pn	04 43 14.3	-1.0
	baz=308						
YM10				*e*S	Sg	04 43 19.0	-0.3
	baz=308						
YM05	**YM05**	**0.49**	**309**	*e*P	Pb	04 43 13.9	+0.7
	baz=309						
YM05				*e*S	Sg	04 43 19.3	-0.1
	baz=309						
NDT	**Datong Townshi**	**0.50**	**240**	P	Pb	04 43 13.4	+0.1
	baz=242						
NDT				*e*S	Sb	04 43 21.1	+0.7
	baz=242						
YM04	**YM04**	**0.51**	**306**	*e*P	Pb	04 43 14.2	+0.8
	baz=306						
YM04				*e*S	Sb	04 43 21.8	+1.1
	baz=306						
TWY	**Chenhua**	**0.55**	**320**	*e*P	Pb	04 43 14.8	+0.7
	baz=319						
TWY				*e*S	Sb	04 43 22.4	+0.6
	baz=319						
YHNB	**Yeheng**	**0.59**	**252**	*e*P	Pg	04 43 14.6	0.0
	baz=253						
YHNB				*e*S	Sg	04 43 22.3	-0.1
	baz=253						
NSK	**Sanguang**	**0.60**	**253**	*e*P	Pg	04 43 14.9	+0.1
	baz=253						
NSK				*e*S	Sb	04 43 24.5	+1.1
	baz=253						
NNS	**Nan Shan**	**0.70**	**234**	*e*P	Pb	04 43 17.2	+0.5
	baz=230						
NNSB	**Datong**	**0.70**	**232**	*e*P	Pb	04 43 17.0	+0.2
	baz=230						
NNSB				*e*S	Sb	04 43 26.6	+0.4
	baz=230						
NNSH	**Datong**	**0.70**	**232**	*e*P	Pb	04 43 16.7	-0.1
	baz=233						
NACB	**Ninganchiao**	**0.77**	**208**	*e*P	Pb	04 43 18.3	+0.3
	baz=211						
NACB				*e*S	Sg	04 43 28.0	-0.1
	baz=211						
PCYT	**Pengchaiyu**	**0.77**	**5**	*e*P	Pb	04 43 18.4	+0.4
	baz=1.0						
PCYT				*e*S	Sn	04 43 29.8	-0.7
	baz=1.0						
ETLH	**Xiulin Townshi**	**

0.1nm,0.3s,baz=214,slow=8.4,SNR=7.6
DMN Daman 15.37 121 *e*P Pn **04 55 24.0 -0.7**
18nm,0.4s
KKN Kakani 15.38 120 *e*P Pn **04 55 23.6 -1.1**
PKIN Phulchoki 15.59 121 *e*P Pn **04 55 27.2 -0.1**
23nm,0.4s
PKI Pulchoki 15.61 121 *e*P Pn **04 55 26.9 -0.7**
24nm,0.5s
JIRN Jiri 16.10 119 *e*P P **04 55 32.4 -0.6**
38nm,0.3s
BVAR Borovoye Array 16.45 0 P Pn **04 55 38.3 +1.2**
0.2nm,0.3s,baz=260,slow=41,SNR=1.9
AKTO Aktyubinsk 16.45 331 P Pn **04 55 37.6 +0.5**
0.7nm,0.3s,baz=139,slow=8.3,SNR=16
AKTO S S **04 58 36.2 -1.8**
0.1nm,0.3s,baz=214,slow=12,SNR=1.5
AKTO Aktyubinsk 16.45 331 ⇑P Pn **04 55 37.9 +0.8**
7.3nm,0.9s
AKTO ⇓S S **04 58 40.6 +2.6**
3.5nm,0.9s
RAMN Ramite 16.82 120 *e*P P **04 55 40.5 -0.3**
19nm,0.3s
TAPN Taplejung 17.36 117 *e*P P **04 55 47.6 +0.8**
16nm,0.4s
ZALV Zalesovo Beam 20.07 26 P P **04 56 16.5 +1.0**
1.6nm,0.3s,baz=210,slow=9.5,SNR=7.4
KBZ Khabaz 22.09 297 LR LR 05 07 46.1
comp=Z,526nm,21.0s,baz=194,slow=43
ASF Jabal al Asfar 27.86 271 LR LR 05 12 04.1
comp=Z,6.4nm,21.1s,baz=113,slow=43
FINES FINESS Array B 37.12 326 P P **04 58 50.0 +1.4**
3.0nm,0.9s,baz=185,slow=36,SNR=1.8
ARCES ARCESS Array B 40.87 338 P P **04 59 20.9 +1.4**
0.5nm,0.5s,baz=114,slow=8.1,SNR=5.7
NOA NORSAR Array B 43.99 323 P P **04 59 45.6 +0.8**
0.3nm,0.6s,baz=98,slow=7.9,SNR=1.9
YKA Yellowknife Ar 81.19 2 P P **05 03 50.6 +0.1**
0.1nm,0.6s,baz=3.7,slow=5.0,SNR=2.4

IDC 30 05:17:46.5±2.8, 24°02S×163°36E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/31, mbtmp3.9/3, ML2.5/1, Error ellipse: s-maj=113.9km s-min=23.0km az=154.0, New Caledonia region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.44**	**56**	Pn		Pn	Pn	05 18 41.0	-0.4
	0.4nm,0.3s,baz=95,slow=9.1,SNR=14								
DZM				Sn		Sn	Sn	05 19 25.9	+3.0
	1.5nm,0.3s,baz=149,slow=20,SNR=14								
STKA	**Stephens Creek**	**20.74**	**243**	P		P	P	05 22 27.5	-1.3
	1.0nm,0.5s,baz=88,slow=9.4,SNR=3.5								
ASAR	**Alice Springs**	**26.93**	**265**	P		P	P	05 23 29.4	-0.3
	1.6nm,1.0s,baz=88,slow=8.6,SNR=6.4								
WRA	**Warramunga Arr**	**27.20**	**273**	P		P	P	05 23 32.9	+0.8
	1.5nm,0.5s,baz=100,slow=8.1,SNR=11								

*IDC **30** 05:50:55.8±1.4, 1°26N×126°08E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.5/50, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=113.1km s-min=18.7km az=67.0*
*DJA **30** 05:51:02.1±1.1, 1°N±3°×12°6E±°, h28km±11km, M4.1/8, mb4.7/1, MLv3.9/8*
ISC 30 05:51:01.6±0.9, 1°19N±0°05×126°28E±0°06, h35km, n15, σ1°90/19, mb3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.16**	**111**	P		**Pn**	**Pn**	**05 51 24.8**	**+3.4**
KMSI	**Cibinong**	**2.38**	**255**	P		**P**	**Pn**	**05 51 37.7**	**-0.5**
KMSI				S			**Sn**	**05 52 07.3**	**+1.1**
SGSI	**Sangihe**	**2.59**	**343**	P		**Pn**	**Pn**	**05 51 40.4**	**-0.7**
SGSI				S			**Sn**	**05 52 12.0**	**+0.6**
SANI	**Sanana**	**3.23**	**185**	P		**Pn**	**Pn**	**05 51 46.5**	**-3.4**
SANI				S			**Sn**	**05 52 27.0**	**-0.2**
GTOI	**Gorontalo**	**3.32**	**261**	P		**Pn**	**Pn**	**05 51 52.9**	**+1.8**
GTOI				S			**Sn**	**05 52 32.6**	**+3.3**
LUWI	**Luwuk**	**4.15**	**238**	P		**Pn**	**Pn**	**05 52 04.8**	**+2.2**
APSI	**Ampana**	**5.08**	**246**	P		**Pn**	**Pn**	**05 52 15.5**	**+0.1**
APSI				S			**Sn**	**05 53 15.3**	**+2.4**
TTSI	**Tana Toraja**	**7.71**	**237**	P		Pn	Pn	05 53 01.4	+10
FITZ	**Fitzroy Crossi**	**19.18**	**182**	P		**P**	**P**	**05 55 21.8**	**-0.6**
	0.1nm,0.3s,baz=352,slow=18,SNR=2.8								
WRA	**Warramunga Arr**	**22.44**	**160**	P		**P**	**P**	**05 55 57.0**	**-0.6**
	1.5nm,0.4s,baz=338,slow=33								
ASAR	**Alice Springs**	**25.79**	**164**	P		**P**	**P**	**05 56 30.5**	**+0.9**
	0.9nm,0.5s,baz=348,slow=11,SNR=11								
STKA	**Stephens Creek**	**35.95**	**157**	P		**P**	**P**	**05 57 59.2**	**+0.2**
	0.5nm,0.3s,baz=331,slow=13,SNR=2.1								
MKAR	**Makanchi Array**	**59.39**	**326**	P		**P**	**P**	**06 00 58.9**	**-1.8**
	0.4nm,0.3s,baz=113,slow=8.2,SNR=4.4								
KURBB	**Kurchatov Arra**	**63.64**	**328**	P		**P**	**P**	**06 01 27.6**	**-1.5**
	0.4nm,0.4s,baz=132,slow=6.7,SNR=7.4								
TORD	**Torodi Ar. Bea**	**152.25**	**286**	PKP			**PKPdf**	**06 09 55.1**	**-0.7**
	0.5nm,0.7s,baz=82,slow=3.1,SNR=2.6								

*IDC **30** 05:53:05.1±2.1, 6°16S×154°22E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/41, mbtmp3.8/6, Error ellipse: s-maj=74.0km s-min=28.9km az=125.0*
*NEIC **30** 05:53:11.8±2.6, 5°59S±0°08×153°2E±0°1, h35km±2km, mb4.0/8, Error ellipse: s-maj=22.9km s-min=13.4km az=92.0*
ISC 30 05:53:12.2±1.1, 6°0S±0°2×153°4E±0°2, h32km, n19, σ2°04/18, mb3.9/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.17**	**324**	Pn		Pn	Pn	05 53 37.8	-8.3
PMG	**Port Moresby**	**7.10**	**241**	Pn		**Pn**	**Pn**	**05 54 51.5**	**-2.4**
MTN	**Manton Dam**	**23.02**	**251**	P		**P**	**P**	**05 58 15.2**	**+0.3**
WR0	**Warramunga Arr**	**23.04**	**231**	P		**P**	**P**	**05 58 14.2**	**-0.8**
WR0						IAmb	IAmb	05 58 27.5	
	comp=Z,5.6nm,1.2s								
WB0	**Warramunga Arr**	**23.04**	**232**	P		**P**	**P**	**05 58 15.1**	**+0.1**
WB0						IAmb	IAmb	05 58 26.6	
	comp=Z,4.9nm,1.0s								
WB2	**Warramunga Arr**	**23.17**	**231**	P		**P**	**P**	**05 58 16.5**	**+0.2**
WB2						IAmb	IAmb	05 58 28.0	
	comp=Z,5.6nm,1.1s								
WRA	**Warramunga Arr**	**23.18**	**231**	P		**P**	**P**	**05 58 18.9**	**+2.5**
	comp=Z,1.7nm,0.6s,baz=53,slow=9.7,SNR=6.2								
WRA	**Warramunga Arr**	**23.18**	**231**	P		**P**	**P**	**05 58 15.2**	**-1.2**
ASAR	**Alice Springs**	**25.75**	**225**	P		**P**	**P**	**05 58 42.5**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=313,slow=36,SNR=1.9								
FITZ	**Fitzroy Crossi**	**29.68**	**244**	P		**P**	**P**	**05 59 17.8**	**+2.4**
	comp=Z,2.4nm,1.0s,baz=126,slow=5.0,SNR=2.1								
FITZ	**Fitzroy Crossi**	**29.68**	**244**	P		**P**	**P**	**05 59 15.0**	**-0.4**
FITZ						IAmb	IAmb	05 59 25.8	
	comp=Z,3.2nm,0.8s								
BBOO	**Buckleboo**	**31.23**	**209**	P		**P**	**P**	**05 59 29.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**58.94**	**296**	P		**P**	**P**	**06 03 11.7**	**+2.7**
	comp=Z,2.8nm,0.3s,baz=103,slow=6.3,SNR=4.7								
CMAR	**Chiang Mai Arr**	**58.94**	**296**	P		**P**	**P**	**06 03 06.0**	**-3.0**
VNDA	**Vanda**	**71.65**	**178**	P		**P**	**P**	**06 04 30.9**	**+0.6**
MKAR	**Makanchi Array**	**81.61**	**319**	P		**P**	**P**	**06 05 30.1**	**+3.0**
	comp=Z,0.7nm,1.0s,baz=87,slow=7.7,SNR=2.6								
ILAR	**Eielson Array**	**83.00**	**22**	P		**P**	**P**	**06 05 31.6**	**-2.4**
	comp=Z,0.3nm,0.7s,baz=262,slow=6.2,SNR=2.7								
TORD	**Torodi Ar. Bea**	**151.25**	**286**	PKPbc			**PKiKP**	**06 13 02.1**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=85,slow=1.8,SNR=5.5								
TORD	**Torodi Ar. Bea**	**151.25**	**286**				**PKiKP**	**06 13 02.4**	**-1.6**

*ANF **30** 05:57:32.1±0.3, 36°14N×97°25W, h4km, ML3.7/17, Error ellipse: s-maj=3.1km s-min=2.8km az=134.0*
*NEIC **30** 05:57:32.2±1.1, 36°13N±0°01×97°253W±0°009, h3km±7km, Error ellipse: s-maj=1.8km s-min=0.7km az=148.0*
*TUL **30** 05:57:32±1.3, 36°12N±0°01×97°23W±0°02, h5km±7km, ML3.1, mb_Lg3.1/86(NEIC), Error ellipse: s-maj=2.5km s-min=1.7km az=76.0*
ISC 30 05:57:32.2±1.2, 36°14N±0°02×97°24W±0°02, h1km±11km, n91, σ0°77/81, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.38**	**119**				**Pg**	**05 57 39.4**	**0.0**
OK031				Sg			**Sg**	**05 57 44.8**	**+0.6**
OK029	**Liberty Lake**	**0.38**	**207**				**Pg**	**05 57 39.4**	**-0.1**
OK029				Sg			**Sg**	**05 57 44.8**	**+0.4**
OK030	**Cody Creek RV**	**0.43**	**119**				**Pg**	**05 57 40.4**	**0.0**
OK030				Sg			**Sg**	**05 57 46.2**	**+0.3**
QUOK	**Quay**	**0.43**	**85**	Pg			**Pg**	**05 57 40.7**	**+0.1**
OK025	**Westminster Rd**	**0.56**	**188**				**Pg**	**05 57 42.7**	**-0.2**
OK025				IAmb_Lg				05 57 50.1	
	comp=Z,235nm,0.8s								
OK025				Sg			**Sg**	**05 57 50.4**	**+0.3**
BCOK	**Bluff Creek, N**	**0.56**	**212**				**Pg**	**05 57 42.8**	**-0.1**
BCOK				Sg			**Sg**	**05 57 50.4**	**+0.1**
CROK	**Carrier**	**0.70**	**302**				**Pg**	**05 57 45.8**	**+0.2**
CROK				Sg			**Sg**	**05 57 55.9**	**+1.1**
OKCFA	**Oklahoma City**	**0.74**	**193**				**Pg**	**05 57 45.9**	**-0.4**
OKCFA				Sg			**Sg**	**05 57 56.0**	**+0.1**
OKCFA	**Oklahoma City**	**0.74**	**193**	P			**Pg**	**05 57 45.9**	**-0.4**
	baz=13,SNR=35								
OKCFA				S			**Sg**	**05 57 56.0**	**+0.1**
	baz=13								
OKCFA	**Oklahoma City**	**0.74**	**193**	P				05 57 45.9	
	baz=13,SNR=35								
OKCFA				S				05 57 56.0	
	baz=13								
OKCSW	**OKLAHOMA CITY**	**0.74**	**192**	Pg			**Pg**	**05 57 46.0**	**-0.5**
OKCSW				Sg			**Sg**	**05 57 56.5**	**+0.4**
GC02	**Grant County #**	**0.87**	**325**				**Pg**	**05 57 48.6**	**-0.3**
GC02				Sg			**Sg**	**05 58 00.9**	**+0.7**
FNO	**Franklin**	**0.89**	**188**	Pg			**Pg**	**05 57 49.0**	**-0.2**
FNO				Sg			**Sb**	**05 58 01.2**	**-1.5**
KAN13	**South Haven SW**	**0.90**	**348**				**Pg**	**05 57 49.5**	**+0.1**
T35A	**Sooner Cattle**	**0.98**	**37**	Pg			**Pg**	**05 57 50.9**	**-0.1**
T35A				Sg			**Sg**	**05 58 04.5**	**+0.9**
T35B	**Sooner Cattle**	**0.98**	**37**	P			**Pg**	**05 57 50.8**	**-0.1**
	baz=217,SNR=88								
T35B				S			**Sg**	**05 58 03.8**	**+0.2**
	baz=217								
T35B	**Sooner Cattle**	**0.98**	**37**	P				05 57 50.8	
	baz=217,SNR=88								
T35B				S				05 58 03.8	
	baz=217								
OK032	**Salt Plains WL**	**1.03**	**311**				**Pg**	**05 57 51.6**	**-0.3**
OK032				Sg			**Sg**	**05 58 05.4**	**+0.2**
TUL1	**Leonard**	**1.20**	**100**	P			**Pg**	**05 57 53.6**	**-1.5**
	baz=281,SNR=204								
TUL1				S			**Sg**	**05 58 10.1**	**-0.6**
	baz=281								
TUL1	**Leonard**	**1.20**	**100**	P				05 57 53.8	
	baz=281								
TUL1				S				05 58 10.2	
	baz=281								
TUL1	**Leonard**	**1.20**	**100**	P				05 57 53.6	
	baz=281,SNR=204								
TUL1				S				05 58 10.1	
	baz=281								
KAN10	**Anthony SW Sta**	**1.20**	**325**				**Pg**	**05 57 54.9**	**-0.3**
KAN10				Sg			**Sb**	**05 58 11.4**	**-0.5**
KAN08	**Anthony NE Sta**	**1.24**	**332**				**Pg**	**05 57 55.6**	**-0.3**
KAN08				Sg			**Sb**	**05 58 12.6**	**-0.4**
KAN12	**Harper NE Stat**	**1.31**	**333**				**Pn**	**05 57 56.8**	**-0.9**
U32A	**Winter Ranch,**	**1.44**	**280**				**Pn**	**05 57 58.7**	**-0.8**
U32A	**Winter Ranch,**	**1.44**	**280**	P			**Pn**	**05 57 58.7**	**-0.8**
	baz=100,SNR=28								
U32A				S			**Sg**	**05 58 19.0**	**+0.4**
	baz=100								
U32A	**Winter Ranch,**	**1.44**	**280**	P				05 57 58.7	
	baz=100,SNR=28								
U32A				S				05 58 19.0	
	baz=100								
WMOK	**Wichita Mounta**	**1.88**	**222**	Pn			**Pn**	**05 58 05.3**	**-0.2**
WMOK				IAmb_Lg				05 58 33.9	
	comp=Z,105nm,0.7s								
WMOK	**Wichita Mounta**	**1.88**	**222**	S			**Sb**	**05 58 30.3**	**-1.0**
	baz=42								
WMOK	**Wichita Mounta**	**1.88**	**222**	P				05 58 05.4	
	baz=42								
WMOK				S				05 58 30.4	
	baz=42								
WMOK	**Wichita Mounta**	**1.88**	**222**	S				05 58 30.3	
	baz=42								
X37A	**Clayton**	**2.17**	**135**				**Pn**	**05 58 09.5**	**0.0**
X37A				IAmb_Lg				05 58 43.4	
	comp=Z,96nm,0.7s								
X37A	**Clayton**	**2.17**	**135**	P			**Pn**	**05 58 09.3**	**-0.3**
	baz=316,SNR=47								
X37A				S			**Sb**	**05 58 40.3**	**+0.5**
	baz=316								
X37A	**Clayton**	**2.17**	**135**	P				05 58 09.3	
	baz=316,SNR=47								
X37A				S				05 58 40.3	
	baz=316								
U38A	**Gravette**	**2.33**	**82**				**Pn**	**05 58 11.7**	**0.0**
U38A				IAmb_Lg				05 58 51.6	
	comp=Z,49nm,0.7s								
U38A	**Gravette**	**2.33**	**82**	P			**Pn**	**05 58 11.8**	**0.0**
	baz=263,SNR=85								
U38A	**Gravette**	**2.33**	**82**	P				05 58 11.8	
	baz=263,SNR=85								
R32A	**Long Quarter,**	**2.57**	**333**				**Pn**	**05 58 15.3**	**+0.2**
R32A	**Long Quarter,**	**2.57**	**333**	P			**Pn**	**05 58 15.3**	**+0.2**
	baz=153								
R32A	**Long Quarter,**	**2.57**	**333**	P				05 58 15.3	
	baz=153								
HHAR	**Hobbs**	**2.68**	**86**				**Pn**	**05 58 16.1**	**-0.4**
HHAR	**Hobbs**	**2.68**	**86**	P			**Pn**	**05 58 16.1**	**-0.4**
	baz=268,SNR=28								
HHAR	**Hobbs**	**2.68**	**86**	P				05 58 16.1	
	baz=268,SNR=28								
Z35A	**Perchaven, San**	**2.80**	**180**				**Pn**	**05 58 18.0**	**-0.2**
Z35A	**Perchaven, San**	**2.80**	**180**	P			**Pn**	**05 58 18.0**	**-0.2**
	baz=0.0,SNR=11								
Z35A	**Perchaven, San**	**2.80**	**180**	P				05 58 18.0	
	baz=0.0,SNR=11								
W39A	**Magazine**	**2.97**	**107**				**Pn**	**05 58 21.1**	**+0.6**
W39A				IAmb_Lg				05 59 12.2	
	comp=Z,80nm,1.1s								
W39A	**Magazine**	**2.97**	**107**	P				05 58 20.9	
	baz=289								
KSU1	**Kansas State U**	**3.00**	**9**				**Pn**	**05 58 21.4**	**+0.4**
KSU1	**Kansas State U**	**3.00**	**9**	P				05 58 21.5	
	baz=190								
CBKS	**Cedar Bluff**	**3.33**	**324**	Pn			**Pn**	**05 58 25.6**	**0.0**
CBKS	**Cedar Bluff**	**3.33**	**324**	P			**Pn**	**05 58 25.3**	**-0.3**
	baz=143								
CBKS	**Cedar Bluff**	**3.33**	**324**	Pb				05 58 33.9	
	baz=143								
CBKS				Sb				05 59 18.8	
	baz=143								
CBKS	**Cedar Bluff**	**3.33**	**324**	P				05 58 25.3	
	baz=143								
MIAR	**Mount Ida**	**3.39**	**117**	Pn			**Pn**	**05 58 26.3**	**0.0**
MIAR				IAmb_Lg				05 59 24.4	
	comp=Z,51nm,0.7s								
MIAR	**Mount Ida**	**3.39**	**117**	P			**Pn**	**05 58 26.4**	**0.0**
	baz=299,SNR=20								
MIAR				S			**Sn**	**05 59 07.9**	**+0.7**
	baz=299								
MIAR	**Mount Ida**	**3.39**	**117**	P				05 58 26.4	
	baz=299								
MIAR	**Mount Ida**	**3.39**	**117**	P				05 58 26.4	
	baz=299,SNR=20								
MIAR				S				05 59 07.9	
	baz=299								
Z38A	**Mt. Pleasant**	**3.42**	**146**	Pn			**Pn**	**05 58 26.9**	**+0.2**
Z38A				IAmb_Lg				05 59 29.0	
	comp=Z,41nm,0.7s								
S39A	**Bolivar**	**3.50**	**63**	Pn			**Pn**	**05 58 28.1**	**+0.1**
S39A	**Bolivar**	**3.50**	**63**	P			**Pn**	**05 58 28.0**	**+0.1**
	baz=245,SNR=50								
S39A	**Bolivar**	**3.50**	**63**	P				05 58 28.0	
	baz=245,SNR=50								
U40A	**Yellville**	**3.56**	**85**	Pn			**Pn**	**05 58 27.9**	**-0.7**
U40A				IAmb_Lg				05 59 31.2	
	comp=Z,40nm,0.8s								
U40A	**Yellville**	**3.56**	**85**	P			**Pn**	**05 58 28.0**	**-0.6**
	baz=268,SNR=14								
U40A	**Yellville**	**3.56**	**85**	P				05 58 28.0	
	baz=268								
U40A	**Yellville**	**3.56**	**85**	P				05 58 28.0	
	baz=268,SNR=14								
U40A				P				05 58 28.0	
	baz=268,SNR=14								
AMTX	**Amarillo**	**3.83**	**252**				**Pn**	**05 58 32.6**	**+0.1**
AMTX	**Amarillo**	**3.83**	**252**	Sb				05 59 31.9	
	baz=70								
X40A	**Basin Creek Fa**	**3.96**	**113**	Pn			**Pn**	**05 58 35.1**	**+1.0**
X40A				IAmb_Lg				05 59 39.6	
	comp=Z,55nm,0.8s								
ABTX	**Abilene, Hawle**	**4.03**	**210**	Pn			**Pn**	**05 58 38.4**	**+3.3**
ABTX				IAmb_Lg				05 59 40.3	
	comp=Z,36nm,0.9s								
ABTX	**Abilene, Hawle**	**4.03**	**210**	Sb				05 59 35.8	
	baz=29								
WHAR	**Wooly Hollow**	**4.12**	**100**	Pn			**Pn**	**05 58 36.0**	**-0.4**
WHAR				IAmb_Lg				05 59 45.8	
	comp=Z,39nm,0.8s								
MGMO	**Mountain Grove**	**4.13**	**74**				**Pn**	**05 58 35.3**	**-1.2**
MGMO				IAmb_Lg				05 59 41.7	
	comp=Z,40nm,1.1s								
FCAR	**Ozark Folk Cen**	**4.16**	**92**	Pn			**Pn**	**05 58 36.5**	**-0.4**
FCAR				IAmb_Lg				05 59 45.3	
	comp=Z,28nm,0.7s								
W41B	**Gary Mavity, V**	**4.18**	**102**	P			**Pn**	**05 58 36.3**	**-0.9**
	baz=285,SNR=9.8								
W41B	**Gary Mavity, V**	**4.18**	**102**	P				05 58 36.4	
	baz=285								
W41B				S				05 59 25.3	
	baz=285								
W41B	**Gary Mavity, V**	**4.18**	**102**	P				05 58 36.3	
	baz=285,SNR=9.8								
WLAR	**White Oak Lake**	**4.18**	**125**	Pn			**Pn**	**05 58 40.2**	**+3.1**
WLAR				IAmb_Lg				05 59 54.8	
	comp=Z,34nm,0.8s								
237A	**Washetta, Mont**	**4.29**	**163**	Pn			**Pn**	**05 58 38.0**	**-0.7**
R40A	**Maddies Statio**	**4.52**	**60**	P			**Pn**	**05 58 41.3**	**-0.4**
	baz=243,SNR=11								
R40A	**Maddies Statio**	**4.52**	**60**	P				05 58 41.3	
	baz=243,SNR=11								
P38A	**Dawn**	**4.56**	**39**	IAmb_Lg				06 00 00.1	
	comp=Z,33nm,0.8s								
N33A	**J Bar K, Exete**	**4.60**	**358**	IAmb_Lg				06 00 11.6	
	comp=Z,30nm,0.8s								
Z41A	**Richland Creek**	**4.65**	**127**	S				05 59 36.3	
	baz=309								
N35A	**Tabor**	**4.88**	**14**	Pn			**Pn**	**05 58 46.8**	**0.0**
N35A	**Tabor**	**4.88**	**14**	P			**Pn**	**05 58 46.4**	**-0.4**
	baz=195,SNR=5.6								
N35A	**Tabor**	**4.88**	**14**	P				05 58 46.4	
	baz=195,SNR=5.6								
LCAR	**Lake Charles**	**4.93**	**89**	IAmb_Lg				06 00 06.5	
	comp=Z,21nm,0.8s								
CCAR	**Cane Creek**	**5.00**	**115**	IAmb_Lg				06 00 21.9	
	comp=Z,48nm,0.9s								
T42A	**Van Buren**	**5.03**	**78**	IAmb_Lg				06 00 09.9	
	comp=Z,21nm,0.8s								
T42A	**Van Buren**	**5.03**	**78**	P			**Pn**	**05 58 48.6**	**-0.3**
	baz=262								
T42A	**Van Buren**	**5.03**	**78**	P				05 58 48.6	
	baz=262								
KSCO	**Kaye Shedlock'**	**5.15**	**305**	IAmb_Lg				06 00 26.2	
	comp=Z,41nm,0.7s								
CCM	**Cathedral Cave**	**5.16**	**66**	IAmb_Lg				06 00 28.6	
	comp=Z,24nm,0.7s								
BGNE	**Belgrade**	**5.31**	**353**	P			**Pn**	**05 58 51.8**	**-0.9**
	baz=172,SNR=6.5								
BGNE	**Belgrade**	**5.31**	**353**	P				05 58 51.8	
	baz=172,SNR=6.5								
P40A	**Paris**	**5.33**	**49**	IAmb_Lg				06 00 31.5	
	comp=Z,27nm,0.8s								
435B	**Jarrell**	**5.35**	**183**	IAmb_Lg				06 00 31.9	
	comp=Z,21nm,0.7s								
PBMO	**Poplar Bluff**	**5.53**	**81**	IAmb_Lg				06 00 30.5	
	comp=Z,26nm,0.8s								
LPAR	**Lepanto**	**5.66**	**93**	IAmb_Lg				06 00 36.0	
	comp=Z,42nm,0.8s								
FVM	**French Village**	**5.76**	**69**	IAmb_Lg				06 00 38.1	
	comp=Z,23nm,1.1s								
T25A	**Trinidad**	**5.85**	**282**	IAmb_Lg				06 00 49.5	
	comp=Z,20nm,0.8s								
GNAR	**Gosnell**	**5.86**	**90**	IAmb_Lg				06 00 54.0	
	comp=Z,43nm,0.8s								
L34A	**Svendsen Farm,**	**5.86**	**6**	IAmb_Lg				06 00 43.5	
	comp=Z,42nm,0.7s								
143A	**Socs Landing,**	**5.92**	**124**	IAmb_Lg				06 00 53.0	
	comp=Z,28nm,0.9s								
OGNE	**Ogallala**	**6.09**	**323**	IAmb_Lg				06 00 50.9	
	comp=Z,26nm,0.7s								
SLM	**Saint Louis**	**6.11**	**64**	IAmb_Lg				06 00 43.7	
	comp=Z,28nm,0.8s								
HENM	**Henderson Moun**	**6.29**	**82**	IAmb_Lg				06 00 56.2	
	comp=Z,26nm,0.7s								
K31A	**O'Neill**	**6.58**	**350**	IAmb_Lg				06 01 09.9	
	comp=Z,34nm,0.8s								
OXF	**Oxford**	**6.61**	**102**	IAmb_Lg				06 01 01.2	
	comp=Z,31nm,0.9s								
W45A	**Hickory Valley**	**6.63**	**96**	IAmb_Lg				06 01 11.3	
	comp=Z,28nm,0.8s								
L40A	**Anamosa**	**7.54**	**37**	IAmb_Lg				06 01 41.5	
	comp=Z,27nm,0.9s								
ISCO	**Idaho Springs**	**7.55**	**301**	Pn			**Pn**	**05 59 24.9**	**+1.1**
ECSD	**EROS Data Cent**	**7.61**	**3**	Pn			**Pn**	**05 59 22.7**	**-1.5**
USIN	**University of**	**7.87**	**74**	IAmb_Lg				06 01 49.8	
	comp=Z,22nm,0.9s								
O44A	**Mansfield**	**7.99**	**57**	IAmb_Lg				06 01 46.0	
	comp=Z,28nm,0.9s								
Y22D	**IRIS PASSCAL I**	**8.19**	**258**	IAmb_Lg				06 02 10.8	
	comp=Z,19nm,0.7s								
T47A	**Sharon Grove**	**8.20**	**81**	IAmb_Lg				06 02 01.6	
	comp=Z,14nm,0.9s								
FPAL	**Fort Paine**	**9.64**	**96**	IAmb_Lg				06 02 33.5	
	comp=Z,11nm,1.3s								
K22A	**Casper**	**9.69**	**315**	IAmb_Lg				06 03 00.8	
	comp=Z,19nm,1.1s								
P48A	**Milroy**	**9.92**	**67**	IAmb_Lg				06 02 54.0	
	comp=Z,20nm,1.1s				

*TUL **30** 06:06:15.2±1.4,36˚112N±0˚009×97˚23W±0˚02,h5km±7km, ML3.0,mb_Lg3.0/73(NEIC),Error ellipse: s-maj=2.1km s-min=0.8km az=121.0*

*NEIC **30** 06:06:15.4±0.9,36˚134N±0˚010×97˚24W±0˚02,h5km±7km, Error ellipse: s-maj=2.4km s-min=1.4km az=71.0*

ISC 30 06:06:15.5±1.1,36˚13N±0˚02×97˚24W±0.02,h6km±11km, n84,σ056/78,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.37**	**118**		**Pg**	**06 06 22.5**	**-0.1**
OK031				Sg	**Sg**	**06 06 27.8**	**+0.4**
OK029	**Liberty Lake**	**0.38**	**208**		**Pg**	**06 06 22.5**	**-0.2**
OK029				Sg	**Sg**	**06 06 28.0**	**+0.3**
OK030	**Cody Creek RV**	**0.42**	**119**		**Pg**	**06 06 23.4**	**-0.1**
OK030				Sg	**Sg**	**06 06 29.4**	**+0.3**
QUOK	**Quay**	**0.43**	**84**	Pg	**Pg**	**06 06 23.8**	**0.0**
QUOK				Sg	**Sg**	**06 06 30.0**	**+0.6**
OK025	**Westminster Rd**	**0.55**	**189**		**Pg**	**06 06 25.8**	**-0.3**
BCOK	**Bluff Creek, N**	**0.56**	**213**		**Pg**	**06 06 25.9**	**-0.3**
BCOK				IAmb_Lg		06 06 33.3	
	comp=Z,193nm,0.9s						
BCOK				Sg	**Sg**	**06 06 33.8**	**+0.3**
CROK	**Carrier**	**0.71**	**302**	Pg	**Pg**	**06 06 29.1**	**-0.1**
CROK				Sg	**Sg**	**06 06 38.5**	**+0.1**
OKCFA	**Oklahoma City**	**0.73**	**194**		**Pg**	**06 06 29.1**	**-0.5**
OKCFA				Sg	**Sg**	**06 06 39.2**	**+0.2**
OKCFA	**Oklahoma City**	**0.73**	**194**	P	**Pg**	**06 06 29.0**	**-0.5**
	baz=13,SNR=41						
OKCFA				S	**Sg**	**06 06 39.1**	**0.0**
	baz=13						
OKCFA	**Oklahoma City**	**0.73**	**194**	P		06 06 29.0	
	baz=13,SNR=41						
OKCFA				S		06 06 39.1	
	baz=13						
OKCSW	**OKLAHOMA CITY**	**0.74**	**193**		**Pg**	**06 06 29.1**	**-0.5**
OKCSW				Sg	**Sg**	**06 06 39.6**	**+0.3**
GC02	**Grant County #**	**0.88**	**325**	Pg	**Pg**	**06 06 32.1**	**-0.2**
GC02				Sg	**Sb**	**06 06 44.6**	**-0.7**
FNO	**Franklin**	**0.88**	**189**		**Pg**	**06 06 32.1**	**-0.3**
FNO				Sg	**Sg**	**06 06 44.4**	**+0.6**
KAN13	**South Haven SW**	**0.90**	**348**	Pg	**Pg**	**06 06 32.6**	**-0.2**
T35A	**Sooner Cattle**	**0.98**	**36**	Pg	**Pg**	**06 06 34.0**	**-0.3**
T35A				Sg	**Sg**	**06 06 46.8**	**-0.2**
T35B	**Sooner Cattle**	**0.98**	**36**	P	**Pg**	**06 06 33.9**	**-0.3**
	baz=217						
T35B				S	**Sg**	**06 06 46.9**	**-0.1**
	baz=217						
T35B	**Sooner Cattle**	**0.98**	**36**	P		06 06 33.9	
	baz=217						
T35B				S		06 06 46.9	
	baz=217						
OK032	**Salt Plains WL**	**1.03**	**311**		**Pg**	**06 06 34.8**	**-0.5**
OK032				Sg	**Sb**	**06 06 49.2**	**-0.5**
TUL1	**Leonard**	**1.19**	**100**	P	**Pg**	**06 06 36.9**	**-1.5**
	baz=281						
TUL1				S	**Sg**	**06 06 53.3**	**-0.5**
	baz=281						
TUL1	**Leonard**	**1.19**	**100**	P		06 06 36.9	
	baz=281						
TUL1				S		06 06 53.3	
	baz=281						
KAN10	**Anthony SW Sta**	**1.21**	**325**	Pn	**Pg**	**06 06 38.1**	**-0.6**
KAN12	**Harper NE Stat**	**1.32**	**333**	Pn	**Pn**	**06 06 40.1**	**-0.4**
U32A	**Winter Ranch,**	**1.45**	**280**	Pn	**Pn**	**06 06 41.7**	**-0.6**
U32A	**Winter Ranch,**	**1.45**	**280**	P	**Pn**	**06 06 41.8**	**-0.6**
	baz=99,SNR=49						
U32A				S	**Sg**	**06 07 02.3**	**+0.2**
	baz=99						
U32A	**Winter Ranch,**	**1.45**	**280**	P		06 06 41.8	
	baz=99,SNR=49						
U32A				S		06 07 02.3	
	baz=99						
WMOK	**Wichita Mounta**	**1.88**	**223**	Pn	**Pn**	**06 06 48.5**	**+0.2**
WMOK	**Wichita Mounta**	**1.88**	**223**	P	**Pn**	**06 06 48.4**	**+0.2**
	baz=42						
WMOK				S	**Sb**	**06 07 13.7**	**-0.2**
	baz=42						
WMOK	**Wichita Mounta**	**1.88**	**223**	P		06 06 48.4	
	baz=42						
WMOK				S		06 07 13.7	
	baz=42						
X37A	**Clayton**	**2.16**	**135**	Pn	**Pn**	**06 06 51.4**	**-0.8**
X37A				IAmb_Lg		06 07 28.2	
	comp=Z,76nm,0.7s						
X37A	**Clayton**	**2.16**	**135**	P	**Pn**	**06 06 52.4**	**+0.3**
	baz=316,SNR=48						
X37A	**Clayton**	**2.16**	**135**	P		06 06 52.4	
	baz=316,SNR=48						
U38A	**Gravette**	**2.32**	**81**		**Pn**	**06 06 54.7**	**+0.4**
U38A				IAmb_Lg		06 07 32.3	
	comp=Z,43nm,0.7s						
U38A	**Gravette**	**2.32**	**81**	P	**Pn**	**06 06 55.0**	**+0.6**
	baz=263,SNR=55						
U38A	**Gravette**	**2.32**	**81**	P		06 06 55.0	
	baz=263,SNR=55						
R32A	**Long Quarter,**	**2.57**	**333**	Pn	**Pn**	**06 06 58.7**	**+0.8**
R32A	**Long Quarter,**	**2.57**	**333**	S	**Sn**	**06 07 30.4**	**+0.9**
	baz=152						
R32A	**Long Quarter,**	**2.57**	**333**	S		06 07 30.4	
	baz=152						
HHAR	**Hobbs**	**2.67**	**86**		**Pn**	**06 06 59.2**	**+0.1**
HHAR	**Hobbs**	**2.67**	**86**	P	**Pn**	**06 06 59.3**	**+0.2**
	baz=268,SNR=28						
HHAR	**Hobbs**	**2.67**	**86**	P		06 06 59.3	
	baz=268,SNR=28						
Z35A	**Perchaven, San**	**2.79**	**180**		**Pn**	**06 07 00.5**	**-0.3**
Z35A	**Perchaven, San**	**2.79**	**180**	P	**Pn**	**06 07 00.9**	**+0.1**
	baz=0.2,SNR=17						
Z35A	**Perchaven, San**	**2.79**	**180**	P		06 07 00.9	
	baz=0.2,SNR=17						
W39A	**Magazine**	**2.96**	**107**	Pn	**Pn**	**06 07 03.4**	**+0.3**
W39A				IAmb_Lg		06 07 56.2	
	comp=Z,48nm,0.7s						
CBKS	**Cedar Bluff**	**3.34**	**324**		**Pb**	**06 07 15.8**	**+0.7**
MIAR	**Mount Ida**	**3.38**	**117**		**Pn**	**06 07 09.6**	**+0.7**
MIAR	**Mount Ida**	**3.38**	**117**	P	**Pn**	**06 07 09.4**	**+0.5**
	baz=299,SNR=26						
MIAR	**Mount Ida**	**3.38**	**117**	P		06 07 09.4	
	baz=299,SNR=26						
Z38A	**Mt. Pleasant**	**3.41**	**146**	Pn	**Pn**	**06 07 09.1**	**-0.1**
Z38A				IAmb_Lg		06 08 09.8	
	comp=Z,33nm,0.8s						
S39A	**Bolivar**	**3.50**	**62**		**Pn**	**06 07 10.7**	**+0.1**
S39A	**Bolivar**	**3.50**	**62**	P	**Pn**	**06 07 10.9**	**+0.4**
	baz=245,SNR=15						
S39A	**Bolivar**	**3.50**	**62**	P		06 07 10.9	
	baz=245,SNR=15						
U40A	**Yellville**	**3.55**	**85**		**Pn**	**06 07 10.9**	**-0.3**
U40A	**Yellville**	**3.55**	**85**	P	**Pn**	**06 07 11.1**	**-0.1**
	baz=268,SNR=35						
U40A	**Yellville**	**3.55**	**85**	P		06 07 11.1	
	baz=268,SNR=35						
U40A				P		06 07 11.1	
	baz=268,SNR=35						
AMTX	**Amarillo**	**3.83**	**252**	Pn	**Pn**	**06 07 15.1**	**0.0**
X40A	**Basin Creek Fa**	**3.96**	**113**	Pn	**Pn**	**06 07 17.9**	**+1.1**
X40A				IAmb_Lg		06 08 26.5	
	comp=Z,35nm,0.7s						
WHAR	**Wooly Hollow**	**4.11**	**100**	Pn	**Pn**	**06 07 18.9**	**0.0**
WHAR				IAmb_Lg		06 08 29.7	
	comp=Z,48nm,1.2s						
MGMO	**Mountain Grove**	**4.12**	**74**	Pn	**Pn**	**06 07 21.6**	**+2.5**
MGMO				IAmb_Lg		06 08 32.4	
	comp=Z,33nm,0.8s						
WHTX	**Lake Whitney,**	**4.13**	**183**	Pn	**Pn**	**06 07 18.3**	**-0.9**
FCAR	**Ozark Folk Cen**	**4.15**	**92**	Pn	**Pn**	**06 07 19.0**	**-0.5**
FCAR				IAmb_Lg		06 08 25.9	
	comp=Z,24nm,1.0s						
W41B	**Gary Mavity, V**	**4.17**	**102**	P	**Pn**	**06 07 19.5**	**-0.3**
	baz=285,SNR=11						
W41B	**Gary Mavity, V**	**4.17**	**102**	P		06 07 19.5	
	baz=285,SNR=11						
WLAR	**White Oak Lake**	**4.17**	**125**	IAmb_Lg		06 08 34.6	
	comp=Z,32nm,1.0s						
237A	**Washetta, Mont**	**4.28**	**164**	Pn	**Pn**	**06 07 21.1**	**-0.2**
R40A	**Maddies Statio**	**4.51**	**60**		**Pn**	**06 07 25.1**	**+0.6**
R40A				IAmb_Lg		06 08 39.2	
	comp=Z,25nm,0.8s						
R40A	**Maddies Statio**	**4.51**	**60**	P	**Pn**	**06 07 24.8**	**+0.3**
	baz=243,SNR=15						
R40A	**Maddies Statio**	**4.51**	**60**	P		06 07 24.8	
	baz=243,SNR=15						
P38A	**Dawn**	**4.56**	**39**	IAmb_Lg		06 08 50.0	
	comp=Z,24nm,0.8s						
N33A	**J Bar K, Exete**	**4.61**	**358**	IAmb_Lg		06 08 44.9	
	comp=Z,23nm,1.1s						
N35A	**Tabor**	**4.89**	**14**	Pn	**Pn**	**06 07 29.9**	**+0.3**
N35A				IAmb_Lg		06 08 57.8	
	comp=Z,26nm,0.7s						
N35A	**Tabor**	**4.89**	**14**	P	**Pn**	**06 07 29.4**	**-0.2**
	baz=195,SNR=8.4						
N35A	**Tabor**	**4.89**	**14**	P		06 07 29.4	
	baz=195,SNR=8.4						
CCAR	**Cane Creek**	**5.00**	**115**	IAmb_Lg		06 09 03.7	
	comp=Z,20nm,0.7s						
T42A	**Van Buren**	**5.03**	**78**	Pn	**Pn**	**06 07 31.2**	**-0.3**
T42A				IAmb_Lg		06 09 03.7	
	comp=Z,22nm,0.9s						
T42A	**Van Buren**	**5.03**	**78**	P	**Pn**	**06 07 31.0**	**-0.4**
	baz=262						
T42A	**Van Buren**	**5.03**	**78**	P		06 07 31.0	
	baz=262						
KSCO	**Kaye Shedlock'**	**5.16**	**306**	IAmb_Lg		06 09 08.3	
	comp=Z,37nm,0.8s						
CCM	**Cathedral Cave**	**5.16**	**66**	IAmb_Lg		06 08 59.2	
	comp=Z,28nm,0.9s						
BGNE	**Belgrade**	**5.32**	**353**	Pn	**Pn**	**06 07 35.4**	**-0.1**
BGNE				IAmb_Lg		06 09 17.7	
	comp=Z,23nm,0.8s						
BGNE	**Belgrade**	**5.32**	**353**	P	**Pn**	**06 07 35.2**	**-0.4**
	baz=172,SNR=5.8						
BGNE	**Belgrade**	**5.32**	**353**	P		06 07 35.2	
	baz=172,SNR=5.8						
P40A	**Paris**	**5.33**	**49**	IAmb_Lg		06 09 08.5	
	comp=Z,33nm,0.8s						
PBMO	**Poplar Bluff**	**5.53**	**81**	IAmb_Lg		06 09 17.4	
	comp=Z,23nm,0.8s						
FVM	**French Village**	**5.75**	**69**	IAmb_Lg		06 09 21.6	
	comp=Z,22nm,1.0s						
GNAR	**Gosnell**	**5.85**	**89**	IAmb_Lg		06 09 28.0	
	comp=Z,32nm,0.8s						
T25A	**Trinidad**	**5.86**	**282**	IAmb_Lg		06 09 30.1	
	comp=Z,19nm,0.9s						
L34A	**Svendsen Farm,**	**5.87**	**6**	IAmb_Lg		06 09 26.9	
	comp=Z,32nm,0.8s						
JCT	**Junction City**	**6.03**	**202**	Pn	**Pn**	**06 07 46.1**	**+0.8**
JCT				IAmb_Lg		06 09 32.8	
	comp=Z,22nm,0.8s						
OGNE	**Ogallala**	**6.10**	**323**	IAmb_Lg		06 09 37.0	
	comp=Z,27nm,0.8s						
SLM	**Saint Louis**	**6.11**	**64**	IAmb_Lg		06 09 36.1	
	comp=Z,24nm,0.7s						
HICK	**Hickman**	**6.48**	**84**	IAmb_Lg		06 09 58.4	
	comp=Z,26nm,0.8s						
SCIA	**State Center**	**6.56**	**27**	IAmb_Lg		06 09 53.4	
	comp=Z,27nm,0.7s						
K31A	**O'Neill**	**6.59**	**350**	IAmb_Lg		06 10 01.5	
	comp=Z,26nm,0.7s						
W45A	**Hickory Valley**	**6.63**	**96**	IAmb_Lg		06 09 44.3	
	comp=Z,18nm,0.8s						
L40A	**Anamoose**	**7.55**	**36**	IAmb_Lg		06 10 13.9	
	comp=Z,24nm,0.8s						
ISCO	**Idaho Springs**	**7.56**	**301**	Pn	**Pn**	**06 08 06.7**	**+0.1**
ECSD	**EROS Data Cent**	**7.61**	**3**	Pn	**Pn**	**06 08 06.0**	**-0.9**
T47A	**Sharon Grove**	**8.20**	**81**	IAmb_Lg		06 10 46.0	
	comp=Z,16nm,1.0s						
L42A	**Oliver, Polo**	**8.31**	**43**	IAmb_Lg		06 10 56.6	
	comp=Z,21nm,0.9s						
WCI	**Wyandotte Cave**	**8.98**	**73**	IAmb_Lg		06 11 14.1	
	comp=Z,10.0nm,0.7s						
P48A	**Milroy**	**9.92**	**67**	IAmb_Lg		06 11 26.0	
	comp=Z,13nm,0.9s						

*IDC **30** 06:19:49.4±0.4,5˚23S×152˚95E,h0km,mb4.6/33, mb1 4.8/35,mb1mx4.7/46,mbtmp4.6/35,ML3.2/2,MS4.0/10, Ms1 4.0/10,ms1mx3.6/46,Error ellipse: s-maj=15.1km s-min=10.3km az=88.0*

*BJI **30** 06:19:53.0±0.0,5˚01S×153˚13E,h31km,mB5.1/25, mb4.8/38,Ms4.5/8,Ms7 4.4/8*

*NEIC **30** 06:19:54.4±2.1,5˚25S±0˚07×153˚0E±0˚1,h35km±1km, mb4.8/67,Error ellipse: s-maj=17.4km s-min=11.3km az=79.0*

*DJA **30** 06:19:56.2±0.7,5˚S±6˚×15˚3E±˚,h50km±9km,M5.1/11, mB5.1/3,mb4.9/11,MLv5.3/2,Mw(mB)4.5/3*

ISC 30 06:19:54.9±0.3,5˚26S±0˚05×152˚97E±0˚07,h37km,n174, σ1§40/169,mb4.8/62,MS4.0/11,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.34**	**323**	Pn	**Pn**	**06 20 17.4**	**+0.3**
RABL	**Rabaul**	**1.34**	**323**	P	**Pn**	**06 20 18.4**	**+1.3**
PMG	**Port Moresby**	**7.08**	**234**	Pn	**Pn**	**06 21 36.6**	**+0.5**
	4.2nm,0.3s,baz=47,slow=7.0,SNR=18						
PMG				Sn	**Sn**	**06 22 55.8**	**+0.4**
	13nm,0.3s,baz=34,slow=18,SNR=6.6						
PMG	**Port Moresby**	**7.08**	**234**	Pn	**Pn**	**06 21 37.9**	**+1.8**
PMG	**Port Moresby**	**7.08**	**234**	P	**Pn**	**06 21 36.3**	**+0.2**
CTA	**Charters Tower**	**16.12**	**203**	Pn	**Pn**	**06 23 39.3**	**+0.4**
	0.4nm,0.3s,baz=19,slow=12,SNR=8.1						
CTAO	**Charters Tower**	**16.12**	**203**	P	**Pn**	**06 23 39.7**	**+0.9**
SANVU	**Saraoutou**	**17.26**	**127**		**Pn**	**06 23 53.4**	**+0.2**
SANVU				IAmb	IAmb	06 23 55.1	
	comp=Z,92nm,0.8s						
SANVU	**Saraoutou**	**17.26**	**127**	P	**P**	**06 23 55.2**	**+0.8**
EIDS	**Eidsvold**	**20.07**	**185**		**P**	**06 24 25.0**	**-0.2**
FAKI	**Fak Fak**	**20.80**	**276**	P	**P**	**06 24 31.5**	**-1.8**
FAKI				IAmb	IAmb	06 24 59.7	
	comp=Z,39nm,1.0s						
FAKI	**Fak Fak**	**20.80**	**276**	P	Pn	06 24 37.3	+1.5
	comp=Z,40nm,0.9s						
DZM	**Mont Dzumac**	**21.19**	**143**	P	**P**	**06 24 38.2**	**+0.7**
	comp=Z,18nm,0.4s,baz=320,slow=8.7,SNR=33						
DZM				LR	LR	06 31 48.3	
	comp=Z,436nm,19.4s,baz=322,slow=34						
DZM	**Mont Dzumac**	**21.19**	**143**	eP	**P**	**06 24 37.7**	**+0.2**
	comp=Z,135nm,1.2s						
DZM				eLR	LR	06 29 42.7	
	comp=Z,850nm,25.4s						
DZM	**Mont Dzumac**	**21.19**	**143**	P	**P**	**06 24 38.6**	**+1.1**
DZM				IAmb	IAmb	06 24 44.8	
	comp=Z,60nm,1.0s						
DZM	**Mont Dzumac**	**21.19**	**143**	P	**P**	**06 24 38.8**	**+1.3**
YATNC	**Mamie plateau,**	**21.45**	**142**	P	**P**	**06 24 42.4**	**+2.2**
OUENC	**Ouen Island, N**	**21.70**	**143**	P	**P**	**06 24 44.0**	**+1.2**
SIJI	**Sorong**	**22.11**	**281**	P	**P**	**06 24 46.7**	**-0.6**
	comp=Z,20nm,0.5s,baz=102,slow=14,SNR=6.2						
SWI	**Sorong**	**22.11**	**281**	P	**P**	**06 24 54.0**	**+6.7**
MTN	**Manton Dam**	**22.83**	**249**	P	**P**	**06 24 55.5**	**+0.5**
MTN				IAmb	IAmb	06 25 16.6	
	comp=Z,39nm,1.1s						
WB0	**Warramunga Arr**	**23.13**	**230**	P	**P**	**06 24 56.5**	**-1.5**
WR0	**Warramunga Arr**	**23.13**	**229**	P	**P**	**06 24 56.4**	**-1.6**
WR0				IAmb	IAmb	06 24 58.9	
	comp=Z,51nm,0.9s						
WRAB	**Tennant Creek**	**23.26**	**230**	P	**P**	**06 24 57.1**	**-2.2**
WRAB				IAmb	IAmb	06 25 00.1	
	comp=Z,51nm,0.9s						
WB2	**Warramunga Arr**	**23.26**	**230**	P	**P**	**06 24 58.1**	**-1.3**
WB2				IAmb	IAmb	06 25 00.2	
	comp=Z,51nm,0.9s						
WRA	**Warramunga Arr**	**23.27**	**230**	P	**P**	**06 24 57.9**	**-1.6**
	comp=Z,43nm,0.9s,baz=54,slow=9.9,SNR=117						
WRA	**Warramunga Arr**	**23.27**	**230**	P	**P**	**06 24 57.6**	**-1.8**
AS31	**Alice Springs**	**25.93**	**223**	P	**P**	**06 25 22.7**	**-1.2**
ASAR	**Alice Springs**	**25.93**	**223**	P	**P**	**06 25 22.9**	**-1.0**
	comp=Z,19nm,1.0s,baz=58,slow=8.9,SNR=67						
ASAR				PcP	**PcP**	**06 28 53.0**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=44,slow=3.6,SNR=4.2						
ASAR				ScP	**ScP**	**06 32 36.0**	**+6.8**
	comp=Z,0.7nm,0.8s,baz=35,slow=3.4,SNR=4.1						
ASAR	**Alice Springs**	**25.93**	**223**	P	**P**	**06 25 22.7**	**-1.2**
STKA	**Stephens Creek**	**28.54**	**201**	P	**P**	**06 25 46.1**	**-1.2**
	comp=Z,11nm,1.0s,baz=28,slow=6.6,SNR=16						
STKA				LR	LR	06 37 56.1	
	comp=Z,319nm,18.0s,baz=33,slow=38						
STKA	**Stephens Creek**	**28.54**	**201**	P	**P**	**06 25 45.3**	**-1.9**
FITZ	**Fitzroy Crossi**	**29.59**	**242**	P	**P**	**06 25 55.4**	**-1.3**
	comp=Z,9.5nm,0.8s,baz=72,slow=7.1,SNR=22						
FITZ	**Fitzroy Crossi**	**29.59**	**242**	P	**P**	**06 25 55.4**	**-1.3**
FITZ				IAmb	IAmb	06 26 13.5	
	comp=Z,16nm,0.7s						
BBOO	**Buckleboo**	**31.63**	**208**	P	**P**	**06 26 13.4**	**-1.1**
BBOO				IAmb	IAmb	06 26 13.5	
	comp=Z,10nm,0.9s						
FORT	**Forrest**	**34.54**	**220**	P	**P**	**06 26 39.1**	**-0.9**
PSA00	**Pilbara Seismi**	**35.95**	**240**	P	**P**	**06 26 49.8**	**-2.5**
RAO	**Raoul Island**	**36.43**	**134**	P	**P**	**06 26 56.4**	**+0.2**
URZ	**Urewera**	**39.50**	**150**	P	**P**	**06 27 22.5**	**+0.5**
	comp=Z,17nm,0.8s,baz=120,slow=23,SNR=12						
URZ	**Urewera**	**39.50**	**150**	IAmb	IAmb	06 27 25.1	
	comp=Z,20nm,0.9s						
URZ	**Urewera**	**39.50**	**150**	P	**P**	**06 27 23.3**	**+1.3**
RUGZ	**Raukumara Rang**	**39.57**	**149**	P	**P**	**06 27 24.3**	**+1.5**
PKGZ	**Pakihiroa**	**39.72**	**148**	P	**P**	**06 27 25.9**	**+1.9**
MWZ	**Matawai**	**39.77**	**149**	P	**P**	**06 27 26.5**	**+2.1**
MTHZ	**Maungataniwha**	**39.83**	**150**	P	**P**	**06 27 26.4**	**+1.6**
TWGZ	**Tauwhareparae**	**39.88**	**149**	P	**P**	**06 27 27.3**	**+2.0**
BKZ	**Black Stump Fm**	**39.90**	**151**	P	**P**	**06 27 25.8**	**+0.4**
BKZ				IAmb	IAmb	06 27 53.6	
	comp=Z,21nm,1.1s						
BKZ	**Black Stump Fm**	**39.90**	**151**	P	**P**	**06 27 27.7**	**+2.3**
PUZ	**Puketiti**	**39.95**	**148**	P	**P**	**06 27 27.1**	**+1.3**
RAHZ	**Arahi**	**40.00**	**150**	P	**P**	**06 27 28.7**	**+2.5**
TKGZ	**Te Karaka**	**40.01**	**149**	P	**P**	**06 27 24.3**	**-2.0**
SNGZ	**Shannon Statio**	**40.02**	**150**	P	**P**	**06 27 27.9**	**+1.5**
RIGZ	**Rimuhau**	**40.17**	**149**	P	**P**	**06 27 28.9**	**+1.2**
ARHZ	**Aropaoanui**	**40.22**	**151**	P	**P**	**06 27 30.5**	**+2.5**
KNZ	**Kokohu**	**40.37**	**150**	P	**P**	**06 27 29.1**	**-0.1**
THZ	**Tophouse**	**40.46**	**157**	P	**P**	**06 27 30.9**	**+0.9**
THZ				IAmb	IAmb	06 27 50.4	
	comp=Z,26nm,1.0s						
MHGZ	**Mahia Peninsul**	**40.59**	**150**	P	**P**	**06 27 32.1**	**+1.0**
TUWZ	**Tuamarina**	**40.60**	**156**	P	**P**	**06 27 30.9**	**-0.1**
BSWZ	**Blackbirch Sta**	**40.81**	**156**	P	**P**	**06 27 33.7**	**+0.9**
BHW	**Baring Head**	**40.97**	**155**	P	**P**	**06 27 33.8**	**-0.3**
BFZ	**Birch Farm**	**40.98**	**153**	P	**P**	**06 27 34.9**	**+0.6**
BFZ				IAmb	IAmb	06 28 01.2	
	comp=Z,33nm,1.0s						
LTZ	**Lake Taylor**	**41.09**	**158**	P	**P**	**06 27 36.5**	**+1.3**
LTZ				IAmb	IAmb	06 27 52.1	
	comp=Z,29nm,1.2s						
MSWZ	**Moikau Station**	**41.14**	**154**	P	**P**	**06 27 34.1**	**-1.4**
RPZ	**Rata Peaks**	**41.48**	**160**	P	**P**	**06 27 38.3**	**-0.1**
	comp=Z,14nm,0.8s,baz=11,slow=5.2,SNR=1.9						
RPZ	**Rata Peaks**	**41.48**	**160**	IAmb	IAmb	06 27 45.9	
	comp=Z,18nm,0.9s						
NWAO	**Narrogin (SRO)**	**43.19**	**226**	LR	LR	06 47 20.0	
	comp=Z,230nm,18.6s,baz=105,slow=38						
JNU	**Nakatsue**	**43.55**	**333**	P	**P**	**06 27 55.2**	**-0.1**
	comp=Z,28nm,0.8s,baz=114,slow=3.6,SNR=13						
JNU	**Nakatsue**	**43.55**	**333**	P	**P**	**06 27 55.4**	**+0.1**
JWT	**Wachi**	**43.59**	**339**	P	**P**	**06 27 55.3**	**-0.2**
JWT				IAmb	IAmb	06 28 07.9	
	comp=Z,21nm,1.5s						
MJAR	**Matsushiro Arr**	**43.82**	**343**	PcP	**PcP**	**06 29 44.2**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=177,slow=3.3,SNR=4.8						
MJAR	**Matsushiro Arr**	**43.82**	**343**		PP	06 29 38.4	-1.6
JHS	**Saijyo**	**44.20**	**336**	P	**P**	**06 27 59.2**	**-1.2**
JTM	**Tenmabayashi**	**47.11**	**348**	P	**P**	**06 28 22.9**	**-0.4**
RAR	**Rarotonga**	**48.44**	**114**	LR	LR	06 46 00.4	
	comp=Z,109nm,22.0s,baz=260,slow=32						
KSRS	**Korea Array**	**48.49**	**333**	P	**P**	**06 28 35.1**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=146,slow=8.7,SNR=11						
KSRS				LR	LR	06 48 31.8	
	comp=Z,80nm,18.4s,baz=112,slow=36						
NJ2	**Nanjing**	**49.31**	**321**	eP	**P**	**06 28 41.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**52.74**	**341**	P	**P**	**06 29 04.9**	**-1.1**
USRK	**Ussuriysk Ar.**	**52.74**	**341**	P	**P**	**06 29 05.5**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=162,slow=9.2,SNR=9.7						
USRK	**Ussuriysk Ar.**	**52.74**	**341**	P	**P**	**06 29 05.7**	**-0.3**
TIA	**Tai'an**	**53.19**	**324**	P	**P**	**06 29 10.5**	**+1.0**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KLR	**Kul'dur**	**57.34**	**344**	P	**P**	**06 29 38.8**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=138,slow=8.4,SNR=6.5						
CMAR	**Chiang Mai Arr**	**58.23**	**295**	P	**P**	**06 29 45.9**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=116,slow=5.6,SNR=11						
PEA0B	**Petropavlovsk-**	**58.29**	**3**	P	**P**	**06 29 46.7**	**+1.0**
PETK	**Petropavlovsk-**	**58.29**	**3**	P	**P**	**06 29 45.5**	**-0.3**
	comp=Z,11nm,0.8s,baz=162,slow=7.5,SNR=14						
PETK	**Petropavlovsk-**	**58.29**	**3**	P	**P**	**06 29 46.0**	**+0.3**
CD2	**Chengdu**	**59.17**	**311**	P	**P**	**06 29 51.8**	**-0.6**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
HHC	**Hu-ho-hao-te**	**59.52**	**324**	eP	**P**	**06 29 56.3**	**+1.6**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.2s						
MA2	**Magadan**	**64.66**	**359**	P	**P**	**06 30 29.1**	**+0.4**
	comp=Z,12nm,0.7s,baz=148,slow=7.1,SNR=16						
MA2				LR	LR	06 59 11.3	
	comp=Z,83nm,18.8s,baz=

KSH pmax pmax
comp=Z,9.0nm,0.8s

KSH pmax pmax
comp=Z,180nm,4.6s

TOLK Toolik Lake Re 83.60 18 P P 06 32 20.0 +0.9
BCAR Beaver Creek A 83.75 25 P P 06 32 20.0 0.0
KURK Kurchatov 84.24 322 P P 06 32 22.4 -0.2
KURBB Kurchatov Arra 84.27 322 P P 06 32 22.4 -0.4
comp=Z,2.5nm,0.9s,baz=105,slow=4.3,SNR=14
NIL Nilore 84.38 304 P P 06 32 23.5 -0.3
BMAR Burnt Mountain 84.62 20 P P 06 32 24.6 +0.4
QSPA South Pole Qui 84.70 180 P P 06 32 24.5 -0.4
AAK Ala-Archa 85.11 313 P P 06 32 28.4 +0.9
comp=Z,3.7nm,0.7s,baz=308,slow=0.6,SNR=5.3
AAK Ala-Archa 85.11 313 P P 06 32 28.5 +1.1
AAK IAmb IAmb 06 32 46.2
comp=Z,5.3nm,0.8s
MAW Mawson 85.21 203 P P 06 32 26.8 -0.4
comp=Z,4.7nm,0.7s,baz=56,slow=4.9,SNR=6.2
MAW Mawson 85.21 203 P P 06 32 27.3 +0.1
NRIK Noril'sk 86.45 341 P P 06 32 33.6 +0.3
comp=Z,3.1nm,0.5s,baz=113,slow=5.0,SNR=6.1
NRIK Noril'sk 86.45 341 P P 06 32 32.7 -0.6
EPYK Eagle Plains 87.03 22 P P 06 32 36.3 +0.1
DLBC Dease Lake 87.69 31 P P 06 32 39.2 -0.4
comp=Z,3.7nm,1.0s,baz=264,slow=6.5,SNR=3.6
DLBC Dease Lake 87.69 31 P P 06 32 38.3 -1.3
KKAR Karatay Array 88.07 313 P P 06 32 41.0 -0.7
INK Inuvik 88.82 21 P P 06 32 44.0 -0.7
comp=Z,2.8nm,1.0s,baz=274,slow=3.6,SNR=6.1
INK Inuvik 88.82 21 P P 06 32 44.4 -0.2
INK IAmb IAmb 06 33 05.5
comp=Z,5.6nm,1.0s
BVAR Borovoye Array 89.71 323 P P 06 32 48.5 -0.7
comp=Z,3.8nm,0.8s,baz=203,slow=9.7,SNR=15
BRVK Borovoye 89.78 323 P P 06 32 48.5 -1.0
BRVK IAmb IAmb 06 32 58.4
comp=Z,4.8nm,0.9s
NVAR Mina Array Bea 92.23 52 P P 06 33 01.1 -0.5
comp=Z,1.8nm,0.8s,baz=262,slow=5.7,SNR=16
NVAR LR LR 07 08 12.9
comp=Z,138nm,20.2s,baz=286,slow=31
NVAR Mina Array Bea 92.23 52 P P 06 33 01.0 -0.5
G08A Pilot Rock 92.34 45 P P 06 32 58.6 -3.2
G08A IAmb IAmb 06 33 02.5
comp=Z,3.0nm,1.1s
C36M Paulatuk 92.40 21 P P 06 33 00.9 -0.3
C36M IAmb IAmb 06 33 02.6
comp=Z,4.6nm,0.7s
BMO Blue Mountains 93.47 45 P P 06 33 06.7 -0.3
F10A Beach Ranch, E 93.60 44 P P 06 33 05.2 -2.3
F10A IAmb IAmb 06 33 08.3
comp=Z,4.2nm,0.9s
NEW Newport 93.82 42 P P 06 33 08.2 -0.2
comp=Z,2.1nm,0.8s,baz=241,slow=8.1,SNR=3.6
PRN Pahroc Range 94.73 53 P P 06 33 14.0 +1.0
PRN IAmb IAmb 06 33 14.4
comp=Z,2.9nm,1.0s
YKA Yellowknife Ar 95.75 28 P P 06 33 15.7 -1.1
comp=Z,1.1nm,0.7s,baz=266,slow=4.2,SNR=27
YKA PKKP **PKKPbc 06 50 05.6 -3.7**
comp=Z,0.3nm,0.8s,baz=101,slow=3.2,SNR=6.0
YKA LR LR 07 12 07.3
comp=Z,132nm,20.4s,baz=0.0,slow=33
ARU Arti 96.80 326 LR LR 07 17 08.2
comp=Z,87nm,20.6s,baz=69,slow=36
AKTO Aktyubinsk 97.19 320 LR LR 07 16 28.8
comp=Z,41nm,18.4s,baz=7.2,slow=35
PDAR Pinedale Array 99.03 48 P Pdif 06 33 30.9 -1.5
comp=Z,0.3nm,0.7s,baz=219,slow=2.3,SNR=3.1
SNAA Sanae 101.59 188 Pdiff Pdif 06 33 42.1 -0.9
VNA2 Neumayer--Watz 102.84 187 Pdiff Pdif 06 33 46.9 -1.6
AKASG Malin Array Be 114.97 324 PKP PKPdf 06 38 32.8 +0.9
comp=Z,1.4nm,0.5s,baz=51,slow=2.5,SNR=4.7
NOA NORSAR Array B 117.40 340 PKP PKPdf 06 38 36.0 -0.4
comp=Z,0.8nm,0.8s,baz=46,slow=1.9,SNR=3.6
PLCA Paso Flores 119.31 143 PKP PKiKP 06 38 41.1 +0.3
comp=Z,1.2nm,0.5s,baz=263,slow=1.7,SNR=7.6
KOLS Kolonicke sedl 119.78 325 *e*PKP **PKiKP 06 38 43.5 +2.1**
ZST Bratislava 123.09 326 *e*PKP **PKiKP 06 38 48.1 +0.2**
CLL Collm 123.34 331 *e*(PKPdf) **PKiKP 06 38 51.0 +2.7**
comp=Z,8.0nm,0.6s
CKRC Cesky Krumlov 124.23 328 *e*PKPDF **PKiKP 06 38 50.6 +0.4**
CKRC *ex* x 06 38 53.3
KHC Kasperske Hory 124.42 329 *e*PKPDF **PKiKP 06 38 50.5 -0.1**
GERES GERESS Array B 124.54 328 PKP PKiKP 06 38 51.5 +0.6
comp=Z,2.3nm,0.6s,baz=83,slow=1.9,SNR=10
EKA Eskdalemuir Ar 126.52 343 PKP PKiKP 06 38 56.1 +1.7
comp=Z,1.3nm,0.7s,baz=23,slow=3.8,SNR=2.0
ATAH Atahualpa 127.28 103 PKP PKiKP 06 38 58.6 +0.9
comp=Z,13nm,0.9s,baz=5.3,slow=2.8,SNR=7.6
NNA Nana 127.58 109 PKP PKiKP 06 38 57.8 -0.1
comp=Z,4.1nm,0.5s,baz=284,slow=3.3,SNR=5.3
DAVOX Davos/Dischmat 127.88 328 PKP PKiKP 06 38 58.2 +0.5
comp=Z,3.9nm,0.6s,baz=357,slow=2.6,SNR=3.5
LPAZ La Paz 134.05 119 PKP PKiKP 06 39 11.0 -0.5
comp=Z,5.9nm,0.7s,baz=260,slow=3.1,SNR=29
SDV Santo Domingo 136.60 83 PKP PKiKP 06 39 15.4 -0.9
comp=Z,16nm,0.9s,baz=258,slow=1.3,SNR=18
CPUP Villa Florida 137.00 138 PKP PKiKP 06 39 15.9 -0.6
comp=Z,3.5nm,0.8s,baz=189,slow=3.2,SNR=3.0
TORD Torodi Ar. Bea 150.61 287 PKPbc PKPbc 06 39 42.1 -2.0
comp=Z,2.5nm,0.8s,baz=271,slow=29,SNR=9.2
BDFB Brasilia 150.62 135 PKP PKPdf 06 39 40.3 +1.6
comp=Z,7.9nm,0.7s,baz=138,slow=1.2,SNR=8.3
BDFB PKPbc **PKiKP 06 39 44.7 -0.2**
comp=Z,28nm,0.8s,baz=228,slow=1.5,SNR=36

IDC 30 06:30:25.5±3.4, 5°31S×153°13E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.5/48, mbtmp3.8/4, ML2.3/1, Error ellipse: s-maj=132.7km s-min=47.4km az=129.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.18**	**235**	Pn	Pn	06 32 13.2	+1.3
	3.2nm,0.3s,baz=72,slow=4.7,SNR=4.3						
PMG	**Port Moresby**	**7.18**	**235**	P	Pb	06 32 34.5	+3.3
WRA	**Warramunga Arr**	**23.36**	**230**	P	P	06 35 35.7	-0.2
	1.1nm,0.7s,baz=55,slow=9.9,SNR=7.9						
ASAR	**Alice Springs**	**26.00**	**224**	P	P	06 36 00.4	0.0
	0.6nm,0.7s,baz=53,slow=9.3,SNR=5.0						
FITZ	**Fitzroy Crossi**	**29.71**	**242**	P	P	06 36 32.8	-0.8
	1.3nm,0.6s,baz=88,slow=9.0,SNR=2.2						
TORD	**Torodi Ar. Bea**	**150.78**	**287**	PKPbc	PKPbc	06 50 21.1	+0.1
	0.7nm,0.8s,baz=85,slow=3.0,SNR=3.0						

*DJA **30** 06:30:37.8±1.9, 4°S×19°×15°3E±1°2, h10km, M4.6/6, mB5.0/1, mb4.5/6, MLv4.6/2, Mw(mB)4.3/1*
*IDC **30** 06:30:43.4±0.5, 5°13S×152°98E, h0km, mb4.2/19, mb1 4.4/21, mb1mx4.2/49, mbtmp4.2/21, ML3.0/2, Error ellipse: s-maj=21.7km s-min=13.6km az=101.0*
*NEIC **30** 06:30:48.1±2.7, 5°04S±0°04×152°86E±0°10, h35km±2km, mb4.5/16, Error ellipse: s-maj=16.8km s-min=6.2km az=258.0*
ISC 30 06:30:48.2±0.5, 5°04S±0°06×152°91E±0°10, h35km, n53, σ1s38/51, mb4.3/24, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.13**	**319**		**Pn**	**06 31 05.0**	**-2.5**
RABL	**Rabaul**	**1.13**	**319**	P	Pn	06 31 01.1	-6.4
MANU	**Manus Island**	**6.29**	**298**	Pn	**Pn**	**06 32 14.6**	**-3.8**
PMG	**Port Moresby**	**7.17**	**232**	Pn	**Pn**	**06 32 31.3**	**+0.8**
	4.5nm,0.3s,baz=39,slow=6.5,SNR=12						
PMG	**Port Moresby**	**7.17**	**232**		**Pn**	**06 32 28.6**	**-2.0**
PATS	**Pohnpei**	**12.97**	**25**	Pn	**Pn**	**06 33 48.2**	**-2.0**
CTA	**Charters Tower**	**16.30**	**203**	Pn	**P**	**06 34 34.9**	**-2.3**
	0.1nm,0.3s,baz=257,slow=23,SNR=3.1						
DZM	**Mont Dzumac**	**21.41**	**144**	P	**P**	**06 35 32.4**	**-0.8**
	12nm,0.7s,baz=256,slow=6.8,SNR=17						
DZM	**Mont Dzumac**	**21.41**	**144**	P	**P**	**06 35 31.8**	**-1.4**
DZM					IAmb	IAmb	06 35 52.1
	comp=Z,18nm,0.9s						
MTN	**Manton Dam**	**22.85**	**249**	P	**P**	**06 35 47.5**	**-1.2**
MTN					IAmb	IAmb	06 35 57.6
	comp=Z,12nm,0.9s						
WB0	**Warramunga Arr**	**23.22**	**229**	P	**P**	**06 35 52.3**	**-0.1**
WB0					IAmb	IAmb	06 35 54.1
	comp=Z,24nm,1.1s						
WR0	**Warramunga Arr**	**23.23**	**229**	P	**P**	**06 35 52.3**	**-0.1**
WR0					IAmb	IAmb	06 35 54.8
	comp=Z,27nm,1.3s						
WB2	**Warramunga Arr**	**23.36**	**229**	P	**P**	**06 35 52.9**	**-0.9**
WB2					IAmb	IAmb	06 35 55.5
	comp=Z,30nm,1.4s						
WRA	**Warramunga Arr**	**23.37**	**229**	P	**P**	**06 35 53.2**	**-0.6**
	comp=Z,13nm,1.0s,baz=54,slow=9.8,SNR=20						
WRA					PcP	**PcP**	**06 39 41.9**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=55,slow=1.9,SNR=5.1						
WRA	**Warramunga Arr**	**23.37**	**229**	P	**P**	**06 35 52.7**	**-1.1**
AS31	**Alice Springs**	**26.05**	**223**	P	**P**	**06 36 19.7**	**+1.3**
ASAR	**Alice Springs**	**26.05**	**223**	P	**P**	**06 36 18.7**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=59,slow=9.5,SNR=14						
ASAR					PcP	**PcP**	**06 39 48.0**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=70,slow=2.7,SNR=5.2						
MSVF	**Nonsavu**	**27.63**	**119**	P	**P**	**06 36 30.6**	**-2.2**
STKA	**Stephens Creek**	**28.73**	**200**	P	**P**	**06 36 41.0**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=5.1,slow=12,SNR=5.8						
STKA	**Stephens Creek**	**28.73**	**200**	P	**P**	**06 36 41.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**29.64**	**242**	P	**P**	**06 36 49.6**	**-1.0**
	comp=Z,5.7nm,0.8s,baz=101,slow=8.0,SNR=9.7						
FITZ	**Fitzroy Crossi**	**29.64**	**242**	P	**P**	**06 36 51.1**	**+0.4**
FITZ					IAmb	IAmb	06 37 11.1
	comp=Z,10.0nm,0.9s						
FORT	**Forrest**	**34.67**	**219**	P	**P**	**06 37 33.7**	**-0.9**
MTKI	**Muara Teweh, K**	**38.17**	**275**	P	P	06 38 20.6	+16
TUWZ	**Tuamarina**	**40.82**	**156**	P	**P**	**06 38 26.5**	**+0.1**
USA0B	**Ussuriysk Arra**	**52.51**	**341**	P	**P**	**06 39 58.4**	**+0.6**
USA0B					IAmb	IAmb	06 40 19.3
	comp=Z,3.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**52.51**	**341**	P	**P**	**06 39 59.4**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=188,slow=7.4,SNR=4.1						
USRK	**Ussuriysk Ar.**	**52.51**	**341**	P	**P**	**06 39 58.6**	**+0.7**
KLR	**Kul'dur**	**57.11**	**344**	P	**P**	**06 40 32.6**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=1.4,slow=0.7,SNR=4.6						
PETK	**Petropavlovsk-**	**58.08**	**3**	P	**P**	**06 40 39.3**	**+1.5**
	comp=Z,5.4nm,1.0s,baz=179,slow=5.9,SNR=4.0						
PETK	**Petropavlovsk-**	**58.08**	**3**	P	**P**	**06 40 36.7**	**-1.1**
CMAR	**Chiang Mai Arr**	**58.08**	**295**	P	**P**	**06 40 41.6**	**+3.1**
	comp=Z,1.9nm,0.3s,baz=110,slow=7.1,SNR=4.2						
MA2	**Magadan**	**64.44**	**359**	P	**P**	**06 41 22.2**	**+1.4**
VNDA	**Vanda**	**72.58**	**178**	P	**P**	**06 42 11.5**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=335,slow=6.4,SNR=6.1						
VNDA	**Vanda**	**72.58**	**178**	IAmb	IAmb	06 42 12.4	
	comp=Z,1.6nm,0.8s						
TIXI	**Tiksi**	**78.15**	**352**	P	**P**	**06 42 44.5**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=117,slow=5.5,SNR=3.2						
TIXI	**Tiksi**	**78.15**	**352**	P	**P**	**06 42 44.6**	**+1.3**
TIXI					IAmb	IAmb	06 43 11.4
	comp=Z,6.5nm,1.5s						
MKAR	**Makanchi Array**	**80.58**	**319**	P	**P**	**06 42 58.4**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=125,slow=3.6,SNR=5.9						
MKAR	**Makanchi Array**	**80.58**	**319**	P	**P**	**06 42 57.5**	**+0.3**
ZALV	**Zalesovo Beam**	**81.42**	**326**	P	**P**	**06 43 01.2**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=101,slow=5.1,SNR=10						
ZALV	**Zalesovo Beam**	**81.42**	**326**	P	**P**	**06 43 02.2**	**+0.7**
ILAR	**Eielson Array**	**82.34**	**22**	P	**P**	**06 43 05.3**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=239,slow=5.3,SNR=7.1						
QSPA	**South Pole Qui**	**84.92**	**180**	P	**P**	**06 43 19.4**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=287,slow=1.2,SNR=18						
QSPA	**South Pole Qui**	**84.92**	**180**	P	**P**	**06 43 19.1**	**-0.4**
MAW	**Mawson**	**85.39**	**203**	P	**P**	**06 43 21.2**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=90,slow=5.1,SNR=3.2						
BVAR	**Borovoye Array**	**89.50**	**323**	P	**P**	**06 43 42.5**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=142,slow=13,SNR=6.4						
NVAR	**Mina Array Bea**	**92.15**	**52**	P	**P**	**06 43 55.6**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=242,slow=4.7,SNR=3.8						
YKA	**Yellowknife Ar**	**95.59**	**28**	P	**P**	**06 44 09.6**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=270,slow=3.7,SNR=5.2						
AKASG	**Malin Array Be**	**114.76**	**324**	PKP	PKPdf	06 49 26.6	+1.5
	comp=Z,0.7nm,0.4s,baz=58,slow=3.2,SNR=4.1						
GERES	**GERESS Array B**	**124.32**	**328**	PKP	**PKiKP**	**06 49 45.8**	**+1.8**
	comp=Z,1.3nm,0.6s,baz=75,slow=5.7,SNR=5.9						
LPAZ	**La Paz**	**134.21**	**118**	PKP	**PKiKP**	**06 50 05.8**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=285,slow=5.2,SNR=7.8						
TORD	**Torodi Ar. Bea**	**150.49**	**288**	PKPbc	**PKiKP**	**06 50 38.5**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=66,slow=3.1,SNR=10						
BDFB	**Brasilia**	**150.82**	**135**	PKPbc	**PKiKP**	**06 50 39.2**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=273,slow=1.3,SNR=6.6						

*IDC **30** 06:32:47.5±1.0, 17°57N×119°51E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/68, mbtmp3.7/7, Error ellipse: s-maj=44.4km s-min=20.7km az=74.0*
ISC 30 06:32:52.3±0.8, 17°62N±0°07×119°64E±0°09, h32km, n11, σ0s94/14, mb3.5/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**1.26**	**168**	*e*P	**Pn**	**06 33 13.0**	**-0.6**
BOLP				*e*S	**Sn**	**06 33 28.7**	**-0.7**
APYP	**Conner**	**1.55**	**81**	*e*P	**Pb**	**06 33 20.5**	**+0.1**
APYP				*e*S	**Sn**	**06 33 35.7**	**-1.0**
CVP	**Callao Caves**	**2.09**	**87**	*e*P	**Pb**	**06 33 29.2**	**-0.2**
CAUP	**Cauayan**	**2.19**	**107**	*e*P	**Pb**	**06 33 30.0**	**+1.7**
KSRS	**Korea Array**	**21.07**	**19**	P	**P**	**06 37 33.1**	**-0.6**
	1.1nm,0.5s,baz=197,slow=12,SNR=4.9						
KLR	**Kul'dur**	**53.03**	**15**	P	**P**	**06 39 26.1**	**+1.6**
	1.4nm,0.9s,baz=221,slow=7.2,SNR=4.8						
WRA	**Warramunga Arr**	**40.02**	**158**	P	**P**	**06 40 24.3**	**-0.2**
	0.4nm,0.7s,baz=328,slow=11,SNR=1.7						
MKAR	**Makanchi Array**	**42.31**	**322**	P	**P**	**06 40 42.9**	**-0.2**
	0.6nm,0.8s,baz=128,slow=9.4,SNR=4.1						
MKAR					PcP	**PcP**	**06 42 35.2**	**-1.1**
	0.4nm,0.7s,baz=106,slow=3.1,SNR=3.7						
ASAR	**Alice Springs**	**43.33**	**161**	P	**P**	**06 40 52.1**	**+0.6**
	0.5nm,0.6s,baz=336,slow=7.0,SNR=4.8						
KURBB	**Kurchatov Arra**	**46.40**	**325**	P	**P**	**06 41 16.1**	**+0.4**
	3.3nm,0.8s,baz=122,slow=8.3,SNR=19						
YKA	**Yellowknife Ar**	**89.56**	**22**	P	**P**	**06 45 46.1**	**-0.3**
	0.6nm,0.8s,baz=316,slow=4.2,SNR=7.2						

*NNC **30** 06:33:11.0±2.2, 54°15N×86°68E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=23.2km s-min=10.7km az=6.0, Suspected Mining explosion.*
IDC 30 06:33:14.1±2.5, 54°11N×86°51E, h0km, mb1 3.1/2, mb1mx2.9/63, mbtmp3.1/2, ML2.8/2, 3C-4D, Error ellipse: s-maj=20.8km s-min=12.4km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**261**	*i*		06 38 30.0	
	baz=79,slow=330,SNR=0.7						
ZAA0	**Zalesovo Array**	**1.01**	**261**	⇓P	Pg	06 33 32.0	-1.5
	0.2nm,0.3s						
ZAA0				⇑S	Sb	06 33 47.7	-0.5
	0.4nm,0.2s						
ZALV	**Zalesovo Beam**	**1.01**	**261**	Pg	Pg	06 33 31.6	-1.8
	0.8nm,0.3s,baz=84,slow=17,SNR=15						
ZALV				Lg	Lg	06 33 48.0	
	2.9nm,0.3s,baz=81,slow=30,SNR=5.6						
KURBB	**Kurchatov Arra**	**6.01**	**238**	Pn	Pn	06 34 45.3	+1.2
	0.1nm,0.3s,baz=53,slow=13,SNR=12						
KURBB				Lg	Lg	06 36 26.8	
	0.0nm,0.3s,baz=55,slow=34,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.01**	**238**	⇑Pn	Pn	06 34 42.2	-2.0
	0.8nm,0.3s						
KURBB				⇓Sn	Sn	06 35 52.3	-1.2
	3.5nm,0.9s						
KURBB				⇓Lg	Lg	06 36 25.5	
	6.2nm,0.8s						
MK31	**Makanchi Array**	**7.80**	**202**	⇓Pn	Pn	06 35 09.8	+0.9
	0.7nm,0.6s,baz=29,slow=14,SNR=12						
MK31				⇑Sn	Sn	06 36 37.0	-0.9
	1.7nm,0.9s						
MK31				Lg	Lg	06 37 22.1	
	3.0nm,1.0s,baz=25,slow=28,SNR=3.8						
MKAR	**Makanchi Array**	**7.80**	**202**	Pn	Pn	06 35 09.8	+0.9
	0.3nm,0.3s,baz=26,slow=14,SNR=9.0						
MKAR				Lg	Lg	06 37 21.9	
	0.0nm,0.3s,baz=24,slow=26,SNR=2.9						

*IDC **30** 06:37:08.7±1.4, 5°34S×152°87E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.0/47, mbtmp4.1/13, Error ellipse: s-maj=51.6km s-min=16.2km az=112.0*
*NEIC **30** 06:37:13.3±1.6, 5°5S±0°1×153°1E±0°2, h35km±2km, mb4.2/11, Error ellipse: s-maj=31.8km s-min=8.4km az=59.0*
ISC 30 06:37:13.7±1.1, 5°4S±0°1×153°0E±0°2, h37km, n30, σ0s77/28, mb4.0/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.47**	**326**		**Pn**	**06 37 38.4**	**+0.7**
WB0	**Warramunga Arr**	**23.04**	**230**	P	**P**	**06 42 15.2**	**-0.6**
WB0					IAmb	IAmb	06 42 18.9
	comp=Z,6.3nm,1.0s						
WR0	**Warramunga Arr**	**23.04**	**230**	P	**P**	**06 42 16.0**	**+0.2**
WR0					IAmb	IAmb	06 42 23.8
	comp=Z,5.6nm,1.1s						
WB2	**Warramunga Arr**	**23.17**	**230**	P	**P**	**06 42 17.9**	**+0.7**
WB2					IAmb	IAmb	06 42 25.6
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**23.18**	**230**	P	**P**	**06 42 17.4**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=53,slow=9.6,SNR=7.7						
WRA	**Warramunga Arr**	**23.18**	**230**	P	**P**	**06 42 16.7**	**-0.6**
AS31	**Alice Springs**	**25.82**	**223**	P	**P**	**06 42 43.2**	**+1.5**
AS31					IAmb	IAmb	06 42 49.8
	comp=Z,1.6nm,1.3s						
ASAR	**Alice Springs**	**25.82**	**223**	P	**P**	**06 42 43.1**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=58,slow=9.2,SNR=9.3						
ASAR	**Alice Springs**	**25.82**	**223**	P	**P**	**06 42 42.4**	**+0.7**
STKA	**Stephens Creek**	**28.40**	**201**	P	**P**	**06 43 04.6**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=41,slow=10,SNR=4.0						
STKA	**Stephens Creek**	**28.40**	**201**	IAmb	IAmb	06 43 05.3	
	comp=Z,1.0nm,1.2s						
FITZ	**Fitzroy Crossi**	**29.53**	**242**	P	**P**	**06 43 14.0**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=42,slow=6.4,SNR=9.4						
JNU	**Nakatsue**	**43.70**	**333**	P	**P**	**06 45 13.9**	**-1.4**
	comp=Z,9.6nm,0.8s,baz=112,slow=8.1,SNR=3.6						
JNU	**Nakatsue**	**43.70**	**333**	P	**P**	**06 45 14.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**52.89**	**341**	P	**P**	**06 46 25.7**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=105,slow=11,SNR=2.1						
KLR	**Kul'dur**	**57.49**	**344**	P	**P**	**06 46 59.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=135,slow=19,SNR=3.6						
PETK	**Petropavlovsk-**	**58.45**	**3**	P	**P**	**06 47 06.3**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=159,slow=6.1,SNR=11						
MA2	**Magadan**	**64.82**	**359**	P	**P**	**06 47 49.5**	**+1.0**
	comp=Z,2.5nm,0.3s,baz=150,slow=6.3,SNR=11						
MA2	**Magadan**	**64.82**	**359**	P	**P**	**06 47 48.6**	**+0.1**
SONM	**Songino Array**	**66.95**	**328**	P	**P**	**06 48 02.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=124,slow=7.2,SNR=2.4						
MK31	**Makanchi Array**	**80.91**	**319**	P	**P**	**06 49 25.1**	**+0.9**
MK31					IAmb	IAmb	06 49 53.2
	comp=Z,3.6nm,0.8s						
MKAR	**Makanchi Array**	**80.91**	**319**	P	**P**	**06 49 24.7**	**+0.4**
MAKZ	**Makanchi**	**81.12**	**319**	IAmb	IAmb	06 49 45.3	
	comp=Z,6.2nm,1.0s						
ZAA0	**Zalesovo Array**	**81.77**	**326**	P	**P**	**06 49 28.8**	**+0.3**
ZAA0					IAmb	IAmb	06 49 29.5
	comp=Z,3.1nm,0.9s						
ZALV	**Zalesovo Beam**	**81.77**	**326**	P	**P**	**06 49 28.8**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=103,slow=5.8,SNR=13						
ZALV	**Zalesovo Beam**	**81.77**	**326**	P	**P**	**06 49 27.8**	**-0.8**
ILAR	**Eielson Array**	**82.66**	**22**	P	**P**	**06 49 32.9**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=250,slow=4.7,SNR=5.0						
BVAR	**Borovoye Array**	**89.85**	**323**	P	**P**	**06 50 07.3**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=133,slow=13,SNR=8.5						
TORD	**Torodi Ar. Bea**	**150.67**	**287**	PKPbc	**PKPbc**	**06 57 03.0**	**0.0**
	comp=Z,1.6nm,0.7s,baz=61,slow=2.5,SNR=7.8						
TORD	**Torodi Ar. Bea**	**150.67**	**287**		**PKPbc**	**06 57 03.0**	**0.0**

IDC 30 06:40:52.1±1.3, 4°75S×152°59E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/49, mbtmp3.9/6, Error ellipse: s-maj=46.6km s-min=23.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.32**	**228**	P	P	06 46 01.8	-0.3
	2.9nm,0.8s,baz=53,slow=9.8,SNR=8.9						
ASAR	**Alice Springs**	**26.05**	**222**	P	P	06 46 27.4	0.0
	1.2nm,0.7s,baz=57,slow=8.8,SNR=10						
FITZ	**Fitzroy Crossi**	**29.50**	**241**	P	P	06 46 58.1	-0.2
	0.5nm,0.5s,baz=45,slow=8.6,SNR=1.2						
KLR	**Kul'dur**	**56.73**	**344**	P	P	06 50 37.6	0.0
	0.5nm,0.4s,baz=137,slow=19,SNR=3.9						
CMAR	**Chiang Mai Arr**	**57.67**	**295**	P	P	06 50 44.9	+0.1
	1.5nm,0.3s,baz=116,slow=3.3,SNR=6.4						
ILAR	**Eielson Array**	**82.19**	**22**	P	P	06 53 14.2	-0.5
	0.5nm,1.0s,baz=241,slow=6.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**150.09**	**288**	PKPbc	PKPbc	07 00 46.1	+0.1
	0.5nm,0.4s,baz=59,slow=1.8,SNR=4.6						
BDFB	**Brasilia**	**151.25**	**135**	PKPbc	PKPbc	07 00 48.8	+0.1
	1.9nm,0.6s,baz=185,slow=3.5,SNR=3.4						

IDC 30 06:45:24.6±3.6, 49°02S×125°47E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/29, mbtmp3.4/3, Error ellipse: s-maj=127.5km s-min=65.7km az=107.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W1

IKOO				*e*			06 46 57.5		
	comp=Z,99nm,0.3s								
BSRN	**Basiran**	**2.87**	**93**	*e*Pn	**Pn**		**06 46 11.7**	**+0.1**	
BSRN	**Basiran**	**2.87**	**93**	*e*Pn	**Pn**		**06 46 11.7**	**+0.1**	
IRAM	**Ramesheh**	**2.89**	**264**	*e*Pn	**Pn**		**06 46 13.8**	**+1.8**	
IZEF	**Zefreh**	**2.99**	**285**	*e*Pn	**Pn**		**06 46 15.2**	**+1.8**	
AFRZ	**Afriz**	**3.03**	**64**	*e*Pn	**Pn**		**06 46 14.2**	**+0.4**	
IGAR	**Gharneh**	**3.16**	**276**	*e*Pn	**Pn**		**06 46 17.4**	**+1.7**	
IMON	**Monand**	**3.46**	**71**	*e*Pn	**Pn**		**06 46 20.9**	**+1.1**	
IMON				*e*			06 47 20.9		
	comp=Z,99nm,0.2s								
IDAH	**Dahanechah**	**3.52**	**79**	*e*Pn	**Pn**		**06 46 21.9**	**+1.1**	
IDAH				*e*			06 46 36.9		
	comp=Z,99nm,0.4s								
KRSH	**Karshahi**	**3.54**	**302**	*e*Pn	**Pn**		**06 46 22.1**	**+1.2**	
ISFB	**Sefidab**	**3.68**	**308**	*e*Pn	**Pn**		**06 46 23.4**	**+0.7**	
IKLH	**Kolahrood**	**3.71**	**289**	*e*Pn	**Pn**		**06 46 25.2**	**+1.9**	
KLNJ	**Kolanjah**	**3.73**	**253**	*e*Pn	**Pn**		**06 46 25.7**	**+2.0**	
KBAM	**BAM**	**3.79**	**142**	*e*Pn	**Pn**		**06 46 24.6**	**+0.3**	
QAM	**Ghamsar**	**3.97**	**295**	*e*Pn	**Pn**		**06 46 28.1**	**+1.3**	
IPIR	**Pirpir**	**4.15**	**279**	*e*Pn	**Pn**		**06 46 32.1**	**+2.7**	
GHVR	**GHOM**	**4.40**	**303**	*e*Pn	**Pn**		**06 46 34.1**	**+1.5**	
GHVR	**GHOM**	**4.40**	**303**	*e*Pn	**Pn**		**06 46 34.1**	**+1.5**	
SBZV	**Sabzevar**	**4.50**	**19**	*e*Pn	**Pn**		**06 46 35.4**	**+1.3**	
IGLO	**Ghaloghah**	**4.63**	**340**	*e*Pn	**Pn**		**06 46 37.4**	**+1.5**	
GENO	**Geno**	**4.74**	**176**	*e*Pn	**Pn**		**06 46 39.2**	**+1.8**	
IPRN	**Peran**	**4.97**	**326**	*e*Pn	**Pn**		**06 46 42.2**	**+1.7**	
IPAY	**Payeh**	**5.06**	**31**	*e*Pn	**Pn**		**06 46 43.6**	**+1.8**	
IAKL	**Akhelmad**	**5.09**	**28**	*e*Pn	**Pn**		**06 46 44.1**	**+1.8**	
ISFR	**Sfrayin**	**5.23**	**20**	*e*Pn	**Pn**		**06 46 45.6**	**+1.4**	
IMYA	**Miami**	**5.52**	**39**	*e*Pn	**Pn**		**06 46 50.3**	**+2.2**	
IKRD	**Kardeh**	**5.56**	**33**	*e*Pn	**Pn**		**06 46 51.0**	**+2.2**	
IRAZ	**Razeghan**	**5.84**	**305**	*e*Pn	**Pn**		**06 46 53.7**	**+1.2**	
QALM	**Alamut, Qazvin**	**6.01**	**317**	*e*Pn	**Pn**		**06 46 56.9**	**+2.0**	

*IDC **30** 06:47:53.2±1.8,49˚.16N×156˚.71E,h0km,mb3.6/2, mb1 4.0/4,mb1mx3.4/56,mbtmp3.8/4,ML4.7/1,MS4.5/2, Ms1 4.5/2,ms1mx3.1/46,Error ellipse: s-maj=34.9km s-min=29.0km az=107.0*

*MOS **30** 06:47:54.6±0.6,48˚.95N×156˚.77E,h49km,mb4.5/2,Error ellipse: s-maj=20.7km s-min=4.1km az=81.8*

*NEIC **30** 06:47:55.4±1.2,48˚.90N±0˚.05×156˚.5E±0˚.2,h35km±2km, mb4.1/4,Error ellipse: s-maj=22.4km s-min=8.4km az=280.0*

*KRSC **30** 06:48:01.2±2.1,49˚.54N×157˚.07E,h50km±25km,ML4.3*

ISC 30 06:47:56.8±3.2,49˚.20N±0˚.09×156˚.66E±0˚.07,h32km±22km, n79,σ2ş43/94,mb4.0/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.52**	**347**	*e*PN		**Pn**	**06 48 23.4**	**+1.6**
SKR				*e*S		**Sn**	**06 48 39.0**	**-1.4**
SKR				pmax		pmax		
	comp=Z,45nm,0.2s							
SKR				smax		smax		
	comp=N,942nm,0.3s							
SKR				smax		smax		
	comp=E,1μm,0.2s							
SKR	**Severo-Kuril's**	**1.52**	**347**	*e*P		**Pn**	**06 48 23.4**	**+1.6**
SKR				*e*S		**Sn**	**06 48 39.2**	**-1.2**
ALID	**Alaid**	**1.82**	**337**	PN		**Pn**	**06 48 28.2**	**+2.3**
ALID				S		**Sn**	**06 48 47.9**	**0.0**
ALID	**Alaid**	**1.82**	**337**	*e*P		**Pn**	**06 48 28.2**	**+2.3**
ALID				*e*S		**Sn**	**06 48 47.9**	**0.0**
PAU	**Pauzhetka**	**2.27**	**2**	PN		**Pn**	**06 48 34.2**	**+2.2**
PAU	**Pauzhetka**	**2.27**	**2**	*e*P		**Pn**	**06 48 34.2**	**+2.2**
PAU				*e*S		**Sn**	**06 48 57.7**	**-1.1**
KDTR	**Khodutka, Kamc**	**2.76**	**19**	PN		**Pn**	**06 48 40.6**	**+1.8**
KDTR	**Khodutka, Kamc**	**2.76**	**19**	*i* P		**Pn**	**06 48 40.6**	**+1.8**
KDTR				*e*S		**Sn**	**06 49 09.0**	**-1.9**
MIPR	**Malaya Ipel'ka**	**3.08**	**1**	PN		**Pn**	**06 48 45.2**	**+2.1**
MIPR	**Malaya Ipel'ka**	**3.08**	**1**	*e*P		**Pn**	**06 48 45.2**	**+2.1**
ASAK	**Asacha**	**3.28**	**13**	PN		**Pn**	**06 48 48.3**	**+2.3**
ASAK	**Asacha**	**3.28**	**13**	*e*P		**Pn**	**06 48 48.3**	**+2.3**
ASAK				*e*S		**Sn**	**06 49 23.1**	**-0.8**
MTVR	**Mutnovka**	**3.42**	**16**	PN		**Pn**	**06 48 50.5**	**+2.5**
MTVR	**Mutnovka**	**3.42**	**16**	*i* P		**Pn**	**06 48 50.5**	**+2.5**
MTVR				*e*S		**Sn**	**06 49 26.4**	**-1.1**
RUS	**Russkaya**	**3.44**	**19**	PN		**Pn**	**06 48 49.7**	**+1.6**
RUS	**Russkaya**	**3.44**	**19**	*i* P		**Pn**	**06 48 49.7**	**+1.6**
RUS				*e*S		**Sn**	**06 49 25.5**	**-2.2**
GRL	**Gorelyy**	**3.47**	**14**	PN		**Pn**	**06 48 51.3**	**+2.7**
GRL	**Gorelyy**	**3.47**	**14**	*i* P		**Pn**	**06 48 51.3**	**+2.7**
GRL				*e*S		**Sn**	**06 49 28.3**	**-0.3**
APC	**Apacha**	**3.74**	**5**	PN		**Pn**	**06 48 55.2**	**+3.0**
APC	**Apacha**	**3.74**	**5**	*e*P		**Pn**	**06 48 55.2**	**+3.0**
KRMR	**Karymshinskiy**	**3.75**	**14**	PN		**Pn**	**06 48 56.3**	**+4.0**
KRMR	**Karymshinskiy**	**3.75**	**14**	*e*P		**Pn**	**06 48 56.3**	**+4.0**
KRMR				*e*S		**Sn**	**06 49 35.1**	**-0.2**
PEA0B	**Petropavlovsk-**	**3.96**	**9**	PN		**Pn**	**06 48 58.1**	**+2.8**
PEA0B	**Petropavlovsk-**	**3.96**	**9**			**Pn**	**06 48 58.1**	**+2.8**
PETK	**Petropavlovsk-**	**3.96**	**9**	Pn		**Pn**	**06 48 58.0**	**+2.7**
	comp=E,4.8nm,0.3s,baz=199,slow=12,SNR=141							
PETK				Sn		**Sb**	**06 49 51.7**	**-1.6**
	baz=304,slow=32,SNR=1.2							
PETK	**Petropavlovsk-**	**3.96**	**9**	PN		**Pn**	**06 48 58.0**	**+2.7**
PETK	**Petropavlovsk-**	**3.96**	**9**	Pn		**Pn**	**06 48 58.0**	**+2.7**
PETK				Sn		**Sb**	**06 49 50.9**	**-2.5**
PET	**Petropavlovsk**	**4.03**	**17**	*e*PN		**Pn**	**06 48 58.4**	**+2.3**
PET	**Petropavlovsk**	**4.03**	**17**	*e*P		**Pn**	**06 48 58.6**	**+2.5**
PET				*e*S		**Sn**	**06 49 41.0**	**-1.1**
PET	**Petropavlovsk**	**4.03**	**17**	Pn		**Pn**	**06 48 58.2**	**+2.1**
DALK	**Dalny**	**4.05**	**18**	PN		**Pn**	**06 48 59.0**	**+2.5**
DALK	**Dalny**	**4.05**	**18**	*e*P		**Pn**	**06 48 59.0**	**+2.5**
DALK				*e*S		**Sn**	**06 49 41.9**	**-0.9**
UGLR	**Uglovaya**	**4.23**	**18**	PN		**Pn**	**06 49 01.9**	**+2.8**
UGLR	**Uglovaya**	**4.23**	**18**	*e*P		**Pn**	**06 49 01.9**	**+2.8**
AVH	**Avacha**	**4.27**	**17**	PN		**Pn**	**06 49 02.7**	**+3.1**
AVH	**Avacha**	**4.27**	**17**	*e*P		**Pn**	**06 49 02.7**	**+3.1**
KOK	**Koryaka**	**4.28**	**16**	PN		**Pn**	**06 49 03.2**	**+3.5**
KOK	**Koryaka**	**4.28**	**16**	*e*P		**Pn**	**06 49 03.2**	**+3.5**
SMAR	**Somma**	**4.28**	**17**	PN		**Pn**	**06 49 02.5**	**+2.6**
SMAR	**Somma**	**4.28**	**17**	*e*P		**Pn**	**06 49 02.5**	**+2.6**
KRER	**Koryakskii**	**4.31**	**17**	PN		**Pn**	**06 49 03.3**	**+3.1**
KRER	**Koryakskii**	**4.31**	**17**	*e*P		**Pn**	**06 49 03.3**	**+3.1**
SDLR	**Sedlovina**	**4.31**	**18**	PN		**Pn**	**06 49 02.3**	**+2.1**
SDLR	**Sedlovina**	**4.31**	**18**	*e*P		**Pn**	**06 49 02.3**	**+2.1**
NLC	**Nalytchevo**	**4.32**	**22**	PN		**Pn**	**06 49 01.1**	**+1.0**
NLC	**Nalytchevo**	**4.32**	**22**	*e*P		**Pn**	**06 49 01.1**	**+1.0**
NLC				*e*S		**Sn**	**06 49 45.6**	**-3.7**
KRX	**Arik**	**4.34**	**16**	PN		**Pn**	**06 49 03.8**	**+3.1**
KRX	**Arik**	**4.34**	**16**	*e*P		**Pn**	**06 49 03.8**	**+3.1**
SPN	**Mys Shipunski**	**4.43**	**27**	PN		**Pn**	**06 49 03.8**	**+2.0**
SPN	**Mys Shipunski**	**4.43**	**27**	*e*P		**Pn**	**06 49 03.8**	**+2.0**
SPN				*e*S		**Sn**	**06 49 50.2**	**-2.0**
GNL	**Ganaly**	**4.57**	**10**	PN		**Pn**	**06 49 06.8**	**+3.1**
GNL	**Ganaly**	**4.57**	**10**	*e*P		**Pn**	**06 49 06.8**	**+3.1**
MKZ	**Mys Kozlova**	**6.21**	**28**	PN		**Pn**	**06 49 27.0**	**+0.9**
MKZ	**Mys Kozlova**	**6.21**	**28**	*e*P		**Pn**	**06 49 27.0**	**+0.9**
MKZ				*e*S		**Sn**	**06 50 30.9**	**-5.0**
KZV	**Kizimen**	**6.33**	**19**	PN		**Pn**	**06 49 31.1**	**+3.2**
KZV	**Kizimen**	**6.33**	**19**	*e*P		**Pn**	**06 49 31.1**	**+3.2**
TUMD	**Tumrok D**	**6.43**	**19**	*e*P		**Pn**	**06 49 31.8**	**+2.6**
TUMR	**Tumrok**	**6.45**	**18**	PN		**Pn**	**06 49 31.8**	**+2.2**
TUMR	**Tumrok**	**6.45**	**18**	*e*P		**Pn**	**06 49 32.6**	**+3.0**
KBTR	**Krutoberegovo**	**7.95**	**26**	PN		**Pn**	**06 49 51.2**	**+1.3**
KBTR	**Krutoberegovo**	**7.95**	**26**	*e*P		**Pn**	**06 49 51.2**	**+1.3**
MA2	**Magadan**	**10.94**	**344**	Pn		Pn	06 50 35.8	+4.8
	comp=E,0.5nm,0.3s,baz=149,slow=10,SNR=4.2							
SMY	**Shemya**	**11.54**	**66**	PN		**Pn**	**06 50 40.6**	**+1.4**
SMY	**Shemya**	**11.54**	**66**	Pn		**Pn**	**06 50 40.6**	**+1.4**
BILL	**Bilibino**	**19.50**	**11**	*i* P		**Pn**	**06 52 26.7**	**+4.5**
BILL				pmax		pmax		
	comp=Z,2.0nm,0.8s							
KSRS	**Korea Array**	**23.83**	**251**	P		**P**	**06 53 08.5**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=37,slow=11,SNR=4.4							
KSAR	**Wonju Array Be**	**23.86**	**251**	P		**P**	**06 53 04.3**	**-2.8**
KSAR	**Wonju Array Be**	**23.86**	**251**	P		**P**	**06 53 04.3**	**-2.8**
HIA	**Hailar**	**23.96**	**284**	P		**P**	**06 53 04.9**	**-3.1**
HIA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
HIA	**Hailar**	**23.96**	**284**			**P**	**06 53 04.9**	**-3.1**
HIA				IAmb		IAmb	06 53 27.5	
	comp=Z,5.3nm,0.6s							
EGAK	**Eagle**	**35.59**	**41**	P		**P**	**06 54 51.6**	**+0.8**
FFC	**Flin Flon**	**57.32**	**43**	P		**P**	**06 57 41.1**	**-0.1**
FFC				pmax		pmax		
	comp=Z,5.0nm,1.5s							
FFC	**Flin Flon**	**57.32**	**43**	P		**P**	**06 57 41.1**	**-0.1**
ABKAR	**Akbulak array**	**58.67**	**310**	P		**P**	**06 57 49.7**	**-1.0**
ABKAR				IAmb		IAmb	06 58 11.7	
	comp=Z,1.5nm,1.0s							
PMG	**Port Moresby**	**58.95**	**191**	LR		LR	07 22 29.3	
	comp=Z,323nm,19.1s,baz=28,slow=35							
TXAR	**Lajitas Array**	**74.23**	**63**	P		**P**	**06 59 31.8**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=300,slow=5.1,SNR=5.6							
TXAR	**Lajitas Array**	**74.23**	**63**	P		**P**	**06 59 32.0**	**+1.4**
TXAR	**Lajitas Array**	**74.23**	**63**	P		**P**	**06 59 32.0**	**+1.4**
ASAR	**Alice Springs**	**75.33**	**202**	LR		LR	07 30 50.8	
	comp=Z,365nm,21.0s,baz=46,slow=34							

*NNC **30** 06:48:19.4±0.2,43˚.62N×77˚.68E,h0km,mb4.2,mpv4.4, Error ellipse: s-maj=2.4km s-min=1.5km az=154.0*

*KRNET **30** 06:48:19.9±0.1,43˚.62N×77˚.68E,h20km,mb4.1*

*SOME **30** 06:48:20.2,43˚.58N×77˚.65E,h20km,MS2.0*

ISC 30 06:48:20.0±1.0,43˚.62N±0˚.02×77˚.65E±0˚.01,h6km±8km, n88,σ1ş17/158,47C-15D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHKK	**Chushkaly**	**0.53**	**296**	⇑*e*P		**Pg**	**06 48 30.9**	**+0.5**
	baz=95							
CHKK				⇑*e*S		**Sg**	**06 48 38.6**	**+1.3**
	baz=95							
CHKK	**Chushkaly**	**0.53**	**296**	⇑*e*P		**Pg**	**06 48 30.9**	**+0.5**
	84nm,0.2s							
CHKK				*e*S		**Sg**	**06 48 38.5**	**+1.3**
	846nm,0.3s							
CHKK	**Chushkaly**	**0.53**	**296**	P		**Pg**	**06 48 30.8**	**+0.5**
	74nm,0.2s							
CHKK				S		**Sg**	**06 48 38.5**	**+1.3**
	846nm,0.3s							
KOTS	**Kotyrbulak**	**0.55**	**226**	⇓*e*P		**Pg**	**06 48 31.2**	**+0.5**
	baz=27							
KOTS				⇓*e*S		**Sg**	**06 48 39.1**	**+1.2**
	baz=27							
KOTS	**Kotyrbulak**	**0.55**	**226**	⇓*e*P		**Pg**	**06 48 31.2**	**+0.5**
	208nm,0.1s							
KOTS				*e*S		**Sg**	**06 48 39.0**	**+1.2**
	2μm,0.2s							
KOTS	**Kotyrbulak**	**0.55**	**226**	P		**Pg**	**06 48 31.2**	**+0.5**
	434nm,0.2s							
KOTS				S		**Sg**	**06 48 39.0**	**+1.2**
	2μm,0.2s							
ARXS	**Arharly**	**0.61**	**12**	*e*P		**Pg**	**06 48 32.1**	**+0.4**
	872nm,0.1s							
ARXS				*e*S		**Sg**	**06 48 40.6**	**+0.9**
	3μm,0.2s							
ARXS	**Arharly**	**0.61**	**12**	P		**Pg**	**06 48 32.1**	**+0.4**
	872nm,0.1s							
ARXS				S		**Sg**	**06 48 40.9**	**+1.2**
	3μm,0.2s							
MDOK	**Medeo**	**0.63**	**224**	⇑*e*P		**Pg**	**06 48 32.4**	**+0.2**
	baz=25							
MDOK				⇑*e*S		**Sg**	**06 48 41.2**	**+0.7**
	baz=25							
MDOK	**Medeo**	**0.63**	**224**	⇑*e*P		**Pg**	**06 48 32.4**	**+0.2**
	184nm,0.1s							
MDOK				*e*S		**Sg**	**06 48 41.2**	**+0.7**
	2μm,0.2s							
MDOK	**Medeo**	**0.63**	**224**	⇑P		**Pg**	**06 48 32.2**	**0.0**
	21nm,0.2s							
MDOK				⇓S		**Sg**	**06 48 40.9**	**+0.4**
	1μm,0.5s							
MDOK	**Medeo**	**0.63**	**224**	Pg		**Pg**	**06 48 32.4**	**+0.2**
	219nm,0.1s							
MDOK				Lg		Lg	06 48 41.2	
	2μm,0.2s							
KNDC	**Almaty**	**0.64**	**231**	⇑P		**Pg**	**06 48 32.7**	**+0.3**
	142nm,0.2s							
KNDC				⇑S		**Sg**	**06 48 41.9**	**+1.2**
	2μm,0.2s							
AAA	**Alma-Ata**	**0.68**	**233**	*e*P		**Pg**	**06 48 33.6**	**+0.6**
	baz=33							
AAA				*e*S		**Sg**	**06 48 43.3**	**+1.5**
	baz=33							
AAA	**Alma-Ata**	**0.68**	**233**	*e*P		**Pg**	**06 48 33.6**	**+0.6**
	405nm,0.1s							
AAA				*e*S		**Sg**	**06 48 43.3**	**+1.5**
	4μm,0.1s							
AAA	**Alma-Ata**	**0.68**	**233**	P		**Pg**	**06 48 33.6**	**+0.6**
	405nm,0.1s							
AAA				S		**Sg**	**06 48 43.3**	**+1.5**
	4μm,0.1s							
KTBS	**Karatobe**	**0.71**	**278**	*e*P		**Pg**	**06 48 33.8**	**+0.1**
	baz=77							
KTBS				*e*S		**Sg**	**06 48 43.5**	**+0.7**
	baz=77							
KTBS	**Karatobe**	**0.71**	**278**	*e*P		**Pg**	**06 48 33.8**	**+0.1**
	84nm,0.1s							
KTBS				*e*S		**Sg**	**06 48 43.5**	**+0.7**
	1μm,0.3s							
KTBS	**Karatobe**	**0.71**	**278**	P		**Pg**	**06 48 33.8**	**+0.1**
	84nm,0.1s							
KTBS				S		**Sg**	**06 48 43.5**	**+0.7**
	1μm,0.3s							
MNBS	**Baschi**	**0.71**	**50**	*e*P		**Pg**	**06 48 34.4**	**+0.6**
	129nm,0.1s							
MNBS				*e*S		**Sb**	**06 48 44.2**	**-0.8**
	3μm,0.2s							
MNBS	**Baschi**	**0.71**	**50**	P		**Pg**	**06 48 34.1**	**+0.4**
	129nm,0.1s							
MNBS				S		**Sb**	**06 48 44.2**	**-0.8**
	3μm,0.2s							
ZHN	**Zhinishke**	**0.73**	**128**	*e*P		**Pg**	**06 48 33.4**	**-0.7**
	45nm,0.1s							
ZHN				*e*S		**Sg**	**06 48 42.8**	**-0.8**
	1μm,0.2s							
ZHN	**Zhinishke**	**0.73**	**128**	P		**Pg**	**06 48 33.3**	**-0.7**
	37nm,0.1s							
ZHN				S		**Sg**	**06 48 42.7**	**-0.8**
	1μm,0.2s							
KPKS	**Kokpek**	**0.77**	**101**	*e*P		**Pg**	**06 48 34.2**	**-0.6**
	baz=2.0							
KPKS				*e*S		**Sg**	**06 48 44.2**	**-0.5**
	baz=2.0							
KPKS	**Kokpek**	**0.77**	**101**	*e*P		**Pg**	**06 48 34.2**	**-0.6**
	473nm,0.1s							
KPKS				*e*S		**Sg**	**06 48 44.2**	**-0.5**
	2μm,0.1s							
TNSS	**Tian-Shan**	**0.78**	**222**	⇓*e*P		**Pg**	**06 48 34.9**	**-0.1**
	baz=23							
TNSS				⇓*e*S		**Sg**	**06 48 45.5**	**+0.4**
	baz=23							
TNSS	**Tian-Shan**	**0.78**	**222**	⇓*e*P		**Pg**	**06 48 34.9**	**-0.1**
	125nm,0.2s							
TNSS				*e*S		**Sg**	**06 48 45.5**	**+0.4**
	966nm,0.3s							
TNSS	**Tian-Shan**	**0.78**	**222**	P		**Pg**	**06 48 34.9**	**-0.1**
	137nm,0.2s							
TNSS				S		**Sg**	**06 48 45.5**	**+0.4**
	966nm,0.3s							
SATY	**Saty**	**0.79**	**135**	*e*P		**Pg**	**06 48 34.5**	**-0.6**
	baz=36							
SATY				*e*S		**Sg**	**06 48 44.8**	**-0.5**
	baz=36							
SATY	**Saty**	**0.79**	**135**	*e*P		**Pg**	**06 48 34.5**	**-0.6**
	488nm,0.1s							
SATY				*e*S		**Sg**	**06 48 44.8**	**-0.5**
	9μm,0.1s							
SATY	**Saty**	**0.79**	**135**	P		**Pg**	**06 48 34.5**	**-0.6**
	488nm,0.1s							
SATY				S		**Sg**	**06 48 44.8**	**-0.5**
	9μm,0.1s							
ANVS	**Anan'yevo**	**0.84**	**179**	⇑*i*P		**Pg**	**06 48 36.0**	**-0.1**
	baz=80							
ANVS				⇑*i*S		**Sg**	**06 48 47.2**	**+0.2**
	baz=80							
KUU	**Kurty**	**0.99**	**286**	⇑*e*P		**Pg**	**06 48 38.4**	**-0.6**
	baz=86							
KUU				⇑*e*S		**Sg**	**06 48 51.5**	**-0.3**
	baz=86							
KUU	**Kurty**	**0.99**	**286**	⇑*e*P		**Pg**	**06 48 38.4**	**-0.6**
	29nm,0.1s							
KUU				*e*S		**Sg**	**06 48 51.5**	**-0.3**
	1μm,0.4s							
KUU	**Kurty**	**0.99**	**286**	P		**Pg**	**06 48 38.4**	**-0.6**
	85nm,0.1s							
KUU				S		**Sg**	**06 48 51.5**	**-0.3**
	1μm,0.4s							
MTBS	**Maitube**	**1.02**	**242**	*e*P		**Pg**	**06 48 39.0**	**-0.5**
	baz=42							
MTBS				*e*S		**Sg**	**06 48 52.7**	**0.0**
	baz=42							
MTBS	**Maitube**	**1.02**	**242**	*e*P		**Pg**	**06 48 39.0**	**-0.5**
	488nm,0.2s							
MTBS				*e*S		**Sg**	**06 48 52.8**	**0.0**
	722nm,0.2s							
MTBS	**Maitube**	**1.02**	**242**	P		**Pg**	**06 48 39.0**	**-0.5**
	488nm,0.2s							
MTBS				S		**Sg**	**06 48 52.8**	**0.0**
	722nm,0.2s							
UZB	**Uzynkulak**	**1.11**	**115**	*e*P		**Pg**	**06 48 39.9**	**-1.3**
	278nm,0.1s							
UZB				*e*S		**Sg**	**06 48 54.0**	**-1.6**
	521nm,0.1s							
UZB	**Uzynkulak**	**1.11**	**115**	P		**Pg**	**06 48 39.9**	**-1.3**
	278nm,0.1s							
UZB				S		**Sg**	**06 48 54.0**	**-1.6**
	521nm,0.1s							
PRZ	**Przheval'sk**	**1.26**	**154**	⇑*i*P		**Pg**	**06 48 43.2**	**-1.0**
	baz=54							
PRZ				⇑*i*S		**Sg**	**06 49 00.0**	**-0.6**
	baz=54							
KST	**Kastek**	**1.36**	**245**	*e*P		**Pn**	**06 48 44.6**	**-1.0**
	271nm,0.2s							
KST				*e*S		**Sg**	**06 49 02.1**	**-1.6**
	800nm,0.4s							
KST	**Kastek**	**1.36**	**245**	P		**Pn**	**06 48 44.6**	**-1.0**
	271nm,0.2s							
KST				S		**Sg**	**06 49 02.1**	**-1.6**
	800nm,0.4s							
SHLS	**Shalkode**	**1.40**	**109**	*e*P		**Pg**	**06 48 49.5**	**+2.7**
	82nm,0.2s							
SHLS				*e*S		**Sn**	**06 49 10.6**	**+5.6**
	339nm,0.2s							
SHLS	**Shalkode**	**1.40**	**109**	P		**Pg**	**06 48 49.5**	**+2.7**
	82nm,0.2s							
SHLS				S		**Sn**	**06 49 10.6**	**+5.6**
	339nm,0.2s							
DGS	**Degeres**	**1.42**	**255**	*e*P		**Pn**	**06 48 45.6**	**-0.9**
	251nm,0.3s							
DGS				*e*S		**Sb**	**06 49 03.7**	**-1.7**
	505nm,0.3s							
DGS	**Degeres**	**1.42**	**255**	P		**Pn**	**06 48 45.6**	**-0.9**
	251nm,0.3s							
DGS				S		**Sb**	**06 49 03.7**	**-1.7**
	505nm,0.3s							
KRBS	**Karabastau**	**1.44**	**274**	*e*P		**Pn**	**06 48 45.9**	**-0.8**
	77nm,0.2s							
KRBS				*e*S		**Sb**	**06 49 04.3**	**-1.4**
	556nm,0.2s							
KRBS	**Karabastau**	**1.44**	**274**	P		**Pn**	**06 48 45.9**	**-0.8**
	77nm,0.2s							
KRBS				S		**Sb**	**06 49 04.3**	**-1.4**
	556nm,0.2s							
TDK	**Taldyqorghan**	**1.48**	**21**	*e*P		**Pn**	**06 48 46.8**	**-0.5**
	803nm,0.4s							
TDK				*e*S		**Sn**	**06 49 05.9**	**-1.1**
	2μm,0.2s							
TDK	**Taldyqorghan**	**1.48**	**21**	P		**Pn**	**06 48 46.8**	**-0.5**
	803nm,0.4s							
TDK				S		**Sn**	**06 49 05.9**	**-1.1**
	2μm,0.2s							
KDJ	**Kajisay**	**1.53**	**193**	⇑*i*P		**Pn**	**06 48 47.9**	**-0.2**
	baz=93							
KDJ				⇑*i*S		**Sn**	**06 49 08.3**	**0.0**
	baz=93							
TKM2	**Tokmak 2**	**1.66**	**246**	⇑*i*P		**Pn**	**06 48 50.4**	**+0.6**
	baz=46							
TKM2				⇑*i*S		**Sb**	**06 49 12.5**	**+0.3**
	baz=46							
TKM2	**Tokmak 2**	**1.66**	**246**	P		**Pn**	**06 48 49.5**	**-0.3**
	SNR=124							
BOOM	**Boomskoye usch**	**1.69**	**229**	⇑*i*P		**Pn**	**06 48 50.9**	**+0.7**
	baz=29							
BOOM				⇑*i*S		**Sn**	**06 49 13.2**	**+1.0**
	baz=29							
DJR	**Jarkent**	**1.70**	**65**	*e*P		**Pn**	**06 48 49.9**	**-0.4**
	95nm,0.2s							
DJR				*e*S		**Sn**	**06 49 12.0**	**-0.5**
	498nm,0.3s							
DJR	**Jarkent**	**1.70**	**65**	P		**Pn**	**06 48 49.9**	**-0.4**
	95nm,0.2s							
DJR				S		**Sn**	**06 49 12.0**	**-0.5**
	498nm,0.3s							
ULHL	**Ulahol**	**1.72**	**217**	⇑*i*P		**Pn**	**06 48 51.4**	**+0.7**
	baz=18							
ULHL				⇑*i*S		**Sb**	**06 49 14.3**	**+0.2**
	baz=18

8.1nm,0.4s,baz=223,slow=28,SNR=11
KK31 Karatay Array 5.23 267 ||Pg Pb 06 49 56.0 +4.1
3.0nm,0.4s,baz=76,slow=15,SNR=36
KK31 ⇑Lg Lg 06 51 05.7
16nm,0.6s,baz=74,slow=28,SNR=16
IUG Iuzhnay 5.79 258 *e*P **Pg 06 50 07.0 -3.9**
12nm,0.5s
IUG *e*S **Sg 06 51 23.1 -2.8**
23nm,0.8s
KURBB Kurchatov Arra 7.03 5 ||Pn **Pn 06 50 02.7 -0.7**
3.7nm,0.7s
KURBB ⇑Lg Lg 06 52 01.9
42nm,0.6s
BRVK Borovoye 10.63 335 ⇑Pn **Pn 06 50 53.7 +0.9**
2.4nm,0.8s
BRVK ⇑Sn **Sn 06 52 52.9 +0.8**
1.7nm,0.5s
BRVK ⇑Lg Lg 06 53 56.9
14nm,0.9s

*IDC **30** 06:58:20.0±0.6,5.°30S×152.°93E, h0km, mb4.4/22, mb1 4.5/24,mb1mx4.4/44,mbtmp4.4/24,ML3.0/2,MS4.1/1, Ms1 4.0/1,ms1mx3.1/32,Error ellipse: s-maj=22.1km s-min=12.2km az=99.0*
*BJI **30** 06:58:21.1±0.0,5.°20S×153.°47E, h25km, mB4.9/15, mb4.8/25,Ms4.6/6,Ms7 4.3/5*
*NEIC **30** 06:58:25.4±1.9,5.°34S±0.°07×153.°05E±0.°08, h39km±4km, mb4.7/38,Error ellipse: s-maj=12.2km s-min=9.3km az=109.0*
*DJA **30** 06:58:26.9±1.3,5.°5S±5.°×15.°3E±.°, h32km±12km, M5.0/11, mB5.0/1,mb4.8/11,MLv5.1/2,Mw(mB)4.3/1*
ISC 30 06:58:25.4±0.4,**5.°39S**±0.°05×**153.°09E**±0.°08,**h37km,n103,**
σ1§**48**/101,**mb4.5**/41,**1C,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**1.50**	**322**	Pn		**Pn**	**06 58 49.5**	**-0.3**
RABL	**Rabaul**	**1.50**	**322**	P		Pn	06 58 34.3	-15
MANU	**Manus Island**	**6.60**	**300**	Pn		**Pn**	**07 00 00.8**	**+0.8**
PMG	**Port Moresby**	**7.11**	**235**	Pn		**Pn**	**07 00 05.9**	**-1.0**
	4.5nm,0.3s,baz=43,slow=9.3,SNR=13							
PMG				Sn		**Sn**	**07 01 23.8**	**-2.6**
	9.1nm,0.3s,baz=41,slow=19,SNR=8.9							
PMG	**Port Moresby**	**7.11**	**235**	Pn		**Pn**	**07 00 08.5**	**+1.6**
PMG	**Port Moresby**	**7.11**	**235**	P		**Pn**	**07 00 09.2**	**+2.3**
PATS	**Pohnpei**	**13.21**	**23**	Pn		**Pn**	**07 01 30.0**	**-0.6**
CTA	**Charters Tower**	**16.05**	**204**	Pn		**Pn**	**07 02 08.9**	**+0.4**
	0.1nm,0.3s,baz=24,slow=15,SNR=4.5							
CTAO	**Charters Tower**	**16.05**	**204**	P		**P**	**07 02 11.3**	**-0.2**
SANVU	**Saraoutou**	**17.10**	**127**	P		**P**	**07 02 23.6**	**+0.6**
SANVU				IAmb		IAmb	07 02 27.0	
	comp=Z,48nm,0.8s							
SANVU	**Saraoutou**	**17.10**	**127**	P		**P**	**07 02 23.2**	**+0.1**
EIDS	**Eidsvold**	**19.96**	**185**	P		**Pn**	**07 02 55.6**	**-0.8**
DZM	**Mont Dzumac**	**21.03**	**143**	P		**P**	**07 03 07.8**	**+1.6**
	comp=Z,7.8nm,0.8s,baz=230,slow=9.1,SNR=6.6							
DZM	**Mont Dzumac**	**21.03**	**143**	*e*P		**P**	**07 03 06.6**	**+0.4**
	comp=Z,48nm,0.9s							
DZM	**Mont Dzumac**	**21.03**	**143**	P		**P**	**07 03 08.3**	**+2.1**
DZM				IAmb		IAmb	07 03 17.2	
	comp=Z,20nm,0.8s							
DZM	**Mont Dzumac**	**21.03**	**143**	P		**P**	**07 03 06.9**	**+0.7**
MTN	**Manton Dam**	**22.89**	**250**	P		**P**	**07 03 29.1**	**+3.0**
MTN				IAmb		IAmb	07 03 46.7	
	comp=Z,24nm,1.1s							
WB0	**Warramunga Arr**	**23.14**	**230**	P		**P**	**07 03 27.3**	**-1.2**
WB0				IAmb		IAmb	07 03 29.6	
	comp=Z,40nm,1.0s							
WR0	**Warramunga Arr**	**23.14**	**230**	P		**P**	**07 03 28.3**	**-0.3**
WR0				IAmb		IAmb	07 03 30.1	
	comp=Z,32nm,0.9s							
WRAB	**Tennant Creek**	**23.27**	**230**	P		**P**	**07 03 29.3**	**-0.6**
WRAB				IAmb		IAmb	07 03 30.8	
	comp=Z,31nm,0.9s							
WB2	**Warramunga Arr**	**23.27**	**230**	P		**P**	**07 03 29.3**	**-0.6**
WB2				IAmb		IAmb	07 03 30.9	
	comp=Z,32nm,1.0s							
WRA	**Warramunga Arr**	**23.28**	**230**	P		**P**	**07 03 28.3**	**-1.7**
	comp=Z,26nm,0.9s,baz=54,slow=10,SNR=91							
WRA				S		**S**	**07 07 38.4**	**-1.6**
	comp=Z,3.5nm,1.2s,baz=56,slow=17,SNR=4.5							
WRA	**Warramunga Arr**	**23.28**	**230**	P		**P**	**07 03 27.9**	**-2.0**
AS31	**Alice Springs**	**25.92**	**224**	P		**P**	**07 03 53.8**	**-0.5**
ASAR	**Alice Springs**	**25.92**	**224**	P		**P**	**07 03 54.2**	**-0.1**
	comp=Z,12nm,0.9s,baz=56,slow=9.1,SNR=69							
ASAR	**Alice Springs**	**25.92**	**224**	P		**P**	**07 03 53.7**	**-0.6**
STKA	**Stephens Creek**	**28.47**	**201**	P		**P**	**07 04 16.3**	**-0.8**
	comp=Z,8.8nm,0.9s,baz=1.6,slow=10,SNR=24							
STKA				LR		LR	07 16 26.7	
	comp=Z,360nm,18.1s,baz=6.2,slow=38							
STKA	**Stephens Creek**	**28.47**	**201**	P		**P**	**07 04 15.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**29.63**	**242**	P		**P**	**07 04 26.5**	**-1.0**
	comp=Z,9.8nm,0.8s,baz=73,slow=8.9,SNR=22							
FITZ	**Fitzroy Crossi**	**29.63**	**242**	P		**P**	**07 04 26.6**	**-1.0**
FITZ				IAmb		IAmb	07 04 29.8	
	comp=Z,9.4nm,0.8s							
FORT	**Forrest**	**34.52**	**220**	P		**P**	**07 05 09.3**	**-1.0**
JMN	**Monobe**	**42.94**	**336**	P		**P**	**07 06 21.9**	**+1.0**
JMN				IAmb		IAmb	07 06 35.0	
	comp=Z,29nm,1.4s							
JNU	**Nakatsue**	**43.71**	**333**	P		**P**	**07 06 26.7**	**-0.3**
JNU				IAmb		IAmb	07 06 27.7	
	comp=Z,27nm,1.0s							
MJAR	**Matsushiro Arr**	**43.97**	**343**	P		**P**	**07 06 26.6**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=172,slow=10.0,SNR=5.1							
MJAR	**Matsushiro Arr**	**43.97**	**343**	IAmb		IAmb	07 06 28.1	
	comp=Z,3.0nm,1.2s							
JTU	**Tsushima**	**45.56**	**332**	P		**P**	**07 06 41.3**	**-0.5**
JTM	**Tenmabayashi**	**47.25**	**348**	P		**P**	**07 06 54.3**	**-0.6**
KSRS	**Korea Array**	**48.65**	**333**	P		**P**	**07 07 04.6**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=153,slow=8.7,SNR=7.4							
NJ2	**Nanjing**	**49.48**	**321**	⇑P		**P**	**07 07 13.8**	**+1.6**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
USA0B	**Ussuriysk Arra**	**52.89**	**341**	P		**P**	**07 07 38.0**	**+0.3**
USA0B				IAmb		IAmb	07 07 52.0	
	comp=Z,12nm,1.4s							
USRK	**Ussuriysk Ar..**	**52.89**	**341**	P		**P**	**07 07 36.9**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=157,slow=8.6,SNR=5.2							
USRK	**Ussuriysk Ar.**	**52.89**	**341**	P		**P**	**07 07 36.7**	**-0.9**
KLR	**Kul'dur**	**57.48**	**344**	P		**P**	**07 08 10.2**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=148,slow=3.7,SNR=13							
LAMP	**Lampang**	**57.78**	**296**	P		P	07 08 08.0	-5.4
CM35	**Chiang Mai Arr**	**58.26**	**296**	P		**P**	**07 08 17.0**	**+0.2**
CM36	**Chiang Mai Arr**	**58.26**	**296**	P		**P**	**07 08 17.0**	**+0.2**
CM34	**Chiang Mai Arr**	**58.32**	**296**	P		**P**	**07 08 20.0**	**+2.8**
CM04	**Chiang Mai Arr**	**58.33**	**295**	P		**P**	**07 08 20.0**	**+2.8**
CM09	**Chiang Mai Arr**	**58.34**	**295**	P		**P**	**07 08 21.0**	**+3.7**
CM01	**Chiang Mai Arr**	**58.36**	**295**	P		**P**	**07 08 21.4**	**+3.9**
CM05	**Chiang Mai Arr**	**58.36**	**295**	P		**P**	**07 08 20.6**	**+3.1**
CM02	**Chiang Mai Arr**	**58.37**	**295**	P		**P**	**07 08 20.0**	**+2.5**
CM31	**Chiang Mai Arr**	**58.38**	**295**	P		**P**	**07 08 21.0**	**+3.4**
CM31	**Chiang Mai Arr**	**58.38**	**295**	P		**P**	**07 08 19.6**	**+2.0**
CMAR	**Chiang Mai Arr**	**58.38**	**295**	P		**P**	**07 08 17.6**	**0.0**
CM15	**Chiang Mai Arr**	**58.40**	**295**	P		**P**	**07 08 21.0**	**+3.3**
CM13	**Chiang Mai Arr**	**58.40**	**295**	P		**P**	**07 08 21.1**	**+3.4**
PEA0B	**Petropavlovsk-**	**58.40**	**3**	P		**P**	**07 08 18.2**	**+1.2**
PETK	**Petropavlovsk-**	**58.40**	**3**	P		**P**	**07 08 17.7**	**+0.6**
	comp=Z,11nm,0.7s,baz=164,slow=6.5,SNR=22							
PETK	**Petropavlovsk-**	**58.40**	**3**	P		**P**	**07 08 17.9**	**+0.8**
CMMT	**Chiang Mai**	**58.49**	**296**	P		**P**	**07 08 21.0**	**+2.6**
CM33	**Chiang Mai Arr**	**58.49**	**296**	P		**P**	**07 08 21.0**	**+2.6**
CHTO	**Chiang Mai**	**58.49**	**296**	P		**P**	**07 08 18.1**	**-0.2**
CM32	**Chiang Mai Arr**	**58.53**	**296**	P		P	07 08 24.0	+5.4
HHC	**Hu-ho-hao-te**	**59.69**	**324**	*e*P		**P**	**07 08 28.5**	**+2.1**
HHC				pmax		pmax		
	comp=Z,16nm,1.1s							
HHC				pmax		pmax		
	comp=Z,48nm,5.5s							
AMKA	**Amchitka**	**60.85**	**18**	P		**P**	**07 08 33.1**	**-0.8**
MA2	**Magadan**	**64.78**	**359**	P		**P**	**07 09 00.1**	**+0.2**
GTA	**Gaotai**	**66.28**	**317**	*e*P		**P**	**07 09 09.3**	**-0.9**
GTA				pP		pP	07 09 20.8	+0.1
GTA				sP		sP	07 09 24.5	-0.6
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ULN	**Ulaanbaatar**	**66.64**	**328**	P		**P**	**07 09 12.6**	**+0.2**
SHL	**Shillong**	**66.85**	**301**	P		**P**	**07 09 14.2**	**0.0**
SONM	**Songino Array**	**66.97**	**328**	P		**P**	**07 09 15.0**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=143,slow=5.4,SNR=8.1							
SONM	**Songino Array**	**66.97**	**328**	P		**P**	**07 09 14.4**	**0.0**
VNDA	**Vanda**	**72.24**	**178**	P		**P**	**07 09 47.0**	**+0.7**

comp=Z,1.9nm,0.9s,baz=331,slow=6.7,SNR=11
BILL Bilibino 73.84 5 P **P 07 09 56.4 +0.5**
BILL IAmb IAmb 07 09 58.4
comp=Z,10nm,0.8s
WMQ Urumqi 76.36 317 *e*P **P 07 10 12.0 +1.0**
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ pmax pmax
comp=Z,230nm,4.3s
TIXI Tiksi 78.51 352 P **P 07 10 22.8 +0.5**
comp=Z,1.2nm,0.3s,baz=106,slow=6.2,SNR=3.4
IMAR Indian Mountai 80.84 19 P **P 07 10 34.0 -1.1**
MKAR Makanchi Array 80.95 319 P **P 07 10 35.1 -1.0**
comp=Z,0.6nm,0.4s,baz=92,slow=9.0,SNR=8.0
MKAR Makanchi Array 80.95 319 P **P 07 10 35.4 -0.8**
RND Reindeer 81.15 23 P **P 07 10 36.4 -0.6**
RND IAmb IAmb 07 10 39.4
comp=Z,16nm,1.4s
MLY Manley 81.33 21 P **P 07 10 37.2 -0.5**
MLY IAmb IAmb 07 11 04.2
comp=Z,6.7nm,1.2s
ZAA0 Zalesovo Array 81.80 326 P **P 07 10 38.3 -2.1**
ZAA0 IAmb IAmb 07 10 50.5
comp=Z,6.7nm,1.1s
ZALV Zalesovo Beam 81.80 326 P **P 07 10 40.1 -0.3**
comp=Z,4.0nm,0.7s,baz=110,slow=6.1,SNR=10
ZALV Zalesovo Beam 81.80 326 P **P 07 10 39.1 -1.3**
IL31 82.59 22 P **P 07 10 43.6 -0.7**
IL31 IAmb IAmb 07 10 44.1
comp=Z,6.2nm,1.3s
ILAR Eielson Array 82.59 22 P **P 07 10 43.3 -1.1**
comp=Z,2.2nm,0.9s,baz=246,slow=4.8,SNR=14
BCAR Beaver Creek A 83.82 25 P **P 07 10 51.3 +0.5**
KURK Kurchatov 84.40 322 P **P 07 10 53.1 -0.8**
KURBB Kurchatov Arra 84.43 322 P **P 07 10 53.1 -1.0**
comp=Z,2.6nm,1.0s,baz=109,slow=4.1,SNR=9.7
NIL Nilore 84.54 304 P **P 07 10 54.9 -0.2**
QSPA South Pole Qui 84.58 180 P **P 07 10 55.5 +0.7**
QSPA IAmb IAmb 07 10 56.6
comp=Z,8.0nm,0.9s
MAW Mawson 85.14 203 P **P 07 10 57.2 -0.2**
comp=Z,4.3nm,1.1s,baz=348,slow=7.2,SNR=4.4
NRIK Noril'sk 86.61 341 P **P 07 11 04.3 -0.3**
comp=Z,3.3nm,0.6s,baz=124,slow=3.9,SNR=6.9
NRIK Noril'sk 86.61 341 P **P 07 11 04.4 -0.1**
NRIK IAmb IAmb 07 11 21.8
comp=Z,12nm,1.4s
KKAR Karatay Array 88.24 313 P **P 07 11 12.9 -0.1**
BVAR Borovoye Array 89.88 323 P **P 07 11 18.9 -1.5**
comp=Z,2.2nm,0.8s,baz=177,slow=8.9,SNR=6.4
NVAR Mina Array Bea 92.22 52 P **P 07 11 33.2 +1.3**
comp=Z,0.3nm,0.7s,baz=256,slow=6.0,SNR=3.5
YKA Yellowknife Ar 95.81 28 P **P 07 11 46.7 -0.9**
comp=Z,1.0nm,1.1s,baz=272,slow=4.7,SNR=7.5
YNE Yellowstone No 98.66 45 P **P 07 11 59.2 -2.1**
YNE IAmb IAmb 07 12 00.3
comp=Z,3.2nm,0.9s
LPAZ La Paz 133.89 119 PKP **PKiKP 07 17 42.8 +1.1**
comp=Z,1.1nm,0.7s,baz=237,slow=3.5,SNR=6.1
LPAZ La Paz 133.89 119 PKPdf 07 17 40.6 +0.3
BDFB Brasilia 150.45 135 PKPbc **PKiKP 07 18 15.8 +0.8**
comp=Z,1.9nm,0.5s,baz=4.6,slow=1.7,SNR=4.7
TORD Torodi Ar. Bea 150.75 287 PKPbc **PKPbc 07 18 14.5 -0.4**
comp=Z,2.5nm,0.7s,baz=64,slow=2.3,SNR=14

*IDC **30** 07:04:01.3±1.1,31.°85N×55.°73E, h0km, mb3.9/11, mb1 4.0/14,mb1mx3.8/49,mbtmp3.8/14,ML3.8/3,Error ellipse: s-maj=26.3km s-min=19.7km az=155.0*
*TEH **30** 07:04:03.8,32.°14N×55.°81E, h8km, ML4.4*
*THR **30** 07:04:04.3±0.7,32.°24N×55.°79E, h17km±8km, ML4.4*
*DSN **30** 07:04:04.7±1.1,32.°12N×57.°48E, h15km, ML3.9/7,Error ellipse: s-maj=81.9km s-min=8.8km az=97.0*
*NEIC **30** 07:04:08.3±2.2,32.°14N±0.°04×55.°72E±0.°06, h42km±6km, Error ellipse: s-maj=7.4km s-min=6.0km az=126.0*
*OMAN **30** 07:04:09.1±68.0,31.°94N×55.°93E, h11km±999km, mb5.4/10,Error ellipse: s-maj=5693.0km s-min=75.5km az=1.0*
ISC 30 07:04:04.6±0.5,**32.°17N**±0.°03×**55.°76E**±0.°03,**h13km,n119,**
σ1§**71**/127,**mb4.0**/17,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IBAF	**Bafgh**	**0.60**	**196**	Pg		**Pg**	**07 04 15.7**	**-0.7**
IBAF	**Bafgh**	**0.60**	**196**	*e*Pg		**Pg**	**07 04 15.7**	**-0.7**
IBAF				*e*			07 04 16.2	
	comp=Z,99nm,0.1s							
IBAF				*e*Sg		**Sg**	**07 04 23.4**	**-1.1**
YZKH	**Yazd**	**1.01**	**283**	*e*Pg		**Pb**	**07 04 24.0**	**0.0**
YZKH				*e*Sg		**Sb**	**07 04 37.4**	**+0.1**
YZKH	**Yazd**	**1.01**	**283**	*e*Pg		**Pb**	**07 04 24.0**	**0.0**
ICHK	**Chekchek**	**1.15**	**274**			**Pb**	**07 04 26.4**	**0.0**
ICHK	**Chekchek**	**1.15**	**274**	*e*Pg		**Pb**	**07 04 26.4**	**0.0**
ICHK				*e*			07 04 44.6	
	comp=Z,99nm,0.4s							
TPRV	**Parvadeh(Tabas**	**1.16**	**42**	Pg		**Pb**	**07 04 26.3**	**-0.2**
TPRV	**Parvadeh(Tabas**	**1.16**	**42**	*e*Pg		**Pb**	**07 04 26.7**	**+0.2**
TPRV				*e*			07 04 49.9	
	comp=Z,99nm,0.4s							
IMEH	**Mehriz**	**1.25**	**232**			**Pn**	**07 04 28.0**	**0.0**
IMEH	**Mehriz**	**1.25**	**232**	*e*Pn		**Pn**	**07 04 28.0**	**0.0**
IMEH				*e*			07 04 45.4	
	comp=Z,99nm,0.2s							
ISAD	**Sadrabad**	**1.78**	**262**	Pn		**Pn**	**07 04 37.0**	**+1.7**
ISAD	**Sadrabad**	**1.78**	**262**	*e*Pn		**Pn**	**07 04 37.3**	**+2.0**
ISAD				*e*			07 05 02.9	
	comp=Z,99nm,0.6s							
TKDS	**Koohdasht(Taba**	**1.84**	**38**	Pn		**Pn**	**07 04 37.1**	**+1.2**
TKDS	**Koohdasht(Taba**	**1.84**	**38**	*e*Pn		**Pn**	**07 04 37.2**	**+1.3**
TKDS				*e*			07 04 44.5	
	comp=Z,99nm,0.3s							
KHGB	**Koh Gabri**	**1.90**	**161**	Pn		**Pn**	**07 04 38.7**	**+1.9**
KHGB	**Koh Gabri**	**1.90**	**161**	*e*Pn		**Pn**	**07 04 38.6**	**+1.8**
KHGB				*e*			07 05 09.1	
	comp=Z,99nm,0.7s							
TNSJ	**Nastanj**	**1.92**	**22**	Pn		**Pn**	**07 04 38.3**	**+1.2**
TNSJ	**Nastanj**	**1.92**	**22**	*e*Pn		**Pn**	**07 04 38.5**	**+1.4**
TNSJ				*e*			07 05 12.1	
	comp=Z,99nm,0.4s							
ANAR	**Anarak**	**1.99**	**301**	Pn		**Pn**	**07 04 39.5**	**+1.5**
ANAR	**Anarak**	**1.99**	**301**	*e*Pn		**Pn**	**07 04 39.8**	**+1.8**
TVBK	**TV Kerman**	**2.34**	**158**	Pn		**Pn**	**07 04 45.1**	**+1.9**
TVBK	**TV Kerman**	**2.34**	**158**	*e*Pn		**Pn**	**07 04 45.0**	**+1.9**
TVBK				*e*			07 04 54.1	
	comp=Z,99nm,0.3s							
KRBR	**Kerman**	**2.35**	**158**	*e*Pn		**Pn**	**07 04 45.2**	**+2.1**
KRBR				IAML			07 05 22.5	
	comp=N,2μm,0.6s							
KRBR	**Kerman**	**2.35**	**158**	*e*Pn		**Pn**	**07 04 45.2**	**+2.1**
NASN	**Na'in**	**2.57**	**285**	*e*Pn		**Pn**	**07 04 47.6**	**+1.4**
NASN	**Na'in**	**2.57**	**285**	*e*Pn		**Pn**	**07 04 47.6**	**+1.4**
ITEG	**Tejag**	**2.63**	**73**	*e*Pn		**Pn**	**07 04 48.1**	**+1.2**
ITEG				*e*			07 05 32.4	
	comp=Z,99nm,0.3s							
NGRK	**Negar Kerman**	**2.66**	**161**	*e*Pn		**Pn**	**07 04 49.0**	**+1.6**
NGRK				*e*			07 05 32.2	
	comp=Z,99nm,0.3s							
IKOO	**Kooshah**	**2.76**	**84**	*e*Pn		**Pn**	**07 04 50.0**	**+1.2**
IKOO				*e*			07 05 36.6	
	comp=Z,99nm,0.3s							
CHMN	**Cheshme madani**	**2.77**	**146**	*e*Pn		**Pn**	**07 04 50.7**	**+1.8**
CHMN				*e*			07 05 36.9	
	comp=Z,99nm,0.4s							
BSRN	**Basiran**	**2.87**	**93**	*e*Pn		**Pn**	**07 04 50.9**	**+0.8**
BSRN	**Basiran**	**2.87**	**93**	*e*Pn		**Pn**	**07 04 50.9**	**+0.8**
IRAM	**Ramesheh**	**2.89**	**264**	*e*Pn		**Pn**	**07 04 52.8**	**+2.2**
IZEF	**Zefreh**	**2.98**	**285**	*e*Pn		**Pn**	**07 04 54.2**	**+2.3**
AFRZ	**Afriz**	**3.01**	**65**	Pn		**Pn**	**07 04 53.2**	**+1.1**
AFRZ	**Afriz**	**3.01**	**65**	*e*Pn		**Pn**	**07 04 53.5**	**+1.4**
IGAR	**Gharneh**	**3.16**	**275**	*e*Pn		**Pn**	**07 04 56.4**	**+2.2**
IMON	**Monand**	**3.45**	**72**	Pn		**Pn**	**07 05 00.2**	**+2.0**
IMON	**Monand**	**3.45**	**72**	*e*Pn		**Pn**	**07 05 00.1**	**+1.9**
IMON				*e*			07 06 01.6	
	comp=Z,99nm,0.3s							
IDAH	**Dahanechah**	**3.52**	**80**	Pn		**Pn**	**07 05 01.1**	**+1.9**
IDAH	**Dahanechah**	**3.52**	**80**	*e*Pn		**Pn**	**07 05 01.1**	**+1.9**
IDAH				*e*			07 05 16.1	
	comp=Z,99nm,0.4s							
KRSH	**Karshahi**	**3.53**	**301**	*e*Pn		**Pn**	**07 05 01.3**	**+2.0**
ISFB	**Sefidab**	**3.66**	**307**	*e*Pn		**Pn**	**07 05 02.5**	**+1.5**
IKLH	**Kolahrood**	**3.70**	**289**	*e*Pn		**Pn**	**07 05 04.4**	**+2.7**
NHDN	**Nehbandan**	**3.74**	**101**	*e*Pn		**Pn**	**07 05 03.9**	**+1.8**
KLNJ	**Kolanjah**	**3.74**	**253**	*e*Pn		**Pn**	**07 05 05.5**	**+3.2**
KBAM	**BAM**	**3.82**	**142**	*e*Pn		**Pn**	**07 05 04.1**	**+1.0**
QAM	**Ghamsar**	**3.96**	**295**	*e*Pn		**Pn**	**07 05 07.0**	**+1.8**
SHK1	**Shahrekord**	**4.13**	**273**	*e*Pn		**Pn**	**07 05 10.0**	**+2.4**
IPIR	**Pirpir**	**4.15**	**278**	*e*Pn		**Pn**	**07 05 11.7**	**+3.8**
GHVR	**GHOM**	**4.39**	**303**	*e*Pn		**Pn**	**07 05 12.8**	**+1.8**
GHVR	**GHOM**	**4.39**	**303**	*e*Pn		**Pn**	**07 05 12.8**	**+1.8**
SBZV	**Sabzevar**	**4.47**	**20**	Pn		**Pn**	**07 05 14.7**	**+2.5**
SBZV	**Sabzevar**	**4.47**	**20**	*e*Pn		**Pn**	**07 05 14.8**	**+2.5**
IGLO	**Ghaloghah**	**4.60**	**340**	*e*Pn		**Pn**	**07 05 17.3**	**+3.2**
IPRN	**Peran**	**4.95**	**326**	*e*Pn		**Pn**	**07 05 21.4**	**+2.7**
IHSB	**Hasanabad**	**4.95**	**312**	*e*Pn		**Pn**	**07 05 21.8**	**+3.1**
IPAY	**Payeh**	**5.04**	**31**	*e*Pn		**Pn**	**07 05 22.6**	**+2.6**
IAKL	**Akhelmad**	**5.07**	**28**	*e*Pn		**Pn**	**07 05 23.2**	**+2.7**
ISFR	**Sirayin**	**5.21**	**20**	*e*Pn		**Pn**	**07 05 25.1**	**+2.7**
IMYA	**Miami**	**5.50**	**40**	*e*Pn		**Pn**	**07 05 29.2**	**+2.9**
IKRD	**Kardeh**	**5.54**	**33**	*e*Pn		**Pn**	**07 05 29.3**	**+2.3**
IRAZ	**Razeghan**	**5.83**	**305**	*e*Pn		**Pn**	**07 05 32.8**	**+1.9**
HRA	**Herat**	**5.86**	**66**			**Pn**	**07 05 32.2**	**+0.8**
QALM	**Alamut, Qazvin**	**5.99**	**317**	*e*Pn		**Pn**	**07 05 35.5**	**+2.3**
GEYT	**Alibeck**	**6.06**	**18**			**Pn**	**07 05 36.6**	**+2.7**
	comp=Z,4.4nm,0.3s,baz=198,slow=14,SNR=20							
GEYT	**Alibeck**	**6.06**	**18**			**Pn**	**07 05 35.9**	**+2.0**
GYA0B	**ALIBECK ARRAY**	**6.06**	**18**			**Pn**	**07 05 35.9**	**+2.0**
SHME	**Shamm**	**6.11**	**177**	P		**Pn**	**07 05 35.1**	**+0.5**
SHME	**Shamm**	**6.11**	**177**	P		**Pn**	**07 05 37.1**	**+2.5**
BANOM	**Banah**	**6.25**	**176**	*i* P		**Pn**	**07 05 37.6**	**+1.2**
	SNR=7.7							
BANOM				S		**Sn**	**07 06 49.5**	**+1.7**
BANOM	**Banah**	**6.25**	**176**	P		**Pn**	**07 05 38.5**	**+2.0**
	SNR=7.8							
MASF	**Masafi**	**6.79**	**177**	P		**Pn**	**07 05 45.9**	**+2.0**
MDH	**Madha**	**6.87**	**176**	P		**Pn**	**07 05 46.1**	**+1.1**
MDH				S		**Sn**	**07 07 04.3**	**+1.3**
NAZ	**Nazwa, Dubai**	**7.16**	**181**	*i* P		**Pn**	**07 05 50.5**	**+1.4**
	SNR=8.3							
NAZ	**Nazwa, Dubai**	**7.16**	**181**	P		**Pn**	**07 05 50.6**	**+1.6**
	SNR=8.2							
UOSS	**Minazif**	**7.21**	**177**	*i* P		**Pn**	**07 05 50.7**	**+1.0**
	SNR=6.7							
UOSS	**Minazif**	**7.21**	**177**			**Pn**	**07 05 50.6**	**+0.8**
UOSS	**Minazif**	**7.21**	**177**	P		**Pn**	**07 05 50.7**	**+1.0**
UOSS				S		**Sn**	**07 07 12.1**	**+0.6**
HATD	**Hatta, Dubai**	**7.33**	**177**	*i* P		**Pn**	**07 05 51.4**	**0.0**
	SNR=6.3							
HATD	**Hatta, Dubai**	**7.33**	**177**	P		**Pn**	**07 05 53.0**	**+1.6**
	SNR=6.6							
HATD				S		**Sn**	**07 07 15.4**	**+0.9**
FAQ	**Al Faqa, Dubai**	**7.40**	**181**	*i* P		**Pn**	**07 05 54.9**	**+2.5**
	SNR=8.7							
FAQ	**Al Faqa, Dubai**	**7.40**	**181**	P		**Pn**	**07 05 55.1**	**+2.7**
	SNR=8.7							
ASHO	**Ashiyiah**	**7.47**	**178**	*i* P		**Pn**	**07 05 54.5**	**+1.2**
	SNR=18							
ASHO	**Ashiyiah**	**7.47**	**178**	P		**Pn**	**07 05 54.3**	**+1.0**
	SNR=18							
ASHO				S		**Sn**	**07 07 18.2**	**+0.3**
ASUD	**Al Ashush, Dub**	**7.53**	**183**	P		**Pn**	**07 05 56.9**	**+2.8**
ASUD	**Al Ashush, Dub**	**7.53**	**183**	P		**Pn**	**07 05 57.1**	**+3.1**
ASUD				S		**Sn**	**07 07 19.8**	**+0.5**
WSAR	**Wadi Sarin**	**9.26**	**163**	Pn		**Pn**	**07 06 17.1**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=348,slow=11,SNR=1.8							
RAYN	**Ar Rayn**	**12.51**	**229**	Pn		**Pn**	**07 07 01.4**	**-0.9**
MARD	**Mardin**	**13.34**	**297**			**Pn**	**07 07 11.5**	**-2.2**
KK31	**Karatay Array**	**15.96**	**43**	Pn		**Pn**	**07 07 46.4**	**-2.4**
KKAR	**Karatay Array**	**15.96**	**43**	Pn		**Pn**	**07 07 47.8**	**-1.0**
ABKAR	**Akbulak array**	**17.35**	**9**	Pn		**Pn**	**07 08 04.8**	**-1.5**
AAK	**Ala-Archa**	**18.14**	**50**	P		**P**	**07 08 18.3**	**+1.6**
	comp=Z,0.

DZM				*e*LR	LR	07 23 30.0	
	comp=Z,2μm,25.8s						
DZM	**Mont Dzumac**	**21.09 143**		P	**P**	**07 18 27.7**	**+0.4**
DZM	**Mont Dzumac**	**21.09 143**		P	**P**	**07 18 29.1**	**+1.8**
YATNC	**Mamie plateau,**	**21.36 142**		P	**P**	**07 18 34.1**	**+4.1**
SIJI	**Sorong**	**22.10 281**		P	**P**	**07 18 40.7**	**+2.6**
	comp=Z,5.4nm,0.3s,baz=127,slow=6.4,SNR=4.9						
MTN	**Manton Dam**	**22.75 250**		P	**P**	**07 18 45.7**	**+0.7**
MTN				lAmb	lAmb	07 19 03.5	
	comp=Z,19nm,0.8s						
WB0	**Warramunga Arr**	**23.01 230**		P	**P**	**07 18 46.5**	**-1.1**
WB0				lAmb	lAmb	07 18 49.3	
	comp=Z,38nm,1.1s						
WR0	**Warramunga Arr**	**23.01 229**		P	**P**	**07 18 47.1**	**-0.5**
WR0				lAmb	lAmb	07 18 49.3	
	comp=Z,30nm,1.1s						
WRAB	**Tennant Creek**	**23.14 230**		P	**P**	**07 18 48.7**	**-0.3**
WRAB				lAmb	lAmb	07 18 50.4	
	comp=Z,30nm,1.1s						
WB2	**Warramunga Arr**	**23.14 230**		P	**P**	**07 18 48.4**	**-0.7**
WB2				lAmb	lAmb	07 18 59.8	
	comp=Z,52nm,1.4s						
WRA	**Warramunga Arr**	**23.15 230**		P	**P**	**07 18 48.2**	**-0.9**
	comp=Z,13nm,0.9s,baz=54,slow=10,SNR=40						
WRA				S	**S**	**07 22 59.0**	**+0.7**
	comp=Z,9.2nm,1.3s,baz=56,slow=17,SNR=6.9						
WRA				LR	LR	07 27 48.3	
	comp=Z,346nm,19.4s,baz=50,slow=37						
WRA	**Warramunga Arr**	**23.15 230**		P	**P**	**07 18 47.8**	**-1.3**
AS31	**Alice Springs**	**25.80 223**		P	**P**	**07 19 13.3**	**-0.3**
ASAR	**Alice Springs**	**25.80 223**		P	**P**	**07 19 12.8**	**-0.8**
	comp=Z,5.2nm,0.8s,baz=57,slow=9.0,SNR=34						
ASAR				S	S	07 23 51.3	+11
	comp=Z,2.7nm,1.2s,baz=42,slow=19,SNR=4.9						
MSVF	**Nonsavu**	**27.43 119**		LR	LR	07 29 43.6	
	comp=Z,838nm,18.0s,baz=303,slow=35						
STKA	**Stephens Creek**	**28.39 201**		P	**P**	**07 19 35.8**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=15,slow=7.3,SNR=8.5						
STKA				LR	LR	07 31 36.3	
	comp=Z,748nm,18.1s,baz=19,slow=38						
STKA	**Stephens Creek**	**28.39 201**		P	**P**	**07 19 35.8**	**-1.0**
BATI	**Baumata**	**29.38 259**		LR	LR	07 34 08.6	
	comp=Z,398nm,21.1s,baz=89,slow=42						
FITZ	**Fitzroy Crossi**	**29.50 242**		P	**P**	**07 19 45.9**	**-0.9**
	comp=Z,5.3nm,0.7s,baz=61,slow=8.1,SNR=11						
FITZ	**Fitzroy Crossi**	**29.50 242**		P	**P**	**07 19 45.8**	**-0.9**
FITZ				lAmb	lAmb	07 19 58.8	
	comp=Z,13nm,0.9s						
KAPI	**Kappang**	**33.05 269**		LR	LR	07 35 21.0	
	comp=Z,206nm,21.5s,baz=95,slow=39						
JCJ	**Chichijima**	**33.95 343**		LR	LR	07 32 56.4	
	comp=Z,281nm,21.2s,baz=169,slow=34						
FORT	**Forrest**	**34.41 220**		P	**P**	**07 20 28.8**	**-0.9**
PSA00	**Pilbara Seismi**	**35.85 240**		P	**P**	**07 20 40.5**	**-1.8**
PSA00				lAmb	lAmb	07 20 50.5	
	comp=Z,8.1nm,0.8s						
RAO	**Raoul Island**	**36.35 134**		LR	LR	07 33 11.0	
	comp=Z,284nm,20.0s,baz=296,slow=32						
RPZ	**Rata Peaks**	**41.35 160**		LR	LR	07 38 00.3	
	comp=Z,1μm,18.1s,baz=331,slow=35						
NWAO	**Narrogin (SRO)**	**43.06 226**		LR	LR	07 39 38.1	
	comp=Z,407nm,20.7s,baz=53,slow=36						
JNU	**Nakatsue**	**43.67 333**		P	**P**	**07 21 46.7**	**-0.4**
JNU				lAmb	lAmb	07 22 13.5	
	comp=Z,33nm,1.3s						
MJAR	**Matsushiro Arr**	**43.95 343**		LR	LR	07 38 21.4	
	comp=Z,223nm,21.0s,baz=160,slow=34						
JTM	**Tenmabayashi**	**47.25 348**		P	**P**	**07 22 14.5**	**-0.7**
KSRS	**Korea Array**	**48.60 333**		LR	LR	07 41 58.5	
	comp=Z,133nm,19.0s,baz=150,slow=35						
QIZ	**Qiongzhong**	**48.90 301**		P	**P**	**07 22 29.0**	**+0.6**
QIZ				S	**S**	**07 29 28.8**	**-1.2**
QIZ	**Qiongzhong**	**48.90 301**		SS	SS	07 33 05.0	+3.7
QIZ				LR	LR		
	comp=N,190nm,17.5s						
QIZ				LR	LR		
	comp=E,160nm,18.3s						
QIZ				LR	LR		
	comp=Z,270nm,20.6s						
NJ2	**Nanjing**	**49.41 321**		*e*P	**P**	**07 22 32.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
KMI	**Kunming**	**57.44 304**	⇓	*e*P	**P**	**07 23 32.5**	**+1.0**
KMI				pP	pP	07 23 42.0	+0.2
KMI				sP	pwP	07 23 46.0	+0.6
KMI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KMI				LR	LR		
	comp=N,110nm,14.7s						
KMI				LR	LR		
	comp=E,230nm,17.8s						
KMI				LR	LR		
	comp=Z,290nm,17.8s						
CMAR	**Chiang Mai Arr**	**58.26 295**		P	**P**	**07 23 37.7**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=131,slow=6.9,SNR=5.3						
PEA0B	**Petropavlovsk-**	**58.44 3**		P	**P**	**07 23 37.9**	**+0.2**
PETK	**Petropavlovsk-**	**58.44 3**		P	**P**	**07 23 37.7**	**0.0**
	comp=Z,3.7nm,0.4s,baz=155,slow=6.8,SNR=39						
PETK	**Petropavlovsk-**	**58.44 3**		P	**P**	**07 23 37.8**	**+0.1**
HHC	**Hu-ho-hao-te**	**59.62 324**		*e*P	**P**	**07 23 48.0**	**+1.7**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,43nm,5.1s						
HHC				LR	LR		
	comp=N,240nm,15.1s						
HHC				LR	LR		
	comp=E,240nm,16.1s						
HHC				LR	LR		
	comp=Z,250nm,17.7s						
LZH	**Lanzhou**	**61.76 316**		*e*P	P	07 24 08.0	+6.9
LZH				pP	pwP	07 24 17.0	+2.2
LZH				sP	sP	07 24 21.3	+6.2
LZH				pmax	pmax		
	comp=Z,14nm,0.9s						
MA2	**Magadan**	**64.81 359**		P	**P**	**07 24 19.5**	**-1.0**
MA2				lAmb	lAmb	07 24 34.4	
	comp=Z,13nm,1.1s						
GTA	**Gaotai**	**66.20 317**		*e*P	P	07 24 38.5	+8.4
GTA				pP	pwP	07 24 44.3	+0.4
GTA				sP	sP	07 24 47.3	+3.1
GTA				S	S	07 33 25.3	+8.6
GTA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GTA				pmax	pmax		
	comp=Z,92nm,4.7s						
GTA				LR	LR		
	comp=N,77nm,19.3s						
GTA				LR	LR		
	comp=E,130nm,20.0s						
GTA				LR	LR		
	comp=Z,240nm,18.9s						
SONM	**Songino Array**	**66.91 328**		P	**P**	**07 24 34.1**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=146,slow=5.8,SNR=7.1						
SONM				LR	LR	07 51 46.4	
	comp=Z,208nm,21.5s,baz=74,slow=34						
SONM	**Songino Array**	**66.91 328**		P	**P**	**07 24 35.1**	**+0.6**
VNDA	**Vanda**	**72.22 178**		P	**P**	**07 25 06.3**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=312,slow=7.9,SNR=5.6						
VNDA	**Vanda**	**72.22 178**		P	**P**	**07 25 06.8**	**+0.2**
BILL	**Bilibino**	**73.88 5**		P	**P**	**07 25 16.4**	**-0.1**
BILL				lAmb	lAmb	07 25 31.2	
	comp=Z,15nm,1.0s						
WMQ	**Urumqi**	**76.28 317**		*e*P	**P**	**07 25 32.0**	**+1.1**
WMQ				pP	pwP	07 25 43.5	-2.5
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,4.3s						
BRLK	**Bradley Lake**	**78.48 25**		P	**P**	**07 25 42.9**	**0.0**
MK31	**Makanchi Array**	**80.88 319**		P	**P**	**07 25 55.7**	**-0.4**
MKAR	**Makanchi Array**	**80.88 319**		P	**P**	**07 25 56.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=95,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**80.88 319**		P	**P**	**07 25 55.5**	**-0.6**
IMAR	**Indian Mountai**	**80.91 19**		P	**P**	**07 25 55.5**	**-0.3**
ZALV	**Zalesovo Beam**	**81.74 326**		P	**P**	**07 25 60.0**	**-0.5**
	comp=Z,17nm,0.4s,baz=106,slow=5.5,SNR=6.3						
ZALV	**Zalesovo Beam**	**81.74 326**		P	**P**	**07 25 59.9**	**-0.6**
ILAR	**Eielson Array**	**82.67 22**		P	**P**	**07 26 04.6**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=251,slow=6.8,SNR=7.1						
ILAR	**Eielson Array**	**82.67 22**		P	**P**	**07 26 04.2**	**-0.9**
KSH	**Kashi**	**83.44 311**		P	**P**	**07 26 12.5**	**+2.6**
KSH				pP	sP	07 26 22.8	-1.8
KSH				pmax	pmax		
	comp=Z,11nm,0.5s						
KSH				pmax	pmax		
	comp=Z,440nm,4.7s						
NIL	**Nilore**	**84.44 304**		P	**P**	**07 26 14.2**	**-0.8**
QSPA	**South Pole Qui**	**84.55 180**		P	**P**	**07 26 14.9**	**-0.1**
	comp=Z,4.0nm,1.0s,baz=311,slow=3.2,SNR=8.8						
QSPA	**South Pole Qui**	**84.55 180**		P	**P**	**07 26 15.4**	**+0.4**
QSPA				lAmb	lAmb	07 26 26.0	
	comp=Z,10nm,1.1s						
BMAR	**Burnt Mountain**	**84.77 20**		P	**P**	**07 26 17.3**	**+1.4**
NRIK	**Noril'sk**	**86.58 341**		P	**P**	**07 26 24.7**	**-0.1**
	comp=Z,2.4nm,0.4s,baz=116,slow=3.5,SNR=4.9						
NRIK	**Noril'sk**	**86.58 341**		lAmb	lAmb	07 26 34.4	
	comp=Z,4.2nm,1.0s						
KKAR	**Karatay Array**	**88.15 313**		P	**P**	**07 26 32.4**	**-0.6**
YKA	**Yellowknife Ar**	**95.90 28**		P	**P**	**07 27 07.5**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=264,slow=4.0,SNR=5.6						
ABKAR	**Akbulak array**	**96.02 319**		P	**P**	**07 27 07.9**	**-1.4**
LPAZ	**La Paz**	**134.00 119**		PKP	**PKiKP**	**07 33 03.2**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=275,slow=6.3,SNR=7.8						
BDFB	**Brasilia**	**150.53 136**		PKPbc	**PKiKP**	**07 33 35.5**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=123,slow=2.8,SNR=5.5						
BDFB	**Brasilia**	**150.53 136**		PKPbc	**PKiKP**	**07 33 35.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**150.62 287**		PKPbc	**PKiKP**	**07 33 34.9**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=34,slow=2.8,SNR=9.0						
TORD	**Torodi Ar. Bea**	**150.62 287**			**PKPbc**	**07 33 34.3**	**-0.6**
TORD				PKPab	**pPKPdf**	**07 33 40.4**	**-0.3**

*IDC **30** 07:24:32.0±0.7,5.˚34S×152.˚95E, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.2/35, mbtmp4.3/14, ML2.4/1, Error ellipse: s-maj=23.0km s-min=15.2km az=108.0*
*NEIC **30** 07:24:37.0±2.5,5.˚41S±0.˚07×153.˚06E±0.˚06, h35km±1km, mb4.6/18, Error ellipse: s-maj=11.5km s-min=10.6km az=208.0*
*DJA **30** 07:24:39.9±1.1,5.˚5S±7.˚×15.˚3E±1.˚2, h80km±8km, M4.8/7, mb5.0/7, mB6.3/2, MLv4.7/2, Mw(mB)6.0/2, MwMwp7.9/1, Mwp7.5/1*

ISC 30 07:24:37.6±0.5,5.˚44S±0.˚06×153.˚04E±0.˚08, h37km, n51, σ1§22/54, mb4.6/25, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.52 325**		Pn	**Pn**	**07 25 02.5**	**+0.3**
MANU	**Manus Island**	**6.59 301**		Pn	**Pn**	**07 26 14.7**	**+2.8**
PMG	**Port Moresby**	**7.04 236**		Pn	**Pn**	**07 26 18.2**	**+0.1**
	4.0nm,0.3s,baz=46,slow=10.0,SNR=12						
PMG				Sn	**Sn**	**07 27 36.7**	**-0.2**
	4.4nm,0.3s,baz=51,slow=18,SNR=5.6						
PMG	**Port Moresby**	**7.04 236**		Pn	**Pn**	**07 26 19.3**	**+1.2**
PMG	**Port Moresby**	**7.04 236**		P	**Pn**	**07 26 20.2**	**+2.1**
HNR	**Honiara**	**7.91 120**		Pn	**Pn**	**07 26 31.5**	**+1.4**
EIDS	**Eidsvold**	**19.91 185**		P	**Pn**	**07 29 07.5**	**-0.4**
EIDS				lAmb	lAmb	07 29 08.5	
	comp=Z,21nm,0.9s						
DZM	**Mont Dzumac**	**21.01 143**		P	**P**	**07 29 19.9**	**+1.7**
	comp=Z,11nm,0.9s,baz=183,slow=15,SNR=5.8						
DZM	**Mont Dzumac**	**21.01 143**		P	**P**	**07 29 18.9**	**+0.7**
DZM				lAmb	lAmb	07 29 36.1	
	comp=Z,51nm,1.4s						
MTN	**Manton Dam**	**22.83 250**		P	**P**	**07 29 40.1**	**+2.4**
MTN				lAmb	lAmb	07 29 45.6	
	comp=Z,12nm,0.6s						
WB0	**Warramunga Arr**	**23.07 230**		P	**P**	**07 29 38.7**	**-1.3**
WB0				lAmb	lAmb	07 29 41.1	
	comp=Z,28nm,0.9s						
WR0	**Warramunga Arr**	**23.07 230**		P	**P**	**07 29 40.0**	**-0.1**
WR0				lAmb	lAmb	07 29 41.6	
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**23.20 230**		P	**P**	**07 29 38.3**	**-3.1**
WRAB				lAmb	lAmb	07 29 42.8	
	comp=Z,25nm,0.8s						
WB2	**Warramunga Arr**	**23.20 230**		P	**P**	**07 29 40.5**	**-0.9**
WB2				lAmb	lAmb	07 29 42.9	
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**23.21 230**		P	**P**	**07 29 40.9**	**-0.6**
	comp=Z,19nm,0.8s,baz=54,slow=10.0,SNR=82						
WRA	**Warramunga Arr**	**23.21 230**		P	**P**	**07 29 41.0**	**-0.5**
MSAI	**Masohi**	**24.13 274**		P	**P**	**07 29 47.1**	**-3.2**
	comp=Z,840nm,0.7s						
AS31	**Alice Springs**	**25.85 224**		P	**P**	**07 30 05.4**	**-0.4**
ASAR	**Alice Springs**	**25.85 224**		P	**P**	**07 30 05.6**	**-0.2**
	comp=Z,9.7nm,0.9s,baz=56,slow=9.1,SNR=51						
ASAR				PcP	**PcP**	**07 33 34.6**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=64,slow=2.4,SNR=5.1						
ASAR	**Alice Springs**	**25.85 224**		P	**P**	**07 30 05.4**	**-0.4**
STKA	**Stephens Creek**	**28.40 201**		P	**P**	**07 30 27.9**	**-0.8**
	comp=Z,5.8nm,0.9s,baz=359,slow=9.4,SNR=15						
STKA	**Stephens Creek**	**28.40 201**		P	**P**	**07 30 27.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**29.57 242**		P	**P**	**07 30 38.1**	**-1.1**
	comp=Z,6.6nm,0.7s,baz=110,slow=6.4,SNR=15						
FITZ	**Fitzroy Crossi**	**29.57 242**		P	**P**	**07 30 38.5**	**-0.7**
FITZ				lAmb	lAmb	07 30 58.8	
	comp=Z,7.5nm,0.8s						
FORT	**Forrest**	**34.45 220**		P	**P**	**07 31 21.4**	**-0.5**
PSA00	**Pilbara Seismi**	**35.92 240**		P	**P**	**07 31 33.2**	**-1.4**
NJ2	**Nanjing**	**49.49 321**		*e*P	**P**	**07 33 25.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KMI	**Kunming**	**57.54 304**	⇑	P	**P**	**07 34 25.0**	**+1.0**
KMI				pP	pP	07 34 34.0	0.0
KMI				sP	sP	07 34 37.8	-0.1
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
CMAR	**Chiang Mai Arr**	**58.36 295**		P	**P**	**07 34 29.6**	**0.0**
	comp=Z,1.5nm,0.3s,baz=100,slow=5.0,SNR=5.9						
PETK	**Petropavlovsk-**	**58.46 3**		P	**P**	**07 34 30.6**	**+0.9**
	comp=Z,5.1nm,0.8s,baz=157,slow=5.7,SNR=9.7						
HHC	**Hu-ho-hao-te**	**59.70 324**		*e*P	**P**	**07 34 40.5**	**+1.9**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,48nm,5.3s						
MA2	**Magadan**	**64.83 359**		P	**P**	**07 35 12.2**	**-0.3**
MA2				lAmb	lAmb	07 35 13.6	
	comp=Z,6.6nm,0.9s						
GTA	**Gaotai**	**66.28 317**		*e*P	**P**	**07 35 23.3**	**+0.8**
GTA				pP	sP	07 35 35.3	-1.4
GTA				sP	pwP	07 35 39.3	+2.5
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,67nm,5.1s						
GTA				LR	LR		
	comp=N,100nm,15.3s						
GTA				LR	LR		
	comp=E,170nm,16.0s						
GTA				LR	LR		
	comp=Z,120nm,16.0s						
SONM	**Songino Array**	**66.99 328**		P	**P**	**07 35 27.1**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=151,slow=5.9,SNR=5.0						
VNDA	**Vanda**	**72.19 178**		P	**P**	**07 35 59.4**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=320,slow=6.8,SNR=10						
VNDA	**Vanda**	**72.19 178**		P	**P**	**07 35 58.2**	**0.0**
BILL	**Bilibino**	**73.90 5**		P	**P**	**07 36 07.7**	**-0.7**
BILL				lAmb	lAmb	07 36 10.9	
	comp=Z,7.4nm,1.0s						
WMQ	**Urumqi**	**76.37 317**		*e*P	**P**	**07 36 24.0**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,38nm,4.5s						
MKAR	**Makanchi Array**	**80.96 319**		P	**P**	**07 36 47.5**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=112,slow=5.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**81.81 326**		P	**P**	**07 36 50.6**	**-2.1**
	comp=Z,1.1nm,0.2s,baz=76,slow=6.3,SNR=8.5						
ZALV	**Zalesovo Beam**	**81.81 326**		P	**P**	**07 36 51.8**	**-0.8**
ILAR	**Eielson Array**	**82.66 22**		P	**P**	**07 36 55.2**	**-1.6**
	comp=Z,0.7nm,0.9s,baz=237,slow=5.6,SNR=4.8						
ILAR	**Eielson Array**	**82.66 22**		P	**P**	**07 36 55.5**	**-1.4**
QSPA	**South Pole Qui**	**84.53 180**		P	**P**	**07 37 07.0**	**+0.3**
NIL	**Nilore**	**84.53 304**		P	**P**	**07 37 07.3**	**0.0**
YKA	**Yellowknife Ar**	**95.88 28**		P	**P**	**07 37 58.4**	**-1.6**
	comp=Z,0.2nm,0.8s,baz=276,slow=4.4,SNR=2.9						
GERES	**GERESS Array B**	**124.72 328**		PKP	**PKiKP**	**07 43 34.2**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=198,slow=2.5,SNR=3.7						
GERES	**GERESS Array B**	**124.72 328**			**PKiKP**	**07 43 33.9**	**0.0**
BDFB	**Brasilia**	**150.45 135**		PKPbc	**PKiKP**	**07 44 27.5**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=294,slow=4.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**150.73 287**		PKPbc	**PKPbc**	**07 44 26.7**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=54,slow=2.2,SNR=14						
TORD	**Torodi Ar. Bea**	**150.73 287**			**PKPbc**	**07 44 26.7**	**-0.2**
TORD				PKPab	**pPKPdf**	**07 44 32.4**	**+0.2**

*IDC **30** 07:29:48.7±1.3,5.˚46S×152.˚86E, h0km, mb3.9/8,*
mb1 4.0/8, mb1mx3.8/41, mbtmp3.9/8, Error ellipse: s-maj=49.5km s-min=19.8km az=107.0
*NEIC **30** 07:29:53.9±1.4,5.˚50S±0.˚07×153.˚0E±0.˚1, h35km±2km, mb4.3/8, Error ellipse: s-maj=24.6km s-min=10.9km az=84.0*

ISC 30 07:29:54.1±1.1,5.˚50S±0.˚09×152.˚9E±0.˚2, h37km, n20, σ1§15/20, mb3.8/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.50 330**		Pn	**Pn**	**07 30 18.6**	**+0.3**
PMG	**Port Moresby**	**6.90 235**		Pn	**Pn**	**07 31 33.4**	**+0.8**
WB0	**Warramunga Arr**	**22.93 230**		P	**P**	**07 34 55.9**	**+0.7**
WB0				lAmb	lAmb	07 35 54.8	
	comp=Z,16nm,1.0s						
WR0	**Warramunga Arr**	**22.93 230**		P	**P**	**07 34 56.4**	**+1.3**
WB2	**Warramunga Arr**	**23.06 230**		P	**P**	**07 34 56.4**	**-0.1**
WB2				lAmb	lAmb	07 35 55.6	
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**23.07 230**		P	**P**	**07 34 56.1**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=55,slow=10.0,SNR=14						
WRA	**Warramunga Arr**	**23.07 230**		P	**P**	**07 34 52.8**	**-3.8**
AS31	**Alice Springs**	**25.71 223**		P	**P**	**07 35 20.8**	**-0.3**
ASAR	**Alice Springs**	**25.72 223**		P	**P**	**07 35 21.9**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=58,slow=9.3,SNR=10						
STKA	**Stephens Creek**	**28.30 201**		P	**P**	**07 35 43.5**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=29,slow=13,SNR=3.5						
STKA	**Stephens Creek**	**28.30 201**		P	**P**	**07 35 42.9**	**-1.3**
STKA				lAmb	lAmb	07 36 00.7	
	comp=Z,4.0nm,1.9s						
FITZ	**Fitzroy Crossi**	**29.43 242**		P	**P**	**07 35 53.7**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=74,slow=7.0,SNR=3.6						
PEA0B	**Petropavlovsk-**	**58.52 3**		P	**P**	**07 39 47.0**	**+0.4**
PETK	**Petropavlovsk-**	**58.52 3**		P	**P**	**07 39 46.8**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=160,slow=6.3,SNR=14						
PETK	**Petropavlovsk-**	**58.52 3**		P	**P**	**07 39 46.3**	**-0.3**
SONM	**Songino Array**	**66.97 328**		P	**P**	**07 40 42.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=177,slow=10,SNR=4.2						
VNDA	**Vanda**	**72.13 178**		P	**P**	**07 41 15.2**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=0.0,slow=5.1,SNR=2.4						
MKAR	**Makanchi Array**	**80.92 319**		P	**P**	**07 42 05.3**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=104,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**150.62 287**		PKPbc	**PKPbc**	**07 49 42.8**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=91,slow=1.5,SNR=5.9						
TORD	**Torodi Ar. Bea**	**150.62 287**			**PKPbc**	**07 49 43.4**	**+0.2**

*IDC **30** 07:30:44.0±0.7,5.˚31S×153.˚12E, h0km, mb4.3/20, mb1 4.4/21, mb1mx4.3/42, mbtmp4.3/21, ML2.3/1, MS3.7/2, Ms1 3.6/2, ms1mx3.1/44, Error ellipse: s-maj=23.4km s-min=13.5km az=100.0*
*NEIC **30** 07:30:46.9±1.2,5.˚36S±0.˚03×153.˚16E±0.˚08, h25km±5km, mb4.7/20, Error ellipse: s-maj=12.5km s-min=4.1km az=77.0*

ISC 30 07:30:48.7±0.5,5.˚38S±0.˚06×153.˚16E±0.˚08, h37km, n59, σ1§01/56, mb4.5/27, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.54 320**		Pn	**Pn**	**07 31 13.1**	**-0.7**
RABL	**Rabaul**	**1.54 320**		P	**Pn**	**07 31 15.3**	**+1.6**
PMG	**Port Moresby**	**7.17 236**		Pn	**Pn**	**07 32 31.9**	**+0.9**
	3.1nm,0.3s,baz=37,slow=5.1,SNR=2.7						
PMG				Sn	**Sn**	**07 33 52.0**	**+0.7**
	8.1nm,0.3s,baz=38,slow=17,SNR=9.7						
PMG	**Port Moresby**	**7.17 236**		P	Pn	07 32 45.7	+15
	77nm,0.7s						
HNR	**Honiara**	**7.84 121**		LR	LR	07 36 02.5	
	comp=Z,413nm,18.7s,baz=266,slow=40						
HNR	**Honiara**	**7.84 121**		Pn	**Pn**	**07 32 38.6**	**-1.7**
COEN	**Coen**	**13.02 228**		Pn	**Pn**	**07 33 49.5**	**-1.7**
DZM	**Mont Dzumac**	**20.99 143**		P	**P**	**07 35 31.2**	**+2.1**
	4.5nm,0.9s,baz=298,slow=18,SNR=1.7						
DZM	**Mont Dzumac**	**20.99 143**		P	**P**	**07 35 29.1**	**0.0**
DZM				lAmb	lAmb	07 35 44.2	
	comp=Z,24nm,1.1s						
DZM	**Mont Dzumac**	**20.99 143**		P	P	07 35 37.1	+8.0
FAKI	**Fak Fak**	**21.00 276**		P	**P**	**07 35 26.6**	**-2.6**
MTN	**Manton Dam**	**22.97 250**		P	**P**	**07 35 51.0**	**+0.8**
MTN				lAmb	lAmb	07 36 12.2	
	comp=Z,20nm,0.9s						
WB0	**Warramunga Arr**	**23.20 230**		P	**P**	**07 35 51.5**	**-1.0**
WB0				lAmb	lAmb	07 36 04.9	
	comp=Z,28nm,1.3s						
WR0	**Warramunga Arr**	**23.20 230**		P	**P**	**07 35 52.2**	**-0.3**
WR0				lAmb	lAmb	07 35 54.3	
	comp=Z,17nm,1.1s						
WRAB	**Tennant Creek**	**23.33 230**		P	**P**	**07 35 53.2**	**-0.6**
WRAB				lAmb	lAmb	07 36 06.2	

comp=Z,6.3nm,0.9s,baz=58,slow=2.3,SNR=15
TORD Torodi Ar. Bea 150.83 287 PKiKP 07 50 38.7 -0.3

IDC 30 07:34:51.0±1.6, 2.94S×130.20E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.5/40, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=50.9km s-min=22.3km az=96.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.32**	**27**	Pn	Pn	07 35 31.1	+0.6
	2.5nm,0.3s,baz=192,slow=22,SNR=18						
SIJI				Sn	Sn	07 35 58.9	-0.9
	4.1nm,0.3s,baz=242,slow=23,SNR=8.8						
WRA	**Warramunga Arr**	**17.37**	**167**	P	Pn	07 38 55.5	+0.5
	0.3nm,0.3s,baz=346,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**20.91**	**170**	P	P	07 39 34.9	-0.4
	2.8nm,0.8s,baz=353,slow=10,SNR=12						
MKAR	**Makanchi Array**	**64.98**	**326**	P	P	07 45 32.9	+0.1
	0.5nm,1.0s,baz=117,slow=8.8,SNR=2.0						

BJI ***30*** *07:56:52.0±0.0, 15.16S×172.86W, h5km, mB6.2/58, mb5.4/56, Ms6.2/66, Ms7 5.8/59*

IDC ***30*** *07:56:52.9±0.4, 15.36S×173.18W, h0km, mb5.1/36, mb1 5.2/36, mb1mx5.1/50, mbtmp5.1/36, MS5.8/9, Ms1 5.8/9, ms1mx5.3/52, Error ellipse: s-maj=13.8km s-min=10.7km az=139.0*

NEIC ***30*** *07:56:53.9, 15.41S×173.10W, h13km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.35; Mθθ2.50; Mθφ-6.85; Mrθ1.77; Mrφ0.14; Mrr5.03; Fault plane solution: M₀8.03000×10¹⁷ NP1:φs152.66000°, δ28.92000°, λ48.56000°. NP2:φs17.90000°, δ68.75000°, λ110.09000°. Principal axes: T 6.9356, Plg61.0000°, Azm318.0000°; N 1.8648, Plg19.0000°, Azm190.0000°; P -8.8003, Plg21.0000°, Azm93.0000°;*

BGR ***30*** *07:56:53.2±0.0, 16.10S×173.05W, h10km, Ms6.2*

MOS ***30*** *07:56:53.3±1.4, 15.30S×173.15W, h10km, mb5.8/59, MS6.0/21, Error ellipse: s-maj=7.6km s-min=6.8km az=78.0*

NEIC ***30*** *07:56:53.2±1.9, 15.43S±0.07×173.05W±0.08, h10km±1km, mb5.6/372, Ms_20 6.0/612, Mwb5.9/67, Mww6.0, Mwc6.0(GCMT), Error ellipse: s-maj=13.4km s-min=11.7km az=238.0*

NOU ***30*** *07:56:57.2, 15.56S×172.85W, h32km, ML5.7, Samoa Islands Region*

NEIC ***30*** *07:57:01, 15.44S×172.78W, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.21; Mθθ-0.48; Mθφ-0.73; Mrθ-0.14; Mrφ0.28; Mφφ1.01; Fault plane solution: M₀1.49000×10¹⁸ NP1:φs142.00000°, δ24.00000°, λ71.00000°. NP2:φs343.00000°, δ67.00000°, λ98.00000°. Principal axes: T 1.6391, Plg67.0000°, Azm269.0000°; N -0.3523, Plg8.0000°, Azm160.0000°; P -1.2868, Plg22.0000°, Azm67.0000°;*

NEIC ***30*** *07:57:02, 15.24S×172.75W, h17km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.86; Mθθ0.28; Mφφ-1.13; Mrθ0.23; Mφφ0.25; Mφr0.95; Fault plane solution: M₀1.44000×10¹⁸ NP1:φs147.00000°, δ28.00000°, λ51.00000°. NP2:φs9.00000°, δ68.00000°, λ109.00000°. Principal axes: T 1.3293, Plg62.0000°, Azm308.0000°; N 0.1948, Plg17.0000°, Azm182.0000°; P -1.5241, Plg21.0000°, Azm85.0000°;*

GCMT ***30*** *07:57:02.2±0.1, 15.26S±0.01×172.77W±0.01, h18km, MW6.0/155, Moment Tensor Solution. s142,c261; s155,c321; Duration: 2s5 Moment tensor: Scale 10¹⁸ Nm; Mrr0.90±.02; Mθθ0.20±.01; Mφφ-1.11±.01; Mrθ0.29±.03; Mφφ0.24±.01; Mφr0.70±.03; Best double couple: M₀1.29100×10¹⁸ NP1:φs148.00000°, δ33.00000°, λ52.00000°. NP2:φs10.00000°, δ64.00000°, λ112.00000°. Principal axes: T 1.2400, Plg64.0000°, Azm317.0000°; N 0.0990, Plg20.0000°, Azm181.0000°; P -1.3410, Plg17.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 30 07:56:52.7±0.6, 15.47S±0.04×172.98W±0.04, h6km±3km, h6km:pP-P, n1232, σ1§65/968, mb5.6/263, MS6.0/343, 68C-59D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.94**	**37**		Pn	07 57 20.2	-6.1
NIUE	**Niue**	**4.62**	**141**	P	**Pn**	**07 58 02.3**	**-0.9**
	baz=4.6,SNR=41						
NIUE				S	**Sn**	**07 58 52.5**	**-4.6**
	baz=4.6						
NIUE	**Niue**	**4.62**	**141**	Pn	**Pn**	**07 58 02.0**	**-1.1**
NIUE	**Niue**	**4.62**	**141**	P	**Pn**	**07 58 02.4**	**-0.8**
MSVF	**Nonsavu**	**8.89**	**254**	Pn	Pn	07 59 09.9	+8.0
	5.0nm,0.3s,baz=102,slow=12,SNR=50						
MSVF				LR	LR	08 01 59.2	
	comp=Z,127μm,18.6s,baz=103,slow=35						
FUNA	**Funafuti**	**10.30**	**311**		**Pn**	**07 59 19.6**	**-1.6**
KNTN	**Kanton**	**12.68**	**6**		**Pn**	**07 59 49.8**	**-4.0**
RAR	**Rarotonga**	**13.77**	**116**	Pn	**Pn**	**08 00 05.6**	**-3.1**
	9.5nm,0.3s,baz=258,slow=8.7,SNR=18						
RAR				LR	LR	08 04 00.6	
	comp=Z,43μm,21.2s,baz=310,slow=31						
RAR	**Rarotonga**	**13.77**	**116**	P	**Pn**	**08 00 06.1**	**-2.5**
RAR	**Rarotonga**	**13.77**	**116**	Pn	**Pn**	**08 00 06.1**	**-2.5**
RAR	**Rarotonga**	**13.77**	**116**	P	**Pn**	**08 00 06.2**	**-2.5**
RAO	**Raoul Island**	**14.45**	**198**	Sn	**Sn**	**08 02 55.7**	**-2.9**
	35nm,0.3s,baz=74,slow=23,SNR=7.7						
RAO				LR	LR	08 04 43.0	
	comp=Z,17μm,19.4s,baz=22,slow=32						
RAO	**Raoul Island**	**14.45**	**198**	P	**Pn**	**08 00 16.5**	**-1.4**
RAO	**Raoul Island**	**14.45**	**198**	Pn	**Pn**	**08 00 16.5**	**-1.4**
GLKZ	**Green Lake**	**14.46**	**198**	P	**Pn**	**08 00 20.8**	**+2.7**
GLKZ				S	**Sn**	**08 02 51.2**	**-7.6**
DVP	**Devils Point**	**18.19**	**260**	P	**P**	**08 01 09.9**	**+3.5**
MARNC	**Mare, Loyalty**	**18.97**	**249**	P	**Pn**	**08 01 16.7**	**+1.1**
SANVU	**Saraoutou**	**19.10**	**267**	P	**P**	**08 01 13.4**	**-3.0**
SANVU				IAmb	IAmb	08 01 22.1	
	comp=Z,574nm,1.2s						
SANVU	**Saraoutou**	**19.10**	**267**	P	**Pn**	**08 01 19.8**	**+2.5**
PINNC	**Pines Island,**	**19.81**	**246**	P	**Pn**	**08 01 27.6**	**+1.9**
YATNC	**Mamie plateau,**	**20.14**	**248**	P	Pn	08 01 30.0	+0.3
OUENC	**Ouen Island, N**	**20.29**	**247**	P	Pn	08 01 32.6	+1.3
DZM	**Mont Dzumac**	**20.55**	**248**	P	**P**	**08 01 33.3**	**+0.9**
	comp=Z,70nm,0.8s,baz=81,slow=16,SNR=29						
DZM				LR	LR	08 08 10.6	
	comp=Z,38μm,20.7s,baz=81,slow=33						
DZM	**Mont Dzumac**	**20.55**	**248**	*e*P	**P**	**08 01 32.7**	**+0.3**
	comp=Z,2μm,1.3s						
DZM				*e*S	**S**	**08 05 16.3**	**-6.4**
	comp=Z,11μm,26.9s						
DZM				*e*LR	LR	08 06 22.2	
	comp=Z,63μm,24.6s						
DZM	**Mont Dzumac**	**20.55**	**248**	P	**P**	**08 01 32.6**	**+0.3**
DZM	**Mont Dzumac**	**20.55**	**248**	P	Pn	08 01 34.5	0.0
ONTNC	**Ouen Toro**	**20.60**	**248**	P	Pn	08 01 35.3	+0.3
PAE	**Paea**	**22.53**	**99**	*e*P	**P**	**08 01 55.6**	**+2.0**
	comp=Z,59nm,1.5s						
PAE	**Paea**	**22.53**	**99**	*e*T	T	08 25 07.0	
	comp=Z,6.9nm,0.3s						
PPT	**Papeete**	**22.53**	**99**	P	**P**	**08 01 56.1**	**+2.4**
	comp=Z,98nm,1.1s,baz=204,slow=3.5,SNR=12						
PPT				LR	LR	08 08 11.2	
	comp=Z,20μm,21.7s,baz=266,slow=30						
PPT2	**Papeete2**	**22.53**	**99**	*e*P	**P**	**08 01 55.5**	**+1.8**
	comp=Z,244nm,1.5s						
PPT2				*e*LQ	LQ	08 06 17.0	
	comp=Z,59μm,28.5s						
PPT2				*e*LR	LR	08 07 17.8	
	comp=Z,64μm,25.5s,baz=265						
PPT2	**Papeete2**	**22.53**	**99**	*e*T	T	08 25 05.6	
	comp=Z,17nm,0.3s						
PPTF	**Pamatai, Papee**	**22.54**	**99**	P	**P**	**08 01 53.9**	**+0.1**
PPTF				IAmb	IAmb	08 01 59.5	
	comp=Z,611nm,1.7s						
OUZ	**Omahuta**	**23.06**	**209**	P	**P**	**08 01 58.1**	**-0.8**
OUZ				IAmb	IAmb	08 02 09.5	
	comp=Z,454nm,1.5s						
OUZ				IAMs_20	IAMs_20	08 11 26.2	
	comp=Z,39μm,18.0s						
OUZ	**Omahuta**	**23.06**	**209**	P	**P**	**08 02 02.4**	**+3.4**
GRZ	**Great Barrier**	**23.12**	**204**	P	**P**	**08 02 02.4**	**+2.7**
XMAS	**Kiritimati**	**23.22**	**43**	P	**P**	**08 01 59.6**	**-1.2**
MXZ	**Matakaoa Point**	**23.32**	**198**	P	**P**	**08 02 00.3**	**-1.3**
MXZ				IAmb	IAmb	08 02 30.7	
	comp=Z,251nm,1.7s						
MXZ	**Matakaoa Point**	**23.32**	**198**	P	**P**	**08 02 05.3**	**+3.7**
KUZ	**Kuaotunu**	**23.45**	**203**	P	**P**	**08 02 05.7**	**+2.8**
WMGZ	**Waiomatatini S**	**23.53**	**197**	P	**P**	**08 02 08.8**	**+5.1**
HAZ	**Te Kaha**	**23.66**	**198**	P	**P**	**08 02 07.8**	**+2.9**
HAZ				S	**S**	**08 06 23.5**	**+3.4**
PKGZ	**Pakihiroa**	**23.69**	**198**	P	**P**	**08 02 08.4**	**+3.0**
PKGZ				S	**S**	**08 06 23.5**	**+2.7**
WIAZ	**Waiheke Island**	**23.72**	**204**	P	**P**	**08 02 09.1**	**+3.4**
MBAZ	**Motutapu North**	**23.80**	**205**	P	**P**	**08 02 10.5**	**+4.2**
PUZ	**Puketiti**	**23.81**	**197**	P	**P**	**08 02 09.8**	**+3.3**
PUZ				S	**S**	**08 06 25.7**	**+3.1**
ETAZ	**East Tamaki Re**	**23.95**	**204**	P	**P**	**08 02 11.8**	**+4.1**
MEH	**Mehetia**	**23.98**	**99**	*e*P	**P**	**08 02 09.5**	**+1.2**
	comp=Z,75nm,1.6s						
MEH	**Mehetia**	**23.98**	**99**	*e*T	T	08 26 54.5	
	comp=Z,12nm,0.3s						
MKAZ	**Moumakai**	**23.98**	**204**	P	**P**	**08 02 10.8**	**+2.7**
TWGZ	**Tauwhareparae**	**23.98**	**198**	P	**P**	**08 02 12.3**	**+4.1**
TWGZ				S	**S**	**08 06 29.9**	**+4.4**
WTAZ	**Waiatarua**	**24.07**	**205**	P	**P**	**08 02 11.7**	**+2.8**
AWAZ	**Awhitu Peninsu**	**24.15**	**205**	P	**P**	**08 02 12.1**	**+2.4**
CNGZ	**Carnagh Statio**	**24.20**	**197**	P	**P**	**08 02 16.2**	**+6.0**
MWZ	**Matawai**	**24.27**	**198**	P	**P**	**08 02 13.8**	**+3.0**
MWZ				S	**S**	**08 06 34.2**	**+4.2**
URZ	**Urewera**	**24.33**	**199**	P	**P**	**08 02 14.4**	**+3.1**
	comp=Z,65nm,0.9s,baz=121,slow=24,SNR=40						
URZ	**Urewera**	**24.33**	**199**	P	**P**	**08 02 10.2**	**-1.0**
URZ				IAmb	IAmb	08 02 23.6	
	comp=Z,132nm,0.9s						
URZ	**Urewera**	**24.33**	**199**	P	**P**	**08 02 13.5**	**+2.2**
URZ				S	**S**	**08 06 35.4**	**+4.6**
VAH	**Vaihoa**	**24.45**	**93**	*e*P	**P**	**08 02 13.6**	**+1.0**
	comp=Z,101nm,0.9s						
VAH	**Vaihoa**	**24.45**	**93**	*e*T	T	08 27 36.2	
	comp=Z,14nm,0.3s						
RIGZ	**Rimuhau**	**24.54**	**198**	P	**P**	**08 02 17.6**	**+4.4**
RIGZ				S	**S**	**08 06 43.3**	**+8.9**
MTHZ	**Maungataniwha**	**24.95**	**199**	P	**P**	**08 02 17.0**	**0.0**
HIZ	**Hauiti**	**25.33**	**203**	P	**P**	**08 02 18.7**	**-1.7**
HIZ				IAmb	IAmb	08 02 34.9	
	comp=Z,212nm,1.0s						
BKZ	**Black Stump Fm**	**25.35**	**199**	P	**P**	**08 02 18.3**	**-2.3**
BFZ	**Birch Farm**	**26.81**	**198**	P	**P**	**08 02 35.1**	**+1.3**
HNR	**Honiara**	**27.09**	**280**	LR	LR	08 11 47.9	
	comp=Z,30μm,18.1s,baz=120,slow=33						
HNR	**Honiara**	**27.09**	**280**	IAMs_20	IAMs_20	08 11 26.9	
	comp=Z,29μm,19.0s						
MSWZ	**Moikau Station**	**27.79**	**199**	P	**P**	**08 02 43.3**	**+0.7**
SNZO	**South Karori**	**27.87**	**200**	P	**P**	**08 02 41.7**	**-1.5**
BHW	**Baring Head**	**27.90**	**200**	P	**P**	**08 02 42.7**	**-0.9**
PLWZ	**Palliser**	**27.93**	**199**	P	**P**	**08 02 42.6**	**-1.2**
QRZ	**Quartz Range**	**28.23**	**204**	P	**P**	**08 02 44.9**	**-1.6**
QRZ				IAmb	IAmb	08 03 13.8	
	comp=Z,93nm,0.8s						
TUWZ	**Tuamarina**	**28.24**	**201**	P	**P**	**08 02 44.9**	**-1.7**
NNZ	**Nelson**	**28.25**	**202**	P	**P**	**08 02 46.7**	**+0.1**
NNZ				IAmb	IAmb	08 02 52.3	
	comp=Z,108nm,1.2s						
CMWZ	**Cape Campbell**	**28.43**	**200**	P	**P**	**08 02 47.7**	**-0.6**
BSWZ	**Blackbirch Sta**	**28.51**	**201**	P	**P**	**08 02 48.6**	**-0.4**
THZ	**Tophouse**	**28.90**	**202**	P	**P**	**08 02 52.5**	**0.0**
KHZ	**Kahurangi**	**29.25**	**201**	P	**P**	**08 02 55.9**	**+0.4**
LTZ	**Lake Taylor**	**30.02**	**202**	P	**P**	**08 03 02.3**	**-0.1**
LTZ				IAmb	IAmb	08 03 17.8	
	comp=Z,83nm,0.9s						
LHI	**Lord Howe Isla**	**30.09**	**233**	P	**P**	**08 03 02.6**	**-0.5**
LHI				IAmb	IAmb	08 03 09.2	
	comp=Z,128nm,1.0s						
LHI	**Lord Howe Isla**	**30.09**	**233**	P	**P**	**08 03 05.1**	**+2.0**
OXZ	**Oxford**	**30.57**	**202**	P	**P**	**08 03 07.3**	**0.0**
OXZ				IAmb	IAmb	08 03 16.5	
	comp=Z,99nm,0.7s						
MQZ	**McQueen's Vall**	**30.69**	**201**	P	**P**	**08 03 09.8**	**+1.5**
MQZ				IAmb	IAmb	08 03 21.4	
	comp=Z,66nm,1.1s						
KWAJ	**Kwajalein Atol**	**30.84**	**320**	IAMs_20	IAMs_20	08 12 44.0	
	comp=Z,29μm,20.0s						
RPZ	**Rata Peaks**	**31.27**	**203**	P	**P**	**08 03 14.7**	**+1.3**
	comp=Z,20nm,0.5s,baz=164,slow=0.6,SNR=17						
RPZ	**Rata Peaks**	**31.27**	**203**	P	**P**	**08 03 14.5**	**+1.0**
RPZ				IAmb	IAmb	08 04 00.5	
	comp=Z,116nm,1.5s						
RPZ				IAMs_20	IAMs_20	08 17 58.3	
	comp=Z,22μm,18.0s						
FOZ	**Fox Glacier**	**31.59**	**204**	P	**P**	**08 03 16.4**	**+0.2**
FOZ				IAmb	IAmb	08 03 23.4	
	comp=Z,77nm,0.7s						
LBZ	**Lake Benmore**	**32.17**	**203**	P	**P**	**08 03 20.2**	**-1.1**
LBZ				IAmb	IAmb	08 03 32.2	
	comp=Z,92nm,1.5s						
LBZ				IAMs_20	IAMs_20	08 18 18.0	
	comp=Z,25μm,18.0s						
ODZ	**Otahua Downs**	**32.56**	**202**	P	**P**	**08 03 24.7**	**0.0**
ODZ				IAmb	IAmb	08 03 26.6	
	comp=Z,94nm,1.4s						
TAOE	**Nuku Hiva Isla**	**32.73**	**82**	*e*LR	LR	08 11 53.8	
	comp=Z,42μm,27.0s,baz=260						
TAOE	**Nuku Hiva Isla**	**32.73**	**82**	*e*T	T	08 37 56.9	
	comp=Z,108nm,0.2s						
WKZ	**Wanaka**	**32.99**	**204**	P	**P**	**08 03 28.2**	**-0.3**
WKZ				IAmb	IAmb	08 03 48.5	
	comp=Z,166nm,1.5s						
MLZ	**Mavora Lakes**	**33.79**	**204**	P	**P**	**08 03 35.8**	**+0.3**
DCZ	**Deep Cove**	**34.26**	**205**	P	**P**	**08 03 40.2**	**+0.7**
DCZ				IAmb	IAmb	08 03 55.0	
	comp=Z,116nm,1.2s						
WHZ	**Wether Hill Ro**	**34.29**	**204**	P	**P**	**08 03 40.0**	**+0.1**
EIDS	**Eidsvold**	**34.99**	**248**	P	**P**	**08 03 46.3**	**+0.1**
	baz=35,SNR=7.0						
EIDS	**Eidsvold**	**34.99**	**248**	P	**P**	**08 03 44.5**	**-1.8**
PYZ	**Puysegur Point**	**35.02**	**205**	P	**P**	**08 03 46.4**	**+0.2**
PYZ				IAmb	IAmb	08 04 03.4	
	comp=Z,216nm,1.4s						
ARMA	**Armidale**	**35.65**	**239**	P	**P**	**08 03 50.8**	**-1.1**
	baz=36,SNR=17						
ARMA	**Armidale**	**35.65**	**239**	P	**P**	**08 03 50.3**	**-1.7**
ARMA				IAmb	IAmb	08 03 54.9	
	comp=Z,162nm,1.6s						
RKT	**Rikitea**	**36.59**	**108**	*e*S	**S**	**08 09 43.9**	**+0.7**
	comp=Z,1μm,28.5s						
RKT				*e*LQ	LQ	08 12 25.0	
	comp=Z,8μm,28.5s						
RKT				*e*LR	LR	08 13 45.9	
	comp=Z,39μm,26.8s						
MGCD	**Mangrove Creek**	**36.95**	**235**	P	**P**	**08 04 03.7**	**+0.9**
	baz=37,SNR=9.6						
RMQ	**Roma**	**37.24**	**247**	P	**P**	**08 04 04.9**	**-0.6**
	baz=38,SNR=39						
KHLU	**Kahalu`u**	**38.69**	**26**	P	**P**	**08 04 18.8**	**+1.1**
KHLU				IAmb	IAmb	08 04 20.5	
	comp=Z,175nm,1.1s						
CTA	**Charters Tower**	**39.02**	**257**	P	**P**	**08 04 20.0**	**-0.6**
	comp=Z,8.7nm,0.5s,baz=90,slow=9.6,SNR=16						
CTA				LR	LR	08 18 33.4	
	comp=Z,15μm,18.5s,baz=156,slow=34						
CTAO	**Charters Tower**	**39.02**	**257**	P	**P**	**08 04 20.0**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,45nm,1.2s						
CTAO	**Charters Tower**	**39.02**	**257**	P	**P**	**08 04 20.0**	**-0.6**
CNB	**Canberra Magne**	**39.03**	**233**	P	**P**	**08 04 19.9**	**-0.6**
	baz=39,SNR=26						
H11S2	**WAKE ISLAND Hy**	**39.23**	**329**	T	T	08 46 05.4	
	baz=149,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy**	**39.25**	**329**	T	T	08 46 01.6	
	baz=149,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**39.25**	**329**	T	T	08 45 58.0	
	baz=149,slow=75,SNR=19						
CAN	**Canberra**	**39.31**	**233**	P	**P**	**08 04 22.8**	**0.0**
CAN				pmax	pmax		
	comp=Z,90nm,1.2s						
CAN				MLR	MLR		
	comp=Z,10μm,18.0s						
CAN	**Canberra**	**39.31**	**233**	P	**P**	**08 04 22.8**	**0.0**
PMG	**Port Moresby**	**39.34**	**274**	P	**P**	**08 04 21.8**	**-1.5**
	comp=Z,35nm,0.8s,baz=72,slow=14,SNR=8.5						
PMG	**Port Moresby**	**39.34**	**274**	*e*P	**P**	**08 04 23.0**	**-0.3**
PMG				pmax	pmax		
	comp=Z,103nm,1.7s						
PMG	**Port Moresby**	**39.34**	**274**	P	**P**	**08 04 22.9**	**-0.3**
PMG				IAmb	IAmb	08 04 30.9	
	comp=Z,145nm,1.2s						
PMG	**Port Moresby**	**39.34**	**274**	P	**P**	**08 04 24.1**	**+0.8**
YNG	**Young**	**39.44**	**234**	P	**P**	**08 04 23.8**	**-0.1**
	baz=40,SNR=7.0						
KIP	**Kipapa**	**39.50**	**22**	*i*P	**P**	**08 04 25.9**	**+1.6**
KIP				pmax	pmax		
	comp=Z,167nm,1.3s						
KIP	**Kipapa**	**39.50**	**22**	P	**P**	**08 04 25.3**	**+1.0**
KIP				IAmb	IAmb	08 04 26.9	
	comp=Z,233nm,1.2s						
WAKE	**Wake Island**	**39.93**	**329**	P	**P**	**08 04 28.2**	**+0.2**
H11N3	**WAKE ISLAND Hy**	**40.17**	**330**	T	T	08 47 03.3	
	baz=149,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy**	**40.18**	**330**	T	T	08 47 17.3	
	baz=149,slow=76,SNR=22						
H11N2	**WAKE ISLAND Hy**	**40.19**	**330**	T	T	08 47 02.9	
	baz=149,slow=76,SNR=30						
CMSA	**Cobar Meteorol**	**40.87**	**240**	P	**P**	**08 04 34.3**	**-1.4**
	baz=41,SNR=72						
MTSU	**Mount Surprise**	**40.90**	**260**	P	**P**	**08 04 34.8**	**-1.4**
	baz=41,SNR=60						
QLP	**Quilpie**	**41.27**	**247**	P	**P**	**08 04 38.5**	**-0.6**
	baz=42,SNR=10						
COEN	**Coen**	**42.38**	**266**	P	**P**	**08 04 48.0**	**-0.3**
TOO	**Toolangi**	**42.74**	**231**	P	**P**	**08 04 50.4**	**-0.6**
	baz=43,SNR=22						
TOO	**Toolangi**	**42.74**	**231**	P	**P**	**08 04 50.1**	**-0.9**
TOO				pmax	pmax		
	comp=Z,122nm,1.1s						
TOO	**Toolangi**	**42.74**	**231**	P	**P**	**08 04 50.1**	**-0.9**
TOO				IAmb	IAmb	08 04 57.6	
	comp=Z,122nm,1.1s						
TAU	**Tasmania Unive**	**43.54**	**223**	IAMs_20	IAMs_20	08 21 25.6	
	comp=Z,16μm,18.0s						
STKA	**Stephens Creek**	**44.35**	**240**	P	**P**	**08 05 03.1**	**-0.9**
	comp=Z,41nm,0.8s,baz=95,slow=11,SNR=40						
STKA	**Stephens Creek**	**44.35**	**240**	P	**P**	**08 05 03.0**	**-1.1**
	baz=45,SNR=71						
STKA	**Stephens Creek**	**44.35**	**240**	*ce*P	**P**	**08 05 04.0**	**-0.1**
STKA	**Stephens Creek**	**44.35**	**240**	P	**P**	**08 05 02.8**	**-1.3**
QIS	**Mount Isa**	**45.26**	**256**	P	**P**	**08 05 09.8**	**-1.7**
	baz=45,SNR=20						
ARPS	**Mount Arapiles**	**45.27**	**233**	P	**P**	**08 05 10.9**	**-0.5**
	baz=46,SNR=5.3						
HTT	**Hallett**	**46.85**	**239**	P	**P**	**08 05 22.8**	**-1.2**
	baz=47,SNR=45						
JAY	**Jayapura**	**47.40**	**281**	P	**P**	**08 05 26.6**	**-1.8**
	comp=Z,20nm,0.9s,baz=60,slow=3.9,SNR=5.8						
BBOO	**Buckleboo**	**49.13**	**240**	P	**P**	**08 05 41.2**	**-0.3**
	baz=49,SNR=13						
BBOO	**Buckleboo**	**49.13**	**240**	P	**P**	**08 05 40.0**	**-1.5**
BBOO				IAmb	IAmb	08 05 48.2	
	comp=Z,65nm,0.9s						
WR0	**Warramunga Arr**	**50.03**	**257**	P	**P**	**08 05 45.9**	**-2.7**
WR0				IAmb	IAmb	08 05 49.5	
	comp=Z,113nm,1.4s						
WR0				IAMs_20	IAMs_20	08 24 58.7	
	comp=Z,16μm,20.0s						
WR9	**Warramunga Arr**	**50.06**	**257**	IAMs_20	IAMs_20	08 25 09.3	
	comp=Z,16μm,20.0s						
WR8	**Warramunga Arr**	**50.07**	**257**	IAMs_20	IAMs_20	08 24 59.7	
	comp=Z,17μm,20.0s						
WR7	**Warramunga Arr**	**50.09**	**257**	IAMs_20	IAMs_20	08 25 00.3	
	comp=Z,17μm,20.0s						
WR6	**Warramunga Arr**	**50.12**	**257**	IAMs_20	IAMs_20	08 25 11.9	
	comp=Z,16μm,20.0s						
WR4	**Warramunga Arr**	**50.16**	**257**	IAMs_20	IAMs_20	08 25 03.0	
	comp=Z,16μm,20.0s						
WR3	**Warramunga Arr**	**50.18**	**257**	IAMs_20	IAMs_20	08 25 13.5	
	comp=Z,16μm,20.0s						
WB0	**Warramunga Arr**	**50.18**	**257**	P	**P**	**08 05 48.1**	**-1.7**
WB0				IAMs_20	IAMs_20	08 25 13.7	
	comp=Z,16μm,20.0s						
WB9	**Warramunga Arr**	**50.19**	**257**	IAMs_20	IAMs_20	08 25 13.9	
	comp=Z,16μm,20.0s						
WC3	**Warramunga Arr**	**50.19**	**257**	IAMs_20	IAMs_20	08 25 03.9	
	comp=Z,17μm,20.0s						
WB7	**Warramunga Arr**	**50.19**	**257**	IAMs_20	IAMs_20	08 25 03.3	
	comp=Z,14μm,20.0s						
WB8	**Warramunga Arr**	**50.19**	**257**	IAMs_20	IAMs_20	08 25 03.9	
	comp=Z,17μm,20.0s						
WC2	**Warramunga Arr**	**50.20**	**257**	IAMs_20	IAMs_20	08 25 04.1	
	comp=Z,17μm,20.0s						
WB5	**Warramunga Arr**	**50.20**	**257**	IAMs_20	IAMs_20	08 25 04.2	
	comp=Z,14μm,20.0s						
WB6	**Warramunga Arr**	**50.20**	**257**	IAMs_20	IAMs_20	08 25 04.2	
	comp=Z,17μm,20.0s						
WB3	**Warramunga Arr**	**50.21**	**257**	IAMs_20	IAMs_20	08 25 14.3	
	comp=Z,17μm,20.0s						
WB2	**Warramunga Arr**	**50.21**	**257**	P	**P**	**08 05 48.2**	**-1.7**
WB2				IAMs_20	IAMs_20	08 25 14.4	
	comp=Z,17μm,20.0s						
WRAB	**Tennant Creek**	**50.21**	**257**	*c i*P	**P**	**08 05 48.7**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,241nm,1.7s						
WRAB	**Tennant Creek**	**50.21**	**257**	P	**P**	**08 05 47.4**	**-2.6**
WRAB	**Tennant Creek**	**50.21**	**257**	IAMs_20	IAMs_20	08 25 04.2	
	comp=Z,16μm,20.0s						
WB1	**Warramunga Ar.**	**50.22**	**257**	IAMs_20	IAMs_20	08 25 14.5	
	comp=Z,17μm,20.0s						
WC4	**Warramunga Arr**	**50.22**	**257**	IAMs_20	IAMs_

comp=Z,70nm,1.3s
PSAD2 Pilbara Seismi 63.46 253 IAMs_20 IAMs_20 08 36 01.5
comp=Z,11µm,18.0s
PSAC2 Pilbara Seismi 63.52 253 IAMs_20 IAMs_20 08 34 57.2
comp=Z,10µm,18.0s
MMRI Maumere 63.53 268 P P 08 07 24.0 -0.6
PSAB2 Pilbara Seismi 63.56 253 IAMs_20 IAMs_20 08 34 57.2
comp=Z,10µm,18.0s
PSAA3 Pilbara Seismi 63.56 253 IAMs_20 IAMs_20 08 32 56.2
comp=Z,9µm,19.0s
PSA00 Pilbara Seismi 63.57 253 P P 08 07 21.2 -3.6
PSA00 Pilbara Seismi 63.57 253 P P 08 07 24.5 -0.3
PSA00 IAmb IAmb 08 07 27.5
comp=Z,66nm,1.2s
PSA00 IAMs_20 IAMs_20 08 34 58.5
comp=Z,10µm,18.0s
PSAA1 Pilbara Seismi 63.58 253 IAMs_20 IAMs_20 08 34 58.7
comp=Z,11µm,18.0s
PSAB1 Pilbara Seismi 63.60 253 IAMs_20 IAMs_20 08 32 56.1
comp=Z,9µm,20.0s
PSAD1 Pilbara Seismi 63.60 253 IAMs_20 IAMs_20 08 32 56.3
comp=Z,8µm,19.0s
PSAC1 Pilbara Seismi 63.61 253 IAMs_20 IAMs_20 08 34 35.5
comp=Z,9µm,18.0s
PSAD3 Pilbara Seismi 63.63 253 IAMs_20 IAMs_20 08 32 56.9
comp=Z,8µm,20.0s
MBWA Marble Bar 63.73 254 IAMs_20 IAMs_20 08 33 09.6
comp=Z,7µm,18.0s
EDFI Ende, Flores 64.03 268 P P 08 07 26.9 -1.1
KLBR Kellerberrin 64.56 242 P P 08 07 30.6 -0.6
baz=65,SNR=34
LUWI Luwuk 64.94 276 P P 08 07 32.7 -1.2
NWAO Narrogin (SRO) 64.94 241 P P 08 07 32.4 -1.2
comp=Z,44nm,1.0s,baz=102,slow=10.0,SNR=9.3
NWAO Narrogin (SRO) 64.94 241 P P 08 07 33.0 -0.6
baz=65,SNR=6.8
NWAO Narrogin (SRO) 64.94 241 P P 08 07 33.1 -0.4
NWAO Narrogin (SRO) 64.94 241 P P 08 07 32.9 -0.7
NWAO IAmb IAmb 08 07 39.1
comp=Z,266nm,1.9s
BLDU Ballidu 65.52 243 P P 08 07 36.7 -0.7
baz=66,SNR=13
MUN Mundaring 65.86 242 P P 08 07 40.2 +0.7
baz=66,SNR=7.3
JHJ2 Mitsune 66.07 318 IAMs_20 IAMs_20 08 28 54.4
comp=Z,10µm,20.0s
JHJ Hachijo jima 2 66.09 318 P P 08 07 40.6 -0.3
comp=Z,102nm,0.3s,baz=189,slow=6.0,SNR=5.5
MORW Morawa 66.22 245 P P 08 07 42.6 +0.7
baz=66,SNR=11
MORW Morawa 66.22 245 P P 08 07 42.1 +0.1
MORW IAMs_20 IAMs_20 08 37 18.7
comp=Z,10µm,19.0s
KAPI Kappang 66.79 271 P P 08 07 43.6 -2.2
KAPI pmax pmax
comp=Z,68nm,1.5s
KAPI Kappang 66.79 271 P P 08 07 43.6 -2.2
KAPI IAmb IAmb 08 07 59.6
comp=Z,68nm,1.4s
ATKA Atka Island 67.40 359 P P 08 07 48.5 -0.3
TOLI2 Tolitoli 67.46 278 P P 08 07 49.2 -0.9
PLAI Plampang 67.78 267 P P 08 07 50.8 -1.3
JYT Yasato 67.83 320 P P 08 07 52.0 +0.1
JYT IAMs_20 IAMs_20 08 32 46.9
comp=Z,12µm,20.0s
JSG Sagara 68.10 318 P P 08 07 52.5 -1.2
JSG IAMs_20 IAMs_20 08 29 14.2
comp=Z,10µm,20.0s
JMM Marumori 68.54 322 P P 08 07 55.1 -1.2
TWSI Taliwang, Sumb 68.66 267 P P 08 07 57.3 -0.3
SMY Shemya 68.83 352 IAMs_20 IAMs_20 08 32 52.2
comp=Z,10µm,20.0s
JGF Kuroka 69.21 318 IAMs_20 IAMs_20 08 31 14.5
comp=Z,8µm,22.0s
MJAR Matsushiro Arr 69.26 320 P P 08 08 00.1 -0.7
comp=Z,64nm,1.1s,baz=156,slow=5.8,SNR=81
MJAR Matsushiro Arr 69.26 320 P P 08 08 01.1 +0.3
MJAR IAmb IAmb 08 08 02.9
comp=Z,75nm,1.3s
MAJO Matsushiro 69.26 320 *c i* P P 08 08 00.7 -0.2
MAJO pmax pmax
comp=Z,94nm,1.2s
MAJO Matsushiro 69.26 320 P P 08 08 00.4 -0.5
MAJO Matsushiro 69.26 320 IAMs_20 IAMs_20 08 32 14.8
comp=Z,11µm,21.0s
MAT Matsushiro 69.26 320 P P 08 08 00.3 -0.6
MAT S S 08 17 09.4 +1.6
MJB9 Matsu-Tunnel 69.26 320 IAMs_20 IAMs_20 08 32 13.8
comp=Z,11µm,20.0s
INU Inuyama 69.27 318 P P 08 08 00.8 -0.2
INU IAMs_20 IAMs_20 08 29 21.9
comp=Z,8µm,22.0s
ERM Erimo 70.05 327 *ce* P P 08 08 06.7 +1.2
ERM pmax pmax
comp=Z,18nm,1.2s
ERM Erimo 70.05 327 IAMs_20 IAMs_20 08 34 28.6
comp=Z,9µm,20.0s
JEM Erimo 70.05 327 IAMs_20 IAMs_20 08 33 58.6
comp=Z,10µm,20.0s
KUR Kuril'sk 70.08 332 *c i* P P 08 08 06.2 +0.6
KUR PPP PPP 08 12 24.8
KUR *i* S S 08 17 19.7 +2.8
KUR *e* SS SS 08 21 48.5 +1.5
KUR pmax pmax
comp=E,128nm,2.0s
KUR pmax pmax
comp=Z,185nm,2.0s
KUR pmax pmax
comp=Z,2µm,4.7s
KUR MLR MLR
comp=N,6µm,16.0s
KUR MLR MLR
comp=Z,6µm,16.0s
KUR MLR MLR
comp=E,4µm,15.0s
YUK Yuzh-Kuril'sk 70.13 330 *e* P P 08 07 58.7 -7.3
YUK *e* 08 08 23.1
YUK *e* S S 08 17 14.2 -3.4
YUK *e* 08 18 03.0
YUK pmax pmax
comp=Z,250nm,1.5s
JSD Sado 70.17 321 IAMs_20 IAMs_20 08 33 50.0
comp=Z,7µm,20.0s
JWT Wachi 70.28 317 IAmb IAmb 08 08 09.8
comp=Z,104nm,1.3s
JTM Tenmabayashi 70.34 325 IAMs_20 IAMs_20 08 29 23.1
comp=Z,6µm,18.0s
CASY Casey 70.51 205 P P 08 08 10.0 +1.9
CASY IAmb IAmb 08 08 15.5
comp=Z,107nm,1.6s
JOW Kunigami 70.85 306 P P 08 08 11.6 +0.7
comp=Z,8.9nm,0.8s,baz=166,slow=12,SNR=4.9
JOW Kunigami 70.85 306 IAmb IAmb 08 08 43.3
comp=Z,66nm,1.4s
JOW IAMs_20 IAMs_20 08 32 52.1
comp=Z,8µm,21.0s
MYLDM Lahad Datu 70.86 281 P P 08 08 10.3 -0.8
MYLDM IAmb IAmb 08 08 32.7
comp=Z,41nm,0.8s
MYLDM IAMs_20 IAMs_20 08 42 44.5
comp=Z,10µm,19.0s
MCCM Marconi Confer 71.06 40 IAMs_20 IAMs_20 08 34 43.6
comp=Z,8µm,18.0s
SAO San Andreas Ge 71.11 42 IAMs_20 IAMs_20 08 32 13.2
comp=Z,7µm,20.0s
PMPB Monarch Peak 71.20 42 P P 08 08 13.4 +0.6
PMPB PcP PcP 08 08 31.6 -1.2
PMPB IAmb IAmb 08 08 55.0
comp=Z,81nm,1.3s
PMPB IAMs_20 IAMs_20 08 32 24.7
comp=Z,10µm,20.0s
SMMC Simmler 71.20 44 P 08 08 16.2
baz=234
SKR Severo-Kuril's 71.23 340 ||*e* P P 08 08 13.5 +1.0
PAGB Antelope Grade 71.28 43 IAMs_20 IAMs_20 08 33 25.7
comp=Z,10µm,20.0s
JAGI Jajag, Banyuwa 71.35 266 P P 08 08 15.7 +1.5
ABJI Asem Bagus 71.43 267 P P 08 08 18.6 +4.0
JEW Eniwo 71.53 326 P P 08 08 14.6 0.0
JEW IAMs_20 IAMs_20 08 35 30.9
comp=Z,10µm,19.0s
JSU Suzuyama 71.58 311 P P 08 08 13.2 -2.0
JSU IAmb IAmb 08 08 17.7
comp=Z,115nm,1.3s
KCPM Cahto Peak 71.60 38 IAMs_20 IAMs_20 08 39 39.8
comp=Z,11µm,20.0s
JKA Kamikawa-asahi 71.81 328 IAmb IAmb 08 08 24.8
comp=Z,83nm,1.1s
ASAJ Asahikawa 71.81 328 P P 08 08 17.9 +1.6
comp=Z,18nm,0.8s,baz=196,slow=13,SNR=16
ASAJ LR LR 08 39 36.8
comp=Z,2µm,18.1s,baz=168,slow=36
109C Camp Elliot, M 71.83 47 P P 08 08 17.2 +0.6
109C PcP 08 08 35.0 -0.5
109C IAmb IAmb 08 08 47.8
comp=Z,50nm,1.3s
109C IAMs_20 IAMs_20 08 38 58.0
comp=Z,7µm,19.0s
MWC Mount Wilson 71.89 46 P P 08 08 17.6 +0.4
MWC pmax pmax
comp=Z,45nm,1.3s
MWC MLR MLR
comp=Z,15µm,20.0s
MWC Mount Wilson 71.89 46 P P 08 08 17.6 +0.4
BAR Barrett 72.02 48 IAMs_20 IAMs_20 08 39 35.7
comp=Z,7µm,19.0s
JCC Jacoby Creek, 72.06 37 IAMs_20 IAMs_20 08 39 30.9
comp=Z,11µm,20.0s
VES Vestal, Richgr 72.11 44 P 08 08 20.7
baz=235,SNR=9.8
JNU Nakatsue 72.14 313 P P 08 08 19.8 +1.3
comp=Z,38nm,1.0s,baz=133,slow=3.1,SNR=10
JNU Nakatsue 72.14 313 P P 08 08 17.4 -1.2
BFSC Mount Baldy Ra 72.18 46 P 08 08 21.2
baz=236
ESJX Sierra Juarez 72.18 48 P P 08 08 18.0 -1.0
EDW2 Edwards Air Fo 72.30 45 P 08 08 22.3
baz=236,SNR=14
MONP2 Monument Peak 72.31 47 P 08 08 22.8
baz=238
IKP In-Ko-Pah, Jac 72.41 48 P 08 08 23.1
baz=238
SPIA Saint Paul Isl 72.41 2 P 08 08 20.4
baz=189
SPIA Saint Paul Isl 72.41 2 P P 08 08 19.7 +0.2
ISA Isabella, Lake 72.42 44 P 08 08 23.1
baz=235,SNR=11
ISA Isabella, Lake 72.42 44 P P 08 08 21.1 +0.9
ISA pmax pmax
comp=Z,48nm,1.4s
ISA MLR MLR
comp=Z,14µm,20.0s
ISA Isabella, Lake 72.42 44 P P 08 08 21.1 +0.9
PET Petropavlovsk 72.47 342 *c i* P P 08 08 19.9 0.0
PET *e* S S 08 17 41.5 -2.8
PET *e* PS PnS 08 18 25.9 +12
PET *e* SS SS 08 22 24.7 +1.3
PET pmax pmax
comp=Z,67nm,1.6s
PET pmax pmax
comp=Z,2µm,10.7s
PET pmax pmax
comp=Z,2µm,9.9s
PET MLR MLR
comp=Z,5µm,18.0s
PET MLR MLR
comp=Z,6µm,18.0s
CHGN Chignik 72.53 8 P 08 08 20.6
baz=195
CHGN Chignik 72.54 8 P P 08 08 21.5 +1.2
CMB Columbia Colle 72.55 41 P P 08 08 21.4 +0.5
CMB pmax pmax
comp=Z,21nm,1.2s
CMB MLR MLR
comp=Z,7µm,20.0s
CMB Columbia Colle 72.55 41 P P 08 08 21.4 +0.5
CMB IAMs_20 IAMs_20 08 39 47.2
comp=Z,7µm,20.0s
PFO Pinyon Flats O 72.67 47 ||*e* P P 08 08 23.1 +1.3
PFO pmax pmax
comp=Z,13nm,1.3s
PFO MLR MLR
comp=Z,13µm,17.0s
PFO Pinyon Flats O 72.67 47 P P 08 08 22.8 +1.0
PFO Pinyon Flats O 72.67 47 P 08 08 24.5
baz=237
TPFO Pinon Flats 72.67 47 P 08 08 24.7
baz=237,SNR=5.8
XPFO Pion Flat 72.67 47 P P 08 08 22.0 +0.1
AFDM Forest Hills D 72.73 40 P P 08 08 23.6 +1.7
AFDM IAMs_20 IAMs_20 08 35 52.9
comp=Z,7µm,18.0s
ORV Oroville 72.77 39 P P 08 08 23.0 +0.9
ORV pmax pmax
comp=Z,23nm,1.2s
ORV MLR MLR
comp=Z,11µm,22.0s
ORV Oroville 72.77 39 P P 08 08 23.0 +0.9
ORV IAMs_20 IAMs_20 08 40 13.0
comp=Z,11µm,22.0s
SWSC Sam W. Stewart 72.78 48 P 08 08 25.1
baz=238
WDC Whiskeytown Da 72.78 38 P P 08 08 22.6 +0.5
WDC pmax pmax
comp=Z,51nm,1.5s
WDC Whiskeytown Da 72.78 38 P P 08 08 22.6 +0.5
WDC IAMs_20 IAMs_20 08 33 46.1
comp=Z,7µm,19.0s
PEA0B Petropavlovsk- 72.82 342 *c i* P P 08 08 21.9 -0.2
PEA0B Petropavlovsk- 72.82 342 P P 08 08 21.9 -0.2
PEA0B IAmb IAmb 08 08 24.4
comp=Z,114nm,1.2s
PETK Petropavlovsk- 72.82 342 P P 08 08 22.1 0.0
comp=Z,43nm,0.9s,baz=111,slow=8.1,SNR=40
PETK Petropavlovsk- 72.82 342 P P 08 08 21.5 -0.6
PETK Petropavlovsk- 72.82 342 P P 08 08 21.5 -0.6
SLBS Sierra La Lagu 72.85 59 IAMs_20 IAMs_20 08 40 11.1
comp=Z,10µm,22.0s
LRMC Laurel Mtn Rad 72.85 45 P 08 08 25.2
baz=236,SNR=15
KBO Bosley Butte 72.85 36 IAMs_20 IAMs_20 08 39 43.8
comp=Z,10µm,20.0s
N02D Trinity Center 72.93 38 P 08 08 25.9
baz=231
O03E Paynes Creek 73.05 39 P 08 08 29.6
baz=232
M02C Callahan 73.11 37 P 08 08 27.2
baz=231
CWC Cottonwood Cre 73.12 44 P 08 08 27.1
baz=236
MDPB Devils Postpil 73.15 42 IAMs_20 IAMs_20 08 41 05.2
comp=Z,8µm,19.0s
BELC Belle Mtn. Jos 73.20 47 P 08 08 27.6
baz=238,SNR=14
KKM Kota Kinabalu 73.29 281 IAMs_20 IAMs_20 08 39 59.8
comp=Z,7µm,21.0s
RUBR Rubicon Trail 73.30 40 IAMs_20 IAMs_20 08 35 17.0
comp=Z,7µm,19.0s
MPMC Manual Prospec 73.30 44 P 08 08 28.4
baz=236,SNR=24
MLAC Mammoth, Mammo 73.31 42 P 08 08 28.8
baz=235
GSC Goldstone, Bar 73.35 45 P 08 08 28.2
baz=237,SNR=15
SZP Santa 73.36 294 IAMs_20 IAMs_20 08 33 55.5
comp=Z,7µm,21.0s
TIN Tinemaha, Big 73.37 43 P 08 08 29.2
baz=235
BC3 Big Chuckawall 73.40 47 P 08 08 29.0
baz=238,SNR=6.4
YBH Yreka Blue Hor 73.41 37 IAmb IAmb 08 08 43.0
comp=Z,56nm,1.2s
YBH IAMs_20 IAMs_20 08 34 16.6
comp=Z,6µm,19.0s
HEC Hector,Ludlow 73.42 46 P 08 08 28.9
baz=237
WAKR Walker 73.43 41 IAmb IAmb 08 08 43.6
comp=Z,110nm,1.8s
WAKR IAMs_20 IAMs_20 08 32 43.5
comp=Z,9µm,22.0s
SII Sitkinak Islan 73.46 11 IAMs_20 IAMs_20 08 40 19.8
comp=Z,9µm,19.0s
K02D Willamette Mer 73.48 36 P 08 08 30.0
baz=230
GLA Glamis 73.53 48 P 08 08 29.9
baz=239
BEKR Beckworth 73.66 40 P P 08 08 28.7 +1.1
BEKR IAmb IAmb 08 08 45.7
comp=Z,67nm,1.7s
BEKR IAMs_20 IAMs_20 08 35 27.5
comp=Z,6µm,19.0s
PNTR Pine Nut 73.67 41 P P 08 08 28.1 +0.3
PNTR IAMs_20 IAMs_20 08 40 14.8
comp=Z,9µm,22.0s
YSS Yuzh-Sakhalins 73.75 330 *ce* P P 08 08 29.0 +1.3
YSS *e* *SP pwP 08 08 34.6 +2.7
YSS *e* 08 08 49.8
YSS *e* 08 11 13.1
YSS *e* S SKiKP 08 17 57.8 -0.3
YSS *e* PS PnS 08 18 26.9 -4.5
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=Z,2µm,3.9s
YSS smax smax
comp=N,2µm,13.0s
YSS Yuzh-Sakhalins 73.75 330 P P 08 08 26.9 -0.8
YSS IAmb IAmb 08 08 36.9
comp=Z,82nm,0.9s
YSS IAMs_20 IAMs_20 08 34 52.6
comp=Z,6µm,20.0s
VCNR Virginia City 73.76 40 IAMs_20 IAMs_20 08 40 28.2
comp=Z,7µm,20.0s
PIX Pinacate 73.77 50 P P 08 08 28.2 0.0
YERR Yerington 73.84 41 IAMs_20 IAMs_20 08 40 30.2
comp=Z,8µm,22.0s
GMRC Granite Mounta 73.86 46 P 08 08 31.4
baz=238,SNR=16
LHV Little Huntoon 73.88 42 IAMs_20 IAMs_20 08 34 02.4
comp=Z,8µm,20.0s
IRM Iron Mountain 73.89 47 P 08 08 31.5
baz=238,SNR=17
M04C Macdoel 73.95 37 P 08 08 32.6
baz=231
FURC Furnace Creek, 73.95 44 P 08 08 31.6
baz=236,SNR=14
L04D Klamath Falls 73.95 37 P 08 08 33.3
baz=231
SHOC Shoshone, Teco 74.04 45 P 08 08 32.3
baz=237,SNR=10
RYN Ryan 74.08 42 IAMs_20 IAMs_20 08 33 37.8
comp=Z,7µm,21.0s
NVAR Mina Array Bea 74.11 42 P P 08 08 32.0 +1.7
comp=Z,3.4nm,0.8s,baz=229,slow=9.3,SNR=18
NVAR Mina Array Bea 74.11 42 P P 08 08 31.3 +1.0
PAHR Pah Rah Range 74.17 40 P P 08 08 32.1 +1.5
PAHR IAMs_20 IAMs_20 08 36 41.1
comp=Z,6µm,19.0s
NV11 Mina Array Sit 74.21 42 P P 08 08 32.2 +1.4
NV11 IAmb IAmb 08 08 49.0
comp=Z,60nm,1.4s
NV11 IAMs_20 IAMs_20 08 34 12.1
comp=Z,8µm,20.0s
OHAK Old Harbor 74.25 11 IAMs_20 IAMs_20 08 40 19.7
comp=Z,7µm,21.0s
I03D Drain, OR 74.31 35 P 08 08 34.7
baz=230
214A Organ Pipe Nat 74.45 50 P 08 08 34.9
baz=240,SNR=5.7
214A Organ Pipe Nat 74.45 50 P P 08 08 33.4 +1.2
QSPA South Pole Qui 74.57 180 P P 08 08 32.5 -0.1
QSPA South Pole Qui 74.57 180 IAMs_20 IAMs_20 08 42 46.0
comp=Z,8µm,18.0s
KVN Kaiserville 74.60 41 P P 08 08 34.1 +1.0
KVN pmax pmax
comp=Z,50nm,1.5s
KVN Kaiserville 74.60 41 P P 08 08 34.1 +1.0
KVN IAMs_20 IAMs_20 08 34 04.3
comp=Z,7µm,21.0s
TPH Tonopah 74.61 43 P P 08 08 34.5 +1.3
TPH pmax pmax
comp=Z,439nm,1.5s
TPH Tonopah 74.61 43 P P 08 08 34.5 +1.3
TPNV Topopah Spring 74.63 44 P 08 08 36.1
baz=237,SNR=15
TPNV Topopah Spring 74.63 44 IAMs_20 IAMs_20 08 34 55.4
comp=Z,10µm,20.0s
PDMCI Parker Dam,Lak 74.67 47 P 08 08 36.3
baz=239,SNR=12
J04D Umpqua Nationa 74.71 36 P 08 08 36.1
baz=231
I04A Tendick Farm, 74.89 35 P 08 08 37.5
baz=230
COR Corvallis 74.91 34 IAMs_20 IAMs_20 08 40 59.9
comp=Z,7µm,19.0s
KDAK Kodiak Island 74.91 11 P 08 08 34.9
baz=200
KDAK Kodiak Island 74.91 11 ||*e* P P 08 08 34.4 +0.2
KDAK pmax pmax
comp=Z,98nm,1.1s
KDAK Kodiak Island 74.91 11 P P 08 08 34.2 0.0
KDAK IAmb IAmb 08 08 36.3
comp=Z,91nm,1.3s
KDAK Kodiak Island 74.91 11 IAMs_20 IAMs_20 08 40 13.2
comp=Z,6µm,20.0s
MOD Modoc Plateau 74.93 38 IAmb IAmb 08 09 06.2
comp=Z,62nm,1.2s
MOD IAMs_20 IAMs_20 08 34 37.8
comp=Z,7µm,20.0s
YULB Yu-li 74.96 300 IAmb IAmb 08 09 13.4
comp=Z,102nm,2.0s
YULB IAMs_20 IAMs_20 08 40 29.7
comp=Z,5µm,18.0s
UGM Wanagama 74.97 266 P P 08 08 34.1 -1.5
UGM IAmb IAmb 08 08 44.5
comp=Z,67nm,0.8s
K05A Summer Lake 75.08 37 IAmb IAmb 08 09 11.2
comp=Z,126nm,1.3s
SHPR Sheep Range 75.12 45 IAmb IAmb 08 09 10.7
comp=Z,62nm,1.4s
SHPR IAMs_20 IAMs_20 08 36 51.7
comp=Z,9µm,19.0s
J05D Fort Rock, OR 75.23 36 P 08 08 38.1
baz=232
G03D McMinnville, O 75.33 34 P 08 08 41.6
baz=230
SSLB Suanglung 75.41 300 IAmb IAmb 08 08 58.1
comp=Z,114nm,2.0s
YHNB Yeheng 75.42 301 IAmb IAmb 08 09 01.2
comp=Z,62nm,1.3s
YHNB IAMs_20 IAMs_20 08 37 55.0
comp=Z,6µm,19.0s
TPUB Ta-pu 75.48 300 IAmb IAmb 08 08 45.3
comp=Z,32nm,0.7s
H04A Detroit Lake 75.58 35 IAmb IAmb 08 08 51.4
comp=Z,117nm,1.6s
H04A IAMs_20 IAMs_20 08 41 04.8
comp=Z,6µm,19.0s
TEY Ternei 75.60 326 *e* P P 08 08 40.6 +2.1
PRN Pahroc Range 75.68 44 IAmb IAmb 08 08 57.9
comp=Z,48nm,1.2s
PINE Pine Mountain 75.72 36 IAmb IAmb 08 09 09.8
comp=Z,96nm,1.1s
PINE IAMs_20 IAMs_20 08 36 47.6
comp=Z,7µm,19.0s
I05D Terrebonne, OR 75.83 35 P 08 08 41.6
baz=231
R11A Troy Canyon, C 75.83 43 P 08 08 43.3
baz=237
SBUM Sibu 76.04 277 P P 08 08 39.4 -2.3
SBUM Sibu 76.04 277 P P 08 08 42.0 +0.3
TUC Tucson 76.12 50 P P 08 08 42.1 +0.2
TUC pmax pmax
comp=Z,34nm,1.2s
TUC MLR MLR
comp=Z,6µm,18.0s
TUC Tucson 76.12 50 P P 08 08 42.1 +0.2
TUC Tucson 76.12 50 IAMs_20 IAMs_20 08 42 22.9
comp=Z,6µm,18.0s
TUC Tucson 76.12 50 P 08 08 45.2
baz=241
WVOR Wild Horse Val 76.24 38 P P 08 08 43.3 +0.9
WVOR pmax pmax
comp=Z,33nm,1.1s
WVOR Wild Horse Val 76.24 38 P P 08 08 43.2 +0.9
WVOR IAMs_20 IAMs_20 08 37 16.5
comp=Z,9µm,19.0s
TJN Taejon 76.32 314 *ce* P P 08 08 43.3 +0.5
G05D Wamic, OR 76.41 35 P 08 08 47.2
baz=231
NLWA Neilton Lookou 76.45 32 P P 08 08 43.7 +0.4
NLWA IAmb IAmb 08 08 57.0
comp=Z,53nm,1.2s
KSRS Korea Array 76.49 315 P P 08 08 45.1 +1.4
comp=Z,39nm,1.1s,baz=127,slow=6.2,SNR=86
KSAR Wonju Array Be 76.51 315 P P 08 08 43.8 -0.1
KSAR Wonju Array Be 76.51 315 P P 08 08 43.8 -0.1
KS19 Wonju Array Si 76.56 315 P P 08 08 45.1 +1.0
E04D Cinebar 76.57 33 P 08 08 45.9
baz=230

TYV	**Tymovskoe**	**76.60**	**333**	*e*P		**P**		**08 08 44.5**	**+0.5**
TYV				*e*S		**S**		**08 18 30.0**	**-0.7**
TYV				pmax		pmax			
	comp=Z,54nm,1.6s								
TYV				pmax		pmax			
	comp=Z,2μm,3.8s								
TYV				smax		smax			
	comp=N,2μm,10.3s								
I07A	**Izee**	**76.71**	**37**	P		**P**		**08 08 46.1**	**+1.0**
I07A				IAMs_20		IAMs_20		08 37 14.0	
	comp=Z,6μm,19.0s								
F05D	**White Salmon**	**76.74**	**34**	P				08 08 46.6	
	baz=231								
CNPM	**China Poot**	**76.80**	**11**	P		**P**		**08 08 45.0**	**0.0**
CNPM				IAMs_20		IAMs_20		08 41 15.0	
	comp=Z,7μm,18.0s								
J08A	**Circle Bar Ran**	**76.88**	**38**	IAmb		IAmb		08 09 17.3	
	comp=Z,57nm,1.4s								
J08A				IAMs_20		IAMs_20		08 42 50.5	
	comp=Z,8μm,22.0s								
D03D	**Eldon**	**76.94**	**32**	P				08 08 48.7	
	baz=229								
KNB	**Kanab**	**76.99**	**45**	P		**P**		**08 08 48.1**	**+1.3**
KNB				pmax		pmax			
	comp=Z,87nm,1.4s								
KNB	**Kanab**	**76.99**	**45**	P		**P**		**08 08 48.1**	**+1.3**
KNB				IAmb		IAmb		08 09 27.7	
	comp=Z,87nm,1.4s								
PSUT	**Pine Spring**	**77.08**	**44**	P		**P**		**08 08 48.3**	**+1.0**
BRLK	**Bradley Lake**	**77.08**	**11**	P		**P**		**08 08 47.3**	**+0.6**
BRLK				IAmb		IAmb		08 08 54.9	
	comp=Z,86nm,1.1s								
BRSE	**Bradley Lake S**	**77.09**	**11**	P				08 08 47.0	
	baz=202								
LON	**Longmire**	**77.10**	**33**	P		**P**		**08 08 47.6**	**+0.6**
LON				pmax		pmax			
	comp=Z,54nm,1.5s								
LON	**Longmire**	**77.10**	**33**	P		**P**		**08 08 47.6**	**+0.6**
SZCU	**Shurtz Canyon**	**77.11**	**45**	P		**P**		**08 08 47.8**	**+0.3**
MSHR	**Mys Shultsa**	**77.24**	**321**	⇓*e*P		**P**		**08 08 49.4**	**+1.6**
MSHR				pmax		pmax			
	comp=Z,180nm,1.7s								
WUAZ	**Wupatki**	**77.25**	**47**	P				08 08 51.8	
	baz=240,SNR=14								
WUAZ	**Wupatki**	**77.25**	**47**	P		**P**		**08 08 48.0**	**-0.3**
WUAZ				IAmb		IAmb		08 09 03.5	
	comp=Z,64nm,1.4s								
WUAZ				IAMs_20		IAMs_20		08 41 43.5	
	comp=Z,5μm,19.0s								
D05A	**Enumclaw**	**77.28**	**33**	P		**P**		**08 08 49.2**	**+1.2**
ELK	**Elko**	**77.37**	**41**	P		**P**		**08 08 48.7**	**-0.2**
ELK				pmax		pmax			
	comp=Z,42nm,1.5s								
ELK	**Elko**	**77.37**	**41**	P		**P**		**08 08 48.7**	**-0.2**
ELK				IAMs_20		IAMs_20		08 39 58.7	
	comp=Z,6μm,19.0s								
INCN	**Inchon**	**77.39**	**315**	P		**P**		**08 08 50.1**	**+1.3**
INCN				pmax		pmax			
	comp=Z,292nm,1.4s								
INCN	**Inchon**	**77.39**	**315**	P		**P**		**08 08 50.1**	**+1.3**
RSO	**Redoubt South**	**77.41**	**10**	P		**P**		**08 08 49.0**	**+0.4**
PKCU	**Pink Cliffs**	**77.56**	**45**	IAmb		IAmb		08 09 22.8	
	comp=Z,92nm,1.2s								
SVW2	**Sparrevohn**	**77.57**	**9**	P		**P**		**08 08 49.2**	**-0.1**
SVW2				IAmb		IAmb		08 09 02.7	
	comp=Z,75nm,1.6s								
F07A	**Phinny Hill Vi**	**77.58**	**35**	IAMs_20		IAMs_20		08 38 29.8	
	comp=Z,7μm,19.0s								
KSM	**Kuching**	**77.60**	**275**	P		**P**		**08 08 49.0**	**-1.5**
KSM				IAmb		IAmb		08 08 59.6	
	comp=Z,45nm,1.1s								
KSM	**Kuching**	**77.60**	**275**	P		**P**		**08 08 52.0**	**+1.5**
USA0B	**Ussuriysk Arra**	**77.69**	**323**	*c i*P		**P**		**08 08 51.0**	**+0.7**
USA0B	**Ussuriysk Arra**	**77.69**	**323**	P		**P**		**08 08 50.3**	**0.0**
USA0B				IAMs_20		IAMs_20		08 36 36.8	
	comp=Z,10μm,21.0s								
USRK	**Ussuriysk Ar.**	**77.69**	**323**	P		**P**		**08 08 51.6**	**+1.3**
	comp=Z,26nm,1.1s,baz=103,slow=4.1,SNR=53								
USRK	**Ussuriysk Ar.**	**77.69**	**323**	P		**P**		**08 08 49.8**	**-0.5**
USRK	**Ussuriysk Ar.**	**77.69**	**323**	P		**P**		**08 08 49.8**	**-0.5**
G08A	**Pilot Rock**	**77.75**	**36**	IAmb		IAmb		08 09 03.4	
	comp=Z,82nm,1.3s								
QZH	**Quanzhou**	**77.84**	**300**	⇑*i*P		**P**		**08 08 52.8**	**+1.2**
QZH				PP		**PP**		**08 11 47.3**	**-0.2**
QZH				S		**S**		**08 18 46.8**	**+1.5**
QZH				pmax		pmax			
	comp=Z,2μm,9.0s								
QZH				LR		LR			
	comp=Z,710nm,17.5s								
QZH				LR		LR			
	comp=Z,2μm,17.5s								
QZH				LR		LR			
	comp=Z,3μm,23.2s								
B05A	**Bryant**	**77.92**	**32**	P				08 08 53.1	
	baz=230								
MTPU	**Mount Pierson**	**77.95**	**45**	IAmb		IAmb		08 09 24.9	
	comp=Z,86nm,1.6s								
LTY	**Liberty**	**78.03**	**33**	IAmb		IAmb		08 09 24.3	
	comp=Z,84nm,1.9s								
E07A	**Sunnyside**	**78.03**	**34**	IAmb		IAmb		08 09 10.2	
	comp=Z,38nm,1.0s								
E07A				IAMs_20		IAMs_20		08 38 53.6	
	comp=Z,6μm,18.0s								
LEM	**Lembang**	**78.03**	**266**	P		**P**		**08 08 54.4**	**+1.2**
	comp=Z,72nm,0.6s,baz=130,slow=6.3,SNR=15								
HAWA	**Hanford**	**78.10**	**35**	P		**P**		**08 08 52.8**	**+0.2**
HAWA				IAmb		IAmb		08 09 23.1	
	comp=Z,63nm,1.3s								
HAWA				IAMs_20		IAMs_20		08 38 38.6	
	comp=Z,7μm,19.0s								
SPCR	**Spurr Chakacha**	**78.19**	**10**	P				08 08 52.9	
	baz=200,SNR=9.4								
SSE	**Sheshan**	**78.33**	**307**	P		**P**		**08 08 55.0**	**+0.9**
SSE				S		**S**		**08 18 51.0**	**+0.8**
SSE				pmax		pmax			
	comp=Z,17nm,0.7s								
SSE				LR		LR			
	comp=Z,800nm,30.6s								
SSE				LR		LR			
	comp=Z,3μm,23.9s								
E08A	**Dider Farm, El**	**78.42**	**35**	IAmb		IAmb		08 09 08.2	
	comp=Z,86nm,1.5s								
E08A				IAMs_20		IAMs_20		08 40 09.1	
	comp=Z,8μm,18.0s								
BMO	**Blue Mountains**	**78.44**	**37**	IAmb		IAmb		08 09 06.9	
	comp=Z,77nm,1.6s								
BMO				IAMs_20		IAMs_20		08 37 30.6	
	comp=Z,6μm,20.0s								
121A	**Cookes Peak, D**	**78.47**	**51**	P				08 08 58.8	
	baz=243								
RC01	**Rabbit Creek A**	**78.53**	**11**	P				08 08 55.2	
	baz=203,SNR=8.6								
RC01	**Rabbit Creek A**	**78.53**	**11**	P		**P**		**08 08 54.8**	**+0.2**
HIN	**Hinchinbrook I**	**78.56**	**13**	IAMs_20		IAMs_20		08 40 08.6	
	comp=Z,5μm,19.0s								
PWL	**Port Wells**	**78.59**	**12**	IAmb		IAmb		08 09 09.4	
	comp=Z,94nm,1.3s								
PWL				IAMs_20		IAMs_20		08 41 10.5	
	comp=Z,6μm,18.0s								
DUG	**Dugway, Tooele**	**78.64**	**43**	P				08 08 58.3	
	baz=239,SNR=7.3								
DUG	**Dugway, Tooele**	**78.64**	**43**	IAMs_20		IAMs_20		08 44 23.5	
	comp=Z,7μm,20.0s								
SUA	**Susitna One**	**78.69**	**11**	P				08 08 56.0	
	baz=202,SNR=12								
SUA	**Susitna One**	**78.69**	**11**	IAmb		IAmb		08 09 03.4	
	comp=Z,60nm,1.1s								
SUA				IAMs_20		IAMs_20		08 38 41.1	
	comp=Z,6μm,19.0s								
D08A	**Wollman Farm,**	**78.84**	**34**	P		**P**		**08 08 58.0**	**+1.4**
D08A				IAmb		IAmb		08 09 09.9	
	comp=Z,64nm,1.3s								
D08A				IAMs_20		IAMs_20		08 39 10.1	
	comp=Z,7μm,18.0s								
GLI	**Glacier Island**	**78.86**	**13**	P				08 08 57.4	
	baz=206								
FID	**Port Fidalgo**	**78.88**	**13**	IAMs_20		IAMs_20		08 38 27.0	
	comp=Z,5μm,19.0s								
SUCK	**Suckling Hills**	**78.89**	**14**	IAMs_20		IAMs_20		08 39 27.6	
	comp=Z,8μm,19.0s								
GAMB	**Gambell**	**79.00**	**1**	P				08 08 58.4	
	baz=181,SNR=12								
GAMB	**Gambell**	**79.00**	**1**	IAmb		IAmb		08 08 59.9	
	comp=Z,83nm,1.2s								
SKT	**Skwentna**	**79.04**	**10**	P				08 08 57.1	
	baz=201,SNR=16								
SKT	**Skwentna**	**79.04**	**10**	P		**P**		**08 08 56.4**	**-1.1**
SKT				IAmb		IAmb		08 09 10.0	
	comp=Z,117nm,1.4s								
SKT				IAMs_20		IAMs_20		08 39 03.2	
	comp=Z,6μm,20.0s								
KNK	**Knik Glacier**	**79.07**	**12**	P				08 08 58.3	
	baz=204								
KNK	**Knik Glacier**	**79.08**	**12**	IAMs_20		IAMs_20		08 41 37.3	
	comp=Z,5μm,18.0s								
Q16A	**Castle Valley**	**79.08**	**44**	IAmb		IAmb		08 09 29.9	
	comp=Z,60nm,1.4s								
EPT	**El Paso**	**79.11**	**53**	IAMs_20		IAMs_20		08 38 23.5	
	comp=Z,6μm,19.0s								
PMR	**Palmer**	**79.11**	**11**	P				08 08 58.2	
	baz=204,SNR=14								
PMR	**Palmer**	**79.11**	**11**	IAmb		IAmb		08 09 05.9	
	comp=Z,87nm,1.2s								
F10A	**Beach Ranch, E**	**79.14**	**36**	IAmb		IAmb		08 09 11.1	
	comp=Z,67nm,1.3s								
GHO	**Glory Hole Cre**	**79.31**	**11**	P		**P**		**08 08 58.1**	**-0.9**
GHO				IAmb		IAmb		08 09 11.7	
	comp=Z,168nm,1.6s								
MPU	**Maple Canyon**	**79.32**	**43**	P		**P**		**08 08 59.1**	**-0.6**
MDJ	**Mudanjiang**	**79.33**	**322**	P		**P**		**08 09 01.0**	**+1.6**
MDJ				pmax		pmax			
	comp=Z,49nm,1.2s								
MDJ				pmax		pmax			
	comp=Z,2μm,5.3s								
MDJ	**Mudanjiang**	**79.33**	**322**	P		**P**		**08 09 00.3**	**+0.9**
MDJ				pP		pwP		08 09 05.0	+1.4
MDJ				sP		PcP		08 09 06.8	-0.7
MDJ				S		**S**		**08 18 59.0**	**-1.5**
MDJ				pmax		pmax			
	comp=Z,49nm,2.2s								
MDJ				LR		LR			
	comp=Z,6μm,22.6s								
MDJ				LR		LR			
	comp=Z,6μm,18.2s								
MDJ				LR		LR			
	comp=Z,12μm,17.4s								
MDJ	**Mudanjiang**	**79.33**	**322**	P		**P**		**08 08 59.5**	**+0.2**
GRNR	**Gornyy**	**79.41**	**330**	⇑*i*P		**P**		**08 09 00.0**	**+0.3**
GRNR				pmax		pmax			
	comp=Z,20nm,1.3s								
HLID	**Hailey**	**79.42**	**39**	P		**P**		**08 08 59.6**	**-0.6**
HLID	**Hailey**	**79.42**	**39**	P				08 09 01.3	
	baz=237,SNR=78								
SPUT	**South Promonto**	**79.45**	**42**	P		**P**		**08 09 00.6**	**+0.3**
SML	**Sawmill**	**79.46**	**12**	P				08 08 59.3	
	baz=204								
SML	**Sawmill**	**79.46**	**12**	IAmb		IAmb		08 09 12.6	
	comp=Z,123nm,1.5s								
BMRM	**Bremner River**	**79.49**	**14**	P				08 09 00.2	
	baz=208,SNR=15								
BMRM	**Bremner River**	**79.49**	**14**	IAMs_20		IAMs_20		08 40 18.4	
	comp=Z,6μm,19.0s								
SRU	**San Rafael Swe**	**79.61**	**45**	IAmb		IAmb		08 09 32.8	
	comp=Z,72nm,1.5s								
C09A	**Chrisman Ranch**	**79.64**	**34**	IAmb		IAmb		08 09 14.6	
	comp=Z,79nm,1.6s								
CRQM	**Cirque**	**79.64**	**14**	IAmb		IAmb		08 09 09.3	
	comp=Z,66nm,1.1s								
YAH	**Yahtse**	**79.65**	**15**	P		**P**		**08 09 01.2**	**+0.2**
YAH				IAmb		IAmb		08 09 13.5	
	comp=Z,111nm,1.4s								
YAH				IAMs_20		IAMs_20		08 40 46.5	
	comp=Z,8μm,19.0s								
CRQE	**Cirque**	**79.65**	**14**	P				08 09 01.6	
	baz=209								
CUT	**Chulitna**	**79.65**	**11**	P				08 09 01.3	
	baz=202,SNR=13								
CUT	**Chulitna**	**79.65**	**11**	P		**P**		**08 09 00.3**	**-0.4**
CUT				IAMs_20		IAMs_20		08 37 40.5	
	comp=Z,6μm,20.0s								
KLU	**Klutina**	**79.67**	**13**	P				08 09 01.2	
	baz=207,SNR=8.7								
KLU	**Klutina**	**79.67**	**13**	P		**P**		**08 09 00.9**	**0.0**
KLU				IAmb		IAmb		08 09 12.3	
	comp=Z,81nm,1.4s								
SCM	**Sheep Creek Mo**	**79.68**	**12**	IAmb		IAmb		08 09 02.8	
	comp=Z,121nm,1.4s								
PPLA	**Purkeypile**	**79.79**	**10**	P				08 08 59.2	
	baz=200								
PPLA	**Purkeypile**	**79.79**	**10**	IAMs_20		IAMs_20		08 39 06.0	
	comp=Z,6μm,20.0s								
PCA	**Pinnacle**	**79.80**	**16**	IAMs_20		IAMs_20		08 38 20.8	
	comp=Z,6μm,20.0s								
BCPM	**Bancas Point**	**79.85**	**16**	IAMs_20		IAMs_20		08 38 22.0	
	comp=Z,7μm,19.0s								
TABL	**Table Mountain**	**79.86**	**15**	P		**P**		**08 09 01.4**	**-0.8**
TABL				IAmb		IAmb		08 09 17.1	
	comp=Z,209nm,1.8s								
MNTX	**Cornudas Mount**	**79.94**	**53**	P				08 09 05.1	
	baz=245								
MNTX	**Cornudas Mount**	**79.94**	**53**	P		**P**		**08 09 02.5**	**-0.5**
MNTX				IAmb		IAmb		08 09 18.2	
	comp=Z,83nm,1.6s								
MNTX				IAMs_20		IAMs_20		08 40 27.3	
	comp=Z,6μm,19.0s								
GRNC	**Granite Creek**	**79.96**	**15**	P		**P**		**08 09 02.7**	**-0.1**
GRNC				IAMs_20		IAMs_20		08 42 10.5	
	comp=Z,7μm,20.0s								
VRDI	**Verde Repeater**	**79.98**	**14**	IAMs_20		IAMs_20		08 41 01.2	
	comp=Z,6μm,19.0s								
ANM	**Nome**	**80.00**	**3**	P				08 09 04.1	
	baz=188,SNR=28								
N25K	**Chitina, Valde**	**80.06**	**13**	P				08 09 03.9	
	baz=208,SNR=14								
N25K	**Chitina, Valde**	**80.06**	**13**	IAmb		IAmb		08 09 16.1	
	comp=Z,116nm,1.4s								
PV05	**Paradox Valley**	**80.08**	**46**	P		**P**		**08 09 04.4**	**+0.4**
GLB	**Gilahina Butte**	**80.09**	**14**	IAmb		IAmb		08 09 17.8	
	comp=Z,130nm,1.4s								
GLB				IAMs_20		IAMs_20		08 41 41.2	
	comp=Z,6μm,19.0s								
MVCO	**Mesa Verde**	**80.09**	**47**	IAMs_20		IAMs_20		08 44 42.4	
	comp=Z,6μm,20.0s								
MVCO	**Mesa Verde**	**80.09**	**47**	P				08 09 06.5	
	baz=242								
M24K	**Tolsona, Glenn**	**80.17**	**12**	P				08 09 04.9	
	baz=206,SNR=13								
M24K	**Tolsona, Glenn**	**80.17**	**12**	P		**P**		**08 09 04.0**	**+0.4**
HWUT	**Hardware Ranch**	**80.18**	**42**	IAMs_20		IAMs_20		08 37 42.8	
	comp=Z,7μm,20.0s								
MCARA	**McCarthy VSAT**	**80.22**	**14**	P				08 09 04.6	
	baz=209								
MCARA	**McCarthy VSAT**	**80.22**	**14**	IAmb		IAmb		08 09 35.5	
	comp=Z,59nm,1.1s								
MCARA				IAMs_20		IAMs_20		08 40 22.8	
	comp=Z,6μm,19.0s								
LOGN	**Logan Glacier**	**80.23**	**15**	IAmb		IAmb		08 09 19.0	
	comp=Z,100nm,1.5s								
LOGN				IAMs_20		IAMs_20		08 41 42.1	
	comp=Z,8μm,19.0s								
CTG	**Chitna Glacier**	**80.27**	**15**	P				08 09 05.2	
	baz=211								
CTGM	**Chitina Glacie**	**80.27**	**15**	IAmb		IAmb		08 09 39.3	
	comp=Z,77nm,1.3s								
CTGM				IAMs_20		IAMs_20		08 41 43.0	
	comp=Z,6μm,20.0s								
PV10	**Paradox Valley**	**80.27**	**46**	IAMs_20		IAMs_20		08 38 45.8	
	comp=Z,9μm,20.0s								
BARN	**Barnard Glacie**	**80.27**	**15**	IAmb		IAmb		08 09 19.2	
	comp=Z,155nm,1.4s								
BARN				IAMs_20		IAMs_20		08 39 17.0	
	comp=Z,6μm,19.0s								
PV19	**Morning Glory**	**80.28**	**46**	IAMs_20		IAMs_20		08 40 30.1	
	comp=Z,8μm,19.0s								
PV14	**Lion Creek, Pa**	**80.28**	**46**	IAmb		IAmb		08 09 14.5	
	comp=Z,57nm,1.1s								
PV17	**East Wray Mesa**	**80.28**	**46**	P		**P**		**08 09 04.6**	**-0.4**
PV17				IAmb		IAmb		08 09 17.1	
	comp=Z,65nm,1.3s								
WAT6	**Susitna Watana**	**80.28**	**12**	P				08 09 05.0	
	baz=205,SNR=15								
PV20	**West Nyswonger**	**80.30**	**46**	IAmb		IAmb		08 09 14.6	
	comp=Z,53nm,1.0s								
TX31	**Lajitas Ar. Si**	**80.31**	**56**	P		**P**		**08 09 06.9**	**+1.7**
TX32	**Lajitas Array**	**80.31**	**56**	P		**P**		**08 09 06.8**	**+1.6**
TX32				IAmb		IAmb		08 09 20.7	
	comp=Z,103nm,1.4s								
TXAR	**Lajitas Array**	**80.31**	**56**	P		**P**		**08 09 07.1**	**+1.9**
	comp=Z,1.4nm,0.9s,baz=221,slow=5.0,SNR=20								
TXAR	**Lajitas Array**	**80.31**	**56**	P		**P**		**08 09 06.4**	**+1.2**
TXAR	**Lajitas Array**	**80.31**	**56**	P		**P**		**08 09 06.4**	**+1.2**
PV16	**Nyswonger Mesa**	**80.32**	**46**	IAMs_20		IAMs_20		08 40 30.4	
	comp=Z,8μm,19.0s								
PV11	**David Mesa, Pa**	**80.35**	**46**	IAmb		IAmb		08 09 33.5	
	comp=Z,52nm,1.1s								
MA2	**Magadan**	**80.36**	**342**	P		**P**		**08 09 05.2**	**+0.6**
	comp=Z,37nm,0.5s,baz=139,slow=8.4,SNR=7.7								
MA2	**Magadan**	**80.36**	**342**	*de*P		**P**		**08 09 06.0**	**+1.4**
MA2				pmax		pmax			
	comp=Z,78nm,1.3s								
MA2				MLR		MLR			
	comp=Z,4μm,18.0s								
MA2	**Magadan**	**80.36**	**342**	IAMs_20		IAMs_20		08 44 04.6	
	comp=Z,5μm,18.0s								
PV02	**Paradox Valley**	**80.40**	**46**	IAmb		IAmb		08 09 20.6	
	comp=Z,94nm,1.5s								
UNM	**Universidad Na**	**80.40**	**67**	IAMs_20		IAMs_20		08 36 25.4	
	comp=Z,6μm,20.0s								
PV12	**Saucer Basin,**	**80.40**	**46**	IAmb		IAmb		08 09 15.3	
	comp=Z,80nm,1.2s								
WAT2	**Susitna Watana**	**80.47**	**11**	P				08 09 05.7	
	baz=204								
PV01	**Paradox Valley**	**80.48**	**46**	IAMs_20		IAMs_20		08 39 02.5	
	comp=Z,7μm,19.0s								
PV22	**Blue Mesa, Par**	**80.52**	**46**	P		**P**		**08 09 05.5**	**-0.8**
NJ2	**Nanjing**	**80.53**	**307**	*e*P		**P**		**08 09 07.5**	**+1.3**
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
ANMO	**Albuquerque**	**80.54**	**50**	*ce*P		**P**		**08 09 07.8**	**+1.4**
ANMO				pmax		pmax			
	comp=Z,21nm,1.7s								
ANMO	**Albuquerque**	**80.54**	**50**	P		**P**		**08 09 06.9**	**+0.4**
ANMO	**Albuquerque**	**80.54**	**50**	IAMs_20		IAMs_20		08 40 32.8	
	comp=Z,6μm,18.0s								
ANMO	**Albuquerque**	**80.54**	**50**	P				08 09 08.5	
	baz=244								
NEW	**Newport**	**80.54**	**34**	P				08 09 06.3	
	baz=234								
NEW	**Newport**	**80.54**	**34**	P		**P**		**08 09 04.7**	**-1.2**
NEW				pmax		pmax			
	comp=Z,32nm,1.4s								
NEW	**Newport**	**80.54**	**34**	P		**P**		**08 09 04.7**	**-1.2**
NEW	**Newport**	**80.54**	**34**	IAMs_20		IAMs_20		08 40 11.9	
	comp=Z,5μm,19.0s								
PV07	**Paradox Valley**	**80.57**	**46**	IAMs_20		IAMs_20		08 38 57.0	
	comp=Z,6μm,20.0s								
KTH	**Kantishna Hill**	**80.61**	**10**	P		**P**		**08 09 04.8**	**-1.2**
KTH				IAMs_20		IAMs_20		08 40 21.7	
	comp=Z,8μm,19.0s								
TRF	**Thorofare Moun**	**80.62**	**10**	P				08 09 06.4	
	baz=202,SNR=21								
TRF	**Thorofare Moun**	**80.62**	**10**	P		**P**		**08 09 05.3**	**-0.8**
PV15	**Paradox Valley**	**80.64**	**46**	IAMs_20		IAMs_20		08 38 50.7	
	comp=Z,6μm,20.0s								
CHUM	**Lake Minchumin**	**80.70**	**9**	P				08 09 05.9	
	baz=200,SNR=35								
KLR	**Kul'dur**	**80.80**	**327**	P		**P**		**08 09 07.9**	**+0.7**
	comp=Z,23nm,1.3s,baz=111,slow=3.7,SNR=23								
KLR	**Kul'dur**	**80.80**	**327**	*c i*P		**P**		**08 09 07.5**	**+0.3**
KLR				pmax		pmax			
	comp=Z,76nm,2.0s								
RND	**Reindeer**	**80.83**	**11**	P		**P**		**08 09 06.6**	**-0.6**
RND				pmax		pmax			
	comp=Z,104nm,1.2s								
RND	**Reindeer**	**80.83**	**11**	P		**P**		**08 09 06.6**	**-0.6**
RND				IAmb		IAmb		08 09 09.7	
	comp=Z,104nm,1.2s								
RND				IAMs_20		IAMs_20		08 39 17.6	
	comp=Z,5μm,20.0s								
TNA	**Tin City**	**80.88**	**2**	P				08 09 08.1	
	baz=185,SNR=27								
TNA	**Tin City**	**80.88**	**2**	P		**P**		**08 09 07.2**	**-0.1**
RDMU	**Red Mountain**	**80.97**	**44**	P		**P**		**08 09 09.4**	**+0.7**
MCMT	**McKenzie Canyo**	**81.06**	**39**	P		**P**		**08 09 10.0**	**+1.0**
PAX	**Paxson**	**81.09**	**12**	P				08 09 08.1	
	baz=207,SNR=16								
PAX	**Paxson**	**81.09**	**12**	P		**P**		**08 09 07.5**	**-1.1**
PAX	**Paxson**	**81.09**	**12**	P		**P**		**08 09 07.5**	**-1.1**
BPAW	**Bear Paw Mtn.**	**81.11**	**10**	P				08 09 08.0	
	baz=202,SNR=17								
BPAW	**Bear Paw Mtn.**	**81.11**	**10**	P		**P**		**08 09 07.7**	**-0.9**
BPAW				IAmb		IAmb		08 09 21.2	
	comp=Z,83nm,1.6s								
MCK	**McKinley**	**81.12**	**11**	P				08 09 08.5	
	baz=204,SNR=52								
MCK	**McKinley**	**81.12**	**11**	P		**P**		**08 09 07.6**	**-1.0**
MCK				pmax		pmax			
	comp=Z,125nm,1.1s								
MCK	**McKinley**	**81.12**	**11**	P		**P**		**08 09 07.6**	**-1.0**
MCK				IAMs_20		IAMs_20		08 38 04.1	
	comp=Z,5μm,20.0s								
HYT	**Haines Junctio**	**81.16**	**17**	IAmb		IAmb		08 09 11.7	
	comp=Z,48nm,1.1s								
HYT				IAMs_20		IAMs_20		08 41 16.8	
	comp=Z,5μm,19.0s								
MENT	**Mentasta**	**81.43**	**13**	IAmb		IAmb		08 09 23.7	
	comp=Z,129nm,1.6s								
DLMT	**Dillon**	**81.49**	**38**	IAmb		IAmb		08 09 33.2	
	comp=Z,92nm,1.5s								
DLMT				IAMs_20		IAMs_20		08 40 55.6	
	comp=Z,6μm,21.0s								
MSO	**Missoula**	**81.50**	**37**	P				08 09 11.6	
	baz=237,SNR=44								
MSO	**Missoula**	**81.50**	**37**	IAmb		IAmb		08 09 23.6	
	comp=Z

comp=Z,80nm,1.2s
MLY Manley 82.02 9 P 08 09 12.9
baz=202,SNR=54
MLY Manley 82.02 9 IAmb IAmb 08 09 15.3
comp=Z,65nm,1.1s
BW06 Boulder Array 82.05 42 P 08 09 14.9
baz=241
BW06 Boulder Array 82.05 42 P **P 08 09 14.0 -0.4**
BW06 IAmb IAmb 08 09 28.9
comp=Z,66nm,1.5s
PD31 Pinedale Array 82.05 42 P **P 08 09 14.4 +0.1**
PD31 IAmb IAmb 08 09 28.9
comp=Z,61nm,1.5s
PDAR Pinedale Array 82.05 42 P **P 08 09 15.0 +0.7**
comp=Z,1.4nm,0.7s,baz=205,slow=3.1,SNR=17
PDAR PKKPbc **PKKPbc 08 27 47.6 +2.0**
comp=Z,0.2nm,0.5s,baz=108,slow=3.3,SNR=3.8
PDAR Pinedale Array 82.05 42 P **P 08 09 13.7 -0.6**
SMCO Snowmass 82.07 46 IAmb IAmb 08 09 37.0
comp=Z,73nm,1.2s
SMCO IAMs_20 IAMs_20 08 40 51.6
comp=Z,8µm,18.0s
HDA Harding Lake 82.10 11 P 08 09 13.7
baz=205,SNR=46
HDA P 08 09 13.7
baz=205,SNR=46
YMR Madison River 82.12 40 IAmb IAmb 08 09 28.0
comp=Z,100nm,1.3s
BOZ Bozeman (W) 82.19 38 P 08 09 15.9
baz=239,SNR=26
BOZ Bozeman (W) 82.19 38 IAmb IAmb 08 09 29.1
comp=Z,71nm,1.3s
BOZ IAMs_20 IAMs_20 08 39 52.2
comp=Z,5µm,20.0s
H17A Grant Village 82.22 40 IAmb IAmb 08 09 31.5
comp=Z,101nm,1.6s
H17A Grant Village 82.22 40 P 08 09 18.0
baz=240,SNR=23
SCRK Sand Creek 82.29 12 P 08 09 15.2
baz=208,SNR=30
SCRK Sand Creek 82.29 12 IAmb IAmb 08 09 27.5
comp=Z,37nm,1.0s
SCRK IAMs_20 IAMs_20 08 42 22.3
comp=Z,5µm,19.0s
I23K Minto, Yukon-K 82.35 10 P 08 09 14.9
baz=203,SNR=41
I23K Minto, Yukon-K 82.35 10 IAmb IAmb 08 09 16.7
comp=Z,78nm,1.2s
DLV T Lat 82.35 285 IAmb IAmb 08 09 19.1
comp=Z,74nm,1.4s
TCOL CIGO, UAF Yank 82.35 11 P 08 09 15.4
baz=204,SNR=27
TCOL CIGO, UAF Yank 82.36 11 IAMs_20 IAMs_20 08 40 25.9
comp=Z,5µm,20.0s
COLA College 82.36 11 P 08 09 15.3
baz=204
COLA College 82.36 11 c *i*P **P 08 09 14.3 -0.8**
COLA pmax pmax
comp=Z,136nm,1.0s
COLA College 82.36 11 P **P 08 09 13.5 -1.5**
MDM Murphy Dome 82.37 10 IAmb IAmb 08 09 16.8
comp=Z,87nm,1.1s
MDM IAMs_20 IAMs_20 08 41 35.2
comp=Z,7µm,20.0s
LKWY Lake 82.41 40 IAmb IAmb 08 09 48.3
comp=Z,117nm,1.4s
IL31 82.44 11 P **P 08 09 14.8 -0.6**
ILAR Eielson Array 82.44 11 P **P 08 09 14.8 -0.7**
comp=Z,21nm,1.0s,baz=214,slow=4.8,SNR=69
ILAR Eielson Array 82.44 11 P **P 08 09 14.0 -1.5**
ILAR Eielson Array 82.44 11 P **P 08 09 14.0 -1.5**
IMAR Indian Mountai 82.49 8 P **P 08 09 15.4 -0.4**
POKR Poker Plat Res 82.65 11 P 08 09 16.8
baz=205,SNR=35
POKR Poker Plat Res 82.65 11 P **P 08 09 15.9 -0.7**
SEY Seymchan 82.69 345⇑ *e*P **P 08 09 18.0 +1.1**
WALA Waterton Lakes 82.74 35 IAmb IAmb 08 09 31.9
comp=Z,74nm,1.3s
WALA IAMs_20 IAMs_20 08 40 52.3
comp=Z,6µm,19.0s
K27K Chicken 82.75 13 P 08 09 18.1
baz=210
K27K Chicken 82.75 13 IAMs_20 IAMs_20 08 42 06.2
comp=Z,6µm,20.0s
YNE Yellowstone No 82.88 40 IAmb IAmb 08 09 33.1
comp=Z,93nm,1.3s
MSTX Muleshoe 82.88 52 P **P 08 09 17.9 -0.8**
MSTX Muleshoe 82.88 52 P 08 09 20.3
baz=246
T25A Trinidad 82.98 49 P 08 09 21.1
baz=245
T25A Trinidad 82.98 49 P **P 08 09 18.9 -0.4**
T25A IAmb IAmb 08 09 38.9
comp=Z,40nm,1.2s
RWWY Rawlins 83.06 43 P **P 08 09 19.3 -0.4**
Q24A Divide 83.24 47 P 08 09 22.4
baz=244
ISCO Idaho Springs 83.29 46 P **P 08 09 21.4 +0.5**
ISCO pmax pmax
comp=Z,56nm,1.5s
ISCO Idaho Springs 83.29 46 P **P 08 09 21.4 +0.5**
ISCO IAmb IAmb 08 09 35.3
comp=Z,56nm,1.4s
ISCO IAMs_20 IAMs_20 08 42 37.9
comp=Z,7µm,19.0s
ISCO Idaho Springs 83.29 46 P 08 09 22.7
baz=244
QIZ Qiongzhong 83.31 292 P **P 08 09 21.5 +0.4**
QIZ PP **PP 08 12 30.5 -2.5**
QIZ S **S 08 19 40.0 -2.8**
QIZ sS **SKKSac 08 19 51.3 +2.5**
QIZ SS **SS 08 25 08.3 +0.1**
QIZ pmax pmax
comp=Z,1µm,10.0s
QIZ LR LR
comp=Z,1µm,15.2s
QIZ LR LR
comp=Z,3µm,19.6s
QIZ LR LR
comp=Z,3µm,27.5s
PRP Porcupine Dome 83.36 11 P 08 09 20.9
baz=207,SNR=59
PRP Porcupine Dome 83.36 11 P **P 08 09 19.4 -1.2**
PRP IAMs_20 IAMs_20 08 41 52.6
comp=Z,5µm,19.0s
RLMT Red Lodge 83.39 40 P 08 09 22.7
baz=240,SNR=14
DAWY Dawson 83.39 14 IAmb IAmb 08 09 23.0
comp=Z,67nm,1.2s
DAWY IAMs_20 IAMs_20 08 43 09.5
comp=Z,8µm,20.0s
WHN Wuhan 83.47 304⇑ P **P 08 09 21.5 -0.2**
WHN S **S 08 19 49.8 +5.8**
WHN pmax pmax
comp=Z,3µm,9.6s
WHN LR LR
comp=Z,8µm,10.9s
WHN LR LR
comp=Z,3µm,8.5s
WHN LR LR
comp=Z,8µm,17.4s
N23A Red Feather La 83.55 45 P 08 09 23.4
baz=243
TIA Tai'an 83.56 310 P **P 08 09 23.5 +1.4**
TIA PP **PP 08 12 32.3 -2.4**
TIA S **S 08 19 46.5 +1.7**
TIA pmax pmax
comp=Z,27nm,1.2s
TIA pmax pmax
comp=Z,1µm,4.5s
TIA LR LR
comp=Z,7µm,10.8s
TIA LR LR
comp=Z,7µm,11.0s
TIA LR LR
comp=Z,4µm,18.1s
EGAK Eagle 83.59 13 P 08 09 22.1
baz=211,SNR=19
EGAK Eagle 83.60 13 IAmb IAmb 08 09 30.1
comp=Z,45nm,1.1s
EGAK IAMs_20 IAMs_20 08 42 52.9
comp=Z,5µm,20.0s
RDOG Red Dog Mine 83.61 4 P 08 09 22.4
baz=190
JCT Junction City 83.85 56 P 08 09 26.3
baz=248
BELA Belgrano 2 83.87 172 IAmb IAmb 08 09 36.1
comp=Z,56nm,1.2s
PMSA Palmer Station 83.94 156 IAMs_20 IAMs_20 08 41 30.4
comp=Z,6µm,19.0s
K22A Casper 83.96 43 P 08 09 25.4
baz=243
K22A Casper 83.96 43 IAmb IAmb 08 09 45.7
comp=Z,80nm,1.3s
PHWY Pilot Hill 84.06 44 P **P 08 09 25.0 +0.1**
PHWY IAmb IAmb 08 09 36.4
comp=Z,70nm,1.8s
PHWY IAMs_20 IAMs_20 08 42 52.2
comp=Z,5µm,21.0s
AMTX Amarillo 84.07 52 IAmb IAmb 08 09 33.8
comp=Z,70nm,1.0s
AMTX IAMs_20 IAMs_20 08 42 25.6
comp=Z,6µm,20.0s
AMTX Amarillo 84.07 52 P 08 09 26.2
baz=247
COLD Coldfoot 84.15 9 P 08 09 25.3
baz=202,SNR=67
COLD Coldfoot 84.15 9 P **P 08 09 24.3 0.0**
EGMT Eagleton 84.54 37 P 08 09 27.7
baz=240,SNR=8.8
EGMT Eagleton 84.54 37 IAmb IAmb 08 09 35.8
comp=Z,55nm,1.1s
EGMT IAMs_20 IAMs_20 08 42 40.2
comp=Z,6µm,19.0s
BILL Bilibino 84.63 352 *d i*P **P 08 09 26.6 -0.2**
BILL pmax pmax
comp=Z,76nm,2.5s
BILL Bilibino 84.63 352 P **P 08 09 25.9 -0.8**
BILL IAmb IAmb 08 09 41.9
comp=Z,56nm,1.4s
BILL IAMs_20 IAMs_20 08 42 32.0
comp=Z,6µm,19.0s
ABTX Abilene, Hawle 84.77 54 P 08 09 29.9
baz=248
H03S1 Juan Fernandez 84.84 124 T T 09 43 58.2
baz=285,slow=74,SNR=3.2
H03S3 Juan Fernandez 84.84 124 T T 09 44 11.9
baz=255,slow=74,SNR=3.1
KSCO Kaye Shedlock' 85.04 47 IAmb IAmb 08 09 51.5
comp=Z,69nm,1.2s
TOLK Toolik Lake Re 85.55 8 P 08 09 31.9
baz=203
TOLK Toolik Lake Re 85.56 8 IAmb IAmb 08 09 45.0
comp=Z,89nm,1.3s
ZEA Zeya 85.69 329 *ce*P **P 08 09 32.8 +0.4**
ZEA *e* 08 09 32.8
ZEA *e* 08 12 49.3
ZEA *e*S **S 08 20 01.4 -3.8**
ZEA *e*SS **SS 08 25 42.3 +0.3**
ZEA pmax pmax
comp=Z,30nm,1.7s
ZEA pmax pmax
comp=E,300nm,9.3s
ZEA pmax pmax
comp=Z,1µm,8.6s
ZEA pmax pmax
comp=Z,300nm,10.7s
ZEA smax smax
comp=E,1µm,10.8s
ZEA smax smax
comp=N,1µm,12.4s
435B Jarrell 85.74 57 IAMs_20 IAMs_20 08 41 24.1
comp=Z,6µm,21.0s
JRMM Jerantut 85.78 275 P **P 08 09 35.0 +1.3**
BJT Baijiatuan 85.81 313 IAMs_20 IAMs_20 08 41 43.9
comp=Z,6µm,19.0s
BJI Beijing 85.81 313 P **P 08 09 35.0 +1.7**
BJI PP **PP 08 12 50.5 -2.4**
BJI S **S 08 20 08.8 +1.9**
BJI pmax pmax
comp=Z,95nm,1.4s
BJI pmax pmax
comp=Z,2µm,6.4s
BJI LR LR
comp=Z,1µm,7.1s
EPYK Eagle Plains 85.94 14 P 08 09 33.6
baz=215,SNR=24
EPYK Eagle Plains 85.94 14 P **P 08 09 32.9 -0.5**
EPYK IAMs_20 IAMs_20 08 44 05.9
comp=Z,5µm,19.0s
LAO LASA Array 86.00 39 P **P 08 09 34.6 +0.5**
LAO LASA Array 86.00 39 P 08 09 35.7
baz=243
BKNI Bangkinang 86.21 271 IAMs_20 IAMs_20 08 42 32.4
comp=Z,7µm,19.0s
WMOK Wichita Mounta 86.22 53 P 08 09 38.0
baz=248
WMOK Wichita Mounta 86.22 53 P **P 08 09 35.3 -0.2**
WMOK pmax pmax
comp=Z,29nm,1.3s
WMOK Wichita Mounta 86.22 53 P **P 08 09 35.3 -0.2**
WMOK Wichita Mounta 86.22 53 IAMs_20 IAMs_20 08 41 35.5
comp=Z,5µm,18.0s
RSSD Black Hills 86.24 42 P 08 09 36.3
baz=244
RSSD Black Hills 86.24 42 P **P 08 09 33.8 -1.8**
RSSD pmax pmax
comp=Z,53nm,1.4s
RSSD MLR MLR
comp=Z,8µm,18.0s
RSSD Black Hills 86.24 42 P **P 08 09 33.8 -1.8**
RSSD IAmb IAmb 08 09 56.7
comp=Z,53nm,1.4s
OGNE Ogallala 86.25 46 IAMs_20 IAMs_20 08 47 38.3
comp=Z,6µm,20.0s
WHTX Lake Whitney, 86.27 56 P **P 08 09 35.3 -0.4**
WHTX Lake Whitney, 86.27 56 P 08 09 38.1
baz=249
U32A Winter Ranch, 86.66 51 IAMs_20 IAMs_20 08 43 26.0
comp=Z,7µm,19.0s
HKT Hockley 86.88 58⇑ *e*P **P 08 09 39.4 +0.7**
HKT pmax pmax
comp=Z,16nm,1.6s
HKT Hockley 86.88 58 IAMs_20 IAMs_20 08 42 32.2
comp=Z,5µm,21.0s
COCO West Island 86.99 258 IAMs_20 IAMs_20 08 45 00.9
comp=Z,6µm,20.0s
CBKS Cedar Bluff 87.03 49 IAMs_20 IAMs_20 08 43 10.7
comp=Z,5µm,20.0s
A21K Barrow 87.30 5 IAMs_20 IAMs_20 08 42 40.2
comp=Z,5µm,20.0s
IPM Ipoh 87.33 275 P **P 08 09 43.0 +1.6**
OK032 Salt Plains WL 87.41 51 IAMs_20 IAMs_20 08 41 41.8
comp=Z,6µm,19.0s
FNO Franklin 87.47 53 P **P 08 09 39.0 -2.6**
HIA Hailar 87.50 323 *c i*P **P 08 09 41.7 +0.3**
HIA pmax pmax
comp=Z,108nm,2.0s
TIY Taiyuan 87.61 310 *e*P **P 08 09 43.8 +1.6**
TIY SKS **SKSac 08 20 08.3 -2.7**
TIY S **SKKSac 08 20 22.5 +2.0**
TIY pmax pmax
comp=Z,110nm,1.2s
TIY pmax pmax
comp=Z,2µm,9.6s
TIY LR LR
comp=Z,7µm,11.8s
TIY LR LR
comp=Z,5µm,11.1s
TIY LR LR
comp=Z,5µm,20.5s
OK029 Liberty Lake 87.62 52 IAMs_20 IAMs_20 08 44 02.4
comp=Z,6µm,19.0s
OK025 Westminster Rd 87.63 52 IAMs_20 IAMs_20 08 47 54.8
comp=Z,7µm,19.0s
MAW Mawson 87.86 199 P **P 08 09 44.0 +1.2**
comp=Z,54nm,1.2s,baz=129,slow=5.4,SNR=18
MAW Mawson 87.86 199 P **P 08 09 42.1 -0.7**
baz=88,SNR=14
MAW Mawson 87.86 199 P **P 08 09 44.0 +1.2**
MAW Mawson 87.86 199 P **P 08 09 44.3 +1.5**
KULM Kulim 87.91 276 P **P 08 09 45.0 +0.9**
DGMT Dagmar 88.03 38 P **P 08 09 43.8 -0.2**
DGMT Dagmar 88.03 38 P 08 09 45.6
baz=244
INK Inuvik 88.24 14 P **P 08 09 44.7 +0.3**
comp=Z,20nm,1.0s,baz=185,slow=6.1,SNR=37
INK Inuvik 88.24 14 P **P 08 09 43.6 -0.8**
INK pmax pmax
comp=Z,44nm,1.3s
INK Inuvik 88.24 14 P **P 08 09 43.6 -0.8**
INK IAmb IAmb 08 09 46.3
comp=Z,44nm,1.2s
NATX Nacogdoches 88.43 57 IAMs_20 IAMs_20 08 41 49.2
comp=Z,6µm,19.0s
GYA Guiyang 88.44 298⇑ P **P 08 09 47.3 +0.8**
GYA pP pwP 08 09 50.8 0.0
GYA PP **PP 08 13 14.3 -0.3**
GYA SKS **SKSac 08 20 16.0 -0.6**
GYA S **SKKSac 08 20 27.8 +0.5**
GYA SS **SS 08 26 24.0 +0.4**
GYA pmax pmax
comp=Z,19nm,1.3s
GYA pmax pmax
comp=Z,1µm,7.2s
GYA LR LR
comp=Z,2µm,22.2s
GYA LR LR
comp=Z,3µm,20.1s
GYA LR LR
comp=Z,2µm,22.1s
X37A Clayton 88.80 54 IAMs_20 IAMs_20 08 44 03.9
comp=Z,7µm,20.0s
XAN Xi'an 89.00 306 P **P 08 09 50.3 +1.4**
XAN pmax pmax
comp=Z,46nm,1.5s
XAN pmax pmax
comp=Z,27nm,5.4s
XAN Xi'an 89.00 306 P **P 08 09 50.0 +1.1**
XAN pmax pmax
comp=Z,42nm,1.9s
XAN pmax pmax
comp=Z,1µm,5.5s
XAN LR LR
comp=Z,1µm,18.4s
XAN LR LR
comp=Z,2µm,15.2s
XAN LR LR
comp=Z,870nm,15.2s
BGNE Belgrade 89.13 47 IAMs_20 IAMs_20 08 43 54.6
comp=Z,8µm,22.0s
K31A O'Neill 89.16 45 IAmb IAmb 08 10 05.2
comp=Z,81nm,1.4s
K31A IAMs_20 IAMs_20 08 43 11.3
comp=Z,6µm,20.0s
PLCA Paso Flores 89.16 132 P **P 08 09 52.6 +2.9**
comp=Z,2.9nm,1.1s,baz=284,slow=5.9,SNR=3.0
PLCA Paso Flores 89.16 132 IAmb IAmb 08 10 15.0
comp=Z,52nm,1.6s
SLVN Son La 89.32 292 IAmb IAmb 08 09 59.0
comp=Z,70nm,1.8s
YAK Yakutsk 89.34 337 *e*P **P 08 09 48.0 -1.7**
YAK *e*S **SKSac 08 20 14.9 -5.2**
YAK *e*SS **SKKSac 08 20 33.7 +1.5**
YAK pmax pmax
comp=Z,34nm,1.4s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=Z,537nm,5.8s
YAK pmax pmax
comp=N,118nm,3.7s
YAK pmax pmax
comp=E,226nm,4.8s
YAK smax smax
comp=N,234nm,6.8s
YAK smax smax
comp=E,246nm,6.7s
HHC Hu-ho-hao-te 89.37 313 *e*P **P 08 09 51.8 +1.2**
HHC sP pwP 08 09 58.8 +4.0
HHC PP **PP 08 13 22.5 +0.7**
HHC SKS **SKSac 08 20 19.0 -2.5**
HHC S **S 08 20 38.8 -2.6**
HHC sS ScS 08 20 46.8 +0.7
HHC pmax pmax
comp=E,140nm,1.3s
HHC pmax pmax
comp=E,1µm,5.8s
HHC LR LR
comp=E,2µm,20.4s
HHC LR LR
comp=E,1µm,18.4s
HHC LR LR
comp=E,2µm,18.4s
KSU1 Kansas State U 89.41 49 IAMs_20 IAMs_20 08 43 09.6
comp=Z,5µm,20.0s
TGUH Tegucigalpa,Un 89.65 75 IAMs_20 IAMs_20 08 43 56.9
comp=Z,7µm,20.0s
GSI Gunungsitoli 89.81 271 P **P 08 09 52.8 -0.3**
YKA Yellowknife Ar 90.00 23 P **P 08 09 52.6 -0.2**
comp=Z,10nm,1.0s,baz=230,slow=4.2,SNR=90
YKA PKKPbc **PKKPdf 08 27 24.2 +1.0**
comp=Z,0.2nm,0.6s,baz=36,slow=2.3,SNR=5.4
U38A Gravette 90.17 52 P **P 08 09 53.9 -0.4**
MIAR Mount Ida 90.19 54 IAMs_20 IAMs_20 08 42 12.6
comp=Z,6µm,19.0s
W39A Magazine 90.23 54 P 08 09 57.4
baz=251
WLAR White Oak Lake 90.28 55 IAmb IAmb 08 10 04.4
comp=Z,42nm,1.1s
BTO Baotou 90.39 312 P **P 08 09 56.5 +1.2**
L34A Svendsen Farm, 90.57 47 IAMs_20 IAMs_20 08 45 17.7
comp=Z,5µm,20.0s
MDND Maddock 90.58 40 IAMs_20 IAMs_20 08 47 48.2
comp=Z,6µm,19.0s
X40A Basin Creek Fa 90.75 54 IAMs_20 IAMs_20 08 44 25.5
comp=Z,4µm,21.0s
JTS Las Juntas de 90.82 80⇑ *e*P **P 08 09 59.5 +1.7**
JTS pmax pmax
comp=Z,11nm,1.0s
JTS Las Juntas de 90.82 80 P **P 08 09 58.1 +0.3**
ECSD EROS Data Cent 91.02 45 P **P 08 09 56.4 -1.7**
ECSD EROS Data Cent 91.02 45 P 08 09 58.7
baz=250
U40A Yellville 91.32 53 P **P 08 09 59.0 -0.6**
U40A IAMs_20 IAMs_20 08 51 07.4
comp=Z,5µm,18.0s
U40A Yellville 91.32 53 P 08 10 01.9
baz=252
C36M Paulatuk 91.32 16 P **P 08 09 57.1 -1.6**
C36M IAmb IAmb 08 10 13.4
comp=Z,36nm,1.4s
C36M IAMs_20 IAMs_20 08 45 22.2
comp=Z,6µm,19.0s
S39A Bolivar 91.38 51 P **P 08 09 59.7 -0.1**
S39A IAmb IAmb 08 10 28.6
comp=Z,43nm,1.9s
W41B Gary Mavity, V 91.42 54 P 08 10 01.8
baz=252
KMI Kunming 91.42 296⇑ *i*P **P 08 10 01.5 +0.9**
KMI pP pwP 08 10 04.8 -0.1
KMI SKS **SKSac 08 20 31.0 -3.3**
KMI S **S 08 20 59.5 -1.6**
KMI sS **SS 08 27 06.5 -0.7**
KMI pmax pmax
comp=Z,6.0nm,0.5s
KMI pmax pmax
comp=Z,1µm,8.4s
KMI LR LR
comp=Z,820nm,12.4s
KMI LR LR
comp=Z,3µm,21.0s
KMI LR LR
comp=Z,4µm,22.3s
WHAR Wooly Hollow 91.42 54 P **P 08 10 00.1 -0.1**
WHAR IAmb IAmb 08 10 16.0
comp=Z,41nm,1.4s
HDC Heredia 91.54 80 IAMs_20 IAMs_20 08 42 26.5
comp=Z,6µm,19.0s
PEL Peldehue 91.60 125 P **P 08 09 59.8 -1.4**
PEL pmax pmax
comp=Z,209nm,2.0s
PEL Peldehue 91.60 125 P **P 08 09 59.8 -1.4**
PEL IAMs_20 IAMs_20 08 41 03.1
comp=Z,6µm,21.0s
FCAR Ozark Folk Cen 91.73 53 P **P 08 10 01.1 -0.4**
P38A Dawn 91.83 49 IAmb IAmb 08 10 31.0
comp=Z,64nm,1.8s
VBMS Vicksburg 91.92 57 IAMs_20 IAMs_20 08 44 39.6
comp=Z,4µm,18.0s
FFC Flin Flon 91.94 33 P **P 08 10 01.6 -0.4**
FFC pmax pmax
comp=Z,30nm,1.4s
FFC Flin Flon 91.94 33 P **P 08 10 01.6 -0.4**
FFC IAmb IAmb 08 10 15.6
comp=Z,30nm,1.4s
D32A Dogwood Acres, 91.95 42 IAMs_20 IAMs_20 08 48 08.6
comp=Z,5µm,18.0s

MGMO	**Mountain Grove**	**92.01**	**52**	IAmb	IAmb	08 10 17.6				
	comp=Z,65nm,1.4s									
CIT	**Chita**	**92.23**	**324**	*e*P	**P**	**08 10 04.2**	**+0.7**			
CIT				pmax	pmax					
	comp=Z,262nm,2.0s									
R40A	**Maddies Statio**	**92.36**	**51**	IAmb	IAmb	08 10 13.3				
	comp=Z,51nm,1.3s									
LCAR	**Lake Charles**	**92.54**	**53**	P	**P**	**08 10 05.0**	**-0.3**			
LCAR				IAmb	IAmb	08 10 26.5				
	comp=Z,58nm,1.7s									
EFI	**East Falkland**	**92.61**	**146**	IAMs_20	IAMs_20	08 44 02.4				
	comp=Z,6µm,20.0s									
SYO	**Syowa Base**	**92.61**	**191**⇑	*e*P	**P**	**08 10 02.6**	**-2.4**			
SYO	**Syowa Base**	**92.61**	**191**⇑	*e*pP	pP	08 10 06.9	+0.7			
VNA3	**Neumayer Olymp**	**92.75**	**175**	P	**P**	**08 10 08.2**	**+2.6**			
VNA3	**Neumayer Olymp**	**92.75**	**175**	PP	PP	08 13 46.4	-0.5			
VNA3	**Neumayer Olymp**	**92.75**	**175**	sP	sP	08 10 10.3	+3.0			
SCIA	**State Center**	**92.78**	**47**	IAMs_20	IAMs_20	08 47 25.7				
	comp=Z,5µm,19.0s									
SNAA	**Sanae**	**92.81**	**177**	P	**P**	**08 10 10.6**	**+4.6**			
SNAA	**Sanae**	**92.81**	**177**⇓	*e*P	**P**	**08 10 09.1**	**+3.1**			
SNAA				pmax	pmax					
	comp=Z,61nm,1.3s									
SNAA				MLR	MLR					
	comp=Z,3µm,17.0s									
SNAA	**Sanae**	**92.81**	**177**	P	**P**	**08 10 06.4**	**+0.4**			
SNAA				IAMs_20	IAMs_20	08 47 38.0				
	comp=Z,4µm,20.0s									
T42A	**Van Buren**	**92.87**	**52**	P	**P**	**08 10 07.1**	**+0.4**			
T42A				IAmb	IAmb	08 10 20.3				
	comp=Z,33nm,1.4s									
P40A	**Paris**	**92.89**	**50**	P	**P**	**08 10 06.5**	**-0.3**			
P40A				IAmb	IAmb	08 10 14.8				
	comp=Z,34nm,1.3s									
LCO	**Las Campanas**	**92.96**	**121**	IAMs_20	IAMs_20	08 41 01.3				
	comp=Z,7µm,22.0s									
CMAR	**Chiang Mai Arr**	**93.02**	**288**	P	**P**	**08 10 08.3**	**+0.4**			
	comp=Z,3.2nm,0.8s,baz=93,slow=3.1,SNR=16									
CMAR				PKKPbc	**PKKPbc**	**08 27 22.6**	**+5.2**			
	comp=Z,1.9nm,0.3s,baz=266,slow=4.2,SNR=4.4									
CMAR	**Chiang Mai Arr**	**93.02**	**288**	*i* P	**P**	**08 10 09.3**	**+1.4**			
CMAR				pmax	pmax					
	comp=Z,2.0nm,0.4s									
CMAR	**Chiang Mai Arr**	**93.02**	**288**	P	**P**	**08 10 08.9**	**+1.0**			
CCM	**Cathedral Cave**	**93.05**	**51**	P		08 10 07.9				
	baz=253									
CCM	**Cathedral Cave**	**93.06**	**51**	P	**P**	**08 10 07.2**	**-0.4**			
CCM				pmax	pmax					
	comp=Z,22nm,1.2s									
CCM	**Cathedral Cave**	**93.06**	**51**	P	**P**	**08 10 07.2**	**-0.4**			
CCM				IAmb	IAmb	08 10 15.9				
	comp=Z,22nm,1.2s									
CCM	**Cathedral Cave**	**93.06**	**51**	IAMs_20	IAMs_20	08 43 53.3				
	comp=Z,6µm,22.0s									
AGMN	**Agassiz Nation**	**93.08**	**41**	P	**P**	**08 10 06.1**	**-1.3**			
AGMN				IAmb	IAmb	08 10 19.7				
	comp=Z,42nm,1.4s									
AGMN	**Agassiz Nation**	**93.08**	**41**	P		08 10 07.9				
	baz=250									
CHTO	**Chiang Mai**	**93.11**	**289**	P	**P**	**08 10 06.9**	**-1.4**			
CHTO				pmax	pmax					
	comp=Z,10.0nm,0.9s									
CHTO	**Chiang Mai**	**93.11**	**289**	P	**P**	**08 10 06.8**	**-1.4**			
VNA2	**Neumayer--Watz**	**93.25**	**175**	P	**P**	**08 10 07.9**	**-0.1**			
	baz=191,slow=3.3									
VNA2	**Neumayer--Watz**	**93.25**	**175**	PP	PP	08 13 52.1	+1.3			
VNA2	**Neumayer--Watz**	**93.25**	**175**	sP	sP	08 10 12.0	+2.4			
PBMO	**Poplar Bluff**	**93.30**	**53**	P	**P**	**08 10 06.9**	**-1.9**			
PBMO				IAmb	IAmb	08 10 22.6				
	comp=Z,40nm,1.6s									
I37A	**Lemond, Waseca**	**93.31**	**45**	P	**P**	**08 10 07.6**	**-1.0**			
I37A				IAmb	IAmb	08 10 22.4				
	comp=Z,49nm,1.2s									
I37A				IAMs_20	IAMs_20	08 53 46.0				
	comp=Z,6µm,18.0s									
K38A	**Parkersburg**	**93.32**	**47**	P	**P**	**08 10 07.6**	**-1.2**			
K38A				IAMs_20	IAMs_20	08 46 55.5				
	comp=Z,5µm,19.0s									
VNA1	**Neumayer--Stat**	**93.44**	**175**	P	**P**	**08 10 11.8**	**+2.9**			
VNA1	**Neumayer--Stat**	**93.44**	**175**	PP	PP	08 13 52.0	-0.3			
VNA1	**Neumayer--Stat**	**93.44**	**175**	sP	sP	08 10 15.0	+4.6			
OXF	**Oxford**	**93.46**	**55**	IAMs_20	IAMs_20	08 48 01.7				
	comp=Z,6µm,19.0s									
LZH	**Lanzhou**	**93.59**	**306**	*e*P	**P**	**08 10 12.0**	**+1.6**			
LZH				pP	pwP	08 10 17.5	+2.9			
LZH				sP	sP	08 10 21.0	+9.0			
LZH				PP	**PP**	**08 13 53.5**	**-1.8**			
LZH				SKS	**SKSac**	**08 20 45.8**	**-0.1**			
LZH				S	**ScS**	**08 21 25.3**	**+3.8**			
LZH				pmax	pmax					
	comp=Z,42nm,1.0s									
LZH				pmax	pmax					
	comp=Z,730nm,6.0s									
LZH				LR	LR					
	comp=Z,900nm,15.2s									
LZH				LR	LR					
	comp=Z,1µm,12.2s									
LZH				LR	LR					
	comp=Z,1µm,15.7s									
FVM	**French Village**	**93.65**	**52**	P	**P**	**08 10 10.6**	**+0.2**			
FVM				pmax	pmax					
	comp=Z,37nm,1.3s									
FVM	**French Village**	**93.65**	**52**	P	**P**	**08 10 10.6**	**+0.2**			
FVM				IAmb	IAmb	08 10 19.4				
	comp=Z,37nm,1.2s									
ULM	**Lac du Bonnet**	**93.73**	**39**	P	**P**	**08 10 10.0**	**-0.4**			
	comp=Z,6.5nm,1.1s,baz=237,slow=4.1,SNR=7.9									
ULM	**Lac du Bonnet**	**93.73**	**39**	P	**P**	**08 10 09.4**	**-1.0**			
ULM				pmax	pmax					
	comp=Z,51nm,1.5s									
ULM	**Lac du Bonnet**	**93.73**	**39**	P	**P**	**08 10 09.4**	**-1.0**			
ULM				IAmb	IAmb	08 10 22.8				
	comp=Z,51nm,1.5s									
F36A	**Milaca**	**93.80**	**44**	IAmb	IAmb	08 10 23.8				
	comp=Z,26nm,1.4s									
F36A				IAMs_20	IAMs_20	08 45 45.9				
	comp=Z,6µm,20.0s									
NVL	**N'lazarevskaya**	**93.92**	**182**	*e*P	P	08 10 16.8	+5.8			
NVL				pmax	pmax					
	comp=Z,30nm,1.1s									
SPMN	**Marine on St.**	**94.09**	**44**	IAmb	IAmb	08 10 21.1				
	comp=Z,31nm,1.2s									
SPMN	**Marine on St.**	**94.09**	**44**	P		08 10 13.6				
	baz=252									
N41A	**Harden Midland**	**94.12**	**49**	IAmb	IAmb	08 10 20.6				
	comp=Z,44nm,1.1s									
BOD	**Bodaibo**	**94.20**	**329**	*e*P	**P**	**08 10 11.1**	**-1.3**			
BOD				pmax	pmax					
	comp=Z,31nm,1.9s									
L40A	**Anamosa**	**94.24**	**48**	P	**P**	**08 10 12.4**	**-0.6**			
L40A				IAmb	IAmb	08 10 21.1				
	comp=Z,40nm,1.0s									
OTAV	**Otavalo**	**94.43**	**91**	IAMs_20	IAMs_20	08 44 54.9				
	comp=Z,5µm,22.0s									
B35A	**Bob, Littlefor**	**94.45**	**41**	IAmb	IAmb	08 10 33.9				
	comp=Z,36nm,1.4s									
B35A				IAMs_20	IAMs_20	08 53 19.7				
	comp=Z,4µm,18.0s									
PLAL	**Pickwick Lake**	**94.64**	**55**	P	**P**	**08 10 14.7**	**-0.3**			
PLAL				IAmb	IAmb	08 10 37.3				
	comp=Z,37nm,1.7s									
ULN	**Ulaanbaatar**	**94.75**	**318***c*	*i* P	**P**	**08 10 15.7**	**+0.3**			
ULN				pmax	pmax					
	comp=Z,53nm,1.4s									
ULN				MLR	MLR					
	comp=Z,3µm,19.0s									
ULN	**Ulaanbaatar**	**94.75**	**318**	P	**P**	**08 10 14.5**	**-0.9**			
ULN				IAmb	IAmb	08 10 18.1				
	comp=Z,50nm,1.3s									
ULN	**Ulaanbaatar**	**94.75**	**318**	IAMs_20	IAMs_20	08 46 42.5				
	comp=Z,5µm,22.0s									
P43A	**Skaggs, Pawnee**	**94.80**	**50**	P	**P**	**08 10 15.2**	**-0.4**			
WVT	**Waverly**	**95.14**	**54**	IAMs_20	IAMs_20	08 46 30.8				
	comp=Z,5µm,20.0s									
SONM	**Songino Array**	**95.17**	**318**	P	**P**	**08 10 16.3**	**-1.0**			
	comp=Z,6.2nm,1.1s,baz=115,slow=2.0,SNR=23									
SONM				PP	**PP**	**08 14 06.0**	**-1.2**			
	comp=Z,9.9nm,1.4s,baz=126,slow=7.5,SNR=8.8									
SONM	**Songino Array**	**95.17**	**318**	P	**P**	**08 10 15.9**	**-1.4**			
SONM				pmax	pmax					
	comp=Z,18nm,1.4s									
SONM	**Songino Array**	**95.17**	**318**	P	**P**	**08 10 15.9**	**-1.4**			
JFWS	**Jewell Farm**	**95.17**	**47**	P		08 10 17.3				
	baz=254									
JFWS	**Jewell Farm**	**95.18**	**47**	P	**P**	**08 10 17.6**	**+0.3**			
JFWS				pmax	pmax					
	comp=Z,30nm,1.0s									
JFWS	**Jewell Farm**	**95.18**	**47**	P	**P**	**08 10 17.6**	**+0.3**			
JFWS				IAmb	IAmb	08 10 25.0				
	comp=Z,30nm,1.0s									
JFWS	**Jewell Farm**	**95.18**	**47**	IAMs_20	IAMs_20	08 44 17.6				
	comp=Z,6µm,20.0s									
TIXI	**Tiksi**	**95.18**	**344**	P	**P**	**08 10 16.2**	**-0.3**			
	comp=Z,12nm,1.2s,baz=115,slow=6.2,SNR=8.9									
TIXI	**Tiksi**	**95.18**	**344**⇓	*e*P	**P**	**08 10 16.4**	**-0.2**			
TIXI				pmax	pmax					
	comp=Z,69nm,1.3s									
TIXI	**Tiksi**	**95.18**	**344**	P	**P**	**08 10 16.0**	**-0.6**			
TIXI				IAmb	IAmb	08 10 19.9				
	comp=Z,29nm,1.5s									
TIXI				IAMs_20	IAMs_20	08 50 11.3				
	comp=Z,4µm,20.0s									
I40A	**Norwalk**	**95.19**	**46**	P	**P**	**08 10 17.2**	**-0.1**			
I40A				IAMs_20	IAMs_20	08 49 16.9				
	comp=Z,5µm,21.0s									
HDIL	**Hopedale**	**95.21**	**50**	IAMs_20	IAMs_20	08 47 18.3				
	comp=Z,7µm,20.0s									
L42A	**Oliver, Polo**	**95.34**	**48**	P	**P**	**08 10 19.6**	**+1.6**			
L42A				IAmb	IAmb	08 10 25.7				
	comp=Z,42nm,1.1s									
PB15	**IPOC Station P**	**95.93**	**116**	IAMs_20	IAMs_20	08 44 34.4				
	comp=Z,5µm,20.0s									
I42A	**Draeger Farm,**	**96.38**	**46**	IAMs_20	IAMs_20	08 48 20.3				
	comp=Z,5µm,20.0s									
SWET	**Sewanee**	**96.40**	**55**	IAmb	IAmb	08 10 38.6				
	comp=Z,24nm,1.3s									
PSGCX	**Pisagua**	**96.54**	**112**	IAMs_20	IAMs_20	08 43 23.8				
	comp=Z,6µm,20.0s									
HQIL	**Hanson Quary C**	**96.59**	**49**	IAMs_20	IAMs_20	08 49 56.6				
	comp=Z,4µm,20.0s									
LVC	**Limon Verde**	**96.62**	**116**	IAMs_20	IAMs_20	09 02 21.6				
	comp=Z,4µm,20.0s									
L44A	**Lake County Fo**	**96.64**	**48**	IAMs_20	IAMs_20	08 55 23.0				
	comp=Z,5µm,20.0s									
COWI	**Conover**	**96.80**	**44**	IAmb	IAmb	08 10 32.7				
	comp=Z,30nm,1.1s									
U49A	**Red Boiling Sp**	**96.84**	**54**	IAmb	IAmb	08 10 45.6				
	comp=Z,13nm,1.1s									
WCI	**Wyandotte Cave**	**96.86**	**52**	IAMs_20	IAMs_20	08 53 14.1				
	comp=Z,5µm,19.0s									
PBA	**Port Blair**	**97.11**	**280**	IAMs_20	IAMs_20	08 58 41.0				
	comp=Z,4µm,21.0s									
PB08	**IPOC Station P**	**97.22**	**113**	IAMs_20	IAMs_20	08 44 16.9				
	comp=Z,5µm,20.0s									
H43A	**Windswept, Lux**	**97.32**	**46**	IAMs_20	IAMs_20	08 50 32.2				
	comp=Z,5µm,19.0s									
D41A	**Chassel**	**97.43**	**43**	P	**P**	**08 10 27.0**	**-0.4**			
FCC	**Fort Churchill**	**97.44**	**31**	P	**P**	**08 10 27.0**	**-0.1**			
FCC				pmax	pmax					
	comp=Z,11nm,1.0s									
FCC	**Fort Churchill**	**97.44**	**31**	P	**P**	**08 10 26.9**	**-0.1**			
FCC				IAMs_20	IAMs_20	08 50 36.5				
	comp=Z,5µm,18.0s									
GTA	**Gaotai**	**97.54**	**309**	⇑P	Pdif	08 10 30.3	+2.0			
GTA				pP	pwP	08 10 34.8	+2.3			
GTA				sP	sP	08 10 37.8	+7.9			
GTA				PP	**PP**	**08 14 27.5**	**+1.7**			
GTA				SKS	**SKSac**	**08 21 09.0**	**+2.4**			
GTA				sS	sS	08 22 05.0	+9.0			
GTA				SS	**SS**	**08 28 33.5**	**-0.1**			
GTA				pmax	pmax					
	comp=Z,12nm,0.9s									
GTA				pmax	pmax					
	comp=Z,310nm,5.8s									
GTA				LR	LR					
	comp=Z,1µm,20.7s									
GTA				LR	LR					
	comp=Z,4µm,20.7s									
GTA				LR	LR					
	comp=Z,5µm,20.7s									
ZAK	**Zakamensk**	**97.84**	**320**	*e*P	Pdif	08 10 29.4	+0.1			
ZAK				*e*		08 14 23.5				
ZAK				pmax	pmax					
	comp=Z,14nm,1.5s									
ZAK				pmax	pmax					
	comp=Z,13nm,1.7s									
TLY	**Talaya**	**97.94**	**321**	*e*P	Pdif	08 10 30.7	+1.0			
TLY				*e*		08 14 37.7				
TLY				*e*S	**SKSac**	**08 21 09.7**	**+1.9**			
TLY				*e*SS	**SS**	**08 28 42.9**	**+4.4**			
TLY				pmax	pmax					
	comp=Z,56nm,1.6s									
TLY				MLR	MLR					
	comp=Z,6µm,18.0s									
TLY	**Talaya**	**97.94**	**321**	IAMs_20	IAMs_20	08 50 49.8				
	comp=Z,4µm,19.0s									
GOGA	**Godfrey**	**97.96**	**58**	IAMs_20	IAMs_20	08 53 04.6				
	comp=Z,4µm,19.0s									
I45A	**Fountain**	**98.29**	**47**	IAMs_20	IAMs_20	08 48 38.9				
	comp=Z,5µm,21.0s									
P49A	**Miami Univ. Ec**	**98.36**	**51**	IAMs_20	IAMs_20	08 57 19.8				
	comp=Z,4µm,18.0s									
MOY	**Mondy**	**99.55**	**321**	*e*P	**Pdif**	**08 10 37.3**	**+0.4**			
AAM	**Ann Arbor**	**99.75**	**49**	IAMs_20	IAMs_20	08 57 20.2				
	comp=Z,5µm,20.0s									
ACSO	**Alum Creek Sta**	**99.82**	**51**	IAMs_20	IAMs_20	08 51 40.3				
	comp=Z,5µm,19.0s									
U54A	**Nelsons Funny**	**99.95**	**55**	IAMs_20	IAMs_20	08 51 47.1				
	comp=Z,5µm,18.0s									
E46A	**Sault Ste Mari**	**100.12**	**45**	IAMs_20	IAMs_20	08 57 45.3				
	comp=Z,6µm,19.0s									
P52A	**Corning**	**100.34**	**52**	IAMs_20	IAMs_20	08 56 30.1				
	comp=Z,5µm,19.0s									
S54A	**Dingess, Beckl**	**100.60**	**54**	IAMs_20	IAMs_20	08 50 32.3				
	comp=Z,5µm,20.0s									
U56A	**King**	**101.05**	**55**	IAMs_20	IAMs_20	08 51 28.3				
	comp=Z,5µm,20.0s									
O53A	**New Philadelph**	**101.15**	**51**	IAMs_20	IAMs_20	08 52 39.5				
	comp=Z,4µm,20.0s									
BLA	**Blacksburg**	**101.19**	**54**	IAMs_20	IAMs_20	08 52 34.8				
	comp=Z,5µm,19.0s									
HOPE	**Hope Point**	**101.26**	**156**	IAMs_20	IAMs_20	09 06 05.2				
	comp=Z,6µm,22.0s									
RES	**Resolute Bay**	**101.69**	**15**	IAMs_20	IAMs_20	08 53 07.3				
	comp=Z,5µm,18.0s									
N54A	**Moraine State**	**102.19**	**51**	IAMs_20	IAMs_20	08 51 54.1				
	comp=Z,5µm,20.0s									
ERPA	**Erie**	**102.39**	**50**	IAMs_20	IAMs_20	08 52 55.2				
	comp=Z,6µm,20.0s									
S57A	**Dark Hollow, R**	**102.43**	**54**	IAMs_20	IAMs_20	08 51 39.8				
	comp=Z,6µm,22.0s									
Q56A	**Snyder Ridge,**	**102.47**	**53**	IAMs_20	IAMs_20	08 51 32.7				
	comp=Z,5µm,20.0s									
CNNC	**Cliffs of the**	**102.84**	**57**	IAMs_20	IAMs_20	08 52 08.9				
	comp=Z,4µm,20.0s									
S58A	**Poland Farm, P**	**103.11**	**54**	IAMs_20	IAMs_20	08 52 08.8				
	comp=Z,5µm,21.0s									
O56A	**Blue Knob Stat**	**103.15**	**52**	IAMs_20	IAMs_20	08 59 14.4				
	comp=Z,5µm,18.0s									
R58B	**Mineral**	**103.31**	**54**	IAMs_20	IAMs_20	08 55 35.9				
	comp=Z,5µm,19.0s									
V60A	**Jim Taylor Roa**	**103.44**	**56**	IAMs_20	IAMs_20	08 51 28.6				
	comp=Z,4µm,21.0s									
P57A	**Homestead Farm**	**103.44**	**52**	IAMs_20	IAMs_20	08 52 32.4				
	comp=Z,4µm,20.0s									
M56A	**Emporium**	**103.62**	**50**	IAMs_20	IAMs_20	08 52 55.9				
	comp=Z,6µm,20.0s									
SSPA	**Standing Stone**	**103.72**	**51**	IAMs_20	IAMs_20	08 52 03.5				
	comp=Z,5µm,21.0s									
CBN	**Corbin Frederi**	**103.74**	**54**	IAMs_20	IAMs_20	08 54 05.3				
	comp=Z,5µm,19.0s									
T60A	**Surry**	**104.07**	**55**	IAMs_20	IAMs_20	08 52 20.3				
	comp=Z,6µm,21.0s									
U61A	**Possum Corner**	**104.18**	**56**	IAMs_20	IAMs_20	08 52 21.2				
	comp=Z,6µm,21.0s									
V62A	**Hyde County Ai**	**104.45**	**57**	IAMs_20	IAMs_20	08 53 56.5				
	comp=Z,3µm,20.0s									
EUNU	**Eureka**	**104.54**	**10**	IAMs_20	IAMs_20	09 07 17.0				
	comp=Z,4µm,19.0s									
N58A	**Sunbury**	**104.62**	**51**	IAMs_20	IAMs_20	08 58 22.5				
	comp=Z,5µm,19.0s									
J56A	**Wolcott**	**104.84**	**49**	IAMs_20	IAMs_20	09 00 07.0				
	comp=Z,4µm,20.0s									
PLVO	**Plevna**	**104.91**	**47**	IAMs_20	IAMs_20	08 53 12.1				
	comp=Z,4µm,21.0s									
P60A	**Greenville**	**105.31**	**52**	IAMs_20	IAMs_20	08 54 26.7				
	comp=Z,6µm,20.0s									
J57A	**Williamstown**	**105.48**	**49**	IAMs_20	IAMs_20	09 00 35.0				
	comp=Z,4µm,20.0s									
K58A	**Earlville**	**105.66**	**49**	IAMs_20	IAMs_20	08 53 39.8				
	comp=Z,5µm,20.0s									
SAML	**Samuel**	**106.36**	**104**	IAMs_20	IAMs_20	08 46 13.6				
	comp=Z,4µm,21.0s									
J59A	**Piesco**	**106.57**	**49**	IAMs_20	IAMs_20	08 53 01.7				
	comp=Z,5µm,22.0s									
LONY	**Lake Ozonia**	**106.62**	**48**	IAMs_20	IAMs_20	08 53 02.1				
	comp=Z,5µm,21.0s									
TRY	**Troy**	**107.11**	**50**	IAMs_20	IAMs_20	08 56 08.1				
	comp=Z,5µm,20.0s									
WSPT	**Westport, CT**	**107.21**	**51**	IAMs_20	IAMs_20	08 55 19.0				
	comp=Z,5µm,20.0s									
WMQ	**Urumqi**	**107.22**	**312**	Pdif	**Pdif**	**08 11 12.3**	**+1.1**			
WMQ				PP	**PP**	**08 15 36.5**	**-1.8**			
WMQ				S	**Sdif**	**08 23 10.8**	**-3.9**			
WMQ				AMB	AMB					
	comp=Z,810nm,6.9s									
WMQ				LR	LR					
	comp=Z,3µm,13.9s									
WMQ				LR	LR					
	comp=Z,2µm,18.5s									
WMQ				LR	LR					
	comp=Z,3µm,22.5s									
WMQ	**Urumqi**	**107.22**	**312**	IAMs_20	IAMs_20	08 46 25.4				
	comp=Z,4µm,19.0s									
YLE	**Yale**	**107.52**	**51**	IAMs_20	IAMs_20	08 55 08.1				
	comp=Z,4µm,20.0s									
PALK	**Pallekele**	**107.58**	**273**	IAMs_20	IAMs_20	09 07 33.8				
	comp=Z,4µm,21.0s									
ALE	**Alert**	**107.90**	**7**	IAMs_20	IAMs_20	08 58 10.7				
	comp=Z,3µm,20.0s									
M63A	**Gales Ferry**	**108.19**	**51**	IAMs_20	IAMs_20	08 59 24.0				
	comp=Z,5µm,19.0s									
HNH	**Hanover**	**108.20**	**49**	IAMs_20	IAMs_20	08 53 38.8				
	comp=Z,4µm,22.0s									
TULEG	**Thule**	**108.24**	**14**	IAMs_20	IAMs_20	08 58 41.1				
	comp=Z,5µm,20.0s									
FFD	**Franklin Falls**	**108.64**	**49**	IAMs_20	IAMs_20	09 02 40.5				
	comp=Z,4µm,20.0s									
ZAA0	**Zalesovo Array**	**109.53**	**322**	IAMs_20	IAMs_20	08 58 31.1				
	comp=Z,4µm,20.0s									
ZALV	**Zalesovo Beam**	**109.53**	**322**	Pdiff	**Pdif**	**08 11 20.2**	**-0.9**			
	comp=Z,0.5nm,0.3s,baz=50,slow=7.7,SNR=4.3									
ZALV	**Zalesovo Beam**	**109.53**	**322**	P	**Pdif**	**08 11 20.8**	**-0.3**			
ZALV	**Zalesovo Beam**	**109.53**	**322**		**Pdif**	**08 11 20.8**	**-0.3**			
G62A	**West of Eustis**	**109.54**	**47**	IAMs_20	IAMs_20	09 03 07.6				
	comp=Z,5µm,19.0s									
SJG	**San Juan**	**110.33**	**76**	IAMs_20	IAMs_20	09 10 12.1				
	comp=Z,4µm,21.0s									
PKME	**Peaks-Kenny Pk**	**110.41**	**47**	IAMs_20	IAMs_20	08 58 40.9				
	comp=Z,5µm,20.0s									
E63A	**Oxbow**	**111.04**	**46**	IAMs_20	IAMs_20	09 04 27.3				
	comp=Z,5µm,19.0s									
MKAR	**Makanchi Array**	**111.17**	**315**	Pdiff	**Pdif**	**08 11 28.6**	**0.0**			
	comp=Z,0.4nm,0.8s,baz=92,slow=6.1,SNR=4.7									
MKAR				PKiKP	**PKiKP**	**08 15 27.1**	**-0.5**			
	comp=Z,0.7nm,0.6s,baz=97,slow=1.2,SNR=5.9									
MKAR				PP	**PP**	**08 16 03.1**	**-3.7**			
	comp=Z,1.9nm,0.8s,baz=92,slow=4.1,SNR=4.7									
MKAR	**Makanchi Array**	**111.17**	**315**	P	**Pdif**	**08 11 28.3**	**-0.3**			
MKAR	**Makanchi Array**	**111.17**	**315**	Pdif	**Pdif**	**08 11 28.3**	**-0.3**			
DGAR	**Diego Garcia**	**111.32**	**256**	IAMs_20	IAMs_20	08 56 51.8				
	comp=Z,5µm,20.0s									
PQI	**Presque Isle**	**111.32**	**46**	IAMs_20	IAMs_20	09 03 31.7				
	comp=Z,4µm,20.0s									
MAKZ	**Makanchi**	**111.38**	**315**	IAMs_20	IAMs_20	09 07 45.5				
	comp=Z,3µm,19.0s									
G65A	**Princeton**	**111.63**	**47**	IAMs_20	IAMs_20	08 57 16.6				
	comp=Z,4µm,20.0s									
SEM	**Semipalatinsk**	**112.44**	**318**	*e*PKiKP	**PKiKP**	**08 15 29.2**	**-1.0**			
	baz=318									
SEM	**Semipalatinsk**	**112.44**	**318**	*i* PKiKP	**PKiKP**	**08 15 29.1**	**-1.0**			
SEUS	**St. Eustatius**	**113.20**	**77**	IAMs_20	IAMs_20	09 14 24.2				
	comp=Z,5µm,22.0s									
BBSR	**BB Station**	**113.40**	**61**	IAMs_20	IAMs_20	08 54 06.9				
	comp=Z,4µm,18.0s									
GRGR	**Grenville**	**113.47**	**83**	IAMs_20	IAMs_20	08 47 17.6				
	comp=Z,4µm,20.0s									
UZB	**Uzunbulak**	**113.50**	**311**	*e*PKiKP	**PKiKP**	**08 15 31

MOS				*e*		08 18 37.2		
OBN	**Obninsk**	**134.34 337**	*i*	PKiKP	**PKiKP**	**08 16 13.5**	**+0.7**	
OBN				pmax	pmax			
	comp=Z,9.0nm,1.3s							
OBN				MLR	MLR			
	comp=Z,3μm,17.0s							
NB2	**NORSAR Subarra**	**134.40 357**		PKPdf	**PKPdf**	**08 16 11.9**	**+0.4**	
	comp=Z,6.5nm,1.4s,baz=6.4,slow=1.9							
NB2	**NORSAR Subarra**	**134.40 357**		PKPdf	**PKPdf**	**08 16 11.9**	**+0.4**	
	baz=6.4,slow=1.9							
MAK	**Makhachkala**	**135.92 317**	*i*	P	**Pdif**	**08 13 14.9**	**-3.8**	
MAK			*i*			08 16 12.6		
MAK			*e*			08 18 48.8		
MAK			*e*	PPP	PPP	08 21 48.2		
MAK			*e*			08 23 22.3		
MAK			*e*	SS	SS	08 36 46.3	-6.7	
MAK				pmax	pmax			
	comp=Z,2μm,1.6s							
AKT	**Akhty**	**136.40 315**	*e*	PKiKP	**PKiKP**	**08 16 17.9**	**+0.2**	
AKT			*e*			08 19 01.0		
AKT				pmax	pmax			
	comp=Z,63nm,1.4s							
GROC	**Groznyy**	**136.93 318**	*e*	PKiKP	**PKPdf**	**08 16 15.2**	**-1.5**	
GROC			*e*			08 19 02.0		
GROC				pmax	pmax			
	comp=Z,98nm,1.6s							
MNK	**Minsk**	**137.80 342**	*e*	PKiKP	**PKiKP**	**08 16 26.0**	**+6.1**	
MNK			*e*			08 16 26.0		
MNK			*e*			08 19 08.0		
MNK	**Minsk**	**137.80 342**	*i*	PKP	PKiKP	08 16 29.6	+10	
	comp=E,3.0nm,0.9s							
MNK			*i*	PKP	PKiKP	08 16 29.6	+10	
	comp=N,11nm,0.9s							
MNK			*i*	PKP	PKiKP	08 16 29.6	+10	
	comp=Z,17nm,0.9s							
MNK			*i*	PP	PP	08 18 52.7	-12	
MNK			*i*	SKP		08 19 37.5		
MNK			*i*	PKS	**PKSdf**	**08 19 52.8**	**-1.1**	
MNK			*i*	PPP	PPP	08 22 15.6		
MNK			*i*	SKS	SKSdf	08 23 59.5	+30	
MNK			*i*	SP	**SKKPbc**	**08 28 36.3**	**-5.6**	
MNK			*i*	PS	**PS**	**08 29 28.1**	**-4.9**	
MNK			*i*	SKKS	**SKKSdf**	**08 33 15.7**	**+9.4**	
MNK			*i*	SS	**SS**	**08 37 24.5**	**+11**	
MNK			*i*	SSS	SSS	08 40 40.0		
MNK			*i*	LQ	LQ	09 07 05.5		
MNK			*i*	LR	LR	09 10 34.9		
MNK			*i*	LRM	MLR	09 16 29.3		
	comp=Z,2μm,19.8s							
MNK			*i*	LRM	MLR	09 16 31.5		
	comp=E,146nm,19.8s							
MNK			*i*	LRM	MLR	09 16 31.5		
	comp=N,2μm,19.8s							
KIV	**Kislovodsk**	**138.51 321**	*i*	PKiKP	**PKPdf**	**08 16 20.6**	**+0.8**	
KIV			*e*			08 19 07.8		
KIV			*e*	PPP	PPP	08 22 08.5		
KIV			*e*	SS	SS	08 37 20.8	-3.1	
KIV				pmax	pmax			
	comp=Z,23nm,1.1s							
SOC	**Sochi**	**140.51 322**	*i*	PKiKP	**PKPdf**	**08 16 22.9**	**-0.4**	
SOC			*e*	PPP	PPP	08 22 23.1		
SOC				pmax	pmax			
	comp=Z,36nm,0.8s							
AKASG	**Malin Array Be**	**140.56 338**		PKP	**PKPdf**	**08 16 23.6**	**+0.5**	
	comp=Z,5.8nm,1.0s,baz=42,slow=2.5,SNR=12							
AKASG				PP	**PP**	**08 19 25.4**	**+3.9**	
	comp=Z,0.2nm,0.2s,baz=45,slow=6.8,SNR=5.8							
AKASG	**Malin Array Be**	**140.56 338**		PKiKP	**PKPdf**	**08 16 23.3**	**+0.2**	
AKASG	**Malin Array Be**	**140.56 338**		PKPdf	**PKPdf**	**08 16 23.3**	**+0.2**	
AKBB	**Malin Array Si**	**140.56 338**	*e*	PKiKP	**PKPdf**	**08 16 24.0**	**+0.9**	
ANN	**Anapa**	**141.09 325**	*i*	PKiKP	**PKPdf**	**08 16 23.4**	**-0.8**	
ANN			*e*			08 16 28.3		
ANN			*e*			08 19 24.4		
ANN			*e*	PPP	PPP	08 22 31.7		
ANN			*e*			08 23 37.7		
ANN				pmax	pmax			
	comp=Z,74nm,1.8s							
ANN				MLR	MLR			
	comp=E,3μm,12.0s							
ANN				MLR	MLR			
	comp=N,4μm,17.0s							
ANN				MLR	MLR			
	comp=Z,4μm,14.0s							
VRTB	**Varto-Mus**	**141.72 315**	*e*	P	**PKiKP**	**08 16 32.3**	**+3.6**	
RAYN	**Ar Rayn**	**142.94 289**		PKiKP	**PKPdf**	**08 16 27.5**	**-0.8**	
RAYN	**Ar Rayn**	**142.94 289**		PKPdf	**PKPdf**	**08 16 27.4**	**-0.8**	
LVV	**L'vov**	**143.05 342**	*e*	PKHKP	PKPab	08 16 19.5	-3.4	
KIS	**Kishinev**	**143.71 335**	*e*	PKP	PKPab	08 16 16.5	-9.1	
	comp=Z,300nm,0.5s							
KIS	**Kishinev**	**143.71 335**	*e*	PP	PP	08 19 46.0	+5.2	
KIS			*e*	LR	LR	09 12 38.0		
	comp=Z,1μm,21.0s							
KIS	**Kishinev**	**143.71 335**		pmax	pmax			
	comp=Z,300nm,9.5s							
KIS				MLR	MLR			
	comp=Z,1μm,22.0s							
RSDY	**Resadiye-TOKAT**	**143.79 319**	*e*	P	**PKPdf**	**08 16 28.3**	**-1.0**	
OJC	**Ojcow**	**143.83 346**	*e*	PKP	PKPbc	08 16 27.7	+1.2	
CLL	**Collm**	**143.93 354**	*e*	PKPdf	PKPab	08 16 26.0	-0.3	
	comp=Z,20nm,1.0s							
CLL			*e*	PP	**PP**	**08 19 42.0**	**+0.3**	
CLL			*e*	PPP	PPP	08 23 00.0		
CLL			*e*	SKKSac	SKKSac	08 26 30.0	-5.8	
CLL			*e*	PSKS		08 29 54.0		
CLL				Lm	MLR	09 24 00.0		
	comp=Z,3μm,19.2s							
CLL	**Collm**	**143.93 354**	*e*	PKiKP	PKPab	08 16 26.0	-0.3	
CLL			*e*			08 19 42.0		
CLL				pmax	pmax			
	comp=Z,20nm,1.0s							
CLL				MLR	MLR			
	comp=Z,3μm,19.2s							
KSP	**Ksiaz**	**143.93 350**	*e*	PKP	**PKPdf**	**08 16 28.2**	**-1.0**	
SNOP	**Sinop**	**144.10 323**	*e*	P	**PKPdf**	**08 16 30.3**	**+0.6**	
KIBA	**Kibaya**	**144.18 237**	*i*	S	**PKPab**	**08 16 29.2**	**+0.6**	
KVT	**Kavak**	**144.19 321**	*e*	P	**PKPdf**	**08 16 29.5**	**-0.5**	
MALT	**Malatya**	**144.20 316**	*e*	P	PKPbc	08 16 28.7	+0.4	
CHVC	**Chvalec**	**144.22 350**	*e*	PKP	**PKPdf**	**08 16 29.9**	**+0.2**	
CHVC			*ex*		x	08 16 39.8		
OSTC	**Ostas**	**144.22 350**	*e*	PKP	**PKPdf**	**08 16 29.8**	**+0.1**	
BRG	**Berggiesshubel**	**144.25 352**	*e*	PKP	**PKiKP**	**08 16 33.7**	**+0.4**	
BRG				Amp		08 16 40.2		
	comp=Z,13nm,0.9s							
BRG			*ex*		x	08 16 51.6		
BRG				Amp		08 16 54.9		
	comp=Z,32nm,1.4s							
SVSK	**Karacayir**	**144.27 319**	*e*	P	**PKPdf**	**08 16 30.0**	**0.0**	
TOKT	**Tokat**	**144.33 320**	*e*	P	**PKPdf**	**08 16 29.6**	**-0.6**	
KOLS	**Kolonicke sedl**	**144.37 343**	*e*	PKiKP	**PKPdf**	**08 16 30.3**	**+0.3**	
KOLS	**Kolonicke sedl**	**144.37 343**	*e*	PKP	**PKPdf**	**08 16 30.3**	**+0.3**	
URFA	**Urfa**	**144.37 314**	*e*	P	**PKPab**	**08 16 28.5**	**0.0**	
TOKA	**Tokat**	**144.37 320**			**PKPdf**	**08 16 30.0**	**-0.3**	
DPC	**Dobruska-Polom**	**144.40 350**	*e*	PKiKP	**PKPdf**	**08 16 29.7**	**-0.3**	
DPC			*e*			08 19 44.5		
DPC	**Dobruska-Polom**	**144.40 350**	*e*	PKP	**PKPdf**	**08 16 29.7**	**-0.3**	
DPC			*ex*		x	08 16 40.5		
DPC			*ex*		x	08 19 44.5		
NIE	**Niedzica**	**144.45 345**	*e*	PKP	**PKPdf**	**08 16 30.6**	**+0.4**	
OKC	**Ostrava-Krasne**	**144.55 348**	*e*	PKiKP	PKPbc	08 16 29.2	+0.4	
OKC	**Ostrava-Krasne**	**144.55 348**	*e*	PKP	PKPbc	08 16 29.2	+0.4	
BUR08	**Bucovina Ar. S**	**144.56 339**		PKPdf	PKPbc	08 16 29.3	+0.2	
BURAR	**Bucovina Array**	**144.58 339**	⇑	P	**PKPdf**	**08 16 30.5**	**0.0**	
BURAR	**Bucovina Array**	**144.58 339**	⇑	PKiKP	**PKPdf**	**08 16 30.5**	**0.0**	
BURAR	**Bucovina Array**	**144.58 339**		PKPdf	**PKPab**	**08 16 28.8**	**-0.1**	
KRLC	**Kraliky**	**144.59 349**	*e*	PKiKP	PKPbc	08 16 29.0	0.0	
KRLC	**Kraliky**	**144.59 349**	*e*	PKP	PKPbc	08 16 29.0	0.0	
CRVS	**Cervenica-Dubn**	**144.62 343**	*e*	PKiKP	**PKPdf**	**08 16 30.4**	**0.0**	
CRVS	**Cervenica-Dubn**	**144.62 343**	*e*	PKP	**PKPdf**	**08 16 30.4**	**0.0**	
UZH	**Uzhgorod**	**144.63 342**	*e*	PKiKP	**PKPab**	**08 16 28.0**	**-0.9**	
UZH			*i*			08 16 30.1		
UZH			*e*			08 16 32.5		
UZH				MLR	MLR			
	comp=N,800nm,18.0s							
UZH				MLR	MLR			
	comp=E,900nm,18.0s							
UZH				MLR	MLR			
	comp=Z,600nm,18.0s							
DARE	**Darende-Malaty**	**144.70 317**	*e*	P	**PKPdf**	**08 16 31.9**	**+0.9**	
MOX	**Moxa**	**144.72 355**	*eL*		L	09 24 45.1		
	comp=Z,5μm,19.1s							
MORC	**Moravsky Berou**	**144.73 348**	*e*	PKP	PKPbc	08 16 30.0	+0.5	
MORC	**Moravsky Berou**	**144.73 348**		PKiKP	PKPbc	08 16 29.7	+0.2	
MORC	**Moravsky Berou**	**144.73 348**		PKPdf	PKPbc	08 16 29.6	+0.2	
BZK	**Bozkurt**	**144.83 324**	⇑	P	**PKPdf**	**08 16 31.6**	**+0.6**	
BZK	**Bozkurt**	**144.83 324**	*e*	P	**PKPdf**	**08 16 31.2**	**+0.2**	
BIZ	**Bicaz**	**144.83 337**	⇑	P	**PKPdf**	**08 16 30.5**	**-0.4**	
LANS	**Liptovska Anna**	**144.90 346**	*e*	PKiKP	**PKPdf**	**08 16 31.9**	**+1.0**	
LANS	**Liptovska Anna**	**144.90 346**	*e*	PKP	**PKPdf**	**08 16 31.9**	**+1.0**	
MEM	**Membach**	**144.94 1**	*d*	PKPdf	**PKPdf**	**08 16 31.5**	**+0.6**	
MEM			*dx*		x	08 16 37.4		
MEM			*dx*		x	08 16 41.0		
BSTI	**Sart Tilman**	**144.96 2**	*d*	PKPdf	**PKPdf**	**08 16 31.1**	**+0.2**	
BTNL	**Ternell**	**144.97 1**	*d*	PKPdf	**PKPab**	**08 16 30.1**	**-0.1**	
PRA	**Prague**	**144.97 352**	*e*	PKiKP	**PKPab**	**08 16 29.7**	**-0.4**	
PRA	**Prague**	**144.97 352**	*e*	PKP	**PKPab**	**08 16 29.7**	**-0.4**	
ATD	**Arta Tunnel**	**144.97 268**			**PKPab**	**08 16 29.6**	**-1.7**	
TESR	**Tescani**	**144.98 336**	⇓	P	**PKPdf**	**08 16 30.8**	**-0.3**	
SNF	**Seneffe**	**144.98 3**	*d*	PKPdf	**PKPdf**	**08 16 31.0**	**+0.1**	
PRU	**Pruhonice**	**145.03 352**	*e*	PKiKP	**PKPdf**	**08 16 31.6**	**+0.5**	
PRU	**Pruhonice**	**145.03 352**	*e*	PKP	**PKPdf**	**08 16 31.6**	**+0.5**	
GHRR		**145.05 335**	⇑	P	**PKPdf**	**08 16 32.0**	**+0.8**	
NKC	**Novy Kostel**	**145.05 354**	*e*	PKiKP	**PKPbc**	**08 16 30.4**	**-0.1**	
NKC			*e*			08 16 30.5		
NKC	**Novy Kostel**	**145.05 354**	*e*	PKP	**PKPbc**	**08 16 30.4**	**-0.1**	
BMR	**Baia Mare**	**145.11 340**	⇑	P	**PKPdf**	**08 16 32.1**	**+0.8**	
BMR	**Baia Mare**	**145.11 340**	⇑	PKiKP	**PKPdf**	**08 16 32.1**	**+0.8**	
BCLA	**Clavier**	**145.11 2**	*d*	PKPdf	**PKPdf**	**08 16 31.3**	**+0.1**	
BGES	**Gesves**	**145.14 2**	*d*	PKPdf	**PKPdf**	**08 16 31.6**	**+0.3**	
TLCR		**145.14 333**	⇓	P	**PKPdf**	**08 16 32.7**	**+1.3**	
TLCR		**145.14 333**	⇓	PKiKP	**PKPdf**	**08 16 32.7**	**+1.3**	
BHOU	**Houvegnez**	**145.20 1**	*d*	PKP	**PKPdf**	**08 16 31.9**	**+0.6**	
BHOU			*dx*		x	08 16 37.1		
BHOU			*dx*		x	08 16 42.8		
BMRD	**Maredsous**	**145.21 3**	*d*	PKP	**PKPdf**	**08 16 31.8**	**+0.4**	
BMRD			*dx*		x	08 16 42.1		
KECS	**Kecovo**	**145.27 344**	*e*	PKiKP	**PKPdf**	**08 16 33.0**	**+1.5**	
KECS	**Kecovo**	**145.27 344**	*e*	PKP	**PKPdf**	**08 16 33.0**	**+1.5**	
ARCR	**ARCALIA**	**145.34 339**	⇑	P	**PKPdf**	**08 16 32.8**	**+1.1**	
VRAC	**Vranov**	**145.36 349**	⇓	P	**PKPdf**	**08 16 32.8**	**+1.1**	
VRAC	**Vranov**	**145.36 349**	*e*	PKP	**PKPdf**	**08 16 31.8**	**+0.1**	
VRAC			*e*			08 16 43.0		
VRAC	**Vranov**	**145.36 349**	⇓	PKiKP	**PKPdf**	**08 16 32.8**	**+1.1**	
PETR	**Petresti**	**145.39 335**	⇓	P	**PKPab**	**08 16 33.5**	**+1.7**	
PBCC	**Pribram**	**145.41 352**	*e*	PKP	**PKPab**	**08 16 33.3**	**+1.5**	
PBCC			*ex*		x	08 16 43.4		
DOU	**Dourbes**	**145.41 3**	*d*	PKP	**PKPab**	**08 16 31.8**	**+0.1**	
DOU			*d*	pPKiKP	**pPKiKP**	**08 16 38.9**	**+2.0**	
CFR	**Carcaliu**	**145.45 333**	⇑	P	**PKPdf**	**08 16 31.9**	**0.0**	
CFR	**Carcaliu**	**145.45 333**	⇑	PKiKP	**PKPdf**	**08 16 31.9**	**0.0**	
VRI	**Vrincioaia**	**145.48 335**	⇓	P	**PKPab**	**08 16 32.6**	**+0.4**	
VRI	**Vrincioaia**	**145.48 335**	⇓	PKiKP	**PKPab**	**08 16 32.6**	**+0.4**	
SARI	**SarD1z-Kayseri**	**145.49 317**	*e*	P	**PKPdf**	**08 16 31.9**	**-0.6**	
PLOR	**Plostina**	**145.52 335**	⇓	P	**PKPab**	**08 16 32.9**	**+0.5**	
PLOR	**Plostina**	**145.52 335**	⇓	PKiKP	**PKPab**	**08 16 32.9**	**+0.5**	
TREC	**Trest**	**145.56 350**	*e*	PKiKP	**PKPdf**	**08 16 32.1**	**0.0**	
TREC	**Trest**	**145.56 350**	*e*	PKP	**PKPdf**	**08 16 32.1**	**0.0**	
TPGR	**Topolog**	**145.57 333**	⇓	P	**PKPab**	**08 16 33.3**	**+0.7**	
JAVC	**Velka Javorina**	**145.58 348**	*e*	PKP	**PKPab**	**08 16 33.3**	**+0.8**	
ILGA	**Ilgaz**	**145.58 323**			**PKPab**	**08 16 33.5**	**+0.5**	
CORM	**Corum**	**145.59 321**	*e*	P	**PKPab**	**08 16 33.4**	**+0.5**	
BNN	**Bunyan**	**145.61 318**	*e*	P	**PKPbc**	**08 16 32.9**	**+0.1**	
GAZ	**Gaziantep**	**145.61 315**	*e*	P	**PKPab**	**08 16 34.3**	**+1.2**	
GAZ	**Gaziantep**	**145.61 315**		PKPdf	**PKPdf**	**08 16 32.4**	**-0.2**	
KURC	**Kurucasile-Bar**	**145.61 325**	*e*	P	**PKPdf**	**08 16 31.1**	**-1.2**	
KRUC	**Moravsky**	**145.63 349**	*e*	PKP	**PKPbc**	**08 16 32.4**	**+0.1**	
KRUC			*e*			08 16 43.7		
KMRS	**Kahramanmaras**	**145.65 315**	*e*	P	**PKPab**	**08 16 34.1**	**+1.0**	
VYHS	**Vyhne**	**145.66 346**	*e*	PKiKP	**PKPab**	**08 16 32.8**	**0.0**	
VYHS	**Vyhne**	**145.66 346**	*e*	PKP	**PKPab**	**08 16 32.8**	**0.0**	
GRA1	**Grafenberg Arr**	**145.70 355**			**PKPdf**	**08 16 32.2**	**-0.1**	
GRF	**Grafenberg Arr**	**145.70 355**		PKiKP	**PKPdf**	**08 16 32.2**	**-0.1**	
GRF	**Grafenberg Arr**	**145.70 355**	*e*	PKPbc	**PKPab**	**08 16 33.1**	**+0.3**	
	baz=7.4,slow=3.0							
GRF			*eL*		L	09 25 11.5		
	comp=Z,4μm,19.4s							
GRFO	**Grafenberg**	**145.70 355**		PKiKP	**PKPab**	**08 16 33.1**	**+0.3**	
GRFO	**Grafenberg**	**145.70 355**			**PKPab**	**08 16 33.1**	**+0.3**	
BISRR	**Bisoca**	**145.75 335**	⇓	P	**PKPab**	**08 16 34.4**	**+1.1**	
GRER		**145.78 335**	⇑	P	**PKiKP**	**08 16 35.6**	**-1.0**	
KMBO	**Kilima Mbogo**	**145.87 244**		PKPbc	**PKPab**	**08 16 35.9**	**+1.0**	
	comp=Z,26nm,1.0s,baz=80,slow=2.9,SNR=58							
TIRR	**Tirgusor**	**145.89 332**		PKiKP	**PKPdf**	**08 16 32.9**	**+0.2**	
TIRR	**Tirgusor**	**145.89 332**		PKPdf	**PKPdf**	**08 16 32.9**	**+0.2**	
WLF	**Walferdange**	**145.89 1**	*d*	PKP	**PKPab**	**08 16 34.1**	**+0.5**	
WLF	**Walferdange**	**145.89 1**	*d*	PKP2	**PKPab**	**08 16 33.5**	**-0.1**	
WLF	**Walferdange**	**145.89 1**	*d*	PKPdf	**PKPab**	**08 16 33.5**	**-0.1**	
HARR	**Harsova**	**145.92 333**	⇑	P	**PKPab**	**08 16 34.1**	**+0.3**	
HARR	**Harsova**	**145.92 333**	⇑	PKP2	**PKPab**	**08 16 34.1**	**+0.3**	
CANT	**Cankiri**	**145.92 323**	*e*	P	**PKPab**	**08 16 35.4**	**+1.3**	
PSZ	**Piszkesteto**	**145.94 344**	⇓	P	**PKPab**	**08 16 34.5**	**+0.6**	
PSZ	**Piszkesteto**	**145.94 344**	⇓	PKP2	**PKPab**	**08 16 34.5**	**+0.6**	
PSZ	**Piszkesteto**	**145.94 344**		PKPdf	**PKPbc**	**08 16 33.4**	**-0.1**	
SMOL	**Smolenice**	**145.96 348**	*e*	PKP2	**PKPab**	**08 16 35.3**	**+1.5**	
SMOL	**Smolenice**	**145.96 348**	*e*	PKP	**PKPab**	**08 16 35.3**	**+1.5**	
TLBR	**Topalu**	**145.99 333**	⇓	P	**PKiKP**	**08 16 36.3**	**-0.7**	
KHC	**Kasperske Hory**	**146.00 352**	*ce*	PKP2	**PKPab**	**08 16 33.9**	**-0.2**	
KHC	**Kasperske Hory**	**146.00 352**	*e*	PKP	**PKPab**	**08 16 34.2**	**+0.1**	
KHC			*ex*		x	08 16 45.8		
KHC	**Kasperske Hory**	**146.00 352**			**PKPbc**	**08 16 33.5**	**-0.1**	
MLR	**Muntele Rosu**	**146.10 336**	⇓	P	**PKPab**	**08 16 35.0**	**+0.3**	
MLR	**Muntele Rosu**	**146.10 336**	⇓	PKP2	**PKPab**	**08 16 35.0**	**+0.3**	
MLR	**Muntele Rosu**	**146.10 336**		PKPdf	**PKPdf**	**08 16 33.2**	**0.0**	
MODS	**Modra-Piesok**	**146.12 348**	*e*	PKP2	**PKPab**	**08 16 34.8**	**+0.3**	
MODS	**Modra-Piesok**	**146.12 348**	*e*	PKP	**PKPab**	**08 16 34.8**	**+0.3**	
DRGR		**146.14 341**	⇓	P	**PKPab**	**08 16 34.5**	**-0.2**	
DRGR		**146.14 341**	⇓	PKP2	**PKPab**	**08 16 34.5**	**-0.2**	
ISR	**Istrita**	**146.17 335**	⇑	P	**PKPab**	**08 16 35.6**	**+0.8**	
ISR	**Istrita**	**146.17 335**	⇑	PKP2	**PKPab**	**08 16 35.6**	**+0.8**	
CKRC	**Cesky Krumlov**	**146.21 351**	*ex*		sPKiKP	08 16 46.0	+6.9	
GEC2	**GERESS Array S**	**146.27 352**			**PKPbc**	**08 16 34.2**	**-0.2**	
GERES	**GERESS Array B**	**146.27 352**		PKPbc	**PKPab**	**08 16 35.2**	**0.0**	
	comp=Z,22nm,1.0s,baz=48,slow=2.0,SNR=44							
GERES	**GERESS Array B**	**146.27 352**		PKP2	**PKPdf**	**08 16 33.8**	**+0.4**	
GERES	**GERESS Array B**	**146.27 352**		PKPdf	**PKPdf**	**08 16 33.8**	**+0.4**	
ZST	**Bratislava**	**146.32 348**	*e*	PKP2	**PKPab**	**08 16 35.7**	**+0.5**	
ZST	**Bratislava**	**146.32 348**	*e*	PKP	**PKPab**	**08 16 35.7**	**+0.5**	
KOZT	**Kozan**	**146.38 316**	*e*	PKP	**PKPab**	**08 16 36.0**	**+0.1**	
SECR		**146.43 335**	⇓	P	**PKiKP**	**08 16 37.3**	**-0.6**	
BR131	**Keskin Array S**	**146.47 321**	*ce*	PKP2	**PKPbc**	**08 16 35.7**	**+0.3**	
BR131	**Keskin Array S**	**146.47 321**			**PKPbc**	**08 16 35.7**	**+0.3**	
BRTR	**Keskin Array B**	**146.47 321**		PKPbc	**PKPab**	**08 16 36.0**	**-0.3**	
	comp=Z,206nm,1.2s,baz=127,slow=1.9,SNR=108							
BRTR	**Keskin Array B**	**146.47 321**		PKP2	**PKPbc**	**08 16 35.6**	**+0.2**	
BRTR	**Keskin Array B**	**146.47 321**			**PKPbc**	**08 16 35.6**	**+0.2**	
VOIR		**146.49 337**	⇓	P	**PKPab**	**08 16 36.5**	**+0.4**	
VOIR		**146.49 337**	⇓	PKP2	**PKPab**	**08 16 36.5**	**+0.4**	
KAMT	**Kaman**	**146.64 321**	*e*	P	**PKPab**	**08 16 37.6**	**+0.7**	
SULR		**146.64 335**	⇓	P	**PKiKP**	**08 16 38.4**	**0.0**	
CEYT	**Ceyhan**	**146.69 316**	*e*	P	**PKiKP**	**08 16 38.7**	**0.0**	
ARR	**Arges**	**146.71 337**	⇓	P	**PKPab**	**08 16 36.9**	**0.0**	
TAHT	**Tahtakopru-Hat**	**146.73 314**	*e*	P	**PKiKP**	**08 16 39.1**	**+0.3**	
CONA	**Conrad Observa**	**146.82 349**	*e*	P	**PKPab**	**08 16 37.4**	**+0.1**	
	comp=Z,30nm,1.1s,SNR=14							
YAYX	**Yaylak**	**146.84 320**	*e*	P	**PKiKP**	**08 16 38.8**	**-0.3**	
LOD	**Lodumlu**	**146.89 322**	*e*	P	**PKPab**	**08 16 37.2**	**-0.6**	
GULA	**Gulagac**	**146.93 319**	*e*	P	**PKPab**	**08 16 38.3**	**+0.2**	
LOT	**Lotru**	**146.96 338**	⇓	P	**PKPbc**	**08 16 37.1**	**+0.5**	
AFSR	**Afar-Bala (An**	**146.98 321**	*e*	P	**PKPdf**	**08 16 34.7**	**-0.2**	
SERE	**Sereflikochisa**	**146.99 320**	*e*	P	**PKiKP**	**08 16 40.2**	**+0.7**	
KARA	**Karaisali**	**147.02 316**	*e*	P	**PKiKP**	**08 16 40.7**	**+1.3**	
MOA	**Molln**	**147.16 351**	*e*	P	**PKPab**	**08 16 38.0**	**-0.6**	
	comp=Z,61nm,1.4s,SNR=14							
BFO	**Black Forest**	**147.22 358**		PKP2	**PKPbc**	**08 16 37.3**	**+0.2**	
BFO	**Black Forest**	**147.22 358**			**PKPbc**	**08 16 37.3**	**+0.2**	
BFO				IAMs_20	IAMs_20	09 32 26.0		
	comp=Z,3μm,21.0s							
KULU	**Kulu**	**147.28 321**	*e*	P	**PKPbc**	**08 16 37.8**	**+0.1**	
CLF	**Chambon-Foret**	**147.30 6**		PKPbc	**PKPab**	**08 16 38.7**	**-0.3**	
ECH	**Echery**	**147.35 360**		PKP2	**PKPbc**	**08 16 36.3**	**-1.2**	
ECH	**Echery**	**147.35 360**			**PKPbc**	**08 16 36.3**	**-1.2**	
MDUB	**Mudurnu**	**147.40 325**	*e*	P	**PKPbc**	**08 16 37.9**	**-0.1**	
MDUB	**Mudurnu**	**147.40 325**			**PKPbc**	**08 16 36.9**	**-1.1**	
RAZG	**Razgrad**	**147.44 333**	⇓	P	**PKPbc**	**08 16 38.8**	**+0.9**	
ARSA	**Arzberg**	**147.53 349**	*e*	P	**PKPbc**	**08 16 37.6**	**-0.4**	
	comp=Z,31nm,1.3s,SNR=8.7							
BZS	**Buzias**	**147.54 341**	⇑	P	**PKPbc**	**08 16 37.1**	**-0.9**	
BZS	**Buzias**	**147.54 341**	⇑	PKP2	**PKPbc**	**08 16 37.1**	**-0.9**	
YESY	**Yesilyurt**	**147.58 318**	*e*	P	**PKPab**	**08 16 40.4**	**-0.3**	
MERS	**Mersin**	**147.59 316**	*e*	P	**PKPbc**	**08 16 39.3**	**+0.7**	
CHBY	**Cihanbeyli**	**147.63 320**	*e*	P	**PKiKP**	**08 16 39.9**	**-0.9**	
SILT	**Sile**	**147.77 327**	*e*	P	**PKPbc**	**08 16 38.5**	**-0.3**	
GULT	**Gulveren**	**147.81 325**	*e*	P	**PKPbc**	**08 16 39.9**	**+0.8**	
SRE	**Strehaia**	**147.84 338**	⇓	P	**PKiKP**	**08 16 41.0**	**+0.2**	
SRE	**Strehaia**	**147.84 338**	⇓	PKP2	**PKiKP**	**08 16 41.0**	**+0.2**	
MORH	**Mrgy, Hungar**	**147.84 345**	⇑	P	**PKPdf**	**08 16 37.0**	**+1.1**	
MORH	**Mrgy, Hungar**	**147.84 345**	*e*	P	**PKPdf**	**08 16 35.6**	**-0.3**	
SVRH	**Sivrihisar-ESK**	**147.90 323**	*e*	P	**PKiKP**	**08 16 40.4**	**-0.9**	
HERR	**Herculane**	**147.92 339**	⇑	P	**PKPbc**	**08 16 39.3**	**+0.2**	
RETA	**Reutte**	**147.93 355**	*e*	P	**PKiKP**	**08 16 40.3**	**-0.8**	
	comp=Z,47nm,1.3s,SNR=9.7							
HRT	**Hereke**	**147.99 327**	*e*	P	**PKiKP**	**08 16 41.3**	**-0.1**	
WATA	**Walderalm**	**148.00 354**	*i*	P	**PKPbc**	**08 16 40.3**	**+0.9**	
	comp=Z,29nm,1.2s,SNR=7.9							
KLYT	**Kilyos**	**148.01 328**	*e*	P	**PKiKP**	**08 16 40.9**	**-0.4**	
BEHE	**Becsehely**	**148.04 347**	*e*	P	**PKPab**	**08 16 42.6**	**+0.6**	
MOTA	**Moosalm**	**148.04 355**	*e*	P	**PKPbc**	**08 16 40.3**	**+0.7**	
	comp=Z,36nm,1.3s,SNR=15							
KBA	**Koelnbreinsper**	**148.05 352**	*e*	P	**PKPbc**	**08 16 38.6**	**-1.0**	
	comp=Z,21nm,1.5s,SNR=5.6							
KIZK	**Mersin**	**148.06 316**	*e*	P	**PKPbc**	**08 16 40.5**	**+0.8**	
WTTA	**Wattenberg**	**148.07 354**	*i*	P	**PKPbc**	**08 16 40.5**	**

LIT	**Litokhoron**	**151.99**	**334**	PKIKP	**PKPbc**	**08 16 48.4**	**-0.8**
LIT	**Litokhoron**	**151.99**	**334**		**PKPbc**	**08 16 48.4**	**-0.8**
PCAS	**Casmilo, Conde**	**152.01**	**26**	*e*PKPbc	**PKiKP**	**08 16 51.6**	**+2.0**
PCAS	**Casmilo, Conde**	**152.01**	**26**	*e*PKPab	**PKPab**	**08 16 54.6**	**-3.9**
MTE	**Manteigas**	**152.11**	**24**	*e*PKPbc	**PKiKP**	**08 16 51.6**	**+1.7**
MTE	**Manteigas**	**152.11**	**24**	*e*PKPab	**PKPab**	**08 16 54.7**	**-4.3**
NRCA	**Norcia**	**152.23**	**350**		**PKiKP**	**08 16 50.6**	**+0.5**
CASP	**Castiglione de**	**152.57**	**354**	PKPab	**PKPab**	**08 16 59.9**	**-0.9**
PCBR	**Castelo Branco**	**152.61**	**25**	*e*PKPbc	**PKiKP**	**08 16 51.5**	**+0.7**
PCBR	**Castelo Branco**	**152.61**	**25**	*e*PKPab	**PKiKP**	**08 16 55.7**	**+4.9**
LIS	**Lisbon**	**152.82**	**28**	*e*PKPdf	**PKPdf**	**08 16 43.8**	**-0.1**
PMTG	**Montargil**	**152.95**	**27**	*e*PKPbc	**PKiKP**	**08 16 51.6**	**0.0**
AGG	**Agios Georgios**	**152.96**	**333**	PKIKP	**PKiKP**	**08 16 51.6**	**0.0**
AGG						08 17 02.4	
AGG	**Agios Georgios**	**152.96**	**333**		**PKiKP**	**08 16 51.6**	**0.0**
AGG				PKPab	**PKPab**	**08 17 02.4**	**-0.1**
PMRV	**Marv??o**	**153.00**	**25**	*e*PKPbc	**PKiKP**	**08 16 53.0**	**+1.3**
KARP	**Karpathos**	**153.08**	**322**	PKPdf	**PKPdf**	**08 16 43.0**	**-1.4**
KARP				PKPbc	**PKPbc**	**08 16 51.4**	**-0.5**
KARP				PKPab	**PKPab**	**08 17 03.7**	**+0.5**
PESTR	**Estremoz**	**153.39**	**26**	PKPab	**PKPab**	**08 17 03.9**	**-0.5**
SANT	**Santorini**	**153.48**	**325**	PKPdf	**PKPdf**	**08 16 42.0**	**-3.1**
SANT					**PKPbc**	**08 16 51.3**	**-1.4**
SANT				PKPab	**PKPab**	**08 17 03.3**	**-1.5**
EVO	**Evora**	**153.48**	**27**	PKP	**PKPbc**	**08 16 51.1**	**-1.4**
EVO	**Evora**	**153.48**	**27**	PP	PP	08 20 41.6	+3.9
UCM	**Universidad Co**	**153.69**	**18**	PKP	**PKPdf**	**08 16 45.2**	**0.0**
UCM	**Universidad Co**	**153.69**	**18**	PP	PP	08 20 39.7	+1.0
MESJ	**Messejana**	**153.96**	**28**	*e*PKPdf	**PKPdf**	**08 16 45.4**	**-0.2**
PAB	**San Pablo**	**154.03**	**20**	PKP2	**PKPab**	**08 17 05.9**	**-1.2**
PAB	**San Pablo**	**154.03**	**20**	PKPab	**PKPab**	**08 17 05.9**	**-1.2**
ESBB	**Sonseca Array**	**154.04**	**20**	PKPbc	**PKiKP**	**08 16 57.7**	**+3.8**
ESBB				PKPab	**PKPab**	**08 17 06.6**	**-0.5**
ESDC	**Sonseca Array**	**154.04**	**20**	PKPbc	**PKiKP**	**08 16 55.1**	**+1.2**
	comp=Z,2.6nm,0.9s,baz=318,slow=2.0,SNR=8.1						
ESDC				PKPab	**PKPab**	**08 17 07.0**	**-0.1**
	comp=Z,18nm,1.1s,baz=324,slow=3.4,SNR=12						
ESDC	**Sonseca Array**	**154.04**	**20**		**PKiKP**	**08 16 54.7**	**+0.8**
ESDC				PKPab	**pPKPab**	**08 17 07.8**	**-0.5**
PBAR	**Barrancos**	**154.20**	**26**	*e*PKPbc	**PKPbc**	**08 16 52.4**	**-1.7**
TIP	**Timpagrande**	**154.88**	**342**	PKPdf	**PKPdf**	**08 16 44.5**	**-2.4**
TIP					**sPKPbc**	**08 16 57.1**	**-0.2**
TIP				PKPab	**PKPab**	**08 17 07.7**	**-3.1**
MAHO	**Mahon**	**155.55**	**5**	PKP	**PKPdf**	**08 16 52.5**	**+4.7**
MAHO	**Mahon**	**155.55**	**5**	PP	PP	08 20 50.1	+1.3
SFS	**San Fernando**	**156.00**	**27**	PKP	**PKPdf**	**08 16 49.2**	**+0.8**
EMAL	**Malaga-Limoner**	**156.47**	**24**	PKP	**PKPdf**	**08 16 47.9**	**-1.2**
EMAL	**Malaga-Limoner**	**156.47**	**24**	PP	PP	08 20 58.8	+4.4
CEU	**Ceuta**	**156.84**	**26**	PKP	**PKPdf**	**08 16 53.1**	**+3.5**
CEU	**Ceuta**	**156.84**	**26**	PP	PP	08 21 00.1	+3.7
CART	**Cartagena**	**156.85**	**16**	PKP	**PKPdf**	**08 16 50.9**	**+1.4**
CART	**Cartagena**	**156.85**	**16**	PP	PP	08 20 58.7	+2.4
PVLZ	**Peæn de**	**157.91**	**25**	PKP	**PKPdf**	**08 16 50.9**	**0.0**
PVLZ	**Peæn de**	**157.91**	**25**	PP	PP	08 21 05.2	+2.9
AVE	**Averroes**	**157.96**	**34**	PKP	**PKPdf**	**08 16 51.8**	**+0.7**
AVE	**Averroes**	**157.96**	**34**	PP	PP	08 21 13.9	+11
MELI	**Melilla**	**158.34**	**23**	PKP	**PKPdf**	**08 16 47.6**	**-3.8**
MELI	**Melilla**	**158.34**	**23**	PP	PP	08 21 06.1	+1.5
IFR	**Ifrane**	**158.94**	**29**	PKP	**PKPdf**	**08 16 53.9**	**+1.4**
IFR	**Ifrane**	**158.94**	**29**	PP	PP	08 21 16.8	+8.5
KOWA	**Kowa**	**169.29**	**94**		**PKPdf**	**08 17 01.6**	**-0.5**
KOWA				PKPab	**PKPab**	**08 18 14.2**	**-0.2**
TOA0	**Torodi Ar. Sit**	**174.34**	**113**		**PKPdf**	**08 17 02.8**	**-1.6**
TOA0				PKPab	**PKPab**	**08 18 36.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**174.34**	**113**	PKP	**PKPdf**	**08 17 03.4**	**-1.1**
	comp=Z,2.6nm,1.0s,baz=110,slow=0.2,SNR=9.2						
TORD				PKPab	**pPKPab**	**08 18 37.7**	**-0.4**
	comp=Z,3.8nm,0.9s,baz=248,slow=2.8,SNR=4.2						
TORD				PP	PP	08 22 37.8	+8.7
	comp=Z,0.9nm,0.9s,baz=212,slow=4.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**174.34**	**113**		**PKPdf**	**08 17 02.4**	**-2.0**
TORD				PKPab	**PKPab**	**08 18 34.2**	**-2.6**

IDC 30 07:57:35.9±3.4, 5°62S×153°17E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/49, mbtmp3.6/4, Error ellipse: s-maj=136.3km s-min=25.7km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.20**	**230**	P	P	08 02 43.3	-1.4
	0.6nm,0.6s,baz=55,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**25.81**	**224**	P	P	08 03 08.8	-0.3
	0.2nm,0.5s,baz=59,slow=8.0,SNR=2.7						
FITZ	**Fitzroy Crossi**	**29.60**	**243**	P	P	08 03 44.9	+1.8
	1.0nm,0.7s,baz=63,slow=9.0,SNR=1.7						
PETK	**Petropavlovsk-**	**58.63**	**3**	P	P	08 07 34.6	-0.1
	0.7nm,0.4s,baz=177,slow=8.1,SNR=9.4						

IDC 30 08:06:39.6±3.8, 5°22S×152°79E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/41, mbtmp3.6/3, Error ellipse: s-maj=143.5km s-min=53.2km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.16**	**229**	P	P	08 11 47.4	-0.5
	1.2nm,0.8s,baz=54,slow=9.8,SNR=4.8						
ASAR	**Alice Springs**	**25.83**	**223**	P	P	08 12 13.4	+0.4
	0.3nm,0.5s,baz=59,slow=9.0,SNR=1.8						
FITZ	**Fitzroy Crossi**	**29.44**	**242**	P	P	08 12 45.0	-0.3
	1.3nm,0.8s,baz=70,slow=11,SNR=1.0						
TORD	**Torodi Ar. Bea**	**150.42**	**287**	PKPbc	PKPbc	08 26 34.2	0.0
	1.5nm,1.1s,baz=85,slow=1.7,SNR=2.6						

*NNC **30** 08:14:11.0±0.6, 43°.29N×79°.80E, h0km, mb3.5, mpv2.8, Error ellipse: s-maj=5.4km s-min=4.1km az=3.0*
*SOME **30** 08:14:11.9, 43°.30N×79°.80E, h5km*
ISC 30 08:14:10.5±1.2, 43°26N±0°.04×79°79E±0°.03, h3km±11km, n22, σ0°91/40, 2C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.26**	**247**	*e*P	**Pg**	**08 14 14.6**	**-0.9**
	9.6nm,0.1s						
SHLS				*e*S	**Sg**	**08 14 16.7**	**-2.3**
	124nm,0.2s						
SHLS	**Shalkode**	**0.26**	**247**	P	**Pg**	**08 14 14.6**	**-0.9**
	9.6nm,0.1s						
SHLS				S	**Sg**	**08 14 16.6**	**-2.3**
	124nm,0.2s						
KTMS	**Ketmen**	**0.45**	**65**	*e*P	**Pg**	**08 14 19.4**	**+0.1**
	7.7nm,0.0s						
KTMS				*e*S	**Sg**	**08 14 25.1**	**-0.1**
	11nm,0.1s						
KTMS	**Ketmen**	**0.45**	**65**	P	**Pg**	**08 14 19.4**	**+0.1**
	21nm,0.2s						
KTMS				S	**Sg**	**08 14 25.0**	**-0.1**
	11nm,0.1s						
UZB	**Uzynbulak**	**0.57**	**259**	*e*P	**Pb**	**08 14 22.9**	**-0.4**
	2.8nm,0.2s						
UZB				*e*S	**Sg**	**08 14 30.6**	**+1.7**
	27nm,0.2s						
UZB	**Uzynbulak**	**0.57**	**259**	P	**Pg**	**08 14 22.8**	**+1.3**
	2.8nm,0.2s						
UZB				S	**Sg**	**08 14 30.6**	**+1.7**
	27nm,0.2s						
KPKS	**Kokpek**	**0.83**	**285**	*e*P	**Pb**	**08 14 27.4**	**-0.3**
	5.1nm,0.1s						
KPKS				*e*S	**Sb**	**08 14 38.5**	**-0.9**
	22nm,0.2s						
ZHN	**Zhinishke**	**0.99**	**265**	*e*P	**Pg**	**08 14 30.4**	**+0.8**
	0.5nm,0.1s						
ZHN				*e*S	**Sg**	**08 14 43.6**	**+1.2**
	3.5nm,0.1s						
SATY	**Saty**	**1.03**	**259**	*e*P	**Pb**	**08 14 31.2**	**+0.1**
	1.7nm,0.1s						
SATY				*e*S	**Sb**	**08 14 45.1**	**+0.1**
	15nm,0.2s						
SATY	**Saty**	**1.03**	**259**	P	**Pb**	**08 14 31.2**	**+0.1**
	1.7nm,0.1s						
SATY				S	**Sb**	**08 14 45.1**	**+0.1**
	15nm,0.2s						
DJR	**Jarkent**	**1.07**	**0**	*e*P	**Pg**	**08 14 30.8**	**-0.3**
	0.8nm,0.2s						
DJR				*e*S	**Sg**	**08 14 44.5**	**-0.6**
	1.5nm,0.1s						
DJR	**Jarkent**	**1.07**	**0**	P	**Pg**	**08 14 30.8**	**-0.3**
	0.4nm,0.1s						
DJR				S	**Sg**	**08 14 44.5**	**-0.6**
	1.5nm,0.2s						

MNBS	**Baschi**	**1.30**	**310**	*e*P	**Pg**	**08 14 35.6**	**+0.2**
	1.1nm,0.1s						
MNBS				*e*S	**Sn**	**08 14 52.7**	**-1.0**
	5.9nm,0.2s						
MNBS	**Baschi**	**1.30**	**310**	P	**Pg**	**08 14 35.6**	**+0.2**
	1.1nm,0.1s						
MNBS				S	**Sn**	**08 14 52.7**	**-1.0**
	5.9nm,0.2s						
ARXS	**Arharly**	**1.71**	**305**	*e*P	**Pg**	**08 14 43.3**	**-0.1**
	0.8nm,0.2s						
ARXS				*e*S	**Sg**	**08 15 05.9**	**+0.4**
	2.9nm,0.2s						
ARXS	**Arharly**	**1.71**	**305**	P	**Pg**	**08 14 43.3**	**-0.1**
	0.8nm,0.2s						
ARXS				S	**Sg**	**08 15 05.9**	**+0.4**
	2.9nm,0.2s						
MDOK	**Medeo**	**2.00**	**268**	⇓P	**Pn**	**08 14 46.3**	**+0.8**
	5.9nm,1.2s						
MDOK				Lg	Lg	08 15 12.9	
	5.4nm,0.9s						
KNDC	**Almaty**	**2.06**	**270**	⇑Pg	**Pn**	**08 14 47.0**	**+0.8**
	14nm,0.4s						
KNDC				⇑Lg	Lg	08 15 14.4	
	24nm,0.5s						
CHKK	**Chushkaly**	**2.12**	**287**	*e*P	**Pb**	**08 14 50.4**	**+0.7**
	0.9nm,0.1s						
CHKK				*e*S	**Sg**	**08 15 18.0**	**-0.6**
	5.9nm,0.2s						
CHKK	**Chushkaly**	**2.12**	**287**	Pg	**Pb**	**08 14 50.2**	**+0.6**
	0.9nm,0.1s						
CHKK				Lg	Lg	08 15 17.8	
	4.7nm,0.3s						
KTBS	**Karatobe**	**2.31**	**282**	*e*P	**Pg**	**08 14 54.0**	**-0.7**
	0.5nm,0.1s						
KTBS				*e*S	**Sg**	**08 15 24.0**	**-0.6**
	5.5nm,0.3s						
KTBS	**Karatobe**	**2.31**	**282**	Pg	**Pb**	**08 14 53.6**	**+0.8**
	0.7nm,0.2s						
KTBS				Lg	Lg	08 15 23.7	
	5.5nm,0.3s						

ATH 30 08:14:41.9, 38°72N×23°68E, h13km±2km, ML1.5/5, Error ellipse: s-maj=2.9km s-min=0.9km az=40.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYMI	**Kymi, Euboea I**	**0.34**	**104**	P	Pg	08 14 48.3	-0.5
KYMI				S	Sg	08 14 53.4	0.0
KYMI				AML	AML	08 14 55.9	
	comp=N,124μm,0.3s						
KYMI				AML	AML	08 14 57.5	
	comp=E,161μm,0.3s						
EREA	**Eretria**	**0.35**	**146**	P	Pg	08 14 48.5	-0.6
EREA				S	Sg	08 14 53.3	-0.6
EREA				AML	AML	08 14 54.8	
	comp=E,289μm,0.4s						
EREA				AML	AML	08 14 55.0	
	comp=N,216μm,0.4s						
ATAL	**Atalanti**	**0.52**	**268**	P	Pg	08 14 51.0	-1.1
ATAL				S	Sg	08 14 58.9	-0.1
ATAL				AML	AML	08 15 01.3	
	comp=N,77μm,0.3s						
ATAL				AML	AML	08 15 02.1	
	comp=E,118μm,0.4s						
VIL2	**Platees**	**0.60**	**213**	P	Pg	08 14 53.3	-0.3
VIL2				S	Sg	08 15 01.7	+0.1
DION	**Dionisos Attik**	**0.67**	**163**	P	Pg	08 14 54.6	-0.3
DION				S	Sg	08 15 03.9	+0.2
NEO	**Neokhori**	**0.69**	**329**	P	Pb	08 14 55.6	-0.2
NEO				S	Sb	08 15 05.0	-0.3
NEO				AML	AML	08 15 10.4	
	comp=N,176μm,0.4s						
NEO				AML	AML	08 15 10.9	
	comp=E,137μm,0.3s						
XOR	**Xorichti**	**0.75**	**330**	P	Pg	08 14 56.6	+0.1
XOR				S	Sg	08 15 06.7	+0.2
LTK	**Loutraki**	**0.89**	**219**	P	Pg	08 14 58.1	-1.1
LTK				S	Sb	08 15 11.7	+0.6
KARY	**Karystos**	**0.91**	**139**	P	Pg	08 14 58.9	-0.6
KARY				S	Sg	08 15 11.1	-0.1
KARY				AML	AML	08 15 14.5	
	comp=N,61μm,0.4s						
KARY				AML	AML	08 15 14.9	
	comp=E,36μm,0.5s						
KLV	**Kalavryta, Ach**	**1.38**	**241**	P	Pn	08 15 06.9	-0.1

*JMA **30** 08:17:02.8±0.2, 44°.31N×140°.56E, h245km±3km, M3.0*
*IDC **30** 08:17:04.0±0.8, 44°.52N×140°.62E, h229km±9km, mb3.1/9, mb1 3.3/12, mb1mx3.1/46, mbtmp3.6/12, Error ellipse: s-maj=32.5km s-min=12.1km az=0.0*
ISC 30 08:17:03.7±0.7, 44°22N±0°.05×140°70E±0°.06, h244km±6km, n33, σ1°29/47, mb3.3/9, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYG	**Yagishiri**	**0.56**	**68**	P	**Pn**	**08 17 35.3**	**-0.7**
JSS	**Shosan**	**0.85**	**77**	P	**Pn**	**08 17 37.3**	**+0.1**
JSS				*e*S	**S**	**08 18 03.7**	**+0.2**
JHR	**Hokuryu**	**0.88**	**122**	P	**Pn**	**08 17 37.8**	**+0.4**
JHR				*e*S	**S**	**08 18 04.7**	**+0.9**
JSK	**Shakotan**	**0.88**	**191**	P	**Pn**	**08 17 37.3**	**-0.1**
JISS	**Ishikarishitsu**	**1.07**	**151**	P	**Pn**	**08 17 39.1**	**+0.6**
JISS				*e*S	**S**	**08 18 07.3**	**+1.5**
JRBN	**Rebuntou**	**1.23**	**12**	P	**Pn**	**08 17 38.1**	**-1.3**
ASAJ	**Asahikawa**	**1.37**	**93**	P	**Pn**	**08 17 40.1**	**-0.3**
	5.3nm,0.3s,baz=275,slow=4.7,SNR=40						
ASAJ				S	**S**	**08 18 08.5**	**-0.7**
	2.3nm,0.3s,baz=331,slow=32,SNR=16						
JWK2	**Keihoku**	**1.39**	**37**	P	**Pn**	**08 17 40.1**	**-0.4**
JWK2				*e*S	**S**	**08 18 09.1**	**-0.4**
JEW	**Eniwo**	**1.48**	**158**	*e*S	**S**	**08 18 11.9**	**+1.1**
JKK2	**Kamakawa 2**	**1.51**	**102**	P	**Pn**	**08 17 41.5**	**0.0**
JKK2				*e*S	**S**	**08 18 10.8**	**-0.4**
JSE	**Soyaes**	**1.54**	**60**	P	**Pn**	**08 17 41.0**	**-0.6**
JSE				*e*S	**S**	**08 18 10.0**	**-1.4**
JFR	**Furan**	**1.73**	**127**	P	**Pn**	**08 17 43.2**	**-0.1**
JFR				*e*S	**S**	**08 18 15.0**	**+0.6**
JOSM	**Okushiri--Mats**	**2.31**	**203**	P	**Pn**	**08 17 48.7**	**+0.1**
JTKR	**Abashiri--Toko**	**2.32**	**95**	P	**Pn**	**08 17 49.0**	**+0.4**
JTKR				*e*S	**S**	**08 18 25.5**	**+1.4**
JKB	**Kayabe**	**2.34**	**174**	*e*S	**S**	**08 18 24.7**	**+0.2**
JAR	**Ashorobuto**	**2.40**	**111**	P	**Pn**	**08 17 50.0**	**+0.5**
JAR				*e*S	**S**	**08 18 27.3**	**+1.7**
JCH	**Churui**	**2.51**	**129**	P	**Pn**	**08 17 50.3**	**-0.3**
JCH				*e*S	**S**	**08 18 25.2**	**-2.4**
JOT	**Ohata**	**2.84**	**175**	*e*S	**S**	**08 18 33.9**	**0.0**
JAK	**Akkeshi**	**3.15**	**111**	P	**Pn**	**08 17 56.1**	**-1.2**
JAK				*e*S	**S**	**08 18 38.4**	**-1.3**
NEM2	**Nemuro 2**	**3.75**	**101**	P	**Pn**	**08 18 03.3**	**-0.9**
NEM2				*e*S	**S**	**08 18 48.6**	**-3.5**
JANG	**Nango**	**3.89**	**171**	P	**Pn**	**08 18 04.8**	**-1.1**
JANG				*e*S	**S**	**08 18 51.2**	**-4.0**
USRK	**Ussuriysk Ar.**	**6.26**	**273**	P	**Pn**	**08 18 34.4**	**-0.5**
	baz=91,slow=14,SNR=8.9						
KLR	**Kul'dur**	**7.94**	**312**	P	**Pn**	**08 18 54.5**	**-1.5**
	baz=124,slow=15						
SEY	**Seymchan**	**19.93**	**16**	P	**P**	**08 21 15.2**	**-1.8**
	0.1nm,0.3s,baz=227,slow=9.5,SNR=5.5						
SONM	**Songino Array**	**23.98**	**291**	P	**P**	**08 21 54.6**	**-1.5**
	0.6nm,0.4s,baz=106,slow=11,SNR=3.6						
ZALV	**Zalesovo Beam**	**36.97**	**306**	P	**P**	**08 23 49.4**	**-0.1**
	0.9nm,0.3s,baz=95,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**40.21**	**295**	P	**P**	**08 24 16.6**	**+0.2**
	0.9nm,0.5s,baz=88,slow=8.9,SNR=9.8						
ILAR	**Eielson Array**	**43.86**	**36**	P	**P**	**08 24 45.1**	**-0.4**
	0.3nm,0.6s,baz=285,slow=11,SNR=12						
YKA	**Yellowknife Ar**	**57.94**	**32**	P	**P**	**08 26 30.2**	**+0.1**
	0.2nm,0.7s,baz=306,slow=6.5,SNR=6.4						
FINES	**FINESS Array B**	**62.26**	**330**	P	**P**	**08 26 59.8**	**+0.5**
	2.9nm,0.9s,baz=64,slow=4.4,SNR=3.8						
NVAR	**Mina Array Bea**	**71.19**	**55**	P	**P**	**08 27 58.5**	**+2.3**
	0.2nm,0.5s,baz=321,slow=5.9,SNR=3.8						
PDAR	**Pinedale Array**	**73.06**	**46**	P	**P**	**08 28 08.4**	**+1.1**
	0.4nm,0.6s,baz=313,slow=2.4,SNR=4.6						
TXAR	**Lajitas Array**	**86.15**	**52**	P	**P**	**08 29 18.9**	**+1.3**
	0.2nm,0.6s,baz=296,slow=3.6,SNR=6.5						

*BJI **30** 08:17:58.6±0.0, 15°.39S×172°.81W, h5km, mB6.6/67, mb5.4/55, Ms6.5/78, Ms7 6.2/70*
*MOS **30** 08:17:59.8±1.4, 15°.33S×173°.01W, h10km, mb5.8/81, MS6.3/26, Error ellipse: s-maj=7.4km s-min=6.0km az=65.6*
*IDC **30** 08:17:59.6±0.4, 15°.39S×173°.06W, h0km, mb5.2/31, mb1 5.3/31, mb1mx5.2/41, mbtmp5.2/31, MS6.1/19, Ms1 6.1/19, ms1mx5.8/53, Error ellipse: s-maj=14.7km s-min=11.1km az=147.0*
*NEIC **30** 08:18:01.3±1.9, 15°.39S±0°.08×172°.94W±0°.08, h15km±3km, mb5.8/414, Ms_20 6.4/870, Mww6.4, Mwc6.3(GCMT), Error ellipse: s-maj=12.0km s-min=10.2km az=50.0*
*NOU **30** 08:18:08.2, 15°.75S×172°.68W, h74km, mb5.5, Samoa Islands Region*
*GCMT **30** 08:18:08.9±0.1, 15°.30S±0°.01×172°.68W, h14km, MW6.3/170, Moment Tensor Solution. s164,c389; s170,c517; Duration: 3s5 Moment tensor: Scale 10^18 Nm; Mrr2.82±.03; Mθθ0.56±.02; Mϕϕ-3.37±.02; Mrθ0.43±.04; Mθϕ0.79±.02; Mϕr1.48±.04; Best double couple: M☉3.55000×10^18 NP1:ϕs153.00000°, δ35.00000°, λ65.00000°. NP2:ϕs3.00000°, δ58.00000°, λ107.00000°. Principal axes: T 3.2890, Plg71.0000°, Azm313.0000°; N 0.5300, Plg14.0000°, Azm174.0000°; P -3.8110, Plg12.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 08:18:09, 15°.28S×172°.66W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr2.82; Mθθ0.71; Mϕϕ-3.52; Mrθ0.15; Mθϕ0.78; Mϕr2.06; Fault plane solution: M☉3.91000×10^18 NP1:ϕs157.00000°, δ30.00000°, λ70.00000°. NP2:ϕs360.00000°, δ62.00000°, λ101.00000°. Principal axes: T 3.4790, Plg71.0000°, Azm295.0000°; N 0.7546, Plg10.0000°, Azm174.0000°; P -4.2336, Plg16.0000°, Azm82.0000°;*
*NEIC **30** 08:18:09, 15°.51S×172°.60W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr4.08; Mθθ-0.71; Mϕϕ-3.37; Mrθ-0.28; Mθϕ0.76; Mϕr1.88; Fault plane solution: M☉4.29000×10^18 NP1:ϕs163.00000°, δ32.00000°, λ86.00000°. NP2:ϕs348.00000°, δ58.00000°, λ92.00000°. Principal axes: T 4.5257, Plg77.0000°, Azm265.0000°; N -0.5154, Plg2.0000°, Azm166.0000°; P -4.0103, Plg13.0000°, Azm76.0000°;*
ISC 30 08:18:02.0±0.5, 15°44S±0°.04×172°91W±0°.04, h15km±2km, h15km:pP-P, n1574, σ1s93/1193, mb5.7/302, MS6.4/499, 158C-43D, Fault plane solution: NP1:ϕs131.41452°, δ52.70567°, λ46.09391°. NP2:ϕs9.22413°, δ55.02885°, λ132.31810°. Principal axes: T Plg56.4839°, Azm338.7835°; N Plg33.4827°, Azm161.6654°; P Plg1.3268°, Azm70.7876°; **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.87**	**36**		Pn	08 18 27.0	-6.6
NIUE	**Niue**	**4.60**	**142**	P	**Pn**	**08 19 08.9**	**-2.1**
	baz=4.5,SNR=64						
NIUE				S	**Sn**	**08 19 57.8**	**-6.4**
	baz=4.5						
NIUE	**Niue**	**4.60**	**142**	Pn	**Pn**	**08 19 08.9**	**-2.1**
NIUE	**Niue**	**4.60**	**142**	P	**Pn**	**08 19 09.9**	**-1.1**
MSVF	**Nonsavu**	**8.97**	**254**	Pn	Pn	08 20 18.6	+7.5
	7.4nm,0.3s,baz=103,slow=15,SNR=53						
MSVF				LR	LR	08 23 08.9	
	comp=Z,323μm,18.9s,baz=131,slow=35						
MSVF	**Nonsavu**	**8.97**	**254**		Pn	08 20 18.1	+7.1
MSVF	**Nonsavu**	**8.97**	**254**	P	Pn	08 20 18.4	+7.3
FUNA	**Funafuti**	**10.34**	**311**	Pn	Pn	08 20 27.1	-2.7
KNTN	**Kanton**	**12.64**	**5**	Pn	Pn	08 20 56.5	-4.9
RAR	**Rarotonga**	**13.72**	**117**	Pn	Pn	08 21 12.6	-3.5
	11nm,0.3s,baz=272,slow=6.7,SNR=21						
RAR				LR	LR	08 25 28.7	
	comp=Z,74μm,21.7s,baz=230,slow=32						
RAR	**Rarotonga**	**13.72**	**117**	P	Pn	08 21 12.3	-3.8
RAR	**Rarotonga**	**13.72**	**117**	Pn	Pn	08 21 12.3	-3.8
RAR	**Rarotonga**	**13.72**	**117**	P	**Pn**	**08 21 13.8**	**-2.3**
RAO	**Raoul Island**	**14.50**	**198**	LR	LR	08 25 50.4	
	comp=Z,43μm,19.5s,baz=19,slow=32						
MARNC	**Mare, Loyalty**	**19.05**	**249**	P	**P**	**08 22 26.4**	**+2.7**
SANVU	**Saraoutou**	**19.18**	**267**	P	**P**	**08 22 23.8**	**-1.4**
SANVU	**Saraoutou**	**19.18**	**267**	P	**P**	**08 22 26.8**	**+1.6**
PINNC	**Pines Island,**	**19.89**	**246**	P	**P**	**08 22 34.9**	**+2.0**
YATNC	**Mamie plateau,**	**20.22**	**248**	P	**P**	**08 22 38.4**	**+1.8**
OUENC	**Ouen Island, N**	**20.36**	**247**	P	**P**	**08 22 39.5**	**+1.4**
DZM	**Mont Dzumac**	**20.63**	**248**	P	**P**	**08 22 40.4**	**-0.7**
	27nm,0.7s,baz=73,slow=19,SNR=16						
DZM				LR	LR	08 29 20.1	
	comp=Z,86μm,20.5s,baz=82,slow=33						
DZM	**Mont Dzumac**	**20.63**	**248**	*e*P	**P**	**08 22 43.0**	**+2.0**
DZM				*e*LQ	LQ	08 26 43.9	
	116μm,28.9s						
DZM				*e*LR	LR	08 27 36.4	
	comp=Z,177μm,25.0s						
DZM	**Mont Dzumac**	**20.63**	**248**	P	**P**	**08 22 39.6**	**-1.5**
DZM	**Mont Dzumac**	**20.63**	**248**	P	**P**	**08 22 43.1**	**+2.0**
ONTNC	**Ouen Toro**	**20.68**	**248**	P	**P**	**08 22 43.3**	**+1.8**
**PAE

PRRZ Plateau Road 24.83 200 P **P** **08 23 25.2 +1.5**
KNZ Kokohu 24.91 198 P **P** **08 23 29.8 +5.4**
MHGZ Mahia Peninsul 24.96 197 P **P** **08 23 28.2 +3.4**
TLZ Tolley Road 24.98 202 P **P** **08 23 27.3 +2.3**
RAHZ Arahi 24.99 199 P **P** **08 23 27.7 +2.6**
RAHZ S S 08 28 00.3 +12
MTHZ Maungataniwha 25.01 199 P **P** **08 23 28.1 +2.8**
WHHZ Waihua 25.09 198 P **P** **08 23 30.7 +4.6**
MRHZ Matea Rd 25.13 200 P **P** **08 23 28.2 +1.8**
ARHZ Aropaoanui 25.33 199 P **P** **08 23 33.5 +5.3**
HIZ Hauiti 25.39 203 P **P** **08 23 29.7 +1.0**
HIZ IAmb IAmb 08 23 41.4
comp=Z,155nm,0.9s
HIZ Hauiti 25.39 203 P **P** **08 23 33.2 +4.5**
BKZ Black Stump Fm 25.40 199 P **P** **08 23 28.7 -0.3**
BKZ Black Stump Fm 25.40 199 P **P** **08 23 29.4 +0.5**
MCHZ McNeill Hill 25.59 199 P **P** **08 23 34.5 +3.9**
TMVZ Te Maari 25.62 201 P **P** **08 23 32.5 +1.5**
ETVZ East Tongariro 25.64 201 P **P** **08 23 31.5 +0.3**
WTVZ West Tongariro 25.66 201 P **P** **08 23 36.5 +5.2**
KWHZ Kaweka Forest 25.66 199 P **P** **08 23 31.8 +0.6**
TWVZ Taurewa 25.67 201 P **P** **08 23 34.4 +2.9**
OTVZ Oturere 25.68 201 P **P** **08 23 33.4 +1.8**
NGZ Ngauruhoe 25.71 201 P **P** **08 23 33.4 +1.6**
TUVZ Tukino 25.77 201 P **P** **08 23 32.5 +0.1**
BHHZ Black Hill Sta 25.84 200 P **P** **08 23 33.0 +0.2**
WNVZ Wahianoa 25.85 201 P **P** **08 23 34.2 +1.1**
KAHZ Kahuranaki 25.86 198 P **P** **08 23 35.7 +2.7**
MOVZ Moawhango 25.86 200 P **P** **08 23 34.3 +1.2**
KRHZ Kereru 25.88 199 P **P** **08 23 36.7 +3.5**
PKVZ Pokaka 25.90 201 P **P** **08 23 35.8 +2.3**
VRZ Vera Road 25.96 202 P **P** **08 23 39.6 +5.6**
PXZ Pawanui 26.08 198 P **P** **08 23 37.8 +2.8**
PNHZ Pukenui 26.18 199 P **P** **08 23 41.1 +5.2**
WPHZ Waipukurau 26.24 199 P **P** **08 23 38.5 +2.1**
NEZ North Egmont 26.34 203 P **P** **08 23 42.3 +4.8**
PRHZ Porangahau 26.36 198 P **P** **08 23 41.2 +3.6**
TSZ Takapari Road 26.39 199 P **P** **08 23 38.9 +1.1**
KHEZ Kahui Hut 26.39 203 P **P** **08 23 44.7 +6.8**
WAZ Wanganui 26.44 201 P **P** **08 23 42.6 +4.3**
DVHZ Dannevirke 26.54 199 P **P** **08 23 41.1 +1.9**
ANWZ Angora Road 26.59 198 P **P** **08 23 42.9 +3.3**
POWZ Post Office Ro 26.75 199 P **P** **08 23 42.7 +1.7**
PRWZ Pori Road 26.83 199 P **P** **08 23 44.7 +2.9**
BFZ Birch Farm 26.86 198 P **P** **08 23 41.4 -0.6**
BFZ Birch Farm 26.86 198 P **P** **08 23 43.0 +1.0**
HNR Honiara 27.16 279 LR LR 08 32 48.9
comp=Z,72µm,19.4s,baz=120,slow=33
HOWZ Holdsworth Sta 27.29 199 P **P** **08 23 48.7 +2.8**
MSWZ Moikau Station 27.84 199 P **P** **08 23 51.7 +0.8**
SNZO South Karori 27.93 200 P **P** **08 23 50.9 -0.6**
BHW Baring Head 27.96 200 P **P** **08 23 49.4 -2.4**
PLWZ Palliser 27.98 199 P **P** **08 23 51.9 -0.3**
QRZ Quartz Range 28.29 204 P **P** **08 23 55.1 +0.2**
QRZ IAmb IAmb 08 24 19.0
comp=Z,120nm,0.8s
TUWZ Tuamarina 28.29 201 P **P** **08 23 53.1 -1.8**
NNZ Nelson 28.30 202 P **P** **08 23 53.6 -1.4**
CMWZ Cape Campbell 28.48 200 P **P** **08 23 55.5 -1.1**
BSWZ Blackbirch Sta 28.57 201 P **P** **08 23 56.6 -0.7**
THZ Tophouse 28.95 202 P **P** **08 24 00.0 -0.8**
KHZ Kahutara 29.30 201 P **P** **08 24 03.0 -0.8**
LTZ Lake Taylor 30.07 202 P **P** **08 24 09.7 -1.6**
LTZ IAmb IAmb 08 24 15.2
comp=Z,102nm,0.8s
LHI Lord Howe Isla 30.16 233 P P 08 24 08.7 -2.9
OXZ Oxford 30.63 202 P **P** **08 24 14.7 -0.9**
OXZ IAmb IAmb 08 24 21.8
comp=Z,119nm,0.9s
MQZ McQueen's Vall 30.75 201 P **P** **08 24 16.9 +0.3**
KWAJ Kwajalein Atol 30.87 320 IAMs_20 IAMs_20 08 33 44.4
comp=Z,68µm,20.0s
RPZ Rata Peaks 31.32 203 P **P** **08 24 21.4 -0.3**
comp=Z,32nm,0.6s,baz=317,slow=2.5,SNR=18
RPZ Rata Peaks 31.32 203 P **P** **08 24 22.1 +0.4**
RPZ IAMs_20 IAMs_20 08 38 57.8
comp=Z,61µm,18.0s
FOZ Fox Glacier 31.65 204 P **P** **08 24 23.9 -0.7**
FOZ IAmb IAmb 08 24 26.8
comp=Z,93nm,0.9s
LBZ Lake Benmore 32.22 203 P **P** **08 24 28.6 -1.1**
LBZ IAMs_20 IAMs_20 08 37 26.5
comp=Z,58µm,19.0s
ODZ Otahua Downs 32.62 202 P **P** **08 24 33.0 -0.1**
TAOE Nuku Hiva Isla 32.66 82 *e*S **S** **08 29 51.2 +1.4**
comp=Z,6µm,24.0s
TAOE *e*LR LR 08 32 59.9
comp=Z,128µm,27.7s,baz=259
TAOE Nuku Hiva Isla 32.66 82 *e*T T 08 58 56.3
comp=Z,120nm,0.2s
WKZ Wanaka 33.04 204 P **P** **08 24 34.9 -1.9**
MLZ Mavora Lakes 33.85 204 P **P** **08 24 42.8 -1.0**
DCZ Deep Cove 34.32 205 P **P** **08 24 47.6 -0.3**
WHZ Wether Hill Ro 34.35 204 P **P** **08 24 47.8 -0.3**
EIDS Eidsvold 35.07 248 P **P** **08 24 53.1 -0.6**
baz=35,SNR=6.9
EIDS Eidsvold 35.07 248 P **P** **08 24 53.8 -0.9**
EIDS IAMs_20 IAMs_20 08 38 31.5
comp=Z,52µm,18.0s
ARMA Armidale 35.73 239 P **P** **08 24 58.6 -1.8**
baz=36,SNR=12
ARMA Armidale 35.73 239 P **P** **08 24 59.0 -1.5**
PATS Pohnpei 36.10 306 IAMs_20 IAMs_20 08 35 29.3
comp=Z,58µm,22.0s
RKT Rikitea 36.53 108 *e*S **S** **08 30 52.2 +3.0**
comp=Z,5µm,28.8s
RKT *e*LQ LQ 08 33 31.5
comp=Z,26µm,28.5s
RKT *e*LR LR 08 35 04.9
comp=Z,105µm,25.2s
MGCD Mangrove Creek 37.02 235 P **P** **08 25 10.4 -0.9**
baz=37,SNR=4.6
RMQ Roma 37.32 246 P **P** **08 25 12.5 -1.4**
baz=37,SNR=13
HMH Humu'ula Sheep 38.81 27 P **P** **08 25 27.1 +0.3**
CTA Charters Tower 39.10 257 P P 08 25 26.0 -3.0
comp=Z,6.6nm,0.7s,baz=91,slow=12,SNR=7.5
CTA LR LR 08 39 51.9
comp=Z,43µm,18.0s,baz=98,slow=34
CTAO Charters Tower 39.10 257 P **P** **08 25 26.6 -2.4**
CTAO pmax pmax
comp=Z,68nm,1.6s
CTAO Charters Tower 39.10 257 P P 08 25 26.6 -2.4
CTAO Charters Tower 39.10 257 IAMs_20 IAMs_20 08 39 48.4
comp=Z,44µm,18.0s
CNB Canberra Magne 39.10 233 P **P** **08 25 27.2 -1.7**
baz=39,SNR=11
H11S2 WAKE ISLAND Hy 39.24 328 T T 09 06 35.7
baz=145,slow=74,SNR=95
H11S3 WAKE ISLAND Hy 39.26 328 T T 09 06 45.2
baz=63,slow=74,SNR=79
H11S1 WAKE ISLAND Hy 39.26 328 T T 09 06 06.2
SNR=54
HON Honolulu 39.35 22 P **P** **08 25 29.3 -1.6**
HON pmax pmax
comp=Z,314nm,1.2s
HON Honolulu 39.35 22 P **P** **08 25 29.3 -1.6**
HON IAmb IAmb 08 25 37.4
comp=Z,314nm,1.2s
CAN Canberra 39.38 233 P **P** **08 25 29.8 -1.5**
CAN pmax pmax
comp=Z,37nm,1.0s
CAN Canberra 39.38 233 P **P** **08 25 29.8 -1.5**
PMG Port Moresby 39.41 274 P P 08 25 29.1 -2.5
baz=138,slow=7.6,SNR=6.8
PMG LR LR 08 39 24.3
comp=Z,25µm,20.7s,baz=71,slow=33
PMG Port Moresby 39.41 274 P **P** **08 25 30.0 -1.6**
PMG Port Moresby 39.41 274 P **P** **08 25 31.4 -0.2**
KIP Kipapa 39.44 22 P **P** **08 25 31.2 -0.4**
KIP pmax pmax
comp=Z,565nm,1.2s
KIP Kipapa 39.44 22 P **P** **08 25 31.2 -0.4**
H11N3 WAKE ISLAND Hy 40.18 330 T T 09 08 03.2
baz=149,slow=76,SNR=19
H11N1 WAKE ISLAND Hy 40.19 330 T T 09 08 16.6
baz=149,slow=76,SNR=14
H11N2 WAKE ISLAND Hy 40.20 330 T T 09 08 15.2
baz=149,slow=76,SNR=20
CMSA Cobar Meteorol 40.95 240 P **P** **08 25 41.9 -2.3**
baz=41,SNR=59
MTSU Mount Surprise 40.98 260 P **P** **08 25 43.0 -1.6**
baz=41,SNR=29
QLP Quilpie 41.34 247 P P 08 25 44.9 -2.7
baz=41,SNR=5.9
COEN Coen 42.45 266 P **P** **08 25 55.8 -0.9**
baz=42
COEN Coen 42.45 266 P **P** **08 25 55.6 -1.1**
TOO Toolangi 42.81 231 P **P** **08 25 58.0 -1.4**
baz=43,SNR=24
TOO Toolangi 42.81 231 P **P** **08 25 58.3 -1.1**
TOO pmax pmax
comp=Z,54nm,1.0s
TOO Toolangi 42.81 231 P **P** **08 25 58.3 -1.1**
TOO IAMs_20 IAMs_20 08 41 49.8
comp=Z,43µm,18.0s
TAU Tasmania Unive 43.61 223 IAMs_20 IAMs_20 08 42 34.0
comp=Z,39µm,18.0s
STKA Stephens Creek 44.43 240 P **P** **08 26 11.1 -1.4**
comp=Z,20nm,0.7s,baz=81,slow=8.7,SNR=61
STKA LR LR 08 43 10.7
comp=Z,19µm,18.5s,baz=76,slow=34
STKA Stephens Creek 44.43 240 P **P** **08 26 10.7 -1.9**
baz=44,SNR=44
STKA Stephens Creek 44.43 240 P **P** **08 26 10.6 -1.9**
STKA pmax pmax
comp=Z,9.0nm,0.9s
STKA Stephens Creek 44.43 240 P **P** **08 26 10.6 -1.9**
QIS Mount Isa 45.33 256 P **P** **08 26 17.8 -2.1**
baz=45,SNR=5.8
ARPS Mount Arapiles 45.35 233 P **P** **08 26 18.4 -1.3**
baz=45,SNR=10
HTT Hallett 46.93 239 P **P** **08 26 30.8 -1.5**
baz=47,SNR=42
JAY Jayapura 47.46 281 P **P** **08 26 35.3 -1.4**
comp=Z,33nm,1.0s,baz=353,slow=7.1,SNR=4.4
JAY LR LR 08 45 01.7
comp=Z,34µm,20.6s,baz=98,slow=34
GENI Genyem 47.95 281 P **P** **08 26 40.1 -0.3**
comp=Z,7µmcomp=Z,75nm,0.5s
BBOO Buckleboo 49.20 240 P **P** **08 26 47.8 -2.0**
baz=49,SNR=18
BBOO Buckleboo 49.20 240 P P 08 26 47.3 -2.5
BBOO IAMs_20 IAMs_20 08 47 54.1
comp=Z,27µm,18.0s
WR0 Warramunga Arr 50.11 257 P P 08 26 54.3 -2.6
WR0 IAMs_20 IAMs_20 08 46 08.1
comp=Z,38µm,20.0s
WR9 Warramunga Arr 50.13 257 IAMs_20 IAMs_20 08 46 08.8
comp=Z,38µm,20.0s
WR8 Warramunga Arr 50.15 257 IAMs_20 IAMs_20 08 46 09.1
comp=Z,38µm,20.0s
WR7 Warramunga Arr 50.17 257 IAMs_20 IAMs_20 08 46 09.7
comp=Z,38µm,20.0s
WR6 Warramunga Arr 50.19 257 IAMs_20 IAMs_20 08 46 10.3
comp=Z,38µm,20.0s
WR4 Warramunga Arr 50.23 257 IAMs_20 IAMs_20 08 46 11.5
comp=Z,37µm,20.0s
WR3 Warramunga Arr 50.25 257 IAMs_20 IAMs_20 08 46 12.6
comp=Z,38µm,20.0s
WB0 Warramunga Arr 50.26 257 P **P** **08 26 55.8 -2.3**
WB0 IAmb IAmb 08 27 08.6
comp=Z,160nm,1.5s
WB0 IAMs_20 IAMs_20 08 46 12.8
comp=Z,41µm,20.0s
WC3 Warramunga Arr 50.27 257 P P 08 26 55.6 -2.6
baz=50
WC3 Warramunga Arr 50.27 257 IAMs_20 IAMs_20 08 46 12.3
comp=Z,38µm,20.0s
WB7 Warramunga Arr 50.27 257 IAMs_20 IAMs_20 08 46 12.7
comp=Z,34µm,20.0s
WB8 Warramunga Arr 50.27 257 IAMs_20 IAMs_20 08 46 12.4
comp=Z,40µm,20.0s
WC2 Warramunga Arr 50.28 257 IAMs_20 IAMs_20 08 46 13.5
comp=Z,38µm,20.0s
WB5 Warramunga Arr 50.28 257 IAMs_20 IAMs_20 08 46 13.6
comp=Z,32µm,20.0s
WB6 Warramunga Arr 50.28 257 IAMs_20 IAMs_20 08 46 13.6
comp=Z,39µm,20.0s
WB4 Warramunga Arr 50.28 257 IAMs_20 IAMs_20 08 46 22.7
comp=Z,36µm,20.0s
WB3 Warramunga Arr 50.28 257 IAMs_20 IAMs_20 08 46 13.8
comp=Z,39µm,21.0s
WB2 Warramunga Arr 50.29 257 P P 08 26 55.8 -2.5
WB2 IAMs_20 IAMs_20 08 46 13.9
comp=Z,38µm,20.0s
WRAB Tennant Creek 50.29 257 P P 08 26 55.6 -2.7
WRAB pmax pmax
comp=Z,60nm,1.0s
WRAB Tennant Creek 50.29 257 P P 08 26 55.6 -2.7
WRAB Tennant Creek 50.29 257 IAMs_20 IAMs_20 08 46 12.7
comp=Z,37µm,20.0s
WB1 Warramunga Ar. 50.29 257 IAMs_20 IAMs_20 08 46 14.0
comp=Z,38µm,20.0s
WC4 Warramunga Arr 50.30 257 IAMs_20 IAMs_20 08 46 14.1
comp=Z,40µm,20.0s
WR1 Warramunga Arr 50.30 257 IAMs_20 IAMs_20 08 46 14.2
comp=Z,32µm,20.0s
WRA Warramunga Arr 50.30 257 P P 08 26 55.8 -2.6
comp=Z,20nm,0.8s,baz=91,slow=6.7,SNR=104
WRA PcP **PcP** **08 28 19.2 +2.0**
comp=Z,4.0nm,0.6s,baz=86,slow=4.1,SNR=1.3
WRA Warramunga Arr 50.30 257 P P 08 26 55.9 -2.5
WC1 Warramunga Arr 50.30 257 IAMs_20 IAMs_20 08 46 13.2
comp=Z,37µm,20.0s
AS31 Alice Springs 50.55 252 P **P** **08 26 58.0 -2.3**
ASAR Alice Springs 50.55 252 P P 08 26 57.9 -2.4
comp=Z,112nm,0.9s,baz=86,slow=8.5,SNR=138
ASAR Alice Springs 50.55 252 P P 08 26 57.4 -2.9
ASAR Alice Springs 50.55 252 P P 08 26 57.4 -2.9
ASPA Alice Springs 50.55 252 P **P** **08 26 58.0 -2.3**
baz=51
KDU Kakadu 52.94 266 P **P** **08 27 16.6 -1.6**
baz=53,SNR=8.0
MTN Manton Dam 54.20 265 P **P** **08 27 25.8 -1.7**
baz=54,SNR=3.9
MTN Manton Dam 54.20 265 P P 08 27 25.1 -2.4
MTN IAMs_20 IAMs_20 08 46 55.6
comp=Z,29µm,21.0s
SAUI Saumlaki 55.01 271 IAMs_20 IAMs_20 08 47 50.0
comp=Z,25µm,20.0s
FAKI Fak Fak 55.39 277 P **P** **08 27 34.7 -1.4**
FAKI Fak Fak 55.39 277 P **P** **08 27 36.3 +0.2**
comp=Z,4µmcomp=Z,27nm,1.9s
WRKA Warakurna 55.63 250 P P 08 27 35.3 -2.4
baz=56,SNR=100
FORT Forrest 55.82 243 P P 08 27 36.5 -2.4
baz=56,SNR=13
FORT Forrest 55.82 243 P **P** **08 27 36.6 -2.3**
FORT IAmb IAmb 08 27 47.4
comp=Z,79nm,0.7s
SIJI Sorong 56.94 279 P **P** **08 27 44.9 -2.2**
comp=Z,45nm,0.8s,baz=80,slow=20,SNR=9.8
SIJI LR LR 08 51 02.7
comp=Z,22µm,20.7s,baz=134,slow=35
FITZ Fitzroy Crossi 58.67 258 P **P** **08 27 57.9 -1.4**
comp=Z,1.6nm,0.6s,baz=94,slow=5.2,SNR=6.7
FITZ Fitzroy Crossi 58.67 258 P **P** **08 27 58.4 -0.8**
baz=59,SNR=4.5
FITZ Fitzroy Crossi 58.67 258 P **P** **08 27 57.2 -2.0**
RPN Rapa Nui 59.83 113 LR LR 08 47 29.3
comp=Z,14µm,21.8s,baz=270,slow=30
SOEI Soe 61.40 267 P **P** **08 28 17.1 -1.2**
SOEI Soe 61.40 267 P **P** **08 28 21.5 +3.3**
BATI Baumata 61.89 267 LR LR 08 53 12.6
comp=Z,25µm,20.6s,baz=109,slow=34
SBA Scott Base 63.25 185 P **P** **08 28 31.9 +2.5**
SBA pmax pmax
comp=Z,89nm,1.2s
SBA Scott Base 63.25 185 P **P** **08 28 31.9 +2.5**
SBA IAmb IAmb 08 28 43.2
comp=Z,89nm,1.2s
VNDA Vanda 63.39 186 P **P** **08 28 32.5 +2.1**
comp=Z,13nm,0.9s,baz=7.4,slow=6.4,SNR=48
VNDA LR LR 08 54 27.1
comp=Z,4µm,18.1s,baz=24,slow=34
VNDA Vanda 63.39 186 P **P** **08 28 32.4 +2.1**
VNDA pmax pmax
comp=Z,107nm,1.6s
VNDA Vanda 63.39 186 P **P** **08 28 32.4 +2.0**
VNDA IAmb IAmb 08 28 41.9
comp=Z,107nm,1.6s
PSAD2 Pilbara Seismi 63.54 253 IAMs_20 IAMs_20 08 53 52.9
comp=Z,19µm,20.0s
MMRI Maumere 63.60 268 P **P** **08 28 30.8 -2.0**
PSAC2 Pilbara Seismi 63.60 253 IAMs_20 IAMs_20 08 53 55.6
comp=Z,21µm,19.0s
PSAB2 Pilbara Seismi 63.64 253 IAMs_20 IAMs_20 08 53 55.5
comp=Z,21µm,19.0s
PSAB3 Pilbara Seismi 63.64 253 IAMs_20 IAMs_20 08 53 56.6
comp=Z,21µm,19.0s
PSAA3 Pilbara Seismi 63.64 253 IAMs_20 IAMs_20 08 53 56.6
comp=Z,21µm,19.0s
PSA00 Pilbara Seismi 63.65 253 P **P** **08 28 30.8 -2.2**
PSA00 Pilbara Seismi 63.65 253 IAMs_20 IAMs_20 08 53 55.9
comp=Z,21µm,19.0s
PSAA2 Pilbara Seismi 63.65 253 IAMs_20 IAMs_20 08 53 55.9
comp=Z,22µm,20.0s
PSAA1 Pilbara Seismi 63.66 253 IAMs_20 IAMs_20 08 53 56.1
comp=Z,22µm,19.0s
PSAC3 Pilbara Seismi 63.66 253 IAMs_20 IAMs_20 08 53 56.1
comp=Z,21µm,19.0s
PSAB1 Pilbara Seismi 63.67 253 IAMs_20 IAMs_20 08 53 57.5
comp=Z,21µm,19.0s
PSAD1 Pilbara Seismi 63.68 253 IAMs_20 IAMs_20 08 54 06.6
comp=Z,21µm,19.0s
PSAC1 Pilbara Seismi 63.69 253 IAMs_20 IAMs_20 08 53 56.9
comp=Z,22µm,19.0s
PSAD3 Pilbara Seismi 63.70 253 IAMs_20 IAMs_20 08 53 57.3
comp=Z,21µm,21.0s
MBWA Marble Bar 63.81 254 IAMs_20 IAMs_20 08 54 10.0
comp=Z,21µm,19.0s
EDFI Ende, Flores 64.10 268 P **P** **08 28 35.0 -1.2**
comp=Z,2µmcomp=Z,41nm,0.9s
KLBR Kellerberrin 64.64 242 P **P** **08 28 38.4 -1.0**
baz=65,SNR=6.9
BASI Baing, Sumba 64.86 266 P **P** **08 28 41.8 +0.8**
comp=Z,3µmcomp=Z,88nm,1.3s
DAV Davao City (W) 64.91 286 LR LR 08 55 39.1
comp=Z,13µm,18.3s,baz=100,slow=35
LUWI Luwuk 65.00 276 P P 08 28 39.5 -2.5
LUWI IAmb IAmb 08 29 09.7
comp=Z,79nm,1.0s
LUWI Luwuk 65.00 276 P **P** **08 28 42.5 +0.5**
comp=Z,95nm,1.2s
NWAO Narrogin (SRO) 65.02 241 P **P** **08 28 41.5 -0.3**
baz=65,SNR=4.7
NWAO Narrogin (SRO) 65.02 241 P P 08 28 39.4 -2.4
NWAO 08 28 40.4
NWAO pmax pmax
comp=Z,43nm,1.0s
NWAO MLR MLR
comp=Z,16µm,19.0s
NWAO Narrogin (SRO) 65.02 241 P **P** **08 28 40.4 -1.4**
NWAO Narrogin (SRO) 65.02 241 P P 08 28 39.4 -2.4
NWAO IAmb IAmb 08 28 52.2
comp=Z,35nm,1.0s
GTOI Gorontalo 65.26 278 P **P** **08 28 46.6 +3.0**
comp=Z,29µmcomp=Z,2µmcomp=Z,26nm,1.0s
BLDU Ballidu 65.60 243 P **P** **08 28 44.6 -1.0**
baz=66,SNR=9.5
MUN Mundaring 65.93 242 P **P** **08 28 47.7 0.0**
baz=66,SNR=7.9
JHJ2 Mitsune 66.09 318 P P 08 28 45.7 -2.9
JHJ2 IAmb IAmb 08 28 52.6
comp=Z,5µm,2.7s
JHJ2 IAMs_20 IAMs_20 08 50 38.9
comp=Z,12µm,21.0s
APSI Ampana 66.12 276 P **P** **08 28 49.7 +0.5**
comp=Z,32µmcomp=Z,2µmcomp=Z,44nm,1.0s
MRSI Marisa 66.23 277 P **P** **08 28 51.3 +1.4**
comp=Z,49µmcomp=Z,3µmcomp=Z,29nm,1.0s
MORW Morawa 66.30 245 P **P** **08 28 48.6 -1.6**
baz=66,SNR=6.0
MORW Morawa 66.30 245 P **P** **08 28 49.4 -0.8**
MORW IAMs_20 IAMs_20 08 58 27.9
comp=Z,30µm,19.0s
BKSI Bulukumba 66.42 271 P **P** **08 28 51.5 +0.3**
comp=Z,43µmcomp=Z,3µmcomp=Z,14nm,0.5s
BNSI Bone 66.67 272 P **P** **08 28 52.7 0.0**
comp=Z,48µmcomp=Z,2µmcomp=Z,36nm,1.3s
KAPI Kappang 66.86 271 P **P** **08 28 54.3 +0.4**
comp=Z,13nm,0.9s,baz=191,slow=8.2,SNR=4.4
KAPI LR LR 08 57 11.7
comp=Z,3µm,19.6s,baz=84,slow=35
KAPI Kappang 66.86 271 P **P** **08 28 53.0 -0.9**
KAPI pmax pmax
comp=Z,23nm,0.9s
KAPI Kappang 66.86 271 P **P** **08 28 53.0 -0.9**
SPSI Sidrap Palu 67.11 272 P **P** **08 28 55.9 +0.4**
comp=Z,36µmcomp=Z,2µmcomp=Z,18nm,1.2s
ADK Adak 67.12 357 P **P** **08 28 53.3 -1.4**
ADK pmax pmax
comp=Z,122nm,1.2s
ADK Adak 67.12 357 P **P** **08 28 53.2 -1.4**
TTSI Tana Toraja 67.30 273 P **P** **08 28 58.0 +1.3**
comp=Z,38µmcomp=Z,2µmcomp=Z,19nm,1.0s
GSTR Great Sitkin T 67.30 359 P P 08 28 53.7 -2.3
ATKA Atka Island 67.37 359 P P 08 28 53.5 -2.8
TOLI2 Tolitoli 67.53 278 P **P** **08 28 56.1 -2.1**
JYT Yasato 67.85 320 P **P** **08 28 60.0 +0.3**
JYT IAMs_20 IAMs_20 08 54 17.2
comp=Z,28µm,20.0s
PLAI Plampang 67.86 267 P **P** **08 29 01.3 +1.0**
comp=Z,42µmcomp=Z,3µmcomp=Z,56nm,1.2s
JMZ Minamidaito 2 68.10 306 P **P** **08 29 00.5 -1.0**
JSG Sagara 68.13 318 P **P** **08 29 00.3 -1.2**
JMM Marumori 68.56 322 P **P** **08 29 02.9 -1.3**
TWSI Taliwang, Sumb 68.74 266 P **P** **08 29 04.3 -1.5**
comp=Z,2µmcomp=Z,44nm,0.9s
SMY Shemya 68.81 352 P **P** **08 29 05.4 0.0**
SMY pmax pmax
comp=Z,376nm,1.4s
SMY Shemya 68.81 352 P **P** **08 29 05.3 0.0**
SMY IAMs_20 IAMs_20 08 54 01.1
comp=Z,22µm,20.0s
JGF Kuroka 69.23 318 P **P** **08 29 07.9 -0.5**
JGF IAmb IAmb 08 29 17.0
comp=Z,104nm,1.4s
MJAR Matsushiro Arr 69.28 320 P **P** **08 29 08.6 -0.1**
comp=Z,44nm,1.0s,baz=157,slow=5.7,SNR=70
MJAR Matsushiro Arr 69.28 320 P **P** **08 29 08.3 -0.4**
MJAR pmax pmax
comp=Z,44nm,1.3s
MJAR Matsushiro Arr 69.28 320 P **P** **08 29 08.3 -0.4**
MAJO Matsushiro 69.28 320 P **P** **08 29 08.3 -0.4**
MAJO pmax pmax
comp=Z,130nm,1.5s
MAJO Matsushiro 69.28 320 P **P** **08 29 08.3 -0.4**
MAJO IAmb IAmb 08 29 17.3
comp=Z,130nm,1.4s
MAJO Matsushiro 69.28 320 IAMs_20 IAMs_20 08 53 34.5
comp=Z,26µm,22.0s
MAT Matsushiro 69.28 320 P **P** **08 29 07.8 -0.9**
MAT S **S** **08 38 17.0 +2.3**
MJB9 Matsu-Tunnel 69.28 320 IAMs_20 IAMs_20 08 53 35.2
comp=Z,26µm,21.0s
INU Inuyama 69.30 318 P **P** **08 29 08.5 -0.3**
INU IAmb IAmb 08 29 17.6
comp=Z,76nm,1.3s
INU IAMs_20 IAMs_20 08 59 49.4
comp=Z,16µm,19.0s
ERM Erimo 70.06 327 IAMs_20 IAMs_20 08 59 44.5
comp=Z,23µm,19.0s
JEM Erimo 70.06 327 IAMs_20 IAMs_20 08 55 19.3
comp=Z,25µm,20.0s
KUR Kuril'sk 70.08 332 *c i* P **P** **08 29 13.9 +0.5**
KUR pmax pmax
comp=Z,5µm,9.3s
KUR pmax pmax
comp=Z,202nm,1.6s
KUR MLR MLR
comp=Z,18µm,18.0s
KUR MLR MLR
comp=N,19µm,18.0s
KUR MLR MLR
comp=E,13µm,18.0s
YUK Yuzh-Kuril'sk 70.13 330 *e*P P 08 29 11.1 -2.6
YUK *e*S **S** **08 38 26.6 +2.2**
JSD Sado 70.19 321 P **P** **08 29 12.6 -1.7**
JSD IAmb IAmb 08 29 16.3
comp=Z,101nm,1.1s
JSD IAMs_20 IAMs_20 08 55 39.3
comp=Z,16µm,20.0s
JWT Wachi 70.31 317 P **P** **08 29 15.5 +0.4**
JWT IAmb IAmb 08 29 16.2
comp=Z,92nm,1.4s
JTM Tenmabayashi 70.35 325 P **P** **08 29 16.1 +0.9**
JMN Monobe 70.42 315 **P** **08 29 16.9 +1.0**
SRBI Singaraja 70.49 267 P **P** **08 29 15.6 -1.0**
comp=Z,4µmcomp=Z,61nm,1.2s
CASY Casey 70.57 205 P **P** **08 29 16.6 +0.4**
CASY IAmb IAmb 08 29 45.7
comp=Z,71nm,1.4s
SCZ2 Santa Cruz Isl 70.61 45 P 08 29 18.2
baz=235
KBKI Kotabaru 70.75 272 P **P** **08 29 19.0 +0.8**

comp=Z,762nmcomp=Z,33nm,0.8s
SCI2 San Clemente I 70.79 46 P 08 29 18.7
baz=236
JOW Kunigami 70.89 306 P **P** **08 29 16.8 -2.0**
JOW IAmb IAmb 08 29 24.6
comp=Z,80nm,1.4s
JOW IAMs_20 IAMs_20 08 54 23.3
comp=Z,17µm,21.0s
MCCM Marconi Confer 70.99 40 IAMs_20 IAMs_20 08 56 07.7
comp=Z,26µm,19.0s
PKM Mcpherson Peak 71.01 44 P 08 29 20.9
baz=235,SNR=5.9
SAO San Andreas Ge 71.04 42 IAMs_20 IAMs_20 08 53 09.2
comp=Z,25µm,20.0s
CIS Catalina Islan 71.12 46 P 08 29 21.3
baz=236,SNR=5.6
PAGB Antelope Grade 71.21 43 P **P** **08 29 20.1 -0.5**
PAGB IAmb IAmb 08 29 27.7
comp=Z,124nm,1.6s
SKR Severo-Kuril's 71.22 340 *e*P **P** **08 29 20.0 -0.2**
SKR *e*S **S** **08 38 39.4 +2.6**
SKR pmax pmax
comp=Z,2µm,10.3s
SKR pmax pmax
comp=Z,2µm,9.1s
SKR smax smax
comp=N,3µm,14.7s
SKR smax smax
comp=E,5µm,13.9s
SKR MLR MLR
comp=Z,8µm,17.0s
SKR MLR MLR
comp=Z,8µm,16.0s
SDPT Sand Point 71.29 7 P **P** **08 29 19.4 -1.1**
JAGI Jajag, Banyuwa 71.42 266 P P 08 29 19.7 -2.6
JAGI IAmb IAmb 08 29 34.1
comp=Z,50nm,0.8s
CCX Cicese 71.52 48 P **P** **08 29 22.1 -0.3**
CCX IAmb IAmb 08 29 29.2
comp=Z,92nm,1.4s
JEW Eniwo 71.54 326 P **P** **08 29 21.9 -0.5**
JEW IAMs_20 IAMs_20 08 56 29.8
comp=Z,22µm,20.0s
TJX Tijuana 71.59 47 IAMs_20 IAMs_20 08 54 39.8
comp=Z,18µm,19.0s
OSI Osito Audit: C 71.59 45 P **P** **08 29 23.6 +0.7**
OSI IAmb IAmb 08 29 29.8
comp=Z,129nm,1.5s
JSU Suzuyama 71.62 311 P **P** **08 29 23.7 +0.6**
JSU IAmb IAmb 08 29 25.0
comp=Z,81nm,1.3s
DECC Green Verdugo 71.65 45 P 08 29 24.5
baz=236
JHS Saijyo 71.67 316 P **P** **08 29 23.7 +0.4**
PASC Pasadena Art C 71.71 45 P **P** **08 29 23.4 -0.2**
109C Camp Elliot, M 71.75 47 P 08 29 24.2
baz=237,SNR=6.5
109C Camp Elliot, M 71.75 47 P **P** **08 29 23.5 -0.3**
109C IAmb IAmb 08 29 30.5
comp=Z,79nm,1.3s
109C IAMs_20 IAMs_20 08 53 57.3
comp=Z,18µm,20.0s
CBX Cerro Bola 71.76 48 P **P** **08 29 23.4 -0.6**
KMRM Mail Ridge 71.80 38 P **P** **08 29 25.1 +1.0**
KMRM IAmb IAmb 08 29 32.1
comp=Z,108nm,1.1s
KMRM IAMs_20 IAMs_20 08 54 41.8
comp=Z,28µm,20.0s
MWC Mount Wilson 71.82 45 P **P** **08 29 24.4 -0.1**
MWC pmax pmax
comp=Z,73nm,1.1s
MWC Mount Wilson 71.82 45 P **P** **08 29 24.4 -0.1**
MWC IAmb IAmb 08 29 31.7
comp=Z,73nm,1.1s
JKA Kamikawa-asahi 71.82 328 P **P** **08 29 24.8 +0.8**
ASAJ Asahikawa 71.83 328 P **P** **08 29 24.8 +0.8**
ASAJ pmax pmax
comp=Z,50nm,1.0s
TKX Tecate 71.94 48 P **P** **08 29 24.8 -0.3**
TKX IAMs_20 IAMs_20 09 01 00.1
comp=Z,15µm,18.0s
BAR Barrett 71.95 48 P **P** **08 29 25.0 -0.1**
BAR IAmb IAmb 08 29 49.8
comp=Z,166nm,2.1s
BAR IAMs_20 IAMs_20 08 54 02.5
comp=Z,18µm,19.0s
SPX San Pedro Mart 71.95 50 P **P** **08 29 25.3 -0.2**
JCC Jacoby Creek, 71.99 37 IAMs_20 IAMs_20 08 54 47.2
comp=Z,23µm,19.0s
VES Vestal, Richgr 72.04 44 P 08 29 26.3
baz=235,SNR=30
MURC Murrieta 72.08 46 P 08 29 26.5
baz=237,SNR=20
BFSC Mount Baldy Ra 72.11 46 P 08 29 26.6
baz=236,SNR=22
ESJX Sierra Juarez 72.11 48 P **P** **08 29 25.9 -0.3**
ESJX IAmb IAmb 08 29 33.3
comp=Z,87nm,1.4s
KHMM Horse Mountain 72.20 37 IAMs_20 IAMs_20 08 54 54.8
comp=Z,25µm,20.0s
EDW2 Edwards Air Fo 72.23 45 P 08 29 27.9
baz=236,SNR=34
MONP2 Monument Peak 72.24 47 P 08 29 28.0
baz=238,SNR=26
O02D Mt. Diablo Mer 72.31 38 P 08 29 28.2
baz=231
RMX La Rumorosa 72.33 48 P **P** **08 29 27.9 +0.3**
RMX IAmb IAmb 08 29 34.3
comp=Z,111nm,1.6s
IKP In-Ko-Pah, Jac 72.33 48 P 08 29 28.1
baz=238,SNR=20
ISA Isabella, Lake 72.35 44 P 08 29 28.7
baz=235,SNR=30
ISA Isabella, Lake 72.35 44 P **P** **08 29 27.2 -0.3**
ISA pmax pmax
comp=Z,129nm,1.5s
ISA Isabella, Lake 72.35 44 P **P** **08 29 27.2 -0.3**
ISA IAmb IAmb 08 29 34.4
comp=Z,129nm,1.5s
SFX San Felipe 72.41 50 P **P** **08 29 27.9 +0.1**
PET Petropavlovsk 72.46 342 *c* *i*P **P** **08 29 27.7 +0.1**
PET *e*S **S** **08 38 50.5 -0.4**
PET *e*PS **PnS** **08 39 29.2 +6.9**
PET pmax pmax
comp=Z,4µm,10.9s
PET pmax pmax
comp=Z,5µm,8.8s
PET MLR MLR
comp=Z,18µm,17.0s
PET MLR MLR
comp=Z,17µm,17.0s
CMB Columbia Colle 72.48 41 P **P** **08 29 27.6 -0.6**
CMB pmax pmax
comp=Z,53nm,1.5s
CMB Columbia Colle 72.48 41 P **P** **08 29 27.6 -0.6**
CMB IAMs_20 IAMs_20 08 53 12.2
comp=Z,21µm,21.0s
CHGN Chignik 72.49 8 P 08 29 27.0
baz=195,SNR=6.0
CHGN Chignik 72.50 8 P **P** **08 29 27.1 -0.6**
CHGN IAMs_20 IAMs_20 08 58 23.6
comp=Z,17µm,19.0s
KRMB Red Mountain 72.52 36 IAMs_20 IAMs_20 08 55 14.1
comp=Z,21µm,19.0s
SRIG Santa Rosalia 72.57 54 P **P** **08 29 28.0 -0.8**
SRIG IAMs_20 IAMs_20 08 56 45.1
comp=Z,24µm,18.0s
PFO Pinyon Flats O 72.60 47 P 08 29 30.3
baz=237,SNR=28
PFO Pinyon Flats O 72.60 47 P **P** **08 29 28.1 -1.0**
PFO pmax pmax
comp=Z,75nm,1.4s
PFO Pinyon Flats O 72.60 47 P **P** **08 29 28.1 -1.0**
PFO Pinyon Flats O 72.60 47 IAMs_20 IAMs_20 08 55 18.7
comp=Z,25µm,19.0s
TPFO Pinon Flats 72.60 47 P 08 29 29.9
baz=237,SNR=30
XPFO Pion Flat 72.60 47 P **P** **08 29 28.4 -0.7**
XPFO IAmb IAmb 08 29 35.8
comp=Z,85nm,1.4s
XPFO Pion Flat 72.60 47 IAMs_20 IAMs_20 08 55 18.7
comp=Z,25µm,19.0s
BBRC Big Bear Solar 72.63 46 P 08 29 30.6
baz=237
AFDM Forest Hills D 72.66 40 P **P** **08 29 29.2 0.0**
AFDM IAMs_20 IAMs_20 08 56 32.0
comp=Z,22µm,19.0s
ORV Oroville 72.70 39 P **P** **08 29 29.1 -0.3**
ORV pmax pmax
comp=Z,37nm,1.4s
ORV Oroville 72.70 39 P **P** **08 29 29.1 -0.3**
ORV IAMs_20 IAMs_20 08 57 04.1
comp=Z,18µm,19.0s
SWSC Sam W. Stewart 72.71 48 P 08 29 30.0
baz=238,SNR=10
WDC Whiskeytown Da 72.72 38 P **P** **08 29 28.2 -1.2**
WDC pmax pmax
comp=Z,104nm,1.7s
WDC Whiskeytown Da 72.72 38 P **P** **08 29 28.2 -1.2**
WDC IAmb IAmb 08 30 15.1
comp=Z,104nm,1.6s
WDC IAMs_20 IAMs_20 08 55 23.3
comp=Z,23µm,19.0s
SLBS Sierra La Lagu 72.77 59 IAMs_20 IAMs_20 08 53 01.9
comp=Z,17µm,21.0s
LRMC Laurel Mtn Rad 72.78 45 P 08 29 30.9
baz=236,SNR=29
KBO Bosley Butte 72.79 36 IAMs_20 IAMs_20 08 54 54.0
comp=Z,22µm,20.0s
CPBX Cerro Prieto 72.79 48 P P 08 29 27.7 -2.4
CPBX IAmb IAmb 08 29 53.9
comp=Z,109nm,1.3s
PEA0B Petropavlovsk- 72.81 342 P **P** **08 29 29.7 0.0**
PEA0B pmax pmax
comp=Z,106nm,1.0s
PEA0B MLR MLR
comp=Z,8µm,21.0s
PEA0B Petropavlovsk- 72.81 342 P **P** **08 29 29.7 0.0**
PEA0B IAmb IAmb 08 29 42.2
comp=Z,106nm,0.9s
PETK Petropavlovsk- 72.81 342 P **P** **08 29 29.9 +0.1**
comp=Z,91nm,1.0s,baz=117,slow=8.5,SNR=56
PETK Petropavlovsk- 72.81 342 P **P** **08 29 28.5 -1.3**
PETK Petropavlovsk- 72.81 342 P **P** **08 29 28.5 -1.3**
N02D Trinity Center 72.87 38 P 08 29 31.4
baz=231
O03E Paynes Creek 72.98 39 P 08 29 30.2
baz=232
M02C Callahan 73.04 37 P 08 29 32.3
baz=230
CWC Cottonwood Cre 73.05 44 P 08 29 31.9
baz=235
MDPB Devils Postpil 73.08 42 P **P** **08 29 30.5 -1.5**
MDPB IAMs_20 IAMs_20 08 54 23.2
comp=Z,25µm,20.0s
BELC Belle Mtn. Jos 73.13 47 P 08 29 33.0
baz=238,SNR=37
KEBM Edson Butte 73.16 35 IAMs_20 IAMs_20 08 56 47.9
comp=Z,21µm,18.0s
MPMC Manual Prospec 73.23 44 P 08 29 33.8
baz=236,SNR=35
RUBR Rubicon Trail 73.23 40 P **P** **08 29 31.5 -1.3**
RUBR IAmb IAmb 08 30 28.5
comp=Z,149nm,1.6s
RUBR IAMs_20 IAMs_20 08 56 24.1
comp=Z,23µm,19.0s
MLAC Mammoth, Mammo 73.23 42 P 08 29 33.8
baz=235
GSC Goldstone, Bar 73.28 45 P **P** **08 29 33.0 0.0**
GSC pmax pmax
comp=Z,103nm,1.5s
GSC Goldstone, Bar 73.28 45 P **P** **08 29 33.0 0.0**
GSC IAmb IAmb 08 29 39.7
comp=Z,103nm,1.4s
GSC Goldstone, Bar 73.28 45 P 08 29 33.9
baz=237,SNR=33
BC3 Big Chuckawall 73.33 47 P 08 29 34.1
baz=238,SNR=33
HEC Hector,Ludlow 73.34 46 P 08 29 34.1
baz=237,SNR=32
YBH Yreka Blue Hor 73.34 37 P **P** **08 29 32.3 -1.0**
YBH pmax pmax
comp=Z,103nm,1.5s
YBH Yreka Blue Hor 73.34 37 P **P** **08 29 32.3 -1.0**
YBH IAmb IAmb 08 29 40.5
comp=Z,103nm,1.4s
YBH IAMs_20 IAMs_20 08 55 12.9
comp=Z,19µm,20.0s
KKM Kota Kinabalu 73.35 281 P P 08 29 30.5 -3.4
WAKR Walker 73.36 41 P **P** **08 29 33.0 -0.6**
WAKR IAmb IAmb 08 30 30.4
comp=Z,261nm,2.2s
K02D Willamette Mer 73.41 36 P 08 29 34.7
baz=230
SII Sitkinak Islan 73.42 11 P 08 29 33.4
baz=199
SII Sitkinak Islan 73.42 11 P **P** **08 29 32.0 -1.3**
SII IAMs_20 IAMs_20 09 02 55.0
comp=Z,21µm,18.0s
GLA Glamis 73.46 48 P 08 29 35.5
baz=239,SNR=25
GLA Glamis 73.46 48 P **P** **08 29 32.6 -1.5**
GLA pmax pmax
comp=Z,90nm,1.2s
GLA Glamis 73.46 48 P **P** **08 29 32.6 -1.5**
GLA IAmb IAmb 08 29 42.9
comp=Z,90nm,1.2s
GLA IAMs_20 IAMs_20 08 55 38.6
comp=Z,16µm,19.0s
J01E Myrtle Point 73.57 35 P 08 29 36.3
baz=229
BEKR Beckworth 73.59 40 P **P** **08 29 35.0 +0.1**
BEKR IAMs_20 IAMs_20 08 57 22.6
comp=Z,17µm,19.0s
PNTR Pine Nut 73.60 41 P **P** **08 29 33.5 -1.5**
PNTR IAmb IAmb 08 30 00.3
comp=Z,109nm,1.6s
PNTR IAMs_20 IAMs_20 08 53 45.9
comp=Z,24µm,22.0s
VCNR Virginia City 73.69 40 P **P** **08 29 35.3 -0.2**
VCNR IAMs_20 IAMs_20 08 57 16.3
comp=Z,20µm,19.0s
PIX Pinacate 73.70 50 P **P** **08 29 34.2 -1.3**
YSS Yuzh-Sakhalins 73.75 330 *α**e*P **P** **08 29 36.0 +0.6**
YSS *e* 08 29 53.2
YSS *e*S **SKiKP** **08 39 04.9 +0.2**
YSS pmax pmax
comp=Z,70nm,0.8s
YSS pmax pmax
comp=Z,6µm,8.7s
YSS smax smax
comp=N,5µm,13.0s
YSS Yuzh-Sakhalins 73.75 330 P **P** **08 29 34.5 -0.9**
HUMO Hull Mountain 73.76 36 P **P** **08 29 36.5 +0.9**
HUMO IAMs_20 IAMs_20 08 55 45.9
comp=Z,18µm,20.0s
YERR Yerington 73.77 41 P **P** **08 29 35.7 -0.2**
GMRC Granite Mounta 73.79 46 P 08 29 36.8
baz=238
LHV Little Huntoon 73.81 42 P **P** **08 29 36.7 +0.8**
LHV IAMs_20 IAMs_20 08 54 58.4
comp=Z,26µm,20.0s
IRM Iron Mountain 73.81 47 P 08 29 37.1
baz=238,SNR=52
FURC Furnace Creek, 73.88 44 P 08 29 37.2
baz=236,SNR=27
M04C Macdoel 73.88 37 P 08 29 37.7
baz=231,SNR=9.5
L04D Klamath Falls 73.88 37 P 08 29 37.5
baz=231,SNR=7.4
JTU Tsushima 73.96 313 IAMs_20 IAMs_20 09 00 17.4
comp=Z,16µm,18.0s
SHOC Shoshone, Teco 73.96 45 P 08 29 37.7
baz=237,SNR=29
RYN Ryan 74.01 41 P **P** **08 29 36.6 -0.7**
RYN IAMs_20 IAMs_20 08 54 12.9
comp=Z,22µm,21.0s
NVAR Mina Array Bea 74.04 42 P **P** **08 29 38.0 +0.3**
comp=Z,8.7nm,0.8s,baz=228,slow=9.1,SNR=31
NVAR Mina Array Bea 74.04 42 P **P** **08 29 37.6 0.0**
PAHR Pah Rah Range 74.10 40 P **P** **08 29 37.0 -0.9**
PAHR IAMs_20 IAMs_20 08 57 10.1
comp=Z,20µm,19.0s
NV11 Mina Array Sit 74.14 42 P **P** **08 29 37.7 -0.4**
NV11 IAmb IAmb 08 30 01.2
comp=Z,122nm,1.4s
OHAK Old Harbor 74.21 11 P 08 29 37.9
baz=200
OHAK Old Harbor 74.21 11 P **P** **08 29 37.8 0.0**
OHAK IAmb IAmb 08 29 45.1
comp=Z,117nm,1.4s
OHAK IAMs_20 IAMs_20 09 03 02.9
comp=Z,19µm,18.0s
I03D Drain, OR 74.24 35 P 08 29 39.5
baz=230
HSIG 74.37 53 P **P** **08 29 38.1 -1.4**
HSIG IAMs_20 IAMs_20 08 54 23.8
comp=Z,19µm,21.0s
214A Organ Pipe Nat 74.37 50 P 08 29 40.0
baz=240,SNR=25
214A Organ Pipe Nat 74.37 50 P **P** **08 29 38.2 -1.3**
214A IAmb IAmb 08 29 46.4
214A IAMs_20 IAMs_20 08 54 05.8
comp=Z,109nm,1.4s
comp=Z,15µm,21.0s
K04D Chiloquin, OR 74.46 37 P 08 29 41.1
baz=231,SNR=6.5
NEE2 Needles Airpor 74.50 47 P 08 29 41.7
baz=238
KVN Kaiserville 74.53 41 P **P** **08 29 40.7 +0.3**
KVN pmax pmax
comp=Z,54nm,1.3s
KVN Kaiserville 74.53 41 P **P** **08 29 40.7 +0.3**
KVN IAMs_20 IAMs_20 08 54 38.4
comp=Z,24µm,21.0s
TPH Tonopah 74.54 43 P **P** **08 29 39.7 -0.8**
TPH pmax pmax
comp=Z,454nm,1.4s
TPH Tonopah 74.54 43 P **P** **08 29 39.7 -0.8**
TPNV Topopah Spring 74.56 44 P **P** **08 29 39.7 -0.9**
TPNV pmax pmax
comp=Z,160nm,1.8s
TPNV Topopah Spring 74.56 44 P **P** **08 29 39.7 -0.9**
TPNV IAmb IAmb 08 29 47.5
comp=Z,160nm,1.8s
TPNV Topopah Spring 74.56 44 P 08 29 41.4
baz=237,SNR=28
PDMCI Parker Dam,Lak 74.60 47 P 08 29 41.6
baz=239,SNR=31
QSPA South Pole Qui 74.61 180 P **P** **08 29 41.1 +0.7**
J04D Umpqua Nationa 74.64 36 P 08 29 42.4
baz=231,SNR=16
I04A Tendick Farm, 74.82 35 P 08 29 42.6
baz=230,SNR=13
COR Corvallis 74.84 34 IAMs_20 IAMs_20 08 55 06.4
comp=Z,19µm,20.0s
MOD Modoc Plateau 74.86 38 P **P** **08 29 42.2 -0.1**
MOD IAmb IAmb 08 29 49.0
comp=Z,106nm,1.4s
MOD IAMs_20 IAMs_20 08 55 55.1
comp=Z,21µm,20.0s
KDAK Kodiak Island 74.87 11 P 08 29 42.2
baz=200
KDAK Kodiak Island 74.87 11 P **P** **08 29 41.6 0.0**
KDAK pmax pmax
comp=Z,185nm,1.3s
KDAK MLR MLR
comp=Z,18µm,18.0s
KDAK Kodiak Island 74.87 11 P **P** **08 29 41.6 0.0**
KDAK Kodiak Island 74.87 11 IAMs_20 IAMs_20 09 03 23.3
comp=Z,18µm,18.0s
K05A Summer Lake 75.02 37 P **P** **08 29 42.6 -0.6**
K05A IAmb IAmb 08 30 06.6
comp=Z,175nm,1.4s
K05A IAMs_20 IAMs_20 08 56 40.2
comp=Z,25µm,20.0s
SHPR Sheep Range 75.05 45 P **P** **08 29 42.7 -0.7**
SHPR IAmb IAmb 08 29 50.5
comp=Z,108nm,1.3s
H04D Lebanon 75.11 35 P 08 29 44.2
baz=230
J05D Fort Rock, OR 75.17 36 P 08 29 44.8
baz=231,SNR=44
G03D McMinnville, O 75.27 34 P 08 29 45.6
baz=229
SSLB Suanglung 75.45 300 P P 08 29 42.6 -3.2
YHNB Yeheng 75.47 301 P P 08 29 43.4 -2.6
YHNB IAmb IAmb 08 29 58.4
comp=Z,102nm,1.2s
YHNB IAMs_20 IAMs_20 09 00 14.5
comp=Z,17µm,20.0s
H04A Detroit Lake 75.51 35 P **P** **08 29 44.6 -1.1**
H04A IAmb IAmb 08 29 52.1
comp=Z,138nm,1.5s
H04A IAMs_20 IAMs_20 08 58 32.3
comp=Z,18µm,19.0s
TPUB Ta-pu 75.52 299 P **P** **08 29 44.4 -1.9**
TPUB IAmb IAmb 08 29 55.0
comp=Z,69nm,0.9s
PRN Pahroc Range 75.61 44 P **P** **08 29 46.2 -0.4**
PRN IAmb IAmb 08 29 53.9
comp=Z,110nm,1.4s
TEY Ternei 75.61 326 *i**e*P **P** **08 29 46.5 +0.3**
TEY *e* 08 39 35.1
TEY pmax pmax
comp=Z,10.0nm,1.9s
TEY pmax pmax
comp=E,200nm,7.9s
TEY pmax pmax
comp=Z,600nm,8.8s
PINE Pine Mountain 75.65 36 P **P** **08 29 44.7 -2.1**
PINE IAMs_20 IAMs_20 08 57 17.9
comp=Z,21µm,20.0s
R11A Troy Canyon, C 75.76 43 P 08 29 48.5
baz=237,SNR=8.3
R11A Troy Canyon, C 75.76 43 P **P** **08 29 47.1 -0.4**
R11A IAMs_20 IAMs_20 08 56 01.2
comp=Z,24µm,21.0s
I05D Terrebonne, OR 75.77 35 P 08 29 48.6
baz=231,SNR=15
E03A Lebam 75.98 33 P **P** **08 29 48.7 +0.4**
E03A IAmb IAmb 08 29 56.0
comp=Z,131nm,1.2s
TUC Tucson 76.05 50 P 08 29 50.1
baz=241
TUC Tucson 76.05 50 P **P** **08 29 48.4 -0.8**
TUC pmax pmax
comp=Z,126nm,1.5s
TUC Tucson 76.05 50 P **P** **08 29 48.4 -0.8**
TUC IAmb IAmb 08 29 56.4
comp=Z,126nm,1.4s
TUC Tucson 76.05 50 IAMs_20 IAMs_20 08 55 16.1
comp=Z,17µm,21.0s
SBUM Silbu 76.10 277 P **P** **08 29 50.0 +0.2**
WVOR Wild Horse Val 76.17 38 P **P** **08 29 49.3 -0.4**
WVOR pmax pmax
comp=Z,97nm,1.5s
WVOR Wild Horse Val 76.17 38 P **P** **08 29 49.3 -0.4**
WVOR IAmb IAmb 08 29 56.5
comp=Z,97nm,1.4s
G05D Wamic, OR 76.34 35 P 08 29 51.4
baz=231,SNR=13
NLWA Neilton Lookou 76.38 32 P P 08 29 48.3 -2.4
NLWA IAmb IAmb 08 30 26.5
comp=Z,180nm,1.9s
E04D Cinebar 76.51 33 P 08 29 53.0
baz=230,SNR=15
KSRS Korea Array 76.52 315 P **P** **08 29 51.5 0.0**
comp=Z,34nm,1.1s,baz=126,slow=6.7,SNR=66
KSAR Wonju Array Be 76.54 315 P **P** **08 29 51.3 -0.4**
KSAR Wonju Array Be 76.54 315 P **P** **08 29 51.3 -0.4**
KS19 Wonju Array Si 76.58 315 P **P** **08 29 51.8 -0.2**
KS19 IAmb IAmb 08 29 54.1
comp=Z,183nm,1.6s
TYV Tymovskoe 76.60 333 *e*P **P** **08 29 52.2 +0.5**
TYV *e*S **S** **08 39 40.4 +3.0**
TYV pmax pmax
comp=Z,42nm,1.2s
TYV pmax pmax
comp=Z,4µm,8.1s
TYV smax smax
comp=N,4µm,9.7s
LCMT Little Creek M 76.62 45 P **P** **08 29 53.1 +0.6**
LCMT IAmb IAmb 08 29 59.5
comp=Z,89nm,1.5s
I07A Izee 76.65 36 P **P** **08 29 52.6 +0.3**
I07A IAmb IAmb 08 29 59.4
comp=Z,102nm,1.5s
I07A IAMs_20 IAMs_20 08 58 58.3
comp=Z,22µm,19.0s
F05D White Salmon 76.67 34 P 08 29 53.6
baz=231,SNR=11
CNPM China Poot 76.75 11 IAMs_20 IAMs_20 09 03 34.1
comp=Z,18µm,18.0s
HOM Homer 76.80 11 IAMs_20 IAMs_20 08 59 24.4
comp=Z,15µm,20.0s
D04E Lakebay 76.81 33 P 08 29 55.1
baz=229

J08A	**Circle Bar Ran**	**76.81**	**38**	P	**P**	**08 29 53.8**	**+0.5**
J08A				IAmb	IAmb	08 30 00.1	
	comp=Z,102nm,1.4s						
J08A				IAMs_20	IAMs_20	08 57 19.7	
	comp=Z,20µm,20.0s						
CCUT	**Cedar City**	**76.82**	**45**	P	**P**	**08 29 54.5**	**+0.8**
CCUT				IAmb	IAmb	08 30 01.0	
	comp=Z,113nm,1.5s						
D03D	**Eldon**	**76.87**	**32**	P		08 29 54.5	
	baz=229,SNR=8.1						
KNB	**Kanab**	**76.92**	**45**	P	**P**	**08 29 52.8**	**-1.3**
KNB				pmax	pmax		
	comp=Z,170nm,1.5s						
KNB	**Kanab**	**76.92**	**45**	P	**P**	**08 29 52.8**	**-1.3**
KNB				IAmb	IAmb	08 30 18.7	
	comp=Z,170nm,1.5s						
PSUT	**Pine Spring**	**77.01**	**44**	P	**P**	**08 29 54.2**	**-0.4**
PSUT				IAmb	IAmb	08 30 01.5	
	comp=Z,132nm,1.8s						
SZCU	**Shurtz Canyon**	**77.03**	**45**	P	**P**	**08 29 55.5**	**+0.7**
SZCU				IAmb	IAmb	08 30 02.0	
	comp=Z,122nm,1.5s						
LON	**Longmire**	**77.03**	**33**	P	**P**	**08 29 54.3**	**-0.1**
LON				pmax	pmax		
	comp=Z,70nm,1.5s						
LON	**Longmire**	**77.03**	**33**	P	**P**	**08 29 54.3**	**-0.1**
BRLK	**Bradley Lake**	**77.04**	**11**	P	**P**	**08 29 54.4**	**+0.3**
BRLK				IAMs_20	IAMs_20	09 04 08.4	
	comp=Z,15µm,18.0s						
BRSE	**Bradley Lake S**	**77.05**	**11**	P		08 29 54.3	
	baz=202						
WUAZ	**Wupatki**	**77.17**	**47**	P	**P**	**08 29 54.5**	**-1.1**
WUAZ				IAmb	IAmb	08 30 02.9	
	comp=Z,130nm,1.5s						
WUAZ				IAMs_20	IAMs_20	08 58 30.8	
	comp=Z,13µm,19.0s						
WUAZ	**Wupatki**	**77.17**	**47**	P		08 29 56.8	
	baz=240,SNR=28						
D05A	**Enumclaw**	**77.22**	**33**	P	**P**	**08 29 56.4**	**+1.0**
ELK	**Elko**	**77.30**	**41**	P	**P**	**08 29 56.6**	**+0.3**
ELK				pmax	pmax		
	comp=Z,58nm,1.4s						
ELK	**Elko**	**77.30**	**41**	P	**P**	**08 29 56.6**	**+0.3**
ELK				IAMs_20	IAMs_20	08 56 37.8	
	comp=Z,20µm,21.0s						
RSO	**Redoubt South**	**77.36**	**10**	P	**P**	**08 29 54.6**	**-1.5**
INCN	**Inchon**	**77.41**	**315**	P	**P**	**08 29 57.2**	**+0.5**
INCN				pmax	pmax		
	comp=Z,133nm,1.2s						
INCN	**Inchon**	**77.41**	**315**	P	**P**	**08 29 57.2**	**+0.5**
INCN				IAmb	IAmb	08 29 59.0	
	comp=Z,133nm,1.2s						
PGC	**Sidney**	**77.43**	**31**	P	**P**	**08 29 57.2**	**+0.8**
PGC				IAmb	IAmb	08 30 06.1	
	comp=Z,214nm,1.9s						
PKCU	**Pink Cliffs**	**77.48**	**45**	P	**P**	**08 29 58.0**	**+0.5**
F07A	**Phinny Hill Vi**	**77.52**	**35**	P	**P**	**08 29 57.2**	**+0.2**
F07A				IAmb	IAmb	08 30 03.7	
	comp=Z,93nm,1.4s						
F07A				IAMs_20	IAMs_20	08 59 46.2	
	comp=Z,21µm,19.0s						
SVW2	**Sparrevohn**	**77.53**	**9**	P	**P**	**08 29 56.5**	**-0.2**
SVW2				IAMs_20	IAMs_20	09 02 00.7	
	comp=Z,13µm,18.0s						
SEW	**Seward**	**77.63**	**12**	P		08 29 57.4	
	baz=203						
SEW	**Seward**	**77.63**	**12**	P	**P**	**08 29 56.9**	**-0.4**
SEW				IAmb	IAmb	08 30 05.1	
	comp=Z,106nm,1.2s						
HPIG		**77.65**	**57**	IAMs_20	IAMs_20	08 55 21.9	
	comp=Z,19µm,21.0s						
KSM	**Kuching**	**77.67**	**275**	P	**P**	**08 29 57.6**	**-1.0**
KSM	**Kuching**	**77.67**	**275**	P	**P**	**08 29 59.0**	**+0.4**
Q23K	**Middleton Isla**	**77.67**	**14**	IAMs_20	IAMs_20	09 01 21.5	
	comp=Z,18µm,18.0s						
MID	**Middleton Isla**	**77.67**	**14**	IAMs_20	IAMs_20	08 59 29.5	
	comp=Z,16µm,19.0s						
G08A	**Pilot Rock**	**77.69**	**36**	P	**P**	**08 29 57.8**	**-0.4**
G08A				IAmb	IAmb	08 30 04.9	
	comp=Z,101nm,1.3s						
G08A				IAMs_20	IAMs_20	08 56 50.8	
	comp=Z,16µm,21.0s						
USA0B	**Ussuriysk Arra**	**77.70**	**323**	P	**P**	**08 29 58.3**	**+0.2**
USA0B				pmax	pmax		
	comp=Z,109nm,1.5s						
USA0B	**Ussuriysk Arra**	**77.70**	**323**	P	**P**	**08 29 58.3**	**+0.2**
USA0B				IAmb	IAmb	08 30 07.7	
	comp=Z,109nm,1.4s						
USA0B				IAMs_20	IAMs_20	08 57 13.9	
	comp=Z,22µm,22.0s						
USRK	**Ussuriysk Ar.**	**77.70**	**323**	P	**P**	**08 29 59.4**	**+1.3**
	comp=Z,22nm,1.1s,baz=99,slow=6.0,SNR=39						
USRK	**Ussuriysk Ar.**	**77.70**	**323**	P	**P**	**08 29 57.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**77.70**	**323**	P	**P**	**08 29 57.6**	**-0.5**
A04D	**Lummi Island**	**77.84**	**31**	P		08 30 00.0	
	baz=229						
B05A	**Bryant**	**77.86**	**32**	P		08 29 59.7	
	baz=230,SNR=13						
MTPU	**Mount Pierson**	**77.88**	**45**	P	**P**	**08 30 00.9**	**+1.2**
MTPU				IAmb	IAmb	08 30 07.6	
	comp=Z,154nm,1.5s						
QZH	**Quanzhou**	**77.89**	**300⇑**	*i*P	**P**	**08 29 58.5**	**-1.0**
QZH				S	**S**	**08 39 52.8**	**+0.4**
QZH				pmax	pmax		
	comp=Z,4µm,10.1s						
QZH				LR	LR		
	comp=Z,2µm,18.5s						
QZH				LR	LR		
	comp=Z,3µm,20.4s						
QZH				LR	LR		
	comp=Z,8µm,23.7s						
O22K	**Cooper Landing**	**77.92**	**11**	P		08 29 59.4	
	baz=203						
O22K	**Cooper Landing**	**77.93**	**11**	P	**P**	**08 29 58.2**	**-0.8**
CAPN	**Captain Cook N**	**77.93**	**11**	IAMs_20	IAMs_20	08 59 35.2	
	comp=Z,21µm,19.0s						
LTY	**Liberty**	**77.96**	**33**	P	**P**	**08 30 00.1**	**+0.5**
E07A	**Sunnyside**	**77.96**	**34**	P	**P**	**08 29 59.7**	**+0.2**
E07A				IAmb	IAmb	08 30 06.4	
	comp=Z,149nm,1.4s						
E07A				IAMs_20	IAMs_20	08 59 43.1	
	comp=Z,17µm,19.0s						
TCRU	**Three Creeks R**	**77.99**	**44**	P	P	08 29 57.0	-3.2
TCRU				IAmb	IAmb	08 30 07.7	
	comp=Z,148nm,1.6s						
HAWA	**Hanford**	**78.04**	**35**	P	**P**	**08 30 00.2**	**+0.3**
HAWA				IAmb	IAmb	08 30 07.5	
	comp=Z,126nm,1.4s						
LEM	**Lembang**	**78.11**	**266**	P	**P**	**08 30 00.9**	**-0.4**
	comp=Z,21nm,0.4s,baz=287,slow=19,SNR=1.3						
LEM				LR	LR	09 03 24.4	
	comp=Z,8µm,20.2s,baz=135,slow=35						
LEM	**Lembang**	**78.11**	**266**	P	**P**	**08 30 02.7**	**+1.5**
	comp=Z,2µmcomp=Z,44nm,0.8s						
MSU	**Marysvale**	**78.12**	**44**	P	**P**	**08 29 59.7**	**-1.2**
MSU	**Marysvale**	**78.12**	**44**	P	**P**	**08 29 59.7**	**-1.2**
SPCR	**Spurr Chakacha**	**78.15**	**10**	P		08 29 59.9	
	baz=200,SNR=13						
W18A	**Petrified Fore**	**78.15**	**48**	P	**P**	**08 29 59.6**	**-1.5**
A05A	**Maple Falls**	**78.34**	**31**	P	**P**	**08 30 01.5**	**0.0**
A05A				IAmb	IAmb	08 30 11.7	
	comp=Z,166nm,1.9s						
E08A	**Dider Farm, El**	**78.36**	**35**	P	**P**	**08 30 02.0**	**+0.3**
E08A				IAmb	IAmb	08 30 08.4	
	comp=Z,160nm,1.5s						
SSE	**Sheshan**	**78.36**	**307**	P	**P**	**08 30 01.3**	**-0.7**
SSE				S	**S**	**08 40 00.0**	**+2.7**
SSE				pmax	pmax		
	comp=Z,17nm,0.7s						
SSE				pmax	pmax		
	comp=Z,2µm,9.3s						
SSE				LR	LR		
	comp=Z,2µm,22.2s						
SSE				LR	LR		
	comp=Z,1µm,17.0s						
BMO	**Blue Mountains**	**78.37**	**37**	P	**P**	**08 30 02.2**	**+0.3**
BMO				pmax	pmax		
	comp=Z,118nm,1.7s						
BMO	**Blue Mountains**	**78.37**	**37**	P	**P**	**08 30 02.2**	**+0.3**
BMO				IAmb	IAmb	08 30 08.4	
	comp=Z,118nm,1.7s						
BMO				IAMs_20	IAMs_20	08 58 37.9	
	comp=Z,18µm,20.0s						
121A	**Cookes Peak, D**	**78.40**	**51**	P		08 30 04.0	
	baz=243,SNR=8.5						
121A	**Cookes Peak, D**	**78.40**	**51**	P	**P**	**08 30 02.3**	**-0.2**
121A				IAmb	IAmb	08 30 09.9	
	comp=Z,131nm,1.5s						
121A				IAMs_20	IAMs_20	08 56 42.4	
	comp=Z,22µm,21.0s						
MFID	**Camas Ranch**	**78.42**	**39**	P	**P**	**08 30 01.0**	**-1.3**
MFID				IAmb	IAmb	08 30 08.8	
	comp=Z,98nm,1.6s						
MFID				IAMs_20	IAMs_20	09 00 29.3	
	comp=Z,16µm,19.0s						
RC01	**Rabbit Creek A**	**78.48**	**11**	P		08 30 02.0	
	baz=203,SNR=11						
RC01	**Rabbit Creek A**	**78.49**	**11**	P	**P**	**08 30 01.6**	**-0.5**
PWL	**Port Wells**	**78.55**	**12**	P	**P**	**08 30 01.9**	**-0.5**
PWL				IAMs_20	IAMs_20	09 02 08.6	
	comp=Z,16µm,18.0s						
DUG	**Dugway, Tooele**	**78.56**	**43**	P		08 30 04.0	
	baz=238,SNR=26						
DUG	**Dugway, Tooele**	**78.57**	**43**	P	**P**	**08 30 03.0**	**-0.2**
DUG				pmax	pmax		
	comp=Z,85nm,1.5s						
DUG	**Dugway, Tooele**	**78.57**	**43**	P	**P**	**08 30 03.0**	**-0.2**
DUG				IAMs_20	IAMs_20	08 57 30.4	
	comp=Z,19µm,20.0s						
ZAIG	**Zacatecas**	**78.60**	**62**	P	**P**	**08 30 03.1**	**-0.8**
ZAIG				IAmb	IAmb	08 30 11.5	
	comp=Z,92nm,1.4s						
ZAIG				IAMs_20	IAMs_20	08 56 52.2	
	comp=Z,22µm,20.0s						
SUA	**Susitna One**	**78.65**	**11**	P		08 30 02.7	
	baz=202,SNR=20						
SUA	**Susitna One**	**78.65**	**11**	P	**P**	**08 30 02.6**	**-0.5**
SUA				IAmb	IAmb	08 30 11.2	
	comp=Z,107nm,1.2s						
SUA				IAMs_20	IAMs_20	09 00 17.3	
	comp=Z,19µm,19.0s						
SIT	**Sitka**	**78.70**	**20**	IAMs_20	IAMs_20	09 02 18.9	
	comp=Z,12µm,18.0s						
D08A	**Wollman Farm,**	**78.78**	**34**	P	**P**	**08 30 03.6**	**-0.4**
D08A				IAmb	IAmb	08 30 10.8	
	comp=Z,123nm,1.4s						
D08A				IAMs_20	IAMs_20	09 00 34.6	
	comp=Z,20µm,19.0s						
BGU	**Big Grassy Mou**	**78.81**	**42**	P	**P**	**08 30 03.6**	**-1.0**
EYAK	**Cordova Ski Ar**	**78.81**	**13**	P		08 30 03.4	
	baz=207						
EYAK	**Cordova Ski Ar**	**78.81**	**13**	P	**P**	**08 30 03.9**	**+0.1**
GLI	**Glacier Island**	**78.82**	**13**	P		08 30 03.4	
	baz=205,SNR=7.4						
GLI	**Glacier Island**	**78.82**	**13**	P	**P**	**08 30 03.4**	**-0.5**
GLI				IAMs_20	IAMs_20	08 57 44.8	
	comp=Z,15µm,21.0s						
FID	**Port Fidalgo**	**78.83**	**13**	IAMs_20	IAMs_20	08 58 45.0	
	comp=Z,16µm,19.0s						
NLU	**North Lily Min**	**78.93**	**43**	P	**P**	**08 30 05.1**	**-0.2**
GAMB	**Gambell**	**78.97**	**1**	P		08 30 05.9	
	baz=181,SNR=20						
GAMB	**Gambell**	**78.97**	**1**	P	**P**	**08 30 05.2**	**+0.5**
GAMB				IAmb	IAmb	08 30 07.5	
	comp=Z,111nm,1.2s						
SKT	**Skwentna**	**78.99**	**10**	P		08 30 04.0	
	baz=201,SNR=25						
SKT	**Skwentna**	**79.00**	**10**	P	**P**	**08 30 03.5**	**-1.3**
SKT				IAmb	IAmb	08 30 05.2	
	comp=Z,95nm,1.3s						
SKT				IAMs_20	IAMs_20	08 58 08.5	
	comp=Z,16µm,20.0s						
Q16A	**Castle Valley**	**79.00**	**44**	P	**P**	**08 30 05.3**	**-0.4**
Q16A				IAmb	IAmb	08 30 32.9	
	comp=Z,267nm,2.1s						
KNK	**Knik Glacier**	**79.03**	**12**	P		08 30 04.1	
	baz=204						
KNK	**Knik Glacier**	**79.03**	**12**	IAMs_20	IAMs_20	09 00 44.4	
	comp=Z,14µm,18.0s						
EPT	**El Paso**	**79.03**	**53**	IAMs_20	IAMs_20	08 57 09.6	
	comp=Z,16µm,21.0s						
PMR	**Palmer**	**79.06**	**11**	P		08 30 05.0	
	baz=203,SNR=22						
PMR	**Palmer**	**79.06**	**11**	P	**P**	**08 30 05.0**	**-0.2**
PMR				pmax	pmax		
	comp=Z,95nm,1.1s						
PMR	**Palmer**	**79.06**	**11**	P	**P**	**08 30 05.0**	**-0.2**
PMR				IAmb	IAmb	08 30 07.0	
	comp=Z,95nm,1.1s						
F10A	**Beach Ranch, E**	**79.07**	**36**	P	**P**	**08 30 05.7**	**-0.1**
F10A				IAmb	IAmb	08 30 15.8	
	comp=Z,88nm,1.2s						
F10A				IAMs_20	IAMs_20	08 57 46.4	
	comp=Z,16µm,21.0s						
NKL	**Nikolayevsk**	**79.09**	**334**	*e*P	**P**	**08 30 06.2**	**+0.7**
NKL				*e*		08 33 02.0	
NKL				*e*S	**S**	**08 40 03.0**	**-1.2**
NKL				smax	smax		
	comp=E,136nm,4.5s						
NKL				smax	smax		
	comp=N,7.0nm,4.4s						
TPI	**Tanjungpandan**	**79.10**	**270**	P	**P**	**08 30 09.5**	**+3.0**
	comp=N,3µmcomp=N,24nm,1.4s						
TNG	**Tangerang**	**79.20**	**267**	P	**P**	**08 30 06.7**	**-0.4**
WRAK	**Wrangell Islan**	**79.21**	**22**	P		08 30 07.1	
	baz=220						
WRAK	**Wrangell Islan**	**79.21**	**22**	IAMs_20	IAMs_20	09 01 51.5	
	comp=Z,12µm,18.0s						
GHO	**Glory Hole Cre**	**79.27**	**11**	IAMs_20	IAMs_20	09 01 32.7	
	comp=Z,13µm,19.0s						
MDJ	**Mudanjiang**	**79.35**	**322**	P	**P**	**08 30 08.0**	**+0.8**
MDJ				pP	pP	08 30 12.8	+1.5
MDJ				sP	pwP	08 30 15.3	+0.3
MDJ				SS	SS	08 45 20.5	+5.5
MDJ				pmax	pmax		
	comp=Z,51nm,2.5s						
MDJ				LR	LR		
	comp=Z,10µm,19.6s						
MDJ				LR	LR		
	comp=Z,15µm,21.8s						
MDJ				LR	LR		
	comp=Z,29µm,19.4s						
MDJ	**Mudanjiang**	**79.35**	**322**	IAmb	IAmb	08 30 16.9	
	comp=Z,128nm,1.6s						
MDJ				IAMs_20	IAMs_20	08 58 03.6	
	comp=Z,25µm,22.0s						
B08A	**Colville Reser**	**79.35**	**33**	P	**P**	**08 30 06.3**	**-0.9**
HLID	**Hailey**	**79.36**	**39**	P	**P**	**08 30 08.0**	**+0.5**
HLID				IAmb	IAmb	08 30 14.5	
	comp=Z,110nm,1.6s						
HLID				IAMs_20	IAMs_20	09 01 17.2	
	comp=Z,15µm,19.0s						
HLID	**Hailey**	**79.36**	**39**	P		08 30 08.2	
	baz=237,SNR=37						
SPUT	**South Promonto**	**79.38**	**42**	P	**P**	**08 30 08.2**	**+0.5**
SPUT				IAmb	IAmb	08 30 14.6	
	comp=Z,105nm,1.5s						
GRNR	**Gornyy**	**79.41**	**330⇑**	*i*P	**P**	**08 30 07.9**	**+0.5**
GRNR				pmax	pmax		
	comp=Z,30nm,1.2s						
GRNR				MLR	MLR		
	comp=E,3µm,19.0s						
GRNR				MLR	MLR		
	comp=N,1µm,15.0s						
GRNR				MLR	MLR		
	comp=Z,4µm,18.0s						
SML	**Sawmill**	**79.41**	**12**	P		08 30 07.2	
	baz=204,SNR=8.3						
HVU	**Hansel Valley**	**79.42**	**41**	IAmb	IAmb	08 30 14.7	
	comp=Z,131nm,1.6s						
BMRM	**Bremner River**	**79.44**	**14**	P		08 30 07.5	
	baz=208,SNR=23						
BMRM	**Bremner River**	**79.44**	**14**	P	**P**	**08 30 07.4**	**0.0**
BMRM				IAMs_20	IAMs_20	09 02 21.3	
	comp=Z,20µm,19.0s						
SRU	**San Rafael Swe**	**79.54**	**45**	IAmb	IAmb	08 30 15.6	
	comp=Z,95nm,1.4s						
P17A	**Butcher Ranch,**	**79.57**	**44**	P	**P**	**08 30 09.0**	**+0.2**
P17A				IAmb	IAmb	08 30 16.0	
	comp=Z,144nm,1.5s						
C09A	**Chrisman Ranch**	**79.58**	**34**	IAmb	IAmb	08 30 17.6	
	comp=Z,154nm,1.6s						
C09A				IAMs_20	IAMs_20	09 01 17.7	
	comp=Z,13µm,19.0s						
CRQM	**Cirque**	**79.60**	**14**	IAmb	IAmb	08 30 15.2	
	comp=Z,148nm,1.2s						
YAH	**Yahtse**	**79.60**	**15**	IAmb	IAmb	08 30 09.6	
	comp=Z,87nm,1.1s						
CRQE	**Cirque**	**79.60**	**14**	P		08 30 08.6	
	baz=209						
CUT	**Chulitna**	**79.61**	**10**	P		08 30 08.0	
	baz=202,SNR=34						
CUT	**Chulitna**	**79.61**	**10**	P	**P**	**08 30 07.5**	**-0.7**
CUT				IAMs_20	IAMs_20	09 01 34.8	
	comp=Z,18µm,19.0s						
KLU	**Klutina**	**79.62**	**13**	P		08 30 08.3	
	baz=206,SNR=14						
KLU	**Klutina**	**79.62**	**13**	P	**P**	**08 30 08.2**	**-0.2**
KLU				IAMs_20	IAMs_20	09 01 35.0	
	comp=Z,14µm,18.0s						
SCM	**Sheep Creek Mo**	**79.64**	**12**	IAmb	IAmb	08 30 09.7	
	comp=Z,108nm,1.2s						
SCM				IAMs_20	IAMs_20	09 00 45.5	
	comp=Z,15µm,19.0s						
LENM	**Lemitar**	**79.73**	**50**	P	**P**	**08 30 09.2**	**-0.6**
PPLA	**Purkeypile**	**79.75**	**9**	P		08 30 07.5	
	baz=200,SNR=9.2						
PPLA	**Purkeypile**	**79.75**	**9**	P	**P**	**08 30 07.8**	**-1.3**
PCA	**Pinnacle**	**79.75**	**16**	P	**P**	**08 30 08.8**	**-0.3**
PCA				IAmb	IAmb	08 30 17.4	
	comp=Z,114nm,1.4s						
PINM	**Pinnacle**	**79.75**	**16**	P		08 30 09.5	
	baz=212						
BCPM	**Bancas Point**	**79.80**	**16**	IAMs_20	IAMs_20	08 59 28.8	
	comp=Z,19µm,20.0s						
TABL	**Table Mountain**	**79.82**	**15**	IAmb	IAmb	08 30 14.0	
	comp=Z,83nm,1.1s						
MNTX	**Cornudas Mount**	**79.87**	**53**	P	**P**	**08 30 10.8**	**+0.4**
MNTX				IAmb	IAmb	08 30 17.5	
	comp=Z,137nm,1.6s						
MNTX				IAMs_20	IAMs_20	08 57 47.4	
	comp=Z,15µm,21.0s						
MNTX	**Cornudas Mount**	**79.87**	**53**	P		08 30 11.1	
	baz=245						
GRNC	**Granite Creek**	**79.91**	**15**	P	**P**	**08 30 09.9**	**-0.2**
GRNC				IAmb	IAmb	08 30 14.6	
	comp=Z,83nm,1.1s						
GRNC				IAMs_20	IAMs_20	09 02 57.8	
	comp=Z,21µm,18.0s						
VRDI	**Verde Repeater**	**79.94**	**14**	P	**P**	**08 30 09.1**	**-1.2**
VRDI				IAmb	IAmb	08 30 11.6	
	comp=Z,101nm,1.2s						
VRDI				IAMs_20	IAMs_20	09 01 59.4	
	comp=Z,20µm,19.0s						
TCUT	**Toone Canyon**	**79.96**	**42**	P	**P**	**08 30 10.9**	**0.0**
ANM	**Nome**	**79.96**	**3**	P		08 30 11.1	
	baz=187,SNR=47						
ANM	**Nome**	**79.97**	**3**	P	**P**	**08 30 10.6**	**+0.5**
ANM				pmax	pmax		
	comp=Z,54nm,1.0s						
ANM	**Nome**	**79.97**	**3**	P	**P**	**08 30 10.6**	**+0.5**
BNM	**Barren Site**	**79.98**	**50**	P	**P**	**08 30 12.4**	**+1.2**
N25K	**Chitina, Valde**	**80.01**	**13**	P		08 30 10.5	
	baz=208,SNR=17						
N25K	**Chitina, Valde**	**80.01**	**13**	IAMs_20	IAMs_20	09 00 49.4	
	comp=Z,17µm,18.0s						
PV05	**Paradox Valley**	**80.01**	**46**	IAmb	IAmb	08 30 18.8	
	comp=Z,194nm,1.5s						
PV05				IAMs_20	IAMs_20	08 59 52.1	
	comp=Z,19µm,20.0s						
MVCO	**Mesa Verde**	**80.02**	**47**	P		08 30 12.0	
	baz=242,SNR=7.3						
MVCO	**Mesa Verde**	**80.02**	**47**	P	**P**	**08 30 11.2**	**-0.2**
MVCO				IAMs_20	IAMs_20	08 59 37.2	
	comp=Z,18µm,19.0s						
GLB	**Gilahina Butte**	**80.04**	**14**	IAmb	IAmb	08 30 12.0	
	comp=Z,125nm,1.3s						
GLB				IAMs_20	IAMs_20	09 00 48.2	
	comp=Z,15µm,19.0s						
BESE	**Bessie Mountai**	**80.07**	**19**	P	**P**	**08 30 10.4**	**-0.5**
BESE				IAmb	IAmb	08 30 20.2	
	comp=Z,171nm,1.7s						
HWUT	**Hardware Ranch**	**80.11**	**42**	IAmb	IAmb	08 30 42.2	
	comp=Z,154nm,1.9s						
M24K	**Tolsona, Glenn**	**80.12**	**12**	P		08 30 11.5	
	baz=206,SNR=22						
M24K	**Tolsona, Glenn**	**80.12**	**12**	P	**P**	**08 30 11.1**	**0.0**
M24K				IAMs_20	IAMs_20	09 02 11.2	
	comp=Z,12µm,19.0s						
MCARA	**McCarthy VSAT**	**80.17**	**14**	P		08 30 11.7	
	baz=209						
MCARA	**McCarthy VSAT**	**80.17**	**14**	P	**P**	**08 30 11.3**	**0.0**
MCARA				IAmb	IAmb	08 30 28.3	
	comp=Z,82nm,1.2s						
MCARA				IAMs_20	IAMs_20	09 00 50.7	
	comp=Z,18µm,19.0s						
LOGN	**Logan Glacier**	**80.18**	**15**	P	**P**	**08 30 11.7**	**+0.1**
LOGN				IAmb	IAmb	08 30 17.7	
	comp=Z,86nm,1.1s						
PV10	**Paradox Valley**	**80.19**	**46**	IAmb	IAmb	08 30 19.0	
	comp=Z,148nm,1.4s						
PV19	**Morning Glory**	**80.20**	**46**	P	**P**	**08 30 12.5**	**+0.2**
PV19				IAmb	IAmb	08 30 19.2	
	comp=Z,162nm,1.4s						
PV19				IAMs_20	IAMs_20	09 00 03.9	
	comp=Z,18µm,20.0s						
PV17	**East Wray Mesa**	**80.20**	**46**	P	**P**	**08 30 11.6**	**-0.7**
PV17				IAmb	IAmb	08 30 19.2	
	comp=Z,210nm,1.5s						
PV14	**Lion Creek, Pa**	**80.20**	**46**	P	**P**	**08 30 11.2**	**-1.2**
PV14				IAmb	IAmb	08 30 19.2	
	comp=Z,170nm,1.4s						
CTG	**Chitna Glacier**	**80.22**	**15**	P		08 30 12.0	
	baz=211						
CTGM	**Chitina Glacie**	**80.22**	**15**	P	**P**	**08 30 11.6**	**-0.1**
BARN	**Barnard Glacie**	**80.22**	**15**	P	**P**	**08 30 11.6**	**-0.2**
BARN				IAmb	IAmb	08 30 13.9	
	comp=Z,124nm,1.2s						
PV18	**Skein Mesa, Pa**	**80.22**	**46**	IAmb	IAmb	08 30 19.2	
	comp=Z,159nm,1.5s						
PV18				IAMs_20	IAMs_20	08 59 44.4	
	comp=Z,18µm,20.0s						
PV20	**West Nyswonger**	**80.23**	**46**	IAmb	IAmb	08 30 19.3	
	comp=Z,104nm,1.2s						
WAT6	**Susitna Watana**	**80.24**	**12**	P		08 30 11.8	
	baz=205,SNR=34						
TX31	**Lajitas Ar. Si**	**80.24**	**56**	P	**P**	**08 30 12.2**	**-0.3**
TX32	**Lajitas Array**	**80.24**	**56**	P	**P**	**08 30 12.1**	**-0.4**
TX32				IAmb	IAmb	08 30 20.0	
	comp=Z,180nm,1.6s						
TXAR	**Lajitas Array**	**80.24**	**56**	P	**P**	**08 30 13.3**	**+0.8**
	comp=Z,5.8nm,1.1s,baz=232,slow=6.1,SNR=34						
TXAR	**Lajitas Array**	**80.24**	**56**	P	**P**	**08 30 13.1**	**+0.6**
TXAR	**Lajitas Array**	**80.24**	**56**	P	**P**	**08 30 13.1**	**+0.6**
PV13	**Radium Mtn., P**	**80.24**	**46**	IAmb	IAmb	08 30 19.4	
	comp=Z,141nm,1.4s						
PV13				IAMs_20	IAMs_20	09 00 15.0	
	comp=Z,18µm,19.0s						
PV16	**Nyswonger Mesa**	**80.25**	**46**	P	**P**	**08 30 12.9**	**+0.4**
PV16				IAmb	IAmb	08 30 19.5	
	comp=Z,164nm,1.5s						
PV16				IAMs_20	IAMs_20	09 00 15.1	
	comp=Z,18µm,19.0s						
PV03	**Paradox Valley**	**80.27**	**46**	IAmb	IAmb	08 30 19.5	
	comp=Z,140nm

ANMO Albuquerque 80.46 50 P **P** 08 30 13.8 +0.1
ANMO IAmb IAmb 08 30 21.0
comp=Z,130nm,1.6s
ANMO Albuquerque 80.46 50 IAMs_20 IAMs_20 09 01 30.0
comp=Z,12μm,19.0s
NEW Newport 80.47 34 P **P** 08 30 13.2 -0.1
NEW pmax pmax
comp=Z,56nm,1.5s
NEW Newport 80.47 34 P **P** 08 30 13.2 -0.1
NEW Newport 80.47 34 IAMs_20 IAMs_20 09 00 58.4
comp=Z,18μm,19.0s
NEW Newport 80.47 34 P 08 30 13.1
baz=234,SNR=13
PV07 Paradox Valley 80.50 46 IAMs_20 IAMs_20 09 00 50.8
comp=Z,21μm,18.0s
PV15 Paradox Valley 80.56 46 IAMs_20 IAMs_20 09 00 52.5
comp=Z,18μm,19.0s
KTH Kantishna Hill 80.57 10 P **P** 08 30 12.5 -1.0
KTH IAmb IAmb 08 30 15.3
comp=Z,133nm,1.3s
KTH IAMs_20 IAMs_20 09 01 30.0
comp=Z,21μm,20.0s
NJ2 Nanjing 80.57 307 *e*P **P** 08 30 14.8 +0.7
NJ2 pP **pP** 08 30 19.0 +0.5
NJ2 sP **pwP** 08 30 21.8 +1.0
NJ2 SS SS 08 45 40.5 +6.8
NJ2 pmax pmax
comp=Z,26nm,1.3s
NJ2 pmax pmax
comp=Z,6μm,8.5s
NJ2 LR LR
comp=Z,4μm,20.8s
NJ2 LR LR
comp=Z,6μm,24.6s
NJ2 LR LR
comp=Z,9μm,24.2s
TRF Thorofare Moun 80.58 10 P 08 30 13.1
baz=202,SNR=58
TRF Thorofare Moun 80.58 10 P **P** 08 30 13.2 -0.4
TRF IAmb IAmb 08 30 16.8
comp=Z,130nm,1.1s
SKAG Skagway 80.63 18 P 08 30 15.2
baz=217,SNR=8.0
SKAG Skagway 80.63 18 P **P** 08 30 14.1 +0.3
HKC Hong Kong Obse 80.65 296 ⇑P **P** 08 30 15.0 +0.3
CHUM Lake Minchumin 80.66 9 P 08 30 13.0
baz=200,SNR=49
RND Reindeer 80.79 11 P **P** 08 30 13.9 -0.7
RND pmax pmax
comp=Z,268nm,1.4s
RND Reindeer 80.79 11 P **P** 08 30 13.9 -0.7
RND IAMs_20 IAMs_20 09 00 52.8
comp=Z,16μm,19.0s
TNA Tin City 80.84 2 P 08 30 15.7
baz=185,SNR=66
TNA Tin City 80.84 2 P **P** 08 30 15.4 +0.7
TNA IAmb IAmb 08 30 17.0
comp=Z,142nm,1.1s
ECR Eagle Creek 80.97 41 P **P** 08 30 15.2 -1.1
MCMT McKenzie Canyo 80.99 39 P **P** 08 30 16.9 +0.5
AHID Auburn Hatcher 80.99 41 P **P** 08 30 15.3 -1.1
AHID IAmb IAmb 08 30 23.1
comp=Z,107nm,1.4s
AHID IAMs_20 IAMs_20 08 58 45.6
comp=Z,15μm,20.0s
PAX Paxson 81.04 12 P 08 30 15.4
baz=207,SNR=25
PAX Paxson 81.04 12 P **P** 08 30 14.5 -1.5
PAX pmax pmax
comp=Z,60nm,1.2s
PAX Paxson 81.04 12 P **P** 08 30 14.5 -1.5
BPAW Bear Paw Mtn. 81.07 10 P 08 30 14.8
baz=201,SNR=23
BPAW Bear Paw Mtn. 81.07 10 P **P** 08 30 14.9 -1.2
MCK McKinley 81.07 11 P 08 30 16.0
baz=203,SNR=76
MCK McKinley 81.07 11 P **P** 08 30 16.0 -0.1
MCK pmax pmax
comp=Z,190nm,1.1s
MCK McKinley 81.07 11 P **P** 08 30 16.0 -0.1
MCK IAMs_20 IAMs_20 08 59 43.4
comp=Z,13μm,20.0s
HYT Haines Junctio 81.11 17 IAMs_20 IAMs_20 09 01 07.6
comp=Z,18μm,19.0s
MENT Mentasta 81.38 13 IAMs_20 IAMs_20 09 00 57.7
comp=Z,15μm,19.0s
DLMT Dillon 81.42 38 P **P** 08 30 18.8 +0.2
DLMT IAMs_20 IAMs_20 09 00 46.8
comp=Z,18μm,20.0s
CN2 Changchun 81.42 320 *e*P **P** 08 30 18.8 +0.4
CN2 S **SKSac** 08 40 37.0 -0.4
CN2 pmax pmax
comp=Z,60nm,1.1s
CN2 pmax pmax
comp=Z,5μm,8.3s
CN2 LR LR
comp=Z,4μm,24.0s
CN2 LR LR
comp=Z,7μm,24.0s
CN2 LR LR
comp=Z,8μm,23.0s
MSO Missoula 81.43 37 P 08 30 18.8
baz=237,SNR=22
MSO Missoula 81.43 37 P **P** 08 30 17.7 -0.8
MSO IAmb IAmb 08 30 25.3
comp=Z,114nm,1.4s
MSO IAMs_20 IAMs_20 08 59 32.9
comp=Z,19μm,20.0s
KASI Kota Agung 81.43 267 P **P** 08 30 19.9 +0.8
comp=Z,3μmcomp=Z,88nm,1.1s
S22A 4UR Ranch, Cre 81.44 47 P 08 30 20.3
baz=243,SNR=38
REDW Red Top Meadow 81.45 41 P **P** 08 30 17.6 -1.3
REDW IAmb IAmb 08 30 25.7
comp=Z,137nm,1.5s
DL2 Dalian 81.55 314 ⇑*i*P **P** 08 30 19.5 +0.4
DL2 PP **PP** 08 33 24.0 -1.9
DL2 S **SKSac** 08 40 35.0 -3.4
DL2 SS **SS** 08 45 48.3 +0.2
DL2 pmax pmax
comp=Z,77nm,1.2s
DL2 pmax pmax
comp=Z,6μm,8.8s
DL2 LR LR
comp=Z,5μm,20.4s
DL2 LR LR
comp=Z,3μm,23.1s
DL2 LR LR
comp=Z,7μm,23.9s
DLBC Dease Lake 81.56 21 IAMs_20 IAMs_20 09 00 11.7
comp=Z,12μm,19.0s
SNOW Snow King Moun 81.56 41 P **P** 08 30 19.4 -0.1
SNOW IAmb IAmb 08 30 26.4
comp=Z,148nm,1.6s
O20A White River Ci 81.57 44 P **P** 08 30 19.1 -0.5
O20A IAmb IAmb 08 30 26.5
comp=Z,152nm,1.8s
O20A IAMs_20 IAMs_20 08 59 58.1
comp=Z,19μm,20.0s
O20A White River Ci 81.57 44 P 08 30 20.5
baz=242,SNR=5.7
GZH Guangzhou 81.64 297 P **P** 08 30 20.0 0.0
GZH S **S** 08 40 32.5 +0.3
GZH pmax pmax
comp=Z,4μm,7.6s
GZH LR LR
comp=Z,3μm,23.7s
GZH LR LR
comp=Z,5μm,23.7s
WHY Whitehorse 81.73 18 P **P** 08 30 20.3 +0.6
WHY IAMs_20 IAMs_20 09 00 57.9
comp=Z,15μm,19.0s
LOHW Long Hollow 81.74 41 IAmb IAmb 08 30 27.1
comp=Z,168nm,1.8s
JTMT Jette 81.74 36 IAmb IAmb 08 30 28.7
comp=Z,114nm,1.8s
NEA2 Nenana 81.84 10 P 08 30 19.4
baz=203,SNR=44
NEA2 Nenana 81.84 10 IAmb IAmb 08 30 21.8
comp=Z,62nm,1.0s
QLMT Earthquake Lak 81.85 39 P **P** 08 30 21.8 +0.9
WRH Wood River Hil 81.90 11 P **P** 08 30 19.9 -0.6
FLWY Flagg Ranch 81.91 40 P **P** 08 30 20.0 -1.2
FLWY IAmb IAmb 08 30 32.5
comp=Z,122nm,1.4s
L27K Beaver Creek, 81.91 14 P **P** 08 30 20.1 -0.5
L27K IAMs_20 IAMs_20 09 01 59.6
comp=Z,15μm,19.0s
L27K Beaver Creek, 81.91 14 P 08 30 20.8
baz=210
BCAR Beaver Creek A 81.93 14 P **P** 08 30 19.5 -1.2
DOT Dot Lake 81.94 13 P **P** 08 30 20.8 +0.1
DOT IAmb IAmb 08 30 22.1
comp=Z,115nm,1.2s
YPP Pitchstone Pla 81.94 40 P **P** 08 30 21.8 +0.3
YHB Horse Butte 81.95 39 P **P** 08 30 21.8 +0.4
BW06 Boulder Array 81.98 42 P 08 30 21.6
baz=240,SNR=29
BW06 Boulder Array 81.98 42 P **P** 08 30 21.3 -0.3
BW06 IAmb IAmb 08 30 28.0
comp=Z,173nm,1.8s
PD31 Pinedale Array 81.98 42 P **P** 08 30 21.1 -0.5
PD31 IAmb IAmb 08 30 28.0
comp=Z,159nm,1.8s
PDAR Pinedale Array 81.98 42 P **P** 08 30 21.6 -0.1
comp=Z,19nm,1.3s,baz=219,slow=1.9,SNR=31
PDAR Pinedale Array 81.98 42 P **P** 08 30 21.0 -0.7
MLY Manley 81.98 9 P 08 30 20.3
baz=202,SNR=96
MLY Manley 81.98 9 P **P** 08 30 20.2 -0.6
MLY IAmb IAmb 08 30 21.6
comp=Z,89nm,1.0s
SMCO Snowmass 82.00 46 P **P** 08 30 22.3 +0.3
SMCO IAmb IAmb 08 30 32.8
comp=Z,103nm,1.3s
SMCO IAMs_20 IAMs_20 09 01 12.4
comp=Z,19μm,20.0s
YHL Hebgen Lake 82.01 39 P **P** 08 30 21.1 -0.8
YMR Madison River 82.05 39 P **P** 08 30 22.4 +0.4
HDA Harding Lake 82.05 11 P 08 30 21.2
baz=205,SNR=65
HDA P 08 30 21.2
baz=205,SNR=65
CCB Clear Creek Bu 82.11 11 P **P** 08 30 21.0 -0.5
CCB IAMs_20 IAMs_20 09 00 57.8
comp=Z,13μm,21.0s
BOZ Bozeman (W) 82.12 38 P 08 30 22.8
baz=239,SNR=76
BOZ Bozeman (W) 82.12 38 P **P** 08 30 22.2 0.0
BOZ pmax pmax
comp=Z,118nm,1.5s
BOZ Bozeman (W) 82.12 38 P **P** 08 30 22.2 0.0
BOZ IAmb IAmb 08 30 32.0
comp=Z,118nm,1.4s
BOZ IAMs_20 IAMs_20 09 00 58.4
comp=Z,20μm,20.0s
H17A Grant Village 82.15 40 P 08 30 24.6
baz=240,SNR=25
H17A Grant Village 82.15 40 IAmb IAmb 08 30 30.6
comp=Z,140nm,1.8s
YHH Holmes Hill 82.18 39 IAmb IAmb 08 30 34.0
comp=Z,154nm,1.6s
SCRK Sand Creek 82.25 12 P 08 30 22.6
baz=208,SNR=49
SCRK Sand Creek 82.25 12 P **P** 08 30 22.1 -0.3
SCRK IAmb IAmb 08 30 23.9
comp=Z,63nm,1.1s
SCRK IAMs_20 IAMs_20 09 01 56.4
comp=Z,14μm,19.0s
YNR Norris Junctio 82.25 40 IAmb IAmb 08 30 35.8
comp=Z,126nm,1.5s
I23K Minto, Yukon-K 82.31 10 P 08 30 22.4
baz=203,SNR=63
I23K Minto, Yukon-K 82.31 10 P **P** 08 30 21.9 -0.7
I23K IAmb IAmb 08 30 33.6
comp=Z,108nm,1.1s
TCOL CIGO, UAF Yank 82.31 11 P 08 30 22.6
baz=204,SNR=31
TCOL CIGO, UAF Yank 82.31 11 P **P** 08 30 21.9 -0.7
TCOL IAMs_20 IAMs_20 09 01 03.1
comp=Z,16μm,20.0s
COLA College 82.31 11 P 08 30 22.6
baz=204
COLA College 82.31 11 P **P** 08 30 22.3 -0.3
COLA pmax pmax
comp=Z,201nm,1.0s
COLA College 82.31 11 P **P** 08 30 22.2 -0.3
COLA College 82.31 11 IAMs_20 IAMs_20 09 01 03.1
comp=Z,14μm,19.0s
MDM Murphy Dome 82.33 10 P **P** 08 30 21.9 -0.7
MDM IAMs_20 IAMs_20 09 01 04.5
comp=Z,18μm,20.0s
LKWY Lake 82.34 40 P **P** 08 30 25.5 +1.9
LKWY pmax pmax
comp=Z,121nm,1.4s
LKWY Lake 82.34 40 P **P** 08 30 25.4 +1.9
LKWY IAmb IAmb 08 30 32.6
comp=Z,120nm,1.4s
IL31 82.39 11 P **P** 08 30 22.8 -0.1
IL31 IAmb IAmb 08 30 24.2
comp=Z,132nm,1.4s
ILAR Eielson Array 82.39 11 P **P** 08 30 22.2 -0.8
comp=Z,56nm,1.2s,baz=205,slow=5.6,SNR=96
IMAR Indian Mountai 82.45 8 P **P** 08 30 21.1 -2.1
YMP Mirror Lake PI 82.58 40 P **P** 08 30 25.8 +1.0
YMP IAmb IAmb 08 31 02.3
comp=Z,98nm,1.5s
HRY Holter Researc 82.59 37 P **P** 08 30 25.0 +0.4
POKR Poker Plat Res 82.61 11 P 08 30 24.1
baz=205,SNR=77
POKR Poker Plat Res 82.61 11 P **P** 08 30 23.7 -0.4
POKR IAMs_20 IAMs_20 09 01 33.0
comp=Z,13μm,20.0s
DSRI Dabo 82.66 272 P **P** 08 30 25.7 +0.1
WALA Waterton Lakes 82.67 35 P **P** 08 30 24.2 -0.7
WALA IAmb IAmb 08 30 31.3
comp=Z,111nm,1.4s
WALA IAMs_20 IAMs_20 09 03 14.7
comp=Z,16μm,18.0s
K27K Chicken 82.70 13 P 08 30 25.2
baz=210
K27K Chicken 82.70 13 P **P** 08 30 25.3 +0.7
K27K IAmb IAmb 08 30 26.9
comp=Z,72nm,1.3s
K27K IAMs_20 IAMs_20 09 03 42.7
comp=Z,18μm,18.0s
PAYG Puerto Ayora 82.71 89 IAMs_20 IAMs_20 09 12 51.6
comp=Z,12μm,18.0s
MSTX Muleshoe 82.81 52 P **P** 08 30 25.7 -0.3
MSTX Muleshoe 82.81 52 P 08 30 26.9
baz=246
YNE Yellowstone No 82.81 40 P **P** 08 30 26.6 +0.7
YNE IAmb IAmb 08 30 34.1
comp=Z,120nm,1.4s
T25A Trinidad 82.91 49 P 08 30 27.4
baz=245
T25A Trinidad 82.91 49 P **P** 08 30 25.8 -0.8
T25A IAmb IAmb 08 30 33.3
comp=Z,137nm,1.6s
RWWY Dawlins 82.99 43 P **P** 08 30 27.4 +0.4
Q24A Divide 83.17 47 P 08 30 29.1
baz=244
ISCO Idaho Springs 83.22 46 P 08 30 29.2
baz=244
ISCO Idaho Springs 83.22 46 P **P** 08 30 26.7 -1.6
ISCO pmax pmax
comp=Z,128nm,1.9s
ISCO Idaho Springs 83.22 46 P **P** 08 30 26.7 -1.6
ISCO IAmb IAmb 08 30 35.3
comp=Z,128nm,1.9s
ISCO IAMs_20 IAMs_20 09 02 31.7
comp=Z,17μm,18.0s
833A Chaparral WMA, 83.31 58 P 08 30 29.2
baz=248
PRP Porcupine Dome 83.32 11 P 08 30 28.4
baz=206,SNR=103
PRP Porcupine Dome 83.32 11 P **P** 08 30 27.8 -0.2
PRP IAMs_20 IAMs_20 09 04 53.7
comp=Z,14μm,19.0s
RLMT Red Lodge 83.32 40 P 08 30 29.5
baz=240,SNR=36
RLMT Red Lodge 83.32 40 P **P** 08 30 26.8 -1.8
RLMT IAmb IAmb 08 30 37.8
comp=Z,118nm,1.3s
DAWY Dawson 83.34 14 P **P** 08 30 27.9 -0.1
DAWY IAmb IAmb 08 30 29.9
comp=Z,98nm,1.2s
DAWY IAMs_20 IAMs_20 09 04 17.5
comp=Z,20μm,19.0s
QIZ Qiongzhong 83.36 292 P **P** 08 30 27.5 -1.6
QIZ PP **PP** 08 33 38.5 -2.7
QIZ S **S** 08 40 47.5 -2.5
QIZ SS **SS** 08 46 17.0 +1.2
QIZ pmax pmax
comp=Z,4μm,11.8s
QIZ LR LR
comp=Z,2μm,17.5s
QIZ LR LR
comp=Z,6μm,21.6s
QIZ LR LR
comp=Z,7μm,24.5s
N23A Red Feather La 83.48 45 P 08 30 30.2
baz=243,SNR=20
WHN Wuhan 83.51 304 ⇑P **P** 08 30 29.8 +0.2
WHN S **S** 08 40 48.8 -2.3
WHN pmax pmax
comp=Z,7μm,8.9s
WHN LR LR
comp=Z,5μm,11.1s
WHN LR LR
comp=Z,3μm,11.7s
WHN LR LR
comp=Z,28μm,19.9s
EGAK Eagle 83.55 13 P 08 30 29.1
baz=211,SNR=30
EGAK Eagle 83.55 13 P **P** 08 30 29.1 +0.1
EGAK IAmb IAmb 08 30 37.6
comp=Z,67nm,1.2s
EGAK IAMs_20 IAMs_20 09 04 08.9
comp=Z,16μm,19.0s
RDOG Red Dog Mine 83.58 4 P 08 30 30.0
baz=190
RDOG Red Dog Mine 83.58 4 P **P** 08 30 29.1 0.0
RDOG IAMs_20 IAMs_20 09 06 03.5
comp=Z,11μm,18.0s
TIA Tai'an 83.60 310 P **P** 08 30 30.5 +0.6
TIA pmax pmax
comp=Z,12nm,0.9s
JCT Junction City 83.77 56 P 08 30 31.5
baz=248
JCT Junction City 83.77 56 P **P** 08 30 29.2 -1.8
JCT pmax pmax
comp=Z,147nm,2.0s
JCT Junction City 83.77 56 P **P** 08 30 29.2 -1.8
JCT IAmb IAmb 08 30 39.6
comp=Z,147nm,1.9s
JCT IAMs_20 IAMs_20 09 01 14.0
comp=Z,14μm,20.0s
K22A Casper 83.89 43 P 08 30 32.1
baz=243,SNR=30
K22A Casper 83.89 43 P **P** 08 30 29.5 -2.0
BELA Belgrano 2 83.89 172 IAmb IAmb 08 30 53.5
comp=Z,51nm,1.1s
PMSA Palmer Station 83.94 156 IAMs_20 IAMs_20 08 59 45.5
comp=Z,16μm,19.0s
MYKOM Kota Tinggi 83.96 274 IAMs_20 IAMs_20 09 01 12.4
comp=Z,11μm,19.0s
AMTX Amarillo 84.00 52 IAMs_20 IAMs_20 09 00 10.7
comp=Z,19μm,21.0s
AMTX Amarillo 84.00 52 P 08 30 32.8
baz=247
COLD Coldfoot 84.11 9 P 08 30 32.8
baz=202,SNR=109
EGMT Eagleton 84.47 37 P 08 30 34.7
baz=240,SNR=20
EGMT Eagleton 84.47 37 P **P** 08 30 33.0 -1.2
EGMT IAMs_20 IAMs_20 09 02 30.4
comp=Z,20μm,20.0s
GO09 Cerro Castillo 84.56 142 IAMs_20 IAMs_20 09 12 05.6
comp=Z,16μm,19.0s
BILL Bilibino 84.61 352 *d*iP **P** 08 30 33.6 -0.7
BILL *i* 08 30 39.3
BILL *i* 08 33 47.8
BILL pmax pmax
comp=Z,38nm,1.3s
BILL Bilibino 84.61 352 P **P** 08 30 33.5 -0.8
BILL IAMs_20 IAMs_20 09 01 17.8
comp=Z,15μm,20.0s
ABTX Abilene, Hawle 84.70 54 P **P** 08 30 36.0 +0.4
ABTX Abilene, Hawle 84.70 54 P 08 30 36.2
baz=248
GO10 Punta Arenas 84.73 144 IAMs_20 IAMs_20 09 06 51.8
comp=Z,16μm,18.0s
H03S2 Juan Fernandez 84.78 124 T T 10 04 34.5
baz=251,slow=74,SNR=4.1
H03S1 Juan Fernandez 84.80 124 T T 10 04 38.6
baz=169,slow=74,SNR=3.8
735A Kenedy 84.81 58 IAMs_20 IAMs_20 09 00 08.4
comp=Z,14μm,20.0s
H03N2 Juan Fernandez 84.88 123 T T 10 04 53.9
baz=257,slow=74,SNR=3.4
H03N1 Juan Fernandez 84.90 123 T T 10 05 01.0
baz=4.5,slow=74,SNR=3.0
VA04 Juan Fernndez 84.91 123 IAMs_20 IAMs_20 08 58 56.9
comp=Z,19μm,21.0s
KSCO Kaye Shedlock' 84.97 47 P 08 30 38.5
baz=246
KSCO Kaye Shedlock' 84.97 47 P **P** 08 30 36.3 -0.7
BMAR Burnt Mountain 85.20 11 P **P** 08 30 37.0 -0.4
TOLK Toolik Lake Re 85.51 8 P **P** 08 30 38.6 -0.3
TOLK Toolik Lake Re 85.51 8 P 08 30 39.5
baz=202,SNR=44
USHA Ushuaia 85.62 146 LR LR 09 02 29.0
comp=Z,35μm,20.6s,baz=248,slow=31
435B Jarrell 85.66 57 IAMs_20 IAMs_20 09 02 12.1
comp=Z,14μm,20.0s
435B Jarrell 85.66 57 P 08 30 42.0
baz=249
ZEA Zeya 85.70 329 *ce*P **P** 08 30 40.5 +0.4
ZEA *e*S **S** 08 41 12.8 +0.9
ZEA pmax pmax
comp=N,20nm,1.4s
ZEA pmax pmax
comp=Z,30nm,1.5s
ZEA pmax pmax
comp=E,600nm,8.6s
ZEA pmax pmax
comp=Z,2μm,8.7s
ZEA smax smax
comp=N,4μm,13.8s
ZEA smax smax
comp=E,3μm,13.8s
BJT Baijiatuan 85.84 313 P **P** 08 30 41.0 -0.1
BJT pmax pmax
comp=Z,129nm,1.4s
BJT Baijiatuan 85.84 313 P **P** 08 30 41.0 -0.1
BJI Beijing 85.84 313 P **P** 08 30 41.8 +0.7
BJI S **S** 08 41 16.5 +2.6
BJI pmax pmax
comp=Z,68nm,1.5s
BJI pmax pmax
comp=Z,5μm,8.8s
BJI LR LR
comp=Z,3μm,15.5s
BJI LR LR
comp=Z,3μm,20.6s
JRMM Jerantut 85.85 275 P **P** 08 30 42.0 +0.2
EPYK Eagle Plains 85.89 14 P 08 30 41.1
baz=215,SNR=32
EPYK Eagle Plains 85.89 14 P **P** 08 30 41.0 +0.1
EPYK IAMs_20 IAMs_20 09 04 53.9
comp=Z,14μm,20.0s
LAO LASA Array 85.93 39 P 08 30 43.1
baz=243,SNR=40
LAO LASA Array 85.94 39 P **P** 08 30 41.5 -0.1
WMOK Wichita Mounta 86.15 53 P **P** 08 30 41.2 -1.6
WMOK pmax pmax
comp=Z,69nm,1.5s
WMOK Wichita Mounta 86.15 53 P **P** 08 30 41.2 -1.6
WMOK IAmb IAmb 08 30 48.8
comp=Z,69nm,1.5s
WMOK Wichita Mounta 86.15 53 IAMs_20 IAMs_20 09 04 41.7
comp=Z,15μm,19.0s
WMOK Wichita Mounta 86.15 53 P 08 30 42.8
baz=248
RSSD Black Hills 86.17 42 P 08 30 43.0
baz=244
RSSD Black Hills 86.17 42 P **P** 08 30 42.4 -0.6
RSSD pmax pmax
comp=Z,172nm,1.8s
RSSD Black Hills 86.17 42 P **P** 08 30 42.4 -0.6
RSSD Black Hills 86.17 42 IAMs_20 IAMs_20 09 07 23.6
comp=Z,13μm,18.0s
GO07 Milladeo Hill, 86.17 134 IAMs_20 IAMs_20 08 59 44.7
comp=Z,19μm,20.0s
OGNE Ogallala 86.18 46 IAMs_20 IAMs_20 09 05 04.1
comp=Z,14μm,18.0s
WHTX Lake Whitney, 86.19 56 IAMs_20 IAMs_20 09 01 08.0
comp=Z,18μm,21.0s

WHTX	Lake Whitney, baz=249	86.19	56	P			08 30 43.5			
BKNI	Bangkinang comp=Z,12µm,19.0s	86.28	271	IAMs_20	IAMs_20		09 12 56.8			
BKNI	Bangkinang comp=Z,60nm,1.1s	86.28	271	P	P		08 30 44.8	+0.9		
U32A	Winter Ranch, comp=Z,72nm,1.1s	86.59	51	IAmb	IAmb		08 30 55.1			
U32A	comp=Z,17µm,19.0s			IAMs_20	IAMs_20		09 04 23.2			
HKT	Hockley	86.80	58	P	P		08 30 45.9	-0.1		
HKT	comp=Z,214nm,1.9s			pmax	pmax					
HKT	Hockley	86.80	58	P	P		08 30 45.9	-0.1		
HKT	Hockley comp=Z,16µm,18.0s	86.80	58	IAMs_20	IAMs_20		09 07 07.2			
Z35A	Perchaven, San	86.83	54	P	P		08 30 45.4	-0.8		
Z35A	comp=Z,20µm,20.0s			IAMs_20	IAMs_20		09 02 21.7			
CBKS	Cedar Bluff	86.96	48	P	P		08 30 44.4	-2.3		
CBKS	comp=Z,56nm,1.2s			pmax	pmax					
CBKS	Cedar Bluff	86.96	48	P	P		08 30 44.4	-2.3		
CBKS	comp=Z,56nm,1.2s			IAmb	IAmb		08 30 56.6			
CBKS	comp=Z,10µm,18.0s			IAMs_20	IAMs_20		09 06 31.0			
CBKS	Cedar Bluff baz=248	86.96	48	P			08 30 47.3			
A21K	Barrow comp=Z,10µm,18.0s	87.26	5	IAMs_20	IAMs_20		09 10 44.8			
OK032	Salt Plains WL	87.33	51	P	P		08 30 46.9	-1.6		
OK032	comp=Z,19µm,21.0s			IAMs_20	IAMs_20		09 02 20.0			
IPM	Ipoh	87.40	275	P	P		08 30 48.3	-1.1		
IPM	comp=Z,27nm,0.7s			IAmb	IAmb		08 30 58.0			
IPM	Ipoh	87.40	275	P	P		08 30 50.0	+0.6		
OKCFA	Oklahoma City comp=Z,15µm,19.0s	87.41	52	IAMs_20	IAMs_20		09 06 22.0			
237A	Washetta, Mont	87.51	56	P	P		08 30 47.0	-2.5		
237A	comp=Z,14µm,19.0s			IAMs_20	IAMs_20		09 05 04.9			
HIA	Hailar	87.52	323	P	P		08 30 48.8	-0.4		
HIA	comp=Z,62nm,1.4s			pmax	pmax					
HIA	Hailar	87.52	323	P	P		08 30 48.8	-0.4		
HIA	comp=Z,62nm,1.4s			IAmb	IAmb		08 30 50.5			
HIA	Hailar comp=Z,18µm,22.0s	87.52	323	IAMs_20	IAMs_20		09 03 40.8			
R32A	Long Quarter,	87.56	49	P	P		08 30 48.4	-1.2		
R32A	comp=Z,57nm,1.1s			IAmb	IAmb		08 30 57.3			
R32A	comp=Z,14µm,20.0s			IAMs_20	IAMs_20		09 03 29.8			
TIY	Taiyuan	87.64	310	*e*P	P		08 30 51.8	+1.7		
TIY				SKS	SKSac		08 41 15.8	-2.0		
TIY				S	SKKSac		08 41 28.8	+1.4		
TIY	comp=Z,3µm,8.7s			pmax	pmax					
TIY	comp=Z,10µm,11.5s			LR	LR					
TIY	comp=Z,10µm,12.5s			LR	LR					
TIY	comp=Z,6µm,18.0s			LR	LR					
SNET	Serv Nac Est T comp=Z,20µm,22.0s	87.64	75	IAMs_20	IAMs_20		09 00 08.4			
MTO3	Montecristo	87.72	74	P	P		08 30 49.6	-1.6		
MTO3	comp=Z,12µm,20.0s			IAMs_20	IAMs_20		09 01 15.5			
MAW	Mawson	87.91	198	P	P		08 30 51.6	+0.9		
MAW	comp=Z,26nm,0.7s,baz=129,slow=8.1,SNR=26 Mawson baz=88,SNR=23	87.91	198	P	P		08 30 50.9	+0.1		
MAW	Mawson	87.91	198	P	P		08 30 50.3	-0.5		
MAW	comp=Z,29nm,1.3s			pmax	pmax					
MAW	Mawson	87.91	198	P	P		08 30 50.3	-0.5		
DGMT	Dagmar baz=244	87.96	38	P			08 30 52.4			
DGMT	Dagmar	87.96	38	P	P		08 30 51.3	0.0		
OK030	Cody Creek RV	88.10	52	P	P		08 30 50.2	-2.1		
OK030	comp=Z,123nm,2.1s			IAmb	IAmb		08 31 30.1			
INK	Inuvik comp=Z,36nm,1.1s,baz=211,slow=4.0,SNR=5.0	88.19	14	P	P		08 30 51.8	0.0		
INK	Inuvik	88.19	14	P	P		08 30 51.5	-0.4		
INK	comp=Z,68nm,1.2s			pmax	pmax					
INK	comp=Z,13µm,18.0s			MLR	MLR					
INK	Inuvik	88.19	14	P	P		08 30 51.5	-0.4		
INK	comp=Z,68nm,1.2s			IAmb	IAmb		08 30 53.2			
INK	comp=Z,13µm,18.0s			IAMs_20	IAMs_20		09 10 19.7			
NATX	Nacogdoches comp=Z,14µm,20.0s	88.35	57	IAMs_20	IAMs_20		09 04 36.2			
NATX	Nacogdoches baz=251	88.35	57	P			08 30 55.6			
GYA	Guiyang	88.48	298	⇑P	P		08 30 55.0	+0.6		
GYA				sP	sP		08 31 00.3	-0.3		
GYA				SKS	SKSac		08 41 20.3	-3.2		
GYA				S	SKKSac		08 41 36.5	+2.2		
GYA	comp=Z,21nm,2.3s			pmax	pmax					
GYA	comp=Z,3µm,6.9s			pmax	pmax					
GYA	comp=Z,2µm,24.6s			LR	LR					
GYA	comp=Z,2µm,20.2s			LR	LR					
GYA	comp=Z,4µm,21.7s			LR	LR					
Z38A	Mt. Pleasant	88.58	55	P	P		08 30 54.0	-0.6		
T35A	Sooner Cattle	88.65	51	P	P		08 30 53.7	-1.1		
T35A	comp=Z,67nm,1.5s			IAmb	IAmb		08 31 02.8			
X37A	Clayton comp=Z,75nm,1.8s	88.73	54	IAmb	IAmb		08 31 50.8			
X37A	comp=Z,18µm,19.0s			IAMs_20	IAMs_20		09 05 48.8			
TUL1	Leonard baz=250	88.85	52	P			08 30 56.8			
RPSI	Rantau Prapat	88.95	273	P	P		08 30 54.9	-1.8		
RPSI	comp=Z,53nm,1.3s			IAmb	IAmb		08 31 29.1			
PSI	Prapat comp=Z,6.2nm,0.6s,baz=180,slow=8.0,SNR=11	88.97	273	P	P		08 30 56.2	-0.8		
PSI	Prapat	88.97	273	P	P		08 30 54.9	-2.1		
PSI	comp=Z,53nm,1.3s			pmax	pmax					
XAN	Xi'an	89.04	306	P	P		08 30 57.5	+0.7		
XAN				pP	pwP		08 31 10.5	+6.9		
XAN				sP	sP		08 31 16.8	+14		
XAN	comp=Z,34nm,1.9s			pmax	pmax					
XAN	comp=Z,51nm,5.5s			pmax	pmax					
XAN	Xi'an	89.04	306	P	P		08 30 57.3	+0.5		
XAN	comp=Z,34nm,0.9s			pmax	pmax					
XAN	comp=Z,4µm,9.9s			pmax	pmax					
XAN	comp=Z,5µm,10.6s			LR	LR					
XAN	comp=Z,5µm,13.0s			LR	LR					
XAN	comp=Z,3µm,16.3s			LR	LR					
XAN	Xi'an	89.04	306	P	P		08 30 55.2	-1.6		
XAN	comp=Z,77nm,1.3s			pmax	pmax					
XAN	Xi'an	89.04	306	P	P		08 30 55.2	-1.6		
XAN	comp=Z,77nm,1.3s			IAmb	IAmb		08 31 03.6			
K31A	O'Neill comp=Z,13µm,18.0s	89.09	45	IAMs_20	IAMs_20		09 08 16.1			
NONG	Nongkai	89.13	289	P	P		08 31 01.0	+3.5		
PLCA	Paso Flores comp=Z,2.6nm,0.8s,baz=241,slow=5.1,SNR=4.9	89.13	132	P	P		08 30 58.5	+1.3		
PLCA	Paso Flores	89.13	132	P	P		08 30 56.5	-0.7		
PLCA	comp=Z,254nm,2.5s			pmax	pmax					
PLCA	Paso Flores	89.13	132	P	P		08 30 56.5	-0.7		
441A	DeRidder comp=Z,11µm,19.0s	89.22	58	IAMs_20	IAMs_20		09 09 06.3			
N33A	J Bar K, Exete comp=Z,14µm,22.0s	89.31	47	IAMs_20	IAMs_20		09 04 22.0			
E28A	Huff	89.33	41	P	P		08 30 54.7	-3.1		
KSU1	Kansas State U baz=250	89.33	49	P			08 30 58.5			
KSU1	Kansas State U	89.34	49	P	P		08 30 56.0	-2.0		
KSU1	comp=Z,85nm,1.6s			IAmb	IAmb		08 31 06.1			
KSU1	Kansas State U comp=Z,13µm,18.0s	89.34	49	IAMs_20	IAMs_20		09 07 54.9			
YAK	Yakutsk	89.34	337	*e*P	P		08 30 55.9	-1.5		
YAK				*e*			08 41 41.1			
YAK	comp=Z,36nm,1.1s			pmax	pmax					
YAK	comp=N,6.0nm,1.1s			pmax	pmax					
YAK	comp=E,9.0nm,1.0s			pmax	pmax					
YAK	comp=Z,905nm,6.7s			pmax	pmax					
YAK	comp=N,190nm,5.7s			pmax	pmax					
YAK	comp=E,348nm,5.7s			pmax	pmax					
HHC	Hu-ho-hao-te	89.40	313	*e*P	P		08 30 59.3	+0.9		
HHC				sP	pwP		08 31 06.3	+1.1		
HHC				SKS	SKSac		08 41 26.8	-1.5		
HHC				S	SKKSac		08 41 46.8	+6.2		
HHC				sS	pS		08 41 54.5	+0.9		
HHC	comp=E,98nm,1.3s			pmax	pmax					
HHC	comp=E,5µm,6.6s			pmax	pmax					
HHC	comp=E,2µm,18.6s			LR	LR					
HHC	comp=E,4µm,19.8s			LR	LR					
HHC	comp=E,7µm,19.4s			LR	LR					
CRIN	San Cristobal comp=Z,11µm,19.0s	89.41	77	IAMs_20	IAMs_20		09 14 40.2			
TGUH	Tegucigalpa,Un comp=Z,15µm,22.0s	89.58	75	IAMs_20	IAMs_20		09 01 18.5			
GSI	Gunungsitoli	89.88	271	P	P		08 31 00.3	-0.8		
GSI	comp=Z,75nm,1.1s			IAmb	IAmb		08 31 27.8			
GSI	comp=Z,13µm,22.0s			IAMs_20	IAMs_20		09 10 17.2			
GSI	Gunungsitoli comp=Z,4µmcomp=Z,72nm,1.5s	89.88	271	P	P		08 31 02.7	+1.6		
YKA	Yellowknife Ar comp=Z,25nm,1.1s,baz=228,slow=4.1,SNR=145	89.94	23	P	PKPPKP	P'P'df	08 31 00.2	-0.1		
YKA	comp=Z,0.9nm,1.1s,baz=51,slow=3.6,SNR=4.2			PKPPKP	P'P'df		08 56 52.4	+15		
YKA	comp=Z,10µm,19.2s,baz=0.0,slow=32			LR	LR		09 06 24.1			
BI02	San Fabin de	89.95	128	P	P		08 30 59.1	-2.0		
BI02	comp=Z,132nm,1.9s			IAmb	IAmb		08 31 34.1			
BI02	comp=Z,19µm,20.0s			IAMs_20	IAMs_20		09 02 12.9			
U38A	Gravette	90.10	52	P	P		08 30 58.0	-3.6		
U38A	comp=Z,15µm,18.0s			IAMs_20	IAMs_20		09 08 42.2			
MIAR	Mount Ida baz=251	90.11	54	P			08 31 03.0			
MIAR	Mount Ida comp=Z,14µm,20.0s	90.11	54	IAMs_20	IAMs_20		09 05 25.7			
342A	Flagon Creek P	90.12	58	P	P		08 31 01.5	-0.3		
W39A	Magazine baz=251	90.16	54	P			08 31 04.7			
WLAR	White Oak Lake	90.20	55	P	P		08 31 02.1	-0.1		
WLAR	comp=Z,96nm,1.3s			IAmb	IAmb		08 31 30.0			
ORTG	Ortega, Santa comp=Z,14µm,21.0s	90.29	79	IAMs_20	IAMs_20		09 02 03.5			
Z41A	Richland Creek baz=252	90.31	56	P			08 31 03.3			
HHAR	Hobbs comp=Z,13µm,18.0s	90.39	52	IAMs_20	IAMs_20		09 08 25.9			
L34A	Svendsen Farm, comp=Z,15µm,19.0s	90.50	46	IAMs_20	IAMs_20		09 06 04.5			
MDND	Maddock comp=Z,49nm,1.1s	90.51	40	IAmb	IAmb		08 31 28.7			
MDND	comp=Z,12µm,22.0s			IAMs_20	IAMs_20		09 04 42.3			
N35A	Tabor comp=Z,13µm,22.0s	90.64	48	IAMs_20	IAMs_20		09 04 41.2			
X40A	Basin Creek Fa comp=Z,11µm,20.0s	90.67	54	IAMs_20	IAMs_20		09 06 57.6			
LOEI	Loei	90.70	288	P	P		08 30 51.0	-14		
JTS	Las Juntas de	90.75	80	P	P		08 31 04.9	-0.2		
JTS	comp=Z,122nm,1.4s			pmax	pmax					
JTS	Las Juntas de	90.75	80	P	P		08 31 04.9	-0.2		
JTS	Las Juntas de comp=Z,16µm,20.0s	90.75	80	IAMs_20	IAMs_20		09 02 24.7			
TPTI		90.77	273	P	P		08 31 06.9	+1.6		
BO02	comp=Z,2µmcomp=Z,21nm,1.1s Sierra Bellavi comp=Z,17µm,20.0s	90.94	126	IAMs_20	IAMs_20		09 03 03.4			
ECSD	EROS Data Cent comp=Z,16µm,22.0s	90.95	45	IAMs_20	IAMs_20		09 04 25.3			
ECSD	EROS Data Cent baz=250	90.95	45	P			08 31 04.9			
PHET	Kaeng Krachan	90.98	283	P	P		08 31 11.2	+5.0		
ACON	Acoyapa comp=Z,14µm,20.0s	90.98	78	IAMs_20	IAMs_20		09 03 26.9			
MT02	Curacav comp=Z,18µm,21.0s	91.17	125	IAMs_20	IAMs_20		09 01 35.5			
U40A	Yellville comp=Z,55nm,1.6s	91.24	53	IAmb	IAmb		08 31 13.9			
U40A	comp=Z,15µm,18.0s			IAMs_20	IAMs_20		09 08 52.5			
U40A	Yellville baz=252	91.24	53	P			08 31 07.0			
143A	Socs Landing, comp=Z,10µm,18.0s	91.27	57	P	P		08 31 05.6	-1.5		
143A				IAMs_20	IAMs_20		09 07 23.4			
C36M	Paulatuk baz=227	91.27	15	P			08 31 06.3			
C36M	Paulatuk	91.27	15	P	P		08 31 05.7	-0.5		
C36M	comp=Z,42nm,1.2s			IAmb	IAmb		08 31 07.5			
C36M	comp=Z,15µm,20.0s			IAMs_20	IAMs_20		09 06 18.9			
S39A	Bolivar comp=Z,85nm,2.0s	91.30	51	IAmb	IAmb		08 31 14.1			
W41B	Gary Mavity, V baz=252	91.34	54	P			08 31 08.5			
WHAR	Wooly Hollow	91.35	54	P	P		08 31 07.7	+0.2		
WHAR	comp=Z,79nm,1.6s			IAmb	IAmb		08 31 15.0			
COVE	Coope Vega, Sa comp=Z,11µm,20.0s	91.38	79	IAMs_20	IAMs_20		09 02 27.5			
UTTA	Uttaradit	91.42	288	P	P		08 31 13.1	+5.0		
MT05	Renca comp=Z,17µm,21.0s	91.44	125	IAMs_20	IAMs_20		09 01 54.7			
HDC	Heredia comp=Z,11µm,20.0s	91.47	80	IAMs_20	IAMs_20		09 03 42.9			
KMI	Kunming	91.47	296	⇑*i*P	P		08 31 09.5	+0.9		
KMI				pP	PcP		08 31 12.3	+2.8		
KMI				PP	PP		08 34 42.3	-4.4		
KMI				SKS	SKSac		08 41 41.0	-0.2		
KMI				S	S		08 42 08.0	-0.2		
KMI	comp=Z,16nm,2.5s			pmax	pmax					
KMI	comp=Z,3µm,8.9s			pmax	pmax					
KMI	comp=Z,2µm,16.7s			LR	LR					
KMI	comp=Z,4µm,17.6s			LR	LR					
KMI	comp=Z,8µm,18.8s			LR	LR					
PEL	Peldehue comp=Z,17µm,21.0s	91.56	125	IAMs_20	IAMs_20		09 02 08.3			
FCAR	Ozark Folk Cen	91.66	53	P	P		08 31 06.0	-2.9		
FCAR	comp=Z,45nm,1.4s			IAmb	IAmb		08 31 16.0			
FCAR	comp=Z,18µm,22.0s			IAMs_20	IAMs_20		09 05 03.6			
P38A	Dawn comp=Z,14µm,20.0s	91.76	49	IAMs_20	IAMs_20		09 05 18.9			
VA03	San Esteban comp=Z,76nm,1.5s	91.80	125	IAmb	IAmb		08 31 22.2			
VA03	comp=Z,17µm,22.0s			IAMs_20	IAMs_20		09 02 14.3			
SRDT	SRDT	91.84	284	P	P		08 31 13.8	+3.6		
ESPN	Las Esperanzas comp=Z,18µm,21.0s	91.87	78	IAMs_20	IAMs_20		09 03 15.3			
FFC	Flin Flon	91.87	33	P	P		08 31 08.4	-1.0		
FFC	comp=Z,53nm,1.4s			pmax	pmax					
FFC	comp=Z,9µm,18.0s			MLR	MLR					
FFC	Flin Flon	91.87	33	P	P		08 31 08.3	-1.0		
FFC	comp=Z,53nm,1.4s			IAmb	IAmb		08 31 16.0			
FFC	Flin Flon comp=Z,9µm,18.0s	91.87	33	IAMs_20	IAMs_20		09 12 09.8			
D32A	Dogwood Acres, comp=Z,14µm,19.0s	91.88	41	IAMs_20	IAMs_20		09 07 52.6			
F33A	5 Mile Ranch,	91.90	43	P	P		08 31 08.7	-1.0		
MGMO	Mountain Grove	91.93	52	P	P		08 31 10.2	0.0		
MGMO	comp=Z,15µm,18.0s			IAMs_20	IAMs_20		09 09 06.8			
SUKH	Sukhothai	92.19	287	P	P		08 31 16.0	+4.3		
X43A	Marvell baz=253	92.22	55	P			08 31 13.4			
CD2	Chengdu	92.24	301	P	P		08 31 10.0	-1.8		
CD2				S	S		08 42 13.3	-1.3		
CD2				sS	sS		08 42 25.0	+3.6		
CD2				SS	SS		08 48 27.8	+2.6		
CD2	comp=Z,10.0nm,0.4s			pmax	pmax					
CD2	comp=Z,3µm,12.9s			pmax	pmax					
CD2	comp=Z,11µm,19.4s			LR	LR					
CD2	comp=Z,17µm,19.4s			LR	LR					
CD2	comp=Z,10µm,19.4s			LR	LR					
CIT	Chita	92.25	324	*e*P	P		08 31 12.0	+0.7		
CIT	comp=Z,258nm,4.2s			pmax	pmax					
R40A	Maddies Statio	92.28	51	P	P		08 31 11.5	-0.2		
R40A	comp=Z,15µm,18.0s			IAMs_20	IAMs_20		09 10 01.9			
CO03	El Pedregal comp=Z,10µm,20.0s	92.33	123	IAMs_20	IAMs_20		09 02 14.4			
N38A	Joes South For	92.34	48	P	P		08 31 11.2	-0.7		
N38A	comp=Z,13µm,20.0s			IAMs_20	IAMs_20		09 07 16.3			
GO04	Tololo Observa comp=Z,11µm,21.0s	92.45	122	IAMs_20	IAMs_20		09 03 18.9			
LCAR	Lake Charles	92.46	53	P	P		08 31 11.8	-0.8		
LAMP	Lampang	92.47	288	P	P		08 31 17.0	+4.0		
UMPA	Umpang Tak	92.57	286	P	P		08 31 17.7	+4.2		
SYO	Syowa Base	92.65	191	⇓*i*P	P		08 31 09.0	-3.9		
SYO	Syowa Base	92.65	191	⇓*i*X	P		08 31 14.0	+1.1		
SYO	Syowa Base	92.65	191	⇓*i*X	P		08 31 23.2	+10		
HBAR	Harrisburg	92.70	54	P	P		08 31 12.6	-1.0		
SCIA	State Center	92.71	47	P	P		08 31 13.5	-0.1		
SCIA	comp=Z,14µm,20.0s			IAMs_20	IAMs_20		09 06 26.9			
VNA3	Neumayer Olymp	92.77	175	P	P		08 31 14.7	+1.2		
VNA3	Neumayer Olymp	92.77	175	PKiKP	PKiKP		08 36 03.3	+1.9		
T42A	Van Buren comp=Z,13µm,19.0s	92.79	52	IAMs_20	IAMs_20		09 09 50.5			
P40A	Paris	92.82	50	P	P		08 31 13.2	-1.0		
P40A	comp=Z,51nm,1.3s			IAmb	IAmb		08 31 20.6			
P40A	comp=Z,18µm,22.0s			IAMs_20	IAMs_20		09 05 30.1			
SNAA	Sanae	92.84	177	P	P		08 31 14.8	+1.0		
SNAA	Sanae	92.84	177	P	P		08 31 14.1	+0.3		
SNAA	comp=Z,35nm,1.3s			pmax	pmax					
SNAA	Sanae	92.84	177	P	P		08 31 14.1	+0.3		
SNAA	comp=Z,35nm,1.3s			IAmb	IAmb		08 31 38.6			
SNAA	comp=Z,13µm,20.0s			IAMs_20	IAMs_20		09 08 15.0			
AC04	Llanos de Chal comp=Z,13µm,20.0s	92.87	120	IAMs_20	IAMs_20		09 02 04.0			
LCO	Las Campanas comp=Z,18µm,22.0s	92.92	121	IAMs_20	IAMs_20		09 02 07.2			
CM35	Chiang Mai Arr	92.94	288	P	P		08 31 19.2	+4.0		
CCM	Cathedral Cave	92.98	51	P	P		08 31 13.5	-1.4		
CCM	comp=Z,33nm,1.3s			pmax	pmax					
CCM	comp=Z,18µm,18.0s			MLR	MLR					
CCM	Cathedral Cave	92.98	51	P	P		08 31 13.5	-1.4		
CCM	Cathedral Cave baz=253	92.98	51	P			08 31 14.3			
LPAR	Lepanto	92.99	54	P	P		08 31 15.5	+0.5		
AGMN	Agassiz Nation	93.01	41	P	P		08 31 13.5	-1.4		
AGMN	comp=Z,31nm,1.2s			IAmb	IAmb		08 31 21.4			
AGMN	Agassiz Nation baz=250	93.01	41	P			08 31 14.1			
CM04	Chiang Mai Arr	93.03	288	P	P		08 31 18.1	+2.5		
CM09	Chiang Mai Arr	93.03	288	P	P		08 31 20.4	+4.8		
CM01	Chiang Mai Arr	93.06	288	P	P		08 31 20.6	+4.8		
CM05	Chiang Mai Arr	93.06	288	P	P		08 31 19.6	+3.8		
CM02	Chiang Mai Arr	93.07	288	P	P		08 31 20.0	+4.2		
CMAR	Chiang Mai Arr comp=Z,5.8nm,0.9s,baz=101,slow=2.9,SNR=13	93.08	288	P	P		08 31 16.2	+0.4		
CMAR	Chiang Mai Arr	93.08	288	P	P		08 31 15.8	0.0		
CMAR	Chiang Mai Arr	93.08	288	P	P		08 31 15.8	0.0		
CM15	Chiang Mai Arr	93.10	288	P	P		08 31 25.0	+9.1		
CM13	Chiang Mai Arr	93.10	288	P	P		08 31 20.6	+4.6		
146A	Union comp=Z,9µm,18.0s	93.14	57	IAMs_20	IAMs_20		09 13 08.1			
MET	Memphis--Engin comp=Z,11µm,20.0s	93.14	55	IAMs_20	IAMs_20		09 07 20.9			
CM33	Chiang Mai Arr	93.17	289	P	P		08 31 19.0	+2.7		
CHTO	Chiang Mai	93.17	289	P	P		08 31 14.6	-1.7		
CHTO	comp=Z,69nm,2.2s			pmax	pmax					
CHTO	Chiang Mai	93.17	289	P	P		08 31 14.6	-1.7		
CHTO	comp=Z,69nm,2.2s			IAmb	IAmb		08 31 50.4			
CM32	Chiang Mai Arr	93.22	288	P	P		08 31 21.0	+4.5		
PBMO	Poplar Bluff	93.23	53	P	P		08 31 15.6	-0.5		
PBMO	comp=Z,40nm,1.4s			IAmb	IAmb		08 31 22.8			
PBMO	comp=Z,15µm,18.0s			IAMs_20	IAMs_20		09 12 13.1			
I37A	Lemond, Waseca	93.24	45	P	P		08 31 16.2	+0.2		
I37A	comp=Z,15µm,19.0s			IAMs_20	IAMs_20		09 08 57.7			
K38A	Parkersburg	93.25	47	P	P		08 31 16.4	+0.3		
K38A	comp=Z,15µm,19.0s			IAMs_20	IAMs_20		09 08 01.2			
VNA2	Neumayer--Watz baz=182,slow=2.8	93.27	175	P	P		08 31 17.3	+1.5		
VNA2	Neumayer--Watz	93.27	175	PKiKP	PKiKP		08 36 01.3	-0.9		
VNA2	Neumayer--Watz	93.27	175	PP	PP		08 35 00.0	+1.3		
OXF	Oxford baz=254	93.38	55	P			08 31 16.8			
OXF	Oxford	93.38	55	P	P		08 31 15.1	-1.8		
OXF	comp=Z,119nm,1.5s			pmax	pmax					
OXF	Oxford	93.38	55	P	P		08 31 15.1	-1.8		
VNA1	Neumayer--Stat	93.47	175	P	P		08 31 18.3	+1.7		
VNA1	Neumayer--Stat	93.47	175	PKiKP	PKiKP		08 36 02.8	+0.4		
PEBM	Pemiscott Bayo comp=Z,17µm,20.0s	93.48	54	IAMs_20	IAMs_20		09 06 59.7			
FVM	French Village	93.58	52	P	P		08 31 16.2	-1.5		
FVM	comp=Z,59nm,1.3s			pmax	pmax					
FVM	French Village	93.58	52	P	P		08 31 16.2	-1.5		
FVM	comp=Z,59nm,1.2s			IAmb	IAmb		08 31 24.5			
FVM	comp=Z,15µm,18.0s			IAMs_20	IAMs_20		09 10 17.2			
LZH	Lanzhou	93.63	306	*e*P	P		08 31 19.3	+1.1		
LZH				sP	sP		08 31 24.3	-0.1		
LZH				SKS	SKSac		08 41 52.8	+0.1		
LZH				S	S		08 42 29.8	+2.9		
LZH				sS	sS		08 42 40.0	+6.2		
LZH				SS	SS		08 48 41.8	-3.4		
LZH	comp=Z,28nm,1.1s			pmax	pmax					
LZH				pmax	pmax					

	comp=Z,1µm,5.4s									
LZH				LR	LR					
	comp=Z,7µm,14.4s									
LZH				LR	LR					
	comp=Z,10µm,16.0s									
LZH				LR	LR					
	comp=Z,4µm,17.3s									
ULM	**Lac du Bonnet**	**93.66**	**39**	P	**P**		**08 31 16.9**	**-0.9**		
	comp=Z,18nm,1.1s,baz=250,slow=5.0,SNR=18									
ULM				PP	**PP**		**08 35 04.8**	**+1.7**		
	comp=Z,6.9nm,1.1s,baz=252,slow=12,SNR=3.4									
ULM	**Lac du Bonnet**	**93.66**	**39**	P	P		08 31 15.2	-2.6		
ULM				pmax	pmax					
	comp=Z,82nm,1.6s									
ULM	**Lac du Bonnet**	**93.66**	**39**	P	P		08 31 15.2	-2.6		
ULM				IAmb	IAmb		08 31 26.8			
	comp=Z,82nm,1.6s									
PARMO	**Parma**	**93.72**	**53**	IAms_20	IAms_20		09 08 17.1			
	comp=Z,15µm,20.0s									
W45A	**Hickory Valley**	**93.74**	**55**	P	**P**		**08 31 16.8**	**-1.7**		
W45A				IAms_20	IAms_20		09 08 09.7			
	comp=Z,13µm,20.0s									
LNXT	**Lenox**	**93.76**	**54**	IAms_20	IAms_20		09 06 28.3			
	comp=Z,17µm,20.0s									
SPMN	**Marine on St.**	**94.02**	**44**	P	**P**		**08 31 17.7**	**-1.9**		
SPMN				IAmb	IAmb		08 31 26.3			
	comp=Z,66nm,1.4s									
SPMN	**Marine on St.**	**94.02**	**44**	P			08 31 20.0			
	baz=252									
N41A	**Harden Midland**	**94.04**	**49**	P	**P**		**08 31 17.9**	**-1.8**		
N41A				IAms_20	IAms_20		09 08 10.3			
	comp=Z,17µm,20.0s									
HICK	**Hickman**	**94.09**	**53**	IAms_20	IAms_20		09 08 26.9			
	comp=Z,16µm,20.0s									
L40A	**Anamosa**	**94.17**	**48**	P	**P**		**08 31 19.3**	**-1.0**		
L40A				IAms_20	IAms_20		09 07 41.6			
	comp=Z,12µm,20.0s									
BOD	**Bodaibo**	**94.21**	**329**	*e*P	**P**		**08 31 18.3**	**-1.8**		
BOD				pmax	pmax					
	comp=Z,19nm,2.2s									
B35A	**Bob, Littlefor**	**94.38**	**41**	P	**P**		**08 31 19.9**	**-1.3**		
B35A				IAmb	IAmb		08 31 27.1			
	comp=Z,51nm,1.4s									
B35A				IAms_20	IAms_20		09 12 44.7			
	comp=Z,11µm,18.0s									
S44A	**Carbondale**	**94.39**	**52**	P	**P**		**08 31 20.8**	**-0.6**		
S44A				IAmb	IAmb		08 31 27.6			
	comp=Z,70nm,1.6s									
S44A				IAms_20	IAms_20		09 13 05.7			
	comp=Z,14µm,18.0s									
SIUC	**Southern Illin**	**94.42**	**52**	P	**P**		**08 31 20.4**	**-1.1**		
SIUC				IAms_20	IAms_20		09 13 06.1			
	comp=Z,14µm,18.0s									
PLAL	**Pickwick Lake**	**94.57**	**55**	P	**P**		**08 31 22.1**	**-0.2**		
PLAL				IAmb	IAmb		08 31 52.8			
	comp=Z,55nm,1.6s									
PLAL				IAms_20	IAms_20		09 07 42.7			
	comp=Z,10µm,20.0s									
P43A	**Skaggs, Pawnee**	**94.72**	**50**	P	**P**		**08 31 22.2**	**-0.7**		
P43A				IAms_20	IAms_20		09 08 58.4			
	comp=Z,17µm,20.0s									
ULN	**Ulaanbaatar**	**94.78**	**318**	P	**P**		**08 31 22.5**	**-0.7**		
ULN				pmax	pmax					
	comp=Z,33nm,1.4s									
ULN	**Ulaanbaatar**	**94.78**	**318**	P	**P**		**08 31 22.5**	**-0.7**		
ULN	**Ulaanbaatar**	**94.78**	**318**	IAms_20	IAms_20		09 07 40.8			
	comp=Z,13µm,21.0s									
Q44A	**Meyer Farm, Va**	**94.90**	**51**	P	**P**		**08 31 22.7**	**-1.0**		
WVT	**Waverly**	**95.06**	**54**	P			08 31 24.7			
	baz=255									
WVT	**Waverly**	**95.06**	**54**	P	**P**		**08 31 22.9**	**-1.7**		
WVT				pmax	pmax					
	comp=Z,64nm,1.9s									
WVT	**Waverly**	**95.06**	**54**	P	**P**		**08 31 22.9**	**-1.7**		
WVT				IAmb	IAmb		08 31 35.4			
	comp=Z,64nm,1.9s									
WVT	**Waverly**	**95.06**	**54**	IAms_20	IAms_20		09 07 17.8			
	comp=Z,16µm,21.0s									
JFWS	**Jewell Farm**	**95.10**	**47**	P			08 31 24.4			
	baz=254									
JFWS	**Jewell Farm**	**95.10**	**47**	P	**P**		**08 31 23.0**	**-1.6**		
JFWS				pmax	pmax					
	comp=Z,77nm,1.3s									
JFWS	**Jewell Farm**	**95.10**	**47**	P	**P**		**08 31 23.0**	**-1.6**		
JFWS	**Jewell Farm**	**95.10**	**47**	IAms_20	IAms_20		09 09 08.3			
	comp=Z,15µm,19.0s									
I40A	**Norwalk**	**95.12**	**46**	P	**P**		**08 31 23.4**	**-1.2**		
I40A				IAms_20	IAms_20		09 08 20.6			
	comp=Z,14µm,20.0s									
GO02	**Mina Guanaco**	**95.13**	**118**	IAms_20	IAms_20		09 03 49.0			
	comp=Z,10µm,20.0s									
HDIL	**Hopedale**	**95.14**	**49**	P			08 31 26.0			
	baz=254									
HDIL	**Hopedale**	**95.14**	**49**	P	**P**		**08 31 23.9**	**-0.9**		
HDIL				IAmb	IAmb		08 31 31.2			
	comp=Z,54nm,1.1s									
TIXI	**Tiksi**	**95.17**	**344**	P	**P**		**08 31 23.1**	**-1.1**		
TIXI				pmax	pmax					
	comp=Z,17nm,1.2s									
TIXI	**Tiksi**	**95.17**	**344**	P	**P**		**08 31 23.1**	**-1.1**		
TIXI				IAms_20	IAms_20		09 09 24.5			
	comp=Z,10µm,20.0s									
SONM	**Songino Array**	**95.19**	**318**	P	**P**		**08 31 23.2**	**-1.9**		
	comp=Z,4.7nm,1.1s,baz=102,slow=3.7,SNR=16									
SONM				PP	**PP**		**08 35 12.3**	**-2.9**		
	comp=Z,2.0nm,1.0s,baz=116,slow=7.7,SNR=4.8									
SONM	**Songino Array**	**95.19**	**318**	P	**P**		**08 31 23.9**	**-1.2**		
X48A	**Hartselle**	**95.25**	**56**	IAms_20	IAms_20		09 07 11.7			
	comp=Z,18µm,22.0s									
L42A	**Oliver, Polo**	**95.26**	**48**	IAms_20	IAms_20		09 11 37.6			
	comp=Z,12µm,18.0s									
BCIP	**Isla Barro Col**	**95.33**	**82**	IAms_20	IAms_20		09 14 48.1			
	comp=Z,11µm,18.0s									
PB04	**IPOC Station P**	**95.58**	**115**	IAms_20	IAms_20		09 19 56.2			
	comp=Z,9µm,18.0s									
O44A	**Mansfield**	**95.64**	**50**	IAms_20	IAms_20		09 08 09.7			
	comp=Z,16µm,20.0s									
USIN	**University of**	**95.67**	**52**	IAms_20	IAms_20		09 15 24.7			
	comp=Z,13µm,18.0s									
EYMN	**Ely**	**95.68**	**42**	IAms_20	IAms_20		09 09 14.2			
	comp=Z,16µm,20.0s									
V48A	**Smith Brothers**	**95.75**	**55**	IAms_20	IAms_20		09 09 47.1			
	comp=Z,16µm,20.0s									
SOR	**Soroa**	**95.76**	**68**	IAms_20	IAms_20		09 06 55.0			
	comp=Z,14µm,21.0s									
G40A	**Rib Lake**	**95.79**	**45**	P	**P**		**08 31 26.9**	**-0.8**		
G40A				IAmb	IAmb		08 31 54.1			
	comp=Z,54nm,1.6s									
G40A				IAms_20	IAms_20		09 07 48.2			
	comp=Z,17µm,21.0s									
T47A	**Sharon Grove**	**95.85**	**53**	P	**P**		**08 31 28.3**	**+0.1**		
T47A				IAmb	IAmb		08 31 34.4			
	comp=Z,86nm,1.9s									
PB06	**IPOC Station P**	**95.96**	**115**	IAms_20	IAms_20		09 20 17.3			
	comp=Z,12µm,18.0s									
TA01	**Diego Aracena**	**96.12**	**113**	IAms_20	IAms_20		09 04 50.6			
	comp=Z,12µm,21.0s									
CLTN	**Cedars of Leba**	**96.23**	**54**	IAms_20	IAms_20		09 08 03.6			
	comp=Z,15µm,20.0s									
M44A	**Midewin, Midew**	**96.27**	**49**	IAms_20	IAms_20		09 11 11.4			
	comp=Z,11µm,18.0s									
I42A	**Draeger Farm,**	**96.30**	**46**	IAms_20	IAms_20		09 09 18.0			
	comp=Z,15µm,20.0s									
SWET	**Sewanee**	**96.33**	**55**	P	**P**		**08 31 31.0**	**+0.6**		
SWET				IAms_20	IAms_20		09 09 17.3			
	comp=Z,12µm,20.0s									
K43A	**Burlington**	**96.41**	**48**	IAms_20	IAms_20		09 09 20.8			
	comp=Z,12µm,20.0s									
FPAL	**Fort Paine**	**96.42**	**56**	P	**P**		**08 31 29.1**	**-1.7**		
FPAL				IAms_20	IAms_20		09 11 19.7			
	comp=Z,14µm,19.0s									
Z51A	**Franklin**	**96.47**	**57**	IAms_20	IAms_20		09 14 01.2			
	comp=Z,11µm,18.0s									
PSGCX	**Pisagua**	**96.48**	**112**	IAms_20	IAms_20		09 05 29.2			
	comp=Z,16µm,20.0s									
HQIL	**Hanson Quary C**	**96.52**	**49**	IAms_20	IAms_20		09 09 59.8			
	comp=Z,9µm,19.0s									
LVC	**Limon Verde**	**96.57**	**116**	P	P		08 31 29.1	-3.2		
LVC				pmax	pmax					
	comp=Z,50nm,1.7s									
LVC				MLR	MLR					
	comp=Z,8µm,18.0s									
LVC	**Limon Verde**	**96.57**	**116**	P	P		08 31 29.1	-3.2		
LVC				IAmb	IAmb		08 31 57.6			
	comp=Z,50nm,1.7s									
L44A	**Lake County Fo**	**96.57**	**48**	IAms_20	IAms_20		09 12 44.2			
	comp=Z,12µm,18.0s									
AP01	**Chacalluta**	**96.68**	**111**	IAms_20	IAms_20		09 15 31.5			
	comp=Z,11µm,18.0s									
SFIN	**Lafayette**	**96.71**	**50**	IAms_20	IAms_20		09 08 11.1			
	comp=Z,16µm,22.0s									
COWI	**Conover**	**96.73**	**44**	P	**P**		**08 31 30.9**	**-1.1**		
U49A	**Red Boiling Sp**	**96.76**	**54**	P	**P**		**08 31 30.9**	**-1.4**		
U49A				IAmb	IAmb		08 31 40.4			
	comp=Z,41nm,1.6s									
U49A				IAms_20	IAms_20		09 10 08.8			
	comp=Z,15µm,20.0s									
W50A	**Signal Mountai**	**96.81**	**55**	P	**P**		**08 31 30.9**	**-1.7**		
W50A				IAmb	IAmb		08 31 58.1			
	comp=Z,35nm,1.6s									
W50A				IAms_20	IAms_20		09 09 42.2			
	comp=Z,11µm,20.0s									
X51A	**Calhoun**	**97.03**	**56**	IAms_20	IAms_20		09 12 23.8			
	comp=Z,15µm,18.0s									
MNMC	**Minye Minye**	**97.11**	**112**	IAms_20	IAms_20		09 04 15.7			
	comp=Z,17µm,22.0s									
PB08	**IPOC Station P**	**97.17**	**113**	IAms_20	IAms_20		09 05 33.4			
	comp=Z,11µm,20.0s									
H43A	**Windswept, Lux**	**97.25**	**46**	IAms_20	IAms_20		09 10 23.9			
	comp=Z,15µm,20.0s									
D41A	**Chassel**	**97.36**	**43**	P	**P**		**08 31 34.5**	**-0.3**		
DGPR	**DIGLIPUR**	**97.36**	**282**	*i* x	x		08 31 33.1			
DGPR	**DIGLIPUR**	**97.36**	**282**	*i* x	Pdif		08 31 32.0	-3.5		
FCC	**Fort Churchill**	**97.37**	**31**	P	**P**		**08 31 33.3**	**-1.1**		
FCC				pmax	pmax					
	comp=Z,27nm,1.2s									
FCC	**Fort Churchill**	**97.37**	**31**	P	**P**		**08 31 33.3**	**-1.1**		
FCC				IAmb	IAmb		08 31 42.1			
	comp=Z,27nm,1.2s									
FCC				IAms_20	IAms_20		09 11 36.1			
	comp=Z,14µm,19.0s									
Y52A	**Lilburn**	**97.50**	**57**	IAms_20	IAms_20		09 09 57.5			
	comp=Z,15µm,20.0s									
CPCT	**Cooper Cave**	**97.50**	**55**	P	**P**		**08 31 33.7**	**-1.9**		
CPCT				IAms_20	IAms_20		09 10 13.4			
	comp=Z,11µm,20.0s									
GTA	**Gaotai**	**97.58**	**309**	⇑P	**P**		**08 31 36.5**	**+0.4**		
GTA				pP	pP		08 31 41.3	+0.7		
GTA				sP	pwP		08 31 44.3	+1.4		
GTA				PP	**PP**		**08 35 35.0**	**+1.1**		
GTA				SKS	**SKSac**		**08 42 14.3**	**+1.0**		
GTA				S	**S**		**08 43 01.0**	**+0.1**		
GTA				sS	sS		08 43 11.5	+3.6		
GTA				pmax	pmax					
	comp=Z,11nm,1.3s									
GTA				pmax	pmax					
	comp=Z,1µm,5.5s									
GTA				LR	LR					
	comp=Z,2µm,18.5s									
GTA				LR	LR					
	comp=Z,9µm,19.3s									
GTA				LR	LR					
	comp=Z,12µm,20.4s									
T50A	**Nancy**	**97.62**	**54**	IAms_20	IAms_20		09 10 26.4			
	comp=Z,16µm,20.0s									
L46A	**Eue Claire**	**97.70**	**49**	IAms_20	IAms_20		09 08 45.0			
	comp=Z,10µm,21.0s									
V51A	**Loudon**	**97.72**	**55**	IAms_20	IAms_20		09 08 40.1			
	comp=Z,16µm,21.0s									
IRK	**Irkutsk**	**97.73**	**322**	*e*P	**P**		**08 31 36.3**	**0.0**		
IRK				pmax	pmax					
	comp=Z,70nm,2.8s									
ZAK	**Zakamensk**	**97.86**	**320**	*e*P	**P**		**08 31 36.7**	**-0.3**		
ZAK				pmax	pmax					
	comp=Z,9.0nm,1.4s									
N47A	**Urbana**	**97.87**	**50**	IAms_20	IAms_20		09 09 28.7			
	comp=Z,15µm,20.0s									
GOGA	**Godfrey**	**97.88**	**58**	IAms_20	IAms_20		09 14 02.6			
	comp=Z,10µm,19.0s									
W52A	**Murphy**	**97.89**	**56**	IAms_20	IAms_20		09 08 42.8			
	comp=Z,10µm,20.0s									
TLY	**Talaya**	**97.96**	**321**	P	**P**		**08 31 38.2**	**+0.8**		
	comp=Z,1.5nm,0.4s,baz=154,slow=6.2,SNR=4.9									
TLY	**Talaya**	**97.96**	**321**	*e*P	**P**		**08 31 37.2**	**-0.2**		
TLY				pmax	pmax					
	comp=Z,25nm,1.3s									
TLY				MLR	MLR					
	comp=Z,11µm,15.0s									
TLY	**Talaya**	**97.96**	**321**	IAmb	IAmb		08 31 40.3			
	comp=Z,11nm,1.2s									
TLY				IAms_20	IAms_20		09 12 48.9			
	comp=Z,11µm,19.0s									
154A	**Montrose**	**97.99**	**58**	IAms_20	IAms_20		09 09 30.6			
	comp=Z,11µm,22.0s									
TKL	**Tuckaleechee C**	**98.14**	**55**	IAms_20	IAms_20		09 08 30.3			
	comp=Z,13µm,21.0s									
I45A	**Fountain**	**98.21**	**47**	IAms_20	IAms_20		09 09 45.6			
	comp=Z,16µm,20.0s									
P49A	**Miami Univ. Ec**	**98.29**	**51**	IAms_20	IAms_20		09 15 34.9			
	comp=Z,12µm,18.0s									
R50A	**Paris**	**98.30**	**53**	IAms_20	IAms_20		09 11 18.4			
	comp=Z,14µm,20.0s									
V52A	**Sevierville**	**98.33**	**55**	IAms_20	IAms_20		09 12 03.2			
	comp=Z,14µm,19.0s									
061Z	**Ochoppi**	**98.34**	**66**	IAms_20	IAms_20		09 16 10.3			
	comp=Z,10µm,18.0s									
S51A	**Beattyville**	**98.72**	**53**	IAms_20	IAms_20		09 09 32.6			
	comp=Z,15µm,20.0s									
V53A	**Saluda**	**98.91**	**56**	IAms_20	IAms_20		09 09 05.6			
	comp=Z,11µm,21.0s									
MOKO	**MOKOCHONG**	**98.95**	**295**	*i* x	Pdif		08 31 42.3	-0.3		
MOKO				*ex*	x		08 35 17.7			
MOKO	**MOKOCHONG**	**98.95**	**295**	*i* x	x		08 31 44.7			
MOKO				*ex*	x		08 35 32.8			
L48A	**N Adams**	**99.03**	**49**	IAms_20	IAms_20		09 11 31.4			
	comp=Z,14µm,20.0s									
J47A	**Sunmer**	**99.03**	**48**	IAms_20	IAms_20		09 09 18.3			
	comp=Z,10µm,22.0s									
HODGE	**Hodges**	**99.04**	**57**	IAms_20	IAms_20		09 13 40.2			
	comp=Z,13µm,19.0s									
060A	**Indiantown**	**99.08**	**64**	IAms_20	IAms_20		09 10 36.8			
	comp=Z,10µm,21.0s									
IMP	**Imphal**	**99.13**	**293**	*i* x	**Pdif**		**08 31 40.5**	**-2.8**		
IMP				*ex*	x		08 35 41.2			
KOHI	**KOHIMA**	**99.18**	**294**	*i* x	x		08 31 42.3			
KOHI	**KOHIMA**	**99.18**	**294**	*i* x	**Pdif**		**08 31 40.5**	**-3.2**		
KOHI				*ex*	x		08 35 41.2			
Q51A	**Peebles**	**99.22**	**52**	IAms_20	IAms_20		09 08 45.5			
	comp=Z,16µm,22.0s									
SAIH	**SAIHA**	**99.47**	**291**	*i* x	**Pdif**		**08 31 44.3**	**-0.6**		
SAIH				*ex*	x		08 34 59.3			
SAIH	**SAIHA**	**99.47**	**291**	*i* x	x		08 31 44.7			
PAULI	**Pauline**	**99.53**	**57**	IAms_20	IAms_20		09 10 36.9			
	comp=Z,13µm,22.0s									
P51A	**Williamsport**	**99.53**	**52**	IAms_20	IAms_20		09 08 42.7			
	comp=Z,13µm,22.0s									
ROSC	**El Rosal**	**99.53**	**88**	IAms_20	IAms_20		09 06 33.7			
	comp=Z,13µm,21.0s									
MOY	**Mondy**	**99.56**	**321**	*e*P	**Pdif**		**08 31 45.6**	**+0.9**		
AAM	**Ann Arbor**	**99.67**	**49**	IAms_20	IAms_20		09 14 08.3			
	comp=Z,13µm,18.0s									
ZIRO	**ZIRO**	**99.79**	**296**	*i* x	**Pdif**		**08 31 45.4**	**-1.0**		
KMSC	**Kings Mountain**	**99.98**	**56**	IAms_20	IAms_20		09 10 51.0			
	comp=Z,14µm,21.0s									
Q52A	**Bidwell**	**100.02**	**52**	IAms_20	IAms_20		09 15 24.9			
	comp=Z,13µm,18.0s									
SILR	**SILCHAR**	**100.13**	**293**	*i* x	**Pdif**		**08 31 48.9**	**+1.3**		
SILR				*ex*	x		08 35 58.1			
R53A	**Hurricane**	**100.14**	**53**	IAms_20	IAms_20		09 10 49.0			
	comp=Z,15µm,20.0s									
V55A	**Taylorsville**	**100.22**	**56**	IAms_20	IAms_20		09 10 50.2			
	comp=Z,13µm,20.0s									
P52A	**Corning**	**100.26**	**52**	P			08 31 47.5			
	baz=258									
P52A	**Corning**	**100.26**	**52**	IAms_20	IAms_20		09 09 50.0			
	comp=Z,16µm,22.0s									
NHSC	**New Hope**	**100.51**	**59**	IAms_20	IAms_20		09 16 22.2			
	comp=Z,12µm,18.0s									
Y57A	**Sumter**	**100.51**	**58**	IAms_20	IAms_20		09 13 16.2			
	comp=Z,14µm,20.0s									
O52A	**Adamsville**	**100.58**	**51**	IAms_20	IAms_20		09 13 13.4			
	comp=Z,12µm,19.0s									
U56A	**King**	**100.97**	**55**	IAms_20	IAms_20		09 11 03.2			
	comp=Z,15µm,22.0s									
W57A	**Gilead**	**101.06**	**56**	IAms_20	IAms_20		09 11 44.5			
	comp=Z,10µm,20.0s									
O53A	**New Philadelph**	**101.07**	**51**	IAms_20	IAms_20		09 14 14.5			
	comp=Z,14µm,19.0s									
Y58A	**Scranton**	**101.08**	**58**	IAms_20	IAms_20		09 13 43.2			
	comp=Z,10µm,19.0s									
SHL	**Shillong**	**101.11**	**294**	*i* x	**Pdif**		**08 31 49.5**	**-2.8**		
SHL				*ex*	x		08 35 01.3			
SHL	**Shillong**	**101.11**	**294**	*i* x	x		08 31 57.4			
GUWA	**GUWAHATI**	**101.41**	**294**	*i* x	x		08 31 55.6			
GUWA				*ex*	x		08 36 00.8			
GUWA	**GUWAHATI**	**101.41**	**294**	*i* x	**Pdif**		**08 31 53.1**	**-0.2**		
GUWA				*ex*	x		08 35 58.1			
X58A	**Rowland**	**101.47**	**57**	IAms_20	IAms_20		09 14 19.5			
	comp=Z,12µm,19.0s									
Y59A	**Loris**	**101.75**	**58**	IAms_20	IAms_20		09 14 22.8			
	comp=Z,15µm,20.0s									
V58A	**Windy Hill, Pi**	**101.88**	**56**	IAms_20	IAms_20		09 10 47.3			
	comp=Z,13µm,22.0s									
MCWV	**Mont Chateau**	**102.00**	**52**	IAms_20	IAms_20		09 16 36.1			
	comp=Z,8µm,18.0s									
N54A	**Moraine State**	**102.12**	**51**	IAms_20	IAms_20		09 15 13.1			
	comp=Z,14µm,19.0s									
Y60A	**Bolivia**	**102.28**	**58**	IAms_20	IAms_20		09 14 47.1			
	comp=Z,14µm,20.0s									
CNNC	**Cliffs of the**	**102.77**	**57**	IAms_20	IAms_20		09 13 25.8			
	comp=Z,10µm,20.0s									
DHUB	**DHUBRI**	**102.87**	**294**	*ex*	PP		08 36 08.0	-6.2		
U59A	**Littleton**	**103.03**	**56**	IAms_20	IAms_20		09 12 46.7			
	comp=Z,14µm,21.0s									
T59A	**Double "B" Far**	**103.32**	**55**	IAms_20	IAms_20		09 14 51.4			
	comp=Z,14µm,19.0s									
V60A	**Jim Taylor Roa**	**103.36**	**56**	IAms_20	IAms_20		09 11 43.4			
	comp=Z,13µm,22.0s									
J54A	**Appleton**	**103.48**	**49**	IAms_20	IAms_20		09 16 11.0			
	comp=Z,9µm,19.0s									
SSPA	**Standing Stone**	**103.64**	**51**	IAms_20	IAms_20		09 11 55.4			
	comp=Z,13µm,21.0s									
SDV	**Santo Domingo**	**104.07**	**85**	IAms_20	IAms_20		09 25 15.2			
	comp=Z,9µm,21.0s									
J55A	**Hilton**	**104.07**	**49**	IAms_20	IAms_20		09 12 11.7			
	comp=Z,11µm,22.0s									
U61A	**Possum Corner**	**104.10**	**56**	IAms_20	IAms_20		09 12 16.1			
	comp=Z,14µm,22.0s									
GTK	**Tadong**	**104.33**	**295**	*i* x	**Pdif**		**08 32 03.8**	**-2.6**		
GTK				*ex*	x		08 36 23.4			
GTK	**Tadong**	**104.33**	**295**	*i* x	x		08 32 10.0			
GTK				*ex*	x		08 36 23.5			
V62A	**Hyde County Ai**	**104.38**	**57**	IAms_20	IAms_20		09 12 22.4			
	comp=Z,12µm,22.0s									
N58A	**Sunbury**	**104.55**	**51**	IAms_20	IAms_20		09 12 23.5			
	comp=Z,14µm,22.0s									
PECO	**Prince Edward**	**104.75**	**48**	IAms_20	IAms_20		09 13 36.7			
	comp=Z,15µm,21.0s									
J56A	**Wolcott**	**104.77**	**49**	IAms_20	IAms_20		09 12 44.1			
	comp=Z,11µm,22.0s									
PLVO	**Plevna**	**104.83**	**47**	IAms_20	IAms_20		09 13 57.7			
	comp=Z,13µm,20.0s									
J57A	**Williamstown**	**105.41**	**49**	IAms_20	IAms_20		09 12 51.0			
	comp=Z,15µm,22.0s									
BOK	**Bokaro**	**106.13**	**291**	*i* x	**PP**		**08 36 37.8**	**-0.8**		
J59A	**Piesco**	**106.50**	**49**	IAms_20	IAms_20		09 14 06.8			
	comp=Z,14µm,21.0s									
LONY	**Lake Ozonia**	**106.55**	**47**	IAms_20	IAms_20		09 14 40.2			
	comp=Z,12µm,20.0s									
WMQ	**Urumqi**	**107.25**	**312**	Pdif	**Pdif**		**08 32 19.5**	**+0.5**		
WMQ				PP	**PP**		**08 36 50.8**	**+4.5**		
WMQ				S	**Sdif**		**08 44 18.5**	**-3.1**		
WMQ				AMB	AMB					
	comp=Z,2µm,6.1s									
WMQ				LR	LR					
	comp=Z,6µm,20.7s									
WMQ				LR	LR					
	comp=Z,7µm,16.1s									
WMQ				LR	LR					
	comp=Z,16µm,20.5s									
WMQ	**Urumqi**	**107.25**	**312**	IAms_20	IAms_20		09 17 00.5			
	comp=Z,10µm,21.0s									
YLE	**Yale**	**107.44**	**51**	IAms_20	IAms_20		09 16 34.1			
	comp=Z,12µm,19.0s									
ALE	**Alert**	**107.86**	**7**	IAms_20	IAms_20		09 19 28.3			
	comp=Z,11µm,19.0s									
M63A	**Gales Ferry**	**108.12**	**51**	IAms_20	IAms_20		09 16 45.9			
	comp=Z,14µm,20.0s									
FFD	**Franklin Falls**	**108.56**	**49**	IAms_20	I

	comp=Z,13µm,21.0s							
ARU	**Arti**	**123.62 329**			**PKPdf**	**08 36 58.8**	**0.0**	
LVZ	**Lovozero**	**124.64 348**		IAMs_20	IAMs_20	09 30 04.7		
	comp=Z,11µm,20.0s							
ARCES	**ARCESS Array B**	**124.71 352**		PKP	**PKPdf**	**08 36 58.2**	**-2.3**	
	comp=Z,9.9nm,1.0s,baz=45,slow=2.2,SNR=10							
ARCES	**ARCESS Array B**	**124.71 352**			**PKPdf**	**08 36 59.9**	**-0.6**	
APA	**Apatity**	**125.17 348**	⇓ *i*	PKIKP	PKPdf	08 36 54.5	-6.9	
APA			*i*			08 38 48.0		
APA			*i*			08 44 04.0		
APA			*i*			08 48 47.0		
APA				pmax	pmax			
	comp=Z,7.0nm,1.1s							
APA				MLR	MLR			
	comp=Z,9µm,20.0s							
ABKAR	**Akbulak array**	**125.55 320**			**PKPdf**	**08 37 01.3**	**-1.4**	
AKTO	**Aktyubinsk**	**126.31 322**		PKP	**PKPdf**	**08 37 02.1**	**-1.9**	
	comp=Z,2.3nm,0.9s,baz=65,slow=5.4,SNR=8.3							
PRGR	**Permogore**	**126.35 338**	*e*	PKIKP	**PKPdf**	**08 37 03.1**	**-0.7**	
PRGR				pmax	pmax			
	comp=Z,26nm,1.2s							
KIRV	**Kirov**	**126.79 334**		PKP	**PKPdf**	**08 37 03.1**	**-1.6**	
	comp=Z,8.0nm,0.4s,baz=18,slow=1.9,SNR=8.4							
KLMR	**Klimovskoe**	**128.99 340**	*e*	PKIKP	**PKPdf**	**08 37 06.8**	**-2.0**	
KLMR			*e*			08 39 22.8		
KLMR			*e*	SS	SS	08 56 53.8	+20	
KLMR				pmax	pmax			
	comp=Z,34nm,1.3s							
KLMR				MLR	MLR			
	comp=Z,7µm,19.0s							
KLMR	**Klimovskoe**	**128.99 340**	*e*	PKPdf	**PKPdf**	**08 37 06.9**	**-1.9**	
KLMR				AMP		08 37 23.3		
	comp=Z,34nm,1.3s							
KLMR			*e*	PP	**PP**	**08 39 22.8**	**+6.8**	
KLMR			*e*	SS	SS	08 56 53.8	+20	
KLMR			*e*	SS	SS	08 56 53.8	+20	
KLMR				LQ	LQ	09 25 33.8		
KLMR				LQ	LQ	09 25 33.8		
KLMR				LR	LR	09 32 10.9		
KLMR				AMP		09 34 41.7		
	comp=Z,7µm,18.8s							
GEYT	**Alibeck**	**129.91 307**		PKP	**PKPdf**	**08 37 10.3**	**-1.1**	
	comp=Z,2.0nm,0.4s,baz=6.5,slow=6.4,SNR=6.0							
BELG	**Belogornoye**	**131.17 328**		PKP	**PKPdf**	**08 37 12.7**	**-0.5**	
	comp=Z,17nm,0.9s,baz=55,slow=23,SNR=6.6							
FINES	**FINESS Array B**	**132.08 348**		PKP	**PKPdf**	**08 37 14.4**	**-0.3**	
	comp=Z,4.1nm,0.9s,baz=75,slow=1.6,SNR=2.4							
FINES	**FINESS Array B**	**132.08 348**		PKIKP	**PKPdf**	**08 37 13.3**	**-1.4**	
FINES	**FINESS Array B**	**132.08 348**			**PKPdf**	**08 37 13.3**	**-1.4**	
BOSA	**Boshof**	**132.81 202**		PKP	**PKPdf**	**08 37 18.4**	**+1.1**	
	comp=Z,6.6nm,1.0s,baz=109,slow=1.2,SNR=6.9							
BOSA	**Boshof**	**132.81 202**			**PKPdf**	**08 37 19.6**	**+2.3**	
UOSS	**Minazif**	**133.16 290**			**PKPdf**	**08 37 15.8**	**-2.0**	
MOS	**Moscow**	**133.47 337**	*i*	PKIKP	**PKPdf**	**08 37 19.9**	**+2.4**	
MOS				pmax	pmax			
	comp=Z,53nm,0.7s							
OBN	**Obninsk**	**134.34 337**	*i*	PKIKP	**PKPdf**	**08 37 17.8**	**-1.3**	
OBN				pmax	pmax			
	comp=Z,12nm,0.9s							
NB2	**NORSAR Subarra1**	**134.37 357**		PKPdf	**PKPdf**	**08 37 19.1**	**0.0**	
	comp=Z,2.5nm,1.0s,baz=44,slow=2.0							
NOA	**NORSAR Array B**	**134.37 357**		PKP	**PKPdf**	**08 37 20.1**	**+1.0**	
	comp=Z,2.3nm,1.0s,baz=348,slow=2.1,SNR=5.1							
SOCY	**Socotra**	**134.41 272**			**PKPdf**	**08 37 19.4**	**-1.2**	
KONO	**Kongsberg**	**135.82 358**		IAMs_20	IAMs_20	09 40 48.0		
	comp=Z,5µm,20.0s							
MAK	**Makhachkala**	**135.95 317**	*i*	P	**Pdif**	**08 34 22.0**	**-4.5**	
MAK			*e*			08 40 00.0		
MAK			*e*	PPP	PPP	08 43 00.0		
MAK			*e*	SSS	SSS	09 02 57.5		
GROC	**Groznyy**	**136.95 318**	*e*	PKIKP	PKPdf	08 37 19.0	-5.4	
GROC			*e*			08 40 07.7		
GROC			*e*	PPP	PPP	08 43 09.9		
GROC			*e*			08 44 29.9		
GROC				pmax	pmax			
	comp=Z,27nm,0.5s							
NACGM	**Naroch**	**137.76 343**	*i*	PKP	**PKiKP**	**08 37 33.4**	**+5.9**	
NACGM	**Naroch**	**137.76 343**	*i*	PKP	**PKiKP**	**08 37 33.4**	**+5.9**	
NACGM	**Naroch**	**137.76 343**	*i*	PKP	**PKiKP**	**08 37 33.4**	**+5.9**	
NACGM	**Naroch**	**137.76 343**	*i*	PP	PP	08 40 16.1	+4.3	
NACGM	**Naroch**	**137.76 343**	*i*	SKP		08 41 09.4		
NACGM	**Naroch**	**137.76 343**	*i*	PPP	PPP	08 43 17.1		
NACGM	**Naroch**	**137.76 343**	*i*	SKS	**SKSdf**	**08 44 39.2**	**+3.6**	
NACGM	**Naroch**	**137.76 343**	*i*	SKKS		08 46 51.4		
NACGM	**Naroch**	**137.76 343**	*i*	PS	PS	08 49 19.5	-81	
NACGM	**Naroch**	**137.76 343**	*i*	SS	SS	08 58 26.2	+6.1	
NACGM	**Naroch**	**137.76 343**	*i*	SSS	SSS	09 03 33.5		
NACGM	**Naroch**	**137.76 343**	*i*	LQ	LQ	09 20 57.6		
NACGM	**Naroch**	**137.76 343**	*i*	LR	LR	09 28 20.2		
MNK	**Minsk**	**137.80 342**	*e*	PKIKP	**PKPdf**	**08 37 25.0**	**-0.6**	
MNK			*e*			08 37 26.0		
MNK			*e*			08 40 08.0		
MNK			*e*			08 50 30.0		
MNK			*e*			08 58 22.0		
MNK			*e*			09 03 24.0		
MNK				MLR	MLR			
	comp=E,3µm,23.0s							
MNK				MLR	MLR			
	comp=N,6µm,20.0s							
MNK				MLR	MLR			
	comp=Z,8µm,20.0s							
MNK	**Minsk**	**137.80 342**	*i*	LRM	MLR	09 37 34.7		
	comp=E,285nm,19.7s							
MNK	**Minsk**	**137.80 342**	*i*	PKP	**PKPdf**	**08 37 23.9**	**-1.7**	
	comp=Z,11nm,0.8s							
MNK	**Minsk**	**137.80 342**	*i*	PKP	**PKPdf**	**08 37 23.9**	**-1.7**	
	comp=N,12nm,0.8s							
MNK	**Minsk**	**137.80 342**	*i*	PKP	**PKPdf**	**08 37 23.9**	**-1.7**	
	comp=E,3.0nm,0.8s							
MNK	**Minsk**	**137.80 342**	*i*	PP	PP	08 40 04.2	-7.8	
MNK	**Minsk**	**137.80 342**	*i*	SKP		08 40 47.4		
MNK	**Minsk**	**137.80 342**	*i*	PKS		08 41 00.1		
MNK	**Minsk**	**137.80 342**	*i*	PPP	PPP	08 42 47.3		
MNK	**Minsk**	**137.80 342**	*i*	SKS	**SKSdf**	**08 44 34.6**	**-1.1**	
MNK	**Minsk**	**137.80 342**	*i*	SP	SP	08 50 13.6	-23	
MNK	**Minsk**	**137.80 342**	*i*	PS	PS	08 50 38.8	-1.9	
MNK	**Minsk**	**137.80 342**	*i*	SKKS		08 54 19.5		
MNK	**Minsk**	**137.80 342**	*i*	SS	SS	08 58 17.9	-2.7	
MNK	**Minsk**	**137.80 342**	*i*	SSS	SSS	09 03 14.5		
MNK	**Minsk**	**137.80 342**	*i*	LQ	LQ	09 10 11.2		
MNK	**Minsk**	**137.80 342**	*i*	LQ	LQ	09 27 11.3		
MNK	**Minsk**	**137.80 342**	*i*	LR	LR	09 32 13.9		
MNK	**Minsk**	**137.80 342**	*i*	LRM	MLR	09 37 34.7		
	comp=Z,5µm,19.7s							
MNK	**Minsk**	**137.80 342**	*i*	LRM	MLR	09 37 34.7		
	comp=N,3µm,19.7s							
KIV	**Kislovodsk**	**138.53 321**	*i*	PKIKP	**PKPdf**	**08 37 27.6**	**+0.2**	
KIV			*e*			08 40 16.4		
KIV			*e*	SS	SS	08 58 30.8	0.0	
KIV				pmax	pmax			
	comp=Z,14nm,1.0s							
KIV	**Kislovodsk**	**138.53 321**		IAMs_20	IAMs_20	09 47 13.4		
	comp=Z,7µm,18.0s							
GNI	**Garni**	**139.04 314**		IAMs_20	IAMs_20	09 40 48.7		
	comp=Z,6µm,21.0s							
COP	**Copenhagen**	**139.62 355**	*i*			08 40 22.9		
COP	**Copenhagen**	**139.62 355**	*e*	PKHKP	PKPpre	08 37 21.7		
COP			*i*			08 40 22.9		
COP	**Copenhagen**	**139.62 355**	*i*			08 40 23.0		
COP	**Copenhagen**	**139.62 355**	*e*	P	PKPpre	08 37 21.8		
COP	**Copenhagen**	**139.62 355**	*i*	P	PKPpre	08 37 21.7		
SENK	**Senkaya-Erzuru**	**140.47 316**	*e*	P	**PKPdf**	**08 37 29.1**	**-2.1**	
SOC	**Sochi**	**140.53 322**	*c*	PKIKP	**PKPdf**	**08 37 28.9**	**-2.0**	
SOC			*i*			08 40 26.8		
SOC			*e*	PPP	PPP	08 43 32.0		
SOC			*e*	SS	SS	08 58 59.2	+5.2	
SOC			*e*	SSS	SSS	09 04 10.2		
SOC				pmax	pmax			
	comp=Z,17nm,0.6s							
SOC				MLR	MLR			
	comp=Z,8µm,21.0s							
AKASG	**Malin Array Be**	**140.56 338**		PKP	**PKPdf**	**08 37 29.4**	**-1.4**	
	comp=Z,5.2nm,0.8s,baz=37,slow=2.1,SNR=15							
AKASG				PP	**PP**	**08 40 28.1**	**-1.1**	
	comp=Z,0.9nm,0.6s,baz=38,slow=6.8,SNR=4.6							
AKASG	**Malin Array Be**	**140.56 338**		PKIKP	**PKPdf**	**08 37 26.8**	**-3.9**	
AKASG	**Malin Array Be**	**140.56 338**			**PKPdf**	**08 37 26.8**	**-3.9**	
AKBB	**Malin Array Si**	**140.56 338**		PKIKP	**PKPdf**	**08 37 28.3**	**-2.4**	
AKBB	**Malin Array Si**	**140.56 338**			**PKPdf**	**08 37 28.3**	**-2.4**	
VANB	**Van**	**140.66 313**	*e*	P	**PKPdf**	**08 37 30.7**	**-0.8**	
RGN	**Rugen**	**140.68 354**		IAMs_20	IAMs_20	09 43 06.1		
	comp=Z,7µm,19.0s							
MLAZ	**Malazgirt-MUS**	**141.01 314**	*e*	P	**PKPdf**	**08 37 31.5**	**-0.7**	
ANN	**Anapa**	**141.11 325**	*i*	PKHKP	PKPdf	08 37 25.9	-6.0	
ANN			*e*			08 37 29.1		
ANN			*e*			08 40 31.5		
ANN			*e*	PPP	PPP	08 43 43.3		
ANN			*e*			08 44 38.4		
ANN			*e*	SS	SS	08 59 07.2	+6.8	
ANN			*e*	SSS	SSS	09 04 17.9		
ANN				pmax	pmax			
	comp=E,13nm,1.2s							
ANN				pmax	pmax			
	comp=Z,44nm,1.2s							
ANN				pmax	pmax			
	comp=N,22nm,0.9s							
ANN				MLR	MLR			
	comp=Z,5µm,21.0s							
ANN				MLR	MLR			
	comp=E,5µm,24.0s							
ANN				MLR	MLR			
	comp=N,6µm,16.0s							
BSEG	**Bad Segeberg**	**141.51 357**	*e*	L	L	09 39 29.5		
	comp=N,8µm,20.8s							
VRTB	**Varto-Mus**	**141.75 315**	*e*	P	**PKPdf**	**08 37 35.3**	**+1.8**	
YEDI	**Yedisu-Bingol**	**142.23 316**	*e*	P	**PKPdf**	**08 37 30.9**	**-3.5**	
BNGB	**Bingl**	**142.36 315**	*e*	P	**PKPdf**	**08 37 32.1**	**-2.4**	
SVAN	**Silvan-Diyarba**	**142.40 314**	*e*	P	**PKPdf**	**08 37 29.7**	**-4.8**	
RAYN	**Ar Rayn**	**143.00 289**		PKIKP		08 37 32.8		
RAYN	**Ar Rayn**	**143.00 289**				08 37 32.8		
RAYN				IAMs_20	IAMs_20	09 24 05.1		
	comp=Z,6µm,22.0s							
LSZ	**Lusaka**	**143.04 215**		PKIKP	PKPab	08 37 33.7	+2.1	
LSZ				MLR	MLR			
	comp=Z,12µm,20.0s							
LSZ	**Lusaka**	**143.04 215**			PKPab	08 37 33.7	+2.1	
LVV	**L'vov**	**143.05 342**	*e*	PKHKP	PKPdf	08 37 28.7	-6.5	
LVV			*e*			08 40 40.4		
LVV			*e*			08 44 43.6		
MARD	**Mardin**	**143.08 313**			PKPab	08 37 32.9	+1.7	
DYBB	**Diyarbakir**	**143.23 314**	*e*	P	PKPab	08 37 33.6	+1.8	
KIS	**Kishinev**	**143.72 335**	⇓ *i*	PKP	PKPab	08 37 25.0	-8.2	
	comp=Z,900nm,9.6s							
KIS	**Kishinev**	**143.72 335**	*e*	PP	PP	08 40 45.0	-3.5	
KIS			*e*	LR	LR	09 36 39.0		
	comp=Z,1µm,20.0s							
KIS	**Kishinev**	**143.72 335**	*c*	PKHKP	PKPab	08 37 25.0	-8.2	
KIS			*e*			08 40 45.0		
KIS				pmax	pmax			
	comp=Z,900nm,9.6s							
KIS				MLR	MLR			
	comp=Z,3µm,19.0s							
OJC	**Ojcow**	**143.81 346**	*e*	PKP	PKPab	08 37 33.6	+0.1	
ITZ	**Itezhi-Tezhi**	**143.81 212**	*e*	P	PKPab	08 37 22.3	-12	
RSDY	**Resadiye-TOKAT**	**143.81 319**	*e*	P	PKPab	08 37 36.0	+2.1	
CLL	**Collm**	**143.91 354**	*e*	PKPdf	PKPab	08 37 34.0	+0.2	
	comp=Z,14nm,1.1s							
CLL			*es*	PKPdf	pPKPdf	08 37 41.0	+0.2	
	comp=Z,83nm,1.9s							
CLL			*e*	PKPlp		08 37 54.0		
	comp=Z,2µm,20.5s							
CLL			*e*	PP	**PP**	**08 40 48.0**	**-1.2**	
CLL			*i*	SKPdf	**SKPdf**	**08 41 09.0**	**-1.7**	
	comp=Z,43nm,1.7s							
CLL			*e*	PPP	PPP	08 44 00.0		
CLL			*e*	Sdif	**Sdif**	**08 49 36.0**	**+9.1**	
CLL			*e*	PSKS		08 51 06.0		
CLL			*e*			08 52 42.0		
CLL			*e*	PPS	PPS	08 53 18.0		
CLL			*e*	SS	SS	08 59 24.0	-7.6	
CLL			*e*	SSS	SSS	09 05 00.0		
CLL				Lm	MLR	09 46 00.0		
	comp=N,6µm,19.6s							
CLL				Lm	MLR	09 46 00.0		
	comp=E,2µm,21.3s							
CLL				Lm	MLR	09 46 00.0		
	comp=Z,9µm,19.8s							
CLL	**Collm**	**143.91 354**	*e*	PKIKP	PKPab	08 37 34.0	+0.2	
CLL			*e*			08 37 41.0		
CLL			*e*			08 40 48.0		
CLL				pmax	pmax			
	comp=Z,14nm,1.1s							
CLL				MLR	MLR			
	comp=Z,9µm,19.8s							
CLL	**Collm**	**143.91 354**			PKPab	08 37 34.7	+0.9	
CLL	**Collm**	**143.91 354**	*eL*		L	09 45 57.7		
	comp=Z,9µm,19.8s							
KSP	**Ksiaz**	**143.91 350**	*e*	PKP	PKPab	08 37 33.8	-0.1	
SNOP	**Sinop**	**144.12 323**	*e*	P	**PKPab**	**08 37 36.3**	**+1.4**	
STHS	**Stebnicka Huta**	**144.20 344**	*e*	PKIKP	**PKPab**	**08 37 37.5**	**+2.5**	
STHS	**Stebnicka Huta**	**144.20 344**	*e*	PKP	**PKPab**	**08 37 37.5**	**+2.5**	
CHVC	**Chvalec**	**144.20 350**		AMS	AMS	09 39 40.0		
	comp=Z,7µm,22.1s							
KVT	**Kavak**	**144.20 321**	*e*	P	**PKPab**	**08 37 37.3**	**+1.9**	
OSTC	**Ostas**	**144.20 350**	*e*	PKP	**PKPab**	**08 37 36.5**	**+1.5**	
OSTC				AMS	AMS	09 39 40.0		
	comp=Z,8µm,22.2s							
MALT	**Malatya**	**144.23 316**	*e*	P	**PKPab**	**08 37 37.2**	**+1.6**	
BRG	**Berggiesshubel**	**144.23 353**	*e*	PKP	**PKiKP**	**08 37 41.8**	**+1.0**	
BRG				Amp		08 37 46.3		
	comp=Z,13nm,0.9s							
UPC	**Upice**	**144.28 350**		AMS	AMS	09 39 30.0		
	comp=Z,8µm,22.4s							
SVSK	**Karacayir**	**144.30 319**	*e*	P	**PKPab**	**08 37 37.2**	**+1.6**	
DIKM	**Dikmen**	**144.32 323**	⇑ *e*	P	**PKPab**	**08 37 38.2**	**+2.5**	
DIKM	**Dikmen**	**144.32 323**	*e*	P	**PKPab**	**08 37 37.1**	**+1.4**	
TOKT	**Tokat**	**144.35 320**	*e*	P	**PKPab**	**08 37 36.8**	**+0.9**	
KOLS	**Kolonicke sedl**	**144.35 343**	*e*	PKIKP	**PKPab**	**08 37 37.7**	**+2.1**	
KOLS	**Kolonicke sedl**	**144.35 343**	*e*	PKP	**PKPab**	**08 37 37.7**	**+2.1**	
DPC	**Dobruska-Polom**	**144.39 350**	*e*	PKIKP	**PKPab**	**08 37 37.0**	**+1.3**	
DPC				MLR	MLR			
	comp=Z,8µm,20.0s							
DPC	**Dobruska-Polom**	**144.39 350**	*e*	PKP	**PKPab**	**08 37 37.0**	**+1.3**	
DPC				AMS	AMS	09 39 50.0		
	comp=Z,8µm,20.0s							
URFA	**Urfa**	**144.39 314**	*e*	P	**PKPab**	**08 37 36.8**	**+0.6**	
NIE	**Niedzica**	**144.44 345**	*e*	PKP	**PKPab**	**08 37 36.7**	**+0.8**	
PVCC	**Panska Ves**	**144.48 352**		AMS	AMS	09 44 10.0		
	comp=Z,8µm,20.2s							
OKC	**Ostrava-Krasne**	**144.53 348**		AMS	AMS	09 42 20.0		
	comp=Z,6µm,17.8s							
BUR08	**Bucovina Ar. S**	**144.56 339**		PKPdf	**PKPab**	**08 37 36.1**	**-0.5**	
KRLC	**Kraliky**	**144.57 349**		AMS	AMS	09 40 20.0		
	comp=Z,8µm,19.9s							
BURAR	**Bucovina Array**	**144.58 339**	⇑	P	**PKPab**	**08 37 36.9**	**+0.3**	
BURAR	**Bucovina Array**	**144.58 339**	⇑	PKIKP	**PKPab**	**08 37 36.9**	**+0.3**	
BURAR	**Bucovina Array**	**144.58 339**			**PKPab**	**08 37 37.1**	**+0.5**	
CRVS	**Cervenica-Dubn**	**144.61 344**	*e*	PKIKP	**PKPab**	**08 37 37.9**	**+1.3**	
CRVS	**Cervenica-Dubn**	**144.61 344**	*e*	PKP	**PKPab**	**08 37 37.9**	**+1.3**	
UZH	**Uzhgorod**	**144.62 343**	*e*	PKIKP	**PKPab**	**08 37 35.7**	**-0.9**	
UZH			*e*			08 37 38.8		
UZH				MLR	MLR			
	comp=N,1µm,18.0s							
UZH				MLR	MLR			
	comp=E,2µm,18.0s							
UZH				MLR	MLR			
	comp=Z,1µm,18.0s							
UCC	**Uccle**	**144.66 3**	*d*	PKP	**PKPab**	**08 37 36.2**	**-0.4**	
MOX	**Moxa**	**144.69 355**	*e*	PKPbc	**PKPab**	**08 37 36.9**	**+0.1**	
	baz=7.1,slow=3.2							
MOX			*eL*		L	09 45 41.8		
	comp=Z,10µm,19.2s							
MORC	**Moravsky Berou**	**144.71 348**	*e*	PKP	**PKPab**	**08 37 37.0**	**0.0**	
MORC	**Moravsky Berou**	**144.71 348**		PKIKP	**PKPab**	**08 37 37.2**	**+0.2**	
MORC	**Moravsky Berou**	**144.71 348**			**PKPab**	**08 37 37.2**	**+0.2**	
DARE	**Darende-Malaty**	**144.72 317**	*e*	P	**PKPab**	**08 37 39.1**	**+1.7**	
PLN	**Plauen**	**144.81 354**	*e*	PKPbc	**PKPab**	**08 37 37.4**	**+0.2**	
	baz=7.1,slow=3.2							
BIZ	**Bicaz**	**144.83 337**	⇓	P	**PKPab**	**08 37 38.4**	**+1.0**	
BZK	**Bozkurt**	**144.85 324**	⇑	P	**PKPab**	**08 37 39.0**	**+1.4**	
BZK	**Bozkurt**	**144.85 324**	*e*	P	**PKPab**	**08 37 38.8**	**+1.2**	
LANS	**Liptovska Anna**	**144.89 346**	*e*	PKIKP	**PKPab**	**08 37 39.1**	**+1.5**	
LANS	**Liptovska Anna**	**144.89 346**	*e*	PKP	**PKPab**	**08 37 39.1**	**+1.5**	
GUNZ	**Gunzen**	**144.91 354**	*e*	PKPbc	**PKPab**	**08 37 38.1**	**+0.4**	
	baz=7.1,slow=3.2							
MEM	**Membach**	**144.91 1**	*d*	PKP	**PKPab**	**08 37 36.9**	**-0.7**	
BSTI	**Sart Tilman**	**144.93 2**	*d*	PKP	**PKPab**	**08 37 37.9**	**+0.3**	
BTNL	**Ternell**	**144.94 1**	*d*	PKP	**PKPab**	**08 37 37.7**	**0.0**	
BTNL			*dk*		x	08 37 47.3		
SNF	**Seneffe**	**144.95 3**	*d*	PKP	**PKPab**	**08 37 38.2**	**+0.5**	
PRA	**Prague**	**144.95 352**		AMS	AMS	09 43 10.0		
	comp=Z,9µm,20.0s							
TESR	**Tescani**	**144.98 336**	⇓	P	**PKPab**	**08 37 38.1**	**+0.1**	
WERN	**Wernitzgruen**	**144.98 354**	*e*	PKPbc	**PKPab**	**08 37 38.3**	**+0.4**	
	baz=7.1,slow=3.2							
PRU	**Pruhonice**	**145.01 352**	*e*	PKIKP	**PKPbc**	**08 37 38.9**	**+0.9**	
PRU				MLR	MLR			
	comp=Z,9µm,21.7s							
PRU	**Pruhonice**	**145.01 352**	*e*	PKP	**PKPbc**	**08 37 38.9**	**+0.9**	
PRU				AMS	AMS	09 39 50.0		
	comp=Z,9µm,21.7s							
NKC	**Novy Kostel**	**145.03 354**	*e*	PKIKP	**PKPbc**	**08 37 38.6**	**+0.6**	
NKC				MLR	MLR			
	comp=Z,10µm,19.0s							
NKC	**Novy Kostel**	**145.03 354**	*e*	PKP	**PKPbc**	**08 37 38.6**	**+0.6**	
NKC				AMS	AMS	09 45 40.0		
	comp=Z,10µm,19.0s							
BCLA	**Clavier**	**145.08 2**	*d*	PKP	**PKPbc**	**08 37 38.4**	**+0.3**	
BGES	**Gesves**	**145.11 2**	*d*	PKP	**PKPbc**	**08 37 38.0**	**-0.2**	
TLCR		**145.15 333**	⇑	P	**PKPbc**	**08 37 39.6**	**+1.1**	
TLCR		**145.15 333**	⇑	PKIKP	**PKPbc**	**08 37 39.6**	**+1.1**	
BHOU	**Houvegnez**	**145.16 1**	*d*	PKP	**PKPbc**	**08 37 38.0**	**-0.4**	
BHOU			*dk*		x	08 37 48.5		
BMRD	**Maredsous**	**145.18 3**	*d*	PKP	**PKPbc**	**08 37 38.5**	**0.0**	
BMRD			*dk*		x	08 37 48.2		
BMRD			*dk*		x	08 37 56.1		
KECS	**Kecovo**	**145.25 344**	*e*	PKIKP	**PKPbc**	**08 37 39.6**	**+0.8**	
KECS	**Kecovo**	**145.25 344**	*e*	PKP	**PKPbc**	**08 37 39.6**	**+0.8**	
TNS	**Taunus Mts**	**145.29 358**	*e*	PKPbc	**PKPbc**	**08 37 39.1**	**+0.2**	
	baz=7.1,slow=3.2							
TNS			*eL*		L	09 45 41.7		
	comp=Z,9µm,19.6s							
MANZ	**Manzenberg**	**145.30 354**	*e*	PKPbc	**PKPbc**	**08 37 39.0**	**+0.1**	
	baz=7.1,slow=3.2							
ARCR	**ARCALIA**	**145.34 339**	⇑	P	**PKPbc**	**08 37 40.0**	**+0.9**	
VRAC	**Vranov**	**145.34 349**	⇑	P	**PKPbc**	**08 37 40.7**	**+1.6**	
VRAC	**Vranov**	**145.34 349**	*e*	PKP	**PKPbc**	**08 37 38.9**	**-0.2**	
VRAC	**Vranov**	**145.34 349**	⇑	PKIKP	**PKPbc**	**08 37 40.7**	**+1.6**	
DOU	**Dourbes**	**145.38 3**	*d*	PKP	**PKPbc**	**08 37 38.9**	**-0.3**	
PBCC	**Pribram**	**145.38 352**	*e*	PKP	**PKPbc**	**08 37 39.4**	**+0.2**	
PETR	**Petresti**	**145.39 335**	⇑	P	**PKPbc**	**08 37 41.3**	**+2.0**	
ODBI	**Odobesti**	**145.43 335**	⇑	P	**PKPbc**	**08 37 39.4**	**-0.1**	
CFR	**Carcaliu**	**145.45 333**	⇑	P	**PKPbc**	**08 37 39.8**	**+0.3**	
CFR	**Carcaliu**	**145.45 333**	⇑	PKIKP	**PKPbc**	**08 37 39.8**	**+0.3**	
VRI	**Vrincioaia**	**145.48 336**	⇑	P	**PKPdf**	**08 37 40.0**	**+0.3**	
VRI	**Vrincioaia**	**145.48 336**	⇑	PKIKP	**PKPdf**	**08 37 40.0**	**+0.3**	
ROTZ	**Rotzenmuhle**	**145.51 354**	*e*	PKPbc	**PKPdf**	**08 37 40.1**	**+0.5**	
	baz=7.1,slow=3.2							
SARI	**SarD1z-Kayseri**	**145.51 317**	*e*	P	**PKPdf**	**08 37 40.0**	**-0.1**	
PLOR	**Plostina**	**145.52 336**	⇑	P	**PKPdf**	**08 37 40.2**	**+0.4**	
PLOR	**Plostina**	**145.52 336**	⇑	PKIKP	**PKPdf**	**08 37 40.2**	**+0.4**	
TREC	**Trest**	**145.55 350**		AMS	AMS	09 47 10.0		
	comp=Z,8µm,20.4s							
JAVC	**Velka Javorina**	**145.56 348**	*e*	PKP	**PKPdf**	**08 37 41.1**	**+1.4**	
TPGR	**Topolog**	**145.58 333**	⇑	P	**PKPdf**	**08 37 40.8**	**+0.9**	
ILGA	**Ilgaz**	**145.60 323**			**PKPdf**	**08 37 40.5**	**+0.2**	
CORM	**Corum**	**145.61 321**	*e*	P	**PKPdf**	**08 37 42.0**	**+1.8**	
KRUC	**Moravsky**	**145.61 349**	*e*	PKP	**PKPdf**	**08 37 40.0**	**+0.3**	
KURC	**Kurucasile-Bar**	**145.63 325**	*e*	P	**PKPdf**	**08 37 38.2**	**-1.8**	
BNN	**Bunyan**	**145.63 318**	*e*	P	**PKPdf**	**08 37 40.1**	**-0.2**	
GAZ	**Gaziantep**	**145.64 315**	*e*	P	**PKPdf**	**08 37 41.5**	**+1.2**	
GAZ	**Gaziantep**	**145.64 315**			**PKPdf**	**08 37 41.4**	**+1.1**	
VYHS	**Vyhne**	**145.65 346**	*e*	PKIKP	**PKPdf**	**08 37 40.7**	**+0.9**	
VYHS	**Vyhne**	**145.65 346**	*e*	PKP	**PKPdf**	**08 37 40.6**	**+0.8**	
GRA1

BFO	Black Forest	147.19	358	ePKPbc	PKPdf	08 37 45.0 +2.5
	baz=7.1,slow=3.2					
BFO				eL	L	09 47 55.7
	comp=Z,5μm,20.8s					
CLF	Chambon-Foret	147.26	6		PKPdf	08 37 43.4 +0.9
KULU	Kulu	147.30	321	eP	PKPdf	08 37 46.5 +3.4
ECH	Echery	147.32	360	PKP2	PKPdf	08 37 44.1 +1.4
ECH	Echery	147.32	360		PKPdf	08 37 44.1 +1.4
GZR	Gura Zlata	147.35	339	⇑P	PKPdf	08 37 44.9 +2.0
GZR	Gura Zlata	147.35	339	⇑PKP2	PKPdf	08 37 44.9 +2.0
MDUB	Mudurnu	147.42	325	eP	PKPdf	08 37 45.4 +2.2
MDUB	Mudurnu	147.42	325		PKPdf	08 37 45.1 +1.9
RAZG	Razgrad	147.44	333	⇑P	PKPdf	08 37 45.9 +2.8
RJOB	Jochberg	147.45	353	ePKPbc	PKPdf	08 37 45.9 +2.9
	baz=7.1,slow=3.2					
ARSA	Arzberg	147.52	349	eP	PKPdf	08 37 45.5 +2.4
	comp=Z,6.5nm,0.7s,SNR=9.5					
BZS	Buzias	147.53	341	⇑P	PKPdf	08 37 43.4 +0.3
BZS	Buzias	147.53	341	⇑PKP2	PKPdf	08 37 43.4 +0.3
YESY	Yesilyurt	147.60	318	eP	PKPdf	08 37 47.2 +3.6
MERS	Mersin	147.62	316	eP	PKPdf	08 37 47.1 +3.5
CHBY	Cihanbeyli	147.65	320	eP	PKPdf	08 37 46.6 +2.9
SAUV	Serdivan-Sakar	147.71	326	eP	PKPdf	08 37 45.8 +2.3
SILT	Sile	147.78	327	eP	PKPdf	08 37 45.6 +2.0
GULT	Gulveren	147.82	325	eP	PKPdf	08 37 47.6 +3.8
MORH	Mrgy, Hungar	147.83	345	⇑P	PKPdf	08 37 44.7 +1.2
MORH	Mrgy, Hungar	147.83	345	eP	PKPdf	08 37 42.8 -0.7
RETA	Reutte	147.90	355	eP	PKPdf	08 37 47.0 +3.2
	comp=Z,65nm,1.3s,SNR=18					
SVRH	Sivrihisar-ESK	147.92	323	eP	PKPdf	08 37 47.8 +3.7
HERR	Herculane	147.92	339	⇑P	PKPdf	08 37 45.8 +2.1
WATA	Walderalm	147.98	354	eP	PKPdf	08 37 47.1 +3.1
	comp=Z,48nm,1.2s,SNR=15					
HRT	Hereke	148.00	327	eP	PKPdf	08 37 47.9 +3.8
MOTA	Moosalm	148.01	355	eP	PKPdf	08 37 47.2 +3.2
	comp=Z,54nm,1.2s,SNR=17					
KBA	Koelnbreinsper	148.03	352	eP	PKPdf	08 37 46.7 +2.6
	comp=Z,24nm,1.3s,SNR=7.8					
WTTA	Wattenberg	148.04	354	eP	PKPdf	08 37 47.4 +3.3
	comp=Z,52nm,1.3s,SNR=9.5					
KIZK	Mersin	148.09	316	eP	PKPdf	08 37 47.2 +2.9
SQTA	Sankt Quirin	148.13	355	eP	PKPdf	08 37 47.7 +3.5
	comp=Z,84nm,1.6s,SNR=9.6					
ISK	Istanbul-Kandi	148.15	328	eP	PKPdf	08 37 44.9 +0.7
KAVV	Kandilli-Istan	148.15	328	eP	PKPdf	08 37 47.6 +3.4
SOKA	Soboth	148.16	350	eP	PKPdf	08 37 47.2 +3.0
	comp=Z,40nm,1.3s,SNR=15					
DAVA	Damuels	148.16	356	eP	PKPdf	08 37 47.9 +3.6
	comp=Z,61nm,1.1s,SNR=13					
PERS	Pernice	148.18	349	*i* PKiKP	PKPdf	08 37 47.1 +2.9
BGKT	Bogazkoy	148.21	328	eP	PKPdf	08 37 48.2 +3.9
LADK	Ladik-KONYA	148.21	320	eP	PKPdf	08 37 43.3 -1.3
CTYL	Yalikoy Yolu	148.24	329	eP	PKPdf	08 37 46.0 +1.7
CIFT	Cifteler, Eski	148.24	323	eP	PKPdf	08 37 48.4 +3.8
MDVR	Moldovita	148.24	340	⇑P	PKPdf	08 37 45.5 +1.2
ADVT	Abdulvahap	148.24	326	eP	PKPdf	08 37 48.3 +3.9
SILI	Silifke-Mersin	148.30	316	eP	PKPbc	08 37 48.9 +0.9
CTKS	Kestanelik-??a	148.30	328	eP	PKPdf	08 37 46.6 +2.1
YLV	Yalova	148.34	327	eP	PKPdf	08 37 47.8 +3.1
FETA	Feichten	148.37	355	eP	PKPdf	08 37 48.7 +4.0
	comp=Z,34nm,1.1s,SNR=8.9					
KONT	Konya--Tatoy	148.37	320	eP	PKPbc	08 37 49.5 +1.3
PLVB	Pleven	148.38	335	⇑P	PKPdf	08 37 47.0 +2.5
OBKA	Obir	148.40	350	eP	PKPdf	08 37 47.8 +3.1
	comp=Z,38nm,1.5s					
MYKA	Terra Mystica	148.43	351	eP	PKPdf	08 37 47.4 +2.8
	comp=Z,38nm,1.2s,SNR=13					
SLVT	Silivri	148.46	329	eP	PKPdf	08 37 47.0 +2.3
ABTA	Abfaltersbach	148.46	353	eP	PKPdf	08 37 47.9 +3.2
	comp=Z,39nm,1.2s,SNR=19					
FRGS	Fruska Gora	148.49	343	⇑P	PKPdf	08 37 48.1 +3.4
FRGS	Fruska Gora	148.49	343	eP	PKPdf	08 37 45.7 +1.0
PHSR	Pinarhisar	148.49	340	eP	PKPbc	08 37 49.3 +0.9
IKL	Isikli	148.53	316	eP	PKPdf	08 37 45.1 +0.1
GEMT	Gemlik	148.53	327	eP	PKPdf	08 37 48.2 +3.3
TEVE	Tevekalti-Mers	148.58	317	eP	PKPbc	08 37 49.8 +0.9
EREN	Erenkoy	148.59	315	eP	PKPdf	08 37 49.5 +4.4
ZOU	Zoufplan	148.59	352	PKPbc	PKPdf	08 37 46.7 +1.7
AKKU	Akkuyu-Mersin	148.66	316	eP	PKPdf	08 37 49.4 +4.2
EDRB	Edirne	148.69	331	eP	PKPdf	08 37 49.3 +4.2
MDNY	Mudanya-Bursa	148.74	327	eP	PKPdf	08 37 47.4 +2.2
BERE	Bereket-Mersin	148.77	317	eP	PKPbc	08 37 50.1 +0.6
LJU	Ljubljana	148.86	350	*i* PKiKP	PKPdf	08 37 49.2 +3.9
CRES	Cresnjev	148.90	349	eP	PKPdf	08 37 48.6 +3.2
MMAI	Mount Meron Ar	148.96	309	PKPbc	PKPbc	08 37 50.6 +0.7
	comp=Z,32nm,0.9s,baz=57,slow=5.3,SNR=17					
TEKE	Tekeli-Mersin	148.96	316	eP	PKPdf	08 37 50.0 +4.3
GBAS	Gorenja Brezov	148.98	350	*i* PKiKP	PKPdf	08 37 49.4 +3.9
TUE	Stuetta	149.00	357	PKPbc	PKPdf	08 37 49.4 +3.3
SHUT	Suhut-Afyon	149.08	323	eP	PKPdf	08 37 46.9 +0.9
TVSB	Tavsanli	149.09	325	eP	PKPdf	08 37 49.9 +3.9
KCTX	Karacabey (Bur	149.10	327	eP	PKPbc	08 37 50.5 +0.5
OZLJ	Ozalj	149.10	349	*i* P	PKPdf	08 37 46.7 +1.1
SENIN	Lac Senin/Sane	149.17	360		PKPdf	08 37 50.1 +4.1
CEY	Cerknica	149.17	350	eP	PKPdf	08 37 47.1 +1.3
MRMT	Marmara Adasi	149.24	329	eP	PKPdf	08 37 47.8 +1.7
CTI	Castel Tesino	149.25	354	PKP2	PKPdf	08 37 49.6 +3.6
CTI	Castel Tesino	149.25	354		PKPdf	08 37 49.6 +3.6
CTI				IAMs_20	IAMs_20	09 49 39.9
	comp=Z,7μm,20.0s					
EDC	Edincik	149.29	328	eP	PKPdf	08 37 48.4 +2.3
TRI	Trieste	149.31	351	PKP2	PKPdf	08 37 50.1 +4.1
TRI	Trieste	149.31	351	PKPbc	PKPdf	08 37 50.1 +4.1
RKY	Sarkoy-Tekirda	149.38	329	eP	PKPdf	08 37 48.4 +2.1
DIVS	Divibare	149.40	342	eP	PKPdf	08 37 48.3 +3.0
GAZI	Gazipasa	149.44	317	eP	PKPdf	08 37 50.8 +4.3
CSS	Mathiatis	149.47	314		PKPbc	08 37 51.4 +0.4
BLY	Banja Luka	149.56	346	eP	PKPdf	08 37 50.8 +4.4
VTS	Vitosha	149.57	336	⇓P	PKPdf	08 37 50.3 +3.6
VTS	Vitosha	149.57	336	⇓PKP2	PKPdf	08 37 50.3 +3.6
VTS	Vitosha	149.57	336		PKPbc	08 37 51.9 +0.6
LEF	Lefka	149.69	315	⇑P	PKPbc	08 37 52.1 +0.6
LEF	Lefka	149.69	315	eP	PKPdf	08 37 46.2 -0.7
ERIK	Erikli-Kesan	149.72	330	eP	PKPdf	08 37 47.8 +1.0
HAPS	Han Pijesak,BI	149.72	343	eP	PKPbc	08 37 52.1 +0.6
ALN	Alexandroupoli	149.76	331	PKP2	PKPbc	08 37 51.8 +0.2
ALN	Alexandroupoli	149.76	331		PKPbc	08 37 51.8 +0.2
SALO	Salr	149.78	355		PKPdf	08 37 51.5 +4.7
BBLS	Lazići	149.79	342	eP	PKPdf	08 37 50.6 +3.7
LPK	Lapseki	149.83	329	eP	PKPdf	08 37 47.6 +0.6
ENEZ	Enez	149.84	330	eP	PKPdf	08 37 49.3 +2.3
MGRS	Mrkonjic Grad	149.90	346	eP	PKPbc	08 37 52.3 +0.5
GELI	Tayfur-Gelibol	149.95	330	eP	PKPdf	08 37 47.6 +0.5
UDBI	Udbina	150.09	348	*i* P	PKPdf	08 37 50.9 +3.6
SSB	Saint Sauveur	150.18	4	PKIKP	PKPbc	08 37 53.4 +0.9
SSB						08 37 59.1
SSB	Saint Sauveur	150.18	4		PKPbc	08 37 53.4 +0.9
SSB				PKPab	sPKPbc	08 37 59.1 +1.1
KULA	Kula-Manisa	150.19	325	eP	PKPdf	08 37 48.2 +0.5
KORT	Korkueli	150.21	320	eP	PKPdf	08 37 52.7 +4.8
MANT	Manisa	150.26	325		PKPdf	08 37 53.0 +4.9
PLE	Pljevlja	150.28	342	ePKP	PKPdf	08 37 50.7 +2.9
SACV	Santiago Islan	150.38	87	IAMs_20	IAMs_20	09 59 38.5
	comp=Z,6μm,19.0s					
GADA	Gvkgeada	150.39	330	eP	PKPdf	08 37 49.9 +2.1
PGAV	Gavieira, Arco	150.43	24	ePKPbc	PKPbc	08 37 55.1 +1.8
KIJV	Kijevo	150.44	346	*i* P	PKPdf	08 37 47.1 -0.8
EZN	Ezine	150.46	329	eP	PKPdf	08 37 52.7 +4.7
BNI	Bardonecchia	150.48	1	PKIKP	PKPbc	08 37 54.7 +1.3
BNI	Bardonecchia	150.48	1		PKPbc	08 37 54.7 +1.3
IVA	Berane	150.54	341	ePKP	PKPdf	08 37 51.1 +3.0
UPM	Unac-Piva	150.54	342	eP	PKPdf	08 37 52.3 +4.0
UPM	Unac-Piva	150.54	342	ePKP	PKPdf	08 37 51.5 +3.2
BOZC	Bozcaada	150.58	329	eP	PKPdf	08 37 50.1 +1.9
ELL	Elmali	150.64	321	eP	PKPdf	08 37 49.7 +1.2
ELL	Elmali	150.64	321	PKIKP	PKPbc	08 37 54.3 +0.3
ELL	Elmali	150.64	321		PKPbc	08 37 54.3 +0.3
KOME	Kolasin	150.68	341	ePKP	PKPdf	08 37 47.8 -0.6
DKL	Dikili	150.73	327	eP	PKPbc	08 37 54.4 +0.5
MORI	Morici	150.73	347	*i* P	PKPdf	08 37 51.9 +3.6
PCAB	Cabril	150.74	24	ePKPbc	PKPbc	08 37 54.7 +0.7
PCAB	Cabril	150.74	24	ePKPab	PKPab	08 38 01.1 +0.2
DUGI	Dugi Otok	150.75	348	*i* P	PKPdf	08 37 48.4 +0.1
RICI	Ricice	150.75	345	P	PKPdf	08 37 50.4 +2.0
STIP	Stip	150.77	336	*i* P	PKPbc	08 37 53.0 -0.2
SKO	Skopje	150.81	338	*i* P	PKPbc	08 37 55.0 +0.9
NKY	Niksic	150.87	342	ePKP	PKPdf	08 37 48.7 0.0
BRY	Bratogost	150.92	343	eP	PKPdf	08 37 52.6 +3.8
BRY	Bratogost	150.92	343	ePKP	PKPdf	08 37 52.1 +3.3
NKME	Niksic	150.93	342	ePKP	PKPdf	08 37 50.8 +2.1
VAY	Valandovo	150.94	336	*i* P	PKPbc	08 37 54.6 +0.3
ZIRJ	Zirje	150.95	347	*i* P	PKPdf	08 37 51.9 +3.3
MAKA	Makarska	150.97	345	*i* P	PKPdf	08 37 47.6 -1.0
AYDB	Zeytinkoy-Aydi	151.01	325	eP	PKPdf	08 37 49.3 +0.2
POLO	Lamas de Olo	151.12	24	ePKPbc	PKPbc	08 37 55.5 +0.6
CEME	Cevo	151.14	342	ePKP	PKPdf	08 37 48.6 -0.4
PBRG	Braganca	151.14	22	ePKPbc	PKPbc	08 37 55.3 +0.4
PDG	Podgorica	151.14	341	eP	PKPdf	08 37 52.8 +3.9
PDG	Podgorica	151.14	341		PKPbc	08 37 54.7 -0.1
PDG				IAMs_20	IAMs_20	09 53 13.7
	comp=Z,6μm,20.0s					
TTG	Podgorica	151.14	341	ePKP	PKPdf	08 37 48.9 0.0
AKAS	Kas	151.16	320	eP	PKPdf	08 37 54.4 +5.1
AKAS	Kas	151.16	320		PKPdf	08 37 54.5 +5.1
AKAS				PKPab	sPKPbc	08 38 03.0 +2.2
HVAR	Hvar	151.22	346	*i* P	PKPdf	08 37 47.6 -1.4
FETY	Fethiye	151.22	321	eP	PKPdf	08 37 54.8 +5.5
PVRL	Vila Real	151.23	24	ePKPbc	PKPbc	08 37 55.9 +0.8
PVRL	Vila Real	151.23	24	ePKPab	PKPab	08 38 02.4 -0.6
HCY	Herceg Novi	151.35	342	eP	PKPdf	08 37 49.4 +0.1
DALY	Dalyan (Mula)	151.35	322	eP	PKPdf	08 37 49.7 +0.3
YER	Yerkesik	151.36	323	eP	PKPdf	08 37 50.0 +0.5
DRME	Dracevica, Mon	151.38	341	eP	PKPdf	08 37 52.7 +3.4
DRME	Dracevica, Mon	151.38	341	ePKP	PKPdf	08 37 49.6 +0.3
MLSB	Milas	151.54	324	eP	PKiKP	08 38 01.8 +5.4
MVO	Moncorvo	151.59	23	ePKPbc	PKPbc	08 37 56.8 +0.8
TURN	Turunc	151.62	322	eP	PKPbc	08 37 56.9 +0.8
PVIS	Viseu	151.64	24	ePKPbc	PKPbc	08 37 56.6 +0.5
PVIS	Viseu	151.64	24	ePKPab	PKPab	08 38 06.0 +1.3
OSSC	Osservatorio P	151.79	354		PKPdf	08 37 55.3 +5.4
OHR	Ohrid	151.79	338	*i* P	PKPbc	08 37 56.9 +0.5
COI	Coimbra	151.86	26	IAMs_20	IAMs_20	09 40 39.4
	comp=Z,10μm,20.0s					
FNA	Florina	151.86	337	PKIKP	PKPbc	08 37 56.5 -0.1
FNA	Florina	151.86	337		PKPbc	08 37 56.5 -0.1
PCAS	Casmilo, Conde	151.95	26	ePKPbc	PKPbc	08 37 57.5 +0.7
PCAS	Casmilo, Conde	151.95	26	ePKPab	PKPab	08 38 04.2 -1.7
BODT	Bodrum	151.97	324	eP	PKPdf	08 37 56.0 +5.6
LIT	Litokhoron	152.00	334	PKIKP	PKPbc	08 37 56.2 -0.7
LIT						08 38 05.8
LIT	Litokhoron	152.00	334	PKPbc	PKPbc	08 37 56.1 -0.7
LIT				PKPab	PKPab	08 38 05.8 -0.3
MTE	Manteigas	152.05	24	ePKPbc	PKiKP	08 38 04.2 +6.8
MTE	Manteigas	152.05	24	ePKPab	PKiKP	08 38 04.2 +6.8
NRCA	Norcia	152.22	350		PKPbc	08 37 57.0 -0.3
PSBE	So Bento	152.27	27	ePKPbc	PKiKP	08 38 04.9 +7.1
PCBR	Castelo Branco	152.55	25	ePKPbc	PKPbc	08 37 57.3 -0.8
PCBR	Castelo Branco	152.55	25	ePKPab	PKiKP	08 38 05.1 +6.7
SGRT	San Giovanni R	152.73	346	IAMs_20	IAMs_20	09 51 57.5
	comp=Z,7μm,19.0s					
LIS	Lisbon	152.76	29	ePKPdf	PKPdf	08 37 50.3 -1.2
INTR	Introdacqua	152.88	349		PKPdf	08 37 57.3 +5.6
PMTG	Montargil	152.89	27	ePKPbc	PKPbc	08 37 58.2 -0.7
PMRV	Marv??o	152.94	25	ePKPbc	PKPbc	08 37 59.5 +0.5
AGG	Agios Georgios	152.96	333	PKIKP	PKPbc	08 37 58.8 -0.3
AGG	Agios Georgios	152.96	333		PKPbc	08 37 58.8 -0.3
PESTR	Estremoz	153.33	26	PKPab	PKPab	08 38 09.8 -2.0
PESTR				IAMs_20	IAMs_20	09 43 48.3
	comp=Z,5μm,20.0s					
EVO	Evora	153.42	27	PKP	PKPdf	08 37 52.8 +0.3
EVO	Evora	153.42	27	PP	PP	08 41 51.5 +6.3
UCM	Universidad Co	153.63	18	PKP	PKPdf	08 37 57.1 +4.3
MESJ	Messejana	153.90	28	ePKPdf	PKPdf	08 37 52.0 -1.2
MESJ	Messejana	153.90	28	ePKPbc	PKPbc	08 38 00.1 -1.0
PAB	San Pablo	153.98	20	PKIKP	PKPdf	08 37 59.2 +5.9
PAB	San Pablo	153.98	20		PKPdf	08 37 59.2 +5.9
ESBB	Sonseca Array	153.99	20		PKPbc	08 38 01.6 +0.2
ESDC	Sonseca Array	153.99	20	PKPbc	PKPbc	08 38 01.2 -0.1
	comp=Z,4.9nm,1.0s,baz=330,slow=2.3,SNR=12					
ESDC				PKPab	PKPab	08 38 14.6 0.0
	comp=Z,24nm,1.1s,baz=322,slow=3.2,SNR=10					
ESDC	Sonseca Array	153.99	20		PKPdf	08 37 52.2 -1.2
ESDC				PKPbc	sPKPdf	08 38 00.6 +1.7
ESDC				PKPab	PKPab	08 38 14.2 -0.4
PBAR	Barrancos	154.14	26	ePKPbc	PKPbc	08 38 02.3 +0.7
IDI	Anoyia	154.60	324	IAMs_20	IAMs_20	09 56 55.2
	comp=Z,5μm,20.0s					
ITM	Ithomi	154.66	331	PKPbc	PKPbc	08 38 02.8 0.0
ITM					PKPab	08 38 16.1 -1.4
TIP	Timpagrande	154.88	342		PKPdf	08 37 52.6 -2.0
MAHO	Mahon	155.51	5	PKP	PKPdf	08 37 57.1 +1.8
MAHO	Mahon	155.51	5	PP	PP	08 41 56.2 -0.1
SFS	San Fernando	155.94	27	PKP	PKPdf	08 37 58.9 +2.9
EMAL	Malaga-Limoner	156.42	24	PKP	PKPdf	08 37 53.9 -2.7
EMAL	Malaga-Limoner	156.42	24	PP	PP	08 42 07.4 +5.7
CEU	Ceuta	156.78	26	PKP	PKPdf	08 37 55.8 -1.3
CEU	Ceuta	156.78	26	PP	PP	08 42 12.8 +9.0
CART	Cartagena	156.80	17	PKP	PKPdf	08 38 01.0 +3.9
CART	Cartagena	156.80	17	IAMs_20	IAMs_20	09 43 50.2
	comp=Z,6μm,20.0s					
PVLZ	Peæn de	157.85	25	PKP	PKPdf	08 37 56.4 -2.1
PVLZ	Peæn de	157.85	25	PP	PP	08 42 12.1 +2.4
AVE	Averroes	157.89	34	PKP	PKPdf	08 37 57.4 -1.3
AVE	Averroes	157.89	34	PP	PP	08 42 10.3 +0.1
MELI	Melilla	158.28	23	PKP	PKPdf	08 38 00.7 +1.7
MELI	Melilla	158.28	23	PP	PP	08 42 11.5 -0.4
IFR	Ifrane	158.88	29	PKP	PKPdf	08 38 01.1 +1.0
IFR	Ifrane	158.88	29	PP	PP	08 42 22.8 +7.1
DBIC	Dimbokro	165.40	125	PKPab	PKPab	08 39 04.5 -0.3
	comp=Z,8.2nm,1.0s,baz=226,slow=7.9,SNR=3.9					
KOWA	Kowa	169.22	94		PKPdf	08 38 09.3 -0.4
KOWA				PKPab	PKPab	08 39 20.9 -0.9
TOA0	Torodi Ar. Sit	174.29	113		PKPdf	08 38 10.8 -1.3
TORD	Torodi Ar. Bea	174.29	113	PKP	PKPdf	08 38 10.2 -1.9
	comp=Z,4.2nm,1.1s,baz=322,slow=2.0,SNR=12					
TORD				PKPab	PKPab	08 39 43.5 -0.8
	comp=Z,4.9nm,0.9s,baz=264,slow=3.9,SNR=4.8					
TORD				PP	PP	08 43 42.9 +6.4
	comp=Z,5.3nm,1.2s,baz=269,slow=4.0,SNR=6.2					
TORD	Torodi Ar. Bea	174.29	113	PKPdf	PKPdf	08 38 09.5 -2.6
TORD				PKPab	PKPab	08 39 44.0 -0.3

*IDC **30** 08:23:12.2± 1.7, 15°.34S× 173°.14W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.0/49, mbtmp4.1/8 Error ellipse: s-maj=106.2km s-min=20.8km az=147.0*
*NEIC **30** 08:23:13.6± 1.9, 15°.44S± 0°.07× 173°.10W± 0°.09, h10km± 1km, mb4.7/17, Error ellipse: s-maj=17.9km s-min=7.7km az=126.0*

ISC 30 08:23:13.0±0.6, 15°.4S±0°.1× 173°.1W±0°.1, h10km, n32, σ1§39/31, mb4.6/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.96	41	Pn		Pn	Pn	08 23 43.8	-2.6
MSVF	Nonsavu	8.80	254	Pn		Pn		08 25 30.0	+9.5
	0.6nm,0.3s,baz=114,slow=15,SNR=6.4								
MSVF	Nonsavu	8.80	254	Pn		Pn	Pn	08 25 18.3	-2.2
FUNA	Funafuti	10.18	311	Pn		Pn	Pn	08 25 39.5	+0.3
THZ	Tophouse	28.92	202	P		P	P	08 29 09.1	-3.3
THZ				IAmb		IAmb	IAmb	08 29 23.4	
	comp=Z,28nm,1.1s								
KHZ	Kahutara	29.27	200	P		P	P	08 29 13.6	-1.8
WHZ	Wether Hill Ro	34.31	204	P		P	P	08 29 59.4	-0.3
EIDS	Eidsvold	34.92	248	P		P	P	08 30 04.1	-1.1
EIDS				IAmb		IAmb	IAmb	08 30 27.4	
	comp=Z,15nm,1.4s								
ARMA	Armidale	35.59	239	P		P	P	08 30 10.9	-0.2
ARMA				IAmb		IAmb	IAmb	08 30 34.8	
	comp=Z,15nm,1.3s								
CTA	Charters Tower	38.93	257	P		P	P	08 30 40.8	+1.3
	comp=Z,2.8nm,0.8s,baz=61,slow=10,SNR=1.8								
COEN	Coen	42.28	266	P		P	P	08 31 08.2	+1.1
STKA	Stephens Creek	44.29	240	P		P	P	08 31 23.6	+0.4
	comp=Z,2.8nm,0.6s,baz=85,slow=9.9,SNR=7.9								
STKA	Stephens Creek	44.29	240	P		P		08 31 23.8	+0.5
BBOO	Buckleboo	49.07	240	P		P	P	08 32 01.1	+0.4
BBOO				IAmb		IAmb	IAmb	08 32 20.2	
	comp=Z,7.0nm,1.1s								
WR0	Warramunga Arr	49.94	257	P		P	P	08 32 08.6	+1.1
WR0				IAmb		IAmb	IAmb	08 32 28.0	
	comp=Z,11nm,1.5s								
WB0	Warramunga Arr	50.09	257	P		P	P	08 32 10.2	+1.5
WB0				IAmb		IAmb	IAmb	08 32 26.6	
	comp=Z,16nm,1.4s								
WB2	Warramunga Arr	50.12	257	P		P	P	08 32 06.3	-2.6
WB2				IAmb		IAmb	IAmb	08 32 15.8	
	comp=Z,9.6nm,1.2s								
WRA	Warramunga Arr	50.13	257	P		P	P	08 32 08.7	-0.3
	comp=Z,1.3nm,0.5s,baz=97,slow=5.9,SNR=19								
WRA	Warramunga Arr	50.13	257	P		P	P	08 32 08.8	-0.2
AS31	Alice Springs	50.39	252	P		P	P	08 32 11.8	+0.8
ASAR	Alice Springs	50.39	252	P		P	P	08 32 11.3	+0.4
	comp=Z,7.4nm,0.5s,baz=88,slow=7.5,SNR=30								
ASAR	Alice Springs	50.39	252	P		P	P	08 32 10.0	-0.9
FORT	Forrest	55.68	243	P		P	P	08 32 51.2	+1.4
FORT				IAmb		IAmb	IAmb	08 32 53.5	
	comp=Z,11nm,0.8s								
SOEI	Soe	61.23	267	P		P	P	08 33 29.5	+0.6
SLBS	Sierra La Lagu	72.90	59	P		P	P	08 34 43.8	+0.8
QSPA	South Pole Qui	74.64	180	P		P	P	08 34 54.5	+2.0
QSPA				IAmb		IAmb	IAmb	08 35 13.0	
	comp=Z,14nm,1.3s								
TXAR	Lajitas Array	80.37	56	P		P	P	08 35 26.8	+1.7
	comp=Z,0.9nm,1.1s,baz=267,slow=6.3,SNR=2.3								
TXAR	Lajitas Array	80.37	56	P		P	P	08 35 26.0	+0.9
PDAR	Pinedale Array	82.07	42	P		P	P	08 35 34.0	-0.1
	comp=Z,0.1nm,0.4s,baz=250,slow=4.7,SNR=1.2								
ILAR	Eielson Array	82.39	11	P		P	P	08 35 34.9	0.0
	comp=Z,0.8nm,0.8s,baz=217,slow=5.8,SNR=2.3								
YKA	Yellowknife Ar	89.98	23	P		P	P	08 36 12.7	+0.4
	comp=Z,1.2nm,1.0s,baz=240,slow=4.9,SNR=2.8								
BRTR	Keskin Array B	146.35	321	PKPbc		PKPab		08 42 56.5	+1.0
	comp=Z,1.7nm,0.9s,baz=0.0,slow=1.4,SNR=2.7								

*IDC **30** 08:26:00.1± 0.7, 15°.35S× 173°.21W, h0km, mb4.2/14, mb1 4.4/14, mb1mx4.1/50, mbtmp4.2/14, Error ellipse: s-maj=29.3km s-min=17.5km az=125.0*
*NEIC **30** 08:26:01.1± 2.8, 15°.33S± 0°.07× 173°.0W± 0°.1, h10km± 1km, mb4.8/22, Error ellipse: s-maj=18.8km s-min=11.7km az=278.0*

ISC 30 08:26:01.2±0.5, 15°.32S±0°.08× 173°.1W±0°.1, h10km, n51, σ1§10/49, mb4.7/22, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.90	42	Pn		Pn	Pn	08 26 32.2	-1.5
NIUE	Niue	4.81	141	Pn		Pn	Pn	08 27 12.4	-1.3
MSVF	Nonsavu	8.83	253	Pn		Pn	Pn	08 28 16.8	+7.8
	0.4nm,0.3s,baz=121,slow=15,SNR=6.4								
DZM	Mont Dzumac	20.50	248	P		P	P	08 30 39.9	+0.2
	3.8nm,0.7s,baz=87,slow=19,SNR=1.7								
DZM	Mont Dzumac	20.50	248	P		P	P	08 30 39.1	-0.6
DZM				IAmb		IAmb	IAmb	08

HNR Honiara 8.72 123 Pn Pn 08 33 52.3 +2.0
HNR Honiara 8.72 123 P Pn 08 33 53.7 +3.4
JAY Jayapura 12.03 280 P P 08 34 45.3 -2.9
comp=Z,50nm,1.2s
GENI Genyem 12.55 279 P P 08 34 51.8 -2.1
comp=Z,163nm,1.2s
PATS Pohnpei 12.78 27 P Pn 08 34 48.1 +2.1
baz=13,SNR=4.7
PATS S Sn 08 37 03.8 -3.3
baz=13
PATS Pohnpei 12.78 27 Pn Pn 08 34 47.8 +1.9
COEN Coen 13.08 224 Pn Pn 08 34 50.2 +0.1
MTSU Mount Surprise 15.63 210 P P 08 35 27.4 -0.8
baz=16,SNR=14
CTA Charters Tower 16.52 201 Pn Pn 08 35 36.3 +0.6
comp=Z,0.8nm,0.3s,baz=20,slow=14,SNR=12
CTAO Charters Tower 16.52 201 P Pn 08 35 36.5 +0.7
CTAO pmax pmax
comp=Z,74nm,1.2s
CTAO Charters Tower 16.52 201 Pn 08 35 36.5 +0.7
QIS Mount Isa 20.21 217 P Pn 08 36 20.1 -0.7
baz=20,SNR=23
FAKI Fak Fak 20.35 274 Pn P 08 36 21.2 +1.0
FAKI Fak Fak 20.35 274 P Pn 08 36 24.4 +2.0
comp=Z,90nm,2.0s
EIDS Eidsvold 20.64 184 P P 08 36 22.8 -0.4
baz=21,SNR=6.9
EIDS Eidsvold 20.64 184 P P 08 36 23.1 -0.1
KDU Kakadu 21.39 247 P P 08 36 31.4 -0.1
baz=22,SNR=15
SIJI Sorong 21.61 279 P P 08 36 34.8 +1.0
comp=Z,36nm,0.7s,baz=109,slow=8.6,SNR=9.0
SWI Sorong 21.61 279 P P 08 36 39.0 +5.2
comp=Z,138nm,1.2s
DZM Mont Dzumac 21.91 143 P P 08 36 37.4 +0.3
comp=Z,78nm,1.0s,baz=17,slow=8.5,SNR=16
DZM Mont Dzumac 21.91 143 *e*P P 08 36 38.0 +1.0
comp=Z,346nm,1.1s
DZM *e*LR LR 08 41 58.8
comp=Z,12µm,28.1s
DZM Mont Dzumac 21.91 143 P P 08 36 38.0 +1.0
DZM IAmb IAmb 08 37 04.7
comp=Z,118nm,0.8s
DZM Mont Dzumac 21.91 143 P P 08 36 38.0 +1.0
RMQ Roma 22.00 189 P P 08 36 38.6 +0.7
baz=22,SNR=14
ONTNC Ouen Toro 22.10 144 P P 08 36 40.2 +1.3
YATNC Mamie plateau, 22.17 143 P P 08 36 40.4 +0.7
OUENC Ouen Island, N 22.41 143 P P 08 36 43.3 +1.0
MARNC Mare, Loyalty 22.46 139 P P 08 36 43.4 +0.6
MTN Manton Dam 22.68 248 P P 08 36 44.7 -0.5
MTN IAmb IAmb 08 37 42.4
comp=Z,92nm,1.0s
QLP Quilpie 23.21 199 P P 08 36 51.1 +0.6
baz=24,SNR=5.9
WB0 Warramunga Arr 23.22 228 P P 08 36 49.8 -0.9
WR0 Warramunga Arr 23.23 228 P P 08 36 50.5 -0.3
WC3 Warramunga Arr 23.35 228 P P 08 36 51.2 -0.9
baz=24
WRAB Tennant Creek 23.35 228⇓*e*P P 08 36 50.4 -1.7
WRAB pmax pmax
comp=Z,226nm,2.5s
WRAB Tennant Creek 23.35 228 P P 08 36 51.0 -1.1
WB2 Warramunga Arr 23.36 228 P P 08 36 51.4 -0.7
WRA Warramunga Arr 23.36 228 P P 08 36 51.8 -0.5
comp=Z,56nm,0.9s,baz=52,slow=9.8,SNR=92
WRA S S 08 41 05.3 +2.4
comp=Z,9.2nm,1.0s,baz=39,slow=19,SNR=5.1
WRA Warramunga Arr 23.36 228 P P 08 36 50.3 -1.9
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA Warramunga Arr 23.36 228 P P 08 36 50.3 -1.9
ARMA Armidale 25.63 182 P P 08 37 14.8 +1.7
baz=26,SNR=5.2
ARMA Armidale 25.63 182 P P 08 37 11.5 -1.6
ARMA IAmb IAmb 08 37 44.5
comp=Z,52nm,1.0s
AS31 Alice Springs 26.09 222 P P 08 37 16.9 -0.4
ASAR Alice Springs 26.10 222 P P 08 37 17.4 0.0
comp=Z,12nm,0.7s,baz=55,slow=9.1,SNR=42
ASAR Alice Springs 26.10 222 P P 08 37 16.1 -1.2
ASAR Alice Springs 26.10 222 P P 08 37 16.1 -1.2
ASPA Alice Springs 26.10 222 P P 08 37 16.5 -0.8
baz=26
SANI Sanana 26.66 275 P P 08 37 25.3 +2.8
comp=Z,28nm,0.8s
CMSA Cobar Meteorol 27.50 193 P P 08 37 29.4 -0.4
baz=28,SNR=10
MSVF Nonsavu 28.11 120 P P 08 37 35.9 +0.3
MSVF pmax pmax
comp=Z,39nm,1.2s
MSVF Nonsavu 28.11 120 P P 08 37 35.9 +0.3
SOEI Soe 28.52 258 P P 08 37 38.1 -1.2
SOEI IAmb IAmb 08 38 33.9
comp=Z,42nm,0.8s
STKA Stephens Creek 28.96 200 P P 08 37 41.8 -1.1
comp=Z,3.4nm,0.6s,baz=29,slow=14,SNR=11
STKA Stephens Creek 28.96 200 P P 08 37 42.1 -0.8
baz=29,SNR=13
STKA Stephens Creek 28.96 200 P P 08 37 42.3 -0.6
FITZ Fitzroy Crossi 29.52 241 P P 08 37 47.3 -0.7
comp=Z,17nm,0.5s,baz=65,slow=7.1,SNR=62
FITZ Fitzroy Crossi 29.52 241 P P 08 37 47.1 -0.8
baz=30,SNR=36
FITZ Fitzroy Crossi 29.52 241 P P 08 37 47.4 -0.6
FITZ IAmb IAmb 08 38 06.2
comp=Z,52nm,0.8s
WRKA Warakurna 30.88 227 P P 08 37 59.0 -1.0
baz=31,SNR=21
EDFI Ende, Flores 30.93 261 P P 08 37 58.6 -2.0
comp=Z,14nm,0.7s
HTT Hallett 31.32 202 P P 08 38 03.7 -0.1
baz=32,SNR=5.1
BBOO Buckleboo 31.97 207 P P 08 38 09.8 +0.4
baz=32,SNR=6.7
BBOO Buckleboo 31.97 207 P P 08 38 09.9 +0.4
BBOO IAmb IAmb 08 38 29.0
comp=Z,41nm,1.1s
KAPI Kappang 32.70 268 P P 08 38 15.5 -0.6
comp=Z,3.7nm,0.3s,baz=182,slow=4.0,SNR=4.0
KAPI Kappang 32.70 268 P P 08 38 16.2 +0.1
KAPI pmax pmax
comp=Z,23nm,1.1s
KAPI Kappang 32.70 268 P P 08 38 16.2 +0.1
FORT Forrest 34.75 219 P P 08 38 33.3 -0.4
baz=35,SNR=29
FORT Forrest 34.75 219 P P 08 38 33.2 -0.4
MYLDM Lahad Datu 35.41 286 P P 08 38 40.5 +1.0
MYLDM IAmb IAmb 08 39 09.2
comp=Z,60nm,1.1s
PSA00 Pilbara Seismi 35.90 239 P P 08 38 42.6 -1.2
JOW Kunigami 39.15 324 P P 08 39 11.3 +0.2
JOW IAmb IAmb 08 39 43.9
comp=Z,73nm,0.9s
KMBL Kambalda 39.19 224 P P 08 39 10.9 -0.5
baz=39,SNR=12
URZ Urewera 40.22 150 P P 08 39 19.5 -0.4
URZ IAmb IAmb 08 39 44.6
comp=Z,57nm,1.0s
QRZ Quartz Range 40.22 156 P P 08 39 20.5 +0.7
SBUM Sibu 40.93 279 P P 08 39 26.1 0.0
SBUM Sibu 40.93 279 P P 08 39 29.0 +2.9
GIRL Giralia 41.13 241 P P 08 39 28.8 +1.1
THZ Tophouse 41.17 157 P P 08 39 28.6 +0.9
THZ IAmb IAmb 08 39 55.1
comp=Z,48nm,0.8s
TUWZ Tuamarina 41.30 155 P P 08 39 29.6 +0.8
BSWZ Blackbirch Sta 41.52 156 P P 08 39 31.4 +0.8
BHW Baring Head 41.68 155 P P 08 39 33.2 +1.3
LTZ Lake Taylor 41.80 158 P P 08 39 34.5 +1.6
LTZ IAmb IAmb 08 39 52.7
comp=Z,105nm,1.1s
MSWZ Moikau Station 41.85 154 P P 08 39 35.0 +1.8
KHZ Kahutara 41.97 157 P P 08 39 33.1 -1.0
KHZ IAmb IAmb 08 40 13.5
comp=Z,103nm,1.2s
PLWZ Palliser 41.97 154 P P 08 39 32.2 -2.1
JMN Monobe 42.08 337 P P 08 39 35.8 +0.6
YHNB Yeheng 42.08 315 P P 08 39 30.9 -4.5
YHNB IAmb IAmb 08 40 19.9
comp=Z,40nm,1.0s
RPZ Rata Peaks 42.18 160 P P 08 39 36.6 +0.7
comp=Z,23nm,0.7s,baz=150,slow=0.1,SNR=6.4
RPZ LR LR 08 56 35.4
comp=Z,9µm,18.0s,baz=38,slow=35

RPZ Rata Peaks 42.18 160 P P 08 39 36.9 +0.9
OXZ Oxford 42.18 159 P P 08 39 35.6 -0.4
OXZ IAmb IAmb 08 39 55.4
comp=Z,40nm,0.7s
KLBR Kellerberrin 42.23 226 P P 08 39 34.6 -2.0
baz=42,SNR=6.7
MORW Morawa 42.25 231 P P 08 39 36.0 -0.8
baz=42,SNR=8.0
MORW Morawa 42.25 231 P P 08 39 36.0 -0.8
MORW IAmb IAmb 08 39 56.1
comp=Z,56nm,1.2s
LBZ Lake Benmore 42.49 161 P P 08 39 39.0 +0.5
BLDU Ballidu 42.50 228 P P 08 39 38.1 -0.7
baz=43,SNR=12
WKZ Wanaka 42.52 163 P P 08 39 40.1 +1.3
WKZ IAmb IAmb 08 41 03.4
comp=Z,145nm,1.6s
JGF Kuroka 42.52 342 P P 08 39 40.0 +1.2
DCZ Deep Cove 42.59 165 P P 08 39 38.3 -0.9
DCZ IAmb IAmb 08 40 13.5
comp=Z,72nm,1.1s
KSM Kuching 42.66 277 P P 08 39 39.1 -1.2
KSM IAmb IAmb 08 39 43.0
comp=Z,45nm,1.1s
KSM Kuching 42.66 277 P P 08 39 42.0 +1.7
MLZ Mavora Lakes 42.76 164 P P 08 39 41.1 +0.5
MLZ IAmb IAmb 08 40 12.4
comp=Z,77nm,0.9s
JNU Nakatsue 42.84 333 P P 08 39 42.3 +0.9
comp=Z,43nm,0.8s,baz=132,slow=4.6,SNR=16
JNU Nakatsue 42.84 333 P P 08 39 41.8 +0.4
JNU IAmb IAmb 08 40 21.5
comp=Z,89nm,1.1s
MJAR Matsushiro Arr 43.14 343 P P 08 39 43.6 -0.1
comp=Z,2.8nm,0.8s,baz=170,slow=9.3,SNR=5.9
MJAR PcP PcP 08 41 32.9 -0.2
comp=Z,10nm,1.0s,baz=164,slow=3.2,SNR=7.3
MAJO Matsushiro 43.14 343⇑*e*P P 08 39 42.3 -1.5
MAJO pmax pmax
comp=Z,16nm,1.6s
MAT Matsushiro 43.14 343 P P 08 39 43.5 -0.3
WHZ Wether Hill Ro 43.20 164 P P 08 39 44.3 +0.1
WHZ IAmb IAmb 08 40 09.2
comp=Z,40nm,0.9s
ODZ Otahua Downs 43.22 161 P P 08 39 45.9 +1.5
ODZ IAmb IAmb 08 40 07.8
comp=Z,135nm,1.8s
NWAO Narrogin (SRO) 43.32 225 P P 08 39 42.8 -2.6
NWAO pmax pmax
comp=Z,45nm,1.4s
NWAO Narrogin (SRO) 43.32 225 P P 08 39 42.8 -2.6
JHS Saijyo 43.49 337 P P 08 39 47.7 +1.0
MUN Mundaring 43.56 227 P P 08 39 47.5 +0.2
baz=44,SNR=5.2
JSD Sado 44.52 344 P P 08 39 56.6 +1.8
JSD IAmb IAmb 08 40 47.5
comp=Z,51nm,1.3s
LEM Lembang 44.77 265 P P 08 39 57.8 +0.3
comp=Z,19nm,0.3s,baz=75,slow=7.3,SNR=4.2
JTM Tenmabayashi 46.44 348 P P 08 40 10.1 +0.1
DLV T Lat 46.84 291 P P 08 40 15.2 +1.4
TJN Taejon 47.15 332⇑*e*P P 08 40 17.2 +1.6
KSRS Korea Array 47.78 333 P P 08 40 21.4 +0.9
comp=Z,5.4nm,0.8s,baz=147,slow=9.6,SNR=17
KSRS LR LR 09 00 42.4
comp=Z,7µm,18.3s,baz=101,slow=36
KSAR Wonju Array Be 47.78 333 P P 08 40 20.7 +0.1
KSAR Wonju Array Be 47.78 333 P P 08 40 20.6 +0.1
KS19 Wonju Array Si 47.84 333 P P 08 40 22.0 +1.0
KS19 IAmb IAmb 08 40 57.2
comp=Z,18nm,0.9s
KASI Kota Agung 47.88 267 P P 08 40 21.9 +0.2
comp=Z,2µmcomp=Z,56nm,1.1s
QIZ Qiongzhong 48.20 301 P P 08 40 26.8 +2.7
QIZ S S 08 47 22.8 +1.4
QIZ pmax pmax
comp=Z,16nm,1.0s
NJ2 Nanjing 48.60 321 *e*P P 08 40 28.5 +1.6
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
RAR Rarotonga 49.04 114 P P 08 40 30.3 -0.2
RAR pmax pmax
comp=Z,292nm,1.9s
RAR Rarotonga 49.04 114 P P 08 40 30.3 -0.2
JKA Kamikawa-asahi 49.38 351 P P 08 40 34.1 +1.4
JKA IAmb IAmb 08 41 00.7
comp=Z,39nm,1.2s
ASAJ Asahikawa 49.38 351 P P 08 40 32.9 +0.2
comp=Z,17nm,0.8s,baz=233,slow=12,SNR=17
ASAJ Asahikawa 49.38 351 P P 08 40 34.1 +1.4
ASAJ pmax pmax
comp=Z,39nm,1.2s
KUR Kuril'sk 49.85 356⇑*e*P P 08 40 36.1 -0.1
KUR pmax pmax
comp=Z,77nm,1.1s
JRMM Jerantut 50.76 279 P P 08 40 45.0 +1.2
USA0B Ussuriysk Arra 52.05 341⇓*e*P P 08 40 53.5 +0.7
USA0B Ussuriysk Arra 52.05 341 P P 08 40 53.5 +0.7
USA0B IAmb IAmb 08 41 22.2
comp=Z,31nm,1.0s
USRK Ussuriysk Ar. 52.05 341 P P 08 40 52.8 0.0
comp=Z,6.9nm,0.8s,baz=166,slow=9.0,SNR=15
USRK Ussuriysk Ar. 52.05 341 P P 08 40 53.5 +0.7
USRK Ussuriysk Ar. 52.05 341 P P 08 40 53.5 +0.7
YSS Yuzh-Sakhalins 52.12 351 *e*P P 08 40 53.8 +0.5
YSS *e* 08 41 07.2
YSS pmax pmax
comp=Z,20nm,0.8s
IPM Ipoh 52.28 279 P P 08 40 56.0 +0.8
TIA Tai'an 52.47 324 P P 08 40 57.5 +1.4
TIA pmax pmax
comp=Z,7.0nm,0.8s
KULM Kulim 52.79 280 P P 08 41 00.0 +1.1
NONG Nongkai 53.71 296 P P 08 41 07.0 +1.4
PSI Prapat 54.11 277 P P 08 41 08.2 -0.5
comp=Z,1.8nm,0.3s,baz=180,slow=7.4,SNR=4.1
GYA Guiyang 54.13 307 *e*P P 08 41 12.0 +3.3
GYA pmax pmax
comp=Z,6.0nm,1.1s
LOEI Loei 55.22 295 P P 08 41 15.0 -1.6
PHIT Phitsanulok 55.89 294 P P 08 41 23.0 +1.7
UTTA Uttaradit 55.93 295 P P 08 41 23.7 +2.1
KLR Kul'dur 56.65 344 P P 08 41 26.1 -0.1
comp=Z,8.6nm,0.9s,baz=165,slow=3.9,SNR=21
KLR Kul'dur 56.65 344⇑*e*P P 08 41 25.7 -0.5
KLR pmax pmax
comp=Z,24nm,1.3s
SUKH Sukhothai 56.69 294 P P 08 41 29.0 +1.9
KMI Kunming 56.72 304 ⇑P P 08 41 30.5 +3.0
KMI pmax pmax
comp=Z,17nm,0.9s
KMI LR LR
comp=Z,3µm,20.6s
KMI LR LR
comp=Z,5µm,24.7s
LAMP Lampang 57.01 295 P P 08 41 31.0 +1.6
UMPA Umpang Tak 57.02 293 P P 08 41 31.0 +1.5
CM35 Chiang Mai Arr 57.49 295 P P 08 41 34.0 +1.2
CM36 Chiang Mai Arr 57.49 295 P P 08 41 34.0 +1.2
CM04 Chiang Mai Arr 57.56 295 P P 08 41 35.1 +1.9
CM09 Chiang Mai Arr 57.56 295 P P 08 41 35.0 +1.7
CM01 Chiang Mai Arr 57.59 295 P P 08 41 35.4 +2.0
CM05 Chiang Mai Arr 57.59 295 P P 08 41 35.0 +1.5
CM02 Chiang Mai Arr 57.60 295 P P 08 41 35.0 +1.5
CM31 Chiang Mai Arr 57.61 295 P P 08 41 36.4 +2.7
CM31 Chiang Mai Arr 57.61 295 P P 08 41 35.2 +1.6
CMAR Chiang Mai Arr 57.61 295 P P 08 41 34.0 +0.4
comp=Z,28nm,0.9s,baz=111,slow=5.2,SNR=70
CMAR Chiang Mai Arr 57.61 295*ce*P P 08 41 35.2 +1.6
CMAR pmax pmax
comp=Z,28nm,0.9s
CM15 Chiang Mai Arr 57.63 295 P P 08 41 36.0 +2.3
CM13 Chiang Mai Arr 57.63 295 P P 08 41 35.6 +1.9
CMMT Chiang Mai 57.72 296 P P 08 41 35.0 +0.6
PEA0B Petropavlovsk- 57.72 4*ce*P P 08 41 34.3 +0.6
PEA0B Petropavlovsk- 57.72 4 P P 08 41 33.9 +0.2
PETK Petropavlovsk- 57.72 4 P P 08 41 33.7 0.0
comp=Z,8.6nm,0.4s,baz=154,slow=6.5,SNR=80
PETK PcP PcP 08 42 26.4 +0.1
comp=Z,10nm,0.8s,baz=139,slow=3.2,SNR=3.7
CM33 Chiang Mai Arr 57.72 296 P P 08 41 35.0 +0.6
CHTO Chiang Mai 57.72 296 P P 08 41 34.8 +0.4
CHTO pmax pmax
comp=Z,27nm,1.0s

CHTO Chiang Mai 57.72 296 P P 08 41 34.8 +0.4
CHTO IAmb IAmb 08 41 37.7
comp=Z,27nm,1.0s
CM32 Chiang Mai Arr 57.76 295 P P 08 41 37.0 +2.4
CD2 Chengdu 58.48 311 P P 08 41 40.8 +1.3
CD2 pmax pmax
comp=Z,30nm,0.7s
HHC Hu-ho-hao-te 58.80 324 *e*P P 08 41 43.8 +2.1
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,190nm,5.5s
HHC LR LR
comp=Z,3µm,17.9s
HHC LR LR
comp=Z,8µm,20.0s
HIA Hailar 60.82 336⇓*e*P P 08 41 56.3 +1.1
HIA pmax pmax
comp=Z,14nm,1.0s
HIA Hailar 60.82 336 P P 08 41 56.6 +1.4
LZH Lanzhou 60.97 316 *e*P P 08 41 59.3 +2.5
LZH pP sP 08 42 13.5 +2.6
LZH pmax pmax
comp=Z,21nm,1.3s
MA2 Magadan 64.06 359 P P 08 42 16.6 -0.1
comp=Z,18nm,0.8s,baz=155,slow=6.5,SNR=35
MA2 Magadan 64.06 359⇑*e*P P 08 42 15.8 -0.8
MA2 pmax pmax
comp=Z,22nm,1.0s
MA2 Magadan 64.06 359 P P 08 42 15.9 -0.7
MA2 IAmb IAmb 08 42 58.6
comp=Z,25nm,0.9s
GTA Gaotai 65.40 317 *e*P P 08 42 27.0 +1.0
GTA pmax pmax
comp=Z,11nm,1.2s
ULN Ulaanbaatar 65.76 328⇓*e*P P 08 42 30.0 +1.8
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 65.76 328 P P 08 42 30.3 +2.1
SHL Shillong 66.04 300 P P 08 42 31.1 +0.6
SHL pmax pmax
comp=Z,34nm,0.9s
SHL Shillong 66.04 300 P P 08 42 31.1 +0.6
SHL IAmb IAmb 08 42 32.7
comp=Z,34nm,0.9s
SONM Songino Array 66.09 328 P P 08 42 30.9 +0.6
comp=Z,5.6nm,1.1s,baz=148,slow=4.3,SNR=10
SONM LR LR 09 09 35.6
comp=Z,6µm,21.8s,baz=116,slow=34
SONM Songino Array 66.09 328 P P 08 42 31.7 +1.4
SONM pmax pmax
comp=Z,11nm,1.2s
SONM Songino Array 66.09 328 P P 08 42 31.7 +1.4
SEY Seymchan 67.41 360⇓*e*P P 08 42 37.7 -0.5
LSA Lhasa 67.97 304 P P 08 42 43.7 +0.7
LSA pmax pmax
comp=Z,9.0nm,0.7s
LSA Lhasa 67.97 304 P P 08 42 43.7 +0.7
YAK Yakutsk 68.80 349⇑*e*P P 08 42 48.1 +1.2
YAK pmax pmax
comp=Z,13nm,0.4s
ZAK Zakamensk 69.26 329 *e*P P 08 42 50.3 +0.1
ZAK pmax pmax
comp=Z,8.0nm,0.9s
BOD Bodaibo 69.58 339 *e*P P 08 42 51.1 -0.8
BOD pmax pmax
comp=Z,17nm,1.5s
TLY Talaya 69.85 330⇓*e*P P 08 42 54.7 +1.0
TLY pmax pmax
comp=Z,2.0nm,1.1s
TAPN Taplejung 70.14 301 *e*P P 08 42 56.4 +0.1
ODAN Odare 70.28 301 *e*P P 08 42 57.2 +0.1
comp=Z,68nm,0.9s
JIRN Jiri 71.52 301 *e*P P 08 43 05.3 +0.5
GUN Gumba 71.86 301 *e*P P 08 43 07.7 +0.9
comp=Z,72nm,1.0s
PKI Pulchoki 72.17 301 *e*P P 08 43 08.9 +0.2
comp=Z,51nm,1.2s
PKIN Phulchoki 72.18 301 *e*P P 08 43 09.0 +0.3
comp=Z,32nm,0.9s
KKN Kakani 72.33 301 *e*P P 08 43 10.2 +0.7
DMN Daman 72.44 301 *e*P P 08 43 10.2 0.0
comp=Z,86nm,1.0s
GKN Gorkha 72.94 301 *e*P P 08 43 13.7 +0.7
comp=Z,67nm,1.0s
VNDA Vanda 72.97 178 P P 08 43 11.9 -0.2
comp=Z,8.2nm,0.8s,baz=312,slow=6.2,SNR=27
VNDA Vanda 72.97 178 P P 08 43 12.1 0.0
VNDA pmax pmax
comp=Z,19nm,1.0s
VNDA Vanda 72.97 178 P P 08 43 12.1 0.0
VNDA IAmb IAmb 08 43 46.4
comp=Z,20nm,0.9s
BILL Bilibino 73.18 5⇓*e*P P 08 43 13.4 0.0
BILL pmax pmax
comp=Z,25nm,1.0s
BILL Bilibino 73.18 5 P P 08 43 13.8 +0.4
BILL IAmb IAmb 08 43 15.3
comp=Z,20nm,0.9s
GAMB Gambell 73.31 16 P 08 43 15.7
baz=217
GAMB Gambell 73.31 16 P P 08 43 15.3 +1.0
GAMB IAmb IAmb 08 43 16.4
comp=Z,27nm,1.2s
SBA Scott Base 73.52 177 P P 08 43 14.8 -0.5
SBA pmax pmax
comp=Z,35nm,1.3s
SBA Scott Base 73.52 177 P P 08 43 14.8 -0.5
SBA IAmb IAmb 08 43 38.2
comp=Z,35nm,1.2s
SII Sitkinak Islan 74.75 27 P P 08 43 23.2 +0.3
WMQ Urumqi 75.49 317 *e*P P 08 43 28.5 +1.0
WMQ pP pP 08 43 39.0 +0.8
WMQ pmax pmax
comp=Z,23nm,1.3s
WMQ pmax pmax
comp=Z,600nm,5.1s
WMQ LR LR
comp=Z,2µm,13.9s
WMQ LR LR
comp=Z,4µm,22.5s
ANM Nome 75.72 17 P P 08 43 28.1 -0.1
ANM pmax pmax
comp=Z,26nm,1.1s
ANM Nome 75.72 17 P P 08 43 28.1 -0.1
ANM IAmb IAmb 08 43 30.5
comp=Z,26nm,1.1s
ANM Nome 75.72 17 P 08 43 28.8
baz=224
TNA Tin City 75.73 16 P P 08 43 28.2 0.0
TNA Tin City 75.73 16 P 08 43 28.9
baz=221
HYB Hyderabad 76.23 289 *i* P P 08 43 31.0 -1.2
SVW2 Sparrevohn 76.79 23 P P 08 43 35.2 +0.8
CNPM China Poot 77.69 26 P P 08 43 39.6 +0.1
TIXI Tiksi 77.73 353 P P 08 43 39.7 +0.2
comp=Z,1.9nm,0.3s,baz=154,slow=2.7,SNR=3.7
TIXI Tiksi 77.73 353⇑*e*P P 08 43 40.5 +1.1
TIXI pmax pmax
comp=Z,20nm,1.3s
TIXI Tiksi 77.73 353 P P 08 43 41.3 +1.9
DGZ Jazzator, Alta 77.84 323⇑*e*P P 08 43 40.4 -0.3
DGZ pmax pmax
comp=Z,14nm,0.8s
BRSE Bradley Lake S 78.02 26 P 08 43 43.7
baz=238
O22K Cooper Landing 78.84 25 P P 08 43 45.1 -0.6
SKT Skwentna 78.89 23 P P 08 43 45.4 -0.7
SKT Skwentna 78.89 23 P 08 43 44.6
baz=237
RDOG Red Dog Mine 78.91 16 P 08 43 46.8
baz=225
RDOG Red Dog Mine 78.91 16 P P 08 43 46.2 +0.1
SUA Susitna One 78.93 24 P 08 43 45.5
baz=238,SNR=7.7
SUA Susitna One 78.93 24 P P 08 43 45.5 -1.0
SUA IAmb IAmb 08 43 46.9
comp=Z,30nm,0.8s
PPLA Purkeypile 79.14 23 P 08 43 48.2
baz=236
PPLA Purkeypile 79.14 23 P P 08 43 48.1 +0.5
PPLA IAmb IAmb 08 43 49.3
comp=Z,87nm,1.9s
RC01 Rabbit Creek A 79.15 25 IAmb IAmb 08 43 48.6
comp=Z,45nm,1.0s

RC01 Rabbit Creek A 79.15 25 P 08 43 47.0
baz=239,SNR=8.5

CHUM Lake Minchumin 79.64 22 P 08 43 50.3
baz=236,SNR=38

PMR Palmer 79.66 24 IAmb IAmb 08 43 51.3
comp=Z,24nm,1.0s

PMR Palmer 79.66 24 P 08 43 49.7
baz=240,SNR=5.6

GHO Glory Hole Cre 79.83 24 IAmb IAmb 08 43 52.5
comp=Z,32nm,1.0s

KNK Knik Glacier 79.84 25 P 08 43 52.4
baz=240

KNK Knik Glacier 79.85 25 IAmb IAmb 08 43 53.4
comp=Z,32nm,1.0s

KTH Kantishna Hill 79.98 22 IAmb IAmb 08 43 52.5
comp=Z,27nm,0.8s

MK31 Makanchi Array 80.07 319⇑ *e*P P 08 43 52.3 -0.6
MK31 pmax pmax
comp=Z,11nm,0.9s

MK31 Makanchi Array 80.07 319 P P 08 43 53.7 +0.8
MKAR Makanchi Array 80.07 319 P P 08 43 53.1 +0.2
comp=Z,8.4nm,0.9s,baz=102,slow=5.3,SNR=39

SML Sawmill 80.09 24 P 08 43 52.4
baz=240,SNR=13

TRF Thorofare Moun 80.16 23 P P 08 43 52.2 -0.9
TRF IAmb IAmb 08 43 55.0
comp=Z,19nm,0.8s

TRF Thorofare Moun 80.16 23 P 08 43 51.9
baz=238,SNR=8.4

BPAW Bear Paw Mtn. 80.25 22 P 08 43 52.5
baz=238,SNR=7.6

MAKZ Makanchi 80.28 319 P P 08 43 54.1 +0.1
MAKZ Makanchi 80.28 319 P P 08 43 54.2 +0.2
MAKZ IAmb IAmb 08 44 28.9
comp=Z,31nm,1.2s

IMAR Indian Mountai 80.33 20 P P 08 43 53.4 -0.4
WAT2 Susitna Watana 80.57 23 P 08 43 54.4
baz=240

RND Reindeer 80.69 23 P P 08 43 55.4 -0.5
RND pmax pmax
comp=Z,53nm,1.0s

RND Reindeer 80.69 23 P P 08 43 55.4 -0.5
WAT6 Susitna Watana 80.72 24 P 08 43 55.6
baz=241,SNR=13

POO Poona 80.83 290 *e*P P 08 43 55.0 -2.5
MCK McKinley 80.83 23 P 08 43 55.4
baz=239,SNR=33

MLY Manley 80.84 21 IAmb IAmb 08 43 58.0
comp=Z,37nm,0.9s

MLY Manley 80.84 21 P 08 43 56.5
baz=238,SNR=42

BWN Browne 80.85 22 P P 08 43 55.8 -0.8
ZALV Zalesovo Beam 80.91 326 P P 08 43 56.4 -0.8
comp=Z,7.3nm,0.7s,baz=110,slow=5.9,SNR=23

ZALV Zalesovo Beam 80.91 326 P P 08 43 56.1 -1.1
ZALV Zalesovo Beam 80.91 326 P P 08 43 56.1 -1.1
KLU Klutina 80.95 25 P 08 43 57.6
baz=242,SNR=11

KLU Klutina 80.95 25 P P 08 43 57.1 -0.2
KLU IAmb IAmb 08 43 59.8
comp=Z,44nm,1.0s

SHLS Shalkode 80.97 315 *e*P P 08 43 55.2 -2.7
baz=315

SHLS Shalkode 80.97 315 *e*P P 08 43 55.2 -2.7
M24K Tolsona, Glenn 81.13 25 P 08 43 58.9
baz=242,SNR=7.4

M24K Tolsona, Glenn 81.13 25 P P 08 43 58.3 0.0
NEA2 Nenana 81.22 22 P 08 43 57.5
baz=239,SNR=30

NEA2 Nenana 81.22 22 P P 08 43 57.6 -0.9
NEA2 IAmb IAmb 08 43 59.1
comp=Z,36nm,0.9s

BMRM Bremner River 81.28 26 P 08 43 59.6
baz=244

I23K Minto, Yukon-K 81.40 21 P 08 43 59.1
baz=239,SNR=18

I23K Minto, Yukon-K 81.40 21 IAmb IAmb 08 44 01.4
comp=Z,18nm,0.8s

WRH Wood River Hil 81.52 22 IAmb IAmb 08 44 01.3
comp=Z,32nm,0.9s

N25K Chitina, Valde 81.57 25 IAmb IAmb 08 44 02.5
comp=Z,29nm,1.1s

N25K Chitina, Valde 81.57 25 P 08 44 01.0
baz=244,SNR=6.0

KPKS Kokpek 81.60 315 *e*P P 08 44 00.2 -1.0
baz=315

KPKS Kokpek 81.60 315 *e*P P 08 44 00.2 -1.0
MDM Murphy Dome 81.71 22 IAmb IAmb 08 44 02.4
comp=Z,23nm,1.1s

CCB Clear Creek B 81.72 22 IAmb IAmb 08 44 01.5
comp=Z,39nm,1.1s

TCOL CIGO, UAF Yank 81.81 22 P 08 44 00.7
baz=240,SNR=5.5

COLA College 81.81 22 P 08 44 00.7
baz=240

COLA College 81.81 22 *c i*P P 08 44 00.1 -1.6
COLA pmax pmax
comp=Z,48nm,0.9s

COLA College 81.81 22 P P 08 44 00.8 -0.8
PAX Paxson 81.82 24 P 08 44 01.8
baz=243,SNR=8.4

GLB Gilahina Butte 81.84 26 P P 08 44 02.0 0.0
CRQM Cirque 81.84 27 IAmb IAmb 08 44 04.4
comp=Z,42nm,0.9s

CRQE Cirque 81.86 27 P 08 44 02.5
baz=245

VRDI Verde Repeater 81.90 26 IAmb IAmb 08 44 04.0
comp=Z,35nm,1.0s

HDA Harding Lake 81.92 22 P 08 44 01.0
baz=241,SNR=10

HDA P 08 44 01.0
baz=241,SNR=10

POKR Poker Plat Res 82.08 22 P 08 44 02.2
baz=241,SNR=7.0

POKR Poker Plat Res 82.09 22 IAmb IAmb 08 44 03.4
comp=Z,21nm,1.0s

IL31 82.12 22 P P 08 44 01.6 -1.6
IL31 IAmb IAmb 08 44 03.4
comp=Z,30nm,0.9s

ILAR Eielson Array 82.12 22 P P 08 44 01.6 -1.8
comp=Z,23nm,0.9s,baz=246,slow=5.1,SNR=134

ILAR Eielson Array 82.12 22 P P 08 44 02.1 -1.3
ILAR Eielson Array 82.12 22 P P 08 44 02.1 -1.3
MCARA McCarthy VSAT 82.15 26 P 08 44 04.3
baz=245

MCARA McCarthy VSAT 82.16 26 P P 08 44 04.3 +0.7
MCARA IAmb IAmb 08 44 05.9
comp=Z,32nm,0.8s

COLD Coldfoot 82.20 19 P 08 44 04.3
baz=238,SNR=22

COLD Coldfoot 82.20 19 P P 08 44 04.2 +0.5
COLD IAmb IAmb 08 44 06.1
comp=Z,61nm,1.5s

SEM Semipalatinsk 82.44 322 *e*P P 08 44 04.8 -0.9
baz=322

SEM Semipalatinsk 82.44 322 *e*P P 08 44 04.7 -0.9
GRNC Granite Creek 82.45 27 P P 08 44 05.3 -0.1
GRNC IAmb IAmb 08 44 07.0
comp=Z,16nm,0.8s

MENT Mentasta 82.53 24 P P 08 44 05.9 +0.3
MENT IAmb IAmb 08 44 07.2
comp=Z,18nm,0.8s

TABL Table Mountain 82.61 27 IAmb IAmb 08 44 07.9
comp=Z,30nm,0.8s

BARN Barnard Glacie 82.62 27 P P 08 44 06.9 +0.6
BARN IAmb IAmb 08 44 08.1
comp=Z,41nm,1.0s

KSH Kashi 82.67 311 P P 08 44 10.5 +3.5
KSH pmax pmax
comp=Z,14nm,0.5s

KSH pmax pmax
comp=Z,640nm,7.0s

CTG Chitna Glacier 82.73 27 P 08 44 07.0
baz=247

A21K Barrow 82.73 15 P 08 44 06.8
baz=231

LOGN Logan Glacier 82.83 27 IAmb IAmb 08 44 09.0
comp=Z,27nm,1.0s

SCRK Sand Creek 82.87 23 IAmb IAmb 08 44 08.8
comp=Z,27nm,1.0s

SCRK Sand Creek 82.87 23 P 08 44 07.1
baz=244,SNR=15

PINM Pinnacle 82.89 28 P 08 44 07.8
baz=248

TOLK Toolik Lake Re 83.16 18 P P 08 44 09.0 +0.2
TOLK IAmb IAmb 08 44 10.8
comp=Z,36nm,0.9s

TOLK Toolik Lake Re 83.16 18 P 08 44 09.2
baz=238,SNR=34

L27K Beaver Creek, 83.36 25 P P 08 44 10.3 +0.4
L27K IAmb IAmb 08 44 11.8
comp=Z,25nm,0.9s

L27K Beaver Creek, 83.36 25 P 08 44 10.3
baz=246

BCAR Beaver Creek A 83.38 25 P P 08 44 10.1 +0.1
FYU Fort Yukon 83.58 21 P P 08 44 10.7 -0.1
K27K Chicken 83.66 24 P 08 44 12.1
baz=246

K27K Chicken 83.66 24 IAmb IAmb 08 44 13.7
comp=Z,26nm,0.9s

NIL Nilore 83.71 304 P P 08 44 10.7 -1.6
NIL pmax pmax
comp=Z,23nm,0.7s

NIL Nilore 83.71 304 P P 08 44 10.7 -1.6
NIL IAmb IAmb 08 44 49.2
comp=Z,23nm,0.7s

BMAR Burnt Mountain 84.20 20 P P 08 44 14.3 +0.2
EGAK Eagle 84.33 23 P P 08 44 14.7 -0.1
EGAK Eagle 84.33 23 P 08 44 14.9
baz=246

AAK Ala-Archa 84.41 313 P P 08 44 15.4 -0.5
comp=Z,5.1nm,0.8s,baz=130,slow=5.3,SNR=14

AAK LR LR 09 23 06.4
comp=Z,7μm,21.5s,baz=81,slow=36

AAK Ala-Archa 84.41 313 *ce*P P 08 44 15.9 0.0
AAK pmax pmax
comp=Z,19nm,1.0s

AAK Ala-Archa 84.41 313 P P 08 44 14.6 -1.3
AAK IAmb IAmb 08 44 49.0
comp=Z,16nm,0.8s

HYT Haines Junctio 84.42 28 P P 08 44 15.8 +0.4
BTLS Baital 85.20 316 *e*P P 08 44 18.8 -0.8
comp=Z,19nm,1.6s,baz=316

BTLS Baital 85.20 316 *e*P P 08 44 18.8 -0.8
BTLS pmax pmax
comp=Z,19nm,1.6s

QSPA South Pole Qui 85.30 180 P P 08 44 19.2 -0.7
comp=Z,5.8nm,0.5s,baz=279,slow=0.8,SNR=36

QSPA South Pole Qui 85.30 180 P P 08 44 19.1 -0.7
MAW Mawson 85.61 203 P P 08 44 20.1 -1.0
comp=Z,5.7nm,0.8s,baz=109,slow=3.7,SNR=10

MAW Mawson 85.61 203 P P 08 44 20.1 -1.0
MAW pmax pmax
comp=Z,4.0nm,1.0s

MAW Mawson 85.61 203 P P 08 44 20.1 -1.0
NRIK Noril'sk 85.76 341 P P 08 44 21.3 -0.5
comp=Z,5.6nm,0.6s,baz=122,slow=3.2,SNR=9.8

NRIK Noril'sk 85.76 341⇓ *e*P P 08 44 22.0 +0.2
NRIK pmax pmax
comp=Z,19nm,1.5s

NRIK Noril'sk 85.76 341 P P 08 44 21.1 -0.7
NRIK IAmb IAmb 08 44 56.3
comp=Z,28nm,1.3s

EPYK Eagle Plains 86.63 22 P P 08 44 26.0 -0.2
EPYK Eagle Plains 86.63 22 P 08 44 26.3
baz=250

BRZS Berezniki 87.06 320 *e*P P 08 44 27.9 -0.7
baz=320

BRZS Berezniki 87.06 320 *e*P P 08 44 27.9 -0.7
KK31 Karatay Array 87.37 313 *i* P P 08 44 29.4 -0.9
KK31 Karatay Array 87.37 313 P P 08 44 29.7 -0.6
KKAR Karatay Array 87.37 313 P P 08 44 28.7 -1.6
KKAR Karatay Array 87.37 313 P P 08 44 28.7 -1.6
DLBC Dease Lake 87.38 31 P P 08 44 30.5 +0.4
IUG Iuzhnay 87.58 312 *e*P P 08 44 30.1 -1.4
baz=312

IUG Iuzhnay 87.58 312 *e*P P 08 44 30.1 -1.4
INK Inuvik 88.41 21 P P 08 44 34.0 -0.7
comp=Z,23nm,1.0s,baz=242,slow=3.0,SNR=52

INK Inuvik 88.41 21 P P 08 44 33.4 -1.2
INK pmax pmax
comp=Z,39nm,1.1s

INK Inuvik 88.41 21 P P 08 44 33.4 -1.2
BRVK Borovoye 89.06 323 P P 08 44 36.2 -1.9
BRVK Borovoye 89.06 323 P P 08 44 37.2 -0.9
BRVK IAmb IAmb 08 45 13.4
comp=Z,20nm,0.9s

J05D Fort Rock, OR 90.39 47 P 08 44 45.1
baz=264

PINE Pine Mountain 90.66 46 IAmb IAmb 08 45 17.4
comp=Z,24nm,1.5s

RYN Ryan 92.02 52 P P 08 44 52.1 -0.4
EDW2 Edwards Air Fo 92.17 55 P 08 44 54.3
baz=266

NVAR Mina Array Bea 92.18 52 P P 08 44 53.0 -0.2
comp=Z,2.5nm,0.8s,baz=255,slow=6.0,SNR=19

G08A Pilot Rock 92.20 45 P P 08 44 52.1 -1.0
LRMC Laurel Mtn Rad 92.47 55 P 08 44 55.4
baz=266

FURC Furnace Creek, 93.19 54 P 08 44 58.7
baz=267

BMO Blue Mountains 93.34 45 P P 08 44 57.4 -0.9
BMO pmax pmax
comp=Z,24nm,2.0s

BMO Blue Mountains 93.34 45 P P 08 44 57.4 -0.9
BMO IAmb IAmb 08 45 40.4
comp=Z,24nm,1.9s

PFO Pinyon Flats O 93.36 57 P P 08 44 59.0 +0.3
comp=Z,2.2nm,0.8s,baz=278,slow=7.1,SNR=4.8

PFO Pinyon Flats O 93.36 57⇑ *e*P P 08 45 00.1 +1.4
PFO pmax pmax
comp=Z,4.0nm,0.9s

PFO Pinyon Flats O 93.36 57 P P 08 44 59.0 +0.3
F10A Beach Ranch, E 93.46 44 P P 08 44 57.9 -1.0
SHOC Shoshone, Teco 93.64 54 P 08 45 00.6
baz=267

NEW Newport 93.65 42 P P 08 44 58.3 -1.3
NEW pmax pmax
comp=Z,11nm,1.5s

NEW Newport 93.65 42 P P 08 44 58.3 -1.3
NEW IAmb IAmb 08 45 59.5
comp=Z,11nm,1.5s

NEW Newport 93.65 42 P 08 45 00.0
baz=267

TPNV Topopah Spring 93.72 53 P P 08 45 00.0 -0.3
TPNV Topopah Spring 93.72 53 P P 08 45 00.0 -0.3
TPNV IAmb IAmb 08 45 56.8
comp=Z,10nm,1.3s

TPNV Topopah Spring 93.72 53 P 08 45 00.4
baz=267

GMRC Granite Mounta 94.08 56 P 08 45 02.5
baz=267

BC3 Big Chuckawall 94.20 57 P 08 45 03.6
baz=267

MFID Camas Ranch 94.34 47 IAmb IAmb 08 45 04.0
comp=Z,22nm,1.9s

IRM Iron Mountain 94.48 56 P 08 45 05.3
baz=268

SHPR Sheep Range 94.57 54 P P 08 45 03.5 -0.7
PRN Pahroc Range 94.69 53 P P 08 45 03.8 -0.9
PRN IAmb IAmb 08 46 31.2
comp=Z,11nm,1.4s

AB31 Akbulak array 95.22 319 *i* P P 08 45 05.2 -1.5
ABKAR Akbulak array 95.22 319 P P 08 45 05.8 -0.8
YKA Yellowknife Ar 95.41 28 P P 08 45 06.7 -0.6
comp=Z,5.4nm,0.8s,baz=267,slow=4.2,SNR=64

WALA Waterton Lakes 95.80 41 P P 08 45 09.0 -0.5
WALA IAmb IAmb 08 45 10.9
comp=Z,15nm,1.1s

CCUT Cedar City 96.04 53 P P 08 45 09.3 -1.7
CCUT IAmb IAmb 08 46 36.5
comp=Z,12nm,1.7s

ARU Arti 96.08 326 P P 08 45 09.6 -0.8
comp=Z,2.7nm,0.2s,baz=263,slow=1.1,SNR=4.9

ARU Arti 96.08 326 P P 08 45 09.2 -1.2
ARU 08 49 02.5
ARU S SKSac 08 55 42.9 -1.2
ARU SS SS 09 03 09.5 +11
BOZ Bozeman (W) 97.37 45 P 08 45 16.8
baz=271

PDAR Pinedale Array 98.93 48 P P 08 45 23.4 -0.5
comp=Z,0.9nm,0.8s,baz=251,slow=2.5,SNR=6.5

PDAR PP PP 08 49 31.9 +6.0
comp=Z,0.6nm,0.8s,baz=270,slow=4.4,SNR=3.8

TXAR Lajitas Array 104.27 61 PP PP 08 50 08.1 +1.6
comp=Z,0.7nm,1.0s,baz=266,slow=4.4,SNR=4.2

U40A Yellville 112.48 53 P 08 50 19.5
baz=281

AKASG Malin Array Be 114.25 324 PKP PKPdf 08 50 20.9 -1.6
comp=Z,1.1nm,0.5s,baz=60,slow=2.4,SNR=4.8

AKASG Malin Array Be 114.25 324 *c i*PKIKP **PKiKP** 08 50 22.7 +0.2
AKASG pmax pmax
comp=Z,1.0nm,0.5s

AKBB Malin Array Si 114.25 324⇑ *i*PKIKP **PKiKP** 08 50 22.5 0.0
NB2 NORSAR Subarra 116.71 340 PKPdf **PKPdf** 08 50 25.2 -1.8
comp=Z,11nm,2.0s,baz=44,slow=1.9

NB2 NORSAR Subarra 116.71 340 PKPdf **PKPdf** 08 50 25.2 -1.8
baz=44,slow=1.9

NOA NORSAR Array B 116.71 340 PKP **PKPdf** 08 50 26.2 -0.8
comp=Z,0.8nm,0.7s,baz=43,slow=1.9,SNR=3.6

KOLS Kolonicke sedl 119.07 325 *e*PKIKP **PKiKP** 08 50 32.1 +0.2
KOLS Kolonicke sedl 119.07 325 *e*PKP **PKiKP** 08 50 32.1 +0.2
UZH Uzhgorod 119.20 325 *e*PKIKP **PKiKP** 08 50 38.2 +6.0
UZH *e* 08 50 46.8
VLDQ Val d'Or 119.28 36 PKPdf **PKPdf** 08 50 30.7 -1.6
S51A Beattyville 119.32 49 **PKPdf** 08 50 30.9 -1.8
BOSA Boshof 119.52 233 PKP **PKPdf** 08 50 32.3 -1.2
comp=Z,1.1nm,0.6s,baz=116,slow=5.0,SNR=3.6

P52A Corning 119.74 47 P 08 50 32.8
baz=291

ALGO Algonquin Park 119.94 38 P 08 50 33.0
baz=297

PLCA Paso Flores 120.02 143 PKP **PKPdf** 08 50 33.3 -0.8
comp=Z,1.0nm,0.6s,baz=238,slow=2.8,SNR=4.2

M53A WI Miller and 120.11 44 P 08 50 34.0
baz=293

G54A Lake Saint Pet 120.17 39 P 08 50 32.5
baz=297

O53A New Philadelph 120.18 46 P 08 50 34.3
baz=292

N54A Moraine State 120.77 44 P 08 50 35.0
baz=293

M54A Oil Creek Stat 120.78 44 P 08 50 34.5
baz=294

R54A Victor 121.08 48 P 08 50 35.9
baz=291

MORC Moravsky Berou 121.24 328 PKIKP **PKPdf** 08 50 33.8 -2.3
MORC Moravsky Berou 121.24 328 PKPdf **PKPdf** 08 50 33.8 -2.3
VYHS Vyhne 121.24 326 *e*PKIKP **PKiKP** 08 50 37.8 +1.6
VYHS Vyhne 121.24 326 *e*PKP **PKiKP** 08 50 37.8 +1.6
D56A ZEC Mazanza, M 121.39 36 P 08 50 35.5
baz=301

OSTC Ostas 121.48 329 *e*PKPDF **PKiKP** 08 50 37.6 +1.0
OSTC *ex* x 08 50 53.5
R55A Marlinton 121.69 47 **PKPdf** 08 50 37.0 -0.3
R55A Marlinton 121.69 47 P 08 50 37.3
baz=291

M56A Emporium 121.81 43 P 08 50 37.0
baz=295

L56A Greenwood 121.95 42 P 08 50 36.9
baz=296

N56A West Decatur 121.97 44 P 08 50 37.4
baz=294

O56A Blue Knob Stat 122.04 45 P 08 50 37.8
baz=294

P56A Dayton Farm, R 122.15 46 P 08 50 37.4
baz=293

MODS Modra-Piesok 122.18 326 *e*PKP **PKiKP** 08 50 38.5 +0.4
T56A Rocky Mt 122.20 49 P 08 50 37.9
baz=291

G57A Newington 122.24 38 P 08 50 37.8
baz=300

H57A Richville 122.30 39 P 08 50 38.2
baz=299

SSPA Standing Stone 122.37 44 P 08 50 38.2
baz=295

ZST Bratislava 122.37 326 *e*PKIKP **PKiKP** 08 50 39.9 +1.5
ZST Bratislava 122.37 326 *e*PKP **PKiKP** 08 50 39.9 +1.5
BRG Berggiesshubel 122.44 330 *e*PKP **PKiKP** 08 50 39.4 +0.9
BRG Amp 08 50 40.3
comp=Z,15nm,1.4s

BRG *ex* x 08 50 55.5
BRG Amp 08 50 59.2
comp=Z,6.9nm,0.9s

L57A Andrews Acres 122.49 42 P 08 50 38.2
baz=296

M57A Sunshine Farm, 122.59 43 P 08 50 38.6
baz=296

CLL Collm 122.62 331 *i* PKPdf **PKiKP** 08 50 39.0 +0.2
comp=Z,10.0nm,0.9s

CLL *e* 08 50 56.0
CLL Collm 122.62 331 *i* PKIKP **PKiKP** 08 50 39.0 +0.2
CLL *e* 08 50 56.0
CLL pmax pmax
comp=Z,10.0nm,0.9s

O57A Amberson 122.72 44 P 08 50 38.4
baz=295

P57A Homestead Farm 122.75 45 P 08 50 38.5
baz=294

I58A Old Forge 122.93 40 P 08 50 39.2
baz=299

LIT Litokhoron 122.96 316 PKIKP **PKPdf** 08 50 38.8 -0.8
LIT Litokhoron 122.96 316 **PKPdf** 08 50 38.8 -0.8
H58A Gabriels 123.08 39 P 08 50 39.2
baz=300

N58A Sunbury 123.09 43 P 08 50 39.5
baz=296

L58A Harry Jones Me 123.14 42 P 08 50 40.1
baz=297

Q58A Fox Den Farm, 123.20 46 P 08 50 39.4
baz=294

CONA Conrad Observa 123.21 327 *e*P **PKiKP** 08 50 40.1 -0.1
comp=Z,3.0nm,0.7s

O58A Lewisberry 123.25 44 P 08 50 40.3
baz=295

J59A Piesco 123.34 40 P 08 50 39.9
baz=299

FNA Florina 123.44 317 PKIKP **PKPdf** 08 50 39.5 -1.1
FNA Florina 123.44 317 PKPdf **PKPdf** 08 50 39.5 -1.1
I59A Olmsteadville 123.58 39 P 08 50 40.3
baz=300

F60A Warwick 123.61 36 P 08 50 40.1
baz=303

M59A Waymart 123.64 42 P 08 50 40.7
baz=297

O59A Robesonia 123.68 44 P 08 50 41.1
baz=296

MVL Millersville 123.70 44 **PKPdf** 08 50 40.1 -0.9
KHC Kasperske Hory 123.71 329 *e*PKIKP **PKPdf** 08 50 40.4 -0.4
KHC *e* 08 50 56.6
KHC Kasperske Hory 123.71 329 *e*PKPDF **PKPdf** 08 50 40.4 -0.4
KHC *ex* x 08 50 56.6
KHC *ex* x 08 51 09.9
KHC Kasperske Hory 123.71 329 **PKPdf** 08 50 40.5 -0.3
GEC2 GERESS Array S 123.82 328 **PKPdf** 08 50 40.5 -0.7
GERES GERESS Array B 123.82 328 PKP **PKPdf** 08 50 40.8 -0.3
comp=Z,2.8nm,0.6s,baz=64,slow=3.1,SNR=12

GERES GERESS Array B 123.82 328 PKIKP **PKPdf** 08 50 39.9 -1.2
GERES GERESS Array B 123.82 328 PKPdf **PKPdf** 08 50 39.9 -1.2
I60A Shoreham 123.92 39 P 08 50 41.5
baz=301

F61A St Evariste 124.17 36 P 08 50 42.6
baz=304

N60A Cedar Hill Far 124.17 43 P 08 50 41.6
baz=297

E61A Lac Etchemin 124.20 35 P 08 50 41.3
baz=305

O60A Telford 124.21 43 P 08 50 41.7
baz=297

P60A Greenville 124.28 44 P 08 50 42.7
baz=296

SOKA Soboth 124.39 326 P **PKiKP** 08 50 42.7 +0.1
comp=Z,6.1nm,1.1s

K61A Williamstown 124.52 40 P 08 50 42.7
baz=300

LBNH Lisbon 124.55 38 P 08 50 43.2
baz=302

J61A Chester 124.63 39 P 08 50 43.3
baz=301

H62A Milan 124.84 37 P 08 50 44.1
baz=303

KBA Koelnbreinsper 125.09 327 *e*P **PKPdf** 08 50 43.4 -0.3
comp=Z,5.2nm,0.9s

F64A Sherman 125.74 34 P 08 50 45.1
baz=307

ABTA Abfaltersbach 125.74 327 *e*P **PKPdf** 08 50 44.6 -0.3
comp=Z,3.5nm,0.6s

WATA Walderalm 125.88 328 *e*P **PKPdf** 08 50 45.0 -0.2
comp=Z,4.1nm,0.6s

WTTA Wattenberg 125.89 328 *e*P **PKPdf** 08 50 45.4 +0.1
comp=Z,13nm,1.0s

BATG Bathurst New B 126.11 32 PKPdf **PKiKP** 08 50 46.0 +0.1
MOTA Moosalm 126.12 328 *e*P **PKPdf** 08 50 45.4 -0.3
comp=Z,6.3nm,0.7s

SQTA Sankt Quirin 126.14 328 *e*P **PKPdf** 08 50 45.7 +0.1
comp=Z,16nm,1.3s

MEM Membach 126.31 334 *d*PKP **PKiKP** 08 50 46.5 +0.3
MEM *dx* x 08 51 10.3
FETA Feichten 126.52 328 *e*P **PKPdf** 08 50 46.5 0.0

comp=Z,12nm,1.0s
DAVA Damuels 126.79 329 *e*P **PKPdf 08 50 45.9 -1.0**
comp=Z,9.8nm,0.9s
BMRD Maredsous 127.08 335 *d*PKP **PKPdf 08 50 47.2 0.0**
DAVOX Davos/Dischmat 127.12 329 PKP **PKPdf 08 50 47.6 0.0**
comp=Z,4.8nm,0.6s,baz=220,slow=17,SNR=7.2
TUE Stuetta 127.60 329 PKPdf **PKiKP 08 50 48.9 -0.2**
ATAH Atahualpa 127.81 103 PKP **PKiKP 08 50 51.1 +0.4**
comp=Z,3.3nm,0.8s,baz=157,slow=4.5,SNR=5.0
SOTA Rioblanco 130.85 91 *e*P **PKiKP 08 50 59.6 +2.7**
GUY2C Guyana, Caldas 132.25 87 *e*P **PKPdf 08 50 56.7 -2.0**
ORTC Ortega, Tolima 132.32 89 *e*P **PKPdf 08 50 56.7 -1.6**
PTLC Puerto Leguiza 132.48 94 *e*P **PKiKP 08 50 59.6 0.0**
PTBC PUERTO BERRIO 133.17 85 *e*P **PKPdf 08 50 58.2 -1.7**
ROSC El Rosal 133.28 88 PKiKP **PKPdf 08 50 59.9 -0.6**
ROSC El Rosal 133.28 88 **PKPdf 08 50 59.9 -0.6**
ROSC El Rosal 133.28 88 *e*P **PKPdf 08 50 58.2 -2.3**
SPBC San Pablo de B 133.54 87 *e*P PKPpre 08 50 52.3
MACC Macarena, Meta 133.60 91 *e*P **PKPdf 08 50 56.7 -4.0**
OCAC Ocana 134.28 83 *e*P **PKPdf 08 50 55.2 -6.9**
RUSC La Rusia 134.53 86 *e*P **PKiKP 08 51 05.5 +1.2**
LPAZ La Paz 134.68 118 PKP **PKPdf 08 51 03.5 +0.2**
comp=Z,4.3nm,0.7s,baz=18,slow=3.2,SNR=14
LPAZ La Paz 134.68 118 PKiKP **PKPdf 08 51 03.7 +0.4**
LPAZ La Paz 134.68 118 PKPdf **PKPdf 08 51 03.7 +0.4**
PAMC Pamplona, Colo 134.91 84 *e*P PKPpre 08 50 56.7
SDV Santo Domingo 136.91 82 PKP **PKPdf 08 51 07.0 0.0**
comp=Z,21nm,0.8s,baz=184,slow=0.6,SNR=26
SDV Santo Domingo 136.91 82 PKPdf **PKPdf 08 51 06.7 -0.3**
SDV Santo Domingo 136.91 82 *e*P **PKPdf 08 51 05.5 -1.5**
CPUP Villa Florida 137.72 138 PKP **PKPdf 08 51 08.2 +0.2**
comp=Z,3.4nm,0.9s,baz=241,slow=7.2,SNR=6.2
CPUP Villa Florida 137.72 138 PKiKP **PKPdf 08 51 07.9 0.0**
CPUP Villa Florida 137.72 138 **PKPdf 08 51 07.9 0.0**
ESDC Sonseca Array 139.20 332 PKP **PKPdf 08 51 09.9 -0.4**
comp=Z,0.9nm,0.8s,baz=212,slow=2.3,SNR=4.7
SJG San Juan 139.87 67 PKP **PKPdf 08 51 11.9 -0.2**
comp=Z,5.2nm,0.4s,baz=36,slow=5.4,SNR=5.7
SJG San Juan 139.87 67 PKiKP **PKPdf 08 51 10.3 -1.7**
SJG San Juan 139.87 67 **PKPdf 08 51 10.3 -1.7**
SIV San Ignacio 140.89 122 PKhKP PKPpre 08 51 06.0
comp=Z,1.9nm,0.8s,baz=175,slow=1.5,SNR=8.8
SIV PKP **PKPdf 08 51 14.2 +0.2**
comp=Z,2.2nm,0.6s,baz=277,slow=2.7,SNR=8.7
FDF Fort de France 145.34 71 PKiKP **PKPab 08 51 22.2 +0.3**
FDF Fort de France 145.34 71 **PKPab 08 51 22.2 +0.3**
SVB Belmont 145.55 93 PKPdf **PKPdf 08 51 20.8 -1.5**
PTGA Pitinga 147.06 99 PKPbc **PKPbc 08 51 26.6 -0.4**
comp=Z,41nm,0.8s,baz=238,slow=2.5,SNR=49
PTGA Pitinga 147.06 99 PKPbc **PKPbc 08 51 26.8 -0.2**
TOA0 Torodi Ar. Sit 150.05 288 **PKPbc 08 51 33.7 -0.9**
TOA0 PKPab **PKPab 08 51 40.7 +0.2**
TORD Torodi Ar. Bea 150.05 288 PKPbc **PKPbc 08 51 33.6 -1.1**
comp=Z,22nm,0.9s,baz=74,slow=2.5,SNR=31
TORD PKPab **PKPab 08 51 40.4 -0.1**
comp=Z,42nm,0.9s,baz=64,slow=3.7,SNR=27
TORD Torodi Ar. Bea 150.05 288 **PKPbc 08 51 33.4 -1.2**
TORD **pPKPdf 08 51 39.7 -0.6**
BDFB Brasilia 151.32 135 PKP **PKPdf 08 51 32.0 +0.3**
comp=Z,4.1nm,0.8s,baz=93,slow=4.0,SNR=4.7
BDFB PKPbc **PKPbc 08 51 37.1 -0.6**
comp=Z,13nm,0.8s,baz=218,slow=2.9,SNR=20
BDFB PKPab **sPKPdf 08 51 46.9 +0.6**
comp=Z,12nm,0.8s,baz=167,slow=4.1,SNR=6.2
BDFB Brasilia 151.32 135 PKiKP **PKPbc 08 51 36.7 -1.0**
BDFB Brasilia 151.32 135 **PKPbc 08 51 36.7 -1.0**
KOWA Kowa 154.96 295 PKPbc **PKPbc 08 51 45.5 -0.2**
KOWA PKPab **sPKPbc 08 52 00.3 +0.3**
KIC Kosan Boka 157.35 275 *e*P **PKPab 08 52 10.4 -1.1**
comp=Z,41nm,1.0s
DBIC Dimbokro 157.45 276 PKPab **PKPab 08 52 11.2 -0.7**
comp=Z,11nm,0.9s,baz=77,slow=4.5,SNR=9.9
DBIC Dimbokro 157.45 276 PKP2 **PKPab 08 52 10.5 -1.4**
DBIC Dimbokro 157.45 276 **PKPab 08 52 10.5 -1.4**
TIC Toumodi 157.61 276 *e*P **PKPab 08 52 12.1 -0.5**
LIC Lamto 157.65 275 *e*P **PKPab 08 52 12.1 -0.6**
comp=Z,42nm,1.1s

NOU ***30*** *08:32:52.2,23.˚78S×179.˚54E, h552km, mb4.1, South of Fiji Islands*
NEIC ***30*** *08:32:52.3±2.6, 23.˚7S±0.˚1×179.˚3E±0.˚1, h531km±9km, mb4.7/17, Error ellipse: s-maj=19.3km s-min=15.9km az=98.0*
IDC ***30*** *08:32:54.3±2.0, 23.˚75S×179.˚14E, h539km±22km, mb3.6/8, mb1 3.7/10, mb1mx3.4/51, mbtmp4.5/10, Error ellipse: s-maj=22.0km s-min=19.4km az=118.0*

ISC 30 08:32:53.6±0.6, 23.˚84S±0.˚06×179.˚33E±0.˚09, h548km±, n83, σ1s82/78, mb4.5/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.93**	**156**	P	**P**	**08 34 32.5**	**+1.2**
MSVF	**Nonsavu**	**6.19**	**349**	P	**P**	**08 34 32.3**	**-1.8**
	6.0nm,0.3s,baz=179,slow=6.9,SNR=36						
MSVF	**Nonsavu**	**6.19**	**349**	P	**P**	**08 34 33.0**	**-1.1**
MSVF	**Nonsavu**	**6.19**	**349**	P	**P**	**08 34 32.8**	**-1.3**
MARNC	**Mare, Loyalty**	**10.69**	**280**	P	**P**	**08 35 17.8**	**-0.8**
NIUE	**Niue**	**11.07**	**67**	P	**P**	**08 35 22.0**	**-0.6**
OUENC	**Ouen Island, N**	**11.58**	**275**	P	**P**	**08 35 28.3**	**+0.5**
DZM	**Mont Dzumac**	**12.00**	**276**	P	**P**	**08 35 31.9**	**-0.3**
	0.7nm,0.3s,baz=82,slow=21,SNR=7.5						
DZM	**Mont Dzumac**	**12.00**	**276**	P	**P**	**08 35 32.0**	**-0.3**
DZM	**Mont Dzumac**	**12.00**	**276**	P	**P**	**08 35 33.9**	**+1.6**
OUZ	**Omahuta**	**12.39**	**202**	P	**P**	**08 35 38.0**	**+2.0**
KUZ	**Kuaotunu**	**13.23**	**193**	P	**P**	**08 35 45.8**	**+1.1**
MBAZ	**Motutapu North**	**13.44**	**195**	P	P	08 35 54.6	+7.8
MXZ	**Matakaoa Point**	**13.71**	**183**	P	**P**	**08 35 49.5**	**-0.1**
HAZ	**Te Kaha**	**13.94**	**185**	P	**P**	**08 35 51.9**	**0.0**
PKGZ	**Pakihiroa**	**14.05**	**184**	P	**P**	**08 35 53.1**	**0.0**
SANVU	**Saraoutou**	**14.14**	**304**	IAmb	IAmb	08 36 34.6	
	comp=Z,119nm,0.8s						
SANVU	**Saraoutou**	**14.14**	**304**	P	**P**	**08 35 54.2**	**-0.1**
SANVU	**Saraoutou**	**14.14**	**304**	P	**P**	**08 35 54.4**	**+0.1**
SANVU	**Saraoutou**	**14.14**	**304**	P	**P**	**08 35 54.2**	**-0.1**
SANVU	**Saraoutou**	**14.14**	**304**		**P**	**08 35 54.2**	**-0.1**
RUGZ	**Raukumara Rang**	**14.15**	**185**	P	**P**	**08 35 53.4**	**-0.9**
RUGZ	**Raukumara Rang**	**14.15**	**185**	P	**S**	**08 38 20.3**	**-2.8**
PUZ	**Puketiti**	**14.22**	**183**	P	**P**	**08 35 55.4**	**+0.5**
TOZ	**Tahuroa Road**	**14.23**	**192**	P	**P**	**08 35 56.5**	**+1.6**
TWGZ	**Tauwhareparae**	**14.34**	**184**	P	**P**	**08 35 56.2**	**0.0**
TWGZ	**Tauwhareparae**	**14.34**	**184**	P	**S**	**08 38 23.1**	**-3.5**
LIRZ	**Lichensteins R**	**14.34**	**189**	P	S	08 38 39.8	+13
NGRZ	**Ngongotaha**	**14.47**	**190**	P	**P**	**08 36 00.5**	**+3.0**
URZ	**Urewera**	**14.50**	**187**	P	**P**	**08 35 55.4**	**-2.3**
	comp=Z,2.9nm,0.3s,baz=120,slow=23,SNR=20						
URZ	**Urewera**	**14.50**	**187**	P	**P**	**08 35 55.7**	**-2.0**
URZ	**Urewera**	**14.50**	**187**	P	**P**	**08 35 55.5**	**-2.2**
URZ	**Urewera**	**14.50**	**187**	P	**S**	**08 38 28.2**	**-1.4**
MWZ	**Matawai**	**14.53**	**186**	P	**P**	**08 35 56.2**	**-2.0**
MWZ	**Matawai**	**14.53**	**186**	P	**S**	**08 38 25.5**	**-4.7**
CNGZ	**Carnagh Statio**	**14.63**	**183**	P	**P**	**08 35 58.3**	**-0.8**
RAGZ	**Rawiri**	**14.70**	**186**	P	**P**	**08 35 59.6**	**-0.3**
RIGZ	**Rimuhau**	**14.88**	**185**	P	**P**	**08 36 01.4**	**-0.3**
RIGZ	**Rimuhau**	**14.88**	**185**	P	**S**	**08 38 36.3**	**-0.4**
MTHZ	**Maungataniwha**	**15.12**	**187**	P	**S**	**08 38 40.5**	**-0.5**
RAHZ	**Arahi**	**15.15**	**187**	P	**S**	**08 38 42.2**	**+0.6**
BKZ	**Black Stump Fm**	**15.47**	**188**	P	**P**	**08 36 05.9**	**-1.9**
BKZ	**Black Stump Fm**	**15.47**	**188**	P	**S**	**08 38 42.6**	**-4.5**
MCHZ	**McNeill Hill**	**15.72**	**188**	P	**S**	**08 38 49.3**	**-1.9**
KWHZ	**Kaweka Forest**	**15.73**	**188**	P	**S**	**08 38 46.0**	**-5.6**
PXZ	**Pawanui**	**16.28**	**187**	P	**S**	**08 38 57.5**	**-3.0**
BFZ	**Birch Farm**	**16.99**	**188**	P	**P**	**08 36 22.9**	**+0.7**
BFZ	**Birch Farm**	**16.99**	**188**	P	**S**	**08 39 06.5**	**-5.7**
MSWZ	**Moikau Station**	**17.86**	**190**	P	**P**	**08 36 29.8**	**-0.2**
QRZ	**Quartz Range**	**17.88**	**197**	P	**P**	**08 36 32.1**	**+1.9**
BHW	**Baring Head**	**17.91**	**191**	P	**P**	**08 36 30.3**	**-0.2**
PLWZ	**Palliser**	**18.01**	**190**	P	**P**	**08 36 31.0**	**-0.4**
NNZ	**Nelson**	**18.03**	**195**	P	**P**	**08 36 31.8**	**+0.2**
TUWZ	**Tuamarina**	**18.11**	**193**	P	**P**	**08 36 31.7**	**-0.7**
BSWZ	**Blackbirch Sta**	**18.40**	**193**	P	**P**	**08 36 35.5**	**+0.5**
THZ	**Tophouse**	**18.66**	**195**	P	**P**	**08 36 38.4**	**+0.9**
THZ				IAmb	IAmb	08 36 60.0	
	comp=Z,30nm,1.2s						
KHZ	**Kahutara**	**19.14**	**193**	P	**P**	**08 36 41.4**	**-0.3**
KHZ				IAmb	IAmb	08 36 47.1	
	comp=Z,29nm,1.2s						
OXZ	**Oxford**	**20.35**	**195**	P	**P**	**08 36 52.8**	**+0.1**
OXZ				IAmb	IAmb	08 37 07.1	
	comp=Z,27nm,1.0s						
WKZ	**Wanaka**	**22.57**	**199**	P	**P**	**08 37 12.1**	**-0.5**
WKZ				IAmb	IAmb	08 37 35.5	
	comp=Z,39nm,1.2s						
MLZ	**Mavora Lakes**	**23.33**	**200**	P	**P**	**08 37 19.9**	**+0.4**
MLZ				IAmb	IAmb	08 37 46.3	
	comp=Z,39nm,1.4s						
WHZ	**Wether Hill Ro**	**23.85**	**200**	P	**P**	**08 37 23.1**	**-0.9**
WHZ				IAmb	IAmb	08 37 26.8	
	comp=Z,26nm,1.3s						
CAN	**Canberra**	**28.64**	**239**	P	**P**	**08 38 06.5**	**+0.1**
CAN				IAmb	IAmb	08 38 34.5	
	comp=Z,18nm,1.0s						
CTA	**Charters Tower**	**30.86**	**270**	P	**P**	**08 38 26.0**	**+0.3**
	comp=Z,7.5nm,0.3s,baz=93,slow=10,SNR=12						
CTAO	**Charters Tower**	**30.86**	**270**	P	**P**	**08 38 26.1**	**+0.4**
CTAO				IAmb	IAmb	08 38 27.0	
	comp=Z,15nm,1.1s						
TOO	**Toolangi**	**31.97**	**237**	P	**P**	**08 38 35.4**	**+0.4**
STKA	**Stephens Creek**	**34.17**	**248**	P	**P**	**08 38 53.4**	**-0.2**
	comp=Z,12nm,0.7s,baz=97,slow=8.4,SNR=4.0						
ASAR	**Alice Springs**	**41.44**	**261**	P	**P**	**08 39 52.9**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=98,slow=7.8,SNR=1.4						
WRA	**Warramunga Arr**	**41.80**	**266**	P	**P**	**08 39 55.5**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=93,slow=8.5,SNR=5.8						
MIDW	**Midway**	**51.85**	**4**	P	**P**	**08 41 08.6**	**-2.7**
VNDA	**Vanda**	**54.39**	**185**	P	**P**	**08 41 28.7**	**+0.1**
SBA	**Scott Base**	**54.40**	**183**	P	**P**	**08 41 31.6**	**+2.8**
QSPA	**South Pole Qui**	**66.25**	**180**	P	**P**	**08 42 49.5**	**+2.2**
	comp=Z,9.7nm,1.0s,baz=219,slow=1.4,SNR=34						
QSPA	**South Pole Qui**	**66.25**	**180**	P	**P**	**08 42 49.6**	**+2.2**
QSPA				IAmb	IAmb	08 42 50.4	
	comp=Z,21nm,1.2s						
MJAR	**Matsushiro Arr**	**71.50**	**326**	P	**P**	**08 43 19.4**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=158,slow=5.1,SNR=2.6						
MAW	**Mawson**	**77.59**	**201**	P	**P**	**08 43 54.2**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=131,slow=6.9,SNR=9.5						
MAW	**Mawson**	**77.59**	**201**	P	**P**	**08 43 54.8**	**+1.8**
TXAR	**Lajitas Array**	**90.92**	**58**	P	**P**	**08 45 03.2**	**+3.7**
	comp=Z,0.4nm,0.8s,baz=219,slow=5.7,SNR=5.7						
LSZ	**Lusaka**	**131.97**	**219**		**PKPdf**	**08 51 05.8**	**-0.2**
HFS	**Hagfors**	**142.36**	**348**	PKhKP	PKPpre	08 51 20.9	
	comp=Z,3.8nm,0.4s,baz=64,slow=3.4,SNR=21						
AKASG	**Malin Array Be**	**144.58**	**327**	PKP	PKPbc	08 51 27.4	-0.5
	comp=Z,2.0nm,0.4s,baz=46,slow=4.3,SNR=4.6						
AKASG	**Malin Array Be**	**144.58**	**327**		**PKPab**	**08 51 28.0**	**-0.4**
BRTR	**Keskin Array B**	**147.05**	**307**	PKPbc	**PKiKP**	**08 51 36.2**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=131,slow=3.4,SNR=4.0						
EKA	**Eskdalemuir Ar**	**148.49**	**3**	PKPbc	**PKiKP**	**08 51 38.5**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=343,slow=2.5,SNR=4.5						

PRU 30 08:35:33.9±0.0, 51.˚29N×19.˚17E, h0km, Belchatow, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**1.14**	**159**	*e*Pg	Pb	08 35 56.3	-0.2
OJC				*e*Sg	Sb	08 36 11.8	-0.1
MORC	**Moravsky Berou**	**1.84**	**215**	*e*PN	Pn	08 36 06.7	0.0
MORC				*e*SG	Sn	08 36 30.7	0.0
OSTC	**Ostas**	**2.01**	**250**	*e*PG	Pn	08 36 10.1	+1.0
OSTC				*e*SG	Sg	08 36 40.9	+2.5
	comp=Z,8.6nm,0.7s						
DPC	**Dobruska-Polom**	**2.04**	**244**	*e*PG	Pn	08 36 10.4	+0.9
DPC				*e*SG	Sg	08 36 39.9	+0.6
	comp=Z,6.6nm,0.5s						
CHVC	**Chvalec**	**2.09**	**252**	*e*PG	Pn	08 36 10.9	+0.7
UPC	**Upice**	**2.15**	**250**	*e*SG	Sg	08 36 45.1	+2.3
	comp=Z,7.9nm,0.5s						
LANS	**Liptovska Anna**	**2.15**	**175**	*e*SN	Sg	08 36 42.7	-0.2
VRAC	**Vranov**	**2.58**	**221**	*e*PN	Pg	08 36 22.5	-0.8
VRAC				*e*SG	Sb	08 36 54.4	+1.1

NEIC ***30*** *08:45:11.4±2.2, 15.˚46S±0.˚08×172.˚85W±0.˚08, h10km±1km, mb4.5/13, Error ellipse: s-maj=15.8km s-min=9.5km az=316.0*
IDC ***30*** *08:45:13.4±4.1, 15.˚33S×173.˚35W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/50, mbtmp3.9/5, Error ellipse: s-maj=204.7km s-min=28.3km az=139.0*

ISC 30 08:45:13.0±0.8, 15.˚7S±0.˚1×172.˚92W±0.˚09, h10km, n25, σ0s86/23, mb4.2/11, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**32**	Pn	Pn	08 45 40.6	-7.6
NIUE	**Niue**	**4.42**	**140**	Pn	**Pn**	**08 46 21.2**	**+1.1**
MSVF	**Nonsavu**	**8.88**	**256**	Pn	Pn	08 47 30.6	+9.0
	0.4nm,0.3s,baz=132,slow=20,SNR=4.4						
MSVF	**Nonsavu**	**8.88**	**256**	Pn	**Pn**	**08 47 22.1**	**+0.5**
RAR	**Rarotonga**	**13.63**	**116**	Pn	**Pn**	**08 48 25.4**	**-1.1**
DZM	**Mont Dzumac**	**20.52**	**249**	P	**P**	**08 49 51.1**	**-0.6**
DZM				IAmb	IAmb	08 49 58.3	
	comp=Z,17nm,1.2s						
MXZ	**Matakaoa Point**	**23.13**	**198**	P	**P**	**08 50 19.3**	**-0.1**
URZ	**Urewera**	**24.14**	**199**	P	**P**	**08 50 30.1**	**+0.9**
URZ				IAmb	IAmb	08 50 32.6	
	comp=Z,27nm,1.2s						
BFZ	**Birch Farm**	**26.62**	**199**	P	**P**	**08 50 50.3**	**-1.5**
BFZ				IAmb	IAmb	08 50 58.2	
	comp=Z,33nm,1.2s						
LTZ	**Lake Taylor**	**29.83**	**202**	P	**P**	**08 51 21.0**	**+0.6**
STKA	**Stephens Creek**	**44.29**	**240**	P	**P**	**08 53 23.5**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=85,slow=8.6,SNR=4.9						
STKA	**Stephens Creek**	**44.29**	**240**	P	**P**	**08 53 24.1**	**+0.8**
BBOO	**Buckleboo**	**49.06**	**240**	P	**P**	**08 54 00.1**	**-0.5**
WR0	**Warramunga Arr**	**50.03**	**257**	P	**P**	**08 54 08.4**	**+0.1**
WR0				IAmb	IAmb	08 54 20.5	
	comp=Z,3.9nm,1.4s						
WB0	**Warramunga Arr**	**50.19**	**257**	P	**P**	**08 54 09.8**	**+0.4**
WB0				IAmb	IAmb	08 54 24.4	
	comp=Z,3.3nm,1.1s						
WB2	**Warramunga Arr**	**50.21**	**257**	P	**P**	**08 54 08.4**	**-1.2**
WB2				IAmb	IAmb	08 54 18.4	
	comp=Z,3.1nm,0.8s						
WRA	**Warramunga Arr**	**50.23**	**257**	P	**P**	**08 54 08.7**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=92,slow=7.0,SNR=16						
WRA	**Warramunga Arr**	**50.23**	**257**	P	**P**	**08 54 08.2**	**-1.5**
AS31	**Alice Springs**	**50.46**	**252**	P	**P**	**08 54 11.1**	**-0.3**
ASAR	**Alice Springs**	**50.46**	**252**	P	**P**	**08 54 11.4**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=85,slow=8.0,SNR=57						
ASAR	**Alice Springs**	**50.46**	**252**	P	**P**	**08 54 10.3**	**-1.2**
QSPA	**South Pole Qui**	**74.35**	**180**	P	**P**	**08 56 50.5**	**-0.3**
QSPA				IAmb	IAmb	08 57 02.1	
	comp=Z,9.8nm,1.4s						
ILAR	**Eielson Array**	**82.64**	**11**	P	**P**	**08 57 36.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=226,slow=6.1,SNR=2.4						
YKA	**Yellowknife Ar**	**90.18**	**23**	P	**P**	**08 58 14.2**	**+0.9**
	comp=Z,0.2nm,0.9s,baz=233,slow=4.3,SNR=3.2						
BRTR	**Keskin Array B**	**146.67**	**321**	PKPbc	**PKPab**	**09 04 56.9**	**+0.2**
	comp=Z,1.7nm,1.0s,baz=81,slow=4.7,SNR=5.8						

IDC 30 08:46:10.2±3.6, 5.˚25S×153.˚18E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/40, mbtmp3.6/3, Error ellipse: s-maj=136.0km s-min=35.9km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.44**	**230**	P	P	08 51 20.9	-0.4
	0.7nm,0.5s,baz=54,slow=10.0,SNR=9.6						
ASAR	**Alice Springs**	**26.08**	**224**	P	P	08 51 46.0	+0.3
	0.4nm,0.7s,baz=58,slow=9.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**81.73**	**326**	P	P	08 58 30.8	+0.2
	0.7nm,0.5s,baz=115,slow=6.5,SNR=2.0						
TORD	**Torodi Ar. Bea**	**150.80**	**288**	PKPbc	PKPbc	09 06 05.3	-0.4
	0.9nm,0.7s,baz=50,slow=2.5,SNR=4.8						

MOS ***30*** *08:48:23.9±1.0, 15.˚36S×173.˚03W, h5km, mb5.9/70, MS6.5/27, Error ellipse: s-maj=8.0km s-min=6.4km az=74.9*
BJI ***30*** *08:48:23.0±0.0, 15.˚51S×172.˚94W, h5km, mB6.9/57, mb5.4/54, Ms6.6/73, Ms7.6/3/66*
IDC ***30*** *08:48:24.6±0.3, 15.˚41S×173.˚12W, h0km, mb5.0/40, mb1 5.1/40, mb1mx5.0/51, mbtmp5.0/40, MS6.3/43, Ms1 6.3/43, ms1mx6.3/45, Error ellipse: s-maj=12.9km s-min=10.5km az=141.0*
NEIC ***30*** *08:48:25.3±1.8, 15.˚50S±0.˚07×173.˚03W±0.˚08, h11km±1km, mb5.8/332, Ms_20 6.5/689, Mwb6.4/16, Mww6.5, Mwc6.5(GCMT), Error ellipse: s-maj=14.1km s-min=11.8km az=53.0*
NEIC ***30*** *08:48:26.3, 15.˚52S×172.˚94W, h11km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr2.43; Mθθ0.03; Mϕϕ-2.47; Mrθ1.33; Mrϕ0.07; Mθϕ3.34; Fault plane solution: Mo4.35000×10¹⁸ NP1:ϕs163.25000°, δ19.64000°, λ57.83000°. NP2:ϕs16.98000°, δ73.47000°, λ100.76000°. Principal axes: T 4.4636, Plg60.0000°, Azm302.0000°; N -0.2322, Plg10.0000°, Azm194.0000°; P -4.2313, Plg28.0000°, Azm98.0000°;*
NEIC ***30*** *08:48:34, 15.˚35S×172.˚71W, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr5.77; Mθθ-0.15; Mϕϕ-5.62; Mrθ0.12; Mrϕ0.80; Mθϕ4.60; Fault plane solution: Mo7.36000×10¹⁸ NP1:ϕs166.00000°, δ26.00000°, λ79.00000°. NP2:ϕs358.00000°, δ64.00000°, λ95.00000°. Principal axes: T 7.4106, Plg70.0000°, Azm279.0000°; N -0.0944, Plg5.0000°, Azm176.0000°; P -7.3162, Plg19.0000°, Azm84.0000°;*
NEIC ***30*** *08:48:34, 15.˚35S×172.˚63W, h17km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr4.42; Mθθ0.76; Mϕϕ-5.19; Mrθ0.93; Mrϕ0.47; Mθϕ4.16; Fault plane solution: Mo6.47000×10¹⁸ NP1:ϕs161.00000°, δ26.00000°, λ66.00000°. NP2:ϕs8.00000°, δ66.00000°, λ101.00000°. Principal axes: T 6.1696, Plg67.0000°, Azm299.0000°; N 0.5707, Plg10.0000°, Azm183.0000°; P -6.7403, Plg20.0000°, Azm89.0000°;*
GCMT ***30*** *08:48:34.0±0.1, 15.˚37S×172.˚65W, h17km, MW6.4/173, Moment Tensor Solution. s169,c415; s173,c582; Duration: 4s1 Moment tensor: Scale 10¹⁸Nm; Mrr4.32±.03; Mθθ0.58±.02; Mϕϕ-4.90±.03; Mrθ1.29±.07; Mθϕ0.48±.02; Mrϕ3.22±.07; Best double couple: Mo5.80800×10¹⁸ NP1:ϕs158.00000°, δ30.00000°, λ60.00000°. NP2:ϕs11.00000°, δ64.00000°, λ106.00000°. Principal axes: T 5.7030, Plg67.0000°, Azm312.0000°; N 0.2110, Plg15.0000°, Azm184.0000°; P -5.9140, Plg17.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NOU ***30*** *08:48:35.2, 16.˚13S×172.˚71W, h76km, mb5.4, Samoa Islands Region*

ISC 30 08:48:26.1±0.4, 15.˚57S±0.˚04×172.˚91W±0.˚04, h16km±2km, h16km:pP-P, n1445, σ1965/1146, mb5.7/255, MS6.5/422, 97C-43D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.99**	**34**		Pn	08 48 52.3	-6.9
NIUE	**Niue**	**4.50**	**141**	P	**Pn**	**08 49 32.2**	**-1.5**
	baz=4.6,SNR=78						
NIUE				S	**Sn**	**08 50 20.0**	**-5.8**
	baz=4.6						
NIUE	**Niue**	**4.50**	**141**	Pn	**Pn**	**08 49 32.7**	**-1.0**
NIUE	**Niue**	**4.50**	**141**	P	**Pn**	**08 49 33.3**	**-0.4**
MSVF	**Nonsavu**	**8.92**	**255**	Pn	Pn	08 50 41.9	+7.3
	1.9nm,0.3s,baz=90,slow=10.0,SNR=43						
MSVF				LR	LR	08 53 33.3	
	comp=Z,523µm,18.8s,baz=111,slow=35						
MSVF	**Nonsavu**	**8.92**	**255**		Pn	08 50 43.3	+8.7
MSVF	**Nonsavu**	**8.92**	**255**	P	Pn	08 50 43.3	+8.7
FUNA	**Funafuti**	**10.42**	**311**	Pn	**Pn**	**08 50 50.9**	**-4.1**
FUNA	**Funafuti**	**10.42**	**311**	P	Pn	08 51 09.2	+14
KNTN	**Kanton**	**12.77**	**5**	Pn	**Pn**	**08 51 25.0**	**-2.3**
RAR	**Rarotonga**	**13.67**	**116**	Pn	**Pn**	**08 51 35.9**	**-3.6**
	8.1nm,0.3s,baz=265,slow=2.1,SNR=12						
RAR				LR	LR	08 55 50.9	
	comp=Z,110µm,20.8s,baz=351,slow=32						
RAR				T	T	09 05 55.1	
	40nm,0.3s,baz=355,slow=19,SNR=3.8						
RAR	**Rarotonga**	**13.67**	**116**	P	**Pn**	**08 51 38.0**	**-1.4**
RAR	**Rarotonga**	**13.67**	**116**	Pn	**Pn**	**08 51 38.0**	**-1.4**
RAR	**Rarotonga**	**13.67**	**116**	P	**Pn**	**08 51 38.6**	**-0.9**
RAO	**Raoul Island**	**14.37**	**198**	Pn	**P**	**08 51 55.0**	**-1.0**
	20nm,0.3s,baz=19,slow=14,SNR=3.6						
RAO				Sn	**Sn**	**08 54 28.5**	**+0.3**
	29nm,0.3s,baz=82,slow=23,SNR=4.2						
RAO				LR	LR	08 56 13.9	
	comp=Z,80µm,19.4s,baz=19,slow=32						
GLKZ	**Green Lake**	**14.38**	**198**	P	**Pn**	**08 51 50.1**	**+0.9**
GLKZ				S	**Sn**	**08 54 22.4**	**-6.0**
MARNC	**Mare, Loyalty**	**18.99**	**249**	P	**Pn**	**08 52 49.3**	**+1.4**
PINNC	**Pines Island,**	**19.82**	**246**	P	**Pn**	**08 52 58.5**	**+0.6**
YATNC	**Mamie plateau,**	**20.16**	**248**	P

TMVZ **Te Maari** 25.49 201 P **P** **08 53 58.2 +4.4**
ETVZ **East Tongariro** 25.51 201 P **P** **08 53 58.4 +4.4**
KWHZ **Kaweka Forest** 25.53 199 P **P** **08 53 59.4 +5.2**
OTVZ **Oturere** 25.55 201 P **P** **08 53 58.7 +4.2**
NGZ **Ngauruhoe** 25.58 201 P P 08 54 03.1 +8.4
TUVZ **Tukino** 25.64 201 P **P** **08 54 00.6 +5.3**
BHHZ **Black Hill Sta** 25.71 200 P **P** **08 53 58.4 +2.6**
WNVZ **Wahianoa** 25.72 201 P **P** **08 54 01.6 +5.6**
KAHZ **Kahuranaki** 25.73 198 P **P** **08 54 01.6 +5.7**
MOVZ **Moawhango** 25.74 201 P **P** **08 54 00.7 +4.7**
KRHZ **Kereru** 25.75 199 P **P** **08 54 01.8 +5.7**
PKVZ **Pokaka** 25.77 201 P P 08 54 03.5 +7.1
VRZ **Vera Road** 25.84 202 P P 08 54 05.0 +8.2
PXZ **Pawanui** 25.95 198 P **P** **08 54 04.3 +6.4**
WPHZ **Waipukurau** 26.11 199 P **P** **08 54 05.4 +6.0**
NEZ **North Egmont** 26.21 203 P P 08 54 07.6 +7.2
PRHZ **Porangahau** 26.23 198 P **P** **08 54 07.4 +6.9**
TSZ **Takapari Road** 26.26 200 P **P** **08 54 05.0 +4.3**
WAZ **Wanganui** 26.31 201 P P 08 54 08.3 +7.2
DVHZ **Dannevirke** 26.41 199 P **P** **08 54 08.6 +6.5**
ANWZ **Angora Road** 26.46 198 P P 08 54 13.8 +11
BFZ **Birch Farm** 26.73 199 P **P** **08 54 04.7 -0.2**
BFZ **Birch Farm** 26.73 199 P **P** **08 54 08.5 +3.5**
MRZ **Mangatainoka R** 26.92 200 P **P** **08 54 11.4 +4.8**
HOWZ **Holdsworth Sta** 27.16 199 P **P** **08 54 13.5 +4.7**
HNR **Honiara** 27.17 280 LR LR 09 03 23.8
comp=Z,137µm,18.1s,baz=117,slow=33
HNR **Honiara** 27.17 280 IAMs_20 IAMs_20 09 03 13.1
comp=Z,131µm,18.0s
OGWZ **Otaki Gorge** 27.20 200 P **P** **08 54 14.7 +5.6**
DUWZ **D'Urville Isla** 27.62 202 P **P** **08 54 16.8 +3.9**
MSWZ **Moikau Station** 27.71 199 P **P** **08 54 14.3 +0.5**
BHW **Baring Head** 27.83 200 P **P** **08 54 16.8 +2.1**
PLWZ **Palliser** 27.85 199 P **P** **08 54 14.6 -0.5**
QRZ **Quartz Range** 28.16 204 P **P** **08 54 19.2 +1.5**
QRZ IAmb IAmb 08 54 41.7
comp=Z,107nm,0.7s
QRZ **Quartz Range** 28.16 204 P **P** **08 54 21.8 +4.1**
TUWZ **Tuamarina** 28.16 201 P **P** **08 54 17.5 -0.3**
NNZ **Nelson** 28.18 202 P P 08 54 23.1 +5.2
THZ **Tophouse** 28.83 202 P **P** **08 54 22.7 -1.1**
THZ **Tophouse** 28.83 202 P **P** **08 54 27.3 +3.5**
KHZ **Kahutara** 29.18 201 P **P** **08 54 26.3 -0.4**
KHZ **Kahutara** 29.18 201 P **P** **08 54 30.2 +3.5**
DSZ **Dennistoun Nort** 29.23 204 P **P** **08 54 31.0 +3.7**
GVZ **Greta Valley S** 29.84 201 P **P** **08 54 35.2 +2.6**
LTZ **Lake Taylor** 29.95 202 P **P** **08 54 32.9 -0.8**
LTZ **Lake Taylor** 29.95 202 P **P** **08 54 35.6 +2.0**
INZ **Inchbonnie** 30.20 203 P **P** **08 54 36.9 +1.0**
OXZ **Oxford** 30.50 202 P **P** **08 54 38.9 +0.4**
OXZ IAmb IAmb 08 54 50.3
comp=Z,78nm,0.8s
OXZ **Oxford** 30.50 202 P **P** **08 54 41.2 +2.7**
WVZ **Waitaha Valley** 30.77 204 P **P** **08 54 43.9 +3.0**
KWAJ **Kwajalein Atol** 30.96 320 IAMs_20 IAMs_20 09 04 21.6
comp=Z,115µm,20.0s
GCSZ **Gaunt Creek Bo** 31.14 204 P **P** **08 54 47.9 +3.8**
RPZ **Rata Peaks** 31.20 203 P **P** **08 54 47.0 +2.3**
comp=Z,10nm,0.7s,baz=35,slow=18,SNR=2.2
RPZ **Rata Peaks** 31.20 203 P **P** **08 54 45.7 +1.0**
RPZ IAMs_20 IAMs_20 09 07 19.2
comp=Z,70µm,19.0s
RPZ **Rata Peaks** 31.20 203 P P 08 54 49.9 +5.2
FOZ **Fox Glacier** 31.52 204 P **P** **08 54 46.5 -1.0**
FOZ IAmb IAmb 08 54 52.9
comp=Z,132nm,1.1s
LBZ **Lake Benmore** 32.10 203 IAMs_20 IAMs_20 09 08 37.0
comp=Z,80µm,18.0s
TAOE **Nuku Hiva Isla** 32.68 82 *e*S **S** **09 00 13.0 -1.2**
comp=Z,11µm,24.9s
TAOE *e*LR LR 09 03 24.5
comp=Z,150µm,28.0s,baz=258
TAOE **Nuku Hiva Isla** 32.68 82 *e*T T 09 29 20.2
comp=Z,98nm,0.2s
WKZ **Wanaka** 32.92 204 IAMs_20 IAMs_20 09 07 22.7
comp=Z,74µm,22.0s
MLZ **Mavora Lakes** 33.72 204 P **P** **08 55 06.7 -0.1**
MLZ IAmb IAmb 08 55 21.9
comp=Z,112nm,1.0s
DCZ **Deep Cove** 34.19 205 P **P** **08 55 11.3 +0.5**
DCZ IAmb IAmb 08 55 28.6
comp=Z,214nm,1.6s
DCZ IAMs_20 IAMs_20 09 09 47.4
comp=Z,65µm,19.0s
WHZ **Wether Hill Ro** 34.22 204 P **P** **08 55 12.6 +1.5**
PYZ **Puysegur Point** 34.95 205 IAMs_20 IAMs_20 09 10 11.6
comp=Z,63µm,20.0s
EIDS **Eidsvold** 35.01 248 P **P** **08 55 16.1 -2.1**
ARMA **Armidale** 35.66 239 P **P** **08 55 24.1 +0.3**
baz=36,SNR=13
ARMA **Armidale** 35.66 239 P **P** **08 55 23.3 -0.5**
RKT **Rikitea** 36.49 108 *e*S **S** **09 01 12.6 -0.1**
comp=Z,5µm,27.8s
RKT *e*LQ LQ 09 03 53.9
comp=Z,27µm,28.8s
RKT *e*LR LR 09 05 26.3
comp=Z,131µm,25.5s
MGCD **Mangrove Creek** 36.94 235 P **P** **08 55 35.7 +1.1**
baz=37,SNR=6.2
RMQ **Roma** 37.26 247 P **P** **08 55 38.6 +1.2**
baz=38,SNR=16
CNB **Canberra Magne** 39.02 233 P **P** **08 55 52.4 +0.2**
baz=39,SNR=21
CTA **Charters Tower** 39.06 257 P **P** **08 55 51.8 -0.9**
comp=Z,12nm,0.9s,baz=93,slow=13,SNR=7.5
CTA LR LR 09 10 16.9
comp=Z,92µm,18.2s,baz=99,slow=34
CTAO **Charters Tower** 39.06 257 P **P** **08 55 52.5 -0.2**
CTAO pmax pmax
comp=Z,28nm,1.1s
CTAO **Charters Tower** 39.06 257 P **P** **08 55 52.5 -0.2**
CAN **Canberra** 39.30 233 P **P** **08 55 52.7 -1.9**
CAN pmax pmax
comp=Z,36nm,0.9s
CAN **Canberra** 39.30 233 P **P** **08 55 52.7 -1.9**
CAN IAMs_20 IAMs_20 09 10 17.1
comp=Z,70µm,18.0s
H11S2 **WAKE ISLAND Hy** 39.35 329 T T 09 37 25.7
baz=149,slow=76,SNR=18
H11S3 **WAKE ISLAND Hy** 39.37 329 T T 09 37 22.9
baz=149,slow=76,SNR=9.3
H11S1 **WAKE ISLAND Hy** 39.37 329 T T 09 37 15.5
baz=149,slow=76,SNR=18
PMG **Port Moresby** 39.41 274 P **P** **08 55 55.3 -0.3**
comp=Z,57nm,1.1s,baz=21,slow=12,SNR=6.3
PMG LR LR 09 09 50.6
comp=Z,44µm,20.1s,baz=56,slow=33
PMG **Port Moresby** 39.41 274⇓ *e*P **P** **08 55 55.0 -0.7**
PMG pmax pmax
comp=Z,107nm,1.3s
PMG MLR MLR
comp=Z,42µm,17.0s
PMG **Port Moresby** 39.41 274 P **P** **08 55 54.1 -1.6**
PMG **Port Moresby** 39.41 274 IAMs_20 IAMs_20 09 09 37.7
comp=Z,49µm,19.0s
KIP **Kipapa** 39.57 22⇑ *e*P **P** **08 55 56.5 -0.3**
KIP pmax pmax
comp=Z,238nm,1.4s
WAKE **Wake Island** 40.05 329 P **P** **08 56 00.6 -0.2**
WAKE **Wake Island** 40.05 329 IAMs_20 IAMs_20 09 09 16.6
comp=Z,50µm,19.0s
H11N3 **WAKE ISLAND Hy** 40.30 330 T T 09 38 41.0
baz=149,slow=76,SNR=33
H11N1 **WAKE ISLAND Hy** 40.30 330 T T 09 38 45.4
baz=149,slow=76,SNR=29
H11N2 **WAKE ISLAND Hy** 40.31 330 T T 09 38 48.9
baz=149,slow=76,SNR=30
CMSA **Cobar Meteorol** 40.87 240 P **P** **08 56 07.3 -0.3**
baz=41,SNR=59
MTSU **Mount Surprise** 40.95 260 P **P** **08 56 08.4 -0.1**
baz=41,SNR=19
QLP **Quilpie** 41.28 247 P **P** **08 56 12.6 +1.6**
baz=42,SNR=5.1
COEN **Coen** 42.44 266 P **P** **08 56 20.4 -0.3**
TOO **Toolangi** 42.72 231 P **P** **08 56 23.2 +0.5**
baz=43,SNR=12
TOO **Toolangi** 42.72 231 P **P** **08 56 22.2 -0.5**
TOO pmax pmax
comp=Z,144nm,1.3s
TOO **Toolangi** 42.72 231 P **P** **08 56 22.2 -0.5**
MIDW **Midway** 43.74 354 P **P** **08 56 28.7 -2.1**
MIDW IAmb IAmb 08 56 51.8
comp=Z,413nm,1.6s
STKA **Stephens Creek** 44.36 240 P **P** **08 56 35.3 -0.6**
comp=Z,40nm,0.8s,baz=82,slow=8.5,SNR=40
STKA LR LR 09 14 35.3
comp=Z,39µm,18.1s,baz=75,slow=36
STKA **Stephens Creek** 44.36 240 P **P** **08 56 35.6 -0.3**
baz=45,SNR=16
STKA **Stephens Creek** 44.36 240‖ *e*P **P** **08 56 35.7 -0.3**
STKA **Stephens Creek** 44.36 240 P **P** **08 56 34.6 -1.3**
ARPS **Mount Arapiles** 45.26 233 P **P** **08 56 43.0 -0.1**
baz=46,SNR=12
QIS **Mount Isa** 45.29 256 P **P** **08 56 42.5 -1.1**
baz=46,SNR=8.2
HTT **Hallett** 46.85 239 P **P** **08 56 55.8 +0.1**
baz=47,SNR=24
JAY **Jayapura** 47.48 281 P **P** **08 56 59.1 -1.8**
comp=Z,30nm,1.0s,baz=136,slow=3.0,SNR=4.0
JAY LR LR 09 15 28.2
comp=Z,52µm,20.7s,baz=92,slow=34
GENI **Genyem** 47.96 281 P **P** **08 57 01.6 -3.0**
comp=Z,10µmcomp=Z,130nm,1.4s
BBOO **Buckleboo** 49.13 240 P **P** **08 57 13.1 -0.2**
baz=49,SNR=21
BBOO **Buckleboo** 49.13 240 P **P** **08 57 12.6 -0.8**
BBOO IAmb IAmb 08 57 32.3
comp=Z,205nm,1.8s
BBOO IAMs_20 IAMs_20 09 17 18.5
comp=Z,51µm,19.0s
WR0 **Warramunga Arr** 50.07 257 P **P** **08 57 18.6 -2.1**
WR0 IAmb IAmb 08 57 30.0
comp=Z,76nm,1.1s
WB0 **Warramunga Arr** 50.22 257 P **P** **08 57 19.8 -2.1**
WB0 IAmb IAmb 08 57 27.4
comp=Z,212nm,1.5s
WC3 **Warramunga Arr** 50.23 257 P **P** **08 57 21.0 -0.9**
baz=50
WB2 **Warramunga Arr** 50.25 257 P **P** **08 57 20.0 -2.1**
WB2 IAmb IAmb 08 57 31.4
comp=Z,162nm,1.3s
WRAB **Tennant Creek** 50.25 257⇑ *e*P **P** **08 57 19.9 -2.2**
WRAB pmax pmax
comp=Z,118nm,1.2s
WRAB **Tennant Creek** 50.25 257 P **P** **08 57 19.9 -2.2**
WRAB IAmb IAmb 08 57 31.3
comp=Z,130nm,1.2s
WRA **Warramunga Arr** 50.26 257 P **P** **08 57 20.1 -2.0**
comp=Z,42nm,1.2s,baz=91,slow=7.1,SNR=62
WRA LR LR 09 17 00.2
comp=Z,61µm,20.2s,baz=90,slow=34
WRA **Warramunga Arr** 50.26 257 P **P** **08 57 19.8 -2.3**
WRA **Warramunga Arr** 50.26 257 P **P** **08 57 19.8 -2.3**
AS31 **Alice Springs** 50.50 252 P **P** **08 57 22.4 -1.5**
ASAR **Alice Springs** 50.50 252 P **P** **08 57 22.4 -1.5**
comp=Z,57nm,0.7s,baz=86,slow=7.8,SNR=135
ASAR LR LR 09 17 30.4
comp=Z,110µm,19.2s,baz=94,slow=35
ASAR **Alice Springs** 50.50 252 P **P** **08 57 22.0 -2.0**
ASAR **Alice Springs** 50.50 252 P **P** **08 57 21.9 -2.0**
ASPA **Alice Springs** 50.51 252 P **P** **08 57 23.4 -0.6**
baz=51
KDU **Kakadu** 52.92 266 P **P** **08 57 43.4 +1.3**
baz=53,SNR=3.9
MTN **Manton Dam** 54.19 265 P **P** **08 57 50.4 -0.9**
MTN IAmb IAmb 08 57 59.3
comp=Z,72nm,1.2s
FAKI **Fak Fak** 55.40 277 P **P** **08 57 58.7 -1.5**
FAKI IAMs_20 IAMs_20 09 19 32.4
comp=Z,36µm,21.0s
FAKI **Fak Fak** 55.40 277 P **P** **08 58 01.0 +0.8**
comp=Z,36nm,1.1s
WRKA **Warakurna** 55.58 250 P **P** **08 58 00.1 -1.3**
baz=56,SNR=117
FORT **Forrest** 55.76 243 P **P** **08 58 01.6 -0.9**
baz=56,SNR=12
FORT **Forrest** 55.76 243 P **P** **08 58 00.8 -1.7**
FORT IAmb IAmb 08 58 09.1
comp=Z,105nm,1.0s
SIJI **Sorong** 56.95 279 P **P** **08 58 09.9 -1.4**
comp=Z,79nm,1.0s,baz=67,slow=6.5,SNR=16
SWI **Sorong** 56.96 279 P **P** **08 58 12.1 +0.8**
comp=Z,8µmcomp=Z,127nm,1.1s
FITZ **Fitzroy Crossi** 58.63 258 LR LR 09 21 46.4
comp=Z,83µm,20.3s,baz=101,slow=34
FITZ **Fitzroy Crossi** 58.63 258 P **P** **08 58 22.9 -0.2**
FITZ IAmb IAmb 08 58 35.0
comp=Z,101nm,1.9s
NLAI **Namlea** 60.24 275 P **P** **08 58 33.5 -0.8**
comp=Z,43nm,1.5s
JCJ **Chichijima** 60.81 314 P **P** **08 58 37.8 0.0**
KMBL **Kambalda** 61.06 243 P **P** **08 58 38.4 -1.1**
baz=61,SNR=8.8
TNTI **Ternate** 61.16 280 P **P** **08 58 40.2 -0.3**
TNTI IAmb IAmb 08 59 18.5
comp=Z,73nm,1.2s
SOEI **Soe** 61.39 267 P **P** **08 58 41.6 -0.6**
SOEI **Soe** 61.39 267 P **P** **08 58 39.3 -2.9**
comp=Z,183nm,1.1s
SANI **Sanana** 61.64 276 P **P** **08 58 41.8 -2.0**
comp=Z,6µmcomp=Z,48nm,1.4s
BATI **Baumata** 61.87 267 LR LR 09 23 38.6
comp=Z,47µm,20.9s,baz=114,slow=34
SBA **Scott Base** 63.12 185 P **P** **08 58 54.7 +2.1**
SBA pmax pmax
comp=Z,306nm,1.7s
SBA **Scott Base** 63.12 185 P **P** **08 58 54.7 +2.1**
SBA **Scott Base** 63.12 185 IAMs_20 IAMs_20 09 25 28.7
comp=Z,24µm,18.0s
VNDA **Vanda** 63.25 186 P **P** **08 58 55.8 +2.3**
comp=Z,12nm,1.0s,baz=5.2,slow=6.1,SNR=26
VNDA LR LR 09 24 22.7
comp=Z,12µm,18.5s,baz=20,slow=34
VNDA **Vanda** 63.25 186 P **P** **08 58 56.2 +2.7**
VNDA IAmb IAmb 08 59 16.2
comp=Z,146nm,1.4s
MMRI **Maumere** 63.59 268 P **P** **08 58 56.8 +0.1**
PSA00 **Pilbara Seismi** 63.60 253 P **P** **08 58 56.4 -0.4**
PSA00 IAmb IAmb 08 59 02.6
comp=Z,141nm,1.6s
PSAB1 **Pilbara Seismi** 63.63 253 IAMs_20 IAMs_20 09 27 15.2
comp=Z,38µm,19.0s
PSAD1 **Pilbara Seismi** 63.63 254 IAMs_20 IAMs_20 09 24 21.4
comp=Z,38µm,20.0s
MBWA **Marble Bar** 63.76 254 P **P** **08 58 59.1 +1.3**
EDFI **Ende, Flores** 64.09 268 P P 08 58 55.3 -4.9
KLBR **Kellerberrin** 64.57 242 P **P** **08 59 03.1 +0.1**
baz=65,SNR=17
DAV **Davao City (W)** 64.93 286 LR LR 09 26 05.8
comp=Z,22µm,18.3s,baz=86,slow=35
NWAO **Narrogin (SRO)** 64.94 241 P **P** **08 59 05.8 +0.4**
baz=65,SNR=6.2
NWAO **Narrogin (SRO)** 64.94 241 P **P** **08 59 06.1 +0.7**
NWAO pmax pmax
comp=Z,78nm,1.2s
NWAO **Narrogin (SRO)** 64.94 241 P **P** **08 59 06.0 +0.7**
NWAO IAmb IAmb 08 59 08.2
comp=Z,78nm,1.2s
NWAO **Narrogin (SRO)** 64.94 241 P **P** **08 59 05.2 -0.2**
NWAO IAmb IAmb 08 59 08.2
comp=Z,63nm,1.2s
NWAO **Narrogin (SRO)** 64.94 241 IAMs_20 IAMs_20 09 23 21.1
comp=Z,21µm,19.0s
NWAO **Narrogin (SRO)** 64.94 241 P **P** **08 59 06.4 +1.0**
NWAO P **P** **08 59 06.4 +1.0**
LUWI **Luwuk** 65.01 276 P **P** **08 59 05.7 -0.4**
LUWI IAmb IAmb 08 59 20.9
comp=Z,94nm,0.9s
BLDU **Ballidu** 65.53 243 P **P** **08 59 09.7 +0.5**
baz=66,SNR=13
MUN **Mundaring** 65.86 242 P **P** **08 59 11.6 +0.2**
baz=66,SNR=8.3
JHJ **Hachijo jima 2** 66.21 318 P **P** **08 59 13.4 0.0**
comp=Z,213nm,1.0s,baz=184,slow=8.5,SNR=4.5
MORW **Morawa** 66.23 245 P **P** **08 59 13.5 -0.3**
baz=66,SNR=7.3
MORW **Morawa** 66.23 245 P **P** **08 59 13.5 -0.3**
KAPI **Kappang** 66.85 271 LR LR 09 25 55.9
comp=Z,15µm,21.5s,baz=106,slow=34
KAPI **Kappang** 66.85 271 P **P** **08 59 20.8 +2.8**
KAPI P **P** **08 59 20.8 +2.8**
ATKA **Atka Island** 67.50 359 P **P** **08 59 21.4 +0.2**
TOLI2 **Tolitoli** 67.54 278 P **P** **08 59 22.0 -0.3**
TOLI2 IAmb IAmb 09 00 00.2
comp=Z,64nm,1.4s
JYT **Yasato** 67.94 320 P **P** **08 59 24.6 +0.3**
JSG **Sagara** 68.22 318 P **P** **08 59 26.8 +0.6**
JMM **Marumori** 68.66 322 P **P** **08 59 28.5 -0.3**
TWSI **Taliwang, Sumb** 68.72 267 P **P** **08 59 29.9 +0.2**
comp=Z,3µmcomp=Z,52nm,1.1s
SMY **Shemya** 68.94 352 IAMs_20 IAMs_20 09 24 28.7
comp=Z,34µm,20.0s
JGF **Kuroka** 69.33 318 P **P** **08 59 33.1 0.0**
JGF IAmb IAmb 08 59 39.2
comp=Z,90nm,1.3s
MJAR **Matsushiro Arr** 69.37 320 P **P** **08 59 33.0 -0.3**
comp=Z,39nm,1.1s,baz=156,slow=5.7,SNR=40
MJAR LR LR 09 24 01.5
comp=Z,38µm,22.0s,baz=135,slow=31
MJAR **Matsushiro Arr** 69.37 320 P **P** **08 59 33.0 -0.3**
MJAR pmax pmax
comp=Z,31nm,1.2s
MJAR **Matsushiro Arr** 69.37 320 P **P** **08 59 33.0 -0.3**
MAJO **Matsushiro** 69.38 320⇑ *i*P **P** **08 59 33.0 -0.3**
MAJO pmax pmax
comp=Z,106nm,1.5s
MAJO **Matsushiro** 69.38 320 P **P** **08 59 33.1 -0.2**
MAJO IAmb IAmb 08 59 39.5
comp=Z,164nm,1.6s
MAT **Matsushiro** 69.38 320 P **P** **08 59 32.8 -0.5**
MAT S **S** **09 08 43.0 +3.1**
INU **Inuyama** 69.39 318 P **P** **08 59 33.5 +0.1**
INU IAmb IAmb 08 59 39.8
comp=Z,65nm,1.3s
ERM **Erimo** 70.17 327⇑ *e*P **P** **08 59 37.3 -0.7**
ERM pmax pmax
comp=Z,72nm,1.4s
ERM **Erimo** 70.17 327 P **P** **08 59 37.4 -0.7**
ERM IAmb IAmb 08 59 48.1
comp=Z,98nm,1.4s
KUR **Kuril'sk** 70.20 332⇑ *e*P **P** **08 59 37.7 -0.4**
KUR pmax pmax
comp=Z,284nm,1.1s
YUK **Yuzh-Kuril'sk** 70.25 330 P **P** **08 59 38.4 -0.1**
YUK *e*S **S** **09 08 48.2 -1.5**
JSD **Sado** 70.29 321 P **P** **08 59 38.9 0.0**
JSD IAmb IAmb 08 59 48.0
comp=Z,110nm,1.1s
SNCC **San Nicolas Is** 70.36 46 IAMs_20 IAMs_20 09 25 56.8
comp=Z,28µm,18.0s
JWT **Wachi** 70.40 317 P **P** **08 59 39.8 +0.2**
JWT IAmb IAmb 08 59 55.6
comp=Z,149nm,1.7s
CASY **Casey** 70.45 205 P **P** **08 59 41.1 +1.7**
CASY IAmb IAmb 09 00 00.0
comp=Z,88nm,1.2s
JTM **Tenmabayashi** 70.45 325 P **P** **08 59 41.0 +1.2**
JMN **Monobe** 70.51 315 P **P** **08 59 41.0 +0.6**
JMN IAmb IAmb 08 59 47.6
comp=Z,148nm,1.5s
MYLDM **Lahad Datu** 70.94 281 P **P** **08 59 40.8 -2.6**
MYLDM IAmb IAmb 08 59 56.3
comp=Z,113nm,1.2s
JOW **Kunigami** 70.96 306 P **P** **08 59 43.6 +0.4**
comp=Z,15nm,0.9s,baz=165,slow=10.0,SNR=3.6
MCCM **Marconi Confer** 71.10 40 IAMs_20 IAMs_20 09 26 13.9
comp=Z,27µm,18.0s
PKM **Mcpherson Peak** 71.11 44 P 08 59 51.5
baz=234
SAO **San Andreas Ge** 71.15 42 IAMs_20 IAMs_20 09 23 03.4
comp=Z,30µm,19.0s
SMMC **Simmler** 71.23 44 P 08 59 52.1
baz=234
PMPB **Monarch Peak** 71.24 42 IAMs_20 IAMs_20 09 23 35.8
comp=Z,30µm,20.0s
SKR **Severo-Kuril's** 71.35 340 *e*P **P** **08 59 42.4 -2.6**
SKR pmax pmax
comp=Z,44nm,1.3s
JAGI **Jajag, Banyuwa** 71.41 266 P **P** **08 59 45.2 -1.0**
JAGI IAmb IAmb 08 59 57.9
comp=Z,68nm,1.0s
JEW **Eniwo** 71.65 326 P **P** **08 59 46.2 -0.8**
JSU **Suzuyama** 71.70 311 P **P** **08 59 47.7 +0.1**
JSU IAmb IAmb 08 59 54.2
comp=Z,113nm,1.6s
DECC **Green Verdugo** 71.75 45 P 08 59 55.2
baz=236
JHS **Saijyo** 71.76 316 P **P** **08 59 48.1 +0.1**
JHS IAmb IAmb 08 59 51.7
comp=Z,130nm,1.3s
PASC **Pasadena Art C** 71.81 45 IAMs_20 IAMs_20 09 26 51.0
comp=Z,29µm,18.0s
109C **Camp Elliot, M** 71.85 47 P **P** **08 59 48.4 -0.1**
CBX **Cerro Bola** 71.86 48 P **P** **08 59 48.2 -0.5**
KMRM **Mail Ridge** 71.91 38 IAMs_20 IAMs_20 09 24 37.0
comp=Z,30µm,19.0s
MWC **Mount Wilson** 71.92 45 P **P** **08 59 49.5 +0.4**
MWC pmax pmax
comp=Z,507nm,2.9s
MWC **Mount Wilson** 71.92 45 P **P** **08 59 49.5 +0.4**
MWC IAMs_20 IAMs_20 09 26 55.1
comp=Z,27µm,18.0s
JKA **Kamikawa-asahi** 71.93 328 P **P** **08 59 48.6 -0.1**
JKA IAmb IAmb 08 59 58.8
comp=Z,138nm,1.1s
ASAJ **Asahikawa** 71.94 328 P **P** **08 59 50.0 +1.2**
comp=Z,18nm,0.9s,baz=220,slow=9.1,SNR=11
ASAJ LR LR 09 25 57.3
comp=Z,6µm,21.9s,baz=136,slow=31
ASAJ **Asahikawa** 71.94 328 P **P** **08 59 48.6 -0.1**
ASAJ pmax pmax
comp=Z,138nm,1.1s
TKX **Tecate** 72.03 48 P **P** **08 59 49.3 -0.3**
TKX IAMs_20 IAMs_20 09 24 06.1
comp=Z,21µm,21.0s
JCC **Jacoby Creek,** 72.11 37 IAMs_20 IAMs_20 09 26 28.5
comp=Z,22µm,19.0s
VES **Vestal, Richgr** 72.14 44 P 08 59 51.1
baz=235
MURC **Murrieta** 72.17 46 P 08 59 51.2
baz=237
ESJX **Sierra Juarez** 72.20 48 P **P** **08 59 51.7 +0.8**
ESJX IAmb IAmb 08 59 59.3
comp=Z,311nm,3.0s
BFSC **Mount Baldy Ra** 72.20 46 P 08 59 53.0
baz=236
JNU **Nakatsue** 72.26 313 P **P** **08 59 51.0 0.0**
comp=Z,21nm,1.0s,baz=77,slow=5.3,SNR=6.9
JNU LR LR 09 24 59.6
comp=Z,12µm,21.8s,baz=129,slow=30
JNU **Nakatsue** 72.26 313 P **P** **08 59 50.8 -0.2**
KHMM **Horse Mountain** 72.32 37 IAMs_20 IAMs_20 09 24 52.0
comp=Z,23µm,20.0s
EDW2 **Edwards Air Fo** 72.33 45 P 08 59 51.8
baz=236
MONP2 **Monument Peak** 72.34 47 P 08 59 52.8
baz=237
O02D **Mt. Diablo Mer** 72.42 38 P 08 59 58.5
baz=231
RMX **La Rumorosa** 72.43 48 IAMs_20 IAMs_20 09 24 20.8
comp=Z,21µm,19.0s
IKP **In-Ko-Pah, Jac** 72.43 48 P 08 59 52.6
baz=238
ISA **Isabella, Lake** 72.45 44 P 08 59 52.9
baz=235
ISA **Isabella, Lake** 72.45 44 P **P** **08 59 51.5 -0.6**
ISA pmax pmax
comp=Z,112nm,1.7s
ISA **Isabella, Lake** 72.45 44 P **P** **08 59 51.5 -0.6**
ISA IAmb IAmb 09 00 24.7
comp=Z,112nm,1.7s
PET **Petropavlovsk** 72.58 342 *e*P **P** **08 59 54.9 +2.5**
PET *e*S **S** **09 09 17.6 +1.3**
PET *e*PS PnS 09 10 04.0 +16
PET pmax pmax
comp=Z,77nm,1.9s
PET MLR MLR
comp=Z,23µm,19.0s
PET MLR MLR
comp=Z,20µm,19.0s
PET **Petropavlovsk** 72.58 342 IAMs_20 IAMs_20 09 31 22.2
comp=Z,17µm,18.0s
CMB **Columbia Colle** 72.59 41 P **P** **08 59 53.3 +0.5**
CMB pmax pmax
comp=Z,40nm,1.4s
CMB **Columbia Colle** 72.59 41 P **P** **08 59 53.3 +0.5**
CMB IAMs_20 IAMs_20 09 23 26.4
comp=Z,26µm,22.0s
CHGN **Chignik** 72.63 8 IAMs_20 IAMs_20 09 28 32.9
comp=Z,18µm,19.0s
KRMB **Red Mountain** 72.63 36 IAMs_20 IAMs_20 09 25 31.4
comp=Z,22µm,19.0s
SRIG **Santa Rosalia** 72.65 54 P **P** **08 59 53.4 0.0**
SRIG IAMs_20 IAMs_20 09 28 09.9
comp=Z,27µm,18.0s
PFO **Pinyon Flats O** 72.70 47 P **P** **08 59 56.1 +2.4**
comp=Z,7.0nm,1.1s,baz=240,slow=5.7,SNR=7.8

PFO LR LR 09 26 42.1
comp=Z,20µm,18.1s,baz=240,slow=32
PFO Pinyon Flats O 72.70 47 ⇓*e*P **P 08 59 55.1 +1.4**
PFO Pinyon Flats O 72.70 47 P **P 08 59 54.0 +0.3**
PFO Pinyon Flats O 72.70 47 IAMs_20 IAMs_20 09 28 23.7
comp=Z,26µm,18.0s
PFO Pinyon Flats O 72.70 47 P 08 59 55.2
baz=237
TPFO Pinon Flats 72.70 47 P 08 59 55.2
baz=237
XPFO Pion Flat 72.70 47 P **P 08 59 53.6 -0.1**
XPFO Pion Flat 72.70 47 IAMs_20 IAMs_20 09 28 23.7
comp=Z,26µm,18.0s
LPIG La Paz 72.73 58 LR LR 09 23 24.6
comp=Z,16µm,21.8s,baz=242,slow=29
AFDM Forest Hills D 72.77 40 P **P 08 59 53.5 -0.4**
AFDM IAMs_20 IAMs_20 09 27 06.2
comp=Z,23µm,19.0s
ORV Oroville 72.81 39 P **P 08 59 53.3 -0.8**
ORV pmax pmax
comp=Z,201nm,2.5s
ORV Oroville 72.81 39 P **P 08 59 53.3 -0.8**
ORV IAmb IAmb 09 00 03.9
comp=Z,201nm,2.5s
ORV IAMs_20 IAMs_20 09 27 18.4
comp=Z,20µm,19.0s
WDC Whiskeytown Da 72.83 38 P **P 08 59 54.5 +0.3**
WDC pmax pmax
comp=Z,167nm,2.0s
WDC Whiskeytown Da 72.83 38 P **P 08 59 54.5 +0.3**
WDC IAmb IAmb 09 00 01.1
comp=Z,167nm,2.0s
WDC IAMs_20 IAMs_20 09 27 12.6
comp=Z,25µm,18.0s
SLBS Sierra La Lagu 72.85 59 IAMs_20 IAMs_20 09 23 38.5
comp=Z,20µm,20.0s
LRMC Laurel Mtn Rad 72.88 45 P 08 59 56.1
baz=236
KBO Bosley Butte 72.90 36 IAMs_20 IAMs_20 09 23 56.4
comp=Z,24µm,20.0s
PEA0B Petropavlovsk- 72.94 342*c i*P **P 08 59 54.3 -0.2**
PEA0B Petropavlovsk- 72.94 342 P **P 08 59 54.5 -0.1**
PETK Petropavlovsk- 72.94 342 P **P 08 59 54.4 -0.2**
comp=Z,45nm,0.9s,baz=117,slow=8.5,SNR=46
PETK LR LR 09 28 43.7
comp=Z,9µm,19.7s,baz=166,slow=33
PETK Petropavlovsk- 72.94 342 P **P 08 59 53.9 -0.7**
PETK Petropavlovsk- 72.94 342 P **P 08 59 53.9 -0.7**
N02D Trinity Center 72.98 37 P 08 59 59.0
baz=231
O03E Paynes Creek 73.09 38 P 09 00 01.6
baz=232,SNR=11
CWC Cottonwood Cre 73.15 44 P 08 59 57.2
baz=235
MDPB Devils Postpil 73.18 42 P **P 08 59 57.0 +0.3**
MDPB IAMs_20 IAMs_20 09 25 08.6
comp=Z,24µm,20.0s
BELC Belle Mtn. Jos 73.23 47 P 08 59 57.7
baz=237
KEBM Edson Butte 73.27 35 IAMs_20 IAMs_20 09 27 13.2
comp=Z,24µm,18.0s
MPMC Manual Prospec 73.33 44 P 08 59 58.7
baz=236
RUBR Rubicon Trail 73.34 40 P **P 08 59 56.7 -0.8**
RUBR IAMs_20 IAMs_20 09 27 44.3
comp=Z,23µm,19.0s
GSC Goldstone, Bar 73.38 45 P 08 59 58.6
baz=237
GSC Goldstone, Bar 73.38 45 P **P 08 59 57.1 -0.6**
GSC pmax pmax
comp=Z,38nm,1.1s
GSC Goldstone, Bar 73.38 45 P **P 08 59 57.1 -0.6**
BC3 Big Chuckawall 73.43 47 P 08 59 58.4
baz=238
HEC Hector,Ludlow 73.44 46 P 08 59 58.7
baz=237
YBH Yreka Blue Hor 73.45 37 LR LR 09 25 29.6
comp=Z,20µm,20.2s,baz=235,slow=30
YBH Yreka Blue Hor 73.45 37 P **P 08 59 58.0 0.0**
YBH pmax pmax
comp=Z,32nm,1.1s
YBH Yreka Blue Hor 73.45 37 P **P 08 59 58.0 0.0**
YBH IAMs_20 IAMs_20 09 25 08.2
comp=Z,21µm,20.0s
SZP Santa 73.46 294 IAMs_20 IAMs_20 09 25 31.6
comp=Z,23µm,22.0s
WAKR Walker 73.47 41 P **P 08 59 59.1 +0.8**
WAKR IAmb IAmb 09 00 09.5
comp=Z,178nm,1.9s
SII Sitkinak Islan 73.55 11 IAMs_20 IAMs_20 09 26 17.0
comp=Z,23µm,20.0s
GLA Glamis 73.56 48 P **P 08 59 59.1 +0.4**
GLA pmax pmax
comp=Z,57nm,1.3s
GLA Glamis 73.56 48 P **P 08 59 59.1 +0.4**
GLA IAMs_20 IAMs_20 09 23 03.5
comp=Z,19µm,20.0s
BEKR Beckworth 73.70 40 P **P 08 59 58.0 -1.6**
BEKR IAMs_20 IAMs_20 09 27 37.9
comp=Z,20µm,18.0s
PNTR Pine Nut 73.71 41 IAMs_20 IAMs_20 09 24 12.1
comp=Z,26µm,21.0s
PIX Pinacate 73.79 50 P **P 08 59 59.7 -0.3**
VCNR Virginia City 73.80 40 IAMs_20 IAMs_20 09 28 17.5
comp=Z,21µm,19.0s
YSS Yuzh-Sakhalins 73.87 330*ce*P **P 09 00 00.7 +0.6**
YSS *e**SP **sP 09 00 06.0 -0.5**
YSS *e* 09 00 15.7
YSS *e*S **S 09 09 32.0 +0.8**
YSS *e* 09 10 06.5
YSS *e*SS **SS 09 14 13.1 -2.8**
YSS Yuzh-Sakhalins 73.87 330 P **P 08 59 59.7 -0.4**
YSS IAMs_20 IAMs_20 09 27 31.0
comp=Z,27µm,20.0s
HUMO Hull Mountain 73.87 36 P **P 09 00 00.2 -0.1**
HUMO IAmb IAmb 09 00 11.8
comp=Z,85nm,1.4s
HUMO IAMs_20 IAMs_20 09 24 39.2
comp=Z,22µm,21.0s
YERR Yerington 73.87 41 P **P 09 00 00.2 -0.4**
YERR IAmb IAmb 09 00 11.6
comp=Z,114nm,1.8s
YERR IAMs_20 IAMs_20 09 24 18.5
comp=Z,27µm,22.0s
GMRC Granite Mounta 73.89 46 P 09 00 01.5
baz=238
IRM Iron Mountain 73.91 47 P 09 00 01.9
baz=238
LHV Little Huntoon 73.91 42 P **P 09 00 00.3 -0.2**
LHV IAMs_20 IAMs_20 09 25 34.6
comp=Z,29µm,20.0s
GRAC Grapevine Rang 73.94 43 P 09 00 02.4
baz=236
M04C Macdoel 73.99 37 P 09 00 04.7
baz=231,SNR=8.9
L04D Klamath Falls 74.00 37 P 09 00 04.5
baz=231
RYN Ryan 74.12 41 P **P 09 00 02.1 +0.1**
RYN IAmb IAmb 09 00 34.5
comp=Z,126nm,1.9s
RYN IAMs_20 IAMs_20 09 24 16.0
comp=Z,25µm,22.0s
NVAR Mina Array Bea 74.14 42 P **P 09 00 03.4 +1.1**
comp=Z,5.9nm,0.9s,baz=230,slow=9.3,SNR=13
NVAR LR LR 09 26 06.2
comp=Z,26µm,20.7s,baz=234,slow=30
NVAR Mina Array Bea 74.14 42 P **P 09 00 02.0 -0.3**
PAHR Pah Rah Range 74.21 40 P **P 09 00 02.9 +0.4**
PAHR IAMs_20 IAMs_20 09 27 53.4
comp=Z,20µm,19.0s
NV11 Mina Array Sit 74.24 42 P **P 09 00 02.7 -0.1**
NV11 IAmb IAmb 09 00 13.8
comp=Z,135nm,1.8s
NV11 IAMs_20 IAMs_20 09 25 54.3
comp=Z,27µm,21.0s
I03D Drain, OR 74.35 35 P 09 00 08.6
baz=230
HSIG 74.46 53 IAMs_20 IAMs_20 09 23 55.6
comp=Z,19µm,20.0s
214A Organ Pipe Nat 74.47 50 P 09 00 04.9
baz=240
214A Organ Pipe Nat 74.47 50 P **P 09 00 03.8 -0.3**
QSPA South Pole Qui 74.47 180 P **P 09 00 06.2 +2.5**
comp=Z,31nm,1.0s,baz=40,slow=2.4,SNR=29
QSPA South Pole Qui 74.47 180 P **P 09 00 05.8 +2.1**
KVN Kaiserville 74.63 41 P **P 09 00 05.6 +0.5**
KVN pmax pmax
comp=Z,48nm,1.2s
KVN Kaiserville 74.63 41 P **P 09 00 05.6 +0.5**
KVN IAMs_20 IAMs_20 09 25 57.6
comp=Z,23µm,20.0s
TPH Tonopah 74.64 43 P **P 09 00 05.7 +0.5**
TPH pmax pmax
comp=Z,243nm,1.1s
TPH Tonopah 74.64 43 P **P 09 00 05.7 +0.5**
TPNV Topopah Spring 74.66 44 P 09 00 06.0
baz=237
TPNV Topopah Spring 74.66 44 P **P 09 00 05.9 +0.7**
TPNV pmax pmax
comp=Z,124nm,1.8s
TPNV Topopah Spring 74.66 44 P **P 09 00 05.9 +0.7**
TPNV IAmb IAmb 09 00 41.5
comp=Z,124nm,1.8s
PDMCI Parker Dam,Lak 74.70 47 P 09 00 06.0
baz=239
COR Corvallis 74.96 34 IAMs_20 IAMs_20 09 28 34.7
comp=Z,26µm,18.0s
MOD Modoc Plateau 74.97 38 P **P 09 00 08.2 +1.3**
MOD IAMs_20 IAMs_20 09 26 31.3
comp=Z,22µm,20.0s
KDAK Kodiak Island 75.00 11 P 09 00 07.3
baz=200
KDAK Kodiak Island 75.00 11 P **P 09 00 06.7 +0.3**
comp=Z,15nm,0.9s,baz=274,slow=8.8,SNR=3.2
KDAK Kodiak Island 75.00 11⇓*e*P **P 09 00 06.9 +0.4**
KDAK pmax pmax
comp=Z,221nm,1.3s
KDAK Kodiak Island 75.00 11 P **P 09 00 06.5 0.0**
KDAK IAmb IAmb 09 00 16.1
comp=Z,141nm,1.3s
K05A Summer Lake 75.13 37 P **P 09 00 08.3 +0.5**
K05A IAmb IAmb 09 00 19.1
comp=Z,212nm,1.5s
K05A IAMs_20 IAMs_20 09 26 45.5
comp=Z,22µm,20.0s
NACB Ninganchiao 75.14 301 P **P 09 00 05.8 -2.3**
NACB IAmb IAmb 09 00 18.1
comp=Z,90nm,1.1s
SHPR Sheep Range 75.15 45 P **P 09 00 07.8 -0.2**
H04D Lebanon 75.22 35 P 09 00 10.3
baz=230
J05D Fort Rock, OR 75.28 36 P 09 00 11.2
baz=231,SNR=11
G03D McMinnville, O 75.38 34 P 09 00 15.0
baz=229,SNR=5.8
SSLB Suanglung 75.51 300 IAMs_20 IAMs_20 09 29 32.9
comp=Z,22µm,20.0s
YHNB Yeheng 75.53 301 P **P 09 00 09.7 -0.7**
YHNB IAMs_20 IAMs_20 09 29 42.3
comp=Z,21µm,20.0s
TATO Taipei 75.56 301 P **P 09 00 14.4 +3.9**
TPUB Ta-pu 75.58 300 P **P 09 00 10.3 -0.3**
TPUB IAmb IAmb 09 00 19.8
comp=Z,121nm,1.3s
TPUB IAMs_20 IAMs_20 09 29 32.8
comp=Z,18µm,19.0s
H04A Detroit Lake 75.63 35 P **P 09 00 10.5 0.0**
H04A IAmb IAmb 09 00 20.8
comp=Z,119nm,1.3s
H04A IAMs_20 IAMs_20 09 29 06.6
comp=Z,21µm,19.0s
PRN Pahroc Range 75.71 44 P **P 09 00 12.2 +1.0**
PRN IAmb IAmb 09 00 43.1
comp=Z,71nm,1.3s
PINE Pine Mountain 75.76 36 P **P 09 00 12.1 +0.6**
PINE IAMs_20 IAMs_20 09 27 43.2
comp=Z,20µm,18.0s
R11A Troy Canyon, C 75.86 43 P 09 00 13.4
baz=237
R11A Troy Canyon, C 75.87 43 P **P 09 00 13.3 +1.2**
R11A IAMs_20 IAMs_20 09 26 37.4
comp=Z,25µm,20.0s
I05D Terrebonne, OR 75.88 35 P 09 00 14.1
baz=231,SNR=6.7
SBUM Sibu 76.11 277 P **P 09 00 13.7 -0.2**
TUC Tucson 76.14 50 P 09 00 14.8
baz=241
TUC Tucson 76.14 50 P **P 09 00 14.3 +0.6**
TUC Tucson 76.14 50 P **P 09 00 14.3 +0.6**
TUC Tucson 76.14 50 IAMs_20 IAMs_20 09 24 58.0
comp=Z,21µm,19.0s
WVOR Wild Horse Val 76.28 38 P **P 09 00 15.7 +1.4**
WVOR pmax pmax
comp=Z,145nm,1.6s
WVOR Wild Horse Val 76.28 38 P **P 09 00 15.7 +1.4**
WVOR IAmb IAmb 09 00 25.3
comp=Z,146nm,1.6s
TJN Taejon 76.43 314⇑*i*P **P 09 00 15.5 +0.3**
G05D Wamic, OR 76.46 35 P 09 00 18.7
baz=231,SNR=5.1
KSRS Korea Array 76.61 315 P **P 09 00 16.3 +0.2**
comp=Z,31nm,1.2s,baz=126,slow=6.4,SNR=40
KS19 Wonju Array Si 76.67 315 P **P 09 00 17.9 +1.4**
TYV Tymovskoe 76.72 333 *e*P **P 09 00 17.0 +0.6**
TYV *e*S **S 09 10 03.6 +0.9**
TYV pmax pmax
comp=Z,9µm,8.6s
TYV pmax pmax
comp=Z,117nm,1.2s
TYV smax smax
comp=N,10µm,11.2s
LCMT Little Creek M 76.72 45 P **P 09 00 17.1 +0.1**
I07A Izee 76.76 36 P **P 09 00 17.4 +0.4**
I07A IAmb IAmb 09 00 28.0
comp=Z,110nm,1.3s
I07A IAMs_20 IAMs_20 09 28 07.6
comp=Z,21µm,19.0s
F05D White Salmon 76.79 34 P 09 00 18.8
baz=231,SNR=6.9
CNPM China Post 76.89 11 IAMs_20 IAMs_20 09 26 48.2
comp=Z,18µm,21.0s
J08A Circle Bar Ran 76.92 38 P **P 09 00 19.9 +2.0**
J08A IAmb IAmb 09 00 28.7
comp=Z,148nm,1.5s
J08A IAMs_20 IAMs_20 09 29 31.0
comp=Z,17µm,19.0s
CCUT Cedar City 76.92 45 P **P 09 00 18.1 -0.1**
KNB Kanab 77.02 45 P **P 09 00 19.2 +0.5**
KNB pmax pmax
comp=Z,167nm,1.6s
KNB Kanab 77.02 45 P **P 09 00 19.2 +0.5**
KNB IAmb IAmb 09 01 15.4
comp=Z,167nm,1.6s
PSUT Pine Spring 77.11 44 P **P 09 00 19.4 +0.2**
SZCU Shurtz Canyon 77.13 45 P **P 09 00 19.8 +0.4**
SZCU IAmb IAmb 09 00 30.8
comp=Z,94nm,1.5s
BRLK Bradley Lake 77.17 11 P **P 09 00 19.5 +0.7**
BRSE Bradley Lake S 77.18 11 P 09 00 19.0
baz=202
WUAZ Wupatki 77.27 47 P 09 00 21.5
baz=240
WUAZ Wupatki 77.27 47 P **P 09 00 20.8 +0.6**
D05A Enumclaw 77.34 33 P **P 09 00 20.7 +0.7**
MSHR Mys Shultsa 77.36 321⇑*e*P **P 09 00 20.7 +0.5**
MSHR pmax pmax
comp=Z,151nm,1.6s
ELK Elko 77.40 41 LR LR 09 27 25.5
comp=Z,20µm,20.5s,baz=236,slow=30
ELK Elko 77.40 41 P **P 09 00 21.1 +0.2**
ELK pmax pmax
comp=Z,75nm,1.6s
ELK Elko 77.40 41 P **P 09 00 21.1 +0.2**
ELK IAMs_20 IAMs_20 09 27 14.5
comp=Z,22µm,20.0s
RSO Redoubt South 77.50 10 P **P 09 00 20.8 -0.1**
INCN Inchon 77.50 315 P **P 09 00 20.6 -0.6**
INCN pmax pmax
comp=Z,403nm,1.8s
INCN Inchon 77.50 315 P **P 09 00 20.6 -0.6**
INCN IAmb IAmb 09 00 29.0
comp=Z,403nm,1.8s
INCN Inchon 77.50 315 IAMs_20 IAMs_20 09 32 47.4
comp=Z,17µm,20.0s
INCN Inchon 77.50 315 P **P 09 00 23.8 +2.6**
INCN P **P 09 00 23.8 +2.6**
PKCU Pink Cliffs 77.58 45 P **P 09 00 24.0 +1.9**
F07A Phinny Hill Vi 77.63 35 IAMs_20 IAMs_20 09 30 19.5
comp=Z,24µm,18.0s
SVW2 Sparrevohn 77.66 9 P **P 09 00 20.7 -0.9**
SVW2 IAmb IAmb 09 01 22.6
comp=Z,128nm,1.8s
KSM Kuching 77.67 275 P **P 09 00 22.5 -0.2**
KSM IAmb IAmb 09 00 33.0
comp=Z,96nm,1.2s
HPIG 77.73 57 P **P 09 00 23.0 0.0**
HPIG IAMs_20 IAMs_20 09 25 58.6
comp=Z,22µm,21.0s
G08A Pilot Rock 77.80 36 P **P 09 00 22.9 +0.1**
G08A IAmb IAmb 09 00 33.5
comp=Z,179nm,1.5s
Q23K Middleton Isla 77.80 14 IAMs_20 IAMs_20 09 30 43.1
comp=Z,17µm,18.0s
USRK Ussuriysk Ar. 77.80 323 P **P 09 00 23.1 +0.5**
comp=Z,20nm,1.1s,baz=114,slow=4.8,SNR=24
USRK LR LR 09 28 46.4
comp=Z,36µm,21.3s,baz=125,slow=31
USRK Ussuriysk Ar. 77.80 323 P **P 09 00 22.8 +0.1**
USRK Ussuriysk Ar. 77.80 323 P **P 09 00 22.8 +0.1**
USA0B Ussuriysk Arra 77.81 323*ce*P **P 09 00 23.5 +0.8**
USA0B Ussuriysk Arra 77.81 323 P **P 09 00 23.1 +0.4**
USA0B IAmb IAmb 09 00 32.5
comp=Z,194nm,1.5s
BBB Bella Bella 77.83 26 LR LR 09 29 51.4
comp=Z,9µm,18.5s,baz=236,slow=32
QZH Quanzhou 77.95 300⇑*i*P **P 09 00 22.5 -1.4**
QZH PP **PP 09 03 20.3 +0.1**
QZH S **S 09 10 14.3 -2.8**
QZH pmax pmax
comp=Z,6µm,8.8s
QZH LR LR
comp=Z,3µm,18.5s
QZH LR LR
comp=Z,7µm,22.3s
QZH LR LR
comp=Z,12µm,23.7s
B05A Bryant 77.97 32 P 09 00 26.4
baz=230,SNR=5.4
MTPU Mount Pierson 77.98 45 P **P 09 00 25.3 +1.0**
MTPU IAmb IAmb 09 00 36.3
comp=Z,117nm,1.4s
LTY Liberty 78.08 33 P **P 09 00 23.6 -0.6**
LTY IAmb IAmb 09 00 34.5
comp=Z,72nm,1.4s
E07A Sunnyside 78.08 34 P **P 09 00 23.6 -0.6**
E07A IAmb IAmb 09 00 34.9
comp=Z,138nm,1.4s
E07A IAMs_20 IAMs_20 09 30 15.4
comp=Z,19µm,19.0s
LEM Lembang 78.09 266 P **P 09 00 25.1 -0.1**
comp=Z,30nm,0.3s,baz=84,slow=5.3,SNR=6.7
TCRU Three Creeks R 78.09 44 P **P 09 00 24.4 -0.3**
TCRU IAmb IAmb 09 00 36.4
comp=Z,145nm,1.6s
HAWA Hanford 78.15 35 P **P 09 00 24.3 -0.3**
HAWA IAmb IAmb 09 00 35.3
comp=Z,144nm,1.4s
MSU Marysvale 78.22 44 P **P 09 00 26.8 +1.3**
MSU Marysvale 78.22 44 P **P 09 00 26.8 +1.3**
SPCR Spurr Chakacha 78.28 10 P 09 00 24.3
baz=200
SSE Sheshan 78.44 307 P **P 09 00 27.8 +1.3**
SSE S **S 09 10 25.5 +3.4**
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,2µm,8.4s
SSE LR LR
comp=Z,2µm,18.9s
SSE LR LR
comp=Z,4µm,19.6s
E08A Dider Farm, El 78.47 35 P **P 09 00 27.5 +1.1**
E08A IAmb IAmb 09 00 36.9
comp=Z,178nm,1.5s
BMO Blue Mountains 78.48 37 P **P 09 00 26.7 +0.1**
BMO pmax pmax
comp=Z,94nm,1.4s
BMO Blue Mountains 78.48 37 P **P 09 00 26.7 +0.1**
BMO IAmb IAmb 09 00 37.0
comp=Z,94nm,1.4s
BMO IAMs_20 IAMs_20 09 28 33.7
comp=Z,17µm,20.0s
121A Cookes Peak, D 78.49 51 P **P 09 00 26.8 -0.2**
121A IAmb IAmb 09 00 38.6
comp=Z,130nm,1.6s
121A IAMs_20 IAMs_20 09 26 56.2
comp=Z,23µm,22.0s
121A Cookes Peak, D 78.49 51 P 09 00 28.8
baz=243
MFID Camas Ranch 78.53 39 P **P 09 00 27.7 +0.8**
MFID IAmb IAmb 09 00 37.4
comp=Z,87nm,1.4s
MFID IAMs_20 IAMs_20 09 30 36.1
comp=Z,15µm,19.0s
RC01 Rabbit Creek A 78.62 11 P 09 00 26.6
baz=203
RC01 Rabbit Creek A 78.62 11 P **P 09 00 26.8 -0.1**
HIN Hinchinbrook I 78.64 13 IAMs_20 IAMs_20 09 31 05.6
comp=Z,15µm,19.0s
ZAIG Zacatecas 78.67 62 P **P 09 00 28.7 +0.4**
ZAIG IAmb IAmb 09 00 35.6
comp=Z,178nm,2.2s
ZAIG IAMs_20 IAMs_20 09 27 27.6
comp=Z,25µm,20.0s
DUG Dugway, Tooele 78.67 43 P 09 00 28.8
baz=238
DUG Dugway, Tooele 78.67 43 P **P 09 00 27.3 -0.5**
DUG pmax pmax
comp=Z,67nm,1.3s
DUG Dugway, Tooele 78.67 43 P **P 09 00 27.3 -0.5**
DUG IAMs_20 IAMs_20 09 28 50.1
comp=Z,17µm,20.0s
PWL Port Wells 78.68 12 IAMs_20 IAMs_20 09 31 59.7
comp=Z,16µm,18.0s
KAIM Kayak Island 78.69 14 IAMs_20 IAMs_20 09 30 52.7
comp=Z,26µm,19.0s
SUA Susitna One 78.78 11 P 09 00 25.8
baz=202
SUA Susitna One 78.78 11 P **P 09 00 27.5 -0.4**
SUA IAmb IAmb 09 00 36.2
comp=Z,224nm,1.7s
SUA IAMs_20 IAMs_20 09 29 37.3
comp=Z,18µm,20.0s
D08A Wollman Farm, 78.89 34 P **P 09 00 29.2 +0.5**
D08A IAmb IAmb 09 00 39.3
comp=Z,200nm,1.5s
BGU Big Grassy Mou 78.91 42 P **P 09 00 30.1 +0.9**
BGU IAmb IAmb 09 00 37.2
comp=Z,344nm,2.8s
GLI Glacier Island 78.95 13 IAMs_20 IAMs_20 09 28 01.9
comp=Z,16µm,20.0s
NLU North Lily Min 79.03 43 P **P 09 00 29.8 -0.1**
NLU IAmb IAmb 09 00 38.2
comp=Z,192nm,2.4s
GAMB Gambell 79.10 1 P 09 00 30.3
baz=181,SNR=10
GAMB Gambell 79.10 1 P **P 09 00 29.7 +0.3**
GAMB IAmb IAmb 09 00 43.6
comp=Z,93nm,1.3s
Q16A Castle Valley 79.11 44 P **P 09 00 30.9 +0.6**
EPT El Paso 79.12 53 IAMs_20 IAMs_20 09 32 22.7
comp=Z,22µm,18.0s
SKT Skwentna 79.13 10 P 09 00 28.7
baz=201,SNR=10
SKT Skwentna 79.13 10 P **P 09 00 27.9 -1.7**
SKT IAMs_20 IAMs_20 09 29 59.4
comp=Z,18µm,20.0s
KNK Knik Glacier 79.16 12 P 09 00 30.3
baz=204
KNK Knik Glacier 79.16 12 IAMs_20 IAMs_20 09 32 08.4
comp=Z,14µm,18.0s
F10A Beach Ranch, E 79.18 36 P **P 09 00 30.3 -0.1**
F10A IAmb IAmb 09 00 40.5
comp=Z,227nm,1.6s
F10A IAMs_20 IAMs_20 09 28 01.7
comp=Z,19µm,19.0s
PMR Palmer 79.20 11 P 09 00 30.5
baz=203
PMR Palmer 79.20 11 P **P 09 00 30.3 +0.3**
PMR pmax pmax
comp=Z,858nm,2.9s
PMR Palmer 79.20 11 P **P 09 00 30.3 +0.3**
TMUT Trail Mountain 79.27 44 P **P 09 00 32.2 +0.8**
TMUT IAmb IAmb 09 00 42.8
comp=Z,205nm,1.6s
WRAK Wrangell Islan 79.34 22 IAMs_20 IAMs_20 09 32 18.6
comp=Z,15µm,18.0s
MPU Maple Canyon 79.35 43 P **P 09 00 32.5 +0.8**

GHO	**Glory Hole Cre**	**79.40**	**11**	P	**P**	**09 00 29.9**	**-1.3**
MDJ	**Mudanjiang**	**79.45**	**322**	P	**P**	**09 00 32.3**	**+0.5**
MDJ				pP	sP	09 00 37.5	-0.7
MDJ				sP	PcP	09 00 42.3	+2.5
MDJ				S	**S**	**09 10 38.8**	**+6.4**
MDJ				pmax	pmax		
	comp=Z,41nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,14µm,9.8s						
MDJ				LR	LR		
	comp=Z,25µm,22.2s						
MDJ				LR	LR		
	comp=Z,24µm,17.9s						
MDJ				LR	LR		
	comp=Z,48µm,21.9s						
MDJ	**Mudanjiang**	**79.45**	**322**	P	**P**	**09 00 31.5**	**-0.2**
MDJ				IAmb	IAmb	09 00 40.8	
	comp=Z,84nm,1.3s						
HLID	**Hailey**	**79.47**	**39**	P		09 00 33.2	
	baz=237						
HLID	**Hailey**	**79.47**	**39**	P	**P**	**09 00 32.1**	**0.0**
HLID				IAmb	IAmb	09 00 43.2	
	comp=Z,114nm,1.4s						
B08A	**Colville Reser**	**79.47**	**33**	P	**P**	**09 00 31.6**	**-0.3**
B08A				IAmb	IAmb	09 00 41.5	
	comp=Z,118nm,1.5s						
SPUT	**South Promonto**	**79.49**	**42**	P	**P**	**09 00 32.2**	**0.0**
SPUT				IAmb	IAmb	09 00 43.1	
	comp=Z,104nm,1.5s						
GRNR	**Gornyy**	**79.53**	**330**	⇑*i*P	**P**	**09 00 32.5**	**+0.4**
GRNR				pmax	pmax		
	comp=Z,20nm,1.0s						
HVU	**Hansel Valley**	**79.53**	**41**	P	**P**	**09 00 32.7**	**+0.2**
HVU				pmax	pmax		
	comp=Z,109nm,1.6s						
HVU	**Hansel Valley**	**79.53**	**41**	P	**P**	**09 00 32.7**	**+0.2**
HVU				IAmb	IAmb	09 00 50.6	
	comp=Z,109nm,1.6s						
SML	**Sawmill**	**79.55**	**12**	P		09 00 31.7	
	baz=204						
BMRM	**Bremner River**	**79.57**	**14**	P		09 00 32.4	
	baz=208						
BMRM	**Bremner River**	**79.57**	**14**	P	**P**	**09 00 31.4**	**-0.8**
BMRM				IAmb	IAmb	09 00 37.8	
	comp=Z,149nm,1.3s						
CTU	**Camp Tracy**	**79.62**	**43**	P	**P**	**09 00 32.6**	**-0.5**
SRU	**San Rafael Swe**	**79.64**	**44**	P	**P**	**09 00 32.4**	**-0.8**
SRU				pmax	pmax		
	comp=Z,65nm,1.2s						
SRU	**San Rafael Swe**	**79.64**	**44**	P	**P**	**09 00 32.4**	**-0.8**
P17A	**Butcher Ranch,**	**79.67**	**44**	P	**P**	**09 00 33.0**	**-0.3**
P17A				IAmb	IAmb	09 00 44.6	
	comp=Z,135nm,1.5s						
C09A	**Chrisman Ranch**	**79.69**	**34**	P	**P**	**09 00 33.1**	**0.0**
C09A				IAmb	IAmb	09 00 43.3	
	comp=Z,134nm,1.5s						
C09A				IAMs_20	IAMs_20	09 33 02.0	
	comp=Z,17µm,18.0s						
YAH	**Yahtse**	**79.73**	**15**	P	**P**	**09 00 32.0**	**-1.2**
YAH				IAMs_20	IAMs_20	09 32 29.8	
	comp=Z,26µm,19.0s						
CRQE	**Cirque**	**79.73**	**14**	P		09 00 32.2	
	baz=209						
CUT	**Chulitna**	**79.74**	**10**	P		09 00 33.3	
	baz=202						
CUT	**Chulitna**	**79.74**	**10**	P	**P**	**09 00 32.0**	**-1.0**
CUT				IAMs_20	IAMs_20	09 29 25.7	
	comp=Z,18µm,20.0s						
KLU	**Klutina**	**79.75**	**13**	P	**P**	**09 00 32.3**	**-0.8**
SCM	**Sheep Creek Mo**	**79.77**	**12**	P	**P**	**09 00 32.0**	**-1.3**
SCM				pmax	pmax		
	comp=Z,1µm,2.9s						
SCM	**Sheep Creek Mo**	**79.77**	**12**	P	**P**	**09 00 32.0**	**-1.3**
JLU	**Jordanelle**	**79.77**	**43**	P	**P**	**09 00 33.0**	**-1.0**
Y22D	**IRIS PASSCAL I**	**79.82**	**50**	IAMs_20	IAMs_20	09 27 17.6	
	comp=Z,16µm,21.0s						
PPLA	**Purkeypile**	**79.88**	**9**	P	**P**	**09 00 34.7**	**+0.8**
PCA	**Pinnacle**	**79.88**	**16**	IAMs_20	IAMs_20	09 32 07.3	
	comp=Z,18µm,18.0s						
TABL	**Table Mountain**	**79.95**	**15**	P	**P**	**09 00 35.1**	**+0.7**
TABL				IAmb	IAmb	09 00 47.9	
	comp=Z,120nm,1.4s						
MNTX	**Cornudas Mount**	**79.95**	**53**	P	**P**	**09 00 34.9**	**0.0**
MNTX	**Cornudas Mount**	**79.95**	**53**	P		09 00 36.4	
	baz=245,SNR=21						
GRNC	**Granite Creek**	**80.05**	**15**	P	**P**	**09 00 33.9**	**-1.1**
GRNC				IAmb	IAmb	09 00 48.4	
	comp=Z,158nm,1.5s						
TCUT	**Toone Canyon**	**80.06**	**42**	P	**P**	**09 00 35.6**	**+0.1**
TCUT				IAmb	IAmb	09 00 47.0	
	comp=Z,150nm,1.2s						
VRDI	**Verde Repeater**	**80.07**	**14**	P	**P**	**09 00 35.0**	**0.0**
VRDI				IAmb	IAmb	09 00 48.5	
	comp=Z,212nm,1.6s						
VRDI				IAMs_20	IAMs_20	09 32 34.8	
	comp=Z,18µm,19.0s						
BNM	**Barren Site**	**80.08**	**50**	P	**P**	**09 00 37.0**	**+1.2**
ANM	**Nome**	**80.10**	**3**	P		09 00 35.9	
	baz=187,SNR=14						
ANM	**Nome**	**80.10**	**3**	P	**P**	**09 00 35.1**	**+0.3**
ANM				pmax	pmax		
	comp=Z,116nm,1.8s						
ANM	**Nome**	**80.10**	**3**	P	**P**	**09 00 35.1**	**+0.3**
PV05	**Paradox Valley**	**80.11**	**46**	P	**P**	**09 00 36.8**	**+1.0**
PV05				IAmb	IAmb	09 00 47.4	
	comp=Z,188nm,1.5s						
PV05				IAMs_20	IAMs_20	09 31 57.2	
	comp=Z,17µm,18.0s						
MVCO	**Mesa Verde**	**80.12**	**47**	P		09 00 41.0	
	baz=242						
N25K	**Chitina, Valde**	**80.14**	**13**	P		09 00 35.5	
	baz=208,SNR=6.8						
N25K	**Chitina, Valde**	**80.14**	**13**	P	**P**	**09 00 34.9**	**-0.4**
N25K				IAmb	IAmb	09 00 53.0	
	comp=Z,92nm,1.4s						
N25K				IAMs_20	IAMs_20	09 32 22.8	
	comp=Z,15µm,18.0s						
GLB	**Gilahina Butte**	**80.17**	**14**	P	**P**	**09 00 34.9**	**-0.6**
GLB				IAmb	IAmb	09 00 44.9	
	comp=Z,95nm,1.4s						
BESE	**Bessie Mountai**	**80.20**	**19**	P	**P**	**09 00 35.3**	**-0.3**
BESE				IAmb	IAmb	09 00 44.8	
	comp=Z,184nm,1.9s						
HWUT	**Hardware Ranch**	**80.21**	**42**	P	**P**	**09 00 36.0**	**-0.2**
HWUT				IAMs_20	IAMs_20	09 28 53.8	
	comp=Z,26µm,21.0s						
M24K	**Tolsona, Glenn**	**80.25**	**12**	P		09 00 36.2	
	baz=206,SNR=7.4						
M24K	**Tolsona, Glenn**	**80.25**	**12**	P	**P**	**09 00 36.0**	**+0.2**
PV10	**Paradox Valley**	**80.30**	**46**	P	**P**	**09 00 35.7**	**-1.2**
PV10				IAMs_20	IAMs_20	09 33 08.6	
	comp=Z,22µm,18.0s						
PV19	**Morning Glory**	**80.30**	**46**	IAMs_20	IAMs_20	09 34 34.9	
	comp=Z,18µm,18.0s						
PV17	**East Wray Mesa**	**80.30**	**46**	IAMs_20	IAMs_20	09 35 09.0	
	comp=Z,21µm,18.0s						
MCARA	**McCarthy VSAT**	**80.31**	**14**	P		09 00 35.7	
	baz=209						
MCARA	**McCarthy VSAT**	**80.31**	**14**	P	**P**	**09 00 35.2**	**-0.8**
LOGN	**Logan Glacier**	**80.31**	**15**	P	**P**	**09 00 36.3**	**0.0**
LOGN				IAMs_20	IAMs_20	09 32 57.8	
	comp=Z,21µm,19.0s						
TX31	**Lajitas Ar. Si**	**80.32**	**56**	P	**P**	**09 00 38.1**	**+1.1**
TX32	**Lajitas Array**	**80.32**	**56**	P	**P**	**09 00 37.6**	**+0.6**
TX32				IAmb	IAmb	09 00 48.5	
	comp=Z,124nm,1.4s						
TXAR	**Lajitas Array**	**80.32**	**56**	P	**P**	**09 00 38.3**	**+1.3**
	comp=Z,8.0nm,1.1s,baz=225,slow=5.1,SNR=19						
TXAR				LR	LR	09 29 28.3	
	comp=Z,14µm,20.2s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**80.32**	**56**	P	**P**	**09 00 38.0**	**+1.0**
TXAR	**Lajitas Array**	**80.32**	**56**	P	**P**	**09 00 38.0**	**+1.0**
PV18	**Skein Mesa, Pa**	**80.32**	**46**	IAMs_20	IAMs_20	09 34 43.5	
	comp=Z,19µm,18.0s						
TLIG	**Tlapa**	**80.33**	**69**	P	**P**	**09 00 37.4**	**+0.1**
PV13	**Radium Mtn., P**	**80.34**	**46**	P	**P**	**09 00 37.6**	**+0.5**
PV13				IAmb	IAmb	09 00 48.0	
	comp=Z,110nm,1.4s						
PV13				IAMs_20	IAMs_20	09 31 16.0	
	comp=Z,17µm,18.0s						
CTG	**Chitna Glacier**	**80.35**	**15**	P		09 00 36.7	
	baz=211						
PV16	**Nyswonger Mesa**	**80.35**	**46**	P	**P**	**09 00 37.6**	**+0.5**
CTGM	**Chitina Glacie**	**80.35**	**15**	P	**P**	**09 00 36.0**	**-0.4**
BARN	**Barnard Glacie**	**80.35**	**15**	P	**P**	**09 00 36.8**	**+0.2**
BARN				IAmb	IAmb	09 00 52.4	
	comp=Z,170nm,1.5s						
BARN				IAMs_20	IAMs_20	09 30 40.8	
	comp=Z,15µm,19.0s						
PV03	**Paradox Valley**	**80.37**	**46**	IAMs_20	IAMs_20	09 33 36.7	
	comp=Z,19µm,18.0s						
WAT6	**Susitna Watana**	**80.37**	**12**	P		09 00 36.5	
	baz=205,SNR=15						
PV11	**David Mesa, Pa**	**80.37**	**46**	IAMs_20	IAMs_20	09 31 52.8	
	comp=Z,19µm,18.0s						
UNM	**Universidad Na**	**80.38**	**67**	IAMs_20	IAMs_20	09 28 04.2	
	comp=Z,15µm,20.0s						
PV02	**Paradox Valley**	**80.42**	**46**	IAMs_20	IAMs_20	09 31 10.2	
	comp=Z,17µm,20.0s						
MA2	**Magadan**	**80.47**	**342**	P	**P**	**09 00 36.5**	**-0.5**
	comp=Z,13nm,0.9s,baz=140,slow=5.8,SNR=23						
MA2				LR	LR	09 31 37.0	
	comp=Z,14µm,19.8s,baz=142,slow=32						
MA2	**Magadan**	**80.47**	**342**	*ce*P	**P**	**09 00 36.4**	**-0.5**
MA2				pmax	pmax		
	comp=Z,85nm,1.6s						
MA2				MLR	MLR		
	comp=Z,13µm,19.0s						
MA2	**Magadan**	**80.47**	**342**	P	**P**	**09 00 35.7**	**-1.3**
MA2				IAmb	IAmb	09 00 44.2	
	comp=Z,148nm,1.6s						
MA2				IAMs_20	IAMs_20	09 35 50.9	
	comp=Z,15µm,19.0s						
BCYI	**Bear Canyon**	**80.48**	**39**	P	**P**	**09 00 38.8**	**+1.1**
PV01	**Paradox Valley**	**80.50**	**46**	P	**P**	**09 00 38.7**	**+0.8**
PV01				IAmb	IAmb	09 00 48.9	
	comp=Z,102nm,1.3s						
PV01				IAMs_20	IAMs_20	09 28 03.3	
	comp=Z,17µm,21.0s						
PV22	**Blue Mesa, Par**	**80.54**	**46**	P	**P**	**09 00 39.2**	**+1.0**
ANMO	**Albuquerque**	**80.56**	**50**	P	**P**	**09 00 39.7**	**+1.5**
	comp=Z,3.6nm,0.9s,baz=216,slow=6.8,SNR=10						
ANMO				LR	LR	09 28 14.9	
	comp=Z,13µm,21.7s,baz=241,slow=30						
ANMO	**Albuquerque**	**80.56**	**50**	⇑*e*P	**P**	**09 00 38.5**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,141nm,3.2s						
ANMO				MLR	MLR		
	comp=Z,20µm,16.0s						
ANMO	**Albuquerque**	**80.56**	**50**	P	**P**	**09 00 38.7**	**+0.5**
ANMO	**Albuquerque**	**80.56**	**50**	IAMs_20	IAMs_20	09 27 52.9	
	comp=Z,15µm,20.0s						
ANMO	**Albuquerque**	**80.56**	**50**	P		09 00 39.5	
	baz=244						
WAT2	**Susitna Watana**	**80.56**	**11**	P		09 00 37.0	
	baz=204						
NEW	**Newport**	**80.59**	**34**	P		09 00 38.3	
	baz=234,SNR=5.8						
NEW	**Newport**	**80.59**	**34**	LR	LR	09 32 02.8	
	comp=Z,17µm,18.2s,baz=230,slow=32						
NEW	**Newport**	**80.59**	**34**	P	**P**	**09 00 37.7**	**-0.2**
NEW				pmax	pmax		
	comp=Z,45nm,1.3s						
NEW	**Newport**	**80.59**	**34**	P	**P**	**09 00 37.6**	**-0.2**
NEW	**Newport**	**80.59**	**34**	IAMs_20	IAMs_20	09 32 02.3	
	comp=Z,19µm,19.0s						
PV07	**Paradox Valley**	**80.59**	**46**	P	**P**	**09 00 39.5**	**+1.0**
PV07				IAMs_20	IAMs_20	09 33 53.8	
	comp=Z,20µm,18.0s						
NJ2	**Nanjing**	**80.64**	**307**	*e*P	**P**	**09 00 39.8**	**+1.3**
NJ2				S	**S**	**09 10 51.3**	**+5.8**
NJ2				pmax	pmax		
	comp=Z,24nm,1.3s						
NJ2				pmax	pmax		
	comp=Z,9µm,8.9s						
NJ2				LR	LR		
	comp=Z,4µm,21.3s						
NJ2				LR	LR		
	comp=Z,10µm,19.9s						
NJ2				LR	LR		
	comp=Z,15µm,22.5s						
PV15	**Paradox Valley**	**80.66**	**46**	P	**P**	**09 00 39.8**	**+1.0**
PV15				IAmb	IAmb	09 00 49.8	
	comp=Z,90nm,1.3s						
PV15				IAMs_20	IAMs_20	09 33 54.6	
	comp=Z,17µm,18.0s						
KTH	**Kantishna Hill**	**80.70**	**10**	P	**P**	**09 00 37.2**	**-1.0**
KTH				IAmb	IAmb	09 00 43.0	
	comp=Z,257nm,1.8s						
KTH				IAMs_20	IAMs_20	09 33 13.0	
	comp=Z,24µm,19.0s						
TRF	**Thorofare Moun**	**80.71**	**10**	P		09 00 37.7	
	baz=202,SNR=6.6						
TRF	**Thorofare Moun**	**80.71**	**10**	P	**P**	**09 00 37.8**	**-0.6**
TRF				IAMs_20	IAMs_20	09 30 49.7	
	comp=Z,26µm,20.0s						
CHUM	**Lake Minchumin**	**80.79**	**9**	P		09 00 37.8	
	baz=200,SNR=11						
KLR	**Kul'dur**	**80.92**	**327**	P	**P**	**09 00 40.0**	**+0.4**
	comp=Z,13nm,1.2s,baz=105,slow=4.1,SNR=18						
KLR				LR	LR	09 30 40.1	
	comp=Z,22µm,21.6s,baz=132,slow=31						
KLR	**Kul'dur**	**80.92**	**327**	⇑*e*P	**P**	**09 00 39.4**	**-0.2**
RND	**Reindeer**	**80.92**	**11**	P	**P**	**09 00 38.5**	**-0.9**
RND				pmax	pmax		
	comp=Z,177nm,1.5s						
RND	**Reindeer**	**80.92**	**11**	P	**P**	**09 00 38.5**	**-0.9**
RND				IAmb	IAmb	09 00 45.1	
	comp=Z,177nm,1.5s						
RND				IAMs_20	IAMs_20	09 30 42.8	
	comp=Z,17µm,21.0s						
TNA	**Tin City**	**80.98**	**2**	P		09 00 40.4	
	baz=185,SNR=21						
TNA	**Tin City**	**80.98**	**2**	P	**P**	**09 00 39.9**	**+0.4**
TNA				IAmb	IAmb	09 00 49.1	
	comp=Z,83nm,1.1s						
RDMU	**Red Mountain**	**81.00**	**44**	P	**P**	**09 00 41.7**	**+1.2**
RDMU				IAmb	IAmb	09 00 48.7	
	comp=Z,360nm,2.7s						
ECR	**Eagle Creek**	**81.08**	**41**	P	**P**	**09 00 40.5**	**-0.4**
MCMT	**McKenzie Canyo**	**81.10**	**39**	P	**P**	**09 00 41.0**	**0.0**
AHID	**Auburn Hatcher**	**81.10**	**41**	P	**P**	**09 00 41.3**	**+0.3**
AHID				IAmb	IAmb	09 00 51.7	
	comp=Z,141nm,1.5s						
AHID				IAMs_20	IAMs_20	09 28 39.3	
	comp=Z,19µm,21.0s						
PAX	**Paxson**	**81.17**	**12**	P		09 00 39.6	
	baz=207,SNR=8.1						
PAX	**Paxson**	**81.17**	**12**	P	**P**	**09 00 39.9**	**-0.9**
PAX				pmax	pmax		
	comp=Z,74nm,1.4s						
PAX	**Paxson**	**81.17**	**12**	P	**P**	**09 00 39.9**	**-0.9**
BPAW	**Bear Paw Mtn.**	**81.20**	**10**	P		09 00 39.5	
	baz=201,SNR=10						
BPAW	**Bear Paw Mtn.**	**81.20**	**10**	P	**P**	**09 00 39.0**	**-1.8**
BPAW				IAMs_20	IAMs_20	09 34 14.2	
	comp=Z,16µm,19.0s						
MCK	**McKinley**	**81.21**	**11**	P		09 00 40.6	
	baz=203,SNR=18						
MCK	**McKinley**	**81.21**	**11**	P	**P**	**09 00 40.5**	**-0.4**
MCK				pmax	pmax		
	comp=Z,103nm,1.1s						
MCK	**McKinley**	**81.21**	**11**	P	**P**	**09 00 40.5**	**-0.4**
MCK				IAmb	IAmb	09 00 53.0	
	comp=Z,103nm,1.1s						
MCK				IAMs_20	IAMs_20	09 29 05.8	
	comp=Z,17µm,21.0s						
HYT	**Haines Junctio**	**81.24**	**17**	P	**P**	**09 00 41.4**	**+0.2**
MENT	**Mentasta**	**81.52**	**13**	P	**P**	**09 00 41.6**	**-0.9**
BWN	**Browne**	**81.52**	**10**	P	**P**	**09 00 41.6**	**-0.9**
CN2	**Changchun**	**81.52**	**320**	*e*P	**P**	**09 00 43.3**	**+0.4**
CN2				S	**S**	**09 10 57.0**	**+2.8**
CN2				pmax	pmax		
	comp=Z,60nm,1.4s						
CN2				pmax	pmax		
	comp=Z,11µm,8.8s						
CN2				LR	LR		
	comp=Z,5µm,19.0s						
CN2				LR	LR		
	comp=Z,18µm,19.0s						
CN2				LR	LR		
	comp=Z,20µm,19.0s						
DLMT	**Dillon**	**81.53**	**38**	P	**P**	**09 00 42.9**	**-0.3**
DLMT				IAmb	IAmb	09 00 54.0	
	comp=Z,147nm,1.5s						
DLMT				IAMs_20	IAMs_20	09 33 13.6	
	comp=Z,18µm,18.0s						
MSO	**Missoula**	**81.54**	**37**	P	**P**	**09 00 42.9**	**-0.2**
MSO				IAmb	IAmb	09 00 52.9	
	comp=Z,142nm,1.4s						
MSO				IAMs_20	IAMs_20	09 30 08.7	
	comp=Z,22µm,20.0s						
MSO	**Missoula**	**81.54**	**37**	P		09 00 43.7	
	baz=237,SNR=7.1						
S22A	**4UR Ranch, Cre**	**81.54**	**47**	P		09 00 45.0	
	baz=243,SNR=23						
REDW	**Red Top Meadow**	**81.56**	**41**	P	**P**	**09 00 42.3**	**-1.2**
REDW				IAmb	IAmb	09 00 54.2	
	comp=Z,179nm,1.5s						
REDW				IAMs_20	IAMs_20	09 28 31.4	
	comp=Z,15µm,19.0s						
DL2	**Dalian**	**81.64**	**314**	⇑*i*P	**P**	**09 00 44.5**	**+0.9**
DL2				PP	**PP**	**09 03 49.3**	**-1.3**
DL2				S	**S**	**09 11 00.0**	**+4.5**
DL2				SS	**SS**	**09 16 19.5**	**+6.1**
DL2				pmax	pmax		
	comp=Z,78nm,1.2s						
DL2				pmax	pmax		
	comp=Z,10µm,6.8s						
DL2				LR	LR		
	comp=Z,5µm,23.0s						
DL2				LR	LR		
	comp=Z,9µm,21.2s						
DL2				LR	LR		
	comp=Z,14µm,24.7s						
SNOW	**Snow King Moun**	**81.67**	**41**	P	**P**	**09 00 44.6**	**+0.5**
SNOW				IAMs_20	IAMs_20	09 32 44.4	
	comp=Z,15µm,18.0s						
O20A	**White River Ci**	**81.67**	**44**	P		09 00 45.1	
	baz=242						
O20A	**White River Ci**	**81.68**	**44**	P	**P**	**09 00 45.1**	**+1.0**
O20A				IAMs_20	IAMs_20	09 30 34.2	
	comp=Z,19µm,20.0s						
DLBC	**Dease Lake**	**81.69**	**21**	LR	LR	09 30 00.6	
	comp=Z,12µm,20.5s,baz=234,slow=31						
DLBC	**Dease Lake**	**81.69**	**21**	P	**P**	**09 00 43.6**	**0.0**
DLBC				IAmb	IAmb	09 00 52.9	
	comp=Z,121nm,1.8s						
GZH	**Guangzhou**	**81.70**	**297**	P	**P**	**09 00 45.5**	**+1.2**
GZH				S	**S**	**09 10 59.0**	**+2.2**
GZH				SS	**SS**	**09 16 17.0**	**+2.2**
GZH				LR	LR		
	comp=Z,8µm,20.6s						
GZH				LR	LR		
	comp=Z,11µm,20.2s						
SNY	**Shenyang**	**81.72**	**317**	⇑P	**P**	**09 00 46.5**	**+2.5**
SNY				pmax	pmax		
	comp=Z,90nm,2.4s						
SNY				pmax	pmax		
	comp=Z,11µm,10.6s						
SNY				LR	LR		
	comp=Z,8µm,19.6s						
SNY				LR	LR		
	comp=Z,10µm,18.4s						
SNY				LR	LR		
	comp=Z,11µm,18.5s						
PMBI	**Palembang**	**81.82**	**269**	IAMs_20	IAMs_20	09 35 35.8	
	comp=Z,17µm,20.0s						
LOHW	**Long Hollow**	**81.84**	**41**	P	**P**	**09 00 44.8**	**-0.1**
LOHW				IAmb	IAmb	09 00 55.8	
	comp=Z,139nm,1.4s						
JTMT	**Jette**	**81.86**	**36**	P	**P**	**09 00 44.8**	**0.0**
WHY	**Whitehorse**	**81.86**	**18**	P	**P**	**09 00 43.7**	**-0.7**
LRM	**Limekiln Ridge**	**81.86**	**38**	P	**P**	**09 00 45.1**	**+0.1**
QLMT	**Earthquake Lak**	**81.96**	**39**	P	**P**	**09 00 46.9**	**+1.4**
NEA2	**Nenana**	**81.98**	**10**	P		09 00 44.3	
	baz=203,SNR=22						
NEA2	**Nenana**	**81.98**	**10**	P	**P**	**09 00 42.9**	**-2.0**
NEA2				IAMs_20	IAMs_20	09 30 25.2	
	comp=Z,26µm,21.0s						
FLWY	**Flagg Ranch**	**82.02**	**40**	P	**P**	**09 00 45.7**	**-0.2**
WRH	**Wood River Hil**	**82.04**	**11**	P	**P**	**09 00 43.7**	**-1.5**
WRH				IAmb	IAmb	09 00 57.4	
	comp=Z,155nm,1.2s						
L27K	**Beaver Creek,**	**82.05**	**14**	P		09 00 45.6	
	baz=210						
L27K	**Beaver Creek,**	**82.05**	**14**	P	**P**	**09 00 45.0**	**-0.4**
YPP	**Pitchstone Pla**	**82.05**	**40**	P	**P**	**09 00 46.0**	**-0.2**
YHB	**Horse Butte**	**82.06**	**39**	P	**P**	**09 00 45.6**	**-0.5**
BCAR	**Beaver Creek A**	**82.06**	**14**	P	**P**	**09 00 44.6**	**-0.8**
DOT	**Dot Lake**	**82.07**	**13**	P	**P**	**09 00 44.0**	**-1.4**
DOT				IAMs_20	IAMs_20	09 33 25.7	
	comp=Z,15µm,19.0s						
BW06	**Boulder Array**	**82.08**	**42**	P		09 00 47.0	
	baz=240,SNR=43						
BW06	**Boulder Array**	**82.08**	**42**	P	**P**	**09 00 46.3**	**0.0**
BW06				IAmb	IAmb	09 00 56.6	
	comp=Z,143nm,1.4s						
PD31	**Pinedale Array**	**82.08**	**42**	P	**P**	**09 00 46.4**	**+0.1**
PD31				IAmb	IAmb	09 00 56.5	
	comp=Z,130nm,1.4s						
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**09 00 46.6**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=215,slow=4.1,SNR=17						
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**09 00 45.9**	**-0.4**
SMCO	**Snowmass**	**82.10**	**46**	P	**P**	**09 00 47.2**	**+0.6**
SMCO				IAMs_20	IAMs_20	09 33 18.4	
	comp=Z,17µm,18.0s						
MLY	**Manley**	**82.11**	**9**	P		09 00 45.0	
	baz=202,SNR=22						
MLY	**Manley**	**82.11**	**9**	P	**P**	**09 00 44.7**	**-1.0**
MLY				IAmb	IAmb	09 00 53.7	
	comp=Z,63nm,1.2s						
YHL	**Hebgen Lake**	**82.12**	**39**	P	**P**	**09 00 47.5**	**+1.0**
YMR	**Madison River**	**82.16**	**39**	P	**P**	**09 00 46.9**	**+0.3**
HDA	**Harding Lake**	**82.19**	**11**	P		09 00 45.6	
	baz=205,SNR=19						
HDA				P		09 00 45.6	
	baz=205,SNR=19						
BOZ	**Bozeman (W)**	**82.23**	**38**	P	**P**	**09 00 46.8**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,161nm,1.4s						
BOZ	**Bozeman (W)**	**82.23**	**38**	P	**P**	**09 00 46.8**	**-0.1**
BOZ				IAmb	IAmb	09 00 57.7	
	comp=Z,161nm,1.4s						
BOZ				IAMs_20	IAMs_20	09 30 45.1	
	comp=Z,18µm,20.0s						
BOZ	**Bozeman (W)**	**82.23**	**38**	P		09 00 47.6	
	baz=238,SNR=30						
CCB	**Clear Creek Bu**	**82.25**	**11**	P	**P**	**09 00 45.0**	**-1.2**
H17A	**Grant Village**	**82.26**	**40**	P	**P**	**09 00 48.9**	**+1.7**
H17A				IAmb	IAmb	09 00 59.1	
	comp=Z,109nm,1.4s						
H17A	**Grant Village**	**82.26**	**40**	P		09 00 49.8	
	baz=239,SNR=21						
YHH	**Holmes Hill**	**82.29**	**39**	P	**P**	**09 00 48.4**	**+1.1**
YNR	**Norris Junctio**	**82.36**	**40**	P	**P**	**09 00 48.9**	**+1.2**
YNR				IAmb	IAmb	09 01 00.2	
	comp=Z,170nm,1.6s						
SCRK	**Sand Creek**	**82.38**	**12**	P		09 00 47.2	
	baz=208,SNR=16						
SCRK	**Sand Creek**	**82.38**	**12**	P	**P**	**09 00 47.2**	**0.0**
SCRK				IAMs_20	IAMs_20	09 33 37.8	
	comp=Z,14µm,19.0s						
I23K	**Minto, Yukon-K

	comp=Z,109nm,1.4s								
ILAR	**Eielson Array**	**82.53**	**11**	P		**P**		**09 00 46.8**	**-0.9**
	comp=Z,7.7nm,0.8s,baz=210,slow=5.8,SNR=27								
IMAR	**Indian Mountai**	**82.58**	**8**	P		**P**		**09 00 47.9**	**-0.1**
YMP	**Mirror Lake Pl**	**82.69**	**40**	P		**P**		**09 00 48.9**	**-0.6**
YMP				IAmb		IAmb		09 01 15.0	
	comp=Z,132nm,1.5s								
HRY	**Holter Researc**	**82.70**	**37**	P		**P**		**09 00 49.3**	**+0.1**
POKR	**Poker Plat Res**	**82.74**	**11**	P				09 00 48.7	
	baz=205,SNR=17								
POKR	**Poker Plat Res**	**82.74**	**11**	P		**P**		**09 00 48.7**	**-0.2**
WALA	**Waterton Lakes**	**82.79**	**35**	P		**P**		**09 00 49.1**	**-0.6**
WALA				IAmb		IAmb		09 00 59.7	
	comp=Z,77nm,1.2s								
WALA				IAMs_20		IAMs_20		09 34 07.0	
	comp=Z,17µm,19.0s								
SEY	**Seymchan**	**82.81**	**345**	P		**P**		**09 00 48.5**	**-0.8**
	comp=Z,23nm,1.1s,baz=141,slow=7.5,SNR=11								
SEY				LR		LR		09 32 26.4	
	comp=Z,24µm,21.4s,baz=167,slow=32								
SEY	**Seymchan**	**82.81**	**345**	⇑*i*P		**P**		**09 00 48.8**	**-0.4**
K27K	**Chicken**	**82.83**	**13**	P				09 00 50.3	
	baz=210								
K27K	**Chicken**	**82.83**	**13**	P		**P**		**09 00 50.1**	**+0.8**
K27K				IAmb		IAmb		09 01 43.0	
	comp=Z,133nm,1.9s								
MSTX	**Muleshoe**	**82.89**	**52**	P				09 00 51.6	
	baz=246,SNR=7.2								
MSTX	**Muleshoe**	**82.90**	**52**	P		**P**		**09 00 50.2**	**-0.4**
YNE	**Yellowstone No**	**82.92**	**40**	P		**P**		**09 00 51.3**	**+0.7**
T25A	**Trinidad**	**83.00**	**49**	P				09 00 52.4	
	baz=245,SNR=7.1								
T25A	**Trinidad**	**83.00**	**49**	P		**P**		**09 00 50.6**	**-0.6**
T25A				IAmb		IAmb		09 01 01.8	
	comp=Z,164nm,1.6s								
RWWY	**Rawlins**	**83.10**	**43**	P		**P**		**09 00 49.2**	**-2.4**
Q24A	**Divide**	**83.27**	**47**	P				09 00 54.1	
	baz=244,SNR=13								
ISCO	**Idaho Springs**	**83.31**	**46**	P				09 00 53.5	
	baz=244,SNR=7.3								
ISCO	**Idaho Springs**	**83.32**	**46**	P		**P**		**09 00 52.4**	**-0.4**
ISCO				pmax		pmax			
	comp=Z,78nm,1.4s								
ISCO	**Idaho Springs**	**83.32**	**46**	P		**P**		**09 00 52.4**	**-0.4**
ISCO				IAmb		IAmb		09 01 03.7	
	comp=Z,78nm,1.4s								
ISCO				IAMs_20		IAMs_20		09 33 49.7	
	comp=Z,18µm,18.0s								
833A	**Chaparral WMA,**	**83.39**	**58**	P				09 00 54.1	
	baz=248								
QIZ	**Qiongzhong**	**83.41**	**292**	P		**P**		**09 00 53.5**	**+0.2**
QIZ				sP		**sP**		**09 01 00.0**	**+0.3**
QIZ				S		**S**		**09 11 13.5**	**-0.9**
QIZ				sS		**sS**		**09 11 23.3**	**+1.2**
QIZ				SS		**SS**		**09 16 43.3**	**+2.9**
QIZ				LR		LR			
	comp=Z,4µm,20.6s								
QIZ				LR		LR			
	comp=Z,10µm,22.6s								
QIZ				LR		LR			
	comp=Z,12µm,25.5s								
RLMT	**Red Lodge**	**83.43**	**40**	P				09 00 54.3	
	baz=240,SNR=15								
RLMT	**Red Lodge**	**83.43**	**40**	P		**P**		**09 00 53.1**	**0.0**
RLMT				IAmb		IAmb		09 01 04.6	
	comp=Z,102nm,1.1s								
PRP	**Porcupine Dome**	**83.45**	**11**	P				09 00 53.2	
	baz=206,SNR=26								
PRP	**Porcupine Dome**	**83.45**	**11**	P		**P**		**09 00 52.2**	**-0.5**
DAWY	**Dawson**	**83.47**	**14**	P		**P**		**09 00 52.5**	**-0.2**
DAWY				IAmb		IAmb		09 01 01.9	
	comp=Z,159nm,1.6s								
DAWY				IAMs_20		IAMs_20		09 33 57.9	
	comp=Z,20µm,19.0s								
CMIG	**Matias Romero**	**83.50**	**70**	LR		LR		09 31 52.3	
	comp=Z,20µm,18.0s,baz=244,slow=31								
N23A	**Red Feather La**	**83.58**	**45**	P				09 00 55.1	
	baz=243,SNR=16								
WHN	**Wuhan**	**83.58**	**304**	⇓P		**P**		**09 00 55.5**	**+1.6**
WHN				pmax		pmax			
	comp=Z,14µm,11.0s								
WHN				LR		LR			
	comp=Z,7µm,13.7s								
WHN				LR		LR			
	comp=Z,14µm,16.6s								
WHN				LR		LR			
	comp=Z,31µm,20.3s								
TIA	**Tai'an**	**83.68**	**310**	P		**P**		**09 00 55.3**	**+0.9**
TIA				pmax		pmax			
	comp=Z,19nm,1.4s								
EGAK	**Eagle**	**83.68**	**13**	P				09 00 53.5	
	baz=211,SNR=17								
EGAK	**Eagle**	**83.68**	**13**	IAmb		IAmb		09 01 03.7	
	comp=Z,68nm,1.2s								
RDOG	**Red Dog Mine**	**83.71**	**4**	P				09 00 54.7	
	baz=190								
BELA	**Belgrano 2**	**83.76**	**172**	IAmb		IAmb		09 01 17.2	
	comp=Z,94nm,1.3s								
PMSA	**Palmer Station**	**83.83**	**156**	IAMs_20		IAMs_20		09 29 47.1	
	comp=Z,21µm,20.0s								
JCT	**Junction City**	**83.86**	**56**	P				09 00 55.6	
	baz=248								
K22A	**Casper**	**83.99**	**43**	P		**P**		**09 00 55.6**	**-0.4**
	baz=243,SNR=15								
K22A	**Casper**	**83.99**	**43**	P		**P**		**09 00 55.6**	**-0.4**
AMTX	**Amarillo**	**84.09**	**51**	P				09 00 57.3	
	baz=246								
AMTX	**Amarillo**	**84.09**	**51**	IAMs_20		IAMs_20		09 30 03.6	
	comp=Z,20µm,21.0s								
PHWY	**Pilot Hill**	**84.09**	**44**	P		**P**		**09 00 56.8**	**+0.1**
PHWY				IAmb		IAmb		09 01 07.0	
	comp=Z,145nm,1.6s								
COLD	**Coldfoot**	**84.24**	**9**	P				09 00 57.7	
	baz=202,SNR=31								
COLD	**Coldfoot**	**84.24**	**9**	P		**P**		**09 00 56.8**	**+0.3**
COLD				IAmb		IAmb		09 01 06.2	
	comp=Z,97nm,1.2s								
FYU	**Fort Yukon**	**84.45**	**11**	IAmb		IAmb		09 02 24.0	
	comp=Z,111nm,1.8s								
EGMT	**Eagleton**	**84.58**	**37**	P				09 00 58.9	
	baz=240								
EGMT	**Eagleton**	**84.59**	**37**	IAMs_20		IAMs_20		09 34 02.2	
	comp=Z,19µm,19.0s								
BILL	**Bilibino**	**84.74**	**352**	*de*P		**P**		**09 00 58.6**	**-0.4**
BILL				pmax		pmax			
	comp=Z,161nm,3.0s								
BILL	**Bilibino**	**84.74**	**352**	P		**P**		**09 00 58.5**	**-0.6**
BILL				IAmb		IAmb		09 01 12.4	
	comp=Z,141nm,1.7s								
BILL				IAMs_20		IAMs_20		09 32 49.7	
	comp=Z,18µm,20.0s								
ABTX	**Abilene, Hawle**	**84.78**	**54**	P				09 01 00.9	
	baz=248								
ABTX	**Abilene, Hawle**	**84.78**	**54**	P		**P**		**09 01 00.5**	**+0.4**
ABTX				IAMs_20		IAMs_20		09 31 29.1	
	comp=Z,24µm,20.0s								
735A	**Kenedy**	**84.88**	**58**	IAMs_20		IAMs_20		09 30 33.0	
	comp=Z,15µm,20.0s								
KSCO	**Kaye Shedlock'**	**85.07**	**47**	P		**P**		**09 01 01.5**	**-0.1**
BMAR	**Burnt Mountain**	**85.33**	**11**	P		**P**		**09 01 02.0**	**-0.1**
TOLK	**Toolik Lake Re**	**85.65**	**8**	P				09 01 03.8	
	baz=202								
ZEA	**Zeya**	**85.81**	**329**	*e*P		**P**		**09 01 05.1**	**+0.4**
ZEA				*e*S		**S**		**09 11 38.3**	**+1.3**
ZEA				pmax		pmax			
	comp=N,2µm,11.9s								
ZEA				pmax		pmax			
	comp=Z,4µm,10.1s								
ZEA				pmax		pmax			
	comp=N,20nm,1.5s								
ZEA				pmax		pmax			
	comp=Z,30nm,1.4s								
ZEA				smax		smax			
	comp=E,4µm,12.1s								
ZEA				smax		smax			
	comp=N,7µm,14.5s								
BJT	**Baijiatuau**	**85.92**	**313**	IAmb		IAmb		09 01 07.9	
	comp=Z,194nm,1.8s								
BJI	**Beijing**	**85.93**	**313**	P		**P**		**09 01 06.0**	**+0.4**
BJI				S		**S**		**09 11 42.0**	**+3.3**
BJI				pmax		pmax			
	comp=Z,50nm,1.8s								
BJI				pmax		pmax			
	comp=Z,10µm,8.4s								
BJI				LR		LR			
	comp=Z,3µm,21.8s								
BJI				LR		LR			
	comp=Z,8µm,19.4s								
EPYK	**Eagle Plains**	**86.02**	**14**	P				09 01 05.6	
	baz=215								
EPYK	**Eagle Plains**	**86.03**	**14**	P		**P**		**09 01 05.2**	**-0.3**
LAO	**LASA Array**	**86.04**	**39**	P		**P**		**09 01 06.8**	**+0.7**
LAO	**LASA Array**	**86.04**	**39**	P				09 01 07.9	
	baz=242								
UBPT	**Khong Chiam**	**86.23**	**287**	P		**P**		**09 01 06.8**	**-0.8**
WMOK	**Wichita Mounta**	**86.23**	**53**	P				09 01 06.5	
	baz=248								
WMOK	**Wichita Mounta**	**86.24**	**53**	P		**P**		**09 01 06.6**	**-0.7**
WMOK				pmax		pmax			
	comp=Z,36nm,1.4s								
WMOK	**Wichita Mounta**	**86.24**	**53**	P		**P**		**09 01 06.6**	**-0.7**
WMOK	**Wichita Mounta**	**86.24**	**53**	IAMs_20		IAMs_20		09 35 05.5	
	comp=Z,16µm,18.0s								
RSSD	**Black Hills**	**86.27**	**42**	P				09 01 07.9	
	baz=244								
RSSD	**Black Hills**	**86.27**	**42**	P		**P**		**09 01 06.7**	**-0.8**
RSSD				pmax		pmax			
	comp=Z,166nm,1.8s								
RSSD	**Black Hills**	**86.27**	**42**	P		**P**		**09 01 06.7**	**-0.8**
RSSD				IAmb		IAmb		09 01 17.2	
	comp=Z,166nm,1.8s								
WHTX	**Lake Whitney,**	**86.28**	**56**	P		**P**		**09 01 07.1**	**-0.4**
WHTX				IAMs_20		IAMs_20		09 32 26.0	
	comp=Z,20µm,19.0s								
WHTX	**Lake Whitney,**	**86.28**	**56**	P				09 01 10.6	
	baz=249								
OGNE	**Ogallala**	**86.28**	**46**	IAMs_20		IAMs_20		09 40 09.1	
	comp=Z,16µm,18.0s								
U32A	**Winter Ranch,**	**86.68**	**51**	IAMs_20		IAMs_20		09 31 27.1	
	comp=Z,22µm,22.0s								
HKT	**Hockley**	**86.88**	**58**	⇑*e*P		**P**		**09 01 11.3**	**+0.9**
HKT				pmax		pmax			
	comp=Z,139nm,3.0s								
HKT	**Hockley**	**86.88**	**58**	P		**P**		**09 01 10.2**	**-0.2**
HKT				IAmb		IAmb		09 01 21.8	
	comp=Z,168nm,2.0s								
Z35A	**Perchaven, San**	**86.91**	**54**	P		**P**		**09 01 09.8**	**-0.8**
Z35A				IAMs_20		IAMs_20		09 32 04.5	
	comp=Z,25µm,21.0s								
APG	**El Apazote**	**86.92**	**74**	LR		LR		09 32 36.0	
	comp=Z,16µm,19.1s,baz=280,slow=30								
COCO	**West Island**	**87.03**	**258**	IAMs_20		IAMs_20		09 39 50.8	
	comp=Z,17µm,19.0s								
CBKS	**Cedar Bluff**	**87.06**	**48**	P		**P**		**09 01 10.6**	**-0.6**
CBKS				pmax		pmax			
	comp=Z,48nm,1.2s								
CBKS	**Cedar Bluff**	**87.06**	**48**	P		**P**		**09 01 10.6**	**-0.6**
CBKS				IAmb		IAmb		09 01 23.5	
	comp=Z,48nm,1.1s								
CBKS	**Cedar Bluff**	**87.06**	**48**	P				09 01 11.7	
	baz=247								
IPM	**Ipoh**	**87.40**	**275**	P		**P**		**09 01 12.6**	**-0.9**
IPM				IAmb		IAmb		09 01 30.2	
	comp=Z,48nm,1.1s								
OK032	**Salt Plains WL**	**87.43**	**51**	P		**P**		**09 01 12.8**	**-0.2**
OK032				IAmb		IAmb		09 01 26.3	
	comp=Z,76nm,1.5s								
OK032				IAMs_20		IAMs_20		09 32 33.9	
	comp=Z,19µm,20.0s								
OKCFA	**Oklahoma City**	**87.50**	**52**	IAMs_20		IAMs_20		09 37 28.9	
	comp=Z,15µm,18.0s								
237A	**Washetta, Mont**	**87.59**	**56**	P		**P**		**09 01 14.6**	**+0.7**
237A				IAMs_20		IAMs_20		09 35 29.6	
	comp=Z,16µm,18.0s								
HIA	**Hailar**	**87.62**	**323**	*c i*P		**P**		**09 01 13.8**	**+0.1**
HIA				pmax		pmax			
	comp=Z,85nm,1.5s								
HIA	**Hailar**	**87.62**	**323**	P		**P**		**09 01 14.0**	**+0.3**
HIA				IAmb		IAmb		09 01 22.4	
	comp=Z,84nm,1.4s								
R32A	**Long Quarter,**	**87.65**	**49**	IAmb		IAmb		09 01 25.5	
	comp=Z,75nm,1.1s								
R32A				IAMs_20		IAMs_20		09 33 55.8	
	comp=Z,18µm,20.0s								
SNET	**Serv Nac Est T**	**87.69**	**75**	IAMs_20		IAMs_20		09 30 32.1	
	comp=Z,21µm,22.0s								
TIY	**Taiyuan**	**87.72**	**310**	*e*P		**P**		**09 01 16.8**	**+2.3**
TIY				SKS		**SKSac**		**09 11 40.5**	**-1.8**
TIY				S		**S**		**09 11 54.3**	**-2.1**
TIY				pmax		pmax			
	comp=Z,6µm,8.6s								
TIY				LR		LR			
	comp=Z,10µm,19.2s								
TIY				LR		LR			
	comp=Z,8µm,19.6s								
TIY				LR		LR			
	comp=Z,13µm,21.1s								
MTO3	**Montecristo**	**87.77**	**74**	IAMs_20		IAMs_20		09 31 40.3	
	comp=Z,14µm,21.0s								
MAW	**Mawson**	**87.78**	**198**	P		**P**		**09 01 15.4**	**+1.2**
	comp=Z,42nm,1.0s,baz=122,slow=4.9,SNR=20								
MAW	**Mawson**	**87.78**	**198**	P		**P**		**09 01 16.4**	**+2.2**
	baz=88,SNR=11								
MAW	**Mawson**	**87.78**	**198**	P		**P**		**09 01 16.3**	**+2.2**
MAW				IAmb		IAmb		09 01 26.2	
	comp=Z,48nm,1.6s								
MNSI	**Mandailing Nat**	**87.81**	**271**	P		P		09 01 20.4	+5.0
KULM	**Kulim**	**87.98**	**276**	P		**P**		**09 01 17.0**	**+0.8**
DGMT	**Dagmar**	**88.07**	**38**	P		**P**		**09 01 15.7**	**-0.2**
DGMT	**Dagmar**	**88.07**	**38**	P				09 01 16.7	
	baz=244								
OK031	**S. Brethren Rd**	**88.15**	**52**	IAMs_20		IAMs_20		09 37 10.2	
	comp=Z,19µm,18.0s								
OK030	**Cody Creek RV**	**88.19**	**52**	IAMs_20		IAMs_20		09 37 11.1	
	comp=Z,19µm,18.0s								
INK	**Inuvik**	**88.33**	**14**	P		**P**		**09 01 15.3**	**-1.2**
INK				pmax		pmax			
	comp=Z,75nm,1.4s								
INK	**Inuvik**	**88.33**	**14**	P		**P**		**09 01 15.3**	**-1.2**
INK				IAmb		IAmb		09 01 25.2	
	comp=Z,75nm,1.4s								
QUOK	**Quay**	**88.33**	**52**	IAMs_20		IAMs_20		09 38 21.9	
	comp=Z,19µm,18.0s								
NATX	**Nacogdoches**	**88.43**	**57**	IAMs_20		IAMs_20		09 36 05.9	
	comp=Z,15µm,18.0s								
GYA	**Guiyang**	**88.54**	**298**	⇓P		**P**		**09 01 20.8**	**+2.1**
GYA				sP		pwP		09 01 26.5	+0.8
GYA				S		**S**		**09 12 03.3**	**-1.5**
GYA				pmax		pmax			
	comp=Z,24nm,1.6s								
GYA				pmax		pmax			
	comp=Z,7µm,8.2s								
GYA				LR		LR			
	comp=Z,4µm,16.6s								
GYA				LR		LR			
	comp=Z,3µm,16.5s								
GYA				LR		LR			
	comp=Z,7µm,21.4s								
Z38A	**Mt. Pleasant**	**88.67**	**55**	IAMs_20		IAMs_20		09 34 12.1	
	comp=Z,22µm,20.0s								
X37A	**Clayton**	**88.81**	**54**	IAMs_20		IAMs_20		09 32 42.8	
	comp=Z,22µm,20.0s								
RPSI	**Rantau Prapat**	**88.94**	**273**	P		**P**		**09 01 18.7**	**-2.1**
RPSI				IAmb		IAmb		09 01 28.9	
	comp=Z,63nm,1.3s								
PSI	**Prapat**	**88.97**	**273**	P		**P**		**09 01 20.6**	**-0.5**
	comp=Z,27nm,1.1s,baz=180,slow=6.0,SNR=14								
PSI				LR		LR		09 43 42.3	
	comp=Z,9µm,18.7s,baz=90,slow=37								
PSI	**Prapat**	**88.97**	**273**	P		**P**		**09 01 18.7**	**-2.4**
PSI				pmax		pmax			
	comp=Z,63nm,1.3s								
PLCA	**Paso Flores**	**89.05**	**132**	P		**P**		**09 01 23.5**	**+2.6**
	comp=Z,2.1nm,0.9s,baz=313,slow=5.5,SNR=2.7								
PLCA				LR		LR		09 32 49.5	
	comp=Z,20µm,19.9s,baz=261,slow=30								
XAN	**Xi'an**	**89.11**	**306**	P		**P**		**09 01 21.8**	**+0.6**
XAN				pP		pwP		09 01 32.5	+4.4
XAN				pmax		pmax			
	comp=Z,10µm,9.3s								
XAN				LR		LR			
	comp=Z,13µm,19.6s								
XAN				LR		LR			
	comp=Z,15µm,21.7s								
XAN				LR		LR			
	comp=Z,15µm,19.5s								
XAN	**Xi'an**	**89.11**	**306**	P		**P**		**09 01 21.3**	**+0.1**
XAN				pmax		pmax			
	comp=Z,116nm,1.6s								
XAN	**Xi'an**	**89.11**	**306**	P		**P**		**09 01 21.3**	**+0.1**
XAN				IAmb		IAmb		09 01 28.4	
	comp=Z,116nm,1.6s								
BGNE	**Belgrade**	**89.16**	**47**	IAMs_20		IAMs_20		09 35 54.6	
	comp=Z,16µm,19.0s								
N33A	**J Bar K, Exete**	**89.41**	**47**	IAMs_20		IAMs_20		09 34 26.0	
	comp=Z,15µm,20.0s								
SLVN	**Son La**	**89.42**	**292**	IAMs_20		IAMs_20		09 37 10.4	
	comp=Z,15µm,21.0s								
KSU1	**Kansas State U**	**89.43**	**49**	IAMs_20		IAMs_20		09 34 41.8	
	comp=Z,14µm,20.0s								
YAK	**Yakutsk**	**89.46**	**337**	*e*P		**P**		**09 01 21.0**	**-1.0**
YAK				*e*S		**SKSac**		**09 11 47.8**	**-3.5**
YAK				pmax		pmax			
	comp=Z,29nm,1.2s								
YAK				pmax		pmax			
	comp=N,1.0nm,0.6s								
YAK				pmax		pmax			
	comp=E,7.0nm,1.3s								
YAK				pmax		pmax			
	comp=Z,4µm,9.2s								
YAK				pmax		pmax			
	comp=N,738nm,8.1s								
YAK				pmax		pmax			
	comp=E,958nm,6.2s								
YAK				smax		smax			
	comp=N,4µm,9.6s								
YAK				smax		smax			
	comp=E,2µm,11.9s								
HHC	**Hu-ho-hao-te**	**89.49**	**313**	⇑*i*P		**P**		**09 01 23.8**	**+1.0**
HHC				sP		pwP		09 01 30.8	+1.1
HHC				SKS		**SKSac**		**09 11 51.3**	**-1.5**
HHC				S		**S**		**09 12 11.3**	**-1.8**
HHC				sS		pS		09 12 19.3	+0.2
HHC				pmax		pmax			
	comp=E,41nm,1.1s								
HHC				pmax		pmax			
	comp=E,6µm,6.6s								
HHC				LR		LR			
	comp=E,5µm,19.2s								
HHC				LR		LR			
	comp=E,7µm,19.0s								
HHC				LR		LR			
	comp=E,11µm,20.2s								
TGUH	**Tegucigalpa,Un**	**89.62**	**75**	IAMs_20		IAMs_20		09 32 32.6	
	comp=Z,13µm,20.0s								
GSI	**Gunungsitoli**	**89.87**	**271**	P		**P**		**09 01 25.2**	**+0.1**
GSI				IAMs_20		IAMs_20		09 40 43.2	
	comp=Z,21µm,22.0s								
YKA	**Yellowknife Ar**	**90.07**	**23**	P		**P**		**09 01 24.4**	**-0.4**
	comp=Z,4.8nm,0.9s,baz=230,slow=4.1,SNR=64								
YKA				PKKPbc		**PKKPbc**		**09 19 06.0**	**+7.6**
	comp=Z,0.3nm,0.6s,baz=51,slow=2.5,SNR=11								
U38A	**Gravette**	**90.19**	**52**	IAMs_20		IAMs_20		09 38 40.0	
	comp=Z,17µm,18.0s								
MIAR	**Mount Ida**	**90.20**	**54**	IAmb		IAmb		09 01 36.7	
	comp=Z,83nm,1.9s								
MIAR				IAMs_20		IAMs_20		09 33 56.4	
	comp=Z,14µm,19.0s								
W39A	**Magazine**	**90.24**	**54**	IAmb		IAmb		09 02 12.2	
	comp=Z,59nm,1.6s								
WLAR	**White Oak Lake**	**90.29**	**55**	P		**P**		**09 01 27.7**	**+1.2**
WLAR				IAmb		IAmb		09 01 37.5	
	comp=Z,126nm,1.5s								
ORTG	**Ortega, Santa**	**90.32**	**79**	IAMs_20		IAMs_20		09 32 48.3	
	comp=Z,17µm,20.0s								
TEIG	**Tepich**	**90.41**	**69**	LR		LR		09 34 40.8	
	comp=Z,8µm,21.1s,baz=260,slow=31								
CAO2	**Cobano, Puntar**	**90.47**	**80**	IAMs_20		IAMs_20		09 33 05.4	
	comp=Z,12µm,18.0s								
BTO	**Baotou**	**90.50**	**312**	P		**P**		**09 01 29.5**	**+1.9**
L34A	**Svendsen Farm,**	**90.60**	**46**	IAMs_20		IAMs_20		09 36 48.5	
	comp=Z,16µm,18.0s								
TPTI		**90.77**	**273**	P		P		09 01 38.2	+8.9
JTS	**Las Juntas de**	**90.78**	**80**	LR		LR		09 33 01.5	
	comp=Z,19µm,20.9s,baz=304,slow=29								
JTS	**Las Juntas de**	**90.78**	**80**	⇓*e*P		**P**		**09 01 32.7**	**+3.4**
JTS				pmax		pmax			
	comp=Z,75nm,1.3s								
JTS				MLR		MLR			
	comp=Z,12µm,16.0s								
JTS	**Las Juntas de**	**90.78**	**80**	P		**P**		**09 01 32.8**	**+3.5**
JTS				IAmb		IAmb		09 01 45.3	
	comp=Z,56nm,1.1s								
JTS	**Las Juntas de**	**90.78**	**80**	IAMs_20		IAMs_20		09 32 58.5	
	comp=Z,18µm,20.0s								
ACON	**Acoyapa**	**91.02**	**78**	IAMs_20		IAMs_20		09 33 02.5	
	comp=Z,16µm,20.0s								
ECSD	**EROS Data Cent**	**91.05**	**45**	P		**P**		**09 01 30.1**	**+0.1**
ECSD				IAmb		IAmb		09 01 41.5	
	comp=Z,64nm,1.6s								
ECSD	**EROS Data Cent**	**91.05**	**45**	P				09 01 30.4	
	baz=250								
U40A	**Yellville**	**91.33**	**53**	IAMs_20		IAMs_20		09 39 07.3	
	comp=Z,17µm,18.0s								
U40A	**Yellville**	**91.33**	**53**	P				09 01 33.6	
	baz=252								
143A	**Socs Landing,**	**91.35**	**57**	IAMs_20		IAMs_20		09 35 34.1	
	comp=Z,12µm,20.0s								
S39A	**Bolivar**	**91.39**	**51**	IAMs_20		IAMs_20		09 38 18.9	
	comp=Z,18µm,18.0s								
C36M	**Paulatuk**	**91.40**	**15**	IAmb		IAmb		09 01 44.1	
	comp=Z,40nm,1.4s								
C36M				IAMs_20		IAMs_20		09 36 06.6	
	comp=Z,14µm,20.0s								
COVE	**Coope Vega, Sa**	**91.42**	**79**	IAMs_20		IAMs_20		09 33 22.4	
	comp=Z,13µm,21.0s								
W41B	**Gary Mavity, V**	**91.43**	**54**	P				09 01 34.5	
	baz=252								
WHAR	**Wooly Hollow**	**91.44**	**54**	IAmb		IAmb		09 01 43.0	
	comp=Z,68nm,1.3s								
WHAR				IAMs_20		IAMs_20		09 34 58.2	
	comp=Z,21µm,20.0s								
PEL	**Peldehue**	**91.49**	**125**	IAMs_20		IAMs_20		09 32 09.8	
	comp=Z,22µm,21.0s								
HDC	**Heredia**	**91.50**	**80**	IAMs_20		IAMs_20		09 34 05.6	
	comp=Z,14µm,20.0s								
KMI	**Kunming**	**91.52**	**296**	⇑*i*P		**P**		**09 01 34.5**	**+1.7**
KMI				pP		pP		09 01 38.0	+0.4
KMI				sP		pwP		09 01 40.0	+0.2
KMI				SKS		**SKSac**		**09 12 02.0**	**-3.5**
KMI				S		**ScS**		**09 12 36.0

comp=Z,64nm,1.2s
R40A IAMs_20 IAMs_20 09 40 34.8
comp=Z,19µm,18.0s
SYO Syowa Base 92.52 191⇑ *e*P **P 09 01 34.4 -1.9**
SYO Syowa Base 92.52 191⇑ *i*pP **P 09 01 37.4 +1.1**
SYO Syowa Base 92.52 191⇑ *es*P sP 09 01 42.0 -0.8
LCAR Lake Charles 92.55 53 P **P 09 01 36.4 -0.6**
LCAR IAmb IAmb 09 01 47.5
comp=Z,50nm,1.3s
LCAR IAMs_20 IAMs_20 09 36 14.7
comp=Z,21µm,21.0s
VNA3 Neumayer Olymp 92.64 175 P **P 09 01 39.2 +2.3**
VNA3 Neumayer Olymp 92.64 175 PKiKP **PKiKP 09 06 26.8 +1.7**
VNA3 Neumayer Olymp 92.64 175 PP PP 09 05 19.9 +2.0
VNA3 Neumayer Olymp 92.64 175 sP sP 09 01 44.4 +1.6
SNAA Sanae 92.71 177 P **P 09 01 39.9 +2.7**
SNAA Sanae 92.71 177 PKiKP **PKiKP 09 06 24.1 -1.2**
SNAA Sanae 92.71 177 pP pP 09 01 42.6 +1.0
SNAA Sanae 92.71 177 sP sP 09 01 44.5 +1.4
SNAA Sanae 92.71 177⇑ *e*P **P 09 01 37.9 +0.6**
SNAA pmax pmax
comp=Z,83nm,1.7s
SNAA MLR MLR
comp=Z,20µm,17.0s
SNAA Sanae 92.71 177 P **P 09 01 35.5 -1.8**
SCIA State Center 92.80 47 IAMs_20 IAMs_20 09 37 12.9
comp=Z,15µm,19.0s
T42A Van Buren 92.88 52 IAmb IAmb 09 01 48.7
comp=Z,33nm,1.1s
T42A IAMs_20 IAMs_20 09 41 05.4
comp=Z,14µm,18.0s
P40A Paris 92.91 50 IAMs_20 IAMs_20 09 36 07.0
comp=Z,15µm,21.0s
CCM Cathedral Cave 93.07 51 IAMs_20 IAMs_20 09 42 52.3
comp=Z,19µm,18.0s
CMAR Chiang Mai Arr 93.11 288 P **P 09 01 41.0 +1.0**
comp=Z,0.9nm,0.3s,baz=101,slow=2.4,SNR=1.7
CMAR LR LR 09 38 26.3
comp=Z,9µm,21.9s,baz=147,slow=32
AGMN Agassiz Nation 93.12 41 IAmb IAmb 09 01 48.1
comp=Z,66nm,1.5s
VNA2 Neumayer--Watz 93.14 175 P **P 09 01 41.0 +1.8**
baz=172,slow=3.3
VNA2 Neumayer--Watz 93.14 175 PKiKP **PKiKP 09 06 27.7 +1.7**
VNA2 Neumayer--Watz 93.14 175 PP PP 09 05 23.1 +1.4
VNA2 Neumayer--Watz 93.14 175 pP pP 09 01 44.4 +0.8
VNA2 Neumayer--Watz 93.14 175 sP sP 09 01 46.4 +1.3
Y45A Yeager Farm, C 93.18 56 IAMs_20 IAMs_20 09 37 23.5
comp=Z,22µm,21.0s
CHTO Chiang Mai 93.21 289 P **P 09 01 39.2 -1.2**
CHTO P **P 09 01 39.2 -1.2**
PBMO Poplar Bluff 93.32 53 IAMs_20 IAMs_20 09 42 37.0
comp=Z,17µm,18.0s
VNA1 Neumayer--Stat 93.34 175 P **P 09 01 42.0 +1.9**
VNA1 Neumayer--Stat 93.34 175 PKiKP **PKiKP 09 06 27.3 +1.1**
VNA1 Neumayer--Stat 93.34 175 PP PP 09 05 20.5 -2.7
VNA1 Neumayer--Stat 93.34 175 sP sP 09 01 47.4 +1.5
OXF Oxford 93.47 55 IAMs_20 IAMs_20 09 39 24.4
comp=Z,16µm,19.0s
FVM French Village 93.67 52 IAMs_20 IAMs_20 09 41 15.1
comp=Z,16µm,18.0s
LZH Lanzhou 93.70 306 *e*P **P 09 01 44.0 +1.4**
LZH pP sP 09 01 48.5 -0.5
LZH sP pwP 09 01 52.0 +2.5
LZH pmax pmax
comp=Z,20nm,1.3s
LZH LR LR
comp=Z,6µm,17.9s
LZH LR LR
comp=Z,10µm,17.3s
LZH LR LR
comp=Z,8µm,19.2s
ULM Lac du Bonnet 93.77 39 P **P 09 01 41.5 -0.8**
comp=Z,4.4nm,1.0s,baz=271,slow=4.2,SNR=8.1
ULM Lac du Bonnet 93.77 39⇓ *e*P **P 09 01 41.3 -1.0**
PVMO Portageville 93.78 53 IAMs_20 IAMs_20 09 37 01.1
comp=Z,20µm,20.0s
PARMO Parma 93.81 53 IAMs_20 IAMs_20 09 37 02.9
comp=Z,16µm,20.0s
W45A Hickory Valley 93.82 55 IAMs_20 IAMs_20 09 36 00.5
comp=Z,15µm,21.0s
F36A Milaca 93.83 44 IAmb IAmb 09 01 51.4
comp=Z,80nm,1.9s
SLM Saint Louis 94.00 51 IAMs_20 IAMs_20 09 36 06.9
comp=Z,16µm,21.0s
HENM Henderson Moun 94.04 53 IAMs_20 IAMs_20 09 40 36.0
comp=Z,17µm,18.0s
SPMN Marine on St. 94.12 44 P **P 09 01 42.4 -1.7**
SPMN IAmb IAmb 09 01 53.6
comp=Z,108nm,1.6s
SPMN IAMs_20 IAMs_20 09 37 49.5
comp=Z,21µm,21.0s
SPMN Marine on St. 94.12 44 P 09 01 45.2
baz=252
N41A Harden Midland 94.14 49 IAMs_20 IAMs_20 09 37 55.7
comp=Z,15µm,19.0s
HICK Hickman 94.17 53 IAMs_20 IAMs_20 09 41 48.7
comp=Z,18µm,18.0s
L40A Anamosa 94.27 48 IAmb IAmb 09 01 55.0
comp=Z,62nm,1.1s
L40A IAMs_20 IAMs_20 09 37 36.7
comp=Z,13µm,20.0s
BOD Bodaibo 94.32 329 *e*P **P 09 01 43.9 -0.7**
BOD *e* 09 07 37.0
BOD pmax pmax
comp=Z,27nm,1.9s
S44A Carbondale 94.47 52 IAMs_20 IAMs_20 09 42 55.6
comp=Z,15µm,18.0s
B35A Bob, Littlefor 94.49 41 P **P 09 01 44.6 -1.1**
B35A IAmb IAmb 09 01 54.4
comp=Z,76nm,1.6s
B35A IAMs_20 IAMs_20 09 43 51.2
comp=Z,17µm,18.0s
SIUC Southern Illin 94.51 52 IAMs_20 IAMs_20 09 42 56.0
comp=Z,15µm,18.0s
PB14 IPOC Station P 94.56 117 IAMs_20 IAMs_20 09 33 52.3
comp=Z,20µm,20.0s
PLAL Pickwick Lake 94.65 55 IAMs_20 IAMs_20 09 38 08.5
comp=Z,11µm,19.0s
T45A Paducah 94.76 53 IAMs_20 IAMs_20 09 37 01.4
comp=Z,15µm,20.0s
PAF Port-aux-Franc 94.76 216 IAMs_20 IAMs_20 09 36 30.2
comp=Z,15µm,21.0s
ULN Ulaanbaatar 94.87 318⇑ *i*P **P 09 01 47.6 -0.1**
ULN pmax pmax
comp=Z,37nm,1.8s
ULN Ulaanbaatar 94.87 318 P **P 09 01 48.1 +0.4**
ULN Ulaanbaatar 94.87 318 IAMs_20 IAMs_20 09 37 56.9
comp=Z,18µm,22.0s
WVT Waverly 95.15 54 IAMs_20 IAMs_20 09 37 42.6
comp=Z,18µm,20.0s
JFWS Jewell Farm 95.20 47 P **P 09 01 48.6 -0.5**
JFWS pmax pmax
comp=Z,147nm,1.7s
JFWS Jewell Farm 95.20 47 P **P 09 01 48.6 -0.5**
JFWS Jewell Farm 95.20 47 IAMs_20 IAMs_20 09 37 11.6
comp=Z,16µm,22.0s
JFWS Jewell Farm 95.20 47 P 09 01 50.4
baz=254
I40A Norwalk 95.22 46 IAMs_20 IAMs_20 09 42 14.1
comp=Z,13µm,18.0s
HDIL Hopedale 95.23 49 IAMs_20 IAMs_20 09 38 31.4
comp=Z,18µm,20.0s
SONM Songino Array 95.29 318 P **P 09 01 47.8 -1.8**
comp=Z,2.6nm,0.9s,baz=108,slow=3.3,SNR=8.5
SONM PP **PP 09 05 43.6 +3.6**
comp=Z,5.1nm,1.1s,baz=113,slow=7.6,SNR=5.5
SONM Songino Array 95.29 318 P **P 09 01 48.3 -1.2**
AIS Amsterdam Isla 95.29 229 IAMs_20 IAMs_20 09 45 13.2
comp=Z,12µm,20.0s
TIXI Tiksi 95.30 344 P **P 09 01 47.3 -1.5**
comp=Z,2.8nm,0.7s,baz=111,slow=5.2,SNR=6.7
TIXI Tiksi 95.30 344⇓ *e*P **P 09 01 48.0 -0.8**
TIXI Tiksi 95.30 344 P **P 09 01 48.0 -0.8**
TIXI IAMs_20 IAMs_20 09 39 21.3
comp=Z,16nm,20.0s
X48A Hartselle 95.33 56 IAMs_20 IAMs_20 09 37 36.8
comp=Z,18µm,22.0s
L42A Oliver, Polo 95.36 48 IAMs_20 IAMs_20 09 38 19.7
comp=Z,12µm,20.0s
E38A The Farm, Brul 95.36 43 IAMs_20 IAMs_20 09 37 52.6
comp=Z,19µm,21.0s
O44A Mansfield 95.73 50 IAMs_20 IAMs_20 09 38 25.0
comp=Z,18µm,20.0s
USIN University of 95.76 52 IAMs_20 IAMs_20 09 36 58.9
comp=Z,14µm,21.0s

EYMN Ely 95.79 42 IAMs_20 IAMs_20 09 40 55.8
comp=Z,17µm,18.0s
PB15 IPOC Station P 95.83 116 IAMs_20 IAMs_20 09 36 33.1
comp=Z,12µm,19.0s
V48A Smith Brothers 95.84 55 IAMs_20 IAMs_20 09 37 11.2
comp=Z,19µm,21.0s
G40A Rib Lake 95.89 45 IAMs_20 IAMs_20 09 38 03.7
comp=Z,18µm,21.0s
CLTN Cedars of Leba 96.31 54 IAMs_20 IAMs_20 09 38 18.7
comp=Z,16µm,20.0s
M44A Midewin, Midew 96.37 49 IAMs_20 IAMs_20 09 41 15.7
comp=Z,11µm,18.0s
I42A Draeger Farm, 96.40 46 IAMs_20 IAMs_20 09 39 23.4
comp=Z,15µm,20.0s
SWET Sewanee 96.41 55 IAMs_20 IAMs_20 09 39 43.4
comp=Z,12µm,20.0s
FPAL Fort Paine 96.50 56 IAMs_20 IAMs_20 09 41 52.8
comp=Z,17µm,18.0s
Z51A Franklin 96.55 57 IAMs_20 IAMs_20 09 44 25.2
comp=Z,11µm,18.0s
HQIL Hanson Quary C 96.61 49 IAMs_20 IAMs_20 09 37 03.8
comp=Z,13µm,20.0s
L44A Lake County Fo 96.67 48 IAMs_20 IAMs_20 09 43 57.6
comp=Z,14µm,19.0s
SFIN Lafayette 96.81 50 IAMs_20 IAMs_20 09 43 56.4
comp=Z,17µm,18.0s
U49A Red Boiling Sp 96.85 54 IAMs_20 IAMs_20 09 42 20.9
comp=Z,15µm,18.0s
X51A Calhoun 97.11 56 IAMs_20 IAMs_20 09 39 24.9
comp=Z,15µm,21.0s
PB08 IPOC Station P 97.13 113 IAMs_20 IAMs_20 09 35 44.7
comp=Z,14µm,20.0s
H43A Windswept, Lux 97.35 46 IAMs_20 IAMs_20 09 40 50.0
comp=Z,15µm,18.0s
F42A Maple Grove Fa 97.42 45 IAMs_20 IAMs_20 09 38 48.2
comp=Z,20µm,21.0s
FCC Fort Churchill 97.49 31 P **P 09 01 58.4 -0.7**
FCC pmax pmax
comp=Z,15nm,1.3s
FCC Fort Churchill 97.49 31 P **P 09 01 58.4 -0.7**
FCC IAMs_20 IAMs_20 09 42 11.0
comp=Z,12µm,19.0s
Y52A Lilburn 97.58 57 IAMs_20 IAMs_20 09 40 12.5
comp=Z,16µm,21.0s
GTA Gaotai 97.65 309 ⇑P Pdif 09 02 01.0 +0.5
GTA pP sP 09 02 06.3 -0.6
GTA sP pwP 09 02 10.0 +2.6
GTA PP **PP 09 05 59.8 +1.3**
GTA pmax pmax
comp=Z,8.0nm,1.3s
GTA pmax pmax
comp=Z,3µm,6.2s
GTA LR LR
comp=Z,4µm,18.9s
GTA LR LR
comp=Z,14µm,19.3s
GTA LR LR
comp=Z,22µm,19.6s
T50A Nancy 97.70 54 IAMs_20 IAMs_20 09 39 20.5
comp=Z,17µm,20.0s
R49A Shelbyville 97.75 53 IAMs_20 IAMs_20 09 38 53.5
comp=Z,14µm,20.0s
L46A Eue Claire 97.79 49 IAMs_20 IAMs_20 09 38 26.4
comp=Z,11µm,19.0s
V51A Loudon 97.80 55 IAMs_20 IAMs_20 09 39 05.2
comp=Z,15µm,21.0s
P48A Milroy 97.83 51 IAMs_20 IAMs_20 09 43 25.6
comp=Z,14µm,18.0s
IRK Irkutsk 97.83 322 *e*P Pdif 09 02 00.9 0.0
ZAK Zakamensk 97.95 320 *e*P **P 09 02 00.9 -0.6**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
GOGA Godfrey 97.96 58 IAMs_20 IAMs_20 09 44 08.6
comp=Z,12µm,18.0s
N47A Urbana 97.96 50 IAMs_20 IAMs_20 09 39 44.0
comp=Z,17µm,20.0s
W52A Murphy 97.97 56 IAMs_20 IAMs_20 09 38 02.5
comp=Z,14µm,21.0s
TLY Talaya 98.06 321 *e*P **P 09 02 01.4 -0.5**
TLY pmax pmax
comp=Z,43nm,1.4s
TLY MLR MLR
comp=Z,30µm,15.0s
TLY Talaya 98.06 321 IAMs_20 IAMs_20 09 42 57.2
comp=Z,17µm,20.0s
154A Ibtrose 98.07 58 IAMs_20 IAMs_20 09 39 55.6
comp=Z,12µm,21.0s
TKL Tuckaleechee C 98.23 55 LR LR 09 39 50.2
comp=Z,12µm,21.1s,baz=266,slow=31
TKL Tuckaleechee C 98.23 55 IAMs_20 IAMs_20 09 42 14.5
comp=Z,14µm,19.0s
I45A Fountain 98.31 47 IAMs_20 IAMs_20 09 39 07.0
comp=Z,19µm,20.0s
P49A Miami Univ. Ec 98.38 51 IAMs_20 IAMs_20 09 38 52.2
comp=Z,16µm,21.0s
R50A Paris 98.39 53 IAMs_20 IAMs_20 09 39 12.6
comp=Z,17µm,21.0s
061Z Ochoppi 98.41 66 IAMs_20 IAMs_20 09 45 04.0
comp=Z,12µm,18.0s
V52A Sevierville 98.41 55 IAMs_20 IAMs_20 09 42 28.3
comp=Z,15µm,18.0s
S51A Beattyville 98.81 53 IAMs_20 IAMs_20 09 43 57.8
comp=Z,17µm,18.0s
V53A Saluda 98.99 56 IAMs_20 IAMs_20 09 40 34.7
comp=Z,12µm,20.0s
HODGE Hodges 99.12 57 IAMs_20 IAMs_20 09 44 03.3
comp=Z,14µm,19.0s
L48A N Adams 99.13 49 IAMs_20 IAMs_20 09 43 53.8
comp=Z,14µm,18.0s
J47A Sunmer 99.13 48 P **Pdif 09 02 07.4 +0.6**
J47A IAMs_20 IAMs_20 09 38 42.8
comp=Z,16µm,21.0s
Q51A Peebles 99.30 52 IAMs_20 IAMs_20 09 39 11.7
comp=Z,17µm,21.0s
LPAZ La Paz 99.31 110 P **Pdif 09 02 09.5 +0.5**
comp=Z,0.7nm,0.7s,baz=162,slow=6.4,SNR=2.1
PAULI Pauline 99.61 57 IAMs_20 IAMs_20 09 41 01.1
comp=Z,14µm,22.0s
P51A Williamsport 99.62 52 IAMs_20 IAMs_20 09 39 20.0
comp=Z,16µm,21.0s
MOY Mondy 99.66 321 *e*P **Pdif 09 02 15.8 +6.6**
U54A Nelsons Funny 99.96 55 IAMs_20 IAMs_20 09 43 08.3
comp=Z,16µm,20.0s
M50A Fremont 100.03 50 IAMs_20 IAMs_20 09 40 56.7
comp=Z,16µm,20.0s
Q52A Bidwell 100.11 52 IAMs_20 IAMs_20 09 45 40.2
comp=Z,16µm,18.0s
R53A Hurricane 100.23 53 IAMs_20 IAMs_20 09 40 30.2
comp=Z,19µm,21.0s
V55A Taylorsville 100.30 56 IAMs_20 IAMs_20 09 41 16.4
comp=Z,15µm,20.0s
P52A Corning 100.35 52 IAMs_20 IAMs_20 09 39 52.4
comp=Z,18µm,22.0s
N51A Ashland 100.43 50 IAMs_20 IAMs_20 09 41 50.3
comp=Z,17µm,20.0s
NHSC New Hope 100.58 59 IAMs_20 IAMs_20 09 45 11.1
comp=Z,10µm,18.0s
BIRD Birdtown, Kers 100.66 57 IAMs_20 IAMs_20 09 44 06.1
comp=Z,13µm,19.0s
P53A Whipple 100.89 52 IAMs_20 IAMs_20 09 47 28.6
comp=Z,16µm,18.0s
U56A King 101.06 55 IAMs_20 IAMs_20 09 41 39.4
comp=Z,18µm,21.0s
Y58A Scranton 101.16 58 IAMs_20 IAMs_20 09 45 54.4
comp=Z,13µm,18.0s
O53A New Philadelph 101.16 51 IAMs_20 IAMs_20 09 39 05.9
comp=Z,15µm,21.0s
R55A Marlinton 101.63 53 IAMs_20 IAMs_20 09 41 14.1
comp=Z,16µm,20.0s
RES Resolute Bay 101.77 15 P **Pdif 09 02 17.6 -0.2**
comp=Z,2.1nm,0.9s,baz=268,slow=7.8,SNR=8.3
RES Resolute Bay 101.77 15 Pdif **Pdif 09 02 18.9 +1.1**
RES IAMs_20 IAMs_20 09 45 56.1
comp=Z,13µm,19.0s
O54A Avella 101.78 51 IAMs_20 IAMs_20 09 40 38.2
comp=Z,16µm,20.0s
M53A WI Miller and 101.78 50 IAMs_20 IAMs_20 09 42 41.2
comp=Z,17µm,20.0s
V58A Windy Hill, Pi 101.96 56 IAMs_20 IAMs_20 09 41 13.5
comp=Z,14µm,22.0s
M54A Oil Creek Stat 102.54 50 IAMs_20 IAMs_20 09 46 07.3
comp=Z,16µm,18.0s
U59A Littleton 103.12 56 IAMs_20 IAMs_20 09 43 00.9
comp=Z,17µm,21.0s
T59A Double "B" Far 103.41 55 IAMs_20 IAMs_20 09 43 10.6
comp=Z,17µm,21.0s
M56A Emporium 103.64 50 IAMs_20 IAMs_20 09 47 06.3
comp=Z,14µm,18.0s

MMNY Mt. Morris Dam 104.03 49 IAMs_20 IAMs_20 09 42 49.5
comp=Z,15µm,20.0s
T60A Surry 104.08 55 IAMs_20 IAMs_20 09 43 31.5
comp=Z,18µm,21.0s
J55A Hilton 104.17 49 IAMs_20 IAMs_20 09 42 14.1
comp=Z,16µm,21.0s
U61A Possum Corner 104.19 56 IAMs_20 IAMs_20 09 42 40.3
comp=Z,15µm,22.0s
M57A Sunshine Farm, 104.40 51 IAMs_20 IAMs_20 09 42 28.5
comp=Z,16µm,20.0s
N58A Sunbury 104.64 51 IAMs_20 IAMs_20 09 42 26.9
comp=Z,16µm,20.0s
J56A Wolcott 104.86 49 IAMs_20 IAMs_20 09 42 34.6
comp=Z,15µm,21.0s
PLVO Plevna 104.93 47 IAMs_20 IAMs_20 09 44 03.2
comp=Z,13µm,20.0s
S61A Accomac 105.00 55 IAMs_20 IAMs_20 09 48 23.7
comp=Z,14µm,18.0s
R61A Willards 105.35 54 IAMs_20 IAMs_20 09 44 12.9
comp=Z,18µm,22.0s
WUPA West Chester U 105.36 52 IAMs_20 IAMs_20 09 47 11.0
comp=Z,11µm,19.0s
N59A State Game Lan 105.36 51 IAMs_20 IAMs_20 09 47 37.0
comp=Z,15µm,18.0s
KSPA Keystone Colle 105.44 51 IAMs_20 IAMs_20 09 42 26.1
comp=Z,13µm,21.0s
J57A Williamstown 105.50 49 IAMs_20 IAMs_20 09 43 39.5
comp=Z,15µm,20.0s
BRNJ Basking Ridge 106.24 52 IAMs_20 IAMs_20 09 43 27.3
comp=Z,14µm,20.0s
CRZF Crozet Islands 106.29 210 IAMs_20 IAMs_20 09 49 09.9
comp=Z,10µm,18.0s
J59A Piesco 106.59 49 IAMs_20 IAMs_20 09 44 20.2
comp=Z,13µm,20.0s
CPNY Central Park 106.71 52 IAMs_20 IAMs_20 09 45 39.7
comp=Z,20µm,20.0s
PAL Palisades 106.77 51 IAMs_20 IAMs_20 09 46 39.3
comp=Z,16µm,19.0s
NCB Newcomb 106.84 48 IAMs_20 IAMs_20 09 43 54.9
comp=Z,17µm,22.0s
ACCN Adirondack Com 107.19 49 IAMs_20 IAMs_20 09 43 55.1
comp=Z,13µm,22.0s
WSPT Westport, CT 107.22 51 IAMs_20 IAMs_20 09 46 51.3
comp=Z,12µm,19.0s
YLE Yale 107.53 51 IAMs_20 IAMs_20 09 44 48.5
comp=Z,13µm,20.0s
ALE Alert 108.00 7 IAMs_20 IAMs_20 09 49 46.1
comp=Z,11µm,20.0s
M63A Gales Ferry 108.21 51 IAMs_20 IAMs_20 09 45 51.3
comp=Z,13µm,20.0s
HNH Hanover 108.22 49 IAMs_20 IAMs_20 09 44 36.3
comp=Z,18µm,22.0s
L63A North Scituate 108.57 51 IAMs_20 IAMs_20 09 48 14.9
comp=Z,14µm,19.0s
M64A Tiverton 108.85 51 IAMs_20 IAMs_20 09 46 10.2
comp=Z,15µm,21.0s
I62A Tamworth 108.92 48 IAMs_20 IAMs_20 09 45 42.7
comp=Z,15µm,22.0s
ZALV Zalesovo Beam 109.65 322 Pdiff **Pdif 09 02 53.8 +0.5**
comp=Z,0.6nm,0.6s,baz=111,slow=8.1,SNR=3.7
ZALV PKiKP **PKiKP 09 06 56.6 +0.5**
comp=Z,1.0nm,0.5s,baz=174,slow=1.3,SNR=3.6
F63A Nahmakanta, Pr 110.58 47 IAMs_20 IAMs_20 09 53 49.7
comp=Z,14µm,18.0s
MK31 Makanchi Array 111.28 315 *d* PKiKP **PKiKP 09 06 59.2 -0.2**
MKAR Makanchi Array 111.28 315 PKiKP **PKiKP 09 06 59.5 0.0**
comp=Z,1.0nm,0.6s,baz=90,slow=1.7,SNR=8.1
MAKZ Makanchi 111.50 315 IAMs_20 IAMs_20 09 48 23.9
comp=Z,12µm,22.0s
SEM Semipalatinsk 112.56 318 *e*PKiKP **PKiKP 09 07 02.1 +0.1**
baz=318
SEM Semipalatinsk 112.56 318 *i* PKiKP **PKiKP 09 07 02.1 +0.1**
SEUS St. Eustatius 113.16 77 IAMs_20 IAMs_20 09 52 47.7
comp=Z,9µm,18.0s
KPKS Kokpek 113.85 311 *e*PKiKP **PKiKP 09 07 04.2 -0.3**
baz=311
KPKS *e*PP **PP 09 07 56.5 -1.5**
baz=311
KPKS Kokpek 113.85 311 *i* PKiKP **PKiKP 09 07 04.2 -0.3**
KPKS *e* 09 07 56.5
SFJD Kangerlussuaq 116.60 22 IAMs_20 IAMs_20 10 00 34.2
comp=Z,11µm,18.0s
SGDS Scgindy 116.80 311 *e*PP PP 09 08 18.5 -0.3
baz=311
AAK Ala-Archa 116.95 310⇑ *i* PKiKP **PKiKP 09 07 11.2 +0.6**
AAK Ala-Archa 116.95 310 IAMs_20 IAMs_20 09 54 14.6
comp=Z,9µm,20.0s
BTLS Baital 117.10 313 *e*PKP **PKPdf 09 07 10.4 -0.2**
baz=313
BTLS *e*PP **PP 09 08 19.1 -1.6**
baz=313
BTLS Baital 117.10 313 *e*PKiKP **PKPdf 09 07 10.4 -0.2**
BTLS *e* 09 08 19.0
BRZS Berezniki 117.44 319 *e*PKP **PKiKP 09 07 11.1 0.0**
baz=319
BRZS Berezniki 117.44 319 *e*PKiKP **PKiKP 09 07 11.1 0.0**
BVAR Borovoye Array 118.31 322 PKP **PKPdf 09 07 12.3 -0.4**
comp=Z,2.7nm,0.8s,baz=134,slow=6.4,SNR=15
BRVK Borovoye 118.36 322 *i* PKiKP **PKPdf 09 07 12.4 -0.4**
BRVK MLR MLR
comp=Z,16µm,20.0s
BRVK Borovoye 118.36 322 PKPdf **PKiKP 09 07 13.0 +0.3**
DZA Taraz 119.26 311 *e*PKP **PKPdf 09 07 14.5 -0.3**
baz=311
DZA *e*PP **PP 09 08 34.7 -1.0**
baz=311
DZA Taraz 119.26 311 *e*PKiKP **PKPdf 09 07 14.5 -0.3**
DZA *e* 09 08 34.6
KK31 Karatay Array 119.83 311 PKiKP **PKPdf 09 07 15.0 -0.9**
KK31 Karatay Array 119.83 311 PKPdf **PKPdf 09 07 15.0 -0.9**
KKAR Karatay Array 119.83 311 PKiKP **PKPdf 09 07 15.2 -0.7**
KKAR Karatay Array 119.83 311 **PKPdf 09 07 15.2 -0.7**
RER Riviere de l'E 119.90 234 IAMs_20 IAMs_20 09 57 46.8
comp=Z,11µm,19.0s
IUG luzhnay 120.29 310 *e*PKP **PKPdf 09 07 16.6 -0.3**
baz=310
IUG luzhnay 120.29 310 *e*PKiKP **PKPdf 09 07 16.6 -0.3**
KBL Kabul 121.64 301 PKiKP **PKPdf 09 07 19.7 -0.3**
KBL Kabul 121.64 301 PKPdf **PKPdf 09 07 19.7 -0.3**
KBL Kabul 121.64 301 P **PKiKP 09 07 21.8 +1.7**
SNR=13
SCO Scoresbysund 122.31 11 IAMs_20 IAMs_20 10 01 06.4
comp=Z,11µm,18.0s
SVE Sverdlovsk 122.52 328 *i* PKiKP **PKiKP 09 07 21.7 +0.9**
SVE pmax pmax
comp=Z,26nm,1.6s
ARU Arti 123.73 328 PKP **PKPdf 09 07 22.3 -0.7**
comp=Z,3.1nm,0.2s,baz=37,slow=2.8,SNR=8.4
ARU Arti 123.73 328 *i* PKiKP **PKiKP 09 07 23.1 -0.1**
ARU 09 09 02.3
ARU 09 14 34.1
ARU MLR MLR
comp=Z,20µm,21.0s
ARU Arti 123.73 328 PKPdf **PKiKP 09 07 23.4 +0.1**
ARCES ARCESS Array B 124.84 352 PKP **PKiKP 09 07 25.1 0.0**
comp=Z,5.1nm,0.9s,baz=3.8,slow=1.8,SNR=6.6
ARCES ARCESS Array B 124.84 352 PKiKP **PKiKP 09 07 25.0 -0.1**
ARCES ARCESS Array B 124.84 352 **PKiKP 09 07 25.0 -0.1**
APA Apatity 125.30 348⇓ *i* PKiKP PKiKP 09 07 35.0 +9.0
APA pmax pmax
comp=Z,11nm,1.1s
APA MLR MLR
comp=Z,15µm,20.0s
ABKAR Akbulak array 125.65 320 PKPdf **PKPdf 09 07 26.4 -0.4**
AKTO Aktyubinsk 126.41 322 PKP **PKPdf 09 07 28.5 +0.2**
comp=Z,4.4nm,1.0s,baz=76,slow=1.9,SNR=8.1
PRGR Permogore 126.47 338 *e*PKiKP **PKPdf 09 07 28.2 +0.2**
PRGR *e* 09 07 34.6
PRGR pmax pmax
comp=Z,16nm,0.7s
KIRV Kirov 126.90 334 PKP **PKiKP 09 07 29.5 +0.1**
comp=Z,14nm,0.9s,baz=26,slow=2.4,SNR=6.0
KIRV Kirov 126.90 334⇑ *i* PKiKP **PKPdf 09 07 29.1 +0.2**
KLMR Klimovskoe 129.11 340 *e*PKiKP **PKPdf 09 07 31.8 -1.3**
KLMR 09 09 41.7
KLMR pmax pmax
comp=Z,68nm,1.3s
KLMR MLR MLR
comp=Z,11µm,18.0s
KLMR Klimovskoe 129.11 340 *e*PKPdf **PKPdf 09 07 31.9 -1.2**
KLMR AMP 09 07 47.8
comp=Z,68nm,1.3s
KLMR PP **PP 09 09 41.7 +0.9**
KLMR LQ LQ 09 53 37.3
KLMR LQ LQ 09 53 37.3
KLMR LR LR 10 00 37.4

KLMR AMP 10 06 26.5
comp=Z,11µm,18.1s
GEYT Alibeck 129.99 307 PKP **PKPdf 09 07 35.5 -0.1**
comp=Z,4.1nm,0.9s,baz=323,slow=6.5,SNR=6.2
GEYT Alibeck 129.99 307 PKPdf **PKPdf 09 07 34.6 -1.0**
JLN Jalan Bani Buh 130.25 286 P **PKiKP 09 07 39.0 +1.7**
SNR=6.0
BELG Belogornoye 131.28 328 PKP **PKiKP 09 07 38.1 -0.3**
comp=Z,17nm,0.9s,baz=150,slow=20,SNR=5.0
BELG Belogornoye 131.28 328*d* iPKIKP **PKiKP 09 07 38.8 +0.4**
BELG MLR MLR
comp=Z,3µm,21.0s
BIDO Bidbid 131.46 288 P **PKiKP 09 07 41.5 +1.8**
JMDO Jabal Madar 131.47 286 P **PKiKP 09 07 40.5 +0.8**
SNR=5.7
SMDO Samad 131.53 287 P **PKiKP 09 07 41.2 +1.2**
SNR=8.7
MHTO MHTO 131.54 284 P **PKiKP 09 07 40.5 +0.6**
SNR=6.1
DQM DQM 131.89 283 P **PKiKP 09 07 41.6 +1.0**
HOQ Hoqain 132.21 288 P **PKiKP 09 07 41.1 -0.1**
SNR=6.2
FINES FINESS Array B 132.21 348 PKP **PKiKP 09 07 39.5 -0.5**
comp=Z,3.2nm,0.8s,baz=104,slow=6.3,SNR=4.2
FINES FINESS Array B 132.21 348 PKIKP **PKPdf 09 07 38.6 -0.3**
FINES FINESS Array B 132.21 348 **PKPdf 09 07 38.6 -0.3**
BOSA Boshof 132.69 202 PKP **PKiKP 09 07 43.1 +0.9**
comp=Z,5.5nm,1.1s,baz=169,slow=3.2,SNR=4.6
BOSA PP **PP 09 10 06.4 +2.4**
comp=Z,2.9nm,0.9s,baz=66,slow=0.2,SNR=3.0
BOSA Boshof 132.69 202 PKIKP **PKPdf 09 07 38.8 -2.4**
BOSA Boshof 132.69 202 PKPdf **PKPdf 09 07 38.8 -2.4**
SOHO SOHO 132.92 289 *i* PKPdf **PKPdf 09 07 40.9 -0.6**
SNR=15
MDH Madha 133.10 290 *i* PKPdf **PKPdf 09 07 39.1 -2.6**
SNR=6.5
UOSS Minazif 133.20 290 PKPdf **PKPdf 09 07 42.4 +0.4**
UOSS Minazif 133.20 290 PKPdf **PKPdf 09 07 40.8 -1.1**
SHME Shamm 133.21 291 *i* PKPdf **PKiKP 09 07 42.9 -0.3**
SNR=6.0
MASF Masafi 133.22 290 P **PKiKP 09 07 44.3 +1.0**
SNR=6.4
MSFE Esma-Masafi 133.22 290 *i* PKPdf **PKPdf 09 07 40.5 -1.6**
SNR=7.1
HATD Hatta, Dubai 133.27 290 *i* PKPdf **PKPdf 09 07 40.8 -1.3**
SNR=7.7
HATD Hatta, Dubai 133.27 290 P **PKiKP 09 07 44.0 +0.7**
SNR=8.2
ASHO Ashiyiah 133.34 289 *i* PKPdf **PKPdf 09 07 40.8 -1.5**
SNR=10.0
ASHO Ashiyiah 133.34 289 P **PKiKP 09 07 44.0 +0.5**
SNR=10
MOS Moscow 133.59 337 *i* PKIKP **PKPdf 09 07 38.4 -3.3**
ALNE Al Ain 133.63 288 P **PKiKP 09 07 44.4 +0.3**
SNR=9.3
NAZ Nazwa, Dubai 133.69 290 PKPdf **PKPdf 09 07 42.8 -0.1**
NAZ Nazwa, Dubai 133.69 290 P **PKiKP 09 07 47.0 +2.8**
SNR=6.1
FAQ Al Faqa, Dubai 133.76 289 PKPdf **PKPdf 09 07 41.6 -1.4**
ASUD Al Ashush, Dub 134.00 289 PKPdf **PKiKP 09 07 44.6 -0.2**
SOCY Socotra 134.41 272 PKPdf **PKPdf 09 07 42.8 -1.8**
SOCY IAMs_20 IAMs_20 10 06 05.0
comp=Z,11µm,19.0s
SOCY Socotra 134.41 272 P **PKiKP 09 07 46.0 0.0**
SNR=9.5
OBN Obninsk 134.46 337 *i* PKIKP **PKPdf 09 07 43.3 -0.1**
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN MLR MLR
comp=Z,12µm,19.0s
NB2 NORSAR Subarra 134.50 357 PKPdf **PKPdf 09 07 42.1 -1.3**
comp=Z,4.1nm,1.2s,baz=6.6,slow=1.8
NOA NORSAR Array B 134.50 357 PKP **PKPdf 09 07 43.7 +0.3**
comp=Z,1.3nm,1.0s,baz=45,slow=4.8,SNR=2.4
RBK Rabkut 134.88 279 P **PKiKP 09 07 49.0 +2.2**
SNR=9.4
VRH Novokhopyorsk 134.93 330 *e*PKIKP **PKPdf 09 07 43.0 -1.4**
VRH *e* 09 10 14.6
VRH pmax pmax
comp=Z,10.0nm,0.3s
DOK Doka 135.03 281 P **PKiKP 09 07 48.0 +1.0**
SNR=7.1
HFS Hagfors 135.25 355 PKP **PKPdf 09 07 45.0 +0.3**
comp=Z,3.8nm,0.9s,baz=101,slow=6.2,SNR=2.2
HFS Hagfors 135.25 355 PKIKP **PKPdf 09 07 45.0 +0.3**
LPSR Galich'ya Gora 135.30 333 *e*PKIKP **PKPdf 09 07 45.2 +0.2**
LPSR *e* 09 10 18.0
LPSR pmax pmax
comp=Z,10.0nm,1.6s
WHFO Wadi Hawf 135.32 280 P **PKiKP 09 07 49.0 +1.3**
SNR=8.0
ABTO Aybut 135.73 279 P **PKiKP 09 07 50.1 +1.5**
SNR=6.0
KONO Kongsberg 135.96 358 IAMs_20 IAMs_20 10 08 54.7
comp=Z,8µm,22.0s
MAK Makhachkala 136.04 317 *i* P **Pdif 09 04 46.0 -4.9**
MAK *e*PPP PPP 09 13 21.0
MAK *e*SS SS 09 28 16.7 -8.5
MAK pmax pmax
comp=Z,756nm,1.4s
VSR Storozhevoye 136.14 331 *e*PKIKP **PKiKP 09 07 48.6 +0.3**
VSR *e* 09 10 21.7
VSR pmax pmax
comp=Z,30nm,1.5s
AKT Akhty 136.51 315 *e*PKIKP **PKiKP 09 07 49.0 -0.6**
AKT *e* 09 10 28.0
AKT pmax pmax
comp=Z,48nm,1.3s
GROC Groznyy 137.05 318 *e*PKIKP **PKPdf 09 07 48.3 -0.3**
GROC *e* 09 10 35.4
GROC *e*PPP PPP 09 13 32.7
GROC *e*SS SS 09 28 42.8 +5.6
GROC pmax pmax
comp=Z,26nm,0.5s
MNK Minsk 137.92 342 *e*PKIKP **PKiKP 09 07 52.0 +0.2**
MNK *e* 09 10 36.0
MNK *e* 09 28 48.0
MNK MLR MLR
comp=Z,15µm,24.0s
MNK MLR MLR
comp=Z,12µm,20.0s
MNK MLR MLR
comp=E,5µm,20.0s
MNK Minsk 137.92 342 *i* PKP PKPdf 09 07 40.9 -9.0
comp=E,2.0nm,0.9s
MNK *i* PKP PKPdf 09 07 40.9 -9.0
comp=N,46nm,0.9s
MNK *i* PKP PKPdf 09 07 40.9 -9.0
comp=Z,12nm,0.9s
MNK *i* PP PP 09 10 04.9 -32
MNK *i* SKP 09 11 15.4
MNK *i* PKS 09 11 17.3
MNK *i* PPP PPP 09 12 56.4
MNK *i* SKS **SKSdf 09 15 00.1 +0.2**
MNK *i* SP **SKKPbc 09 20 19.0 +6.9**
MNK *i* PS PS 09 20 21.0 -45
MNK *i* SKKS SKKSdf 09 24 18.2 -18
MNK *i* SS SS 09 27 45.9 -60
MNK *i* SSS SSS 09 32 21.6
MNK *i* LQ LQ 09 55 32.6
MNK *i* LR LR 10 00 00.9
MNK *i* LRM MLR 10 07 13.1
comp=Z,8µm,19.4s
MNK *i* LRM MLR 10 07 14.0
comp=N,6µm,19.4s
MNK *i* LRM MLR 10 07 19.1
comp=E,413nm,19.4s
KBZ Khabaz 138.62 320*c* iPKIKP **PKiKP 09 07 55.1 +1.5**
KBZ MLR MLR
comp=Z,15µm,22.0s
KIV Kislovodsk 138.63 320 PKiKP PKiKP 09 08 08.5 +15
KIV Kislovodsk 138.63 320 *i* PKIKP **PKiKP 09 07 52.8 -1.0**
KIV *e* 09 10 41.3
KIV *e*SS SS 09 28 55.1 -0.9
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,30µm,24.0s
GNI Garni 139.13 314 IAMs_20 IAMs_20 10 12 41.2
comp=Z,9µm,20.0s
KARS Kars 140.04 316 *e*P PKPdf 09 07 41.4 -13
CLDR Caldiran 140.14 313 *e*P PKPdf 09 07 41.3 -13
SENK Senkaya-Erzuru 140.56 316 *e*P **PKPdf 09 07 49.6 -5.8**
AGRB Hanur-Agry 140.59 314 *e*P PKPdf 09 07 46.6 -8.9
SOC Sochi 140.63 322 *e*PKHKP PKPpre 09 07 48.8
SOC *e*PPP PPP 09 14 00.2
SOC *e*SS SS 09 29 21.3 +2.1
SOC pmax pmax
comp=Z,43nm,0.8s
SOC MLR MLR
comp=Z,12µm,21.0s
AKASG Malin Array Be 140.68 338 PKP **PKPdf 09 07 54.0 -1.0**
comp=Z,7.6nm,0.9s,baz=37,slow=2.0,SNR=9.7
AKASG PP **PP 09 10 55.1 +1.1**
comp=Z,0.4nm,0.3s,baz=35,slow=6.9,SNR=4.9
AKASG Malin Array Be 140.68 338 PKIKP **PKPdf 09 07 54.0 -1.0**
AKASG Malin Array Be 140.68 338 PKPdf **PKPdf 09 07 54.4 -0.6**
AKBB Malin Array Si 140.68 338 PKIKP **PKPdf 09 07 54.0 -1.0**
AKBB Malin Array Si 140.68 338 PKPdf **PKPdf 09 07 54.0 -1.0**
VANB Van 140.75 313 *e*P PKPdf 09 07 45.0 -11
MLAZ Malazgirt-MUS 141.09 314 *e*P PKPdf 09 07 48.1 -8.3
AKDM Akdamar-Van 141.15 313 *e*P **PKPdf 09 07 51.4 -5.1**
CUKT Cukurca 141.16 311 *e*P PKPdf 09 07 46.3 -10
KOPR Koprukoy-ERZUR 141.17 316 *e*P **PKPdf 09 07 53.4 -3.1**
ANN Anapa 141.21 325 *i* PKHKP **PKPdf 09 07 51.1 -5.0**
ANN *e* 09 07 55.7
ANN *e* 09 10 55.1
ANN *e*PPP PPP 09 14 04.3
ANN pmax pmax
comp=E,44nm,1.3s
ANN pmax pmax
comp=Z,71nm,1.6s
ANN pmax pmax
comp=N,53nm,1.5s
ANN MLR MLR
comp=N,13µm,21.0s
ANN MLR MLR
comp=Z,8µm,20.0s
ANN MLR MLR
comp=E,5µm,20.0s
ROSA Rosais 141.38 46 IAMs_20 IAMs_20 10 04 32.5
comp=Z,9µm,20.0s
BSEG Bad Segeberg 141.64 357 *e*L L 10 09 57.0
comp=Z,12µm,21.2s
GURO Guroymak-BITLI 141.72 314 *e*P **PKPdf 09 07 51.7 -5.8**
VRTB Varto-Mus 141.84 315 *e*P **PKPdf 09 07 54.4 -3.3**
KTUT Trabzon 142.04 318 *e*P **PKPdf 09 07 54.4 -3.4**
KARO Karliova-Bingo 142.04 315 *e*P **PKPdf 09 07 53.5 -4.6**
YEDI Yedisu-Bingol 142.32 316 *e*P **PKPdf 09 07 53.8 -4.8**
BNGB Bingl 142.45 315 *e*P **PKPdf 09 07 51.7 -7.0**
ERZN Erzincan 142.80 316 *e*P **PKPdf 09 07 57.2 -2.2**
LSZ Lusaka 142.93 215 PKIKP **PKPdf 09 07 58.6 -1.7**
LSZ MLR MLR
comp=Z,20µm,19.0s
LSZ Lusaka 142.93 215 **PKPdf 09 07 58.5 -1.7**
RAYN Ar Rayn 143.03 288 *i* PKPdf PKPbc 09 07 56.4 -0.6
SNR=6.7
RAYN Ar Rayn 143.03 288 PKIKP **PKPdf 09 07 58.6 -1.5**
RAYN Ar Rayn 143.03 288 PKPdf **PKPdf 09 07 58.6 -1.5**
SORM Soroca 143.10 336 ⇑P **PKPdf 09 07 59.3 -0.1**
SORM Soroca 143.10 336 ⇑PKIKP **PKPdf 09 07 59.3 -0.1**
MARD Mardin 143.16 312 PKPdf PKPbc 09 07 57.3 +0.3
LVV L'vov 143.17 342 *e*PKHKP PKPab 09 07 54.5 -0.6
LVV *e* 09 11 11.0
LVV *e*PPP PPP 09 14 18.3
LVV *e* 09 15 07.3
DYBB Diyarbakir 143.32 314 *e*P PKPbc 09 07 57.1 -0.2
KIS Kishinev 143.83 335 *i* PKP PKPab 09 07 55.0 -2.7
comp=Z,2µm,15.7s
KIS Kishinev 143.83 335 *e*PP PP 09 11 17.0 +3.8
KIS *e*LR LR 10 07 17.0
comp=Z,3µm,21.0s
KIS Kishinev 143.83 335*c i*PKHKP PKPab 09 07 55.0 -2.7
KIS *e* 09 11 17.0
KIS pmax pmax
comp=Z,2µm,15.7s
RSDY Resadiye-TOKAT 143.91 319 *e*P PKPbc 09 07 58.9 0.0
OJC Ojcow 143.94 346 *e*PKP PKPab 09 07 58.3 +0.3
CLL Collm 144.04 354 *e*PKPdf **PKPdf 09 08 01.0 0.0**
CLL *e*PKPlp 09 08 13.0
comp=Z,4µm,19.6s
CLL *e*PP **PP 09 11 16.0 +1.9**
CLL Lm MLR 10 15 00.0
comp=N,7µm,19.4s
CLL Lm MLR 10 15 00.0
comp=E,6µm,21.1s
CLL Lm MLR 10 15 00.0
comp=Z,9µm,18.8s
CLL Collm 144.04 354 *e*PKIKP **PKPdf 09 08 01.0 0.0**
CLL *e* 09 11 16.0
CLL MLR MLR
comp=Z,9µm,18.8s
CLL Collm 144.04 354 *e*L L 10 15 38.7
comp=Z,9µm,18.7s
KSP Ksiaz 144.05 350 *e*PKP **PKPab 09 07 58.2 -0.2**
SNOP Sinop 144.22 323 *e*P PKPbc 09 08 00.5 +0.8
KVT Kavak 144.30 321 *e*P **PKPdf 09 08 01.2 -0.6**
MALT Malatya 144.32 315 *e*P **PKPab 09 07 59.6 -0.4**
CHVC Chvalec 144.33 350 AMS AMS 10 10 20.0
comp=Z,13µm,21.0s
OSTC Ostas 144.34 350 *e*PKP PKPbc 09 08 00.6 +0.7
OSTC AMS AMS 10 10 20.0
comp=Z,13µm,21.1s
BRG Berggiesshubel 144.36 353 *e*PKP **PKiKP 09 08 03.8 -1.4**
BRG Amp 09 08 04.6
comp=Z,79nm,2.0s
BRG *ex* x 09 08 12.0
BRG Amp 09 08 15.3
comp=Z,65nm,1.7s
BRG *ex* x 09 08 27.3
BRG Amp 09 08 34.4
comp=Z,18nm,1.0s
FBE Freiberg 144.38 353 *e*PKPbc **PKPdf 09 08 01.0 -0.5**
baz=7.1,slow=3.2
SVSK Karacayir 144.39 319 *e*P PKPbc 09 08 00.8 +0.5
UPC Upice 144.42 350 *e*PKIKP PKPbc 09 08 00.2 +0.1
UPC MLR MLR
comp=Z,16µm,20.7s
UPC Upice 144.42 350 *e*PKP PKPbc 09 08 00.2 +0.1
UPC AMS AMS 10 10 10.0
comp=Z,16µm,20.7s
DIKM Dikmen 144.43 323 ⇑P **PKPdf 09 08 01.6 -0.3**
DIKM Dikmen 144.43 323 *e*P **PKPdf 09 08 01.6 -0.3**
TOKT Tokat 144.45 320 *e*P **PKPab 09 08 00.4 +0.1**
KOLS Kolonicke sedl 144.48 343 *e*PKIKP **PKPdf 09 08 01.3 -0.6**
KOLS Kolonicke sedl 144.48 343 *e*PKP **PKPdf 09 08 01.3 -0.6**
URFA Urfa 144.48 314 *e*P **PKPab 09 08 00.3 -0.3**
TOKA Tokat 144.49 320 **PKPdf 09 08 02.4 +0.2**
DPC Dobruska-Polom 144.52 350 *e*PKIKP **PKPdf 09 08 01.7 -0.2**
DPC MLR MLR
comp=Z,14µm,21.1s
DPC Dobruska-Polom 144.52 350 *e*PKP **PKPdf 09 08 01.7 -0.2**
DPC *ep*PKP **sPKPdf 09 08 08.7 +1.0**
DPC AMS AMS 10 10 20.0
comp=Z,14µm,21.1s
NIE Niedzica 144.57 345 *e*PKP PKPbc 09 08 01.1 +0.4
KIBK Kibwezi 144.58 242 P **PKPdf 09 08 03.6 +0.4**
SNR=53
PVCC Panska Ves 144.61 352 *e*PKIKP PKPbc 09 08 01.0 +0.3
PVCC MLR MLR
comp=Z,13µm,21.8s
PVCC Panska Ves 144.61 352 *e*PKP PKPbc 09 08 01.0 +0.3
PVCC AMS AMS 10 10 00.0
comp=Z,13µm,21.8s
OKC Ostrava-Krasne 144.66 348 *e*PKIKP PKPbc 09 08 01.4 +0.5
OKC MLR MLR
comp=Z,11µm,19.4s
OKC Ostrava-Krasne 144.66 348 *e*PKP PKPbc 09 08 01.4 +0.5
OKC AMS AMS 10 11 40.0
comp=Z,11µm,19.4s
BUR08 Bucovina Ar. S 144.68 339 PKPdf PKPbc 09 08 01.5 +0.3
KRLC Kraliky 144.70 349 *e*PKIKP **PKPdf 09 08 02.0 -0.2**
KRLC MLR MLR
comp=Z,14µm,20.7s
KRLC Kraliky 144.70 349 *e*PKP **PKPdf 09 08 02.0 -0.2**
KRLC AMS AMS 10 10 40.0
comp=Z,14µm,20.7s
BURAR Bucovina Array 144.70 339 ⇑P PKPbc 09 08 01.2 0.0
BURAR Bucovina Array 144.70 339 ⇑PKIKP PKPbc 09 08 01.2 0.0
BURAR Bucovina Array 144.70 339 PKPdf **PKPab 09 08 00.9 -0.2**
CRVS Cervenica-Dubn 144.74 344 *e*PKIKP **PKPdf 09 08 02.5 +0.2**
CRVS Cervenica-Dubn 144.74 344 *e*PKP **PKPdf 09 08 02.5 +0.2**
UZH Uzhgorod 144.75 342 ⇓*e*PKIKP **PKPab 09 07 59.2 -1.9**
UZH *i* 09 08 02.2
UZH *e* 09 11 14.4
UZH MLR MLR
comp=N,2µm,19.0s
UZH MLR MLR
comp=E,3µm,19.0s
UZH MLR MLR
comp=Z,2µm,19.0s
UBBA Unterbreizbach 144.77 357 *e*PKPbc PKPbc 09 08 01.4 +0.3
baz=7.1,slow=3.2
UCC Uccle 144.80 3 *d*PKPdf **PKPdf 09 08 02.0 -0.3**
UCC *d*PKiKP **PKiKP 09 08 05.5 -0.5**
DARE Darende-Malaty 144.81 317 *e*P **PKPdf 09 08 03.5 +0.6**
MOX Moxa 144.83 355 *e*PKPbc PKPbc 09 08 01.8 +0.4
baz=7.1,slow=3.2
MOX *e*L L 10 19 46.7
comp=Z,12µm,18.8s
MORC Moravsky Berou 144.84 348 *e*PKP **PKPdf 09 08 02.2 -0.3**
MORC Moravsky Berou 144.84 348 PKIKP **PKPab 09 08 01.4 -0.1**
MORC Moravsky Berou 144.84 348 PKPdf **PKPab 09 08 01.4 -0.1**
BEBN Eben Emael 144.85 2 *d*PKPdf **PKPdf 09 08 02.0 -0.4**
BEBN *d*PKiKP **PKiKP 09 08 06.0 -0.1**
BEBN *ds*PKiKP **sPKiKP 09 08 12.7 +0.8**
PLN Plauen 144.94 354 *e*PKPbc **PKPab 09 08 01.5 -0.2**
baz=7.1,slow=3.2
BZK Bozkurt 144.95 324 ⇑P **PKPdf 09 08 03.1 +0.2**
BZK Bozkurt 144.95 324 *e*P **PKPdf 09 08 02.5 -0.3**
BIZ Bicaz 144.95 337 ⇑P **PKPdf 09 08 02.6 -0.1**
TANN Tannenbergstha 144.98 354 *e*PKPbc PKPbc 09 08 02.1 +0.1
baz=7.1,slow=3.2
LANS Liptovska Anna 145.02 346 *e*PKIKP **PKPdf 09 08 03.9 +1.1**
LANS Liptovska Anna 145.02 346 *e*PKP **PKPdf 09 08 03.9 +1.1**
ATD Arta Tunnel 145.03 268 IAMs_20 IAMs_20 10 09 20.1
comp=Z,8µm,19.0s
GUNZ Gunzen 145.04 354 *e*PKPbc **PKPab 09 08 02.2 0.0**
baz=7.1,slow=3.2
MEM Membach 145.04 1 *d*PKP **PKPbc 09 07 58.2 -3.8**
BSTI Sart Tilman 145.06 2 *d*PKPdf **PKPdf 09 08 02.8 0.0**
BTNL Ternell 145.07 1 *d*PKPdf **PKPdf 09 08 02.5 -0.3**
PRA Prague 145.08 352 AMS AMS 10 10 20.0
comp=Z,14µm,21.9s
SNF Seneffe 145.08 3 *d*PKPdf **PKPbc 09 08 01.5 -0.7**
SNF *dp*PKiKP **sPKiKP 09 08 10.8 -1.6**
TESR Tescani 145.10 336 ⇑P **PKPdf 09 08 03.2 +0.2**
WERN Wernitzgruen 145.11 354 *e*PKPbc **PKPab 09 08 02.5 +0.1**
baz=7.1,slow=3.2
AHRW Bad Neuenahr-A 145.12 0 *e*PKPbc **PKPdf 09 08 02.6 -0.3**
baz=7.1,slow=3.2
PRU Pruhonice 145.15 352 *e*PKIKP **PKPdf 09 08 03.4 +0.5**
PRU MLR MLR
comp=Z,17µm,22.1s
PRU Pruhonice 145.15 352 *e*PKP **PKPdf 09 08 03.4 +0.5**
PRU AMS AMS 10 10 30.0
comp=Z,17µm,22.1s
NKC Novy Kostel 145.16 354 AMS AMS 10 12 50.0
comp=Z,11µm,19.8s
BCLA Clavier 145.22 2 *d*PKPdf **PKPdf 09 08 03.2 +0.1**
BCLA *d*PKiKP **PKiKP 09 08 06.3 -0.6**
BCLA *dp*PKPdf sPKPab 09 08 08.5 +0.1
BCLA *dp*PKiKP **pPKiKP 09 08 12.1 +0.8**
BCLA *ds*PKiKP **sPKiKP 09 08 13.9 +1.2**
BMR Baia Mare 145.23 340 ⇑P **PKiKP 09 08 10.9 +3.8**
BGES Gesves 145.24 2 *d*PKPdf **PKPbc 09 08 02.8 0.0**
BGES *dx* x 09 08 10.8
BGES *ds*PKiKP **sPKiKP 09 08 15.0 +2.2**
TLCR 145.26 333 ⇑P **PKPab 09 08 03.1 0.0**
TLCR 145.26 333 ⇑PKIKP **PKPab 09 08 03.1 0.0**
BHOU Houvegnez 145.30 1 *d*PKPdf **PKPbc 09 08 02.5 -0.5**
BHOU *dx* x 09 08 12.9
BMRD Maredsous 145.31 3 *d*PKPdf **PKPbc 09 08 02.8 -0.2**
BMRD *dx* x 09 08 14.3
KECS Kecovo 145.38 344 *e*PKIKP **PKPab 09 08 04.2 +0.8**
KECS Kecovo 145.38 344 *e*PKP **PKPab 09 08 04.1 +0.7**
TNS Taunus Mts 145.42 358 *e*PKPbc **PKPdf 09 08 03.5 0.0**
baz=7.1,slow=3.2
TNS *e*L L 10 16 07.4
comp=Z,13µm,19.4s
MANZ Manzenberg 145.44 354 *e*PKPbc **PKPdf 09 08 03.5 0.0**
baz=7.1,slow=3.2
ARCR ARCALIA 145.46 339 ⇑P **PKPab 09 08 04.6 +0.9**
VRAC Vranov 145.47 349 ⇑P **PKPab 09 08 05.1 +1.3**
VRAC Vranov 145.47 349 *e*PKP **PKPdf 09 08 03.5 -0.1**
VRAC Vranov 145.47 349 ⇑PKIKP **PKPab 09 08 05.1 +1.3**
RCHB Rochefort 145.48 2 *d*PKiKP **PKiKP 09 08 06.9 -0.5**
DOU Dourbes 145.51 3 *d*PKPdf **PKPdf 09 08 01.9 -1.7**
DOU *dp*PKiKP **pPKiKP 09 08 11.9 +0.1**
PBCC Pribram 145.52 352 *e*PKP **PKPab 09 08 04.5 +0.6**
CFR Carcaliu 145.57 333 ⇑P **PKPab 09 08 04.1 -0.1**
CFR Carcaliu 145.57 333 ⇑PKIKP **PKPab 09 08 04.1 -0.1**
VRI Vrincioaia 145.60 335 ⇑P **PKPab 09 08 04.5 +0.2**
VRI Vrincioaia 145.60 335 ⇑PKIKP **PKPab 09 08 04.5 +0.2**
SARI SarD1z-Kayseri 145.60 317 *e*P **PKPdf 09 08 04.4 +0.1**
PLOR Plostina 145.64 335 ⇑P **PKPab 09 08 05.3 +0.8**
PLOR Plostina 145.64 335 ⇑PKIKP **PKPab 09 08 05.3 +0.8**
ROTZ Rotzenmuhle 145.64 354 *e*PKPbc **PKPab 09 08 04.5 +0.1**
baz=7.1,slow=3.2
TREC Trest 145.68 350 *e*PKIKP **PKPbc 09 08 04.2 0.0**
TREC MLR MLR
comp=Z,12µm,19.9s
TREC Trest 145.68 350 *e*PKP **PKPbc 09 08 04.2 0.0**
TREC AMS AMS 10 10 20.0
comp=Z,12µm,19.9s
JAVC Velka Javorina 145.69 348 *e*PKP **PKPab 09 08 05.2 +0.6**
TPGR Topolog 145.69 333 ⇑P **PKPab 09 08 05.0 +0.3**
ILGA Ilgaz 145.70 323 **PKPdf 09 08 04.1 -0.4**
CORM Corum 145.71 321 *e*P **PKPbc 09 08 04.8 +0.1**
GAZ Gaziantep 145.73 315 *e*P **PKPbc 09 08 04.9 +0.1**
GAZ Gaziantep 145.73 315 **PKPbc 09 08 04.9 +0.1**
BNN Bunyan 145.73 318 *e*P **PKPdf 09 08 04.3 -0.2**
KURC Kurucasile-Bar 145.73 325 *e*P **PKPdf 09 08 02.3 -1.9**
KRUC Moravsky 145.75 349 *e*PKP **PKPdf 09 08 04.0 0.0**
KMRS Kahramanmaras 145.77 315 *e*P **PKPab 09 08 05.4 +0.1**
VYHS Vyhne 145.78 346 *e*PKIKP **PKPab 09 08 05.2 +0.3**
VYHS Vyhne 145.78 346 *e*PKP **PKPab 09 08 05.2 +0.3**
GRA1 Grafenberg Arr 145.81 355 **PKPbc 09 08 04.5 -0.1**
GRF Grafenberg Arr 145.81 355 PKIKP **PKPbc 09 08 04.5 -0.1**
GRF Grafenberg Arr 145.81 355 *e*PKPbc **PKPab 09 08 05.3 +0.4**
baz=7.1,slow=3.2
GRF *e*L L 10 13 44.6
comp=Z,9µm,20.7s
GRFO Grafenberg 145.81 355 PKIKP **PKPbc 09 08 04.7 +0.1**
GRFO Grafenberg 145.81 355 **PKPbc 09 08 04.7 +0.1**
KMBO Kilima Mbogo 145.88 244 PKPbc **PKPab 09 08 06.9 +0.3**
comp=Z,47nm,1.2s,baz=103,slow=3.5,SNR=54
WLF Walferdange 145.99 1 *d*PKP **PKPab 09 08 06.3 +0.7**
WLF Walferdange 145.99 1 PKP2 **PKPab 09 08 06.6 +1.0**
WLF Walferdange 145.99 1 PKPbc **PKPab 09 08 06.6 +1.0**
WLF Walferdange 145.99 1 *e*PKPbc **PKPab 09 08 06.1 +0.4**
baz=7.1,slow=3.2
TIRR Tirgusor 146.01 332 PKP2 **PKPbc 09 08 05.5 +0.2**
TIRR Tirgusor 146.01 332 **PKPbc 09 08 05.5 +0.2**
DOPR Dopca 146.04 337 ⇑P **PKPab 09 08 06.6 +0.6**
CJR Cluj-Napoca 146.04 340 ⇑P **PKPab 09 08 05.7 -0.3**
CJR Cluj-Napoca 146.04 340 ⇑PKP2 **PKPab 09 08 05.7 -0.3**
HARR Harsova 146.04 333 ⇑P **PKPab 09 08 06.4 +0.4**
HARR Harsova 146.04 333 ⇑PKP2 **PKPab 09 08 06.4 +0.4**
CANT Cankiri 146.04 322 *e*P **PKPab 09 08 06.8 +0.6**
PSZ Piszkesteto 146.06 345 ⇑P **PKiKP 09 08 08.2 -0.7**
PSZ Piszkesteto 146.06 345 ⇑PKP2 **PKiKP 09 08 08.2 -0.7**
PSZ Piszkesteto 146.06 345 PKPbc **PKPab 09 08 05.9 -0.1**
SMOL Smolenice 146.07 348 *e*PKP2 **PKPab 09 08 07.1 +1.1**
SMOL Smolenice 146.07 348 *e*PKP **PKPab 09 08 07.1 +1.1**
TLBR Topalu 146.10 333 ⇑P **PKPab 09 08 07.3 +1.1**
KHC Kasperske Hory 146.12 352 ⇓*i*PKP2 **PKPab 09 08 06.7 +0.5**
KHC MLR MLR
comp=Z,26µm,21.0s
KHC Kasperske Hory 146.12 352 *e*PKP **PKPab 09 08 06.3 +0.1**
KHC *ex* x 09 08 12.9
KHC *ex* x 09 10 23.0
KHC AMS AMS 10 17 00.0
comp=Z,14µm,18.7s
KHC Kasperske Hory 146.12 352 PKPbc **PKPab 09 08 06.3 +0.1**
NEHR Nehoiu 146.13 335 ⇑P **PKiKP 09 08 11.9 +2.9**
WET Wettzell 146.19 353 *e*PKPbc **PKPab 09 08 06.4 0.0**
baz=7.1,slow=3.2
WET *e*L L 10 14 44.8
comp=Z,11µm,21.3s
MLR Muntele Rosu 146.22 336 PKPbc **PKPbc 09 08 06.2 0.0**
comp=Z,32nm,1.1s,baz=357,slow=3.8,SNR=24
MLR Muntele Rosu 146.22 336 ⇓P **PKPab 09 08 06.5 -0.3**
MLR Muntele Rosu 146.22 336 ⇓PKP2 **PKPab 09 08 06.5 -0.3**
MLR Muntele Rosu 146.22 336 PKPbc **PKPdf 09 08 05.5 +0.4**
MODS Modra-Piesok 146.23 348 *e*PKP2 **PKPab 09 08 06.9 +0.3**
MODS Modra-Piesok 146.23 348 *e*PKP **PKPab 09 08 06.9 +0.3**
DRGR 146.26 341 ⇑P **PKPbc 09 08 06.2 0.0**
DRGR 146.26 341 ⇑PKP2 **PKPbc 09 08 06.2 0.0**
CKRC Cesky Krumlov 146.32 351 *e*PKP **PKPab 09 08 06.8 -0.1**
CKRC AMS AMS 10 10 50.0

comp=Z,12µm,20.4s
GEC2 GERESS Array S 146.38 352 ePKPbc PKPbc 09 08 06.6 +0.2
baz=7.1,slow=3.2
GEC2 eL L 10 17 40.3
comp=Z,13µm,20.1s
GERES GERESS Array B 146.38 352 PKPbc PKPbc 09 08 06.4 -0.1
comp=Z,21nm,1.1s,baz=40,slow=2.3,SNR=39
GERES GERESS Array B 146.38 352 PKP2 PKPbc 09 08 06.0 -0.5
GERES GERESS Array B 146.38 352 PKPbc PKPbc 09 08 06.0 -0.5
ZST Bratislava 146.44 348 ePKP2 PKPab 09 08 07.8 +0.4
ZST Bratislava 146.44 348 ePKP PKPab 09 08 07.8 +0.4
KOZT Kozan 146.50 316 eP PKPdf 09 08 05.9 +0.2
SRO Srobarova 146.54 346 ePKP2 PKiKP 09 08 09.0 -0.7
SRO Srobarova 146.54 346 ePKP PKiKP 09 08 09.0 -0.7
BR131 Keskin Array S 146.59 321 PKP2 PKPbc 09 08 07.6 +0.2
BR131 Keskin Array S 146.59 321 PKPbc 09 08 07.6 +0.2
BRTR Keskin Array B 146.59 321 PKPbc PKPbc 09 08 07.8 +0.4
comp=Z,128nm,1.1s,baz=123,slow=2.1,SNR=86
VOIR 146.61 337 ⇑P PKPab 09 08 08.3 0.0
VOIR 146.61 337 ⇑PKP2 PKPab 09 08 08.3 0.0
KAMT Kaman 146.76 321 eP PKPdf 09 08 06.7 +0.5
KDZE Karadeniz Ereo 146.81 325 eP PKPdf 09 08 05.2 -0.9
ARR Arges 146.83 337 ⇑P PKPab 09 08 09.2 +0.1
TAHT Tahtakopru-Hat 146.84 314 eP PKPab 09 08 09.4 0.0
STU Stuttgart 146.85 357 ePKPbc PKPab 09 08 08.4 -0.5
baz=7.1,slow=3.2
CONA Conrad Observa 146.93 349 eP PKPbc 09 08 08.5 +0.4
comp=Z,101nm,1.2s,SNR=11
YAYX Yaylak 146.96 320 eP PKPdf 09 08 06.3 -0.2
ANTO Ankara 147.00 322 ⇑P PKiKP 09 08 10.7 -0.4
ANTO Ankara 147.00 322 ⇑PKP2 PKiKP 09 08 10.7 -0.4
LOD Lodumlu 147.00 322 eP PKPdf 09 08 05.5 -1.0
GULA Gulagac 147.05 319 eP PKPbc 09 08 09.4 +0.6
AFSR Afar-Bala (An 147.10 321 eP PKPdf 09 08 06.3 -0.4
SERE Sereflikochisa 147.11 320 eP PKPdf 09 08 06.8 0.0
KARA Karaisali 147.14 316 eP PKPdf 09 08 07.2 +0.4
MOA Molln 147.27 351 iP PKPbc 09 08 09.2 +0.2
comp=Z,25nm,1.2s,SNR=11
KRTS Karatas 147.29 315 eP PKiKP 09 08 12.5 +0.9
FUR Furstenfeldbru 147.32 355 ePKPbc PKPbc 09 08 09.5 +0.4
baz=7.1,slow=3.2
FUR eL L 10 15 27.1
comp=Z,12µm,20.8s
BFO Black Forest 147.32 358 PKP2 PKPbc 09 08 09.4 +0.3
BFO Black Forest 147.32 358 PKPbc 09 08 09.4 +0.3
BFO Black Forest 147.32 358 ePKPbc PKPbc 09 08 09.5 +0.4
baz=7.1,slow=3.2
BFO eL L 10 14 53.6
comp=Z,7µm,20.9s
KULU Kulu 147.40 321 eP PKPdf 09 08 07.9 +0.6
GZR Gura Zlata 147.47 339 ⇑P PKPbc 09 08 10.2 +0.6
GZR Gura Zlata 147.47 339 ⇑PKP2 PKPbc 09 08 10.2 +0.6
MDUB Mudurnu 147.52 325 eP PKPdf 09 08 06.2 -1.2
MDUB Mudurnu 147.52 325 PKPbc 09 08 09.0 -1.0
RJOB Jochberg 147.58 353 ePKPbc PKPbc 09 08 10.5 +0.6
baz=7.1,slow=3.2
ARSA Arzberg 147.65 349 eP PKPbc 09 08 08.9 -1.1
comp=Z,52nm,1.3s
BZS Buzias 147.65 341 ⇑P PKPbc 09 08 10.3 +0.3
BZS Buzias 147.65 341 ⇑PKP2 PKPbc 09 08 10.3 +0.3
YESY Yesilyurt 147.70 318 eP PKPbc 09 08 10.8 +0.2
MERS Mersin 147.71 316 eP PKPdf 09 08 07.8 0.0
CHBY Cihanbeyli 147.75 320 eP PKPdf 09 08 08.1 +0.2
SAUV Serdivan-Sakar 147.81 326 eP PKPdf 09 08 07.8 +0.1
SILT Sile 147.89 327 eP PKPdf 09 08 07.2 -0.6
UBR Ueberruh 147.89 356 ePKPbc PKPbc 09 08 11.3 +0.6
baz=7.1,slow=3.2
GULT Gulveren 147.93 325 eP PKPdf 09 08 08.1 0.0
MORH Mrgy, Hungar 147.96 345 ⇓P PKPbc 09 08 11.1 +0.3
MORH Mrgy, Hungar 147.96 345 eP PKPdf 09 08 08.9 +1.1
SVRH Sivrihisar-ESK 148.02 323 eP PKPdf 09 08 08.1 -0.2
RETA Reutte 148.03 355 eP PKPbc 09 08 11.5 +0.3
comp=Z,152nm,1.3s,SNR=9.7
HERR Herculane 148.04 339 ⇑ PKiKP 09 08 13.3 +0.3
HRT Hereke 148.11 327 eP PKPdf 09 08 08.4 +0.1
WATA Walderalm 148.11 354 eP PKPbc 09 08 11.5 +0.1
comp=Z,24nm,1.0s,SNR=7.6
KLYT Kilyos 148.13 328 eP PKPdf 09 08 07.8 -0.4
MOTA Moosalm 148.15 355 eP PKPbc 09 08 11.7 +0.1
comp=Z,75nm,1.6s,SNR=14
KBA Koelnbreinsper 148.16 352 iP PKPbc 09 08 11.5 -0.1
comp=Z,11nm,1.3s
KIZK Mersin 148.18 316 eP PKPdf 09 08 08.3 -0.2
WTTA Wattenberg 148.18 354 eP PKPbc 09 08 11.9 +0.2
comp=Z,37nm,1.1s,SNR=11
ISK Istanbul-Kandil 148.25 327 eP PKPdf 09 08 07.5 -0.9
KAVV Kandilli-Istan 148.26 327 eP PKPdf 09 08 07.8 -0.6
SQTA Sankt Quirin 148.26 355 iP PKiKP 09 08 13.0 -0.5
comp=Z,34nm,1.2s
SOKA Soboth 148.29 350 eP PKPbc 09 08 11.8 -0.1
comp=Z,97nm,1.1s,SNR=11
DAVA Damuels 148.29 356 eP PKPbc 09 08 12.5 +0.6
comp=Z,23nm,0.8s,SNR=7.7
LADK Ladik-KONYA 148.31 320 eP PKPdf 09 08 07.4 -1.4
PERS Pernice 148.31 349 ePKPab PKPab 09 08 14.9 0.0
BGKT Bogazkoy 148.32 328 eP PKPdf 09 08 08.1 -0.4
CIFT Cifteler, Eski 148.34 323 eP PKPdf 09 08 08.7 -0.1
ADVT Abdulvahap 148.35 326 eP PKPdf 09 08 08.4 -0.2
MDVR Moldovita 148.37 340 ⇓P PKPbc 09 08 12.8 +0.8
SILI Silifke-Mersin 148.39 316 eP PKPdf 09 08 08.9 +0.1
CTKS Kestanelik-??a 148.41 328 eP PKPdf 09 08 07.8 -0.9
YLV Yalova 148.45 326 eP PKPdf 09 08 08.1 -0.8
CAVI Cavuskoy 148.46 326 eP PKPdf 09 08 08.9 0.0
KONT Konya--Tatoy 148.47 320 eP PKPdf 09 08 08.5 -0.5
PLVB Pleven 148.49 335 ⇑P PKiKP 09 08 14.1 +0.2
FETA Feichten 148.50 355 eP PKPbc 09 08 13.0 +0.6
comp=Z,16nm,1.0s,SNR=10
OBKA Obir 148.53 350 eP PKPdf 09 08 10.2 +1.4
comp=Z,18nm,1.4s
MYKA Terra Mystica 148.56 351 eP PKPbc 09 08 11.9 -0.6
comp=Z,20nm,1.1s
SLVT Silivri 148.57 329 eP PKPdf 09 08 08.7 -0.3
ABTA Abfaltersbach 148.59 353 eP PKPbc 09 08 12.5 -0.1
comp=Z,30nm,0.9s,SNR=8.4
PHSR Pinarhisar 148.60 330 eP PKPdf 09 08 08.9 -0.1
FRGS Fruska Gora 148.62 343 ⇑P PKiKP 09 08 13.5 -0.6
FRGS Fruska Gora 148.62 343 eP PKPdf 09 08 10.7 +1.7
IKL Isikli 148.62 316 eP PKPdf 09 08 08.9 -0.3
GEMT Gemlik 148.64 327 eP PKPdf 09 08 08.9 -0.2
TEVE Tevekalti-Mers 148.67 316 eP PKPdf 09 08 09.4 0.0
EREN Erenkoy 148.68 314 eP PKPbc 09 08 13.2 +0.1
ZOU Zoufplan 148.72 352 PKPbc PKPbc 09 08 11.6 -1.5
AKUU Akkuyu-Mersin 148.75 316 eP PKPdf 09 08 08.4 -1.0
EDRB Edirne 148.81 331 eP PKPdf 09 08 09.0 -0.3
MDNY Mudanya-Bursa 148.85 327 eP PKPdf 09 08 09.3 -0.1
BERE Bereket-Mersin 148.87 317 eP PKPdf 09 08 09.9 +0.1
LJU Ljubljana 148.99 350 ePKPab PKPab 09 08 16.9 -0.7
LJU e 09 08 24.3
CRES Cresnjev 149.03 349 eP PKPbc 09 08 13.7 0.0
MMAI Mount Meron Ar 149.04 309 PKPbc PKiKP 09 08 15.4 -0.1
comp=Z,42nm,0.9s,baz=355,slow=19,SNR=28
TEKE Tekeli-Mersin 149.05 316 eP PKPdf 09 08 09.3 -0.6
GBAS Gorenja Brezov 149.11 350 ePKPdf PKPdf 09 08 09.8 0.0
GBAS i PKPbc PKiKP 09 08 14.9 -0.2
GBAS ePKPab PKPab 09 08 17.1 -0.9
GBAS i 09 08 24.6
TUE Stuetta 149.14 357 PKPbc 09 08 13.4 -0.8
SHUT Suhut-Afyon 149.18 322 eP PKPdf 09 08 10.2 0.0
TVSB Tavsanli 149.19 325 eP PKPdf 09 08 09.4 -0.8
KCTX Karacabey (Bur 149.20 327 eP PKPdf 09 08 09.0 -1.1
CEY Cerknica 149.30 350 iP PKPdf 09 08 09.7 -0.3
CEY Cerknica 149.30 350 eP PKPbc 09 08 13.3 -1.1
MRMT Marmara Adasi 149.34 328 eP PKPdf 09 08 09.6 -0.7
EDC Edincik 149.40 328 eP PKPdf 09 08 09.6 -0.7
RKY Sarkoy-Tekirda 149.49 329 eP PKPdf 09 08 09.6 -0.9
GEDZ Gediz 149.50 324 eP PKPdf 09 08 09.7 -1.0
DIVS Divibare 149.53 342 eP PKPbc 09 08 14.7 -0.4
GAZI Gazipasa 149.53 317 eP PKPdf 09 08 10.1 -0.6
CSS Mathiatis 149.56 314 PKPbc 09 08 15.6 +0.3
KRBG Karabiga-Canak 149.65 329 eP PKPdf 09 08 10.5 -0.2
LODK Lodwar 149.66 249 P PKPbc 09 08 15.8 -0.5
SNR=13
BLY Banja Luka 149.69 346 eP PKPbc 09 08 15.1 -0.2
VTS Vitosha 149.69 336 ⇑P PKiKP 09 08 17.2 +0.6
VTS Vitosha 149.69 336 ⇑PKP2 PKiKP 09 08 17.2 +0.6
SIMA Simav-Kutahya 149.71 325 eP PKPdf 09 08 08.1 -2.9
LEF Lefka 149.78 315 ⇑P PKiKP 09 08 16.3 -0.5
LEF Lefka 149.78 315 eP PKPdf 09 08 11.4 +0.3
HAPS Han Pijesak,BI 149.84 343 eP PKPbc 09 08 14.8 -1.1
BCK Bucak 149.87 321 eP PKPdf 09 08 09.6 -1.7
BBLS Lazići 149.91 342 eP PKPbc 09 08 13.6 -2.4
LPK Lapseki 149.94 329 eP PKPdf 09 08 09.9 -1.3
ENEZ Enez 149.95 330 eP PKPdf 09 08 10.2 -1.0
MGRS Mrkonjic Grad 150.03 346 eP PKiKP 09 08 17.3 +0.2
GELI Tayfur-Gelibol 150.06 329 eP PKPdf 09 08 10.5 -0.9
ANTB Antalya 150.19 320 eP PKPdf 09 08 11.2 -0.5
KULA Kula-Manisa 150.29 324 eP PKPdf 09 08 11.7 -0.2
KORT Korkueli 150.31 320 eP PKPdf 09 08 10.5 -1.6
MANT Manisa 150.36 324 PKPbc 09 08 17.8 +0.3
GADA Gvkgeada 150.50 330 eP PKPdf 09 08 11.4 -0.7
PGAV Gavieira, Arco 150.56 24 ePKPbc PKiKP 09 08 18.3 -0.1
EZN Ezine 150.57 329 eP PKPdf 09 08 11.8 -0.4
BNI Bardonecchia 150.61 1 PKIKP PKiKP 09 08 19.1 +0.7
BNI Bardonecchia 150.61 1 PKiKP 09 08 19.1 +0.7
IVA Berane 150.66 341 ⇑iPKP PKPdf 09 08 12.9 +0.5
UPM Unac-Piva 150.67 342 ⇑iPKP PKPdf 09 08 11.9 -0.6
BOZC Bozcaada 150.69 329 eP PKPdf 09 08 12.5 +0.1
ELL Elmali 150.74 320 eP PKPdf 09 08 12.3 -0.4
ELL Elmali 150.74 320 PKIKP PKiKP 09 08 18.9 0.0
ELL Elmali 150.74 320 PKiKP 09 08 18.9 0.0
EIL Elat 150.80 304 PKP PKPdf 09 08 13.3 +0.5
comp=Z,8.3nm,1.2s,baz=61,slow=1.0,SNR=5.5
EIL PKPbc PKiKP 09 08 19.0 -0.1
comp=Z,53nm,1.0s,baz=347,slow=2.8,SNR=24
KOME Kolasin 150.80 341 ⇑iPKP PKPdf 09 08 12.9 +0.3
DKL Dikili 150.84 327 eP PKPdf 09 08 12.0 -0.6
PCAB Cabril 150.87 24 ePKPbc PKPbc 09 08 18.1 -0.2
PCAB Cabril 150.87 24 ePKPab PKPab 09 08 27.4 +2.0
STIP Stip 150.89 336 iP PKiKP 09 08 18.8 -0.1
SKO Skopje 150.93 338 iP PKiKP 09 08 18.6 +0.6
NKY Niksic 151.00 342 ⇑iPKP PKPdf 09 08 13.7 +0.8
BRY Bratogost 151.05 342 eP PKiKP 09 08 19.1 -0.3
BRY Bratogost 151.05 342 ⇑iPKP PKPdf 09 08 14.0 +1.0
NKME Niksic 151.05 342 ⇑iPKP PKPdf 09 08 13.8 +0.9
VAY Valandovo 151.05 335 iP PKiKP 09 08 19.2 -0.1
AYDB Zeytinkoy-Aydi 151.12 324 eP PKPdf 09 08 11.1 -2.2
ZCCA Zocca 151.13 354 PKiKP 09 08 20.4 +1.1
ZCCA IAMs_20 IAMs_20 10 15 37.0
comp=Z,18µm,20.0s
POLO Lamas de Olo 151.25 24 ePKPbc PKiKP 09 08 20.7 +0.9
POLO Lamas de Olo 151.25 24 ePKPab PKPab 09 08 28.2 +1.1
AKAS Kas 151.26 320 eP PKPdf 09 08 12.0 -1.6
AKAS Kas 151.26 320 PKPbc 09 08 19.8 -0.2
CEME Cevo 151.26 342 ⇑iPKP PKPdf 09 08 13.8 +0.5
PDG Podgorica 151.26 341 ⇑P PKiKP 09 08 20.1 +0.4
PDG Podgorica 151.26 341 eP PKPbc 09 08 18.3 -0.8
PDG Podgorica 151.26 341 PKiKP 09 08 19.5 -0.1
TTG Podgorica 151.26 341 ⇑iPKP PKPdf 09 08 13.8 +0.6
PBRG Braganca 151.26 22 ePKPbc PKPbc 09 08 17.9 -1.3
BLCB Balcova 151.27 326 eP PKPdf 09 08 13.2 -0.1
FETY Fethiye 151.32 321 eP PKPdf 09 08 12.6 -0.9
PVRL Vila Real 151.36 24 ePKPdf PKPdf 09 08 12.8 -0.6
DALY Dalyan (Mula) 151.46 322 eP PKPdf 09 08 13.2 -0.4
DRME Dracevica, Mon 151.51 341 eP PKPbc 09 08 17.1 -2.6
DRME Dracevica, Mon 151.51 341 ⇑iPKP PKPdf 09 08 13.9 +0.3
URLA Izmir 151.53 327 eP PKPdf 09 08 12.3 -1.5
MBAR Mbarara 151.64 238 PKIKP PKiKP 09 08 22.6 +1.1
MBAR Mbarara 151.64 238 PKiKP 09 08 22.6 +1.1
MLSB Milas 151.64 324 eP PKPbc 09 08 18.3 -1.9
GCAM G?zelcaml? 151.66 325 eP PKPdf 09 08 12.9 -1.0
MVO Moncorvo 151.72 23 ePKPbc PKiKP 09 08 21.7 +1.0
TURN Turunc 151.73 322 eP PKPdf 09 08 14.3 +0.3
PVIS Viseu 151.77 25 ePKPbc PKPbc 09 08 19.5 -0.9
OHR Ohrid 151.91 338 iP PKiKP 09 08 20.0 +0.9
FNA Florina 151.98 336 PKIKP PKPbc 09 08 20.7 -0.2
FNA Florina 151.98 336 PKPbc 09 08 20.7 -0.2
BODT Bodrum 152.07 324 eP PKPdf 09 08 06.7 -7.9
PCAS Casmilo, Conde 152.08 26 ePKPbc PKiKP 09 08 22.0 +0.6
PCAS Casmilo, Conde 152.08 26 ePKPab PKPab 09 08 31.6 +1.1
LIT Litokhoron 152.11 334 PKIKP PKiKP 09 08 22.1 +0.6
LIT Litokhoron 152.11 334 PKiKP 09 08 22.1 +0.6
MTE Manteigas 152.18 24 ePKPbc PKiKP 09 08 22.5 +0.8
MTE Manteigas 152.18 24 PKiKP 09 08 22.6 +0.8
NRCA Norcia 152.35 350 PKiKP 09 08 22.6 +0.6
PCBR Castelo Branco 152.68 25 ePKPbc PKiKP 09 08 23.8 +1.1
PCBR Castelo Branco 152.68 25 ePKPab PKPab 09 08 32.8 -0.2
CASP Castiglione de 152.68 354 PKPab PKPab 09 08 33.2 +0.3
LATE Laterza 152.75 352 PKPab 09 08 30.7 -2.6
LIS Lisbon 152.88 29 ePKPdf PKPdf 09 08 14.7 -1.0
PMTG Montargil 153.01 27 ePKPdf PKPdf 09 08 15.7 -0.2
APE Apeiranthos 153.05 326 ⇑P PKPbc 09 08 22.5 -0.9
APE Apeiranthos 153.05 326 ⇑PKIKP PKPbc 09 08 22.5 -0.9
PMRV Manv??o 153.06 25 ePKPdf PKPdf 09 08 16.8 +0.8
AGG Agios Georgios 153.08 333 PKIKP PKPbc 09 08 21.6 -1.8
AGG 09 08 33.3
AGG Agios Georgios 153.08 333 PKPbc 09 08 21.6 -1.8
AGG PKPab PKPab 09 08 33.3 -1.4
PESTR Estremoz 153.45 26 IAMs_20 IAMs_20 10 13 07.4
comp=Z,7µm,20.0s
EVO Evora 153.55 27 PKP PKPdf 09 08 19.1 +2.4
EVO Evora 153.55 27 PP PP 09 12 16.7 +6.9
EVO Evora 153.55 27 ePKPdf PKPdf 09 08 17.5 +0.8
UCM Universidad Co 153.76 18 PKP PKPbc 09 08 21.2 -3.7
UCM Universidad Co 153.76 18 PP PP 09 12 10.9 0.0
MESJ Messejana 154.02 28 ePKPdf PKPdf 09 08 16.3 -1.1
MESJ Messejana 154.02 28 ePKPbc PKPbc 09 08 21.8 -3.6
ES16 SONSECA Array 154.09 20 IAMs_20 IAMs_20 09 56 44.2
comp=Z,5µm,18.0s
ESDC Sonseca Array 154.12 20 PKP PKPdf 09 08 18.5 +1.0
comp=Z,1.7nm,0.9s,baz=6.1,slow=3.4,SNR=5.5
ESDC PKPbc PKiKP 09 08 26.4 +0.6
comp=Z,2.6nm,0.9s,baz=330,slow=2.5,SNR=7.3
ESDC PKPab PKPab 09 08 38.9 -0.3
comp=Z,6.8nm,1.0s,baz=333,slow=2.7,SNR=10
PVAQ Vaqueiros 154.61 28 ePKPdf PKPdf 09 08 16.7 -1.5
PBDV Barranco-do-Ve 154.64 29 ePKPdf PKPdf 09 08 16.2 -2.1
IDI Anoyia 154.70 324 PKP PKPdf 09 08 19.2 +0.7
comp=Z,17nm,1.1s,baz=20,slow=8.9,SNR=3.0
IDI Anoyia 154.70 324 IAMs_20 IAMs_20 10 20 15.4
comp=Z,9µm,21.0s
TIP Timpagrande 155.00 342 ⇑P PKPdf 09 08 28.8 +10
TIP Timpagrande 155.00 342 PKPdf PKPdf 09 08 18.8 0.0
MAHO Mahon 155.64 5 PKP PKPdf 09 08 20.9 +1.4
MAHO Mahon 155.64 5 PP PP 09 12 24.6 +3.5
SFS San Fernando 156.06 27 PKP PKPdf 09 08 20.2 0.0
SFS San Fernando 156.06 27 PP PP 09 12 31.8 +7.9
EMAL Malaga-Limoner 156.54 24 PKP PKPdf 09 08 18.1 -2.8
EMAL Malaga-Limoner 156.54 24 PP PP 09 12 37.1 +11
CEU Ceuta 156.90 27 PKP PKPdf 09 08 25.5 +4.2
CEU Ceuta 156.90 27 PP PP 09 12 34.3 +5.8
CART Cartagena 156.93 17 PKP PKPdf 09 08 21.6 +0.3
CART Cartagena 156.93 17 PP PP 09 12 31.2 +2.7
PVLZ Peæn de 157.97 26 PKP PKPdf 09 08 21.6 -1.0
PVLZ Peæn de 157.97 26 PP PP 09 12 34.7 +0.3
AVE Averroes 158.01 34 PKP PKPdf 09 08 19.7 -3.1
AVE Averroes 158.01 34 PP PP 09 12 38.8 +3.8
MELI Melilla 158.41 23 PKP PKPdf 09 08 26.6 +3.4
MELI Melilla 158.41 23 PP PP 09 12 43.8 +7.1
IFR Ifrane 159.00 30 PKP PKPdf 09 08 21.7 -2.5
IFR Ifrane 159.00 30 PP PP 09 12 48.5 +8.0
MDT Midelt 159.82 30 PKP PKPdf 09 08 26.1 +1.1
comp=Z,2.9nm,1.1s,baz=359,slow=0.6,SNR=4.7
MDT PKPab PKPab 09 09 05.6 +1.6
comp=Z,7.6nm,1.0s,baz=310,slow=4.4,SNR=4.8
KEST Kesra 159.85 325 PKPab PKPab 09 09 04.5 +0.7
comp=Z,7.7nm,0.9s,baz=272,slow=5.8,SNR=2.7
KOWA Kowa 169.22 94 PKPdf 09 08 32.2 -1.4
KOWA PKPab pPKPab 09 09 50.0 -0.2
TOA0 Torodi Ar. Sit 174.25 114 PKPdf 09 08 33.0 -3.1
TOA0 PKPab pPKPab 09 10 10.8 -1.7
TORD Torodi Ar. Bea 174.25 114 PKP PKPdf 09 08 35.5 -0.6
comp=Z,5.1nm,1.1s,baz=307,slow=2.3,SNR=13
TORD PKPab pPKPab 09 10 11.0 -1.5
comp=Z,2.3nm,0.9s,baz=263,slow=5.0,SNR=2.6
TORD Torodi Ar. Bea 174.25 114 PKPdf 09 08 33.5 -2.6
TORD PKPab pPKPab 09 10 10.7 -1.8

*IDC **30** 08:50:41.4±0.6, 15°.37S×173°.13W, h0km, mb4.7/17, mb1 4.9/17, mb1mx4.6/51, mbtmp4.7/17, Error ellipse: s-maj=26.6km s-min=15.6km az=141.0*
*NEIC **30** 08:50:43.0±1.8, 15°.46S±0°.06×173°.09W±0°.09, h10km±1km, mb5.2/38, Error ellipse: s-maj=14.8km s-min=9.8km az=260.0*
ISC 30 08:50:42.7±0.4, **15°.40S**±0°.09×**173°.09W**±0°.10, **h10**km, **n84, σ1s09/78, mb5.1/34, 1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	1.95	41	Pn	Pn	08 51 13.7	-2.2
NIUE	Niue	4.74	141	Pn	Pn	08 51 49.5	-4.8
MSVF	Nonsavu	8.81	253	Pn	Pn	08 52 58.6	+8.4
	2.6nm,0.3s,baz=92,slow=15,SNR=4.6						

RAR Rarotonga 13.90 117 Pn Pn 08 53 54.8 -5.0
RAO Raoul Island 14.49 197 Pn Pn 08 54 07.1 -0.8
DZM Mont Dzumac 20.48 248 P Pn 08 55 22.3 -0.8
51nm,0.8s,baz=79,slow=18,SNR=3.5
DZM Mont Dzumac 20.48 248 P P 08 55 20.6 -0.3
DZM IAmb IAmb 08 55 43.8
comp=Z,126nm,1.0s
PPT Papeete 22.64 99 P P 08 55 44.7 +0.5
comp=Z,61nm,0.9s,baz=336,slow=8.7,SNR=4.2
OUZ Omahuta 23.07 209 S P 08 55 49.9 +1.4
WCZ Waipu Caves 23.34 206 S P 08 55 53.3 +2.1
KUZ Kuaotunu 23.48 203 S P 08 55 52.9 +0.3
URZ Urewera 24.36 199 P P 08 56 01.4 +0.5
comp=Z,20nm,0.6s,baz=304,slow=22,SNR=2.0
URZ Urewera 24.36 199 P P 08 55 59.1 -1.8
URZ IAmb IAmb 08 56 21.5
comp=Z,49nm,0.9s
DUWZ D'Urville Isla 27.72 202 S P 08 56 33.5 +2.3
MSWZ Moikau Station 27.82 199 P P 08 56 32.4 +0.2
QRZ Quartz Range 28.25 203 S P 08 56 37.1 +1.1
TUWZ Tuamarina 28.27 201 P P 08 56 34.5 -1.7
NNZ Nelson 28.28 202 P P 08 56 36.1 -0.1
NNZ IAmb IAmb 08 56 42.8
comp=Z,78nm,1.2s
NNZ Nelson 28.28 202 S P 08 56 38.4 +2.2
THZ Tophouse 28.93 202 P P 08 56 42.4 +0.3
THZ IAmb IAmb 08 56 50.1
comp=Z,36nm,1.0s
THZ Tophouse 28.93 202 S P 08 56 44.2 +2.1
KHZ Kahutara 29.28 201 P P 08 56 43.5 -1.6
KHZ IAmb IAmb 08 56 58.2
comp=Z,37nm,0.9s
KHZ Kahutara 29.28 201 S P 08 56 46.2 +1.1
DSZ Denniston Nort 29.32 203 S P 08 56 46.1 +0.5
INZ Inchbonnie 30.30 203 S P 08 56 54.1 -0.1
OXZ Oxford 30.60 202 P P 08 56 56.5 -0.3
OXZ Oxford 30.60 202 S P 08 56 56.5 -0.3
RPZ Rata Peaks 31.30 202 P P 08 57 03.5 +0.5
comp=Z,16nm,0.6s,baz=356,slow=23,SNR=2.2
RPZ Rata Peaks 31.30 202 P P 08 57 02.9 0.0
MLZ Mavora Lakes 33.81 204 P P 08 57 24.7 -0.3
MLZ IAmb IAmb 08 57 32.6
comp=Z,33nm,0.9s
DCZ Deep Cove 34.28 205 P P 08 57 28.8 -0.2
WHZ Wether Hill Ro 34.32 204 P P 08 57 29.9 +0.6
EIDS Eidsvold 34.92 248 P P 08 57 34.7 -0.2
EIDS IAmb IAmb 08 57 42.5
comp=Z,43nm,1.4s
ARMA Armidale 35.60 239 P P 08 57 41.2 +0.4
ARMA IAmb IAmb 08 58 04.6
comp=Z,40nm,1.5s
CTA Charters Tower 38.94 257 P P 08 58 09.5 +0.3
comp=Z,18nm,1.1s,baz=93,slow=12,SNR=2.6
COEN Coen 42.28 266 P P 08 58 35.5 -1.3
TOO Toolangi 42.70 231 P P 08 58 39.5 -0.5
TOO IAmb IAmb 08 58 58.9
comp=Z,43nm,1.2s
STKA Stephens Creek 44.30 240 P P 08 58 52.6 -0.3
comp=Z,14nm,0.9s,baz=70,slow=12,SNR=2.9
STKA Stephens Creek 44.30 240 P P 08 58 52.8 -0.2
BBOO Buckleboo 49.07 240 P P 08 59 28.7 -1.6
BBOO IAmb IAmb 08 59 30.0
comp=Z,23nm,1.1s
WB0 Warramunga Arr 50.10 257 P P 08 59 37.5 -0.9
WB0 IAmb IAmb 08 59 49.4
comp=Z,22nm,0.9s
WB2 Warramunga Arr 50.13 257 P P 08 59 36.9 -1.7
WB2 IAmb IAmb 08 59 53.3
comp=Z,37nm,1.2s
WRA Warramunga Arr 50.14 257 P P 08 59 38.1 -0.6
comp=Z,5.8nm,0.6s,baz=98,slow=5.9,SNR=5.6
WRA Warramunga Arr 50.14 257 P P 08 59 37.1 -1.6
AS31 Alice Springs 50.40 252 P P 08 59 41.5 +0.8
ASAR Alice Springs 50.40 252 P P 08 59 40.0 -0.6
comp=Z,14nm,0.6s,baz=88,slow=7.5,SNR=6.6
ASAR Alice Springs 50.40 252 P P 08 59 40.9 +0.3
FORT Forrest 55.69 243 P P 09 00 18.7 -0.8
SBA Scott Base 63.28 185 P P 09 01 11.7 +0.6
VNDA Vanda 63.41 186 P P 09 01 11.9 -0.1
VNDA IAmb IAmb 09 01 22.6
comp=Z,34nm,1.4s
PSA00 Pilbara Seismi 63.49 253 P P 09 01 14.2 +0.7
MJAR Matsushiro Arr 69.13 320 P P 09 01 50.0 +0.7
MJAR IAmb IAmb 09 01 50.9
comp=Z,19nm,1.4s
MAJO Matsushiro 69.13 320 P P 09 01 50.3 +1.0
MAJO IAmb IAmb 09 01 51.1
comp=Z,26nm,1.3s
PFO Pinyon Flats O 72.70 47 P P 09 02 11.8 +0.6
XPFO Pion Flat 72.70 47 P P 09 02 12.3 +1.1
PEA0B Petropavlovsk- 72.72 342 P P 09 02 11.8 +1.0
PETK Petropavlovsk- 72.72 342 P P 09 02 11.3 +0.5
comp=Z,7.0nm,0.9s,baz=131,slow=9.9,SNR=3.2
YBH Yreka Blue Hor 73.42 37 P P 09 02 16.6 +1.4
YBH IAmb IAmb 09 02 38.5
comp=Z,24nm,1.2s
WAKR Walker 73.44 41 P P 09 02 17.6 +1.9
BEKR Beckworth 73.67 40 P P 09 02 18.6 +1.7
HUMO Hull Mountain 73.83 36 P P 09 02 19.1 +1.5
HUMO IAmb IAmb 09 02 28.0
comp=Z,22nm,1.2s
YERR Yerington 73.85 41 P P 09 02 19.4 +1.3
NVAR Mina Array Bea 74.13 42 P P 09 02 21.0 +1.4
comp=Z,1.8nm,0.7s,baz=223,slow=8.7,SNR=1.7
NVAR Mina Array Bea 74.13 42 P P 09 02 20.2 +0.5
QSPA South Pole Qui 74.65 180 P P 09 02 23.4 +1.2
comp=Z,19nm,1.1s,baz=124,slow=0.8,SNR=3.2
QSPA South Pole Qui 74.65 180 P P 09 02 23.4 +1.2
TXAR Lajitas Array 80.36 56 P P 09 02 55.1 +0.4
comp=Z,6.0nm,1.1s,baz=230,slow=4.2,SNR=4.4
ANMO Albuquerque 80.57 50 P P 09 02 56.2 +0.4
comp=Z,3.1nm,1.0s,baz=250,slow=7.3,SNR=2.3
PDAR Pinedale Array 82.06 42 P P 09 03 04.0 +0.3
comp=Z,1.4nm,0.7s,baz=186,slow=3.4,SNR=2.2
ILAR Eielson Array 82.39 11 P P 09 03 04.8 +0.3
comp=Z,2.9nm,0.9s,baz=216,slow=5.9,SNR=2.7
HRY Holter Researc 82.66 37 P P 09 03 07.7 +1.1
MAW Mawson 87.89 199 P P 09 03 32.3 +0.1
comp=Z,8.1nm,0.8s,baz=100,slow=8.2,SNR=2.8
YKA Yellowknife Ar 89.98 23 P P 09 03 41.4 -0.6
comp=Z,3.4nm,0.9s,baz=236,slow=4.3,SNR=2.8
FCAR Ozark Folk Cen 91.78 53 P P 09 03 50.0 -1.0
FCAR IAmb IAmb 09 03 51.6
comp=Z,17nm,1.4s
FFC Flin Flon 91.94 33 P P 09 03 50.1 -1.1
FFC IAmb IAmb 09 04 11.5
comp=Z,22nm,1.5s
LCAR Lake Charles 92.58 53 P P 09 03 52.3 -2.4
LCAR IAmb IAmb 09 03 55.0
comp=Z,11nm,1.3s
SYO Syowa Base 92.66 191 ⇓iX P 09 03 48.0 -6.5
MORC Moravsky Berou 144.64 348 ePKP PKPbc 09 10 19.4 +1.0
VRAC Vranov 145.27 349 ePKP PKPbc 09 10 21.0 +0.6
JAVC Velka Javorina 145.48 347 ePKP PKPab 09 10 22.7 +1.3
KRUC Moravsky 145.54 349 ePKP PKPdf 09 10 21.1 -0.1
GERES GERESS Array B 146.18 352 PKPbc PKPdf 09 10 23.1 +0.6
comp=Z,3.4nm,0.9s,baz=279,slow=1.9,SNR=1.9
BRTR Keskin Array B 146.34 321 PKPbc PKPdf 09 10 23.9 +0.8
comp=Z,9.3nm,0.8s,baz=157,slow=1.2,SNR=3.1
BRTR Keskin Array B 146.34 321 PKPbc PKPbc 09 10 24.8 +0.5

*IDC **30** 08:56:47.1±0.7, 5°.07S×153°.06E, h0km, mb4.0/10, mb1 4.2/11, mb1mx3.9/52, mbtmp4.1/11, ML2.0/1, MS5.3/1, Ms1 5.3/1, ms1mx4.0/42, Error ellipse: s-maj=27.6km s-min=18.0km az=102.0*
*NEIC **30** 08:56:52.9±1.6, 5°.12S±0°.09×153°.0E±0°.1, h41km±7km, mb4.5/10, Error ellipse: s-maj=15.5km s-min=12.5km az=102.0*
ISC 30 08:56:53.4±0.6, **5°.05S**±0°.07×**152°.95E**±0°.09, **h43**km, **n42, σ1s31/40, mb4.2/13, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	1.16	317	Pn	Pn	08 57 14.2	+1.0
MANU	Manus Island	6.33	298	Pn	Pn	08 58 22.9	-1.3
PMG	Port Moresby	7.19	233	Pn	Pn	08 58 36.4	+0.4
	1.5nm,0.3s,baz=

DZM				IAmb	IAmb	09 01 40.4	
	comp=Z,20nm,1.0s						
MTN	**Manton Dam**	**22.88**	**249**	P	**P**	**09 01 52.3**	**-1.2**
WB0	**Warramunga Arr**	**23.25**	**229**	P	**P**	**09 01 56.7**	**-0.4**
WB0				IAmb	IAmb	09 02 09.5	
	comp=Z,21nm,1.4s						
WR0	**Warramunga Arr**	**23.25**	**229**	P	**P**	**09 01 57.4**	**+0.2**
WR0				IAmb	IAmb	09 02 12.4	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**23.38**	**229**	P	**P**	**09 01 55.8**	**-2.7**
WRAB				IAmb	IAmb	09 02 14.0	
	comp=Z,20nm,1.3s						
WB2	**Warramunga Arr**	**23.38**	**229**	P	**P**	**09 01 56.7**	**-1.7**
WRA	**Warramunga Arr**	**23.39**	**229**	P	**P**	**09 01 58.9**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=52,slow=9.7,SNR=2.9						
WRA				PcP	**PcP**	**09 05 46.4**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=58,slow=2.3,SNR=6.3						
ASAR	**Alice Springs**	**26.07**	**223**	P	**P**	**09 02 22.9**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=57,slow=9.2,SNR=1.1						
ASAR	**Alice Springs**	**26.07**	**223**	P	**P**	**09 02 23.3**	**+0.2**
TGY	**Tagaytay City**	**37.03**	**301**	LR	LR	09 18 56.5	
	comp=Z,5µm,19.4s,baz=310,slow=36						
KUTZ	**Kaahu Road**	**39.24**	**151**	P	P	09 04 24.2	+6.5
OTVZ	**Oturere**	**39.70**	**152**	P	**P**	**09 04 25.3**	**+3.6**
TUVZ	**Tukino**	**39.78**	**152**	P	**P**	**09 04 25.6**	**+3.3**
RTZ	**Ruatahuna**	**39.90**	**150**	P	**P**	**09 04 23.6**	**+0.2**
MOVZ	**Moawhango**	**39.93**	**152**	P	**P**	**09 04 26.1**	**+2.5**
MWZ	**Matawai**	**39.96**	**149**	P	**P**	**09 04 24.2**	**+0.4**
MTHZ	**Maungataniwha**	**40.02**	**151**	P	**P**	**09 04 24.0**	**-0.2**
BKZ	**Black Stump Fm**	**40.09**	**151**	P	**P**	**09 04 24.4**	**-0.5**
BKZ	**Black Stump Fm**	**40.09**	**151**	P	**P**	**09 04 24.9**	**0.0**
BHHZ	**Black Hill Sta**	**40.14**	**152**	P	**P**	**09 04 26.9**	**+1.6**
TSZ	**Takapari Road**	**40.55**	**153**	P	**P**	**09 04 29.6**	**+1.0**
TUWZ	**Tuamarina**	**40.79**	**156**	P	**P**	**09 04 28.8**	**-1.8**
PEA0B	**Petropavlovsk-**	**58.08**	**3**	P	**P**	**09 06 42.8**	**+0.7**
PETK	**Petropavlovsk-**	**58.08**	**3**	P	**P**	**09 06 42.5**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=167,slow=7.3,SNR=12						
MA2	**Magadan**	**64.45**	**359**	P	**P**	**09 07 24.7**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=140,slow=5.3,SNR=4.1						
MA2	**Magadan**	**64.45**	**359**	IAmb	IAmb	09 07 25.7	
	comp=Z,3.4nm,0.7s						
SONM	**Songino Array**	**66.62**	**328**	P	**P**	**09 07 40.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=98,slow=8.9,SNR=1.5						
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**09 09 02.1**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=95,slow=7.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**81.45**	**326**	P	**P**	**09 09 05.9**	**0.0**
	comp=Z,1.4nm,0.6s,baz=104,slow=6.1,SNR=2.9						
ILAR	**Eielson Array**	**82.34**	**22**	P	**P**	**09 09 10.4**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=212,slow=3.2,SNR=1.9						
QSPA	**South Pole Qui**	**84.91**	**180**	P	**P**	**09 09 22.8**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=303,slow=0.8,SNR=12						
QSPA	**South Pole Qui**	**84.91**	**180**	IAmb	IAmb	09 09 41.7	
	comp=Z,7.7nm,1.2s						
LPAZ	**La Paz**	**134.16**	**118**	PKP	**PKPdf**	**09 16 08.4**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=290,slow=4.4,SNR=5.6						
LPAZ	**La Paz**	**134.16**	**118**		**PKPdf**	**09 16 07.9**	**-0.3**
MDT	**Midelt**	**145.34**	**326**	PKPbc	**PKPdf**	**09 16 28.8**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=252,slow=3.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**150.53**	**288**	PKPbc	**PKPbc**	**09 16 41.2**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=45,slow=2.1,SNR=7.6						
BDFB	**Brasilia**	**150.78**	**135**	PKPbc	**PKPbc**	**09 16 41.8**	**-0.5**
	comp=Z,2.5nm,0.5s,baz=113,slow=6.0,SNR=4.7						

*ATH **30** 09:04:25.1,35°.89N×23°.27E,h9km±2km,ML2.5/3,Error ellipse: s-maj=11.6km s-min=1.2km az=233.0*
*THE **30** 09:04:25.0,35°.93N×23°.35E,h5km±8km,ML2.3/5,Error ellipse: s-maj=9.0km s-min=0.5km az=234.0*
ISC 30 09:04:24.6±1.7,35°.86N±0°.09×23°.2E±0°.1,h10km±6km,n11, σ0s26/18,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.05**	**80**	P	**Pg**	**09 04 26.8**	**+0.2**
ANKY				S	**Sg**	**09 04 27.9**	**-0.3**
ANKY				AML	AML	09 04 28.1	
	comp=N,21873µm,0.1s						
ANKY				AML	AML	09 04 28.5	
	comp=E,28113µm,0.3s						
ANKY	**Antikythira Is**	**0.05**	**80**	P	**Pg**	**09 04 26.9**	**+0.2**
ANKY				S	**Sg**	**09 04 27.9**	**-0.3**
	comp=E,13µm,0.2s						
KTHA	**Kythira Island**	**0.42**	**340**	P	**Pg**	**09 04 33.0**	**0.0**
KTHA				S	**Sg**	**09 04 38.1**	**-0.5**
KTHA				AML	AML	09 04 40.0	
	comp=N,1036µm,0.2s						
KTHA				AML	AML	09 04 41.9	
	comp=E,2001µm,0.2s						
KTHA	**Kythira Island**	**0.42**	**340**	P	**Pg**	**09 04 33.0**	**0.0**
KTHA				S	**Sg**	**09 04 39.0**	**+0.4**
	comp=E,765nm,0.2s						
KTHR	**Kythira**	**0.44**	**335**	P	**Pg**	**09 04 33.1**	**-0.3**
KTHR				S	**Sg**	**09 04 39.5**	**+0.2**
	comp=E,690nm,0.3s						
KNDR	**Palaiochora Ch**	**0.72**	**150**	P	**Pg**	**09 04 38.6**	**0.0**
IMMV	**Iera Moni Meta**	**0.72**	**123**	P	**Pg**	**09 04 38.5**	**-0.1**
IMMV				AML	AML	09 04 54.9	
	comp=E,465µm,0.3s						
IMMV				AML	AML	09 04 57.5	
	comp=N,576µm,0.4s						
IMMV	**Iera Moni Meta**	**0.72**	**123**	P	**Pg**	**09 04 38.6**	**0.0**
IMMV				S	**Sg**	**09 04 47.8**	**-0.2**
	comp=N,240nm,0.4s						
VLI	**Veliai**	**0.89**	**344**	P	**Pg**	**09 04 41.7**	**-0.2**
VLI	**Veliai**	**0.89**	**344**	P	**Pg**	**09 04 41.7**	**-0.2**
VLI				S	**Sg**	**09 04 53.4**	**-0.1**
	comp=N,95nm,0.3s						
MHLO	**Agia Marina, M**	**1.25**	**48**	P	**Pn**	**09 04 48.4**	**+0.2**

DDA 30 09:05:39.6,37°.21N×28°.18E,h7km±2km,ML1.2,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MULA	**Mugla, Merkez-**	**0.12**	**70**	*i* P	Pg	09 05 42.1	-0.1
MULA				*i* S	Sg	09 05 44.7	+0.6
MULA				IAML		09 05 45.0	
	comp=E,253nm,0.4s						
MULA				IAML		09 05 48.0	
	comp=N,113nm,0.6s						
AYDN	**Tasoluk**	**0.51**	**332**	*i* P	Pg	09 05 49.6	+0.2
AYDN				*i* S	Sg	09 05 56.8	+0.7
AYDN				IAML		09 05 57.0	
	comp=E,31nm,0.4s						
AYDN				IAML		09 05 57.0	
	comp=N,19nm,0.3s						
DALY	**Dalyan (Mula)**	**0.55**	**136**	*i* P	Pg	09 05 50.6	+0.4
DALY				*i* S	Sb	09 05 58.7	-0.9
DALY				IAML		09 06 00.0	
	comp=N,16nm,0.6s						
BDRM	**Kayabasi**	**0.61**	**256**	*i* P	Pb	09 05 52.1	-0.4
BDRM				*i* S	Sb	09 06 02.4	+1.1
BDRM				IAML		09 06 03.0	
	comp=N,21nm,0.4s						
BDRM				IAML		09 06 03.0	
	comp=E,13nm,0.2s						
TAVA	**DENIZLI_Tavas**	**0.64**	**67**	*i* P	Pg	09 05 52.4	+0.5
TAVA				IAML		09 06 01.0	
	comp=N,4.2nm,0.3s						
TAVA				*i* S	Sg	09 06 01.2	+0.9
TAVA				IAML		09 06 02.0	
	comp=E,11nm,0.9s						

IDC 30 09:10:42.2±1.7,4°.68S×151°.91E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.6/46,mbtmp3.7/5,ML1.9/1,Error ellipse: s-maj=123.7km s-min=21.8km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.66**	**225**	Pn	Pn	09 12 22.4	+1.1
	1.6nm,0.3s,baz=53,slow=15,SNR=2.4						
PMG				Sn	Sn	09 13 40.6	+2.5
	7.7nm,0.3s,baz=66,slow=15,SNR=10						
WRA	**Warramunga Arr**	**22.87**	**227**	P	P	09 15 47.6	0.0
	1.2nm,0.3s,baz=51,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.65**	**221**	P	P	09 16 12.7	-1.2
	1.2nm,0.8s,baz=57,slow=9.7,SNR=12						
ILAR	**Eielson Array**	**82.38**	**22**	P	P	09 23 04.2	-1.7
	0.4nm,0.6s,baz=233,slow=5.5,SNR=2.3						
YKA	**Yellowknife Ar**	**95.73**	**28**	P	P	09 24 10.4	+0.5
	0.3nm,0.8s,baz=272,slow=4.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**149.43**	**288**	PKPbc	PKiKP	09 30 36.3	+0.7
	0.3nm,0.4s,baz=64,slow=3.4,SNR=2.0						

NNC 30 09:13:15.3±2.0,53°.27N×90°.22E,h0km,mb3.8,mpv3.5, 4C-4D,Error ellipse: s-maj=17.1km s-min=15.1km az=60.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.29**	**284**	⇓Pn	Pn	09 14 08.4	+0.4
	5.0nm,0.8s						
ZAA0				⇓Lg	Lg	09 14 59.1	
	26nm,1.1s						
KURBB	**Kurchatov Arra**	**7.69**	**255**	⇑Pn	Pn	09 15 06.7	-1.7
	14nm,1.0s						
KURBB				⇓Sn	Sn	09 16 37.8	+1.5
	63nm,0.8s						
KURBB				⇓Lg	Lg	09 17 21.2	
	100nm,0.9s						
MK31	**Makanchi Array**	**8.25**	**221**	⇑Pn	Pn	09 15 16.4	+0.3
	0.4nm,0.4s,baz=36,slow=12,SNR=17						
MK31				⇑Lg	Lg	09 17 38.7	
	24nm,1.0s,baz=35,slow=31,SNR=5.3						
MAKZ	**Makanchi**	**8.36**	**223**	⇑Lg	Lg	09 17 41.1	
	30nm,1.1s						

*NIC **30** 09:17:45.9±0.0,35°.84N×32°.40E,h9km±31km,MI3.5/6*
*GII **30** 09:17:48.4±0.3,35°.51N×32°.22E,h31km,MD2.7/7, Mm2.9/11*
*ISK **30** 09:17:48.0,35°.60N×32°.26E,h29km,ML3.5/43*
*DDA **30** 09:17:49.5,35°.63N×32°.49E,h32km±2km,ML3.0*
ISC 30 09:17:48.7±1.1,35°.56N±0°.02×32°.34E±0°.02,h30km±11km, n103,σ1s88/157,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALFC	**Alefka**	**0.45**	**152**	P	**Pn**	**09 18 00.7**	**+1.5**
ALFC				S	**Sn**	**09 18 08.9**	**+2.6**
ALFC				AML	AML	09 18 12.6	
	12nm,0.2s						
ALFC				AML	AML	09 18 12.6	
	12nm,0.2s						
ALFC				AML	AML	09 18 12.8	
	9.6nm,0.2s						
ALFC				AML	AML	09 18 12.8	
	9.6nm,0.2s						
AKMS	**Akamas**	**0.54**	**180**	P	**Pn**	**09 18 02.7**	**+2.3**
AKMS				S	**Sn**	**09 18 12.9**	**+4.6**
AKMS				AML	AML	09 18 15.7	
	10nm,0.4s						
AKMS				AML	AML	09 18 15.7	
	10nm,0.4s						
AKMS				AML	AML	09 18 17.1	
	6.9nm,0.5s						
AKMS				AML	AML	09 18 17.1	
	6.9nm,0.5s						
AKDN	**Akdeniz- Kıbrı**	**0.58**	**116**	PG	**Pn**	**09 18 02.0**	**+1.2**
LEF	**Lefka**	**0.63**	**134**	PG	**Pn**	**09 18 01.9**	**+0.4**
LEF				SG	**Sn**	**09 18 11.9**	**+1.4**
LEF	**Lefka**	**0.63**	**134**	*i* P	**Pn**	**09 18 02.4**	**+0.8**
LEF				*i* S	**Sn**	**09 18 11.0**	**+0.5**
LEF				IAML		09 18 12.0	
	comp=N,658nm,0.6s						
LEF				IAML		09 18 12.0	
	comp=E,542nm,0.6s						
GAZI	**Gazipasa**	**0.68**	**359**	PG	**Pb**	**09 18 02.2**	**+0.1**
GAZI	**Gazipasa**	**0.68**	**359**	*i* P	**Pn**	**09 18 02.6**	**+0.3**
GAZI				*i* S	**Sn**	**09 18 12.1**	**+0.3**
GAZI				IAML		09 18 13.0	
	comp=N,545nm,0.3s						
BOZY	**Bozyazi-Mersin**	**0.76**	**43**	PG	**Pb**	**09 18 03.2**	**-0.2**
BOZY				SG	**Sb**	**09 18 14.2**	**+0.8**
NATA	**Nata**	**0.80**	**166**	P	**Pn**	**09 18 06.9**	**+3.0**
NATA				S	**Sn**	**09 18 21.8**	**+7.0**
SZAC	**Souni**	**0.92**	**151**	P	**Pn**	**09 18 07.7**	**+2.1**
SZAC				S	**Sn**	**09 18 24.8**	**+7.2**
SZAC				AML	AML	09 18 25.5	
	comp=N,5.8nm,0.3s						
SZAC				AML	AML	09 18 25.5	
	comp=N,5.8nm,0.3s						
SZAC				AML	AML	09 18 26.6	
	comp=N,5.3nm,0.2s						
SZAC				AML	AML	09 18 26.6	
	comp=N,5.3nm,0.2s						
CSS	**Mathiatis**	**1.01**	**126**	PN	**Pn**	**09 18 07.6**	**+0.8**
CSS	**Mathiatis**	**1.01**	**126**	Pg	**Pb**	**09 18 05.5**	**-2.1**
CSS				Sg	**Sb**	**09 18 18.0**	**-2.5**
CSS	**Mathiatis**	**1.01**	**126**	P	**Pb**	**09 18 07.0**	**-0.6**
CSS				S	**Sn**	**09 18 25.3**	**+5.3**
CSS				AML	AML	09 18 27.7	
	comp=N,0.5nm,0.4s						
CSS				AML	AML	09 18 27.7	
	comp=N,0.5nm,0.4s						
ALAN	**Alanya-ANTALYA**	**1.03**	**346**	PG	**Pn**	**09 18 06.5**	**-0.6**
YORU	**Yoruktepe-Mers**	**1.05**	**55**	PN	**Pn**	**09 18 07.7**	**+0.3**
BERE	**Bereket-Mersin**	**1.07**	**42**	PN	**Pn**	**09 18 07.9**	**+0.1**
BERE				SN	**Sb**	**09 18 21.9**	**-0.5**
ASGA	**Asgata**	**1.07**	**136**	P	**Pb**	**09 18 09.0**	**+0.3**
ASGA				S	**Sn**	**09 18 26.5**	**+5.0**
ASGA				AML	AML	09 18 28.7	
	comp=N,3.1nm,0.5s						
ASGA				AML	AML	09 18 28.7	
	comp=N,3.1nm,0.5s						
ASGA				AML	AML	09 18 29.9	
	comp=N,1.7nm,0.3s						
ASGA				AML	AML	09 18 29.9	
	comp=N,1.7nm,0.3s						
OREN	**Orenkoy-Mersin**	**1.12**	**54**	PN	**Pn**	**09 18 08.5**	**+0.2**
AKK1	**Akkuyu-Mersin**	**1.14**	**59**	PN	**Pn**	**09 18 08.9**	**+0.3**
AKK2	**Akkuyu-Mersin**	**1.14**	**59**	PN	**Pn**	**09 18 08.9**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.16**	**58**	PN	**Pn**	**09 18 08.9**	**+0.1**
AKKU				SN	**Sb**	**09 18 24.0**	**-0.8**
GULN	**MERSIN_Gulnar**	**1.16**	**57**	*i* P	**Pn**	**09 18 09.0**	**+0.1**
GULN				*i* S	**Sb**	**09 18 23.2**	**-1.8**
GULN				IAML		09 18 26.0	
	comp=N,255nm,0.5s						
ERMK	**Ermenek**	**1.18**	**23**	*i* P	**Pb**	**09 18 10.7**	**0.0**
ERMK				*i* S	**Sn**	**09 18 27.1**	**+2.6**
ERMK				IAML		09 18 28.0	
	comp=E,314nm,0.4s						
ERMK				IAML		09 18 29.0	
	comp=N,385nm,0.5s						
TEPK	**Tepekoy-MERSIN**	**1.19**	**55**	PN	**Pn**	**09 18 09.5**	**+0.2**
MVOU	**Mavrovouni**	**1.19**	**117**	P	**Pn**	**09 18 09.2**	**0.0**
MVOU				S	**Sn**	**09 18 23.1**	**-1.3**
MVOU				AML	AML	09 18 31.0	
	comp=N,2.0nm,0.5s						
MVOU				AML	AML	09 18 31.0	
	comp=N,2.0nm,0.5s						
MVOU				AML	AML	09 18 33.1	
	comp=N,2.0nm,0.7s						
MVOU				AML	AML	09 18 33.1	
	comp=N,2.0nm,0.7s						
YESI	**Yesilovacik-Me**	**1.24**	**59**	PN	**Pn**	**09 18 10.2**	**+0.3**
YESI				SN	**Sn**	**09 18 26.5**	**+0.9**
TISA	**Tisan-Mersin**	**1.25**	**61**	PN	**Pn**	**09 18 10.0**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.26**	**45**	PN	**Pn**	**09 18 10.6**	**+0.3**
KARG	**Kargicak-Mersi**	**1.29**	**60**	PN	**Pn**	**09 18 11.1**	**+0.5**
IKL	**Isikli**	**1.29**	**58**	PN	**Pn**	**09 18 10.9**	**+0.3**
EREN	**Erenkoy**	**1.50**	**90**	PN	**Pn**	**09 18 14.5**	**+1.0**
EREN	**Erenkoy**	**1.50**	**90**	*i* P	**Pn**	**09 18 13.9**	**+0.5**
EREN				*i* S	**Sn**	**09 18 31.0**	**-1.0**
EREN				IAML		09 18 34.0	
	comp=N,196nm,0.4s						
EREN				IAML		09 18 38.0	
	comp=E,248nm,0.4s						
PARAL	**Paralimni**	**1.50**	**111**	P	**Pb**	**09 18 17.1**	**+1.1**
PARAL				S	**Sb**	**09 18 37.8**	**+3.2**
SILI	**Silifke-Mersin**	**1.52**	**57**	PN	**Pn**	**09 18 14.3**	**+0.5**
SLFK	**Silifke-Mersin**	**1.55**	**57**	PN	**Pn**	**09 18 14.7**	**+0.5**
KKBE	**Karaman, Kazim**	**1.73**	**16**	*i* P	**Pn**	**09 18 18.2**	**+1.4**
KKBE				*i* S	**Sn**	**09 18 40.2**	**+2.3**
KIZK	**Mersin**	**1.73**	**57**	PN	**Pn**	**09 18 17.4**	**+0.7**
KIZK	**Mersin**	**1.73**	**57**	*i* P	**Pn**	**09 18 17.7**	**+0.9**
KIZK				*i* S	**Sn**	**09 18 37.5**	**-0.3**
KIZK				IAML		09 18 39.0	
	comp=N,301nm,0.6s						
KRMN	**Karaman**	**1.78**	**25**	PN	**Pn**	**09 18 17.3**	**-0.2**
AKUM	**Antalya-Kumluc**	**1.79**	**296**	*i* P	**Pn**	**09 18 19.0**	**+1.5**
AKUM				*i* S	**Sb**	**09 18 46.3**	**+3.4**
AKUM				IAML		09 18 50.0	
	comp=N,127nm,0.7s						
AKUM				IAML		09 18 51.0	
	comp=E,109nm,0.5s						
ANTB	**Antalya**	**1.91**	**315**	PN	**Pn**	**09 18 18.3**	**-0.9**
SEDI	**Konya, Seydise**	**1.95**	**346**	*i* P	**Pb**	**09 18 22.3**	**-1.3**
SEDI				*i* S	**Sb**	**09 18 46.9**	**-0.6**
SEDI				IAML		09 18 48.0	
	comp=N,131nm,0.5s						
SEDI				IAML		09 18 48.0	
	comp=E,125nm,0.5s						
KORT	**Korkueli**	**2.16**	**313**	PN	**Pn**	**09 18 21.9**	**-0.8**
KORT	**Korkueli**	**2.16**	**313**	*i* P	**Pn**	**09 18 20.0**	**-2.7**
KORT				*i* S	**Sb**	**09 18 58.8**	**+5.2**
MERS	**Mersin**	**2.20**	**53**	PN	**Pn**	**09 18 23.9**	**+0.7**
KMER	**Konya-Meram**	**2.21**	**1**	*i* P	**Pn**	**09 18 25.1**	**+1.7**
KMER				*i* S	**Sn**	**09 18 52.8**	**+3.1**
KMER				IAML		09 18 53.0	
	comp=E,124nm,0.9s						
KMER				IAML		09 18 59.0	
	comp=N,108nm,0.4s						
OSC1	**CSNet OBS 1**	**2.23**	**203**	P	**Pn**	**09 18 24.1**	**+0.6**
OSC1				S	**Sn**	**09 18 50.1**	**0.0**
BUCA	**Burdur, Bucak-**	**2.28**	**322**	*i* P	**Pb**	**09 18 27.1**	**-2.1**
BUCA				*i* S	**Sb**	**09 18 57.5**	**+0.6**
AKAS	**Kas**	**2.32**	**288**	*i* P	**Pn**	**09 18 27.1**	**+2.2**
AKAS				*i* S	**Sn**	**09 18 48.9**	**-3.6**
KERG	**Konya-Eregli**	**2.35**	**37**	*i* P	**Pn**	**09 18 27.3**	**+1.9**
KERG				*i* S	**Sn**	**09 18 53.6**	**+0.4**
KERG				IAML		09 18 58.0	
	comp=E,102nm,0.7s						
KONT	**Konya--Tatoy**	**2.38**	**0**	PN	**Pn**	**09 18 25.9**	**+0.1**
KONT	**Konya--Tatoy**	**2.38**	**0**	*i* P	**Pn**	**09 18 27.5**	**+1.8**
KONT				*i* S	**Sn**	**09 18 56.0**	**+2.0**
DED	**Mersin**	**2.44**	**54**	*i* P	**Pn**	**09 18 27.4**	**+1.0**
DED				*i* S	**Sn**	**09 18 54.8**	**-0.4**
OSC2	**CSNet OBS 4**	**2.48**	**181**	P	**Pn**	**09 18 27.1**	**+0.2**
OSC2				S	**Sn**	**09 18 56.7**	**+0.6**
YESY	**Yesilyurt**	**2.49**	**27**	PN	**Pn**	**09 18 27.4**	**+0.1**
DOGA	**KONYA_Doganhis**	**2.60**	**348**	*i* P	**Pn**	**09 18 30.4**	**+1.5**
DOGA				*i* S	**Sn**	**09 18 59.9**	**+0.5**
DOGA				IAML		09 19 09.0	
	comp=E,74nm,0.7s						
DOGA				IAML		09 19 10.0	
	comp=N,72nm,0.5s						
LADK	**Ladik-KONYA**	**2.64**	**0**	PN	**Pn**	**09 18 29.3**	**0.0**
KRTS	**Karatas**	**2.66**	**67**	PN	**Pn**	**09 18 30.6**	**+1.1**
ISP	**Isparta**	**2.69**	**328**	PN	**Pn**	**09 18 29.5**	**-0.5**
ISP	**Isparta**	**2.69**	**328**	Pn	**Pn**	**09 18 27.8**	**-2.2**
BAGO	**Egridir - ISPA**	**2.73**	**333**	*i* P	**Pn**	**09 18 31.6**	**+1.0**
BAGO				*i* S	**Sn**	**09 19 04.7**	**+2.2**
ALIN	**Konya, Altinte**	**2.77**	**9**	*i* P	**Pn**	**09 18 31.2**	**+0.1**
ALIN				*i* S	Sn	09 18 55.1	-8.5
KARA	**Karaisali**	**2.78**	**51**	PN	**Pn**	**09 18 31.9**	**+0.8**
GOLH	**Golhisar**	**2.80**	**308**	*i* P	**Pn**	**09 18 34.3**	**+2.8**
GOLH				*i* S	**Sn**	**09 19 04.8**	**+0.6**
GOLH				IAML		09 19 11.0	
	comp=N,42nm,0.4s						
FETY	**Fethiye**	**2.85**	**293**	PN	**Pn**	**09 18 31.7**	**-0.4**
FETY	**Fethiye**	**2.85**	**293**	*i* P	**Pn**	**09 18 31.4**	**-0.7**
FETY				*i* S	**Sn**	**09 19 02.8**	**-2.6**
YVAC	**Isparta, Yalva**	**2.85**	**342**	*i* P	**Pn**	**09 18 33.7**	**+1.5**
YVAC				*i* S	**Sn**	**09 19 06.9**	**+1.4**
CMRD	**Camardi-Nigde**	**3.00**	**45**	PN	**Pn**	**09 18 35.0**	**+0.8**
CEYT	**Ceyhan**	**3.12**	**61**	PN	**Pn**	**09 18 37.4**	**+1.7**
NIDE	**Nigde/Merkez-G**	**3.13**	**38**	*i* P	**Pn**	**09 18 39.1**	**+3.0**
NIDE				*i* S	**Sn**	**09 19 13.8**	**+1.3**
NIDE				IAML		09 19 15.0	
	comp=N,40nm,0.8s						
NIDE				IAML		09 19 19.0	
	comp=E,44nm,1.0s						
KZIL	**AFYON_Kizioren**	**3.22**	**328**	*i* P	**Pn**	**09 18 38.9**	**+1.6**
KZIL				*i* S	**Sn**	**09 19 15.2**	**+0.5**
TAHT	**Tahtakopru-Hat**	**3.23**	**74**	PN	**Pn**	**09 18 39.0**	**+1.7**
DALY	**Dalyan (Mula)**	**3.23**	**294**	PN	**Pn**	**09 18 37.4**	**+0.1**
DALY	**Dalyan (Mula)**	**3.23**	**294**	*i* P	**Pn**	**09 18 37.5**	**+0.1**
DALY				*i* S	**Sn**	**09 19 12.7**	**-2.1**
DALY				IAML		09 19 16.0	
	comp=N,32nm,0.6s						
TAVA	**DENIZLI_Tavas**	**3.35**	**306**	*i* P	**Pn**	**09 18 38.7**	**-0.4**
TAVA				*i* S	**Sb**	**09 19 29.9**	**+2.0**
TAVA				IAML		09 19 34.0	
	comp=N,29nm,0.6s						
KOZT	**Kozan**	**3.41**	**55**	PN	**Pn**	**09 18 41.1**	**+1.3**
HNTI	**Hanita**	**3.41**	**136**	Sn	Sn	**09 19 17.5**	**-1.6**
ARG	**Arkhangelos**	**3.48**	**282**	PN	**Pn**	**09 18 40.8**	**0.0**
TURN	**Turunc**	**3.53**	**291**	PN	**Pn**	**09 18 41.4**	**0.0**
MMA2	**Mount Meron ar**	**3.59**	**134**	Pn	**Pn**	**09 18 41.4**	**-1.0**
MMA2				Sn	**Sn**	**09 19 22.1**	**-1.7**
GEM	**Giv'at Ha'Em**	**3.61**	**129**	Pn	**Pn**	**09 18 40.9**	**-1.7**
GEM				Sn	**Sn**	**09 19 22.3**	**-1.9**
KHAL	**Karahalli**	**3.62**	**322**	*i* P	**Pn**	**09 18 44.3**	**+1.5**
KHAL				*i* S	**Sn**	**09 19 24.6**	**+0.2**
NATI	**Neve Ativ**	**3.62**	**128**	Pn	**Pn**	**09 18 41.4**	**-1.3**
NATI				Sn	**Sn**	**09 19 22.5**	**-2.0**
YER	**Yerkesik**	**3.63**	**297**	PN	**Pn**	**09 18 42.9**	**0.0**
OFRI	**`Ofer**	**3.66**	**142**	Pn	**Pn**	**09 18 40.7**	**-2.6**
OFRI				Sn	**Sn**	**09 19 23.2**	**-2.3**
BLGI

comp=Z,17nm,1.2s
WB2 Warramunga Arr 22.48 227 P **P** 09 23 43.6 -0.4
WB2 IAmb IAmb 09 23 45.1
comp=Z,18nm,1.2s
WRA Warramunga Arr 22.49 227 P **P** 09 23 42.9 -1.2
comp=Z,4.3nm,0.3s,baz=52,slow=9.6,SNR=156
WRA PcP **PcP** 09 27 34.0 +0.3
comp=Z,1.5nm,0.6s,baz=45,slow=2.1,SNR=7.8
WRA S **S** 09 27 41.2 -0.5
comp=Z,1.6nm,0.8s,baz=46,slow=16,SNR=5.6
WRA Warramunga Arr 22.49 227 P **P** 09 23 43.3 -0.8
AS31 Alice Springs 25.27 221 P **P** 09 24 09.9 +0.2
AS31 IAmb IAmb 09 24 15.3
comp=Z,2.3nm,0.3s
ASAR Alice Springs 25.27 221 P **P** 09 24 09.7 0.0
comp=Z,1.6nm,0.4s,baz=51,slow=8.9,SNR=53
ASAR PcP **PcP** 09 27 40.2 +0.5
comp=Z,1.2nm,0.8s,baz=59,slow=2.4,SNR=7.3
ASAR S **S** 09 28 25.5 -0.6
comp=Z,0.4nm,0.8s,baz=55,slow=22,SNR=4.3
ASAR ScP **ScP** 09 31 07.5 +0.3
comp=Z,1.9nm,1.0s,baz=53,slow=2.6,SNR=8.9
ASAR Alice Springs 25.27 221 P **P** 09 24 09.2 -0.5
STKA Stephens Creek 28.39 198 P **P** 09 24 37.0 -0.4
comp=Z,0.9nm,0.4s,baz=17,slow=18,SNR=3.4
FITZ Fitzroy Crossi 28.58 241 P **P** 09 24 38.5 -0.8
comp=Z,3.1nm,0.3s,baz=100,slow=7.1,SNR=11
KSRS Korea Array 47.64 334 P **P** 09 27 19.1 +0.7
comp=Z,1.3nm,0.8s,baz=149,slow=9.9,SNR=5.3
USRK Ussuriysk Ar. 52.04 342 P **P** 09 27 52.0 +0.5
comp=Z,1.8nm,0.7s,baz=182,slow=7.6,SNR=3.6
KLR Kul'dur 56.69 345 P **P** 09 28 25.2 +0.2
comp=Z,2.2nm,0.8s,baz=164,slow=4.3,SNR=7.6
CMAR Chiang Mai Arr 56.91 296 P **P** 09 28 28.0 +0.7
comp=Z,1.5nm,0.5s,baz=115,slow=5.2,SNR=12
MA2 Magadan 64.34 360 P **P** 09 29 15.6 -1.3
comp=Z,1.6nm,0.4s,baz=177,slow=7.1,SNR=5.8
SHL Shillong 65.41 301 P **P** 09 29 24.2 -0.5
ULN Ulaanbaatar 65.53 329 P **P** 09 29 24.8 -0.3
ULN IAmb IAmb 09 29 27.6
comp=Z,4.9nm,0.9s
SONM Songino Array 65.86 328 P **P** 09 29 28.0 +0.9
comp=Z,4.3nm,0.6s,baz=147,slow=4.7,SNR=26
SONM Songino Array 65.86 328 P **P** 09 29 27.5 +0.4
SEY Seymchan 67.71 0 P **P** 09 29 38.5 +0.2
comp=Z,0.5nm,0.4s,baz=180,slow=20,SNR=4.7
MKAR Makanchi Array 79.70 319 P **P** 09 30 48.7 0.0
comp=Z,2.6nm,0.8s,baz=105,slow=8.0,SNR=19
ZALV Zalesovo Beam 80.66 327 P **P** 09 30 52.7 -0.9
comp=Z,2.5nm,0.4s,baz=103,slow=4.3,SNR=10
ILAR Eielson Array 82.74 22 P **P** 09 31 03.0 -1.4
comp=Z,1.0nm,0.6s,baz=251,slow=4.8,SNR=15
NRIK Noril'sk 85.75 341 P **P** 09 31 19.1 -0.4
comp=Z,1.1nm,0.3s,baz=156,slow=3.2,SNR=4.6
NRIK Noril'sk 85.75 341 IAmb IAmb 09 31 20.8
comp=Z,2.4nm,0.8s
NVAR Mina Array Bea 93.08 52 P **P** 09 31 56.2 +1.2
comp=Z,1.8nm,0.9s,baz=258,slow=6.8,SNR=11
YKA Yellowknife Ar 96.10 28 P **P** 09 32 07.1 -0.9
comp=Z,0.1nm,0.5s,baz=271,slow=4.1,SNR=6.7
GERES GERESS Array B 123.59 328 PKP **PKPdf** 09 37 37.2 -0.5
comp=Z,1.2nm,0.5s,baz=80,slow=1.2,SNR=8.2
TORD Torodi Ar. Bea 149.27 287 PKPbc **PKPbc** 09 38 28.6 -1.2
comp=Z,5.3nm,0.9s,baz=58,slow=2.5,SNR=18

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*ANF **30** 09:21:55.6±0.1,34.78N×116.26W,h9km±1km,ML4.1/43, Error ellipse: s-maj=1.3km s-min=1.0km az=43.0, Hypocentre not reviewed by the ISC*
*SCEDC **30** 09:21:56.7,34.79N×116.26W,h4km,Hypocentre not reviewed by the ISC*
*PAS **30** 09:21:56.7±2.2,34.79N±0.01×116.26W±0.01,h4km±4km, ML4.0/238,ML3.7/96(NEIC),Error ellipse: s-maj=1.5km s-min=1.5km az=135.0*
NEIC 30 09:21:56.3±1.1,34.80N±0.01×116.26W±0.01,h14km, Error ellipse: s-maj=1.8km s-min=1.6km az=148.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.07**	**299**		Pg	09 21 59.8	+0.6
HEC	**Hector,Ludlow**	**0.07**	**299**	P		09 21 58.0	
	baz=122,SNR=1000						
HEC				S		09 21 59.8	
	baz=122						
DSCC	**Desert Studies**	**0.37**	**21**		Pg	09 22 03.7	-0.1
DSCC					Sg	09 22 08.9	0.0
GMRC	**Granite Mounta**	**0.50**	**91**		Pg	09 22 06.0	-0.2
GMRC					Sg	09 22 12.8	-0.1
GMRC	**Granite Mounta**	**0.50**	**91**	P		09 22 05.7	
	baz=271,SNR=859						
GMRC				S		09 22 12.8	
	baz=271						
GTM	**Goat Mountain**	**0.51**	**189**		Pg	09 22 06.1	-0.2
GTM					Sg	09 22 13.3	+0.2
RRX	**Edison Barstow**	**0.61**	**278**		Pg	09 22 08.2	0.0
RRX					Sb	09 22 16.8	-0.3
RRX	**Edison Barstow**	**0.61**	**278**	P		09 22 08.2	
	baz=98,SNR=145						
RRX				S		09 22 16.7	
	baz=98						
FLSC	**Flash Two Peak**	**0.66**	**285**		Pg	09 22 09.2	0.0
GSC	**Goldstone, Bar**	**0.67**	**319**	Pg	Pg	09 22 09.4	0.0
GSC	**Goldstone, Bar**	**0.67**	**319**		Sb	09 22 18.9	-0.2
GSC	**Goldstone, Bar**	**0.67**	**319**	P		09 22 09.3	
	baz=139,SNR=1000						
GSC				S		09 22 18.7	
	baz=139						
TUQ	**Turquoise Moun**	**0.70**	**24**		Pg	09 22 09.6	-0.3
TUQ					Sg	09 22 19.1	0.0
BLAC	**Blackrock camp**	**0.73**	**188**		Pg	09 22 10.2	-0.4
BLAC					Sg	09 22 20.3	0.0
DANC	**Danby, Needles**	**0.74**	**102**		Pg	09 22 10.8	0.0
DANC					Sb	09 22 21.0	0.0
BBRC	**Big Bear Solar**	**0.76**	**226**		Pg	09 22 10.8	-0.4
BBRC					Sg	09 22 21.3	+0.1
BBRC	**Big Bear Solar**	**0.76**	**226**	P		09 22 10.7	
	baz=46,SNR=703						
BBRC				S		09 22 21.2	
	baz=46						
BTL	**Butler Peak**	**0.81**	**229**		Pg	09 22 11.8	-0.3
BELC	**Belle Mtn. Jos**	**0.82**	**164**		Pg	09 22 12.0	-0.3
BELC					Sb	09 22 23.3	-0.1
BELC	**Belle Mtn. Jos**	**0.82**	**164**	P		09 22 11.6	
	baz=345,SNR=1000						
BELC				S		09 22 23.3	
	baz=345						
EW2	**E Wide Canyon**	**0.86**	**188**		Pg	09 22 12.5	-0.5
EW2					Sb	09 22 24.4	0.0
DEVC	**Devers**	**0.90**	**197**		Pb	09 22 13.6	0.0
DEVC					Sg	09 22 25.5	+0.1
MTPC	**Mountain Pass**	**0.90**	**40**		Pb	09 22 13.2	-0.6
VTV	**Victorville**	**0.91**	**255**		Pb	09 22 13.4	-0.4
VTV					Sb	09 22 25.7	-0.1
ADO	**Adelanto Recei**	**0.99**	**256**		Pb	09 22 15.1	-0.2
CSP	**Cedar Springs**	**1.03**	**241**		Pb	09 22 15.5	-0.5
CFT	**Crafton Hills**	**1.03**	**223**		Pb	09 22 15.7	-0.3
CFT					Sg	09 22 30.0	+0.2
HLNC	**Highland**	**1.04**	**230**		Pb	09 22 15.7	-0.3
BBSC	**Beaumont Base**	**1.05**	**214**		Pb	09 22 16.3	-0.1
BBSC					Sn	09 22 30.9	-0.3
HYS	**Haystack Butte**	**1.08**	**274**		Pb	09 22 16.3	-0.4
HYS					Sb	09 22 30.6	0.0
CFSC	**Central Fire S**	**1.09**	**231**		Pb	09 22 16.6	-0.2
SHOC	**Shoshone, Teco**	**1.10**	**360**		Pb	09 22 16.7	-0.3
SHOC	**Shoshone, Teco**	**1.10**	**360**	P		09 22 16.7	
	baz=179,SNR=1000						
SHOC				S		09 22 31.7	
	baz=179						
IRM	**Iron Mountain**	**1.12**	**124**		Pb	09 22 16.6	-0.9
IRM	**Iron Mountain**	**1.12**	**124**	P		09 22 16.5	
	baz=305,SNR=927						
IRM				S		09 22 32.3	
	baz=305						
PMD	**Palm Desert**	**1.15**	**185**		Pb	09 22 17.5	-0.4
PMD					Sb	09 22 32.4	-0.3
CCCA	**Chr Cany lake**	**1.16**	**309**		Pn	09 22 17.9	-0.2
CTCC	**Cactus City**	**1.16**	**169**		Pn	09 22 17.8	-0.3
CTW	**Cottonwood Mou**	**1.16**	**164**		Pn	09 22 17.8	-0.3
PEC	**Perris**	**1.17**	**220**		Pn	09 22 17.9	-0.3
PEC					Sn	09 22 33.7	-0.2
SS2	**San Sevaine**	**1.18**	**240**		Pb	09 22 18.4	0.0
HAY	**Hayfield**	**1.19**	**156**		Pn	09 22 18.0	-0.4
HAY					Sg	09 22 35.0	+0.3
PFO	**Pinyon Flats O**	**1.19**	**188**		Pg	09 22 18.3	-0.3
PFO					IAML	09 22 38.2	
	1μm,0.6s						
PFO					IAML	09 22 40.4	
	2μm,0.6s						
PFO	**Pinyon Flats O**	**1.19**	**188**		Pn	09 22 18.3	-0.3
PFO	**Pinyon Flats O**	**1.19**	**188**	P		09 22 18.2	
	baz=7.9,SNR=1000						
PFO				S		09 22 34.2	
	baz=7.9						
XPFO	**Pion Flat**	**1.19**	**188**		IAML	09 22 38.3	
	1μm,0.6s						
XPFO					IAML	09 22 40.4	
	2μm,0.5s						
XPFO	**Pion Flat**	**1.19**	**188**		Pn	09 22 18.2	-0.4
XPFO					Sb	09 22 34.0	-0.1
XPFO	**Pion Flat**	**1.19**	**188**	Pg	Pn	09 22 18.0	-0.6
RSBC	**Riverside Bore**	**1.20**	**227**		Pn	09 22 18.5	-0.1
RSBC	**Riverside Bore**	**1.20**	**227**		Pn	09 22 18.6	0.0
RVR	**Riverside**	**1.22**	**229**		Pn	09 22 18.7	-0.1
POB	**Polly Butte**	**1.23**	**206**		Pn	09 22 19.2	+0.1
HMTC	**Hemet**	**1.25**	**210**		Pn	09 22 19.3	+0.1
DNR	**Dunn Ranch,Anz**	**1.26**	**194**		Pn	09 22 19.6	0.0
SNDA	**J Saunders Pla**	**1.27**	**193**		Pn	09 22 19.8	0.0
BFSC	**Mount Baldy Ra**	**1.28**	**245**		Pn	09 22 19.9	+0.1
BFSC					Sn	09 22 37.0	+0.2
BFSC	**Mount Baldy Ra**	**1.28**	**245**	P		09 22 19.9	
	baz=64,SNR=569						
BFSC				S		09 22 36.7	
	baz=64						
WSHM	**Spangler Hills**	**1.29**	**309**		Pn	09 22 19.4	-0.4
CRY	**Cary Ranch**	**1.29**	**198**		Pn	09 22 20.0	+0.1
CRY					Sn	09 22 37.0	0.0
SBB	**Saddle Back Bu**	**1.29**	**266**		Pn	09 22 19.4	-0.5
SBB					Sb	09 22 39.8	0.0
DGR	**Domenigoni Val**	**1.30**	**209**		Pn	09 22 20.1	-0.1
DGR					Sb	09 22 37.1	0.0
SSK	**Sunset Peak**	**1.32**	**244**		Pn	09 22 20.4	0.0
BC3	**Big Chuckawall**	**1.32**	**149**		Pn	09 22 19.5	-0.8
BC3	**Big Chuckawall**	**1.32**	**149**	P		09 22 19.5	
	baz=330,SNR=686						
BC3				S		09 22 38.4	
	baz=330						
SME	**Santa Rosa Min**	**1.33**	**223**		Pn	09 22 20.4	0.0
FRD	**Ford Ranch, An**	**1.33**	**192**		Pn	09 22 20.4	0.0
FRD	**Ford Ranch, An**	**1.33**	**192**		Pn	09 22 20.4	0.0
FRD					Sn	09 22 38.5	+0.5
MLSC	**Mira Loma**	**1.33**	**234**		Pn	09 22 20.4	0.0
MLSC					Sg	09 22 39.1	-0.2
BZNA	**Buzz No.'s Pla**	**1.34**	**195**		Pn	09 22 20.8	+0.1
BACC	**Bachelor Mtn.**	**1.34**	**209**		Pn	09 22 20.6	0.0
LRMC	**Laurel Mtn Rad**	**1.35**	**301**		Pn	09 22 20.4	-0.3
LRMC	**Laurel Mtn Rad**	**1.35**	**301**	Pn		09 22 20.4	
	baz=120,SNR=1000						
LRMC				Pg		09 22 21.7	
	baz=120						
NEE2	**Needles Airpor**	**1.35**	**91**		Pb	09 22 21.7	+0.3
NEE2	**Needles Airpor**	**1.35**	**91**	Pg		09 22 21.6	
	baz=272,SNR=9.1						
NEE2				S		09 22 39.2	
	baz=272						
DTP	**Desert Tortois**	**1.38**	**290**		Pn	09 22 20.9	-0.3
XTL	**Crystal Lake,**	**1.41**	**250**		Pn	09 22 21.6	0.0
CRNC	**Corona**	**1.41**	**230**		Pn	09 22 21.6	+0.1
CHNC	**Chino**	**1.42**	**236**		Pn	09 22 21.7	+0.2
MURC	**Murrieta**	**1.42**	**213**		Pn	09 22 22.0	+0.3
MURC	**Murrieta**	**1.42**	**213**	Pb		09 22 21.8	
	baz=33,SNR=248						
MURC				Pg		09 22 23.0	
	baz=33						
MURC				S		09 22 41.8	
	baz=33						
EDW2	**Edwards Air Fo**	**1.43**	**274**		Pn	09 22 21.2	-0.5
EDW2	**Edwards Air Fo**	**1.43**	**274**	P		09 22 21.1	
	baz=93,SNR=284						
EDW2				S		09 22 40.8	
	baz=93						
JNH	**Juniper Hills**	**1.44**	**256**		Pn	09 22 21.6	-0.4
PSRC	**Puddingstone R**	**1.46**	**242**		Pn	09 22 22.4	+0.3
PEM	**Pine Mountain**	**1.47**	**245**		Pn	09 22 22.7	+0.4
LRRC	**Littlerock Res**	**1.48**	**260**		Pn	09 22 22.2	-0.2
CCAC	**Calif City Air**	**1.48**	**284**		Pn	09 22 22.5	0.0
FRK	**Frink**	**1.48**	**159**		Pn	09 22 21.5	-0.9
CLC	**China Lake**	**1.49**	**313**		Pn	09 22 22.1	-0.6
ELS	**Elsinore Mount**	**1.50**	**220**		Pn	09 22 23.0	+0.2
SRTC	**Snort**	**1.51**	**307**		Pn	09 22 22.9	0.0
PLM	**Palomar**	**1.52**	**199**		Pn	09 22 23.5	+0.3
CHFC	**Chilao Flat St**	**1.53**	**253**		Pn	09 22 23.1	-0.2
BORC	**Borrego Spring**	**1.53**	**185**		Pn	09 22 22.9	-0.2
BORC					Pg	09 22 25.4	-0.3
SALN	**Salton City**	**1.53**	**171**		Pg	09 22 25.4	-0.2
MWC	**Mount Wilson**	**1.59**	**249**		Pn	09 22 24.4	+0.3
MWC	**Mount Wilson**	**1.59**	**249**		Pn	09 22 24.5	+0.4
MWC				IAML		09 22 48.9	
	comp=N,3μm,0.3s						
MWC				IAML		09 22 49.9	
	comp=E,1μm,0.4s						
TOW	**Tower One**	**1.59**	**310**		Pn	09 22 24.0	0.0
SLH	**Sleepy Hollow**	**1.60**	**180**		Pn	09 22 23.8	-0.3
MPMC	**Manual Prospec**	**1.61**	**322**		Pb	09 22 25.9	+0.1
MPMC	**Manual Prospec**	**1.61**	**322**	Pn		09 22 24.0	
	baz=141,SNR=844						
MPMC				Pb		09 22 25.8	
	baz=141						
MPMC				Sb		09 22 47.7	
	baz=141						
TPO	**Tropico Hills**	**1.62**	**273**		Pn	09 22 24.1	-0.3
MATG	**Mataguay Scout**	**1.62**	**191**		Pn	09 22 24.8	+0.2
RHC	**Rose Hills Cem**	**1.65**	**242**		Pn	09 22 25.3	+0.5
AMDNV	**Amargosa**	**1.65**	**360**		Pn	09 22 24.5	-0.3
LEOC	**Leona Valley**	**1.69**	**265**		Pn	09 22 25.3	-0.1
PASC	**Pasadena Art C**	**1.71**	**249**		Pn	09 22 25.7	+0.1
PASC	**Pasadena Art C**	**1.71**	**249**		Pn	09 22 25.9	+0.3
PASC				IAML		09 22 52.4	
	comp=E,771nm,0.4s						
PASC				IAML		09 22 53.0	
	comp=N,895nm,0.5s						
WBSM	**Bird Springs**	**1.71**	**296**		Pn	09 22 25.3	-0.4
JRC2	**Joshua Ridge**	**1.73**	**314**		Pn	09 22 25.8	-0.2
FURC	**Furnace Creek,**	**1.74**	**344**	P		09 22 25.8	
	baz=164,SNR=420						
FURC				Sb		09 22 52.2	
	baz=164						
BLYC	**Blythe**	**1.78**	**125**		Pn	09 22 25.7	-0.9
DECC	**Green Verdugo**	**1.79**	**253**	P		09 22 27.0	
	baz=72,SNR=116						
PDMCI	**Parker Dam,Lak**	**1.82**	**105**	Sb		09 22 53.5	
	baz=286						
WCHM	**Chimney Peak**	**1.83**	**307**		Pn	09 22 27.2	-0.4
MFS	**McCloud Flat S**	**1.85**	**316**		Pn	09 22 27.7	0.0
SWSC	**Sam W. Stewart**	**1.89**	**168**	P		09 22 26.9	
	baz=348,SNR=59						
MONP2	**Monument Peak**	**1.90**	**184**	Pn		09 22 28.2	
	baz=4.0,SNR=121						
MONP2				Pg		09 22 31.7	
	baz=4.0						
MONP2				Sb		09 22 55.8	
	baz=4.0						
SHPR	**Sheep Range**	**1.93**	**27**	Pn	Pn	09 22 29.1	+0.4
SHPR				IAML		09 22 58.6	
	comp=E,932nm,0.8s						
SHPR				IAML		09 22 59.6	
	comp=N,686nm,0.6s						
WHFM	**Hanning Flat**	**1.93**	**298**		Pn	09 22 28.4	-0.3
FMP	**Fort Macarthur**	**2.00**	**238**	Pb		09 22 32.3	
	baz=57,SNR=17						
ISA	**Isabella, Lake**	**2.00**	**296**		Pn	09 22 29.5	-0.3
ISA				IAML		09 23 02.0	
	comp=E,686nm,0.6s						
ISA				IAML		09 23 02.2	
	comp=N,649nm,0.6s						
ISA	**Isabella, Lake**	**2.00**	**296**	Pn		09 22 29.5	
	baz=115,SNR=324						
ISA				Pg		09 22 33.6	
	baz=115						
ISA				Sb		09 22 59.5	
	baz=115						
109C	**Camp Elliot, M**	**2.03**	**200**		Pn	09 22 30.3	+0.3
109C				IAML		09 22 59.6	
	comp=N,940nm,0.3s						
109C	**Camp Elliot, M**	**2.03**	**200**	Pn		09 22 30.1	
	baz=20,SNR=23						
109C				Pb		09 22 32.7	
	baz=20						
109C				Sb		09 22 58.4	
	baz=20						
OSI	**Osito Audit: C**	**2.03**	**266**		Pn	09 22 30.2	0.0
OSI	**Osito Audit: C**	**2.03**	**266**	Pn		09 22 29.9	
	baz=84,SNR=121						
OSI				Pg		09 22 33.8	
	baz=84						
OSI				Sb		09 23 00.8	
	baz=84						
GLA	**Glamis**	**2.11**	**145**		Pn	09 22 30.1	-1.0
GLA	**Glamis**	**2.11**	**145**	Pn		09 22 30.1	
	baz=326,SNR=114						
GLA				Pg		09 22 35.2	
	baz=326						
ARVC	**Arvin**	**2.13**	**280**	Pg		09 22 36.0	
	baz=98						
ARVC				Sb		09 23 03.9	
	baz=98						
BAR	**Barrett**	**2.14**	**189**		Pb	09 22 33.7	-1.1
BAR				IAML		09 23 04.2	
	comp=N,667nm,0.2s						
BAR				IAML		09 23 04.8	
	comp=E,673nm,0.3s						
IKP	**In-Ko-Pah, Jac**	**2.15**	**177**	Pn		09 22 31.5	
	baz=357,SNR=54						
IKP				Pg		09 22 36.4	
	baz=357						
IKP				Sb		09 23 03.7	
	baz=357						
TPNV	**Topopah Spring**	**2.15**	**0**		Pn	09 22 32.1	+0.3
TPNV				IAML		09 23 08.1	
	comp=E,718nm,0.4s						
TPNV	**Topopah Spring**	**2.15**	**0**	Pn		09 22 32.0	
	baz=180,SNR=220						
TPNV				Sb		09 23 04.8	
	baz=180						
COA	**Coachella**	**2.15**	**153**		Pn	09 22 31.0	-0.6
RMX	**La Rumorosa**	**2.19**	**176**		Pb	09 22 34.7	-1.1
CWC	**Cottonwood Cre**	**2.21**	**318**	Pn		09 22 32.7	
	baz=138						
CWC				Pg		09 22 37.6	
	baz=138						
TKX	**Tecate**	**2.24**	**187**	Pn	Pb	09 22 37.1	+0.6
TKX				IAML		09 23 08.1	
	comp=N,490nm,0.3s						
CIS	**Catalina Islan**	**2.26**	**233**	Pn		09 22 33.2	
	baz=52,SNR=52						
CIS				Pb		09 22 37.1	
	baz=52						
UABX	**UABC, Campus M**	**2.27**	**162**	Pn	Pb	09 22 35.7	-1.2
UABX				IAML		09 23 58.5	
	comp=N,688nm,1.4s						
GRAC	**Grapevine Rang**	**2.37**	**338**	P		09 22 35.3	
	baz=158,SNR=76						
TJX	**Tijuana**	**2.37**	**196**	Pn	Pn	09 22 36.6	+1.9
CBX	**Cerro Bola**	**2.50**	**188**		Pn	09 22 38.0	+1.4
CBX				IAML		09 23 17.0	
	comp=E,539nm,0.6s						
CBX				IAML		09 23 24.6	
	comp=N,322nm,0.8s						
CPBX	**Cerro Prieto**	**2.50**	**161**	Pn	Pn	09 22 38.4	+1.9
CPBX				IAML		09 23 02.2	
	comp=E,542nm,0.5s						
CPBX				IAML		09 23 13.1	
	comp=N,568nm,0.6s						
VES	**Vestal, Richgr**	**2.53**	**295**	P		09 22 37.2	
	baz=114,SNR=29						
VES				Sb		09 23 16.1	
	baz=114						
TIN	**Tinemaha, Big**	**2.76**	**325**	P		09 22 40.9	
	baz=144,SNR=11						
PRN	**Pahroc Range**	**2.78**	**20**		Pn	09 22 41.4	+0.9
ESJX	**Sierra Juarez**	**2.80**	**174**		Pn	09 22 41.5	+0.8
SBC	**Santa Barbara**	**2.87**	**264**	S		09 23 17.4	
	baz=82						
PKM	**Mcpherson Peak**	**2.92**	**273**	P		09 22 43.1	
	baz=91,SNR=17						
PKM				Sg		09 23 30.1	
	baz=91						
CCX	**Cicese**	**2.94**	**187**	Pn	Pn	09 22 45.1	+2.6
CCX				IAML		09 23 31.1	
	comp=N,195nm,0.6s						
CCX				IAML		09 23 35.6	
	comp=E,334nm,0.6s						
VOG	**Valley Oaks Go**	**2.96**	**302**	P		09 22 43.5	
	baz=120,SNR=9.3						
VOG				Sb		09 23 28.9	
	baz=120						
SMMC	**Simmler**	**3.10**	**281**	P		09 22 45.6	
	baz=99,SNR=9.4						
LCMT	**Little Creek M**	**3.30**	**47**		Pn	09 22 48.4	+0.7
TPH	**Tonopah**	**3.36**	**347**		Pn	09 22 48.9	+0.3
TPH	**Tonopah**	**3.36**	**347**	IAML		09 23 46.6	
	comp=N,175nm,1.0s						
TPH				IAML		09 23 48.2	
	comp=E,167nm,0.9s						
PAGB	**Antelope Grade**	**3.39**	**287**	Pn	Pn	09 22 51.6	+2.8
PAGB				IAML		09 23 49.5	
	comp=N,203nm,1.1s						
PAGB				IAML		09 23 58.2	
	comp=E,197nm,0.8s						
MLAC	**Mammoth, Mammo**	**3.51**	**324**	P		09 22 51.9	
	baz=143,SNR=7.9						
KNB	**Kanab**	**3.56**	**51**	Pn	Pn	09 22 52.3	+1.0
KNB				IAML		09 23 51.9	
	comp=N,137nm,0.9s						
KNB				IAML		09 23 55.2	
	comp=E,167nm,0.8s						
R11A	**Troy Canyon, C**	**3.59**	**9**	Sb		09 23 48.1	
	baz=189						
CCUT	**Cedar City**	**3.61**	**40**	Pn	Pn	09 22 53.4	+1.4
MDPB	**Devils Postpil**	**3.63**	**322**		Pn	09 22 53.8	+1.5
SZCU	**Shurtz Canyon**	**3.79**	**42**		Pn	09 22 55.6	+1.1
SZCU				IAML		09 23 57.4	
	comp=N,78nm,0.8s						
SZCU				IAML		09 23 59.2	
	comp=E,121nm,0.3s						
LHV	**Little Huntoon**	**3.89**	**333**		Pn	09 22 57.0	+1.4
LHV				IAML		09 24 05.6	
	comp=E,104nm,0.8s						
NV11	**Mina Array Sit**	**3.93**	**338**		Pn	09 22 57.2	+0.8
PMPB	**Monarch Peak**	**3.96**	**292**		Pn	09 22 58.1	+1.4
NVAR	**Mina Array Bea**	**3.98**	**336**	Pn	Pn	09 22 57.3	+0.3
PIX	**Pinacate**	**3.99**	**143**	Pn	Pn	09 22 55.9	-1.1
214A	**Organ Pipe Nat**	**4.05**	**133**	Pn	Pn	09 22 56.3	-1.4
214A				IAML		09 24 11.2	
	comp=E,117nm,0.8s						
214A				IAML		09 24 16.8	
	comp=N,98nm,0.9s						
214A	**Organ Pipe Nat**	**4.05**	**133**	P		09 22 56.4	
	baz=316,SNR=6.7						
WUAZ	**Wupatki**	**4.07**	**78**	Pn	Pn	09 22 59.4	+1.1
WUAZ	**Wupatki**	**4.07**	**78**	P		09 22 59.1	
	baz=261						
PKCU	**Pink Cliffs**	**4.15**	**49**		Pn	09 23 01.4	+1.9
PSUT	**Pine Spring**	**4.20**	**27**	Pn	Pn	09 23 01.9	+1.8
PSUT				IAML		09 24 25.4	
	comp=N,135nm,1.2s						
RYN	**Ryan**	**4.23**	**335**		Pn	09 23 01.6	+1.1
KVN	**Kaiserville**	**4.49**	**341**	Pn	Pn	09 23 05.2	+1.1
WAKR	**Walker**	**4.50**	**326**		Pn	09 23 05.8	+1.7
MTPU	**Mount Pierson**	**4.62**	**44**	Pn	Pn	09 23 08.0	+2.1
CMB	**Columbia Colle**	**4.64**	**315**		Pn	09 23 08.0	+2.1

comp=N,42nm,0.9s
TUC Tucson 5.20 117 P 09 23 13.1
baz=300
TUC S 09 24 12.5
baz=300
VCNR Virginia City 5.24 330 Pn Pn 09 23 16.3 +1.9
VCNR IAML 09 25 09.3
comp=E,44nm,2.0s
VCNR IAML 09 25 09.6
comp=N,28nm,1.4s
PAHR Pah Rah Range 5.50 334 Pn Pn 09 23 19.0 +1.2
BEKR Beckworth 6.02 328 Pn Pn 09 23 27.1 +2.0
PV05 Paradox Valley 6.64 58 Pn 09 23 37.7 +4.1
PV10 Paradox Valley 6.82 56 Pn Pn 09 23 37.7 +1.6
PV17 East Wray Mesa 6.83 57 Pn 09 23 39.1 +2.9
PV14 Lion Creek, Pa 6.83 56 Pn 09 23 37.9 +1.6
PV18 Skein Mesa, Pa 6.85 58 Pn Pn 09 23 38.7 +2.2
PV13 Radium Mtn., P 6.87 59 Pn 09 23 39.0 +2.2
PV16 Nyswonger Mesa 6.88 57 Pn 09 23 39.8 +3.0
PV03 Paradox Valley 6.89 58 Pn 09 23 39.3 +2.2
PV04 Paradox Valley 6.92 57 Pn 09 23 40.3 +2.9
PV12 Saucer Basin, 6.96 58 Pn 09 23 40.0 +2.1
O03E Paynes Creek 7.03 323 P 09 23 44.2
baz=140
PV01 Paradox Valley 7.04 60 Pn 09 23 41.7 +2.6
PV22 Blue Mesa, Par 7.07 56 Pn 09 23 41.9 +2.4
121A Cookes Peak, D 7.42 105 Pn Pn 09 23 45.8 +1.6
121A Cookes Peak, D 7.42 105 P 09 23 45.6
baz=290
SMCO Snowmass 8.62 57 Pn Pn 09 24 02.7 +1.8
MNTX Cornudas Mount 9.62 106 Pn Pn 09 24 15.9 +1.5
TX31 Lajitas Ar. Si 11.99 114 Pn 09 24 48.7 +1.9
TX32 Lajitas Array 11.99 114 Pn 09 24 48.9 +2.1
TXAR Lajitas Array 11.99 114 Pn Pn 09 24 48.6 +1.8

IDC 30 09:30:25.6±3.9, 5°.17S×153°.29E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.1/39, mbtmp3.1/2, Error ellipse: s-maj=178.9km s-min=52.3km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**230**	P	P	09 35 37.8	-0.3
	1.1nm,1.0s,baz=55,slow=9.6,SNR=5.7						
ASAR	**Alice Springs**	**26.21**	**224**	P	P	09 36 02.5	+0.1
	0.2nm,0.7s,baz=55,slow=9.9,SNR=2.0						
TORD	**Torodi Ar. Bea**	**150.88**	**288**	PKPbc	PKPbc	09 50 21.3	-0.1
	1.0nm,0.8s,baz=62,slow=2.0,SNR=3.7						

*IDC **30** 09:34:03.1±4.2, 15°.79S×172°.82W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/41, mbtmp3.8/5, Error ellipse: s-maj=214.3km s-min=28.2km az=139.0*
ISC 30 09:34:00.9±1.9, 16°.8S×171°.8W×0°.3, h10km, n7, σ1°58/7, mb3.7/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.74**	**263**	Pn	**Pn**	**09 36 21.9**	**+0.7**
	0.2nm,0.3s,baz=108,slow=18,SNR=4.5						
STKA	**Stephens Creek**	**44.69**	**242**	P	**P**	**09 42 15.3**	**+1.0**
	1.9nm,0.8s,baz=87,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**51.03**	**258**	P	**P**	**09 43 01.7**	**-2.0**
	0.8nm,0.9s,baz=90,slow=6.7,SNR=5.0						
ASAR	**Alice Springs**	**51.15**	**253**	P	**P**	**09 43 03.0**	**-1.6**
	3.5nm,0.7s,baz=85,slow=8.1,SNR=28						
ILAR	**Eielson Array**	**83.54**	**10**	P	**P**	**09 46 28.0**	**-0.7**
	0.3nm,0.7s,baz=218,slow=5.7,SNR=2.1						
YKA	**Yellowknife Ar**	**90.78**	**23**	P	**P**	**09 47 04.5**	**+0.6**
	0.3nm,0.9s,baz=233,slow=4.6,SNR=5.5						
BRTR	**Keskin Array B**	**148.21**	**321**	PKPbc	**PKPbc**	**09 53 48.8**	**+1.1**
	0.8nm,0.8s,baz=40,slow=2.5,SNR=3.5						

IDC 30 09:41:29.1±3.5, 4°.94S×153°.08E, h0km, mb3.1/2, mb1 3.6/3, mb1mx3.3/47, mbtmp3.4/3, ML2.2/1, Error ellipse: s-maj=156.7km s-min=48.0km az=127.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.36**	**233**	Pn	Pn	09 43 20.0	+2.1
	2.1nm,0.3s,baz=41,slow=20,SNR=1.9						
PMG				Sn	Sn	09 44 39.0	-3.3
	2.4nm,0.3s,baz=342,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**23.56**	**229**	P	P	09 46 40.5	-1.0
	0.4nm,0.7s,baz=54,slow=9.7,SNR=2.4						
ASAR	**Alice Springs**	**26.24**	**223**	P	P	09 47 05.8	-0.4
	0.5nm,0.9s,baz=51,slow=9.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**150.62**	**288**	PKPbc	PKPbc	10 01 24.4	+0.1
	0.5nm,0.6s,baz=62,slow=2.7,SNR=2.7						

*IDC **30** 09:46:18.5±0.8, 8°.98N×126°.52E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/63, mbtmp3.6/9, Error ellipse: s-maj=46.0km s-min=16.7km az=82.0*
*MAN **30** 09:46:21.6, 9°.04N×126°.90E, h36km, mb4.2, ML3.1, MS2.8*
ISC 30 09:46:19.4±3.5, 9°.06N±0°.04×126°.75E±0°.07, h4km±22km, n21, σ1°902/26, mb3.5/9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.94**	**319**	*e*P	**Pn**	**09 46 39.6**	**+0.3**
GLSP				*e*S	**Sn**	**09 46 52.2**	**-1.1**
BUTP	**Butuan**	**1.12**	**265**	*e*P	**Pn**	**09 46 43.0**	**+1.2**
BUTP				*e*S	**Sn**	**09 46 57.6**	**+0.1**
BUKP	**Musuan**	**2.04**	**235**	*e*P	**Pb**	**09 46 58.1**	**+1.0**
BUKP				*e*S	**Sb**	**09 47 22.5**	**-0.3**
CGP	**Cagayan de Oro**	**2.12**	**254**	⇑*i*P	**Pb**	**09 46 58.1**	**-0.2**
CGP				*i*S	**Sb**	**09 47 23.6**	**-1.4**
MSLP	**Maasin**	**2.15**	**300**	*e*P	**Pb**	**09 46 58.8**	**0.0**
MATI	**Mati**	**2.16**	**193**	*e*P	**Pn**	**09 46 56.1**	**0.0**
MATI				*e*S	**Sn**	**09 47 22.1**	**-1.3**
BESP	**Borongan**	**2.83**	**333**	*e*P	**Pn**	**09 47 05.6**	**+0.2**
BESP				*e*S	**Sn**	**09 47 39.4**	**-0.6**
LLP	**Lapu-Lapu**	**3.01**	**295**	⇓*e*P	**Pb**	**09 47 12.2**	**-1.4**
LLP				*e*S	**Sn**	**09 47 46.4**	**+2.0**
DDMP	**Don Marcelino,**	**3.11**	**199**	*e*P	**Pn**	**09 47 10.5**	**+1.2**
DDMP				*e*S	**Sn**	**09 47 45.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**27.01**	**182**	P	**P**	**09 52 02.4**	**-0.2**
	0.5nm,0.3s,baz=332,slow=2.0,SNR=8.0						
WRA	**Warramunga Arr**	**29.78**	**166**	P	**P**	**09 52 26.2**	**-1.1**
	0.3nm,0.8s,baz=344,slow=8.3,SNR=6.7						
ASAR	**Alice Springs**	**33.27**	**168**	P	**P**	**09 52 57.1**	**-1.0**
	0.2nm,0.4s,baz=351,slow=6.7,SNR=10						
H11S3	**WAKE ISLAND Hy**	**39.83**	**72**	T	T	10 36 55.1	
	baz=262,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**39.84**	**72**	T	T	10 36 56.1	
	baz=262,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**39.84**	**72**	T	T	10 36 54.2	
	baz=262,slow=75,SNR=27						
STKA	**Stephens Creek**	**43.12**	**161**	P	**P**	**09 54 21.1**	**+0.3**
	0.6nm,0.3s,baz=334,slow=11,SNR=4.8						
PETK	**Petropavlovsk-**	**50.54**	**24**	P	**P**	**09 55 20.6**	**+1.8**
	0.9nm,0.5s,baz=213,slow=10,SNR=6.4						
MKAR	**Makanchi Array**	**53.27**	**323**	P	**P**	**09 55 38.7**	**-0.6**
	0.3nm,0.6s,baz=123,slow=7.9,SNR=4.7						
KURBB	**Kurchatov Arra**	**57.33**	**326**	P	**P**	**09 56 07.5**	**-0.9**
	0.2nm,0.4s,baz=124,slow=6.7,SNR=4.6						
ILAR	**Eielson Array**	**80.31**	**26**	P	**P**	**09 58 31.8**	**+0.4**
	0.2nm,0.5s,baz=251,slow=5.1,SNR=7.0						
YKA	**Yellowknife Ar**	**94.66**	**24**	P	**P**	**09 59 41.8**	**+0.3**
	0.3nm,0.7s,baz=301,slow=4.5,SNR=7.7						

ISK 30 09:48:29.2, 36°.19N×33°.70E, h0km, ML1.4/4, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARG	**Kargicak-Mersi**	**0.02**	**24**	PG	Pg	09 48 30.3	+0.7
KARG				SG	Sg	09 48 31.1	+1.3
TISA	**Tisan-Mersin**	**0.03**	**215**	PG	Pg	09 48 30.3	+0.6
TISA				SG	Sg	09 48 31.2	+1.1
IKL	**Isikli**	**0.05**	**348**	PG	Pg	09 48 30.9	+0.7
IKL				SG	Sg	09 48 31.7	+0.7
AKKU	**Akkuyu-Mersin**	**0.12**	**257**	PG	Pg	09 48 32.4	+0.8
AKK1	**Akkuyu-Mersin**	**0.14**	**252**	PG	Pg	09 48 32.7	+0.9
OREN	**Orenkoy-Mersin**	**0.20**	**276**	PG	Pg	09 48 33.8	+0.8
OREN				SG	Sg	09 48 37.1	+1.6

IDC 30 09:48:37.1±4.9, 5°.35S×153°.10E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/44, mbtmp3.2/2, Error ellipse: s-maj=259.4km s-min=52.9km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.31**	**230**	P	P	09 53 47.1	+0.1
	0.9nm,0.9s,baz=59,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**25.95**	**224**	P	P	09 54 12.1	+0.5
	0.1nm,0.4s,baz=58,slow=9.4,SNR=1.9						
TORD	**Torodi Ar. Bea**	**150.75**	**287**	PKPbc	PKPbc	10 08 31.9	-0.7
	1.6nm,1.0s,baz=91,slow=0.8,SNR=4.9						

DDA 30 09:48:39.5, 38°.09N×33°.19E, h7km±5km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIN	**Konya, Altinte**	**0.32**	**310**	*i*P	Pb	09 48 46.9	-0.7
ALIN				*i*S	Sg	09 48 50.9	+0.7
ALIN				IAML		09 48 54.0	
	comp=E,78nm,1.0s						
ALIN				IAML		09 48 55.0	
	comp=N,93nm,0.8s						
KONT	**Konya--Tatoy**	**0.67**	**258**	*i*P	Pg	09 48 51.7	-0.7
KONT				*i*S	Sb	09 49 03.3	+0.2
KONT				IAML		09 49 13.0	
	comp=N,22nm,0.4s						
KONT				IAML		09 49 21.0	
	comp=E,40nm,1.0s						
KKBE	**Karaman, Kazim**	**0.89**	**193**	*i*P	Pg	09 48 56.8	+0.1
KKBE				*i*S	Sn	09 49 12.9	+1.1
KKBE				IAML		09 49 14.0	
	comp=E,6.5nm,0.7s						
KKBE				IAML		09 49 25.0	
	comp=N,8.7nm,0.9s						
YVAC	**Isparta, Yalva**	**1.55**	**277**	*i*P	Pg	09 49 11.0	+1.8
YVAC				*i*S	Sg	09 49 31.9	+2.6
YVAC				IAML		09 49 32.0	
	comp=E,14nm,1.1s						
YVAC				IAML		09 49 42.0	
	comp=N,11nm,0.7s						

IDC 30 09:52:59.9±8.2, 9°.10S×14°.15W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/36, mbtmp4.1/4, Error ellipse: s-maj=352.5km s-min=145.5km az=140.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**27.14**	**36**	P	P	09 58 45.0	0.0
	2.0nm,0.9s,baz=222,slow=9.3,SNR=6.7						
MLR	**Muntele Rosu**	**65.19**	**30**	P	P	10 03 42.9	-0.2
	3.0nm,0.9s,baz=274,slow=3.1,SNR=4.4						
BRTR	**Keskin Array B**	**65.69**	**39**	P	P	10 03 46.5	-0.1
	1.1nm,0.7s,baz=251,slow=4.4,SNR=5.4						
AKASG	**Malin Array Be**	**70.42**	**28**	P	P	10 04 15.9	+0.2
	2.0nm,0.7s,baz=226,slow=6.5,SNR=11						

*AZER **30** 09:54:01.0±0.1, 40°.90N×48°.55E, h6km, ml4.2/34, Error ellipse: s-maj=1.1km s-min=0.7km az=267.0*
*IDC **30** 09:54:02.0±0.8, 40°.92N×48°.67E, h0km, mb3.9/11, mb1 4.0/24, mb1mx3.9/49, mbtmp3.9/24, ML3.9/11, Error ellipse: s-maj=16.7km s-min=9.3km az=167.0*
*DRS **30** 09:54:04.5±0.0, 40°.83N×48°.48E, h16km, ML4.0/7*
*MOS **30** 09:54:05.4±1.5, 40°.96N×48°.85E, h28km, mb4.4/4, Error ellipse: s-maj=8.4km s-min=5.1km az=115.6*
*NNC **30** 09:54:06.4±1.5, 41°.17N×49°.24E, h0km, mb4.2, Error ellipse: s-maj=18.1km s-min=10.1km az=94.0*
ISC 30 09:54:03.4±0.8, 40°.88N±0°.02×48°.56E±0°.02, h15km±5km, n112, σ2°34/165, mb4.0/14, 19C-8D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	**Pirkuli**	**0.09**	**163**	P	**Pg**	**09 54 05.4**	**-1.3**
	SNR=1565						
PQL				S	**Sg**	**09 54 07.8**	**-1.0**
ATGJ	**Altiaghaj**	**0.29**	**93**	P	**Pg**	**09 54 08.7**	**-0.8**
	SNR=1273						
ATGJ				S	**Sg**	**09 54 14.1**	**+0.3**
IML	**Ismayilli**	**0.30**	**254**	P	**Pg**	**09 54 09.8**	**+0.2**
	SNR=568						
IML				S	**Sb**	**09 54 16.1**	**+0.8**
SIZA	**Siyzn**	**0.33**	**52**	P	**Pg**	**09 54 10.0**	**-0.2**
	SNR=1857						
SIZA				S	**Sb**	**09 54 15.9**	**-0.3**
XNQ	**Khinaliq**	**0.43**	**313**	P	**Pg**	**09 54 11.8**	**-0.3**
	SNR=198						
XNQ				S	**Sg**	**09 54 18.4**	**+0.3**
GBS	**Qobustan**	**0.45**	**139**	P	**Pb**	**09 54 13.1**	**0.0**
	SNR=18						
GBS				S	**Sn**	**09 54 22.0**	**-1.2**
QUBA	**Quba, Azerbaij**	**0.48**	**354**	P	**Pb**	**09 54 14.0**	**+0.3**
	SNR=174						
QUBA				S	**Sb**	**09 54 22.3**	**+1.6**
QBL	**Gabala**	**0.55**	**278**	P	**Pg**	**09 54 14.2**	**-0.1**
	SNR=518						
QBL				S	**Sb**	**09 54 23.5**	**+0.9**
KDMR	**Kurdemir**	**0.57**	**210**	P	**Pb**	**09 54 15.4**	**+0.2**
	SNR=13						
KDMR				S	**Sn**	**09 54 24.9**	**-1.3**
QSAR	**Qusar**	**0.68**	**341**	P	**Pb**	**09 54 17.2**	**+0.2**
	SNR=356						
QSAR				S	**Sb**	**09 54 27.5**	**+1.2**
AKT	**Akhty**	**0.87**	**314**	⇑*i*PG	**Pg**	**09 54 19.8**	**-0.4**
AKT				pmax	pmax		
	comp=Z,2μm,0.5s						
AKT	**Akhty**	**0.87**	**314**	*i* Pg	**Pg**	**09 54 19.9**	**-0.4**
	comp=Z,2μm,0.5s						
AKT				*e*Sg	**Sb**	**09 54 32.2**	**+0.4**
	comp=Z,6μm,0.4s						
ZRD	**Zardab**	**0.89**	**228**	P	**Pn**	**09 54 21.4**	**-0.1**
	SNR=159						
ZRD				S	**Sn**	**09 54 36.9**	**+2.8**
ALIB	**Äli-Bayra**	**0.98**	**159**	P	**Pn**	**09 54 24.6**	**+1.9**
ALIB				S	**Sn**	**09 54 43.5**	**+7.3**
GOBA	**Gobu**	**1.01**	**118**	P	**Pn**	**09 54 24.8**	**+1.7**
	SNR=55						
GOBA				S	**Sn**	**09 54 44.3**	**+7.3**
SAAT	**Saatly**	**1.02**	**186**	P	**Pb**	**09 54 22.9**	**+0.1**
	SNR=21						
SAAT				S	**Sn**	**09 54 40.5**	**+3.3**
SEKA	**Sheki**	**1.08**	**288**	P	**Pb**	**09 54 23.2**	**-0.7**
	SNR=256						
SEKA				S	**Sn**	**09 54 40.5**	**+1.6**
MNGR	**Mingechevir, A**	**1.12**	**265**	P	**Pg**	**09 54 25.3**	**+0.3**
	SNR=53						
MNGR				S	**Sn**	**09 54 43.4**	**+3.6**
NDR	**Nardaran**	**1.12**	**105**	P	**Pg**	**09 54 26.1**	**+1.0**
	SNR=12						
NDR				S	**Sn**	**09 54 47.1**	**+7.3**
BRDA	**Brd**	**1.22**	**240**	P	**Pg**	**09 54 27.1**	**+0.3**
	SNR=43						
BRDA				S	**Sg**	**09 54 46.9**	**+4.3**
GALA	**Gala**	**1.30**	**110**	P	**Pg**	**09 54 29.6**	**+1.1**
	SNR=5.1						
GALA				S	**Sg**	**09 54 48.9**	**+3.5**
AGDM	**Agdam**	**1.34**	**236**	P	**Pb**	**09 54 28.6**	**+0.3**
	SNR=709						
AGDM				S	**Sg**	**09 54 49.0**	**+2.2**
BLQ	**Beylaqan**	**1.38**	**214**	P	**Pn**	**09 54 28.4**	**+0.2**
	SNR=167						
BLQ				S	**Sg**	**09 54 47.8**	**-0.2**
URKR	**Urkarakh**	**1.47**	**332**	⇑*e*PG	**Pg**	**09 54 31.3**	**-0.3**
URKR				*e*		09 54 51.2	
URKR				pmax	pmax		
	comp=Z,562nm,0.6s						
URKR				smax	smax		
	comp=N,2μm,0.3s						
URKR	**Urkarakh**	**1.47**	**332**	*e*Pg	**Pg**	**09 54 31.4**	**-0.3**
	comp=N,562nm,0.6s						
URKR				*e*Sg	**Sg**	**09 54 51.2**	**+0.6**
	comp=N,2μm,0.3s						
GLBA	**Clilabad**	**1.64**	**184**	Pn	**Pn**	**09 54 32.1**	**+0.4**
	SNR=74						
GLBA				Sn	**Sg**	**09 54 57.1**	**+1.0**
ZKTA	**Zakatala**	**1.65**	**298**	Pn	**Pb**	**09 54 33.4**	**-0.1**
	SNR=397						
ZKTA				Sn	**Sg**	**09 54 59.9**	**+3.5**
QRD	**Qoradiz**	**1.70**	**214**	Pn	**Pn**	**09 54 33.0**	**+0.4**
	SNR=49						
QRD				Sn	**Sg**	**09 54 57.5**	**-0.6**
GANJ	**Ganja**	**1.71**	**263**	Pn	**Pn**	**09 54 32.7**	**-0.1**
	SNR=238						
GANJ				Sn	**Sb**	**09 54 55.7**	**-0.3**
SGKR	**Sergokala**	**1.72**	**337**	⇓*e*PN	**Pg**	**09 54 36.0**	**-0.4**
SGKR				*e*		09 54 59.5	
SGKR				pmax	pmax		
	comp=Z,299nm,0.4s						
SGKR				smax	smax		
	comp=N,3μm,1.0s						
SGKR	**Sergokala**	**1.72**	**337**	*e*Pg	**Pg**	**09 54 36.1**	**-0.4**
	comp=N,300nm,0.4s						
SGKR				*e*Sg	**Sg**	**09 54 59.5**	**+0.7**
	comp=N,3μm,1.0s						
DDFL	**Dedoflistskaro**	**1.93**	**288**	Pn	**Pb**	**09 54 39.5**	**+1.2**
DDFL				Sn	**Sg**	**09 55 04.6**	**-0.9**
GNBR	**Gunib**	**1.93**	**322**	⇑*e*PN	**Pb**	**09 54 39.1**	**+0.8**
GNBR				pmax	pmax		
	comp=Z,437nm,0.6s						
GNBR	**Gunib**	**1.93**	**322**	*e*Pg	**Pb**	**09 54 39.1**	**+0.8**
	comp=Z,437nm,0.6s						
GNBR				*e*Sg	**Sg**	**09 55 06.5**	**+1.0**
	comp=Z,1μm,0.9s						
YRD	**Yardimli**	**1.97**	**187**	Pn	**Pn**	**09 54 36.8**	**+0.4**
	SNR=134						
YRD				Sn	**Sb**	**09 55 03.9**	**+0.3**
LGD	**Lagodekhi**	**1.99**	**300**	Pn	**Pb**	**09 54 39.3**	**0.0**
LGD				Sn	**Sg**	**09 55 08.6**	**+1.2**
ARKR	**Arakani**	**2.09**	**326**	⇑*e*PN	**Pb**	**09 54 42.0**	**+1.0**
ARKR				*e*		09 55 11.9	
ARKR				pmax	pmax		
	comp=Z,153nm,0.4s						
ARKR				smax	smax		
	comp=N,672nm,0.5s						
ARKR	**Arakani**	**2.09**	**326**	*e*Pg	**Pb**	**09 54 42.0**	**+1.0**
	comp=N,153nm,0.5s						
ARKR				*e*Sg	**Sg**	**09 55 12.0**	**+1.5**
	comp=N,672nm,0.5s						
GDB	**GEDABAY**	**2.13**	**267**	Pn	**Pn**	**09 54 38.7**	**0.0**
	SNR=239						
GDB				Sn	**Sb**	**09 55 07.4**	**-0.9**
LKRN	**Lenkeran, Azer**	**2.17**	**175**	Pn	**Pn**	**09 54 38.9**	**-0.1**
	SNR=6.7						
LKRN				Sn	**Sb**	**09 55 08.9**	**-0.2**
MAK	**Makhachkala**	**2.23**	**340**	*e*PN	**Pb**	**09 54 44.4**	**+1.0**
MAK				*e*		09 55 11.6	
MAK				pmax	pmax		
	comp=Z,375nm,0.6s						
MAK				smax	smax		
	comp=N,3μm,0.6s						
MAK				smax	smax		
	comp=N,3μm,0.6s						
MAK				MLR	MLR		
	comp=Z,2μm,2.0s						
LRK	**Lerik**	**2.23**	**184**	Pn	**Pn**	**09 54 40.4**	**+0.3**
	SNR=79						
LRK				Sn	**Sb**	**09 55 11.6**	**+0.4**
KRNR	**Karanay**	**2.31**	**328**	⇓*e*PN	**Pb**	**09 54 45.2**	**+0.4**
KRNR				*e*		09 55 16.4	
KRNR				pmax	pmax		
	comp=Z,125nm,0.5s						
KRNR				smax	smax		
	comp=E,342nm,0.5s						
KRNR	**Karanay**	**2.31**	**328**	*e*Pn	**Pb**	**09 54 45.3**	**+0.4**
	comp=E,125nm,0.5s						
KRNR				*e*Sn	**Sg**	**09 55 16.5**	**-1.1**
	comp=E,342nm,0.5s						
ASTR	**Astara**	**2.32**	**175**	Pn	**Pn**	**09 54 41.2**	**+0.1**
	SNR=28						
ASTR				Sn	**Sb**	**09 55 12.1**	**-1.3**
QZX	**Qazax, Azerbai**	**2.42**	**275**	Pn	**Pn**	**09 54 43.7**	**+1.2**
	SNR=154						
QZX				Sn	**Sn**	**09 55 13.7**	**+1.8**
DBC	**Dubki**	**2.50**	**330**	⇓*e*PN	**Pb**	**09 54 49.3**	**+1.2**
DBC				*e*		09 55 23.9	
DBC				pmax	pmax		
	comp=Z,189nm,0.6s						
DBC				smax	smax		
	comp=N,482nm,0.6s						
DBC	**Dubki**	**2.50**	**330**	*e*Pn	**Pb**	**09 54 49.4**	**+1.2**
	comp=N,189nm,0.6s						
DBC				*e*Sn	**Sg**	**09 55 23.9**	**+0.1**
	comp=N,482nm,0.6s						
DVE	**Vedeno**	**2.76**	**320**	*e*PN	**Pb**	**09 54 50.6**	**-1.9**
ORD	**Ordubad**	**2.77**	**226**	Pn	**Pn**	**09 54 48.2**	**+0.8**
	SNR=71						
ORD				Sn	**Sb**	**09 55 24.0**	**-2.4**
NAX	**Nakhchivan**	**2.90**	**235**	Pn	**Pn**	**09 54 51.0**	**+1.9**
NAX				Sn	**Sb**	**09 55 28.9**	**-1.3**
BTNK	**Botanikuri**	**2.95**	**287**	Pn	**Pn**	**09 54 51.5**	**+1.7**
BTNK				Sg	**Sb**	**09 55 33.1**	**+1.7**
GNI	**Garni**	**3.00**	**257**	*c* PN	**Pb**	**09 54 56.1**	**-0.6**
	comp=N,16nm,0.3s,baz=64,slow=4.8,SNR=19						
GNI	**Garni**	**3.00**	**257**	*c i*PN	**Pb**	**09 54 56.2**	**-0.4**
GNI				pmax	pmax		
	comp=Z,199nm,1.0s						
HYR	**Heyderabad**	**3.06**	**249**	Sn	**Sn**	**09 55 30.4**	**+2.6**
GROC	**Groznyy**	**3.10**	**319**	*e*PN	**Pn**	**09 54 53.8**	**+1.9**
GROC				*e*		09 55 43.6	
GROC				pmax	pmax		
	comp=Z,17nm,0.7s						
GROC				pmax	pmax		
	comp=Z,144nm,0.6s						
GROC				smax	smax		
	comp=N,525nm,0.6s						
GROC				smax	smax		
	comp=N,535nm,0.6s						
GROC				smax	smax		
	comp=E,136nm,0.6s						
GROC				MLR	MLR		
	comp=Z,457nm,2.0s						
KBZ	**Khabaz**	**5.07**	**306**	Pn	**Pn**	**09 55 23.0**	**+4.1**
	comp=Z,0.4nm,0.3s,baz=31,slow=23,SNR=1.7						
KVAR	**Kislovodsk Arr**	**5.32**	**307**	Pn	**Pn**	**09 55 25.8**	**+3.3**
	baz=149,slow=19,SNR=1.7						
KIV	**Kislovodsk**	**5.33**	**307**	*e*P	**Pn**	**09 55 26.3**	**+3.8**
KIV				*e*S	**Sn**	**09 56 29.3**	**+5.7**
KIV				pmax	pmax		
	comp=Z,53nm,0.9s						
ARXR	**Arkhyz**	**6.04**	**299**	*e*P	**Pn**	**09 55 35.4**	**+3.1**
LZRR	**Lazarevskoye**	**7.45**	**297**	*i*P	**Pn**	**09 55 52.8**	**+1.3**
GEYT	**Alibeck**	**7.96**	**109**	Pn	**Pn**	**09 55 56.7**	**-2.0**
	comp=Z,2.8nm,0.3s,baz=281,slow=18,SNR=12						
GYA0B	**ALIBECK ARRAY**	**7.96**	**109**	⇑P	**Pn**	**09 55 56.8**	**-1.9**
GYA0B				⇑S	**Sn**	**09 57 27.5**	**-1.0**
BRTR	**Keskin Array B**	**11.45**	**269**	Pn	Pn	09 56 51.8	+5.2
	comp=Z,0.1nm,0.3s,baz=268,slow=25,SNR=3.9						
BELG	**Belogornoye**	**11.54**	**357**	Pn	**Pn**	**09 56 47.5**	**0.0**
	comp=Z,2.9nm,0.3s,baz=40,slow=2.3,SNR=8.3						
BELG				Sn	**Sn**	**09 58 52.4**	**-3.6**
	comp=Z,1.6nm,0.3s,baz=104,slow=21,SNR=9.8						
BELG	**Belogornoye**	**11.54**	**357**	⇑*i*P	**Pn**	**09 56 48.0**	**+0.5**
AB31	**Akbulak array**	**11.61**	**40**	⇓P	**Pn**	**09 56 46.2**	**-2.3**
	comp=Z,1.5nm,0.4s,baz=221,slow=13,SNR=57						
AB31				⇑S	**Sn**	**09 58 51.7**	**-6.1**
	comp=Z,5.5nm,0.6s,baz=224,slow=22,SNR=5.2						
AKTO	**Aktyubinsk**	**11.62**	**31**	Pn	**Pn**	**09 56 47.6**	**-1.0**

SVE					pmax	pmax			
	comp=Z,15nm,0.8s								
BRVK	**Borovoye**	**19.10**	**43**	⇑P	**P**		**09 58 25.6**	**+0.1**	
	comp=Z,6.0nm,0.8s								
BRVK				⇓S	**Sn**		**10 01 52.6**	**-7.3**	
	comp=Z,8.8nm,2.0s								
BRVK	**Borovoye**	**19.10**	**43**	⇑*eP*	**Pn**		**09 58 26.6**	**+0.3**	
BRVK					pmax	pmax			
	comp=Z,5.0nm,0.7s								
BVAR	**Borovoye Array**	**19.14**	**43**	P	**P**		**09 58 24.8**	**-1.1**	
	comp=Z,1.2nm,0.3s,baz=189,slow=19,SNR=17								
AAK	**Ala-Archa**	**19.41**	**76**	P	**P**		**09 58 28.7**	**-0.4**	
	comp=Z,0.6nm,0.3s,baz=66,slow=4.3,SNR=11								
AAK	**Ala-Archa**	**19.41**	**76**	*iP*	**P**		**09 58 29.4**	**+0.3**	
AAK					pmax	pmax			
	comp=Z,17nm,0.8s								
NACGM	**Naroch**	**20.14**	**322**	*iP*	**P**		**09 58 37.8**	**+1.1**	
NACGM				*iP*	**P**		**09 58 37.8**	**+1.1**	
NACGM				*iP*	**P**		**09 58 37.8**	**+1.1**	
NACGM				*i* PP	**PnPn**		**09 58 50.7**	**-2.3**	
NACGM				*i* S	**S**		**10 02 11.8**	**-10**	
NACGM				*i* SSS	SSS		10 02 48.5		
NACGM				*i* LQ	LQ		10 03 53.7		
NACGM				*i* LR	LR		10 04 53.5		
NACGM				*i* LQ	LQ		10 05 15.8		
KOLS	**Kolonicke sedl**	**20.21**	**302**	*eP*	Pn		09 58 44.7	+5.1	
KOLS	**Kolonicke sedl**	**20.21**	**302**	*eP*	Pn		09 58 44.7	+5.1	
KLMR	**Klimovskoe**	**20.76**	**347**	*eP*	**P**		**09 58 41.3**	**-2.2**	
KLMR					pmax	pmax			
	comp=Z,18nm,1.1s								
KLMR	**Klimovskoe**	**20.76**	**347**	*eP*	**P**		**09 58 41.4**	**-2.1**	
KLMR					AMP		09 58 53.2		
	comp=Z,18nm,1.1s								
PRGR	**Permogore**	**20.87**	**356**	*eP*	**P**		**09 58 43.6**	**-1.0**	
PRGR					pmax	pmax			
	comp=Z,25nm,0.8s								
KURBB	**Kurchatov Arra**	**22.93**	**55**	P	**P**		**09 59 07.2**	**+0.4**	
	comp=Z,2.5nm,0.8s,baz=259,slow=11,SNR=12								
KURBB	**Kurchatov Arra**	**22.93**	**55**	⇑P	**P**		**09 59 06.3**	**-0.5**	
	comp=Z,11nm,1.2s								
KURK	**Kurchatov**	**23.01**	**55**	P	**P**		**09 59 07.2**	**-0.4**	
MODS	**Modra-Piesok**	**23.37**	**299**	*eP*	**P**		**09 59 16.1**	**+4.8**	
MODS	**Modra-Piesok**	**23.37**	**299**	*eP*	**P**		**09 59 16.1**	**+4.8**	
MAKZ	**Makanchi**	**24.70**	**65**	⇑P	**P**		**09 59 23.1**	**-0.7**	
	comp=Z,7.5nm,1.4s								
FINES	**FINESS Array B**	**24.72**	**334**	P	**P**		**09 59 23.7**	**-0.1**	
	comp=Z,5.2nm,0.4s,baz=134,slow=8.7,SNR=23								
FINES	**FINESS Array B**	**24.72**	**334**	*ceP*	**P**		**09 59 25.7**	**+1.9**	
FINES					pmax	pmax			
	comp=Z,5.0nm,0.4s								
MK31	**Makanchi Array**	**24.91**	**65**	P	**P**		**09 59 25.6**	**-0.2**	
	comp=Z,2.4nm,0.6s,baz=264,slow=8.2,SNR=27								
MK31	**Makanchi Array**	**24.91**	**65**	*c iP*	**P**		**09 59 25.6**	**-0.2**	
MKAR	**Makanchi Array**	**24.91**	**65**	P	**P**		**09 59 25.7**	**-0.1**	
	comp=Z,2.2nm,0.6s,baz=264,slow=8.5,SNR=24								
GERES	**GERESS Array B**	**25.78**	**300**	P	**P**		**09 59 35.7**	**+2.0**	
	comp=Z,1.0nm,0.5s,baz=85,slow=12,SNR=4.2								
HFS	**Hagfors**	**28.86**	**324**	P	**P**		**10 00 00.2**	**-0.9**	
	comp=Z,2.6nm,0.5s,baz=120,slow=8.8,SNR=9.9								
NB2	**NORSAR Subarra**	**30.36**	**324**	P	**P**		**10 00 13.3**	**-1.1**	
	comp=Z,1.4nm,0.6s,baz=116,slow=8.6								
NOA	**NORSAR Array B**	**30.36**	**324**	P	**P**		**10 00 14.0**	**-0.4**	
	comp=Z,2.8nm,0.8s,baz=117,slow=8.3,SNR=8.4								
ARCES	**ARCESS Array B**	**31.17**	**345**	P	**P**		**10 00 21.4**	**0.0**	
	comp=Z,1.1nm,0.5s,baz=132,slow=3.6,SNR=17								
SONM	**Songino Array**	**41.09**	**60**	P	**P**		**10 01 46.0**	**-0.6**	
	comp=Z,0.3nm,0.5s,baz=277,slow=7.5,SNR=2.6								
ULN	**Ulaanbaatar**	**41.51**	**60**	*ceP*	**P**		**10 01 50.7**	**+0.6**	
ULN					pmax	pmax			
	comp=Z,1.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**48.39**	**102**	P	**P**		**10 02 45.2**	**+0.2**	
	comp=Z,0.8nm,0.4s,baz=304,slow=8.1,SNR=5.6								
TORD	**Torodi Ar. Bea**	**49.28**	**250**	P	**P**		**10 02 54.4**	**+2.6**	
	comp=Z,0.7nm,0.7s,baz=46,slow=6.2,SNR=4.8								
YKA	**Yellowknife Ar**	**76.09**	**352**	P	**P**		**10 05 51.1**	**+1.1**	
	comp=Z,0.2nm,0.6s,baz=13,slow=5.6,SNR=7.0								

IDC 30 09:56:58.1±3.9, 5°00S×152°82E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/30, mbtmp3.3/2, Error ellipse: s-maj=166.3km s-min=53.1km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.33**	**229**	P	P	10 02 07.6	-0.5
	0.5nm,0.6s,baz=54,slow=9.8,SNR=4.7						
ASAR	**Alice Springs**	**26.02**	**223**	P	P	10 02 33.3	+0.2
	0.4nm,0.9s,baz=56,slow=9.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**150.39**	**288**	PKPbc	PKPbc	10 16 52.5	-0.1
	0.4nm,0.3s,baz=66,slow=3.5,SNR=2.6						

*TIF **30** 10:09:41.3, 41°.41N×44°.06E, h17km*
*NORS **30** 10:09:43.2±0.0, 41°.47N×43°.99E, h1km, MPVA3.5*
ISC 30 10:09:42.1±0.9, 41°41N±0°.04×44°02E±0°.03, h12km±6km, n18, σ0°77/34, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRLG	**Trialeti**	**0.14**	**25**	P	**Pg**	**10 09 45.4**	**-0.3**
TRLG				S	**Sg**	**10 09 47.4**	**-0.9**
DMNI	**Dmanisi**	**0.15**	**123**	P	**Pg**	**10 09 46.0**	**+0.1**
DMNI				S	**Sg**	**10 09 48.4**	**-0.1**
BRNG	**Burnasheti**	**0.26**	**325**	P	**Pg**	**10 09 48.3**	**+0.7**
BRNG				S	**Sg**	**10 09 52.7**	**+1.3**
BGD	**Bogdanovka**	**0.35**	**246**	P	**Pb**	**10 09 50.3**	**-0.1**
BGD				S	**Sb**	**10 09 56.0**	**0.0**
BKRG	**Bakuriani**	**0.51**	**313**	P	**Pb**	**10 09 52.5**	**-0.6**
BKRG				S	**Sb**	**10 10 00.2**	**-0.4**
BTNK	**Botanikuri**	**0.64**	**65**	P	**Pg**	**10 09 54.2**	**-0.4**
BTNK				S	**Sg**	**10 10 02.4**	**-0.7**
ABS	**Abastumani**	**0.97**	**291**	P	**Pg**	**10 10 00.7**	**-0.2**
ABS				S	**Sb**	**10 10 14.3**	**+0.5**
GUDG	**Gudauri**	**1.11**	**18**	P	**Pb**	**10 10 03.2**	**-0.1**
TKB	**Tkibuli**	**1.21**	**321**	P	**Pn**	**10 10 05.3**	**+0.4**
TKB				S	**Sn**	**10 10 21.6**	**+0.3**
ONI	**Oni**	**1.25**	**340**	P	**Pb**	**10 10 05.3**	**-0.5**
ONI				S	**Sn**	**10 10 22.1**	**-0.2**
ONI	**Oni**	**1.25**	**340**	*e*Pg	**Pb**	**10 10 05.4**	**-0.3**
ONI				*e*Sg	**Sn**	**10 10 22.4**	**+0.1**
PNSH	**Pansheti**	**1.30**	**20**	P	**Pn**	**10 10 06.0**	**-0.2**
PNSH				S	**Sn**	**10 10 24.7**	**+1.1**
MTEO	**Meteo**	**1.32**	**16**	P	**Pn**	**10 10 06.8**	**0.0**
ZEI	**Tsey**	**1.38**	**356**	*e*Pg	**Pb**	**10 10 07.7**	**-0.2**
ZEI				*e*Sg	**Sg**	**10 10 26.5**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.52**	**348**	*e*Pg	**Pg**	**10 10 10.8**	**-0.7**
DIGR				*e*Sg	**Sg**	**10 10 31.7**	**+0.5**
KORR	**Kora**	**1.67**	**1**	*e*Pg	**Pg**	**10 10 14.9**	**+0.6**
KORR				*e*Sg	**Sg**	**10 10 37.8**	**+1.8**
LGD	**Lagodekhi**	**1.72**	**75**	P	**Pn**	**10 10 12.9**	**+1.1**
LGD				S	**Sg**	**10 10 36.6**	**-0.7**
NEY	**Neytrino**	**2.08**	**333**	*e*Pg	**Pg**	**10 10 20.8**	**-1.1**
NEY				*e*Sg	**Sg**	**10 10 46.9**	**-2.0**

*IDC **30** 10:11:26.9±0.7, 5°.26S×152°.90E, h0km, mb4.2/20, mb1 4.3/21, mb1mx4.2/37, mbtmp4.2/21, ML2.3/1, Error ellipse: s-maj=20.9km s-min=14.2km az=100.0*
*DJA **30** 10:11:32.8±1.8, 5°.5±6°×15°.3E±2°.0, h69km±9km, M4.7/6, mB4.7/1, mb4.5/6, MLv4.7/2, Mw(mB)3.9/1*
*NEIC **30** 10:11:33.4±1.2, 5°.28S±0°.07×152°.92E±0°.07, h49km±4km, mb4.4/19, Error ellipse: s-maj=11.2km s-min=9.0km az=48.0*
ISC 30 10:11:32.3±0.6, 5°29S±0°.07×152°96E±0°.09, h37km, n51, σ1$03/51, mb4.4/28, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.35**	**324**		**Pn**	**10 11 56.1**	**+1.5**
PMG	**Port Moresby**	**7.06**	**234**	Pn	**Pn**	**10 13 13.4**	**+0.3**
	3.4nm,0.3s,baz=57,slow=11,SNR=9.6						
PMG				Sn	**Sn**	**10 14 28.5**	**-3.6**
	3.7nm,0.3s,baz=55,slow=9.9,SNR=3.6						
PMG	**Port Moresby**	**7.06**	**234**		**Pn**	**10 13 14.9**	**+1.8**
PMG					**Sn**	**10 14 35.1**	**+3.0**
PMG	**Port Moresby**	**7.06**	**234**	P	**Pn**	**10 13 15.9**	**+2.8**
FAKI	**Fak Fak**	**20.79**	**276**	P	**P**	**10 16 10.1**	**-0.4**
DZM	**Mont Dzumac**	**21.18**	**143**	P	**P**	**10 16 15.6**	**+0.9**
	6.6nm,0.5s,baz=233,slow=13,SNR=12						
DZM	**Mont Dzumac**	**21.18**	**143**	IAmb	IAmb	10 16 22.3	
	comp=Z,11nm,0.8s						
SIJI	**Sorong**	**22.10**	**281**	P	**P**	**10 16 24.5**	**-0.1**
	comp=Z,13nm,0.5s,baz=133,slow=10,SNR=11						
MTN	**Manton Dam**	**22.81**	**249**	P	**P**	**10 16 32.2**	**0.0**
MTN				IAmb	IAmb	10 16 43.1	
	comp=Z,20nm,1.2s						
WB0	**Warramunga Arr**	**23.10**	**230**	P	**P**	**10 16 34.4**	**-0.6**
WB0				IAmb	IAmb	10 16 36.4	
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**23.10**	**229**	P	**P**	**10 16 35.4**	**+0.3**
WR0				IAmb	IAmb	10 16 36.5	
	comp=Z,8.8nm,0.7s						
WRAB	**Tennant Creek**	**23.23**	**230**	P	**P**	**10 16 35.7**	**-0.7**
WRAB				IAmb	IAmb	10 16 37.6	
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**23.24**	**230**	P	**P**	**10 16 35.3**	**-1.1**
WB2				IAmb	IAmb	10 16 37.8	
	comp=Z,8.6nm,0.6s						
WRA	**Warramunga Arr**	**23.25**	**230**	P	**P**	**10 16 35.3**	**-1.2**
	comp=Z,5.4nm,0.4s,baz=54,slow=9.8,SNR=67						
WRA	**Warramunga Arr**	**23.25**	**230**	P	**P**	**10 16 35.8**	**-0.8**
AS31	**Alice Springs**	**25.90**	**223**	P	**P**	**10 17 00.9**	**-0.1**
ASAR	**Alice Springs**	**25.90**	**223**	P	**P**	**10 17 00.7**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=57,slow=9.3,SNR=79						
ASAR	**Alice Springs**	**25.90**	**223**	P	**P**	**10 17 00.6**	**-0.4**
STKA	**Stephens Creek**	**28.51**	**201**	P	**P**	**10 17 23.8**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=324,slow=8.5,SNR=4.1						
FITZ	**Fitzroy Crossi**	**29.57**	**242**	P	**P**	**10 17 32.7**	**-1.2**
	comp=Z,4.1nm,0.5s,baz=64,slow=7.2,SNR=24						
FITZ	**Fitzroy Crossi**	**29.57**	**242**	P	**P**	**10 17 33.1**	**-0.7**
FORT	**Forrest**	**34.51**	**220**	P	**P**	**10 18 16.6**	**-0.5**
PSA00	**Pilbara Seismi**	**35.92**	**240**	P	**P**	**10 18 28.3**	**-1.1**
NNZ	**Nelson**	**40.17**	**156**	P	**P**	**10 19 04.8**	**0.0**
MORW	**Morawa**	**42.16**	**232**	P	**P**	**10 19 21.3**	**-0.2**
MORW				IAmb	IAmb	10 19 49.1	
	comp=Z,24nm,1.5s						
JNU	**Nakatsue**	**43.57**	**333**	P	**P**	**10 19 32.8**	**-0.1**
JNU				IAmb	IAmb	10 19 33.8	
	comp=Z,12nm,0.9s						
JTM	**Tenmabayashi**	**47.14**	**348**	P	**P**	**10 20 00.5**	**-0.3**
KSRS	**Korea Array**	**48.51**	**333**	P	**P**	**10 20 11.3**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=149,slow=8.4,SNR=4.1						
USRK	**Ussuriysk Ar.**	**52.76**	**341**	P	**P**	**10 20 43.2**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=98,slow=6.1,SNR=5.8						
CMAR	**Chiang Mai Arr**	**58.23**	**295**	P	**P**	**10 21 23.5**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=109,slow=5.2,SNR=12						
CMAR	**Chiang Mai Arr**	**58.23**	**295**	P	**P**	**10 21 24.1**	**+0.7**
PETK	**Petropavlovsk-**	**58.32**	**3**	P	**P**	**10 21 24.1**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=163,slow=6.6,SNR=16						
PETK	**Petropavlovsk-**	**58.32**	**3**	P	**P**	**10 21 23.8**	**+0.5**
MA2	**Magadan**	**64.69**	**359**	P	**P**	**10 22 06.6**	**+0.4**
MA2				IAmb	IAmb	10 22 07.2	
	comp=Z,5.4nm,0.7s						
SONM	**Songino Array**	**66.83**	**328**	P	**P**	**10 22 21.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=150,slow=5.9,SNR=6.7						
SONM	**Songino Array**	**66.83**	**328**	P	**P**	**10 22 19.8**	**-0.6**
SONM				IAmb	IAmb	10 22 22.3	
	comp=Z,3.5nm,1.5s						
VNDA	**Vanda**	**72.33**	**178**	P	**P**	**10 22 54.5**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=330,slow=6.9,SNR=7.7						
MKAR	**Makanchi Array**	**80.80**	**319**	P	**P**	**10 23 42.0**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=99,slow=7.1,SNR=9.3						
ZALV	**Zalesovo Beam**	**81.65**	**326**	P	**P**	**10 23 46.0**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=109,slow=5.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**81.65**	**326**	P	**P**	**10 23 45.9**	**-0.7**
ILAR	**Eielson Array**	**82.55**	**22**	P	**P**	**10 23 50.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=258,slow=4.9,SNR=3.0						
KURK	**Kurchatov**	**84.25**	**322**	P	**P**	**10 23 59.8**	**-0.2**
KURBB	**Kurchatov Arra**	**84.28**	**322**	P	**P**	**10 23 59.8**	**-0.4**
	comp=Z,1.3nm,1.0s,baz=105,slow=4.3,SNR=7.9						
AAK	**Ala-Archa**	**85.12**	**313**	P	**P**	**10 24 05.2**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=173,slow=5.5,SNR=5.1						
AAK	**Ala-Archa**	**85.12**	**313**	IAmb	IAmb	10 24 27.8	
	comp=Z,5.5nm,1.4s						
NRIK	**Noril'sk**	**86.48**	**341**	P	**P**	**10 24 11.1**	**+0.3**
	comp=Z,1.9nm,0.4s,baz=42,slow=3.9,SNR=2.7						
BVAR	**Borovoye Array**	**89.73**	**323**	P	**P**	**10 24 25.7**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=150,slow=14,SNR=10						
YKA	**Yellowknife Ar**	**95.78**	**28**	P	**P**	**10 24 54.3**	**0.0**
	comp=Z,0.2nm,0.8s,baz=278,slow=4.2,SNR=2.7						
MDT	**Midelt**	**145.54**	**325**	PKPbc	**PKPab**	**10 31 07.8**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=72,slow=3.3,SNR=4.8						
PTGA	**Pitinga**	**146.57**	**99**	PKPbc	**PKPab**	**10 31 11.9**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=314,slow=22,SNR=4.5						
TORD	**Torodi Ar. Bea**	**150.61**	**287**	PKPbc	**PKPbc**	**10 31 20.8**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=72,slow=2.3,SNR=16						

*AZER **30** 10:22:05.8±0.1, 40°.90N×48°.58E, h6km, ml4.1/35, Error ellipse: s-maj=0.9km s-min=0.9km az=239.0*
*IDC **30** 10:22:06.4±0.7, 40°.93N×48°.75E, h0km, mb3.8/14, mb1 4.1/25, mb1mx3.9/65, mbtmp3.9/25, ML3.9/10, Error ellipse: s-maj=13.1km s-min=7.5km az=174.0*
*MOS **30** 10:22:07.0±1.9, 40°.94N×48°.85E, h11km, mb4.4/4, Error ellipse: s-maj=8.8km s-min=5.0km az=110.5*
*DRS **30** 10:22:08.9±0.0, 41°.02N×48°.74E, h16km, ML4.0/8*
*NNC **30** 10:22:10.0±1.4, 40°.98N×49°.16E, h0km, mb4.1, Error ellipse: s-maj=17.8km s-min=10.7km az=72.0*
ISC 30 10:22:08.0±0.7, 40°91N±0°.02×48°62E±0°.02, h12km±4km, n111, σ2$07/168, mb3.9/16, 15C-13D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PQL	**Pirkuli**	**0.12**	**190**	P	**Pg**	**10 22 10.0**	**-1.4**
PQL				S	**Sg**	**10 22 12.6**	**-1.2**
ATGJ	**Altiaghaj**	**0.24**	**102**	P	**Pg**	**10 22 13.4**	**+0.1**
	SNR=1390						
ATGJ				S	**Sb**	**10 22 18.4**	**+1.6**
SIZA	**Siyzn**	**0.27**	**52**	P	**Pb**	**10 22 14.7**	**-0.1**
	SNR=2513						
SIZA				S	**Sb**	**10 22 20.6**	**+1.3**
IML	**Ismayilli**	**0.35**	**251**	P	**Pg**	**10 22 14.6**	**-0.6**
	SNR=354						
IML				S	**Sg**	**10 22 20.7**	**+0.7**
XNQ	**Khinaliq**	**0.45**	**306**	P	**Pg**	**10 22 16.6**	**-0.4**
	SNR=601						
XNQ				S	**Sg**	**10 22 23.2**	**+0.3**
GBS	**Qobustan**	**0.45**	**147**	P	**Pb**	**10 22 17.7**	**-0.2**
	SNR=23						
GBS				S	**Sn**	**10 22 26.7**	**+3.9**
QUBA	**Quba, Azerbaij**	**0.45**	**348**	P	**Pb**	**10 22 18.6**	**+0.6**
	SNR=293						
QUBA				S	**Sn**	**10 22 26.9**	**+3.8**
QBL	**Gabala**	**0.60**	**274**	P	**Pg**	**10 22 19.0**	**-0.7**
	SNR=284						
QBL				S	**Sg**	**10 22 28.1**	**+0.6**
KDMR	**Kurdemir**	**0.63**	**212**	P	**Pg**	**10 22 20.1**	**-0.1**
	SNR=18						
KDMR				S	**Sb**	**10 22 30.5**	**+0.8**
QSAR	**Qusar**	**0.66**	**336**	P	**Pb**	**10 22 21.9**	**+0.4**
	SNR=631						
QSAR				S	**Sb**	**10 22 32.1**	**+1.5**
AKT	**Akhty**	**0.88**	**310**	*i*PG	**Pg**	**10 22 24.5**	**-0.5**
AKT				*e*		10 22 36.9	
AKT				pmax	pmax		
	comp=Z,2μm,0.3s						
AKT				smax	smax		
	comp=E,8μm,0.3s						
AKT				smax	smax		
	comp=E,7μm,0.3s						
AKT				smax	smax		
	comp=N,8μm,0.2s						
AKT	**Akhty**	**0.88**	**310**	*i* Pg	**Pg**	**10 22 24.6**	**-0.5**
	comp=N,2μm,0.6s						
AKT				*e*Sg	**Sg**	**10 22 36.9**	**+0.3**
	comp=N,6μm,0.5s						
ZRD	**Zardab**	**0.95**	**229**	P	**Pb**	**10 22 26.1**	**-0.4**
	SNR=171						
ZRD				S	**Sn**	**10 22 41.5**	**+0.8**
GOBA	**Gobu**	**0.99**	**121**	P	**Pn**	**10 22 29.5**	**+1.8**
	SNR=90						
GOBA				S	Sn	10 22 50.3	+8.8
ALIB	**Äli-Bayra**	**1.00**	**163**	P	**Pn**	**10 22 29.4**	**+1.6**
	SNR=119						
ALIB				S	**Sn**	**10 22 49.2**	**+7.5**
SAAT	**Saatly**	**1.06**	**188**	P	**Pb**	**10 22 27.8**	**-0.4**
	SNR=16						
SAAT				S	**Sn**	**10 22 47.7**	**+4.4**
NDR	**Nardaran**	**1.09**	**107**	P	**Pg**	**10 22 30.5**	**+1.5**
	SNR=17						
NDR				S	**Sn**	**10 22 46.5**	**+2.5**
SEKA	**Sheki**	**1.12**	**286**	P	**Pb**	**10 22 28.0**	**-1.3**
	SNR=236						
SEKA				S	**Sn**	**10 22 45.7**	**+0.8**
MNGR	**Mingechevir, A**	**1.17**	**264**	P	**Pn**	**10 22 30.0**	**-0.2**
	SNR=71						
MNGR				S	**Sg**	**10 22 47.8**	**+1.9**
GALA	**Gala**	**1.27**	**113**	P	**Pg**	**10 22 34.2**	**+1.8**
GALA				S	**Sg**	**10 22 53.1**	**+4.2**
BRDA	**Brd**	**1.28**	**240**	P	**Pb**	**10 22 31.8**	**-0.1**
	SNR=29						
BRDA				S	**Sg**	**10 22 51.5**	**+2.3**
AGDM	**Agdam**	**1.41**	**236**	P	**Pn**	**10 22 33.2**	**-0.2**
	SNR=173						
AGDM				S	**Sg**	**10 22 53.8**	**+0.6**
BLQ	**Beylaqan**	**1.44**	**215**	P	**Pn**	**10 22 33.0**	**-0.9**
	SNR=145						
BLQ				S	**Sg**	**10 22 54.0**	**-0.4**
URKR	**Urkarakh**	**1.46**	**330**	⇑*ePg*	**Pb**	**10 22 35.7**	**+0.6**
URKR				*e*		10 22 55.9	
URKR				pmax	pmax		
	comp=Z,525nm,0.6s						
URKR				smax	smax		
	comp=N,2μm,0.4s						
URKR	**Urkarakh**	**1.46**	**330**	*ePg*	**Pb**	**10 22 35.8**	**+0.6**
	comp=N,525nm,0.6s						
URKR				*e*Sg	**Sg**	**10 22 56.0**	**+1.0**
	comp=N,2μm,0.4s						
ZKTA	**Zakatala**	**1.67**	**296**	Pn	**Pb**	**10 22 38.0**	**-0.7**
	SNR=60						
ZKTA				Sn	**Sg**	**10 23 04.9**	**+3.1**
GLBA	**Clilabad**	**1.68**	**186**	Pn	**Pn**	**10 22 37.0**	**-0.2**
	SNR=45						
GLBA				Sn	**Sg**	**10 23 01.9**	**-0.1**
SGKR	**Sergokala**	**1.71**	**335**	⇓*ePN*	**Pb**	**10 22 40.2**	**+0.9**
SGKR				*e*		10 23 03.5	
SGKR				pmax	pmax		
	comp=Z,337nm,0.3s						
SGKR				smax	smax		
	comp=N,1μm,0.5s						
SGKR	**Sergokala**	**1.71**	**335**	*ePg*	**Pb**	**10 22 40.2**	**+0.9**
	comp=N,337nm,0.3s						
SGKR				*e*Sg	**Sg**	**10 23 03.5**	**+0.6**
	comp=N,1μm,0.5s						
QRD	**Qoradiz**	**1.76**	**215**	Pn	**Pn**	**10 22 38.0**	**-0.3**
	SNR=61						
QRD				Sn	**Sb**	**10 23 02.3**	**+0.1**
GANJ	**Ganja**	**1.77**	**262**	Pn	**Pn**	**10 22 37.9**	**-0.5**
	SNR=34						
GANJ				Sn	**Sb**	**10 23 02.1**	**-0.4**
GNBR	**Gunib**	**1.93**	**320**	⇑*ePN*	**Pb**	**10 22 44.1**	**+1.0**
GNBR				*e*		10 23 12.0	
GNBR				pmax	pmax		
	comp=Z,374nm,0.6s						
GNBR				smax	smax		
	comp=N,2μm,0.9s						
GNBR	**Gunib**	**1.93**	**320**	*ePg*	**Pb**	**10 22 44.2**	**+1.0**
	comp=N,374nm,0.7s						
GNBR				*e*Sg	**Sg**	**10 23 12.0**	**+1.9**
	comp=N,2μm,0.9s						
DDFL	**Dedoflistskaro**	**1.96**	**287**	Pn	**Pb**	**10 22 43.7**	**0.0**
DDFL				Sn	**Sg**	**10 23 16.0**	**+4.8**
LGD	**Lagodekhi**	**2.01**	**298**	Pn	**Pb**	**10 22 44.0**	**-0.6**
LGD				Sn	**Sg**	**10 23 14.7**	**+1.9**
YRD	**Yardimli**	**2.02**	**188**	Pn	**Pn**	**10 22 41.5**	**-0.5**
	SNR=255						
YRD				Sn	**Sb**	**10 23 10.2**	**+0.5**
ARKR	**Arakani**	**2.08**	**325**	⇓*ePN*	**Pb**	**10 22 46.5**	**+0.8**
ARKR				*e*		10 23 16.6	
ARKR				pmax	pmax		
	comp=Z,302nm,0.6s						
ARKR				smax	smax		
	comp=N,611nm,0.5s						
ARKR	**Arakani**	**2.08**	**325**	*ePg*	**Pb**	**10 22 46.5**	**+0.8**
	comp=N,302nm,0.6s						
ARKR				*e*Sg	**Sg**	**10 23 16.6**	**+1.7**
	comp=N,611nm,0.5s						
GDB	**GEDABAY**	**2.19**	**266**	Pn	**Pn**	**10 22 44.0**	**-0.3**
	SNR=221						
GDB				Sn	**Sb**	**10 23 13.4**	**-1.2**
LKRN	**Lenkeran, Azer**	**2.20**	**177**	Pn	**Pn**	**10 22 44.8**	**+0.4**
	SNR=5.4						
LKRN				Sn	**Sg**	**10 23 17.5**	**-1.3**
MAK	**Makhachkala**	**2.21**	**338**	*e*PN	**Pn**	**10 22 42.4**	**-2.1**
MAK				*e*		10 23 11.2	
MAK				*e*		10 23 19.7	
MAK				pmax	pmax		
	comp=Z,244nm,0.4s						
MAK				smax	smax		
	comp=N,2μm,0.4s						
MAK				smax	smax		
	comp=N,2μm,0.6s						
MAK				MLR	MLR		
	comp=Z,2μm,2.0s						
LRK	**Lerik**	**2.28**	**186**	Pn	**Pn**	**10 22 46

GYA0B				⇓S		Sn		10 25 30.4	-2.4
BELG	**Belogornoye**	**11.51**	**357**	Pn		**Pn**		10 24 52.5	+0.5
	comp=Z,4.3nm,0.3s,baz=316,slow=2.1,SNR=8.8								
BELG				Sn		**Sn**		**10 26 56.7**	**-3.6**
	comp=Z,1.6nm,0.3s,baz=108,slow=22,SNR=7.4								
BELG	**Belogornoye**	**11.51**	**357**	⇓*eP*		**Pn**		10 24 52.1	+0.2
BELG				pmax	pmax				
	comp=Z,2.0nm,0.6s								
AB31	**Akbulak array**	**11.55**	**40**	⇑P		**Pn**		10 24 52.4	-0.2
	comp=Z,1.2nm,0.3s,baz=222,slow=13,SNR=55								
AB31				⇑S		**Sn**		**10 26 58.9**	**-2.5**
	comp=Z,5.1nm,0.5s,baz=228,slow=24,SNR=5.1								
AKTO	**Aktyubinsk**	**11.56**	**31**	Pn		**Pn**		10 24 50.9	-1.8
	comp=Z,0.5nm,0.3s,baz=196,slow=11,SNR=6.3								
AKTO				Sn		**Sn**		**10 26 56.2**	**-5.4**
	comp=Z,1.2nm,0.3s,baz=22,slow=23,SNR=6.7								
AKTO	**Aktyubinsk**	**11.56**	**31**	⇓P		**Pn**		10 24 52.2	-0.5
	comp=Z,7.1nm,0.8s								
AKTO				⇑S		**Sn**		**10 27 01.2**	**-0.5**
	comp=Z,13nm,0.7s								
KK31	**Karatay Array**	**16.41**	**75**	⇑P		**Pn**		10 25 57.6	-0.5
	comp=Z,3.1nm,0.6s,baz=264,slow=14,SNR=38								
KK31				S		**Sn**		**10 28 53.1**	**-7.0**
	comp=Z,1.7nm,0.6s,baz=275,slow=24,SNR=3.8								
AKASG	**Malin Array Be**	**16.65**	**313**	Pn		**Pn**		10 25 54.5	-6.5
	comp=Z,0.6nm,0.3s,baz=122,slow=13,SNR=2.2								
AKBB	**Malin Array Si**	**16.65**	**313**	*eP*		**Pn**		**10 26 00.1**	**-0.9**
ARU	**Arti**	**16.83**	**19**	Pn		**Pn**		**10 26 00.8**	**-2.5**
	comp=Z,0.0nm,0.3s,baz=217,slow=9.2,SNR=8.1								
ARU	**Arti**	**16.83**	**19**	*ci P*		**Pn**		**10 26 02.1**	**-1.2**
ARU				S		**Sn**		**10 29 08.0**	**-2.0**
ARU				pmax	pmax				
	comp=Z,6.0nm,0.5s								
MLR	**Muntele Rosu**	**17.14**	**293**	P		**P**		**10 26 10.3**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=199,slow=2.5,SNR=4.8								
KIRV	**Kirov**	**17.70**	**1**	P		**P**		**10 26 14.8**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=124,slow=8.1,SNR=4.4								
KIRV	**Kirov**	**17.70**	**1**	⇑*eP*		**P**		**10 26 15.0**	**+0.1**
SVE	**Sverdlovsk**	**17.73**	**22**	*eP*		**Pn**		**10 26 14.5**	**0.0**
SVE				*eS*		**Sn**		**10 29 24.3**	**-7.6**
SVE				pmax	pmax				
	comp=Z,13nm,0.6s								
BRVK	**Borovoye**	**19.04**	**43**	⇓*eP*		**Pn**		**10 26 31.0**	**+0.5**
BRVK				pmax	pmax				
	comp=Z,5.0nm,0.8s								
BVAR	**Borovoye Array**	**19.08**	**43**	P		**P**		**10 26 29.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=188,slow=8.7,SNR=5.9								
BVAR				S		**Sn**		**10 29 56.9**	**-7.5**
	comp=Z,0.2nm,0.3s,baz=237,slow=19,SNR=5.2								
AAK	**Ala-Archa**	**19.35**	**76**	P		**P**		**10 26 33.0**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=280,slow=3.5,SNR=4.2								
AAK	**Ala-Archa**	**19.35**	**76**	⇓*eP*		**Pn**		**10 26 34.4**	**-0.2**
AAK				pmax	pmax				
	comp=Z,49nm,2.1s								
KLMR	**Klimovskoe**	**20.74**	**347**	*eP*		Pn		10 26 50.9	+0.4
KLMR				pmax	pmax				
	comp=Z,6.0nm,0.5s								
KLMR	**Klimovskoe**	**20.74**	**347**	*eP*		Pn		10 26 50.9	+0.4
KLMR				AMP				10 26 54.7	
	comp=Z,6.0nm,0.5s								
PRGR	**Permogore**	**20.83**	**356**	*eP*		**P**		**10 26 48.3**	**-0.9**
PRGR				pmax	pmax				
	comp=Z,13nm,0.4s								
KURBB	**Kurchatov Arra**	**22.87**	**55**	P		**P**		**10 27 10.7**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=259,slow=10,SNR=10								
KURBB	**Kurchatov Arra**	**22.87**	**55**	⇓P		**P**		**10 27 11.7**	**+0.5**
	comp=Z,6.5nm,1.1s								
KURK	**Kurchatov**	**22.95**	**55**	P		**P**		**10 27 10.7**	**-1.2**
MAKZ	**Makanchi**	**24.64**	**65**	⇑P		**P**		**10 27 28.3**	**+0.1**
	comp=Z,2.9nm,0.7s								
FINES	**FINESS Array B**	**24.70**	**334**	P		**P**		**10 27 28.2**	**-0.4**
	comp=Z,4.5nm,0.4s,baz=138,slow=9.8,SNR=18								
FINES	**FINESS Array B**	**24.70**	**334**	*i* P		**P**		**10 27 30.7**	**+2.0**
FINES				pmax	pmax				
	comp=Z,5.0nm,0.4s								
MK31	**Makanchi Array**	**24.85**	**65**	P		**P**		**10 27 30.1**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=262,slow=7.1,SNR=27								
MK31	**Makanchi Array**	**24.85**	**65**	*deP*		**P**		**10 27 30.3**	**+0.1**
MKAR	**Makanchi Array**	**24.85**	**65**	P		**P**		**10 27 29.5**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=258,slow=7.4,SNR=24								
GERES	**GERESS Array B**	**25.80**	**300**	P		**P**		**10 27 41.4**	**+2.5**
	comp=Z,0.8nm,0.6s,baz=91,slow=9.8,SNR=2.8								
VAE	**Valguarnera**	**26.63**	**274**	P		**P**		**10 27 49.9**	**+3.4**
	comp=Z,93nm,0.3s,baz=29,slow=3.1,SNR=5.5								
ZALV	**Zalesovo Beam**	**27.41**	**49**	P		**P**		**10 27 52.6**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=251,slow=12,SNR=2.0								
HFS	**Hagfors**	**28.86**	**324**	P		**P**		**10 28 05.6**	**-0.5**
	comp=Z,8.6nm,0.9s,baz=125,slow=9.3,SNR=9.6								
NB2	**NORSAR Subarra**	**30.36**	**324**	P		**P**		**10 28 18.2**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=115,slow=8.6								
NOA	**NORSAR Array B**	**30.36**	**324**	P		**P**		**10 28 18.6**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=118,slow=8.4,SNR=6.4								
ARCES	**ARCESS Array B**	**31.15**	**345**	P		**P**		**10 28 26.9**	**+0.7**
	comp=Z,4.9nm,1.0s,baz=143,slow=7.9,SNR=17								
SONM	**Songino Array**	**41.03**	**60**	P		**P**		**10 29 50.7**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=310,slow=6.8,SNR=2.5								
CMAR	**Chiang Mai Arr**	**48.35**	**102**	P		**P**		**10 30 49.2**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=301,slow=9.4,SNR=4.9								
CMAR	**Chiang Mai Arr**	**48.35**	**102**	*i* P		**P**		**10 30 49.0**	**-0.6**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
TORD	**Torodi Ar. Bea**	**49.34**	**250**	P		**P**		**10 30 57.9**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=60,slow=6.9,SNR=4.3								
USRK	**Ussuriysk Ar.**	**58.92**	**57**	P		**P**		**10 32 06.5**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=263,slow=5.7,SNR=3.1								
SEY	**Seymchan**	**60.16**	**31**	P		**P**		**10 32 14.1**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=37,slow=20,SNR=1.4								
COCO	**West Island**	**69.09**	**129**	*i* P		**P**		**10 33 16.2**	**+2.3**
YKA	**Yellowknife Ar**	**76.06**	**352**	P		**P**		**10 33 54.6**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=16,slow=5.5,SNR=4.8								
YKA	**Yellowknife Ar**	**76.06**	**352**	*eP*		**P**		**10 33 57.3**	**+2.5**

*IDC **30** 10:24:07.0±1.3,5.˚43S×152.˚66E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/49, mbtmp3.9/10, ML1.8/1, Error ellipse: s-maj=56.3km s-min=16.9km az=123.0*

ISC 30 10:24:11.9±1.1,5.˚5S±0.˚2×152.˚8E±0.˚2, h35km, n10, σ1§01/11, mb3.7/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.80**	**235**	Pn		**Pn**	**10 25 49.2**	**0.0**
	1.1nm,0.3s,baz=70,slow=4.5,SNR=3.9							
PMG				Sn		**Sn**	**10 27 07.2**	**+1.7**
	2.4nm,0.3s,baz=71,slow=16,SNR=7.0							
WRA	**Warramunga Arr**	**22.98**	**230**	P		**P**	**10 29 13.0**	**-0.7**
	1.8nm,0.7s,baz=55,slow=10.0,SNR=15							
ASAR	**Alice Springs**	**25.62**	**223**	P		**P**	**10 29 38.2**	**-0.2**
	1.0nm,0.5s,baz=56,slow=8.9,SNR=24							
STKA	**Stephens Creek**	**28.24**	**200**	P		**P**	**10 30 01.7**	**-0.1**
	0.9nm,0.6s,baz=20,slow=15,SNR=3.3							
FITZ	**Fitzroy Crossi**	**29.32**	**242**	P		**P**	**10 30 10.3**	**-1.2**
	1.1nm,0.6s,baz=53,slow=6.6,SNR=8.5							
PETK	**Petropavlovsk-**	**58.56**	**3**	P		**P**	**10 34 05.1**	**+0.2**
	1.4nm,0.9s,baz=159,slow=7.6,SNR=6.9							
ZALV	**Zalesovo Beam**	**81.75**	**326**	P		**P**	**10 36 27.0**	**0.0**
	0.8nm,0.5s,baz=98,slow=5.0,SNR=1.8							
ILAR	**Eielson Array**	**82.82**	**22**	P		**P**	**10 36 32.7**	**+0.4**
	0.2nm,0.5s,baz=255,slow=6.4,SNR=5.1							
BVAR	**Borovoye Array**	**89.82**	**323**	P		**P**	**10 37 05.7**	**-1.3**
	0.7nm,0.7s,baz=128,slow=8.2,SNR=5.2							
YKA	**Yellowknife Ar**	**96.06**	**28**	P		**P**	**10 37 36.6**	**+1.1**
	0.1nm,0.6s,baz=270,slow=3.9,SNR=6.1							

*IDC **30** 10:24:43.6±1.2,5.˚29S×153.˚00E, h0km, mb4.0/13, mb1 4.1/13, mb1mx3.8/48, mbtmp4.0/13, Error ellipse: s-maj=40.3km s-min=18.3km az=115.0*

ISC 30 10:24:49.2±1.1,5.˚3S±0.˚2×153.˚0E±0.˚2, h37km, n15, σ0§78/16, mb3.9/13, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**7.09**	**235**	Sn		**Sn**	**10 27 50.5**	**+0.5**
	1.0nm,0.3s,baz=3.2,slow=12,SNR=1.6							
SIJI	**Sorong**	**22.16**	**281**	P		**P**	**10 29 42.2**	**-0.1**
	6.1nm,0.5s,baz=45,slow=21,SNR=4.5							
WRA	**Warramunga Arr**	**23.28**	**230**	P		**P**	**10 29 54.0**	**+0.1**
	3.8nm,0.8s,baz=55,slow=9.7,SNR=9.9							
ASAR	**Alice Springs**	**25.92**	**223**	P		**P**	**10 30 18.4**	**+0.1**
	1.1nm,0.7s,baz=56,slow=9.1,SNR=6.5							
FITZ	**Fitzroy Crossi**	**29.61**	**242**	P		**P**	**10 30 50.5**	**-0.8**
	1.5nm,0.6s,baz=94,slow=5.8,SNR=5.5							
PETK	**Petropavlovsk-**	**58.34**	**3**	P		**P**	**10 34 41.1**	**+0.6**
	3.1nm,0.9s,baz=169,slow=8.4,SNR=6.4							
MA2	**Magadan**	**64.71**	**359**	P		**P**	**10 35 23.7**	**+0.3**
	2.2nm,0.6s,baz=157,slow=8.8,SNR=6.4							
SONM	**Songino Array**	**66.88**	**328**	P		**P**	**10 35 39.0**	**+1.3**
	0.4nm,0.6s,baz=161,slow=5.0,SNR=2.4							
SEY	**Seymchan**	**68.06**	**360**	P		**P**	**10 35 44.8**	**+0.1**
	0.7nm,0.6s,baz=84,slow=23,SNR=5.3							
MKAR	**Makanchi Array**	**80.86**	**319**	P		**P**	**10 36 59.0**	**-0.5**
	0.3nm,0.6s,baz=99,slow=8.9,SNR=2.2							
ZALV	**Zalesovo Beam**	**81.70**	**326**	P		**P**	**10 37 02.5**	**-1.3**
	1.1nm,0.5s,baz=88,slow=5.6,SNR=4.8							
KURBB	**Kurchatov Arra**	**84.34**	**322**	P		**P**	**10 37 17.1**	**-0.4**
	0.3nm,0.5s,baz=102,slow=4.3,SNR=2.5							
QSPA	**South Pole Qui**	**84.65**	**180**	P		**P**	**10 37 19.4**	**+0.5**
	0.6nm,0.6s,baz=343,slow=1.9,SNR=5.6							
BVAR	**Borovoye Array**	**89.78**	**323**	P		**P**	**10 37 43.0**	**-0.9**
	1.1nm,0.7s,baz=144,slow=12,SNR=6.2							
TORD	**Torodi Ar. Bea**	**150.68**	**287**	PKPbc		**PKPbc**	**10 44 38.4**	**-0.1**
	1.8nm,0.8s,baz=97,slow=2.9,SNR=6.4							
TORD				PKPab		**pPKPdf**	**10 44 43.0**	**-1.3**
	0.9nm,0.8s,baz=28,slow=3.5,SNR=3.9							

*SNET **30** 10:31:49.8±1.0, 13.˚16N×89.˚69W, h30km±3km, ML3.0*
*GCG **30** 10:31:52.4±0.4, 13.˚32N×89.˚87W, h89km±36km, MD3.5*

ISC 30 10:31:49.6±1.7, 13.˚15N±0.˚07×89.˚70W±0.˚04, h29km±12km, n29, σ0§59/44, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LALI	**Alcalda de L**	**0.50**	**48**	*eP*		**Pn**	**10 32 30.6**	**-0.1**
JAYA	**Jayaque - finc**	**0.56**	**26**	*eP*		**Pb**	**10 32 01.3**	**+0.2**
JAYA				*eP*		**Pn**	**10 32 01.4**	**-0.3**
JAYA				IAML			10 32 13.7	
	comp=Z,1μm,0.2s							
ITCA	**Escuela Especi**	**0.66**	**38**	*eS*		**Sn**	**10 32 12.4**	**-0.2**
MAGS	**Ministerio de**	**0.67**	**37**	*eP*		**Pb**	**10 32 02.6**	**-0.3**
PMON	**Piamonte**	**0.67**	**34**	*eP*		**Pb**	**10 32 02.8**	**-0.1**
PMON				*eS*		**Sn**	**10 32 13.4**	**+0.5**
CEVE	**Cerro Verde**	**0.68**	**6**	*eP*		**Pb**	**10 32 03.1**	**0.0**
CEVE				*eS*		**Sn**	**10 32 14.8**	**+1.6**
CEVE				IAML			10 32 18.5	
	comp=Z,883nm,0.3s							
SBLS	**San Blas**	**0.69**	**6**	*eP*		**Pb**	**10 32 03.3**	**0.0**
BOQS	**Boqueron**	**0.71**	**35**	*eP*		**Pb**	**10 32 03.4**	**-0.2**
BOQS				*eS*		**Sn**	**10 32 14.5**	**+0.5**
CEDA	**San Andres**	**0.71**	**25**	*eP*		**Pb**	**10 32 03.2**	**-0.4**
CEDA				*eS*		**Sn**	**10 32 14.2**	**+0.4**
CEDA				*eS*		**Sb**	**10 32 14.4**	**+1.3**
CEDA				IAML			10 32 18.9	
	comp=Z,951nm,0.1s							
IGN	**Direccin Gen**	**0.76**	**43**	*eS*		**Sn**	**10 32 15.1**	**+0.1**
UDBS	**Universidad Do**	**0.77**	**43**	*eP*		**Pn**	**10 32 04.3**	**-0.3**
UDBS				*eS*		**Sn**	**10 32 15.4**	**+0.1**
LFRS	**El Faro**	**0.78**	**53**	*eP*		**Pn**	**10 32 04.4**	**-0.4**
LFRS				*eS*		**Sn**	**10 32 15.9**	**+0.3**
UNIC	**Universidad Ca**	**0.84**	**10**	*eP*		**Pn**	**10 32 05.2**	**-0.3**
LBRS	**Las Brisas**	**0.87**	**47**	*eP*		**Pn**	**10 32 05.7**	**-0.2**
TACO	**Tacachico**	**0.88**	**22**	*eP*		**Pn**	**10 32 05.8**	**-0.3**
TACO				*eS*		**Sb**	**10 32 18.5**	**+0.6**
PAVA	**Las Pavas**	**0.93**	**53**	*i* Sg		**Sb**	**10 32 19.9**	**+0.6**
UESV	**Universidad de**	**1.01**	**61**	*eS*		**Sb**	**10 32 21.5**	**0.0**
UESV				IAML			10 32 24.0	
	comp=Z,346nm,0.4s							
ALJI	**Alcalda de J**	**1.11**	**81**	*eS*		**Sb**	**10 32 24.3**	**-0.1**
PQSS	**Presa 15 de Se**	**1.21**	**67**	*eP*		**Pn**	**10 32 10.3**	**-0.2**
PQSS				*eS*		**Sb**	**10 32 26.7**	**-0.3**
PQSS				IAML			10 32 27.6	
	comp=Z,257nm,0.1s							
LLGN	**La Laguna**	**1.25**	**36**	*eP*		**Pn**	**10 32 10.9**	**-0.2**
LLGN				*eS*		**Sb**	**10 32 28.1**	**-0.2**
LLGN				IAML			10 32 33.2	
	comp=Z,108nm,0.6s							
MTO3	**Montecristo**	**1.28**	**15**	*eP*		**Pn**	**10 32 11.7**	**-0.1**
PACA	**Pacayal**	**1.38**	**77**	*eP*		**Pn**	**10 32 13.2**	**+0.3**
PACA				*eS*		**Sb**	**10 32 31.3**	**-0.8**
JUCU	**Jucuarn**	**1.42**	**86**	*eP*		**Pn**	**10 32 13.9**	**+0.4**
JUCU				*eS*		**Sn**	**10 32 32.0**	**+0.8**
PCG	**Pacaya**	**1.52**	**325**	*eP*		**Pb**	**10 32 17.0**	**-0.3**
PCG				*eS*		**Sb**	**10 32 35.3**	**-0.9**
NBG	**Las Nubes**	**1.56**	**336**	*eP*		**Pb**	**10 32 17.1**	**-0.9**
FUG	**Fuego 3**	**1.70**	**319**	*eP*		**Pn**	**10 32 18.5**	**+1.0**
FUG				*eS*		**Sn**	**10 32 38.7**	**+0.3**
LCND	**La Caada**	**1.77**	**85**	*eP*		**Pn**	**10 32 18.4**	**+0.1**
LCND				IAML			10 32 42.9	
	comp=Z,130nm,0.4s							
CNCH	**Conchagua**	**1.82**	**86**	*eP*		**Pn**	**10 32 18.9**	**-0.1**
MRL	**Marmol**	**1.92**	**0**	*eP*		**Pb**	**10 32 22.5**	**-1.6**

*BJI **30** 10:34:50.5±0.0, 39.˚40S×78.˚20E, h5km, mB5.9/43, mb5.1/53, Ms5.9/51, Ms7 5.6/47*
*IDC **30** 10:34:51.7±0.3, 39.˚37S×78.˚12E, h0km, mb4.9/46, mb1 4.9/46, mb1mx4.8/66, mbtmp4.8/46, MS5.6/37, Ms1 5.6/37, ms1mx5.5/44, Error ellipse: s-maj=11.9km s-min=9.4km az=179.0*
*MOS **30** 10:34:52.2±1.2, 39.˚32S×78.˚20E, h10km, mb5.5/40, MS5.6/7, Error ellipse: s-maj=12.0km s-min=7.5km az=89.5*
*NEIC **30** 10:34:53.1±1.9, 39.˚29S±0.˚08×78.˚1E±0.˚1, h10km±1km, mb5.5/86, Ms_20 5.9/172, Mwb5.9/15, Mwc5.9(GCMT), Error ellipse: s-maj=15.9km s-min=13.0km az=255.0*
*NEIC **30** 10:34:53.7, 39.˚33S×78.˚14E, h20km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.05; Mθθ-0.95; Mφφ 0.91; Mrθ-0.01; Mθφ-0.14; Mφr-0.35; Fault plane solution: M₀1.00000×10¹⁸ NP1:φ₁129.03000°, δ74.87000°, λ167.42000°. NP2:φ₂222.37000°, δ77.86000°, λ15.49000°. Principal axes: T 1.0406, Plg19.0000°, Azm86.0000°; N -0.0766, Plg70.0000°, Azm260.0000°; P -0.9640, Plg2.0000°, Azm355.0000°;*
*NEIC **30** 10:34:57, 39.˚27S×77.˚94E, h13km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.18; Mθθ-8.19; Mφφ 8.38; Mrθ-0.59; Mθφ-1.77; Mφr 1.79; Fault plane solution: M₀8.68000×10¹⁷ NP1:φ₁40.00000°, δ80.00000°, λ6.00000°. NP2:φ₂308.00000°, δ84.00000°, λ170.00000°. Principal axes: T 8.9361, Plg11.0000°, Azm264.0000°; N -0.5360, Plg78.0000°, Azm98.0000°; P -8.4001, Plg3.0000°, Azm354.0000°;*
*GCMT **30** 10:34:57.1±0.1, 39.˚25S±0.˚01×77.˚98E±0.˚01, h12km, MW5.9/157, Moment Tensor Solution. s114,c184; s157,c347; Duration: 2s1 Moment tensor: Scale 10¹⁸ Nm; Mrr-0.02±.01; Mθθ-0.75±.01; Mφφ 0.77±.01; Mrθ-0.08±.03; Mφr-0.19±.01; Mθr 0.21±.03; Best double couple: M₀0.81300×10¹⁸ NP1:φ₁39.00000°, δ77.00000°, λ7.00000°. NP2:φ₂307.00000°, δ83.00000°, λ167.00000°. Principal axes: T 0.8470, Plg14.0000°, Azm263.0000°; N -0.0700, Plg75.0000°, Azm100.0000°; P -0.7780, Plg4.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 30 10:34:53.5±0.3, 39.˚47S±0.˚05×78.˚07E±0.˚06, h10km, n548, σ1§51/457, mb5.3/150, MS5.8/131, 25C-24D, Fault plane solution: NP1:φ₁225.22910°, δ73.15546°, λ-1.73584°. NP2:φ₂315.73224°, δ88.33866°, λ-163.14816°. Principal axes: T Plg10.6263°, Azm89.2477°; N Plg73.0688°, Azm321.1995°; P Plg13.0266°, Azm181.7355°;

Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AIS	**Amsterdam Isla**	**1.72**	**347**	Pn		**Pn**	**10 35 17.0**	**-6.4**
CRZF	**Crozet Islands**	**20.35**	**241**	P		**P**	**10 39 27.9**	**-1.9**
CRZF				IAmb		IAmb	10 39 40.0	
	comp=Z,488nm,1.4s							
H01W2	**Cape Leeuwin H**	**28.96**	**92**	T		T	11 11 00.9	
	baz=250,slow=75,SNR=8727							
H01W3	**Cape Leeuwin H**	**28.97**	**92**	T		T	11 11 01.4	
	baz=250,slow=75							
H01W1	**Cape Leeuwin H**	**28.98**	**92**	T		T	11 11 02.2	
	baz=250,slow=75							
MAW	**Mawson**	**29.42**	**192**	P		**P**	**10 40 57.4**	**+0.6**
	comp=Z,14nm,0.9s,baz=16,slow=7.9,SNR=13							
MAW				LR		LR	10 50 41.4	
	comp=Z,15μm,18.4s,baz=14,slow=32							
MAW	**Mawson**	**29.42**	**192**	P		**P**	**10 40 57.0**	**+0.3**
	baz=30,SNR=11							
MAW	**Mawson**	**29.42**	**192**	P		**P**	**10 40 57.2**	**+0.5**
MUN	**Mundaring**	**31.67**	**88**	P		**P**	**10 41 18.1**	**+1.0**
	baz=32,SNR=7.5							
VOI	**Vohitsoka**	**31.88**	**294**	P		**P**	**10 41 18.4**	**-0.7**
H08S2	**Diego Garcia H**	**32.08**	**350**	T		T	11 14 48.6	
	baz=172,slow=76,SNR=77							
NWAO	**Narrogin (SRO)**	**32.08**	**91**	P		**P**	**10 41 19.2**	**-1.4**
	comp=Z,7.4nm,1.0s,baz=264,slow=9.4,SNR=4.0							
NWAO				LR		LR	10 51 14.3	
	comp=Z,26μm,20.7s,baz=238,slow=31							
NWAO	**Narrogin (SRO)**	**32.08**	**91**	P		**P**	**10 41 21.1**	**+0.4**
NWAO				pmax	pmax			
	comp=Z,58nm,1.4s							
NWAO	**Narrogin (SRO)**	**32.08**	**91**	P		**P**	**10 41 21.1**	**+0.4**
NWAO				lAmb	lAmb		10 41 33.4	
	comp=Z,58nm,1.4s							
NWAO	**Narrogin (SRO)**	**32.08**	**91**	lAMs_20	lAMs_20		10 51 02.5	
	comp=Z,24μm,21.0s							
H08S1	**Diego Carcia H**	**32.09**	**350**	T		T	11 14 45.6	
	baz=172,slow=76,SNR=53							
H08S3	**Diego Garcia H**	**32.10**	**350**	T		T	11 14 50.0	
	baz=172,slow=76,SNR=94							
CASY	**Casey**	**32.52**	**156**	P		**P**	**10 41 22.5**	**-1.6**
BLDU	**Ballidu**	**32.64**	**86**	P		**P**	**10 41 26.2**	**+0.6**
	baz=33,SNR=5.3							
MORW	**Morawa**	**32.84**	**83**	P		**P**	**10 41 28.0**	**+0.7**
	baz=33,SNR=8.4							
MORW	**Morawa**	**32.84**	**83**	P		**P**	**10 41 26.1**	**-1.2**
MORW				lAMs_20	lAMs_20		10 51 14.1	
	comp=Z,19μm,20.0s							
KLBR	**Kellerberrin**	**33.03**	**89**	P		**P**	**10 41 29.5**	**+0.5**
	baz=33,SNR=6.0							
ABPO	**Ambohimpanom**	**33.51**	**299**	P		**P**	**10 41 32.2**	**-1.2**
ABPO				pmax	pmax			
	comp=Z,58nm,1.7s							
ABPO	**Ambohimpanom**	**33.51**	**299**	P		**P**	**10 41 32.2**	**-1.2**
OPO	**Ambohidratompo**	**33.85**	**299**	P		**P**	**10 41 35.6**	**-0.7**
	comp=Z,20nm,0.9s,baz=157,slow=6.6,SNR=20							
OPO				LR		LR	10 52 17.2	
	comp=Z,3μm,19.8s,baz=11,slow=31							
GIRL	**Giralia**	**34.95**	**72**	lAMs_20	lAMs_20		10 52 49.8	
	comp=Z,23μm,20.0s							
SYO	**Syowa Base**	**36.01**	**202**	⇓*eX*		**P**	**10 41 53.0**	**-1.2**
KMBL	**Kambalda**	**36.32**	**91**	P		**P**	**10 41 57.0**	**-0.4**
	baz=36,SNR=12							
XMIS	**Christmas Isla**	**37.89**	**48**	P		**P**	**10 42 08.0**	**-2.8**
PSAD3	**Pilbara Seismi**	**39.67**	**76**	lAMs_20	lAMs_20		10 55 04.6	
	comp=Z,18μm,21.0s							
PSAC3	**Pilbara Seismi**	**39.72**	**76**	lAMs_20	lAMs_20		10 55 36.9	
	comp=Z,15μm,20.0s							
PSAB1	**Pilbara Seismi**	**39.74**	**76**	lAMs_20	lAMs_20		10 55 06.6	
	comp=Z,16μm,20.0s							
PSAA1	**Pilbara Seismi**	**39.75**	**76**	lAMs_20	lAMs_20		10 55 38.7	
	comp=Z,16μm,20.0s							
PSAB3	**Pilbara Seismi**	**39.75**	**76**	lAMs_20	lAMs_20		10 55 37.9	
	comp=Z,16μm,20.0s							
PSAC1	**Pilbara Seismi**	**39.75**	**76**	lAMs_20	lAMs_20		10 55 06.9	
	comp=Z,18μm,21.0s							
PSA00	**Pilbara Seismi**	**39.76**	**76**	P		**P**	**10 42 26.0**	**-0.5**
PSA00				lAMs_20	lAMs_20		10 55 48.0	
	comp=Z,15μm,20.0s							
PSA00	**Pilbara Seismi**	**39.76**	**76**	P		**P**	**10 42 24.0**	**-2.5**
PSA00				lAmb	lAmb		10 42 48.1	
	comp=Z,16nm,0.7s							
PSAA3	**Pilbara Seismi**	**39.76**	**76**	lAMs_20	lAMs_20		10 55 38.1	
	comp=Z,16μ

comp=Z,2µmcomp=Z,167nm,1.6s
MYKOM **Kota Tinggi** 47.39 36 P P 10 43 27.7 -0.2
MNCI **Minicoy** 47.74 353 P P 10 43 28.2 -2.4
HTT **Hallett** 48.51 103 P P 10 43 36.2 -0.4
baz=48,SNR=12
IPM **Ipoh** 48.59 31 P P 10 43 34.5 -2.7
IPM IAmb IAmb 10 43 44.1
comp=Z,51nm,1.5s
KULM **Kulim** 49.18 30 P P 10 43 40.0 -1.7
KULM **Kulim** 49.18 30 P P 10 43 43.0 +1.2
ASPA **Alice Springs** 49.36 89 P P 10 43 42.9 -0.3
baz=49
ASAR **Alice Springs** 49.36 89 P P 10 43 42.2 -1.1
comp=Z,17nm,0.7s,baz=242,slow=5.7,SNR=85
ASAR LR LR 11 02 26.9
comp=Z,17µm,18.3s,baz=246,slow=34
ASAR **Alice Springs** 49.36 89 P P 10 43 41.4 -1.9
AS31 **Alice Springs** 49.36 89 P P 10 43 41.9 -1.4
EDFI **Ende, Flores** 49.49 64 P P 10 43 44.1 -0.3
comp=Z,1µmcomp=Z,64nm,1.9s
LSZ **Lusaka** 49.68 285 P P 10 43 45.4 -0.4
comp=Z,56nm,1.0s,baz=130,slow=7.3,SNR=52
LSZ **Lusaka** 49.68 285 P P 10 43 45.5 -0.4
LSZ pmax pmax
comp=Z,62nm,1.0s
LSZ **Lusaka** 49.68 285 P P 10 43 45.5 -0.4
LSZ IAmb IAmb 10 43 48.1
comp=Z,62nm,0.9s
BATI **Baumata** 49.86 67 P P 10 43 45.8 -1.3
comp=Z,41nm,0.8s,baz=166,slow=4.2,SNR=2.3
BATI **Baumata** 49.86 67 P P 10 43 49.3 +2.2
comp=Z,2µmcomp=Z,94nm,1.1s
MMRI **Maumere** 49.95 64 P P 10 43 46.3 -1.5
SNAA **Sanae** 50.26 204 P P 10 43 51.6 +2.1
SNAA **Sanae** 50.26 204 P P 10 43 50.1 +0.6
comp=Z,7.1nm,0.9s,baz=93,slow=9.3,SNR=7.7
SNAA **Sanae** 50.26 204⇓*e* P P 10 43 52.0 +2.5
SNAA pmax pmax
comp=Z,58nm,2.5s
SNAA **Sanae** 50.26 204 P P 10 43 49.5 +0.1
KSM **Kuching** 50.33 44 P P 10 43 47.9 -2.7
KSM IAmb IAmb 10 44 01.1
comp=Z,105nm,1.8s
KSM **Kuching** 50.33 44 P P 10 43 53.0 +2.4
VNDA **Vanda** 50.49 164 P P 10 43 51.7 +0.7
comp=Z,8.7nm,0.7s,baz=268,slow=7.2,SNR=28
VNDA LR LR 11 03 50.2
comp=Z,19µm,18.1s,baz=264,slow=34
VNDA **Vanda** 50.49 164 P P 10 43 51.8 +0.7
VNDA pmax pmax
comp=Z,159nm,1.8s
VNDA **Vanda** 50.49 164 P P 10 43 51.8 +0.7
VNDA IAmb IAmb 10 43 57.6
comp=Z,159nm,1.8s
SOEI **Soe** 50.60 67 P P 10 43 52.0 -0.8
SOEI **Soe** 50.60 67 P P 10 43 53.7 +0.9
comp=Z,3µmcomp=Z,62nm,1.0s
QSPA **South Pole Qui** 50.69 180 P P 10 43 53.5 +0.5
comp=Z,64nm,1.0s,baz=287,slow=4.5,SNR=39
QSPA **South Pole Qui** 50.69 180 P P 10 43 53.8 +0.9
TAU **Tasmania Unive** 50.87 118 IAMs_20 IAMs_20 10 59 53.3
comp=Z,10µm,21.0s
KAPI **Kappang** 50.88 59 P P 10 43 53.1 -1.7
comp=Z,3.5nm,0.3s,baz=235,slow=6.8,SNR=7.2
KAPI **Kappang** 50.88 59 P P 10 43 52.8 -2.1
BKSI **Bulukumba** 50.90 59 P P 10 43 56.8 +1.9
comp=Z,1µmcomp=Z,39nm,1.5s
MTKI **Muara Teweh, K** 50.96 50 P P 10 43 58.2 +2.8
comp=Z,40nm,1.3s
STKA **Stephens Creek** 51.22 102 P P 10 43 56.3 -1.0
comp=Z,7.9nm,0.6s,baz=255,slow=5.7,SNR=20
STKA LR LR 11 01 16.8
comp=Z,8µm,21.3s,baz=248,slow=31
STKA **Stephens Creek** 51.22 102 P P 10 43 57.0 -0.3
baz=51,SNR=13
STKA **Stephens Creek** 51.22 102*ce* P P 10 43 55.6 -1.6
STKA **Stephens Creek** 51.22 102 P P 10 43 56.2 -1.0
SBA **Scott Base** 51.50 164 P P 10 44 00.3 +1.6
SBA pmax pmax
comp=Z,183nm,2.0s
SBA **Scott Base** 51.50 164 P P 10 44 00.3 +1.6
SBA IAmb IAmb 10 44 43.8
comp=Z,183nm,1.9s
SBA **Scott Base** 51.50 164 IAMs_20 IAMs_20 11 03 52.1
comp=Z,10µm,20.0s
BNSI **Bone** 51.58 58 P P 10 44 03.2 +3.2
comp=Z,2µmcomp=Z,55nm,1.6s
SPSI **Sidrap Palu** 51.68 58 P P 10 44 03.1 +2.3
comp=Z,2µmcomp=Z,33nm,2.1s
WB1 **Warramunga Ar.** 51.75 85 IAMs_20 IAMs_20 11 03 01.9
comp=Z,15µm,21.0s
WR1 **Warramunga Arr** 51.75 85 IAMs_20 IAMs_20 11 03 02.0
comp=Z,13µm,21.0s
WRA **Warramunga Arr** 51.75 85 P P 10 44 00.1 -1.4
comp=Z,41nm,0.8s,baz=235,slow=6.7,SNR=77
WRA LR LR 11 03 01.8
comp=Z,15µm,21.8s,baz=235,slow=33
WRA **Warramunga Arr** 51.75 85 P P 10 43 60.0 -1.4
WC1 **Warramunga Arr** 51.76 85 IAMs_20 IAMs_20 11 03 01.3
comp=Z,15µm,20.0s
WRAB **Tennant Creek** 51.77 85*c i* P P 10 44 00.5 -1.0
WRAB pmax pmax
comp=Z,150nm,1.7s
WRAB **Tennant Creek** 51.77 85 P P 10 43 59.5 -2.0
WRAB IAmb IAmb 10 44 04.4
comp=Z,98nm,1.1s
WRAB **Tennant Creek** 51.77 85 IAMs_20 IAMs_20 11 03 01.6
comp=Z,15µm,20.0s
WC3 **Warramunga Arr** 51.77 85 P P 10 44 00.5 -1.0
baz=52
WB3 **Warramunga Arr** 51.78 85 IAMs_20 IAMs_20 11 02 51.7
comp=Z,16µm,21.0s
WC2 **Warramunga Arr** 51.78 85 IAMs_20 IAMs_20 11 03 02.8
comp=Z,15µm,21.0s
WR3 **Warramunga Arr** 51.79 85 IAMs_20 IAMs_20 11 03 02.9
comp=Z,15µm,21.0s
WB4 **Warramunga Arr** 51.79 85 IAMs_20 IAMs_20 11 02 53.0
comp=Z,16µm,21.0s
WR4 **Warramunga Arr** 51.80 85 IAMs_20 IAMs_20 11 02 51.3
comp=Z,16µm,21.0s
WB5 **Warramunga Arr** 51.81 85 IAMs_20 IAMs_20 11 02 52.6
comp=Z,13µm,21.0s
VNA2 **Neumayer--Watz** 51.82 205 P P 10 44 03.6 +2.4
baz=96,slow=8.4
VNA2 **Neumayer--Watz** 51.82 205 PP PP 10 46 05.1 +6.5
VNA2 S S 10 51 23.9 +0.9
VNA2 **Neumayer--Watz** 51.82 205 sP sP 10 44 05.6 +0.9
WB6 **Warramunga Arr** 51.82 85 IAMs_20 IAMs_20 11 03 03.9
comp=Z,15µm,20.0s
KIBK **Kibwezi** 51.84 305 P P 10 44 02.4 +0.3
SNR=11
WB7 **Warramunga Arr** 51.84 85 IAMs_20 IAMs_20 11 02 53.6
comp=Z,13µm,21.0s
WR7 **Warramunga Arr** 51.85 85 IAMs_20 IAMs_20 11 03 04.6
comp=Z,16µm,21.0s
WB8 **Warramunga Arr** 51.86 85 IAMs_20 IAMs_20 11 03 04.8
comp=Z,14µm,20.0s
WB9 **Warramunga Arr** 51.87 85 IAMs_20 IAMs_20 11 02 54.2
comp=Z,15µm,21.0s
WB0 **Warramunga Arr** 51.90 85 IAMs_20 IAMs_20 11 02 54.8
comp=Z,15µm,22.0s
WR0 **Warramunga Arr** 51.90 85 IAmb IAmb 10 44 05.2
comp=Z,100nm,1.1s
VNA1 **Neumayer--Stat** 52.16 205 P P 10 44 06.2 +2.5
SBUM **Sibu** 52.19 45 IAmb IAmb 10 44 07.9
comp=Z,120nm,1.6s
SBUM **Sibu** 52.19 45 P P 10 44 04.0 -0.5
TTSI **Tana Toraja** 52.40 57 P P 10 44 08.3 +2.1
comp=Z,3µmcomp=Z,75nm,1.8s
VNA3 **Neumayer Olymp** 52.48 204 P P 10 44 07.5 +1.4
VNA3 **Neumayer Olymp** 52.48 204 PP PP 10 46 04.7 +0.1
VNA3 **Neumayer Olymp** 52.48 204 PcP PcP 10 45 16.3 -0.2
VNA3 S S 10 51 32.7 +0.6
VNA3 **Neumayer Olymp** 52.48 204 pP pP 10 44 08.7 +0.1
KMBO **Kilima Mbogo** 53.27 305 P P 10 44 12.1 -0.8
comp=Z,13nm,1.1s,baz=126,slow=7.1,SNR=26
KMBO LR LR 11 03 57.9
comp=Z,3µm,18.4s,baz=118,slow=33
MTN **Manton Dam** 53.59 76 P P 10 44 14.4 -0.6
baz=54,SNR=7.3
MTN **Manton Dam** 53.59 76 P P 10 44 14.1 -0.8
MTN IAmb IAmb 10 44 24.3
comp=Z,61nm,1.0s
MTN IAMs_20 IAMs_20 11 05 03.6
comp=Z,12µm,19.0s
CMSA **Cobar Meteorol** 54.46 104 P P 10 44 21.8 +0.6
baz=54,SNR=6.4
KDU **Kakadu** 54.70 76 P P 10 44 22.5 -0.6
baz=55,SNR=6.1
YNG **Young** 55.19 108 P P 10 44 27.7 +1.3
baz=55,SNR=5.4
CNB **Canberra Magne** 55.43 110 P P 10 44 29.3 +1.1
baz=55
QIS **Mount Isa** 55.48 89 P P 10 44 28.1 -0.6
baz=55,SNR=19
QLP **Quilpie** 55.81 98 P P 10 44 31.1 +0.1
baz=56,SNR=3.8
LUWI **Luwuk** 55.84 58 IAmb IAmb 10 44 40.5
comp=Z,60nm,1.0s
LUWI **Luwuk** 55.84 58 P P 10 44 32.1 +0.9
comp=Z,6µmcomp=Z,63nm,1.4s
PHET **Kaeng Krachan** 55.85 26 P P 10 44 37.0 +5.8
comp=Z,34nm,1.6s
SOCY **Socotra** 56.07 331 P P 10 44 32.0 -1.0
SOCY **Socotra** 56.07 331 P P 10 44 34.5 +1.5
SNR=10
TOLI2 **Tolitoli** 56.19 55 IAmb IAmb 10 44 41.8
comp=Z,40nm,1.1s
BELA **Belgrano 2** 56.24 194 IAmb IAmb 10 44 40.2
comp=Z,58nm,1.2s
MRSI **Marisa** 56.44 56 P P 10 44 34.6 -1.0
comp=Z,1µmcomp=Z,19nm,1.1s
HYB **Hyderabad** 56.59 1 *i* P P 10 44 35.0 -1.5
SAUI **Saumlaki** 56.89 71 IAMs_20 IAMs_20 11 08 43.3
comp=Z,8µm,19.0s
SRDT **SRDT** 57.03 25 P P 10 44 40.2 +0.6
comp=Z,24nm,1.8s
SANI **Sanana** 57.25 62 P P 10 44 40.9 -0.4
comp=Z,1µmcomp=Z,59nm,1.2s
GTOI **Gorontalo** 57.26 57 P P 10 44 42.7 +1.4
comp=Z,798nmcomp=Z,45nm,1.3s
MBAR **Mbarara** 57.92 300 P P 10 44 46.0 -0.2
comp=Z,11nm,0.3s,baz=110,slow=6.9,SNR=5.6
MBAR **Mbarara** 57.92 300⇑*e* P P 10 44 47.5 +1.3
MBAR pmax pmax
comp=Z,13nm,1.3s
MBAR MLR MLR
comp=Z,3µm,16.0s
MBAR **Mbarara** 57.92 300 P P 10 44 44.8 -1.4
MBAR **Mbarara** 57.92 300 P P 10 44 47.5 +1.3
LODK **Lodwar** 57.98 307 P P 10 44 47.7 +1.2
SNR=13
UTHA **Uthaani** 58.27 24 P P 10 44 50.8 +2.5
comp=Z,312nmcomp=Z,17nm,1.3s
MSAI **Masohi** 58.37 65 P P 10 44 48.4 -0.8
comp=Z,24µmcomp=Z,1µm,0.8s
UMPA **Umpang Tak** 58.69 24 P P 10 44 52.2 +0.9
comp=Z,33nm,1.2s
PHIT **Phitsanulok** 60.11 25 P P 10 45 08.3 +7.3
comp=Z,81nm,0.9s
SUKH **Sukhothai** 60.13 24 P P 10 45 02.0 +0.8
comp=Z,36nm,1.2s
MHMT **Masarieng** 60.28 22 P P 10 45 02.6 +0.5
ATD **Arta Tunnel** 60.40 319 P P 10 45 03.6 +0.5
ATD IAmb IAmb 10 45 06.1
comp=Z,54nm,1.1s
MTSU **Mount Surprise** 60.50 90 P P 10 45 04.8 +0.9
baz=60,SNR=5.7
UTTA **Uttaradit** 60.67 25 P P 10 45 06.0 +1.1
comp=Z,354nmcomp=Z,32nm,1.2s
CM05 **Chiang Mai Arr** 60.79 23 P P 10 45 06.0 +0.3
comp=Z,210nmcomp=Z,16nm,1.4s
CM01 **Chiang Mai Arr** 60.81 23 P P 10 45 06.8 +1.0
comp=Z,285nmcomp=Z,23nm,1.5s
CM31 **Chiang Mai Arr** 60.84 23 P P 10 45 04.4 -1.6
CM31 IAmb IAmb 10 45 10.9
comp=Z,77nm,1.4s
CMAR **Chiang Mai Arr** 60.84 23 P P 10 45 04.5 -1.5
comp=Z,6.3nm,1.0s,baz=215,slow=7.1,SNR=9.5
CMAR LR LR 11 07 07.9
comp=Z,2µm,20.7s,baz=238,slow=32
CMAR **Chiang Mai Arr** 60.84 23 P P 10 45 04.2 -1.8
CM09 **Chiang Mai Arr** 60.84 23 P P 10 45 05.7 -0.4
comp=Z,208nmcomp=Z,14nm,1.1s
DMTO **DMTO** 60.86 335 P P 10 45 05.8 -0.3
SNR=6.9
CTA **Charters Tower** 60.88 93 P P 10 45 05.6 -0.9
comp=Z,20nm,1.1s,baz=240,slow=8.3,SNR=6.3
CTA LR LR 11 09 02.4
comp=Z,9µm,20.1s,baz=242,slow=34
CTAO **Charters Tower** 60.88 93 P P 10 45 06.0 -0.5
CTAO pmax pmax
comp=Z,90nm,1.6s
CTAO **Charters Tower** 60.88 93 P P 10 45 06.0 -0.5
CTAO IAmb IAmb 10 45 18.5
comp=Z,90nm,1.6s
CTAO **Charters Tower** 60.88 93 IAMs_20 IAMs_20 11 08 39.3
comp=Z,10µm,20.0s
RBK **Rabkut** 60.91 334 P P 10 45 06.7 +0.1
SNR=18
SHAO **Shalim** 60.92 335 *i* P P 10 45 06.3 -0.3
SNR=11
SHAO **Shalim** 60.92 335 P P 10 45 07.3 +0.8
SNR=5.8
FAKI **Fak Fak** 61.02 68 P P 10 45 06.4 -1.1
FAKI **Fak Fak** 61.02 68 P P 10 45 09.4 +1.9
comp=Z,2µmcomp=Z,57nm,2.3s
ABTO **Aybut** 61.09 333 P P 10 45 06.6 -1.2
SNR=14
CM35 **Chiang Mai Arr** 61.11 23 P P 10 45 06.0 -1.9
CHTO **Chiang Mai** 61.18 23 P P 10 45 06.7 -1.6
CHTO pmax pmax
comp=Z,62nm,1.6s
CHTO **Chiang Mai** 61.18 23 P P 10 45 06.7 -1.6
CHTO IAmb IAmb 10 45 12.1
comp=Z,62nm,1.6s
CMMT **Chiang Mai** 61.18 23 P P 10 45 07.8 -0.5
comp=Z,504nmcomp=Z,12nm,1.5s
WHFO **Wadi Hawf** 61.44 334 P P 10 45 10.1 0.0
SNR=12
SIJI **Sorong** 61.76 65 P P 10 45 11.5 -1.0
comp=Z,6.1nm,0.6s,baz=281,slow=2.2,SNR=8.4
SIJI LR LR 11 09 47.3
comp=Z,2µm,20.1s,baz=232,slow=34
SWI **Sorong** 61.76 65 P P 10 45 13.5 +1.1
comp=Z,42nm,1.5s
DOK **Doka** 61.97 334 P P 10 45 13.7 0.0
SNR=29
DQM **DQM** 62.13 338 P P 10 45 13.8 -0.9
SNR=21
MHTO **MHTO** 63.01 339 P P 10 45 20.0 -0.6
SNR=22
JLN **Jalan Bani Buh** 63.74 341 P P 10 45 25.4 0.0
SNR=14
JLN P P 10 45 25.4 0.0
SNR=14
WKZ **Wanaka** 64.17 128 IAMs_20 IAMs_20 11 06 50.4
comp=Z,6µm,21.0s
WBK **Wadi Bani Khal** 64.29 340 P P 10 45 29.4 +0.3
SNR=12
JMDO **Jabal Madar** 64.29 339 P P 10 45 29.8 +0.7
SNR=16
BSY **Bisya** 64.90 339 P P 10 45 33.4 +0.4
SNR=21
SMDO **Samad** 64.96 340 P P 10 45 33.6 +0.1
SNR=27
WSAR **Wadi Sarin** 64.98 340 P P 10 45 31.4 -2.1
comp=Z,30nm,0.9s,baz=175,slow=7.1,SNR=12
LBZ **Lake Benmore** 65.11 128 IAMs_20 IAMs_20 11 07 06.2
comp=Z,7µm,22.0s
SLVN **Son La** 65.13 27 P P 10 45 33.5 -1.1
SLVN IAmb IAmb 10 45 40.1
comp=Z,29nm,1.2s
QIZ **Qiongzhong** 65.33 33 P P 10 45 39.3 +3.4
QIZ S S 10 54 21.3 +1.4
QIZ SS SS 10 58 37.0 +3.6
QIZ pmax pmax
comp=Z,560nm,7.5s
QIZ LR LR
comp=Z,2µm,26.5s
QIZ LR LR
comp=Z,3µm,24.5s
QIZ LR LR
comp=Z,3µm,16.7s
BIDO **Bidbid** 65.38 340 P P 10 45 37.0 +1.0
SNR=9.8
ARQ **Araqi** 65.65 338 P P 10 45 38.7 +0.8
HOQ **Hoqain** 65.66 339 P P 10 45 37.8 -0.1
SNR=22
SHL **Shillong** 65.97 14 P P 10 45 40.6 +0.5
SNR=36
RPZ **Rata Peaks** 66.00 128 LR LR 11 09 02.3
comp=Z,5µm,18.9s,baz=232,slow=31
RPZ **Rata Peaks** 66.00 128 IAMs_20 IAMs_20 11 07 17.7
comp=Z,7µm,22.0s
SOHO **SOHO** 66.40 339 *i* P P 10 45 42.3 -0.4
SNR=7.6
SOHO **SOHO** 66.40 339 P P 10 45 42.5 -0.1
ALNE **Al Ain** 66.55 338 *i* P P 10 45 42.6 -1.0
SNR=20
ALNE **Al Ain** 66.55 338 P P 10 45 44.7 +1.0
SNR=24
RAMN **Ramite** 66.56 8 *eP* P 10 45 43.0 -0.9
comp=Z,266nm,1.4s
ODAN **Odare** 66.56 9 *eP* P 10 45 42.7 -1.2
comp=Z,345nm,1.6s
PKI **Pulchoki** 67.05 7 *eP* P 10 45 44.9 -2.2
comp=Z,271nm,1.7s
PKIN **Phulchoki** 67.05 7 *eP* P 10 45 45.4 -1.7
comp=Z,283nm,1.7s
ASHO **Ashiyiah** 67.06 338 *i* P P 10 45 45.8 -1.1
SNR=10
ASHO **Ashiyiah** 67.06 338 P P 10 45 47.8 +0.9
SNR=12
DMN **Daman** 67.06 7 *eP* P 10 45 45.2 -1.9
comp=Z,303nm,1.6s
TAPN **Taplejung** 67.08 9 *eP* P 10 45 47.7 +0.4
comp=Z,284nm,1.1s
HATD **Hatta, Dubai** 67.17 338 *i* P P 10 45 46.5 -1.1
SNR=8.8
HATD **Hatta, Dubai** 67.17 338 P P 10 45 47.7 +0.1
SNR=11
ASUD **Al Ashush, Dub** 67.21 338 *i* P P 10 45 47.1 -0.8
SNR=8.6
ASUD **Al Ashush, Dub** 67.21 338 P P 10 45 48.9 +1.1
SNR=12
JIRN **Jiri** 67.21 8 *eP* P 10 45 47.1 -1.1
comp=Z,300nm,1.5s
FAQ **Al Faqa, Dubai** 67.25 338 *i* P P 10 45 47.2 -0.8
SNR=14
FAQ **Al Faqa, Dubai** 67.25 338 P P 10 45 48.3 +0.2
SNR=13
FAQ P P 10 45 48.3 +0.2
SNR=13
KKN **Kakani** 67.25 7 *eP* P 10 45 46.9 -1.4
comp=Z,95nm,1.1s
AJN **Ajban** 67.26 337 *i* P P 10 45 47.0 -1.1
SNR=18
AJN **Ajban** 67.26 337 P P 10 45 49.1 +1.0
SNR=12
UOSS **Minazif** 67.26 338 *i* P P 10 45 47.2 -0.9
SNR=12
UOSS **Minazif** 67.26 338 P P 10 45 48.8 +0.6
UOSS IAmb IAmb 10 45 51.5
comp=Z,56nm,1.6s
UOSS **Minazif** 67.26 338 P P 10 45 47.9 -0.2
GKN **Gorkha** 67.41 6 *eP* P 10 45 47.3 -1.9
comp=Z,364nm,1.5s
GUN **Gumba** 67.43 7 *eP* P 10 45 48.0 -1.6
comp=Z,663nm,1.3s
NAZ **Nazwa, Dubai** 67.46 338 *i* P P 10 45 49.6 +0.2
SNR=12
NAZ **Nazwa, Dubai** 67.46 338 P P 10 45 49.6 +0.2
SNR=12
JAY **Jayapura** 67.48 74 LR LR 11 13 01.7
comp=Z,8µm,21.4s,baz=230,slow=34
MDH **Madha** 67.57 339 *i* P P 10 45 49.0 -1.0
SNR=11
MDH **Madha** 67.57 339 P P 10 45 49.7 -0.4
SNR=8.6
MDH P P 10 45 49.7 -0.4
SNR=8.6
MSFE **Esma-Masafi** 67.67 339 *i* P P 10 45 48.2 -2.5
SNR=16
MASF **Masafi** 67.68 339 P P 10 45 51.0 +0.2
SNR=13
MASF P P 10 45 51.0 +0.2
SNR=13
PMG **Port Moresby** 67.95 84 P P 10 45 53.2 +0.4
comp=Z,49nm,1.1s,baz=205,slow=6.1,SNR=7.4
PMG LR LR 11 15 11.7
comp=Z,5µm,18.1s,baz=232,slow=36
PMG **Port Moresby** 67.95 84⇓*e* P P 10 45 52.8 0.0
PMG pmax pmax
comp=Z,108nm,1.7s
PMG MLR MLR
comp=Z,5µm,18.0s
PMG **Port Moresby** 67.95 84 P P 10 45 52.0 -0.9
PMG **Port Moresby** 67.95 84 IAMs_20 IAMs_20 11 12 18.2
comp=Z,5µm,20.0s
BANOM **Banah** 68.16 339 *i* P P 10 45 52.0 -1.8
SNR=11
BANOM **Banah** 68.16 339 P P 10 45 53.8 0.0
SNR=14
KMI **Kunming** 68.27 24 ⇓P P 10 45 58.0 +3.3
KMI pP pwP 10 46 01.0 +0.8
KMI sP sP 10 46 04.0 +5.8
KMI S S 10 54 57.8 +2.2
KMI SS SS 10 59 15.8 -3.5
KMI pmax pmax
comp=Z,32nm,1.8s
KMI pmax pmax
comp=Z,900nm,7.2s
KMI LR LR
comp=Z,1µm,19.7s
KMI LR LR
comp=Z,2µm,11.6s
KMI LR LR
comp=Z,2µm,18.2s
SHME **Shamm** 68.32 339 *i* P P 10 45 54.7 -0.1
SNR=10
SHME **Shamm** 68.32 339 P P 10 45 55.4 +0.6
SNR=8.7
NNZ **Nelson** 68.80 126 IAMs_20 IAMs_20 11 09 13.0
comp=Z,5µm,20.0s
SNZO **South Karori** 69.57 127 IAMs_20 IAMs_20 11 11 09.4
comp=Z,6µm,19.0s
RAYN **Ar Rayn** 69.67 328 *i* P P 10 46 03.6 +0.3
SNR=23
RAYN **Ar Rayn** 69.67 328 P P 10 46 02.0 -1.3
RAYN pmax pmax
comp=Z,92nm,1.6s
RAYN **Ar Rayn** 69.67 328 P P 10 46 02.0 -1.3
LSA **Lhasa** 69.89 12 P P 10 46 03.5 -1.5
LSA **Lhasa** 69.89 12 IAmb IAmb 10 46 10.3
comp=Z,67nm,1.3s
LSA IAMs_20 IAMs_20 11 13 37.9
comp=Z,5µm,20.0s
GYA **Guiyang** 70.81 27 ⇑P P 10 46 11.0 +0.7
GYA sP pwP 10 46 20.8 +5.0
GYA S S 10 55 24.5 -0.8
GYA pmax pmax
comp=Z,38nm,1.5s
GYA pmax pmax
comp=Z,490nm,3.5s
GYA LR LR
comp=Z,2µm,19.4s
GYA LR LR
comp=Z,920nm,14.6s
GYA LR LR
comp=Z,2µm,15.2s
PMSA **Palmer Station** 71.92 196 LR LR 11 16 22.5
comp=Z,4µm,20.9s,baz=156,slow=35
PMSA **Palmer Station** 71.92 196 IAMs_20 IAMs_20 11 14 55.1
comp=Z,5µm,20.0s
BKZ **Black Stump Fm** 71.93 126 P P 10 46 17.1 0.0
BKZ IAmb IAmb 10 46 23.8
comp=Z,41nm,1.1s
BKZ IAMs_20 IAMs_20 11 13 02.8
comp=Z,4µm,18.0s
URZ **Urewera** 72.86 126 LR LR 11 12 36.2
comp=Z,3µm,18.5s,baz=211,slow=31
CD2 **Chengdu** 73.98 23 P P 10 46 27.5 -1.6
CD2 pmax pmax
comp=Z,70nm,1.1s
KBL **Kabul** 74.12 352 P P 10 46 31.1 +1.1
KBL pmax pmax
comp=Z,73nm,1.4s
KBL **Kabul** 74.12 352 P P 10 46 31.1 +1.1
KBL IAmb IAmb 10 46 37.8
comp=Z,73nm,1.4s
KBL **Kabul** 74.12 352 P P 10 46 29.6 -0.3
SNR=32
QZH **Quanzhou** 74.42 38 *eP* P 10 46 35.0 +3.4
QZH S S 10 56 08.0 +1.7
QZH LR LR
comp=Z,2µm,18.5s
QZH LR LR
comp=Z,2µm,18.0s
RABL **Rabaul** 75.07 83 IAMs_20 IAMs_20 11 18 20.9

DZM Mont Dzumac 75.11 106 LR LR 11 16 34.1
comp=Z,5µm,19.0s
DZM Mont Dzumac 75.11 106 *e*P **P** **10 46 38.4 +2.3**
comp=Z,2µm,18.2s,baz=260,slow=33
DZM Mont Dzumac 75.11 106 *e*SS SS 11 01 08.0 +4.6
comp=Z,123nm,1.7s
DZM Mont Dzumac 75.11 106 *e*SS SS 11 01 08.0 +4.6
comp=Z,3µm,27.1s
DZM *e*LR LR 11 09 45.2
comp=Z,6µm,26.2s
ENH Enshi 75.29 28 P **P** **10 46 34.5 -2.2**
ENH IAmb IAmb 10 46 41.5
comp=Z,78nm,1.5s
WHN Wuhan 77.40 32 ⇓P **P** **10 46 50.0 +1.5**
HNR Honiara 77.82 92 LR LR 11 18 00.8
comp=Z,6µm,21.9s,baz=258,slow=33
HNR Honiara 77.82 92 IAMs_20 IAMs_20 11 17 38.9
comp=Z,6µm,22.0s
XAN Xi'an 78.52 26 P **P** **10 46 51.9 -2.9**
XAN pmax pmax
comp=Z,76nm,1.4s
XAN Xi'an 78.52 26 P **P** **10 46 51.9 -2.9**
XAN IAmb IAmb 10 46 59.3
comp=Z,76nm,1.4s
KSH Kashi 78.63 358 P **P** **10 46 56.0 +0.6**
KSH pP pwP 10 47 01.0 0.0
KSH S **S** **10 56 48.0 -4.2**
KSH pmax pmax
comp=Z,140nm,1.8s
KSH pmax pmax
comp=Z,1µm,6.8s
KSH LR LR
comp=Z,10µm,18.5s
KSH LR LR
comp=Z,8µm,17.4s
KSH LR LR
comp=Z,11µm,19.7s
LZH Lanzhou 78.85 21 *e*P **P** **10 46 57.8 +1.1**
LZH pP sP 10 47 00.3 +0.1
LZH sP PcP 10 47 04.0 -1.4
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,590nm,4.4s
LZH LR LR
comp=Z,2µm,14.6s
LZH LR LR
comp=Z,1µm,14.3s
LZH LR LR
comp=Z,2µm,17.1s
GEYT Alibeck 79.18 344 P **P** **10 46 59.2 +0.9**
comp=Z,3.7nm,0.8s,baz=205,slow=2.7,SNR=2.8
GEYT LR LR 11 16 51.6
comp=Z,3µm,21.7s,baz=220,slow=32
GEYT Alibeck 79.18 344 IAmb IAmb 10 47 03.9
comp=Z,23nm,1.4s
EIL Elat 79.64 323 P **P** **10 47 02.0 +1.1**
comp=Z,22nm,1.1s,baz=128,slow=4.6,SNR=10
SANVU Saraoutou 79.69 101 IAMs_20 IAMs_20 11 28 56.9
comp=Z,4µm,18.0s
NJ2 Nanjing 80.60 34 *e*P **P** **10 47 07.5 +1.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,3µm,21.2s
NJ2 LR LR
comp=Z,2µm,18.0s
NJ2 LR LR
comp=Z,3µm,20.8s
JOW Kunigami 80.88 44 LR LR 11 22 55.1
comp=Z,872nm,18.6s,baz=272,slow=36
GTA Gaotai 80.99 17 P **P** **10 47 07.5 -0.7**
GTA pP sP 10 47 12.0 +0.4
GTA sP PcP 10 47 15.0 +0.4
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,160nm,5.0s
GTA LR LR
comp=Z,1µm,17.1s
GTA LR LR
comp=Z,2µm,18.5s
GTA LR LR
comp=Z,2µm,18.9s
AML Almayashu 81.32 357 P **P** **10 47 11.1 +0.9**
SNR=12
IUG Iuzhnay 81.57 354 *e*P **P** **10 47 10.8 -0.3**
baz=354
IUG *e*S **S** **10 57 23.4 +0.4**
baz=354
IUG Iuzhnay 81.57 354 *e*P **P** **10 47 10.8 -0.3**
IUG *e*S **S** **10 57 23.3 +0.4**
AAK Ala-Archa 81.79 357 P **P** **10 47 12.7 +0.3**
comp=Z,8.8nm,1.0s,baz=182,slow=5.1,SNR=12
AAK Ala-Archa 81.79 357 P **P** **10 47 13.5 +1.0**
SNR=6.3
AAK Ala-Archa 81.79 357 *i* P **P** **10 47 11.7 -0.7**
SNR=6.4
AAK Ala-Archa 81.79 357⇑ *e*P **P** **10 47 13.4 +1.0**
AAK pmax pmax
comp=Z,176nm,2.5s
AAK Ala-Archa 81.79 357 P **P** **10 47 08.9 -3.4**
AAK IAmb IAmb 10 47 16.9
comp=Z,61nm,1.6s
AAK Ala-Archa 81.79 357 P **P** **10 47 12.6 +0.3**
EKS2 Erkin-Say 81.85 357 P **P** **10 47 14.0 +1.4**
SNR=12
TNSS Tian-Shan 82.13 359 *e*P **P** **10 47 14.4 -0.1**
baz=359
TNSS Tian-Shan 82.13 359 *e*P **P** **10 47 14.3 -0.1**
CHMS Chumysh 82.14 358 P **P** **10 47 14.9 +0.8**
SNR=9.7
SATY Saty 82.15 0 *e*P **P** **10 47 13.5 -0.8**
comp=Z,116nm,2.7s,baz=0.1
SATY Saty 82.15 0 *e*P **P** **10 47 13.4 -0.8**
SATY pmax pmax
comp=Z,116nm,2.7s
DZA Taraz 82.21 355 *e*P **P** **10 47 14.7 +0.3**
baz=355
DZA *e*S **S** **10 57 30.8 +1.3**
baz=355
DZA Taraz 82.21 355 *e*P **P** **10 47 14.7 +0.3**
DZA *e*S **S** **10 57 30.7 +1.3**
UZB Uzynbulak 82.24 1 *e*P **P** **10 47 14.6 -0.2**
comp=Z,54nm,2.0s,baz=0.6
UZB *e*S **S** **10 57 30.7 +0.7**
baz=0.6
UZB Uzynbulak 82.24 1 *e*P **P** **10 47 14.5 -0.2**
UZB *e*S **S** **10 57 30.7 +0.7**
UZB pmax pmax
comp=Z,54nm,2.0s
MMAI Mount Meron Ar 82.25 325 P **P** **10 47 15.1 +0.2**
comp=Z,8.4nm,0.8s,baz=134,slow=12,SNR=3.3
SHLS Shalkode 82.26 1 *e*P **P** **10 47 15.5 +0.7**
comp=Z,96nm,2.1s,baz=1.2
SHLS Shalkode 82.26 1 *e*P **P** **10 47 15.5 +0.7**
SHLS pmax pmax
comp=Z,96nm,2.1s
MDOK Medeo 82.26 359 *e*P **P** **10 47 14.9 +0.1**
baz=359
MDOK *e*S **S** **10 57 31.5 +1.3**
baz=359
MDOK LR LR 11 17 16.2
comp=Z,3µm,19.6s,baz=359
MDOK Medeo 82.26 359 *e*P **P** **10 47 14.9 +0.1**
MDOK *e*S **S** **10 57 31.4 +1.3**
AAA Alma-Ata 82.31 359 *e*P **P** **10 47 15.3 +0.3**
baz=359
AAA LR LR 11 16 46.5
comp=Z,3µm,19.4s,baz=359
AAA Alma-Ata 82.31 359 *e*P **P** **10 47 15.2 +0.3**
USP Ospenovka 82.42 357 P **P** **10 47 16.3 +0.7**
SNR=12
BRLS Boroldaу 82.46 354 *e*S **S** **10 57 30.7 -1.2**
baz=354
KK31 Karatay Array 82.48 354 P **P** **10 47 15.2 -0.6**
KK31 pmax pmax
comp=Z,79nm,1.8s
KK31 Karatay Array 82.48 354 P **P** **10 47 15.2 -0.6**
KK31 IAmb IAmb 10 47 20.1
comp=Z,79nm,1.8s
KKAR Karatay Array 82.48 354 IAmb IAmb 10 47 20.1
comp=Z,79nm,1.8s
KPKS Kokpek 82.56 0 *e*P **P** **10 47 16.0 -0.4**
comp=Z,132nm,2.7s,baz=0.3
KPKS Kokpek 82.56 0 *e*P **P** **10 47 15.9 -0.4**
KPKS pmax pmax
comp=Z,132nm,2.7s

SGDS Sogindy 82.60 357 *e*P **P** **10 47 16.4 -0.2**
comp=Z,32nm,2.3s,baz=357
SGDS *e*S **S** **10 57 34.6 +1.1**
baz=357
SGDS Sogindy 82.60 357 *e*P **P** **10 47 16.3 -0.2**
SGDS *e*S **S** **10 57 34.5 +1.1**
SGDS pmax pmax
comp=Z,32nm,2.3s
CHKK Chushkaly 82.95 359 *e*P **P** **10 47 17.6 -0.7**
CHKK Chushkaly 82.95 359 *e*P **P** **10 47 17.5 -0.7**
baz=359
WMQ Urumqi 83.37 7 *e*P **P** **10 47 20.5 +0.1**
WMQ pP PcP 10 47 24.3 -0.5
WMQ pmax pmax
comp=Z,100nm,1.5s
WMQ pmax pmax
comp=Z,1µm,5.7s
WMQ LR LR
comp=Z,7µm,22.3s
WMQ LR LR
comp=Z,2µm,20.1s
WMQ LR LR
comp=Z,5µm,18.7s
WMQ Urumqi 83.37 7 IAMs_20 IAMs_20 11 20 04.5
comp=Z,4µm,22.0s
TIA Tai'an 83.47 31 P **P** **10 47 21.5 +0.4**
TIA pmax pmax
comp=Z,9.0nm,0.5s
TDK Taldyqorghan 84.09 0 *e*P **P** **10 47 23.8 -0.3**
comp=Z,218nm,1.9s,baz=0.1
TDK LR LR 11 19 23.8
comp=Z,4µm,17.3s,baz=0.1
TDK Taldyqorghan 84.09 0 *e*P **P** **10 47 23.7 -0.3**
TDK pmax pmax
comp=Z,218nm,1.9s
BTLS Baital 84.21 357 *e*P **P** **10 47 24.3 -0.4**
comp=Z,60nm,1.9s,baz=357
BTLS Baital 84.21 357 *e*P **P** **10 47 24.2 -0.4**
BTLS pmax pmax
comp=Z,60nm,1.9s
BTO Baotou 84.86 24 P **P** **10 47 27.0 -1.2**
GNI Garni 84.89 335 P **P** **10 47 31.5 +3.1**
GNI Garni 84.89 335⇓ *e*P **P** **10 47 30.6 +2.2**
GNI pmax pmax
comp=Z,94nm,1.9s
AKT Akhty 85.17 338 *e*P **P** **10 47 31.1 +1.4**
AKT *e* 10 47 33.7
AKT *e* 10 50 47.2
AKT pmax pmax
comp=Z,14nm,0.8s
HHC Hu-ho-hao-te 85.58 25 *e*P **P** **10 47 31.5 -0.3**
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,730nm,6.1s
MK31 Makanchi Array 85.97 3⇑ *e*P **P** **10 47 32.4 -1.0**
MK31 Makanchi Array 85.97 3 P **P** **10 47 31.8 -1.6**
MKAR Makanchi Array 85.97 3 P **P** **10 47 31.5 -1.9**
comp=Z,11nm,0.9s,baz=169,slow=5.6,SNR=38
MKAR LR LR 11 22 35.9
comp=Z,5µm,21.0s,baz=188,slow=33
MKAR Makanchi Array 85.97 3 P **P** **10 47 30.7 -2.7**
MAKZ Makanchi 85.97 3 P **P** **10 47 31.3 -2.2**
MAKZ pmax pmax
comp=Z,57nm,1.5s
MAKZ Makanchi 85.97 3 P **P** **10 47 31.3 -2.2**
MAKZ IAmb IAmb 10 47 36.8
comp=Z,57nm,1.4s
MAKZ IAMs_20 IAMs_20 11 22 45.5
comp=Z,6µm,20.0s
MSVF Nonsavu 86.34 110 LR LR 11 19 57.1
comp=Z,2µm,19.1s,baz=242,slow=31
MSVF Nonsavu 86.34 110 IAMs_20 IAMs_20 11 18 28.0
comp=Z,4µm,20.0s
BJI Beijing 86.45 28 P **P** **10 47 35.5 -0.4**
BJI pmax pmax
comp=Z,6.0nm,1.0s
BJI LR LR
comp=Z,1µm,16.9s
BJI LR LR
comp=Z,2µm,18.6s
BJI LR LR
comp=Z,1µm,41.7s
MAK Makhachkala 86.60 338 *e*P P 10 47 31.5 -5.1
MAK *e*PPP PPP 10 52 50.2
MAK *e* 10 57 54.5
MAK *e*SS SS 11 03 52.7 -2.3
MAK pmax pmax
comp=Z,1µm,1.8s
JNU Nakatsue 87.23 42 LR LR 11 24 51.5
comp=Z,958nm,20.6s,baz=282,slow=34
TOA0 Torodi Ar. Sit 88.02 289 P **P** **10 47 45.3 +1.1**
TORD Torodi Ar. Bea 88.02 289 P **P** **10 47 43.6 -0.6**
comp=Z,3.1nm,0.9s,baz=115,slow=4.3,SNR=9.1
TORD LR LR 11 24 32.4
comp=Z,3µm,20.2s,baz=150,slow=34
TORD Torodi Ar. Bea 88.02 289 P **P** **10 47 45.1 +0.9**
KIC Kosan Boka 88.48 279 *e*P **P** **10 47 48.1 +1.7**
comp=Z,67nm,1.1s
LIC Lamto 88.61 279 *e*P **P** **10 47 48.6 +1.6**
comp=Z,118nm,1.3s
BR131 Keskin Array S 88.67 327⇓ *e*P **P** **10 47 46.6 -0.2**
BRTR Keskin Array B 88.67 327 P **P** **10 47 46.4 -0.5**
comp=Z,0.5nm,0.5s,baz=180,slow=6.6,SNR=2.1
BRTR LR LR 11 23 51.4
comp=Z,967nm,20.8s,baz=162,slow=33
KBZ Khabaz 88.71 335 LR LR 11 24 11.2
comp=Z,810nm,19.3s,baz=170,slow=33
DBIC Dimbokro 88.76 280 P **P** **10 47 48.2 +0.5**
comp=Z,13nm,1.0s,baz=130,slow=7.2,SNR=6.3
DBIC LR LR 11 25 02.6
comp=Z,4µm,18.4s,baz=116,slow=34
DBIC Dimbokro 88.76 280 P **P** **10 47 50.1 +2.3**
DBIC IAmb IAmb 10 47 57.4
comp=Z,33nm,1.3s
TIC Toumodi 88.87 279 *e*P **P** **10 47 49.9 +1.6**
KIV Kislovodsk 88.98 335 *e*P **P** **10 47 48.7 +0.6**
KIV pmax pmax
comp=Z,33nm,1.1s
DGZ Jazzator, Alta 89.18 6⇑ *e*P **P** **10 47 48.2 -0.8**
DGZ pmax pmax
comp=Z,20nm,1.3s
BRZS Berezniki 89.20 357 *e*P **P** **10 47 49.1 +0.1**
comp=Z,31nm,2.6s,baz=356
BRZS Berezniki 89.20 357 *e*P **P** **10 47 49.0 +0.1**
BRZS pmax pmax
comp=Z,31nm,2.6s
KSRS Korea Array 89.21 37 P **P** **10 47 48.9 -0.3**
comp=Z,0.5nm,0.5s,baz=197,slow=5.0,SNR=2.1
KSRS LR LR 11 26 08.8
comp=Z,765nm,19.4s,baz=225,slow=34
SEM Semipalatinsk 89.52 1 *e*P **P** **10 47 49.4 -1.3**
comp=Z,13nm,1.8s,baz=1.3
SEM LR LR 11 22 13.8
comp=Z,1µm,19.2s,baz=1.3
SEM Semipalatinsk 89.52 1 *e*P **P** **10 47 49.4 -1.3**
SEM pmax pmax
comp=Z,13nm,1.8s
KURBB Kurchatov Arra 89.72 0 P **P** **10 47 50.1 -1.2**
comp=Z,9.1nm,1.1s,baz=193,slow=4.8,SNR=29
ABKAR Akbulak array 89.79 348 P **P** **10 47 49.9 -1.7**
KURK Kurchatov 89.81 0 P **P** **10 47 50.1 -1.6**
KURK Kurchatov 89.81 0 P **P** **10 47 50.1 -1.6**
SONM Songino Array 90.50 19 P **P** **10 47 52.9 -2.3**
comp=Z,2.3nm,1.0s,baz=204,slow=4.0,SNR=8.9
SONM LR LR 11 28 10.9
comp=Z,2µm,18.2s,baz=217,slow=35
SONM Songino Array 90.50 19 P **P** **10 47 53.2 -2.0**
SONM pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 90.50 19 P **P** **10 47 53.2 -2.0**
ULN Ulaanbaatar 90.70 19⇓ *e*P **P** **10 47 54.2 -1.9**
ULN pmax pmax
comp=Z,21nm,1.7s
ULN MLR MLR
comp=Z,2µm,17.0s
AKTO Aktyubinsk 91.25 347 P **P** **10 47 57.1 -1.3**
comp=Z,2.2nm,0.9s,baz=178,slow=4.0,SNR=6.5
ANN Anapa 91.52 332 *e*P **P** **10 48 03.6 +3.8**
ANN pmax pmax
comp=Z,80nm,1.3s
ZAK Zakamensk 92.18 16 *e*P **P** **10 48 00.3 -2.6**
ZAK pmax pmax
comp=Z,11nm,1.5s
BVAR Borovoye Array 92.36 355 P **P** **10 48 02.1 -1.4**
comp=Z,1.6nm,0.9s,baz=65,slow=7.0,SNR=11

BRVK Borovoye 92.40 355⇑ *e*P **P** **10 48 01.4 -2.3**
BRVK pmax pmax
comp=Z,11nm,1.7s
BRVK Borovoye 92.40 355 P **P** **10 48 02.4 -1.3**
BRVK Borovoye 92.40 355 P **P** **10 48 04.5 +0.8**
KOWA Kowa 93.11 286 P **P** **10 48 07.5 -0.4**
KOWA IAMs_20 IAMs_20 11 27 30.7
comp=Z,5µm,20.0s
ZAA0 Zalesovo Array 93.23 4 IAmb IAmb 10 48 10.0
comp=Z,26nm,1.6s
ZALV Zalesovo Beam 93.23 4 P **P** **10 48 06.5 -0.9**
comp=Z,2.9nm,0.7s,baz=207,slow=3.0,SNR=7.7
ZALV LR LR 11 27 09.1
comp=Z,3µm,21.1s,baz=188,slow=34
ZALV Zalesovo Beam 93.23 4 **P** **10 48 06.7 -0.8**
TLY Talaya 93.48 16 P **P** **10 48 08.0 -0.8**
comp=Z,0.9nm,0.5s,baz=177,slow=5.8,SNR=6.3
TLY LR LR 11 30 45.3
comp=Z,2µm,18.3s,baz=204,slow=36
TLY Talaya 93.48 16 *e*P **P** **10 48 08.9 +0.1**
TLY pmax pmax
comp=Z,27nm,1.8s
TLY MLR MLR
comp=Z,5µm,15.0s
TLY Talaya 93.48 16 P **P** **10 48 07.3 -1.5**
TLY IAmb IAmb 10 48 13.7
comp=Z,30nm,1.9s
MAJO Matsushiro 93.72 44⇓ *e*P **P** **10 48 10.3 0.0**
MAJO pmax pmax
comp=Z,17nm,1.7s
MAT Matsushiro 93.72 44 P **P** **10 48 09.7 -0.6**
MJAR Matsushiro Arr 93.72 44 P **P** **10 48 09.6 -0.7**
comp=Z,1.9nm,1.0s,baz=187,slow=2.6,SNR=6.1
MJAR LR LR 11 26 09.9
comp=Z,1µm,22.0s,baz=265,slow=33
GO07 Milladeo Hill, 93.90 200 IAMs_20 IAMs_20 11 28 11.4
comp=Z,6µm,22.0s
PLCA Paso Flores 95.20 203 P **P** **10 48 18.4 +1.1**
comp=Z,3.0nm,1.2s,baz=162,slow=3.2,SNR=2.4
PLCA Paso Flores 95.20 203 IAmb IAmb 10 49 58.8
comp=Z,39nm,1.9s
BELG Belogornoye 95.25 342 P **P** **10 48 16.7 0.0**
comp=Z,15nm,1.0s,baz=60,slow=6.0,SNR=4.4
BELG Belogornoye 95.25 342⇑ *i*P **P** **10 48 17.6 +0.9**
BELG pmax pmax
comp=Z,3.0nm,1.1s
STIP Stip 95.42 321 *i* Pn **P** **10 48 17.7 -0.2**
CFR Carcaliu 95.46 327⇑ P **P** **10 48 17.8 -0.1**
CFR Carcaliu 95.46 327⇑ P **P** **10 48 17.8 -0.1**
HIA Hailar 95.72 26⇑ *e*P **P** **10 48 18.6 -0.5**
HIA pmax pmax
comp=Z,2.0nm,1.0s
HIA MLR MLR
comp=Z,2µm,18.0s
TIR Tirane 96.30 320⇑ P P 10 48 11.2 -11
TIR Tirane 96.30 320⇑ P P 10 48 11.2 -11
USRK Ussuriysk Ar. 96.43 36 LR LR 11 32 15.6
comp=Z,921nm,18.2s,baz=249,slow=36
VRI Vrincioaia 96.61 327⇓ P **P** **10 48 19.1 -4.1**
VRI Vrincioaia 96.61 327⇓ P **P** **10 48 19.1 -4.1**
PLOR Plostina 96.63 327⇑ P **P** **10 48 25.0 +1.6**
PLOR Plostina 96.63 327⇑ P **P** **10 48 25.0 +1.6**
MLR Muntele Rosu 96.65 326 P **P** **10 48 24.0 +0.4**
comp=Z,11nm,1.3s,baz=203,slow=2.5,SNR=6.7
MLR Muntele Rosu 96.65 326⇓ P **P** **10 48 24.6 +1.1**
MLR Muntele Rosu 96.65 326⇓ P **P** **10 48 24.6 +1.1**
ARU Arti 96.96 349 *d* *i*P **P** **10 48 25.0 +0.5**
ARU 10 52 23.3
ARU S **SKSac** **10 59 02.5 +1.6**
ARU SS **SS** **11 06 33.3 +10**
ARU pmax pmax
comp=Z,18nm,2.3s
BO02 Sierra Bellavi 100.69 206 IAMs_20 IAMs_20 11 36 16.4
comp=Z,3µm,18.0s
RCBR Riachuelo 104.42 250 IAMs_20 IAMs_20 11 25 07.8
comp=Z,3µm,22.0s
CLL Collm 106.74 324 LmH 11 49 00.0
comp=Z,700nm,21.1s
CLL Collm 106.74 324 *i* P **Pdif** **10 49 06.4 -1.8**
CLL *e* 10 53 34.0
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 106.74 324 *i* Pdif **Pdif** **10 49 06.4 -1.8**
comp=Z,7.0nm,0.9s
CLL Collm 106.74 324 *e* **Pdif** **10 49 19.0 +11**
CLL Collm 106.74 324 *e*PP PKiKP 10 53 34.0 +16
CLL Collm 106.74 324 LmV 11 46 00.0
comp=Z,900nm,19.9s
PPT2 Papeete2 107.89 132 *e*LQ LQ 11 19 56.5
comp=Z,6µm,31.2s
PPT2 *e*LR LR 11 24 56.3
comp=Z,3µm,25.5s
SACV Santiago Islan 108.30 275 IAMs_20 IAMs_20 11 30 01.8
comp=Z,3µm,21.0s
GO02 Mina Guanaco 108.96 211 IAMs_20 IAMs_20 11 35 50.7
comp=Z,2µm,20.0s
BGES Gesves 109.96 319 *d*Pdif **Pdif** **10 49 23.6 +1.0**
DOU Dourbes 110.03 319 *ds*PKiKP **PKiKP** **10 53 29.3 +4.7**
DOU *d*PP **PP** **10 53 57.9 -0.7**
RKT Rikitea 110.50 148 *e*LQ LQ 11 21 19.6
comp=Z,2µm,30.8s
RKT *e*LR LR 11 26 08.3
comp=Z,2µm,29.0s
VAH Vaihoa 110.88 132 *e*T T 12 54 11.0
comp=Z,5.9nm,0.2s
MA2 Magadan 115.33 33⇓ *i*PKIKP **PKiKP** **10 53 34.4 0.0**
MA2 pmax pmax
comp=Z,4.0nm,2.5s
MA2 MLR MLR
comp=Z,2µm,18.0s
TIXI Tiksi 116.46 16⇑ *i*PKIKP **PKiKP** **10 53 36.3 +0.1**
SEY Seymchan 117.86 30⇓ *i*PKIKP **PKiKP** **10 53 39.9 +0.7**
SAML Samuel 119.91 226 IAMs_20 IAMs_20 11 37 28.4
comp=Z,3µm,20.0s
TAOE Nuku Hiva Isla 120.27 135 *e*LR LR 11 30 40.0
comp=Z,2µm,23.5s
BILL Bilibino 125.28 27⇑ *i*PKIKP **PKiKP** **10 53 54.7 +1.1**
BILL pmax pmax
comp=Z,8.0nm,1.7s
BILL MLR MLR
comp=Z,1µm,18.0s
JCUZ Jacuzzi 130.31 98 IAMs_20 IAMs_20 11 42 45.1
comp=Z,3µm,21.0s
GUVC San Jose del G 134.61 223 *e*P **PKiKP** **10 54 17.2 +3.1**
ANM Nome 136.09 34 P 10 54 16.0
baz=273
SOTA Rioblanco 136.27 218 *e*P **PKPdf** **10 54 12.2 -4.3**
ORTC Ortega, Tolima 137.13 221 *e*P **PKPdf** **10 54 17.8 +0.3**
RUSC La Rusia 137.65 225 *e*P **PKPdf** **10 54 19.5 +0.6**
YOTC Yotoco, Valle 137.75 220 *e*P **PKiKP** **10 54 19.8 -0.9**
SPBC San Pablo de B 137.99 224 *e*P **PKiKP** **10 54 20.0 -1.1**
GUY2C Guyana, Caldas 138.31 222 *e*P **PKPdf** **10 54 16.2 -3.9**
NORC Norcasia 138.34 223 *e*P **PKPdf** **10 54 18.8 -0.8**
PTBC PUERTO BERRIO 138.94 224 *e*P **PKPdf** **10 54 19.5 -1.2**
ANWB Willy Bob 139.04 250 IAMs_20 IAMs_20 11 45 53.2
comp=Z,2µm,22.0s
SEUS St. Eustatius 139.79 248 IAMs_20 IAMs_20 11 46 35.1
comp=Z,2µm,21.0s
ZARC Zaragoza, Cauc 139.95 225 *e*P **PKPdf** **10 54 22.3 -0.2**
SFJD Kangerlussuaq 140.57 331 IAMs_20 IAMs_20 12 01 16.1
comp=Z,2µm,20.0s
IMAR Indian Mountai 140.67 31 **PKPdf** **10 54 21.1 -1.1**
TOLK Toolik Lake Re 141.28 26 P 10 54 25.4
baz=294
MLY Manley 142.15 31 P 10 54 26.6
baz=288
BPAW Bear Paw Mtn. 142.33 33 P 10 54 27.6
baz=287
I23K Minto, Yukon-K 142.66 31 P 10 54 28.6
baz=290
BMAR Burnt Mountain 143.50 26 **PKPdf** **10 54 26.7 -0.6**
ILAR Eielson Array 143.78 31 PKP PKPbc 10 54 26.2 +0.7
comp=Z,1.3nm,0.8s,baz=278,slow=3.4,SNR=6.1
HDA Harding Lake 143.90 31 P 10 54 28.5
baz=292
HDA P 10 54 28.5
baz=292
BCIP Isla Barro Col 143.94 219 IAMs_20 IAMs_20 11 55 36.2
comp=Z,1µm,20.0s
PRP Porcupine Dome 144.01 29 PKPbc 10 54 27.1 +0.7
WAT6 Susitna Watana 144.19 35 P 10 54 28.0
baz=288
RES Resolute Bay 144.54 357 PKP **PKPab** **10 54 27.0 -0.3**
comp=Z,32nm,1.0s,baz=355,slow=5.3,SNR=77
RES Resolute Bay 144.54 357 PKPdf **PKPab** **10 54 26.7 -0.6**

PAX	Paxson	145.04	33	P			10 54 30.8	
	baz=292							
SCRK	Sand Creek	145.26	31			PKPbc	10 54 29.6	-0.8
SCRK	Sand Creek	145.26	31	P			10 54 30.9	
	baz=294							
DOT	Dot Lake	145.36	32			PKPbc	10 54 29.5	-1.0
K27K	Chicken	145.99	31	P			10 54 32.4	
	baz=297							
EGAK	Eagle	146.00	29	P			10 54 32.9	
	baz=299							
BMRM	Bremner River	146.13	36	P			10 54 34.5	
	baz=290							
INK	Inuvik	146.40	21	PKPbc		PKPdf	10 54 31.4	-0.8
	comp=Z,12nm,1.0s,baz=290,slow=2.7,SNR=16							
L27K	Beaver Creek,	146.52	32	P			10 54 35.3	
	baz=296							
BCAR	Beaver Creek A	146.54	32			PKPdf	10 54 32.5	-0.2
EPYK	Eagle Plains	146.69	25	P			10 54 33.5	
	baz=306							
DRLN	Deer Lake	147.19	302			PKPbc	10 54 35.1	-1.3
JTS	Las Juntas de	147.24	212	PKPbc		PKPbc	10 54 37.7	+0.2
	comp=Z,18nm,1.1s,baz=276,slow=18,SNR=6.5							
ORTG	Ortega, Santa	147.51	211	IAMs_20		IAMs_20	11 59 19.3	
	comp=Z,2μm,22.0s							
CTG	Chitna Glacier	147.61	35	P			10 54 38.9	
	baz=294							
C36M	Paulatuk	147.81	15	P			10 54 35.7	
	baz=327							
ESPN	Las Esperanzas	148.66	215			PKPdf	10 54 37.4	-0.2
ACON	Acoyapa	148.84	213			PKPbc	10 54 39.7	-2.0
MATN	Matagalpa	150.02	213	IAMs_20		IAMs_20	11 57 42.9	
	comp=Z,2μm,18.0s							
CRIN	San Cristobal	150.26	210	IAMs_20		IAMs_20	12 05 38.2	
	comp=Z,1μm,20.0s							
TGUH	Tegucigalpa,Un	151.59	211			PKPbc	10 54 47.8	-0.7
SNET	Serv Nac Est T	151.98	207	IAMs_20		IAMs_20	11 59 31.5	
	comp=Z,2μm,20.0s							
MTO3	Montecristo	152.69	207			PKPdf	10 54 44.0	-0.1
MTO3				IAMs_20		IAMs_20	11 55 52.2	
	comp=Z,2μm,21.0s							
DLBC	Dease Lake	153.85	34	PKPbc		PKiKP	10 54 52.5	+0.2
	comp=Z,4.7nm,1.0s,baz=0.0,slow=0.0,SNR=2.5							
PQI	Presque Isle	154.35	297	IAMs_20		IAMs_20	12 01 15.2	
	comp=Z,2μm,20.0s							
YKA	Yellowknife Ar	155.70	14	PKP		PKPdf	10 54 44.7	-1.9
	comp=Z,1.1nm,1.1s,baz=347,slow=1.5,SNR=8.8							
YKA				PKPab		PKPab	10 55 12.2	-0.7
	comp=Z,3.8nm,1.0s,baz=330,slow=4.2,SNR=11							
I63A	Otisfield	156.25	291	IAMs_20		IAMs_20	12 01 38.2	
	comp=Z,2μm,21.0s							
L64A	Middleborough	156.37	286	IAMs_20		IAMs_20	11 58 43.7	
	comp=Z,2μm,20.0s							
M64A	Tiverton	156.61	285	IAMs_20		IAMs_20	11 53 05.3	
	comp=Z,3μm,22.0s							
I62A	Tamworth	156.80	291	IAMs_20		IAMs_20	11 55 37.7	
	comp=Z,2μm,21.0s							
HRV	Adam Dziewonsk	156.94	287	IAMs_20		IAMs_20	11 57 59.7	
	comp=Z,2μm,20.0s							
M63A	Gales Ferry	157.22	285	IAMs_20		IAMs_20	11 57 29.6	
	comp=Z,2μm,20.0s							
061Z	Ochoppi	157.77	239	IAMs_20		IAMs_20	12 08 30.1	
	comp=Z,2μm,20.0s							
TRY	Troy	158.50	288	IAMs_20		IAMs_20	12 07 50.0	
	comp=Z,2μm,19.0s							
LONY	Lake Ozonia	159.10	293	IAMs_20		IAMs_20	12 01 47.3	
	comp=Z,2μm,21.0s							
J59A	Piesco	159.11	290	IAMs_20		IAMs_20	11 55 08.9	
	comp=Z,2μm,22.0s							
L59A	Walton	159.50	286	IAMs_20		IAMs_20	11 59 01.8	
	comp=Z,2μm,20.0s							
DWPF	Disney Wildern	159.59	242	IAMs_20		IAMs_20	12 06 42.5	
	comp=Z,2μm,20.0s							
YBH	Yreka Blue Hor	164.06	75	PKPab		PKPab	10 55 50.3	0.0
	comp=Z,3.3nm,1.1s,baz=290,slow=6.8,SNR=3.1							
MONP2	Monument Peak	166.58	115	P			10 55 02.4	
	baz=257							
LRMC	Laurel Mtn Rad	166.87	103	P			10 55 02.9	
	baz=248							
CWC	Cottonwood Cre	166.90	98	P			10 55 02.6	
	baz=252							
WVOR	Wild Horse Val	167.03	71	PKIKP		PKPdf	10 54 59.6	+0.3
WVOR	Wild Horse Val	167.03	71			PKPdf	10 54 59.6	+0.3
NVAR	Mina Array Bea	167.21	89	PKP		PKPdf	10 54 59.9	+0.2
	comp=Z,2.9nm,1.1s,baz=157,slow=1.3,SNR=14							
NVAR				PKPab		PKPab	10 56 04.0	-0.4
	comp=Z,3.7nm,1.0s,baz=246,slow=4.5,SNR=5.4							
NVAR	Mina Array Bea	167.21	89			PKPdf	10 55 00.9	+1.2
GSC	Goldstone, Bar	167.46	105	P			10 55 02.3	
	baz=247							
BELC	Belle Mtn. Jos	167.47	111	P			10 55 03.7	
	baz=241							
HEC	Hector,Ludlow	167.61	107	P			10 55 03.2	
	baz=244							
FURC	Furnace Creek,	167.84	100	P			10 55 03.6	
	baz=252							
GMRC	Granite Mounta	168.09	109	P			10 55 03.8	
	baz=243							
IRM	Iron Mountain	168.16	112	P			10 55 03.6	
	baz=240							
ULM	Lac du Bonnet	168.41	340	PKP		PKPdf	10 54 58.5	-1.4
	comp=Z,1.7nm,1.0s,baz=108,slow=3.8,SNR=4.1							
ULM				PKPab		PKPab	10 56 07.1	-1.7
	comp=Z,4.7nm,1.0s,baz=18,slow=3.6,SNR=6.2							
ULM	Lac du Bonnet	168.41	340			PKPdf	10 55 00.1	+0.3
214A	Organ Pipe Nat	168.41	127	P			10 55 03.7	
	baz=227							
TPNV	Topopah Spring	168.45	98	P			10 55 04.2	
	baz=254							
R11A	Troy Canyon, C	169.30	92	P			10 55 04.6	
	baz=260							
EGMT	Eagleton	169.75	31	P			10 55 03.3	
	baz=324							
HLID	Hailey	169.78	62			PKPdf	10 55 01.1	-0.1
HLID	Hailey	169.78	62	P			10 55 03.9	
	baz=290							
TX31	Lajitas Ar. Si	169.79	171			PKPdf	10 55 01.9	+0.3
TX32	Lajitas Array	169.79	171			PKPdf	10 55 02.7	+1.2
TXAR	Lajitas Array	169.79	171	PKP		PKPdf	10 55 01.0	-0.5
	comp=Z,1.5nm,0.9s,baz=151,slow=1.3,SNR=12							
TXAR				PKPab		PKPab	10 56 16.9	+1.3
	comp=Z,3.8nm,1.1s,baz=187,slow=6.3,SNR=7.8							
TXAR	Lajitas Array	169.79	171			PKPdf	10 55 02.1	+0.6
TUC	Tucson	169.87	132	P			10 55 04.5	
	baz=223							
JFWS	Jewell Farm	170.55	295	P			10 55 02.7	
	baz=72							
BOZ	Bozeman (W)	170.58	46	P			10 55 03.7	
	baz=307							
WLAR	White Oak Lake	170.86	234			PKPdf	10 55 00.4	-1.4
JCT	Junction City	170.86	192	PKIKP		PKPdf	10 55 01.6	-0.4
JCT	Junction City	170.86	192			PKPdf	10 55 01.6	-0.4
JCT	Junction City	170.86	192	P			10 55 03.6	
	baz=170							
CCM	Cathedral Cave	171.53	264	PKIKP		PKPdf	10 55 03.2	+1.2
CCM	Cathedral Cave	171.53	264			PKPdf	10 55 03.2	+1.2
CCM	Cathedral Cave	171.53	264	P			10 55 02.8	
	baz=102							
DUG	Dugway, Tooele	171.59	82	P			10 55 05.2	
	baz=272							
121A	Cookes Peak, D	171.61	144	P			10 55 05.7	
	baz=213							
WHTX	Lake Whitney,	171.70	207	P			10 55 04.4	
	baz=156							
MNTX	Cornudas Mount	171.75	159			PKPdf	10 55 03.8	+1.4
MNTX	Cornudas Mount	171.75	159	P			10 55 04.8	
	baz=200							
SPUT	South Promonto	171.76	74	PKPdf		PKPdf	10 55 02.4	+0.1
MGMO	Mountain Grove	172.06	256			PKPdf	10 55 02.3	-0.1
RLMT	Red Lodge	172.16	42	P			10 55 05.2	
	baz=314							
U40A	Yellville	172.18	249	P			10 55 03.5	
	baz=116							
R40A	Maddies Statio	172.37	264			PKPdf	10 55 02.6	+0.2
ABTX	Abilene, Hawle	172.92	196			PKPdf	10 55 03.9	+1.1
ABTX	Abilene, Hawle	172.92	196	P			10 55 05.2	
	baz=166							
HHAR	Hobbs	172.93	246			PKPdf	10 55 03.6	+0.9
S39A	Bolivar	173.03	258			PKPdf	10 55 02.0	-0.7
N38A	Joes South For	173.21	284	PKPdf		PKPdf	10 55 01.9	-0.8
SRU	San Rafael Swe	173.32	90	PKIKP		PKPdf	10 55 03.2	+0.2
SRU	San Rafael Swe	173.32	90			PKPdf	10 55 03.2	+0.2
BW06	Boulder Array	173.37	58			PKPdf	10 55 02.1	-0.9
BW06	Boulder Array	173.37	58	P			10 55 04.9	
	baz=298							
PDAR	Pinedale Array	173.37	58	PKP		PKPdf	10 55 03.4	+0.4
	comp=Z,3.9nm,1.0s,baz=164,slow=1.4,SNR=16							
PDAR				PKPab		PKPab	10 56 29.8	-1.8
	comp=Z,0.7nm,0.9s,baz=270,slow=0.9,SNR=1.9							
PDAR	Pinedale Array	173.37	58			PKPdf	10 55 03.9	+0.9
BNM	Barren Site	173.49	143			PKPdf	10 55 05.4	+2.0
ECSD	EROS Data Cent	174.17	319	P			10 55 03.5	
	baz=44							
ANMO	Albuquerque	174.22	140	P			10 55 06.5	
	baz=218							
MVCO	Mesa Verde	174.36	112	P			10 55 06.5	
	baz=246							
WMOK	Wichita Mounta	174.65	209	P			10 55 05.1	
	baz=153							
O20A	White River Ci	175.09	80	P			10 55 05.9	
	baz=277							
RSSD	Black Hills	175.09	18	PKIKP		PKPdf	10 55 02.7	-0.8
RSSD	Black Hills	175.09	18	PKPdf		PKPdf	10 55 02.7	-0.8
RSSD	Black Hills	175.09	18	P			10 55 04.0	
	baz=340							
K22A	Casper	175.29	46			PKPdf	10 55 03.3	-0.3
K22A	Casper	175.29	46	P			10 55 05.2	
	baz=311							
S22A	4UR Ranch, Cre	175.79	113	P			10 55 07.0	
	baz=246							
SMCO	Snowmass	176.07	93	PKPdf		PKPdf	10 55 02.4	-1.8
N23A	Red Feather La	176.61	64	P			10 55 06.2	
	baz=295							
ISCO	Idaho Springs	177.13	82	PKIKP		PKPdf	10 55 03.7	-0.5
ISCO	Idaho Springs	177.13	82			PKPdf	10 55 03.7	-0.5
ISCO	Idaho Springs	177.13	82	P			10 55 06.5	
	baz=277							
CBKS	Cedar Bluff	178.18	250	P			10 55 04.9	
	baz=110							

*IDC **30** 10:37:17.0±1.3,5.°14S×153.°14E,h0km,mb3.9/7, mb1 4.0/8,mb1mx3.6/54,mbtmp3.9/8,ML1.8/1 Error ellipse: s-maj=38.1km s-min=25.0km az=102.0*
ISC 30 10:37:23.3±1.2,5.°2S±0.°2×153.°1E±0.°2,h43km,n9, σ0s72/10,mb3.7/7,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.19	234	Pn		Pn	10 39 06.9	+1.0
	0.9nm,0.3s,baz=27,slow=4.5,SNR=2.5							
PMG					Sn	Sn	10 40 25.5	-0.9
	4.8nm,0.3s,baz=3.8,slow=4.7,SNR=7.4							
DZM	Mont Dzumac	21.15	144	P		P	10 42 05.0	0.0
	12nm,1.1s,baz=319,slow=20,SNR=2.6							
WRA	Warramunga Arr	23.38	230	P		P	10 42 28.1	-0.2
	2.7nm,0.9s,baz=56,slow=9.8,SNR=16							
ASAR	Alice Springs	26.03	223	P		P	10 42 52.5	-0.2
	0.8nm,0.7s,baz=53,slow=9.0,SNR=14							
MKAR	Makanchi Array	80.84	319	P		P	10 49 33.6	+0.8
	0.5nm,0.8s,baz=104,slow=5.8,SNR=1.3							
ZALV	Zalesovo Beam	81.67	326	P		P	10 49 36.4	-0.6
	1.1nm,0.4s,baz=123,slow=5.3,SNR=3.0							
KURBB	Kurchatov Arra	84.31	322	P		P	10 49 51.0	+0.2
	0.5nm,0.7s,baz=109,slow=4.1,SNR=2.8							
BVAR	Borovoye Array	89.76	323	P		P	10 50 16.4	-0.8
	0.6nm,0.8s,baz=95,slow=5.7,SNR=2.5							
TORD	Torodi Ar. Bea	150.71	288	PKPbc		PKiKP	10 57 12.3	-0.4
	0.8nm,0.5s,baz=50,slow=2.3,SNR=3.7							

VIE 30 10:47:37.8±0.3,46.°68N×13.°8OE,h0km,mb-0.1/1,ml1.3/5, Error ellipse: s-maj=2.8km s-min=1.8km az=179.0 5 km S of Afritz Mining explosion.,Austria

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MYKA	Terra Mystica	0.12	245	*i* Pg		Pg	10 47 40.0	-0.1
MYKA				*e*Sg		Sg	10 47 42.1	+0.4
	7.1nm,0.1s							
KBA	Koelnbreinsper	0.51	322	*e*Pg		Pg	10 47 47.7	+0.3
	0.2nm,0.1s							
KBA				*e*Sg		Sg	10 47 55.0	+1.0
	2.6nm,0.2s							
OBKA	Obir	0.54	108	*e*Pg		Pg	10 47 48.7	+0.6
	0.4nm,0.1s							
OBKA					Sg	Sg	10 47 56.7	+1.4
	2.8nm,0.2s							
ABTA	Abfaltersbach	0.89	275	Sg		Sb	10 48 08.1	-0.5
	1.0nm,0.3s							

*IDC **30** 11:04:58.8±1.6,5.°27S×152.°68E,h0km,mb3.7/10, mb1 3.8/10,mb1mx3.7/39,mbtmp3.7/10,Error ellipse: s-maj=65.0km s-min=19.7km az=122.0*
ISC 30 11:05:04.4±1.5,5.°3S±0.°3×152.°7E±0.°3,h40km,n12, σ0s94/12,mb3.6/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.84	233	Sn		Sn	11 07 59.9	+0.9
	1.5nm,0.3s,baz=132,slow=22,SNR=1.9							
WRA	Warramunga Arr	23.04	229	P		P	11 10 07.2	+0.8
	0.4nm,0.6s,baz=54,slow=9.9,SNR=5.3							
ASAR	Alice Springs	25.71	223	P		P	11 10 30.7	-0.5
	0.4nm,0.6s,baz=60,slow=8.8,SNR=8.8							
FITZ	Fitzroy Crossi	29.34	242	P		P	11 11 02.5	-1.2
	1.1nm,0.7s,baz=75,slow=12,SNR=2.2							
PETK	Petropavlovsk-	86.38	4	P		P	11 14 55.6	0.0
	1.6nm,0.9s,baz=181,slow=7.4,SNR=4.7							
MA2	Magadan	64.73	359	P		P	11 15 37.8	-0.5
	1.1nm,0.6s,baz=160,slow=9.1,SNR=4.6							
SONM	Songino Array	66.74	328	P		P	11 15 52.6	+0.9
	0.2nm,0.5s,baz=145,slow=5.3,SNR=1.7							
MKAR	Makanchi Array	80.68	319	P		P	11 17 13.3	-0.2
	0.2nm,0.4s,baz=108,slow=8.0,SNR=2.1							
ZALV	Zalesovo Beam	81.55	326	P		P	11 17 17.3	-0.5
	0.5nm,0.5s,baz=106,slow=16,SNR=1.9							
ILAR	Eielson Array	82.68	22	P		P	11 17 22.8	-0.7
	0.6nm,0.8s,baz=249,slow=5.2,SNR=7.4							
YKA	Yellowknife Ar	95.93	28	P		P	11 18 28.5	+1.6
	0.1nm,0.6s,baz=270,slow=4.6,SNR=6.0							
TORD	Torodi Ar. Bea	150.40	287	PKPbc		PKiKP	11 24 53.2	-0.2
	0.6nm,0.7s,baz=90,slow=2.9,SNR=2.1							

*IDC **30** 11:06:29.0±1.0,5.°31S×152.°68E,h0km,mb3.9/15, mb1 4.0/15,mb1mx3.9/39,mbtmp3.9/15,MS4.7/1, Ms1 4.7/1,ms1mx3.8/53,Error ellipse: s-maj=38.6km s-min=17.2km az=119.0*
ISC 30 11:06:34.8±0.9,5.°4S±0.°1×152.°7E±0.°2,h40km,n18, σ0s63/18,mb3.8/15,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.79	233	Sn		Sn	11 09 28.4	+0.3
	1.4nm,0.3s,baz=252,slow=10.0,SNR=1.8							
WRA	Warramunga Arr	22.99	229	P		P	11 11 36.3	0.0
	0.5nm,0.5s,baz=53,slow=9.7,SNR=1.6							
ASAR	Alice Springs	25.66	223	P		P	11 12 01.1	0.0
	0.6nm,0.8s,baz=58,slow=9.0,SNR=7.5							
STKA	Stephens Creek	28.35	200	P		P	11 12 25.1	-0.1
	0.7nm,0.6s,baz=154,slow=13,SNR=3.2							
FITZ	Fitzroy Crossi	29.29	242	P		P	11 12 33.3	-0.3
	1.5nm,0.7s,baz=235,slow=20,SNR=2.7							
RAO	Raoul Island	36.57	134	LR		LR	11 27 13.9	
	comp=Z,1μm,18.4s,baz=242,slow=34							
KLR	Kul'dur	57.34	344	P		P	11 16 19.3	+0.6
	0.8nm,0.7s,baz=125,slow=10,SNR=3.5							
CMAR	Chiang Mai Arr	58.00	296	P		P	11 16 24.8	+0.7
	0.4nm,0.3s,baz=115,slow=6.8,SNR=4.1							
PETK	Petropavlovsk-	58.40	4	P		P	11 16 26.5	+0.4
	1.0nm,0.5s,baz=161,slow=6.9,SNR=10							
MA2	Magadan	64.75	359	P		P	11 17 08.1	-0.7
	0.7nm,0.3s,baz=161,slow=9.8,SNR=6.0							
SONM	Songino Array	66.73	328	P		P	11 17 22.6	+0.6
	0.3nm,0.4s,baz=325,slow=46,SNR=2.2							
MKAR	Makanchi Array	80.66	319	P		P	11 18 42.5	-1.2
	0.3nm,0.4s,baz=95,slow=7.3,SNR=4.4							
ZALV	Zalesovo Beam	81.54	326	P		P	11 18 47.5	-0.7
	0.9nm,0.6s,baz=140,slow=7.2,SNR=4.3							
ILAR	Eielson Array	82.72	22	P		P	11 18 53.5	-0.5
	0.9nm,0.7s,baz=247,slow=4.8,SNR=9.4							
NRIK	Noril'sk	86.45	341	P		P	11 19 12.2	-0.7
	2.0nm,0.5s,baz=108,slow=7.2,SNR=2.7							
NVAR	Mina Array Bea	92.52	52	P		P	11 19 43.2	+0.8
	0.2nm,0.6s,baz=245,slow=7.5,SNR=2.7							
YKA	Yellowknife Ar	95.97	28	P		P	11 19 58.0	+0.6
	0.1nm,0.7s,baz=269,slow=4.3,SNR=7.2							
TORD	Torodi Ar. Bea	150.36	287	PKPbc		PKiKP	11 26 23.4	-0.4
	0.9nm,0.8s,baz=91,slow=3.5,SNR=3.0							
TORD				PKPab		pPKPdf	11 26 28.6	-0.5
	0.8nm,0.7s,baz=76,slow=2.8,SNR=4.5							

*MEX **30** 11:14:04.2±0.4,15.°08N×91.°71W,h174km±6km,MD4.2 GCG **30** 11:14:10.0±0.3,15.°26N×91.°42W,h33km,MD3.8*
ISC 30 11:14:01.8±1.5,15.°0N±0.°1×91.°68W±0.°09,h167km,n9, σ0s83/13,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ERG	Entre ros, C	0.54	169	*e*P		Pn	11 14 25.4	0.0
FUG	Fuego 3	0.97	123	*e*P		Pn	11 14 28.0	-0.2
PCG	Pacaya	1.19	119	*e*P		Pn	11 14 30.9	+0.8
NBG	Las Nubes	1.35	106	*e*P		Pn	11 14 31.9	+0.3
CCIG	Comitan	1.37	341	*e*P		Pn	11 14 32.2	+0.5
CCIG				*e*S		Sn	11 14 54.4	-0.3
PCIG		1.65	296	*e*P		Pn	11 14 34.8	+0.6
PCIG				*e*S		Sn	11 14 59.4	+0.1
MRL	Marmol	1.93	87	*e*P		Pn	11 14 37.9	+0.5
TGIG		2.27	322	*e*P		Pn	11 14 41.4	+0.3
TGIG				*e*S		Sn	11 15 10.4	-1.2
CMIG	Matias Romero	3.73	305	*e*P		Pn	11 15 00.2	+1.1
CMIG				*e*S		Sn	11 15 42.2	-1.5

*IDC **30** 11:20:07.9±2.1,7.°21S×154.°88E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.6/54,mbtmp3.7/7,Error ellipse: s-maj=66.1km s-min=26.9km az=123.0*
ISC 30 11:20:13.9±1.9,7.°2S±0.°3×154.°9E±0.°3,h41km,n11, σ1s23/9,mb3.6/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.56	236	P		P	11 25 20.1	-0.9
	1.2nm,0.8s,baz=58,slow=9.4,SNR=7.0							
ASAR	Alice Springs	25.91	229	P		P	11 25 42.1	-0.3
	0.6nm,0.8s,baz=66,slow=9.0,SNR=5.1							
H11S3	WAKE ISLAND Hy	28.11	24	T		T	11 56 40.9	
	baz=207,slow=73,SNR=8.1							
H11S2	WAKE ISLAND Hy	28.11	24	T		T	11 56 59.3	
	baz=207,slow=73,SNR=5.1							
H11S1	WAKE ISLAND Hy	28.13	24	T		T	11 56 39.1	
	baz=207,slow=73,SNR=4.5							
FITZ	Fitzroy Crossi	30.42	246	P		P	11 26 22.1	-0.6
	0.9nm,0.8s,baz=85,slow=7.7,SNR=2.0							
CMAR	Chiang Mai Arr	60.76	296	P		P	11 30 23.8	+1.7
	0.4nm,0.5s,baz=117,slow=3.7,SNR=4.8							
SONM	Songino Array	69.46	327	P		P	11 31 16.9	-1.3
	0.4nm,0.7s,baz=123,slow=5.5,SNR=3.5							
MKAR	Makanchi Array	83.49	319	P		P	11 32 36.8	-0.7
	0.7nm,0.8s,baz=86,slow=3.7,SNR=6.6							
YKA	Yellowknife Ar	96.62	28	P		P	11 33 39.2	-0.1
	0.3nm,0.8s,baz=263,slow=3.7,SNR=5.3							
TORD	Torodi Ar. Bea	152.95	285	PKPbc		PKiKP	11 40 09.8	+1.7
	0.3nm,0.5s,baz=72,slow=2.4,SNR=2.8							
TORD				PKPab		PKPab	11 40 19.6	+0.4
	0.9nm,0.7s,baz=57,slow=2.5,SNR=3.7							

*SOME **30** 11:22:46.9,39.°52N×76.°12E,h0km NNC **30** 11:22:49.6±2.6,39.°58N×76.°22E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=19.4km s-min=12.4km az=150.0*
ISC 30 11:22:45.7±3.6,39.°5N±0.°2×76.°31E±0.°09,h10km,n23, σ1s35/34,4C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KST	Kastek	3.57	356	*e*P		Pg	11 23 53.0	-1.1
	8.8nm,0.6s							
KST				*e*S		Sg	11 24 40.8	+0.3
	16nm,0.4s							
KST	Kastek	3.57	356		Pg	Pg	11 23 53.0	-1.1
	8.8nm,0.6s							
KST					Lg	Lg	11 24 40.7	
	16nm,0.4s							
TNSS	Tian-Shan	3.59	7	*e*P		Pg	11 23 53.7	-0.8
	4.3nm,0.5s							
TNSS				*e*S		Sg	11 24 41.8	+0.8
	10.0nm,0.8s							
TNSS	Tian-Shan	3.59	7	Pg		Pg	11 23 53.7	-0.8
	4.3nm,0.5s							
TNSS				Lg		Lg	11 24 41.8	
	10.0nm,0.8s							
MTBS	Maitube	3.65	1	*e*P		Pg	11 23 54.9	-0.7
	4.3nm,0.5s							
MTBS				*e*S		Sg	11 24 43.9	+0.9
	8.2nm,0.4s							
MTBS	Maitube	3.65	1	Pg		Pg	11 23 54.9	-0.7
	4.3nm,0.5s							
MTBS				Lg		Lg	11 24 43.9	
	8.2nm,0.4s							
MDOK	Medeo	3.73	8	*e*P		Pg	11 23 55.8	-1.2
	5.0nm,0.4s							
MDOK				*e*S		Sg	11 24 45.5	+0.2
	26nm,1.3s							
MDOK	Medeo	3.73	8	⇑Pg		Pb	11 23 51.3	-0.3
	9.7nm,0.7s							
MDOK				⇑Lg		Lg	11 24 40.6	
	30nm,0.8s							
MDOK	Medeo	3.73	8	Pg		Pg	11 23 55.8	-1.2
	5.0nm,0.4s							
MDOK				Lg		Lg	11 24 45.5	
	26nm,1.3s							
DGS	Degeres	3.79	354	*e*P		Pg	11 23 56.6	-1.5
	12nm,0.7s							
DGS				*e*S		Sg	11 24 46.9	-0.3
	9.7nm,0.8s							
DGS	Degeres	3.79	354	Pg		Pg	11 23 56.6	-1.5
	12nm,0.7s							
DGS

mb4.9/75, Error ellipse: s-maj=12.9km s-min=9.5km az=69.0

*DJA **30** 11:23:12.3±0.4,5°S±3°×15°2E±°, h66km±4km, M5.1/32, mB5.4/6, mb5.0/32, MLv5.3/3, Mw(mB)4.9/6*

ISC 30 11:23:10.7±0.3, 4°91S±0°04×152°40E±0°05, h55km, n210, σ1°21/215, mb4.8/82, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.76**	**342**	Pn	**Pn**	**11 23 27.8**	**+2.3**
RABL	**Rabaul**	**0.76**	**342**	P	**Pn**	**11 23 27.8**	**+2.3**
MANU	**Manus Island**	**5.78**	**299**		**Pn**	**11 24 35.6**	**+1.6**
PMG	**Port Moresby**	**6.86**	**229**	Pn	**Pn**	**11 24 50.7**	**+2.0**
	8.8nm,0.3s,baz=36,slow=8.8,SNR=34						
PMG				Sn	**Sn**	**11 26 09.3**	**+3.9**
	45nm,0.3s,baz=118,slow=23,SNR=16						
PMG				LR	LR	11 27 03.2	
	comp=Z,1μm,19.9s,baz=268,slow=34						
PMG	**Port Moresby**	**6.86**	**229**	Pn	**Pn**	**11 24 51.3**	**+2.6**
HNR	**Honiara**	**8.72**	**121**	Pn	**Pn**	**11 25 13.9**	**-0.4**
	16nm,0.3s,baz=204,slow=10.0,SNR=5.7						
HNR				Sn	**Sn**	**11 26 52.4**	**+1.0**
	3.0nm,0.3s,baz=77,slow=18,SNR=1.1						
HNR	**Honiara**	**8.72**	**121**		**Pn**	**11 25 13.7**	**-0.6**
JAY	**Jayapura**	**11.91**	**281**	Pn	**Pn**	**11 25 58.5**	**+0.5**
	0.7nm,0.3s,baz=0.0,slow=4.0,SNR=1.6						
COEN	**Coen**	**12.79**	**225**	P	**Pn**	**11 26 14.4**	**+4.5**
	baz=13						
COEN	**Coen**	**12.79**	**225**	Pn	**Pn**	**11 26 07.1**	**-2.8**
PATS	**Pohnpei**	**13.08**	**27**	Pn	**Pn**	**11 26 14.1**	**+0.2**
MTSU	**Mount Surprise**	**15.34**	**210**	P	**P**	**11 26 47.4**	**-0.1**
	baz=16,SNR=68						
CTA	**Charters Tower**	**16.23**	**201**	Pn	**Pn**	**11 26 56.8**	**+1.6**
	1.2nm,0.3s,baz=24,slow=13,SNR=16						
CTAO	**Charters Tower**	**16.23**	**201**		**P**	**11 26 57.5**	**0.0**
SANVU	**Saraoutou**	**17.92**	**127**		**Pn**	**11 27 16.3**	**+0.1**
SANVU	**Saraoutou**	**17.92**	**127**	P	**Pn**	**11 27 17.9**	**+1.7**
QIS	**Mount Isa**	**19.91**	**218**	P	**P**	**11 27 39.8**	**+1.7**
	baz=20,SNR=37						
FAKI	**Fak Fak**	**20.20**	**275**	P	Pn	11 27 42.7	-0.8
FAKI	**Fak Fak**	**20.20**	**275**	P	**P**	**11 27 41.0**	**-0.2**
	27nm,1.2s						
EIDS	**Eidsvold**	**20.38**	**183**	P	**P**	**11 27 44.2**	**+1.2**
	baz=21,SNR=7.2						
EIDS	**Eidsvold**	**20.38**	**183**	P	**P**	**11 27 43.0**	**0.0**
EIDS				IAmb	IAmb	11 27 48.4	
	comp=Z,48nm,1.0s						
KDU	**Kakadu**	**21.14**	**247**	P	**P**	**11 27 51.5**	**+0.2**
	baz=21,SNR=38						
SIJI	**Sorong**	**21.49**	**280**	P	**P**	**11 27 56.4**	**+1.3**
	comp=Z,11nm,0.6s,baz=75,slow=8.1,SNR=5.4						
SWI	**Sorong**	**21.49**	**280**	P	**P**	**11 27 55.8**	**+0.7**
	comp=Z,68nm,1.1s						
RMQ	**Roma**	**21.73**	**189**	P	**P**	**11 27 58.8**	**+1.3**
	baz=22,SNR=38						
DZM	**Mont Dzumac**	**21.81**	**143**	P	**P**	**11 27 58.6**	**+0.1**
	comp=Z,29nm,0.6s,baz=264,slow=6.0,SNR=38						
DZM	**Mont Dzumac**	**21.81**	**143**	*e*P	**P**	**11 27 56.3**	**-2.2**
	comp=Z,89nm,1.1s						
DZM	**Mont Dzumac**	**21.81**	**143**	P	**P**	**11 27 56.7**	**-1.8**
DZM				IAmb	IAmb	11 28 22.1	
	comp=Z,58nm,1.2s						
DZM	**Mont Dzumac**	**21.81**	**143**	P	**P**	**11 28 00.3**	**+1.8**
MTN	**Manton Dam**	**22.43**	**248**	P	**P**	**11 28 05.2**	**0.0**
	baz=22,SNR=3.8						
MTN	**Manton Dam**	**22.43**	**248**	P	**P**	**11 28 04.7**	**-0.5**
MTN				IAmb	IAmb	11 28 31.2	
	comp=Z,34nm,0.9s						
QLP	**Quilpie**	**22.92**	**199**	P	**P**	**11 28 10.9**	**+0.7**
	baz=23,SNR=20						
WB0	**Warramunga Arr**	**22.93**	**228**	P	**P**	**11 28 10.5**	**+0.1**
WR0	**Warramunga Arr**	**22.94**	**228**	P	**P**	**11 28 10.1**	**-0.3**
WC3	**Warramunga Arr**	**23.06**	**228**	P	**P**	**11 28 11.9**	**+0.2**
	baz=23						
WRAB	**Tennant Creek**	**23.06**	**228**	P	**P**	**11 28 11.7**	**0.0**
WRAB				IAmb	IAmb	11 28 27.3	
	comp=Z,57nm,1.1s						
WB2	**Warramunga Arr**	**23.07**	**228**	P	**P**	**11 28 11.6**	**-0.2**
WB2				IAmb	IAmb	11 28 27.5	
	comp=Z,59nm,1.1s						
WRA	**Warramunga Arr**	**23.07**	**228**	P	**P**	**11 28 12.2**	**+0.4**
	comp=Z,9.6nm,0.3s,baz=53,slow=9.9,SNR=102						
WRA				S	**S**	**11 32 16.4**	**-2.5**
	comp=Z,16nm,1.0s,baz=54,slow=18,SNR=14						
WRA	**Warramunga Arr**	**23.07**	**228**	P	**P**	**11 28 11.2**	**-0.7**
ARMA	**Armidale**	**25.38**	**182**	P	**P**	**11 28 35.1**	**+2.1**
	baz=26,SNR=10.0						
ARMA	**Armidale**	**25.38**	**182**	P	**P**	**11 28 31.9**	**-1.2**
ARMA				IAmb	IAmb	11 28 35.9	
	comp=Z,22nm,0.8s						
AS31	**Alice Springs**	**25.80**	**222**	P	**P**	**11 28 37.1**	**+0.2**
ASAR	**Alice Springs**	**25.80**	**222**	P	**P**	**11 28 37.5**	**+0.5**
	comp=Z,18nm,0.9s,baz=55,slow=8.8,SNR=86						
ASAR				S	**S**	**11 33 00.2**	**-2.4**
	comp=Z,1.6nm,0.8s,baz=48,slow=14,SNR=4.0						
ASAR	**Alice Springs**	**25.80**	**222**	P	**P**	**11 28 36.8**	**-0.1**
ASPA	**Alice Springs**	**25.80**	**222**	P	**P**	**11 28 37.1**	**+0.2**
	baz=26						
SANI	**Sanana**	**26.52**	**275**	P	**P**	**11 28 45.9**	**+2.5**
	comp=Z,17nm,0.8s						
CMSA	**Cobar Meteorol**	**27.23**	**193**	P	**P**	**11 28 49.5**	**-0.1**
	baz=27,SNR=38						
MSVF	**Nonsavu**	**28.14**	**119**	P	**P**	**11 28 57.8**	**-0.2**
	comp=Z,6.8nm,0.7s,baz=268,slow=10,SNR=6.3						
MSVF	**Nonsavu**	**28.14**	**119**	P	**P**	**11 28 57.3**	**-0.7**
MSVF				IAmb	IAmb	11 29 23.7	
	comp=Z,16nm,1.1s						
MSVF	**Nonsavu**	**28.14**	**119**	P	**P**	**11 28 58.9**	**+0.9**
	comp=Z,22nm,1.1s						
SOEI	**Soe**	**28.31**	**259**	P	**P**	**11 29 00.7**	**+1.0**
SOEI				IAmb	IAmb	11 29 23.7	
	comp=Z,23nm,0.9s						
STKA	**Stephens Creek**	**28.67**	**199**	P	**P**	**11 29 02.1**	**-0.4**
	comp=Z,12nm,0.8s,baz=359,slow=8.6,SNR=26						
STKA				LR	LR	11 40 18.0	
	comp=Z,2μm,18.2s,baz=271,slow=36						
STKA	**Stephens Creek**	**28.67**	**199**	P	**P**	**11 29 02.6**	**+0.1**
	baz=29,SNR=14						
STKA	**Stephens Creek**	**28.67**	**199**	P	**P**	**11 29 01.9**	**-0.6**
BATI	**Baumata**	**28.96**	**258**	P	**P**	**11 29 05.3**	**0.0**
	comp=Z,29nm,0.7s,baz=110,slow=8.5,SNR=4.0						
FITZ	**Fitzroy Crossi**	**29.26**	**241**	P	**P**	**11 29 07.7**	**-0.1**
	comp=Z,33nm,0.6s,baz=55,slow=6.7,SNR=104						
FITZ				S	**S**	**11 33 51.6**	**-5.5**
	comp=Z,4.8nm,0.9s,baz=146,slow=20,SNR=3.2						
FITZ	**Fitzroy Crossi**	**29.26**	**241**	P	**P**	**11 29 07.8**	**-0.1**
	baz=29,SNR=64						
FITZ	**Fitzroy Crossi**	**29.26**	**241**	P	**P**	**11 29 07.5**	**-0.4**
CAN	**Canberra**	**30.42**	**186**	P	**P**	**11 29 17.1**	**-0.9**
WRKA	**Warakurna**	**30.59**	**227**	P	**P**	**11 29 19.4**	**-0.3**
	baz=31,SNR=8.7						
EDFI	**Ende, Flores**	**30.73**	**261**	P	**P**	**11 29 20.1**	**-0.9**
	comp=Z,20nm,0.8s						
HTT	**Hallett**	**31.03**	**202**	P	**P**	**11 29 23.8**	**+0.4**
	baz=31,SNR=9.2						
BBOO	**Buckleboo**	**31.68**	**207**	P	**P**	**11 29 29.0**	**0.0**
	baz=32,SNR=9.6						
BBOO	**Buckleboo**	**31.68**	**207**	P	**P**	**11 29 29.2**	**+0.1**
ARPS	**Mount Arapiles**	**33.15**	**196**	P	**P**	**11 29 42.6**	**+0.7**
	baz=33,SNR=16						
FORT	**Forrest**	**34.45**	**219**	P	**P**	**11 29 53.6**	**+0.3**
	baz=35,SNR=23						
FORT	**Forrest**	**34.45**	**219**	P	**P**	**11 29 52.4**	**-0.9**
PLAI	**Plampang**	**34.59**	**262**	P	**P**	**11 29 55.1**	**+0.4**
	comp=Z,22nm,0.7s						
PSA00	**Pilbara Seismi**	**35.63**	**239**	P	**P**	**11 30 02.5**	**-1.2**
PSA00				IAmb	IAmb	11 30 04.2	
	comp=Z,18nm,0.9s						
AFI	**Afiamalu**	**36.40**	**107**	P	**P**	**11 30 11.5**	**+1.1**
TAU	**Tasmania Unive**	**38.10**	**186**	P	**P**	**11 30 24.7**	**+0.5**
TAU				IAmb	IAmb	11 30 52.2	
	comp=Z,27nm,1.1s						
KMBL	**Kambalda**	**38.90**	**224**	P	**P**	**11 30 31.4**	**+0.2**
	baz=39,SNR=5.6						
URZ	**Urewera**	**40.09**	**149**	P	**P**	**11 30 42.1**	**+1.2**
	comp=Z,7.2nm,0.6s,baz=121,slow=24,SNR=7.0						
URZ	**Urewera**	**40.09**	**149**	P	**P**	**11 30 40.9**	**0.0**
URZ				IAmb	IAmb	11 31 04.6	
	comp=Z,33nm,1.3s						
BKZ	**Black Stump Fm**	**40.48**	**151**	P	**P**	**11 30 43.7**	**-0.5**
TUWZ	**Tuamarina**	**41.15**	**155**	P	**P**	**11 30 47.6**	**-2.1**
BFZ	**Birch Farm**	**41.55**	**152**	P	**P**	**11 30 53.0**	**0.0**
LTZ	**Lake Taylor**	**41.63**	**158**	P	**P**	**11 30 53.0**	**-0.6**
LTZ				IAmb	IAmb	11 30 57.0	
	comp=Z,31nm,1.2s						
PLWZ	**Palliser**	**41.82**	**154**	P	**P**	**11 30 55.0**	**-0.2**
MORW	**Morawa**	**41.97**	**231**	P	**P**	**11 30 56.5**	**-0.1**
	baz=42,SNR=5.0						
MORW	**Morawa**	**41.97**	**231**	P	**P**	**11 30 56.1**	**-0.5**
KSM	**Kuching**	**42.53**	**278**	P	**P**	**11 31 00.6**	**-0.8**
KSM				IAmb	IAmb	11 31 03.1	
	comp=Z,23nm,0.9s						
MJAR	**Matsushiro Arr**	**43.33**	**343**	P	**P**	**11 31 06.6**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=167,slow=7.5,SNR=4.4						
MJAR				PcP	**PcP**	**11 32 55.9**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=168,slow=3.6,SNR=5.6						
KSRS	**Korea Array**	**47.92**	**334**	P	**P**	**11 31 44.8**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=244,slow=32,SNR=4.8						
KSAR	**Wonju Array Be**	**47.93**	**334**	P	**P**	**11 31 44.5**	**+0.7**
NJ2	**Nanjing**	**48.69**	**321**	*e*P	**P**	**11 31 49.5**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**52.23**	**341**	P	**P**	**11 32 16.6**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=195,slow=27,SNR=3.3						
PSI	**Prapat**	**53.98**	**277**	P	**P**	**11 32 29.1**	**-0.7**
	comp=Z,7.5nm,1.0s,baz=181,slow=4.6,SNR=4.0						
SLVN	**Son La**	**54.21**	**301**	P	**P**	**11 32 30.2**	**-1.1**
PHIT	**Phitsanulok**	**55.84**	**294**	P	P	11 32 48.3	+5.3
SUKH	**Sukhothai**	**56.64**	**295**	P	**P**	**11 32 50.6**	**+1.9**
KLR	**Kul'dur**	**56.84**	**344**	P	**P**	**11 32 50.1**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=167,slow=3.8,SNR=7.6						
LAMP	**Lampang**	**56.97**	**296**	P	**P**	**11 32 53.0**	**+1.9**
CM35	**Chiang Mai Arr**	**57.45**	**296**	P	**P**	**11 32 56.0**	**+1.5**
CM36	**Chiang Mai Arr**	**57.45**	**295**	P	**P**	**11 32 55.0**	**+0.5**
CM34	**Chiang Mai Arr**	**57.51**	**296**	P	**P**	**11 32 56.0**	**+1.1**
CM04	**Chiang Mai Arr**	**57.52**	**295**	P	**P**	**11 32 56.6**	**+1.6**
CM09	**Chiang Mai Arr**	**57.52**	**295**	P	**P**	**11 32 56.0**	**+1.0**
CM01	**Chiang Mai Arr**	**57.54**	**295**	P	**P**	**11 32 57.0**	**+1.9**
CM05	**Chiang Mai Arr**	**57.55**	**295**	P	**P**	**11 32 56.8**	**+1.6**
CM02	**Chiang Mai Arr**	**57.56**	**295**	P	**P**	**11 32 57.1**	**+1.9**
CM31	**Chiang Mai Arr**	**57.57**	**295**	P	**P**	**11 32 57.2**	**+1.9**
CM31	**Chiang Mai Arr**	**57.57**	**295**	P	**P**	**11 32 55.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**57.57**	**295**	P	**P**	**11 32 57.0**	**+1.6**
	comp=Z,10nm,0.8s,baz=111,slow=5.3,SNR=60						
CMAR				PcP	**PcP**	**11 33 49.2**	**+1.0**
	comp=Z,3.7nm,0.9s,baz=90,slow=3.4,SNR=4.3						
CMAR	**Chiang Mai Arr**	**57.57**	**295**	P	**P**	**11 32 55.3**	**0.0**
CM15	**Chiang Mai Arr**	**57.58**	**295**	P	**P**	**11 32 57.2**	**+1.8**
CM13	**Chiang Mai Arr**	**57.59**	**295**	P	**P**	**11 32 57.0**	**+1.5**
CM33	**Chiang Mai Arr**	**57.68**	**296**	P	**P**	**11 32 57.0**	**+0.9**
CHTO	**Chiang Mai**	**57.68**	**296**	P	**P**	**11 32 56.4**	**+0.3**
CHTO				IAmb	IAmb	11 32 58.0	
	comp=Z,13nm,1.0s						
CM32	**Chiang Mai Arr**	**57.72**	**296**	P	**P**	**11 32 58.0**	**+1.7**
PETK	**Petropavlovsk-**	**57.98**	**4**	P	**P**	**11 32 56.9**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=156,slow=5.7,SNR=11						
PETK	**Petropavlovsk-**	**57.98**	**4**	P	**P**	**11 32 57.3**	**-0.2**
HHC	**Hu-ho-hao-te**	**58.91**	**325**	*e*P	**P**	**11 33 05.3**	**+0.9**
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,610nm,5.8s						
LZH	**Lanzhou**	**61.04**	**316**	*e*P	**P**	**11 33 20.3**	**+1.1**
LZH				pP	sP	11 33 40.8	+0.1
LZH				sP	PcP	11 33 48.3	-14
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
MA2	**Magadan**	**64.30**	**359**	P	**P**	**11 33 39.2**	**-1.0**
	comp=Z,1.6nm,0.2s,baz=158,slow=13,SNR=4.1						
MA2	**Magadan**	**64.30**	**359**	P	**P**	**11 33 39.8**	**-0.4**
MA2				IAmb	IAmb	11 34 03.2	
	comp=Z,4.2nm,0.7s						
GTA	**Gaotai**	**65.47**	**317**	*e*P	**P**	**11 33 50.0**	**+1.6**
GTA				pP	sP	11 34 09.8	+0.1
GTA				sP	PcP	11 34 16.8	-3.1
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SHL	**Shillong**	**66.03**	**301**	P	**P**	**11 33 52.2**	**-0.1**
SONM	**Songino Array**	**66.21**	**328**	P	**P**	**11 33 53.4**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=144,slow=5.2,SNR=8.5						
SONM	**Songino Array**	**66.21**	**328**	P	**P**	**11 33 52.7**	**-0.3**
SEY	**Seymchan**	**67.66**	**360**	P	**P**	**11 34 01.7**	**0.0**
	comp=Z,0.2nm,0.3s,baz=29,slow=23,SNR=1.5						
TAPN	**Taplejung**	**70.13**	**301**	*e*P	**P**	**11 34 19.0**	**+0.8**
	comp=Z,24nm,0.8s						
ODAN	**Odare**	**70.26**	**301**	*e*P	**P**	**11 34 19.3**	**+0.4**
	comp=Z,38nm,0.8s						
JIRN	**Jiri**	**71.51**	**301**	*e*P	**P**	**11 34 27.1**	**+0.4**
	comp=Z,18nm,0.8s						
GUN	**Gumba**	**71.84**	**301**	*e*P	**P**	**11 34 28.8**	**+0.2**
	comp=Z,43nm,0.8s						
PKI	**Pulchoki**	**72.15**	**301**	*e*P	**P**	**11 34 30.1**	**-0.4**
	comp=Z,28nm,1.0s						
PKIN	**Phulchoki**	**72.16**	**301**	*e*P	**P**	**11 34 30.2**	**-0.3**
	comp=Z,31nm,1.1s						
KKN	**Kakani**	**72.32**	**301**	*e*P	**P**	**11 34 31.5**	**+0.2**
	comp=Z,27nm,0.8s						
DMN	**Daman**	**72.42**	**301**	*e*P	**P**	**11 34 32.5**	**+0.5**
	comp=Z,61nm,1.0s						
VNDA	**Vanda**	**72.73**	**178**	P	**P**	**11 34 33.0**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=334,slow=6.7,SNR=14						
GKN	**Gorkha**	**72.93**	**301**	*e*P	**P**	**11 34 34.9**	**0.0**
	comp=Z,55nm,1.0s						
BILL	**Bilibino**	**73.44**	**5**	P	**P**	**11 34 37.0**	**+0.2**
WMQ	**Urumqi**	**75.56**	**317**	*e*P	**P**	**11 34 50.8**	**+1.1**
WMQ				sP	sP	11 35 16.3	+5.0
WMQ				pmax	pmax		
	comp=Z,17nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,180nm,6.7s						
TIXI	**Tiksi**	**77.96**	**353**	P	**P**	**11 35 02.2**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=136,slow=4.3,SNR=1.8						
CNPM	**China Poot**	**77.99**	**26**	P	**P**	**11 35 02.8**	**-0.2**
RDOG	**Red Dog Mine**	**79.20**	**16**	P	**P**	**11 35 09.5**	**0.0**
MK31	**Makanchi Array**	**80.15**	**319**	P	**P**	**11 35 15.0**	**-0.1**
MKAR	**Makanchi Array**	**80.15**	**319**	P	**P**	**11 35 15.2**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=105,slow=7.4,SNR=13						
MAKZ	**Makanchi**	**80.36**	**319**	P	**P**	**11 35 15.9**	**-0.3**
IMAR	**Indian Mountai**	**80.62**	**20**	P	**P**	**11 35 17.0**	**-0.2**
RND	**Reindeer**	**80.98**	**23**	P	**P**	**11 35 19.0**	**-0.3**
RND				IAmb	IAmb	11 35 19.9	
	comp=Z,8.5nm,0.8s						
ZAA0	**Zalesovo Array**	**81.03**	**326**	P	**P**	**11 35 19.0**	**-0.6**
ZALV	**Zalesovo Beam**	**81.03**	**326**	P	**P**	**11 35 19.1**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=109,slow=5.4,SNR=14						
ZALV	**Zalesovo Beam**	**81.03**	**326**	P	**P**	**11 35 19.0**	**-0.6**
MCK	**McKinley**	**81.12**	**23**	P	**P**	**11 35 19.7**	**-0.3**
MLY	**Manley**	**81.13**	**21**	P	**P**	**11 35 19.5**	**-0.5**
MLY				IAmb	IAmb	11 35 21.3	
	comp=Z,12nm,0.8s						
NEA2	**Nenana**	**81.51**	**22**	P	**P**	**11 35 21.6**	**-0.4**
NEA2				IAmb	IAmb	11 35 22.4	
	comp=Z,10nm,0.8s						
I23K	**Minto, Yukon-K**	**81.69**	**21**	P	**P**	**11 35 22.4**	**-0.4**
WRH	**Wood River Hil**	**81.81**	**22**	P	**P**	**11 35 22.4**	**-1.2**
WRH				IAmb	IAmb	11 35 24.0	
	comp=Z,12nm,1.0s						
CCB	**Clear Creek Bu**	**82.01**	**22**	P	**P**	**11 35 23.4**	**-1.1**
CCB				IAmb	IAmb	11 35 24.8	
	comp=Z,10.0nm,0.9s						
TCOL	**CIGO, UAF Yank**	**82.10**	**22**	P	**P**	**11 35 24.6**	**-0.5**
COLA	**College**	**82.10**	**22**	P	**P**	**11 35 23.8**	**-1.2**
IL31		**82.41**	**22**	P	**P**	**11 35 25.8**	**-0.8**
IL31				IAmb	IAmb	11 35 26.8	
	comp=Z,7.7nm,0.8s						
ILAR	**Eielson Array**	**82.41**	**22**	P	**P**	**11 35 26.0**	**-0.7**
	comp=Z,7.2nm,0.8s,baz=252,slow=5.4,SNR=54						
ILAR	**Eielson Array**	**82.41**	**22**	P	**P**	**11 35 24.8**	**-1.9**
COLD	**Coldfoot**	**82.49**	**19**	P	**P**	**11 35 25.8**	**-1.3**
COLD				IAmb	IAmb	11 35 29.2	
	comp=Z,7.4nm,1.1s						
DOT	**Dot Lake**	**82.99**	**24**	P	**P**	**11 35 29.5**	**-0.3**
DOT				IAmb	IAmb	11 35 31.1	
	comp=Z,11nm,0.9s						
SCRK	**Sand Creek**	**83.17**	**23**	P	**P**	**11 35 30.5**	**-0.3**
TOLK	**Toolik Lake Re**	**83.45**	**18**	P	**P**	**11 35 32.1**	**+0.1**
TOLK				IAmb	IAmb	11 35 33.9	
	comp=Z,10nm,0.8s						
BCAR	**Beaver Creek A**	**83.67**	**25**	P	**P**	**11 35 32.8**	**-0.6**
NIL	**Nilore**	**83.71**	**304**	P	**P**	**11 35 33.1**	**-1.1**
AAK	**Ala-Archa**	**84.46**	**314**	P	**P**	**11 35 37.9**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=113,slow=11,SNR=4.6						
AAK	**Ala-Archa**	**84.46**	**314**	P	**P**	**11 35 37.5**	**-0.4**
AAK				IAmb	IAmb	11 36 02.1	
	comp=Z,5.9nm,1.1s						
BMAR	**Burnt Mountain**	**84.49**	**20**	P	**P**	**11 35 37.5**	**+0.2**
EGAK	**Eagle**	**84.62**	**23**	P	**P**	**11 35 37.9**	**-0.1**
EGAK				IAmb	IAmb	11 35 39.8	
	comp=Z,6.2nm,0.8s						
HYT	**Haines Junctio**	**84.72**	**28**	P	**P**	**11 35 38.8**	**0.0**
HYT				IAmb	IAmb	11 35 41.1	
	comp=Z,9.0nm,1.1s						
QSPA	**South Pole Qui**	**85.05**	**180**	P	**P**	**11 35 40.0**	**-0.3**
QSPA				IAmb	IAmb	11 35 58.5	
	comp=Z,9.1nm,1.1s						
DAWY	**Dawson**	**85.05**	**24**	P	**P**	**11 35 39.4**	**-0.8**
DAWY				IAmb	IAmb	11 35 42.6	
	comp=Z,16nm,1.5s						
MAW	**Mawson**	**85.31**	**203**	P	**P**	**11 35 41.8**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=119,slow=4.2,SNR=7.2						
MAW	**Mawson**	**85.31**	**203**	P	**P**	**11 35 41.5**	**0.0**
EPYK	**Eagle Plains**	**86.92**	**22**	P	**P**	**11 35 49.2**	**-0.2**
KKAR	**Karatay Array**	**87.42**	**313**	P	**P**	**11 35 51.6**	**-0.7**
DLBC	**Dease Lake**	**87.68**	**31**	P	**P**	**11 35 53.6**	**+0.2**
	comp=Z,4.5nm,1.0s,baz=55,slow=21,SNR=3.3						
INK	**Inuvik**	**88.70**	**21**	P	**P**	**11 35 57.8**	**0.0**
	comp=Z,5.6nm,0.9s,baz=217,slow=6.7,SNR=16						
INK	**Inuvik**	**88.70**	**21**	P	**P**	**11 35 57.9**	**+0.1**
YBH	**Yreka Blue Hor**	**89.42**	**48**	P	**P**	**11 36 03.6**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=225,slow=7.1,SNR=2.8						
I07A	**Izee**	**92.01**	**46**	P	**P**	**11 36 12.5**	**-1.4**
I07A				IAmb	IAmb	11 36 15.4	
	comp=Z,4.5nm,0.9s						
C36M	**Paulatuk**	**92.28**	**21**	P	**P**	**11 36 13.6**	**-0.8**
NVAR	**Mina Array Bea**	**92.47**	**52**	P	**P**	**11 36 17.8**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=251,slow=6.7,SNR=18						
NVAR	**Mina Array Bea**	**92.47**	**52**	P	**P**	**11 36 14.9**	**-1.4**
J08A	**Circle Bar Ran**	**92.70**	**47**	P	**P**	**11 36 16.4**	**-0.8**
J08A				IAmb	IAmb	11 36 19.6	
	comp=Z,5.1nm,1.0s						
PFO	**Pinyon Flats O**	**93.63**	**57**	P	**P**	**11 36 22.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=289,slow=7.5,SNR=3.5						
BMO	**Blue Mountains**	**93.64**	**45**	P	**P**	**11 36 20.0**	**-1.4**
BMO				IAmb	IAmb	11 36 23.0	
	comp=Z,3.4nm,1.0s						
F10A	**Beach Ranch, E**	**93.75**	**44**	P	**P**	**11 36 20.5**	**-1.5**
F10A				IAmb	IAmb	11 36 23.4	
	comp=Z,4.5nm,0.8s						
NEW	**Newport**	**93.94**	**42**	P	**P**	**11 36 22.1**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=8.2,slow=1.8,SNR=4.2						
NEW	**Newport**	**93.94**	**42**	P	**P**	**11 36 21.5**	**-1.2**
NEW				IAmb	IAmb	11 36 24.1	
	comp=Z,4.0nm,1.0s						
TPNV	**Topopah Spring**	**94.00**	**53**	P	**P**	**11 36 21.5**	**-1.9**
TPNV				IAmb	IAmb	11 36 24.6	
	comp=Z,6.7nm,1.4s						
PRN	**Pahroc Range**	**94.97**	**53**	P	**P**	**11 36 26.1**	**-1.7**
PRN				IAmb	IAmb	11 36 30.9	
	comp=Z,5.7nm,1.2s						
YKA	**Yellowknife Ar**	**95.71**	**28**	P	**P**	**11 36 30.1**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=271,slow=4.1,SNR=13						
HVU	**Hansel Valley**	**96.84**	**49**	P	**P**	**11 36 34.7**	**-1.5**
HVU				IAmb	IAmb	11 36 38.4	
	comp=Z,2.6nm,0.9s						
YHB	**Horse Butte**	**97.98**	**46**	P	**P**	**11 36 37.0**	**-4.4**
YHB				IAmb	IAmb	11 36 42.7	
	comp=Z,3.7nm,0.7s						
YHL	**Hebgen Lake**	**97.99**	**46**	P	**P**	**11 36 37.3**	**-4.3**
PDAR	**Pinedale Array**	**99.22**	**48**	P	**Pdif**	**11 36 46.7**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=232,slow=1.7,SNR=10.0						
KOLS	**Kolonicke sedl**	**119.17**	**325**	*e*PKP	**PKiKP**	**11 41 54.7**	**+0.9**
**PLCA

TWT				S		Sn	11 25 53.4	+0.8	
	baz=263								
NTC	**Toucheng**	**0.51**	**12**	*eP*		**Pn**	**11 25 44.5**	**+0.7**	
	baz=2.0								
TDCB	**Techi**	**0.52**	**260**	P		**Pn**	**11 25 44.1**	**+0.1**	
	baz=261								
TDCB				S		**Sn**	**11 25 53.2**	**+0.3**	
	baz=261								
CHGB	**Renai**	**0.57**	**240**	P		**Pn**	**11 25 44.6**	**0.0**	
	baz=239								
CHGB				S		**Sn**	**11 25 54.4**	**+0.4**	
	baz=239								
ESL	**Shilin**	**0.59**	**206**	P		**Pn**	**11 25 43.2**	**-1.5**	
	baz=213								
ESL				S		**Sn**	**11 25 52.2**	**-1.9**	
	baz=213								
TIPB	**Shuangxi**	**0.63**	**9**	P		**Pn**	**11 25 45.5**	**+0.4**	
	baz=357								
TIPB				S		**Sn**	**11 25 55.8**	**+0.9**	
	baz=357								
NHDH	**Xindian Distri**	**0.64**	**344**	*eP*		**Pn**	**11 25 45.1**	**-0.1**	
	baz=344								
NHDH				*eS*		**Sn**	**11 25 55.2**	**+0.2**	
	baz=344								
TWA	**Mucha**	**0.64**	**349**	P		**Pn**	**11 25 45.1**	**-0.2**	
	baz=339								
TWA				*eS*		**Sn**	**11 25 55.5**	**+0.4**	
	baz=339								
TATO	**Taipei**	**0.66**	**342**	P		**Pn**	**11 25 45.2**	**-0.3**	
	baz=342								
TATO				*eS*		**Sn**	**11 25 55.4**	**0.0**	
	baz=342								
NJD	**Zhudong**	**0.69**	**304**	*eP*		**Pn**	**11 25 46.4**	**+0.5**	
	baz=306								
NJD				*eS*		**Sn**	**11 25 57.5**	**+1.4**	
	baz=306								
TWB1	**Santiao Chiao**	**0.70**	**21**	P		**Pn**	**11 25 46.7**	**+0.7**	
	baz=19								
TWB1				*eS*		**Sn**	**11 25 57.8**	**+1.4**	
	baz=19								
LIOB	**Emei**	**0.70**	**295**	*eP*		**Pn**	**11 25 45.9**	**-0.1**	
	baz=297								
WHP	**Taichung City**	**0.71**	**264**	P		**Pn**	**11 25 46.5**	**+0.4**	
	baz=268								
WHP				*eS*		**Sn**	**11 25 57.7**	**+1.1**	
	baz=268								
NSTT	**Nanjuang**	**0.71**	**293**	*eP*		**Pn**	**11 25 46.5**	**+0.4**	
	baz=296								
NSTT				*eS*		**Sn**	**11 25 56.7**	**+0.2**	
	baz=296								
WFSB	**Wu-fen Shan**	**0.72**	**5**	*eP*		**Pn**	**11 25 46.6**	**+0.3**	
	baz=352								
EGFH	**Guangfu**	**0.73**	**201**	P		**Pn**	**11 25 45.1**	**-1.2**	
	baz=210								
EGFH				S		**Sn**	**11 25 55.1**	**-1.8**	
	baz=210								
HSN1	**Hsinchu**	**0.77**	**304**	*eP*		**Pn**	**11 25 47.2**	**+0.4**	
	baz=306								
HSN1				*eS*		**Sn**	**11 25 58.8**	**+1.0**	
	baz=306								
WPL	**Puli Township**	**0.77**	**244**	*eP*		**Pn**	**11 25 47.2**	**+0.4**	
	baz=248								
WPL				*eS*		**Sn**	**11 25 58.6**	**+0.8**	
	baz=248								
NCU	**National Centr**	**0.78**	**322**	*eP*		**Pn**	**11 25 46.8**	**-0.2**	
	baz=323								
NCU				*eS*		**Sn**	**11 25 58.9**	**+0.7**	
	baz=323								
NCUH	**Zhongli**	**0.78**	**322**	*eP*		**Pn**	**11 25 46.9**	**-0.2**	
	baz=322								
DPDB	**Guoxing**	**0.79**	**247**	*eP*		**Pn**	**11 25 47.6**	**+0.5**	
	baz=250								
DPDB				*eS*		**Sn**	**11 25 59.1**	**+0.8**	
	baz=250								
WCS	**Beigang Elemen**	**0.79**	**249**	P		**Pn**	**11 25 47.6**	**+0.5**	
	baz=252								
WCS				*eS*		**Sn**	**11 25 59.1**	**+0.9**	
	baz=252								
VWDT	**VWDT**	**0.79**	**222**	P		**Pn**	**11 25 47.1**	**0.0**	
	baz=219								
VWDT				*eS*		**Sn**	**11 25 58.4**	**+0.1**	
	baz=219								
TWS1	**Kuangyinshan**	**0.80**	**340**	*eP*		**Pn**	**11 25 47.0**	**-0.2**	
	baz=340								
TWS1				*eS*		**Sn**	**11 25 59.1**	**+0.6**	
	baz=340								
SBCB	**Hsinchu**	**0.80**	**304**	*eP*		**Pn**	**11 25 47.8**	**+0.6**	
	baz=317								
SBCB				*eS*		**Sn**	**11 25 59.2**	**+0.7**	
	baz=317								
TNOU	**National Taiwa**	**0.80**	**4**	*eP*		**Pn**	**11 25 47.3**	**+0.1**	
	baz=352								
YM01	**YM01**	**0.81**	**351**	*eP*		**Pn**	**11 25 46.0**	**-1.3**	
	baz=341								
YM01				*eS*		**Sn**	**11 25 57.4**	**-1.4**	
	baz=341								
HSN	**Hsinchu**	**0.82**	**304**	*eS*		**Sn**	**11 25 58.9**	**+0.1**	
	baz=308								
YM10	**YM10**	**0.82**	**350**	*eP*		**Pn**	**11 25 47.1**	**-0.4**	
	baz=342								
YM10				*eS*		**Sn**	**11 25 58.9**	**-0.1**	
	baz=342								
YM04	**YM04**	**0.82**	**348**	*eP*		**Pn**	**11 25 47.1**	**-0.4**	
	baz=348								
YM04				*eS*		**Sn**	**11 25 58.7**	**-0.2**	
	baz=348								
YM05	**YM05**	**0.82**	**350**	*eP*		**Pn**	**11 25 47.2**	**-0.4**	
	baz=341								
YM05				*eS*		**Sn**	**11 25 59.1**	**-0.1**	
	baz=341								
YM11	**YM11**	**0.82**	**351**	*eP*		**Pn**	**11 25 47.5**	**-0.1**	
	baz=341								
NJN	**Zhunan**	**0.84**	**294**	*eS*		**Sn**	**11 25 59.6**	**+0.2**	
	baz=302								
YM08	**YM08**	**0.84**	**352**	*eP*		**Pn**	**11 25 47.2**	**-0.6**	
	baz=343								
YM08				*eS*		**Sn**	**11 25 58.5**	**-1.1**	
	baz=343								
ANP	**Anpu**	**0.85**	**348**	*eP*		**Pn**	**11 25 47.4**	**-0.6**	
	baz=347								
TWQ1	**Liyutan**	**0.86**	**270**	*eP*		**Pn**	**11 25 48.2**	**+0.2**	
	baz=273								
TWQ1				*eS*		**Sn**	**11 26 01.1**	**+1.2**	
	baz=273								
NMLH	**Miaoli**	**0.86**	**283**	*eP*		**Pn**	**11 25 48.5**	**+0.4**	
	baz=285								
NMLH				*eS*		**Sn**	**11 26 00.2**	**+0.3**	
	baz=285								
NSY	**Sanyi**	**0.87**	**275**	*eS*		**Sn**	**11 26 01.1**	**+0.9**	
	baz=277								
SMLT	**Sun Moon Lake**	**0.88**	**238**	*eP*		**Pn**	**11 25 49.0**	**+0.7**	
	baz=236								
SMLT				*eS*		**Sn**	**11 26 02.3**	**+1.8**	
	baz=236								
SSLB	**Suanglung**	**0.89**	**231**	P		**Pn**	**11 25 49.0**	**+0.5**	
	baz=230								
SSLB				*eS*		**Sn**	**11 26 02.5**	**+1.8**	
	baz=230								
HGSD	**Ruisui**	**0.89**	**197**	*eP*		**Pn**	**11 25 47.8**	**-0.6**	
	baz=208								
TYC	**Yuchr**	**0.90**	**241**	*eP*		**Pn**	**11 25 48.9**	**+0.4**	
	baz=241								
TYC				*eS*		**Sn**	**11 26 02.0**	**+1.2**	
	baz=241								
EHY	**Hungye**	**0.91**	**203**	P		**Pn**	**11 25 46.7**	**-1.9**	
	baz=205								
EHY				*eS*		**Sn**	**11 26 00.8**	**-0.3**	
	baz=205								
TWY	**Chenhua**	**0.93**	**353**	*eP*		**Pn**	**11 25 49.0**	**+0.2**	
	baz=344								
TWY				*eS*		**Sn**	**11 26 02.1**	**+0.6**	
	baz=344								
TCU	**Taichung**	**0.97**	**258**	*eP*		**Pn**	**11 25 49.4**	**0.0**	
	baz=271								
TCU				*eS*		**Sn**	**11 26 03.1**	**+0.7**	
	baz=271								
WWF	**Wufeng**	**0.98**	**252**	*eP*		**Pn**	**11 25 49.8**	**+0.3**	
	baz=266								
WWF				*eS*		**Sn**	**11 26 03.6**	**+1.1**	
	baz=266								
WDJ	**Dajia District**	**0.98**	**270**	*eP*		**Pn**	**11 25 49.5**	**-0.1**	
	baz=272								
WDJ				*eS*		**Sn**	**11 26 02.9**	**+0.3**	
	baz=272								
WHYT	**Xinyi Township**	**1.02**	**231**	*eP*		**Pn**	**11 25 51.0**	**+0.8**	
	baz=228								
WHYT				*eS*		**Sn**	**11 26 05.8**	**+2.1**	
	baz=228								
YULB	**Yu-li**	**1.03**	**202**	*eP*		**Pn**	**11 25 48.2**	**-1.9**	
	baz=204								
WNT1	**Nantou City**	**1.04**	**245**	*eS*		**Sn**	**11 26 05.4**	**+1.3**	
	baz=248								
WJS	**Zhushan**	**1.04**	**240**	P		**Pn**	**11 25 50.6**	**+0.2**	
	baz=256								
WJS				*eS*		**Sn**	**11 26 05.3**	**+1.1**	
	baz=256								
WNT	**Mingjian**	**1.05**	**244**	*eP*		**Pn**	**11 25 50.7**	**+0.2**	
	baz=258								
WNT				*eS*		**Sn**	**11 26 05.7**	**+1.3**	
	baz=258								
EYUL	**Yuli**	**1.06**	**200**	*eP*		**Pn**	**11 25 51.4**	**+0.8**	
	baz=210								
TWF1	**Yuli**	**1.06**	**201**	*eP*		**Pn**	**11 25 49.0**	**-1.6**	
	baz=209								
WCHH	**Zhanghua**	**1.09**	**256**	*eP*		**Pn**	**11 25 51.2**	**+0.2**	
	baz=266								
WCHH				*eS*		**Sn**	**11 26 05.8**	**+0.6**	
	baz=266								
YUS	**Yu-Shan**	**1.10**	**219**	*eP*		**Pn**	**11 25 51.9**	**+0.3**	
	baz=215								
YUS				*eS*		**Sn**	**11 26 06.5**	**+0.2**	
	baz=215								
JYNG	**Yonaguniijimaku**	**1.12**	**85**	P		**Pn**	**11 25 51.6**	**+0.2**	
JYNG				*eS*		**Sn**	**11 26 06.6**	**+0.6**	
ALS	**Alishan**	**1.18**	**225**	*eP*		**Pn**	**11 25 52.9**	**+0.5**	
	baz=221								
ALS				*eS*		**Sn**	**11 26 09.5**	**+1.7**	
	baz=221								
YOJ	**Yonaguni jima**	**1.19**	**84**	*eP*		**Pn**	**11 25 52.4**	**+0.2**	
	baz=82								
YOJ	**Yonaguni jima**	**1.19**	**84**	P		**Pn**	**11 25 52.4**	**+0.2**	
YOJ				*eS*		**Sn**	**11 26 07.4**	**0.0**	
FULB	**Fuli**	**1.21**	**199**	*eP*		**Pn**	**11 25 52.3**	**-0.3**	
	baz=210								
FULB				*eS*		**Sn**	**11 26 08.2**	**+0.2**	
	baz=210								
CHN5	**Tsauling**	**1.21**	**232**	P		**Pn**	**11 25 52.8**	**+0.2**	
	baz=245								
CHN5				*eS*		**Sn**	**11 26 09.3**	**+1.2**	
	baz=245								
WGK	**Gukeng**	**1.25**	**238**	*eP*		**Pn**	**11 25 53.1**	**+0.1**	
	baz=253								
WGK				*eS*		**Sn**	**11 26 10.7**	**+1.8**	
	baz=253								
WDLH	**Douliu**	**1.26**	**239**	*eP*		**Pn**	**11 25 53.5**	**+0.2**	
	baz=254								
WDLH				*eS*		**Sn**	**11 26 09.6**	**+0.3**	
	baz=254								
CHKT	**Chengkung**	**1.28**	**195**	*eS*		**Sn**	**11 26 09.9**	**0.0**	
	baz=203								
WRL	**Guolierlin Hig**	**1.30**	**250**	*eP*		**Pn**	**11 25 53.4**	**-0.4**	
	baz=264								
WRL				*eS*		**Sn**	**11 26 09.5**	**-0.8**	
	baz=264								
PCYT	**Pengchaiyu**	**1.31**	**14**	*eP*		**Pn**	**11 25 54.3**	**+0.3**	
	baz=12								
ELDTW	**Lidau**	**1.32**	**209**	*eP*		**Pn**	**11 25 53.7**	**-0.5**	
	baz=207								
WTK	**Tuku**	**1.38**	**242**	*eP*		**Pn**	**11 25 54.6**	**-0.2**	
	baz=257								
WTK				*eS*		**Sn**	**11 26 12.3**	**+0.2**	
	baz=257								
EDH	**Donghe**	**1.42**	**196**	*eP*		**Pn**	**11 25 55.0**	**-0.5**	
	baz=198								
EDH				*eS*		**Sn**	**11 26 12.9**	**-0.2**	
	baz=198								
TPUB	**Ta-pu**	**1.44**	**224**	*eP*		**Pn**	**11 25 56.0**	**+0.3**	
	baz=219								
TPUB				*eS*		**Sn**	**11 26 15.5**	**+1.8**	
	baz=219								
CHY	**Chiayi**	**1.46**	**235**	*eP*		**Pn**	**11 25 55.9**	**+0.1**	
	baz=249								
CHY				*eS*		**Sn**	**11 26 14.2**	**+0.3**	
	baz=249								
STYH	**Taoyuan**	**1.46**	**217**	*eP*		**Pn**	**11 25 56.4**	**+0.5**	
	baz=215								
STYT	**Tauyuan**	**1.47**	**217**	*eP*		**Pn**	**11 25 57.2**	**+1.0**	
	baz=215								
WTP	**Ta-pu**	**1.49**	**223**	*eP*		**Pn**	**11 25 56.8**	**+0.4**	
	baz=226								
WTP				*eS*		**Sn**	**11 26 17.7**	**+2.8**	
	baz=226								
LONT	**Longtian**	**1.53**	**201**	*eP*		**Pn**	**11 25 57.3**	**+0.4**	
	baz=196								
WSF	**Szhu**	**1.54**	**243**	*eP*		**Pn**	**11 25 56.8**	**-0.2**	
	baz=255								
WSF				S		**Sn**	**11 26 16.2**	**+0.2**	
	baz=255								
TWK	**Hsinying**	**1.56**	**227**	*eP*		**Pn**	**11 25 58.0**	**+0.7**	
	baz=218								
TWK				*eS*		**Sn**	**11 26 18.3**	**+1.8**	
	baz=218								
SNST	**Tainan City**	**1.58**	**225**	*eP*		**Pn**	**11 25 59.4**	**+1.8**	
	baz=240								
CHN1	**Nanshi**	**1.59**	**223**	*eP*		**Pn**	**11 25 58.5**	**+0.8**	
	baz=239								
TWG	**Pinlang**	**1.63**	**201**	*eP*		**Pn**	**11 25 58.4**	**+0.1**	
	baz=196								
TWGBT	**Beinan**	**1.63**	**201**	*eP*		**Pn**	**11 25 58.4**	**+0.1**	
	baz=197								
SGST	**Jiashian**	**1.63**	**220**	*eP*		**Pn**	**11 25 58.2**	**-0.1**	
	baz=223								
SGST				*eS*		**Sn**	**11 26 18.5**	**+0.2**	
	baz=223								
ICHU	**Yijhu**	**1.64**	**234**	*eP*		**Pn**	**11 25 58.3**	**0.0**	
	baz=237								
ICHU				*eS*		**Sn**	**11 26 19.0**	**+0.5**	
	baz=237								
SLGT	**Liugui**	**1.67**	**216**	*eP*		**Pn**	**11 26 00.2**	**+1.4**	
	baz=212								
SLGT				*eS*		**Sn**	**11 26 20.9**	**+1.8**	
	baz=212								
LDUT	**Ludao**	**1.68**	**188**	*eP*		**Pn**	**11 25 58.8**	**-0.2**	
	baz=182								
CHN8	**Yiju**	**1.70**	**234**	*eP*		**Pn**	**11 25 59.2**	**0.0**	
	baz=250								
IRIF	**Iriomote-Funau**	**1.84**	**90**	P		**Pn**	**11 26 00.7**	**-0.3**	
IRIF				S		**Sn**	**11 26 22.9**	**-0.3**	
SCST	**Cishan**	**1.84**	**218**	*eP*		**Pn**	**11 26 01.2**	**+0.2**	
	baz=222								
SSD	**Sandimen**	**1.88**	**212**	*eP*		**Pn**	**11 26 02.8**	**+1.2**	
	baz=225								
SSD				*eS*		**Sn**	**11 26 26.1**	**+1.9**	
	baz=225								
TSMG	**Majia**	**1.91**	**211**	*eP*		**Pn**	**11 26 03.3**	**+1.3**	
	baz=224								
TSMG				*eS*		**Sn**	**11 26 26.3**	**+1.3**	
	baz=224								
HATJ	**Hateruma jima**	**1.93**	**98**	P		**Pn**	**11 26 02.8**	**+0.5**	
HATJ				S		**Sn**	**11 26 26.2**	**+0.8**	
MASBT	**Mashibuluo**	**2.00**	**210**	*eP*		**Pn**	**11 26 04.0**	**+0.9**	
	baz=227								
JKRS	**Kuro-shima**	**2.10**	**93**	P		**Pn**	**11 26 05.0**	**+0.5**	
JKRS				S		**Sn**	**11 26 30.0**	**+0.5**	
PNG	**Penghu**	**2.12**	**249**	*eP*		**Pn**	**11 26 03.2**	**-1.8**	
	baz=251								
PHUB	**P'eng-hu**	**2.13**	**247**	*eP*		**Pn**	**11 26 03.4**	**-1.7**	
	baz=250								
VWUC	**VWUC**	**2.16**	**288**	*eP*		**Pn**	**11 26 03.7**	**-1.7**	
	baz=289								
WDGT	**Dungji**	**2.17**	**241**	*eP*		**Pn**	**11 26 04.5**	**-1.1**	
	baz=243								
JIJ	**Ishigaki jima**	**2.21**	**89**	P		**Pn**	**11 26 06.1**	**0.0**	
JIJ				*eS*		**Sn**	**11 26 31.8**	**-0.6**	
LAY	**Lan-yu**	**2.30**	**184**	*eP*		**Pn**	**11 26 06.9**	**-0.5**	
	baz=179								
LAY				*eS*		**Sn**	**11 26 33.9**	**-0.8**	
	baz=179								
JISG	**Ishigakijimahi**	**2.38**	**84**	P		**Pn**	**11 26 07.9**	**-0.4**	
JISG				S		**Sn**	**11 26 36.1**	**-0.2**	
VCHM	**Qimei**	**2.38**	**242**	*eP*		**Pn**	**11 26 06.9**	**-1.6**	
	baz=245								
MATB	**Ma-tsu**	**2.41**	**319**	*eP*		**Pn**	**11 26 07.2**	**-1.6**	
	baz=317								
MSUT	**Lienchiang**	**2.43**	**319**	*eP*		**Pn**	**11 26 08.6**	**-0.5**	
	baz=318								
PTMZ	**Houxiangcun**	**2.46**	**287**	*eP*		**Pn**	**11 26 07.8**	**-1.6**	
	baz=288								
JTJ	**Tarama**	**2.73**	**83**	P		**Pn**	**11 26 13.6**	**+0.3**	
JTJ				S		**Sn**	**11 26 45.9**	**+0.8**	
LYJJ	**Jianjiangzhen**	**2.82**	**322**	*eP*		**Pn**	**11 26 13.6**	**-0.8**	
	baz=320								
XPSS	**Dashiqiu**	**2.92**	**332**	*eP*		**Pn**	**11 26 14.5**	**-1.2**	
	baz=330								
MHZQ	**Yeshan**	**2.99**	**306**	*eP*		**Pn**	**11 26 15.1**	**-1.7**	
	baz=306								
KNMB	**Chin-men Tao**	**3.04**	**273**	*eP*		**Pn**	**11 26 15.8**	**-1.5**	
	baz=274								
JIRB	**Irabujima**	**3.18**	**81**	*eS*		**Sn**	**11 26 56.4**	**+0.3**	
JMJ2	**Miyako jima3**	**3.31**	**82**	P		**Pn**	**11 26 21.8**	**+0.6**	
JMJ2				S		**Sn**	**11 26 59.6**	**+0.3**	
AXDP	**Jialang**	**3.45**	**280**	*eP*		**Pn**	**11 26 21.7**	**-1.4**	
	baz=281								
ZPLA	**Ao Xicun**	**3.65**	**264**	*eP*		**Pn**	**11 26 24.2**	**-1.6**	
	baz=266								

WEL 30 11:37:54.3±1.0, 35°S±13′×177°9E±2°1, h283km±12km, M3.7/18, ML3.8/9, MLv3.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=116.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
PKGZ	**Pakihiroa**	**2.87**	**195**	P	Pn	11 38 47.4	-0.2
PKGZ				S	S	11 39 29.2	-0.8
RUGZ	**Raukumara Rang**	**3.04**	**200**	P	Pn	11 38 48.9	-0.5
RUGZ				S	S	11 39 31.5	-1.8
MWZ	**Matawai**	**3.42**	**200**	P	Pn	11 38 53.7	+0.4
MWZ				S	S	11 39 40.6	+0.2
TKGZ	**Te Karaka**	**3.44**	**195**	P	Pn	11 38 54.4	+0.9
TKGZ				S	S	11 39 42.0	+1.3
URZ	**Urewera**	**3.49**	**205**	P	Pn	11 38 53.2	-0.7
URZ				S	S	11 39 41.7	+0.1
RIGZ	**Rimuhau**	**3.72**	**195**	P	Pn	11 38 57.1	+0.6
RIGZ				S	S	11 39 47.1	+0.9
MUGZ	**Murupara**	**3.81**	**208**	P	Pn	11 38 56.7	-0.8
MUGZ				S	S	11 39 48.3	+0.4
ALRZ	**Allen Road**	**4.05**	**211**	P	Pn	11 39 00.8	+0.7
MTHZ	**Maungataniwha**	**4.11**	**204**	P	Pn	11 39 00.9	0.0
HIZ	**Hauiti**	**4.75**	**223**	P	Pn	11 39 09.8	+1.5
KWHZ	**Kaweka Forest**	**4.77**	**205**	P	Pn	11 39 08.5	0.0
TMVZ	**Te Maari**	**4.79**	**213**	P	Pn	11 39 09.0	+0.3
ETVZ	**East Tongariro**	**4.80**	**212**	P	Pn	11 39 09.1	+0.2
OTVZ	**Oturere**	**4.84**	**213**	P	Pn	11 39 09.8	+0.4
BHHZ	**Black Hill Sta**	**4.96**	**207**	P	Pn	11 39 10.8	+0.1
BHHZ				S	S	11 40 13.0	+1.1
KAHZ	**Kahuranaki**	**4.97**	**199**	P	Pn	11 39 11.8	+1.0
KAHZ				S	S	11 40 15.4	+3.3
KRHZ	**Kereru**	**4.98**	**204**	P	Pn	11 39 09.5	-1.4
KRHZ				S	S	11 40 12.8	+0.4
PRHZ	**Porangahau**	**5.47**	**199**	P	Pn	11 39 15.7	-1.0
BFZ	**Birch Farm**	**5.97**	**201**	P	Pn	11 39 22.2	-0.5
BFZ				S	S	11 40 34.6	+0.8
MRZ	**Mangatainoka R**	**6.16**	**205**	P	Pn	11 39 24.7	-0.4
MRZ				S	S	11 40 35.5	-2.6
HOWZ	**Holdsworth Sta**	**6.40**	**205**	P	Pn	11 39 26.8	-1.1
OGWZ	**Otaki Gorge**	**6.45**	**207**	P	Pn	11 39 28.2	-0.4
OGWZ				S	S	11 40 45.0	+0.6

*IDC **30** 11:43:17.2±0.5, 5.°15S×152.°95E, h0km, mb4.7/30, mb1 4.8/32, mb1mx4.7/47, mbtmp4.7/32, ML3.3/2, MS4.3/8, Ms1 4.3/8, ms1mx3.9/39, Error ellipse: s-maj=17.3km s-min=10.6km az=104.0*

*BJI **30** 11:43:20.5±0.0, 4.°90S×153.°25E, h31km, mB5.3/24, mb4.9/49, Ms5.0/7, Ms7 4.6/7*

*NEIC **30** 11:43:21.1±0.8, 5.°30S±0.°07×153.°05E±0.°10, h35km±1km, mb4.9/70, Error ellipse: s-maj=16.9km s-min=11.4km az=76.0*

*DJA **30** 11:43:21.1±2.3, 5.°5S±6.°×15.°3E±1.°7, h37km±19km, M5.1/7, mB5.6/1, mb4.8/7, MLv5.2/1, Mw(mB)5.1/1*

ISC 30 11:43:21.7±0.3, 5.°24S±0.°05×153.°02E±0.°07, h35km, n212, σ1s12/213, mb5.0/85, MS4.2/7, 2C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
RABL	**Rabaul**	**1.34**	**320**	Pn	**Pn**	**11 43 44.8**	**+0.8**
MANU	**Manus Island**	**6.47**	**299**	Pn	**Pn**	**11 44 54.9**	**+0.3**
PMG	**Port Moresby**	**7.14**	**234**	Pn	**Pn**	**11 45 04.9**	**+1.2**
	8.2nm,0.3s,baz=56,slow=8.8,SNR=51						
PMG				Sn	**Sn**	**11 46 24.8**	**+1.2**
	13nm,0.3s,baz=326,slow=23,SNR=5.8						
PMG				LR	LR	11 47 32.7	
	comp=Z,1μm,20.2s,baz=200,slow=36						
PMG	**Port Moresby**	**7.14**	**234**	Pn	**Pn**	**11 45 03.0**	**-0.6**
PMG	**Port Moresby**	**7.14**	**234**	P	**Pn**	**11 45 07.3**	**+3.6**
HNR	**Honiara**	**8.03**	**122**	Pn	Pn	11 45 21.1	+5.1
	3.4nm,0.3s,baz=244,slow=6.0,SNR=2.7						
HNR				LR	LR	11 48 34.3	
	comp=Z,2μm,19.8s,baz=292,slow=39						
COEN	**Coen**	**13.01**	**228**	P	**Pn**	**11 46 27.5**	**+3.4**
	baz=13						
COEN	**Coen**	**13.01**	**228**	Pn	**Pn**	**11 46 24.0**	**-0.1**
MTSU	**Mount Surprise**	**15.38**	**213**	P	**P**	**11 46 59.7**	**-0.9**
	baz=15,SNR=51						
CTA	**Charters Tower**	**16.16**	**203**	Pn	**P**	**11 47 07.9**	**-1.3**
	0.2nm,0.3s,baz=27,slow=12,SNR=7.2						
CTAO	**Charters Tower**	**16.16**	**203**		**P**	**11 47 09.3**	**+0.2**
SANVU	**Saraoutou**	**17.24**	**127**	P	**P**	**11 47 20.2**	**-0.8**
SANVU				IAmb	IAmb	11 47 38.4	
	comp=Z,66nm,0.8s						
QIS	**Mount Isa**	**20.05**	**219**	P	Pn	11 47 53.2	-0.7
	baz=20,SNR=22						
EIDS	**Eidsvold**	**20.11**	**185**	P	Pn	11 47 54.3	-0.2
	baz=20,SNR=4.2						
EIDS	**Eidsvold**	**20.11**	**185**	P	**P**	**11 47 50.7**	**-1.8**
FAKI	**Fak Fak**	**20.85**	**276**	P	**P**	**11 48 00.5**	**-0.2**
FAKI	**Fak Fak**	**20.85**	**276**	P	Pn	11 48 02.6	-0.7
DZM	**Mont Dzumac**	**21.19**	**143**	P	**P**	**11 48 09.0**	**+4.7**
	comp=Z,58nm,0.9s,baz=293,slow=11,SNR=15						
DZM	**Mont Dzumac**	**21.19**	**143**	*eP*	**P**	**11 48 08.0**	**+3.6**
	comp=Z,154nm,1.1s						
DZM	**Mont Dzumac**	**21.19**	**143**	P	**P**	**11 48 02.9**	**-1.4**
DZM				IAmb	IAmb	11 48 13.0	
	comp=Z,62nm,0.9s						
ONTNC	**Ouen Toro**	**21.37**	**144**	P	P	11 48 16.4	+10
YATNC	**Mamie plateau,**	**21.45**	**143**	P	P	11 48 20.3	+13
	comp=Z,48nm,0.9s						
RMQ	**Roma**	**21.52**	**190**	P	**P**	**11 48 09.1**	**+1.3**
	baz=22,SNR=7.2						
OUENC	**Ouen Island, N**	**21.69**	**143**	P	P	11 48 21.3	+12
SIJI	**Sorong**

FITZ	**Fitzroy Crossi**	**29.65**	**242**	P	**P**	**11 49 23.3**	**-0.9**
CAN	**Canberra**	**30.17**	**187**	P	**P**	**11 49 27.9**	**-0.7**
WRKA	**Warakurna**	**30.83**	**228**	P	**P**	**11 49 34.6**	**0.0**
	baz=31,SNR=12						
HTT	**Hallett**	**30.97**	**203**	P	**P**	**11 49 35.8**	**0.0**
	baz=31,SNR=7.9						
BBOO	**Buckleboo**	**31.67**	**208**	P	**P**	**11 49 41.4**	**-0.5**
BBOO				IAmb	IAmb	11 49 42.6	
	comp=Z,20nm,1.1s						
TOLI2	**Tolitoli**	**32.81**	**280**	P	**P**	**11 49 50.2**	**-1.9**
TOLI2				IAmb	IAmb	11 49 52.6	
	comp=Z,13nm,0.8s						
ARPS	**Mount Arapiles**	**33.02**	**197**	P	**P**	**11 49 55.4**	**+1.8**
	baz=33,SNR=5.9						
JCJ	**Chichijima**	**33.81**	**342**	LR	LR	12 01 49.4	
	comp=Z,344nm,21.0s,baz=118,slow=33						
FORT	**Forrest**	**34.59**	**220**	P	**P**	**11 50 07.6**	**+0.2**
	baz=35,SNR=12						
FORT	**Forrest**	**34.59**	**220**	P	**P**	**11 50 06.6**	**-0.8**
PSA00	**Pilbara Seismi**	**36.00**	**240**	P	**P**	**11 50 19.3**	**-0.4**
TUWZ	**Tuamarina**	**40.60**	**156**	P	**P**	**11 50 57.6**	**-0.5**
GIRL	**Giralia**	**41.25**	**241**	P	**P**	**11 51 02.3**	**-1.4**
SBUM	**Sibu**	**41.47**	**280**	P	**P**	**11 51 04.9**	**-0.7**
RPZ	**Rata Peaks**	**41.49**	**160**	P	**P**	**11 51 08.7**	**+3.3**
	comp=Z,9.9nm,0.8s,baz=311,slow=5.9,SNR=2.2						
RPZ	**Rata Peaks**	**41.49**	**160**	P	**P**	**11 51 04.3**	**-1.1**
RPZ				IAmb	IAmb	11 51 26.7	
	comp=Z,30nm,1.0s						
KLBR	**Kellerberrin**	**42.17**	**227**	P	**P**	**11 51 10.4**	**-0.8**
	baz=42,SNR=6.0						
MORW	**Morawa**	**42.25**	**232**	P	**P**	**11 51 11.5**	**-0.3**
	baz=42,SNR=12						
MORW	**Morawa**	**42.25**	**232**	P	**P**	**11 51 11.3**	**-0.5**
MORW				IAmb	IAmb	11 51 12.7	
	comp=Z,30nm,0.9s						
BLDU	**Ballidu**	**42.46**	**229**	P	**P**	**11 51 12.8**	**-0.7**
	baz=42,SNR=5.6						
KSM	**Kuching**	**43.18**	**278**	P	**P**	**11 51 19.0**	**-0.6**
KSM				IAmb	IAmb	11 51 20.3	
	comp=Z,20nm,0.9s						
JNU	**Nakatsue**	**43.55**	**333**	P	**P**	**11 51 22.1**	**-0.2**
MJAR	**Matsushiro Ar**	**43.81**	**343**	P	**P**	**11 51 22.6**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=150,slow=9.0,SNR=6.3						
MJAR				PcP	**PcP**	**11 53 11.2**	**+0.7**
	comp=Z,4.0nm,0.9s,baz=171,slow=3.3,SNR=5.5						
MAT	**Matsushiro**	**43.81**	**343**	P	**P**	**11 51 23.4**	**-0.9**
JHS	**Saijyo**	**44.19**	**336**	P	**P**	**11 51 27.1**	**-0.3**
DLV	**T Lat**	**47.46**	**291**	P	**P**	**11 51 53.1**	**-0.6**
KSRS	**Korea Array**	**48.49**	**333**	P	**P**	**11 52 01.4**	**+0.4**
	comp=Z,4.8nm,0.9s,baz=149,slow=8.9,SNR=17						
KSRS				LR	LR	12 12 15.3	
	comp=Z,144nm,18.1s,baz=190,slow=36						
KSAR	**Wonju Array Be**	**48.49**	**333**	P	**P**	**11 52 00.9**	**-0.2**
NJ2	**Nanjing**	**49.32**	**321**	*eP*	**P**	**11 52 08.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
JKA	**Kamikawa-asahi**	**50.02**	**350**	P	**P**	**11 52 12.8**	**+0.2**
JKA				IAmb	IAmb	11 52 14.3	
	comp=Z,9.8nm,0.8s						
ASAJ	**Asahikawa**	**50.02**	**350**	P	**P**	**11 52 13.2**	**+0.5**
	comp=Z,7.2nm,0.7s,baz=205,slow=9.7,SNR=10						
WHN	**Wuhan**	**51.32**	**316**	⇑P	**P**	**11 52 23.3**	**+0.6**
USA0B	**Ussuriysk Arra**	**52.73**	**341**	P	**P**	**11 52 33.0**	**0.0**
USA0B				IAmb	IAmb	11 52 34.2	
	comp=Z,9.5nm,1.0s						
USRK	**Ussuriysk Ar.**	**52.73**	**341**	P	**P**	**11 52 33.2**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=182,slow=8.1,SNR=9.4						
USRK				PcP	**PcP**	**11 53 44.8**	**+2.5**
	comp=Z,2.1nm,0.8s,baz=131,slow=4.0,SNR=1.9						
USRK	**Ussuriysk Ar.**	**52.73**	**341**	P	**P**	**11 52 32.8**	**-0.1**
NONG	**Nongkai**	**54.37**	**296**	P	**P**	**11 52 46.1**	**+0.6**
	comp=Z,40nm,0.8s						
CN2	**Changchun**	**54.78**	**336**	*eP*	**P**	**11 52 48.0**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SLVN	**Son La**	**54.91**	**301**	P	**P**	**11 52 49.0**	**-0.4**
SLVN				IAmb	IAmb	11 53 02.9	
	comp=Z,9.6nm,1.1s						
LOEI	**Loei**	**55.87**	**295**	P	**P**	**11 52 54.8**	**-1.5**
	comp=Z,38nm,1.0s						
UTTA	**Uttaradit**	**56.58**	**295**	P	**P**	**11 53 02.5**	**+1.1**
	comp=Z,34nm,1.0s						
KLR	**Kul'dur**	**57.32**	**344**	P	**P**	**11 53 06.8**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=179,slow=4.3,SNR=16						
KLR				PcP	**PcP**	**11 54 02.0**	**+2.1**
	comp=Z,2.8nm,0.7s,baz=174,slow=3.9,SNR=1.5						
PPT	**Papeete**	**57.38**	**107**	LR	LR	12 15 15.5	
	comp=Z,2µm,19.0s,baz=278,slow=33						
LAMP	**Lampang**	**57.66**	**296**	P	**P**	**11 53 10.0**	**+1.0**
	comp=Z,31nm,0.8s						
CM04	**Chiang Mai Arr**	**58.21**	**295**	P	**P**	**11 53 14.0**	**+1.1**
	comp=Z,148nmcomp=Z,23nm,1.0s						
PEA0B	**Petropavlovsk-**	**58.26**	**3**	P	**P**	**11 53 12.1**	**-0.5**
PETK	**Petropavlovsk-**	**58.26**	**3**	P	**P**	**11 53 13.4**	**+0.9**
	comp=Z,4.9nm,0.6s,baz=178,slow=8.1,SNR=4.9						
PETK	**Petropavlovsk-**	**58.26**	**3**	P	**P**	**11 53 12.7**	**+0.1**
CM31	**Chiang Mai Arr**	**58.26**	**295**	P	**P**	**11 53 15.0**	**+1.7**
	comp=Z,6µmcomp=Z,482nm,0.9s						
CM31	**Chiang Mai Arr**	**58.26**	**295**	P	**P**	**11 53 13.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**58.26**	**295**	P	**P**	**11 53 14.3**	**+1.0**
	comp=Z,9.4nm,0.8s,baz=115,slow=5.3,SNR=58						
CMAR	**Chiang Mai Arr**	**58.26**	**295**	P	**P**	**11 53 13.1**	**-0.2**
CM15	**Chiang Mai Arr**	**58.28**	**295**	P	**P**	**11 53 15.0**	**+1.6**
	comp=Z,22nm,0.9s						
CMMT	**Chiang Mai**	**58.37**	**296**	P	**P**	**11 53 14.1**	**+0.1**
CHTO	**Chiang Mai**	**58.37**	**296**	P	**P**	**11 53 13.8**	**-0.2**
CHTO				IAmb	IAmb	11 53 15.9	
	comp=Z,25nm,1.3s						
MHMT	**Maesarieng**	**59.09**	**295**	P	P	11 53 31.4	+12
HHC	**Hu-ho-hao-te**	**59.53**	**324**	*eP*	**P**	**11 53 24.0**	**+2.2**
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,610nm,5.9s						
LZH	**Lanzhou**	**61.69**	**316**	*eP*	**P**	**11 53 38.0**	**+1.3**
LZH				pP	pP	11 53 47.8	+0.8
LZH				sP	sP	11 53 50.8	-0.1
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
MA2	**Magadan**	**64.63**	**359**	P	**P**	**11 53 56.0**	**+0.5**
	comp=Z,21nm,0.8s,baz=160,slow=6.7,SNR=52						
MA2	**Magadan**	**64.63**	**359**	P	**P**	**11 53 54.8**	**-0.7**
GTA	**Gaotai**	**66.12**	**317**	⇑P	**P**	**11 54 06.8**	**+1.0**
GTA				pP	pP	11 54 15.3	-0.8
GTA				sP	sP	11 54 19.5	-0.5
GTA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GTA				LR	LR		
	comp=Z,230nm,17.8s						
GTA				LR	LR		
	comp=Z,320nm,17.1s						
GTA				LR	LR		
	comp=Z,410nm,16.7s						
ULN	**Ulaanbaatar**	**66.48**	**328**	P	**P**	**11 54 08.2**	**+0.3**
ULN				IAmb	IAmb	11 54 10.2	
	comp=Z,9.9nm,1.2s						
SHL	**Shillong**	**66.72**	**301**	P	**P**	**11 54 09.7**	**-0.2**
SONM	**Songino Array**	**66.81**	**328**	P	**P**	**11 54 10.8**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=144,slow=5.8,SNR=19						
SONM	**Songino Array**	**66.81**	**328**	P	**P**	**11 54 09.9**	**-0.1**
SONM				IAmb	IAmb	11 54 12.3	
	comp=Z,12nm,1.4s						
CASY	**Casey**	**67.67**	**197**	P	**P**	**11 54 13.7**	**-1.2**
CASY				IAmb	IAmb	11 54 39.9	
	comp=Z,8.2nm,0.6s						
SEY	**Seymchan**	**67.98**	**360**	P	**P**	**11 54 17.3**	**+0.5**
	comp=Z,4.0nm,0.7s,baz=186,slow=5.2,SNR=34						
TAPN	**Taplejung**	**70.82**	**301**	*eP*	**P**	**11 54 35.7**	**+0.1**
	comp=Z,47nm,0.9s						
ODAN	**Odare**	**70.95**	**301**	*eP*	**P**	**11 54 36.6**	**+0.3**
	comp=Z,55nm,0.9s						
RAMN	**Ramite**	**71.66**	**300**	*eP*	**P**	**11 54 41.6**	**+1.0**
JIRN	**Jiri**	**72.20**	**301**	*eP*	**P**	**11 54 44.8**	**+0.8**
	comp=Z,25nm,0.8s						
VNDA	**Vanda**	**72.39**	**178**	P	**P**	**11 54 44.9**	**+1.2**
	comp=Z,6.5nm,1.0s,baz=333,slow=5.9,SNR=27						
VNDA	**Vanda**	**72.39**	**178**	P	**P**	**11 54 42.8**	**-0.9**
VNDA				IAmb	IAmb	11 54 46.4	
	comp=Z,9.5nm,1.1s						
GUN	**Gumba**	**72.53**	**301**	*eP*	**P**	**11 54 46.3**	**+0.3**
	comp=Z,48nm,0.9s						
PKI	**Pulchoki**	**72.84**	**301**	*eP*	**P**	**11 54 48.4**	**+0.6**
	comp=Z,78nm,1.4s						
PKIN	**Phulchoki**	**72.86**	**301**	*eP*	**P**	**11 54 48.4**	**+0.6**
	comp=Z,33nm,0.9s						
SBA	**Scott Base**	**72.93**	**177**	P	**P**	**11 54 45.8**	**-1.2**
SBA				IAmb	IAmb	11 55 10.7	
	comp=Z,25nm,1.5s						
KKN	**Kakani**	**73.01**	**301**	*eP*	**P**	**11 54 48.9**	**+0.3**
	comp=Z,34nm,0.9s						
DMN	**Daman**	**73.11**	**301**	*eP*	**P**	**11 54 49.8**	**+0.5**
	comp=Z,133nm,1.4s						
GKN	**Gorkha**	**73.62**	**301**	*eP*	**P**	**11 54 52.7**	**+0.6**
	comp=Z,90nm,1.2s						
BILL	**Bilibino**	**73.70**	**5**	P	**P**	**11 54 51.6**	**0.0**
BILL				IAmb	IAmb	11 54 53.8	
	comp=Z,15nm,0.9s						
ANM	**Nome**	**76.12**	**17**	P	**P**	**11 55 04.9**	**-0.7**
WMQ	**Urumqi**	**76.21**	**317**	*eP*	**P**	**11 55 07.5**	**+0.8**
WMQ				pP	pwP	11 55 20.0	+2.8
WMQ				pmax	pmax		
	comp=Z,21nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,170nm,5.3s						
TIXI	**Tiksi**	**78.36**	**352**	P	**P**	**11 55 17.4**	**-0.6**
	comp=Z,2.9nm,0.3s,baz=153,slow=11,SNR=6.0						
TIXI	**Tiksi**	**78.36**	**352**	P	**P**	**11 55 17.2**	**-0.8**
TIXI				IAmb	IAmb	11 55 21.2	
	comp=Z,9.1nm,1.1s						
RDOG	**Red Dog Mine**	**79.34**	**15**	P	**P**	**11 55 23.2**	**-0.3**
RDOG				IAmb	IAmb	11 55 40.5	
	comp=Z,20nm,1.1s						
ZSN	**Zaisan**	**79.34**	**320**	*eP*	**P**	**11 55 24.5**	**+0.5**
	baz=320						
IMAR	**Indian Mountai**	**80.72**	**19**	P	**P**	**11 55 30.8**	**-0.2**
MK31	**Makanchi Array**	**80.80**	**319**	P	**P**	**11 55 31.6**	**-0.2**
MK31				IAmb	IAmb	11 55 33.9	
	comp=Z,14nm,1.4s						
MKAR	**Makanchi Array**	**80.80**	**319**	P	**P**	**11 55 32.5**	**+0.7**
	comp=Z,2.6nm,0.6s,baz=100,slow=6.7,SNR=20						
MKAR	**Makanchi Array**	**80.80**	**319**	P	**P**	**11 55 31.2**	**-0.6**
MAKZ	**Makanchi**	**81.01**	**319**	P	**P**	**11 55 32.6**	**-0.3**
MAKZ				IAmb	IAmb	11 55 35.0	
	comp=Z,8.9nm,0.9s						
MCK	**McKinley**	**81.18**	**22**	P	**P**	**11 55 32.9**	**-0.6**
MCK				IAmb	IAmb	11 55 58.3	
	comp=Z,12nm,0.8s						
MLY	**Manley**	**81.21**	**21**	P	**P**	**11 55 33.1**	**-0.5**
MLY				IAmb	IAmb	11 55 58.6	
	comp=Z,7.7nm,0.7s						
NEA2	**Nenana**	**81.58**	**22**	P	**P**	**11 55 35.6**	**0.0**
NEA2				IAmb	IAmb	11 56 00.2	
	comp=Z,7.5nm,0.8s						
ZAA0	**Zalesovo Array**	**81.64**	**326**	P	**P**	**11 55 35.8**	**-0.3**
ZAA0				IAmb	IAmb	11 55 36.9	
	comp=Z,16nm,0.8s						
ZALV	**Zalesovo Beam**	**81.64**	**326**	P	**P**	**11 55 36.0**	**-0.1**
	comp=Z,16nm,0.6s,baz=109,slow=5.8,SNR=64						
ZALV	**Zalesovo Beam**	**81.64**	**326**	P	**P**	**11 55 35.5**	**-0.5**
SHLS	**Shalkode**	**81.69**	**315**	*eP*	**P**	**11 55 35.5**	**-1.3**
	baz=315						
WRH	**Wood River Hil**	**81.88**	**22**	P	**P**	**11 55 36.2**	**-0.9**
CCB	**Clear Creek Bu**	**82.07**	**22**	P	**P**	**11 55 38.2**	**0.0**
KPKS	**Kokpek**	**82.32**	**315**	*eP*	**P**	**11 55 39.5**	**-0.6**
	baz=315						
IL31		**82.48**	**22**	P	**P**	**11 55 40.1**	**-0.1**
IL31				IAmb	IAmb	11 56 04.4	
	comp=Z,6.7nm,0.8s						
ILAR	**Eielson Array**	**82.48**	**22**	P	**P**	**11 55 40.2**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=246,slow=5.7,SNR=14						
ILAR	**Eielson Array**	**82.48**	**22**	P	**P**	**11 55 39.8**	**-0.5**
COLD	**Coldfoot**	**82.59**	**19**	P	**P**	**11 55 39.9**	**-0.9**
TDK	**Taldyqorghan**	**82.90**	**316**	*eP*	**P**	**11 55 43.4**	**+0.4**
	baz=316						
DOT	**Dot Lake**	**83.04**	**24**	P	**P**	**11 55 42.3**	**-0.9**
DOT				IAmb	IAmb	11 56 02.0	
	comp=Z,11nm,1.2s						
SEM	**Semipalatinsk**	**83.16**	**322**	*eP*	**P**	**11 55 43.6**	**-0.8**
	baz=322						
KSH	**Kashi**	**83.39**	**311**	P	**P**	**11 55 48.8**	**+3.1**
KSH				pP	sP	11 55 59.5	-0.3
KSH				pmax	pmax		
	comp=Z,35nm,1.3s						
KSH				pmax	pmax		
	comp=Z,370nm,5.9s						
TOLK	**Toolik Lake Re**	**83.56**	**18**	P	**P**	**11 55 45.0**	**-0.9**
CHKK	**Chushkaly**	**83.61**	**315**	*eP*	**P**	**11 55 46.4**	**-0.2**
	baz=315						
BCAR	**Beaver Creek A**	**83.71**	**25**	P	**P**	**11 55 46.4**	**-0.4**
NIL	**Nilore**	**84.40**	**304**	P	**P**	**11 55 50.8**	**-0.2**
BMAR	**Burnt Mountain**	**84.58**	**20**	P	**P**	**11 55 51.0**	**-0.1**
QSPA	**South Pole Qui**	**84.73**	**180**	P	**P**	**11 55 51.6**	**-0.5**
CHMS	**Chumysh**	**85.01**	**314**	P	**P**	**11 55 54.7**	**+0.9**
	SNR=7.4						
UCH	**Uchtor**	**85.03**	**313**	P	**P**	**11 55 56.7**	**+2.2**
	SNR=7.6						
DAWY	**Dawson**	**85.09**	**24**	P	**P**	**11 55 53.6**	**-0.1**
AAK	**Ala-Archa**	**85.12**	**313**	P	**P**	**11 55 55.9**	**+1.3**
	SNR=5.9						
AAK	**Ala-Archa**	**85.12**	**313**	P	**P**	**11 55 54.2**	**-0.3**
AAK				IAmb	IAmb	11 55 56.4	
	comp=Z,8.5nm,0.7s						
SGDS	**Sogindy**	**85.19**	**314**	*eP*	**P**	**11 55 54.8**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=314						
USP	**Ospenovka**	**85.25**	**314**	P	**P**	**11 55 56.2**	**+1.2**
	SNR=9.5						
MAW	**Mawson**	**85.25**	**203**	P	**P**	**11 55 55.4**	**+1.0**
	comp=Z,7.7nm,0.7s,baz=91,slow=6.1,SNR=7.8						
MAW	**Mawson**	**85.25**	**203**	P	**P**	**11 55 54.3**	**-0.1**
AML	**Almayashu**	**85.61**	**313**	P	**P**	**11 55 58.9**	**+1.6**
	SNR=12						
EKS2	**Erkin-Say**	**85.65**	**313**	P	**P**	**11 55 58.6**	**+1.5**
	SNR=6.0						
BTLS	**Baital**	**85.92**	**316**	*eP*	**P**	**11 55 58.7**	**+0.4**
	comp=Z,6.0nm,0.8s,baz=316						
NRIK	**Noril'sk**	**86.44**	**341**	P	**P**	**11 56 00.3**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=119,slow=4.9,SNR=6.1						
NRIK	**Noril'sk**	**86.44**	**341**	P	**P**	**11 55 60.0**	**-0.3**
NRIK				IAmb	IAmb	11 56 13.9	
	comp=Z,7.5nm,0.8s						
EPYK	**Eagle Plains**	**86.98**	**22**	P	**P**	**11 56 02.5**	**-0.5**
EPYK				IAmb	IAmb	11 56 28.9	
	comp=Z,12nm,0.9s						
BRZS	**Berezniki**	**87.79**	**320**	*eP*	**P**	**11 56 06.4**	**-0.8**
	baz=320						
KBL	**Kabul**	**87.99**	**305**	P	**P**	**11 56 07.8**	**-1.1**
KBL				IAmb	IAmb	11 56 09.1	
	comp=Z,6.7nm,0.9s						
KK31	**Karatay Array**	**88.09**	**313**	P	**P**	**11 56 08.1**	**-0.7**
KK31				IAmb	IAmb	11 56 11.1	
	comp=Z,12nm,1.4s						
KKAR	**Karatay Array**	**88.09**	**313**	P	**P**	**11 56 08.6**	**-0.3**
KKAR				IAmb	IAmb	11 56 11.1	
	comp=Z,12nm,1.4s						
KKAR	**Karatay Array**	**88.09**	**313**	P	**P**	**11 56 08.9**	**0.0**
IUG	**Iuzhnay**	**88.29**	**312**	*eP*	**P**	**11 56 10.0**	**+0.1**
	baz=312						
INK	**Inuvik**	**88.78**	**21**	P	**P**	**11 56 11.7**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=196,slow=8.3,SNR=6.2						
BVAR	**Borovoye Array**	**89.72**	**323**	P	**P**	**11 56 15.4**	**-0.8**
	comp=Z,6.6nm,0.6s,baz=144,slow=13,SNR=54						
BRVK	**Borovoye**	**89.79**	**323**	P	**P**	**11 56 16.0**	**-0.6**
BRVK				IAmb	IAmb	11 56 17.3	
	comp=Z,14nm,1.1s						
NVAR	**Mina Array Bea**	**92.18**	**52**	P	**P**	**11 56 29.0**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=220,slow=6.5,SNR=3.7						
NEW	**Newport**	**93.77**	**42**	P	**P**	**11 56 35.9**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=164,slow=16,SNR=2.1						
YKA	**Yellowknife Ar**	**95.71**	**28**	P	**P**	**11 56 44.0**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=269,slow=4.1,SNR=11						
YKA				PKKP	**PKKPbc**	**12 13 33.8**	**-2.6**
	comp=Z,0.2nm,0.6s,baz=90,slow=2.4,SNR=5.0						
ABKAR	**Akbulak array**	**95.94**	**319**	P	**P**	**11 56 42.0**	**-3.0**
ARU	**Arti**	**96.80**	**326**	P	**P**	**11 56 47.6**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=103,slow=4.3,SNR=7.5						
ARU	**Arti**	**96.80**	**326**	P	**P**	**11 56 47.7**	**-1.1**
EIL	**Elat**	**116.90**	**301**	PKP	**PKiKP**	**12 02 05.8**	**+2.5**
	comp=Z,2.8nm,0.4s,baz=117,slow=2.3,SNR=4.0						
PLCA	**Paso Flores**	**119.30**	**143**	PKP	**PKiKP**	**12 02 09.8**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=85,slow=20,SNR=3.2						
PLCA	**Paso Flores**	**119.30**	**143**		**PKPdf**	**12 02 06.4**	**-1.4**
BOSA	**Boshof**	**119.54**	**233**	PKP	**PKiKP**	**12 02 09.4**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=70,slow=4.2,SNR=1.5						
CLL	**Collm**	**123.34**	**331**	*ePKPdf*	**PKiKP**	**12 02 15.0**	**-0.3**
GERES	**GERESS Array B**	**124.54**	**328**	PKP	**PKiKP**	**12 02 17.7**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=15,slow=5.5,SNR=5.1						
GERES	**GERESS Array B**	**124.54**	**328**		**PKPdf**	**12 02 16.9**	**-0.7**
EKA	**Eskdalemuir Ar**	**126.51**	**343**	PKP	**PKiKP**	**12 02 22.2**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=19,slow=3.0,SNR=1.7						
WTTA	**Wattenberg**	**126.61**	**328**	*eP*	**PKPdf**	**12 02 20.1**	**-1.6**
	comp=Z,9.9nm,1.2s						
MOTA	**Moosalm**	**126.84**	**328**	*eP*	**PKPdf**	**12 02 19.5**	**-2.6**
	comp=Z,8.3nm,1.0s						
SQTA	**Sankt Quirin**	**126.86**	**328**	*eP*	**PKPdf**	**12 02 20.4**	**-1.7**
	comp=Z,4.3nm,0.9s						
FETA	**Feichten**	**127.24**	**328**	*eP*	**PKPdf**	**12 02 19.4**	**-3.5**
	comp=Z,6.3nm,0.9s						
LPAZ	**La Paz**	**134.02**	**118**	PKP	**PKiKP**	**12 02 38.9**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=6.0,slow=1.2,SNR=7.9						
LPAZ	**La Paz**	**134.02**	**118**		**PKPdf**	**12 02 36.9**	**-0.3**
CPUP	**Villa Florida**	**136.99**	**138**	PKP	**PKiKP**	**12 02 44.0**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=211,slow=5.9,SNR=2.0						
BDFB	**Brasilia**	**150.60**	**135**	PKPbc	**PKiKP**	**12 03 12.8**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=261,slow=2.5,SNR=9.6						
BDFB	**Brasilia**	**150.60**	**135**	PKPdf	**PKPdf**	**12 03 04.1**	**-1.6**
BDFB					**PKPbc**	**12 03 10.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**150.65**	**288**	PKP	**PKPdf**	**12 03 05.4**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=358,slow=4.5,SNR=4.1						
TORD				PKPbc	**PKiKP**	**12 03 11.4**	**-0.4**
	comp=Z,29nm,0.8s,baz=58,slow=2.3,SNR=92						
TORD	**Torodi Ar. Bea**	**150.65**	**288**		**PKPdf**	**12 03 05.4**	**-0.3**
TORD				PKPbc	**PKPbc**	**12 03 10.9**	**-0.3**
KOWA	**Kowa**	**155.60**	**294**	PKPbc	PKPbc	12 03 24.7	
	comp=Z,2.6nm,0.7s,baz=352,slow=7.4,SNR=4.8						
KOWA				PKPab	**PKPab**	**12 03 39.9**	**+1.0**
	comp=Z,4.8nm,0.5s,baz=360,slow=6.5,SNR=7.3						
DBIC	**Dimbokro**	**157.95**	**275**	PKPab	**PKPab**	**12 03 49.1**	**0.0**
	comp=Z,4.1nm,0.7s,baz=117,slow=4.8,SNR=4.2						

*IDC **30** 11:43:33.1±2.2, 7.°13S×129.°36E, h170km±26km, mb3.3/2, mb1 3.5/7, mb1mx3.2/56, mbtmp4.0/7, Error ellipse: s-maj=32.2km s-min=18.7km az=83.0*

ISC 30 11:43:31.7±0.8, 7.°24S±0.°06×129.°44E±0.°10, h150km, n7, σ2s94/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.42**	**242**	P	**Pn**	**11 45 05.8**	**+1.6**
	4.5nm,0.3s,baz=123,slow=3.4,SNR=2.3						
BATI				S	**Sn**	**11 46 15.9**	**-0.6**
	13nm,0.3s,baz=68,slow=17,SNR=7.9						
SIJI	**Sorong**	**6.58**	**16**	P	**Pn**	**11 45 07.3**	**+1.0**
	1.0nm,0.3s,baz=179,slow=8.3,SNR=2.0						
SIJI				S	**Sn**	**11 46 17.2**	**-3.2**
	2.8nm,0.3s,baz=230,slow=23,SNR=3.1						
FITZ	**Fitzroy Crossi**	**11.41**	**199**	P	**Pn**	**11 46 10.5**	**+0.2**
	0.8nm,0.3s,baz=32,slow=13,SNR=30						
FITZ				S	**Sn**	**11 48 10.6**	**-5.9**
	3.2nm,0.3s,baz=227,slow=15,SNR=11						
WRA	**Warramunga Arr**	**13.49**	**160**	P	**Pn**	**11 46 37.9**	**+0.6**
	0.7nm,0.3s,baz=342,slow=12,SNR=23						
WRA				S	**Sn**	**11 49 03.6**	**-3.2**
	1.7nm,0.3s,baz=331,slow=22,SNR=5.3						
ASAR	**Alice Springs**	**16.89**	**166**	P	**Pn**	**11 47 21.3**	**+2.0**
	1.5nm,0.3s,baz=341,slow=9.9,SNR=266						
ASAR				pP	**pwP**	**11 47 48.2**	**+3.8**
	0.3nm,0.3s,baz=343,slow=9.5,SNR=3.8						
ASAR				S	**S**	**11 50 26.5**	**-0.7**
	0.5nm,0.3s,baz=206,slow=41,SNR=1.1						
STKA	**Stephens Creek**	**27.01**	**157**	P	**P**	**11 49 01.6**	**+1.8**
	1.0nm,0.6s,baz=343,slow=8.6,SNR=3.6						
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**11 54 13.6**	**-1.9**
	0.5nm,0.6s,baz=117,slow=7.6,SNR=5.0						

*TEH **30** 11:47:32.1, 32.°53N×48.°05E, h8km, ML3.7*
*THR **30** 11:47:32.9±0.6, 32.°52N×48.°00E, h14km±8km, ML3.8*
*ISN **30** 11:47:33.3±0.6, 32.°56N×48.°01E, h23km±4km, ML3.5*
*IDC **30** 11:47:40.3±9.0, 33.°74N×48.°40E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.5/56, mbtmp3.8

MKAR	**Makanchi Array**	**29.70**	**51**	P		**P**	**11 53 38.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=249,slow=9.3,SNR=5.5							
FINES	**FINESS Array B**	**32.25**	**340**	P		**P**	**11 54 01.8**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=142,slow=9.6,SNR=4.1							
HFS	**Hagfors**	**35.68**	**331**	P		**P**	**11 54 32.8**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=133,slow=9.4,SNR=6.8							
ARCES	**ARCESS Array B**	**39.16**	**348**	P		**P**	**11 54 59.8**	**+0.2**
	comp=Z,4.1nm,0.9s,baz=150,slow=9.2,SNR=2.3							

*IDC **30** 12:01:35.9±1.0,4.2°92.9S×152.5°54.6E±0.1,h0km,mb3.9/10, mb1 4.0/11,mb1mx3.8/37,mbtmp3.9/11,ML1.9/1,Error ellipse: s-maj=30.0km s-min=18.8km az=119.0*

ISC 30 12:01:43.3±0.9,5.0°S±0.1×152.5°E±0.1,h55km,n12, σ1§03/13,mb3.8/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.90**	**230**	Pn		**Pn**	**12 03 21.0**	**-0.9**
	1.4nm,0.3s,baz=288,slow=18,SNR=3.5							
PMG				Sn		**Sn**	**12 04 39.9**	**+0.8**
	1.6nm,0.3s,baz=347,slow=13,SNR=3.8							
DZM	**Mont Dzumac**	**21.67**	**143**	P		**P**	**12 06 28.9**	**-0.6**
	4.5nm,0.6s,baz=103,slow=17,SNR=2.0							
WRA	**Warramunga Arr**	**23.12**	**228**	P		**P**	**12 06 43.7**	**-1.1**
	0.6nm,0.4s,baz=52,slow=9.0,SNR=16							
ASAR	**Alice Springs**	**25.83**	**222**	P		**P**	**12 07 08.9**	**-0.8**
	2.4nm,0.8s,baz=59,slow=8.7,SNR=34							
STKA	**Stephens Creek**	**28.64**	**200**	P		**P**	**12 07 36.5**	**+1.7**
	0.5nm,0.5s,baz=17,slow=11,SNR=2.9							
FITZ	**Fitzroy Crossi**	**29.33**	**241**	P		**P**	**12 07 40.6**	**-0.4**
	1.5nm,0.6s,baz=58,slow=7.8,SNR=7.6							
CMAR	**Chiang Mai Arr**	**57.72**	**295**	P		**P**	**12 11 28.4**	**-0.5**
	0.6nm,0.3s,baz=111,slow=5.1,SNR=4.7							
MKAR	**Makanchi Array**	**80.30**	**319**	P		**P**	**12 13 48.9**	**+0.4**
	0.5nm,0.9s,baz=82,slow=10,SNR=3.8							
ZALV	**Zalesovo Beam**	**81.17**	**326**	P		**P**	**12 13 54.5**	**+1.6**
	0.5nm,0.5s,baz=113,slow=6.7,SNR=1.9							
ILAR	**Eielson Array**	**82.44**	**22**	P		**P**	**12 13 58.8**	**-0.7**
	0.9nm,0.9s,baz=242,slow=5.1,SNR=5.3							
YKA	**Yellowknife Ar**	**95.72**	**28**	P		**P**	**12 15 03.3**	**+0.3**
	0.2nm,0.8s,baz=259,slow=3.6,SNR=3.8							
TORD	**Torodi Ar. Bea**	**150.12**	**288**	PKPbc		**PKPbc**	**12 21 28.8**	**-0.3**
	1.0nm,0.8s,baz=112,slow=2.0,SNR=3.5							

IDC 30 12:10:14.5±4.4,5.0°S×153.1°E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/38,mbtmp3.6/5,ML1.6/1,Error ellipse: s-maj=118.6km s-min=33.1km az=110.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**7.32**	**233**	Pn		Pn	12 12 04.1	+1.4
	0.6nm,0.3s,baz=232,slow=19,SNR=1.5							
PMG				Sn		Sn	12 13 18.0	-8.6
	1.1nm,0.3s,baz=358,slow=6.6,SNR=2.8							
WRA	**Warramunga Arr**	**23.52**	**229**	P		P	12 15 26.9	+0.4
	0.9nm,0.7s,baz=54,slow=10.0,SNR=9.4							
ASAR	**Alice Springs**	**26.18**	**223**	P		P	12 15 50.9	-0.1
	0.3nm,0.4s,baz=55,slow=9.0,SNR=10							
FITZ	**Fitzroy Crossi**	**29.81**	**242**	P		P	12 16 22.2	-1.2
	0.9nm,0.5s,baz=64,slow=9.4,SNR=2.1							
SONM	**Songino Array**	**66.68**	**328**	P		P	12 21 07.6	+0.3
	0.2nm,0.4s,baz=152,slow=6.5,SNR=1.9							

*IDC **30** 12:24:19.5±0.5,5.2°S×153.0°E,h0km,mb4.2/23, mb1 4.3/25,mb1mx4.2/45,mbtmp4.2/25,ML3.3/2,MS3.9/4, Ms1 3.9/4,ms1mx3.5/49,Error ellipse: s-maj=16.5km s-min=12.0km az=101.0*

*NEIC **30** 12:24:22.7±0.9,5.1°S±0.0°7×152.9°E±0.1,h28km±4km, mb4.5/19,Error ellipse: s-maj=14.6km s-min=10.5km az=84.0*

*DJA **30** 12:24:28.4±0.6,5.5°S±11.1°×15.3°E±.1°,h84km±8km,M4.8/6, mB5.0/3,mb4.6/6,MLv4.9/2,Mw(mB)4.4/3*

ISC 30 12:24:25.1±0.4,5.1°S±0.0°S×153.0°E±0.0°8,h43km,n76, σ1§55/68,mb4.3/27,MS4.0/3,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.26**	**318**	Pn		**Pn**	**12 24 43.6**	**-2.7**
RABL	**Rabaul**	**1.26**	**318**	P		**P**	**12 24 48.2**	**+1.9**
MANU	**Manus Island**	**6.42**	**298**	Pn		**Pn**	**12 25 55.0**	**-2.1**
PMG	**Port Moresby**	**7.19**	**233**	Pn		**Pn**	**12 26 08.6**	**+1.0**
	8.1nm,0.3s,baz=44,slow=7.3,SNR=16							
PMG				Sn		**Sn**	**12 27 27.5**	**-0.6**
	7.1nm,0.3s,baz=120,slow=19,SNR=8.2							
PMG	**Port Moresby**	**7.19**	**233**	Pn		**Pn**	**12 26 05.2**	**-2.5**
PMG	**Port Moresby**	**7.19**	**233**	P		**P**	**12 26 09.8**	**+2.1**
HNR	**Honiara**	**8.10**	**122**	LR		LR	12 29 19.6	
	comp=Z,417nm,20.1s,baz=80,slow=37							
PATS	**Pohnpei**	**13.02**	**24**	Pn		**Pn**	**12 27 26.0**	**-1.5**
CTA	**Charters Tower**	**16.25**	**203**	Pn		**P**	**12 28 10.6**	**-2.4**
	0.2nm,0.3s,baz=27,slow=11,SNR=2.3							
SANVU	**Saraoutou**	**17.31**	**127**	P		**P**	**12 28 24.6**	**0.0**
SANVU	**Saraoutou**	**17.31**	**127**	P		**P**	**12 28 27.4**	**+2.8**
EIDS	**Eidsvold**	**20.20**	**185**			**P**	**12 28 54.9**	**-1.5**
EIDS				IAmb		IAmb	12 29 00.7	
	comp=Z,29nm,1.4s							
DZM	**Mont Dzumac**	**21.27**	**144**	P		**P**	**12 29 09.2**	**+1.1**
	comp=Z,9.0nm,0.6s,baz=203,slow=12,SNR=14							
DZM	**Mont Dzumac**	**21.27**	**144**	P		**P**	**12 29 08.1**	**0.0**
DZM				IAmb		IAmb	12 29 13.3	
	comp=Z,12nm,0.7s							
SIJI	**Sorong**	**22.12**	**280**	P		**P**	**12 29 18.7**	**+1.5**
	comp=Z,9.4nm,0.6s,baz=125,slow=9.8,SNR=6.1							
MTN	**Manton Dam**	**22.91**	**249**	P		**P**	**12 29 23.4**	**-2.1**
MTN				IAmb		IAmb	12 29 29.7	
	comp=Z,7.9nm,0.7s							
WB0	**Warramunga Arr**	**23.24**	**230**	P		**P**	**12 29 27.5**	**-1.3**
WR0	**Warramunga Arr**	**23.24**	**229**	P		**P**	**12 29 27.1**	**-1.7**
WR0				IAmb		IAmb	12 29 30.4	
	comp=Z,23nm,1.2s							
WRAB	**Tennant Creek**	**23.37**	**229**	P		**P**	**12 29 28.4**	**-1.6**
WB2	**Warramunga Arr**	**23.37**	**229**	P		**P**	**12 29 28.6**	**-1.5**
WB2				IAmb		IAmb	12 29 31.6	
	comp=Z,17nm,1.0s							
WRA	**Warramunga Arr**	**23.38**	**229**	P		**P**	**12 29 30.0**	**-0.2**
	comp=Z,11nm,0.9s,baz=54,slow=9.5,SNR=78							
WRA				S		**S**	**12 33 47.5**	**+7.1**
	comp=Z,0.8nm,0.7s,baz=64,slow=13,SNR=3.7							
WRA	**Warramunga Arr**	**23.38**	**229**	P		**P**	**12 29 28.7**	**-1.5**
AS31	**Alice Springs**	**26.05**	**223**	P		**P**	**12 29 52.8**	**-1.8**
ASAR	**Alice Springs**	**26.05**	**223**	P		**P**	**12 29 54.4**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=55,slow=9.3,SNR=87							
ASAR	**Alice Springs**	**26.05**	**223**	P		**P**	**12 29 53.2**	**-1.4**
H11S3	**WAKE ISLAND Hy**	**27.08**	**30**	T		T	12 58 03.5	
	baz=201,slow=74							
H11S2	**WAKE ISLAND Hy**	**27.08**	**30**	T		T	12 58 04.8	
	baz=201,slow=74							
H11S1	**WAKE ISLAND Hy**	**27.10**	**30**	T		T	12 58 38.1	
	baz=201							
H11N1	**WAKE ISLAND Hy**	**28.22**	**29**	T		T	12 59 53.8	
	baz=203							
H11N3	**WAKE ISLAND Hy**	**28.23**	**29**	T		T	12 59 45.6	
	baz=203							
H11N2	**WAKE ISLAND Hy**	**28.24**	**29**	T		T	12 59 54.3	
	baz=203							
STKA	**Stephens Creek**	**28.67**	**201**	P		**P**	**12 30 16.9**	**-1.0**
	comp=Z,3.1nm,0.7s,baz=42,slow=12,SNR=7.5							
STKA	**Stephens Creek**	**28.67**	**201**	P		**P**	**12 30 17.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**29.68**	**242**	P		**P**	**12 30 26.8**	**-0.3**
	comp=Z,4.3nm,0.4s,baz=66,slow=9.4,SNR=41							
FITZ	**Fitzroy Crossi**	**29.68**	**242**	P		**P**	**12 30 26.2**	**-0.9**
FITZ				IAmb		IAmb	12 30 27.8	
	comp=Z,8.4nm,1.1s							
KAPI	**Kappang**	**33.13**	**269**	LR		LR	12 47 47.9	
	comp=Z,154nm,18.2s,baz=74,slow=42							
FORT	**Forrest**	**34.66**	**220**	P		**P**	**12 31 09.0**	**-1.6**
PSA00	**Pilbara Seismi**	**36.04**	**240**	P		**P**	**12 31 22.0**	**-0.7**
URZ	**Urewera**	**39.59**	**150**	P		**P**	**12 31 53.7**	**+1.3**
	comp=Z,5.7nm,0.8s,baz=308,slow=20,SNR=1.6							
TUWZ	**Tuamarina**	**40.70**	**156**	P		**P**	**12 32 01.2**	**-0.3**
RPZ	**Rata Peaks**	**41.59**	**160**	P		**P**	**12 32 09.0**	**+0.2**
	comp=Z,11nm,0.9s,baz=338,slow=19,SNR=2.2							
MORW	**Morawa**	**42.30**	**231**	P		**P**	**12 32 13.7**	**-1.2**
MORW				IAmb		IAmb	12 32 18.8	
	comp=Z,12nm,1.2s							
KSRS	**Korea Array**	**48.39**	**333**	P		**P**	**12 33 03.9**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=41,slow=38,SNR=2.2							
KSRS				LR		LR	12 53 13.4	
	comp=Z,154nm,18.1s,baz=26,slow=36							
KLR	**Kul'dur**	**57.22**	**344**	P		**P**	**12 34 09.4**	**+1.5**
	comp=Z,0.6nm,0.4s,baz=115,slow=4.1,SNR=2.2							
PEA0B	**Petropavlovsk-**	**58.16**	**3**	P		**P**	**12 34 14.8**	**+0.4**
PETK	**Petropavlovsk-**	**58.16**	**3**	P		**P**	**12 34 15.8**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=155,slow=6.5,SNR=8.9							
PETK	**Petropavlovsk-**	**58.16**	**3**	P		**P**	**12 34 14.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**58.21**	**295**	P		**P**	**12 34 17.0**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=120,slow=5.5,SNR=5.9							
CMAR	**Chiang Mai Arr**	**58.21**	**295**	P		**P**	**12 34 15.0**	**-0.4**
SONM	**Songino Array**	**66.72**	**328**	P		**P**	**12 35 13.3**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=130,slow=4.8,SNR=3.0							
VNDA	**Vanda**	**72.49**	**178**	P		**P**	**12 35 48.2**	**+1.4**
	comp=Z,3.3nm,0.8s,baz=333,slow=7.7,SNR=16							
VNDA	**Vanda**	**72.49**	**178**	P		**P**	**12 35 46.6**	**-0.2**
VNDA				IAmb		IAmb	12 35 49.1	
	comp=Z,3.6nm,0.8s							
IMAR	**Indian Mountai**	**80.63**	**19**			**P**	**12 36 32.8**	**-0.2**
MKAR	**Makanchi Array**	**80.71**	**319**	P		**P**	**12 36 34.3**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=101,slow=6.6,SNR=5.3							
MKAR	**Makanchi Array**	**80.71**	**319**	P		**P**	**12 36 33.8**	**-0.1**
ZALV	**Zalesovo Beam**	**81.55**	**326**	P		**P**	**12 36 38.5**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=106,slow=6.5,SNR=6.6							
ZALV	**Zalesovo Beam**	**81.55**	**326**	P		**P**	**12 36 37.8**	**-0.2**
ILAR	**Eielson Array**	**82.39**	**22**	P		**P**	**12 36 41.2**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=248,slow=5.1,SNR=6.3							
KURBB	**Kurchatov Arra**	**84.19**	**322**	P		**P**	**12 36 53.3**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=103,slow=4.5,SNR=3.5							
QSPA	**South Pole Qui**	**84.83**	**180**	P		**P**	**12 36 53.7**	**-1.3**
AAK	**Ala-Archa**	**85.05**	**313**	P		**P**	**12 36 58.7**	**+2.1**
	comp=Z,0.8nm,0.6s,baz=174,slow=10,SNR=1.8							
MAW	**Mawson**	**85.34**	**203**	P		**P**	**12 36 58.3**	**+0.9**
	comp=Z,3.8nm,0.6s,baz=129,slow=4.2,SNR=9.9							
MAW	**Mawson**	**85.34**	**203**	P		**P**	**12 36 57.5**	**+0.1**
BVAR	**Borovoye Array**	**89.63**	**323**	P		**P**	**12 37 18.2**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=140,slow=12,SNR=8.5							
NVAR	**Mina Array Bea**	**92.13**	**52**	P		**P**	**12 37 30.5**	**0.0**
	comp=Z,0.2nm,0.6s,baz=250,slow=7.6,SNR=2.3							
NEW	**Newport**	**93.70**	**42**	LR		LR	13 19 46.0	
	comp=Z,64nm,18.4s,baz=178,slow=36							
YKA	**Yellowknife Ar**	**95.62**	**28**	P		**P**	**12 37 45.4**	**-0.4**
	comp=Z,0.1nm,0.7s,baz=265,slow=4.3,SNR=2.4							
AKASG	**Malin Array Be**	**114.89**	**324**	PKP		PKPdf	12 43 02.1	+0.9
	comp=Z,0.3nm,0.3s,baz=58,slow=2.3,SNR=1.7							
PLCA	**Paso Flores**	**119.39**	**143**	PKP		**PKiKP**	**12 43 10.9**	**+0.5**
	comp=Z,2.0nm,1.0s,baz=278,slow=7.1,SNR=3.3							
PLCA	**Paso Flores**	**119.39**	**143**			**PKiKP**	**12 43 10.3**	**-0.1**
LPAZ	**La Paz**	**134.07**	**118**	PKP		**PKiKP**	**12 43 40.5**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=267,slow=4.9,SNR=5.8							
LPAZ	**La Paz**	**134.07**	**118**			**PKPdf**	**12 43 39.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**150.61**	**288**	PKPbc		**PKiKP**	**12 44 14.1**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=63,slow=2.2,SNR=27							
TORD	**Torodi Ar. Bea**	**150.61**	**288**			**PKPbc**	**12 44 13.0**	**-0.5**
BDFB	**Brasilia**	**150.68**	**135**	PKPbc		**PKiKP**	**12 44 14.7**	**+0.3**
	comp=Z,3.1nm,0.4s,baz=67,slow=6.1,SNR=7.0							
BDFB	**Brasilia**	**150.68**	**135**			**PKPbc**	**12 44 13.0**	**-0.7**

IDC 30 12:43:28.6±1.9,1.7°N×126.9°E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.3/56,mbtmp3.5/5,ML3.2/1,MS3.1/1, Ms1 3.1/1,ms1mx2.8/38,Error ellipse: s-maj=109.0km s-min=26.3km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.08**	**121**	LR		LR	12 46 55.8	
	comp=Z,207nm,18.9s,baz=36,slow=41							
FITZ	**Fitzroy Crossi**	**19.79**	**184**	P		P	12 48 00.8	+0.2
	0.1nm,0.3s,baz=5.7,slow=10,SNR=2.0							
WRA	**Warramunga Arr**	**22.78**	**162**	P		P	12 48 32.5	-0.4
	1.3nm,0.4s,baz=340,slow=11,SNR=16							
ASAR	**Alice Springs**	**26.19**	**165**	P		P	12 49 06.0	+0.9
	0.3nm,0.8s,baz=341,slow=8.0,SNR=8.1							
STKA	**Stephens Creek**	**36.25**	**159**	P		P	12 50 32.7	-0.9
	0.7nm,0.5s,baz=328,slow=13,SNR=3.2							
MKAR	**Makanchi Array**	**59.26**	**326**	P		P	12 53 32.0	0.0
	0.3nm,0.6s,baz=120,slow=8.5,SNR=2.0							

NOU 30 12:43:44.9,15.0°S×168.4°E,h23km,MLv4.5,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SANVU	**Saraoutou**	**1.26**	**250**	P		Pn	12 44 07.1	0.0
MARNC	**Mare, Loyalty**	**6.45**	**183**	P		Pn	12 45 17.9	-0.6
YATNC	**Mamie plateau,**	**7.16**	**192**	P		Pn	12 45 27.1	-1.2
DZM	**Mont Dzumac**	**7.27**	**195**	P		Pn	12 45 29.3	-0.6
ONTNC	**Ouen Toro**	**7.50**	**194**	P		Pn	12 45 33.2	+0.3
OUENC	**Ouen Island, N**	**7.52**	**191**	P		Pn	12 45 34.5	+1.3
PINNC	**Pines Island,**	**7.62**	**187**	P		Pn	12 45 35.6	+1.0

*NEIC **30** 12:50:53.7±2.3,63.3°30N±0.0°2×151.0°5W±0.0°7,h15km±5km, Error ellipse: s-maj=4.6km s-min=3.4km az=110.0*

*AEIC **30** 12:50:53±2.0,63.3°1N±0.0°3×151.0°7W±0.0°7,h14km±5km, ML3.9,ML4.1/113(NEIC),Mwr3.9/112(NEIC),Error ellipse: s-maj=4.6km s-min=3.7km az=96.0*

*NEIC **30** 12:50:54,63.3°4N×151.0°3W,h15km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}5.97; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$-5.81; $M_{r\theta}$-0.78; $M_{r\phi}$-6.68; $M_{\theta\phi}$2.22; Fault plane solution: $M_0$9.21000×10^{14} NP1:$\phi_0$242.75000°, δ48.73000°,λ134.57000°. NP2:$\phi_0$6.56000°,δ57.63000°, λ51.35000°. Principal axes: T 7.2602, Plg58.0000°, Azm221.0000°; N 3.0999, Plg32.0000°, Azm30.0000°; P -10.3601, Plg5.0000°, Azm123.0000°;*

*IDC **30** 12:50:55.3±0.7,63.2°3N×150.3°8W,h0km,mb3.6/9, mb1 3.8/13,mb1mx3.6/45,mbtmp3.6/13,ML3.6/4 Error ellipse: s-maj=15.5km s-min=9.1km az=123.0*

ISC 30 12:50:53.0±1.0,63.2°8N±0.0°3×151.0°5W±0.0°3,h6km±7km, n129,σ1§14/135,mb3.7/10,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KTH	**Kantishna Hill**	**0.28**	**12**			**Pg**	**12 50 59.3**	**+0.8**
KTH				Sg		**Sg**	**12 51 03.7**	**+1.4**
KTH				IAML			12 51 05.0	
	comp=N,22µm,0.7s							
TRF	**Thorofare Moun**	**0.38**	**63**			**Pg**	**12 51 01.2**	**+0.7**
TRF				Sg		**Sg**	**12 51 07.1**	**+1.6**
TRF				IAML			12 51 07.3	
	comp=E,16µm,0.4s							
CAST	**Castle Rocks**	**0.49**	**287**			**Pg**	**12 51 02.5**	**+0.1**
PPLA	**Purkeypile**	**0.65**	**234**	Pg		**Pg**	**12 51 05.5**	**+0.1**
PPLA	**Purkeypile**	**0.65**	**234**			**Sg**	**12 51 14.0**	**+0.2**
HUR	**Hurricane**	**0.71**	**115**			**Pg**	**12 51 06.7**	**+0.2**
BPAW	**Bear Paw Mtn.**	**0.82**	**2**			**Pg**	**12 51 08.8**	**0.0**
BPAW				Sg		**Sg**	**12 51 18.7**	**-0.7**
BPAW				IAML			12 51 22.8	
	comp=N,11µm,0.8s							
CHUM	**Lake Minchumin**	**0.83**	**318**			**Pg**	**12 51 08.9**	**+0.1**
CHUM						**Sg**	**12 51 19.8**	**+0.2**
CUT	**Chulitna**	**0.95**	**157**			**Pb**	**12 51 11.5**	**-0.3**
CUT				Sg		**Sb**	**12 51 23.4**	**-1.1**
CUT				IAML			12 51 24.0	
	comp=E,7µm,1.0s							
CUT				IAML			12 51 24.5	
	comp=N,8µm,0.6s							
RND	**Reindeer**	**1.00**	**82**			**Pb**	**12 51 11.8**	**-0.9**
RND						**Sb**	**12 51 24.4**	**-1.8**
MCK	**McKinley**	**1.05**	**63**			**Pb**	**12 51 13.1**	**-0.4**
MCK				Sg		**Sb**	**12 51 25.8**	**-1.8**
MCK				IAML			12 51 30.9	
	comp=N,4µm,0.7s							
MCK				IAML			12 51 31.0	
	comp=E,4µm,0.5s							
WAT7	**Susitna Watana**	**1.10**	**113**			**Pb**	**12 51 13.7**	**-0.7**
BWN	**Browne**	**1.14**	**38**			**Pg**	**12 51 15.5**	**+0.7**
BWN				IAML			12 51 39.2	
	comp=N,4µm,0.7s							
BWN				IAML			12 51 42.5	
	comp=E,6µm,1.0s							
WAT2	**Susitna Watana**	**1.17**	**105**			**Pn**	**12 51 14.8**	**-1.1**
WAT2						**Sb**	**12 51 30.0**	**-0.9**
WAT1	**Susitna Watana**	**1.23**	**110**			**Pn**	**12 51 15.8**	**-0.8**
SKT	**Skwentna**	**1.32**	**190**			**Pn**	**12 51 17.6**	**-0.3**
NEA2	**Nenana**	**1.58**	**33**			**Pn**	**12 51 20.1**	**-1.4**
WAT6	**Susitna Watana**	**1.67**	**113**			**Pn**	**12 51 22.2**	**-0.6**
MLY	**Manley**	**1.77**	**4**			**Pn**	**12 51 22.9**	**-1.1**
MLY				IAML			12 51 49.4	
	comp=N,1µm,0.3s							
MLY				IAML			12 51 50.6	
	comp=E,2µm,0.5s							
WRH	**Wood River Hil**	**1.77**	**46**			**Pn**	**12 51 23.0**	**-1.1**
GHO	**Glory Hole Cre**	**1.81**	**146**			**Pn**	**12 51 24.6**	**0.0**
GHO				IAML			12 51 49.6	
	comp=E,2µm,0.5s							
GHO				IAML			12 51 55.3	
	comp=N,3µm,0.6s							
GHO	**Glory Hole Cre**	**1.81**	**146**			**Sn**	**12 51 47.5**	**-0.4**
SUA	**Susitna One**	**1.83**	**175**			**Pn**	**12 51 25.1**	**+0.2**
PMR	**Palmer**	**1.91**	**151**			**Pn**	**12 51 26.1**	**+0.1**
PMR				IAML			12 51 56.5	
	comp=N,2µm,0.6s							
SML	**Sawmill**	**1.94**	**138**			**Pn**	**12 51 26.0**	**-0.5**
CCB	**Clear Creek Bu**	**1.98**	**45**			**Pn**	**12 51 25.9**	**-1.1**
CCB				IAML			12 51 56.2	
	comp=E,1µm,0.4s							
CCB				IAML			12 51 56.2	
	comp=N,1µm,0.4s							
I23K	**Minto, Yukon-K**	**2.02**	**21**			**Pn**	**12 51 26.6**	**-0.8**
I23K				IAML			12 51 58.1	
	comp=E,1µm,0.6s							
I23K				IAML			12 51 59.6	
	comp=N,1µm,0.5s							
MDM	**Murphy Dome**	**2.09**	**35**			**Pn**	**12 51 27.5**	**-1.0**
TCOL	**CIGO, UAF Yank**	**2.13**	**40**			**Pn**	**12 51 28.0**	**-0.9**
I53US	**FAIRBANKS INFR**	**2.13**	**40**	*i*			13 02 50.0	
	baz=221,slow=330,SNR=0.7							
COLA	**College**	**2.13**	**40**			**Pn**	**12 51 28.0**	**-1.0**
HDA	**Harding Lake**	**2.14**	**56**			**Pn**	**12 51 28.3**	**-0.9**
FIS	**Fire Island**	**2.18**	**169**			**Pn**	**12 51 28.5**	**-1.2**
KNK	**Knik Glacier**	**2.23**	**146**			**Pn**	**12 51 31.0**	**+0.6**
KNK				IAML			12 52 04.6	
	comp=E,2µm,0.5s							
KNK				IAML			12 52 07.6	
	comp=N,1µm,0.5s							
SCM	**Sheep Creek Mo**	**2.25**	**128**			**Pn**	**12 51 30.6**	**-0.2**
SCM				IAML			12 52 05.5	
	comp=E,2µm,1.0s							
SCM				IAML			12 52 06.0	
	comp=N,2µm,0.7s							
PS08	**TAPS Pump Stn8**	**2.26**	**54**			**Pn**	**12 51 30.0**	**-0.8**
RC01	**Rabbit Creek A**	**2.28**	**164**			**Pn**	**12 51 31.8**	**+0.7**
TT01	**Tatalina**	**2.29**	**263**			**Pn**	**12 51 30.0**	**-1.2**
IL31		**2.37**	**49**			**Pn**	**12 51 31.3**	**-0.9**
ILAR	**Eielson Array**	**2.37**	**49**	Pn		**Pn**	**12 51 31.6**	**-0.7**
	comp=N,6.0nm,0.3s,baz=231,slow=14,SNR=72							
ILAR				Pg		**Pb**	**12 51 34.9**	**-1.0**
	comp=N,30nm,0.3s,baz=236,slow=16,SNR=110							
ILAR				Lg		Lg	12 52 05.4	
	comp=N,82nm,0.3s,baz=231,slow=29,SNR=17							
PS07	**TAPS Pump Stn7**	**2.37**	**29**			**Pn**	**12 51 31.5**	**-0.9**
POKR	**Poker Plat Res**	**2.43**	**39**			**Pn**	**12 51 32.8**	**-0.3**
CAPN	**Captain Cook N**	**2.52**	**181**			**Pb**	**12 51 36.7**	**-1.9**
M24K	**Tolsona, Glenn**	**2.54**	**115**			**Pn**	**12 51 35.3**	**+0.6**
M24K				IAML			12 52 17.9	
	comp=E,1µm,1.0s							
M24K				IAML			12 52 25.7	
	comp=N,1µm,1.3s							
PAX	**Paxson**	**2.55**	**94**			**Pn**	**12 51 35.7**	**+0.8**
PS06	**TAPS Pump Stn6**	**2.65**	**12**			**Pn**	**12 51 36.0**	**-0.1**
PWL	**Port Wells**	**2.74**	**151**			**Pn**	**12 51 38.4**	**+1.0**
PWL				IAML			12 52 20.9	
	comp=N,979nm,0.6s							
PWL				IAML			12 52 24.7	
	comp=E,931nm,0.8s							
SLKM	**Skilak Lake**	**2.81**	**172**			**Pn**	**12 51 39.0**	**+0.6**
O22K	**Cooper Landing**	**2.88**	**167**			**Pn**	**12 51 41.5**	**+2.2**
IM03		**2.95**	**338**	

TABL	Table Mountain	5.49	117			Pn	12 52 15.9 +0.6
KDAK	Kodiak Island	5.57	188	Pn		Pn	12 52 16.7 +0.5
	comp=E,0.8nm,0.3s,baz=64,slow=6.4,SNR=35						
KDAK				Sn		Sn	12 53 19.2 -1.1
	comp=E,1.2nm,0.3s,baz=5.2,slow=15,SNR=1.8						
KDAK	Kodiak Island	5.57	188			Pn	12 52 15.4 -0.8
SAMH	Samovar Hills	5.81	118			Pn	12 52 21.1 +1.4
PCA	Pinnacle	6.04	117			Pn	12 52 19.8 -3.0
BCPM	Bancas Point	6.38	116			Pn	12 52 28.7 +1.3
YUK6	Outpost Mounta	6.40	106			Pn	12 52 29.1 +1.2
ANM	Nome	6.45	268			Pn	12 52 27.0 -1.3
HYT	Haines Junctio	6.83	105			Pn	12 52 31.4 -2.1
RDOG	Red Dog Mine	6.84	320			Pn	12 52 35.2 +1.5
EPYK	Eagle Plains	6.85	57			Pn	12 52 33.6 -0.2
TNA	Tin City	7.65	295			Pn	12 52 43.9 -0.8
WHY	Whitehorse	8.05	102			Pn	12 52 51.3 +0.9
A21K	Barrow	8.36	348	Pn		Pn	12 52 53.0 -1.4
INK	Inuvik	8.77	47	Pn		Pn	12 52 59.8 -0.2
	comp=E,2.0nm,0.3s,baz=237,slow=14,SNR=64						
INK				Sn		Sn	12 54 36.5 -2.4
	comp=E,0.1nm,0.3s,baz=184,slow=19,SNR=1.3						
INK				Lg		Lg	12 55 29.0
	comp=E,0.3nm,0.3s,baz=228,slow=5.3,SNR=5.0						
INK	Inuvik	8.77	47			Pn	12 52 59.1 -0.9
BESE	Bessie Mountai	9.17	114	Pn		Pn	12 53 05.3 -0.4
DLBC	Dease Lake	11.31	106	Pn		Pn	12 53 35.2 +0.2
	comp=E,0.2nm,0.3s,baz=310,slow=18,SNR=1.4						
DLBC				Lg		Lg	12 56 49.2
	comp=E,0.1nm,0.3s,baz=53,slow=20,SNR=1.5						
DLBC	Dease Lake	11.31	106			Pn	12 53 34.4 -0.6
WRAK	Wrangell Islan	11.61	118	Pn		Pn	12 53 39.9 +0.9
C36M	Paulatuk	12.34	49			Pn	12 53 47.1 -1.7
YKA	Yellowknife Ar	16.49	76	Pn		Pn	12 54 44.6 +0.1
	comp=E,0.1nm,0.3s,baz=293,slow=9.9,SNR=11						
RES	Resolute Bay	22.05	36	P		P	12 55 49.9 +2.1
	comp=E,1.5nm,0.7s,baz=254,slow=11,SNR=7.4						
RES	Resolute Bay	22.05	36	P		P	12 55 46.5 -1.4
PETK	Petropavlovsk-	28.09	273	ScP		ScP	13 03 42.0 +2.1
	comp=E,1.1nm,0.9s,baz=84,slow=5.1,SNR=12						
PDAR	Pinedale Array	31.48	111	P		P	12 57 16.0 +0.6
	comp=E,0.2nm,0.7s,baz=308,slow=6.4,SNR=2.0						
PDAR				PcP		PcP	13 00 08.2 0.0
	comp=E,0.2nm,0.6s,baz=338,slow=3.9,SNR=2.4						
NVAR	Mina Array Bea	31.71	126	P		P	12 57 18.8 +1.4
	comp=E,0.2nm,0.6s,baz=319,slow=9.5,SNR=2.7						
NVAR				PcP		PcP	13 00 08.3 -0.5
	comp=E,0.1nm,0.4s,baz=6.4,slow=26,SNR=2.8						
TXAR	Lajitas Array	45.41	116	P		P	12 59 12.9 +0.7
	comp=E,0.3nm,0.7s,baz=330,slow=4.3,SNR=4.6						
SONM	Songino Array	53.63	305	P		P	13 00 20.1 +5.3
	comp=E,0.6nm,0.6s,baz=25,slow=7.1,SNR=5.2						
ZALV	Zalesovo Beam	55.28	323	P		P	13 00 31.3 +4.8
	comp=E,1.1nm,0.4s,baz=118,slow=29,SNR=3.3						
FINES	FINESS Array B	55.58	2	P		P	13 00 32.8 +4.3
	comp=E,3.4nm,0.9s,baz=6.0,slow=14,SNR=2.1						
HHC	Hu-ho-hao-te	57.51	297	*e*P		P	13 00 45.0 +2.2
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,5.5s						
BVAR	Borovoye Array	59.59	332	P		P	13 01 01.5 +4.6
	comp=Z,0.4nm,0.6s,baz=28,slow=3.9,SNR=2.7						
MKAR	Makanchi Array	62.44	322	P		P	13 01 21.2 +4.9
	comp=Z,0.4nm,0.7s,baz=44,slow=7.6,SNR=2.6						

*NEIC **30** 13:06:47.1±0.9, 15°.49S±0°.05×172°.8W±0°.2, h10km±1km, mb4.2/9, Error ellipse: s-maj=26.8km s-min=7.6km az=96.0*
*NOU **30** 13:06:59.4, 14°.89S×172°.24W, h0km, MLv3.7, Samoa Islands*
*IDC **30** 13:06:59.7±10.0, 16°.20S×172°.63W, h108km±66km, mb3.5/5, mb1 3.8/6, mb1mx3.4/49, mbtmp3.9/6, MS3.4/1, Ms1 3.4/1, ms1mx2.9/29, Error ellipse: s-maj=167.2km s-min=28.1km az=137.0*

ISC 30 13:06:50.7±0.8, 15°.59S±0°.08×172°.7W±0°.1, h35km, n22, σ1$47/19, mb4.1/9, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	1.91	29	Pn	Pn	13 07 18.8	-2.2
AFI	Afiamalu	1.91	29	P	Pn	13 07 19.9	-1.1
NIUE	Niue	4.38	143	Pn	Pn	13 07 54.4	-0.4
MSVF	Nonsavu	9.08	255	P	Pn	13 09 07.9	+8.4
	0.3nm,0.3s,baz=107,slow=12,SNR=7.6						
PPT	Papeete	22.28	98	LR	LR	13 18 59.1	
	comp=Z,85nm,18.4s,baz=304,slow=33						
QRZ	Quartz Range	28.21	204	P	P	13 12 37.5	-2.7
STKA	Stephens Creek	44.49	240	P	P	13 14 59.0	0.0
	2.8nm,0.9s,baz=70,slow=8.5,SNR=7.4						
STKA	Stephens Creek	44.49	240	IAmb	IAmb	13 15 01.8	
	comp=Z,0.9nm,0.9s						
BBOO	Buckleboo	49.27	240	P	P	13 15 36.8	+0.5
WR0	Warramunga Arr	50.23	257	P	P	13 15 43.9	+0.1
WR0				IAmb	IAmb	13 15 45.4	
	comp=Z,7.8nm,1.4s						
WB0	Warramunga Arr	50.38	257	P	P	13 15 45.5	+0.5
WB0				IAmb	IAmb	13 15 54.5	
	comp=Z,4.2nm,1.1s						
WB2	Warramunga Arr	50.41	257	P	P	13 15 44.8	-0.3
WB2				IAmb	IAmb	13 15 50.3	
	comp=Z,3.1nm,1.1s						
WRA	Warramunga Arr	50.42	257	P	P	13 15 45.6	+0.4
	comp=Z,0.5nm,0.8s,baz=96,slow=7.8,SNR=8.9						
AS31	Alice Springs	50.66	252	P	P	13 15 46.9	-0.1
AS31				IAmb	IAmb	13 15 51.5	
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	50.66	252	P	P	13 15 47.5	+0.5
	comp=Z,3.3nm,0.6s,baz=86,slow=8.1,SNR=97						
ASAR	Alice Springs	50.66	252	P	P	13 15 46.9	-0.1
FORT	Forrest	55.90	243	P	P	13 16 25.6	+0.2
ILAR	Eielson Array	82.51	11	P	P	13 19 12.6	+3.2
	comp=Z,0.4nm,0.8s,baz=216,slow=4.5,SNR=3.3						
ILAR	Eielson Array	82.51	11	P	P	13 19 10.0	+0.6
BMAR	Burnt Mountain	85.32	11	P	P	13 19 22.1	-1.6
YKA	Yellowknife Ar	90.02	23	P	P	13 19 48.7	+2.3
	comp=Z,0.3nm,0.7s,baz=234,slow=4.1,SNR=7.9						
BRTR	Keskin Array B	146.71	321	PKPbc	PKPab	13 26 31.5	+0.9
	comp=Z,1.6nm,0.6s,baz=98,slow=2.6,SNR=5.9						

*SKHL **30** 13:11:33.2±0.1, 42°.90N×145°.60E, h38km±6km, mb3.8/2*
*JMA **30** 13:11:33.5±0.1, 42°.94N×145°.48E, h45km±1km, M2.8*

ISC 30 13:11:33.6±2.2, 42°.9N±0°.1×145°.50E±0°.06, h41km±13km, n13, σ0$44/22, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKHN	Kushirohamanak	0.29	300	P	Pn	13 11 41.9	+0.1
JKHN				*e*S	Sn	13 11 48.0	+0.4
NEM2	Nemuro 2	0.46	23	P	Pn	13 11 43.8	-0.1
NEM2				*e*S	Sn	13 11 51.2	+0.1
NMR	Nemuro--Hokkai	0.46	21	*i* P	Pn	13 11 43.8	-0.1
NMR				*i* S	Sn	13 11 50.7	-0.5
JAK	Akkeshi	0.59	276	P	Pn	13 11 45.3	-0.3
JNK	Nakash	0.86	319	P	Pn	13 11 49.0	-0.3
JNK				*e*S	Sn	13 12 00.0	-0.7
JNSB	Nemuroshibetsu	0.91	337	P	Pn	13 11 50.1	+0.1
JNSB				*e*S	Sn	13 12 02.3	+0.4
JRA	Rausu	1.04	345	P	Pn	13 11 51.9	+0.2
JRA				*e*S	Sn	13 12 05.4	+0.5
GRPR	Tuman	1.07	11	*e*P	Pn	13 11 51.5	-0.7
GRPR				*e*S	Sn	13 12 05.3	-0.6
YUK	Yuzh-Kuril'sk	1.13	13	*e*P	Pn	13 11 52.5	-0.4
YUK				AMB	AMB	13 11 53.6	
	40nm,0.3s						
YUK				*e*S	Sn	13 12 06.9	-0.3
YUK				A	A	13 12 07.3	
	440nm,0.5s						
YUK				A	A	13 12 07.3	
	960nm,0.5s						
JOB	Onbets	1.22	269	P	Pn	13 11 54.0	-0.2
JAR	Ashorobuto	1.32	286	P	Pn	13 11 55.6	+0.1
JTKR	Abashiri--Toko	1.55	312	P	Pn	13 11 59.3	+0.6
KUR	Kuril'sk	2.86	36	*e*P	Pn	13 12 17.4	+0.7
KUR				AMB	AMB	13 12 21.0	
	20nm,0.6s						
KUR				*e*S	Sn	13 12 50.0	+0.2
KUR				A	A	13 12 58.0	
	50nm,0.3s						
KUR				A	A	13 12 58.0	
	50nm,0.3s						

*IDC **30** 13:11:42.5±1.4, 7°.08S×154°.73E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/44, mbtmp3.9/8, ML1.8/1, Error ellipse: s-maj=46.1km s-min=25.7km az=128.0*

ISC 30 13:11:47.3±1.2, 7°.2S±0°.2×154°.9E±0°.2, h35km, n9, σ1$50/10, mb3.9/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.99	253	Pn	Pn	13 13 40.0	-1.0
	0.8nm,0.3s,baz=127,slow=20,SNR=1.5						
PMG				Sn	Sn	13 15 12.9	+2.8
	0.8nm,0.3s,baz=57,slow=21,SNR=2.5						
WRA	Warramunga Arr	23.66	235	P	P	13 16 54.3	-1.4
	1.2nm,0.7s,baz=57,slow=9.3,SNR=8.6						
ASAR	Alice Springs	26.00	229	P	P	13 17 16.9	-0.3
	0.7nm,0.7s,baz=60,slow=9.2,SNR=2.0						
STKA	Stephens Creek	27.56	205	P	P	13 17 31.5	+0.5
	0.9nm,0.5s,baz=18,slow=14,SNR=1.9						
FITZ	Fitzroy Crossi	30.51	246	P	P	13 17 56.2	-1.2
	2.1nm,0.9s,baz=72,slow=11,SNR=3.0						
CMAR	Chiang Mai Arr	60.77	296	P	P	13 21 55.4	-0.8
	0.3nm,0.3s,baz=134,slow=6.4,SNR=2.2						
MKAR	Makanchi Array	83.46	319	P	P	13 24 11.5	+0.1
	1.4nm,0.9s,baz=102,slow=5.6,SNR=9.8						
NVAR	Mina Array Bea	91.89	52	P	P	13 24 54.2	+1.7
	0.8nm,0.9s,baz=261,slow=5.4,SNR=4.4						
TORD	Torodi Ar. Bea	152.98	285	PKPbc	PKPbc	13 31 41.6	-0.4
	0.7nm,0.8s,baz=80,slow=2.3,SNR=2.8						

*IDC **30** 13:16:29.2±2.3, 5°.15S×152°.74E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/37, mbtmp3.7/6, ML1.6/1, Error ellipse: s-maj=113.0km s-min=21.9km az=125.0*

ISC 30 13:16:36.5±2.1, 5°.2S±0°.5×152°.6E±0°.5, h55km, n7, σ0$80/8, mb3.4/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.84	232	Pn	Pn	13 18 14.1	-0.2
	0.7nm,0.3s,baz=336,slow=18,SNR=2.0						
PMG				Sn	Sn	13 19 30.6	-0.3
	1.0nm,0.3s,baz=45,slow=17,SNR=1.7						
WRA	Warramunga Arr	23.05	229	P	P	13 21 38.3	+1.0
	1.1nm,1.0s,baz=54,slow=10,SNR=4.9						
ASAR	Alice Springs	25.74	223	P	P	13 22 02.7	+0.6
	0.4nm,0.8s,baz=60,slow=9.0,SNR=5.8						
FITZ	Fitzroy Crossi	29.31	242	P	P	13 22 33.6	-0.4
	1.4nm,1.1s,baz=76,slow=8.3,SNR=1.5						
PETK	Petropavlovsk-	58.22	4	P	P	13 26 25.6	+0.6
	1.9nm,1.0s,baz=151,slow=6.9,SNR=4.8						
ILAR	Eielson Array	82.58	22	P	P	13 28 52.3	-1.0
	0.2nm,0.5s,baz=252,slow=5.4,SNR=1.9						
TORD	Torodi Ar. Bea	150.23	287	PKPbc	PKiKP	13 36 23.8	+0.5
	1.0nm,1.0s,baz=81,slow=3.6,SNR=3.0						

*IDC **30** 13:17:15.7±1.1, 5°.02S×152°.83E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.8/37, mbtmp4.0/10, ML1.5/1, Error ellipse: s-maj=31.0km s-min=20.9km az=104.0*

ISC 30 13:17:22.0±0.9, 5°.1S±0°.1×152°.8E±0°.1, h43km, n11, σ0$63/12, mb4.1/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.04	232	Pn	Pn	13 19 02.9	+0.2
	0.5nm,0.3s,baz=202,slow=11,SNR=2.8						
PMG				Sn	Sn	13 20 21.3	-0.2
	0.7nm,0.3s,baz=196,slow=23,SNR=1.3						
DZM	Mont Dzumac	21.44	143	P	P	13 22 07.2	+0.4
	5.7nm,0.7s,baz=104,slow=17,SNR=2.2						
WRA	Warramunga Arr	23.25	229	P	P	13 22 25.4	-0.5
	6.0nm,0.8s,baz=53,slow=9.8,SNR=17						
ASAR	Alice Springs	25.93	223	P	P	13 22 51.0	+0.5
	1.1nm,0.5s,baz=55,slow=9.0,SNR=10						
FITZ	Fitzroy Crossi	29.52	242	P	P	13 23 22.1	-0.4
	1.5nm,0.5s,baz=71,slow=8.2,SNR=6.0						
CMAR	Chiang Mai Arr	57.99	295	P	P	13 27 12.1	+1.2
	0.6nm,0.4s,baz=111,slow=5.0,SNR=2.0						
PETK	Petropavlovsk-	58.13	3	P	P	13 27 11.0	-0.1
	2.4nm,1.0s,baz=162,slow=5.3,SNR=4.8						
VNDA	Vanda	72.54	178	P	P	13 28 44.0	-0.1
	0.5nm,0.7s,baz=293,slow=14,SNR=2.6						
MKAR	Makanchi Array	80.54	319	P	P	13 29 29.6	-0.4
	0.3nm,0.6s,baz=105,slow=4.3,SNR=2.4						
ZALV	Zalesovo Beam	81.39	326	P	P	13 29 34.0	-0.2
	1.2nm,0.5s,baz=116,slow=6.8,SNR=5.2						
TORD	Torodi Ar. Bea	150.39	288	PKPbc	PKPbc	13 37 08.9	-1.0
	1.9nm,0.7s,baz=50,slow=2.3,SNR=8.0						

IDC 30 13:24:23.1±4.1, 5°.29S×152°.43E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/30, mbtmp3.4/4, Error ellipse: s-maj=135.0km s-min=37.2km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.85	229	P	P	13 29 29.0	+0.8
	0.5nm,0.6s,baz=55,slow=9.8,SNR=3.0						
ASAR	Alice Springs	25.55	223	P	P	13 29 53.5	-0.4
	0.4nm,0.7s,baz=58,slow=9.0,SNR=5.8						
FITZ	Fitzroy Crossi	29.11	242	P	P	13 30 25.1	-0.8
	1.8nm,1.1s,baz=62,slow=9.7,SNR=1.5						
MKAR	Makanchi Array	80.45	319	P	P	13 36 36.4	-0.5
	0.1nm,0.6s,baz=93,slow=6.1,SNR=2.0						
TORD	Torodi Ar. Bea	150.11	287	PKPbc	PKiKP	13 44 17.7	-0.1
	0.5nm,0.6s,baz=84,slow=3.3,SNR=2.5						

*NEIC **30** 13:25:36.0±2.0, 15°.07S±0°.06×173°.0W±0°.2, h10km±2km, mb4.0/6, Error ellipse: s-maj=27.5km s-min=5.1km az=108.0*
*IDC **30** 13:25:37.7±5.5, 16°.03S×173°.15W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/33, mbtmp3.8/3, MS3.6/10, Ms1 3.6/10, ms1mx3.4/34, Error ellipse: s-maj=224.2km s-min=58.5km az=136.0*
*NOU **30** 13:25:55.8, 13°.80S×172°.00W, h40km, MLv3.1, Samoa Islands*

ISC 30 13:25:38.6±1.1, 15°.1S±0°.1×173°.0W±0°.1, h29km, n23, σ0$96/12, mb3.9/6, MS3.6/8, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	1.65	45	Pn	Pn	13 26 05.3	-0.4
NIUE	Niue	4.92	144	Pn	Pn	13 26 50.6	0.0
MSVF	Nonsavu	9.00	252	LR	LR	13 30 45.2	
	comp=Z,544nm,20.2s,baz=21,slow=36						
RAR	Rarotonga	13.95	118	LR	LR	13 34 05.9	
	comp=Z,152nm,18.0s,baz=288,slow=37						
DZM	Mont Dzumac	20.69	247	LR	LR	13 37 43.8	
	comp=Z,118nm,18.1s,baz=44,slow=36						
PPT	Papeete	22.59	99	LR	LR	13 37 01.1	
	comp=Z,67nm,20.0s,baz=274,slow=30						
HNR	Honiara	27.03	279	LR	LR	13 40 31.7	
	comp=Z,136nm,18.5s,baz=128,slow=33						
STKA	Stephens Creek	44.54	240	P	P	13 33 46.8	-1.2
	1.1nm,0.7s,baz=100,slow=12,SNR=3.1						
STKA	Stephens Creek	44.54	240	IAmb	IAmb	13 34 01.6	
	comp=Z,0.8nm,1.2s						
WR0	Warramunga Arr	50.12	256	P	P	13 34 32.6	+1.0
WR0				IAmb	IAmb	13 34 37.9	
	comp=Z,9.4nm,1.4s						
WB0	Warramunga Arr	50.27	257	P	P	13 34 33.8	+1.1
WB2	Warramunga Arr	50.30	256	P	P	13 34 33.7	+0.8
WB2				IAmb	IAmb	13 34 58.1	
	comp=Z,5.0nm,1.3s						
WRA	Warramunga Arr	50.31	256	P	P	13 34 33.4	+0.3
	comp=Z,0.2nm,0.4s,baz=95,slow=7.0,SNR=9.6						
WRA	Warramunga Arr	50.31	256	P	P	13 34 33.1	+0.1
AS31	Alice Springs	50.59	252	P	P	13 34 34.4	-0.8
AS31				IAmb	IAmb	13 34 50.7	
	comp=Z,0.7nm,0.9s						
ASAR	Alice Springs	50.59	252	P	P	13 34 35.4	+0.2
	comp=Z,1.5nm,0.6s,baz=88,slow=7.8,SNR=34						
ASAR	Alice Springs	50.59	252	P	P	13 34 34.6	-0.5
MJAR	Matsushiro Arr	68.97	320	LR	LR	14 03 22.6	
	comp=Z,28nm,20.1s,baz=160,slow=33						
USRK	Ussuriysk Ar.	77.38	323	LR	LR	14 08 58.5	
	comp=Z,29nm,18.6s,baz=176,slow=33						
TXAR	Lajitas Array	80.10	56	LR	LR	14 08 56.7	
	comp=Z,46nm,18.2s,baz=0.0,slow=32						
PDAR	Pinedale Array	81.77	42	LR	LR	14 08 49.7	
	comp=Z,42nm,18.6s,baz=335,slow=31						
ROSC	El Rosal	99.59	88	LR	LR	14 16 50.9	
	comp=Z,44nm,18.7s,baz=286,slow=31						

BRTR	Keskin Array B	146.17	322	PKPbc	PKiKP	13 45 21.5	+1.7
	comp=Z,1.7nm,1.0s,baz=86,slow=2.0,SNR=4.7						

*NEIC **30** 13:35:51.8±1.2, 37°.72S±0°.05×74°.2W±0°.1, h13km±7km, mb4.0/6, Error ellipse: s-maj=16.7km s-min=6.5km az=88.0*
*IDC **30** 13:35:51.1±1.3, 37°.80S×74°.05W, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.7/22, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=42.8km s-min=19.0km az=64.0*

ISC 30 13:35:51.8±0.8, 37°.74S±0°.07×74°.12W±0°.08, h10km, n32, σ1$06/32, mb3.8/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI03	Tigo	1.24	45	Pn	Pn	13 36 15.0	-0.3
BI02	San Fabin de	2.51	66		Pn	13 36 32.8	0.0
BO02	Sierra Bellavi	3.98	44		Pn	13 36 53.0	0.0
PLCA	Paso Flores	4.08	138	Pn	Pn	13 36 54.9	+0.6
	1.3nm,0.3s,baz=316,slow=16,SNR=2.9						
PLCA				Sn	Sn	13 37 42.3	+0.1
	2.3nm,0.3s,baz=302,slow=17,SNR=3.4						
PLCA				Lg	Lg	13 37 57.0	
	0.9nm,0.3s,baz=12,slow=19,SNR=3.1						
PLCA	Paso Flores	4.08	138		Pn	13 36 54.8	+0.5
LL01	San Ignacio de	4.82	165		Pn	13 37 03.9	-0.5
MT02	Curacav	5.08	29	Pn	Pn	13 37 06.6	-1.5
MT05	Renca	5.13	33	Pn	Pn	13 37 08.6	-0.2
PEL	Peldehue	5.37	32		Pn	13 37 11.5	-0.5
GO07	Milladeo Hill,	5.38	176		Pn	13 37 10.4	-1.8
H03S1	Juan Fernandez	5.50	314	Pn	Pn	13 37 12.8	-0.7
	baz=102,slow=10,SNR=4.9						
H03S1				T	T	13 42 51.8	
	baz=135,slow=73,SNR=770						
H03S3	Juan Fernandez	5.51	314	Pn	Pn	13 37 12.6	-1.1
	baz=102,slow=10,SNR=7.8						
H03S3				T	T	13 42 52.8	
	baz=135,slow=73,SNR=658						
H03S2	Juan Fernandez	5.51	313	Pn	Pn	13 37 12.6	-1.1
	baz=102,slow=10,SNR=8.3						
H03S2				T	T	13 42 51.6	
	baz=135,slow=73,SNR=597						
VA03	San Esteban	5.75	32	Pn	Pn	13 37 17.3	-0.1
H03N3	Juan Fernandez	5.79	316	Pn	Pn	13 37 17.1	-0.5
	baz=201,slow=75,SNR=10						
H03N1	Juan Fernandez	5.80	316	Pn	Pn	13 37 16.9	-0.8
	baz=201,slow=75,SNR=32						
H03N2	Juan Fernandez	5.81	316	Pn	Pn	13 37 17.4	-0.4
	baz=201,slow=75,SNR=18						
CO03	El Pedregal	7.44	23	Pn	Pn	13 37 39.9	-0.7
GO04	Tololo Observa	8.03	21	Pn	Pn	13 37 47.9	-0.8
AC04	Llanos de Chal	9.84	16	Pn	Pn	13 38 13.3	-0.1
GO03	Copiap	10.63	19	Pn	Pn	13 38 23.4	-0.8
AC02	Maricunga	11.65	23	Pn	Pn	13 38 37.5	-1.2
EFI	East Falkland	17.95	146	Pn	Pn	13 39 58.9	-2.5
PB08	IPOC Station P	18.05	15		P	13 40 03.2	-0.5
PB08				IAmb	IAmb	13 40 18.8	
	comp=Z,7.0nm,0.9s						
PB16	IPOC Station P	19.75	13	P	Pn	13 40 23.4	-0.5
PB16				IAmb	IAmb	13 40 38.2	
	comp=Z,6.4nm,1.0s						
LPAZ	La Paz	22.01	16	P	P	13 40 50.0	+3.0
	comp=Z,0.5nm,0.5s,baz=203,slow=13,SNR=1.7						
LPAZ	La Paz	22.01	16	P	P	13 40 47.6	+0.6
QSPA	South Pole Qui	52.51	180	P	P	13 45 05.6	+0.7
	comp=Z,1.7nm,0.8s,baz=121,slow=5.9,SNR=10						
QSPA	South Pole Qui	52.51	180	IAmb	IAmb	13 45 15.9	
	comp=Z,2.9nm,1.0s						
VNDA	Vanda	60.11	192	P	P	13 46 00.1	+1.3
VNDA				IAmb	IAmb	13 46 09.7	
	comp=Z,1.4nm,0.7s						
TXAR	Lajitas Array	72.23	333	P	P	13 47 17.9	+0.8
	comp=Z,0.2nm,0.5s,baz=154,slow=8.7,SNR=2.6						
TORD	Torodi Ar. Bea	87.05	71	P	P	13 48 37.5	-0.4
	comp=Z,0.7nm,1.1s,baz=228,slow=5.4,SNR=2.1						

*IDC **30** 13:38:46.5±2.3, 5°.60S×153°.56E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/38, mbtmp3.7/8, ML2.1/1, MS3.6/2, Ms1 3.6/2, ms1mx2.7/37, Error ellipse: s-maj=72.5km s-min=23.9km az=109.0*

ISC 30 13:38:53.6±1.4, 5°.6S±0°.2×153°.3E±0°.2, h43km, n11, σ0$99/10, mb3.6/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.16	238	Pn	Pn	13 40 37.0	+1.3
	1.8nm,0.3s,baz=58,slow=10,SNR=5.8						
PMG				Sn	Sn	13 41 54.8	-1.1
	0.9nm,0.3s,baz=171,slow=23,SNR=1.5						
WRA	Warramunga Arr	23.29	231	P	P	13 43 58.3	+0.5
	0.9nm,0.7s,baz=53,slow=9.8,SNR=7.5						
ASAR	Alice Springs	25.89	224	P	P	13 44 22.8	+1.0
	0.3nm,0.5s,baz=56,slow=9.4,SNR=9.2						
STKA	Stephens Creek	28.32	201	P	P	13 44 42.7	-0.7
	1.1nm,0.7s,baz=34,slow=11,SNR=3.3						
FITZ	Fitzroy Crossi	29.72	243	P	P	13 44 55.3	-0.7
	1.1nm,0.8s,baz=68,slow=8.8,SNR=2.7

1.7nm,0.6s,baz=159,slow=6.0,SNR=11
MKAR Makanchi Array 81.15 319 P **P** **14 08 30.2 -1.5**
0.2nm,0.8s,baz=97,slow=6.5,SNR=1.5
ZALV Zalesovo Beam 82.01 326 P **P** **14 08 35.9 -0.1**
0.3nm,0.4s,baz=113,slow=3.3,SNR=1.5
ILAR Eielson Array 82.77 22 P **P** **14 08 39.9 +0.1**
0.4nm,0.7s,baz=239,slow=5.1,SNR=2.3
YKA Yellowknife Ar 95.98 28 P **P** **14 09 42.8 0.0**
0.2nm,0.6s,baz=279,slow=4.1,SNR=2.5
TORD Torodi Ar. Bea 150.87 287 PKPbc **PKPbc** **14 16 09.7 0.0**
0.6nm,0.6s,baz=74,slow=2.4,SNR=3.6

*NEIC **30** 14:03:09.2±1.6, 19.02°S±0.07°×177.5°W±0.1°, h568km±9km, mb4.5/28, Error ellipse: s-maj=19.8km s-min=7.4km az=113.0*
*IDC **30** 14:03:12.3±2.0, 18.92°S×177.69°W, h593km±19km, mb3.3/10, mb1 3.5/11, mb1mx3.2/36, mbtmp4.3/11, Error ellipse: s-maj=46.1km s-min=16.1km az=148.0*
ISC 30 14:03:09.6±0.6, **19.1°S**±0.1°×**177.51°W**±0.1°, **h570km**, **n42, σ1°03**/43, **mb4.4**/23, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.41**	**287**	P	**P**	**14 04 39.1**	**+2.9**
	3.2nm,0.3s,baz=247,slow=22,SNR=22						
MSVF	**Nonsavu**	**4.41**	**287**	P	**P**	**14 04 38.8**	**+2.6**
AFI	**Afiamalu**	**7.51**	**48**	P	**P**	**14 05 02.6**	**-0.8**
SANVU	**Saraoutou**	**15.03**	**281**	P	**P**	**14 06 18.5**	**-0.6**
OUZ	**Omahuta**	**17.93**	**204**	P	**P**	**14 06 47.3**	**+1.5**
MQZ	**McQueen's Vall**	**25.94**	**196**	P	**P**	**14 07 57.4**	**+0.1**
MLZ	**Mavora Lakes**	**28.83**	**201**	P	**P**	**14 08 22.6**	**-0.1**
WHZ	**Wether Hill Ro**	**29.35**	**201**	P	**P**	**14 08 27.3**	**+0.1**
WHZ				IAmb	IAmb	14 08 28.6	
	comp=Z,22nm,1.0s						
ARMA	**Armidale**	**30.13**	**242**	P	**P**	**14 08 34.5**	**+0.2**
ARMA				IAmb	IAmb	14 08 42.6	
	comp=Z,27nm,1.5s						
CAN	**Canberra**	**33.71**	**234**	P	**P**	**14 09 04.9**	**+0.3**
CAN				IAmb	IAmb	14 09 16.5	
	comp=Z,11nm,1.3s						
CTA	**Charters Tower**	**34.12**	**262**	P	**P**	**14 09 07.9**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=96,slow=17,SNR=2.6						
CTAO	**Charters Tower**	**34.12**	**262**	P	**P**	**14 09 07.0**	**-1.1**
CTAO				IAmb	IAmb	14 09 15.5	
	comp=Z,20nm,1.3s						
TOO	**Toolangi**	**37.13**	**232**	P	**P**	**14 09 31.8**	**-1.0**
TOO				IAmb	IAmb	14 09 33.6	
	comp=Z,7.7nm,0.8s						
COEN	**Coen**	**37.98**	**272**	P	**P**	**14 09 40.4**	**+0.5**
COEN				IAmb	IAmb	14 10 01.2	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**38.85**	**243**	P	**P**	**14 09 47.2**	**+0.4**
	comp=Z,7.5nm,0.8s,baz=91,slow=9.2,SNR=19						
STKA	**Stephens Creek**	**38.85**	**243**	P	**P**	**14 09 47.2**	**+0.4**
BBOO	**Buckleboo**	**43.62**	**242**	P	**P**	**14 10 24.0**	**-0.4**
BBOO				IAmb	IAmb	14 10 25.0	
	comp=Z,17nm,0.8s						
HMH	**Humu'ula Sheep**	**44.07**	**31**	P	**P**	**14 10 28.0**	**-0.4**
WR0	**Warramunga Arr**	**45.08**	**261**	P	**P**	**14 10 35.2**	**-0.7**
WB0	**Warramunga Arr**	**45.25**	**261**	P	**P**	**14 10 36.3**	**-0.9**
WB0				IAmb	IAmb	14 10 37.5	
	comp=Z,19nm,1.4s						
WB2	**Warramunga Arr**	**45.26**	**261**	P	**P**	**14 10 36.5**	**-0.8**
WRAB	**Tennant Creek**	**45.27**	**261**	P	**P**	**14 10 36.3**	**-1.0**
WRAB				IAmb	IAmb	14 10 37.5	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**45.27**	**261**	P	**P**	**14 10 36.7**	**-0.7**
	comp=Z,5.0nm,0.9s,baz=96,slow=8.0,SNR=33						
WRA	**Warramunga Arr**	**45.27**	**261**	P	**P**	**14 10 36.5**	**-0.9**
AS31	**Alice Springs**	**45.31**	**255**	P	**P**	**14 10 37.2**	**-0.5**
ASAR	**Alice Springs**	**45.31**	**255**	P	**P**	**14 10 37.4**	**-0.3**
	comp=Z,10.0nm,0.8s,baz=88,slow=8.3,SNR=122						
ASAR				S	**S**	**14 16 35.6**	**-1.9**
	comp=Z,1.2nm,0.9s,baz=89,slow=14,SNR=8.6						
FORT	**Forrest**	**50.30**	**245**	P	**P**	**14 11 13.4**	**-1.3**
FORT				IAmb	IAmb	14 11 14.5	
	comp=Z,17nm,0.8s						
SIJI	**Sorong**	**53.33**	**284**	P	**P**	**14 11 36.9**	**+0.1**
	comp=Z,19nm,0.9s,baz=100,slow=12,SNR=5.7						
FITZ	**Fitzroy Crossi**	**53.69**	**261**	P	**P**	**14 11 39.2**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=133,slow=6.8,SNR=10.0						
FITZ	**Fitzroy Crossi**	**53.69**	**261**	P	**P**	**14 11 38.3**	**-0.8**
SOEI	**Soe**	**56.93**	**271**	P	**P**	**14 12 01.9**	**0.0**
SOEI				IAmb	IAmb	14 12 04.6	
	comp=Z,30nm,1.0s						
PSA00	**Pilbara Seismi**	**58.45**	**256**	P	**P**	**14 12 10.7**	**-1.3**
PSA00				IAmb	IAmb	14 12 12.7	
	comp=Z,34nm,1.4s						
NWAO	**Narrogin (SRO)**	**59.44**	**243**	P	**P**	**14 12 17.9**	**-0.5**
NWAO				IAmb	IAmb	14 12 27.7	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**71.01**	**180**	P	**P**	**14 13 30.6**	**+0.3**
SMY	**Shemya**	**71.84**	**355**	P	**P**	**14 13 35.1**	**+0.1**
PETK	**Petropavlovsk-**	**74.99**	**345**	P	**P**	**14 13 51.9**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=127,slow=9.3,SNR=2.4						
JCC	**Jacoby Creek,**	**77.53**	**39**	P	**P**	**14 14 06.2**	**-1.0**
OHAK	**Old Harbor**	**78.64**	**13**	P	**P**	**14 14 13.1**	**+0.3**
OHAK				IAmb	IAmb	14 14 28.7	
	comp=Z,35nm,1.4s						
TXAR	**Lajitas Array**	**85.89**	**57**	P	**P**	**14 14 51.2**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=214,slow=6.0,SNR=7.5						
ILAR	**Eielson Arr.**	**86.80**	**13**	P	**P**	**14 14 53.1**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=236,slow=5.3,SNR=2.2						
CMAR	**Chiang Mai Arr**	**90.07**	**289**	P	**P**	**14 15 10.8**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=102,slow=2.3,SNR=5.6						
CLL	**Collm**	**146.75**	**348**	*e*PKPbc	**PKPdf**	**14 21 47.0**	**+1.7**

*SEA **30** 14:10:01.4±2.0, 41.84°N±0.04°×119.61°W±0.02°, h0km±6km, Error ellipse: s-maj=5.8km s-min=1.6km az=163.0*
*REN **30** 14:10:01.2±1.1, 41.90°N±0.03°×119.63°W±0.03°, h10km±3km, ML2.5/5, ML2.3/20(NEIC), ML2.4/5(SEA), Error ellipse: s-maj=5.0km s-min=2.6km az=157.0*
NEIC 30 14:10:01.1±1.3, **41.86°N**±0.04°×**119.60°W**±0.03°, **h9km**±6km, **Error ellipse: s-maj=5.6km s-min=2.7km az=157.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOD	**Modoc Plateau**	**0.53**	**275**		Pg	14 10 11.2	-0.2
MOD					Sg	14 10 18.4	0.0
MOD	**Modoc Plateau**	**0.53**	**275**	IAML		14 10 18.7	
	comp=N,614nm,0.4s						
MOD				IAML		14 10 18.7	
	comp=E,526nm,0.3s						
LKVW	**Lakeview**	**0.67**	**303**		Pg	14 10 13.6	-0.5
WVOR	**Wild Horse Val**	**0.92**	**51**		Pg	14 10 18.7	-0.1
WVOR					Sb	14 10 31.4	-0.1
WVOR	**Wild Horse Val**	**0.92**	**51**	IAML		14 10 34.9	
	comp=E,110nm,0.4s						
K05A	**Summer Lake**	**1.29**	**312**		Pn	14 10 25.1	-0.4
K05A	**Summer Lake**	**1.29**	**312**	IAML		14 10 45.3	
	comp=N,42nm,2.4s						
LASM	**Arnica Sink**	**1.50**	**261**		Pn	14 10 28.1	-0.4
LASM					Sn	14 10 48.2	0.0
LTIM	**Timbered Crate**	**1.57**	**245**		Pn	14 10 29.8	+0.4
HOG	**Hogback Mounta**	**1.61**	**284**		Pn	14 10 29.7	-0.2
LBCM	**Butte Creek Ri**	**1.67**	**233**		Pn	14 10 30.6	0.0
LBCM					Sb	14 10 52.8	-0.5
M04C	**Macdoel**	**1.68**	**268**		Pn	14 10 30.3	-0.4
M04C					Sg	14 10 54.5	-0.5
J08A	**Circle Bar Ran**	**1.71**	**29**		Pn	14 10 30.6	-0.6
J08A				IAML		14 10 57.0	
	comp=E,33nm,0.5s						
J08A				IAML		14 10 58.8	
	comp=N,44nm,0.5s						
K04D	**Chiloquin, OR**	**1.77**	**296**		Pb	14 10 33.0	-0.8
LHEM	**Herd Peak**	**1.97**	**264**		Pb	14 10 36.4	-1.0
L04D	**Klamath Falls**	**2.05**	**281**		Pn	14 10 35.2	-0.6
BEKR	**Beckworth**	**2.08**	**196**	Pn	Pn	14 10 36.6	+0.4
BEKR				IAML		14 11 08.2	
	comp=E,16nm,0.4s						
YBH	**Yreka Blue Hor**	**2.33**	**268**		Pn	14 10 38.8	-0.8
YBH				IAML		14 11 44.9	
	comp=E,13nm,4.9s						
WDC	**Whiskeytown Da**	**2.56**	**241**	Pn	Pn	14 10 42.7	-0.1
WDC				IAML		14 11 23.5	
	comp=N,8.8nm,0.6s						
WDC				IAML		14 11 28.3	
	comp=E,12nm,4.8s						
HUMO	**Hull Mountain**	**2.60**	**288**	Pn	Pn	14 10 42.6	-0.8
HUMO				IAML		14 11 31.9	
	comp=N,11nm,4.3s						
HUMO				IAML		14 11 57.0	
	comp=E,14nm,4.8s						
MFID	**Camas Ranch**	**3.19**	**60**	Pn	Pn	14 10 51.8	+0.3

*EAF **30** 14:28:48.5±2.2, 0.68°S×29.08°E, h0km±15km, MD3.3*
*ECGS **30** 14:28:48.0, 0.99°S±0.05°×29.38°E±0.04, h0km±8km, ML2.9, Error ellipse: s-maj=7.9km s-min=7.1km az=156.9, smi:local/e03f9531-3084-4c01-a044-20e6130cfbe7 Note: Depth/Latitude/Longitude errors are calculated from covariance matrix as 1D marginal (Lon/Lat errors as great circle degrees) while OriginUncertainty min/max horizontal errors are calculated from 2D error ellipsoid and are therefore seemingly higher compared to 1D errors. Error estimates can be reconstructed from the following original NonLinLoc error statistics line:STATISTICS ExpectX 41.6815 Y 58.6908 Z 10.7462 CovXX 22.6824 XY -1.81602 XZ -16.9801 YY 26.1624 YZ -1.73241 ZZ 70.929 EllAz1 75.8295 Dip1 17.3163 Len1 7.69258 Az2 166.723 Dip2 2.86373 Len2 9.70466 Len3 1.641479e+01*
ISC 30 14:28:46.0±1.1, **0.97°S**±0.06°×**29.38°E**±0.06°, **h10km**, **n10, σ0°72/13, Zaire**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTSH	**Kitshanga**	**0.42**	**231**	*i* S	**Sb**	**14 29 02.2**	**+0.1**
KTSH	**Kitshanga**	**0.42**	**231**	*i* P	**Pb**	**14 28 56.2**	**+0.6**
GOM	**Goma**	**0.72**	**192**	*e*S	**Sb**	**14 29 11.1**	**+0.3**
GOM	**Goma**	**0.72**	**192**	*e*P	**Pb**	**14 29 01.3**	**+0.5**
BOBN	**Bobandana**	**0.81**	**207**	*e*P	**Pn**	**14 29 03.0**	**-0.7**
BOBN	**Bobandana**	**0.81**	**207**	*i* S	**Sb**	**14 29 13.7**	**+0.2**
KIL	**Kilembe**	**1.32**	**28**	*e*P	**Pn**	**14 29 10.8**	**+0.1**
KIL				*e*S	**Sb**	**14 29 28.2**	**0.0**
MBAR	**Mbarara**	**1.41**	**75**	*e*P	**Pn**	**14 29 11.9**	**0.0**
MBAR				*e*S	**Sn**	**14 29 29.4**	**-1.2**
BUJA	**Bujumbura/Buru**	**2.41**	**180**	*e*S	**Sb**	**14 29 59.7**	**+0.3**
TEBE	**Entebbe**	**3.26**	**72**	*e*P	**Pb**	**14 30 25.3**	**+1.5**
TEBE				*e*S	**Sb**		

*DJA **30** 14:40:09.3±3.8, 5°S±7°×15°4E±1°6, h15km±22km, M4.5/7, mB5.6/2, mb4.2/7, MLv4.7/2, Mw(mB)5.1/2*
*IDC **30** 14:40:10.6±0.7, 5.47°S×152.92E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.0/39, mbtmp4.1/17, ML2.2/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/36, Error ellipse: s-maj=24.3km s-min=14.0km az=104.0*
*NEIC **30** 14:40:15.6±2.1, 5.52°S±0.06°×153.1E±0.1°, h41km±7km, mb4.2/17, Error ellipse: s-maj=15.1km s-min=8.5km az=79.0*
ISC 30 14:40:15.8±0.6, **5.54°S**±0.07°×**153.17°E**±0.10°, **h37km**, **n59, σ1°67/56, mb4.2/29, 1C, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.67**	**323**		**Pn**	**14 40 41.4**	**-1.1**
PMG	**Port Moresby**	**7.09**	**237**	Pn	**Pn**	**14 41 55.1**	**-2.0**
	2.3nm,0.3s,baz=63,slow=7.2,SNR=8.8						
PMG				Sn	**Sn**	**14 43 16.7**	**+0.2**
	3.0nm,0.3s,baz=186,slow=22,SNR=7.6						
PMG				LR	LR	14 44 34.0	
	comp=Z,227nm,21.2s,baz=60,slow=38						
PMG	**Port Moresby**	**7.09**	**237**	Pn	**Pn**	**14 41 56.5**	**-0.6**
CTAO	**Charters Tower**	**15.95**	**204**		**Pn**	**14 43 58.8**	**+1.2**
CTAO				IAmb	IAmb	14 44 00.9	
	comp=Z,24nm,1.3s						
SANVU	**Saraoutou**	**16.94**	**127**	Pn	**Pn**	**14 44 09.9**	**-0.2**
EIDS	**Eidsvold**	**19.82**	**186**	Pn	**Pn**	**14 44 46.6**	**+1.5**
EIDS				IAmb	IAmb	14 44 53.1	
	comp=Z,7.7nm,0.9s						
DZM	**Mont Dzumac**	**20.86**	**143**	P	Pn	14 44 57.3	-0.1
	comp=Z,7.2nm,0.8s,baz=151,slow=24,SNR=7.2						
DZM	**Mont Dzumac**	**20.86**	**143**	P	Pn	14 44 57.0	-0.4
DZM				IAmb	IAmb	14 45 06.4	
	comp=Z,13nm,0.9s						
MTN	**Manton Dam**	**22.92**	**250**	P	**P**	**14 45 18.9**	**+2.1**
MTN				IAmb	IAmb	14 45 26.6	
	comp=Z,8.0nm,0.7s						
WR0	**Warramunga Arr**	**23.11**	**230**	P	**P**	**14 45 17.6**	**-1.1**
WR0				IAmb	IAmb	14 45 42.2	
	comp=Z,5.7nm,1.0s						
WB2	**Warramunga Arr**	**23.24**	**230**	P	**P**	**14 45 17.1**	**-2.9**
WB2				IAmb	IAmb	14 45 33.9	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**23.25**	**230**	P	**P**	**14 45 17.9**	**-2.1**
	comp=Z,1.3nm,0.8s,baz=56,slow=10,SNR=6.0						
WRA				LR	LR	14 55 40.0	
	comp=Z,85nm,18.2s,baz=215,slow=40						
WRA	**Warramunga Arr**	**23.25**	**230**	P	**P**	**14 45 17.4**	**-2.7**
AS31	**Alice Springs**	**25.87**	**224**	P	**P**	**14 45 42.6**	**-1.7**
ASAR	**Alice Springs**	**25.87**	**224**	P	**P**	**14 45 42.8**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=56,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**25.87**	**224**	P	**P**	**14 45 42.5**	**-1.8**
STKA	**Stephens Creek**	**28.36**	**201**	P	**P**	**14 46 06.0**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=1.3,slow=7.1,SNR=3.6						
STKA	**Stephens Creek**	**28.36**	**201**	P	**P**	**14 46 04.7**	**-1.8**
FITZ	**Fitzroy Crossi**	**29.64**	**243**	P	**P**	**14 46 15.3**	**-2.7**
	comp=Z,2.0nm,0.9s,baz=86,slow=8.2,SNR=9.7						
FITZ	**Fitzroy Crossi**	**29.64**	**243**	P	**P**	**14 46 16.4**	**-1.6**
FORT	**Forrest**	**34.46**	**220**	P	**P**	**14 47 01.4**	**+1.2**
KRAB	**Krabi**	**55.54**	**284**	P	P	14 49 35.2	-13
	comp=Z,54µmcomp=Z,785nm,0.7s						
KLR	**Kul'dur**	**57.65**	**344**	P	**P**	**14 50 02.7**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=140,slow=6.8,SNR=7.2						
KMI	**Kunming**	**57.70**	**304**	↑↑P	**P**	**14 50 06.0**	**+2.6**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
CM35	**Chiang Mai Arr**	**58.41**	**296**	P	**P**	**14 50 09.0**	**+0.8**
CM36	**Chiang Mai Arr**	**58.41**	**296**	P	**P**	**14 50 10.0**	**+1.8**
CM04	**Chiang Mai Arr**	**58.48**	**295**	P	**P**	**14 50 11.0**	**+2.4**
	comp=Z,3.4nm,1.1s						
CM01	**Chiang Mai Arr**	**58.50**	**295**	P	**P**	**14 50 11.0**	**+2.2**
	comp=Z,2.6nm,0.9s						
CM05	**Chiang Mai Arr**	**58.51**	**295**	P	**P**	**14 50 12.2**	**+3.4**
	comp=Z,2.1nm,1.1s						
CM02	**Chiang Mai Arr**	**58.52**	**295**	P	**P**	**14 50 11.0**	**+2.1**
	comp=Z,3.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**58.52**	**295**	P	**P**	**14 50 08.7**	**-0.3**
	comp=Z,2.1nm,1.0s,baz=112,slow=5.4,SNR=15						
CMAR	**Chiang Mai Arr**	**58.52**	**295**	P	**P**	**14 50 08.9**	**-0.1**
CM15	**Chiang Mai Arr**	**58.54**	**295**	P	**P**	**14 50 13.0**	**+3.9**
	comp=Z,67nmcomp=Z,2.4nm,0.4s						
CM13	**Chiang Mai Arr**	**58.55**	**295**	P	**P**	**14 50 13.4**	**+4.3**
	comp=Z,2.3nm,1.1s						
PETK	**Petropavlovsk-**	**58.55**	**3**	P	**P**	**14 50 08.6**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=143,slow=6.4,SNR=8.5						
PETK	**Petropavlovsk-**	**58.55**	**3**	P	**P**	**14 50 08.3**	**-0.2**
CMMT	**Chiang Mai**	**58.63**	**296**	P	**P**	**14 50 11.0**	**+1.2**
	comp=Z,1.5nm,1.5s						
CM33	**Chiang Mai Arr**	**58.64**	**296**	P	**P**	**14 50 11.0**	**+1.2**
BSI	**Banda Aceh**	**58.82**	**280**	P	**P**	**14 50 12.1**	**+1.0**
HHC	**Hu-ho-hao-te**	**59.86**	**324**	*e*P	**P**	**14 50 18.0**	**+0.1**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,77nm,5.4s						
MA2	**Magadan**	**64.94**	**359**	P	**P**	**14 50 51.4**	**0.0**
	comp=Z,5.1nm,0.7s,baz=157,slow=6.1,SNR=17						
MA2	**Magadan**	**64.94**	**359**	P	**P**	**14 50 50.4**	**-1.0**
SONM	**Songino Array**	**67.14**	**328**	P	**P**	**14 51 04.6**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=131,slow=4.5,SNR=8.5						
SONM	**Songino Array**	**67.14**	**328**	P	**P**	**14 51 05.5**	**-0.4**
SONM				IAmb	IAmb	14 51 07.9	
	comp=Z,4.3nm,1.4s						
SEY	**Seymchan**	**68.28**	**360**	P	**P**	**14 51 13.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=252,slow=23,SNR=6.5						
VNDA	**Vanda**	**72.08**	**178**	P	**P**	**14 51 38.1**	**+2.3**
	comp=Z,0.9nm,0.9s,baz=319,slow=6.8,SNR=5.1						
BILL	**Bilibino**	**73.99**	**5**	P	**P**	**14 51 46.6**	**-0.5**
BILL				IAmb	IAmb	14 51 48.8	
	comp=Z,2.3nm,0.8s						
WMQ	**Urumqi**	**76.53**	**317**	*e*P	**P**	**14 52 03.0**	**+0.6**
TIXI	**Tiksi**	**78.67**	**352**	P	**P**	**14 52 13.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=105,slow=4.3,SNR=3.6						
TIXI	**Tiksi**	**78.67**	**352**	IAmb	IAmb	14 52 15.3	
	comp=Z,5.1nm,1.4s						
MK31	**Makanchi Array**	**81.12**	**319**	P	**P**	**14 52 27.3**	**-0.1**
MK31				IAmb	IAmb	14 52 31.4	
	comp=Z,3.4nm,1.2s						
MKAR	**Makanchi Array**	**81.12**	**319**	P	**P**	**14 52 26.5**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=115,slow=5.5,SNR=13						
MKAR	**Makanchi Array**	**81.12**	**319**	P	**P**	**14 52 27.3**	**-0.2**
ZALV	**Zalesovo Beam**	**81.97**	**326**	P	**P**	**14 52 31.4**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=106,slow=5.6,SNR=9.3						
ZALV	**Zalesovo Beam**	**81.97**	**326**	P	**P**	**14 52 30.7**	**-1.0**
ILAR	**Eielson Array**	**82.70**	**22**	P	**P**	**14 52 34.9**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=252,slow=5.1,SNR=2.5						
BDFB	**Brasilia**	**150.28**	**135**	PKPbc	**PKPbc**	**15 00 03.9**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=323,slow=4.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.88**	**287**	PKPbc	**PKPbc**	**15 00 05.2**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=61,slow=2.2,SNR=9.8						
TORD	**Torodi Ar. Bea**	**150.88**	**287**		**PKPbc**	**15 00 04.2**	**-1.3**

*IDC **30** 14:49:52.7±2.0, 7.84°S×127.63E, h170km±27km, mb2.9/1, mb1 3.3/6, mb1mx3.1/38, mbtmp3.8/6, Error ellipse: s-maj=24.7km s-min=21.4km az=127.0*
ISC 30 14:49:52.3±1.0, **7.95°S**±0.08°×**127.76°E**±0.10°, **h170km**, **n6, σ1°73/10, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.62**	**241**	P	**Pn**	**14 51 02.0**	**+0.9**
	7.9nm,0.3s,baz=83,slow=5.1,SNR=8.0						
BATI				S	**Sn**	**14 51 54.1**	**-0.9**
	15nm,0.3s,baz=193,slow=23,SNR=19						
SIJI	**Sorong**	**7.86**	**27**	P	**Pn**	**14 51 43.5**	**-0.4**
	1.0nm,0.3s,baz=210,slow=20,SNR=2.4						
FITZ	**Fitzroy Crossi**	**10.29**	**191**	P	**Pn**	**14 52 17.1**	**+1.2**
	0.2nm,0.3s,baz=17,slow=11,SNR=2.0						
FITZ				S	**Sn**	**14 54 08.1**	**-2.1**
	0.6nm,0.3s,baz=326,slow=21,SNR=7.0						
WRA	**Warramunga Arr**	**13.52**	**153**	P	**Pn**	**14 52 58.8**	**+1.3**
	1.3nm,0.3s,baz=327,slow=14,SNR=26						
WRA				S	**Sn**	**14 55 25.7**	**-2.0**
	0.8nm,0.3s,baz=330,slow=21,SNR=6.6						
ASAR	**Alice Springs**	**16.70**	**160**	P	**Pn**	**14 53 39.1**	**+2.5**
	0.6nm,0.3s,baz=340,slow=12,SNR=40						
ASAR				S	**Sn**	**14 56 43.1**	**-0.7**
	0.2nm,0.3s,baz=319,slow=16,SNR=6.7						
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**15 00 31.3**	**-0.7**
	0.2nm,0.7s,baz=132,slow=6.4,SNR=2.3						

*IDC **30** 14:52:06.4±0.5, 5.18°S×152.94E, h0km, mb4.7/23, mb1 4.7/26, mb1mx4.5/45, mbtmp4.6/26, ML3.3/3, MS3.8/16, Ms1 3.8/16, ms1mx3.6/36, Error ellipse: s-maj=16.6km s-min=11.5km az=100.0*
*NEIC **30** 14:52:10.9±2.0, 5.27°S±0.07°×152.78E±0.08°, h35km±1km, mb4.8/84, Error ellipse: s-maj=14.6km s-min=9.9km az=61.0*
*DJA **30** 14:52:15.3±0.4, 5°S±3°×15°3E±°, h68km±4km, M4.6/24, mB4.9/7, mb4.8/24, MLv5.0/3, Mw(mB)4.2/7*
ISC 30 14:52:13.6±0.9, **5.22°S**±0.05°×**152.89°E**±0.06°, **h57km**±8km, **n176, σ1°17/178, mb4.8/80, MS3.8/16, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.25**	**325**	Pn	**Pn**	**14 52 34.6**	**-0.4**
RABL	**Rabaul**	**1.25**	**325**	P	**Pn**	**14 52 36.0**	**+1.0**
MANU	**Manus Island**	**6.35**	**300**	Pn	**Pn**	**14 53 44.1**	**-0.6**
PMG	**Port Moresby**	**7.04**	**233**	Pn	**Pn**	**14 53 53.1**	**-1.0**
	4.9nm,0.3s,baz=58,slow=8.1,SNR=23						
PMG				Sn	**Sn**	**14 55 13.8**	**+1.0**
	15nm,0.3s,baz=163,slow=20,SNR=10.0						
PMG				LR	LR	14 56 45.7	
	comp=Z,353nm,20.3s,baz=36,slow=39						
PMG	**Port Moresby**	**7.04**	**233**	Pn	**Pn**	**14 53 53.5**	**-0.6**
PMG	**Port Moresby**	**7.04**	**233**	P	**Pn**	**14 53 54.8**	**+0.7**
HNR	**Honiara**	**8.16**	**121**	Pn	**Pn**	**14 54 07.1**	**-2.3**
	2.7nm,0.3s,baz=209,slow=13,SNR=1.6						
HNR				LR	LR	14 57 33.1	
	comp=Z,740nm,18.3s,baz=9.5,slow=40						
HNR	**Honiara**	**8.16**	**121**		**Pn**	**14 54 11.7**	**+2.2**
COEN	**Coen**	**12.92**	**227**	Pn	**Pn**	**14 55 14.6**	**0.0**
GENI	**Genyem**	**12.95**	**281**	P	**Pn**	**14 55 17.3**	**+2.3**
	2µm52nm,1.8s						
PATS	**Pohnpei**	**13.15**	**24**	Pn	**Pn**	**14 55 14.6**	**-3.1**
CTA	**Charters Tower**	**16.12**	**203**	Pn	**Pn**	**14 55 57.1**	**+0.4**
	0.1nm,0.3s,baz=25,slow=18,SNR=1.9						
CTAO	**Charters Tower**	**16.12**	**203**	Pn	**Pn**	**14 55 53.8**	**-3.0**
EIDS	**Eidsvold**	**20.11**	**185**	P	**P**	**14 56 42.6**	**-0.2**
FAKI	**Fak Fak**	**20.71**	**276**	P	**P**	**14 56 47.6**	**-1.9**
FAKI	**Fak Fak**	**20.71**	**276**	P	**P**	**14 56 48.4**	**-1.1**
	579nm25nm,0.8s						
DZM	**Mont Dzumac**	**21.28**	**143**	P	**P**	**14 56 56.7**	**+1.1**
	10.0nm,0.5s,baz=305,slow=15,SNR=16	

JMN					IAmb	IAmb	15 00 07.6	
	comp=Z,20nm,1.2s							
JGF	**Kuroka**	**43.15**	**341**	P	**P**		**15 00 08.6**	**-0.1**
JNU	**Nakatsue**	**43.47**	**333**	P	**P**		**15 00 10.7**	**-0.7**
	comp=Z,48nm,0.8s,baz=91,slow=4.7,SNR=19							
JNU	**Nakatsue**	**43.47**	**333**	P	**P**		**15 00 11.0**	**-0.4**
JWT	**Wachi**	**43.52**	**339**	P	**P**		**15 00 11.1**	**-0.6**
JWT					IAmb	IAmb	15 00 15.8	
	comp=Z,24nm,1.4s							
MJAR	**Matsushiro Arr**	**43.76**	**343**	P	**P**		**15 00 11.9**	**-1.7**
	comp=Z,3.2nm,0.8s,baz=166,slow=8.8,SNR=8.6							
MJAR				PcP	**PcP**		**15 02 00.0**	**+0.4**
	comp=Z,5.9nm,0.8s,baz=174,slow=3.5,SNR=10.0							
MJAR				LR	LR		15 16 40.1	
	comp=Z,86nm,21.1s,baz=200,slow=34							
MJAR	**Matsushiro Arr**	**43.76**	**343**	P	**P**		**15 00 11.2**	**-2.4**
MAJO	**Matsushiro**	**43.76**	**343**	P	**P**		**15 00 11.4**	**-2.2**
MAT	**Matsushiro**	**43.76**	**343**	P	**P**		**15 00 11.9**	**-1.7**
JHS	**Saijyo**	**44.13**	**336**	P	**P**		**15 00 16.0**	**-0.6**
JHS					IAmb	IAmb	15 00 22.5	
	comp=Z,13nm,1.0s							
JMM	**Marumori**	**44.32**	**346**	P	**P**		**15 00 17.5**	**-0.5**
JMM					IAmb	IAmb	15 00 20.1	
	comp=Z,9.2nm,0.7s							
JTU	**Tsushima**	**45.32**	**332**	P	**P**		**15 00 24.5**	**-1.6**
JTM	**Tenmabayashi**	**47.05**	**348**	P	**P**		**15 00 38.5**	**-1.1**
ERM	**Erimo**	**47.84**	**350**	P	**P**		**15 00 45.8**	**+0.2**
KSRS	**Korea Array**	**48.41**	**333**	P	**P**		**15 00 51.0**	**+0.8**
	comp=Z,4.7nm,0.9s,baz=147,slow=8.9,SNR=19							
KSRS				PcP	**PcP**		**15 02 17.4**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=160,slow=3.6,SNR=5.1							
KSRS				LR	LR		15 20 43.6	
	comp=Z,32nm,18.1s,baz=172,slow=36							
QIZ	**Qiongzhong**	**48.76**	**301**	P	**P**		**15 00 53.5**	**+0.3**
QIZ				S	**S**		**15 07 52.3**	**+0.1**
QIZ				pmax	pmax			
	comp=Z,9.0nm,1.6s							
QIZ				LR	LR			
	comp=N,120nm,14.7s							
QIZ				LR	LR			
	comp=E,96nm,13.2s							
QIZ				LR	LR			
	comp=Z,140nm,16.7s							
INCN	**Inchon**	**49.02**	**332**	P	**P**		**15 00 54.8**	**-0.1**
NJ2	**Nanjing**	**49.22**	**321**	*eP*	**P**		**15 00 56.8**	**+0.3**
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
JKA	**Kamikawa-asahi**	**49.98**	**350**	P	**P**		**15 01 02.5**	**+0.5**
ASAJ	**Asahikawa**	**49.98**	**350**	P	**P**		**15 01 02.1**	**+0.1**
	comp=Z,14nm,0.7s,baz=186,slow=8.2,SNR=16							
USA0B	**Ussuriysk Air**	**52.67**	**341**	P	**P**		**15 01 21.4**	**-0.8**
USA0B					IAmb	IAmb	15 01 24.1	
	comp=Z,8.6nm,0.9s							
USRK	**Ussuriysk Ar.**	**52.67**	**341**	P	**P**		**15 01 22.9**	**+0.7**
	comp=Z,6.5nm,0.8s,baz=170,slow=9.3,SNR=15							
USRK	**Ussuriysk Ar.**	**52.67**	**341**	P	**P**		**15 01 21.5**	**-0.7**
XAN	**Xi'an**	**56.98**	**317**	P	**P**		**15 01 54.3**	**+0.6**
XAN				pP	pP		15 01 59.0	-9.4
XAN				sP	pwP		15 02 04.0	-6.8
XAN				pmax	pmax			
	comp=Z,13nm,0.6s							
XAN				pmax	pmax			
	comp=Z,13nm,4.6s							
XAN	**Xi'an**	**56.98**	**317**	P	**P**		**15 01 53.4**	**-0.2**
XAN				IAmb	IAmb		15 01 55.0	
	comp=Z,8.2nm,0.6s							
KMI	**Kunming**	**57.29**	**304**	⇓P	**P**		**15 01 58.0**	**+1.8**
KMI				pmax	pmax			
	comp=Z,9.0nm,1.4s							
CM31	**Chiang Mai Arr**	**58.13**	**295**	P	**P**		**15 02 00.6**	**-1.4**
CM31				IAmb	IAmb		15 02 05.0	
	comp=Z,7.9nm,0.9s							
CMAR	**Chiang Mai Air**	**58.13**	**295**	P	**P**		**15 02 03.7**	**+1.7**
	comp=Z,4.5nm,0.9s,baz=111,slow=5.2,SNR=29							
CMAR				LR	LR		15 27 24.3	
	comp=Z,40nm,19.0s,baz=145,slow=36							
CMAR	**Chiang Mai Arr**	**58.13**	**295**	P	**P**		**15 02 00.4**	**-1.6**
PET	**Petropavlovsk**	**58.23**	**4**	P	**P**		**15 02 01.6**	**-0.3**
CHTO	**Chiang Mai**	**58.24**	**296**	P	**P**		**15 02 01.3**	**-1.5**
CHTO				IAmb	IAmb		15 02 13.6	
	comp=Z,7.1nm,1.1s							
PEA0B	**Petropavlovsk-**	**58.25**	**3**	P	**P**		**15 02 02.6**	**+0.4**
PETK	**Petropavlovsk-**	**58.25**	**3**	P	**P**		**15 02 02.9**	**+0.8**
	comp=Z,24nm,0.9s,baz=163,slow=6.8,SNR=38							
PETK				PcP	**PcP**		**15 02 53.8**	**+0.9**
	comp=Z,5.7nm,0.9s,baz=151,slow=3.4,SNR=3.7							
PETK	**Petropavlovsk-**	**58.25**	**3**	P	**P**		**15 02 02.1**	**0.0**
HHC	**Hu-ho-hao-te**	**59.44**	**324**	*eP*	**P**		**15 02 12.5**	**+1.8**
HHC				pmax	pmax			
	comp=Z,14nm,1.0s							
HHC				pmax	pmax			
	comp=Z,75nm,5.3s							
LZH	**Lanzhou**	**61.59**	**316**	*eP*	**P**		**15 02 27.5**	**+1.9**
LZH				pP	pwP		15 02 39.3	-3.7
LZH				sP	sP		15 02 43.8	-2.9
LZH				pmax	pmax			
	comp=Z,16nm,1.1s							
LZH				pmax	pmax			
	comp=Z,15nm,1.0s							
MA2	**Magadan**	**64.62**	**359**	P	**P**		**15 02 45.7**	**+0.8**
	comp=Z,39nm,0.7s,baz=162,slow=6.2,SNR=136							
MA2	**Magadan**	**64.62**	**359**	P	**P**		**15 02 44.5**	**-0.4**
GTA	**Gaotai**	**66.02**	**317**	*eP*	**P**		**15 02 56.0**	**+1.3**
GTA				pP	sP		15 03 15.8	0.0
GTA				sP	PcP		15 03 23.5	-1.4
GTA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,32nm,5.5s							
GTA				LR	LR			
	comp=N,54nm,17.1s							
GTA				LR	LR			
	comp=E,67nm,17.1s							
GTA				LR	LR			
	comp=Z,54nm,16.7s							
ULN	**Ulaanbaatar**	**66.40**	**328**	P	**P**		**15 02 54.6**	**-2.3**
ULN				IAmb	IAmb		15 02 59.5	
	comp=Z,6.7nm,1.1s							
SONM	**Songino Array**	**66.72**	**328**	P	**P**		**15 03 00.5**	**+1.6**
	comp=Z,3.4nm,0.7s,baz=144,slow=5.7,SNR=21							
SONM				PcP	**PcP**		**15 03 28.7**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=148,slow=3.8,SNR=4.4							
SONM				LR	LR		15 31 44.2	
	comp=Z,31nm,20.1s,baz=161,slow=36							
SONM	**Songino Array**	**66.72**	**328**	P	**P**		**15 02 59.0**	**0.0**
SONM				IAmb	IAmb		15 03 02.8	
	comp=Z,13nm,1.4s							
TAPN	**Taplejung**	**70.69**	**301**	*eP*	**P**		**15 03 25.7**	**+1.4**
	comp=Z,34nm,1.1s							
ODAN	**Odare**	**70.83**	**301**	*eP*	**P**		**15 03 26.7**	**+1.6**
	comp=Z,20nm,0.7s							
RAMN	**Ramite**	**71.53**	**300**	*eP*	**P**		**15 03 30.8**	**+1.5**
	comp=Z,7.1nm,0.6s							
JIRN	**Jiri**	**72.08**	**301**	*eP*	**P**		**15 03 34.3**	**+1.5**
	comp=Z,22nm,0.9s							
VNDA	**Vanda**	**72.41**	**178**	P	**P**		**15 03 34.2**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=340,slow=6.1,SNR=9.5							
VNDA	**Vanda**	**72.41**	**178**	P	**P**		**15 03 33.4**	**0.0**
GUN	**Gumba**	**72.41**	**301**	*eP*	**P**		**15 03 36.1**	**+1.4**
	comp=Z,25nm,0.7s							
PKI	**Pulchoki**	**72.72**	**301**	*eP*	**P**		**15 03 37.7**	**+1.2**
	comp=Z,86nm,1.7s							
PKIN	**Phulchoki**	**72.73**	**301**	*eP*	**P**		**15 03 37.1**	**+0.6**
	comp=Z,22nm,1.0s							
KKN	**Kakani**	**72.89**	**301**	*eP*	**P**		**15 03 38.6**	**+1.2**
	comp=Z,25nm,1.0s							
DMN	**Daman**	**72.99**	**301**	*eP*	**P**		**15 03 39.5**	**+1.4**
	comp=Z,32nm,0.9s							
GKN	**Gorkha**	**73.49**	**301**	*eP*	**P**		**15 03 41.6**	**+0.7**
	comp=Z,26nm,0.9s							
BILL	**Bilibino**	**73.70**	**5**	P	**P**		**15 03 42.0**	**+1.0**
DANN	**Dangsing**	**74.33**	**301**	*eP*	**P**		**15 03 46.5**	**+0.5**
OHAK	**Old Harbor**	**75.89**	**27**	P	**P**		**15 03 53.9**	**0.0**
WMQ	**Urumqi**	**76.11**	**317**	*eP*	**P**		**15 03 56.0**	**+0.4**
WMQ				pP	pwP		15 04 10.5	-0.6
WMQ				pmax	pmax			
	comp=Z,19nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,160nm,4.5s							
ANM	**Nome**	**76.15**	**17**	P	**P**		**15 03 55.5**	**+0.3**
SVW2	**Sparrevohn**	**77.18**	**23**	P	**P**		**15 04 01.6**	**+0.4**
SVW2				IAmb	IAmb		15 04 04.2	
	comp=Z,9.5nm,1.0s							
CNPM	**China Poot**	**78.06**	**26**	P	**P**		**15 04 06.2**	**+0.1**
TIXI	**Tiksi**	**78.32**	**352**	P	**P**		**15 04 06.8**	**-0.5**
TIXI				IAmb	IAmb		15 04 11.6	
	comp=Z,6.7nm,0.8s							
ZSN	**Zaisan**	**79.25**	**320**	*eP*	**P**		**15 04 13.5**	**+0.6**
	baz=320							
SKT	**Skwentna**	**79.27**	**23**	P	**P**		**15 04 12.1**	**-0.6**
SUA	**Susitna One**	**79.31**	**24**	P	**P**		**15 04 12.6**	**-0.5**
SUA				IAmb	IAmb		15 04 13.8	
	comp=Z,7.7nm,0.9s							
RDOG	**Red Dog Mine**	**79.36**	**15**	P	**P**		**15 04 13.0**	**-0.1**
RDOG				IAmb	IAmb		15 04 17.2	
	comp=Z,10nm,0.8s							
RC01	**Rabbit Creek A**	**79.52**	**25**	P	**P**		**15 04 14.1**	**0.0**
PPLA	**Purkeypile**	**79.53**	**22**	P	**P**		**15 04 14.5**	**+0.3**
PPLA				IAmb	IAmb		15 04 28.5	
	comp=Z,12nm,1.3s							
KTH	**Kantishna Hill**	**80.37**	**22**	P	**P**		**15 04 17.5**	**-1.2**
SML	**Sawmill**	**80.47**	**24**	P	**P**		**15 04 18.9**	**-0.3**
SML				IAmb	IAmb		15 04 44.1	
	comp=Z,12nm,0.8s							
SMLA	**Simla**	**80.55**	**303**	*eP*	**P**		**15 04 21.1**	**+0.9**
MK31	**Makanchi Array**	**80.70**	**319**	P	**P**		**15 04 21.0**	**+0.3**
MKAR	**Makanchi Array**	**80.70**	**319**	P	**P**		**15 04 22.1**	**+1.4**
	comp=Z,3.5nm,0.7s,baz=100,slow=6.0,SNR=16							
MKAR	**Makanchi Array**	**80.70**	**319**	P	**P**		**15 04 21.1**	**+0.3**
MAKZ	**Makanchi**	**80.91**	**319**	P	**P**		**15 04 22.6**	**+0.7**
RND	**Reindeer**	**81.08**	**23**	P	**P**		**15 04 21.6**	**-0.9**
RND				IAmb	IAmb		15 04 23.5	
	comp=Z,8.0nm,0.9s							
MCK	**McKinley**	**81.22**	**22**	P	**P**		**15 04 21.9**	**-1.3**
MCK				IAmb	IAmb		15 04 23.9	
	comp=Z,15nm,0.9s							
MLY	**Manley**	**81.24**	**21**	P	**P**		**15 04 23.4**	**+0.1**
DHRM	**DHARAMSHALA**	**81.50**	**304**	*eP*	**P**		**15 04 25.1**	**-0.5**
ZAA0	**Zalesovo Array**	**81.55**	**326**	P	**P**		**15 04 24.4**	**-0.7**
ZALV	**Zalesovo Beam**	**81.55**	**326**	P	**P**		**15 04 25.6**	**+0.5**
	comp=Z,14nm,0.7s,baz=108,slow=5.6,SNR=61							
ZALV	**Zalesovo Beam**	**81.55**	**326**	P	**P**		**15 04 24.6**	**-0.5**
NEA2	**Nenana**	**81.61**	**22**	P	**P**		**15 04 24.4**	**-0.8**
NEA2				IAmb	IAmb		15 04 26.1	
	comp=Z,6.8nm,0.9s							
WRH	**Wood River Hil**	**81.92**	**22**	P	**P**		**15 04 25.7**	**-1.1**
CCB	**Clear Creek Bu**	**82.11**	**22**	P	**P**		**15 04 26.4**	**-1.4**
GLB	**Gilahina Butte**	**82.20**	**26**	P	**P**		**15 04 27.7**	**-0.7**
GLB				IAmb	IAmb		15 04 30.4	
	comp=Z,9.2nm,1.0s							
TCOL	**CIGO, UAF Yank**	**82.20**	**22**	P	**P**		**15 04 27.1**	**-1.1**
TCOL				IAmb	IAmb		15 04 28.8	
	comp=Z,9.2nm,0.8s							
COLA	**College**	**82.21**	**22**	P	**P**		**15 04 27.2**	**-1.1**
COLA				IAmb	IAmb		15 04 28.8	
	comp=Z,8.9nm,0.8s							
IL31		**82.52**	**22**	P	**P**		**15 04 28.4**	**-1.4**
ILAR	**Eielson Array**	**82.52**	**22**	P	**P**		**15 04 28.9**	**-1.1**
	comp=Z,3.7nm,0.8s,baz=253,slow=5.3,SNR=38							
ILAR				LR	LR		15 39 25.9	
	comp=Z,64nm,18.5s,baz=222,slow=34							
ILAR	**Eielson Array**	**82.52**	**22**	P	**P**		**15 04 28.0**	**-1.9**
SEM	**Semipalatinsk**	**83.07**	**322**	*eP*	**P**		**15 04 33.3**	**-0.1**
	baz=322							
DOT	**Dot Lake**	**83.08**	**24**	P	**P**		**15 04 32.6**	**-0.3**
DOT				IAmb	IAmb		15 04 34.4	
	comp=Z,7.8nm,0.9s							
KSH	**Kashi**	**83.27**	**311**	P	**P**		**15 04 37.8**	**+3.2**
KSH				pP	sP		15 04 54.5	-1.6
KSH				pmax	pmax			
	comp=Z,26nm,1.0s							
KSH				pmax	pmax			
	comp=Z,160nm,5.5s							
KUU	**Kurty**	**83.97**	**315**	*eP*	**P**		**15 04 38.4**	**+0.5**
	baz=315							
NIL	**Nilore**	**84.28**	**304**	P	**P**		**15 04 39.3**	**-0.4**
AAK	**Ala-Archa**	**85.02**	**313**	P	**P**		**15 04 44.2**	**+0.8**
AAK				IAmb	IAmb		15 04 46.0	
	comp=Z,6.9nm,0.8s							
SGDS	**Sogindy**	**85.08**	**314**	*eP*	**P**		**15 04 44.1**	**+0.5**
	baz=314							
BTLS	**Baital**	**85.82**	**316**	*eP*	**P**		**15 04 47.8**	**+0.7**
	comp=Z,5.8nm,0.9s,baz=316							
NRIK	**Noril'sk**	**86.39**	**341**	P	**P**		**15 04 49.1**	**-0.3**
	comp=Z,6.0nm,0.6s,baz=98,slow=3.5,SNR=7.7							
NRIK	**Noril'sk**	**86.39**	**341**	P	**P**		**15 04 47.7**	**-1.7**
NRIK				IAmb	IAmb		15 04 54.5	
	comp=Z,6.7nm,0.7s							
EPYK	**Eagle Plains**	**87.02**	**22**	P	**P**		**15 04 52.3**	**-0.3**
BRZS	**Berezniki**	**87.69**	**320**	*eP*	**P**		**15 04 56.4**	**+0.2**
	baz=320							
KK31	**Karatay Array**	**87.98**	**313**	P	**P**		**15 04 57.9**	**+0.1**
KK31				IAmb	IAmb		15 05 00.9	
	comp=Z,7.1nm,1.2s							
KKAR	**Karatay Array**	**87.98**	**313**	P	**P**		**15 04 57.9**	**+0.1**
KKAR	**Karatay Array**	**87.98**	**313**	P	**P**		**15 04 58.1**	**+0.4**
KKAR				IAmb	IAmb		15 05 01.0	
	comp=Z,7.1nm,1.2s							
INK	**Inuvik**	**88.81**	**21**	P	**P**		**15 05 01.3**	**+0.2**
	comp=Z,3.4nm,1.0s,baz=218,slow=9.5,SNR=7.9							
INK	**Inuvik**	**88.81**	**21**	P	**P**		**15 05 01.2**	**+0.2**
INK				IAmb	IAmb		15 05 03.2	
	comp=Z,6.7nm,1.1s							
BRVK	**Borovoye**	**89.69**	**323**	P	**P**		**15 05 04.8**	**-0.8**
NVAR	**Mina Array Bea**	**92.28**	**52**	P	**P**		**15 05 18.4**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=249,slow=7.7,SNR=6.3							
NVAR				LR	LR		15 40 31.8	
	comp=Z,94nm,19.8s,baz=290,slow=32							
C36M	**Paulatuk**	**92.39**	**21**	P	**P**		**15 05 17.6**	**-0.1**
C36M				IAmb	IAmb		15 05 18.9	
	comp=Z,4.3nm,0.8s							
HRA	**Herat**	**93.44**	**304**	P	**P**		**15 05 23.2**	**-0.4**
YKA	**Yellowknife Ar**	**95.76**	**28**	P	**P**		**15 05 32.9**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=267,slow=4.3,SNR=22							
ABKAR	**Akbulak array**	**95.84**	**319**	P	**P**		**15 05 32.6**	**-1.4**
ARU	**Arti**	**96.71**	**326**	P	**P**		**15 05 36.2**	**-1.5**
PDAR	**Pinedale Array**	**99.07**	**48**	LR	LR		15 46 47.3	
	comp=Z,86nm,18.6s,baz=276,slow=33							
AKASG	**Malin Array Be**	**114.89**	**324**	PKP	PKPdf		15 10 48.7	+0.6
	comp=Z,0.4nm,0.4s,baz=111,slow=2.2,SNR=4.2							
VYHS	**Vyhne**	**121.88**	**326**	*e*PKP	**PKiKP**		**15 11 03.1**	**+1.3**
CLL	**Collm**	**123.26**	**331**	*e*PKPdf	**PKiKP**		**15 11 07.0**	**+2.6**
GERES	**GERESS Array B**	**124.46**	**328**	PKP	**PKiKP**		**15 11 07.6**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=108,slow=4.3,SNR=5.8							
LPAZ	**La Paz**	**134.14**	**119**	PKP	**PKPdf**		**15 11 27.3**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=180,slow=9.0,SNR=9.0							
LPAZ	**La Paz**	**134.14**	**119**	PKPdf	**PKPdf**		**15 11 24.2**	**-2.4**
CPUP	**Villa Florida**	**137.09**	**138**	PKP	**PKiKP**		**15 11 33.1**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=194,slow=3.2,SNR=4.9							
TORD	**Torodi Ar. Bea**	**150.52**	**287**	PKPbc	**PKiKP**		**15 12 00.7**	**-0.1**
	comp=Z,14nm,0.8s,baz=59,slow=2.3,SNR=55							
TORD	**Torodi Ar. Bea**	**150.52**	**287**			**PKPbc**	**15 11 60.0**	**-0.1**
BDFB	**Brasilia**	**150.71**	**135**	PKPbc	**PKiKP**		**15 12 01.8**	**+0.5**
	comp=Z,5.8nm,0.7s,baz=346,slow=4.8,SNR=3.5							
BDFB	**Brasilia**	**150.71**	**135**	PKPab	**PKPab**		**15 12 06.7**	**-1.0**

*SOME **30** 14:53:04.7, 41.°73N×83.°47E, h0km*
*NNC **30** 14:53:04.5±2.2, 41.°68N×83.°54E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=15.6km s-min=9.1km az=147.0
ISC 30 14:53:01.8±3.1, 41.°6N±0.°1×83.°9E±0.°1, h10km, n15,
σ1s60/25, 5C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**3.25**	**307**	*eP*	**Pb**	**14 53 59.2**	**-0.4**
	4.3nm,0.2s						
KTMS				*eS*	**Sb**	**14 54 38.5**	**-0.8**
	16nm,0.3s						
KTMS	**Ketmen**	**3.25**	**307**	Pg	**Pb**	**14 53 59.2**	**-0.4**
	4.3nm,0.2s						
KTMS				Lg	Lg	14 54 38.5	
	12nm,0.2s						
SHLS	**Shalkode**	**3.67**	**297**	*eP*	**Pn**	**14 54 01.4**	**+2.6**
	7.3nm,0.2s						
SHLS				*eS*	**Sn**	**14 54 42.1**	**-0.1**
	53nm,0.5s						
SHLS	**Shalkode**	**3.67**	**297**	Pg	**Pn**	**14 54 01.4**	**+2.6**
	7.3nm,0.2s						
SHLS				Lg	Lg	14 54 42.1	
	65nm,0.5s						
UZB	**Uzynbulak**	**3.96**	**295**	*eP*	**Pb**	**14 54 10.8**	**-1.1**
	7.9nm,0.3s						
UZB				*eS*	**Sb**	**14 54 58.0**	**-1.9**
	30nm,0.6s						
UZB	**Uzynbulak**	**3.96**	**295**	Pg	**Pb**	**14 54 10.8**	**-1.1**
	7.9nm,0.3s						
UZB				Lg	Lg	14 54 58.0	
	30nm,0.6s						
DJR	**Jarkent**	**4.11**	**314**	*eP*	**Pb**	**14 54 15.6**	**+1.3**
	5.2nm,0.4s						
DJR				*eS*	**Sb**	**14 55 06.7**	**+2.6**
	7.3nm,0.5s						
DJR	**Jarkent**	**4.11**	**314**	Pg	**Pb**	**14 54 15.6**	**+1.3**
	5.2nm,0.4s						
DJR				Lg	Lg	14 55 06.7	
	7.3nm,0.5s						
SATY	**Saty**	**4.36**	**292**	*eP*	**Pb**	**14 54 18.0**	**-0.5**
	11nm,0.6s						
SATY				*eS*	**Sb**	**14 55 10.4**	**-0.9**
	11nm,0.3s						
MNBS	**Baschi**	**4.78**	**304**	*eP*	**Pb**	**14 54 24.9**	**-0.9**
	2.1nm,0.4s						
MNBS				*eS*	**Sb**	**14 55 22.7**	**-0.6**
	18nm,0.6s						
MNBS	**Baschi**	**4.78**	**304**	Pg	**Pb**	**14 54 24.9**	**-0.9**
	2.1nm,0.4s						
MNBS				Lg	Lg	14 55 22.7	
	18nm,0.6s						
MK31	**Makanchi Array**	**5.37**	**348**	⇓Pn	**Pn**	**14 54 21.9**	**0.0**
	2.4nm,1.1s,baz=163,slow=13,SNR=9.1						
MK31				⇑Pg	**Pg**	**14 54 41.2**	**-3.4**
	1.2nm,0.6s,baz=173,slow=16,SNR=4.5						
MK31				⇑Sn	**Sn**	**14 55 24.9**	**+1.1**
	0.8nm,0.5s						
MK31				⇑Lg	Lg	14 55 51.5	
	2.9nm,0.6s,baz=168,slow=27,SNR=5.1						
MAKZ	**Makanchi**	**5.43**	**346**	⇑Pg	**Pb**	**14 54 38.4**	**+1.6**
	3.3nm,1.2s						
MAKZ				⇑Sn	**Sn**	**14 55 26.2**	**+0.8**
	2.6nm,0.7s						
MAKZ				⇓Lg	Lg	14 55 52.9	
	2.2nm,0.7s						
KTBS	**Karatobe**	**5.76**	**294**	*eP*	**Pb**	**14 54 43.1**	**+0.7**
	1.0nm,0.2s						
KTBS				*eS*	**Sb**	**14 55 53.9**	**+2.4**
	16nm,0.5s						
KTBS	**Karatobe**	**5.76**	**294**	Pg	**Pb**	**14 54 43.1**	**+0.7**
	1.0nm,0.2s						
KTBS				Lg	Lg	14 55 53.9	
	16nm,0.5s						

*IDC **30** 14:54:26.3±1.3, 5.°93S×152.°60E, h0km, mb4.0/5,*
mb1 4.3/5, mb1mx3.7/43, mbtmp4.0/5, MS3.9/1, Ms1 3.9/1,
ms1mx2.9/37, Error ellipse: s-maj=98.2km s-min=13.9km
az=132.0
ISC 30 14:54:32.6±1.7, 5.°9S±0.°6×152.°3E±0.°5, h38km, n8, σ1s55/7,
mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.18**	**235**	Sn	**Sn**	**14 57 09.5**	**-1.3**
	2.1nm,0.3s,baz=109,slow=23,SNR=2.6						
WRA	**Warramunga Arr**	**22.36**	**230**	P	**P**	**14 59 29.0**	**+1.3**
	1.6nm,0.8s,baz=54,slow=9.9,SNR=1.5						
ASAR	**Alice Springs**	**25.02**	**223**	P	**P**	**14 59 52.7**	**-0.7**
	2.2nm,0.8s,baz=56,slow=9.4,SNR=2.1						
FITZ	**Fitzroy Crossi**	**28.71**	**243**	P	**P**	**15 00 28.4**	**+2.0**
	4.4nm,0.7s,baz=45,slow=10,SNR=2.1						
URZ	**Urewera**	**39.35**	**149**	LR	LR	15 16 50.4	
	comp=Z,152nm,18.2s,baz=31,slow=34						
ILAR	**Eielson Array**	**83.33**	**22**	P	**P**	**15 06 54.4**	**-0.9**
	1.4nm,0.7s,baz=244,slow=5.5,SNR=6.9						
YKA	**Yellowknife Ar**	**96.60**	**28**	P	**P**	**15 07 58.7**	**+0.5**
	0.2nm,0.6s,baz=275,slow=4.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**150.12**	**286**	PKPbc	**PKPbc**	**15 14 19.6**	**-0.9**
	0.9nm,0.6s,baz=66,slow=2.6,SNR=2.4						

IDC 30 14:58:39.4±2.6, 5.°45S×152.°65E, h0km, mb3.6/3,
mb1 3.8/3, mb1mx3.4/40, mbtmp3.6/3, Error ellipse:
s-maj=110.6km s-min=31.7km az=125.0, New Britain
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.91**	**229**	P	P	15 03 45.5	+0.3
	0.4nm,0.6s,baz=52,slow=9.9,SNR=2.0						
ASAR	**Alice Springs**	**25.58**	**223**	P	P	15 04 09.8	-0.6
	0.3nm,0.5s,baz=56,slow=9.1,SNR=2.6						
FITZ	**Fitzroy Crossi**	**29.22**	**242**	P	P	15 04 43.4	+0.2
	4.1nm,1.1s,baz=60,slow=8.1,SNR=2.2						
TORD	**Torodi Ar. Bea**	**150.36**	**287**	PKPbc	PKPbc	15 18 33.5	-0.4
	1.1nm,0.9s,baz=90,slow=0.3,SNR=3.8						

*IDC **30** 15:01:27.4±1.5, 2.°13N×96.°10E, h0km, mb3.9/7, mb1 4.0/9,*
mb1mx3.6/52, mbtmp3.9/9, ML3.4/1, MS3.4/2, Ms1 3.4/2,
*ms1mx2.7/48, Error ellipse: s-maj

FINES	**FINESS Array B**	**78.62**	**333**	P		**P**	**15 13 31.2**	**-0.4**
	comp=Z,3.7nm,1.1s,baz=110,slow=12,SNR=4.6							
ARCES	**ARCESS Array B**	**81.22**	**340**	P		**P**	**15 13 45.4**	**-0.3**
	comp=Z,6.4nm,1.1s,baz=85,slow=5.2,SNR=7.3							

IDC ***30*** *15:15:30.3±1.1,5.°69S×153.°06E, h0km, mb3.9/15, mb1 4.1/16, mb1mx4.0/35, mbtmp4.0/16, ML2.1/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/44, Error ellipse: s-maj=37.6km s-min=15.5km az=116.0*

NEIC ***30*** *15:15:33.7±2.2,5.°65S±0.°05×153.°1E±0.°2, h20km±8km, mb4.3/14, Error ellipse: s-maj=23.8km s-min=7.3km az=95.0*

ISC 30 15:15:36.2±0.9,5.°67S±0.°09×153.°0E±0.°1, h37km, n37, σ1$00/35, mb4.0/21, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.68**	**331**	Pn		**Pn**	**15 16 02.2**	**-0.8**
PMG	**Port Moresby**	**6.87**	**237**	Pn		**Pn**	**15 17 14.5**	**+0.1**
	2.3nm,0.3s,baz=38,slow=7.2,SNR=8.8							
PMG				Sn		**Sn**	**15 18 30.9**	**-0.4**
	5.0nm,0.3s,baz=357,slow=21,SNR=8.5							
PMG				LR		LR	15 20 20.6	
	comp=Z,88nm,18.0s,baz=312,slow=42							
MTN	**Manton Dam**	**22.70**	**250**	P		**P**	**15 20 36.5**	**+1.6**
MTN				IAmb		IAmb	15 20 40.5	
	comp=Z,9.4nm,0.5s							
WR0	**Warramunga Arr**	**22.88**	**230**	P		**P**	**15 20 37.6**	**+0.9**
WR0				IAmb		IAmb	15 20 51.0	
	comp=Z,8.1nm,1.2s							
WB0	**Warramunga Arr**	**22.88**	**231**	P		**P**	**15 20 37.9**	**+1.2**
WB0				IAmb		IAmb	15 20 41.3	
	comp=Z,6.5nm,1.1s							
WB2	**Warramunga Arr**	**23.02**	**230**	P		**P**	**15 20 36.8**	**-1.3**
WB2				IAmb		IAmb	15 20 49.4	
	comp=Z,6.0nm,0.9s							
WRA	**Warramunga Arr**	**23.02**	**230**	P		**P**	**15 20 37.8**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=54,slow=9.7,SNR=19							
WRA	**Warramunga Arr**	**23.02**	**230**	P		**P**	**15 20 37.9**	**-0.3**
AS31	**Alice Springs**	**25.65**	**224**	P		**P**	**15 21 02.9**	**+0.3**
ASAR	**Alice Springs**	**25.65**	**224**	P		**P**	**15 21 03.0**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=57,slow=9.0,SNR=35							
ASAR	**Alice Springs**	**25.65**	**224**	P		**P**	**15 21 02.2**	**-0.5**
STKA	**Stephens Creek**	**28.17**	**201**	P		**P**	**15 21 23.8**	**-1.4**
	comp=Z,2.0nm,0.9s,baz=37,slow=13,SNR=6.2							
STKA	**Stephens Creek**	**28.17**	**201**	P		**P**	**15 21 24.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**29.42**	**243**	P		**P**	**15 21 35.8**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=76,slow=6.6,SNR=26							
FITZ	**Fitzroy Crossi**	**29.42**	**243**	P		**P**	**15 21 35.9**	**-0.5**
FITZ				IAmb		IAmb	15 21 47.7	
	comp=Z,7.0nm,1.0s							
FORT	**Forrest**	**34.24**	**220**	P		**P**	**15 22 18.8**	**+0.2**
URZ	**Urewera**	**39.15**	**149**	LR		LR	15 39 12.7	
	comp=Z,104nm,18.0s,baz=31,slow=36							
JNU	**Nakatsue**	**43.91**	**333**	P		**P**	**15 23 37.5**	**-2.0**
	comp=Z,11nm,0.9s,baz=16,slow=16,SNR=4.8							
JNU	**Nakatsue**	**43.91**	**333**	IAmb		IAmb	15 23 45.4	
	comp=Z,28nm,1.0s							
JSD	**Sado**	**45.59**	**344**	P		**P**	**15 23 52.3**	**-0.3**
JSD				IAmb		IAmb	15 23 54.5	
	comp=Z,16nm,1.4s							
KSRS	**Korea Array**	**48.85**	**333**	P		**P**	**15 24 18.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=158,slow=8.9,SNR=1.9							
USA0B	**Ussuriysk Arra**	**53.12**	**341**	P		**P**	**15 24 48.0**	**-2.1**
USA0B				IAmb		IAmb	15 25 11.2	
	comp=Z,12nm,1.5s							
USRK	**Ussuriysk Ar.**	**53.12**	**341**	P		**P**	**15 24 48.0**	**-2.1**
KLR	**Kul'dur**	**57.72**	**344**	P		**P**	**15 25 23.8**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=124,slow=3.6,SNR=1.7							
CMAR	**Chiang Mai Arr**	**58.41**	**296**	P		**P**	**15 25 29.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=139,slow=7.2,SNR=4.6							
PEA0B	**Petropavlovsk-**	**58.69**	**3**	P		**P**	**15 25 31.2**	**+1.4**
PETK	**Petropavlovsk-**	**58.69**	**3**	P		**P**	**15 25 30.3**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=156,slow=6.5,SNR=7.8							
PETK	**Petropavlovsk-**	**58.69**	**3**	P		**P**	**15 25 31.2**	**+1.4**
SONM	**Songino Array**	**67.15**	**328**	P		**P**	**15 26 27.3**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=150,slow=4.3,SNR=3.7							
SONM	**Songino Array**	**67.15**	**328**	IAmb		IAmb	15 26 45.4	
	comp=Z,1.2nm,1.2s							
MKAR	**Makanchi Array**	**81.09**	**319**	P		**P**	**15 27 48.2**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=104,slow=5.1,SNR=4.0							
ZALV	**Zalesovo Beam**	**81.97**	**326**	P		**P**	**15 27 52.5**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=110,slow=8.2,SNR=2.7							
ILAR	**Eielson Array**	**82.89**	**22**	P		**P**	**15 27 55.8**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=256,slow=4.6,SNR=4.6							
INK	**Inuvik**	**89.19**	**21**	P		**P**	**15 28 27.9**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=262,slow=8.0,SNR=2.6							
YBH	**Yreka Blue Hor**	**89.49**	**48**	LR		LR	16 05 52.7	
	comp=Z,26nm,18.5s,baz=294,slow=34							
YKA	**Yellowknife Ar**	**96.10**	**28**	P		**P**	**15 29 00.1**	**+0.5**
	comp=Z,0.1nm,0.2s,baz=255,slow=3.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**150.74**	**287**	PKPbc		**PKiKP**	**15 35 26.4**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=72,slow=1.3,SNR=2.9							
TORD				PKPab		**pPKPdf**	**15 35 30.4**	**0.0**
	comp=Z,0.5nm,0.5s,baz=86,slow=2.1,SNR=5.8							

IDC ***30*** *15:32:23.9±0.5, 12.°98N×146.°10E, h0km, mb4.6/37, mb1 4.7/38, mb1mx4.5/61, mbtmp4.6/38, ML4.9/1, MS3.7/21, Ms1 3.7/21, ms1mx3.5/52, Error ellipse: s-maj=15.3km s-min=11.5km az=106.0*

DJA ***30*** *15:32:24.8±1.8, 13.°N±4.°×14.°6E±.°, h10km±12km, M4.9/19, mB5.5/6, mb4.9/19, MLv4.8/1, Mw(mB)4.9/6*

BJI ***30*** *15:32:26.8±0.0, 13.°16N×146.°20E, h26km, mB4.9/33, mb4.8/52, Ms4.2/15, Ms7 4.0/15*

NEIC ***30*** *15:32:27.6±1.4, 12.°90N±0.°06×146.°08E±0.°08, h25km±4km, mb4.9/180, Error ellipse: s-maj=11.6km s-min=9.3km az=100.0*

ISC 30 15:32:28.6±0.3, 12.°90N±0.°05×146.°12E±0.°06, h35km, n316, σ1$00/308, mb4.9/140, MS3.8/23, 1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.40**	**299**	Pn		**Pn**	**15 32 51.0**	**-0.7**
ANA2	**Anatahan**	**3.44**	**353**	Pn		**Pn**	**15 33 19.6**	**-0.3**
PATS	**Pohnpei**	**13.43**	**116**	Pn		**Pn**	**15 35 33.0**	**-3.8**
JCJ	**Chichijima**	**14.60**	**346**	Pn		**Pn**	**15 35 51.3**	**-1.4**
	4.9nm,0.3s,baz=266,slow=19,SNR=1.8							
JCJ	**Chichijima**	**14.60**	**346**	Pn		**Pn**	**15 35 52.4**	**-0.3**
MANU	**Manus Island**	**14.90**	**175**	Pn		**Pn**	**15 35 56.2**	**-0.6**
JAY	**Jayapura**	**16.23**	**200**	LR		LR	15 42 06.9	
	comp=Z,155nm,18.9s,baz=32,slow=36							
JMZ	**Minamidaito 2**	**19.02**	**315**	P		**P**	**15 36 47.0**	**-0.6**
SIJI	**Sorong**	**20.11**	**228**	P		Pn	15 37 01.7	+0.1
	41nm,0.8s,baz=53,slow=9.2,SNR=15							
SWI	**Sorong**	**20.11**	**228**	P		Pn	15 37 05.2	+3.6
	719nm62nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**20.55**	**72**	T		T	15 57 09.1	
	baz=254,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hy**	**20.57**	**72**	T		T	15 57 09.1	
	baz=254,slow=75,SNR=5.9							
H11S2	**WAKE ISLAND Hy**	**20.57**	**72**	T		T	15 57 11.6	
	baz=254,slow=75,SNR=13							
FAKI	**Fak Fak**	**20.90**	**222**	P		**P**	**15 37 08.4**	**+0.2**
FAKI				IAmb		IAmb	15 37 13.4	
	comp=Z,60nm,1.0s							
FAKI	**Fak Fak**	**20.90**	**222**	P		Pn	15 37 11.2	+0.4
	comp=Z,64nm,1.2s							
JHJ2	**Mitsune**	**20.93**	**345**	P		**P**	**15 37 08.5**	**+0.2**
JOW	**Kunigami**	**21.73**	**312**	P		**P**	**15 37 18.1**	**+1.1**
	comp=Z,21nm,0.4s,baz=143,slow=13,SNR=14							
JOW				LR		LR	15 44 43.9	
	comp=Z,313nm,20.0s,baz=111,slow=34							
JOW	**Kunigami**	**21.73**	**312**	P		**P**	**15 37 17.3**	**+0.3**
JOW				IAmb		IAmb	15 37 20.5	
	comp=Z,32nm,0.9s							
PMG	**Port Moresby**	**22.18**	**177**	P		**P**	**15 37 21.4**	**-0.5**
PMG				IAmb		IAmb	15 37 37.9	
	comp=Z,52nm,1.3s							
JSU	**Suzuyama**	**23.47**	**325**	P		**P**	**15 37 35.0**	**-0.2**
JMN	**Monobe**	**23.55**	**334**			**P**	**15 37 35.6**	**-0.3**
JMN				IAmb		IAmb	15 37 40.2	
	comp=Z,61nm,1.3s							
INU	**Inuyama**	**23.82**	**341**			**P**	**15 37 37.0**	**-1.4**
INU				IAmb		IAmb	15 37 40.8	
	comp=Z,45nm,1.5s							
JYT	**Yasato**	**23.83**	**348**	P		**P**	**15 37 36.8**	**-1.7**
JGF	**Kuroka**	**23.95**	**342**			**P**	**15 37 37.9**	**-1.7**
JWT	**Wachi**	**24.30**	**338**	P		**P**	**15 37 41.7**	**-1.1**
JNU	**Nakatsue**	**24.48**	**328**	P		**P**	**15 37 44.1**	**-0.5**
MJAR	**Matsushiro Arr**	**24.59**	**345**	P		**P**	**15 37 45.0**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=186,slow=11,SNR=12							
MJAR				LR		LR	15 46 47.9	
	comp=Z,309nm,19.3s,baz=165,slow=35							
MJAR	**Matsushiro Arr**	**24.59**	**345**	P		**P**	**15 37 43.1**	**-2.4**
MAJO	**Matsushiro**	**24.59**	**345**			**P**	**15 37 42.6**	**-2.9**
MAT	**Matsushiro**	**24.59**	**345**	P		**P**	**15 37 43.1**	**-2.4**
JHS	**Saijyo**	**24.96**	**334**	P		**P**	**15 37 47.5**	**-1.4**
JHS				IAmb		IAmb	15 38 10.5	
	comp=Z,17nm,0.8s							
SZP	**Santa**	**25.18**	**284**	P		**P**	**15 37 50.6**	**-0.5**
SZP				IAmb		IAmb	15 38 12.9	
	comp=Z,56nm,1.3s							
JMM	**Marumori**	**25.31**	**350**	P		**P**	**15 37 51.2**	**-0.8**
YULB	**Yu-li**	**25.75**	**297**	P		**P**	**15 37 55.5**	**-0.7**
JSD	**Sado**	**26.00**	**346**	P		**P**	**15 37 56.3**	**-1.9**
HNR	**Honiara**	**26.09**	**148**	LR		LR	15 46 58.0	
	comp=Z,140nm,20.7s,baz=338,slow=33							
SSLB	**Suanglung**	**26.18**	**298**	P		**P**	**15 37 58.6**	**-1.5**
SSLB				IAmb		IAmb	15 38 06.2	
	comp=Z,21nm,0.9s							
TPUB	**Ta-pu**	**26.30**	**297**	P		**P**	**15 37 59.4**	**-1.8**
TPUB				IAmb		IAmb	15 38 11.9	
	comp=Z,44nm,1.3s							
JTU	**Tsushima**	**26.34**	**328**	P		**P**	**15 37 59.3**	**-2.0**
JTU				IAmb		IAmb	15 38 15.7	
	comp=Z,40nm,1.4s							
MRSI	**Marisa**	**26.96**	**245**	P		**P**	**15 38 10.7**	**+3.5**
	comp=Z,21nm,0.9s							
JTM	**Tenmabayashi**	**28.13**	**352**	P		**P**	**15 38 16.0**	**-1.4**
KSRS	**Korea Array**	**29.37**	**330**	P		**P**	**15 38 27.2**	**-1.2**
	comp=Z,4.3nm,0.8s,baz=142,slow=9.9,SNR=16							
KSRS				PcP		**PcP**	**15 41 34.5**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=117,slow=4.4,SNR=4.5							
KSRS				LR		LR	15 49 37.8	
	comp=Z,108nm,19.1s,baz=155,slow=35							
KSAR	**Wonju Array Be**	**29.38**	**329**	P		**P**	**15 38 27.5**	**-1.0**
MTN	**Manton Dam**	**29.58**	**211**	P		**P**	**15 38 30.6**	**+0.1**
SOEI	**Soe**	**31.27**	**225**	P		**P**	**15 38 45.3**	**-0.2**
SOEI				IAmb		IAmb	15 39 12.3	
	comp=Z,28nm,1.1s							
NJ2	**Nanjing**	**31.45**	**312**	*eP*		**P**	**15 38 46.8**	**0.0**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
USRK	**Ussuriysk Ar.**	**33.47**	**341**	P		**P**	**15 39 03.1**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=150,slow=10,SNR=6.0							
USRK				LR		LR	15 51 17.7	
	comp=Z,158nm,19.9s,baz=138,slow=34							
WR0	**Warramunga Arr**	**34.59**	**199**	P		**P**	**15 39 13.9**	**-0.5**
WRAB	**Tennant Creek**	**34.62**	**200**	P		**P**	**15 39 13.9**	**-0.8**
WB2	**Warramunga Arr**	**34.63**	**200**	P		**P**	**15 39 13.7**	**-1.1**
WRA	**Warramunga Arr**	**34.64**	**200**	P		**P**	**15 39 14.6**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=21,slow=9.3,SNR=26							
WRA				PcP		**PcP**	**15 41 49.8**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=9.7,slow=3.0,SNR=5.5							
WRA				LR		LR	15 54 31.5	
	comp=Z,119nm,18.0s,baz=215,slow=38							
WRA	**Warramunga Arr**	**34.64**	**200**	P		**P**	**15 39 13.6**	**-1.2**
SBUM	**Sibu**	**35.12**	**256**	P		**P**	**15 39 18.8**	**-0.3**
SBUM				IAmb		IAmb	15 39 21.3	
	comp=Z,40nm,1.5s							
QIZ	**Qiongzhong**	**35.36**	**285**	P		**P**	**15 39 21.5**	**+0.3**
QIZ				S		**S**	**15 44 49.8**	**-3.8**
QIZ				LR		LR		
	comp=Z,88nm,15.2s							
QIZ				LR		LR		
	comp=Z,170nm,19.1s							
QIZ				LR		LR		
	comp=Z,190nm,22.5s							
DLV	**T Lat**	**36.75**	**273**	P		**P**	**15 39 32.2**	**-1.1**
DLV				IAmb		IAmb	15 39 50.4	
	comp=Z,18nm,1.1s							
FITZ	**Fitzroy Crossi**	**36.84**	**214**	P		**P**	**15 39 33.6**	**-0.1**
KSM	**Kuching**	**37.24**	**255**	P		**P**	**15 39 37.1**	**-0.1**
KSM				IAmb		IAmb	15 39 39.0	
	comp=Z,24nm,1.2s							
BJT	**Baijiatuan**	**37.73**	**321**	P		**P**	**15 39 41.0**	**-0.1**
BJI	**Beijing**	**37.74**	**321**	P		**P**	**15 39 41.5**	**+0.4**
BJI				pmax		pmax		
	comp=Z,12nm,0.7s							
ENH	**Enshi**	**37.99**	**303**	P		**P**	**15 39 43.3**	**-0.1**
ENH				IAmb		IAmb	15 39 45.3	
	comp=Z,13nm,0.7s							
KLR	**Kul'dur**	**38.12**	**345**	P		**P**	**15 39 42.5**	**-1.7**
	comp=Z,3.5nm,0.6s,baz=149,slow=6.0,SNR=14							
JAGI	**Jajag, Banyuwa**	**38.20**	**238**	P		**P**	**15 39 43.5**	**-1.9**
JAGI				IAmb		IAmb	15 39 45.8	
	comp=Z,28nm,1.4s							
AS31	**Alice Springs**	**38.26**	**198**	P		**P**	**15 39 45.4**	**-0.2**
ASAR	**Alice Springs**	**38.26**	**198**	P		**P**	**15 39 45.5**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=23,slow=9.2,SNR=25							
ASAR				PcP		**PcP**	**15 42 00.6**	**+1.0**
	comp=Z,1.4nm,1.1s,baz=32,slow=2.3,SNR=2.7							
ASAR				LR		LR	15 56 46.7	
	comp=Z,116nm,18.8s,baz=112,slow=38							
ASAR	**Alice Springs**	**38.26**	**198**	P		**P**	**15 39 44.5**	**-1.2**
XAN	**Xi'an**	**39.78**	**308**	P		**P**	**15 39 58.5**	**+0.1**
XAN				pP		pP	15 40 07.0	+0.9
XAN				sP		sP	15 40 12.8	+3.5
XAN				pmax		pmax		
	comp=Z,17nm,1.0s							
XAN				pmax		pmax		
	comp=Z,15nm,4.9s							
XAN	**Xi'an**	**39.78**	**308**	P		**P**	**15 39 57.1**	**-1.3**
HHC	**Hu-ho-hao-te**	**41.09**	**319**	*eP*		**P**	**15 40 09.5**	**+0.3**
HHC				pmax		pmax		
	comp=Z,23nm,1.0s							
HHC				pmax		pmax		
	comp=Z,69nm,5.5s							
PEA0B	**Petropavlovsk-**	**41.16**	**11**	P		**P**	**15 40 09.7**	**+0.2**
PETK	**Petropavlovsk-**	**41.16**	**11**	P		**P**	**15 40 09.8**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=167,slow=5.8,SNR=17							
PETK				PcP		**PcP**	**15 42 08.0**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=86,slow=3.6,SNR=5.3							
PET	**Petropavlovsk**	**41.26**	**11**	P		**P**	**15 40 10.8**	**+0.6**
HIA	**Hailar**	**42.28**	**334**	P		**P**	**15 40 18.0**	**-0.8**
MBWA	**Marble Bar**	**42.64**	**218**	P		**P**	**15 40 21.6**	**-0.4**
PSA00	**Pilbara Seismi**	**42.88**	**217**	P		**P**	**15 40 24.8**	**+0.9**
MYKOM	**Kota Tinggi**	**43.28**	**259**	P		**P**	**15 40 28.0**	**+0.7**
MYKOM				IAmb		IAmb	15 40 29.0	
	comp=Z,28nm,0.9s							
LZH	**Lanzhou**	**44.40**	**309**	*eP*		**P**	**15 40 37.5**	**+1.2**
LZH				pP		sP	15 40 46.3	-0.6
LZH				sP		pwP	15 40 50.0	-5.6
LZH				pmax		pmax		
	comp=Z,47nm,1.3s							
STKA	**Stephens Creek**	**44.73**	**185**	P		**P**	**15 40 38.5**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=349,slow=6.2,SNR=4.2							
STKA				LR		LR	16 01 23.5	
	comp=Z,78nm,18.1s,baz=216,slow=39							
STKA	**Stephens Creek**	**44.73**	**185**	P		**P**	**15 40 38.8**	**+0.2**
KASI	**Kota Agung**	**45.23**	**249**	P		**P**	**15 40 43.0**	**+0.1**
	comp=Z,34nm,1.0s							
CM35	**Chiang Mai Arr**	**45.46**	**284**	P		**P**	**15 40 45.0**	**+0.3**
CM34	**Chiang Mai Arr**	**45.47**	**284**	P		**P**	**15 40 45.0**	**+0.2**
KULM	**Kulim**	**45.48**	**265**	P		**P**	**15 40 45.8**	**+0.9**
KULM				IAmb		IAmb	15 40 60.0	
	comp=Z,28nm,1.3s							
CM36	**Chiang Mai Arr**	**45.52**	**283**	P		**P**	**15 40 46.0**	**+0.8**
CM09	**Chiang Mai Arr**	**45.62**	**283**	P		**P**	**15 40 47.4**	**+1.4**
CM04	**Chiang Mai Arr**	**45.63**	**283**	P		**P**	**15 40 47.0**	**+0.9**
CM01	**Chiang Mai Arr**	**45.65**	**283**	P		**P**	**15 40 47.6**	**+1.4**
CMMT	**Chiang Mai**	**45.66**	**284**	P		**P**	**15 40 46.2**	**-0.1**
CM02	**Chiang Mai Arr**	**45.66**	**283**	P		**P**	**15 40 47.5**	**+1.3**
CM33	**Chiang Mai Arr**	**45.66**	**284**	P		**P**	**15 40 46.0**	**-0.3**
CM05	**Chiang Mai Arr**	**45.66**	**283**	P		**P**	**15 40 47.4**	**+1.1**
CHTO	**Chiang Mai**	**45.66**	**284**	P		**P**	**15 40 46.2**	**-0.1**
CM31	**Chiang Mai Arr**	**45.66**	**283**	P		**P**	**15 40 47.4**	**+1.1**
CM31	**Chiang Mai Arr**	**45.66**	**283**	P		**P**	**15 40 46.6**	**+0.2**
CM31				IAmb		IAmb	15 40 48.1	
	comp=Z,8.1nm,0.7s							
CMAR	**Chiang Mai Arr**	**45.66**	**283**	P		**P**	**15 40 47.5**	**+1.1**
	comp=Z,6.2nm,0.7s,baz=85,slow=6.2,SNR=53							
CMAR				PcP		**PcP**	**15 42 26.1**	**+2.0**
	comp=Z,0.9nm,0.7s,baz=90,slow=1.4,SNR=4.3							
CMAR				LR		LR	15 58 50.2	
	comp=Z,72nm,20.4s,baz=195,slow=35							
CMAR	**Chiang Mai Arr**	**45.66**	**283**	P		**P**	**15 40 47.0**	**+0.7**
CM15	**Chiang Mai Arr**	**45.68**	**283**	P		**P**	**15 40 47.0**	**+0.5**
CM13	**Chiang Mai Arr**	**45.70**	**283**	P		**P**	**15 40 47.0**	**+0.4**
CM32	**Chiang Mai Arr**	**45.75**	**284**	P		P	15 40 57.0	+10
XMIS	**Christmas Isla**	**46.41**	**242**	P		**P**	**15 40 51.2**	**-1.1**
BBOO	**Buckleboo**	**46.46**	**192**	P		**P**	**15 40 52.8**	**+0.6**
BBOO				IAmb		IAmb	15 41 02.7	
	comp=Z,12nm,1.1s							
MA2	**Magadan**	**46.72**	**3**	P		**P**	**15 40 53.5**	**-0.5**
	comp=Z,11nm,0.7s,baz=185,slow=7.9,SNR=34							
MA2				LR		LR	16 01 33.1	
	comp=Z,53nm,19.1s,baz=186,slow=38							
MA2	**Magadan**	**46.72**	**3**	P		**P**	**15 40 53.5**	**-0.5**
MA2				IAmb		IAmb	15 40 55.5	
	comp=Z,13nm,0.7s							
FORT	**Forrest**	**46.77**	**201**	P		**P**	**15 40 55.0**	**+0.2**
FORT				IAmb		IAmb	15 41 23.9	
	comp=Z,14nm,1.0s							
GIRL	**Giralia**	**47.16**	**222**	P		**P**	**15 40 57.8**	**-0.1**
ULN	**Ulaanbaatar**	**47.64**	**325**	P		**P**	**15 41 01.9**	**+0.3**
ULN				IAmb		IAmb	15 41 04.0	
	comp=Z,6.1nm,0.7s							
PSI	**Prapat**	**47.74**	**262**	P		**P**	**15 41 02.0**	**-0.8**
	comp=Z,2.4nm,0.3s,baz=184,slow=1.6,SNR=4.8							
RPSI	**Rantau Prapat**	**47.77**	**262**	P		**P**	**15 41 01.6**	**-1.2**
SONM	**Songino Array**	**48.00**	**325**	P		**P**	**15 41 04.6**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=137,slow=7.5,SNR=19							
SONM				PcP		**PcP**	**15 42 33.5**	**+1.5**
	comp=Z,2.9nm,0.9s,baz=148,slow=4.0,SNR=4.0							
SONM				LR		LR	16 01 42.9	
	comp=Z,146nm,18.9s,baz=84,slow=37							
SONM	**Songino Array**	**48.00**	**325**	P		**P**	**15 41 03.6**	**-0.7**
GTA	**Gaotai**	**48.54**	**312**	‖P		**P**	**15 41 09.0**	**+0.3**
GTA				pP		sP	15 41 19.3	0.0
GTA				sP		pwP	15 41 23.3	-4.8
GTA				PcP		**PcP**	**15 42 35.3**	**+1.1**
GTA				pmax		pmax		
	comp=Z,26nm,0.9s							
GTA				pmax		pmax		
	comp=Z,63nm,4.4s							
GTA				LR		LR		
	comp=Z,84nm,16.0s							
GTA				LR		LR		
	comp=Z,110nm,18.2s							
GTA				LR		LR		
	comp=Z,92nm,16.0s							
ADK	**Adak**	**49.04**	**30**	P		**P**	**15 41 11.9**	**-0.1**
GSI	**Gunungsitoli**	**49.43**	**261**	P		**P**	**15 41 14.9**	**-0.7**
SEY	**Seymchan**	**50.16**	**4**	P		**P**	**15 41 20.2**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=178,slow=6.3,SNR=26							
TOO	**Toolangi**	**50.20**	**181**	P		**P**	**15 41 22.2**	**+1.1**
ATKA	**Atka Island**	**50.45**	**31**	P		**P**	**15 41 23.2**	**+0.4**
YAK	**Yakutsk**	**50.47**	**350**	P		**P**	**15 41 21.7**	**-1.0**
	comp=Z,38nm,1.1s,baz=335,slow=1.3,SNR=13							
YAK				LR		LR	16 00 30.4	
	comp=Z,54nm,21.6s,baz=91,slow=34							
YAK	**Yakutsk**	**50.47**	**350**	P		**P**	**15 41 21.4**	**-1.3**
MORW	**Morawa**	**50.85**	**214**	P		**P**	**15 41 25.2**	**-0.8**
MORW				IAmb		IAmb	15 41 26.3	
	comp=Z,23nm,1.4s							
SAIH	**SAIHA**	**51.29**	**289**	*eP*		**P**	**15 41 29.9**	**+0.2**
SAIH				IAmb		IAmb	15 41 33.3	
	comp=Z,23nm,1.0s							
TLY	**Talaya**	**51.59**	**328**	P		**P**	**15 41 30.6**	**-0.8**
	comp=Z,3.3nm,0.5s,baz=164,slow=5.7,SNR=4.9							
TLY	**Talaya**	**51.59**	**328**	P		**P**	**15 41 31.0**	**-0.4**
SHL	**Shillong**	**52.42**	**292**	P		**P**	**15 41 38.0**	**-0.2**
LSA	**Lhasa**	**53.40**	**297**	P		**P**	**15 41 46.8**	**+1.1**
LSA				pmax		pmax		
	comp=Z,40nm,0.7s							
LSA	**Lhasa**	**53.40**	**297**	P		**P**	**15 41 46.9**	**+1.1**
LSA				IAmb		IAmb	15 41 48.8	
	comp=Z,7.4nm,0.6s							
RAO	**Raoul Island**	**54.42**	**141**	LR		LR	16 03 47.0	
	comp=Z,52nm,18.3s,baz=283,slow=35							
COCO	**West Island**	**54.88**	**245

BHPL IAmb IAmb 15 43 11.0
comp=Z,3.4nm,0.4s
SKT Skwentna 65.84 27 P P 15 43 10.4 0.0
SKT IAmb IAmb 15 43 11.4
comp=Z,8.3nm,1.0s
SKT Skwentna 65.84 27 P 15 43 11.1
baz=251
PPLA Purkeypile 65.86 26 P P **15 43 11.6 +1.0**
PPLA IAmb IAmb 15 43 26.3
comp=Z,16nm,1.3s
PPLA Purkeypile 65.86 26 P 15 43 12.0
baz=250
SUA Susitna One 66.03 28 P P **15 43 13.5 +1.8**
SUA IAmb IAmb 15 43 36.1
comp=Z,14nm,1.2s
MDOK Medeo 66.05 312 *eP* P **15 43 12.7 +0.4**
baz=312
TNSS Tian-Shan 66.11 311 *eP* P **15 43 13.2 +0.3**
baz=311
CHUM Lake Minchumin 66.14 25 P 15 43 14.0
baz=250
CHKK Chushkaly 66.15 312 *eP* P **15 43 12.7 0.0**
baz=312
O22K Cooper Landing 66.22 29 P P **15 43 12.9 +0.2**
O22K Cooper Landing 66.22 29 P 15 43 13.8
baz=254
SEW Seward 66.24 30 P P **15 43 13.5 +0.6**
DHRM DHARAMSHALA 66.25 300 *eP* P **15 43 13.2 -0.6**
RC01 Rabbit Creek A 66.39 29 P P **15 43 13.9 +0.1**
RC01 Rabbit Creek A 66.39 29 P 15 43 14.6
baz=253
KTH Kantishna Hill 66.62 26 P P **15 43 15.8 +0.4**
KUU Kurty 66.62 312 *eP* P **15 43 15.5 -0.2**
comp=Z,27nm,0.9s,baz=312
KSH Kashi 66.63 308 P P **15 43 19.8 +3.8**
KSH pmax pmax
comp=Z,21nm,0.6s
KSH pmax pmax
comp=Z,230nm,5.1s
BPAW Bear Paw Mtn. 66.77 25 P P **15 43 16.6 +0.3**
BPAW IAmb IAmb 15 43 18.1
comp=Z,20nm,1.4s
BPAW Bear Paw Mtn. 66.77 25 P 15 43 17.4
baz=251,SNR=6.8
PMR Palmer 66.81 28 P P **15 43 17.6 +1.1**
PMR IAmb IAmb 15 43 33.8
comp=Z,7.4nm,0.7s
TRF Thorofare Moun 66.85 26 P P **15 43 17.0 0.0**
TRF IAmb IAmb 15 43 43.0
comp=Z,8.0nm,1.1s
TRF Thorofare Moun 66.85 26 P 15 43 17.2
baz=252
GHO Glory Hole Cre 66.96 28 P P **15 43 17.9 +0.3**
PWL Port Wells 66.98 29 P P **15 43 18.3 +0.6**
KNK Knik Glacier 67.07 28 P P **15 43 19.0 +0.8**
KNK Knik Glacier 67.07 28 P 15 43 19.3
baz=254
MLY Manley 67.18 24 P P **15 43 19.5 +0.6**
MLY IAmb IAmb 15 43 20.7
comp=Z,6.8nm,0.8s
MLY Manley 67.18 24 P 15 43 19.9
baz=251,SNR=10
NRIK Noril'sk 67.18 341 P P **15 43 18.1 -0.6**
comp=Z,3.8nm,0.6s,baz=108,slow=8.0,SNR=10
NRIK Noril'sk 67.18 341 P P **15 43 19.0 +0.3**
NRIK IAmb IAmb 15 43 19.7
comp=Z,12nm,1.1s
SML Sawmill 67.24 28 P P **15 43 19.9 +0.5**
SML Sawmill 67.24 28 P 15 43 20.4
baz=254,SNR=5.5
BWN Browne 67.42 25 P P **15 43 21.1 +0.7**
WAT2 Susitna Watana 67.44 27 P 15 43 21.0
baz=254
RND Reindeer 67.45 26 P P **15 43 20.7 0.0**
RND IAmb IAmb 15 43 36.8
comp=Z,6.8nm,0.9s
MCK McKinley 67.52 26 P P **15 43 21.4 +0.3**
KBK Karagaybulak 67.55 311 P P **15 43 23.2 +1.4**
SNR=7.0
SCM Sheep Creek Mo 67.70 28 P P **15 43 22.9 +0.6**
WAT6 Susitna Watana 67.71 27 P 15 43 23.2
baz=255,SNR=5.1
CHMS Chumysh 67.71 311 P P **15 43 23.7 +1.0**
SNR=5.6
NEA2 Nenana 67.72 25 P P **15 43 22.6 +0.3**
NEA2 Nenana 67.72 25 P 15 43 23.0
baz=252
I23K Minto, Yukon-K 67.77 24 P P **15 43 23.6 +1.0**
I23K IAmb IAmb 15 43 52.6
comp=Z,21nm,1.4s
I23K Minto, Yukon-K 67.77 24 P 15 43 23.8
baz=252,SNR=6.8
FID Port Fidalgo 67.83 29 P P **15 43 23.9 +0.8**
UCH Uchtor 67.85 310 P P **15 43 25.6 +1.5**
SNR=8.0
AAK Ala-Archa 67.89 311 P P **15 43 24.8 +0.8**
AAK IAmb IAmb 15 43 25.8
comp=Z,5.6nm,0.7s
USP Ospenovka 67.91 312 P P **15 43 25.2 +1.3**
SNR=5.9
WRH Wood River Hil 68.09 25 P P **15 43 24.3 -0.2**
WRH IAmb IAmb 15 43 25.4
comp=Z,6.5nm,0.8s
COLD Coldfoot 68.12 22 P 15 43 26.3
baz=250
MDM Murphy Dome 68.17 25 P P **15 43 26.2 +1.1**
MDM IAmb IAmb 15 43 27.6
comp=Z,5.2nm,0.6s
CCB Clear Creek Bu 68.25 25 P P **15 43 25.4 -0.1**
CCB IAmb IAmb 15 43 54.4
comp=Z,11nm,1.4s
KLU Klutina 68.27 29 P P **15 43 27.2 +1.3**
KLU IAmb IAmb 15 43 28.1
comp=Z,18nm,1.2s
KLU Klutina 68.27 29 P 15 43 27.2
baz=257
M24K Tolsona, Glenn 68.30 28 P P **15 43 27.5 +1.5**
M24K Tolsona, Glenn 68.30 28 P 15 43 27.9
baz=256
BTLS Baital 68.34 313 *eP* P **15 43 26.5 -0.1**
comp=Z,11nm,1.0s,baz=314
AML Almayashu 68.46 310 P P **15 43 29.7 +1.8**
SNR=9.3
HDA Harding Lake 68.55 25 P 15 43 27.3
baz=255
HDA P 15 43 27.3
baz=255
IL31 68.67 25 P P **15 43 27.6 -0.6**
IL31 IAmb IAmb 15 43 29.2
comp=Z,11nm,1.2s
ILAR Eielson Array 68.67 25 P P **15 43 27.5 -0.7**
comp=Z,2.9nm,0.5s,baz=251,slow=5.9,SNR=49
BMRM Bremner River 68.78 29 P P **15 43 30.0 +1.0**
BMRM Bremner River 68.78 29 P 15 43 30.1
baz=258
NIL Nilore 68.78 301 P P **15 43 30.6 +1.0**
TOLK Toolik Lake Re 68.82 21 P 15 43 30.7
baz=250
PAX Paxson 68.82 27 P P **15 43 29.7 +0.4**
PAX IAmb IAmb 15 43 31.1
comp=Z,22nm,1.4s
PAX Paxson 68.82 27 P 15 43 30.4
baz=256,SNR=6.5
N25K Chitina, Valde 68.91 29 P P **15 43 30.2 +0.3**
N25K IAmb IAmb 15 43 31.8
comp=Z,21nm,1.2s
N25K Chitina, Valde 68.91 29 P 15 43 31.3
baz=258
GLB Gilahina Butte 69.25 29 P P **15 43 32.7 +0.8**
GLB IAmb IAmb 15 43 34.6
comp=Z,20nm,1.2s
POO Poona 69.41 285 *ex* P **15 43 31.0 -2.7**
CRQE Cirque 69.46 30 P 15 43 34.9
baz=260
BRZS Berezniki 69.59 319 *eP* P **15 43 33.9 -0.3**
comp=Z,9.3nm,1.2s,baz=319
DOT Dot Lake 69.59 27 P P **15 43 34.3 +0.3**
DOT IAmb IAmb 15 43 35.5
comp=Z,13nm,1.2s
MENT Mentasta 69.59 27 P P **15 43 35.1 +1.1**
MCARA McCarthy VSAT 69.61 29 P P **15 43 35.1 +1.0**
MCARA McCarthy VSAT 69.61 29 P 15 43 35.8
baz=259
SCRK Sand Creek 69.70 26 P P **15 43 35.0 +0.2**
SCRK Sand Creek 69.70 26 P 15 43 35.3
baz=258,SNR=5.8

FYU Fort Yukon 69.80 23 P P **15 43 36.0 +0.9**
FYU IAmb IAmb 15 44 04.0
comp=Z,20nm,1.1s
YAH Yahtse 70.05 30 P P **15 43 38.5 +1.4**
BARN Barnard Glacie 70.20 29 P P **15 43 39.1 +1.1**
BARN IAmb IAmb 15 43 40.4
comp=Z,17nm,1.2s
DZA Taraz 70.22 311 *eP* P **15 43 38.4 +0.1**
baz=311
PPT Papeete 70.32 114 LR LR 16 07 00.1
comp=Z,58nm,20.0s,baz=216,slow=30
CTG Chitna Glacier 70.34 30 P 15 43 40.7
baz=261
CTGM Chitina Glacie 70.35 30 P P **15 43 40.1 +1.3**
TABL Table Mountain 70.36 30 P P **15 43 39.7 +0.7**
L27K Beaver Creek, 70.47 27 P P **15 43 40.4 +1.0**
L27K IAmb IAmb 15 43 41.4
comp=Z,12nm,1.2s
L27K Beaver Creek, 70.47 27 P 15 43 40.7
baz=260,SNR=5.0
LOGN Logan Glacier 70.48 30 P P **15 43 41.0 +1.4**
K27K Chicken 70.53 26 P 15 43 41.1
baz=259
PCA Pinnacle 70.75 31 P P **15 43 42.4 +1.2**
KK31 Karatay Array 70.82 311 P P **15 43 42.9 +0.9**
KKAR Karatay Array 70.82 311 P P **15 43 43.0 +1.1**
KKAR Karatay Array 70.82 311 P P **15 43 42.9 +0.9**
KKAR IAmb IAmb 15 43 43.8
comp=Z,16nm,0.7s
EGAK Eagle 71.06 26 P P **15 43 44.0 +1.1**
EGAK IAmb IAmb 15 43 45.0
comp=Z,10nm,1.1s
EGAK Eagle 71.06 26 P 15 43 44.7
baz=260,SNR=5.7
IUG Iuzhnay 71.18 310 *eP* P **15 43 44.5 +0.3**
baz=310
BRVK Borovoye 71.29 322 P P **15 43 45.5 +1.1**
DAWY Dawson 71.70 27 P P **15 43 48.0 +1.2**
DAWY IAmb IAmb 15 43 50.5
comp=Z,12nm,1.4s
HYT Haines Junctio 72.19 30 P P **15 43 51.7 +1.8**
KBL Kabul 72.23 302 P P **15 43 51.6 +0.8**
EPYK Eagle Plains 73.12 24 P P **15 43 56.1 +0.9**
EPYK Eagle Plains 73.12 24 P 15 43 56.5
baz=264
BESE Bessie Mountai 73.37 32 P P **15 43 58.4 +1.5**
WHY Whitehorse 73.46 30 P P **15 43 59.2 +1.7**
WHY IAmb IAmb 15 44 00.2
comp=Z,11nm,0.9s
INK Inuvik 74.53 22 P P **15 44 03.5 +0.2**
comp=Z,6.2nm,0.9s,baz=262,slow=6.3,SNR=22
INK Inuvik 74.53 22 P P **15 44 03.4 0.0**
DLBC Dease Lake 75.90 33 P P **15 44 12.9 +1.3**
comp=Z,21nm,0.9s,baz=287,slow=5.1,SNR=23
DLBC Dease Lake 75.90 33 P P **15 44 13.0 +1.4**
DLBC IAmb IAmb 15 44 14.5
comp=Z,21nm,0.9s
HRA Herat 77.84 303 P P **15 44 23.4 +0.2**
HRA IAmb IAmb 15 44 25.5
comp=Z,20nm,0.9s
ABKAR Akbulak array 77.87 318 P P **15 44 22.6 -0.2**
ABKAR Akbulak array 77.87 318 P P **15 44 23.0 +0.2**
ABKAR IAmb IAmb 15 44 24.1
comp=Z,15nm,0.9s
C36M Paulatuk 77.96 21 P P **15 44 23.0 +0.2**
C36M IAmb IAmb 15 44 24.0
comp=Z,24nm,1.4s
C36M Paulatuk 77.96 21 P 15 44 23.5
baz=274
ARU Arti 78.03 325 LR LR 16 20 45.6
comp=Z,67nm,19.9s,baz=122,slow=37
ARU Arti 78.03 325 P P **15 44 23.7 +0.2**
ARU IAmb IAmb 15 44 25.0
comp=Z,14nm,0.7s
AKTO Aktyubinsk 78.98 319 LR LR 16 20 53.0
comp=Z,97nm,20.3s,baz=73,slow=37
GEYT Alibeck 80.64 307 P P **15 44 39.3 +1.1**
comp=Z,3.3nm,0.6s,baz=112,slow=1.6,SNR=6.4
GEYT Alibeck 80.64 307 P P **15 44 38.9 +0.6**
YBH Yreka Blue Hor 82.40 49 P P **15 44 49.1 +1.6**
comp=Z,2.2nm,0.7s,baz=184,slow=3.4,SNR=5.6
YBH Yreka Blue Hor 82.40 49 IAmb IAmb 15 44 56.2
comp=Z,8.0nm,1.3s
L04D Klamath Falls 82.61 48 P 15 44 50.3
baz=281
YKA Yellowknife Ar 82.90 28 P P **15 44 50.3 +0.7**
comp=Z,1.7nm,0.5s,baz=285,slow=4.8,SNR=36
M04C Macdoel 83.03 49 P 15 44 52.5
baz=281
J05D Fort Rock, OR 83.18 47 P 15 44 53.4
baz=281,SNR=5.9
EUNU Eureka 83.38 8 P P **15 44 51.9 +0.1**
EUNU IAmb IAmb 15 44 54.3
comp=Z,6.8nm,0.8s
K05A Summer Lake 83.54 48 P P **15 44 54.3 +0.8**
K05A IAmb IAmb 15 44 57.5
comp=Z,22nm,1.5s
ORV Oroville 83.72 51 P P **15 44 55.1 +0.9**
UOSS Minazif 84.59 294 P P **15 44 59.1 +0.2**
UOSS IAmb IAmb 15 45 01.5
comp=Z,8.3nm,0.8s
NEW Newport 84.93 42 P P **15 45 01.7 +1.4**
comp=Z,4.8nm,0.7s,baz=273,slow=9.5,SNR=5.9
NEW Newport 84.93 42 P P **15 44 59.8 -0.4**
NEW IAmb IAmb 15 45 17.7
comp=Z,15nm,1.2s
NEW Newport 84.93 42 P 15 45 01.5
baz=284,SNR=5.3
RES Resolute Bay 84.93 13 P P **15 45 00.6 +0.9**
comp=Z,4.3nm,0.8s,baz=330,slow=4.7,SNR=13
RES Resolute Bay 84.93 13 P P **15 45 00.1 +0.4**
RES IAmb IAmb 15 45 01.4
comp=Z,4.8nm,0.8s
J08A Circle Bar Ran 85.14 47 P P **15 45 02.3 +0.8**
WVOR Wild Horse Val 85.23 48 P P **15 45 02.6 +0.6**
WVOR IAmb IAmb 15 45 04.3
comp=Z,11nm,1.4s
BMO Blue Mountains 85.61 45 P P **15 45 04.2 +0.4**
BMO IAmb IAmb 15 45 06.0
comp=Z,6.5nm,1.2s
NVAR Mina Array Bea 86.39 52 P P **15 45 09.7 +1.7**
comp=Z,1.5nm,0.5s,baz=279,slow=5.3,SNR=22
NVAR Mina Array Bea 86.39 52 P P **15 45 08.4 +0.4**
WALA Waterton Lakes 86.78 40 P P **15 45 10.3 +0.7**
WALA IAmb IAmb 15 45 12.4
comp=Z,9.0nm,0.8s
JTMT Jette 86.90 42 P P **15 45 10.3 +0.1**
JTMT IAmb IAmb 15 45 12.1
comp=Z,5.8nm,1.1s
MFID Camas Ranch 86.99 46 P P **15 45 09.8 -0.9**
MFID IAmb IAmb 15 45 13.1
comp=Z,9.3nm,1.0s
EDW2 Edwards Air Fo 87.47 55 P 15 45 14.6
baz=284
LRMC Laurel Mtn Rad 87.58 54 P 15 45 15.2
baz=284
MPMC Manual Prospec 87.59 54 P 15 45 15.5
baz=284,SNR=5.3
HLID Hailey 87.95 46 P P **15 45 15.2 -0.1**
HLID Hailey 87.95 46 P 15 45 17.0
baz=286,SNR=6.3
ARCES ARCESS Array B 88.11 342 P P **15 45 15.9 +0.6**
comp=Z,6.7nm,0.9s,baz=78,slow=7.6,SNR=11
GSC Goldstone, Bar 88.31 54 P 15 45 18.7
baz=285
TPNV Topopah Spring 88.33 53 P 15 45 18.7
baz=285
BCYI Bear Canyon 88.44 45 P P **15 45 17.8 0.0**
R11A Troy Canyon, C 88.48 51 P 15 45 19.9
baz=285
LRM Limekiln Ridge 88.65 43 P P **15 45 19.0 +0.3**
MCMT McKenzie Canyo 88.67 44 P P **15 45 19.5 +0.6**
HRY Holter Researc 88.80 42 P P **15 45 18.8 -0.5**
HEC Hector,Ludlow 88.81 55 P 15 45 20.9
baz=285
PFO Pinyon Flats O 89.02 56 P P **15 45 21.5 +1.0**
comp=Z,1.3nm,0.4s,baz=272,slow=2.8,SNR=4.4
PFO Pinyon Flats O 89.02 56 IAmb IAmb 15 45 22.6
comp=Z,4.0nm,0.9s
PFO Pinyon Flats O 89.02 56 P 15 45 22.1
baz=285
TPFO Pinon Flats 89.02 56 P 15 45 22.0
baz=285
MONP2 Monument Peak 89.23 57 P 15 45 23.2
baz=285
BOZ Bozeman (W) 89.27 43 P P **15 45 22.2 +0.7**

BOZ IAmb IAmb 15 45 25.7
comp=Z,5.7nm,1.1s
BOZ Bozeman (W) 89.27 43 P 15 45 22.9
baz=288,SNR=7.5
GMRC Granite Mounta 89.35 55 P 15 45 23.8
baz=285
QLMT Earthquake Lak 89.64 44 P P **15 45 24.2 +0.9**
PSUT Pine Spring 89.74 51 P P **15 45 24.0 0.0**
PSUT IAmb IAmb 15 45 26.3
comp=Z,4.7nm,0.8s
YHB Horse Butte 89.82 44 P P **15 45 25.2 +1.0**
YHB IAmb IAmb 15 45 27.3
comp=Z,6.9nm,1.0s
IRM Iron Mountain 89.93 55 P 15 45 26.2
baz=286
DUG Dugway, Tooele 90.04 49 P P **15 45 26.3 +1.0**
DUG IAmb IAmb 15 45 28.4
comp=Z,9.2nm,1.3s
DUG Dugway, Tooele 90.04 49 P 15 45 27.0
baz=287
YHH Holmes Hill 90.04 44 P P **15 45 26.8 +1.4**
YHH IAmb IAmb 15 45 29.1
comp=Z,9.0nm,1.4s
YNR Norris Junctio 90.18 44 P P **15 45 27.6 +1.7**
H17A Grant Village 90.35 44 P 15 45 30.1
baz=288
CCUT Cedar City 90.39 51 P P **15 45 27.7 +0.7**
HWUT Hardware Ranch 90.53 47 P P **15 45 27.9 +0.4**
HWUT IAmb IAmb 15 45 29.7
comp=Z,6.8nm,1.1s
KVAR Kislovodsk Arr 90.58 315 LR LR 16 30 46.1
comp=Z,43nm,18.6s,baz=262,slow=39
KNB Kanab 90.95 52 P P **15 45 29.5 -0.1**
KNB IAmb IAmb 15 45 32.6
comp=Z,9.9nm,1.1s
RLMT Red Lodge 91.00 43 P 15 45 31.8
baz=289
PDAR Pinedale Array 91.58 46 P P **15 45 33.1 +0.7**
comp=Z,0.3nm,0.5s,baz=61,slow=0.5,SNR=4.4
FFC Flin Flon 91.73 33 P P **15 45 32.9 +0.3**
FFC IAmb IAmb 15 45 34.0
comp=Z,3.5nm,0.8s
RDMU Red Mountain 92.28 48 P P **15 45 35.2 -0.5**
RDMU IAmb IAmb 15 45 38.7
comp=Z,4.6nm,1.1s
FINES FINESS Array B 92.30 335 P P **15 45 34.6 -0.4**
comp=Z,9.1nm,0.5s,baz=66,slow=4.5,SNR=60
FINES LR LR 16 29 17.0
comp=Z,46nm,18.2s,baz=16,slow=37
WUAZ Wupatki 92.52 53 P 15 45 39.1
baz=288
PV03 Paradox Valley 93.57 50 P P **15 45 41.6 -0.1**
PV03 IAmb IAmb 15 45 43.4
comp=Z,5.0nm,1.1s
PV12 Saucer Basin, 93.58 50 P P **15 45 41.8 0.0**
PV12 IAmb IAmb 15 45 43.8
comp=Z,5.3nm,0.8s
S22A 4UR Ranch, Cre 95.24 50 P 15 45 51.0
baz=291
ULM Lac du Bonnet 97.11 35 P P **15 45 57.1 -0.2**
comp=Z,1.2nm,0.5s,baz=315,slow=7.2,SNR=4.3
ULM LR LR 16 27 34.0
comp=Z,33nm,19.4s,baz=20,slow=34
NB2 NORSAR Subarra 98.12 340 P P **15 46 01.2 -0.5**
comp=Z,3.6nm,1.0s,baz=47,slow=5.1
NOA NORSAR Array B 98.12 340 P P **15 46 01.8 +0.1**
comp=Z,0.6nm,0.9s,baz=51,slow=4.2,SNR=6.6
NOA LR LR 16 33 03.9
comp=Z,35nm,19.8s,baz=60,slow=37
CLL Collm 104.22 332 *eP* **Pdif 15 46 32.0 +3.0**
TORD Torodi Ar. Bea 136.26 305 PKP **PKiKP 15 51 48.6 -0.6**
comp=Z,0.8nm,0.6s,baz=1.7,slow=3.0,SNR=3.7
DBIC Dimbokro 145.22 302 PKPbc **PKPdf 15 52 04.2 +0.5**
comp=Z,11nm,0.5s,baz=45,slow=4.6,SNR=22
DBIC Dimbokro 145.22 302 PKPdf 15 52 03.8 +0.2
KIC Kosan Boka 145.30 302 *eP* **PKPdf 15 52 04.5 +0.7**
comp=Z,45nm,0.9s
TIC Toumodi 145.37 302 *eP* **PKPbc 15 52 03.4 -0.4**
LIC Lamto 145.61 302 *eP* **PKPab 15 52 05.4 +0.5**
comp=Z,103nm,1.2s
LPAZ La Paz 146.70 100 PKPbc **PKPbc 15 52 09.1 +0.6**
comp=Z,2.3nm,0.4s,baz=344,slow=2.9,SNR=6.8

WEL 30 15:36:28.6±1.0,37°S±11°×18°0E±1°0,h53km±40km, M3.4/21,ML3.8/21,MLv3.4/21,Error ellipse: s-maj=0.0km s-min=0.0km az=140.2,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.28**	**252**	P	Pn	15 36 50.1	-0.1
WMGZ				S	Sn	15 37 07.7	+1.4
MXZ	**Matakaoa Point**	**1.32**	**264**	P	Pn	15 36 50.2	-0.4
MXZ				S	Sn	15 37 07.3	+0.1
PUZ	**Puketiti**	**1.49**	**244**	P	Pn	15 36 53.1	+0.1
PUZ				S	Sn	15 37 11.9	+0.5
PKGZ	**Pakihiroa**	**1.56**	**252**	P	Pn	15 36 53.6	-0.4
PKGZ				S	Sn	15 37 12.6	-0.6
TWGZ	**Tauwhareparae**	**1.73**	**244**	P	Pn	15 36 56.7	+0.3
TWGZ				S	Sn	15 37 18.8	+1.4
CNGZ	**Carnagh Statio**	**1.74**	**232**	P	Pn	15 36 56.8	+0.4
HAZ	**Te Kaha**	**1.75**	**259**	P	Pn	15 36 56.7	+0.1
HAZ				S	Sn	15 37 18.4	+0.5
RUGZ	**Raukumara Rang**	**1.88**	**253**	P	Pn	15 36 58.3	-0.2
TKGZ	**Te Karaka**	**1.95**	**238**	P	Pn	15 36 59.3	0.0
TKGZ				S	Sn	15 37 23.2	+0.7
MWZ	**Matawai**	**2.12**	**244**	P	Pn	15 37 01.4	-0.3
MWZ				S	Sn	15 37 26.6	-0.3
RIGZ	**Rimuhau**	**2.15**	**233**	P	Pn	15 37 01.9	-0.1
RIGZ				S	Sn	15 37 28.0	+0.5
PRGZ	**Paritu Road**	**2.21**	**227**	P	Pn	15 37 02.8	-0.1
RAGZ	**Rawiri**	**2.27**	**241**	P	Pn	15 37 03.7	-0.1
RAGZ				S	Sn	15 37 30.5	-0.1
MHGZ	**Mahia Peninsul**	**2.36**	**222**	P	Pn	15 37 04.5	-0.4
URZ	**Urewera**	**2.40**	**249**	P	Pn	15 37 05.7	+0.3
URZ				S	Sn	15 37 34.4	+0.7
KNZ	**Kokohu**	**2.40**	**228**	P	Pn	15 37 04.7	-0.7
SNGZ	**Shannon Statio**	**2.47**	**236**	P	Pn	15 37 06.0	-0.4
RTZ	**Ruatahuna**	**2.63**	**242**	P	Pn	15 37 08.9	+0.2
WHHZ	**Waihua**	**2.70**	**232**	P	Pn	15 37 09.6	+0.1
RAHZ	**Arahi**	**2.71**	**236**	P	Pn	15 37 09.6	-0.1
MUGZ	**Murupara**	**2.73**	**246**	P	Pn	15 37 10.0	+0.1
OPRZ	**Ohinepanea**	**2.73**	**260**	P	Pn	15 37 09.7	-0.2
MTHZ	**Maungataniwha**	**2.84**	**239**	P	Pn	15 37 11.4	-0.1
TARZ	**Mount Tarawera**	**2.85**	**252**	P	Pn	15 37 12.2	+0.6
RRRZ	**Republican Roa**	**2.87**	**250**	P	Pn	15 37 12.5	+0.6
ARHZ	**Aropaoanui**	**2.96**	**231**	P	Pn	15 37 13.0	-0.1
NMHZ	**Naumai**	**2.99**	**235**	P	Pn	15 37 13.5	-0.1
CKHZ	**Cape Kidnapper**	**3.17**	**224**	P	Pn	15 37 14.9	-1.0
BKZ	**Black Stump Fm**	**3.23**	**236**	P	Pn	15 37 16.5	-0.4
MCHZ	**McNeill Hill**	**3.25**	**231**	P	Pn	15 37 16.7	-0.5
KAHZ	**Kahuranaki**	**3.38**	**225**	P	Pn	15 37 18.2	-0.7
KWHZ	**Kaweka Forest**	**3.42**	**233**	P	Pn	15 37 18.8	-0.6
KUZ	**Kuaotunu**	**3.45**	**280**	P	Pn	15 37 19.8	-0.1
PXZ	**Pawanui**	**3.55**	**222**	P	Pn	15 37 19.7	-1.5
KRHZ	**Kereru**	**3.58**	**231**	P	Pn	15 37 20.8	-0.8
BHHZ	**Black Hill Sta**	**3.68**	**235**	P	Pn	15 37 22.3	-0.8
TMVZ	**Te Maari**	**3.75**	**242**	P	Pn	15 37 23.5	-0.5
ETVZ	**East Tongariro**	**3.75**	**242**	P	Pn	15 37 23.4	-0.7
GRZ	**Great Barrier**	**3.79**	**287**	P	Pn	15 37 24.5	0.0
MKAZ	**Moumakai**	**3.84**	**273**	P	Pn	15 37 25.2	+0.1
PRHZ	**Porangahau**	**3.84**	**221**	P	Pn	15 37 23.1	-2.1
MOVZ	**Moawhango**	**3.85**	**238**	P	Pn	15 37 25.4	0.0
PNHZ	**Pukenui**	**3.85**	**229**	P	Pn	15 37 23.8	-1.5
TUVZ	**Tukino**	**3.85**	**240**	P	Pn	15 37 24.8	-0.6
ANWZ	**Angora Road**	**4.07**	**221**	P	Pn	15 37 27.6	-0.6
TSZ	**Takapari Road**	**4.08**	**229**	P	Pn	15 37 26.6	-1.9
DVHZ	**Dannevirke**	**4.12**	**225**	P	Pn	15 37 27.5	-1.5
BFZ	**Birch Farm**	**4.35**	**220**	P	Pn	15 37 29.2	-3.0
RVAZ	**Riverhead Bore**	**4.35**	**277**	P	Pn	15 37 33.1	+1.0
PRWZ	**Pori Road**	**4.40**	**224**	P	Pn	15 37 31.9	-1.0
POWZ	**Post Office Ro**	**4.41**	**227**	P	Pn	15 37 31.5	-1.4
VRZ	**Vera Road**	**4.42**	**246**	P	Pn	15 37 33.8	+0.6
MRZ	**Mangatainoka R**	**4.69**	**225**	P	Pn	15 37 34.6	-2.3
WCZ	**Waipu Caves**	**4.75**	**287**	P	Pn	15 37 38.4	+0.8
TMWZ	**Te Maipa**	**4.84**	**219**	P	Pn	15 37 36.3	-2.7
HOWZ	**Holdsworth Sta**	**4.89**	**224**	P	Pn	15 37 37.3	-2.3
MTW	**Mount Morrison**	**5.08**	**221**	P	Pn	15 37 39.4	-2.8
PAWZ	**Paruwai Farm**	**5.28**	**220**	P	Pn	15 37 41.8	-3.2
OUZ	**Omahuta**	**5.58**	**291**	P	Pn	15 37 50.0	+0.9
LTZ	**Lake Taylor**	**7.95**	**225**	P	Pn	15 38 19.1	-2.4

*SNET **30** 15:47:07.4±1.4, 13°.22N×89°.69W, h48km±11km, ML3.7*
*INET **30** 15:47:08.7, 13°.13N×89°.57W, h69km, MW3.1*
*GCG **30** 15:47:08.3±0.8, 13°.16N×89°.93W, h13km±9km, MD4.0*

ISC 30 15:47:06.9±1.7, 13°.15N±0°.07×89°.70W±0°.04, h31km±12km, n28, σ0°.63/46, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LALI	**Alcalde de L**	**0.50**	**48**	*eP*		**Pn**	**15 47 17.8**	**-0.1**
LALI				*eS*		**Sn**	**15 47 25.9**	**+0.4**
LALI				IAML			15 47 27.7	
	comp=Z,2µm,0.2s							
JAYA	**Jayaque - finc**	**0.56**	**26**	*eP*		**Pb**	**15 47 18.6**	**+0.2**
JAYA				*eS*		**Sn**	**15 47 27.1**	**-0.1**
JAYA				IAML			15 47 34.5	
	comp=Z,5µm,0.2s							
CEVE	**Cerro Verde**	**0.68**	**6**	*i* P		**Pn**	**15 47 20.5**	**-0.2**
CEVE				IAML			15 47 36.8	
	comp=Z,9µm,0.4s							
SBLS	**San Blas**	**0.69**	**6**	*eP*		**Pn**	**15 47 20.6**	**-0.2**
SNET	**Serv Nac Est T**	**0.70**	**41**	*eP*		**Sn**	**15 47 20.3**	**-0.5**
SNET				*eS*		**Sn**	**15 47 30.4**	**-0.3**
SNET				IAML			15 47 31.1	
	comp=Z,2µm,0.2s							
BOQS	**Boqueron**	**0.71**	**35**	*eP*		**Pn**	**15 47 20.8**	**-0.3**
BOQS				*eS*		**Sn**	**15 47 30.7**	**-0.4**
CEDA	**San Andres**	**0.71**	**25**	*i* P		**Pn**	**15 47 20.8**	**-0.2**
CEDA				*eS*		**Sb**	**15 47 30.9**	**+0.5**
CEDA				IAML			15 47 35.2	
	comp=Z,5µm,0.3s							
SNJE	**San Jose**	**0.72**	**7**	*eP*		**Pn**	**15 47 21.0**	**-0.2**
OPAM	**Oficina de Pla**	**0.74**	**41**	*eP*		**Pn**	**15 47 21.1**	**-0.3**
OPAM				*eS*		**Sb**	**15 47 31.6**	**+0.3**
RTR	**El Retiro**	**0.74**	**4**	*eP*		**Pn**	**15 47 21.4**	**-0.1**
LFU	**La Fuente**	**0.82**	**44**	*eP*		**Pn**	**15 47 22.4**	**-0.1**
LBRS	**Las Brisas**	**0.87**	**48**	*i* P		**Pn**	**15 47 22.9**	**-0.1**
TACO	**Tacachico**	**0.88**	**23**	*eP*		**Pn**	**15 47 22.9**	**-0.4**
TACO				*eS*		**Sb**	**15 47 35.1**	**-0.1**
TACO				IAML			15 47 39.3	
	comp=Z,1µm,0.3s							
PAVA	**Las Pavas**	**0.93**	**53**	*eP*		**Pn**	**15 47 24.0**	**0.0**
PAVA				*eS*		**Sb**	**15 47 37.1**	**+0.4**
PAVA				IAML			15 47 41.0	
	comp=Z,5µm,0.4s							
ALJI	**Alcalda de J**	**1.11**	**81**	*eP*		**Pn**	**15 47 26.6**	**+0.2**
ALJI				*eS*		**Sn**	**15 47 41.0**	**+0.2**
PQSS	**Presa 15 de Se**	**1.21**	**67**	*eP*		**Pn**	**15 47 27.8**	**+0.1**
PQSS				*eS*		**Sn**	**15 47 43.1**	**+0.2**
TECA	**Tecapa**	**1.22**	**74**	*eP*		**Pn**	**15 47 28.0**	**0.0**
MTO3	**Montecristo**	**1.28**	**15**	*eP*		**Pn**	**15 47 28.8**	**-0.2**
MTO3				*eS*		**Sn**	**15 47 44.9**	**-0.4**
MTO3				IAML			15 47 47.2	
	comp=Z,244nm,0.5s							
PACA	**Pacayal**	**1.38**	**77**	*eP*		**Pn**	**15 47 30.6**	**+0.5**
PACA				*eS*		**Sb**	**15 47 49.0**	**-0.5**
PACA				IAML			15 47 51.9	
	comp=Z,719nm,0.2s							
LCY	**Lacayo**	**1.40**	**79**	*eP*		**Pn**	**15 47 30.8**	**+0.4**
JUCU	**Jucuarˌn**	**1.42**	**86**	*eP*		**Pn**	**15 47 30.4**	**-0.3**
JUCU				*eS*		**Sn**	**15 47 47.6**	**-0.8**
JUCU				IAML			15 47 54.4	
	comp=Z,3µm,0.3s							
PCG	**Pacaya**	**1.52**	**325**	*eP*		**Pb**	**15 47 34.0**	**-0.5**
PCG				*eS*		**Sb**	**15 47 52.8**	**-0.8**
NBG	**Las Nubes**	**1.56**	**336**	*eP*		**Pb**	**15 47 34.5**	**-0.8**
NBG				*eS*		**Sb**	**15 47 56.0**	**+1.2**
CAHU	**Cacacuatique**	**1.57**	**67**	*eP*		**Pn**	**15 47 31.7**	**-1.2**
FUG	**Fuego 3**	**1.70**	**319**	*eP*		**Pn**	**15 47 35.9**	**+1.2**
FUG				*eS*		**Sb**	**15 47 57.4**	**-1.3**
LCND	**La Caada**	**1.77**	**85**	*eP*		**Pn**	**15 47 35.6**	**+0.2**
LCND				*eS*		**Sn**	**15 47 58.1**	**+1.2**
LCND				IAML			15 48 01.8	
	comp=Z,2µm,0.2s							
CNCH	**Conchagua**	**1.82**	**86**	*eP*		**Pn**	**15 47 36.9**	**+0.6**
MRL	**Marmol**	**1.92**	**1**	*eP*		**Pn**	**15 47 39.0**	**+1.3**
MRL				*eS*		**Sb**	**15 48 06.7**	**+1.7**

*IDC **30** 15:53:21.6±1.8, 18°.24N×97°.55E, h0km, mb3.3/2, mb1 3.4/2, mb1mx3.1/45, mbtmp3.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/32, Error ellipse: s-maj=18.6km s-min=12.6km az=72.0*

ISC 30 15:53:24.3±1.5, 18°.6N±0°.2×97°.67E±0°.09, h10km, n14, σ1§11/14, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CM13	**Chiang Mai Arr**	**1.18**	**98**	P		**Pb**	**15 53 46.7**	**-0.2**
CM31	**Chiang Mai Arr**	**1.21**	**96**	Sg		**Sg**	**15 54 02.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**1.21**	**96**	Pg		**Pg**	**15 53 47.5**	**-0.1**
	25nm,0.3s,baz=264,slow=19,SNR=118							
CMAR				Lg		Lg	15 54 04.1	
	114nm,0.3s,baz=260,slow=31,SNR=22							
CM02	**Chiang Mai Arr**	**1.22**	**97**	P		**Pb**	**15 53 47.5**	**0.0**
CM05	**Chiang Mai Arr**	**1.22**	**99**	P		**Pb**	**15 53 47.5**	**0.0**
CMMT	**Chiang Mai**	**1.23**	**79**	P		**Pb**	**15 53 46.4**	**-1.3**
CMMT				Sg		**Sn**	**15 54 05.3**	**+1.0**
CM01	**Chiang Mai Arr**	**1.23**	**98**	P		**Pb**	**15 53 47.7**	**-0.1**
CM04	**Chiang Mai Arr**	**1.25**	**98**	P		**Pg**	**15 53 48.3**	**-0.2**
CM09	**Chiang Mai Arr**	**1.26**	**96**	P		**Pg**	**15 53 48.3**	**-0.2**
LAMP	**Lampang**	**1.86**	**92**	P		**Pb**	**15 53 58.7**	**+0.3**
SUKH	**Sukhothai**	**2.16**	**120**	P		**Pn**	**15 54 02.4**	**+1.9**
MKAR	**Makanchi Array**	**30.85**	**339**	P		**P**	**15 59 41.5**	**+0.9**
	0.5nm,0.5s,baz=147,slow=8.7,SNR=8.5							
ASAR	**Alice Springs**	**54.90**	**139**	P		**P**	**16 02 53.1**	**-2.4**
	0.2nm,0.8s,baz=317,slow=6.4,SNR=2.0							
BRTR	**Keskin Array B**	**58.54**	**306**	LR		LR	16 34 36.7	
	comp=Z,40nm,18.2s,baz=88,slow=42							

*IDC **30** 16:01:16.8±1.1, 5°.35S×153°.18E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.9/41, mbtmp3.9/15, ML1.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/31, Error ellipse: s-maj=37.8km s-min=17.6km az=129.0*

ISC 30 16:01:22.5±1.1, 5°.4S±0°.2×153°.1E±0°.2, h37km, n17, σ0§55/16, mb3.8/14, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.16**	**236**	Pn		**Pn**	**16 03 05.2**	**+0.5**
	1.0nm,0.3s,baz=56,slow=7.3,SNR=1.7							
PMG				LR		LR	16 05 57.9	
	comp=Z,109nm,18.4s,baz=118,slow=39							
HNR	**Honiara**	**7.87**	**121**	LR		LR	16 06 38.0	
	comp=Z,134nm,19.3s,baz=353,slow=41							
SIJI	**Sorong**	**22.28**	**281**	P		**P**	**16 06 16.1**	**-0.7**
	6.0nm,0.6s,baz=84,slow=18,SNR=4.1							
WRA	**Warramunga Arr**	**23.33**	**230**	P		**P**	**16 06 26.9**	**-0.8**
	1.4nm,0.5s,baz=54,slow=9.8,SNR=22							
ASAR	**Alice Springs**	**25.96**	**224**	P		**P**	**16 06 51.8**	**-0.1**
	0.7nm,0.8s,baz=58,slow=9.2,SNR=32							
FITZ	**Fitzroy Crossi**	**29.69**	**242**	P		**P**	**16 07 24.9**	**-0.3**
	1.5nm,0.7s,baz=78,slow=8.4,SNR=7.4							
PETK	**Petropavlovsk-**	**58.38**	**3**	P		**P**	**16 11 14.6**	**+0.5**
	3.2nm,0.9s,baz=168,slow=7.6,SNR=4.5							
CMAR	**Chiang Mai Arr**	**58.42**	**295**	P		**P**	**16 11 15.4**	**+0.5**
	0.3nm,0.5s,baz=116,slow=6.3,SNR=6.4							
SONM	**Songino Array**	**66.98**	**328**	P		**P**	**16 12 12.1**	**+0.4**
	0.3nm,0.5s,baz=144,slow=3.7,SNR=3.6							
MKAR	**Makanchi Array**	**80.97**	**319**	P		**P**	**16 13 33.6**	**+0.3**
	0.5nm,0.8s,baz=108,slow=6.8,SNR=4.3							
ZALV	**Zalesovo Beam**	**81.81**	**326**	P		**P**	**16 13 36.5**	**-1.0**
	1.5nm,0.6s,baz=110,slow=5.4,SNR=6.8							
ILAR	**Eielson Array**	**82.56**	**22**	P		**P**	**16 13 40.5**	**-0.8**
	0.7nm,0.8s,baz=260,slow=5.4,SNR=6.3							
KURBB	**Kurchatov Arra**	**84.45**	**32**	P		**P**	**16 13 51.1**	**-0.2**
	0.3nm,0.2s,baz=102,slow=4.6,SNR=5.6							
BVAR	**Borovoye Array**	**89.89**	**323**	P		**P**	**16 14 17.7**	**0.0**
	0.8nm,0.7s,baz=153,slow=17,SNR=6.4							
NVAR	**Mina Array Bea**	**92.17**	**52**	P		**P**	**16 14 29.0**	**+0.1**
	0.2nm,0.7s,baz=262,slow=11,SNR=2.5							
YKA	**Yellowknife Ar**	**95.77**	**28**	P		**P**	**16 14 44.9**	**+0.3**
	0.4nm,0.9s,baz=266,slow=4.4,SNR=6.1							
TORD	**Torodi Ar. Bea**	**150.80**	**287**	PKPbc		**PKPbc**	**16 21 12.1**	**0.0**
	1.5nm,0.7s,baz=74,slow=2.4,SNR=6.7							

*NOU **30** 16:04:35.3, 14°.73S×172°.32W, h96km, MLv3.4, Samoa Islands*

IDC 30 16:04:29.7±6.7, 14°.27S×174°.02W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/40, mbtmp3.6/3, MS3.7/4, Ms1 3.8/4, ms1mx3.2/29, Error ellipse: s-maj=387.3km
s-min=41.5km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.21**	**81**	P		Pn	16 04 55.2	-12
MSVF	**Nonsavu**	**8.37**	**245**	LR		LR	16 09 42.2	
	comp=Z,224nm,19.1s,baz=60,slow=37							
RAO	**Raoul Island**	**15.34**	**193**	LR		LR	16 13 12.2	
	comp=Z,98nm,20.1s,baz=282,slow=34							
WRA	**Warramunga Arr**	**49.53**	**256**	P		P	16 13 23.8	+1.1
	0.4nm,0.8s,baz=90,slow=8.2,SNR=2.3							
ASAR	**Alice Springs**	**49.90**	**251**	P		P	16 13 24.6	-0.9
	1.6nm,0.7s,baz=88,slow=7.8,SNR=24							
KAPI	**Kappang**	**65.76**	**271**	LR		LR	16 43 20.2	
	comp=Z,194nm,20.3s,baz=88,slow=35							
YKA	**Yellowknife Ar**	**89.30**	**24**	P		P	16 17 27.5	-0.1
	0.1nm,0.6s,baz=232,slow=4.5,SNR=2.6							
CMAR	**Chiang Mai Arr**	**91.69**	**288**	LR		LR	16 53 59.8	
	comp=Z,94nm,21.9s,baz=125,slow=32							

*DJA **30** 16:12:41.9±0.2, 2°.S±2°.×12°.1E±°, h10km, M4.9/23, mb5.1/11, mB5.3/6, MLv5.0/23, Mw(mB)4.7/6*
*NEIC **30** 16:12:43.4±2.3, 1°.84S±0°.06×120°.68E±0°.06, h43km±1km, mb4.6/45, Error ellipse: s-maj=9.0km s-min=8.4km az=99.0*
*IDC **30** 16:12:44.8±2.3, 1°.85S×120°.49E, h50km±22km, mb4.1/20, mb1 4.2/24, mb1mx4.0/52, mbtmp4.3/24, ML3.8/4, MS3.7/6, Ms1 3.6/6, ms1mx3.2/34, Error ellipse: s-maj=20.1km s-min=11.8km az=63.0*
*KLM **30** 16:12:46, 1°.87S×120°.71E, h54km, mb4.7*

ISC 30 16:12:42.8±0.3, 1°.85S±0°.04×120°.60E±0°.05, h33km, n161, σ1§54/165, mb4.6/71, MS3.7/4, 1C-1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.40**	**49**	P		**Pn**	**16 13 05.8**	**-0.3**
TTSI	**Tana Toraja**	**1.42**	**213**	P		**Pn**	**16 13 07.1**	**+0.7**
SPSI	**Sidrap Palu**	**2.26**	**201**	P		**Pn**	**16 13 20.5**	**+2.6**
LUWI	**Luwuk**	**2.32**	**70**	Pn		**Pn**	**16 13 18.1**	**-0.6**
LUWI	**Luwuk**	**2.32**	**70**	P		**Pn**	**16 13 18.3**	**-0.4**
BNSI	**Bone**	**2.58**	**191**	P		**Pn**	**16 13 25.3**	**+2.9**
MRSI	**Marisa**	**2.67**	**30**	P		**Pn**	**16 13 22.3**	**-1.3**
TOLI2	**Tolitoli**	**2.94**	**4**	Pn		**Pn**	**16 13 28.0**	**+0.6**
KAPI	**Kappang**	**3.26**	**195**	P		**Pn**	**16 13 32.7**	**+1.0**
	23nm,0.3s,baz=14,slow=7.8,SNR=40							
KAPI				S		**Sb**	**16 14 15.3**	**-3.9**
	33nm,0.3s,baz=201,slow=20,SNR=7.3							
KAPI				LR		LR	16 14 52.2	
	comp=Z,401nm,20.1s,baz=149,slow=40							
KAPI	**Kappang**	**3.26**	**195**	Pn		**Pn**	**16 13 33.6**	**+2.0**
GTOI	**Gorontalo**	**3.45**	**44**	P		**Pn**	**16 13 34.2**	**-0.1**
BKSI	**Bulukumba**	**3.48**	**188**	P		**Pn**	**16 13 37.4**	**+2.6**
BKB	**Balikpapan**	**3.75**	**279**	Pn		**Pn**	**16 13 39.7**	**+1.3**
BKB	**Balikpapan**	**3.75**	**279**	P		**Pn**	**16 13 40.4**	**+2.1**
KMSI	**Cibinong**	**4.15**	**55**	P		**Pn**	**16 13 45.0**	**+1.1**
KBKI	**Kotabaru**	**4.66**	**252**	P		**Pn**	**16 13 51.5**	**+0.6**
SANI	**Sanana**	**5.39**	**92**	P		**Pn**	**16 13 59.8**	**-1.2**
	0.3nm31nm,0.6s							
MTKI	**Muara Teweh, K**	**5.77**	**279**	P		**Pn**	**16 14 06.7**	**+0.5**
	1.2nm3µm180nm,0.5s							
BBKI	**Banjar Baru**	**5.97**	**254**	P		**Pn**	**16 14 10.5**	**+1.5**
	0.6nm1µm112nm,1.0s							
MMRI	**Maumere**	**6.94**	**166**			**Pn**	**16 14 21.6**	**-0.6**
EDFI	**Ende, Flores**	**6.94**	**171**	P		**Pn**	**16 14 24.8**	**+2.4**
	0.0nm8.8nm,0.9s							
TNTI	**Ternate**	**7.25**	**69**	Pn		**Pn**	**16 14 25.9**	**-0.6**
MYLDM	**Lahad Datu**	**7.29**	**343**	Pn		**Pn**	**16 14 30.2**	**+3.1**
PLAI	**Plampang**	**7.48**	**202**	P		**Pn**	**16 14 34.5**	**+4.8**
	0.2nm45nm,1.1s							
SPMM	**Sanulu**	**7.71**	**328**	P		**Pn**	**16 14 35.0**	**+2.1**
BATI	**Baumata**	**8.85**	**160**	P		**Pn**	**16 14 50.9**	**+2.4**
	1.1nm,0.3s,baz=288,slow=23,SNR=2.5							
BATI				LR		LR	16 19 07.8	
	comp=Z,561nm,19.2s,baz=18,slow=43							
KKM	**Kota Kinabalu**	**8.98**	**331**	Pn		**Pn**	**16 14 52.3**	**+2.0**
JAGI	**Jajag, Banyuwa**	**9.19**	**224**	Pn		**Pn**	**16 14 54.4**	**+1.2**
SBUM	**Sibu**	**9.40**	**297**	Pn		**Pn**	**16 14 57.1**	**+1.0**
SBUM	**Sibu**	**9.40**	**297**	P		**Pn**	**16 14 58.0**	**+1.9**
SIJI	**Sorong**	**10.71**	**85**	P		**Pn**	**16 15 15.4**	**+1.4**
	1.2nm,0.3s,baz=310,slow=7.7,SNR=6.9							
SIJI				S		**Sn**	**16 17 15.7**	**+2.8**
	0.3nm,0.3s,baz=112,slow=22,SNR=2.3							
SIJI				LR		LR	16 20 19.4	
	comp=Z,135nm,21.4s,baz=222,slow=42							
KSM	**Kuching**	**10.80**	**288**	P		**Pn**	**16 15 17.0**	**+1.7**
FAKI	**Fak Fak**	**11.69**	**95**	Pn		**Pn**	**16 15 27.6**	**+0.1**
LEM	**Lembang**	**13.85**	**249**	LR		LR	16 21 51.3	
	comp=Z,424nm,18.2s,baz=70,slow=40							
FITZ	**Fitzroy Crossi**	**16.89**	**163**	P		**Pn**	**16 16 37.8**	**+0.9**
	0.1nm,0.3s,baz=340,slow=7.8,SNR=8.9							
FITZ	**Fitzroy Crossi**	**16.89**	**163**	Pn		**Pn**	**16 16 36.0**	**-0.8**
MYKOM	**Kota Tinggi**	**17.13**	**282**	P		**Pn**	**16 16 40.9**	**+1.1**
MYKOM	**Kota Tinggi**	**17.13**	**282**	P		**Pn**	**16 16 41.0**	**+1.1**
JRMM	**Jerantut**	**18.98**	**287**	P		**Pn**	**16 17 04.0**	**+1.4**
PSA00	**Pilbara Seismi**	**19.62**	**182**	P		**P**	**16 17 08.6**	**-0.1**
IPM	**Ipoh**	**20.54**	**288**	P		**P**	**16 17 19.4**	**+0.6**
IPM				IAmb		IAmb	16 17 25.6	
	comp=Z,23nm,0.9s							
IPM	**Ipoh**	**20.54**	**288**	P		**P**	**16 17 20.0**	**+1.2**
KULM	**Kulim**	**21.15**	**290**	P		**P**	**16 17 25.7**	**+0.4**
KULM				IAmb		IAmb	16 17 31.5	
	comp=Z,50nm,1.5s							
KULM	**Kulim**	**21.15**	**290**	P		**P**	**16 17 25.0**	**-0.3**
RPSI	**Rantau Prapat**	**22.13**	**282**	P		**P**	**16 17 36.4**	**+0.5**
RPSI				IAmb		IAmb	16 17 39.7	
	comp=Z,40nm,1.0s							
RPSI	**Rantau Prapat**	**22.13**	**282**	P		**P**	**16 17 35.6**	**-0.3**
PSI	**Prapat**	**22.15**	**282**	P		**P**	**16 17 35.6**	**-0.7**
	comp=Z,23nm,0.8s,baz=177,slow=0.7,SNR=18							
PSI				LR		LR	16 26 32.7	
	comp=Z,240nm,20.3s,baz=89,slow=38							
WB0	**Warramunga Arr**	**22.34**	**144**	P		**P**	**16 17 38.2**	**+0.1**
WB0				IAmb		IAmb	16 17 39.7	
	comp=Z,17nm,0.9s							
WRA	**Warramunga Arr**	**22.45**	**144**	P		**P**	**16 17 40.0**	**+0.8**
	comp=Z,18nm,0.9s,baz=318,slow=12,SNR=94							
WRA	**Warramunga Arr**	**22.45**	**144**	P		**P**	**16 17 38.8**	**-0.4**
WB2	**Warramunga Arr**	**22.46**	**144**	P		**P**	**16 17 39.4**	**+0.1**
WB2				IAmb		IAmb	16 17 40.8	
	comp=Z,23nm,0.8s							
WR0	**Warramunga Arr**	**22.58**	**144**	P		**P**	**16 17 40.5**	**-0.1**
WR0				IAmb		IAmb	16 17 44.5	
	comp=Z,26nm,0.9s							
UBPT	**Khong Chiam**	**22.66**	**319**	P		**P**	**16 17 45.5**	**+4.0**
	comp=Z,6.8nm,1.2s							
GSI	**Gunungsitoli**	**23.23**	**278**	P		**P**	**16 17 47.2**	**-0.2**
QIZ	**Qiongzhong**	**23.28**	**333**	P		**P**	**16 17 49.8**	**+1.9**
QIZ				S		**S**	**16 21 57.8**	**-0.4**
QIZ				LR		LR		
	comp=N,110nm,13.7s							
QIZ				LR		LR		
	comp=E,110nm,16.7s							
QIZ				LR		LR		
	comp=Z,96nm,18.6s							
SRAK	**Srakaew**	**24.22**	**311**	P		**P**	**16 17 54.2**	**-2.6**
	comp=Z,160nm,0.8s							
YULB	**Yu-li**	**25.10**	**2**	P		**P**	**16 18 06.0**	**+1.3**
AS31	**Alice Springs**	**25.23**	**150**	P		**P**	**16 18 06.4**	**+0.5**
ASAR	**Alice Springs**	**25.23**	**150**	P		**P**	**16 18 06.8**	**+0.9**
	comp=Z,2.8nm,0.6s,baz=328,slow=8.3,SNR=44							
ASAR				PcP		**PcP**	**16 21 39.6**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=346,slow=1.8,SNR=6.7							
ASAR	**Alice Springs**	**25.23**	**150**	P		**P**	**16 18 06.6**	**+0.7**
ASAR						**PcP**	**16 21 39.9**	**+0.8**
SSLB	**Suanglung**	**25.48**	**1**	P		**P**	**16 18 08.6**	**+0.4**
SSLB				IAmb		IAmb	16 18 19.5	
	comp=Z,26nm,0.9s							
NONG	**Nongkai**	**26.21**	**320**	P		**P**	**16 18 17.0**	**+2.2**
	comp=Z,18nm,0.8s							
LOEI	**Loei**	**27.08**	**316**	P		**P**	**16 18 19.4**	**-3.3**
	comp=Z,16nm,0.9s							
UTHA	**Uthaitani**	**27.14**	**310**	P		**P**	**16 18 26.7**	**+3.5**
	comp=Z,11nm,0.9s							
MORW	**Morawa**	**27.42**	**189**	P		**P**	**16 18 26.0**	**+0.4**
MORW				IAmb		IAmb	16 18 29.2	
	comp=Z,29nm,1.4s							
UTTA	**Uttaradit**	**27.73**	**315**	P		**P**	**16 18 30.0**	**+1.5**
UMPA	**Umpang Tak**	**27.98**	**311**	P		**P**	**16 18 33.9**	**+3.1**
	comp=Z,µmcomp=Z,18nm,1.0s							
SUKH	**Sukhothai**	**28.21**	**314**	P		**P**	**16 18 35.0**	**+2.2**
	comp=Z,7.6nm,0.6s							
CM36	**Chiang Mai Arr**	**29.28**	**315**	P		**P**	**16 18 44.0**	**+1.7**
CM04	**Chiang Mai Arr**	**29.28**	**314**	P		**P**	**16 18 43.0**	**+0.6**
	comp=Z,74nmcomp=Z,11nm,1.0s							
CM09	**Chiang Mai Arr**	**29.30**	**314**	P		**P**	**16 18 44.0**	**+1.4**
	comp=Z,81nmcomp=Z,9.6nm,0.9s							
CM05	**Chiang Mai Arr**	**29.31**	**314**	P		**P**	**16 18 43.0**	**+0.4**
	comp=Z,68nmcomp=Z,6.0nm,1.0s							
CM01	**Chiang Mai Arr**	**29.31**	**314**	P		**P**	**16 18 44.0**	**+1.4**
	comp=Z,79nmcomp=Z,7.0nm,0.8s							
CM02	**Chiang Mai Arr**	**29.33**	**314**	P		**P**	**16 18 44.1**	**+1.3**
	comp=Z,73nmcomp=Z,11nm,1.0s							
CM35	**Chiang Mai Arr**	**29.34**	**315**	P		**P**	**16 18 44.0**	**+1.1**
CM31	**Chiang Mai Arr**	**29.35**	**314**	P		**P**	**16 18 44.0**	**+1.1**
	comp=Z,2µmcomp=Z,198nm,0.6s							
CM31	**Chiang Mai Arr**	**29.35**	**314**	P		**P**	**16 18 43.0**	**+0.1**
CM31				IAmb		IAmb	16 18 46.8	
	comp=Z,12nm,1.0s							
CMAR	**Chiang Mai Arr**	**29.35**	**314**	P		**P**	**16 18 43.8**	**+0.9**
	comp=Z,6.8nm,0.9s,baz=142,slow=7.3,SNR=49							
CMAR	**Chiang Mai Arr**	**29.35**	**314**	P		**P**	**16 18 43.1**	**+0.1**
CM13	**Chiang Mai Arr**	**29.35**	**314**	P		**P**	**16 18 43.0**	**+0.1**
	comp=Z,70nmcomp=Z,11nm,0.9s							
CM15	**Chiang Mai Arr**	**29.36**	**314**	P		**P**	**16 18 44.0**	**+1.0**
	comp=Z,81nmcomp=Z,7.2nm,0.8s							
JOW	**Kunigami**	**29.46**	**14**	P		**P**	**16 18 44.0**	**+0.2**
CM34	**Chiang Mai Arr**	**29.46**	**315**	P		**P**	**16 18 45.0**	**+1.1**
CM32	**Chiang Mai Arr**	**29.54**	**315**	P		**P**	**16 18 46.0**	**+1.3**
CMMT	**Chiang Mai**	**29.58**	**315**	P		**P**	**16 18 44.9**	**0.0**
	comp=Z,4.0nm,1.1s							
CHTO	**Chiang Mai**	**29.58**	**315**	P		**P**	**16 18 44.9**	**0.0**
CM33	**Chiang Mai Arr**	**29.58**	**315**	P		**P**	**16 18 45.0**	**0.0**
FORT	**Forrest**	**29.63**	**167**	P		**P**	**16 18 45.7**	**+0.4**
FORT				IAmb		IAmb	16 18 47.8	
	comp=Z,9.5nm,0.8s							
NWAO	**Narrogin (SRO)**	**31.08**	**185**	P		**P**	**16 18 58.2**	**+0.1**
NWAO				IAmb		IAmb	16 19 11.6	
	comp=Z,23nm,1.4s							
KMI	**Kunming**	**31.91**	**328**	⇑P		**P**	**16 19 09.3**	**+3.5**
KMI				pP		sP	16 19 23.5	+3.9
KMI				sP		pP	16 19 30.8	+15
KMI				pmax		pmax		
	comp=Z,16nm,1.0s							
NJ2	**Nanjing**	**33.75**	**357**	*eP*		**P**	**16 19 23.5**	**+2.0**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
BBOO	**Buckleboo**	**34.06**	**156**	P		**P**	**16 19 23.5**	**-0.6**
BBOO				IAmb		IAmb	16 19 25.2	
	comp=Z,9.4nm,1.1s							
JCJ	**Chichijima**	**35.51**	**34**	P		**P**	**16 19 35.1**	**-1.7**
STKA	**Stephens Creek**	**35.84**	**149**	P		**P**	**16 19 40.1**	**+0.5**
	comp=Z,8.1nm,0.8s,baz=317,slow=8.9,SNR=20							
STKA	**Stephens Creek**	**35.84**	**149**	P		**P**	**16 19 39.4**	**-0.2**
XAN	**Xi'an**	**37.35**	**344**	P		P	16 19 59.0	+6.6
XAN				pP		sP	16 20 07.0	+0.6
XAN				sP		pP	16 20 12.8	+10
XAN				pmax		pmax		
	comp=Z,12nm,1.4s							
XAN				pmax		pmax		
	comp=Z,10.0nm,5.1s							
SHL	**Shillong**	**38.92**	**316**	P		**P**	**16 20 04.8**	**-1.2**
KSAR	**Wonju Array Be**	**39.67**	**9**	P		**P**	**16 20 12.0**	**+0.2**
KSRS	**Korea Array**	**39.69**	**9**	P		**P**	**16 20 13.7**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=172,slow=10,SNR=6.2							
MJAR	**Matsushiro Arr**	**41.56**	**22**	P		**P**	**16 20 27.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=201,slow=5.6,SNR=1.8

ZAA0	**Zalesovo Array**	**63.03**	**337**	P		**P**	**16 23 04.6**	**-2.0**
ZALV	**Zalesovo Beam**	**63.03**	**337**	P		**P**	**16 23 05.5**	**-1.1**
	comp=Z,10.0nm,0.9s,baz=123,slow=5.5,SNR=15							
ZALV	**Zalesovo Beam**	**63.03**	**337**	P		**P**	**16 23 04.6**	**-2.0**
KURBB	**Kurchatov Arra**	**63.39**	**331**	P		**P**	**16 23 08.3**	**-0.7**
	comp=Z,5.0nm,1.0s,baz=144,slow=6.1,SNR=16							
KKAR	**Karatay Array**	**63.39**	**321**	P		**P**	**16 23 07.7**	**-1.5**
KURK	**Kurchatov**	**63.41**	**332**	P		**P**	**16 23 08.3**	**-0.8**
YAK	**Yakutsk**	**64.08**	**5**	P		**P**	**16 23 11.7**	**-1.6**
SOCY	**Socotra**	**67.59**	**284**	P		**P**	**16 23 34.0**	**-2.9**
BVAR	**Borovoye Array**	**68.85**	**330**	P		**P**	**16 23 43.3**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=149,slow=21,SNR=13							
BRVK	**Borovoye**	**68.92**	**330**	P		**P**	**16 23 42.8**	**-1.6**
BRVK				IAmb		IAmb	16 23 52.4	
	comp=Z,6.1nm,1.0s							
ABKAR	**Akbulak array**	**72.74**	**323**	P		**P**	**16 24 05.5**	**-2.2**
ABKAR	**Akbulak array**	**72.74**	**323**	P		**P**	**16 24 04.7**	**-3.0**
ABKAR				IAmb		IAmb	16 24 08.3	
	comp=Z,3.9nm,0.9s							
TIXI	**Tiksi**	**73.56**	**3**	P		**P**	**16 24 10.1**	**-2.1**
	comp=Z,1.9nm,0.7s,baz=139,slow=6.1,SNR=11							
TIXI	**Tiksi**	**73.56**	**3**	P		**P**	**16 24 10.3**	**-1.8**
AKTO	**Aktyubinsk**	**74.35**	**324**	P		**P**	**16 24 15.1**	**-2.2**
	comp=Z,2.3nm,0.7s,baz=96,slow=4.4,SNR=6.6							
NRIK	**Noril'sk**	**74.49**	**348**	P		**P**	**16 24 16.4**	**-1.2**
	comp=Z,2.4nm,0.6s,baz=129,slow=7.3,SNR=5.9							
MAW	**Mawson**	**76.46**	**199**	P		**P**	**16 24 29.9**	**+1.0**
BRTR	**Keskin Array B**	**88.82**	**310**	P		**P**	**16 25 32.2**	**-1.8**
	comp=Z,1.8nm,0.9s,baz=165,slow=5.1,SNR=3.6							
BOSA	**Boshof**	**93.82**	**241**	LR		LR	17 03 24.5	
	comp=Z,74nm,19.5s,baz=172,slow=32							
TORD	**Torodi Ar. Bea**	**118.54**	**284**	PKP		**PKPdf**	**16 31 27.9**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=66,slow=1.7,SNR=2.6							
PDAR	**Pinedale Array**	**119.55**	**41**	PKP		**PKiKP**	**16 31 31.2**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=172,slow=1.0,SNR=5.7							
TXAR	**Lajitas Array**	**129.84**	**53**	PKP		**PKPdf**	**16 31 47.7**	**-2.1**
	comp=Z,0.2nm,0.7s,baz=264,slow=1.8,SNR=2.4							
CPUP	**Villa Florida**	**151.92**	**184**	PKPbc		**PKiKP**	**16 32 35.7**	**0.0**
	comp=Z,2.6nm,0.8s,baz=202,slow=3.4,SNR=4.4							

*IDC **30** 16:15:06.9±2.8, 5°.29S×153°.06E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/41, mbtmp3.7/6, ML1.5/1, Error ellipse: s-maj=90.0km s-min=26.3km az=120.0*

ISC 30 16:15:11.0±2.3, 5°.5S±0°.4×153°.3E±0°.4, h35km, n7, σ0°81/8, mb3.6/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**7.24**	**237**	Pn		**Pn**	**16 16 53.7**	**-0.7**
	0.5nm,0.3s,baz=71,slow=13,SNR=2.2							
PMG				Sn		**Sn**	**16 18 16.2**	**+0.9**
	2.0nm,0.3s,baz=189,slow=21,SNR=9.7							
WRA	**Warramunga Arr**	**23.39**	**230**	P		**P**	**16 20 16.7**	**-0.2**
	0.8nm,0.4s,baz=54,slow=9.9,SNR=5.8							
ASAR	**Alice Springs**	**26.01**	**224**	P		**P**	**16 20 41.9**	**+0.9**
	0.3nm,0.6s,baz=57,slow=9.2,SNR=4.7							
FITZ	**Fitzroy Crossi**	**29.78**	**243**	P		**P**	**16 21 13.7**	**-1.0**
	1.1nm,0.7s,baz=63,slow=4.5,SNR=2.4							
MKAR	**Makanchi Array**	**81.13**	**319**	P		**P**	**16 27 23.2**	**+0.3**
	0.2nm,0.5s,baz=97,slow=7.4,SNR=2.7							
ZALV	**Zalesovo Beam**	**81.96**	**326**	P		**P**	**16 27 27.3**	**+0.2**
	1.1nm,0.6s,baz=104,slow=5.9,SNR=4.1							
TORD	**Torodi Ar. Bea**	**150.97**	**287**	PKPbc		**PKiKP**	**16 35 02.1**	**+0.3**
	1.1nm,0.8s,baz=87,slow=3.4,SNR=4.4							

PRU 30 16:22:06.5±0.0, 50°.15N×19°.12E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LANS	**Liptovska Anna**	**1.03**	**167**	*e*Pg		Pg	16 22 26.1	0.0
LANS				*e*Sg		Sg	16 22 39.1	-0.3
LANS				*e*Lg		Lg	16 22 41.0	
MORC	**Moravsky Berou**	**1.08**	**250**	*e*Pg		Pg	16 22 27.7	+0.4
MORC				*e*Sg		Sb	16 22 42.5	-0.4
VYHS	**Vyhne**	**1.67**	**187**	*e*Pn		Pn	16 22 35.8	-1.2
VYHS				*e*Sn		Sn	16 22 57.2	-1.9
DPC	**Dobruska-Polom**	**1.81**	**277**	*e*Pg		Pb	16 22 40.0	-0.5
DPC				*e*Sg		Sb	16 23 03.6	-0.1

BUC 30 16:22:46.1±0.2, 44°.88N×23°.18E, h2km, ml1.3/9, 18C-18D, Error ellipse: s-maj=1.4km s-min=1.1km az=165.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRE	**Strehaia**	**0.22**	**175**	↓P		Pg	16 22 50.2	-0.1
SRE				↑S		Sg	16 22 53.6	+0.5
SRE	**Strehaia**	**0.22**	**175**	↓P		Pg	16 22 50.2	-0.1
SRE				↑S		Sg	16 22 53.6	+0.5
HERR	**Herculane**	**0.54**	**270**	↓P		Pg	16 22 56.7	+0.3
HERR				↑S		Sg	16 23 03.9	+0.4
HERR	**Herculane**	**0.54**	**270**	↓P		Pg	16 22 56.7	+0.3
HERR				↑S		Sg	16 23 03.9	+0.4
GZR	**Gura Zlata**	**0.59**	**331**	↑P		Pg	16 22 57.3	0.0
GZR				↑S		Sg	16 23 05.9	+0.9
GZR	**Gura Zlata**	**0.59**	**331**	↑P		Pg	16 22 57.3	0.0
GZR				↑S		Sg	16 23 05.9	+0.9
LOT	**Lotru**	**0.70**	**36**	↑P		Pg	16 22 59.2	-0.4
LOT				↓S		Sg	16 23 09.2	+0.5
LOT	**Lotru**	**0.70**	**36**	↑P		Pg	16 22 59.2	-0.4
LOT				↓S		Sg	16 23 09.2	+0.5
MDVR	**Moldovita**	**1.05**	**265**	↓P		Pg	16 23 06.1	-0.1
MDVR				↓S		Sb	16 23 20.7	-0.4
MDVR	**Moldovita**	**1.05**	**265**	↓P		Pg	16 23 06.1	-0.1
MDVR				↓S		Sb	16 23 20.7	-0.4
ARR	**Arges**	**1.14**	**64**	↓P		Pg	16 23 08.0	+0.1
ARR				↑S		Sb	16 23 23.4	-0.4
ARR	**Arges**	**1.14**	**64**	↓P		Pg	16 23 08.0	+0.1
ARR				↑S		Sb	16 23 23.4	-0.4
BZS	**Buzias**	**1.33**	**304**	↑P		Pb	16 23 11.6	0.0
BZS				↓S		Sb	16 23 28.9	-0.2
BZS	**Buzias**	**1.33**	**304**	↑P		Pb	16 23 11.6	0.0
BZS				↓S		Sb	16 23 28.9	-0.2
VOIR		**1.44**	**67**	↓P		Pn	16 23 13.2	0.0
VOIR				↓S		Sn	16 23 34.1	+1.4
VOIR		**1.44**	**67**	↓P		Pn	16 23 13.2	0.0
VOIR				↓S		Sn	16 23 34.1	+1.4
DRGR		**1.94**	**350**	↑P		Pn	16 23 19.8	-0.3
DRGR				↑S		Sb	16 23 47.0	+0.2
DRGR		**1.94**	**350**	↑P		Pn	16 23 19.8	-0.3
DRGR				↑S		Sb	16 23 47.0	+0.2

*IDC **30** 16:23:03.0±2.4, 3°.24N×96°.24E, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.4/46, mbtmp3.5/5, ML3.9/1, MS4.2/2, Ms1 4.2/2, ms1mx3.1/30, Error ellipse: s-maj=71.8km s-min=26.5km az=56.0*

*DJA **30** 16:23:11.6±0.5, 4°.N±4°×97°.7E±°, h10km, M4.3/7, mb5.1/1, mB5.3/1, MLv4.0/7, Mw(mB)4.7/1*

*NEIC **30** 16:23:14.2±1.4, 4°.14N±0°.04×97°.31E±0°.10, h66km±17km, mb4.2/4, Error ellipse: s-maj=14.0km s-min=5.6km az=84.0*

ISC 30 16:23:08.7±0.8, 3°.92N±0°.03×97°.15E±0°.06, h10km, n35, σ2$\hat{s}$16/36, mb3.9/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TPTI		**0.66**	**177**	P		**Pn**	**16 23 25.1**	**+1.0**
LHMI	**Lhok Sumawe**	**1.31**	**351**	Pn		**Pg**	**16 23 34.7**	**+0.7**
LHMI	**Lhok Sumawe**	**1.31**	**351**	P		**Pg**	**16 23 34.7**	**+0.7**
TSI	**Tuntungan**	**1.47**	**106**	P		**Pg**	**16 23 37.3**	**+0.3**
PSI	**Prapat**	**2.09**	**122**	Pn		**Pg**	**16 23 48.3**	**-0.6**
	20nm,0.3s,baz=360,slow=10,SNR=42							
PSI				Sn		**Sg**	**16 24 19.1**	**+3.0**
	52nm,0.3s,baz=0.2,slow=18,SNR=8.9							
RPSI	**Rantau Prapat**	**2.15**	**124**			**Sg**	**16 24 19.1**	**+1.1**
RPSI	**Rantau Prapat**	**2.15**	**124**	Pn		**Pb**	**16 23 48.0**	**+0.2**
GSI	**Gunungsitoli**	**2.63**	**171**	Pn		**Pb**	**16 23 56.1**	**0.0**
GSI	**Gunungsitoli**	**2.63**	**171**	P		**Pb**	**16 23 56.4**	**+0.4**
KULM	**Kulim**	**3.75**	**69**	Pn		**Pn**	**16 24 06.8**	**+0.2**
IPM	**Ipoh**	**3.91**	**82**	Pn		**Pn**	**16 24 08.7**	**-0.1**
PKDT	**Phuket**	**4.12**	**17**	P		Pg	16 24 32.8	+5.2
PKDT				S		**Sb**	**16 25 11.2**	**-0.1**
PKDT	**Phuket**	**4.12**	**17**	P		**Pb**	**16 24 22.9**	**+1.5**
PKDT				S		**Sb**	**16 25 14.9**	**+3.7**
TRTT	**Trang**	**4.64**	**33**	P		**Pb**	**16 24 26.3**	**-3.9**
TRTT				S		**Sb**	**16 25 28.0**	**+1.8**
TRTT	**Trang**	**4.64**	**33**	P		**Pb**	**16 24 29.8**	**-0.4**
TRTT				S		**Sb**	**16 25 29.2**	**+2.9**
KRAB	**Krabi**	**4.73**	**25**	P		**Pb**	**16 24 33.2**	**+1.3**
KRAB	**Krabi**	**4.73**	**25**	P		**Pb**	**16 24 32.2**	**+0.3**
KRAB				S		**Sb**	**16 25 33.4**	**+4.5**
SURT	**Suratani**	**5.26**	**18**	P		**Pb**	**16 24 44.5**	**+3.5**
SURT				S		**Sb**	**16 25 42.8**	**-1.4**
SURT	**Suratani**	**5.26**	**18**	P		**Pb**	**16 24 39.6**	**-1.3**
BKNI	**Bangkinang**	**5.28**	**132**	Pn		**Pn**	**16 24 31.3**	**+3.6**
BKNI	**Bangkinang**	**5.28**	**132**	P		**Pn**	**16 24 31.7**	**+4.0**
PHET	**Kaeng Krachan**	**9.26**	**15**	P		Pn	16 25 33.9	+11
PHET	**Kaeng Krachan**	**9.26**	**15**	P		Pn	16 25 34.6	+12
DLV	**T Lat**	**13.77**	**54**	Pn		**Pn**	**16 26 22.9**	**-1.4**
CM31	**Chiang Mai Arr**	**14.55**	**7**	Pn		**Pn**	**16 26 33.3**	**-1.7**
CMAR	**Chiang Mai Arr**	**14.55**	**7**	Pn		**P**	**16 26 42.8**	**+1.2**
	baz=198,slow=12,SNR=17							
LUWI	**Luwuk**	**26.08**	**100**	P		**P**	**16 28 38.9**	**-3.9**
BATI	**Baumata**	**29.91**	**118**	LR		LR	16 41 36.1	
	comp=Z,560nm,20.1s,baz=60,slow=37							
WRA	**Warramunga Arr**	**43.56**	**124**	P		**P**	**16 31 12.8**	**-0.4**
	1.0nm,0.5s,baz=305,slow=9.4,SNR=11							
WRA	**Warramunga Arr**	**43.56**	**124**	IAmb		IAmb	16 31 20.6	
	comp=Z,0.2nm,1.1s							
WB2	**Warramunga Arr**	**43.57**	**124**	P		**P**	**16 31 12.9**	**-0.4**
WB2				IAmb		IAmb	16 31 21.4	
	comp=Z,6.5nm,1.2s							
WR0	**Warramunga Arr**	**43.73**	**124**	P		**P**	**16 31 14.5**	**-0.1**
WR0				IAmb		IAmb	16 31 30.8	
	comp=Z,4.7nm,1.1s							
MKAR	**Makanchi Array**	**44.61**	**345**	P		**P**	**16 31 20.1**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=160,slow=9.3,SNR=1.8							
ASAR	**Alice Springs**	**45.11**	**129**	P		**P**	**16 31 22.9**	**-2.7**
	comp=Z,0.1nm,0.4s,baz=301,slow=7.6,SNR=11							
YAK	**Yakutsk**	**62.84**	**17**	LR		LR	17 04 06.1	
	comp=Z,134nm,21.4s,baz=190,slow=39							

*IDC **30** 16:28:04.3±0.4, 2°.26S×138°.98E, h0km, mb4.7/18, mb1 4.8/24, mb1mx4.7/30, mbtmp4.8/24, ML4.6/5, MS4.1/20, Ms1 4.1/20, ms1mx3.9/40, Error ellipse: s-maj=12.2km s-min=9.8km az=47.0*

*MOS **30** 16:28:06.6±0.8, 2°.27S×138°.85E, h28km, mb5.1/27, Error ellipse: s-maj=9.0km s-min=4.8km az=114.7*

*DJA **30** 16:28:07.6±0.2, 2°.S±4°×139°.9E±°, h10km, M4.7/42, mB5.3/24, mb5.0/42, MLv4.9/7, Mw(mB)4.7/24*

*BJI **30** 16:28:07.6±0.0, 2°.33S×139°.23E, h48km, mB5.1/39, mb4.9/60, Ms4.5/20, Ms7 4.2/21*

*GCMT **30** 16:28:09.3±0.4, 2°.05S±0°.02×139°.19E±0°.03, h31km±1km, MW5.0/60, Moment Tensor Solution. s33,c42; s60,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.49±.26; $M_{\theta\theta}$-0.61±.15; $M_{\phi\phi}$-2.88±.17; $M_{r\theta}$-1.56±.23; $M_{r\phi}$1.49±.08; $M_{\theta\phi}$2.16±.22; Best double couple: $M_0$4.44300×10^{16} NP1:ϕ_s160.00000°, δ27.00000°, λ101.00000°. NP2: ϕ_s328.00000°, δ63.00000°, λ85.00000°. Principal axes: T 4.3970, Plg71.0000°, Azm226.0000°; N 0.0910, Plg5.0000°, Azm330.0000°; P -4.4880, Plg18.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **30** 16:28:10.3±1.7, 2°.22S±0°.08×138°.90E±0°.06, h47km±4km, mb5.0/105 Error ellipse: s-maj=11.4km s-min=8.3km az=186.0*

ISC 30 16:28:09.6±0.3, 2°.33S±0°.04×138°.94E±0°.05, h37km, n420, σ1$\hat{s}$30/403, mb4.9/139, MS4.1/24, 19C-7D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**1.26**	**102**	P		**Pn**	**16 28 30.4**	**-0.2**
JAY	**Jayapura**	**1.77**	**96**	Pn		**Pn**	**16 28 36.5**	**-1.2**
	339nm,0.3s,baz=239,slow=9.7,SNR=634							
JAY				Lg		Lg	16 28 59.1	
	322nm,0.3s,baz=116,slow=23,SNR=25							
JAY				LR		LR	16 29 37.0	
	comp=Z,8µm,20.7s,baz=283,slow=53							
JAY	**Jayapura**	**1.77**	**96**	P		**Pn**	**16 28 36.7**	**-1.1**
SRPI	**Serui, Papua**	**2.73**	**279**	P		**Pn**	**16 28 50.9**	**0.0**
BAKI	**Biak**	**3.05**	**292**	P		**Pn**	**16 28 54.2**	**-1.0**
MMPI	**Merauke**	**6.27**	**167**	P		**Pn**	**16 29 39.2**	**-0.3**
	2.8nm7µm616nm,0.7s							
FAKI	**Fak Fak**	**6.71**	**265**	Pn		**Pn**	**16 29 46.3**	**+0.7**
FAKI	**Fak Fak**	**6.71**	**265**	P		**Pn**	**16 29 46.7**	**+1.1**
	0.4nm2µm122nm,0.8s							
SIJI	**Sorong**	**7.80**	**281**	Pn		**Pn**	**16 30 00.4**	**-0.3**
	3.2nm,0.3s,baz=108,slow=22,SNR=20							
SWI	**Sorong**	**7.81**	**281**	P		**Pn**	**16 30 02.3**	**+1.6**
	0.2nm984nm76nm,0.9s							
MANU	**Manus Island**	**8.43**	**88**	Pn		**Pn**	**16 30 09.8**	**+0.6**
SAUI	**Saumlaki**	**9.46**	**233**	Pn		**Pn**	**16 30 26.2**	**+2.9**
PMG	**Port Moresby**	**10.78**	**131**	Pn		**Pn**	**16 30 41.8**	**+0.3**
	0.9nm,0.3s,baz=314,slow=13,SNR=3.8							
PMG				LR		LR	16 36 28.8	
	comp=Z,2µm,18.1s,baz=336,slow=47							
PMG	**Port Moresby**	**10.78**	**131**	*de*P		**Pn**	**16 30 44.5**	**+3.0**
PMG				pmax		pmax		
	comp=Z,62nm,1.7s							
PMG	**Port Moresby**	**10.78**	**131**	Pn		**Pn**	**16 30 44.5**	**+3.0**
PMG	**Port Moresby**	**10.78**	**131**	P		Pn	16 30 46.3	+4.8
NLAI	**Namlea**	**11.86**	**265**	P		**Pn**	**16 30 57.2**	**+1.0**
	comp=Z,67nm,0.9s							
KDU	**Kakadu**	**12.12**	**212**	P		**Pn**	**16 30 59.0**	**-0.9**
	baz=12,SNR=46							
COEN	**Coen**	**12.29**	**160**	Pn		**Pn**	**16 31 01.9**	**-0.2**
SANI	**Sanana**	**12.94**	**271**	P		**Pn**	**16 31 09.9**	**-1.2**
	comp=Z,70nm,0.7s							
MTN	**Manton Dam**	**13.00**	**216**	P		**Pn**	**16 31 11.3**	**-0.5**
	baz=13,SNR=22							
MTN	**Manton Dam**	**13.00**	**216**	Pn		**Pn**	**16 31 10.5**	**-1.3**
KMSI	**Cibinong**	**15.23**	**281**	P		**Pn**	**16 31 44.8**	**+2.8**
	comp=Z,87nm,0.9s							
LUWI	**Luwuk**	**16.21**	**274**			**Pn**	**16 31 54.4**	**-0.3**
LUWI				IAmb		IAmb	16 32 00.2	
	comp=Z,101nm,0.9s							
LUWI	**Luwuk**	**16.21**	**274**	P		**Pn**	**16 31 54.7**	**0.0**
	comp=Z,2µmcomp=Z,131nm,1.2s							
SOEI	**Soe**	**16.34**	**243**	Pn		**Pn**	**16 31 55.5**	**-1.0**
SOEI	**Soe**	**16.34**	**243**	P		**Pn**	**16 31 56.0**	**-0.5**
	comp=Z,2µmcomp=Z,287nm,1.0s							
MTSU	**Mount Surprise**	**16.57**	**162**	P		**Pn**	**16 32 00.6**	**+1.3**
	baz=17,SNR=13							
BATI	**Baumata**	**17.07**	**242**	P		**Pn**	**16 32 05.2**	**-0.4**
	comp=Z,4.7nm,0.3s,baz=145,slow=2.7,SNR=15							
BATI	**Baumata**	**17.07**	**242**	P		**Pn**	**16 32 07.9**	**+2.3**
	comp=Z,941nmcomp=Z,123nm,0.9s							
MRSI	**Marisa**	**17.22**	**279**	P		**Pn**	**16 32 09.1**	**+1.7**
	comp=Z,40nm,1.0s							
APSI	**Ampana**	**17.34**	**274**	P		**Pn**	**16 32 10.0**	**+1.1**
	comp=Z,802nmcomp=Z,88nm,1.5s							
WB0	**Warramunga Arr**	**17.89**	**194**	Pn		**Pn**	**16 32 15.1**	**-0.6**
WR0	**Warramunga Arr**	**18.05**	**193**			**Pn**	**16 32 15.6**	**-1.9**
WR0				IAmb		IAmb	16 32 29.6	
	comp=Z,46nm,0.7s							
WRAB	**Tennant Creek**	**18.07**	**194**	*ce*P		**Pn**	**16 32 17.9**	**+0.1**
WRAB				pmax		pmax		
	comp=Z,88nm,1.3s							
WRAB	**Tennant Creek**	**18.07**	**194**			**Pn**	**16 32 16.1**	**-1.7**
WRAB				IAmb		IAmb	16 32 29.9	
	comp=Z,53nm,0.7s							
WB2	**Warramunga Arr**	**18.07**	**194**	P		**Pn**	**16 32 17.2**	**-0.7**
	baz=18							
WB2	**Warramunga Arr**	**18.07**	**194**			**Pn**	**16 32 16.5**	**-1.4**
WB2				IAmb		IAmb	16 32 29.9	
	comp=Z,56nm,0.7s							
WRA	**Warramunga Arr**	**18.08**	**194**	P		**Pn**	**16 32 16.9**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=15,slow=14,SNR=61							
WRA				S		**Sn**	**16 35 34.6**	**-4.1**
	comp=Z,0.4nm,0.3s,baz=14,slow=21,SNR=3.1							
WRA				LR		LR	16 39 45.8	
	comp=Z,2µm,20.1s,baz=10.0,slow=39							
WRA	**Warramunga Arr**	**18.08**	**194**	P		**Pn**	**16 32 16.4**	**-1.6**
WRA				S		**Sn**	**16 35 34.6**	**-4.1**
WRA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
WRA	**Warramunga Arr**	**18.08**	**194**			**Pn**	**16 32 16.4**	**-1.6**
QIS	**Mount Isa**	**18.13**	**178**	P		**Pn**	**16 32 19.6**	**+0.9**
	baz=18,SNR=7.7							
EDFI	**Ende, Flores**	**18.31**	**249**	P		**P**	**16 32 23.3**	**+2.5**
	comp=Z,13nm,0.8s							
TOLI2	**Tolitoli**	**18.47**	**280**			**P**	**16 32 21.2**	**-1.3**
BNSI	**Bone**	**18.91**	**263**	P		**Pn**	**16 32 30.9**	**+2.8**
	comp=Z,1µmcomp=Z,118nm,1.1s							
BKSI	**Bulukumba**	**19.01**	**260**	P		**Pn**	**16 32 31.7**	**+2.4**
	comp=Z,906nmcomp=Z,33nm,1.1s							
CTA	**Charters Tower**	**19.05**	**158**	P		**P**	**16 32 30.1**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=339,slow=11,SNR=18							
CTAO	**Charters Tower**	**19.05**	**158**	P		**P**	**16 32 30.0**	**+1.3**
CTAO				pmax		pmax		
	comp=Z,18nm,0.7s							
CTAO	**Charters Tower**	**19.05**	**158**			**P**	**16 32 30.0**	**+1.3**
TTSI	**Tana Toraja**	**19.11**	**267**	P		**Pn**	**16 32 32.9**	**+2.4**
	comp=Z,2µmcomp=Z,86nm,1.9s							
SPSI	**Sidrap Palu**	**19.21**	**265**	P		**P**	**16 32 33.4**	**+2.8**
	comp=Z,1µmcomp=Z,53nm,1.6s							
KAPI	**Kappang**	**19.33**	**262**	P		**P**	**16 32 33.4**	**+1.5**
	comp=Z,58nm,0.3s,baz=88,slow=9.1,SNR=6.3							
KAPI	**Kappang**	**19.33**	**262**	P		**P**	**16 32 30.4**	**-1.5**
KAPI				pmax		pmax		
	comp=Z,28nm,1.0s							
KAPI	**Kappang**	**19.33**	**262**	P		**P**	**16 32 30.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**20.39**	**219**	P		**P**	**16 32 44.0**	**+0.5**
	comp=Z,16nm,0.9s,baz=40,slow=10,SNR=21							
FITZ				S		**S**		**16 36 25.1**	**-4.9**
	comp=Z,12nm,0.7s,baz=164,slow=15,SNR=3.6							
FITZ				LR		LR	16 41 18.7	
	comp=Z,540nm,21.1s,baz=42,slow=39							
FITZ	**Fitzroy Crossi**	**20.39**	**219**	P		**P**	**16 32 43.7**	**+0.3**
	baz=20,SNR=23							
FITZ	**Fitzroy Crossi**	**20.39**	**219**	P		**P**	**16 32 43.1**	**-0.3**
FITZ				IAmb		IAmb	16 32 53.0	
	comp=Z,42nm,0.9s							
AS31	**Alice Springs**	**21.77**	**193**	P		**P**	**16 32 57.8**	**-0.4**
ASAR	**Alice Springs**	**21.77**	**193**	P		**P**	**16 32 58.4**	**+0.2**
	2.31nm,0.8s,baz=22,slow=10.0,SNR=102							
ASAR				S		**S**		**16 36 56.7**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=5.2,slow=32,SNR=3.2							
ASAR				LR		LR	16 42 00.8	
	comp=Z,1µm,19.3s,baz=13,slow=38							
ASAR	**Alice Springs**	**21.77**	**193**	P		**P**	**16 32 57.6**	**-0.6**
ASAR	**Alice Springs**	**21.77**	**193**	P		**P**	**16 32 57.6**	**-0.6**
PLAI	**Plampang**	**22.02**	**252**	P		**P**	**16 33 00.2**	**-0.8**
	comp=Z,48nm,0.9s							
HNR	**Honiara**	**22.05**	**110**	P		**P**	**16 33 00.7**	**-0.5**
	comp=Z,46nm,0.8s,baz=158,slow=5.4,SNR=4.6							
BKB	**Balikpapan**	**22.06**	**272**	P		**P**	**16 33 05.3**	**+3.9**
	comp=Z,3µmcomp=Z,362nm,1.0s							
KBKI	**Kotabaru**	**22.76**	**267**	P		**P**	**16 33 10.6**	**+1.6**
	comp=Z,589nmcomp=Z,52nm,0.8s							
TWSI	**Taliwang, Sumb**	**22.85**	**253**	P		**P**	**16 33 09.0**	**-0.8**
	comp=Z,11nm,0.9s							
SPMM	**Sapulut**	**23.52**	**287**	P		**P**	**16 33 20.0**	**+3.4**
MTKI	**Muara Teweh, K**	**24.07**	**273**	P		**P**	**16 33 23.0**	**+1.2**
	comp=Z,74nm,1.0s							
BBKI	**Banjar Baru**	**24.09**	**267**	P		**P**	**16 33 24.1**	**+2.1**
	comp=Z,3µmcomp=Z,274nm,1.2s							
KKM	**Kota Kinabalu**	**24.17**	**290**	P		**P**	**16 33 21.1**	**-1.6**
KKM				IAmb		IAmb	16 33 23.9	
	comp=Z,49nm,1.1s							
TGY	**Tagaytay City**	**24.18**	**313**	P		**P**	**16 33 22.4**	**-0.4**
	comp=Z,150nm,0.5s,baz=147,slow=7.0,SNR=6.5							
QLP	**Quilpie**	**24.65**	**169**	P		**P**	**16 33 29.1**	**+2.3**
	baz=25,SNR=48							
WRKA	**Warakurna**	**24.80**	**204**	P		**P**	**16 33 28.8**	**+0.5**
	baz=25,SNR=58							
KMMI	**Kalianget**	**25.32**	**258**	P		**P**	**16 33 35.8**	**+2.7**
	comp=Z,2µmcomp=Z,126nm,1.4s							
JAGI	**Jajag, Banyuwa**	**25.41**	**255**	P		**P**	**16 33 31.5**	**-2.4**
JAGI				IAmb		IAmb	16 33 39.1	
	comp=Z,23nm,0.8s							
EIDS	**

NWAO Narrogin (SRO) 36.62 211 P **P** **16 35 14.0 +1.5**
baz=37,SNR=8.3
NWAO Narrogin (SRO) 36.62 211 P **P** **16 35 13.8 +1.3**
UBPT Khong Chiam 37.45 299 P **P** **16 35 21.0 +1.2**
comp=Z,292nmcomp=Z,9.1nm,2.0s
UBPT Khong Chiam 37.45 299 P **P** **16 35 19.4 -0.4**
UBPT IAmb IAmb 16 35 31.5
comp=Z,22nm,1.3s
JHS Saijyo 37.53 352 P **P** **16 35 19.4 -0.8**
JHS IAmb IAmb 16 35 20.8
comp=Z,10nm,0.8s
JWT Wachi 37.56 355 P **P** **16 35 19.6 -0.8**
JGF Kuroka 37.76 358 P **P** **16 35 20.9 -1.3**
BKNI Bangkinang 37.98 273 P **P** **16 35 23.8 -0.5**
JYT Yasato 38.37 2 P P 16 35 25.4 -1.8
JYT IAmb IAmb 16 35 26.4
comp=Z,19nm,0.7s
IPM Ipoh 38.48 280 P P 16 35 25.8 -2.7
MJAR Matsushiro Arr 38.67 359 P **P** **16 35 28.8 -1.0**
comp=Z,5.9nm,0.6s,baz=179,slow=9.2,SNR=26
MJAR PcP **PcP** **16 37 41.9 +0.5**
comp=Z,3.5nm,0.8s,baz=172,slow=2.9,SNR=8.5
MJAR Matsushiro Arr 38.67 359 P P 16 35 27.6 -2.2
MJAR 16 37 40.1
MJAR pmax pmax
comp=Z,3.0nm,0.6s
MJAR Matsushiro Arr 38.67 359 P P 16 35 27.6 -2.2
MJAR **PcP** **16 37 40.1 -1.3**
MAJO Matsushiro 38.67 359 *c e* P **P** **16 35 28.7 -1.1**
MAJO pmax pmax
comp=Z,6.0nm,0.8s
MAJO Matsushiro 38.67 359 P P 16 35 28.0 -1.8
MAJO IAmb IAmb 16 35 30.1
comp=Z,8.6nm,0.6s
MAJO **PcP** **16 37 41.5 +0.1**
MAT Matsushiro 38.67 359 P **P** **16 35 28.7 -1.1**
MAT S **S** **16 41 28.8 +4.7**
KULM Kulim 38.99 281 P **P** **16 35 32.0 -0.7**
NJ2 Nanjing 39.14 332 *e* P **P** **16 35 35.8 +2.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
JMM Marumori 40.03 2 P **P** **16 35 40.0 -1.0**
JMM IAmb IAmb 16 35 41.7
comp=Z,29nm,0.8s
JSD Sado 40.17 359 P **P** **16 35 40.9 -1.3**
JSD IAmb IAmb 16 35 50.6
comp=Z,26nm,0.9s
RPSI Rantau Prapat 40.31 277 P **P** **16 35 42.8 -1.0**
PSI Prapat 40.32 277 P **P** **16 35 42.8 -1.2**
PSI pmax pmax
comp=Z,101nm,0.9s
TRTT Trang 40.43 285 P **P** **16 35 44.7 0.0**
comp=Z,82nm,1.0s
NONG Nongkai 40.66 301 P **P** **16 35 46.0 -0.6**
comp=Z,24nm,0.9s
CHAI Chaiyaphum 40.77 298 P **P** **16 35 47.9 +0.4**
comp=Z,14nm,0.9s
KSAR Wonju Array Be 40.88 347 P **P** **16 35 47.0 -1.0**
KSAR 16 37 48.0
KSAR Wonju Array Be 40.88 347 P **P** **16 35 47.0 -1.0**
KSAR **PcP** **16 37 48.0 -0.4**
KSRS Korea Array 40.88 347 P **P** **16 35 48.2 +0.1**
comp=Z,2.9nm,0.8s,baz=158,slow=8.6,SNR=13
KSRS PcP **PcP** **16 37 49.5 +1.1**
comp=Z,2.6nm,0.9s,baz=175,slow=3.3,SNR=8.1
KSRS LR LR 16 51 12.7
comp=Z,142nm,18.6s,baz=166,slow=34
TAU Tasmania Unive 41.10 171 P **P** **16 35 51.2 +1.4**
TAU pmax pmax
comp=Z,41nm,1.3s
TAU Tasmania Unive 41.10 171 P **P** **16 35 51.2 +1.4**
TAU IAmb IAmb 16 36 16.5
comp=Z,41nm,1.3s
MSVF Nonsavu 41.31 114 LR LR 16 52 42.7
comp=Z,202nm,21.4s,baz=304,slow=36
MSVF Nonsavu 41.31 114 P **P** **16 35 52.5 +0.4**
MSVF pmax pmax
comp=Z,310nm,0.6s
MSVF Nonsavu 41.31 114 P **P** **16 35 52.5 +0.4**
GSI Gunungsitoli 41.51 275 P P 16 35 51.3 -2.4
SLVN Son La 41.57 306 P P 16 35 51.5 -2.6
PHET Kaeng Krachan 41.85 292 P **P** **16 35 58.0 +1.6**
comp=Z,354nmcomp=Z,35nm,0.9s
LHMI Lhok Sumawe 42.61 280 P **P** **16 36 01.1 -1.6**
UTTA Uttaradit 42.76 299 P **P** **16 36 04.7 +0.9**
comp=Z,166nmcomp=Z,15nm,0.9s
SRDT SRDT 42.78 294 P **P** **16 36 03.8 -0.2**
comp=Z,3μmcomp=Z,6.7nm,1.1s
ENH Enshi 42.91 321 P P 16 36 02.9 -2.0
ENH IAmb IAmb 16 36 06.0
comp=Z,18nm,0.8s
UTHA Uthaitani 42.91 296 P **P** **16 36 06.6 +1.6**
comp=Z,9.2nm,0.9s
JTM Tenmabayashi 42.95 2 P **P** **16 36 04.2 -0.7**
JTM IAmb IAmb 16 36 07.7
comp=Z,34nm,1.2s
SUKH Sukhothai 43.46 298 P **P** **16 36 11.0 +1.6**
comp=Z,11nm,1.0s
UMPA Umpang Tak. 43.67 296 P **P** **16 36 12.6 +1.5**
comp=Z,17nm,1.3s
CM36 Chiang Mai Arr 44.34 300 P **P** **16 36 17.0 +0.5**
CM35 Chiang Mai Arr 44.35 300 P **P** **16 36 17.0 +0.4**
CM04 Chiang Mai Arr 44.39 299 P **P** **16 36 18.0 +1.0**
comp=Z,113nmcomp=Z,10nm,1.3s
CM09 Chiang Mai Arr 44.40 299 P **P** **16 36 18.1 +1.0**
comp=Z,113nmcomp=Z,12nm,1.1s
CM01 Chiang Mai Arr 44.42 299 P **P** **16 36 18.4 +1.2**
comp=Z,115nmcomp=Z,11nm,1.2s
CM05 Chiang Mai Arr 44.42 299 P **P** **16 36 18.2 +1.0**
comp=Z,78nmcomp=Z,7.4nm,1.1s
CM34 Chiang Mai Arr 44.42 300 P **P** **16 36 17.0 -0.2**
CM02 Chiang Mai Arr 44.43 299 P **P** **16 36 18.0 +0.7**
comp=Z,111nmcomp=Z,11nm,1.1s
CM31 Chiang Mai Arr 44.45 299 P **P** **16 36 18.0 +0.6**
comp=Z,314nm,0.7s
CM31 Chiang Mai Arr 44.45 299 P **P** **16 36 16.1 -1.3**
CM31 IAmb IAmb 16 36 19.2
comp=Z,24nm,1.2s
CMAR Chiang Mai Arr 44.45 299 P **P** **16 36 18.0 +0.6**
comp=Z,5.5nm,0.8s,baz=119,slow=6.2,SNR=42
CMAR PcP **PcP** **16 38 02.1 +1.4**
comp=Z,0.7nm,0.3s,baz=140,slow=2.4,SNR=4.6
CMAR Chiang Mai Arr 44.45 299 P **P** **16 36 16.5 -0.9**
CMAR Chiang Mai Arr 44.45 299 P **P** **16 36 16.5 -0.9**
KMI Kunming 44.45 310 ⇑P **P** **16 36 18.3 +0.8**
KMI pP pP 16 36 31.0 +2.6
KMI sP sP 16 36 37.0 +4.2
KMI pmax pmax
comp=Z,9.0nm,1.0s
CM15 Chiang Mai Arr 44.46 299 P **P** **16 36 18.6 +1.1**
comp=Z,413nmcomp=Z,12nm,0.9s
CM13 Chiang Mai Arr 44.46 299 P **P** **16 36 18.0 +0.5**
comp=Z,107nmcomp=Z,11nm,1.1s
CMMT Chiang Mai 44.58 300 P **P** **16 36 17.8 -0.7**
comp=Z,6.3nm,1.4s
CM33 Chiang Mai Arr 44.59 300 P **P** **16 36 18.0 -0.5**
CHTO Chiang Mai 44.59 300 P **P** **16 36 17.0 -1.5**
CHTO pmax pmax
comp=Z,10.0nm,1.1s
CHTO Chiang Mai 44.59 300 P **P** **16 36 17.0 -1.5**
CM32 Chiang Mai Arr 44.61 300 P **P** **16 36 19.0 +0.3**
MSHR Mys Shultsa 45.25 352 ⇓*e* P **P** **16 36 22.9 -0.4**
MSHR pmax pmax
comp=Z,15nm,0.7s
XAN Xi'an 45.90 325 P **P** **16 36 28.5 -0.2**
XAN pP pP 16 36 40.0 +0.4
XAN sP sP 16 36 45.5 +1.6
XAN pmax pmax
comp=Z,8.0nm,1.1s
USA0B Ussuriysk Arra 46.73 353 ⇑*e* P **P** **16 36 34.9 -0.1**
USA0B Ussuriysk Arra 46.73 353 P **P** **16 36 34.5 -0.6**
USA0B IAmb IAmb 16 36 38.6
comp=Z,13nm,1.1s
USRK Ussuriysk Ar. 46.73 353 P **P** **16 36 35.6 +0.6**
comp=Z,6.3nm,0.8s,baz=176,slow=6.3,SNR=12
USRK Ussuriysk Ar. 46.73 353 P **P** **16 36 34.4 -0.6**
USRK Ussuriysk Ar. 46.73 353 P **P** **16 36 34.4 -0.6**
BJI Beijing 47.04 336 P **P** **16 36 37.8 +0.3**
BJI pmax pmax
comp=Z,6.0nm,1.0s
CD2 Chengdu 47.05 317 P **P** **16 36 36.5 -1.3**
CD2 pmax pmax
comp=Z,70nm,0.6s
MDJ Mudanjiang 47.48 351 P **P** **16 36 39.6 -1.2**
MDJ IAmb IAmb 16 36 42.3
comp=Z,13nm,1.2s
CN2 Changchun 47.49 347 *e* P **P** **16 36 41.0 +0.1**
CN2 *e* S S 16 43 23.0 -10
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.9s
CN2 LR LR
comp=Z,150nm,13.0s
CN2 LR LR
comp=Z,150nm,13.0s
CN2 LR LR
comp=Z,200nm,12.0s
YSS Yuzh-Sakhalins 49.19 3 *e* P **P** **16 36 54.2 +0.3**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS Yuzh-Sakhalins 49.19 3 P **P** **16 36 53.5 -0.4**
YSS IAmb IAmb 16 37 01.5
comp=Z,19nm,0.8s
HHC Hu-ho-hao-te 49.70 333 *e* P **P** **16 36 58.8 +0.7**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,84nm,5.2s
TUWZ Tuamarina 50.06 146 P **P** **16 37 00.2 -0.5**
LZH Lanzhou 50.31 323 *e* P **P** **16 37 04.0 +1.0**
LZH pP pP 16 37 14.5 +0.5
LZH sP sP 16 37 19.8 +1.5
LZH *e* S **S** **16 44 17.5 +4.0**
LZH sS sS 16 44 40.0 +8.4
LZH SS **SS** **16 47 41.8 -5.8**
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.4s
LZH LR LR
comp=Z,260nm,14.0s
LZH LR LR
comp=Z,260nm,14.3s
LZH LR LR
comp=Z,1μm,15.4s
SAIH SAIHA 51.16 301 *e* P P 16 37 06.2 -3.3
KOHI KOHIMA 51.55 306 *e* P P 16 37 09.3 -3.1
KLR Kul'dur 51.73 354 LR LR 16 59 22.0
comp=Z,90nm,18.2s,baz=177,slow=36
KLR Kul'dur 51.73 354 *c i* P **P** **16 37 13.1 0.0**
KLR pmax pmax
comp=Z,18nm,1.6s
GRNR Gornyy 52.94 358 ⇑*i* P **P** **16 37 21.8 -0.3**
GRNR pmax pmax
comp=Z,3.0nm,0.6s
GRNR MLR MLR
comp=E,70nm,15.0s
GRNR MLR MLR
comp=N,50nm,14.0s
GRNR MLR MLR
comp=Z,110nm,13.0s
TYV Tymovskoe 53.08 3 *e* P **P** **16 37 22.5 -0.6**
TYV pmax pmax
comp=Z,12nm,1.3s
HIA Hailar 54.01 345 ⇓*e* P **P** **16 37 30.4 +0.4**
HIA pmax pmax
comp=Z,3.0nm,1.0s
GTA Gaotai 54.90 323 ⇑P **P** **16 37 37.5 +0.7**
GTA pP pP 16 37 49.5 +1.6
GTA sP sP 16 37 54.8 +2.6
GTA S **S** **16 45 18.5 +2.5**
GTA sS sS 16 45 39.0 +6.6
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,59nm,5.1s
GTA LR LR
comp=Z,120nm,15.3s
GTA LR LR
comp=Z,130nm,16.4s
GTA LR LR
comp=Z,140nm,17.1s
LSA Lhasa 55.65 309 P **P** **16 37 44.0 +1.2**
LSA pmax pmax
comp=Z,50nm,0.8s
LSA Lhasa 55.65 309 P **P** **16 37 43.2 +0.4**
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 55.65 309 P **P** **16 37 43.2 +0.4**
LSA IAmb IAmb 16 37 45.9
comp=Z,10nm,0.8s
ZEA Zeya 56.71 352 *e* P **P** **16 37 49.3 0.0**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ULN Ulaanbaatar 57.22 335 *c i* P **P** **16 37 53.8 +0.6**
ULN pmax pmax
comp=Z,7.0nm,1.7s
ULN Ulaanbaatar 57.22 335 P P 16 37 51.4 -1.9
PETK Petropavlovsk- 57.44 13 LR LR 16 59 02.8
comp=Z,125nm,21.9s,baz=204,slow=32
TAPN Taplejung 57.44 305 *e* P **P** **16 37 55.8 +0.4**
comp=Z,25nm,0.9s
SONM Songino Array 57.47 335 P **P** **16 37 54.7 -0.3**
comp=Z,1.9nm,0.9s,baz=154,slow=6.5,SNR=11
SONM PcP **PcP** **16 38 48.5 +0.1**
comp=Z,1.4nm,0.7s,baz=161,slow=4.7,SNR=4.9
SONM LR LR 17 01 38.7
comp=Z,210nm,21.1s,baz=136,slow=35
SONM Songino Array 57.47 335 P **P** **16 37 55.0 0.0**
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 57.47 335 P **P** **16 37 55.0 0.0**
ODAN Odare 57.52 304 *e* P **P** **16 37 56.0 +0.1**
comp=Z,36nm,0.8s
RAMN Ramite 58.21 304 *e* P **P** **16 38 01.4 +0.6**
comp=Z,50nm,0.8s
JIRN Jiri 58.81 304 *e* P **P** **16 38 05.1 0.0**
comp=Z,37nm,1.1s
PALK Pallekele 58.88 280 P **P** **16 38 05.3 -0.1**
PALK pmax pmax
comp=Z,14nm,1.0s
PALK Pallekele 58.88 280 P **P** **16 38 05.3 -0.1**
PALK IAmb IAmb 16 38 06.7
comp=Z,14nm,1.0s
GUN Gumba 59.16 305 *e* P **P** **16 38 08.1 +0.6**
comp=Z,40nm,0.8s
PKI Pulchoki 59.42 304 *e* P **P** **16 38 09.4 +0.1**
comp=Z,21nm,0.9s
PKIN Phulchoki 59.44 304 *e* P **P** **16 38 09.4 +0.1**
KKN Kakani 59.61 304 *e* P **P** **16 38 10.9 +0.5**
comp=Z,38nm,0.8s
DMN Daman 59.69 304 *e* P **P** **16 38 11.6 +0.6**
comp=Z,36nm,0.9s
GKN Gorkha 60.22 304 *e* P **P** **16 38 15.0 +0.5**
comp=Z,46nm,0.7s
ZAK Zakamensk 60.74 335 *e* P **P** **16 38 17.8 +0.2**
ZAK pmax pmax
comp=Z,13nm,1.2s
DANN Dangsing 61.06 304 *e* P **P** **16 38 20.9 +0.5**
comp=Z,38nm,0.8s
TLY Talaya 61.56 336 LR LR 17 07 34.2
comp=Z,101nm,18.1s,baz=132,slow=38
TLY Talaya 61.56 336 *e* P **P** **16 38 23.9 +0.9**
TLY *e* 16 40 41.3
TLY *e* S S 16 46 52.7 +10
TLY pmax pmax
comp=Z,13nm,0.9s
TLY MLR MLR
comp=Z,366nm,18.0s
TLY Talaya 61.56 336 P **P** **16 38 22.9 -0.1**
TLY IAmb IAmb 16 38 36.3
comp=Z,12nm,1.3s
MA2 Magadan 62.42 7 ⇓*e* P **P** **16 38 28.6 0.0**
MA2 pmax pmax
comp=Z,3.0nm,1.0s
HYB Hyderabad 62.65 291 *i* P **P** **16 38 30.0 -1.0**
MOY Mondy 62.66 334 *e* P **P** **16 38 31.0 +0.5**
MOY pmax pmax
comp=Z,21nm,2.1s
BOD Bodaibo 63.20 345 *e* P **P** **16 38 32.9 -0.9**
BOD pmax pmax
comp=Z,9.0nm,2.1s
YAK Yakutsk 64.57 355 *e* P **P** **16 38 41.6 -1.1**
YAK *e**PP **pP** **16 38 51.6 -2.5**
YAK *e* 16 39 13.4
YAK *e* 16 41 08.9
YAK *e*S **S** **16 47 18.1 -1.3**
YAK *e**SS **pS** **16 47 35.6 +2.4**
YAK *e*SSS SSS 16 54 16.9
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,72nm,5.3s
YAK pmax pmax
comp=N,53nm,5.3s
YAK pmax pmax
comp=E,72nm,6.2s
YAK smax smax
comp=N,49nm,4.7s
YAK smax smax
comp=E,9.0nm,2.0s
YAK Yakutsk 64.57 355 P **P** **16 38 42.5 -0.2**
WMQ Urumqi 64.85 321 P **P** **16 38 46.3 +1.2**
WMQ pP pP 16 38 58.0 +1.6
WMQ sP sP 16 39 05.8 +5.1
WMQ pmax pmax
comp=E,44nm,1.1s
WMQ pmax pmax
comp=E,250nm,4.5s
WMQ Urumqi 64.85 321 P **P** **16 38 44.3 -0.8**
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ Urumqi 64.85 321 P **P** **16 38 44.3 -0.8**
SEY Seymchan 65.88 7 ⇑*e* P **P** **16 38 52.0 +0.8**
CASY Casey 66.89 192 P **P** **16 38 58.5 +0.9**
CASY IAmb IAmb 16 38 59.7
comp=Z,23nm,0.9s
SMLA Simla 67.39 305 *e* P **P** **16 39 01.4 -0.1**
DGZ Jazzator, Alta 68.09 327 *c i* P **P** **16 39 06.1 +0.3**
DGZ pmax pmax
comp=Z,11nm,0.9s
ZSN Zaisan 68.39 324 *e* P **P** **16 39 06.5 -1.0**
baz=324
ZSN Zaisan 68.39 324 *e* P **P** **16 39 06.5 -1.0**
DHRM DHARAMSHALA 68.42 306 *e* P P 16 39 05.5 -2.8
MK31 Makanchi Array 69.63 322 *c i* P **P** **16 39 15.7 +0.5**
MK31 pmax pmax
comp=Z,23nm,0.9s
MK31 Makanchi Array 69.63 322 P **P** **16 39 15.4 +0.2**
MK31 IAmb IAmb 16 39 17.1
comp=Z,15nm,0.9s
MKAR Makanchi Array 69.63 322 P **P** **16 39 16.0 +0.8**
comp=Z,18nm,0.8s,baz=115,slow=8.0,SNR=171
MKAR Makanchi Array 69.63 322 P **P** **16 39 15.5 +0.3**
MKAR Makanchi Array 69.63 322 P **P** **16 39 15.5 +0.3**
MAKZ Makanchi 69.83 322 P **P** **16 39 16.5 +0.1**
MAKZ Makanchi 69.83 322 P **P** **16 39 16.7 +0.3**
SHLS Shalkode 69.89 318 *e* P P 16 39 14.3 -2.8
comp=Z,13nm,1.4s,baz=318
SHLS Shalkode 69.89 318 *e* P P 16 39 14.2 -2.8
SHLS pmax pmax
comp=Z,13nm,1.4s
UZB Uzynbulak 70.18 318 *e* P **P** **16 39 18.0 -0.9**
comp=Z,11nm,0.8s,baz=318
UZB Uzynbulak 70.18 318 *e* P **P** **16 39 17.9 -0.9**
UZB pmax pmax
comp=Z,11nm,0.8s
SATY Saty 70.56 317 *e* P **P** **16 39 20.8 -0.4**
comp=Z,12nm,0.9s,baz=317
SATY Saty 70.56 317 *e* P **P** **16 39 20.7 -0.4**
SATY pmax pmax
comp=Z,12nm,0.9s
KSH Kashi 70.99 313 P **P** **16 39 26.3 +2.5**
KSH pmax pmax
comp=Z,19nm,0.8s
KSH pmax pmax
comp=Z,430nm,6.5s
NIL Nilore 71.28 307 P **P** **16 39 25.2 -0.4**
NIL pmax pmax
comp=Z,33nm,0.7s
NIL Nilore 71.28 307 P **P** **16 39 25.2 -0.4**
TDK Taldyqorghan 71.32 319 *e* P **P** **16 39 25.2 -0.4**
comp=Z,18nm,0.9s,baz=319
TDK Taldyqorghan 71.32 319 *e* P **P** **16 39 25.2 -0.4**
TDK pmax pmax
comp=Z,18nm,0.9s
MDOK Medeo 71.52 317 *e* P **P** **16 39 26.6 -0.4**
baz=317
MDOK Medeo 71.52 317 *e* P **P** **16 39 26.6 -0.4**
TNSS Tian-Shan 71.54 317 *e* P **P** **16 39 27.3 -0.2**
baz=317
TNSS Tian-Shan 71.54 317 *e* P **P** **16 39 27.2 -0.2**
AAA Alma-Ata 71.63 317 *e* P **P** **16 39 27.6 +0.1**
baz=317
AAA Alma-Ata 71.63 317 *e* P **P** **16 39 27.6 +0.1**
PPT Papeete 71.65 108 LR LR 17 07 49.8
comp=Z,70nm,21.8s,baz=191,slow=33
ZAA0 Zalesovo Array 71.72 330 P **P** **16 39 26.0 -1.7**
ZALV Zalesovo Beam 71.72 330 P **P** **16 39 27.7 -0.1**
comp=Z,7.7nm,0.7s,baz=113,slow=6.8,SNR=26
ZALV LR LR 17 10 42.6
comp=Z,90nm,21.0s,baz=98,slow=36
ZALV Zalesovo Beam 71.72 330 P **P** **16 39 26.5 -1.3**
CHKK Chushkaly 71.81 318 *e* P **P** **16 39 28.3 -0.4**
baz=318
CHKK Chushkaly 71.81 318 *e* P **P** **16 39 28.2 -0.4**
KUU Kurty 72.27 318 *e* P **P** **16 39 30.6 -0.7**
comp=Z,12nm,0.7s,baz=318
KUU Kurty 72.27 318 *e* P **P** **16 39 30.6 -0.7**
KUU pmax pmax
comp=Z,12nm,0.7s
TKM2 Tokmak 2 72.42 316 P P **16 39 33.9 +1.4**
SNR=7.2
SEM Semipalatinsk 72.47 325 *e* P **P** **16 39 31.3 -1.3**
baz=325
SEM Semipalatinsk 72.47 325 *e* P **P** **16 39 31.3 -1.3**
BILL Bilibino 72.75 10 *i* P **P** **16 39 33.7 +0.1**
BILL pmax pmax
comp=Z,1.0nm,0.9s
KBK Karagaybulak 72.78 316 P **P** **16 39 35.7 +1.1**
SNR=7.5
UCH Uchtor 72.94 316 P **P** **16 39 37.9 +2.0**
SNR=10
CHMS Chumysh 73.03 316 P **P** **16 39 37.0 +1.1**
SNR=8.8
AAK Ala-Archa 73.09 316 ⇓*e* P **P** **16 39 35.8 -0.6**
AAK pmax pmax
comp=Z,74nm,2.5s
AAK Ala-Archa 73.09 316 P **P** **16 39 35.4 -1.0**
USP Ospenovka 73.30 317 P **P** **16 39 38.5 +1.0**
SNR=13
AML Almayashu 73.48 315 P **P** **16 39 40.6 +1.5**
SNR=15
KURBB Kurchatov Arra 73.55 325 P **P** **16 39 39.0 +0.3**
EKS2 Erkin-Say 73.60 316 P **P** **16 39 41.1 +1.7**
SNR=6.1
TIXI Tiksi 74.14 357 *d e* P **P** **16 39 40.9 -0.8**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
TIXI Tiksi 74.14 357 P **P** **16 39 40.3 -1.4**
BTLS Baital 74.21 318 *e* P **P** **16 39 41.9 -0.9**
baz=318
BTLS Baital 74.21 318 *e* P **P** **16 39 41.8 -0.9**
KBL Kabul 74.88 307 P **P** **16 39 46.8 -0.3**
KBL pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 74.88 307 P **P** **16 39 46.8 -0.3**
KBL IAmb IAmb 16 39 48.2
comp=Z,12nm,0.8s
DZA Taraz 75.38 315 *e* P **P** **16 39 48.7 -1.0**
baz=315
DZA Taraz 75.38 315 *e* P **P** **16 39 48.6 -1.0**
KK31 Karatay Array 76.02 315 P **P** **16 39 52.6 -0.6**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KK31 Karatay Array 76.02 315 P **P** **16 39 52.5 -0.6**
KKAR Karatay Array 76.02 315 P **P** **16 39 52.6 -0.6**
KKAR pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 76.02 315 P **P** **16 39 52.6 -0.6**
KKAR Karatay Array 76.02 315 P **P** **16 39 52.7 -0.6**
IUG luzhnay 76.09 314 *e* P **P** **16 39 53.4 -0.4**
comp=Z,5.5nm,1.0s,baz=314
IUG luzhnay 76.09 314 *e* P **P** **16 39 53.3 -0.4**
IUG pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 76.14 175 P **P** **16 39 54.4 +1.1**
comp=Z,10nm,0.7s,baz=323,slow=6.0,SNR=58
VNDA LR LR 17 13 10.0
comp=Z,294nm,18.6s,baz=352,slow=36

VNDA	**Vanda**	**76.14**	**175**	P	**P**	**16 39 53.6**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VNDA	**Vanda**	**76.14**	**175**	P	**P**	**16 39 53.5**	**+0.4**
VNDA				IAmb	IAmb	16 39 55.2	
	comp=Z,10.0nm,0.7s						
BRZS	**Berezniki**	**76.77**	**323**	*eP*	**P**	**16 39 56.5**	**-0.9**
	comp=Z,6.1nm,0.8s,baz=323						
BRZS	**Berezniki**	**76.77**	**323**	*eP*	**P**	**16 39 56.4**	**-0.9**
BRZS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SBA	**Scott Base**	**76.90**	**174**	P	**P**	**16 39 59.0**	**+1.5**
SBA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SBA	**Scott Base**	**76.90**	**174**	P	**P**	**16 39 59.0**	**+1.5**
SBA				IAmb	IAmb	16 40 00.1	
	comp=Z,8.3nm,0.9s						
BRVK	**Borovoye**	**79.20**	**325***c*	*iP*	**P**	**16 40 11.1**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,35nm,0.7s						
BRVK	**Borovoye**	**79.20**	**325**	P	**P**	**16 40 11.2**	**+0.4**
NRIK	**Noril'sk**	**79.42**	**344**	P	**P**	**16 40 11.9**	**+0.4**
	comp=Z,12nm,0.9s,baz=130,slow=6.4,SNR=32						
NRIK				LR	LR	17 15 10.1	
	comp=Z,77nm,20.6s,baz=106,slow=36						
NRIK	**Noril'sk**	**79.42**	**344**	P	**P**	**16 40 11.2**	**-0.3**
NRIK				pmax	pmax		
	comp=Z,14nm,0.9s						
NRIK	**Noril'sk**	**79.42**	**344**	P	**P**	**16 40 11.2**	**-0.3**
NRIK				IAmb	IAmb	16 40 13.1	
	comp=Z,14nm,0.8s						
MAW	**Mawson**	**82.56**	**202**	P	**P**	**16 40 29.0**	**+0.6**
	comp=Z,8.0nm,0.8s,baz=50,slow=7.6,SNR=7.6						
MAW				LR	LR	17 15 09.0	
	comp=Z,298nm,18.6s,baz=283,slow=34						
MAW	**Mawson**	**82.56**	**202**	P	**P**	**16 40 29.0**	**+0.6**
RC01	**Rabbit Creek A**	**83.09**	**28**	P	**P**	**16 40 31.1**	**-0.1**
KTH	**Kantishna Hill**	**83.34**	**25**	P	**P**	**16 40 32.6**	**0.0**
KTH				IAmb	IAmb	16 40 57.6	
	comp=Z,21nm,1.4s						
MLY	**Manley**	**83.90**	**24**	P	**P**	**16 40 35.2**	**-0.1**
SML	**Sawmill**	**83.95**	**27**	P	**P**	**16 40 35.7**	**0.0**
RND	**Reindeer**	**84.18**	**26**	P	**P**	**16 40 36.2**	**-0.7**
RND				pmax	pmax		
	comp=Z,17nm,0.9s						
RND	**Reindeer**	**84.18**	**26**	P	**P**	**16 40 36.2**	**-0.7**
RND				IAmb	IAmb	16 40 40.7	
	comp=Z,17nm,0.9s						
GEYT	**Alibeck**	**84.18**	**308**	P	**P**	**16 40 37.0**	**-0.4**
	comp=Z,6.2nm,0.7s,baz=188,slow=3.0,SNR=10.0						
GEYT				LR	LR	17 21 10.8	
	comp=Z,89nm,20.6s,baz=60,slow=38						
GEYT	**Alibeck**	**84.18**	**308**	P	**P**	**16 40 36.6**	**-0.8**
GEYT				IAmb	IAmb	16 40 39.4	
	comp=Z,8.6nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**84.18**	**308**	P	**P**	**16 40 36.5**	**-0.9**
GYA0B				IAmb	IAmb	16 40 44.2	
	comp=Z,12nm,0.8s						
MCK	**McKinley**	**84.24**	**25**	P	**P**	**16 40 36.6**	**-0.5**
MCK				pmax	pmax		
	comp=Z,19nm,1.3s						
MCK	**McKinley**	**84.24**	**25**	P	**P**	**16 40 36.5**	**-0.5**
MCK				IAmb	IAmb	16 40 52.5	
	comp=Z,19nm,1.3s						
I23K	**Minto, Yukon-K**	**84.49**	**24**	P	**P**	**16 40 37.8**	**-0.5**
I23K				IAmb	IAmb	16 40 50.6	
	comp=Z,17nm,1.2s						
AB31	**Akbulak array**	**84.58**	**320**	P	**P**	**16 40 39.1**	**0.0**
ABKAR	**Akbulak array**	**84.58**	**320**	P	**P**	**16 40 38.6**	**-0.5**
WRH	**Wood River Hil**	**84.81**	**25**	P	**P**	**16 40 39.8**	**-0.1**
WRH				IAmb	IAmb	16 40 51.8	
	comp=Z,11nm,1.0s						
CCB	**Clear Creek Bu**	**84.98**	**24**	P	**P**	**16 40 40.0**	**-0.7**
CCB				IAmb	IAmb	16 40 43.1	
	comp=Z,14nm,0.9s						
COLA	**College**	**85.02**	**24**⇑	*eP*	**P**	**16 40 42.7**	**+1.8**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
IL31		**85.39**	**24**	P	**P**	**16 40 41.8**	**-1.0**
IL31				IAmb	IAmb	16 40 44.6	
	comp=Z,7.2nm,0.8s						
ILAR	**Eielson Array**	**85.39**	**24**	P	**P**	**16 40 42.1**	**-0.8**
	comp=Z,6.5nm,0.8s,baz=257,slow=4.6,SNR=35						
ILAR				LR	LR	17 12 34.4	
	comp=Z,49nm,21.3s,baz=259,slow=31						
SVE	**Sverdlovsk**	**85.54**	**327**	*eP*	**P**	**16 40 43.9**	**+0.1**
SVE				pmax	pmax		
	comp=Z,22nm,0.8s						
SOCY	**Socotra**	**85.55**	**282**	P	P	16 40 42.6	-2.3
DOT	**Dot Lake**	**86.32**	**26**	P	**P**	**16 40 47.3**	**-0.2**
DOT				IAmb	IAmb	16 40 51.2	
	comp=Z,5.6nm,1.0s						
SCRK	**Sand Creek**	**86.42**	**26**	P	**P**	**16 40 47.6**	**-0.5**
ARU	**Arti**	**86.60**	**327***c*	*iP*	**P**	**16 40 48.3**	**-0.7**
ARU						16 44 09.3	
ARU				S	**SKSac**	**16 51 10.0**	**-2.7**
ARU				SS	**SS**	**16 56 58.0**	**-6.5**
ARU				pmax	pmax		
	comp=Z,21nm,1.0s						
ARU	**Arti**	**86.60**	**327**	P	**P**	**16 40 48.0**	**-1.0**
L27K	**Beaver Creek,**	**87.19**	**27**	P	**P**	**16 40 50.9**	**-0.9**
L27K				IAmb	IAmb	16 40 55.3	
	comp=Z,6.0nm,0.9s						
K27K	**Chicken**	**87.26**	**26**	P	**P**	**16 40 52.9**	**+0.8**
K27K				IAmb	IAmb	16 41 05.5	
	comp=Z,20nm,1.2s						
EGAK	**Eagle**	**87.79**	**25**	P	**P**	**16 40 54.3**	**-0.3**
EGAK				IAmb	IAmb	16 40 57.7	
	comp=Z,12nm,0.9s						
DAWY	**Dawson**	**88.43**	**26**	P	**P**	**16 40 57.6**	**-0.1**
HYT	**Haines Junctio**	**88.87**	**29**	P	**P**	**16 41 00.0**	**+0.1**
WHY	**Whitehorse**	**90.13**	**29**	P	**P**	**16 41 06.0**	**+0.2**
WHY				IAmb	IAmb	16 41 07.9	
	comp=Z,7.8nm,0.8s						
SYO	**Syowa Base**	**91.19**	**201**⇑	*eP*	**P**	**16 41 09.4**	**-1.0**
SYO	**Syowa Base**	**91.19**	**201**⇑	*ep*	pP	16 41 24.4	+2.2
SYO	**Syowa Base**	**91.19**	**201**⇑	*es*	sP	16 41 29.6	+3.0
KIRV	**Kirov**	**91.72**	**328**⇓	*eP*	**P**	**16 41 12.1**	**-0.9**
BELG	**Belogornoye**	**92.63**	**322***c*	*iP*	**P**	**16 41 16.1**	**-1.3**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN	**Obninsk**	**98.97**	**325**	*i* P	P	16 41 43.9	-2.3
OBN				*i*		16 41 54.7	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YKA	**Yellowknife Ar**	**99.62**	**27**	P	**Pdif**	**16 41 48.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=284,slow=4.1,SNR=8.6						
YKA				LR	LR	17 24 10.8	
	comp=Z,92nm,20.9s,baz=0.0,slow=34						
ARCES	**ARCESS Array B**	**100.22**	**341**	P	**Pdif**	**16 41 50.0**	**-1.5**
	comp=Z,4.0nm,0.7s,baz=48,slow=1.8,SNR=9.0						
NVAR	**Mina Array Bea**	**101.44**	**51**	P	**Pdif**	**16 41 58.6**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=268,slow=5.8,SNR=4.8						
FINES	**FINESS Array B**	**102.82**	**333**	P	**Pdif**	**16 42 02.7**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=95,slow=4.4,SNR=6.3						
AKASG	**Malin Array Be**	**104.21**	**322**	Pdiff	**Pdif**	**16 42 09.8**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=64,slow=4.9,SNR=4.3						
PDAR	**Pinedale Array**	**107.28**	**46**	PKiKP	**PKiKP**	**16 46 33.0**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=228,slow=1.8,SNR=3.7						
P38A	**Dawn**	**119.72**	**45**		**PKPdf**	**16 46 55.2**	**-1.0**
S39A	**Bolivar**	**120.64**	**47**		**PKPdf**	**16 46 56.8**	**-1.2**
R40A	**Maddies Statio**	**121.16**	**46**		**PKPdf**	**16 46 58.4**	**-0.6**
U40A	**Yellville**	**121.51**	**48**	PKPdf	**PKPdf**	**16 46 58.5**	**-1.2**
CCM	**Cathedral Cave**	**121.99**	**46**	PKIKP	**PKPdf**	**16 46 59.2**	**-1.4**
CCM	**Cathedral Cave**	**121.99**	**46**		**PKPdf**	**16 46 59.2**	**-1.4**
T50A	**Nancy**	**126.98**	**44**		**PKPdf**	**16 47 09.2**	**-1.0**
PLCA	**Paso Flores**	**129.40**	**151**	PKP	**PKPdf**	**16 47 16.0**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=215,slow=8.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**136.37**	**287**	PKP	**PKPdf**	**16 47 28.5**	**0.0**
	comp=Z,2.0nm,0.7s,baz=43,slow=2.3,SNR=8.4						
PB04	**IPOC Station P**	**142.49**	**132**		PKPpre	16 47 31.9	
KIC	**Kosan Boka**	**143.57**	**278**	*e*PKP1	PKPab	16 47 38.4	+0.3
	comp=Z,22nm,1.1s						
DBIC	**Dimbokro**	**143.66**	**278**	PKP	PKPab	16 47 39.6	+1.2
	comp=Z,1.1nm,0.9s,baz=86,slow=2.7,SNR=7.4						
DBIC	**Dimbokro**	**143.66**	**278**	PKIKP	PKPab	16 47 39.5	+1.1
DBIC	**Dimbokro**	**143.66**	**278**	PKPdf	PKPab	16 47 39.5	+1.1
TIC	**Toumodi**	**143.82**	**278**	*e*PKP1	PKPab	16 47 39.3	+0.2
BBAC	**Balboa, Cauca**	**143.84**	**90**	*eP*	PKPab	16 47 38.8	-0.7
LIC	**Lamto**	**143.87**	**277**	*e*PKP1	PKPab	16 47 39.4	+0.2
	comp=Z,18nm,0.9s						
POPC	**Popayan, Colom**	**144.42**	**89**	*eP*	**PKPab**	**16 47 40.3**	**-1.3**
SOTA	**Rioblanco**	**144.48**	**90**	*eP*	**PKPab**	**16 47 42.8**	**+0.6**
DBBC	**Dabeiba**	**144.67**	**81**	*eP*	**PKPab**	**16 47 41.4**	**-1.0**
PCON	**Cinco Dias**	**144.69**	**89**	*eP*	**PKPab**	**16 47 43.2**	**+0.2**
YOTC	**Yotoco, Valle**	**144.73**	**86**	*eP*	**PKPab**	**16 47 41.9**	**-0.7**
MNMC	**Minye Minye**	**144.77**	**128**		**PKPab**	**16 47 43.1**	**+0.4**
CBOC	**Ciudad Bolivar**	**144.97**	**83**	*eP*	**PKPbc**	**16 47 43.8**	**+0.3**
MOTC	**Monteria, Cord**	**144.99**	**78**	*eP*	**PKPbc**	**16 47 41.4**	**-2.0**
MARP	**Paez Belalcaza**	**145.14**	**88**	*eP*	**PKPbc**	**16 47 44.2**	**-0.1**
UREC	**San Jos de Ur**	**145.26**	**80**	*eP*	**PKPbc**	**16 47 43.8**	**-0.5**
PB16	**IPOC Station P**	**145.28**	**127**		**PKPbc**	**16 47 45.0**	**+0.1**
SJCC	**San Jacinto, C**	**145.28**	**76**	*eP*	**PKPbc**	**16 47 42.6**	**-1.8**
GUY2C	**Guyana, Caldas**	**145.66**	**84**	*eP*	**PKPdf**	**16 47 45.0**	**-0.8**
ORTC	**Ortega, Tolima**	**145.83**	**86**	*eP*	**PKPdf**	**16 47 44.6**	**-1.0**
SMRC	**Santa Marta, M**	**145.95**	**73**	*eP*	**PKPdf**	**16 47 46.3**	**+0.6**
ZARC	**Zaragoza, Cauc**	**145.95**	**80**	*eP*	**PKPdf**	**16 47 45.5**	**-0.2**
NORC	**Norcasia**	**146.13**	**84**	*eP*	**PKPdf**	**16 47 46.5**	**+0.5**
PTBC	**PUERTO BERRIO**	**146.45**	**82**	*eP*	**PKPdf**	**16 47 46.4**	**-0.2**
SMLC	**San Martn de**	**146.54**	**78**	*eP*	**PKPdf**	**16 47 47.4**	**+0.7**
SPBC	**San Pablo de B**	**146.91**	**83**	*eP*	**PKPdf**	**16 47 48.2**	**+0.7**
MACC	**Macarena, Meta**	**147.24**	**90**	*eP*	**PKPdf**	**16 47 47.4**	**-0.6**
OCAC	**Ocana**	**147.36**	**78**	*eP*	**PKPdf**	**16 47 47.7**	**-0.5**
CPUP	**Villa Florida**	**147.46**	**152**	PKPbc	**PKPdf**	**16 47 49.5**	**+1.6**
	comp=Z,6.5nm,0.9s,baz=240,slow=2.6,SNR=10						
CPUP	**Villa Florida**	**147.46**	**152**		**PKPdf**	**16 47 49.8**	**+1.9**
LPAZ	**La Paz**	**147.48**	**126**	PKPbc	**PKPdf**	**16 47 51.7**	**+2.8**
	comp=Z,6.0nm,0.8s,baz=232,slow=1.7,SNR=14						
LPAZ	**La Paz**	**147.48**	**126**	PKP2	**PKPdf**	**16 47 49.4**	**+0.4**
LPAZ	**La Paz**	**147.48**	**126**		**PKPdf**	**16 47 49.4**	**+0.4**
BARC	**Barichara**	**147.71**	**81**	*eP*	PKPdf	16 47 38.5	-10
RUSC	**La Rusia**	**147.87**	**83**	*eP*	**PKPdf**	**16 47 51.4**	**+1.9**
PAMC	**Pamplona, Colo**	**148.10**	**80**	*eP*	**PKPdf**	**16 47 50.5**	**+0.6**
SDV	**Santo Domingo**	**149.88**	**76**		**PKPdf**	**16 47 55.3**	**+2.9**
SDV	**Santo Domingo**	**149.88**	**76**	*eP*	**PKPdf**	**16 47 51.8**	**-0.6**

IDC 30 16:38:16.3±4.2,5°42S×152°21E,*h*0km,mb3.3/2,
mb1 3.6/2,mb1mx3.2/25,mbtmp3.3/2,Error ellipse:
s-maj=176.3km s-min=55.4km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.39**	**231**	Sn	Sn	16 41 11.5	+6.0
	1.7nm,0.3s,baz=184,slow=22,SNR=6.6						
WRA	**Warramunga Arr**	**22.60**	**229**	P	P	16 43 18.2	-0.5
	0.8nm,1.1s,baz=53,slow=9.9,SNR=1.2						
ASAR	**Alice Springs**	**25.30**	**222**	P	P	16 43 44.9	+0.1
	0.8nm,0.8s,baz=56,slow=9.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**149.93**	**287**	PKPbc	PKPbc	16 58 09.6	-0.2
	0.8nm,0.9s,baz=90,slow=1.4,SNR=2.0						

*IDC **30** 16:47:46.3±0.7,5°25S×152°78E,h0km,mb4.2/17,*
mb1 4.3/18,mb1mx4.1/40,mbtmp4.2/18,ML2.1/1,MS3.4/4,
Ms1 3.4/4,ms1mx3.0/31,Error ellipse: s-maj=24.6km
s-min=14.1km az=106.0
*NEIC **30** 16:47:52.1±2.0,5°28S±0°07×152°9E±0°1,h46km±7km,*
mb4.5/28,Error ellipse: s-maj=16.2km s-min=10.5km
az=89.0

ISC 30 16:47:52.0±0.5,5°28S±0°06×152°88E±0°09,h37km,n62,
σ1s42/59,mb4.4/28,MS3.4/3,2C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.30**	**326**	Pn	**Pn**	**16 48 14.3**	**+0.7**
RABL	**Rabaul**	**1.30**	**326**	P	**Pn**	**16 48 15.0**	**+1.4**
PMG	**Port Moresby**	**7.00**	**234**	Pn	**Pn**	**16 49 30.8**	**-1.1**
	2.1nm,0.3s,baz=62,slow=11,SNR=10						
PMG				Sn	**Sn**	**16 50 53.4**	**+3.0**
	5.6nm,0.3s,baz=119,slow=11,SNR=4.0						
PMG				LR	LR	16 51 30.3	
	comp=Z,94nm,20.8s,baz=76,slow=32						
PMG	**Port Moresby**	**7.00**	**234**		**Pn**	**16 49 33.9**	**+1.9**
PMG	**Port Moresby**	**7.00**	**234**	P	**Pn**	**16 49 34.6**	**+2.6**
SANVU	**Saraoutou**	**17.32**	**127**	P	**P**	**16 51 55.6**	**+3.5**
EIDS	**Eidsvold**	**20.05**	**185**	P	**P**	**16 52 21.5**	**-0.5**
EIDS				IAmb	IAmb	16 52 44.9	
	comp=Z,24nm,1.4s						
DZM	**Mont Dzumac**	**21.23**	**143**	P	**P**	**16 52 36.1**	**+1.2**
	comp=Z,10nm,0.6s,baz=228,slow=8.9,SNR=12						
DZM	**Mont Dzumac**	**21.23**	**143**	P	**P**	**16 52 32.2**	**-2.7**
DZM				IAmb	IAmb	16 52 41.1	
	comp=Z,41nm,1.4s						
DZM	**Mont Dzumac**	**21.23**	**143**	P	**P**	**16 52 36.4**	**+1.5**
MTN	**Manton Dam**	**22.74**	**249**		**P**	**16 52 50.2**	**-0.8**
WB0	**Warramunga Arr**	**23.05**	**230**	P	**P**	**16 52 53.0**	**-1.2**
WB0				IAmb	IAmb	16 52 55.5	
	comp=Z,17nm,0.9s						
WR0	**Warramunga Arr**	**23.05**	**229**	P	**P**	**16 52 53.1**	**-1.2**
WR0				IAmb	IAmb	16 52 55.6	
	comp=Z,18nm,1.0s						
WRAB	**Tennant Creek**	**23.18**	**229**	P	**P**	**16 52 54.7**	**-0.9**
WRAB				IAmb	IAmb	16 52 56.7	
	comp=Z,18nm,0.9s						
WB2	**Warramunga Arr**	**23.18**	**229**	P	**P**	**16 52 54.5**	**-1.1**
WB2				IAmb	IAmb	16 52 56.9	
	comp=Z,20nm,1.0s						
WRA	**Warramunga Arr**	**23.19**	**229**	P	**P**	**16 52 54.1**	**-1.6**
	comp=Z,13nm,0.9s,baz=54,slow=10,SNR=53						
WRA				LR	LR	17 02 33.7	
	comp=Z,101nm,20.4s,baz=30,slow=38						
WRA	**Warramunga Arr**	**23.19**	**229**	P	**P**	**16 52 54.3**	**-1.4**
AS31	**Alice Springs**	**25.85**	**223**	P	**P**	**16 53 19.4**	**-0.9**
ASAR	**Alice Springs**	**25.86**	**223**	P	**P**	**16 53 20.0**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=56,slow=9.4,SNR=68						
ASAR	**Alice Springs**	**25.86**	**223**	P	**P**	**16 53 19.4**	**-0.9**
LHI	**Lord Howe Isla**	**26.74**	**168**	P	**P**	**16 53 26.0**	**-2.1**
STKA	**Stephens Creek**	**28.49**	**200**	P	**P**	**16 53 42.4**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=27,slow=12,SNR=4.8						
STKA	**Stephens Creek**	**28.49**	**200**	IAmb	IAmb	16 53 43.6	
	comp=Z,1.9nm,1.3s						
FITZ	**Fitzroy Crossi**	**29.50**	**242**	P	**P**	**16 53 52.0**	**-1.0**
	comp=Z,3.0nm,0.5s,baz=58,slow=7.0,SNR=22						
FITZ	**Fitzroy Crossi**	**29.50**	**242**	P	**P**	**16 53 51.7**	**-1.3**
FITZ				IAmb	IAmb	16 54 18.9	
	comp=Z,8.3nm,1.3s						
BBOO	**Buckleboo**	**31.57**	**208**	P	**P**	**16 54 10.1**	**-1.0**
BBOO				IAmb	IAmb	16 54 18.8	
	comp=Z,10nm,1.4s						
FORT	**Forrest**	**34.47**	**220**	P	**P**	**16 54 35.3**	**-1.1**
URZ	**Urewera**	**39.53**	**150**	LR	LR	17 09 36.5	
	comp=Z,107nm,18.4s,baz=211,slow=33						
BKZ	**Black Stump Fm**	**39.93**	**151**	P	**P**	**16 55 23.2**	**+0.5**
BKZ				IAmb	IAmb	16 55 42.8	
	comp=Z,14nm,1.2s						
LBZ	**Lake Benmore**	**41.80**	**161**	P	**P**	**16 55 37.8**	**-0.2**
YULB	**Yu-li**	**41.99**	**314**	P	**P**	**16 55 41.1**	**+1.3**
YULB				IAmb	IAmb	16 55 46.6	
	comp=Z,22nm,1.4s						
MORW	**Morawa**	**42.11**	**232**	P	**P**	**16 55 40.1**	**-0.7**
MORW				IAmb	IAmb	16 55 58.2	
	comp=Z,13nm,1.2s						
JNU	**Nakatsue**	**43.53**	**333**	P	**P**	**16 55 51.4**	**-0.8**
	comp=Z,8.3nm,0.7s,baz=41,slow=9.2,SNR=6.9						
JNU	**Nakatsue**	**43.53**	**333**	P	**P**	**16 55 51.2**	**-1.0**
JWT	**Wachi**	**43.57**	**339**	P	**P**	**16 55 51.3**	**-1.1**
JWT				IAmb	IAmb	16 55 52.5	
	comp=Z,5.0nm,0.9s						
MJAR	**Matsushiro Arr**	**43.81**	**343**	LR	LR	17 11 49.6	
	comp=Z,54nm,21.9s,baz=245,slow=33						
JHS	**Saijyo**	**44.18**	**337**	P	**P**	**16 55 56.7**	**-0.7**
JHS				IAmb	IAmb	16 56 12.7	
	comp=Z,6.7nm,1.0s						
KSRS	**Korea Array**	**48.47**	**333**	P	**P**	**16 56 30.1**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=154,slow=7.4,SNR=4.8						
USRK	**Ussuriysk Ar.**	**52.73**	**341**	P	**P**	**16 57 03.2**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=200,slow=12,SNR=2.7						
CMAR	**Chiang Mai Arr**	**58.16**	**295**	P	**P**	**16 57 41.4**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=125,slow=5.4,SNR=7.5						
CMAR	**Chiang Mai Arr**	**58.16**	**295**	P	**P**	**16 57 42.1**	**-0.5**
PETK	**Petropavlovsk-**	**58.31**	**3**	P	**P**	**16 57 43.6**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=159,slow=5.9,SNR=17						
MA2	**Magadan**	**64.68**	**359**	P	**P**	**16 58 25.5**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=162,slow=6.6,SNR=7.3						
SONM	**Songino Array**	**66.78**	**328**	P	**P**	**16 58 39.1**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=156,slow=5.9,SNR=7.7						
SONM	**Songino Array**	**66.78**	**328**	P	**P**	**16 58 40.0**	**+0.2**
VNDA	**Vanda**	**72.35**	**178**	P	**P**	**16 59 14.3**	**+0.8**
BILL	**Bilibino**	**73.76**	**5**	P	**P**	**16 59 22.4**	**+0.5**
CNPM	**China Poot**	**78.11**	**26**	P	**P**	**16 59 46.8**	**-0.1**
TIXI	**Tiksi**	**78.38**	**352**	P	**P**	**16 59 48.2**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=136,slow=6.7,SNR=3.8						
TIXI	**Tiksi**	**78.38**	**352**	IAmb	IAmb	16 59 51.6	
	comp=Z,1.6nm,0.8s						
MK31	**Makanchi Array**	**80.74**	**319**	⇑Pg	**P**	**17 00 02.5**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=102,slow=6.9,SNR=9.2						
MK31				⇑Lg	Lg	17 00 39.1	
	comp=Z,0.3nm,0.5s,baz=212,slow=26,SNR=12						
MKAR	**Makanchi Array**	**80.74**	**319**	P	**P**	**17 00 01.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=94,slow=7.7,SNR=10						
ZALV	**Zalesovo Beam**	**81.60**	**326**	P	**P**	**17 00 05.6**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=106,slow=5.2,SNR=5.4						
ILAR	**Eielson Array**	**82.57**	**22**	P	**P**	**17 00 09.9**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=247,slow=5.4,SNR=10						
ILAR	**Eielson Array**	**82.57**	**22**	P	**P**	**17 00 10.7**	**-0.2**
NIL	**Nilore**	**84.32**	**304**	P	**P**	**17 00 19.4**	**-1.2**
NRIK	**Noril'sk**	**86.44**	**341**	P	**P**	**17 00 29.6**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=132,slow=2.6,SNR=8.8						
NRIK	**Noril'sk**	**86.44**	**341**	P	**P**	**17 00 29.8**	**-0.5**
NRIK				IAmb	IAmb	17 00 34.3	
	comp=Z,2.5nm,0.7s						
GERES	**GERESS Array B**	**124.51**	**328**	PKP	**PKPdf**	**17 06 47.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=17,slow=1.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**150.53**	**287**	PKPbc	**PKPdf**	**17 07 39.9**	**+4.4**
	comp=Z,2.2nm,0.6s,baz=61,slow=2.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**150.53**	**287**		**PKPdf**	**17 07 38.7**	**+3.2**
BDFB	**Brasilia**	**150.67**	**135**	PKPbc	**PKPbc**	**17 07 41.7**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=1.0,slow=5.3,SNR=1.8						

*IDC **30** 16:49:26.1±1.0,39°97N×71°78E,h0km,mb3.4/2,*
mb1 3.3/4,mb1mx3.1/44,mbtmp3.3/4,ML2.9/2,Error
ellipse: s-maj=34.7km s-min=5.0km az=141.0
*KRNET **30** 16:49:26.7±0.1,40°13N×71°49E,h17km,mb3.6*
*ISU **30** 16:49:28,40°06N×71°40E,h15km*
*SOME **30** 16:49:28.6,40°27N×71°57E,h10km*
*NNC **30** 16:49:29.3±1.3,40°28N×71°51E,h0km,mb4.2,mpv3.9,*
Error ellipse: s-maj=9.9km s-min=4.3km az=10.0

ISC 30 16:49:27.5±0.7,40°20N±0°02×71°56E±0°02,h10km,n73,
σ2s40/117,25C-14D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAK	**Shakhimardan**	**0.28**	**151**	*eP*	**Pb**	**16 49 34.0**	**-0.7**
SHAK				*eS*	**Sb**	**16 49 41.0**	**+1.4**
BTK	**Batken**	**0.59**	**256**	⇓*iP*	**Pg**	**16 49 36.7**	**-2.2**
	baz=63						
BTK				⇓*iS*	**Sg**	**16 49 44.3**	**-2.3**
	baz=63						
BTK	**Batken**	**0.59**	**256**	*eP*	**Pn**	**16 49 44.0**	**+2.0**
BTK				*eS*	**Pg**	**16 49 36.0**	**-2.9**
DRK	**Karamyk**	**0.74**	**166**	⇓*iP*	**Pg**	**16 49 40.0**	**-1.9**
	baz=59						
DRK				⇓*iS*	**Sg**	**16 49 49.3**	**-2.3**
	baz=59						
NAM	**Namangan**	**0.79**	**5**	*eP*	**Pn**	**16 49 45.0**	**+0.2**
NAM				*eS*	**Sn**	**16 49 58.0**	**+1.3**
OHH	**Osh**	**0.99**	**71**	⇓*iP*	**Pg**	**16 49 46.1**	**-0.4**
	baz=68						
OHH				⇓*iS*	**Sn**	**16 50 00.9**	**-0.7**
	baz=68						
TRKS	**Terek-Say**	**1.37**	**347**	⇑*iP*	**Pn**	**16 49 52.0**	**-0.8**
	baz=50						
TRKS				⇑*iS*	**Sb**	**16 50 10.0**	**-0.8**
	baz=50						
ARSB	**Arslanbob**	**1.56**	**43**	⇓*iP*	**Pg**	**16 49 57.0**	**-0.4**

KST	**Kastek**	**4.35**	**48**	*e*P	**Pg**	**16 50 49.2**	**-1.6**
	15nm,0.5s							
KST				*e*S	**Sg**	**16 51 46.8**	**-0.4**
	27nm,0.4s							
KST	**Kastek**	**4.35**	**48**	Pg	**Pg**	**16 50 49.2**	**-1.6**
	15nm,0.5s							
KST				Lg	Lg	16 51 46.8		
	27nm,0.4s							
DGS	**Degeres**	**4.38**	**45**	*e*P	**Pg**	**16 50 49.0**	**-2.3**
	17nm,0.6s							
DGS				*e*S	**Sg**	**16 51 46.4**	**-1.6**
	41nm,0.7s							
DGS	**Degeres**	**4.38**	**45**	Pg	**Pg**	**16 50 49.0**	**-2.3**
	17nm,0.6s							
DGS				Lg	Lg	16 51 46.4		
	41nm,0.7s							
KRBS	**Karabastau**	**4.65**	**40**	*e*P	**Pg**	**16 50 54.8**	**-1.7**
	10nm,0.3s							
KRBS				*e*S	**Sg**	**16 51 56.7**	**+0.1**
	24nm,0.5s							
KRBS	**Karabastau**	**4.65**	**40**	Pg	**Pg**	**16 50 54.8**	**-1.7**
	10nm,0.3s							
KRBS				Lg	Lg	16 51 56.7		
	24nm,0.5s							
MTBS	**Maitube**	**4.67**	**50**	*e*P	**Pg**	**16 50 55.3**	**-1.7**
	15nm,0.8s							
MTBS				*e*S	**Sg**	**16 51 57.2**	**-0.4**
	22nm,0.4s							
MTBS	**Maitube**	**4.67**	**50**	Pg	**Pg**	**16 50 55.3**	**-1.7**
	15nm,0.8s							
MTBS				Lg	Lg	16 51 57.2		
	22nm,0.4s							
IZV	**Izvestkoviy**	**4.73**	**52**	*e*P	**Pg**	**16 50 57.3**	**-0.8**
	11nm,0.5s							
IZV				*e*S	**Sg**	**16 52 00.7**	**+1.4**
	42nm,0.9s							
IZV	**Izvestkoviy**	**4.73**	**52**	Pg	**Pg**	**16 50 57.3**	**-0.8**
	11nm,0.5s							
IZV				Lg	Lg	16 52 00.7		
	42nm,0.9s							
TNSS	**Tian-Shan**	**4.93**	**53**	*e*P	**Pg**	**16 51 01.7**	**-0.3**
	5.0nm,0.3s							
TNSS				*e*S	**Sg**	**16 52 07.9**	**+2.1**
	15nm,0.6s							
MDOK	**Medeo**	**5.06**	**52**	*e*P	**Pg**	**16 51 01.8**	**-2.6**
	14nm,0.5s							
MDOK				*e*S	**Sg**	**16 52 08.3**	**-1.7**
	49nm,1.1s							
MDOK	**Medeo**	**5.06**	**52**	⇑Pg	**Pb**	**16 50 58.4**	**+2.2**
	33nm,1.3s							
MDOK				Lg	Lg	16 52 08.9		
	83nm,1.4s							
MDOK	**Medeo**	**5.06**	**52**	Pg	**Pg**	**16 51 01.8**	**-2.6**
	14nm,0.5s							
MDOK				Lg	Lg	16 52 08.3		
	49nm,1.1s							
KUU	**Kurty**	**5.12**	**42**	*e*P	**Pb**	**16 51 00.5**	**+3.3**
	3.4nm,0.3s							
KUU				*e*S	**Sg**	**16 52 06.4**	**-5.5**
	23nm,0.6s							
KOTS	**Kotyrbulak**	**5.14**	**52**	*e*P	**Pg**	**16 51 02.3**	**-3.6**
	17nm,0.6s							
KOTS				*e*S	**Sg**	**16 52 10.2**	**-2.4**
	31nm,0.8s							
KOTS	**Kotyrbulak**	**5.14**	**52**	Pg	**Pg**	**16 51 02.3**	**-3.6**
	17nm,0.6s							
KOTS				Lg	Lg	16 52 10.1		
	31nm,0.8s							
KTBS	**Karatobe**	**5.18**	**46**	*e*P	**Pg**	**16 51 03.6**	**-3.1**
	4.5nm,0.3s							
KTBS				*e*S	**Sg**	**16 52 11.9**	**-2.0**
	26nm,0.6s							
KTBS	**Karatobe**	**5.18**	**46**	Pg	**Pg**	**16 51 03.6**	**-3.1**
	4.5nm,0.3s							
KTBS				Lg	Lg	16 52 11.9		
	26nm,0.6s							
CHKK	**Chushkaly**	**5.45**	**46**	*e*P	**Pg**	**16 51 08.5**	**-3.2**
	3.9nm,0.3s							
CHKK				*e*S	**Sg**	**16 52 20.0**	**-2.2**
	22nm,0.4s							
CHKK	**Chushkaly**	**5.45**	**46**	Pg	**Pg**	**16 51 08.5**	**-3.2**
	3.9nm,0.3s							
CHKK				Lg	Lg	16 52 20.0		
	22nm,0.4s							
ARXS	**Arharly**	**6.14**	**47**	*e*P	**Pg**	**16 51 22.7**	**-2.4**
	8.6nm,0.6s							
ARXS				*e*S	**Sg**	**16 52 44.5**	**-0.1**
	19nm,0.5s							
ARXS	**Arharly**	**6.14**	**47**	Pg	**Pg**	**16 51 22.7**	**-2.4**
	8.6nm,0.6s							
ARXS				Lg	Lg	16 52 44.5		
	19nm,0.5s							
KPKS	**Kokpek**	**6.24**	**56**	*e*P	**Pg**	**16 51 24.3**	**-2.6**
	5.6nm,0.4s							
KPKS				*e*S	**Sg**	**16 52 46.9**	**-0.8**
	21nm,0.6s							
UZB	**Uzynbulak**	**6.31**	**60**	*e*P	**Pg**	**16 51 24.6**	**-3.7**
	9.0nm,0.4s							
UZB				*e*S	**Sg**	**16 52 47.9**	**-2.2**
	17nm,0.8s							
MNBS	**Baschi**	**6.39**	**50**	*e*P	**Pg**	**16 51 25.2**	**-4.6**
	2.0nm,0.4s							
MNBS				*e*S	**Sg**	**16 52 48.8**	**-3.7**
	13nm,0.5s							
MNBS	**Baschi**	**6.39**	**50**	Pg	**Pg**	**16 51 25.2**	**-4.6**
	2.0nm,0.4s							
MNBS				Lg	Lg	16 52 48.8		
	13nm,0.5s							
SHLS	**Shalkode**	**6.61**	**61**	*e*P	**Pg**	**16 51 36.4**	**+2.3**
	10nm,0.9s							
SHLS				*e*S	**Sg**	**16 53 07.6**	**+7.9**
	22nm,0.6s							
KTMS	**Ketmen**	**7.32**	**61**	*e*P	Pg	16 51 42.6	-5.0
	1.6nm,0.2s							
KTMS				*e*S	**Sg**	**16 53 18.2**	**-4.2**
	7.4nm,0.5s							
MKAR	**Makanchi Array**	**10.20**	**46**	Pn	**Pn**	**16 51 55.2**	**+1.3**
	0.1nm,0.3s,baz=233,slow=13,SNR=7.7							
MKAR				Lg	Lg	16 54 50.6		
	0.1nm,0.3s,baz=236,slow=26,SNR=3.4							
AB31	**Akbulak array**	**12.24**	**322**	⇓Pn	**Pn**	**16 52 22.5**	**+0.7**
	0.7nm,0.5s,baz=126,slow=14,SNR=24							
AKTO	**Aktyubinsk**	**13.96**	**322**	⇑Pn	**Pn**	**16 52 44.0**	**-1.2**
	1.7nm,0.5s							
ZALV	**Zalesovo Beam**	**16.41**	**29**	Pn	**P**	**16 53 20.4**	**-0.1**
	0.2nm,0.3s,baz=215,slow=9.8,SNR=3.0							
SONM	**Songino Array**	**26.02**	**61**	P	**P**	**16 55 00.3**	**-0.4**
	0.3nm,0.8s,baz=262,slow=10.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**66.29**	**267**	P	**P**	**17 00 16.5**	**+0.2**
	0.4nm,0.6s,baz=62,slow=5.0,SNR=2.8							

*MOS **30** 16:53:33.4±1.2,45°.13N×145°.09E,h239km,mb3.7/1,Error ellipse: s-maj=16.1km s-min=11.5km az=79.4*
*JMA **30** 16:53:33.8±0.4,44°.90N×145°.12E,h252km±4km,M3.4*
*SKHL **30** 16:53:33.5±0.3,45°.10N×145°.10E,h225km±10km,mb4.5/4,msha4.8/4*
*IDC **30** 16:53:35.1±1.1,45°.25N×144°.97E,h234km±11km,mb3.0/6,mb1 3.2/13,mb1mx3.0/43,mbtmpg3.6/13,Error ellipse: s-maj=30.0km s-min=14.7km az=150.0*

ISC 30 16:53:34.1±0.6,44°.98N±0°.06×145°.08E±0°.05,h242km±6km,n42,σ1s35/55,mb3.0/6,1D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUSJ	**Misakicho**	**0.89**	**172**	*e*PN	**Pn**	**16 54 08.2**	**+0.5**
JRA	**Rausu**	**1.04**	**178**	P	**Pn**	**16 54 08.9**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.10**	**149**	*e*PN	**Pn**	**16 54 09.0**	**+0.1**
YUK				*e*S	**S**	**16 54 36.3**	**+0.2**
YUK				pmax	pmax		
	comp=N,10.0nm,0.2s						
YUK				pmax	pmax		
	comp=Z,145nm,0.2s						
YUK				smax	smax		
	comp=N,169nm,0.6s						
YUK				smax	smax		
	comp=E,159nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.10**	**149**	*e*P	**Pn**	**16 54 09.0**	**+0.1**
YUK				AMB	AMB	16 54 09.8	
	comp=E,230nm,0.5s						
YUK				*e*S	**S**	**16 54 36.4**	**+0.3**
YUK				A	A	16 54 40.0	
	comp=E,170nm,0.6s						
YUK				A	A	16 54 40.0	
	comp=E,160nm,0.6s						
GRPR	**Tuman**	**1.10**	**153**	*e*PN	**Pn**	**16 54 09.2**	**+0.2**
GRPR				*e*S	**S**	**16 54 37.7**	**+1.5**
GRPR				pmax	pmax		
	comp=Z,58nm,0.3s						
GRPR				smax	smax		
	comp=E,85nm,0.4s						
GRPR				smax	smax		
	comp=N,119nm,0.5s						
GRPR	**Tuman**	**1.10**	**153**	AMB	AMB	16 54 09.0	
	comp=N,60nm,0.3s						
GRPR				*e*P	**Pn**	**16 54 09.2**	**+0.2**
GRPR				*e*S	**S**	**16 54 37.7**	**+1.5**
GRPR				A	A	16 54 38.0	
	comp=N,120nm,0.5s						
GRPR				A	A	16 54 38.0	
	comp=N,90nm,0.5s						
JTKR	**Abashiri--Toko**	**1.32**	**220**	P	**Pn**	**16 54 10.8**	**+0.5**
JNK	**Nakash**	**1.42**	**191**	P	**Pn**	**16 54 11.4**	**+0.3**
JMP	**Maruseppu**	**1.57**	**232**	P	**Pn**	**16 54 12.7**	**+0.4**
NMR	**Nemuro--Hokkai**	**1.68**	**164**	⇓*i*PN	**Pn**	**16 54 12.2**	**-0.9**
NMR				*i* S	**S**	**16 54 41.7**	**-2.0**
NMR	**Nemuro--Hokkai**	**1.68**	**164**	*i* P	**Pn**	**16 54 12.4**	**-0.7**
NMR				*i* S	**S**	**16 54 42.0**	**-1.7**
NEM2	**Nemuro 2**	**1.69**	**163**	P	**Pn**	**16 54 12.4**	**-0.8**
NEM2				*e*S	**S**	**16 54 42.0**	**-1.8**
JSE	**Soyaes**	**1.77**	**270**	P	**Pn**	**16 54 14.1**	**+0.2**
JKHN	**Kushirohamanak**	**1.90**	**178**	P	**Pn**	**16 54 14.5**	**-0.6**
JAR	**Ashorobuto**	**1.93**	**210**	P	**Pn**	**16 54 16.1**	**+0.7**
JKA	**Kamikawa-asahi**	**1.98**	**245**	*e*P	**Pn**	**16 54 16.7**	**+1.0**
ASAJ	**Asahikawa**	**1.98**	**245**	P	**Pn**	**16 54 16.7**	**+1.0**
	comp=N,20nm,0.3s,baz=65,slow=5.0,SNR=238						
ASAJ				S	**S**	**16 54 49.5**	**+1.1**
	comp=N,0.5nm,0.3s,baz=224,slow=28,SNR=3.9						
ASAJ	**Asahikawa**	**1.98**	**245**	P	**Pn**	**16 54 16.7**	**+1.0**
KUR	**Kuril'sk**	**1.99**	**82**	*e*PN	**Pn**	**16 54 14.6**	**-1.1**
KUR				pmax	pmax		
	comp=Z,168nm,0.4s						
KUR	**Kuril'sk**	**1.99**	**82**	*e*P	**Pn**	**16 54 15.9**	**+0.2**
KUR				AMB	AMB	16 54 16.5	
	comp=Z,140nm,0.4s						
KUR				*e*S	**S**	**16 54 49.2**	**+0.8**
KUR				A	A	16 54 56.4	
	comp=Z,40nm,0.4s						
KUR				A	A	16 54 56.4	
	comp=Z,30nm,0.4s						
JAK	**Akkeshi**	**2.00**	**188**	P	**Pn**	**16 54 15.6**	**-0.4**
JAK				*e*S	**S**	**16 54 46.6**	**-2.3**
JKK2	**Kamakawa 2**	**2.01**	**237**	P	**Pn**	**16 54 16.7**	**+0.7**
JWK2	**Keihoku**	**2.28**	**280**	P	**Pn**	**16 54 19.7**	**+1.2**
JFR	**Furan**	**2.56**	**226**	P	**Pn**	**16 54 22.3**	**+0.9**
YSS	**Yuzh-Sakhalins**	**2.56**	**321**	*e*PN	**Pn**	**16 54 20.7**	**-0.6**
YSS				*e*		16 54 56.3	
YSS	**Yuzh-Sakhalins**	**2.56**	**321**	*e*P	**Pn**	**16 54 20.7**	**-0.6**
YSS				AMB	AMB	16 54 21.9	
	comp=Z,20nm,0.6s						
YSS				*e*S	**S**	**16 54 56.7**	**-1.8**
YSS				A	A	16 55 13.8	
	comp=Z,60nm,0.6s						
YSS				A	A	16 55 13.8	
	comp=Z,60nm,0.6s						
JCH	**Churui**	**2.67**	**208**	P	**Pn**	**16 54 22.2**	**-0.5**
JCH				*e*S	**S**	**16 54 57.7**	**-3.1**
JNBK	**Urakawa-nobuka**	**3.19**	**213**	P	**Pn**	**16 54 27.5**	**-0.7**
JKB	**Kayabe**	**4.27**	**225**	P	**Pn**	**16 54 40.4**	**-0.4**
JKB				*e*S	**S**	**16 55 29.6**	**-4.1**
USRK	**Ussuriysk Ar.**	**9.38**	**270**	P	**Pn**	**16 55 44.6**	**-0.2**
	baz=90,slow=12,SNR=21						
KLR	**Kul'dur**	**10.03**	**300**	P	**Pn**	**16 55 52.0**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=98,slow=12,SNR=4.2						
PETK	**Petropavlovsk-**	**11.59**	**41**	P	**P**	**16 56 13.5**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=180,slow=16,SNR=4.8						
KSRS	**Korea Array**	**14.33**	**246**	P	**Pn**	**16 56 56.4**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=55,slow=11,SNR=13						
MA2	**Magadan**	**15.02**	**11**	P	**Pn**	**16 56 53.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=203,slow=9.4,SNR=4.5						
SEY	**Seymchan**	**18.47**	**11**	P	**P**	**16 57 30.0**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=73,slow=23,SNR=6.0						
ILAR	**Eielson Array**	**41.38**	**37**	P	**P**	**17 00 56.7**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=251,slow=6.0,SNR=4.0						
MKAR	**Makanchi Array**	**42.71**	**296**	P	**P**	**17 01 07.5**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=74,slow=7.1,SNR=8.5						
CMAR	**Chiang Mai Arr**	**46.49**	**251**	P	**P**	**17 01 39.3**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=27,slow=9.1,SNR=2.8						
YKA	**Yellowknife Ar**	**55.60**	**34**	P	**P**	**17 02 44.0**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=305,slow=6.3,SNR=5.9						
YKA	**Yellowknife Ar**	**55.60**	**34**	P	**P**	**17 02 44.0**	**-0.3**
PDAR	**Pinedale Array**	**70.23**	**49**	P	**P**	**17 04 22.4**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=235,slow=2.2,SNR=4.1						
TXAR	**Lajitas Array**	**83.18**	**55**	P	**P**	**17 05 34.8**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=293,slow=4.7,SNR=6.6						

*IDC **30** 16:57:52.9±1.9,33°.39N×137°.31E,h323km±28km,mb2.6/4,mb1 2.7/8,mb1mx2.5/57,mbtmp3.3/8,Error ellipse: s-maj=40.0km s-min=19.5km az=62.0*
*JMA **30** 16:57:53.7±0.2,33°.67N×137°.23E,h367km±2km,M2.4*

ISC 30 16:57:54.9±0.9,33°.6N±0°.1×137°.23E±0°.08,h353km±8km,n21,σ1s23/24,mb2.8/4,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	**0.20**	**302**	P	**Pn**	**16 58 40.0**	**+1.4**
JIE	**Ise**	**0.88**	**331**	P	**Pn**	**16 58 41.2**	**+0.8**
JKN2	**Miekihoku**	**1.00**	**308**	P	**Pn**	**16 58 41.4**	**+0.5**
JTNC	**Tanabenakahech**	**1.36**	**278**	P	**Pn**	**16 58 43.0**	**+0.4**
JTNC				S	**S**	**16 59 20.9**	**0.0**
JWY	**Kouya**	**1.48**	**294**	P	**Pn**	**16 58 43.9**	**+0.6**
JWY				*e*S	**S**	**16 59 22.0**	**-0.1**
JYTA	**Yamagatataniai**	**2.00**	**348**	P	**Pn**	**16 58 46.9**	**+0.5**
JWT	**Wachi**	**2.23**	**318**	P	**Pn**	**16 58 48.3**	**+0.2**
JWT				*e*S	**S**	**16 59 30.3**	**-0.6**
JAI	**Aioi**	**2.32**	**275**	P	**Pn**	**16 58 49.0**	**+0.2**
BSO4	**Boso 4**	**2.91**	**61**	S	**S**	**16 59 41.0**	**+0.3**
BSO3	**Boso 3**	**2.96**	**66**	S	**S**	**16 59 40.9**	**-0.3**
MJAR	**Matsushiro Arr**	**3.02**	**15**	P	**Pn**	**16 58 52.9**	**-1.7**
	0.0nm,0.3s,baz=196,slow=10,SNR=3.8						
JAG	**Ashikaga**	**3.33**	**33**	P	**Pn**	**16 58 56.9**	**-0.5**
JYT	**Yasato**	**3.56**	**42**	P	**Pn**	**16 58 58.9**	**-0.7**
JHO	**Hitachi**	**4.04**	**42**	P	**Pn**	**16 59 03.4**	**-1.0**
KSRS	**Korea Array**	**8.49**	**299**	P	**P**	**16 59 54.7**	**-2.6**
	0.1nm,0.3s,baz=114,slow=12,SNR=5.5						
ASAJ	**Asahikawa**	**11.27**	**20**	P	**Pn**	**17 00 28.3**	**+0.5**
	0.5nm,0.3s,baz=238,slow=13,SNR=5.3						
USRK	**Ussuriysk Ar.**	**11.31**	**340**	P	**Pn**	**17 00 27.8**	**-0.4**
	baz=142,slow=10,SNR=5.5						
SONM	**Songino Array**	**27.12**	**311**	P	**P**	**17 03 09.8**	**+3.0**
	0.3nm,0.5s,baz=116,slow=9.8,SNR=2.3						
MKAR	**Makanchi Array**	**43.13**	**305**	P	**P**	**17 05 23.4**	**+1.7**
	0.2nm,0.7s,baz=86,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**53.34**	**183**	P	**P**	**17 06 37.6**	**-1.5**
	0.2nm,0.3s,baz=360,slow=7.6,SNR=9.8						
ASAR	**Alice Springs**	**57.06**	**184**	P	**P**	**17 07 05.0**	**-0.4**
	0.2nm,0.6s,baz=356,slow=4.5,SNR=7.0						

*IDC **30** 17:06:52.6±0.8,5°.13S×152°.19E,h0km,mb4.1/14,mb1 4.3/15,mb1mx4.1/34,mbtmp4.1/15,ML1.7/1,MS3.5/8,Ms1 3.5/8,ms1mx3.2/42,Error ellipse: s-maj=29.1km s-min=15.4km az=117.0*
*NEIC **30** 17:06:54.0±2.3,5°.41S±0°.07×152°.55E±0°.07,h21km±5km,mb4.7/44,Error ellipse: s-maj=11.3km s-min=8.9km az=121.0*

ISC 30 17:06:56.4±0.4,5°.43S±0°.06×152°.51E±0°.07,h40km,n74,σ1s32/68,mb4.5/32,MS3.5/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.28**	**344**	Pn	**Pn**	**17 07 18.2**	**+0.4**
MANU	**Manus Island**	**6.14**	**303**	Pn	**Pn**	**17 08 22.2**	**-2.4**
PMG	**Port Moresby**	**6.62**	**233**	Pn	**Pn**	**17 08 32.2**	**+0.9**
	0.9nm,0.3s,baz=58,slow=11,SNR=4.6						
PMG				Sn	**Sn**	**17 09 45.8**	**+0.4**
	7.9nm,0.3s,baz=104,slow=14,SNR=9.1						
PMG				LR	LR	17 10 39.8	
	comp=Z,166nm,20.0s,baz=59,slow=35						
PMG	**Port Moresby**	**6.62**	**233**	Pn	**Pn**	**17 08 31.7**	**+0.4**
CTAO	**Charters Tower**	**15.79**	**202**	Pn	**Pn**	**17 10 36.1**	**+0.1**
SANVU	**Saraoutou**	**17.53**	**126**		**Pn**	**17 10 58.0**	**0.0**
SANVU				IAmb	IAmb	17 11 05.2	
	comp=Z,64nm,1.2s						
EIDS	**Eidsvold**	**19.88**	**184**	P	**P**	**17 11 23.1**	**-1.3**
DZM	**Mont Dzumac**	**21.34**	**142**	LR	LR	17 19 18.6	
	comp=Z,128nm,19.3s,baz=353,slow=34						
MTN	**Manton Dam**	**22.34**	**249**	P	**P**	**17 11 52.0**	**+0.9**
MTN				IAmb	IAmb	17 11 55.2	
	comp=Z,19nm,1.1s						
WB0	**Warramunga Arr**	**22.67**	**229**	P	**P**	**17 11 55.8**	**+1.2**
WR0	**Warramunga Arr**	**22.68**	**229**	P	**P**	**17 11 56.0**	**+1.3**
WB2	**Warramunga Arr**	**22.81**	**229**	P	**P**	**17 11 54.9**	**-1.2**
WB2				IAmb	IAmb	17 12 02.1	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**22.82**	**229**	P	**P**	**17 11 56.9**	**+0.7**
	comp=Z,5.1nm,1.0s,baz=54,slow=9.7,SNR=15						
WRA				S	**S**	**17 16 01.9**	**-0.9**
	comp=Z,3.6nm,1.2s,baz=53,slow=17,SNR=5.9						
WRA				LR	LR	17 22 12.8	
	comp=Z,122nm,19.0s,baz=65,slow=40						
WRA	**Warramunga Arr**	**22.82**	**229**	P	**P**	**17 11 55.3**	**-0.8**
ARMA	**Armidale**	**24.87**	**182**	P	**P**	**17 12 17.3**	**+1.8**
AS31	**Alice Springs**	**25.50**	**223**	P	**P**	**17 12 23.4**	**+2.1**
ASAR	**Alice Springs**	**25.50**	**223**	P	**P**	**17 12 22.8**	**+1.5**
	comp=Z,2.3nm,0.7s,baz=56,slow=8.6,SNR=36						
ASAR	**Alice Springs**	**25.50**	**223**	P	**P**	**17 12 24.3**	**+3.1**
FUNA	**Funafuti**	**26.66**	**98**	P	**P**	**17 12 31.3**	**-0.5**
MSVF	**Nonsavu**	**27.80**	**118**	P	**P**	**17 12 41.7**	**-0.4**
MSVF				IAmb	IAmb	17 12 50.0	
	comp=Z,23nm,1.2s						
STKA	**Stephens Creek**	**28.23**	**200**	P	**P**	**17 12 48.2**	**+2.5**
	comp=Z,2.1nm,0.8s,baz=8.7,slow=13,SNR=3.9						
STKA				LR	LR	17 23 57.8	
	comp=Z,149nm,19.7s,baz=7.2,slow=36						
STKA	**Stephens Creek**	**28.23**	**200**	P	**P**	**17 12 42.3**	**-3.4**
BATI	**Baumata**	**28.96**	**259**	LR	LR	17 25 40.3	
	comp=Z,180nm,19.2s,baz=66,slow=39						
FITZ	**Fitzroy Crossi**	**29.11**	**242**	P	**P**	**17 12 53.5**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=47,slow=7.6,SNR=20						
FITZ	**Fitzroy Crossi**	**29.11**	**242**	P	**P**	**17 12 51.9**	**-1.8**
FITZ				IAmb	IAmb	17 12 58.0	
	comp=Z,12nm,1.1s						
NIUE	**Niue**	**39.02**	**114**	P	**P**	**17 14 19.6**	**+0.1**
ODZ	**Otahua Downs**	**42.52**	**161**	P	**P**	**17 14 45.2**	**-2.8**
ODZ				IAmb	IAmb	17 15 07.5	
	comp=Z,35nm,1.4s						
MJAR	**Matsushiro Arr**	**43.84**	**343**	LR	LR	17 34 08.7	
	comp=Z,21nm,18.4s,baz=205,slow=38						
MIDW	**Midway**	**44.29**	**39**	P	**P**	**17 15 00.7**	**-1.8**
USA0B	**Ussuriysk Arra**	**52.75**	**342**		**P**	**17 16 07.3**	**0.0**
USA0B				IAmb	IAmb	17 16 28.6	
	comp=Z,3.7nm,0.8s						
ENH	**Enshi**	**54.37**	**313**	P	**P**	**17 16 18.8**	**-0.8**
ENH				IAmb	IAmb	17 16 20.9	
	comp=Z,8.5nm,1.1s						
MWH	**Moku'aweowe**	**56.73**	**63**	P	**P**	**17 16 37.1**	**-0.2**
HMH	**Humu'ula Sheep**	**56.88**	**63**	P	**P**	**17 16 35.5**	**-2.5**
XAN	**Xi'an**	**56.88**	**317**	P	**P**	**17 16 35.6**	**-1.9**
XAN				IAmb	IAmb	17 16 38.5	
	comp=Z,3.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**57.88**	**296**	P	**P**	**17 16 43.1**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=119,slow=5.6,SNR=8.1						
CMAR	**Chiang Mai Arr**	**57.88**	**296**	P	**P**	**17 16 45.6**	**+0.8**
CHTO	**Chiang Mai**	**58.00**	**296**	P	**P**	**17 16 45.6**	**-0.1**
PETK	**Petropavlovsk-**	**58.48**	**4**	LR	LR	17 39 19.2	
	comp=Z,32nm,19.1s,baz=176,slow=33						
ADK	**Adak**	**62.85**	**21**	P	**P**	**17 17 18.1**	**0.0**
MA2	**Magadan**	**64.81**	**359**	P	**P**	**17 17 31.5**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=162,slow=9.2,SNR=5.6						
MA2	**Magadan**	**64.81**	**359**	IAmb	IAmb	17 17 52.5	
	comp=Z,4.3nm,1.2s						
SHL	**Shillong**	**66.38**	**301**	P	**P**	**17 17 41.6**	**-0.4**
SONM	**Songino Array**	**66.70**	**328**	P	**P**	**17 17 43.9**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=147,slow=5.5,SNR=8.0						
SONM	**Songino Array**	**66.70**	**328**	P	**P**	**17 17 43.9**	**+0.4**
NIKH	**Nikolski High**	**66.70**	**24**	P	**P**	**17 17 43.9**	**+0.7**
LSA	**Lhasa**	**68.36**	**305**	P	**P**	**17 17 54.8**	**0.0**
LSA				IAmb	IAmb	17 18 05.7	
	comp=Z,2.6nm,0.6s						
VNDA	**Vanda**	**72.22**	**178**	P	P	17 18 22.5	+5.6
	comp=Z,0.3nm,0.3s,baz=330,slow=5.4,SNR=5.7						
BILL	**Bilibino**	**73.94**	**5**	P	**P**	**17 18 28.8**	**+1.6**
BILL				IAmb	IAmb	17 18 29.6	
	comp=Z,4.9nm,1.1s						
GAMB	**Gambell**	**74.06**	**16**	P	**P**	**17 18 28.2**	**+0.3**
GAMB				IAmb	IAmb	17 18 31.5	
	comp=Z,16nm,1.4s						
OHAK	**Old Harbor**	**76.23**	**27**	P	**P**	**17 18 41.3**	**+0.8**
ANM	**Nome**	**76.46**	**17**	P	**P**	**17 18 41.8**	**+0.1**
ANM				IAmb	IAmb	17 18 44.9	
	comp=Z,6.4nm,1.0s						
TNA	**Tin City**	**76.47**	**16**	P	**P**	**17 18 41.2**	**-0.5**
RDOG	**Red Dog Mine**	**79.66**	**16**	P	**P**	**17 18 57.8**	**-1.6**
RDOG				IAmb	IAmb	17 19 02.7	
	comp=Z,13nm,0.8s						
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**17 19 06.4**	**+1.4**
	comp=Z,1.4nm,1.0s,baz=100,slow=6.1,SNR=7.2						
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**17 19 05.5**	**+0.5**
IMAR	**Indian Mountai**	**81.07**	**20**	P	**P**	**17 19 08.0**	**+1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.66**	**265**	*e*P	Pn	17 26 32.8	-0.3
BUTP				*e*S	Sn	17 26 43.5	+0.8
GLSP	**General Luna,**	**0.77**	**348**	*e*P	Pb	17 26 34.2	-0.1
GLSP				*e*S	Sn	17 26 45.8	+0.4
BUKP	**Musuan**	**1.66**	**227**	*e*P	Pn	17 26 47.5	+0.4
BUKP				*e*S	Sb	17 27 09.8	-0.2
CGP	**Cagayan de Oro**	**1.67**	**250**∥	*e*P	Pn	17 26 46.7	-0.4
CGP				*e*S	Sn	17 27 07.2	-0.5
MSLP	**Maasin**	**1.78**	**308**	*e*P	Pn	17 26 49.1	+0.4
MATI	**Mati**	**2.07**	**181**	*e*P	Pn	17 26 52.6	+0.1
MATI				*e*S	Sn	17 27 18.4	+0.9
CNOP	**Candoni, Negro**	**3.68**	**283**	*e*P	Pn	17 27 14.6	-0.2

*IDC **30** 17:39:52.3±1.6,5°.51S×152°.66E,h0km,mb3.9/9, mb1 4.0/10,mb1mx3.7/45,mbtmp3.9/10,ML1.7/1,Error ellipse: s-maj=61.2km s-min=18.6km az=123.0*

ISC 30 17:39:58.2±1.5,5°.6S±0°.3×152°.7E±0°.3,h40km,n11, σ0s71/12,mb3.8/9,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.65**	**235**	Pn	**Pn**	**17 41 33.2**	**-0.2**
	0.8nm,0.3s,baz=34,slow=8.8,SNR=2.8						
PMG				Sn	**Sn**	**17 42 48.7**	**+0.6**
	4.3nm,0.3s,baz=20,slow=18,SNR=3.1						
WRA	**Warramunga Arr**	**22.84**	**230**	P	**P**	**17 44 57.4**	**-0.7**
	1.1nm,0.6s,baz=51,slow=10,SNR=12						
ASAR	**Alice Springs**	**25.50**	**223**	P	**P**	**17 45 22.8**	**-0.2**
	1.6nm,0.8s,baz=54,slow=9.3,SNR=18						
FITZ	**Fitzroy Crossi**	**29.17**	**242**	P	**P**	**17 45 55.9**	**-0.1**
	1.7nm,0.7s,baz=41,slow=7.2,SNR=6.3						
MA2	**Magadan**	**64.94**	**359**	P	**P**	**17 50 32.9**	**-0.5**
	0.5nm,0.3s,baz=158,slow=9.5,SNR=4.7						
SONM	**Songino Array**	**66.88**	**328**	P	**P**	**17 50 46.7**	**+0.3**
	0.4nm,0.5s,baz=137,slow=6.7,SNR=5.1						
MKAR	**Makanchi Array**	**80.79**	**319**	P	**P**	**17 52 08.4**	**+0.7**
	0.8nm,0.8s,baz=103,slow=5.5,SNR=7.8						
ZALV	**Zalesovo Beam**	**81.69**	**326**	P	**P**	**17 52 11.4**	**-0.9**
	0.5nm,0.4s,baz=98,slow=6.4,SNR=3.8						
ILAR	**Eielson Array**	**82.91**	**22**	P	**P**	**17 52 18.0**	**-0.5**
	0.6nm,0.7s,baz=249,slow=5.8,SNR=5.7						
YKA	**Yellowknife Ar**	**96.16**	**28**	P	**P**	**17 53 22.9**	**+1.3**
	0.2nm,0.5s,baz=270,slow=4.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**150.39**	**287**	PKPbc	**PKPbc**	**17 59 46.1**	**-0.3**
	0.7nm,0.7s,baz=73,slow=2.9,SNR=3.4						

*IDC **30** 17:47:21.2±1.0,5°.52N×61°.42E,h0km,mb3.7/7,mb1 3.9/8, mb1mx3.6/50,mbtmp3.8/8,ML3.0/1,MS3.1/5,Ms1 3.1/5, ms1mx2.9/53,Error ellipse: s-maj=31.0km s-min=22.4km az=26.0*

*NEIC **30** 17:47:23.4±1.5,5°.7N±0°.2×61°.4E±0°.1,h10km±2km, mb4.0/5,Error ellipse: s-maj=31.4km s-min=13.4km az=146.0*

ISC 30 17:47:23.4±1.1,5°.6N±0°.2×61°.4E±0°.2,h14km,n18, σ0s90/15,mb3.8/9,MS3.0/3,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**17.74**	**352**	P	**P**	**17 51 31.8**	**+0.9**
	0.1nm,0.3s,baz=158,slow=4.3,SNR=3.7						
WSAR				LR	LR	17 57 05.3	
	comp=Z,69nm,20.5s,baz=186,slow=33						
ATD	**Arta Tunnel**	**19.25**	**289**	LR	LR	17 58 20.6	
	comp=Z,34nm,19.6s,baz=350,slow=34						
KMBO	**Kilima Mbogo**	**25.01**	**255**	P	**P**	**17 52 48.8**	**+1.3**
	1.2nm,0.7s,baz=61,slow=10.0,SNR=4.7						
KMBO				LR	LR	18 02 52.9	
	comp=Z,50nm,19.0s,baz=94,slow=37						
EIL	**Elat**	**34.58**	**317**	LR	LR	18 08 13.4	
	comp=Z,26nm,18.2s,baz=108,slow=36						
MMAI	**Mount Meron Ar**	**36.46**	**322**	LR	LR	18 08 46.3	
	comp=Z,36nm,18.2s,baz=150,slow=35						
KK31	**Karatay Array**	**38.21**	**11**	P	**P**	**17 54 42.6**	**-0.2**
KK31				IAmb	IAmb	17 55 01.0	
	comp=Z,4.0nm,1.1s						
KKAR	**Karatay Array**	**38.21**	**11**	P	**P**	**17 54 43.1**	**+0.2**
CM31	**Chiang Mai Arr**	**38.79**	**67**	P	**P**	**17 54 47.7**	**-0.3**
CM31				IAmb	IAmb	17 54 53.1	
	comp=Z,2.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**38.79**	**67**	P	**P**	**17 54 49.2**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=273,slow=7.2,SNR=6.0						
BR131	**Keskin Array S**	**42.18**	**328**	P	**P**	**17 55 16.2**	**+0.3**
BR131				IAmb	IAmb	17 55 17.6	
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**42.18**	**328**	P	**P**	**17 55 15.1**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=148,slow=7.3,SNR=6.3						
BRTR	**Keskin Array B**	**42.18**	**328**	P	**P**	**17 55 15.9**	**-0.1**
ABKAR	**Akbulak array**	**43.52**	**359**	P	**P**	**17 55 26.4**	**-0.1**
BURAR	**Bucovina Array**	**52.05**	**330**	P	**P**	**17 56 31.0**	**-1.8**
SONM	**Songino Array**	**56.93**	**35**	P	**P**	**17 57 08.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=215,slow=6.5,SNR=3.9						
HFS	**Hagfors**	**65.22**	**336**	P	**P**	**17 58 04.6**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=151,slow=9.1,SNR=2.0						
WRA	**Warramunga Arr**	**76.01**	**112**	P	**P**	**17 59 10.2**	**-0.6**
	comp=Z,1.8nm,1.0s,baz=293,slow=4.6,SNR=7.2						
ASAR	**Alice Springs**	**76.38**	**116**	P	**P**	**17 59 12.2**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=289,slow=5.5,SNR=9.0						

IDC 30 17:56:31.1±2.3,5°.04S×152°.07E,h0km,mb2.9/2, mb1 3.3/2,mb1mx3.1/36,mbtmp3.0/2,MS2.9/1,Ms1 2.9/1, ms1mx2.7/16,Error ellipse: s-maj=123.0km s-min=20.6km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.52**	**228**	LR	LR	18 00 16.7	
	comp=Z,103nm,20.0s,baz=264,slow=35						
WRA	**Warramunga Arr**	**22.74**	**228**	P	P	18 01 36.3	+1.2
	0.6nm,1.0s,baz=51,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**25.48**	**222**	P	P	18 01 59.9	-1.5
	0.2nm,0.6s,baz=49,slow=9.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**149.69**	**287**	PKPbc	PKPbc	18 16 23.7	-0.3
	0.4nm,0.7s,baz=112,slow=1.6,SNR=2.3						

*VIE **30** 17:56:50.8±0.3,50°.31N×18°.82E,h0km,mb2.2/4,ml2.6/5, Error ellipse: s-maj=2.3km s-min=1.6km az=176.0 13 km WNW of Katowice Suspected Mining induced.*

*IPEC **30** 17:56:51.5±0.1,50°.28N×18°.85E,h0km,ML2.4/3,Error ellipse: s-maj=1.5km s-min=0.7km az=178.0*

*PRU **30** 17:56:52.0±0.0,50°.29N×18°.80E,h0km*

ISC 30 17:56:51.3±0.9,50°.24N±0°.04×18°.79E±0°.02,h0km,n31, σ1s11/48,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.65**	**92**	*e*Pg	**Pg**	**17 57 03.2**	**-0.5**
OJC				*e*Sg	**Sg**	**17 57 11.6**	**-0.5**
MORC	**Moravsky Berou**	**0.93**	**241**	*e*PG	**Pb**	**17 57 10.0**	**-0.4**
MORC				*e*SG	**Sb**	**17 57 22.9**	**-0.4**
MORC	**Moravsky Berou**	**0.93**	**241**	*e*Pg	**Pb**	**17 57 10.0**	**-0.4**
	baz=59						
MORC				*e*Sg	**Sb**	**17 57 22.8**	**-0.5**
	60nm,0.4s,baz=59						
LOSC	**Losov**	**1.11**	**236**	*e*Pg	**Pn**	**17 57 13.6**	**-0.5**
	baz=55						
LANS	**Liptovska Anna**	**1.18**	**158**	*e*PG	**Pb**	**17 57 14.4**	**-0.2**
LANS				*e*SG	**Sb**	**17 57 30.3**	**-0.1**
LANS				*e*LG	Lg	17 57 33.3	
LIPC	**Lipinka**	**1.19**	**251**	*e*Pg	**Pn**	**17 57 15.0**	**-0.3**
	baz=69						
NIE	**Niedzica**	**1.28**	**130**	*e*Pg	**Pn**	**17 57 16.5**	**0.0**
NIE				*e*Sg	**Sn**	**17 57 34.3**	**0.0**
KRLC	**Kraliky**	**1.30**	**263**	*e*PG	**Pg**	**17 57 16.0**	**-0.3**
KRLC				*e*SG	**Sg**	**17 57 33.0**	**-0.2**
	comp=Z,34nm,0.5s						
JAVC	**Velka Javorina**	**1.56**	**208**	*e*PN	**Pg**	**17 57 21.5**	**+0.1**
JAVC	**Velka Javorina**	**1.56**	**208**	*e*Pn	**Pg**	**17 57 21.4**	**+0.1**
	baz=28						
DPC	**Dobruska-Polom**	**1.59**	**275**	*e*PG	**Pn**	**17 57 20.9**	**+0.1**
DPC				*e*SG	**Sg**	**17 57 43.0**	**+0.7**
	comp=Z,41nm,0.7s						
OSTC	**Ostas**	**1.68**	**282**	*e*SG	**Sg**	**17 57 45.7**	**+0.4**
	comp=Z,29nm,0.8s						
KSP	**Ksiaz**	**1.71**	**292**	*e*Pg	**Pg**	**17 57 24.5**	**+0.5**
KSP				*e*Sg	**Sg**	**17 57 47.5**	**+1.4**
VRAC	**Vranov**	**1.71**	**238**	*e*PN	**Pb**	**17 57 23.2**	**-0.3**
VRAC				*e*SG	**Sg**	**17 57 45.9**	**-0.2**
VRAC	**Vranov**	**1.71**	**238**	*e*Pn	**Pb**	**17 57 23.2**	**-0.3**
	baz=56						
VRAC				*e*Sg	**Sg**	**17 57 45.8**	**-0.3**
	37nm,0.5s,baz=56						
VYHS	**Vyhne**	**1.75**	**179**	*e*PN	**Pb**	**17 57 23.8**	**-0.5**
VYHS				*e*SN	**Sg**	**17 57 46.8**	**-0.7**
VYHS				*e*LG	Lg	17 57 50.9	
CHVC	**Chvalec**	**1.79**	**282**	*e*SG	**Sb**	**17 57 47.9**	**0.0**
	comp=Z,22nm,0.8s						
UPC	**Upice**	**1.80**	**280**	*e*PG	**Pn**	**17 57 24.0**	**+0.4**
SMOL	**Smolenice**	**1.95**	**208**	*e*SN	**Sn**	**17 57 50.4**	**-0.4**
KRUC	**Moravsky**	**1.96**	**234**	*e*PN	**Pb**	**17 57 27.2**	**-0.6**
KRUC				*e*SG	**Sg**	**17 57 53.4**	**-0.7**
KRUC	**Moravsky**	**1.96**	**234**	*e*Pn	**Pb**	**17 57 27.2**	**-0.6**
	baz=52						
KRUC				*e*Sg	**Sg**	**17 57 53.3**	**-0.8**
	14nm,0.5s,baz=52						
KECS	**Kecovo**	**2.08**	**147**	*e*SN	**Sb**	**17 57 56.2**	**-0.1**
KECS				*e*LG	Lg	17 58 04.5	
MODS	**Modra-Piesok**	**2.12**	**209**	*e*SN	**Sn**	**17 57 55.2**	**+0.2**
KOLS	**Kolonicke sedl**	**2.62**	**119**	*e*PG	**Pb**	**17 57 39.6**	**+0.5**
KOLS				*e*SN	**Sn**	**17 58 07.8**	**+0.5**
PRU	**Pruhonice**	**2.75**	**266**	*e*SG	**Sb**	**17 58 16.8**	**+1.3**
	comp=Z,13nm,0.7s						
CONA	**Conrad Observa**	**3.01**	**221**	*e*Pn	**Pn**	**17 57 40.2**	**-0.2**
	0.3nm,0.2s						
CONA				*e*Sn	**Sn**	**17 58 18.1**	**+0.9**
	5.0nm,0.4s						
BRG	**Berggiesshubel**	**3.16**	**283**	Pg	**Pg**	**17 57 50.2**	**-1.6**
BRG				Sg	**Sg**	**17 58 33.1**	**+0.4**
BRG				Amp		17 58 43.2	
	comp=Z,13nm,0.9s						
CKRC	**Cesky Krumlov**	**3.25**	**246**	*e*SG	**Sg**	**17 58 33.5**	**-2.2**
	comp=Z,21nm,0.9s						
KHC	**Kasperske Hory**	**3.56**	**254**	*e*PG	**Pg**	**17 57 58.5**	**-1.1**
KHC				*e*SG	**Sg**	**17 58 45.3**	**-0.5**
	comp=Z,13nm,0.6s						
ARSA	**Arzberg**	**3.69**	**217**	*e*Sg	**Sg**	**17 58 55.5**	**+5.6**
	comp=Z,2.2nm,0.5s						
MOA	**Molln**	**3.82**	**233**	*e*Sn	**Sn**	**17 58 39.2**	**+2.2**
	comp=Z,1.0nm,0.3s						

*BJI **30** 18:02:07.2±0.0,15°.65S×172°.40W,h5km,mB5.9/58, mb5.1/51,Ms5.5/64,Ms7 5.3/57*

*NEIC **30** 18:02:10.8±2.4,15°.43S±0°.09×172°.86W±0°.10,h10km±3km, mb5.3/254,Ms_20 5.5/412,Mwb5.7/87,Mww5.8, Mwc5.8(GCMT),Error ellipse: s-maj=15.2km s-min=11.2km az=132.0*

*IDC **30** 18:02:10.8±0.4,15°.48S×173°.11W,h0km,mb4.8/38, mb1 4.9/38,mb1mx4.9/49,mbtmp4.8/38,MS5.3/40, Ms1 5.3/40,ms1mx5.3/48,Error ellipse: s-maj=14.6km s-min=10.0km az=143.0*

*MOS **30** 18:02:10.5±1.7,15°.44S×172°.94W,h10km,mb5.4/28, MS5.4/41,Error ellipse: s-maj=8.2km s-min=6.6km az=69.3*

*NOU **30** 18:02:12.4,15°.43S×172°.67W,h26km,mb5.3,Samoa Islands Region*

*NEIC **30** 18:02:14.4,15°.57S×172°.80W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=3.33; Mθθ=0.06; Mϕϕ=-3.27; Mrθ=1.11; Mθϕ=-0.09; Mϕr=2.20; Fault plane solution: Mo=4.12000×10^17^ NP1:ϕs169.38000°, δ29.11000°,λ66.66000°. NP2:ϕs15.67000°,δ63.47000°, λ102.44000°. Principal axes: T 4.2425, Plg69.0000°, Azm311.0000°; N -0.2638, Plg11.0000°, Azm190.0000°; P -3.9787, Plg18.0000°, Azm96.0000°;*

*GCMT **30** 18:02:18.8±0.1,15°.53S±0°.01×172°.64W,h20km, MW5.8/165,Moment Tensor Solution. s146,c294; s165,c369; Duration: 1s9 Moment tensor: Scale 10^17^ Nm; Mrr=4.83±.06; Mθθ=0.52±.04; Mϕϕ=-5.35±.04; Mrθ=1.24±.09; Mθϕ=0.38±.03; Mϕr=2.22±.09; Best double couple: Mo=5.71700×10^17^ NP1:ϕs161.00000°,δ36.00000°, λ65.00000°. NP2:ϕs11.00000°,δ58.00000°,λ107.00000°. Principal axes: T 5.6200, Plg72.0000°, Azm321.0000°; N 0.1920, Plg14.0000°, Azm182.0000°; P -5.8150, Plg12.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **30** 18:02:18,15°.48S×172°.71W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=4.27; Mθθ=0.95; Mϕϕ-5.23; Mrθ=-0.12; Mθϕ=0.72; Mϕr=3.65; Fault plane solution: Mo6.09000×10^17^ NP1:ϕs169.00000°, δ26.00000°,λ83.00000°. NP2:ϕs357.00000°,δ64.00000°, λ94.00000°. Principal axes: T 5.5164, Plg71.0000°, Azm275.0000°; N 1.0206, Plg3.0000°, Azm175.0000°; P -6.5370, Plg19.0000°, Azm84.0000°;*

*NEIC **30** 18:02:19,15°.50S×172°.61W,h19km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=4.72; Mθθ=0.79; Mϕϕ-5.50; Mrθ=0.69; Mθϕ=0.37; Mϕr=3.14; Fault plane solution: Mo6.09000×10^17^ NP1:ϕs166.00000°, δ30.00000°,λ72.00000°. NP2:ϕs6.00000°,δ61.00000°, λ100.00000°. Principal axes: T 5.7220, Plg72.0000°, Azm299.0000°; N 0.6724, Plg9.0000°, Azm181.0000°; P -6.3944, Plg16.0000°, Azm89.0000°;*

ISC 30 18:02:10.6±0.5,15°.62S±0°.03×172°.78W±0°.04,h10km±2km, h10km:pP-P,n978,σ1s84/816,mb5.3/202,MS5.5/300, 81C-45D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.96**	**30**	P	**Pn**	**18 02 39.7**	**-4.3**
AFI	**Afiamalu**	**1.96**	**30**	Pn	**Pn**	**18 02 39.7**	**-4.3**
AFI	**Afiamalu**	**1.96**	**30**	P	**Pn**	**18 02 40.6**	**-3.4**
NIUE	**Niue**	**4.38**	**142**	P	**Pn**	**18 03 17.6**	**+0.2**
	baz=4.4,SNR=38						
NIUE				S	**Sn**	**18 04 03.3**	**-5.3**
	baz=4.4						
NIUE	**Niue**	**4.38**	**142**	Pn	**Pn**	**18 03 16.8**	**-0.6**
NIUE	**Niue**	**4.38**	**142**	P	**Pn**	**18 03 17.8**	**+0.5**
MSVF	**Nonsavu**	**9.04**	**255**	Pn	Pn	18 04 29.2	+7.8
	4.0nm,0.3s,baz=107,slow=13,SNR=65						
MSVF				LR	LR	18 07 17.0	
	comp=Z,48μm,18.5s,baz=96,slow=35						
MSVF	**Nonsavu**	**9.04**	**255**		Pn	18 04 28.5	+7.1
MSVF	**Nonsavu**	**9.04**	**255**	P	**Pn**	**18 04 23.0**	**+1.6**
KNTN	**Kanton**	**12.81**	**5**	Pn	**Pn**	**18 05 10.4**	**-2.6**
RAR	**Rarotonga**	**13.53**	**116**	Pn	**Pn**	**18 05 21.4**	**-1.5**
	3.5nm,0.3s,baz=247,slow=7.5,SNR=7.2						
RAR				Sn	**Sn**	**18 07 48.3**	**-5.1**
	2.0nm,0.3s,baz=132,slow=21,SNR=3.6						
RAR				LR	LR	18 09 43.5	
	comp=Z,13μm,20.9s,baz=304,slow=33						
RAR	**Rarotonga**	**13.53**	**116**	P	**Pn**	**18 05 21.2**	**-1.6**
RAR	**Rarotonga**	**13.53**	**116**	Pn	**Pn**	**18 05 21.2**	**-1.6**
RAR	**Rarotonga**	**13.53**	**116**	P	**Pn**	**18 05 22.6**	**-0.2**
RAO	**Raoul Island**	**14.37**	**198**	Sn	**Sn**	**18 08 05.6**	**-8.2**
	21nm,0.3s,baz=109,slow=22,SNR=2.1						
RAO				LR	LR	18 10 28.4	
	comp=Z,14μm,18.1s,baz=23,slow=34						
GLKZ	**Green Lake**	**14.38**	**198**	P	**Pn**	**18 05 36.8**	**+2.4**
GLKZ				S	**Sn**	**18 08 08.0**	**-6.1**
MARNC	**Mare, Loyalty**	**19.10**	**249**	P	**P**	**18 06 34.2**	**+0.5**
SANVU	**Saraoutou**	**19.29**	**268**	P	**P**	**18 06 36.0**	**+0.1**
SANVU				IAmb	IAmb	18 06 42.7	
	comp=Z,331nm,1.3s						
SANVU	**Saraoutou**	**19.29**	**268**	P	**Pn**	**18 06 37.8**	**+0.9**
LIFNC	**LIFOU**	**19.66**	**252**	P	**Pn**	**18 06 42.5**	**+1.2**
PINNC	**Pines Island,**	**19.93**	**247**	P	**Pn**	**18 06 45.2**	**+0.8**
YATNC	**Mamie plateau,**	**20.27**	**248**	P	Pn	18 06 48.1	-0.4
OUENC	**Ouen Island, N**	**20.41**	**248**	P	**P**	**18 06 49.1**	**+1.0**
DZM	**Mont Dzumac**	**20.68**	**249**	P	**P**	**18 06 49.9**	**-1.1**
	comp=Z,143nm,1.0s,baz=68,slow=19,SNR=14						
DZM				LR	LR	18 13 36.5	
	comp=Z,18μm,18.8s,baz=79,slow=34						
DZM	**Mont Dzumac**	**20.68**	**249**	*e*P	**P**	**18 06 50.7**	**-0.4**
	comp=Z,724nm,1.4s						
DZM				*e*S	**S**	**18 10 33.4**	**-8.9**
	comp=Z,3μm,23.0s						
DZM				*e*LQ	LQ	18 10 50.9	
	comp=Z,14μm,28.3s						
DZM				*e*LR	LR	18 11 41.7	
	comp=Z,26μm,23.9s						
DZM	**Mont Dzumac**	**20.68**	**249**	P	**P**	**18 06 50.4**	**-0.6**
DZM	**Mont Dzumac**	**20.68**	**249**	P	**P**	**18 06 51.5**	**+0.4**
ONTNC	**Ouen Toro**	**20.73**	**248**	P	Pn	18 06 53.1	-0.8
PAE	**Paea**	**22.32**	**98**	*e*P	**P**	**18 07 11.6**	**+3.0**
	comp=Z,16nm,0.9s						
PAE	**Paea**	**22.32**	**98**	*e*T	T	18 30 22.0	
	comp=Z,8.3nm,0.4s						
PPT	**Papeete**	**22.32**	**98**	P	**P**	**18 07 12.6**	**+4.0**
	comp=Z,104nm,0.9s,baz=234,slow=2.5,SNR=8.4						
PPT				LR	LR	18 14 13.3	
	comp=Z,6μm,18.2s,baz=264,slow=32						
PPT2	**Papeete2**	**22.32**	**98**	*e*P	**P**	**18 07 12.2**	**+3.5**
	comp=Z,168nm,1.4s						
PPT2				*e*LQ	LQ	18 11 31.0	
	comp=Z,17μm,28.0s						
PPT2				*e*LR	LR	18 12 31.5	
	comp=Z,23μm,26.0s,baz=263						
PPT2	**Papeete2**	**22.32**	**98**	*e*T	T	18 30 23.9	
	comp=Z,13nm,0.3s						
PPTF	**Pamatai, Papee**	**22.33**	**98**	P	**P**	**18 07 10.9**	**+2.1**
PPTF				IAmb	IAmb	18 07 16.9	
	comp=Z,137nm,1.0s						
OUZ	**Omahuta**	**23.03**	**210**	P	**P**	**18 07 17.0**	**+1.1**
OUZ				IAmb	IAmb	18 07 34.0	
	comp=Z,116nm,1.5s						
OUZ	**Omahuta**	**23.03**	**210**	P	**P**	**18 07 19.3**	**+3.3**
GRZ	**Great Barrier**	**23.07**	**205**	P	**P**	**18 07 19.5**	**+3.1**
TBI	**Tubuai**	**23.26**	**113**	*e*P	**P**	**18 07 21.0**	**+2.5**
	comp=Z,518nm,1.3s						
TBI				*e*S	**S**	**18 11 29.6**	**-1.4**
	comp=Z,2μm,25.0s						
TBI				*e*LQ	LQ	18 11 56.6	
	comp=Z,16μm,31.0s						
TBI				*e*LR	LR	18 13 04.4	
	comp=Z,24μm,26.0s,baz=290						
TBI	**Tubuai**	**23.26**	**113**	*e*T	T	18 31 31.6	
	comp=Z,35nm,0.4s						
WCZ	**Waipu Caves**	**23.28**	**207**	P	**P**	**18 07 19.7**	**+1.2**
KUZ	**Kuaotunu**	**23.39**	**204**	P	**P**	**18 07 22.9**	**+3.2**
WMGZ	**Waiomatatini S**	**23.44**	**198**	P	**P**	18 07 28.3	+8.1
HAZ	**Te Kaha**	**23.58**	**199**	P	**P**	**18 07 24.4**	**+2.9**
HAZ				S	**S**	**18 11 37.8**	**+2.0**
PKGZ	**Pakihiroa**	**23.61**	**198**	P	**P**	**18 07 26.5**	**+4.6**
PKGZ				S	**S**	**18 11 35.7**	**-0.8**
MEH	**Mehetia**	**23.77**	**99**	*e*T	T	18 32 10.9	
	comp=Z,9.7nm,0.3s						
RUGZ	**Raukumara Rang**	**23.80**	**199**	P	**P**	**18 07 28.5**	**+4.7**
RUGZ				S	**S**	**18 11 40.9**	**+1.3**
TWGZ	**Tauwhareparae**	**23.90**	**198**	P	**P**	**18 07 31.0**	**+6.3**
MWZ	**Matawai**	**24.19**	**199**	P	**P**	**18 07 28.2**	**+0.8**
VAH	**Vaihoa**	**24.24**	**92**	*e*P	**P**	**18 07 30.5**	**+2.4**
	comp=Z,191nm,1.3s						
VAH	**Vaihoa**	**24.24**	**92**	*e*T	T	18 32 47.2	
	comp=Z,7.6nm,0.3s						
URZ	**Urewera**	**24.25**	**200**	P	**P**	**18 07 29.0**	**+1.1**
	comp=Z,10nm,0.3s,baz=297,slow=23,SNR=15						
URZ	**Urewera**	**24.25**	**200**	P	**P**	**18 07 28.8**	**+0.9**
URZ				IAmb	IAmb	18 07 51.6	
	comp=Z,64nm,0.9s						
URZ	**Urewera**	**24.25**	**200**	P	**P**	**18 07 29.8**	**+1.9**
TOZ	**Tahuroa Road**	**24.34**	**203**	P	**P**	**18 07 32.5**	**+3.7**
RIGZ	**Rimuhau**	**24.46**	**198**	P	**P**	**18 07 35.6**	**+5.8**
RIGZ				S	**S**	**18 11 58.9**	**+8.9**
RTZ	**Ruatahuna**	**24.62**	**200**	P	**P**	**18 07 34.6**	**+3.2**
PRGZ	**Paritu Road**	**24.62**	**198**	P	P	18 07 39.7	+8.3
SNGZ	**Shannon Statio**	**24.66**	**199**	P	**P**	**18 07 36.3**	**+4.7**
KNZ	**Kokohu**	**24.77**	**198**	P	**P**	**18 07 39.2**	**+6.6**
MHGZ	**Mahia Peninsul**	**24.83**	**197**	P	**P**	**18 07 38.3**	**+5.2**
TLZ	**Tolley Road**	**24.86**	**202**	P	**P**	**18 07 37.9**	**+4.4**
RAHZ	**Arahi**	**24.86**	**199**	P	**P**	**18 07 39.2**	**+5.7**
MTHZ	**Maungataniwha**	**24.88**	**200**	P	**P**	**18 07 37.3**	**+3.6**
MTHZ				S	**S**	**18 12 02.6**	**+5.8**
RATZ	**Rangitukua**	**25.25**	**201**	P	**P**	**18 07 41.5**	**+4.8**
HIZ	**Hauiti**	**25.27**	**203**	P	**P**	**18 07 36.2**	**-1.0**
HIZ	**Hauiti**	**25.27**	**203**	P	**P**	**18 07 42.9**	**+5.7**
BKZ	**Black Stump Fm**	**25.28**	**200**	P	**P**	**18 07 37.9**	**+0.7**
BKZ	**Black Stump Fm**	**25.28**	**200**	P	**P**	**18 07 39.2**	**+1.9**
MCHZ	**McNeill Hill**	**25.46**	**199**	P	P	18 07 46.5	+7.6
TMVZ	**Te Maari**	**25.50**	**201**	P	**P**	**18 07 41.6**	**+2.3**
ETVZ	**East Tongariro**	**25.51**	**201**	P	**P**	**18 07 41.9**	**+2.4**
OTVZ	**Oturere**	**25.55**	**201**	P	**P**	**18 07 41.0**	**+1.1**
BHHZ	**Black Hill Sta**	**25.71**	**200**	P	**P**	**18 07 36.3**	**-4.9**
KAHZ	**Kahuranaki**	**25.73**	**199**	P	**P**	**18 07 47.3**	**+6.0**
KRHZ	**Kereru**	**25.75**	**200**	P	**P**	**18 07 44.8**	**+3.3**
TSZ	**Takapari Road**	**26.26**	**200**	P	**P**	**18 07 50.3**	**+4.1**
DVHZ	**Dannevirke**	**26.41**	**199**	P	**P**	**18 07 51.4**	**+3.9**
BFZ	**Birch Farm**	**26.73**	**199**	P	**P**	**18 07 49.0**	**-1.4**
BFZ				IAmb	IAmb	18 08 04.3	
	comp=Z,70nm,1.0s						
HNR	**Honiara**	**27.31**	**280**	LR	LR	18 17 09.2	
	comp=Z,14μm,18.4s,baz=120,slow=33						
MSWZ	**Moikau Station**	**27.71**	**200**	P	**P**	**18 07 59.5**	**+0.3**
SNZO	**South Karori**	**27.80**	**200**	P	**P**	**18 07 59.7**	**-0.2**
SNZO				IAmb	IAmb	18 08 12.1	
	comp=Z,44nm,0.9s						
SNZO	**South Karori**	**27.

CAN pmax pmax
comp=Z,60nm,1.3s
CAN MLR MLR
comp=Z,7µm,18.0s
CAN Canberra 39.38 233 P **P** **18 09 38.9 -1.8**
CAN IAMs_20 IAMs_20 18 23 51.7
comp=Z,7µm,18.0s
H11S2 WAKE ISLAND Hy 39.46 328 T T 18 51 39.7
baz=62,slow=74,SNR=70
H11S3 WAKE ISLAND Hy 39.48 328 T T 18 51 32.9
baz=147,slow=74,SNR=27
H11S1 WAKE ISLAND Hy 39.48 328 T T 18 50 58.6
SNR=39
YNG Young 39.51 235 P **P** **18 09 42.6 +0.8**
baz=40,SNR=5.0
PMG Port Moresby 39.55 274 P **P** **18 09 41.6 -0.6**
comp=Z,23nm,0.9s,baz=8.7,slow=15,SNR=5.5
PMG LR LR 18 24 16.0
comp=Z,3µm,19.1s,baz=44,slow=34
PMG Port Moresby 39.55 274 *eP* **P** **18 09 41.3 -1.0**
PMG pmax pmax
comp=Z,66nm,1.7s
PMG Port Moresby 39.55 274 P **P** **18 09 41.1 -1.2**
PMG Port Moresby 39.55 274 P **P** **18 09 42.7 +0.4**
KIP Kipapa 39.56 22 *eP* **P** **18 09 40.6 -1.6**
KIP pmax pmax
comp=Z,101nm,1.2s
KIP Kipapa 39.56 22 P **P** **18 09 40.6 -1.6**
H11N3 WAKE ISLAND Hy 40.40 330 T T 18 52 36.5
baz=149,slow=76,SNR=37
H11N1 WAKE ISLAND Hy 40.41 330 T T 18 52 28.5
baz=149,slow=76,SNR=41
H11N2 WAKE ISLAND Hy 40.42 330 T T 18 52 40.1
baz=149,slow=76,SNR=36
CMSA Cobar Meteorol 40.96 240 P **P** **18 09 52.5 -1.3**
baz=41,SNR=34
PTCN Pitcairn Islan 40.96 110 P **P** **18 09 55.2 +1.2**
PTCN Pitcairn Islan 40.96 110 IAMs_20 IAMs_20 18 22 54.6
comp=Z,5µm,20.0s
MTSU Mount Surprise 41.07 260 P **P** **18 09 54.0 -0.9**
baz=41,SNR=14
QLP Quilpie 41.39 247 P **P** **18 09 55.8 -1.6**
baz=42,SNR=7.0
COEN Coen 42.57 266 P **P** **18 10 06.5 -0.7**
TOO Toolangi 42.79 231 P **P** **18 10 07.8 -1.0**
baz=43,SNR=20
TOO Toolangi 42.79 231 P **P** **18 10 07.8 -1.0**
TOO pmax pmax
comp=Z,56nm,1.1s
TOO Toolangi 42.79 231 P **P** **18 10 07.8 -1.0**
TOO IAmb IAmb 18 10 10.8
comp=Z,56nm,1.1s
TAU Tasmania Unive 43.56 223 P **P** **18 10 15.7 +0.9**
TAU pmax pmax
comp=Z,30nm,1.0s
TAU MLR MLR
comp=Z,8µm,18.0s
TAU Tasmania Unive 43.56 223 P **P** **18 10 15.7 +0.9**
MIDW Midway 43.80 354 IAMs_20 IAMs_20 18 25 42.9
comp=Z,5µm,20.0s
STKA Stephens Creek 44.45 240 P **P** **18 10 21.4 -0.7**
comp=Z,56nm,0.8s,baz=92,slow=9.6,SNR=38
STKA LR LR 18 27 18.5
comp=Z,4µm,18.2s,baz=76,slow=34
STKA Stephens Creek 44.45 240 P **P** **18 10 21.4 -0.7**
baz=45,SNR=18
STKA Stephens Creek 44.45 240 P **P** **18 10 21.0 -1.2**
ARPS Mount Arapiles 45.34 233 P **P** **18 10 28.5 -0.7**
baz=46,SNR=9.0
HTT Hallett 46.94 239 P **P** **18 10 41.1 -0.8**
baz=47,SNR=15
BBOO Buckleboo 49.22 240 P **P** **18 10 58.5 -1.0**
baz=49,SNR=20
BBOO Buckleboo 49.22 240 P **P** **18 10 58.2 -1.3**
BBOO IAmb IAmb 18 11 02.8
comp=Z,41nm,0.8s
WR0 Warramunga Arr 50.19 257 P **P** **18 11 04.5 -2.6**
WB0 Warramunga Arr 50.34 257 P **P** **18 11 05.7 -2.5**
WB0 IAmb IAmb 18 11 08.6
comp=Z,51nm,1.2s
WB2 Warramunga Arr 50.37 257 P **P** **18 11 05.5 -3.0**
WB2 IAmb IAmb 18 11 08.9
comp=Z,53nm,1.2s
WRAB Tennant Creek 50.37 257 *ceP* **P** **18 11 06.3 -2.1**
WRAB pmax pmax
comp=Z,28nm,1.3s
WRAB Tennant Creek 50.37 257 P **P** **18 11 06.0 -2.5**
WRAB IAmb IAmb 18 11 20.1
comp=Z,33nm,0.9s
WRA Warramunga Arr 50.38 257 P **P** **18 11 06.4 -2.2**
comp=Z,8.2nm,0.8s,baz=91,slow=8.4,SNR=28
WRA LR LR 18 31 25.2
comp=Z,6µm,18.5s,baz=95,slow=35
WRA Warramunga Arr 50.38 257 P **P** **18 11 05.9 -2.6**
WRA pmax pmax
comp=Z,3.0nm,1.2s
WRA Warramunga Arr 50.38 257 P **P** **18 11 05.9 -2.6**
AS31 Alice Springs 50.61 252 P **P** **18 11 08.7 -1.6**
ASAR Alice Springs 50.61 252 P **P** **18 11 08.6 -1.7**
comp=Z,36nm,0.8s,baz=89,slow=7.4,SNR=67
ASAR S **S** **18 18 22.9 -2.5**
comp=Z,1.2nm,0.8s,baz=82,slow=13,SNR=5.4
ASAR LR LR 18 31 24.2
comp=Z,10µm,19.0s,baz=94,slow=35
ASAR Alice Springs 50.61 252 P **P** **18 11 07.6 -2.7**
ASAR Alice Springs 50.61 252 P **P** **18 11 07.6 -2.7**
KDU Kakadu 53.05 266 P **P** **18 11 29.6 +1.1**
baz=53,SNR=5.2
MTN Manton Dam 54.31 265 P **P** **18 11 37.3 -0.5**
baz=54,SNR=5.2
MTN Manton Dam 54.31 265 P **P** **18 11 36.2 -1.5**
MTN IAmb IAmb 18 11 52.7
comp=Z,26nm,0.9s
SAUI Saumlaki 55.14 271 IAMs_20 IAMs_20 18 32 25.6
comp=Z,5µm,21.0s
FAKI Fak Fak 55.54 277 IAMs_20 IAMs_20 18 33 16.6
comp=Z,4µm,21.0s
WRKA Warakurna 55.69 250 P **P** **18 11 46.5 -1.2**
baz=56,SNR=17
FORT Forrest 55.85 243 P **P** **18 11 47.6 -1.1**
baz=56,SNR=6.1
FORT Forrest 55.85 243 P **P** **18 11 46.9 -1.9**
SIJI Sorong 57.09 279 P **P** **18 11 56.5 -1.2**
comp=Z,41nm,0.9s,baz=61,slow=7.0,SNR=12
FITZ Fitzroy Crossi 58.75 258 P **P** **18 12 09.2 -0.2**
comp=Z,3.3nm,0.8s,baz=89,slow=10,SNR=6.8
FITZ LR LR 18 35 50.7
comp=Z,8µm,19.7s,baz=102,slow=34
FITZ Fitzroy Crossi 58.75 258 P **P** **18 12 09.9 +0.6**
baz=59,SNR=4.1
FITZ Fitzroy Crossi 58.75 258 P **P** **18 12 08.1 -1.3**
JCJ Chichijima 60.94 314 LR LR 18 33 41.9
comp=Z,3µm,21.3s,baz=128,slow=31
KMBL Kambalda 61.15 243 P **P** **18 12 24.9 -0.8**
baz=61,SNR=4.7
TNTI Ternate 61.30 280 P **P** **18 12 24.9 -2.0**
comp=Z,1µmcomp=Z,585nmcomp=Z,31nm,1.3s
SOEI Soe 61.52 267 P **P** **18 12 28.1 -0.4**
SOEI Soe 61.52 267 P **P** **18 12 27.5 -1.1**
BATI Baumata 62.00 267 LR LR 18 37 14.1
comp=Z,4µm,20.7s,baz=117,slow=34
SBA Scott Base 63.08 185 P **P** **18 12 40.8 +3.0**
SBA pmax pmax
comp=Z,87nm,1.3s
SBA MLR MLR
comp=Z,2µm,18.0s
SBA Scott Base 63.08 185 P **P** **18 12 40.8 +3.0**
SBA Scott Base 63.08 185 IAMs_20 IAMs_20 18 44 07.4
comp=Z,2µm,18.0s
VNDA Vanda 63.22 186 P **P** **18 12 42.2 +3.4**
comp=Z,5.9nm,0.9s,baz=2.6,slow=6.0,SNR=23
VNDA LR LR 18 38 05.4
comp=Z,1µm,18.7s,baz=18,slow=34
VNDA Vanda 63.22 186 P **P** **18 12 40.2 +1.4**
VNDA pmax pmax
comp=Z,43nm,1.4s
VNDA Vanda 63.22 186 P **P** **18 12 40.2 +1.4**
VNDA IAmb IAmb 18 12 56.4
comp=Z,43nm,1.4s
PSA00 Pilbara Seismi 63.72 253 P **P** **18 12 43.0 0.0**
PSA00 IAmb IAmb 18 12 45.2
comp=Z,32nm,0.9s
MMRI Maumere 63.72 268 P **P** **18 12 41.0 -2.1**
KLBR Kellerberrin 64.67 242 P **P** **18 12 48.8 -0.3**
baz=65,SNR=16
NWAO Narrogin (SRO) 65.03 241 P **P** **18 12 52.0 +0.5**
comp=Z,21nm,1.1s,baz=94,slow=10,SNR=5.2
NWAO Narrogin (SRO) 65.03 241 P **P** **18 12 52.1 +0.6**
baz=65,SNR=3.6
NWAO Narrogin (SRO) 65.03 241 P **P** **18 12 50.7 -0.8**
NWAO pmax pmax
comp=Z,73nm,1.5s
NWAO MLR MLR
comp=Z,4µm,18.0s
NWAO Narrogin (SRO) 65.03 241 P **P** **18 12 50.7 -0.8**
NWAO Narrogin (SRO) 65.03 241 P **P** **18 12 50.9 -0.6**
NWAO IAmb IAmb 18 12 53.5
comp=Z,58nm,1.4s
DAV Davao City (W) 65.07 286 LR LR 18 39 43.8
comp=Z,2µm,18.1s,baz=126,slow=35
LUWI Luwuk 65.15 276 P **P** **18 12 50.5 -1.9**
BLDU Ballidu 65.63 243 P **P** **18 12 54.9 -0.5**
baz=66,SNR=4.4
MUN Mundaring 65.96 242 P **P** **18 12 57.5 +0.1**
baz=66,SNR=6.9
MORW Morawa 66.33 245 P **P** **18 12 59.7 -0.2**
baz=66,SNR=5.2
MORW Morawa 66.33 245 P **P** **18 12 59.1 -0.8**
MORW IAmb IAmb 18 13 00.0
comp=Z,36nm,1.3s
JHJ Hachijo jima 2 66.33 318 LR LR 18 36 14.6
comp=Z,1µm,21.8s,baz=90,slow=31
KAPI Kappang 66.98 271 P **P** **18 13 04.1 -0.2**
comp=Z,5.8nm,0.3s,baz=162,slow=12,SNR=3.7
KAPI LR LR 18 40 42.9
comp=Z,1µm,20.8s,baz=104,slow=35
KAPI Kappang 66.98 271 P **P** **18 13 03.7 -0.6**
KAPI pmax pmax
comp=Z,26nm,1.2s
KAPI Kappang 66.98 271 P **P** **18 13 03.7 -0.6**
KAPI IAmb IAmb 18 13 17.4
comp=Z,26nm,1.1s
ADK Adak 67.30 357 IAMs_20 IAMs_20 18 37 16.0
comp=Z,2µm,20.0s
ATKA Atka Island 67.55 359 P **P** **18 13 04.3 -2.7**
TOLI2 Tolitoli 67.67 278 P **P** **18 13 09.0 +0.3**
TOLI2 IAmb IAmb 18 13 11.2
comp=Z,31nm,1.4s
JYT Yasato 68.06 320 P **P** **18 13 10.9 +0.3**
JSG Sagara 68.34 318 P **P** **18 13 12.4 0.0**
NIKH Nikolski High 68.39 3 P **P** **18 13 10.8 -1.5**
JMM Marumori 68.78 322 P **P** **18 13 14.4 -0.6**
JGF Kuroka 69.45 318 P **P** **18 13 19.4 +0.1**
JGF IAmb IAmb 18 13 38.0
comp=Z,44nm,1.4s
MJAR Matsushiro Arr 69.49 320 P **P** **18 13 18.7 -1.0**
comp=Z,8.2nm,1.1s,baz=152,slow=5.6,SNR=16
MJAR LR LR 18 38 11.8
comp=Z,3µm,21.6s,baz=135,slow=31
MJAR Matsushiro Arr 69.49 320 P **P** **18 13 18.6 -1.0**
MJAR pmax pmax
comp=Z,17nm,1.4s
MJAR Matsushiro Arr 69.49 320 P **P** **18 13 18.6 -1.0**
MAJO Matsushiro 69.50 320 *ceP* **P** **18 13 20.1 +0.5**
MAJO pmax pmax
comp=Z,15nm,1.2s
MAJO Matsushiro 69.50 320 P **P** **18 13 18.9 -0.7**
MAJO IAmb IAmb 18 13 22.7
comp=Z,39nm,1.4s
MAT Matsushiro 69.50 320 P **P** **18 13 19.7 +0.1**
MAT S **S** **18 22 27.6 +0.2**
INU Inuyama 69.51 318 P **P** **18 13 18.9 -0.7**
ERM Erimo 70.28 327 IAMs_20 IAMs_20 18 39 21.8
comp=Z,3µm,20.0s
KUR Kuril'sk 70.30 332 *c i* P **P** **18 13 24.8 +0.5**
KUR pmax pmax
comp=Z,104nm,1.4s
KUR pmax pmax
comp=Z,1µm,8.2s
YUK Yuzh-Kuril'sk 70.35 330 *i* P **P** **18 13 22.3 -2.3**
YUK *i* 18 13 45.3
YUK *i* 18 16 00.2
YUK *i* S **S** **18 22 36.4 -0.7**
YUK *i* 18 23 28.1
YUK *i* SS **SS** **18 27 09.1 +0.9**
YUK pmax pmax
comp=Z,284nm,1.4s
JSD Sado 70.41 321 P **P** **18 13 24.5 -0.6**
JSD IAmb IAmb 18 13 26.9
comp=Z,49nm,1.2s
CASY Casey 70.46 205 P **P** **18 13 26.4 +1.4**
JWT Wachi 70.53 317 P **P** **18 13 25.8 -0.1**
JTM Tennnbayashi 70.57 324 P **P** **18 13 25.8 -0.2**
JMN Monobe 70.64 315 P **P** **18 13 25.5 -1.2**
JMN IAmb IAmb 18 13 46.1
comp=Z,34nm,1.1s
MCCM Marconi Confer 71.05 40 IAMs_20 IAMs_20 18 38 30.6
comp=Z,2µm,18.0s
PKM Mcpherson Peak 71.05 44 P 18 13 37.8
baz=234
SAO San Andreas Ge 71.09 42 IAMs_20 IAMs_20 18 37 12.0
comp=Z,3µm,21.0s
JOW Kunigami 71.10 306 LR LR 18 38 49.2
comp=Z,2µm,21.8s,baz=112,slow=31
SMMC Simmler 71.18 43 P 18 13 38.0
baz=234
SKR Severo-Kuril's 71.44 340 *eP* **P** **18 13 31.3 +0.2**
SKR *eS* **S** **18 22 54.3 +4.9**
SKR pmax pmax
comp=Z,600nm,6.3s
SKR MLR MLR
comp=Z,700nm,19.0s
HOPS Hopland Field 71.46 39 IAMs_20 IAMs_20 18 40 07.5
comp=Z,3µm,19.0s
PASC Pasadena Art C 71.74 45 IAMs_20 IAMs_20 18 39 18.6
comp=Z,2µm,18.0s
JEW Eniwo 71.76 326 P **P** **18 13 30.3 -3.0**
109C Camp Elliot, M 71.79 47 P **P** **18 13 35.8 +2.2**
109C IAmb IAmb 18 13 44.7
comp=Z,35nm,1.3s
JSU Suzuyama 71.83 311 P **P** **18 13 34.0 0.0**
MWC Mount Wilson 71.86 45 P **P** **18 13 31.8 -2.5**
MWC pmax pmax
comp=Z,17nm,1.1s
MWC Mount Wilson 71.86 45 **P** **18 13 31.8 -2.5**
JHS Saijyo 71.88 316 P **P** **18 13 33.8 -0.4**
JHS IAmb IAmb 18 14 00.4
comp=Z,33nm,1.0s
TKX Tecate 71.97 48 P **P** **18 13 33.0 -1.8**
TKX IAmb IAmb 18 13 47.0
comp=Z,34nm,1.3s
JKA Kamikawa-asahi 72.04 328 P **P** **18 13 35.7 +0.8**
ASAJ Asahikawa 72.04 328 P **P** **18 13 35.2 +0.3**
comp=Z,15nm,0.8s,baz=226,slow=6.9,SNR=6.6
VES Vestal, Richgr 72.09 43 P 18 13 40.6
baz=235,SNR=5.1
ESJX Sierra Juarez 72.14 48 **P** **18 13 33.1 -2.9**
BFSC Mount Baldy Ra 72.14 46 P 18 13 38.0
baz=236
MONP2 Monument Peak 72.27 47 P 18 13 41.4
baz=237
EDW2 Edwards Air Fo 72.27 45 P 18 13 38.3
baz=236,SNR=13
IKP In-Ko-Pah, Jac 72.36 48 P 18 13 42.1
baz=238
O02D Mt. Diablo Mer 72.38 38 P 18 13 41.8
baz=231
JNU Nakatsue 72.39 313 LR LR 18 40 13.1
comp=Z,1µm,20.6s,baz=119,slow=32
ISA Isabella, Lake 72.39 44 P 18 13 41.9
baz=235,SNR=7.7
ISA Isabella, Lake 72.39 44 P **P** **18 13 36.3 -1.0**
ISA pmax pmax
comp=Z,33nm,1.2s
ISA Isabella, Lake 72.39 44 P **P** **18 13 36.3 -1.0**
ISA IAmb IAmb 18 13 47.9
comp=Z,32nm,1.2s
CMB Columbia Colle 72.53 41 P **P** **18 13 38.3 +0.2**
CMB pmax pmax
comp=Z,26nm,1.4s
CMB MLR MLR
comp=Z,2µm,20.0s
CMB Columbia Colle 72.53 41 P **P** **18 13 38.3 +0.2**
CMB IAMs_20 IAMs_20 18 38 10.0
comp=Z,2µm,20.0s
PFO Pinyon Flats O 72.63 47 P **P** **18 13 42.3 +3.4**
comp=Z,1.2nm,0.6s,baz=219,slow=3.9,SNR=9.5
PFO Pinyon Flats O 72.63 47 P **P** **18 13 37.4 -1.4**
PFO pmax pmax
comp=Z,22nm,1.4s
PFO MLR MLR
comp=Z,2µm,20.0s
PFO Pinyon Flats O 72.63 47 P **P** **18 13 37.4 -1.4**
PFO Pinyon Flats O 72.63 47 IAMs_20 IAMs_20 18 39 43.3
comp=Z,2µm,20.0s
PFO Pinyon Flats O 72.63 47 P 18 13 46.4
baz=237
TPFO Pinon Flats 72.63 47 P 18 13 46.0
baz=237,SNR=6.2
XPFO Pion Flat 72.64 47 P **P** **18 13 37.6 -1.2**
XPFO Pion Flat 72.64 47 IAMs_20 IAMs_20 18 39 43.3
comp=Z,2µm,20.0s
CHGN Chignik 72.65 8 P 18 13 38.9
baz=194
PET Petropavlovsk 72.67 342 *ceP* **P** **18 13 38.8 +0.4**
PET *eS* **S** **18 23 01.9 -1.6**
PET *ePS* **PnS** **18 23 45.1 +11**
PET *eSS* **SS** **18 27 48.4 +5.0**
PET pmax pmax
comp=Z,1µm,12.1s
PET pmax pmax
comp=Z,1µm,11.4s
PET pmax pmax
comp=Z,43nm,1.3s
PET MLR MLR
comp=Z,2µm,19.0s
PET MLR MLR
comp=Z,2µm,19.0s
AFDM Forest Hills D 72.72 40 P **P** **18 13 39.5 +0.4**
SLBS Sierra La Lagu 72.76 59 IAMs_20 IAMs_20 18 37 35.9
comp=Z,2µm,20.0s
ORV Oroville 72.77 39 P **P** **18 13 38.1 -1.3**
ORV pmax pmax
comp=Z,11nm,1.3s
ORV MLR MLR
comp=Z,1µm,18.0s
ORV Oroville 72.77 39 P **P** **18 13 38.0 -1.3**
WDC Whiskeytown Da 72.78 38 P **P** **18 13 38.1 -1.3**
WDC pmax pmax
comp=Z,33nm,1.4s
WDC MLR MLR
comp=Z,2µm,19.0s
WDC Whiskeytown Da 72.78 38 P **P** **18 13 38.1 -1.3**
WDC IAmb IAmb 18 13 49.0
comp=Z,33nm,1.4s
WDC IAMs_20 IAMs_20 18 39 18.3
comp=Z,2µm,19.0s
LRMC Laurel Mtn Rad 72.82 44 P 18 13 44.5
baz=236,SNR=13
PEA0B Petropavlovsk- 73.02 342 *deP* **P** **18 13 42.3 +1.7**
PEA0B Petropavlovsk- 73.02 342 P **P** **18 13 40.8 +0.2**
PETK Petropavlovsk- 73.02 342 P **P** **18 13 41.6 +1.1**
comp=Z,20nm,0.8s,baz=120,slow=8.8,SNR=19
PETK LR LR 18 43 11.9
comp=Z,853nm,19.6s,baz=163,slow=34
PETK Petropavlovsk- 73.02 342 P **P** **18 13 40.9 +0.3**
PETK Petropavlovsk- 73.02 342 P **P** **18 13 40.9 +0.3**
CWC Cottonwood Cre 73.09 43 P 18 13 46.0
baz=235
M02C Callahan 73.11 37 P 18 13 46.7
baz=230
MDPB Devils Postpil 73.13 42 P **P** **18 13 39.6 -2.3**
BELC Belle Mtn. Jos 73.17 47 P 18 13 44.3
baz=237
MPMC Manual Prospec 73.27 44 P 18 13 46.6
baz=236,SNR=13
GSC Goldstone, Bar 73.31 45 P 18 13 46.6
baz=236,SNR=9.4
GSC Goldstone, Bar 73.32 45 P **P** **18 13 42.1 -0.7**
GSC pmax pmax
comp=Z,14nm,1.1s
GSC Goldstone, Bar 73.32 45 P **P** **18 13 42.1 -0.7**
BC3 Big Chuckawall 73.36 47 P 18 13 48.0
baz=238,SNR=7.1
HEC Hector,Ludlow 73.38 46 P 18 13 45.5
baz=237,SNR=10
YBH Yreka Blue Hor 73.41 37 P **P** **18 13 45.6 +2.4**
comp=Z,5.0nm,0.8s,baz=310,slow=1.9,SNR=10
YBH Yreka Blue Hor 73.41 37 P **P** **18 13 42.5 -0.7**
YBH pmax pmax
comp=Z,46nm,1.5s
YBH MLR MLR
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 73.41 37 P **P** **18 13 42.5 -0.7**
YBH IAmb IAmb 18 13 52.2
comp=Z,46nm,1.5s
YBH IAMs_20 IAMs_20 18 37 42.8
comp=Z,2µm,20.0s
GLA Glamis 73.49 48 P 18 13 47.3
baz=238
GLA Glamis 73.49 48 P **P** **18 13 43.6 -0.2**
GLA pmax pmax
comp=Z,38nm,1.3s
GLA Glamis 73.49 48 P **P** **18 13 43.6 -0.2**
GLA IAmb IAmb 18 13 55.1
comp=Z,38nm,1.3s
SII Sitkinak Islan 73.57 11 IAMs_20 IAMs_20 18 39 15.6
comp=Z,3µm,21.0s
SZP Santa 73.60 294 IAMs_20 IAMs_20 18 39 19.9
comp=Z,2µm,22.0s
BEKR Beckworth 73.65 39 P **P** **18 13 41.9 -2.9**
PNTR Pine Nut 73.66 40 P **P** **18 13 43.4 -1.6**
PNTR IAmb IAmb 18 14 09.4
comp=Z,22nm,0.9s
PIX Pinacate 73.72 50 P **P** **18 13 43.9 -1.2**
VCNR Virginia City 73.75 40 P **P** **18 13 46.9 +1.4**
VCNR IAmb IAmb 18 14 14.8
comp=Z,39nm,1.4s
YERR Yerington 73.82 41 P **P** **18 13 44.1 -1.8**
YERR IAmb IAmb 18 13 55.1
comp=Z,48nm,1.5s
GMRC Granite Mounta 73.82 46 P 18 13 49.9
baz=237,SNR=11
HUMO Hull Mountain 73.83 36 P **P** **18 13 43.8 -1.8**
HUMO IAMs_20 IAMs_20 18 39 59.9
comp=Z,2µm,19.0s
IRM Iron Mountain 73.85 47 P 18 13 50.3
baz=238,SNR=17
LHV Little Huntoon 73.86 42 P **P** **18 13 44.8 -1.0**
LHV IAmb IAmb 18 13 56.9
comp=Z,36nm,1.2s
FURC Furnace Creek, 73.92 44 P 18 13 51.5
baz=236
M04C Macdoel 73.95 37 P 18 13 50.1
baz=231
L04D Klamath Falls 73.95 37 P 18 13 49.8
baz=231
YSS Yuzh-Sakhalins 73.97 330 *ceP* **P** **18 13 48.1 +1.8**
YSS *e* 18 16 29.1
YSS *eS* **S** **18 23 22.1 +3.6**
YSS *ePS* **PnS** **18 23 59.7 +8.0**
YSS *eSS* **SS** **18 27 59.0 -4.6**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS pmax pmax
comp=Z,1.0nm,6.5s
YSS Yuzh-Sakhalins 73.97 330 P **P** **18 13 46.2 -0.1**
YSS IAmb IAmb 18 13 49.2
comp=Z,56nm,1.1s
YSS IAMs_20 IAMs_20 18 41 18.5
comp=Z,2µm,20.0s
SHOC Shoshone, Teco 74.00 45 P 18 13 51.3
baz=237,SNR=6.5
RYN Ryan 74.07 41 P **P** **18 13 48.0 +0.8**
RYN IAmb IAmb 18 13 56.5
comp=Z,38nm,1.4s
NVAR Mina Array Bea 74.09 42 P **P** **18 13 49.7 +2.2**
comp=Z,6.9nm,0.8s,baz=229,slow=9.6,SNR=25
NVAR LR LR 18 41 03.7
comp=Z,2µm,19.0s,baz=232,slow=31
NVAR Mina Array Bea 74.09 42 P **P** **18 13 49.2 +1.7**
PAHR Pah Rah Range 74.16 40 P **P** **18 13 46.8 -1.0**
NV11 Mina Array Sit 74.19 42 P **P** **18 13 49.5 +1.5**
NV11 IAmb IAmb 18 13 58.5
comp=Z,48nm,1.2s
I03D Drain, OR 74.31 35 P 18 13 53.5
baz=229
HSIG 74.38 53 P **P** **18 13 50.1 +1.0**
214A Organ Pipe Nat 74.39 50 P 18 13 54.0
baz=240
214A Organ Pipe Nat 74.39 50 P **P** **18 13 49.9 +0.7**
214A IAmb IAmb 18 13 57.6
comp=Z,39nm,1.5s
QSPA South Pole Qui 74.42 180 P **P** **18 13 51.0 +2.1**
KVN Kaiserville 74.58 41 P **P** **18 13 48.5 -1.8**
KVN pmax pmax
comp=Z,32nm,1.2s
KVN Kaiserville 74.58 41 P **P** **18 13 48.5 -1.8**

KVN IAmb IAmb 18 14 00.7
comp=Z,32nm,1.2s
TPH Tonopah 74.59 42 P **P** **18 13 50.0 -0.4**
TPH pmax pmax
comp=Z,305nm,1.4s
TPH Tonopah 74.59 42 P **P** **18 13 50.0 -0.4**
TPNV Topopah Spring 74.60 44 P 18 13 53.8
baz=236,SNR=15
TPNV Topopah Spring 74.60 44 P **P** **18 13 51.9 +1.5**
TPNV pmax pmax
comp=Z,32nm,1.4s
TPNV MLR MLR
comp=Z,3µm,20.0s
TPNV Topopah Spring 74.60 44 P **P** **18 13 51.9 +1.5**
TPNV IAMs_20 IAMs_20 18 40 45.0
comp=Z,3µm,20.0s
PDMCI Parker Dam,Lak 74.63 47 P 18 13 54.3
baz=238
J04D Umpqua Nationa 74.71 36 P 18 13 54.1
baz=230
I04A Tendick Farm, 74.90 35 P 18 13 54.4
baz=230
MOD Modoc Plateau 74.92 38 P **P** **18 13 51.6 -0.5**
MOD IAMs_20 IAMs_20 18 40 20.0
comp=Z,2µm,20.0s
KDAK Kodiak Island 75.02 11 P 18 13 53.6
baz=200
KDAK Kodiak Island 75.02 11 P **P** **18 13 52.1 0.0**
comp=Z,13nm,0.9s,baz=337,slow=24,SNR=27
KDAK Kodiak Island 75.02 11‖ *e*P **P** **18 13 53.8 +1.7**
KDAK pmax pmax
comp=Z,41nm,1.4s
KDAK Kodiak Island 75.02 11 P **P** **18 13 52.4 +0.3**
KDAK Kodiak Island 75.02 11 IAMs_20 IAMs_20 18 41 01.1
comp=Z,2µm,20.0s
K05A Summer Lake 75.09 37 P **P** **18 13 53.2 +0.1**
SHPR Sheep Range 75.09 45 P **P** **18 13 52.9 -0.3**
SHPR IAmb IAmb 18 14 04.0
comp=Z,31nm,1.2s
J05D Fort Rock, OR 75.24 36 P 18 13 57.2
baz=231
H04A Detroit Lake 75.59 35 P **P** **18 13 54.7 -1.1**
H04A IAmb IAmb 18 14 00.8
comp=Z,46nm,1.3s
SSLB Suanglung 75.65 300 IAMs_20 IAMs_20 18 43 29.7
comp=Z,2µm,20.0s
PRN Pahroc Range 75.65 44 P **P** **18 13 57.3 +0.8**
PRN IAmb IAmb 18 14 07.2
comp=Z,26nm,1.1s
YHNB Yeheng 75.66 301 IAMs_20 IAMs_20 18 43 30.1
comp=Z,2µm,20.0s
PINE Pine Mountain 75.72 36 P **P** **18 13 57.5 +0.8**
R11A Troy Canyon, C 75.81 43 P 18 14 00.1
baz=237,SNR=17
R11A Troy Canyon, C 75.81 43 P **P** **18 13 58.4 +1.0**
TUC Tucson 76.06 50 P 18 14 01.5
baz=241
E03A Lebam 76.07 33 P **P** **18 13 58.6 +0.3**
TUC Tucson 76.07 50 P **P** **18 13 59.9 +1.1**
TUC Tucson 76.07 50 P **P** **18 13 59.9 +1.1**
TUC IAmb IAmb 18 14 16.1
comp=Z,26nm,1.1s
WVOR Wild Horse Val 76.23 38 P **P** **18 14 01.0 +1.4**
WVOR pmax pmax
comp=Z,25nm,1.2s
WVOR MLR MLR
comp=Z,2µm,18.0s
WVOR Wild Horse Val 76.23 38 P **P** **18 14 00.9 +1.4**
WVOR IAmb IAmb 18 14 15.6
comp=Z,25nm,1.2s
WVOR IAMs_20 IAMs_20 18 43 59.7
comp=Z,2µm,18.0s
SBUM Sibu 76.25 277 P **P** **18 13 58.9 -1.2**
SBUM Sibu 76.25 277 P **P** **18 14 00.0 -0.2**
E04D Cinebar 76.59 33 P 18 14 04.8
baz=230
LCMT Little Creek M 76.66 45 P **P** **18 14 03.2 +1.0**
I07A Izee 76.72 36 P **P** **18 14 03.2 +0.9**
I07A IAmb IAmb 18 14 10.8
comp=Z,50nm,1.5s
KSRS Korea Array 76.74 315 P **P** **18 14 03.2 +0.8**
comp=Z,3.0nm,0.8s,baz=132,slow=6.0,SNR=12
KSRS LR LR 18 41 58.9
comp=Z,1µm,21.9s,baz=112,slow=31
KSAR Wonju Array Be 76.76 315 P **P** **18 14 02.7 +0.2**
KSAR Wonju Array Be 76.76 315 P **P** **18 14 02.7 +0.2**
KS19 Wonju Array Si 76.80 315 P **P** **18 14 01.4 -1.4**
TYV Tymovskoe 76.82 333 *e*P **P** **18 14 02.6 +0.1**
TYV *e* 18 23 50.6
TYV pmax pmax
comp=Z,26nm,1.3s
TYV pmax pmax
comp=Z,800nm,5.2s
CCUT Cedar City 76.86 45 P **P** **18 14 02.6 -0.9**
J08A Circle Bar Ran 76.88 37 P **P** **18 14 03.7 +0.5**
J08A IAmb IAmb 18 14 21.1
comp=Z,48nm,1.3s
CNPM China Poot 76.91 11 IAMs_20 IAMs_20 18 40 25.9
comp=Z,2µm,22.0s
HOM Homer 76.95 11 IAMs_20 IAMs_20 18 41 44.9
comp=Z,2µm,22.0s
KNB Kanab 76.95 45 P **P** **18 14 04.0 +0.1**
KNB pmax pmax
comp=Z,61nm,1.4s
KNB Kanab 76.95 45 P **P** **18 14 04.0 +0.1**
KNB IAmb IAmb 18 14 24.1
comp=Z,61nm,1.4s
D03D Eldon 76.96 32 P 18 14 08.1
baz=229
PSUT Pine Spring 77.05 44 P **P** **18 14 05.5 +1.0**
PSUT IAmb IAmb 18 14 12.8
comp=Z,25nm,1.1s
SZCU Shurtz Canyon 77.07 45 P **P** **18 14 06.3 +1.7**
SZCU IAmb IAmb 18 14 15.1
comp=Z,29nm,1.2s
BRLK Bradley Lake 77.19 11 IAMs_20 IAMs_20 18 42 19.9
comp=Z,2µm,20.0s
WUAZ Wupatki 77.20 47 P 18 14 10.0
baz=240
WUAZ Wupatki 77.20 47 P **P** **18 14 05.0 -0.3**
WUAZ IAmb IAmb 18 14 14.2
comp=Z,38nm,1.4s
D05A Enumclaw 77.31 33 P **P** **18 14 06.2 +0.9**
ELK Elko 77.35 41 P **P** **18 14 06.8 +0.7**
ELK pmax pmax
comp=Z,21nm,1.4s
ELK MLR MLR
comp=Z,2µm,20.0s
ELK Elko 77.35 41 P **P** **18 14 06.8 +0.7**
ELK IAMs_20 IAMs_20 18 41 23.6
comp=Z,2µm,20.0s
RSO Redoubt South 77.52 10 P **P** **18 14 05.4 -1.1**
PKCU Pink Cliffs 77.52 45 P **P** **18 14 05.1 -2.1**
F07A Phinny Hill Vi 77.59 35 P **P** **18 14 05.6 -1.4**
F07A IAmb IAmb 18 14 16.2
comp=Z,42nm,1.5s
INCN Inchon 77.63 315 P **P** **18 14 06.7 -0.7**
INCN pmax pmax
comp=Z,20nm,1.0s
INCN MLR MLR
comp=Z,1µm,20.0s
INCN Inchon 77.63 315 P **P** **18 14 06.7 -0.7**
INCN IAmb IAmb 18 14 21.2
comp=Z,20nm,0.9s
HPIG 77.64 57 P **P** **18 14 07.9 -0.1**
SVW2 Sparrevohn 77.69 8 P **P** **18 14 07.1 -0.1**
G08A Pilot Rock 77.76 36 P **P** **18 14 09.1 +0.9**
G08A IAmb IAmb 18 14 13.4
comp=Z,46nm,1.2s
KSM Kuching 77.81 275 P **P** **18 14 08.3 -0.6**
KSM IAmb IAmb 18 14 20.8
comp=Z,28nm,1.0s
KSM Kuching 77.81 275 P **P** **18 14 09.0 +0.1**
MTPU Mount Pierson 77.92 45 P **P** **18 14 08.9 -0.6**
MTPU IAmb IAmb 18 14 27.2
comp=Z,44nm,1.5s
USA0B Ussuriysk Arra 77.92 323 *ce*P **P** **18 14 10.0 +1.1**
USA0B Ussuriysk Arra 77.92 323 P **P** **18 14 06.8 -2.0**
USA0B IAmb IAmb 18 14 13.1
comp=Z,38nm,1.4s
USRK Ussuriysk Ar. 77.92 323 P **P** **18 14 10.2 +1.3**
comp=Z,8.3nm,1.1s,baz=96,slow=5.7,SNR=19
USRK LR LR 18 42 02.5
comp=Z,3µm,22.0s,baz=122,slow=31
USRK Ussuriysk Ar. 77.92 323 P **P** **18 14 07.2 -1.7**

USRK Ussuriysk Ar. 77.92 323 P **P** **18 14 07.2 -1.7**
B05A Bryant 77.94 32 P 18 14 11.7
baz=230
TCRU Three Creeks R 78.03 44 P **P** **18 14 12.3 +2.3**
TCRU IAmb IAmb 18 14 19.0
comp=Z,48nm,1.5s
LTY Liberty 78.04 33 P **P** **18 14 09.9 +0.3**
LTY IAmb IAmb 18 14 13.8
comp=Z,31nm,1.3s
E07A Sunnyside 78.04 34 P **P** **18 14 09.7 +0.1**
E07A IAmb IAmb 18 14 14.9
comp=Z,40nm,1.1s
KNMB Chin-men Tao 78.06 300 IAMs_20 IAMs_20 18 45 02.8
comp=Z,2µm,20.0s
O22K Cooper Landing 78.08 11 P 18 14 14.6
baz=203
QZH Quanzhou 78.08 300⇑ *i*P **P** **18 14 10.8 +0.6**
QZH *e*S **S** **18 24 02.5 -2.2**
QZH pmax pmax
comp=Z,750nm,8.8s
QZH LR LR
comp=Z,410nm,17.1s
QZH LR LR
comp=Z,470nm,18.0s
QZH LR LR
comp=Z,1µm,25.1s
HAWA Hanford 78.11 35 P **P** **18 14 10.1 +0.2**
HAWA IAmb IAmb 18 14 15.2
comp=Z,36nm,1.1s
MSU Marysvale 78.16 44 P **P** **18 14 12.6 +1.9**
MSU Marysvale 78.16 44 **P** **18 14 12.6 +1.9**
W18A Petrified Fore 78.18 48 P **P** **18 14 13.0 +2.2**
W18A IAmb IAmb 18 14 29.2
comp=Z,33nm,1.2s
LEM Lembang 78.22 266 LR LR 18 49 12.5
comp=Z,2µm,19.7s,baz=117,slow=36
LEM Lembang 78.22 266 P P 18 14 20.1 +8.7
SPCR Spurr Chakacha 78.30 10 P 18 14 11.1
baz=200
121A Cookes Peak, D 78.41 51 P **P** **18 14 12.0 -0.1**
121A IAmb IAmb 18 14 21.2
comp=Z,52nm,1.4s
121A Cookes Peak, D 78.41 51 P 18 14 15.7
baz=243
B06A Marblemount 78.42 32 P **P** **18 14 10.8 -0.7**
B06A IAmb IAmb 18 14 19.4
comp=Z,33nm,1.4s
A05A Maple Falls 78.43 31 P **P** **18 14 12.5 +0.9**
E08A Dider Farm, El 78.44 35 P **P** **18 14 11.5 -0.2**
E08A IAmb IAmb 18 14 16.9
comp=Z,45nm,1.2s
BMO Blue Mountains 78.44 37 P **P** **18 14 11.9 0.0**
BMO pmax pmax
comp=Z,33nm,1.3s
BMO MLR MLR
comp=Z,2µm,18.0s
BMO Blue Mountains 78.44 37 P **P** **18 14 11.9 0.0**
BMO IAmb IAmb 18 14 16.9
comp=Z,33nm,1.3s
BMO IAMs_20 IAMs_20 18 50 41.0
comp=Z,2µm,18.0s
MFID Camas Ranch 78.48 39 P **P** **18 14 12.6 +0.4**
MFID IAmb IAmb 18 14 20.3
comp=Z,37nm,1.3s
SSE Sheshan 78.57 307 P **P** **18 14 14.0 +1.2**
SSE S **S** **18 24 15.5 +5.8**
SSE pmax pmax
comp=Z,13nm,0.8s
SSE pmax pmax
comp=Z,370nm,10.0s
SSE LR LR
comp=Z,170nm,18.8s
SSE LR LR
comp=Z,400nm,21.0s
ZAIG Zacatecas 78.57 62 P **P** **18 14 15.4 +2.1**
ZAIG IAmb IAmb 18 14 23.3
comp=Z,32nm,1.3s
DUG Dugway, Tooele 78.61 43 P **P** **18 14 12.5 -0.5**
DUG pmax pmax
comp=Z,28nm,1.3s
DUG MLR MLR
comp=Z,1µm,20.0s
DUG Dugway, Tooele 78.61 43 P **P** **18 14 12.5 -0.5**
DUG Duway, Tooele 78.61 43 P 18 14 16.8
baz=238,SNR=12
RC01 Rabbit Creek A 78.64 11 P 18 14 13.8
baz=203
RC01 Rabbit Creek A 78.64 11 P **P** **18 14 10.2 -2.3**
SUA Susitna One 78.80 11 P 18 14 14.3
baz=202,SNR=7.4
SUA Susitna One 78.80 11 P **P** **18 14 13.2 -0.4**
SUA IAmb IAmb 18 14 35.6
comp=Z,41nm,1.0s
SUA IAMs_20 IAMs_20 18 41 53.0
comp=Z,2µm,21.0s
D08A Wollman Farm, 78.86 34 P **P** **18 14 13.9 -0.1**
D08A IAmb IAmb 18 14 19.3
comp=Z,49nm,1.2s
BGU Big Grassy Mou 78.86 42 P **P** **18 14 13.2 -1.2**
GLI Glacier Island 78.97 12 IAMs_20 IAMs_20 18 40 47.3
comp=Z,2µm,20.0s
NLU North Lily Min 78.97 43 P **P** **18 14 14.3 -0.8**
FID Port Fidalgo 78.98 13 IAMs_20 IAMs_20 18 43 11.5
comp=Z,2µm,20.0s
EPT El Paso 79.05 53 IAMs_20 IAMs_20 18 46 28.6
comp=Z,2µm,18.0s
Q16A Castle Valley 79.05 44 P **P** **18 14 15.6 +0.1**
Q16A IAmb IAmb 18 14 32.0
comp=Z,35nm,1.3s
F10A Beach Ranch, E 79.14 36 P **P** **18 14 16.0 +0.2**
F10A IAmb IAmb 18 14 23.5
comp=Z,68nm,1.4s
GAMB Gambell 79.15 0 P 18 14 17.2
baz=181
GAMB Gambell 79.15 0 P **P** **18 14 15.7 +0.6**
GAMB IAmb IAmb 18 14 27.5
comp=Z,27nm,1.1s
SKT Skwentna 79.15 10 P 18 14 15.4
baz=201,SNR=9.0
SKT Skwentna 79.15 10 P **P** **18 14 14.9 -0.4**
SKT IAmb IAmb 18 14 18.5
comp=Z,30nm,1.2s
SKT IAMs_20 IAMs_20 18 42 46.2
comp=Z,2µm,20.0s
KNK Knik Glacier 79.18 12 P 18 14 16.2
baz=204
KNK Knik Glacier 79.18 12 P **P** **18 14 16.0 +0.5**
KNK IAmb IAmb 18 14 33.0
comp=Z,61nm,1.5s
PMR Palmer 79.22 11 P 18 14 16.6
baz=203
PMR Palmer 79.22 11 P **P** **18 14 15.6 0.0**
PMR pmax pmax
comp=Z,79nm,1.5s
PMR Palmer 79.22 11 P **P** **18 14 15.6 0.0**
PMR IAmb IAmb 18 14 28.9
comp=Z,79nm,1.5s
MPU Maple Canyon 79.30 43 P **P** **18 14 17.0 +0.1**
NKL Nikolayevsk 79.31 334 *e*P **P** **18 14 15.2 -1.1**
NKL *e*S **SPn** **18 24 52.9 -5.5**
HLID Hailey 79.42 39 P 18 14 19.8
baz=236,SNR=32
HLID Hailey 79.42 39 P **P** **18 14 17.0 -0.4**
HLID IAmb IAmb 18 14 26.0
comp=Z,45nm,1.2s
GHO Glory Hole Cre 79.42 11 P **P** **18 14 16.8 -0.1**
B08A Colville Reser 79.43 33 P **P** **18 14 16.8 -0.4**
SPUT South Promonto 79.43 42 P **P** **18 14 18.6 +1.1**
HVU Hansel Valley 79.47 41 P **P** **18 14 18.8 +1.1**
HVU pmax pmax
comp=Z,58nm,1.4s
HVU Hansel Valley 79.47 41 P **P** **18 14 18.8 +1.1**
HVU IAmb IAmb 18 14 26.9
comp=Z,58nm,1.4s
CTU Camp Tracy 79.57 43 P **P** **18 14 18.7 +0.4**
MDJ Mudanjiang 79.57 322 P **P** **18 14 18.5 +0.6**
MDJ pP pwP 18 14 23.3 -1.1
MDJ sP PcP 18 14 26.3 +0.5
MDJ pmax pmax
comp=Z,27nm,2.2s
MDJ pmax pmax
comp=Z,1µm,9.3s
MDJ LR LR
comp=Z,2µm,19.1s
MDJ LR LR
comp=Z,3µm,22.5s

MDJ LR LR
comp=Z,5µm,22.7s
MDJ Mudanjiang 79.57 322 P **P** **18 14 17.6 -0.3**
MDJ IAmb IAmb 18 14 22.2
comp=Z,35nm,1.3s
SML Sawmill 79.57 12 P **P** **18 14 18.4 +0.8**
SRU San Rafael Swe 79.58 44 P **P** **18 14 18.1 -0.3**
SRU pmax pmax
comp=Z,36nm,1.2s
SRU San Rafael Swe 79.58 44 P **P** **18 14 18.1 -0.3**
SRU IAmb IAmb 18 14 28.5
comp=Z,36nm,1.2s
BMRM Bremner River 79.59 14 P 18 14 19.1
baz=208
BMRM Bremner River 79.59 14 P **P** **18 14 18.5 +0.8**
BMRM IAMs_20 IAMs_20 18 48 05.8
comp=Z,2µm,18.0s
P17A Butcher Ranch, 79.61 44 P **P** **18 14 20.3 +1.8**
P17A IAmb IAmb 18 14 29.0
comp=Z,63nm,1.4s
GRNR Gornyy 79.63 330⇑ *i*P **P** **18 14 19.3 +1.1**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
C09A Chrisman Ranch 79.66 34 P **P** **18 14 18.3 -0.1**
C09A IAmb IAmb 18 14 27.3
comp=Z,62nm,1.4s
JLU Jordanelle 79.72 43 P **P** **18 14 17.7 -1.5**
JLU IAmb IAmb 18 14 28.3
comp=Z,50nm,1.5s
CRQM Cirque 79.74 14 P **P** **18 14 18.6 -0.2**
CRQM IAmb IAmb 18 14 43.8
comp=Z,68nm,1.2s
CRQM IAMs_20 IAMs_20 18 43 13.1
comp=Z,2µm,20.0s
CRQE Cirque 79.75 14 P 18 14 20.2
baz=209
LENM Lemitar 79.75 50 P **P** **18 14 20.1 +0.6**
CUT Chulitna 79.76 10 P 18 14 19.6
baz=202,SNR=7.9
CUT Chulitna 79.76 10 P **P** **18 14 19.0 +0.4**
CUT IAMs_20 IAMs_20 18 43 57.3
comp=Z,2µm,20.0s
KLU Klutina 79.77 13 P 18 14 19.7
baz=206
KLU Klutina 79.77 13 P **P** **18 14 18.6 -0.1**
KLU IAmb IAmb 18 14 41.0
comp=Z,62nm,1.4s
KLU IAMs_20 IAMs_20 18 42 17.5
comp=Z,2µm,21.0s
SCM Sheep Creek Mo 79.79 12 P **P** **18 14 19.6 +0.8**
SCM pmax pmax
comp=Z,92nm,1.4s
SCM MLR MLR
comp=Z,1µm,20.0s
SCM Sheep Creek Mo 79.79 12 P **P** **18 14 19.6 +0.8**
MNTX Cornudas Mount 79.88 53 P **P** **18 14 21.0 +1.0**
MNTX IAmb IAmb 18 14 28.6
comp=Z,79nm,1.5s
MNTX IAMs_20 IAMs_20 18 43 50.6
comp=Z,2µm,18.0s
MNTX Cornudas Mount 79.88 53 P 18 14 23.1
baz=245
PPLA Purkeypile 79.90 9 P 18 14 19.4
baz=200
BCPM Bancas Point 79.94 16 IAMs_20 IAMs_20 18 43 35.2
comp=Z,2µm,19.0s
TCUT Toone Canyon 80.01 42 P **P** **18 14 21.5 +0.8**
MVCO Mesa Verde 80.05 47 P 18 14 23.6
baz=242
MVCO Mesa Verde 80.05 47 IAMs_20 IAMs_20 18 43 41.7
comp=Z,2µm,19.0s
VRDI Verde Repeater 80.08 14 IAMs_20 IAMs_20 18 48 19.9
comp=Z,2µm,19.0s
ANM Nome 80.14 3 P 18 14 22.8
baz=187
ANM Nome 80.14 3 P **P** **18 14 20.1 -0.5**
ANM pmax pmax
comp=Z,12nm,1.0s
ANM MLR MLR
comp=Z,2µm,21.0s
ANM Nome 80.14 3 P **P** **18 14 20.1 -0.5**
ANM IAMs_20 IAMs_20 18 44 54.7
comp=Z,2µm,21.0s
HWUT Hardware Ranch 80.16 42 IAMs_20 IAMs_20 18 43 03.9
comp=Z,2µm,20.0s
N25K Chitina, Valde 80.16 13 P 18 14 21.9
baz=208,SNR=8.3
N25K Chitina, Valde 80.16 13 P **P** **18 14 21.0 +0.1**
N25K IAmb IAmb 18 14 27.4
comp=Z,47nm,1.2s
GLB Gilahina Butte 80.19 14 P **P** **18 14 21.0 0.0**
GLB IAmb IAmb 18 14 40.2
comp=Z,63nm,1.5s
TX32 Lajitas Array 80.24 56 P **P** **18 14 21.4 -0.6**
TX32 IAmb IAmb 18 14 32.7
comp=Z,67nm,1.4s
TXAR Lajitas Array 80.24 56 P **P** **18 14 24.9 +2.8**
comp=Z,9.2nm,1.0s,baz=225,slow=5.1,SNR=34
TXAR LR LR 18 43 54.8
comp=Z,2µm,19.3s,baz=0.0,slow=31
M24K Tolsona, Glenn 80.27 12 P 18 14 23.1
baz=206
M24K Tolsona, Glenn 80.27 12 P **P** **18 14 21.7 +0.3**
M24K IAMs_20 IAMs_20 18 42 43.9
comp=Z,2µm,20.0s
UNM Universidad Na 80.28 67 IAMs_20 IAMs_20 18 43 16.5
comp=Z,2µm,19.0s
MCARA McCarthy VSAT 80.32 14 P 18 14 23.1
baz=209
LOGN Logan Glacier 80.32 15 P **P** **18 14 20.7 -1.1**
LOGN IAmb IAmb 18 14 40.4
comp=Z,66nm,1.4s
LOGN IAMs_20 IAMs_20 18 43 21.3
comp=Z,2µm,20.0s
CTG Chitna Glacier 80.36 15 P 18 14 23.2
baz=211
PV02 Paradox Valley 80.36 46 P **P** **18 14 23.1 +0.4**
PV02 IAmb IAmb 18 14 31.1
comp=Z,77nm,1.4s
BARN Barnard Glacie 80.36 15 P **P** **18 14 23.0 +0.8**
BARN IAmb IAmb 18 14 26.6
comp=Z,68nm,1.2s
BARN IAMs_20 IAMs_20 18 48 44.4
comp=Z,2µm,18.0s
WAT6 Susitna Watana 80.39 11 P 18 14 23.2
baz=204,SNR=9.8
BCYI Bear Canyon 80.44 39 P **P** **18 14 21.9 -1.1**
ANMO Albuquerque 80.48 50 P 18 14 26.4
baz=243
ANMO Albuquerque 80.48 50 *c i*P **P** **18 14 25.3 +1.9**
ANMO pmax pmax
comp=Z,45nm,1.7s
NEW Newport 80.55 34 P 18 14 24.7
baz=234
NEW Newport 80.55 34 P **P** **18 14 25.9 +2.6**
comp=Z,6.5nm,0.9s,baz=180,slow=3.0
NEW Newport 80.55 34 IAMs_20 IAMs_20 18 52 04.6
comp=Z,2µm,18.0s
MA2 Magadan 80.56 342 LR LR 18 45 36.0
comp=Z,1µm,20.1s,baz=139,slow=32
MA2 Magadan 80.56 342 *ce*P **P** **18 14 23.4 +0.5**
MA2 pmax pmax
comp=Z,29nm,1.7s
MA2 Magadan 80.56 342 P **P** **18 14 22.8 -0.1**
WAT2 Susitna Watana 80.58 11 P 18 14 24.2
baz=204
PV15 Paradox Valley 80.60 46 P **P** **18 14 23.6 -0.4**
PV15 IAmb IAmb 18 14 34.5
comp=Z,40nm,1.2s
KTH Kantishna Hill 80.72 10 P **P** **18 14 23.5 -0.4**
KTH IAmb IAmb 18 14 37.3
comp=Z,42nm,1.2s
KTH IAMs_20 IAMs_20 18 43 04.6
comp=Z,3µm,22.0s
TRF Thorofare Moun 80.73 10 P 18 14 24.4
baz=202,SNR=18
TRF Thorofare Moun 80.73 10 P **P** **18 14 24.1 0.0**
TRF IAmb IAmb 18 14 28.9
comp=Z,52nm,1.1s
SKAG Skagway 80.76 18 P 18 14 26.1
baz=216
NJ2 Nanjing 80.78 307 *e*P **P** **18 14 25.3 +0.6**
NJ2 pP **sP** **18 14 28.0 +0.4**
NJ2 sP **PcP** **18 14 32.0 +0.6**
NJ2 S **S** **18 24 38.5 +5.4**
NJ2 sS **SKKSac** **18 24 49.0 +3.0**

NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,1µm,9.0s
NJ2 LR LR
comp=Z,420nm,22.8s
NJ2 LR LR
comp=Z,790nm,24.6s
NJ2 LR LR
comp=Z,1µm,24.0s
RND Reindeer 80.94 11 P **P** 18 14 25.0 0.0
RND pmax pmax
comp=Z,82nm,1.3s
RND MLR MLR
comp=Z,2µm,20.0s
RND Reindeer 80.94 11 P **P** 18 14 25.0 0.0
RND IAMs_20 IAMs_20 18 44 53.3
comp=Z,2µm,20.0s
TNA Tin City 81.02 2 P 18 14 27.1
baz=185
TNA Tin City 81.02 2 P **P** 18 14 26.1 +0.8
TNA IAmb IAmb 18 14 33.2
comp=Z,73nm,1.5s
KLR Kul'dur 81.03 327 P **P** 18 14 26.4 +0.7
comp=Z,3.2nm,0.9s,baz=122,slow=5.3,SNR=11
KLR Kul'dur 81.03 327⇑ *e*P **P** 18 14 26.8 +1.1
KLR pmax pmax
comp=Z,30nm,1.9s
PAX Paxson 81.19 12 P 18 14 26.9
baz=207,SNR=11
BPAW Bear Paw Mtn. 81.22 9 P 18 14 26.5
baz=201,SNR=5.2
BPAW Bear Paw Mtn. 81.23 9 P **P** 18 14 25.8 -0.7
BPAW IAMs_20 IAMs_20 18 43 51.0
comp=Z,2µm,21.0s
MCK McKinley 81.23 10 P 18 14 27.4
baz=203,SNR=25
MCK McKinley 81.23 10 P **P** 18 14 26.4 -0.1
MCK pmax pmax
comp=Z,71nm,1.1s
MCK MLR MLR
comp=Z,2µm,22.0s
MCK McKinley 81.23 10 P **P** 18 14 26.4 -0.1
MCK IAMs_20 IAMs_20 18 42 56.1
comp=Z,2µm,22.0s
S22A 4UR Ranch, Cre 81.48 47 P 18 14 31.7
baz=243
MSO Missoula 81.50 36 P 18 14 29.9
baz=236,SNR=16
MSO Missoula 81.50 36 P **P** 18 14 28.0 -0.4
MSO IAmb IAmb 18 14 32.9
comp=Z,46nm,1.2s
MSO IAMs_20 IAMs_20 18 43 26.8
comp=Z,2µm,21.0s
BWN Browne 81.54 10 P **P** 18 14 28.2 +0.1
O20A White River Ci 81.62 44 P 18 14 31.9
baz=242
CN2 Changchun 81.64 320 *e*P **P** 18 14 30.0 +0.9
CN2 sP pwP 18 14 40.5 +5.0
CN2 PP **PP** 18 17 36.5 +0.5
CN2 *e*S **S** 18 24 41.0 -0.6
CN2 sS SKKSac 18 24 50.8 -1.2
CN2 pmax pmax
comp=Z,30nm,1.8s
CN2 pmax pmax
comp=Z,930nm,8.3s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,1µm,20.0s
CN2 LR LR
comp=Z,2µm,20.0s
DLBC Dease Lake 81.69 21 P **P** 18 14 30.4 +1.3
comp=Z,6.3nm,0.9s,baz=223,slow=7.1,SNR=6.4
DLBC Dease Lake 81.69 21 P **P** 18 14 27.7 -1.4
DLBC IAmb IAmb 18 14 48.3
comp=Z,33nm,1.4s
DL2 Dalian 81.76 314⇑ *i*P **P** 18 14 31.3 +1.5
DL2 S **SKSac** 18 24 47.5 -2.6
DL2 pmax pmax
comp=Z,49nm,1.2s
DL2 pmax pmax
comp=Z,1µm,6.9s
DL2 LR LR
comp=Z,920nm,21.9s
DL2 LR LR
comp=Z,730nm,23.3s
DL2 LR LR
comp=Z,1µm,23.0s
JTMT Jette 81.82 36 P **P** 18 14 28.5 -1.6
GZH Guangzhou 81.83 297 P **P** 18 14 31.3 +0.7
GZH S **S** 18 24 45.0 +0.6
GZH pmax pmax
comp=Z,1µm,9.2s
GZH LR LR
comp=Z,710nm,21.0s
GZH LR LR
comp=Z,930nm,18.5s
SNY Shenyang 81.84 317⇑ P **P** 18 14 33.3 +3.1
SNY S **SKSac** 18 24 50.0 -0.5
SNY pmax pmax
comp=Z,32nm,1.7s
SNY pmax pmax
comp=Z,940nm,8.6s
SNY LR LR
comp=Z,710nm,16.5s
SNY LR LR
comp=Z,900nm,18.2s
SNY LR LR
comp=Z,1µm,18.8s
PMBI Palembang 81.95 269 IAMs_20 IAMs_20 18 49 21.3
comp=Z,2µm,20.0s
FLWY Flagg Ranch 81.97 40 P **P** 18 14 30.6 -0.5
NEA2 Nenana 82.00 10 P 18 14 31.1
baz=203,SNR=13
NEA2 Nenana 82.00 10 P **P** 18 14 29.1 -1.4
NEA2 IAmb IAmb 18 14 33.5
comp=Z,21nm,1.0s
BW06 Boulder Array 82.03 42 P 18 14 33.0
baz=240
BW06 Boulder Array 82.03 42 IAMs_20 IAMs_20 18 45 25.4
comp=Z,2µm,20.0s
PD31 Pinedale Array 82.03 42 P **P** 18 14 31.1 -0.4
PD31 IAmb IAmb 18 14 46.8
comp=Z,38nm,1.5s
PDAR Pinedale Array 82.03 42 P **P** 18 14 32.9 +1.4
comp=Z,6.4nm,1.0s,baz=222,slow=2.0,SNR=22
PDAR LR LR 18 46 23.8
comp=Z,2µm,18.3s,baz=244,slow=32
PDAR Pinedale Array 82.03 42 P **P** 18 14 30.9 -0.6
SMCO Snowmass 82.03 46 IAMs_20 IAMs_20 18 46 04.0
comp=Z,1µm,18.0s
WRH Wood River Hil 82.06 11 P **P** 18 14 30.6 -0.2
WRH IAMs_20 IAMs_20 18 43 56.0
comp=Z,2µm,21.0s
DOT Dot Lake 82.09 13 P **P** 18 14 31.6 +0.5
DOT IAmb IAmb 18 14 35.4
comp=Z,52nm,1.2s
MLY Manley 82.14 9 P 18 14 31.5
baz=201,SNR=25
MLY Manley 82.14 9 P **P** 18 14 30.9 -0.4
MLY IAmb IAmb 18 14 34.9
comp=Z,23nm,1.0s
BOZ Bozeman (W) 82.19 38 P 18 14 34.1
baz=238,SNR=23
HDA Harding Lake 82.20 11 P 18 14 32.3
baz=205,SNR=27
HDA P 18 14 32.3
baz=205,SNR=27
CCB Clear Creek Bu 82.27 11 P **P** 18 14 31.9 0.0
SCRK Sand Creek 82.39 12 P 18 14 34.0
baz=208,SNR=22
SCRK Sand Creek 82.39 12 P **P** 18 14 32.9 +0.2
SCRK IAmb IAmb 18 14 36.5
comp=Z,33nm,1.2s
I23K Minto, Yukon-K 82.46 10 P 18 14 33.9
baz=203,SNR=21
TCOL CIGO, UAF Yank 82.46 10 P 18 14 33.9
baz=204,SNR=13
I23K Minto, Yukon-K 82.47 10 P **P** 18 14 32.8 -0.1
I23K IAmb IAmb 18 14 36.3
comp=Z,41nm,1.1s
I23K IAMs_20 IAMs_20 18 46 10.6
comp=Z,3µm,20.0s
TCOL CIGO, UAF Yank 82.47 10 P **P** 18 14 32.9 0.0
TCOL IAMs_20 IAMs_20 18 45 10.6
comp=Z,2µm,20.0s

COLA College 82.47 10 P 18 14 34.0
baz=204
COLA College 82.47 10 *c*iP **P** 18 14 33.5 +0.6
COLA pmax pmax
comp=Z,43nm,1.0s
COLA College 82.47 10 P **P** 18 14 32.8 -0.1
COLA College 82.47 10 IAMs_20 IAMs_20 18 45 10.8
comp=Z,2µm,20.0s
MDM Murphy Dome 82.48 10 P **P** 18 14 33.1 0.0
MDM IAMs_20 IAMs_20 18 45 42.0
comp=Z,2µm,20.0s
IL31 82.55 11 P **P** 18 14 32.3 -1.0
IL31 IAmb IAmb 18 14 39.4
comp=Z,41nm,1.3s
ILAR Eielson Array 82.55 11 P **P** 18 14 33.9 +0.5
comp=Z,4.5nm,0.8s,baz=212,slow=5.8,SNR=30
ILAR LR LR 18 47 58.4
comp=Z,1µm,19.0s,baz=212,slow=33
ILAR Eielson Array 82.55 11 P **P** 18 14 33.2 -0.2
ILAR Eielson Array 82.55 11 P **P** 18 14 33.1 -0.2
HRY Holter Researc 82.66 37 P **P** 18 14 35.6 +1.1
POKR Poker Plat Res 82.76 11 P 18 14 35.6
baz=205,SNR=17
POKR Poker Plat Res 82.76 11 P **P** 18 14 34.2 -0.3
POKR IAMs_20 IAMs_20 18 46 00.5
comp=Z,2µm,20.0s
MSTX Muleshoe 82.82 52 P 18 14 39.1
baz=246
MSTX Muleshoe 82.82 52 P **P** 18 14 36.3 +0.6
K27K Chicken 82.85 13 P 18 14 37.1
baz=210
K27K Chicken 82.85 13 P **P** 18 14 35.2 +0.2
K27K IAmb IAmb 18 14 40.1
comp=Z,43nm,1.4s
K27K IAMs_20 IAMs_20 18 49 28.1
comp=Z,2µm,19.0s
SEY Seymchan 82.89 345⇑ *e*P **P** 18 14 35.9 +0.7
T25A Trinidad 82.93 48 P **P** 18 14 35.2 -1.1
T25A IAmb IAmb 18 14 41.5
comp=Z,22nm,1.1s
T25A Trinidad 82.93 48 P 18 14 38.4
baz=244
RWWY Rawlins 83.04 43 P **P** 18 14 35.5 -1.3
Q24A Divide 83.20 47 P 18 14 40.5
baz=244
ISCO Idaho Springs 83.25 46 P 18 14 40.3
baz=243
RLMT Red Lodge 83.38 40 P 18 14 40.8
baz=240,SNR=25
CMIG Matias Romero 83.39 70 P **P** 18 14 41.5 +2.7
comp=Z,0.9nm,0.3s,baz=217,slow=20,SNR=1.7
PRP Porcupine Dome 83.47 11 P 18 14 39.4
baz=206,SNR=38
PRP Porcupine Dome 83.47 11 P **P** 18 14 38.5 +0.2
DAWY Dawson 83.49 14 P **P** 18 14 38.5 +0.2
N23A Red Feather La 83.52 45 P 18 14 41.6
baz=243
QIZ Qiongzhong 83.55 292 P **P** 18 14 40.0 +0.4
QIZ PP **PP** 18 17 51.8 -0.4
QIZ S **S** 18 25 03.0 +0.9
QIZ pmax pmax
comp=Z,730nm,12.4s
QIZ LR LR
comp=Z,530nm,23.5s
QIZ LR LR
comp=Z,790nm,22.6s
QIZ LR LR
comp=Z,1µm,24.5s
BELA Belgrano 2 83.69 172 P **P** 18 14 40.5 +1.1
BELA IAmb IAmb 18 14 46.8
comp=Z,28nm,1.2s
EGAK Eagle 83.70 13 P 18 14 40.7
baz=211,SNR=13
EGAK Eagle 83.70 13 P **P** 18 14 39.4 +0.1
EGAK IAmb IAmb 18 14 43.3
comp=Z,33nm,1.2s
EGAK IAMs_20 IAMs_20 18 46 32.4
comp=Z,2µm,20.0s
WHN Wuhan 83.71 304 ⇑P **P** 18 14 40.0 -0.2
WHN S **SKKSac** 18 25 08.0 -0.2
WHN pmax pmax
comp=Z,1µm,9.9s
WHN LR LR
comp=Z,740nm,13.9s
WHN LR LR
comp=Z,1µm,14.0s
WHN LR LR
comp=Z,3µm,19.1s
PMSA Palmer Station 83.73 156 IAMs_20 IAMs_20 18 42 14.9
comp=Z,2µm,20.0s
RDOG Red Dog Mine 83.75 4 IAMs_20 IAMs_20 18 46 07.2
comp=Z,1µm,20.0s
JCT Junction City 83.77 56 IAMs_20 IAMs_20 18 46 15.5
comp=Z,2µm,19.0s
TIA Tai'an 83.81 310 P **P** 18 14 41.5 +0.9
TIA S **SKKSac** 18 25 09.0 +0.3
TIA pmax pmax
comp=Z,10.0nm,1.4s
TIA pmax pmax
comp=Z,840nm,6.5s
TIA LR LR
comp=Z,610nm,20.1s
TIA LR LR
comp=Z,950nm,20.6s
TIA LR LR
comp=Z,1µm,19.2s
K22A Casper 83.94 43 P 18 14 43.0
baz=242
AMTX Amarillo 84.01 51 P 18 14 44.0
baz=246
AMTX Amarillo 84.01 51 P **P** 18 14 40.5 -1.2
COLD Coldfoot 84.27 9 P 18 14 44.2
baz=202,SNR=21
COLD Coldfoot 84.27 9 P **P** 18 14 42.0 -0.2
EGMT Eagleton 84.54 37 IAMs_20 IAMs_20 18 46 45.5
comp=Z,2µm,20.0s
EGMT Eagleton 84.54 37 P 18 14 46.0
baz=240,SNR=19
ABTX Abilene, Hawle 84.70 54 P 18 14 47.7
baz=248
BILL Bilibino 84.81 352 *d*iP **P** 18 14 44.8 -0.1
BILL *i* 18 14 50.8
BILL *i* 18 18 00.6
BILL *i*S **SKSac** 18 25 07.1 -1.8
BILL pmax pmax
comp=Z,11nm,1.1s
BILL MLR MLR
comp=Z,362nm,17.0s
BILL Bilibino 84.81 352 IAMs_20 IAMs_20 18 45 34.7
comp=Z,2µm,21.0s
435B Jarrell 85.66 57 IAMs_20 IAMs_20 18 46 25.6
comp=Z,2µm,20.0s
TOLK Toolik Lake Re 85.67 8 P 18 14 50.8
baz=202
ZEA Zeya 85.92 329 *e*P **P** 18 14 51.7 +1.0
ZEA *e* 18 25 16.7
ZEA *e*S **S** 18 25 27.2 +2.9
ZEA *e* 18 26 27.2
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA pmax pmax
comp=E,100nm,9.1s
ZEA pmax pmax
comp=N,100nm,5.6s
ZEA pmax pmax
comp=Z,500nm,10.7s
ZEA smax smax
comp=E,300nm,8.3s
ZEA smax smax
comp=N,600nm,14.2s
JRMM Jerantut 85.99 275 P **P** 18 14 53.0 +1.0
LAO LASA Array 86.00 39 P 18 14 53.8
baz=242
EPYK Eagle Plains 86.04 14 P 18 14 52.4
baz=215,SNR=15
EPYK Eagle Plains 86.04 14 P **P** 18 14 50.9 -0.2
BJT Baijiatuau 86.05 313 P **P** 18 14 50.4 -1.4
BJT pmax pmax
comp=Z,39nm,1.3s
BJT MLR MLR
comp=Z,1µm,22.0s
BJT Baijiatuau 86.05 313 P **P** 18 14 50.4 -1.4
BJT IAmb IAmb 18 15 00.3
comp=Z,39nm,1.3s

BJI Beijing 86.06 313 P **P** 18 14 53.3 +1.6
BJI S **S** 18 25 29.3 +3.1
BJI pmax pmax
comp=Z,23nm,1.4s
BJI pmax pmax
comp=Z,850nm,8.1s
BJI LR LR
comp=Z,550nm,16.9s
BJI LR LR
comp=Z,590nm,14.9s
WMOK Wichita Mounta 86.16 53 P 18 14 54.2
baz=248
WMOK Wichita Mounta 86.16 53 P **P** 18 14 51.2 -1.3
WMOK pmax pmax
comp=Z,28nm,1.3s
WMOK MLR MLR
comp=Z,1µm,20.0s
WMOK Wichita Mounta 86.16 53 P **P** 18 14 51.2 -1.3
WMOK IAmb IAmb 18 15 01.4
comp=Z,28nm,1.3s
WHTX Lake Whitney, 86.19 55 P 18 14 54.8
baz=249
RSSD Black Hills 86.22 42 P 18 14 54.2
baz=244
RSSD Black Hills 86.22 42 P **P** 18 14 50.6 -2.2
RSSD pmax pmax
comp=Z,38nm,1.4s
RSSD MLR MLR
comp=Z,1µm,18.0s
RSSD Black Hills 86.22 42 P **P** 18 14 50.6 -2.2
RSSD IAmb IAmb 18 15 02.0
comp=Z,38nm,1.4s
U32A Winter Ranch, 86.60 51 IAMs_20 IAMs_20 18 48 46.7
comp=Z,2µm,18.0s
HKT Hockley 86.79 58⇑ *e*P **P** 18 14 56.6 +1.1
HKT pmax pmax
comp=Z,12nm,1.3s
HKT Hockley 86.79 58 IAMs_20 IAMs_20 18 51 02.6
comp=Z,2µm,18.0s
OK032 Salt Plains WL 87.35 51 IAMs_20 IAMs_20 18 46 32.5
comp=Z,2µm,22.0s
A21K Barrow 87.43 5 IAMs_20 IAMs_20 18 48 27.5
comp=Z,2µm,21.0s
237A Washetta, Mont 87.51 56 IAMs_20 IAMs_20 18 49 18.5
comp=Z,2µm,19.0s
IPM Ipoh 87.54 275 P **P** 18 14 57.0 -2.7
OK025 Westminster Rd 87.57 52 IAMs_20 IAMs_20 18 52 09.4
comp=Z,2µm,18.0s
SNET Serv Nac Est T 87.57 75 IAMs_20 IAMs_20 18 44 50.1
comp=Z,2µm,21.0s
MTO3 Montecristo 87.66 74 IAMs_20 IAMs_20 18 45 27.2
comp=Z,1µm,19.0s
HIA Hailar 87.73 323 *ce*P **P** 18 15 01.1 +1.3
HIA pmax pmax
comp=Z,13nm,1.2s
HIA Hailar 87.73 323 P **P** 18 14 59.7 -0.1
HIA IAmb IAmb 18 15 01.7
comp=Z,19nm,1.1s
MAW Mawson 87.78 198 P **P** 18 15 01.3 +1.6
comp=Z,21nm,1.0s,baz=106,slow=7.8,SNR=12
MAW LR LR 18 55 37.3
comp=Z,2µm,18.2s,baz=115,slow=36
MAW Mawson 87.78 198 P **P** 18 15 00.0 +0.4
baz=88,SNR=8.7
MAW Mawson 87.78 198 P **P** 18 15 00.9 +1.2
MAW pmax pmax
comp=Z,19nm,1.5s
MAW Mawson 87.78 198 P **P** 18 15 00.9 +1.2
MAW IAmb IAmb 18 15 14.5
comp=Z,19nm,1.5s
TIY Taiyuan 87.85 310 *e*P **P** 18 15 01.8 +1.1
TIY SKS **SKSac** 18 25 27.3 -2.0
TIY S **S** 18 25 42.3 -1.6
TIY pmax pmax
comp=Z,510nm,6.2s
TIY LR LR
comp=Z,420nm,15.5s
TIY LR LR
comp=Z,1µm,23.8s
TIY LR LR
comp=Z,1µm,23.1s
DGMT Dagmar 88.03 38 IAMs_20 IAMs_20 18 48 58.7
comp=Z,2µm,20.0s
DGMT Dagmar 88.03 38 P 18 15 03.5
baz=244
INK Inuvik 88.34 14 P **P** 18 15 02.0 -0.1
comp=Z,11nm,1.0s,baz=193,slow=5.9,SNR=24
INK Inuvik 88.34 14 P **P** 18 15 02.2 +0.1
NATX Nacogdoches 88.35 57 IAMs_20 IAMs_20 18 48 59.7
comp=Z,2µm,20.0s
GYA Guiyang 88.68 298 ⇑P **P** 18 15 06.0 +1.1
GYA sP pwP 18 15 10.3 -1.1
GYA PP **PP** 18 18 34.3 +0.5
GYA SKS **SKSac** 18 25 33.8 -1.1
GYA S **SKKSac** 18 25 48.5 +2.5
GYA pmax pmax
comp=Z,520nm,7.1s
GYA LR LR
comp=Z,290nm,16.1s
GYA LR LR
comp=Z,390nm,16.8s
GYA LR LR
comp=Z,550nm,19.9s
X37A Clayton 88.73 54 IAMs_20 IAMs_20 18 51 54.7
comp=Z,2µm,18.0s
PLCA Paso Flores 88.92 132 P **P** 18 15 10.2 +4.4
comp=Z,5.1nm,0.9s,baz=260,slow=9.1,SNR=8.3
PLCA LR LR 18 46 12.0
comp=Z,3µm,20.7s,baz=266,slow=30
PLCA Paso Flores 88.92 132 P **P** 18 15 04.6 -1.2
PLCA pmax pmax
comp=Z,23nm,1.3s
PLCA Paso Flores 88.92 132 P **P** 18 15 04.6 -1.2
PLCA IAmb IAmb 18 15 16.8
comp=Z,23nm,1.3s
RPSI Rantau Prapat 89.08 273 P **P** 18 15 06.4 -0.6
RPSI Rantau Prapat 89.08 273 IAMs_20 IAMs_20 18 56 06.2
comp=Z,1µm,20.0s
PSI Prapat 89.11 273 P **P** 18 15 06.4 -0.9
comp=Z,4.7nm,0.3s,baz=180,slow=4.2,SNR=11
XAN Xi'an 89.25 306 P **P** 18 15 08.3 +1.0
XAN pmax pmax
comp=Z,12nm,2.2s
KSU1 Kansas State U 89.36 49 IAMs_20 IAMs_20 18 49 09.4
comp=Z,1µm,19.0s
TGUH Tegucigalpa,Un 89.50 75 IAMs_20 IAMs_20 18 45 39.2
comp=Z,1µm,20.0s
YAK Yakutsk 89.55 337 LR LR 18 48 17.7
comp=Z,1µm,22.0s,baz=120,slow=31
YAK Yakutsk 89.55 337 *e*P **P** 18 15 06.7 -1.3
YAK *e**PP **pwP** 18 15 13.1 -1.3
YAK *e* 18 18 34.4
YAK *e*S **SKSac** 18 25 36.4 -1.7
YAK *e**SS **SKKSac** 18 25 52.6 +2.0
YAK pmax pmax
comp=Z,16nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.6s
YAK pmax pmax
comp=Z,223nm,5.6s
YAK pmax pmax
comp=N,76nm,4.7s
YAK pmax pmax
comp=E,114nm,5.6s
YAK smax smax
comp=N,56nm,3.7s
YAK smax smax
comp=E,28nm,3.5s
YAK MLR MLR
comp=E,450nm,21.0s
SLVN Son La 89.56 292 P **P** 18 15 07.7 -1.4
SLVN IAMs_20 IAMs_20 18 50 45.8
comp=Z,1µm,21.0s
HHC Hu-ho-hao-te 89.62 313 *e*P **P** 18 15 08.5 -0.5
HHC SKS **SKSac** 18 25 36.3 -3.5
HHC S **S** 18 25 56.8 -3.7
HHC pmax pmax
comp=Z,11nm,1.2s
HHC pmax pmax
comp=Z,730nm,5.3s
HHC LR LR
comp=Z,500nm,17.1s
HHC LR LR
comp=Z,620nm,19.2s

HHC LR LR
comp=Z,980nm,19.6s
GSI Gunungsitoli 90.01 271 P **P** **18 15 11.1 -0.2**
GSI IAms_20 IAms_20 18 55 01.8
comp=Z,2µm,19.0s
YKA Yellowknife Ar 90.06 23 P **P** **18 15 11.4 +1.1**
comp=Z,8.2nm,0.9s,baz=230,slow=4.3,SNR=75
YKA LR LR 18 48 42.8
comp=Z,992nm,21.2s,baz=0.0,slow=31
MIAR Mount Ida 90.12 54 IAms_20 IAms_20 18 49 28.9
comp=Z,1µm,20.0s
ORTG Ortega, Santa 90.20 79 IAms_20 IAms_20 18 47 19.8
comp=Z,2µm,20.0s
WLAR White Oak Lake 90.21 55 IAms_20 IAms_20 18 49 40.9
comp=Z,2µm,20.0s
CAO2 Cobano, Puntar 90.35 80 IAms_20 IAms_20 18 50 55.8
comp=Z,1µm,18.0s
BTO Baotou 90.63 312 P **P** **18 15 15.8 +2.1**
JTS Las Juntas de 90.66 80 IAms_20 IAms_20 18 46 34.0
comp=Z,2µm,20.0s
ACON Acoyapa 90.90 78 IAms_20 IAms_20 18 45 44.3
comp=Z,1µm,21.0s
ECSD EROS Data Cent 90.99 45 P 18 15 16.5
baz=249
U40A Yellville 91.25 53 P **P** **18 15 15.8 -0.8**
U40A IAmb IAmb 18 15 43.5
comp=Z,20nm,1.5s
U40A IAms_20 IAms_20 18 54 14.0
comp=Z,1µm,18.0s
143A Socs Landing, 91.26 56 IAms_20 IAms_20 18 50 30.9
comp=Z,1µm,20.0s
S39A Bolivar 91.32 51 P **P** **18 15 16.0 -0.8**
HDC Heredia 91.38 80 IAms_20 IAms_20 18 48 01.8
comp=Z,1µm,20.0s
C36M Paulatuk 91.41 15 P **P** **18 15 15.7 -0.7**
C36M IAmb IAmb 18 15 18.7
comp=Z,27nm,1.4s
C36M IAms_20 IAms_20 18 50 34.6
comp=Z,2µm,20.0s
C36M Paulatuk 91.41 15 P 18 15 17.4
baz=226
344A Westbrook Farm 91.43 58 IAms_20 IAms_20 18 50 08.5
comp=Z,1µm,20.0s
PEZE Perez Zeledon, 91.63 81 IAms_20 IAms_20 18 50 41.7
comp=Z,1µm,18.0s
KMI Kunming 91.66 295 ⇓P **P** **18 15 17.8 -1.2**
KMI pP pP 18 15 21.5 +0.4
KMI sP sP 18 15 23.0 +1.1
KMI PP **PP** **18 19 01.0 +3.3**
KMI SKS **SKSac** **18 25 48.8 -3.7**
KMI S **ScS** **18 26 22.3 -0.6**
KMI sS sS 18 26 27.8 +4.2
KMI SS **SS** **18 32 29.0 +1.5**
KMI pmax pmax
comp=Z,7.0nm,1.3s
KMI pmax pmax
comp=Z,490nm,9.0s
KMI LR LR
comp=Z,280nm,22.8s
KMI LR LR
comp=Z,690nm,18.4s
KMI LR LR
comp=Z,980nm,19.1s
P38A Dawn 91.78 49 P **P** **18 15 18.7 -0.3**
FFC Flin Flon 91.96 33 IAms_20 IAms_20 18 55 30.1
comp=Z,1µm,19.0s
BATAN Batan 92.10 80 IAms_20 IAms_20 18 50 51.3
comp=Z,1µm,18.0s
R40A Maddies Statio 92.30 51 P **P** **18 15 21.3 -0.1**
R40A IAmb IAmb 18 15 31.0
comp=Z,29nm,1.2s
CIT Chita 92.46 324 *e*P **P** **18 15 23.4 +1.5**
CIT pmax pmax
comp=Z,113nm,1.8s
LCAR Lake Charles 92.47 53 P **P** **18 15 21.7 -0.5**
SYO Syowa Base 92.50 191 ⇓*e*P **P** **18 15 20.0 -1.7**
SYO Syowa Base 92.50 191 ⇓*es*P sP 18 15 29.6 +5.0
VNA3 Neumayer Olymp 92.58 175 P **P** **18 15 24.1 +1.9**
VNA3 Neumayer Olymp 92.58 175 PP PP 18 19 03.9 +1.1
VNA3 Neumayer Olymp 92.58 175 sP sP 18 15 26.6 +1.5
SNAA Sanae 92.66 177 P **P** **18 15 23.9 +1.3**
SNAA Sanae 92.66 177 PKiKP **PKiKP** **18 20 09.9 -0.9**
SNAA Sanae 92.66 177 sP sP 18 15 26.9 +1.5
SNAA Sanae 92.66 177 LR LR 18 52 41.2
comp=Z,2µm,20.6s,baz=200,slow=33
SNAA Sanae 92.66 177 ⇑*e*P **P** **18 15 24.0 +1.4**
SNAA pmax pmax
comp=Z,25nm,1.8s
SNAA Sanae 92.66 177 P **P** **18 15 22.7 +0.1**
SCIA State Center 92.74 47 IAms_20 IAms_20 18 53 16.5
comp=Z,1µm,19.0s
CCM Cathedral Cave 93.00 51 IAms_20 IAms_20 18 49 54.8
comp=Z,1µm,21.0s
LPAR Lepanto 93.00 54 IAms_20 IAms_20 18 53 20.7
comp=Z,2µm,18.0s
AGMN Agassiz Nation 93.07 41 P **P** **18 15 23.4 -1.3**
AGMN IAmb IAmb 18 15 32.9
comp=Z,23nm,1.4s
AGMN IAms_20 IAms_20 18 52 19.4
comp=Z,1µm,20.0s
AGMN Agassiz Nation 93.07 41 P 18 15 24.9
baz=250
VNA2 Neumayer--Watz 93.08 175 P **P** **18 15 26.3 +1.8**
baz=180,slow=3.2
VNA2 Neumayer--Watz 93.08 175 PKiKP **PKiKP** **18 20 11.6 +0.2**
VNA2 Neumayer--Watz 93.08 175 PP PP 18 19 05.7 -1.1
VNA2 Neumayer--Watz 93.08 175 sP sP 18 15 29.3 +2.0
CMAR Chiang Mai Arr 93.25 288 P **P** **18 15 27.4 +1.2**
comp=Z,4.6nm,1.0s,baz=95,slow=3.1,SNR=15
CMAR LR LR 18 51 31.5
comp=Z,799nm,21.5s,baz=152,slow=32
CMAR Chiang Mai Arr 93.25 288 P **P** **18 15 23.9 -2.3**
CMAR Chiang Mai Arr 93.25 288 P **P** **18 15 23.9 -2.3**
VNA1 Neumayer--Stat 93.28 175 P **P** **18 15 27.8 +2.5**
VNA1 Neumayer--Stat 93.28 175 PKiKP **PKiKP** **18 20 12.1 +0.4**
VNA1 Neumayer--Stat 93.28 175 sP sP 18 15 30.3 +2.0
GNAR Gosnell 93.32 54 IAms_20 IAms_20 18 52 27.2
comp=Z,2µm,19.0s
CHTO Chiang Mai 93.35 288 P **P** **18 15 24.5 -2.1**
CHTO pmax pmax
comp=Z,9.0nm,1.2s
CHTO MLR MLR
comp=Z,1µm,22.0s
CHTO Chiang Mai 93.35 288 P **P** **18 15 24.5 -2.1**
OXF Oxford 93.38 55 IAms_20 IAms_20 18 52 27.0
comp=Z,2µm,20.0s
FVM French Village 93.59 52 P **P** **18 15 27.4 0.0**
FVM pmax pmax
comp=Z,54nm,1.5s
FVM French Village 93.59 52 P **P** **18 15 27.4 0.0**
ULM Lac du Bonnet 93.73 39 P **P** **18 15 28.4 +0.7**
comp=Z,8.1nm,1.0s,baz=246,slow=4.7,SNR=11
ULM LR LR 18 53 21.8
comp=Z,2µm,18.5s,baz=256,slow=33
ULM Lac du Bonnet 93.73 39 P **P** **18 15 26.8 -0.8**
W45A Hickory Valley 93.74 55 IAms_20 IAms_20 18 52 23.4
comp=Z,1µm,20.0s
HALT Halls 93.83 54 IAms_20 IAms_20 18 52 50.8
comp=Z,2µm,19.0s
LZH Lanzhou 93.84 306 *e*P **P** **18 15 30.5 +1.8**
LZH sP pwP 18 15 36.8 +1.6
LZH PP **PP** **18 19 12.5 -2.0**
LZH SKS **SKSac** **18 26 04.3 +0.3**
LZH *e*S **S** **18 26 34.8 -4.2**
LZH sS sS 18 26 49.5 +7.1
LZH SS **SS** **18 32 59.5 +1.3**
LZH pmax pmax
comp=Z,17nm,1.2s
LZH pmax pmax
comp=Z,350nm,5.2s
LZH LR LR
comp=Z,540nm,14.3s
LZH LR LR
comp=Z,1µm,15.1s
LZH LR LR
comp=Z,850nm,18.2s
L40A Anamosa 94.20 48 P **P** **18 15 29.5 -0.5**
BOD Bodaibo 94.43 329 *e*P **P** **18 15 27.0 -3.7**
BOD pmax pmax
comp=Z,14nm,1.7s
B35A Bob, Littlefor 94.44 41 P **P** **18 15 30.8 -0.2**
B35A IAmb IAmb 18 15 34.2
comp=Z,16nm,1.1s
LRAL Lakeview Retre 94.91 57 IAms_20 IAms_20 18 57 44.6
comp=Z,1µm,18.0s

ULN Ulaanbaatar 95.00 318 ⇓*e*P **P** **18 15 35.2 +1.4**
ULN pmax pmax
comp=Z,17nm,1.7s
ULN Ulaanbaatar 95.00 318 P **P** **18 15 34.0 +0.3**
ULN Ulaanbaatar 95.00 318 IAms_20 IAms_20 18 52 08.4
comp=Z,1µm,22.0s
WVT Waverly 95.07 54 IAms_20 IAms_20 18 51 31.0
comp=Z,2µm,20.0s
JFWS Jewell Farm 95.14 47 IAms_20 IAms_20 18 53 22.9
comp=Z,1µm,19.0s
JFWS Jewell Farm 95.14 47 P 18 15 35.4
baz=254
HDIL Hopedale 95.16 49 IAms_20 IAms_20 18 52 39.1
comp=Z,2µm,21.0s
X48A Hartselle 95.25 56 IAms_20 IAms_20 18 53 05.3
comp=Z,2µm,20.0s
TIXI Tiksi 95.38 344 ⇑*e*P **P** **18 15 35.2 +0.5**
TIXI pmax pmax
comp=Z,42nm,2.5s
TIXI Tiksi 95.38 344 IAms_20 IAms_20 18 55 34.8
comp=Z,2µm,20.0s
PB04 IPOC Station P 95.39 115 IAms_20 IAms_20 18 47 27.4
comp=Z,1µm,21.0s
SONM Songino Array 95.41 318 P **P** **18 15 34.9 -0.7**
comp=Z,1.3nm,0.8s,baz=120,slow=5.3,SNR=7.3
SONM PP **PP** **18 19 25.8 -0.6**
comp=Z,1.0nm,1.1s,baz=106,slow=4.8,SNR=4.7
SONM LR LR 18 53 40.4
comp=Z,936nm,21.9s,baz=111,slow=32
SONM Songino Array 95.41 318 P **P** **18 15 34.7 -0.9**
SONM pmax pmax
comp=Z,5.0nm,1.2s
SONM Songino Array 95.41 318 P **P** **18 15 34.7 -0.9**
Y49A Blount Mountai 95.60 57 IAms_20 IAms_20 18 52 49.7
comp=Z,2µm,20.0s
PB15 IPOC Station P 95.69 116 IAms_20 IAms_20 18 50 06.4
comp=Z,2µm,19.0s
EYMN Ely 95.73 42 IAms_20 IAms_20 18 53 49.1
comp=Z,2µm,20.0s
SWET Sewanee 96.33 55 IAms_20 IAms_20 18 53 28.9
comp=Z,1µm,21.0s
PB09 IPOC Station P 96.36 115 IAms_20 IAms_20 18 48 14.1
comp=Z,1µm,20.0s
LVC Limon Verde 96.38 115 IAms_20 IAms_20 18 50 37.5
comp=Z,1µm,19.0s
FPAL Fort Paine 96.41 56 IAms_20 IAms_20 18 54 20.3
comp=Z,2µm,20.0s
L44A Lake County Fo 96.60 48 IAms_20 IAms_20 18 58 04.9
comp=Z,1µm,18.0s
WCI Wyandotte Cave 96.80 52 IAms_20 IAms_20 18 53 39.5
comp=Z,1µm,20.0s
W50A Signal Mountai 96.81 55 IAms_20 IAms_20 18 53 54.8
comp=Z,1µm,20.0s
PB08 IPOC Station P 96.99 113 IAms_20 IAms_20 18 49 40.7
comp=Z,1µm,20.0s
X51A Calhoun 97.02 56 IAms_20 IAms_20 18 54 40.4
comp=Z,1µm,19.0s
PB16 IPOC Station P 97.26 111 IAms_20 IAms_20 18 51 04.0
comp=Z,2µm,19.0s
D41A Chassel 97.40 43 P **P** **18 15 44.0 -0.5**
Y52A Lilburn 97.49 57 IAms_20 IAms_20 18 54 11.0
comp=Z,1µm,20.0s
V51A Loudon 97.72 55 IAms_20 IAms_20 18 54 13.8
comp=Z,1µm,20.0s
GTA Gaotai 97.78 309 P Pdif 18 15 47.3 +0.6
GTA pP pwP 18 15 53.0 -0.1
GTA sP sP 18 15 56.0 +6.5
GTA SKS **SKSac** **18 26 29.0 +4.4**
GTA sS sS 18 27 23.5 +7.1
GTA pmax pmax
comp=Z,4.0nm,1.8s
GTA pmax pmax
comp=Z,170nm,5.1s
GTA LR LR
comp=Z,330nm,17.4s
GTA LR LR
comp=Z,1µm,18.9s
GTA LR LR
comp=Z,2µm,18.9s
ZAK Zakamensk 98.08 320 *e*P **P** **18 15 46.4 -1.2**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TKL Tuckaleechee C 98.14 55 IAms_20 IAms_20 18 55 07.0
comp=Z,1µm,20.0s
TLY Talaya 98.18 321 *e*P **P** **18 15 43.9 -4.0**
TLY pmax pmax
comp=Z,13nm,0.6s
TLY MLR MLR
comp=Z,2µm,20.0s
TLY Talaya 98.18 321 IAms_20 IAms_20 18 57 05.4
comp=Z,2µm,20.0s
P49A Miami Univ. Ec 98.30 51 IAms_20 IAms_20 18 59 07.5
comp=Z,1µm,18.0s
V52A Sevierville 98.33 55 IAms_20 IAms_20 18 56 07.8
comp=Z,2µm,18.0s
060A Indiantown 99.04 64 IAms_20 IAms_20 18 54 50.5
comp=Z,1µm,20.0s
LPAZ La Paz 99.17 110 LR LR 18 51 13.4
comp=Z,885nm,21.8s,baz=256,slow=30
ROSC El Rosal 99.42 88 LR LR 18 51 16.5
comp=Z,1µm,21.8s,baz=260,slow=30
GLMI Grayling 99.55 46 IAms_20 IAms_20 18 55 38.8
comp=Z,1µm,20.0s
AAM Ann Arbor 99.70 49 IAms_20 IAms_20 18 58 21.0
comp=Z,1µm,19.0s
ACSO Alum Creek Sta 99.76 51 IAms_20 IAms_20 18 57 00.9
comp=Z,2µm,19.0s
KMSC Kings Mountain 99.98 56 IAms_20 IAms_20 18 55 24.6
comp=Z,1µm,21.0s
V55A Taylorsville 100.22 56 IAms_20 IAms_20 18 55 13.9
comp=Z,1µm,20.0s
P52A Corning 100.28 52 IAms_20 IAms_20 18 54 02.5
comp=Z,2µm,22.0s
Y57A Sumter 100.50 58 IAms_20 IAms_20 18 57 19.7
comp=Z,1µm,20.0s
S54A Dingess, Beckl 100.53 54 IAms_20 IAms_20 18 54 10.2
comp=Z,2µm,22.0s
U56A King 100.98 55 IAms_20 IAms_20 18 55 16.5
comp=Z,2µm,20.0s
O53A New Philadelph 101.09 51 IAms_20 IAms_20 18 57 53.0
comp=Z,1µm,19.0s
BLA Blacksburg 101.11 54 IAms_20 IAms_20 18 58 03.6
comp=Z,2µm,19.0s
MCWV Mont Chateau 102.01 52 IAms_20 IAms_20 19 00 56.7
comp=Z,915nm,18.0s
S57A Dark Hollow, R 102.36 54 IAms_20 IAms_20 18 58 43.1
comp=Z,2µm,19.0s
Q56A Snyder Ridge, 102.41 53 IAms_20 IAms_20 18 56 44.1
comp=Z,2µm,21.0s
V60A Jim Taylor Roa 103.36 56 IAms_20 IAms_20 18 58 36.1
comp=Z,1µm,20.0s
P57A Homestead Farm 103.38 52 IAms_20 IAms_20 18 57 44.8
comp=Z,2µm,21.0s
M56A Emporium 103.57 50 IAms_20 IAms_20 18 58 27.5
comp=Z,2µm,20.0s
SSPA Standing Stone 103.66 51 IAms_20 IAms_20 18 57 54.9
comp=Z,1µm,20.0s
U61A Possum Corner 104.10 56 IAms_20 IAms_20 18 56 50.8
comp=Z,2µm,21.0s
M57A Sunshine Farm, 104.33 51 IAms_20 IAms_20 18 59 10.7
comp=Z,2µm,20.0s
N58A Sunbury 104.57 51 IAms_20 IAms_20 19 01 46.0
comp=Z,1µm,18.0s
J56A Wolcott 104.79 49 IAms_20 IAms_20 18 56 33.8
comp=Z,1µm,22.0s
P60A Greenville 105.24 52 IAms_20 IAms_20 18 59 38.3
comp=Z,2µm,20.0s
N59A State Game Lan 105.29 51 IAms_20 IAms_20 18 58 55.3
comp=Z,2µm,20.0s
J57A Williamstown 105.43 49 IAms_20 IAms_20 18 57 25.6
comp=Z,1µm,21.0s
K58A Earlville 105.61 49 IAms_20 IAms_20 18 59 11.4
comp=Z,2µm,20.0s
SAML Samuel 106.13 104 IAms_20 IAms_20 18 57 48.1
comp=Z,967nm,19.0s
J59A Piesco 106.52 49 IAms_20 IAms_20 19 00 56.4
comp=Z,1µm,19.0s
LONY Lake Ozonia 106.58 48 IAms_20 IAms_20 18 58 22.0
comp=Z,1µm,21.0s
YLE Yale 107.46 51 IAms_20 IAms_20 19 00 47.6
comp=Z,2µm,20.0s
PALK Palikekele 107.79 273 IAms_20 IAms_20 19 05 21.8
comp=Z,2µm,20.0s
ALE Alert 108.03 7 IAms_20 IAms_20 19 03 54.7
comp=Z,1µm,20.0s
HNH Hanover 108.15 49 IAms_20 IAms_20 18 58 36.4
comp=Z,2µm,21.0s
TULEG Thule 108.33 14 IAms_20 IAms_20 19 02 48.5
comp=Z,2µm,20.0s
LBNH Lisbon 108.45 48 IAms_20 IAms_20 18 59 40.4
comp=Z,2µm,22.0s
L63A North Scituate 108.50 51 IAms_20 IAms_20 19 02 05.1
comp=Z,2µm,20.0s
I62A Tamworth 108.85 49 IAms_20 IAms_20 18 59 29.9
comp=Z,1µm,22.0s
I63A Otisfield 109.40 48 IAms_20 IAms_20 19 00 41.6
comp=Z,1µm,20.0s
G62A West of Eustis 109.50 47 IAms_20 IAms_20 19 01 03.0
comp=Z,1µm,19.0s
ZALV Zalesovo Beam 109.77 322 PKiKP **PKiKP** **18 20 42.0 +0.2**
comp=Z,1.1nm,0.7s,baz=186,slow=1.3,SNR=6.1
SJG San Juan 110.17 76 IAms_20 IAms_20 18 59 41.0
comp=Z,863nm,19.0s
PKME Peaks-Kenny Pk 110.37 47 IAms_20 IAms_20 19 04 01.2
comp=Z,1µm,20.0s
F63A Nahmakanta, Br 110.52 47 IAms_20 IAms_20 19 08 03.9
comp=Z,1µm,18.0s
E63A Oxbow 111.01 46 IAms_20 IAms_20 19 07 38.7
comp=Z,1µm,19.0s
F64A Sherman 111.05 46 IAms_20 IAms_20 19 03 51.9
comp=Z,1µm,19.0s
PQI Presque Isle 111.29 46 IAms_20 IAms_20 19 01 04.1
comp=Z,995nm,21.0s
MK31 Makanchi Array 111.41 315*d* *i*PKiKP **PKiKP** **18 20 47.2 +2.0**
MKAR Makanchi Array 111.41 315 PKiKP **PKiKP** **18 20 45.5 +0.2**
comp=Z,1.3nm,0.8s,baz=68,slow=1.2,SNR=10.0
SEUS St. Eustatius 113.04 77 IAms_20 IAms_20 19 04 28.6
comp=Z,920nm,18.0s
AAK Ala-Archa 117.08 310 IAms_20 IAms_20 19 07 19.7
comp=Z,1µm,22.0s
BRVK Borovoye 118.48 322 ⇓*i*PKiKP **PKiKP** **18 20 59.3 +0.7**
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 118.48 322 **PKiKP** **18 20 58.8 +0.2**
KKAR Karatay Array 119.96 311 PKiKP **PKPdf** **18 21 01.6 -0.2**
KKAR Karatay Array 119.96 311 PKPdf **PKPdf** **18 21 01.6 -0.2**
SVE Sverdlovsk 122.63 328 *i* PKiKP **PKiKP** **18 21 07.4 +0.8**
SVE pmax pmax
comp=Z,23nm,1.5s
SVE MLR MLR
comp=Z,1µm,22.0s
ARU Arti 123.84 329 *i* PKiKP **PKiKP** **18 21 09.3 +0.3**
ARU 18 22 51.3
ARU PPP PPP 18 25 31.6
ARU 18 28 20.9
ARU SP SP 18 32 41.3 -6.2
ARU SS **SS** **18 39 39.3 -1.3**
ARU MLR MLR
comp=Z,2µm,21.0s
ARU Arti 123.84 329 PKPdf **PKPdf** **18 21 08.5 -0.2**
ARCES ARCESS Array B 124.91 352 PKP **PKiKP** **18 21 11.6 +0.8**
comp=Z,4.6nm,0.8s,baz=345,slow=0.5,SNR=8.0
ARCES ARCESS Array B 124.91 352 PKiKP **PKiKP** **18 21 11.1 +0.3**
ARCES ARCESS Array B 124.91 352 **PKiKP** **18 21 11.1 +0.3**
APA Apatity 125.38 348 ⇓*i*PKiKP **PKPdf** **18 21 10.8 -0.6**
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,2µm,21.0s
ABKAR Akbulak array 125.77 320 PKPdf **PKPdf** **18 21 12.1 -0.5**
ABKAR Akbulak array 125.77 320 PKPdf **PKPdf** **18 21 12.6 -0.1**
KIRV Kirov 127.00 334 ⇓*i*PKiKP **PKiKP** **18 21 15.7 +0.5**
GEYT Alibeck 130.12 307 PKP **PKPdf** **18 21 21.3 -0.1**
comp=Z,2.4nm,0.7s,baz=45,slow=6.9,SNR=4.4
GEYT Alibeck 130.12 307 **PKPdf** **18 21 18.6 -2.8**
BELG Belogornoye 131.38 328*c* *i*PKiKP **PKiKP** **18 21 25.4 +1.2**
FINES FINESS Array B 132.28 348 PKP **PKiKP** **18 21 25.8 0.0**
comp=Z,3.8nm,1.0s,baz=90,slow=1.0,SNR=4.1
BOSA Boshof 132.69 202 PKP **PKiKP** **18 21 29.0 +1.1**
comp=Z,3.3nm,0.9s,baz=29,slow=1.8,SNR=4.5
MOS Moscow 133.68 337 *e*PKiKP PKiKP 18 21 39.2 +10
MOS *e* 18 23 55.6
SOCY Socotra 134.54 272 PKPdf **PKPdf** **18 21 29.4 -1.0**
NOA NORSAR Array B 134.55 357 PKP **PKiKP** **18 21 29.9 -0.5**
comp=Z,0.8nm,0.8s,baz=13,slow=4.2,SNR=2.5
OBN Obninsk 134.55 337 *i* PKiKP **PKiKP** **18 21 31.7 +1.2**
OBN pmax pmax
comp=Z,7.0nm,1.1s
MAK Makhachkala 136.16 317 *i* P **Pdif** **18 18 32.0 -5.0**
MAK *i* 18 21 30.2
MAK *e* 18 24 09.2
MAK *e* 18 28 38.1
MAK pmax pmax
comp=Z,607nm,1.3s
MNK Minsk 138.00 342 *i* PKP **PKPdf** **18 21 35.6 0.0**
comp=E,2.0nm,0.9s
MNK *i* PKP **PKPdf** **18 21 35.6 0.0**
comp=N,11nm,0.9s
MNK *i* PKP **PKPdf** **18 21 35.6 0.0**
comp=Z,11nm,0.9s
MNK *i* PP PP 18 24 13.3 -10
MNK *i* SKP 18 25 04.7
MNK *i* PKS **PKSdf** **18 25 11.7 +0.2**
MNK *i* PPP PPP 18 27 16.5
MNK *i* SKS **SKSdf** **18 28 46.3 0.0**
MNK *i* SKKS SKKSdf 18 37 37.7 -45
MNK *i* SS **SS** **18 42 39.4 +6.2**
MNK *i* SSS SSS 18 47 39.5
MNK *i* LQ LQ 19 13 14.9
MNK *i* LR LR 19 16 10.0
MNK *i* LRM MLR 19 21 35.1
comp=Z,686nm,19.4s
MNK *i* LRM MLR 19 21 37.0
comp=N,431nm,19.7s
MNK *i* LRM MLR 19 22 21.7
comp=E,68nm,19.7s
NCK Nalchik 138.43 319 ⇓*i*PKiKP **PKiKP** **18 21 39.7 +0.8**
KIV Kislovodsk 138.75 321 *i* PKiKP **PKiKP** **18 21 39.1 -0.5**
KIV *e* 18 24 28.1
KIV *e*SS SS 18 42 43.9 +0.3
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,3µm,24.0s
KIV Kislovodsk 138.75 321 IAms_20 IAms_20 19 28 54.7
comp=Z,842nm,19.0s
GNI Garni 139.26 314 ⇑*i*PKiKP **PKiKP** **18 21 42.9 +2.1**
GNI Garni 139.26 314 IAms_20 IAms_20 19 26 19.0
comp=Z,767nm,20.0s
SOC Sochi 140.75 322 *e*PKiKP **PKPdf** **18 21 36.6 -4.3**
SOC *e* 18 28 49.1
SOC *e*SS SS 18 42 58.7 -8.0
SOC *e*SSS SSS 18 48 14.1
SOC MLR MLR
comp=Z,920nm,17.0s
AKASG Malin Array Be 140.77 338 PKhKP **PKPdf** **18 21 36.3 -4.4**
comp=Z,4.0nm,0.9s,baz=34,slow=2.5,SNR=9.9
AKASG Malin Array Be 140.77 338 **PKPdf** **18 21 35.2 -5.5**
AKASG Malin Array Be 140.77 338 **PKPdf** **18 21 35.2 -5.5**
AKBB Malin Array Si 140.77 338 ⇓*i*PKiKP **PKiKP** **18 21 43.3 0.0**
ANN Anapa 141.33 325 *i* PKiKP **PKPdf** **18 21 41.1 -0.8**
ANN *e* 18 21 45.3
ANN *e* 18 24 45.4
ANN *e*PPP PPP 18 27 48.0
ANN *e* 18 28 49.0
ANN pmax pmax
comp=Z,110nm,1.4s
ANN MLR MLR
comp=N,2µm,22.0s
ANN MLR MLR
comp=Z,1µm,24.0s
BSEG Bad Segeberg 141.69 357 *e*L L 19 23 56.0
comp=Z,1µm,21.5s
RAYN Ar Rayn 143.17 288 PKiKP **PKPdf** **18 21 44.5 -1.4**
RAYN MLR MLR
comp=Z,1µm,19.0s
RAYN Ar Rayn 143.17 288 **PKPdf** **18 21 44.5 -1.4**
SORM Soroca 143.20 336 ⇑P **PKPdf** **18 21 44.1 -1.0**
SORM Soroca 143.20 336 ⇑PKiKP **PKPdf** **18 21 44.1 -1.0**
LVV L'vov 143.26 342 *e*PKHKP PKPab 18 21 40.1 -0.9
LVV MLR MLR
comp=N,700nm,19.0s
LVV MLR MLR
comp=E,500nm,19.0s
LVV MLR MLR
comp=Z,1µm,19.0s
KIS Kishinev 143.93 335 ⇓*i*PKP PKPbc 18 21 45.0 +0.8
comp=Z,350nm,15.2s
KIS Kishinev 143.93 335 *i* PP PP 18 24 55.0 -4.3
KIS *e*LR LR 19 16 30.0
comp=Z,500nm,22.0s
KIS Kishinev 143.93 335*d* *i*PKiKP PKPbc 18 21 45.0 +0.8
KIS *i* 18 24 55.0

KIS pmax pmax
comp=Z,350nm,15.2s
KIS MLR MLR
comp=Z,500nm,22.0s
OJC Ojcow 144.02 346 *e*PKP PKPbc 18 21 45.1 +0.7
OJC Ojcow 144.02 346 PKIKP PKPbc 18 21 44.8 +0.4
OJC Ojcow 144.02 346 PKPdf PKPbc 18 21 44.8 +0.4
CLL Collm 144.10 354 *i* PKPdf **PKPdf 18 21 46.6 0.0**
comp=Z,9.0nm,0.9s
CLL *e*PKPlp 18 21 51.0
comp=Z,700nm,17.6s
CLL *e*PP **PP 18 25 03.0 +3.1**
CLL *e*SKKSac SKKSac 18 31 51.0 -2.6
CLL *e*PSKS 18 35 03.0
CLL *e* 18 36 30.0
CLL *e*SS **SS 18 43 42.0 -1.9**
CLL *e* 18 47 00.0
CLL *e*SSS SSS 18 49 12.0
CLL *e*SSSS 18 53 24.0
CLL LmH 19 26 00.0
comp=N,800nm,21.1s
CLL LmH 19 26 00.0
comp=E,400nm,21.9s
CLL LmV 19 29 00.0
comp=Z,900nm,20.2s
CLL Collm 144.10 354 *i* PKIKP **PKPdf 18 21 46.6 0.0**
CLL *e* 18 25 03.0
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL MLR MLR
comp=Z,900nm,20.2s
KSP Ksiaz 144.11 350 *e*PKP **PKPdf 18 21 47.0 +0.3**
CHVC Chvalec 144.40 350 AMS AMS 19 23 50.0
comp=Z,2μm,19.1s
OSTC Ostas 144.40 350 AMS AMS 19 24 00.0
comp=Z,2μm,22.1s
BRG Berggiesshubel 144.42 353 *e*PKP **PKPdf 18 21 49.0 +1.7**
BRG Amp 18 21 55.2
comp=Z,11nm,1.1s
BRG *ex* x 18 22 04.0
BRG Amp 18 22 05.6
comp=Z,16nm,1.1s
BRG *ex* x 18 22 23.3
BRG Amp 18 22 25.0
comp=Z,24nm,1.5s
UPC Upice 144.48 350 AMS AMS 19 23 50.0
comp=Z,2μm,19.1s
KOLS Kolonicke sedl 144.56 343 *e*PKIKP **PKPdf 18 21 47.6 0.0**
KOLS Kolonicke sedl 144.56 343 *e*PKP **PKPdf 18 21 47.6 0.0**
DPC Dobruska-Polom 144.58 350 *e*PKIKP **PKPdf 18 21 47.6 0.0**
DPC MLR MLR
comp=Z,2μm,21.8s
DPC Dobruska-Polom 144.58 350 *e*PKP **PKPdf 18 21 47.6 0.0**
DPC AMS AMS 19 21 20.0
comp=Z,2μm,21.8s
VASR Vaslui 144.64 335 ⇓P **PKPdf 18 21 47.5 -0.2**
NIE Niedzica 144.64 345 *e*PKP **PKPab 18 21 45.5 -0.8**
PRAR RASCA 144.64 338 ⇑P **PKPdf 18 21 47.3 -0.4**
PVCC Panska Ves 144.68 352 AMS AMS 19 23 40.0
comp=Z,2μm,20.3s
OKC Ostrava-Krasne 144.74 348 AMS AMS 19 25 10.0
comp=Z,1μm,19.7s
KRLC Kraliky 144.77 349 AMS AMS 19 24 50.0
comp=Z,1μm,17.9s
BUR08 Bucovina Ar. S 144.77 339 PKPdf **PKPdf 18 21 47.6 -0.5**
BURAR Bucovina Array 144.79 339 ⇓P PKPbc 18 21 47.2 +0.1
BURAR Bucovina Array 144.79 339 ⇓PKIKP PKPbc 18 21 47.2 +0.1
BURAR Bucovina Array 144.79 339 PKPdf PKPbc 18 21 47.3 +0.3
CRVS Cervenica-Dubn 144.82 344 *e*PKIKP **PKPdf 18 21 48.2 +0.2**
CRVS Cervenica-Dubn 144.82 344 *e*PKP **PKPdf 18 21 48.2 +0.2**
UZH Uzhgorod 144.83 343 ⇓*e*PKIKP **PKPab 18 21 46.1 -0.8**
UZH *i* 18 21 48.7
MOX Moxa 144.88 355 *e*L L 19 27 13.1
comp=Z,755nm,21.0s
BEBN Eben Emael 144.89 2 *d*PKPdf **PKPdf 18 21 47.6 -0.4**
MORC Moravsky Berou 144.91 348 *e*PKP **PKPdf 18 21 48.0 -0.2**
MORC Moravsky Berou 144.91 348 PKIKP PKPbc 18 21 47.6 +0.3
MORC Moravsky Berou 144.91 348 PKPdf PKPbc 18 21 47.6 +0.3
BIZ Bicaz 145.04 337 ⇓P **PKPdf 18 21 49.1 +0.6**
BZK Bozkurt 145.07 324 ⇑P **PKPdf 18 21 49.8 +1.2**
MEM Membach 145.09 1 *d*PKP **PKPdf 18 21 48.6 +0.2**
MEM *d*pPKiKP **pPKiKP 18 21 55.9 +1.4**
LANS Liptovska Anna 145.09 346 *e*PKIKP **PKPdf 18 21 49.6 +1.0**
LANS Liptovska Anna 145.09 346 *e*PKP **PKPdf 18 21 49.5 +1.0**
GUNZ Gunzen 145.10 354 *e*PKPbc **PKPdf 18 21 48.9 +0.4**
baz=6.9,slow=3.0
BSTI Sart Tilman 145.10 2 *d*PKiKP **PKiKP 18 21 51.0 -1.2**
BTNL Ternell 145.11 1 *d*PKPdf **PKPdf 18 21 49.0 +0.5**
PRA Prague 145.15 352 AMS AMS 19 24 30.0
comp=Z,2μm,21.9s
ATD Arta Tunnel 145.16 268 IAMs_20 IAMs_20 19 24 13.2
comp=Z,746nm,19.0s
AHRW Bad Neuenahr-A 145.17 0 *e*PKPbc **PKPdf 18 21 48.6 +0.1**
baz=6.9,slow=3.0
WERN Wernitzgruen 145.17 354 *e*PKPbc **PKPdf 18 21 49.2 +0.6**
baz=6.9,slow=3.0
TESR Tescani 145.19 336 ⇑P **PKPdf 18 21 49.1 +0.4**
PRU Pruhonice 145.21 352 *e*PKIKP **PKPdf 18 21 49.5 +0.9**
PRU MLR MLR
comp=Z,2μm,20.5s
PRU Pruhonice 145.21 352 *e*PKP **PKPdf 18 21 49.5 +0.9**
PRU AMS AMS 19 24 40.0
comp=Z,2μm,20.5s
NKC Novy Kostel 145.22 354 AMS AMS 19 26 20.0
comp=Z,1μm,21.3s
BCLA Clavier 145.26 2 *d*PKPdf **PKPdf 18 21 48.7 0.0**
GHRR 145.26 335 ⇑P **PKPdf 18 21 50.4 +1.5**
BGES Gesves 145.28 2 *d*PKPdf **PKPdf 18 21 49.0 +0.2**
BMR Baia Mare 145.32 341 ⇑P **PKPdf 18 21 49.1 +0.2**
BMR Baia Mare 145.32 341 ⇑PKIKP **PKPdf 18 21 49.1 +0.2**
BHOU Houvegnez 145.34 1 *d*pPKP **PKPdf 18 21 49.8 +1.0**
BMRD Maredsous 145.35 3 *d*PKP **PKPbc 18 21 48.4 -0.3**
TLCR 145.36 333 ⇑P **PKPdf 18 21 49.6 +0.6**
TLCR 145.36 333 ⇑PKIKP **PKPdf 18 21 49.6 +0.6**
KECS Kecovo 145.46 344 *e*PKIKP **PKPab 18 21 50.5 +1.2**
KECS Kecovo 145.46 344 *e*PKP **PKPab 18 21 50.5 +1.2**
TNS Taunus Mts 145.47 359 *e*PKPbc **PKPab 18 21 49.8 +0.5**
baz=6.9,slow=3.0
TNS *e*L L 19 29 27.5
comp=Z,931nm,20.4s
MANZ Manzenberg 145.50 354 *e*PKPbc **PKPab 18 21 50.3 +0.9**
baz=6.9,slow=3.0
SCHL Schela 145.54 334 ⇑P **PKiKP 18 21 51.9 -1.4**
VRAC Vranov 145.54 349 ⇑P **PKPab 18 21 50.5 +1.0**
VRAC Vranov 145.54 349 *e*PKP **PKPab 18 21 50.5 +1.0**
VRAC Vranov 145.54 349 ⇑PKIKP **PKPab 18 21 50.5 +1.0**
ARCR ARCALIA 145.55 339 ⇑P **PKPab 18 21 50.1 +0.5**
DOU Dourbes 145.55 3 *d*pPKP **PKPab 18 21 50.0 +0.5**
PETR Petresti 145.61 335 ⇑P **PKPab 18 21 51.5 +1.7**
ODBI Odobesti 145.65 335 ⇑P **PKiKP 18 21 51.9 -1.7**
JURR Jurilovca 145.66 332 ⇑P **PKPab 18 21 51.5 +1.4**
CFR Carcaliu 145.67 333 ⇑P **PKPab 18 21 50.5 +0.4**
CFR Carcaliu 145.67 333 ⇑PKIKP **PKPab 18 21 50.5 +0.4**
VRI Vrincioaia 145.69 336 ⇓P **PKPab 18 21 50.9 +0.7**
VRI Vrincioaia 145.69 336 ⇓PKIKP **PKPab 18 21 50.9 +0.7**
ROTZ Rotzenmuhle 145.70 354 *e*PKPbc **PKPab 18 21 51.0 +0.9**
baz=6.9,slow=3.0
PLOR Plostina 145.74 336 ⇑P **PKPab 18 21 51.3 +0.8**
PLOR Plostina 145.74 336 ⇑PKIKP **PKPab 18 21 51.3 +0.8**
TREC Trest 145.74 350 AMS AMS 19 24 00.0
comp=Z,1μm,19.0s
JAVC Velka Javorina 145.76 348 *e*PKP **PKPab 18 21 52.0 +1.6**
TPGR Topolog 145.80 333 ⇑P **PKPab 18 21 51.6 +0.9**
KRUC Moravsky 145.81 349 *e*PKP **PKPab 18 21 51.0 +0.5**
VYHS Vyhne 145.85 346 *e*PKIKP **PKPab 18 21 51.3 +0.6**
VYHS Vyhne 145.85 346 *e*PKP **PKPab 18 21 51.3 +0.6**
GRA1 Grafenberg Arr 145.86 355 IAMs_20 IAMs_20 19 27 32.2
comp=Z,880nm,20.0s
GRF Grafenberg Ar 145.86 355 *e*PKPbc **PKPab 18 21 52.1 +1.3**
baz=6.9,slow=3.0
GRF *e*L L 19 27 32.9
comp=Z,821nm,21.2s
GRFO Grafenberg 145.86 355 PKP2 **PKPab 18 21 50.7 0.0**
GRFO MLR MLR
comp=Z,1μm,22.0s
GRFO Grafenberg 145.86 355 **PKPab 18 21 50.7 0.0**
GRFO IAMs_20 IAMs_20 19 27 42.3
comp=Z,984nm,22.0s
BISRR Bisoca 145.96 335 ⇓P **PKPab 18 21 52.3 +1.0**
KMBO Kilima Mbogo 145.98 243 PKPbc **PKPab 18 21 54.1 +1.6**
comp=Z,38nm,1.2s,baz=64,slow=4.0,SNR=63
WLF Walferdange 146.03 1 *d*pPKP pPKPdf 18 21 52.3 0.0
WLF Walferdange 146.03 1 *e*PKPbc **PKPab 18 21 52.7 +1.3**
baz=6.9,slow=3.0
TIRR Tirgusor 146.11 332 PKP2 **PKPbc 18 21 51.0 -0.2**
TIRR MLR MLR
comp=Z,2μm,20.0s
TIRR Tirgusor 146.11 332 **PKPbc 18 21 51.0 -0.2**
CJR Cluj-Napoca 146.13 340 ⇓P **PKPab 18 21 53.0 +1.1**
CJR Cluj-Napoca 146.13 340 ⇓PKP2 **PKPab 18 21 53.0 +1.1**
DOPR Dopca 146.13 337 ⇑P **PKPab 18 21 53.1 +1.2**
PSZ Piszkesteto 146.13 345 ⇑P **PKPab 18 21 52.7 +0.8**
PSZ Piszkesteto 146.13 345 PKP2 **PKPbc 18 21 51.2 -0.1**
PSZ MLR MLR
comp=Z,1μm,19.0s
PSZ Piszkesteto 146.13 345 PKPbc **PKPbc 18 21 51.2 -0.1**
HARR Harsova 146.14 333 ⇓P **PKPab 18 21 52.4 +0.5**
HARR Harsova 146.14 333 ⇓PKP2 **PKPab 18 21 52.4 +0.5**
SMOL Smolenice 146.14 348 *e*PKP2 **PKPab 18 21 52.6 +0.8**
SMOL Smolenice 146.14 348 *e*PKP **PKPab 18 21 52.6 +0.8**
KHC Kasperske Hory 146.18 352 PKP2 **PKPbc 18 21 51.5 +0.1**
KHC Kasperske Hory 146.18 352 *e*PKP **PKPab 18 21 52.3 +0.3**
KHC AMS AMS 19 25 00.0
comp=Z,1μm,18.9s
KHC Kasperske Hory 146.18 352 PKPbc **PKPbc 18 21 51.5 +0.1**
TLBR Topalu 146.21 333 ⇓P **PKPab 18 21 53.3 +1.1**
NEHR Nehoiu 146.23 336 ⇓P **PKPab 18 21 52.7 +0.4**
WET Wettzell 146.25 353 *e*PKPbc **PKPab 18 21 52.7 +0.5**
baz=6.9,slow=3.0
WET *e*L L 19 28 44.1
comp=Z,1μm,20.6s
MODS Modra-Piesok 146.31 348 *e*PKP2 **PKPab 18 21 53.2 +0.7**
MODS Modra-Piesok 146.31 348 *e*PKP **PKPab 18 21 53.2 +0.7**
MLR Muntele Rosu 146.31 336 ⇑P **PKPdf 18 21 51.3 +0.5**
MLR Muntele Rosu 146.31 336 ⇑PKP2 **PKPdf 18 21 51.3 +0.5**
MLR Muntele Rosu 146.31 336 PKPdf **PKPdf 18 21 50.1 -0.8**
MFTR Murfatlar 146.32 332 ⇑P **PKPab 18 21 53.1 +0.5**
DRGR 146.35 341 ⇑P **PKPab 18 21 52.8 +0.1**
DRGR 146.35 341 ⇑PKP2 **PKPab 18 21 52.8 +0.1**
ISR Istrita 146.38 335 ⇓P **PKPab 18 21 53.3 +0.4**
ISR Istrita 146.38 335 ⇓PKP2 **PKPab 18 21 53.3 +0.4**
CKRC Cesky Krumlov 146.38 352 *e*PKP **PKPab 18 21 52.5 -0.2**
CKRC *ex* x 18 22 04.6
CKRC AMS AMS 19 25 20.0
comp=Z,1μm,20.2s
GEC2 GERESS Array S 146.44 352 PKPdf **PKPdf 18 21 50.3 -0.7**
GEC2 GERESS Array S 146.44 352 *e*PKPbc **PKPab 18 21 53.1 0.0**
baz=6.9,slow=3.0
GEC2 *e*L L 19 25 18.6
comp=Z,1μm,21.9s
GERES GERESS Array B 146.44 352 PKPbc **PKPab 18 21 53.1 0.0**
comp=Z,6.1nm,1.0s,baz=29,slow=3.0,SNR=25
GERES GERESS Array B 146.44 352 PKIKP **PKPdf 18 21 50.2 -0.7**
GERES GERESS Array B 146.44 352 PKPdf **PKPdf 18 21 50.2 -0.7**
AMRR Amara 146.46 334 ⇑P **PKPab 18 21 53.9 +0.8**
AMRR Amara 146.46 334 ⇑PKP2 **PKPab 18 21 53.9 +0.8**
BSZH Besenyszg 146.61 344 ⇑P **PKPab 18 21 54.0 +0.4**
BRTR Keskin Array B 146.70 321 PKPbc **PKPab 18 21 55.1 +0.6**
comp=Z,19nm,0.8s,baz=108,slow=2.7,SNR=27
BRTR Keskin Array B 146.70 321 PKP2 **PKPab 18 21 54.6 +0.2**
BRTR Keskin Array B 146.70 321 **PKPab 18 21 54.6 +0.2**
VOIR 146.71 337 ⇑P **PKPab 18 21 54.7 +0.5**
VOIR 146.71 337 ⇑PKP2 **PKPab 18 21 54.7 +0.5**
LEHL Lehliu 146.79 334 ⇑P **PKPab 18 21 55.0 +0.6**
SULR 146.86 335 ⇑P **PKiKP 18 21 55.6 -0.4**
ARR Arges 146.92 337 ⇑P **PKiKP 18 21 55.7 -0.5**
CONA Conrad Observa 147.00 349 *i* P **PKPbc 18 21 54.4 +0.6**
comp=Z,29nm,1.0s,SNR=9.4
DEV Deva 147.09 340 ⇑P **PKPbc 18 21 54.2 +0.2**
DEV Deva 147.09 340 ⇑PKP2 **PKPbc 18 21 54.2 +0.2**
SIRR Siria 147.14 341 ⇑P **PKPbc 18 21 54.4 +0.2**
MOA Molln 147.34 351 *i* P **PKPab 18 21 55.8 -0.7**
comp=Z,23nm,1.6s,SNR=9.1
AMBH Ambrzfalva 147.35 343 ⇑P **PKPab 18 21 56.4 -0.1**
BFO Black Forest 147.37 359 *e*PKPbc **PKPab 18 21 55.9 -0.7**
baz=6.9,slow=3.0
BFO *e*L L 19 32 07.8
comp=Z,603nm,21.7s
FUR Furstenfeldbru 147.38 355 *e*PKPbc **PKPab 18 21 56.0 -0.6**
baz=6.9,slow=3.0
FUR *e*L L 19 28 46.0
comp=Z,1μm,20.0s
HUMR Humele 147.50 336 ⇑P **PKPab 18 21 56.3 -0.8**
GZR Gura Zlata 147.56 339 ⇑P **PKPbc 18 21 54.8 -0.7**
GZR Gura Zlata 147.56 339 ⇑PKIKP **PKPbc 18 21 54.8 -0.7**
MDUB Mudurnu 147.63 325 **PKPbc 18 21 55.0 -0.8**
RJOB Jochberg 147.65 353 *e*PKPbc **PKPbc 18 21 55.7 +0.1**
baz=6.9,slow=3.0
RAZG Razgrad 147.66 333 ⇑P **PKiKP 18 21 57.1 -0.6**
ARSA Arzberg 147.72 349 *e*P **PKPbc 18 21 56.3 +0.5**
comp=Z,18nm,1.2s
COPA Copaceanca 147.73 335 ⇑P **PKiKP 18 21 57.0 -0.9**
BZS Buzias 147.74 341 ⇑P **PKPbc 18 21 56.8 +1.0**
BZS Buzias 147.74 341 ⇑PKP2 **PKPbc 18 21 56.8 +1.0**
MORH Mrgy, Hungar 148.03 345 ⇑P **PKPbc 18 21 57.2 +0.6**
RETA Reutte 148.09 355 *e*P **PKPbc 18 21 56.4 -0.5**
comp=Z,44nm,2.0s
BANR Banloc 148.10 341 ⇑P **PKiKP 18 21 58.6 0.0**
HERR Herculane 148.13 339 ⇓P **PKPbc 18 21 57.8 +0.9**
VLAD Vladila 148.16 336 ⇑P **PKiKP 18 21 58.5 -0.2**
WATA Walderalm 148.17 354 *i* P **PKPbc 18 21 58.0 +0.9**
comp=Z,35nm,1.4s,SNR=5.5
MOTA Moosalm 148.20 355 *e*P **PKPbc 18 21 57.7 +0.4**
comp=Z,62nm,2.2s
KBA Koelnbreinsper 148.22 352 *e*P **PKPbc 18 21 57.8 +0.5**
comp=Z,9.2nm,1.0s
WTTA Wattenberg 148.24 354 *i* P **PKiKP 18 21 58.3 -0.8**
comp=Z,36nm,1.2s,SNR=8.8
SQTA Sankt Quirin 148.32 355 *i* P **PKiKP 18 21 59.0 -0.2**
comp=Z,19nm,1.1s,SNR=7.4
DAVA Damuels 148.35 357 *e*P **PKiKP 18 21 59.1 -0.2**
comp=Z,37nm,1.1s
SOKA Soboth 148.36 350 *i* P **PKPbc 18 21 56.3 -1.2**
comp=Z,16nm,1.2s,SNR=7.4
MDVR Moldovita 148.45 340 ⇓P **PKPdf 18 21 54.7 +0.3**
PUNG Punghina 148.48 338 ⇑P **PKiKP 18 21 59.5 +0.1**
FETA Feichten 148.56 355 *e*P **PKPbc 18 21 57.7 -0.5**
comp=Z,16nm,1.2s
FURI Furi 148.57 261 IAMs_20 IAMs_20 19 22 11.1
comp=Z,907nm,21.0s
PLVB Pleven 148.59 335 ⇑P **PKPbc 18 21 56.9 -1.3**
OBKA Obir 148.60 350 *e*P **PKPab 18 22 01.1 -0.6**
comp=Z,4.8nm,0.8s
MYKA Terra Mystica 148.62 351 *e*P **PKPbc 18 21 57.0 -1.2**
comp=Z,16nm,1.4s
ABTA Abfaltersbach 148.65 353 *i* P **PKPbc 18 21 58.9 +0.6**
comp=Z,23nm,1.0s,SNR=6.0
FRGS Fruska Gora 148.70 343 ⇑P **PKiKP 18 21 59.9 0.0**
ZOU Zoufplan 148.78 352 **PKPbc 18 21 58.0 -0.8**
CTI Castel Tesino 149.44 354 PKP2 **PKPbc 18 21 59.2 -1.2**
CTI Castel Tesino 149.44 354 **PKPbc 18 21 59.2 -1.2**
BOVS Bovan 149.47 339 ⇑P **PKiKP 18 22 02.3 +0.8**
CSS Mathiatis 149.69 314 **PKPbc 18 22 00.9 -0.3**
CSS IAMs_20 IAMs_20 19 28 29.1
comp=Z,746nm,22.0s
VTS Vitosha 149.79 336 ⇑P **PKiKP 18 22 02.8 +0.4**
VTS Vitosha 149.79 336 ⇑PKP2 **PKiKP 18 22 02.8 +0.4**
ISP Isparta 149.79 321 IAMs_20 IAMs_20 19 43 59.6
comp=Z,664nm,19.0s
TEOL Teolo 150.12 354 PKPdf **PKPdf 18 21 56.5 -0.4**
PGAV Gavieira, Arco 150.54 24 *e*LR LR 19 21 23.5
comp=Z,1μm,20.0s
PCAB Cabril 150.86 24 *e*PKPbc **PKiKP 18 22 05.4 +0.9**
PCAB Cabril 150.86 24 *e*PKPab **PKPab 18 22 17.6 +6.7**
STIP Stip 150.98 337 *i* P **PKiKP 18 22 04.7 +0.1**
SKO Skopje 151.02 338 *i* P **PKiKP 18 22 05.7 +0.9**
VAY Valandovo 151.15 336 *i* P **PKiKP 18 22 05.4 +0.4**
POLO Lamas de Olo 151.24 24 *e*PKPbc **PKiKP 18 22 06.3 +1.0**
POLO Lamas de Olo 151.24 24 *e*PKPab **PKPab 18 22 19.1 +6.5**
PVRL Vila Real 151.35 24 *e*PKPbc **PKiKP 18 22 07.0 +1.5**
MVO Moncorvo 151.71 23 *e*PKPbc **PKiKP 18 22 07.4 +1.1**
MVO Moncorvo 151.71 23 *e*PKPab **PKPab 18 22 20.2 +5.7**
MVO Moncorvo 151.71 23 *e*LR LR 19 18 47.9
comp=Z,876nm,20.0s
OHR Ohrid 152.01 338 *i* P **PKiKP 18 22 07.5 +0.6**
PMOZ Porto Moniz, M 152.01 48 *e*LR LR 19 14 24.2
comp=Z,795nm,20.0s
PCAS Casmilo, Conde 152.06 26 *e*PKPbc **PKPbc 18 22 06.3 -0.3**
PCAS Casmilo, Conde 152.06 26 *e*PKPab **PKPab 18 22 18.1 +2.1**
FNA Florina 152.07 337 PKIKP **PKPbc 18 22 06.4 -0.3**
FNA Florina 152.07 337 **PKPbc 18 22 06.3 -0.3**
MTE Manteigas 152.16 25 *e*PKPbc **PKiKP 18 22 08.2 +1.0**
MTE Manteigas 152.16 25 *e*SS SS 18 45 21.0 +5.5
MTE Manteigas 152.16 25 *e*LR LR 19 21 55.1
comp=Z,1μm,22.0s
PCBR Castelo Branco 152.66 25 *e*PKPbc **PKiKP 18 22 10.1 +1.9**
PMTG Montargil 152.99 27 *e*PKPab **PKPab 18 22 20.5 +0.6**
PMRV Marv??o 153.05 26 *e*PKPbc **PKiKP 18 22 10.8 +1.8**
PMRV Marv??o 153.05 26 *e*PKPab **PKPab 18 22 23.0 +2.9**
PMRV Marv??o 153.05 26 *e*LR LR 19 19 52.1
comp=Z,1μm,20.0s
INTR Introdacqua 153.08 349 **PKPbc 18 22 07.6 -1.3**
AGG Agios Georgios 153.18 333 PKIKP **PKPbc 18 22 08.4 -0.8**
AGG Agios Georgios 153.18 333 **PKPbc 18 22 08.4 -0.8**
PNCL Nicolau / Gran 153.63 29 *e*PKPab **PKPab 18 22 24.9 +2.3**
PTEO Sao Teotonio 154.00 30 *e*PKPab **PKPab 18 22 26.0 +1.8**
MESJ Messejana 154.00 29 *e*PKPdf **PKPdf 18 22 02.2 -0.7**
MESJ IAMs_20 IAMs_20 19 23 05.9
comp=Z,1μm,23.4s
MESJ Messejana 154.00 29 *e*PKIKP **PKPdf 18 22 02.2 -0.7**
MESJ Messejana 154.00 29 *e*PKPab **PKPab 18 22 25.3 +1.1**
ESDC Sonseca Array 154.12 20 PKP **PKPdf 18 22 04.8 +1.6**
comp=Z,0.9nm,0.9s,baz=354,slow=3.8,SNR=5.0
ESDC PKPbc **pPKPbc 18 22 12.9 -0.5**
comp=Z,1.4nm,0.8s,baz=339,slow=2.7,SNR=7.4
ESDC PKPab **sPKPab 18 22 27.3 -0.4**
comp=Z,4.0nm,0.9s,baz=340,slow=2.3,SNR=8.9
ESDC Sonseca Array 154.12 20 **PKPdf 18 22 02.5 -0.6**
PBAR Barrancos 154.25 27 *e*PKPab **PKPab 18 22 21.6 -3.6**
PVAQ Vaqueiros 154.58 29 *e*SS SS 18 45 51.2 +9.2
PVAQ Vaqueiros 154.58 29 *e*LR LR 19 17 53.2
comp=Z,1μm,20.0s
KEST Kesra 159.88 355 PKPab **PKPab 18 22 51.5 +2.0**
comp=Z,12nm,0.9s,baz=319,slow=5.2,SNR=4.1
LIC Lamto 164.78 127 *e*PKP1 **PKPab 18 23 09.8 -1.9**
comp=Z,42nm,0.8s
TIC Toumodi 165.05 125 *e*PKP1 **PKPab 18 23 09.5 -3.4**
KIC Kosan Boka 165.09 127 *e*PKP1 **PKPab 18 23 09.1 -3.9**
comp=Z,35nm,1.2s
TOA0 Torodi Ar. Sit 174.11 114 **PKPdf 18 22 20.9 -0.8**
TORD Torodi Ar. Bea 174.11 114 PKP **PKPdf 18 22 21.4 -0.3**
comp=Z,2.7nm,0.9s,baz=356,slow=1.2,SNR=9.7
TORD PKPab **sPKPab 18 23 57.1 +1.1**
comp=Z,9.2nm,1.2s,baz=274,slow=4.0,SNR=8.7
TORD Torodi Ar. Bea 174.11 114 **PKPdf 18 22 20.9 -0.7**
TORD **sPKPab 18 23 56.3 +0.3**

BJI ***30*** *18:03:14.8±0.0, 0.76N×146.62E, h26km, mb4.9/17, mb4.8/28, Ms4.8/7, Ms7 4.6/7*
IDC ***30*** *18:03:15.3±0.5, 0.89N×146.21E, h0km, mb4.6/26, mb1 4.7/27, mb1mx4.5/50, mbtmp4.6/27, ML3.5/1, Error ellipse: s-maj=17.3km s-min=11.3km az=100.0*
NEIC ***30*** *18:03:17.0±1.9, 0.81N×0.07×146.22E±0.09, h15km±3km, mb4.8/70, Error ellipse: s-maj=13.3km s-min=9.0km az=61.0*

ISC 30 18:03:16.5±0.4, 0.80N×0.06×146.15E±0.07, h10km, n150, σ1926/145, mb4.8/74, 1C, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.08**	**157**	Pn	**Pn**	**18 04 04.7**	**-0.6**
JAY	**Jayapura**	**6.37**	**239**	Pn	**Pn**	**18 04 49.8**	**-0.7**
	1.0nm,0.3s,baz=162,slow=15,SNR=1.6						
JAY				Sn	**Sn**	**18 05 59.9**	**-3.5**
	4.3nm,0.3s,baz=46,slow=17,SNR=1.9						
MTN	**Manton Dam**	**20.15**	**227**		**P**	**18 07 52.8**	**+1.7**
LUWI	**Luwuk**	**23.45**	**266**	P	**P**	**18 08 26.8**	**+0.5**
LUWI				IAmb	IAmb	18 08 39.8	
	comp=Z,89nm,1.4s						
WB0	**Warramunga Arr**	**23.47**	**209**		**P**	**18 08 26.2**	**-0.3**
WR0	**Warramunga Arr**	**23.57**	**208**		**P**	**18 08 27.3**	**-0.1**
WR0				IAmb	IAmb	18 08 36.6	
	comp=Z,14nm,0.7s						
WB2	**Warramunga Arr**	**23.64**	**209**		**P**	**18 08 27.6**	**-0.6**
WB2				IAmb	IAmb	18 08 37.4	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**23.65**	**209**	P	**P**	**18 08 28.6**	**+0.3**
	comp=Z,4.4nm,0.5s,baz=31,slow=11,SNR=186						
WRA	**Warramunga Arr**	**23.65**	**209**	P	**P**	**18 08 26.7**	**-1.5**
SOEI	**Soe**	**24.18**	**244**	P	**P**	**18 08 35.8**	**+2.3**
SOEI				IAmb	IAmb	18 08 58.0	
	comp=Z,46nm,1.3s						
BATI	**Baumata**	**24.91**	**243**	P	**P**	**18 08 42.1**	**+2.1**
	comp=Z,26nm,0.7s,baz=148,slow=1.5,SNR=11						
TOLI2	**Tolitoli**	**25.37**	**271**	P	**P**	**18 08 42.8**	**-1.4**
MMRI	**Maumere**	**25.61**	**248**	P	**P**	**18 08 45.5**	**-0.8**
MMRI				IAmb	IAmb	18 09 04.2	
	comp=Z,15nm,0.9s						
JCJ	**Chichijima**	**26.42**	**352**	P	**P**	**18 08 52.8**	**-0.7**
	comp=Z,57nm,0.8s,baz=317,slow=22,SNR=4.0						
JCJ	**Chichijima**	**26.42**	**352**	P	**P**	**18 08 51.2**	**-2.2**
AS31	**Alice Springs**	**27.08**	**205**		**P**	**18 08 59.1**	**-0.4**
ASAR	**Alice Springs**	**27.08**	**205**	P	**P**	**18 09 01.3**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=31,slow=7.8,SNR=46						
ASAR	**Alice Springs**	**27.08**	**205**		**P**	**18 08 59.5**	**0.0**
FITZ	**Fitzroy Crossi**	**27.57**	**226**	P	**P**	**18 09 05.0**	**+1.1**
	comp=Z,3.2nm,0.5s,baz=38,slow=9.2,SNR=32						
FITZ	**Fitzroy Crossi**	**27.57**	**226**	P	**P**	**18 09 04.6**	**+0.6**
FITZ				IAmb	IAmb	18 09 12.8	
	comp=Z,7.7nm,0.7s						
STKA	**Stephens Creek**	**32.79**	**187**	P	**P**	**18 09 50.6**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=339,slow=7.9,SNR=4.6						
STKA	**Stephens Creek**	**32.79**	**187**	IAmb	IAmb	18 09 58.9	
	comp=Z,1.6nm,1.2s						
YHNB	**Yeheng**	**33.72**	**317**	P	**P**	**18 09 59.0**	**+0.7**
YHNB				IAmb	IAmb	18 10 01.3	
	comp=Z,21nm,0.8s						
TATO	**Taipei**	**33.84**	**317**	P	**P**	**18 10 00.5**	**+1.1**
JNU	**Nakatsue**	**35.21**	**337**	P	**P**	**18 10 09.9**	**-1.2**
	comp=Z,11nm,0.9s,baz=33,slow=1.2,SNR=7.0						
INU	**Inuyama**	**35.41**	**347**	P	**P**	**18 10 11.9**	**-0.8**
INU				IAmb	IAmb	18 10 18.5	
	comp=Z,14nm,1.4s						
JGF	**Kuroka**	**35.58**	**348**	P	**P**	**18 10 13.2**	**-1.0**
JGF				IAmb	IAmb	18 10 14.3	
	comp=Z,14nm,1.2s						
KSM	**Kuching**	**35.84**	**271**	P	**P**	**18 10 16.4**	**-0.3**
KSM				IAmb	IAmb	18 10 26.2	
	comp=Z,8.8nm,0.7s						
JHS	**Saijyo**	**36.13**	**342**	P	**P**	**18 10 18.1**	**-0.8**
JHS				IAmb	IAmb	18 10 31.6	
	comp=Z,9.9nm,1.0s						
MJAR	**Matsushiro Arr**	**36.31**	**349**	P	**P**	**18 10 18.8**	**-1.7**
	comp=Z,2.6nm,1.0s,baz=176,slow=11,SNR=5.2						
MJAR	**Matsushiro Arr**	**36.31**	**349**	P	**P**	**18 10 16.7**	**-3.8**
MAJO	**Matsushiro**	**36.31**	**349**	P	**P**	**18 10 18.8**	**-1.7**
MSVF	**Nonsavu**	**36.41**	**122**	P	**P**	**18 10 21.7**	**+0.1**
	comp=Z,10nm,0.7s,baz=291,slow=9.7,SNR=7.6						
MSVF	**Nonsavu**	**36.41**	**122**	IAmb	IAmb	18 10 24.1	
	comp=Z,12nm,0.7s						
QIZ	**Qiongzhong**	**39.93**	**299**	P	**P**	**18 10 52.1**	**+0.8**
QIZ				IAmb	IAmb	18 11 01.7	
	comp=Z,12nm,1.0s						
KSRS	**Korea Array**	**40.16**	**337**	P	**P**	**18 10 52.8**	**0.0**
	comp=Z,3.6nm,0.8s,baz=155,slow=9.5,SNR=16						
KSAR	**Wonju Array Be**	**40.16**	**337**	P	**P**	**18 10 51.5**	**-1.4**
KS19	**Wonju Array Si**	**40.22**	**337**	P	**P**	**18 10 52.3**	**-1.1**
KS19				IAmb	IAmb	18 11 20.5	
	comp=Z,18nm,1.4s						
UBPT	**Khong Chiam**	**42.65**	**292**	P	**P**

CM01	**Chiang Mai Arr**	**49.50**	**294**	P	**P**	**18 12 10.0**	**+2.3**
CM05	**Chiang Mai Arr**	**49.51**	**294**	P	**P**	**18 12 10.3**	**+2.6**
CM02	**Chiang Mai Arr**	**49.51**	**294**	P	**P**	**18 12 10.4**	**+2.6**
CM31	**Chiang Mai Arr**	**49.52**	**294**	P	**P**	**18 12 10.4**	**+2.5**
CM31	**Chiang Mai Arr**	**49.52**	**294**	P	**P**	**18 12 09.1**	**+1.2**
CM31				IAmb	IAmb	18 12 11.4	
	comp=Z,19nm,1.4s						
CMAR	**Chiang Mai Arr**	**49.52**	**294**	P	**P**	**18 12 09.4**	**+1.6**
	comp=Z,5.3nm,0.9s,baz=114,slow=5.8,SNR=31						
CMAR	**Chiang Mai Arr**	**49.52**	**294**	P	**P**	**18 12 09.6**	**+1.8**
CM15	**Chiang Mai Arr**	**49.54**	**294**	P	**P**	**18 12 10.0**	**+2.0**
CM13	**Chiang Mai Arr**	**49.55**	**294**	P	**P**	**18 12 10.0**	**+2.0**
CMMT	**Chiang Mai**	**49.61**	**294**	P	**P**	**18 12 10.4**	**+1.9**
CM33	**Chiang Mai Arr**	**49.62**	**294**	P	**P**	**18 12 11.0**	**+2.4**
CHTO	**Chiang Mai**	**49.62**	**294**	P	**P**	**18 12 10.5**	**+1.9**
CHTO				IAmb	IAmb	18 12 11.7	
	comp=Z,8.6nm,1.3s						
CM32	**Chiang Mai Arr**	**49.66**	**294**	P	**P**	**18 12 11.0**	**+2.1**
KLR	**Kul'dur**	**49.80**	**348**	P	**P**	**18 12 09.3**	**-0.1**
	comp=Z,7.3nm,0.8s,baz=155,slow=5.1,SNR=28						
LZH	**Lanzhou**	**52.62**	**317**	*eP*	**P**	**18 12 32.3**	**+1.3**
LZH				pP	sP	18 12 36.3	+2.7
LZH				sP	pwP	18 12 39.0	+0.4
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
PETK	**Petropavlovsk-**	**53.01**	**9**	P	**P**	**18 12 33.6**	**+0.2**
	comp=Z,12nm,0.9s,baz=172,slow=5.7,SNR=12						
PETK	**Petropavlovsk-**	**53.01**	**9**	P	**P**	**18 12 33.2**	**-0.2**
HIA	**Hailar**	**53.33**	**339**	P	**P**	**18 12 36.2**	**+0.3**
KOHI	**KOHIMA**	**55.89**	**301**	*ex*	**P**	**18 12 55.2**	**+0.1**
KOHI				IAmb	IAmb	18 12 57.1	
	comp=Z,6.9nm,0.5s						
KOHI				*i* x	x	18 13 03.1	
SAIH	**SAIHA**	**55.96**	**297**	*eP*	P	18 12 48.1	-7.5
SAIH				*eS*	**P**	**18 12 56.7**	**+1.0**
SAIH	**SAIHA**	**55.96**	**297**	*ex*	x	18 12 48.6	
SAIH				*i* x	x	18 12 57.5	
GTA	**Gaotai**	**57.07**	**318**	P	P	**18 13 04.0**	**+0.8**
GTA				pP	pwP	18 13 12.5	+1.7
GTA				sP	sP	18 13 16.0	+10
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,86nm,5.5s						
GTA				LR	LR		
	comp=Z,150nm,17.1s						
GTA				LR	LR		
	comp=Z,300nm,17.1s						
GTA				LR	LR		
	comp=Z,210nm,16.4s						
SHL	**Shillong**	**57.77**	**300**	*eP*	**P**	**18 13 09.5**	**+1.1**
SHL	**Shillong**	**57.77**	**300**	*ex*	**P**	**18 13 09.5**	**+1.1**
SHL				IAmb	IAmb	18 13 12.3	
	comp=Z,7.1nm,0.6s						
SHL	**Shillong**	**57.77**	**300**	P	**P**	**18 13 08.8**	**+0.4**
ULN	**Ulaanbaatar**	**57.80**	**330**	P	**P**	**18 13 09.0**	**+0.8**
ULN				IAmb	IAmb	18 13 10.5	
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**58.12**	**330**	P	**P**	**18 13 11.4**	**+0.9**
	comp=Z,5.5nm,0.8s,baz=148,slow=8.1,SNR=44						
SONM				PcP	**PcP**	**18 14 02.5**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=151,slow=3.8,SNR=4.8						
SONM	**Songino Array**	**58.12**	**330**	P	**P**	**18 13 10.6**	**+0.1**
SONM				IAmb	IAmb	18 13 12.6	
	comp=Z,5.8nm,0.9s						
MA2	**Magadan**	**58.72**	**3**	P	**P**	**18 13 13.8**	**-0.5**
MA2				IAmb	IAmb	18 13 15.3	
	comp=Z,10nm,1.1s						
LSA	**Lhasa**	**59.61**	**304**	P	**P**	**18 13 21.3**	**-0.3**
LSA				IAmb	IAmb	18 13 24.5	
	comp=Z,4.2nm,0.9s						
TAPN	**Taplejung**	**61.85**	**301**	*eP*	**P**	**18 13 38.0**	**+1.3**
	comp=Z,11nm,0.5s						
TLY	**Talaya**	**61.98**	**332**	P	**P**	**18 13 36.0**	**-0.7**
TLY				IAmb	IAmb	18 13 38.9	
	comp=Z,6.8nm,0.9s						
ODAN	**Odare**	**62.00**	**300**	*eP*	**P**	**18 13 39.0**	**+1.4**
	comp=Z,38nm,0.8s						
YAK	**Yakutsk**	**62.33**	**351**	P	**P**	**18 13 38.2**	**-0.6**
RAMN	**Ramite**	**62.70**	**300**	*eP*	**P**	**18 13 43.7**	**+1.3**
	comp=Z,12nm,0.7s						
JIRN	**Jiri**	**63.23**	**301**	*eP*	**P**	**18 13 47.4**	**+1.4**
	comp=Z,27nm,0.7s						
GUN	**Gumba**	**63.56**	**301**	*eP*	**P**	**18 13 49.5**	**+1.4**
	comp=Z,81nm,1.0s						
PKI	**Pulchoki**	**63.88**	**300**	*eP*	**P**	**18 13 51.3**	**+1.0**
	comp=Z,81nm,1.5s						
PKIN	**Phulchoki**	**63.89**	**300**	*eP*	**P**	**18 13 51.2**	**+0.9**
KKN	**Kakani**	**64.04**	**301**	*eP*	**P**	**18 13 52.5**	**+1.3**
	comp=Z,44nm,0.8s						
DMN	**Daman**	**64.15**	**300**	*eP*	**P**	**18 13 53.3**	**+1.3**
	comp=Z,43nm,0.8s						
GKN	**Gorkha**	**64.65**	**301**	*eP*	**P**	**18 13 56.4**	**+1.3**
	comp=Z,70nm,0.8s						
DANN	**Dangsing**	**65.48**	**301**	*eP*	**P**	**18 14 01.7**	**+1.0**
	comp=Z,51nm,0.6s						
BILL	**Bilibino**	**68.53**	**8**	P	**P**	**18 14 18.1**	**-0.7**
BILL				IAmb	IAmb	18 14 46.5	
	comp=Z,29nm,1.5s						
SDPT	**Sand Point**	**69.38**	**29**	P	**P**	**18 14 23.8**	**-0.6**
BHPL	**Bhopal**	**70.17**	**294**	*ex*	**P**	**18 14 29.8**	**-0.2**
BHPL				*i* x	x	18 14 37.8	
DDI	**Dehra Dun**	**70.76**	**302**	*ex*	**P**	**18 14 34.9**	**+1.4**
DDI				IAmb	IAmb	18 14 37.7	
	comp=Z,22nm,0.4s						
DDI				*i* x	x	18 14 42.8	
TIXI	**Tiksi**	**71.60**	**354**	P	**P**	**18 14 36.7**	**-1.0**
SMLA	**Simla**	**71.66**	**303**	*eP*	**P**	**18 14 39.9**	**+1.0**
SMLA	**Simla**	**71.66**	**303**	*ex*	x	18 14 40.1	
MK31	**Makanchi Array**	**71.77**	**320**	P	**P**	**18 14 39.5**	**+0.3**
MK31				IAmb	IAmb	18 14 41.1	
	comp=Z,7.7nm,1.1s						
MKAR	**Makanchi Array**	**71.77**	**320**	P	**P**	**18 14 40.0**	**+0.8**
	comp=Z,6.1nm,0.8s,baz=97,slow=7.7,SNR=46						
MKAR	**Makanchi Array**	**71.77**	**320**	P	**P**	**18 14 39.7**	**+0.4**
MAKZ	**Makanchi**	**71.98**	**319**	P	**P**	**18 14 41.1**	**+0.5**
MAKZ				IAmb	IAmb	18 14 41.8	
	comp=Z,9.3nm,0.7s						
DHRM	**DHARAMSHALA**	**72.59**	**304**	*ex*	**P**	**18 14 44.3**	**-0.4**
ZAA0	**Zalesovo Array**	**72.86**	**327**	P	**P**	**18 14 44.9**	**-0.6**
ZAA0				IAmb	IAmb	18 14 45.6	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**72.86**	**327**	P	**P**	**18 14 45.2**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=117,slow=5.3,SNR=14						
ZALV	**Zalesovo Beam**	**72.86**	**327**	P	**P**	**18 14 44.8**	**-0.8**
KDAK	**Kodiak Island**	**74.38**	**29**	P	**P**	**18 14 55.0**	**+0.7**
	comp=Z,5.0nm,0.6s,baz=260,slow=6.1,SNR=4.9						
KDAK	**Kodiak Island**	**74.38**	**29**	P	**P**	**18 14 54.1**	**-0.3**
NIL	**Nilore**	**75.35**	**305**	P	**P**	**18 15 01.9**	**+1.3**
RDOG	**Red Dog Mine**	**75.54**	**18**	P	**P**	**18 15 01.4**	**+0.5**
CNPM	**China Poot**	**75.73**	**28**	P	**P**	**18 15 01.1**	**-1.2**
PWL	**Port Wells**	**77.58**	**27**	P	**P**	**18 15 13.6**	**+0.9**
KNK	**Knik Glacier**	**77.73**	**27**	P	**P**	**18 15 14.0**	**+0.5**
SML	**Sawmill**	**77.93**	**26**	P	**P**	**18 15 15.0**	**+0.3**
MID	**Middleton Isla**	**78.03**	**29**	P	**P**	**18 15 13.7**	**-1.4**
NRIK	**Noril'sk**	**78.58**	**342**	P	**P**	**18 15 17.6**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=124,slow=9.1,SNR=3.6						
VNDA	**Vanda**	**78.71**	**177**	P	**P**	**18 15 19.5**	**+1.0**
	comp=Z,3.0nm,0.7s,baz=326,slow=4.7,SNR=6.1						
VNDA	**Vanda**	**78.71**	**177**	P	**P**	**18 15 19.4**	**+0.8**
KLU	**Klutina**	**78.90**	**27**	P	**P**	**18 15 20.1**	**0.0**
KLU				IAmb	IAmb	18 15 21.9	
	comp=Z,21nm,0.9s						
KBL	**Kabul**	**78.93**	**305**	P	**P**	**18 15 21.5**	**+0.6**
KBL				IAmb	IAmb	18 15 22.4	
	comp=Z,9.7nm,0.8s						
KK31	**Karatay Array**	**78.98**	**314**	P	**P**	**18 15 20.9**	**+0.1**
KK31				IAmb	IAmb	18 15 22.9	
	comp=Z,12nm,1.4s						
KKAR	**Karatay Array**	**78.98**	**314**	P	**P**	**18 15 21.0**	**+0.2**
KKAR	**Karatay Array**	**78.98**	**314**	P	**P**	**18 15 19.6**	**-1.2**
KKAR				IAmb	IAmb	18 15 22.9	
	comp=Z,12nm,1.4s						
IL31		**79.61**	**24**	P	**P**	**18 15 21.7**	**-2.0**
ILAR	**Eielson Array**	**79.61**	**24**	P	**P**	**18 15 22.9**	**-0.8**
	comp=Z,13nm,0.7s,baz=252,slow=5.1,SNR=21						
ILAR	**Eielson Array**	**79.61**	**24**	P	**P**	**18 15 21.7**	**-2.1**
CTGM	**Chitina Glacie**	**80.87**	**28**	P	**P**	**18 15 30.7**	**-0.1**
BRVK	**Borovoye**	**80.88**	**324**	P	**P**	**18 15 30.9**	**0.0**
BRVK				IAmb	IAmb	18 15 31.9	
	comp=Z,5.9nm,0.8s						
HRA	**Herat**	**84.51**	**304**	P	**P**	**18 15 50.3**	**-0.2**
HRA				IAmb	IAmb	18 15 53.6	
	comp=Z,13nm,1.1s						
INK	**Inuvik**	**85.67**	**22**	P	**P**	**18 15 55.5**	**+0.3**
	comp=Z,14nm,1.0s,baz=101,slow=4.2,SNR=5.6						
INK	**Inuvik**	**85.67**	**22**	IAmb	IAmb	18 15 57.0	
	comp=Z,31nm,1.2s						
DLBC	**Dease Lake**	**86.08**	**32**	P	**P**	**18 15 57.9**	**+0.3**
	comp=Z,4.2nm,0.7s,baz=298,slow=12,SNR=3.9						
DLBC	**Dease Lake**	**86.08**	**32**	IAmb	IAmb	18 16 00.7	
	comp=Z,19nm,1.4s						
ABKAR	**Akbulak array**	**86.91**	**319**	P	**P**	**18 16 00.3**	**-1.4**
YKA	**Yellowknife Ar**	**93.57**	**27**	P	**P**	**18 16 32.8**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=276,slow=4.7,SNR=5.1						
NVAR	**Mina Array Bea**	**93.86**	**52**	P	**P**	**18 16 35.5**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=267,slow=5.9,SNR=3.6						
NACGM	**Naroch**	**105.77**	**328**	*i* PKP	PKiKP	18 21 53.2	+13
NACGM				*i* PKP	PKiKP	18 21 53.2	+13
NACGM				*i* PKP	PKiKP	18 21 53.2	+13
NACGM				*i* SKP		18 25 21.4	
NACGM				*i* PPP	PPP	18 27 07.6	
NACGM				*i* SKS	SKSdf	18 28 39.5	-13
NACGM				*i* SKKS		18 31 02.6	
NACGM				*i* SSS	SSS	18 47 03.9	
NACGM				*i* LR	LR	19 12 41.0	
LTVH	**Ltavrtes, Hu**	**111.85**	**323**	⇑P	**PKiKP**	**18 21 52.2**	**+0.3**
CLL	**Collm**	**114.73**	**330**	*i* PKPdf	**PKiKP**	**18 21 57.7**	**+0.3**
	comp=Z,15nm,0.9s						
LPAZ	**La Paz**	**142.88**	**116**	PKP	**PKPdf**	**18 22 50.3**	**-1.9**
	comp=Z,1.4nm,0.6s,baz=292,slow=5.8,SNR=5.5						
CPUP	**Villa Florida**	**146.01**	**140**	PKPbc	**PKPab**	**18 22 58.8**	**+0.9**
	comp=Z,6.7nm,1.2s,baz=231,slow=5.4,SNR=4.9						
DBIC	**Dimbokro**	**150.13**	**285**	PKPbc	**PKPbc**	**18 23 08.2**	**-0.6**
	comp=Z,6.4nm,0.7s,baz=83,slow=3.5,SNR=7.1						

*JMA **30** 18:10:56.9±0.1,24°.08N×122°.28E,h26km±3km,M2.2*
*TAP **30** 18:10:57.0,24°.14N×122°.27E,h24km,ML2.7,D*
ISC 30 18:10:56.6±0.9,24°.09N±0°.02×122°.29E±0°.02,h22km±12km,
n100,σ0°85/166,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.58**	**307**	P	**Pb**	**18 11 07.8**	**-0.4**
	baz=311						
EWUT				S	**Sb**	**18 11 15.5**	**-0.5**
	baz=311						
ENA	**Nanau**	**0.60**	**304**	*i* P	**Pb**	**18 11 08.4**	**0.0**
	baz=308						
ENA				S	**Sb**	**18 11 16.3**	**-0.3**
	baz=308						
TWD	**Chiawan**	**0.63**	**269**	P	**Pb**	**18 11 08.7**	**-0.3**
	baz=265						
NACB	**Ninganchiao**	**0.64**	**277**	P	**Pb**	**18 11 09.2**	**+0.1**
	baz=257						
TWC	**Suao**	**0.65**	**322**	*i* P	**Pb**	**18 11 08.6**	**-0.7**
	baz=320						
TWC				*i* S	**Sb**	**18 11 16.6**	**-1.4**
	baz=320						
JYNG	**Yonagunijimaku**	**0.70**	**59**	P	**Pb**	**18 11 10.4**	**+0.3**
JYNG				*eS*	**Sb**	**18 11 19.2**	**-0.1**
ETLH	**Xiulin Townshi**	**0.74**	**279**	P	**Pb**	**18 11 10.9**	**0.0**
	baz=275						
ETLH				*eS*	**Sn**	**18 11 23.0**	**+0.5**
	baz=275						
NDS	**Dongshan**	**0.75**	**316**	P	**Pb**	**18 11 10.9**	**-0.1**
	baz=313						
NDS				S	**Sb**	**18 11 20.1**	**-0.7**
	baz=313						
YOJ	**Yonaguni jima**	**0.76**	**61**	P	**Pb**	**18 11 11.6**	**+0.5**
	baz=63						
YOJ				S	**Sb**	**18 11 21.7**	**+0.8**
	baz=63						
YOJ	**Yonaguni jima**	**0.76**	**61**	P	**Pb**	**18 11 11.4**	**+0.3**
YOJ				*eS*	**Sb**	**18 11 21.2**	**+0.3**
TWE	**Neicheng**	**0.84**	**318**	*i* P	**Pb**	**18 11 12.4**	**-0.2**
	baz=323						
TWE				*i* S	**Sb**	**18 11 23.1**	**-0.4**
	baz=323						
ENTT	**Nioudou**	**0.85**	**310**	*i* P	**Pn**	**18 11 13.0**	**-0.3**
	baz=316						
ENTT				S	**Sb**	**18 11 23.2**	**-0.6**
	baz=316						
NTC	**Toucheng**	**0.87**	**331**	P	**Pn**	**18 11 13.6**	**+0.1**
	baz=329						
NTC				S	**Sn**	**18 11 24.2**	**-1.1**
	baz=329						
NDT	**Datong Townshi**	**0.87**	**306**	*i* P	**Pn**	**18 11 13.6**	**+0.1**
	baz=313						
NDT				S	**Sn**	**18 11 24.5**	**-1.0**
	baz=313						
NNSB	**Datong**	**0.89**	**292**	P	**Pb**	**18 11 13.3**	**-0.1**
	baz=289						
NNSB				S	**Sn**	**18 11 25.4**	**-0.8**
	baz=289						
NNSH	**Datong**	**0.89**	**292**	*i* P	**Pb**	**18 11 13.5**	**0.0**
	baz=289						
NNSH				S	**Sn**	**18 11 26.4**	**+0.2**
	baz=289						
EGFH	**Guangfu**	**0.89**	**242**	P	**Pb**	**18 11 12.9**	**-0.5**
	baz=229						
EGFH				S	**Sb**	**18 11 24.9**	**0.0**
	baz=229						
NNS	**Nan Shan**	**0.90**	**293**	*i* P	**Pn**	**18 11 13.8**	**-0.2**
	baz=290						
NNS				S	**Sn**	**18 11 26.2**	**-0.2**
	baz=290						
WHF	**Hehuan Shan**	**0.94**	**273**	*i* P	**Pb**	**18 11 14.1**	**-0.3**
	baz=257						
TWB1	**Santiao Chiao**	**0.95**	**343**	S	**Sn**	**18 11 27.2**	**-0.3**
	baz=341						
FUSS	**Fushou**	**0.97**	**279**	*i* P	**Pb**	**18 11 14.7**	**-0.1**
	baz=276						
TIPB	**Shuangxi**	**0.97**	**334**	*i* P	**Pn**	**18 11 15.2**	**+0.3**
	baz=332						
TIPB				*i* S	**Sn**	**18 11 27.1**	**-1.0**
	baz=332						
NWLT	**Wulai**	**0.99**	**314**	*i* P	**Pn**	**18 11 15.4**	**+0.3**
	baz=311						
NWLT				S	**Sn**	**18 11 28.5**	**+0.1**
	baz=311						
HGSD	**Ruisui**	**0.99**	**233**	P	**Pn**	**18 11 14.5**	**-0.7**
	baz=231						
YHNB	**Yeheng**	**1.01**	**305**	P	**Pb**	**18 11 15.6**	**+0.1**
	baz=290						
YHNB				S	**Sn**	**18 11 29.3**	**+0.2**
	baz=290						
CHGB	**Renai**	**1.02**	**268**	P	**Pn**	**18 11 15.4**	**-0.3**
	baz=254						
CHGB				S	**Sn**	**18 11 29.4**	**0.0**
	baz=254						
TWT	**Tachien**	**1.03**	**279**	*eP*	**Pb**	**18 11 16.9**	**+1.1**
	baz=264						
TDCB	**Techi**	**1.04**	**279**	P	**Pb**	**18 11 16.4**	**+0.3**
	baz=276						
TDCB				*eS*	**Sn**	**18 11 29.8**	**-0.1**
	baz=276						
EHY	**Hungye**	**1.06**	**237**	*i* P	**Pn**	**18 11 15.4**	**-0.7**
	baz=249						
WFSB	**Wu-fen Shan**	**1.08**	**335**	P	**Pn**	**18 11 14.6**	**-1.8**
	baz=332						
WFSB				S	**Sn**	**18 11 30.6**	**-0.1**
	baz=332						
TWA	**Mucha**	**1.09**	**324**	*i* P	**Pb**	**18 11 17.8**	**+0.9**
	baz=322						
TWA				S	**Sn**	**18 11 31.0**	**0.0**
	baz=322						
VWDT	**VWDT**	**1.10**	**252**	P	**Pn**	**18 11 16.5**	**-0.1**
	baz=239						
VWDT				S	**Sb**	**18 11 31.1**	**+0.3**
	baz=239						
NHDH	**Xindian Distri**	**1.11**	**321**	P	**Pb**	**18 11 17.8**	**+0.7**
	baz=331						
NHDH				S	**Sn**	**18 11 31.4**	**0.0**
	baz=331						
TATO	**Taipei**	**1.14**	**321**	P	**Pb**	**18 11 17.8**	**+0.1**
	baz=318						
TATO				*eS*	**Sn**	**18 11 32.2**	**+0.1**
	baz=318						
YULB	**Yu-li**	**1.14**	**233**	P	**Pn**	**18 11 16.5**	**-0.8**
	baz=247						
TNOU	**National Taiwa**	**1.15**	**336**	P	**Pb**	**18 11 17.5**	**-0.3**
	baz=346						
TNOU				S	**Sn**	**18 11 32.2**	**-0.3**
	baz=346						
EYUL	**Yuli**	**1.16**	**230**	P	**Pn**	**18 11 17.2**	**-0.2**
	baz=246						
EYUL				S	**Sn**	**18 11 32.5**	**-0.1**
	baz=246						
TWF1	**Yuli**	**1.17**	**231**	P	**Pn**	**18 11 17.0**	**-0.6**
	baz=246						
TWF1				S	**Sn**	**18 11 32.9**	**0.0**
	baz=246						
WPL	**Puli Township**	**1.22**	**267**	*eP*	**Pn**	**18 11 18.5**	**+0.2**
	baz=265						
YM01	**YM01**	**1.24**	**328**	P	**Pb**	**18 11 18.7**	**-0.6**
	baz=341						
YM01				S	**Sb**	**18 11 34.2**	**-0.7**
	baz=341						
WHP	**Taichung City**	**1.24**	**279**	*i* P	**Pb**	**18 11 19.8**	**+0.4**
	baz=266						
DPDB	**Guoxing**	**1.25**	**268**	P	**Pn**	**18 11 19.1**	**+0.4**
	baz=266						
YM10	**YM10**	**1.25**	**328**	P	**Pb**	**18 11 18.9**	**-0.7**
	baz=341						
YM11	**YM11**	**1.25**	**329**	P	**Pb**	**18 11 19.8**	**+0.3**
	baz=342						
YM05	**YM05**	**1.25**	**329**	P	**Pb**	**18 11 19.0**	**-0.6**
	baz=341						
SSLB	**Suanglung**	**1.26**	**256**	P	**Pn**	**18 11 18.9**	**0.0**
	baz=243						
WCS	**Beigang Elemen**	**1.26**	**269**	P	**Pn**	**18 11 18.8**	**0.0**
	baz=267						
YM04	**YM04**	**1.26**	**327**	P	**Pb**	**18 11 19.1**	**-0.6**
	baz=340						
YM08	**YM08**	**1.26**	**330**	*eP*	**Pb**	**18 11 19.4**	**-0.4**
	baz=342						
FULB	**Fuli**	**1.27**	**226**	*i* P	**Pn**	**18 11 18.0**	**-1.1**
	baz=213						
FULB				*i* S	**Sn**	**18 11 34.1**	**-1.4**
	baz=213						
TWS1	**Kuangyinshan**	**1.28**	**322**	*eP*	**Pb**	**18 11 19.3**	**-0.7**
	baz=330						
TWS1				*eS*	**Sb**	**18 11 35.9**	**-0.1**
	baz=330						
YM03	**YM03**	**1.28**	**328**	*eP*	**Pb**	**18 11 20.6**	**+0.5**
	baz=325						
LIOB	**Emei**	**1.28**	**296**	P	**Pb**	**18 11 20.3**	**+0.2**
	baz=293						
SMLT	**Sun Moon Lake**	**1.29**	**261**	*i* P	**Pn**	**18 11 19.6**	**+0.3**
	baz=259						
SMLT				*eS*	**Sn**	**18 11 36.2**	**+0.3**
	baz=259						
NSTT	**Nanjuang**	**1.29**	**295**	P	**Pb**	**18 11 21.0**	**+0.8**
	baz=292						
NSTT				*eS*	**Sb**	**18 11 36.8**	**+0.5**
	baz=292						
ANP	**Anpu**	**1.29**	**328**	P	**Pb**	**18 11 19.8**	**-0.5**
	baz=325						
CHKT	**Chengkung**	**1.30**	**221**	*eS*	**Sn**	**18 11 33.9**	**-2.2**
	baz=210						
TYC	**Yuchr**	**1.32**	**262**	*i* P	**Pn**	**18 11 19.9**	**+0.3**
	baz=260						
TWY	**Chenhua**	**1.33**	**332**	P	**Pb**	**18 11 21.8**	**+0.9**
	baz=329						
TWY				*eS*	**Sb**	**18 11 38.5**	**+0.9**
	baz=329						
IRIF	**Iriomote-Funau**	**1.34**	**79**	P	**Pn**	**18 11 20.4**	**+0.5**
IRIF				*eS*	**Sb**	**18 11 38.5**	**+0.8**
YUS	**Yu-Shan**	**1.36**	**244**	P	**Pn**	**18 11 21.0**	**+0.3**
	baz=243						
YUS				S	**Sn**	**18 11 37.6**	**-0.7**
	baz=243						
WHYT	**Xinyi Township**	**1.37**	**254**	P	**Pb**	**18 11 22.0**	**+0.4**
	baz=241						
WHYT				S	**Sb**	**18 11 40.8**	**+2.1**
	baz=241						
HATJ	**Hateruma jima**	**1.39**	**91**	P	**Pb**	**18 11 22.2**	**+0.4**
TWQ1	**Liyutan**	**1.41**	**281**	*eP*	**Pb**	**18 11 22.2**	**0.0**
	baz=279						
EDH	**Donghe**	**1.43**	**219**	*i* P	**Pn**	**18 11 20.4**	**-0.8**
	baz=209						
EDH				*i* S	**Sn**	**18 11 37.6**	**-1.8**
	baz=209						
WJS	**Zhushan**	**1.45**	**260**	P	**Pb**	**18 11 23.5**	**+0.5**
	baz=258						
WJS				S	**Sb**	**18 11 43.5**	**+2.5**
	baz=258						
ELDTW	**Lidau**	**1.47**	**233**	*i* P	**Pn**	**18 11 21.5**	**-0.3**
	baz=220						
ELDTW				S	**Sn**	**18 11 39.0**	**-1.4**
	baz=220						
ALS	**Alishan**	**1.48**	**247**	P	**Pn**	**18 11 22.9**	**+0.8**
	baz=246						
WNT	**Mingjian**	**1.48**	**262**	P	**Pb**	**18 11 24.2**	**+0.7**
	baz=261						
WNT				S	**Sb**	**18 11 43.2**	**+1.4**
	baz=261						
CHN5	**Tsauling**	**1.55**	**252**	*i* P	**Pn**	**18 11 24.2**	**+1.2**
	baz=251						
CHN5				*eS*	**Sb**	**18 11 44.6**	**+0.6**
	baz=251						
JKRS	**Kuro-shima**	**1.58**	**84**	P	**Pb**	**18 11 24.9**	**-0.2**
LONT	**Longtian**	**1.59**	**222**	P	**Pn**	**18 11 22.9**	**-0.4**
	baz=222						
LDUT	**Ludao**	**1.60**	**208**	P	**Pn**	**18 11 22.1**	**-1.4**
	baz=209						
LDUT				S	**Sn**	**18 11 40.7**	**-2.7**
	baz=209						
WGK	**Gukeng**	**1.63**	**256**	P	**Pb**	**18 11 26.7**	**+0.8**
	baz=255						
WGK				*eS*	**Sb**	**18 11 47.4**	**+1.2**
	baz=255						
STYH	**Taoyuan**	**1.66**	**237**	P	**Pn**	**18 11 25.0**	**+0.7**
	baz=237						
STYH				S	**Sn**	**18 11 45.9**	**+0.8**
	baz=237						
STYT	**Tauyuan**	**1.68**	**237**	*i* P	**Pn**	**18 11 25.6**	**+0.9**
	baz=237						
STYT				S	**Sb**	**18 11 47.8**	**+0.1**
	baz=237						
TWG	**Pinlang**	**1.69**	**222**	P	**Pn**	**18 11 23.7**	**-1.0**
	baz=233						
TWG				*eS*	**Sn**	**18 11 44.9**	**-0.7**
	baz=233						
TPUB	**Ta-pu**	**1.71**	**243**	P	**Pn**	**18 11 26.6**	**+1.5**
	baz=243						
TPUB				S	**Sb**	**18 11 49.1**	**+0.6**
	baz=243						
JIJ	**Ishigaki jima**	**1.71**	**81**	P	**Pn**	**18 11 25.3**	**+0.2**
JIJ				*eS*	**Sn**	**18 11 47.0**	**+0.7**
WTP	**Ta-pu**	**1.75**	**242**	P	**Pn**	**18 11

	baz=209						
EAST	**Anshuo**	**2.16 218**	P		**Pn**	**18 11 31.7**	**+0.5**
	baz=219						
SCZT	**Fangliau**	**2.30 222**	*e*P		**Pn**	**18 11 34.4**	**+1.3**
	baz=216						
SLIU	**Shizi**	**2.32 217**	P		**Pn**	**18 11 35.0**	**+1.6**
	baz=217						
PHUB	**P'eng-hu**	**2.55 258**	P		**Pn**	**18 11 37.2**	**+0.5**
	baz=258						
PHUB			S		**Sn**	**18 12 08.0**	**+1.0**
	baz=258						
PNG	**Penghu**	**2.56 259**	P		**Pn**	**18 11 37.4**	**+0.8**
	baz=259						
PNG			*e*S		**Sn**	**18 12 08.7**	**+1.6**
	baz=259						
VWUC	**VWUC**	**2.74 290**	P		**Pn**	**18 11 38.9**	**-0.2**
	baz=288						
VWUC			*e*S		**Sn**	**18 12 11.0**	**-0.5**
	baz=288						
MATB	**Ma-tsu**	**2.95 314**	*e*P		**Pn**	**18 11 42.7**	**+0.6**
	baz=312						
PTMZ	**Houxiangcun**	**3.04 289**	*e*P		**Pn**	**18 11 43.2**	**0.0**
	baz=288						
PTMZ			*e*S		**Sn**	**18 12 20.0**	**+1.1**
	baz=288						

*IDC **30** 18:11:56.8±2.2,5°.54S×153°.15E,h0km,mb3.7/8,*
mb1 3.8/9,mb1mx3.6/49,mbtmp3.7/9,ML1.4/1,Error
ellipse: s-maj=81.1km s-min=21.1km az=122.0
ISC 30 18:12:02.4±1.8,5°.6S±0°.3×153°.1E±0°.3,h37km,n10,
σ0§61/11,mb3.5/8,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.99**	**237**	Pn		**Pn**	**Pn**	**18 13 41.9**	**-0.3**
	0.4nm,0.3s,baz=52,slow=18,SNR=1.9								
PMG				Sn			**Sn**	**18 14 59.9**	**-0.5**
	2.5nm,0.3s,baz=35,slow=20,SNR=7.4								
WRA	**Warramunga Arr**	**23.14**	**230**	P		**P**	**P**	**18 17 05.5**	**-0.1**
	1.6nm,0.9s,baz=57,slow=10,SNR=5.6								
ASAR	**Alice Springs**	**25.77**	**224**	P		**P**	**P**	**18 17 30.1**	**+0.2**
	1.2nm,0.9s,baz=55,slow=8.6,SNR=3.4								
FITZ	**Fitzroy Crossi**	**29.53**	**243**	P		**P**	**P**	**18 18 04.7**	**+1.1**
	0.7nm,0.5s,baz=48,slow=7.9,SNR=1.5								
PETK	**Petropavlovsk-**	**58.60**	**3**	P		**P**	**P**	**18 21 56.0**	**+0.6**
	2.3nm,0.9s,baz=141,slow=5.2,SNR=5.1								
SONM	**Songino Array**	**67.12**	**328**	P		**P**	**P**	**18 22 52.4**	**0.0**
	0.2nm,0.4s,baz=146,slow=5.2,SNR=1.8								
MKAR	**Makanchi Array**	**81.09**	**319**	P		**P**	**P**	**18 24 13.7**	**-0.1**
	0.4nm,0.8s,baz=104,slow=4.9,SNR=2.0								
ZALV	**Zalesovo Beam**	**81.95**	**326**	P		**P**	**P**	**18 24 17.7**	**-0.5**
	0.3nm,0.4s,baz=133,slow=10,SNR=1.8								
ILAR	**Eielson Array**	**82.78**	**22**	P		**P**	**P**	**18 24 21.4**	**-0.9**
	0.4nm,0.7s,baz=252,slow=5.3,SNR=3.0								
TORD	**Torodi Ar. Bea**	**150.80**	**287**	PKPbc		**PKiKP**	**PKiKP**	**18 31 52.9**	**+0.3**
	0.7nm,1.0s,baz=74,slow=2.2,SNR=1.8								

*TAP **30** 18:19:02.7,24°.13N×122°.30E,h26km,ML3.2,D*
*JMA **30** 18:19:02.8±0.1,24°.05N×122°.29E,h26km±3km,M2.8*
ISC 30 18:19:02.3±1.1,24°.06N±0°.02×122°.29E±0°.02,h19km±3km,
n109,σ0§60/182,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.60**	**309**	*i* P		**Pb**	**Pb**	**18 19 13.9**	**-0.3**
	baz=303								
EWUT				S		**Sb**	**Sb**	**18 19 22.1**	**-0.1**
	baz=303								
ENA	**Nanau**	**0.62**	**306**	*i* P		**Pb**	**Pb**	**18 19 14.4**	**0.0**
	baz=307								
ENA				S		**Sb**	**Sb**	**18 19 22.5**	**-0.3**
	baz=307								
HWA	**Hwalien**	**0.63**	**262**	P		**Pg**	**Pg**	**18 19 15.0**	**+0.1**
	baz=257								
HWA				S		**Sn**	**Sn**	**18 19 26.0**	**+0.2**
	baz=257								
NACB	**Ninganchiao**	**0.64**	**280**	P		**Pg**	**Pg**	**18 19 15.3**	**+0.3**
	baz=260								
NACB				*e*S		**Sg**	**Sg**	**18 19 24.8**	**+1.1**
	baz=260								
TWC	**Suao**	**0.68**	**324**	*i* P		**Pb**	**Pb**	**18 19 14.8**	**-0.6**
	baz=319								
TWC				*i* S		**Sb**	**Sb**	**18 19 22.8**	**-1.7**
	baz=319								
JYNG	**Yonagunijimaku**	**0.71**	**57**	P		**Pg**	**Pg**	**18 19 16.5**	**+0.1**
JYNG				*e*S		**Sb**	**Sb**	**18 19 25.5**	**-0.1**
ETLH	**Xiulin Townshi**	**0.75**	**281**	P		**Pb**	**Pb**	**18 19 16.9**	**0.0**
	baz=276								
ETLH				S		**Sn**	**Sn**	**18 19 28.4**	**-0.5**
	baz=276								
NDS	**Dongshan**	**0.77**	**318**	P		**Pb**	**Pb**	**18 19 17.0**	**-0.1**
	baz=312								
NDS				S		**Sb**	**Sb**	**18 19 27.0**	**-0.3**
	baz=312								
YOJ	**Yonaguni jima**	**0.77**	**59**	P		**Pb**	**Pb**	**18 19 17.3**	**+0.1**
	baz=61								
YOJ				S		**Sb**	**Sb**	**18 19 27.1**	**-0.1**
	baz=61								
YOJ	**Yonaguni jima**	**0.77**	**59**	P		**Pg**	**Pg**	**18 19 17.5**	**+0.1**
YOJ				S		**Sb**	**Sb**	**18 19 27.3**	**0.0**
ESL	**Shilin**	**0.82**	**253**	*i* P		**Pb**	**Pb**	**18 19 17.6**	**-0.4**
	baz=239								
ESL				*e*S		**Sg**	**Sg**	**18 19 29.9**	**+0.7**
	baz=239								
ILA	**Ilan**	**0.85**	**325**	*i* P		**Pb**	**Pb**	**18 19 18.5**	**-0.1**
	baz=320								
ILA				*i* S		**Sg**	**Sg**	**18 19 30.3**	**-0.1**
	baz=320								
TWE	**Neicheng**	**0.86**	**319**	*i* P		**Pb**	**Pb**	**18 19 18.5**	**-0.3**
	baz=322								
TWE				S		**Sb**	**Sb**	**18 19 29.3**	**-0.7**
	baz=322								
ENTT	**Nioudou**	**0.87**	**311**	*i* P		**Pb**	**Pb**	**18 19 19.0**	**+0.1**
	baz=306								
ENTT				S		**Sb**	**Sb**	**18 19 30.2**	**0.0**
	baz=306								
EGFH	**Guangfu**	**0.88**	**244**	*i* P		**Pb**	**Pb**	**18 19 19.0**	**0.0**
	baz=231								
EGFH				S		**Sn**	**Sn**	**18 19 32.2**	**+0.2**
	baz=231								
NDT	**Datong Townshi**	**0.89**	**307**	*i* P		**Pg**	**Pg**	**18 19 19.6**	**-0.1**
	baz=312								
NDT				S		**Sb**	**Sb**	**18 19 30.6**	**0.0**
	baz=312								
NTC	**Toucheng**	**0.89**	**332**	*i* P		**Pb**	**Pb**	**18 19 19.3**	**+0.1**
	baz=328								
NTC				S		**Sb**	**Sb**	**18 19 30.3**	**-0.4**
	baz=328								
NNSB	**Datong**	**0.90**	**294**	P		**Pb**	**Pb**	**18 19 19.6**	**+0.1**
	baz=289								
NNSB				*e*S		**Sb**	**Sb**	**18 19 30.9**	**-0.2**
	baz=289								
NNSH	**Datong**	**0.90**	**294**	*i* P		**Pb**	**Pb**	**18 19 19.5**	**0.0**
	baz=289								
NNSH				S		**Sb**	**Sb**	**18 19 31.4**	**+0.3**
	baz=289								
NNS	**Nan Shan**	**0.92**	**294**	*i* P		**Pb**	**Pb**	**18 19 19.7**	**0.0**
	baz=290								
NNS				S		**Sn**	**Sn**	**18 19 33.3**	**+0.2**
	baz=290								
WHF	**Hehuan Shan**	**0.94**	**275**	*i* P		**Pb**	**Pb**	**18 19 20.0**	**-0.3**
	baz=258								
FUSS	**Fushou**	**0.97**	**281**	*i* P		**Pb**	**Pb**	**18 19 21.0**	**+0.3**
	baz=277								
FUSS				S		**Sn**	**Sn**	**18 19 35.2**	**+0.6**
	baz=277								
HGSD	**Ruisui**	**0.97**	**234**	P		**Pb**	**Pb**	**18 19 19.7**	**-0.9**
	baz=232								
HGSD				S		**Sg**	**Sg**	**18 19 34.1**	**0.0**
	baz=232								
TWB1	**Santiao Chiao**	**0.98**	**344**	P		**Pb**	**Pb**	**18 19 20.6**	**-0.1**
	baz=327								
TWB1				S		**Sb**	**Sb**	**18 19 32.1**	**-1.2**
	baz=327								
TIPB	**Shuangxi**	**1.00**	**335**	*i* P		**Pb**	**Pb**	**18 19 21.1**	**0.0**
	baz=331								
TIPB				S		**Sb**	**Sb**	**18 19 33.0**	**-0.9**
	baz=331								
NWLT	**Wulai**	**1.01**	**315**	*i* P		**Pb**	**Pb**	**18 19 21.3**	**+0.1**
	baz=310								
NWLT				S		**Sb**	**Sb**	**18 19 34.6**	**+0.4**
	baz=310								
CHGB	**Renai**	**1.02**	**270**	P		**Pb**	**Pb**	**18 19 21.4**	**-0.1**
	baz=255								
CHGB				S		**Sg**	**Sg**	**18 19 35.4**	**-0.1**
	baz=255								
YHNB	**Yeheng**	**1.03**	**306**	P		**Pb**	**Pb**	**18 19 21.6**	**0.0**
	baz=290								
YHNB				S		**Sb**	**Sb**	**18 19 35.0**	**+0.3**
	baz=290								
TWT	**Tachien**	**1.03**	**281**	P		**Pb**	**Pb**	**18 19 21.9**	**+0.2**
	baz=265								
EHY	**Hungye**	**1.04**	**238**	*i* P		**Pb**	**Pb**	**18 19 21.4**	**-0.5**
	baz=228								
EHY				*i* S		**Sb**	**Sb**	**18 19 35.1**	**0.0**
	baz=228								
NSK	**Sanguang**	**1.04**	**306**	*i* P		**Pb**	**Pb**	**18 19 21.7**	**-0.2**
	baz=290								
NSK				*i* S		**Sb**	**Sb**	**18 19 35.1**	**-0.1**
	baz=290								
TDCB	**Techi**	**1.05**	**281**	P		**Pb**	**Pb**	**18 19 21.8**	**-0.2**
	baz=277								
TDCB				S		**Sb**	**Sb**	**18 19 36.1**	**+0.7**
	baz=277								
VWDT	**VWDT**	**1.09**	**254**	P		**Pn**	**Pn**	**18 19 22.3**	**-0.3**
	baz=240								
VWDT				S		**Sn**	**Sn**	**18 19 37.7**	**+0.4**
	baz=240								
WFSB	**Wu-fen Shan**	**1.10**	**335**	P		**Pn**	**Pn**	**18 19 22.7**	**-0.1**
	baz=331								
WFSB				S		**Sb**	**Sb**	**18 19 36.8**	**-0.1**
	baz=331								
TWA	**Mucha**	**1.12**	**325**	*i* P		**Pb**	**Pb**	**18 19 23.5**	**+0.5**
	baz=321								
TWA				S		**Sb**	**Sb**	**18 19 37.2**	**-0.1**
	baz=321								
YULB	**Yu-li**	**1.13**	**234**	*i* P		**Pn**	**Pn**	**18 19 22.6**	**-0.5**
	baz=248								
YULB				S		**Sb**	**Sb**	**18 19 37.9**	**+0.4**
	baz=248								
NHDH	**Xindian Distri**	**1.13**	**322**	P		**Pn**	**Pn**	**18 19 23.0**	**-0.2**
	baz=332								
TWF1	**Yuli**	**1.15**	**232**	*i* P		**Pn**	**Pn**	**18 19 23.2**	**-0.3**
	baz=247								
TWF1				S		**Sn**	**Sn**	**18 19 38.9**	**+0.2**
	baz=247								
TATO	**Taipei**	**1.16**	**321**	P		**Pb**	**Pb**	**18 19 24.1**	**+0.3**
	baz=317								
TATO				S		**Sb**	**Sb**	**18 19 38.3**	**-0.3**
	baz=317								
TNOU	**Nuanonal Taiwa**	**1.18**	**337**	P		**Pn**	**Pn**	**18 19 23.9**	**+0.1**
	baz=333								
TNOU				S		**Sb**	**Sb**	**18 19 38.1**	**-0.9**
	baz=333								
TAP1	**Taipei**	**1.20**	**325**	P		**Pg**	**Pg**	**18 19 25.3**	**-0.2**
	baz=320								
TAP1				S		**Sg**	**Sg**	**18 19 40.9**	**-0.2**
	baz=320								
TAP	**Taipei**	**1.20**	**324**	P		**Pg**	**Pg**	**18 19 25.5**	**-0.1**
	baz=320								
TAP				S		**Sn**	**Sn**	**18 19 40.1**	**+0.1**
	baz=320								
WPL	**Puli Township**	**1.22**	**268**	P		**Pn**	**Pn**	**18 19 24.4**	**+0.1**
	baz=265								
DPDB	**Guoxing**	**1.24**	**269**	P		**Pn**	**Pn**	**18 19 25.1**	**+0.3**
	baz=266								
WHP	**Taichung City**	**1.24**	**280**	P		**Pb**	**Pb**	**18 19 25.7**	**+0.5**
	baz=266								
WHP				*e*S		**Sg**	**Sg**	**18 19 42.1**	**-0.6**
	baz=266								
SSLB	**Suanglung**	**1.25**	**258**	P		**Pn**	**Pn**	**18 19 25.2**	**+0.3**
	baz=256								
SSLB				S		**Sn**	**Sn**	**18 19 41.4**	**+0.2**
	baz=256								
FULB	**Fuli**	**1.25**	**227**	*i* P		**Pn**	**Pn**	**18 19 23.9**	**-1.1**
	baz=214								
FULB				*i* S		**Sb**	**Sb**	**18 19 40.6**	**-0.6**
	baz=214								
YM01	**YM01**	**1.26**	**329**	P		**Pn**	**Pn**	**18 19 24.3**	**-0.7**
	baz=339								
YM01				S		**Sb**	**Sb**	**18 19 40.6**	**-0.8**
	baz=339								
YM10	**YM10**	**1.27**	**329**	P		**Pn**	**Pn**	**18 19 24.7**	**-0.5**
	baz=340								
YM11	**YM11**	**1.27**	**330**	P		**Pn**	**Pn**	**18 19 25.4**	**+0.1**
	baz=340								
YM05	**YM05**	**1.28**	**329**	P		**Pn**	**Pn**	**18 19 24.8**	**-0.5**
	baz=340								
CHKT	**Chengkung**	**1.28**	**222**	P		**Pn**	**Pn**	**18 19 24.4**	**-0.8**
	baz=211								
CHKT				*e*S		**Sn**	**Sn**	**18 19 40.6**	**-1.2**
	baz=211								
SMLT	**Sun Moon Lake**	**1.28**	**262**	*i* P		**Pn**	**Pn**	**18 19 25.6**	**+0.2**
	baz=259								
NJD	**Zhudong**	**1.28**	**302**	P		**Pb**	**Pb**	**18 19 26.3**	**+0.4**
	baz=298								
YM04	**YM04**	**1.28**	**328**	P		**Pn**	**Pn**	**18 19 24.8**	**-0.5**
	baz=339								
YM08	**YM08**	**1.29**	**331**	P		**Pn**	**Pn**	**18 19 24.4**	**-1.0**
	baz=327								
LIOB	**Emei**	**1.30**	**297**	*i* P		**Pb**	**Pb**	**18 19 26.7**	**+0.5**
	baz=293								
NTY	**Taoyuan**	**1.30**	**316**	*e*P		**Pn**	**Pn**	**18 19 25.9**	**+0.4**
	baz=328								
NSTT	**Nanjuang**	**1.30**	**296**	*i* P		**Pb**	**Pb**	**18 19 26.8**	**+0.5**
	baz=292								
TWS1	**Kuangyinshan**	**1.30**	**323**	*i* P		**Pn**	**Pn**	**18 19 25.7**	**+0.1**
	baz=330								
TWS1				*e*S		**Sb**	**Sb**	**18 19 42.9**	**+0.3**
	baz=330								
YM03	**YM03**	**1.30**	**329**	P		**Pn**	**Pn**	**18 19 25.9**	**+0.2**
	baz=325								
TYC	**Yuchr**	**1.32**	**263**	*i* P		**Pn**	**Pn**	**18 19 26.1**	**+0.4**
	baz=261								
TYC				*e*S		**Sn**	**Sn**	**18 19 42.9**	**+0.1**
	baz=261								
ANP	**Anpu**	**1.32**	**328**	P		**Pn**	**Pn**	**18 19 26.3**	**+0.5**
	baz=324								
NTST	**Danshui**	**1.34**	**325**	*e*P		**Pb**	**Pb**	**18 19 26.8**	**0.0**
	baz=337								
IRIF	**Iriomote-Funau**	**1.34**	**78**	S		**Sb**	**Sb**	**18 19 44.9**	**+1.1**
NCU	**National Centr**	**1.35**	**312**	*e*S		**Sg**	**Sg**	**18 19 45.5**	**-0.6**
	baz=308								
NCUH	**Zhongli**	**1.35**	**312**	*e*P		**Pb**	**Pb**	**18 19 27.1**	**0.0**
	baz=308								
YUS	**Yu-Shan**	**1.35**	**245**	*i* P		**Pn**	**Pn**	**18 19 26.7**	**+0.1**
	baz=244								
YUS				*i* S		**Sn**	**Sn**	**18 19 43.8**	**-0.5**
	baz=244								
HSN1	**Hsinchu**	**1.36**	**302**	*e*P		**Pn**	**Pn**	**18 19 26.9**	**+0.5**
	baz=298								
TWY	**Chenhua**	**1.36**	**333**	*i* P		**Pb**	**Pb**	**18 19 27.6**	**+0.4**
	baz=329								
TWY				S		**Sb**	**Sb**	**18 19 44.6**	**+0.4**
	baz=329								
WHYT	**Xinyi Township**	**1.36**	**255**	*i* P		**Pb**	**Pb**	**18 19 28.1**	**+0.8**
	baz=242								
WHYT				S		**Sg**	**Sg**	**18 19 46.8**	**+0.3**
	baz=242								
HATJ	**Hateruma jima**	**1.39**	**90**	P		**Pb**	**Pb**	**18 19 27.8**	**+0.1**
SBCB	**Hsinchu**	**1.39**	**302**	P		**Pb**	**Pb**	**18 19 27.9**	**+0.1**
	baz=298								
SBCB				*e*S		**Sb**	**Sb**	**18 19 46.2**	**+1.1**
	baz=298								
HSN	**Hsinchu**	**1.41**	**302**	*e*S		**Sg**	**Sg**	**18 19 47.4**	**-0.5**
	baz=300								
TWQ1	**Liyutan**	**1.41**	**282**	*i* P		**Pb**	**Pb**	**18 19 28.3**	**+0.2**
	baz=279								
EDH	**Donghe**	**1.41**	**220**	P		**Pn**	**Pn**	**18 19 26.3**	**-0.8**
	baz=211								
EDH				S		**Sn**	**Sn**	**18 19 43.0**	**-2.2**
	baz=211								
NSY	**Sanyi**	**1.44**	**284**	*i* P		**Pg**	**Pg**	**18 19 29.6**	**-0.4**
	baz=282								
NMLH	**Miaoli**	**1.44**	**289**	P		**Pb**	**Pb**	**18 19 28.6**	**0.0**
	baz=286								
WJS	**Zhushan**	**1.45**	**261**	P		**Pn**	**Pn**	**18 19 29.1**	**+0.4**
	baz=259								
WJS				S		**Sg**	**Sg**	**18 19 50.8**	**+1.7**
	baz=259								
WWF	**Wufeng**	**1.45**	**270**	P		**Pb**	**Pb**	**18 19 29.6**	**+0.8**
	baz=268								
WWF				S		**Sg**	**Sg**	**18 19 50.7**	**+1.4**
	baz=268								
ELDTW	**Lidau**	**1.45**	**233**	*i* P		**Pn**	**Pn**	**18 19 27.2**	**-0.5**
	baz=221								
ELDTW				S		**Sn**	**Sn**	**18 19 45.7**	**-0.7**
	baz=221								
ALS	**Alishan**	**1.47**	**248**	*i* P		**Pb**	**Pb**	**18 19 28.9**	**-0.3**
	baz=247								
ALS				S		**Sn**	**Sn**	**18 19 47.1**	**+0.2**
	baz=247								
TCU	**Taichung**	**1.48**	**274**	P		**Pb**	**Pb**	**18 19 29.3**	**+0.2**
	baz=271								
TCU				S		**Sg**	**Sg**	**18 19 49.8**	**-0.2**
	baz=271								
WNT	**Mingjian**	**1.48**	**263**	P		**Pb**	**Pb**	**18 19 29.7**	**+0.5**
	baz=261								
WNT				S		**Sb**	**Sb**	**18 19 49.0**	**+1.4**
	baz=261								
WNT1	**Nantou City**	**1.48**	**264**	P		**Pb**	**Pb**	**18 19 29.9**	**+0.7**
	baz=263								
WNT1				S		**Sg**	**Sg**	**18 19 50.1**	**0.0**
	baz=263								
WDJ	**Dajia District**	**1.53**	**281**	P		**Pn**	**Pn**	**18 19 29.6**	**+0.9**
	baz=278								
CHN5	**Tsauling**	**1.54**	**253**	*i* P		**Pb**	**Pb**	**18 19 30.3**	**-0.1**
	baz=252								
CHN5				S		**Sg**	**Sg**	**18 19 51.9**	**-0.4**
	baz=252								
LONT	**Longtian**	**1.57**	**223**	*i* P		**Pn**	**Pn**	**18 19 28.6**	**-0.6**
	baz=224								
LONT				*e*S		**Sn**	**Sn**	**18 19 49.5**	**+0.5**
	baz=224								
PCYT	**Pengchaiyu**	**1.57**	**353**	*i* P		**Pn**	**Pn**	**18 19 28.9**	**-0.4**
	baz=350								
LDUT	**Ludao**	**1.57**	**209**	S		**Sn**	**Sn**	**18 19 46.6**	**-2.5**
	baz=210								
WCHH	**Zhanghua**	**1.58**	**271**	P		**Pb**	**Pb**	**18 19 30.6**	**-0.4**
	baz=269								
WCHH				S		**Sg**	**Sg**	**18 19 52.2**	**-1.2**
	baz=269								
JKRS	**Kuro-shima**	**1.58**	**83**	P		**Pb**	**Pb**	**18 19 30.5**	**-0.5**
JKRS				*e*S		**Sn**	**Sn**	**18 19 49.8**	**+0.4**
WGK	**Gukeng**	**1.62**	**257**	P		**Pb**	**Pb**	**18 19 31.2**	**-0.5**
	baz=255								
WDLH	**Douliu**	**1.64**	**257**	P		**Pb**	**Pb**	**18 19 31.9**	**-0.2**
	baz=256								
WDLH				S		**Sb**	**Sb**	**18 19 53.8**	**+1.4**
	baz=256								
STYH	**Taoyuan**	**1.65**	**238**	*e*S		**Sn**	**Sn**	**18 19 51.4**	**+0.5**
	baz=237								
TWGBT	**Beinan**	**1.66**	**222**	P		**Pn**	**Pn**	**18 19 29.9**	**-0.6**
	baz=234								
TWGBT				S		**Sn**	**Sn**	**18 19 51.1**	**-0.2**
	baz=234								
STYT	**Tauyuan**	**1.67**	**238**	*i* P		**Pn**	**Pn**	**18 19 31.3**	**+0.7**
	baz=237								
STYT				S		**Sb**	**Sb**	**18 19 53.4**	**+0.3**
	baz=237								
TWG	**Pinlang**	**1.67**	**222**	*i* P		**Pn**	**Pn**	**18 19 30.4**	**-0.2**
	baz=234								
TWG				*i* S		**Sn**	**Sn**	**18 19 50.9**	**-0.5**
	baz=234								
TPUB	**Ta-pu**	**1.70**	**244**	P		**Pb**	**Pb**	**18 19 32.5**	**-0.5**
	baz=243								
TPUB				S		**Sb**	**Sb**	**18 19 54.3**	**+0.2**
	baz=243								
JIJ	**Ishigaki jima**	**1.72**	**80**	P		**Pn**	**Pn**	**18 19 31.7**	**+0.4**
JIJ				S		**Sn**	**Sn**	**18 19 53.0**	**+0.2**
WTP	**Ta-pu**	**1.74**	**242**	*i* P		**Pb**	**Pb**	**18 19 33.3**	**-0.3**
	baz=242								
WTP				S		**Sb**	**Sb**	**18 19 56.6**	**+1.4**
	baz=242								
WRL	**Guolierlin Hig**	**1.75**	**265**	*e*S		**Sb**	**Sb**	**18 19 56.3**	**+0.7**
	baz=264								
WTK	**Tuku**	**1.78**	**258**	*e*S		**Sb**	**Sb**	**18 19 57.5**	**+1.2**
	baz=245								
CHY	**Chiayi**	**1.80**	**252**	P		**Pb**	**Pb**	**18 19 34.2**	**-0.4**
	baz=251								
CHY				S		**Sb**	**Sb**	**18 19 57.6**	**+0.8**
	baz=251								
TWK	**Hsinying**	**1.83**	**245**	*i* P		**Pb**	**Pb**	**18 19 34.6**	**-0.7**
	baz=244								
TWK				*i* S		**Sb**	**Sb**	**18 19 58.9**	**+1.0**
	baz=244								
JISG	**Ishigakijimahi**	**1.92**	**74**	P		**Pn**	**Pn**	**18 19 34.3**	**+0.3**
JISG				*e*S		**Sn**	**Sn**	**18 19 57.4**	**-0.3**
JTJ	**Tarama**	**2.28**	**75**	P		**Pn**	**Pn**	**18 19 39.3**	**+0.4**
JTJ				*e*S		**Sn**	**Sn**	**18 20 07.2**	**+0.7**
JIRB	**Irabujima**	**2.74**	**73**	*e*S		**Sn**	**Sn**	**18 20 17.9**	**0.0**
JMJ2	**Miyako jima3**	**2.85**	**76**	S		**Sn**	**Sn**	**18 20 21.8**	**+1.1**

*IDC **30** 18:19:22.2±0.9,5°.03S×153°.00E,h0km,mb4.0/11,*
mb1 4.1/12,mb1mx3.9/38,mbtmp4.0/12,ML1.9/1,Error
ellipse: s-maj=25.8km s-min=17.7km az=102.0
ISC 30 18:19:28.2±0.9,5°.1S±0°.1×153°.0E±0°.1,h43km,n14,
σ1§00/17,mb4.0/11,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.25**	**233**	Pn		**Pn**	**Pn**	**18 21 11.2**	**-0.5**
	1.1nm,0.3s,baz=71,slow=10,SNR=3.5								
PMG				Sn			**Sn**	**18 22 34.1**	**+1.3**
	3.6nm,0.3s,baz=60,slow=10,SNR=6.3								
DZM	**Mont Dzumac**	**21.33**	**144**	P		**P**	**P**	**18 24 11.6**	**-0.1**
	4.8nm,0.6s,baz=269,slow=9.9,SNR=7.4								
SIJI	**Sorong**	**22.12**	**280**	P		**P**	**P**	**18 24 20.6**	**+0.3**
	5.4nm,0.5s,baz=202,slow=5.2,SNR=5.3								
WRA	**Warramunga Arr**	**23.45**	**229**	P		**P**	**P**	**18 24 33.1**	**-0.9**
	0.5nm,0.3s,baz=55,slow=10,SNR=11								
WRA				PcP			**PcP**	**18 28 20.7**	**+1.3**
	0.4nm,0.4s,baz=55,slow=2.7,SNR=5.3								
ASAR	**Alice Springs**	**26.12**	**223**	P		**P**	**P**	**18 24 57.8**	**-0.6**
	0.6nm,0.6s,baz=57,slow=9.3,SNR=17								
ASAR				PcP			**PcP**	**18 28 27.3**	**+2.1**
	0.4nm,0.6s,baz=55,slow=2.7,SNR=4.2								
FITZ	**Fitzroy Crossi**	**29.74**	**242**	P		**P**	**P**	**18 25 29.4**	**-1.3**
	1.9nm,0.6s,baz=59,slow=6.4,SNR=13		

375nm,0.3s,baz=132,slow=24,SNR=6.7
SWI Sorong 2.52 299 P **Pn** **18 42 30.4 -1.4**
SWI S **Sn** **18 43 03.1 +1.4**
SRPI Serui, Papua 2.78 86 P **Pn** **18 42 36.1 +0.9**
SRPI S **Sn** **18 43 10.0 +2.1**
BAKI Biak 2.78 71 P **Pn** **18 42 36.7 +1.4**
BNDI Bandanaira 4.30 236 P **Pn** **18 42 57.8 +1.6**
BNDI S **Sn** **18 43 48.3 +2.7**
SAUI Saumlaki 6.24 200 Pn **Pn** **18 43 21.8 -1.1**
SAUI Saumlaki 6.24 200 P **Pn** **18 43 25.7 +2.8**
3.5nm439nm,0.6s
NLAI Namlea 6.47 260 P **Pn** **18 43 27.7 +1.7**
1.3nm3µm123nm,0.5s
GENI Genyem 6.71 94 P **Pn** **18 43 32.5 +3.1**
1.8nm4µm408nm,1.0s
TNTI Ternate 6.73 295 Pn **Pn** **18 43 30.2 +0.5**
TNTI Ternate 6.73 295 P **Pn** **18 43 32.4 +2.7**
0.2nm59nm,1.2s
SANI Sanana 7.48 270 P **Pn** **18 43 39.1 -0.8**
0.3nm993nm81nm,0.6s
MMPI Merauke 9.35 133 P **Pn** **18 44 08.3 +2.7**
403nm,1.1s
KMSI Cibinong 9.85 285 P **Pn** **18 44 12.9 +0.4**
4µm101nm,0.9s
KDU Kakadu 10.57 185 P **Pn** **18 44 22.0 -0.4**
baz=11,SNR=703
LUWI Luwuk 10.75 275 **Pn** **18 44 22.9 -1.8**
LUWI Luwuk 10.75 275 P **Pn** **18 44 25.1 +0.4**
1µm130nm,0.9s
GTOI Gorontalo 10.80 284 P **Pn** **18 44 28.1 +2.6**
594nm24nm,0.6s
MTN Manton Dam 10.93 192 P **Pn** **18 44 26.5 -0.8**
baz=11,SNR=375
MTN Manton Dam 10.93 192 Pn **Pn** **18 44 26.8 -0.5**
MRSI Marisa 11.81 282 P **Pn** **18 44 40.2 +0.9**
36nm,0.8s
APSI Ampana 11.88 275 P **Pn** **18 44 39.7 -0.5**
1µm94nm,0.5s
SOEI Soe 11.90 230 Pn **Pn** **18 44 41.8 +1.1**
SOEI Soe 11.90 230 P **Pn** **18 44 42.9 +2.2**
137nm,0.7s
BATI Baumata 12.65 230 Pn **Pn** **18 44 50.2 -0.6**
15nm,0.3s,baz=130,slow=2.9,SNR=20
BATI Sn **Sn** **18 47 09.9 -1.0**
3.2nm,0.3s,baz=100,slow=22,SNR=4.3
BATI Baumata 12.65 230 P **Pn** **18 44 52.1 +1.3**
62nm,0.6s
MMRI Maumere 12.93 239 Pn **Pn** **18 44 56.2 +1.5**
MMRI Maumere 12.93 239 P **Pn** **18 44 58.0 +3.3**
3µm87nm,1.6s
TOLI2 Tolitoli 13.08 284 Pn **Pn** **18 44 58.7 +2.0**
EDFI Ende, Flores 13.46 240 P **Pn** **18 45 04.5 +2.5**
23nm,1.0s
BNSI Bone 13.54 260 P **Pn** **18 45 04.4 +1.5**
51nm,1.0s
TTSI Tana Toraja 13.67 266 P **Pn** **18 45 05.8 +1.0**
26nm,1.3s
BKSI Bulukumba 13.70 256 P **Pn** **18 45 06.3 +1.1**
660nm41nm,1.0s
SPSI Sidrap Palu 13.81 262 P **Pn** **18 45 09.7 +3.1**
28nm,0.9s
KAPI Kappang 14.00 258 Pn **Pn** **18 45 09.0 -0.2**
1.8nm,0.3s,baz=90,slow=11,SNR=9.5
KAPI LR LR 18 51 17.2
comp=Z,815nm,20.4s,baz=88,slow=41
KAPI Kappang 14.00 258 Pn **Pn** **18 45 10.8 +1.5**
BASI Baing, Sumba 15.14 237 P **Pn** **18 45 24.9 +0.2**
65nm,1.0s
COEN Coen 15.20 141 **Pn** **18 45 23.5 -2.0**
PMG Port Moresby 15.43 119 Pn **P** **18 45 30.9 -1.9**
0.7nm,0.3s,baz=286,slow=10,SNR=4.2
PMG LR LR 18 52 48.1
comp=Z,881nm,19.2s,baz=290,slow=42
PMG Port Moresby 15.43 119 **Pn** **18 45 27.9 -0.6**
MYLDM Lahad Datu 16.61 296 P **Pn** **18 45 43.5 -0.2**
MYLDM IAmb IAmb 18 46 05.7
comp=Z,91nm,1.3s
PLAI Plampang 16.99 246 P **Pn** **18 45 48.7 +0.2**
comp=Z,1µmcomp=Z,107nm,1.1s
WB0 Warramunga Arr 17.59 177 P **Pn** **18 45 53.1 -2.9**
WB0 IAmb IAmb 18 46 10.7
comp=Z,81nm,0.8s
FITZ Fitzroy Crossi 17.67 205 P **Pn** **18 45 54.7 -2.2**
comp=Z,3.4nm,0.3s,baz=34,slow=10,SNR=84
FITZ S Sn 18 49 00.9 -12
comp=Z,4.0nm,0.3s,baz=152,slow=17,SNR=4.6
FITZ Fitzroy Crossi 17.67 205 P **Pn** **18 45 53.8 -3.0**
baz=18,SNR=88
FITZ Fitzroy Crossi 17.67 205 Pn **Pn** **18 45 53.9 -3.0**
FITZ IAmb IAmb 18 46 09.9
comp=Z,42nm,0.6s
WRAB Tennant Creek 17.75 177 **Pn** **18 45 55.2 -2.8**
WRAB IAmb IAmb 18 46 12.6
comp=Z,61nm,0.8s
WB2 Warramunga Arr 17.76 177 P **Pn** **18 45 56.2 -1.9**
baz=18
WB2 Warramunga Arr 17.76 177 **Pn** **18 45 57.0 -1.0**
WB2 IAmb IAmb 18 46 12.7
comp=Z,63nm,0.7s
WRA Warramunga Arr 17.76 177 P **Pn** **18 45 56.4 -1.6**
comp=Z,3.7nm,0.3s,baz=356,slow=12,SNR=126
WRA S **Sn** **18 49 07.7 -7.7**
comp=Z,5.1nm,0.3s,baz=4.8,slow=22,SNR=8.8
WRA Warramunga Arr 17.76 177 **Pn** **18 45 55.7 -2.4**
TWSI Taliwang, Sumb 17.78 248 P **Pn** **18 45 58.3 0.0**
comp=Z,30nm,0.9s
WR0 Warramunga Arr 17.79 177 **Pn** **18 45 57.3 -1.1**
WR0 IAmb IAmb 18 46 13.6
comp=Z,96nm,0.9s
MTKI Muara Teweh, K 18.60 273 P **Pn** **18 46 08.7 +0.3**
BBKI Banjar Baru 18.66 265 P **Pn** **18 46 12.1 +3.0**
comp=Z,820nmcomp=Z,56nm,1.4s
RABL Rabaul 18.78 97 **P** **18 46 07.9 -2.1**
RABL IAmb IAmb 18 46 21.1
comp=Z,61nm,0.6s
SRBI Singaraja 19.13 251 P **Pn** **18 46 15.2 +0.5**
comp=Z,74nm,0.9s
MTSU Mount Surprise 19.17 147 P **Pn** **18 46 15.9 +0.7**
baz=19,SNR=24
QIS Mount Isa 19.31 162 P **Pn** **18 46 17.0 +0.1**
baz=19,SNR=18
KMMI Kalianget 20.05 255 P Pn 18 46 28.1 +2.4
comp=Z,65nm,1.1s
AS31 Alice Springs 21.45 179 P **P** **18 46 40.2 +1.2**
AS31 IAmb IAmb 18 46 54.4
comp=Z,50nm,0.9s
ASAR Alice Springs 21.45 179 P **P** **18 46 40.5 +1.6**
comp=Z,52nm,0.7s,baz=3.1,slow=12,SNR=631
ASAR S **S** **18 50 34.3 -1.6**
comp=Z,21nm,1.0s,baz=360,slow=28,SNR=5.5
ASAR Alice Springs 21.45 179 P **P** **18 46 40.0 +1.1**
ASPA Alice Springs 21.45 179 P **P** **18 46 40.8 +1.8**
baz=22
SBUM Sibu 21.72 282 P **P** **18 46 43.5 +1.6**
SBUM IAmb IAmb 18 46 49.1
comp=Z,36nm,1.5s
PBKI Pangkalan Bun 21.79 268 P **P** **18 46 45.1 +2.4**
comp=Z,4µmcomp=Z,59nm,1.2s
CTA Charters Tower 21.82 146 P **P** **18 46 44.8 +1.9**
comp=Z,8.4nm,0.6s,baz=317,slow=12,SNR=2.3
CTAO Charters Tower 21.82 146 P **P** **18 46 43.9 +1.0**
CTAO IAmb IAmb 18 47 08.5
comp=Z,22nm,0.9s
WRKA Warakurna 23.35 192 P **P** **18 46 59.9 +0.9**
baz=23,SNR=135
KSM Kuching 23.43 279 P **P** **18 47 00.9 +1.1**
KSM IAmb IAmb 18 47 08.1
comp=Z,25nm,0.8s
SMRI Semarang 23.47 257 P **P** **18 47 01.2 +0.9**
PSA00 Pilbara Seismi 23.47 213 P **P** **18 47 00.8 +0.6**
PSA00 Pilbara Seismi 23.47 213 P **P** **18 47 00.4 +0.2**
PSA00 IAmb IAmb 18 47 08.2
comp=Z,24nm,0.8s
QLP Quilpie 26.45 158 P **P** **18 47 27.8 +0.3**
baz=27,SNR=10.0
FORT Forrest 28.99 190 P **P** **18 47 52.1 +2.0**
baz=29,SNR=19
FORT Forrest 28.99 190 P **P** **18 47 48.6 -1.5**
JOW Kunigami 29.19 350 LR LR 18 57 07.6
comp=Z,713nm,20.8s,baz=100,slow=32
MYKOM Kota Tinggi 29.86 277 P **P** **18 47 59.3 +1.2**
MYKOM IAmb IAmb 18 48 06.0
comp=Z,15nm,0.9s
STKA Stephens Creek 30.60 166 P **P** **18 48 04.4 0.0**
comp=Z,4.9nm,0.6s,baz=347,slow=8.7,SNR=15
STKA Stephens Creek 30.60 166 P **P** **18 48 04.5 +0.1**
baz=31,SNR=13
STKA Stephens Creek 30.60 166 P **P** **18 48 04.1 -0.3**
KMBL Kambalda 31.11 199 P **P** **18 48 10.4 +1.5**
baz=31,SNR=14
CMSA Cobar Meteorol 31.48 160 P **P** **18 48 12.6 +0.5**
baz=32,SNR=7.1
MORW Morawa 31.55 210 P **P** **18 48 14.1 +1.3**
baz=32,SNR=4.8
HTT Hallett 31.59 171 P **P** **18 48 15.7 +2.5**
baz=32,SNR=3.2
BLDU Ballidu 32.51 208 P **P** **18 48 22.0 +0.8**
baz=32,SNR=23
KLBR Kellerberrin 32.88 205 P **P** **18 48 25.5 +1.0**
baz=33,SNR=8.8
ARMA Armidale 33.02 150 P **P** **18 48 26.8 +1.0**
baz=33,SNR=8.6
IPM Ipoh 33.07 281 P **P** **18 48 26.5 +0.1**
IPM IAmb IAmb 18 48 33.4
comp=Z,8.8nm,0.7s
NWAO Narrogin (SRO) 34.25 205 P **P** **18 48 37.1 +0.7**
ARPS Mount Arapiles 35.36 168 P **P** **18 48 46.9 +1.0**
baz=36,SNR=20
ENH Enshi 39.49 326 P **P** **18 49 20.0 -1.0**
CM31 Chiang Mai Arr 39.64 303 P **P** **18 49 22.6 +0.2**
CMAR Chiang Mai Arr 39.64 303 P **P** **18 49 23.0 +0.6**
comp=Z,2.6nm,0.9s,baz=124,slow=6.7,SNR=16
CMAR Chiang Mai Arr 39.64 303 P **P** **18 49 21.8 -0.6**
KSRS Korea Array 39.68 353 LR LR 19 05 28.8
comp=Z,251nm,19.4s,baz=195,slow=36
KS19 Wonju Array Si 39.73 353 P **P** **18 49 21.7 -1.2**
CHTO Chiang Mai 39.80 303 P **P** **18 49 23.4 -0.4**
KMI Kunming 40.24 314 P **P** **18 49 27.3 -0.3**
KMI IAmb IAmb 18 49 29.2
comp=Z,20nm,1.1s
XAN Xi'an 42.72 329 P **P** **18 49 46.7 -0.9**
BJT Baijiatuan 44.80 341 P **P** **18 50 03.4 -0.8**
BJT IAmb IAmb 18 50 10.8
comp=Z,11nm,1.1s
USRK Ussuriysk Ar. 46.10 359 P **P** **18 50 15.2 +0.8**
comp=Z,2.5nm,0.7s,baz=172,slow=5.6,SNR=6.1
MSVF Nonsvu 46.42 113 LR LR 19 07 38.3
comp=Z,214nm,21.0s,baz=327,slow=33
MDJ Mudanjiang 46.63 356 P **P** **18 50 21.1 +2.6**
MDJ IAmb IAmb 18 50 42.3
comp=Z,17nm,1.4s
LZH Lanzhou 46.97 327 *eP* P 18 50 28.0 +6.5
LZH pmax pmax
comp=Z,13nm,1.0s
SHL Shillong 48.73 307 P **P** **18 50 34.6 -0.9**
KLR Kul'dur 51.14 359 P **P** **18 50 53.1 +0.1**
comp=Z,2.1nm,0.6s,baz=201,slow=6.1,SNR=7.8
LSA Lhasa 51.32 311 P **P** **18 50 55.5 +0.2**
LSA pmax pmax
comp=Z,30nm,0.9s
LSA Lhasa 51.32 311 P **P** **18 50 55.7 +0.4**
LSA IAmb IAmb 18 51 02.5
comp=Z,8.5nm,0.8s
URZ Urewera 53.72 138 LR LR 19 14 02.1
comp=Z,493nm,20.4s,baz=30,slow=36
ULN Ulaanbaatar 54.84 339 P **P** **18 51 18.9 -1.6**
SONM Songino Array 55.06 333 P **P** **18 51 22.1 -0.1**
comp=Z,0.6nm,0.7s,baz=152,slow=7.0,SNR=5.5
SONM Songino Array 55.06 338 P **P** **18 51 19.6 -2.6**
HYB Hyderabad 57.48 292 *i* P **P** **18 51 39.0 -0.9**
PETK Petropavlovsk- 58.63 17 P **P** **18 51 47.1 -0.1**
comp=Z,1.4nm,0.8s,baz=178,slow=7.0,SNR=4.3
WMQ Urumqi 61.35 324 P **P** **18 52 04.7 -1.4**
SMLA Simla 62.82 307 *ex* **P** **18 52 16.6 +0.4**
SMLA *i* x x 18 52 35.0
SMLA *ex* x x 18 53 54.0
SMLA IAML 18 53 57.3
comp=N,36nm,0.4s
SMLA IAML 18 53 57.8
comp=E,34nm,0.4s
MA2 Magadan 62.97 10 P **P** **18 52 18.0 +1.4**
comp=E,0.9nm,0.3s,baz=192,slow=5.9,SNR=5.6
DHRM DHARAMSHALA 63.91 308 *eP* P 18 52 16.8 -6.9
DHRM *i* x x 18 52 26.5
DHRM IAML 18 53 25.6
comp=N,75nm,0.6s
DHRM IAML 18 53 26.3
comp=E,78nm,0.5s
YAK Yakutsk 64.01 358 P **P** **18 52 24.1 +0.6**
comp=E,22nm,0.6s,baz=328,slow=0.6,SNR=11
YAK Yakutsk 64.01 358 P **P** **18 52 22.9 -0.6**
ZSN Zaisan 65.05 326 *eP* **P** **18 52 30.5 -0.1**
baz=326
SHLS Shalkode 66.11 320 *eP* **P** **18 52 35.7 -1.9**
baz=320
MK31 Makanchi Array 66.17 324 P **P** **18 52 38.1 +0.3**
MK31 IAmb IAmb 18 52 44.7
comp=Z,5.6nm,0.9s
MKAR Makanchi Array 66.17 324 P **P** **18 52 38.2 +0.4**
comp=Z,5.6nm,0.6s,baz=110,slow=8.5,SNR=134
MKAR Makanchi Array 66.17 324 P **P** **18 52 37.9 0.0**
MAKZ Makanchi 66.36 324 P **P** **18 52 39.2 +0.2**
MAKZ IAmb IAmb 18 52 45.8
comp=Z,9.9nm,0.8s
UZB Uzynbulak 66.39 319 *eP* **P** **18 52 39.3 -0.2**
baz=320
SEY Seymchan 66.41 9 P **P** **18 52 39.9 +0.9**
comp=Z,1.0nm,0.2s,baz=172,slow=5.5,SNR=6.7
KPKS Kokpek 66.75 320 *eP* **P** **18 52 41.8 +0.1**
baz=320
TDK Taldyqorghan 67.64 321 *eP* **P** **18 52 47.6 +0.4**
baz=321
CHKK Chushkaly 68.03 319 *eP* **P** **18 52 49.5 -0.2**
baz=320
KUU Kurty 68.47 319 *eP* **P** **18 52 52.2 -0.2**
comp=Z,15nm,1.5s,baz=319
ZAA0 Zalesovo Array 68.84 332 P **P** **18 52 54.6 +0.1**
ZAA0 IAmb IAmb 18 52 59.5
comp=Z,16nm,1.4s
ZALV Zalesovo Beam 68.84 332 P **P** **18 52 53.6 -0.9**
comp=Z,3.4nm,0.9s,baz=116,slow=5.1,SNR=11
ZALV Zalesovo Beam 68.84 332 P **P** **18 52 53.1 -1.4**
SEM Semipalatinsk 69.21 327 *eP* **P** **18 52 57.3 +0.2**
baz=327
DZA Taraz 71.42 317 *eP* **P** **18 53 10.2 -0.4**
baz=317
KK31 Karatay Array 72.06 317 P **P** **18 53 14.0 -0.5**
KKAR Karatay Array 72.06 317 P **P** **18 53 14.6 +0.1**
KKAR Karatay Array 72.06 317 P **P** **18 53 14.3 -0.2**
KKAR IAmb IAmb 18 53 20.2
comp=Z,19nm,0.6s
BRZS Berezniki 73.31 324 *eP* **P** **18 53 21.6 -0.1**
baz=324
TIXI Tiksi 73.67 358 P **P** **18 53 22.5 -0.9**
comp=Z,0.6nm,0.5s,baz=237,slow=0.8,SNR=5.4
TIXI Tiksi 73.67 358 P **P** **18 53 23.5 +0.1**
BRVK Borovoye 75.92 326 P **P** **18 53 36.4 -0.4**
BRVK IAmb IAmb 18 53 42.0
comp=Z,7.7nm,0.8s
VNDA Vanda 76.90 174 P **P** **18 53 43.0 +1.0**
comp=Z,3.6nm,0.7s,baz=332,slow=5.9,SNR=16
VNDA Vanda 76.90 174 P **P** **18 53 42.8 +0.8**
NRIK Noril'sk 77.71 345 P **P** **18 53 46.9 +0.4**
comp=Z,1.5nm,0.5s,baz=148,slow=3.6,SNR=3.7
NRIK Noril'sk 77.71 345 P **P** **18 53 46.3 -0.2**
NRIK IAmb IAmb 18 53 52.9
comp=Z,7.6nm,1.3s
SBA Scott Base 77.74 173 P **P** **18 53 46.2 -0.4**
SBA IAmb IAmb 18 54 00.1
comp=Z,12nm,1.4s
SOCY Socotra 80.17 283 P **P** **18 54 00.6 -0.7**
SOCY IAmb IAmb 18 54 07.6
comp=Z,7.7nm,0.6s
ABKAR Akbulak array 80.89 320 P **P** **18 54 03.3 -1.0**
ABKAR Akbulak array 80.89 320 P **P** **18 54 03.5 -0.9**
ARU Arti 83.43 327 P **P** **18 54 16.9 -0.6**
ARU IAmb IAmb 18 54 23.6
comp=Z,6.1nm,0.8s
IMAR Indian Mountai 84.95 23 P **P** **18 54 25.3 +0.2**
OPO Ambohidratompo 85.82 252 P **P** **18 54 30.0 -0.6**
comp=Z,2.9nm,0.8s,baz=330,slow=9.1,SNR=3.6
MLY Manley 85.91 24 P **P** **18 54 30.0 +0.1**
RND Reindeer 86.35 26 P **P** **18 54 31.9 -0.3**
I23K Minto, Yukon-K 86.50 24 P **P** **18 54 33.0 +0.2**
WRH Wood River Hil 86.90 25 P **P** **18 54 34.0 -0.7**
WRH IAmb IAmb 18 54 40.8
comp=Z,4.3nm,0.8s
CCB Clear Creek Bu 87.05 25 P **P** **18 54 34.8 -0.6**
CCB IAmb IAmb 18 54 41.2
comp=Z,5.0nm,0.7s
ILAR Eielson Array 87.46 25 P **P** **18 54 36.5 -1.0**
comp=Z,1.1nm,0.6s,baz=258,slow=4.6,SNR=19
ILAR Eielson Array 87.46 25 P **P** **18 54 35.3 -2.2**
QSPA South Pole Qui 87.85 180 P **P** **18 54 39.5 0.0**
comp=Z,8.1nm,0.6s,baz=307,slow=2.2
QSPA South Pole Qui 87.85 180 P **P** **18 54 40.1 +0.6**
BMAR Burnt Mountain 88.82 22 P **P** **18 54 43.7 -0.2**
RAYN Ar Rayn 88.96 293 P **P** **18 54 45.7 +0.1**
RAYN IAmb IAmb 18 54 52.4
comp=Z,2.9nm,0.8s
BCAR Beaver Creek A 89.46 27 P **P** **18 54 46.8 -0.2**
SYO Syowa Base 89.46 201 ⇓*eP* **P** **18 54 46.8 0.0**
DAWY Dawson 90.61 26 **P** **18 54 52.5 +0.2**
DAWY IAmb IAmb 18 55 13.5
comp=Z,6.7nm,1.2s
CPUP Villa Florida 149.88 160 PKPbc **PKiKP** **19 01 43.3 +1.2**
comp=Z,4.1nm,0.8s,baz=245,slow=3.0,SNR=4.8
PCON Cinco Dias 150.15 89 *eP* **PKPab** **19 01 47.6 -1.3**
MARP Paez Belalcaza 150.59 88 *eP* **PKPdf** **19 01 40.2 +2.1**
GUY2C Guyana, Caldas 151.06 83 *eP* **PKPbc** **19 01 43.9 -1.0**
LPAZ La Paz 151.91 131 PKPbc **PKiKP** **19 01 47.9 +0.6**
comp=Z,1.7nm,0.6s,baz=224,slow=1.5,SNR=8.0
LPAZ La Paz 151.91 131 **PKPbc** **19 01 47.1 +0.2**
GUVC San Jose del G 153.92 88 *eP* **PKPdf** **19 01 39.9 -2.9**

*NNC **30** 18:46:45.9±0.8, 42°.96N×76°.57E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=6.2km s-min=2.7km az=172.0*
*SOME **30** 18:46:46.6, 43°.07N×76°.60E, h20km*
*KRNET **30** 18:46:47.0±0.1, 42°.93N×76°.53E, h25km, mb2.5*
ISC 30 18:46:46.2±0.9, 42°.97N±0°.03×76°.56E±0°.02, h18km±3km, n27, σ0s.58/53, 17C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZV	**Izvestkoviy**	**0.08**	**29**	*eP*	**Pg**	**18 46 50.2**	**+0.2**
IZV	17nm,0.1s			*eS*	**Sg**	**18 46 52.8**	**+0.4**
	227nm,0.1s						
IZV	**Izvestkoviy**	**0.08**	**29**	P	**Pg**	**18 46 50.2**	**+0.2**
IZV	25nm,0.1s			S	**Sg**	**18 46 52.8**	**+0.4**
	227nm,0.1s						
TNSS	**Tian-Shan**	**0.29**	**76**	*eP*	**Pg**	**18 46 52.6**	**-0.3**
TNSS	2.1nm,0.1s			*eS*	**Sg**	**18 46 56.9**	**-0.6**
	6.8nm,0.1s						
TNSS	**Tian-Shan**	**0.29**	**76**	P	**Pg**	**18 46 52.6**	**-0.3**
TNSS	1.2nm,0.2s			S	**Sg**	**18 46 56.8**	**-0.6**
	5.2nm,0.1s						
KNDC	**Almaty**	**0.39**	**50**	⇑P	**Pg**	**18 46 53.5**	**-0.8**
KNDC	41nm,1.0s			⇑S	**Sg**	**18 46 59.1**	**-0.7**
	15nm,0.2s						
MDOK	**Medeo**	**0.41**	**61**	*eP*	**Pg**	**18 46 54.5**	**-0.2**
MDOK	5.0nm,0.3s			*eS*	**Sg**	**18 46 59.8**	**-0.6**
	9.7nm,0.2s						
MDOK	**Medeo**	**0.41**	**61**	⇑P	**Pg**	**18 46 53.8**	**-0.9**
MDOK	3.0nm,1.0s			⇓S	**Sg**	**18 46 59.6**	**-0.8**
	3.3nm,0.3s						
MDOK	**Medeo**	**0.41**	**61**	Pg	**Pg**	**18 46 54.4**	**-0.3**
MDOK	0.9nm,0.2s			Lg	Lg	18 46 59.9	
	7.0nm,0.3s						
KST	**Kastek**	**0.45**	**280**	*eP*	**Pb**	**18 46 55.6**	**-0.1**
KST	3.8nm,0.5s			*eS*	**Sb**	**18 47 02.0**	**-0.1**
	11nm,0.3s						
KST	**Kastek**	**0.45**	**280**	P	**Pb**	**18 46 55.6**	**-0.1**
KST	2.1nm,0.3s			S	**Sb**	**18 47 01.9**	**-0.2**
	8.5nm,0.2s						
KOTS	**Kotyrbulak**	**0.48**	**56**	P	**Pg**	**18 46 55.9**	**-0.2**
KOTS	1.1nm,0.1s			S	**Sg**	**18 47 02.4**	**-0.3**
	4.4nm,0.3s						
DGS	**Degeres**	**0.64**	**296**	*eP*	**Pg**	**18 46 58.9**	**-0.1**
DGS	1.4nm,0.2s			*eS*	**Sg**	**18 47 07.7**	**+0.1**
	4.3nm,0.2s						
DGS	**Degeres**	**0.64**	**296**	P	**Pg**	**18 46 58.8**	**-0.1**
DGS	1.4nm,0.2s			S	**Sg**	**18 47 07.4**	**-0.1**
	4.3nm,0.2s						
BOOM	**Boomskoye usch**	**0.66**	**224**	⇑*i*P	**Pb**	**18 46 59.2**	**-0.1**
BOOM	baz=25			⇑*i*S	**Sb**	**18 47 07.9**	**-0.4**
TKM2	**Tokmak 2**	**0.71**	**266**	⇑*i*P	**Pb**	**18 47 00.2**	**0.0**
TKM2	baz=70			⇑*i*S	**Sb**	**18 47 10.5**	**+0.8**
	baz=70						
KTBS	**Karatobe**	**0.75**	**7**	P	**Pg**	**18 47 00.3**	**-0.6**
KTBS	2.0nm,0.1s			S	**Sg**	**18 47 10.3**	**-0.6**
	12nm,0.2s						
ULHL	**Ulahol**	**0.76**	**198**	⇑*i*P	**Pb**	**18 47 00.8**	**-0.3**
ULHL	baz=97			⇑*i*S	**Sb**	**18 47 11.3**	**+0.1**
	baz=97						
ANVS	**Anan'yevo**	**0.83**	**102**	⇑*i*P	**Pn**	**18 47 03.2**	**-0.1**
ANVS	baz=99			⇑*i*S	**Sn**	**18 47 14.9**	**-0.3**
	baz=99						
KUU	**Kurty**	**0.94**	**350**	P	**Pg**	**18 47 03.6**	**-0.9**
KUU	1.2nm,0.2s			S	**Sg**	**18 47 16.0**	**-0.9**
	6.0nm,0.3s						
KDJ	**Kajisay**	**0.95**	**151**	⇓*i*P	**Pb**	**18 47 04.3**	**0.0**
KDJ	baz=48			⇓*i*S	**Sb**	**18 47 17.3**	**+0.6**
	baz=48						
KRBS	**Karabastau**	**0.97**	**319**	P	**Pg**	**18 47 04.4**	**-0.8**
KRBS	1.1nm,0.1s			S	**Sg**	**18 47 17.2**	**-0.8**
	3.1nm,0.2s						
SATY	**Saty**	**1.35**	**86**	P	**Pb**	**18 47 11.2**	**+0.1**
SATY	1.8nm,0.1s			S	**Sn**	**18 47 28.8**	**+0.8**
	3.6nm,0.1s						
PRZ	**Przheval'sk**	**1.44**	**109**	⇑*i*P	**Pg**	**18 47 13.4**	**-0.6**
PRZ	baz=7.0			⇑*i*S	**Sg**	**18 47 32.5**	**-0.3**
	baz=7.0						
USP	**Ospenovka**	**1.54**	**282**	⇑*i*P	**Pb**	**18 47 14.1**	**-0.1**
USP	baz=83			⇑*i*S	**Sb**	**18 47 34.4**	**+1.0**
	baz=83						
ARXS	**Arharly**	**1.55**	**36**	P	**Pb**	**18 47 14.2**	**-0.2**
ARXS	1.9nm,0.2s			S	**Sn**	**18 47 34.2**	**+1.5**
	13nm,0.4s						
AAK	**Ala-Archa**	**1.56**	**258**	⇑*i*P	**Pb**	**18 47 14.7**	**+0.1**
AAK	baz=60			⇑*i*S	**Sb**	**18 47 34.9**	**+0.8**
	baz=60						
MNBS	**Baschi**	**1.74**	**50**	P	**Pb**	**18 47 18.0**	**+0.3**
MNBS	1.1nm,0.3s			S	**Sb**	**18 47 40.6**	**+1.4**
	10nm,0.2s						

*IDC **30** 18:54:08.0±1.9, 5°.49S×152°.95E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/32, mbtmp3.6/8, ML1.3/1, Error ellipse: s-maj=68.1km s-min=21.1km az=124.0*
ISC 30 18:54:13.6±1.7, 5°.5S±0°.3×152°.8E±0°.3, h37km, n9, σ0s81/10, mb3.5/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.84**	**235**	Pn	**Pn**	**18 55 51.7**	**+0.3**
PMG	0.3nm,0.3s,baz=53,slow=15,SNR=1.3			Sn	**Sn**	**18 57 07.2**	**-0.9**
	3.8nm,0.3s,baz=208,slow=17,SNR=15						
WRA	**Warramunga Arr**	**23.02**	**230**	P	**P**	**18 59 16.4**	**+0.8**
	1.3nm,1.0s,baz=55,slow=10.0,SNR=4.0						
ASAR	**Alice Springs**	**25.66**	**223**	P	**P**	**18 59 40.4**	**+0.2**
	0.6nm,0.9s,baz=57,slow=8.8,SNR=4.1						
FITZ	**Fitzroy Crossi**	**29.36**	**242**	P	**P**	**19 00 12.6**	**-0.8**
	1.0nm,0.7s,baz=63,slow=8.1,SNR=1.5						
CMAR	**Chiang Mai Arr**	**58.21**	**296**	P	**P**	**19 04 05.1**	**+0.4**
	0.1nm,0.3s,baz=124,slow=5.8,SNR=4.7						
PETK	**Petropavlovsk-**	**58.54**	**3**	P	**P**	**19 04 06.2**	**0.0**
	0.9nm,0.6s,baz=160,slow=6.0,SNR=8.7						
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**19 06 24.4**	**+0.4**
	0.5nm,0.8s,baz=103,slow=6.5,SNR=6.1						

ILAR	**Eielson Array**	**82.79**	**22**	P		**P**	**19 06 32.6**	**-1.1**
	0.5nm,0.9s,baz=259,slow=5.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**150.56**	**287**	PKPbc		**PKiKP**	**19 14 04.3**	**+1.0**
	0.7nm,0.7s,baz=76,slow=2.7,SNR=4.4							

*IDC **30** 19:19:26.8±3.5,5.72S×152.82E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/40, mbtmp3.4/4, MS3.7/1, Ms1 3.7/1, ms1mx2.9/22, Error ellipse: s-maj=113.7km s-min=36.0km az=115.0*

ISC 30 19:19:29.0±2.0, 6.0S±0.4×153.5E±0.3, h35km, n7, σ1§88/7, mb3.3/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.13**	**242**	Pn	**Pn**	**19 21 13.3**	**+2.4**
	0.6nm,0.3s,baz=142,slow=23,SNR=0.8						
PMG				Sn	**Sn**	**19 22 30.1**	**-0.7**
	0.6nm,0.3s,baz=140,slow=14,SNR=1.4						
WRA	**Warramunga Arr**	**23.20**	**232**	P	**P**	**19 24 32.4**	**-0.7**
	0.4nm,0.4s,baz=55,slow=9.8,SNR=7.7						
ASAR	**Alice Springs**	**25.75**	**225**	P	**P**	**19 24 57.2**	**+0.5**
	0.2nm,0.4s,baz=58,slow=9.2,SNR=7.8						
FITZ	**Fitzroy Crossi**	**29.72**	**244**	P	**P**	**19 25 29.7**	**-2.5**
	0.6nm,0.5s,baz=74,slow=7.4,SNR=2.0						
RPZ	**Rata Peaks**	**40.58**	**160**	LR	LR	19 43 44.5	
	comp=Z,92nm,18.5s,baz=28,slow=36						
MKAR	**Makanchi Array**	**81.72**	**319**	P	**P**	**19 31 44.2**	**+0.1**
	0.4nm,1.0s,baz=93,slow=6.1,SNR=1.9						
TORD	**Torodi Ar. Bea**	**151.35**	**286**	PKPbc	**PKiKP**	**19 39 21.5**	**+0.9**
	0.6nm,0.7s,baz=71,slow=2.5,SNR=3.7						

*IDC **30** 19:38:21.8±0.7,5.23S×152.95E, h0km, mb4.2/21, mb1 4.3/22, mb1mx4.2/45, mbtmp4.2/22, ML1.6/1, MS4.9/1, Ms1 4.9/1, ms1mx3.1/33, Error ellipse: s-maj=23.3km s-min=13.5km az=106.0*

*NEIC **30** 19:38:28.7±1.1,5.25S±0.10×152.89E±0.09, h52km±7km, mb4.5/22, Error ellipse: s-maj=18.7km s-min=4.3km az=223.0*

ISC 30 19:38:27.1±0.6, 5.32S±0.07×152.9E±0.1, h37km, n57, σ0§84/56, mb4.3/31, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.34**	**327**	Pn	**Pn**	**19 38 50.1**	**+0.8**
MANU	**Manus Island**	**6.41**	**300**	Pn	**Pn**	**19 40 00.3**	**+1.2**
PMG	**Port Moresby**	**6.99**	**234**	Pn	**Pn**	**19 40 07.9**	**+0.8**
	0.7nm,0.3s,baz=326,slow=18,SNR=2.7						
PMG				Sn	**Sn**	**19 41 24.3**	**-1.0**
	0.8nm,0.3s,baz=11,slow=19,SNR=0.7						
PMG	**Port Moresby**	**6.99**	**234**	Pn	**Pn**	**19 40 04.4**	**-2.6**
DZM	**Mont Dzumac**	**21.19**	**143**	P	**P**	**19 43 11.2**	**+1.5**
	7.2nm,0.7s,baz=330,slow=20,SNR=1.7						
DZM	**Mont Dzumac**	**21.19**	**143**	IAmb	IAmb	19 43 56.2	
	comp=Z,71nm,1.7s						
SIJI	**Sorong**	**22.05**	**281**	P	**P**	**19 43 19.1**	**+0.2**
	comp=Z,6.3nm,0.6s,baz=75,slow=14,SNR=6.3						
MTN	**Manton Dam**	**22.74**	**249**	P	**P**	**19 43 27.4**	**+1.1**
MTN				IAmb	IAmb	19 43 58.7	
	comp=Z,9.0nm,0.8s						
WB0	**Warramunga Arr**	**23.04**	**230**	P	**P**	**19 43 30.0**	**+0.7**
WB0				IAmb	IAmb	19 43 31.9	
	comp=Z,33nm,1.5s						
WR0	**Warramunga Arr**	**23.04**	**229**	P	**P**	**19 43 29.5**	**+0.2**
WB2	**Warramunga Arr**	**23.17**	**230**	P	**P**	**19 43 30.6**	**-0.1**
WB2				IAmb	IAmb	19 43 33.2	
	comp=Z,28nm,1.6s						
WRA	**Warramunga Arr**	**23.18**	**230**	P	**P**	**19 43 30.9**	**+0.2**
	comp=Z,5.5nm,0.8s,baz=54,slow=9.8,SNR=25						
AS31	**Alice Springs**	**25.84**	**223**	P	**P**	**19 43 56.0**	**+0.7**
ASAR	**Alice Springs**	**25.84**	**223**	P	**P**	**19 43 55.8**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=57,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**25.84**	**223**	P	**P**	**19 43 54.7**	**-0.6**
STKA	**Stephens Creek**	**28.46**	**200**	P	**P**	**19 44 21.3**	**+2.6**
	comp=Z,1.0nm,0.6s,baz=13,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**28.46**	**200**	P	**P**	**19 44 20.3**	**+1.6**
FITZ	**Fitzroy Crossi**	**29.50**	**242**	P	**P**	**19 44 27.6**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=96,slow=6.7,SNR=19						
FITZ	**Fitzroy Crossi**	**29.50**	**242**	P	**P**	**19 44 27.9**	**-0.3**
FITZ				IAmb	IAmb	19 44 41.1	
	comp=Z,7.3nm,1.1s						
JOW	**Kunigami**	**39.88**	**324**	LR	LR	20 03 05.0	
	comp=Z,1μm,18.3s,baz=50,slow=37						
JNU	**Nakatsue**	**43.57**	**333**	P	**P**	**19 46 27.2**	**-0.4**
	comp=Z,18nm,0.9s,baz=114,slow=4.5,SNR=6.3						
JNU	**Nakatsue**	**43.57**	**333**	P	**P**	**19 46 27.5**	**-0.2**
JNU				IAmb	IAmb	19 46 28.7	
	comp=Z,16nm,0.8s						
JWT	**Wachi**	**43.62**	**339**	P	**P**	**19 46 27.5**	**-0.4**
JWT				IAmb	IAmb	19 48 04.8	
	comp=Z,14nm,1.3s						
JTM	**Tenmabayashi**	**47.15**	**348**	P	**P**	**19 46 55.0**	**-0.9**
KSRS	**Korea Array**	**48.51**	**333**	P	**P**	**19 47 06.4**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=143,slow=8.3,SNR=4.0						
ASAJ	**Asahikawa**	**50.08**	**350**	P	**P**	**19 47 17.7**	**-0.6**
	comp=Z,7.6nm,0.7s,baz=200,slow=7.8,SNR=5.2						
USRK	**Ussuriysk Ar.**	**52.77**	**341**	P	**P**	**19 47 37.8**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=180,slow=11,SNR=4.8						
KLR	**Kul'dur**	**57.37**	**344**	P	**P**	**19 48 11.5**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=173,slow=4.5,SNR=7.9						
CMAR	**Chiang Mai Arr**	**58.19**	**295**	P	**P**	**19 48 19.2**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=115,slow=5.9,SNR=12						
CMAR	**Chiang Mai Arr**	**58.19**	**295**	P	**P**	**19 48 18.3**	**+0.3**
CHTO	**Chiang Mai**	**58.30**	**296**	P	**P**	**19 48 18.7**	**0.0**
PETK	**Petropavlovsk-**	**58.35**	**3**	P	**P**	**19 48 18.2**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=163,slow=6.9,SNR=7.6						
PETK	**Petropavlovsk-**	**58.35**	**3**	P	**P**	**19 48 18.4**	**-0.1**
LZH	**Lanzhou**	**61.67**	**316**	*eP*	**P**	**19 48 42.0**	**+0.2**
LZH				pP	pwP	19 48 54.5	-0.8
LZH				sP	sP	19 48 59.5	+3.5
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
MA2	**Magadan**	**64.72**	**359**	P	**P**	**19 49 01.1**	**-0.1**
	comp=Z,7.4nm,0.7s,baz=156,slow=5.3,SNR=24						
MA2	**Magadan**	**64.72**	**359**	P	**P**	**19 49 00.9**	**-0.4**
GTA	**Gaotai**	**66.11**	**317**	*eP*	**P**	**19 49 11.5**	**+0.6**
GTA				pP	pP	19 49 16.5	-4.9
GTA				sP	pwP	19 49 19.5	-4.9
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	**Ulaanbaatar**	**66.49**	**328**	P	**P**	**19 49 13.4**	**+0.2**
ULN				IAmb	IAmb	19 49 15.1	
	comp=Z,3.3nm,1.2s						
SHL	**Shillong**	**66.66**	**301**	P	**P**	**19 49 15.2**	**+0.4**
SONM	**Songino Array**	**66.82**	**328**	P	**P**	**19 49 15.9**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=145,slow=5.9,SNR=8.2						
SONM	**Songino Array**	**66.82**	**328**	P	**P**	**19 49 15.7**	**+0.4**
BILL	**Bilibino**	**73.80**	**5**	P	**P**	**19 49 57.1**	**-0.3**
BILL				IAmb	IAmb	19 49 58.7	
	comp=Z,5.6nm,0.8s						
TIXI	**Tiksi**	**78.43**	**352**	P	**P**	**19 50 22.9**	**-0.7**
TIXI				IAmb	IAmb	19 50 40.9	
	comp=Z,13nm,2.0s						
MKAR	**Makanchi Array**	**80.78**	**319**	P	**P**	**19 50 37.3**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=101,slow=5.8,SNR=9.5						
MKAR	**Makanchi Array**	**80.78**	**319**	P	**P**	**19 50 36.8**	**-0.2**
ZAA0	**Zalesovo Array**	**81.64**	**326**	P	**P**	**19 50 40.3**	**-1.0**
ZAA0				IAmb	IAmb	19 50 41.7	
	comp=Z,4.8nm,0.8s						
ZALV	**Zalesovo Beam**	**81.64**	**326**	P	**P**	**19 50 40.9**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=112,slow=5.9,SNR=21						
ZALV	**Zalesovo Beam**	**81.64**	**326**	P	**P**	**19 50 40.3**	**-1.0**
ILAR	**Eielson Array**	**82.60**	**22**	P	**P**	**19 50 44.7**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=237,slow=4.7,SNR=5.1						
NIL	**Nilore**	**84.35**	**304**	P	**P**	**19 50 55.5**	**-0.4**
QSPA	**South Pole Qui**	**84.64**	**180**	P	**P**	**19 50 57.1**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=33,slow=2.3,SNR=6.9						
QSPA	**South Pole Qui**	**84.64**	**180**	P	**P**	**19 50 57.0**	**+0.3**
NRIK	**Noril'sk**	**86.49**	**341**	P	**P**	**19 51 04.8**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=97,slow=5.8,SNR=2.8						
YKA	**Yellowknife Ar**	**95.84**	**28**	P	**P**	**19 51 49.8**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=268,slow=3.6,SNR=2.7						
GERES	**GERESS Array B**	**124.55**	**328**	PKP	**PKPdf**	**19 57 22.8**	**0.0**
	comp=Z,0.5nm,0.6s,baz=103,slow=4.4,SNR=1.4						
TORD	**Torodi Ar. Bea**	**150.56**	**287**	PKPbc	**PKPbc**	**19 58 16.1**	**0.0**
	comp=Z,4.9nm,0.9s,baz=50,slow=2.3,SNR=16						
TORD	**Torodi Ar. Bea**	**150.56**	**287**		**PKPbc**	**19 58 15.6**	**-0.6**

*IDC **30** 19:41:16.7±0.6,5.36S×153.04E, h0km, mb4.3/24, mb1 4.4/25, mb1mx4.3/42, mbtmp4.3/25, ML3.7/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/35, Error ellipse: s-maj=20.9km s-min=12.3km az=99.0*

*NEIC **30** 19:41:21.0±1.7,5.39S±0.07×153.1E±0.1, h33km±5km, mb4.7/38, Error ellipse: s-maj=14.7km s-min=10.3km az=96.0*

*DJA **30** 19:41:24.0±1.1,5.5S±6.1×153.3E±1.1, h64km±7km, M4.9/13, mB4.9/3, mb4.5/13, MLv5.2/2, Mw(mB)4.2/3*

ISC 30 19:41:21.8±0.5, 5.37S±0.06×153.04E±0.08, h37km, n93, σ0§97/93, mb4.5/44, MS3.7/7, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.46**	**323**		**Pn**	**19 41 46.4**	**+0.7**
MANU	**Manus Island**	**6.56**	**300**	Pn	**Pn**	**19 42 55.3**	**-0.5**
PMG	**Port Moresby**	**7.08**	**235**	Pn	**Pn**	**19 43 04.3**	**+1.4**
	7.3nm,0.3s,baz=21,slow=8.6,SNR=12						
PMG				Sn	**Sn**	**19 44 21.1**	**-1.1**
	9.5nm,0.3s,baz=26,slow=18,SNR=14						
PMG				LR	LR	19 45 42.6	
	comp=Z,481nm,21.5s,baz=70,slow=38						
PMG	**Port Moresby**	**7.08**	**235**		**Pn**	**19 43 03.1**	**+0.2**
HNR	**Honiara**	**7.95**	**121**	LR	LR	19 46 18.5	
	comp=Z,489nm,20.8s,baz=288,slow=38						
CTA	**Charters Tower**	**16.05**	**204**	Pn	**Pn**	**19 45 04.9**	**0.0**
	0.2nm,0.3s,baz=39,slow=13,SNR=2.4						
FAKI	**Fak Fak**	**20.88**	**276**	P	**P**	**19 45 58.3**	**-2.7**
	12nm,0.6s						
DZM	**Mont Dzumac**	**21.07**	**143**	P	**P**	**19 46 03.4**	**+0.3**
	8.2nm,0.9s,baz=248,slow=19,SNR=2.4						
DZM	**Mont Dzumac**	**21.07**	**143**	*eP*	P	19 46 11.9	+8.8
	106nm,1.4s						
DZM	**Mont Dzumac**	**21.07**	**143**		**P**	**19 46 00.3**	**-2.8**
DZM				IAmb	IAmb	19 46 22.3	
	comp=Z,40nm,1.1s						
SIJI	**Sorong**	**22.19**	**281**	P	**P**	**19 46 14.7**	**-0.5**
	comp=Z,8.6nm,0.4s,baz=98,slow=12,SNR=17						
SIJI				LR	LR	19 56 32.3	
	comp=Z,109nm,18.1s,baz=72,slow=41						
SWI	**Sorong**	**22.20**	**281**	P	**P**	**19 46 15.0**	**-0.2**
	comp=Z,30nm,0.8s						
MTN	**Manton Dam**	**22.86**	**250**	P	**P**	**19 46 22.6**	**+0.4**
MTN				IAmb	IAmb	19 46 43.9	
	comp=Z,20nm,1.0s						
WB0	**Warramunga Arr**	**23.11**	**230**	P	**P**	**19 46 24.5**	**-0.3**
WB0				IAmb	IAmb	19 46 36.2	
	comp=Z,23nm,1.0s						
WR0	**Warramunga Arr**	**23.12**	**229**	P	**P**	**19 46 25.1**	**+0.3**
WR0				IAmb	IAmb	19 46 36.3	
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**23.25**	**230**	P	**P**	**19 46 25.0**	**-1.1**
WB2	**Warramunga Arr**	**23.25**	**230**	P	**P**	**19 46 25.9**	**-0.2**
WB2				IAmb	IAmb	19 46 37.6	
	comp=Z,24nm,0.9s						
WRA	**Warramunga Arr**	**23.26**	**230**	P	**P**	**19 46 26.0**	**-0.2**
	comp=Z,6.7nm,0.8s,baz=55,slow=9.9,SNR=13						
WRA				PcP	**PcP**	**19 50 12.7**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=59,slow=2.6,SNR=0.9						
WRA				S	**S**	**19 50 37.2**	**+1.2**
	comp=Z,1.0nm,1.0s,baz=44,slow=16,SNR=2.2						
WRA				LR	LR	19 56 26.3	
	comp=Z,135nm,20.2s,baz=65,slow=39						
WRA	**Warramunga Arr**	**23.26**	**230**	P	**P**	**19 46 25.9**	**-0.3**
AS31	**Alice Springs**	**25.90**	**223**	P	**P**	**19 46 50.9**	**+0.3**
ASAR	**Alice Springs**	**25.90**	**223**	P	**P**	**19 46 50.8**	**+0.2**
	comp=Z,1.9nm,0.4s,baz=55,slow=9.3,SNR=24						
ASAR				PcP	**PcP**	**19 50 18.2**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=77,slow=2.2,SNR=1.9						
ASAR				LR	LR	19 56 29.3	
	comp=Z,146nm,20.9s,baz=26,slow=35						
ASAR	**Alice Springs**	**25.90**	**223**	P	**P**	**19 46 50.3**	**-0.3**
MSVF	**Nonsavu**	**27.36**	**119**	LR	LR	19 56 60.0	
	comp=Z,270nm,19.3s,baz=23,slow=34						
STKA	**Stephens Creek**	**28.47**	**201**	P	**P**	**19 47 13.3**	**-0.2**
	comp=Z,4.9nm,0.9s,baz=16,slow=11,SNR=9.6						
STKA				LR	LR	19 59 34.6	
	comp=Z,242nm,18.2s,baz=32,slow=39						
STKA	**Stephens Creek**	**28.47**	**201**	P	**P**	**19 47 12.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**29.61**	**242**	P	**P**	**19 47 23.7**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=59,slow=7.7,SNR=12						
FITZ	**Fitzroy Crossi**	**29.61**	**242**	P	**P**	**19 47 24.4**	**+0.7**
FITZ				IAmb	IAmb	19 47 35.2	
	comp=Z,12nm,1.1s						
GTOI	**Gorontalo**	**30.58**	**280**	P	**P**	**19 47 34.2**	**+1.8**
	comp=Z,7.0nm,0.9s						
EDFI	**Ende, Flores**	**31.29**	**262**	P	**P**	**19 47 37.3**	**-1.5**
	comp=Z,5.0nm,0.9s						
FORT	**Forrest**	**34.51**	**220**	P	**P**	**19 48 05.6**	**-1.0**
FORT				IAmb	IAmb	19 48 18.5	
	comp=Z,17nm,0.8s						
PLAI	**Plampang**	**35.15**	**262**	P	**P**	**19 48 10.9**	**-1.5**
PSA00	**Pilbara Seismi**	**35.95**	**240**	P	**P**	**19 48 20.2**	**+0.9**
PSA00				IAmb	IAmb	19 48 29.4	
	comp=Z,17nm,1.1s						
JNU	**Nakatsue**	**43.67**	**333**	P	**P**	**19 49 23.1**	**-0.1**
	comp=Z,11nm,0.8s,baz=50,slow=7.9,SNR=5.0						
MJAR	**Matsushiro Arr**	**43.94**	**343**	P	**P**	**19 49 24.0**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=161,slow=8.0,SNR=4.4						
MJAR				PcP	**PcP**	**19 51 12.0**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=147,slow=4.5,SNR=6.2						
MJAR				LR	LR	20 05 44.9	
	comp=Z,96nm,21.3s,baz=210,slow=33						
JTM	**Tenmabayashi**	**47.23**	**348**	P	**P**	**19 49 50.9**	**-0.2**
KSRS	**Korea Array**	**48.61**	**333**	P	**P**	**19 50 01.4**	**-0.5**
	comp=Z,1.6nm,1.0s,baz=145,slow=8.9,SNR=6.2						
KSAR	**Wonju Array Be**	**48.62**	**333**	P	**P**	**19 50 01.1**	**-0.9**
JKA	**Kamikawa-asahi**	**50.15**	**350**	P	**P**	**19 50 14.1**	**+0.5**
ASAJ	**Asahikawa**	**50.15**	**350**	P	**P**	**19 50 14.1**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=252,slow=6.4,SNR=4.7						
USRK	**Ussuriysk Ar.**	**52.86**	**341**	P	**P**	**19 50 34.2**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=165,slow=7.9,SNR=5.0						
ENH	**Enshi**	**54.72**	**313**	P	**P**	**19 50 46.8**	**-1.0**
ENH				IAmb	IAmb	19 51 04.8	
	comp=Z,6.8nm,0.5s						
KLR	**Kul'dur**	**57.45**	**344**	P	**P**	**19 51 07.0**	**+0.1**
	comp=Z,6.8nm,1.2s,baz=141,slow=7.7,SNR=8.0						
CMAR	**Chiang Mai Arr**	**58.34**	**295**	P	**P**	**19 51 14.3**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=112,slow=5.2,SNR=18						
CMAR	**Chiang Mai Arr**	**58.34**	**295**	P	**P**	**19 51 13.9**	**+0.2**
PEA0B	**Petropavlovsk-**	**58.39**	**3**	P	**P**	**19 51 13.8**	**+0.4**
PETK	**Petropavlovsk-**	**58.39**	**3**	P	**P**	**19 51 14.3**	**+1.0**
	comp=Z,6.4nm,0.6s,baz=163,slow=6.5,SNR=44						
PETK	**Petropavlovsk-**	**58.39**	**3**	P	**P**	**19 51 14.0**	**+0.6**
CHTO	**Chiang Mai**	**58.45**	**296**	P	**P**	**19 51 15.0**	**+0.5**
CHTO				IAmb	IAmb	19 51 26.7	
	comp=Z,6.6nm,1.2s						
HIA	**Hailar**	**61.65**	**336**	P	**P**	**19 51 35.0**	**-0.9**
LZH	**Lanzhou**	**61.80**	**316**	*eP*	**P**	**19 51 39.8**	**+2.4**
LZH				pP	pwP	19 51 51.0	-0.1
LZH				sP	sP	19 51 57.3	+5.6
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
MA2	**Magadan**	**64.76**	**359**	P	**P**	**19 51 56.9**	**+0.7**
	comp=Z,11nm,0.6s,baz=161,slow=6.5,SNR=35						
MA2	**Magadan**	**64.76**	**359**	P	**P**	**19 51 56.2**	**-0.1**
GTA	**Gaotai**	**66.23**	**317**	P	**P**	**19 52 08.0**	**+1.6**
GTA				pP	pwP	19 52 18.3	-1.9
GTA				sP	sP	19 52 22.5	+1.9
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SHL	**Shillong**	**66.80**	**301**	P	**P**	**19 52 10.4**	**0.0**
SHL				IAmb	IAmb	19 52 21.6	
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**66.93**	**328**	P	**P**	**19 52 12.0**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=142,slow=4.5,SNR=11						
SONM	**Songino Array**	**66.93**	**328**	P	**P**	**19 52 11.2**	**+0.6**
LSA	**Lhasa**	**68.76**	**305**	P	**P**	**19 52 23.4**	**+0.5**
LSA				IAmb	IAmb	19 52 35.6	
	comp=Z,5.5nm,1.3s						
YAK	**Yakutsk**	**69.58**	**348**	P	**P**	**19 52 25.9**	**-0.8**
SDPT	**Sand Point**	**71.62**	**26**	P	**P**	**19 52 37.6**	**-1.6**
VNDA	**Vanda**	**72.26**	**178**	P	**P**	**19 52 44.0**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=332,slow=6.0,SNR=2.7						
BILL	**Bilibino**	**73.83**	**5**	P	**P**	**19 52 53.2**	**+1.0**
BILL				IAmb	IAmb	19 52 55.2	
	comp=Z,7.5nm,0.9s						
TIXI	**Tiksi**	**78.49**	**352**	P	**P**	**19 53 19.0**	**+0.4**
TIXI				IAmb	IAmb	19 53 22.1	
	comp=Z,4.6nm,1.1s						
IMAR	**Indian Mountai**	**80.83**	**19**	P	**P**	**19 53 31.9**	**+0.4**
MK31	**Makanchi Array**	**80.91**	**319**	P	**P**	**19 53 33.0**	**+0.6**
MKAR	**Makanchi Array**	**80.91**	**319**	P	**P**	**19 53 33.2**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=96,slow=7.9,SNR=18						
MKAR	**Makanchi Array**	**80.91**	**319**	P	**P**	**19 53 32.4**	**+0.1**
MAKZ	**Makanchi**	**81.12**	**319**	P	**P**	**19 53 33.8**	**+0.4**
MLY	**Manley**	**81.32**	**21**	P	**P**	**19 53 34.3**	**+0.1**
ZAA0	**Zalesovo Array**	**81.76**	**326**	P	**P**	**19 53 36.1**	**-0.5**
ZAA0				IAmb	IAmb	19 53 37.7	
	comp=Z,4.9nm,0.9s						
ZALV	**Zalesovo Beam**	**81.76**	**326**	P	**P**	**19 53 36.7**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=105,slow=5.4,SNR=16						
ZALV	**Zalesovo Beam**	**81.76**	**326**	P	**P**	**19 53 36.1**	**-0.5**
ILAR	**Eielson Array**	**82.59**	**22**	P	**P**	**19 53 40.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=255,slow=4.7,SNR=9.2						
ILAR	**Eielson Array**	**82.59**	**22**	P	**P**	**19 53 39.2**	**-1.6**
BCAR	**Beaver Creek A**	**83.82**	**25**	P	**P**	**19 53 46.7**	**-0.5**
NIL	**Nilore**	**84.49**	**304**	P	**P**	**19 53 49.8**	**-1.5**
NIL				IAmb	IAmb	19 53 53.1	
	comp=Z,10nm,0.8s						
QSPA	**South Pole Qui**	**84.60**	**180**	P	**P**	**19 53 52.6**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=105,slow=7.5,SNR=3.1						
QSPA	**South Pole Qui**	**84.60**	**180**	IAmb	IAmb	19 54 07.6	
	comp=Z,18nm,1.5s						
MAW	**Mawson**	**85.14**	**203**	LR	LR	20 29 53.5	
	comp=Z,197nm,18.8s,baz=258,slow=34						
NRIK	**Noril'sk**	**86.58**	**341**	P	**P**	**19 54 01.4**	**+0.6**
	comp=Z,3.3nm,0.5s,baz=144,slow=4.6,SNR=6.3						
NRIK	**Noril'sk**	**86.58**	**341**	P	**P**	**19 54 00.5**	**-0.3**
NRIK				IAmb	IAmb	19 54 03.1	
	comp=Z,5.9nm,1.1s						
INK	**Inuvik**	**88.89**	**21**	P	**P**	**19 54 12.4**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=239,slow=4.2,SNR=2.5						
INK	**Inuvik**	**88.89**	**21**	IAmb	IAmb	19 54 14.1	
	comp=Z,3.6nm,1.2s						
SYO	**Syowa Base**	**93.22**	**199**	*eP*	**P**	**19 54 33.2**	**+1.2**
HRA	**Herat**	**93.65**	**304**	P	**P**	**19 54 35.1**	**0.0**
HRA				IAmb	IAmb	19 54 38.2	
	comp=Z,3.6nm,1.1s						
YKA	**Yellowknife Ar**	**95.81**	**28**	P	**P**	**19 54 44.5**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=269,slow=3.7,SNR=3.9						
PV16	**Nyswonger Mesa**	**99.61**	**52**		**Pdif**	**19 54 59.9**	**-2.1**
KOLS	**Kolonicke sedl**	**119.91**	**325**	*eP*	**PKiKP**	**20 00 08.0**	**-0.5**
MODS	**Modra-Piesok**	**123.02**	**326**	*eP*	**PKPdf**	**20 00 13.7**	**-0.8**
CLL	**Collm**	**123.46**	**331**	*eP*	**PKPdf**	**20 00 13.0**	**-2.2**
CLL				*eP*	**PP**	**20 01 55.0**	**-1.2**
GERES	**GERESS Array B**	**124.66**	**328**	PKP	**PKiKP**	**20 00 19.0**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=70,slow=1.1,SNR=2.7						
BDFB	**Brasilia**	**150.50**	**135**	PKPbc	**PKiKP**	**20 01 11.0**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=283,slow=5.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**150.71**	**287**	PKPbc	**PKiKP**	**20 01 11.6**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=85,slow=2.5,SNR=26						
TORD	**Torodi Ar. Bea**	**150.71**	**287**		**PKiKP**	**20 01 11.4**	**-0.5**

*IDC **30** 20:07:37.8±0.7,27.09N×128.12E, h35km±10km, mb3.7/17, mb1 3.9/19, mb1mx3.8/36, mbtmp4.0/19, ML3.3/2, Error ellipse: s-maj=21.3km s-min=17.5km az=105.0*

*NEIC **30** 20:07:38.2±2.2,26.80N±0.06×128.42E±0.06, h50km±4km, mb4.2/25, Error ellipse: s-maj=10.4km s-min=5.3km az=137.0*

*JMA **30** 20:07:38.8,26.95N×128.43E, h43km±1km, M4.0*

JMA Felt II J1.

ISC 30 20:07:38.4±0.7, 26.95N±0.05×128.39E±0.06, h46km±5km, n93, σ1§12/96, mb4.2/39, 1C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYRO	**Yoronjima**	**0.09**	**35**	P	**Pn**	**20 07 45.6**	**-0.1**
JYRO				S	**Sn**	**20 07 50.3**	**-0.5**
JOW	**Kunigami**	**0.16**	**222**	Pg	**P

GKN	**Gorkha**	**38.68**	**282**	*eP*	**P**	**20**	**14**	**57.7 -0.4**
	comp=Z,11nm,0.4s							
DANN	**Dangsing**	**39.39**	**283**	*eP*	**P**	**20**	**15**	**04.3 +0.1**
MK31	**Makanchi Array**	**41.17**	**311**	P	**P**	**20**	**15**	**17.8 -0.6**
MKAR	**Makanchi Array**	**41.17**	**311**	P	**P**	**20**	**15**	**16.5 -1.9**
	comp=Z,1.8nm,0.6s,baz=101,slow=9.9,SNR=28							
MKAR				PcP	**PcP**	**20**	**17**	**17.1 +0.3**
	comp=Z,0.2nm,0.7s,baz=78,slow=1.7,SNR=2.6							
MKAR	**Makanchi Array**	**41.17**	**311**	P	**P**	**20**	**15**	**17.4 -0.9**
MAKZ	**Makanchi**	**41.38**	**311**	P	**P**	**20**	**15**	**19.0 -1.1**
MAKZ				IAmb	IAmb	20	15	26.7
	comp=Z,3.2nm,1.2s							
ZAA0	**Zalesovo Array**	**41.77**	**322**	P	**P**	**20**	**15**	**22.4 -0.7**
ZAA0				IAmb	IAmb	20	15	22.6
	comp=Z,2.6nm,0.5s							
ZALV	**Zalesovo Beam**	**41.77**	**322**	P	**P**	**20**	**15**	**21.0 -2.1**
	comp=Z,1.7nm,0.4s,baz=103,slow=9.2,SNR=9.5							
ZALV	**Zalesovo Beam**	**41.77**	**322**	P	**P**	**20**	**15**	**21.4 -1.7**
TIXI	**Tiksi**	**44.74**	**0**	P	**P**	**20**	**15**	**45.9 -0.9**
AAK	**Ala-Archa**	**46.18**	**304**	P	**P**	**20**	**15**	**59.4 +0.5**
AAK				IAmb	IAmb	20	16	12.5
	comp=Z,3.6nm,1.2s							
WRA	**Warramunga Arr**	**46.97**	**172**	P	**P**	**20**	**16**	**05.3 +0.3**
	comp=Z,0.3nm,0.7s,baz=352,slow=8.6,SNR=1.6							
KK31	**Karatay Array**	**49.12**	**305**	P	**P**	**20**	**16**	**22.6 +1.1**
KK31				IAmb	IAmb	20	16	23.1
	comp=Z,3.6nm,1.0s							
KKAR	**Karatay Array**	**49.12**	**305**	P	**P**	**20**	**16**	**21.9 +0.4**
BRVK	**Borovoye**	**49.91**	**318**	P	**P**	**20**	**16**	**27.6 +0.4**
ASAR	**Alice Springs**	**50.60**	**173**	P	**P**	**20**	**16**	**34.0 +1.1**
	comp=Z,0.2nm,0.5s,baz=5.1,slow=13,SNR=1.7							
ABKAR	**Akbulak array**	**56.26**	**313**	P	**P**	**20**	**17**	**13.3 -0.8**
ARU	**Arti**	**56.92**	**322**	P	**P**	**20**	**17**	**18.1 -0.6**
MLY	**Manley**	**62.08**	**28**	P	**P**	**20**	**17**	**55.5 +1.4**
MLY				IAmb	IAmb	20	18	00.4
	comp=Z,1.9nm,0.8s							
TOLK	**Toolik Lake Re**	**62.30**	**24**	P	**P**	**20**	**17**	**57.1 +1.5**
ILAR	**Eielson Array**	**63.74**	**28**	P	**P**	**20**	**18**	**05.3 +0.2**
	comp=Z,0.4nm,0.7s,baz=289,slow=7.6,SNR=5.3							
ILAR	**Eielson Array**	**63.74**	**28**	P	**P**	**20**	**18**	**03.9 -1.2**
SCRK	**Sand Creek**	**65.11**	**29**	P	**P**	**20**	**18**	**15.3 +1.1**
SPA0	**Spitsbergen Ar**	**68.16**	**348**	P	**P**	**20**	**18**	**33.7 +0.4**
INK	**Inuvik**	**68.17**	**23**	P	**P**	**20**	**18**	**34.3 +0.8**
	comp=Z,0.6nm,0.5s,baz=242,slow=7.8,SNR=3.0							
INK	**Inuvik**	**68.17**	**23**	P	**P**	**20**	**18**	**34.6 +1.1**
KBZ	**Khabaz**	**68.82**	**309**	P	**P**	**20**	**18**	**38.2 +0.3**
	comp=Z,4.9nm,0.8s,baz=126,slow=5.6,SNR=7.2							
ARCES	**ARCESS Array B**	**69.39**	**339**	P	**P**	**20**	**18**	**40.0 -1.1**
	comp=Z,3.0nm,0.8s,baz=36,slow=9.0,SNR=1.6							
SOCY	**Socotra**	**70.78**	**274**	P	**P**	**20**	**18**	**49.4 -1.2**
SOCY				IAmb	IAmb	20	19	05.2
	comp=Z,4.7nm,1.2s							
FIA1	**FINESS Array S**	**72.31**	**330**	P	**P**	**20**	**18**	**59.0 +0.1**
FINES	**FINESS Array B**	**72.31**	**330**	P	**P**	**20**	**18**	**57.7 -1.2**
	comp=Z,2.8nm,0.5s,baz=67,slow=5.8,SNR=24							
RES	**Resolute Bay**	**74.81**	**11**	P	**P**	**20**	**19**	**14.3 +0.9**
RES				IAmb	IAmb	20	19	15.0
	comp=Z,1.6nm,0.8s							
AKASG	**Malin Array Be**	**75.08**	**319**	P	**P**	**20**	**19**	**13.9 -1.5**
	comp=Z,1.2nm,0.3s,baz=59,slow=6.3,SNR=10							
AKBB	**Malin Array Si**	**75.08**	**319**	P	**P**	**20**	**19**	**14.9 -0.5**
AKBB				IAmb	IAmb	20	19	15.4
	comp=Z,3.5nm,0.8s							
BRTR	**Keskin Array B**	**76.71**	**308**	P	**P**	**20**	**19**	**24.3 -0.8**
	comp=Z,1.0nm,0.5s,baz=108,slow=4.7,SNR=5.9							
BRTR	**Keskin Array B**	**76.71**	**308**	P	**P**	**20**	**19**	**25.2 +0.1**
YKA	**Yellowknife Ar**	**77.81**	**25**	P	**P**	**20**	**19**	**30.3 -0.3**
	comp=Z,0.3nm,0.6s,baz=301,slow=4.9,SNR=2.2							
NC405	**NORSAR Array S**	**78.49**	**334**	P	**P**	**20**	**19**	**34.3 -0.2**
NC405				IAmb	IAmb	20	19	36.7
	comp=Z,1.5nm,0.5s							
NB2	**NORSAR Subarra**	**78.73**	**334**	P	**P**	**20**	**19**	**35.1 -0.7**
	comp=Z,1.7nm,0.8s,baz=52,slow=5.3							
NOA	**NORSAR Array B**	**78.73**	**334**	P	**P**	**20**	**19**	**34.9 -1.0**
	comp=Z,2.0nm,0.8s,baz=51,slow=5.6,SNR=6.9							
BUR08	**Bucovina Ar. S**	**78.79**	**318**	P	**P**	**20**	**19**	**37.2 +0.7**
BUR08				IAmb	IAmb	20	19	53.1
	comp=Z,3.5nm,1.1s							
BURAR	**Bucovina Array**	**78.80**	**318**	P	**P**	**20**	**19**	**36.8 +0.3**
H03N2	**Juan Fernandez**	**155.55**	**112**	T	T	23	22	15.7
	baz=263							
H03N3	**Juan Fernandez**	**155.56**	**112**	T	T	23	22	18.0
	baz=263							
H03N1	**Juan Fernandez**	**155.57**	**112**	T	T	23	22	19.0
	baz=263							

BJI 30 20:21:53.8±0.0, 26°60N×108°80E, h10km, mb3.8/7, ML3.7/14, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
GYA	**Guiyang**	**1.92**	**266**	Pn	Pb	20	22	28.0	-1.0
GYA				Pg	Pg	20	22	31.5	+0.9
GYA				Sn	Sb	20	22	52.5	-0.5
GYA				Sg	Sg	20	22	54.5	-1.0
GYA				smax	smax				
	comp=N,320nm,0.7s								
GYA				smax	smax				
	comp=E,180nm,0.7s								
CD2	**Chengdu**	**6.17**	**315**	Pn	Pn	20	23	28.5	+3.5
CD2				Sn	Sn	20	24	40.0	+4.4
CD2				smax	smax				
	comp=N,80nm,0.6s								
CD2				smax	smax				
	comp=E,70nm,0.7s								
QIZ	**Qiongzhong**	**7.60**	**173**	Pn	Pn	20	23	45.5	+0.9
QIZ				Sn	Sn	20	25	12.0	+1.2
GTA	**Gaotai**	**14.82**	**332**	*eP*	P	20	25	29.3	-0.2
GTA				pP	Pn	20	25	35.8	+12
GTA				sP		20	25	39.3	
GTA				pmax	pmax				
	comp=Z,2.0nm,1.1s								
WMQ	**Urumqi**	**24.23**	**321**	*eP*	P	20	27	12.8	+1.9

*IDC **30** 20:25:43.7±1.6,5.°48S×147.°16E, h184km±14km, mb3.7/8, mb1 3.8/13, mb1mx3.5/38, mbtmp4.2/13, Error ellipse: s-maj=18.4km s-min=11.9km az=97.0*

*NEIC **30** 20:25:44.2±1.1,5.°53S±0.°07×147.°1E±0.°1, h190km±4km, mb4.0/14, Error ellipse: s-maj=15.0km s-min=10.4km az=91.0*

ISC 30 20:25:44.5±0.6, 5.°54S±0.°06×147.°06E±0.°08, h195km, n39, σ1§56/44, mb3.9/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
MANU	**Manus Island**	**3.49**	**5**		**Pn**	**20**	**26**	**39.8**	**0.0**
PMG	**Port Moresby**	**3.84**	**179**	P	**Pn**	**20**	**26**	**42.7**	**-1.4**
	71nm,0.3s,baz=9.1,slow=11,SNR=174								
PMG				S	**Sn**	**20**	**27**	**25.6**	**-5.4**
	44nm,0.3s,baz=16,slow=14,SNR=9.1								
PMG	**Port Moresby**	**3.84**	**179**		**Pn**	**20**	**26**	**42.5**	**-1.6**
RABL	**Rabaul**	**5.26**	**75**	Pn	Pn	20	27	**00.7**	**-1.5**
JAY	**Jayapura**	**7.02**	**295**	P	**Pn**	**20**	**27**	**24.1**	**-0.9**
	2.7nm,0.3s,baz=153,slow=7.7,SNR=11								
JAY				S	**Sn**	**20**	**28**	**40.0**	**-4.7**
	baz=158,slow=19,SNR=1.1								
COEN	**Coen**	**9.20**	**204**		**Pn**	**20**	**27**	**53.3**	**-0.2**
CTA	**Charters Tower**	**14.48**	**183**	P	**P**	**20**	**29**	**03.1**	**+1.1**
	0.2nm,0.3s,baz=2.9,slow=14,SNR=1.1								
SIJI	**Sorong**	**16.44**	**286**	P	**P**	**20**	**29**	**24.7**	**+1.0**
	0.5nm,0.3s,baz=116,slow=13,SNR=2.0								
MTN	**Manton Dam**	**17.31**	**244**	P	**P**	**20**	**29**	**34.9**	**+1.6**
MTN				IAmb	IAmb	20	29	35.5	
	comp=Z,6.7nm,0.8s								
WB0	**Warramunga Arr**	**18.76**	**220**		**P**	**20**	**29**	**51.1**	**+2.1**
WB0				IAmb	IAmb	20	29	55.9	
	comp=Z,4.9nm,0.7s								
WR0	**Warramunga Arr**	**18.81**	**219**		**P**	**20**	**29**	**50.8**	**+1.2**
WR0				IAmb	IAmb	20	29	56.1	
	comp=Z,6.2nm,0.5s								
WRAB	**Tennant Creek**	**18.91**	**220**	P	**P**	**20**	**29**	**51.2**	**+0.6**
WB2	**Warramunga Arr**	**18.91**	**220**		**P**	**20**	**29**	**51.2**	**+0.5**
WRA	**Warramunga Arr**	**18.92**	**220**	P	**P**	**20**	**29**	**52.4**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=49,slow=9.0,SNR=66								
WRA				S	**S**	**20**	**33**	**15.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=42,slow=20,SNR=9.7								
WRA				PcP	**PcP**	**20**	**34**	**09.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=32,slow=2.0,SNR=2.8								
WRA	**Warramunga Arr**	**18.92**	**220**	P	**P**	**20**	**29**	**51.3**	**+0.5**
AS31	**Alice Springs**	**22.03**	**214**	P	**P**	**20**	**30**	**24.9**	**+1.4**
AS31				IAmb	IAmb	20	30	29.9	
	comp=Z,4.0nm,0.8s								
ASAR	**Alice Springs**	**22.03**	**214**	P	**P**	**20**	**30**	**25.2**	**+1.7**
	comp=Z,6.8nm,0.6s,baz=49,slow=8.4,SNR=26								
ASAR				S	**S**	**20**	**34**	**15.5**	**+3.0**
	comp=Z,9.0nm,0.8s,baz=28,slow=18,SNR=37								
ASAR	**Alice Springs**	**22.03**	**214**	P	**P**	**20**	**30**	**24.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.36**	**237**	P	**P**	**20**	**30**	**46.1**	**+1.3**
	comp=Z,10nm,0.4s,baz=52,slow=11,SNR=64								
FITZ	**Fitzroy Crossi**	**24.36**	**237**	P	**P**	**20**	**30**	**45.6**	**+0.8**
MMRI	**Maumere**	**24.82**	**261**	P	**P**	**20**	**30**	**48.6**	**-0.4**
DZM	**Mont Dzumac**	**24.93**	**133**	P	**P**	**20**	**30**	**50.4**	**+0.3**
	comp=Z,6.6nm,1.0s,baz=311,slow=19,SNR=1.8								
ULN	**Ulaanbaatar**	**63.74**	**331**	P	**P**	**20**	**35**	**56.9**	**+1.3**
ULN				IAmb	IAmb	20	35	58.3	
	comp=Z,2.0nm,0.7s								
SONM	**Songino Array**	**64.04**	**331**	P	**P**	**20**	**35**	**58.9**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=151,slow=7.1,SNR=9.0								
SONM	**Songino Array**	**64.04**	**331**	P	**P**	**20**	**35**	**58.7**	**+1.2**
VNDA	**Vanda**	**72.36**	**177**	P	**P**	**20**	**36**	**49.4**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=327,slow=6.2,SNR=7.1								
VNDA	**Vanda**	**72.36**	**177**	P	**P**	**20**	**36**	**49.7**	**+1.1**
VNDA				IAmb	IAmb	20	36	50.7	
	comp=Z,1.8nm,0.8s								
MK31	**Makanchi Array**	**77.19**	**320**	P	**P**	**20**	**37**	**16.9**	**+0.1**
MKAR	**Makanchi Array**	**77.19**	**320**	P	**P**	**20**	**37**	**17.3**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=92,slow=7.4,SNR=7.4								
MKAR	**Makanchi Array**	**77.19**	**320**	P	**P**	**20**	**37**	**17.1**	**+0.2**
TIXI	**Tiksi**	**77.97**	**354**	P	**P**	**20**	**37**	**20.4**	**-0.2**
TIXI				IAmb	IAmb	20	37	24.2	
	comp=Z,3.9nm,1.5s								
ZAA0	**Zalesovo Array**	**78.66**	**328**	P	**P**	**20**	**37**	**24.8**	**+0.1**
ZAA0				IAmb	IAmb	20	37	25.1	
	comp=Z,1.9nm,0.9s								
ZALV	**Zalesovo Beam**	**78.66**	**328**	P	**P**	**20**	**37**	**24.1**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=116,slow=5.9,SNR=4.2								
ZALV	**Zalesovo Beam**	**78.66**	**328**	P	**P**	**20**	**37**	**24.9**	**+0.1**
ILAR	**Eielson Array**	**85.04**	**23**	P	**P**	**20**	**37**	**57.2**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=254,slow=4.6,SNR=6.1								
ILAR	**Eielson Array**	**85.04**	**23**	P	**P**	**20**	**37**	**57.6**	**-0.3**
GERES	**GERESS Array B**	**121.57**	**326**	PKP	**PKPdf**	**20**	**44**	**15.0**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=48,slow=1.5,SNR=2.3								
PLCA	**Paso Flores**	**122.47**	**147**	PKP	**PKPdf**	**20**	**44**	**16.2**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=301,slow=5.9,SNR=3.3								
TORD	**Torodi Ar. Bea**	**145.04**	**285**	PKPbc	**PKPbc**	**20**	**44**	**59.5**	**0.0**
	comp=Z,0.7nm,0.4s,baz=68,slow=4.0,SNR=12								

IDC 30 20:41:50.7±6.8, 6.°53S×153.°66E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/34, mbtmp3.3/3, Error ellipse: s-maj=203.7km s-min=42.9km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**23.01**	**233**	P	P	20	46	57.5	-0.1
	0.6nm,0.7s,baz=55,slow=9.6,SNR=2.8								
ASAR	**Alice Springs**	**25.51**	**226**	P	P	20	47	20.8	-0.4
	0.2nm,0.5s,baz=61,slow=9.6,SNR=2.5								
MKAR	**Makanchi Array**	**82.18**	**319**	P	P	20	54	14.2	+0.4
	0.3nm,0.7s,baz=100,slow=5.9,SNR=3.7								

*IDC **30** 20:46:36.6±1.1, 30.°05N×102.°46E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.4/52, mbtmp3.4/8, ML3.7/2, Error ellipse: s-maj=36.5km s-min=19.9km az=72.0*

ISC 30 20:46:37.6±0.9, 30.°0N±0.°1×102.°4E±0.°2, h10km, n8, σ1§03/8, mb3.6/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
CMAR	**Chiang Mai Arr**	**11.93**	**196**	Pn	**Pn**	**20**	**49**	**27.0**	**-0.9**
	0.3nm,0.3s,baz=59,slow=11,SNR=4.1								
SONM	**Songino Array**	**18.06**	**9**	P	**P**	**20**	**50**	**48.5**	**-0.7**
	0.1nm,0.3s,baz=186,slow=12,SNR=1.7								
KSRS	**Korea Array**	**22.40**	**64**	P	**P**	**20**	**51**	**36.0**	**-0.4**
	0.7nm,0.4s,baz=243,slow=8.0,SNR=4.4								
MKAR	**Makanchi Array**	**22.92**	**323**	P	**P**	**20**	**51**	**42.7**	**+1.0**
	0.4nm,0.8s,baz=137,slow=6.1,SNR=2.6								
ZALV	**Zalesovo Beam**	**27.12**	**337**	P	**P**	**20**	**52**	**21.1**	**+0.4**
	0.3nm,0.4s,baz=163,slow=5.6,SNR=1.9								
WRA	**Warramunga Arr**	**58.40**	**144**	P	**P**	**20**	**56**	**34.4**	**+0.9**
	1.1nm,0.6s,baz=336,slow=7.8,SNR=14								
ASAR	**Alice Springs**	**61.33**	**147**	P	**P**	**20**	**56**	**55.0**	**+1.3**
	0.3nm,0.5s,baz=329,slow=7.1,SNR=5.6								
YKA	**Yellowknife Ar**	**83.15**	**16**	P	**P**	**20**	**59**	**03.0**	**-0.6**
	0.6nm,1.0s,baz=333,slow=5.5,SNR=5.8								

*SJA **30** 21:00:45.2±0.5, 22.°76S×66.°29W, h278km±2km, ML5.2, MW4.8*

*NEIC **30** 21:00:46.1±2.4, 22.°73S±0.°05×66.°15W±0.°08, h240km±5km, mb4.7/202, Md4.5(SJA), Error ellipse: s-maj=11.0km s-min=7.8km az=91.0*

*VAO **30** 21:00:46.9±0.3, 22.°67S×66.°24W, h260km±4km, mb5.2*

*GUC **30** 21:00:46.3±0.4, 22.°92S×66.°47W, h256km±7km, MW5.4*

*IDC **30** 21:00:47.1±0.6, 22.°63S×66.°17W, h248km±4km, mb4.2/13, mb1 4.4/19, mb1mx4.3/27, mbtmp4.8/19, Error ellipse: s-maj=10.9km s-min=9.2km az=9.0*

*GCMT **30** 21:00:51.1±0.2, 22.°78S±0.°02×66.°26W±0.°02, h257km±2km, MW5.3/105, Moment Tensor Solution. s55,c71; s105,c136; Duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr 1.97±.25; Mθθ -0.46±.28; Mφφ -1.51±.28; Mrθ 0.17±.22; Mθφ 4.42±.22; Mφr -8.38±.21; Best double couple: Mo 9.64100×10^16 NP1: φs 279.00000°, δ27.00000°, λ15.00000°. NP2: φs 176.00000°, δ83.00000°, λ117.00000°. Principal axes: T 9.5480, Plg45.0000°, Azm113.0000°; N 0.1860, Plg26.0000°, Azm353.0000°; P -9.7350, Plg33.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 21:00:46.3±0.4, 22.°72S±0.°03×66.°23W±0.°04, h245km±4km, n438, σ1§54/436, mb4.7/136, 38C-23D, Fault plane solution: NP1: φs 11.06568°, δ89.28262°, λ -112.70235°. NP2: φs 279.35147°, δ22.71308°, λ -1.85823°. Principal axes: T Plg40.0471°, Azm121.9509°; N Plg22.7005°, Azm11.3658°; P Plg41.3856°, Azm259.7358°; Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
YJA	**Yavi**	**0.85**	**51**	*eP*	**Pn**	**21**	**01**	**22.8**	**+2.2**
YJA				*eS*	**S**	**21**	**01**	**52.2**	**+4.7**
YJA				IAML		21	01	53.4	
	comp=Z,2μm,1.1s								
SLA	**San Lorenzo**	**2.10**	**162**	*eP*	**Pn**	**21**	**01**	**31.1**	**+1.6**
SLA				*i* S	**S**	**21**	**02**	**05.4**	**+1.8**
SLA	**San Lorenzo**	**2.10**	**162**	*eP*	**Pn**	**21**	**01**	**31.3**	**+1.8**
SLA				*eS*	**S**	**21**	**02**	**05.6**	**+2.0**
SLA				IAML		21	02	25.6	
	comp=Z,892nm,1.1s								
LVC	**Limon Verde**	**2.48**	**272**	P	**Pn**	**21**	**01**	**34.4**	**+1.0**
	comp=Z,1μm,0.3s,baz=97,slow=5.4,SNR=6714								
LVC				S	**S**	**21**	**02**	**10.5**	**+0.1**
	comp=Z,344nm,0.3s,baz=202,slow=21,SNR=21								
LVC	**Limon Verde**	**2.48**	**272**	*iP*	**Pn**	**21**	**01**	**34.4**	**+1.0**
LVC				*i* S	**S**	**21**	**02**	**10.5**	**+0.1**
LVC	**Limon Verde**	**2.48**	**272**	*eP*	**Pn**	**21**	**01**	**34.5**	**+1.2**
LVC	**Limon Verde**	**2.48**	**272**	*eP*	**Pn**	**21**	**01**	**34.4**	**+1.0**
LVC				*eS*	**S**	**21**	**02**	**11.0**	**+0.6**
LVC				IAML		21	02	13.9	
	comp=Z,731nm,0.6s								
PB09	**IPOC Station P**	**2.94**	**288**	*iP*	**Pn**	**21**	**01**	**39.4**	**+1.4**
PB09				*i* S	**S**	**21**	**02**	**18.8**	**0.0**
PB09	**IPOC Station P**	**2.94**	**288**		**Pn**	**21**	**01**	**39.5**	**+1.4**
PB09				S	**S**	**21**	**02**	**18.6**	**-0.2**
PB09	**IPOC Station P**	**2.94**	**288**	*eP*	**Pn**	**21**	**01**	**39.3**	**+1.4**
PB09				*eS*	**S**	**21**	**02**	**19.5**	**+0.8**
PB09				IAML		21	02	22.6	
	comp=Z,3μm,0.2s								
PB15	**IPOC Station P**	**3.03**	**260**	*iP*	**Pn**	**21**	**01**	**39.7**	**+0.7**
PB15				*i* S	**S**	**21**	**02**	**19.6**	**-0.9**
PB15	**IPOC Station P**	**3.03**	**260**		**Pn**	**21**	**01**	**40.0**	**+1.0**
PB15				S	**S**	**21**	**02**	**19.9**	**-0.7**
PB15	**IPOC Station P**	**3.03**	**260**	*eP*	**Pn**	**21**	**01**	**39.8**	**+0.8**
PB15				*eP*		21	01	39.9	
PB15				*eS*	**S**	**21**	**02**	**20.0**	**-0.6**
PB15				IAML		21	02	22.9	
	comp=Z,41μm,0.2s								
PB06	**IPOC Station P**	**3.08**	**270**	*iP*	**Pn**	**21**	**01**	**40.1**	**+0.5**
PB06				*i* S	**S**	**21**	**02**	**20.2**	**-1.5**
PB06	**IPOC Station P**	**3.08**	**270**		**Pn**	**21**	**01**	**40.0**	**+0.4**
PB06				S	**S**	**21**	**02**	**20.1**	**-1.5**
PB06	**IPOC Station P**	**3.08**	**270**	*eP*	**Pn**	**21**	**01**	**40.3**	**+0.7**
PB06				*eS*	**S**	**21**	**02**	**20.7**	**-0.9**
PB06				IAML		21	02	24.5	
	comp=Z,5μm,0.3s								
PB03	**IPOC Station P**	**3.33**	**281**	*iP*	**Pn**	**21**	**01**	**42.7**	**+0.4**
PB03				*i* S	**S**	**21**	**02**	**24.4**	**-2.1**
PB03	**IPOC Station P**	**3.33**	**281**	*eP*	**Pn**	**21**	**01**	**42.8**	**+0.5**
PB03				*eS*	**S**	**21**	**02**	**25.1**	**-1.5**
PB03				IAML		21	02	29.8	
	comp=Z,6μm,0.4s								
FSA	**Cafayete**	**3.39**	**176**	*eP*	**Pn**	**21**	**01**	**44.0**	**+1.0**
PB01	**IPOC Station P**	**3.45**	**298**	*iP*	**Pn**	**21**	**01**	**44.2**	**+0.5**
PB01				*i* S	**S**	**21**	**02**	**27.5**	**-1.5**
PB01	**IPOC Station P**	**3.45**	**298**		**Pn**	**21**	**01**	**44.1**	**+0.5**
PB01	**IPOC Station P**	**3.45**	**298**	*eP*	**Pn**	**21**	**01**	**44.3**	**+0.5**
PB01				*eS*	**S**	**21**	**02**	**28.5**	**-0.5**
PB01				IAML		21	02	32.3	
	comp=Z,3μm,0.1s								
PB07	**IPOC Station P**	**3.53**	**286**	*iP*	**Pn**	**21**	**01**	**45.1**	**+0.5**
PB07				*i* S	**S**	**21**	**02**	**28.7**	**-2.0**
PB07	**IPOC Station P**	**3.53**	**286**		**Pn**	**21**	**01**	**45.2**	**+0.6**
PB07	**IPOC Station P**	**3.53**	**286**	*eP*	**Pn**	**21**	**01**	**45.4**	**+0.8**
PB07				*eS*	**S**	**21**	**02**	**29.4**	**-1.3**
PB07				IAML		21	02	33.8	
	comp=Z,4μm,0.5s								
PB04	**IPOC Station P**	**3.64**	**275**	*iP*	**Pn**	**21**	**01**	**46.2**	**+0.3**
PB04				*i* S	**S**	**21**	**02**	**31.1**	**-2.0**
PB04	**IPOC Station P**	**3.64**	**275**	Pn	**Pn**	**21**	**01**	**46.1**	**+0.3**
PB04	**IPOC Station P**	**3.64**	**275**	*eP*	**Pn**	**21**	**01**	**46.3**	**+0.3**
PB04				*eS*	**S**	**21**	**02**	**32.2**	**-0.8**
PB04				IAML		21	02	35.1	
	comp=Z,6μm,0.2s								
PB05	**IPOC Station P**	**3.67**	**267**	*iP*	**Pn**	**21**	**01**	**46.4**	**+0.3**
PB05				*eS*	**S**	**21**	**02**	**30.9**	**-2.6**
PB05	**IPOC Station P**	**3.67**	**267**	*eP*	**Pn**	**21**	**01**	**46.4**	**+0.3**
PB05				*eS*	**S**	**21**	**02**	**31.8**	**-1.7**
PB05				IAML		21	02	36.0	
	comp=Z,3μm,0.2s								
PB08	**IPOC Station P**	**3.74**	**313**	*iP*	**Pn**	**21**	**01**	**48.7**	**+1.4**
PB08	**IPOC Station P**	**3.74**	**313**	Pn	**Pn**	**21**	**01**	**48.7**	**+1.4**
PB08	**IPOC Station P**	**3.74**	**313**	*eP*	**Pn**	**21**	**01**	**48.7**	**+1.4**
PB08				*eS*	**S**	**21**	**02**	**36.0**	**+0.5**
PB08				IAML		21	02	38.9	
	comp=Z,2μm,0.8s								
GO02	**Mina Guanaco**	**3.92**	**231**	*iP*	**Pn**	**21**	**01**	**49.6**	**+0.4**
GO02				*i* S	**S**	**21**	**02**	**38.4**	**-0.7**
GO02	**Mina Guanaco**	**3.92**	**231**		**Pn**	**21**	**01**	**49.7**	**+0.4**
AHML	**Horco Molle**	**4.13**	**169**	*eP*	**Pn**	**21**	**01**	**52.3**	**+0.8**
AHML				IAML		21	03	12.9	
	comp=Z,103nm,0.9s								
TA01	**Diego Aracena**	**4.25**	**299**		**Pn**	**21**	**01**	**52.4**	**-0.5**
PB14	**IPOC Station P**	**4.27**	**243**	Pn	**Pn**	**21**	**01**	**53.5**	**+0.1**
PB14	**IPOC Station P**	**4.27**	**243**	*eP*	**Pn**	**21**	**01**	**53.3**	**-0.1**
PB14				*eS*	**S**	**21**	**02**	**44.0**	**-2.6**
PB14				IAML		21	02	46.3	
	comp=Z,7μm,0.4s								
MNMC	**Minye Minye**	**4.75**	**318**	Pn	**Pn**	**21**	**01**	**59.8**	**+0.5**
MNMCX	**Minye Minye**	**4.75**	**318**	*eP*	**Pn**	**21**	**01**	**59.8**	**+0.5**
MNMCX				*eS*	**S**	**21**

PET01 Itanhaem-SP 17.46 99 eP P 21 04 33.6 +0.2
IPMB Ipameri, GO 17.54 78 eP P 21 04 35.2 +0.8
VAO Valinhos 17.76 95 eP P 21 04 37.2 +0.4
SNDB Serra Nova Dou 17.80 56 eP P 21 04 37.0 -0.2
PLCA Paso Flores 18.33 190 P P 21 04 43.0 +0.3
comp=Z,1.6nm,0.3s,baz=11,slow=12,SNR=110
PLCA ScP ScP 21 12 15.3 +0.6
comp=Z,0.1nm,0.3s,baz=294,slow=8.6,SNR=2.8
PLCA Paso Flores 18.33 190 P P 21 04 42.3 -0.5
PLCA Paso Flores 18.33 190 eP P 21 04 42.7 0.0
BDFB Brasilia 18.58 71 P P 21 04 45.8 +0.1
comp=Z,6.6nm,0.3s,baz=245,slow=11,SNR=213
BDFB Brasilia 18.58 71 P P 21 04 45.9 +0.1
NPGB Novo Progresso 18.77 36 eP P 21 04 46.1 -1.6
PARB Paraibuna 18.98 96 eP P 21 04 49.6 -0.4
ATAH Atahualpa 19.42 321 P P 21 04 56.4 +1.3
comp=Z,0.4nm,0.3s,baz=158,slow=10,SNR=9.9
BSCB Bom Sucesso 19.99 89 eP P 21 05 00.5 -0.2
PEXB Peixe 20.08 61 eP P 21 05 01.2 -0.4
ESAR Angra dos Reis 20.08 95 eP P 21 05 01.3 -0.3
MACA Manacapuru-AM 20.17 16 eP P 21 05 01.4 -1.2
LL01 San Ignacio de 20.28 193 P P 21 05 03.0 -0.5
LL01 IAmb IAmb 21 05 06.8
comp=Z,36nm,0.9s
MAN01 Angra dos Reis 20.53 95 eP P 21 05 06.1 -0.3
ITTB Itaituba 20.88 31 eP P 21 05 08.2 -1.9
VAS01 Vassouras-RJ 21.06 93 eP P 21 05 11.8 -0.2
GO07 Milladeo Hill, 21.26 195 P P 21 05 12.5 -1.0
DIAM Diamantina, MG 21.57 82 eP P 21 05 16.8 -0.3
DUB01 Friburgo-RJ 22.06 93 eP P 21 05 21.0 -0.4
JANB Januaria 22.08 74 eP P 21 05 20.8 -0.8
SMTB Santa Maria do 22.58 55 eP P 21 05 25.3 -0.8
PTGA Pitinga 22.69 16 P P 21 05 25.9 -1.2
comp=Z,23nm,0.9s,baz=168,slow=9.8,SNR=33
PTGA Pitinga 22.69 16 P P 21 05 26.0 -1.2
PTGA IAmb IAmb 21 05 27.2
comp=Z,28nm,0.9s
PTGA Pitinga 22.69 16 eP P 21 05 26.5 -0.6
SDBA SAO DESIDERIO 22.74 67 eP P 21 05 26.9 -0.8
CAM01 Campos-RJ 22.75 92 eP P 21 05 27.2 -0.4
PRPB Parauapebas 22.83 46 eP P 21 05 26.7 -1.8
SJMB Sao Joao De Ma 23.75 85 eP P 21 05 36.0 -0.8
MALB Monte Alegre 23.77 31 eP P 21 05 35.7 -1.3
ALF01 Guarapari-ES 23.79 90 eP P 21 05 36.4 -0.6
RIB01 Linhares ES 24.34 87 eP P 21 05 41.2 -0.9
OTAV Otavalo 25.73 331 P P 21 05 54.5 -0.6
OTAV Otavalo 25.73 331 eP P 21 05 54.4 -0.7
GCUF Volcan Galeras 26.15 334 eP P 21 06 04.6 +5.6
MCPB Macapa, AP 26.15 34 eP P 21 05 57.7 -0.7
GARC Garzon, Huila 26.35 339 eP P 21 06 00.5 0.0
NBIT Itapeh - BA 26.49 78 eP P 21 06 00.9 -0.5
SOTA Rioblanco 26.69 336 eP P 21 06 04.6 +0.8
BETC Betania 26.80 339 eP P 21 06 04.6 +0.4
PCON Cinco Dias 26.80 337 eP P 21 06 08.4 +3.7
GDU01 Guandu, BA 26.82 75 eP P 21 06 02.8 -1.5
BBAC Balboa, Cauca 26.83 335 eP P 21 06 05.7 +1.0
POPC Popayan, Colom 27.09 337 eP P 21 06 06.7 -0.4
NBPN Ponto Novo - B 27.52 69 eP P 21 06 09.1 -1.6
VILC Villavicencio, 27.64 344 eP P 21 06 12.3 +0.5
ORTC Ortega, Tolima 27.89 340 eP P 21 06 12.3 -1.6
YOTC Yotoco, Valle 28.32 338 eP P 21 06 17.1 -0.6
ROSB Rosrio 29.11 51 eP P 21 06 23.2 -1.5
GUY2C Guyana, Caldas 29.17 341 eP P 21 06 25.5 -0.2
RUSC La Rusia 29.21 346 eP P 21 06 25.0 -1.0
NORC Norcasia 29.35 342 eP P 21 06 26.7 -0.1
NBLA Lagarto - SE 29.55 71 eP P 21 06 26.6 -1.9
EFI East Falkland 29.59 170 P P 21 06 29.7 +1.3
BARC Barichara 29.91 346 eP P 21 06 32.0 +0.1
NBPS Pedro II - PI 30.11 56 eP P 21 06 32.2 -1.3
HELC Santa Helena 30.14 341 eP P 21 06 31.5 -2.6
PTBC PUERTO BERRIO, 30.17 344 eP P 21 06 31.0 -2.9
NBMA Muriti-CE 30.52 64 eP P 21 06 35.9 -1.2
NBPB Pedra_Branca-C 30.87 60 eP P 21 06 39.5 -0.7
ZARC Zaragoza, Cauc 31.19 343 eP P 21 06 40.2 -2.7
NBAN Anadia - AL 31.48 71 eP P 21 06 43.8 -1.7
SDV Santo Domingo 31.70 352 eP P 21 06 46.6 -1.0
NBLI Livramento-PB 32.04 66 eP P 21 06 49.6 -0.8
SMLC San Martn de 32.25 345 eP P 21 06 49.0 -3.1
NBCL Cascavel-CE 32.69 60 eP P 21 06 55.3 -0.6
NBPA Parau_RN 32.77 63 eP P 21 06 55.8 -0.9
NBRF Rio Formoso - 32.94 70 eP P 21 06 56.6 -1.6
RCBR Riachuelo 33.73 65 P P 21 07 04.6 -0.5
RCBR Riachuelo 33.73 65 eP P 21 07 04.9 -0.2
URIC Uribia, Colomb 34.67 350 eP P 21 07 10.2 -2.7
FDF Fort de France 37.55 8 P P 21 07 37.3 0.0
JTS Las Juntas de 37.58 329 P P 21 07 40.6 +3.0
HOPE Hope Point 38.64 152 P P 21 07 46.1 +0.2
BPA Boggy Peak 39.75 7 eP P 21 07 52.9 -2.6
AMBD Bethesda, Anti 39.76 7 eP P 21 07 53.6 -2.0
ANWB Willy Bob 40.37 7 eP P 21 07 58.4 -2.1
ANWB Willy Bob 40.37 7 P P 21 07 59.6 -1.0
PDPR Patillas Dam, 40.48 0 P P 21 08 00.1 -1.4
OBIP Obispado Ponce 40.51 359 P P 21 08 00.0 -1.7
OBIP IAmb IAmb 21 08 18.5
comp=Z,28nm,1.3s
AOPR Arecibo Observ 40.81 359 P P 21 08 02.6 -1.6
AOPR IAmb IAmb 21 08 12.5
comp=Z,40nm,1.4s
BANI BANI 41.05 354 P P 21 08 07.0 +0.7
SDDR Presa de Saban 41.74 353 P P 21 08 13.7 +2.0
SDDR IAmb IAmb 21 08 21.0
comp=Z,30nm,1.4s
TGUH Tegucigalpa,Un 41.96 329 P P 21 08 14.9 +1.2
TGUH IAmb IAmb 21 08 16.0
comp=Z,53nm,1.1s
MTO3 Montecristo 43.29 326 P P 21 08 26.0 +1.5
MTO3 IAmb IAmb 21 08 26.4
comp=Z,14nm,0.6s
CCIG Comitan 46.32 325 IAmb IAmb 21 08 49.9
comp=Z,50nm,1.5s
TLIG Tlapa 51.02 319 P P 21 09 25.8 +2.0
TLIG IAmb IAmb 21 09 26.7
comp=Z,37nm,1.5s
553A Crawfordville 55.43 341 P P 21 09 57.1 +1.6
SHEL Horse Pasture 57.15 95 P P 21 10 08.0 -0.1
BELA Belgrano 2 57.21 172 P P 21 10 09.1 +1.6
BELA IAmb IAmb 21 10 12.6
comp=Z,32nm,1.2s
ZAIG Zacatecas 57.40 320 P P 21 10 12.3 +2.4
ZAIG IAmb IAmb 21 10 12.9
comp=Z,34nm,1.3s
VNA3 Neumayer Olymp 58.14 161 P P 21 10 15.3 +1.3
GOGA Godfrey 58.18 343 P 21 10 15.0
baz=161
GOGA Godfrey 58.18 343 P P 21 10 15.4 +0.7
VNA1 Neumayer--Stat 58.32 161 P P 21 10 16.9 +1.7
VNA2 Neumayer--Watz 58.69 161 P P 21 10 19.1 +1.3
baz=283,slow=8.7
LRAL Lakeview Retre 58.87 340 P 21 10 19.2
baz=158,SNR=5.0
W57A Gilead 59.01 347 P P 21 10 21.0 +0.6
W57A IAmb IAmb 21 10 25.4
comp=Z,20nm,1.4s
PAULI Pauline 59.10 345 IAmb IAmb 21 10 22.8
comp=Z,14nm,0.5s
KMSC Kings Mountain 59.30 346 IAmb IAmb 21 10 23.6
comp=Z,13nm,0.8s
V57A Coltrane Farms 59.68 347 P 21 10 25.4
baz=166
V56A Mocksville 59.75 347 P 21 10 26.3
baz=165,SNR=6.1
FPAL Fort Paine 59.85 342 IAmb IAmb 21 10 26.6
comp=Z,11nm,0.8s
833A Chaparral WMA, 59.98 326 P 21 10 28.5
baz=144
U57A Blanch 60.12 348 P 21 10 28.6
baz=166
X48A Hartselle 60.20 340 IAmb IAmb 21 10 29.6
comp=Z,23nm,0.9s
SNAA Sanae 60.33 161 P P 21 10 30.1 +1.0
SNAA Sanae 60.33 161 P P 21 10 30.2 +1.2
W50A Signal Mountai 60.38 342 IAmb IAmb 21 10 30.9
comp=Z,15nm,0.8s
TKL Tuckaleechee C 60.39 344 P P 21 10 29.6 -0.2
TKL IAmb IAmb 21 10 30.7
comp=Z,19nm,1.1s
CPCT Cooper Cave 60.39 343 IAmb IAmb 21 10 30.4
comp=Z,21nm,1.2s
V52A Sevierville 60.52 344 IAmb IAmb 21 10 31.7
comp=Z,19nm,1.0s
SWET Sewanee 60.57 342 IAmb IAmb 21 10 32.0
comp=Z,24nm,0.9s
U54A Nelsons Funny 60.73 346 P 21 10 32.9
baz=164
T56A Rocky Mt 60.83 347 P 21 10 33.8
baz=165
PLAL Pickwick Lake 61.01 340 P P 21 10 33.7 -0.3
PLAL IAmb IAmb 21 10 34.6
comp=Z,21nm,1.2s
OXF Oxford 61.03 338 P 21 10 33.8
baz=156
V48A Smith Brothers 61.32 341 P P 21 10 35.9 -0.2
V48A IAmb IAmb 21 10 37.0
comp=Z,13nm,0.8s
CLTN Cedars of Leba 61.50 342 IAmb IAmb 21 10 38.2
comp=Z,11nm,0.8s
S54A Dingess, Beckl 61.84 346 P 21 10 39.9
baz=164
S54A Dingess, Beckl 61.84 346 IAmb IAmb 21 10 41.1
comp=Z,39nm,1.3s
JCT Junction City 61.94 327 P 21 10 41.1
baz=145
JCT Junction City 61.94 327 IAmb IAmb 21 10 41.8
comp=Z,11nm,0.8s
WVT Waverly 61.99 340 P 21 10 40.0
baz=157
WVT Waverly 61.99 340 P P 21 10 39.8 -0.7
WVT IAmb IAmb 21 10 41.0
comp=Z,23nm,0.8s
R54A Victor 62.14 347 P 21 10 42.0
baz=165
T47A Sharon Grove 62.56 341 IAmb IAmb 21 10 44.9
comp=Z,23nm,0.9s
MIAR Mount Ida 62.59 335 P 21 10 44.9
baz=152,SNR=5.4
MIAR Mount Ida 62.59 335 IAmb IAmb 21 10 45.9
comp=Z,17nm,1.3s
W41B Gary Mavity, V 62.64 336 P 21 10 45.6
baz=153
SLBS Sierra La Lagu 62.71 315 P P 21 10 47.9 +2.3
SLBS IAmb IAmb 21 10 49.1
comp=Z,15nm,0.9s
Q53A Leroy 62.90 347 P 21 10 47.5
baz=164
LCAR Lake Charles 63.04 337 P P 21 10 47.1 -0.3
LCAR IAmb IAmb 21 10 48.2
comp=Z,21nm,1.5s
HENM Henderson Moun 63.05 339 P P 21 10 47.3 -0.2
TX31 Lajitas Ar. Si 63.06 323 IAmb IAmb 21 10 49.1
comp=Z,9.1nm,0.8s
TX32 Lajitas Array 63.06 323 P P 21 10 48.2 +0.4
TXAR Lajitas Array 63.06 323 P P 21 10 47.9 0.0
comp=Z,1.3nm,0.6s,baz=150,slow=8.4,SNR=22
T45A Paducah 63.06 340 P P 21 10 47.6 0.0
Z35A Perchaven, San 63.10 331 P P 21 10 48.3 +0.4
Z35A IAmb IAmb 21 10 49.7
comp=Z,20nm,0.8s
PARMO Parma 63.10 339 P P 21 10 48.3 +0.5
MVL Millersville 63.10 351 P P 21 10 47.5 -0.3
MVL IAmb IAmb 21 10 59.8
comp=Z,23nm,1.3s
Q52A Bidwell 63.17 346 P P 21 10 48.7 +0.5
Q52A IAmb IAmb 21 10 49.4
comp=Z,22nm,1.1s
FCAR Ozark Folk Cen 63.23 337 P P 21 10 47.6 -1.0
W39A Magazine 63.25 335 P 21 10 49.9
baz=152,SNR=5.4
W39A Magazine 63.25 335 P P 21 10 49.5 +0.7
W39A IAmb IAmb 21 10 50.6
comp=Z,11nm,0.7s
X37A Clayton 63.36 333 P P 21 10 49.3 -0.2
X37A IAmb IAmb 21 10 51.0
comp=Z,33nm,1.4s
Q51A Peebles 63.48 345 P P 21 10 50.1 -0.1
Q51A IAmb IAmb 21 10 51.2
comp=Z,12nm,1.1s
WCI Wyandotte Cave 63.48 342 P 21 10 50.0
baz=159
WCI Wyandotte Cave 63.48 342 P P 21 10 49.9 -0.4
WCI IAmb IAmb 21 10 50.6
comp=Z,11nm,0.7s
ABTX Abilene, Hawle 63.62 329 P P 21 10 51.4 +0.1
ABTX IAmb IAmb 21 10 52.9
comp=Z,16nm,1.4s
P52A Corning 63.78 346 P P 21 10 51.6 -0.6
P51A Williamsport 63.84 346 P P 21 10 51.8 -0.8
P51A IAmb IAmb 21 10 52.9
comp=Z,9.1nm,0.8s
S44A Carbondale 63.88 340 P P 21 10 51.7 -1.1
S44A IAmb IAmb 21 10 54.0
comp=Z,10nm,0.8s
SIUC Southern Illin 63.88 340 P P 21 10 52.3 -0.6
SIUC IAmb IAmb 21 10 54.0
comp=Z,10nm,0.6s
U40A Yellville 63.91 336 P 21 10 53.5
baz=153
U40A Yellville 63.91 336 P P 21 10 53.0 -0.2
HHAR Hobbs 64.26 335 IAmb IAmb 21 10 56.5
comp=Z,8.6nm,0.8s
P49A Miami Univ. Ec 64.29 344 P 21 10 55.1
baz=161
P49A Miami Univ. Ec 64.29 344 P P 21 10 55.8 +0.2
P49A IAmb IAmb 21 10 55.9
comp=Z,20nm,1.1s
MGMO Mountain Grove 64.41 337 IAmb IAmb 21 10 57.4
comp=Z,9.6nm,0.8s
ACSO Alum Creek Sta 64.54 346 P 21 10 56.7
baz=163
ACSO Alum Creek Sta 64.54 346 IAmb IAmb 21 10 58.1
comp=Z,25nm,1.1s
U38A Gravette 64.57 335 IAmb IAmb 21 10 58.9
comp=Z,16nm,1.4s
CCM Cathedral Cave 64.86 338 P 21 10 59.3
baz=154
CCM Cathedral Cave 64.86 338 P P 21 10 59.0 -0.2
WMOK Wichita Mounta 64.96 331 P 21 11 00.0
baz=147
M54A Oil Creek Stat 65.10 349 P 21 11 01.4
baz=166
S39A Bolivar 65.27 337 P P 21 11 02.1 +0.2
N49A Columbus Grove 65.47 345 IAmb IAmb 21 11 03.5
comp=Z,12nm,0.7s
SFIN Lafayette 65.71 343 P 21 11 03.9
baz=159
SFIN Lafayette 65.71 343 IAmb IAmb 21 11 04.5
comp=Z,31nm,1.4s
K58A Earlville 65.73 352 P 21 11 05.1
baz=170
K58A Earlville 65.73 352 IAmb IAmb 21 11 15.3
comp=Z,12nm,0.9s
ERPA Erie 65.75 349 P 21 11 05.5
baz=166
MNTX Cornudas Mount 65.82 324 P 21 11 05.5
baz=140,SNR=14
MNTX Cornudas Mount 65.82 324 IAmb IAmb 21 11 06.7
comp=Z,11nm,1.1s
T35A Sooner Cattle 65.83 334 IAmb IAmb 21 11 07.1
comp=Z,13nm,1.1s
MSTX Muleshoe 66.23 327 P 21 11 08.7
baz=143,SNR=8.0
MSTX Muleshoe 66.24 327 IAmb IAmb 21 11 09.7
comp=Z,21nm,0.9s
J59A Piesco 66.29 353 P 21 11 09.2
baz=172,SNR=5.5
LIC Lamto 66.37 72 eP P 21 11 08.1 -1.3
comp=Z,51nm,0.7s
P40A Paris 66.46 338 IAmb IAmb 21 11 10.2
comp=Z,11nm,0.9s
I60A Shoreham 66.55 354 P 21 11 11.2
baz=173
I58A Old Forge 66.56 353 P 21 11 10.6
baz=171
TIC Toumodi 66.57 72 eP P 21 11 09.5 -1.2
KIC Kosan Boka 66.69 72 eP P 21 11 10.3 -1.1
comp=Z,56nm,0.8s
DBIC Dimbokro 66.73 72 P P 21 11 10.7 -0.9
comp=Z,36nm,0.9s,baz=220,slow=4.7,SNR=30
DBIC Dimbokro 66.73 72 P P 21 11 10.4 -1.2
I57A Carthage 66.89 353 P 21 11 12.9
baz=170
H58A Gabriels 67.20 354 P 21 11 14.2
baz=172
H57A Richville 67.37 353 P 21 11 15.5
baz=171
QSPA South Pole Qui 67.48 180 P P 21 11 16.5 +0.8
QSPA IAmb IAmb 21 11 25.3
comp=Z,17nm,0.8s
121A Cookes Peak, D 67.78 323 P 21 11 20.4
baz=139,SNR=8.1
G58A Ormstown 67.91 354 P 21 11 18.4
baz=172,SNR=10
G57A Newington 67.96 353 P 21 11 19.5
baz=171
F64A Sherman 68.28 358 P 21 11 21.1
baz=178
G54A Lake Saint Pet 68.64 351 P 21 11 23.0
baz=168
CBKS Cedar Bluff 68.79 332 P 21 11 25.4
baz=147
E64A Bridgewater 68.82 359 P 21 11 24.5
baz=178
ANMO Albuquerque 68.89 325 P 21 11 26.3
baz=140
ANMO Albuquerque 68.89 325 P P 21 11 26.9 +2.0
JFWS Jewell Farm 68.95 341 P 21 11 24.9
baz=156,SNR=5.4
TUC Tucson 69.33 321 P 21 11 29.3
baz=136
E56A St. Veronique 69.39 354 P 21 11 27.9
baz=171
D63A Stockholm 69.44 359 P 21 11 28.6
baz=178
I42A Draeger Farm, 69.47 343 IAmb IAmb 21 11 29.3
comp=Z,9.6nm,0.8s
T25A Trinidad 69.56 328 P 21 11 30.7
baz=142
D61A St Aubert, Com 69.68 357 P 21 11 30.2
baz=176
D58A Chemin du LacG 69.74 355 P 21 11 30.1
baz=173
D56A ZEC Mazanza, M 69.86 354 P 21 11 30.9
baz=172
D55A Sainte-Anne-du 69.91 353 P 21 11 30.7
baz=171
LATQ La Tuque 70.02 355 P 21 11 31.9
baz=174
214A Organ Pipe Nat 70.29 319 P 21 11 35.3
baz=135,SNR=5.1
214A Organ Pipe Nat 70.29 319 IAmb IAmb 21 11 36.5
comp=Z,21nm,1.4s
E46A Sault Ste Mari 70.68 347 IAmb IAmb 21 11 35.9
comp=Z,14nm,0.6s
W18A Petrified Fore 70.78 323 P 21 11 38.1
baz=138
W18A Petrified Fore 70.78 323 IAmb IAmb 21 11 39.2
comp=Z,12nm,1.1s
I37A Lemond, Waseca 70.92 340 IAmb IAmb 21 11 37.9
comp=Z,23nm,1.1s
VLDQ Val d'Or 71.22 352 P P 21 11 38.9 +0.4
S22A 4UR Ranch, Cre 71.23 327 P 21 11 40.9
baz=141
Q24A Divide 71.36 329 P 21 11 41.8
baz=142
MVCO Mesa Verde 71.68 326 P 21 11 43.5
baz=139
MVCO Mesa Verde 71.68 326 P P 21 11 43.5 +1.7
MVCO IAmb IAmb 21 11 44.7
comp=Z,26nm,1.4s
ECSD EROS Data Cent 71.77 337 P 21 11 42.1
baz=151,SNR=5.4
WUAZ Wupatki 71.99 323 P 21 11 46.0
baz=137,SNR=5.8
WUAZ Wupatki 71.99 323 P P 21 11 45.9 +2.3
WUAZ IAmb IAmb 21 11 46.8
comp=Z,16nm,1.1s
ISCO Idaho Springs 72.24 329 P 21 11 46.9
baz=142,SNR=5.9
GLA Glamis 72.27 319 P 21 11 47.0
baz=133
D41A Chassel 72.32 344 IAmb IAmb 21 11 46.7
comp=Z,14nm,0.7s
SMCO Snowmass 72.41 328 P P 21 11 47.9 +1.6
SMCO IAmb IAmb 21 11 49.5
comp=Z,21nm,1.5s
PV15 Paradox Valley 72.53 326 IAmb IAmb 21 11 50.0
comp=Z,25nm,1.3s
PV13 Radium Mtn., P 72.56 326 P P 21 11 48.3 +1.3
PV05 Paradox Valley 72.65 326 IAmb IAmb 21 11 50.0
comp=Z,15nm,1.3s
IKP In-Ko-Pah, Jac 72.79 318 P 21 11 50.5
baz=132
BC3 Big Chuckawall 73.07 319 P 21 11 52.0
baz=133,SNR=7.0
MONP2 Monument Peak 73.15 318 P 21 11 52.6
baz=132
IRM Iron Mountain 73.22 319 P 21 11 53.0
baz=133,SNR=5.6
N23A Red Feather La 73.26 330 P 21 11 52.8
baz=142
BELC Belle Mtn. Jos 73.64 319 P 21 11 55.4
baz=133
PFO Pinyon Flats O 73.66 318 P 21 11 55.7
baz=132
PFO Pinyon Flats O 73.66 318 P P 21 11 54.9 +1.5
O20A White River Ci 73.77 328 P 21 11 55.9
baz=140
O20A White River Ci 73.77 328 IAmb IAmb 21 11 56.2
comp=Z,11nm,0.9s
GMRC Granite Mounta 73.96 319 P 21 11 57.3
baz=133,SNR=12
SRU San Rafael Swe 74.16 326 IAmb IAmb 21 11 58.3
comp=Z,9.0nm,0.6s
HEC Hector,Ludlow 74.40 319 P 21 12 00.1
baz=133,SNR=7.0
SYO Syowa Base 74.49 159|| eP P 21 11 55.7 -1.7
P17A Butcher Ranch, 74.54 326 IAmb IAmb 21 12 01.2
comp=Z,13nm,1.1s
CCUT Cedar City 74.56 323 P P 21 12 01.1 +2.4
CCUT IAmb IAmb 21 12 02.3
comp=Z,16nm,1.1s
MSU Marysvale 74.60 324 P P 21 12 00.9 +2.1
TMUT Trail Mountain 74.66 325 P P 21 12 00.5 +1.3
RDMU Red Mountain 74.76 327 P P 21 12 01.2 +1.5
RDMU IAmb IAmb 21 12 01.6
comp=Z,7.3nm,0.7s
BFSC Mount Baldy Ra 74.82 318 P 21 12 02.5
baz=132
B35A Bob, Littlefor 74.92 341 IAmb IAmb 21 12 00.7
comp=Z,18nm,1.4s
RSSD Black Hills 74.99 333 P P 21 12 02.2 +1.3
GSC Goldstone, Bar 75.00 319 P 21 12 03.3
baz=132,SNR=5.3
GSC Goldstone, Bar 75.00 319 IAmb IAmb 21 12 04.1
comp=Z,18nm,1.4s
PRN Pahroc Range 75.41 322 IAmb IAmb 21 12 06.9
comp=Z,15nm,1.2s
EDW2 Edwards Air Fo 75.45 318 P 21 12 05.2
baz=132
TORD Torodi Ar. Bea 75.45 69 P P 21 12 02.5 -1.3
comp=Z,37nm,0.7s,baz=257,slow=5.6,SNR=152
TORD pP pP 21 13 01.4 -1.5
comp=Z,14nm,0.9s,baz=256,slow=5.3,SNR=4.4
TORD S S 21 21 16.6 -7.3
comp=Z,1.5nm,1.1s,baz=263,slow=12,SNR=4.3
TORD Torodi Ar. Bea 75.45 69 P P 21 12 02.4 -1.5
LRMC Laurel Mtn Rad 75.65 319 P 21 12 06.6
baz=132,SNR=5.8
JLU Jordanelle 75.74 326 IAmb IAmb 21 12 07.6
comp=Z,6.5nm,0.6s
TPNV Topopah Spring 75.79 321 P 21 12 08.0
baz=133,SNR=8.1
TPNV Topopah Spring 75.79 321 IAmb IAmb 21 12 08.9
comp=Z,21nm,1.2s
SUR Sutherland 75.82 119 P P 21 12 06.1 +0.1
FURC Furnace Creek, 75.82 320 P 21 12 07.8
baz=133
MPMC Manual Prospec 75.92 319 P 21 12 08.0
baz=132
VNDA Vanda 76.08 190 P P 21 12 09.0 +2.6
comp=Z,1.5nm,0.9s,baz=119,slow=6.2,SNR=8.1
VNDA Vanda 76.08 190 P P 21 12 08.2 +1.8
ISA Isabella, Lake 76.26 318 P 21 12 10.3
baz=131,SNR=8.9
ISA Isabella, Lake 76.26 318 P P 21 12 09.5 +1.4
ISA IAmb IAmb 21 12 10.7
comp=Z,9.0nm,0.8s
R11A Troy Canyon, C 76.37 322 P 21 12 11.1
baz=134,SNR=5.2
R11A Troy Canyon, C 76.37 322 IAmb IAmb 21 12 12.3
comp=Z,15nm,1.3s
PDAR Pinedale Array 76.42 329 P P 21 12 10.0 +1.0
comp=Z,17nm,0.5s,baz=128,slow=7.8,SNR=28
PDAR Pinedale Array 76.42 329 P P 21 12 09.8 +0.7
CWC Cottonwood Cre 76.53 319 P 21 12 11.3
baz=132
PKM Mcpherson Peak 76.58 317 P 21 12 12.0
baz=130

VES	Vestal, Richgr	76.75	318	P			21 12 12.9		
	baz=131								
SPUT	South Promonto	76.77	326	IAmb	IAmb		21 12 13.1		
	comp=Z,8.6nm,0.6s								
SMMC	Simmler	76.97	317	P			21 12 14.4		
	baz=130,SNR=5.1								
TIN	Tinemaha, Big	77.03	320	P			21 12 15.1		
	baz=132								
ULM	Lac du Bonnet	77.24	341	P	P		21 12 13.6	+0.4	
	comp=Z,5.0nm,0.6s,baz=154,slow=7.7,SNR=13								
ULM				pP	pP		21 13 12.4	-0.1	
	comp=Z,3.1nm,0.7s,baz=163,slow=5.4,SNR=3.1								
ULM	Lac du Bonnet	77.24	341	P	P		21 12 12.6	-0.5	
ULM				IAmb	IAmb		21 12 16.1		
	comp=Z,13nm,1.3s								
HVU	Hansel Valley	77.28	326	IAmb	IAmb		21 12 16.2		
	comp=Z,20nm,1.5s								
LOHW	Long Hollow	77.56	329	P	P		21 12 16.4	+1.0	
FLWY	Flagg Ranch	77.95	329	IAmb	IAmb		21 12 19.9		
	comp=Z,6.8nm,0.7s								
LAO	LASA Array	77.97	333	P			21 12 18.6		
	baz=143								
NVAR	Mina Array Bea	77.99	321	P	P		21 12 18.4	+0.6	
	comp=Z,4.5nm,0.9s,baz=153,slow=5.7,SNR=8.8								
NVAR	Mina Array Bea	77.99	321	P	P		21 12 19.1	+1.2	
RLMT	Red Lodge	78.07	330	P			21 12 19.6		
	baz=140,SNR=6.9								
KVN	Kaiserville	78.29	321	IAmb	IAmb		21 12 21.9		
	comp=Z,17nm,1.1s								
YNE	Yellowstone No	78.33	330	IAmb	IAmb		21 12 22.0		
	comp=Z,9.4nm,0.7s								
YMR	Madison River	78.52	329	IAmb	IAmb		21 12 24.8		
	comp=Z,13nm,1.1s								
DGMT	Dagmar	78.59	335	P			21 12 22.4		
	baz=145								
DGMT	Dagmar	78.59	335	P	P		21 12 22.0	+1.4	
DGMT				IAmb	IAmb		21 12 23.2		
	comp=Z,20nm,1.1s								
WAKR	Walker	78.71	320	IAmb	IAmb		21 12 25.1		
	comp=Z,25nm,1.5s								
PNTR	Pine Nut	79.19	321	IAmb	IAmb		21 12 27.4		
	comp=Z,20nm,0.8s								
HLID	Hailey	79.40	327	P			21 12 27.8		
	baz=136,SNR=6.5								
HLID	Hailey	79.41	327	P	P		21 12 27.3	+1.9	
HLID				IAmb	IAmb		21 12 28.1		
	comp=Z,8.7nm,0.8s								
PAHR	Pah Rah Range	79.47	321	IAmb	IAmb		21 12 28.8		
	comp=Z,22nm,1.0s								
BEKR	Beckworth	80.14	321	IAmb	IAmb		21 12 32.1		
	comp=Z,16nm,1.4s								
EGMT	Eagleton	80.51	332	P			21 12 32.0		
	baz=140								
EGMT	Eagleton	80.51	332	P	P		21 12 31.5	+0.5	
EGMT				IAmb	IAmb		21 12 32.9		
	comp=Z,19nm,1.1s								
ORV	Oroville	80.61	320	IAmb	IAmb		21 12 34.5		
	comp=Z,17nm,1.1s								
BOSA	Boshof	80.69	117	P	P		21 12 31.9	-0.7	
	comp=Z,16nm,0.9s,baz=262,slow=5.1,SNR=22								
BOSA	Boshof	80.69	117	P	P		21 12 31.6	-1.0	
BOSA				IAmb	IAmb		21 12 33.0		
	comp=Z,29nm,1.1s								
PBDV	Barranco-do-Ve	81.04	43	*e*P	P		21 12 35.1	+1.1	
	comp=Z,67nm,1.6s								
LIS	Lisbon	81.18	42	*e*P	P		21 12 35.8	+1.2	
	comp=Z,106nm,1.2s								
PNCL	Nicolau / Gran	81.19	42	*e*P	P		21 12 35.7	+1.0	
	comp=Z,22nm,1.1s								
PCVE	Castro Verde	81.20	43	*e*P	P		21 12 35.9	+1.1	
	comp=Z,37nm,1.5s								
MESJ	Messejana	81.22	43	*e*P	P		21 12 35.8	+0.9	
	comp=Z,33nm,1.2s								
O03E	Paynes Creek	81.26	320	P			21 12 35.7		
	baz=130								
PVAQ	Vaqueiros	81.27	43	*e*P	P		21 12 36.2	+1.0	
	comp=Z,48nm,1.6s								
J08A	Circle Bar Ran	81.39	324	IAmb	IAmb		21 12 39.5		
	comp=Z,31nm,1.5s								
PBEJ	Beja	81.55	43	*e*P	P		21 12 37.6	+1.0	
	comp=Z,8.6nm,1.0s								
PSBE	So Bento	81.89	41	*e*P	P		21 12 39.5	+1.1	
	comp=Z,97nm,1.4s								
PMTG	Montargil	81.96	42	*e*P	P		21 12 39.6	+0.9	
	comp=Z,48nm,1.4s								
PBAR	Barrancos	82.16	43	*e*P	P		21 12 40.0	+0.2	
	comp=Z,34nm,1.5s								
PESTR	Estremoz	82.23	42	P	P		21 12 40.7	+0.5	
PESTR				IAmb	IAmb		21 12 42.1		
	comp=Z,12nm,0.9s								
LBTB	Lobatse	82.26	114	P	P		21 12 40.2	-0.6	
K05A	Summer Lake	82.30	323	IAmb	IAmb		21 12 43.8		
	comp=Z,34nm,1.4s								
PCAS	Casmilo, Conde	82.40	41	*e*P	P		21 12 42.0	+1.0	
	comp=Z,74nm,1.7s								
I07A	Izee	82.43	324	P	P		21 12 42.9	+1.6	
MAW	Mawson	82.44	163	P	P		21 12 42.1	+1.3	
	comp=Z,11nm,0.9s,baz=237,slow=4.3,SNR=6.4								
MAW	Mawson	82.44	163	P	P		21 12 41.4	+0.6	
COI	Coimbra	82.55	41	*e*P	P		21 12 43.0	+1.3	
	comp=Z,50nm,1.9s								
PMRV	Marv??o	82.69	42	*e*P	P		21 12 42.9	+0.3	
	comp=Z,24nm,1.5s								
J05D	Fort Rock, OR	82.85	323	P			21 12 45.1		
	baz=130								
PCBR	Castelo Branco	82.89	42	*e*P	P		21 12 44.0	+0.5	
	comp=Z,28nm,1.2s								
PVIS	Viseu	83.17	41	*e*P	P		21 12 43.1	-1.9	
	comp=Z,47nm,2.0s								
MTE	Manteigas	83.19	41	*e*P	P		21 12 45.7	+0.6	
	comp=Z,40nm,2.4s								
MTE	Manteigas	83.19	41	P	P		21 12 45.2	0.0	
MTE				IAmb	IAmb		21 12 48.7		
	comp=Z,20nm,0.9s								
L02E	Cave Junction	83.49	321	P			21 12 48.1		
	baz=128								
PVRL	Vila Real	83.62	40	*e*P	P		21 12 48.0	+0.7	
	comp=Z,76nm,1.3s								
POLO	Lamas de Olo	83.63	40	*e*P	P		21 12 48.0	+0.6	
	comp=Z,31nm,1.9s								
PCAB	Cabril	83.70	40	*e*P	P		21 12 48.3	+0.7	
	comp=Z,82nm,1.6s								
K02D	Willamette Mer	83.86	321	P			21 12 50.8		
	baz=128								
MVO	Moncorvo	83.96	41	*e*P	P		21 12 49.6	+0.6	
	comp=Z,95nm,1.2s								
C09A	Chrisman Ranch	84.30	328	IAmb	IAmb		21 12 53.4		
	comp=Z,7.3nm,0.6s								
FCC	Fort Churchill	84.39	346	IAmb	IAmb		21 12 52.4		
	comp=Z,10.0nm,0.5s								
PBRG	Braganca	84.52	40	*e*P	P		21 12 52.7	+0.9	
	comp=Z,65nm,1.5s								
PAB	San Pablo	84.67	43	P	P		21 12 52.6	0.0	
ESDC	Sonseca Array	84.98	43	P	P		21 12 54.8	+0.7	
	comp=Z,28nm,1.0s,baz=240,slow=4.7,SNR=89								
ESDC	Sonseca Array	84.98	43	P	P		21 12 54.3	+0.2	
LSZ	Lusaka	88.17	106	P	P		21 13 11.3	+1.1	
KEST	Kesra	92.07	52	P	P		21 13 27.9	+0.1	
	comp=Z,111nm,0.8s,baz=277,slow=7.4,SNR=4.6								
YKA	Yellowknife Ar	93.17	340	P	P		21 13 32.4	+0.3	
	comp=Z,2.2nm,0.8s,baz=130,slow=4.8,SNR=40								
YKA				pP	pP		21 14 32.5	-0.7	
	comp=Z,2.6nm,0.8s,baz=132,slow=4.7,SNR=7.8								
DAVA	Damuels	97.49	42	*e*P	Pdif		21 13 52.9	+0.5	
	comp=Z,10nm,1.1s								
FETA	Feichten	97.90	42	*e*P	Pdif		21 13 54.7	+0.5	
	comp=Z,9.1nm,1.1s								
RETA	Reutte	98.12	42	*e*P	Pdif		21 13 55.3	+0.3	
	comp=Z,12nm,1.2s								
MOTA	Moosalm	98.27	42	*e*P	Pdif		21 13 56.2	+0.3	
	comp=Z,13nm,1.2s								
SQTA	Sankt Quirin	98.28	42	*e*P	P		21 13 55.9	0.0	
	comp=Z,19nm,1.2s								
WATA	Walderalm	98.56	42	*e*P	P		21 13 57.5	+0.4	
	comp=Z,17nm,1.5s								
WTTA	Wattenberg	98.57	42	*e*P	P		21 13 57.7	+0.5	
	comp=Z,22nm,1.3s								
ABTA	Abfaltersbach	98.91	43	*e*P	P		21 13 58.8	+0.2	
	comp=Z,8.8nm,1.3s								
MYKA	Terra Mystica	99.58	43	*e*P	Pdif		21 14 01.9	+0.3	
	comp=Z,11nm,1.7s								
ZST	Bratislava	102.34	43	*e*PDIFF	Pdif		21 14 16.7	+3.0	
ASAR	Alice Springs	129.91	204	PKP	PKPdf		21 19 27.6	+0.2	
	comp=Z,2.1nm,0.8s,baz=147,slow=2.6,SNR=17								
ASAR				SKPbc	SKPab		21 22 26.4	-0.1	
	comp=Z,3.9nm,0.8s,baz=150,slow=4.3,SNR=20								
ASAR	Alice Springs	129.91	204	PKPdf	PKPdf		21 19 27.0	-0.4	

GEYT	Alibeck	130.32	59	SKPbc	SKPbc		21 22 27.7	+0.1	
	comp=Z,5.5nm,0.9s,baz=251,slow=4.5,SNR=7.4								
ABKAR	Akbulak array	130.33	44	PKPdf	PKiKP		21 19 29.2	+1.2	
NRIK	Noril'sk	130.77	12	SKPbc	SKPab		21 22 29.1	+0.6	
	comp=Z,2.3nm,0.6s,baz=100,slow=3.5,SNR=3.6								
SEY	Seymchan	132.18	337	PKP	PKiKP		21 19 31.8	+0.4	
	comp=Z,1.3nm,0.7s,baz=55,slow=3.5,SNR=5.0								
SEY				SKPbc	SKPbc		21 22 33.2	-0.3	
	comp=Z,0.9nm,0.5s,baz=210,slow=6.7,SNR=5.4								
WR0	Warramunga Arr	132.99	207	PKPdf	PKiKP		21 19 34.6	+0.1	
WB2	Warramunga Arr	133.08	207	PKPdf	PKPdf		21 19 33.9	+0.5	
WRA	Warramunga Arr	133.09	207	PKP	PKiKP		21 19 34.2	-0.5	
	comp=Z,0.8nm,0.4s,baz=162,slow=1.6,SNR=19								
WRA				SKPbc	SKPbc		21 22 37.8	-0.3	
	comp=Z,15nm,1.1s,baz=156,slow=2.8,SNR=24								
WB0	Warramunga Arr	133.22	207	PKPdf	PKiKP		21 19 34.6	-0.3	
PETK	Petropavlovsk-	135.01	324	SKPbc	SKPbc		21 22 43.4	+0.3	
	comp=Z,3.7nm,0.7s,baz=100,slow=7.5,SNR=6.2								
BRVK	Borovoye	135.28	36	PKPdf	PKiKP		21 19 37.7	-0.3	
FITZ	Fitzroy Crossi	137.81	197	PKP	PKPdf		21 19 42.8	+0.6	
	comp=Z,1.2nm,0.6s,baz=224,slow=10,SNR=4.0								
FITZ				SKPbc	SKPbc		21 22 52.5	-0.2	
	comp=Z,8.2nm,0.9s,baz=208,slow=3.5,SNR=13								
FITZ	Fitzroy Crossi	137.81	197		PKPdf		21 19 43.0	+0.8	
IUG	luzhnay	138.84	51	*e*PKP	PKPdf		21 19 44.5	+0.9	
	baz=51								
ZAA0	Zalesovo Array	141.93	28	PKPdf	PKPdf		21 19 46.7	-1.8	
ZALV	Zalesovo Beam	141.93	28	PKhKP	PKPdf		21 19 44.8	-3.7	
	comp=Z,4.8nm,0.8s,baz=279,slow=2.9,SNR=8.2								
ZALV				SKPbc	SKPbc		21 23 03.0	+0.4	
	comp=Z,2.9nm,0.8s,baz=300,slow=3.3,SNR=5.1								
ZALV	Zalesovo Beam	141.93	28	PKPdf	PKPdf		21 19 45.1	-3.4	
NIL	Nilore	142.87	64		PKPdf		21 19 47.3	-3.6	
KSH	Kashi	143.88	54	PKP	PKPbc		21 19 51.0	-0.1	
KPKS	Kokpek	144.42	46	*e*PKP	PKPdf		21 19 53.1	-0.3	
	baz=46								
PALK	Pallekele	144.68	111	PKPbc	PKPbc		21 19 54.2	+0.1	
UZB	Uzynbulak	144.78	46	*e*PKP	PKPbc		21 19 53.6	-0.2	
	baz=46								
MAKZ	Makanchi	144.90	39	PKPbc	PKPdf		21 19 54.3	+0.3	
SHLS	Shalkode	145.07	46	*e*PKP	PKPab		21 19 55.7	+0.8	
	baz=46								
MK31	Makanchi Array	145.09	39	PKPbc	PKPab		21 19 54.9	+0.2	
MKAR	Makanchi Array	145.09	39	PKP	PKPab		21 19 54.7	0.0	
	comp=Z,20nm,0.7s,baz=349,slow=2.5,SNR=237								
MKAR				SKPbc	SKiKP		21 23 11.3	+0.4	
	comp=Z,1.6nm,0.7s,baz=336,slow=2.7,SNR=4.0								
MKAR	Makanchi Array	145.09	39	PKPbc	PKPab		21 19 55.0	+0.2	
DHRM	DHARAMSHALA	145.58	66	*ex*	PKPdf		21 19 55.9	0.0	
SOEI	Soe	146.13	199	PKPbc	PKPab		21 19 59.4	-0.2	
ZSN	Zaisan	146.16	36	*e*PKP	PKPbc		21 19 57.4	-0.2	
	baz=36								
SMLA	Simla	146.43	68	*ex*	PKPbc		21 19 59.1	+0.3	
HYB	Hyderabad	146.56	93	*i* PKP	PKPdf		21 19 58.0	+0.3	
HYB				*ep*PKP	pPKPab		21 21 05.0	+1.8	
HYB	Hyderabad	146.56	93	*ex*	PKPdf		21 19 57.9	+0.1	
HYB				IAmb	IAmb		21 19 59.4		
	comp=Z,40nm,1.0s								
BHPL	Bhopal	146.59	82	*ex*	PKPdf		21 19 57.8	+0.2	
DDI	Dehra Dun	147.26	69	*ex*	PKPdf		21 20 00.8	+2.2	
DDI				*i* x	x		21 21 11.3		
WMQ	Urumqi	149.91	39	*e*P	PKPdf		21 20 01.8	-0.7	
WMQ				pmax	pmax				
	comp=Z,90nm,4.1s								
SIJI	Sorong	151.01	218	PKPbc	PKPbc		21 20 11.3	+0.3	
	comp=Z,14nm,0.7s,baz=22,slow=6.3,SNR=6.1								
USRK	Ussuriysk Ar.	153.84	329	PKPbc	PKiKP		21 20 18.9	+2.6	
SONM	Songino Array	154.25	11	PKP	PKPdf		21 20 09.6	+0.7	
	comp=Z,1.2nm,0.9s,baz=343,slow=0.8,SNR=6.8								
SONM				PKPbc	PKiKP		21 20 17.9	+0.6	
	comp=Z,0.5nm,0.3s,baz=301,slow=1.5,SNR=12								
SONM				PKPab	PKPab		21 20 32.5	+0.3	
	comp=Z,1.7nm,0.7s,baz=317,slow=3.3,SNR=7.1								
SONM	Songino Array	154.25	11	PKPdf	PKPdf		21 20 10.2	+1.4	
SONM				PKPbc	PKPbc		21 20 17.2	-0.1	
SONM				PKPab	PKPab		21 20 33.8	+1.6	
MJAR	Matsushiro Arr	154.77	309	PKPab	PKPab		21 20 35.1	+0.4	
	comp=Z,1.2nm,0.5s,baz=82,slow=1.9,SNR=4.0								
DGPR	DIGLIPUR	158.05	112	*ex*	PKPab		21 20 50.0	+0.6	
LSA	Lhasa	158.57	66	P	PKPab		21 20 52.8	+0.9	
LSA				pmax	pmax				
	comp=Z,72nm,1.0s								
LSA	Lhasa	158.57	66	PKPab	PKPab		21 20 53.4	+1.5	
GTA	Gaotai	159.55	32	*e*PKP	PKPdf		21 20 16.3	+0.4	
GTA				PKPab	PKPab		21 20 55.5	+0.1	
GTA				pPKP	pPKPdf		21 21 05.5	-15	
GTA				sPKP			21 21 27.8		
GTA				PP	PP		21 24 33.8	-3.3	
GTA				AMB	AMB				
	comp=Z,66nm,5.5s								
GTA				LR	LR				
	comp=N,77nm,16.7s								
GTA				LR	LR				
	comp=E,140nm,17.5s								
GTA				LR	LR				
	comp=Z,74nm,18.2s								
SHL	Shillong	159.83	78	*i* x	PKPab		21 20 56.8	-0.4	
HHC	Hu-ho-hao-te	161.82	5	*e*P	PKPdf		21 20 18.5	+0.2	
CM15	Chiang Mai Arr	165.47	104	P	PKPab		21 21 22.6	+0.8	
CM02	Chiang Mai Arr	165.48	104	P	PKPab		21 21 22.2	+0.3	
CMAR	Chiang Mai Arr	165.49	104	PKP	PKPdf		21 20 23.1	+1.0	
	comp=Z,0.4nm,0.3s,baz=233,slow=2.3,SNR=5.7								
CMAR				PKPab	PKPab		21 21 22.1	+0.1	
	comp=Z,4.9nm,0.9s,baz=254,slow=4.8,SNR=33								
CMAR				PP	PP		21 25 10.7	+0.9	
	comp=Z,0.4nm,0.4s,baz=260,slow=5.4,SNR=6.2								
CMAR	Chiang Mai Arr	165.49	104		PKPdf		21 20 22.4	+0.3	
CM01	Chiang Mai Arr	165.49	104	P	PKPab		21 21 22.4	+0.4	
CM04	Chiang Mai Arr	165.50	105	P	PKPab		21 21 22.3	+0.3	
CM09	Chiang Mai Arr	165.53	104	P	PKPab		21 21 22.6	+0.5	
CMMT	Chiang Mai	165.60	103	P	PKPab		21 21 21.0	-1.5	
CM34	Chiang Mai Arr	165.80	103	P	PKPab		21 21 23.0	-0.3	
LAMP	Lampang	166.12	105	P	PKPab		21 21 25.4	+0.6	
KMI	Kunming	169.63	74	⇓PKP	PKPdf		21 20 27.0	+1.8	
NJ2	Nanjing	169.66	335	*e*P	PKPdf		21 20 23.5	-1.2	
NJ2				pmax	pmax				
	comp=Z,12nm,0.5s								

IDC 30 21:03:33.2±2.5, 6°18S×151°05E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.2/42, mbtmp3.2/3 Error ellipse: s-maj=184.9km s-min=33.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.23	228	P	P	21 08 19.4	-1.5
	0.3nm,0.4s,baz=55,slow=10,SNR=3.1						
ASAR	Alice Springs	23.96	222	P	P	21 08 50.6	+1.2
	0.3nm,0.6s,baz=57,slow=9.3,SNR=1.6						
ILAR	Eielson Array	84.09	22	P	P	21 16 05.6	0.0
	0.6nm,0.8s,baz=238,slow=5.7,SNR=3.4						

*AEIC **30** 21:16:05±1.8, 51°.71N±0°.07×173°.36W±0°.07, h45km±6km, Error ellipse: s-maj=10.4km s-min=6.2km az=192.0*
*NEIC **30** 21:16:07.0±1.9, 51°.76N±0°.07×173°.39W±0°.07, h37km±7km, mb4.1/31, ML3.2/18(AEIC), Error ellipse: s-maj=10.1km s-min=5.7km az=191.0*
*IDC **30** 21:16:06.4±0.9, 51°.70N×173°.31W, h42km±6km, mb3.6/17, mb1 3.8/20, mb1mx3.6/71, mbtmp3.9/20, ML3.4/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/46, Error ellipse: s-maj=24.5km s-min=14.4km az=162.0*

ISC 30 21:16:06.3±0.6, 51°69N×0°.08×173°34W±0°.05, h37km, n92, σ1°08/96, mb4.2/34, 1C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	Atka Island	0.74	314		Pn	21 16 19.5	-0.6
ATKA	Atka Island	0.74	314		Sn	21 16 29.9	-0.2
KOFP	Korovin Flat P	0.75	321		Pn	21 16 20.5	+0.1
KOWE	Korovin West	0.88	320		Pn	21 16 22.3	+0.2
GSMY	Great Sitkin M	1.72	283		Pn	21 16 32.5	-1.2
GSTR	Great Sitkin T	1.73	284	Pn	Pn	21 16 34.1	+0.2
GSTD	Great Sitkin T	1.78	283		Pn	21 16 33.1	-1.4
GSTD					Sn	21 16 58.6	+2.7
ADAG	Mount Adagdak	2.04	279		Pn	21 16 38.2	+0.1
ADK	Adak	2.09	277		Pn	21 16 38.7	0.0
KIKV	Kanaga Island	2.39	276		Pn	21 16 43.3	+0.4
KIMD	Kanaga Island	2.42	273		Pn	21 16 43.4	+0.1
TAFP	Tanaga Falls P	2.89	276		Pn	21 16 50.6	+0.8
TASE	Tanaga Southea	2.92	275		Pn	21 16 51.0	+0.8
NIKH	Nikolski High	3.03	63	Pn	Pn	21 16 51.5	-0.2

AMKA	Amchitka	4.61	269	Pn	Pn		21 17 11.8	-1.5	
GAMB	Gambell	12.15	3		Pn		21 19 00.3	+3.7	
KDAK	Kodiak Island	13.42	55	P	Pn		21 19 12.8	-1.2	
	0.3nm,0.3s,baz=280,slow=11,SNR=2.5								
KDAK	Kodiak Island	13.42	55		Pn		21 19 15.3	+1.4	
SVW2	Sparrevohn	13.57	39	Pn	Pn		21 19 14.6	-1.4	
SEW	Seward	15.74	48	P	P		21 19 48.1	-0.4	
SEW				IAmb	IAmb		21 19 48.3		
	comp=Z,35nm,1.4s								
PPLA	Purkeypile	15.92	37	P	P		21 19 52.0	+1.4	
PPLA				IAmb	IAmb		21 19 56.9		
	comp=Z,17nm,1.4s								
BPAW	Bear Paw Mtn.	17.06	35	P	P		21 20 03.8	+0.6	
PETK	Petropavlovsk-	17.68	286	P	P		21 20 09.3	-0.7	
	comp=Z,0.1nm,0.3s,baz=81,slow=15,SNR=1.4								
PETK				LR	LR		21 26 14.7		
	comp=Z,42nm,19.8s,baz=117,slow=34								
MLY	Manley	17.71	32	P	P		21 20 11.4	+1.1	
M24K	Tolsona, Glenn	17.98	44	P	P		21 20 14.4	+1.0	
M24K				IAmb	IAmb		21 20 29.5		
	comp=Z,9.5nm,0.9s								
NEA2	Nenana	18.03	35	P	P		21 20 13.9	+0.1	
I23K	Minto, Yukon-K	18.25	33	P	Pn		21 20 16.8	+0.5	
I23K				IAmb	IAmb		21 20 19.8		
	comp=Z,5.4nm,0.5s								
IL31		18.92	36	P	P		21 20 23.4	-0.1	
IL31				IAmb	IAmb		21 20 26.7		
	comp=Z,3.5nm,0.5s								
ILAR	Eielson Array	18.92	36	P	P		21 20 21.6	-1.9	
	comp=Z,0.7nm,0.3s,baz=226,slow=9.0,SNR=24								
ILAR	Eielson Array	18.92	36	P	Pn		21 20 24.1	-0.2	
COLD	Coldfoot	19.31	28	P	Pn		21 20 28.7	-0.4	
DOT	Dot Lake	19.49	41	P	P		21 20 29.6	-0.3	
SCRK	Sand Creek	19.66	40		P		21 20 30.6	-1.1	
EGAK	Eagle	21.11	39		P		21 20 46.9	-0.4	
DAWY	Dawson	21.57	42	P	P		21 20 53.0	+0.7	
DAWY				IAmb	IAmb		21 21 01.2		
	comp=Z,5.3nm,1.4s								
INK	Inuvik	25.27	34	P	P		21 21 27.7	-0.8	
	comp=Z,3.3nm,0.8s,baz=223,slow=12,SNR=12								
INK	Inuvik	25.27	34	P	P		21 21 27.6	-0.9	
INK				IAmb	IAmb		21 21 28.8		
	comp=Z,5.1nm,1.1s								
DLBC	Dease Lake	25.33	58	P	P		21 21 29.9	+0.6	
	comp=Z,1.6nm,0.4s,baz=261,slow=14,SNR=3.6								
DLBC	Dease Lake	25.33	58	P	P		21 21 30.1	+0.7	
DLBC				IAmb	IAmb		21 21 31.5		
	comp=Z,11nm,1.2s								
TIXI	Tiksi	32.06	330	P	P		21 22 26.9	-2.1	
YKA	Yellowknife Ar	32.52	48	P	P		21 22 32.9	-0.3	
	comp=Z,0.6nm,0.9s,baz=270,slow=9.7,SNR=7.6								
YKA				pPcP			21 25 31.2		
	comp=Z,0.2nm,0.6s,baz=288,slow=2.6,SNR=9.2								
KRMB	Red Mountain	34.83	87	P	P		21 22 54.2	+0.6	
USRK	Ussuriysk Ar.	36.62	280	P	P		21 23 07.8	-0.9	
	comp=Z,1.3nm,0.7s,baz=75,slow=7.6,SNR=3.1								
USRK	Ussuriysk Ar.	36.62	280	P	P		21 23 08.5	-0.3	
J08A	Circle Bar Ran	37.18	81	P	P		21 23 15.2	+1.5	
J08A				IAmb	IAmb		21 23 23.3		
	comp=Z,3.6nm,0.7s								
PDAR	Pinedale Array	42.94	76	P	P		21 24 01.6	-0.1	
	comp=Z,0.4nm,0.6s,baz=304,slow=5.0,SNR=4.6								
FCC	Fort Churchill	43.24	48	P	P		21 24 02.8	-0.7	
FCC				IAmb	IAmb		21 24 04.4		
	comp=Z,2.2nm,0.8s								
SONM	Songino Array	49.51	299	P	P		21 24 53.5	+0.5	
	comp=Z,0.4nm,0.4s,baz=75,slow=5.7,SNR=6.0								
SONM	Songino Array	49.51	299	P	P		21 24 53.6	+0.5	
SONM				IAmb	IAmb		21 24 54.2		
	comp=

*IDC **30** 21:18:44.3±2.4,5.66S×153.01E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/36, mbtmp3.5/4, Error ellipse: s-maj=142.9km s-min=28.5km az=131.0*

ISC 30 21:18:51.9±2.2, 6.1S×152.9E±0.5, h35km, n6, σ0.73/5, mb3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.59**	**240**		Sn		**Sn**	**21 21 40.4**	**+0.1**
	2.5nm,0.3s,baz=78,slow=11,SNR=3.7								
WRA	**Warramunga Arr**	**22.71**	**231**	P			**P**	**21 23 50.0**	**-0.9**
	0.4nm,0.4s,baz=53,slow=9.9,SNR=2.4								
ASAR	**Alice Springs**	**25.30**	**224**	P			**P**	**21 24 15.8**	**+0.4**
	0.2nm,0.3s,baz=58,slow=8.8,SNR=2.0								
FITZ	**Fitzroy Crossi**	**29.17**	**243**	P			**P**	**21 24 50.5**	**+0.3**
	1.5nm,0.7s,baz=56,slow=5.5,SNR=5.2								
ILAR	**Eielson Array**	**83.30**	**22**	P			P	21 31 09.8	-5.0
	0.3nm,0.6s,baz=243,slow=5.4,SNR=5.7								
TORD	**Torodi Ar. Bea**	**150.79**	**286**	PKPbc			**PKPbc**	**21 38 41.5**	**-0.2**
	0.3nm,0.5s,baz=71,slow=3.5,SNR=2.1								

IDC 30 21:21:24.2±2.2, 5.36S×150.62E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/39, mbtmp3.4/3, Error ellipse: s-maj=144.2km s-min=32.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.47**	**226**	P			P	21 26 14.7	+0.1
	0.8nm,0.7s,baz=52,slow=11,SNR=4.7								
ASAR	**Alice Springs**	**24.30**	**220**	P			P	21 26 43.7	0.0
	0.8nm,0.7s,baz=56,slow=9.4,SNR=8.9								
ILAR	**Eielson Array**	**83.50**	**22**	P			P	21 33 53.5	-0.1
	0.3nm,0.7s,baz=236,slow=4.2,SNR=2.5								

*SGS **30** 21:23:34.7, 33.66N×47.96E, h9km, Ml4.5*
*IDC **30** 21:23:43.9±1.1, 32.48N×48.06E, h0km, mb4.0/17, mb1 4.1/26, mb1mx3.9/63, mbtmp4.0/26, ML4.0/8, MS3.2/10, Ms1 3.2/10, ms1mx2.9/47, Error ellipse: s-maj=21.9km s-min=13.4km az=176.0*
*TEH **30** 21:23:45.9, 32.55N×48.03E, h8km, ML4.3*
*ISN **30** 21:23:46.5±1.0, 32.56N×48.04E, h20km±7km, ML4.2*
*NEIC **30** 21:23:47.1±2.4, 32.45N±0.05×47.96E±0.05, h12km±2km, mb4.3/29, mb_Lg4.3(TEH), ML4.2(THR), Error ellipse: s-maj=7.5km s-min=5.5km az=208.0*
*THR **30** 21:23:47.0±0.6, 32.46N×47.96E, h28km±7km, ML4.2*
*OMAN **30** 21:23:49.5, 32.08N×48.15E, h10km, mb5.8/14, ms3.0/4*
*DSN **30** 21:23:54.5±2.0, 31.89N×48.42E, h15km, ML4.4/2, Error ellipse: s-maj=29.1km s-min=11.8km az=18.0*

ISC 30 21:23:46.3±1.1, 32.46N±0.03×48.01E±0.03, h13km±7km, n278, σ2.04/309, mb4.3/47, MS3.4/5, 16C-10D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.66**	**290**		*e*Pg		**Pg**	**21 23 58.5**	**-0.6**
DHL1					*e*Sg		**Sg**	**21 24 08.4**	**+0.6**
SHGR	**Shooshtar-Gavs**	**0.75**	**117**		*e*Pg		**Pb**	**21 24 01.9**	**+0.7**
SHGR					*e*Sg		**Sb**	**21 24 13.2**	**+1.9**
SHGR					IAML			21 24 23.7	
	comp=E,9μm,0.6s								
SHGR					IAML			21 24 36.3	
	comp=N,8μm,0.6s								
SHGR	**Shooshtar-Gavs**	**0.75**	**117**		Pg		**Pb**	**21 24 02.0**	**+0.8**
SHGR	**Shooshtar-Gavs**	**0.75**	**117**		*e*Pg		**Pb**	**21 24 01.9**	**+0.7**
IKFM	**Kafar-mosalman**	**1.07**	**353**		Pg		**Pb**	**21 24 05.0**	**-1.7**
IKFM	**Kafar-mosalman**	**1.07**	**353**		*e*			21 24 09.0	
	comp=Z,99nm,0.4s								
IKFM					*e*Pg		**Pb**	**21 24 04.7**	**-2.0**
IKMR	**Kamar-syah**	**1.10**	**16**		*e*			21 24 27.3	
	comp=Z,99nm,0.4s								
IKMR					*e*Pg		**Pb**	**21 24 04.7**	**-2.5**
AHWZ	**Ahwaz**	**1.24**	**154**				**Pg**	**21 24 11.1**	**+0.9**
AHWZ	**Ahwaz**	**1.24**	**154**		*e*Pg		**Pg**	**21 24 11.3**	**+1.1**
IDOB	**Doab**	**1.34**	**6**				**Pn**	**21 24 10.1**	**-0.8**
IDOB	**Doab**	**1.34**	**6**		*e*Pg		**Pn**	**21 24 10.5**	**-0.4**
HSAM	**Samen**	**1.82**	**16**		Pn		**Pb**	**21 24 19.2**	**-0.4**
HSAM	**Samen**	**1.82**	**16**		*e*Pn		**Pn**	**21 24 18.8**	**+1.2**
HSAM					*e*			21 24 50.6	
	comp=Z,99nm,0.4s								
IBDR	**Badra**	**1.87**	**291**		*e*Pg		**Pn**	**21 24 19.0**	**+1.0**
IBDR					*e*Sg		**Sb**	**21 24 44.0**	**+0.3**
IBDR					AML		AML	21 24 54.8	
	comp=E,3μm,0.7s								
IBDR					AML		AML	21 24 56.5	
	comp=N,3μm,0.6s								
KCHF	**Cheshme Sefid,**	**1.99**	**336**		Pn		**Pn**	**21 24 20.2**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.99**	**336**		*e*Pn		**Pn**	**21 24 20.6**	**+0.8**
KCHF					*e*			21 24 59.6	
	comp=Z,99nm,0.4s								
IBZA	**Bozab**	**2.01**	**356**		Pn		**Pn**	**21 24 21.2**	**+1.0**
IBZA	**Bozab**	**2.01**	**356**		*e*Pn		**Pn**	**21 24 21.4**	**+1.2**
IBZA					*e*			21 24 55.9	
	comp=Z,99nm,0.7s								
KER	**Kermanshah**	**2.06**	**339**		*e*Pn		**Pn**	**21 24 21.8**	**+1.0**
KHMZ	**Khomeyn**	**2.08**	**51**		*e*Pn		**Pn**	**21 24 22.8**	**+1.8**
KHMZ	**Khomeyn**	**2.08**	**51**		Pn		**Pb**	**21 24 23.2**	**-0.7**
KHMZ	**Khomeyn**	**2.08**	**51**		*e*Pn		**Pn**	**21 24 22.8**	**+1.8**
NSR	**Nassriya**	**2.15**	**228**		*e*Pn		**Pn**	**21 24 24.0**	**+2.2**
NSR					*e*Sn		**Sn**	**21 24 50.0**	**+1.6**
IGHG	**Ghaleghazi**	**2.23**	**327**		Pn		**Pn**	**21 24 24.2**	**+1.1**
IGHG	**Ghaleghazi**	**2.23**	**327**		*e*Pn		**Pn**	**21 24 23.9**	**+0.8**
IGHG					*e*			21 25 05.7	
	comp=Z,99nm,0.6s								
IALM	**Almabolaq**	**2.40**	**3**		*e*Pn		**Pn**	**21 24 27.3**	**+1.7**
SHK1	**Shahrekord**	**2.43**	**92**		*e*Pn		**Pn**	**21 24 27.7**	**+1.7**
IPIR	**Pirpir**	**2.44**	**84**		Pn		**Pb**	**21 24 29.3**	**-0.9**
IPIR	**Pirpir**	**2.44**	**84**		*e*Pn		**Pb**	**21 24 29.0**	**-1.2**
IPIR					*e*			21 25 10.7	
	comp=Z,99nm,0.6s								
HAGD	**Aghdareh**	**2.54**	**21**		Pn		**Pn**	**21 24 29.3**	**+1.8**
HAGD	**Aghdareh**	**2.54**	**21**		*e*Pn		**Pn**	**21 24 29.1**	**+1.6**
HAGD					*e*			21 25 10.1	
	comp=Z,99nm,0.4s								
ILIN	**Lien**	**2.61**	**341**		Pn		**Pn**	**21 24 30.3**	**+1.9**
ILIN	**Lien**	**2.61**	**341**		*e*Pn		**Pn**	**21 24 29.9**	**+1.5**
ILIN					*e*			21 25 12.5	
	comp=Z,99nm,0.5s								
IDHR	**Dehrash**	**2.62**	**329**		Pn		**Pn**	**21 24 29.3**	**+0.8**
IDHR	**Dehrash**	**2.62**	**329**		*e*Pn		**Pn**	**21 24 29.4**	**+0.9**
ABEH	**Behbahan**	**2.66**	**133**		*e*Pn		**Pn**	**21 24 31.3**	**+2.4**
ASAO	**Ashtian**	**2.68**	**38**		*e*Pn		**Pn**	**21 24 31.5**	**+2.1**
ASAO					*e*Sg		**Sb**	**21 25 09.7**	**+2.5**
ASAO					IAML			21 25 15.2	
	comp=N,877nm,0.5s								
ASAO	**Ashtian**	**2.68**	**38**		Pn		**Pn**	**21 24 31.3**	**+1.9**
ASAO	**Ashtian**	**2.68**	**38**		*e*Pn		**Pn**	**21 24 31.5**	**+2.1**
MIB	**Mutribah**	**2.71**	**193**		*e*P			21 24 32.5	
IKLH	**Kolahrood**	**3.12**	**73**		Pn		**Pn**	**21 24 38.4**	**+2.9**
IKLH	**Kolahrood**	**3.12**	**73**		*e*Pn		**Pn**	**21 24 37.7**	**+2.3**
QAM	**Ghamsar**	**3.16**	**65**		*e*Pn		**Pn**	**21 24 38.3**	**+2.4**
BHD	**Baghdad**	**3.16**	**286**		*e*Pn		**Pn**	**21 24 37.0**	**+1.2**
BHD					*e*Sn		**Sn**	**21 25 14.0**	**+0.6**
IRAZ	**Razeghan**	**3.34**	**28**		Pn		**Pn**	**21 24 41.4**	**+2.9**
IRAZ	**Razeghan**	**3.34**	**28**		*e*Pn		**Pn**	**21 24 40.8**	**+2.3**
KLNJ	**Kolanjah**	**3.37**	**114**		Pn		**Pn**	**21 24 41.4**	**+2.4**
KLNJ	**Kolanjah**	**3.37**	**114**		*e*Pn		**Pn**	**21 24 40.6**	**+1.6**
GHVR	**GHOM**	**3.41**	**53**		*e*Pn		**Pn**	**21 24 40.5**	**+1.4**
GHVR					IAML			21 25 35.6	
	comp=N,469nm,0.6s								
GHVR					IAML			21 25 42.1	
	comp=E,505nm,0.6s								
GHVR	**GHOM**	**3.41**	**53**		Pn		**Pn**	**21 24 40.4**	**+1.2**
GHVR	**GHOM**	**3.41**	**53**		*e*Pn		**Pn**	**21 24 40.6**	**+1.4**
IGAR	**Gharneh**	**3.41**	**90**		Pn		**Pn**	**21 24 40.4**	**+1.1**
IGAR	**Gharneh**	**3.41**	**90**		*e*Pn		**Pn**	**21 24 40.4**	**+1.1**
QABG	**Abgarm-Qazvin**	**3.50**	**21**		Pn		**Pn**	**21 24 40.4**	**-0.2**
QABG	**Abgarm-Qazvin**	**3.50**	**21**		*e*Pn		**Pn**	**21 24 40.2**	**-0.4**
RDF	**Al-Radifah**	**3.54**	**187**		*e*P			21 24 44.2	
IZEF	**Zefreh**	**3.67**	**82**		Pn		**Pn**	**21 24 45.5**	**+2.5**
IZEF	**Zefreh**	**3.67**	**82**		*e*Pn		**Pn**	**21 24 44.8**	**+1.9**
QRN	**Al-Qurain**	**3.70**	**181**		*e*P			21 24 45.8	
IRAM	**Ramesheh**	**3.76**	**99**		Pn		**Pn**	**21 24 45.5**	**+1.3**
IRAM	**Ramesheh**	**3.76**	**99**		*e*Pn		**Pn**	**21 24 45.5**	**+1.3**
KRSH	**Karshahi**	**3.77**	**65**		Pn		**Pn**	**21 24 46.5**	**+2.2**
KRSH	**Karshahi**	**3.77**	**65**		*e*Pn		**Pn**	**21 24 46.0**	**+1.7**
IMHD	**Mahdasht**	**3.90**	**34**		Pn		**Pn**	**21 24 48.5**	**+2.4**
IMHD	**Mahdasht**	**3.90**	**34**		*e*Pn		**Pn**	**21 24 48.5**	**+2.4**
ISFB	**Sefidab**	**4.01**	**61**		Pn		**Pn**	**21 24 48.5**	**+1.0**
ISFB	**Sefidab**	**4.01**	**61**		*e*Pn		**Pn**	**21 24 48.6**	**+1.1**
IHSB	**Hasanabad**	**4.03**	**41**		Pn		**Pn**	**21 24 49.5**	**+1.8**
IHSB	**Hasanabad**	**4.03**	**41**		*e*Pn		**Pn**	**21 24 48.9**	**+1.2**
NASN	**Na'in**	**4.06**	**84**		*e*Pn		**Pn**	**21 24 50.1**	**+1.7**
NASN	**Na'in**	**4.06**	**84**		Pn		**Pn**	**21 24 50.5**	**+2.1**
NASN	**Na'in**	**4.06**	**84**		*e*Pn		**Pn**	**21 24 50.1**	**+1.7**
THKV	**Tehran--Karaj**	**4.19**	**34**		*e*Pn		**Pn**	**21 24 51.6**	**+1.5**
THKV	**Tehran--Karaj**	**4.19**	**34**		Pn		**Pn**	**21 24 51.5**	**+1.5**
THKV	**Tehran--Karaj**	**4.19**	**34**		*e*Pn		**Pn**	**21 24 51.6**	**+1.5**
KAZ1	**Kazerun**	**4.20**	**131**		Pn		**Pn**	**21 24 52.5**	**+2.4**
KAZ1	**Kazerun**	**4.20**	**131**		*e*Pn		**Pn**	**21 24 51.7**	**+1.6**
ZNJK	**Zanjan**	**4.24**	**7**		*e*Pn		**Pn**	**21 24 52.4**	**+1.6**
ZNJK	**Zanjan**	**4.24**	**7**		Pn		**Pn**	**21 24 52.5**	**+1.7**
ZNJK	**Zanjan**	**4.24**	**7**		*e*Pn		**Pn**	**21 24 52.4**	**+1.6**
CHTH	**Charan**	**4.30**	**36**		*e*Pn		**Pn**	**21 24 53.4**	**+1.7**
CHTH	**Charan**	**4.30**	**36**		Pn		**Pn**	**21 24 53.5**	**+1.8**
CHTH	**Charan**	**4.30**	**36**		*e*Pn		**Pn**	**21 24 53.4**	**+1.7**
TEH	**Tehran**	**4.30**	**40**		*e*Pn		**Pn**	**21 24 53.5**	**+1.9**
IGZV	**Ghazvin**	**4.32**	**24**		Pn		**Pn**	**21 24 54.5**	**+2.6**
IGZV	**Ghazvin**	**4.32**	**24**		*e*Pn		**Pn**	**21 24 54.2**	**+2.2**
QALM	**Alamut, Qazvin**	**4.52**	**28**		Pn		**Pn**	**21 24 56.6**	**+1.8**
QALM	**Alamut, Qazvin**	**4.52**	**28**		*e*Pn		**Pn**	**21 24 56.5**	**+1.8**
DAMV	**Damavand**	**4.56**	**45**		*e*Pn		**Pn**	**21 24 56.7**	**+1.4**
DAMV	**Damavand**	**4.56**	**45**		Pn		**Pn**	**21 24 57.6**	**+2.3**
DAMV	**Damavand**	**4.56**	**45**		*e*Pn		**Pn**	**21 24 56.7**	**+1.4**
QYSM	**Um Kedad**	**4.69**	**192**		P		**Pn**	**21 24 59.4**	**+2.6**
MAHB	**Mahabad**	**4.70**	**337**		Pn		**Pn**	**21 24 58.6**	**+1.5**
MAHB	**Mahabad**	**4.70**	**337**		*e*Pn		**Pn**	**21 24 57.7**	**+0.6**
SHI	**Shiraz**	**4.77**	**125**		*e*Pn		**Pn**	**21 25 00.3**	**+2.2**
ANAR	**Anarak**	**4.87**	**80**		Pn		**Pn**	**21 25 00.0**	**+0.7**
ANAR	**Anarak**	**4.87**	**80**		*e*Pn		**Pn**	**21 25 00.3**	**+1.0**
ILAS	**Lasjerd**	**5.04**	**53**		Pn		**Pn**	**21 25 03.0**	**+1.2**
ILAS	**Lasjerd**	**5.04**	**53**		*e*Pn		**Pn**	**21 25 02.9**	**+1.1**
IPRN	**Peran**	**5.20**	**42**		Pn		**Pn**	**21 25 06.1**	**+2.1**
IPRN	**Peran**	**5.20**	**42**		*e*Pn		**Pn**	**21 25 06.3**	**+2.4**
ISRB	**Sarab**	**5.37**	**357**		Pn		**Pn**	**21 25 07.1**	**+0.8**
ISRB	**Sarab**	**5.37**	**357**		*e*Pn		**Pn**	**21 25 07.5**	**+1.3**
RQBS	**RQBS**	**5.40**	**200**		P		**Pn**	**21 25 08.5**	**+1.9**
ICHK	**Chekchek**	**5.42**	**91**		Pn		**Pn**	**21 25 09.1**	**+2.1**
ICHK	**Chekchek**	**5.42**	**91**		*e*Pn		**Pn**	**21 25 08.6**	**+1.6**
IANJ	**Anjilo**	**5.75**	**57**		Pn		**Pn**	**21 25 12.1**	**+0.5**
IANJ	**Anjilo**	**5.75**	**57**		*e*Pn		**Pn**	**21 25 12.1**	**+0.5**
QIR1	**Qir**	**5.88**	**131**		*e*Pn		**Pn**	**21 25 15.3**	**+2.1**
IHRS	**Heris**	**5.90**	**353**		Pn		**Pn**	**21 25 15.2**	**+1.5**
IHRS	**Heris**	**5.90**	**353**		*e*Pn		**Pn**	**21 25 15.1**	**+1.5**
IGLO	**Ghaloghah**	**6.27**	**48**		Pn		**Pn**	**21 25 21.2**	**+2.5**
IGLO	**Ghaloghah**	**6.27**	**48**		*e*Pn		**Pn**	**21 25 21.0**	**+2.3**
IMRD	**Marand**	**6.52**	**344**		Pn		**Pn**	**21 25 24.2**	**+2.1**
IMRD	**Marand**	**6.52**	**344**		*e*Pn		**Pn**	**21 25 23.9**	**+1.8**
GEVA	**Gevas**	**7.11**	**327**		Pn		**Pn**	**21 25 30.6**	**+0.4**
TPRV	**Parvadeh(Tabas**	**7.33**	**83**		Pn		**Pn**	**21 25 34.3**	**+1.2**
TPRV	**Parvadeh(Tabas**	**7.33**	**83**		*e*Pn		**Pn**	**21 25 34.3**	**+1.2**
TNSJ	**Nastanj**	**7.36**	**76**		Pn		**Pn**	**21 25 35.4**	**+1.8**
TNSJ	**Nastanj**	**7.36**	**76**		*e*Pn		**Pn**	**21 25 34.9**	**+1.4**
KHGB	**Koh Gabri**	**7.53**	**104**		Pn		**Pn**	**21 25 37.4**	**+1.4**
KHGB	**Koh Gabri**	**7.53**	**104**		*e*Pn		**Pn**	**21 25 37.0**	**+1.1**
MARD	**Mardin**	**7.67**	**311**		Pn		**Pn**	**21 25 37.8**	**0.0**
TKDS	**Koohdasht(Taba**	**7.74**	**79**		Pn		**Pn**	**21 25 39.4**	**+0.7**
TKDS	**Koohdasht(Taba**	**7.74**	**79**		*e*Pn		**Pn**	**21 25 39.4**	**+0.7**
NHRD	**Haradh**	**7.75**	**173**		P		**Pn**	**21 25 39.8**	**+0.9**
SLWS		**7.97**	**162**		S		**Sn**	**21 27 19.9**	**+8.0**
SLWS		**7.97**	**162**		P		**Pn**	**21 25 43.5**	**+1.6**
GNI	**Garni**	**8.12**	**342**		Pn		**Pn**	**21 25 46.5**	**+2.5**
	comp=E,0.2nm,0.3s,baz=161,slow=8.7,SNR=1.8								
GNI					LR		LR	21 29 27.3	
	comp=E,135nm,21.2s,baz=162,slow=42								
GNI	**Garni**	**8.12**	**342**				**Pn**	**21 25 46.0**	**+2.0**
SBZV	**Sabzevar**	**8.85**	**61**		Pn		**Pn**	**21 25 55.5**	**+1.5**
SBZV	**Sabzevar**	**8.85**	**61**		*e*Pn		**Pn**	**21 25 55.0**	**+1.0**
ITEG	**Tejag**	**9.06**	**84**		Pn		**Pn**	**21 25 58.6**	**+1.6**
ITEG	**Tejag**	**9.06**	**84**		*e*Pn		**Pn**	**21 25 58.0**	**+1.0**
RAYN	**Ar Rayn**	**9.17**	**195**		*i* P		**Pn**	**21 25 58.0**	**-0.3**
	SNR=24								
RAYN	**Ar Rayn**	**9.17**	**195**				**Pn**	**21 25 58.1**	**-0.3**
SHME	**Shamm**	**9.54**	**130**		P		**Pn**	**21 26 02.9**	**-0.5**
SHME					S		**Sn**	**21 27 43.6**	**-7.0**
SHME	**Shamm**	**9.54**	**130**		P		**Pn**	**21 26 02.7**	**-0.7**
SHME					P		**Pn**	**21 26 02.7**	**-0.7**
SHME					S		**Sn**	**21 27 48.6**	**-2.0**
SHME					S		**Sn**	**21 27 48.6**	**-2.0**
BANOM	**Banah**	**9.73**	**130**		*i* P		**Pn**	**21 26 06.0**	**-0.1**
	SNR=18								
BANOM					S		**Sn**	**21 27 48.2**	**-7.1**
BANOM	**Banah**	**9.73**	**130**		P		**Pn**	**21 26 05.1**	**-0.9**
	SNR=20								
BANOM					S		**Sn**	**21 27 52.2**	**-3.1**
GEYT	**Alibeck**	**9.91**	**54**		Pn		**Pn**	**21 26 07.3**	**-1.1**
	comp=E,0.3nm,0.3s,baz=218,slow=16,SNR=2.5								
NAZ	**Nazwa, Dubai**	**10.02**	**136**		P		**Pn**	**21 26 08.6**	**-1.3**
NAZ	**Nazwa, Dubai**	**10.02**	**136**		P		**Pn**	**21 26 08.6**	**-1.3**
NAZ					S		**Sn**	**21 27 57.7**	**-4.5**
MASF	**Masafi**	**10.03**	**133**		P		**Pn**	**21 26 08.8**	**-1.4**
MASF					S		**Sn**	**21 27 59.4**	**-3.3**
	SNR=11								
ASUD	**Al Ashush, Dub**	**10.11**	**139**		*i* P		**Pn**	**21 26 12.0**	**+0.9**
	SNR=14								
ASUD	**Al Ashush, Dub**	**10.11**	**139**		P		**Pn**	**21 26 09.9**	**-1.2**
MDH	**Madha**	**10.17**	**132**		P		**Pn**	**21 26 10.8**	**-1.3**
MDH					S		**Sn**	**21 28 03.0**	**-3.0**
UOSS	**Minazif**	**10.37**	**134**		*i* P		**Pn**	**21 26 14.4**	**-0.5**
	SNR=7.7								
UOSS	**Minazif**	**10.37**	**134**		Pn		**Pn**	**21 26 14.2**	**-0.7**
UOSS	**Minazif**	**10.37**	**134**		P		**Pn**	**21 26 14.5**	**-0.3**
UOSS					P		**Pn**	**21 26 14.5**	**-0.3**
UOSS					S		**Sn**	**21 28 08.8**	**-2.9**
UOSS					S		**Sn**	**21 28 08.1**	**-2.9**
HATD	**Hatta, Dubai**	**10.42**	**135**		*i* P		**Pn**	**21 26 15.3**	**-0.2**
	SNR=5.9								
HATD	**Hatta, Dubai**	**10.42**	**135**		P		**Pn**	**21 26 15.0**	**-0.5**
HATD					S		**Sn**	**21 28 09.1**	**-3.0**
ASHO	**Ashiyiah**	**10.48**	**136**		*i* P		**Pn**	**21 26 15.7**	**-0.6**
	SNR=14								
ASHO					S		**Sn**	**21 28 07.7**	**-6.0**
ASHO	**Ashiyiah**	**10.48**	**136**		P		**Pn**	**21 26 15.9**	**-0.5**
	SNR=14								
ASHO					S		**Sn**	**21 28 10.1**	**-3.6**
MMAI	**Mount Meron Ar**	**10.64**	**276**		Pn		**Pn**	**21 26 18.6**	**+0.1**
	comp=E,0.6nm,0.3s,baz=79,slow=17,SNR=6.7								
MMAI					LR		LR	21 31 18.9	
	comp=E,83nm,21.6s,baz=85,slow=43								
ALNE	**Al Ain**	**10.79**	**139**		*i* P		**Pn**	**21 26 19.8**	**-0.8**
	SNR=7.6								
SOHO	**SOHO**	**11.18**	**136**		P		**Pn**	**21 26 24.1**	**-1.7**
EIL	**Elat**	**11.54**	**260**		Pn		**Pn**	**21 26 29.8**	**-0.9**
	comp=E,1.5nm,0.3s,baz=94,slow=5.2,SNR=12								
EIL					LR		LR	21 31 47.1	
	comp=E,114nm,20.8s,baz=107,slow=42								
KBZ	**Khabaz**	**11.95**	**342**		LR		LR	21 31 45.7	
	comp=E,139nm,21.5s,baz=160,slow=40								
HRA	**Herat**	**12.05**	**77**		Pn		**Pn**	**21 26 39.2**	**+1.4**
HOQ	**Hoqain**	**12.06**	**135**		P		**Pn**	**21 26 37.2**	**-0.7**
HOQ					P		**Pn**	**21 26 37.2**	**-0.7**
HOQ					S		**Sn**	**21 28 48.9**	**-3.5**
HOQ					S		**Sn**	**21 28 48.9**	**-3.5**
SMDO	**Samad**	**12.90**	**134**		P		**Pn**	**21 26 49.1**	**-0.3**
SMDO					P		**Pn**	**21 26 49.1**	**-0.3**
SMDO					S		**Sn**	**21 29 09.7**	**-3.2**
SMDO					S		**Sn**	**21 29 09.7**	**-3.2**
WSAR	**Wadi Sarin**	**13.13**	**132**		Pn		**Pn**	**21 26 50.6**	**-1.9**
	comp=E,1.0nm,0.3s,baz=312,slow=10,SNR=15								
WSAR					Sn		**Sn**	**21 29 10.7**	**-7.8**
	comp=E,1.3nm,0.3s,baz=114,slow=16,SNR=6.5								
WSAR					LR		LR	21 32 55.0	
	comp=E,221nm,18.9s,baz=344,slow=42								
BR131	**Keskin Array S**	**13.69**	**306**		Pn		**Pn**	**21 27 04.1**	**+3.8**
BRTR	**Keskin Array B**	**13.69**	**306**		Pn		**Pn**	**21 27 02.4**	**+2.1**
	comp=E,0.1nm,0.3s,baz=126,slow=13,SNR=9.8								
BRTR	**Keskin Array B**	**13.69**	**306**		Pn		**Pn**	**21 27 03.7**	**+3.4**
DOK	**Doka**	**14.84**	**157**		P		**Pn**	**21 27 14.2**	**-1.7**
	SNR=6.0								
DOK					S		**Sn**	**21 29 56.9**	**-3.3**
ISP	**Isparta**	**15.27**	**295**		P		**P**	**21 27 27.1**	**+0.5**
ISP					IAmb		IAmb	21 27 32.6	
	comp=Z,28nm,0.9s								
ELL	**Elmali**	**15.51**	**291**		P		**P**	**21 27 30.8**	**+1.6**
DMTO	**DMTO**	**15.96**	**155**		P		**Pn**	**21 27 28.9**	**-1.6**
	SNR=10								
DMTO					S		**Sn**	**21 30 24.4**	**-2.9**
MANT	**Manisa**	**16.94**	**296**		P		**P**	**21 27 47.5**	**+2.3**
KBL	**Kabul**	**17.66**	**78**		P		**Pn**	**21 27 52.9**	**+0.6**
KBL					IAmb		IAmb	21 27 58.3	
	comp=Z,11nm,0.9s								
KBL	**Kabul**	**17.66**	**78**		P		**P**	**21 27 54.1**	**+0.9**
	SNR=6.7								
ABKAR	**Akbulak array**	**19.01**	**25**		P		**Pn**	**21 28 09.4**	**+1.0**
IDI	**Anoyia**	**19.40**	**285**		P		**Pn**	**21 28 13.9**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=82,slow=13,SNR=11								
IDI					LR		LR	21 37 55.8	
	comp=Z,37nm,21.8s,baz=88,slow=44								
IDI	**Anoyia**	**19.40**	**285**	⇓	P		**Pn**	**21 28 13.9**	**+0.6**
IDI	**Anoyia**	**19.40**	**285**		P		**P**	**21 28 13.6**	**+1.5**
AKTO	**Aktyubinsk**	**19.43**	**20**		P		**P**	**21 28 12.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=200,slow=10,SNR=7.5								
AKTO					LR		LR	21 38 26.7	
	comp=Z,48nm,18.2s,baz=192,slow=46								
BELG	**Belogornoye**	**19.93**	**359**		P		**P**	**21 28 17.4**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=228,slow=3.5,SNR=7.4								
CFR	**Carcaliu**	**19.97**	**315**	⇓	P		**P**	**21 28 18.5**	**+0.3**
RAZG	**Razgrad**	**20.19**	**309**	⇑	P		**P**	**21 28 21.9**	**+1.2**
KK31	**Karatay Array**	**20.66**	**53**		P		**P**	**21 28 27.2**	**+1.5**
KKAR	**Karatay Array**	**20.66**	**53**		P		**P**	**21 28 27.4**	**+1.7**
KKAR	**Karatay Array**	**20.66**	**53**		P		Pn	21 28 27.7	-0.3
KKAR					IAmb		IAmb	21 28 41.9	
	comp=Z,5.4nm,1.1s								
ISR	**Istrita**	**20.90**	**313**	⇑	P		**P**	**21 28 30.1**	**+1.7**
SOCY	**Socotra**	**20.91**	**163**		P		**P**	**21 28 25.1**	**-3.5**
SOCY					IAmb		IAmb	21 28 33.4	
	comp=Z,4.9nm,0.6s								
SOCY	**Socotra**	**20.91**	**163**		P		**P**

comp=Z,140nnn,3.9s
GUN Gumba 32.93 88 eP P 21 30 20.8 -0.2
comp=Z,16nnn,0.9s
JIRN Jiri 33.27 88 eP P 21 30 24.0 +0.1
comp=Z,7.9nnn,0.8s
ZALV Zalesovo Beam 33.81 40 P P 21 30 26.3 -1.6
comp=Z,0.7nnn,0.5s,baz=241,slow=12,SNR=5.6
ZALV Zalesovo Beam 33.81 40 P P 21 30 29.1 +1.3
RAMN Ramite 33.83 89 eP P 21 30 28.4 -0.3
comp=Z,8.8nnn,0.8s
NB2 NORSAR Subarra 37.25 331 P P 21 30 55.3 -2.1
comp=Z,1.0nnn,0.6s,baz=125,slow=9.3
NOA NORSAR Array B 37.25 331 P P 21 30 55.0 -2.4
comp=Z,0.6nnn,0.5s,baz=124,slow=8.5,SNR=4.0
ARCES ARCESS Array B 39.23 348 P P 21 31 12.3 -1.7
comp=Z,2.6nnn,0.7s,baz=154,slow=9.2,SNR=10
ARCES ARCESS Array B 39.23 348 P P 21 31 13.2 -0.7
ARCES IAmb IAmb 21 31 20.1
comp=Z,12nnn,1.1s
GTA Gaotai 42.03 65 P P 21 31 37.5 -0.2
GTA pP pP 21 31 41.3 -0.5
GTA sP sP 21 31 44.5 +1.1
GTA pmax pmax
comp=Z,2.0nnn,0.7s
GTA pmax pmax
comp=Z,56nnn,4.4s
GTA LR LR
comp=N,89nnn,14.5s
GTA LR LR
comp=E,200nnn,16.0s
GTA LR LR
comp=Z,68nnn,15.6s
ESDC Sonseca Array 42.14 295 P P 21 31 38.6 +0.2
comp=Z,2.2nnn,0.8s,baz=74,slow=8.3,SNR=13
ESDC Sonseca Array 42.14 295 P P 21 31 39.1 +0.7
ESDC IAmb IAmb 21 31 43.2
comp=Z,6.4nnn,1.0s
DSB Dublin 43.72 315 P P 21 31 51.4 +0.5
TORD Torodi Ar. Bea 46.41 257 P P 21 32 12.0 -0.8
comp=Z,0.9nnn,0.7s,baz=64,slow=8.2,SNR=4.1
TORD Torodi Ar. Bea 46.41 257 P P 21 32 13.5 +0.7
CMAR Chiang Mai Arr 47.63 94 P P 21 32 21.4 -1.0
comp=Z,0.5nnn,0.7s,baz=288,slow=7.6,SNR=5.0
KMI Kunming 48.08 84 ⇑P P 21 32 24.8 -1.3
KMI pmax pmax
comp=Z,8.0nnn,0.8s
HHC Hu-ho-hao-te 50.68 61 eP P 21 32 47.0 +1.4
HHC pmax pmax
comp=Z,7.0nnn,1.1s
HHC pmax pmax
comp=Z,51nnn,5.3s
SUMG Summit 58.34 339 P P 21 33 41.7 +0.6
KSRS Korea Array 63.81 61 LR LR 22 05 27.6
comp=Z,26nnn,18.2s,baz=35,slow=39
SEY Seymchan 67.73 29 P P 21 34 43.2 +0.1
comp=Z,2.7nnn,0.8s,baz=316,slow=6.1,SNR=7.1
YKA Yellowknife Ar 84.35 352 P P 21 36 18.0 +0.2
comp=Z,0.3nnn,0.9s,baz=18,slow=5.3,SNR=4.0

IDC 30 21:25:48.0±3.4, 49°87'S×110°58'E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/36, mbtmp3.8/2, MS3.9/2, Ms1 3.9/2, ms1mx3.1/29, Error ellipse: s-maj=215.6km s-min=68.2km az=131.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	Cape Leeuwin H	15.19	11	T	T	21 44 41.8	
	baz=199,slow=74,SNR=72						
H01W1	Cape Leeuwin H	15.20	11	T	T	21 44 41.6	
	baz=199,slow=74,SNR=90						
H01W3	Cape Leeuwin H	15.21	11	T	T	21 44 41.9	
	baz=199,slow=74,SNR=109						
ASAR	Alice Springs	31.89	43	P	P	21 32 15.2	+0.2
	0.8nm,0.6s,baz=209,slow=8.3,SNR=8.6						
WRA	Warramunga Arr	35.35	41	P	P	21 32 44.9	-0.3
	0.9nm,0.7s,baz=207,slow=8.6,SNR=7.4						
CTA	Charters Tower	41.03	57	LR	LR	21 49 05.0	
	comp=Z,283nnn,19.0s,baz=209,slow=34						
MSVF	Nonsavu	62.15	85	LR	LR	21 56 16.9	
	comp=Z,55nnn,20.4s,baz=179,slow=29						
YKA	Yellowknife Ar	152.50	46	PKPbc	PKPbc	21 45 44.8	-0.1
	0.2nm,0.7s,baz=297,slow=2.9,SNR=4.6						

*IDC **30** 21:29:29.8±5.1, 20°75S×177°77W, h537km±30km, mb3.3/7, mb1 3.4/8, mb1mx3.1/37, mbtmp4.2/8, Error ellipse: s-maj=82.7km s-min=31.4km az=124.0*

*NEIC **30** 21:29:30.7±1.2, 20°6S±0°3×177°8W±0°1, h555km±12km, mb4.0/14, Error ellipse: s-maj=39.0km s-min=10.7km az=161.0*

ISC 30 21:29:30.3±1.5, 20°6S±0°2×177°7W±0°2, h550km, n29, σ0§88/29, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.95	305	P	P	21 30 58.8	-1.1
	3.9nm,0.3s,baz=192,slow=3.1,SNR=4.4						
DZM	Mont Dzumac	14.87	262	P	P	21 32 39.8	+1.2
EIDS	Eidsvold	29.11	255	P	P	21 34 46.8	-0.3
ARMA	Armidale	29.29	244	P	P	21 34 50.5	+1.7
CTAO	Charters Tower	33.78	264	P	P	21 35 26.7	-0.4
CTAO				IAmb	IAmb	21 35 32.3	
	comp=Z,20nnn,1.4s						
STKA	Stephens Creek	38.01	244	P	P	21 36 01.5	-0.4
	comp=Z,0.7nnn,0.4s,baz=76,slow=10,SNR=3.3						
STKA	Stephens Creek	38.01	244	P	P	21 36 02.0	0.0
WR0	Warramunga Arr	44.69	262	P	P	21 36 53.8	-1.2
WR0				IAmb	IAmb	21 36 54.5	
	comp=Z,2.3nnn,0.9s						
AS31	Alice Springs	44.78	257	P	P	21 36 55.9	+0.2
ASAR	Alice Springs	44.79	257	P	P	21 36 55.2	-0.5
	comp=Z,3.4nnn,0.7s,baz=89,slow=8.3,SNR=31						
ASAR	Alice Springs	44.79	257	P	P	21 36 54.9	-0.8
WB0	Warramunga Arr	44.86	262	P	P	21 36 55.2	-1.1
WB0				IAmb	IAmb	21 36 55.7	
	comp=Z,3.3nnn,0.6s						
WB2	Warramunga Arr	44.87	262	P	P	21 36 55.5	-0.8
WB2				IAmb	IAmb	21 36 55.8	
	comp=Z,2.9nnn,0.8s						
WRA	Warramunga Arr	44.88	262	P	P	21 36 55.2	-1.1
	comp=Z,2.2nnn,0.7s,baz=97,slow=7.6,SNR=28						
WRA	Warramunga Arr	44.88	262	P	P	21 36 55.3	-1.1
FORT	Forrest	49.53	247	P	P	21 37 30.4	-0.8
FITZ	Fitzroy Crossi	53.31	262	P	P	21 37 57.9	-0.7
	comp=Z,1.6nnn,0.8s,baz=77,slow=3.1,SNR=2.4						
FITZ	Fitzroy Crossi	53.31	262	P	P	21 37 58.4	-0.2
FITZ				IAmb	IAmb	21 37 60.0	
	comp=Z,4.0nnn,1.2s						
SIJI	Sorong	53.55	285	P	P	21 38 00.3	-0.1
	comp=Z,8.3nnn,0.6s,baz=50,slow=5.9,SNR=5.8						
PSA00	Pilbara Seismi	57.94	257	P	P	21 38 30.1	-0.6
PSA00				IAmb	IAmb	21 38 43.5	
	comp=Z,10nnn,1.2s						
MORW	Morawa	60.06	248	P	P	21 38 44.5	-0.4
MORW				IAmb	IAmb	21 38 47.8	
	comp=Z,17nnn,1.4s						
MJAR	Matsushiro Arr	70.47	324	P	P	21 39 50.6	+0.8
	comp=Z,0.9nnn,0.5s,baz=106,slow=7.0,SNR=1.8						
OHAK	Old Harbor	80.19	13	P	P	21 40 43.5	+0.2
OHAK				IAmb	IAmb	21 40 49.6	
	comp=Z,13nnn,1.2s						
CMAR	Chiang Mai Arr	90.43	289	P	P	21 41 35.8	+1.8
	comp=Z,0.7nnn,0.7s,baz=119,slow=3.1,SNR=7.8						
KKAR	Karatay Array	119.55	309	PKPdf	PKiKP	21 47 17.8	-0.2
AKASG	Malin Array Be	143.25	331	PKP	PKPdf	21 48 01.3	-0.7
	comp=Z,1.3nnn,0.4s,baz=44,slow=4.5,SNR=9.7						
BUR08	Bucovina Ar. S	147.29	331		PKPab	21 48 15.7	-0.3
BURAR	Bucovina Array	147.30	331		PKPab	21 48 15.1	-1.0
CLL	Collm	148.24	347	ePKPbc	PKiKP	21 48 16.0	+0.3

*IDC **30** 21:33:05.0±2.2, 36°30N×140°28E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/45, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=54.5km s-min=22.4km az=67.0*

*JMA **30** 21:33:12.4±0.1, 36°04N×139°90E, h44km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs240.00000°, δ16.00000°, λ109.00000°. NP2: φs41.00000°, δ74.00000°, λ85.00000°. Principal axes: T Plg60.0000°, Azm303.0000°; N Plg5.0000°, Azm42.0000°; P Plg29.0000°, Azm135.0000°;*

JMA Felt I J1.

ISC 30 21:33:12.3±1.0, 36°03N±0°04×139°92E±0°05, h47km±9km, n16, σ0§83/23, mb3.6/4, 1C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	Yasato	0.30	49	⇑P	Pn	21 33 21.1	0.0
JYT				S	Sn	21 33 27.2	-0.2
TOK	Tokyo	0.37	200	P	Pn	21 33 22.7	+0.9
JAG	Ashikaga	0.54	317	⇓P	Pn	21 33 23.9	0.0
JAG				S	Sn	21 33 31.8	-0.4
JHU	Hanno	0.54	251	⇓P	Pn	21 33 23.4	-0.5
JRY	Ryogami san	0.82	269	⇓P	Pn	21 33 27.2	-0.4
JRY				S	Sn	21 33 37.6	-1.1
JKT	Katashina	0.91	324	⇓P	Pn	21 33 28.7	-0.2
JKT				S	Sn	21 33 41.2	+0.3
JOD2	Odawara 2	1.02	222	P	Pn	21 33 30.5	+0.2
JOD2				S	Sn	21 33 42.9	-0.6
JYN	Shimob	1.23	245	P	Pn	21 33 34.4	+1.1
BSO3	Boso 3	1.32	158	⇓P	Pn	21 33 33.9	-0.2
MJAR	Matsushiro Arr	1.47	291	Pn	Pn	21 33 35.8	-0.6
	2.0nm,0.3s,baz=96,slow=14,SNR=105						
MAT	Matsushiro	1.47	291	P	Pn	21 33 36.2	-0.2
MAT				eS	Sn	21 33 55.7	+1.2
JHJ	Hachijo jima 2	2.91	182	Pn	Pn	21 33 55.7	-0.4
	36nm,0.3s,baz=320,slow=22,SNR=32						
JHJ				Sn	Sn	21 34 28.1	-1.6
	16nm,0.3s,baz=285,slow=24,SNR=5.9						
ZALV	Zalesovo Beam	41.71	313	P	P	21 40 56.0	-0.3
	0.6nm,0.5s,baz=97,slow=9.0,SNR=2.4						
MKAR	Makanchi Array	43.64	303	P	P	21 41 11.7	-0.4
	0.2nm,0.7s,baz=84,slow=9.9,SNR=2.8						
KURBB	Kurchatov Arra	45.67	309	P	P	21 41 27.2	-1.1
	0.9nm,0.8s,baz=83,slow=7.7,SNR=8.9						
WRA	Warramunga Arr	55.92	186	P	P	21 42 47.2	+1.6
	0.2nm,0.3s,baz=360,slow=7.6,SNR=6.2						

*IDC **30** 21:42:21.3±1.3, 6°64S×128°26E, h253km±17km, mb2.9/1, mb1 3.2/6, mb1mx2.9/32, mbtmp3.8/6, Error ellipse: s-maj=23.5km s-min=13.2km az=112.0*

ISC 30 21:42:20.8±0.9, 6°78S±0°08×128°4E±0°1, h250km, n6, σ1§88/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata	5.81	234	P	Pn	21 43 48.2	+1.6
	16nm,0.3s,baz=272,slow=1.3,SNR=17						
BATI				S	S	21 44 53.7	-1.4
	2.3nm,0.3s,baz=4.3,slow=20,SNR=2.2						
SIJI	Sorong	6.52	26	P	Pn	21 43 56.9	+1.4
	1.2nm,0.3s,baz=225,slow=23,SNR=6.8						
SIJI				S	S	21 45 09.4	-2.0
	0.7nm,0.3s,baz=257,slow=23,SNR=1.4						
FITZ	Fitzroy Crossi	11.57	193	P	P	21 45 01.9	-0.7
	0.2nm,0.3s,baz=31,slow=11,SNR=5.7						
WRA	Warramunga Arr	14.29	157	P	P	21 45 33.9	+1.0
	0.2nm,0.3s,baz=332,slow=12,SNR=12						
WRA				S	S	21 48 08.8	-2.0
	0.1nm,0.3s,baz=336,slow=21,SNR=3.6						
ASAR	Alice Springs	17.60	163	P	P	21 46 11.2	+2.0
	0.4nm,0.3s,baz=343,slow=11,SNR=30						
MKAR	Makanchi Array	67.19	327	P	P	21 52 47.1	-1.0
	0.2nm,0.5s,baz=116,slow=8.6,SNR=7.5						

*IDC **30** 21:54:36.8±1.9, 5°66S×152°46E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/27, mbtmp3.8/6, ML2.1/1, Error ellipse: s-maj=76.7km s-min=23.3km az=124.0*

ISC 30 21:54:42.6±1.8, 5°7S±0°3×152°5E±0°4, h40km, n7, σ0§87/8, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.39	235	Pn	Pn	21 56 13.9	-0.4
	2.7nm,0.3s,baz=41,slow=9.3,SNR=2.6						
PMG				Sn	Sn	21 57 26.8	+0.6
	2.2nm,0.3s,baz=233,slow=20,SNR=1.3						
WRA	Warramunga Arr	22.58	230	P	P	21 59 39.6	-0.2
	0.4nm,0.5s,baz=53,slow=10.0,SNR=5.0						
ASAR	Alice Springs	25.24	223	P	P	22 00 04.5	-0.6
	1.4nm,0.8s,baz=60,slow=9.2,SNR=14						
FITZ	Fitzroy Crossi	28.92	243	P	P	22 00 39.2	+1.0
	1.3nm,0.6s,baz=84,slow=7.1,SNR=2.3						
SONM	Songino Array	66.91	328	P	P	22 05 30.3	-0.7
	0.3nm,0.5s,baz=144,slow=6.8,SNR=4.2						
ILAR	Eielson Array	83.14	22	P	P	22 07 05.0	+0.9
	0.5nm,0.6s,baz=252,slow=5.0,SNR=6.6						
TORD	Torodi Ar. Bea	150.24	286	PKPbc	PKPbc	22 14 29.9	-0.6
	0.5nm,0.7s,baz=88,slow=3.2,SNR=2.2						

WEL 30 21:57:40.3±0.8, 35°S±12°×18°0E±1°7, h249km±10km, M3.7/22, mB4.1/2, MLv3.7/22, Mw(mB)3.2/2, Error ellipse: s-maj=0.0km s-min=0.0km az=122.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	2.44	205	P	Pn	21 58 26.2	-0.6
MXZ				S	S	21 59 01.7	-1.9
WMGZ	Waiomatatini S	2.64	201	P	Pn	21 58 29.5	+0.7
HAZ	Te Kaha	2.81	211	P	Pn	21 58 29.9	-0.7
HAZ				S	S	21 59 10.3	-0.1
PKGZ	Pakihiroa	2.81	206	P	Pn	21 58 30.7	0.0
PUZ	Puketiti	2.92	202	P	Pn	21 58 31.7	-0.1
PUZ				S	S	21 59 13.7	+1.0
RUGZ	Raukumara Rang	3.03	210	P	Pn	21 58 32.7	-0.4
TWGZ	Tauwhareparae	3.10	205	P	Pn	21 58 35.0	+1.1
TWGZ				S	S	21 59 18.7	+2.4
WHRZ	Whale Island	3.27	220	S	S	21 59 20.0	+0.4
CNGZ	Carnagh Statio	3.31	199	P	Pn	21 58 37.7	+1.5
TKGZ	Te Karaka	3.38	204	P	Pn	21 58 34.9	-1.9
TKGZ				S	S	21 59 23.2	+1.4
MWZ	Matawai	3.41	209	P	Pn	21 58 37.7	+0.4
MWZ				S	S	21 59 23.1	+0.7
URZ	Urewera	3.52	214	P	Pn	21 58 38.3	-0.2
URZ				S	S	21 59 24.3	-0.3
RAGZ	Rawiri	3.59	209	P	Pn	21 58 39.9	+0.5
MUGZ	Murupara	3.86	215	P	Pn	21 58 42.2	-0.1
MUGZ				S	S	21 59 32.2	+0.5
RTZ	Ruatahuna	3.87	212	P	Pn	21 58 42.0	-0.6
RTZ				S	S	21 59 32.2	+0.1
MHGZ	Mahia Peninsul	4.02	199	P	Pn	21 58 45.6	+1.3
MHGZ				S	S	21 59 33.3	-1.9
RAHZ	Arahi	4.08	209	P	Pn	21 58 45.3	+0.3
RAHZ				S	S	21 59 38.1	+1.6
MTHZ	Maungataniwha	4.13	212	P	Pn	21 58 45.6	0.0
ARHZ	Aropaoanui	4.42	207	P	Pn	21 58 49.4	+0.5
ARHZ				S	S	21 59 46.2	+2.6
BKZ	Black Stump Fm	4.54	212	P	Pn	21 58 50.4	-0.1
BKZ				S	S	21 59 47.1	+0.7
KWHZ	Kaweka Forest	4.79	211	P	Pn	21 58 53.4	-0.1
KWHZ				S	S	21 59 52.2	+0.5
TMVZ	Te Maari	4.88	219	P	Pn	21 58 54.7	+0.1
KAHZ	Kahuranaki	4.93	205	P	Pn	21 58 55.5	+0.3
OTVZ	Oturere	4.93	219	P	Pn	21 58 55.4	0.0
KRHZ	Kereru	4.99	210	P	Pn	21 58 55.2	-0.7
KRHZ				S	S	21 59 56.8	+0.5
BHHZ	Black Hill Sta	5.00	213	P	Pn	21 58 55.9	-0.2
BHHZ				S	S	21 59 57.0	+0.5
PNHZ	Pukenui	5.29	210	P	Pn	21 58 58.5	-1.1
PNHZ				S	S	22 00 02.8	-0.1
BFZ	Birch Farm	5.94	206	P	Pn	21 59 07.4	-0.2
BFZ				S	S	22 00 15.3	-2.1
TIWZ	Tintock	6.16	207	P	Pn	21 59 10.3	0.0
TIWZ				S	S	22 00 22.4	+0.1

TAP 30 22:02:24.0, 24°86N×122°00E, h7km±1km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	Santiao Chiao	0.15	358	P	Pg	22 02 27.8	+0.8
TWB1				S	Sg	22 02 30.2	+1.0
TIPB	Shuangxi	0.19	306	P	Pg	22 02 29.1	+1.2
	baz=305						
TIPB				S	Sg	22 02 32.2	+1.8
	baz=305						
TWC	Suao	0.28	208	eP	Pb	22 02 31.2	-0.2
	baz=206						
TWC				eS	Sb	22 02 36.0	-0.3
	baz=206						
WFSB	Wu-fen Shan	0.28	317	eP	Pg	22 02 28.4	-1.2
	baz=317						
WFSB				eS	Sb	22 02 35.8	-0.6
	baz=317						
TWE	Neicheng	0.33	245	P	Pb	22 02 31.4	-0.8
	baz=243						
NDS	Dongshan	0.34	228	eP	Pb	22 02 32.4	+0.1
	baz=228						
NDS				eS	Sb	22 02 38.0	0.0
	baz=228						
ENTT	Nioudou	0.45	241	eP	Pb	22 02 33.6	-0.6
	baz=239						
ENTT				eS	Sg	22 02 39.6	+1.0
	baz=239						
YM01	YM01	0.48	306	eP	Pb	22 02 34.1	-0.7
	baz=306						
YM01				eS	Sb	22 02 41.4	-0.6
	baz=306						
YM11	YM11	0.49	309	eP	Pb	22 02 35.4	+0.5
	baz=308						
ENA	Nanau	0.49	208	eP	Pb	22 02 35.4	+0.5
	baz=207						
ENA				eS	Sb	22 02 41.8	-0.5
	baz=207						
YM08	YM08	0.49	312	eP	Pb	22 02 35.0	0.0
	baz=311						
YM10	YM10	0.49	307	eP	Pb	22 02 35.3	+0.3
	baz=306						
YM10				eS	Sb	22 02 42.1	-0.4
	baz=306						
YM05	YM05	0.49	308	eP	Pb	22 02 35.2	+0.2
	baz=307						
NDT	Datong Townshi	0.51	240	eP	Pb	22 02 34.9	-0.4
	baz=239						
NDT				eS	Sb	22 02 41.7	-1.2
	baz=239						
YM04	YM04	0.51	305	eP	Pb	22 02 35.3	+0.1
	baz=305						
YHNB	Yeheng	0.59	251	eP	Pg	22 02 36.0	+0.5
	baz=251						
YHNB				eS	Sg	22 02 43.2	-0.1
	baz=251						
NSK	Sanguang	0.61	252	eP	Pb	22 02 36.4	-0.6
	baz=251						
NSK				eS	Sb	22 02 46.0	+0.3
	baz=251						
NNS	Nan Shan	0.70	234	eS	Sb	22 02 48.2	-0.4
	baz=232						
NNSB	Datong	0.70	232	eP	Pn	22 02 39.7	-0.7
	baz=232						
NNSB				eS	Sb	22 02 48.5	-0.1
	baz=232						
NACB	Ninganchiao	0.78	208	eP	Pn	22 02 40.9	-0.5
	baz=208						
NACB				eS	Sb	22 02 50.2	-0.4
	baz=208						
ETLH	Xiulin Townshi	0.80	216	eP	Pb	22 02 39.9	-0.4
	baz=215						
ETLH				eS	Sb	22 02 51.9	+0.6
	baz=215						
WHF	Hehuan Shan	0.97	223	eP	Pn	22 02 45.5	+1.0
	baz=222						

TAP 30 22:02:43.5, 24°09N×120°94E, h13km, ML1.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WCS	Beigang Elemen	0.04	216	eP	Pg	22 02 46.4	+0.5
	baz=215						
WCS				eS	Sg	22 02 48.3	+0.8
	baz=215						
WPL	Puli Township	0.08	167	eP	Pg	22 02 46.8	+0.6
	baz=171						
WPL				eS	Sg	22 02 49.0	+0.8
	baz=171						
WHP	Taichung City	0.19	2	eP	Pb	22 02 48.5	-0.5
	baz=2.0						
WHP				eS	Sb	22 02 52.1	-0.5
	baz=2.0						
TYC	Yuchr	0.20	202	P	Pg	22 02 48.5	+0.6
	baz=198						
TYC				S	Sg	22 02 51.4	+0.5
	baz=198						
SMLT	Sun Moon Lake	0.21	189	P	Pb	22 02 48.8	-0.5
	baz=187						
SMLT				eS	Sb	22 02 53.0	-0.1
	baz=187						
CHGB	Renai	0.22	97	eP	Pb	22 02 49.5	-0.1
	baz=97						
CHGB				eS	Sg	22 02 52.5	+0.8
	baz=97						
TDCB	Techi	0.26	51	eP	Pb	22 02 49.9	-0.4
	baz=51						
TDCB				eS	Sg	22 02 53.5	+0.7
	baz=51						
TWT	Tachien	0.27	53	eS	Sg	22 02 54.0	+0.8
	baz=52						
TWQ1	Liyutan	0.30	330	eP	Pb	22 02 50.3	-0.5
	baz=329						
TWQ1				eS	Sb	22 02 55.4	-0.4
	baz=329						
SSLB	Suanglung	0.30	177	eP	Pg	22 02 49.9	+0.1
	baz=177						
SSLB				eS	Sb	22 02 55.7	-0.1
	baz=177						
WHF	Hehuan Shan	0.30	79	eP	Pb	22 02 51.3	+0.1
	baz=80						
WHF				eS	Sb	22 02 56.6	+0.3
	baz=80						
WHF	Hehuan Shan	0.30	79	eS	Sb	22 02 56.5	+0.3
	baz=222						
FUSS	Fushou	0.32	61	eP	Pg	22 02 50.8	+0.5
	baz=60						
VWDT	VWDT	0.38	151	eP	Pb	22 02 52.4	+0.1
	baz=150						
VWDT				eS	Sb	22 02 57.5	-0.6
	baz=150						
CHN5	Tsauling	0.54	206	P	Pb	22 02 54.9	-0.1
	baz=205						
CHN5				S	Sb	22 03 03.3	+0.5
	baz=205						
LIOB	Emei	0.56	7	eS	Pb	22 02 55.5	+0.2
	baz=256						
LIOB	Emei	0.56	7	eP	Pb	22 02 55.5	+0.2
	baz=7.0						
ALS	Alishan	0.59	192	eP	Pb	22 02 56.0	+0.1
	baz=191						
NACB	Ninganchiao	0.61	82	eP	Pb	22 02 56.1	+0.1
	baz=82						
YULB	Yu-li	0.77	154	eP	Pb	22 02 59.1	+0.3
	baz=154						
YULB				eS	Sb	22 03 09.8	+0.6
	baz=154						

IDC 30 22:07:55.9±3.9, 4°20S×151°41E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/30, mbtmp3.5/3, Error ellipse: s-maj=139.0km s-min=51.0km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.84	225	P	P	22 13 01.1	+0.2
	0.4nm,0.5s,baz=50,slow=10,SNR=7.5						
ASAR	Alice Springs	25.69	220	P	P	22 13 27.4	-0.6
	0.4nm,0.5s,baz=52,slow=9.2,SNR=6.9						
FITZ	Fitzroy Crossi	28.75	239	P	P	22 13 55.8	+0.4
	0.5nm,0.3s,baz=59,slow=12,SNR=1.6						
TORD	Torodi Ar. Bea	148.80	288	PKPbc	PKPbc	22 27 46.1	-0.5
	0.5nm,0.8s,baz=89,slow=2.6,SNR=1.9						

*NEIC **30** 22:13:36.5±2.1, 21°7S±0°2×178°0W±0°1, h384km±16km, mb4.2/28, Error ellipse: s-maj=22.4km s-min=17.4km az=180.0*

*IDC **30** 22:13:38.4±5.0, 21°54S×178°02W, h406km±37km, mb3.8/5, mb1 3.8/6, mb1mx3.3/30, mbtmp4.5/6, Error ellipse: s-maj=69.9km s-min=27.9km az=135.0*

ISC 30 22:13:37.4±0.8, 21°6S±0°1×177°9W±0°1, h400km, n40, σ1§24/40, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	5.39	314	P	Pn	22 15 03.7	+0.1
	3.9nm,0.3s,baz=138,slow=22,SNR=9.9						
NIUE	Niue	7.90	73		P	22 15 31.8	+0.1
BKZ	Black Stump Fm	18.18	194	P	P	22 17 21.4	-2.4
BKZ				IAmb	IAmb	22 17 38.1	
	comp=Z,16nnn,1.5s						
BFZ	Birch Farm	19.68	193	P	P	22 17 35.9	-2.9

PLWZ	**Palliser**	**20.75**	**195**		**P**	**22 17 46.0**	**-2.6**
QRZ	**Quartz Range**	**20.83**	**201**	P	**P**	**22 17 47.9**	**-1.4**
THZ	**Tophouse**	**21.57**	**199**		**P**	**22 17 55.3**	**-0.8**
THZ				IAmb	IAmb	22 18 05.9	
	comp=Z,11nm,0.9s						
LTZ	**Lake Taylor**	**22.69**	**199**		**P**	**22 18 04.6**	**-1.6**
LTZ				IAmb	IAmb	22 18 06.1	
	comp=Z,17nm,1.2s						
OXZ	**Oxford**	**23.25**	**199**	P	**P**	**22 18 09.3**	**-2.0**
RPZ	**Rata Peaks**	**23.91**	**200**		**P**	**22 18 17.0**	**-0.1**
RPZ				IAmb	IAmb	22 18 17.9	
	comp=Z,14nm,0.9s						
WHZ	**Wether Hill Ro**	**26.87**	**202**	P	**P**	**22 18 45.8**	**+2.3**
EIDS	**Eidsvold**	**28.65**	**256**	P	**P**	**22 19 00.3**	**+0.8**
EIDS				IAmb	IAmb	22 19 12.0	
	comp=Z,7.3nm,1.0s						
ARMA	**Armidale**	**28.68**	**246**	P	**P**	**22 19 00.7**	**+0.9**
ARMA				IAmb	IAmb	22 19 16.2	
	comp=Z,16nm,1.2s						
CTA	**Charters Tower**	**33.47**	**266**	P	**P**	**22 19 41.4**	**0.0**
	comp=Z,5.1nm,0.7s,baz=99,slow=13,SNR=5.1						
CTAO	**Charters Tower**	**33.47**	**266**	P	**P**	**22 19 42.4**	**+1.0**
TOO	**Toolangi**	**35.34**	**235**	P	**P**	**22 19 56.8**	**-0.1**
TOO				IAmb	IAmb	22 19 57.6	
	comp=Z,4.7nm,0.7s						
STKA	**Stephens Creek**	**37.40**	**245**	P	**P**	**22 20 14.4**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=89,slow=10,SNR=15						
STKA	**Stephens Creek**	**37.40**	**245**	P	**P**	**22 20 14.8**	**+0.6**
COEN	**Coen**	**37.74**	**275**	P	**P**	**22 20 18.8**	**+1.5**
BBOO	**Buckleboo**	**42.15**	**245**	P	**P**	**22 20 51.7**	**-1.1**
BBOO				IAmb	IAmb	22 21 02.5	
	comp=Z,25nm,1.4s						
WR0	**Warramunga Arr**	**44.35**	**263**	P	**P**	**22 21 10.3**	**0.0**
AS31	**Alice Springs**	**44.36**	**258**	P	**P**	**22 21 11.2**	**+0.8**
ASAR	**Alice Springs**	**44.36**	**258**	P	**P**	**22 21 09.3**	**-1.1**
	comp=Z,6.9nm,0.8s,baz=90,slow=7.9,SNR=18						
ASAR	**Alice Springs**	**44.36**	**258**	P	**P**	**22 21 09.7**	**-0.7**
JAY	**Jayapura**	**44.46**	**289**	P	**P**	**22 21 11.2**	**-0.1**
	comp=Z,8.7nm,0.5s,baz=98,slow=3.4,SNR=4.7						
WB0	**Warramunga Arr**	**44.52**	**263**	P	**P**	**22 21 11.4**	**-0.2**
WB0				IAmb	IAmb	22 21 11.8	
	comp=Z,10nm,0.8s						
WB2	**Warramunga Arr**	**44.53**	**263**	P	**P**	**22 21 11.6**	**-0.1**
WB2				IAmb	IAmb	22 21 11.9	
	comp=Z,8.4nm,0.8s						
WRAB	**Tennant Creek**	**44.53**	**263**	P	**P**	**22 21 12.9**	**+1.1**
WRA	**Warramunga Arr**	**44.54**	**263**	P	**P**	**22 21 11.2**	**-0.7**
	comp=Z,3.8nm,0.8s,baz=98,slow=7.4,SNR=9.8						
WRA	**Warramunga Arr**	**44.54**	**263**	P	**P**	**22 21 11.0**	**-0.8**
FORT	**Forrest**	**48.95**	**247**	P	**P**	**22 21 44.3**	**-1.0**
FORT				IAmb	IAmb	22 21 46.0	
	comp=Z,14nm,0.9s						
SBA	**Scott Base**	**56.81**	**184**	P	**P**	**22 22 43.5**	**+2.3**
VNDA	**Vanda**	**56.85**	**185**	P	**P**	**22 22 43.0**	**+1.4**
PSA00	**Pilbara Seismi**	**57.51**	**258**	P	**P**	**22 22 46.6**	**-0.4**
PSA00				IAmb	IAmb	22 22 47.2	
	comp=Z,7.2nm,0.8s						
MORW	**Morawa**	**59.50**	**248**	P	**P**	**22 23 00.0**	**-0.4**
MORW				IAmb	IAmb	22 23 19.9	
	comp=Z,7.5nm,0.9s						
JAGI	**Jajag, Banyuwa**	**66.45**	**270**	P	**P**	**22 23 45.6**	**-0.3**
QSPA	**South Pole Qui**	**68.50**	**180**	P	**P**	**22 23 58.5**	**+0.7**
QSPA				IAmb	IAmb	22 23 59.1	
	comp=Z,3.5nm,0.9s						
ARCES	**ARCESS Array B**	**129.98**	**349**	PKP	**PKiKP**	**22 31 59.6**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=358,slow=3.6,SNR=5.8						
AKASG	**Malin Array Be**	**143.98**	**330**	PKP	**PKPdf**	**22 32 25.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=41,slow=4.5,SNR=5.4						
GERES	**GERESS Array B**	**151.25**	**344**	PKPbc	**PKiKP**	**22 32 44.2**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=40,slow=1.7,SNR=4.8						

*IDC **30** 22:15:12.8±1.8,5.57S×153.02E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/31, mbtmp4.1/10, ML2.1/1, MS3.4/10, Ms1 3.4/10, ms1mx3.2/35, Error ellipse: s-maj=59.8km s-min=19.1km az=122.0*

*NEIC **30** 22:15:15.2±2.4,5°.49S±0°.06×153°.0E±0°.1, h10km±1km, mb4.2/9, Error ellipse: s-maj=24.1km s-min=9.6km az=95.0*

ISC 30 22:15:18.9±1.0,**5°.52S**±0°.10×**153°.0E**±0°.2,**h37**km,**n34**, σ0**86**/30,**mb4.0**/11,**MS3.5**/9,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.55**	**329**		**Pn**	**22 15 43.7**	**-0.2**
PMG	**Port Moresby**	**6.93**	**236**	Pn	**Pn**	**22 16 57.3**	**-0.7**
	2.1nm,0.3s,baz=347,slow=8.9,SNR=4.2						
PMG				Sn	**Sn**	**22 18 15.5**	**-0.2**
	4.2nm,0.3s,baz=288,slow=22,SNR=9.4						
PMG				LR	LR	22 19 38.9	
	comp=Z,227nm,21.6s,baz=278,slow=38						
PMG	**Port Moresby**	**6.93**	**236**	Pn	**Pn**	**22 16 59.0**	**+1.1**
EIDS	**Eidsvold**	**19.82**	**185**	P	**P**	**22 19 46.5**	**+0.1**
EIDS				IAmb	IAmb	22 19 53.0	
	comp=Z,16nm,1.1s						
DZM	**Mont Dzumac**	**20.99**	**143**	LR	LR	22 26 58.3	
	comp=Z,171nm,18.2s,baz=264,slow=34						
MTN	**Manton Dam**	**22.73**	**250**	P	**P**	**22 20 19.5**	**+1.5**
WB0	**Warramunga Arr**	**22.96**	**230**	P	**P**	**22 20 21.4**	**+1.1**
WB0				IAmb	IAmb	22 20 23.4	
	comp=Z,15nm,1.3s						
WR0	**Warramunga Arr**	**22.96**	**230**	P	**P**	**22 20 19.2**	**-1.1**
WB2	**Warramunga Arr**	**23.09**	**230**	P	**P**	**22 20 21.4**	**-0.3**
WB2				IAmb	IAmb	22 20 31.8	
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**23.10**	**230**	P	**P**	**22 20 20.6**	**-1.2**
	comp=Z,4.2nm,1.0s,baz=55,slow=10,SNR=10						
WRA				LR	LR	22 30 06.3	
	comp=Z,161nm,20.6s,baz=45,slow=39						
WRA	**Warramunga Arr**	**23.10**	**230**	P	**P**	**22 20 21.7**	**0.0**
AS31	**Alice Springs**	**25.73**	**224**	P	**P**	**22 20 48.0**	**+1.8**
ASAR	**Alice Springs**	**25.74**	**224**	P	**P**	**22 20 45.8**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=56,slow=8.7,SNR=13						
ASAR				LR	LR	22 30 35.3	
	comp=Z,132nm,18.9s,baz=64,slow=36						
ASAR	**Alice Springs**	**25.74**	**224**	P	**P**	**22 20 45.0**	**-1.2**
STKA	**Stephens Creek**	**28.30**	**201**	LR	LR	22 33 07.6	
	comp=Z,115nm,18.0s,baz=24,slow=38						
FITZ	**Fitzroy Crossi**	**29.47**	**243**	P	**P**	**22 21 18.2**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=66,slow=7.8,SNR=6.2						
FITZ				LR	LR	22 34 12.9	
	comp=Z,82nm,18.8s,baz=72,slow=39						
FITZ	**Fitzroy Crossi**	**29.47**	**243**	P	**P**	**22 21 19.3**	**-0.4**
FITZ				IAmb	IAmb	22 21 29.5	
	comp=Z,3.8nm,0.8s						
MJAR	**Matsushiro Arr**	**44.07**	**343**	LR	LR	22 39 07.8	
	comp=Z,19nm,20.8s,baz=175,slow=32						
KSRS	**Korea Array**	**48.72**	**333**	LR	LR	22 42 37.5	
	comp=Z,17nm,21.4s,baz=234,slow=34						
CMAR	**Chiang Mai Arr**	**58.34**	**296**	P	**P**	**22 25 10.9**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=118,slow=6.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**58.34**	**296**	P	**P**	**22 25 10.6**	**-0.2**
PETK	**Petropavlovsk-**	**58.55**	**3**	P	**P**	**22 25 12.0**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=167,slow=7.1,SNR=6.0						
PETK	**Petropavlovsk-**	**58.55**	**3**	P	**P**	**22 25 12.3**	**+0.7**
SONM	**Songino Array**	**67.02**	**328**	P	**P**	**22 26 08.0**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=151,slow=5.0,SNR=5.9						
SONM	**Songino Array**	**67.02**	**328**	P	**P**	**22 26 09.1**	**+0.7**
SONM				IAmb	IAmb	22 26 10.0	
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**80.98**	**319**	P	**P**	**22 27 30.1**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=90,slow=5.8,SNR=4.3						
IMAR	**Indian Mountai**	**81.01**	**19**	P	**P**	**22 27 30.5**	**+1.0**
ZALV	**Zalesovo Beam**	**81.84**	**326**	P	**P**	**22 27 33.5**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=88,slow=4.7,SNR=5.5						
ZALV				LR	LR	23 06 59.7	
	comp=Z,14nm,18.3s,baz=102,slow=38						
ZALV	**Zalesovo Beam**	**81.84**	**326**	P	**P**	**22 27 33.7**	**-0.5**
ILAR	**Eielson Array**	**82.76**	**22**	P	**P**	**22 27 38.4**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=251,slow=4.8,SNR=6.0						
ILAR	**Eielson Array**	**82.76**	**22**	P	**P**	**22 27 38.9**	**+0.1**
PDAR	**Pinedale Array**	**99.21**	**48**	LR	LR	23 07 16.3	
	comp=Z,29nm,18.6s,baz=302,slow=32						
TORD	**Torodi Ar. Bea**	**150.68**	**287**	PKPbc	**PKPbc**	**22 35 07.4**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=96,slow=4.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**150.68**	**287**		**PKPbc**	**22 35 07.2**	**-1.0**

IDC 30 22:43:29.4±2.0,**8°.19S×126°.45E, h0km, mb3.1**/1, **mb1 3.3**/3,**mb1mx3.1**/40,**mbtmp3.1**/3,**ML3.4**/1,**Error ellipse: s-maj=279.0km s-min=33.4km az=61.0,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.96**	**148**	Pn	Pn	22 46 48.3	-0.4
	0.2nm,0.3s,baz=324,slow=14,SNR=6.8						
WRA				Sn	Sn	22 49 09.3	-15
	0.4nm,0.3s,baz=335,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**16.97**	**156**	Pn	Pn	22 47 28.8	+0.4
	baz=339,slow=9.2,SNR=1.8						
MKAR	**Makanchi Array**	**67.34**	**329**	P	P	22 54 26.3	0.0
	0.1nm,0.5s,baz=118,slow=7.6,SNR=4.4						

*IDC **30** 23:16:57.8±8.2, 12°.20N×145°.88E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/48, mbtmp3.7/6, Error ellipse: s-maj=257.6km s-min=60.4km az=6.0*

ISC 30 23:17:03.9±7.2,**12°.1N**±2°×**145°.8E**±0°.4,**h35**km,**n6**,σ0**68**/6, **mb3.9**/6,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**48.28**	**325**	P	**P**	**23 25 41.6**	**-0.2**
	0.3nm,0.6s,baz=134,slow=6.7,SNR=3.3						
MKAR	**Makanchi Array**	**63.03**	**316**	P	**P**	**23 27 28.3**	**+0.7**
	0.5nm,0.5s,baz=91,slow=8.3,SNR=21						
KURBB	**Kurchatov Arra**	**66.17**	**320**	P	**P**	**23 27 47.9**	**-0.1**
	0.9nm,0.5s,baz=102,slow=7.2,SNR=12						
BVAR	**Borovoye Array**	**71.48**	**322**	P	**P**	**23 28 21.3**	**+0.3**
	0.9nm,0.7s,baz=112,slow=3.9,SNR=7.9						
YKA	**Yellowknife Ar**	**83.52**	**27**	P	**P**	**23 29 28.3**	**+0.3**
	0.1nm,0.6s,baz=289,slow=4.9,SNR=1.9						
FINES	**FINESS Array B**	**92.68**	**335**	P	**P**	**23 30 11.2**	**-0.8**
	1.3nm,0.7s,baz=83,slow=5.9,SNR=5.2						

IDC 30 23:29:19.1±3.8,**6°.48S×149°.64E, h0km, mb3.5**/2, **mb1 3.9**/4,**mb1mx3.6**/33,**mbtmp3.8**/4,**ML4.1**/1,**Error ellipse: s-maj=102.3km s-min=46.0km az=115.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.81**	**220**	Pn	Pn	23 30 19.8	+0.7
	5.6nm,0.3s,baz=38,slow=10,SNR=6.9						
PMG				Sn	Sn	23 31 05.9	+1.3
	18nm,0.3s,baz=168,slow=23,SNR=12						
WRA	**Warramunga Arr**	**20.00**	**227**	P	P	23 33 52.8	-0.7
	0.5nm,0.3s,baz=52,slow=11,SNR=19						
ASAR	**Alice Springs**	**22.82**	**220**	P	P	23 34 23.4	-0.6
	0.9nm,0.6s,baz=51,slow=9.6,SNR=11						
FITZ	**Fitzroy Crossi**	**26.10**	**242**	P	P	23 34 55.9	+1.0
	1.0nm,0.7s,baz=70,slow=15,SNR=1.8						
TORD	**Torodi Ar. Bea**	**147.76**	**284**	PKPbc	PKPbc	23 49 06.3	-0.8
	0.6nm,0.8s,baz=75,slow=3.8,SNR=2.3						

*IDC **30** 23:49:06.9±0.6,60°.31S×46°.53W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.3/31, mbtmp4.4/14, ML4.3/1, MS3.4/8, Ms1 3.4/8, ms1mx3.3/22, Error ellipse: s-maj=20.5km s-min=14.8km az=53.0*

*NEIC **30** 23:49:09.4±1.4, 60°.23S±0°.08×46°.6W±0°.2, h10km±1km, mb4.7/27, Error ellipse: s-maj=15.9km s-min=12.0km az=128.0*

ISC 30 23:49:09.2±0.4,**60°.21S**±0°.07×**46°.65W**±0°.09,**h10**km,**n67**, σ1**54**/58,**mb4.6**/23,**MS3.3**/7,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.10**	**47**		**Pn**	**23 51 06.3**	**-0.4**
PMSA	**Palmer Station**	**9.24**	**233**	Pn	**Pn**	**23 51 21.2**	**-1.1**
	3.0nm,0.3s,baz=60,slow=10,SNR=8.6						
PMSA				LR	LR	23 55 02.6	
	comp=Z,301nm,21.6s,baz=32,slow=38						
PMSA	**Palmer Station**	**9.24**	**233**	Pn	**Pn**	**23 51 21.9**	**-0.4**
EFI	**East Falkland**	**10.67**	**318**	Pn	**Pn**	**23 51 42.4**	**+0.5**
BELA	**Belgrano 2**	**18.18**	**172**		**Pn**	**23 53 22.0**	**+0.8**
VNA3	**Neumayer Olymp**	**18.40**	**142**	P	**Pn**	**23 53 24.6**	**+0.6**
VNA1	**Neumayer--Stat**	**18.68**	**140**	P	**Pn**	**23 53 30.3**	**+3.0**
VNA2	**Neumayer--Watz**	**19.02**	**140**	P	**P**	**23 53 31.4**	**+0.5**
	baz=292,slow=12						
SNAA	**Sanae**	**20.62**	**142**	P	Pn	23 53 52.0	+1.4
SNAA	**Sanae**	**20.62**	**142**	P	**P**	**23 53 48.0**	**-0.4**
	16nm,0.8s,baz=289,slow=8.5,SNR=24						
SNAA				LR	LR	00 00 14.7	
	comp=Z,106nm,20.5s,baz=49,slow=33						
SNAA	**Sanae**	**20.62**	**142**	P	Pn	23 53 51.4	+0.8
SNAA				IAmb	IAmb	23 53 53.1	
	comp=Z,22nm,0.9s						
PLCA	**Paso Flores**	**24.48**	**312**	P	**P**	**23 54 29.6**	**+1.3**
	comp=Z,6.1nm,0.7s,baz=168,slow=7.6,SNR=10.0						
PLCA				LR	LR	00 03 32.6	
	comp=Z,152nm,19.3s,baz=168,slow=35						
PLCA	**Paso Flores**	**24.48**	**312**	P	**P**	**23 54 28.9**	**+0.6**
PLCA				IAmb	IAmb	23 54 33.7	
	comp=Z,17nm,1.2s						
QSPA	**South Pole Qui**	**30.02**	**180**	P	**P**	**23 55 18.3**	**+0.3**
QSPA				IAmb	IAmb	23 55 19.1	
	comp=Z,21nm,1.0s						
MT02	**Curacav**	**31.39**	**318**	P	**P**	**23 55 29.7**	**-0.4**
VA03	**San Esteban**	**31.65**	**319**	P	**P**	**23 55 32.9**	**+0.5**
VA03				IAmb	IAmb	23 55 52.4	
	comp=Z,9.5nm,0.8s						
CO02	**Combarbal**	**33.23**	**320**	P	**P**	**23 55 47.1**	**+0.7**
CO03	**El Pedgal**	**33.47**	**321**	P	**P**	**23 55 48.5**	**+0.1**
GO04	**Tololo Observa**	**34.12**	**321**	P	**P**	**23 55 54.1**	**-0.1**
CPUP	**Villa Florida**	**34.66**	**343**	P	**P**	**23 55 59.3**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=178,slow=8.2,SNR=6.4						
CPUP				LR	LR	00 09 01.5	
	comp=Z,64nm,21.0s,baz=172,slow=34						
CPUP	**Villa Florida**	**34.66**	**343**	P	**P**	**23 55 59.5**	**+0.9**
AC04	**Llanos de Chal**	**36.04**	**322**	P	**P**	**23 56 10.9**	**+0.4**
GO03	**Copiap**	**36.36**	**323**	P	**P**	**23 56 13.0**	**-0.3**
GO03				IAmb	IAmb	23 56 13.8	
	comp=Z,9.3nm,0.8s						
AC02	**Maricunga**	**36.75**	**325**	P	**P**	**23 56 16.8**	**-0.3**
AC02				IAmb	IAmb	23 56 27.5	
	comp=Z,14nm,1.3s						
AC01	**Pan de Azucar**	**37.82**	**323**	P	**P**	**23 56 24.7**	**-1.0**
AC01				IAmb	IAmb	23 56 34.5	
	comp=Z,15nm,1.0s						
GO02	**Mina Guanaco**	**38.46**	**325**	P	**P**	**23 56 31.7**	**+0.3**
SBA	**Scott Base**	**40.67**	**190**	P	**P**	**23 56 49.2**	**+0.4**
VNDA	**Vanda**	**41.39**	**189**	P	**P**	**23 56 55.1**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=143,slow=15,SNR=4.1						
VNDA				LR	LR	00 14 11.8	
	comp=Z,60nm,18.0s,baz=200,slow=36						
PB09	**IPOC Station P**	**41.56**	**327**	P	**P**	**23 56 58.2**	**+1.2**
PB09				IAmb	IAmb	23 57 17.0	
	comp=Z,9.9nm,1.1s						
PB07	**IPOC Station P**	**41.80**	**327**	P	**P**	**23 56 58.5**	**-0.5**
PB07				IAmb	IAmb	23 57 09.8	
	comp=Z,21nm,1.5s						
MAW	**Mawson**	**42.58**	**148**	LR	LR	00 13 16.1	
	comp=Z,160nm,20.4s,baz=238,slow=34						
MNMC	**Minye Minye**	**44.20**	**328**	P	**P**	**23 57 19.4**	**+0.9**
MNMC				IAmb	IAmb	23 57 20.8	
	comp=Z,9.1nm,0.7s						
BDFB	**Brasilia**	**44.52**	**358**	P	**P**	**23 57 21.1**	**+0.2**
	comp=Z,4.0nm,0.7s,baz=174,slow=6.3,SNR=7.0						
BDFB	**Brasilia**	**44.52**	**358**	IAmb	IAmb	23 57 25.2	
	comp=Z,12nm,1.3s						
SIV	**San Ignacio**	**45.39**	**340**	P	**P**	**23 57 28.3**	**+0.6**
	comp=Z,4.3nm,0.5s,baz=178,slow=7.1,SNR=27						
LPAZ	**La Paz**	**46.55**	**331**	P	**P**	**23 57 37.9**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=179,slow=9.3,SNR=8.4						
LPAZ				LR	LR	00 20 24.0	
	comp=Z,16nm,19.1s,baz=174,slow=40						
LPAZ	**La Paz**	**46.55**	**331**	P	**P**	**23 57 38.1**	**+0.5**
SUR	**Sutherland**	**51.41**	**89**	P	**P**	**23 58 13.7**	**-0.6**
	comp=Z,6.2nm,0.6s,baz=206,slow=8.8,SNR=12						
SAML	**Samuel**	**52.64**	**339**	P	**P**	**23 58 23.9**	**+0.6**
SAML				IAmb	IAmb	23 58 24.4	
	comp=Z,4.1nm,0.6s						
NNA	**Nana**	**53.05**	**322**	LR	LR	00 19 53.0	
	comp=Z,16nm,19.7s,baz=151,slow=35						
BOSA	**Boshof**	**56.69**	**90**	P	**P**	**23 58 52.0**	**-0.8**
	comp=Z,6.9nm,0.9s,baz=218,slow=7.9,SNR=13						
BOSA	**Boshof**	**56.69**	**90**	P	**P**	**23 58 52.5**	**-0.3**
BOSA				IAmb	IAmb	23 58 52.5	
	comp=Z,6.9nm,0.8s						
H10N3	**ASCENSION HYDR**	**57.57**	**39**	T	T	01 01 46.2	
	baz=199,slow=75,SNR=36						
H10N1	**ASCENSION HYDR**	**57.57**	**39**	T	T	01 01 46.9	
	baz=199,slow=75,SNR=28						
H10N2	**ASCENSION HYDR**	**57.59**	**39**	T	T	01 01 47.9	
	baz=199,slow=75,SNR=28						
LBTB	**Lobatse**	**59.84**	**88**	P	**P**	**23 59 14.2**	**-0.6**
	comp=Z,8.6nm,0.7s,baz=210,slow=7.2,SNR=18						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**59.84**	**88**	P	**P**	**23 59 14.5**	**-0.3**
PTGA	**Pitinga**	**60.21**	**345**	P	**P**	**23 59 17.8**	**+0.5**
PTGA				IAmb	IAmb	23 59 24.9	
	comp=Z,14nm,1.4s						
DBIC	**Dimbokro**	**74.35**	**43**	P	**P**	**00 00 46.1**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=206,slow=3.4,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**82.68**	**47**	P	**P**	**00 01 33.4**	**+0.7**
TOA0				IAmb	IAmb	00 01 33.9	
	comp=Z,3.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**82.68**	**47**	P	**P**	**00 01 32.4**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=211,slow=5.3,SNR=11						
TORD	**Torodi Ar. Bea**	**82.68**	**47**	P	**P**	**00 01 32.9**	**+0.1**
ASAR	**Alice Springs**	**96.43**	**181**	P	P	00 02 35.8	-2.6
	comp=Z,1.0nm,0.8s,baz=161,slow=4.0,SNR=8.6						
WRA	**Warramunga Arr**	**100.13**	**181**	P	**Pdif**	**00 02 52.4**	**-2.7**
	comp=Z,0.8nm,0.7s,baz=182,slow=4.1,SNR=5.1						
GERES	**GERESS Array B**	**119.16**	**41**	PKP	**PKPdf**	**00 07 54.7**	**-2.6**
	comp=Z,0.4nm,0.6s,baz=217,slow=4.2,SNR=3.9						
AKASG	**Malin Array Be**	**126.24**	**50**	PKP	**PKPdf**	**00 08 08.4**	**-2.2**
	comp=Z,1.6nm,0.6s,baz=242,slow=1.5,SNR=7.3						
AKASG	**Malin Array Be**	**126.24**	**50**	PKPdf	**PKPdf**	**00 08 08.6**	**-2.0**
CMAR	**Chiang Mai Arr**	**131.58**	**134**	PKP	**PKPdf**	**00 08 20.6**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=226,slow=3.3,SNR=6.0						
YKA	**Yellowknife Ar**	**132.87**	**324**	PKP	**PKPdf**	**00 08 21.4**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=130,slow=2.4,SNR=19						
FINES	**FINESS Array B**	**133.52**	**39**	PKP	**PKPdf**	**00 08 22.1**	**-2.0**
	comp=Z,2.3nm,0.7s,baz=193,slow=7.4,SNR=6.6						
ARCES	**ARCESS Array B**	**139.22**	**31**	PKiKP	PKPpre	00 08 29.2	
	comp=Z,1.3nm,0.7s,baz=356,slow=1.7,SNR=6.0						
ILAR	**Eielson Array**	**145.17**	**312**	PKPbc	**PKPbc**	**00 08 43.5**	**-1.4**
	comp=Z,4.6nm,0.8s,baz=154,slow=2.6,SNR=42						
ILAR	**Eielson Array**	**145.17**	**312**		**PKPbc**	**00 08 43.1**	**-1.8**
MKAR	**Makanchi Array**	**147.69**	**91**	PKPbc	**PKPdf**	**00 08 50.9**	**+0.8**
	comp=Z,5.1nm,0.6s,baz=240,slow=3.1,SNR=78						
ZALV	**Zalesovo Beam**	**153.42**	**82**	PKPbc	**PKPdf**	**00 09 03.9**	**+5.2**
	comp=Z,1.1nm,0.6s,baz=257,slow=3.6,SNR=6.3						
ZALV				PKPab	**sPKPbc**	**00 09 16.5**	**+6.3**
	comp=Z,0.8nm,0.5s,baz=216,slow=5.4,SNR=3.7						
KSRS	**Korea Array**	**156.96**	**169**	PKPab	**PKPab**	**00 09 33.0**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=180,slow=3.5,SNR=2.6						
SONM	**Songino Array**	**160.07**	**116**	PKPab	**PKPab**	**00 09 46.4**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=219,slow=5.1,SNR=6.9						

*GCG **31** 00:03:24.6±0.4, 13°.69N×91°.29W, h3km±11km, MD3.7*
*SNET **31** 00:03:26.6±1.6, 13°.89N×91°.32W, h35km±673km, ML3.7*

ISC 31 00:03:25.4±2.6,**13°.7N**±0°.1×**91°.28W**±0°.10,**h11**km±18km, **n17**,σ0**81**/22,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.76**	**339**	*eP*	**Pg**	**00 03 40.1**	**0.0**
FUG	**Fuego 3**	**0.83**	**31**	*eP*	**Pg**	**00 03 41.7**	**+0.1**
PCG	**Pacaya**	**0.93**	**45**	*eP*	**Pb**	**00 03 43.7**	**0.0**
NBG	**Las Nubes**	**1.25**	**47**	*eP*	**Pg**	**00 03 49.0**	**-0.4**
NBG				*eS*	**Sb**	**00 04 06.7**	**+1.3**
RTR	**El Retiro**	**1.60**	**84**	*eP*	**Pn**	**00 03 53.4**	**-0.4**
RTR				*eS*	**Sn**	**00 04 15.0**	**+0.4**
CEVE	**Cerro Verde**	**1.62**	**86**	*eP*	**Pn**	**00 03 53.5**	**-0.6**
CEVE				IAML		00 04 24.1	
	comp=Z,2μm,0.3s						
SNJE	**San Jose**	**1.64**	**85**	*eP*	**Pn**	**00 03 53.5**	**-0.8**
UNIC	**Universidad Ca**	**1.71**	**81**	*eP*	**Pn**	**00 03 54.6**	**-0.5**
UNIC				IAML		00 03 55.4	
	comp=Z,262nm,0.1s						
UNIC				*eS*	**Sn**	**00

2.0nm,0.3s,baz=58,slow=5.8,SNR=5.7
PMG Sn **Sn** **00 56 35.1 +1.5**
3.4nm,0.3s,baz=258,slow=11,SNR=1.9
DZM **Mont Dzumac** **21.41 143** LR LR 01 04 52.7
comp=Z,56nm,20.6s,baz=283,slow=32
WRA **Warramunga Arr** **23.08 229** P **P** **00 58 38.2 -1.4**
1.5nm,0.7s,baz=50,slow=9.8,SNR=12
WRA LR LR 01 08 03.9
comp=Z,64nm,18.9s,baz=5.0,slow=38
ASAR **Alice Springs** **25.76 223** P **P** **00 59 05.2 +1.0**
1.6nm,0.5s,baz=59,slow=8.6,SNR=19
FITZ **Fitzroy Crossi** **29.35 242** P **P** **00 59 35.9 -0.5**
1.1nm,0.5s,baz=48,slow=7.1,SNR=5.1
PETK **Petropavlovsk-** **58.26 4** P **P** **01 03 26.3 -1.0**
0.8nm,0.4s,baz=162,slow=7.1,SNR=4.7
SONM **Songino Array** **66.61 328** P **P** **01 04 23.8 +0.5**
0.3nm,0.5s,baz=139,slow=5.7,SNR=4.4
MKAR **Makanchi Array** **80.56 319** P **P** **01 05 45.4 +0.3**
0.2nm,0.4s,baz=98,slow=7.4,SNR=6.5
ZALV **Zalesovo Beam** **81.43 326** P **P** **01 05 49.5 +0.1**
1.0nm,0.5s,baz=121,slow=6.2,SNR=4.9
ILAR **Eielson Array** **82.59 22** P **P** **01 05 54.9 -0.5**
2.4nm,0.7s,baz=242,slow=5.4,SNR=29
DLBC **Dease Lake** **87.80 31** LR LR 01 42 15.0
comp=Z,59nm,18.1s,baz=296,slow=33
YBH **Yreka Blue Hor** **89.42 48** LR LR 01 38 20.5
comp=Z,32nm,19.7s,baz=346,slow=30
YKA **Yellowknife Ar** **95.85 28** P **P** **01 07 00.0 +1.3**
0.2nm,0.6s,baz=269,slow=4.6,SNR=8.1
GERES **GERESS Array B** **124.34 328** PKP **PKiKP** **01 12 32.0 +0.2**
0.3nm,0.5s,baz=23,slow=5.3,SNR=1.9
TORD **Torodi Ar. Bea** **150.32 287** PKPbc **PKPbc** **01 13 24.6 -0.2**
1.1nm,0.9s,baz=44,slow=3.0,SNR=3.7

IDC 31 00:55:51.5±2.6, 5°51S×128°98E, h324km±41km, mb3.1/1, mb1 3.2/5, mb1mx2.8/38, mbtmp3.9/5, Error ellipse: s-maj=72.1km s-min=15.8km az=84.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
SIJI	**Sorong**	**5.14**	**26**	P	P	Pn	00 57 13.1	+1.3
	4.2nm,0.3s,baz=175,slow=21,SNR=11				S	S	00 58 15.8	-0.6
SIJI	2.8nm,0.3s,baz=259,slow=23,SNR=2.4							
FITZ	**Fitzroy Crossi**	**12.93**	**194**	P	P		00 58 43.5	-1.2
	0.4nm,0.3s,baz=9.9,slow=11,SNR=20							
WRA	**Warramunga Arr**	**15.27**	**160**	P	P		00 59 10.8	+0.4
	0.4nm,0.3s,baz=340,slow=11,SNR=9.2							
ASAR	**Alice Springs**	**18.67**	**166**	P	P		00 59 47.1	0.0
	0.6nm,0.3s,baz=342,slow=11,SNR=15							
MKAR	**Makanchi Array**	**66.42**	**327**	P	P		01 06 06.6	0.0
	0.4nm,0.4s,baz=124,slow=7.5,SNR=11							

IDC 31 00:57:35.0±1.4, 5°77S×150°03E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.7/37, mbtmp3.9/6, ML1.8/1, Error ellipse: s-maj=87.5km s-min=23.3km az=131.0

ISC 31 00:57:41.7±1.3, 6°1S±0°5×150°2E±0°5, h52km, n7, σ1s00/8, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PMG	**Port Moresby**	**4.46**	**221**	Pn	**Pn**	**Pn**	**00 58 45.9**	**-0.8**
	3.4nm,0.3s,baz=316,slow=13,SNR=3.7				S	**Sn**	**00 59 37.7**	**+0.3**
PMG	6.4nm,0.3s,baz=115,slow=17,SNR=4.5							
WRA	**Warramunga Arr**	**20.66**	**227**	P	P		01 02 16.3	-1.0
	4.4nm,0.8s,baz=51,slow=11,SNR=8.9							
ASAR	**Alice Springs**	**23.47**	**220**	P	P		01 02 48.6	+1.7
	1.5nm,0.9s,baz=54,slow=9.3,SNR=5.5							
FITZ	**Fitzroy Crossi**	**26.74**	**241**	P	P		01 03 17.3	+0.6
	0.7nm,0.5s,baz=62,slow=9.8,SNR=1.6							
ILAR	**Eielson Array**	**84.31**	**23**	P	P		01 10 07.8	0.0
	0.7nm,1.0s,baz=227,slow=6.0,SNR=3.7							
NVAR	**Mina Array Bea**	**94.93**	**52**	P	P		01 10 58.8	-0.2
	0.4nm,0.6s,baz=249,slow=5.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**148.13**	**285**	PKPbc	**PKPbc**		01 17 22.9	0.0
	0.8nm,0.5s,baz=61,slow=2.6,SNR=5.8							

IDC 31 01:06:42.1±2.0, 5°05S×152°80E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/35, mbtmp3.7/8, MS2.9/3, Ms1 2.9/3, ms1mx2.7/31, Error ellipse: s-maj=76.3km s-min=21.6km az=120.0

ISC 31 01:06:47.9±1.9, 5°1S±0°3×152°8E±0°3, h43km, n11, σ0s80/10, mb3.6/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PMG	**Port Moresby**	**7.03**	**233**	Sn	**Sn**	**Sn**	**01 09 47.1**	**0.0**
	2.1nm,0.3s,baz=304,slow=8.7,SNR=7.1							
PMG	comp=Z,64nm,19.8s,baz=85,slow=34				LR	LR	01 10 41.5	
HNR	**Honiara**	**8.26**	**121**	LR	LR	LR	01 12 36.9	
	comp=Z,89nm,18.1s,baz=300,slow=43							
WRA	**Warramunga Arr**	**23.23**	**229**	P	**P**		**01 11 51.9**	**+0.4**
	1.9nm,0.9s,baz=51,slow=10,SNR=9.3							
WRA	comp=Z,38nm,21.7s,baz=205,slow=34				LR	LR	01 19 41.9	
ASAR	**Alice Springs**	**25.91**	**223**	P	**P**		**01 12 16.8**	**+0.6**
	0.6nm,0.7s,baz=53,slow=8.6,SNR=5.4							
FITZ	**Fitzroy Crossi**	**29.51**	**242**	P	**P**		**01 12 47.4**	**-1.0**
	0.8nm,0.4s,baz=76,slow=8.3,SNR=1.9							
PETK	**Petropavlovsk-**	**58.18**	**3**	P	**P**		**01 16 37.7**	**+0.3**
	1.5nm,0.7s,baz=170,slow=6.1,SNR=4.1							
SONM	**Songino Array**	**66.62**	**328**	P	**P**		**01 17 34.6**	**+0.5**
	0.3nm,0.6s,baz=143,slow=7.3,SNR=3.1							
MKAR	**Makanchi Array**	**80.59**	**319**	P	**P**		**01 18 56.2**	**+0.2**
	0.3nm,0.6s,baz=110,slow=5.2,SNR=5.9							
ZALV	**Zalesovo Beam**	**81.45**	**326**	P	**P**		**01 18 59.7**	**-0.6**
	0.3nm,0.3s,baz=108,slow=4.8,SNR=3.6							
ILAR	**Eielson Array**	**82.47**	**22**	P	**P**		**01 19 04.7**	**-0.8**
	0.5nm,0.8s,baz=243,slow=4.7,SNR=5.0							
TORD	**Torodi Ar. Bea**	**150.43**	**288**	PKPbc	**PKiKP**		**01 26 37.8**	**+1.2**
	0.4nm,0.4s,baz=62,slow=3.0,SNR=5.9							

IDC 31 01:15:13.7±2.0, 31°19N×47°38E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/33, mbtmp3.6/7, MS3.0/1, Ms1 3.2/1, ms1mx2.5/29, Error ellipse: s-maj=51.7km s-min=25.8km az=164.0

TEH 31 01:15:15.3, 31°14N×47°28E, h10km, ML3.9

ISN 31 01:15:17.3±0.5, 31°31N×47°38E, h6km±20km, ML3.2

OMAN 31 01:15:24.4±1.4, 31°14N×47°88E, h76km±52km, mb5.0/18, Error ellipse: s-maj=28.7km s-min=7.1km az=35.0

DSN 31 01:15:27.5±1.0, 30°26N×47°73E, h15km, ML4.0/5, Error ellipse: s-maj=15.8km s-min=6.2km az=6.0

ISC 31 01:15:15.7±0.6, 31°10N±0°06×47°40E±0°04, h10km, n81, σ2s20/92, mb3.7/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
NSR	**Nassriya**	**1.09**	**266**	*e*Pg	**Pg**		**01 15 37.0**	**+0.4**
NSR				*e*Sg	**Sg**		**01 15 51.0**	**+0.3**
NSR	comp=E,893nm,0.5s			AML	AML		01 15 59.1	
AHWZ	**Ahwaz**	**1.09**	**77**	*e*Pg	**Pb**		**01 15 37.6**	**+1.0**
AHWZ				*e*Sg	**Sn**		**01 15 54.9**	**+2.8**
MIB	**Mutribah**	**1.29**	**182**	*e*P			01 15 44.9	
MIB	comp=Z,3μm,0.8s			IAML			01 16 08.4	
UMR	**Umm Al-Rimmam**	**1.56**	**170**	*e*P			01 15 47.9	
UMR	comp=Z,2μm,0.6s			IAML			01 16 17.2	
DHL1	**Dehloran**	**1.58**	**356**	*e*Pg	**Pn**		**01 15 44.4**	**+0.6**
RDF	**Al-Radifah**	**2.17**	**177**	*e*P			01 15 57.3	
RDF	comp=Z,2μm,0.6s			IAML			01 16 35.6	
IBDR	**Badra**	**2.37**	**329**	*e*Pn	**Pn**		**01 15 56.0**	**+1.4**
IBDR				*e*Sn	**Sn**		**01 16 24.0**	**+0.3**
IBDR	comp=E,153nm,0.7s			AML	AML		01 16 41.1	
IBDR	comp=N,157nm,0.7s			AML	AML		01 16 43.0	
QRN	**Al-Qurain**	**2.38**	**169**	*e*P			01 15 59.6	
QRN	comp=Z,1μm,0.4s			IAML			01 16 42.2	
IKFM	**Kafar-mosalman**	**2.45**	**9**	*e*Pn	**Pn**		**01 15 58.0**	**+2.3**
IKFM	comp=Z,99nm,0.9s			*e*			01 16 45.8	
ABEH	**Behbahan**	**2.50**	**101**	*e*Pn	**Pn**		**01 16 00.5**	**+4.0**
IKMR	**Kamar-syah**	**2.55**	**19**	*e*Pn	**Pn**		**01 15 57.5**	**+0.4**
IDOB	**Doab**	**2.76**	**14**	*e*Pn	**Pn**		**01 16 01.8**	**+1.5**
KCHF	**Cheshme Sefid,**	**3.19**	**355**	*e*Pn	**Pn**		**01 16 07.2**	**+1.2**
SHK1	**Shahrekord**	**3.21**	**67**	*e*Pn	**Pn**		**01 16 09.5**	**+3.0**
SHK1	comp=Z,99nm,0.7s			*e*			01 17 15.7	
HSAM	**Samen**	**3.27**	**18**	*e*Pn	**Pn**		**01 16 08.9**	**+1.6**
HSAM	comp=Z,99nm,0.8s			*e*			01 17 12.8	
KER	**Kermanshah**	**3.29**	**356**	*e*Pn	**Pn**		**01 16 08.8**	**+1.4**
IGHG	**Ghaleghazi**	**3.30**	**348**	*e*Pn	**Pn**		**01 16 08.3**	**+0.6**
IGHG	comp=Z,99nm,0.9s			*e*			01 17 14.8	
BHD	**Baghdad**	**3.36**	**311**	*e*Pn	**Pn**		**01 16 10.0**	**+1.8**
BHD				*e*Sn	**Sn**		**01 16 49.0**	**+0.9**
BHD	comp=E,119nm,0.5s			AML	AML		01 16 50.1	
IPIR	**Pirpir**	**3.36**	**61**	*e*Pn	**Pn**		**01 16 11.2**	**+2.6**
IPIR	comp=Z,99nm,0.7s			*e*			01 17 17.4	
KLNJ	**Kolanjah**	**3.60**	**90**	*e*Pn	**Pn**		**01 16 14.8**	**+3.0**
IDHR	**Dehrash**	**3.69**	**347**	*e*Pn	**Pn**		**01 16 13.4**	**+0.3**
IDHR	comp=Z,99nm,0.2s			*e*			01 16 15.0	
IALM	**Almabolaq**	**3.81**	**10**	*e*Pn	**Pn**		**01 16 16.6**	**+1.9**
ILIN	**Lien**	**3.83**	**355**	*e*Pn	**Pn**		**01 16 16.1**	**+1.1**
HAGD	**Aghdareh**	**3.99**	**21**	*e*Pn	**Pn**		**01 16 18.8**	**+1.6**
HAGD	comp=Z,99nm,1.2s			*e*			01 17 30.2	
IGAR	**Gharneh**	**4.16**	**71**	*e*Pn	**Pn**		**01 16 22.2**	**+2.7**
IGAR	comp=Z,99nm,0.4s			*e*			01 17 18.8	
IKLH	**Kolahrood**	**4.18**	**57**	*e*Pn	**Pn**		**01 16 22.8**	**+3.1**
IKLH	comp=Z,99nm,0.8s			*e*			01 17 57.1	
IRAM	**Ramesheh**	**4.31**	**79**	*e*Pn	**Pn**		**01 16 24.2**	**+2.6**
QAM	**Ghamsar**	**4.33**	**51**	*e*Pn	**Pn**		**01 16 24.3**	**+2.6**
IZEF	**Zefreh**	**4.55**	**66**	*e*Pn	**Pn**		**01 16 27.6**	**+2.7**
IRAZ	**Razeghan**	**4.79**	**26**	*e*Pn	**Pn**		**01 16 30.3**	**+2.2**
KRSH	**Karshahi**	**4.92**	**53**	*e*Pn	**Pn**		**01 16 31.7**	**+1.8**
QABG	**Abgarm-Qazvin**	**4.95**	**21**	*e*Pn	**Pn**		**01 16 30.4**	**+0.1**
ISFB	**Sefidab**	**5.21**	**50**	*e*Pn	**Pn**		**01 16 36.3**	**+2.5**
IHSB	**Hasanabad**	**5.41**	**36**	*e*Pn	**Pn**		**01 16 38.8**	**+2.2**
ANAR	**Anarak**	**5.76**	**67**	*e*Pn	**Pn**		**01 16 43.5**	**+2.1**
QALM	**Alamut, Qazvin**	**5.97**	**26**	*e*Pn	**Pn**		**01 16 45.6**	**+1.3**
RAYN	**Ar Rayn**	**7.73**	**193**	*i* P	**Pn**		**01 17 09.6**	**+1.2**
	SNR=6.9							
SHME	**Shamm**	**9.18**	**121**	P	**Pn**		**01 17 30.6**	**+2.4**
SHME	**Shamm**	**9.18**	**121**	*e*Pn	**Pn**		**01 17 31.4**	**+3.2**
SHME	**Shamm**	**9.18**	**121**	P	**Pn**		**01 17 31.6**	**+3.4**
SHME				S	**Sn**		**01 19 09.9**	**-1.7**
BANOM	**Banah**	**9.37**	**121**	P	**Pn**		**01 17 32.3**	**+1.5**
BANOM				S	**Sn**		**01 19 12.0**	**-4.3**
BANOM	**Banah**	**9.37**	**121**	*e*Pn	**Pn**		**01 17 32.3**	**+1.5**
BANOM	**Banah**	**9.37**	**121**	P	**Pn**		**01 17 32.6**	**+1.7**
BANOM				S	**Sn**		**01 19 13.7**	**-2.6**
NAZ	**Nazwa, Dubai**	**9.50**	**128**	*i* P	**Pn**		**01 17 34.9**	**+2.3**
	SNR=7.0							
NAZ	**Nazwa, Dubai**	**9.50**	**128**	*e*Pn	**Pn**		**01 17 35.5**	**+2.9**
NAZ	**Nazwa, Dubai**	**9.50**	**128**	P	**Pn**		**01 17 34.8**	**+2.3**
NAZ				S	**Sn**		**01 19 19.1**	**-0.4**
ASUD	**Al Ashush, Dub**	**9.52**	**131**	*i* P	**Pn**		**01 17 35.4**	**+2.5**
	SNR=13							
ASUD	**Al Ashush, Dub**	**9.52**	**131**	*e*Pn	**Pn**		**01 17 35.8**	**+2.9**
ASUD	**Al Ashush, Dub**	**9.52**	**131**	P	**Pn**		**01 17 36.0**	**+3.0**
	SNR=13							
ASUD				S	**Sn**		**01 19 19.2**	**-0.8**
MASF	**Masafi**	**9.60**	**124**	P	**Pn**		**01 17 36.5**	**+2.5**
MASF				S	**Sn**		**01 19 17.8**	**-4.2**
MSFE	**Esma-Masafi**	**9.61**	**124**	*i* P	**Pn**		**01 17 35.6**	**+1.5**
	SNR=11							
MSFE				S	**Sn**		**01 19 17.1**	**-5.1**
MSFE	**Esma-Masafi**	**9.61**	**124**	*e*Pn	**Pn**		**01 17 36.3**	**+2.2**
FAQ	**Al Faqa, Dubai**	**9.61**	**129**	*e*Pn	**Pn**		**01 17 37.2**	**+3.0**
MDH	**Madha**	**9.74**	**124**	*i* P	**Pn**		**01 17 37.8**	**+1.8**
	SNR=7.3							
MDH	**Madha**	**9.74**	**124**	*e*Pn	**Pn**		**01 17 38.1**	**+2.2**
MDH	**Madha**	**9.74**	**124**	P	**Pn**		**01 17 38.5**	**+2.6**
MDH				S	**Sn**		**01 19 21.6**	**-3.8**
UOSS	**Minazif**	**9.90**	**126**	*i* P	**Pn**		**01 17 39.3**	**+1.2**
	SNR=11							
UOSS	**Minazif**	**9.90**	**126**	*e*Pn	**Pn**		**01 17 40.1**	**+2.0**
UOSS	**Minazif**	**9.90**	**126**	P	**Pn**		**01 17 40.2**	**+2.2**
HATD	**Hatta, Dubai**	**9.93**	**127**	*i* P	**Pn**		**01 17 40.4**	**+2.0**
	SNR=9.7							
HATD	**Hatta, Dubai**	**9.93**	**127**	*e*Pn	**Pn**		**01 17 40.9**	**+2.5**
HATD	**Hatta, Dubai**	**9.93**	**127**	P	**Pn**		**01 17 41.0**	**+2.5**
ASHO	**Ashiyiah**	**9.97**	**128**	*i* P	**Pn**		**01 17 40.1**	**+1.0**
	SNR=21							
ASHO	**Ashiyiah**	**9.97**	**128**	*e*Pn	**Pn**		**01 17 40.7**	**+1.6**
ASHO	**Ashiyiah**	**9.97**	**128**	P	**Pn**		**01 17 41.0**	**+1.9**
	SNR=21							
ALNE	**Al Ain**	**10.20**	**131**	*e*Pn	**Pn**		**01 17 45.0**	**+2.8**
SOHO	**SOHO**	**10.66**	**128**	*i* P	**Pn**		**01 17 48.8**	**+0.3**
	SNR=8.2							
SOHO	**SOHO**	**10.66**	**128**	*e*Pn	**Pn**		**01 17 49.4**	**+0.9**
SOHO	**SOHO**	**10.66**	**128**	P	**Pn**		**01 17 50.0**	**+1.6**
ARQ	**Araqi**	**11.20**	**131**	P	**Pn**		**01 17 57.7**	**+1.8**
	SNR=7.4							
HOQ	**Hoqain**	**11.55**	**128**	P	**Pn**		**01 18 02.6**	**+1.9**
BSY	**Bisya**	**12.06**	**131**	P	**Pn**		**01 18 09.5**	**+1.8**
BIDO	**Bidbid**	**12.15**	**126**	*e*Pn	**Pn**		**01 18 11.9**	**+2.9**
SMDO	**Samad**	**12.40**	**128**	P	**Pn**		**01 18 14.3**	**+1.8**
	SNR=18							
JMDO	**Jabal Madar**	**12.91**	**130**	P	**Pn**		**01 18 20.9**	**+1.6**
	SNR=11							
WBK	**Wadi Bani Khal**	**13.34**	**127**	P	**Pn**		**01 18 26.9**	**+1.8**
MHTO	**MHTO**	**13.83**	**134**	P	**Pn**		**01 18 33.2**	**+1.4**
AKASG	**Malin Array Be**	**23.81**	**331**	P	**P**		**01 20 28.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=134,slow=10,SNR=4.6							
MKAR	**Makanchi Array**	**31.03**	**50**	P	**P**		**01 21 34.5**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=248,slow=7.9,SNR=15							
FINES	**FINESS Array B**	**33.42**	**342**	P	**P**		**01 21 52.4**	**-1.9**
	comp=Z,3.2nm,1.0s,baz=136,slow=8.9,SNR=1.5							
ZALV	**Zalesovo Beam**	**35.19**	**39**	P	**P**		**01 22 07.0**	**-2.7**
	comp=Z,0.5nm,0.4s,baz=260,slow=5.7,SNR=6.5							
TORD	**Torodi Ar. Bea**	**45.60**	**257**	P	**P**		**01 23 35.6**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=50,slow=8.8,SNR=3.8							
SONM	**Songino Array**	**47.35**	**52**	P	**P**		**01 23 48.5**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=280,slow=9.5,SNR=2.4							
CMAR	**Chiang Mai Arr**	**48.08**	**93**	LR	LR		01 47 01.9	
	comp=Z,16nm,18.0s,baz=225,slow=4.0							
YKA	**Yellowknife Ar**	**85.62**	**352**	P	**P**		**01 27 53.5**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=22,slow=5.5,SNR=5.6							

SKO 31 01:25:02.9, 40°86N×22°47E, h15km, 2C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
GRG	**Griva**	**0.11**	**332**	*i* Pg	Pg	Pg	01 25 05.7	-0.6
GRG				*i* Sg	Sg	Sg	01 25 06.9	-1.8
THE	**Thessaloniki**	**0.44**	**121**	*i* Pg	Pb	Pb	01 25 13.2	+0.9
THE				*i* Sg	Sb	Sb	01 25 19.8	+1.0
KNT	**Kendrikon**	**0.44**	**47**	*i* Pg	Pb	Pb	01 25 12.2	-0.2
KNT				*i* Sg	Sg	Sg	01 25 18.3	+0.5
VAY	**Valandovo**	**0.47**	**9**	*i* Pg	Pg	Pg	01 25 11.8	-0.4
VAY				*i* Sg	Sg	Sg	01 25 17.8	-0.7
VAY				*e*Lg	Lg	Lg	01 25 18.1	
	comp=E,4.6nm,0.3s							
SOH	**Sokhos**	**0.67**	**93**	*i* Pg	Pn	Pn	01 25 17.4	-0.5
SOH				*i* Sg	Sb	Sb	01 25 26.8	+1.3
FNA	**Florina**	**0.83**	**265**	*i* Pg	Pn	Pn	01 25 21.1	+0.9
FNA				*i* Sg	Sb	Sb	01 25 30.9	+0.7

ATH 31 01:25:40.1, 39°46N×20°76E, h17km±2km, ML1.8/2, Error ellipse: s-maj=3.6km s-min=1.2km az=337.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
JAN	**Janina**	**0.21**	**19**	P	P	Pg	01 25 44.5	-0.6
JAN				S	S	Sb	01 25 48.9	-0.2
JAN				AML	AML		01 25 49.1	
	comp=N,354μm,0.3s							
JAN				AML	AML		01 25 49.2	
	comp=E,498μm,0.3s							
IGT	**Igoumenitsa**	**0.34**	**283**	P	Pg		01 25 46.8	-0.5
IGT				S	Sg		01 25 52.5	+0.3
IGT				AML	AML		01 25 52.9	
	comp=N,595μm,0.3s							
IGT				AML	AML		01 25 53.4	
	comp=E,507μm,0.3s							
TSLK	**Tsoukalades, L**	**0.64**	**188**	P	Pb		01 25 52.7	0.0
LKD2	**Lefkada island**	**0.67**	**187**	P	Pg		01 25 53.0	-0.3
KPRO	**Kipourio**	**0.68**	**43**	P	Pg		01 25 53.0	-0.5
NYDR	**Nydri-Lefkada**	**0.74**	**184**	P	Pb		01 25 53.9	-0.6
KEK	**Kerkira**	**0.79**	**289**	P	Pb		01 25 54.9	-0.4
PDO	**Prodromos**	**0.92**	**159**	P	Pb		01 25 56.7	-0.8

INET 31 01:34:00.8, 12°24N×87°39W, h15km, MW3.5, Near coast of Nicaragua

ISK 31 01:38:26.4, 35°45N×30°48E, h16km, ML3.1/31

NIC 31 01:38:28.4±0.0, 35°50N×30°52E, h14km±31km, Ml3.2/5

HLW 31 01:38:29.7, 35°45N×30°36E, h19km±21km, Md3.8, Ml3.5

IDC 31 01:38:29.7±8.9, 35°63N×31°28E, h0km, mb3.2/1, mb1 3.2/3, mb1mx3.0/29, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=136.8km s-min=53.0km az=52.0

ISC 31 01:38:28.6±1.3, 35°53N±0°03×30°52E±0°03, h29km±13km, n60, σ1s35/73, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
DEMR	**Demre-Antalya**	**0.86**	**325**	PG	**Pn**		**01 38 44.5**	**-0.3**
KSL	**Kastellorizon**	**0.98**	**309**	P	**Pn**		**01 38 47.9**	**+1.5**
KSL				S	**Sn**		**01 39 00.8**	**+1.5**
AKAS	**Kas**	**1.02**	**314**	PG	**Pb**		**01 38 47.3**	**-0.5**
KEMT	**Kemer-ANTALYA**	**1.07**	**2**	PN	**Pb**		**01 38 48.8**	**+0.2**
ELL	**Elmali**	**1.31**	**338**	PN	**Pb**		**01 38 51.8**	**-0.9**
ELL	**Elmali**	**1.31**	**338**	P	**Pb**		**01 38 53.1**	**+0.3**
ELL				S	**Sn**		**01 39 03.8**	**-3.9**
ANTB	**Antalya**	**1.37**	**5**	PN	**Pb**		**01 38 52.5**	**-1.2**
ANTB				SN	**Sb**		**01 39 12.0**	**+1.2**
KORT	**Korkueli**	**1.47**	**355**	PN	**Pb**		**01 38 53.9**	**-1.6**
AKMS	**Akamas**	**1.57**	**108**	P	**Pb**		**01 38 55.8**	**-1.3**
AKMS				S	**Sn**		**01 39 13.7**	**-0.3**
AKMS				AML	AML		01 39 22.8	
	1.2nm,0.3s							
AKMS				AML	AML		01 39 22.8	
	1.2nm,0.3s							
ALAN	**Alanya-ANTALYA**	**1.60**	**50**	PN	**Pn**		**01 38 55.5**	**+0.5**
FETY	**Fethiye**	**1.60**	**314**	PN	**Pn**		**01 38 54.9**	**-0.1**
GAZI	**Gazipasa**	**1.62**	**64**	PN	**Pn**		**01 38 55.2**	**-0.1**
ALFC	**Alefka**	**1.74**	**102**	P	**Pn**		**01 38 58.0**	**+1.0**
ALFC				S	**Sn**		**01 39 18.5**	**+0.3**
ALFC				AML	AML		01 39 26.3	
	0.8nm,0.3s							
ALFC				AML	AML		01 39 26.3	
	0.8nm,0.3s							
NATA	**Nata**	**1.84**	**113**	P	**Pb**		**01 38 59.7**	**-2.0**
NATA				S	**Sn**		**01 39 22.0**	**+1.4**
NATA				AML	AML		01 39 42.2	
	1.6nm,0.6s							
NATA				AML	AML		01 39 42.2	
	1.6nm,0.6s							
NATA				AML	AML		01 39 50.2	
	2.5nm,0.6s							
NATA				AML	AML		01 39 50.2	
	2.5nm,0.6s							
DALY	**Dalyan (Mula)**	**1.98**	**311**	PN	**Pn**		**01 39 00.8**	**+0.6**
LEF	**Lefka**	**1.98**	**101**	PN	**Pn**		**01 39 00.0**	**-0.2**
AKDN	**Akdeniz- Kıbrı**	**2.02**	**96**	PN	**Pn**		**01 39 01.2**	**+0.5**
ARG	**Arkhangelos**	**2.06**	**290**	PN	**Pn**		**01 39 01.6**	**+0.3**
ARG	**Arkhangelos**	**2.06**	**290**	P	**Pn**		**01 39 01.6**	**+0.3**
SZAC	**Souni**	**2.09**	**111**	P	**Pn**		**01 39 03.1**	**+1.4**
SZAC				S	**Sn**		**01 39 28.4**	**+1.7**
SZAC				AML	AML		01 39 29.7	
	0.5nm,0.3s							
SZAC				AML	AML		01 39 29.7	
	0.5nm,0.3s							
SZAC				AML	AML		01 39 47.7	
	0.6nm,0.4s							
SZAC				AML	AML		01 39 47.7	
	0.6nm,0.4s							
OSC1	**CSNet OBS 1**	**2.12**	**163**	P	**Pb**		**01 39 06.4**	**0.0**
OSC1				S	**Sn**		**01 39 28.2**	**+0.7**
TEKE	**Tekeli-Mersin**	**2.20**	**73**	PN	**Pn**		**01 39 04.1**	**+0.9**
TURN	**Turunc**	**2.22**	**305**	PN	**Pn**		**01 39 04.2**	**+0.7**
ISP	**Isparta**	**2.29**	**0**	PN	**Pn**		**01 39 05.5**	**+1.0**
BERE	**Bereket-Mersin**	**2.34**	**69**	PN	**Pn**		**01 39 06.4**	**+1.1**
ASGA	**Asgata**	**2.36**	**108**	P	**Pn**		**01 39 06.7**	**+1.4**
ASGA				S	**Sn**		**01 39 32.1**	**-1.2**
ASGA				AML	AML		01 39 51.4	
	0.3nm,0.4s							
ASGA				AML	AML		01 39 51.4	
	0.3nm,0.4s							
ASGA				AML	AML		01 39 52.1	
	0.3nm,0.4s							
ASGA				AML	AML		01 39 52.1	
	0.3nm,0.4s							
CSS	**Mathiatis**	**2.37**	**103**	PN	**Pn**		**01 39 06.2**	**+0.6**
CSS	**Mathiatis**	**2.37**	**103**	P	**Pn**		**01 39 06.5**	**+0.9**
YER	**Yerkesik**	**2.41**	**312**	PN	**Pn**		**01 39 06.8**	**+0.6**
BASM	**Basmaki-Afyon**	**2.41**	**351**	PN	**Pn**		**01 39 07.8**

MKAR Makanchi Array 80.92 319 P **P** **02 02 51.0 +0.3**
0.2nm,0.5s,baz=94,slow=7.1,SNR=1.9
ZALV Zalesovo Beam 81.77 326 P **P** **02 02 54.8 -0.1**
0.6nm,0.5s,baz=99,slow=7.7,SNR=3.9
TORD Torodi Ar. Bea 150.73 287 PKPbc **PKPbc** **02 10 29.3 -0.1**
0.2nm,0.4s,baz=60,slow=2.3,SNR=3.8

IDC ***31*** *01:55:27.1±2.4,3°.19S×101°.03E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.6/40,mbtmp3.8/7,Error ellipse: s-maj=92.7km s-min=18.6km az=56.0*
ISC 31 01:55:33.8±2.8,3°.2S±0°.4×101°.1E±0°.6,h46km,n11, σ0s49/8,mb3.8/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**28.25**	**123**	P		**P**	**02 01 22.6**	**-0.2**
	1.1nm,0.8s,baz=264,slow=9.2,SNR=1.0							
H08S2	**Diego Garcia H**	**28.83**	**260**	T		T	02 31 00.1	
	baz=82,slow=74,SNR=4.3							
H08S3	**Diego Garcia H**	**28.84**	**260**	T		T	02 30 54.6	
	baz=82,slow=74,SNR=6.8							
H08S1	**Diego Carcia H**	**28.85**	**260**	T		T	02 30 55.4	
	baz=82							
WRA	**Warramunga Arr**	**36.45**	**120**	P		**P**	**02 02 34.1**	**-0.6**
	0.9nm,0.4s,baz=303,slow=8.8,SNR=17							
ASAR	**Alice Springs**	**37.68**	**126**	P		**P**	**02 02 45.6**	**+0.6**
	0.6nm,0.5s,baz=302,slow=8.1,SNR=12							
SONM	**Songino Array**	**50.99**	**5**	P		**P**	**02 04 31.1**	**0.0**
	0.2nm,0.4s,baz=195,slow=7.7,SNR=3.8							
MKAR	**Makanchi Array**	**52.44**	**344**	P		**P**	**02 04 42.1**	**+0.3**
	0.4nm,0.5s,baz=160,slow=9.3,SNR=17							
USRK	**Ussuriysk Ar.**	**54.66**	**27**	P		**P**	**02 04 58.3**	**+0.2**
	0.8nm,0.5s,baz=213,slow=3.9,SNR=4.4							
ZALV	**Zalesovo Beam**	**58.51**	**349**	P		**P**	**02 05 24.6**	**-0.6**
	0.9nm,0.4s,baz=165,slow=6.2,SNR=7.6							
TXAR	**Lajitas Array**	**144.91**	**40**	PKP		**PKPab**	**02 15 05.8**	**-0.2**
	50nm,0.3s,baz=266,slow=1.2,SNR=6.7							

KRNET ***31*** *02:27:13.9±0.1,42°.40N×78°.47E,h30km,mb2.2*
NNC ***31*** *02:27:15.2±1.9,42°.46N×78°.52E,h0km,mb3.0,mpv2.9, Error ellipse: s-maj=14.0km s-min=7.0km az=165.0*
SOME ***31*** *02:27:17.0,42°.55N×78°.42E,h5km*
ISC 31 02:27:16.0±1.2,42°.43N±0°.05×78°.41E±0°.03,h12km±6km, n21,σ1s80/40,8C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.05**	**353**	⇑*i*P		**Pg**	**02 27 18.8**	**+0.3**
	baz=35							
PRZ				⇑*i*S		**Sg**	**02 27 21.5**	**+1.2**
	baz=35							
SATY	**Saty**	**0.63**	**360**	*e*P		**Pg**	**02 27 27.5**	**-0.7**
	1.9nm,0.1s							
SATY				*e*S		**Sg**	**02 27 35.0**	**-1.4**
	28nm,0.2s							
SATY	**Saty**	**0.63**	**360**	P		**Pg**	**02 27 27.0**	**-1.1**
	2.2nm,0.1s							
SATY				S		**Sg**	**02 27 35.1**	**-1.4**
	28nm,0.2s							
ANVS	**Anan'yevo**	**0.65**	**303**	⇑*i*P		**Pg**	**02 27 27.7**	**-0.9**
	baz=4.0							
ANVS				⇑*i*S		**Sg**	**02 27 37.5**	**+0.3**
	baz=4.0							
UZB	**Uzynbulak**	**0.84**	**32**	*e*P		**Pg**	**02 27 30.9**	**-1.4**
	2.2nm,0.1s							
UZB				*e*S		**Sg**	**02 27 41.0**	**-2.4**
	5.3nm,0.1s							
UZB	**Uzynbulak**	**0.84**	**32**	P		**Pg**	**02 27 30.1**	**-2.3**
	4.0nm,0.3s							
UZB				S		**Sg**	**02 27 40.1**	**-3.3**
	5.3nm,0.1s							
KDJ	**Kajisay**	**0.96**	**252**	⇑*i*P		**Pg**	**02 27 32.1**	**-2.4**
	baz=54							
KDJ				⇑*i*S		**Sg**	**02 27 45.8**	**-1.2**
	baz=54							
KPKS	**Kokpek**	**1.05**	**11**	*e*P		**Pg**	**02 27 34.9**	**-1.3**
	5.1nm,0.1s							
KPKS				*e*S		**Sg**	**02 27 47.9**	**-2.0**
	5.4nm,0.1s							
SHLS	**Shalkode**	**1.06**	**47**	*e*P		**Pn**	**02 27 40.5**	**+3.6**
	3.2nm,0.2s							
SHLS				*e*S		**Sn**	**02 27 57.2**	**+5.5**
	11nm,0.4s							
SHLS	**Shalkode**	**1.06**	**47**	P		**Pn**	**02 27 38.3**	**+1.4**
	3.2nm,0.2s							
SHLS				S		**Sn**	**02 27 54.5**	**+2.9**
	11nm,0.4s							
TNSS	**Tian-Shan**	**1.23**	**300**	*e*P		**Pg**	**02 27 39.4**	**-0.3**
	2.6nm,0.1s							
TNSS				*e*S		**Sg**	**02 27 55.6**	**-0.3**
	5.2nm,0.2s							
TNSS	**Tian-Shan**	**1.23**	**300**	P		**Pg**	**02 27 39.3**	**-0.5**
	2.6nm,0.1s							
TNSS				S		**Sg**	**02 27 56.0**	**+0.1**
	5.2nm,0.2s							
MDOK	**Medeo**	**1.24**	**307**	*e*P		**Pg**	**02 27 39.0**	**-0.8**
	3.1nm,0.1s							
MDOK				*e*S		**Sg**	**02 27 55.0**	**-0.9**
	4.1nm,0.3s							
MNBS	**Baschi**	**1.65**	**360**	*e*P		**Pb**	**02 27 46.0**	**-0.4**
	8.7nm,0.1s							
MNBS				*e*S		**Sg**	**02 28 07.0**	**-1.9**
	4.3nm,0.1s							
MNBS	**Baschi**	**1.65**	**360**	P		**Pb**	**02 27 46.0**	**-0.4**
	8.7nm,0.1s							
MNBS				S		**Sg**	**02 28 07.1**	**-1.9**
	4.3nm,0.1s							
KTBS	**Karatobe**	**1.80**	**316**	*e*P		**Pb**	**02 27 49.0**	**0.0**
	2.0nm,0.2s							
KTBS				*e*S		**Sb**	**02 28 12.2**	**+0.7**
	3.1nm,0.2s							
KTBS	**Karatobe**	**1.80**	**316**	P		**Pb**	**02 27 48.9**	**0.0**
	2.0nm,0.2s							
KTBS				S		**Sb**	**02 28 12.4**	**+0.9**
	3.1nm,0.2s							
BOOM	**Boomskoye usch**	**1.83**	**273**	⇑*i*P		**Pn**	**02 27 46.7**	**-0.7**
	baz=74							
BOOM				⇑*i*S		**Sn**	**02 28 10.5**	**-0.1**
	baz=74							
TKM2	**Tokmak 2**	**2.13**	**284**	⇓Pg		**Pg**	**02 27 56.4**	**-0.5**
	0.6nm,0.2s							
TKM2				⇓Lg		Lg	02 28 24.5	
	2.4nm,0.6s							
DJR	**Jarkent**	**2.15**	**27**	*e*P		**Pb**	**02 27 53.7**	**-1.2**
	2.6nm,0.2s							
DJR				*e*S		**Sb**	**02 28 19.9**	**-1.7**
	3.6nm,0.3s							
DJR	**Jarkent**	**2.15**	**27**	Pg		**Pb**	**02 27 53.7**	**-1.2**
	2.6nm,0.2s							
DJR				Lg		Lg	02 28 21.1	
	3.6nm,0.3s							

IDC ***31*** *02:33:52.2±1.5,5°.36S×152°.81E,h0km,mb4.0/10, mb1 4.1/10,mb1mx3.9/31,mbtmp4.0/10,MS2.8/2, Ms1 2.8/2,ms1mx2.5/34,Error ellipse: s-maj=50.2km s-min=18.6km az=114.0*
ISC 31 02:33:57.9±1.2,5°.4S±0°.2×152°.8E±0°.2,h37km,n12, σ0s95/12,mb3.8/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.89**	**234**	Sn		**Sn**	**02 36 53.6**	**+0.1**
	6.2nm,0.3s,baz=79,slow=20,SNR=10							
PMG				LR		LR	02 37 28.7	
	comp=Z,41nm,19.2s,baz=320,slow=31							
WRA	**Warramunga Arr**	**23.08**	**230**	P		**P**	**02 38 59.8**	**-0.6**
	2.3nm,0.9s,baz=53,slow=10,SNR=13							
ASAR	**Alice Springs**	**25.73**	**223**	P		**P**	**02 39 24.6**	**-0.5**
	1.6nm,0.8s,baz=56,slow=9.4,SNR=14							
STKA	**Stephens Creek**	**28.37**	**200**	P		**P**	**02 39 49.3**	**+0.7**
	0.6nm,0.4s,baz=22,slow=12,SNR=3.1							
FITZ	**Fitzroy Crossi**	**29.40**	**242**	P		**P**	**02 39 57.6**	**-0.3**
	1.7nm,0.5s,baz=54,slow=6.6,SNR=9.4							
CMAR	**Chiang Mai Arr**	**58.15**	**295**	P		**P**	**02 43 49.1**	**+0.7**
	0.9nm,0.3s,baz=122,slow=5.4,SNR=4.1							
PETK	**Petropavlovsk-**	**58.43**	**3**	P		**P**	**02 43 50.6**	**+1.0**
	1.5nm,0.4s,baz=142,slow=7.5,SNR=5.7							
PETK				LR		LR	03 05 01.7	
	comp=Z,19nm,21.6s,baz=142,slow=32							
SONM	**Songino Array**	**66.84**	**328**	P		**P**	**02 44 47.0**	**+0.9**
	0.7nm,0.6s,baz=138,slow=6.0,SNR=6.1							
MKAR	**Makanchi Array**	**80.78**	**319**	P		**P**	**02 46 06.0**	**-1.8**
	0.9nm,0.9s,baz=101,slow=6.3,SNR=7.0							
ZALV	**Zalesovo Beam**	**81.66**	**326**	P		**P**	**02 46 11.1**	**-1.0**
	0.5nm,0.3s,baz=95,slow=6.6,SNR=4.0							
ILAR	**Eielson Array**	**82.70**	**22**	P		**P**	**02 46 16.7**	**-0.7**
	0.2nm,0.6s,baz=241,slow=5.0,SNR=4.7							
TORD	**Torodi Ar. Bea**	**150.51**	**287**	PKPbc		**PKPbc**	**02 53 46.9**	**+0.1**
	0.8nm,0.8s,baz=85,slow=2.5,SNR=4.0							

IDC ***31*** *02:39:34.9±1.5,57°.44S×147°.26E,h0km,mb4.1/6, mb1 4.3/6,mb1mx4.1/29,mbtmp4.1/6,MS3.8/11, Ms1 3.8/11,ms1mx3.6/26,Error ellipse: s-maj=107.0km s-min=22.4km az=81.0*
ISC 31 02:39:36.8±1.2,57°.4S±0°.1×147°.5E±0°.5,h10km,n37, σ2s03/23,mb4.1/5,MS3.8/11,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**20.15**	**57**	LR		LR	02 50 34.6	
	comp=Z,247nm,19.2s,baz=222,slow=32							
VNDA	**Vanda**	**20.82**	**171**	P		**P**	**02 44 16.5**	**-1.4**
	6.7nm,1.1s,baz=338,slow=12,SNR=5.1							
VNDA				LR		LR	02 50 45.2	
	comp=Z,149nm,19.3s,baz=345,slow=32							
STKA	**Stephens Creek**	**25.84**	**348**	P		**P**	**02 45 08.3**	**+0.2**
	3.5nm,0.9s,baz=175,slow=11,SNR=5.1							
H01W1	**Cape Leeuwin H**	**31.72**	**301**	T		T	03 19 56.5	
	baz=144,slow=75,SNR=45							
H01W2	**Cape Leeuwin H**	**31.73**	**301**	T		T	03 19 55.1	
	baz=144,slow=75,SNR=61							
H01W3	**Cape Leeuwin H**	**31.74**	**301**	T		T	03 19 56.0	
	baz=144,slow=75,SNR=58							
ASAR	**Alice Springs**	**35.10**	**338**	P		**P**	**02 46 29.6**	**-0.6**
	1.4nm,1.0s,baz=164,slow=9.2,SNR=7.5							
ASAR				LR		LR	02 59 53.7	
	comp=Z,81nm,19.7s,baz=166,slow=35							
MAW	**Mawson**	**37.25**	**219**	LR		LR	03 01 21.9	
	comp=Z,404nm,19.1s,baz=68,slow=35							
CTA	**Charters Tower**	**37.27**	**358**	P		**P**	**02 46 48.7**	**+0.1**
	7.8nm,1.0s,baz=203,slow=2.5,SNR=3.6							
WRA	**Warramunga Arr**	**38.64**	**340**	P		**P**	**02 46 59.2**	**-1.1**
	7.0nm,0.9s,baz=166,slow=7.2,SNR=15							
FITZ	**Fitzroy Crossi**	**42.48**	**328**	P		**P**	**02 47 31.3**	**-0.6**
	1.8nm,0.8s,baz=192,slow=9.3,SNR=2.7							
FITZ				LR		LR	03 04 53.7	
	comp=Z,60nm,18.7s,baz=201,slow=36							
MSVF	**Nonsavu**	**45.67**	**43**	LR		LR	03 02 50.3	
	comp=Z,138nm,20.8s,baz=164,slow=30							
PMG	**Port Moresby**	**47.88**	**360**	LR		LR	03 06 32.1	
	comp=Z,204nm,18.2s,baz=145,slow=34							
HNR	**Honiara**	**48.82**	**16**	LR		LR	03 03 42.5	
	comp=Z,100nm,21.2s,baz=215,slow=30							
LEM	**Lembang**	**59.21**	**312**	LR		LR	03 10 16.9	
	comp=Z,101nm,20.0s,baz=218,slow=31							
H08S2	**Diego Garcia H**	**75.52**	**279**	T		T	04 14 41.4	
	baz=144,slow=76,SNR=14							
H08S1	**Diego Carcia H**	**75.53**	**279**	T		T	04 14 43.0	
	baz=144							
H08S3	**Diego Garcia H**	**75.54**	**279**	T		T	04 14 43.0	
	baz=144,slow=76,SNR=27							
PLCA	**Paso Flores**	**77.15**	**151**	LR		LR	03 18 55.5	
	comp=Z,45nm,19.8s,baz=180,slow=31							
CMAR	**Chiang Mai Arr**	**85.66**	**314**	LR		LR	03 27 24.8	
	comp=Z,40nm,21.2s,baz=216,slow=34							
TORD	**Torodi Ar. Bea**	**128.77**	**225**	PKP		**PKPdf**	**02 58 44.1**	**-0.2**
	0.8nm,1.0s,baz=116,slow=3.4,SNR=2.6							
AKASG	**Malin Array Be**	**144.28**	**286**	PKP		**PKPab**	**02 59 08.7**	**-1.1**
	4.0nm,0.9s,baz=101,slow=2.5,SNR=7.6							
SOKA	**Soboth**	**149.47**	**270**	*e*P		**PKPab**	**02 59 28.8**	**-1.5**
	12nm,1.3s							
ARSA	**Arzberg**	**149.55**	**272**	*e*P		**PKPab**	**02 59 29.9**	**-0.7**
	7.4nm,1.0s							
MORC	**Moravsky Berou**	**149.94**	**277**	*e*PKP		**PKPab**	**02 59 29.8**	**-2.2**
KRUC	**Moravsky**	**150.15**	**275**	*e*PKP		**PKPab**	**02 59 30.4**	**-2.5**
VRAC	**Vranov**	**150.19**	**276**	*e*PKP		**PKPab**	**02 59 30.5**	**-2.5**
MOA	**Molln**	**150.59**	**271**	*e*P		**PKPab**	**02 59 38.3**	**+3.5**
	14nm,1.9s							
KBA	**Koelnbreinsper**	**150.63**	**269**	*e*P		**PKiKP**	**02 59 31.0**	**+2.1**
	7.9nm,1.4s							
FINES	**FINESS Array B**	**150.80**	**303**	PKPbc		**PKiKP**	**02 59 28.6**	**+0.2**
	4.1nm,0.8s,baz=99,slow=8.3,SNR=6.7							
GERES	**GERESS Array B**	**151.48**	**273**	PKPbc		**PKPbc**	**02 59 29.0**	**-1.0**
	1.3nm,0.8s,baz=183,slow=5.3,SNR=5.7							
WTTA	**Wattenberg**	**151.66**	**268**	*e*P		**PKiKP**	**02 59 33.9**	**+2.9**
	7.8nm,1.1s							
WATA	**Walderalm**	**151.74**	**268**	*e*P		**PKiKP**	**02 59 34.5**	**+3.4**
	6.2nm,1.0s							
SQTA	**Sankt Quirin**	**151.87**	**268**	*e*P		**PKiKP**	**02 59 34.6**	**+3.3**
	6.0nm,0.7s							
MOTA	**Moosalm**	**152.00**	**268**	*e*P		**PKiKP**	**02 59 34.6**	**+2.9**
	10nm,1.5s							
FETA	**Feichten**	**152.01**	**267**	*e*P		**PKiKP**	**02 59 32.1**	**+0.4**
	7.3nm,1.2s							
RETA	**Reutte**	**152.27**	**268**	*e*P		**PKPab**	**02 59 42.4**	**+0.5**
	6.7nm,1.1s							

IDC 31 02:41:01.2±2.4,5°.06S×153°.15E,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.6/30,mbtmp3.7/4,MS3.0/3,Ms1 3.0/3, ms1mx2.7/38,Error ellipse: s-maj=99.0km s-min=30.0km az=127.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.02**	**123**	LR		LR	02 46 25.0	
	comp=Z,84nm,21.0s,baz=78,slow=40							
WRA	**Warramunga Arr**	**23.54**	**229**	P		P	02 46 13.8	+0.4
	4.1nm,0.9s,baz=54,slow=9.7,SNR=19							
FITZ	**Fitzroy Crossi**	**29.84**	**242**	P		P	02 47 09.4	-1.0
	0.7nm,0.3s,baz=56,slow=10,SNR=2.2							
YAK	**Yakutsk**	**69.30**	**348**	LR		LR	03 19 42.2	
	comp=Z,20nm,20.5s,baz=242,slow=34							
TLY	**Talaya**	**70.48**	**330**	LR		LR	03 20 14.1	
	comp=Z,9.0nm,19.0s,baz=182,slow=33							
MKAR	**Makanchi Array**	**80.75**	**319**	P		P	02 53 17.1	+0.5
	0.2nm,0.5s,baz=100,slow=6.5,SNR=5.5							
ILAR	**Eielson Array**	**82.27**	**22**	P		P	02 53 24.0	-0.2
	0.8nm,1.1s,baz=218,slow=5.7,SNR=2.4							
TORD	**Torodi Ar. Bea**	**150.72**	**288**	PKPbc		PKPbc	03 00 56.3	-0.3
	1.8nm,0.7s,baz=91,slow=2.3,SNR=10							

IDC ***31*** *02:52:16.0±0.6,13°.37N×44°.84W,h0km,mb4.1/17, mb1 4.3/19,mb1mx4.0/41,mbtmp4.1/19,ML3.8/2,MS3.5/14, Ms1 3.5/14,ms1mx3.3/30,Error ellipse: s-maj=16.7km s-min=14.1km az=146.0*
NEIC ***31*** *02:52:17.8±2.0,13°.2N±0°.1×44°.8W±0°.1,h12km±4km, mb4.8/83,Error ellipse: s-maj=16.6km s-min=13.1km az=135.0*
ISC 31 02:52:19.0±0.5,13°.34N±0°.07×44°.92W±0°.07,h15km,n152, σ1s38/138,mb4.7/58,MS3.5/13,5D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**11.18**	**224**	Pn		**Pn**	**02 54 57.4**	**-1.1**
	1.0nm,0.3s,baz=38,slow=14,SNR=41							
MDP				Sn		Sn	02 56 50.6	-13
	0.5nm,0.3s,baz=57,slow=12,SNR=2.6							
MDP				LR		LR	02 58 32.7	
	comp=Z,85nm,20.6s,baz=44,slow=34							
BBGH	**Gun Hill**	**14.25**	**271**	Pn		**Pn**	**02 55 41.7**	**+1.2**
H05S1	**Guadeloupe/Mar**	**15.49**	**276**	T		T	03 11 59.9	
	SNR=12							
SVB	**Belmont**	**15.90**	**272**	Pn		**Pn**	**02 56 00.3**	**-2.1**
SVB				IAmb		IAmb	02 56 02.0	
	comp=Z,54nm,0.9s							
ROSB	**Rosrio**	**16.15**	**177**	*e*P		**P**	**02 56 08.0**	**-0.8**
GRGR	**Grenville**	**16.37**	**268**	Pn		**Pn**	**02 56 08.9**	**+0.4**
MALB	**Monte Alegre**	**17.71**	**212**	*e*P		**Pn**	**02 56 22.3**	**-3.1**
NBCL	**Cascavel-CE**	**18.65**	**159**	*e*P		Pn	02 56 42.4	+5.6
BOAV	**Boa Vista**	**18.88**	**236**	*e*P		**P**	**02 56 37.2**	**-1.8**
NBPB	**Pedra_Branca-C**	**19.50**	**164**	*e*P		**Pn**	**02 56 50.7**	**+3.6**
PCRV	**Puerto La Cruz**	**19.56**	**263**	P		**P**	**02 56 44.6**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=12,slow=9.6,SNR=3.1							
PRPB	**Parauapebas**	**19.99**	**194**	*e*P		**Pn**	**02 56 52.6**	**-0.3**
PTGA	**Pitinga**	**20.45**	**228**	P		**P**	**02 56 55.3**	**-0.8**
	comp=Z,5.3nm,0.7s,baz=25,slow=13,SNR=8.2							
PTGA				LR		LR	03 04 54.9	
	comp=Z,34nm,18.1s,baz=64,slow=37							
PTGA	**Pitinga**	**20.45**	**228**	Pn		Pn	02 56 56.7	-1.6
PTGA	**Pitinga**	**20.45**	**228**	*e*P		**P**	**02 56 56.3**	**+0.1**
ITTB	**Itaituba**	**20.61**	**212**	*e*P		Pn	02 56 58.5	-1.7
SJG	**San Juan**	**20.97**	**286**	P		**P**	**02 57 01.5**	**-0.4**
	comp=Z,3.2nm,0.2s,baz=100,slow=11,SNR=1.8							
SJG				LR		LR	03 04 00.1	
	comp=Z,97nm,19.7s,baz=90,slow=34							
RCBR	**Riachuelo**	**21.05**	**154**	LR		LR	03 03 07.3	
	comp=Z,149nm,19.7s,baz=310,slow=31							
NBMA	**Muriti-CE**	**21.46**	**163**	*e*P		**P**	**02 57 11.7**	**+4.6**
SMTB	**Santa Maria do**	**22.22**	**187**	*e*P		**P**	**02 57 17.9**	**+2.6**
MACA	**Manacapuru-AM**	**22.66**	**225**	*e*P		**P**	**02 57 20.7**	**+0.7**
NPGB	**Novo Progresso**	**22.75**	**208**	*e*P		**P**	**02 57 19.4**	**-1.5**
NBPN	**Ponto Novo - B**	**24.48**	**169**	*e*P		**P**	**02 57 42.8**	**+4.9**
PEXB	**Peixe**	**25.50**	**188**	*e*P		**P**	**02 57 49.1**	**+2.1**
SDBA	**SAO DESIDERIO**	**25.58**	**180**	*e*P		**P**	**02 57 52.7**	**+4.9**
SDV	**Santo Domingo**	**25.61**	**263**	P		**P**	**02 57 47.2**	**-1.1**
SDV	**Santo Domingo**	**25.61**	**263**	*e*P		**P**	**02 57 50.9**	**+2.6**
SNDB	**Serra Nova Dou**	**25.93**	**194**	*e*P		**P**	**02 57 51.8**	**+0.9**
NBIT	**Itapeh - BA**	**28.61**	**169**	*e*P		P	02 58 18.2	+3.2
BDFB	**Brasilia**	**28.96**	**186**	P		**P**	**02 58 17.9**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=127,slow=8.1,SNR=4.2							
BDFB	**Brasilia**	**28.96**	**186**	P		**P**	**02 58 15.9**	**-2.3**
ARAG	**Araguaiana, MT**	**29.66**	**194**	*e*P		**P**	**02 58 25.1**	**+0.8**
ROSC	**El Rosal**	**30.20**	**256**	LR		LR	03 11 28.8	
	comp=Z,70nm,19.7s,baz=52,slow=38							
ETMB	**Extrema**	**31.24**	**224**	*e*P		**P**	**02 58 38.3**	**0.0**
PTLB	**Pontes e Lacer**	**31.88**	**207**	*e*P		**P**	**02 58 44.7**	**+0.9**
SIV	**San Ignacio**	**33.23**	**209**	P		**P**	**02 58 55.9**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=37,slow=8.6,SNR=7.1							
CZSB	**Cruzeiro do Su**	**34.64**	**234**	*e*P		**P**	**02 59 07.8**	**-0.3**
OTAV	**Otavalo**	**35.68**	**251**	P		**P**	**02 59 17.0**	**-0.6**
OTAV	**Otavalo**	**35.68**	**251**	*e*P		**P**	**02 59 18.6**	**+1.0**
VAO	**Valinhos**	**36.17**	**183**	*e*P		**P**	02 59 24.6	+3.4
SPB	**Sao Paulo**	**36.79**	**184**	*e*P		**P**	02 59 29.7	+3.4
H10N3	**ASCENSION HYDR**	**36.82**	**123**	T		T	03 38 15.3	
	baz=305,slow=75,SNR=29							
H10N2	**ASCENSION HYDR**	**36.82**	**123**	T		T	03 38 12.7	
	baz=305,slow=75,SNR=36							
H10N1	**ASCENSION HYDR**	**36.84**	**123**	T		T	03 38 17.0	
	baz=305,slow=75,SNR=37							
H10S3	**ASCENSION HYDR**	**37.33**	**125**	T		T	03 38 51.0	
	baz=303,slow=74,SNR=17							
LPAZ	**La Paz**	**37.33**	**219**	P		**P**	**02 59 31.9**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=357,slow=6.3,SNR=6.3							
LPAZ				LR		LR	03 14 33.4	
	comp=Z,44nm,20.8s,baz=58,slow=36							
LPAZ	**La Paz**	**37.33**	**219**	P		**P**	**02 59 30.6**	**-1.1**
LPAZ	**La Paz**	**37.33**	**219**	*e*P		**P**	**02 59 31.9**	**+0.1**
H10S2	**ASCENSION HYDR**	**37.34**	**125**	T		T	03 38 52.3	
	baz=277,slow=74,SNR=6.7							
KOWA	**Kowa**	**39.68**	**83**	P		**P**	**02 59 48.9**	**-2.1**
	comp=Z,3.0nm,0.7s,baz=276,slow=9.6,SNR=7.8							
DBIC	**Dimbokro**	**39.97**	**96**	P		**P**	**02 59 51.3**	**-2.1**
	comp=Z,3.8nm,0.9s,baz=296,slow=14,SNR=3.1							
DBIC				LR		LR	03 14 47.2	
	comp=Z,57nm,18.3s,baz=250,slow=34							
LRAL	**Lakeview Retre**	**43.01**	**304**	P		**P**	**03 00 18.5**	**+0.4**
PLAL	**Pickwick Lake**	**44.45**	**307**	P		**P**	**03 00 30.0**	**+0.4**
PLAL				IAmb		IAmb	03 00 32.6	
	comp=Z,7.5nm,0.8s							
WVT	**Waverly**	**44.62**	**308**	P		**P**	**03 00 31.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**45.32**	**85**	P		**P**	**03 00 35.8**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=288,slow=8.9,SNR=8.8							
TORD				LR		LR	03 18 50.9	
	comp=Z,73nm,18.3s,baz=270,slow=35							
TORD	**Torodi Ar. Bea**	**45.32**	**85**	P		**P**	**03 00 34.5**	**-2.4**
OXF	**Oxford**	**45.35**	**306**	P		**P**	**03 00 36.0**	**-0.8**
W45A	**Hickory Valley**	**45.37**	**307**	P		**P**	**03 00 37.0**	**+0.1**
SIUC	**Southern Illin**	**46.20**	**310**	P		**P**	**03 00 43.0**	**-0.5**
AC02	**Maricunga**	**46.35**	**210**	P		**P**	**03 00 44.7**	**-0.6**
Q44A	**Meyer Farm, Va**	**46.46**	**311**	P		**P**	**03 00 47.0**	**+1.4**
FVM	**French Village**	**47.19**	**310**	P		**P**	**03 00 51.1**	**-0.2**
FVM				IAmb		IAmb	03 00 53.8	
	comp=Z,10nm,0.9s							
WHAR	**Wooly Hollow**	**47.84**	**306**	P		**P**	**03 00 56.2**	**-0.1**
FCAR	**Ozark Folk Cen**	**47.87**	**307**	P		**P**	**03 00 56.7**	**+0.1**
X40A	**Basin Creek Fa**	**48.08**	**305**	P		**P**	**03 00 59.6**	**+1.4**
MGMO	**Mountain Grove**	**48.33**	**308**	P		**P**	**03 01 00.1**	**-0.1**
MGMO				IAmb		IAmb	03 01 04.0	
	comp=Z,9.1nm,1.4s							
U40A	**Yellville**	**48.57**	**307**	P		**P**	**03 01 02.5**	**+0.5**
U40A				IAmb		IAmb	03 01

PD31	**Pinedale Array**	**62.48**	**311**	P	**P**	**03**	**02**	**42.5 +0.2**
PDAR	**Pinedale Array**	**62.48**	**311**	P	**P**	**03**	**02**	**42.5 +0.2**
	comp=Z,2.5nm,1.0s,baz=98,slow=7.6,SNR=12							
RLMT	**Red Lodge**	**62.60**	**314**	P	**P**	**03**	**02**	**43.5 +0.5**
SRU	**San Rafael Swe**	**62.82**	**307**	P	**P**	**03**	**02**	**45.9 +1.3**
SRU				IAmb	IAmb	03	02	48.8
	comp=Z,15nm,1.9s							
YNE	**Yellowstone No**	**63.10**	**314**	P	**P**	**03**	**02**	**47.9 +1.4**
YNE				IAmb	IAmb	03	02	49.1
	comp=Z,11nm,1.6s							
YMP	**Mirror Lake Pl**	**63.17**	**314**	P	**P**	**03**	**02**	**48.5 +1.5**
YMP				IAmb	IAmb	03	02	49.5
	comp=Z,9.5nm,1.2s							
WUAZ	**Wupatki**	**63.27**	**303**	P	**P**	**03**	**02**	**48.6 +1.1**
WUAZ				IAmb	IAmb	03	02	49.7
	comp=Z,5.6nm,1.1s							
LOHW	**Long Hollow**	**63.34**	**312**	P	**P**	**03**	**02**	**48.1 +0.1**
LOHW				IAmb	IAmb	03	02	50.3
	comp=Z,8.9nm,1.5s							
EGMT	**Eagleton**	**63.40**	**317**	P	**P**	**03**	**02**	**49.3 +1.2**
EGMT				IAmb	IAmb	03	02	50.2
	comp=Z,5.3nm,0.9s							
FLWY	**Flagg Ranch**	**63.47**	**313**	P	**P**	**03**	**02**	**49.9 +1.1**
FLWY				IAmb	IAmb	03	02	56.0
	comp=Z,9.1nm,1.1s							
REDW	**Red Top Meadow**	**63.49**	**312**	P	**P**	**03**	**02**	**49.1 +0.1**
YHH	**Holmes Hill**	**63.66**	**313**	P	**P**	**03**	**02**	**51.4 +1.2**
HWUT	**Hardware Ranch**	**63.83**	**310**	P	**P**	**03**	**02**	**51.5 +0.3**
HWUT				IAmb	IAmb	03	02	53.7
	comp=Z,8.2nm,0.9s							
YHL	**Hebgen Lake**	**63.91**	**314**	P	**P**	**03**	**02**	**53.5 +1.7**
YHL				IAmb	IAmb	03	02	55.5
	comp=Z,8.4nm,1.1s							
MTPU	**Mount Pierson**	**64.04**	**306**	P	**P**	**03**	**02**	**54.6 +1.7**
MTPU				IAmb	IAmb	03	02	56.7
	comp=Z,16nm,2.0s							
NLU	**North Lily Min**	**64.08**	**308**	P	**P**	**03**	**02**	**54.2 +1.3**
BOZ	**Bozeman (W)**	**64.31**	**314**	P	**P**	**03**	**02**	**56.0 +1.7**
SPUT	**South Promonto**	**64.47**	**310**	P	**P**	**03**	**02**	**55.9 +0.5**
BGU	**Big Grassy Mou**	**64.88**	**309**	P	**P**	**03**	**02**	**58.8 +0.7**
CCUT	**Cedar City**	**64.95**	**305**	P	**P**	**03**	**03**	**00.6 +1.9**
CCUT				IAmb	IAmb	03	03	02.5
	comp=Z,5.9nm,1.2s							
DLMT	**Dillon**	**64.96**	**314**	P	**P**	**03**	**03**	**00.6 +2.1**
DLMT				IAmb	IAmb	03	03	01.8
	comp=Z,9.3nm,1.2s							
KOLS	**Kolonicke sedl**	**65.09**	**42**	*e*P	**P**	**03**	**02**	**59.6 +0.5**
PSUT	**Pine Spring**	**65.38**	**306**	P	**P**	**03**	**03**	**03.4 +2.0**
HLID	**Hailey**	**66.09**	**312**	P	**P**	**03**	**03**	**06.8 +1.0**
JTMT	**Jette**	**66.38**	**316**	P	**P**	**03**	**03**	**08.0 +0.4**
JTMT				IAmb	IAmb	03	03	09.7
	comp=Z,4.9nm,0.9s							
ELK	**Elko**	**66.54**	**309**	P	**P**	**03**	**03**	**09.6 +0.7**
ELK				IAmb	IAmb	03	03	11.4
	comp=Z,5.7nm,1.2s							
MFID	**Camas Ranch**	**67.11**	**312**	P	**P**	**03**	**03**	**13.4 +1.1**
TPNV	**Topopah Spring**	**67.24**	**305**	P	**P**	**03**	**03**	**15.4 +2.0**
TPNV				IAmb	IAmb	03	03	15.7
	comp=Z,8.2nm,1.4s							
TPH	**Tonopah**	**68.02**	**306**	P	**P**	**03**	**03**	**19.8 +1.5**
NEW	**Newport**	**68.32**	**317**	P	**P**	**03**	**03**	**19.6 -0.2**
NEW				IAmb	IAmb	03	03	22.2
	comp=Z,8.0nm,1.0s							
KVN	**Kaiserville**	**68.70**	**307**	P	**P**	**03**	**03**	**24.4 +1.8**
NVAR	**Mina Array Bea**	**68.87**	**306**	P	**P**	**03**	**03**	**23.2 -0.4**
	comp=Z,0.6nm,0.9s,baz=87,slow=8.2,SNR=4.0							
NVAR	**Mina Array Bea**	**68.87**	**306**	P	**P**	**03**	**03**	**23.5 -0.1**
YKA	**Yellowknife Ar**	**68.90**	**332**	P	**P**	**03**	**03**	**21.9 -1.2**
	comp=Z,1.4nm,1.0s,baz=106,slow=7.4,SNR=14							
YKA				LR	LR	03	30	08.2
	comp=Z,61nm,20.7s,baz=0.0,slow=33							
G08A	**Pilot Rock**	**69.43**	**314**	P	**P**	**03**	**03**	**27.1 +0.3**
AKASG	**Malin Array Be**	**69.75**	**41**	P	**P**	**03**	**03**	**27.5 -1.0**
	comp=Z,0.6nm,0.5s,baz=270,slow=4.5,SNR=4.3							
ARCES	**ARCESS Array B**	**70.77**	**21**	P	**P**	**03**	**03**	**33.8 -0.7**
	comp=Z,2.1nm,0.9s,baz=214,slow=3.7,SNR=3.7							
ARCES	**ARCESS Array B**	**70.77**	**21**	P	**P**	**03**	**03**	**34.3 -0.1**
K05A	**Summer Lake**	**70.80**	**311**	P	**P**	**03**	**03**	**34.4 -1.1**
BOSA	**Boshof**	**79.57**	**123**	LR	LR	03	31	33.7
	comp=Z,78nm,20.2s,baz=180,slow=30							
PRP	**Porcupine Dome**	**82.31**	**336**	P	**P**	**03**	**04**	**42.1 +2.0**
KMBO	**Kilima Mbogo**	**82.64**	**93**	LR	LR	03	41	53.6
	comp=Z,22nm,18.9s,baz=104,slow=36							
IL31		**83.07**	**335**	P	**P**	**03**	**04**	**45.5 +1.8**
IL31				IAmb	IAmb	03	05	02.0
	comp=Z,9.9nm,1.6s							
ILAR	**Eielson Array**	**83.07**	**335**	P	**P**	**03**	**04**	**44.1 +0.3**
	comp=Z,2.3nm,1.0s,baz=74,slow=4.2,SNR=16							
ILAR	**Eielson Array**	**83.07**	**335**	P	**P**	**03**	**04**	**43.6 -0.3**
CCB	**Clear Creek Bu**	**83.48**	**335**	P	**P**	**03**	**04**	**47.5 +1.6**
CCB				IAmb	IAmb	03	04	48.9
	comp=Z,8.9nm,1.4s							
WRH	**Wood River Hil**	**83.65**	**335**	P	**P**	**03**	**04**	**48.3 +1.5**
WRH				IAmb	IAmb	03	05	04.6
	comp=Z,11nm,1.4s							
GEYT	**Alibeck**	**91.91**	**50**	LR	LR	03	46	29.7
	comp=Z,27nm,20.2s,baz=205,slow=35							

*IDC **31** 03:02:30.9±3.6, 4.73S×152.53E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/42, mbtmp3.5/5, Error ellipse: s-maj=120.4km s-min=31.2km az=112.0*

ISC 31 03:02:37.7±3.9, 4.9S±0.4×152.7E±0.8, h55km, n6, σ0s30/6, mb2.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.28**	**228**	P	**P**	**03 07 40.5**	**-0.3**
	0.2nm,0.4s,baz=55,slow=10.0,SNR=2.5						
ASAR	**Alice Springs**	**25.99**	**222**	P	**P**	**03 08 05.4**	**-0.2**
	0.1nm,0.3s,baz=45,slow=9.2,SNR=1.6						
FITZ	**Fitzroy Crossi**	**29.40**	**241**	P	**P**	**03 08 37.0**	**+0.2**
	0.8nm,0.6s,baz=87,slow=7.3,SNR=1.8						
MKAR	**Makanchi Array**	**80.28**	**319**	P	**P**	**03 14 42.7**	**-0.1**
	0.1nm,0.6s,baz=102,slow=6.7,SNR=1.6						
ZALV	**Zalesovo Beam**	**81.13**	**326**	P	**P**	**03 14 47.0**	**-0.1**
	0.9nm,0.4s,baz=101,slow=8.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.18**	**288**	PKPbc	**PKiKP**	**03 22 24.6**	**+0.2**
	0.3nm,0.5s,baz=96,slow=2.7,SNR=3.6						

*IDC **31** 03:04:53.3±1.6, 5.22S×152.78E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.7/41, mbtmp3.6/8, MS3.3/2, Ms1 3.4/2, ms1mx2.8/34, Error ellipse: s-maj=65.6km s-min=22.3km az=125.0*

ISC 31 03:04:59.2±1.6, 5.3S±0.3×152.8E±0.4, h40km, n10, σ0s58/9, mb3.5/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.09**	**229**	P	**P**	**03 10 01.6**	**-0.1**
	0.5nm,0.4s,baz=53,slow=9.7,SNR=7.5						
ASAR	**Alice Springs**	**25.77**	**223**	P	**P**	**03 10 27.1**	**+0.7**
	0.3nm,0.4s,baz=56,slow=8.4,SNR=5.6						
FITZ	**Fitzroy Crossi**	**29.39**	**242**	P	**P**	**03 10 58.5**	**-0.4**
	0.8nm,0.5s,baz=81,slow=8.1,SNR=1.9						
KSRS	**Korea Array**	**48.40**	**333**	LR	LR	03 30 03.1	
	comp=Z,22nm,21.9s,baz=155,slow=31						
SONM	**Songino Array**	**66.70**	**328**	P	**P**	**03 15 46.4**	**+0.2**
	0.1nm,0.5s,baz=144,slow=6.6,SNR=1.6						
MKAR	**Makanchi Array**	**80.65**	**319**	P	**P**	**03 17 08.6**	**+0.6**
	0.1nm,0.5s,baz=93,slow=4.9,SNR=1.6						
ZALV	**Zalesovo Beam**	**81.52**	**326**	P	**P**	**03 17 12.1**	**-0.3**
	0.5nm,0.3s,baz=109,slow=7.8,SNR=1.4						
ILAR	**Eielson Array**	**82.62**	**22**	P	**P**	**03 17 17.6**	**-0.4**
	1.1nm,0.7s,baz=241,slow=5.7,SNR=15						
ILAR				LR	LR	03 56 03.5	
	comp=Z,28nm,18.2s,baz=196,slow=37						
YKA	**Yellowknife Ar**	**95.87**	**28**	P	**P**	**03 18 21.7**	**+0.4**
	0.2nm,0.7s,baz=266,slow=4.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.40**	**287**	PKPbc	**PKPbc**	**03 24 46.7**	**-0.8**
	0.8nm,0.8s,baz=72,slow=1.7,SNR=4.0						

IDC 31 03:28:36.8±4.1, 5.10S×152.92E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/35, mbtmp3.3/3, Error ellipse: s-maj=144.1km s-min=38.8km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.34**	**229**	P	P	03 33 45.9	-1.0
	0.9nm,0.7s,baz=54,slow=9.8,SNR=4.9						
ASAR	**Alice Springs**	**26.01**	**223**	P	P	03 34 12.4	+0.7
	0.1nm,0.3s,baz=55,slow=7.5,SNR=2.6						
MKAR	**Makanchi Array**	**80.63**	**319**	P	P	03 40 51.6	0.0
	0.4nm,0.9s,baz=95,slow=8.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**150.51**	**288**	PKPbc	PKPbc	03 48 31.4	-0.2
	1.5nm,1.1s,baz=80,slow=1.7,SNR=3.7						

*TUL **31** 03:42:40.4±1.0, 36.78N±0.03×98.02W±0.04, h6km±6km, ML3.0, mb_Lg3.0/69(NEIC), Error ellipse: s-maj=5.6km s-min=2.7km az=222.0*
*ANF **31** 03:42:40.6±0.3, 36.77N×98.02W, h7km, ML3.6/11, Error ellipse: s-maj=3.2km s-min=2.8km az=3.0*
*NEIC **31** 03:42:41.1±1.6, 36.77N±0.02×97.93W±0.06, h5km±7km, Error ellipse: s-maj=7.2km s-min=1.7km az=71.0*

ISC 31 03:42:40.8±0.9, 36.77N±0.02×98.01W±0.02, h7km±8km, n81, σ0s78/73, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.14**	**58**	Pg	**Pg**	**03 42 43.9**	**0.0**
GC02				Sg	**Sg**	**03 42 46.3**	**+0.4**
OK032	**Salt Plains WL**	**0.16**	**281**	Pg	**Pg**	**03 42 43.9**	**-0.2**
OK032				Sg	**Sg**	**03 42 46.3**	**0.0**
CROK	**Carrier**	**0.27**	**175**		**Pg**	**03 42 46.1**	**0.0**
CROK				Sg	**Sg**	**03 42 50.2**	**+0.5**
KAN10	**Anthony SW Sta**	**0.35**	**349**		**Pg**	**03 42 47.6**	**-0.2**
KAN10				Sg	**Sg**	**03 42 52.5**	**0.0**
KAN01	**Argonia South**	**0.43**	**28**		**Pg**	**03 42 49.0**	**-0.2**
KAN01				Sg	**Sg**	**03 42 54.6**	**-0.2**
KAN08	**Anthony NE Sta**	**0.45**	**4**		**Pg**	**03 42 49.4**	**-0.2**
KAN08				Sg	**Sg**	**03 42 55.4**	**-0.1**
KAN09	**Caldwell North**	**0.48**	**41**		**Pg**	**03 42 49.9**	**-0.2**
KAN09				Sg	**Sg**	**03 42 56.3**	**-0.1**
KAN13	**South Haven SW**	**0.49**	**61**		**Pg**	**03 42 50.1**	**-0.2**
KAN13				Sg	**Sg**	**03 42 56.7**	**0.0**
KAN12	**Harper NE Stat**	**0.52**	**1**		**Pg**	**03 42 50.7**	**-0.2**
KAN12				Sg	**Sg**	**03 42 57.8**	**0.0**
U32A	**Winter Ranch,**	**0.89**	**244**		**Pg**	**03 42 57.1**	**-0.7**
U32A	**Winter Ranch,**	**0.89**	**244**	P	**Pg**	**03 42 57.1**	**-0.7**
	baz=63,SNR=21						
U32A				S	**Sg**	**03 43 09.3**	**-0.1**
	baz=63						
U32A	**Winter Ranch,**	**0.89**	**244**	P		03 42 57.1	
	baz=63,SNR=21						
U32A				S		03 43 09.3	
	baz=63						
OK029	**Liberty Lake**	**1.07**	**155**		**Pg**	**03 43 00.6**	**-0.8**
BCOK	**Bluff Creek, N**	**1.16**	**164**		**Pg**	**03 43 02.0**	**-1.1**
QUOK	**Quay**	**1.21**	**119**	Pg	**Pg**	**03 43 03.2**	**-0.8**
T35A	**Sooner Cattle**	**1.21**	**83**	Pg	**Pg**	**03 43 03.0**	**-1.1**
T35B	**Sooner Cattle**	**1.21**	**83**	P	**Pg**	**03 43 03.0**	**-1.1**
	baz=264,SNR=110						
T35B				S	**Sg**	**03 43 18.9**	**-0.9**
	baz=264						
T35B	**Sooner Cattle**	**1.21**	**83**	P		03 43 03.0	
	baz=264,SNR=110						
T35B				S		03 43 18.9	
	baz=264						
OK031	**S. Brethren Rd**	**1.25**	**131**		**Pb**	**03 43 03.8**	**-1.0**
OK030	**Cody Creek RV**	**1.30**	**130**		**Pn**	**03 43 04.6**	**-0.9**
OK025	**Westminster Rd**	**1.31**	**155**		**Pn**	**03 43 04.8**	**-0.7**
OKCFA	**Oklahoma City**	**1.43**	**161**		**Pb**	**03 43 07.8**	**-0.1**
OKCFA	**Oklahoma City**	**1.43**	**161**	P	**Pn**	**03 43 07.0**	**-0.2**
	baz=342						
OKCFA				S	**Sg**	**03 43 26.6**	**-0.1**
	baz=342						
OKCFA	**Oklahoma City**	**1.43**	**161**	P		03 43 07.0	
	baz=342						
OKCFA				S		03 43 26.6	
	baz=342						
OKCSW	**OKLAHOMA CITY**	**1.44**	**161**		**Pn**	**03 43 07.2**	**-0.2**
FNO	**Franklin**	**1.59**	**162**	Pn	**Pb**	**03 43 10.3**	**-0.3**
R32A	**Long Quarter,**	**1.74**	**342**		**Pn**	**03 43 12.0**	**+0.5**
R32A	**Long Quarter,**	**1.74**	**342**	P	**Pn**	**03 43 11.9**	**+0.4**
	baz=161,SNR=44						
R32A				S	**Sb**	**03 43 35.0**	**-0.1**
	baz=161						
R32A	**Long Quarter,**	**1.74**	**342**	P		03 43 11.9	
	baz=161,SNR=44						
R32A				S		03 43 35.0	
	baz=161						
TUL1	**Leonard**	**1.99**	**115**	P	**Pn**	**03 43 14.7**	**-0.2**
	baz=297,SNR=97						
TUL1				S	**Sb**	**03 43 42.7**	**+0.4**
	baz=297						
TUL1	**Leonard**	**1.99**	**115**	P		03 43 14.7	
	baz=297						
TUL1				S		03 43 42.7	
	baz=297						
TUL1	**Leonard**	**1.99**	**115**	P		03 43 14.7	
	baz=297,SNR=97						
TUL1				S		03 43 42.7	
	baz=297						
WMOK	**Wichita Mounta**	**2.13**	**197**		**Pn**	**03 43 16.9**	**+0.1**
WMOK	**Wichita Mounta**	**2.13**	**197**	P	**Pn**	**03 43 17.1**	**+0.2**
	baz=17,SNR=123						
WMOK	**Wichita Mounta**	**2.13**	**197**	P		03 43 17.2	
	baz=17						
WMOK				S		03 43 45.3	
	baz=17						
WMOK	**Wichita Mounta**	**2.13**	**197**	P		03 43 17.1	
	baz=17,SNR=123						
CBKS	**Cedar Bluff**	**2.45**	**327**	Pn	**Pb**	**03 43 23.3**	**-2.0**
CBKS	**Cedar Bluff**	**2.45**	**327**	S	**Sn**	**03 43 52.6**	**+1.0**
	baz=146						
CBKS	**Cedar Bluff**	**2.45**	**327**	P		03 43 21.8	
	baz=146						
CBKS	**Cedar Bluff**	**2.45**	**327**	S		03 43 52.6	
	baz=146						
KSU1	**Kansas State U**	**2.57**	**25**	Pn	**Pn**	**03 43 24.3**	**+1.4**
KSU1				IAmb_Lg		03 44 02.8	
	comp=Z,52nm,0.8s						
KSU1	**Kansas State U**	**2.57**	**25**	S	**Sn**	**03 43 55.3**	**+0.7**
	baz=206						
KSU1	**Kansas State U**	**2.57**	**25**	S		03 43 55.3	
	baz=206						
U38A	**Gravette**	**2.94**	**95**		**Pn**	**03 43 28.3**	**+0.3**
U38A	**Gravette**	**2.94**	**95**	P	**Pn**	**03 43 28.2**	**+0.2**
	baz=278,SNR=33						
U38A	**Gravette**	**2.94**	**95**	P		03 43 28.2	
	baz=278,SNR=33						
X37A	**Clayton**	**3.06**	**135**		**Pn**	**03 43 29.4**	**-0.2**
X37A				IAmb_Lg		03 44 20.0	
	comp=Z,35nm,0.8s						
X37A	**Clayton**	**3.06**	**135**	P	**Pn**	**03 43 29.8**	**+0.1**
	baz=316,SNR=31						
X37A	**Clayton**	**3.06**	**135**	P		03 43 29.8	
	baz=316,SNR=31						
HHAR	**Hobbs**	**3.32**	**97**		**Pn**	**03 43 33.2**	**0.0**
HHAR				IAmb_Lg		03 44 27.1	
	comp=Z,31nm,0.7s						
Z35A	**Perchaven, San**	**3.49**	**170**		**Pb**	**03 43 43.6**	**+0.7**
AMTX	**Amarillo**	**3.53**	**239**	Pn	**Pb**	**03 43 44.5**	**+0.9**
AMTX				IAmb_Lg		03 44 33.8	
	comp=Z,40nm,0.9s						
W39A	**Magazine**	**3.77**	**113**		**Pb**	**03 43 47.6**	**-0.1**
W39A				IAmb_Lg		03 44 44.8	
	comp=Z,43nm,0.8s						
W39A	**Magazine**	**3.77**	**113**	Pb		03 43 48.3	
	baz=296						
S39A	**Bolivar**	**3.85**	**75**	Pn	**Pn**	**03 43 40.5**	**-0.1**
S39A	**Bolivar**	**3.85**	**75**	P	**Pn**	**03 43 40.3**	**-0.2**
	baz=258,SNR=18						
S39A	**Bolivar**	**3.85**	**75**	P		03 43 40.3	
	baz=258,SNR=18						
U40A	**Yellville**	**4.17**	**94**		**Pn**	**03 43 44.9**	**-0.2**
U40A				IAmb_Lg		03 44 53.0	
	comp=Z,53nm,0.8s						
U40A	**Yellville**	**4.17**	**94**	P	**Pn**	**03 43 44.8**	**-0.2**
	baz=277,SNR=13						
U40A	**Yellville**	**4.17**	**94**	P		03 43 44.8	
	baz=277						
U40A	**Yellville**	**4.17**	**94**	P		03 43 44.8	
	baz=277,SNR=13						
U40A				P		03 43 44.8	
	baz=277,SNR=13						
MIAR	**Mount Ida**	**4.24**	**120**	Pn	**Pn**	**03 43 49.8**	**+3.9**
MIAR				IAmb_Lg		03 44 56.1	
	comp=Z,32nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.28**	**303**		**Pn**	**03 43 45.8**	**-0.7**
KSCO	**Kaye Shedlock'**	**4.28**	**303**	P		03 43 48.4	
	baz=120						
Z38A	**Mt. Pleasant**	**4.30**	**144**	Pg	**Pb**	**03 43 59.1**	**+2.4**
Z38A				IAmb_Lg		03 45 02.8	
	comp=Z,41nm,0.8s						
ABTX	**Abilene, Hawle**	**4.35**	**198**	Pn	**Pn**	**03 43 47.1**	**-0.3**
N35A	**Tabor**	**4.48**	**24**		**Pb**	**03 43 60.0**	**+0.1**
P38A	**Dawn**	**4.53**	**50**	Pg	**Pb**	**03 44 00.9**	**+0.2**
MGMO	**Mountain Grove**	**4.62**	**84**		**Pn**	**03 43 50.7**	**-0.3**
BGNE	**Belgrade**	**4.63**	**359**	Pn	**Pn**	**03 43 50.5**	**-0.7**
BGNE				IAmb_Lg		03 45 11.6	
	comp=Z,35nm,0.9s						
MSTX	**Muleshoe**	**4.79**	**236**		**Pn**	**03 43 52.8**	**-0.7**
WHTX	**Lake Whitney,**	**4.79**	**174**	P		03 43 53.6	
	baz=355						
WHTX				Sb		03 45 08.3	
	baz=355						
X40A	**Basin Creek Fa**	**4.79**	**117**		**Pb**	**03 44 05.2**	**0.0**
R40A	**Maddies Statio**	**4.81**	**70**		**Pn**	**03 43 53.6**	**-0.1**
R40A				IAmb_Lg		03 45 14.4	
	comp=Z,24nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.83**	**99**	Pn	**Pn**	**03 43 53.6**	**-0.4**
FCAR				IAmb_Lg		03 45 15.9	
	comp=Z,24nm,0.9s						
WHAR	**Wooly Hollow**	**4.87**	**106**	Pn	**Pn**	**03 43 54.1**	**-0.4**
WHAR				IAmb_Lg		03 45 14.1	
	comp=Z,26nm,1.0s						
WLAR	**White Oak Lake**	**5.06**	**126**	Pn	**Pn**	**03 43 56.5**	**-0.6**
WLAR				IAmb_Lg		03 45 25.0	
	comp=Z,22nm,0.9s						
T25A	**Trinidad**	**5.14**	**276**	IAmb_Lg		03 45 27.1	
	comp=Z,19nm,0.8s						
N38A	**Joes South For**	**5.48**	**41**	IAmb_Lg		03 45 41.9	
	comp=Z,30nm,0.7s						
CCM	**Cathedral Cave**	**5.54**	**75**	IAmb_Lg		03 45 41.5	
	comp=Z,27nm,0.8s						
LCAR	**Lake Charles**	**5.58**	**95**	Pn	**Pn**	**03 44 04.3**	**+0.1**
NATX	**Nacogdoches**	**5.72**	**150**	IAmb_Lg		03 45 53.9	
	comp=Z,21nm,1.1s						
CCAR	**Cane Creek**	**5.84**	**117**	IAmb_Lg		03 45 56.1	
	comp=Z,18nm,1.0s						
435B	**Jarrell**	**5.99**	**176**	IAmb_Lg		03 46 08.0	
	comp=Z,19nm,0.8s						
HBAR	**Harrisburg**	**6.07**	**99**	IAmb_Lg		03 45 58.4	
	comp=Z,35nm,0.8s						
PBMO	**Poplar Bluff**	**6.09**	**88**	IAmb_Lg		03 45 54.5	
	comp=Z,22nm,0.8s						
FVM	**French Village**	**6.16**	**76**	IAmb_Lg		03 45 59.4	
	comp=Z,33nm,1.1s						
LPAR	**Lepanto**	**6.35**	**98**	IAmb_Lg		03 46 13.9	
	comp=Z,29nm,1.0s						
SLM	**Saint Louis**	**6.44**	**71**	IAmb_Lg		03 46 04.8	
	comp=Z,26nm,0.7s						
SIUC	**Southern Illin**	**7.08**	**80**	IAmb_Lg		03 46 36.2	
	comp=Z,18nm,0.8s						
W45A	**Hickory Valley**	**7.34**	**100**	IAmb_Lg		03 46 33.3	
	comp=Z,26nm,0.8s						
PHWY	**Pilot Hill**	**7.35**	**310**	IAmb_Lg		03 46 38.0	
	comp=Z,14nm,1.0s						
L40A	**Anamosa**	**7.45**	**43**	IAmb_Lg		03 46 45.2	
	comp=Z,17nm,0.8s						
Y22D	**IRIS PASSCAL I**	**7.75**	**252**	IAmb_Lg		03 46 58.5	
	comp=Z,21nm,0.9s						
OLIL	**Olney**	**8.09**	**73**	IAmb_Lg		03 47 02.2	
	comp=Z,19nm,0.8s						
JFWS	**Jewell Farm**	**8.56**	**42**	IAmb_Lg		03 47 15.2	
	comp=Z,16nm,0.8s						
SFIN	**Lafayette**	**9.27**	**64**	IAmb_Lg		03 47 49.3	
	comp=Z,14nm,0.7s						
SPMN	**Marine on St.**	**9.31**	**23**	IAmb_Lg		03 47 35.8	
	comp=Z,14nm,1.3s						
BLO	**Bloomington**	**9.38**	**72**	IAmb_Lg		03 47 40.5	
	comp=Z,13nm,0.8s						
WCI	**Wyandotte Cave**	**9.43**	**78**	IAmb_Lg		03 47 40.3	
	comp=Z,13nm,0.8s						

*BJI **31** 03:46:26.0±0.0, 2.10N×128.65E, h120km, mB5.0/41, mb5.0/65*
*KLM **31** 03:46:30, 2.48N×128.37E, h114km, mb4.9*
*IDC **31** 03:46:31.9±1.3, 2.46N×128.20E, h124km±11km, mb4.3/25, mb1 4.5/28, mb1mx4.4/39, mbtmp4.8/28, MS3.3/4, Ms1 3.3/4, ms1mx2.9/32, Error ellipse: s-maj=16.0km s-min=8.7km az=80.0*
*NEIC **31** 03:46:32.9±1.4, 2.41N±0.07×128.19E±0.08, h138km±6km, mb4.8/98, Error ellipse: s-maj=12.5km s-min=10.4km az=61.0*
*DJA **31** 03:46:32.5±0.3, 2.1N±2.2×12.8E±, h119km±3km, M4.9/44, mB5.4/26, mb5.1/44, MLv5.4/14, Mw(mB)4.8/26*

ISC 31 03:46:31.8±0.6, 2.46N±0.04×128.17E±0.05, h122km±5km, n294, σ1s23/313, mb4.9/109, 43C-17D, Fault plane solution: NP1: φs340.62424°, δ49.73372°, λ80.23978°. **NP2:** φs175.52731°, δ41.23570°, λ101.31742°. **Principal axes:** T Plg81.4088°, Azm197.2597°; N Plg7.4324°, Azm346.9684°; P Plg4.2849°, Azm77.5284°; **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.85**	**206**		**Pn**	**03 47 04.9**	**+1.3**
TNTI	**Ternate**	**1.85**	**206**	P	**Pn**	**03 47 04.5**	**+0.9**
SGSI	**Sangihe**	**2.90**	**295**	P	**Pn**	**03 47 16.9**	**0.0**
SGSI				S	**Sn**	**03 47 51.0**	**-0.7**
DDMP	**Don Marcelino,**	**4.37**	**326**	*e*P	**Pn**	**03 47 34.7**	**-1.7**
DDMP				*e*S	**Sn**	**03 48 25.6**	**-1.0**
SWI	**Sorong**	**4.52**	**137**	P	**Pn**	**03 47 40.2**	**+1.8**
SIJI	**Sorong

2µm192nm,1.3s
MTN Manton Dam 15.48 169 P **Pn** **03 50 03.4 -0.2**
baz=16,SNR=19
MTN Manton Dam 15.48 169 Pn **Pn** **03 50 03.0 -0.6**
KDU Kakadu 15.64 164 P **Pn** **03 50 04.7 -0.9**
baz=16,SNR=20
TWSI Taliwang, Sumb 15.82 225 P **Pn** **03 50 07.2 -0.6**
535nm56nm,1.4s
SBUM Sibu 15.93 270 **Pn** **03 50 09.9 +0.7**
SBUM Sibu 15.93 270 P **P** **03 50 13.0 +2.6**
SRBI Singaraja 16.63 231 P **Pn** **03 50 17.5 -0.3**
952nm86nm,1.0s
KMMI Kalianget 17.03 236 P **Pn** **03 50 25.2 +2.5**
2µm94nm,0.9s
JAGI Jajag, Banyuwa 17.69 232 Pn **Pn** **03 50 31.2 +0.5**
JAGI Jajag, Banyuwa 17.69 232 P **Pn** **03 50 32.4 +1.7**
2µm206nm,1.0s
KSM Kuching 17.87 267 P **P** **03 50 32.5 +0.7**
WOJI Wonogiri, Jawa 20.01 239 P **P** **03 50 56.7 +1.6**
15nm,0.7s
SMRI Semarang 20.05 242 P **P** **03 50 55.0 -0.6**
70nm,0.9s
UGM Wanagama 20.39 240 P **P** **03 50 59.1 0.0**
UGM Wanagama 20.39 240 P **P** **03 50 59.2 0.0**
83nm,0.9s
FITZ Fitzroy Crossi 20.58 187 P **P** **03 50 59.9 -1.2**
8.1nm,0.5s,baz=17,slow=8.4,SNR=63
FITZ Fitzroy Crossi 20.58 187 P **P** **03 50 59.9 -1.2**
baz=21,SNR=20
FITZ Fitzroy Crossi 20.58 187 P **P** **03 51 00.0 -1.0**
TPI Tanjungpandan 21.15 256 P **P** **03 51 07.4 +0.1**
1µm24nm,0.8s
TWG Pinlang 21.38 342 P **P** **03 51 07.2 -2.4**
TWG IAmb IAmb 03 51 11.1
comp=Z,37nm,0.6s
DLV T Lat 21.66 297 P **P** **03 51 13.1 +0.2**
DLV IAmb IAmb 03 51 15.9
comp=Z,47nm,0.9s
YULB Yu-li 21.85 343 P **P** **03 51 15.5 +0.8**
YULB IAmb IAmb 03 51 16.8
comp=Z,20nm,0.7s
TPUB Ta-pu 21.97 341 P **P** **03 51 15.7 -0.2**
COEN Coen 22.08 138 P **P** **03 51 16.9 -0.2**
SSLB Suanglung 22.32 342 P **P** **03 51 19.0 -0.6**
SSLB IAmb IAmb 03 51 24.4
comp=Z,38nm,0.7s
LEM Lembang 22.49 246 P **P** **03 51 22.3 +0.8**
comp=Z,37nm,0.5s,baz=73,slow=7.6,SNR=8.8
CISI Cisompet, Garu 22.61 244 P **P** **03 51 21.9 -0.7**
CISI IAmb IAmb 03 51 23.3
comp=Z,50nm,0.9s
WB0 Warramunga Arr 22.92 165 P **P** **03 51 25.1 -0.3**
YHNB Yeheng 23.04 344 P **P** **03 51 26.2 -0.4**
YHNB IAmb IAmb 03 51 35.0
comp=Z,46nm,0.8s
WRA Warramunga Arr 23.07 165 P **P** **03 51 26.4 -0.4**
comp=Z,44nm,0.5s,baz=343,slow=11,SNR=364
WRA S **S** **03 55 25.7 -2.9**
comp=Z,1.1nm,0.8s,baz=346,slow=17,SNR=3.0
WRA ScP **ScP** **03 58 37.7 -1.5**
comp=Z,3.0nm,0.7s,baz=339,slow=3.1,SNR=10
WRA Warramunga Arr 23.07 165 P **P** **03 51 25.3 -1.6**
WB2 Warramunga Arr 23.07 165 P **P** **03 51 26.4 -0.5**
baz=23
WB2 S **S** **03 55 28.2 -0.4**
baz=23
WB2 Warramunga Arr 23.07 165 P **P** **03 51 26.6 -0.3**
WR0 Warramunga Arr 23.14 165 P **P** **03 51 27.2 -0.3**
WR0 IAmb IAmb 03 51 28.9
comp=Z,48nm,0.8s
QZH Quanzhou 24.19 338 ⇑*iP* **P** **03 51 37.8 +0.9**
QZH S **S** **03 55 53.5 +7.1**
QZH pmax pmax
comp=Z,51nm,0.6s
JOW Kunigami 24.24 0 P **P** **03 51 37.3 -0.1**
comp=Z,18nm,0.7s,baz=163,slow=7.7,SNR=3.5
KLSI 24.47 253 P **P** **03 51 40.6 +0.9**
comp=Z,7.5nm,0.8s
PSA00 Pilbara Seismi 25.23 198 P **P** **03 51 46.3 -0.2**
PSA00 Pilbara Seismi 25.23 198 P **P** **03 51 46.2 -0.2**
PSA00 IAmb IAmb 03 51 46.9
comp=Z,15nm,0.8s
QIS Mount Isa 25.47 154 P **P** **03 51 49.1 +0.4**
baz=26,SNR=33
UBPT Khong Chiam 25.75 301 P **P** **03 51 52.0 +0.8**
comp=Z,17nm,0.7s
UBPT Khong Chiam 25.75 301 P **P** **03 51 51.2 0.0**
UBPT IAmb IAmb 03 51 54.1
comp=Z,22nm,0.7s
XMIS Christmas Isla 25.83 240 P **P** **03 51 51.8 -0.2**
AS31 Alice Springs 26.56 168 P **P** **03 51 58.3 -0.2**
ASAR Alice Springs 26.56 168 P **P** **03 51 58.1 -0.4**
comp=Z,5.4nm,0.5s,baz=356,slow=8.3,SNR=80
ASAR ScP **ScP** **03 58 48.0 -1.0**
comp=Z,2.7nm,0.7s,baz=350,slow=2.5,SNR=14
ASAR Alice Springs 26.56 168 P **P** **03 51 57.7 -0.7**
ASPA Alice Springs 26.56 168 P **P** **03 51 58.4 -0.1**
baz=27
WRKA Warakurna 27.33 180 P **P** **03 52 04.9 -0.5**
baz=27,SNR=37
SRAK Srakaew 28.25 295 P **P** **03 52 11.8 -1.8**
comp=Z,4µmcomp=Z,208nm,0.8s
GIRL Giralia 28.41 208 P **P** **03 52 16.0 +1.1**
baz=28,SNR=6.0
GIRL Giralia 28.41 208 P **P** **03 52 15.4 +0.4**
CTA Charters Tower 28.59 142 P **P** **03 52 17.1 +0.5**
comp=Z,7.6nm,1.0s,baz=153,slow=14,SNR=3.3
CHAI Chaiyaphum 29.04 299 P **P** **03 52 22.0 +1.4**
comp=Z,312nmcomp=Z,21nm,0.6s
JNU Nakatsue 30.61 4 P **P** **03 52 33.6 -0.8**
JNU IAmb IAmb 03 52 35.1
comp=Z,30nm,1.0s
NJ2 Nanjing 30.72 344 *eP* **P** **03 52 37.0 +1.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
WHN Wuhan 30.85 336 ⇑P **P** **03 52 38.0 +1.6**
PHIT Phitsanulok 30.94 300 P **P** **03 52 40.2 +2.8**
comp=Z,61nm,0.7s
UTHA Uthaitani 31.15 296 P **P** **03 52 40.4 +1.2**
comp=Z,437nmcomp=Z,27nm,0.7s
GYA Guiyang 31.55 321 ⇓P **P** **03 52 44.5 +1.7**
GYA pmax pmax
comp=Z,13nm,0.9s
GYA pmax pmax
comp=Z,73nm,3.5s
SUKH Sukhothai 31.74 300 P P 03 52 51.4 +7.0
JHJ Hachijo jima 2 32.39 18 LR LR 04 05 14.3
comp=Z,26nm,18.8s,baz=322,slow=35
JHS Saijyo 32.70 8 P **P** **03 52 52.2 -0.4**
JHS IAmb IAmb 03 52 54.3
comp=Z,16nm,0.9s
CMAR Chiang Mai Arr 32.75 301 P **P** **03 52 53.9 +0.6**
comp=Z,3.3nm,0.6s,baz=119,slow=6.9,SNR=17
CMAR PcP **PcP** **03 55 37.9 +1.8**
comp=Z,1.0nm,0.4s,baz=181,slow=1.7,SNR=6.3
CMAR ScP **ScP** **03 59 09.8 +0.8**
comp=Z,3.1nm,0.9s,baz=146,slow=2.1,SNR=13
CMAR LR LR 04 07 53.1
comp=Z,26nm,18.6s,baz=120,slow=39
ENH Enshi 32.84 329 P **P** **03 52 55.1 +1.1**
CMMT Chiang Mai 32.90 302 P **P** **03 52 55.0 +0.4**
comp=Z,8.8nm,1.4s
CHTO Chiang Mai 32.90 302 P **P** **03 52 56.0 +1.4**
CHTO IAmb IAmb 03 52 56.9
comp=Z,9.7nm,0.7s
FORT Forrest 33.05 180 P **P** **03 52 54.8 -0.8**
baz=33,SNR=14
FORT Forrest 33.05 180 P **P** **03 52 54.8 -0.8**
KMI Kunming 33.29 315 ⇓P **P** **03 53 00.5 +2.4**
KMI pP pP 03 53 22.8 -1.3
KMI sP sP 03 53 38.0 +0.1
KMI pmax pmax
comp=Z,40nm,1.2s
JWT Wachi 33.35 11 P **P** **03 52 57.6 -0.6**
JWT IAmb IAmb 03 52 58.9
comp=Z,28nm,1.1s
MORW Morawa 33.43 199 P **P** **03 52 58.0 -1.1**
baz=34,SNR=16
MORW Morawa 33.43 199 P **P** **03 52 58.0 -1.1**
MORW IAmb IAmb 03 52 58.7
comp=Z,12nm,0.6s
MHMT Maesarieng 33.50 300 P **P** **03 53 01.0 +1.2**
INU Inuyama 33.74 13 P **P** **03 53 01.1 -0.6**
INU IAmb IAmb 03 53 02.0
comp=Z,29nm,1.1s
JGF Kuroka 34.06 13 P **P** **03 53 03.7 -0.8**

KMBL Kambalda 34.16 190 P **P** **03 53 04.5 -0.9**
baz=34,SNR=9.4
BLDU Ballidu 34.66 198 P **P** **03 53 08.5 -1.1**
baz=35,SNR=18
KSAR Wonju Array Be 34.82 360 P **P** **03 53 10.6 -0.3**
KSRS Korea Array 34.83 360 P **P** **03 53 10.8 -0.1**
comp=Z,7.4nm,0.8s,baz=176,slow=11,SNR=25
KSRS PcP **PcP** **03 55 42.1 +0.6**
comp=Z,0.7nm,0.5s,baz=183,slow=3.1,SNR=4.5
KSRS ScP **ScP** **03 59 16.1 +0.3**
comp=Z,1.4nm,0.7s,baz=181,slow=3.9,SNR=4.1
MJAR Matsushiro Arr 35.16 14 P **P** **03 53 12.3 -1.6**
comp=Z,9.8nm,0.6s,baz=184,slow=9.2,SNR=28
MJAR Matsushiro Arr 35.16 14 P **P** **03 53 11.8 -2.1**
MAT Matsushiro 35.16 14 P **P** **03 53 12.1 -1.8**
KLBR Kellerberrin 35.28 195 P **P** **03 53 14.2 -0.8**
baz=35,SNR=15
EIDS Eidsvold 35.47 143 P **P** **03 53 16.4 -0.3**
baz=36,SNR=3.4
EIDS Eidsvold 35.47 143 P **P** **03 53 16.1 -0.6**
EIDS IAmb IAmb 03 53 17.0
comp=Z,12nm,0.9s
BBOO Buckleboo 35.86 169 P **P** **03 53 19.6 -0.3**
baz=36,SNR=19
BBOO Buckleboo 35.86 169 P **P** **03 53 19.4 -0.6**
BBOO IAmb IAmb 03 53 20.4
comp=Z,16nm,0.9s
MUN Mundaring 36.08 197 P **P** **03 53 21.0 -0.8**
baz=36,SNR=5.4
XAN Xi'an 36.20 332 P **P** **03 53 23.3 +0.5**
XAN pmax pmax
comp=Z,37nm,0.7s
XAN pmax pmax
comp=Z,40nm,4.3s
XAN Xi'an 36.20 332 P **P** **03 53 23.6 +0.8**
STKA Stephens Creek 36.45 161 P **P** **03 53 25.1 +0.2**
comp=Z,23nm,0.3s,baz=340,slow=7.9,SNR=118
STKA LR LR 04 11 06.0
comp=Z,90nm,20.3s,baz=234,slow=40
STKA Stephens Creek 36.45 161 P **P** **03 53 25.1 +0.2**
baz=36,SNR=71
STKA Stephens Creek 36.45 161 P **P** **03 53 24.2 -0.7**
CD2 Chengdu 36.51 323 ⇑*iP* **P** **03 53 26.5 +0.9**
CD2 pmax pmax
comp=Z,120nm,0.9s
JSD Sado 36.60 13 P **P** **03 53 23.9 -2.2**
NWAO Narrogin (SRO) 36.68 195 P **P** **03 53 26.5 -0.4**
baz=37,SNR=5.4
NWAO Narrogin (SRO) 36.68 195 P **P** **03 53 25.5 -1.3**
NWAO IAmb IAmb 03 53 27.0
comp=Z,12nm,0.8s
JMM Marumori 37.10 17 P **P** **03 53 29.8 -0.5**
HTT Hallett 37.11 165 P **P** **03 53 30.9 +0.3**
baz=37,SNR=9.9
CMSA Cobar Meteorol 37.69 155 P **P** **03 53 35.9 +0.5**
baz=38,SNR=6.3
BJT Baijiatuan 38.94 345 P **P** **03 53 46.2 +0.4**
BJT IAmb IAmb 03 53 46.6
comp=Z,16nm,0.7s
BJI Beijing 38.96 345 P **P** **03 53 46.0 +0.1**
BJI pmax pmax
comp=Z,21nm,0.7s
SAIH SAIHA 39.52 303 *eP* **P** **03 53 52.3 +1.3**
SAIH IAmb IAmb 03 53 54.3
comp=Z,23nm,1.0s
ARMA Armidale 39.62 147 P **P** **03 53 52.2 +0.4**
baz=40,SNR=12
ARMA Armidale 39.62 147 P **P** **03 53 51.0 -0.8**
ARMA IAmb IAmb 03 53 53.4
comp=Z,7.8nm,0.5s
IMP Imphal 39.79 307 *eP* **P** **03 53 53.4 +0.2**
IMP IAmb IAmb 03 53 55.5
comp=Z,16nm,0.7s
KOHI KOHIMA 40.09 308 *eP* **P** **03 53 55.6 -0.1**
KOHI IAmb IAmb 03 53 59.7
comp=Z,24nm,0.7s
LZH Lanzhou 40.32 329 ⇑P **P** **03 53 59.3 +1.8**
LZH pP pwP 03 54 29.0 +0.6
LZH sP sP 03 54 39.3 +1.7
LZH pmax pmax
comp=Z,93nm,1.3s
LZH pmax pmax
comp=Z,220nm,5.4s
H11S3 WAKE ISLAND Hy 40.96 64 T T 04 37 49.2
baz=251,slow=75,SNR=9.2
H11S2 WAKE ISLAND Hy 40.97 64 T T 04 37 52.6
baz=251,slow=75,SNR=4.0
H11S1 WAKE ISLAND Hy 40.97 64 T T 04 37 51.9
baz=251,slow=75,SNR=4.8
ARPS Mount Arapiles 41.05 163 P **P** **03 54 04.1 +0.8**
baz=41,SNR=31
HHC Hu-ho-hao-te 41.06 341 *eP* **P** **03 54 04.3 +0.9**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,100nm,5.1s
H11N1 WAKE ISLAND Hy 41.53 63 T T 04 38 28.0
baz=250,slow=75,SNR=78
H11N2 WAKE ISLAND Hy 41.54 63 T T 04 38 25.9
baz=250,slow=75,SNR=9.6
H11N3 WAKE ISLAND Hy 41.55 63 T T 04 38 32.0
baz=250,slow=75,SNR=86
USA0B Ussuriysk Arra 41.70 4 P **P** **03 54 08.2 -0.3**
USA0B IAmb IAmb 03 54 09.6
comp=Z,15nm,0.9s
USRK Ussuriysk Ar. 41.70 4 P **P** **03 54 08.8 +0.3**
comp=Z,10nm,0.8s,baz=190,slow=7.5,SNR=21
USRK Ussuriysk Ar. 41.70 4 P **P** **03 54 08.1 -0.4**
SHL Shillong 41.78 307 *eP* **P** **03 54 10.2 +0.6**
SHL IAmb IAmb 03 54 13.9
comp=Z,45nm,1.1s
SHL Shillong 41.78 307 P **P** **03 54 09.4 -0.2**
MDJ Mudanjiang 42.00 2 P **P** **03 54 11.0 +0.1**
MDJ pmax pmax
comp=Z,18nm,1.1s
MDJ pmax pmax
comp=Z,180nm,4.0s
MDJ Mudanjiang 42.00 2 P **P** **03 54 11.5 +0.6**
MDJ IAmb IAmb 03 54 12.1
comp=Z,18nm,1.1s
TOO Toolangi 42.95 160 P **P** **03 54 19.8 +1.1**
baz=43,SNR=7.8
TOO Toolangi 42.95 160 P **P** **03 54 17.9 -0.8**
LSA Lhasa 44.35 311 P **P** **03 54 32.8 +2.2**
GTA Gaotai 44.92 329 ⇑P **P** **03 54 35.5 +0.9**
GTA pP pP 03 55 00.0 -1.7
GTA PcP **PcP** **03 56 15.5 +1.5**
GTA pmax pmax
comp=Z,18nm,1.1s
GTA pmax pmax
comp=Z,51nm,5.5s
GTA LR LR
comp=Z,64nm,16.4s
GTA LR LR
comp=Z,220nm,17.1s
GTA LR LR
comp=Z,74nm,17.4s
GTK Tadong 45.19 307 *eP* **P** **03 54 38.8 +1.9**
TAPN Taplejung 45.92 307 *eP* **P** **03 54 44.0 +1.1**
comp=Z,137nm,0.9s
ODAN Odare 45.97 306 *eP* **P** **03 54 44.3 +1.1**
comp=Z,155nm,0.7s
BOK Bokaro 46.04 301 *eP* **P** **03 54 44.8 +1.3**
BOK *i x* x 03 56 18.8
RAMN Ramite 46.65 305 *eP* **P** **03 54 49.8 +1.3**
comp=Z,194nm,0.7s
JIRN Jiri 47.27 306 *eP* **P** **03 54 54.8 +1.3**
comp=Z,175nm,0.7s
GUN Gumba 47.63 306 *eP* **P** **03 54 57.3 +1.1**
comp=Z,288nm,0.7s
PKI Pulchoki 47.87 306 *eP* **P** **03 54 58.7 +0.6**
comp=Z,64nm,0.7s
PKIN Phulchoki 47.88 306 *eP* **P** **03 54 58.6 +0.5**
comp=Z,67nm,0.7s
KKN Kakani 48.06 306 *eP* **P** **03 55 00.2 +0.8**
comp=Z,138nm,0.8s
DMN Daman 48.13 306 *eP* **P** **03 55 00.9 +0.9**
comp=Z,162nm,0.9s
GKN Gorkha 48.67 306 *eP* **P** **03 55 04.7 +0.7**
comp=Z,117nm,0.9s
ULN Ulaanbaatar 48.77 341 P **P** **03 55 05.1 +0.6**
SONM Songino Array 48.96 341 P **P** **03 55 06.1 +0.2**
comp=Z,10nm,0.7s,baz=152,slow=8.3,SNR=89
SONM PcP **PcP** **03 56 28.3 +0.2**
comp=Z,3.2nm,0.7s,baz=149,slow=3.5,SNR=6.3
SONM ScP **ScP** **04 00 11.4 -0.7**

comp=Z,0.9nm,1.0s,baz=316,slow=4.1,SNR=4.4
SONM Songino Array 48.96 341 P **P** **03 55 05.3 -0.5**
SONM IAmb IAmb 03 55 07.2
comp=Z,8.6nm,0.7s
SONM PcP **PcP** **03 56 27.4 -0.8**
DANN Dangsing 49.52 306 *eP* **P** **03 55 11.6 +1.0**
comp=Z,340nm,0.6s
HYB Hyderabad 50.90 290 *iP* **P** **03 55 21.0 +0.1**
HYB Hyderabad 50.90 290 *eP* **P** **03 55 20.3 -0.5**
HYB IAmb IAmb 03 55 23.2
comp=Z,35nm,1.6s
BHPL Bhopal 53.26 297 *eP* **P** **03 55 37.7 -0.5**
BHPL IAmb IAmb 03 55 38.8
comp=Z,24nm,1.1s
WMQ Urumqi 54.58 325 P **P** **03 55 49.0 +1.4**
WMQ pP pP 03 56 13.0 -2.5
WMQ pmax pmax
comp=Z,58nm,0.9s
WMQ pmax pmax
comp=Z,120nm,3.7s
SMLA Simla 55.87 306 *eP* **P** **03 55 58.5 +1.5**
PETK Petropavlovsk- 56.08 21 P **P** **03 55 58.5 +0.4**
comp=Z,3.7nm,0.6s,baz=177,slow=4.7,SNR=6.8
PETK Petropavlovsk- 56.08 21 P **P** **03 55 57.5 -0.5**
DHRM DHARAMSHALA 56.95 307 *eP* **P** **03 56 04.2 -0.7**
ZSN Zaisan 58.35 327 *eP* **P** **03 56 13.8 -0.3**
baz=327
SHLS Shalkode 59.23 320 *eP* **P** **03 56 19.0 -1.5**
comp=Z,12nm,0.9s,baz=320
MK31 Makanchi Array 59.41 325 P **P** **03 56 21.3 -0.2**
MKAR Makanchi Array 59.41 325 P **P** **03 56 22.0 +0.5**
comp=Z,17nm,0.5s,baz=121,slow=8.3,SNR=289
MKAR PcP **PcP** **03 57 08.1 +0.1**
comp=Z,8.6nm,0.8s,baz=120,slow=4.3,SNR=8.4
MKAR PP **PP** **03 58 34.0 -0.1**
comp=Z,2.8nm,0.8s,baz=118,slow=9.8,SNR=3.6
MKAR ScP **ScP** **04 00 56.0 -1.7**
comp=Z,0.9nm,0.7s,baz=120,slow=4.8,SNR=4.5
MKAR Makanchi Array 59.41 325 P **P** **03 56 21.4 -0.1**
YAK Yakutsk 59.44 1 P **P** **03 56 21.5 +0.2**
UZB Uzynbulak 59.51 320 *eP* **P** **03 56 22.6 +0.2**
comp=Z,6.8nm,0.8s,baz=320
MA2 Magadan 59.60 13 P **P** **03 56 23.3 +0.8**
MAKZ Makanchi 59.60 325 P **P** **03 56 23.3 +0.5**
NIL Nilore 59.83 308 P **P** **03 56 25.6 +0.9**
NIL IAmb IAmb 03 56 33.9
comp=Z,16nm,0.9s
SATY Saty 59.87 320 *eP* **P** **03 56 25.1 +0.3**
comp=Z,14nm,1.0s,baz=320
KPKS Kokpek 59.88 320 *eP* **P** **03 56 25.1 +0.1**
comp=Z,13nm,0.8s,baz=320
KSH Kashi 59.95 315 P **P** **03 56 27.5 +2.0**
KSH pmax pmax
comp=Z,45nm,1.1s
KSH pmax pmax
comp=Z,290nm,5.9s
MDOK Medeo 60.80 319 *eP* **P** **03 56 31.5 +0.3**
baz=319
TDK Taldyqorghan 60.80 322 *eP* **P** **03 56 31.5 +0.5**
comp=Z,9.6nm,0.6s,baz=322
TNSS Tian-Shan 60.80 319 *eP* **P** **03 56 32.4 +0.8**
baz=319
CHKK Chushkaly 61.15 320 *eP* **P** **03 56 33.2 -0.2**
baz=320
TKM2 Tokmak 2 61.64 318 P **P** **03 56 37.6 +0.6**
SNR=6.0
UCH Uchtor 62.08 317 P **P** **03 56 41.8 +1.6**
SNR=11
AAK Ala-Archa 62.26 318 P **P** **03 56 41.8 +0.7**
AAK IAmb IAmb 03 56 43.1
comp=Z,9.7nm,1.1s
ZAA0 Zalesovo Array 62.37 333 P **P** **03 56 39.8 -1.5**
ZAA0 IAmb IAmb 03 56 41.0
comp=Z,6.8nm,0.7s
ZALV Zalesovo Beam 62.37 333 P **P** **03 56 40.5 -0.8**
comp=Z,6.3nm,0.5s,baz=116,slow=6.7,SNR=17
ZALV PcP **PcP** **03 57 18.8 -1.0**
comp=Z,1.6nm,0.6s,baz=90,slow=1.4,SNR=4.7
ZALV LR LR 04 28 34.9
comp=Z,31nm,18.7s,baz=94,slow=40
ZALV Zalesovo Beam 62.37 333 P **P** **03 56 40.1 -1.2**
SGDS Sogindy 62.51 319 *eP* **P** **03 56 42.1 -0.5**
baz=319
USP Ospenovka 62.52 318 P **P** **03 56 43.2 +0.6**
SNR=13
SEM Semipalatinsk 62.54 328 *eP* **P** **03 56 41.5 -1.3**
baz=328
AML Almayashu 62.59 317 P **P** **03 56 44.6 +1.0**
SNR=16
EKS2 Erkin-Say 62.75 318 P **P** **03 56 45.3 +1.1**
SNR=8.9
KBL Kabul 63.43 308 P **P** **03 56 49.5 +0.5**
KBL IAmb IAmb 03 56 50.1
comp=Z,13nm,1.0s
DZA Taraz 64.50 317 *eP* **P** **03 56 55.6 -0.1**
baz=317
IUG Iuzhnay 65.12 316 *eP* **P** **03 56 59.9 +0.1**
comp=Z,8.1nm,0.9s,baz=316
KK31 Karatay Array 65.13 317 P **P** **03 56 59.3 -0.4**
KK31 IAmb IAmb 03 57 00.9
comp=Z,19nm,1.1s
KKAR Karatay Array 65.13 317 P **P** **03 56 59.5 -0.3**
KKAR Karatay Array 65.13 317 P **P** **03 56 59.4 -0.3**
KKAR IAmb IAmb 03 57 00.9
comp=Z,19nm,1.1s
BRZS Berezniki 66.55 325 *eP* **P** **03 57 08.3 -0.4**
baz=324
TIXI Tiksi 69.09 0 P **P** **03 57 23.3 -0.9**
TIXI IAmb IAmb 03 57 24.4
comp=Z,12nm,0.9s
BRVK Borovoye 69.23 327 P **P** **03 57 25.3 0.0**
NRIK Noril'sk 72.00 346 P **P** **03 57 41.6 -0.2**
comp=Z,12nm,0.7s,baz=121,slow=6.2,SNR=12
NRIK Noril'sk 72.00 346 P **P** **03 57 41.8 0.0**
NRIK IAmb IAmb 03 57 42.5
comp=Z,13nm,0.8s
UOSS Minazif 72.62 295 P **P** **03 57 46.3 -0.1**
GEYT Alibeck 72.80 309 P **P** **03 57 48.0 +0.7**
comp=Z,9.0nm,0.8s,baz=142,slow=7.5,SNR=12
GEYT Alibeck 72.80 309 P **P** **03 57 46.9 -0.5**
GYA0B ALIBECK ARRAY 72.80 309 P **P** **03 57 46.8 -0.6**
GYA0B IAmb IAmb 03 57 50.7
comp=Z,10nm,0.8s
SOCY Socotra 74.02 282 P **P** **03 57 53.8 -1.1**
SOCY IAmb IAmb 03 57 54.7
comp=Z,15nm,0.8s
ABKAR Akbulak array 74.04 321 P **P** **03 57 53.8 -0.4**
ABKAR Akbulak array 74.04 321 P **P** **03 57 53.7 -0.5**
ABKAR IAmb IAmb 03 57 54.9
comp=Z,12nm,0.9s
GAMB Gambell 74.98 24 P **P** **03 57 59.0 -0.3**
ARU Arti 76.77 328 P **P** **03 58 08.6 -1.1**
ANM Nome 77.84 24 P **P** **03 58 16.6 +1.1**
RDOG Red Dog Mine 79.95 21 P **P** **03 58 28.0 +1.0**
VNDA Vanda 81.99 173 P **P** **03 58 36.9 -0.8**
comp=Z,1.3nm,0.6s,baz=316,slow=6.1,SNR=7.0
KDAK Kodiak Island 82.20 32 P **P** **03 58 39.9 +0.9**
KDAK IAmb IAmb 03 58 40.4
comp=Z,9.5nm,0.7s
RAYN Ar Rayn 82.30 293 P **P** **03 58 38.9 -1.5**
IMAR Indian Mountai 82.92 24 P **P** **03 58 42.0 -0.6**
SKT Skwentna 83.28 28 P **P** **03 58 44.6 0.0**
SKT IAmb IAmb 03 58 45.0
comp=Z,7.1nm,0.7s
SUA Susitna One 83.59 29 P **P** **03 58 46.3 0.0**
SUA IAmb IAmb 03 58 46.9
comp=Z,14nm,0.8s
BPAW Bear Paw Mtn. 83.80 26 P **P** **03 58 48.4 +1.2**
O22K Cooper Landing 83.98 30 P **P** **03 58 48.4 +0.2**
MLY Manley 84.02 25 P **P** **03 58 49.2 +0.9**
PMR Palmer 84.37 28 P **P** **03 58 49.5 -0.6**
PMR IAmb IAmb 03 58 50.8
comp=Z,8.6nm,0.8s
COLD Coldfoot 84.50 23 P **P** **03 58 50.1 -0.6**
COLD IAmb IAmb 03 58 52.8
comp=Z,6.9nm,0.6s
I23K Minto, Yukon-K 84.61 25 P **P** **03 58 51.0 -0.3**
MCK McKinley 84.66 26 P **P** **03 58 51.6 0.0**
RND Reindeer 84.67 27 P **P** **03 58 51.7 0.0**
RND IAmb IAmb 03 58 52.1
comp=Z,6.8nm,0.6s
KNK Knik Glacier 84.68 29 P **P** **03 58 52.5 +0.8**
KNK IAmb IAmb 03 58 53.1
comp=Z,17nm,0.9s
PWL Port Wells 84.69 29 P **P** **03 58 52.4 +0.6**

PWL					IAmb	IAmb	03 58 52.8		
	comp=Z,8.3nm,0.6s								
SML	**Sawmill**	**84.77**	**28**	P	**P**	**P**	**03 58 52.7**	**+0.4**	
SML					IAmb	IAmb	03 58 53.3		
	comp=Z,13nm,0.7s								
KBZ	**Khabaz**	**84.89**	**314**	P	**P**		**03 58 52.9**	**-0.2**	
	comp=Z,6.1nm,1.0s,baz=172,slow=5.0,SNR=4.9								
TOLK	**Toolik Lake Re**	**84.90**	**21**	P	**P**		**03 58 52.3**	**-0.4**	
SCM	**Sheep Creek Mo**	**85.25**	**28**	P	**P**		**03 58 55.8**	**+1.2**	
SCM					IAmb	IAmb	03 59 02.4		
	comp=Z,13nm,0.8s								
ILAR	**Eielson Array**	**85.63**	**25**	P	**P**		**03 58 55.6**	**-0.7**	
	comp=Z,0.4nm,0.4s,baz=255,slow=5.0,SNR=8.0								
MARD	**Mardin**	**86.44**	**307**	P	**P**		**03 59 00.3**	**-0.8**	
MARD					IAmb	IAmb	03 59 02.3		
	comp=Z,13nm,0.8s								
KOPT	**Kop Dagi**	**86.65**	**310**	P	**P**		**03 59 01.5**	**-0.8**	
KOPT					IAmb	IAmb	03 59 06.7		
	comp=Z,17nm,1.1s								
BMAR	**Burnt Mountain**	**86.69**	**23**	P	**P**		**03 59 01.1**	**-0.5**	
K27K	**Chicken**	**87.70**	**26**	P	**P**		**03 59 05.9**	**-0.5**	
BCAR	**Beaver Creek A**	**87.85**	**27**	P	**P**		**03 59 06.7**	**-0.6**	
KMBO	**Kilima Mbogo**	**90.96**	**269**	P	**P**		**03 59 22.1**	**-1.0**	
	comp=Z,0.8nm,0.5s,baz=19,slow=8.4,SNR=3.7								
SYO	**Syowa Base**	**91.76**	**201**↑	*e*PcP	**P**		**03 59 26.2**	**+0.9**	
BRTR	**Keskin Array B**	**91.93**	**310**	P	**P**		**03 59 25.7**	**-1.3**	
	comp=Z,0.7nm,0.7s,baz=57,slow=4.6,SNR=5.2								
SPA0	**Spitsbergen Ar**	**92.00**	**349**	*e*P	**P**		**03 59 26.1**	**-0.2**	
ARA0	**ARCESS Array S**	**92.13**	**340**	*e*P	**P**		**03 59 26.0**	**-1.0**	
ARCES	**ARCESS Array B**	**92.13**	**340**	P	**P**		**03 59 25.9**	**-1.1**	
	comp=Z,5.0nm,0.6s,baz=79,slow=6.6,SNR=24								
ARCES	**ARCESS Array B**	**92.13**	**340**	P	**P**		**03 59 26.7**	**-0.4**	
ARCES					IAmb	IAmb	03 59 28.6		
	comp=Z,6.0nm,0.7s								
KTK1	**Kautokeino**	**93.04**	**340**	*e*P	**P**		**03 59 30.1**	**-1.1**	
FINES	**FINESS Array B**	**93.62**	**332**	P	**P**		**03 59 32.6**	**-1.5**	
	comp=Z,2.5nm,0.6s,baz=50,slow=3.0,SNR=9.9								
AKASG	**Malin Array Be**	**93.78**	**321**	P	**P**		**03 59 32.9**	**-2.1**	
	comp=Z,0.3nm,0.3s,baz=74,slow=3.7,SNR=4.6								
JETT	**Jettan, Norway**	**93.85**	**340**	*e*P	**P**		**03 59 34.4**	**-0.7**	
TRO	**Tromso**	**94.32**	**341**	*e*P	**P**		**03 59 35.9**	**-1.2**	
STEI	**Steigen**	**96.18**	**340**	*e*P	**P**		**03 59 43.9**	**-1.7**	
BURAR	**Bucovina Array**	**96.90**	**316**	P	**P**		**03 59 48.4**	**-1.0**	
BUR08	**Bucovina Ar. S**	**96.90**	**318**	P	**P**		**03 59 48.6**	**-0.9**	
KOLS	**Kolonicke sedl**	**98.53**	**320**	*e*PDIFF	**P**		**03 59 57.5**	**+0.8**	
NSS	**Namsos**	**98.76**	**337**	*e*Pdif	**P**		**03 59 56.2**	**-1.0**	
RES	**Resolute Bay**	**98.80**	**11**		**P**		**03 59 57.3**	**+0.1**	
YKA	**Yellowknife Ar**	**100.05**	**25**	P	**Pdif**		**04 00 02.3**	**-0.8**	
	comp=Z,0.5nm,0.7s,baz=295,slow=4.1,SNR=9.9								
NC602	**NORSAR Array S**	**100.54**	**333**	*e*Pdif	**Pdif**		**04 00 05.0**	**-0.3**	
NOA	**NORSAR Array B**	**100.56**	**334**	P	**Pdif**		**04 00 03.7**	**-1.7**	
	comp=Z,0.5nm,0.6s,baz=66,slow=4.5,SNR=3.5								
KONO	**Kongsberg**	**101.88**	**333**	*e*Pdif	**Pdif**		**04 00 11.0**	**-0.3**	
TXAR	**Lajitas Array**	**121.22**	**53**	PKP	**PKPdf**		**04 05 10.9**	**-0.3**	
	comp=Z,62nm,0.3s,baz=315,slow=0.7,SNR=5.8								
TORD	**Torodi Ar. Bea**	**124.67**	**288**	PKP	**PKPdf**		**04 05 17.9**	**-0.1**	
	comp=Z,1.2nm,0.5s,baz=86,slow=2.0,SNR=8.4								
TORD				pPKP	**pPKPdf**		**04 05 50.0**	**-0.5**	
	comp=Z,0.7nm,0.6s,baz=42,slow=3.7,SNR=3.8								
TORD	**Torodi Ar. Bea**	**124.67**	**288**	PKPdf	**PKPdf**		**04 05 16.2**	**-1.8**	

*IDC **31** 03:51:11.6±0.9, 13°.42N×44°.88W, h0km, mb3.8/10, mb1 4.1/11, mb1mx3.8/46, mbtmp3.9/11, ML3.9/1, MS3.5/16, Ms1 3.5/16, ms1mx3.3/37 Error ellipse: s-maj=24.0km s-min=20.4km az=128.0*

*NEIC **31** 03:51:12.7±1.6, 13°.2N±0°.1×44°.7W±0°.1, h10km±1km, mb4.8/12, Error ellipse: s-maj=21.4km s-min=20.8km az=90.0*

ISC 31 03:51:12.9±0.8, 13°2N±0°.1×44°8W±0°.1, h10km, n65, σ1§04/50, mb4.2/15, MS3.5/15, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MDP	**Montagnes des**	**11.22**	**225**	Pn		**Pn**	**03 53 53.1**	**-0.4**
	0.8nm,0.3s,baz=34,slow=15,SNR=11							
MDP				Sn		Sn	03 55 47.0	-12
	0.3nm,0.3s,baz=81,slow=18,SNR=1.3							
MDP				LR		LR	03 57 30.8	
	comp=Z,223nm,20.4s,baz=38,slow=34							
H05S1	**Guadeloupe/Mar**	**15.67**	**276**	T		T	04 10 43.0	
	SNR=8.8							
FDF	**Fort de France**	**15.99**	**277**	Pn		**Pn**	**03 54 58.7**	**+0.6**
FDF				IAmb		IAmb	03 55 02.2	
	comp=Z,104nm,1.3s							
PTGA	**Pitinga**	**20.50**	**229**	P		**P**	**03 55 51.6**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=34,slow=14,SNR=4.7							
PTGA				LR		LR	04 02 54.7	
	comp=Z,70nm,21.0s,baz=43,slow=34							
RCBR	**Riachuelo**	**20.88**	**155**	LR		LR	04 02 02.7	
	comp=Z,136nm,18.4s,baz=325,slow=31							
SJG	**San Juan**	**21.16**	**286**	LR		LR	04 02 46.6	
	comp=Z,129nm,20.2s,baz=96,slow=33							
BDFB	**Brasilia**	**28.87**	**187**	LR		LR	04 08 55.0	
	comp=Z,89nm,18.8s,baz=185,slow=37							
ROSC	**El Rosal**	**30.34**	**257**	LR		LR	04 10 55.4	
	comp=Z,98nm,18.2s,baz=112,slow=39							
SIV	**San Ignacio**	**33.23**	**210**	P		**P**	**03 57 51.5**	**+1.1**
	comp=Z,1.2nm,1.0s,baz=90,slow=5.1,SNR=3.7							
H10N3	**ASCENSION HYDR**	**36.62**	**123**	T		T	04 37 12.4	
	baz=305,slow=75,SNR=24							
H10N2	**ASCENSION HYDR**	**36.62**	**123**	T		T	04 37 13.6	
	baz=305,slow=75,SNR=28							
H10N1	**ASCENSION HYDR**	**36.64**	**123**	T		T	04 37 13.2	
	baz=305,slow=75,SNR=25							
H10S3	**ASCENSION HYDR**	**37.13**	**125**	T		T	04 38 08.9	
	baz=278,slow=74,SNR=27							
H10S2	**ASCENSION HYDR**	**37.15**	**125**	T		T	04 37 53.1	
	baz=302,slow=74,SNR=10							
LPAZ	**La Paz**	**37.35**	**219**	P		**P**	**03 58 27.5**	**+0.9**
	comp=Z,1.9nm,1.1s,baz=17,slow=11,SNR=2.9							
LPAZ				LR		LR	04 13 51.6	
	comp=Z,102nm,19.2s,baz=46,slow=36							
KOWA	**Kowa**	**39.53**	**83**	P		**P**	**03 58 45.6**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=300,slow=9.2,SNR=2.8							
DBIC	**Dimbokro**	**39.79**	**95**	LR		LR	04 13 44.0	
	comp=Z,70nm,19.5s,baz=232,slow=34							
LRAL	**Lakeview Retre**	**43.20**	**304**	P		**P**	**03 59 15.7**	**+1.4**
ESDC	**Sonseca Array**	**44.46**	**46**	LR		LR	04 15 34.2	
	comp=Z,52nm,19.4s,baz=325,slow=33							
WVT	**Waverly**	**44.82**	**308**	P		**P**	**03 59 27.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**45.17**	**85**	P		**P**	**03 59 30.8**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=288,slow=9.0,SNR=3.8							
TORD				LR		LR	04 16 19.9	
	comp=Z,112nm,20.7s,baz=295,slow=33							
TORD	**Torodi Ar. Bea**	**45.17**	**85**	P		**P**	**03 59 29.5**	**-0.8**
W45A	**Hickory Valley**	**45.56**	**307**	P		**P**	**03 59 34.5**	**+1.4**
FVM	**French Village**	**47.39**	**310**	P		**P**	**03 59 47.6**	**+0.2**
FVM				IAmb		IAmb	03 59 50.1	
	comp=Z,8.5nm,1.1s							
WHAR	**Wooly Hollow**	**48.04**	**306**	P		**P**	**03 59 52.3**	**-0.2**
WHAR				IAmb		IAmb	03 59 54.5	
	comp=Z,11nm,1.1s							
U40A	**Yellville**	**48.76**	**307**	P		**P**	**03 59 58.5**	**+0.3**
W39A	**Magazine**	**49.20**	**305**	P		**P**	**04 00 03.1**	**+1.6**
L40A	**Anamosa**	**49.37**	**315**	P		**P**	**04 00 04.2**	**+1.6**
S39A	**Bolivar**	**49.49**	**309**	P		**P**	**04 00 03.7**	**+0.1**
SPMN	**Marine on St.**	**51.61**	**318**	P		**P**	**04 00 19.7**	**0.0**
SPMN				IAmb		IAmb	04 00 22.1	
	comp=Z,18nm,1.5s							
ULM	**Lac du Bonnet**	**55.47**	**323**	P		**P**	**04 00 45.5**	**-2.3**
	comp=Z,1.8nm,0.9s,baz=76,slow=4.7,SNR=3.8							
ULM	**Lac du Bonnet**	**55.47**	**323**	P		**P**	**04 00 46.8**	**-1.0**
MSTX	**Muleshoe**	**56.28**	**302**	P		**P**	**04 00 54.0**	**-0.1**
TXAR	**Lajitas Array**	**56.64**	**296**	P		**P**	**04 00 55.2**	**-1.5**
	comp=Z,61nm,0.3s,baz=134,slow=8.9,SNR=6.7							
TXAR				LR		LR	04 25 09.8	
	comp=Z,20nm,20.2s,baz=0.0,slow=36							
TXAR	**Lajitas Array**	**56.64**	**296**	P		**P**	**04 00 55.9**	**-0.8**
FCC	**Fort Churchill**	**58.34**	**332**	P		**P**	**04 01 07.9**	**-0.1**
PLCA	**Paso Flores**	**58.78**	**203**	LR		LR	04 26 52.7	
	comp=Z,53nm,18.1s,baz=126,slow=36							
ISCO	**Idaho Springs**	**59.32**	**309**	P		**P**	**04 01 17.0**	**+1.4**
DGMT	**Dagmar**	**60.05**	**319**	P		**P**	**04 01 20.8**	**+0.6**
SMCO	**Snowmass**	**60.27**	**308**	P		**P**	**04 01 23.4**	**+1.1**
PV13	**Radium Mtn., P**	**61.60**	**306**	P		**P**	**04 01 31.1**	**0.0**
PV13				IAmb		IAmb	04 01 34.5	
	comp=Z,8.0nm,1.2s							
PV17	**East Wray Mesa**	**61.72**	**306**	P		**P**	**04 01 31.7**	**-0.2**
PV17				IAmb		IAmb	04 01 35.3	
	comp=Z,14nm,1.6s							
PDAR	**Pinedale Array**	**62.67**	**311**	P		**P**	**04 01 37.4**	**-0.8**
	comp=Z,1.8nm,1.1s,baz=77,slow=9.3,SNR=5.5							
PDAR				LR		LR	04 26 14.5	
	comp=Z,43nm,20.8s,baz=124,slow=34							
PDAR	**Pinedale Array**	**62.67**	**311**	P		**P**	**04 01 37.8**	**-0.5**
YMR	**Madison River**	**63.92**	**313**	P		**P**	**04 01 48.2**	**+1.8**
HWUT	**Hardware Ranch**	**64.02**	**310**	P		**P**	**04 01 47.2**	**0.0**
YHB	**Horse Butte**	**64.09**	**313**	P		**P**	**04 01 49.1**	**+1.5**
YHL	**Hebgen Lake**	**64.10**	**314**	P		**P**	**04 01 49.5**	**+1.8**
SPUT	**South Promonto**	**64.66**	**310**	P		**P**	**04 01 51.8**	**+0.5**
BGU	**Big Grassy Mou**	**65.07**	**309**	P		**P**	**04 01 54.8**	**+0.8**
CCUT	**Cedar City**	**65.15**	**305**	P		**P**	**04 01 56.5**	**+1.9**
DLMT	**Dillon**	**65.15**	**314**	P		**P**	**04 01 55.4**	**+1.0**
ELK	**Elko**	**66.73**	**309**	P		**P**	**04 02 05.5**	**+0.7**
NEW	**Newport**	**68.51**	**317**	P		**P**	**04 02 16.2**	**+0.6**
GO09	**Cerro Castillo**	**68.58**	**198**	P		**P**	**04 02 15.7**	**-0.1**
NVAR	**Mina Array Bea**	**69.06**	**306**	LR		LR	04 29 11.9	
	comp=Z,32nm,21.1s,baz=64,slow=33							
YKA	**Yellowknife Ar**	**69.07**	**332**	P		**P**	**04 02 17.9**	**-0.9**
	comp=Z,0.7nm,1.0s,baz=108,slow=7.2,SNR=6.4							
YKA				LR		LR	04 29 04.7	
	comp=Z,60nm,21.2s,baz=0.0,slow=33							
GO10	**Punta Arenas**	**69.87**	**197**	P		**P**	**04 02 21.5**	**-2.3**
K05A	**Summer Lake**	**71.00**	**311**	P		**P**	**04 02 30.7**	**-0.6**
INK	**Inuvik**	**77.35**	**338**	P		**P**	**04 03 07.7**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=103,slow=5.4,SNR=3.9							
BOSA	**Boshof**	**79.38**	**123**	LR		LR	04 30 54.5	
	comp=Z,59nm,21.1s,baz=224,slow=30							
BCAR	**Beaver Creek A**	**81.48**	**333**	P		**P**	**04 03 30.8**	**+0.5**
BMAR	**Burnt Mountain**	**81.62**	**337**	P		**P**	**04 03 31.4**	**+0.4**
ILAR	**Eielson Array**	**83.23**	**335**	P		**P**	**04 03 38.4**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=61,slow=5.5,SNR=9.8							
ILAR	**Eielson Array**	**83.23**	**335**	P		**P**	**04 03 39.7**	**+0.3**

*JMA **31** 03:59:57.8±0.1, 36°.45N×140°.61E, h56km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs178.00000°, δs33.00000°, λs73.00000°. NP2:φs18.00000°, δs59.00000°, λs100.00000°. Principal axes: T Plg74.0000°, Azm315.0000°; N Plg9.0000°, Azm192.0000°; P Plg13.0000°, Azm100.0000°;*

JMA Felt II J1.

*NIED **31** 03:59:57.9, 36°.45N×140°.61E, h56km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.55; Mθθ0.09; Mφφ-0.64; Mrθ0.32; Mrφ-0.21; Mθφ0.79; Fault plane solution: M₀1.06000×10¹⁵ NP1:φs21.00000°, δ72.00000°, λs95.00000°. NP2:φs186.00000°, δ19.00000°, λs75.00000°.*

*IDC **31** 04:00:00.4±1.9, 36°.41N×140°.48E, h81km±18km, mb3.5/11, mb1 3.6/14, mb1mx3.5/39, mbtmp3.8/14, MS3.0/2, Ms1 3.1/2, ms1mx2.6/31 Error ellipse: s-maj=23.0km s-min=11.2km az=77.0*

ISC 31 03:59:58.2±0.7, 36°48N±0°.04×140°59E±0°.05, h57km±6km, n35, σ1§68/40, mb3.8/11, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHO	**Hitachi**	**0.13**	**354**	↑P		**Pn**	**04 00 06.6**	**-0.4**
JHO				S		**Sn**	**04 00 12.7**	**-0.5**
JHYU	**Hitachinakayam**	**0.14**	**180**	↑P		**Pn**	**04 00 06.5**	**-0.5**
JHYU				S		**Sn**	**04 00 12.5**	**-0.7**
JYT	**Yasato**	**0.41**	**231**	↓P		**Pn**	**04 00 08.6**	**-0.3**
JYT				S		**Sn**	**04 00 16.0**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.64**	**15**	↑P		**Pn**	**04 00 10.9**	**-0.7**
ONAJ				S		**Sn**	**04 00 20.6**	**-0.8**
JFK	**Kawauchi**	**0.91**	**15**	P		**Pn**	**04 00 14.2**	**-0.8**
JFK				S		**Sn**	**04 00 27.1**	**-0.3**
JAG	**Ashikaga**	**0.92**	**267**	↓P		**Pn**	**04 00 15.0**	**0.0**
JAG				S		**Sn**	**04 00 27.4**	**0.0**
JFT	**Otama**	**1.05**	**349**	↓P		**Pn**	**04 00 17.0**	**+0.2**
JFT				S		**Sn**	**04 00 31.0**	**+0.4**
JKT	**Katashina**	**1.11**	**285**	P		**Pn**	**04 00 18.0**	**+0.3**
JKT				S		**Sn**	**04 00 33.3**	**+1.1**
JFY	**Yanaizu**	**1.16**	**323**	P		**Pn**	**04 00 18.7**	**+0.4**
JMM	**Marumori**	**1.39**	**7**	↓P		**Pn**	**04 00 21.5**	**+0.2**
JMM				S		**Sn**	**04 00 38.7**	**0.0**
MJAR	**Matsushiro Arr**	**1.92**	**272**	P		**Pn**	**04 00 28.8**	**+0.3**
	3.5nm,0.3s,baz=97,slow=9.1,SNR=172							
MJAR				S		**Sn**	**04 00 43.6**	**-7.9**
	9.2nm,0.3s,baz=107,slow=8.7,SNR=25							
MJAR				LR		LR	04 01 34.9	
	comp=Z,170nm,20.3s,baz=65,slow=52							
MAT	**Matsushiro**	**1.92**	**272**	P		**Pn**	**04 00 29.3**	**+0.8**
MAT				*e*S		**Sn**	**04 00 52.2**	**+0.7**
JHJ	**Hachijo jima 2**	**3.42**	**191**	P		**Pn**	**04 00 49.6**	**+0.6**
	14nm,0.3s,baz=306,slow=24,SNR=19							
JHJ				S		**Sn**	**04 01 29.4**	**+1.1**
	29nm,0.3s,baz=65,slow=22,SNR=9.5							
ASAJ	**Asahikawa**	**7.78**	**11**	P		**Pn**	**04 01 47.7**	**-1.0**
	1.2nm,0.3s,baz=218,slow=16,SNR=6.1							
JCJ	**Chichijima**	**9.46**	**171**	LR		LR	04 05 18.7	
	comp=Z,59nm,21.8s,baz=154,slow=34							
USRK	**Ussuriysk Ar.**	**10.12**	**322**	P		**Pn**	**04 02 24.3**	**+3.7**
	baz=138,slow=17,SNR=3.6							
KSRS	**Korea Array**	**10.18**	**279**	P		**Pn**	**04 02 24.5**	**+2.9**
	0.2nm,0.3s,baz=94,slow=14,SNR=6.6							
MA2	**Magadan**	**24.03**	**13**	P		**P**	**04 05 08.8**	**+1.2**
	3.3nm,0.3s,baz=191,slow=8.6,SNR=3.5							
SONM	**Songino Array**	**27.55**	**305**	P		**P**	**04 05 38.3**	**-1.4**
	0.7nm,0.7s,baz=113,slow=11,SNR=6.0							
H11N2	**WAKE ISLAND Hy**	**28.45**	**119**	T		T	04 35 52.2	
	baz=312,slow=75,SNR=39							
H11N1	**WAKE ISLAND Hy**	**28.46**	**119**	T		T	04 35 51.5	
	baz=312,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy**	**28.47**	**119**	T		T	04 35 54.7	
	baz=312,slow=75,SNR=7.7							
H11S1	**WAKE ISLAND Hy**	**29.13**	**121**	T		T	04 36 41.3	
	baz=314,slow=75,SNR=73							
H11S3	**WAKE ISLAND Hy**	**29.13**	**121**	T		T	04 36 53.4	
	baz=314,slow=75,SNR=44							
H11S2	**WAKE ISLAND Hy**	**29.15**	**121**	T		T	04 36 41.4	
	baz=314,slow=75,SNR=40							
ZALV	**Zalesovo Beam**	**41.80**	**313**	P		**P**	**04 07 42.3**	**+0.3**
	2.0nm,0.6s,baz=95,slow=6.8,SNR=8.1							
MKAR	**Makanchi Array**	**43.85**	**302**	P		**P**	**04 07 58.4**	**-0.3**
	1.2nm,0.8s,baz=88,slow=9.5,SNR=12							
ILAR	**Eielson Array**	**50.31**	**32**	P		**P**	**04 08 49.4**	**+0.6**
	0.4nm,0.7s,baz=268,slow=6.1,SNR=4.9							
INK	**Inuvik**	**55.18**	**27**	P		**P**	**04 09 25.3**	**+0.7**
	0.8nm,0.9s,baz=244,slow=5.7,SNR=2.5							
WRA	**Warramunga Arr**	**56.43**	**187**	P		**P**	**04 09 32.9**	**-1.2**
	1.2nm,0.7s,baz=3.8,slow=7.5,SNR=15							
ASAR	**Alice Springs**	**60.16**	**187**	P		**P**	**04 09 59.6**	**-0.4**
	0.5nm,0.7s,baz=12,slow=7.0,SNR=5.8							
YKA	**Yellowknife Ar**	**64.62**	**30**	P		**P**	**04 10 28.6**	**-0.8**
	0.2nm,0.8s,baz=303,slow=5.8,SNR=3.0							
AKASG	**Malin Array Be**	**74.32**	**322**	P		**P**	**04 11 28.9**	**-0.6**
	1.1nm,0.6s,baz=48,slow=5.6,SNR=4.9							
NB2	**NORSAR Subarra**	**74.44**	**337**	P		**P**	**04 11 29.7**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=40,slow=6.2							
NOA	**NORSAR Array B**	**74.44**	**337**	P		**P**	**04 11 29.3**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=39,slow=5.7,SNR=5.3							
NOA				LR		LR	04 46 46.9	
	comp=Z,16nm,21.1s,baz=265,slow=38							

IDC 31 04:16:31.2±2.7, 22°56S×113°77W, h0km, mb3.5/2, mb1 4.0/2, mb1mx3.6/18, mbtmp3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/17, Error ellipse: s-maj=286.7km s-min=72.8km az=96.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H03N2	**Juan Fernandez**	**32.47**	**117**	T		T	04 57 20.0	
	baz=285,slow=75,SNR=30							
H03N3	**Juan Fernandez**	**32.48**	**117**	T		T	04 57 21.2	
	baz=285,slow=75,SNR=41							
H03N1	**Juan Fernandez**	**32.49**	**117**	T		T	04 57 21.2	
	baz=285,slow=75,SNR=35							
PLCA	**Paso Flores**	**40.55**	**127**	LR		LR	04 36 32.3	
	comp=Z,63nm,18.2s,baz=182,slow=30							
NVAR	**Mina Array Bea**	**60.81**	**356**	P		P	04 26 46.6	+1.2
	0.2nm,0.5s,baz=178,slow=9.0,SNR=2.4							
PDAR	**Pinedale Array**	**65.11**	**3**	P		P	04 27 13.1	-0.9
	0.6nm,0.8s,baz=172,slow=1.1,SNR=6.6							
H11S2	**WAKE ISLAND Hy**	**87.75**	**291**	T		T	06 06 15.6	
	baz=115,slow=75,SNR=23							
H11S1	**WAKE ISLAND Hy**	**87.77**	**291**	T		T	06 06 16.5	
	baz=115,slow=75,SNR=17							
H11S3	**WAKE ISLAND Hy**	**87.77**	**291**	T		T	06 06 18.0	
	baz=115,slow=75,SNR=16							
KURBB	**Kurchatov Arra**	**150.38**	**344**	PKPbc		PKPbc	04 36 23.9	-0.5
	0.2nm,0.5s,baz=46,slow=3.2,SNR=2.6							
AKTO	**Aktyubinsk**	**151.44**	**11**	PKPbc		PKiKP	04 36 27.5	+0.1
	0.7nm,0.5s,baz=315,slow=5.7,SNR=4.1							
MKAR	**Makanchi Array**	**152.56**	**336**	PKPbc		PKPbc	04 36 29.0	-0.7
	0.3nm,0.6s,baz=25,slow=3.6,SNR=5.3							

*ISK **31** 04:16:58.4, 37°.04N×36°.86E, h8km, ML3.4/24*

ISC 31 04:16:59.3±0.9, 37°06N±0°.03×36°87E±0°.03, h7km, n36, σ0§80/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GAZ	**Gaziantep**	**0.29**	**68**	PG		**Pg**	**04 17 04.7**	**-0.3**
GAZ				SG		**Sb**	**04 17 10.1**	**-1.9**
KHMN	**Narli-Kahraman**	**0.40**	**35**	PG		**Pg**	**04 17 07.6**	**+0.6**
KHMN				SG		**Sb**	**04 17 13.7**	**-1.3**
KMRS	**Kahramanmaras**	**0.44**	**3**	PG		**Pg**	**04 17 07.5**	**-0.4**
KMRS				SG		**Sg**	**04 17 14.9**	**+1.2**
TAHT	**Tahtakopru-Hat**	**0.88**	**219**	PG		**Pg**	**04 17 14.8**	**-1.4**
TAHT				SG		**Sg**	**04 17 27.9**	**+0.2**
CEYT	**Ceyhan**	**0.90**	**267**	PG		**Pg**	**04 17 16.5**	**-0.1**
KOZT	**Kozan**	**0.93**	**297**	PG		**Pg**	**04 17 16.7**	**-0.5**
KRTD	**Karatas-Adana**	**1.26**	**249**	PN		**Pn**	**04 17 22.7**	**-0.6**
KRTS	**Karatas**	**1.30**	**248**	PN		**Pn**	**04 17 23.6**	**-0.2**
SARI	**SarD1z-Kayseri**	**1.39**	**345**	PN		**Pn**	**04 17 24.8**	**-0.5**
KARA	**Karaisali**	**1.47**	**278**	PN		**Pn**	**04 17 25.7**	**-0.5**
DARE	**Darende-Malaty**	**1.58**	**18**	PN		**Pn**	**04 17 28.0**	**+0.2**
URFA	**Urfa**	**1.60**	**76**	PN		**Pn**	**04 17 26.4**	**-1.6**
CMRD	**Camardi-Nigde**	**1.61**	**292**	PN		**Pn**	**04 17 27.7**	**-0.6**
MALT	**Malatya**	**1.75**	**44**	PN		**Pn**	**04 17 30.4**	**+0.2**
MERS	**Mersin**	**1.89**	**265**	PN		**Pn**	**04 17 32.0**	**-0.1**
BNN	**Bunyan**	**1.96**	**336**	PN		**Pn**	**04 17 32.8**	**-0.3**
NIG	**Nigde**	**2.08**	**301**	PN		**Pn**	**04 17 34.9**	**+0.1**
KIZK	**Mersin**	**2.27**	**256**	PN		**Pn**	**04 17 36.8**	**-0.4**
ARPR	**Arapgir-MALATY**	**2.33**	**29**	PN		**Pn**	**04 17 38.8**	**+0.6**
SLFK	**Silifke-Mersin**	**2.44**	**255**	PN		**Pn**	**04 17 39.4**	**-0.2**
GULA	**Gulagac**	**2.45**	**302**	PN		**Pn**	**04 17 39.7**	**-0.1**
SILI	**Silifke-Mersin**	**2.47**	**255**	PN		**Pn**	**04 17 40.2**	**+0.3**
YESY	**Yesilyurt**	**2.59**	**287**	PN		**Pn**	**04 17 41.9**	**+0.1**
KOZK	**Kozakli-Nevseh**	**2.66**	**324**	PN		**Pn**	**04 17 43.1**	**+0.4**
EREN	**Erenkoy**	**2.67**	**236**	PN		**Pn**	**04 17 42.7**	**+0.1**
IKL	**Isikli**	**2.69**	**253**	PN		**Pn**	**04 17 42.5**	**-0.5**
ILIC	**Ilic-Erzincan**	**2.73**	**29**	PN		**Pn**	**04 17 44.2**	**+0.5**
DYBB	**Diyarbakir**	**2.74**	**70**	PN		**Pn**	**04 17 43.4**	**-0.4**
AKKU	**Akkuyu-Mersin**	**2.82**	**252**	PN		**Pn**	**04 17 45.0**	**+0.2**
TEVE	**Tevekalti-Mers**	**2.83**	**258**	PN		**Pn**	**04 17 45.2**	**+0.3**
SVSK	**Karacayir**	**2.85**	**2**	PN		**

DJR	**Jarkent**	**3.74**	**297**	*e*P		**Pg**	**05 23 25.8**	**-0.8**
	3.5nm,0.3s							
DJR				*e*S		**Sg**	**05 24 14.8**	**-0.2**
	5.7nm,0.4s							
DJR	**Jarkent**	**3.74**	**297**	Pg		**Pg**	**05 23 25.8**	**-0.8**
	3.5nm,0.3s							
DJR				Lg		Lg	05 24 14.8	
	5.7nm,0.4s							
UZB	**Uzynbulak**	**4.00**	**278**	*e*P		**Pg**	**05 23 31.3**	**-0.2**
	3.7nm,0.3s							
UZB				*e*S		**Sg**	**05 24 24.6**	**+1.3**
	13nm,0.5s							
UZB	**Uzynbulak**	**4.00**	**278**	Pg		**Pg**	**05 23 31.3**	**-0.2**
	3.7nm,0.3s							
UZB				Lg		Lg	05 24 24.6	
	13nm,0.5s							
KPKS	**Kokpek**	**4.28**	**282**	*e*P		**Pg**	**05 23 36.7**	**-0.1**
	4.2nm,0.2s							
KPKS				*e*S		**Sg**	**05 24 33.7**	**+1.5**
	26nm,0.3s							
MK31	**Makanchi Array**	**4.34**	**340**	⇑Pn		**Pb**	**05 23 29.2**	**-2.1**
	0.1nm,0.5s,baz=155,slow=14,SNR=7.6							
MK31				Pg		**Pg**	**05 23 39.0**	**+1.0**
	0.5nm,0.3s,baz=155,slow=16,SNR=19							
MK31				⇓Lg		Lg	05 24 41.4	
	0.8nm,0.3s,baz=155,slow=28,SNR=4.0							
MAKZ	**Makanchi**	**4.44**	**338**	⇓Pg		**Pg**	**05 23 42.5**	**+2.6**
	0.9nm,0.4s							
MAKZ				⇓Sn		**Sb**	**05 24 25.7**	**-0.8**
	1.1nm,0.7s							
MAKZ				⇑Lg		Lg	05 24 45.5	
	2.0nm,0.5s							
MNBS	**Baschi**	**4.60**	**289**	*e*P		**Pg**	**05 23 41.2**	**-1.8**
	2.6nm,0.3s							
MNBS				*e*S		**Sg**	**05 24 41.5**	**-1.0**
	14nm,0.3s							
MNBS	**Baschi**	**4.60**	**289**	Pg		**Pg**	**05 23 41.2**	**-1.8**
	2.6nm,0.3s							
MNBS				Lg		Lg	05 24 41.5	
	14nm,0.3s							
KTBS	**Karatobe**	**5.75**	**282**	*e*P		**Pg**	**05 24 04.0**	**-1.0**
	1.1nm,0.2s							
KTBS				*e*S		**Sg**	**05 25 20.4**	**+1.0**
	6.2nm,0.3s							
KTBS	**Karatobe**	**5.75**	**282**	Pg		**Pg**	**05 24 04.0**	**-1.0**
	1.1nm,0.2s							
KTBS				Lg		Lg	05 25 20.4	
	6.2nm,0.3s							

IDC 31 05:23:54.0±3.4, 4°03'S×152°01'E, *h*0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/38, mbtmp3.6/4, Error ellipse: s-maj=110.4km s-min=33.4km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.38**	**226**	P	P	05 29 04.2	-0.3
	1.0nm,0.4s,baz=49,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**26.20**	**220**	P	P	05 29 32.4	+1.8
	0.3nm,0.4s,baz=58,slow=8.8,SNR=1.9						
FITZ	**Fitzroy Crossi**	**29.35**	**240**	P	P	05 29 58.5	-0.3
	1.2nm,0.7s,baz=94,slow=5.6,SNR=5.2						
MKAR	**Makanchi Array**	**79.23**	**319**	P	P	05 36 02.8	+1.6
	0.2nm,0.3s,baz=98,slow=8.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**149.32**	**289**	PKPbc	PKPdf	05 43 43.1	+1.5
	1.5nm,0.8s,baz=74,slow=1.5,SNR=6.0						

IDC 31 05:27:39.2±2.7, 53°42N×87°23E, *h*0km, mb1 3.1/2, mb1mx3.0/45, mbtmp3.1/2, ML2.8/2, 2C-2D, Error ellipse: s-maj=25.9km s-min=14.7km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.53**	**291**	*i*		05 36 18.0	
	baz=108,slow=335,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.53**	**291**	Pg	Pn	05 28 05.9	-1.8
	1.6nm,0.3s,baz=112,slow=13,SNR=13						
ZALV				Lg	Lg	05 28 28.0	
	1.9nm,0.3s,baz=113,slow=21,SNR=8.7						
KURBB	**Kurchatov Arra**	**6.06**	**246**	Pn	Pn	05 29 10.7	+0.7
	0.2nm,0.3s,baz=61,slow=14,SNR=19						
KURBB				Lg	Lg	05 30 51.6	
	0.0nm,0.3s,baz=58,slow=31,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.06**	**246**	⇑Pn	Pn	05 29 10.8	+0.9
	0.7nm,0.2s						
KURBB				⇑Lg	Lg	05 30 49.9	
	4.5nm,0.7s						
MK31	**Makanchi Array**	**7.36**	**208**	⇓Pn	Pn	05 29 28.5	+0.7
	0.6nm,0.7s,baz=26,slow=14						
MK31				⇓Lg	Lg	05 31 29.4	
	0.5nm,0.7s,baz=19,slow=31,SNR=4.7						
MKAR	**Makanchi Array**	**7.36**	**208**	Pn	Pn	05 29 29.1	+1.2
	0.3nm,0.3s,baz=27,slow=15,SNR=11						
MKAR				Lg	Lg	05 31 31.5	
	0.1nm,0.3s,baz=32,slow=29,SNR=6.0						

*IDC **31** 05:54:50.7±1.0, 22°16S×113°67W, *h*0km, mb4.2/10, mb1 4.5/10, mb1mx4.3/28, mbtmp4.2/10, MS3.7/9, Ms1 3.7/9, ms1mx3.5/20, Error ellipse: s-maj=39.1km s-min=19.9km az=48.0*

*NEIC **31** 05:54:52.0±1.4, 22°3S±0°1×113°8W±0°2, *h*10km±1km, mb4.7/71, Error ellipse: s-maj=26.1km s-min=20.6km az=108.0*

ISC 31 05:54:52.1±0.9, 22°2S±0°2×113°8W±0°2, *h*10km, n99, σ0884/66, mb4.6/46, MS3.7/11, 1D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**19.57**	**263**	*e*LQ	LQ	06 02 54.7	
	645nm,27.5s						
RKT				*e*LR	LR	06 03 44.6	
	comp=Z,140nm,29.5s						
TAOE	**Nuku Hiva Isla**	**28.61**	**294**	*e*LR	LR	06 08 02.8	
	comp=Z,274nm,25.8s						
H03N2	**Juan Fernandez**	**32.63**	**118**	T	T	06 35 38.0	
	baz=285,slow=75,SNR=152						
H03N3	**Juan Fernandez**	**32.64**	**118**	T	T	06 35 50.5	
	baz=285,slow=75,SNR=159						
H03N1	**Juan Fernandez**	**32.65**	**118**	T	T	06 35 50.6	
	baz=285,slow=75,SNR=189						
PPT2	**Papeete2**	**33.92**	**271**	*e*LR	LR	06 10 09.3	
	comp=Z,67nm,24.8s						
PPT	**Papeete**	**33.92**	**271**	LR	LR	06 10 13.9	
	comp=Z,31nm,21.6s,baz=122,slow=27						
LCO	**Las Campanas**	**39.26**	**109**	P	**P**	**06 02 22.4**	**+1.0**
BI02	**San Fabin de**	**39.39**	**121**	P	**P**	**06 02 23.6**	**+1.5**
PLCA	**Paso Flores**	**40.75**	**127**	P	**P**	**06 02 33.7**	**+0.3**
	2.3nm,1.0s,baz=287,slow=9.9,SNR=3.9						
PLCA				LR	LR	06 15 28.9	
	comp=Z,77nm,18.1s,baz=238,slow=30						
LPAZ	**La Paz**	**43.38**	**90**	P	**P**	**06 02 54.9**	**-0.9**
	5.9nm,1.2s,baz=261,slow=7.2,SNR=10						
LPAZ				LR	LR	06 16 31.8	
	comp=Z,72nm,21.9s,baz=246,slow=30						
CPUP	**Villa Florida**	**51.28**	**107**	P	**P**	**06 03 56.8**	**+0.2**
	2.2nm,0.7s,baz=268,slow=7.3,SNR=4.7						
CPUP				LR	LR	06 21 06.1	
	comp=Z,95nm,18.5s,baz=230,slow=31						
TXAR	**Lajitas Array**	**52.19**	**11**	P	**P**	**06 04 02.6**	**-0.7**
	0.9nm,0.8s,baz=199,slow=9.0,SNR=11						
TXAR				LR	LR	06 21 53.9	
	comp=Z,62nm,18.2s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**52.19**	**11**	P	**P**	**06 04 02.4**	**-0.9**
MNTX	**Cornudas Mount**	**54.23**	**9**	P	**P**	**06 04 18.2**	**+0.1**
LENM	**Lemitar**	**56.47**	**7**	P	**P**	**06 04 34.4**	**0.0**
BNM	**Barren Site**	**56.49**	**7**	P	**P**	**06 04 36.5**	**+1.8**
MSTX	**Muleshoe**	**56.87**	**11**	P	**P**	**06 04 36.9**	**-0.3**
MSTX					IAmb	IAmb	06 04 38.9	
	comp=Z,8.1nm,0.8s						
SHPR	**Sheep Range**	**58.44**	**359**	P	**P**	**06 04 49.5**	**+1.2**
SHPR					IAmb	IAmb	06 04 52.0	
	comp=Z,4.9nm,1.0s						
X37A	**Clayton**	**59.16**	**18**	P	**P**	**06 04 52.4**	**-0.7**
X37A					IAmb	IAmb	06 05 07.4	
	comp=Z,8.7nm,1.4s						
MVCO	**Mesa Verde**	**59.34**	**5**	P	**P**	**06 04 56.0**	**+1.3**
MVCO					IAmb	IAmb	06 04 58.0	
	comp=Z,8.6nm,1.2s						
CCUT	**Cedar City**	**59.47**	**0**	P	**P**	**06 04 56.8**	**+1.3**
CCUT					IAmb	IAmb	06 04 59.2	
	comp=Z,4.1nm,0.9s						
MIAR	**Mount Ida**	**59.65**	**19**	P	**P**	**06 04 56.8**	**+0.3**
MTPU	**Mount Pierson**	**59.98**	**1**	P	**P**	**06 04 59.0**	**-0.2**
NV11	**Mina Array Sit**	**60.49**	**356**	P	**P**	**06 05 03.3**	**+0.9**
NV11					IAmb	IAmb	06 05 05.7	
	comp=Z,6.7nm,1.2s						
NVAR	**Mina Array Bea**	**60.50**	**356**	P	**P**	**06 05 03.6**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=186,slow=9.1,SNR=16						
NVAR	**Mina Array Bea**	**60.50**	**356**	P	**P**	**06 05 03.5**	**+1.0**
PV22	**Blue Mesa, Par**	**60.63**	**4**	P	**P**	**06 05 03.4**	**-0.1**
PV22					IAmb	IAmb	06 05 06.2	
	comp=Z,3.4nm,0.8s						
Q16A	**Castle Valley**	**60.88**	**2**	P	**P**	**06 05 05.0**	**-0.1**
Q16A					IAmb	IAmb	06 05 08.0	
	comp=Z,4.2nm,0.9s						
KVN	**Kaiserville**	**61.10**	**356**	P	**P**	**06 05 08.4**	**+1.8**
SRU	**San Rafael Swe**	**61.10**	**3**	P	**P**	**06 05 06.6**	**0.0**
SRU					IAmb	IAmb	06 05 09.5	
	comp=Z,6.3nm,0.9s						
TMUT	**Trail Mountain**	**61.26**	**2**	P	**P**	**06 05 08.4**	**+0.6**
SMCO	**Snowmass**	**61.43**	**6**	P	**P**	**06 05 08.4**	**-0.6**
SMCO					IAmb	IAmb	06 05 12.0	
	comp=Z,3.7nm,0.8s						
P17A	**Butcher Ranch,**	**61.45**	**3**	P	**P**	**06 05 08.9**	**-0.1**
U40A	**Yellville**	**61.55**	**19**	IAmb	IAmb	06 05 11.1	
	comp=Z,3.9nm,0.8s						
NLU	**North Lily Min**	**61.89**	**1**	P	**P**	**06 05 13.8**	**+1.8**
MPU	**Maple Canyon**	**61.96**	**2**	P	**P**	**06 05 13.7**	**+1.3**
MPU					IAmb	IAmb	06 05 15.3	
	comp=Z,3.2nm,0.9s						
DUG	**Dugway, Tooele**	**62.12**	**1**	P	**P**	**06 05 13.9**	**+0.5**
DUG					IAmb	IAmb	06 05 16.5	
	comp=Z,5.9nm,1.1s						
BDFB	**Brasilia**	**62.15**	**96**	P	**P**	**06 05 13.6**	**-0.5**
	comp=Z,4.3nm,0.9s,baz=229,slow=12,SNR=4.1						
ISCO	**Idaho Springs**	**62.19**	**7**	P	**P**	**06 05 12.7**	**-1.3**
ISCO					IAmb	IAmb	06 05 19.6	
	comp=Z,4.7nm,1.0s						
MGMO	**Mountain Grove**	**62.46**	**19**	IAmb	IAmb	06 05 17.7	
	comp=Z,3.9nm,0.8s						
JLU	**Jordanelle**	**62.55**	**2**	P	**P**	**06 05 16.0**	**-0.4**
JLU					IAmb	IAmb	06 05 19.2	
	comp=Z,5.0nm,0.9s						
RDMU	**Red Mountain**	**62.61**	**4**	P	**P**	**06 05 17.2**	**+0.5**
ELK	**Elko**	**62.67**	**359**	P	**P**	**06 05 17.9**	**+0.7**
BGU	**Big Grassy Mou**	**62.84**	**1**	P	**P**	**06 05 19.1**	**+0.9**
SPUT	**South Promonto**	**63.23**	**1**	IAmb	IAmb	06 05 23.3	
	comp=Z,3.5nm,0.8s						
CCM	**Cathedral Cave**	**63.61**	**20**	P	**P**	**06 05 22.9**	**-0.3**
CCM					IAmb	IAmb	06 05 24.8	
	comp=Z,4.4nm,0.8s						
BW06	**Boulder Array**	**64.80**	**3**	IAmb	IAmb	06 05 32.9	
	comp=Z,5.2nm,0.7s						
PD31	**Pinedale Array**	**64.80**	**3**	IAmb	IAmb	06 05 32.9	
	comp=Z,4.7nm,0.7s						
PDAR	**Pinedale Array**	**64.80**	**3**	P	**P**	**06 05 30.7**	**-0.5**
PDAR					LR	LR	06 28 57.0	
	comp=Z,4.4nm,0.7s,baz=168,slow=6.0,SNR=43						
PDAR	**Pinedale Array**	**64.80**	**3**	P	**P**	**06 05 30.5**	**-0.7**
K22A	**Casper**	**64.91**	**6**	P	**P**	**06 05 31.1**	**-0.7**
REDW	**Red Top Meadow**	**65.33**	**2**	IAmb	IAmb	06 05 36.4	
	comp=Z,4.4nm,1.1s						
MFID	**Camas Ranch**	**65.35**	**358**	IAmb	IAmb	06 05 37.8	
	comp=Z,3.6nm,0.8s						
SNOW	**Snow King Moun**	**65.43**	**2**	IAmb	IAmb	06 05 38.6	
	comp=Z,3.9nm,0.8s						
HLID	**Hailey**	**65.48**	**359**	P	**P**	**06 05 34.4**	**-1.1**
LOHW	**Long Hollow**	**65.59**	**3**	IAmb	IAmb	06 05 38.0	
	comp=Z,4.6nm,0.9s						
FLWY	**Flagg Ranch**	**66.06**	**2**	P	**P**	**06 05 39.1**	**-0.2**
RSSD	**Black Hills**	**66.64**	**8**	P	**P**	**06 05 42.9**	**-0.1**
YHH	**Holmes Hill**	**66.75**	**2**	P	**P**	**06 05 43.6**	**-0.2**
YHH					IAmb	IAmb	06 05 46.2	
	comp=Z,5.8nm,1.2s						
YHL	**Hebgen Lake**	**66.81**	**2**	P	**P**	**06 05 44.0**	**-0.1**
YHL					IAmb	IAmb	06 05 47.3	
	comp=Z,5.1nm,1.0s						
YNE	**Yellowstone No**	**67.01**	**3**	IAmb	IAmb	06 05 47.6	
	comp=Z,4.0nm,0.8s						
VNDA	**Vanda**	**67.23**	**194**	LR	LR	06 30 38.1	
	comp=Z,86nm,18.5s,baz=146,slow=32						
G08A	**Pilot Rock**	**67.37**	**356**	IAmb	IAmb	06 05 50.8	
	comp=Z,5.5nm,0.9s						
ECSD	**EROS Data Cent**	**67.52**	**13**	IAmb	IAmb	06 05 49.8	
	comp=Z,3.2nm,0.7s						
LAO	**LaSA Array**	**68.94**	**6**	P	**P**	**06 05 57.3**	**0.0**
F33A	**5 Mile Ranch,**	**69.59**	**13**	IAmb	IAmb	06 06 08.1	
	comp=Z,5.5nm,1.1s						
JTMT	**Jette**	**69.66**	**360**	IAmb	IAmb	06 06 04.3	
	comp=Z,4.0nm,0.7s						
C09A	**Chrisman Ranch**	**69.83**	**357**	IAmb	IAmb	06 06 06.0	
	comp=Z,6.7nm,0.8s						
F36A	**Milaca**	**70.23**	**15**	P	**P**	**06 06 04.8**	**-0.3**
COWI	**Conover**	**71.60**	**18**	IAmb	IAmb	06 06 15.7	
	comp=Z,7.1nm,0.8s						
B35A	**Bob, Littlefor**	**72.54**	**14**	P	**P**	**06 06 19.1**	**0.0**
B35A					IAmb	IAmb	06 06 21.3	
	comp=Z,7.8nm,0.8s						
ULM	**Lac du Bonnet**	**73.89**	**12**	P	**P**	**06 06 26.3**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=212,slow=5.2,SNR=8.7						
DLBC	**Dease Lake**	**81.50**	**351**	P	**P**	**06 07 11.2**	**+1.9**
DLBC					IAmb	IAmb	06 07 11.7	
	comp=Z,7.8nm,1.2s						
FCC	**Fort Churchill**	**82.33**	**10**	IAmb	IAmb	06 07 15.5	
	comp=Z,7.6nm,0.9s						
YKA	**Yellowknife Ar**	**84.44**	**360**	P	**P**	**06 07 24.5**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=173,slow=5.7,SNR=26						
SYO	**Syowa Base**	**86.99**	**171**	⫴*eX*	P	06 07 44.0	+6.8
H11S2	**WAKE ISLAND Hy**	**87.62**	**291**	T	T	07 44 32.9	
	baz=115,slow=75,SNR=87						
H11S1	**WAKE ISLAND Hy**	**87.64**	**291**	T	T	07 44 33.1	
	baz=115,slow=75,SNR=54						
H11S3	**WAKE ISLAND Hy**	**87.64**	**291**	T	T	07 44 35.2	
	baz=115,slow=75,SNR=57						
H11N3	**WAKE ISLAND Hy**	**87.95**	**292**	T	T	07 44 57.9	
	baz=154,slow=74,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**87.97**	**292**	T	T	07 44 59.6	
	baz=120,slow=74,SNR=9.4						
STKA	**Stephens Creek**	**90.07**	**235**	LR	LR	06 41 19.0	
	comp=Z,38nm,18.5s,baz=208,slow=31						
TRF	**Thorofare Moun**	**90.09**	**344**	P	**P**	**06 07 52.1**	**+0.1**
TRF					IAmb	IAmb	06 07 53.4	
	comp=Z,6.3nm,1.0s						
MAW	**Mawson**	**90.39**	**179**	LR	LR	06 42 50.4	
	comp=Z,98nm,20.0s,baz=240,slow=32						
BPAW	**Bent Paw Mtn.**	**90.80**	**345**	P	**P**	**06 07 55.7**	**+0.6**
INK	**Inuvik**	**91.44**	**353**	P	**P**	**06 07 57.1**	**-0.8**
	comp=Z,1.1nm,1.0s,baz=143,slow=5.0,SNR=3.4						
CLL	**Collm**	**129.88**	**41**	*e*PKPdf	**PKiKP**	**06 14 03.0**	**+0.5**
	comp=Z,8.0nm,1.1s						
SONM	**Songino Array**	**139.03**	**318**	PKP	**PKPdf**	**06 14 19.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=34,slow=1.2,SNR=2.9						
AKASG	**Malin Array Be**	**139.55**	**36**	PKP	**PKPdf**	**06 14 18.9**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=287,slow=2.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**145.34**	**341**	PKPbc	**PKPbc**	**06 14 29.1**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=27,slow=5.0,SNR=8.6						
ZALV	**Zalesovo Beam**	**145.34**	**341**		**PKPbc**	**06 14 29.2**	**-0.5**
BRTR	**Keskin Array B**	**147.31**	**50**	PKPbc	**PKPdf**	**06 14 33.9**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=291,slow=1.1,SNR=8.7						
BRTR	**Keskin Array B**	**147.31**	**50**	PKPdf	**PKPdf**	**06 14 34.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**149.12**	**269**	PKPbc	**PKiKP**	**06 14 42.5**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=74,slow=1.1,SNR=11						
CMAR	**Chiang Mai Arr**	**149.12**	**269**		**PKPbc**	**06 14 41.2**	**-0.3**
KBZ	**Khabaz**	**151.16**	**37**	PKPbc	**PKPbc**	**06 14 45.1**	**-0.6**
	comp=Z,6.0nm,0.9s,baz=324,slow=5.0,SNR=8.1						
MKAR	**Makanchi Array**	**152.26**	**336**	PKPbc	**PKPbc**	**06 14 47.1**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=39,slow=2.3,SNR=20						
MKAR	**Makanchi Array**	**152.26**	**336**		**PKPbc**	**06 14 46.6**	**-1.6**

IDC 31 06:00:52.6±4.9, 4°67S×152°17E, *h*0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/32, mbtmp3.7/4, Error ellipse: s-maj=138.8km s-min=36.1km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.06**	**227**	P	P	06 06 00.1	+0.2
	0.7nm,0.4s,baz=53,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**25.83**	**221**	P	P	06 06 25.8	0.0
	0.5nm,0.6s,baz=48,slow=9.3,SNR=8.3						
FITZ	**Fitzroy Crossi**	**29.17**	**241**	P	P	06 06 55.5	-0.4
	1.4nm,0.7s,baz=71,slow=7.7,SNR=4.6						
MKAR	**Makanchi Array**	**79.82**	**319**	P	P	06 13 03.3	+0.2
	0.6nm,0.9s,baz=104,slow=6.1,SNR=4.5						

*CNRM **31** 06:35:57.3, 36°58N×13°53W, *h*0km, Hypocentre not reviewed by the ISC*

*IGIL **31** 06:36:11.6, 36°81N×12°42W, *h*2km, ML2.9*

*INMG **31** 06:36:12.3±1.0, 36°60N×12°77W, *h*10km, ML2.9, Error ellipse: s-maj=3.1km s-min=2.0km az=118.0*

*MDD **31** 06:36:13.1±1.6, 37°07N×12°14W, *h*0km, mb4.5/21, Error ellipse: s-maj=11.5km s-min=8.3km az=40.0, PRXIMO*

ISC 31 06:36:04.3±1.4, 36°69N±0°05×12°70W±0°07, *h*10km, n79, σ3905/146, 5C-1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.13**	**81**	⇑P	**Pn**	**06 36 56.6**	**+2.9**
	14nm,0.1s,SNR=18						
PFVI				S	**Sn**	**06 37 30.1**	**-1.2**
	77nm,0.2s,SNR=11						
PFVI	**Vila Bisbo**	**3.13**	**81**	*e*Pn	**Pn**	**06 36 56.7**	**+2.9**
PFVI				*e*Sn	**Sn**	**06 37 29.9**	**-1.4**
PFVI				A	A	06 37 31.7	
	50nm,0.7s						
PTEO	**Sao Teotonio**	**3.29**	**74**	P	**Pn**	**06 36 59.0**	**+3.1**
PTEO				S	**Sn**	**06 37 33.5**	**-1.6**
	21nm,0.5s						
PTEO	**Sao Teotonio**	**3.29**	**74**	*e*Pn	**Pn**	**06 36 59.0**	**+3.1**
PTEO				*e*Sn	**Sn**	**06 37 33.5**	**-1.6**
PTEO				A	A	06 37 36.4	
	43nm,0.5s						
PMAFR	**Mafra**	**3.53**	**49**	⇑P	**Pn**	**06 37 02.7**	**+3.5**
	17nm,0.2s,SNR=18						
PMAFR				S	**Sn**	**06 37 41.0**	**0.0**
	85nm,0.2s,SNR=11						
PMAFR	**Mafra**	**3.53**	**49**	⇑*e*Pn	**Pn**	**06 37 02.7**	**+3.5**
PMAFR				*e*Sn	**Sn**	**06 37 40.6**	**-0.4**
PMAFR				A	A	06 37 41.6	
	41nm,0.3s						
PNCL	**Nicolau / Gran**	**3.61**	**66**	P	**Pn**	**06 37 03.3**	**+3.0**
PNCL				S	**Sn**	**06 37 41.8**	**-1.2**
	25nm,0.5s						
PNCL	**Nicolau / Gran**	**3.61**	**66**	*e*Pn	**Pn**	**06 37 03.3**	**+3.0**
PNCL				*e*Sn	**Sn**	**06 37 41.8**	**-1.2**
PNCL				A	A	06 37 44.8	
	25nm,0.5s						
MESJ	**Messejana**	**3.75**	**71**	*e*P	**Pn**	**06 37 05.3**	**+3.0**
MESJ				*e*S	**Sn**	**06 37 44.5**	**-2.1**
MESJ				IAML		06 37 47.3	
	comp=N,32nm,0.2s						
MESJ	**Messejana**	**3.75**	**71**	P	**Pn**	**06 37 05.5**	**+3.2**
MESJ				S	**Sn**	**06 37 45.4**	**-1.1**
	comp=N,21nm,0.3s						
MESJ	**Messejana**	**3.75**	**71**	*e*Pn	**Pn**	**06 37 05.5**	**+3.2**
MESJ				*e*Sn	**Sn**	**06 37 45.4**	**-1.1**
MESJ				A	A	06 37 49.6	
	comp=N,21nm,0.3s						
PCVE	**Castro Verde**	**3.84**	**74**	P	**Pn**	**06 37 06.6**	**+3.1**
PCVE				S	**Sn**	**06 37 46.8**	**-1.9**
	comp=N,21nm,0.3s						
PCVE	**Castro Verde**	**3.84**	**74**	*e*Pn	**Pn**	**06 37 06.6**	**+3.1**
PCVE				*e*Sn	**Sn**	**06 37 46.8**	**-1.9**
PCVE				A	A	06 37 49.7	
	comp=N,21nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.86**	**80**	P	**Pn**	**06 37 07.0**	**+3.2**
PBDV				S	**Sn**	**06 37 47.9**	**-1.3**
	comp=N,16nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.86**	**80**	*e*Pn	**Pn**	**06 37 07.0**	**+3.2**
PBDV				*e*Sn	**Sn**	**06 37 47.9**	**-1.3**
PBDV				A	A	06 37 57.2	
	comp=N,16nm,0.4s						
PVAQ	**Vaqueiros**	**4.05**	**78**	P	**Pn**	**06 37 09.6**	**+3.3**
PVAQ				S	**Sn**	**06 37 52.2**	**-1.6**
	comp=N,18nm,0.5s						
PVAQ	**Vaqueiros**	**4.05**	**78**	*e*Pn	**Pn**	**06 37 09.6**	**+3.3**
PVAQ				*e*Sn	**Sn**	**06 37 52.2**	**-1.6**
PVAQ				A	A	06 37 56.4	
	comp=N,18nm,0.5s						
PVAQ	**Vaqueiros**	**4.05**	**78**	P		06 37 09.6	
PBEJ	**Beja**	**4.08**	**69**	P	**Pn**	**06 37 10.0**	**+3.3**
PBEJ				S	**Sn**	**06 37 52.5**	**-2.0**
	comp=N,12nm,0.2s						
PBEJ	**Beja**	**4.08**	**69**	*e*Pn	**Pn**	**06 37 10.0**	**+3.3**
PBEJ				*e*Sn	**Sn**	**06 37 52.5**	**-2.0**
PBEJ				A	A	06 37 54.8	
	comp=N,23nm,0.2s						
EVO	**Evora**	**4.15**	**62**	P	**Pn**	**06 37 10.0**	**+2.3**
EVO				S	**Sn**	**06 37 54.5**	**-1.8**
	comp=N,28nm,0.1s						
EVO	**Evora**	**4.15**	**62**	*e*P	**Pn**	**06 37 10.0**	**+2.3**
EVO				*e*S	**Sn**	**06 37 54.0**	**-2.4**
EVO	**Evora**	**4.15**	**62**	*e*Pn	**Pn**	**06 37 11.4**	**+3.6**
EVO				*e*Sn	**Sn**	**06 37 54.5**	**-1.8**
EVO				A	A	06 37 56.3	
	comp=N,28nm,0.1s						
PSBE	**So Bento**	**4.18**	**46**	*e*Pn	**Pn**	**06 37 12.0**	**+3.9**
PSBE				*e*Sn	**Sn**	**06 37 56.4**	**-0.6**
PSBE				A	A	06 38 00.6	
	comp=N,9.1nm,0.7s						
EGRO	**El Granado**	**4.25**	**77**	P	**Pn**	**06 37 12.0**	**+2.9**
	com

comp=N,60nm,0.2s,SNR=6.3
AVE Averroes 5.50 126 *e*S **Sn** 06 38 24.9 -4.7
PVIS Viseu 5.50 42 P **Pn** 06 37 29.7 +3.3
PVIS S **Sn** 06 38 27.4 -2.4
comp=N,2.7nm,0.1s
PVIS Viseu 5.50 42 *e*Pn **Pn** 06 37 29.7 +3.3
PVIS *e*Sn **Sn** 06 38 27.4 -2.4
PVIS A A 06 38 33.9
comp=N,5.4nm,0.1s
ECAB El Cabril 5.96 74 P **Pn** 06 37 35.4 +2.7
comp=N,3.3nm,0.2s,SNR=28
ECAB S **Sn** 06 38 37.6 -3.4
comp=N,12nm,0.2s,SNR=8.9
CEU Ceuta 5.97 95 S **Sn** 06 38 40.7 -0.4
CEU Ceuta 5.97 95 *e*S **Sn** 06 38 40.7 -0.4
POLO Lamas de Olo 6.04 38 P **Pn** 06 37 36.9 +3.1
POLO S **Sn** 06 38 40.1 -2.9
comp=N,2.3nm,0.7s
POLO Lamas de Olo 6.04 38 *e*Pn **Pn** 06 37 36.9 +3.1
POLO *e*Sn **Sn** 06 38 40.1 -2.9
POLO A A 06 38 46.1
comp=N,2.3nm,0.7s
HORN Hornachuelos 6.05 77 P 06 37 36.6
PCAB Cabril 6.19 34 P **Pn** 06 37 39.7 +3.9
PCAB S **Sn** 06 38 44.0 -2.6
PCAB Cabril 6.19 34 *e*Pn **Pn** 06 37 39.7 +3.9
PCAB *e*Sn **Sn** 06 38 44.0 -2.6
EPLA Plasencia 6.20 55 ⇓P **Pn** 06 37 39.2 +3.3
comp=N,8.2nm,0.2s,SNR=18
EPLA S **Sn** 06 38 43.5 -3.3
comp=N,4.8nm,0.1s,SNR=6.3
EZAM Zamans 6.27 28 P **Pn** 06 37 40.3 +3.4
comp=N,2.2nm,0.1s,SNR=7.9
EZAM S **Sn** 06 38 44.5 -4.1
comp=N,4.0nm,0.1s,SNR=7.9
MVO Moncorvo 6.29 43 P **Pn** 06 37 40.1 +3.0
comp=N,4.7nm,0.2s,SNR=12
MVO S **Sn** 06 38 45.5 -3.6
comp=N,2.5nm,0.1s,SNR=7.9
MVO Moncorvo 6.29 43 *e*Pn **Pn** 06 37 40.2 +3.0
MVO *e*Sn **Sn** 06 38 45.7 -3.4
MVO A A 06 38 52.3
comp=N,5.8nm,0.2s
PGAV Gavieira, Arco 6.29 32 P **Pn** 06 37 40.8 +3.6
PGAV S **Sn** 06 38 46.4 -2.8
comp=N,5.2nm,0.6s
PGAV Gavieira, Arco 6.29 32 *e*Pn **Pn** 06 37 40.8 +3.6
PGAV *e*Sn **Sn** 06 38 46.4 -2.8
PGAV A A 06 38 54.1
comp=N,5.2nm,0.6s
ELOB Lobios 6.30 33 P **Pn** 06 37 40.8 +3.4
comp=N,3.5nm,0.2s,SNR=19
ELOB S **Sn** 06 38 46.2 -3.2
comp=N,2.0nm,0.1s,SNR=4.9
EADA Adamuz 6.63 75 P **Pn** 06 37 44.7 +2.9
comp=N,2.5nm,0.2s,SNR=14
EADA S **Sn** 06 38 53.6 -3.9
comp=N,8.9nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.88 23 P **Pn** 06 37 48.0 +2.8
comp=N,2.7nm,0.1s,SNR=7.9
EMAZ S **Sn** 06 38 58.0 -5.5
comp=N,9.3nm,0.1s,SNR=7.9
PBRG Braganca 6.89 40 P **Pn** 06 37 48.4 +3.0
PBRG S **Sn** 06 39 00.0 -3.9
comp=N,1.4nm,0.7s
PBRG Braganca 6.89 40 *e*Pn **Pn** 06 37 48.4 +3.0
PBRG *e*Sn **Sn** 06 39 00.0 -3.9
PBRG A A 06 39 03.4
comp=N,2.8nm,0.7s
EGOR Sierra Gorda, 6.90 84 S **Sn** 06 39 00.8 -3.4
comp=N,2.0nm,0.2s,SNR=7.9
ECAL Calabor 6.99 40 P **Pn** 06 37 50.1 +3.3
comp=N,19nm,0.3s,SNR=17
ECAL S **Sn** 06 39 03.7 -2.8
comp=N,6.1nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 7.06 29 P **Pn** 06 37 50.8 +3.0
comp=N,4.4nm,0.1s,SNR=7.9
EAGO S **Sn** 06 39 02.7 -5.4
comp=N,4.6nm,0.1s,SNR=7.9
TTIG Tnine Tigouga, 7.08 149 P 06 37 46.0
PAB San Pablo 7.17 64 P **Pn** 06 37 51.8 +2.5
comp=N,2.2nm,0.2s,SNR=7.9
PAB S **Sn** 06 39 06.7 -4.3
comp=N,2.1nm,0.2s,SNR=7.9
PAB San Pablo 7.17 64 P 06 37 52.6
ESDC Sonseca Array 7.50 64 P **Pn** 06 37 56.0 +2.2
comp=N,3.9nm,0.3s,baz=251,slow=13,SNR=14
ESDC S Sn 06 39 10.2 -8.7
comp=N,0.8nm,0.3s,baz=249,slow=16,SNR=7.9
AKLM AKL 7.52 104 S 06 39 29.3
MDT Midelt 7.70 118 P 06 37 58.0
EQES Quesada 7.76 79 P **Pn** 06 38 00.4 +3.0
comp=N,0.8nm,0.2s,SNR=7.9
EQES S **Sn** 06 39 22.9 -2.5
comp=N,6.9nm,0.4s,SNR=7.9
GUD Guadarrama 7.76 57 P **Pn** 06 38 00.3 +2.8
comp=N,1.7nm,0.4s,SNR=7.9
GUD S **Sn** 06 39 21.6 -3.9
comp=N,0.8nm,0.1s,SNR=7.9
EPON Pontenova 7.88 31 P **Pn** 06 38 01.8 +2.8
comp=N,2.2nm,0.2s,SNR=7.5
EPON S **Sn** 06 39 23.5 -4.7
comp=N,35nm,0.8s,SNR=7.9
ENIJ Nijar 8.42 85 S **Sn** 06 39 35.8 -5.7
comp=N,12nm,0.4s,SNR=7.9
EARI Arriondas 8.75 39 P **Pn** 06 38 15.3 +4.4
comp=N,1.1nm,0.2s,SNR=6.7
ETOB Tobarra 9.06 74 P **Pn** 06 38 17.9 +2.8
comp=N,1.2nm,0.2s,SNR=7.1
ETOR Torete 9.28 60 P **Pn** 06 38 21.2 +2.9
comp=N,24nm,0.2s,SNR=27
ETOR S **Sn** 06 39 56.4 -6.4
comp=N,26nm,0.6s,SNR=7.9

*MOS **31** 06:36:14.9±0.9,54˚.78N×159˚.78W,h15km,mb4.7/12, Error ellipse: s-maj=12.6km s-min=7.6km az=92.0*
*IDC **31** 06:36:14.9±0.8,54˚.90N×160˚.00W,h0km,mb4.1/31, mb1 4.2/34,mb1mx4.1/59,mbtmp4.1/34,ML4.1/3,MS3.4/11, Ms1 3.4/11,ms1mx3.0/66,Error ellipse: s-maj=21.6km s-min=11.2km az=179.0*
*NEIC **31** 06:36:18.3,54˚.55N×159˚.53W,h51km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.23; $M_{\theta\theta}$=2.15; $M_{\phi\phi}$=-1.92; $M_{r\theta}$=-0.47; $M_{\theta\phi}$=-3.23; $M_{\phi r}$=1.06; Fault plane solution: M_o=3.99000×10^{15} NP1:φ=342.64000°, δ=79.19000°,λ=-13.14000°. NP2:φ=75.15000°,δ=77.10000°, λ=-168.90000°. Principal axes: T 3.9354, Plg1.0000°, Azm29.0000°; N 0.1153, Plg73.0000°, Azm124.0000°; P -4.0507, Plg17.0000°, Azm299.0000°;*
*AEIC **31** 06:36:18±2.8, 54˚.75N±0˚.05×159˚.72W±0˚.04, h3km±4km Error ellipse: s-maj=7.4km s-min=3.6km az=172.0*
*NEIC **31** 06:36:19.1±2.4, 54˚.72N±0˚.07×159˚.81W±0˚.07, h35km±6km, mb4.3/14, ML4.1/10, Mwr4.3/21, ML4.1(AEIC), Error ellipse: s-maj=10.5km s-min=5.9km az=173.0*

ISC 31 06:36:20.0±0.5, 54˚80N±0˚07×159˚72W±0˚04, h37km, n209, σ1°18/202, mb4.3/44, MS3.4/12, 6C, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SDPT	**Sand Point**	**0.70**	**322**		**Pn**	**06**	**36**	**32.9**	**-0.5**
SDPT				Sn	**Sn**	**06**	**36**	**43.1**	**+0.2**
SDPT				IAML		06	36	44.9	
	comp=N,10μm,0.5s								
SDPT				IAML		06	36	51.5	
	comp=E,7μm,0.7s								
PS1A	**Pavlof South-1**	**1.32**	**299**		**Pn**	**06**	**36**	**42.3**	**+0.4**
PVV	**Pavlof Volcano**	**1.32**	**297**		**Pn**	**06**	**36**	**41.9**	**0.0**
PS4A	**Pavlof South-4**	**1.35**	**295**		**Pn**	**06**	**36**	**42.2**	**0.0**
HAG	**Hague Volcano**	**1.36**	**293**	P	**Pn**	**06**	**36**	**42.6**	**+0.2**
HAG	**Hague Volcano**	**1.36**	**293**		**Pn**	**06**	**36**	**42.6**	**+0.2**
PN6	**Pavlof North-6**	**1.42**	**298**		**Pn**	**06**	**36**	**44.4**	**+1.1**
PN6					**Sn**	**06**	**37**	**03.7**	**+2.9**
PN7A	**Pavlof North-7**	**1.46**	**297**		**Pn**	**06**	**36**	**44.5**	**+0.7**
VNHG	**Veniaminof 1**	**1.46**	**12**		**Pn**	**06**	**36**	**45.2**	**+1.4**
DT1	**Dutton Round H**	**1.51**	**283**		**Pn**	**06**	**36**	**43.9**	**-0.5**
BLHA	**Black Hill**	**1.62**	**305**		**Pn**	**06**	**36**	**46.7**	**+0.7**
CHGN	**Chignik**	**1.68**	**26**	Pn	**Pn**	**06**	**36**	**47.9**	**+1.2**
CHGN	**Chignik**	**1.68**	**26**		**Sn**	**06**	**37**	**11.0**	**+4.1**
FALS	**False Pass**	**2.14**	**273**	Pn	**Pn**	**06**	**36**	**53.2**	**+0.1**
FALS	**False Pass**	**2.14**	**273**		**Sn**	**06**	**37**	**20.8**	**+2.5**
BRPK	**Brown Peak**	**2.34**	**268**		**Pn**	**06**	**36**	**55.9**	**+0.1**
SSLN	**Shishaldin Nor**	**2.48**	**272**		**Pn**	**06**	**36**	**58.2**	**+0.4**
SSLS	**Shishaldin Sou**	**2.48**	**270**		**Pn**	**06**	**36**	**58.6**	**+0.7**
SSLW	**Shishaldin Wes**	**2.55**	**271**		**Pn**	**06**	**37**	**00.1**	**+1.3**
SSBA	**Shishaldin**	**2.55**	**271**		**Pn**	**06**	**36**	**59.6**	**+0.7**
SSBA					**Sn**	**06**	**37**	**30.3**	**+1.7**
WESP	**Westdahl Peak**	**2.92**	**266**		**Pn**	**06**	**37**	**04.8**	**+0.9**
WEBT	**Westdahl Beart**	**2.93**	**268**		**Pn**	**06**	**37**	**04.6**	**+0.7**
WECS	**Westdahl Cape**	**2.95**	**267**		**Pn**	**06**	**37**	**04.9**	**+0.6**
PLBL	**Peulik Blue Cr**	**3.33**	**28**		**Pn**	**06**	**37**	**11.0**	**+1.7**
PLK1	**Peulik 1**	**3.47**	**29**		**Pn**	**06**	**37**	**13.0**	**+1.6**
PLK3	**Peulik 3**	**3.48**	**32**		**Pn**	**06**	**37**	**13.6**	**+2.1**
AKSA	**Akutan Strait**	**3.55**	**262**		**Pn**	**06**	**37**	**13.6**	**+1.1**
AKSA	**Akutan Strait**	**3.55**	**262**		**Pn**	**06**	**37**	**13.5**	**+1.0**
PLK5	**Peulik 5**	**3.57**	**25**		**Pn**	**06**	**37**	**14.4**	**+1.7**
SII	**Sitkinak Islan**	**3.59**	**58**	Pn	**Pn**	**06**	**37**	**13.3**	**+0.3**
AKUT	**Akutan**	**3.60**	**262**	Pn	**Pn**	**06**	**37**	**13.6**	**+0.5**
AKUT				IAML		06	38	13.0	
	comp=N,269nm,0.9s								
AHB	**Akutan Harbor**	**3.63**	**262**		**Pn**	**06**	**37**	**14.3**	**+0.7**
AKBBA	**Akutan Broad B**	**3.70**	**262**		**Pn**	**06**	**37**	**14.9**	**+0.5**
AKV	**Akutan Volcano**	**3.71**	**262**		**Pn**	**06**	**37**	**14.9**	**+0.2**
CAHL	**Cahill**	**4.08**	**35**		**Pn**	**06**	**37**	**21.0**	**+1.2**
MSW	**Makushin Switc**	**4.23**	**261**		**Pn**	**06**	**37**	**21.6**	**-0.2**
KABR	**Katmai Barrier**	**4.25**	**36**		**Pn**	**06**	**37**	**23.3**	**+1.1**
KABU	**Katmai Buttres**	**4.26**	**33**		**Pn**	**06**	**37**	**24.0**	**+1.7**
KBM	**Katmai Bkd Mtn**	**4.29**	**34**		**Pn**	**06**	**37**	**24.5**	**+1.9**
KVTA	**Katmai Vly 10**	**4.34**	**32**		**Pn**	**06**	**37**	**24.9**	**+1.6**
OHAK	**Old Harbor**	**4.35**	**53**	Pn	**Pn**	**06**	**37**	**23.1**	**-0.3**
OHAK				IAML		06	38	45.9	
	comp=N,249nm,0.9s								
KAHC	**Katmai Hardscr**	**4.65**	**32**		**Pn**	**06**	**37**	**28.9**	**+1.2**
KDAK	**Kodiak Island**	**4.97**	**50**	Pn	**Pn**	**06**	**37**	**31.5**	**-0.4**
	comp=N,5.3nm,0.3s,baz=201,slow=5.1,SNR=60								
KDAK				Sn	**Sn**	**06**	**38**	**25.7**	**-2.3**
	comp=N,1.8nm,0.3s,baz=263,slow=18,SNR=1.3								
KDAK	**Kodiak Island**	**4.97**	**50**	Pn	**Pn**	**06**	**37**	**31.7**	**-0.2**
KDAK				IAML		06	38	56.9	
	comp=N,104nm,0.9s								
KDAK				IAML		06	38	57.9	
	comp=N,83nm,0.7s								
NIKH	**Nikolski High**	**5.71**	**255**	Pn	**Pn**	**06**	**37**	**40.5**	**-1.5**
AUCH	**Augustine Cone**	**5.71**	**34**		**Pn**	**06**	**37**	**43.5**	**+1.4**
AUL	**Augustine Lava**	**5.73**	**34**		**Pn**	**06**	**37**	**44.1**	**+1.7**
OPT	**Oil Point**	**6.00**	**33**		**Pn**	**06**	**37**	**47.8**	**+1.6**
IVE	**Iliamna Volcan**	**6.36**	**32**		**Pn**	**06**	**37**	**52.4**	**+1.3**
SPIA	**Saint Paul Isl**	**6.37**	**296**	Pn	**Pn**	**06**	**37**	**53.1**	**+2.0**
CNPM	**China Poot**	**6.61**	**41**		**Pn**	**06**	**37**	**54.5**	**+0.1**
SVW2	**Sparrevohn**	**6.69**	**18**		**Pn**	**06**	**37**	**56.9**	**+1.4**
RED	**Redoubt Volcan**	**6.75**	**31**		**Pn**	**06**	**37**	**57.5**	**+1.1**
RSO	**Redoubt South**	**6.79**	**31**	Pn	**Pn**	**06**	**37**	**55.4**	**-1.7**
NCT	**North Crescent**	**6.82**	**29**		**Pn**	**06**	**37**	**59.0**	**+1.6**
BRLK	**Bradley Lake**	**6.90**	**40**		**Pn**	**06**	**37**	**57.5**	**-0.9**
BRSE	**Bradley Lake S**	**6.94**	**41**		**Pn**	**06**	**37**	**58.3**	**-0.7**
SPCP	**Crater Peak Br**	**7.62**	**29**		**Pn**	**06**	**38**	**09.9**	**+1.5**
SLKM	**Skilak Lake**	**7.65**	**38**		**Pn**	**06**	**38**	**09.1**	**+0.3**
SEW	**Seward**	**7.67**	**42**	Pn	**Pn**	**06**	**38**	**09.2**	**+0.2**
O22K	**Cooper Landing**	**7.81**	**39**		**Pn**	**06**	**38**	**12.0**	**+1.1**
STLK	**Strandline Lak**	**7.90**	**29**		**Pn**	**06**	**38**	**13.0**	**+0.8**
SUA	**Susitna One**	**8.19**	**32**		**Pn**	**06**	**38**	**16.3**	**+0.1**
RC01	**Rabbit Creek A**	**8.23**	**36**		**Pn**	**06**	**38**	**16.8**	**+0.1**
TT01	**Tatalina**	**8.35**	**12**		**Pn**	**06**	**38**	**18.6**	**+0.3**
SKT	**Skwentna**	**8.38**	**27**		**Pn**	**06**	**38**	**19.4**	**+0.7**
PWL	**Port Wells**	**8.58**	**40**	Pn	**Pn**	**06**	**38**	**21.5**	**+0.1**
MID	**Middleton Isla**	**8.62**	**52**	P	**Pn**	**06**	**38**	**22.0**	**0.0**
MID	**Middleton Isla**	**8.62**	**52**		**Pn**	**06**	**38**	**21.9**	**0.0**
KNK	**Knik Glacier**	**8.90**	**37**	Pn	**Pn**	**06**	**38**	**26.3**	**+0.4**
KOFP	**Korovin Flat P**	**8.93**	**259**		**Pn**	**06**	**38**	**26.1**	**-0.2**
GHO	**Glory Hole Cre**	**9.00**	**35**		**Pn**	**06**	**38**	**26.8**	**-0.4**
ATKA	**Atka Island**	**9.01**	**259**	Pn	**Pn**	**06**	**38**	**27.5**	**+0.1**
GLI	**Glacier Island**	**9.07**	**43**	Pn	**Pn**	**06**	**38**	**28.0**	**-0.1**
SML	**Sawmill**	**9.22**	**36**		**Pn**	**06**	**38**	**29.9**	**-0.4**
FID	**Port Fidalgo**	**9.24**	**44**		**Pn**	**06**	**38**	**29.1**	**-1.3**
EYAK	**Cordova Ski Ar**	**9.43**	**47**		**Pn**	**06**	**38**	**32.2**	**-0.8**
SCM	**Sheep Creek Mo**	**9.59**	**38**	P	**Pn**	**06**	**38**	**35.7**	**+0.4**
SCM	**Sheep Creek Mo**	**9.59**	**38**	Pn	**Pn**	**06**	**38**	**35.7**	**+0.4**
KAIM	**Kayak Island**	**9.72**	**52**		**Pn**	**06**	**38**	**37.3**	**+0.2**
DIV	**Divide**	**9.74**	**44**		**Pn**	**06**	**38**	**37.0**	**-0.4**
RAGM	**Ragged Mountai**	**9.81**	**49**	Pn	**Pn**	**06**	**38**	**38.3**	**0.0**
WAT7	**Susitna Watana**	**9.82**	**31**		**Pn**	**06**	**38**	**37.1**	**-1.3**
KTH	**Kantishna Hill**	**9.86**	**24**		**Pn**	**06**	**38**	**39.6**	**+0.6**
KLU	**Klutina**	**9.89**	**42**	Pn	**Pn**	**06**	**38**	**39.4**	**0.0**
TRF	**Thorofare Moun**	**9.92**	**25**	Pn	**Pn**	**06**	**38**	**39.9**	**0.0**
WAT6	**Susitna Watana**	**9.97**	**34**		**Pn**	**06**	**38**	**38.9**	**-1.7**
HMT	**Hamilton**	**9.97**	**50**		**Pn**	**06**	**38**	**41.0**	**+0.5**
WAT2	**Susitna Watana**	**9.99**	**31**		**Pn**	**06**	**38**	**39.5**	**-1.4**
GSTR	**Great Sitkin T**	**10.12**	**261**	Pn	**Pn**	**06**	**38**	**42.9**	**+0.4**
BMRM	**Bremner River**	**10.13**	**46**		**Pn**	**06**	**38**	**42.7**	**0.0**
ANM	**Nome**	**10.20**	**346**	P	**Pn**	**06**	**38**	**44.8**	**+1.2**
ANM	**Nome**	**10.20**	**346**	Pn	**Pn**	**06**	**38**	**44.8**	**+1.2**
RND	**Reindeer**	**10.26**	**28**	P	**Pn**	**06**	**38**	**45.2**	**+0.7**
RND	**Reindeer**	**10.26**	**28**		**Pn**	**06**	**38**	**45.2**	**+0.7**
N25K	**Chitina, Valde**	**10.47**	**43**		**Pn**	**06**	**38**	**47.2**	**-0.2**
ADK	**Adak**	**10.56**	**261**	P	**Pn**	**06**	**38**	**47.5**	**-1.0**
ADK	**Adak**	**10.56**	**261**		**Pn**	**06**	**38**	**47.5**	**-1.0**
GAMB	**Gambell**	**10.87**	**331**	Pn	**Pn**	**06**	**38**	**54.2**	**+1.6**
TNA	**Tin City**	**11.53**	**343**	Pn	**Pn**	**06**	**39**	**03.8**	**+2.2**
I23K	**Minto, Yukon-K**	**11.58**	**22**	Pn	**Pn**	**06**	**39**	**03.4**	**+1.0**
IMAR	**Indian Mountai**	**11.59**	**12**	Pn	**Pn**	**06**	**39**	**04.3**	**+1.7**
COLA	**College**	**11.71**	**26**	*i* P	**Pn**	**06**	**39**	**04.5**	**+0.4**
IL31		**11.87**	**28**	Pn	**Pn**	**06**	**39**	**05.0**	**-1.5**
ILAR	**Eielson Array**	**11.87**	**28**	Pn	**Pn**	**06**	**39**	**03.4**	**-3.1**
	comp=N,0.3nm,0.3s,baz=218,slow=13,SNR=15								
ILAR				Sn	**Sn**	**06**	**41**	**13.7**	**-3.8**
	comp=N,0.2nm,0.3s,baz=220,slow=15,SNR=1.6								
SCRK	**Sand Creek**	**12.16**	**35**	Pn	**Pn**	**06**	**39**	**09.5**	**-1.0**
BCAR	**Beaver Creek A**	**12.38**	**41**		**Pn**	**06**	**39**	**12.1**	**-1.4**
RDOG	**Red Dog Mine**	**13.38**	**355**	Pn	**Pn**	**06**	**39**	**28.2**	**+1.2**
DLBC	**Dease Lake**	**16.66**	**65**	Pn	**P**	**06**	**40**	**13.3**	**+0.8**
	comp=N,0.2nm,0.3s,baz=258,slow=10,SNR=2.1								
DLBC				Sn	**Sn**	**06**	**43**	**13.7**	**-0.5**
	comp=N,0.1nm,0.3s,baz=226,slow=23,SNR=2.0								
INK	**Inuvik**	**18.19**	**32**	P	**P**	**06**	**40**	**28.1**	**-1.0**
	comp=N,1.4nm,0.3s,baz=198,slow=11,SNR=44								
INK				S	**Sn**	**06**	**43**	**47.4**	**-3.3**
	comp=N,0.0nm,0.3s,baz=129,slow=7.0,SNR=2.8								
INK				LR	LR	06	48	23.6	
	comp=N,64nm,19.6s,baz=178,slow=40								
BBB	**Bella Bella**	**18.90**	**85**	LR	LR	06	45	44.5	
	comp=N,119nm,19.5s,baz=316,slow=30								
BILL	**Bilibino**	**20.61**	**323**	⇑ *e*P	**P**	**06**	**40**	**55.3**	**-0.3**
BILL				*PP	**pP**	**06**	**41**	**03.0**	**-2.2**
BILL				*SP	**sP**	**06**	**41**	**13.0**	**+3.1**
BILL				S	Sn	06	44	48.0	-1.2
BILL				SS	**SnSn**	**06**	**45**	**05.0**	**+1.2**
BILL				SSS	SSS	06	45	17.0	
BILL				pmax	pmax				
	comp=Z,4.0nm,1.0s								
BILL				MLR	MLR				
	comp=Z,96nm,16.0s								
BILL	**Bilibino**	**20.61**	**323**	P	**P**	**06**	**40**	**54.6**	**-1.0**
YKA	**Yellowknife Ar**	**24.24**	**53**	P	**P**	**06**	**41**	**33.1**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=264,slow=7.6,SNR=30								
PET	**Petropavlovsk**	**24.33**	**283**	⇑ *i* P	**P**	**06**	**41**	**33.8**	**0.0**
PET				*e*S	**S**	**06**	**45**	**48.1**	**-2.2**
PET				pmax	pmax				
	comp=Z,32nm,0.9s								
PET				smax	smax				
	comp=E,35nm,0.5s								
PET				smax	smax				
	comp=N,43nm,0.6s								
PET				MLR	MLR				
	comp=Z,100nm,14.0s								
PET	**Petropavlovsk**	**24.33**	**283**	P	**P**	**06**	**41**	**33.4**	**-0.4**
PEA0B	**Petropavlovsk-**	**24.84**	**284**	P	**P**	**06**	**41**	**37.6**	**-0.9**
PEA0B				pmax	pmax				
	comp=Z,22nm,1.0s								
PEA0B	**Petropavlovsk-**	**24.84**	**284**	P	**P**	**06**	**41**	**37.6**	**-0.9**
PETK	**Petropavlovsk-**	**24.84**	**284**	P	**P**	**06**	**41**	**37.9**	**-0.6**
	comp=Z,6.4nm,0.5s,baz=82,slow=13,SNR=59								
PETK				LR	LR	06	51	34.7	
	comp=Z,55nm,20.1s,baz=91,slow=37								
PETK	**Petropavlovsk-**	**24.84**	**284**	P	**P**	**06**	**41**	**37.2**	**-1.3**
PETK	**Petropavlovsk-**	**24.84**	**284**	P	**P**	**06**	**41**	**37.2**	**-1.3**
SEY	**Seymchan**	**25.50**	**308**	P	**P**	**06**	**41**	**41.7**	**-2.7**
	comp=Z,1.4nm,0.3s,baz=100,slow=9.7,SNR=12								
SEY	**Seymchan**	**25.50**	**308**	*i* P	**P**	**06**	**41**	**42.6**	**-1.8**
MA2	**Magadan**	**26.73**	**301**	LR	LR	06	52	17.8	
	comp=Z,34nm,18.5s,baz=93,slow=36								
YBH	**Yreka Blue Hor**	**27.53**	**103**	LR	LR	06	50	41.8	
	comp=Z,63nm,19.1s,baz=326,slow=31								
RES	**Resolute Bay**	**31.63**	**27**	P	**P**	**06**	**42**	**39.5**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=220,slow=8.3,SNR=4.1								
RES	**Resolute Bay**	**31.63**	**27**	P	**P**	**06**	**42**	**39.5**	**+0.7**
RES				pmax	pmax				
	comp=Z,2.0nm,1.2s								
NVAR	**Mina Array Bea**	**32.25**	**103**	P	**P**	**06**	**42**	**46.9**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=231,slow=35,SNR=2.5								
PDAR	**Pinedale Array**	**34.44**	**89**	P	**P**	**06**	**43**	**05.3**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=269,slow=6.1,SNR=4.2								
YAK	**Yakutsk**	**35.93**	**311**	LR	LR	06	59	28.5	
	comp=Z,64nm,18.2s,baz=92,slow=39								
YAK	**Yakutsk**	**35.93**	**311**	*i* P	**P**	**06**	**43**	**17.6**	**+1.3**
ULM	**Lac du Bonnet**	**37.91**	**70**	P	**P**	**06**	**43**	**34.5**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=293,slow=7.0,SNR=3.9								
ULM	**Lac du Bonnet**	**37.91**	**70**	P	**P**	**06**	**43**	**34.5**	**+1.2**
ULM				pmax	pmax				
	comp=Z,3.0nm,1.2s								
ULM	**Lac du Bonnet**	**37.91**	**70**	IAmb	IAmb	06	43	37.8	
	comp=Z,3.3nm,1.2s								
KLR	**Kul'dur**	**41.01**	**292**	P	**P**	**06**	**43**	**57.4**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=75,slow=9.1,SNR=5.9								
H11N2	**WAKE ISLAND Hy**	**43.19**	**229**	T	T	07	30	09.3	
	baz=28,slow=76,SNR=33								
H11N3	**WAKE ISLAND Hy**	**43.20**	**229**	T	T	07	30	10.9	
	baz=28,slow=76,SNR=29								
H11N1	**WAKE ISLAND Hy**	**43.21**	**229**	T	T	07	30	28.4	
	baz=28,slow=76,SNR=30								
USRK	**Ussuriysk Ar.**	**43.91**	**286**	P	**P**	**06**	**44**	**21.0**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=48,slow=12,SNR=2.1								
H11S1	**WAKE ISLAND Hy**	**44.36**	**229**	T	T	07	31	57.3	
	baz=28,slow=75,SNR=11								
H11S2	**WAKE ISLAND Hy**	**44.37**	**229**	T	T	07	31	58.0	
	baz=28,slow=75,SNR=14								
H11S3	**WAKE ISLAND Hy**	**44.38**	**229**	T	T	07	32	00.3	
	baz=28,slow=75,SNR=7.2								
MAT	**Matsushiro**	**45.44**	**273**	P	**P**	**06**	**44**	**34.6**	**-0.4**
MJAR	**Matsushiro Arr**	**45.44**	**273**	P	**P**	**06**	**44**	**34.4**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=30,slow=6.2,SNR=5.5								
SUMG	**Summit**	**46.61**	**21**	*i* P	**P**	**06**	**44**	**44.3**	**+0.1**
SUMG	**Summit**	**46.61**	**21**	*i* P	**P**	**06**	**44**	**44.3**	**+0.1**
NRIK	**Noril'sk**	**46.93**	**333**	P	**P**	**06**	**44**	**45.9**	**-0.4**
	comp=Z,6.0nm,0.6s,baz=60,slow=7.0,SNR=8.6								
NRIK	**Noril'sk**	**46.93**	**333**	*ce*P	**P**	**06**	**44**	**46.2**	**-0.1**
NRIK				pmax	pmax				
	comp=Z,7.0nm,0.6s								
TXAR	**Lajitas Array**	**47.18**	**99**	P	**P**	**06**	**44**	**50.2**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=306,slow=5.9,SNR=10								
TXAR				PcP	**PcP**	**06**	**46**	**21.2**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=259,slow=2.6,SNR=2.0								
TXAR				LR	LR	07	02	07.5	
	comp=Z,38nm,21.2s,baz=0.0,slow=33								
KSRS	**Korea Array**	**50.70**	**281**	P	**P**	**06**	**45**	**15.1**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=51,slow=7.0,SNR=9.1								
NRS	**Narsarsuaq**	**53.30**	**33**	*i* P	P	06	45	46.0	+11
NRS	**Narsarsuaq**	**53.30**	**33**	*i* P	P	06	45	46.0	+11
TLY	**Talaya**	**53.39**	**310**	*i* P	**P**	**06**	**45**	**35.2**	**-0.3**
TLY				pmax	pmax				
	comp=Z,3.0nm,0.9s								
ULN	**Ulaanbaatar**	**54.49**	**304**	*i* P	**P**	**06**	**45**	**42.8**	**-0.9**
ULN				pmax	pmax				
	comp=Z,9.0nm,2.2s								
SONM	**Songino Array**	**54.83**	**305**	P	**P**	**06**	**45**	**45.3**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=47,slow=6.5,SNR=17								
SONM				PcP	**PcP**	**06**	**46**	**47.9**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=117,slow=1.6,SNR=4.2								
SONM	**Songino Array**	**54.83**	**305**	P	**P**	**06**

CRVS	Cervenica-Dubn	76.66	359	*e*P		P	06 48 07.3 +0.7
CRVS	Cervenica-Dubn	76.66	359	*e*P		P	06 48 07.3 +0.7
VYHS	Vyhne	77.07	1	*e*P		P	06 48 10.0 +1.1
VYHS	Vyhne	77.07	1	*e*P		P	06 48 10.0 +1.1
KBZ	Khabaz	79.97	344	P		P	06 48 24.7 -0.2
	comp=Z,2.6nm,0.9s,baz=165,slow=5.0,SNR=3.9						
CMAR	Chiang Mai Arr	81.46	290	P		P	06 48 33.1 -0.2
	comp=Z,1.3nm,0.4s,baz=15,slow=6.2,SNR=7.7						
CMAR	Chiang Mai Arr	81.46	290	*ce*P		P	06 48 33.0 -0.2
CMAR					pmax	pmax	
	comp=Z,2.0nm,0.3s						
GEYT	Alibeck	82.10	331	P		P	06 48 36.6 +0.2
	comp=Z,2.7nm,0.5s,baz=32,slow=14,SNR=2.8						
ESDC	Sonseca Array	83.63	19	P		P	06 48 45.1 +0.8
	comp=Z,2.0nm,0.6s,baz=337,slow=4.6,SNR=9.0						
ESDC	Sonseca Array	83.63	19	P		P	06 48 45.5 +1.2
MMAI	Mount Meron Ar	91.58	347	LR		LR	07 34 59.6
	comp=Z,27nm,19.6s,baz=155,slow=38						
WRA	Warramunga Arr	93.12	239	P		P	06 49 29.0 -0.8
	comp=Z,0.3nm,0.8s,baz=178,slow=19,SNR=1.4						
H03N2	Juan Fernandez	111.69	117	T		T	08 55 59.1
	baz=323,slow=77,SNR=4.6						
H03N1	Juan Fernandez	111.71	117	T		T	08 56 02.0
	baz=323,slow=77,SNR=4.7						
H03N3	Juan Fernandez	111.71	117	T		T	08 55 54.2
	baz=323,slow=77,SNR=4.4						

*AEIC **31** 06:41:16±1.2, 60°.53N±0°.03×148°.88W±0°.04, h17km±4km, ML3.2, ML3.4/124(NEIC), Error ellipse: s-maj=3.7km s-min=2.9km az=163.0*
*NEIC **31** 06:41:16.5±1.3, 60°.51N±0°.03×148°.89W±0°.05, h35km±18km, Error ellipse: s-maj=4.0km s-min=3.3km az=145.0*
*IDC **31** 06:41:16.5±1.4, 60°.35N×148°.78W, h70km±20km, mb3.2/2, mb1 3.4/6, mb1mx3.1/54, mbtmp3.4/6, Error ellipse: s-maj=22.1km s-min=10.2km az=118.0*

ISC 31 06:41:16.1±1.7, 60°.49N±0°.03×148°.86W±0°.03, h39km±4km, n169, σ0s96/144, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O22K	Cooper Landing	0.43	269		Pn	06 41 24.9	-0.8
O22K					Sn	06 41 31.8	-0.8
PWL	Port Wells	0.45	35		Pn	06 41 25.2	-0.8
PWL					Sn	06 41 32.4	-0.8
PWL	Port Wells	0.45	35	IAML		06 41 32.8	
	comp=E,10µm,0.4s						
PWL				IAML		06 41 33.1	
	comp=N,6µm,0.2s						
SEW	Seward	0.49	218		Pn	06 41 26.8	+0.2
SEW					Sn	06 41 34.4	+0.4
SLKM	Skilak Lake	0.68	272		Pn	06 41 28.8	-0.5
SLKM					Sn	06 41 37.9	-0.7
RC01	Rabbit Creek A	0.74	325		Pn	06 41 28.6	-1.4
RC01	Rabbit Creek A	0.74	325	IAML		06 41 39.9	
	comp=N,2µm,0.3s						
RC01				IAML		06 41 41.0	
	comp=E,2µm,0.3s						
FIS	Fire Island	0.94	315		Pn	06 41 32.7	0.0
KNK	Knik Glacier	0.94	12		Pn	06 41 32.3	-0.6
KNK					Sn	06 41 45.0	-0.1
KNK	Knik Glacier	0.94	12	IAML		06 41 45.4	
	comp=N,936nm,0.5s						
KNK				IAML		06 41 46.1	
	comp=E,1µm,0.5s						
GLI	Glacier Island	0.95	65		Pn	06 41 32.6	-0.3
GLI					Sn	06 41 45.6	+0.4
PMR	Palmer	1.11	353		Pn	06 41 34.4	-0.7
PMR					Sn	06 41 48.6	-0.6
PMR	Palmer	1.11	353	IAML		06 41 49.6	
	comp=E,1µm,0.4s						
CAPN	Captain Cook N	1.17	285		Pn	06 41 36.9	+1.1
FID	Port Fidalgo	1.20	77		Pn	06 41 36.1	-0.2
FID	Port Fidalgo	1.20	77	IAML		06 41 54.4	
	comp=N,1µm,0.4s						
BRSE	Bradley Lake S	1.21	232		Pn	06 41 37.5	+1.0
BRSE					Sn	06 41 53.4	+1.8
BRLK	Bradley Lake	1.25	235		Pn	06 41 38.1	+1.0
BRLK					Sn	06 41 54.4	+1.7
BRLK	Bradley Lake	1.25	235	IAML		06 41 55.7	
	comp=N,705nm,0.3s						
BRLK				IAML		06 41 56.1	
	comp=E,879nm,0.4s						
GHO	Glory Hole Cre	1.28	359		Pn	06 41 37.3	-0.3
GHO					Sn	06 41 54.6	+1.0
GHO	Glory Hole Cre	1.28	359	IAML		06 41 57.0	
	comp=E,870nm,0.5s						
SUA	Susitna One	1.34	317		Pn	06 41 37.9	-0.5
SUA					Sn	06 41 55.1	+0.1
SUA	Susitna One	1.34	317	IAML		06 41 55.6	
	comp=N,742nm,0.7s						
SUA				IAML		06 41 55.6	
	comp=E,919nm,0.7s						
SML	Sawmill	1.34	11		Pn	06 41 38.2	-0.2
SML	Sawmill	1.34	11	IAML		06 41 58.1	
	comp=E,464nm,0.7s						
VMT	TAPS TI Valdez	1.36	63		Pn	06 41 39.0	+0.6
SCM	Sheep Creek Mo	1.54	28		Pn	06 41 41.5	+0.5
SCM	Sheep Creek Mo	1.54	28	IAML		06 42 02.5	
	comp=E,483nm,0.3s						
SCM				IAML		06 42 04.1	
	comp=N,471nm,0.7s						
EYAK	Cordova Ski Ar	1.54	87		Pn	06 41 41.7	+0.7
CNPM	China Poot	1.54	232		Pn	06 41 41.9	+0.9
CNPM	China Poot	1.54	232	IAML		06 42 05.4	
	comp=E,450nm,0.5s						
CNPM				IAML		06 42 06.6	
	comp=N,711nm,0.4s						
HOM	Homer	1.63	240		Pn	06 41 39.4	-2.8
DIV	Divide	1.64	66		Pn	06 41 43.1	+0.7
Q23K	Middleton Isla	1.65	129		Pn	06 41 43.6	+1.1
Q23K	Middleton Isla	1.65	129	IAML		06 42 22.0	
	comp=E,291nm,0.7s						
Q23K				IAML		06 42 23.5	
	comp=N,275nm,0.6s						
MID	Middleton Isla	1.66	129		Pn	06 41 43.7	+1.2
MID	Middleton Isla	1.66	129	IAML		06 42 20.3	
	comp=E,294nm,0.8s						
KLU	Klutina	1.75	54		Pn	06 41 44.6	+0.7
KLU	Klutina	1.75	54	IAML		06 42 07.9	
	comp=E,435nm,0.6s						
RDT	Redoubt	1.76	274		Pn	06 41 44.5	+0.4
STLK	Strandline Lak	1.77	306		Pn	06 41 44.2	+0.1
SPCR	Spurr Chakacha	1.79	295		Pn	06 41 44.4	-0.1
SPCR					Sn	06 42 06.3	+0.4
SPCP	Crater Peak Br	1.79	297		Pn	06 41 45.2	+0.7
CRP	Crater Peak	1.79	297		Pn	06 41 44.9	+0.3
DFR	Drift River	1.90	275		Pn	06 41 46.4	+0.4
RSO	Redoubt South	1.93	271		Pn	06 41 46.8	+0.3
RED	Redoubt Volcan	1.94	270		Pn	06 41 46.9	+0.3
SKT	Skwentna	1.98	320		Pn	06 41 46.8	-0.2
SKT	Skwentna	1.98	320	IAML		06 42 14.1	
	comp=E,410nm,0.4s						
NCT	North Crescent	2.02	274		Pn	06 41 48.3	+0.7
CUT	Chulitna	2.04	341		Pn	06 41 48.0	+0.2
GOAT	Goat Mountain	2.04	86		Pn	06 41 48.7	+0.8
PS12	TAPS Pump St12	2.06	60		Pn	06 41 48.9	+0.7
M24K	Tolsona, Glenn	2.07	37		Pn	06 41 50.6	+2.3
M24K	Tolsona, Glenn	2.07	37	IAML		06 42 24.2	
	comp=N,276nm,0.8s						
M24K				IAML		06 42 32.4	
	comp=E,306nm,0.9s						
RAGM	Ragged Mountai	2.08	91		Pn	06 41 48.8	+0.4
RAGM	Ragged Mountai	2.08	91	IAML		06 42 25.4	
	comp=E,296nm,0.4s						
IVE	Iliamna Volcan	2.13	259		Pn	06 41 49.4	+0.2
BMRM	Bremner River	2.14	75		Pn	06 41 49.9	+0.6
BMRM	Bremner River	2.14	75	IAML		06 42 24.7	
	comp=E,303nm,0.8s						
BMRM				IAML		06 42 31.3	
	comp=N,296nm,0.8s						
WAT6	Susitna Watana	2.16	14		Pn	06 41 50.2	+0.5
ILS	Iliamna Low So	2.17	258		Pn	06 41 50.4	+0.6
PS11	TAPS Pump St11	2.28	44		Pn	06 41 53.2	+2.1
HMT	Hamilton	2.29	92		Pn	06 41 51.5	+0.2
HMT	Hamilton	2.29	92	IAML		06 42 32.4	
	comp=N,246nm,0.5s						
KAIM	Kayak Island	2.29	102		Pn	06 41 51.4	+0.2
KAIM	Kayak Island	2.29	102	IAML		06 42 38.8	
	comp=E,191nm,0.8s						
KAIM				IAML		06 43 01.2	
	comp=N,178nm,2.8s						
OPT	Oil Point	2.35	251		Pn	06 41 53.3	+1.1
WAT7	Susitna Watana	2.35	0		Pn	06 41 52.3	+0.1
WAT1	Susitna Watana	2.35	3		Pn	06 41 52.3	+0.1
N25K	Chitina, Valde	2.35	60		Pn	06 41 53.3	+1.1
N25K	Chitina, Valde	2.35	60	IAML		06 42 28.8	
	comp=N,186nm,0.5s						
NICHA	Nichawak Mount	2.44	94		Pn	06 41 53.6	+0.2
WAT2	Susitna Watana	2.48	3		Pn	06 41 54.2	+0.2
HUR	Hurricane	2.52	352		Pn	06 41 54.9	+0.4
AU22	Augustine Moun	2.53	246		Pn	06 41 55.5	+0.9
AUL	Augustine Lava	2.56	246		Pn	06 41 55.9	+0.9
SUCK	Suckling Hills	2.56	97		Pn	06 41 55.3	+0.2
SUCK	Suckling Hills	2.56	97	IAML		06 42 33.8	
	comp=E,108nm,2.6s						
SUCK				IAML		06 42 41.6	
	comp=N,135nm,0.4s						
AUCH	Augustine Cone	2.57	246		Pn	06 41 56.6	+1.4
GLB	Gilahina Butte	2.64	67		Pn	06 41 57.0	+0.9
GLB	Gilahina Butte	2.64	67	IAML		06 42 37.2	
	comp=N,152nm,0.7s						
VRDI	Verde Repeater	2.75	72		Pn	06 41 58.4	+0.7
GRIN	Grindle Hills	2.76	92		Pn	06 41 57.9	+0.2
KHIT	Khitrov Hills	2.78	89		Pn	06 41 58.1	0.0
CRQM	Cirque	2.83	82		Pn	06 41 59.3	+0.5
CRQM	Cirque	2.83	82	IAML		06 42 54.2	
	comp=N,119nm,1.0s						
CRQM				IAML		06 43 03.3	
	comp=E,108nm,0.8s						
PPLA	Purkeypile	2.89	328		Pn	06 41 59.5	-0.1
RND	Reindeer	2.92	0		Pn	06 42 00.8	+0.7
RND	Reindeer	2.92	0	IAML		06 42 43.1	
	comp=N,171nm,0.5s						
RND				IAML		06 42 43.2	
	comp=E,125nm,0.4s						
PAX	Paxson	2.96	31		Pn	06 42 02.3	+1.7
MCARA	McCarthy VSAT	2.98	70		Pn	06 42 01.5	+0.7
MCARA	McCarthy VSAT	2.98	70	IAML		06 42 59.2	
	comp=E,144nm,0.9s						
TRF	Thorofare Moun	3.04	348		Pn	06 42 01.7	-0.1
TRF	Thorofare Moun	3.04	348	IAML		06 42 46.1	
	comp=E,136nm,0.6s						
KULT	Kultieth River	3.06	92		Pn	06 42 01.9	0.0
PTPK	Patty Peak	3.21	75		Pn	06 42 05.2	+1.1
KIAG	Kiagna River	3.22	79		Pn	06 42 04.7	+0.4
KTH	Kantishna Hill	3.22	343		Pn	06 42 04.6	+0.4
KTH	Kantishna Hill	3.22	343	IAML		06 42 50.6	
	comp=N,134nm,0.6s						
KTH				IAML		06 42 55.7	
	comp=E,148nm,0.8s						
BALM	Baldy	3.24	77		Pn	06 42 05.0	+0.5
MCK	McKinley	3.25	359		Pn	06 42 04.9	+0.4
MCK	McKinley	3.25	359	IAML		06 42 50.7	
	comp=E,94nm,0.4s						
MCK				IAML		06 42 57.2	
	comp=N,82nm,0.9s						
KDAK	Kodiak Island	3.33	217	P	Pn	06 42 06.1	+0.6
	comp=N,7.2nm,0.3s,baz=68,slow=8.2,SNR=31						
KDAK				S	Sn	06 42 42.3	-1.4
	comp=N,4.1nm,0.3s,baz=336,slow=23,SNR=7.0						
KDAK	Kodiak Island	3.33	217		Pn	06 42 06.2	+0.6
SVW2	Sparrevohn	3.35	283		Pn	06 42 05.2	-0.7
SVW2	Sparrevohn	3.35	283	IAML		06 42 59.9	
	comp=N,77nm,0.6s						
MENT	Mentasta	3.46	43	Pn	Pn	06 42 09.8	+2.4
MENT				IAML		06 43 03.5	
	comp=N,88nm,0.8s						
MENT				IAML		06 43 07.4	
	comp=E,110nm,0.8s						
GRNC	Granite Creek	3.51	83		Pn	06 42 08.7	+0.4
GRNC	Granite Creek	3.51	83	IAML		06 43 06.5	
	comp=N,48nm,0.6s						
YAH	Yahtse	3.53	89		Pn	06 42 08.5	0.0
BARN	Barnard Glacie	3.58	78		Pn	06 42 09.5	+0.4
BWN	Browne	3.71	356		Pn	06 42 10.7	0.0
BWN	Browne	3.71	356		Pn	06 42 12.4	+1.7
BWN				IAML		06 43 17.2	
	comp=E,154nm,0.8s						
BWN				IAML		06 43 22.9	
	comp=N,160nm,0.8s						
CTGM	Chitina Glacie	3.73	79		Pn	06 42 11.9	+0.7
BPAW	Bear Paw Mtn.	3.75	346		Pn	06 42 11.0	-0.4
BPAW	Bear Paw Mtn.	3.75	346	IAML		06 43 10.3	
	comp=E,52nm,1.2s						
BPAW				IAML		06 43 10.5	
	comp=N,70nm,1.0s						
CHUM	Lake Minchumin	3.77	336		Pn	06 42 11.7	+0.1
TABL	Table Mountain	3.82	87		Pn	06 42 12.9	+0.4
TABL	Table Mountain	3.82	87	IAML		06 43 17.7	
	comp=N,48nm,1.2s						
CHX	Chaix Hills	3.88	93		Pn	06 42 13.6	+0.4
LOGN	Logan Glacier	3.88	82		Pn	06 42 13.6	+0.3
DOT	Dot Lake	3.89	33	Pn	Pn	06 42 16.1	+2.9
KABU	Katmai Buttres	3.97	239		Pn	06 42 15.8	+1.3
OHAK	Old Harbor	4.00	217		Pn	06 42 14.9	+0.1
OHAK	Old Harbor	4.00	217	IAML		06 43 49.1	
	comp=E,35nm,3.3s						
OHAK				IAML		06 44 37.4	
	comp=N,44nm,3.2s						
WRH	Wood River Hil	4.01	5		Pn	06 42 15.2	+0.3
HDA	Harding Lake	4.03	12		Pn	06 42 16.4	+1.2
SAMH	Samovar Hills	4.03	92		Pn	06 42 16.1	+0.8
YUK2	White River	4.10	68		Pn	06 42 17.7	+1.5
NEA2	Nenana	4.12	359		Pn	06 42 16.5	+0.2
NEA2	Nenana	4.12	359	IAML		06 43 35.0	
	comp=E,32nm,1.1s						
TT01	Tatalina	4.18	308		Pn	06 42 16.8	-0.5
CCB	Clear Creek Bu	4.20	6		Pn	06 42 18.2	+0.8
BC03		4.24	49		Pn	06 42 19.1	+1.1
BCAR	Beaver Creek A	4.24	49		Pn	06 42 19.0	+0.9
YUK3	Moose Creek	4.27	69		Pn	06 42 19.9	+1.3
PCA	Pinnacle	4.30	92		Pn	06 42 19.5	+0.6
IL31		4.39	11		Pn	06 42 21.0	+0.9
ILAR	Eielson Array	4.39	11	P	Pn	06 42 21.8	+1.7
	comp=E,0.9nm,0.3s,baz=194,slow=13,SNR=13						
ILAR				S	Sn	06 43 13.6	+3.7
	comp=E,1.7nm,0.3s,baz=323,slow=20,SNR=4.8						
TCOL	CIGO, UAF Yank	4.42	6		Pn	06 42 21.6	+1.1
COLA	College	4.42	6		Pn	06 42 21.5	+1.0
MDM	Murphy Dome	4.49	3		Pn	06 42 22.5	+1.0
MDM	Murphy Dome	4.49	3	IAML		06 43 34.9	
	comp=N,28nm,0.9s						
MDM				IAML		06 43 45.5	
	comp=E,23nm,1.7s						
MLY	Manley	4.64	350		Pn	06 42 23.8	+0.3
I23K	Minto, Yukon-K	4.68	357		Pn	06 42 24.3	+0.2
I23K	Minto, Yukon-K	4.68	357	IAML		06 43 50.0	
	comp=N,28nm,0.8s						
I23K				IAML		06 43 51.2	
	comp=E,26nm,1.2s						
POKR	Poker Plat Res	4.69	7		Pn	06 42 24.5	+0.3
PNL	Peninsula	4.81	96		Pn	06 42 26.6	+0.7
SII	Sitkinak Islan	4.83	218		Pn	06 42 26.1	-0.1
YUK4	Talbot Arm	5.06	76		Pn	06 42 31.4	+2.0
YUK6	Outpost Mounta	5.17	80		Pn	06 42 32.3	+1.2
PRP	Porcupine Dome	5.27	15		Pn	06 42 32.0	-0.3
PRP				IAML		06 43 50.5	
	comp=N,22nm,0.6s						
YUK5	Granite Creek	5.42	78		Pn	06 42 35.4	+1.0
EGAK	Eagle	5.58	36		Pn	06 42 53.6	+17
HYT	Haines Junctio	5.59	82		Pn	06 42 36.9	+0.2
IM03		5.94	340		Pn	06 42 41.0	-0.3
IMAR	Indian Mountai	5.94	340		Pn	06 42 41.3	0.0
FYU	Fort Yukon	6.31	13	Pn	Pn	06 42 48.0	+1.7
PLBC	Pleasant Camp	6.36	94		Pn	06 42 47.5	+0.4
WHY	Whitehorse	6.89	83		Pn	06 42 54.9	+0.4
BM03	Burnt Mountain	7.20	13		Pn	06 42 59.2	+0.5
BMAR	Burnt Mountain	7.21	13		Pn	06 42 59.4	+0.5
BESE	Bessie Mountai	7.37	99		Pn	06 43 01.4	+0.4
JIS	Juneau Island	7.72	100	Pn	Pn	06 43 06.2	+0.5
DLBC	Dease Lake	9.80	94	P	Pn	06 43 35.7	+1.4
	comp=N,0.2nm,0.3s,baz=246,slow=4.7,SNR=5.9						
YKA	Yellowknife Ar	16.36	68	P	Pn	06 45 01.7	-0.7
	comp=N,0.0nm,0.3s,baz=276,slow=12,SNR=4.3						
NVAR	Mina Array Bea	29.23	125	P	P	06 47 09.6	-4.6
	comp=N,0.1nm,0.4s,baz=342,slow=8.5,SNR=0.9						
SONM	Songino Array	56.14	308	P	P	06 50 49.8	-1.6
	comp=N,1.1nm,0.7s,baz=47,slow=6.5,SNR=5.9						

*NNC **31** 06:42:18.8±1.9, 54°.14N×87°.67E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=17.8km s-min=12.8km az=20.0, Suspected Mining explosion.*
*IDC **31** 06:42:22.1±3.4, 54°.19N×87°.28E, h0km, mb1 2.8/2, mb1mx2.7/45, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=32.2km s-min=19.7km az=49.0*

ISC 31 06:42:18.1±4.8, 54°.3N±0°.4×87°.6E±0°.2, h0km, n7, σ1s44/6, 3C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.65	260	*i*		06 50 10.0	
	baz=80,slow=331,SNR=4.5						
ZAA0	Zalesovo Array	1.65	260	⇑P	Pg	06 42 49.0	-0.7
	0.3nm,0.3s,baz=84,slow=16						
ZAA0				⇑S	Sg	06 43 11.4	+0.3
	3.7nm,0.8s						
ZAA0				⇓Rg	Rg	06 43 22.0	
ZALV	Zalesovo Beam	1.65	260	Pg	Pb	06 42 48.5	-0.9
	2.1nm,0.3s,baz=82,slow=16,SNR=27						
ZALV				Lg	Lg	06 43 09.2	
	1.1nm,0.3s,baz=78,slow=17,SNR=4.6						
KURBB	Kurchatov Arra	6.63	240	Pn	Pn	06 43 58.4	+1.8
	0.1nm,0.3s,baz=39,slow=11,SNR=7.0						
KURBB	Kurchatov Arra	6.63	240	⇑Pn	Pn	06 43 57.8	+1.2
	1.1nm,0.5s						
MK31	Makanchi Array	8.21	206	⇓Pn	Pn	06 44 18.5	+0.2
	0.2nm,0.6s,baz=27,slow=14,SNR=7.7						
MKAR	Makanchi Array	8.21	206	Pn	Pn	06 44 21.6	+3.2
	0.1nm,0.3s,baz=27,slow=13,SNR=6.0						

*NNC **31** 06:43:51.3±1.7, 55°.72N×86°.32E, h0km, mb3.2, mpv2.7, Error ellipse: s-maj=16.9km s-min=10.7km az=113.0, Suspected Mining explosion.*
*IDC **31** 06:43:55.2±3.3, 55°.59N×85°.88E, h0km, mb1 3.0/2, mb1mx2.9/43, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=27.0km s-min=23.5km az=49.0*

ISC 31 06:43:51.5±5.0, 55°.8N±0°.3×86°.1E±0°.3, h0km, n8, σ0s80/8, 3C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.00	202	*i*		06 56 40.0	
	baz=20,slow=341,SNR=0.8						
ZAA0	Zalesovo Array	2.00	202	⇑P	Pn	06 44 25.8	-0.8
	0.7nm,0.3s,baz=25,slow=17						
ZAA0				⇑S	Sn	06 44 52.3	+0.1
	4.1nm,1.1s						
ZAA0				⇓Rg	Rg	06 45 05.0	
ZALV	Zalesovo Beam	2.00	202	Pg	Pn	06 44 25.8	-0.7
	4.7nm,0.3s,baz=24,slow=17,SNR=20						
ZALV				Lg	Lg	06 44 51.4	
	3.2nm,0.3s,baz=18,slow=27,SNR=8.1						
KURBB	Kurchatov Arra	6.89	224	Pn	Pn	06 45 33.8	+0.1
	0.1nm,0.3s,baz=41,slow=14,SNR=8.5						
KURBB				Lg	Lg	06 47 27.4	
	0.0nm,0.3s,baz=40,slow=32,SNR=3.6						
KURBB	Kurchatov Arra	6.89	224	⇑Pn	Pn	06 45 34.2	+0.5
	0.6nm,0.3s,baz=41,slow=14						
MK31	Makanchi Array	9.33	196	Pn	Pn	06 46 07.4	+0.2
	0.6nm,0.8s,baz=20,slow=14,SNR=4.6						
MKAR	Makanchi Array	9.33	196	Pn	Pn	06 46 08.4	+1.3
	0.1nm,0.3s,baz=18,slow=13,SNR=3.3						
MKAR				Lg	Lg	06 48 42.1	
	baz=15,slow=29,SNR=3.0						
KSH	Kashi	17.63	207	P	Pn	06 47 59.0	+0.5
KSH				pmax	pmax		
	comp=Z,13nm,0.8s						
KSH				pmax	pmax		
	comp=Z,170nm,4.4s						

*IDC **31** 07:03:29.9±2.7, 53°.68N×86°.94E, h0km, mb1 2.6/2, mb1mx2.5/69, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=26.5km s-min=16.4km az=63.0*
*NNC **31** 07:03:33.5±3.8, 53°.73N×86°.67E, h0km, mb2.4, mpv2.3, Error ellipse: s-maj=68.9km s-min=17.0km az=22.0, Suspected Mining explosion.*

ISC 31 07:03:31.5±5.3, 53°.7N±0°.3×86°.8E±0°.3, h0km, n7, σ1s20/7, 4C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.22	282	*i*		07 10 10.0	
	baz=99,slow=332,SNR=7.4						
ZAA0	Zalesovo Array	1.22	282	⇑P	Pg	07 03 54.9	+0.1
	0.1nm,0.2s						
ZAA0				⇑S	Sg	07 04 10.1	-0.5
	1.9nm,0.8s						
ZAA0				⇑Rg	Rg	07 04 16.0	
ZALV	Zalesovo Beam	1.22	282	Pg	Pb	07 03 55.0	-0.3
	1.0nm,0.3s,baz=101,slow=15,SNR=14						
ZALV				Lg	Lg	07 04 09.9	
	0.7nm,0.3s,baz=105,slow=17,SNR=3.8						
KURBB	Kurchatov Arra	5.98	242	Pn	Pn	07 05 01.2	0.0
	0.1nm,0.3s,baz=60,slow=14,SNR=11						
KURBB				Lg	Lg	07 06 40.8	
	0.0nm,0.3s,baz=62,slow=33,SNR=1.7						
KURBB	Kurchatov Arra	5.98	242	⇑Pn	Pn	07 05 02.5	+1.4
	0.3nm,0.2s						
MK31	Makanchi Array	7.52	205	Pn	Pn	07 05 23.6	+1.2
	0.1nm,0.2s,baz=26,slow=13,SNR=12						
MKAR	Makanchi Array	7.52	205	Pn	Pn	07 05 21.0	-1.4
	0.1nm,0.3s,baz=27,slow=13,SNR=7.5						

IDC 31 07:09:51.1±4.2, 2°.93S×135°.93E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.2/46, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=191.1km s-min=32.6km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.98	185	Pn	Pn	07 13 50.5	+0.2
	0.0nm,0.3s,baz=4.1,slow=13,SNR=2.3						
ASAR	Alice Springs	20.70	185	P	P	07 14 33.1	-0.1
	0.6nm,0.6s,baz=9.0,slow=11,SNR=8.6						
MKAR	Makanchi Array	68.29	323	P	P	07 20 54.2	0.0
	0.2nm,0.5s,baz=105,slow=8.4,SNR=2.4						

*IDC **31** 07:14:26.2±0.8, 53°.76N×169°.15E, h0km, mb3.8/22, mb1 4.0/23, mb1mx3.8/67, mbtmp3.8/23, ML3.0/1, MS3

MTVR	**Mutnovka**	**6.62**	**265**	*eP*	**Pn**	07 16 06.5	+1.0
MTVR				*eS*	**Sn**	07 17 17.2	-2.5
GRL	**Gorelyy**	**6.67**	**266**	*eP*	**Pn**	07 16 08.0	+1.8
GRL				*eS*	**Sn**	07 17 18.9	-2.0
PETK	**Petropavlovsk-**	**6.79**	**271**	Pn	**Pn**	07 16 09.1	+1.4
	1.4nm,0.3s,baz=98,slow=20,SNR=37						
PETK				Sn	**Sn**	07 17 25.4	+1.7
	1.1nm,0.3s,baz=61,slow=42,SNR=1.6						
PETK				LR	LR	07 18 42.9	
	comp=Z,40nm,21.9s,baz=95,slow=37						
ASAK	**Asacha**	**6.81**	**264**	*eP*	**Pn**	07 16 09.8	+1.7
ASAK				*eS*	**Sn**	07 17 22.6	-1.8
KDTR	**Khodutka, Kamc**	**6.88**	**259**	*eP*	**Pn**	07 16 09.6	+0.7
KDTR				*eS*	**Sn**	07 17 21.6	-4.2
TILK	**Tilichiki**	**7.06**	**348**	*eP*	**Pn**	07 16 14.9	+3.6
MIPR	**Malaya Ipel'ka**	**7.52**	**265**	*eP*	**Pn**	07 16 20.1	+2.4
KDAK	**Kodiak Island**	**21.85**	**63**	P	**P**	07 19 18.4	-1.5
	2.8nm,0.6s,baz=311,slow=8.3,SNR=4.2						
ILAR	**Eielson Array**	**24.66**	**46**	P	**P**	07 19 45.5	-2.3
	0.8nm,0.6s,baz=250,slow=7.4,SNR=10						
ILAR				LR	LR	07 28 23.7	
	comp=Z,67nm,19.6s,baz=276,slow=34						
TIXI	**Tiksi**	**25.06**	**331**	P	**P**	07 19 51.7	+0.4
	3.6nm,0.7s,baz=111,slow=12,SNR=10						
USRK	**Ussuriysk Ar.**	**25.82**	**264**	P	**P**	07 20 00.3	+2.0
	1.1nm,0.7s,baz=76,slow=14,SNR=1.6						
MJAR	**Matsushiro Arr**	**27.33**	**244**	LR	LR	07 30 09.7	
	comp=Z,19nm,20.4s,baz=205,slow=34						
INK	**Inuvik**	**30.18**	**39**	P	**P**	07 20 36.0	-1.1
	0.5nm,0.4s,baz=281,slow=2.0,SNR=3.6						
KSRS	**Korea Array**	**32.45**	**257**	LR	LR	07 35 09.8	
	comp=Z,22nm,19.1s,baz=203,slow=38						
H11N2	**WAKE ISLAND Hy**	**33.83**	**184**	T	T	07 57 08.6	
	baz=3.2,slow=76,SNR=84						
H11N3	**WAKE ISLAND Hy**	**33.84**	**184**	T	T	07 57 07.5	
	baz=3.2,slow=76,SNR=80						
H11N1	**WAKE ISLAND Hy**	**33.84**	**184**	T	T	07 57 07.5	
	baz=3.2,slow=76,SNR=99						
H11S1	**WAKE ISLAND Hy**	**35.05**	**184**	T	T	07 58 39.2	
	baz=3.2,slow=76,SNR=69						
H11S3	**WAKE ISLAND Hy**	**35.06**	**184**	T	T	07 58 39.2	
	baz=3.2,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**35.07**	**184**	T	T	07 58 39.2	
	baz=3.2,slow=76,SNR=42						
SONM	**Songino Array**	**38.92**	**288**	P	**P**	07 21 54.0	+1.2
	0.7nm,0.6s,baz=62,slow=8.4,SNR=6.3						
YKA	**Yellowknife Ar**	**39.09**	**46**	P	**P**	07 21 53.1	-0.8
	0.8nm,0.7s,baz=293,slow=7.3,SNR=14						
RES	**Resolute Bay**	**40.79**	**24**	P	**P**	07 22 06.7	-1.2
	0.4nm,0.8s,baz=327,slow=8.8,SNR=4.2						
NVAR	**Mina Array Bea**	**50.49**	**76**	P	**P**	07 23 25.0	-0.3
	0.8nm,0.7s,baz=291,slow=7.5,SNR=9.6						
NVAR				LR	LR	07 42 29.0	
	comp=Z,52nm,19.2s,baz=335,slow=33						
KURBB	**Kurchatov Arra**	**52.00**	**306**	P	**P**	07 23 36.1	0.0
	1.0nm,0.8s,baz=53,slow=7.5,SNR=9.6						
PDAR	**Pinedale Array**	**52.52**	**67**	P	**P**	07 23 39.8	-0.6
	0.3nm,0.7s,baz=42,slow=35,SNR=1.4						
MKAR	**Makanchi Array**	**52.64**	**300**	P	**P**	07 23 40.5	-0.5
	0.3nm,0.5s,baz=52,slow=6.6,SNR=5.8						
BVAR	**Borovoye Array**	**54.14**	**313**	P	**P**	07 23 51.6	-0.2
	0.7nm,0.5s,baz=100,slow=7.7,SNR=6.2						
ARCES	**ARCESS Array B**	**54.34**	**345**	P	**P**	07 23 52.7	-0.4
	3.4nm,1.0s,baz=26,slow=8.6,SNR=4.4						
AKTO	**Aktyubinsk**	**61.28**	**317**	P	**P**	07 24 42.0	0.0
	0.9nm,0.8s,baz=36,slow=14,SNR=3.3						
FINES	**FINESS Array B**	**61.61**	**341**	P	**P**	07 24 44.1	+0.1
	5.2nm,1.0s,baz=194,slow=21,SNR=3.4						
NOA	**NORSAR Array B**	**64.37**	**348**	P	**P**	07 25 02.6	+0.2
	0.5nm,0.7s,baz=17,slow=6.6,SNR=2.0						
TXAR	**Lajitas Array**	**65.45**	**74**	P	**P**	07 25 10.1	+0.1
	0.8nm,0.6s,baz=301,slow=4.7,SNR=15						
AKASG	**Malin Array Be**	**70.73**	**334**	P	**P**	07 25 42.9	+0.3
	0.8nm,0.5s,baz=26,slow=6.6,SNR=2.3						
GERES	**GERESS Array B**	**75.83**	**343**	P	**P**	07 26 13.0	+0.1
	0.5nm,0.3s,baz=22,slow=42,SNR=2.4						
WRA	**Warramunga Arr**	**79.09**	**213**	P	**P**	07 26 32.9	+1.7
	1.3nm,0.8s,baz=26,slow=5.5,SNR=2.2						
ASAR	**Alice Springs**	**82.71**	**212**	P	**P**	07 26 52.8	+2.2
	1.0nm,0.6s,baz=20,slow=6.2,SNR=19						

IDC 31 07:16:13.9±999.0, 50.95N×49.15E, h0km, Error ellipse: s-maj=1042.0km s-min=119.2km az=90.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.67**	**92**	*i*			07 50 40.0	
	baz=279,slow=324,SNR=3.7							
I46RU	**ZALESOVO INFRA**	**21.80**	**68**	*i*			09 29 40.0	
	baz=276,slow=336,SNR=1.0							
I34MN	**SONGINO INFRAS**	**36.62**	**72**	*i*			11 01 00.0	
	baz=299,slow=325,SNR=0.7							

IDC 31 07:28:08.1±2.2, 5.10S×151.99E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/34, mbtmp3.3/3, Error ellipse: s-maj=178.5km s-min=29.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.64**	**228**	P	P	P	07 33 10.0	-1.1
	0.3nm,0.7s,baz=52,slow=9.9,SNR=1.7							
ASAR	**Alice Springs**	**25.39**	**222**	P		P	07 33 37.9	+0.5
	0.4nm,0.5s,baz=57,slow=9.2,SNR=11							
ILAR	**Eielson Array**	**82.74**	**22**	P	P	P	07 40 33.8	+0.1
	0.5nm,0.6s,baz=260,slow=5.5,SNR=7.0							

IDC 31 07:59:43.0±2.5, 7.01S×156.01E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/27, mbtmp3.7/5, MS3.2/2, Ms1 3.2/2, ms1mx2.6/38, Error ellipse: s-maj=84.7km s-min=27.6km az=120.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.58**	**122**	LR	LR	LR	08 02 48.3	
	comp=Z,85nm,21.2s,baz=268,slow=40							
WRA	**Warramunga Arr**	**24.64**	**236**	P		P	08 05 05.7	+0.2
	1.1nm,0.6s,baz=62,slow=9.4,SNR=17							
ASAR	**Alice Springs**	**26.92**	**230**	P		P	08 05 25.9	-0.3
	0.4nm,0.5s,baz=60,slow=9.8,SNR=8.7							
H11S3	**WAKE ISLAND Hy**	**27.45**	**22**	T		T	08 33 56.4	
	baz=202,slow=75,SNR=72							
H11S2	**WAKE ISLAND Hy**	**27.45**	**22**	T		T	08 33 56.7	
	baz=202,slow=75,SNR=48							
H11S1	**WAKE ISLAND Hy**	**27.47**	**22**	T		T	08 34 00.6	
	baz=202,slow=75,SNR=35							
SONM	**Songino Array**	**69.90**	**327**	P		P	08 10 56.5	+0.5
	0.9nm,0.7s,baz=124,slow=9.2,SNR=5.8							
ILAR	**Eielson Array**	**83.03**	**21**	P		P	08 12 09.5	-0.5
	0.1nm,0.4s,baz=240,slow=4.9,SNR=2.3							
MKAR	**Makanchi Array**	**84.08**	**18**	P		P	08 12 15.6	-0.2
	0.5nm,0.5s,baz=103,slow=6.7,SNR=3.2							
YBH	**Yreka Blue Hor**	**88.16**	**48**	LR	LR	LR	08 46 45.2	
	comp=Z,32nm,18.4s,baz=316,slow=32							

*DNK **31** 08:01:45.6±3.6, 81.63N×4.84W, h115km±53km, ML2.6*
*BER **31** 08:01:46.3±2.1, 81.97N×3.86W, h27km±28km, ML2.1, ML2.6(DNK), Confirmed Earthquake*
*IEPN **31** 08:01:49.0, 81.74N×2.54W, h10km*

ISC 31 08:01:42.9±1.5, 81.7N±0.1×3.88W±0.05, h10km, n19, σ2.932/25, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.87**	**273**	*eP*		**Pn**	**08 02 16.0**	**+1.1**
NOR				*eS*		**Sn**	**08 02 36.4**	**-2.1**
NOR				IAML			08 02 41.5	
	comp=Z,14nm,0.7s							
NOR	**Nord**	**1.87**	**273**	*e*		**Pn**	**08 02 15.0**	**+0.1**
	baz=81,slow=14							
NOR				*i* P		**Pn**	**08 02 15.9**	**+1.1**
NOR				*eS*		**Sn**	**08 02 38.4**	**-0.1**
NOR				IAML			08 02 41.5	
	comp=Z,14nm,0.7s							
KBS	**Kingsbay**	**3.84**	**128**	*eP*		**Pn**	**08 02 43.5**	**+1.5**
KBS				IAML			08 03 32.2	
	comp=Z,5.6nm,0.8s							
KBS	**Kingsbay**	**3.84**	**128**	*eP*		**Pn**	**08 02 43.3**	**+1.3**
KBS				*eS*		**Sn**	**08 03 23.9**	**-3.2**
KBS	**Kingsbay**	**3.84**	**128**	*i* P		**Pn**	**08 02 43.5**	**+1.5**
BRBB	**Barentsburg B**	**4.79**	**129**	*eP*		**Pn**	**08 02 58.1**	**+3.1**
BRBB				*eS*		**Sn**	**08 03 50.8**	**+0.4**
BRBA	**Barentsburg A**	**4.82**	**130**	*eP*		**Pn**	**08 02 58.8**	**+3.4**
BRBA				*eS*		**Sn**	**08 03 51.5**	**+0.3**
BRBA				IAML			08 04 05.1	
	comp=Z,9.1nm,0.7s							
SPA0	**Spitsbergen Ar**	**4.97**	**125**	*eP*		**Pn**	**08 02 58.9**	**+1.4**
SPA0				*eS*		**Sn**	**08 03 52.4**	**-2.6**
SPA0				IAML			08 04 02.1	
	comp=Z,4.8nm,0.8s							
SPA0	**Spitsbergen Ar**	**4.97**	**125**	*eP*		**Pn**	**08 02 58.8**	**+1.3**
SPA0				*eS*		**Sn**	**08 03 52.0**	**-3.0**
DAG	**Danmarks Havn**	**5.64**	**217**	*eS*		**Sn**	**08 04 09.6**	**-1.8**
HSPB	**Hornsund (broa**	**5.88**	**133**	*eP*		**Pn**	**08 03 12.2**	**+2.3**
HSPB				S		**Sn**	**08 04 13.0**	**-4.4**
HOPEN	**Hopen**	**7.43**	**119**	*eS*		Sn	08 04 49.4	-5.9
HOPEN				IAML			08 05 21.6	
	comp=Z,5.8nm,0.8s							
HOPEN	**Hopen**	**7.43**	**119**	*eP*		**Pn**	**08 03 32.1**	**+1.0**
HOPEN				*eS*		Sn	08 04 49.4	-5.9
ZFI	**Zemlya Franca-**	**7.67**	**71**	*eP*		**Pn**	**08 03 33.5**	**-1.0**
ZFI				*eS*		Sn	08 04 51.5	-10
DBG	**Daneborg**	**8.11**	**213**	*i* P		**Pn**	**08 03 42.2**	**+1.7**
DBG				*eS*		**Sn**	**08 05 07.6**	**-4.5**
DBG				IAML			08 05 18.4	
	comp=Z,2.6nm,0.3s							
DBG	**Daneborg**	**8.11**	**213**	*i* P		**Pn**	**08 03 42.2**	**+1.7**
DBG				*eSj*			08 05 07.2	
DBG				IAML			08 05 18.4	
	comp=Z,2.6nm,0.3s							
SUMG	**Summit**	**11.63**	**238**	*i* P		Pn	08 04 25.8	-3.2
SUMG	**Summit**	**11.63**	**238**	*eP*		Pn	08 04 25.8	-3.2
SUMG	**Summit**	**11.63**	**238**	*eP*		Pn	08 04 25.8	-3.2

TRN 31 08:24:28.3, 15.48N×60.74W, h50km, MD3.5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DSLB	**Salisbury**	**0.66**	**267**	*eP*		Pn	08 24 43.8	+2.2
DSLB				*eS*		Sn	08 24 53.9	+2.7
MAGL	**Barre de l'ile**	**0.71**	**312**	*eP*		Pn	08 24 43.7	+1.6
MAGL				*eS*		Sn	08 24 54.5	+2.3
ILAM	**Ilet Lapin Mar**	**0.71**	**191**	*eS*		Sn	08 24 53.8	+1.6
GBMF	**Grand Be**	**0.79**	**212**	*eP*		Pn	08 24 45.1	+1.8
PCM	**Pelee Case Pet**	**0.80**	**215**	*eP*		Pn	08 24 45.2	+1.8
FDF	**Fort de France**	**0.84**	**209**	*eP*		Pn	08 24 45.9	+2.0
LPMF	**Morne Lapointe**	**0.93**	**194**	*eP*		Pn	08 24 46.3	+1.3
MVM	**Montagne Vaucl**	**0.93**	**190**	*eP*		Pn	08 24 46.8	+1.7
TDBA	**Terre de Bas,**	**0.94**	**293**	*eP*		Pn	08 24 47.2	+1.9
TDBA				*eS*		Sn	08 24 59.9	+2.1
ZAM	**Aeronautique**	**0.94**	**198**	*eP*		Pn	08 24 46.9	+1.6
TBG	**Guadaloupe-3**	**0.95**	**293**	*eP*		Pn	08 24 47.1	+1.7
TBG				*eS*		Sn	08 24 59.7	+1.7
BIM	**Bigot**	**1.01**	**199**	*eP*		Pn	08 24 48.2	+2.1
BIM				*eS*		Sn	08 25 02.2	+2.8
MPOM	**Morne Pois Mar**	**1.03**	**187**	*eP*		Pn	08 24 48.0	+1.5
MPOM				*eS*		Sn	08 25 01.4	+1.6
ABD	**La Joyeuse, An**	**1.23**	**324**	*eP*		Pn	08 24 50.5	+1.4
ABD				*eS*		Sn	08 25 07.1	+2.5
SLBI	**Saint Lucia, B**	**1.46**	**189**	*eP*		Pn	08 24 53.7	+1.4
SLBI				*eS*		Sn	08 25 11.7	+1.3
SLCP	**Castries, St.**	**1.48**	**190**	*eS*		Sn	08 25 12.4	+1.7
ANBD	**Bethesda, Anti**	**1.85**	**328**	*eP*		Pn	08 24 59.3	+1.8
ANBD				*eS*		Sn	08 25 21.3	+1.5
BPA	**Boggy Peak**	**1.90**	**326**	*eP*		Pn	08 24 59.2	+1.0
BPA				*eS*		Sn	08 25 22.0	+1.0

IDC 31 08:24:43.6±2.4, 6.15S×153.54E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/41, mbtmp3.5/5, Error ellipse: s-maj=96.2km s-min=28.1km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.16**	**232**	P		P	08 29 52.0	+0.1
	1.3nm,0.7s,baz=55,slow=9.9,SNR=9.9							
ASAR	**Alice Springs**	**25.70**	**225**	P		P	08 30 16.3	+0.5
	0.4nm,0.5s,baz=60,slow=9.2,SNR=8.3							
FITZ	**Fitzroy Crossi**	**29.70**	**244**	P		P	08 30 49.8	-1.9
	0.6nm,0.4s,baz=71,slow=7.8,SNR=1.9							
MKAR	**Makanchi Array**	**81.82**	**319**	P		P	08 37 06.5	+1.7
	0.2nm,0.6s,baz=100,slow=4.8,SNR=2.3							
ILAR	**Eielson Array**	**83.12**	**22**	P		P	08 37 10.3	-0.9
	0.2nm,0.6s,baz=228,slow=5.4,SNR=2.3							

*NNC **31** 08:29:01.4±2.0, 54.40N×86.33E, h0km, mb3.7, mpv2.7, Error ellipse: s-maj=28.8km s-min=10.3km az=160.0, Suspected Mining explosion.*
*IDC **31** 08:29:05.1±2.4, 54.31N×86.12E, h0km, mb1 3.2/2, mb1mx3.0/52, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=18.8km s-min=11.8km az=52.0*

ISC 31 08:29:02.1±4.1, 54.7N±0.2×84.01E±0.09, h0km, n7, σ1.924/9, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**149**	*i*			08 33 40.0	
	baz=63,slow=330,SNR=1.3							
ZAA0	**Zalesovo Array**	**0.93**	**149**	⇓P		**Pb**	**08 29 20.2**	**-0.8**
	0.3nm,0.5s							
ZAA0				⇑S		**Sb**	**08 29 34.5**	**+0.7**
	1.1nm,0.3s							
ZAA0				⇑Rg		Rg	08 29 37.7	
ZALV	**Zalesovo Beam**	**0.93**	**149**	Pg		**Pb**	**08 29 20.0**	**-1.0**
	2.1nm,0.3s,baz=59,slow=17,SNR=8.4							
ZALV				Lg		Lg	08 29 33.6	
	6.2nm,0.3s,baz=64,slow=25,SNR=9.3							
KURBB	**Kurchatov Arra**	**5.30**	**221**	Pn		**Pb**	**08 30 35.3**	**-0.2**
	0.1nm,0.3s,baz=53,slow=14,SNR=13							
KURBB				Lg		Lg	08 32 15.8	
	0.1nm,0.3s,baz=49,slow=32,SNR=3.5							
KURBB	**Kurchatov Arra**	**5.30**	**221**	⇓Pn		**Pb**	**08 30 34.4**	**-1.1**
	1.7nm,0.5s,baz=53,slow=13							
KURBB				⇑Lg		Lg	08 32 14.0	
	4.8nm,0.7s							
MK31	**Makanchi Array**	**8.03**	**188**	⇑Pn		**Pn**	**08 30 59.9**	**-0.1**
	1.1nm,0.6s,baz=30,slow=13,SNR=18							
MK31				⇑Sn		**Sn**	**08 32 31.9**	**+0.4**
	0.3nm,0.5s							
MK31				⇓Lg		Lg	08 33 17.5	
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**8.03**	**188**	Pn		**Pn**	**08 31 02.0**	**+2.0**
	0.3nm,0.3s,baz=26,slow=13,SNR=16							
MKAR					Sn	**Sn**	**08 32 30.2**	**-1.2**
	0.1nm,0.3s,baz=26,slow=27,SNR=3.8							
MKAR					Lg	Lg	08 33 13.0	
	0.0nm,0.3s,baz=27,slow=32,SNR=2.7							

*NEIC **31** 08:41:46.6±2.4, 50.54N±0.07×129.19W±0.05, h12km±1km, Error ellipse: s-maj=12.8km s-min=4.9km az=12.0*
*PGC **31** 08:41:46.4±0.0, 50.54N×129.30W, h10km, MLSn3.5/24, Mw3.9, Mw4.1/24, 134km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*NEIC **31** 08:41:46.4, 50.54N×129.30W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.09; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-0.05; $M_{r\theta}$-0.01; $M_{\theta\phi}$0.04; $M_{\phi r}$-0.00; Fault plane solution: $M_0$9.10000×10^{14} NP1:$\phi_0$310.00000°, δ46.00000°, λ84.00000°. NP2:$\phi_0$139.00000°, δ44.00000°, λ96.00000°. Principal axes: T 0.0922, Plg86.0000°, Azm146.0000°; N -0.0014, Plg4.0000°, Azm315.0000°; P -0.0909, Plg1.0000°, Azm45.0000°;*
*IDC **31** 08:41:47.1±1.4, 50.65N×128.84W, h0km, mb3.4/2, mb1 3.7/7, mb1mx3.5/39, mbtmp3.4/7, ML3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/37 Error ellipse: s-maj=20.3km s-min=7.5km az=83.0*

ISC 31 08:41:45.8±1.8, 50.59N±0.06×129.25W±0.06, h12km±12km, n90, σ1.944/98, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**0.72**	**86**	P		**Pg**	**08 42 00.1**	**+0.4**
HOLB				S		**Sb**	**08 42 09.7**	**-0.5**
HOLB	**Holberg**	**0.72**	**86**			**Pg**	**08 42 00.1**	**+0.4**
HOLB						**Sb**	**08 42 09.7**	**-0.5**
PHC	**Port Hardy**	**1.17**	**84**	P		**Pb**	**08 42 06.8**	**-1.1**
PHC				S		**Sb**	**08 42 21.3**	**-1.7**
PHC	**Port Hardy**	**1.17**	**84**			**Pb**	**08 42 06.8**	**-1.1**
PHC						**Sb**	**08 42 21.3**	**-1.7**
MAYB	**Maynard**	**1.34**	**97**	P		**Pn**	**08 42 09.3**	**-1.3**
MAYB	**Maynard**	**1.34**	**97**			**Pn**	**08 42 09.3**	**-1.3**
FHRB	**Fair Harbour**	**1.47**	**111**	P		**Pn**	**08 42 10.8**	**-1.4**
FHRB	**Fair Harbour**	**1.47**	**111**			**Pn**	**08 42 10.8**	**-1.4**
EDB	**Eliza Dome**	**1.55**	**117**	Pn		**Pn**	**08 42 12.0**	**-1.2**
EDB	**Eliza Dome**	**1.55**	**117**	Pn		**Pn**	**08 42 12.0**	**-1.2**
BBB	**Bella Bella**	**1.75**	**24**	Pg		**Pn**	**08 42 16.2**	**+0.2**
	102nm,0.3s,baz=214,slow=12,SNR=594							
BBB				Lg		Lg	08 42 36.8	
	36nm,0.3s,baz=305,slow=22,SNR=16							
BBB	**Bella Bella**	**1.75**	**24**	Pn		**Pn**	**08 42 15.9**	**-0.1**
BBB				Sn		**Sn**	**08 42 36.9**	**-1.4**
BBB	**Bella Bella**	**1.75**	**24**	Pn		**Pn**	**08 42 16.3**	**+0.2**
BBB				IAML			08 42 48.4	
	comp=E,529nm,0.8s							
WOSB	**Woss**	**1.77**	**103**	Pn		**Pn**	**08 42 15.6**	**-0.8**
WOSB	**Woss**	**1.77**	**103**	Pn		**Pn**	**08 42 15.6**	**-0.8**
NCRB	**Newcastle Ridg**	**2.05**	**94**	Pn		**Pn**	**08 42 19.6**	**-0.8**
HG4B	**Hotspring**	**2.10**	**325**	Sn		**Sn**	**08 42 44.8**	**-2.0**
GDR	**Gold River**	**2.22**	**110**	Pn		**Pn**	**08 42 21.9**	**-0.7**
CBB	**Campbell River**	**2.56**	**101**	Pn		**Pn**	**08 42 26.8**	**-0.3**
TOFB	**Tofino**	**2.60**	**122**	Pn		**Pn**	**08 42 26.9**	**-0.8**
BTB	**Buttle Lake**	**2.66**	**114**	Pn		**Pn**	**08 42 28.1**	**-0.6**
BTB				Sn		**Sn**	**08 42 59.9**	**-1.0**
OZB	**Mount Ozzard**	**2.93**	**122**	Pn		**Pn**	**08 42 32.0**	**-0.4**
OZB				Sn		**Sn**	**08 43 05.9**	**-1.6**
BNAB	**Bonilla**	**3.03**	**344**	Pn		**Pn**	**08 42 34.8**	**+1.2**
B927	**Port Alberni**	**3.18**	**114**	Pn		**Pn**	**08 42 35.3**	**-0.4**
B928	**Bamfield**	**3.20**	**122**	Pn		**Pn**	**08 42 35.3**	**-0.7**
B928				Sn		**Sn**	**08 43 12.1**	**-1.8**
TXB	**Texada**	**3.23**	**104**	Pn		**Pn**	**08 42 36.1**	**-0.2**
DIB	**Dawson Inlet,**	**3.29**	**324**	Pn		**Pn**	**08 42 38.1**	**+0.9**
DIB				IAML			08 43 37.9	
	comp=E,78nm,4.2s							
GRNB	**Grenville Isla**	**3.29**	**353**	Pn		**Pn**	**08 42 38.0**	**+0.7**
GRNB				Sn		**Sn**	**08 43 12.1**	**-4.2**
H02S1	**DAWSON INLET T**	**3.29**	**324**	Pn		**Pn**	**08 42 37.6**	**+0.4**
H02S1				Sn		**Sn**	**08 43 16.0**	**-0.3**
MGB	**Mount Grey**	**3.36**	**117**	Pn		**Pn**	**08 42 38.9**	**+0.6**
KITB	**Kitimat**	**3.51**	**6**	Pn		**Pn**	**08 42 42.0**	**+1.7**
SHB	**Sechelt**	**3.60**	**104**	Pn		**Pn**	**08 42 41.8**	**+0.2**
NLLB	**Nanaimo Lost L**	**3.67**	**110**	Pn		**Pn**	**08 42 44.1**	**+1.7**
UBRB	**Upper Baezaeko**	**3.96**	**52**	Pn		**Pn**	**08 42 48.2**	**+1.7**
WPB	**Watts Point**	**4.00**	**101**	Pn		**Pn**	**08 42 48.1**	**+1.2**
BIB	**Bowen Island**	**4.02**	**105**	Pn		**Pn**	**08 42 48.4**	**+1.3**
B010	**North Saanich**	**4.24**	**115**	Pn		**Pn**	**08 42 51.6**	**+1.3**
OBC	**Olympics--Boni**	**4.24**	**125**	Pn		**Pn**	**08 42 51.7**	**+1.3**
PGC	**Sidney**	**4.24**	**115**	Pn		**Pn**	**08 42 51.0**	**+0.7**
PGC				IAML			08 44 04.2	
	comp=E,49nm,0.6s							
PGC				IAML			08 44 09.0	
	comp=N,48nm,0.9s							
B011	**North Saanich**	**4.25**	**115**	Pn		**Pn**	**08 42 51.6**	**+1.3**
PA12	**PA12 Sannich**	**4.25**	**115**	Pn		**Pn**	**08 42 51.8**	**+1.5**
LLLB	**Lillooet**	**4.70**	**87**	Pn		**Pn**	**08 42 57.2**	**+0.6**
A05A	**Maple Falls**	**4.91**	**106**	Pn		**Pn**	**08 43 00.4**	**+1.0**
FSB	**Fort Saint Jam**	**4.92**	**36**	Pn		**Pn**	**08 43 01.2**	**+1.5**
MBW	**Mount Baker**	**5.10**	**108**	Pn		**Pn**	**08 43 04.8**	**+2.5**
JCW	**Jim Creek**	**5.35**	**114**	Pn		**Pn**	**08 43 07.4**	**+1.8**
CRAG	**Craig**	**5.42**	**336**	Pn		**Pn**	**08 43 06.0**	**-0.4**
B06A	**Marblemount**	**5.46**	**109**	Pn		**Pn**	**08 43 08.0**	**+1.0**
RPW	**Rockport**	**5.48**	**110**	Pn		**Pn**	**08 43 09.1**	**+1.7**
E03A	**Lebam**	**5.54**	**135**	Pn		**Pn**	**08 43 07.4**	**-0.7**
D05A	**Enumclaw**	**5.88**	**123**	Pn		**Pn**	**08 43 12.9**	**+0.1**
FMW	**Mount Fremont**	**6.21**	**123**	Pn		**Pn**	**08 43 19.3**	**+1.8**
LON	**Longmire**	**6.25**	**125**	Pn		**Pn**	**08 43 20.1**	**+2.2**
LON	**Longmire**	**6.25**	**125**	Pn		**Pn**	**08 43 17.1**	**-0.8**
LTY	**Liberty**	**6.56**	**117**	Pn		**Pn**	**08 43 24.1**	**+1.9**
LTY	**Liberty**	**6.56**	**117**	Pn		**Pn**	**08 43 22.7**	**+0.4**
B08A	**Colville Reser**	**6.84**	**105**	Pn		**Pn**	**08 43 27.5**	**+1.4**
B08A	**Colville Reser**	**6.84**	**105**	Pn		**Pn**	**08 43 27.2**	**+1.2**
BMBC	**Bull Mountain**	**6.93**	**35**	Pn	

ABS				S		**Sb**	**08 53 09.8**	**+0.6**
STDR	**Stavd-Durt**	**0.93**	**28**	*e*Pg		**Pn**	**08 52 58.3**	**+0.5**
STDR				*e*Sg		**Sn**	**08 53 12.6**	**+1.5**
BRNG	**Burnasheti**	**0.96**	**164**	P		**Pg**	**08 52 57.0**	**-0.3**
BRNG				S		**Sn**	**08 53 12.0**	**+0.1**
TRLG	**Trialeti**	**1.11**	**155**	P		**Pb**	**08 52 60.0**	**-0.1**
TRLG				S		**Sg**	**08 53 14.9**	**+0.3**
AKH	**Akhalkalaki**	**1.13**	**179**	P		**Pb**	**08 53 00.3**	**-0.2**
AKH				S		**Sn**	**08 53 16.2**	**0.0**
KBTC	**Kuba-Taba**	**1.27**	**358**	*e*Pg		**Pg**	**08 53 03.6**	**+0.2**
KBTC				*e*Sg		**Sg**	**08 53 21.5**	**+1.6**
BGD	**Bogdanovka**	**1.28**	**176**	P		**Pn**	**08 53 02.8**	**0.0**
BGD				S		**Sg**	**08 53 20.8**	**+0.6**
BTNK	**Botanikuri**	**1.31**	**131**	P		**Pb**	**08 53 03.4**	**0.0**
BTNK				S		**Sg**	**08 53 21.9**	**+0.8**
DMNI	**Dmanisi**	**1.33**	**156**	P		**Pn**	**08 53 02.9**	**-0.5**
DMNI				S		**Sb**	**08 53 20.9**	**+0.1**
SHA1	**Shidzhatmaz**	**1.33**	**334**	*e*Pg		**Pg**	**08 53 04.7**	**+0.1**
SHA1				*e*Sg		**Sg**	**08 53 21.8**	**-0.1**
BATM	**Batumi**	**1.62**	**235**	P		**Pb**	**08 53 08.0**	**-0.7**
BATM				S		**Sg**	**08 53 31.0**	**0.0**

*IDC **31** 09:00:22.3±1.2,52°.38N×35°.56E,h0km,mb3.3/3, mb1 3.5/7,mb1mx3.2/66,mbtmp3.4/7,ML2.8/4, Error ellipse: s-maj=17.4km s-min=11.4km az=143.0*

ISC 31 09:00:22.9±0.8,**52°.59N**±0°.09×**35°.35E**±0°.06,**h10**km,**n10**, σ2§**09**/**11**,**mb3.4/3**,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OBN	**Obninsk**	**2.63**	**15**	Lg		Lg	09 01 50.0	
	1.9nm,0.3s,baz=358,slow=23,SNR=5.3							
AKASG	**Malin Array Be**	**4.26**	**246**	Pn		**Pn**	**09 01 27.7**	**-0.1**
	1.6nm,0.3s,baz=56,slow=13,SNR=6.2							
AKASG				Pg		**Pb**	**09 01 36.9**	**-0.9**
	2.4nm,0.3s,baz=48,slow=13,SNR=8.4							
AKASG				Sn		**Sn**	**09 02 18.4**	**+0.9**
	2.3nm,0.3s,baz=61,slow=19,SNR=5.7							
AKASG				Lg		Lg	09 02 32.2	
	2.6nm,0.3s,baz=59,slow=30,SNR=2.9							
BELG	**Belogornoye**	**7.50**	**87**	Pn		**Pn**	**09 02 12.1**	**0.0**
	0.1nm,0.3s,baz=112,slow=18,SNR=1.4							
BELG				Sn		**Sn**	**09 03 34.2**	**-2.9**
	0.5nm,0.3s,baz=132,slow=18,SNR=2.0							
FINES	**FINESS Array B**	**10.20**	**334**	Pn		**Pn**	**09 02 49.7**	**+0.6**
	0.1nm,0.3s,baz=151,slow=12,SNR=4.0							
FINES				Sn		**Sn**	**09 04 39.9**	**-3.6**
	0.2nm,0.3s,baz=150,slow=20,SNR=1.6							
VRAC	**Vranov**	**12.28**	**262**	Pn		Pn	09 03 12.8	-4.8
	2.8nm,0.3s,baz=75,slow=18,SNR=8.2							
I31KZ	**AKTYUBINSK INF**	**14.28**	**90**	*i*			10 27 10.0	
	baz=289,slow=330,SNR=3.7							
ARCES	**ARCESS Array B**	**17.61**	**349**	P		**P**	**09 04 31.1**	**+2.0**
	baz=164,slow=6.3,SNR=6.5							
MKAR	**Makanchi Array**	**30.47**	**82**	P		**P**	**09 06 37.3**	**+1.7**
	0.6nm,1.0s,baz=310,slow=11,SNR=3.1							
TORD	**Torodi Ar. Bea**	**47.65**	**227**	P		**P**	**09 08 57.8**	**-1.4**
	0.8nm,0.9s,baz=23,slow=7.8,SNR=3.2							
YKA	**Yellowknife Ar**	**62.83**	**345**	P		**P**	**09 10 49.8**	**+1.7**
	0.2nm,0.7s,baz=14,slow=6.4,SNR=3.4							

*NEIC **31** 09:06:46.6±1.5,5°.42S×0°.07×152°.6E±0°.1,h35km±2km, mb4.3/13,Error ellipse: s-maj=24.8km s-min=10.2km az=106.0*

*IDC **31** 09:06:50.3±2.8,5°.38S×152°.27E,h59km±23km,mb3.8/12, mb1 4.0/13,mb1mx3.8/35,mbtmp4.1/13,ML2.2/1,MS3.6/14, Ms1 3.6/14,ms1mx3.4/39,Error ellipse: s-maj=31.3km s-min=12.5km az=125.0*

ISC 31 09:06:47.9±0.7,**5°.36S**±0°.09×**152°.5E**±0°.1,**h40**km,**n44**, σ1§**15**/**35**,**mb4.2**/16,**MS3.6**/13,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.19**	**346**			**Pn**	**09 07 09.1**	**+0.9**
PMG	**Port Moresby**	**6.61**	**232**	P		**Pn**	**09 08 24.3**	**+1.7**
	3.4nm,0.3s,baz=33,slow=7.6,SNR=12							
PMG				S		**Sn**	**09 09 35.7**	**-1.0**
	16nm,0.3s,baz=151,slow=22,SNR=10							
PMG	**Port Moresby**	**6.61**	**232**	Pn		**Pn**	**09 08 24.5**	**+1.9**
PMG	**Port Moresby**	**6.61**	**232**	P		**Pn**	**09 08 25.3**	**+2.7**
HNR	**Honiara**	**8.47**	**119**	LR		LR	09 11 52.6	
	comp=Z,242nm,20.4s,baz=292,slow=35							
DZM	**Mont Dzumac**	**21.44**	**142**	LR		LR	09 19 20.9	
	comp=Z,170nm,18.5s,baz=300,slow=35							
MTN	**Manton Dam**	**22.31**	**249**	P		**P**	**09 11 43.2**	**+1.0**
WB0	**Warramunga Arr**	**22.67**	**229**	P		**P**	**09 11 44.5**	**-1.5**
WB0				IAmb		IAmb	09 11 51.6	
	comp=Z,12nm,0.8s							
WR0	**Warramunga Arr**	**22.68**	**229**	P		**P**	**09 11 45.2**	**-0.9**
WR0				IAmb		IAmb	09 11 51.6	
	comp=Z,11nm,0.9s							
WRAB	**Tennant Creek**	**22.80**	**229**	P		**P**	**09 11 47.9**	**+0.5**
WRAB				IAmb		IAmb	09 11 52.8	
	comp=Z,11nm,0.8s							
WB2	**Warramunga Arr**	**22.81**	**229**	P		**P**	**09 11 46.6**	**-0.8**
WB2				IAmb		IAmb	09 11 52.5	
	comp=Z,11nm,0.8s							
WRA	**Warramunga Arr**	**22.82**	**229**	P		**P**	**09 11 45.8**	**-1.8**
	comp=Z,9.5nm,0.8s,baz=54,slow=9.6,SNR=37							
WRA				S		**S**	**09 15 52.0**	**-2.2**
	comp=Z,4.6nm,1.3s,baz=52,slow=17,SNR=6.8							
WRA				LR		LR	09 21 36.4	
	comp=Z,119nm,18.9s,baz=60,slow=39							
WRA	**Warramunga Arr**	**22.82**	**229**	P		**P**	**09 11 47.3**	**-0.3**
AS31	**Alice Springs**	**25.50**	**223**	P		**P**	**09 12 12.9**	**+0.1**
ASAR	**Alice Springs**	**25.50**	**223**	P		**P**	**09 12 12.0**	**-0.8**
	comp=Z,4.4nm,0.7s,baz=56,slow=9.1,SNR=36							
ASAR	**Alice Springs**	**25.50**	**223**	P		**P**	**09 12 13.3**	**+0.5**
STKA	**Stephens Creek**	**28.27**	**200**	P		**P**	**09 12 37.7**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=21,slow=16,SNR=4.3							
STKA				LR		LR	09 24 36.5	
	comp=Z,145nm,18.6s,baz=16,slow=38							
STKA	**Stephens Creek**	**28.27**	**200**	P		**P**	**09 12 37.2**	**-0.3**
BATI	**Baumata**	**28.91**	**259**	LR		LR	09 26 31.5	
	comp=Z,268nm,19.3s,baz=91,slow=41							
FITZ	**Fitzroy Crossi**	**29.09**	**242**	P		**P**	**09 12 44.0**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=67,slow=7.7,SNR=12							
FITZ	**Fitzroy Crossi**	**29.09**	**242**	P		**P**	**09 12 44.8**	**-0.1**
FITZ				IAmb		IAmb	09 13 04.2	
	comp=Z,4.7nm,0.8s							
FORT	**Forrest**	**34.14**	**219**	P		**P**	**09 13 28.6**	**-0.6**
URZ	**Urewera**	**39.69**	**149**	LR		LR	09 28 18.6	
	comp=Z,114nm,18.8s,baz=211,slow=32							
JHJ	**Hachijo jima 2**	**40.11**	**343**	LR		LR	09 29 21.2	
	comp=Z,33nm,18.7s,baz=56,slow=34							
RPZ	**Rata Peaks**	**41.57**	**160**	LR		LR	09 30 20.8	
	comp=Z,192nm,18.2s,baz=325,slow=34							
NWAO	**Narrogin (SRO)**	**42.75**	**226**	LR		LR	09 32 42.3	
	comp=Z,125nm,19.7s,baz=57,slow=36							
MJAR	**Matsushiro Arr**	**43.76**	**343**	LR		LR	09 31 59.0	
	comp=Z,34nm,20.2s,baz=175,slow=34							
RAR	**Rarotonga**	**48.88**	**113**	LR		LR	09 32 09.5	
	comp=Z,45nm,20.5s,baz=181,slow=31							
PETK	**Petropavlovsk-**	**58.41**	**4**	P		**P**	**09 16 40.1**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=185,slow=6.9,SNR=1.5							
PETK				LR		LR	09 40 09.6	
	comp=Z,30nm,18.9s,baz=182,slow=34							
SONM	**Songino Array**	**66.61**	**328**	P		**P**	**09 17 35.0**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=141,slow=5.7,SNR=4.7							
SONM	**Songino Array**	**66.61**	**328**	IAmb		IAmb	09 17 36.6	
	comp=Z,0.9nm,0.8s							
VNDA	**Vanda**	**72.29**	**178**	P		**P**	**09 18 09.3**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=309,slow=5.6,SNR=2.4							
VNDA	**Vanda**	**72.29**	**178**	P		**P**	**09 18 07.2**	**-1.5**
VNDA				IAmb		IAmb	09 18 27.0	
	comp=Z,3.1nm,1.3s							
GAMB	**Gambell**	**74.01**	**16**	P		**P**	**09 18 17.5**	**-1.5**
MKAR	**Makanchi Array**	**80.51**	**319**	P		**P**	**09 18 55.7**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=102,slow=5.6,SNR=6.7							
MKAR	**Makanchi Array**	**80.51**	**319**	P		**P**	**09 18 54.7**	**-1.3**
ZALV	**Zalesovo Beam**	**81.42**	**326**	P		**P**	**09 18 59.8**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=118,slow=6.5,SNR=4.4							
ZALV	**Zalesovo Beam**	**81.42**	**326**	P		**P**	**09 19 00.7**	**+0.1**
ILAR	**Eielson Array**	**82.80**	**22**	P		**P**	**09 19 07.3**	**-0.3**
	comp=Z,2.8nm,1.0s,baz=257,slow=4.9,SNR=14							
NVAR	**Mina Array Bea**	**92.70**	**52**	P		**P**	**09 19 57.2**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=235,slow=7.6,SNR=2.3							
NVAR				LR		LR	09 54 31.7	
	comp=Z,58nm,20.5s,baz=254,slow=31							
YKA	**Yellowknife Ar**	**96.08**	**28**	P		**P**	**09 20 12.1**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=270,slow=4.8,SNR=4.2							
PDAR	**Pinedale Array**	**99.48**	**48**	LR		LR	09 59 02.2	
	comp=Z,33nm,19.4s,baz=290,slow=31							
TORD	**Torodi Ar. Bea**	**150.14**	**287**	PKPbc		**PKPbc**	**09 26 35.5**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=108,slow=2.4,SNR=6.3							
TORD	**Torodi Ar. Bea**	**150.14**	**287**			**PKPbc**	**09 26 35.1**	**-0.4**

*IDC **31** 09:09:22.5±0.8,10°.23N×84°.10W,h0km,mb3.8/11, mb1 4.0/13,mb1mx3.9/33,mbtmp3.8/13,ML3.4/2,MS3.3/8, Ms1 3.3/8,ms1mx3.1/21,Error ellipse: s-maj=21.3km s-min=9.7km az=5.0*

*IASPEI **31** 09:09:23.6±0.0,10°.18N×84°.15W,h11km,Error ellipse: s-maj=0.4km s-min=0.1km az=14.0,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*UPA **31** 09:09:23.8±2.2,10°.65N×84°.16W,h28km±27km,MW4.6*

*NEIC **31** 09:09:24±2.6,10°.05N±0°.08×84°.18W±0°.08,h10km±1km, mb4.6/44,Error ellipse: s-maj=17.7km s-min=8.1km az=223.0*

*UCR **31** 09:09:24.2±1.6,10°.14N×84°.16W,h10km±3km,MD3.6, MW5.0,mb4.6(NEIC),Fault plane solution: NP1: ϕs222.50000°,δ46.03000°,λ54.04000°.*

*INET **31** 09:09:26.0,10°.13N×84°.17W,h10km,MW4.0*

ISC 31 09:09:24.5±0.8,**10°.12N**±0°.03×**84°.16W**±0°.02,**h15**km±5km, **n160**,σ1§**49**/175,**mb4.5**/32,**MS3.2**/7,**10C-16D**,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HDC	**Heredia**	**0.13**	**158**	*e*P		**Pg**	**09 09 28.1**	**-0.2**
HDC				*e*S		**Sg**	**09 09 31.6**	**+0.8**
HDC	**Heredia**	**0.13**	**158**			**Pb**	**09 09 27.1**	**-1.7**
HDC3	**Heredia 3**	**0.13**	**156**	*e*P		**Pb**	**09 09 28.1**	**-0.8**
HDC3				*e*S		**Sg**	**09 09 31.6**	**+0.7**
OCM	**Ochomogo**	**0.30**	**138**	*i*P		**Pb**	**09 09 30.8**	**-1.0**
OCM				*e*S		**Sg**	**09 09 37.3**	**+1.9**
SRA1	**San Ramn**	**0.31**	**263**	*i*P		**Pb**	**09 09 30.9**	**-1.0**
LCR2	**La Lucha 2**	**0.41**	**157**	*e*P		**Pg**	**09 09 32.7**	**-0.2**
LCR2				*e*S		**Sb**	**09 09 38.9**	**-0.9**
CVTR	**Volcan Turrial**	**0.41**	**104**	*e*P		**Pg**	**09 09 32.7**	**-0.4**
RIMA	**Rio Macho**	**0.46**	**140**	*e*P		**Pg**	**09 09 33.5**	**-0.3**
RIMA				*e*S		**Sb**	**09 09 40.9**	**-0.3**
FORC	**Fortuna**	**0.60**	**305**	*i*P		**Pb**	**09 09 35.6**	**-1.3**
FORC				*i* S		**Sb**	**09 09 44.7**	**-0.5**
COVE	**Coope Vega, Sa**	**0.64**	**339**	*e*P		**Pb**	**09 09 35.2**	**-2.2**
COVE	**Coope Vega, Sa**	**0.64**	**339**	Pg		**Pb**	**09 09 35.2**	**-2.2**
ARE1	**Arenal 1**	**0.64**	**302**	*e*P		**Pb**	**09 09 36.5**	**-1.0**
CASO	**Castillo**	**0.64**	**299**	*i*P		**Pb**	**09 09 36.1**	**-1.4**
CEDE	**Laguna Cedeo**	**0.64**	**304**	*i*P		**Pb**	**09 09 36.3**	**-1.2**
CEDE				*e*S		**Sb**	**09 09 45.9**	**-0.5**
JACO	**JACO, Garabito**	**0.67**	**227**	*e*P		**Pn**	**09 09 37.4**	**-2.0**
CDM	**Cerro de Muert**	**0.69**	**145**	*e*P		**Pb**	**09 09 37.8**	**-0.8**
CDM				*e*S		**Sg**	**09 09 47.4**	**0.0**
MRVA	**Moravia de Chi**	**0.77**	**113**	*i*P		**Pb**	**09 09 38.9**	**-0.8**
BATAN	**Batan**	**0.78**	**92**	*i* P		**Pb**	**09 09 39.0**	**-0.7**
BATAN	**Batan**	**0.78**	**92**			**Pb**	**09 09 38.9**	**-0.9**
JTS	**Las Juntas de**	**0.79**	**282**	Pg		**Pb**	**09 09 38.8**	**-1.2**
	802nm,0.3s,baz=138,slow=14,SNR=3048							
JTS				Lg		Lg	09 09 50.0	
	410nm,0.3s,baz=2.2,slow=22,SNR=6.5							
JTS				LR		LR	09 09 57.3	
	comp=Z,497nm,18.3s,baz=358,slow=41							
JTS	**Las Juntas de**	**0.79**	**282**	*i* P		**Pb**	**09 09 38.9**	**-1.2**
JTS				*e*S		**Sg**	**09 09 50.3**	**-0.2**
JTS	**Las Juntas de**	**0.79**	**282**	*e*P		**Pb**	**09 09 38.9**	**-1.2**
LAFE	**Finca La Fe, P**	**0.80**	**247**	*e*P		**Pn**	**09 09 40.1**	**-1.1**
PEZE	**Perez Zeledon,**	**0.88**	**147**			**Pb**	**09 09 40.6**	**-0.9**
EDDO	**Dominical**	**0.91**	**161**	*e*P		**Pn**	**09 09 42.0**	**-0.9**
ACAL	**Aguas Claras**	**1.00**	**301**	*i* P		**Pb**	**09 09 41.8**	**-1.8**
CAO2	**Cobano, Puntar**	**1.02**	**245**			**Pg**	**09 09 43.2**	**-1.1**
CUI	**Cuipilapa**	**1.12**	**299**	*e*P		**Pn**	**09 09 44.1**	**-1.6**
COLC	**Colonia**	**1.16**	**298**	*i* P		**Pn**	**09 09 44.6**	**-1.6**
HORNC	**Hornillas**	**1.16**	**301**	*i* P		**Pn**	**09 09 44.4**	**-1.9**
PLVR	**Palo Verde**	**1.19**	**281**	*i*P		**Pn**	**09 09 44.9**	**-1.9**
GUAB	**Guayabo de Bag**	**1.20**	**299**	*i* P		**Pn**	**09 09 45.4**	**-1.5**
GUAB				*i* S		**Sg**	**09 10 04.3**	**+1.0**
DRK0	**Durika**	**1.25**	**133**	*i* P		**Pn**	**09 09 47.0**	**-0.6**
DRK0				*e*S		**Sg**	**09 10 04.8**	**0.0**
DRK0	**Durika**	**1.25**	**133**	*e*P		**Pn**	**09 09 46.9**	**-0.7**
EDBA	**Buenos Aires**	**1.29**	**137**	*e*P		**Pn**	**09 09 47.2**	**-1.0**
ORTG	**Ortega, Santa**	**1.30**	**281**			**Pn**	**09 09 47.5**	**-0.7**
GUAI	**GUAI**	**1.33**	**276**	*i* P		**Pn**	**09 09 48.0**	**-0.7**
INDI	**Punta indio, G**	**1.34**	**259**	*e*P		**Pb**	**09 09 48.4**	**-1.0**
EDPN	**Palmar Norte**	**1.35**	**149**	*e*P		**Pb**	**09 09 49.2**	**-0.3**
BUAI	**Buenos Aires**	**1.37**	**303**	*i* P		**Pn**	**09 09 47.2**	**-2.0**
BUEV	**Buena Vista**	**1.40**	**299**	*i* P		**Pn**	**09 09 48.5**	**-1.1**
GRZA	**Playa Garza**	**1.46**	**262**	*e*P		**Pb**	**09 09 50.4**	**-1.0**
RIOS	**Rincon, Osa**	**1.55**	**156**			**Pb**	**09 09 51.5**	**-1.5**
EDSV	**San Vito**	**1.75**	**138**	*e*P		**Pb**	**09 09 56.6**	**+0.2**
CNI2	**El Empalme, Bo**	**1.81**	**112**	*i* P		**Pn**	**09 09 55.4**	**+0.3**
CNI2				*e*S		**Sb**	**09 10 19.8**	**0.0**
MLIR3	**Monte Lirio, C**	**1.87**	**135**	*e*P		**Pb**	**09 09 58.7**	**+0.2**
BRU2	**Volcan**	**1.96**	**132**	*i* P		**Pb**	**09 09 59.6**	**-0.5**
BRU2				*e*S		**Sg**	**09 10 28.1**	**+0.3**
BRU2	**Volcan**	**1.96**	**132**	*e*P		**Pb**	**09 09 59.4**	**-0.7**
CDITO	**Canoas**	**2.00**	**140**	*e*P		**Pn**	**09 09 58.7**	**+0.9**
ESPN	**Las Esperanzas**	**2.06**	**356**	*e*P		**Pn**	**09 09 58.0**	**-0.6**
ESPN	**Las Esperanzas**	**2.06**	**356**			**Pn**	**09 09 57.4**	**-1.3**
ACON	**Acoyapa**	**2.08**	**332**	*e*P		**Pn**	**09 09 59.2**	**+0.3**
ACON	**Acoyapa**	**2.08**	**332**			**Pn**	**09 09 58.1**	**-0.9**
BCO2	**Palmira**	**2.13**	**131**	*i* P		**Pb**	**09 10 02.9**	**-0.1**
BCO2				*e*S		**Sg**	**09 10 32.8**	**-0.5**
LNBQ3	**Los Naranjos,**	**2.15**	**128**	*e*P		**Pb**	**09 10 02.0**	**-1.4**
PTAR3	**Potrerillos Ar**	**2.17**	**131**	*e*P		**Pb**	**09 10 03.5**	**-0.2**
LESP3	**La Esperanza,**	**2.18**	**141**	*e*P		**Pg**	**09 10 06.4**	**0.0**
SBAR3	**San Bartolo, C**	**2.19**	**145**	*e*P		**Pg**	**09 10 05.9**	**-0.8**
BAGA3	**Bagala, Chiriq**	**2.31**	**135**	*i* P		**Pb**	**09 10 05.4**	**-0.5**
PSOM3	**Paja de Sombre**	**2.31**	**128**	*e*P		**Pb**	**09 10 04.3**	**-1.6**
LOCO3	**Loma Colorada,**	**2.42**	**134**	*e*P		**Pb**	**09 10 08.5**	**+0.7**
LOMA3	**Las Lomas, Chi**	**2.43**	**134**	*e*P		**Pb**	**09 10 07.3**	**-0.6**
GUAL3	**Gualaca, Chiri**	**2.43**	**130**	*e*P		**Pb**	**09 10 06.8**	**-1.1**
PEDE3	**Pedregal, Chir**	**2.44**	**135**	*e*P		**Pb**	**09 10 07.8**	**-0.3**
CHIR3	**Chiriqui UPA,**	**2.50**	**133**	*e*P		**Pb**	**09 10 08.4**	**-0.7**
BOAB	**BOACO BROADBAN**	**2.74**	**328**	Pn		**Pn**	**09 10 07.1**	**-0.9**
NANC3	**Nancito, Chiri**	**3.04**	**128**	*e*P		**Pb**	**09 10 15.8**	**-2.6**
MATN	**Matagalpa**	**3.28**	**328**			**Pn**	**09 10 14.8**	**-0.7**
CNAZ3	**Canazas, Verag**	**3.41**	**121**	*e*P		**Pn**	**09 10 18.2**	**+1.0**
CNGN	**Cerro Negro**	**3.43**	**314**	*e*P		**Pn**	**09 10 20.3**	**+2.8**
SFRA3	**San Francisco,**	**3.66**	**120**	*e*P		**Pn**	**09 10 22.4**	**+1.7**
GMAL	**Guarumal, Vera**	**3.73**	**129**	*e*P		**Pn**	**09 10 23.7**	**+2.2**
CALO3	**Calobre, Verag**	**3.74**	**118**	*e*P		**Pn**	**09 10 23.7**	**+2.0**
CRIN	**San Cristobal**	**3.82**	**312**			**Pn**	**09 10 22.2**	**-0.7**
PRVC	**Isla de Provid**	**4.24**	**40**	*e*P		**Pn**	**09 10 28.1**	**-0.6**
PRVC				*e*S		**Sn**	**09 11 16.0**	**-1.9**
PRVC				*i*			09 11 29.4	
	comp=Z,148nm,0.6s							
BCIP	**Isla Barro Col**	**4.37**	**102**	Pn		**Pn**	**09 10 30.2**	**-0.3**
BCIP	**Isla Barro Col**	**4.37**	**102**	*e*P		**Pn**	**09 10 29.9**	**-0.5**
BCIP				*e*S		**Sn**	**09 11 18.2**	**-2.9**
PCRI3	**Pocri, Los San**	**4.69**	**121**	*e*P		**Pn**	**09 10 36.3**	**+1.5**
CNCH	**Conchagua**	**4.77**	**311**	*e*P		**Pn**	**09 10 37.1**	**+1.1**
LCND	**La Caada**	**4.83**	**311**	*e*P		**Pn**	**09 10 39.6**	**+2.9**
LCND				IAML			09 11 57.3	
	comp=Z,94nm,0.4s							
TGUH	**Tegucigalpa,Un**	**4.95**	**322**	*e*P		**Pn**	**09 10 39.0**	**+0.5**
TGUH				*e*S		**Sn**	**09 11 43.3**	**+7.6**
TGUH	**Tegucigalpa,Un**	**4.95**	**322**	Pn		**Pn**	**09 10 37.6**	**-1.0**
PACA	**Pacayal**	**5.26**	**310**	*e*P		**Pn**	**09 10 45.8**	**+3.0**
SNET	**Serv Nac Est T**	**6.09**	**306**	Pn		**Pn**	**09 10 52.4**	**-1.8**
MTO3	**Montecristo**	**6.62**	**310**			**Pn**	**09 11 00.7**	**-0.9**
ESQI	**Esquipulas**	**6.71**	**312**	Pn		**Pn**	**09 11 01.9**	**-0.9**
APG	**El Apazote**	**7.83**	**309**	Pn		**Pn**	**09 11 23.1**	**+4.9**
	comp=Z,0.4nm,0.3s,baz=164,slow=10,SNR=6.7							
APG				Lg		Lg	09 13 18.9	
	comp=Z,0.2nm,0.3s,baz=41,slow=16,SNR=1.7							
MOTC	**Monteria, Cord**	**8.49**	**98**	*e*P		**Pn**	**09 11 27.2**	**+0.2**
MOTC				*e*S		Sn	09 12 53.7	-9.0
MOTC				*i*			09 13 04.3	
	comp=Z,5.9nm,0.5s							
ZARC	**Zaragoza, Cauc**	**9.56**	**105**	*e*P		**Pn**	**09 11 43.0**	**+1.2**
ZARC				*e*S		**Sn**	**09 13 26.1**	**-2.9**
OTAV	**Otavalo**	**11.35**	**150**	Pn		**Pn**	**09 12 04.2**	**-2.4**
CMIG	**Matias Romero**	**12.51**	**305**	Pn		**Pn**	**09 12 23.4**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=102,slow=12,SNR=7.7							
CMIG				LR		LR	09 17 28.4	
	comp=Z,62nm,19.5s,baz=148,slow=39							
SDV	**Santo Domingo**	**13.40**	**94**	Pn		**Pn**	**09 12 33.9**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=358,slow=10,SNR=7.1							
SDV				Sn		**Sn**	**09 15 00.4**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=28,slow=21,SNR=9.7							
SDDR	**Presa de Saban**	**15.25**	**53**	P		**P**	**09 13 05.0**	**+0.6**
344A	**Westbrook Farm**	**22.08**	**345**	P		**P**	**09 14 19.6**	**+0.5**
152A	**Waverly Hall**	**22.44**	**359**	P		**P**	**09 14 25.2**	**+2.2**
342A	**Flagon Creek P**	**22.46**	**341**	P		**P**	**09 14 22.1**	**-1.1**
342A				IAmb		IAmb	09 14 31.6	
	comp=Z,20nm,0.9s							
HKT	**Hockley**	**22.54**	**333**	P		**P**	**09 14 24.3**	**+0.3**
146A	**Union**	**22.86**	**349**	P		**P**	**09 14 29.1**	**+1.7**
146A				IAmb		IAmb	09 14 33.4	
	comp=Z,17nm,0.9s							
LRAL	**Lakeview Retre**	**22.95**	**354**	P		**P**	**09 14 31.2**	**+2.9**
Z47A	**Carrollton**	**23.25**	**352**	P		**P**	**09 14 30.9**	**-0.4**
Z47A				IAmb		IAmb	09 14 37.1	
	comp=Z,18nm,0.9s							
Y52A	**Lilburn**	**23.63**	**0**	P		**P**	**09 14 33.1**	**-2.1**
Y52A				IAmb		IAmb	09 14 43.2	
	comp=Z,18nm,1.1s							
435B	**Jarrell**	**24.05**	**331**	P		**P**	**09 14 39.3**	**+0.1**
HODGE	**Hodges**	**24.06**	**4**	P		**P**	**09 14 39.4**	**+0.1**
Y45A	**Yeager Farm, C**	**24.14**	**349**	P		**P**	**09 14 42.2**	**+2.2**
Y45A				IAmb		IAmb	09 14 46.3	
	comp=Z,29nm,1.1s							
CCAR	**Cane Creek**	**24.69**	**345**	P		**P**	**09 14 46.2**	**+1.2**
WLAR	**White Oak Lake**	**24.85**	**342**	P		**P**	**09 14 47.0**	**+0.5**
W52A	**Murphy**	**24.86**	**0**	P		**P**	**09 14 48.1**	**+1.5**
W52A				IAmb		IAmb	09 14 56.1	
	comp=Z,11nm,1.0s							
JCT	**Junction City**	**24.95**	**327**	P		**P**	**09 14 48.9**	**+1.4**
W50A	**Signal Mountai**	**24.98**	**358**	P		**P**	**09 14 49.7**	**+1.9**
W50A				IAmb		IAmb	09 14 54.9	
	comp=Z,18nm,1.0s							
WHTX	**Lake Whitney,**	**25.00**	**332**	P		**P**	**09 14 44.9**	**-2.9**
TKL	**Tuckaleechee C**	**25.42**	**1**	P		**P**	**09 14 53.4**	**+1.7**
TKL				IAmb		IAmb	09 14 58.0	
	comp=Z,10.0nm,1.0s							

0.3nm,0.5s,baz=106,slow=21,SNR=2.9
MKAR **Makanchi Array** **80.73** **319** P **P** **09 26 45.5** **+0.6**
0.3nm,0.5s,baz=101,slow=6.3,SNR=6.2
ZALV **Zalesovo Beam** **81.60** **326** P **P** **09 26 48.7** **-0.6**
0.6nm,0.5s,baz=96,slow=4.3,SNR=1.6
ILAR **Eielson Array** **82.65** **22** P **P** **09 26 53.9** **-0.7**
1.4nm,1.0s,baz=245,slow=5.4,SNR=7.4
YKA **Yellowknife Ar** **95.89** **28** P **P** **09 27 57.5** **-0.3**
0.4nm,1.0s,baz=267,slow=4.7,SNR=4.9
TORD **Torodi Ar. Bea** **150.48** **287** PKPbc **PKPbc** **09 34 22.8** **-1.3**
0.5nm,0.8s,baz=15,slow=6.4,SNR=2.3

IDC 31 09:16:17.6±3.1, 31°54S×177°81W, h0km, mb4.0/2, mb1 4.1/4, mb1mx3.7/35, mbtmp3.9/4, ML3.5/2, Error ellipse: s-maj=72.6km s-min=31.0km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.28**	**358**	Pn		Pn		09 16 56.4	-0.1
	32nm,0.3s,baz=149,slow=22,SNR=2.1								
RAO				Sn		Sn		09 17 18.6	-6.7
	75nm,0.3s,baz=52,slow=22,SNR=3.2								
URZ	**Urewera**	**7.89**	**211**	Pn		Pn		09 18 13.0	-0.6
	0.2nm,0.3s,baz=121,slow=24,SNR=0.9								
URZ				Sn		Sn		09 19 41.5	-2.1
	0.6nm,0.3s,baz=301,slow=23,SNR=1.9								
ASAR	**Alice Springs**	**43.22**	**268**	P		P		09 24 20.6	-0.1
	0.6nm,0.4s,baz=106,slow=7.7,SNR=15								
WRA	**Warramunga Arr**	**44.31**	**273**	P		P		09 24 29.4	-0.1
	1.1nm,0.3s,baz=111,slow=8.0,SNR=30								
FINES	**FINESS Array B**	**146.27**	**339**	PKPbc		PKPdf		09 35 58.6	+0.4
	2.5nm,0.9s,baz=98,slow=3.9,SNR=5.4								

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*IDC **31** 09:23:04.2±0.7, 4°.55S×152°.00E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.9/30, mbtmp3.8/12, MS3.5/4, Ms1 3.5/4, ms1mx3.0/34, Error ellipse: s-maj=33.5km s-min=17.5km az=112.0*

ISC 31 09:23:22.9±0.7, 4.7S±0.1×151.9E±0.2, h153km, n20, σ1s74/18, mb3.5/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.61**	**225**	Pn		Pn		09 24 50.1	-7.7
	0.8nm,0.3s,baz=287,slow=12,SNR=2.5								
PMG				Sn		**Sn**		**09 26 10.7**	**-1.4**
	1.2nm,0.3s,baz=112,slow=15,SNR=1.7								
HNR	**Honiara**	**9.24**	**121**	LR		LR		09 29 03.9	
	comp=Z,192nm,18.5s,baz=6.0,slow=39								
WRA	**Warramunga Arr**	**22.82**	**227**	P		**P**		**09 28 10.9**	**-2.0**
	0.5nm,0.5s,baz=54,slow=9.6,SNR=6.2								
WRA				PcP		**PcP**		**09 32 00.8**	**+1.5**
	0.4nm,0.8s,baz=59,slow=3.1,SNR=1.9								
ASAR	**Alice Springs**	**25.60**	**221**	P		**P**		**09 28 36.0**	**-2.2**
	0.5nm,0.6s,baz=56,slow=8.1,SNR=8.2								
MSVF	**Nonsavu**	**28.67**	**119**	LR		LR		09 38 58.8	
	comp=Z,104nm,19.8s,baz=304,slow=33								
STKA	**Stephens Creek**	**28.68**	**198**	P		**P**		**09 29 06.0**	**+0.4**
	1.5nm,0.8s,baz=15,slow=12,SNR=3.6								
STKA				LR		LR		09 40 55.5	
	comp=Z,70nm,18.5s,baz=33,slow=37								
FITZ	**Fitzroy Crossi**	**28.90**	**241**	P		**P**		**09 29 07.7**	**+0.1**
	1.0nm,0.7s,baz=238,slow=17,SNR=1.6								
LEM	**Lembang**	**44.09**	**265**	LR		LR		09 51 34.1	
	comp=Z,97nm,21.0s,baz=230,slow=39								
CMAR	**Chiang Mai Arr**	**57.03**	**295**	P		**P**		**09 32 56.3**	**+3.0**
	1.1nm,0.3s,baz=79,slow=6.5,SNR=0.9								
PETK	**Petropavlovsk-**	**57.83**	**4**	P		**P**		**09 32 55.1**	**-3.1**
	1.9nm,0.7s,baz=159,slow=5.2,SNR=7.0								
SONM	**Songino Array**	**65.78**	**328**	P		**P**		**09 33 51.3**	**-0.4**
	0.3nm,0.4s,baz=130,slow=5.8,SNR=3.3								
VNDA	**Vanda**	**72.94**	**178**	P		**P**		**09 34 34.7**	**-0.3**
	0.6nm,0.8s,baz=322,slow=5.5,SNR=2.3								
MKAR	**Makanchi Array**	**79.68**	**319**	P		**P**		**09 35 13.8**	**+0.2**
	0.3nm,0.5s,baz=113,slow=3.5,SNR=5.8								
ZALV	**Zalesovo Beam**	**80.59**	**327**	P		**P**		**09 35 18.6**	**+0.3**
	1.4nm,0.4s,baz=110,slow=5.3,SNR=5.5								
ILAR	**Eielson Array**	**82.43**	**22**	P		**P**		**09 35 26.7**	**-1.0**
	1.0nm,1.0s,baz=267,slow=6.0,SNR=6.6								
NVAR	**Mina Array Bea**	**92.75**	**52**	P		**P**		**09 36 17.7**	**-0.7**
	0.2nm,0.5s,baz=268,slow=5.4,SNR=2.5								
YKA	**Yellowknife Ar**	**95.78**	**28**	P		**P**		**09 36 31.8**	**+0.4**
	0.2nm,0.7s,baz=268,slow=4.4,SNR=4.0								
LPAZ	**La Paz**	**135.25**	**119**	PKhKP		PKPpre		09 42 22.5	
	0.8nm,0.8s,baz=330,slow=6.5,SNR=2.7								
TORD	**Torodi Ar. Bea**	**149.43**	**288**	PKPbc		**PKPbc**		**09 42 54.7**	**-0.3**
	1.9nm,0.8s,baz=81,slow=2.4,SNR=7.9								
BDFB	**Brasilia**	**151.75**	**136**	PKP		**PKPdf**		**09 42 56.6**	**+2.4**
	2.4nm,0.7s,baz=172,slow=5.4,SNR=1.9								
BDFB				PKPbc		**PKiKP**		**09 43 03.2**	**+2.3**
	5.0nm,0.8s,baz=191,slow=2.3,SNR=5.6								

IDC 31 09:39:17.1±4.3, 4°.83S×151°.94E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.0/35, mbtmp3.0/2, Error ellipse: s-maj=189.8km s-min=54.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.78**	**227**	P		P		09 44 21.7	+0.2
	0.5nm,0.8s,baz=53,slow=10,SNR=2.4								
ASAR	**Alice Springs**	**25.55**	**221**	P		P		09 44 47.7	-0.2
	0.2nm,0.7s,baz=57,slow=9.7,SNR=1.8								
TORD	**Torodi Ar. Bea**	**149.43**	**288**	PKPbc		PKPbc		09 59 09.1	-0.5
	0.6nm,0.9s,baz=94,slow=3.8,SNR=2.8								

IDC 31 09:42:29.4±1.4, 27°.33N×100°.46E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.2/46, mbtmp3.3/4, Error ellipse: s-maj=51.9km s-min=21.4km az=80.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.94**	**189**	Pg		Pg		09 45 13.8	-6.9
	0.3nm,0.3s,baz=3.5,slow=16,SNR=1.9								
CMAR				Lg		Lg		09 47 14.7	
	0.7nm,0.3s,baz=288,slow=28,SNR=5.1								
SONM	**Songino Array**	**20.99**	**11**	P		Pn		09 47 15.8	-1.1
	0.5nm,0.6s,baz=195,slow=10,SNR=2.7								
MKAR	**Makanchi Array**	**24.14**	**328**	P		P		09 47 46.3	-0.7
	0.2nm,0.5s,baz=132,slow=11,SNR=1.9								
WRA	**Warramunga Arr**	**57.31**	**141**	P		P		09 52 19.1	-0.3
	0.5nm,0.6s,baz=330,slow=7.7,SNR=10								
ASAR	**Alice Springs**	**60.11**	**144**	P		P		09 52 38.5	-0.2
	0.3nm,0.6s,baz=331,slow=6.4,SNR=4.9								

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*IDC **31** 10:06:07.8±1.8, 39°.66N×71°.00E, h0km, mb3.1/2, mb1 3.3/8, mb1mx3.2/64, mbtmp3.3/8, ML3.1/6, MS3.2/1, Ms1 3.2/1, ms1mx2.4/21, Error ellipse: s-maj=23.5km s-min=14.1km az=159.0*

*KRNET **31** 10:06:11.0±0.1, 39°.70N×71°.14E, h12km, mb3.9*

*ISU **31** 10:06:11, 39°.78N×71°.15E, h5km*

*NNC **31** 10:06:15.9±1.3, 39°.94N×71°.17E, h2km,5km, mb4.2, mpv3.8, Error ellipse: s-maj=9.3km s-min=3.8km az=13.0*

*SOME **31** 10:06:24.2, 40°.22N×71°.27E, h5km*

ISC 31 10:06:11.7±1.2, 39.71N±0.05×71.09E±0.03, h10km±7km, n66, σ2s46/98, 35C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.41**	**329**	⇓*i*P		**Pg**		**10 06 19.3**	**-0.5**
	baz=25								
BTK				⇓*i*S		**Sg**		**10 06 25.5**	**+0.3**
	baz=25								
BTK	**Batken**	**0.41**	**329**	*i* P		**Pg**		**10 06 19.0**	**-0.8**
BTK				*i* S		**Sg**		**10 06 26.0**	**+0.8**
SHAK	**Shakhimardan**	**0.56**	**64**	*e*P		**Pg**		**10 06 21.0**	**-1.6**
SHAK				*e*S		**Sg**		**10 06 29.0**	**-1.0**
DRK	**Karamyk**	**0.60**	**112**	⇑*i*P		**Pg**		**10 06 21.7**	**-1.6**
	baz=13								
DRK				⇑*i*S		**Sg**		**10 06 29.5**	**-1.7**
	baz=13								
FRG	**Fergana**	**1.16**	**27**	*e*P		Pg		10 06 27.0	-6.9
FRG				*e*S		Sg		10 06 39.0	-10
OHH	**Osh**	**1.54**	**57**	⇑*i*P		**Pn**		**10 06 39.1**	**-0.1**
	baz=56								
OHH				⇑*i*S		**Sn**		**10 06 59.4**	**+0.2**
	baz=56								
OHH	**Osh**	**1.54**	**57**	*e*P		**Pb**		**10 06 40.0**	**-0.3**
OHH				*e*S		**Sn**		**10 07 00.0**	**+0.8**
TRKS	**Terek-Say**	**1.82**	**1**	⇓*i*P		**Pn**		**10 06 43.8**	**+0.6**
	baz=1.0								
TRKS				⇓*i*S		**Sn**		**10 07 07.5**	**+1.1**
	baz=1.0								
SFK	**Sufi-Kurgan**	**1.88**	**80**	*e*P		**Pg**		**10 06 51.0**	**+3.2**
SFK				*e*S		**Sg**		**10 07 18.0**	**+5.7**
CHMG	**Chimgan**	**2.02**	**336**	*e*P		**Pg**		**10 06 49.0**	**-1.3**
CHMG				*e*S		**Sg**		**10 07 17.0**	**+0.5**
CHRV	**Charvak**	**2.12**	**336**	*e*P		**Pn**		**10 06 48.0**	**+0.9**
CHRV				*e*S		**Sb**		**10 07 18.0**	**+1.5**
ARSB	**Arslanbob**	**2.17**	**41**	⇓*i*P		**Pb**		**10 06 50.1**	**-1.0**
	baz=40								
ARSB				⇓*i*S		**Sb**		**10 07 18.1**	**+0.1**
	baz=40								
IUG	**Iuzhnay**	**2.56**	**342**	*e*P		Pg		10 07 06.4	+5.6
	49nm,0.4s								
IUG				*e*S		**Sg**		**10 07 34.8**	**+0.7**
	290nm,0.4s								
IUG	**Iuzhnay**	**2.56**	**342**	Pg		**Pg**		**10 06 59.4**	**-1.5**
	104nm,0.4s								
IUG				Lg		Lg		10 07 32.5	
	290nm,0.4s								
MNAS	**Manas**	**2.98**	**21**	⇑*i*P		**Pn**		**10 07 01.2**	**+2.1**
	baz=20								
MNAS				⇑*i*S		**Sn**		**10 07 37.6**	**+2.7**
	baz=20								
AML	**Almayashu**	**3.12**	**38**	⇑*i*P		**Pn**		**10 07 02.9**	**+1.6**
	baz=38								
AML				⇑*i*S		**Sn**		**10 07 40.9**	**+2.0**
	baz=38								
AML	**Almayashu**	**3.12**	**38**	P		**Pn**		**10 07 03.8**	**+2.5**
	SNR=15								
ARLS	**Aral**	**3.27**	**48**	⇑*e*P		**Pn**		**10 07 04.5**	**+1.5**
	baz=47								
ARLS				⇑*i*S		**Sn**		**10 07 44.4**	**+2.4**
	baz=47								
KK31	**Karatay Array**	**3.42**	**353**	Pn		**Pn**		**10 07 07.5**	**+2.5**
	0.7nm,0.2s,baz=172,slow=12,SNR=91								
KK31				⇑Pg		**Pb**		**10 07 13.1**	**+0.8**
	10nm,0.5s,baz=170,slow=13,SNR=29								
KK31				⇑Lg		Lg		10 07 57.2	
	345nm,0.8s								
BRLS	**Borolday**	**3.45**	**345**	*e*P		**Pg**		**10 07 16.2**	**-1.6**
	23nm,0.3s								
BRLS				*e*S		**Sb**		**10 07 53.9**	**-1.0**
	90nm,0.3s								
BRLS	**Borolday**	**3.45**	**345**	Pg		**Pb**		**10 07 12.1**	**-0.8**
	14nm,0.2s								
BRLS				Lg		Lg		10 07 53.9	
	90nm,0.3s								
EKS2	**Erkin-Say**	**3.58**	**34**	⇑*i*P		**Pn**		**10 07 09.2**	**+1.8**
	baz=33								
EKS2				⇑*i*S		**Sn**		**10 07 51.9**	**+2.1**
	baz=33								
EKS2	**Erkin-Say**	**3.58**	**34**	P		**Pb**		**10 07 16.3**	**+1.1**
	SNR=8.3								
UCH	**Uchtor**	**3.62**	**45**	⇑*i*P		**Pn**		**10 07 09.6**	**+1.5**
	baz=44								
UCH				⇑*i*S		**Sn**		**10 07 52.4**	**+1.4**
	baz=44								
UCH	**Uchtor**	**3.62**	**45**	P		**Pn**		**10 07 10.7**	**+2.5**
	SNR=16								
AAK	**Ala-Archa**	**3.90**	**40**	Pn		**Pn**		**10 07 14.1**	**+2.5**
	3.8nm,0.3s,baz=221,slow=3.4,SNR=25								
AAK				Sn		**Sn**		**10 08 02.3**	**+4.7**
	5.9nm,0.3s,baz=248,slow=16,SNR=3.6								
AAK				Lg		Lg		10 08 12.8	
	2.8nm,0.3s,baz=346,slow=22,SNR=1.5								
AAK	**Ala-Archa**	**3.90**	**40**	⇑*i*P		**Pn**		**10 07 13.3**	**+1.6**
	baz=40								
AAK				⇑*i*S		**Sn**		**10 07 59.2**	**+1.6**
	baz=40								
AAK	**Ala-Archa**	**3.90**	**40**	P		**Pn**		**10 07 14.4**	**+2.7**
	SNR=18								
AAK	**Ala-Archa**	**3.90**	**40**	⇑Pn		**Pn**		**10 07 14.2**	**+2.5**
	6.1nm,0.3s								
AAK				⇓Pg		**Pb**		**10 07 23.4**	**+2.8**
	18nm,0.6s								
AAK				⇑Lg		Lg		10 08 13.5	
	22nm,0.5s								
FRU1	**Bishkek**	**4.09**	**40**	⇑*e*P		**Pn**		**10 07 16.6**	**+2.3**
	baz=39								
FRU1				⇑*i*S		**Sn**		**10 08 04.6**	**+2.4**
	baz=39								
KBK	**Karagaybulak**	**4.14**	**43**	⇓*e*P		**Pn**		**10 07 16.7**	**+1.6**
	baz=43								
KBK				⇓*e*S		**Sn**		**10 08 05.5**	**+1.8**
	baz=43								
KBK	**Karagaybulak**	**4.14**	**43**	P		**Pn**		**10 07 18.7**	**+3.6**
	SNR=16								
CHMS	**Chumysh**	**4.29**	**39**	⇑*e*P		**Pn**		**10 07 19.2**	**+2.2**
	baz=38								
CHMS				⇑*i*S		**Sn**		**10 08 09.3**	**+2.2**
	baz=38								
CHMS	**Chumysh**	**4.29**	**39**	P		**Pn**		**10 07 19.8**	**+2.8**
	SNR=9.8								
USP	**Ospenovka**	**4.38**	**35**	⇑*e*P		**Pn**		**10 07 20.1**	**+1.8**
	baz=34								
USP				⇑*i*S		**Sn**		**10 08 11.0**	**+1.6**
	baz=34								
USP	**Ospenovka**	**4.38**	**35**	P		**Pn**		**10 07 20.5**	**+2.2**
	SNR=28								
SGDS	**Sogindy**	**4.59**	**34**	Pg		**Pb**		**10 07 35.2**	**+2.9**
	8.9nm,0.7s								
SGDS				Lg		Lg		10 08 33.5	
	18nm,0.5s								
BOOM	**Boomskoye usch**	**4.60**	**51**	⇑*e*P		**Pn**		**10 07 23.4**	**+2.0**
	baz=51								
BOOM				⇑*i*S		**Sn**		**10 08 16.5**	**+1.5**
	baz=51								
TKM2	**Tokmak 2**	**4.67**	**45**	⇓*i*P		**Pn**		**10 07 24.0**	**+1.6**
	baz=45								
TKM2				⇓*i*S		**Sn**		**10 08 18.2**	**+1.4**
	baz=45								
TKM2	**Tokmak 2**	**4.67**	**45**	P		**Pn**		**10 07 25.1**	**+2.7**
	SNR=9.1								
TKM2	**Tokmak 2**	**4.67**	**45**	⇑Pn		**Pn**		**10 07 24.8**	**+2.3**
	17nm,0.5s								
TKM2				⇑Lg		Lg		10 08 37.9	
	21nm,0.7s								
KRBS	**Karabastau**	**5.26**	**39**	*e*P		**Pg**		**10 07 53.6**	**+1.2**
	6.8nm,0.5s								
KRBS				*e*S		**Sg**		**10 08 58.6**	**-2.0**
	16nm,0.9s								
KRBS	**Karabastau**	**5.26**	**39**	Pg		**Pg**		**10 07 48.9**	**-3.5**
	5.6nm,0.6s								
KRBS				Lg		Lg		10 08 57.1	
	16nm,0.9s								
IZV	**Izvestkoviy**	**5.32**	**50**	*e*P		**Pg**		**10 07 56.3**	**+2.7**
	15nm,0.6s								
IZV				*e*S		**Sg**		**10 09 01.0**	**-1.6**
	18nm,0.6s								
IZV	**Izvestkoviy**	**5.32**	**50**	Pg		**Pg**		**10 07 50.9**	**-2.7**
	9.1nm,0.6s								
IZV				Lg		Lg		10 09 01.0	
	18nm,0.6s								
TNSS	**Tian-Shan**	**5.52**	**51**	*e*P		**Pg**		**10 08 00.3**	**+2.9**
	4.5nm,0.5s								
TNSS				*e*S		**Sg**		**10 09 05.7**	**-3.3**
	5.9nm,0.5s								
TNSS	**Tian-Shan**	**5.52**	**51**	Pg		**Pg**		**10 07 53.7**	**-3.8**
	6.3nm,0.5s								
TNSS				Lg		Lg		10 09 06.1	
	5.9nm,0.5s								
MDOK	**Medeo**	**5.66**	**50**	*e*P		**Pg**		**10 07 59.5**	**-0.4**
	6.1nm,0.4s								
MDOK				*e*S		**Sg**		**10 09 09.3**	**-3.9**
	12nm,0.5s								
MDOK	**Medeo**	**5.66**	**50**	⇑Pn		**Pn**		**10 07 38.1**	**+2.2**
	3.3nm,0.4s								
MDOK				⇑Pg		**Pg**		**10 07 55.5**	**-4.5**
	6.0nm,0.6s								
MDOK				Lg		Lg		10 09 09.8	
	11nm,0.6s								
MDOK	**Medeo**	**5.66**	**50**	Pg		**Pg**		**10 07 56.1**	**-3.9**
	6.5nm,0.6s								
MDOK				Lg		Lg		10 09 09.3	
	12nm,0.5s								
KUU	**Kurty**	**5.73**	**41**	*e*P		**Pg**		**10 08 00.1**	**-1.4**
	3.8nm,0.3s								
KUU				*e*S		**Sg**		**10 09 09.6**	**-6.1**
	17nm,0.5s								
KUU	**Kurty**	**5.73**	**41**	Pg		**Pb**		**10 07 54.9**	**+3.1**
	2.1nm,0.2s								
KUU				Lg		Lg		10 09 08.2	
	17nm,0.5s								
KOTS	**Kotyrbulak**	**5.74**	**50**	*e*P		**Pg**		**10 08 01.1**	**-0.4**
	16nm,0.6s								
KOTS				*e*S		**Sg**		**10 09 12.0**	**-3.8**
	15nm,0.4s								
KOTS	**Kotyrbulak**	**5.74**	**50**	Pg		Pb		10 07 56.8	+4.9
	10nm,0.4s								
KOTS				Lg		Lg		10 09 11.3	
	15nm,0.4s								
BTLS	**Baital**	**5.76**	**21**	*e*P		**Pg**		**10 08 04.3**	**+2.3**
	6.5nm,0.6s								
BTLS				*e*S		**Sg**		**10 09 15.8**	**-0.8**
	22nm,0.7s								
BTLS	**Baital**	**5.76**	**21**	Pg		**Pb**		**10 07 56.4**	**+4.1**
	27nm,0.6s								
BTLS				Lg		Lg		10 09 09.7	
	22nm,0.7s								
MKAR	**Makanchi Array**	**10.81**	**45**	Pn		**Pn**		**10 08 44.1**	**-2.2**
	0.1nm,0.3s,baz=235,slow=12,SNR=2.9								
MKAR				Lg		Lg		10 11 56.0	
	0.1nm,0.3s,baz=238,slow=22,SNR=2.2								
KURBB	**Kurchatov Arra**	**12.10**	**23**	Pn		**Pn**		**10 09 01.1**	**-3.0**
	0.2nm,0.3s,baz=212,slow=13,SNR=2.1								
KURBB				Lg		Lg		10 12 28.2	
	0.0nm,0.3s,baz=213,slow=32,SNR=2.1								
AB31	**Akbulak array**	**12.41**	**324**	⇑Pn		**Pn**		**10 09 10.3**	**+2.0**
	1.2nm,0.6s,baz=139,slow=13,SNR=16								
AB31				⇑Sn		**Sn**		**10 11 21.1**	**-5.5**
	1.6nm,0.7s,baz=156,slow=25,SNR=4.7								
BVAR	**Borovoye Array**	**13.33**	**358**	Pn		**Pn**		**10 09 16.6**	**-4.2**
	0.1nm,0.3s,baz=226,slow=56,SNR=1.2								
BVAR				Lg		Lg		10 13 13.2	
	0.1nm,0.3s,baz=158,slow=28,SNR=2.1								
AKTO	**Aktyubinsk**	**14.13**	**324**	Pn		Pn		10 09 26.6	-5.1
	0.1nm,0.3s,baz=142,slow=13,SNR=1.8								
AKTO				Sn		Sn		10 11 57.5	-11
	0.1nm,0.3s,baz=200,slow=17,SNR=1.3								
AKTO				Lg		Lg		10 13 39.6	
	0.1nm,0.3s,baz=125,slow=13,SNR=1.1								
AKTO	**Aktyubinsk**	**14.13**	**324**	⇑Pn		**Pn**		**10 09 34.5**	**+2.8**
	2.3nm,0.7s								
ZALV	**Zalesovo Beam**	**17.02**	**29**	P		**Pn**		**10 10 08.4**	**-1.2**
	0.2nm,0.3s,baz=200,slow=12,SNR=1.9								
ARU	**Arti**	**18.66**	**338**	LR		LR		10 17 55.6	
	comp=Z,62nm,18.1s,baz=166,slow=38								
TORD	**Torodi Ar. Bea**	**65.90**	**267**	P		**P**		**10 16 54.9**	**-3.0**
	0.5nm,0.9s,baz=51,slow=5.0,SNR=2.4								
YKA	**Yellowknife Ar**	**78.04**	**3**	P		**P**		**10 18 09.2**	**-0.8**
	0.0nm,0.4s,baz=356,slow=5.6,SNR=1.2								

KRNET 31 10:06:37.4±0.1, 39°.60N×71°.01E, h20km, mb3.7, 10C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.48**	**342**	⇑*i*P		Pb		10 06 46.7	-0.5
	baz=42								
BTK				⇑*i*S		Sb		10 06 53.9	0.0
	baz=42								
DRK	**Karamyk**	**0.62**	**101**	⇑*i*P		Pb		10 06 49.5	-0.2
	baz=1.0								
DRK				⇑*i*S		Sb		10 06 58.2	0.0
	baz=1.0								
OHH	**Osh**	**1.64**	**55**	⇓*i*P		Pb		10 07 07.5	+0.5
	baz=55								
OHH				⇓*i*S		Sb		10 07 29.3	+2.0
	baz=55								
TRKS	**Terek-Say**	**1.93**	**3**	⇓*e*P		Pb		10 07 11.1	-0.9
	baz=4.0								
TRKS				⇓*i*S		Sb		10 07 35.8	+0.1
	baz=4.0								
ARSB	**Arslanbob**	**2.28**	**40**	⇑*e*P		Pb		10 07 17.0	-1.0
	baz=40								
ARSB				⇑*i*S		Sb		10 07 45.8	-0.1
	baz=40								
MNAS	**Manas**	**3.10**	**21**	⇑*e*P		Pn		10 07 28.1	+2.9
	baz=21								
MNAS				⇑*i*S		Sn		10 08 05.1	+3.4
	baz=21								
ARLS	**Aral**	**3.38**	**47**	⇑*i*P		Pn		10 07 32.4	+3.2
	baz=47								
ARLS				⇑*e*S		Sn		10 08 12.2	+3.5
	baz=47								
UCH	**Uchtor**	**3.73**	**44**	⇓*i*P		Pn		10 07 37.1	+2.9
	baz=44								
UCH				⇓*i*S		Sn		10 08 20.3	+2.5
	baz=44								

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*IDC **31** 10:07:49.7±3.6, 5°.05S×152°.94E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/42, mbtmp3.5/5, MS3.3/2, Ms1 3.3/2, ms1mx2.7/29, Error ellipse: s-maj=113.2km s-min=29.1km az=111.0*

ISC 31 10:07:56.1±2.5, 5°.1S±0°.3×152°.9E±0°.4, h43km, n9, σ0s18/7, mb3.3/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.09**	**233**	Sn		**Sn**		**10 10 56.5**	**-0.1**
	0.7nm,0.3s,baz=26,slow=12,SNR=2.7								
WRA	**Warramunga Arr**	**23.29**	**229**	P		**P**		**10 13 00.5**	**+0.2**
	0.6nm,0.7s,baz=53,slow=9.8,SNR=4.7								
ASAR	**Alice Springs**	**25.96**	**223**	P		**P**		**10 13 24.8**	**-0.1**
	1.0nm,0.8s,baz=55,slow=9.3,SNR=9.9								
FITZ	**Fitzroy Crossi**	**29.57**	**242**	P		**P**		**10 13 57.4**	**+0.3**
	0.9nm,0.6s,baz=50,slow=7.9,SNR=6.3								
RAO	**Raoul Island**	**36.60**	**134**	LR		LR		10 27 19.1	
	comp=

*INET **31** 10:29:37.9, 10°.09N×84°.08W, h15km, MW2.6*
UPA 31 10:29:37.0±3.7, 10°.11N×84°.31W, h1km±139km**, MW3.8, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDC	**Heredia**	**0.22**	**120**	*i* P	Pg	10 29 41.4	0.0
HDC				*e*S	Sg	10 29 45.3	+1.0
JTS	**Las Juntas de**	**0.66**	**286**	*i* P	Pn	10 29 52.5	-1.0
JTS				*e*S	Sg	10 29 59.3	+1.2
DRK0	**Durika**	**1.35**	**129**	*i* P	Pg	10 30 00.7	-2.2
DRK0				*e*S	Sg	10 30 18.7	-1.7
BRU2	**Volcan**	**2.07**	**129**	*e*P	Pn	10 30 13.3	+0.3
BRU2				*e*S	Sb	10 30 41.0	-0.8
BCO2	**Palmira**	**2.24**	**128**	*e*P	Pn	10 30 16.4	+1.0
BCO2				*e*S	Sb	10 30 45.7	-1.0

*IDC **31** 10:30:54.5±1.5, 5°.12S×152°.73E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/37, mbtmp3.7/6, Error ellipse: s-maj=38.0km s-min=29.2km az=98.0*
ISC 31 10:31:00.6±1.3, 5°.2S±0°.2×152°.8E±0°.2, h43km**, n8,** σ0**60/8, mb3.5/6, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.98**	**233**	Sn	**Sn**	**10 33 59.0**	**+0.5**
	1.4nm,0.3s,baz=96,slow=10,SNR=1.7						
DZM	**Mont Dzumac**	**21.39**	**143**	P	**P**	**10 35 45.2**	**+0.3**
	7.6nm,1.1s,baz=264,slow=15,SNR=1.1						
WRA	**Warramunga Arr**	**23.18**	**229**	P	**P**	**10 36 03.4**	**-0.3**
	0.6nm,0.5s,baz=54,slow=9.8,SNR=9.6						
ASAR	**Alice Springs**	**25.86**	**223**	P	**P**	**10 36 27.3**	**-1.1**
	0.2nm,0.4s,baz=58,slow=9.4,SNR=9.2						
FITZ	**Fitzroy Crossi**	**29.46**	**242**	P	**P**	**10 37 00.6**	**0.0**
	0.6nm,0.4s,baz=80,slow=5.9,SNR=1.7						
MKAR	**Makanchi Array**	**80.58**	**319**	P	**P**	**10 43 09.0**	**+0.3**
	0.2nm,0.6s,baz=98,slow=4.4,SNR=1.6						
ZALV	**Zalesovo Beam**	**81.44**	**326**	P	**P**	**10 43 13.0**	**0.0**
	1.2nm,0.7s,baz=130,slow=6.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**150.39**	**288**	PKPbc	**PKPbc**	**10 50 48.6**	**+0.2**
	0.9nm,0.7s,baz=53,slow=1.8,SNR=4.5						

IDC 31 10:46:00.1±3.9, 5°.34S×153°.17E, h0km**, mb3.0/2, mb1 3.3/2, mb1mx3.1/26, mbtmp3.0/2, Error ellipse: s-maj=168.2km s-min=53.4km az=123.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37**	**230**	P	P	10 51 10.2	-0.3
	0.2nm,0.4s,baz=54,slow=9.7,SNR=5.1						
ASAR	**Alice Springs**	**26.00**	**224**	P	P	10 51 35.0	0.0
	0.2nm,0.7s,baz=59,slow=9.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.82**	**287**	PKPbc	PKPbc	11 05 55.7	0.0
	0.7nm,1.0s,baz=97,slow=1.6,SNR=2.4						

*IDC **31** 10:57:29.6±1.8, 5°.33S×153°.14E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/26, mbtmp3.7/10, ML1.7/1, Error ellipse: s-maj=61.4km s-min=18.9km az=122.0*
ISC 31 10:57:34.6±1.7, 5°.4S±0°.3×153°.2E±0°.3, h37km**, n11,** σ0**66/12, mb3.7/9, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.18**	**236**	Pn	**Pn**	**10 59 16.4**	**-0.7**
	0.7nm,0.3s,baz=131,slow=18,SNR=1.6						
PMG				Sn	**Sn**	**11 00 38.2**	**+0.7**
	4.0nm,0.3s,baz=188,slow=20,SNR=10						
WRA	**Warramunga Arr**	**23.34**	**230**	P	**P**	**11 02 40.0**	**+0.1**
	1.2nm,0.5s,baz=54,slow=9.8,SNR=20						
ASAR	**Alice Springs**	**25.97**	**224**	P	**P**	**11 03 04.6**	**+0.5**
	0.7nm,0.7s,baz=58,slow=9.1,SNR=13						
FITZ	**Fitzroy Crossi**	**29.72**	**243**	P	**P**	**11 03 37.1**	**-0.5**
	1.2nm,0.6s,baz=71,slow=5.5,SNR=7.6						
PETK	**Petropavlovsk-**	**58.44**	**3**	P	**P**	**11 07 26.3**	**-0.2**
	1.9nm,0.9s,baz=161,slow=6.8,SNR=1.7						
CMAR	**Chiang Mai Arr**	**58.51**	**295**	P	**P**	**11 07 28.6**	**+0.9**
	0.5nm,0.4s,baz=110,slow=5.0,SNR=1.9						
SONM	**Songino Array**	**67.06**	**328**	P	**P**	**11 08 23.5**	**-0.8**
	0.3nm,0.7s,baz=144,slow=4.8,SNR=2.7						
MKAR	**Makanchi Array**	**81.06**	**319**	P	**P**	**11 09 46.5**	**+0.5**
	0.2nm,0.5s,baz=92,slow=4.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**81.89**	**326**	P	**P**	**11 09 49.8**	**-0.4**
	0.7nm,0.4s,baz=108,slow=8.3,SNR=6.1						
ILAR	**Eielson Array**	**82.58**	**22**	P	**P**	**11 09 54.2**	**+0.6**
	0.2nm,0.5s,baz=255,slow=5.6,SNR=2.2						
TORD	**Torodi Ar. Bea**	**150.88**	**287**	PKPbc	**PKiKP**	**11 17 24.9**	**-0.1**
	2.1nm,0.8s,baz=53,slow=1.9,SNR=10						

*IDC **31** 11:15:59.6±0.8, 4°.82S×152°.41E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.0/35, mbtmp4.0/13, ML1.6/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/34, Error ellipse: s-maj=28.4km s-min=16.3km az=119.0*
ISC 31 11:16:07.0±0.8, 4°.9S±0°.1×152°.4E±0°.1, h55km**, n15,** σ1**11/15, mb3.8/12, MS3.2/3, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.84**	**229**	Pn	**Pn**	**11 17 42.4**	**-2.4**
	0.6nm,0.3s,baz=172,slow=7.1,SNR=3.6						
PMG				Sn	**Sn**	**11 19 04.0**	**+2.6**
	1.5nm,0.3s,baz=111,slow=22,SNR=2.6						
PMG				LR	LR	11 20 05.0	
	comp=Z,109nm,20.2s,baz=84,slow=35						
HNR	**Honiara**	**8.72**	**121**	LR	LR	11 21 49.7	
	comp=Z,147nm,19.5s,baz=290,slow=40						
DZM	**Mont Dzumac**	**21.80**	**143**	P	**P**	**11 20 54.5**	**-0.1**
	4.4nm,0.8s,baz=319,slow=19,SNR=1.1						
DZM				LR	LR	11 28 24.2	
	comp=Z,85nm,19.6s,baz=244,slow=34						
WRA	**Warramunga Arr**	**23.06**	**228**	P	**P**	**11 21 07.8**	**-0.1**
	1.6nm,0.4s,baz=54,slow=9.9,SNR=35						
WRA				LR	LR	11 30 23.7	
	comp=Z,42nm,19.9s,baz=165,slow=37						
ASAR	**Alice Springs**	**25.79**	**222**	P	**P**	**11 21 33.6**	**+0.6**
	0.5nm,0.5s,baz=58,slow=9.2,SNR=18						
STKA	**Stephens Creek**	**28.66**	**199**	P	**P**	**11 21 58.8**	**+0.1**
	0.6nm,0.4s,baz=350,slow=17,SNR=1.5						
FITZ	**Fitzroy Crossi**	**29.25**	**241**	P	**P**	**11 22 03.8**	**-0.2**
	2.1nm,0.4s,baz=53,slow=8.3,SNR=12						
FITZ				LR	LR	11 35 41.4	
	comp=Z,64nm,19.7s,baz=341,slow=40						
SONM	**Songino Array**	**66.22**	**328**	P	**P**	**11 26 49.5**	**+0.2**
	0.3nm,0.4s,baz=143,slow=6.6,SNR=2.5						
MKAR	**Makanchi Array**	**80.16**	**319**	P	**P**	**11 28 11.8**	**+0.3**
	0.5nm,0.6s,baz=105,slow=7.5,SNR=7.0						
ZALV	**Zalesovo Beam**	**81.04**	**326**	P	**P**	**11 28 16.2**	**+0.3**
	1.4nm,0.6s,baz=93,slow=5.3,SNR=5.8						
ILAR	**Eielson Array**	**82.43**	**22**	P	**P**	**11 28 22.4**	**-0.6**
	5.3nm,0.8s,baz=251,slow=5.3,SNR=64						
KURBB	**Kurchatov Arra**	**83.66**	**322**	P	**P**	**11 28 29.2**	**-0.5**
	0.5nm,0.7s,baz=112,slow=4.0,SNR=6.9						
NVAR	**Mina Array Bea**	**92.47**	**52**	P	**P**	**11 29 13.7**	**+1.1**
	0.2nm,0.6s,baz=251,slow=5.6,SNR=3.8						
YKA	**Yellowknife Ar**	**95.72**	**28**	P	**P**	**11 29 26.8**	**+0.1**
	1.0nm,0.8s,baz=271,slow=4.5,SNR=22						
TORD	**Torodi Ar. Bea**	**149.97**	**288**	PKPbc	**PKPbc**	**11 35 52.2**	**-0.2**
	4.2nm,0.7s,baz=68,slow=2.5,SNR=18						

*KRNET **31** 11:20:20.9±0.1, 40°.94N×69°.63E, mb2.5*
ISC 31 11:20:20.6±2.5, 40°.95N±0°.06×69°.6E±0°.1, h10km**, n8,** σ2**26/15, 12C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.27**	**134**	⇓*i*P	**Pg**	**11 20 44.7**	**-0.2**
	baz=34						
BTK				⇓*i*S	**Sn**	**11 21 01.7**	**+0.2**
	baz=34						
TRKS	**Terek-Say**	**1.27**	**62**	⇑*i*P	**Pb**	**11 20 44.5**	**-0.3**
	baz=65						
TRKS				⇑*i*S	**Sn**	**11 21 02.0**	**+0.1**
	baz=65						
KK31	**Karatay Array**	**2.25**	**17**	Pn	**Pg**	**11 21 03.4**	**-0.4**
	1.5nm,0.3s,baz=197,slow=16,SNR=34						
KK31				⇓*i*Lg	Lg	11 21 33.8	
	3.4nm,0.4s,baz=209,slow=28,SNR=16						
OHH	**Osh**	**2.43**	**99**	⇑*i*P	**Pb**	**11 21 02.7**	**-1.8**
	baz=99						
OHH				⇑*i*S	**Sb**	**11 21 33.5**	**-1.0**
	baz=99						
ARSB	**Arslanbob**	**2.56**	**80**	⇑*i*P	**Pb**	**11 21 04.4**	**-2.2**
	baz=80						
ARSB				⇑*i*S	**Sb**	**11 21 37.0**	**-1.2**
	baz=80						
MNAS	**Manas**	**2.64**	**53**	⇑*e*P	**Pb**	**11 21 05.9**	**-2.2**
	baz=53						
MNAS				⇑*i*S	**Sb**	**11 21 38.6**	**-2.0**
	baz=53						
AML	**Almayashu**	**3.27**	**67**	⇑*e*P	**Pb**	**11 21 15.4**	**-3.5**
	baz=67						
AML				⇑*i*S	**Sn**	**11 21 54.5**	**+3.1**
	baz=67						
ARLS	**Aral**	**3.64**	**74**	⇑*i*P	**Pn**	**11 21 20.3**	**+3.1**
	baz=74						
ARLS				⇑*i*S	**Sn**	**11 22 03.4**	**+3.1**
	baz=74						

*IDC **31** 11:50:30.7±1.3, 1°.57N×127°.24E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/40, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=94.9km s-min=18.4km az=70.0*
*DJA **31** 11:50:43.7±0.5, 1°.N±4°×12°.7E±°, h114km±6km, M4.2/12, mb4.3/6, mB4.9/2, MLv4.2/12, Mw(mB)4.2/2*
ISC 31 11:50:43.1±1.0, 1°.43N±0°.09×127°.05E±0°.09, h103km**, n17,** σ1**53/17, mb3.9/5, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.73**	**154**	P	**Pn**	**11 51 04.0**	**+3.0**
SGSI	**Sangihe**	**2.71**	**326**	P	**Pn**	**11 51 25.8**	**+0.8**
KMSI	**Cibinong**	**3.19**	**254**	P	**Pn**	**11 51 32.9**	**+1.5**
SANI	**Sanana**	**3.62**	**197**	P	**Pn**	**11 51 37.5**	**+0.3**
GTOI	**Gorontalo**	**4.12**	**259**	P	**Pn**	**11 51 46.5**	**+2.6**
NLAI	**Namlea**	**4.64**	**179**	P	**Pn**	**11 51 52.5**	**+1.5**
LUWI	**Luwuk**	**4.94**	**240**	P	**Pn**	**11 51 56.3**	**+1.3**
MRSI	**Marisa**	**5.20**	**260**	P	**Pn**	**11 51 59.7**	**+1.2**
	0.2nm31nm,0.5s						
APSI	**Ampana**	**5.88**	**247**	P	**Pn**	**11 52 08.9**	**+1.1**
	0.1nm615nm18nm,0.6s						
TTSI	**Tana Toraja**	**8.49**	**238**	P	**Pn**	**11 52 44.1**	**+0.8**
	2µm22nm,0.8s						
SPSI	**Sidrap Palu**	**9.04**	**234**	P	**Pn**	**11 52 52.4**	**+1.6**
	44nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.46**	**184**	P	**P**	**11 55 01.2**	**-0.6**
	1.0nm,0.3s,baz=12,slow=9.6,SNR=12						
WRA	**Warramunga Arr**	**22.41**	**162**	P	**P**	**11 55 32.3**	**-1.1**
	2.8nm,0.3s,baz=340,slow=11,SNR=81						
ASAR	**Alice Springs**	**25.82**	**165**	P	**P**	**11 56 04.2**	**-0.7**
	0.6nm,0.3s,baz=341,slow=8.4,SNR=40						
STKA	**Stephens Creek**	**35.88**	**159**	P	**P**	**11 57 32.7**	**-0.6**
	0.8nm,0.5s,baz=334,slow=13,SNR=3.8						
SONM	**Songino Array**	**49.56**	**342**	P	**P**	**11 59 22.4**	**-1.3**
	0.3nm,0.5s,baz=161,slow=7.7,SNR=2.8						
MKAR	**Makanchi Array**	**59.62**	**326**	P	**P**	**12 00 36.8**	**+0.5**
	0.9nm,0.5s,baz=115,slow=7.5,SNR=15						

*NEIC **31** 12:03:19.5±2.6, 5°.1S±0°.1×153°.9E±0°.1, h35km±2km, mb4.1/5, Error ellipse: s-maj=18.8km s-min=17.5km az=120.0*
*IDC **31** 12:03:23.4±3.1, 4°.58S×152°.27E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/39, mbtmp3.9/6, Error ellipse: s-maj=119.1km s-min=22.2km az=116.0*
ISC 31 12:03:23.5±1.6, 5°.1S±0°.1×153°.4E±0°.2, h35km**, n18,** σ1**68/17, mb4.0/9, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.54**	**308**		**Pn**	**12 03 50.1**	**+1.6**
PMG	**Port Moresby**	**7.49**	**235**	Pn	**Pn**	**12 05 10.8**	**+0.5**
	1.0nm,0.3s,baz=67,slow=4.6,SNR=4.0						
PMG	**Port Moresby**	**7.49**	**235**	Pn	**Pn**	**12 05 12.4**	**+2.1**
PATS	**Pohnpei**	**12.87**	**23**	Pn	Pn	12 06 15.9	-8.1
WB0	**Warramunga Arr**	**23.52**	**230**	P	**P**	**12 08 28.9**	**-1.9**
WB0				IAmb	IAmb	12 08 34.1	
	comp=Z,9.6nm,1.5s						
WR0	**Warramunga Arr**	**23.52**	**230**	P	**P**	**12 08 30.0**	**-0.7**
WRAB	**Tennant Creek**	**23.65**	**230**	P	**P**	**12 08 31.9**	**-0.1**
WRAB				IAmb	IAmb	12 08 50.8	
	comp=Z,6.4nm,1.2s						
WB2	**Warramunga Arr**	**23.66**	**230**	P	**P**	**12 08 30.3**	**-1.7**
WB2				IAmb	IAmb	12 08 51.6	
	comp=Z,7.3nm,1.2s						
WRA	**Warramunga Arr**	**23.67**	**230**	P	**P**	**12 08 32.1**	**0.0**
	comp=Z,1.2nm,0.7s,baz=54,slow=9.6,SNR=8.5						
WRA	**Warramunga Arr**	**23.67**	**230**	P	**P**	**12 08 31.7**	**-0.4**
ASAR	**Alice Springs**	**26.30**	**224**	P	**P**	**12 08 58.4**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=55,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**26.30**	**224**	P	**P**	**12 08 55.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.01**	**242**	P	**P**	**12 09 28.4**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=70,slow=6.9,SNR=8.1						
KSAR	**Wonju Array Be**	**48.57**	**333**	P	**P**	**12 12 00.3**	**-3.2**
PETK	**Petropavlovsk-**	**58.14**	**3**	P	**P**	**12 13 16.4**	**+2.8**
	comp=Z,2.1nm,0.8s,baz=183,slow=7.1,SNR=7.1						
MKAR	**Makanchi Array**	**80.96**	**319**	P	**P**	**12 15 34.3**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=92,slow=7.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**81.75**	**326**	P	**P**	**12 15 37.4**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=122,slow=7.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.96**	**288**	PKPbc	**PKiKP**	**12 23 14.5**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=62,slow=2.5,SNR=5.8						

*IDC **31** 12:04:19.9±0.8, 5°.46S×152°.73E, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.1/41, mbtmp4.1/18, ML2.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/39, Error ellipse: s-maj=26.2km s-min=14.3km az=116.0*
*NEIC **31** 12:04:24.2±2.6, 5°.51S±0°.06×152°.95E±0°.09, h35km±2km, mb4.3/15, Error ellipse: s-maj=15.2km s-min=9.3km az=79.0*
ISC 31 12:04:24.5±0.5, 5°.52S±0°.06×152°.92E±0°.08, h37km**, n40,** σ1**37/41, mb4.0/20, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.52**	**330**	Pn	**Pn**	**12 04 49.9**	**+0.8**
PMG	**Port Moresby**	**6.89**	**236**	Pn	**Pn**	**12 06 02.1**	**-0.9**
	2.9nm,0.3s,baz=54,slow=11,SNR=6.1						
PMG				Sn	**Sn**	**12 07 18.8**	**-1.4**
	3.5nm,0.3s,baz=57,slow=13,SNR=7.3						
PMG				LR	LR	12 08 13.9	
	comp=Z,96nm,21.6s,baz=68,slow=34						
PMG	**Port Moresby**	**6.89**	**236**		**Pn**	**12 06 04.1**	**+1.1**
PMG					**Sn**	**12 07 21.6**	**+1.3**
PATS	**Pohnpei**	**13.40**	**24**	Pn	**P**	**12 07 37.4**	**-3.7**
CTA	**Charters Tower**	**15.87**	**204**	Pn	**Pn**	**12 08 03.7**	**-1.5**
	0.1nm,0.3s,baz=46,slow=4.8,SNR=2.8						
CTAO	**Charters Tower**	**15.87**	**204**	Pn	**Pn**	**12 08 05.7**	**+0.6**
CTAO				IAmb	IAmb	12 08 54.9	
	comp=Z,30nm,1.5s						
SANVU	**Saraoutou**	**17.15**	**126**		**Pn**	**12 08 22.5**	**+1.0**
SANVU				IAmb	IAmb	12 08 54.7	
	comp=Z,101nm,1.4s						
DZM	**Mont Dzumac**	**21.02**	**143**	P	**P**	**12 09 06.8**	**+1.6**
	comp=Z,14nm,1.1s,baz=33,slow=12,SNR=2.2						
DZM	**Mont Dzumac**	**21.02**	**143**	P	**P**	**12 09 05.2**	**0.0**
DZM				IAmb	IAmb	12 09 20.3	
	comp=Z,56nm,1.4s						
WB0	**Warramunga Arr**	**22.92**	**230**	P	**P**	**12 09 23.4**	**-2.0**
WB0				IAmb	IAmb	12 09 44.2	
	comp=Z,6.9nm,0.9s						
WR0	**Warramunga Arr**	**22.92**	**230**	P	**P**	**12 09 23.5**	**-1.9**
WR0				IAmb	IAmb	12 09 29.8	
	comp=Z,27nm,1.6s						
WRAB	**Tennant Creek**	**23.05**	**230**	P	**P**	**12 09 23.9**	**-2.9**
WRAB				IAmb	IAmb	12 09 40.0	
	comp=Z,6.7nm,0.9s						
WB2	**Warramunga Arr**	**23.06**	**230**	P	**P**	**12 09 24.8**	**-2.1**
WB2				IAmb	IAmb	12 09 45.5	
	comp=Z,9.4nm,0.9s						
WRA	**Warramunga Arr**	**23.07**	**230**	P	**P**	**12 09 25.9**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=55,slow=10.0,SNR=8.7						
WRA	**Warramunga Arr**	**23.07**	**230**	P	**P**	**12 09 26.7**	**-0.2**
AS31	**Alice Springs**	**25.70**	**224**	P	**P**	**12 09 51.0**	**-0.5**
ASAR	**Alice Springs**	**25.71**	**224**	P	**P**	**12 09 51.6**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=57,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**25.71**	**224**	P	**P**	**12 09 50.1**	**-1.3**
STKA	**Stephens Creek**	**28.28**	**201**	P	**P**	**12 10 15.2**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=0.8,slow=13,SNR=4.3						
STKA	**Stephens Creek**	**28.28**	**201**	P	**P**	**12 10 15.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**29.42**	**243**	P	**P**	**12 10 23.9**	**-0.8**
	comp=Z,2.3nm,0.5s,baz=37,slow=7.2,SNR=9.4						
FITZ	**Fitzroy Crossi**	**29.42**	**243**	P	**P**	**12 10 24.2**	**-0.6**
FITZ				IAmb	IAmb	12 10 40.4	
	comp=Z,5.0nm,0.8s						
FORT	**Forrest**	**34.31**	**220**	P	**P**	**12 11 08.0**	**+0.5**
AFI	**Afiamalu**	**35.74**	**106**	P	**P**	**12 11 17.7**	**-2.5**
KSRS	**Korea Array**	**48.69**	**333**	P	**P**	**12 13 05.2**	**0.0**
	comp=Z,0.5nm,0.6s,baz=137,slow=8.4,SNR=2.4						
ASAJ	**Asahikawa**	**50.28**	**350**	P	**P**	**12 13 16.9**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=336,slow=20,SNR=1.4						
CMAR	**Chiang Mai Arr**	**58.29**	**296**	P	**P**	**12 14 15.7**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=131,slow=4.1,SNR=1.7						
PETK	**Petropavlovsk-**	**58.55**	**3**	P	**P**	**12 14 17.7**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=163,slow=5.3,SNR=5.0						
MA2	**Magadan**	**64.91**	**359**	P	**P**	**12 15 00.5**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=172,slow=14,SNR=3.5						
SONM	**Songino Array**	**66.99**	**328**	P	**P**	**12 15 14.6**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=153,slow=5.5,SNR=4.6						
SONM	**Songino Array**	**66.99**	**328**	IAmb	IAmb	12 15 28.2	
	comp=Z,1.5nm,1.2s						
MKAR	**Makanchi Array**	**80.94**	**319**	P	**P**	**12 16 35.3**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=101,slow=6.3,SNR=7.4						
MKAR	**Makanchi Array**	**80.94**	**319**	P	**P**	**12 16 34.6**	**-0.6**
ZALV	**Zalesovo Beam**	**81.81**	**326**	P	**P**	**12 16 39.3**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=116,slow=6.6,SNR=2.8						
ILAR	**Eielson Array**	**82.78**	**22**	P	**P**	**12 16 45.2**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=247,slow=4.8,SNR=11						
ILAR	**Eielson Array**	**82.78**	**22**	P	**P**	**12 16 43.9**	**-0.5**
NVAR	**Mina Array Bea**	**92.44**	**52**	P	**P**	**12 17 34.3**	**+2.3**
	comp=Z,0.3nm,0.8s,baz=266,slow=5.2,SNR=2.7						
YKA	**Yellowknife Ar**	**96.00**	**28**	P	**P**	**12 17 49.5**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=270,slow=4.5,SNR=9.5						
TORD	**Torodi Ar. Bea**	**150.63**	**287**	PKPbc	**PKPbc**	**12 24 13.8**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=71,slow=1.1,SNR=2.6						
DBIC	**Dimbokro**	**157.87**	**274**	PKPab	**PKPab**	**12 24 50.9**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=245,slow=14,SNR=1.3						

*NEIC **31** 12:10:40.5±1.6, 10°.96S±0°.06×162°.49E±0°.04, h26km±1km, mb5.7/383, Ms_20 5.8/832, Mwb5.5/56, Mww5.6, Mwc5.7(GCMT), Error ellipse: s-maj=10.7km s-min=6.7km az=177.0*
*MOS **31** 12:10:41.0±0.8, 10°.87S×162°.38E, h39km, mb5.9/57, MS5.7/26, Error ellipse: s-maj=7.0km s-min=5.8km az=89.5*
*NEIC **31** 12:10:42.2, 10°.94S×162°.49E, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.03; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$-0.46; $M_{r\theta}$-0.15; $M_{\theta\phi}$1.49; $M_{\phi r}$-1.29; Fault plane solution: $M_0$2.17000×10^{17} NP1:ϕ_s168.25000°, δ70.51000°, λ131.75000°. NP2:ϕ_s278.75000°, δ45.31000°, λ27.99000°. Principal axes: T 2.1136, Plg47.0000°, Azm122.0000°; N 0.1048, Plg39.0000°, Azm332.0000°; P -2.2184, Plg15.0000°, Azm229.0000°;*
*NEIC **31** 12:10:44, 10°.96S×162°.43E, h39km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.85; $M_{\theta\theta}$-1.52; $M_{\phi\phi}$-0.33; $M_{r\theta}$-0.61; $M_{\theta\phi}$2.83; $M_{\phi r}$-2.19; Fault plane solution: $M_0$4.01000×10^{17} NP1:ϕ_s274.00000°, δ52.00000°, λ29.00000°. NP2:ϕ_s165.00000°, δ68.00000°, λ138.00000°. Principal axes: T 4.0461, Plg45.0000°, Azm123.0000°; N -0.0682, Plg44.0000°, Azm322.0000°; P -3.9778, Plg10.0000°, Azm223.0000°;*
*GCMT **31** 12:10:44.5±0.2, 11°.00S±0°.01×162°.36E±0°.01, h38km±1km, MW5.7/114, Moment Tensor Solution. s108,r187; s114,c179; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}1.61±.06; $M_{\theta\theta}$-1.14±.07; $M_{\phi\phi}$-0.47±.06; $M_{r\theta}$-0.45±.10; $M_{\theta\phi}$2.67±.05; $M_{\phi r}$-2.47±.11; Best double couple: $M_0$3.93300×10^{17} NP1:ϕ_s276.00000°, δ47.00000°, λ25.00000°. NP2:ϕ_s168.00000°, δ72.00000°, λ134.00000°. Principal axes: T 4.0070, Plg44.0000°, Azm122.0000°; N -0.1510, Plg42.0000°, Azm332.0000°; P -3.8600, Plg15.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **31** 12:10:45.0±0.0, 10°.81S×162°.52E, h50km, mB5.5/51, mb5.1/72, Ms5.8/63, Ms7 5.7/59*
*NEIC **31** 12:10:46, 10°.91S×162°.35E, h40km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.63; $M_{\theta\theta}$-0.92; $M_{\phi\phi}$-0.71; $M_{r\theta}$-0.43; $M_{\theta\phi}$1.67; $M_{\phi r}$-2.38; Fault plane solution: $M_0$3.26000×10^{17} NP1:ϕ_s284.00000°, δ37.00000°, λ31.00000°. NP2:ϕ_s169.00000°, δ72.00000°, λ123.00000°. Principal axes: T 3.4865, Plg51.0000°, Azm117.0000°; N -0.5079, Plg32.0000°, Azm337.0000°; P -2.9786, Plg20.0000°, Azm234.0000°;*
*IDC **31** 12:10:46.2±1.6, 10°.98S×162°.40E, h75km±13km, mb5.1/37, mb1 5.2/42, mb1mx5.2/46, mbtmp5.4/42, MS5.2/5, Ms1 5.2/5, ms1mx4.7/35 Error ellipse: s-maj=11.0km s-min=8.2km az=69

PATS IAmb IAmb 12 15 06.7
comp=Z,779nm,0.9s
COEN Coen 19.13 259 Pn 12 15 05.2 +1.8
COEN IAmb IAmb 12 15 08.7
comp=Z,549nm,1.1s
RMQ Roma 20.16 218 P Pn 12 15 16.2 +0.7
baz=20,SNR=112
KWAJ Kwajalein Atol 20.31 15 P **P 12 15 16.1 +1.1**
KWAJ pmax pmax
comp=Z,3µm,1.3s
KWAJ Kwajalein Atol 20.31 15 P **P 12 15 16.1 +1.1**
KWAJ Kwajalein Atol 20.31 15 P Pn 12 15 16.6 -0.7
LHI Lord Howe Isla 20.68 188 P Pn 12 15 20.4 -1.2
LHI IAmb IAmb 12 15 46.0
comp=Z,268nm,1.3s
LHI Lord Howe Isla 20.68 188 P Pn 12 15 22.7 +1.1
ARMA Armidale 21.82 206 P **P 12 15 33.4 +2.1**
baz=22,SNR=43
ARMA Armidale 21.82 206 P **P 12 15 32.8 +1.5**
QLP Quilpie 23.20 226 P **P 12 15 46.3 +0.6**
baz=23,SNR=14
JAY Jayapura 23.24 290 P **P 12 15 44.7 -1.6**
comp=Z,37nm,0.7s,baz=94,slow=0.2,SNR=14
JAY Jayapura 23.24 290 P **P 12 15 43.9 -2.4**
comp=Z,2µmcomp=Z,133nm,1.2s
GENI Genyem 23.71 289 P **P 12 15 57.7 +7.0**
QIS Mount Isa 24.00 244 P **P 12 15 53.0 -0.3**
baz=24,SNR=103
MGCD Mangrove Creek 24.47 204 P **P 12 15 59.8 +2.3**
baz=25,SNR=28
RIV Riverview 25.00 203 P **P 12 16 05.1 +2.8**
baz=25,SNR=6.4
CMSA Cobar Meteorol 25.70 215 P **P 12 16 09.7 +1.0**
baz=26,SNR=175
RAO Raoul Island 25.75 138 P **P 12 16 10.7 +1.6**
comp=Z,349nm,0.7s,baz=254,slow=20,SNR=3.5
RAO LR LR 12 24 30.1
comp=Z,5µm,20.3s,baz=325,slow=32
RAO Raoul Island 25.75 138 P **P 12 16 11.2 +2.0**
RAO pmax pmax
comp=Z,2µm,1.6s
RAO Raoul Island 25.75 138 P **P 12 16 11.2 +2.0**
RAO Raoul Island 25.75 138 P **P 12 16 12.0 +2.8**
OUZ Omahuta 26.13 159 P **P 12 16 14.5 +1.9**
OUZ IAmb IAmb 12 16 19.1
comp=Z,110nm,0.9s
YNG Young 26.55 207 P **P 12 16 18.5 +2.1**
baz=27,SNR=11
KNTN Kanton 26.81 74 P **P 12 16 18.9 -0.1**
KNTN IAmb IAmb 12 17 14.8
comp=Z,138nm,1.1s
KNTN Kanton 26.81 74 P **P 12 16 18.6 -0.4**
CNB Canberra Magne 27.01 204 P **P 12 16 22.7 +2.2**
baz=27,SNR=22
CAN Canberra 27.16 205 P **P 12 16 22.9 +0.9**
CAN pmax pmax
comp=Z,44nm,1.0s
CAN MLR MLR
comp=Z,4µm,19.0s
CAN Canberra 27.16 205 P **P 12 16 22.9 +0.9**
BAKI Biak 27.99 289 P P 12 16 38.7 +9.2
WR0 Warramunga Arr 28.37 248 P **P 12 16 31.5 -1.4**
WR0 IAmb IAmb 12 16 56.6
comp=Z,102nm,0.9s
STKA Stephens Creek 28.38 220 P **P 12 16 33.7 +0.9**
comp=Z,39nm,0.7s,baz=18,slow=8.4,SNR=73
STKA Stephens Creek 28.38 220 P **P 12 16 33.7 +0.9**
baz=28,SNR=44
STKA Stephens Creek 28.38 220 P **P 12 16 33.3 +0.4**
WR9 Warramunga Arr 28.39 248 IAMs_20 IAMs_20 12 28 11.2
comp=Z,17µm,19.0s
WR8 Warramunga Arr 28.41 248 IAMs_20 IAMs_20 12 28 10.5
comp=Z,17µm,19.0s
WR7 Warramunga Arr 28.43 248 IAMs_20 IAMs_20 12 28 12.1
comp=Z,16µm,18.0s
WB0 Warramunga Arr 28.46 249 P **P 12 16 33.0 -0.7**
WB0 IAmb IAmb 12 16 34.2
comp=Z,123nm,0.8s
WB9 Warramunga Arr 28.48 249 IAMs_20 IAMs_20 12 28 10.3
comp=Z,16µm,18.0s
WB6 Warramunga Arr 28.51 249 IAMs_20 IAMs_20 12 28 12.1
comp=Z,16µm,18.0s
WR3 Warramunga Arr 28.51 248 IAMs_20 IAMs_20 12 28 12.2
comp=Z,16µm,18.0s
WB3 Warramunga Arr 28.53 248 IAMs_20 IAMs_20 12 28 13.8
comp=Z,16µm,18.0s
WRAB Tennant Creek 28.54 248*ceP* **P 12 16 33.6 -0.8**
WRAB pmax pmax
comp=Z,66nm,0.8s
WRAB Tennant Creek 28.54 248 P **P 12 16 33.4 -1.0**
WRAB IAmb IAmb 12 16 58.2
comp=Z,129nm,1.1s
WB2 Warramunga Arr 28.54 248 P **P 12 16 33.4 -1.0**
WB2 IAmb IAmb 12 16 58.3
comp=Z,142nm,1.0s
WRA Warramunga Arr 28.55 248 P **P 12 16 33.8 -0.7**
comp=Z,70nm,0.8s,baz=78,slow=9.2,SNR=252
WRA Warramunga Arr 28.55 248 *i* P **P 12 16 33.7 -0.8**
WRA pmax pmax
comp=Z,70nm,0.8s
WRA Warramunga Arr 28.55 248 P **P 12 16 32.4 -2.1**
KDU Kakadu 29.46 264 P **P 12 16 41.3 -1.2**
baz=29,SNR=26
HIZ Hauiti 29.53 160 P **P 12 16 43.1 +0.1**
HIZ IAmb IAmb 12 16 47.9
comp=Z,210nm,0.9s
H11S2 WAKE ISLAND Hy 29.59 8 T T 12 47 33.4
baz=188,slow=76,SNR=5988
H11S3 WAKE ISLAND Hy 29.59 8 T T 12 47 38.1
baz=188,slow=76,SNR=276
H11S1 WAKE ISLAND Hy 29.61 8 T T 12 47 39.3
baz=188,slow=76,SNR=4074
MXZ Matakaoa Point 30.01 154 P **P 12 16 47.6 +0.4**
AS31 Alice Springs 30.02 241 P **P 12 16 46.5 -1.0**
ASAR Alice Springs 30.02 241 P **P 12 16 46.5 -1.0**
comp=Z,76nm,0.8s,baz=69,slow=9.7,SNR=730
ASAR P3KPbc 12 48 42.0
comp=Z,1.3nm,0.9s,baz=241,slow=4.4,SNR=8.2
ASAR Alice Springs 30.02 241 P **P 12 16 45.8 -1.8**
URZ Urewera 30.12 157 P **P 12 16 50.3 +2.1**
comp=Z,45nm,0.8s,baz=120,slow=24,SNR=34
URZ LR LR 12 27 19.7
comp=Z,3µm,18.8s,baz=144,slow=33
URZ Urewera 30.12 157 P **P 12 16 49.9 +1.8**
URZ IAmb IAmb 12 17 01.0
comp=Z,90nm,1.0s
TOO Toolangi 30.57 207 P **P 12 16 54.3 +2.1**
baz=31,SNR=50
TOO Toolangi 30.57 207 P **P 12 16 53.9 +1.7**
TOO pmax pmax
comp=Z,87nm,0.9s
TOO MLR MLR
comp=Z,5µm,19.0s
TOO Toolangi 30.57 207 P **P 12 16 53.9 +1.7**
TOO IAmb IAmb 12 16 56.4
comp=Z,87nm,0.8s
BKZ Black Stump Fm 30.69 158 P **P 12 16 54.9 +1.7**
MTN Manton Dam 30.77 263 P **P 12 16 54.2 0.0**
baz=31,SNR=18
MTN Manton Dam 30.77 263 P **P 12 16 52.7 -1.5**
MTN IAmb IAmb 12 17 03.3
comp=Z,97nm,1.1s
H11N1 WAKE ISLAND Hy 30.82 8 T T 12 49 08.8
baz=188,slow=76,SNR=3339
H11N3 WAKE ISLAND Hy 30.82 8 T T 12 49 06.7
baz=188,slow=76,SNR=3901
H11N2 WAKE ISLAND Hy 30.84 8 T T 12 49 10.6
baz=188,slow=76,SNR=3199
SAUI Saumlaki 30.94 273 IAMs_20 IAMs_20 12 31 40.1
comp=Z,21µm,22.0s
FAKI Fak Fak 31.09 283 IAMs_20 IAMs_20 12 31 06.8
comp=Z,18µm,20.0s
HTT Hallett 31.10 220 P **P 12 16 57.8 +0.9**
baz=31,SNR=93
ARPS Mount Arapiles 31.73 213 P **P 12 17 04.1 +1.7**
baz=32,SNR=32
TUWZ Tuamarina 31.93 164 P **P 12 17 05.1 +1.0**
BFZ Birch Farm 31.95 160 P **P 12 17 05.2 +1.0**
BFZ IAmb IAmb 12 17 06.9
comp=Z,182nm,1.4s
THZ Tophouse 31.97 165 P **P 12 17 06.4 +1.9**
THZ IAmb IAmb 12 17 11.3
comp=Z,246nm,1.8s
SNZO South Karori 32.04 163 P **P 12 17 06.4 +1.4**
SNZO IAmb IAmb 12 17 08.1
comp=Z,184nm,1.6s

BHW Baring Head 32.18 162 P **P 12 17 06.8 +0.5**
BSWZ Blackbirch Sta 32.18 164 P **P 12 17 07.5 +1.3**
MSWZ Moikau Station 32.30 162 P **P 12 17 08.0 +0.6**
PLWZ Palliser 32.44 162 P **P 12 17 08.8 +0.2**
BBOO Buckleboo 32.61 224 P **P 12 17 10.7 +0.5**
baz=33,SNR=172
BBOO Buckleboo 32.61 224 P **P 12 17 08.9 -1.2**
SIJI Sorong 32.65 286 P **P 12 17 10.6 -0.1**
comp=Z,9.4nm,0.7s,baz=159,slow=18,SNR=2.6
KHZ Kahutara 32.74 165 P **P 12 17 12.3 +1.2**
KHZ IAmb IAmb 12 17 13.9
comp=Z,231nm,1.7s
LTZ Lake Taylor 32.78 167 P **P 12 17 13.0 +1.4**
LTZ IAmb IAmb 12 17 15.2
comp=Z,110nm,1.3s
BNDI Bandanaira 32.94 279 P **P 12 17 13.3 0.0**
comp=Z,24µmcomp=Z,2µm,1.7s
FOZ Fox Glacier 33.02 170 P **P 12 17 15.6 +2.0**
FOZ IAmb IAmb 12 17 18.9
comp=Z,150nm,1.3s
OXZ Oxford 33.25 167 P **P 12 17 16.5 +0.9**
RPZ Rata Peaks 33.42 169 P **P 12 17 18.2 +1.1**
comp=Z,50nm,0.8s,baz=251,slow=1.1,SNR=18
RPZ Rata Peaks 33.42 169 P **P 12 17 18.9 +1.8**
MQZ McQueen's Vall 33.75 167 P **P 12 17 20.9 +1.0**
MQZ IAmb IAmb 12 17 23.0
comp=Z,189nm,1.4s
LBZ Lake Benmore 33.92 170 P **P 12 17 22.3 +0.9**
LBZ IAmb IAmb 12 17 24.8
comp=Z,114nm,1.6s
TAU Tasmania Unive 34.44 200 P **P 12 17 27.7 +1.7**
TAU pmax pmax
comp=Z,43nm,1.0s
TAU Tasmania Unive 34.44 200 P **P 12 17 27.7 +1.7**
DCZ Deep Cove 34.58 174 P **P 12 17 28.4 +1.3**
MLZ Mavora Lakes 34.58 173 P **P 12 17 27.9 +0.7**
MLZ IAmb IAmb 12 17 30.3
comp=Z,176nm,1.7s
ODZ Otahua Downs 34.63 170 P **P 12 17 28.6 +1.0**
ODZ IAmb IAmb 12 17 35.2
comp=Z,74nm,1.3s
WRKA Warakurna 35.30 242 P **P 12 17 33.0 -0.7**
baz=35,SNR=785
NLAI Namlea 35.96 280 P **P 12 17 38.5 -0.9**
comp=Z,4µmcomp=Z,245nm,1.9s
FITZ Fitzroy Crossi 36.35 254 P **P 12 17 41.6 -1.1**
comp=Z,174nm,0.7s,baz=88,slow=9.0
FITZ Fitzroy Crossi 36.35 254 P **P 12 17 41.6 -1.1**
baz=36,SNR=324
FITZ Fitzroy Crossi 36.35 254 P **P 12 17 41.5 -1.1**
TNTI Ternate 36.86 286 P **P 12 17 46.3 -0.8**
TNTI IAmb IAmb 12 17 56.4
comp=Z,173nm,1.5s
TNTI Ternate 36.86 286 P P 12 17 55.3 +8.2
SANI Sanana 37.34 281 P **P 12 17 49.3 -1.8**
comp=Z,2µmcomp=Z,4µmcomp=Z,332nm,1.0s
FORT Forrest 37.52 233 P **P 12 17 52.8 +0.3**
baz=38,SNR=91
FORT Forrest 37.52 233 P **P 12 17 52.7 +0.2**
SOEI Soe 37.64 268 P **P 12 17 52.6 -1.3**
SOEI IAmb IAmb 12 18 44.6
comp=Z,163nm,1.0s
SOEI Soe 37.64 268 P **P 12 17 52.8 -1.1**
comp=Z,2µmcomp=Z,171nm,1.8s
BATI Baumata 38.20 267 P **P 12 17 58.1 -0.3**
comp=Z,140nm,0.7s,baz=198,slow=1.0,SNR=13
BATI Baumata 38.20 267 P **P 12 17 58.6 +0.2**
JOHN Johnston Islan 39.02 45 P **P 12 18 06.6 +1.5**
JOHN IAmb IAmb 12 18 09.7
comp=Z,287nm,1.2s
MMRI Maumere 39.76 270 P **P 12 18 09.2 -2.2**
MMRI Maumere 39.76 270 P **P 12 18 09.2 -2.2**
comp=Z,6µmcomp=Z,364nm,1.1s
KMSI Cibinong 40.01 284 P **P 12 18 16.4 +2.9**
EDFI Ende, Flores 40.28 269 P **P 12 18 13.4 -2.5**
comp=Z,2µmcomp=Z,99nm,1.4s
LUWI Luwuk 40.70 281 P **P 12 18 17.7 -1.6**
LUWI Luwuk 40.70 281 P **P 12 18 18.3 -1.0**
comp=Z,5µmcomp=Z,248nm,0.9s
APSI Ampana 41.82 281 P **P 12 18 27.0 -1.5**
comp=Z,2µmcomp=Z,129nm,1.4s
MRSI Marisa 41.93 283 P P 12 18 35.5 +6.2
PSA00 Pilbara Seismi 42.18 250 P **P 12 18 30.9 -0.4**
PSA00 IAmb IAmb 12 18 32.1
comp=Z,76nm,0.8s
PSA00 Pilbara Seismi 42.18 250 P **P 12 18 30.1 -1.3**
PSA00 IAmb IAmb 12 18 42.1
comp=Z,89nm,1.1s
BKSI Bulukumba 42.33 274 P **P 12 18 30.6 -2.0**
comp=Z,2µmcomp=Z,109nm,1.5s
BNSI Bone 42.52 275 P **P 12 18 33.3 -0.8**
comp=Z,4µmcomp=Z,285nm,1.1s
KMBL Kambalda 42.66 235 P **P 12 18 34.7 -0.4**
baz=43,SNR=4.5
JCJ Chichijima 42.71 333 P **P 12 18 34.5 -0.9**
comp=Z,95nm,0.8s,baz=274,slow=22,SNR=5.7
JCJ Chichijima 42.71 333 P **P 12 18 34.5 -0.9**
JCJ IAmb IAmb 12 18 44.8
comp=Z,146nm,0.8s
KAPI Kappang 42.74 275 P **P 12 18 34.1 -1.9**
KAPI pmax pmax
comp=Z,679nm,1.6s
KAPI MLR MLR
comp=Z,3µm,20.0s
KAPI Kappang 42.74 275 P **P 12 18 34.0 -1.9**
SPSI Sidrap Palu 42.93 276 P **P 12 18 35.0 -2.5**
comp=Z,1µmcomp=Z,92nm,1.4s
TTSI Tana Toraja 43.08 277 P **P 12 18 40.1 +1.4**
TOLI2 Tolitoli 43.22 284 P **P 12 18 36.2 -3.6**
PLAI Plampang 44.11 269 P **P 12 18 44.6 -2.4**
comp=Z,5µmcomp=Z,337nm,1.6s
TWSI Taliwang, Sumb 45.00 269 P **P 12 18 52.1 -2.0**
KLBR Kellerberrin 46.09 237 P **P 12 19 02.5 0.0**
baz=46,SNR=17
MYLDM Lahad Datu 46.68 288 P **P 12 19 06.0 -1.4**
MYLDM IAMs_20 IAMs_20 12 38 12.3
comp=Z,12µm,19.0s
BLDU Ballidu 46.69 238 P **P 12 19 07.4 +0.1**
baz=47,SNR=70
PPT Papeete 46.77 104 P **P 12 19 08.5 +0.5**
comp=Z,74nm,0.8s,baz=343,slow=7.2,SNR=4.9
PPT2 Papeete2 46.77 104 *eP* **P 12 19 08.8 +0.7**
comp=Z,98nm,1.2s
PPT2 *eS* **S 12 25 55.9 +0.5**
comp=Z,603nm,25.8s
PPT2 *eLQ* LQ 12 30 25.0
comp=Z,6µm,27.8s
PPT2 *eLR* LR 12 32 20.8
comp=Z,5µm,25.8s
PPTF Pamatai, Papee 46.78 104 P **P 12 19 09.2 +1.0**
PPTF IAmb IAmb 12 19 11.0
comp=Z,148nm,1.1s
NWAO Narrogin (SRO) 46.89 235 P **P 12 19 08.8 0.0**
comp=Z,50nm,0.7s,baz=76,slow=8.1,SNR=19
NWAO Narrogin (SRO) 46.89 235 P **P 12 19 09.1 +0.3**
baz=47,SNR=21
NWAO Narrogin (SRO) 46.89 235 P **P 12 19 09.0 +0.3**
NWAO pmax pmax
comp=Z,136nm,1.2s
NWAO MLR MLR
comp=Z,6µm,22.0s
NWAO Narrogin (SRO) 46.89 235 P **P 12 19 09.0 +0.3**
NWAO IAmb IAmb 12 19 10.7
comp=Z,136nm,1.1s
NWAO Narrogin (SRO) 46.89 235 P **P 12 19 08.9 +0.1**
NWAO IAmb IAmb 12 19 10.7
comp=Z,110nm,1.1s
MORW Morawa 46.89 240 P **P 12 19 09.2 +0.3**
baz=47,SNR=41
MORW Morawa 46.89 240 P **P 12 19 08.9 0.0**
TBI Tubuai 47.28 112 *eS* **S 12 26 02.8 +0.5**
comp=Z,510nm,29.0s
TBI *eLQ* LQ 12 30 40.2
comp=Z,4µm,31.2s
TBI *eLR* LR 12 32 40.5
comp=Z,4µm,31.8s
MUN Mundaring 47.46 237 P **P 12 19 13.5 +0.3**
baz=48,SNR=12
GIRL Giralia 47.47 249 P **P 12 19 15.0 +1.6**
baz=47,SNR=4.5
GIRL Giralia 47.47 249 P **P 12 19 14.7 +1.3**
JMZ Minamidaito 2 47.62 321 P **P 12 19 16.1 +1.7**
JAGI Jajag, Banyuwa 47.71 269 P **P 12 19 12.6 -2.8**
MEH Mehetia 48.22 104 *eP* **P 12 19 20.7 +1.4**
comp=Z,49nm,1.0s
SPMM Sapulut 48.43 286 P **P 12 19 25.0 +4.0**

VAH Vaihoa 48.64 101 *eP* **P 12 19 23.3 +0.7**
comp=Z,125nm,1.2s
JHJ2 Mitsune 48.92 335 P **P 12 19 24.7 +0.3**
JHJ Hachijo jima 2 48.94 335 P **P 12 19 24.2 -0.3**
comp=Z,167nm,0.8s,baz=171,slow=8.5
KKM Kota Kinabalu 49.11 288 P **P 12 19 24.8 -1.5**
KKM IAmb IAmb 12 19 39.2
comp=Z,111nm,1.0s
JOW Kunigami 50.20 319 P **P 12 19 35.1 +0.8**
comp=Z,14nm,0.6s,baz=138,slow=8.9,SNR=5.6
SZP Santa 50.32 304 IAMs_20 IAMs_20 12 35 30.6
comp=Z,8µm,20.0s
KIP Kipapa 50.39 50*ceP* **P 12 19 35.0 -0.7**
KIP pmax pmax
comp=Z,297nm,2.5s
KIP Kipapa 50.39 50 P **P 12 19 35.5 -0.3**
JSG Sagara 50.95 334 IAMs_20 IAMs_20 12 40 49.3
comp=Z,11µm,22.0s
KHLU Kahalu`u 51.00 54 P **P 12 19 41.0 +0.5**
KHU Kahuku 51.03 54 P **P 12 19 41.3 +0.4**
KHU pmax pmax
comp=Z,234nm,0.9s
KHU Kahuku 51.03 54 P **P 12 19 41.3 +0.4**
HUH Hualalai 51.09 54 P **P 12 19 41.1 -0.3**
MWH Moku'aweowe 51.17 54 P **P 12 19 42.8 +0.5**
MLOA Mauna Loa Obse 51.22 54 P **P 12 19 42.9 +0.4**
AIN Ainahou 51.22 54 P **P 12 19 42.9 +0.6**
HMH Humu'ula Sheep 51.33 54 P **P 12 19 43.9 +0.7**
MLH Mauna Loa 51.35 54 P **P 12 19 43.9 +0.6**
UGM Wanagama 51.35 269 P **P 12 19 41.8 -1.4**
HLK Haleakala 51.36 52 P **P 12 19 44.3 +0.9**
SDHHI Sand Hill 51.36 54 P **P 12 19 44.1 +0.8**
WRMHI West Rim 51.37 54 P **P 12 19 43.6 +0.2**
POHA Pohakuloa 51.37 54 P **P 12 19 43.7 +0.3**
UWE Uwekahuna 51.38 54 P **P 12 19 42.1 -1.3**
RIM Rim 51.38 54 P **P 12 19 43.4 0.0**
NPH North Pit 51.39 54 P **P 12 19 44.1 +0.7**
NPH IAmb IAmb 12 20 02.1
comp=Z,84nm,1.1s
OBL Observatory Le 51.39 54 P **P 12 19 43.4 0.0**
OBL IAmb IAmb 12 20 02.8
comp=Z,165nm,1.1s
KKO Keanakako`i 51.39 54 P **P 12 19 43.7 +0.2**
KKO IAmb IAmb 12 19 47.8
comp=Z,110nm,0.8s
UWB Uwekahuna B 51.40 54 P **P 12 19 43.6 +0.1**
UWB IAmb IAmb 12 20 34.1
comp=Z,129nm,1.2s
BYL Byron's Ledge 51.40 54 P **P 12 19 43.8 +0.3**
BYL IAmb IAmb 12 20 16.4
comp=Z,101nm,1.0s
PUH Pauahi 51.42 54 P **P 12 19 43.4 -0.3**
PUH IAmb IAmb 12 19 59.5
comp=Z,120nm,1.1s
JYT Yasato 51.48 337 P **P 12 19 44.6 +1.0**
SBUM Sibu 51.80 282 P **P 12 19 46.7 +0.1**
SBUM Sibu 51.80 282 P **P 12 19 46.0 -0.5**
INU Inuyama 52.03 333 P **P 12 19 47.3 -0.5**
INU IAmb IAmb 12 19 59.2
comp=Z,144nm,1.1s
JGF Kuroka 52.10 334 P **P 12 19 46.9 -1.5**
JGF IAmb IAmb 12 20 09.7
comp=Z,76nm,1.1s
JGF IAMs_20 IAMs_20 12 41 34.6
comp=Z,9µm,22.0s
JMN Monobe 52.17 330 P **P 12 19 49.4 +0.5**
JSU Suzuyama 52.26 325 P **P 12 19 48.9 -0.7**
MJAR Matsushiro Arr 52.54 335 P **P 12 19 51.3 -0.4**
comp=Z,11nm,0.9s,baz=162,slow=7.6,SNR=23
MJAR Matsushiro Arr 52.54 335 P **P 12 19 51.0 -0.6**
MAJO Matsushiro 52.54 335*d iP* **P 12 19 51.4 -0.2**
MAJO Matsushiro 52.54 335 P **P 12 19 50.8 -0.9**
MAJO IAmb IAmb 12 20 02.1
comp=Z,257nm,1.8s
MAT Matsushiro 52.54 335 P **P 12 19 50.6 -1.0**
JMM Marumori 52.70 338 P **P 12 19 53.2 +0.5**
JMM IAmb IAmb 12 20 04.3
comp=Z,87nm,0.9s
JWT Wachi 52.70 332 P **P 12 19 52.6 -0.2**
TWG Pinlang 52.71 310 IAMs_20 IAMs_20 12 39 11.7
comp=Z,12µm,22.0s
YULB Yu-li 52.87 311 P **P 12 19 54.5 +0.2**
NACB Ninganchiao 53.11 312 P **P 12 19 53.8 -2.2**
JNU Nakatsue 53.25 327 P **P 12 19 57.2 +0.3**
TPUB Ta-pu 53.32 310 P **P 12 19 57.0 -0.6**
TPUB IAmb IAmb 12 20 15.4
comp=Z,86nm,1.0s
SSLB Suanglung 53.36 311 P **P 12 19 57.7 -0.2**
SSLB IAMs_20 IAMs_20 12 40 05.0
comp=Z,10µm,21.0s
KSM Kuching 53.38 280 P **P 12 19 57.1 -1.1**
KSM Kuching 53.38 280 P **P 12 19 59.0 +0.7**
JHS Saijyo 53.56 330 P **P 12 19 59.6 +0.5**
JHS IAmb IAmb 12 20 10.5
comp=Z,230nm,1.8s
YHNB Yeheng 53.57 312 P **P 12 19 58.4 -1.1**
YHNB IAMs_20 IAMs_20 12 40 17.5
comp=Z,8µm,20.0s
TATO Taipei 53.67 312 IAMs_20 IAMs_20 12 40 49.9
comp=Z,11µm,20.0s
JSD Sado 53.81 336 P **P 12 20 00.8 -0.1**
JSD IAmb IAmb 12 20 12.2
comp=Z,130nm,1.1s
CISI Cisompet, Garu 54.05 269 P **P 12 20 01.2 -2.0**
JTM Tenmabayashi 55.21 340 P **P 12 20 11.5 +0.5**
JTM IAmb IAmb 12 20 22.5
comp=Z,94nm,1.0s
JEM Erimo 55.68 343 P P 12 20 26.4 +12
JEM IAmb IAmb 12 20 27.8
comp=Z,132nm,1.3s
QZH Quanzhou 55.78 310*i iP* P 12 20 21.5 +6.1
QZH S **S 12 28 01.0 +1.7**
QZH pmax pmax
comp=Z,370nm,7.4s
QZH LR LR
comp=Z,2µm,18.5s
QZH LR LR
comp=Z,4µm,18.4s
QZH LR LR
comp=Z,5µm,19.1s
XMIS Christmas Isla 55.81 265 P **P 12 20 15.5 -0.4**
TAOE Nuku Hiva Isla 56.43 93 *eS* **S 12 28 08.0 -0.6**
comp=Z,1µm,27.9s
TAOE *eLQ* LQ 12 34 27.4
comp=Z,2µm,27.3s
TAOE *eLR* LR 12 36 50.9
comp=Z,3µm,24.2s
YUK Yuzh-Kuril'sk 56.83 346 *eP* **P 12 20 22.6 +0.1**
YUK *e* 12 22 32.1
YUK *eS* **S 12 28 14.4 +1.9**
YUK pmax pmax
comp=Z,413nm,1.2s
YUK MLR MLR
comp=E,1µm,19.0s
YUK MLR MLR
comp=Z,3µm,19.0s
YUK MLR MLR
comp=N,2µm,17.0s
JEW Eniwo 56.95 342 P **P 12 20 23.2 -0.1**
TJN Taejon 57.60 327*ceP* **P 12 20 29.2 +1.1**
SSE Sheshan 57.66 318 P P 12 20 35.5 +6.9
SSE S **S 12 28 23.8 -0.1**
SSE pmax pmax
comp=N,22nm,0.9s
SSE LR LR
comp=N,970nm,21.3s
SSE LR LR
comp=N,2µm,22.4s
SSE Sheshan 57.66 318 IAMs_20 IAMs_20 12 42 32.8
comp=Z,6µm,22.0s
JKA Kamikawa-asahi 57.77 343 P **P 12 20 30.2 +1.1**
ASAJ Asahikawa 57.77 343 P **P 12 20 30.3 +1.1**
comp=Z,80nm,0.8s,baz=213,slow=8.2,SNR=54
KSRS Korea Array 58.11 328 P **P 12 20 31.9 +0.2**
comp=Z,8.9nm,0.8s,baz=144,slow=7.4,SNR=32
KSAR Wonju Array Be 58.12 328 P **P 12 20 31.7 0.0**
KSAR Wonju Array Be 58.12 328 P **P 12 20 31.7 0.0**
KS19 Wonju Array Si 58.17 328 P **P 12 20 31.7 -0.4**
KS19 IAmb IAmb 12 20 43.1
comp=Z,118nm,1.4s
DLV T Lat 58.32 291 P **P 12 20 32.0 -1.8**
DLV IAmb IAmb 12 20 43.6
comp=Z,56nm,1.2s
INCN Inchon 58.81 327 P **P 12 20 35.9 -0.7**

INCN pmax pmax
comp=Z,241nm,1.3s
INCN Inchon 58.81 327 P P 12 20 35.9 -0.7
MYKOM Kota Tinggi 59.72 279 P P 12 20 43.2 -0.1
MYKOM IAmb IAmb 12 20 55.8
comp=Z,92nm,1.6s
MYKOM Kota Tinggi 59.72 279 P P 12 20 49.0 +5.7
NJ2 Nanjing 59.81 317 *e*P **P 12 20 44.0 +0.5**
NJ2 sP **sP 12 21 01.8 0.0**
NJ2 S **S 12 28 52.5 +0.7**
NJ2 sS **sS 12 29 11.8 -1.8**
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 pmax pmax
comp=Z,420nm,3.7s
NJ2 LR LR
comp=Z,5μm,20.4s
NJ2 LR LR
comp=Z,2μm,18.2s
NJ2 LR LR
comp=Z,7μm,20.1s
QIZ Qiongzhong 59.89 300 P **P 12 20 45.0 +0.6**
QIZ S **S 12 28 55.3 +1.9**
QIZ pmax pmax
comp=Z,350nm,7.5s
QIZ Qiongzhong 59.89 300 IAMs_20 IAMs_20 12 43 57.3
comp=Z,7μm,21.0s
YSS Yuzh-Sakhalins 60.34 345 *e*P **P 12 20 47.9 +1.0**
YSS *e**PP **pP 12 20 58.3 -1.6**
YSS *e*S **S 12 28 57.2 -0.8**
YSS *e*PS **PnS 12 29 17.3 +0.6**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS Yuzh-Sakhalins 60.34 345 P **P 12 20 47.7 +0.8**
YSS IAMs_20 IAMs_20 12 45 12.7
comp=Z,6μm,22.0s
TEY Ternei 60.50 339⇑ *e*P **P 12 20 47.7 -0.3**
TEY *e* 12 20 56.2
TEY pmax pmax
comp=N,20nm,1.4s
TEY pmax pmax
comp=E,10.0nm,1.4s
TEY pmax pmax
comp=Z,20nm,1.6s
RKT Rikitea 60.56 110 *e*S **S 12 29 02.1 +0.2**
comp=Z,809nm,30.5s
RKT *e*LQ LQ 12 36 14.3
comp=Z,1μm,39.8s
RKT *e*LR LR 12 38 45.2
comp=Z,6μm,26.2s
USA0B Ussuriysk Arra 61.54 335 *i* P **P 12 20 55.3 +0.2**
USA0B Ussuriysk Arra 61.54 335 P **P 12 20 55.1 0.0**
USRK Ussuriysk Ar. 61.54 335 P **P 12 20 55.7 +0.7**
comp=Z,53nm,1.1s,baz=142,slow=6.5,SNR=58
USRK Ussuriysk Ar. 61.54 335 P **P 12 20 55.5 +0.5**
JRMM Jerantut 61.56 281 P P 12 21 03.0 +7.1
SKR Severo-Kuril's 61.67 355 *e*P **P 12 20 55.6 -0.2**
SKR *e*PPP PPP 12 23 13.1
SKR *e*S **S 12 29 21.5 +6.6**
SKR *e*PS **PnS 12 29 31.4 -3.5**
SKR pmax pmax
comp=Z,100nm,2.5s
SKR pmax pmax
comp=Z,100nm,6.4s
SKR MLR MLR
comp=Z,2μm,17.0s
SKR MLR MLR
comp=Z,2μm,16.0s
WHN Wuhan 62.03 313⇑ P **P 12 21 03.3 +4.6**
WHN S **S 12 29 20.5 +0.3**
BKNI Bangkinang 62.13 276 P **P 12 20 59.4 -0.3**
UBPT Khong Chiam 62.25 294 P **P 12 21 02.1 +1.7**
DL2 Dalian 62.58 325 P **P 12 21 05.0 +2.8**
DL2 S **S 12 29 33.5 +6.7**
DL2 pmax pmax
comp=Z,87nm,1.4s
DL2 pmax pmax
comp=Z,860nm,7.6s
DL2 LR LR
comp=Z,3μm,17.6s
DL2 LR LR
comp=Z,3μm,20.0s
DL2 LR LR
comp=Z,6μm,23.5s
MDJ Mudanjiang 62.88 334 P **P 12 21 05.3 +1.2**
MDJ sP sP 12 21 21.8 -0.6
MDJ PP **PP 12 23 23.5 +0.5**
MDJ S **S 12 29 34.0 +3.6**
MDJ sS sS 12 29 51.0 -0.6
MDJ SS **SS 12 33 42.0 +5.4**
MDJ pmax pmax
comp=Z,42nm,1.3s
MDJ pmax pmax
comp=Z,550nm,4.2s
MDJ LR LR
comp=Z,3μm,23.5s
MDJ LR LR
comp=Z,2μm,27.8s
MDJ LR LR
comp=Z,8μm,28.5s
MDJ Mudanjiang 62.88 334 P **P 12 21 03.2 -0.9**
IPM Ipoh 63.11 281 P **P 12 21 04.8 -1.4**
IPM IAmb IAmb 12 21 29.1
comp=Z,72nm,1.0s
IPM Ipoh 63.11 281 P **P 12 21 05.0 -1.3**
TIA Tai'an 63.51 320 P **P 12 21 11.0 +2.5**
TIA pmax pmax
comp=Z,20nm,2.2s
SNY Shenyang 63.59 328⇑ P P 12 21 19.8 +11
SNY sP **PcP 12 21 38.0 -6.9**
SNY PP PP 12 23 41.3 +12
SNY S S 12 30 02.5 +23
SNY pmax pmax
comp=Z,27nm,1.4s
SNY pmax pmax
comp=Z,450nm,3.2s
SNY LR LR
comp=N,2μm,31.4s
SNY LR LR
comp=E,2μm,24.3s
SNY LR LR
comp=Z,4μm,30.9s
KULM Kulim 63.68 282 P **P 12 21 08.9 -1.1**
KULM IAmb IAmb 12 21 32.8
comp=Z,55nm,1.0s
KULM Kulim 63.68 282 P **P 12 21 09.0 -1.0**
PET Petropavlovsk 63.85 357 *e*P **P 12 21 10.3 0.0**
PET *e**PP **pP 12 21 24.1 +1.0**
PET *e*S **S 12 29 44.3 +2.2**
PET pmax pmax
comp=Z,92nm,1.0s
PET pmax pmax
comp=Z,200nm,17.8s
PET pmax pmax
comp=Z,100nm,4.2s
PET MLR MLR
comp=Z,3μm,19.0s
PET MLR MLR
comp=Z,2μm,18.0s
PET Petropavlovsk 63.85 357 P **P 12 21 10.1 -0.2**
PET IAmb IAmb 12 21 25.5
comp=Z,99nm,1.1s
PEA0B Petropavlovsk- 63.98 357 P **P 12 21 11.7 +0.5**
PEA0B pmax pmax
comp=Z,317nm,1.7s
PEA0B MLR MLR
comp=Z,5μm,22.0s
PEA0B Petropavlovsk- 63.98 357 P **P 12 21 11.7 +0.5**
PETK Petropavlovsk- 63.98 357 P **P 12 21 11.7 +0.5**
comp=Z,32nm,0.8s,baz=155,slow=8.0,SNR=37
PETK Petropavlovsk- 63.98 357 P **P 12 21 11.5 +0.3**
TYV Tymovskoe 63.99 346 *e*P P 12 21 22.6 +11
TYV pmax pmax
comp=Z,75nm,1.6s
TYV pmax pmax
comp=Z,600nm,4.9s
CN2 Changchun 64.12 331 *e*P **P 12 21 12.8 +0.5**
CN2 *e*S **S 12 29 46.5 +0.6**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,2μm,21.0s
RPSI Rantau Prapat 64.72 278 P **P 12 21 14.9 -1.9**
RPSI IAmb IAmb 12 21 48.8
comp=Z,57nm,1.3s
PSI Prapat 64.74 278 P **P 12 21 14.9 -2.2**
PSI pmax pmax
comp=Z,57nm,1.3s
PSI MLR MLR
comp=Z,2μm,22.0s
ADK Adak 65.15 14 P **P 12 21 19.3 +0.5**
ADK pmax pmax
comp=Z,156nm,1.3s
ADK MLR MLR
comp=Z,4μm,22.0s
ADK Adak 65.15 14 P **P 12 21 19.3 +0.5**
CASY Casey 65.30 201 P **P 12 21 20.7 +1.0**
NONG Nongkai 65.34 296 P **P 12 21 20.9 +0.1**
ENH Enshi 65.44 311 IAMs_20 IAMs_20 12 47 35.0
comp=Z,6μm,22.0s
GSTR Great Sitkin T 65.49 14 P **P 12 21 21.1 0.0**
GRNR Gornyy 65.58 342⇓ *i*P **P 12 21 21.0 -0.7**
GRNR pmax pmax
comp=Z,30nm,1.3s
GRNR MLR MLR
comp=N,510nm,12.0s
GRNR MLR MLR
comp=E,780nm,12.0s
GRNR MLR MLR
comp=Z,1μm,20.0s
GSI Gunungsitoli 65.72 276 P **P 12 21 22.2 -1.1**
GYA Guiyang 65.80 306⇓ P P 12 21 31.0 +7.2
GYA sP sP 12 21 42.8 +0.6
GYA SS SS 12 34 24.5 +1.5
GYA pmax pmax
comp=Z,25nm,1.6s
GYA pmax pmax
comp=Z,190nm,3.5s
GYA LR LR
comp=Z,2μm,17.8s
GYA LR LR
comp=Z,2μm,17.2s
GYA LR LR
comp=Z,4μm,22.0s
KLR Kul'dur 65.81 338 *ce*P **P 12 21 23.9 +0.8**
KLR pmax pmax
comp=Z,56nm,1.4s
SLVN Son La 65.92 299 P **P 12 21 24.9 +0.4**
SLVN IAMs_20 IAMs_20 12 47 57.8
comp=Z,5μm,21.0s
ATKA Atka Island 66.06 15 P **P 12 21 25.2 +0.5**
ATKA IAmb IAmb 12 21 26.4
comp=Z,89nm,1.0s
BJT Baijiatuan 66.49 323 P **P 12 21 28.3 +0.6**
BJT pmax pmax
comp=Z,54nm,1.3s
BJT Baijiatuan 66.49 323 P **P 12 21 28.3 +0.6**
BJT IAmb IAmb 12 21 38.8
comp=Z,54nm,1.3s
BJT Baijiatuan 66.49 323 IAMs_20 IAMs_20 12 48 38.5
comp=Z,5μm,22.0s
BJI Beijing 66.50 323 P **P 12 21 31.0 +3.3**
BJI S **S 12 30 16.8 +1.7**
BJI pmax pmax
comp=Z,33nm,2.0s
BJI LR LR
comp=Z,1μm,8.7s
BJI LR LR
comp=Z,1μm,17.3s
BJI LR LR
comp=Z,1μm,23.9s
VNDA Vanda 66.51 180 P **P 12 21 29.4 +2.1**
comp=Z,43nm,0.7s,baz=345,slow=6.9,SNR=273
VNDA Vanda 66.51 180 P **P 12 21 29.3 +2.1**
VNDA IAmb IAmb 12 21 30.8
comp=Z,74nm,0.9s
SBA Scott Base 66.88 179 P **P 12 21 32.0 +2.3**
SBA pmax pmax
comp=Z,96nm,1.1s
SBA Scott Base 66.88 179 P **P 12 21 31.9 +2.3**
SBA IAmb IAmb 12 21 34.2
comp=Z,96nm,1.1s
PHIT Phitsanulok 67.46 294 P P 12 21 44.8 +10
UTTA Uttaradit 67.53 294 P P 12 21 47.3 +13
XAN Xi'an 67.78 314 P **P 12 21 40.3 +4.2**
XAN pP pP 12 21 49.0 -0.4
XAN sP sP 12 21 54.3 -0.3
XAN pmax pmax
comp=Z,52nm,2.2s
XAN pmax pmax
comp=Z,510nm,4.9s
XAN LR LR
comp=Z,1μm,20.0s
XAN LR LR
comp=Z,2μm,14.8s
XAN LR LR
comp=Z,4μm,23.9s
XAN Xi'an 67.78 314 P **P 12 21 35.6 -0.5**
XAN pmax pmax
comp=Z,46nm,1.0s
XAN Xi'an 67.78 314 P **P 12 21 35.6 -0.5**
XAN IAmb IAmb 12 22 07.8
comp=Z,46nm,1.0s
XAN Xi'an 67.78 314 IAMs_20 IAMs_20 12 49 18.8
comp=Z,7μm,20.0s
NIKH Nikolski High 68.26 18 P 12 21 39.1
baz=210
NIKH Nikolski High 68.26 18 P **P 12 21 38.8 +0.1**
SUKH Sukhothai 68.27 294 P **P 12 21 39.6 +0.2**
KMI Kunming 68.42 303⇓ P P 12 21 48.8 +8.3
KMI pP sP 12 22 01.3 +2.2
KMI sP PcP 12 22 05.8 +0.1
KMI PP **PP 12 24 16.5 +4.4**
KMI S **S 12 30 43.3 +4.0**
KMI pmax pmax
comp=Z,47nm,1.2s
KMI pmax pmax
comp=Z,310nm,3.5s
KMI LR LR
comp=Z,730nm,18.6s
KMI LR LR
comp=Z,2μm,20.6s
KMI LR LR
comp=Z,3μm,19.9s
UMPA Umpang Tak 68.54 292 P P 12 21 51.0 +10
comp=Z,0.2nmcomp=Z,3μmcomp=Z,12nm,0.6s
LAMP Lampang 68.62 295 P **P 12 21 41.0 -0.6**
CM36 Chiang Mai Arr 69.10 295 P **P 12 21 44.0 -0.6**
CM35 Chiang Mai Arr 69.10 295 P **P 12 21 44.0 -0.6**
CM04 Chiang Mai Arr 69.16 295 P **P 12 21 45.3 +0.3**
CM34 Chiang Mai Arr 69.16 295 P **P 12 21 48.0 +3.0**
CM09 Chiang Mai Arr 69.17 295 P **P 12 21 45.5 +0.5**
CM01 Chiang Mai Arr 69.19 295 P **P 12 21 46.0 +0.9**
CM05 Chiang Mai Arr 69.19 295 P **P 12 21 45.0 -0.2**
CM02 Chiang Mai Arr 69.20 295 P **P 12 21 45.0 -0.2**
CM31 Chiang Mai Arr 69.21 295 P P 12 21 54.8 +9.4
CMAR Chiang Mai Arr 69.21 295 P **P 12 21 44.5 -0.8**
comp=Z,2.7nm,0.7s,baz=120,slow=4.8,SNR=17
CMAR PKPPKP **P'P'df 12 49 53.9 -2.3**
comp=Z,2.2nm,0.8s,baz=281,slow=5.0,SNR=11
CMAR Chiang Mai Arr 69.21 295 P **P 12 21 44.7 -0.6**
CMAR Chiang Mai Arr 69.21 295 P **P 12 21 44.7 -0.6**
CM15 Chiang Mai Arr 69.23 295 P **P 12 21 47.0 +1.6**
CM13 Chiang Mai Arr 69.23 295 P **P 12 21 45.7 +0.3**
CMMT Chiang Mai 69.33 295 P **P 12 21 47.0 +1.0**
CM33 Chiang Mai Arr 69.33 295 P **P 12 21 45.0 -1.0**
CHTO Chiang Mai 69.33 295 P **P 12 21 45.2 -0.9**
CHTO pmax pmax
comp=Z,36nm,1.3s
CHTO Chiang Mai 69.33 295 P **P 12 21 45.1 -0.9**
CM32 Chiang Mai Arr 69.36 295 P **P 12 21 49.0 +2.8**
HHC Hu-ho-hao-te 69.78 321 *e*P P 12 21 54.8 +6.3
HHC S **S 12 31 00.5 +6.0**
HHC pmax pmax
comp=Z,47nm,1.8s
HHC pmax pmax
comp=Z,440nm,6.2s
HHC LR LR
comp=Z,3μm,17.8s
HHC LR LR
comp=Z,3μm,18.2s
HHC LR LR
comp=Z,4μm,18.8s
CD2 Chengdu 70.09 309 P **P 12 21 51.0 +0.5**
CD2 pP pP 12 22 05.8 +2.0
CD2 sP PcP 12 22 12.3 -0.1
CD2 S **S 12 30 57.0 -1.4**
CD2 SS **SS 12 35 30.5 +1.4**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,690nm,9.0s
BTO Baotou 70.60 320 P **P 12 21 58.0 +4.5**
HIA Hailar 70.81 332 P **P 12 21 55.2 +0.7**
HIA Hailar 70.81 332 P **P 12 21 55.2 +0.7**
HIA IAmb IAmb 12 22 06.4
comp=Z,70nm,1.0s
MA2 Magadan 70.97 354 P **P 12 21 55.0 -0.2**
comp=Z,29nm,0.8s,baz=156,slow=6.0,SNR=62
MA2 Magadan 70.97 354 P **P 12 21 55.0 -0.2**
MA2 Magadan 70.97 354 P **P 12 21 54.7 -0.5**
MA2 IAmb IAmb 12 21 56.1
comp=Z,40nm,0.8s
ZEA Zeya 71.11 339 *e*P **P 12 21 57.5 +1.3**
ZEA pmax pmax
comp=E,20nm,1.4s
ZEA pmax pmax
comp=N,70nm,2.0s
ZEA pmax pmax
comp=Z,120nm,1.8s
SPIA Saint Paul Isl 71.54 15 P 12 21 59.3
baz=208
SPIA Saint Paul Isl 71.54 15 P **P 12 21 58.1 -0.6**
SPIA IAmb IAmb 12 22 00.5
comp=Z,94nm,1.0s
FALS False Pass 71.59 20 P 12 21 58.6
baz=216
FALS False Pass 71.59 20 P **P 12 21 58.3 -0.7**
LZH Lanzhou 72.41 313 *e*P **P 12 22 06.3 +1.7**
LZH pP pP 12 22 19.8 +1.8
LZH sP sP 12 22 26.3 +3.1
LZH *e*S **S 12 31 25.0 -0.3**
LZH sS sS 12 31 48.8 +0.9
LZH pmax pmax
comp=Z,59nm,1.3s
LZH pmax pmax
comp=Z,450nm,5.7s
LZH LR LR
comp=Z,2μm,16.3s
LZH LR LR
comp=Z,4μm,16.0s
LZH LR LR
comp=Z,3μm,17.3s
SDPT Sand Point 73.00 21 P 12 22 07.0
baz=218
SDPT Sand Point 73.00 21 P **P 12 22 06.7 -0.7**
SDPT IAmb IAmb 12 22 08.1
comp=Z,92nm,1.0s
SEY Seymchan 74.12 355 *i* P **P 12 22 14.4 +0.5**
CHGN Chignik 74.47 21 P 12 22 15.6
baz=220
CHGN Chignik 74.47 21 P **P 12 22 16.0 0.0**
CHGN IAmb IAmb 12 22 16.8
comp=Z,73nm,1.1s
CIT Chita 75.57 331 *e*P **P 12 22 23.9 +1.3**
CIT *e* 12 22 41.9
CIT pmax pmax
comp=Z,415nm,1.8s
MOKO MOKOCHONG 75.74 301 *e*P **P 12 22 22.3 -2.0**
SAIH SAIHA 75.80 297 *ex* **P 12 22 26.9 +2.3**
SAIH IAmb IAmb 12 22 40.7
comp=Z,59nm,1.6s
KOHI KOHIMA 75.88 300 *e*P **P 12 22 24.7 -0.4**
KOHI *i* x x 12 22 31.1
SII Sitkinak Islan 76.24 23 P 12 22 26.7
baz=224
SII Sitkinak Islan 76.24 23 P **P 12 22 26.7 +0.5**
SII IAMs_20 IAMs_20 12 59 18.1
comp=Z,4μm,20.0s
ULN Ulaanbaatar 76.44 325 *ce*P **P 12 22 28.4 +0.7**
ULN pmax pmax
comp=Z,94nm,1.6s
ULN Ulaanbaatar 76.44 325 P **P 12 22 28.6 +0.8**
ULN Ulaanbaatar 76.44 325 IAMs_20 IAMs_20 12 55 09.7
comp=Z,5μm,22.0s
ZIRO ZIRO 76.71 302 *ex* **P 12 22 31.3 +1.6**
ZIRO IAmb IAmb 12 22 33.4
comp=Z,63nm,0.2s
ZIRO *ex* x 12 27 20.2
ZIRO *ex* x 12 29 00.4
ZIRO IAmb IAmb 12 29 12.8
comp=Z,42nm,0.3s
GTA Gaotai 76.77 315⇓ P **P 12 22 30.0 +0.2**
GTA pP pP 12 22 44.5 +1.3
GTA sP sP 12 22 50.3 +1.9
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,150nm,4.0s
GTA LR LR
comp=Z,2μm,18.9s
GTA LR LR
comp=Z,3μm,18.9s
GTA LR LR
comp=Z,5μm,18.5s
SONM Songino Array 76.79 325 P **P 12 22 29.7 +0.1**
comp=Z,23nm,0.8s,baz=142,slow=5.8,SNR=83
OHAK Old Harbor 77.06 23 P **P 12 22 31.6 +0.8**
OHAK IAmb IAmb 12 22 32.6
comp=Z,117nm,1.2s
OHAK Old Harbor 77.06 23 P 12 22 31.4
baz=225
GAMB Gambell 77.11 11 P 12 22 31.7
baz=206,SNR=35
GAMB Gambell 77.11 11 P **P 12 22 31.3 +0.4**
GAMB IAmb IAmb 12 22 32.9
comp=Z,178nm,1.8s
GAMB IAMs_20 IAMs_20 12 57 07.7
comp=Z,7μm,22.0s
YAK Yakutsk 77.19 345 P **P 12 22 31.5 +0.1**
comp=Z,24nm,0.6s,baz=123,slow=1.2,SNR=19
YAK Yakutsk 77.19 345 *e*P P 12 22 41.8 +10
YAK pmax pmax
comp=Z,169nm,0.9s
YAK pmax pmax
comp=N,30nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.6s
YAK Yakutsk 77.19 345 P **P 12 22 31.6 +0.1**
KDAK Kodiak Island 77.72 23 P 12 22 35.1
baz=225
KDAK Kodiak Island 77.72 23 P **P 12 22 35.2 +0.7**
KDAK pmax pmax
comp=Z,61nm,0.9s
KDAK MLR MLR
comp=Z,5μm,21.0s
KDAK Kodiak Island 77.72 23 P **P 12 22 35.2 +0.7**
KDAK IAmb IAmb 12 22 36.2
comp=Z,61nm,0.9s
KDAK Kodiak Island 77.72 23 IAMs_20 IAMs_20 12 57 59.4
comp=Z,5μm,21.0s
SHL Shillong 77.73 299 *ex* **P 12 22 34.4 -1.1**
SHL *i* x x 12 22 43.4
GUWA GUWAHATI 78.09 300 *e*P **P 12 22 37.9 +0.6**
BILL Bilibino 78.88 1 *d*/*i*P **P 12 22 40.4 -0.3**
BILL *i* 12 22 48.7
BILL *i* 12 22 51.6
BILL *PP **sP 12 23 00.0 +1.0**
BILL *e* 12 32 33.7
BILL *e* 12 32 52.2
BILL *e*SS SS 12 37 38.2 -3.0
BILL pmax pmax
comp=Z,173nm,1.0s
BILL MLR MLR
comp=Z,1μm,21.0s
BILL Bilibino 78.88 1 P **P 12 22 40.9 +0.2**
QSPA South Pole Qui 79.01 180 P **P 12 22 42.9 +1.2**
SVW2 Sparrevohn 79.08 19 P **P 12 22 43.5 +1.5**
ANM Nome 79.15 14 P 12 22 43.3
baz=212,SNR=30
ANM Nome 79.15 14 P **P 12 22 43.3 +1.1**
ANM pmax pmax
comp=Z,64nm,1.2s
ANM MLR MLR
comp=Z,5μm,21.0s
ANM Nome 79.15 14 P **P 12 22 43.3 +1.1**
ANM IAmb IAmb 12 22 58.0
comp=Z,64nm,1.2s
ANM IAMs_20 IAMs_20 12 58 52.6

comp=Z,5µm,21.0s
BOD **Bodaibo** **79.17 336** *e*P **P** **12 22 41.3 -1.2**
BOD pmax pmax
comp=Z,97nm,1.7s
HOM **Homer** **79.39 22** P 12 22 44.6
baz=226,SNR=11
HOM **Homer** **79.39 22** P **P** **12 22 44.5 +0.9**
HOM IAMs_20 IAMs_20 12 58 31.4
comp=Z,4µm,21.0s
CNPM **China Poot** **79.45 22** IAmb IAmb 12 22 46.0
comp=Z,112nm,0.9s
TNA **Tin City** **79.45 12** P 12 22 44.5
baz=210,SNR=64
TNA **Tin City** **79.45 12** IAMs_20 IAMs_20 12 58 41.6
comp=Z,6µm,21.0s
LSA **Lhasa** **79.67 303** P P 12 22 56.0 +10
LSA pmax pmax
comp=Z,73nm,1.7s
BRLK **Bradley Lake** **79.74 22** P **P** **12 22 46.0 +0.4**
BRLK IAmb IAmb 12 23 00.9
comp=Z,102nm,1.2s
BRSE **Bradley Lake S** **79.78 22** P 12 22 46.8
baz=227
ZAK **Zakamensk** **79.88 326** *e*P P 12 22 53.9 +7.2
ZAK *e* 12 25 54.7
ZAK pmax pmax
comp=Z,95nm,1.2s
ZAK pmax pmax
comp=Z,14nm,1.4s
SPCR **Spurr Chakacha** **80.28 20** P 12 22 49.3
baz=225
IRK **Irkutsk** **80.32 328** *e*P **P** **12 22 48.4 -0.5**
IRK pmax pmax
comp=Z,161nm,2.0s
CAPN **Captain Cook N** **80.34 21** P 12 22 50.4
baz=226,SNR=22
CAPN **Captain Cook N** **80.34 21** P **P** **12 22 50.4 +1.6**
CAPN IAMs_20 IAMs_20 13 01 06.6
comp=Z,4µm,20.0s
TLY **Talaya** **80.35 327** P **P** **12 22 48.9 -0.2**
comp=Z,13nm,0.7s,baz=152,slow=3.1,SNR=11
TLY **Talaya** **80.35 327** *c i*P **P** **12 22 49.6 +0.5**
TLY *e* 12 22 58.9
TLY *e*S **S** **12 32 49.5 -2.0**
TLY *e* 12 33 05.0
TLY pmax pmax
comp=Z,133nm,1.6s
TLY MLR MLR
comp=Z,5µm,17.0s
TLY **Talaya** **80.35 327** P **P** **12 22 49.1 0.0**
TLY IAmb IAmb 12 22 59.9
comp=Z,90nm,1.0s
SEW **Seward** **80.50 22** P 12 22 50.2
baz=228,SNR=6.9
SEW **Seward** **80.50 22** P **P** **12 22 50.0 +0.4**
SEW IAmb IAmb 12 23 07.5
comp=Z,55nm,1.1s
SEW IAMs_20 IAMs_20 12 59 37.9
comp=Z,6µm,21.0s
O22K **Cooper Landing** **80.66 22** P **P** **12 22 51.0 +0.5**
O22K IAmb IAmb 12 23 03.5
comp=Z,101nm,0.8s
O22K **Cooper Landing** **80.66 22** P 12 22 51.3
baz=228,SNR=25
FIS **Fire Island** **80.93 21** IAMs_20 IAMs_20 13 01 25.2
comp=Z,4µm,21.0s
SUA **Susitna One** **80.97 21** P 12 22 52.3
baz=226,SNR=29
SUA **Susitna One** **80.97 21** IAmb IAmb 12 22 55.8
comp=Z,54nm,1.0s
SKT **Skwentna** **81.06 20** P 12 22 51.9
baz=226
SKT **Skwentna** **81.06 20** IAMs_20 IAMs_20 12 59 44.5
comp=Z,4µm,22.0s
RC01 **Rabbit Creek A** **81.07 21** P 12 22 53.0
baz=227,SNR=16
GTK **Tadong** **81.07 300** *e*P **P** **12 22 55.0 +1.4**
GTK *i x* x 12 23 03.3
RC01 **Rabbit Creek A** **81.07 21** IAMs_20 IAMs_20 13 02 53.7
comp=Z,5µm,20.0s
Q23K **Middleton Isla** **81.25 24** IAMs_20 IAMs_20 12 59 11.7
comp=Z,4µm,22.0s
PWL **Port Wells** **81.42 22** IAmb IAmb 12 22 58.0
comp=Z,71nm,0.8s
PWL IAMs_20 IAMs_20 13 00 07.1
comp=Z,5µm,22.0s
PPLA **Purkeypile** **81.49 19** P 12 22 55.2
baz=225,SNR=10
PPLA **Purkeypile** **81.49 19** P **P** **12 22 54.2 -0.8**
PPLA IAMs_20 IAMs_20 13 00 33.8
comp=Z,5µm,21.0s
PMR **Palmer** **81.62 21** P 12 22 55.9
baz=228,SNR=27
PMR **Palmer** **81.62 21** P **P** **12 22 55.8 +0.2**
PMR pmax pmax
comp=Z,65nm,1.1s
PMR MLR MLR
comp=Z,4µm,20.0s
PMR **Palmer** **81.62 21** P **P** **12 22 55.8 +0.2**
PMR IAmb IAmb 12 23 20.6
comp=Z,65nm,1.1s
PMR IAMs_20 IAMs_20 13 03 21.4
comp=Z,4µm,20.0s
KNK **Knik Glacier** **81.74 22** P **P** **12 22 57.0 +0.7**
KNK **Knik Glacier** **81.74 22** P 12 22 56.9
baz=229
MOY **Mondy** **81.77 326** *e*P P 12 23 05.9 +9.1
MOY pmax pmax
comp=Z,140nm,3.3s
CUT **Chulitna** **81.78 20** IAmb IAmb 12 23 11.0
comp=Z,110nm,1.2s
CUT **Chulitna** **81.78 20** P 12 22 56.5
baz=227,SNR=13
GHO **Glory Hole Cre** **81.82 21** P **P** **12 22 57.0 +0.3**
GHO IAmb IAmb 12 23 21.2
comp=Z,123nm,1.5s
GHO IAMs_20 IAMs_20 13 03 35.5
comp=Z,3µm,20.0s
GLI **Glacier Island** **81.89 22** P 12 22 57.5
baz=230,SNR=14
GLI **Glacier Island** **81.89 22** P **P** **12 22 57.1 +0.1**
GLI IAmb IAmb 12 22 60.0
comp=Z,56nm,0.8s
GLI IAMs_20 IAMs_20 13 00 20.6
comp=Z,5µm,22.0s
ODAN **Odare** **81.97 299** *e*P **P** **12 22 59.0 +0.5**
FID **Port Fidalgo** **82.04 23** IAmb IAmb 12 23 13.0
comp=Z,74nm,1.1s
SML **Sawmill** **82.05 21** IAmb IAmb 12 23 01.2
comp=Z,60nm,1.0s
SML IAMs_20 IAMs_20 13 03 23.8
comp=Z,5µm,20.0s
SML **Sawmill** **82.05 21** P 12 22 58.6
baz=229,SNR=21
CHUM **Lake Minchumin** **82.15 18** P 12 22 58.9
baz=225,SNR=24
EYAK **Cordova Ski Ar** **82.19 23** P 12 22 59.0
baz=231
EYAK **Cordova Ski Ar** **82.19 23** IAmb IAmb 12 23 14.0
comp=Z,53nm,1.2s
KAIM **Kayak Island** **82.33 24** IAMs_20 IAMs_20 12 59 43.2
comp=Z,5µm,22.0s
KAIM **Kayak Island** **82.33 24** P 12 23 00.7
baz=232
KTH **Kantishna Hill** **82.36 19** P **P** **12 22 59.0 -0.6**
KTH IAmb IAmb 12 23 13.8
comp=Z,59nm,1.0s
KTH IAMs_20 IAMs_20 13 01 09.8
comp=Z,5µm,21.0s
SCM **Sheep Creek Mo** **82.43 22** P **P** **12 23 00.5 +0.5**
SCM pmax pmax
comp=Z,67nm,0.8s
SCM MLR MLR
comp=Z,5µm,22.0s
SCM **Sheep Creek Mo** **82.43 22** P **P** **12 23 00.5 +0.5**
SCM IAmb IAmb 12 23 03.2
comp=Z,67nm,0.8s
SCM IAMs_20 IAMs_20 13 00 39.7
comp=Z,5µm,22.0s
BOK **Bokaro** **82.43 296** *ex* **P** **12 23 05.2 +4.4**
BOK *ex* x 12 26 58.1
TRF **Thorofare Moun** **82.50 19** P **P** **12 22 59.9 -0.5**
TRF IAmb IAmb 12 23 14.7
comp=Z,52nm,1.2s
TRF IAMs_20 IAMs_20 13 04 39.4
comp=Z,4µm,20.0s
TRF **Thorofare Moun** **82.50 19** P 12 22 59.9
baz=227,SNR=25
RAGM **Ragged Mountai** **82.51 24** IAmb IAmb 12 23 16.0
comp=Z,57nm,1.2s
RAGM IAMs_20 IAMs_20 13 00 44.9
comp=Z,5µm,20.0s
RDOG **Red Dog Mine** **82.63 12** P 12 23 01.8
baz=214
RDOG **Red Dog Mine** **82.63 12** IAmb IAmb 12 23 02.8
comp=Z,65nm,0.8s
RDOG IAMs_20 IAMs_20 13 00 33.5
comp=Z,6µm,22.0s
HMT **Hamilton** **82.64 24** IAmb IAmb 12 23 03.0
comp=Z,56nm,1.0s
HMT IAMs_20 IAMs_20 12 59 53.4
comp=Z,6µm,22.0s
RAMN **Ramite** **82.67 299** *e*P **P** **12 23 02.6 +0.4**
SUCK **Suckling Hills** **82.67 24** IAMs_20 IAMs_20 13 00 04.3
comp=Z,6µm,21.0s
BPAW **Bear Paw Mtn.** **82.72 19** P 12 23 00.8
baz=226,SNR=18
KLU **Klutina** **82.72 22** P 12 23 02.3
baz=231,SNR=26
BPAW **Bear Paw Mtn.** **82.72 19** IAmb IAmb 12 23 15.8
comp=Z,51nm,1.2s
BPAW IAMs_20 IAMs_20 13 01 41.4
comp=Z,4µm,21.0s
KLU **Klutina** **82.72 22** P **P** **12 23 02.3 +0.8**
KLU IAmb IAmb 12 23 04.5
comp=Z,34nm,0.8s
KLU IAMs_20 IAMs_20 13 00 46.6
comp=Z,5µm,22.0s
WAT2 **Susitna Watana** **82.73 20** P 12 23 01.8
baz=228,SNR=23
WAT6 **Susitna Watana** **82.77 21** P 12 23 02.2
baz=229,SNR=23
BMRM **Bremner River** **82.89 23** P **P** **12 23 02.9 +0.5**
BMRM IAmb IAmb 12 23 25.2
comp=Z,78nm,1.2s
BMRM IAMs_20 IAMs_20 13 03 14.1
comp=Z,5µm,22.0s
BMRM **Bremner River** **82.89 23** P 12 23 02.9
baz=232,SNR=11
RND **Reindeer** **82.94 20** IAmb IAmb 12 23 17.5
comp=Z,142nm,1.5s
RND IAMs_20 IAMs_20 13 01 23.1
comp=Z,4µm,21.0s
M24K **Tolsona, Glenn** **83.02 22** IAMs_20 IAMs_20 13 02 22.4
comp=Z,5µm,21.0s
M24K **Tolsona, Glenn** **83.02 22** P 12 23 04.3
baz=231,SNR=39
MCK **McKinley** **83.13 20** P 12 23 03.4
baz=228,SNR=11
MCK **McKinley** **83.13 20** P **P** **12 23 03.4 -0.1**
MCK pmax pmax
comp=Z,136nm,1.1s
MCK MLR MLR
comp=Z,5µm,20.0s
MCK **McKinley** **83.13 20** P **P** **12 23 03.4 -0.1**
MCK IAMs_20 IAMs_20 13 04 40.2
comp=Z,5µm,20.0s
JIRN **Jiri** **83.22 300** *e*P **P** **12 23 05.8 +0.6**
comp=Z,217nm,1.6s
IMAR **Indian Mountai** **83.25 17** P **P** **12 23 04.8 +0.8**
BWN **Browne** **83.26 19** IAMs_20 IAMs_20 13 02 10.0
comp=Z,4µm,20.0s
N25K **Chitina, Valde** **83.29 23** P 12 23 05.4
baz=232,SNR=24
CRQM **Cirque** **83.34 24** P **P** **12 23 05.4 +0.6**
CRQE **Cirque** **83.35 24** P 12 23 05.8
baz=234
MLY **Manley** **83.45 18** P 12 23 05.4
baz=226,SNR=63
MLY **Manley** **83.45 18** P **P** **12 23 05.3 +0.2**
MLY IAmb IAmb 12 23 06.7
comp=Z,69nm,1.1s
GLB **Gilahina Butte** **83.49 23** P **P** **12 23 06.1 +0.7**
GLB IAmb IAmb 12 23 07.2
comp=Z,44nm,0.8s
VRDI **Verde Repeater** **83.50 23** P **P** **12 23 06.2 +0.6**
VRDI IAmb IAmb 12 23 21.1
comp=Z,61nm,1.3s
VRDI IAMs_20 IAMs_20 13 01 28.1
comp=Z,3µm,20.0s
GUN **Gumba** **83.55 300** *e*P **P** **12 23 07.2 +0.3**
comp=Z,396nm,1.7s
MAW **Mawson** **83.58 202** P **P** **12 23 05.9 +0.2**
comp=Z,21nm,0.9s,baz=104,slow=9.0,SNR=18
MAW **Mawson** **83.58 202** P **P** **12 23 07.2 +1.4**
baz=84,SNR=6.2
MAW **Mawson** **83.58 202** P **P** **12 23 06.8 +1.1**
MAW pmax pmax
comp=Z,20nm,1.3s
MAW **Mawson** **83.58 202** P **P** **12 23 06.8 +1.1**
YAH **Yahtse** **83.66 24** P **P** **12 23 07.7 +1.1**
YAH IAmb IAmb 12 23 08.9
comp=Z,92nm,1.1s
YAH IAMs_20 IAMs_20 13 04 10.4
comp=Z,3µm,20.0s
NEA2 **Nenana** **83.67 19** P 12 23 05.8
baz=228,SNR=71
NEA2 **Nenana** **83.67 19** P **P** **12 23 05.8 -0.4**
NEA2 IAmb IAmb 12 23 07.1
comp=Z,59nm,1.0s
NEA2 IAMs_20 IAMs_20 13 02 19.4
comp=Z,4µm,21.0s
MCARA **McCarthy VSAT** **83.75 23** P 12 23 07.5
baz=234,SNR=11
MCARA **McCarthy VSAT** **83.76 23** P **P** **12 23 07.6 +0.9**
MCARA IAMs_20 IAMs_20 13 01 16.0
comp=Z,3µm,21.0s
PAX **Paxson** **83.82 21** P 12 23 07.4
baz=231,SNR=7.6
PAX **Paxson** **83.82 21** P **P** **12 23 07.1 0.0**
PAX pmax pmax
comp=Z,16nm,0.8s
PAX MLR MLR
comp=Z,3µm,20.0s
PAX **Paxson** **83.82 21** P **P** **12 23 07.1 0.0**
PKI **Pulchoki** **83.86 299** *e*P **P** **12 23 08.6 +0.2**
comp=Z,116nm,1.2s
PKIN **Phulchoki** **83.87 300** *e*P **P** **12 23 08.8 +0.4**
GRNC **Granite Creek** **83.87 24** P **P** **12 23 08.5 +0.9**
GRNC IAmb IAmb 12 23 09.7
comp=Z,83nm,1.1s
WRH **Wood River Hil** **83.90 19** P **P** **12 23 06.8 -0.5**
WRH IAmb IAmb 12 23 09.2
comp=Z,65nm,0.8s
WRH IAMs_20 IAMs_20 13 02 07.6
comp=Z,4µm,21.0s
TABL **Table Mountain** **83.95 25** P **P** **12 23 08.7 +0.7**
I23K **Minto, Yukon-K** **83.95 18** P 12 23 07.6
baz=227,SNR=29
I23K **Minto, Yukon-K** **83.95 18** IAmb IAmb 12 23 09.6
comp=Z,25nm,0.8s
I23K IAMs_20 IAMs_20 13 01 32.9
comp=Z,3µm,22.0s
KKN **Kakani** **84.03 300** *e*P **P** **12 23 09.7 +0.6**
comp=Z,249nm,1.6s
BARN **Barnard Glacie** **84.10 24** IAMs_20 IAMs_20 13 01 12.1
comp=Z,4µm,22.0s
CCB **Clear Creek Bu** **84.11 19** IAmb IAmb 12 23 10.0
comp=Z,57nm,0.7s
CCB IAMs_20 IAMs_20 13 05 10.1
comp=Z,4µm,19.0s
PINM **Pinnacle** **84.12 25** P 12 23 09.5
baz=236,SNR=9.7
DMN **Daman** **84.13 299** *e*P **P** **12 23 09.7 0.0**
comp=Z,261nm,1.4s
CTG **Chitna Glacier** **84.17 24** P 12 23 10.1
baz=235
MDM **Murphy Dome** **84.18 19** P **P** **12 23 08.5 -0.3**
MDM IAmb IAmb 12 23 10.2
comp=Z,61nm,0.8s
MDM IAMs_20 IAMs_20 13 02 45.0
comp=Z,3µm,21.0s
LOGN **Logan Glacier** **84.23 24** P **P** **12 23 10.0 +0.7**
HDA **Harding Lake** **84.24 20** P 12 23 09.2
baz=230,SNR=160
HDA P 12 23 09.2
baz=230,SNR=160
HDA **Harding Lake** **84.24 20** IAMs_20 IAMs_20 13 02 21.5
comp=Z,5µm,21.0s
TCOL **CIGO, UAF Yank** **84.24 19** P 12 23 08.9
baz=229,SNR=66
TCOL **CIGO, UAF Yank** **84.24 19** P **P** **12 23 08.8 -0.2**
TCOL IAMs_20 IAMs_20 13 02 37.6
comp=Z,4µm,21.0s
COLA **College** **84.25 19** P 12 23 08.9
baz=229
COLA **College** **84.25 19** *c i*P **P** **12 23 08.8 -0.3**
COLA pmax pmax
comp=Z,108nm,0.8s
COLA **College** **84.25 19** P **P** **12 23 08.8 -0.3**
COLA **College** **84.25 19** IAMs_20 IAMs_20 13 02 37.6
comp=Z,3µm,21.0s
BCPM **Bancas Point** **84.30 25** IAmb IAmb 12 23 36.0
comp=Z,97nm,1.4s
DIB **Dawson Inlet,** **84.36 33** IAmb IAmb 12 23 11.8
comp=Z,76nm,0.9s
H02S1 **DAWSON INLET T** **84.36 33** P **P** **12 23 10.2 +0.3**
SNR=4.8
H02S1 T T 13 56 18.6
SNR=39
MENT **Mentasta** **84.43 22** P **P** **12 23 11.2 +1.1**
MENT IAmb IAmb 12 23 14.3
comp=Z,38nm,0.9s
MENT IAMs_20 IAMs_20 13 02 02.7
comp=Z,6µm,21.0s
IL31 **84.49 19** P **P** **12 23 09.8 -0.5**
IL31 IAmb IAmb 12 23 25.1
comp=Z,46nm,1.1s
ILAR **Eielson Array** **84.49 19** P **P** **12 23 10.0 -0.4**
comp=Z,20nm,0.8s,baz=237,slow=5.1,SNR=91
ILAR PKKP **PKKPdf** **12 41 15.6 -1.1**
comp=Z,0.6nm,1.0s,baz=17,slow=1.2,SNR=2.2
ILAR **Eielson Array** **84.49 19** P **P** **12 23 10.0 -0.4**
POKR **Poker Plat Res** **84.54 19** P 12 23 10.1
baz=229,SNR=8.4
POKR **Poker Plat Res** **84.54 19** P **P** **12 23 10.2 -0.4**
POKR IAmb IAmb 12 23 11.4
comp=Z,34nm,0.8s
GKN **Gorkha** **84.63 300** *e*P **P** **12 23 11.5 -0.6**
comp=Z,103nm,0.9s
DOT **Dot Lake** **84.74 21** P **P** **12 23 12.4 +0.7**
DOT IAmb IAmb 12 23 13.6
comp=Z,35nm,0.8s
DOT IAMs_20 IAMs_20 13 05 45.8
comp=Z,3µm,20.0s
KCPM **Cahto Peak** **84.85 48** P **P** **12 23 13.7 +0.7**
KCPM IAmb IAmb 12 23 15.3
comp=Z,85nm,1.1s
JCC **Jacoby Creek,** **84.89 47** IAMs_20 IAMs_20 13 02 50.7
comp=Z,4µm,20.0s
KMRM **Mail Ridge** **84.93 48** P **P** **12 23 14.7 +1.4**
KMRM IAmb IAmb 12 23 15.9
comp=Z,80nm,1.0s
KMRM IAMs_20 IAMs_20 13 02 51.6
comp=Z,6µm,22.0s
SCRK **Sand Creek** **84.97 21** P **P** **12 23 13.7 +0.8**
SCRK IAmb IAmb 12 23 28.7
comp=Z,55nm,1.0s
SCRK **Sand Creek** **84.97 21** P 12 23 13.8
baz=232,SNR=44
HOPS **Hopland Field** **85.01 49** P **P** **12 23 14.7 +1.2**
HOPS IAmb IAmb 12 23 15.8
comp=Z,71nm,1.1s
CRAG **Craig** **85.05 31** IAMs_20 IAMs_20 13 00 23.7
comp=Z,4µm,20.0s
KHMM **Horse Mountain** **85.13 47** IAmb IAmb 12 23 17.0
comp=Z,52nm,0.9s
KHMM IAMs_20 IAMs_20 13 02 46.9
comp=Z,4µm,21.0s
COLD **Coldfoot** **85.13 17** P 12 23 14.9
baz=226,SNR=20
COLD **Coldfoot** **85.14 17** P **P** **12 23 14.6 +1.0**
COLD IAMs_20 IAMs_20 13 01 41.0
comp=Z,4µm,21.0s
GDXM **Geysers** **85.15 49** IAmb IAmb 12 23 16.9
comp=Z,48nm,1.0s
L27K **Beaver Creek,** **85.20 22** P 12 23 15.2
baz=234
L27K **Beaver Creek,** **85.20 22** IAmb IAmb 12 23 16.5
comp=Z,60nm,0.9s
L27K IAMs_20 IAMs_20 13 02 14.1
comp=Z,4µm,21.0s
KRMB **Red Mountain** **85.21 46** IAMs_20 IAMs_20 13 02 25.1
comp=Z,4µm,22.0s
KBO **Bosley Butte** **85.21 46** IAMs_20 IAMs_20 13 05 22.1
comp=Z,4µm,19.0s
BCAR **Beaver Creek A** **85.22 22** P **P** **12 23 14.2 +0.1**
KEBM **Edson Butte** **85.36 45** IAMs_20 IAMs_20 13 05 31.8
comp=Z,5µm,20.0s
PRP **Porcupine Dome** **85.41 19** P **P** **12 23 14.3 -0.8**
PRP IAMs_20 IAMs_20 13 05 47.6
comp=Z,4µm,20.0s
PRP **Porcupine Dome** **85.41 19** P 12 23 15.8
baz=231
KOLN **Koldanda** **85.46 299** *e*P **P** **12 23 16.4 +0.1**
TIXI **Tiksi** **85.47 350** *c i*P **P** **12 23 14.6 -0.5**
TIXI **Tiksi** **85.47 350** P **P** **12 23 13.6 -1.5**
TIXI IAmb IAmb 12 23 27.0
comp=Z,67nm,1.4s
DANN **Dangsing** **85.47 300** *e*P **P** **12 23 15.5 -1.0**
comp=Z,17nm,0.8s
SAO **San Andreas Ge** **85.55 51** P **P** **12 23 17.2 +0.8**
SAO pmax pmax
comp=Z,51nm,1.1s
SAO MLR MLR
comp=Z,5µm,20.0s
SAO **San Andreas Ge** **85.55 51** P **P** **12 23 17.2 +0.8**
SAO IAmb IAmb 12 23 18.6
comp=Z,51nm,1.1s
SAO IAMs_20 IAMs_20 13 04 43.6
comp=Z,5µm,20.0s
O02D **Mt. Diablo Mer** **85.58 48** P 12 23 18.2
baz=252,SNR=28
L02E **Cave Junction** **85.63 46** P 12 23 18.0
baz=251
HYT **Haines Junctio** **85.66 25** P **P** **12 23 16.6 +0.1**
HYT IAmb IAmb 12 23 18.7
comp=Z,37nm,1.3s
K27K **Chicken** **85.68 21** IAMs_20 IAMs_20 13 03 23.6
comp=Z,4µm,22.0s
K27K **Chicken** **85.68 21** P 12 23 18.1
baz=234,SNR=98
BESE **Bessie Mountai** **85.69 28** IAmb IAmb 12 23 18.3
comp=Z,31nm,0.8s
J01E **Myrtle Point** **85.73 45** P 12 23 18.7
baz=251
JIS **Juneau Island** **85.76 28** IAmb IAmb 12 23 19.1
comp=Z,57nm,1.5s
K02D **Willamette Mer** **85.76 45** P 12 23 18.3
baz=251,SNR=7.1
WRAK **Wrangell Islan** **85.87 30** IAmb IAmb 12 23 19.5
comp=Z,98nm,1.0s
WRAK **Wrangell Islan** **85.87 30** P 12 23 18.5
baz=243
WDC **Whiskeytown Da** **85.89 48** IAmb IAmb 12 23 20.3
comp=Z,95nm,1.6s
WDC IAMs_20 IAMs_20 13 03 23.2
comp=Z,6µm,21.0s
N02D **Trinity Center** **85.89 47** P 12 23 19.7
baz=252,SNR=16
SKAG **Skagway** **85.91 27** P 12 23 18.1
baz=241
SKAG **Skagway** **85.91 27** P **P** **12 23 18.2 +0.7**
SKAG IAMs_20 IAMs_20 13 01 26.1
comp=Z,4µm,22.0s
M02C **Callahan** **85.92 47** P 12 23 19.7
baz=252,SNR=24
I02D **Swisshome** **86.10 44** P 12 23 20.3
baz=251
YBH **Yreka Blue Hor** **86.13 46** P **P** **12 23 20.1 +0.9**
comp=Z,12nm,0.8s,baz=270,slow=2.4,SNR=13
YBH **Yreka Blue Hor** **86.13 46** P **P** **12 23 20.1 +0.9**
YBH pmax pmax
comp=Z,48nm,1.0s
YBH MLR MLR
comp=Z,6µm,22.0s
YBH **Yreka Blue Hor** **86.13 46** P **P** **12 23 20.1 +0.9**
YBH IAmb IAmb 12 23 21.7
comp=Z,48nm,1.0s
YBH IAMs_20 IAMs_20 13 02 44.4
comp=Z,5µm,22.0s
FYU **Fort Yukon** **86.17 18** P **P** **12 23 18.9 +0.2**
FYU IAmb IAmb 12 23 21.2
comp=Z,33nm,1.0s
PAGB **Antelope Grade** **86.18 53** P **P** **12 23 20.9 +1.3**
HUMO **Hull Mountain** **86.23 45** P **P** **12 23 20.1 +0.5**
HUMO IAmb IAmb 12 23 22.1
comp=Z,43nm,0.9s
HUMO IAMs_20 IAMs_20 13 05 54.0
comp=Z,5µm,20.0s
SMMC **Simmler** **86.27 53** P 12 23 21.4

baz=254
TOLK Toolik Lake Re 86.28 16 P 12 23 20.5
baz=227,SNR=26
TOLK Toolik Lake Re 86.28 16 P **P** **12 23 20.4 +1.1**
TOLK IAmb IAmb 12 23 35.5
comp=Z,78nm,1.5s
TOLK IAMs_20 IAMs_20 13 02 57.3
comp=Z,6µm,22.0s
PKM Mcpherson Peak 86.29 54 P 12 23 21.6
baz=254,SNR=8.1
I03D Drain, OR 86.31 44 P 12 23 21.1
baz=251
O03E Paynes Creek 86.34 48 P 12 23 21.0
baz=252,SNR=25
ORV Oroville 86.34 49 P **P** **12 23 20.5 +0.3**
ORV pmax pmax
comp=Z,23nm,0.9s
ORV MLR MLR
comp=Z,5µm,22.0s
ORV Oroville 86.34 49 P **P** **12 23 20.5 +0.3**
ORV IAMs_20 IAMs_20 13 03 31.1
comp=Z,5µm,22.0s
BBB Bella Bella 86.34 35 IAMs_20 IAMs_20 13 01 50.2
comp=Z,3µm,21.0s
EGAK Eagle 86.44 21 P 12 23 21.3
baz=235,SNR=112
EGAK Eagle 86.44 21 P **P** **12 23 21.0 +1.0**
EGAK IAMs_20 IAMs_20 13 03 11.9
comp=Z,4µm,22.0s
AFDM Forest Hills D 86.55 49 P **P** **12 23 21.6 +0.3**
AFDM IAmb IAmb 12 23 23.2
comp=Z,62nm,1.2s
AFDM IAMs_20 IAMs_20 13 03 27.9
comp=Z,6µm,22.0s
L04D Klamath Falls 86.57 46 P 12 23 22.4
baz=252,SNR=12
DAWY Dawson 86.67 22 P **P** **12 23 21.9 +0.6**
DAWY IAmb IAmb 12 23 23.8
comp=Z,72nm,1.1s
WHY Whitehorse 86.69 26 IAMs_20 IAMs_20 13 03 17.8
comp=Z,3µm,21.0s
CMB Columbia Colle 86.73 50 P **P** **12 23 22.8 +0.6**
CMB pmax pmax
comp=Z,29nm,1.1s
CMB MLR MLR
comp=Z,6µm,21.0s
CMB Columbia Colle 86.73 50 P **P** **12 23 22.8 +0.6**
M04C Macdoel 86.76 47 P 12 23 23.5
baz=252,SNR=16
SCI2 San Clemente I 86.79 56 P 12 23 23.7
baz=255
WMQ Urumqi 86.84 316 *e*P **P** **12 23 22.8 +0.2**
WMQ SKS **SKSac** **12 33 43.0 -3.0**
WMQ S **SKKSac** **12 33 54.8 +0.3**
WMQ SS **SS** **12 39 40.0 -0.5**
WMQ pmax pmax
comp=Z,37nm,1.5s
WMQ pmax pmax
comp=Z,340nm,7.7s
WMQ LR LR
comp=Z,1µm,19.9s
WMQ LR LR
comp=Z,2µm,19.9s
WMQ LR LR
comp=Z,5µm,29.9s
WMQ Urumqi 86.84 316 IAMs_20 IAMs_20 13 01 58.1
comp=Z,4µm,22.0s
G03D McMinnville, O 86.85 43 P 12 23 23.9
baz=251
BMAR Burnt Mountain 86.91 18 P **P** **12 23 22.9 +0.5**
I04A Tendick Farm, 86.98 44 P 12 23 24.1
baz=252,SNR=8.6
H04D Lebanon 86.99 44 P 12 23 24.3
baz=252
CIS Catalina Islan 87.01 55 P 12 23 24.5
baz=255
J04D Umpqua Nationa 87.02 45 P 12 23 24.9
baz=252,SNR=17
K04D Chiloquin, OR 87.08 46 P 12 23 25.0
baz=252,SNR=5.4
OSI Osito Audit: C 87.08 54 IAMs_20 IAMs_20 13 05 58.3
comp=Z,4µm,20.0s
E03A Lebam 87.09 42 P **P** **12 23 24.7 +1.1**
E03A IAMs_20 IAMs_20 13 05 37.5
comp=Z,4µm,20.0s
VES Vestal, Richgr 87.12 53 P 12 23 24.6
baz=254,SNR=5.5
ARVC Arvin 87.13 54 P 12 23 25.2
baz=255,SNR=8.1
NLWA Neilton Lookou 87.17 41 IAMs_20 IAMs_20 13 03 11.6
comp=Z,3µm,21.0s
BEKR Beckworth 87.27 49 P **P** **12 23 25.2 +0.3**
BEKR IAmb IAmb 12 23 26.3
comp=Z,25nm,0.8s
F04D Rainier, OR 87.30 42 P 12 23 26.4
baz=251
PASC Pasadena Art C 87.40 55 P **P** **12 23 25.3 -0.2**
PASC IAmb IAmb 12 23 26.7
comp=Z,36nm,1.1s
PASC IAMs_20 IAMs_20 13 03 51.7
comp=Z,4µm,22.0s
H04A Detroit Lake 87.41 44 IAmb IAmb 12 23 27.0
comp=Z,72nm,1.4s
MWC Mount Wilson 87.51 55 P **P** **12 23 26.9 +0.7**
MWC pmax pmax
comp=Z,72nm,1.0s
MWC MLR MLR
comp=Z,4µm,22.0s
MWC Mount Wilson 87.51 55 P **P** **12 23 26.9 +0.7**
MWC IAMs_20 IAMs_20 13 04 18.7
comp=Z,4µm,22.0s
ISA Isabella, Lake 87.56 53 P 12 23 27.2
baz=255,SNR=11
ISA Isabella, Lake 87.56 53 IAmb IAmb 12 23 42.3
comp=Z,63nm,1.7s
ISA IAMs_20 IAMs_20 13 04 14.8
comp=Z,5µm,21.0s
WAKR Walker 87.58 50 P **P** **12 23 26.7 +0.2**
HYB Hyderabad 87.60 288 *i* P P 12 23 35.0 +8.2
PNTR Pine Nut 87.62 50 IAmb IAmb 12 23 28.9
comp=Z,37nm,0.9s
J05D Fort Rock, OR 87.64 45 P 12 23 28.0
baz=253,SNR=30
K05A Summer Lake 87.72 46 P **P** **12 23 28.0 +0.9**
K05A IAmb IAmb 12 23 29.4
comp=Z,52nm,0.9s
K05A IAMs_20 IAMs_20 13 07 05.3
comp=Z,4µm,19.0s
EDW2 Edwards Air Fo 87.73 54 P 12 23 28.2
baz=255,SNR=17
E04D Cinebar 87.75 42 P 12 23 28.4
baz=252
BFSC Mount Baldy Ra 87.83 55 P 12 23 28.4
baz=255,SNR=19
DLBC Dease Lake 87.88 29 P **P** **12 23 27.2 0.0**
I05D Terrebonne, OR 87.88 44 P 12 23 28.8
baz=253,SNR=9.0
TJX Tijuana 87.89 56 IAMs_20 IAMs_20 13 04 39.8
comp=Z,5µm,21.0s
MOD Modoc Plateau 87.89 47 P **P** **12 23 27.6 -0.2**
MOD IAmb IAmb 12 23 29.9
comp=Z,37nm,0.8s
MOD IAMs_20 IAMs_20 13 04 16.2
comp=Z,5µm,22.0s
109C Camp Elliot, M 87.94 56 P 12 23 29.2
baz=256
109C Camp Elliot, M 87.94 56 P **P** **12 23 28.4 +0.4**
109C IAmb IAmb 12 23 49.3
comp=Z,54nm,1.2s
109C IAMs_20 IAMs_20 13 04 41.2
comp=Z,5µm,22.0s
PAHR Pah Rah Range 87.95 49 P **P** **12 23 28.7 +0.6**
PAHR IAmb IAmb 12 23 30.2
comp=Z,27nm,0.9s
PINE Pine Mountain 88.00 45 P **P** **12 23 29.5 +1.1**
PINE IAmb IAmb 12 23 30.7
comp=Z,54nm,0.8s
PINE IAMs_20 IAMs_20 13 04 15.7
comp=Z,4µm,20.0s
MURC Murrieta 88.05 55 P 12 23 29.6
baz=256,SNR=6.6
CCX Cicese 88.05 57 P **P** **12 23 29.2 +0.6**
CCX IAmb IAmb 12 23 30.8
comp=Z,24nm,0.9s
CCX IAMs_20 IAMs_20 13 07 11.2
comp=Z,3µm,19.0s
CWC Cottonwood Cre 88.07 52 P 12 23 29.4
baz=255
TIN Tinemaha, Big 88.11 52 P 12 23 30.4
baz=255,SNR=6.9
LRMC Laurel Mtn Rad 88.13 53 P 12 23 30.6
baz=255,SNR=7.8
CBX Cerro Bola 88.16 57 P **P** **12 23 30.2 +0.9**
G05D Wamic, OR 88.17 43 P 12 23 30.2
baz=253,SNR=7.5
LHV Little Huntoon 88.22 51 P **P** **12 23 29.6 +0.4**
LHV IAmb IAmb 12 23 31.7
comp=Z,27nm,0.7s
BAR Barrett 88.25 56 P **P** **12 23 30.1 +0.6**
BAR IAmb IAmb 12 23 31.5
comp=Z,28nm,0.9s
BAR IAMs_20 IAMs_20 13 04 50.2
comp=Z,6µm,22.0s
F05D White Salmon 88.27 43 P 12 23 30.7
baz=252
LON Longmire 88.30 42 IAmb IAmb 12 24 27.1
comp=Z,48nm,1.8s
RYN Ryan 88.30 50 IAmb IAmb 12 23 33.0
comp=Z,36nm,0.8s
D05A Enumclaw 88.32 41 P **P** **12 23 30.9 +1.3**
D05A IAmb IAmb 12 23 32.3
comp=Z,55nm,0.9s
D05A IAMs_20 IAMs_20 13 06 26.0
comp=Z,3µm,20.0s
NVAR Mina Array Bea 88.42 51 P **P** **12 23 31.3 +0.8**
comp=Z,25nm,0.7s,baz=235,slow=7.2,SNR=231
NVAR Mina Array Bea 88.42 51 P **P** **12 23 30.4 -0.1**
MPMC Manual Prospec 88.43 53 P 12 23 31.6
baz=255,SNR=22
BBRC Big Bear Solar 88.43 55 P 12 23 31.7
baz=256
MONP2 Monument Peak 88.50 56 P 12 23 32.3
baz=256,SNR=44
NV11 Mina Array Sit 88.53 51 P **P** **12 23 31.1 +0.1**
NV11 IAmb IAmb 12 23 32.5
comp=Z,26nm,0.8s
B05A Bryant 88.58 40 P 12 23 31.8
baz=252
PFO Pinyon Flats O 88.64 56 P **P** **12 23 32.2 +0.7**
comp=Z,13nm,0.8s,baz=267,slow=4.1,SNR=24
PFO Pinyon Flats O 88.64 56*d i* P **P** **12 23 32.5 +0.9**
PFO pmax pmax
comp=Z,35nm,0.9s
PFO Pinyon Flats O 88.64 56 P **P** **12 23 31.5 -0.1**
PFO Pinyon Flats O 88.64 56 P 12 23 32.5
baz=256,SNR=15
ESJX Sierra Juarez 88.68 57 P **P** **12 23 32.7 +0.9**
ESJX IAmb IAmb 12 23 53.7
comp=Z,49nm,1.4s
ESJX IAMs_20 IAMs_20 13 08 18.7
comp=Z,4µm,19.0s
IKP In-Ko-Pah, Jac 88.70 57 P 12 23 33.2
baz=256,SNR=18
RMX La Rumorosa 88.71 57 IAmb IAmb 12 23 34.5
comp=Z,50nm,0.9s
RMX IAMs_20 IAMs_20 13 05 07.4
comp=Z,5µm,22.0s
KVN Kaiserville 88.73 50 IAmb IAmb 12 23 34.9
comp=Z,35nm,0.9s
KVN IAMs_20 IAMs_20 13 04 49.6
comp=Z,5µm,22.0s
GRAC Grapevine Rang 88.76 52 P 12 23 33.4
baz=255,SNR=7.0
GSC Goldstone, Bar 88.78 54 IAmb IAmb 12 23 34.4
comp=Z,32nm,1.2s
GSC IAMs_20 IAMs_20 13 04 56.3
comp=Z,4µm,21.0s
GSC Goldstone, Bar 88.78 54 P 12 23 33.1
baz=256,SNR=6.1
A05A Maple Falls 88.82 40 IAMs_20 IAMs_20 13 04 08.1
comp=Z,3µm,20.0s
SPX San Pedro Mart 88.85 58 IAmb IAmb 12 23 49.6
comp=Z,37nm,1.6s
SPX IAMs_20 IAMs_20 13 06 55.5
comp=Z,4µm,20.0s
EPYK Eagle Plains 88.86 21 P 12 23 32.6
baz=239,SNR=54
EPYK Eagle Plains 88.86 21 IAMs_20 IAMs_20 13 05 16.6
comp=Z,5µm,21.0s
DGZ Jazzator, Alta 88.87 321 *i* P **P** **12 23 31.9 -0.4**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
FURC Furnace Creek, 89.02 53 P 12 23 34.3
baz=256,SNR=33
SWSC Sam W. Stewart 89.02 56 P 12 23 34.3
baz=256,SNR=18
HEC Hector,Ludlow 89.04 54 P 12 23 34.2
baz=256,SNR=14
B06A Marblemount 89.05 40 IAMs_20 IAMs_20 13 04 28.2
comp=Z,3µm,20.0s
I07A Izee 89.07 45 P **P** **12 23 34.3 +1.0**
I07A IAmb IAmb 12 23 35.6
comp=Z,39nm,0.7s
I07A IAMs_20 IAMs_20 13 05 01.2
comp=Z,5µm,21.0s
BELC Belle Mtn. Jos 89.11 55 P 12 23 34.9
baz=256,SNR=34
TPH Tonopah 89.15 51 P **P** **12 23 34.2 +0.3**
TPH pmax pmax
comp=Z,80nm,0.8s
TPH Tonopah 89.15 51 P **P** **12 23 34.2 +0.3**
LTY Liberty 89.20 42 P **P** **12 23 34.5 +0.7**
WVOR Wild Horse Val 89.23 47 P **P** **12 23 34.8 +0.7**
WVOR pmax pmax
comp=Z,136nm,1.6s
WVOR MLR MLR
comp=Z,5µm,22.0s
WVOR Wild Horse Val 89.23 47 P **P** **12 23 34.8 +0.7**
WVOR IAMs_20 IAMs_20 13 04 57.6
comp=Z,5µm,22.0s
UABX UABC, Campus M 89.24 57 IAMs_20 IAMs_20 13 05 21.5
comp=Z,3µm,21.0s
F07A Phinny Hill Vi 89.30 43 IAmb IAmb 12 23 53.3
comp=Z,32nm,1.3s
F07A IAMs_20 IAMs_20 13 04 32.9
comp=Z,5µm,22.0s
SHOC Shoshone, Teco 89.34 53 P 12 23 35.5
baz=256,SNR=18
BC3 Big Chuckawall 89.47 56 P 12 23 36.7
baz=257,SNR=18
E07A Sunnyside 89.53 42 P **P** **12 23 36.2 +0.9**
E07A IAmb IAmb 12 23 37.7
comp=Z,105nm,2.0s
E07A IAMs_20 IAMs_20 13 04 38.1
comp=Z,4µm,22.0s
GMRC Granite Mounta 89.57 55 P 12 23 36.7
baz=256,SNR=26
J08A Circle Bar Ran 89.59 46 P **P** **12 23 36.6 +0.8**
J08A IAmb IAmb 12 23 38.0
comp=Z,63nm,0.9s
J08A IAMs_20 IAMs_20 13 08 52.1
comp=Z,5µm,19.0s
TPNV Topopah Spring 89.62 52 P **P** **12 23 37.0 +0.9**
TPNV pmax pmax
comp=Z,33nm,0.9s
TPNV MLR MLR
comp=Z,5µm,21.0s
TPNV Topopah Spring 89.62 52 P **P** **12 23 37.0 +0.9**
TPNV IAmb IAmb 12 23 38.3
comp=Z,33nm,0.8s
TPNV Topopah Spring 89.62 52 P 12 23 37.1
baz=256,SNR=36
HAWA Hanford 89.70 43 P **P** **12 23 36.9 +0.9**
HAWA IAMs_20 IAMs_20 13 04 32.6
comp=Z,5µm,22.0s
G08A Pilot Rock 89.78 44 P **P** **12 23 36.9 +0.3**
G08A IAmb IAmb 12 23 38.8
comp=Z,60nm,1.5s
ZSN Zaisan 89.82 318 *e*P **P** **12 23 35.9 -0.7**
baz=318
ZSN Zaisan 89.82 318 *e*P **P** **12 23 35.9 -0.7**
IRM Iron Mountain 89.84 55 P 12 23 38.1
baz=257,SNR=40
GLA Glamis 89.84 56 P **P** **12 23 38.6 +1.5**
GLA pmax pmax
comp=Z,54nm,0.9s
GLA MLR MLR
comp=Z,5µm,22.0s
GLA Glamis 89.84 56 P **P** **12 23 38.6 +1.5**
GLA IAmb IAmb 12 23 39.8
comp=Z,54nm,0.9s
GLA IAMs_20 IAMs_20 13 05 48.5
comp=Z,5µm,22.0s
GLA Glamis 89.84 56 P 12 23 38.7
baz=257,SNR=11
E08A Dider Farm, El 90.04 43 P **P** **12 23 38.5 +0.9**
E08A IAmb IAmb 12 23 40.2
comp=Z,97nm,1.5s
E08A IAMs_20 IAMs_20 13 04 53.6
comp=Z,5µm,22.0s
H06E1 SOCORRO T-PHAS 90.26 71 T T 14 03 38.7
SNR=8.2
D08A Wollman Farm, 90.29 42 P **P** **12 23 39.0 +0.2**
D08A IAMs_20 IAMs_20 13 04 49.1
comp=Z,3µm,22.0s
SHPR Sheep Range 90.36 53 P **P** **12 23 40.4 +0.8**
SHPR IAmb IAmb 12 23 42.0
comp=Z,36nm,0.9s
SHPR IAMs_20 IAMs_20 13 06 15.2
comp=Z,5µm,20.0s
B08A Colville Reser 90.38 41 P **P** **12 23 39.1 -0.1**
B08A IAMs_20 IAMs_20 13 08 36.3
comp=Z,4µm,20.0s
R11A Troy Canyon, C 90.46 51 P **P** **12 23 40.7 +0.6**
R11A IAmb IAmb 12 23 42.1
comp=Z,31nm,0.9s
R11A Troy Canyon, C 90.46 51 P 12 23 41.0
baz=256,SNR=32
PRN Pahroc Range 90.66 52 P **P** **12 23 42.1 +1.2**
PDMCI Parker Dam,Lak 90.68 55 P 12 23 42.3
baz=257,SNR=14
BELA Belgrano 2 90.75 176 P **P** **12 23 41.0 +0.6**
BMO Blue Mountains 90.80 44 P **P** **12 23 41.0 -0.3**
BMO pmax pmax
comp=Z,50nm,1.2s
BMO MLR MLR
comp=Z,6µm,21.0s
BMO Blue Mountains 90.80 44 P **P** **12 23 41.0 -0.3**
BMO IAmb IAmb 12 23 43.4
comp=Z,50nm,1.1s
INK Inuvik 90.89 20 PKKP **PKKPdf** **12 41 04.8 -0.6**
comp=Z,0.6nm,0.5s,baz=12,slow=3.4,SNR=3.8
INK Inuvik 90.89 20 P **P** **12 23 41.2 +0.1**
INK pmax pmax
comp=Z,21nm,1.2s
INK Inuvik 90.89 20 P **P** **12 23 41.2 +0.1**
INK IAMs_20 IAMs_20 13 09 43.4
comp=Z,4µm,21.0s
SYO Syowa Base 90.89 198 ||*e*X P 12 23 46.2 +5.0
C09A Chrisman Ranch 90.91 41 IAmb IAmb 12 23 42.8
comp=Z,19nm,0.8s
C09A IAMs_20 IAMs_20 13 08 07.5
comp=Z,3µm,20.0s
214A Organ Pipe Nat 91.27 58 P 12 23 45.0
baz=258,SNR=12
214A Organ Pipe Nat 91.27 58 IAmb IAmb 12 24 05.8
comp=Z,37nm,1.3s
214A IAMs_20 IAMs_20 13 05 40.3
comp=Z,3µm,21.0s
ELK Elko 91.28 49 P **P** **12 23 44.7 +0.8**
comp=Z,29nm,0.9s,baz=261,slow=4.4,SNR=98
ELK Elko 91.28 49 IAmb IAmb 12 23 46.1
comp=Z,48nm,1.1s
ELK IAMs_20 IAMs_20 13 06 38.0
comp=Z,4µm,21.0s
MK31 Makanchi Array 91.34 317 *i* P **P** **12 23 42.9 -0.8**
MK31 Makanchi Array 91.34 317 P **P** **12 23 42.8 -0.9**
MK31 IAmb IAmb 12 23 56.1
comp=Z,80nm,1.9s
MKAR Makanchi Array 91.34 317 P **P** **12 23 43.0 -0.7**
comp=Z,3.7nm,0.7s,baz=99,slow=5.8,SNR=31
MKAR PKKP **PKKPdf** **12 41 03.6 -0.5**
comp=Z,0.9nm,0.6s,baz=240,slow=7.1,SNR=5.1
MKAR PKPPKP **P'P'df** **12 49 13.8 -0.6**
comp=Z,1.4nm,0.8s,baz=299,slow=2.2,SNR=11
MKAR Makanchi Array 91.34 317 *i* P **P** **12 23 43.0 -0.7**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 91.34 317 P **P** **12 23 42.6 -1.1**
MFID Camas Ranch 91.48 46 P **P** **12 23 45.4 +0.8**
MFID IAmb IAmb 12 23 46.8
comp=Z,32nm,0.8s
MFID IAMs_20 IAMs_20 13 11 36.9
comp=Z,3µm,20.0s
MAKZ Makanchi 91.55 317 P **P** **12 23 44.3 -0.4**
MAKZ pmax pmax
comp=Z,69nm,1.6s
MAKZ MLR MLR
comp=Z,3µm,21.0s
MAKZ Makanchi 91.55 317 P **P** **12 23 44.3 -0.4**
MAKZ IAmb IAmb 12 23 54.9
comp=Z,69nm,1.6s
MAKZ IAMs_20 IAMs_20 13 04 35.9
comp=Z,3µm,21.0s
ZAA0 Zalesovo Array 91.68 325 P **P** **12 23 43.4 -1.7**
ZAA0 IAmb IAmb 12 23 54.5
comp=Z,47nm,1.6s
ZAA0 IAMs_20 IAMs_20 13 04 24.0
comp=Z,3µm,22.0s
ZALV Zalesovo Beam 91.68 325 P **P** **12 23 44.2 -0.8**
comp=Z,2.5nm,0.7s,baz=109,slow=5.1,SNR=13
ZALV PKKP **PKKPdf** **12 41 03.9 +0.2**
comp=Z,1.2nm,0.5s,baz=298,slow=4.7,SNR=3.7
ZALV PKPPKP **P'P'df** **12 49 11.0 -2.1**
comp=Z,1.0nm,0.6s,baz=315,slow=0.8,SNR=5.7
ZALV Zalesovo Beam 91.68 325 P **P** **12 23 43.5 -1.5**
SMLA Simla 91.69 301 *e*P **P** **12 23 44.5 -1.1**
SMLA *i* x x 12 23 53.1
NEW Newport 91.77 41 P 12 23 46.5
baz=256,SNR=32
NEW Newport 91.78 41 P **P** **12 23 45.8 +0.1**
NEW pmax pmax
comp=Z,37nm,0.8s
NEW MLR MLR
comp=Z,5µm,20.0s
NEW Newport 91.78 41 P **P** **12 23 45.8 +0.1**
NEW IAmb IAmb 12 23 47.3
comp=Z,37nm,0.8s
NEW Newport 91.78 41 IAMs_20 IAMs_20 13 08 43.4
comp=Z,5µm,20.0s
PSUT Pine Spring 91.83 51 P **P** **12 23 46.2 -0.2**
PSUT IAmb IAmb 12 23 48.6
comp=Z,20nm,0.9s
LCMT Little Creek M 91.98 53 P **P** **12 23 47.8 +0.8**
LCMT IAmb IAmb 12 24 08.6
comp=Z,33nm,1.3s
CCUT Cedar City 92.00 52 P **P** **12 23 48.1 +0.8**
CCUT IAmb IAmb 12 24 09.1
comp=Z,42nm,1.3s
SLBS Sierra La Lagu 92.11 66 P **P** **12 23 48.8 +0.9**
SLBS Sierra La Lagu 92.11 66 IAMs_20 IAMs_20 13 07 37.4
comp=Z,4µm,21.0s
SZCU Shurtz Canyon 92.22 52 P **P** **12 23 49.4 +1.1**
SZCU IAmb IAmb 12 24 09.8
comp=Z,42nm,1.3s
HSIG 92.25 61 P **P** **12 23 48.8 +0.5**
HSIG IAmb IAmb 12 24 10.4
comp=Z,54nm,1.3s
HSIG IAMs_20 IAMs_20 13 06 42.5
comp=Z,5µm,22.0s
KNB Kanab 92.31 53 P **P** **12 23 49.9 +1.3**
KNB pmax pmax
comp=Z,44nm,1.3s
KNB Kanab 92.31 53 P **P** **12 23 49.9 +1.3**
KNB IAmb IAmb 12 24 10.4
comp=Z,44nm,1.3s
SHLS Shalkode 92.44 313 *e*P **P** **12 23 47.7 -1.4**
comp=Z,3.6nm,0.9s,baz=313
SHLS Shalkode 92.44 313 *e*P **P** **12 23 47.6 -1.4**
SHLS pmax pmax
comp=Z,4.0nm,0.9s
HLID Hailey 92.51 46 P 12 23 50.8
baz=257,SNR=47
HLID Hailey 92.51 46 P **P** **12 23 49.5 0.0**
HLID IAmb IAmb 12 23 52.0
comp=Z,31nm,1.1s
DHRM DHARAMSHALA 92.64 302 *e*P **P** **12 23 47.2 -3.1**
DHRM IAmb IAmb 12 24 03.9
comp=Z,14nm,1.1s
UZB Uzynbulak 92.75 313 *e*P **P** **12 23 50.4 -0.1**
comp=Z,2.6nm,0.9s,baz=313
UZB Uzynbulak 92.75 313 *e*P **P** **12 23 50.4 -0.1**
UZB pmax pmax
comp=Z,3.0nm,0.9s
PKCU Pink Cliffs 92.79 53 P **P** **12 23 52.1 +1.1**
PKCU IAmb IAmb 12 24 13.5
comp=Z,54nm,1.3s
TCRU Three Creeks R 92.92 51 IAmb IAmb 12 24 13.5
comp=Z,45nm,1.5s
DUG Dugway, Tooele 92.97 50 IAMs_20 IAMs_20 13 07 43.7

comp=Z,4µm,21.0s
DUG Dugway, Tooele 92.97 50 P 12 23 52.5
baz=258,SNR=10
MTPU Mount Pierson 93.01 52 P **P** **12 23 53.7 +1.6**
MTPU IAmb IAmb 12 23 56.0
comp=Z,17nm,0.8s
TUC Tucson 93.02 58 P **P** **12 23 52.4 +0.5**
TUC pmax pmax
comp=Z,9.0nm,0.9s
TUC MLR MLR
comp=Z,4µm,21.0s
TUC Tucson 93.02 58 P **P** **12 23 52.4 +0.5**
TUC Tucson 93.02 58 IAms_20 IAms_20 13 07 53.7
comp=Z,4µm,21.0s
TUC Tucson 93.02 58 P 12 23 53.1
baz=259
KPKS Kokpek 93.06 314 *e*P **P** **12 23 52.5 +0.6**
baz=314
KPKS Kokpek 93.06 314 *e*P **P** **12 23 52.4 +0.6**
MSU Marysvale 93.11 52 P **P** **12 23 52.9 +0.6**
MSU Marysvale 93.11 52 P **P** **12 23 52.9 +0.6**
WUAZ Wupatki 93.16 55 IAms_20 IAms_20 13 07 59.1
comp=Z,4µm,21.0s
WUAZ Wupatki 93.16 55 P 12 23 53.9
baz=259,SNR=8.3
SATY Saty 93.17 313 *e*P **P** **12 23 53.1 +0.7**
baz=313
SATY Saty 93.17 313 *e*P **P** **12 23 53.0 +0.7**
HVU Hansel Valley 93.32 48 P **P** **12 23 54.0 +0.9**
HVU pmax pmax
comp=Z,37nm,0.9s
HVU Hansel Valley 93.32 48 P **P** **12 23 54.0 +0.9**
HVU IAmb IAmb 12 23 55.5
comp=Z,37nm,0.9s
JTMT Jette 93.51 42 P **P** **12 23 52.6 -1.2**
MSO Missoula 93.54 43 P **P** **12 23 53.6 -0.3**
MSO IAms_20 IAms_20 13 07 03.3
comp=Z,4µm,22.0s
MSO Missoula 93.54 43 P 12 23 54.4
baz=258
TDK Taldyqorghan 93.57 315 *e*P **P** **12 23 54.2 +0.1**
baz=315
TDK Taldyqorghan 93.57 315 *e*P **P** **12 23 54.1 +0.1**
MPU Maple Canyon 93.82 50 P **P** **12 23 56.2 +0.6**
MPU IAmb IAmb 12 24 22.7
comp=Z,38nm,1.7s
CTU Camp Tracy 93.86 49 P **P** **12 23 56.6 +0.9**
MCMT McKenzie Canyo 93.88 45 P **P** **12 23 56.6 +0.8**
TMUT Trail Mountain 94.00 51 P **P** **12 23 57.3 +0.7**
WALA Waterton Lakes 94.03 41 P **P** **12 23 56.7 +0.5**
WALA IAmb IAmb 12 23 58.2
comp=Z,59nm,1.7s
WALA IAms_20 IAms_20 13 07 38.0
comp=Z,4µm,21.0s
JLU Jordanelle 94.07 50 P **P** **12 23 57.2 +0.4**
JLU IAmb IAmb 12 23 58.9
comp=Z,34nm,1.6s
DLMT Dillon 94.16 45 P **P** **12 23 57.9 +0.9**
DLMT IAmb IAmb 12 23 59.1
comp=Z,25nm,0.8s
DLMT IAMs_20 IAMs_20 13 08 19.8
comp=Z,4µm,20.0s
MDOK Medeo 94.17 313 *e*P **P** **12 23 56.6 -0.5**
baz=313
MDOK Medeo 94.17 313 *e*P **P** **12 23 56.5 -0.5**
HWUT Hardware Ranch 94.17 49 P **P** **12 23 57.2 +0.1**
HWUT IAMs_20 IAMs_20 13 08 42.5
comp=Z,3µm,21.0s
TCUT Toone Canyon 94.20 49 P **P** **12 23 58.8 +1.5**
TCUT IAmb IAmb 12 23 59.4
comp=Z,26nm,1.2s
KSH Kashi 94.28 309 P **P** **12 23 59.3 +1.7**
KSH pmax pmax
comp=Z,12nm,0.4s
KSH pmax pmax
comp=Z,170nm,5.1s
KSH LR LR
comp=Z,4µm,19.8s
KSH LR LR
comp=Z,3µm,18.0s
KSH LR LR
comp=Z,3µm,20.0s
LRM Limekiln Ridge 94.35 44 P **P** **12 23 58.5 +0.6**
W18A Petrified Fore 94.40 55 P 12 23 59.4
baz=260,SNR=5.0
W18A Petrified Fore 94.40 55 P **P** **12 23 59.3 +1.0**
W18A IAMs_20 IAMs_20 13 08 39.0
comp=Z,4µm,21.0s
C36M Paulatuk 94.45 20 P **P** **12 23 57.6 +0.1**
C36M IAMs_20 IAMs_20 13 08 03.5
comp=Z,4µm,22.0s
C36M Paulatuk 94.45 20 P 12 23 57.6
baz=251
AHID Auburn Hatcher 94.73 48 IAMs_20 IAMs_20 13 08 50.0
comp=Z,5µm,22.0s
KUU Kurty 94.81 314 *e*P **P** **12 24 00.1 +0.3**
comp=Z,4.9nm,1.1s,baz=314
KUU Kurty 94.81 314 *e*P **P** **12 24 00.0 +0.3**
KUU pmax pmax
comp=Z,5.0nm,1.1s
QLMT Earthquake Lak 94.87 45 P **P** **12 24 02.0 +1.7**
BOZ Bozeman (W) 94.87 45 P **P** **12 24 00.7 +0.5**
BOZ pmax pmax
comp=Z,21nm,0.8s
BOZ MLR MLR
comp=Z,4µm,22.0s
BOZ Bozeman (W) 94.87 45 P **P** **12 24 00.7 +0.5**
BOZ IAmb IAmb 12 24 02.3
comp=Z,21nm,0.8s
BOZ IAMs_20 IAMs_20 13 07 54.6
comp=Z,4µm,22.0s
BOZ Bozeman (W) 94.87 45 P 12 24 01.3
baz=259,SNR=38
HRY Holter Researc 94.94 44 P **P** **12 24 00.9 +0.5**
REDW Red Top Meadow 95.01 47 P **P** **12 24 01.5 +0.5**
REDW IAMs_20 IAMs_20 13 08 35.6
comp=Z,5µm,22.0s
YHB Horse Butte 95.02 46 P **P** **12 24 01.9 +1.0**
YHL Hebgen Lake 95.05 45 P **P** **12 24 02.8 +1.6**
YHL IAmb IAmb 12 24 04.0
comp=Z,22nm,1.0s
SNOW Snow King Moun 95.10 47 IAMs_20 IAMs_20 13 08 26.9
comp=Z,4µm,22.0s
YMR Madison River 95.17 46 P **P** **12 24 03.3 +1.6**
LOHW Long Hollow 95.23 47 P **P** **12 24 03.1 +1.1**
LOHW IAMs_20 IAMs_20 13 08 30.4
comp=Z,3µm,22.0s
FLWY Flagg Ranch 95.25 46 IAMs_20 IAMs_20 13 10 30.8
comp=Z,4µm,20.0s
YHH Holmes Hill 95.27 46 P **P** **12 24 04.0 +1.8**
NIL Nilore 95.41 303 IAMs_20 IAMs_20 13 07 38.4
comp=Z,3µm,21.0s
RDMU Red Mountain 95.47 50 P **P** **12 24 03.6 +0.5**
PV14 Lion Creek, Pa 95.52 52 P **P** **12 24 03.9 +0.4**
121A Cookes Peak, D 95.56 58 IAMs_20 IAMs_20 13 08 24.0
comp=Z,4µm,22.0s
121A Cookes Peak, D 95.56 58 P 12 24 05.2
baz=261
MVCO Mesa Verde 95.74 53 P **P** **12 24 04.9 +0.4**
MVCO IAMs_20 IAMs_20 13 09 16.5
comp=Z,4µm,21.0s
MVCO Mesa Verde 95.74 53 P 12 24 04.9
baz=261
BW06 Boulder Array 95.84 48 P **P** **12 24 04.5 -0.3**
BW06 Boulder Array 95.84 48 P 12 24 05.1
baz=261
PD31 Pinedale Array 95.85 48 P **P** **12 24 04.7 -0.1**
PDAR Pinedale Array 95.85 48 P **P** **12 24 05.1 +0.3**
comp=Z,4.6nm,0.7s,baz=253,slow=2.5,SNR=35
PDAR Pinedale Array 95.85 48 P **P** **12 24 04.3 -0.5**
YNE Yellowstone No 95.89 45 P **P** **12 24 06.3 +1.3**
AAK Ala-Archa 95.92 312 IAMs_20 IAMs_20 13 08 09.8
comp=Z,3µm,21.0s
GCMT Greycliff 96.26 45 P **P** **12 24 07.9 +1.4**
YKA Yellowknife Ar 96.39 28 P **P** **12 24 05.7 -0.7**
comp=Z,16nm,0.8s,baz=253,slow=4.4,SNR=233
YKA PKKPbc **PKKPbc** **12 40 50.0 -4.3**
comp=Z,0.2nm,0.6s,baz=73,slow=3.0,SNR=4.4
O20A White River Ci 96.40 50 P 12 24 07.7
baz=261
O20A White River Ci 96.40 50 P **P** **12 24 07.2 -0.2**
O20A IAMs_20 IAMs_20 13 10 00.7
comp=Z,4µm,20.0s
RLMT Red Lodge 96.43 45 IAMs_20 IAMs_20 13 09 45.0
comp=Z,4µm,21.0s
RLMT Red Lodge 96.43 45 P 12 24 08.6
baz=261
EPT El Paso 96.51 59 IAMs_20 IAMs_20 13 09 11.3
comp=Z,3µm,21.0s
Y22D IRIS PASSCAL I 96.52 57 IAMs_20 IAMs_20 13 10 44.2
comp=Z,3µm,21.0s
EGMT Eagleton 96.56 42 P 12 24 08.4
baz=261
EGMT Eagleton 96.56 42 P **P** **12 24 08.1 +0.4**
EGMT IAMs_20 IAMs_20 13 12 26.0
comp=Z,2µm,19.0s
BNM Barren Site 96.77 57 P **P** **12 24 09.7 +0.5**
SNAA Sanae 96.94 185 P **P** **12 24 09.1 +0.1**
SNAA Sanae 96.94 185 PKiKP **PKiKP** **12 28 45.8 +0.9**
SNAA Sanae 96.94 185 pP pP 12 24 25.0 +3.7
SNAA Sanae 96.94 185 sP sP 12 24 30.9 +4.9
SNAA Sanae 96.94 185 *i*P **P** **12 24 09.6 +0.6**
SNAA pmax pmax
comp=Z,24nm,1.0s
SNAA Sanae 96.94 185 P **P** **12 24 09.1 +0.1**
SNAA IAmb IAmb 12 24 10.3
comp=Z,27nm,1.0s
ANMO Albuquerque 97.02 56 P Pdif 12 24 10.4 0.0
comp=Z,4.2nm,1.0s,baz=244,slow=5.4,SNR=9.7
ANMO Albuquerque 97.02 56 *ce*P **P** **12 24 10.1 -0.2**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO Albuquerque 97.02 56 P Pdif 12 24 10.7 +0.3
ANMO Albuquerque 97.02 56 P 12 24 10.9
baz=262
S22A 4UR Ranch, Cre 97.13 53 P 12 24 11.6
baz=262
MNTX Cornudas Mount 97.44 59 P Pdif 12 24 12.3 +0.2
MNTX IAMs_20 IAMs_20 13 09 31.1
comp=Z,4µm,22.0s
MNTX Cornudas Mount 97.44 59 P 12 24 12.2
baz=262
VNA3 Neumayer Olymp 97.78 183 P Pdif 12 24 12.8 0.0
VNA3 Neumayer Olymp 97.78 183 PKiKP **PKiKP** **12 28 47.1 +0.8**
VNA3 Neumayer Olymp 97.78 183 pP pP 12 24 25.5 +0.4
VNA3 Neumayer Olymp 97.78 183 sP sP 12 24 32.0 +2.3
VNA2 Neumayer--Watz 97.98 183 P Pdif 12 24 14.0 +0.3
baz=186,slow=4.1
VNA2 Neumayer--Watz 97.98 183 PKiKP **PKiKP** **12 28 46.8 +0.1**
VNA2 Neumayer--Watz 97.98 183 PP **PP** **12 28 13.2 +1.1**
VNA2 Neumayer--Watz 97.98 183 pP pP 12 24 29.1 +3.1
VNA2 Neumayer--Watz 97.98 183 sP sP 12 24 34.0 +3.4
K22A Casper 98.04 48 IAMs_20 IAMs_20 13 10 56.8
comp=Z,4µm,22.0s
N23A Red Feather La 98.24 50 P 12 24 16.6
baz=263
VNA1 Neumayer--Stat 98.30 183 P Pdif 12 24 15.3 +0.2
VNA1 Neumayer--Stat 98.30 183 pP pP 12 24 32.2 +4.8
VNA1 Neumayer--Stat 98.30 183 sP sP 12 24 37.1 +5.1
ISCO Idaho Springs 98.36 51 P 12 24 17.3
baz=263
TX31 Lajitas Ar. Si 98.58 62 P Pdif 12 24 17.6 +0.2
TX32 Lajitas Array 98.58 62 P Pdif 12 24 17.8 +0.5
TXAR Lajitas Array 98.58 62 P Pdif 12 24 17.6 +0.3
comp=Z,1.7nm,0.7s,baz=229,slow=5.6,SNR=21
TXAR PP **PP** **12 28 17.1 -1.5**
comp=Z,2.0nm,1.0s,baz=251,slow=8.5,SNR=6.1
TXAR PKKPbc **PKKPbc** **12 40 47.1 0.0**
comp=Z,0.4nm,0.7s,baz=101,slow=4.7,SNR=3.0
TXAR Lajitas Array 98.58 62 **P** **12 24 17.0 -0.3**
Q24A Divide 98.61 52 P 12 24 18.5
baz=263
ZAIG Zacatecas 98.65 68 IAMs_20 IAMs_20 13 11 35.5
comp=Z,4µm,21.0s
LAO LASA Array 98.75 44 P Pdif 12 24 18.8 +1.1
LAO IAmb IAmb 12 24 20.0
comp=Z,31nm,0.9s
LAO IAMs_20 IAMs_20 13 13 19.2
comp=Z,3µm,20.0s
LAO LASA Array 98.75 44 P 12 24 18.9
baz=263
T25A Trinidad 98.96 54 IAMs_20 IAMs_20 13 15 29.8
comp=Z,2µm,20.0s
KBL Kabul 98.99 303 IAMs_20 IAMs_20 13 08 59.7
comp=Z,3µm,22.0s
IUG Iuzhnay 99.12 311 *e*P **Pdif** **12 24 19.5 +0.1**
baz=311
IUG Iuzhnay 99.12 311 *e*P **Pdif** **12 24 19.5 +0.1**
MSTX Muleshoe 99.92 57 IAMs_20 IAMs_20 13 12 31.3
comp=Z,3µm,21.0s
RSSD Black Hills 100.01 47 IAMs_20 IAMs_20 13 15 19.8
comp=Z,4µm,20.0s
RSSD Black Hills 100.01 47 P 12 24 25.0
baz=264
BRVK Borovoye 100.04 322 *ce*P **Pdif** **12 24 22.1 -1.0**
BRVK pmax pmax
comp=Z,7.0nm,1.8s
BRVK Borovoye 100.04 322 IAMs_20 IAMs_20 13 14 29.2
comp=Z,2µm,18.0s
DGMT Dagmar 100.30 42 P 12 24 25.2
baz=265
AMTX Amarillo 100.91 56 IAMs_20 IAMs_20 13 13 33.5
comp=Z,3µm,20.0s
AMTX Amarillo 100.91 56 P 12 24 27.6
baz=264
OGNE Ogallala 101.20 50 IAMs_20 IAMs_20 13 13 17.6
comp=Z,3µm,21.0s
JCT Junction City 102.05 61 IAMs_20 IAMs_20 13 15 22.0
comp=Z,4µm,20.0s
FFC Flin Flon 102.06 36 IAMs_20 IAMs_20 13 13 25.8
comp=Z,2µm,20.0s
ABTX Abilene, Hawle 102.39 59 IAMs_20 IAMs_20 13 13 42.8
comp=Z,3µm,22.0s
E28A Huff 102.54 45 IAMs_20 IAMs_20 13 12 43.5
comp=Z,4µm,22.0s
U32A Winter Ranch, 103.21 55 IAMs_20 IAMs_20 13 16 24.4
comp=Z,3µm,21.0s
WMOK Wichita Mounta 103.28 57 IAMs_20 IAMs_20 13 14 56.3
comp=Z,3µm,21.0s
KVTX Kingsville 103.43 64 IAMs_20 IAMs_20 13 18 21.0
comp=Z,3µm,19.0s
SUSD Miller 103.67 47 IAMs_20 IAMs_20 13 14 39.7
comp=Z,4µm,21.0s
OK032 Salt Plains WL 103.88 55 IAMs_20 IAMs_20 13 16 08.9
comp=Z,2µm,20.0s
BGNE Belgrade 104.15 50 IAMs_20 IAMs_20 13 15 33.6
comp=Z,3µm,21.0s
EUNU Eureka 104.36 10 IAMs_20 IAMs_20 13 14 36.5
comp=Z,3µm,22.0s
Z35A Perchaven, San 104.44 58 IAMs_20 IAMs_20 13 15 19.4
comp=Z,3µm,22.0s
N33A J Bar K, Exete 104.65 51 IAMs_20 IAMs_20 13 18 16.0
comp=Z,4µm,19.0s
OK031 S. Brethren Rd 104.94 56 IAMs_20 IAMs_20 13 15 07.0
comp=Z,3µm,21.0s
OK030 Cody Creek RV 104.98 56 IAMs_20 IAMs_20 13 15 08.1
comp=Z,4µm,21.0s
D32A Dogwood Acres, 105.08 44 IAMs_20 IAMs_20 13 16 11.6
comp=Z,2µm,20.0s
T35A Sooner Cattle 105.24 55 IAMs_20 IAMs_20 13 15 38.0
comp=Z,3µm,20.0s
KSU1 Kansas State U 105.25 52 IAMs_20 IAMs_20 13 15 33.0
comp=Z,4µm,21.0s
ECSD EROS Data Cent 105.34 48 IAMs_20 IAMs_20 13 15 20.0
comp=Z,3µm,22.0s
237A Washetta, Mont 105.58 60 IAMs_20 IAMs_20 13 21 55.5
comp=Z,3µm,19.0s
F33A 5 Mile Ranch, 105.58 45 IAMs_20 IAMs_20 13 18 12.0
comp=Z,3µm,20.0s
ULM Lac du Bonnet 105.78 41 Pdiff **Pdif** **12 24 48.8 +0.1**
comp=Z,2.0nm,0.8s,baz=291,slow=6.5,SNR=4.3
ULM Lac du Bonnet 105.78 41 P **Pdif** **12 24 48.3 -0.4**
ULM MLR MLR
comp=Z,2µm,21.0s
ULM Lac du Bonnet 105.78 41 **Pdif** **12 24 48.3 -0.4**
ULM IAMs_20 IAMs_20 13 14 47.9
comp=Z,2µm,21.0s
AGMN Agassiz Nation 105.84 43 IAMs_20 IAMs_20 13 14 19.7
comp=Z,2µm,22.0s
N35A Tabor 106.03 51 IAMs_20 IAMs_20 13 16 45.5
comp=Z,3µm,20.0s
X37A Clayton 106.07 57 IAMs_20 IAMs_20 13 19 55.3
comp=Z,3µm,19.0s
Z38A Mt. Pleasant 106.34 58 IAMs_20 IAMs_20 13 17 23.4
comp=Z,3µm,22.0s
NATX Nacogdoches 106.54 60 IAMs_20 IAMs_20 13 17 11.0
comp=Z,2µm,21.0s
U38A Gravette 106.94 55 IAMs_20 IAMs_20 13 16 10.9
comp=Z,2µm,21.0s
B35A Bob, Littlefor 107.26 43 IAMs_20 IAMs_20 13 15 43.3
comp=Z,3µm,22.0s
HHAR Hobbs 107.29 55 IAMs_20 IAMs_20 13 17 45.4
comp=Z,2µm,20.0s
W39A Magazine 107.40 57 IAMs_20 IAMs_20 13 16 46.2
comp=Z,2µm,20.0s
F36A Milaca 107.51 45 IAMs_20 IAMs_20 13 17 01.1
comp=Z,4µm,21.0s
MIAR Mount Ida 107.55 57 IAMs_20 IAMs_20 13 20 59.4
comp=Z,3µm,20.0s
P38A Dawn 107.64 52 IAMs_20 IAMs_20 13 19 18.3
comp=Z,3µm,20.0s
I37A Lemond, Waseca 107.66 47 IAMs_20 IAMs_20 13 15 52.3
comp=Z,4µm,22.0s
441A DeRidder 107.75 61 IAMs_20 IAMs_20 13 16 37.1
comp=Z,3µm,22.0s
SCIA State Center 107.85 49 IAMs_20 IAMs_20 13 16 56.6
comp=Z,4µm,22.0s
WLAR White Oak Lake 107.92 58 IAMs_20 IAMs_20 13 20 18.1
comp=Z,2µm,21.0s
SPMN Marine on St. 108.04 46 IAMs_20 IAMs_20 13 19 29.3
comp=Z,3µm,20.0s
X40A Basin Creek Fa 108.16 57 IAMs_20 IAMs_20 13 21 17.6
comp=Z,3µm,19.0s
U40A Yellville 108.17 55 IAMs_20 IAMs_20 13 16 48.6
comp=Z,3µm,22.0s
WHAR Wooly Hollow 108.62 56 IAMs_20 IAMs_20 13 21 20.7
comp=Z,2µm,20.0s
FCAR Ozark Folk Cen 108.76 56 IAMs_20 IAMs_20 13 17 26.2
comp=Z,2µm,21.0s
EYMN Ely 108.78 43 IAMs_20 IAMs_20 13 16 40.4
comp=Z,3µm,22.0s
P40A Paris 108.79 52 IAMs_20 IAMs_20 13 21 44.7
comp=Z,2µm,19.0s
E38A The Farm, Brul 108.84 44 IAMs_20 IAMs_20 13 16 22.1
comp=Z,3µm,21.0s
CCAR Cane Creek 109.03 58 IAMs_20 IAMs_20 13 18 36.8
comp=Z,2µm,21.0s
TULEG Thule 109.14 11 IAMs_20 IAMs_20 13 18 12.0
comp=Z,3µm,20.0s
143A Socs Landing, 109.33 59 IAMs_20 IAMs_20 13 18 34.7
comp=Z,4µm,22.0s
L40A Anamosa 109.33 49 IAMs_20 IAMs_20 13 21 58.7
comp=Z,3µm,20.0s
ABPO Ambohimpanom 109.61 245 IAMs_20 IAMs_20 13 13 28.6
comp=Z,2µm,21.0s
G40A Rib Lake 109.88 46 IAMs_20 IAMs_20 13 20 44.8
comp=Z,3µm,20.0s
344A Westbrook Farm 109.88 60 IAMs_20 IAMs_20 13 23 36.4
comp=Z,3µm,20.0s
JFWS Jewell Farm 110.01 48 IAMs_20 IAMs_20 13 18 26.5
comp=Z,2µm,22.0s
545A Edgard 110.06 62 IAMs_20 IAMs_20 13 19 57.5
comp=Z,3µm,20.0s
VBMS Vicksburg 110.07 60 IAMs_20 IAMs_20 13 19 33.4
comp=Z,3µm,21.0s
SNET Serv Nac Est T 110.07 79 IAMs_20 IAMs_20 13 18 20.1
comp=Z,2µm,22.0s
GNAR Gosnell 110.47 56 IAMs_20 IAMs_20 13 22 34.5
comp=Z,3µm,21.0s
L42A Oliver, Polo 110.49 49 IAMs_20 IAMs_20 13 23 02.4
comp=Z,2µm,19.0s
COWI Conover 110.55 45 IAMs_20 IAMs_20 13 17 59.4
comp=Z,3µm,22.0s
MET Memphis--Engin 110.55 57 IAMs_20 IAMs_20 13 22 43.8
comp=Z,3µm,20.0s
PEBM Pemiscott Bayo 110.59 56 IAMs_20 IAMs_20 13 22 35.7
comp=Z,3µm,20.0s
P43A Skaggs, Pawnee 110.73 52 IAMs_20 IAMs_20 13 19 24.1
comp=Z,4µm,21.0s
D41A Chassel 110.84 44 IAMs_20 IAMs_20 13 18 27.0
comp=Z,2µm,22.0s
Y45A Yeager Farm, C 110.89 58 IAMs_20 IAMs_20 13 23 11.9
comp=Z,3µm,21.0s
LNXT Lenox 110.89 56 IAMs_20 IAMs_20 13 23 04.7
comp=Z,3µm,20.0s
I42A Draeger Farm, 110.91 47 IAMs_20 IAMs_20 13 18 48.1
comp=Z,4µm,21.0s
OXF Oxford 110.99 57 IAMs_20 IAMs_20 13 18 49.6
comp=Z,3µm,22.0s
HALT Halls 111.02 56 IAMs_20 IAMs_20 13 23 00.1
comp=Z,3µm,20.0s
GLAT Glass 111.05 55 IAMs_20 IAMs_20 13 18 36.9
comp=Z,4µm,22.0s
Q44A Meyer Farm, Va 111.16 53 IAMs_20 IAMs_20 13 18 25.5
comp=Z,3µm,22.0s
W45A Hickory Valley 111.16 57 IAMs_20 IAMs_20 13 23 20.0
comp=Z,2µm,21.0s
F42A Maple Grove Fa 111.28 45 IAMs_20 IAMs_20 13 18 11.8
comp=Z,3µm,21.0s
146A Union 111.31 59 IAMs_20 IAMs_20 13 19 45.1
comp=Z,3µm,22.0s
NEEM North Greenlan 111.34 7 *i*P **PKiKP** **12 29 10.7 -0.7**
NEEM IAmb IAmb 12 29 11.9
comp=Z,4.1nm,0.8s
TEIG Tepich 111.61 73 IAMs_20 IAMs_20 13 20 14.1
comp=Z,2µm,22.0s
H43A Windswept, Lux 111.67 46 IAMs_20 IAMs_20 13 21 04.3
comp=Z,3µm,21.0s
M44A Midewin, Midew 111.75 50 IAMs_20 IAMs_20 13 16 56.7
comp=Z,2µm,22.0s
HQIL Hanson Quary C 111.86 49 IAMs_20 IAMs_20 13 23 44.6
comp=Z,3µm,20.0s
OLIL Olney 111.89 53 IAMs_20 IAMs_20 13 18 48.7
comp=Z,3µm,22.0s
E43A Lone Tree Farm 111.99 44 IAMs_20 IAMs_20 13 25 05.6
comp=Z,2µm,20.0s
CRIN San Cristobal 112.06 81 IAMs_20 IAMs_20 13 17 32.7
comp=Z,2µm,22.0s
Z47A Carrollton 112.13 59 IAMs_20 IAMs_20 13 24 52.8
comp=Z,2µm,21.0s
WVT Waverly 112.23 55 IAMs_20 IAMs_20 13 19 13.2
comp=Z,3µm,22.0s
MT05 Renca 112.80 133 IAMs_20 IAMs_20 13 19 12.3
comp=Z,2µm,21.0s
I45A Fountain 112.81 47 IAMs_20 IAMs_20 13 24 20.6
comp=Z,2µm,19.0s
X48A Hartselle 112.94 57 IAMs_20 IAMs_20 13 24 31.2
comp=Z,3µm,22.0s
L46A Eue Claire 113.00 49 IAMs_20 IAMs_20 13 19 35.6
comp=Z,3µm,22.0s
BRAL Brewton 113.03 61 IAMs_20 IAMs_20 13 23 39.8
comp=Z,2µm,22.0s
LRAL Lakeview Retre 113.03 59 IAMs_20 IAMs_20 13 23 34.9
comp=Z,3µm,20.0s
V48A Smith Brothers 113.07 56 IAMs_20 IAMs_20 13 24 36.4
comp=Z,3µm,20.0s
G45A Suttons Bay 113.10 46 IAMs_20 IAMs_20 13 20 43.0
comp=Z,3µm,21.0s
WCI Wyandotte Cave 113.33 53 IAMs_20 IAMs_20 13 19 55.1
comp=Z,3µm,22.0s
BOAB BOACO BROADBAN 113.38 81 IAMs_20 IAMs_20 13 20 25.5
comp=Z,4µm,22.0s
CLTN Cedars of Leba 113.45 55 IAMs_20 IAMs_20 13 20 12.3
comp=Z,4µm,22.0s
Y49A Blount Mountai 113.49 58 IAMs_20 IAMs_20 13 20 59.8
comp=Z,3µm,22.0s
N47A Urbana 113.56 50 IAMs_20 IAMs_20 13 28 31.8
comp=Z,2µm,18.0s
CAO2 Cobano, Puntar 113.58 84 IAMs_20 IAMs_20 13 18 45.8
comp=Z,2µm,20.0s
250A Grady 113.68 60 IAMs_20 IAMs_20 13 24 57.0
comp=Z,3µm,20.0s
LVZ Lovozero 113.80 341 IAMs_20 IAMs_20 13 18 15.9
comp=Z,2µm,22.0s
JTS Las Juntas de 113.81 84 IAMs_20 IAMs_20 13 19 02.9
comp=Z,3µm,22.0s
E46A Sault Ste Mari 113.84 44 IAMs_20 IAMs_20 13 19 17.4
comp=Z,3µm,22.0s
GLMI Grayling 113.86 46 IAMs_20 IAMs_20 13 21 05.2
comp=Z,3µm,20.0s
P48A Milroy 113.91 52 IAMs_20 IAMs_20 13 23 11.0
comp=Z,3µm,20.0s
J47A Sunmer 113.93 48 IAMs_20 IAMs_20 13 19 56.3
comp=Z,3µm,22.0s
FPAL Fort Paine 114.12 57 IAMs_20 IAMs_20 13 24 30.4
comp=Z,2µm,21.0s
CO03 El Pedregal 114.14 131 IAMs_20 IAMs_20 13 20 55.2
comp=Z,2µm,22.0s
451A Vernon 114.16 61 IAMs_20 IAMs_20 13 24 39.0
comp=Z,3µm,22.0s
APA Apatity 114.38 341 *i*PKIKP **PKiKP** **12 29 18.0 +1.0**
APA *i* 12 30 12.9
APA *i* 12 35 59.0
APA pmax pmax
comp=Z,120nm,0.7s
APA MLR MLR
comp=Z,2µm,18.0s
COVE Coope Vega, Sa 114.40 83 IAMs_20 IAMs_20 13 19 01.6
comp=Z,2µm,22.0s
Z51A Franklin 114.55 58 IAMs_20 IAMs_20 13 21 36.8
comp=Z,3µm,22.0s

HDC	**Heredia**	114.59	84	IAMs_20	IAMs_20	13 19 17.7		
	comp=Z,3µm,22.0s							
O49A	**Covington**	114.67	51	IAMs_20	IAMs_20	13 21 12.1		
	comp=Z,3µm,21.0s							
ESPN	**Las Esperanzas**	114.67	82	IAMs_20	IAMs_20	13 21 07.9		
	comp=Z,2µm,22.0s							
N49A	**Columbus Grove**	114.69	50	IAMs_20	IAMs_20	13 14 11.7		
	comp=Z,2µm,21.0s							
352A	**Blakely**	114.84	60	IAMs_20	IAMs_20	13 27 18.7		
	comp=Z,2µm,20.0s							
AAM	**Ann Arbor**	114.91	48	IAMs_20	IAMs_20	13 21 01.2		
	comp=Z,3µm,20.0s							
CPCT	**Cooper Cave**	114.96	56	IAMs_20	IAMs_20	13 26 47.4		
	comp=Z,2µm,21.0s							
152A	**Waverly Hall**	114.96	59	IAMs_20	IAMs_20	13 23 25.9		
	comp=Z,2µm,21.0s							
553A	**Crawfordville**	115.31	62	IAMs_20	IAMs_20	13 28 14.3		
	comp=Z,2µm,20.0s							
BATAN	**Batan**	115.32	84	IAMs_20	IAMs_20	13 19 52.1		
	comp=Z,3µm,22.0s							
Y52A	**Lilburn**	115.45	58	IAMs_20	IAMs_20	13 25 28.5		
	comp=Z,3µm,20.0s							
ARCES	**ARCESS Array B**	115.47	345	PKP	**PKiKP**	12 29 18.5	-0.6	
	comp=Z,7.2nm,0.8s,baz=29,slow=0.5,SNR=16							
ARCES				PKKPbc	**PKKPbc**	12 39 50.2	-5.2	
	comp=Z,5.4nm,0.9s,baz=205,slow=1.9,SNR=5.7							
ARCES	**ARCESS Array B**	115.47	345		**PKiKP**	12 29 18.4	-0.7	
ACSO	**Alum Creek Sta**	115.69	51	IAMs_20	IAMs_20	13 27 21.1		
	comp=Z,2µm,20.0s							
NUUG	**Nuugaatsiaq**	115.69	12	*i* P	**PKiKP**	12 29 19.0	-0.4	
P51A	**Williamsport**	115.72	51	IAMs_20	IAMs_20	13 21 47.1		
	comp=Z,2µm,21.0s							
TIGA	**Tifton**	115.98	60	IAMs_20	IAMs_20	13 26 25.0		
	comp=Z,2µm,21.0s							
N51A	**Ashland**	116.05	50	IAMs_20	IAMs_20	13 22 16.7		
	comp=Z,3µm,21.0s							
BG3	**Lake Jocassee**	116.29	56	IAMs_20	IAMs_20	13 22 07.8		
	comp=Z,2µm,22.0s							
Q52A	**Bidwell**	116.40	52	IAMs_20	IAMs_20	13 25 34.1		
	comp=Z,3µm,19.0s							
P52A	**Corning**	116.42	51	IAMs_20	IAMs_20	13 22 16.4		
	comp=Z,2µm,22.0s							
O52A	**Adamsville**	116.57	51	IAMs_20	IAMs_20	13 24 14.6		
	comp=Z,2µm,20.0s							
SOR	**Soroa**	116.63	70	IAMs_20	IAMs_20	13 26 29.9		
	comp=Z,2µm,21.0s							
255A	**Hazlehurst**	116.90	60	IAMs_20	IAMs_20	13 21 54.3		
	comp=Z,2µm,22.0s							
656A	**Willston**	116.99	63	IAMs_20	IAMs_20	13 28 15.8		
	comp=Z,3µm,20.0s							
P53A	**Whipple**	117.00	51	IAMs_20	IAMs_20	13 30 51.1		
	comp=Z,2µm,19.0s							
O53A	**New Philadelph**	117.03	50	IAMs_20	IAMs_20	13 28 55.5		
	comp=Z,3µm,19.0s							
SUMG	**Summit**	117.19	7	*i* P	**PKPdf**	12 29 22.3	-0.5	
SUMG	**Summit**	117.19	7	*i* P	**PKPdf**	12 29 22.3	-0.5	
M53A	**WI Miller and**	117.24	49	IAMs_20	IAMs_20	13 29 42.0		
	comp=Z,3µm,20.0s							
456A	**Hilliard**	117.36	61	IAMs_20	IAMs_20	13 28 18.6		
	comp=Z,2µm,20.0s							
Q54A	**Coxs Mills**	117.50	52	IAMs_20	IAMs_20	13 23 11.3		
	comp=Z,2µm,20.0s							
SADO	**Sadowa**	117.70	45	IAMs_20	IAMs_20	13 21 11.7		
	comp=Z,3µm,21.0s							
PB10	**IPOC Station P**	117.78	124	IAMs_20	IAMs_20	13 23 20.5		
	comp=Z,2µm,21.0s							
N54A	**Moraine State**	117.83	49	IAMs_20	IAMs_20	13 29 53.7		
	comp=Z,3µm,20.0s							
ILULI	**Ilulissat**	117.96	13	IAMs_20	IAMs_20	13 24 34.2		
	comp=Z,2µm,20.0s							
DWPF	**Disney Wildern**	118.00	64	IAMs_20	IAMs_20	13 27 15.9		
	comp=Z,2µm,21.0s							
VLDQ	**Val d'Or**	118.02	41	IAMs_20	IAMs_20	13 28 38.0		
	comp=Z,2µm,21.0s							
ALGO	**Algonquin Park**	118.18	44	P		12 29 24.0		
	baz=284							
G54A	**Lake Saint Pet**	118.28	44	P		12 29 24.3		
	baz=284							
Y57A	**Sumter**	118.47	57	IAMs_20	IAMs_20	13 27 06.6		
	comp=Z,2µm,20.0s							
OTAV	**Otavalo**	118.49	96	IAMs_20	IAMs_20	13 22 35.2		
	comp=Z,2µm,21.0s							
061Z	**Ochoppi**	118.54	67	IAMs_20	IAMs_20	13 25 22.3		
	comp=Z,2µm,21.0s							
WVNY	**West Valley, N**	118.58	48	IAMs_20	IAMs_20	13 22 28.3		
	comp=Z,3µm,22.0s							
BCIP	**Isla Barro Col**	118.66	86	IAMs_20	IAMs_20	13 20 51.0		
	comp=Z,2µm,22.0s							
NHSC	**New Hope**	118.74	58	IAMs_20	IAMs_20	13 27 53.9		
	comp=Z,2µm,20.0s							
DELO	**Deloro Mine**	118.82	45	IAMs_20	IAMs_20	13 27 14.3		
	comp=Z,2µm,20.0s							
KBZ	**Khabaz**	118.85	314	PKP	**PKPdf**	12 29 26.2	0.0	
	comp=Z,2.5nm,0.9s,baz=67,slow=18,SNR=2.8							
KBZ				PKKPbc	**PKKPbc**	12 39 42.7	0.0	
	comp=Z,3.1nm,0.7s,baz=249,slow=6.2,SNR=4.9							
KIV	**Kislovodsk**	118.95	314	*i* PKIKP	**PKPdf**	12 29 26.4	-0.2	
KIV				*e*		12 30 45.5		
KIV				*e*PS	**PS**	12 40 31.7	-2.9	
KIV				*e*SS	SS	12 47 01.7	-1.3	
KIV				*e*SSS	SSS	12 51 26.4		
KIV				pmax	pmax			
	comp=Z,16nm,1.0s							
060A	**Indiantown**	118.99	65	IAMs_20	IAMs_20	13 27 57.2		
	comp=Z,2µm,20.0s							
RAYN	**Ar Rayn**	119.00	291	PKIKP	**PKiKP**	12 29 27.3	0.0	
RAYN	**Ar Rayn**	119.00	291	PKPdf	**PKiKP**	12 29 27.3	0.0	
MMNY	**Mt. Morris Dam**	119.02	47	IAMs_20	IAMs_20	13 29 44.7		
	comp=Z,3µm,21.0s							
O56A	**Blue Knob Stat**	119.02	50	IAMs_20	IAMs_20	13 25 59.2		
	comp=Z,2µm,20.0s							
Y58A	**Scranton**	119.08	57	IAMs_20	IAMs_20	13 24 57.8		
	comp=Z,2µm,22.0s							
OBN	**Obninsk**	119.11	328	↑*i* PKIKP	**PKiKP**	12 29 26.7	+0.2	
OBN				pmax	pmax			
	comp=Z,8.0nm,0.4s							
OBN				MLR	MLR			
	comp=Z,3µm,23.0s							
OBN	**Obninsk**	119.11	328	IAMs_20	IAMs_20	13 21 47.0		
	comp=Z,3µm,22.0s							
PB07	**IPOC Station P**	119.15	122	IAMs_20	IAMs_20	13 25 44.5		
	comp=Z,2µm,20.0s							
PECO	**Prince Edward**	119.39	46	IAMs_20	IAMs_20	13 23 01.5		
	comp=Z,3µm,22.0s							
TA01	**Diego Aracena**	119.42	121	IAMs_20	IAMs_20	13 24 37.1		
	comp=Z,2µm,20.0s							
SSPA	**Standing Stone**	119.46	49	P		12 29 27.0		
	baz=281							
D55A	**Sainte-Anne-du**	119.61	42	P		12 29 26.5		
	baz=287							
Y59A	**Loris**	119.73	57	IAMs_20	IAMs_20	13 25 24.9		
	comp=Z,3µm,22.0s							
PSGCX	**Pisagua**	119.89	120	IAMs_20	IAMs_20	13 24 40.4		
	comp=Z,2µm,21.0s							
R58B	**Mineral**	119.95	52	IAMs_20	IAMs_20	13 29 40.2		
	comp=Z,3µm,21.0s							
N58A	**Sunbury**	120.29	49	P		12 29 28.7		
	baz=282							
CBN	**Corbin Frederi**	120.31	52	IAMs_20	IAMs_20	13 25 15.5		
	comp=Z,2µm,21.0s							
CNNC	**Cliffs of the**	120.37	56	IAMs_20	IAMs_20	13 27 37.7		
	comp=Z,3µm,21.0s							
PIZC	**Pizarro, Choco**	120.46	91	*e*P	**PKiKP**	12 29 32.2	+1.8	
PB08	**IPOC Station P**	120.47	121		**PKPdf**	12 29 30.6	0.0	
PB08				IAMs_20	IAMs_20	13 24 19.9		
	comp=Z,2µm,22.0s							
SDMD	**Soldier's Deli**	120.49	51	IAMs_20	IAMs_20	13 24 55.2		
	comp=Z,2µm,21.0s							
SCO	**Scoresbysund**	120.50	2	*i* P	**PKPdf**	12 29 28.2	-0.5	
SCO	**Scoresbysund**	120.50	2	*i* P	**PKPdf**	12 29 28.2	-0.5	
MNMC	**Minye Minye**	120.54	120		**PKPdf**	12 29 29.4	-1.3	
MNMC				IAMs_20	IAMs_20	13 24 49.7		
	comp=Z,2µm,21.0s							
FINES	**FINESS Array B**	120.54	337	PKP	**PKPdf**	12 29 28.4	-0.6	
	comp=Z,6.0nm,0.8s,baz=125,slow=10.0,SNR=11							
FINES				PKKPab	**PKKPab**	12 39 35.3	-0.3	
	comp=Z,3.8nm,0.9s,baz=210,slow=1.1,SNR=3.9							
SOTA	**Rioblanco**	120.68	94	*e*P	**PKPdf**	12 29 29.9	-1.5	
O59A	**Robesonia**	120.80	50	P		12 29 29.7		
	baz=282							
LONY	**Lake Ozonia**	120.89	44	IAMs_20	IAMs_20	13 31 25.0		
	comp=Z,3µm,20.0s							
PCON	**Cinco Dias**	120.93	94	*e*P	**PKiKP**	12 29 34.0	+2.0	
L59A	**Walton**	121.20	47	IAMs_20	IAMs_20	13 24 27.6		
	comp=Z,3µm,21.0s							
H58A	**Gabriels**	121.22	44	P		12 29 30.2		
	baz=286							
E58A	**La Victoria**	121.25	42	P		12 29 30.2		
	baz=288							
J59A	**Piesco**	121.26	46	IAMs_20	IAMs_20	13 31 58.9		
	comp=Z,2µm,22.0s							
J59A	**Piesco**	121.26	46	P		12 29 30.3		
	baz=286							
YOTC	**Yotoco, Valle**	121.29	92	*e*P	**PKPdf**	12 29 29.9	-2.1	
WUPA	**West Chester U**	121.31	50	IAMs_20	IAMs_20	13 27 16.9		
	comp=Z,2µm,20.0s							
NCB	**Newcomb**	121.32	45	IAMs_20	IAMs_20	13 28 31.4		
	comp=Z,2µm,21.0s							
NUUK	**Nuuk**	121.72	17	*i* P	**PKiKP**	12 29 31.4	0.0	
NUUK				IAmb	IAmb	12 29 31.8		
	comp=Z,29nm,0.9s							
S61A	**Accomac**	121.72	52	IAMs_20	IAMs_20	13 27 11.1		
	comp=Z,3µm,20.0s							
R61A	**Willards**	121.85	52	IAMs_20	IAMs_20	13 27 02.4		
	comp=Z,3µm,21.0s							
ACCN	**Adirondack Com**	121.87	46	IAMs_20	IAMs_20	13 32 45.0		
	comp=Z,2µm,19.0s							
P61A	**Hammonton**	121.98	50	IAMs_20	IAMs_20	13 27 47.6		
	comp=Z,3µm,20.0s							
TRY	**Troy**	122.05	46	IAMs_20	IAMs_20	13 34 07.8		
	comp=Z,2µm,20.0s							
F60A	**Warwick**	122.25	42	P		12 29 32.2		
	baz=289							
ORTC	**Ortega, Tolima**	122.36	92	*e*P	**PKPdf**	12 29 31.7	-2.3	
GUY2C	**Guyana, Caldas**	122.47	91	*e*P	**PKPdf**	12 29 33.6	-1.1	
UREC	**San Jose de Ur**	122.69	88	*e*P	**PKPdf**	12 29 31.6	-3.0	
BOSA	**Boshof**	122.95	225	PKP	**PKPdf**	12 29 34.4	-0.5	
	comp=Z,3.6nm,0.7s,baz=115,slow=3.5,SNR=9.1							
BOSA				PKKPab	**PKKPbc**	12 39 26.6	-0.6	
	comp=Z,1.3nm,0.6s,baz=333,slow=4.5,SNR=1.5							
BOSA	**Boshof**	122.95	225	PKIKP	**PKPdf**	12 29 34.8	-0.1	
BOSA	**Boshof**	122.95	225		**PKPdf**	12 29 34.8	-0.1	
L62A	**Suffield**	122.95	47	IAMs_20	IAMs_20	13 34 47.9		
	comp=Z,3µm,19.0s							
NORC	**Norcasia**	123.01	90	*e*P	**PKPdf**	12 29 33.4	-1.9	
LPAZ	**La Paz**	123.02	118	PKP	**PKPdf**	12 29 35.9	0.0	
	comp=Z,5.6nm,0.8s,baz=276,slow=1.3,SNR=18							
LPAZ	**La Paz**	123.02	118	PKIKP	**PKiKP**	12 29 36.1	0.0	
LPAZ	**La Paz**	123.02	118	PKPdf	**PKiKP**	12 29 36.1	0.0	
E61A	**Lac Etchemin**	123.05	41	P		12 29 34.3		
	baz=291							
QUA2	**Belchertown**	123.11	46	IAMs_20	IAMs_20	13 26 38.9		
	comp=Z,3µm,21.0s							
H62A	**Milan**	123.24	44	IAMs_20	IAMs_20	13 26 12.0		
	comp=Z,2µm,22.0s							
ZARC	**Zaragoza, Cauc**	123.31	88	*e*P	**PKPdf**	12 29 33.5	-2.2	
UCCT	**U. Connecticut**	123.33	47	IAMs_20	IAMs_20	13 30 12.0		
	comp=Z,3µm,20.0s							
MACC	**Macarena, Meta**	123.39	95	*e*P	**PKPdf**	12 29 29.4	-6.6	
ROSC	**El Rosal**	123.43	91	PKP	**PKPdf**	12 29 36.1	-0.4	
	comp=Z,16nm,0.6s,baz=160,slow=14,SNR=4.9							
G62A	**West of Eustis**	123.44	43	IAMs_20	IAMs_20	13 33 26.3		
	comp=Z,3µm,20.0s							
SUR	**Sutherland**	123.45	219	IAMs_20	IAMs_20	13 25 50.9		
	comp=Z,3µm,20.0s							
M63A	**Gales Ferry**	123.57	47	IAMs_20	IAMs_20	13 25 56.3		
	comp=Z,3µm,22.0s							
HRV	**Adam Dziewonsk**	123.60	46	IAMs_20	IAMs_20	13 32 54.0		
	comp=Z,3µm,18.0s							
ANGG	**Ammassalik, Gr**	123.71	10	IAMs_20	IAMs_20	13 25 40.0		
	comp=Z,3µm,21.0s							
L63A	**North Scituate**	123.75	47	IAMs_20	IAMs_20	13 26 47.1		
	comp=Z,3µm,20.0s							
BRYW	**Bryant College**	123.79	47	IAMs_20	IAMs_20	13 26 47.0		
	comp=Z,3µm,20.0s							
WES	**Weston**	123.81	46	IAMs_20	IAMs_20	13 34 28.4		
	comp=Z,3µm,20.0s							
SPBC	**San Pablo de B**	123.81	91	*e*P	**PKPdf**	12 29 34.6	-2.2	
MNK	**Minsk**	123.81	330	*i* PKP	**PKPdf**	12 29 35.1	-0.4	
	comp=E,3.0nm,1.2s							
MNK				*i* PKP	**PKPdf**	12 29 35.1	-0.4	
	comp=N,16nm,0.8s							
MNK				*i* PKP	**PKPdf**	12 29 35.1	-0.4	
	comp=Z,25nm,1.3s							
MNK				*i* PP	PP	12 31 27.0	+8.4	
MNK				*i* SKP		12 33 06.1		
MNK				*i* PKS	**PKSdf**	12 33 11.8	-0.1	
MNK				*i* PPP	PPP	12 34 01.6		
MNK				*i* SKS	**SKSac**	12 36 29.5	-4.5	
MNK				*i* PKKP	PKKPbc	12 39 41.6	+17	
MNK				*i* PS	PS	12 41 40.1	+23	
MNK				*i* SKKS	**SKKSdf**	12 47 05.6	-7.2	
MNK				*i* SS	**SS**	12 47 55.8	-8.0	
MNK				*i* SSS	SSS	12 52 39.9		
MNK				*i* LQ	LQ	13 15 40.0		
MNK				*i* LR	LR	13 19 43.9		
MNK				*i* LRM	MLR	13 26 04.7		
	comp=E,260nm,21.1s							
MNK				*i* LRM	MLR	13 26 06.0		
	comp=N,1µm,20.9s							
MNK				*i* LRM	MLR	13 26 07.9		
	comp=Z,1µm,18.5s							
NACGM	**Naroch**	124.12	331	*i* PKP	**PKPdf**	12 29 36.1	+0.1	
NACGM				*i* PKP	**PKPdf**	12 29 36.1	+0.1	
NACGM				*i* PKP	**PKPdf**	12 29 36.1	+0.1	
NACGM				*i* PP	PP	12 31 07.9	-13	
NACGM				*i* PPP	PPP	12 33 54.2		
NACGM				*i* SKS	SKSdf	12 36 21.5	-23	
NACGM				*i* SKKS		12 39 25.1		
NACGM				*i* PS	PS	12 41 58.8	+39	
NACGM				*i* SS	SS	12 47 44.2	-23	
NACGM				*i* SSS	SSS	12 51 20.7		
NACGM				*i* LQ	LQ	13 15 06.4		
NACGM				*i* LR	LR	13 23 10.7		
M64A	**Tiverton**	124.13	47	IAMs_20	IAMs_20	13 31 12.1		
	comp=Z,3µm,21.0s							
WVL	**Waterville**	124.25	43	IAMs_20	IAMs_20	13 29 51.7		
	comp=Z,2µm,20.0s							
KMBO	**Kilima Mbogo**	124.28	261	PKP	**PKPdf**	12 29 37.7	-0.2	
	comp=Z,1.0nm,0.4s,baz=223,slow=2.6,SNR=3.9							
E63A	**Oxbow**	124.38	41	IAMs_20	IAMs_20	13 30 55.9		
	comp=Z,3µm,20.0s							
PQI	**Presque Isle**	124.55	40		**PKPdf**	12 29 36.0	-1.1	
F64A	**Sherman**	124.64	41	IAMs_20	IAMs_20	13 33 27.9		
	comp=Z,3µm,20.0s							
ITQB	**Itaqui**	124.70	138	*e*P	**PKiKP**	12 29 38.6	+0.2	
FURI	**Furi**	124.72	273	IAMs_20	IAMs_20	13 25 18.8		
	comp=Z,2µm,22.0s							
RUSC	**La Rusia**	124.82	90	*e*P	**PKPdf**	12 29 35.6	-3.6	
LBTB	**Lobatse**	124.83	229	PKP	**PKPdf**	12 29 36.0	-2.5	
	comp=Z,3.1nm,0.7s,baz=189,slow=5.5,SNR=7.4							
LBTB	**Lobatse**	124.83	229	PKIKP	**PKPdf**	12 29 36.7	-1.9	
LBTB	**Lobatse**	124.83	229	PKPdf	**PKPdf**	12 29 36.7	-1.9	
MATP	**Matopo**	125.05	235	PKP	**PKPdf**	12 29 38.2	-0.9	
	comp=Z,2.6nm,0.8s,baz=277,slow=2.3,SNR=6.5							
AKASG	**Malin Array Be**	125.07	326	PKP	**PKPdf**	12 29 37.5	-0.5	
	comp=Z,10nm,0.9s,baz=60,slow=2.2,SNR=27							
AKASG				PKKPab	**PKKPbc**	12 39 18.1	-1.0	
	comp=Z,3.9nm,0.8s,baz=254,slow=4.1,SNR=4.6							
AKBB	**Malin Array Si**	125.07	326	PKIKP	**PKPdf**	12 29 37.6	-0.4	
AKBB				MLR	MLR			
	comp=Z,3µm,22.0s							
AKBB	**Malin Array Si**	125.07	326	PKPdf	**PKPdf**	12 29 37.6	-0.4	
AKBB				IAMs_20	IAMs_20	13 25 49.9		
	comp=Z,3µm,22.0s							
PLTB	**Pedras Altas**	125.18	142	*e*P	**PKPdf**	12 29 39.1	+0.2	
G65A	**Princeton**	125.41	42	IAMs_20	IAMs_20	13 34 03.1		
	comp=Z,3µm,21.0s							
PAMC	**Pamplona, Colo**	125.41	89	*e*P	**PKPdf**	12 29 38.0	-2.4	
BATG	**Bathurst New B**	125.52	39	PKPdf	**PKPdf**	12 29 38.1	-0.9	
NC303	**NORSAR Array S**	125.59	343		**PKPdf**	12 29 38.0	-0.8	
EMMW	**East Machias**	125.66	42	IAMs_20	IAMs_20	13 31 29.0		
	comp=Z,2µm,22.0s							
NB2	**NORSAR Subarra**	125.79	343	PKPdf	**PKPdf**	12 29 37.9	-1.3	
	comp=Z,5.6nm,1.0s,baz=39,slow=1.9							
NB2	**NORSAR Subarra**	125.79	343	PKPdf	**PKPdf**	12 29 37.9	-1.3	
	baz=39,slow=1.9							
NOA	**NORSAR Array B**	125.79	343	PKP	**PKPdf**	12 29 38.5	-0.7	
	comp=Z,6.5nm,0.8s,baz=35,slow=1.9,SNR=22							
NOA				PKKPab	**PKKPbc**	12 39 15.4	-1.3	
	comp=Z,2.5nm,0.7s,baz=216,slow=4.2,SNR=6.4							
NRS	**Narsarsuaq**	125.89	16	PKIKP	**PKPdf**	12 29 38.3	-1.0	
NRS				MLR	MLR			
	comp=Z,3µm,19.0s							
NRS	**Narsarsuaq**	125.89	16		**PKPdf**	12 29 38.3	-1.0	
NC602	**NORSAR Array S**	125.94	343		**PKPdf**	12 29 38.6	-0.8	
CPSB	**Cacapava Do Su**	126.23	141	*e*P	**PKiKP**	12 29 41.8	+0.4	
CPUP	**Villa Florida**	126.35	134	PKP	**PKPdf**	12 29 40.6	-0.7	
	comp=Z,12nm,0.8s,baz=282,slow=1.8,SNR=28							
CPUP	**Villa Florida**	126.35	134	PKIKP	**PKPdf**	12 29 41.5	+0.2	
CPUP	**Villa Florida**	126.35	134	PKPdf	**PKPdf**	12 29 41.5	+0.2	
CPUP	**Villa Florida**	126.35	134	*e*P	**PKiKP**	12 29 41.7	0.0	
BRTR	**Keskin Array B**	126.59	312	PKP	**PKPdf**	12 29 41.0	-0.5	
	comp=Z,3.8nm,1.1s,baz=151,slow=2.8,SNR=14							
BRTR	**Keskin Array B**	126.59	312	PKPdf	**PKPdf**	12 29 40.1	-1.4	
KIS	**Kishinev**	127.06	322	*e*PKP	**PKiKP**	12 29 45.0	+2.5	
KIS	**Kishinev**	127.06	322	*e*PP	PP	12 31 47.0	+6.5	
KIS				*e*LR	LR	13 25 04.0		
	comp=Z,600nm,19.5s							
KIS	**Kishinev**	127.06	322	*e*PKIKP	**PKiKP**	12 29 45.0	+2.5	
KIS				*e*		12 31 47.0		
KIS				MLR	MLR			
	comp=Z,600nm,19.5s							
KONO	**Kongsberg**	127.39	343	IAMs_20	IAMs_20	13 26 52.1		
	comp=Z,3µm,22.0s							
SDDR	**Presa de Saban**	127.57	75	IAMs_20	IAMs_20	13 36 14.5		
	comp=Z,2µm,19.0s							
SDV	**Santo Domingo**	127.64	87	PKPdf	**PKPdf**	12 29 43.7	-0.6	
SDV	**Santo Domingo**	127.64	87	IAMs_20	IAMs_20	13 29 46.7		
	comp=Z,2µm,20.0s							
SDV	**Santo Domingo**	127.64	87	*e*P	**PKPdf**	12 29 43.6	-0.7	
LSZ	**Lusaka**	127.79	241	PKP	**PKPdf**	12 29 43.6	-0.8	
	comp=Z,2.6nm,0.6s,baz=1.9,slow=3.3,SNR=5.8							
LSZ	**Lusaka**	127.79	241		**PKPdf**	12 29 42.9	-1.5	
LSZ	**Lusaka**	127.79	241	IAMs_20	IAMs_20	13 24 35.8		
	comp=Z,2µm,20.0s							
EIL	**Elat**	127.92	299	PKP	**PKPdf**	12 29 43.6	-0.5	
	comp=Z,8.1nm,0.9s,baz=46,slow=2.1,SNR=2.8							
SC01	**Santiago de lo**	128.09	74	IAMs_20	IAMs_20	13 32 48.1		
	comp=Z,2µm,21.0s							
MDUB	**Mudurnu**	128.12	313	PKPdf	**PKPdf**	12 29 43.2	-1.2	
HAL	**Halifax**	128.21	41	IAMs_20	IAMs_20	13 37 18.3		
	comp=Z,3µm,20.0s							
CFR	**Carcaliu**	128.31	320	⇓P	**PKiKP**	12 29 44.7	-0.3	
CFR	**Carcaliu**	128.31	320	⇓PKIKP	**PKiKP**	12 29 44.7	-0.3	
LVV	**L'vov**	128.37	327	*i* PKIKP	**PKPdf**	12 29 44.4	0.0	
LVV				MLR	MLR			
	comp=E,2µm,22.0s							
LVV				MLR	MLR			
	comp=N,600nm,20.0s							
LVV				MLR	MLR			
	comp=Z,2µm,22.0s							
BIZ	**Bicaz**	128.72	323	⇓P	**PKiKP**	12 29 48.1	+2.3	
BUR08	**Bucovina Ar. S**	128.89	324	PKPdf	**PKiKP**	12 29 46.3	0.0	
BURAR	**Bucovina Array**	128.90	324	P	**PKiKP**	12 29 46.4	+0.1	
BURAR	**Bucovina Array**	128.90	324	PKIKP	**PKiKP**	12 29 46.4	+0.1	
BURAR	**Bucovina Array**	128.90	324	PKPdf	**PKiKP**	12 29 47.1	+0.8	
ITAB	**Concordia**	129.26	139	*e*P	**PKiKP**	12 29 47.4	-0.1	
MLR	**Muntele Rosu**	129.53	321	↑⇑P	**PKPdf**	12 29 46.4	-0.5	
MLR				↑⇑P	**PKPdf**	12 29 46.8	-0.1	
MLR	**Muntele Rosu**	129.53	321	↑⇑PKIKP	**PKPdf**	12 29 46.8	-0.1	
KOLS	**Kolonicke sedl**	129.82	327	*e*PKIKP	**PKPdf**	12 29 47.5	+0.3	
KOLS	**Kolonicke sedl**	129.82	327	*e*PKP	**PKPdf**	12 29 47.5	+0.3	
UZH	**Uzhgorod**	129.98	326	*e*PKIKP	**PKPdf**	12 29 42.5	-5.0	
UZH				*i*		12 29 55.3		
TER01	**Tubaro-SC**	130.19	143	*e*P	**PKiKP**	12 29 49.1	-0.3	
CRVS	**Cervenica-Dubn**	130.27	327

	comp=Z,5.3nm,1.1s							
SEUS	**St. Eustatius**	**135.50**	**76**	IAMs_20	IAMs_20	13 36 36.4		
	comp=Z,2μm,22.0s							
ITRB	**Iturama**	**135.50**	**133**	*e*P	**PKPdf**	**12 29 59.4**	**+0.6**	
VAO	**Valinhos**	**135.55**	**140**	*e*P	**PKiKP**	**12 30 00.1**	**-0.3**	
KBA	**Koelnbreinsper**	**135.62**	**330**	*e*P	**PKPdf**	**12 29 58.5**	**0.0**	
	comp=Z,14nm,1.3s							
MYKA	**Terra Mystica**	**135.78**	**329**	*e*P	**PKPdf**	**12 29 57.7**	**-0.9**	
	comp=Z,7.2nm,1.0s							
BB19B	**Bebedouro**	**135.88**	**136**	*e*P	**PKPdf**	**12 29 59.6**	**+0.1**	
BTNL	**Ternell**	**136.02**	**338**	*d*PKiKP	**PKiKP**	**12 29 60.0**	**-0.5**	
MEM	**Membach**	**136.05**	**339**	*d*PKiKP	**PKiKP**	**12 30 00.5**	**0.0**	
PTGA	**Pitinga**	**136.18**	**103**	PKPdf	**PKPdf**	**12 29 59.9**	**-0.3**	
ABTA	**Abfaltersbach**	**136.26**	**330**	*e*P	**PKPdf**	**12 29 59.3**	**-0.2**	
	comp=Z,14nm,0.9s							
WATA	**Walderalm**	**136.28**	**331**	*e*P	**PKPdf**	**12 29 59.3**	**-0.3**	
	comp=Z,18nm,1.1s							
WTTA	**Wattenberg**	**136.31**	**331**	*e*P	**PKPdf**	**12 29 59.6**	**-0.1**	
	comp=Z,16nm,0.9s							
TRI	**Trieste**	**136.35**	**328**	IAMs_20	IAMs_20	13 35 46.9		
	comp=Z,2μm,20.0s							
MOTA	**Moosalm**	**136.50**	**332**	*e*P	**PKPdf**	**12 29 59.2**	**-0.8**	
	comp=Z,17nm,1.5s							
SQTA	**Sankt Quirin**	**136.54**	**332**	*e*P	**PKPdf**	**12 29 60.0**	**-0.1**	
	comp=Z,7.0nm,0.6s							
ANWB	**Willy Bob**	**136.63**	**76**	IAMs_20	IAMs_20	13 38 06.7		
	comp=Z,2μm,21.0s							
BMRD	**Maredsous**	**136.74**	**339**	*d*PKiKP	**PKiKP**	**12 30 01.2**	**-0.7**	
BMRD				*dp*PKiKP	**pPKiKP**	**12 30 15.9**	**+0.3**	
WLF	**Walferdange**	**136.77**	**338**	*d*PKiKP	**PKiKP**	**12 30 01.1**	**-0.9**	
FETA	**Feichten**	**136.91**	**332**	*e*P	**PKPdf**	**12 30 00.7**	**-0.1**	
	comp=Z,9.1nm,1.0s							
SCTE	**Santa Cesarea**	**137.02**	**319**	IAMs_20	IAMs_20	13 37 09.8		
	comp=Z,1μm,22.0s							
ESAR	**Angra dos Reis**	**137.10**	**142**	*e*P	**PKPdf**	**12 30 01.8**	**+0.1**	
DAVA	**Damuels**	**137.10**	**333**	*e*P	**PKiKP**	**12 30 02.1**	**-0.9**	
	comp=Z,14nm,1.1s							
CTI	**Castel Tesino**	**137.17**	**330**	PKIKP	**PKPdf**	**12 30 01.6**	**+0.4**	
CTI	**Castel Tesino**	**137.17**	**330**	PKPdf	**PKPdf**	**12 30 01.6**	**+0.4**	
FDF	**Fort de France**	**137.30**	**80**	IAMs_20	IAMs_20	13 38 15.5		
	comp=Z,2μm,22.0s							
TUE	**Stuetta**	**137.96**	**332**	PKPdf	**PKPdf**	**12 30 02.8**	**0.0**	
IPMB	**Ipameri, GO**	**138.16**	**133**	*e*P	**PKPdf**	**12 30 04.1**	**+0.3**	
BSCB	**Bom Sucesso**	**138.39**	**140**	*e*P	**PKPdf**	**12 30 03.7**	**-0.5**	
TIP	**Timpagrande**	**138.61**	**319**	IAMs_20	IAMs_20	13 35 34.0		
	comp=Z,1μm,20.0s							
INTR	**Introdacqua**	**138.69**	**324**		**PKPdf**	**12 30 03.9**	**-0.2**	
AQU	**L'Aquila**	**138.76**	**325**	IAMs_20	IAMs_20	13 37 34.1		
	comp=Z,2μm,20.0s							
VLC	**Villacollemand**	**139.15**	**329**	IAMs_20	IAMs_20	13 34 31.0		
	comp=Z,3μm,22.0s							
OSSC	**Osservatorio P**	**139.15**	**328**	IAMs_20	IAMs_20	13 38 57.3		
	comp=Z,1μm,19.0s							
CEL	**Celeste**	**139.68**	**318**	IAMs_20	IAMs_20	13 36 14.3		
	comp=Z,1μm,22.0s							
BDFB	**Brasilia**	**139.81**	**131**	PKhKP	PKPpre	12 29 58.7		
	comp=Z,8.2nm,0.8s,baz=138,slow=4.5,SNR=9.6							
BDFB				PKP	**PKPdf**	**12 30 07.2**	**+0.3**	
	comp=Z,8.8nm,0.6s,baz=185,slow=1.3,SNR=9.3							
BDFB	**Brasilia**	**139.81**	**131**	PKiKP	**PKPdf**	**12 30 07.4**	**+0.4**	
BDFB	**Brasilia**	**139.81**	**131**	PKPdf	**PKPdf**	**12 30 07.4**	**+0.4**	
BDFB				IAMs_20	IAMs_20	13 38 52.2		
	comp=Z,3μm,22.0s							
CASP	**Castiglione de**	**139.86**	**327**	IAMs_20	IAMs_20	13 38 29.0		
	comp=Z,1μm,22.0s							
DIAM	**Diamantina, MG**	**141.06**	**138**	*e*P	**PKiKP**	**12 30 11.4**	**-0.5**	
JANB	**Januaria**	**142.89**	**134**	*e*P	**PKiKP**	**12 30 14.7**	**-0.9**	
KEST	**Kesra**	**145.40**	**320**	PKPbc	**PKPbc**	**12 30 14.9**	**-1.3**	
	comp=Z,16nm,0.8s,baz=110,slow=2.5,SNR=8.2							
KEST	**Kesra**	**145.40**	**320**		**PKPbc**	**12 30 16.2**	**0.0**	
NBIT	**Itapeh - BA**	**146.28**	**139**	*e*P	**PKPbc**	**12 30 18.8**	**-0.5**	
GDU01	**Guandu, BA**	**147.08**	**138**	*e*P	**PKPdf**	**12 30 20.6**	**+1.0**	
PBRG	**Braganca**	**147.90**	**345**	*e*PKP	**PKPbc**	**12 30 23.3**	**0.0**	
PBRG				*i* LQ	LQ	12 30 40.5		
PGAV	**Gavieira, Arco**	**148.12**	**347**	*e*PKP	**PKPbc**	**12 30 24.6**	**+0.7**	
PCAB	**Cabril**	**148.30**	**346**	*e*PKP	**PKiKP**	**12 30 25.5**	**-0.5**	
PCAB				*i* LQ	LQ	12 30 43.0		
POLO	**Lamas de Olo**	**148.57**	**346**	*e*PKP	**PKPbc**	**12 30 25.7**	**+0.6**	
POLO				*i* LQ	LQ	12 30 42.0		
MVO	**Moncorvo**	**148.58**	**345**	*e*PKP	**PKPbc**	**12 30 24.9**	**-0.2**	
MVO				*i* LQ	LQ	12 30 42.0		
PVRL	**Vila Real**	**148.64**	**346**	*e*PKP	**PKPbc**	**12 30 25.0**	**-0.2**	
PVRL				*i* LQ	LQ	12 30 42.4		
NBPN	**Ponto Novo - B**	**148.67**	**133**	*e*P	**PKPdf**	**12 30 22.5**	**+0.2**	
PTO	**Porto**	**148.98**	**347**	*i* LQ	LQ	12 30 26.7		
ES18	**SONSECA Array**	**148.99**	**340**	IAMs_20	IAMs_20	13 37 44.5		
	comp=Z,2μm,20.0s							
ES08	**SONSECA Array**	**148.99**	**339**	IAMs_20	IAMs_20	13 47 24.9		
	comp=Z,1μm,20.0s							
ES09	**SONSECA Array**	**149.00**	**339**	IAMs_20	IAMs_20	13 34 24.0		
	comp=Z,1μm,20.0s							
ES07	**SONSECA Array**	**149.01**	**340**	IAMs_20	IAMs_20	13 43 52.2		
	comp=Z,1μm,19.0s							
ES02	**SONSECA Array**	**149.01**	**339**	IAMs_20	IAMs_20	13 37 28.3		
	comp=Z,2μm,20.0s							
ES10	**SONSECA Array**	**149.02**	**339**	IAMs_20	IAMs_20	13 47 23.3		
	comp=Z,1μm,19.0s							
ES06	**SONSECA Array**	**149.02**	**339**	IAMs_20	IAMs_20	13 38 35.5		
	comp=Z,2μm,19.0s							
ESBB	**Sonseca Array**	**149.02**	**340**	PKPbc	**PKPbc**	**12 30 26.1**	**-0.2**	
ESBB				IAMs_20	IAMs_20	13 44 06.4		
	comp=Z,1μm,20.0s							
ESDC	**Sonseca Array**	**149.02**	**340**	PKP	**PKPdf**	**12 30 22.0**	**-0.1**	
	comp=Z,7.9nm,0.9s,baz=6.6,slow=2.5,SNR=5.5							
ESDC				PKPbc	**PKPbc**	**12 30 25.6**	**-0.6**	
	comp=Z,8.9nm,1.0s,baz=10,slow=3.1,SNR=22							
ESDC				PP	**PP**	**12 33 56.3**	**0.0**	
	comp=Z,3.5nm,1.1s,baz=15,slow=4.7,SNR=3.5							
ESDC	**Sonseca Array**	**149.02**	**340**	PKPdf	**PKPdf**	**12 30 22.2**	**+0.1**	
ESDC				PKPbc	**PKPbc**	**12 30 26.3**	**+0.1**	
ES11	**SONSECA Array**	**149.03**	**339**	IAMs_20	IAMs_20	13 37 28.7		
	comp=Z,2μm,20.0s							
ES13	**SONSECA Array**	**149.04**	**339**	IAMs_20	IAMs_20	13 44 02.2		
	comp=Z,1μm,20.0s							
PVIS	**Viseu**	**149.22**	**346**	*e*PKP	**PKPbc**	**12 30 25.4**	**-1.3**	
PVIS				*i* LQ	LQ	12 30 44.9		
PAB	**San Pablo**	**149.27**	**340**	PKIKP	**PKPdf**	**12 30 22.1**	**-0.5**	
PAB						12 30 27.3		
PAB	**San Pablo**	**149.27**	**340**	PKPdf	**PKPdf**	**12 30 22.1**	**-0.5**	
PAB				PKPbc	**PKPbc**	**12 30 27.3**	**+0.4**	
MTE	**Manteigas**	**149.43**	**345**	*e*PKP	**PKPbc**	**12 30 27.8**	**+0.6**	
MTE				*i* LQ	LQ	12 30 44.2		
MTE	**Manteigas**	**149.43**	**345**		**PKiKP**	**12 30 28.0**	**-0.3**	
MTE				IAMs_20	IAMs_20	13 36 42.9		
	comp=Z,2μm,22.0s							
CART	**Cartagena**	**149.67**	**334**		**PKPbc**	**12 30 27.6**	**-0.2**	
COI	**Coimbra**	**149.82**	**346**	PKP2	**PKiKP**	**12 30 29.1**	**0.0**	
COI	**Coimbra**	**149.82**	**346**	*i* LQ	LQ	12 30 47.3		
COI	**Coimbra**	**149.82**	**346**		**PKiKP**	**12 30 29.1**	**0.0**	
COI				IAMs_20	IAMs_20	13 47 15.2		
	comp=Z,1μm,20.0s							
PCBR	**Castelo Branco**	**149.94**	**345**	*e*PKP	**PKiKP**	**12 30 28.9**	**-0.4**	
PCBR				*i* LQ	LQ	12 30 46.6		
PCAS	**Casmilo, Conde**	**149.99**	**346**	*e*PKP	**PKPbc**	**12 30 28.7**	**+0.1**	
PCAS				*i* LQ	LQ	12 30 46.7		
NBLA	**Lagarto - SE**	**150.25**	**137**	*e*P	**PKPdf**	**12 30 26.9**	**+2.1**	
PMRV	**Marv??o**	**150.30**	**344**	*e*PKP	**PKiKP**	**12 30 29.9**	**-0.2**	
PMRV				*i* LQ	LQ	12 30 47.3		
PSBE	**So Bento**	**150.57**	**346**	*e*PKP	**PKiKP**	**12 30 30.4**	**-0.3**	
PSBE				*i* LQ	LQ	12 30 48.6		
PMTG	**Montargil**	**150.85**	**345**	*e*PKP	**PKPbc**	**12 30 30.9**	**+0.3**	
PMTG				*i* LQ	LQ	12 30 48.4		
PESTR	**Estremoz**	**150.88**	**344**	*e*PKP	**PKPbc**	**12 30 30.2**	**-0.5**	
PESTR				*i* LQ	LQ	12 30 49.0		
PESTR	**Estremoz**	**150.88**	**344**		**PKPbc**	**12 30 30.9**	**+0.2**	
EVO	**Evora**	**151.31**	**344**	*e*PKP	**PKiKP**	**12 30 32.1**	**-0.1**	
EVO				*i* LQ	LQ	12 30 49.3		
PBAR	**Barrancos**	**151.37**	**343**	*e*PKP	**PKPbc**	**12 30 31.4**	**-0.5**	
PBAR				*i* LQ	LQ	12 30 43.2		
NBTA	**Tacaratu-PE**	**151.38**	**134**	*e*P	**PKPdf**	**12 30 27.4**	**+0.9**	
PBEJ	**Beja**	**151.74**	**344**	*e*PKP	**PKiKP**	**12 30 33.5**	**+0.4**	
PBEJ				*i* LQ	LQ	12 30 51.2		
PNCL	**Nicolau / Gran**	**151.84**	**345**	*e*PKP	**PKiKP**	**12 30 33.5**	**+0.2**	
PNCL				*i* LQ	LQ	12 30 50.6		
MESJ	**Messejana**	**152.01**	**344**	*e*PKP	**PKPbc**	**12 30 32.8**	**-0.5**	
MESJ				*i* LQ	LQ	12 30 50.9		
NBMA	**Muriti-CE**	**152.04**	**130**	*e*P	**PKPdf**	**12 30 30.3**	**+2.7**	
PCVE	**Castro Verde**	**152.16**	**344**	*e*PKP	**PKiKP**	**12 30 34.2**	**+0.2**	
PCVE				*i* LQ	LQ	12 30 51.4		
NBAN	**Anadia - AL**	**152.23**	**137**	*e*P	**PKPdf**	**12 30 30.3**	**+2.5**	
PVAQ	**Vaqueiros**	**152.28**	**343**	*e*PKP	**PKiKP**	**12 30 34.8**	**+0.5**	
PVAQ	**Vaqueiros**	**152.28**	**343**		**PKPbc**	**12 30 33.9**	**-0.1**	
PVAQ				IAMs_20	IAMs_20	13 46 33.5		
	comp=Z,2μm,20.0s							
PTEO	**Sao Teotonio**	**152.42**	**345**	*e*PKP	**PKPbc**	**12 30 33.4**	**-0.9**	
PBDV	**Barranco-do-Ve**	**152.49**	**343**	*e*PKP	**PKiKP**	**12 30 35.6**	**+0.9**	
PBDV				*i* LQ	LQ	12 30 52.5		
PFVI	**Vila Bisbo**	**152.84**	**345**	IAMs_20	IAMs_20	13 40 56.1		
	comp=Z,2μm,22.0s							
NBLI	**Livramento-PB**	**153.38**	**132**	*e*P	**PKPdf**	**12 30 31.9**	**+2.4**	
NBPA	**Parau_RN**	**154.32**	**129**	*e*P	**PKPdf**	**12 30 32.6**	**+1.8**	
NBPV	**Pedro Velho**	**155.22**	**133**	*e*P	**PKPdf**	**12 30 33.5**	**+1.5**	
TOA0	**Torodi Ar. Sit**	**161.14**	**278**	PKPdf	**PKPdf**	**12 30 38.5**	**-0.7**	
TORD	**Torodi Ar. Bea**	**161.14**	**278**	PKP	**PKPdf**	**12 30 38.2**	**-1.0**	
	comp=Z,8.4nm,1.0s,baz=15,slow=2.2,SNR=24							
TORD	**Torodi Ar. Bea**	**161.14**	**278**		**PKPdf**	**12 30 37.7**	**-1.5**	
KOWA	**Kowa**	**166.43**	**286**	PKP	**PKPdf**	**12 30 43.4**	**-0.7**	
	comp=Z,5.4nm,0.8s,baz=88,slow=5.0,SNR=4.7							
KOWA				PKPab	**PKPab**	**12 31 44.7**	**-1.2**	
	comp=Z,3.1nm,0.8s,baz=64,slow=5.1,SNR=2.3							
KOWA	**Kowa**	**166.43**	**286**		**PKPdf**	**12 30 43.0**	**-1.0**	
KOWA				PKPab	**PKPab**	**12 31 45.1**	**-0.8**	
KIC	**Kosan Boka**	**166.60**	**251**	*e*PKIKP	**PKPdf**	**12 30 43.3**	**-1.0**	
	comp=Z,54nm,1.3s							
KIC	**Kosan Boka**	**166.60**	**251**	*e*P	**PKPab**	**12 31 46.2**	**-0.6**	
	comp=Z,80nm,1.8s							
DBIC	**Dimbokro**	**166.82**	**252**	PKP	**PKPdf**	**12 30 43.9**	**-0.6**	
	comp=Z,16nm,1.1s,baz=276,slow=0.8,SNR=9.7							
DBIC				PKPab	**PKPab**	**12 31 45.7**	**-2.0**	
	comp=Z,5.7nm,1.1s,baz=53,slow=10,SNR=2.0							
LIC	**Lamto**	**166.82**	**250**	*e*PKIKP	**PKPdf**	**12 30 43.4**	**-1.0**	
	comp=Z,71nm,1.4s							
LIC	**Lamto**	**166.82**	**250**	*e*P	**PKPab**	**12 31 47.6**	**-0.1**	
	comp=Z,37nm,1.3s							
TIC	**Toumodi**	**166.96**	**252**	*e*PKIKP	**PKPdf**	**12 30 43.6**	**-0.9**	
TIC	**Toumodi**	**166.96**	**252**	*e*P	**PKPab**	**12 31 46.3**	**-2.1**	

IDC ***31*** *12:15:16.0±0.4,4.92S×152.50E,h0km,mb5.0/34, mb1 5.1/35,mb1mx4.9/53,mbtmp4.9/35,ML3.4/1 Error ellipse: s-maj=13.9km s-min=11.1km az=94.0*

BJI ***31*** *12:15:18.9±0.0,5.45S×152.45E,h44km,mB5.3/43, mb4.9/51,Ms5.6/35,Ms7 5.5/33*

MOS ***31*** *12:15:19.0±0.8,4.86S×152.57E,h27km,mb5.4/39,Error ellipse: s-maj=10.0km s-min=6.2km az=99.8*

NEIC ***31*** *12:15:21.8±1.7,4.92S±0.06×152.48E±0.08,h35km±1km, mb5.6/199,Mwc5.7(GCMT),Error ellipse: s-maj=12.9km s-min=9.7km az=83.0*

DJA ***31*** *12:15:23.3±0.9,5.5S±7.1×15.3E±1.1,h52km±9km,M5.6/7, mb5.3/7,mB5.6/6,MLv6.1/3,Mw(mB)5.1/6,MwMwp5.8/1, Mwp5.9/1*

GCMT ***31*** *12:15:25.8±0.4,5.05S±0.03×152.46E±0.04,h42km±2km, MW5.7/50,Moment Tensor Solution. s49,c60; s50,c57; Duration: 1s6 Moment tensor: Scale 10^17^Nm; Mrr2.37±.17; Mθθ-2.85±.13; Mϕϕ0.47±.16; Mrθ1.82±.21; Mθϕ-1.46±.14; Mϕr1.42±.23; Best double couple: Mo3.72800×10^17^ NP1:ϕs269.00000°,δ29.00000°, λ121.00000°. NP2:ϕs55.00000°,δ65.00000°,λ74.00000°. Principal axes: T 3.3020, Plg66.0000°, Azm297.0000°; N 0.8500, Plg14.0000°, Azm62.0000°; P -4.1550, Plg19.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***31*** *12:15:26,5.13S×152.44E,h43km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr2.55; Mθθ-3.03; Mϕϕ0.48; Mrθ2.42; Mθϕ-1.16; Mϕr0.83; Fault plane solution: Mo3.98000×10^17^ NP1:ϕs256.00000°, δ25.00000°,λ94.00000°. NP2:ϕs71.00000°,δ65.00000°, λ88.00000°. Principal axes: T 3.5041, Plg70.0000°, Azm338.0000°; N 0.8251, Plg2.0000°, Azm72.0000°; P -4.3292, Plg20.0000°, Azm163.0000°;*

ISC 31 12:15:23.8±0.2,4.96S±0.04×152.47E±0.05,h55km, h56km:pP-P,n516,σ1s29/537,mb5.4/165,MS5.4/16,4C-6D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.82**	**339**	Pn	**Pn**		**12 15 39.0**	**-0.3**
MANU	**Manus Island**	**5.86**	**300**	Pn	**Pn**		**12 16 51.5**	**+3.5**
PMG	**Port Moresby**	**6.87**	**230**	Pn	**Pn**		**12 17 01.6**	**-0.4**
	20nm,0.3s,baz=184,slow=5.9,SNR=22							
PMG				Sn	**Sn**		**12 18 14.8**	**-4.0**
	16nm,0.3s,baz=38,slow=14,SNR=1.8							
PMG	**Port Moresby**	**6.87**	**230**	*i* P	**Pn**		**12 17 03.5**	**+1.6**
PMG	**Port Moresby**	**6.87**	**230**	Pn	**Pn**		**12 17 04.7**	**+2.8**
PMG					**Sn**		**12 18 20.0**	**+1.2**
JAY	**Jayapura**	**11.99**	**281**	Pn	**Pn**		**12 18 08.8**	**-3.2**
	0.2nm,0.3s,baz=21,slow=19,SNR=0.7							
COEN	**Coen**	**12.79**	**225**	Pn	**Pn**		**12 18 26.1**	**+3.0**
CTAO	**Charters Tower**	**16.20**	**201**	P	**Pn**		**12 19 08.8**	**+0.8**
CTAO				pmax	pmax			
	comp=Z,129nm,1.6s							
CTAO	**Charters Tower**	**16.20**	**201**		**Pn**		**12 19 08.8**	**+0.8**
SANVU	**Saraoutou**	**17.84**	**127**		**Pn**		**12 19 26.6**	**-1.7**
GUMO	**Guam**	**19.92**	**338**	P	**P**		**12 19 50.0**	**-1.1**
GUMO				pmax	pmax			
	comp=Z,620nm,1.1s							
GUMO	**Guam**	**19.92**	**338**	P	**P**		**12 19 50.0**	**-1.1**
FAKI	**Fak Fak**	**20.27**	**275**	P	**P**		**12 19 55.3**	**+0.3**
FAKI				IAmb	IAmb		12 20 22.0	
	comp=Z,426nm,2.0s							
EIDS	**Eidsvold**	**20.33**	**184**	P	**P**		**12 19 55.5**	**0.0**
EIDS				IAmb	IAmb		12 20 00.7	
	comp=Z,230nm,1.4s							
SIJI	**Sorong**	**21.56**	**280**	P	**P**		**12 20 08.2**	**-0.6**
	comp=Z,98nm,0.8s,baz=116,slow=7.2,SNR=34							
SWI	**Sorong**	**21.56**	**280**	P	**P**		**12 20 10.3**	**+1.4**
	comp=Z,3μmcomp=Z,187nm,0.6s							
DZM	**Mont Dzumac**	**21.73**	**143**	P	**P**		**12 20 11.1**	**+0.4**
	comp=Z,49nm,1.0s,baz=297,slow=5.7,SNR=10							
DZM	**Mont Dzumac**	**21.73**	**143**	*e*P	**P**		**12 20 09.5**	**-1.2**
	comp=Z,246nm,1.2s							
DZM	**Mont Dzumac**	**21.73**	**143**	P	**P**		**12 20 11.9**	**+1.1**
MTN	**Manton Dam**	**22.47**	**248**	P	**P**		**12 20 19.3**	**+0.7**
WB0	**Warramunga Arr**	**22.94**	**229**	P	**P**		**12 20 23.2**	**-0.3**
WB0				IAmb	IAmb		12 20 26.2	
	comp=Z,456nm,1.6s							
WR0	**Warramunga Arr**	**22.95**	**228**	P	**P**		**12 20 23.3**	**-0.3**
WR0				IAmb	IAmb		12 20 26.3	
	comp=Z,533nm,1.8s							
WRAB	**Tennant Creek**	**23.07**	**228**	P	**P**		**12 20 24.1**	**-0.8**
WRAB				pmax	pmax			
	comp=Z,90nm,0.8s							
WRAB	**Tennant Creek**	**23.07**	**228**	P	**P**		**12 20 24.1**	**-0.8**
WRAB				IAmb	IAmb		12 20 44.2	
	comp=Z,90nm,0.8s							
WB2	**Warramunga Arr**	**23.08**	**228**	P	**P**		**12 20 24.4**	**-0.5**
WB2				IAmb	IAmb		12 20 45.0	
	comp=Z,294nm,1.4s							
WRA	**Warramunga Arr**	**23.09**	**228**	P	**P**		**12 20 24.5**	**-0.5**
	comp=Z,56nm,0.9s,baz=54,slow=9.9,SNR=31							
WRA	**Warramunga Arr**	**23.09**	**228**	*i* P	**P**		**12 20 24.5**	**-0.5**
WRA				pmax	pmax			
	comp=Z,44nm,0.8s							
WRA	**Warramunga Arr**	**23.09**	**228**	P	**P**		**12 20 25.2**	**+0.2**
ARMA	**Armidale**	**25.33**	**182**	P	**P**		**12 20 46.3**	**+0.6**
AS31	**Alice Springs**	**25.80**	**222**	P	**P**		**12 20 51.2**	**+1.3**
ASAR	**Alice Springs**	**25.80**	**222**	P	**P**		**12 20 49.7**	**-0.2**
	comp=Z,7.6nm,0.5s,baz=54,slow=8.7,SNR=28							
ASAR	**Alice Springs**	**25.80**	**222**	P	**P**		**12 20 51.5**	**+1.5**
ASAR	**Alice Springs**	**25.80**	**222**	P	**P**		**12 20 51.5**	**+1.5**
MSVF	**Nonsavu**	**28.06**	**119**	*i* P	**P**		**12 21 11.0**	**+0.7**
MSVF				pmax	pmax			
	comp=Z,8.0nm,1.5s							
STKA	**Stephens Creek**	**28.65**	**200**	P	**P**		**12 21 15.6**	**+0.2**
	comp=Z,12nm,0.9s,baz=20,slow=11,SNR=3.0							
STKA	**Stephens Creek**	**28.65**	**200**	*i* P	**P**		**12 21 15.7**	**+0.4**
STKA	**Stephens Creek**	**28.65**	**200**	P	**P**		**12 21 15.2**	**-0.1**
BATI	**Baumata**	**29.01**	**258**	P	**P**		**12 21 18.4**	**-0.4**
	comp=Z,30nm,0.7s,baz=129,slow=1.4,SNR=1.4							
FITZ	**Fitzroy Crossi**	**29.29**	**241**	P	**P**		**12 21 20.0**	**-1.1**
	comp=Z,31nm,0.6s,baz=68,slow=6.5,SNR=19							
FITZ	**Fitzroy Crossi**	**29.29**	**241**	P	**P**		**12 21 20.2**	**-0.9**
FITZ				IAmb	IAmb		12 21 42.5	
	comp=Z,112nm,1.4s							
LUWI	**Luwuk**	**29.90**	**277**	P	**P**		**12 21 26.3**	**-0.4**
LUWI				IAmb	IAmb		12 21 42.1	
	comp=Z,71nm,0.9s							
CAN	**Canberra**	**30.38**	**186**	P	**P**		**12 21 30.7**	**0.0**
CAN				pmax	pmax			
	comp=Z,28nm,1.1s							
CAN	**Canberra**	**30.38**	**186**	P	**P**		**12 21 30.7**	**0.0**
BBOO	**Buckleboo**	**31.66**	**207**	P	**P**		**12 21 40.2**	**-1.7**
TOLI2	**Tolitoli**	**32.22**	**280**	P	**P**		**12 21 44.2**	**-2.9**
TOLI2				IAmb	IAmb		12 22 13.2	
	comp=Z,82nm,1.9s							
FORT	**Forrest**	**34.45**	**219**	P	**P**		**12 22 06.3**	**0.0**
FORT				IAmb	IAmb		12 22 07.1	
	comp=Z,76nm,0.7s							
MYLDM	**Lahad Datu**	**35.39**	**286**	P	**P**		**12 22 14.9**	**+0.3**
MYLDM				IAmb	IAmb		12 22 42.3	
	comp=Z,139nm,1.5s							
PSA00	**Pilbara Seismi**	**35.66**	**239**	P	**P**		**12 22 16.1**	**-0.8**
PSA00				IAmb	IAmb		12 22 17.2	
	comp=Z,42nm,0.9s							
KKM	**Kota Kinabalu**	**37.81**	**286**	P	**P**		**12 22 35.7**	**+0.3**
KKM				IAmb	IAmb		12 23 01.2	
	comp=Z,64nm,1.3s							
TAU	**Tasmania Unive**	**38.06**	**186**	P	**P**		**12 22 38.1**	**+1.1**
TAU				pmax	pmax			
	comp=Z,34nm,1.1s							
TAU	**Tasmania Unive**	**38.06**	**186**	P	**P**		**12 22 38.1**	**+1.1**
JOW	**Kunigami**	**39.33**	**325**	P	**P**		**12 22 47.9**	**+0.1**
	comp=Z,15nm,0.7s,baz=140,slow=15,SNR=4.8							
JOW	**Kunigami**	**39.33**	**325**	P	**P**		**12 22 48.5**	**+0.7**
URZ	**Urewera**	**40.01**	**149**	P	**P**		**12 22 54.0**	**+0.7**
	comp=Z,16nm,1.1s,baz=301,slow=20,SNR=2.7							
URZ	**Urewera**	**40.01**	**149**	P	**P**		**12 22 54.1**	**+0.7**
BKZ	**Black Stump Fm**	**40.41**	**151**	P	**P**		**12 22 58.1**	**+1.4**
GIRL	**Giralia**	**40.90**	**241**	P	**P**		**12 23 01.7**	**+0.8**
GIRL				IAmb	IAmb		12 23 30.5	
	comp=Z,230nm,1.5s							
TUWZ	**Tuamarina**	**41.08**	**155**	P	**P**		**12 23 03.2**	**+1.1**
BSWZ	**Blackbirch Sta**	**41.29**	**156**	P	**P**		**12 23 04.7**	**+0.9**
BHW	**Baring Head**	**41.45**	**154**	P	**P**		**12 23 04.7**	**-0.4**
YULB	**Yu-li**	**41.47**	**314**	P	**P**		**12 23 06.0**	**+0.4**
BFZ	**Birch Farm**	**41.48**	**152**	P	**P**		**12 23 04.6**	**-0.9**
BFZ				IAmb	IAmb		12 23 24.1	
	comp=Z,276nm,1.8s							
LTZ	**Lake Taylor**	**41.56**	**158**	P	**P**		**12 23 04.4**	**-1.7**
LTZ				IAmb	IAmb		12 23 25.1	
	comp=Z,141nm,1.6s							
MSWZ	**Moikau Station**	**41.62**	**154**	P	**P**		**12 23 07.1**	**+0.5**
KHZ	**Kahutara**	**41.74**	**156**	P	**P**		**12 23 06.0**	**-1.4**
PLWZ	**Palliser**	**41.75**	**154**	P	**P**		**12 23 08.2**	**+0.5**
TPUB	**Ta-pu**	**41.89**	**313**	P	**P**		**12 23 10.1**	**+1.1**
OXZ	**Oxford**	**41.94**	**159**	P	**P**		**12 23 11.6**	**+2

MDJ PcP **PcP** **12 25 46.5 +1.7**
MDJ PP **PP** **12 26 41.0 +1.6**
MDJ S **S** **12 32 14.0 +7.2**
MDJ sS sS 12 32 27.8 -4.3
MDJ pmax pmax
comp=Z,11nm,0.7s
MDJ pmax pmax
comp=Z,210nm,5.0s
MDJ LR LR
comp=Z,3µm,22.1s
MDJ LR LR
comp=Z,2µm,26.3s
MDJ LR LR
comp=Z,8µm,29.2s
GYA Guiyang 54.23 308 ⇑P **P** **12 24 44.3 -0.2**
GYA S **S** **12 32 19.8 +1.6**
GYA pmax pmax
comp=Z,280nm,6.1s
GYA LR LR
comp=Z,2µm,18.5s
GYA LR LR
comp=Z,2µm,21.1s
GYA LR LR
comp=Z,4µm,20.3s
CN2 Changchun 54.31 336 *e*P P 12 24 49.8 +5.2
CN2 pmax pmax
comp=Z,10.0nm,1.6s
KMI Kunming 56.80 304 ⇑P **P** **12 25 03.5 +0.4**
KMI pP pP 12 25 13.0 -5.0
KMI sP sP 12 25 17.5 -6.8
KMI pmax pmax
comp=Z,180nm,4.1s
KMI LR LR
comp=Z,2µm,20.0s
KMI LR LR
comp=Z,3µm,23.2s
KMI LR LR
comp=Z,5µm,23.4s
KLR Kul'dur 56.91 344 P **P** **12 25 03.2 +0.1**
comp=Z,9.0nm,0.7s,baz=188,slow=3.6,SNR=12
KLR Kul'dur 56.91 344 *i* P **P** **12 25 03.0 -0.1**
KLR pmax pmax
comp=Z,9.0nm,0.6s
CM31 Chiang Mai Arr 57.65 295 P **P** **12 25 10.2 +1.3**
CMAR Chiang Mai Arr 57.65 295 P **P** **12 25 09.2 +0.3**
comp=Z,8.2nm,0.6s,baz=124,slow=5.7,SNR=10
CMAR PKPPKP **P'P'df** **12 54 53.8 -1.6**
comp=Z,0.4nm,0.3s,baz=305,slow=5.4,SNR=4.4
CMAR Chiang Mai Arr 57.65 295 P **P** **12 25 09.9 +1.0**
CMAR Chiang Mai Arr 57.65 295 P **P** **12 25 09.9 +1.0**
CHTO Chiang Mai 57.76 296 P **P** **12 25 10.3 +0.6**
CHTO pmax pmax
comp=Z,27nm,1.3s
CHTO Chiang Mai 57.76 296 P **P** **12 25 10.3 +0.6**
PPT2 Papeete2 57.99 108 *e*LR LR 12 42 08.5
comp=Z,3µm,27.8s
PET Petropavlovsk 58.01 4 *e*P **P** **12 25 09.8 -0.9**
PET pmax pmax
comp=Z,200nm,18.1s
PETK Petropavlovsk- 58.02 4 P **P** **12 25 10.1 -0.8**
comp=Z,4.8nm,0.6s,baz=156,slow=6.8,SNR=19
PETK Petropavlovsk- 58.02 4 P **P** **12 25 11.2 +0.3**
PETK Petropavlovsk- 58.02 4 P **P** **12 25 11.2 +0.3**
CD2 Chengdu 58.59 311 P **P** **12 25 15.5 +0.2**
CD2 pP pP 12 25 26.0 -4.3
CD2 sP sP 12 25 31.5 -5.1
CD2 S **S** **12 33 18.8 +3.1**
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,430nm,6.6s
TBI Tubuai 58.79 114 *e*S **S** **12 33 19.0 +0.5**
comp=Z,4µm,31.8s
TBI *e*LR LR 12 42 30.3
comp=Z,3µm,32.5s
HHC Hu-ho-hao-te 58.99 325 *e*P **P** **12 25 19.8 +1.8**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,180nm,5.3s
HIA Hailar 61.05 336 P **P** **12 25 31.8 0.0**
HIA pmax pmax
comp=Z,13nm,1.1s
HIA Hailar 61.05 336 P **P** **12 25 31.8 0.0**
LZH Lanzhou 61.12 316 *e*P **P** **12 25 33.0 +0.3**
LZH pP pP 12 25 43.0 -4.9
LZH sP sP 12 25 49.0 -5.1
LZH *e*S **S** **12 33 49.3 +1.1**
LZH sS pS 12 34 08.8 +2.7
LZH pmax pmax
comp=Z,54nm,1.3s
LZH pmax pmax
comp=Z,360nm,6.2s
LZH LR LR
comp=Z,2µm,16.0s
LZH LR LR
comp=Z,4µm,15.7s
LZH LR LR
comp=Z,3µm,17.0s
SAIH SAIHA 64.20 298 *ex* **P** **12 25 53.9 +0.4**
SAIH SAIHA 64.20 298 IAmb IAmb 12 25 57.5
comp=Z,48nm,0.4s
MA2 Magadan 64.35 359 P **P** **12 25 53.1 -0.5**
comp=Z,11nm,0.6s,baz=165,slow=6.4,SNR=12
MA2 Magadan 64.35 359 *i* P **P** **12 25 53.0 -0.5**
MA2 pmax pmax
comp=Z,9.0nm,0.6s
MA2 Magadan 64.35 359 P **P** **12 25 53.1 -0.5**
GTA Gaotai 65.55 317 P **P** **12 26 03.0 +1.0**
GTA pP pP 12 26 12.0 -5.3
GTA sP sP 12 26 17.0 -6.5
GTA pmax pmax
comp=Z,12nm,1.6s
GTA pmax pmax
comp=Z,200nm,5.5s
GTA LR LR
comp=Z,2µm,18.2s
GTA LR LR
comp=Z,3µm,19.3s
GTA LR LR
comp=Z,5µm,18.2s
SHL Shillong 66.10 301 P **P** **12 26 05.7 -0.1**
SHL pmax pmax
comp=Z,61nm,1.4s
SHL Shillong 66.10 301 P **P** **12 26 05.7 -0.1**
SHL IAmb IAmb 12 26 06.7
comp=Z,61nm,1.4s
SHL Shillong 66.10 301 *ex* **P** **12 26 05.8 0.0**
SHL Shillong 66.10 301 IAmb IAmb 12 26 09.2
comp=Z,11nm,0.7s
SONM Songino Array 66.29 328 P **P** **12 26 07.0 +0.5**
comp=Z,3.3nm,0.5s,baz=145,slow=5.2,SNR=10.0
SONM PKP2bc 12 54 42.6
comp=Z,1.6nm,1.1s,baz=323,slow=2.2,SNR=5.6
SEY Seymchan 67.71 360 P **P** **12 26 14.3 -0.7**
comp=Z,1.1nm,0.3s,baz=212,slow=12,SNR=8.3
SEY Seymchan 67.71 360 *i* P **P** **12 26 14.6 -0.4**
SPIA Saint Paul Isl 68.92 21 P **P** **12 26 23.5 +0.8**
SPIA IAmb IAmb 12 26 37.1
comp=Z,32nm,0.9s
YAK Yakutsk 69.07 349 *i* P **P** **12 26 23.8 +0.3**
YAK pmax pmax
comp=Z,17nm,1.1s
FALS False Pass 69.91 25 P **P** **12 26 28.5 -0.4**
FALS IAmb IAmb 12 26 29.6
comp=Z,54nm,1.2s
TLY Talaya 70.05 330 *i* P **P** **12 26 29.4 -0.5**
TLY pmax pmax
comp=Z,17nm,1.8s
TAPN Taplejung 70.21 301 *e*P **P** **12 26 31.9 +0.2**
comp=Z,23nm,0.7s
ODAN Odare 70.34 301 *e*P **P** **12 26 32.7 +0.3**
comp=Z,29nm,0.5s
RAMN Ramite 71.04 301 *e*P **P** **12 26 36.0 -0.7**
comp=Z,12nm,0.5s
SDPT Sand Point 71.51 26 P **P** **12 26 37.5 -1.1**
SDPT IAmb IAmb 12 26 39.1
comp=Z,88nm,1.1s
SDPT Sand Point 71.51 26 P 12 26 37.8
baz=230
JIRN Jiri 71.59 301 *e*P **P** **12 26 40.2 0.0**
comp=Z,23nm,0.7s
GUN Gumba 71.92 301 *e*P **P** **12 26 42.2 +0.1**
PKI Pulchoki 72.23 301 *e*P **P** **12 26 43.1 -0.9**
PKIN Phulchoki 72.24 301 *e*P **P** **12 26 42.8 -1.2**
KKN Kakani 72.40 301 *e*P **P** **12 26 44.0 -0.8**

DMN Daman 72.50 301 *e*P **P** **12 26 44.6 -0.9**
VNDA Vanda 72.68 178 P **P** **12 26 45.2 -0.1**
comp=Z,5.7nm,0.8s,baz=325,slow=7.4,SNR=7.3
VNDA Vanda 72.68 178 P **P** **12 26 46.4 +1.1**
VNDA pmax pmax
comp=Z,34nm,1.5s
VNDA Vanda 72.68 178 P **P** **12 26 46.4 +1.1**
GKN Gorkha 73.00 301 *e*P **P** **12 26 47.6 -0.8**
BILL Bilibino 73.48 5 *d* P **P** **12 26 49.7 -0.4**
BILL *e* 12 27 10.0
BILL *e*S **SKiKP** **12 36 18.0 +2.0**
BILL pmax pmax
comp=Z,53nm,2.5s
BILL MLR MLR
comp=Z,2µm,18.0s
BILL Bilibino 73.48 5 P **P** **12 26 50.8 +0.7**
BILL IAmb IAmb 12 26 53.2
comp=Z,78nm,1.8s
GAMB Gambell 73.63 16 P 12 26 51.9
baz=217
GAMB Gambell 73.63 16 P **P** **12 26 51.3 +0.3**
GAMB IAmb IAmb 12 26 53.1
comp=Z,52nm,1.4s
DANN Dangsing 73.84 301 *e*P **P** **12 26 52.2 -1.2**
comp=Z,32nm,0.6s
SII Sitkinak Islan 75.07 27 P 12 26 59.9
baz=236
SII Sitkinak Islan 75.07 27 P **P** **12 27 00.3 +0.7**
WMQ Urumqi 75.64 317 *e*P **P** **12 27 03.0 -0.2**
WMQ pP PcP 12 27 15.5 -0.4
WMQ pmax pmax
comp=Z,42nm,1.3s
WMQ pmax pmax
comp=Z,480nm,4.5s
WMQ LR LR
comp=Z,1µm,20.5s
WMQ LR LR
comp=Z,1µm,25.1s
WMQ LR LR
comp=Z,4µm,25.1s
WMQ Urumqi 75.64 317 P **P** **12 27 02.4 -0.8**
WMQ pmax pmax
comp=Z,63nm,1.5s
WMQ Urumqi 75.64 317 P **P** **12 27 02.4 -0.8**
WMQ IAmb IAmb 12 27 06.2
comp=Z,63nm,1.5s
OHAK Old Harbor 75.84 27 P 12 27 04.2
baz=236,SNR=8.8
OHAK Old Harbor 75.85 27 P **P** **12 27 04.1 +0.1**
OHAK IAmb IAmb 12 27 05.5
comp=Z,79nm,1.2s
ANM Nome 76.03 17 P **P** **12 27 05.0 +0.1**
ANM pmax pmax
comp=Z,96nm,1.5s
ANM Nome 76.03 17 P **P** **12 27 05.0 +0.1**
ANM IAmb IAmb 12 27 07.2
comp=Z,96nm,1.5s
ANM Nome 76.03 17 P 12 27 06.0
baz=223
TNA Tin City 76.04 16 P **P** **12 27 05.0 +0.1**
TNA Tin City 76.04 16 P 12 27 05.4
baz=221
HYB Hyderabad 76.23 289 *i* P **P** **12 27 06.0 -1.1**
KDAK Kodiak Island 76.47 27 P 12 27 08.3
baz=237
KDAK Kodiak Island 76.47 27 P **P** **12 27 07.5 0.0**
comp=Z,40nm,1.0s,baz=262,slow=4.4,SNR=13
KDAK Kodiak Island 76.47 27 P **P** **12 27 07.9 +0.4**
KDAK pmax pmax
comp=Z,52nm,1.2s
KDAK Kodiak Island 76.47 27 P **P** **12 27 07.9 +0.4**
KDAK IAmb IAmb 12 27 09.1
comp=Z,52nm,1.2s
SVW2 Sparrevohn 77.10 23 P **P** **12 27 11.6 +0.6**
RSO Redoubt South 77.87 24 P **P** **12 27 13.5 -2.2**
HOM Homer 77.90 25 P 12 27 15.9
baz=237,SNR=14
HOM Homer 77.90 25 P **P** **12 27 15.2 -0.3**
CNPM China Poot 78.01 26 P **P** **12 27 16.3 +0.2**
DGZ Jazzator, Alta 78.01 323 *i* P **P** **12 27 16.9 +0.3**
DGZ pmax pmax
comp=Z,14nm,0.7s
TIXI Tiksi 78.02 353 *i* P **P** **12 27 16.4 +0.5**
BRLK Bradley Lake 78.28 26 P **P** **12 27 16.7 -1.0**
BRSE Bradley Lake S 78.33 26 P 12 27 18.5
baz=238
SPCR Spurr Chakacha 78.50 24 P 12 27 18.7
baz=237,SNR=5.5
CAPN Captain Cook N 78.70 25 P 12 27 21.1
baz=238,SNR=20
CAPN Captain Cook N 78.70 25 P **P** **12 27 21.2 +1.3**
ZSN Zaisan 78.78 320 *e*P **P** **12 27 22.0 +1.3**
baz=320
ZSN Zaisan 78.78 320 *e*P **P** **12 27 22.0 +1.3**
SEW Seward 79.08 26 P **P** **12 27 22.5 +0.6**
SEW Seward 79.08 26 P 12 27 22.2
baz=239,SNR=16
O22K Cooper Landing 79.15 25 P **P** **12 27 22.3 -0.1**
O22K Cooper Landing 79.15 25 P 12 27 22.6
baz=239,SNR=14
SKT Skwentna 79.20 23 P 12 27 21.8
baz=237,SNR=7.1
SKT Skwentna 79.20 23 P **P** **12 27 21.9 -0.7**
RDOG Red Dog Mine 79.23 16 P 12 27 23.8
baz=225
RDOG Red Dog Mine 79.23 16 P **P** **12 27 23.9 +1.2**
SUA Susitna One 79.24 24 P 12 27 22.9
baz=238,SNR=27
SUA Susitna One 79.24 24 P **P** **12 27 22.5 -0.5**
SUA IAmb IAmb 12 27 23.7
comp=Z,51nm,0.8s
FIS Fire Island 79.29 25 P **P** **12 27 23.1 0.0**
PPLA Purkeypile 79.45 23 P **P** **12 27 23.2 -1.0**
PPLA IAmb IAmb 12 27 25.4
comp=Z,125nm,1.6s
PPLA Purkeypile 79.45 23 P 12 27 24.1
baz=236,SNR=11
RC01 Rabbit Creek A 79.46 25 P **P** **12 27 23.6 -0.5**
RC01 Rabbit Creek A 79.46 25 P 12 27 24.0
baz=239,SNR=42
CUT Chulitna 79.93 23 P 12 27 26.3
baz=238,SNR=11
CUT Chulitna 79.93 23 P **P** **12 27 26.4 -0.2**
PWL Port Wells 79.94 25 P **P** **12 27 26.9 +0.2**
CHUM Lake Minchumin 79.95 22 P 12 27 27.3
baz=236,SNR=39
PMR Palmer 79.97 24 P **P** **12 27 26.6 -0.2**
PMR pmax pmax
comp=Z,138nm,1.4s
PMR Palmer 79.97 24 P **P** **12 27 26.6 -0.2**
PMR IAmb IAmb 12 27 28.0
comp=Z,138nm,1.4s
PMR Palmer 79.97 24 P 12 27 26.7
baz=239,SNR=24
SMLA Simla 80.06 303 *ex* **P** **12 27 27.2 -0.7**
GHO Glory Hole Cre 80.15 24 P **P** **12 27 28.0 +0.1**
GHO IAmb IAmb 12 27 29.1
comp=Z,44nm,0.7s
KNK Knik Glacier 80.16 25 P **P** **12 27 28.5 +0.6**
KNK IAmb IAmb 12 27 29.6
comp=Z,125nm,1.3s
KNK Knik Glacier 80.16 25 P 12 27 28.2
baz=240
MK31 Makanchi Array 80.23 319 *i* P **P** **12 27 29.2 +0.6**
MKAR Makanchi Array 80.23 319 P **P** **12 27 28.7 +0.1**
comp=Z,10nm,0.8s,baz=96,slow=6.8,SNR=18
MKAR PKKPbc **PKKPbc** **12 46 12.7 -0.9**
comp=Z,0.7nm,0.8s,baz=266,slow=3.3,SNR=4.8
MKAR Makanchi Array 80.23 319 P **P** **12 27 30.0 +1.4**
MKAR Makanchi Array 80.23 319 P **P** **12 27 30.0 +1.4**
KTH Kantishna Hill 80.29 22 P **P** **12 27 28.0 -0.6**
KTH IAmb IAmb 12 27 29.2
comp=Z,95nm,1.2s
SML Sawmill 80.41 24 P 12 27 29.7
baz=240,SNR=49
SML Sawmill 80.41 24 P **P** **12 27 29.1 -0.1**
MAKZ Makanchi 80.44 319 P **P** **12 27 27.3 -2.4**
MAKZ pmax pmax
comp=Z,17nm,0.9s
MAKZ Makanchi 80.44 319 P **P** **12 27 27.3 -2.4**
GLI Glacier Island 80.47 26 P **P** **12 27 29.6 +0.1**
GLI Glacier Island 80.47 26 P 12 27 29.8
baz=241,SNR=21
TRF Thorofare Moun 80.48 23 P **P** **12 27 29.3 -0.4**
TRF IAmb IAmb 12 27 31.7
comp=Z,30nm,0.7s
TRF Thorofare Moun 80.48 23 P 12 27 29.2
baz=238,SNR=16
BPAW Bear Paw Mtn. 80.56 22 P **P** **12 27 29.1 -0.9**
BPAW IAmb IAmb 12 27 30.9
comp=Z,82nm,1.4s
BPAW Bear Paw Mtn. 80.56 22 P 12 27 29.5
baz=237,SNR=17
IMAR Indian Mountai 80.65 20 P **P** **12 27 30.9 +0.5**
FID Port Fidalgo 80.68 26 P **P** **12 27 30.3 -0.4**
FID IAmb IAmb 12 27 32.1
comp=Z,115nm,1.2s
SCM Sheep Creek Mo 80.84 25 P **P** **12 27 32.6 +1.0**
SCM pmax pmax
comp=Z,88nm,1.0s
SCM Sheep Creek Mo 80.84 25 P **P** **12 27 32.6 +1.0**
SCM IAmb IAmb 12 27 33.4
comp=Z,88nm,1.0s
WAT2 Susitna Watana 80.89 23 P 12 27 31.6
baz=240,SNR=24
EYAK Cordova Ski Ar 80.91 26 P **P** **12 27 32.5 +0.7**
EYAK IAmb IAmb 12 27 33.7
comp=Z,55nm,1.2s
EYAK Cordova Ski Ar 80.91 26 P 12 27 32.3
baz=243
RND Reindeer 81.01 23 P **P** **12 27 31.7 -0.8**
RND pmax pmax
comp=Z,74nm,0.8s
RND Reindeer 81.01 23 P **P** **12 27 31.7 -0.8**
RND IAmb IAmb 12 27 33.2
comp=Z,74nm,0.8s
DHRM DHARAMSHALA 81.01 304 *ex* **P** **12 27 32.4 -0.9**
DHRM DHARAMSHALA 81.01 304 IAmb IAmb 12 27 36.1
comp=Z,66nm,1.2s
WAT6 Susitna Watana 81.03 24 P 12 27 32.6
baz=240,SNR=28
ZAA0 Zalesovo Array 81.10 326 P **P** **12 27 32.9 -0.1**
ZALV Zalesovo Beam 81.10 326 P **P** **12 27 32.9 -0.2**
comp=Z,7.9nm,0.6s,baz=111,slow=6.1,SNR=18
ZALV Zalesovo Beam 81.10 326 P **P** **12 27 32.1 -0.9**
SHLS Shalkode 81.11 315 *e*P **P** **12 27 33.2 -0.3**
comp=Z,5.2nm,0.7s,baz=315
SHLS Shalkode 81.11 315 *e*P **P** **12 27 33.2 -0.3**
SHLS pmax pmax
comp=Z,5.0nm,0.7s
MCK McKinley 81.14 23 P **P** **12 27 32.6 -0.5**
MCK pmax pmax
comp=Z,196nm,1.1s
MCK McKinley 81.14 23 P **P** **12 27 32.6 -0.5**
MCK McKinley 81.14 23 P 12 27 32.5
baz=239,SNR=40
MLY Manley 81.15 21 P 12 27 33.3
baz=237,SNR=47
MLY Manley 81.16 21 P **P** **12 27 33.2 0.0**
KLU Klutina 81.27 25 P **P** **12 27 34.5 +0.6**
KLU Klutina 81.27 25 P 12 27 34.5
baz=242,SNR=46
RAGM Ragged Mountai 81.31 27 P **P** **12 27 34.7 +0.6**
UZB Uzynbulak 81.42 315 *e*P **P** **12 27 36.1 +0.9**
baz=315
UZB Uzynbulak 81.42 315 *e*P **P** **12 27 36.1 +0.9**
M24K Tolsona, Glenn 81.45 25 P 12 27 35.6
baz=242,SNR=24
M24K Tolsona, Glenn 81.45 25 P **P** **12 27 35.3 +0.5**
HMT Hamilton 81.47 27 P **P** **12 27 35.3 +0.4**
NEA2 Nenana 81.53 22 P 12 27 34.5
baz=239,SNR=44
NEA2 Nenana 81.53 22 P **P** **12 27 34.3 -0.9**
NEA2 IAmb IAmb 12 27 35.8
comp=Z,65nm,0.8s
BMRM Bremner River 81.60 26 P 12 27 36.2
baz=244,SNR=19
BMRM Bremner River 81.60 26 P **P** **12 27 36.1 +0.5**
I23K Minto, Yukon-K 81.71 21 P 12 27 36.2
baz=239,SNR=16
I23K Minto, Yukon-K 81.71 21 P **P** **12 27 35.8 -0.2**
I23K IAmb IAmb 12 27 38.0
comp=Z,26nm,0.7s
KPKS Kokpek 81.74 315 *e*P **P** **12 27 38.0 +1.1**
baz=315
KPKS Kokpek 81.74 315 *e*P **P** **12 27 37.9 +1.1**
SATY Saty 81.83 315 *e*P **P** **12 27 38.5 +1.1**
baz=315
SATY Saty 81.83 315 *e*P **P** **12 27 38.4 +1.1**
WRH Wood River Hil 81.83 22 P **P** **12 27 35.9 -0.8**
N25K Chitina, Valde 81.88 25 P **P** **12 27 37.6 +0.5**
N25K Chitina, Valde 81.88 25 P 12 27 37.8
baz=244,SNR=22
MDM Murphy Dome 82.03 22 P **P** **12 27 36.8 -1.0**
MDM IAmb IAmb 12 27 38.4
comp=Z,75nm,1.2s
CCB Clear Creek Bu 82.03 22 P **P** **12 27 36.4 -1.4**
TCOL CIGO, UAF Yank 82.12 22 P 12 27 37.6
baz=240,SNR=10.0
TCOL CIGO, UAF Yank 82.12 22 P **P** **12 27 38.0 -0.2**
COLA College 82.12 22 P 12 27 37.5
baz=240
COLA College 82.13 22 *i* P **P** **12 27 37.4 -0.8**
COLA pmax pmax
comp=Z,111nm,1.0s
COLA College 82.13 22 P **P** **12 27 37.8 -0.4**
PAX Paxson 82.14 24 P **P** **12 27 38.6 +0.1**
PAX pmax pmax
comp=Z,26nm,0.9s
PAX Paxson 82.14 24 P **P** **12 27 38.6 +0.1**
PAX Paxson 82.14 24 P 12 27 38.7
baz=243,SNR=7.7
GLB Gilahina Butte 82.15 26 P **P** **12 27 38.8 +0.3**
CRQM Cirque 82.15 27 P **P** **12 27 38.8 +0.1**
VRDI Verde Repeater 82.21 26 P **P** **12 27 39.3 +0.3**
HDA Harding Lake 82.24 22 P 12 27 38.1
baz=241,SNR=18
HDA P 12 27 38.1
baz=241,SNR=18
TDK Taldyqorghan 82.33 317 *e*P **P** **12 27 41.4 +1.7**
baz=316
TDK Taldyqorghan 82.33 317 *e*P **P** **12 27 41.4 +1.7**
POKR Poker Flat Res 82.40 22 P 12 27 39.4
baz=240
IL31 82.44 22 P **P** **12 27 38.6 -1.2**
IL31 IAmb IAmb 12 27 40.1
comp=Z,59nm,0.9s
ILAR Eielson Array 82.44 22 P **P** **12 27 39.0 -0.9**
comp=Z,41nm,0.9s,baz=248,slow=5.2,SNR=77
ILAR Eielson Array 82.44 22 P **P** **12 27 38.4 -1.4**
ILAR Eielson Array 82.44 22 P **P** **12 27 38.4 -1.4**
MCARA McCarthy VSAT 82.47 26 P 12 27 41.3
baz=245,SNR=20
MCARA McCarthy VSAT 82.47 26 P **P** **12 27 40.9 +0.8**
MCARA IAmb IAmb 12 27 42.1
comp=Z,79nm,1.0s
COLD Coldfoot 82.52 19 P **P** **12 27 41.0 +0.7**
COLD IAmb IAmb 12 27 42.7
comp=Z,101nm,1.4s
COLD Coldfoot 82.52 19 P 12 27 41.4
baz=238,SNR=22
YAH Yahtse 82.62 27 P **P** **12 27 41.9 +0.8**
YAH IAmb IAmb 12 27 43.4
comp=Z,67nm,1.2s
GRNC Granite Creek 82.76 27 P **P** **12 27 42.4 +0.5**
GRNC IAmb IAmb 12 27 43.7
comp=Z,31nm,0.7s
KSH Kashi 82.79 311 P **P** **12 27 44.5 +2.1**
KSH sP sP 12 28 04.0 +1.1
KSH pmax pmax
comp=Z,26nm,1.2s
KSH pmax pmax
comp=Z,480nm,7.9s
KSH LR LR
comp=Z,1µm,12.6s
KSH LR LR
comp=Z,710nm,8.1s
KSH LR LR
comp=Z,1µm,16.5s
MDOK Medeo 82.82 314 *e*P **P** **12 27 44.1 +1.6**
baz=314
MDOK Medeo 82.82 314 *e*P **P** **12 27 44.1 +1.6**
MENT Mentasta 82.84 24 P **P** **12 27 42.5 +0.4**
MENT IAmb IAmb 12 27 43.9
comp=Z,69nm,1.2s
TABL Table Mountain 82.92 27 P **P** **12 27 43.0 +0.3**
TABL IAmb IAmb 12 27 44.6
comp=Z,65nm,0.8s
AAA Alma-Ata 82.93 314 *e*P **P** **12 27 44.7 +1.7**
baz=314
AAA Alma-Ata 82.93 314 *e*P **P** **12 27 44.7 +1.7**

BARN Barnard Glacie 82.94 27 P P 12 27 43.4 +0.6
DOT Dot Lake 83.01 24 P P 12 27 43.0 0.0
CHKK Chushkaly 83.03 315 eP P 12 27 44.6 +1.1
baz=315
CHKK Chushkaly 83.03 315 eP P 12 27 44.5 +1.1
CTG Chitna Glacier 83.04 27 P 12 27 44.1
baz=247
CTGM Chitina Glacie 83.04 27 P P 12 27 43.9 +0.6
LOGN Logan Glacier 83.14 27 P P 12 27 44.3 +0.6
SCRK Sand Creek 83.19 23 P 12 27 44.2
baz=244,SNR=20
SCRK Sand Creek 83.19 23 P P 12 27 43.9 -0.1
SCRK IAmb IAmb 12 27 45.5
comp=Z,75nm,1.2s
PCA Pinnacle 83.20 28 P P 12 27 44.3 +0.3
PINM Pinnacle 83.20 28 P 12 27 44.3
baz=248
PRP Porcupine Dome 83.30 22 P 12 27 43.0
baz=242
PRP Porcupine Dome 83.30 22 P P 12 27 43.2 -1.3
TOLK Toolik Lake Re 83.47 18 P 12 27 46.0
baz=238,SNR=24
TOLK Toolik Lake Re 83.47 18 P P 12 27 45.8 +0.5
TOLK IAmb IAmb 12 27 47.3
comp=Z,48nm,0.8s
KUU Kurty 83.49 315 eP P 12 27 46.9 +1.0
comp=Z,29nm,0.8s,baz=315
KUU Kurty 83.49 315 eP P 12 27 46.8 +1.0
KUU pmax pmax
comp=Z,29nm,0.8s
L27K Beaver Creek, 83.67 25 P P 12 27 47.4 +1.1
L27K IAmb IAmb 12 27 48.5
comp=Z,74nm,1.1s
L27K Beaver Creek, 83.67 25 P 12 27 47.5
baz=246
KURK Kurchatov 83.69 322 P P 12 27 46.5 -0.1
KURK Kurchatov 83.69 322 P P 12 27 46.5 -0.1
KURBB Kurchatov Arra 83.72 322 P P 12 27 46.5 -0.3
comp=Z,8.1nm,0.9s,baz=111,slow=3.9,SNR=15
NIL Nilore 83.79 304 P P 12 27 47.8 +0.2
NIL pmax pmax
comp=Z,36nm,1.1s
NIL Nilore 83.79 304 P P 12 27 47.8 +0.2
NIL IAmb IAmb 12 28 07.6
comp=Z,36nm,1.1s
TKM2 Tokmak 2 83.80 314 P P 12 27 51.0 +3.3
SNR=7.6
FYU Fort Yukon 83.89 21 P P 12 27 48.1 +0.9
K27K Chicken 83.97 24 P P 12 27 48.9 +1.1
K27K IAmb IAmb 12 27 50.4
comp=Z,55nm,1.0s
K27K Chicken 83.97 24 P 12 27 49.4
baz=246,SNR=28
KBK Karagaybulak 84.21 314 P P 12 27 53.5 +3.7
SNR=7.3
CHMS Chumysh 84.43 314 P P 12 27 54.2 +3.5
SNR=5.4
UCH Uchtor 84.44 313 P P 12 27 52.6 +1.3
SNR=5.9
BMAR Burnt Mountain 84.51 20 P P 12 27 50.7 +0.1
AAK Ala-Archa 84.54 314 P P 12 27 51.9 +0.5
comp=Z,9.6nm,0.7s,baz=153,slow=6.6,SNR=14
AAK Ala-Archa 84.54 314 P P 12 27 52.2 +0.8
SNR=5.6
AAK Ala-Archa 84.54 314 i P P 12 27 50.6 -0.8
AAK pmax pmax
comp=Z,29nm,0.7s
AAK Ala-Archa 84.54 314 P P 12 27 52.3 +0.8
SIT Sitka 84.59 32 P 12 27 51.8
baz=252
SGDS Sogindy 84.61 314 eP P 12 27 52.9 +1.2
baz=314
SGDS Sogindy 84.61 314 eP P 12 27 52.8 +1.2
EGAK Eagle 84.64 23 P P 12 27 51.8 +0.6
EGAK IAmb IAmb 12 27 53.2
comp=Z,61nm,0.9s
EGAK Eagle 84.64 23 P 12 27 52.3
baz=246,SNR=18
USP Ospenovka 84.66 314 P P 12 27 52.5 +0.7
SNR=16
HYT Haines Junctio 84.73 28 P P 12 27 53.0 +1.1
QSPA South Pole Qui 85.00 180 PKKPbc PKKPbc 12 46 00.6 -3.2
comp=Z,1.8nm,0.8s,baz=209,slow=3.3,SNR=5.8
QSPA South Pole Qui 85.00 180 P P 12 27 53.9 +0.8
QSPA IAmb IAmb 12 28 11.4
comp=Z,33nm,1.1s
AML Almayashu 85.02 313 P P 12 27 55.0 +0.9
SNR=22
EKS2 Erkin-Say 85.06 313 P P 12 27 55.1 +1.2
SNR=5.4
DAWY Dawson 85.07 24 P P 12 27 54.1 +0.7
MAW Mawson 85.29 203 P P 12 27 54.1 -0.3
comp=Z,20nm,0.8s,baz=99,slow=7.5,SNR=16
MAW Mawson 85.29 203 P P 12 27 54.9 +0.5
MAW pmax pmax
comp=Z,5.0nm,0.8s
MAW Mawson 85.29 203 P P 12 27 54.9 +0.5
SKAG Skagway 85.32 29 P 12 27 56.1
baz=252
BTLS Baital 85.34 316 eP P 12 27 56.0 +0.9
comp=Z,6.2nm,0.8s,baz=316
BTLS Baital 85.34 316 eP P 12 27 56.0 +0.9
BTLS pmax pmax
comp=Z,6.0nm,0.8s
WHY Whitehorse 85.90 28 P P 12 27 59.0 +1.4
WHY IAmb IAmb 12 28 00.1
comp=Z,55nm,1.1s
WRAK Wrangell Islan 85.98 33 P P 12 27 59.6 +1.6
WRAK Wrangell Islan 85.98 33 P 12 27 58.8
baz=255
DZA Taraz 86.87 313 eP P 12 28 03.5 +0.7
baz=313
DZA Taraz 86.87 313 eP P 12 28 03.5 +0.7
EPYK Eagle Plains 86.94 22 P 12 28 03.4
baz=250
EPYK Eagle Plains 86.94 22 P P 12 28 03.3 +0.7
BRZS Berezniki 87.23 320 eP P 12 28 03.9 -0.4
baz=320
BRZS Berezniki 87.23 320 eP P 12 28 03.9 -0.4
KK31 Karatay Array 87.50 313 P P 12 28 06.6 +0.8
KK31 pmax pmax
comp=Z,61nm,2.0s
KK31 Karatay Array 87.50 313 P P 12 28 06.6 +0.8
KK31 IAmb IAmb 12 28 07.3
comp=Z,61nm,2.0s
KKAR Karatay Array 87.50 313 P P 12 28 06.4 +0.6
KKAR pmax pmax
comp=Z,61nm,2.0s
KKAR Karatay Array 87.50 313 P P 12 28 06.4 +0.6
KKAR IAmb IAmb 12 28 07.3
comp=Z,61nm,2.0s
KKAR Karatay Array 87.50 313 P P 12 28 06.6 +0.8
DLBC Dease Lake 87.69 31 P P 12 28 07.3 +0.9
IUG Iuzhnay 87.70 312 eP P 12 28 07.2 +0.3
comp=Z,7.1nm,1.4s,baz=312
IUG Iuzhnay 87.70 312 eP P 12 28 07.2 +0.3
IUG pmax pmax
comp=Z,7.0nm,1.4s
INK Inuvik 88.72 21 P P 12 28 11.1 +0.1
comp=Z,40nm,0.9s,baz=258,slow=3.7,SNR=46
INK Inuvik 88.72 21 P P 12 28 11.3 +0.4
INK pmax pmax
comp=Z,103nm,1.3s
INK Inuvik 88.72 21 P P 12 28 11.3 +0.4
K02D Willamette Mer 88.83 47 P 12 28 13.4
baz=262
O02D Mt. Diablo Mer 89.16 50 P 12 28 15.2
baz=263
BRVK Borovoye 89.24 323 i P P 12 28 12.9 -0.8
BRVK pmax pmax
comp=Z,17nm,1.6s
BRVK Borovoye 89.24 323 P P 12 28 13.9 +0.1
M02C Callahan 89.26 49 P 12 28 16.2
baz=263
N02D Trinity Center 89.32 49 P 12 28 15.8
baz=263
HUMO Hull Mountain 89.34 47 P P 12 28 16.5 +2.0
HUMO IAmb IAmb 12 28 17.0
comp=Z,33nm,1.4s
YBH Yreka Blue Hor 89.41 48 P P 12 28 15.0 +0.1
comp=Z,4.8nm,1.0s,baz=243,slow=9.0,SNR=4.7
E03A Lebam 89.42 43 P P 12 28 15.7 +1.0
H04D Lebanon 89.74 45 P 12 28 17.3
baz=263
L04D Klamath Falls 89.77 48 P 12 28 18.2
baz=263

O03E Paynes Creek 89.92 50 P 12 28 18.1
baz=263
J04D Umpqua Nationa 90.03 47 P 12 28 19.3
baz=263
AFDM Forest Hills D 90.41 51 P P 12 28 20.3 +0.7
J05D Fort Rock, OR 90.67 47 P 12 28 22.4
baz=264
I05D Terrebonne, OR 90.71 46 P 12 28 22.0
baz=264
CMB Columbia Colle 90.78 52 P P 12 28 22.9 +1.6
CMB pmax pmax
comp=Z,18nm,1.6s
CMB Columbia Colle 90.78 52 P P 12 28 22.9 +1.6
F05D White Salmon 90.79 44 P 12 28 22.6
baz=264
K05A Summer Lake 90.86 47 P P 12 28 23.1 +1.2
K05A IAmb IAmb 12 28 24.2
comp=Z,56nm,1.3s
PINE Pine Mountain 90.94 46 P P 12 28 23.5 +1.4
BEKR Beckworth 90.98 50 P P 12 28 21.3 -1.1
MOD Modoc Plateau 91.22 48 P P 12 28 23.5 0.0
MOD IAmb IAmb 12 28 25.6
comp=Z,38nm,1.4s
VES Vestal, Richgr 91.61 54 P 12 28 26.3
baz=265
PAHR Pah Rah Range 91.71 50 P P 12 28 26.4 +0.7
PAHR IAmb IAmb 12 28 28.1
comp=Z,31nm,1.6s
F07A Phinny Hill Vi 91.86 44 P P 12 28 27.3 +1.2
F07A IAmb IAmb 12 28 28.2
comp=Z,30nm,1.2s
E07A Sunnyside 91.97 44 P P 12 28 26.8 +0.2
I07A Izee 92.00 46 P P 12 28 27.2 +0.3
I07A IAmb IAmb 12 28 29.1
comp=Z,38nm,1.2s
HAWA Hanford 92.18 44 P P 12 28 27.9 +0.4
HAWA IAmb IAmb 12 28 29.6
comp=Z,36nm,1.3s
LHV Little Huntoon 92.28 52 P P 12 28 27.8 -0.4
LHV IAmb IAmb 12 28 31.0
comp=Z,25nm,1.2s
RYN Ryan 92.29 52 P P 12 28 27.5 -1.0
RYN IAmb IAmb 12 28 30.8
comp=Z,25nm,1.4s
C36M Paulatuk 92.30 21 P P 12 28 27.5 -0.1
C36M Paulatuk 92.30 21 P 12 28 27.7
baz=262
MWC Mount Wilson 92.33 56 P P 12 28 28.2 -0.6
MWC pmax pmax
comp=Z,29nm,1.2s
MWC Mount Wilson 92.33 56 P P 12 28 28.2 -0.6
MWC IAmb IAmb 12 28 31.3
comp=Z,30nm,1.1s
EDW2 Edwards Air Fo 92.43 55 P 12 28 31.1
baz=266
NVAR Mina Array Bea 92.45 52 P P 12 28 29.8 +0.5
comp=Z,4.5nm,0.9s,baz=256,slow=6.1,SNR=11
NVAR Mina Array Bea 92.45 52 P P 12 28 28.9 -0.4
B08A Colville Reser 92.47 42 P P 12 28 28.8 -0.2
B08A IAmb IAmb 12 28 30.4
comp=Z,14nm,1.2s
CWC Cottonwood Cre 92.47 54 P 12 28 30.4
baz=266
G08A Pilot Rock 92.49 45 P P 12 28 29.4 +0.2
G08A IAmb IAmb 12 28 31.1
comp=Z,41nm,1.3s
WVOR Wild Horse Val 92.50 48 P P 12 28 30.0 +0.7
WVOR Wild Horse Val 92.50 48 P P 12 28 29.9 +0.7
WVOR IAmb IAmb 12 28 31.5
comp=Z,34nm,1.3s
E08A Dider Farm, El 92.51 44 P P 12 28 29.6 +0.5
E08A IAmb IAmb 12 28 31.2
comp=Z,47nm,1.3s
NV11 Mina Array Sit 92.56 52 P P 12 28 28.9 -0.9
NV11 IAmb IAmb 12 28 32.1
comp=Z,18nm,1.2s
D08A Wollman Farm, 92.65 43 P P 12 28 27.5 -2.2
D08A IAmb IAmb 12 28 31.7
comp=Z,33nm,1.4s
KVN Kaiserville 92.65 51 P P 12 28 31.2 +1.0
KVN pmax pmax
comp=Z,17nm,1.3s
KVN Kaiserville 92.65 51 P P 12 28 31.2 +1.0
KVN IAmb IAmb 12 28 32.4
comp=Z,17nm,1.3s
J08A Circle Bar Ran 92.69 47 P P 12 28 30.8 +0.7
J08A IAmb IAmb 12 28 32.1
comp=Z,26nm,1.1s
LRMC Laurel Mtn Rad 92.73 55 P 12 28 32.5
baz=266
MPMC Manual Prospec 92.92 54 P 12 28 32.7
baz=266
C09A Chrisman Ranch 93.14 42 P P 12 28 31.7 -0.3
C09A IAmb IAmb 12 28 33.5
comp=Z,21nm,1.2s
TPH Tonopah 93.27 52 P P 12 28 34.1 +1.0
TPH pmax pmax
comp=Z,81nm,1.3s
TPH Tonopah 93.27 52 P P 12 28 34.0 +1.0
SYO Syowa Base 93.40 199 eP P 12 28 34.0 +1.3
FURC Furnace Creek, 93.45 54 P 12 28 35.1
baz=266
MONP2 Monument Peak 93.59 57 P 12 28 36.1
baz=266
PFO Pinyon Flats O 93.61 57 P P 12 28 34.6 0.0
comp=Z,4.0nm,0.9s,baz=262,slow=4.6,SNR=5.2
PFO Pinyon Flats O 93.61 57 i P P 12 28 34.3 -0.3
PFO pmax pmax
comp=Z,14nm,1.1s
PFO Pinyon Flats O 93.61 57 P 12 28 36.0
baz=266
TPFO Pinon Flats 93.61 57 P 12 28 36.0
baz=266
BMO Blue Mountains 93.62 45 P P 12 28 34.6 +0.2
BMO pmax pmax
comp=Z,42nm,1.3s
BMO Blue Mountains 93.62 45 P P 12 28 34.6 +0.2
BMO IAmb IAmb 12 28 36.1
comp=Z,42nm,1.3s
F10A Beach Ranch, E 93.75 44 P P 12 28 34.8 -0.2
F10A IAmb IAmb 12 28 36.5
comp=Z,34nm,1.1s
HEC Hector,Ludlow 93.78 56 P 12 28 37.0
baz=267
NEW Newport 93.94 42 P 12 28 36.3
baz=267
NEW Newport 93.94 42 P P 12 28 36.1 +0.4
NEW pmax pmax
comp=Z,32nm,1.3s
NEW Newport 93.94 42 P P 12 28 36.1 +0.4
NEW IAmb IAmb 12 28 37.3
comp=Z,32nm,1.2s
TPNV Topopah Spring 93.97 53 P 12 28 37.2
baz=267
TPNV Topopah Spring 93.98 53 P P 12 28 37.0 +0.7
TPNV pmax pmax
comp=Z,30nm,1.4s
TPNV Topopah Spring 93.98 53 P P 12 28 37.0 +0.7
TPNV IAmb IAmb 12 28 38.7
comp=Z,30nm,1.4s
BELC Belle Mtn. Jos 94.02 56 P 12 28 38.1
baz=267
GMRC Granite Mounta 94.34 56 P 12 28 39.8
baz=267
BC3 Big Chuckawall 94.45 57 P 12 28 40.3
baz=267
R11A Troy Canyon, C 94.57 52 P 12 28 40.4
baz=267
MFID Camas Ranch 94.62 47 P P 12 28 39.7 +0.7
MFID IAmb IAmb 12 28 41.0
comp=Z,36nm,1.5s
IRM Iron Mountain 94.73 56 P 12 28 41.6
baz=267
SHPR Sheep Range 94.83 54 P P 12 28 41.4 +1.1
SHPR IAmb IAmb 12 28 45.2
comp=Z,45nm,1.9s
ELK Elko 94.94 50 P P 12 28 40.6 -0.1
comp=Z,2.0nm,1.0s,baz=296,slow=2.3,SNR=4.9
ELK Elko 94.94 50 P P 12 28 40.8 0.0
ELK pmax pmax
comp=Z,15nm,1.5s
ELK Elko 94.94 50 P P 12 28 40.8 0.0
ABKAR Akbulak array 95.38 319 P P 12 28 42.1 0.0
ABKAR Akbulak array 95.38 319 P P 12 28 41.0 -1.1
YKA Yellowknife Ar 95.72 28 P P 12 28 43.5 0.0
comp=Z,7.2nm,0.7s,baz=269,slow=4.6,SNR=45

WALA Waterton Lakes 96.09 41 P P 12 28 46.7 +1.1
WALA IAmb IAmb 12 28 48.0
comp=Z,35nm,1.1s
ARU Arti 96.27 326 P P 12 28 46.2 +0.1
ARU 12 32 41.1
ARU S SKSac 12 39 20.3 +2.4
ARU SS SS 12 46 38.3 +3.8
CCUT Cedar City 96.30 53 P P 12 28 48.6 +1.6
LCMT Little Creek M 96.38 53 P P 12 28 48.9 +1.6
LCMT IAmb IAmb 12 28 50.0
comp=Z,25nm,1.5s
KNB Kanab 96.72 53 P P 12 28 47.4 -1.5
KNB pmax pmax
comp=Z,33nm,1.4s
KNB Kanab 96.72 53 P P 12 28 47.4 -1.5
KNB IAmb IAmb 12 28 51.7
comp=Z,33nm,1.4s
MCMT McKenzie Canyo 96.79 46 P P 12 28 50.0 +0.9
HVU Hansel Valley 96.83 49 P P 12 28 50.7 +1.5
HVU pmax pmax
comp=Z,14nm,1.2s
HVU Hansel Valley 96.83 49 P P 12 28 50.7 +1.5
HVU IAmb IAmb 12 28 52.6
comp=Z,14nm,1.2s
QLMT Earthquake Lak 97.80 46 P Pdif 12 28 54.9 +1.2
YHL Hebgen Lake 97.98 46 P Pdif 12 28 56.5 +1.9
YHL IAmb IAmb 12 28 56.9
comp=Z,12nm,1.2s
H17A Grant Village 98.42 46 P Pdif 12 28 56.5 +0.1
H17A Grant Village 98.42 46 P 12 28 58.4
baz=271
EGMT Eagleton 98.87 42 P P 12 28 57.9 -0.3
EGMT IAmb IAmb 12 28 59.9
comp=Z,23nm,1.4s
EGMT Eagleton 98.87 42 P 12 28 58.3
baz=272
BW06 Boulder Array 99.20 48 P Pdif 12 28 59.9 -0.1
BW06 Boulder Array 99.20 48 P 12 29 00.2
baz=272
PD31 Pinedale Array 99.20 48 P Pdif 12 28 59.2 -0.8
PDAR Pinedale Array 99.20 48 P Pdif 12 28 59.2 -0.8
comp=Z,5.2nm,1.0s,baz=254,slow=2.8,SNR=9.3
PDAR Pinedale Array 99.20 48 Pdif 12 28 59.0 -1.0
LAO LASA Array 101.35 44 P 12 29 10.7
baz=275
K22A Casper 101.44 48 P 12 29 10.5
baz=274
RSSD Black Hills 103.13 46 P 12 29 17.5
baz=276
MAK Makhachkala 104.31 313 i P Pdif 12 29 17.7 -4.6
MAK e 12 33 39.5
MAK e 12 40 02.1
MAK e 12 40 41.3
MAK ePS PS 12 42 57.9 +3.3
MAK eSSS SSS 12 52 29.2
MAK pmax pmax
comp=Z,631nm,1.8s
TXAR Lajitas Array 104.50 61 PKKPbc PKKPbc 12 45 07.3 -2.6
comp=Z,0.2nm,0.7s,baz=113,slow=6.0,SNR=2.7
APA Apatity 105.37 340 i P Pdif 12 29 21.3 -5.2
APA i 12 40 04.0
APA i PS PS 12 43 03.0 -1.7
APA pmax pmax
comp=Z,102nm,0.6s
APA MLR MLR
comp=Z,2μm,18.0s
ARCES ARCESS Array B 106.93 343 PKiKP PKiKP 12 33 43.0 +0.2
comp=Z,2.2nm,0.8s,baz=96,slow=1.8,SNR=3.7
MNK Minsk 113.56 328 i PKP PKiKP 12 34 04.1 +8.4
comp=E,4.0nm,1.0s
MNK i PKP PKiKP 12 34 04.1 +8.4
comp=N,16nm,0.8s
MNK i PKP PKiKP 12 34 04.1 +8.4
comp=Z,17nm,0.6s
MNK i PP PP 12 35 28.8 +41
MNK i SKP 12 37 36.9
MNK i PPP PPP 12 37 52.3
MNK i SKS SKSdf 12 41 28.8 +26
MNK i PKKP PKKPab 12 44 50.0 +2.8
MNK i SS SKKSdf 12 51 27.8 -43
MNK i SKKS 12 52 14.4
MNK i SSS SSS 12 56 22.6
MNK i LQ LQ 13 16 43.8
MNK i LR LR 13 22 20.2
MNK i LRM MLR 13 25 40.8
comp=E,256nm,20.8s
MNK i LRM MLR 13 25 42.0
comp=N,1μm,24.4s
MNK i LRM MLR 13 25 45.9
comp=Z,2μm,19.2s
NACGM Naroch 113.94 329 i PKP PKiKP 12 33 58.4 +1.9
NACGM i PKP PKiKP 12 33 58.4 +1.9
NACGM i PKP PKiKP 12 33 58.4 +1.9
NACGM i PP PP 12 35 09.6 +19
NACGM i PPP PPP 12 37 27.3
NACGM i SKS 12 39 58.0
NACGM i SKKS SKSdf 12 41 20.6 +17
NACGM i S SKKSac 12 42 18.7 +31
NACGM i PS PS 12 44 19.6 -8.9
NACGM i SS SKKSdf 12 51 44.8 -26
NACGM i SSS SSS 12 53 47.2
AKASG Malin Array Be 114.43 324 PKP PKPdf 12 33 57.3 -0.2
comp=Z,1.0nm,0.5s,baz=67,slow=2.1,SNR=2.3
BRTR Keskin Array B 115.16 312 PKP PKiKP 12 33 59.2 -0.3
comp=Z,0.7nm,0.6s,baz=76,slow=6.1,SNR=2.9
NB2 NORSAR Subarra 116.95 340 PKPdf PKiKP 12 34 02.2 0.0
comp=Z,1.0nm,0.7s,baz=42,slow=1.9
NOA NORSAR Array B 116.95 340 PKP PKPdf 12 34 01.6 -0.6
comp=Z,1.5nm,0.7s,baz=46,slow=1.9,SNR=5.7
KOLS Kolonicke sedl 119.25 325 ePKiKP PKiKP 12 34 07.4 +0.4
KOLS Kolonicke sedl 119.25 325 ePKP PKiKP 12 34 07.4 +0.4
UZH Uzhgorod 119.39 324 ePKiKP PKiKP 12 34 12.1 +4.9
UZH e 12 34 15.7
UZH i 12 34 24.7
MATP Matopo 119.49 243 PKP PKPdf 12 34 08.3 -0.1
comp=Z,2.0nm,0.6s,baz=39,slow=0.4,SNR=5.2
VLDQ Val d'Or 119.58 36 PKPdf PKPdf 12 34 06.4 -1.1
PLCA Paso Flores 119.85 143 PKP PKPdf 12 34 07.2 -1.2
comp=Z,2.6nm,0.8s,baz=199,slow=0.9,SNR=5.3
PLCA Paso Flores 119.85 143 PKiKP PKiKP 12 34 08.8 +0.3
PLCA Paso Flores 119.85 143 PKiKP 12 34 08.8 +0.3
ALGO Algonquin Park 120.23 39 P 12 34 09.1
baz=297
M53A WI Miller and 120.40 44 P 12 34 09.8
baz=292
G54A Lake Saint Pet 120.46 39 P 12 34 09.5
baz=297
H53A Bobcaygeon 120.51 40 P 12 34 09.6
baz=296
N53A Lisbon 120.52 45 PKPdf PKiKP 12 34 10.0 +0.3
LANS Liptovska Anna 120.73 326 ePKiKP PKiKP 12 34 11.3 +1.4
LANS Liptovska Anna 120.73 326 ePKP PKiKP 12 34 11.3 +1.4
Q53A Leroy 120.73 47 P 12 34 10.4
baz=290
M54A Oil Creek Stat 121.07 44 PKPdf 12 34 08.2 -2.5
M54A Oil Creek Stat 121.07 44 P 12 34 11.3
baz=293
Q54A Coxs Mills 121.19 47 PKPdf 12 34 10.2 -0.8
S54A Dingess, Beckl 121.25 48 P 12 34 11.6
baz=290
LSZ Lusaka 121.27 249 PKP PKiKP 12 34 12.1 +0.1
comp=Z,1.5nm,0.5s,baz=86,slow=3.9,SNR=2.1
MORC Moravsky Berou 121.44 327 ePKP PKiKP 12 34 12.3 +1.0
D56A ZEC Mazanza, M 121.70 36 P 12 34 11.4
baz=301
DPC Dobruska-Polom 121.75 329 ePKiKP PKiKP 12 34 12.5 +0.6
DPC Dobruska-Polom 121.75 329 ePKPDF PKiKP 12 34 12.5 +0.6
E56A St. Veronique 121.79 37 P 12 34 12.0
baz=300
R55A Marlinton 121.97 47 P 12 34 13.2
baz=291
M56A Emporium 122.10 43 P 12 34 13.0
baz=295
VRAC Vranov 122.21 327 ePKP PKiKP 12 34 13.3 +0.5
L56A Greenwood 122.24 42 P 12 34 13.2
baz=296
O56A Blue Knob Stat 122.33 45 P 12 34 14.0
baz=294
P56A Dayton Farm, R 122.44 46 P 12 34 13.6
baz=293
KRUC Moravsky 122.46 327 ePKP PKiKP 12 34 13.4 +0.1
G57A Newington 122.53 38 P 12 34 13.7
baz=300
BRG Berggiesshubel 122.65 330 ePKP PKiKP 12 34 14.0 +0.4

BRG				Amp			12 34 15.8		
	comp=Z,50nm,1.8s								
SSPA	**Standing Stone**	**122.65**	**44**	P			12 34 14.3		
	baz=294								
K57A	**Scipio Center**	**122.68**	**41**	P			12 34 14.4		
	baz=297								
D58A	**Chemin du LacG**	**122.76**	**35**	P			12 34 13.9		
	baz=303								
CLL	**Collm**	**122.83**	**331**	*i* PKPdf		**PKiKP**	**12 34 14.2**	**+0.3**	
CLL	**Collm**	**122.83**	**331**	*i* PKiKP		**PKiKP**	**12 34 14.2**	**+0.3**	
N57A	**Milroy**	**122.83**	**44**	P			12 34 14.4		
	baz=295								
M57A	**Sunshine Farm,**	**122.88**	**43**	P			12 34 15.0		
	baz=295								
E58A	**La Victoria**	**122.92**	**36**	P			12 34 14.6		
	baz=302								
Q57A	**Strasburg**	**122.92**	**46**	P			12 34 14.9		
	baz=293								
LONY	**Lake Ozonia**	**123.02**	**39**	P			12 34 14.6		
	baz=300								
IDI	**Anoyia**	**123.12**	**309**	PKP		**PKiKP**	**12 34 15.8**	**+0.7**	
	comp=Z,6.1nm,0.8s,baz=0.0,slow=18,SNR=1.2								
BINY	**Binghamton**	**123.27**	**42**	P			12 34 15.8		
	baz=297								
H58A	**Gabriels**	**123.37**	**39**	P			12 34 15.8		
	baz=300,SNR=5.6								
N58A	**Sunbury**	**123.37**	**43**	P			12 34 15.8		
	baz=296								
L58A	**Harry Jones Me**	**123.43**	**42**	P			12 34 16.1		
	baz=297								
R58A	**Rapidan**	**123.50**	**47**	P			12 34 15.9		
	baz=293								
O58A	**Lewisberry**	**123.53**	**44**	P			12 34 15.9		
	baz=295								
FNA	**Florina**	**123.58**	**317**	PKIKP		**PKPdf**	**12 34 15.0**	**-0.6**	
FNA	**Florina**	**123.58**	**317**	PKPdf		**PKPdf**	**12 34 15.0**	**-0.6**	
J59A	**Piesco**	**123.64**	**40**			**PKPdf**	**12 34 14.9**	**-0.7**	
J59A	**Piesco**	**123.64**	**40**	P			12 34 16.2		
	baz=299,SNR=5.1								
CKRC	**Cesky Krumlov**	**123.72**	**328**	*e*PKPDF		**PKiKP**	**12 34 15.9**	**+0.1**	
I59A	**Olmsteadville**	**123.87**	**39**	P			12 34 16.8		
	baz=300								
KHC	**Kasperske Hory**	**123.91**	**329**	*e*PKIKP		**PKPdf**	**12 34 15.9**	**0.0**	
KHC	**Kasperske Hory**	**123.91**	**329**	*e*PKPDF		**PKPdf**	**12 34 15.9**	**0.0**	
KHC				*e*pPKP		**pPKPdf**	**12 34 31.0**	**-0.3**	
KHC	**Kasperske Hory**	**123.91**	**329**			**PKiKP**	**12 34 16.3**	**+0.1**	
F60A	**Warwick**	**123.91**	**36**	P			12 34 16.5		
	baz=303								
M59A	**Waymart**	**123.93**	**42**	P			12 34 17.1		
	baz=297								
O59A	**Robesonia**	**123.97**	**44**	P			12 34 17.1		
	baz=296								
MVL	**Millersville**	**123.98**	**44**			**PKPdf**	**12 34 15.2**	**-1.0**	
GERES	**GERESS Array B**	**124.02**	**328**	PKP		**PKiKP**	**12 34 16.9**	**+0.4**	
	comp=Z,3.4nm,0.5s,baz=86,slow=3.2,SNR=2.9								
I60A	**Shoreham**	**124.21**	**39**	P			12 34 17.8		
	baz=300,SNR=5.2								
N60A	**Cedar Hill Far**	**124.46**	**43**	P			12 34 18.0		
	baz=297								
O60A	**Telford**	**124.50**	**43**	P			12 34 18.3		
	baz=296								
E61A	**Lac Etchemin**	**124.50**	**35**	P			12 34 18.2		
	baz=304,SNR=5.2								
SOKA	**Soboth**	**124.58**	**326**	*e*P		**PKPdf**	**12 34 17.3**	**0.0**	
	comp=Z,8.7nm,1.2s								
K61A	**Williamstown**	**124.82**	**40**	P			12 34 19.0		
	baz=300								
PQI	**Presque Isle**	**125.74**	**33**			**PKiKP**	**12 34 19.6**	**-0.2**	
ABTA	**Abfaltersbach**	**125.94**	**327**	*e*P		**PKPdf**	**12 34 19.8**	**-0.1**	
	comp=Z,20nm,1.4s								
WTTA	**Wattenberg**	**126.09**	**328**	*e*P		**PKiKP**	**12 34 21.3**	**+0.5**	
	comp=Z,24nm,1.4s								
MOTA	**Moosalm**	**126.32**	**328**	*e*P		**PKiKP**	**12 34 21.0**	**-0.2**	
	comp=Z,27nm,1.4s								
SQTA	**Sankt Quirin**	**126.34**	**328**	*e*P		**PKiKP**	**12 34 21.4**	**+0.2**	
	comp=Z,12nm,1.0s								
BATG	**Bathurst New B**	**126.42**	**32**	PKPdf		**PKiKP**	**12 34 21.1**	**-0.1**	
BTNL	**Ternell**	**126.50**	**334**	*d*PKP		**PKiKP**	**12 34 21.3**	**0.0**	
MEM	**Membach**	**126.54**	**334**	*d*PKP		**PKiKP**	**12 34 21.2**	**-0.1**	
FETA	**Feichten**	**126.72**	**328**	*e*P		**PKiKP**	**12 34 22.0**	**0.0**	
	comp=Z,20nm,1.2s								
WLF	**Walferdange**	**127.16**	**333**	*d*PKP		**PKiKP**	**12 34 23.3**	**+0.7**	
BMRD	**Maredsous**	**127.30**	**334**	*d*PKP		**PKiKP**	**12 34 23.0**	**+0.2**	
LATE	**Laterza**	**128.81**	**323**			**PKiKP**	**12 34 26.2**	**0.0**	
PB14	**IPOC Station P**	**128.97**	**127**			**PKiKP**	**12 34 27.3**	**0.0**	
GO02	**Mina Guanaco**	**129.35**	**128**	PKPdf		**PKiKP**	**12 34 28.7**	**+0.6**	
PB01	**IPOC Station P**	**131.41**	**124**			**PKPdf**	**12 34 31.0**	**-0.1**	
PB08	**IPOC Station P**	**132.10**	**123**			**PKiKP**	**12 34 34.1**	**+0.2**	
MNMC	**Minye Minye**	**132.17**	**121**			**PKiKP**	**12 34 34.6**	**+0.7**	
PB16	**IPOC Station P**	**132.59**	**120**	PKPdf		**PKiKP**	**12 34 35.7**	**+0.6**	
ROSC	**El Rosal**	**133.39**	**88**	PKP		**PKPdf**	**12 34 35.3**	**-0.1**	
	comp=Z,9.5nm,0.4s,baz=245,slow=11,SNR=2.6								
LPAZ	**La Paz**	**134.63**	**119**	PKP		**PKiKP**	**12 34 38.7**	**-0.6**	
	comp=Z,3.8nm,0.7s,baz=314,slow=2.3,SNR=9.1								
LPAZ	**La Paz**	**134.63**	**119**	PKIKP		**PKiKP**	**12 34 39.8**	**+0.4**	
LPAZ	**La Paz**	**134.63**	**119**	PKPdf		**PKiKP**	**12 34 39.8**	**+0.4**	
SDV	**Santo Domingo**	**137.06**	**82**	PKPdf		**PKiKP**	**12 34 43.0**	**-0.8**	
CPUP	**Villa Florida**	**137.56**	**139**	PKP		**PKPdf**	**12 34 41.6**	**-0.7**	
	comp=Z,4.9nm,0.9s,baz=300,slow=2.4,SNR=7.4								
CPUP	**Villa Florida**	**137.56**	**139**	PKIKP		**PKPdf**	**12 34 41.5**	**-0.9**	
CPUP	**Villa Florida**	**137.56**	**139**			**PKPdf**	**12 34 41.5**	**-0.9**	
PDPR	**Patillas Dam,**	**140.22**	**68**			**PKPdf**	**12 34 47.6**	**+0.2**	
SIV	**San Ignacio**	**140.82**	**123**	PKhKP		PKPpre	12 34 42.1		
	comp=Z,1.4nm,0.5s,baz=204,slow=5.0,SNR=1.6								
SAML	**Samuel**	**141.87**	**111**	PKIKP		**PKPdf**	**12 34 51.7**	**+1.2**	
SAML	**Samuel**	**141.87**	**111**			**PKPdf**	**12 34 51.7**	**+1.2**	
CBE	**Ff, Capester**	**144.79**	**69**	*e*P		**PKPab**	**12 34 53.8**	**-0.8**	
ABD	**La Joyeuse, An**	**144.80**	**68**	*e*P		**PKPdf**	**12 34 56.7**	**+1.1**	
TBG	**Guadaloupe-3**	**144.81**	**69**	*e*P		**PKPdf**	**12 34 55.3**	**-0.2**	
TDBA	**Terre de Bas,**	**144.82**	**69**	*e*P		PKPbc	12 34 54.5	-0.2	
MDT	**Midelt**	**144.99**	**325**	PKP		**PKPab**	**12 34 54.5**	**-0.5**	
	comp=Z,3.6nm,0.5s,baz=53,slow=5.5,SNR=8.8								
DSLB	**Salisbury**	**145.12**	**70**	*e*P		**PKPbc**	**12 34 55.3**	**-0.5**	
MAGL	**Barre de l'ile**	**145.12**	**69**	*e*P		**PKPbc**	**12 34 54.9**	**-0.8**	
DLPL	**La Plaine**	**145.31**	**70**	*e*P		**PKiKP**	**12 35 00.6**	**+0.2**	
FDF	**Fort de France**	**145.53**	**71**	*e*P		**PKPdf**	**12 34 56.3**	**-0.6**	
FDF	**Fort de France**	**145.53**	**71**	PKIKP		**PKPdf**	**12 34 56.7**	**-0.2**	
FDF	**Fort de France**	**145.53**	**71**			**PKPdf**	**12 34 56.7**	**-0.2**	
GRGR	**Grenville**	**145.54**	**76**	*e*P		**PKPdf**	**12 34 54.9**	**-2.0**	
GRGR	**Grenville**	**145.54**	**76**			**PKPdf**	**12 34 55.5**	**-1.4**	
SPB	**Sao Paulo**	**145.61**	**146**			**PKPab**	**12 34 57.9**	**+0.5**	
BIM	**Bigot**	**145.66**	**72**	*e*P		**PKPdf**	**12 34 56.1**	**-1.0**	
GCMP	**Grenada, Carri**	**145.71**	**75**	*e*P		**PKPdf**	**12 34 54.9**	**-2.3**	
SVB	**Belmont**	**145.74**	**74**	*e*P		**PKPdf**	**12 34 56.2**	**-1.1**	
SVB	**Belmont**	**145.74**	**74**			**PKPdf**	**12 34 56.5**	**-0.7**	
SVV	**Soufriere Volc**	**145.76**	**74**	*e*P		**PKPdf**	**12 34 57.2**	**-0.1**	
ILAM	**Ilet Lapin Mar**	**145.79**	**71**	*e*P		**PKPdf**	**12 34 56.6**	**-0.6**	
SLBI	**Saint Lucia, B**	**145.85**	**72**	*e*P		**PKPdf**	**12 34 55.4**	**-1.9**	
MPOM	**Morne Pois Mar**	**145.87**	**72**	*e*P		**PKPdf**	**12 34 57.1**	**-0.4**	
MCLT	**Moule a Chique**	**145.95**	**73**	*e*P		**PKPdf**	**12 34 54.1**	**-3.5**	
TPP	**Pointe-a-Pierr**	**145.98**	**79**	*e*P		**PKPab**	**12 34 59.8**	**+0.8**	
TRN	**Trinidad (W)**	**145.99**	**78**	*e*P		**PKPbc**	**12 34 58.0**	**-0.5**	
PTGA	**Pitinga**	**147.11**	**99**	PKPbc		**PKPbc**	**12 35 01.0**	**-0.8**	
	comp=Z,32nm,0.9s,baz=257,slow=4.6,SNR=4.2								
PTGA	**Pitinga**	**147.11**	**99**	PKPbc		**PKPbc**	**12 35 01.3**	**-0.5**	
TOAO	**Torodi Ar. Sit**	**150.04**	**288**			**PKPbc**	**12 35 09.0**	**-0.3**	
TORD	**Torodi Ar. Bea**	**150.04**	**288**	PKPbc		**PKPbc**	**12 35 08.7**	**-0.6**	
	comp=Z,40nm,0.7s,baz=83,slow=2.6,SNR=122								
BDFB	**Brasilia**	**151.18**	**136**	PKP		**PKPdf**	**12 35 06.4**	**+0.2**	
	comp=Z,9.6nm,0.9s,baz=304,slow=0.9,SNR=5.3								
BDFB				PKPbc		**PKiKP**	**12 35 12.4**	**-0.2**	
	comp=Z,16nm,0.8s,baz=310,slow=2.0,SNR=8.6								
BDFB	**Brasilia**	**151.18**	**136**	PKIKP		**PKPdf**	**12 35 07.4**	**+1.2**	
BDFB							12 35 12.4		
BDFB	**Brasilia**	**151.18**	**136**	PKPdf		**PKPdf**	**12 35 07.4**	**+1.2**	
BDFB				PKPbc		**PKiKP**	**12 35 12.4**	**-0.2**	
KOWA	**Kowa**	**154.99**	**294**	PKP		**PKPdf**	**12 35 11.5**	**-0.1**	
	comp=Z,3.8nm,1.1s,baz=26,slow=3.2,SNR=2.6								
KOWA				PKPbc		**PKPbc**	**12 35 20.0**	**-0.3**	
	comp=Z,5.6nm,0.5s,baz=53,slow=1.7,SNR=6.0								
KOWA				PKPab		**PKPab**	**12 35 35.9**	**-0.1**	
	comp=Z,9.0nm,0.8s,baz=117,slow=2.3,SNR=5.8								
KOWA	**Kowa**	**154.99**	**294**			**PKPdf**	**12 35 10.4**	**-1.2**	
KOWA						**PKPbc**	**12 35 20.1**	**-0.3**	
KOWA				PKPab		**pPKPbc**	**12 35 35.6**	**-0.2**	
DBIC	**Dimbokro**	**157.38**	**275**	PKP		**PKPdf**	**12 35 16.1**	**+1.2**	
	comp=Z,4.5nm,1.0s,baz=106,slow=7.4,SNR=2.6								
DBIC				PKPbc		**pPKPdf**	**12 35 25.6**	**-4.5**	
	comp=Z,2.4nm,0.6s,baz=134,slow=1.7,SNR=4.5								
DBIC				PKPab		**PKPab**	**12 35 45.5**	**-0.9**	
	comp=Z,4.8nm,0.6s,baz=65,slow=4.1,SNR=7.8								
DBIC	**Dimbokro**	**157.38**	**275**			PKPdf	12 35 25.5	+11	
DBIC				PKPab		**PKPab**	**12 35 46.3**	**-0.1**	

BJI ***31*** *12:18:20.4±0.0,5.°00S×153.°02E,h43km,mB5.7/66, mb5.2/72,Ms5.8/80,Ms7 5.6/74*

MOS ***31*** *12:18:23.2±0.8,4.°82S×152.°49E,h46km,mb5.7/63, MS5.7/9,Error ellipse: s-maj=8.8km s-min=6.8km az=90.6*

NEIC ***31*** *12:18:24.2±1.4,4.°90S±0.°06×152.°49E±0.°07,h39km±1km, mb5.6/309,Mwc6.0/27,Mww6.0,Mwc6.0(GCMT),Error ellipse: s-maj=11.4km s-min=9.1km az=241.0*

IDC ***31*** *12:18:25.9±1.0,4.°88S×152.°43E,h53km±7km,mb5.0/45, mb1 5.0/49,mb1mx5.0/57,mbtmp5.3/49,MS5.5/21, Ms1 5.5/21,ms1mx5.5/25,Error ellipse: s-maj=9.2km s-min=7.0km az=102.0*

NEIC ***31*** *12:18:27,4.°85S×152.°51E,h50km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr 1.07; Mθθ-0.89; Mφφ-0.18; Mrθ 0.55; Mrφ-0.23; Mθφ-0.06; Fault plane solution: M₀ 1.16000×10¹⁸ NP1:φs246.00000°, δ32.00000°,λ75.00000°. NP2:φs83.00000°,δ59.00000°, λ99.00000°. Principal axes: T 1.2247, Plg74.0000°, Azm18.0000°; N -0.1434, Plg8.0000°, Azm259.0000°; P -1.0814, Plg14.0000°, Azm167.0000°;*

DJA ***31*** *12:18:28.6±0.4,5.°S±3.°×15.°3E±.°,h87km±4km,M5.5/53, mB5.9/37,mb5.4/53,MLv5.9/2,Mw6.1/10,Mw(mB)5.5/37, MwMwp5.6/18,Mwp5.7/18*

GCMT ***31*** *12:18:29.2±0.1,5.°07S×152.°43E,h47km,MW6.0/165, Moment Tensor Solution. s165,c339; s158,c494; Duration: ≥4 Moment tensor: Scale 10¹⁸Nm; Mrr 1.07±.01; Mθθ-1.11±.01; Mφφ 0.04±.01; Mrθ 0.31±.01; Mθφ-0.36±.01; Mrφ-0.20±.01; Best double couple: M₀ 1.20500×10¹⁸ NP1:φs239.00000°,δ41.00000°, λ67.00000°. NP2:φs88.00000°,δ53.00000°,λ109.00000°. Principal axes: T 1.1680, Plg74.0000°, Azm53.0000°; N 0.0760, Plg15.0000°, Azm257.0000°; P -1.2410, Plg6.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***31*** *12:18:30,5.°09S×152.°51E,h48km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr 1.11; Mθθ-1.16; Mφφ 0.05; Mrθ 0.35; Mrφ-0.38; Mθφ-0.15; Fault plane solution: M₀ 1.26000×10¹⁸ NP1:φs241.00000°, δ39.00000°,λ70.00000°. NP2:φs86.00000°,δ53.00000°, λ106.00000°. Principal axes: T 1.2014, Plg75.0000°, Azm47.0000°; N 0.1032, Plg13.0000°, Azm257.0000°; P -1.3045, Plg7.0000°, Azm165.0000°;*

NEIC ***31*** *12:18:41.7,4.°70S×152.°62E,h43km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr 1.08; Mθθ-1.21; Mφφ 0.14; Mrθ 0.13; Mrφ-0.44; Mθφ-0.08; Fault plane solution: M₀ 1.22000×10¹⁸ NP1:φs245.77000°, δ43.00000°,λ78.77000°. NP2:φs80.95000°,δ48.02000°, λ100.29000°. Principal axes: T 1.0961, Plg82.0000°, Azm55.0000°; N 0.2496, Plg8.0000°, Azm254.0000°; P -1.3457, Plg3.0000°, Azm164.0000°;*

ISC 31 12:18:25.2±0.4,4.°93S±0.°03×152.°51E±0.°04,h49km±3km, h48km;pP-P,n1176,σ1945/1229,mb5.5/294,MS5.6/60, 95C-58D,Fault plane solution: NP1:φs203.07634°, δ32.12670°,λ40.59865°. **NP2:φs**77.10328°,δ69.75301°, λ115.49147°. **Principal axes:** T Plg57.5156°, Azm21.6191°; N Plg23.8149°, Azm247.7337°; P Plg20.7397°, Azm148.1129°; **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.81**	**334**	Pn		**Pn**	**Pn**	**12 18 41.6**	**+1.2**
RABL	**Rabaul**	**0.81**	**334**	P		**Pn**	**Pn**	**12 18 41.4**	**+1.0**
MANU	**Manus Island**	**5.88**	**299**	Pn		**Pn**	**Pn**	**12 19 50.0**	**+0.1**
PMG	**Port Moresby**	**6.93**	**230**	P		**Pn**	**Pn**	**12 20 04.2**	**0.0**
	baz=182,slow=8.5,SNR=0.7								
PMG				S		**Sn**	**Sn**	**12 21 23.7**	**+2.0**
	79nm,0.3s,baz=156,slow=16,SNR=9.6								
PMG	**Port Moresby**	**6.93**	**230**	*ce*P		**Pn**	**Pn**	**12 20 06.3**	**+2.1**
PMG				pmax		pmax	pmax		
	comp=Z,272nm,0.8s								
PMG	**Port Moresby**	**6.93**	**230**	Pn		**Pn**	**Pn**	**12 20 07.8**	**+3.6**
PMG	**Port Moresby**	**6.93**	**230**	P		**Pn**	**Pn**	**12 20 07.7**	**+3.5**
HNR	**Honiara**	**8.63**	**122**	P		**Pn**	**Pn**	**12 20 27.8**	**+0.4**
	comp=Z,14nm,0.3s,baz=48,slow=6.9,SNR=1.2								
HNR				LR		LR	LR	12 24 00.5	
	comp=Z,45μm,20.5s,baz=290,slow=38								
HNR	**Honiara**	**8.63**	**122**	P		**Pn**	**Pn**	**12 20 28.6**	**+1.1**
HNR	**Honiara**	**8.63**	**122**			**Pn**	**Pn**	**12 20 28.6**	**+1.1**
JAY	**Jayapura**	**12.02**	**281**	P		**Pn**	**Pn**	**12 21 13.6**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=138,slow=21,SNR=1.3								
JAY				LR		LR	LR	12 25 00.2	
	comp=Z,27μm,21.4s,baz=90,slow=33								
JAY	**Jayapura**	**12.02**	**281**	P		P	P	12 21 20.7	-5.0
	comp=Z,4μmcomp=Z,87nm,1.4s								
GENI	**Genyem**	**12.54**	**280**	P		**P**	**P**	**12 21 26.7**	**-4.7**
	comp=Z,30μmcomp=Z,14μmcomp=Z,342nm,1.3s								
COEN	**Coen**	**12.85**	**225**	Pn		**Pn**	**Pn**	**12 21 27.5**	**+2.2**
PATS	**Pohnpei**	**13.04**	**26**	Pn		**Pn**	**Pn**	**12 21 27.6**	**-0.3**
MTSU	**Mount Surprise**	**15.38**	**211**	P		**P**	**P**	**12 22 02.6**	**-0.4**
	baz=15,SNR=20								
CTA	**Charters Tower**	**16.26**	**201**	P		**P**	**P**	**12 22 12.0**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=18,slow=14,SNR=10								
CTA				LR		LR	LR	12 27 44.2	
	comp=Z,24μm,21.5s,baz=26,slow=34								
CTAO	**Charters Tower**	**16.26**	**201**	P		**P**	**P**	**12 22 11.6**	**-1.1**
CTAO				pmax		pmax	pmax		
	comp=Z,142nm,1.3s								
CTAO	**Charters Tower**	**16.26**	**201**			**P**	**P**	**12 22 11.6**	**-1.1**
BAKI	**Biak**	**16.80**	**282**	P		**P**	**P**	**12 22 21.8**	**+3.1**
	comp=Z,113μmcomp=Z,10μmcomp=Z,385nm,1.0s								
SANVU	**Saraoutou**	**17.83**	**127**			**P**	**P**	**12 22 31.3**	**+1.2**
SANVU				IAmb		IAmb	IAmb	12 22 58.4	
	comp=Z,248nm,0.9s								
SANVU	**Saraoutou**	**17.83**	**127**	P		**P**	**P**	**12 22 32.0**	**+1.9**
GUMO	**Guam**	**19.90**	**338**	P		**P**	**P**	**12 22 52.4**	**-0.4**
GUMO				pmax		pmax	pmax		
	comp=Z,631nm,1.0s								
GUMO	**Guam**	**19.90**	**338**			**P**	**P**	**12 22 52.4**	**-0.4**
GUMO				IAmb		IAmb	IAmb	12 23 01.1	
	comp=Z,631nm,0.9s								
GUMO	**Guam**	**19.90**	**338**	P		**Pn**	**Pn**	**12 22 56.0**	**+1.2**
QIS	**Mount Isa**	**19.97**	**218**	P		**Pn**	**Pn**	**12 22 55.3**	**-0.4**
	baz=20,SNR=15								
FAKI	**Fak Fak**	**20.31**	**275**	P		**P**	**P**	**12 22 57.6**	**+0.2**
FAKI				IAmb		IAmb	IAmb	12 23 25.3	
	comp=Z,251nm,1.0s								
FAKI	**Fak Fak**	**20.31**	**275**	P		P	Pn	12 22 59.6	-0.2
	comp=Z,9μmcomp=Z,248nm,1.2s								
EIDS	**Eidsvold**	**20.37**	**184**	P		P	Pn	12 22 59.4	-0.9
	baz=20,SNR=10								
EIDS	**Eidsvold**	**20.37**	**184**	P		**P**	**P**	**12 22 59.0**	**+1.1**
KDU	**Kakadu**	**21.24**	**247**	P		**P**	**P**	**12 23 07.1**	**-0.2**
	baz=21,SNR=27								
SIJI	**Sorong**	**21.59**	**280**	P		**P**	**P**	**12 23 11.3**	**+0.1**
	comp=Z,126nm,0.7s,baz=90,slow=7.2,SNR=25								
SIJI				S		**S**	**S**	**12 27 11.0**	**+2.9**
	comp=Z,6.4nm,0.7s,baz=242,slow=21,SNR=1.3								
SWI	**Sorong**	**21.60**	**280**	P		**P**	**P**	**12 23 13.4**	**+2.2**
	comp=Z,14μmcomp=Z,6μmcomp=Z,391nm,0.8s								
DZM	**Mont Dzumac**	**21.74**	**143**	P		**P**	**P**	**12 23 13.5**	**+0.8**
	comp=Z,113nm,0.8s,baz=274,slow=5.2,SNR=19								
DZM				LR		LR	LR	12 30 36.9	
	comp=Z,24μm,21.7s,baz=326,slow=34								
DZM	**Mont Dzumac**	**21.74**	**143**	*e*P		**P**	**P**	**12 23 15.3**	**+2.6**
	comp=Z,630nm,1.0s								
DZM				*e*S		**S**	**S**	**12 27 09.1**	**-1.7**
	comp=Z,33μm,24.4s								
DZM				*e*LR		LR	LR	12 28 34.1	
	comp=Z,43μm,25.3s								
DZM	**Mont Dzumac**	**21.74**	**143**	P		**P**	**P**	**12 23 14.9**	**+2.2**
DZM				IAmb		IAmb	IAmb	12 23 36.0	
	comp=Z,364nm,1.1s								
DZM	**Mont Dzumac**	**21.74**	**143**	P		**P**	**P**	**12 23 15.8**	**+3.1**
RMQ	**Roma**	**21.74**	**189**	P		**P**	**P**	**12 23 14.2**	**+1.6**
	baz=22,SNR=12								
YATNC	**Mamie plateau,**	**22.00**	**142**	P		**P**	**P**	**12 23 19.7**	**+4.3**
OUENC	**Ouen Island, N**	**22.24**	**143**	P		**P**	**P**	**12 23 22.4**	**+4.4**
MARNC	**Mare, Loyalty**	**22.30**	**139**	P		**P**	**P**	**12 23 22.4**	**+3.8**
MTN	**Manton Dam**	**22.52**	**248**	P		**P**	**P**	**12 23 22.2**	**+1.0**
	baz=22,SNR=13								
MTN	**Manton Dam**	**22.52**	**248**	P		**P**	**P**	**12 23 20.4**	**-0.8**
MTN				IAmb		IAmb	IAmb	12 23 43.4	
	comp=Z,235nm,1.0s								
QLP	**Quilpie**	**22.94**	**199**	P		**P**	**P**	**12 23 26.4**	**+1.0**
	baz=23,SNR=8.9								
WB0	**Warramunga Arr**	**23.00**	**229**	P		**P**	**P**	**12 23 25.5**	**-0.6**
WB0				IAmb		IAmb	IAmb	12 23 28.9	
	comp=Z,319nm,1.0s								
WR0	**Warramunga Arr**	**23.01**	**228**	P		**P**	**P**	**12 23 26.3**	**+0.2**
WR0				IAmb		IAmb	IAmb	12 23 55.3	
	comp=Z,230nm,0.8s								
WRAB	**Tennant Creek**	**23.13**	**228**	P		**P**	**P**	**12 23 27.1**	**-0.3**
WRAB				pmax		pmax	pmax		
	comp=Z,275nm,0.9s								
WRAB	**Tennant Creek**	**23.13**	**228**	P		**P**	**P**	**12 23 27.1**	**-0.3**
WRAB				IAmb		IAmb	IAmb	12 23 30.1	
	comp=Z,275nm,0.8s								
WB2	**Warramunga Arr**	**23.14**	**228**	P		**P**	**P**	**12 23 27.3**	**-0.2**
WB2				IAmb		IAmb	IAmb	12 23 30.3	
	comp=Z,273nm,0.8s								
WRA	**Warramunga Arr**	**23.15**	**228**	P		**P**	**P**	**12 23 27.4**	**-0.2**
	comp=Z,240nm,0.8s,baz=52,slow=10,SNR=28								
WRA				S		**S**	**S**	**12 27 34.4**	**-1.3**
	comp=Z,64nm,1.1s,baz=54,slow=18,SNR=18								
WRA				LR		LR	LR	12 32 42.1	
	comp=Z,13μm,21.1s,baz=65,slow=37								
WRA				PKiKP		**PKiKP**	**PKiKP**	**12 34 58.5**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=20,slow=1.8,SNR=7.3								
WRA	**Warramunga Arr**	**23.15**	**228**	*i* P		**P**	**P**	**12 23 27.3**	**-0.3**
WRA				pmax		pmax	pmax		
	comp=Z,242nm,0.8s								
WRA	**Warramunga Arr**	**23.15**	**228**	P		**P**	**P**	**12 23 26.5**	**-1.0**
ARMA	**Armidale**	**25.37**	**182**	P		**P**	**P**	**12 23 49.3**	**+1.2**
	baz=26,SNR=9.9								
ARMA	**Armidale**	**25.37**	**182**	P		**P**	**P**	**12 23 49.7**	**+1.7**
TNTI	**Ternate**	**25.75**	**282**	P		**P**	**P**	**12 23 50.7**	**-0.9**
	comp=Z,6μmcomp=Z,2μmcomp=Z,111nm,1.4s								
AS31	**Alice Springs**	**25.86**	**222**	P		**P**	**P**	**12 23 52.1**	**-0.4**
ASAR	**Alice Springs**	**25.86**	**222**	P		**P**	**P**	**12 23 52.8**	**+0.2**
	comp=Z,52nm,0.9s,baz=55,slow=9.1,SNR=14								
ASAR				S		**S**	**S**	**12 28 19.0**	**-0.3**
	comp=Z,5.5nm,0.9s,baz=58,slow=13,SNR=2.2								
ASAR				ScP		**ScP**	**ScP**	**12 30 56.0**	**-0.7**
	comp=Z,9.6nm,1.1s,baz=48,slow=3.2,SNR=4.8								
ASAR				LR		LR	LR	12 34 13.8	
	comp=Z,13μm,20.6s,baz=53,slow=37								
ASAR				PKiKP		**PKiKP**	**PKiKP**	**12 34 60.0**	**-1.0**
	comp=Z,2.5nm,1.1s,baz=60,slow=2.5,SNR=5.9								
ASAR	**Alice Springs**	**25.86**	**222**	P		**P**	**P**	**12 23 52.4**	**-0.2**
SANI	**Sanana**	**26.63**	**275**	P		**P**	**P**	**12 24 00.0**	**+0.5**
	comp=Z,8μmcomp=Z,2μmcomp=Z,91nm,1.1s								
CMSA	**Cobar Meteorol**	**27.24**	**193**	P		**P**	**P**	**12 24 05.6**	**+0.9**
	baz

JAGI IAmb IAmb 12 25 43.1
comp=Z,58nm,0.9s
JAGI Jajag, Banyuwa 38.25 263 P P 12 25 38.2 -2.9
comp=Z,4µmcomp=Z,75nm,1.0s
KMBL Kambalda 38.96 224 P P 12 25 46.6 -0.2
baz=39,SNR=8.8
HIZ Hauiti 39.12 152 P P 12 25 51.3 +3.3
HIZ IAmb IAmb 12 26 16.1
comp=Z,157nm,1.4s
JOW Kunigami 39.33 325 P P 12 25 49.6 -0.3
comp=Z,38nm,0.9s,baz=140,slow=9.1,SNR=5.8
JOW Kunigami 39.33 325 P P 12 25 50.0 +0.1
JOW IAmb IAmb 12 26 11.4
comp=Z,89nm,1.0s
JHJ Hachijo jima 2 39.72 343 P P 12 25 52.1 -0.9
comp=Z,51nm,0.8s,baz=241,slow=19,SNR=2.0
JHJ PcP **PcP 12 27 58.9 0.0**
comp=Z,82nm,0.7s,baz=136,slow=8.3,SNR=4.8
URZ Urewera 40.02 149 P P 12 25 56.8 +1.4
comp=Z,29nm,0.7s,baz=304,slow=23,SNR=14
URZ Urewera 40.02 149 P P 12 25 57.6 +2.1
URZ IAmb IAmb 12 26 16.1
comp=Z,59nm,0.9s
MXZ Matakaoa Point 40.12 148 P P 12 25 57.8 +1.5
MXZ IAmb IAmb 12 26 24.9
comp=Z,114nm,1.3s
BKZ Black Stump Fm 40.41 151 P P 12 26 00.9 +2.1
BKZ IAmb IAmb 12 26 27.5
comp=Z,90nm,1.4s
NNZ Nelson 40.68 156 P P 12 26 02.6 +1.7
PBKI Pangkalan Bun 40.81 272 P P 12 26 02.6 +0.2
comp=Z,7µmcomp=Z,191nm,1.1s
SBUM Sibu 40.92 279 P P 12 26 03.3 +0.1
SBUM Sibu 40.92 279 P P 12 26 04.0 +0.7
THZ Tophouse 40.95 157 P P 12 26 03.9 +0.7
GIRL Giralia 40.96 241 P P 12 26 03.0 -0.4
baz=41,SNR=12
GIRL Giralia 40.96 241 P P 12 26 03.4 -0.1
GIRL IAmb IAmb 12 26 07.5
comp=Z,249nm,1.0s
TUWZ Tuamarina 41.09 155 P P 12 26 06.0 +1.7
BSWZ Blackbirch Sta 41.30 156 P P 12 26 07.2 +1.2
SNZO South Karori 41.31 154 P P 12 26 07.6 +1.5
SNZO IAmb IAmb 12 26 32.7
comp=Z,176nm,1.4s
BHW Baring Head 41.47 154 P P 12 26 08.6 +1.2
CMWZ Cape Campbell 41.47 155 P P 12 26 10.3 +2.9
YULB Yu-li 41.48 314 P P 12 26 07.5 -0.2
YULB IAmb IAmb 12 26 13.5
comp=Z,60nm,0.8s
BFZ Birch Farm 41.49 152 P P 12 26 08.4 +0.8
BFZ IAmb IAmb 12 26 29.0
comp=Z,70nm,0.9s
LTZ Lake Taylor 41.58 158 P P 12 26 10.2 +1.9
LTZ IAmb IAmb 12 26 38.1
comp=Z,198nm,1.4s
MSWZ Moikau Station 41.64 154 P P 12 26 10.0 +1.2
KHZ Kahutara 41.75 156 P P 12 26 10.4 +0.8
KHZ IAmb IAmb 12 26 37.6
comp=Z,138nm,1.4s
NACB Ninganchiao 41.76 315 P P 12 26 09.0 -1.0
NACB IAmb IAmb 12 26 21.5
comp=Z,50nm,0.7s
PLWZ Palliser 41.76 154 P P 12 26 10.7 +0.9
TPUB Ta-pu 41.90 313 P P 12 26 10.6 -0.6
RPZ Rata Peaks 41.95 160 P P 12 26 12.8 +1.4
comp=Z,50nm,0.8s,baz=7.1,slow=1.6,SNR=15
RPZ Rata Peaks 41.95 160 P P 12 26 13.3 +2.0
OXZ Oxford 41.96 159 P P 12 26 12.8 +1.4
SSLB Suanglung 41.97 314 P P 12 26 10.8 -0.9
KLBR Kellerberrin 42.01 227 P P 12 26 11.1 -0.9
baz=42,SNR=7.5
MORW Morawa 42.04 231 P P 12 26 11.9 -0.4
baz=42,SNR=15
MORW Morawa 42.04 231 P P 12 26 11.5 -0.8
MORW IAmb IAmb 12 26 15.0
comp=Z,74nm,0.9s
YHNB Yeheng 42.23 316 P P 12 26 13.4 -0.6
YHNB IAmb IAmb 12 26 33.1
comp=Z,60nm,0.8s
BLDU Ballidu 42.28 229 P P 12 26 13.8 -0.4
baz=42,SNR=5.8
TATO Taipei 42.35 316 P P 12 26 15.9 +1.1
TATO IAmb IAmb 12 26 33.0
comp=Z,114nm,1.1s
DCZ Deep Cove 42.35 165 P P 12 26 15.5 +1.0
MLZ Mavora Lakes 42.52 164 P P 12 26 17.6 +1.6
MLZ IAmb IAmb 12 26 45.4
comp=Z,141nm,1.1s
JYT Yasato 42.53 345 P P 12 26 15.5 -0.5
INU Inuyama 42.63 341 P P 12 26 15.7 -1.2
KSM Kuching 42.64 278 P P 12 26 16.6 -0.8
KSM IAmb IAmb 12 26 19.0
comp=Z,77nm,1.0s
KSM Kuching 42.64 278 P P 12 26 17.0 -0.4
JGF Kuroka 42.75 342 P P 12 26 18.1 +0.2
WHZ Wether Hill Ro 42.96 164 P P 12 26 20.6 +1.2
JNU Nakatsue 43.04 333 P P 12 26 20.3 0.0
comp=Z,91nm,0.8s,baz=36,slow=0.5,SNR=20
JNU Nakatsue 43.04 333 P P 12 26 20.9 +0.5
JNU IAmb IAmb 12 26 25.3
comp=Z,110nm,1.0s
NWAO Narrogin (SRO) 43.10 225 P P 12 26 21.2 +0.4
comp=Z,8.9nm,0.8s,baz=63,slow=11,SNR=1.3
NWAO LR LR 12 45 01.3
comp=Z,11µm,19.6s,baz=64,slow=37
JWT Wachi 43.11 339 P P 12 26 20.2 -0.6
MUN Mundaring 43.34 227 P P 12 26 22.5 -0.2
baz=43,SNR=3.8
MJAR Matsushiro Arr 43.37 343 P P 12 26 21.4 -1.4
comp=Z,10nm,0.8s,baz=166,slow=8.2,SNR=8.0
MJAR PcP **PcP 12 28 10.9 0.0**
comp=Z,24nm,0.9s,baz=174,slow=3.6,SNR=9.8
MJAR ScP **ScP 12 31 57.4 -1.0**
comp=Z,13nm,1.1s,baz=169,slow=4.7,SNR=12
MJAR LR LR 12 42 53.6
comp=Z,4µm,21.9s,baz=180,slow=34
MJAR Matsushiro Arr 43.37 343 P **P 12 26 20.6 -2.3**
MJAR **PcP 12 28 10.6 -0.3**
MAJO Matsushiro 43.37 343 *i* P **P 12 26 21.8 -1.1**
MAJO pmax pmax
comp=Z,25nm,1.1s
MAJO Matsushiro 43.37 343 P **P 12 26 21.7 -1.1**
MAJO PcP **PcP 12 28 11.2 +0.3**
MAT Matsushiro 43.37 343 P **P 12 26 21.3 -1.6**
JHS Saijyo 43.71 337 P **P 12 26 24.5 -1.2**
QZH Quanzhou 44.38 314 ⇑ *i* P **P 12 26 31.5 +0.4**
QZH pP **pP 12 26 42.8 -0.8**
QZH sP **pwP 12 26 46.3 +0.1**
QZH S **S 12 33 02.3 -0.1**
QZH pmax pmax
comp=Z,840nm,8.4s
QZH LR LR
comp=Z,3µm,17.4s
QZH LR LR
comp=Z,2µm,17.7s
QZH LR LR
comp=Z,5µm,17.3s
CISI Cisompet, Garu 44.50 264 P P 12 26 30.9 -1.4
CISI IAmb IAmb 12 26 34.8
comp=Z,129nm,0.7s
LEM Lembang 44.69 265 P P 12 26 33.0 -1.0
comp=Z,3µmcomp=Z,45nm,0.9s
TPI Tanjungpandan 44.80 271 P P 12 26 34.7 -0.1
comp=Z,987nmcomp=Z,86nm,1.1s
HKC Hong Kong Obse 46.25 307 ⇑ P **P 12 26 48.0 +2.0**
PPBI Pangkal Pinang 46.36 272 P P 12 26 46.7 -0.4
comp=Z,6µmcomp=Z,20µmcomp=Z,44nm,1.1s
SSE Sheshan 46.66 322 P P 12 26 48.8 -0.3
SSE S **S 12 33 35.0 -0.2**
SSE pmax pmax
comp=Z,20nm,0.7s
SSE pmax pmax
comp=Z,440nm,6.0s
SSE LR LR
comp=Z,970nm,21.6s
SSE LR LR
comp=Z,2µm,22.7s
JTM Tenmabayashi 46.69 348 P P 12 26 48.3 -0.9
JTM IAmb IAmb 12 27 07.2
comp=Z,82nm,1.0s
DLV T Lat 46.88 291 P P 12 26 51.0 -0.3
GZH Guangzhou 47.31 308 P P 12 26 57.0 +2.7
GZH S **S 12 33 50.5 +5.8**
GZH LR LR
comp=Z,2µm,19.7s
GZH LR LR
comp=Z,7µm,21.1s
TJN Taejon 47.35 332 *ce* P **P 12 26 55.0 +0.6**
KASI Kota Agung 47.81 267 P **P 12 26 56.0 -2.4**
comp=Z,87nm,1.1s
KSRS Korea Array 47.98 334 P **P 12 26 59.0 -0.3**
comp=Z,6.7nm,0.6s,baz=152,slow=7.6,SNR=12
KSRS PcP **PcP 12 28 27.7 +0.8**
comp=Z,5.2nm,0.7s,baz=154,slow=3.4,SNR=7.3
KSRS ScP **ScP 12 32 15.3 -2.1**
comp=Z,3.1nm,1.1s,baz=150,slow=5.5,SNR=4.5
KSRS LR LR 12 46 05.9
comp=Z,2µm,18.7s,baz=173,slow=35
KSAR Wonju Array Be 47.99 333 P **P 12 26 58.3 -1.1**
KSAR Wonju Array Be 47.99 333 P **P 12 26 58.2 -1.1**
KS19 Wonju Array Si 48.05 334 P **P 12 26 59.2 -0.6**
KS19 IAmb IAmb 12 27 20.5
comp=Z,49nm,1.2s
QIZ Qiongzhong 48.29 301 P **P 12 27 03.8 +1.8**
QIZ PP **PP 12 28 57.3 +2.4**
QIZ S **S 12 34 00.8 +2.1**
QIZ pmax pmax
comp=Z,25nm,1.2s
QIZ pmax pmax
comp=Z,970nm,13.7s
QIZ LR LR
comp=Z,2µm,20.1s
QIZ LR LR
comp=Z,4µm,20.1s
QIZ LR LR
comp=Z,7µm,28.4s
JEW Eniwo 48.59 349 P **P 12 27 02.9 -1.0**
JEW IAmb IAmb 12 27 12.3
comp=Z,97nm,1.0s
INCN Inchon 48.59 332 P **P 12 27 03.9 -0.1**
INCN pmax pmax
comp=Z,137nm,1.0s
INCN Inchon 48.59 332 P **P 12 27 03.9 -0.1**
INCN IAmb IAmb 12 27 26.2
comp=Z,137nm,0.9s
NJ2 Nanjing 48.76 321 *e* P **P 12 27 06.5 +1.1**
NJ2 sP **pP 12 27 20.8 +2.3**
NJ2 S **S 12 34 05.0 0.0**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 pmax pmax
comp=Z,1µm,8.8s
NJ2 LR LR
comp=Z,3µm,17.1s
NJ2 LR LR
comp=Z,4µm,18.5s
NJ2 LR LR
comp=Z,5µm,16.6s
LHSI Lahat 48.85 269 P **P 12 27 04.2 -2.2**
comp=Z,48nm,1.1s
RAR Rarotonga 48.99 114 LR LR 12 46 59.4
comp=Z,2µm,18.1s,baz=286,slow=35
MYKOM Kota Tinggi 49.07 277 P **P 12 27 07.8 -0.3**
MYKOM IAmb IAmb 12 27 09.7
comp=Z,62nm,1.0s
MYKOM Kota Tinggi 49.07 277 P **P 12 27 08.0 -0.1**
YUK Yuzh-Kuril'sk 49.10 354 *c i* P **P 12 27 07.7 -0.1**
YUK *e* 12 28 58.9
YUK PPP PPP 12 29 49.5
YUK *i* S **S 12 34 08.3 -1.1**
YUK pmax pmax
comp=E,237nm,1.0s
YUK pmax pmax
comp=Z,399nm,1.0s
YUK pmax pmax
comp=N,178nm,0.8s
YUK MLR MLR
comp=Z,1µm,20.0s
YUK MLR MLR
comp=N,781nm,18.0s
JKA Kamikawa-asahi 49.63 351 P **P 12 27 11.8 0.0**
JKA IAmb IAmb 12 27 13.6
comp=Z,32nm,0.8s
ASAJ Asahikawa 49.63 351 P **P 12 27 11.6 -0.2**
comp=Z,27nm,0.8s,baz=217,slow=11,SNR=13
ASAJ LR LR 12 44 22.7
comp=Z,4µm,21.9s,baz=206,slow=31
ASAJ Asahikawa 49.63 351 P **P 12 27 11.8 0.0**
ASAJ pmax pmax
comp=Z,33nm,0.8s
KUR Kuril'sk 50.11 356 *c i* P **P 12 27 15.7 +0.3**
KUR *i* S **S 12 34 23.9 +0.6**
XMAS Kiritimati 50.47 83 P **P 12 27 19.6 +0.9**
XMAS Kiritimati 50.47 83 P **P 12 27 20.7 +2.0**
JRMM Jerantut 50.75 279 P **P 12 27 20.0 -0.8**
WHN Wuhan 50.75 316 ⇓ P **P 12 27 23.0 +2.5**
WHN sP **sP 12 27 37.3 -1.5**
WHN S **S 12 34 36.5 +3.7**
WHN LR LR
comp=Z,10µm,19.3s
WHN LR LR
comp=Z,13µm,21.1s
WHN LR LR
comp=Z,21µm,22.1s
BKNI Bangkinang 51.68 274 P **P 12 27 27.4 -0.4**
DL2 Dalian 52.14 330 P **P 12 27 30.5 -0.2**
DL2 S **S 12 34 52.5 +0.9**
DL2 pmax pmax
comp=Z,61nm,1.1s
DL2 pmax pmax
comp=Z,840nm,8.4s
DL2 LR LR
comp=Z,3µm,18.0s
DL2 LR LR
comp=Z,3µm,20.5s
DL2 LR LR
comp=Z,6µm,23.8s
IPM Ipoh 52.27 279 P **P 12 27 32.0 -0.3**
USA0B Ussuriysk Arra 52.27 341 P **P 12 27 31.2 -0.5**
USA0B pmax pmax
comp=Z,33nm,1.1s
USA0B Ussuriysk Arra 52.27 341 P **P 12 27 31.2 -0.5**
USRK Ussuriysk Ar. 52.27 341 P **P 12 27 30.9 -0.8**
comp=Z,16nm,0.7s,baz=171,slow=6.3,SNR=17
USRK ScP **ScP 12 32 34.6 -1.2**
comp=Z,12nm,1.1s,baz=174,slow=3.6,SNR=9.6
USRK LR LR 12 47 42.5
comp=Z,2µm,21.7s,baz=143,slow=34
USRK Ussuriysk Ar. 52.27 341 P **P 12 27 32.0 +0.3**
USRK Ussuriysk Ar. 52.27 341 P **P 12 27 32.0 +0.3**
YSS Yuzh-Sakhalins 52.37 352 *e* P **P 12 27 31.7 -0.6**
YSS *e* S **S 12 34 56.0 +1.4**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS MLR MLR
comp=Z,2µm,17.0s
TIA Tai'an 52.65 324 P **P 12 27 33.5 -1.1**
TIA S **S 12 34 54.0 -4.8**
TIA pmax pmax
comp=Z,16nm,1.0s
TIA pmax pmax
comp=Z,810nm,11.7s
TIA LR LR
comp=Z,2µm,24.0s
TIA LR LR
comp=Z,2µm,22.6s
TIA LR LR
comp=Z,6µm,24.5s
KULM Kulim 52.78 280 P **P 12 27 35.0 -1.0**
MDJ Mudanjiang 53.44 340 P **P 12 27 40.5 +0.2**
MDJ pP pP 12 27 50.5 -2.5
MDJ sP pwP 12 27 55.0 -0.7
MDJ PP **PP 12 29 42.0 +0.8**
MDJ S **S 12 35 13.0 +3.8**
MDJ sS sS 12 35 28.0 -2.6
MDJ SS **SKiKP 12 38 53.5 +1.0**
MDJ pmax pmax
comp=Z,19nm,0.9s
MDJ pmax pmax
comp=Z,940nm,8.6s
MDJ LR LR
comp=Z,3µm,22.8s
MDJ LR LR
comp=Z,3µm,28.5s
MDJ LR LR
comp=Z,8µm,29.9s
SNY Shenyang 53.49 333 ⇑ P **P 12 27 42.3 +1.7**
SNY S **S 12 35 10.8 +0.9**
SNY pmax pmax
comp=Z,450nm,9.5s
SNY pmax pmax
comp=Z,840nm,13.9s
SNY LR LR
comp=Z,2µm,30.8s
SNY LR LR
comp=Z,2µm,22.9s
SNY LR LR
comp=Z,6µm,28.4s
KHON Khomkaen 53.49 294 P **P 12 27 42.6 +1.5**
comp=Z,4µmcomp=Z,59nm,0.6s
NONG Nongkai 53.77 296 P **P 12 27 43.0 -0.2**
comp=Z,72nm,0.8s
ENH Enshi 54.03 313 IAmb IAmb 12 28 06.3
comp=Z,69nm,0.9s
RPSI Rantau Prapat 54.07 277 P **P 12 27 43.6 -1.8**
PSI Prapat 54.09 277 P **P 12 27 43.6 -2.1**
PSI pmax pmax
comp=Z,38nm,1.1s
CHAI Chaiyaphum 54.11 294 P **P 12 27 47.8 +2.1**
comp=Z,291nmcomp=Z,20nm,1.0s
GYA Guiyang 54.24 308 ⇑ P **P 12 27 48.3 +1.6**
GYA sP sP 12 28 03.8 -1.3
GYA S **S 12 35 24.8 +3.8**
GYA sS pS 12 35 39.5 +3.0
GYA SS **SS 12 39 03.0 -0.7**
GYA pmax pmax
comp=Z,14nm,1.0s
GYA pmax pmax
comp=Z,760nm,6.5s
GYA LR LR
comp=Z,3µm,21.3s
GYA LR LR
comp=Z,5µm,20.8s
GYA LR LR
comp=Z,7µm,21.1s
CN2 Changchun 54.30 336 *e* P **P 12 27 45.5 -1.1**
CN2 *eS* **S 12 35 26.5 +5.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,800nm,7.0s
CN2 LR LR
comp=Z,2µm,18.0s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,2µm,19.0s
SLVN Son La 54.31 301 P **P 12 27 47.6 +0.4**
KIP Kipapa 55.09 60 *ce* P **P 12 27 53.5 +0.8**
KIP pmax pmax
comp=Z,118nm,1.7s
GSI Gunungsitoli 55.23 275 P **P 12 27 51.8 -2.1**
GSI IAmb IAmb 12 28 15.1
comp=Z,55nm,0.9s
PHET Kaeng Krachan 55.44 289 P **P 12 27 59.1 +3.8**
comp=Z,354nmcomp=Z,39nm,0.9s
SKR Severo-Kuril's 55.48 3 *e* P **P 12 27 54.3 -0.6**
SKR pmax pmax
comp=Z,500nm,6.9s
BJI Beijing 55.84 327 P **P 12 27 59.3 +1.6**
BJI S **S 12 35 49.0 +7.4**
BJI pmax pmax
comp=Z,13nm,2.1s
BJI LR LR
comp=Z,3µm,20.0s
BJI LR LR
comp=Z,4µm,21.2s
BJI LR LR
comp=Z,4µm,22.4s
PHIT Phitsanulok 55.94 294 P **P 12 28 00.6 +1.7**
comp=Z,178nm,0.9s
UTTA Uttaradit 55.99 295 P **P 12 28 00.6 +1.4**
comp=Z,75nm,1.0s
NANT Nan 56.21 296 P **P 12 28 02.5 +1.7**
comp=Z,19µmcomp=Z,797nm,1.1s
TYV Tymovskoe 56.21 352 *e* P **P 12 28 01.4 +1.2**
TYV pmax pmax
comp=Z,27nm,1.2s
TYV pmax pmax
comp=Z,900nm,5.2s
SRDT SRDT 56.30 291 P **P 12 28 04.0 +2.5**
comp=Z,2µmcomp=Z,21nm,1.4s
UTHA Uthaitani 56.34 292 P **P 12 28 02.8 +1.0**
comp=Z,354nmcomp=Z,33nm,0.7s
KHU Kahuku 56.41 63 P **P 12 28 01.6 -0.9**
KHU pmax pmax
comp=Z,445nm,1.4s
KHU Kahuku 56.41 63 P **P 12 28 01.6 -0.9**
TIY Taiyuan 56.45 322 *e* P **P 12 28 04.3 +2.0**
TIY S **S 12 35 48.5 -1.6**
TIY pmax pmax
comp=Z,620nm,10.8s
TIY LR LR
comp=Z,3µm,19.0s
TIY LR LR
comp=Z,3µm,19.4s
TIY LR LR
comp=Z,5µm,19.3s
HMH Humu'ula Sheep 56.65 63 P **P 12 28 04.7 +0.4**
POHA Pohakuloa 56.66 63 P **P 12 28 05.0 +0.7**
SUKH Sukhothai 56.75 294 P **P 12 28 06.1 +1.5**
comp=Z,67nm,1.1s
KMI Kunming 56.82 304 ⇑ P **P 12 28 02.5 -2.8**
KMI pP pP 12 28 15.3 -3.2
KMI sP sP 12 28 20.3 -3.6
KMI PcP **PcP 12 28 58.3 -2.4**
KMI S **S 12 35 51.3 -4.4**
KMI pmax pmax
comp=Z,23nm,0.9s
KMI LR LR
comp=Z,1µm,18.4s
KMI LR LR
comp=Z,1µm,15.7s
KMI LR LR
comp=Z,2µm,20.2s
KLR Kul'dur 56.89 344 P **P 12 28 05.0 -0.1**
comp=Z,18nm,0.7s,baz=173,slow=2.1,SNR=27
KLR PKiKP **PKiKP 12 35 27.4 -0.2**
comp=Z,1.3nm,0.6s,baz=207,slow=2.8,SNR=4.1
KLR Kul'dur 56.89 344 *ce* P **P 12 28 05.2 +0.2**
KLR pmax pmax
comp=Z,25nm,0.9s
UMPA Umpang Tak 57.06 293 P **P 12 28 09.0 +2.1**
comp=Z,24nm,0.9s
LAMP Lampang 57.07 296 P **P 12 28 08.0 +1.0**
comp=Z,666nmcomp=Z,87nm,0.8s
CM35 Chiang Mai Arr 57.55 296 P **P 12 28 11.0 +0.7**
CM34 Chiang Mai Arr 57.61 296 P **P 12 28 11.0 +0.2**
CM04 Chiang Mai Arr 57.62 295 P **P 12 28 12.4 +1.6**
comp=Z,351nmcomp=Z,49nm,1.0s
CM09 Chiang Mai Arr 57.62 295 P **P 12 28 12.4 +1.6**
comp=Z,353nmcomp=Z,50nm,0.9s
CM01 Chiang Mai Arr 57.65 295 P **P 12 28 12.0 +1.0**
comp=Z,412nmcomp=Z,57nm,1.0s
CM05 Chiang Mai Arr 57.65 295 P **P 12 28 12.6 +1.5**
comp=Z,341nmcomp=Z,44nm,1.1s
CM02 Chiang Mai Arr 57.66 295 P **P 12 28 12.0 +0.9**
comp=Z,298nmcomp=Z,46nm,1.0s
CM31 Chiang Mai Arr 57.67 295 P **P 12 28 12.0 +0.8**
comp=Z,11µmcomp=Z,992nm,0.9s
CM31 Chiang Mai Arr 57.67 295 P **P 12 28 11.9 +0.7**
CM31 IAmb IAmb 12 28 16.4
comp=Z,37nm,0.8s
CMAR Chiang Mai Arr 57.67 295 P **P 12 28 11.9 +0.8**
comp=Z,36nm,0.9s,baz=118,slow=5.3,SNR=23
CMAR ScP **ScP 12 32 59.9 -0.2**
comp=Z,1.0nm,0.6s,baz=125,slow=2.1,SNR=1.8
CMAR PKPPKP **P'P'df 12 57 57.5 -0.1**
comp=Z,1.5nm,0.9s,baz=272,slow=4.1,SNR=5.4
CMAR Chiang Mai Arr 57.67 295 *c i* P **P 12 28 12.3 +1.1**
CMAR pmax pmax
comp=Z,36nm,0.9s
CMAR Chiang Mai Arr 57.67 295 P **P 12 28 11.3 +0.2**
CM15 Chiang Mai Arr 57.69 295 P **P 12 28 12.0 +0.7**
comp=Z,49nm,1.0s
CM13 Chiang Mai Arr 57.69 295 P **P 12 28 12.8 +1.4**
comp=Z,318nmcomp=Z,46nm,1.0s
CMMT Chiang Mai 57.78 296 P **P 12 28 12.2 +0.2**
comp=Z,500nmcomp=Z,19nm,1.2s
CM33 Chiang Mai Arr 57.78 296 P **P 12 28 12.0 0.0**
CHTO Chiang Mai 57.78 296 P **P 12 28 12.0 0.0**
CHTO pmax pmax
comp=Z,57nm,1.3s
CHTO Chiang Mai 57.78 296 P **P 12 28 12.0 0.0**
CHTO IAmb IAmb 12 28 14.6
comp=Z,57nm,1.2s

CM32 Chiang Mai Arr 57.82 296 P **P** **12 28 13.0 +0.8**
PPT Papeete 57.96 108 LR LR 12 48 54.7
comp=Z,1µm,21.4s,baz=270,slow=32
PPT2 Papeete2 57.96 108 *e*S **S** **12 36 11.0 +0.4**
comp=Z,3µm,24.2s
PPT2 *e*LQ LQ 12 42 49.6
comp=Z,6µm,28.5s
PPT2 *e*LR LR 12 45 14.7
comp=Z,6µm,33.5s
PET Petropavlovsk 57.97 4 *e*P **P** **12 28 12.0 -0.5**
PET *e* 12 29 03.5
PET *e*S **S** **12 36 09.0 -0.2**
PET pmax pmax
comp=Z,32nm,2.1s
PET pmax pmax
comp=Z,1µm,7.2s
PET pmax pmax
comp=Z,1µm,18.5s
PET MLR MLR
comp=Z,3µm,19.0s
PET MLR MLR
comp=Z,2µm,18.0s
PET Petropavlovsk 57.97 4 P **P** **12 28 12.6 +0.1**
PET lAmb lAmb 12 28 30.9
comp=Z,39nm,1.2s
PEA0B Petropavlovsk- 57.98 4*ce*P **P** **12 28 11.9 -0.8**
PEA0B Petropavlovsk- 57.98 4 P **P** **12 28 12.6 -0.1**
PEA0B lAmb lAmb 12 28 32.2
comp=Z,91nm,1.4s
PETK Petropavlovsk- 57.98 4 P **P** **12 28 12.8 +0.1**
comp=Z,16nm,0.7s,baz=150,slow=5.5,SNR=19
PETK LR LR 12 49 18.0
comp=Z,4µm,22.0s,baz=198,slow=32
PETK Petropavlovsk- 57.98 4 P **P** **12 28 11.5 -1.2**
MHMT Maesarieng 58.50 295 P **P** **12 28 18.0 +1.0**
CD2 Chengdu 58.60 311 P **P** **12 28 18.8 +1.3**
CD2 S **S** **12 36 18.8 +0.3**
CD2 sS pS 12 36 36.8 +2.3
CD2 SS **SS** **12 40 15.0 +2.9**
CD2 pmax pmax
comp=Z,60nm,0.8s
CD2 pmax pmax
comp=Z,1µm,8.6s
CD2 LR LR
comp=Z,6µm,20.9s
CD2 LR LR
comp=Z,8µm,20.5s
CD2 LR LR
comp=Z,10µm,20.0s
NKL Nikolayevsk 58.72 352 *e*P **P** **12 28 15.2 -2.6**
TBI Tubuai 58.77 114 *e*S **S** **12 36 22.5 +1.7**
comp=Z,3µm,24.8s
TBI *e*LQ LQ 12 43 11.7
comp=Z,9µm,38.8s
TBI *e*LR LR 12 45 43.0
comp=Z,15µm,29.5s
HHC Hu-ho-hao-te 58.98 325 *e*P **P** **12 28 20.3 +0.2**
HHC sP pP 12 28 34.5 +1.1
HHC S **S** **12 36 23.8 +0.6**
HHC pmax pmax
comp=Z,37nm,0.9s
HHC pmax pmax
comp=Z,590nm,6.8s
HHC LR LR
comp=Z,3µm,16.9s
HHC LR LR
comp=Z,3µm,18.6s
HHC LR LR
comp=Z,4µm,18.3s
BTO Baotou 59.73 323 P **P** **12 28 26.5 +1.3**
LZH Lanzhou 61.12 316 ⇑P **P** **12 28 35.8 +0.9**
LZH pP pP 12 28 47.0 -1.2
LZH sP sP 12 28 51.5 -2.2
LZH PP **PP** **12 30 55.0 +4.9**
LZH S **S** **12 36 50.5 -0.5**
LZH pmax pmax
comp=Z,76nm,1.3s
LZH pmax pmax
comp=Z,920nm,6.8s
LZH LR LR
comp=Z,2µm,16.4s
LZH LR LR
comp=Z,4µm,15.7s
LZH LR LR
comp=Z,3µm,16.8s
ZEA Zeya 62.18 343 *e*P **P** **12 28 42.5 +1.1**
ZEA pmax pmax
comp=Z,30nm,1.1s
ADK Adak 62.39 21 P **P** **12 28 42.6 -0.2**
ADK pmax pmax
comp=Z,74nm,1.1s
ADK Adak 62.39 21 P **P** **12 28 42.6 -0.2**
ADK lAmb lAmb 12 28 45.6
comp=Z,74nm,1.1s
ATKA Atka Island 63.55 22 P **P** **12 28 50.0 -0.6**
ATKA lAmb lAmb 12 28 51.1
comp=Z,51nm,1.1s
MOKO MOKOCHONG 64.13 302 *e*P **P** **12 28 54.3 -0.9**
SAIH SAIHA 64.22 298 *e*P **P** **12 28 54.8 -1.0**
SAIH lAmb lAmb 12 29 01.9
comp=Z,59nm,0.5s
KOHI KOHIMA 64.28 301 *e*P **P** **12 28 55.1 -1.0**
KOHI lAmb lAmb 12 29 00.6
comp=Z,34nm,0.7s
MA2 Magadan 64.31 359 P **P** **12 28 54.9 -0.5**
comp=Z,19nm,0.7s,baz=163,slow=6.4,SNR=21
MA2 Magadan 64.31 359*ce*P **P** **12 28 54.5 -1.0**
MA2 pmax pmax
comp=Z,23nm,0.7s
MA2 Magadan 64.31 359 P **P** **12 28 55.1 -0.3**
MA2 lAmb lAmb 12 28 57.3
comp=Z,27nm,0.8s
GTA Gaotai 65.56 317 ⇑P **P** **12 29 04.5 +0.4**
GTA ScP 12 33 37.0
GTA S **S** **12 37 45.5 -0.6**
GTA sS sS 12 38 12.8 +3.5
GTA SS **SS** **12 42 04.5 +3.7**
GTA pmax pmax
comp=Z,12nm,1.2s
GTA pmax pmax
comp=Z,830nm,5.5s
GTA LR LR
comp=Z,2µm,18.5s
GTA LR LR
comp=Z,3µm,18.9s
GTA LR LR
comp=Z,4µm,18.5s
ULN Ulaanbaatar 65.95 328*ce*P **P** **12 29 07.4 +0.9**
ULN pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 65.95 328 P **P** **12 29 06.5 -0.1**
SHL Shillong 66.12 301 P **P** **12 29 07.5 -0.6**
SHL pmax pmax
comp=Z,73nm,1.0s
SHL Shillong 66.12 301 *e*P **P** **12 29 06.4 -1.8**
SHL lAmb lAmb 12 29 10.1
comp=Z,75nm,1.2s
SHL Shillong 66.12 301 P **P** **12 29 07.5 -0.6**
SHL lAmb lAmb 12 29 09.9
comp=Z,73nm,1.0s
NIKH Nikolski High 66.25 24 P 12 29 07.6
baz=223
SONM Songino Array 66.28 328 P **P** **12 29 08.9 +0.3**
comp=Z,8.7nm,0.7s,baz=144,slow=6.1,SNR=18
SONM PKP2bc 12 57 45.1
comp=Z,3.0nm,1.1s,baz=320,slow=1.4,SNR=11
SONM Songino Array 66.28 328 lAmb lAmb 12 29 14.0
comp=Z,9.4nm,0.8s
GUWA GUWAHATI 66.48 301 *e*P **P** **12 29 09.7 -0.5**
GUWA lAmb lAmb 12 29 15.1
comp=Z,36nm,0.3s
SEY Seymchan 67.67 360 P **P** **12 29 16.6 -0.3**
comp=Z,5.6nm,0.8s,baz=173,slow=6.2,SNR=7.8
SEY Seymchan 67.67 360 *i* P **P** **12 29 16.3 -0.6**
CASY Casey 67.81 197 P **P** **12 29 19.2 +1.4**
LSA Lhasa 68.07 305 P **P** **12 29 21.3 +0.5**
LSA pmax pmax
comp=Z,93nm,1.1s
LSA Lhasa 68.07 305 lAmb lAmb 12 29 25.2
comp=Z,23nm,0.7s
AKUT Akutan 68.36 25 P **P** **12 29 21.1 -0.3**
SPIA Saint Paul Isl 68.87 21 P **P** **12 29 24.3 -0.3**
SPIA lAmb lAmb 12 29 25.8
comp=Z,86nm,0.9s
SPIA Saint Paul Isl 68.87 21 P 12 29 24.6
baz=220

YAK Yakutsk 69.04 349 P **P** **12 29 26.2 +0.7**
comp=Z,11nm,0.3s,baz=87,slow=0.8,SNR=5.7
YAK Yakutsk 69.04 349 *e*P **P** **12 29 27.2 +1.7**
YAK *e* 12 29 48.7
YAK *e*S **S** **12 38 21.7 -5.1**
YAK *e**SS **SKiKP** **12 39 08.6 -3.8**
YAK *e*SS **SS** **12 42 56.5 +2.9**
YAK pmax pmax
comp=Z,40nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=N,16nm,1.1s
YAK smax smax
comp=E,157nm,3.8s
YAK smax smax
comp=N,411nm,5.8s
YAK Yakutsk 69.04 349 P **P** **12 29 26.7 +1.2**
ZAK Zakamensk 69.45 329 *e*P **P** **12 29 28.1 -0.4**
ZAK pmax pmax
comp=Z,22nm,1.1s
GTK Tadong 69.46 301 *e*P **P** **12 29 29.2 +0.1**
GTK lAmb lAmb 12 29 34.2
comp=Z,24nm,0.6s
BOD Bodaibo 69.81 339 *e*P **P** **12 29 28.9 -1.4**
BOD pmax pmax
comp=Z,35nm,1.7s
FALS False Pass 69.86 25 P 12 29 30.3
baz=228
FALS False Pass 69.86 25 P **P** **12 29 30.2 -0.5**
FALS lAmb lAmb 12 29 31.4
comp=Z,134nm,0.9s
TLY Talaya 70.05 330 P **P** **12 29 32.1 +0.1**
comp=Z,4.6nm,0.8s,baz=197,slow=7.8,SNR=3.3
TLY Talaya 70.05 330 *e*P **P** **12 29 33.4 +1.4**
TLY *e* 12 29 53.9
TLY pmax pmax
comp=Z,7.0nm,0.6s
TLY Talaya 70.05 330 P **P** **12 29 31.6 -0.4**
TAPN Taplejung 70.23 301 *e*P **P** **12 29 33.7 -0.3**
comp=Z,63nm,0.7s
ODAN Odare 70.36 301 *e*P **P** **12 29 34.5 -0.2**
comp=Z,121nm,0.7s
BOK Bokaro 70.86 297 *e*P **P** **12 29 37.1 -0.4**
BOK lAmb lAmb 12 29 46.0
comp=Z,14nm,0.4s
RAMN Ramite 71.06 301 *e*P **P** **12 29 38.6 -0.4**
comp=Z,26nm,0.6s
MOY Mondy 71.38 329 *e*P **P** **12 29 40.0 -0.2**
MOY pmax pmax
comp=Z,69nm,4.0s
SDPT Sand Point 71.46 26 P 12 29 39.9
baz=230,SNR=12
SDPT Sand Point 71.46 26 P **P** **12 29 39.8 -0.6**
JIRN Jiri 71.61 301 *e*P **P** **12 29 41.5 -0.9**
comp=Z,72nm,1.0s
GUN Gumba 71.94 301 *e*P **P** **12 29 44.1 -0.3**
comp=Z,136nm,0.9s
RKT Rikitea 72.00 113 *e*LQ LQ 12 48 47.5
comp=Z,4µm,38.0s
RKT *e*LR LR 12 51 49.2
comp=Z,7µm,24.0s
PKI Pulchoki 72.25 301 *e*P **P** **12 29 45.6 -0.7**
comp=Z,57nm,0.8s
PKIN Phulchoki 72.26 301 *e*P **P** **12 29 45.7 -0.5**
comp=Z,55nm,0.7s
KKN Kakani 72.42 301 *e*P **P** **12 29 47.2 +0.1**
comp=Z,82nm,0.7s
DMN Daman 72.52 301 *e*P **P** **12 29 47.5 -0.3**
comp=Z,141nm,1.0s
PALK Pallekele 72.67 279 P **P** **12 29 48.0 -0.7**
PALK pmax pmax
comp=Z,30nm,1.5s
PALK Pallekele 72.67 279 P **P** **12 29 48.0 -0.7**
VNDA Vanda 72.72 178 P **P** **12 29 48.7 +1.0**
comp=Z,24nm,0.8s,baz=327,slow=6.3,SNR=33
VNDA Vanda 72.72 178 P **P** **12 29 49.5 +1.8**
VNDA pmax pmax
comp=Z,26nm,0.8s
VNDA Vanda 72.72 178 P **P** **12 29 49.5 +1.8**
CHGN Chignik 72.96 26 P 12 29 48.9
baz=232,SNR=11
CHGN Chignik 72.96 26 P **P** **12 29 48.7 -0.7**
CHGN lAmb lAmb 12 29 52.1
comp=Z,89nm,0.9s
GKN Gorkha 73.03 301 *e*P **P** **12 29 50.0 -0.6**
comp=Z,118nm,0.8s
SBA Scott Base 73.27 177 P **P** **12 29 52.5 +1.6**
SBA pmax pmax
comp=Z,15nm,0.9s
SBA Scott Base 73.27 177 P **P** **12 29 52.5 +1.6**
BILL Bilibino 73.44 5*d* *i*P **P** **12 29 52.1 +0.1**
BILL *e**PP **PcP** **12 30 07.3 -0.7**
BILL *e* 12 30 17.3
BILL *i*S **S** **12 39 16.2 -1.3**
BILL pmax pmax
comp=Z,62nm,1.0s
BILL MLR MLR
comp=Z,2µm,18.0s
BILL Bilibino 73.44 5 P **P** **12 29 52.3 +0.2**
BILL lAmb lAmb 12 29 54.1
comp=Z,50nm,0.9s
GAMB Gambell 73.58 16 P 12 29 53.4
baz=217
GAMB Gambell 73.58 16 P **P** **12 29 53.0 +0.1**
GAMB lAmb lAmb 12 29 55.4
comp=Z,133nm,1.4s
DANN Dangsing 73.86 301 *e*P **P** **12 29 54.8 -0.9**
comp=Z,81nm,0.7s
SII Sitkinak Islan 75.01 27 P **P** **12 30 01.6 +0.2**
SII Sitkinak Islan 75.01 27 P 12 30 01.8
baz=236,SNR=15
WMQ Urumqi 75.64 317 *e*P **P** **12 30 06.0 +0.6**
WMQ pP PcP 12 30 17.3 -0.8
WMQ PP **PP** **12 32 58.3 +2.7**
WMQ S **S** **12 39 44.5 +1.3**
WMQ sS pS 12 40 01.8 +1.1
WMQ SS **SS** **12 44 38.5 +3.0**
WMQ pmax pmax
comp=Z,53nm,1.5s
WMQ pmax pmax
comp=Z,1µm,6.3s
WMQ LR LR
comp=Z,2µm,21.5s
WMQ LR LR
comp=Z,3µm,21.9s
WMQ LR LR
comp=Z,5µm,19.9s
WMQ Urumqi 75.64 317 lAmb lAmb 12 30 08.3
comp=Z,56nm,1.3s
OHAK Old Harbor 75.79 27 P **P** **12 30 05.7 -0.1**
OHAK lAmb lAmb 12 30 07.2
comp=Z,134nm,0.9s
OHAK Old Harbor 75.79 27 P 12 30 06.2
baz=236,SNR=29
ANM Nome 75.98 17 P 12 30 07.7
baz=224
ANM Nome 75.98 17 P **P** **12 30 07.3 +0.5**
ANM pmax pmax
comp=Z,114nm,1.2s
ANM Nome 75.98 17 P **P** **12 30 07.3 +0.5**
ANM lAmb lAmb 12 30 10.4
comp=Z,114nm,1.2s
TNA Tin City 76.00 16 P 12 30 07.2
baz=221
TNA Tin City 76.00 16 P **P** **12 30 06.9 +0.1**
HYB Hyderabad 76.26 289 *i* P **P** **12 30 08.0 -1.4**
HYB Hyderabad 76.26 289 *e*P **P** **12 30 07.0 -2.4**
HYB lAmb lAmb 12 30 09.8
comp=Z,25nm,1.3s
KDAK Kodiak Island 76.42 27 P **P** **12 30 09.7 +0.4**
comp=Z,97nm,1.0s,baz=253,slow=3.8,SNR=34
KDAK Kodiak Island 76.42 27*c* *i*P **P** **12 30 09.8 +0.4**
KDAK pmax pmax
comp=Z,156nm,1.0s
KDAK Kodiak Island 76.42 27 P **P** **12 30 09.6 +0.2**
KDAK lAmb lAmb 12 30 10.9
comp=Z,74nm,0.9s
KDAK Kodiak Island 76.42 27 P 12 30 09.7
baz=237
SVW2 Sparrevohn 77.05 23 P **P** **12 30 13.4 +0.4**
SVW2 lAmb lAmb 12 30 15.3
comp=Z,86nm,0.9s
RSO Redoubt South 77.82 24 P **P** **12 30 16.8 -0.7**
HOM Homer 77.85 25 P 12 30 17.9
baz=238,SNR=34

HOM Homer 77.85 25 P **P** **12 30 17.7 +0.3**
CNPM China Poot 77.95 26 P **P** **12 30 18.6 +0.6**
TIXI Tiksi 77.98 353 P **P** **12 30 17.2 -0.7**
comp=Z,5.3nm,0.4s,baz=129,slow=6.6,SNR=9.2
TIXI Tiksi 77.98 353‖*e*P **P** **12 30 17.7 -0.2**
TIXI Tiksi 77.98 353 P **P** **12 30 18.1 +0.2**
DGZ Jazzator, Alta 78.01 323 *i* P **P** **12 30 18.6 -0.1**
DGZ pmax pmax
comp=Z,44nm,1.1s
BRLK Bradley Lake 78.23 26 P **P** **12 30 19.4 -0.2**
BRSE Bradley Lake S 78.28 26 P 12 30 20.2
baz=239
BHPL Bhopal 78.33 295 *e*P **P** **12 30 18.4 -2.5**
BHPL lAmb lAmb 12 30 26.1
comp=Z,17nm,1.0s
SPCR Spurr Chakacha 78.45 24 P 12 30 20.3
baz=237,SNR=14
CAPN Captain Cook N 78.65 25 P **P** **12 30 22.9 +1.1**
CAPN Captain Cook N 78.65 25 P 12 30 23.0
baz=238,SNR=44
ZSN Zaisan 78.78 320 *e*P **P** **12 30 22.5 -0.4**
comp=Z,11nm,1.1s,baz=320
ZSN *e*S **S** **12 40 17.5 +0.4**
baz=320
ZSN Zaisan 78.78 320 *e*P **P** **12 30 22.4 -0.4**
ZSN *e*S **S** **12 40 17.5 +0.4**
ZSN pmax pmax
comp=Z,11nm,1.1s
SEW Seward 79.02 26 P **P** **12 30 24.1 +0.3**
SEW Seward 79.02 26 P 12 30 24.3
baz=239,SNR=38
SKT Skwentna 79.15 23 P 12 30 23.5
baz=237,SNR=22
SKT Skwentna 79.15 23 P **P** **12 30 23.6 -1.0**
SKT lAmb lAmb 12 30 24.6
comp=Z,49nm,0.9s
DDI Dehra Dun 79.17 302 *e*P **P** **12 30 25.9 +0.5**
RDOG Red Dog Mine 79.18 16 P **P** **12 30 25.9 +1.3**
RDOG Red Dog Mine 79.18 16 P 12 30 25.8
baz=225
SUA Susitna One 79.19 24 P 12 30 24.5
baz=238,SNR=128
SUA Susitna One 79.19 24 P **P** **12 30 24.3 -0.6**
FIS Fire Island 79.24 25 P **P** **12 30 25.5 +0.5**
PPLA Purkeypile 79.40 23 P 12 30 25.8
baz=236,SNR=16
PPLA Purkeypile 79.40 23 P **P** **12 30 25.9 -0.2**
PPLA lAmb lAmb 12 30 28.7
comp=Z,183nm,1.5s
RC01 Rabbit Creek A 79.41 25 P 12 30 26.2
baz=239,SNR=82
RC01 Rabbit Creek A 79.41 25 P **P** **12 30 25.7 -0.3**
CUT Chulitna 79.88 23 P 12 30 27.9
baz=238,SNR=36
CUT Chulitna 79.88 23 P **P** **12 30 28.1 -0.4**
PWL Port Wells 79.88 25 P **P** **12 30 28.8 +0.2**
CHUM Lake Minchumin 79.90 22 P 12 30 29.4
baz=236,SNR=155
PMR Palmer 79.92 24 P 12 30 28.7
baz=240,SNR=73
PMR Palmer 79.92 24 P **P** **12 30 28.0 -0.7**
PMR pmax pmax
comp=Z,128nm,0.8s
PMR Palmer 79.92 24 P **P** **12 30 28.0 -0.7**
PMR lAmb lAmb 12 30 29.7
comp=Z,128nm,0.8s
SMLA Simla 80.08 303 *e*P **P** **12 30 29.6 -0.6**
GHO Glory Hole Cre 80.09 24 P **P** **12 30 29.3 -0.5**
KNK Knik Glacier 80.11 25 P **P** **12 30 29.7 -0.1**
KNK lAmb lAmb 12 30 32.0
comp=Z,187nm,1.1s
KNK Knik Glacier 80.11 25 P 12 30 30.2
baz=240
MK31 Makanchi Array 80.23 319 *i* P **P** **12 30 30.0 -0.8**
MK31 pmax pmax
comp=Z,29nm,1.2s
MK31 Makanchi Array 80.23 319 P **P** **12 30 30.5 -0.3**
MKAR Makanchi Array 80.23 319 P **P** **12 30 30.3 -0.4**
comp=Z,15nm,1.0s,baz=96,slow=6.8,SNR=20
MKAR PKPPKP **P'P'df** **12 57 20.2 +2.6**
comp=Z,1.6nm,0.9s,baz=288,slow=1.4,SNR=3.7
MKAR Makanchi Array 80.23 319*ce*P **P** **12 30 32.2 +1.4**
MKAR pmax pmax
comp=Z,15nm,1.0s
MKAR Makanchi Array 80.23 319 **P** **12 30 30.5 -0.3**
KTH Kantishna Hill 80.24 22 P **P** **12 30 29.7 -0.8**
SML Sawmill 80.36 24 P **P** **12 30 31.8 +0.6**
SML Sawmill 80.36 24 P 12 30 31.6
baz=240,SNR=153
GLI Glacier Island 80.42 26 P 12 30 31.8
baz=242,SNR=48
GLI Glacier Island 80.42 26 P **P** **12 30 31.2 -0.3**
TRF Thorofare Moun 80.42 23 P 12 30 30.9
baz=238,SNR=59
TRF Thorofare Moun 80.42 23 P **P** **12 30 30.7 -0.9**
TRF lAmb lAmb 12 30 32.0
comp=Z,97nm,0.8s
MAKZ Makanchi 80.44 319 P **P** **12 30 31.8 -0.1**
MAKZ pmax pmax
comp=Z,23nm,1.0s
MAKZ Makanchi 80.44 319 P **P** **12 30 31.8 -0.1**
GOA Goa 80.46 287 *e*P **P** **12 30 31.9 -0.6**
BPAW Bear Paw Mtn. 80.51 22 P **P** **12 30 31.2 -0.7**
BPAW lAmb lAmb 12 30 32.6
comp=Z,77nm,0.9s
BPAW Bear Paw Mtn. 80.51 22 P 12 30 31.5
baz=237,SNR=45
IMAR Indian Mountai 80.60 20 P **P** **12 30 32.7 +0.4**
FID Port Fidalgo 80.63 26 P **P** **12 30 32.5 0.0**
SCM Sheep Creek Mo 80.78 25 P **P** **12 30 33.4 0.0**
SCM pmax pmax
comp=Z,200nm,0.9s
SCM Sheep Creek Mo 80.78 25 P **P** **12 30 33.4 0.0**
WAT2 Susitna Watana 80.83 23 P 12 30 33.6
baz=240,SNR=87
EYAK Cordova Ski Ar 80.85 26 P **P** **12 30 34.1 +0.4**
EYAK lAmb lAmb 12 30 35.4
comp=Z,124nm,1.1s
EYAK Cordova Ski Ar 80.85 26 P 12 30 34.3
baz=243
POO Poona 80.86 290 *e*P **P** **12 30 32.0 -2.7**
RND Reindeer 80.95 23 P **P** **12 30 34.2 -0.1**
RND pmax pmax
comp=Z,244nm,0.8s
RND Reindeer 80.95 23 P **P** **12 30 34.2 -0.1**
WAT6 Susitna Watana 80.98 24 P 12 30 34.7
baz=241,SNR=67
DHRM DHARAMSHALA 81.03 304 *e*P **P** **12 30 33.9 -1.7**
MCK McKinley 81.09 23 P 12 30 34.7
baz=239,SNR=175
MCK McKinley 81.09 23 P **P** **12 30 34.5 -0.5**
MCK pmax pmax
comp=Z,353nm,0.8s
MCK McKinley 81.09 23 P **P** **12 30 34.5 -0.5**
ZAA0 Zalesovo Array 81.10 326 P **P** **12 30 34.6 -0.6**
ZALV Zalesovo Beam 81.10 326 P **P** **12 30 34.2 -1.0**
comp=Z,36nm,0.8s,baz=111,slow=5.3,SNR=34
ZALV PKPPKP **P'P'df** **12 57 15.3 -0.1**
comp=Z,0.5nm,0.5s,baz=300,slow=6.7,SNR=4.2
ZALV Zalesovo Beam 81.10 326 *i* P **P** **12 30 34.7 -0.5**
ZALV pmax pmax
comp=Z,36nm,0.8s
ZALV Zalesovo Beam 81.10 326 P **P** **12 30 33.8 -1.4**
MLY Manley 81.10 21 P 12 30 35.5
baz=238,SNR=176
MLY Manley 81.10 21 P **P** **12 30 35.4 +0.3**
BWN Browne 81.11 22 P **P** **12 30 35.0 -0.1**
SHLS Shalkode 81.12 315 *e*P **P** **12 30 33.8 -2.0**
comp=Z,6.3nm,0.7s,baz=315
SHLS *e*S **S** **12 40 39.5 -2.6**
baz=315
SHLS Shalkode 81.12 315 *e*P **P** **12 30 33.7 -2.0**
SHLS *e*S **S** **12 40 39.5 -2.6**
SHLS pmax pmax
comp=Z,6.0nm,0.7s
KAIM Kayak Island 81.17 27 P **P** **12 30 35.4 0.0**
KAIM Kayak Island 81.17 27 P 12 30 36.4
baz=244
KLU Klutina 81.21 25 P **P** **12 30 36.4 +0.6**
KLU Klutina 81.21 25 P 12 30 36.6
baz=242,SNR=108
RAGM Ragged Mountai 81.25 27 P **P** **12 30 36.8 +0.9**
M24K Tolsona, Glenn 81.39 25 P **P** **12 30 37.1 +0.4**
M24K Tolsona, Glenn 81.39 25 P 12 30 37.7
baz=242,SNR=77

HMT	**Hamilton**	**81.42**	**27**	P		**P**		**12 30 37.0**	**+0.2**
UZB	**Uzynbulak**	**81.43**	**315**	*e*P		**P**		**12 30 37.0**	**-0.4**
	comp=Z,11nm,1.2s,baz=315								
UZB				*e*S		**S**		**12 40 45.9**	**+0.5**
	baz=315								
UZB	**Uzynbulak**	**81.43**	**315**	*e*P		**P**		**12 30 37.0**	**-0.4**
UZB				*e*S		**S**		**12 40 45.8**	**+0.5**
UZB				pmax		pmax			
	comp=Z,11nm,1.2s								
NEA2	**Nenana**	**81.48**	**22**	P				12 30 36.6	
	baz=239,SNR=120								
SUCK	**Suckling Hills**	**81.52**	**27**	P		**P**		**12 30 37.3**	**0.0**
SUCK				IAmb		IAmb		12 30 39.6	
	comp=Z,170nm,1.1s								
BMRM	**Bremner River**	**81.54**	**26**	P		**P**		**12 30 37.9**	**+0.4**
BMRM	**Bremner River**	**81.54**	**26**	P				12 30 38.0	
	baz=244,SNR=36								
I23K	**Minto, Yukon-K**	**81.66**	**21**	P				12 30 37.9	
	baz=239,SNR=52								
I23K	**Minto, Yukon-K**	**81.66**	**21**	P		**P**		**12 30 37.5**	**-0.4**
I23K				IAmb		IAmb		12 30 40.4	
	comp=Z,65nm,0.8s								
BERG	**Berg Lake**	**81.69**	**27**	P		**P**		**12 30 38.7**	**+0.5**
KPKS	**Kokpek**	**81.75**	**315**	*e*P		**P**		**12 30 38.8**	**-0.2**
	comp=Z,8.0nm,0.8s,baz=315								
KPKS				*e*S		**S**		**12 40 49.3**	**+0.7**
	baz=315								
KPKS	**Kokpek**	**81.75**	**315**	*e*P		**P**		**12 30 38.8**	**-0.2**
KPKS				*e*S		**S**		**12 40 49.2**	**+0.7**
KPKS				pmax		pmax			
	comp=Z,8.0nm,0.8s								
WRH	**Wood River Hil**	**81.78**	**22**	P		**P**		**12 30 37.9**	**-0.7**
N25K	**Chitina, Valde**	**81.83**	**25**	P				12 30 39.9	
	baz=244,SNR=60								
N25K	**Chitina, Valde**	**81.83**	**25**	P		**P**		**12 30 39.4**	**+0.4**
N25K				IAmb		IAmb		12 30 41.0	
	comp=Z,188nm,1.2s								
SATY	**Saty**	**81.84**	**315**	*e*P		**P**		**12 30 40.0**	**+0.4**
	comp=Z,6.0nm,0.9s,baz=314								
SATY				*e*S		**S**		**12 40 50.5**	**+0.9**
	baz=314								
SATY	**Saty**	**81.84**	**315**	*e*P		**P**		**12 30 40.0**	**+0.4**
SATY				*e*S		**S**		**12 40 50.5**	**+0.9**
SATY				pmax		pmax			
	comp=Z,6.0nm,0.9s								
MDM	**Murphy Dome**	**81.98**	**22**	P		**P**		**12 30 38.7**	**-1.0**
MDM				IAmb		IAmb		12 30 40.8	
	comp=Z,140nm,1.2s								
CCB	**Clear Creek Bu**	**81.98**	**22**	P		**P**		**12 30 39.0**	**-0.7**
TCOL	**CIGO, UAF Yank**	**82.07**	**22**	P		**P**		**12 30 39.4**	**-0.7**
TCOL	**CIGO, UAF Yank**	**82.07**	**22**	P				12 30 39.5	
	baz=240,SNR=98								
COLA	**College**	**82.07**	**22**	P				12 30 39.5	
	baz=240								
COLA	**College**	**82.07**	**22**	*i* P		**P**		**12 30 39.4**	**-0.7**
COLA				pmax		pmax			
	comp=Z,312nm,0.9s								
COLA	**College**	**82.07**	**22**	P		**P**		**12 30 39.1**	**-0.9**
PAX	**Paxson**	**82.08**	**24**	P		**P**		**12 30 39.8**	**-0.5**
PAX				pmax		pmax			
	comp=Z,61nm,0.8s								
PAX	**Paxson**	**82.08**	**24**	P		**P**		**12 30 39.8**	**-0.5**
PAX				IAmb		IAmb		12 30 41.7	
	comp=Z,61nm,0.8s								
PAX	**Paxson**	**82.08**	**24**	P				12 30 40.4	
	baz=243,SNR=46								
GLB	**Gilahina Butte**	**82.10**	**26**	P		**P**		**12 30 40.6**	**+0.2**
CRQE	**Cirque**	**82.12**	**27**	P				12 30 41.3	
	baz=245								
HDA	**Harding Lake**	**82.18**	**22**	P				12 30 40.0	
	baz=241,SNR=42								
HDA				P				12 30 40.0	
	baz=241,SNR=42								
TDK	**Taldyqorghan**	**82.33**	**316**	*e*P		**P**		**12 30 42.5**	**+0.6**
	baz=316								
TDK	**Taldyqorghan**	**82.33**	**316**	*e*P		**P**		**12 30 42.5**	**+0.6**
POKR	**Poker Plat Res**	**82.35**	**22**	P				12 30 40.6	
	baz=241,SNR=30								
POKR	**Poker Plat Res**	**82.35**	**22**	P		**P**		**12 30 40.7**	**-0.9**
POKR				IAmb		IAmb		12 30 41.9	
	comp=Z,78nm,0.8s								
IL31		**82.38**	**22**	P		**P**		**12 30 40.7**	**-1.0**
ILAR	**Eielson Array**	**82.38**	**22**	P		**P**		**12 30 40.8**	**-1.0**
	comp=Z,146nm,0.8s,baz=251,slow=5.2,SNR=161								
ILAR				PKiKP		**PKiKP**		**12 36 02.6**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=260,slow=2.7,SNR=3.4								
ILAR				PKKPbc		**PKKPbc**		**12 49 12.3**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=7.4,slow=1.3,SNR=1.7								
ILAR				LR		LR		13 03 40.4	
	comp=Z,3μm,20.8s,baz=246,slow=33								
ILAR	**Eielson Array**	**82.38**	**22**	P		**P**		**12 30 40.6**	**-1.2**
MCARA	**McCarthy VSAT**	**82.41**	**26**	P				12 30 42.7	
	baz=245,SNR=59								
MCARA	**McCarthy VSAT**	**82.41**	**26**	P		**P**		**12 30 42.3**	**+0.3**
COLD	**Coldfoot**	**82.47**	**19**	P				12 30 43.2	
	baz=238,SNR=56								
COLD	**Coldfoot**	**82.47**	**19**	P		**P**		**12 30 42.8**	**+0.6**
COLD				IAmb		IAmb		12 30 44.4	
	comp=Z,112nm,1.1s								
YAH	**Yahtse**	**82.56**	**27**	P		**P**		**12 30 43.3**	**+0.2**
YAH				IAmb		IAmb		12 30 45.1	
	comp=Z,109nm,0.9s								
GRNC	**Granite Creek**	**82.71**	**27**	P		**P**		**12 30 44.3**	**+0.5**
MENT	**Mentasta**	**82.79**	**24**	P		**P**		**12 30 44.0**	**+0.1**
MENT				IAmb		IAmb		12 30 45.7	
	comp=Z,121nm,1.0s								
KSH	**Kashi**	**82.80**	**311**	P		**P**		**12 30 46.8**	**+2.1**
KSH				sP		sP		12 31 03.0	-1.2
KSH				S		**S**		**12 41 03.8**	**+4.3**
KSH				pmax		pmax			
	comp=Z,66nm,0.9s								
KSH				pmax		pmax			
	comp=Z,2μm,6.4s								
KSH				LR		LR			
	comp=Z,3μm,16.0s								
KSH				LR		LR			
	comp=Z,2μm,15.9s								
KSH				LR		LR			
	comp=Z,4μm,19.9s								
MDOK	**Medeo**	**82.83**	**314**	*e*P		**P**		**12 30 45.1**	**+0.3**
	baz=314								
MDOK				*e*S		**S**		**12 41 01.1**	**+1.3**
	baz=314								
MDOK	**Medeo**	**82.83**	**314**	*e*P		**P**		**12 30 45.0**	**+0.3**
MDOK				*e*S		**S**		**12 41 01.1**	**+1.3**
TABL	**Table Mountain**	**82.87**	**27**	P		**P**		**12 30 45.1**	**+0.5**
TNSS	**Tian-Shan**	**82.87**	**314**	*e*P		**P**		**12 30 45.7**	**+0.3**
	baz=314								
TNSS	**Tian-Shan**	**82.87**	**314**	*e*P		**P**		**12 30 45.6**	**+0.3**
BARN	**Barnard Glacie**	**82.88**	**27**	P		**P**		**12 30 45.4**	**+0.7**
AAA	**Alma-Ata**	**82.94**	**314**	*e*P		**P**		**12 30 46.4**	**+1.1**
	baz=314								
AAA				*e*S		**S**		**12 41 02.8**	**+2.1**
	baz=314								
AAA	**Alma-Ata**	**82.94**	**314**	*e*P		**P**		**12 30 46.3**	**+1.1**
AAA				*e*S		**S**		**12 41 02.7**	**+2.1**
DOT	**Dot Lake**	**82.96**	**24**	P		**P**		**12 30 45.0**	**+0.2**
CTG	**Chitna Glacier**	**82.99**	**27**	P				12 30 46.2	
	baz=247								
CTGM	**Chitina Glacie**	**82.99**	**27**	P		**P**		**12 30 45.7**	**+0.5**
A21K	**Barrow**	**83.00**	**15**	P		**P**		**12 30 45.2**	**+0.4**
A21K	**Barrow**	**83.00**	**15**	P				12 30 45.0	
	baz=231,SNR=5.3								
LOGN	**Logan Glacier**	**83.08**	**27**	P		**P**		**12 30 46.3**	**+0.6**
SCRK	**Sand Creek**	**83.13**	**23**	P		**P**		**12 30 45.9**	**+0.1**
SCRK	**Sand Creek**	**83.13**	**23**	P				12 30 46.1	
	baz=244,SNR=77								
PCA	**Pinnacle**	**83.14**	**28**	P		**P**		**12 30 46.3**	**+0.4**
PINM	**Pinnacle**	**83.14**	**28**	P				12 30 46.8	
	baz=248,SNR=38								
PRP	**Porcupine Dome**	**83.24**	**22**	P				12 30 44.7	
	baz=242,SNR=12								
PRP	**Porcupine Dome**	**83.25**	**22**	P		**P**		**12 30 44.6**	**-1.8**
BCPM	**Bancas Point**	**83.38**	**28**	P		**P**		**12 30 48.0**	**+1.0**
TOLK	**Toolik Lake Re**	**83.42**	**18**	P		**P**		**12 30 47.7**	**+0.5**
TOLK	**Toolik Lake Re**	**83.42**	**18**	P				12 30 48.1	
	baz=238,SNR=93								
KUU	**Kurty**	**83.50**	**315**	*e*P		**P**		**12 30 48.4**	**+0.4**
	comp=Z,35nm,0.9s,baz=315								
KUU	**Kurty**	**83.50**	**315**	*e*P		**P**		**12 30 48.4**	**+0.4**
KUU				pmax		pmax			
	comp=Z,35nm,0.9s								
L27K	**Beaver Creek,**	**83.62**	**25**	P				12 30 49.2	
	baz=246								
L27K	**Beaver Creek,**	**83.62**	**25**	P		**P**		**12 30 49.3**	**+1.0**
BCAR	**Beaver Creek A**	**83.64**	**25**	P		**P**		**12 30 48.8**	**+0.5**
KURK	**Kurchatov**	**83.69**	**322**	P		**P**		**12 30 48.7**	**-0.1**
KURK	**Kurchatov**	**83.69**	**322**	P		**P**		**12 30 48.7**	**-0.1**
KURK						**PKiKP**		**12 36 04.8**	**-0.4**
KURBB	**Kurchatov Arra**	**83.72**	**322**	P		**P**		**12 30 48.7**	**-0.3**
	comp=Z,15nm,0.8s,baz=108,slow=4.1,SNR=26								
KURBB				PKiKP		**PKiKP**		**12 36 04.8**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=124,slow=1.6,SNR=2.5								
KURBB	**Kurchatov Arra**	**83.72**	**322**	P		**P**		**12 30 48.4**	**-0.6**
NIL	**Nilore**	**83.81**	**304**	P		**P**		**12 30 49.4**	**-0.5**
NIL				pmax		pmax			
	comp=Z,74nm,0.9s								
NIL	**Nilore**	**83.81**	**304**	P		**P**		**12 30 49.4**	**-0.5**
NIL				IAmb		IAmb		12 30 52.4	
	comp=Z,74nm,0.9s								
TKM2	**Tokmak 2**	**83.81**	**314**	P		**P**		**12 30 51.7**	**+1.8**
	SNR=13								
TKM2	**Tokmak 2**	**83.81**	**314**	*i* P		**P**		**12 30 50.0**	**+0.1**
TKM2				pmax		pmax			
	comp=Z,24nm,1.0s								
FYU	**Fort Yukon**	**83.84**	**21**	P		**P**		**12 30 48.9**	**-0.3**
K27K	**Chicken**	**83.92**	**24**	P		**P**		**12 30 50.8**	**+1.1**
K27K	**Chicken**	**83.92**	**24**	P				12 30 51.1	
	baz=246,SNR=71								
KBK	**Karagaybulak**	**84.22**	**314**	P		**P**		**12 30 52.4**	**+0.4**
	SNR=11								
CHMS	**Chumysh**	**84.44**	**314**	P		**P**		**12 30 53.4**	**+0.5**
	SNR=10								
UCH	**Uchtor**	**84.45**	**313**	P		**P**		**12 30 54.1**	**+0.6**
	SNR=16								
BMAR	**Burnt Mountain**	**84.46**	**20**	P		**P**		**12 30 53.4**	**+0.9**
SIT	**Sitka**	**84.53**	**32**	P				12 30 54.1	
	baz=252,SNR=7.1								
SIT	**Sitka**	**84.53**	**32**	P		**P**		**12 30 53.8**	**+0.9**
SIT				pmax		pmax			
	comp=Z,89nm,0.9s								
SIT	**Sitka**	**84.53**	**32**	P		**P**		**12 30 53.8**	**+0.9**
SIT				IAmb		IAmb		12 30 55.2	
	comp=Z,89nm,0.9s								
AAK	**Ala-Archa**	**84.55**	**314**	P		**P**		**12 30 53.9**	**+0.3**
	comp=Z,14nm,0.7s,baz=113,slow=3.7,SNR=14								
AAK	**Ala-Archa**	**84.55**	**314**	P		**P**		**12 30 54.4**	**+0.8**
	SNR=12								
AAK	**Ala-Archa**	**84.55**	**314**	P		**P**		**12 30 53.8**	**+0.3**
EGAK	**Eagle**	**84.59**	**23**	P		**P**		**12 30 53.5**	**+0.4**
EGAK	**Eagle**	**84.59**	**23**	P				12 30 53.8	
	baz=246,SNR=78								
SGDS	**Sogindy**	**84.61**	**314**	*e*P		**P**		**12 30 54.2**	**+0.4**
	comp=Z,5.2nm,0.8s,baz=314								
SGDS	**Sogindy**	**84.61**	**314**	*e*P		**P**		**12 30 54.2**	**+0.4**
SGDS				pmax		pmax			
	comp=Z,5.0nm,0.8s								
USP	**Ospenovka**	**84.67**	**314**	P		**P**		**12 30 54.1**	**+0.1**
	SNR=21								
HYT	**Haines Junctio**	**84.68**	**28**	P		**P**		**12 30 54.7**	**+0.9**
DAWY	**Dawson**	**85.02**	**24**	P		**P**		**12 30 55.9**	**+0.6**
AML	**Almayashu**	**85.03**	**313**	P		**P**		**12 30 57.6**	**+1.3**
	SNR=32								
QSPA	**South Pole Qui**	**85.03**	**180**	P		**P**		**12 30 55.6**	**+0.1**
	comp=Z,22nm,0.8s,baz=321,slow=1.1,SNR=34								
QSPA	**South Pole Qui**	**85.03**	**180**	P		**P**		**12 30 55.0**	**-0.5**
QSPA				IAmb		IAmb		12 31 16.7	
	comp=Z,26nm,0.9s								
EKS2	**Erkin-Say**	**85.07**	**313**	P		**P**		**12 30 57.2**	**+1.0**
	SNR=13								
BESE	**Bessie Mountai**	**85.23**	**30**	P		**P**		**12 30 57.5**	**+1.0**
CRAG	**Craig**	**85.25**	**33**	P				12 30 58.0	
	baz=254								
SKAG	**Skagway**	**85.26**	**29**	P		**P**		**12 30 57.5**	**+1.0**
SKAG				IAmb		IAmb		12 31 02.2	
	comp=Z,49nm,1.0s								
SKAG	**Skagway**	**85.26**	**29**	P				12 30 57.7	
	baz=252,SNR=7.7								
MAW	**Mawson**	**85.34**	**203**	P		**P**		**12 30 57.6**	**+0.8**
	comp=Z,49nm,0.9s,baz=92,slow=6.2,SNR=27								
MAW				LR		LR		13 05 47.7	
	comp=Z,5μm,21.7s,baz=92,slow=33								
MAW	**Mawson**	**85.34**	**203**	P		**P**		**12 30 57.6**	**+0.8**
	baz=85,SNR=19								
MAW	**Mawson**	**85.34**	**203**	P		**P**		**12 30 57.0**	**+0.2**
JIS	**Juneau Island**	**85.38**	**30**	P		**P**		**12 30 57.5**	**+0.4**
JIS				IAmb		IAmb		12 30 59.5	
	comp=Z,67nm,0.9s								
WHY	**Whitehorse**	**85.84**	**28**	P		**P**		**12 30 59.8**	**+0.2**
WHY				IAmb		IAmb		12 31 01.9	
	comp=Z,98nm,1.1s								
WRAK	**Wrangell Islan**	**85.92**	**33**	P		**P**		**12 31 00.5**	**+0.6**
WRAK	**Wrangell Islan**	**85.92**	**33**	P				12 31 00.9	
	baz=255								
DZA	**Taraz**	**86.88**	**313**	*e*P		**P**		**12 31 05.4**	**+0.4**
	baz=313								
DZA	**Taraz**	**86.88**	**313**	*e*P		**P**		**12 31 05.4**	**+0.4**
EPYK	**Eagle Plains**	**86.89**	**22**	P		**P**		**12 31 05.6**	**+1.1**
EPYK	**Eagle Plains**	**86.89**	**22**	P				12 31 05.4	
	baz=250								
KBL	**Kabul**	**87.40**	**305**	P		**P**		**12 31 06.7**	**-1.2**
KBL				pmax		pmax			
	comp=Z,12nm,0.9s								
KBL	**Kabul**	**87.40**	**305**	P		**P**		**12 31 06.7**	**-1.2**
KK31	**Karatay Array**	**87.51**	**313**	P		**P**		**12 31 08.7**	**+0.7**
KK31				pmax		pmax			
	comp=Z,34nm,1.3s								
KK31	**Karatay Array**	**87.51**	**313**	P		**P**		**12 31 08.7**	**+0.7**
KK31				IAmb		IAmb		12 31 11.8	
	comp=Z,34nm,1.3s								
KKAR	**Karatay Array**	**87.51**	**313**	P		**P**		**12 31 07.6**	**-0.4**
KKAR	**Karatay Array**	**87.51**	**313**	P		**P**		**12 31 07.6**	**-0.4**
KKAR	**Karatay Array**	**87.51**	**313**	P		**P**		**12 31 08.4**	**+0.4**
KKAR				IAmb		IAmb		12 31 11.7	
	comp=Z,34nm,1.3s								
DLBC	**Dease Lake**	**87.64**	**31**	P		**P**		**12 31 09.0**	**+0.7**
IUG	**Iuzhnay**	**87.71**	**312**	*e*P		**P**		**12 31 09.5**	**+0.4**
	comp=Z,12nm,1.5s,baz=312								
IUG	**Iuzhnay**	**87.71**	**312**	*e*P		**P**		**12 31 09.5**	**+0.4**
IUG				pmax		pmax			
	comp=Z,12nm,1.5s								
KCPM	**Cahto Peak**	**88.43**	**50**	P		**P**		**12 31 12.6**	**0.0**
KCPM				IAmb		IAmb		12 31 20.5	
	comp=Z,41nm,1.1s								
INK	**Inuvik**	**88.67**	**21**	P		**P**		**12 31 13.0**	**+0.1**
	comp=Z,128nm,0.9s,baz=245,slow=4.6,SNR=72								
INK				PKiKP		**PKiKP**		**12 36 12.8**	**0.0**
	comp=Z,2.9nm,0.9s,baz=188,slow=1.4,SNR=3.5								
INK	**Inuvik**	**88.67**	**21**	P		**P**		**12 31 12.9**	**0.0**
K02D	**Willamette Mer**	**88.77**	**47**	P				12 31 15.9	
	baz=262								
O02D	**Mt. Diablo Mer**	**89.10**	**50**	P				12 31 18.1	
	baz=263,SNR=9.1								
I03D	**Drain, OR**	**89.14**	**46**	P				12 31 16.4	
	baz=262								
M02C	**Callahan**	**89.20**	**49**	P				12 31 18.6	
	baz=263,SNR=5.6								
BRVK	**Borovoye**	**89.24**	**323**	P		**P**		**12 31 14.8**	**-1.1**
BRVK				pmax		pmax			
	comp=Z,34nm,1.0s								
BRVK	**Borovoye**	**89.24**	**323**	P		**P**		**12 31 14.8**	**-1.1**
BRVK				IAmb		IAmb		12 31 17.3	
	comp=Z,34nm,0.9s								
N02D	**Trinity Center**	**89.26**	**49**	P				12 31 18.5	
	baz=263,SNR=9.6								
HUMO	**Hull Mountain**	**89.28**	**47**	P		**P**		**12 31 17.2**	**+0.8**
WDC	**Whiskeytown Da**	**89.34**	**49**	P		P		12 31 09.7	-6.9
YBH	**Yreka Blue Hor**	**89.35**	**48**	P		**P**		**12 31 16.5**	**-0.3**
	comp=Z,12nm,1.1s,baz=186,slow=2.6,SNR=13								
YBH	**Yreka Blue Hor**	**89.35**	**48**	P		**P**		**12 31 13.6**	**-3.3**
E03A	**Lebam**	**89.37**	**43**	P		**P**		**12 31 17.6**	**+1.0**
G03D	**McMinnville, O**	**89.39**	**45**	P				12 31 18.3	
	baz=262								
H04D	**Lebanon**	**89.68**	**45**	P				12 31 19.4	
	baz=263								
L04D	**Klamath Falls**	**89.71**	**48**	P				12 31 20.2	
	baz=263								
I04A	**Tendick Farm,**	**89.82**	**46**	P				12 31 19.5	
	baz=263								
O03E	**Paynes Creek**	**89.86**	**50**	P				12 31 21.1	
	baz=264,SNR=8.9								
J04D	**Umpqua Nationa**	**89.97**	**47**	P				12 31 21.3	
	baz=263,SNR=8.2								
M04C	**Macdoel**	**90.00**	**48**	P				12 31 21.4	
	baz=264,SNR=7.6								
ORV	**Oroville**	**90.01**	**50**	P		**P**		**12 31 19.9**	**0.0**
ORV	**Oroville**	**90.01**	**50**	P		**P**		**12 31 19.9**	**0.0**
E04D	**Cinebar**	**90.05**	**43**	P				12 31 20.8	
	baz=263								
K04D	**Chiloquin, OR**	**90.16**	**47**	P				12 31 22.1	
	baz=264								
AFDM	**Forest Hills D**	**90.35**	**51**	P		**P**		**12 31 21.3**	**-0.2**
D05A	**Enumclaw**	**90.52**	**43**	P		**P**		**12 31 22.8**	**+0.8**
D05A				IAmb		IAmb		12 31 29.9	
	comp=Z,59nm,1.2s								
B05A	**Bryant**	**90.57**	**42**	P				12 31 23.1	
	baz=263								
LON	**Longmire**	**90.59**	**43**	P		**P**		**12 31 21.7**	**-0.8**
LON				pmax		pmax			
	comp=Z,10.0nm,1.0s								
LON	**Longmire**	**90.59**	**43**	P		**P**		**12 31 21.7**	**-0.8**
J05D	**Fort Rock, OR**	**90.61**	**47**	P				12 31 23.9	
	baz=264,SNR=29								
I05D	**Terrebonne, OR**	**90.65**	**46**	P				12 31 23.7	
	baz=264,SNR=10								
CMB	**Columbia Colle**	**90.72**	**52**	P		**P**		**12 31 24.3**	**+1.0**
CMB	**Columbia Colle**	**90.72**	**52**	P		**P**		**12 31 24.3**	**+1.0**
F05D	**White Salmon**	**90.73**	**44**	P				12 31 24.3	
	baz=264,SNR=5.9								
G05D	**Wamic, OR**	**90.77**	**45**	P				12 31 24.0	
	baz=264								
K05A	**Summer Lake**	**90.80**	**47**	P		**P**		**12 31 24.2**	**+0.5**
PKM	**Mcpherson Peak**	**90.88**	**55**	P				12 31 26.5	
	baz=265								
PINE	**Pine Mountain**	**90.88**	**46**	P		**P**		**12 31 24.6**	**+0.5**
BEKR	**Beckworth**	**90.92**	**50**	P		**P**		**12 31 24.5**	**+0.2**
B06A	**Marblemount**	**91.00**	**42**	P		**P**		**12 31 24.3**	**+0.1**
B06A				IAmb		IAmb		12 31 25.4	
	comp=Z,21nm,0.9s								
MOD	**Modoc Plateau**	**91.16**	**48**	P		**P**		**12 31 25.6**	**+0.3**
VCNR	**Virginia City**	**91.41**	**51**	P		**P**		**12 31 27.1**	**+0.4**
LTY	**Liberty**	**91.42**	**43**	P		**P**		**12 31 26.2**	**-0.1**
LTY				IAmb		IAmb		12 31 27.6	
	comp=Z,18nm,1.1s								
PNTR	**Pine Nut**	**91.43**	**51**	P		**P**		**12 31 27.2**	**+0.5**
PNTR				IAmb		IAmb		12 31 29.2	
	comp=Z,24nm,1.1s								
WAKR	**Walker**	**91.51**	**52**	P		**P**		**12 31 26.9**	**-0.2**
PAHR	**Pah Rah Range**	**91.65**	**50**	P		**P**		**12 31 28.2**	**+0.5**
F07A	**Phinny Hill Vi**	**91.80**	**44**	P		**P**		**12 31 28.8**	**+0.8**
F07A				IAmb		IAmb		12 31 30.0	
	comp=Z,38nm,1.1s								
E07A	**Sunnyside**	**91.91**	**44**	P		**P**		**12 31 29.1**	**+0.5**
E07A				IAmb		IAmb		12 31 31.1	
	comp=Z,45nm,1.2s								
I07A	**Izee**	**91.94**	**46**	P		**P**		**12 31 29.2**	**+0.3**
I07A				IAmb		IAmb		12 31 30.8	
	comp=Z,43nm,1.1s								
ISA	**Isabella, Lake**	**92.04**	**55**	P		**P**		**12 31 29.7**	**+0.3**
ISA				pmax		pmax			
	comp=Z,21nm,1.5s								
ISA	**Isabella, Lake**	**92.04**	**55**	P		**P**		**12 31 29.7**	**+0.3**
ISA				IAmb		IAmb		12 31 33.1	
	comp=Z,21nm,1.5s								
ISA	**Isabella, Lake**	**92.04**	**55**	P				12 31 29.9	
	baz=266								
HAWA	**Hanford**	**92.12**	**44**	P		**P**		**12 31 29.8**	**+0.3**
HAWA				IAmb		IAmb		12 31 32.0	
	comp=Z,41nm,1.1s								
PASC	**Pasadena Art C**	**92.16**	**56**	P		**P**		**12 31 30.7**	**+0.7**
PASC				IAmb		IAmb		12 31 34.0	
	comp=Z,36nm,1.2s								
LHV	**Little Huntoon**	**92.22**	**52**	P		**P**		**12 31 31.0**	**+0.9**
LHV				IAmb		IAmb		12 31 34.5	
	comp=Z,34nm,1.1s								
RYN	**Ryan**	**92.23**	**52**	P		**P**		**12 31 31.1**	**+0.7**
RYN				IAmb		IAmb		12 31 34.3	
	comp=Z,36nm,1.3s								
C36M	**Paulatuk**	**92.25**	**21**	P		**P**		**12 31 29.2**	**-0.4**
C36M	**Paulatuk**	**92.25**	**21**	P				12 31 29.6	
	baz=262,SNR=78								
MWC	**Mount Wilson**	**92.27**	**56**	P		**P**		**12 31 30.6**	**-0.1**
MWC				pmax		pmax			
	comp=Z,32nm,1.0s								
MWC	**Mount Wilson**	**92.27**	**56**	P		**P**		**12 31 30.6**	**-0.1**
MWC				IAmb		IAmb		12 31 33.6	
	comp=Z,32nm,0.9s								
PNT	**Penticton**	**92.31**	**41**	P		**P**		**12 31 27.2**	**-3.1**
PNT				pmax		pmax			
	comp=Z,24nm,1.1s								
EDW2	**Edwards Air Fo**	**92.37**	**55**	P				12 31 32.4	
	baz=266,SNR=7.3								
NVAR	**Mina Array Bea**	**92.39**	**52**	P		**P**		**12 31 31.9**	**+0.6**
	comp=Z,9.4nm,0.8s,baz=256,slow=6.5,SNR=27								
NVAR				LR		LR		13 08 28.6	
	comp=Z,5μm,19.0s,baz=270,slow=32								
NVAR	**Mina Array Bea**	**92.39**	**52**	P		**P**		**12 31 30.6**	**-0.6**
CWC	**Cottonwood Cre**	**92.41**	**54**	P				12

PFO	**Pinyon Flats O**	**93.55**	**57**	P			12 31 37.8		
	baz=266,SNR=9.2								
TPFO	**Pinon Flats**	**93.55**	**57**	P			12 31 37.9		
	baz=266,SNR=8.7								
BMO	**Blue Mountains**	**93.57**	**45**	P	**P**		**12 31 36.0**	**-0.3**	
BMO				pmax	pmax				
	comp=Z,39nm,1.1s								
BMO	**Blue Mountains**	**93.57**	**45**	P	**P**		**12 31 36.0**	**-0.3**	
BMO				lAmb	lAmb		12 31 37.9		
	comp=Z,39nm,1.1s								
F10A	**Beach Ranch, E**	**93.69**	**44**	P	**P**		**12 31 36.1**	**-0.8**	
F10A				lAmb	lAmb		12 31 38.3		
	comp=Z,46nm,1.0s								
HEC	**Hector,Ludlow**	**93.72**	**56**	P			12 31 38.6		
	baz=267,SNR=6.4								
IKP	**In-Ko-Pah, Jac**	**93.78**	**58**	P			12 31 39.6		
	baz=267								
NEW	**Newport**	**93.88**	**42**	P	**P**		**12 31 37.2**	**-0.4**	
NEW				pmax	pmax				
	comp=Z,35nm,1.1s								
NEW	**Newport**	**93.88**	**42**	P	**P**		**12 31 37.2**	**-0.4**	
NEW				lAmb	lAmb		12 31 39.1		
	comp=Z,35nm,1.1s								
NEW	**Newport**	**93.88**	**42**	P			12 31 38.1		
	baz=267								
ESJX	**Sierra Juarez**	**93.88**	**58**	P	**P**		**12 31 37.4**	**-0.8**	
ESJX				lAmb	lAmb		12 31 43.7		
	comp=Z,20nm,1.3s								
TPNV	**Topopah Spring**	**93.92**	**53**	P			12 31 39.1		
	baz=267,SNR=14								
TPNV	**Topopah Spring**	**93.92**	**53**	P	**P**		**12 31 38.5**	**+0.3**	
TPNV				pmax	pmax				
	comp=Z,47nm,1.4s								
TPNV	**Topopah Spring**	**93.92**	**53**	P	**P**		**12 31 38.5**	**+0.3**	
TPNV				lAmb	lAmb		12 31 42.2		
	comp=Z,47nm,1.4s								
BELC	**Belle Mtn. Jos**	**93.95**	**56**	P			12 31 39.9		
	baz=267,SNR=7.9								
SWSC	**Sam W. Stewart**	**94.06**	**57**	P			12 31 40.4		
	baz=267								
GMRC	**Granite Mounta**	**94.28**	**56**	P			12 31 41.2		
	baz=267,SNR=9.6								
BC3	**Big Chuckawall**	**94.39**	**57**	P			12 31 42.2		
	baz=267,SNR=8.1								
R11A	**Troy Canyon, C**	**94.51**	**52**	P	**P**		**12 31 41.2**	**+0.2**	
R11A				lAmb	lAmb		12 31 43.7		
	comp=Z,21nm,1.4s								
R11A	**Troy Canyon, C**	**94.51**	**52**	P			12 31 42.0		
	baz=267,SNR=11								
MFID	**Camas Ranch**	**94.56**	**47**	P	**P**		**12 31 41.3**	**+0.3**	
MFID				lAmb	lAmb		12 31 42.9		
	comp=Z,21nm,1.1s								
IRM	**Iron Mountain**	**94.67**	**56**	P			12 31 43.3		
	baz=267,SNR=11								
SHPR	**Sheep Range**	**94.77**	**54**	P	**P**		**12 31 41.0**	**-1.1**	
SHPR				lAmb	lAmb		12 31 44.8		
	comp=Z,25nm,1.4s								
ELK	**Elko**	**94.89**	**50**	P	**P**		**12 31 42.8**	**+0.1**	
	comp=Z,5.6nm,1.0s,baz=248,slow=2.4,SNR=11								
ELK	**Elko**	**94.89**	**50**	P	**P**		**12 31 42.9**	**+0.2**	
ELK				pmax	pmax				
	comp=Z,22nm,1.4s								
ELK	**Elko**	**94.89**	**50**	P	**P**		**12 31 42.9**	**+0.2**	
ELK				lAmb	lAmb		12 31 46.4		
	comp=Z,22nm,1.4s								
PRN	**Pahroc Range**	**94.89**	**53**	P	**P**		**12 31 42.6**	**0.0**	
PRN				lAmb	lAmb		12 31 45.1		
	comp=Z,24nm,1.2s								
RPN	**Rapa Nui**	**95.00**	**118**	P	**P**		**12 31 43.4**	**+0.2**	
	comp=Z,71nm,0.9s,baz=254,slow=2.9,SNR=4.1								
SVE	**Sverdlovsk**	**95.12**	**327**	*eP*	**P**		**12 31 42.2**	**-0.8**	
SVE				*e*			12 35 35.0		
SVE				*eS*	**SKSac**		**12 42 15.6**	**+0.9**	
SVE				pmax	pmax				
	comp=Z,12nm,0.9s								
SVE				MLR	MLR				
	comp=Z,3µm,19.0s								
AB31	**Akbulak array**	**95.38**	**319**	*i* P	**P**		**12 31 42.6**	**-1.8**	
ABKAR	**Akbulak array**	**95.38**	**319**	P	**P**		**12 31 42.7**	**-1.7**	
WSAR	**Wadi Sarin**	**95.48**	**293**	P	**P**		**12 31 44.8**	**-0.7**	
	comp=Z,5.9nm,0.8s,baz=256,slow=9.1,SNR=4.8								
PDMCI	**Parker Dam,Lak**	**95.51**	**56**	P			12 31 47.4		
	baz=268								
HLID	**Hailey**	**95.59**	**47**	P	**P**		**12 31 45.6**	**-0.1**	
HLID				lAmb	lAmb		12 31 49.3		
	comp=Z,20nm,1.2s								
HLID	**Hailey**	**95.59**	**47**	P			12 31 46.6		
	baz=269,SNR=12								
YKA	**Yellowknife Ar**	**95.67**	**28**	P	**P**		**12 31 45.7**	**+0.3**	
	comp=Z,29nm,0.8s,baz=270,slow=4.3,SNR=90								
YKA				PKiKP	**PKiKP**		**12 36 25.2**	**+0.3**	
	comp=Z,1.3nm,0.7s,baz=275,slow=1.2,SNR=7.6								
YKA				PKKPbc	**PKKPbc**		**12 48 34.9**	**-3.5**	
	comp=Z,1.3nm,0.9s,baz=89,slow=2.9,SNR=15								
JTMT	**Jette**	**95.77**	**43**	P	**P**		**12 31 46.1**	**-0.3**	
PSUT	**Pine Spring**	**95.88**	**52**	P	**P**		**12 31 46.9**	**-0.4**	
MSO	**Missoula**	**95.99**	**44**	P	**P**		**12 31 47.1**	**-0.3**	
MSO	**Missoula**	**95.99**	**44**	P			12 31 47.4		
	baz=269								
WALA	**Waterton Lakes**	**96.03**	**41**	P	**P**		**12 31 48.0**	**+0.4**	
CCUT	**Cedar City**	**96.24**	**53**	P	**P**		**12 31 49.4**	**+0.4**	
CCUT				lAmb	lAmb		12 31 55.9		
	comp=Z,16nm,1.1s								
ARU	**Arti**	**96.26**	**326**	*d* iP	**P**		**12 31 47.1**	**-1.1**	
ARU							12 35 41.9		
ARU				PPP	PPP		12 37 44.0		
ARU				S	**SKSac**		**12 42 21.1**	**+0.4**	
ARU				SP	**SP**		**12 44 32.8**	**+9.5**	
ARU				PS	PS		12 45 07.0	+37	
ARU				SS	**SS**		**12 49 34.3**	**-2.8**	
ARU				pmax	pmax				
	comp=Z,17nm,0.9s								
ARU				MLR	MLR				
	comp=Z,4µm,22.0s								
ARU	**Arti**	**96.26**	**326**	P	**P**		**12 31 46.2**	**-2.1**	
ARU				lAmb	lAmb		12 31 48.5		
	comp=Z,17nm,1.0s								
LCMT	**Little Creek M**	**96.32**	**53**	P	**P**		**12 31 48.5**	**-0.7**	
LCMT				lAmb	lAmb		12 31 56.6		
	comp=Z,14nm,1.1s								
BCYI	**Bear Canyon**	**96.33**	**46**	P	**P**		**12 31 49.3**	**+0.2**	
SZCU	**Shurtz Canyon**	**96.46**	**53**	P	**P**		**12 31 47.2**	**-2.7**	
SZCU				lAmb	lAmb		12 31 57.2		
	comp=Z,14nm,1.1s								
214A	**Organ Pipe Nat**	**96.54**	**59**	P	**P**		**12 31 48.4**	**-1.8**	
214A				lAmb	lAmb		12 31 59.5		
	comp=Z,16nm,1.4s								
214A	**Organ Pipe Nat**	**96.54**	**59**	P			12 31 51.8		
	baz=268								
BGU	**Big Grassy Mou**	**96.56**	**50**	P	**P**		**12 31 50.2**	**0.0**	
KNB	**Kanab**	**96.66**	**53**	P	**P**		**12 31 52.1**	**+1.3**	
KNB				pmax	pmax				
	comp=Z,34nm,1.3s								
KNB	**Kanab**	**96.66**	**53**	P	**P**		**12 31 52.1**	**+1.3**	
KNB				lAmb	lAmb		12 31 58.3		
	comp=Z,34nm,1.3s								
DUG	**Dugway, Tooele**	**96.72**	**50**	P			12 31 52.1		
	baz=269								
MCMT	**McKenzie Canyo**	**96.73**	**46**	P	**P**		**12 31 51.0**	**-0.1**	
HVU	**Hansel Valley**	**96.77**	**49**	P	**P**		**12 31 51.6**	**+0.5**	
HVU				pmax	pmax				
	comp=Z,14nm,0.9s								
HVU	**Hansel Valley**	**96.77**	**49**	P	**P**		**12 31 51.6**	**+0.5**	
HVU				lAmb	lAmb		12 31 53.4		
	comp=Z,14nm,0.9s								
DLMT	**Dillon**	**96.91**	**45**	P	**P**		**12 31 51.8**	**+0.1**	
LRM	**Limekiln Ridge**	**97.02**	**45**	P	**P**		**12 31 52.2**	**0.0**	
PKCU	**Pink Cliffs**	**97.08**	**53**	P	Pdif		12 31 53.3	+0.4	
PKCU				lAmb	lAmb		12 31 56.1		
	comp=Z,31nm,1.2s								
MTPU	**Mount Pierson**	**97.18**	**52**	P	Pdif		12 31 54.7	+1.3	
MTPU				lAmb	lAmb		12 31 56.4		
	comp=Z,15nm,1.1s								
MSU	**Marysvale**	**97.19**	**52**	P	Pdif		12 31 54.5	+1.2	
MSU	**Marysvale**	**97.19**	**52**	P	Pdif		12 31 54.5	+1.2	
NLU	**North Lily Min**	**97.28**	**50**	P	Pdif		12 31 54.0	+0.3	
HRY	**Holter Researc**	**97.44**	**44**	P	Pdif		12 31 54.1	+0.1	
BOZ	**Bozeman (W)**	**97.59**	**45**	P	Pdif		12 31 54.8	0.0	
BOZ				pmax	pmax				
	comp=Z,8.0nm,0.9s								
BOZ	**Bozeman (W)**	**97.59**	**45**	P	Pdif		12 31 54.8	0.0	
BOZ	**Bozeman (W)**	**97.59**	**45**	P			12 31 55.5		
	baz=271,SNR=9.3								
MPU	**Maple Canyon**	**97.62**	**50**	P	Pdif		12 31 55.5	+0.4	
HWUT	**Hardware Ranch**	**97.67**	**49**	P	Pdif		12 31 55.4	+0.1	
QLMT	**Earthquake Lak**	**97.74**	**46**	P	**P**		**12 31 55.4**	**-0.2**	
JLU	**Jordanelle**	**97.76**	**50**	P	Pdif		12 31 55.9	+0.1	
TCUT	**Toone Canyon**	**97.79**	**49**	P	**P**		**12 31 55.8**	**-0.1**	
ECR	**Eagle Creek**	**97.81**	**47**	P	Pdif		12 31 56.5	+0.6	
WUAZ	**Wupatki**	**97.81**	**55**	P	Pdif		12 31 57.1	+1.1	
WUAZ				lAmb	lAmb		12 32 00.7		
	comp=Z,17nm,1.3s								
WUAZ	**Wupatki**	**97.81**	**55**	P			12 31 57.7		
	baz=270								
YHL	**Hebgen Lake**	**97.92**	**46**	P	Pdif		12 31 56.6	+0.1	
YHL				lAmb	lAmb		12 32 00.4		
	comp=Z,18nm,1.0s								
TMUT	**Trail Mountain**	**97.95**	**51**	P	Pdif		12 31 57.5	+0.7	
TMUT				lAmb	lAmb		12 31 58.8		
	comp=Z,16nm,1.1s								
Q16A	**Castle Valley**	**97.98**	**52**	P	Pdif		12 31 57.4	+0.6	
AHID	**Auburn Hatcher**	**98.01**	**48**	P	Pdif		12 31 57.0	+0.2	
AHID				lAmb	lAmb		12 31 58.6		
	comp=Z,12nm,1.0s								
YMR	**Madison River**	**98.08**	**46**	P	Pdif		12 31 57.8	+0.7	
YMR				lAmb	lAmb		12 32 01.0		
	comp=Z,23nm,1.1s								
YHH	**Holmes Hill**	**98.16**	**46**	P	Pdif		12 31 58.1	+0.6	
REDW	**Red Top Meadow**	**98.18**	**47**	P	**P**		**12 31 57.5**	**-0.1**	
YPP	**Pitchstone Pla**	**98.20**	**46**	P	**P**		**12 31 56.6**	**-1.1**	
SNOW	**Snow King Moun**	**98.25**	**47**	P	Pdif		12 31 58.3	+0.4	
TUC	**Tucson**	**98.27**	**58**	P			12 32 00.3		
	baz=270								
FLWY	**Flagg Ranch**	**98.28**	**46**	P	Pdif		12 31 58.4	+0.4	
YNR	**Norris Junctio**	**98.28**	**46**	P	Pdif		12 31 58.9	+0.9	
YNR				lAmb	lAmb		12 32 00.9		
	comp=Z,16nm,1.2s								
P17A	**Butcher Ranch,**	**98.31**	**51**	P	Pdif		12 31 58.9	+0.7	
LOHW	**Long Hollow**	**98.36**	**47**	P	**P**		**12 31 57.8**	**-0.5**	
H17A	**Grant Village**	**98.36**	**46**	P	Pdif		12 31 59.5	+1.1	
H17A				lAmb	lAmb		12 32 03.1		
	comp=Z,17nm,1.0s								
H17A	**Grant Village**	**98.36**	**46**	P			12 32 00.6		
	baz=271,SNR=14								
LKWY	**Lake**	**98.48**	**46**	P	Pdif		12 31 59.3	+0.4	
LKWY				pmax	pmax				
	comp=Z,11nm,0.7s								
LKWY	**Lake**	**98.48**	**46**	P	Pdif		12 31 59.3	+0.4	
LKWY				lAmb	lAmb		12 32 05.1		
	comp=Z,11nm,0.7s								
SRU	**San Rafael Swe**	**98.49**	**51**	P	Pdif		12 31 59.1	+0.1	
SRU				pmax	pmax				
	comp=Z,7.0nm,0.9s								
SRU	**San Rafael Swe**	**98.49**	**51**	P	Pdif		12 31 59.1	+0.2	
YNE	**Yellowstone No**	**98.75**	**45**	P	Pdif		12 32 00.5	+0.4	
EGMT	**Eagleton**	**98.81**	**42**	P	**P**		**12 31 59.6**	**-0.5**	
EGMT				lAmb	lAmb		12 32 01.6		
	comp=Z,18nm,1.1s								
EGMT	**Eagleton**	**98.81**	**42**	P			12 32 00.7		
	baz=272,SNR=8.8								
GCMT	**Greycliff**	**98.96**	**45**	P	Pdif		12 32 01.7	+0.8	
BW06	**Boulder Array**	**99.14**	**48**	P	**Pdif**		**12 32 01.1**	**-0.8**	
BW06				lAmb	lAmb		12 32 02.7		
	comp=Z,11nm,0.9s								
BW06	**Boulder Array**	**99.14**	**48**	P			12 32 02.0		
	baz=272,SNR=16								
PD31	**Pinedale Array**	**99.14**	**48**	P	**Pdif**		**12 32 01.3**	**-0.6**	
PDAR	**Pinedale Array**	**99.14**	**48**	P	**Pdif**		**12 32 01.9**	**+0.1**	
	comp=Z,8.0nm,0.8s,baz=255,slow=2.9,SNR=27								
PDAR				PP	**PP**		**12 36 10.9**	**+6.1**	
	comp=Z,1.5nm,0.7s,baz=269,slow=4.5,SNR=5.5								
PDAR	**Pinedale Array**	**99.14**	**48**	P	**Pdif**		**12 32 01.6**	**-0.3**	
RDMU	**Red Mountain**	**99.20**	**50**	P	**Pdif**		**12 32 02.3**	**+0.2**	
RDMU				lAmb	lAmb		12 32 04.2		
	comp=Z,18nm,1.0s								
RLMT	**Red Lodge**	**99.27**	**45**	P	**Pdif**		**12 32 03.6**	**+1.2**	
RLMT	**Red Lodge**	**99.27**	**45**	P			12 32 03.6		
	baz=272,SNR=5.9								
MVCO	**Mesa Verde**	**100.12**	**53**	Pdif	**Pdif**		**12 32 07.7**	**+1.4**	
MVCO	**Mesa Verde**	**100.12**	**53**	P			12 32 08.2		
	baz=272								
O20A	**White River Ci**	**100.22**	**50**	Pdif	**Pdif**		**12 32 06.9**	**+0.2**	
O20A	**White River Ci**	**100.22**	**50**	P			12 32 07.4		
	baz=272								
LAO	**LASA Array**	**101.29**	**44**	P			12 32 12.2		
	baz=275,SNR=8.0								
K22A	**Casper**	**101.38**	**48**	P			12 32 12.1		
	baz=274								
S22A	**4UR Ranch, Cre**	**101.42**	**53**	P			12 32 13.6		
	baz=273								
ANMO	**Albuquerque**	**101.84**	**55**	P	**Pdif**		**12 32 13.9**	**-0.2**	
	comp=Z,0.6nm,0.7s,baz=258,slow=9.3,SNR=1.3								
N23A	**Red Feather La**	**101.93**	**49**	P			12 32 15.1		
	baz=274								
ISCO	**Idaho Springs**	**102.26**	**50**	P			12 32 17.1		
	baz=274								
DGMT	**Dagmar**	**102.48**	**42**	P			12 32 17.2		
	baz=277								
Q24A	**Divide**	**102.67**	**51**	P			12 32 19.2		
	baz=274								
OPO	**Ambohidratompo**	**102.87**	**250**	P	**Pdif**		**12 32 18.4**	**-0.5**	
	comp=Z,2.9nm,0.7s,baz=109,slow=9.2,SNR=4.5								
FFC	**Flin Flon**	**102.94**	**35**	P	**Pdif**		**12 32 18.4**	**+0.2**	
FFC	**Flin Flon**	**102.94**	**35**	Pdif	**Pdif**		**12 32 18.4**	**+0.2**	
RSSD	**Black Hills**	**103.07**	**46**	P	**Pdif**		**12 32 19.2**	**-0.1**	
RSSD	**Black Hills**	**103.07**	**46**	Pdif	**Pdif**		**12 32 19.2**	**-0.1**	
RSSD	**Black Hills**	**103.07**	**46**	P			12 32 19.7		
	baz=276								
VNA3	**Neumayer Olymp**	**103.07**	**186**	Pdiff	**Pdif**		**12 32 18.5**	**0.0**	
VNA2	**Neumayer--Watz**	**103.12**	**187**	Pdiff	**Pdif**		**12 32 20.3**	**+1.6**	
MAK	**Makhachkala**	**104.32**	**313**	*i* P	**Pdif**		**12 32 21.0**	**-3.5**	
MAK				*e*			12 36 42.9		
MAK				*e*PPP	PPP		12 38 52.6		
MAK				*e*			12 43 40.8		
MAK				*e*SSS	SSS		12 55 30.2		
MAK				pmax	pmax				
	comp=Z,122nm,0.7s								
TXAR	**Lajitas Array**	**104.44**	**61**	Pdiff	**Pdif**		**12 32 28.0**	**+2.5**	
	comp=Z,0.6nm,0.9s,baz=270,slow=2.7,SNR=3.9								
TXAR				PKiKP	**PKiKP**		**12 36 40.7**	**-1.1**	
	comp=Z,1.0nm,0.9s,baz=276,slow=3.5,SNR=4.5								
TXAR				PKKPbc	**PKKPbc**		**12 48 12.1**	**-0.2**	
	comp=Z,1.0nm,0.8s,baz=118,slow=4.6,SNR=8.4								
APA	**Apatity**	**105.35**	**340**	⇑*iP*	**Pdif**		**12 32 37.9**	**+9.3**	
APA				*i*			12 43 44.0		
APA				*i* SS	SS		12 51 41.0	-1.6	
APA				pmax	pmax				
	comp=Z,11nm,0.8s								
FCC	**Fort Churchill**	**106.20**	**30**	P	**Pdif**		**12 32 32.5**	**0.0**	
FCC	**Fort Churchill**	**106.20**	**30**	Pdif	**Pdif**		**12 32 32.5**	**0.0**	
ARCES	**ARCESS Array B**	**106.91**	**343**	PKiKP	**PKiKP**		**12 36 45.3**	**+0.3**	
	comp=Z,4.9nm,0.7s,baz=65,slow=1.3,SNR=8.5								
ULM	**Lac du Bonnet**	**107.52**	**39**	Pdiff	**Pdif**		**12 32 38.4**	**-0.3**	
	comp=Z,3.4nm,0.9s,baz=283,slow=7.4,SNR=5.7								
ULM				PKiKP	**PKiKP**		**12 36 45.2**	**-1.5**	
	comp=Z,2.6nm,0.7s,baz=307,slow=3.6,SNR=5.8								
ECSD	**EROS Data Cent**	**108.43**	**46**	P			12 36 49.0		
	baz=281								
EYMN	**Ely**	**110.90**	**40**	P			12 36 53.3		
	baz=287								
FINES	**FINESS Array B**	**111.05**	**336**	Pdiff	**Pdif**		**12 32 51.6**	**-2.4**	
	comp=Z,3.0nm,0.8s,baz=61,slow=6.5,SNR=5.0								
FINES				PKiKP	**PKiKP**		**12 36 53.0**	**0.0**	
	comp=Z,7.1nm,0.7s,baz=62,slow=3.3,SNR=12								
FINES	**FINESS Array B**	**111.05**	**336**	*c* iPKIKP	**PKiKP**		**12 36 53.4**	**+0.4**	
FINES				pmax	pmax				
	comp=Z,7.0nm,0.7s								
U40A	**Yellville**	**112.68**	**53**	P			12 36 56.9		
	baz=281								
W41B	**Gary Mavity, V**	**113.39**	**54**	P			12 36 58.8		
	baz=281								
CCM	**Cathedral Cave**	**113.59**	**51**	P			12 36 58.5		
	baz=283								
NACGM	**Naroch**	**113.93**	**329**	*i* PKP	**PKiKP**		**12 36 59.3**	**+0.6**	
NACGM				*i* PKP	**PKiKP**		**12 36 59.3**	**+0.6**	
NACGM				*i* PKP	**PKiKP**		**12 36 59.3**	**+0.6**	
NACGM				*i* pPKP	PP		12 37 23.3	-29	
NACGM				*i* PP	PP		12 37 55.4	+2.9	
NACGM				*i* PPP	PPP		12 40 20.8		
NACGM				*i* SKS	**SKSac**		**12 43 35.8**	**-5.0**	
NACGM				*i* SKKS	SKSdf		12 44 18.7	+12	
NACGM				*i* S	SKKSac		12 45 07.6	+17	
NACGM				*i* PS	PS		12 47 08.5	-22	
NACGM				*i* PPS	PPS		12 47 59.0		
NACGM				*i* SS	**SS**		**12 53 43.2**	**+5.0**	
NACGM				*i* SSS	SSS		12 57 22.0		
AKASG	**Malin Array Be**	**114.43**	**324**	PKP	PKPdf		12 36 59.0	-0.8	
	comp=Z,3.7nm,0.5s,baz=58,slow=2.7,SNR=9.6								
AKASG				PKKPbc	**PKKPbc**		**12 47 39.1**	**-1.7**	
	comp=Z,0.4nm,0.4s,baz=262,slow=4.0,SNR=1.8								
AKASG	**Malin Array Be**	**114.43**	**324**	*c* iPKIKP	PKPdf		12 36 59.5	-0.3	
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.5s								
AKBB	**Malin Array Si**	**114.43**	**324**	*c* iPKIKP	PKPdf		12 36 58.8	-1.0	
BR131	**Keskin Array S**	**115.17**	**312**	*i* PKiKP	**PKiKP**		**12 37 01.2**	**-0.5**	
BRTR	**Keskin Array B**	**115.17**	**312**	PKP	**PKiKP**		**12 37 01.2**	**-0.5**	
	comp=Z,2.4nm,0.7s,baz=113,slow=2.3,SNR=9.2								
BRTR				PKKPbc	**PKKPbc**		**12 47 37.5**	**-0.6**	
	comp=Z,0.8nm,0.7s,baz=220,slow=4.8,SNR=4.6								
G45A	**Suttons Bay**	**115.64**	**42**		**PKiKP**		**12 37 02.0**	**-0.3**	
E46A	**Sault Ste Mari**	**116.05**	**40**		**PKPdf**		**12 37 02.8**	**-0.2**	
P46A	**Rosedale**	**116.25**	**48**		**PKPdf**		**12 37 03.2**	**-0.4**	
EIL	**Elat**	**116.31**	**301**	PKP	**PKiKP**		**12 37 04.4**	**+0.3**	
	comp=Z,5.8nm,0.7s,baz=255,slow=4.1,SNR=4.6								
WVT	**Waverly**	**116.69**	**52**	P			12 37 04.5		
	baz=284								
NC303	**NORSAR Array S**	**116.75**	**340**		**PKPdf**		**12 37 03.4**	**-0.6**	
MDUB	**Mudurnu**	**116.76**	**313**	PKPdf	**PKPdf**		**12 37 03.3**	**-1.4**	
J47A	**Sunmer**	**116.82**	**44**		**PKPdf**		**12 37 04.5**	**-0.1**	
NB2	**NORSAR Subarra**	**116.93**	**340**	PKPdf	**PKPdf**		**12 37 03.6**	**-0.8**	
	comp=Z,3.4nm,0.7s,baz=45,slow=1.9								
NB2	**NORSAR Subarra**	**116.93**	**340**	PKPdf	**PKPdf**		**12 37 03.6**	**-0.8**	
	baz=45,slow=1.9								
NOA	**NORSAR Array B**	**116.93**	**340**	PKP	**PKPdf**		**12 37 04.0**	**-0.4**	
	comp=Z,7.9nm,0.8s,baz=46,slow=1.9,SNR=19								
NOA	**NORSAR Array B**	**116.93**	**340**	PKiKP	**PKPdf**		**12 37 04.0**	**-0.4**	
T47A	**Sharon Grove**	**117.04**	**51**		**PKPdf**		**12 37 05.0**	**-0.2**	
NC602	**NORSAR Array S**	**117.04**	**340**		**PKPdf**		**12 37 04.0**	**-0.6**	
NBO00	**NORSAR Array S**	**117.09**	**340**		**PKPdf**		**12 37 04.3**	**-0.3**	
CFR	**Carcaliu**	**117.27**	**319**	⇓P	**PKiKP**		**12 37 05.5**	**+0.1**	
CFR	**Carcaliu**	**117.27**	**319**	⇓PKIKP	**PKiKP**		**12 37 05.5**	**+0.1**	
WCI	**Wyandotte Cave**	**117.32**	**49**	P			12 37 06.3		
	baz=286								
L48A	**N Adams**	**117.53**	**45**		**PKiKP**		**12 37 06.2**	**+0.1**	
CLTN	**Cedars of Leba**	**117.88**	**52**		**PKPdf**		**12 37 06.8**	**0.0**	
N49A	**Columbus Grove**	**118.05**	**46**		**PKPdf**		**12 37 06.7**	**-0.4**	
LRAL	**Lakeview Retre**	**118.09**	**55**		**PKPdf**		**12 37 07.2**	**-0.2**	
LRAL	**Lakeview Retre**	**118.09**	**55**	P			12 37 07.5		
	baz=283								
P49A	**Miami Univ. Ec**	**118.11**	**47**		**PKPdf**		**12 37 06.8**	**-0.5**	
P49A	**Miami Univ. Ec**	**118.11**	**47**	P			12 37 07.5		
	baz=288								
BUR08	**Bucovina Ar. S**	**118.11**	**322**		**PKiKP**		**12 37 07.8**	**+0.6**	
BURAR	**Bucovina Array**	**118.12**	**322**		**PKPdf**		**12 37 07.0**	**-0.1**	
O49A	**Covington**	**118.18**	**47**		**PKPdf**		**12 37 07.2**	**-0.2**	
U49A	**Red Boiling Sp**	**118.19**	**51**		**PKPdf**		**12 37 07.2**	**-0.3**	
MLR	**Muntele Rosu**	**118.57**	**320**	⇑P	**PKiKP**		**12 37 08.3**	**-0.1**	
MLR				⇑P	**PKiKP**		**12 37 08.3**	**+0.1**	
MLR	**Muntele Rosu**	**118.57**	**320**	⇑PKIKP	**PKiKP**		**12 37 08.3**	**+0.1**	
MLR	**Muntele Rosu**	**118.57**	**320**		**PKPdf**		**12 37 07.4**	**-0.7**	
MATQ	**Matagami**	**118.62**	**35**	P			12 37 07.5		
	baz=300								
T50A	**Nancy**	**118.77**	**50**		**PKPdf**		**12 37 08.1**	**-0.5**	
R50A	**Paris**	**118.78**	**49**		**PKPdf**		**12 37 08.3**	**-0.2**	
W50A	**Signal Mountai**	**118.91**	**52**		**PKPdf**		**12 37 08.3**	**-0.6**	
VOIR		**119.16**	**320**	⇓P	**PKPdf**		**12 37 09.1**	**-0.1**	
VOIR		**119.16**	**320**	⇓PKIKP	**PKPdf**		**12 37 09.1**	**-0.1**	
I51A	**Listowel**	**119.18**	**42**	P			12 37 09.6		
	baz=294								
KOLS	**Kolonicke sedl**	**119.25**	**325**	*e*PKiKP	**PKiKP**		**12 37 09.5**	**+0.3**	

BZS Buzias 121.24 322 ⇓P PKPdf 12 37 13.1 +0.1
BZS Buzias 121.24 322 ⇓PKIKP PKPdf 12 37 13.1 +0.1
R54A Victor 121.30 48 P 12 37 13.5
baz=290
LSZ Lusaka 121.33 249 PKP **PKPdf 12 37 14.0 -0.2**
comp=Z,5.0nm,0.6s,baz=101,slow=2.0,SNR=9.5
LSZ PKKPbc **PKKPab 12 47 17.4 +0.8**
comp=Z,8.4nm,0.8s,baz=295,slow=1.7,SNR=15
LSZ Lusaka 121.33 249 PKPdf 12 37 14.0 -0.2
WVNY West Valley, N 121.37 42 PKPdf **PKPdf 12 37 13.1 -0.4**
VYHS Vyhne 121.43 326 *e*PKIKP **PKPdf 12 37 13.1 -0.3**
VYHS Vyhne 121.43 326 *e*PKP **PKPdf 12 37 13.1 -0.3**
MORC Moravsky Berou 121.43 327 *e*PKP **PKiKP 12 37 13.8 +0.3**
MORC Moravsky Berou 121.43 327 PKIKP **PKPdf 12 37 13.1 -0.3**
MORC Moravsky Berou 121.43 327 PKPdf **PKPdf 12 37 13.1 -0.3**
KSP Ksiaz 121.47 329 *e*PKP **PKiKP 12 37 13.8 +0.3**
VTS Vitosha 121.54 318 ⇓P **PKiKP 12 37 14.2 +0.1**
VTS Vitosha 121.54 318 ⇓PKIKP **PKiKP 12 37 14.2 +0.1**
VTS Vitosha 121.54 318 PKPdf **PKPdf 12 37 13.1 -0.8**
MDVR Moldovita 121.57 321 ⇓P **PKPdf 12 37 13.7 -0.1**
HODGE Hodges 121.60 53 PKiKP 12 37 14.8 +0.6
D56A ZEC Mazanza, M 121.64 36 P 12 37 13.9
baz=301,SNR=10.0
M55A Ridgway 121.65 44 PKPdf 12 37 14.1 +0.1
KRLC Kraliky 121.66 328 *e*PKIKP **PKPdf 12 37 13.8 0.0**
KRLC MLR MLR
comp=Z,2μm,26.1s
KRLC Kraliky 121.66 328 *e*PKPDF **PKPdf 12 37 13.8 0.0**
KRLC AMS AMS 13 29 20.0
comp=Z,2μm,26.1s
OSTC Ostas 121.68 329 *e*PKPDF **PKiKP 12 37 14.4 +0.5**
OSTC AMS AMS 13 27 30.0
comp=Z,3μm,25.2s
MMNY Mt. Morris Dam 121.70 42 PKPdf 12 37 13.7 -0.3
E56A St. Veronique 121.73 37 P 12 37 13.5
baz=300
CHVC Chvalec 121.74 329 *e*PKPDF **PKiKP 12 37 14.5 +0.4**
CHVC AMS AMS 13 27 40.0
comp=Z,3μm,22.8s
DPC Dobruska-Polom 121.74 329 *e*PKIKP **PKPdf 12 37 13.7 -0.3**
DPC MLR MLR
comp=Z,2μm,24.3s
DPC Dobruska-Polom 121.74 329 *e*PKPDF **PKPdf 12 37 13.7 -0.3**
DPC AMS AMS 13 30 20.0
comp=Z,2μm,24.3s
PAULI Pauline 121.77 52 PKiKP 12 37 15.3 +0.8
UPC Upice 121.81 329 *e*PKIKP **PKPdf 12 37 13.9 -0.1**
UPC MLR MLR
comp=Z,3μm,20.8s
UPC Upice 121.81 329 *e*PKPDF **PKPdf 12 37 13.9 -0.1**
UPC AMS AMS 13 27 30.0
comp=Z,3μm,20.8s
BI02 San Fabin de 121.85 139 PKPdf **PKiKP 12 37 15.2 +0.3**
JAVC Velka Javorina 121.87 327 *e*PKP **PKiKP 12 37 15.6 +1.2**
R55A Marlinton 121.91 47 PKPdf 12 37 14.7 +0.1
R55A Marlinton 121.91 47 P 12 37 15.1
baz=291,SNR=9.7
M56A Emporium 122.04 43 PKPdf 12 37 14.9 +0.1
M56A Emporium 122.04 43 P 12 37 15.1
baz=295,SNR=11
KMSC Kings Mountain 122.05 51 PKiKP 12 37 15.2 +0.1
KMSC Kings Mountain 122.05 51 P 12 37 15.7
baz=288
BLA Blacksburg 122.06 49 PKIKP **PKiKP 12 37 15.2 0.0**
BLA Blacksburg 122.06 49 PKPdf **PKiKP 12 37 15.2 0.0**
BLA Blacksburg 122.06 49 P 12 37 15.4
baz=290
K56A Middlesex 122.10 42 P 12 37 15.6
baz=296
J56A Wolcott 122.15 41 P 12 37 14.9
baz=297
L56A Greenwood 122.19 42 PKPdf 12 37 14.9 -0.2
L56A Greenwood 122.19 42 P 12 37 15.3
baz=296,SNR=8.3
N56A West Decatur 122.19 44 P 12 37 15.8
baz=294
SMOL Smolenice 122.20 326 *e*PKIKP **PKiKP 12 37 16.0 +1.0**
SMOL Smolenice 122.20 326 *e*PKP **PKiKP 12 37 16.0 +1.0**
VRAC Vranov 122.20 327 ⇑P **PKiKP 12 37 15.7 +0.7**
VRAC Vranov 122.20 327 *e*PKP **PKiKP 12 37 15.2 +0.2**
VRAC Vranov 122.20 327 ⇑PKIKP **PKiKP 12 37 15.7 +0.7**
O56A Blue Knob Stat 122.27 45 PKPdf 12 37 15.2 -0.1
O56A Blue Knob Stat 122.27 45 P 12 37 16.0
baz=294,SNR=8.8
BSEG Bad Segeberg 122.30 335 *e*PKPdf **PKiKP 12 37 15.5 +0.6**
baz=52,slow=2.0
BSEG *e*L L 13 30 07.3
comp=Z,1μm,22.0s
MODS Modra-Piesok 122.36 326 *e*PKIKP **PKiKP 12 37 15.7 +0.4**
MODS Modra-Piesok 122.36 326 *e*PKP **PKiKP 12 37 15.6 +0.3**
JSC Jenkinsville 122.37 52 PKIKP **PKiKP 12 37 16.0 +0.3**
JSC Jenkinsville 122.37 52 PKiKP 12 37 16.0 +0.3
P56A Dayton Farm, R 122.38 46 P 12 37 15.8
baz=293,SNR=5.9
R56A Bull Pasture M 122.39 47 P 12 37 16.2
baz=292
T56A Rocky Mt 122.42 49 P 12 37 16.0
baz=291
KRUC Moravsky 122.45 327 *e*PKP **PKiKP 12 37 15.4 -0.1**
G57A Newington 122.48 38 P 12 37 15.7
baz=300,SNR=9.8
V56A Mocksville 122.48 50 P 12 37 16.3
baz=290
S56A Natural Bridge 122.53 48 P 12 37 16.2
baz=291
H57A Richville 122.54 39 P 12 37 15.9
baz=299,SNR=6.5
PVCC Panska Ves 122.54 330 *e*PKIKP **PKiKP 12 37 15.6 0.0**
PVCC MLR MLR
comp=Z,2μm,19.5s
PVCC Panska Ves 122.54 330 *e*PKPDF **PKiKP 12 37 15.6 0.0**
PVCC AMS AMS 13 34 40.0
comp=Z,2μm,19.5s
ZST Bratislava 122.56 326 *e*PKIKP **PKiKP 12 37 16.6 +0.9**
ZST Bratislava 122.56 326 *e*PKP **PKiKP 12 37 16.6 +0.9**
FRGS Fruska Gora 122.57 322 ⇑P **PKiKP 12 37 16.2 +0.3**
SSPA Standing Stone 122.59 44 PKiKP 12 37 16.2 +0.2
SSPA Standing Stone 122.59 44 P 12 37 16.2
baz=294
LATQ La Tuque 122.61 35 P 12 37 15.6
baz=303
I57A Carthage 122.61 40 P 12 37 16.0
baz=298,SNR=7.0
K57A Scipio Center 122.62 41 P 12 37 16.0
baz=297,SNR=6.2
BRG Berggiesshubel 122.64 330 *i* PKP **PKiKP 12 37 16.3 +0.5**
BRG Amp 12 37 18.3
comp=Z,25nm,0.9s
BRG Berggiesshubel 122.64 330 *e*PKPdf **PKiKP 12 37 16.1 +0.3**
baz=52,slow=2.0
J57A Williamstown 122.65 40 PKiKP 12 37 16.0 0.0
J57A Williamstown 122.65 40 P 12 37 16.2
baz=298,SNR=6.9
D58A Chemin du LacG 122.70 35 P 12 37 15.9
baz=303,SNR=5.2
L57A Andrews Acres 122.72 42 P 12 37 16.5
baz=296,SNR=8.2
MORH Mrgy, Hungar 122.74 323 ⇑P **PKPdf 12 37 15.7 -0.2**
N57A Milroy 122.78 44 P 12 37 16.7
baz=295,SNR=7.7
TREC Trest 122.80 328 AMS AMS 13 30 50.0
comp=Z,3μm,21.6s
M57A Sunshine Farm, 122.82 43 PKPdf **PKiKP 12 37 16.8 +0.4**
M57A Sunshine Farm, 122.82 43 P 12 37 17.0
baz=296,SNR=9.3
CLL Collm 122.82 331 *i* PKPdf **PKiKP 12 37 16.5 +0.4**
comp=Z,29nm,0.8s
CLL *i* 12 37 18.5
CLL *e*PP **PP 12 38 51.0 -3.0**
CLL *e*pPP 12 39 06.0
CLL *e*PPP PPP 12 41 42.0
CLL *e*SKKSac SKKSac 12 45 50.0 +0.6
CLL *e*PS **PS 12 48 45.0 -5.6**
CLL *e*PPS PPS 12 50 14.0
CLL *e* 12 51 18.0
CLL *e*SS **SS 12 55 36.0 +2.9**
CLL *e*SSS SSS 13 00 06.0
CLL LmV 13 35 00.0
comp=Z,2μm,19.6s
CLL Collm 122.82 331 *i* PKIKP **PKiKP 12 37 16.5 +0.4**
CLL pmax pmax
comp=Z,29nm,0.8s
CLL MLR MLR
comp=Z,2μm,19.6s
CLL Collm 122.82 331 *e*PKPdf **PKiKP 12 37 16.3 +0.2**
baz=52,slow=2.0
CLL *e*L L 13 35 40.4
comp=Z,2μm,19.5s
E58A La Victoria 122.86 36 P 12 37 16.5
baz=302,SNR=5.9
Q57A Strasburg 122.86 46 P 12 37 16.8
baz=293
PRU Pruhonice 122.88 329 *e*PKIKP **PKPdf 12 37 15.7 -0.4**
PRU MLR MLR
comp=Z,2μm,22.2s
PRU Pruhonice 122.88 329 *e*PKPDF **PKPdf 12 37 15.7 -0.4**
PRU AMS AMS 13 34 10.0
comp=Z,2μm,22.2s
PRA Prague 122.89 329 AMS AMS 13 34 10.0
comp=Z,2μm,17.7s
FBE Freiberg 122.90 330 *e*PKPdf **PKiKP 12 37 16.9 +0.6**
baz=52,slow=2.0
O57A Amberson 122.94 44 P 12 37 17.0
baz=294,SNR=7.1
S57A Dark Hollow, R 122.95 48 P 12 37 16.9
baz=292
LONY Lake Ozonia 122.96 39 PKPdf 12 37 16.3 -0.1
LONY Lake Ozonia 122.96 39 P 12 37 16.7
baz=300,SNR=9.3
P57A Homestead Farm 122.97 45 P 12 37 17.0
baz=294
DIVS Divibare 122.98 321 PKPdf 12 37 15.7 -0.8
FLTG Flechtingen 122.98 333 *e*PKPdf **PKiKP 12 37 16.6 +0.2**
baz=52,slow=2.0
V57A Coltrane Farms 123.00 50 P 12 37 17.4
baz=290
G58A Ormstown 123.03 38 P 12 37 16.4
baz=300,SNR=6.5
R57A Stanardsville 123.07 47 P 12 37 17.3
baz=293
IDI Anoyia 123.14 309 PKP **PKPdf 12 37 16.9 -0.2**
comp=Z,11nm,0.7s,baz=24,slow=9.6,SNR=5.2
IDI Amoyia 123.14 309 PKiKP 12 37 17.3 -0.1
U57A Blanch 123.15 49 P 12 37 17.4
baz=291
I58A Old Forge 123.17 40 P 12 37 17.2
baz=299,SNR=7.9
K58A Earlville 123.17 41 PKPdf **PKPdf 12 37 16.4 -0.5**
K58A Earlville 123.17 41 P 12 37 17.4
baz=298,SNR=6.7
BINY Binghamton 123.21 42 PKiKP 12 37 17.2 0.0
BINY Binghamton 123.21 42 P 12 37 17.5
baz=297
BO02 Sierra Bellavi 123.26 138 PKPdf **PKiKP 12 37 17.6 0.0**
H58A Gabriels 123.31 39 P 12 37 17.7
baz=300,SNR=18
N58A Sunbury 123.31 43 PKPdf 12 37 16.7 -0.5
N58A Sunbury 123.31 43 P 12 37 17.8
baz=296,SNR=9.9
D59A Saint-Raymond 123.35 35 P 12 37 17.5
baz=304
L58A Harry Jones Me 123.37 42 P 12 37 18.0
baz=297,SNR=6.5
NRDL Niedersach Rie 123.38 333 *e*PKPdf **PKiKP 12 37 17.6 +0.5**
baz=52,slow=2.0
CONA Conrad Observa 123.39 326 *i* P **PKiKP 12 37 17.5 0.0**
comp=Z,10nm,0.7s,SNR=6.0
Q58A Fox Den Farm, 123.42 46 P 12 37 17.7
baz=294,SNR=5.7
F59A Saint Guilaume 123.43 37 P 12 37 17.7
baz=302
R58A Rapidan 123.44 47 P 12 37 17.9
baz=293
FRNY Flat Rock 123.47 38 PKPdf **PKPdf 12 37 17.0 -0.3**
O58A Lewisberry 123.47 44 P 12 37 18.0
baz=295,SNR=8.8
H59A Cadyville 123.50 38 P 12 37 17.7
baz=301
NCB Newcomb 123.51 39 PKPdf 12 37 17.6 +0.1
V58A Windy Hill, Pi 123.54 50 PKPdf 12 37 17.2 -0.6
T58A Grand View Acr 123.56 48 P 12 37 18.3
baz=292,SNR=5.5
PAGS Pennsylvania G 123.57 44 PKPdf 12 37 17.2 -0.5
J59A Piesco 123.58 40 PKPdf 12 37 17.7 0.0
J59A Piesco 123.58 40 P 12 37 17.9
baz=299,SNR=11
FNA Florina 123.59 317 PKIKP **PKPdf 12 37 16.9 -0.9**
FNA Florina 123.59 317 PKPdf **PKPdf 12 37 16.9 -0.9**
KSPA Keystone Colle 123.64 42 PKiKP 12 37 18.1 0.0
TANN Tannenbergstha 123.66 330 *e*PKPdf **PKiKP 12 37 18.0 +0.1**
baz=52,slow=2.0
AGG Agios Georgios 123.66 314 PKIKP **PKPdf 12 37 16.8 -1.2**
AGG Agios Georgios 123.66 314 PKPdf **PKPdf 12 37 16.8 -1.2**
R58B Mineral 123.66 47 P 12 37 17.9
baz=293
S58A Poland Farm, P 123.67 47 PKPdf 12 37 17.9 0.0
S58A Poland Farm, P 123.67 47 P 12 37 18.2
baz=292
K59A Cooperstown 123.68 41 P 12 37 18.1
baz=298
CLZ Clausthal 123.71 333 *e*PKPdf **PKiKP 12 37 18.6 +0.6**
baz=52,slow=2.0
CKRC Cesky Krumlov 123.71 328 *e*PKPDF **PKPdf 12 37 17.8 +0.1**
U58A Oxford 123.75 49 P 12 37 18.4
baz=291
GUNZ Gunzen 123.75 330 *e*PKPdf **PKiKP 12 37 18.4 +0.3**
baz=52,slow=2.0
JSRW J. Sargeant Re 123.77 47 PKiKP 12 37 18.4 0.0
WERN Wernitzgruen 123.78 330 *e*PKPdf **PKiKP 12 37 18.4 +0.3**
baz=52,slow=2.0
I59A Olmsteadville 123.81 39 P 12 37 18.7
baz=300,SNR=10
SDMD Soldier's Deli 123.83 45 PKiKP 12 37 18.5 0.0
L59A Walton 123.83 41 PKiKP 12 37 18.7 +0.2
L59A Walton 123.83 41 P 12 37 18.8
baz=298
F60A Warwick 123.85 36 P 12 37 18.4
baz=303,SNR=8.6
M59A Waymart 123.87 42 P 12 37 18.9
baz=297,SNR=10.0
KHC Kasperske Hory 123.90 329 PKIKP **PKPdf 12 37 18.0 -0.1**
KHC Kasperske Hory 123.90 329 *e*PKPDF **PKPdf 12 37 17.6 -0.5**
KHC AMS AMS 13 30 50.0
comp=Z,2μm,24.1s
KHC Kasperske Hory 123.90 329 PKPdf 12 37 18.0 -0.1
O59A Robesonia 123.91 44 P 12 37 19.0
baz=296,SNR=5.7
D60A Saint Jean D'O 123.92 35 P 12 37 18.3
baz=304
MVL Millersville 123.92 44 PKiKP 12 37 18.6 0.0
N59A State Game Lan 123.92 43 PKPdf 12 37 17.9 -0.5
N59A State Game Lan 123.93 43 P 12 37 18.7
baz=296
E60A Ste Agathe de 123.93 35 P 12 37 18.5
baz=304,SNR=6.0
ARSA Arzberg 123.97 326 *e*P **PKPdf 12 37 18.4 +0.1**
comp=Z,7.7nm,0.9s
GEC2 GERESS Array S 124.01 328 PKPdf 12 37 18.2 -0.2
GEC2 GERESS Array S 124.01 328 *e*PKPdf **PKiKP 12 37 18.6 0.0**
baz=52,slow=2.0
GEC2 *e*L L 13 32 14.5
comp=Z,3μm,21.7s
GERES GERESS Array B 124.01 328 PKP **PKiKP 12 37 18.7 0.0**
comp=Z,12nm,0.6s,baz=50,slow=2.1,SNR=9.2
GERES GERESS Array B 124.01 328 PKPdf **PKPdf 12 37 18.4 -0.1**
MOQ Mont Orford 124.03 37 PKPdf 12 37 18.6 0.0
P59A Jarrettsville 124.03 45 P 12 37 19.0
baz=295
G60A Masonville 124.09 37 P 12 37 19.3
baz=302
MANZ Manzenberg 124.11 330 *e*PKPdf **PKiKP 12 37 19.2 +0.4**
baz=52,slow=2.0
R59A King George, V 124.12 46 P 12 37 19.7
baz=294
ACCN Adirondack Com 124.15 39 PKPdf 12 37 18.6 -0.1
H60A Morristown 124.16 38 P 12 37 19.2
baz=301
I60A Shoreham 124.16 39 P 12 37 19.8
baz=300,SNR=17
PDG Podgorica 124.25 319 ⇓P **PKPdf 12 37 18.9 0.0**
PDG Podgorica 124.25 319 PKPdf **PKPdf 12 37 18.4 -0.5**
WET Wettzell 124.25 329 *e*L L 13 36 21.6
comp=Z,2μm,19.8s
T59A Double "B" Far 124.28 48 PKPdf **PKiKP 12 37 19.3 -0.1**
MOA Molln 124.31 327 *e*P **PKPdf 12 37 19.0 +0.1**
comp=Z,8.2nm,0.9s
J60A Lant Hill Farm 124.37 40 P 12 37 19.7
baz=300,SNR=6.4
N60A Cedar Hill Far 124.40 43 P 12 37 19.8
baz=297,SNR=8.2
F61A St Evariste 124.41 36 P 12 37 20.1
baz=304,SNR=7.1
O60A Telford 124.44 43 P 12 37 20.2
baz=296,SNR=9.1
E61A Lac Etchemin 124.44 35 P 12 37 20.1
baz=305,SNR=13
L60A Shokan 124.47 41 P 12 37 19.8
baz=298
TRY Troy 124.47 40 PKiKP 12 37 20.1 +0.5
WUPA West Chester U 124.47 44 PKiKP 12 37 19.7 0.0
P60A Greenville 124.50 44 PKPdf **PKiKP 12 37 19.7 0.0**
P60A Greenville 124.50 44 P 12 37 19.7
baz=296,SNR=5.5
M60A Port Jervis 124.51 42 P 12 37 19.8
baz=298
VA03 San Esteban 124.57 136 PKiKP 12 37 20.2 -0.1
SOKA Soboth 124.58 326 *i* P **PKPdf 12 37 19.4 -0.1**
comp=Z,17nm,1.0s,SNR=7.3
ODNJ Ogdensburg 124.64 42 PKiKP 12 37 20.0 0.0
H61A Lyndonville 124.64 37 P 12 37 20.6
baz=302
S60A Water View 124.66 47 P 12 37 21.0
baz=294
GCIS Gornji Cirnik 124.70 324 *i* PKPdf **PKiKP 12 37 20.0 0.0**
GRF Grafenberg Arr 124.74 330 *e*PKPdf **PKiKP 12 37 20.3 +0.3**
baz=52,slow=2.0
GRF *e*L L 13 33 12.1
comp=Z,2μm,20.4s
K61A Williamstown 124.76 40 P 12 37 21.0
baz=300,SNR=8.3
LBNH Lisbon 124.79 38 PKIKP **PKiKP 12 37 20.5 +0.2**
LBNH Lisbon 124.79 38 PKPdf **PKiKP 12 37 20.5 +0.2**
LBNH Lisbon 124.79 38 P 12 37 20.9
baz=302,SNR=5.9
L61A Hillsdale 1, H 124.81 41 P 12 37 22.3
baz=299
T60A Surry 124.82 48 PKiKP 12 37 20.6 +0.1
T60A Surry 124.82 48 P 12 37 21.0
baz=293
X60A Albert Glenn T 124.84 51 P 12 37 21.4
baz=291
BRNJ Basking Ridge 124.85 43 PKiKP 12 37 20.4 0.0
HNH Hanover 124.85 39 PKiKP 12 37 20.4 0.0
TRNY Table Rock, Ra 124.86 42 PKPdf 12 37 20.2 0.0
J61A Chester 124.87 39 P 12 37 21.2
baz=301,SNR=6.0
OBKA Obir 124.95 326 *e*P **PKPdf 12 37 20.2 -0.1**
comp=Z,6.0nm,0.9s
N61A South Mountain 125.00 43 P 12 37 22.3
baz=298
KASTN Kahler Asten 125.03 333 *e*PKPdf **PKiKP 12 37 20.8 +0.2**
baz=52,slow=2.0
KSCT Kent School, K 125.08 41 PKPdf 12 37 20.6 +0.1
H62A Milan 125.08 37 PKiKP 12 37 21.1 +0.2
H62A Milan 125.08 37 P 12 37 21.5
baz=303
M61A Granite Spring 125.09 42 P 12 37 21.2
baz=298,SNR=8.6
G62A West of Eustis 125.10 36 P 12 37 21.2
baz=304
PAL Palisades 125.14 42 PKIKP **PKiKP 12 37 21.0 0.0**
PAL Palisades 125.14 42 PKPdf **PKiKP 12 37 20.9 0.0**
PAL Palisades 125.14 42 P 12 37 21.5
baz=298,SNR=5.1
RJOB Jochberg 125.17 328 *e*PKPdf **PKPdf 12 37 20.6 -0.1**
baz=52,slow=2.0
LJU Ljubljana 125.23 325 *i* PKPdf **PKiKP 12 37 20.9 -0.1**
L61B Northampton 125.24 40 P 12 37 21.6
baz=300,SNR=6.2
KBA Koelnbreinsper 125.28 327 *e*P **PKPdf 12 37 20.7 -0.3**
comp=Z,18nm,1.1s
I62A Tamworth 125.35 38 P 12 37 22.0
baz=302
MYKA Terra Mystica 125.38 326 *e*P **PKPdf 12 37 20.9 -0.2**
comp=Z,11nm,1.0s
J62A Henniker 125.39 39 P 12 37 22.2
baz=302
D63A Stockholm 125.42 33 P 12 37 21.1
baz=307
K62A Royalston 125.42 40 P 12 37 22.5
baz=301
CO03 El Pedregal 125.53 134 PKPdf 12 37 22.1 +0.2
QUA2 Belchertown 125.54 40 PKiKP 12 37 22.4 +0.7
E63A Oxbow 125.61 34 PKPdf **PKPdf 12 37 21.1 -0.3**
E63A Oxbow 125.61 34 P 12 37 21.6
baz=307,SNR=5.3
F63A Nahmakanta, Br 125.65 35 PKiKP 12 37 22.1 +0.2
F63A Nahmakanta, Br 125.65 35 P 12 37 22.0
baz=306,SNR=5.4
PQI Presque Isle 125.69 33 PKPdf 12 37 21.5 -0.1
G63A Kingsbury 125.69 36 P 12 37 21.9
baz=305,SNR=6.5
FUR Furstenfeldbru 125.69 329 *e*L L 13 33 20.7
comp=Z,2μm,21.9s
TNS Taunus Mts 125.70 332 *e*L L 13 33 37.1
comp=Z,2μm,20.8s
I63A Otisfield 125.71 37 P 12 37 23.2
baz=303
ZOU Zoufplan 125.79 326 PKPdf 12 37 21.6 -0.4
PKME Peaks-Kenny Pk 125.80 35 P 12 37 22.9
baz=305
GO04 Tololo Observa 125.81 133 PKPdf **PKPdf 12 37 22.9 +0.2**
J63A Strafford 125.82 38 P 12 37 21.5
baz=302
K63A Dunstable 125.85 39 P 12 37 22.6
baz=301
UCCT U. Connecticut 125.86 41 PKPdf **PKiKP 12 37 22.3 -0.1**
HRV Adam Dziewonsk 125.93 39 P 12 37 22.7
baz=301
ABTA Abfaltersbach 125.93 327 *i* P **PKPdf 12 37 22.0 -0.1**
comp=Z,30nm,1.0s,SNR=7.5
E64A Bridgewater 125.94 34 P 12 37 22.3
baz=307
F64A Sherman 125.98 34 PKiKP 12 37 22.5 0.0
F64A Sherman 125.98 34 P 12 37 22.7
baz=306
WATA Walderalm 126.07 328 *i* P **PKPdf 12 37 22.4 -0.1**
comp=Z,21nm,0.9s,SNR=5.9
WTTA Wattenberg 126.08 328 *i* P **PKiKP 12 37 22.8 -0.2**
comp=Z,34nm,0.9s,SNR=8.3
G64A Maxfield 126.11 35 P 12 37 23.2
baz=306
WES Weston 126.14 39 PKIKP **PKiKP 12 37 22.9 -0.1**
WES Weston 126.14 39 PKPdf **PKiKP 12 37 22.9 -0.1**
M63A Gales Ferry 126.17 41 P 12 37 23.5
baz=300
H64A Troy 126.19 36 P 12 37 23.5
baz=305
L63A North Scituate 126.23 40 PKPdf 12 37 22.5 -0.2
L63A North Scituate 126.23 40 P 12 37 23.6
baz=301
MOTA Moosalm 126.31 328 *i* P **PKPdf 12 37 23.0 +0.1**
comp=Z,54nm,1.5s,SNR=8.8
SQTA Sankt Quirin 126.33 328 *i* P **PKiKP 12 37 23.2 -0.1**
comp=Z,29nm,0.9s,SNR=6.6
I64A Boothbay 126.36 37 P 12 37 24.3
baz=304
BATG Bathurst New B 126.36 32 PKPdf **PKiKP 12 37 23.1 -0.2**
BTNL Ternell 126.49 334 *d*PKP **PKiKP 12 37 23.7 +0.2**
LCO Las Campanas 126.50 132 PKIKP **PKiKP 12 37 25.1 +0.6**
LCO Las Campanas 126.50 132 PKiKP 12 37 25.1 +0.6
MEM Membach 126.52 334 *d*PKP **PKiKP 12 37 23.6 +0.1**
ZON Zonda 126.56 136 PKIKP **PKiKP 12 37 24.5 +0.2**
ZON Zonda 126.56 136 PKPdf **PKiKP 12 37 24.5 +0.2**
UBR Ueberruh 126.61 329 *e*PKPdf **PKPdf 12 37 23.4 0.0**
baz=52,slow=2.0
M64A Tiverton 126.64 40 P 12 37 23.9
baz=301
FETA Feichten 126.71 328 *i* P **PKiKP 12 37 24.3 +0.1**
comp=Z,34nm,0.9s,SNR=9.4
H65A Eastbrook 126.73 36 P 12 37 24.6
baz=306
BSTI Sart Tilman 126.73 334 *d*PKP **PKiKP 12 37 24.2 +0.3**
G65A Princeton 126.82 35 P 12 37 24.0
baz=307
BCLA Clavier 126.97 334 *d*PKP **PKiKP 12 37 24.6 +0.2**
DAVA Damuels 126.98 329 *e*P **PKPdf 12 37 24.4 +0.2**
comp=Z,22nm,0.8s
BFO Black Forest 127.06 331 PKIKP **PKiKP 12 37 24.5 -0.2**
BFO Black Forest 127.06 331 PKPdf **PKiKP 12 37 24.5 -0.2**
BFO Black Forest 127.06 331 *e*L L 13 36 00.6
comp=Z,1μm,21.2s
BGES Gesves 127.09 334 *d*PKP **PKiKP 12 37 24.6 0.0**
WLF Walferdange 127.15 333 *d*PKP **PKiKP 12 37 25.1 +0.4**
WLF Walferdange 127.15 333 *e*PKPdf **PKiKP 12 37 25.5 +0.7**
baz=52,slow=2.0
H66A Whiting 127.22 35 P 12 37 25.8

baz=307
TEOL Teolo 127.24 326 PKPdf 12 37 24.7 +0.1
BMRD Maredsous 127.29 335 dPKP PKiKP 12 37 25.2 +0.2
SNF Seneffe 127.34 335 dPKP PKiKP 12 37 25.1 +0.1
TIP Timpagrande 127.48 317 PKPdf PKiKP 12 37 25.6 +0.2
DOU Dourbes 127.51 334 dPKP PKiKP 12 37 25.9 +0.4
ECH Echery 127.71 331 PKIKP PKPdf 12 37 24.9 -0.5
ECH Echery 127.71 331 PKPdf 12 37 24.9 -0.5
TUE Stuetta 127.79 328 PKPdf PKPdf 12 37 25.5 -0.4
ATAH Atahualpa 127.80 103 PKP PKiKP 12 37 28.1 +0.5
comp=Z,24nm,0.8s,baz=171,slow=2.7
INTR Introdacqua 127.87 321 PKPdf PKPdf 12 37 25.8 -0.2
NRCA Norcia 127.90 323 PKPdf 12 37 26.0 0.0
BCIP Isla Barro Col 127.91 82 PKIKP PKPdf 12 37 24.5 -2.2
BCIP Isla Barro Col 127.91 82 PKPdf 12 37 24.4 -2.2
LMN Caledonia Moun 127.94 32 PKiKP 12 37 26.5 0.0
MURB Monte Urbino 128.00 323 PKiKP 12 37 27.0 +0.2
AC01 Pan de Azucar 128.05 129 PKPdf 12 37 26.8 +0.1
NNA Nana 128.13 109 *c i* PKIKP PKiKP 12 37 29.0 +1.2
NNA pmax pmax
comp=Z,102nm,1.7s
NNA Nana 128.13 109 PKPdf PKiKP 12 37 28.0 +0.2
ZCCA Zocca 128.25 325 PKPdf 12 37 26.8 +0.2
LATE Laterza 128.81 323 PKPdf 12 37 27.8 +0.1
OTAV Otavalo 128.89 94 *eP* PKiKP 12 37 30.1 +0.2
SENIN Lac Senin/Sane 128.92 329 PKPdf PKPdf 12 37 27.8 -0.3
GCUF Volcan Baleras 130.09 93 *eP* PKiKP 12 37 34.0 +1.7
BBAC Balboa, Cauca 130.26 92 *eP* PKPdf 12 37 30.3 -1.2
POPC Popayan, Colom 130.87 91 *eP* PKPdf 12 37 31.4 -1.2
SOTA Rioblanco 130.90 91 *eP* PKiKP 12 37 34.5 +0.6
PCON Cinco Dias 131.13 91 *eP* PKPdf 12 37 28.5 -5.1
LVC Limon Verde 131.13 126 PKP PKPdf 12 37 33.5 +0.4
comp=Z,9.8nm,0.8s,baz=255,slow=3.4,SNR=8.3
LVC Limon Verde 131.13 126 PKPdf PKPdf 12 37 32.8 -0.4
PB09 IPOC Station P 131.25 125 PKPdf 12 37 33.5 +0.4
YOTC Yotoco, Valle 131.29 89 *eP* PKPdf 12 37 32.1 -1.3
DBBC Dabeiba 131.51 85 *eP* PKiKP 12 37 35.0 +0.4
CBOC Ciudad Bolivar 131.69 87 *eP* PKPdf 12 37 26.4 -7.7
GARC Garzon, Huila 132.02 91 *eP* PKPdf 12 37 33.1 -1.7
MOTC Monteria, Cord 132.04 83 *eP* PKPdf 12 37 34.6 0.0
PB08 IPOC Station P 132.08 123 PKiKP 12 37 35.6 -0.4
BETC Betania 132.11 91 *eP* PKiKP 12 37 36.0 +0.2
MNMC Minye Minye 132.15 121 PKPdf 12 37 34.6 -0.4
HELC Santa Helena 132.18 86 *eP* PKPdf 12 37 35.2 -0.1
GUY2C Guyana, Caldas 132.32 87 *eP* PKPdf 12 37 35.5 -0.2
RREF El Recreo 132.32 88 *eP* PKPdf 12 37 35.3 -0.6
ORTC Ortega, Tolima 132.38 89 *eP* PKPdf 12 37 29.2 -6.1
PTLC Puerto Leguiza 132.52 94 *eP* PKPdf 12 37 35.3 -0.2
PB16 IPOC Station P 132.56 120 PKPdf PKPdf 12 37 34.2 -2.0
NORC Norcasia 132.82 87 *eP* PKPdf 12 37 35.2 -1.0
ZARC Zaragoza, Cauc 132.85 84 *eP* PKPdf 12 37 26.7 -9.4
PTBC PUERTO BERRIO 133.25 86 *eP* PKPdf 12 37 29.8 -7.1
ROSC El Rosal 133.34 88 PKP PKPdf 12 37 35.5 -2.0
comp=Z,18nm,0.5s,baz=322,slow=23,SNR=2.5
ROSC SKPab SKPab 12 41 04.8 +0.7
comp=Z,17nm,0.6s,baz=303,slow=6.4,SNR=6.4
ROSC El Rosal 133.34 88 *eP* PKPdf 12 37 34.4 -3.2
SMLC San Martn de 133.61 83 *eP* PKPdf 12 37 33.3 -4.2
SPBC San Pablo de B 133.62 87 *eP* PKPdf 12 37 28.3 -9.3
MACC Macarena, Meta 133.65 92 *eP* PKPdf 12 37 34.9 -2.8
BRRC Barranca, Sant 133.99 85 *eP* PKPdf 12 37 37.7 -0.5
KEST Kesra 134.30 317 PKP PKPdf 12 37 37.8 -0.6
comp=Z,14nm,0.9s,baz=294,slow=9.7,SNR=5.0
KEST SKPbc SKPbc 12 41 02.5 -1.6
comp=Z,8.6nm,1.0s,baz=162,slow=8.2,SNR=4.2
OCAC Ocana 134.37 83 *eP* PKPdf 12 37 35.8 -3.4
RUSC La Rusia 134.60 87 *eP* PKPdf 12 37 36.0 -4.0
LPAZ La Paz 134.61 119 PKhKP PKPpre 12 37 31.1
comp=Z,3.4nm,0.8s,baz=358,slow=4.8,SNR=5.1
LPAZ PKP PKPdf 12 37 40.8 +0.7
comp=Z,15nm,0.9s,baz=301,slow=0.8,SNR=18
LPAZ SKP SKPdf 12 41 10.5 -1.0
comp=Z,12nm,1.0s,baz=262,slow=4.3,SNR=4.0
LPAZ La Paz 134.61 119 PKPdf PKPdf 12 37 40.6 +0.5
PAMC Pamplona, Colo 135.00 85 *eP* PKPdf 12 37 36.3 -4.4
URIC Uribia, Colomb 135.50 78 *eP* PKPdf 12 37 37.0 -4.0
TAMC Tame, Arauca 135.90 86 *eP* PKPdf 12 37 37.0 -4.9
SDV Santo Domingo 137.01 82 PKhKP PKPpre 12 37 33.1
baz=326,slow=10.0
SDV PKP PKPdf 12 37 43.4 -0.7
comp=Z,32nm,0.7s,baz=276,slow=1.0
SDV SKP SKPdf 12 41 15.0 -0.4
comp=Z,18nm,0.9s,baz=259,slow=9.2,SNR=7.5
SDV Santo Domingo 137.01 82 PKPdf PKPdf 12 37 43.2 -0.9
SDV Santo Domingo 137.01 82 *eP* PKPdf 12 37 41.2 -2.9
CPUP Villa Florida 137.56 139 PKhKP PKPpre 12 37 35.0
comp=Z,3.1nm,1.1s,baz=204,slow=18,SNR=2.4
CPUP PKP PKPdf 12 37 44.4 -0.2
comp=Z,15nm,1.0s,baz=268,slow=2.1,SNR=10
CPUP SKPab SKiKP 12 41 20.2 +1.3
comp=Z,2.5nm,0.8s,baz=276,slow=9.6,SNR=4.0
CPUP Villa Florida 137.56 139 PKIKP PKiKP 12 37 45.8 -0.7
CPUP Villa Florida 137.56 139 PKPdf PKiKP 12 37 45.8 -0.7
MLPR Magueyes Islan 139.23 68 PKPdf PKPdf 12 37 48.4 +0.6
PGAV Gavieira, Arco 139.33 338 *e*PKPdf PKiKP 12 37 48.8 -1.0
ESDC Sonseca Array 139.40 332 PKhKP PKPpre 12 37 38.7
comp=Z,2.4nm,0.9s,baz=13,slow=2.6,SNR=6.0
ESDC PKP PKPdf 12 37 48.0 +0.4
comp=Z,3.3nm,0.8s,baz=30,slow=2.4,SNR=8.2
ESDC SKPbc SKPbc 12 41 18.7 -0.6
comp=Z,8.4nm,1.3s,baz=24,slow=3.3,SNR=7.9
AOPR Arecibo Observ 139.41 68 PKPdf PKPdf 12 37 48.3 +0.1
PCAB Cabril 139.46 337 *e*PKPdf PKiKP 12 37 48.9 -1.1
CART Cartagena 139.49 327 PKP PKPdf 12 37 42.5 -5.3
CART Cartagena 139.49 327 PP PP 12 40 43.7 +1.9
MVO Moncorvo 139.53 336 *e*PKPdf PKPdf 12 37 48.9 +1.0
POLO Lamas de Olo 139.66 337 *e*PKPdf PKPdf 12 37 44.0 -4.1
PAB San Pablo 139.69 332 PKIKP PKPdf 12 37 49.0 +0.8
PAB San Pablo 139.69 332 PKPdf PKPdf 12 37 49.0 +0.8
PVRL Vila Real 139.71 337 *e*PKPdf PKiKP 12 37 41.3 -6.9
PDPR Patillas Dam, 140.16 68 PKPdf 12 37 50.1 +0.6
PVIS Viseu 140.26 337 *e*PKPdf PKPdf 12 37 43.3 -5.9
MTE Manteigas 140.38 336 *e*PKPdf PKPdf 12 37 44.9 -4.5
SIV San Ignacio 140.80 123 PKhKP PKPpre 12 37 43.6
comp=Z,8.2nm,0.9s,baz=230,slow=2.6,SNR=9.4
SIV PKP PKPdf 12 37 50.4 -0.4
comp=Z,8.9nm,0.7s,baz=259,slow=3.5,SNR=9.9
PCBR Castelo Branco 140.83 335 *e*PKPdf PKPdf 12 37 51.2 +1.1
PCAS Casmilo, Conde 141.06 337 *e*PKPdf PKPdf 12 37 51.5 +0.9
PMRV Marv??o 141.14 335 *e*PKPdf PKPdf 12 37 45.6 -5.2
PESTR Estremoz 141.69 335 *e*PKPdf PKiKP 12 37 54.2 -0.4
PMTG Montargil 141.79 335 *e*PKPdf PKPdf 12 37 47.5 -4.4
EMAL Malaga-Limoner 141.91 329 PKP PKPdf 12 37 44.6 -7.6
EMAL Malaga-Limoner 141.91 329 PP PP 12 40 51.3 -5.2
PBAR Barrancos 142.03 333 *e*PKPdf PKPdf 12 37 49.7 -2.7
PTGB Pitanga 142.05 142 *eP* PKPdf 12 37 48.2 -4.7
EVO Evora 142.15 335 PKP PKPdf 12 37 47.1 -5.4
EVO Evora 142.15 335 PP PP 12 41 10.4 +13
MELI Melilla 142.22 326 PKP PKPdf 12 37 45.5 -7.2
MELI Melilla 142.22 326 PP PP 12 41 01.5 +3.0
PBEJ Beja 142.51 334 *e*PKPdf PKPdf 12 37 49.6 -3.6
AQDB Aquidauana 142.52 123 *eP* PKPdf 12 37 50.3 -3.4
MESJ Messejana 142.82 334 *e*PKPdf PKPdf 12 37 50.3 -3.5
PCRV Puerto La Cruz 142.83 80 PKhKP PKPpre 12 37 48.8
comp=Z,27nm,0.9s,baz=166,slow=2.8,SNR=3.1
PCVE Castro Verde 142.92 334 *e*PKPdf PKPdf 12 37 51.5 -2.5
PVAQ Vaqueiros 142.97 333 *e*PKPdf PKPdf 12 37 50.2 -3.8
SFS San Fernando 143.02 331 PKP PKPab 12 37 45.2 -4.3
SFS San Fernando 143.02 331 PP PP 12 41 00.3 -2.8
PVLZ Peæn de 143.06 328 PKP PKPab 12 37 46.5 -3.1
PVLZ Peæn de 143.06 328 PP PP 12 41 03.7 +0.2
CEU Ceuta 143.06 329 PKP PKPab 12 37 45.7 -3.9
CEU Ceuta 143.06 329 PP PP 12 40 58.9 -4.5
SEUS St. Eustatius 143.09 67 *eP* PKPab 12 37 48.0 -2.3
TIJ01 Guaruva-PR 143.38 146 *eP* PKPbc 12 37 52.4 -0.1
MLYT Lee's Yard 144.03 68 *eP* PKPab 12 37 53.6 -0.3
ANWB Willy Bob 144.14 67 *eP* PKPab 12 37 54.2 -0.1
ANBD Bethesda, Anti 144.33 67 *eP* PKPab 12 37 54.7 -0.4
FRTB Fartura 144.59 143 *eP* PKPdf 12 37 51.1 -0.2
CBE Ff, Capester 144.73 69 *e* PKPab 12 37 53.0 -3.6
ABD La Joyeuse, An 144.74 68 *e* PKPbc 12 37 57.0 +0.4
TBG Guadaloupe-3 144.75 69 *e* PKPab 12 37 56.1 -0.5
IFR Ifrane 144.75 327 PKP PKPab 12 37 53.9 -2.5
IFR Ifrane 144.75 327 PP PP 12 41 24.7 +11
TDBA Terre de Bas, 144.76 69 *e* PKPdf 12 37 57.8 +0.1
PCMB Pacaembu 144.81 139 *eP* PKPdf 12 37 58.1 +0.4
PP1B Ponte de Pedra 144.90 130 *eP* PKPdf 12 37 58.9 +0.9
MDT Midelt 144.99 325 PKP PKPdf 12 37 57.7 -0.2
comp=Z,26nm,0.9s,baz=72,slow=4.6,SNR=21
DSLB Salisbury 145.06 70 *e* PKPbc 12 37 52.3 -5.4
MAGL Barre de l'ile 145.07 69 *e* PKPab 12 37 57.8 0.0
PET01 Itanhaem-SP 145.14 147 *eP* PKPdf 12 37 58.9 +0.7
H07N1 FLORES T-PHASE 145.24 5 *e*PKP PKPdf 12 37 59.0 +1.0
DLPL La Plaine 145.25 70 *e* PKPdf 12 37 59.4 +0.8
DLPL La Plaine 145.25 70 PKPbc 12 37 56.8 -1.5
FDF Fort de France 145.48 71 *e* PKPdf 12 37 57.7 -1.3
FDF Fort de France 145.48 71 PKIKP PKPdf 12 37 59.1 0.0
FDF Fort de France 145.48 71 PKPdf 12 37 59.0 0.0
GRGR Grenville 145.49 76 *e* PKPdf 12 37 55.1 -3.9
H07S1 FLORES T-PHASE 145.54 5 *e*PKP PKPab 12 37 59.8 +0.9
BIM Bigot 145.60 71 *e* PKPdf 12 37 57.7 -1.5
SPB Sao Paulo 145.62 146 PKPab 12 38 00.3 +0.7
SPB Sao Paulo 145.62 146 *e*P PKPab 12 38 00.8 +1.3
GCMP Grenada, Carri 145.65 75 *e* PKPdf 12 37 58.5 -0.8
SVB Belmont 145.68 74 *e* PKPdf 12 37 58.7 -0.7
SVB Belmont 145.68 74 PKPdf 12 37 58.9 -0.5
ILAM Ilet Lapin Mar 145.73 71 *e* PKPdf 12 37 59.0 -0.3
SLDE Delcer 145.76 73 *e* PKPab 12 38 01.2 +0.8
SLBI Saint Lucia, B 145.80 72 *e* PKPdf 12 37 58.0 -1.6
MPOM Morne Pois Mar 145.82 72 *e* PKPbc 12 38 00.3 +0.2
SLW Petit Monier 145.83 72 *e* PKPbc 12 38 01.1 +0.4
SLPA Patience 145.88 73 *e* PKPab 12 38 00.9 +0.1
MCLT Moule a Chique 145.89 73 *e* PKPdf 12 37 58.9 -0.9
MCLT Moule a Chique 145.89 73 PKPdf 12 37 59.9 +0.1
TPP Pointe-a-Pierr 145.93 79 *e* PKPab 12 38 01.7 +0.6
TRN Trinidad (W) 145.94 78 *e* PKPbc 12 38 00.4 -0.2
PGRA Graciosa 146.05 1 *e*PKP PKPbc 12 38 00.4 +0.2
AVE Averroes 146.14 329 PKP PKPdf 12 37 58.2 -1.5
AVE Averroes 146.14 329 PP PP 12 41 25.0 +3.1
PAGU Agualva, Azore 146.31 360 *e*PKP PKPab 12 38 01.9 +0.1
VAO Valinhos 146.34 146 *eP* PKPab 12 38 02.6 +0.2
ROSA Rosas 146.35 1 *e*PKP PKPab 12 38 02.4 +0.5
PSCM Serra do Cume 146.38 359 *e*PKP PKPab 12 38 02.8 +0.8
ADH Angra Heroismo 146.43 360 *e*PKP PKPab 12 38 03.1 +0.9
PMAN Manadas 146.44 1 *e*PKP PKPab 12 38 03.0 +0.7
CALA Caldeira 146.48 2 *e*PKP PKPab 12 38 03.4 +0.9
PICO Pico 146.57 1 *e*PKP PKPab 12 38 03.4 +0.5
PCAN Candelaria 146.60 1 *e*PKP PKPab 12 38 03.5 +0.6
PID Ribeirinha 146.63 1 *e*PKP PKPbc 12 38 02.5 +0.5
PARB Paraibuna 146.79 149 *eP* PKPab 12 38 03.9 -0.3
PTGA Pitinga 147.07 99 PKPbc PKPbc 12 38 03.0 -0.9
comp=Z,116nm,0.7s,baz=242,slow=2.9,SNR=46
PTGA Pitinga 147.07 99 PKPbc PKPbc 12 38 04.7 +0.8
PSET Sete Cidades 147.22 357 *e*PKP PKPab 12 38 05.0 -0.4
CMLA Cha da Maceia 147.27 357 *e*PKP PKPab 12 38 05.0 -0.5
ESAR Angra dos Reis 147.66 150 *eP* PKiKP 12 38 06.7 -0.6
CLDB Colider 147.74 119 *eP* PKPbc 12 38 04.5 -1.2
PSMN Pico do Norte, 148.00 356 *e*PKP PKPbc 12 38 06.1 +0.3
PSMA Santa Maria 148.01 356 *e*PKP PKPbc 12 38 06.1 +0.3
MAN01 Angra dos Reis 148.03 150 *eP* PKiKP 12 38 07.4 -0.8
VAS01 Vassouras-RJ 148.78 151 *eP* PKPbc 12 38 06.7 -1.5
BSCB Bom Sucesso 149.15 147 *eP* PKPdf 12 38 06.7 +1.6
IPMB Ipameri, GO 149.40 139 *eP* PKPdf 12 38 06.9 +1.3
DUB01 Friburgo-RJ 149.46 152 *eP* PKPdf 12 38 03.2 -2.4
CAM01 Campos-RJ 150.01 153 *eP* PKiKP 12 38 12.5 +0.3
TOA0 Torodi Ar. Sit 150.07 288 PKPbc PKPbc 12 38 11.3 -0.3
TORD Torodi Ar. Bea 150.07 288 PKPbc PKPbc 12 38 11.2 -0.4
comp=Z,144nm,0.8s,baz=64,slow=2.5,SNR=81
PMPST Porto Santo, M 150.12 341 *e*PKPdf PKiKP 12 38 12.3 +0.2
PMPS Porto Santo 150.14 341 *e*PKPdf PKiKP 12 38 12.4 +0.3
PMOZ Porto Moniz, M 150.63 342 *e*PKPdf PKiKP 12 38 14.0 +0.7
PMOZ Porto Moniz, M 150.63 342 PKiKP 12 38 14.0 +0.7
SNDB Serra Nova Dou 150.97 126 *eP* PKPdf 12 38 08.8 +0.7
BDFB Brasilia 151.18 136 PKP PKPdf 12 38 09.2 +0.7
comp=Z,16nm,0.8s,baz=231,slow=1.3,SNR=8.4
BDFB PKPbc PKiKP 12 38 15.2 +0.3
comp=Z,48nm,0.9s,baz=208,slow=0.9,SNR=19
BDFB Brasilia 151.18 136 PKIKP PKPdf 12 38 09.6 +1.1
BDFB 12 38 21.2
BDFB Brasilia 151.18 136 PKPdf PKPdf 12 38 09.6 +1.1
BDFB PKPbc PKiKP 12 38 15.2 +0.3
BDFB PKPab pPKPdf 12 38 21.2 -0.9
ALF01 Guarapari-ES 151.48 153 *eP* PKiKP 12 38 15.6 +0.4
DIAM Diamantina, MG 151.94 146 *eP* PKPdf 12 38 11.1 +1.5
RIB01 Linhares ES 152.77 153 *eP* PKiKP 12 38 18.8 +0.8
SJMB Sao Joao De Ma 152.92 150 *eP* PKPdf 12 38 11.7 +0.8
PEXB Peixe 153.27 129 *eP* PKPdf 12 38 13.3 +1.8
JANB Januaria 154.07 140 *eP* PKPdf 12 38 13.7 +1.1
MDP Montagnes des 154.94 88 PKP PKPdf 12 38 13.9 0.0
comp=Z,22nm,1.0s,baz=225,slow=2.9,SNR=2.6
MDP PKPab PKPab 12 38 38.6 +0.5
comp=Z,34nm,1.1s,baz=235,slow=4.5,SNR=6.2
KOWA Kowa 155.01 294 PKP PKPdf 12 38 13.9 +0.1
comp=Z,5.0nm,0.7s,baz=120,slow=3.8,SNR=3.6
KOWA PKPbc pPKPdf 12 38 22.6 -5.2
comp=Z,13nm,0.6s,baz=54,slow=3.4,SNR=8.2
KOWA PKPab PKPab 12 38 37.6 -0.7
comp=Z,15nm,0.7s,baz=9.8,slow=3.6,SNR=6.0
KOWA Kowa 155.01 294 PKPdf PKPdf 12 38 14.5 +0.6
SDBA SAO DESIDERIO 155.58 135 *eP* PKPdf 12 38 15.9 +1.2
SMTB Santa Maria do 155.72 124 *eP* PKPdf 12 38 16.3 +1.4
KIC Kosan Boka 157.32 275 *e*PKP2 PKPab 12 38 48.1 -0.2
comp=Z,93nm,1.0s
DBIC Dimbokro 157.42 275 PKP PKPdf 12 38 16.2 -0.9
comp=Z,8.8nm,0.9s,baz=96,slow=1.7,SNR=4.5
DBIC PKPab PKPab 12 38 48.5 -0.2
comp=Z,32nm,0.8s,baz=67,slow=4.1,SNR=13
DBIC Dimbokro 157.42 275 PKIKP PKPdf 12 38 16.6 -0.5
DBIC Dimbokro 157.42 275 PKPdf 12 38 16.6 -0.5
DBIC PKPab PKPab 12 38 48.0 -0.7
TIC Toumodi 157.58 275 *e*PKP2 PKPab 12 38 49.4 -0.1
LIC Lamto 157.61 274 *e*PKP2 PKPab 12 38 49.3 -0.3
comp=Z,98nm,0.9s
RCBR Riachuelo 166.41 142 PKP PKPdf 12 38 26.3 0.0
comp=Z,15nm,1.2s,baz=76,slow=2.9,SNR=3.6

*IDC **31** 12:25:36.7±1.3,5.2°20S×153.0°00E, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.1/51, mbtmp4.3/12, ML2.0/1 Error ellipse: s-maj=46.9km s-min=18.1km az=129.0*
*NEIC **31** 12:25:42.9±1.1,5.1°08S±0.7°08×152.7°8E±0.7°1, h35km±1km, mb4.8/10, Error ellipse: s-maj=24.1km s-min=13.8km az=98.0*
ISC 31 12:25:43.5±0.9, 5.1°11S±0.7°09×152.8°8E±0.7°1, h43km, n26, σ0s69/26, mb4.5/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.10	326			Pn	Pn	12 26 01.3	-1.2
PMG	Port Moresby	7.03	232			Pn	Pn	12 27 23.4	-0.4
	1.6nm,0.3s,baz=321,slow=4.3,SNR=1.4								
PMG						Sn	Sn	12 28 42.0	-0.5
	4.0nm,0.3s,baz=119,slow=16,SNR=2.4								
PMG	Port Moresby	7.03	232				Pn	12 27 23.3	-0.6
SIJI	Sorong	21.89	280	P		P	P	12 30 34.3	+1.1
	6.3nm,0.6s,baz=157,slow=23,SNR=4.8								
WB0	Warramunga Arr	23.08	229	P		P	P	12 30 46.1	+0.4
WB0						IAmb	IAmb	12 31 11.4	
	comp=Z,28nm,1.1s								
WR0	Warramunga Arr	23.09	229	P		P	P	12 30 45.7	0.0
WRAB	Tennant Creek	23.22	229	P		P	P	12 30 47.3	+0.3
WRAB						IAmb	IAmb	12 31 02.9	
	comp=Z,49nm,1.4s								
WB2	Warramunga Arr	23.22	229	P		P	P	12 30 47.7	+0.7
WB2						IAmb	IAmb	12 31 14.5	
	comp=Z,33nm,1.2s								
WRA	Warramunga Arr	23.23	229	P		P	P	12 30 46.8	-0.3
	comp=Z,5.9nm,0.8s,baz=54,slow=10.0,SNR=6.5								
WRA	Warramunga Arr	23.23	229	IAmb		IAmb	IAmb	12 30 53.1	
	comp=Z,1.7nm,0.9s								
ASAR	Alice Springs	25.91	223	P		P	P	12 31 12.2	+0.4
	comp=Z,4.3nm,0.9s,baz=55,slow=9.3,SNR=2.6								
FITZ	Fitzroy Crossi	29.50	242	P		P	P	12 31 43.0	-0.9
	comp=Z,9.9nm,0.8s,baz=70,slow=8.6,SNR=6.8								
BBOO	Buckleboo	31.67	207	P		P	P	12 32 02.5	-0.4
BBOO						IAmb	IAmb	12 32 03.6	
	comp=Z,14nm,1.1s								
YULB	Yu-li	41.80	314	P		P	P	12 33 29.7	+0.4
YULB						IAmb	IAmb	12 33 58.7	
	comp=Z,24nm,1.3s								
KSAR	Wonju Array Be	48.28	333	P		P	P	12 34 21.1	+0.7
KS19	Wonju Array Si	48.34	333	P		P	P	12 34 21.4	+0.5
KS19						IAmb	IAmb	12 34 35.8	
	comp=Z,19nm,1.4s								
USRK	Ussuriysk Ar.	52.54	341	P		P	P	12 34 52.9	+0.4
	comp=Z,1.4nm,0.8s,baz=185,slow=6.9,SNR=3.4								
PETK	Petropavlovsk-	58.15	3	P		P	P	12 35 32.6	-0.1
	comp=Z,3.7nm,0.9s,baz=162,slow=7.4,SNR=8.0								
MKAR	Makanchi Array	80.55	319	P		P	P	12 37 52.2	+0.7
	comp=Z,1.7nm,0.9s,baz=103,slow=4.5,SNR=3.9								
ZALV	Zalesovo Beam	81.40	326	P		P	P	12 37 56.1	+0.4
	comp=Z,0.5nm,0.5s,baz=124,slow=5.1,SNR=1.7								
ILAR	Eielson Array	82.45	22	P		P	P	12 38 00.8	-0.3
	comp=Z,2.5nm,0.8s,baz=255,slow=5.5,SNR=10								
ILAR	Eielson Array	82.45	22	P		P	P	12 38 01.4	+0.3
INK	Inuvik	88.75	21	P		P	P	12 38 32.0	-0.1
	comp=Z,1.8nm,0.8s,baz=238,slow=5.5,SNR=3.1								
INK	Inuvik	88.75	21	P		P	P	12 38 33.6	+1.4
YKA	Yellowknife Ar	95.71	28	P		P	P	12 39 03.5	-1.0
	comp=Z,0.5nm,0.7s,baz=272,slow=4.4,SNR=4.3								
TORD	Torodi Ar. Bea	150.39	288	PKPbc		PKPbc	PKPbc	12 45 31.6	+0.2
	comp=Z,1.1nm,0.4s,baz=87,slow=2.5,SNR=8.8								

*IDC **31** 12:29:51.6±1.2, 7.°93N×37.°89E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.6/58, mbtmp4.0/7, ML3.4/2, MS4.0/1, Ms1 4.0/1, ms1mx3.1/42, Error ellipse: s-maj=40.8km s-min=18.9km az=131.0*
*NEIC **31** 12:29:53.3±2.4, 7.°89N±0.°10×38.°1E±0.°2, h10km±2km, mb4.2/5, Error ellipse: s-maj=40.3km s-min=7.0km az=292.0*
ISC 31 12:29:53.3±0.8, 8.°0N±0.°1×37.°9E±0.°1, h10km, n22, σ2s07/22, mb4.1/7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FURI	Furi	1.18	41			Pn	Pn	12 30 13.1	-3.1
FURI	Furi	1.18	41	*eP*		Pn	Pn	12 30 14.1	-2.1
FURI				*eS*		Sb	Sb	12 30 29.5	-1.9
AAE	Adis Abeba	1.34	40	*eP*		Pn	Pn	12 30 16.4	-1.8
AAE				*eS*		Sb	Sb	12 30 31.4	-4.6
ATD	Arta Tunnel	6.01	54	Pg		Pb	Pb	12 31 42.9	+4.7
	1.7nm,0.3s,baz=207,slow=20,SNR=2.2								
ATD				Lg		Lg	Lg	12 33 04.3	
	2.3nm,0.3s,baz=258,slow=24,SNR=1.4								
ATD	Arta Tunnel	6.01	54	Pn		Pn	Pn	12 31 20.8	-1.6
KMBO	Kilima Mbogo	9.10	184	Pn		Pn	Pn	12 32 03.6	-1.3
	0.4nm,0.3s,baz=102,slow=22,SNR=1.2								
KMBO				Lg		Lg	Lg	12 34 32.6	
	1.5nm,0.3s,baz=66,slow=22,SNR=6.3								
MBAR	Mbarara	11.13	220	Pn		Pn	Pn	12 32 31.6	-1.2
	0.3nm,0.3s,baz=56,slow=23,SNR=1.2								
MBAR				Lg		Lg	Lg	12 35 43.7	
	0.7nm,0.3s,baz=268,slow=22,SNR=1.6								
WSAR	Wadi Sarin	25.01	50	LR		LR	LR	12 45 43.2	
	comp=Z,360nm,20.2s,baz=197,slow=38								
BOSA	Boshof	38.39	198	P		P	P	12 37 10.7	-4.5
BOSA						IAmb	IAmb	12 37 10.8	
	comp=Z,5.9nm,0.9s								
ABKAR	Akbulak array	45.09	20	P		P	P	12 38 10.2	+0.6
KKAR	Karatay Array	45.16	34	P		P	P	12 38 11.3	+1.1
MK31	Makanchi Array	54.08	36	P		P	P	12 39 18.9	+0.7
MK31						IAmb	IAmb	12 39 20.6	
	comp=Z,2.4nm,1.1s								
MKAR	Makanchi Array	54.08	36	P		P	P	12 39 17.4	-0.9
	comp=Z,1.5nm,0.9s,baz=240,slow=7.7,SNR=5.2								
MKAR	Makanchi Array	54.08	36	P		P	P	12 39 19.5	+1.2
NOA	NORSAR Array B	56.52	345	P		P	P	12 39 36.1	+0.5
	comp=Z,1.2nm,0.9s,baz=148,slow=6.9,SNR=1.6								
ZAA0	Zalesovo Array	59.24	30	P		P	P	12 39 54.2	-0.6
ZALV	Zalesovo Beam	59.24	30	P		P	P	12 39 55.2	+0.5
	comp=Z,1.6nm,0.8s,baz=232,slow=7.2,SNR=4.6								
ZALV	Zalesovo Beam	59.24	30	P		P	P	12 39 54.9	+0.1
CMAR	Chiang Mai Ar	60.10	73	P		P	P	12 40 01.2	-0.1
	comp=Z,1.8nm,1.1s,baz=267,slow=7.4,SNR=9.0								
CMAR	Chiang Mai Arr	60.10	73	P		P	P	12 39 59.5	-1.8
SONM	Songino Array	69.71	42	P		P	P	12 41 04.9	+1.3
	comp=Z,1.4nm,0.8s,baz=245,slow=3.1,SNR=7.2								
SONM	Songino Array	69.71	42	P		P	P	12 41 05.0	+1.4
SONM						IAmb	IAmb	12 41 09.3	
	comp=Z,1.8nm,1.0s								

*SOME **31** 12:31:19.2, 43.°75N×69.°67E*
*NNC **31** 12:31:21.1±0.9, 43.°69N×69.°75E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=5.5km s-min=4.0km az=129.0, Suspected Mining explosion.*
*KRNET **31** 12:31:24.1±0.1, 43.°37N×69.°40E, mb3.5*
ISC 31 12:31:20.8±1.9, 43.°79N±0.°07×69.°92E±0.°07, h0km, n22, σ1s54/34, 16C-10D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRLS	Borolday	0.77	185	P		P	Pb	12 31 37.9	+0.9
	14nm,0.2s								
BRLS				S		S	Sn	12 31 51.3	+0.1
	72nm,0.4s								
KK31	Karatay Array	0.81	148	⇑P		P	Pg	12 31 36.2	-0.1
	4.7nm,0.4s,baz=319,slow=15,SNR=106								
KK31				⇑S		S	Sb	12 31 48.1	-1.2
	21nm,0.3s								
IUG	Iuzhnay	1.65	177	P		P	Pn	12 31 50.7	-0.4
	28nm,0.2s								
IUG				S		S	Sn	12 32 12.5	-0.5
	99nm,0.6s								
MNAS	Manas	2.30	124	⇑*e*P		P	Pg	12 32 07.6	+2.8
	baz=10.0								
MNAS				⇑*i*S		S	Sg	12 32 38.8	+4.2
	baz=10.0								
TRKS	Terek-Say	2.43	158	⇑*i*P		P	Pb	12 32 05.2	-0.3
	baz=45								
TRKS				⇑*i*S		S	Sb	12 32 36.0	-0.1
	baz=45								

ROM 31 12:35:03.9±0.1, **43°909N**×0°006×**10°981E**±0°009, **h9km, ML0.9/2, Error ellipse: s-maj=0.7km s-min=0.6km az=145.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTF	**Prato**	**0.08**	**52**	P	Pg	12 35 05.8	-0.4
PTF				S	Sg	12 35 07.4	-0.4
CRMI	**Carmignano**	**0.12**	**184**	P	Pg	12 35 07.2	+0.6
CRMI				S	Sg	12 35 09.2	+0.6
CRMI				AML	AML		
	comp=E,37μm,0.2s						
CRMI				AML	AML		
	comp=E,37μm,0.2s						
CRMI				AML	AML		
	comp=N,38μm,1.6s						
MTCR	**Monte La Croce**	**0.12**	**6**	P	Pg	12 35 07.6	+0.8
MTCR				S	Sg	12 35 09.8	+0.9
POPM	**Popiglio**	**0.21**	**310**	P	Pg	12 35 09.3	+1.0
POPM				S	Sg	12 35 12.6	+1.4
POPM				AML	AML		
	comp=E,112μm,0.5s						
POPM				AML	AML		
	comp=E,112μm,0.5s						
POPM				AML	AML		
	comp=N,154μm,0.1s						
BDI	**Bagni Di Lucca**	**0.32**	**299**	P	Pb	12 35 11.1	-0.7
BDI				S	Sb	12 35 16.0	-1.0
MAIM	**Mastiano**	**0.35**	**271**	P	Pb	12 35 11.7	-0.6
MAIM				S	Sg	12 35 16.7	+1.1
PII	**Pisa**	**0.38**	**241**	P	Pb	12 35 12.2	-0.5
PII				S	Sb	12 35 17.9	-0.8
RUFI	**Rufina**	**0.39**	**100**	P	Pb	12 35 12.3	-0.6
RUFI				S	Sb	12 35 18.4	-0.7

*SKO **31** 13:04:38.5, 40°.75N×21°.23E, h17km*
*TIR **31** 13:04:38.8, 40°.71N×21°.24E, h9km±5km, Md2.8, Ml2.6*
*ATH **31** 13:04:39.1, 40°.76N×21°.21E, h13km±2km, ML2.7/8, Error ellipse: s-maj=3.8km s-min=1.3km az=309.0*
*BEO **31** 13:04:40.1±0.3, 40°.75N×21°.25E, h2km±1km, ML2.4/11*
ISC 31 13:04:39.1±0.8, **40.76N**±0°.02×**21°.22E**±0°.02, **h12**km±5km, **n38**, σ0**76**/59, **1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.12**	**78**	P	**Pg**	**13 04 42.5**	**+0.1**
FNA				S	**Sg**	**13 04 44.9**	**+0.2**
FNA				AML	AML	13 04 45.1	
	comp=E,53681μm,0.3s						
FNA				AML	AML	13 04 45.3	
	comp=N,83302μm,0.2s						
FNA	**Florina**	**0.12**	**78**	*e*Pg	**Pg**	**13 04 42.4**	**+0.1**
FNA				*e*Sg	**Sg**	**13 04 44.8**	**+0.2**
FNA	**Florina**	**0.12**	**78**	⇑*i*Pg	**Pg**	**13 04 42.4**	**+0.1**
FNA				*i* Sg	**Sg**	**13 04 44.9**	**+0.2**
KBN	**Korca**	**0.36**	**248**	P	**Pg**	**13 04 46.0**	**-0.3**
	baz=257						
KBN				S	**Sg**	**13 04 51.8**	**+0.6**
	baz=257						
KBN				AMP			
	comp=N,3.7nm,0.3s,baz=257						
NEST	**Nestorio**	**0.37**	**201**	P	**Pg**	**13 04 46.1**	**-0.4**
NEST				S	**Sg**	**13 04 51.9**	**+0.4**
NEST				AML	AML	13 04 52.8	
	comp=N,3405μm,0.4s						
NEST				AML	AML	13 04 53.0	
	comp=E,4484μm,0.4s						
OHR	**Ohrid**	**0.48**	**318**	*i* Pg	**Pg**	**13 04 48.2**	**-0.4**
OHR				*i* Sg	**Sb**	**13 04 56.4**	**-0.1**
OHR				*e*Lg	Lg	13 04 56.5	
	comp=N,382nm,0.6s						
OHR				*e*Lg	Lg	13 04 56.8	
	comp=E,941nm,0.7s						
PENT	**Pentalofos**	**0.57**	**187**	P	**Pg**	**13 04 49.9**	**-0.3**
PENT				S	**Sg**	**13 04 57.9**	**+0.1**
PENT				AML	AML	13 05 01.4	
	comp=E,1368μm,0.9s						
PENT				AML	AML	13 05 05.6	
	comp=N,1131μm,0.6s						
KZN	**Kozani**	**0.61**	**137**	P	**Pg**	**13 04 50.7**	**-0.4**
KZN				S	**Sb**	**13 05 00.3**	**-0.1**
KZN				AML	AML	13 05 02.3	
	comp=E,3487μm,0.3s						
KZN				AML	AML	13 05 03.0	
	comp=N,3003μm,0.3s						
LSK	**Leskovik**	**0.77**	**218**	P	**Pg**	**13 04 53.6**	**-0.5**
	baz=222						
LSK				S	**Sb**	**13 05 04.6**	**-0.3**
	baz=222						
LSK				AMP			
	comp=E,1.0nm,0.5s,baz=222						
KPRO	**Kipourio**	**0.81**	**172**	P	**Pb**	**13 04 54.9**	**-0.3**
KPRO				AML	AML	13 05 10.9	
	comp=E,1145μm,0.3s						
KPRO				AML	AML	13 05 11.5	
	comp=N,1273μm,0.4s						
GRG	**Griva**	**0.92**	**77**	P	**Pg**	**13 04 56.3**	**-0.5**
GRG				AML	AML	13 05 11.6	
	comp=E,366μm,0.4s						
GRG				AML	AML	13 05 11.7	
	comp=N,784μm,0.5s						
GRG	**Griva**	**0.92**	**77**	*i* Pg	**Pg**	**13 04 56.3**	**-0.5**
PHP	**Peshkopia**	**1.10**	**328**	P	**Pb**	**13 04 59.8**	**-0.3**
	baz=329						
PHP				AMP			
	comp=N,0.6nm,0.3s,baz=329						
VAY	**Valandovo**	**1.16**	**61**	*e*Pg	**Pb**	**13 05 00.6**	**-0.5**
VAY				*e*Sg	**Sb**	**13 05 16.1**	**-0.1**
VAY	**Valandovo**	**1.16**	**61**	*i* Pg	**Pg**	**13 05 01.3**	**-0.2**
VAY				*i* Sg	**Sn**	**13 05 16.9**	**0.0**
VAY				*e*Lg	Lg	13 05 17.4	
	comp=N,26nm,0.4s						
VAY				*e*Lg	Lg	13 05 17.6	
	comp=E,25nm,0.5s						
LIT	**Litokhoron**	**1.17**	**124**	P	**Pg**	**13 05 01.3**	**-0.3**
LIT				AML	AML	13 05 21.8	
	comp=E,855μm,0.4s						
LIT				AML	AML	13 05 24.0	
	comp=N,683μm,0.6s						
LIT	**Litokhoron**	**1.17**	**124**	*i* Pg	**Pg**	**13 05 01.3**	**-0.3**
TIR	**Tirane**	**1.18**	**300**	*e*Pg	**Pg**	**13 05 01.9**	**0.0**
TIR				*e*Sg	**Sg**	**13 05 18.4**	**+1.1**
TIR	**Tirane**	**1.18**	**300**	*i* Pg	**Pg**	**13 05 02.0**	**0.0**
SKO	**Skopje**	**1.22**	**8**	*i* Pg	**Pg**	**13 05 02.7**	**0.0**
KNT	**Kendrikon**	**1.33**	**72**	P	**Pb**	**13 05 03.8**	**-0.2**
KNT	**Kendrikon**	**1.33**	**72**	*i* Pg	**Pb**	**13 05 04.1**	**+0.1**
KNT				*i* Sg	**Sg**	**13 05 22.1**	**+0.1**
THL	**Klokotos Trika**	**1.34**	**153**	P	**Pn**	**13 05 03.0**	**-0.6**
THL				AML	AML	13 05 27.9	
	comp=E,264μm,0.4s						
THL				AML	AML	13 05 30.5	
	comp=N,278μm,0.4s						
IGT	**Igoumenitsa**	**1.40**	**209**	*e*Pn	**Pg**	**13 05 06.6**	**+0.5**
IGT				*e*Sn	**Sg**	**13 05 26.3**	**+2.0**
PLG	**Polygyros**	**1.74**	**102**	P	**Pb**	**13 05 10.0**	**-0.9**
BCI	**Bajram Curri**	**1.83**	**332**	P	**Pb**	**13 05 13.0**	**+0.5**
	baz=333						
SRS	**Serrai**	**1.83**	**78**	*e*Pn	**Pb**	**13 05 12.2**	**-0.3**
SRS				*e*Sn	**Sb**	**13 05 35.4**	**0.0**
BOSS	**Bosilegrad**	**1.98**	**28**	*e*Pn	**Pb**	**13 05 13.9**	**-1.1**
BOSS				*e*Sn	**Sb**	**13 05 40.1**	**+0.5**
BARS	**Barje**	**2.10**	**12**	*e*Pn	**Pb**	**13 05 15.9**	**-1.3**
BARS				*e*Sn	**Sb**	**13 05 43.4**	**+0.2**
VTS	**Vitosha**	**2.39**	**38**	*e*Pn	**Pn**	**13 05 19.3**	**+1.1**
VTS				*e*Sn	**Sn**	**13 05 48.8**	**+1.3**
SELS	**Selova**	**2.46**	**358**	*e*Pn	**Pb**	**13 05 21.5**	**-1.8**
SJES	**Sjenica**	**2.67**	**340**	*e*Pn	**Pb**	**13 05 24.6**	**-2.3**
SJES				*e*Sn	**Sb**	**13 05 58.2**	**-1.4**
ZAPS	**Zavoj**	**2.72**	**22**	*e*Pn	**Pn**	**13 05 24.3**	**+1.6**
STON	**Ston**	**3.38**	**310**	*e*Pn	**Pn**	**13 05 30.6**	**-0.9**
KIJV	**Kijevo**	**4.82**	**314**	*e*Pn	**Pn**	**13 05 52.4**	**+0.9**
KIJV				Sn	**Sn**	**13 06 47.5**	**+0.3**
ZIRJ	**Zirje**	**5.05**	**307**	*i* Pn	**Pn**	**13 05 54.7**	**+0.1**
ZIRJ				Sn	**Sn**	**13 06 52.5**	**-0.4**
MORI	**Morici**	**5.13**	**309**	*i* Pn	**Pn**	**13 05 56.3**	**+0.6**
DUGI	**Dugi Otok**	**5.59**	**307**	*i* Pn	**Pn**	**13 06 02.5**	**+0.5**

*THE **31** 13:16:31.9, 40°.79N×21°.22E, h0km±1km, ML3.0/15, Error ellipse: s-maj=1.7km s-min=0.6km az=321.0*
*SKO **31** 13:16:31.4, 40°.79N×21°.25E, h16km*
*TIR **31** 13:16:31.5, 40°.78N×21°.18E, h6km±13km, Md3.0, Ml3.2*
*BEO **31** 13:16:32.3±0.4, 40°.85N×21°.17E, h1km±3km, ML2.8/11*
*PDG **31** 13:16:32.0±0.3, 40°.78N×21°.22E, h11km, ML3.1/11, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*ATH **31** 13:16:32.8, 40°.70N×21°.30E, h10km±2km, ML2.9/17, Error ellipse: s-maj=2.7km s-min=1.1km az=324.0*
*SOF **31** 13:16:32.0, 40°.91N×21°.21E, h2km, MD0.0*
ISC 31 13:16:32.2±0.8, **40.78N**±0°.01×**21°.22E**±0°.01, **h11**km±5km, **n111**, σ0**96**/176, **8C-5D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.12**	**90**	P	**Pg**	**13 16 35.2**	**-0.1**
FNA				S	**Sg**	**13 16 37.6**	**+0.1**
FNA				AML	AML	13 16 38.0	
FNA				AML	AML	13 16 38.2	
FNA	**Florina**	**0.12**	**90**	P	**Pg**	**13 16 35.2**	**-0.1**
FNA				S	**Sg**	**13 16 37.6**	**+0.1**
FNA	**Florina**	**0.12**	**90**	*e*Pg	**Pg**	**13 16 35.2**	**-0.1**
FNA				*e*Sg	**Sg**	**13 16 37.7**	**+0.1**
FNA	**Florina**	**0.12**	**90**	⇑*i*Pg	**Pg**	**13 16 35.1**	**-0.1**
FNA				*i* Sg	**Sg**	**13 16 37.8**	**+0.2**
KBN	**Korca**	**0.36**	**244**	P	**Pg**	**13 16 38.8**	**-0.7**
KBN				S	**Sg**	**13 16 44.5**	**+0.1**
	4μm,0.3s						
KBN	**Korca**	**0.36**	**244**	P	**Pg**	**13 16 38.5**	**-1.0**
	baz=243						
KBN				S	**Sg**	**13 16 44.0**	**-0.4**
	baz=243						
KBN				AMP			
	comp=N,18nm,0.4s,baz=243						
NEST	**Nestorio**	**0.39**	**199**	P	**Pg**	**13 16 38.9**	**-1.1**
NEST				S	**Sg**	**13 16 44.8**	**-0.4**
NEST				AML	AML	13 16 45.5	
	comp=N,9309μm,0.2s						
NEST				AML	AML	13 16 45.5	
	comp=E,16342μm,0.3s						
NEST	**Nestorio**	**0.39**	**199**	P	**Pg**	**13 16 39.0**	**-1.0**
NEST				S	**Sg**	**13 16 44.8**	**-0.4**
	comp=E,4μm,0.2s						
OHR	**Ohrid**	**0.46**	**316**	⇑*i*Pg	**Pg**	**13 16 40.9**	**-0.3**
OHR				*i* Sg	**Sb**	**13 16 49.0**	**-0.1**
OHR				*e*Lg	Lg	13 16 49.1	
	comp=N,768nm,0.4s						
OHR				*e*Lg	Lg	13 16 49.7	
	comp=E,2μm,0.6s						
PENT	**Pentalofos**	**0.59**	**186**	P	**Pg**	**13 16 42.8**	**-0.9**
PENT				S	**Sg**	**13 16 51.6**	**+0.1**
PENT				AML	AML	13 16 54.7	
	comp=N,3975μm,0.3s						
PENT				AML	AML	13 16 54.8	
	comp=E,3580μm,0.3s						
PENT	**Pentalofos**	**0.59**	**186**	P	**Pg**	**13 16 42.8**	**-0.9**
PENT				S	**Sb**	**13 16 53.0**	**0.0**
	comp=E,2μm,0.3s						
KZN	**Kozani**	**0.64**	**138**	P	**Pg**	**13 16 43.6**	**-0.9**
KZN				S	**Sg**	**13 16 51.6**	**-1.4**
KZN				AML	AML	13 16 55.1	
	comp=E,7765μm,0.5s						
KZN				AML	AML	13 16 56.5	
	comp=N,7901μm,0.3s						
KZN	**Kozani**	**0.64**	**138**	P	**Pg**	**13 16 43.7**	**-0.9**
KZN				S	**Sg**	**13 16 53.2**	**+0.3**
KTI	**Kastanea**	**0.79**	**119**	P	**Pg**	**13 16 46.7**	**-0.8**
LSK	**Leskovik**	**0.79**	**217**	P	**Pg**	**13 16 46.3**	**-1.2**
LSK				S	**Sb**	**13 16 58.6**	**-0.1**
	comp=N,820nm,0.4s						
LSK	**Leskovik**	**0.79**	**217**	P	**Pg**	**13 16 46.3**	**-1.2**
	baz=216						
LSK				S	**Sb**	**13 16 58.5**	**-0.2**
	baz=216						
LSK				AMP			
	comp=E,4.0nm,0.5s,baz=216						
KPRO	**Kipourio**	**0.83**	**172**	P	**Pg**	**13 16 46.2**	**-2.1**
KPRO				AML	AML	13 17 03.7	
	comp=E,5026μm,0.3s						
KPRO				AML	AML	13 17 04.2	
	comp=N,4260μm,0.3s						
KPRO	**Kipourio**	**0.83**	**172**	P	**Pg**	**13 16 47.5**	**-0.8**
KPRO				S	**Sb**	**13 17 01.1**	**+1.1**
	comp=N,2μm,0.3s						
GRG	**Griva**	**0.91**	**79**	P	**Pg**	**13 16 49.0**	**-0.9**
GRG				S	**Sg**	**13 17 01.9**	**+0.1**
GRG				AML	AML	13 17 04.5	
	comp=E,699μm,0.3s						
GRG				AML	AML	13 17 04.6	
	comp=N,1870μm,0.5s						
GRG	**Griva**	**0.91**	**79**	P	**Pg**	**13 16 49.0**	**-0.9**
GRG				S	**Sb**	**13 17 03.1**	**+0.9**
	comp=N,652nm,0.4s						
GRG	**Griva**	**0.91**	**79**	*i* Pg	**Pg**	**13 16 48.9**	**-0.9**
GRG				*i* Sg	**Sb**	**13 17 02.6**	**+0.3**
PHP	**Peshkopia**	**1.07**	**327**	P	**Pg**	**13 16 51.4**	**-1.5**
PHP				S	**Sn**	**13 17 08.1**	**-0.1**
PHP	**Peshkopia**	**1.07**	**327**	P	**Pg**	**13 16 51.1**	**-1.8**
	baz=329						
PHP				S	**Sn**	**13 17 08.1**	**-0.1**
	baz=329						
PHP				AMP			
	comp=N,1.9nm,0.7s,baz=329						
VAY	**Valandovo**	**1.16**	**62**	*e*Pg	**Pg**	**13 16 53.5**	**-0.9**
VAY				*e*Sg	**Sb**	**13 17 09.4**	**+0.3**
VAY	**Valandovo**	**1.16**	**62**	*i* Pg	**Pg**	**13 16 53.5**	**-0.9**
VAY				*i* Sg	**Sb**	**13 17 09.8**	**+0.7**
VAY				*e*Lg	Lg	13 17 09.8	
	comp=N,88nm,0.5s						
VAY				*e*Lg	Lg	13 17 10.5	
	comp=E,46nm,0.5s						
JAN	**Janina**	**1.16**	**194**	P	**Pg**	**13 16 53.6**	**-1.0**
JAN				AML	AML	13 17 17.5	
	comp=E,974μm,0.3s						
JAN				AML	AML	13 17 19.6	
	comp=N,1019μm,0.6s						
JAN	**Janina**	**1.16**	**194**	P	**Pg**	**13 16 53.5**	**-1.0**
JAN				S	**Sn**	**13 17 11.5**	**+1.3**
TIR	**Tirane**	**1.17**	**299**	P	**Pg**	**13 16 54.0**	**-0.6**
	baz=300						
TIR	**Tirane**	**1.17**	**299**	*i* Pg	**Pb**	**13 16 54.5**	**+0.1**
LIT	**Litokhoron**	**1.19**	**125**	P	**Pg**	**13 16 53.4**	**-1.6**
LIT				AML	AML	13 17 13.7	
	comp=N,1292μm,0.4s						
LIT				AML	AML	13 17 14.6	
	comp=E,1902μm,0.4s						
LIT	**Litokhoron**	**1.19**	**125**	P	**Pg**	**13 16 54.1**	**-0.9**
LIT				S	**Sn**	**13 17 11.4**	**+0.6**
	comp=E,772nm,0.4s						
LIT	**Litokhoron**	**1.19**	**125**	*i* Pg	**Pg**	**13 16 54.1**	**-0.9**
SKO	**Skopje**	**1.20**	**8**	*i* Pg	**Pg**	**13 16 54.6**	**-0.7**
SKO				*i* Sg	**Sn**	**13 17 11.8**	**+0.6**
SRN	**Sarande**	**1.30**	**226**	P	**Pn**	**13 16 56.6**	**+0.4**
SRN				S	**Sn**	**13 17 16.2**	**+2.7**
	comp=E,502nm,0.6s						
SRN	**Sarande**	**1.30**	**226**	P	**Pn**	**13 16 56.5**	**+0.3**
	baz=226						
SRN				S	**Sn**	**13 17 15.1**	**+1.6**
	baz=226						
SRN				AMP			
	comp=N,1.6nm,0.6s,baz=226						
KNT	**Kendrikon**	**1.33**	**73**	P	**Pn**	**13 16 56.4**	**-0.2**
KNT				AML	AML	13 17 18.8	
	comp=N,634μm,0.5s						
KNT				AML	AML	13 17 19.2	
	comp=E,231μm,0.5s						
KNT	**Kendrikon**	**1.33**	**73**	P	**Pn**	**13 16 56.5**	**-0.2**
KNT				S	**Sn**	**13 17 15.4**	**+1.1**
KNT	**Kendrikon**	**1.33**	**73**	*i* Pg	**Pn**	**13 16 56.8**	**+0.2**
THE	**Thessaloniki**	**1.34**	**96**	P	**Pn**	**13 16 57.2**	**+0.4**
THE				AML	AML	13 17 20.8	
	comp=N,359μm,0.6s						
THE				AML	AML	13 17 22.0	
	comp=E,220μm,0.6s						
THE	**Thessaloniki**	**1.34**	**96**	P	**Pb**	**13 16 57.4**	**+0.1**
	baz=95						
THE	**Thessaloniki**	**1.34**	**96**	*i* Pg	**Pb**	**13 16 57.3**	**+0.1**
THL	**Klokotos Trika**	**1.36**	**153**	P	**Pn**	**13 16 55.8**	**-1.3**
THL				S	**Sb**	**13 17 13.5**	**-1.5**
THL				AML	AML	13 17 20.6	
	comp=E,756μm,0.4s						
THL				AML	AML	13 17 20.8	
	comp=N,763μm,0.6s						
THL	**Klokotos Trika**	**1.36**	**153**	P	**Pn**	**13 16 55.8**	**-1.3**
THL				S	**Sn**	**13 17 16.4**	**+1.3**
	comp=N,342nm,0.3s						
IGT	**Igoumenitsa**	**1.42**	**209**	P	**Pg**	**13 16 59.2**	**-0.3**
IGT				AML	AML	13 17 23.4	
	comp=N,887μm,0.5s						
IGT				AML	AML	13 17 24.9	
	comp=E,1010μm,0.5s						
IGT	**Igoumenitsa**	**1.42**	**209**	P	**Pg**	**13 16 59.2**	**-0.3**
IGT				S	**Sg**	**13 17 19.6**	**+1.6**
	comp=E,472nm,0.5s						
IGT	**Igoumenitsa**	**1.42**	**209**	*e*Pn	**Pg**	**13 16 59.3**	**-0.2**
IGT				*e*Sn	**Sg**	**13 17 20.3**	**+2.3**
KASA	**Kassiopi**	**1.43**	**224**	P	**Pg**	**13 16 59.6**	**0.0**
HORT	**Hortiatis**	**1.44**	**97**	P	**Pn**	**13 16 58.0**	**-0.3**
HORT				AML	AML	13 17 21.1	
	comp=E,257μm,0.9s						
HORT				AML	AML	13 17 22.4	
	comp=N,504μm,0.5s						
HORT	**Hortiatis**	**1.44**	**97**	P	**Pn**	**13 16 58.0**	**-0.3**
HORT				S	**Sg**	**13 17 19.9**	**+1.2**
PRZK	**Prizren**	**1.47**	**347**	*i* Pn	**Pn**	**13 16 59.2**	**+0.6**
KEK	**Kerkira**	**1.52**	**226**	P	**Pb**	**13 17 00.4**	**-0.1**
KEK				AML	AML	13 17 26.7	
	comp=N,446μm,0.4s						
KEK				AML	AML	13 17 29.3	
	comp=E,524μm,0.7s						
PUK	**Puka**	**1.60**	**322**	P	**Pb**	**13 17 01.5**	**-0.4**
	baz=323						
PUK				S	**Sg**	**13 17 25.0**	**+1.1**
	baz=323						
SOH	**Sokhos**	**1.62**	**88**	P	**Pn**	**13 17 01.2**	**+0.4**
SOH				AML	AML	13 17 27.2	
	comp=N,561μm,0.6s						
SOH				AML	AML	13 17 28.4	
	comp=E,418μm,0.5s						
SOH	**Sokhos**	**1.62**	**88**	P	**Pn**	**13 17 01.2**	**+0.4**
SOH				S	**Sg**	**13 17 23.9**	**-0.5**
	comp=E,198nm,0.5s						
SOH	**Sokhos**	**1.62**	**88**	*i* Pn	**Pn**	**13 17 01.1**	**+0.4**
ZATK	**Zatriq**	**1.72**	**345**	*i* Pn	**Pn**	**13 17 02.8**	**+0.6**
PLG	**Polygyros**	**1.75**	**103**	P	**Pn**	**13 17 02.6**	**+0.2**
PLG				AML	AML	13 17 29.9	
	comp=N,307μm,0.8s						
PLG				AML	AML	13 17 31.0	
	comp=E,246μm,0.7s						
KKB	**Krupnik**	**1.77**	**52**	P	**Pb**	**13 17 05.0**	**+0.3**
BCI	**Bajram Curri**	**1.80**	**332**	P	**Pb**	**13 17 05.6**	**+0.4**
	baz=333						
SRS	**Serrai**	**1.83**	**79**	*e*Pn	**Pn**	**13 17 04.3**	**+0.7**
SRS				*e*Sn	**Sb**	**13 17 28.9**	**+0.3**
ULC	**Ulcinj**	**1.90**	**309**	*i* Pn	**Pb**	**13 17 06.4**	**-0.4**
ULC	**Ulcinj**	**1.90**	**309**	⇑*i*Pn	**Pn**	**13 17 05.5**	**+1.0**
ULC				*i* Sn	**Sg**	**13 17 31.8**	**-1.4**
MAKR	**Makrakomi, Fth**	**1.90**	**158**	P	**Pn**	**13 17 04.7**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.90**	**158**	P	**Pn**	**13 17 04.8**	**+0.2**
MAKR				S	**Sn**	**13 17 30.0**	**+1.5**
EVR	**Evrytania**	**1.92**	**166**	P	**Pn**	**13 17 05.6**	**+0.8**
EVR	**Evrytania**	**1.92**	**166**	P	**Pn**	**13 17 05.7**	**+0.8**
EVR				S	**Sb**	**13 17 31.3**	**+0.1**
	comp=E,240nm,0.3s						
AGG	**Agios Georgios**	**1.96**	**154**	P	**Pn**	**13 17 05.2**	**-0.1**
AGG				AML	AML	13 17 42.3	
	comp=E,381μm,0.5s						
AGG				AML	AML	13 17 42.5	
	comp=N,427μm,0.6s						
AGG	**Agios Georgios**	**1.96**	**154**	P	**Pn**	**13 17 05.3**	**-0.1**
AGG				S	**Sb**	**13 17 31.8**	**-0.4**
	comp=N,202nm,0.4s						
BOSS	**Bosilegrad**	**1.96**	**29**	*e*Pn	**Pn**	**13 17 05.9**	**+0.6**
BOSS				*e*Sn	**Sb**	**13 17 31.6**	**-0.6**
TSUK	**Tsoukalades, L**	**2.00**	**193**	P	**Pb**	**13 17 07.6**	**-1.0**
PVY	**Plav**	**2.04**	**333**	⇑*i*Pn	**Pn**	**13 17 07.3**	**+0.7**
PVY				*i* Sn	**Sb**	**13 17 35.5**	**+0.7**
MMB	**Musomiste**	**2.06**	**66**	P	**Pb**	**13 17 08.5**	**-1.1**
XOR	**Xorichti**	**2.07**	**132**	P	**Pn**	**13 17 07.1**	**+0.2**
DRME	**Dracevica, Mon**	**2.07**	**313**	⇑*i*Pn	**Pn**	**13 17 08.2**	**+1.3**
DRME				*i* Sn	**Sb**	**13 17 35.6**	**0.0**
BARS	**Barje**	**2.08**	**12**	*e*Pn	**Pn**	**13 17 06.8**	**-0.2**
BARS				*e*Sn	**Sn**	**13 17 32.2**	**-0.7**
NYDR	**Nydri-Lefkada**	**2.10**	**191**	P	**Pn**	**13 17 08.7**	**+1.3**
NEO	**Neokhori**	**2.13**	**133**	P	**Pb**	**13 17 09.9**	**-1.0**
NEO	**Neokhori**	**2.13**	**133**	P	**Pn**	**13 17 08.8**	**+1.1**
PVO	**Paravola**	**2.18**	**174**	P	**Pb**	**13 17 10.7**	**-0.9**
PVO	**Paravola**	**2.18**	**174**	P	**Pn**	**13 17 09.7**	**+1.4**
PVO				S	**Sb**	**13 17 37.7**	**-0.8**
	comp=N,188nm,0.8s						
PDO	**Prodromos**	**2.18**	**181**	P	**Pn**	**13 17 09.9**	**+1.5**
PDO				S	**Sb**	**13 17 38.1**	**-0.6**
	comp=N,348nm,0.5s						
EVGI	**Lefkada island**	**2.20**	**192**	P	**Pn**	**13 17 09.7**	**+1.0**
PDG	**Podgorica**	**2.21**	**319**	*i* Pn	**Pb**	**13 17 11.4**	**-0.7**
TTG	**Podgorica**	**2.21**	**319**	⇑*i*Pn	**Pn**	**13 17 10.0**	**+1.3**
TTG				*i* Sn	**Sb**	**13 17 39.5**	**+0.1**
BEY	**Berane**	**2.31**	**335**	*i* Pn	**Pn**	**13 17 11.8**	**+1.5**
IVA	**Berane**	**2.31**	**335**	⇑*i*Pn	**Pn**	**13 17 11.2**	**+0.9**
IVA				*i* Sn	**Sb**	**13 17 41.8**	**-0.7**
BUM	**Brajici-Budva**	**2.31**	**312**	⇓*i*Pn	**Pn**	**13 17 10.8**	**+0.6**
BUM				*i* Sn	**Sb**	**13 17 41.9**	**-0.6**
VTS	**Vitosha**	**2.38**	**39**	*e*Pn	**Pn**	**13 17 11.6**	**+0.4**
VTS				*e*Sn	**Sn**	**13 17 41.3**	**+0.9**
VTS	**Vitosha**	**2.38**	**39**	P	**Pn**	**13 17 12.3**	**+1.1**
KOME	**Kolasin**	**2.43**	**329**	⇓*i*Pn	**Pn**	**13 17 12.9**	**+1.0**
KOME				*i* Sn	**Sb**	**13 17 44.6**	**-1.2**
SELS	**Selova**	**2.44**	**358**	*e*Pn	**Pn**	**13 17 12.1**	**+0.2**
SELS				*e*Sn	**Sn**	**13 17 41.0**	**-0.7**
CEME	**Cevo**	**2.46**	**316**	⇑*i*Pn	**Pn**	**13 17 13.7**	**+1.3**
CEME				*i* Sn	**Sb**	**13 17 45.5**	**-1.4**
HCY	**Herceg Novi**	**2.63**	**310**	⇓*i*Pn	**Pn**	**13 17 15.6**	**+1.0**
HCY				*i* Sn	**Sn**	**13 17 49.2**	**+2.7**
SJES	**Sjenica**	**2.64**	**340**	*e*Pn	**Pn**	**13 17 16.0**	**+1.1**
SJES				*e*Sn	**Sn**	**13 17 47.0**	**0.0**
ZAPS	**Zavoj**	**2.70**	**22**	*e*Pn	**Pn**	**13 17 13.7**	**+1.7**
ZAPS				*e*Sn	**Sn**	**13 17 48.2**	**-0.1**
TREB	**Trebinje**	**2.89**	**313**	*e*Pn	**Pn**	**13 17 18.5**	**+0.4**
IVAS	**Ivanjica**	**2.90**	**345**	*e*Pn	**Pn**	**13 17 18.2**	**-0.2**
BRY	**Bratogost**	**2.91**	**317**	⇓*i*Pn	**Pn**	**13 17 19.6**	**+1.0**
BRY				*i* Sn	**Sn**	**13 17 56.4**	**+2.8**
UPM

	baz=246							
KBN				AMP				
	comp=E,6.1nm,0.2s,baz=246							
NEST	**Nestorio**	**0.38**	**203**	P	**Pg**	13 29 47.9	**-0.7**	
NEST				S	**Sb**	**13 29 53.9**	**-1.7**	
NEST				AML	AML	13 29 54.5		
	comp=E,6498μm,0.3s							
NEST				AML	AML	13 29 56.7		
	comp=N,3576μm,0.3s							
NEST	**Nestorio**	**0.38**	**203**	P	**Pg**	**13 29 48.0**	**-0.6**	
NEST				S	**Sg**	**13 29 53.8**	**+0.2**	
	comp=N,2μm,0.2s							
OHR	**Ohrid**	**0.48**	**316**	*i* Pg	**Pg**	**13 29 49.8**	**-0.8**	
OHR				*i* Sg	**Sb**	**13 29 58.1**	**-0.6**	
OHR				*e*Lg	Lg	13 29 58.3		
	comp=N,902nm,0.5s							
OHR				*e*Lg	Lg	13 29 58.8		
	comp=E,2μm,0.5s							
PENT	**Pentalofos**	**0.57**	**188**	P	**Pg**	**13 29 51.8**	**-0.4**	
PENT				S	**Sb**	**13 30 01.5**	**+0.2**	
PENT				AML	AML	13 30 03.7		
	comp=E,2007μm,0.5s							
PENT				AML	AML	13 30 06.2		
	comp=N,1702μm,0.3s							
PENT	**Pentalofos**	**0.57**	**188**	P	**Pg**	**13 29 51.9**	**-0.4**	
PENT				S	**Sb**	**13 30 01.3**	**+0.1**	
	comp=N,862nm,0.4s							
KZN	**Kozani**	**0.61**	**138**	P	**Pg**	**13 29 52.5**	**-0.4**	
KZN				S	**Sb**	**13 30 01.1**	**-1.3**	
KZN				AML	AML	13 30 05.8		
	comp=E,5858μm,0.4s							
KZN				AML	AML	13 30 05.9		
	comp=N,4342μm,0.5s							
KZN	**Kozani**	**0.61**	**138**	P	**Pg**	**13 29 52.6**	**-0.4**	
KZN				S	**Sb**	**13 30 02.0**	**-0.3**	
LSK	**Leskovik**	**0.78**	**219**	P	**Pg**	**13 29 55.0**	**-1.2**	
LSK				S	**Sb**	**13 30 07.3**	**+0.1**	
	comp=N,645nm,0.7s							
LSK	**Leskovik**	**0.78**	**219**	P	**Pg**	**13 29 55.2**	**-1.0**	
	baz=217							
LSK				S	**Sb**	**13 30 07.4**	**+0.1**	
	baz=217							
LSK				AMP				
	comp=N,2.1nm,0.4s,baz=217							
KPRO	**Kipourio**	**0.81**	**173**	P	**Pb**	**13 29 56.4**	**-0.8**	
KPRO				S	**Sb**	**13 30 08.1**	**-0.1**	
KPRO				AML	AML	13 30 12.3		
	comp=E,2076μm,0.4s							
KPRO				AML	AML	13 30 14.5		
	comp=N,1862μm,0.6s							
KPRO	**Kipourio**	**0.81**	**173**	P	**Pb**	**13 29 56.4**	**-0.8**	
KPRO				S	**Sb**	**13 30 08.1**	**-0.1**	
	comp=N,990nm,0.4s							
GRG	**Griva**	**0.90**	**77**	P	**Pg**	**13 29 58.0**	**-0.5**	
GRG				AML	AML	13 30 13.1		
	comp=E,942μm,0.5s							
GRG				AML	AML	13 30 13.8		
	comp=N,1629μm,0.5s							
GRG	**Griva**	**0.90**	**77**	P	**Pg**	**13 29 57.9**	**-0.5**	
GRG				S	**Sg**	**13 30 09.7**	**-0.6**	
	comp=N,648nm,0.5s							
PHP	**Peshkopia**	**1.10**	**327**	P	**Pg**	**13 30 00.1**	**-2.1**	
PHP				S	**Sb**	**13 30 16.7**	**+0.3**	
PHP	**Peshkopia**	**1.10**	**327**	P	**Pg**	**13 30 00.1**	**-2.1**	
	baz=329							
PHP				S	**Sb**	**13 30 17.1**	**+0.7**	
	baz=329							
PHP				AMP				
	comp=N,1.0nm,0.3s,baz=329							
JAN	**Janina**	**1.14**	**195**	P	**Pn**	**13 30 03.5**	**+0.6**	
JAN				AML	AML	13 30 26.5		
	comp=E,730μm,0.5s							
JAN				AML	AML	13 30 29.1		
	comp=N,558μm,0.5s							
VAY	**Valandovo**	**1.15**	**61**	*e*Pg	**Pg**	**13 30 01.9**	**-1.3**	
VAY				*e*Sg	**Sg**	**13 30 17.6**	**-0.6**	
VAY	**Valandovo**	**1.15**	**61**	*i* Pg	**Pg**	**13 30 02.4**	**-0.8**	
VAY				*i* Sg	**Sb**	**13 30 18.3**	**+0.5**	
VAY				*e*Lg	Lg	13 30 18.4		
	comp=N,70nm,0.5s							
VAY				*e*Lg	Lg	13 30 19.5		
	comp=E,56nm,0.5s							
LIT	**Litokhoron**	**1.16**	**124**	P	**Pn**	**13 30 02.9**	**-0.3**	
LIT				AML	AML	13 30 23.6		
	comp=N,1314μm,0.4s							
LIT				AML	AML	13 30 23.9		
	comp=E,1425μm,0.4s							
LIT	**Litokhoron**	**1.16**	**124**	P	**Pn**	**13 30 03.0**	**-0.3**	
LIT				S	**Sn**	**13 30 19.6**	**+0.5**	
	comp=E,670nm,0.4s							
TIR	**Tirane**	**1.19**	**300**	*e*Pg	**Pg**	**13 30 02.9**	**-1.1**	
TIR				*e*Sg	**Sn**	**13 30 20.8**	**+1.1**	
TIR	**Tirane**	**1.19**	**300**	P	**Pg**	**13 30 03.2**	**-0.8**	
	baz=301							
SKO	**Skopje**	**1.22**	**7**	*i* Pg	**Pg**	**13 30 03.5**	**-0.9**	
SKO				*i* Sg	**Sn**	**13 30 22.1**	**+1.7**	
SRN	**Sarande**	**1.29**	**227**	P	**Pb**	**13 30 05.0**	**-0.3**	
SRN				S	**Sn**	**13 30 24.4**	**+2.2**	
	comp=E,412nm,0.7s							
SRN	**Sarande**	**1.29**	**227**	P	**Pg**	**13 30 05.9**	**0.0**	
	baz=227							
SRN				S	**Sn**	**13 30 24.1**	**+1.9**	
	baz=227							
SRN				AMP				
	comp=N,1.4nm,0.7s,baz=227							
KNT	**Kendrikon**	**1.32**	**72**	P	**Pb**	**13 30 05.5**	**-0.3**	
THL	**Klokotos Trika**	**1.34**	**153**	P	**Pn**	**13 30 04.9**	**-0.7**	
THL				AML	AML	13 30 32.0		
	comp=E,478μm,0.4s							
THL				AML	AML	13 30 32.2		
	comp=N,662μm,0.4s							
THL	**Klokotos Trika**	**1.34**	**153**	P	**Pn**	**13 30 04.9**	**-0.7**	
THL				S	**Sn**	**13 30 25.8**	**+2.5**	
	comp=N,258nm,0.4s							
IGT	**Igoumenitsa**	**1.41**	**210**	P	**Pg**	**13 30 08.2**	**+0.1**	
IGT				AML	AML	13 30 31.3		
	comp=E,793μm,0.6s							
IGT				AML	AML	13 30 31.8		
	comp=N,774μm,0.6s							
IGT	**Igoumenitsa**	**1.41**	**210**	P	**Pb**	**13 30 06.9**	**-0.4**	
IGT				S	**Sg**	**13 30 27.5**	**+1.0**	
	comp=N,395nm,0.6s							
HORT	**Hortiatis**	**1.43**	**96**	P	**Pn**	**13 30 06.9**	**0.0**	
HORT				AML	AML	13 30 30.7		
	comp=E,153μm,0.3s							
HORT				AML	AML	13 30 31.7		
	comp=N,435μm,0.5s							
HORT	**Hortiatis**	**1.43**	**96**	P	**Pn**	**13 30 07.0**	**+0.1**	
HORT				S	**Sg**	**13 30 27.2**	**+0.3**	
KEK	**Kerkira**	**1.52**	**227**	P	**Pg**	**13 30 10.2**	**-0.1**	
KEK				AML	AML	13 30 38.9		
	comp=E,377μm,0.5s							
KEK				AML	AML	13 30 41.4		
	comp=N,323μm,0.6s							
SOH	**Sokhos**	**1.61**	**87**	P	**Pn**	**13 30 09.7**	**+0.3**	
SOH				AML	AML	13 30 36.0		
	comp=N,391μm,0.5s							
SOH				AML	AML	13 30 39.2		
	comp=E,433μm,0.6s							
PUK	**Puka**	**1.63**	**322**	P	**Pn**	**13 30 10.4**	**+0.7**	
	baz=323							
PLG	**Polygyros**	**1.73**	**102**	P	**Pb**	**13 30 11.8**	**-0.9**	
SRS	**Serrai**	**1.82**	**78**	P	**Pn**	**13 30 11.4**	**-0.9**	
SRS	**Serrai**	**1.82**	**78**	P	**Pn**	**13 30 11.7**	**-0.5**	
SRS				S	**Sn**	**13 30 36.1**	**+0.9**	
BCI	**Bajram Curri**	**1.83**	**332**	P	**Pb**	**13 30 14.6**	**+0.1**	
	baz=333							
MAKR	**Makrakomi, Fth**	**1.88**	**158**	P	**Pn**	**13 30 13.6**	**+0.5**	
MAKR	**Makrakomi, Fth**	**1.88**	**158**	P	**Pn**	**13 30 13.6**	**+0.5**	
MAKR				S	**Sb**	**13 30 38.4**	**-0.4**	
EVR	**Evrytania**	**1.90**	**166**	P	**Pn**	**13 30 14.0**	**+0.7**	
EVR				AML	AML	13 30 47.4		
	comp=E,231μm,0.3s							
EVR				AML	AML	13 30 48.3		
	comp=N,310μm,0.2s							
EVR	**Evrytania**	**1.90**	**166**	P	**Pn**	**13 30 14.1**	**+0.7**	
EVR				S	**Sb**	**13 30 39.7**	**+0.3**	
	comp=N,128nm,0.2s							
AGG	**Agios Georgios**	**1.93**	**154**	P	**Pn**	**13 30 14.0**	**+0.2**	
AGG	**Agios Georgios**	**1.93**	**154**	P	**Pn**	**13 30 14.2**	**+0.4**	
AGG				S	**Sb**	**13 30 40.2**	**-0.1**	
	comp=N,92nm,0.3s							
BOSS	**Bosilegrad**	**1.97**	**28**	*e*Pn	**Pn**	**13 30 14.9**	**+0.6**	
BOSS				*e*Sn	**Sn**	**13 30 40.5**	**+1.6**	
LKD2	**Lefkada island**	**2.02**	**193**	P	**Pb**	**13 30 16.7**	**-1.0**	
PAIG	**Paliouri**	**2.04**	**113**	P	**Pn**	**13 30 15.3**	**0.0**	
XOR	**Xorichti**	**2.05**	**132**	P	**Pn**	**13 30 15.6**	**+0.2**	
NVR	**Nevrokopi**	**2.07**	**73**	P	**Pn**	**13 30 15.7**	**0.0**	
NYDR	**Nydri-Lefkada**	**2.09**	**192**	P	**Pb**	**13 30 17.6**	**-1.3**	
BARS	**Barje**	**2.10**	**12**	*e*Pn	**Pn**	**13 30 15.2**	**-0.9**	
BARS				*e*Sn	**Sb**	**13 30 45.7**	**+0.6**	
OUR	**Ouranopolis**	**2.13**	**101**	P	**Pn**	**13 30 16.9**	**+0.4**	
DRAG	**Dragano-Lefkad**	**2.14**	**194**	P	**Pb**	**13 30 18.3**	**-1.4**	
PDO	**Prodromos**	**2.16**	**181**	P	**Pb**	**13 30 19.4**	**-0.7**	
EVGI	**Lefkada island**	**2.19**	**192**	P	**Pb**	**13 30 18.9**	**-1.6**	
VTS	**Vitosha**	**2.38**	**38**	*e*Pn	**Pn**	**13 30 20.5**	**+0.4**	
SELS	**Selova**	**2.46**	**358**	*e*Pn	**Pn**	**13 30 22.8**	**+1.8**	
LAKA	**Lakka**	**2.58**	**167**	P	**Pb**	**13 30 25.4**	**-1.9**	
SJES	**Sjenica**	**2.67**	**340**	*e*Pn	**Pn**	**13 30 24.3**	**+0.3**	
SJES				*e*Sn	**Sn**	**13 30 58.4**	**+2.0**	
ZAPS	**Zavoj**	**2.72**	**22**	*e*Pn	**Pn**	**13 30 25.2**	**+0.6**	
TREB	**Trebinje**	**2.91**	**313**	*e*Pn	**Pn**	**13 30 27.6**	**+0.3**	
IVAS	**Ivanjica**	**2.92**	**344**	*e*Pn	**Pn**	**13 30 27.6**	**+0.1**	
IVAS				*e*Sn	**Sn**	**13 31 05.3**	**+2.7**	
ZAGS	**Zajecar**	**3.14**	**13**	*e*Pn	**Pn**	**13 30 29.8**	**-0.5**	
GRUS	**Gruza**	**3.15**	**353**	*e*Pn	**Pn**	**13 30 30.3**	**-0.2**	
GRUS				*e*Sn	**Sn**	**13 31 10.0**	**+2.0**	
STON	**Ston**	**3.38**	**310**	*i* Pn	**Pn**	**13 30 33.0**	**-0.7**	
STON				Sn	**Sn**	**13 31 13.6**	**-0.1**	
BBLS	**Lazi?i**	**3.39**	**337**	*e*Pn	**Pn**	**13 30 33.6**	**-0.2**	
DIVS	**Divibare**	**3.46**	**345**	*e*Pn	**Pn**	**13 30 34.9**	**+0.1**	
DIVS				*e*Sn	**Sn**	**13 31 17.2**	**+1.4**	
HVAR	**Hvar**	**4.31**	**306**	*e*Pn	**Pn**	**13 30 46.1**	**-0.4**	
KIJV	**Kijevo**	**4.83**	**314**	*e*Pn	**Pn**	**13 30 54.6**	**+1.0**	
KIJV				Sn	**Sn**	**13 31 48.7**	**-0.7**	
ZIRJ	**Zirje**	**5.06**	**307**	*e*Pn	**Pn**	**13 30 57.1**	**+0.3**	
MORI	**Morici**	**5.14**	**309**	*i* Pn	**Pn**	**13 30 59.0**	**+1.1**	
DUGI	**Dugi Otok**	**5.60**	**307**	*e*Pn	**Pn**	**13 31 04.6**	**+0.4**	

THE 31 13:38:22.6, 41.68N×20.95E, h14km±2km, ML2.8/6, Error ellipse: s-maj=3.0km s-min=1.0km az=323.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.96**	**160**	P	Pb	13 38 39.9	-1.1
KBN	**Korca**	**1.07**	**186**	P	Pb	13 38 41.8	-1.1
KBN				S	Sn	13 38 57.9	0.0
	540nm,0.3s						
NEST	**Nestorio**	**1.27**	**176**	P	Pn	13 38 45.6	-0.5
GRG	**Griva**	**1.32**	**123**	P	Pn	13 38 45.7	-0.9
GRG				S	Sb	13 39 03.5	-0.4
PENT	**Pentalofos**	**1.49**	**174**	P	Pn	13 38 48.5	-0.7
KZN	**Kozani**	**1.51**	**155**	P	Pn	13 38 49.1	-0.3
LSK	**Leskovik**	**1.55**	**190**	P	Pn	13 38 49.3	-0.7
LSK				S	Sn	13 39 09.7	-0.3
KNT	**Kendrikon**	**1.56**	**109**	P	Pn	13 38 48.9	-1.1
KNT				S	Sn	13 39 09.9	-0.1
KPRO	**Kipourio**	**1.76**	**169**	P	Pn	13 38 52.1	-0.6
KPRO				S	Sn	13 39 15.3	+0.3
	228nm,0.3s						
HORT	**Hortiatis**	**1.96**	**123**	P	Pn	13 38 55.5	0.0
HORT				S	Sn	13 39 20.2	+0.3
LIT	**Litokhoron**	**1.97**	**143**	P	Pn	13 38 54.5	-1.1
LIT				S	Sn	13 39 20.8	+0.7
	135nm,0.3s						
KEK	**Kerkira**	**2.15**	**204**	P	Pn	13 38 56.7	-1.4
KEK				S	Sn	13 39 25.7	+1.1
IGT	**Igoumenitsa**	**2.20**	**192**	P	Pn	13 38 58.4	-0.4
THL	**Klokotos Trika**	**2.27**	**159**	P	Pn	13 38 59.7	0.0
THL				S	Sn	13 39 27.4	-0.1
	58nm,0.4s						
MAKR	**Makrakomi, Fth**	**2.82**	**161**	P	Pn	13 39 07.3	0.0
MAKR				S	Sn	13 39 41.4	+0.3
	100nm,0.4s						
AGG	**Agios Georgios**	**2.86**	**158**	P	Pn	13 39 07.5	-0.4
AGG				S	Sn	13 39 43.1	+0.9

ATH 31 13:38:48.9, 40.76N×21.21E, h10km±2km, ML2.4/5, Error ellipse: s-maj=4.6km s-min=1.5km az=311.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.13**	**80**	P	Pg	13 38 51.7	-0.1
FNA				S	Sg	13 38 54.4	+0.5
FNA				AML	AML	13 38 54.7	
	comp=E,28306μm,0.3s						
FNA				AML	AML	13 38 54.8	
	comp=N,36582μm,0.2s						
NEST	**Nestorio**	**0.37**	**200**	P	Pg	13 38 56.0	-0.1
NEST				S	Sg	13 39 01.3	+0.3
NEST				AML	AML	13 39 02.4	
	comp=E,1340μm,0.3s						
NEST				AML	AML	13 39 02.5	
	comp=N,934μm,0.2s						
PENT	**Pentalofos**	**0.57**	**186**	P	Pg	13 38 59.6	-0.2
PENT				S	Sg	13 39 07.9	+0.5
PENT				AML	AML	13 39 11.0	
	comp=E,720μm,0.8s						
PENT				AML	AML	13 39 14.8	
	comp=N,381μm,0.3s						
KZN	**Kozani**	**0.62**	**137**	P	Pg	13 39 00.4	-0.6
KZN				S	Sg	13 39 09.4	+0.3
KZN				AML	AML	13 39 11.8	
	comp=E,1305μm,0.2s						
KZN				AML	AML	13 39 13.3	
	comp=N,1193μm,0.4s						
KPRO	**Kipourio**	**0.81**	**172**	P	Pg	13 39 04.3	-0.2
GRG	**Griva**	**0.92**	**77**	P	Pg	13 39 05.7	-0.9
GRG				AML	AML	13 39 21.1	
	comp=E,226μm,0.6s						
GRG				AML	AML	13 39 21.3	
	comp=N,383μm,0.5s						
LIT	**Litokhoron**	**1.18**	**124**	P	Pb	13 39 10.5	-0.9
THL	**Klokotos Trika**	**1.34**	**153**	P	Pn	13 39 13.1	-0.6
HORT	**Hortiatis**	**1.44**	**96**	P	Pg	13 39 16.3	-0.3

IDC 31 13:46:58.6±308.0, 62.78N×43.06E, h0km, Error ellipse: s-maj=144.2km s-min=36.0km az=134.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**11.74**	**313**	*i*		15 00 00.0	
	baz=111,slow=333,SNR=7.8						
I46RU	**ZALESOVO INFRA**	**23.21**	**93**	*i*		16 05 20.0	
	baz=314,slow=335,SNR=0.9						
I18DK	**QAANAAQ INFRAS**	**34.06**	**339**	*i*		17 17 40.0	
	baz=52,slow=342,SNR=1.4						
I34MN	**SONGINO INFRAS**	**37.35**	**83**	*i*		17 39 00.9	
	baz=325,slow=328						

IDC 31 13:48:22.5±3.2, 5.60S×153.54E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/32, mbtmpg3.5/3, ML1.6/1, Error ellipse: s-maj=132.7km s-min=47.4km az=130.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.37**	**239**	Pn	Pn	13 50 12.4	+1.0
	0.5nm,0.3s,baz=129,slow=18,SNR=1.3						
PMG				Sn	Sn	13 51 30.3	-5.6
	0.5nm,0.3s,baz=303,slow=16,SNR=1.9						
WRA	**Warramunga Arr**	**23.49**	**231**	P	P	13 53 33.5	-0.7
	0.6nm,0.4s,baz=54,slow=9.8,SNR=19						
ASAR	**Alice Springs**	**26.08**	**224**	P	P	13 53 58.2	+0.1
	0.3nm,0.5s,baz=61,slow=9.3,SNR=7.6						
TORD	**Torodi Ar. Bea**	**151.25**	**287**	PKPbc	PKPbc	14 08 19.2	0.0
	0.7nm,1.0s,baz=94,slow=2.7,SNR=1.9						

*HEL **31** 13:49:41.6±0.1, 67.19N×20.64E, h0km, ML2.2, ML2.4(UPP), Explosion*
*NAO **31** 13:49:41.6±0.9, 67.17N×21.02E, ML2.4*
*IDC **31** 13:49:41.4±1.1, 67.20N×20.68E, h0km, mb1 2.8/4, mb1mx2.7/49, mbtmp2.8/4, ML2.0/4, Error ellipse: s-maj=16.9km s-min=9.1km az=117.0*
*BER **31** 13:49:44.0±3.4, 67.14N×20.81E, h0km, ML1.9, ML2.4(NAO), Suspected explosion*

ISC 31 13:49:40.4±0.7, 67.15N±0.02×20.62E±0.03, h0km, n44, σ1°31/77, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.62**	**60**	*i* P	**Pg**	**13 49 52.2**	**+0.1**
MASU				*i* S	**Sg**	**13 49 59.9**	**-0.2**
RATU	**Laukkuluspa**	**0.78**	**330**	*i* P	**Pg**	**13 49 55.2**	**-0.1**
KUA	**Kurravaara**	**0.81**	**353**	*i* P	**Pg**	**13 49 55.4**	**-0.5**
NIKU	**Nikkaluokta**	**0.94**	**320**	*e*P	**Pg**	**13 49 58.2**	**-0.1**
PAJU	**Pajala**	**0.99**	**96**	*e*P	**Pg**	**13 49 58.8**	**-0.4**
PAJU				*e*S	**Sg**	**13 50 12.2**	**+0.2**
HARU	**Harads**	**1.00**	**172**	*e*P	**Pg**	**13 50 00.1**	**+0.6**
LANU	**Lannavaara**	**1.04**	**30**	*e*P	**Pg**	**13 49 59.4**	**-0.9**
LANU				*e*SB	**Sg**	**13 50 13.9**	**+0.1**
KALU	**Kalix**	**1.70**	**139**	*e*PG	**Pn**	**13 50 12.4**	**+1.2**
	baz=325						
KALU				*e*SN	**Sg**	**13 50 35.6**	**+0.7**
HEF	**Hetta**	**1.71**	**41**	*e*P	**Pn**	**13 50 11.0**	**-0.4**
	baz=222						
HEF				MSG		13 50 31.4	
	comp=Z,14nm,0.2s						
HEF				*e*SG	**Sn**	**13 50 33.1**	**-0.9**
TOF	**Tornio**	**1.83**	**124**	*e*PN	**Pn**	**13 50 14.4**	**+1.4**
TOF				MSG		13 50 36.9	
	comp=Z,20nm,0.2s						
TOF				*e*SN	**Sb**	**13 50 38.5**	**+0.4**
KIF	**Kilpisjarvi**	**1.86**	**2**	Pn	**Pn**	**13 50 14.4**	**+1.0**
KIF				Sn	**Sg**	**13 50 40.5**	**+0.4**
KIF	**Kilpisjarvi**	**1.86**	**2**	Pn	**Pn**	**13 50 14.4**	**+1.0**
KIF				Sn	**Sg**	**13 50 40.5**	**+0.4**
KIF	**Kilpisjarvi**	**1.86**	**2**	*e*P	**Pn**	**13 50 14.3**	**+0.9**
	baz=183						
KIF				MSG		13 50 36.1	
	comp=Z,22nm,0.2s						
KIF				*e*SG	**Sg**	**13 50 40.4**	**+0.4**
KTK1	**Kautokeino**	**2.11**	**27**	*e*P	**Pn**	**13 50 18.3**	**+1.4**
KTK1				IAML		13 50 46.7	
	comp=Z,19nm,0.3s						
RNF	**Rovaniemi**	**2.20**	**102**	*e*PB	**Pn**	**13 50 19.5**	**+1.5**
RNF				*e*SG	**Sb**	**13 50 48.6**	**-0.1**
SGF	**Sodankyl**	**2.31**	**80**	*e*PB	**Pn**	**13 50 21.5**	**+1.8**
SGF				*e*SG	**Sb**	**13 50 52.4**	**+0.5**
JETT	**Jettan, Norway**	**2.42**	**358**	Pn	**Pb**	**13 50 23.9**	**-0.8**
JETT				Sn	**Sb**	**13 50 54.4**	**-0.6**
BURU	**Burvik**	**2.60**	**173**	*e*P	**Pn**	**13 50 25.6**	**+2.1**
MOR8	**Moi Rana**	**2.65**	**251**	*e*P	**Pn**	**13 50 25.4**	**+1.1**
MOR8				IAML		13 51 02.9	
	comp=Z,9.8nm,0.3s						
OUL	**Oulu**	**2.99**	**132**	*e*SG	**Sb**	**13 51 12.7**	**+1.3**
ARA0	**ARCESS Array S**	**3.00**	**35**	Pn	**Pn**	**13 50 29.6**	**+0.5**
	baz=217,slow=14						
ARA0				Sn	**Sn**	**13 51 06.0**	**+0.2**
	baz=214,slow=28						
ARA0				Lg	Lg	13 51 10.5	
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**35**	Pn	**Pn**	**13 50 29.6**	**+0.5**
	baz=217,slow=14						
ARA0				Sn	**Sn**	**13 51 06.0**	**+0.2**
	baz=214,slow=28						
ARCES	**ARCESS Array B**	**3.00**	**35**	Pn	**Pn**	**13 50 29.6**	**+0.5**
	baz=216,slow=13,SNR=78						
ARCES				Lg	Lg	13 51 06.2	
	baz=211,slow=23,SNR=7.1						
OUF	**Merijarvi**	**3.27**	**147**	*e*P	**Pn**	**13 50 34.7**	**+1.9**
OUF				*e*SG	**Sg**	**13 51 24.4**	**-1.0**
VRF	**Varrio**	**3.52**	**76**	*e*P	**Pn**	**13 50 36.8**	**+0.6**
KEV	**Kevo**	**3.52**	**39**	Pn	**Pn**	**13 50 36.3**	**+0.1**
KEV				Pg	**Pb**	**13 50 44.6**	**+1.2**
KEV				Sn	**Sn**	**13 51 18.1**	**-0.4**
KEV				Lg	Lg	13 51 31.6	
KEV	**Kevo**	**3.52**	**39**	Pn	**Pn**	**13 50 36.3**	**+0.1**
KEV				Pg	**Pb**	**13 50 44.6**	**+1.2**
KEV				Sn	**Sn**	**13 51 18.1**	**-0.4**
KEV				Sg	**Sg**	**13 51 31.6**	**-1.6**
KEV	**Kevo**	**3.52**	**39**	*e*P	**Pn**	**13 50 36.6**	**+0.4**
	baz=225						
KEV				*e*S	**Sn**	**13 51 18.1**	**-0.4**
OLKF	**Oulanka, Finla**	**3.58**	**99**	*e*PG	**Pb**	**13 50 46.0**	**+1.5**
	baz=290						
OLKF				*e*SG	**Sg**	**13 51 32.4**	**-3.0**
KU6	**Riekki**	**3.87**	**103**	*e*P	**Pn**	**13 50 42.1**	**+1.1**
	baz=289						
KU6				*e*S	**Sn**	**13 51 28.3**	**+1.2**
VAF	**Ylistaro**	**4.22**	**167**	*e*SG	**Sg**	**13 51 54.1**	**-1.6**
APA0	**Apatity Array**	**4.80**	**79**	Pn	**Pn**	**13 50 53.1**	**-0.7**
	baz=291,slow=10						
APA0				Sn	**Sn**	**13 51 47.1**	**-3.0**
	baz=263,slow=28						
APA0	**Apatity Array**	**4.80**	**79**	Pn	**Pn**	**13 50 53.1**	**-0.7**
	baz=291,slow=10						
APA0				Sn	**Sn**	**13 51 47.1**	**-3.0**
	baz=263,slow=28						
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**13 51 14.7**	**+1.7**
	baz=343,slow=12						
FIA0				Sn	**Sn**	**13 52 23.7**	**-0.8**
	baz=338,slow=28						
FIA0				Lg	Lg	13 52 56.1	
	baz=340,slow=37						
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**13 51 14.7**	**+1.7**
	baz=343,slow=12						
FIA0				Sn	**Sn**	**13 52 23.7**	**-0.8**
	baz=338,slow=28						
FIA0				Sg	**Sg**	**13 52 56.1**	**-3.3**
	baz=340,slow=37						
FINES	**FINESS Array B**	**6.20**	**155**	Pn	**Pn**	**13 51 14.9**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=2.0						
FINES				Sn	**Sn**	**13 52 24.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=340,slow=24,SNR=2.2						
FINES				Lg	Lg	13 52 57.6	
	comp=Z,0.4nm,0.3s,baz=340,slow=28,SNR=5.1						
NB2	**NORSAR Subarra**	**7.38**	**218**	Pn	**Pn**	**13 51 30.9**	**+1.6**
NB2	**NORSAR Subarra**	**7.38**	**218**	Pn	**Pn**	**13 51 30.9**	**+1.6**
NOA	**NORSAR Array B**	**7.38**	**218**	Pn	**Pn**	**13 51 30.7**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=118,slow=10,SNR=1.1						
NOA				Sn	**Sn**	**13 52 51.0**	**-2.6**
	comp=Z,0.0nm,0.3s,baz=212,slow=15,SNR=1.3						
NOA				Lg	Lg	13 53 31.9	
	comp=Z,0.0nm,0.3s,baz=24,slow=14,SNR=1.8						
NRA0	**NORESS Array S**	**7.57**	**216**	Pn	**Pn**	**13 51 33.

DMN	**Daman**	**6.55**	**182**	*eP*		**Pn**	**14 16 30.2**	**-1.0**
	26nm,0.4s							
PKIN	**Phulchoki**	**6.58**	**179**	*eP*		**Pn**	**14 16 30.8**	**-0.8**
	62nm,0.4s							
PKI	**Pulchoki**	**6.58**	**179**	*eP*		**Pn**	**14 16 30.9**	**-0.8**
	54nm,0.4s							
TAPN	**Taplejung**	**7.11**	**163**	*eP*		**Pn**	**14 16 38.8**	**-0.1**
	31nm,0.5s							
RAMN	**Ramite**	**7.29**	**171**	*eP*		**Pn**	**14 16 40.2**	**-1.1**
	48nm,0.5s							
GTK	**Tadong**	**7.40**	**157**	*ex*		**Pn**	**14 16 45.2**	**+2.5**
ODAN	**Odare**	**7.51**	**166**	*eP*		**Pn**	**14 16 43.1**	**-1.2**
	43nm,0.5s							
SMLA	**Simla**	**7.51**	**248**	*ex*		**Pn**	**14 16 42.2**	**-1.9**
SMLA				*ex*		x	14 18 49.8	
DHRM	**DHARAMSHALA**	**7.80**	**258**	*ex*		**Pn**	**14 16 48.6**	**+0.3**
DHRM				*ex*		x	14 18 59.8	
WMQ	**Urumqi**	**9.81**	**10**	*eP*		**Pn**	**14 17 13.8**	**-1.8**
WMQ					smax	smax		
	comp=N,14nm,1.3s							
WMQ					smax	smax		
	comp=E,15nm,1.1s							
AAK	**Ala-Archa**	**11.97**	**318**	P		**Pn**	**14 17 46.4**	**+1.1**
	comp=E,0.1nm,0.3s,baz=50,slow=6.2,SNR=3.0							
MKAR	**Makanchi Array**	**12.81**	**351**	P		**Pn**	**14 17 57.3**	**+0.7**
	comp=E,0.2nm,0.3s,baz=176,slow=12,SNR=18							
KURBB	**Kurchatov Arra**	**17.17**	**345**	P		**P**	**14 18 55.8**	**+0.4**
	comp=E,0.1nm,0.3s,baz=163,slow=11,SNR=28							
CM32	**Chiang Mai Arr**	**19.61**	**139**	P		**Pn**	**14 19 24.0**	**0.0**
CM34	**Chiang Mai Arr**	**19.62**	**138**	P		**Pn**	**14 19 31.0**	**+6.9**
CM35	**Chiang Mai Arr**	**19.76**	**138**	P		**Pn**	**14 19 26.0**	**+0.2**
ZALV	**Zalesovo Beam**	**19.77**	**359**	P		**P**	**14 19 24.8**	**+0.8**
	comp=E,0.2nm,0.3s,baz=180,slow=10,SNR=7.1							
CM15	**Chiang Mai Arr**	**19.82**	**139**	P		**Pn**	**14 19 29.1**	**+2.7**
	comp=E,0.1nmcomp=E,168nmcomp=E,4.8nm,1.1s							
CMAR	**Chiang Mai Arr**	**19.82**	**139**	P		**P**	**14 19 23.7**	**-1.1**
	comp=E,0.1nm,0.3s,baz=319,slow=11,SNR=18							
CM13	**Chiang Mai Arr**	**19.83**	**139**	P		**Pn**	**14 19 28.0**	**+1.3**
	comp=E,0.0nmcomp=E,43nmcomp=E,5.7nm,0.8s							
CM02	**Chiang Mai Arr**	**19.84**	**139**	P		**Pn**	**14 19 29.0**	**+2.2**
	comp=E,0.0nmcomp=E,55nmcomp=E,5.5nm,0.8s							
CM36	**Chiang Mai Arr**	**19.86**	**138**	P		**Pn**	**14 19 27.0**	**0.0**
CM09	**Chiang Mai Arr**	**19.86**	**139**	P		**Pn**	**14 19 31.3**	**+4.3**
	comp=E,0.0nmcomp=E,64nmcomp=E,5.9nm,1.0s							
CM01	**Chiang Mai Arr**	**19.86**	**139**	P		**Pn**	**14 19 27.5**	**+0.5**
	comp=E,0.0nmcomp=E,52nmcomp=E,7.4nm,1.0s							
CM05	**Chiang Mai Arr**	**19.87**	**139**	P		**P**	**14 19 26.0**	**+0.7**
	comp=E,0.0nmcomp=E,34nmcomp=E,3.6nm,0.9s							
CM04	**Chiang Mai Arr**	**19.89**	**139**	P		**Pn**	**14 19 27.0**	**-0.3**
	comp=E,0.0nmcomp=E,40nmcomp=E,4.5nm,1.0s							
GYA	**Guiyang**	**19.95**	**107**	⇑P		Pn	14 19 27.8	-0.3
GYA				pP		sP	14 19 46.5	+4.5
GYA				S		Sn	14 23 14.8	+3.3
GYA				pmax		pmax		
	comp=Z,11nm,1.0s							
GYA				LR		LR		
	comp=Z,190nm,28.5s							
SONM	**Songino Array**	**20.87**	**43**	P		**P**	**14 19 36.9**	**+0.8**
	comp=E,1.5nm,1.0s,baz=253,slow=9.1,SNR=8.7							
BVAR	**Borovoye Array**	**21.64**	**335**	P		**P**	**14 19 44.8**	**+0.6**
	comp=E,1.3nm,0.8s,baz=146,slow=16,SNR=9.5							
GEYT	**Alibeck**	**22.27**	**288**	P		**P**	**14 19 52.3**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=138,slow=9.1,SNR=4.4							
WHN	**Wuhan**	**24.75**	**90**	P		**P**	**14 20 12.3**	**-3.1**
AKTO	**Aktyubinsk**	**25.71**	**317**	P		**P**	**14 20 24.9**	**+1.0**
	comp=E,1.5nm,0.7s,baz=111,slow=9.2,SNR=7.4							
BRTR	**Keskin Array B**	**41.20**	**293**	P		**P**	**14 22 38.8**	**+0.3**
	comp=E,1.2nm,0.9s,baz=68,slow=6.3,SNR=5.9							
AKASG	**Malin Array Be**	**43.48**	**310**	P		**P**	**14 22 55.9**	**-0.8**
	comp=E,1.4nm,0.7s,baz=83,slow=9.9,SNR=2.3							
FINES	**FINESS Array B**	**46.04**	**325**	P		**P**	**14 23 17.4**	**+0.4**
	comp=Z,6.9nm,1.1s,baz=100,slow=13,SNR=3.6							
NOA	**NORSAR Array B**	**53.20**	**324**	P		**P**	**14 24 10.5**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=86,slow=6.7,SNR=2.5							
GERES	**GERESS Array B**	**53.66**	**309**	P		**P**	**14 24 16.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=68,slow=8.5,SNR=1.6							
WRA	**Warramunga Arr**	**71.22**	**131**	P		**P**	**14 26 11.4**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=325,slow=6.5,SNR=8.7							
ILAR	**Eielson Array**	**73.30**	**21**	P		**P**	**14 26 24.4**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=292,slow=5.7,SNR=2.2							
ASAR	**Alice Springs**	**73.76**	**134**	P		**P**	**14 26 27.7**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=328,slow=6.8,SNR=4.4							
TORD	**Torodi Ar. Bea**	**77.52**	**277**	P		**P**	**14 26 48.3**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=30,slow=5.2,SNR=3.7							
YKA	**Yellowknife Ar**	**82.34**	**9**	P		**P**	**14 27 14.5**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=341,slow=4.6,SNR=9.9							

IDC 31 14:29:55.8±3.4, 5°33S×153°53E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/53, mbtmp3.3/4, ML1.5/1, Error ellipse: s-maj=118.8km s-min=35.9km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.50**	**237**	Pn	Pn	14 31 47.2	+0.6
	0.5nm,0.3s,baz=269,slow=3.3,SNR=2.4						
PMG				Sn	Sn	14 33 04.7	-7.6
	0.7nm,0.3s,baz=172,slow=14,SNR=1.8						
WRA	**Warramunga Arr**	**23.65**	**230**	P	P	14 35 08.2	-0.8
	0.4nm,0.9s,baz=54,slow=9.8,SNR=2.4						
ASAR	**Alice Springs**	**26.26**	**224**	P	P	14 35 33.4	+0.4
	0.3nm,0.8s,baz=58,slow=9.5,SNR=4.9						
MKAR	**Makanchi Array**	**81.20**	**319**	P	P	14 42 13.9	+0.3
	0.3nm,0.7s,baz=100,slow=6.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**151.16**	**288**	PKPbc	PKPbc	14 49 51.7	-0.5
	0.7nm,0.8s,baz=54,slow=2.0,SNR=3.4						

IDC 31 14:33:48.5±7.3, 36°20N×141°43E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.0/60, mbtmp3.1/3, ML2.2/1, Error ellipse: s-maj=162.4km s-min=30.8km az=31.0
JMA 31 14:33:54.9±0.2, 35°73N×140°85E, h9km±1km, M3.3
JMA Felt I J1.
ISC 31 14:33:52.7±1.7, 35°81N±0°08×140°99E±0°09, h11km±9km, n18, σ0970/18, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.15**	**225**	⇓P	**Pg**	**14 33 56.4**	**+0.3**
CHOJ				S	**Sg**	**14 33 57.7**	**-0.8**
JIHU	**Itakohorinouch**	**0.41**	**292**	⇑P	**Pb**	**14 34 02.6**	**+0.7**
JSMT	**Sammumatsuo**	**0.47**	**249**	⇑P	**Pg**	**14 34 02.2**	**+0.3**
JHYU	**Hitachinakayam**	**0.62**	**328**	P	**Pn**	**14 34 07.4**	**-0.1**
JHYU				S	**Sn**	**14 34 16.3**	**-1.1**
JCN	**Nagara**	**0.75**	**239**	⇑P	**Pg**	**14 34 07.6**	**+0.4**
JYT	**Yasato**	**0.77**	**303**	⇑P	**Pn**	**14 34 08.5**	**-1.0**
JYT				S	**Sb**	**14 34 17.9**	**-0.6**
JHO	**Hitachi**	**0.87**	**337**	P	**Pn**	**14 34 10.8**	**-0.1**
JHO				*eS*	**Sn**	**14 34 23.2**	**-0.4**
BSO3	**Boso 3**	**1.08**	**201**	P	**Pg**	**14 34 12.8**	**-0.6**
MJAR	**Matsushiro Arr**	**2.37**	**289**	Pn	**Pn**	**14 34 31.7**	**+0.2**
	0.5nm,0.3s,baz=94,slow=8.6,SNR=30						
MJAR				Sn	**Sb**	**14 35 05.0**	**+0.5**
	0.5nm,0.3s,baz=307,slow=33,SNR=6.9						
MAT	**Matsushiro**	**2.37**	**289**	P	**Pn**	**14 34 31.9**	**+0.4**
MAT				*eS*	**Sn**	**14 34 59.6**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	15 08 40.2	
	baz=310,slow=75,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	15 08 38.1	
	baz=310,slow=75,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	15 08 39.7	
	baz=310,slow=75,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**28.51**	**120**	T	T	15 09 32.3	
	baz=312,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.51**	**120**	T	T	15 09 28.3	
	baz=312,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	15 09 31.2	
	baz=312,slow=75,SNR=11						
WRA	**Warramunga Arr**	**55.80**	**188**	P	**P**	**14 43 30.1**	**+0.2**
	0.3nm,0.9s,baz=5.6,slow=7.7,SNR=1.8						
ASAR	**Alice Springs**	**59.53**	**188**	P	**P**	**14 43 57.0**	**+0.9**
	0.2nm,0.7s,baz=19,slow=8.8,SNR=1.9						

IDC 31 14:34:34.2±1.4, 34°12N×85°35E, h0km, mb3.3/3, mb1 3.4/7, mb1mx3.2/70, mbtmp3.2/7, ML2.8/4, Error ellipse: s-maj=40.5km s-min=23.7km az=67.0
DMN 31 14:35:16.0±1.2, 31°16N×85°27E, h10km, Error ellipse: s-maj=31.4km s-min=4.2km az=0.0
ISC 31 14:34:36.4±0.8, 34°20N±0°07×85°4E±0°1, h10km, n17, σ1957/17, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.00**	**194**	*eP*	**Pn**	**14 36 06.4**	**+1.0**
GUN	**Gumba**	**6.29**	**176**	*eP*	**Pn**	**14 36 09.1**	**-0.4**
	24nm,0.6s						
JIRN	**Jiri**	**6.56**	**174**	*eP*	**Pn**	**14 36 13.7**	**+0.4**
KOLN	**Koldanda**	**6.59**	**194**	*eP*	**Pn**	**14 36 14.6**	**+1.1**
	13nm,0.6s						
PKI	**Pulchoki**	**6.61**	**180**	*eP*	**Pn**	**14 36 13.3**	**-0.6**
TAPN	**Taplejung**	**7.12**	**163**	*eP*	**Pn**	**14 36 24.4**	**+3.5**
RAMN	**Ramite**	**7.31**	**171**	*eP*	**Pn**	**14 36 24.1**	**+0.7**
ODAN	**Odare**	**7.53**	**166**	*eP*	**Pn**	**14 36 28.6**	**+2.2**
	8.4nm,0.5s						
WMQ	**Urumqi**	**9.77**	**10**	*eP*	**Pn**	**14 36 58.8**	**+1.8**
WMQ				smax	smax		
	comp=N,10.0nm,0.7s						
WMQ				smax	smax		
	comp=E,11nm,0.9s						
GTA	**Gaotai**	**12.69**	**62**	*eP*	**Pn**	**14 37 35.3**	**-1.7**
GTA				pP		14 37 42.5	
GTA				sP		14 37 46.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,23nm,4.4s						
GTA				LR	LR		
	comp=N,230nm,13.4s						
GTA				LR	LR		
	comp=E,130nm,13.1s						
GTA				LR	LR		
	comp=Z,150nm,15.3s						
MKAR	**Makanchi Array**	**12.79**	**350**	Pn	**Pn**	**14 37 37.3**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=169,slow=12,SNR=2.4						
KURBB	**Kurchatov Arra**	**17.15**	**345**	P	**P**	**14 38 34.7**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=161,slow=11,SNR=5.2						
ZALV	**Zalesovo Beam**	**19.74**	**359**	P	**P**	**14 39 06.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=167,slow=13,SNR=2.0						
CMAR	**Chiang Mai Arr**	**19.82**	**139**	P	**P**	**14 39 05.9**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=320,slow=11,SNR=4.5						
SONM	**Songino Array**	**20.82**	**43**	P	**P**	**14 39 19.6**	**+1.5**
	comp=Z,0.3nm,0.9s,baz=225,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**71.22**	**131**	P	**P**	**14 45 54.5**	**-1.3**
	comp=Z,0.5nm,1.0s,baz=326,slow=6.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**77.55**	**277**	P	**P**	**14 46 33.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=59,slow=4.2,SNR=2.1						

IDC 31 14:34:46.6±1.5, 17°46N×146°58E, h0km, mb3.3/6, mb1 3.4/6, mb1mx3.2/64, mbtmp3.3/6, Error ellipse: s-maj=57.0km s-min=24.2km az=87.0
NEIC 31 14:34:52.7±0.8, 16°50N±0°09×146°4E±0°2, h81km±9km, mb4.0/2, Error ellipse: s-maj=24.5km s-min=9.7km az=112.0
ISC 31 14:34:52.1±1.1, 17°2N±0°1×146°3E±0°3, h35km, n12, σ1878/9, mb3.3/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**1.03**	**210**	Pn	**Pn**	**14 35 08.0**	**-2.1**
GUMO	**Guam**	**3.87**	**200**	Pn	Pn	14 35 41.3	-7.8
WRA	**Warramunga Arr**	**38.76**	**198**	P	**P**	**14 42 15.6**	**+2.2**
	0.2nm,0.4s,baz=26,slow=8.8,SNR=6.6						
ASAR	**Alice Springs**	**42.41**	**197**	P	**P**	**14 42 45.5**	**+2.0**
	0.2nm,1.0s,baz=21,slow=8.0,SNR=0.9						
EIDS	**Eidsvold**	**42.61**	**174**	P	P	14 42 33.6	-11
EIDS				IAmb	IAmb	14 42 34.2	
	comp=Z,7.4nm,0.5s						
SONM	**Songino Array**	**44.61**	**322**	P	**P**	**14 43 02.3**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=119,slow=8.4,SNR=1.9						
SONM	**Songino Array**	**44.61**	**322**	IAmb	IAmb	14 43 03.5	
	comp=Z,0.5nm,1.0s						
MKAR	**Makanchi Array**	**59.85**	**314**	P	**P**	**14 44 54.7**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=94,slow=7.7,SNR=2.7						
KURK	**Kurchatov**	**62.71**	**319**	P	**P**	**14 45 12.6**	**-0.8**
KURBB	**Kurchatov Arra**	**62.76**	**318**	P	**P**	**14 45 12.6**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=93,slow=7.5,SNR=7.3						
ILAR	**Eielson Array**	**64.72**	**26**	P	**P**	**14 45 26.5**	**0.0**
YKA	**Yellowknife Ar**	**79.03**	**28**	P	**P**	**14 46 50.9**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=286,slow=5.1,SNR=2.6						

TAP 31 14:35:19.9, 24°72N×122°37E, h12km, ML2.7, C
JMA 31 14:35:20.8, 24°61N×122°39E, h37km±2km, M2.2
ISC 31 14:35:19.8±1.1, 24°69N±0°02×122°40E±0°02, h19km±2km, n79, σ0961/143, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.46**	**290**	P	**Pg**	**14 35 28.7**	**-0.4**
	baz=277						
TWB1	**Santiao Chiao**	**0.49**	**310**	*i* P	**Pg**	**14 35 29.6**	**-0.2**
	baz=310						
TWB1				*i* S	**Sg**	**14 35 35.4**	**-1.2**
	baz=310						
TWC	**Suao**	**0.51**	**261**	*i* P	**Pb**	**14 35 29.3**	**-0.9**
	baz=264						
TWC				S	**Sg**	**14 35 36.7**	**-0.4**
	baz=264						
JYNG	**Yonagunijimaku**	**0.55**	**116**	P	**Pn**	**14 35 31.7**	**-0.9**
JYNG				*eS*	**Sg**	**14 35 39.1**	**+0.9**
NTC	**Toucheng**	**0.55**	**288**	P	**Pb**	**14 35 30.4**	**-0.3**
	baz=285						
NTC				*eS*	**Sg**	**14 35 38.6**	**+0.4**
	baz=285						
TIPB	**Shuangxi**	**0.60**	**298**	*i* P	**Pb**	**14 35 31.5**	**-0.1**
	baz=288						
YOJ	**Yonaguni jima**	**0.60**	**112**	P	**Pn**	**14 35 32.5**	**-0.8**
	baz=114						
YOJ				S	**Sn**	**14 35 41.3**	**-1.1**
	baz=114						
YOJ	**Yonaguni jima**	**0.60**	**112**	P	**Pn**	**14 35 32.5**	**-0.8**
YOJ				S	**Sg**	**14 35 40.9**	**+1.1**
ILA	**Ilan**	**0.60**	**277**	*eS*	**Sg**	**14 35 41.2**	**+1.3**
	baz=274						
EWUT	**Wuta**	**0.62**	**247**	*i* P	**Pb**	**14 35 31.3**	**-0.6**
	baz=253						
EWUT				S	**Sb**	**14 35 40.5**	**+0.3**
	baz=253						
NDS	**Dongshan**	**0.63**	**265**	*i* P	**Pb**	**14 35 32.0**	**-0.2**
	baz=261						
NDS				S	**Sg**	**14 35 41.5**	**+0.7**
	baz=261						
ENA	**Nanau**	**0.66**	**247**	*i* P	**Pb**	**14 35 32.4**	**-0.2**
	baz=252						
ENA				S	**Sb**	**14 35 41.6**	**+0.2**
	baz=252						
TWE	**Neicheng**	**0.67**	**273**	*i* P	**Pb**	**14 35 32.1**	**-0.8**
	baz=262						
TWE				S	**Sb**	**14 35 41.9**	**+0.2**
	baz=262						
NWF	**Wu-fen Shan**	**0.68**	**304**	*i* P	**Pn**	**14 35 34.0**	**-0.6**
	baz=303						
NWF				S	**Sn**	**14 35 44.0**	**-0.7**
	baz=303						
WFSB	**Wu-fen Shan**	**0.68**	**304**	P	**Pn**	**14 35 34.0**	**-0.5**
	baz=303						
WFSB				S	**Sg**	**14 35 42.9**	**+0.5**
	baz=303						
TNOU	**National Taiwa**	**0.73**	**309**	P	**Pg**	**14 35 34.2**	**0.0**
	baz=308						
TNOU				S	**Sg**	**14 35 44.3**	**+0.3**
	baz=308						
ENTT	**Nioudou**	**0.76**	**266**	*i* P	**Pb**	**14 35 34.0**	**-0.5**
	baz=263						
ENTT				S	**Sg**	**14 35 45.9**	**+0.8**
	baz=263						
TWA	**Mucha**	**0.80**	**291**	*eP*	**Pn**	**14 35 36.3**	**+0.2**
	baz=290						
TWA				*eS*	**Sn**	**14 35 47.0**	**-0.6**
	baz=290						
NDT	**Datong Townshi**	**0.82**	**264**	*i* P	**Pb**	**14 35 35.4**	**0.0**
	baz=261						
NDT				S	**Sn**	**14 35 47.7**	**-0.2**
	baz=261						
NWLT	**Wulai**	**0.82**	**276**	*i* P	**Pb**	**14 35 35.4**	**-0.2**
	baz=281						
NWLT				S	**Sg**	**14 35 47.1**	**+0.1**
	baz=281						
NHDH	**Xindian Distri**	**0.84**	**289**	P	**Pn**	**14 35 37.0**	**+0.3**
	baz=278						
NHDH				S	**Sg**	**14 35 47.8**	**+0.3**
	baz=278						
TATO	**Taipei**	**0.88**	**289**	*eP*	**Pn**	**14 35 37.3**	**+0.2**
	baz=287						
TATO				S	**Sg**	**14 35 48.8**	**+0.1**
	baz=287						
YM01	**YM01**	**0.88**	**301**	P	**Pb**	**14 35 36.1**	**-0.5**
	baz=300						
YM01				S	**Sb**	**14 35 47.8**	**-0.2**
	baz=300						
YM11	**YM11**	**0.89**	**302**	P	**Pb**	**14 35 36.7**	**-0.1**
	baz=301						
YM08	**YM08**	**0.89**	**304**	P	**Pb**	**14 35 36.7**	**0.0**
	baz=303						
YM08				S	**Sb**	**14 35 48.4**	**+0.1**
	baz=303						
YM10	**YM10**	**0.90**	**301**	P	**Pb**	**14 35 37.0**	**+0.3**
	baz=300						
YM10				S	**Sg**	**14 35 49.3**	**+0.1**
	baz=300						
YM05	**YM05**	**0.90**	**302**	P	**Pb**	**14 35 37.1**	**+0.3**
	baz=301						
YM05				S	**Sg**	**14 35 49.0**	**-0.2**
	baz=301						
NACB	**Ninganchiao**	**0.90**	**235**	P	**Pb**	**14 35 36.4**	**-0.4**
	baz=231						
NACB				*eS*	**Sg**	**14 35 49.5**	**+0.2**
	baz=231						
YM04	**YM04**	**0.91**	**301**	P	**Pn**	**14 35 37.4**	**-0.2**
	baz=299						
YM04				S	**Sg**	**14 35 49.5**	**-0.2**
	baz=299						
TWY	**Chenhua**	**0.94**	**309**	P	**Pn**	**14 35 37.7**	**-0.2**
	baz=308						
TWY				*i* S	**Sg**	**14 35 50.6**	**+0.2**
	baz=308						
YHNB	**Yeheng**	**0.94**	**269**	P	**Pb**	**14 35 37.5**	**0.0**
	baz=266						
YHNB				S	**Sb**	**14 35 49.8**	**+0.3**
	baz=266						
NSK	**Sanguang**	**0.95**	**269**	*i* P	**Pb**	**14 35 37.6**	**-0.1**
	baz=266						
NSK				S	**Sb**	**14 35 49.7**	**-0.3**
	baz=266						
TWD	**Chiawan**	**0.95**	**231**	P	**Pb**	**14 35 38.1**	**+0.3**
	baz=235						
TWD				*eS*	**Sn**	**14 35 52.0**	**+0.7**
	baz=235						
NNSB	**Datong**	**0.97**	**255**	P	**Pb**	**14 35 37.8**	**-0.2**
	baz=251						
NNSB				S	**Sb**	**14 35 51.1**	**+0.6**
	baz=251						
NNSH	**Datong**	**0.97**	**255**	*i* P	**Pb**	**14 35 37.8**	**-0.2**
	baz=243						
NNSH				S	**Sb**	**14 35 50.1**	**-0.3**
	baz=243						
ETLH	**Xiulin Townshi**	**0.97**	**240**	P	**Pb**	**14 35 37.9**	**-0.2**
	baz=237						
ETLH				*eS*	**Sg**	**14 35 51.4**	**-0.1**
	baz=237						
NNS	**Nan Shan**	**0.97**	**255**	*i* P	**Pb**	**14 35 37.9**	**-0.2**
	baz=252						
NNS				S	**Sb**	**14 35 50.7**	**+0.1**
	baz=252						
PCYT	**Pengchaiyu**	**0.98**	**342**	P	**Pg**	**14 35 39.6**	**+0.6**
	baz=344						
TWS1	**Kuangyinshan**	**0.98**	**295**	*eP*	**Pg**	**14 35 39.5**	**+0.5**
	baz=293						
TWS1				S	**Sg**	**14 35 52.5**	**+0.5**
	baz=293						
FUSS	**Fushou**	**1.15**	**248**	P	**Pb**	**14 35 41.6**	**+0.4**
	baz=244						
FUSS				S	**Sn**	**14 35 56.7**	**+0.3**
	baz=244						
WHF	**Hehuan Shan**	**1.17**	**243**	P	**Pb**	**14 35 41.8**	**+0.1**
	baz=239						
WHF				S	**Sg**	**14 35 58.0**	**0.0**
	baz=239						
TDCB	**Techi**	**1.22**	**249**	P	**Pb**	**14 35 42.7**	**+0.4**
	baz=238						
TDCB				S	**Sg**	**14 35 59.0**	**-0.4**
	baz=238						
ESL	**Shilin**	**1.24**	**226**	*i* P	**Pg**	**14 35 43.5**	**-0.4**
	baz=221						
ESL				S	**Sg**	**14 36 01.5**	**+1.3**
	baz=221						
IRIF	**Iriomote-Funau**	**1.26**	**106**	P	**Pn**	**14 35 42.3**	**-0.1**
IRIF				S	**Sn**	**14 35 58.6**	**-0.2**
LIOB	**Emei**	**1.26**	**268**	*i* P	**Pg**	**14 35 44.3**	**0.0**
	baz=266						
LIOB				S	**Sg**	**14 36 01.1**	**+0.2**
	baz=266						
NSTT	**Nanjuang**	**1.28**	**268**	P	**Pg**	**14 35 44.5**	**-0.1**
	baz=247						
NSTT				S	**Sg**	**14 36 01.5**	**+0.3**
	baz=265						
CHGB	**Renai**	**1.28**	**241**	P	**Pb**	**14 35 44.2**	**+0.7**
	baz=247						
CHGB				S	**Sg**	**14 36 02.5**	**+0.9**
	baz=247						
EGFH	**Guangfu**	**1.35**	**221**	*eS*	**Sg**	**14 36 03.9**	**+0.2**
	baz=200						
WHP	**Taichung City**	**1.39**	**253**	P	**Pg**	**14 35 46.5**	**-0.2**
	baz=249						
HATJ	**Hateruma jima**	**1.42**	**116**	P	**Pn**	**14 35 44.6**	**-0.1**
HATJ				S	**Sn**	**14 36 02.2**	**-0.7**
NMLH	**Miaoli**	**1.48**	**264**	P	**Pg**	**14 35 48.5**	**+0.2**
	baz=262						
NMLH				*eS*	**Sg**	**14 36 07.1**	**-0.5**
	baz=262						
VWDT	**VWDT**	**1.48**	**231**	P	**Pg**	**14 35 47.8**	**-0.6**
	baz=210						
VWDT				S	**Sb**	**14 36 06.5**	**+1.3**
	baz=210						
HGSD	**Ruisui**	**1.49**	**217**	P	**Pb**	**14 35 46.9**	**0.0**
	baz=201						
DPDB	**Guoxing**	**1.50**	**244**	P	**Pg**	**14 35 48.6**	**-0.2**
	baz=240						
TWQ1	**Liyutan**	**1.52**	**257**	*eP*	**Pg**	**14 35 49.6**	**+0.4**
	baz=274						
JKRS	**Kuro-shima**	**1.53**	**107**	P	**Pn**	**14 35 46.7**	**+0.6**
JKRS				*eS*	**Sn**	**14 36 05.7**	**+0.2**
EHY	**Hungye**	**1.54**	**220**	P	**Pb**	**14 35 47.2**	**-0.5**
	baz=216						
SMLT	**Sun Moon Lake**	**1.59**	**240**	P

STYH				*e*S		**Sb**	14 36 22.6	-1.1
	baz=206							
TPUB	**Ta-pu**	**2.13**	**230**	P		**Pb**	14 35 57.4	-0.4
	baz=208							
TPUB				S		**Sb**	14 36 24.5	+0.6
	baz=208							
WTP	**Ta-pu**	**2.18**	**229**	*i* P		**Pb**	14 35 59.2	+0.6
	baz=208							
WTP				*e*S		**Sb**	14 36 25.9	+0.6
	baz=208							
TWK	**Hsinying**	**2.25**	**231**	*e*P		**Pb**	14 35 59.5	-0.4
	baz=212							
TWK				*e*S		**Sb**	14 36 28.7	+1.2
	baz=212							
CHN1	**Nanshi**	**2.28**	**229**	*e*P		**Pb**	14 36 00.4	+0.1
	baz=209							
CHN1				*e*S		**Sb**	14 36 29.3	+1.1
	baz=209							
SLGT	**Liugui**	**2.33**	**224**	P		**Pb**	14 36 00.9	-0.4
	baz=220							
SLGT				*e*S		**Sb**	14 36 29.9	+0.2
	baz=220							
MASBT	**Mashibuluo**	**2.63**	**219**	*e*P		**Pb**	14 36 04.5	-1.8
	baz=202							
MASBT				*e*S		**Sb**	14 36 37.3	-0.9
	baz=202							

IDC ***31*** *14:39:21.5±0.7, 48°.28N×156°.91E, h0km, mb3.8/19, mb1 4.0/24, mb1mx3.8/69, mbtmp3.8/24, ML3.0/5, Error ellipse: s-maj=18.1km s-min=13.2km az=140.0*
SKHL ***31*** *14:39:25.6±0.3, 48°.30N×156°.60E, h45km±4km, mb4.5/5*
NEIC ***31*** *14:39:26.7±1.5, 48°.22N±0°.07×156°.9E±0°.1, h37km±7km, mb4.3/47, Error ellipse: s-maj=11.1km s-min=9.5km az=76.0*
MOS ***31*** *14:39:26.0±1.0, 48°.40N×157°.05E, h45km, mb4.3/7, Error ellipse: s-maj=11.9km s-min=3.6km az=84.6*
KRSC ***31*** *14:39:26.0±2.1, 48°.58N×157°.67E, h30km±28km, ML4.4*

ISC 31 14:39:26.6±0.5, 48°29N±0°.06×157°.05E±0°.05, h35km, n186, σ1§75/223, mb4.1/43, 3C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.47**	**346**	*e*PN		**Pn**	**14 40 03.1**	**-1.2**
SKR				*e*S		**Sn**	**14 40 31.3**	**-1.9**
SKR				pmax		pmax		
	comp=Z,32nm,0.5s							
SKR				smax		smax		
	comp=E,763nm,0.5s							
SKR				smax		smax		
	comp=N,708nm,0.4s							
SKR				MLR		MLR		
	comp=Z,300nm,10.0s							
SKR	**Severo-Kuril's**	**2.47**	**346**	*e*P		**Pn**	**14 40 03.0**	**-1.2**
SKR				*e*S		**Sn**	**14 40 30.8**	**-2.4**
SKR	**Severo-Kuril's**	**2.47**	**346**	*e*P		**Pn**	**14 40 02.9**	**-1.4**
SKR				AMB		AMB	14 40 05.2	
	comp=Z,40nm,0.4s							
SKR				*e*S		**Sn**	**14 40 30.7**	**-2.4**
SKR				A		A	14 40 32.8	
	comp=Z,490nm,0.4s							
SKR				A		A	14 40 32.8	
	comp=Z,400nm,0.4s							
ALID	**Alaid**	**2.76**	**340**	PN		**Pn**	**14 40 07.9**	**-0.5**
ALID				S		**Sn**	**14 40 39.8**	**-0.7**
ALID	**Alaid**	**2.76**	**340**	*e*P		**Pn**	**14 40 07.9**	**-0.5**
ALID				*e*S		**Sn**	**14 40 39.8**	**-0.7**
PAU	**Pauzhetka**	**3.18**	**357**	PN		**Pn**	**14 40 13.5**	**-0.6**
PAU				S		**Sn**	**14 40 48.7**	**-2.1**
PAU	**Pauzhetka**	**3.18**	**357**	*e*P		**Pn**	**14 40 13.5**	**-0.6**
PAU				*e*S		**Sn**	**14 40 48.7**	**-2.1**
PAU	**Pauzhetka**	**3.18**	**357**	*e*P		**Pn**	**14 40 13.3**	**-0.8**
PAU				AMB		AMB	14 40 14.2	
	comp=Z,60nm,0.5s							
PAU				*e*S		**Sn**	**14 40 49.3**	**-1.5**
PAU				A		A	14 40 51.6	
	comp=Z,380nm,0.5s							
PAU				A		A	14 40 51.6	
	comp=Z,450nm,0.5s							
KDTR	**Khodutka, Kamc**	**3.58**	**10**	PN		**Pn**	**14 40 18.3**	**-1.3**
KDTR				S		**Sn**	**14 40 56.9**	**-3.7**
KDTR	**Khodutka, Kamc**	**3.58**	**10**	*e*P		**Pn**	**14 40 18.3**	**-1.3**
KDTR				*e*S		**Sn**	**14 40 56.9**	**-3.7**
MIPR	**Malaya Ipel'ka**	**3.99**	**357**	PN		**Pn**	**14 40 25.8**	**+0.5**
MIPR				S		**Sn**	**14 41 10.0**	**-0.8**
MIPR	**Malaya Ipel'ka**	**3.99**	**357**	*e*P		**Pn**	**14 40 25.8**	**+0.5**
MIPR				*e*S		**Sn**	**14 41 10.0**	**-0.8**
ASAK	**Asacha**	**4.13**	**7**	PN		**Pn**	**14 40 26.5**	**-0.7**
ASAK				S		**Sn**	**14 41 11.7**	**-2.6**
ASAK	**Asacha**	**4.13**	**7**	*e*P		**Pn**	**14 40 26.5**	**-0.7**
ASAK				*e*S		**Sn**	**14 41 11.7**	**-2.6**
RUS	**Russkaya**	**4.25**	**12**	PN		**Pn**	**14 40 27.5**	**-1.3**
RUS				S		**Sn**	**14 41 13.9**	**-3.2**
RUS	**Russkaya**	**4.25**	**12**	*e*P		**Pn**	**14 40 27.5**	**-1.3**
RUS				*e*S		**Sn**	**14 41 13.9**	**-3.2**
MTVR	**Mutnovka**	**4.26**	**9**	PN		**Pn**	**14 40 28.7**	**-0.3**
MTVR				S		**Sn**	**14 41 15.0**	**-2.5**
MTVR	**Mutnovka**	**4.26**	**9**	*e*P		**Pn**	**14 40 28.7**	**-0.3**
MTVR				*e*S		**Sn**	**14 41 15.0**	**-2.5**
GRL	**Gorelyy**	**4.32**	**8**	PN		**Pn**	**14 40 29.3**	**-0.5**
GRL				S		**Sn**	**14 41 16.8**	**-2.1**
GRL	**Gorelyy**	**4.32**	**8**	*e*P		**Pn**	**14 40 29.3**	**-0.5**
GRL				*e*S		**Sn**	**14 41 16.8**	**-2.1**
KRMR	**Karymshinskiy**	**4.60**	**8**	PN		**Pn**	**14 40 34.4**	**+0.9**
KRMR				S		**Sn**	**14 41 23.3**	**-2.3**
KRMR	**Karymshinskiy**	**4.60**	**8**	*i* P		**Pn**	**14 40 34.4**	**+0.9**
KRMR				*e*S		**Sn**	**14 41 23.3**	**-2.3**
APC	**Apacha**	**4.64**	**1**	PN		**Pn**	**14 40 35.6**	**+1.5**
APC	**Apacha**	**4.64**	**1**	*e*P		**Pn**	**14 40 35.6**	**+1.5**
PEA0B	**Petropavlovsk-**	**4.84**	**5**	PN		**Pn**	**14 40 37.2**	**+0.3**
PEA0B	**Petropavlovsk-**	**4.84**	**5**	Pn		**Pn**	**14 40 37.2**	**+0.3**
PETK	**Petropavlovsk-**	**4.84**	**5**	Pn		**Pn**	**14 40 36.8**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=169,slow=15,SNR=36							
PETK					Sn	**Sn**	**14 41 35.3**	**+3.6**
	comp=Z,1.4nm,0.3s,baz=136,slow=13,SNR=1.7							
PETK	**Petropavlovsk-**	**4.84**	**5**			**Pn**	**14 40 37.1**	**+0.2**
PET	**Petropavlovsk**	**4.85**	**12**	*e*PN		**Pn**	**14 40 36.1**	**-0.8**
PET				pmax		pmax		
	comp=Z,35nm,0.4s							
PET	**Petropavlovsk**	**4.85**	**12**	*e*P		**Pn**	**14 40 36.7**	**-0.2**
PET				*e*S		**Sn**	**14 41 28.7**	**-3.1**
PET	**Petropavlovsk**	**4.85**	**12**			**Pn**	**14 40 36.0**	**-1.0**
PET	**Petropavlovsk**	**4.85**	**12**	*e*P		**Pn**	**14 40 36.6**	**-0.3**
PET				AMB		AMB	14 40 38.8	
	comp=Z,40nm,0.4s							
PET				*e*S		**Sn**	**14 41 31.3**	**-0.5**
PET				A		A	14 41 32.2	
	comp=Z,120nm,0.4s							
PET				A		A	14 41 32.2	
	comp=Z,120nm,0.4s							
DALK	**Dalny**	**4.87**	**12**	PN		**Pn**	**14 40 35.9**	**-1.3**
DALK	**Dalny**	**4.87**	**12**	*e*P		**Pn**	**14 40 35.9**	**-1.3**
DALK				*e*S		**Sn**	**14 41 29.3**	**-3.0**
UGLR	**Uglovaya**	**5.05**	**12**	PN		**Pn**	**14 40 39.6**	**-0.3**
UGLR	**Uglovaya**	**5.05**	**12**	*e*P		**Pn**	**14 40 39.6**	**-0.3**
UGLR				*e*S		**Sn**	**14 41 33.7**	**-3.3**
AVH	**Avacha**	**5.09**	**12**	PN		**Pn**	**14 40 40.5**	**+0.1**
AVH				S		**Sn**	**14 41 36.0**	**-2.0**
AVH	**Avacha**	**5.09**	**12**	*e*P		**Pn**	**14 40 40.5**	**+0.1**
AVH				*e*S		**Sn**	**14 41 36.0**	**-2.0**
AVH	**Avacha**	**5.09**	**12**	*e*P		**Pn**	**14 40 40.5**	**+0.1**
NLC	**Nalytchevo**	**5.10**	**16**	*e*S		**Sn**	**14 41 32.5**	**-5.5**
SMAR	**Somma**	**5.10**	**12**	PN		**Pn**	**14 40 40.9**	**+0.3**
SMAR	**Somma**	**5.10**	**12**	*e*P		**Pn**	**14 40 40.9**	**+0.3**
KOK	**Koryaka**	**5.11**	**11**	PN		**Pn**	**14 40 41.2**	**+0.6**
KOK				S		**Sn**	**14 41 36.6**	**-1.8**
KOK	**Koryaka**	**5.11**	**11**	*e*P		**Pn**	**14 40 41.2**	**+0.6**
KOK				*e*S		**Sn**	**14 41 36.6**	**-1.8**
KOK	**Koryaka**	**5.11**	**11**	*e*P		**Pn**	**14 40 41.2**	**+0.6**
SDLR	**Sedlovina**	**5.13**	**12**	PN		**Pn**	**14 40 39.9**	**-1.0**
SDLR	**Sedlovina**	**5.13**	**12**	*e*P		**Pn**	**14 40 39.9**	**-1.0**
SDLR				*e*S		**Sn**	**14 41 35.5**	**-3.4**
KRER	**Koryakskii**	**5.13**	**11**	PN		**Pn**	**14 40 41.0**	**-0.1**
KRER	**Koryakskii**	**5.13**	**11**	*e*P		**Pn**	**14 40 41.0**	**-0.1**
KRER				*e*S		**Sn**	**14 41 36.9**	**-2.3**
SPN	**Mys Shipunski**	**5.17**	**20**	PN		**Pn**	**14 40 40.7**	**-0.7**
SPN	**Mys Shipunski**	**5.17**	**20**	*e*P		**Pn**	**14 40 40.7**	**-0.7**
SPN				*e*S		**Sn**	**14 41 35.9**	**-3.9**
KRX	**Arik**	**5.17**	**11**	PN		**Pn**	**14 40 42.1**	**+0.5**
KRX	**Arik**	**5.17**	**11**	*e*P		**Pn**	**14 40 42.1**	**+0.5**
KRX				*e*S		**Sn**	**14 41 37.4**	**-2.7**
GNL	**Ganaly**	**5.44**	**6**	PN		**Pn**	**14 40 45.4**	**+0.2**
GNL	**Ganaly**	**5.44**	**6**	*e*P		**Pn**	**14 40 45.4**	**+0.2**
KII	**Karymskiy**	**5.95**	**14**	PN		**Pn**	**14 40 53.6**	**+1.5**
KII	**Karymskiy**	**5.95**	**14**	*e*P		**Pn**	**14 40 53.6**	**+1.5**
KII				*e*S		**Sn**	**14 41 56.8**	**-2.2**
MKZ	**Mys Kozlova**	**6.92**	**23**	PN		**Pn**	**14 41 03.9**	**-1.5**
MKZ	**Mys Kozlova**	**6.92**	**23**	*e*P		**Pn**	**14 41 03.9**	**-1.5**
MKZ				*e*S		**Sn**	**14 42 16.7**	**-6.1**
KUR	**Kuril'sk**	**7.01**	**248**	*e*PN		**Pn**	**14 41 04.2**	**-2.4**
KUR				pmax		pmax		
	comp=Z,28nm,0.7s							
KUR	**Kuril'sk**	**7.01**	**248**	*e*P		**Pn**	**14 41 03.7**	**-2.9**
KUR				AMB		AMB	14 41 06.2	
	comp=Z,50nm,0.9s							
KUR				*e*S		Sn	14 42 14.8	-10
KUR				A		A	14 42 33.4	
	comp=Z,40nm,0.5s							
KUR				A		A	14 42 33.4	
	comp=Z,60nm,0.5s							
KZV	**Kizimen**	**7.12**	**15**	PN		**Pn**	**14 41 08.9**	**+0.6**
KZV	**Kizimen**	**7.12**	**15**	*e*P		**Pn**	**14 41 08.9**	**+0.6**
KZV				*e*S		**Sn**	**14 42 25.3**	**-2.7**
TUMD	**Tumrok D**	**7.23**	**15**	*e*P		**Pn**	**14 41 10.4**	**+0.8**
TUMD				*e*S		**Sn**	**14 42 26.8**	**-3.6**
TUMR	**Tumrok**	**7.26**	**14**	PN		**Pn**	**14 41 10.4**	**+0.2**
TUMR	**Tumrok**	**7.26**	**14**	*e*P		**Pn**	**14 41 11.1**	**+0.9**
KBTR	**Krutoberegovo**	**8.68**	**22**	PN		**Pn**	**14 41 27.9**	**-1.6**
KBTR	**Krutoberegovo**	**8.68**	**22**	*e*P		**Pn**	**14 41 27.9**	**-1.6**
KBTR				*e*S		**Sn**	**14 42 58.8**	**-7.2**
YUK	**Yuzh-Kuril'sk**	**8.85**	**245**	PN		Pn	14 41 28.0	-3.9
YUK	**Yuzh-Kuril'sk**	**8.85**	**245**	*e*P		**Pn**	**14 41 28.3**	**-3.6**
YUK				AMB		AMB	14 41 29.1	
	comp=Z,20nm,0.6s							
BKI	**Bering**	**8.86**	**35**	*e*S		Sn	14 43 01.3	-9.1
RUSJ	**Misakicho**	**9.19**	**247**	PN		**Pn**	**14 41 33.1**	**-3.4**
NMR	**Nemuro--Hokkai**	**9.30**	**242**	*e*PN		Pn	14 41 31.8	-6.3
NMR	**Nemuro--Hokkai**	**9.30**	**242**	*e*P		Pn	14 41 32.4	-5.7
NMR				*e*S		Sn	14 43 09.9	-12
JKA	**Kamikawa-asahi**	**10.85**	**253**			**Pn**	**14 41 56.9**	**-2.3**
ASAJ	**Asahikawa**	**10.85**	**253**	Pn		**Pn**	**14 41 56.9**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=10,slow=11,SNR=1.9							
ERM	**Erimo**	**11.63**	**243**	PN		**Pn**	**14 42 07.1**	**-2.9**
ERM	**Erimo**	**11.63**	**243**	Pn		**Pn**	**14 42 07.1**	**-2.9**
SMY	**Shemya**	**11.72**	**61**	PN		**Pn**	**14 42 11.5**	**+0.4**
SMY	**Shemya**	**11.72**	**61**	Pn		**Pn**	**14 42 11.5**	**+0.4**
MA2	**Magadan**	**11.89**	**344**	Pn		**Pn**	**14 42 12.3**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=159,slow=13,SNR=5.2							
SEY	**Seymchan**	**14.90**	**352**	Pn		**Pn**	**14 42 54.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=232,slow=19,SNR=1.6							
SEY	**Seymchan**	**14.90**	**352**	P		**Pn**	**14 42 54.0**	**-0.4**
SEY	**Seymchan**	**14.90**	**352**	*e*P		**Pn**	**14 42 54.0**	**-0.4**
EKMR	**Ekimchan**	**15.97**	**296**	*e*P		**Pn**	**14 43 02.7**	**-5.7**
KLR	**Kul'dur**	**16.69**	**283**	Pn		**Pn**	**14 43 16.3**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=70,slow=14,SNR=3.9							
GSTR	**Great Sitkin T**	**17.59**	**67**	Pn		**Pn**	**14 43 29.2**	**+0.4**
MJA0	**Matsu Arr-Jizo**	**18.12**	**237**	*e*P		**P**	**14 43 37.5**	**+2.0**
MJAR	**Matsushiro Arr**	**18.15**	**237**	P		**Pn**	**14 43 34.5**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=42,slow=12,SNR=4.0							
KROS	**Kirovskiy**	**19.66**	**300**	*e*P		**P**	**14 43 52.7**	**+0.5**
BILL	**Bilibino**	**20.35**	**10‖**	*e*P		**P**	**14 43 59.4**	**-0.1**
BILL				*e*SP		**sP**	**14 44 14.0**	**+4.0**
BILL				*e*			14 44 18.6	
BILL				*e*			14 44 28.3	
BILL				*i* SS		Sn	14 48 05.4	+16
BILL				pmax		pmax		
	comp=Z,4.0nm,0.9s							
BILL	**Bilibino**	**20.35**	**10**	P		**P**	**14 44 00.8**	**+1.3**
YAK	**Yakutsk**	**20.61**	**322**	*i* P		**P**	**14 44 03.1**	**+0.7**
YAK	**Yakutsk**	**20.61**	**322**	*e*P		**P**	**14 44 03.1**	**+0.7**
GAMB	**Gambell**	**23.00**	**36**	P		**P**	**14 44 28.7**	**+0.7**
KSRS	**Korea Array**	**23.80**	**254**	P		**P**	**14 44 34.9**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=48,slow=11,SNR=5.3							
KSRS	**Korea Array**	**23.80**	**254**	*e*P		**P**	**14 44 37.8**	**+1.9**
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.9s							
TNA	**Tin City**	**25.26**	**34**	P		**P**	**14 44 49.6**	**+0.5**
TNA				IAmb		IAmb	14 44 53.5	
	comp=Z,5.6nm,1.4s							
ANM	**Nome**	**25.86**	**37**	P		**P**	**14 44 56.0**	**+1.5**
ANM				pmax		pmax		
	comp=Z,4.0nm,1.0s							
ANM	**Nome**	**25.86**	**37**	P		**P**	**14 44 56.0**	**+1.5**
JSU	**Suzuyama**	**26.21**	**240**	P		**P**	**14 44 55.4**	**-2.6**
TIXI	**Tiksi**	**26.82**	**341**	P		**P**	**14 45 02.7**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=126,slow=11,SNR=2.7							
TIXI	**Tiksi**	**26.82**	**341**	*ce*P		**P**	**14 45 02.9**	**-0.1**
TIXI	**Tiksi**	**26.82**	**341**	P		**P**	**14 45 02.3**	**-0.7**
TIXI	**Tiksi**	**26.82**	**341**	*e*P		**P**	**14 45 02.9**	**-0.1**
SVW2	**Sparrevohn**	**29.51**	**47**	P		**P**	**14 45 28.6**	**+1.5**
SVW2				IAmb		IAmb	14 45 32.7	
	comp=Z,5.0nm,1.3s							
WAKE	**Wake Island**	**29.97**	**162**	P		**P**	**14 45 30.9**	**-0.6**
RSO	**Redoubt South**	**30.87**	**48**	P		**P**	**14 45 41.0**	**+1.5**
IMAR	**Indian Mountai**	**30.94**	**37**	P		**P**	**14 45 40.9**	**+1.1**
KDAK	**Kodiak Island**	**31.05**	**53**	P		**P**	**14 45 41.3**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=300,slow=10,SNR=4.1							
KDAK	**Kodiak Island**	**31.05**	**53**	P		**P**	**14 45 41.3**	**+0.5**
KDAK				pmax		pmax		
	comp=Z,17nm,1.5s							
KDAK	**Kodiak Island**	**31.05**	**53**	IAmb		IAmb	14 45 47.8	
	comp=Z,17nm,1.4s							
PPLA	**Purkeypile**	**31.23**	**43**	P		**P**	**14 45 44.4**	**+1.9**
PPLA				IAmb		IAmb	14 45 47.0	
	comp=Z,9.8nm,1.4s							
MLY	**Manley**	**32.05**	**39**	P		**P**	**14 45 51.0**	**+1.4**
TRF	**Thorofare Moun**	**32.12**	**42**	P		**P**	**14 45 51.5**	**+1.2**
TRF				IAmb		IAmb	14 46 14.6	
	comp=Z,6.8nm,1.4s							
NEA2	**Nenana**	**32.72**	**40**	P		**P**	**14 45 56.6**	**+1.2**
NEA2				IAmb		IAmb	14 45 58.4	
	comp=Z,1.6nm,0.7s							
RND	**Reindeer**	**32.76**	**42**	P		**P**	**14 45 56.4**	**+0.5**
RND				pmax		pmax		
	comp=Z,9.0nm,1.2s							
RND	**Reindeer**	**32.76**	**42**	P		**P**	**14 45 56.4**	**+0.5**
RND				IAmb		IAmb	14 45 57.3	
	comp=Z,9.0nm,1.2s							
SML	**Sawmill**	**33.00**	**45**	P		**P**	**14 45 58.5**	**+0.5**
SML				IAmb		IAmb	14 45 59.6	
	comp=Z,4.6nm,0.7s							
MDM	**Murphy Dome**	**33.10**	**40**	P		**P**	**14 46 00.3**	**+1.5**
WRH	**Wood River Hil**	**33.14**	**40**	P		**P**	**14 46 00.2**	**+1.2**
WRH				IAmb		IAmb	14 46 05.8	
	comp=Z,6.3nm,1.5s							
CCB	**Clear Creek Bu**	**33.27**	**40**	P		**P**	**14 46 01.0**	**+0.9**
GLI	**Glacier Island**	**33.64**	**47**	P		**P**	**14 46 04.2**	**+0.7**
ILAR	**Eielson Array**	**33.67**	**40**	P		**P**	**14 46 03.6**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=244,slow=7.9,SNR=7.9							
KLU	**Klutina**	**34.17**	**46**	P		**P**	**14 46 09.2**	**+1.1**
PRP	**Porcupine Dome**	**34.27**	**39**	P		**P**	**14 46 10.6**	**+1.5**
PRP				IAmb		IAmb	14 46 25.9	
	comp=Z,3.8nm,0.6s							
BMAR	**Burnt Mountain**	**34.73**	**35**	P		**P**	**14 46 14.8**	**+1.9**
N25K	**Chitina, Valde**	**34.79**	**45**	P		**P**	**14 46 15.1**	**+1.6**
N25K				IAmb		IAmb	14 46 43.0	
	comp=Z,9.6nm,1.4s							
DOT	**Dot Lake**	**34.91**	**42**	P		**P**	**14 46 14.5**	**0.0**
DOT				IAmb		IAmb	14 46 18.7	
	comp=Z,2.2nm,1.1s							
VRDI	**Verde Repeater**	**35.38**	**46**	P		**P**	**14 46 20.1**	**+1.4**
K27K	**Chicken**	**35.77**	**41**	P		**P**	**14 46 22.9**	**+1.1**
K27K				IAmb		IAmb	14 46 24.1	
	comp=Z,2.3nm,0.9s							
L27K	**Beaver Creek,**	**35.95**	**43**	P		**P**	**14 46 25.3**	**+1.8**
L27K				IAmb		IAmb	14 46 26.5	
	comp=Z,4.6nm,1.3s							
BCAR	**Beaver Creek A**	**35.97**	**43**	P		**P**	**14 46 25.2**	**+1.6**
BARN	**Barnard Glacie**	**36.26**	**46**	P		**P**	**14 46 28.4**	**+2.2**
BARN				IAmb		IAmb	14 46 52.5	
	comp=Z,8.9nm,1.4s							
YAH	**Yahtse**	**36.32**	**47**	P		**P**	**14 46 28.8**	**+2.0**
CTGM	**Chitina Glacie**	**36.43**	**46**	P		**P**	**14 46 29.6**	**+1.9**
CTGM				IAmb		IAmb	14 46 33.3	
	comp=Z,7.2nm,1.2s							
HYT	**Haines Junctio**	**38.30**	**46**	P		**P**	**14 46 45.7**	**+2.2**
HYT				IAmb		IAmb	14 46 46.6	
	comp=Z,3.6nm,1.0s							
EUNU	**Eureka**	**47.07**	**12**	P		**P**	**14 47 55.9**	**+1.7**
EUNU				IAmb		IAmb	14 47 57.4	
	comp=Z,3.0nm,1.1s							
YKA	**Yellowknife Ar**	**48.08**	**39**	P		**P**	**14 48 03.4**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=297,slow=7.2,SNR=10							
MK31	**Makanchi Array**	**48.59**	**298**	*i* P		**P**	**14 48 05.6**	**-0.8**
MK31	**Makanchi Array**	**48.59**	**298**	P		**P**	**14 48 05.4**	**-1.0**
MK31				IAmb		IAmb	14 48 09.9	
	comp=Z,2.2nm,1.4s							
MKAR	**Makanchi Array**	**48.59**	**298**	P		**P**	**14 48 05.7**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=67,slow=8.5,SNR=5.4							
MKAR	**Makanchi Array**	**48.59**	**298**	*e*P		**P**	**14 48 08.9**	**+2.5**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**48.59**	**298**	P		**P**	**14 48 05.4**	**-1.0**
KURK	**Kurchatov**	**48.72**	**304**	P		**P**	**14 48 07.9**	**+0.6**
KURK	**Kurchatov**	**48.72**	**304**	P		**P**	**14 48 07.9**	**+0.6**
KURK	**Kurchatov**	**48.72**	**304**	*e*P		**P**	**14 48 07.9**	**+0.6**
MAKZ	**Makanchi**	**48.77**	**298**	P		**P**	**14 48 07.4**	**-0.4**
MAKZ				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MAKZ	**Makanchi**	**48.77**	**298**	P		**P**	**14 48 07.4**	**-0.4**
KURBB	**Kurchatov Arra**	**48.82**	**304**	P		**P**	**14 48 07.9**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=68,slow=8.3,SNR=13							
BVAR	**Borovoye Array**	**51.92**	**310**	P		**P**	**14 48 31.5**	**0.0**
	comp=Z,0.5nm,0.6s,baz=152,slow=6.4,SNR=3.6							
K05A	**Summer Lake**	**55.17**	**63**	P		**P**	**14 48 56.7**	**+1.0**
K05A				IAmb		IAmb	14 48 58.9	
	comp=Z,7.4nm,1.3s							
CMAR	**Chiang Mai Arr**	**55.31**	**259**	P		**P**	**14 48 56.9**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=34,slow=7.4,SNR=9.5							
CMAR	**Chiang Mai Arr**	**55.31**	**259**	*e*P		**P**	**14 48 57.3**	**+0.6**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
WALA	**Waterton Lakes**	**55.39**	**53**	P		**P**	**14 48 57.9**	**+0.8**
ARU	**Arti**	**55.66**	**318**	P		**P**	**14 48 58.6**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=63,slow=5.8,SNR=8.4							
ARU	**Arti**	**55.66**	**318**	*c i*P		**P**	**14 48 58.5**	**-0.2**
ARU				*PP		**sP**	**14 49 09.4**	**-0.7**
ARU				S		**S**	**14 56 43.9**	**+1.8**
ARU				SS		**SS**	**15 00 25.7**	**-1.1**
ARU				pmax		pmax		
	comp=Z,4.0nm,0.7s							
ARU	**Arti**	**55.66**	**318**	IAmb		IAmb	14 48 59.4	
	comp=Z,4.8nm,0.6s							
ARU	**Arti**	**55.66**	**318**	*e*P		**P**	**14 48 58.5**	**-0.2**
KK31	**Karatay Array**	**57.56**	**300**	P		**P**	**14 49 11.2**	**-1.3**
KK31				pmax		pmax		
	comp=Z,3.0nm,1.2s							
KK31	**Karatay Array**	**57.56**	**300**	P		**P**	**14 49 11.2**	**-1.3**
KK31				IAmb		IAmb	14 49 25.3	
	comp=Z,3.0nm,1.1s							
KKAR	**Karatay Array**	**57.56**	**300**	P		**P**	**14 49 11.1**	**-1.4**
KKAR	**Karatay Array**	**57.56**	**300**	P		**P**	**14 49 11.1**	**-1.4**
NVAR	**Mina Array Bea**	**59.36**	**65**	P		**P**	**14 49 27.0**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=299,slow=7.8,SNR=3.6							
ABKAR	**Akbulak array**	**59.46**	**311**	P		**P**	**14 49 25.4**	**-0.2**
ABKAR	**Akbulak array**	**59.46**	**311**	P		**P**	**14 49 25.7**	**+0.2**
ABKAR				IAmb		IAmb	14 49 26.6	
	comp=Z,3.6nm,0.7s							
YHB	**Horse Butte**	**59.49**	**56**	P		**P**	**14 49 28.3**	**+2.1**
YHB				IAmb		IAmb	14 49 56.2	
	comp=Z,2.7nm,0.7s							
YHH	**Holmes Hill**	**59.66**	**56**	P		**P**	**14 49 29.4**	**+2.0**
PDAR	**Pinedale Array**	**61.68**	**57**	P		**P**	**14 49 42.3**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=297,slow=4.0,SNR=3.9							
RDMU	**Red Mountain**	**63.12**	**58**	P		**P**	**14 49 50.5**	**

ISC 31 15:21:07.5±1.1, 36.58N±0.02×97.62W±0.03, h5km±11km, n103, σ0.51/85, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.30**	**255**		**Pg**	**15 21 14.0**	**+0.5**
GC02	**Grant County #**	**0.33**	**324**	Pg	**Pg**	**15 21 14.3**	**+0.3**
KAN13	**South Haven SW**	**0.44**	**15**	Pg	**Pg**	**15 21 16.4**	**+0.2**
OK032	**Salt Plains WL**	**0.53**	**295**		**Pg**	**15 21 17.8**	**+0.2**
OK032				Sg	**Sg**	**15 21 25.0**	**+0.5**
KAN09	**Caldwell North**	**0.55**	**360**	Pg	**Pg**	**15 21 18.3**	**+0.1**
KAN01	**Argonia South**	**0.58**	**349**		**Pg**	**15 21 18.7**	**0.0**
KAN01				Sg	**Sg**	**15 21 26.0**	**-0.4**
KAN10	**Anthony SW Sta**	**0.66**	**325**		**Pg**	**15 21 20.2**	**-0.1**
KAN10				Sg	**Sg**	**15 21 28.9**	**0.0**
KAN08	**Anthony NE Sta**	**0.70**	**336**		**Pg**	**15 21 21.0**	**0.0**
KAN12	**Harper NE Stat**	**0.78**	**337**	Pg	**Pg**	**15 21 22.4**	**0.0**
OK029	**Liberty Lake**	**0.80**	**170**		**Pg**	**15 21 23.1**	**+0.3**
QUOK	**Quay**	**0.84**	**119**		**Pg**	**15 21 23.8**	**+0.1**
OK031	**S. Brethren Rd**	**0.89**	**135**	Pg	**Pg**	**15 21 24.4**	**-0.2**
BCOK	**Bluff Creek, N**	**0.92**	**180**		**Pg**	**15 21 25.4**	**+0.1**
OK030	**Cody Creek RV**	**0.94**	**134**		**Pg**	**15 21 25.6**	**+0.1**
T35A	**Sooner Cattle**	**0.95**	**69**	Pg	**Pg**	**15 21 25.6**	**-0.1**
T35B	**Sooner Cattle** baz=251,SNR=59	**0.95**	**69**	P	**Pg**	**15 21 25.7**	**-0.1**
T35B				S	**Sg**	**15 21 38.2**	**+0.2**
T35B	**Sooner Cattle** baz=251,SNR=59	**0.95**	**69**	P		15 21 25.7	
T35B				S		15 21 38.2	
OK025	**Westminster Rd** baz=251	**1.02**	**167**		**Pg**	**15 21 27.2**	**0.0**
U32A	**Winter Ranch,**	**1.13**	**260**		**Pb**	**15 21 28.8**	**-0.8**
U32A	**Winter Ranch,** baz=78,SNR=31	**1.13**	**260**	P	**Pb**	**15 21 28.9**	**-0.8**
U32A				S	**Sb**	**15 21 44.4**	**-0.3**
U32A	**Winter Ranch,** baz=78,SNR=31	**1.13**	**260**	P		15 21 28.9	
U32A				S		15 21 44.4	
OKCFA	**Oklahoma City** baz=354,SNR=5.7	**1.17**	**173**	Pg	**Pb**	**15 21 29.6**	**-0.7**
OKCFA	**Oklahoma City** baz=354,SNR=5.7	**1.17**	**173**	P	**Pb**	**15 21 29.9**	**-0.4**
OKCFA				S	**Sb**	**15 21 46.0**	**+0.3**
OKCFA	**Oklahoma City** baz=354,SNR=5.7	**1.17**	**173**	P		15 21 29.9	
OKCFA				S		15 21 46.0	
OKCSW	**OKLAHOMA CITY**	**1.18**	**173**		**Pb**	**15 21 30.1**	**-0.4**
FNO	**Franklin**	**1.33**	**172**		**Pn**	**15 21 33.0**	**+0.2**
TUL1	**Leonard** baz=296,SNR=73	**1.62**	**114**	P	**Pn**	**15 21 36.9**	**+0.1**
TUL1				S	**Sb**	**15 21 58.9**	**+0.2**
TUL1	**Leonard** baz=296,SNR=73	**1.62**	**114**	P		15 21 36.9	
TUL1				S		15 21 58.9	
R32A	**Long Quarter,**	**2.03**	**335**		**Pn**	**15 21 43.7**	**+1.2**
R32A	**Long Quarter,** baz=154,SNR=41	**2.03**	**335**	P	**Pn**	**15 21 43.9**	**+1.4**
R32A				S	**Sb**	**15 22 11.0**	**+0.4**
R32A	**Long Quarter,** baz=154,SNR=41	**2.03**	**335**	P		15 21 43.9	
R32A				S		15 22 11.0	
WMOK	**Wichita Mounta** comp=Z,223nm,1.0s	**2.07**	**208**		**Pn**	**15 21 43.5**	**+0.5**
WMOK				IAmb_Lg		15 22 14.4	
WMOK	**Wichita Mounta** baz=27,SNR=127	**2.07**	**208**	P	**Pn**	**15 21 43.8**	**+0.9**
WMOK	**Wichita Mounta** baz=27,SNR=127	**2.07**	**208**	P		15 21 43.8	
U38A	**Gravette**	**2.61**	**92**		**Pn**	**15 21 50.7**	**+0.4**
U38A	comp=Z,89nm,0.7s			IAmb_Lg		15 22 37.2	
KSU1	**Kansas State U**	**2.64**	**17**	Pn	**Pn**	**15 21 51.1**	**+0.3**
X37A	**Clayton**	**2.70**	**137**		**Pn**	**15 21 52.4**	**+0.7**
X37A	comp=Z,75nm,0.8s			IAmb_Lg		15 22 37.2	
CBKS	**Cedar Bluff**	**2.79**	**324**	Pn	**Pn**	**15 21 52.8**	**-0.1**
HHAR	**Hobbs**	**2.98**	**95**		**Pn**	**15 21 55.4**	**-0.1**
W39A	**Magazine**	**3.41**	**113**		**Pn**	**15 22 01.7**	**+0.5**
W39A	comp=Z,61nm,0.7s			IAmb_Lg		15 23 00.2	
S39A	**Bolivar**	**3.60**	**71**	Pn	**Pn**	**15 22 04.4**	**+0.4**
S39A	comp=Z,107nm,1.0s			IAmb_Lg		15 23 07.5	
S39A	**Bolivar** baz=254,SNR=7.1	**3.60**	**71**	P	**Pn**	**15 22 04.7**	**+0.6**
S39A				S	**Sn**	**15 22 47.6**	**+0.6**
S39A	**Bolivar** baz=254,SNR=7.1	**3.60**	**71**	P		15 22 04.7	
S39A				S		15 22 47.6	
AMTX	**Amarillo** comp=Z,114nm,0.8s	**3.71**	**244**	Pn	**Pn**	**15 22 05.6**	**0.0**
AMTX				IAmb_Lg		15 23 12.6	
U40A	**Yellville** comp=Z,102nm,0.7s	**3.85**	**92**	Pn	**Pn**	**15 22 07.3**	**0.0**
U40A				IAmb_Lg		15 23 16.3	
U40A	**Yellville** baz=275,SNR=9.3	**3.85**	**92**	P	**Pn**	**15 22 08.3**	**+0.9**
U40A	**Yellville** baz=275,SNR=9.3	**3.85**	**92**	P		15 22 08.3	
U40A				P		15 22 08.3	
MIAR	**Mount Ida** comp=Z,55nm,0.8s	**3.87**	**120**	Pn	**Pn**	**15 22 08.5**	**+0.8**
MIAR				IAmb_Lg		15 23 11.3	
Z38A	**Mt. Pleasant**	**3.96**	**146**	Pn	**Pn**	**15 22 09.9**	**+1.0**
N33A	**J Bar K, Exete**	**4.15**	**2**	Pn	**Pn**	**15 22 11.9**	**+0.3**
ABTX	**Abilene, Hawle**	**4.29**	**204**	Pn	**Pn**	**15 22 13.6**	**+0.2**
MGMO	**Mountain Grove**	**4.33**	**81**		**Pn**	**15 22 13.1**	**-0.9**
MGMO	comp=Z,107nm,0.7s			IAmb_Lg		15 23 31.0	
X40A	**Basin Creek Fa**	**4.42**	**117**		**Pn**	**15 22 16.4**	**+1.1**
P38A	**Dawn**	**4.43**	**45**	Pn	**Pn**	**15 22 14.9**	**-0.4**
P38A	comp=Z,78nm,0.7s			IAmb_Lg		15 23 28.9	
FCAR	**Ozark Folk Cen**	**4.49**	**97**	Pn	**Pn**	**15 22 17.1**	**+0.8**
WHAR	**Wooly Hollow**	**4.51**	**105**		**Pn**	**15 22 16.6**	**+0.1**
WHAR	comp=Z,57nm,0.8s			IAmb_Lg		15 23 40.8	
N35A	**Tabor**	**4.54**	**19**	Pn	**Pn**	**15 22 17.0**	**+0.1**
N35A	**Tabor** baz=200,SNR=7.9	**4.54**	**19**	P	**Pn**	**15 22 18.0**	**+1.1**
N35A	**Tabor** baz=200,SNR=7.9	**4.54**	**19**	P		15 22 18.0	
WHTX	**Lake Whitney,**	**4.58**	**178**	Pn	**Pn**	**15 22 18.0**	**+0.5**
WHTX	**Lake Whitney,** baz=358,SNR=6.9	**4.58**	**178**	P	**Pn**	**15 22 18.1**	**+0.5**
WHTX	**Lake Whitney,** baz=358,SNR=6.9	**4.58**	**178**	P		15 22 18.1	
R40A	**Maddies Statio** comp=Z,45nm,0.7s	**4.58**	**67**		**Pn**	**15 22 17.8**	**+0.3**
R40A				IAmb_Lg		15 23 38.0	
KSCO	**Kaye Shedlock'** comp=Z,54nm,0.7s	**4.65**	**303**	Pn	**Pn**	**15 22 18.8**	**+0.3**
KSCO				IAmb_Lg		15 23 38.7	
WLAR	**White Oak Lake**	**4.69**	**127**	Pn	**Pn**	**15 22 18.2**	**-0.7**
237A	**Washetta, Mont**	**4.81**	**161**	Pn	**Pn**	**15 22 20.6**	**0.0**
237A	comp=Z,65nm,1.0s			IAmb_Lg		15 23 52.5	
BGNE	**Belgrade** comp=Z,114nm,0.8s	**4.84**	**355**	Pn	**Pn**	**15 22 20.9**	**-0.1**
BGNE				IAmb_Lg		15 23 41.8	
MSTX	**Muleshoe**	**4.96**	**240**	Pn	**Pn**	**15 22 22.9**	**+0.2**
LCAR	**Lake Charles** comp=Z,54nm,0.8s	**5.24**	**94**	Pn	**Pn**	**15 22 27.1**	**+0.5**
LCAR				IAmb_Lg		15 23 56.4	
P40A	**Paris** comp=Z,86nm,0.8s	**5.29**	**55**	Pn	**Pn**	**15 22 27.3**	**+0.1**
P40A				IAmb_Lg		15 24 00.5	
NATX	**Nacogdoches** comp=Z,48nm,1.1s	**5.40**	**152**	IAmb_Lg		15 24 08.6	
N38A	**Joes South For** comp=Z,70nm,0.8s	**5.42**	**38**	Pn	**Pn**	**15 22 29.4**	**+0.4**
N38A				IAmb_Lg		15 24 12.6	
L34A	**Svendsen Farm,** comp=Z,51nm,0.8s	**5.46**	**10**	Pn	**Pn**	**15 22 29.4**	**-0.2**
L34A				IAmb_Lg		15 24 02.7	
T25A	**Trinidad**	**5.48**	**278**		**Pn**	**15 22 30.1**	**+0.1**
T25A	comp=Z,62nm,0.8s			IAmb_Lg		15 24 11.8	
OGNE	**Ogallala** comp=Z,81nm,0.8s	**5.56**	**323**	Pn	**Pn**	**15 22 31.0**	**+0.1**
OGNE				IAmb_Lg		15 24 15.9	
PBMO	**Poplar Bluff** comp=Z,54nm,0.8s	**5.78**	**86**	IAmb_Lg		15 24 18.2	
435B	**Jarrell** comp=Z,54nm,0.8s	**5.79**	**180**	IAmb_Lg		15 24 17.5	
FVM	**French Village**	**5.90**	**74**	Pn	**Pn**	**15 22 35.9**	**+0.2**
SLM	**Saint Louis** comp=Z,64nm,0.8s	**6.21**	**69**	IAmb_Lg		15 24 26.9	
SCIA	**State Center** comp=Z,38nm,0.8s	**6.32**	**31**	IAmb_Lg		15 24 33.1	
PARMO	**Parma**	**6.33**	**87**	Pn	**Pn**	**15 22 41.3**	**-0.1**
JCT	**Junction City**	**6.35**	**197**	Pn	**Pn**	**15 22 42.7**	**+0.8**
JCT	comp=Z,57nm,1.1s			IAmb_Lg		15 24 36.2	
W45A	**Hickory Valley** comp=Z,55nm,0.8s	**6.99**	**99**	IAmb_Lg		15 24 57.4	
OXF	**Oxford**	**7.00**	**105**	Pn	**Pn**	**15 22 51.0**	**+0.3**
OXF	comp=Z,44nm,0.8s			IAmb_Lg		15 24 59.5	
ISCO	**Idaho Springs**	**7.07**	**299**	Pn	**Pn**	**15 22 51.9**	**-0.1**
K38A	**Parkersburg** comp=Z,50nm,1.0s	**7.12**	**30**	IAmb_Lg		15 25 01.6	
Y45A	**Yeager Farm, C** comp=Z,35nm,0.8s	**7.14**	**110**	IAmb_Lg		15 25 04.7	
ECSD	**EROS Data Cent**	**7.18**	**6**		**Pn**	**15 22 52.1**	**-1.1**
L40A	**Anamosa**	**7.38**	**40**	Pn	**Pn**	**15 22 55.3**	**-0.6**
L40A	comp=Z,26nm,0.8s			IAmb_Lg		15 25 02.8	
PHWY	**Pilot Hill** comp=Z,20nm,0.7s	**7.71**	**310**	IAmb_Lg		15 25 19.9	
SMCO	**Snowmass**	**7.84**	**292**	Pn	**Pn**	**15 23 03.0**	**+0.4**
SUSD	**Miller** comp=Z,35nm,0.8s	**7.92**	**353**	IAmb_Lg		15 25 35.2	
O44A	**Mansfield** comp=Z,41nm,0.7s	**8.02**	**61**	IAmb_Lg		15 25 39.2	
MNTX	**Coudas Mount**	**8.07**	**235**	Pn	**Pn**	**15 23 05.2**	**-0.3**
I37A	**Lemond, Waseca** comp=Z,22nm,0.9s	**8.09**	**22**	IAmb_Lg		15 25 27.5	
L42A	**Oliver, Polo** comp=Z,50nm,0.8s	**8.20**	**46**	IAmb_Lg		15 25 34.3	
T47A	**Sharon Grove** comp=Z,30nm,0.9s	**8.44**	**84**	IAmb_Lg		15 25 50.4	
JFWS	**Jewell Farm** comp=Z,24nm,0.7s	**8.49**	**40**	IAmb_Lg		15 25 47.2	
V48A	**Smith Brothers** comp=Z,22nm,0.8s	**8.77**	**92**	IAmb_Lg		15 25 52.8	
TX31	**Lajitas Ar. Si**	**8.83**	**217**	Pn	**Pn**	**15 23 16.1**	**+0.1**
TXAR	**Lajitas Array**	**8.83**	**217**	Pn	**Pn**	**15 23 15.9**	**0.0**
TX32	**Lajitas Array**	**8.84**	**217**	Pn	**Pn**	**15 23 15.3**	**-0.6**
RSSD	**Black Hills** comp=Z,40nm,1.2s	**8.98**	**329**	IAmb_Lg		15 25 59.3	
RWWY	**Rawlins** comp=Z,23nm,1.1s	**9.03**	**307**	IAmb_Lg		15 26 12.8	
SFIN	**Lafayette** comp=Z,39nm,0.8s	**9.08**	**62**	IAmb_Lg		15 26 04.7	
CLTN	**Cedars of Leba** comp=Z,23nm,0.8s	**9.12**	**90**	IAmb_Lg		15 26 01.6	
K22A	**Casper** comp=Z,32nm,1.0s	**9.16**	**314**	IAmb_Lg		15 26 09.8	
WCI	**Wyandotte Cave** comp=Z,37nm,0.8s	**9.16**	**76**	IAmb_Lg		15 26 07.1	
121A	**Cookes Peak, D** comp=Z,17nm,1.0s	**9.31**	**247**	IAmb_Lg		15 26 12.5	
U49A	**Red Boiling Sp** comp=Z,18nm,0.8s	**9.53**	**87**	IAmb_Lg		15 26 08.7	
SWET	**Sewanee** comp=Z,17nm,0.8s	**9.58**	**95**	IAmb_Lg		15 26 13.6	
I42A	**Draeger Farm,** comp=Z,16nm,0.9s	**9.87**	**40**	IAmb_Lg		15 26 20.5	
FPAL	**Fort Paine** comp=Z,18nm,0.9s	**9.99**	**98**	IAmb_Lg		15 26 27.6	

IDC 31 15:30:34.2±3.3, 5.69S×153.36E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/33, mbtmp3.6/3, ML1.7/1, Error ellipse: s-maj=133.7km s-min=47.9km az=130.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 0.8nm,0.3s,baz=63,slow=14,SNR=1.3	**7.17**	**239**	Pn	Pn	15 32 21.4	+0.9
PMG				Sn	Sn	15 33 38.2	-4.5
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=128,slow=19,SNR=2.8	**23.30**	**231**	P		15 35 43.9	-0.1
ASAR	**Alice Springs** 0.8nm,0.6s,baz=55,slow=9.8,SNR=7.8	**25.89**	**224**	P		15 36 07.7	-0.4
TORD	**Torodi Ar. Bea** 0.9nm,0.8s,baz=57,slow=9.5,SNR=20	**151.11**	**287**	PKPbc	PKPbc	15 50 30.6	+0.1
TORD	**Torodi Ar. Bea** 0.9nm,1.1s,baz=92,slow=4.3,SNR=2.3	**151.11**	**287**	PKPbc		15 50 30.6	+0.1

TAP 31 15:33:30.3, 23.99N×121.60E, h7km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=147	**0.01**	**173**	*i* P	Pg	15 33 32.1	+0.5
HWA				S	Sg	15 33 33.6	+1.1
TWD	**Chiawan** baz=2.0	**0.09**	**356**	*i* P	Pg	15 33 32.8	+0.3
TWD				*i* S	Sg	15 33 34.6	+0.6
NACB	**Ninganchiao** baz=358	**0.18**	**358**	P	Pg	15 33 34.2	+0.2
NACB				S	Sg	15 33 36.8	+0.2
ESL	**Shilin** baz=221	**0.23**	**221**	*i* P	Pg	15 33 35.2	+0.2
ESL				*i* S	Sg	15 33 38.6	+0.5
ETLH	**Xiulin Townshi** baz=333	**0.24**	**333**	P	Pg	15 33 35.6	+0.5
ETLH				S	Sg	15 33 39.3	+0.8
WHF	**Hehuan Shan** baz=297	**0.34**	**296**	*i* P	Pg	15 33 37.7	+0.5
WHF				*i* S	Sg	15 33 42.6	+0.8
CHGB	**Renai** baz=280	**0.40**	**280**	P	Pb	15 33 39.0	-0.8
CHGB				S	Sg	15 33 44.4	+0.9
FUSS	**Fushou** baz=308	**0.42**	**308**	*i* P	Pg	15 33 39.2	+0.8
FUSS				S	Sb	15 33 45.7	-1.0
ENA	**Nanau** baz=17	**0.45**	**16**	*e*P	Pg	15 33 39.2	+0.1
ENA				*e*S	Sg	15 33 45.7	+0.6
EWUT	**Wuta** baz=29	**0.48**	**19**	*e*P	Pg	15 33 39.8	+0.1
EWUT				*e*S	Sg	15 33 47.0	+1.1
NNSB	**Datong** baz=336	**0.48**	**335**	P	Pb	15 33 40.4	-0.7
NNSB				S	Sg	15 33 46.6	+0.7
NNSH	**Datong** baz=335	**0.48**	**335**	P	Pg	15 33 40.3	+0.6
NNSH				S	Sg	15 33 46.9	+0.9
VWDT	**VWDT** baz=234	**0.48**	**241**	P	Pg	15 33 40.1	+0.5
VWDT				S	Sb	15 33 47.8	-0.6
NNS	**Nan Shan** baz=336	**0.49**	**335**	P	Pb	15 33 40.7	-0.7
NNS				S	Sb	15 33 47.9	-1.0
HGSD	**Ruisui** baz=211	**0.52**	**198**	*e*P	Pg	15 33 41.0	+0.6
HGSD				*e*S	Sb	15 33 49.2	-0.4
EHY	**Hungye** baz=217	**0.55**	**208**	*e*P	Pg	15 33 41.4	+0.5
NDT	**Datong Townshi** baz=343	**0.61**	**352**	*i* P	Pg	15 33 42.7	+0.5
NDT				S	Sb	15 33 51.5	-0.7
SSLB	**Suanglung** baz=264	**0.63**	**251**	P	Pb	15 33 43.2	-0.5
SSLB				S	Sb	15 33 51.7	-1.0
ENTT	**Nioudou** baz=358	**0.65**	**357**	*i* P	Pg	15 33 43.2	+0.4
ENTT				S	Sg	15 33 52.0	+0.7
NDS	**Dongshan** baz=9.0	**0.65**	**9**	P	Pg	15 33 42.9	+0.1
NDS				S	Sb	15 33 52.4	-0.8
YULB	**Yu-li** baz=215	**0.66**	**205**	P	Pg	15 33 43.3	+0.3
YULB				*e*S	Sb	15 33 53.0	-0.4
WHP	**Taichung City** baz=287	**0.67**	**296**	P	Pb	15 33 44.0	-0.3
WHP				S	Sb	15 33 53.3	-0.4
TWF1	**Yuli** baz=215	**0.69**	**204**	*e*S	Sb	15 33 54.2	-0.3
YHNB	**Yeheng** baz=343	**0.71**	**343**	P	Pb	15 33 44.9	-0.1
YHNB				S	Sb	15 33 54.2	-0.7
NSK	**Sanguang** baz=343	**0.72**	**342**	*e*S	Sb	15 33 55.5	+0.2
CHN5	**Tsauling** baz=235	**0.93**	**245**	*e*P	Pb	15 33 48.6	-0.3
CHN5				*e*S	Sb	15 34 02.3	+0.8

TAP 31 15:33:37.2, 23.44N×121.40E, h46km±1km, ML1.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui** baz=9.0	**0.06**	**22**	P	Pn	15 33 44.4	-0.1
EHY	**Hungye** baz=313	**0.10**	**312**	*i* P	Pn	15 33 44.6	0.0
EHY				S	Sn	15 33 49.4	-0.4
EHY	**Hungye** baz=217	**0.10**	**312**	S	Sn	15 33 49.6	-0.1
YULB	**Yu-li** baz=252	**0.11**	**244**	P	Pn	15 33 44.4	-0.2
YULB				*e*S	Sn	15 33 49.8	0.0
EYUL	**Yuli** baz=214	**0.12**	**219**	P	Pn	15 33 44.8	+0.1
EYUL	**Yuli** baz=227	**0.12**	**219**	P	Pn	15 33 44.5	-0.1
TWF1	**Yuli** baz=230	**0.13**	**228**	P	Pn	15 33 44.3	-0.4
TWF1				*e*S	Sn	15 33 50.1	+0.2
TWF1	**Yuli** baz=215	**0.13**	**228**	P	Pn	15 33 44.4	-0.3
FULB	**Fuli** baz=208	**0.26**	**202**	P	Pn	15 33 45.8	+0.2
FULB				S	Sn	15 33 52.6	+1.0
ELDTW	**Lidau** baz=230	**0.43**	**235**	*i* P	Pn	15 33 47.6	+0.1
ELDTW				S	Sn	15 33 54.5	-0.3
EDH	**Donghe** baz=190	**0.47**	**191**	P	Pn	15 33 47.1	-0.8
EDH				*i* S	Sn	15 33 55.6	+0.1
STYH	**Taoyuan** baz=239	**0.63**	**245**	P	Pn	15 33 51.2	+1.3
STYH				S	Sn	15 34 01.1	+2.1
SLGT	**Liugui** baz=236	**0.82**	**238**	*e*P	Pn	15 33 54.5	+2.0
SLGT				S	Sn	15 34 06.1	+2.5

TIR ***31*** *15:48:38.5, 38.27N×20.37E, h15km±1km, Ml4.9*

IDC ***31*** *15:48:39.1±0.5, 38.35N×20.53E, h0km, mb4.2/25, mb1 4.2/38, mb1mx4.2/57, mbtmp4.1/38, ML4.0/11, MS3.9/28, Ms1 3.9/28, ms1mx3.8/49, Error ellipse: s-maj=12.4km s-min=10.3km az=161.0*

IASPEI ***31*** *15:48:40.7±0.8, 38.32N±0.02×20.50E±0.03, h15km±5km, mb4.6/92, MS4.0/26, Error ellipse: s-maj=4.6km s-min=2.5km az=93.0, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

HLW ***31*** *15:48:40.5, 38.35N×20.89E, h10km±22km, Md4.4*

THE ***31*** *15:48:40.9, 38.33N×20.49E, h13km, ML4.4/9, Error ellipse: s-maj=0.6km s-min=0.3km az=273.0*

PDG ***31*** *15:48:40.2±0.2, 38.33N×20.46E, h19km, MD4.6/1, ML4.6/14, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*

NEIC ***31*** *15:48:41.4±2.3, 38.35N±0.06×20.39E±0.06, h13km±4km, mb4.6/82, Mwr4.7/23, ML4.3(ATH), ML4.6(THE), Error ellipse: s-maj=8.4km s-min=6.7km az=187.0*

ATH ***31*** *15:48:41.2, 38.32N×20.52E, h11km±1km, ML4.3/16, Error ellipse: s-maj=2.1km s-min=0.7km az=254.0*

MOS ***31*** *15:48:41.7±1.2, 38.40N×20.42E, h28km, mb4.9/30, Error ellipse: s-maj=7.1km s-min=3.7km az=73.6*

BEO ***31*** *15:48:41.1±0.6, 38.34N×20.20E, h11km±3km, ML4.4/17*

NEIC ***31*** *15:48:43.2, 38.35N×20.39E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 1.05; Mθθ 0.36; Mϕϕ -1.41; Mrθ 0.34; Mϕr 0.26; Mϕr -0.16; Fault plane solution: M0 1.35000×10^16 NP1: ϕs 152.39000°, δ 53.39000°, λ 63.18000°. NP2: ϕs 12.67000°, δ 44.25000°, λ 121.27000°. Principal axes: T 1.1903, Plg 68.0000°, Azm 3.0000°; N 0.2745, Plg 21.0000°, Azm 169.0000°; P -1.4648, Plg 5.0000°, Azm 261.0000°;*

GCMT ***31*** *15:48:44.4±0.4, 38.25N±0.04×20.40E±0.02, h23km±1km, MW4.9/74, Moment Tensor Solution. s18, c19; s74, c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.38±.20; Mθθ -0.19±.12; Mϕϕ -2.20±.12; Mrθ 0.86±.21; Mϕθ 0.88±.07; Mϕr 0.31±.15; Best double couple: M0 2.61900×10^16 NP1: ϕs 358.00000°, δ 48.00000°, λ 117.00000°. NP2: ϕs 141.00000°, δ 48.00000°, λ 63.00000°. Principal axes: T 2.7080, Plg 70.0000°, Azm 340.0000°; N -0.1850, Plg 20.0000°, Azm 159.0000°; P -2.5310, Plg 0.0000°, Azm 249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 15:48:41.2±0.5, 38.32N±0.01×20.49E±0.02, h16km±2km, n523, σ1.972/600, mb4.6/92, MS4.0/26, 51C-26D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF5	**Kardakata, Kep**	**0.04**	**203**	P	**Pg**	**15 48 43.3**	**-0.8**
KEF5	**Kardakata, Kep**	**0.04**	**203**	P	**Pg**	**15 48 43.4**	**-0.7**
KEF5				S	**Sg**	**15 48 45.1**	**-0.9**
KEF4	**Livadi, Kephal**	**0.08**	**222**	P	**Pg**	**15 48 43.8**	**-0.5**
KEF4	**Livadi, Kephal**	**0.08**	**222**	P	**Pg**	**15 48 43.8**	**-0.5**
KEF4				S	**Sg**	**15 48 46.3**	**0.0**
VSK1	**VASILIKIADES**	**0.11**	**32**	P	**Pg**	**15 48 43.9**	**-0.9**
VSK1				S	**Sg**	**15 48 46.5**	**-0.6**
DMLN	**Damoulianata-K**	**0.12**	**230**	P	**Pg**	**15 48 44.4**	**-0.4**
DMLN				S	**Sg**	**15 48 47.1**	**-0.1**
DMLN	**Damoulianata-K** 422μm,0.3s	**0.12**	**230**	P	**Pg**	**15 48 44.4**	**-0.4**
DMLN				S	**Sg**	**15 48 47.0**	**-0.2**
LXRA	**Lixouri, Kepha**	**0.12**	**199**	P	**Pg**	**15 48 44.5**	**-0.3**
LXRA				S	**Sb**	**15 48 47.5**	**-0.3**
ARG2	**Argostoli**	**0.14**	**180**	P	**Pg**	**15 48 44.5**	**-0.5**
ARG2				S	**Sg**	**15 48 47.5**	**0.0**
ARGA	**Argostoli. Kep**	**0.14**	**183**	P	**Pg**	**15 48 44.5**	**-0.5**
ARGA				S	**Sg**	**15 48 47.4**	**-0.1**
FSK	**Fiskardo** 283μm,0.6s	**0.15**	**22**	P	**Pg**	**15 48 44.3**	**-1.0**
FSK				S	**Sg**	**15 48 47.2**	**-0.8**
KEF3	**Kipouria, Keph**	**0.16**	**225**	P	**Pg**	**15 48 44.4**	**-0.8**
KEF3				S	**Sg**	**15 48 47.2**	**-0.8**
KEF3	**Kipouria, Keph**	**0.16**	**225**	P	**Pg**	**15 48 44.5**	**-0.8**
KEF3				S	**Sg**	**15 48 47.2**	**-0.8**
VLS	**Valsamata**	**0.16**	**150**	P	**Pg**	**15 48 44.7**	**-0.7**
VLS				S	**Sg**	**15 48 47.9**	**-0.2**

VLS AML AML 15 48 48.7
VLS AML AML 15 48 49.1
VLS Valsamata 0.16 150 P **Pg 15 48 44.6 -0.7**
VLS S **Sg 15 48 47.9 -0.2**
408µm,0.3s
PSDA Pessada-Kefalo 0.21 159 P **Pg 15 48 45.7 -0.5**
PSDA S **Sg 15 48 49.5 +0.1**
PSDA Pessada-Kefalo 0.21 159 P **Pg 15 48 45.6 -0.5**
PSDA S **Sg 15 48 49.5 +0.1**
EVGI Lefkada island 0.33 23 P **Pg 15 48 47.3 -0.9**
EVGI S **Sg 15 48 52.7 -0.2**
EVGI Lefkada island 0.33 23 P **Pg 15 48 47.2 -1.0**
EVGI S **Sg 15 48 52.6 -0.3**
36µm,0.2s
DRAG Dragano-Lefkad 0.38 10 P **Pg 15 48 48.1 -0.8**
DRAG S **Sg 15 48 53.8 -0.4**
DRAG Dragano-Lefkad 0.38 10 P **Pg 15 48 47.8 -1.1**
DRAG S **Sg 15 48 53.6 -0.6**
129µm,0.2s
NYDR Nydri-Lefkada 0.43 22 P **Pg 15 48 48.9 -1.1**
NYDR S **Sg 15 48 55.8 0.0**
NYDR Nydri-Lefkada 0.43 22 P **Pg 15 48 48.8 -1.1**
NYDR S **Sg 15 48 55.2 -0.6**
39µm,0.5s
VLMS Volimes, Zakyn 0.46 162 P **Pg 15 48 49.7 -0.7**
VLMS S **Sb 15 48 57.2 -0.4**
VLMS AML AML 15 48 59.9
VLMS AML AML 15 49 02.2
VLMS Volimes, Zakyn 0.46 162 P **Pg 15 48 49.6 -0.8**
VLMS S **Sb 15 48 57.3 -0.3**
LKD2 Lefkada island 0.49 16 P **Pg 15 48 49.9 -1.1**
LKD2 S **Sg 15 48 57.7 0.0**
LKD2 AML AML 15 49 03.1
comp=N,41185µm,0.3s
LKD2 AML AML 15 49 05.4
comp=E,33986µm,0.6s
LKD2 Lefkada island 0.49 16 P **Pg 15 48 50.0 -1.1**
AST1 Astakos 0.52 64 P **Pg 15 48 50.7 -0.9**
AST1 S **Sb 15 48 59.3 -0.1**
TSLK Tsoukalades, L 0.53 14 P **Pg 15 48 50.7 -1.0**
TSLK S **Sg 15 48 58.8 0.0**
TSLK AML AML 15 49 05.7
TSLK AML AML 15 49 06.2
comp=N,67788µm,0.5s
TSLK Tsoukalades, L 0.53 14 P **Pg 15 48 50.9 -0.8**
PDO Prodromos 0.61 62 P **Pg 15 48 52.3 -1.1**
PDO AML AML 15 49 05.7
comp=E,32396µm,0.4s
PDO AML AML 15 49 07.3
comp=N,56394µm,0.4s
PDO Prodromos 0.61 62 P **Pg 15 48 52.2 -1.1**
PDO S **Sg 15 49 01.1 -0.4**
comp=N,38µm,0.5s
LTHK Lithakia 0.66 155 P **Pg 15 48 53.1 -1.1**
LTHK S **Sg 15 49 03.3 +0.2**
LTHK AML AML 15 49 07.2
comp=E,45301µm,0.2s
LTHK AML AML 15 49 07.2
comp=N,64030µm,0.2s
LTHK Lithakia 0.66 155 P **Pg 15 48 53.2 -1.1**
LTHK S **Sb 15 49 04.2 +0.8**
comp=N,24µm,0.3s
VTN Vitineika 0.68 126 P **Pg 15 48 54.0 -0.5**
RLS Riolos of Patr 0.81 108 P **Pb 15 48 55.9 -1.1**
RLS AML AML 15 49 15.7
comp=N,20501µm,0.6s
RLS AML AML 15 49 17.6
comp=E,29717µm,0.5s
RLS Riolos of Patr 0.81 108 P **Pb 15 48 56.2 -0.8**
PVO Paravola 0.87 69 P **Pb 15 48 57.2 -0.7**
PVO AML AML 15 49 18.5
comp=E,46057µm,0.8s
PVO AML AML 15 49 21.1
comp=N,47870µm,0.5s
PVO Paravola 0.87 69 P **Pb 15 48 57.3 -0.7**
DRO Drossia 1.03 110 P **Pb 15 48 59.9 -0.8**
DRO AML AML 15 49 23.4
comp=N,44428µm,0.4s
DRO AML AML 15 49 25.0
comp=E,56655µm,0.4s
DRO Drossia 1.03 110 P **Pb 15 49 00.0 -0.7**
LAKA Lakka 1.18 93 P **Pn 15 49 02.0 -1.1**
LAKA Lakka 1.18 93 P **Pn 15 49 02.1 -1.0**
EVR Evrytania 1.20 59 P **Pn 15 49 03.0 -0.5**
EVR Evrytania 1.20 59 P **Pn 15 49 02.8 -0.7**
IGT Igoumenitsa 1.22 354 P **Pn 15 49 03.6 -0.2**
IGT AML AML 15 49 23.6
comp=E,14833µm,0.7s
IGT AML AML 15 49 29.7
comp=N,12144µm,0.9s
IGT Igoumenitsa 1.22 354 P **Pn 15 49 03.5 -0.2**
IGT S **Sb 15 49 19.3 -0.3**
comp=N,7µm,0.7s
IGT Igoumenitsa 1.22 354 *e*Pg **Pn 15 49 03.8 +0.1**
IGT *e*Sg **Sb 15 49 18.6 -1.0**
TRIZ Trizonia 1.25 87 P **Pn 15 49 03.4 -0.6**
TRIZ Trizonia 1.25 87 P **Pn 15 49 03.1 -0.9**
ALIK Aliki, Aigiali 1.28 92 P **Pn 15 49 03.7 -0.8**
KALE Kalithea 1.30 86 P **Pn 15 49 04.0 -0.8**
KALE AML AML 15 49 36.1
comp=N,12283µm,0.4s
KALE AML AML 15 49 36.9
comp=E,12268µm,0.6s
KALE Kalithea 1.30 86 P **Pn 15 49 04.0 -0.8**
KLV Kalavryta, Ach 1.34 101 P **Pn 15 49 04.9 -0.5**
KLV AML AML 15 49 33.4
comp=E,8739µm,0.7s
KLV AML AML 15 49 36.1
comp=N,9307µm,0.5s
KLV Kalavryta, Ach 1.34 101 P **Pn 15 49 04.8 -0.5**
JAN Janina 1.37 12 P **Pg 15 49 07.0 -0.6**
JAN AML AML 15 49 30.7
comp=E,27677µm,0.8s
JAN AML AML 15 49 34.4
comp=N,16627µm,0.5s
MAKR Makrakomi, Fth 1.46 61 P **Pb 15 49 08.2 +0.1**
MAKR AML AML 15 49 34.2
comp=N,41217µm,0.9s
MAKR AML AML 15 49 39.5
comp=E,27685µm,0.5s
KASA Kassiopi 1.49 343 P **Pb 15 49 08.6 0.0**
KEK Kerkira 1.50 339 P **Pn 15 49 07.6 +0.1**
KEK AML AML 15 49 36.3
comp=E,11816µm,0.4s
KEK AML AML 15 49 40.3
comp=N,10711µm,0.9s
KEK Kerkira 1.50 339 P **Pn 15 49 07.3 -0.2**
DLFA Delphi 1.59 83 P **Pn 15 49 09.4 +0.6**
AGG Agios Georgios 1.61 63 P **Pb 15 49 10.5 -0.1**
AGG Agios Georgios 1.61 63 P **Pb 15 49 11.2 +0.6**
AGG Agios Georgios 1.61 63 Pn **Pb 15 49 11.2 +0.6**
ITM Ithomi 1.61 134 P **Pb 15 49 11.0 +0.5**
ITM Ithomi 1.61 134 **Pg 15 49 11.5 -0.7**
SRN Sarande 1.61 347 P **Pn 15 49 09.5 +0.5**
baz=350
SRN S **Sg 15 49 32.4 -0.6**
baz=350
SRN AMP
comp=E,25nm,1.0s,baz=350
THL Klokotos Trika 1.73 43 P **Pb 15 49 12.3 -0.2**
THAL Thalero 1.74 99 P **Pb 15 49 11.9 -0.8**
THAL AML AML 15 49 52.1
comp=E,17606µm,0.4s
THAL AML AML 15 49 55.9
comp=N,16995µm,0.7s
AXAR Agios Charalam 1.76 74 P **Pb 15 49 13.0 -0.2**
KPRO Kipourio 1.77 22 P **Pb 15 49 14.0 +0.5**
LSK Leskovik 1.83 3 P **Pb 15 49 13.7 -0.8**
baz=5.0
LSK S **Sg 15 49 39.8 -0.5**
baz=5.0
LSK AMP
comp=N,55nm,1.0s,baz=5.0
PENT Pentalofos 1.94 15 P **Pb 15 49 16.3 -0.1**
LTK Loutraki 1.98 98 P **Pb 15 49 15.5 -1.4**
LOUT Loutraki 1.99 99 P **Pb 15 49 16.1 -0.9**
LKR Lokris 2.00 80 P **Pb 15 49 16.5 -0.8**
ATAL Atalanti 2.02 78 P **Pb 15 49 16.6 -1.0**
VIL2 Platees 2.19 92 P **Pb 15 49 19.4 -1.1**
EPID Epidavros 2.19 108 P **Pb 15 49 19.1 -1.4**
SMIA Simia 2.21 74 P **Pb 15 49 20.0 -0.8**
KZN Kozani 2.22 26 P **Pb 15 49 19.8 -1.4**
VLO Vlora 2.28 341 P **Pn 15 49 19.4 +1.1**
baz=344

KRND KRANIDI 2.30 113 P **Pb 15 49 21.0 -1.4**
KBN Korca 2.32 6 P **Pb 15 49 20.9 -1.8**
baz=7.0
KBN S **Sb 15 49 52.5 +1.3**
baz=7.0
KBN AMP
comp=N,15nm,1.0s,baz=7.0
NEO Neokhori 2.35 64 P **Pn 15 49 21.2 +1.9**
SCTE Santa Cesarea 2.35 319 Pn **Pn 15 49 18.8 -0.5**
LIT Litokhoron 2.37 40 P **Pb 15 49 22.0 -1.6**
LIT Litokhoron 2.37 40 P **Pb 15 49 21.8 -1.7**
LIT Litokhoron 2.37 40 **Pb 15 49 21.8 -1.7**
VLI Veliai 2.52 129 P **Pb 15 49 26.2 +0.1**
FNA Florina 2.56 15 *e*Pn **Pn 15 49 23.3 +1.1**
FNA *e*Sn **Sn 15 49 54.3 +1.3**
FNA Florina 2.56 15 P **Pn 15 49 23.1 +1.0**
FNA Florina 2.56 15 Pn **Pn 15 49 23.1 +1.0**
ATH Athens Observa 2.57 97 P **Pn 15 49 23.9 +1.7**
ATHU Athens Univers 2.62 97 P **Pn 15 49 24.8 +1.8**
PTL Penteli 2.67 95 P **Pn 15 49 25.8 +2.1**
DION Dionisos Attik 2.72 94 P **Pn 15 49 26.1 +1.7**
OHR Ohrid 2.80 5 *i* Pn **Pn 15 49 27.4 +1.9**
KTHA Kythira Island 2.90 134 P **Pb 15 49 30.1 -2.5**
TIP Timpagrande 3.04 288 ⇓P **Pn 15 49 29.5 +0.7**
TIP Timpagrande 3.04 288 Pn **Pn 15 49 29.2 +0.4**
TIR Tirane 3.07 351 *e*Pn **Pn 15 49 29.7 +0.6**
TIR Tirane 3.07 351 ⇑P **Pn 15 49 30.1 +1.0**
TIR Tirane 3.07 351 ⇑P **Pn 15 49 30.1 +1.0**
TIR Tirane 3.07 351 **Pn 15 49 29.6 +0.6**
TIR Tirane 3.07 351 P **Pn 15 49 29.4 +0.4**
baz=353
TIR S **Sb 15 50 11.0 -1.6**
baz=353
TIR AMP
comp=E,7.5nm,1.1s,baz=353
PHP Peshkopia 3.37 359 P **Pn 15 49 34.6 +1.3**
baz=0.0
PHP S **Sb 15 50 20.0 -1.3**
baz=0.0
PHP AMP
comp=N,7.7nm,1.8s,baz=0.0
VAY Valandovo 3.40 27 *e*Pn **Pn 15 49 34.6 +0.9**
VAY *e*Sn **Sn 15 50 15.8 +2.1**
VAY Valandovo 3.40 27 *i* Pn **Pn 15 49 35.5 +1.8**
CEL Celeste 3.62 271 Pn **Pn 15 49 35.8 -0.9**
SRS Serrai 3.68 40 *e*Pn **Pn 15 49 39.5 +1.9**
SRS *e*Sn **Sn 15 50 25.0 +4.3**
SKO Skopje 3.73 11 *e*Pn **Pn 15 49 39.1 +1.0**
SKO Skopje 3.73 11 *i* Pn **Pn 15 49 39.6 +1.4**
MATE Matera 3.74 310 ⇑P **Pn 15 49 38.7 +0.4**
PUK Puka 3.75 353 P **Pn 15 49 39.4 +0.9**
baz=355
ULC Ulcinj 3.77 346 ⇑*i* Pn **Pn 15 49 38.2 -0.5**
ULC *i* Sn **Sn 15 50 22.5 -0.3**
DRME Dracevica, Mon 3.99 346 ⇑*i* Pn **Pn 15 49 41.7 -0.1**
DRME Dracevica, Mon 3.99 346 ⇑*i* Pn **Pn 15 49 41.5 -0.3**
DRME *i* Sn **Sn 15 50 28.6 +0.3**
BCI Bajram Curri 4.06 356 P **Pn 15 49 44.8 +2.1**
baz=357
BCI AMP
comp=E,5.4nm,0.6s,baz=357
BUM Brajici-Budva 4.16 343 ⇑*i* Pn **Pn 15 49 43.6 -0.6**
BUM *i* Sn **Sn 15 50 32.1 -0.5**
APX Apeiranthos 4.19 106 ⇓P **Pn 15 49 49.0 +4.5**
APE Apeiranthos 4.19 106 *i* P **Pn 15 49 45.0 +0.5**
PDG Podgorica 4.22 347 ⇓P **Pn 15 49 44.1 -0.8**
PDG Podgorica 4.22 347 ⇑*i* Pn **Pn 15 49 44.4 -0.5**
PDG Podgorica 4.22 347 Pn **Pn 15 49 44.4 -0.5**
TTG Podgorica 4.22 347 ⇑*i* Pn **Pn 15 49 44.4 -0.5**
TTG *i* Sn **Sn 15 50 33.3 -0.5**
PVY Plav 4.29 355 ⇓*i* Pn **Pn 15 49 45.8 -0.3**
PVY *i* Sn **Sn 15 50 35.3 -0.6**
CEME Cevo 4.39 345 ⇑*i* Pn **Pn 15 49 46.5 -0.9**
CEME *i* Sn **Sn 15 50 37.7 -0.6**
HCY Herceg Novi 4.40 340 ⇑*i* Pn **Pn 15 49 46.4 -0.9**
HCY Herceg Novi 4.40 340 ⇑*i* Pn **Pn 15 49 46.5 -0.9**
HCY *i* Sn **Sn 15 50 37.7 -0.6**
SANT Santorini 4.41 115 Pn **Pn 15 49 50.9 +3.3**
BOSS Bosilegrad 4.45 19 *e*Pn **Pn 15 49 49.1 +1.1**
IVA Berane 4.58 355 ⇑*i* Pn **Pn 15 49 49.8 -0.1**
IVA *i* Sn **Sn 15 50 42.5 -0.3**
KOME Kolasin 4.59 351 ⇑*i* Pn **Pn 15 49 50.2 +0.1**
KOME *i* Sn **Sn 15 50 43.1 -0.1**
NKME Niksic 4.60 346 ⇑*i* Pn **Pn 15 49 49.7 -0.5**
NKME *i* Sn **Sn 15 50 43.0 -0.3**
BARS Barje 4.61 12 *e*Pn **Pn 15 49 49.8 -0.5**
BARS Barje 4.61 12 *e*Pn **Pg 15 50 07.1 -2.4**
BARS *e*Sn **Sn 15 50 42.0 -1.5**
NKY Niksic 4.63 346 ⇑*i* Pn **Pn 15 49 50.0 -0.7**
NKY *i* Sn **Sn 15 50 43.4 -0.9**
IDI Anoyia 4.65 129 Pn **Pn 15 49 51.9 +1.0**
comp=E,0.7nm,0.3s,baz=302,slow=14,SNR=1.5
IDI Sn **Sn 15 50 46.7 +2.1**
comp=E,11nm,0.3s,baz=170,slow=23,SNR=9.4
IDI LR LR 15 51 39.1
comp=E,1µm,19.5s,baz=300,slow=39
IDI Anoyia 4.65 129 Pn **Pn 15 49 52.9 +2.0**
TREB Trebinje 4.69 340 *e*Pn **Pn 15 49 50.3 -1.1**
TREB *e*Sn **Sn 15 50 42.8 -2.7**
TREB Trebinje 4.69 340 *e*Pn **Pn 15 49 50.2 -1.1**
VTS Vitosha 4.78 25 *e*Pn **Pn 15 49 53.6 +0.8**
VTS Vitosha 4.78 25 ⇑P **Pn 15 49 54.0 +1.2**
VTS Vitosha 4.78 25 ⇑P **Pn 15 49 54.0 +1.2**
VTS Vitosha 4.78 25 Pn **Pn 15 49 53.1 +0.3**
BRY Bratogost 4.82 343 *e*Pn **Pn 15 49 52.4 -0.8**
BRY Bratogost 4.82 343 ⇑*i* Pn **Pn 15 49 52.5 -0.8**
BRY *i* Sn **Sn 15 50 47.8 -1.0**
VAE Valguarnera 4.88 262 Pn **Pn 15 49 56.2 +2.2**
comp=E,1.6nm,0.3s,baz=117,slow=4.5,SNR=2.6
VAE Sn **Sn 15 50 55.4 +5.2**
comp=E,9.2nm,0.3s,baz=233,slow=16,SNR=3.0
SELS Selova 4.92 5 *e*Pn **Pn 15 49 53.9 -0.7**
SELS *e*Sn **Sn 15 50 50.3 -1.0**
SJES Sjenica 4.96 356 *e*Pn **Pn 15 49 55.2 0.0**
SJES *e*Sn **Sn 15 50 50.6 -1.6**
RAFF Raffo Rosso 4.97 259 Pn **Pn 15 49 53.5 -1.9**
SGRT San Giovanni R 5.01 315 Pn **Pn 15 49 55.4 -0.4**
ALN Alexandroupoli 5.01 57 P **Pn 15 49 57.6 +1.9**
ALN Alexandroupoli 5.01 57 Pn **Pn 15 49 57.6 +1.9**
STON Ston 5.02 336 *e*Pn **Pn 15 49 53.4 -2.5**
STON Sn **Sn 15 50 48.7 -4.9**
UPM Unac-Piva 5.03 347 *e*Pn **Pn 15 49 57.1 +0.9**
UPM Unac-Piva 5.03 347 ⇓*i* Pn **Pn 15 49 55.9 -0.3**
UPM *i* Sn **Sn 15 50 53.3 -1.0**
PLE Pljevlja 5.08 351 ⇑*i* Pn **Pn 15 49 56.4 -0.4**
PLE *i* Sn **Sn 15 50 54.1 -1.1**
ZAPS Zavoj 5.21 18 *e*Pn **Pn 15 50 00.2 +1.6**
IVAS Ivanjica 5.26 357 *e*Pn **Pn 15 49 58.6 -0.7**
IVAS *e*Sn **Sn 15 50 58.2 -1.5**
PAOL Paolisi 5.31 303 Pn **Pn 15 50 00.2 +0.3**
RUDO Rudo 5.37 351 *e*Pn **Pn 15 49 58.2 -2.5**
BLKB Belogradchik 5.55 17 *e*Pn **Pn 15 50 04.5 +1.2**
GRUS Gruza 5.57 2 *e*Pn **Pn 15 50 03.2 -0.3**
GRUS *e*Sn **Sn 15 51 04.8 -2.4**
BBLS Lazi?i 5.61 352 *e*Pn **Pn 15 50 02.9 -1.1**
BBLS *e*Sn **Sn 15 51 05.9 -2.2**
BBLS Lazi?i 5.61 352 *e*Pn **Pn 15 50 03.3 -0.7**
MAKA Makarska 5.62 333 *i* Pn **Pn 15 50 03.8 -0.4**
MAKA Sn **Sn 15 51 05.6 -2.7**
ZAGS Zajecar 5.65 13 *e*Pn **Pn 15 50 04.9 +0.4**
CORL Corleone 5.68 268 Pn **Pn 15 50 05.3 +0.2**
HVAR Hvar 5.75 329 Pn **Pn 15 50 05.0 -0.9**
DIVS Divibare 5.79 356 *e*Pn **Pn 15 50 05.2 -1.4**
DIVS *e*Sn **Sn 15 51 09.2 -3.5**
DIVS Divibare 5.79 356 ⇑*i* Pn **Pn 15 50 05.6 -1.0**
DIVS Divibare 5.79 356 **Pn 15 50 05.6 -1.0**
HAPS Han Pijesak,Bl 5.88 349 *e*Pn **Pn 15 50 07.9 +0.1**
TRUS Trudelj 5.90 359 *e*Pn **Pn 15 50 07.4 -0.7**
PLVB Pleven 5.96 30 ⇓P **Pn 15 50 10.6 +1.8**
KARP Karpathos 6.02 115 Pn **Pn 15 50 13.3 +3.6**
KUBS Kucevo 6.16 8 *e*Pn **Pn 15 50 10.7 -0.8**
INTR Introdacqua 6.25 308 Pn **Pn 15 50 13.3 +0.5**
TEKS Tekeris 6.27 354 *e*Pn **Pn 15 50 11.9 -1.2**
TEKS Tekeris 6.27 354 *e*Pn **Pn 15 50 11.7 -1.4**
KIJV Kijevo 6.46 333 *e*Pn **Pn 15 50 15.3 -0.4**
ZIRJ Zirje 6.47 327 *i* Pn **Pn 15 50 14.4 -1.4**
MDVR Moldovita 6.53 8 ⇑P **Pn 15 50 16.2 -0.4**
MGRS Mrkonjic Grad 6.61 338 *e*Pn **Pn 15 50 18.1 +0.3**
MORI Morici 6.62 328 *e*Pn **Pn 15 50 17.4 -0.4**
MORI Sn **Sn 15 51 28.9 -4.0**
HERR Herculane 6.72 12 ⇑P **Pn 15 50 18.6 -0.6**

AQU L'Aquila 6.75 309 P **Pn 15 50 19.9 +0.2**
AQU L'Aquila 6.75 309 *e*Pn **Pn 15 50 22.1 +2.4**
AQU L'Aquila 6.75 309 Pn **Pn 15 50 19.9 +0.2**
COPA Copaceanca 6.82 30 ⇑P **Pn 15 50 26.4 +5.9**
FRGS Fruska Gora 6.86 356 *e*Pn **Pn 15 50 19.5 -1.6**
FRGS *e*Sn **Sn 15 51 34.0 -4.9**
FRGS Fruska Gora 6.86 356 *e*Pn **Pn 15 50 20.4 -0.7**
BLY Banja Luka 6.89 340 *e*Pn **Pn 15 50 21.4 -0.2**
DUGI Dugi Otok 7.00 326 *e*Pn **Pn 15 50 22.5 -0.5**
UDBI Udbina 7.15 332 *i* Pn **Pn 15 50 25.8 +0.6**
NRCA Norcia 7.20 311 **Pn 15 50 26.6 +0.6**
GZR Gura Zlata 7.28 13 ⇓P **Pn 15 50 27.0 +0.1**
GZR Gura Zlata 7.28 13 ⇓P **Pn 15 50 27.0 +0.1**
BZS Buzias 7.34 6 ⇓P **Pn 15 50 26.7 -1.1**
BZS Buzias 7.34 6 ⇓P **Pn 15 50 26.7 -1.1**
NVLJ Novalja 7.53 328 *i* Pn **Pn 15 50 30.1 -0.3**
NVLJ Sn **Sn 15 51 49.7 -5.8**
LOT Lotru 7.54 18 ⇓P **Pn 15 50 31.2 +0.7**
AKAS Kas 7.56 103 Pn **Pn 15 50 34.9 +3.9**
ARR Arges 7.70 22 ⇓P **Pn 15 50 33.8 +1.1**
MURB Monte Urbino 7.80 312 **Pn 15 50 34.9 +0.7**
SLUM Salum 7.83 149 P **Pn 15 50 33.6 -1.0**
baz=151
VOIR 7.89 24 ⇑P **Pn 15 50 36.9 +1.6**
VOIR 7.89 24 ⇑P **Pn 15 50 36.9 +1.6**
MORH Mrgy, Hungar 8.01 351 ⇑P **Pn 15 50 36.4 -0.5**
MORH Mrgy, Hungar 8.01 351 *e*Pn **Pn 15 50 35.5 -1.5**
ISR Istrita 8.17 32 ⇑P **Pn 15 50 45.1 +5.9**
ISR Istrita 8.17 32 ⇑P **Pn 15 50 45.1 +6.0**
BOJS Bojanci 8.17 333 *i* Pn **Pn 15 50 39.1 -0.1**
BOJS *e*Sn **Sn 15 52 07.1 -4.2**
OZLJ Ozalj 8.20 334 *e*Pn **Pn 15 50 39.0 -0.5**
MLR Muntele Rosu 8.24 28 Pn **Pn 15 50 42.9 +2.7**
comp=E,0.9nm,0.3s,baz=224,slow=5.2,SNR=13
MLR LR LR 15 54 37.0
comp=E,2µm,19.0s,baz=202,slow=44
MLR Muntele Rosu 8.24 28 ⇑P **Pn 15 50 43.6 +3.3**
MLR ⇑P Pb 15 50 45.1 -19
MLR Muntele Rosu 8.24 28 P **Pn 15 50 40.6 +0.3**
MLR Muntele Rosu 8.24 28 Pn **Pn 15 50 40.6 +0.3**
RIY Rijeka 8.31 329 *i* Pn **Pn 15 50 40.5 -0.6**
NEHR Nehoiu 8.32 29 ⇓P **Pn 15 50 48.6 +7.4**
GBRS Gornja Briga 8.36 331 *i* Pn **Pn 15 50 41.5 -0.3**
GBRS *i* 15 50 46.9
GBRS *i* Sn **Sn 15 52 12.2 -3.7**
GBRS IAML 15 52 15.0
comp=Z,29nm,0.2s
GBRS *i* 15 52 17.8
GBRS *i* 15 52 28.8
CRES Cresnjev 8.38 335 ⇑*i* Pn **Pn 15 50 40.2 -1.9**
DOPR Dopca 8.47 24 ⇓P **Pn 15 50 43.4 +0.2**
TIRR Tirgusor 8.55 42 P **Pn 15 50 46.9 +2.6**
TIRR Tirgusor 8.55 42 **Pn 15 50 46.9 +2.6**
MDUB Mudurnu 8.57 72 Pn **Pn 15 50 46.7 +2.0**
CASP Castiglione de 8.58 304 Pn **Pn 15 50 45.6 +0.8**
BEHE Becsehely 8.60 343 *e*Pn **Pn 15 50 48.0 +3.0**
DRGR 8.63 10 ⇓P **Pn 15 50 44.5 -1.0**
DRGR 8.63 10 ⇓P **Pn 15 50 44.5 -1.0**
CEY Cerknica 8.68 331 ⇑*i* Pn **Pn 15 50 44.8 -1.4**
SKDS Skadanscina 8.69 328 *i* Pn **Pn 15 50 45.1 -1.1**
SKDS *e*Sn **Sn 15 52 17.2 -6.6**
SKDS IAML 15 52 21.7
comp=Z,85nm,0.6s
OSSC Osservatorio P 8.72 310 **Pn 15 50 47.2 +0.6**
VSL Villasalto 8.74 281 Pn **Pn 15 50 47.3 +0.2**
PLOR Plostina 8.81 29 ⇑P **Pn 15 50 50.7 +2.7**
PLOR Plostina 8.81 29 ⇑P **Pn 15 50 50.7 +2.7**
VRI Vrincioaia 8.85 30 ⇓P **Pn 15 50 51.2 +2.6**
VRI Vrincioaia 8.85 30 ⇓P **Pn 15 50 51.2 +2.6**
TRI Trieste 8.92 328 P **Pn 15 50 47.8 -1.6**
TRI Trieste 8.92 328 Pn **Pn 15 50 47.8 -1.6**
CFR Carcaliu 8.92 37 ⇑P **Pn 15 50 58.5 +9.0**
CFR Carcaliu 8.92 37 ⇑P **Pn 15 50 58.5 +9.1**
SOKA Soboth 9.28 336 *i* Pn **Pn 15 50 52.6 -1.8**
comp=Z,8.7nm,0.3s,SNR=26
SOKA *e*Sn **Sn 15 52 30.8 -7.6**
comp=Z,14nm,0.5s
KEST Kesra 9.28 257 Pn **Pn 15 50 56.1 +1.7**
comp=Z,0.5nm,0.3s,baz=55,slow=18,SNR=2.3
KEST LR LR 15 55 24.8
comp=Z,380nm,19.9s,baz=334,slow=44
KEST Kesra 9.28 257 Pn **Pn 15 50 55.4 +1.0**
OBKA Obir 9.29 334 *e*Pn **Pn 15 50 54.6 0.0**
comp=Z,6.1nm,0.2s,SNR=14
OBKA *e*Sn **Sn 15 52 34.0 -4.7**
comp=Z,25nm,0.4s
TESR Tescani 9.37 27 ⇑P **Pn 15 51 01.1 +5.5**
PSZ Piszkesteto 9.61 358 ⇓P **Pn 15 50 51.1 -7.9**
PSZ Piszkesteto 9.61 358 ⇓P **Pn 15 50 51.1 -7.8**
TEOL Teolo 9.63 320 **Pn 15 50 58.1 -1.1**
ARSA Arzberg 9.64 339 *e*Pn **Pn 15 50 58.4 -1.0**
comp=Z,0.5nm,0.1s
MYKA Terra Mystica 9.72 331 *e*Pn **Pn 15 50 59.5 -1.0**
comp=Z,3.8nm,0.3s
MYKA *e*Sn **Sn 15 52 44.1 -5.3**
comp=Z,16nm,0.6s
BURAR Bucovina Array 9.92 19 ⇑P **Pn 15 51 03.4 +0.2**
BURAR Bucovina Array 9.92 19 ⇑P **Pn 15 51 03.4 +0.2**
BURAR Bucovina Array 9.92 19 **Pn 15 51 06.3 +3.1**
ZOU Zoufplan 9.93 328 **Pn 15 51 02.4 -1.0**
SWA2 9.95 154 P **Pn 15 51 02.7 -0.8**
baz=156
SWA2 S **Sn 15 52 46.6 -8.2**
baz=156
CTI Castel Tesino 10.13 323 P **Pn 15 51 04.5 -1.6**
CTI Castel Tesino 10.13 323 Pn **Pn 15 51 04.5 -1.6**
CONA Conrad Observa 10.18 342 *e*Pn **Pn 15 51 08.0 +1.2**
comp=Z,0.7nm,0.2s
MSSA Maissana 10.20 309 Pn **Pn 15 51 08.5 +1.5**
KBA Koelnbreinsper 10.21 331 *e*Pn **Pn 15 51 06.3 -0.9**
comp=Z,3.5nm,0.3s,SNR=6.4
KBA Sn **Sn 15 52 52.7 -8.7**
comp=Z,20nm,0.8s
VYHS Vyhne 10.24 354 *e*P **Pn 15 51 07.6 0.0**
VYHS *e* 15 52 56.9
VYHS Vyhne 10.24 354 *e*PN **Pn 15 51 07.6 0.0**
VYHS *e*SN **Sn 15 52 56.9 -5.2**
ABTA Abfaltersbach 10.27 328 *e*Pn **Pn 15 51 06.4 -1.7**
comp=Z,3.9nm,0.4s,SNR=5.6
ABTA *e*Sn **Sn 15 52 56.2 -6.7**
comp=Z,55nm,0.8s
MODS Modra-Piesok 10.32 348 *e*P **Pn 15 51 12.7 +4.1**
MODS *e* 15 52 58.5
MODS Modra-Piesok 10.32 348 *e*PN **Pn 15 51 12.7 +4.1**
MODS *e*SN **Sn 15 52 58.5 -5.5**
BR131 Keskin Array S 10.33 78 P **Pn 15 51 11.8 +2.9**
BR131 Keskin Array S 10.33 78 Pn **Pn 15 51 11.8 +2.9**
BRTR Keskin Array B 10.33 78 Pn **Pn 15 51 13.9 +5.0**
comp=Z,0.5nm,0.3s,baz=262,slow=12,SNR=17
BRTR LR LR 15 55 51.0
comp=Z,712nm,18.7s,baz=260,slow=42
BRTR Keskin Array B 10.33 78 P **Pn 15 51 11.2 +2.3**
BRTR Keskin Array B 10.33 78 Pn **Pn 15 51 11.2 +2.3**
KOLL Kolacno 10.37 352 *e*SN **Sn 15 53 00.1 -5.0**
UZH Uzhgorod 10.39 7 *e*P **Pn 15 51 10.8 +1.2**
SALO Salr 10.40 318 Pn **Pn 15 51 09.8 +0.1**
MOA Molln 10.56 337 *i* Pn **Pn 15 51 11.1 -0.8**
comp=Z,7.2nm,0.3s,SNR=15
KIS Kishinev 10.62 33 *e*P Pn 15 51 18.0 +5.3
KIS Kishinev 10.62 33 *e*PP Pn 15 51 23.0 +10
KIS *e*LR LR 15 55 11.0
comp=Z,400nm,12.0s
KIS Kishinev 10.62 33 *e*P Pn 15 51 18.0 +5.3
KIS MLR MLR
comp=Z,400nm,12.0s
KOLS Kolonicke sedl 10.69 6 *e*P Pn 15 51 20.0 +6.3
KOLS Kolonicke sedl 10.69 6 *e*PN Pn 15 51 20.0 +6.3
CSS Mathiatis 10.85 104 Pn **Pn 15 51 19.3 +3.4**
WTTA Wattenberg 11.05 327 Pn **Pn 15 51 18.4 -0.4**
comp=Z,7.8nm,0.3s,SNR=9.1
WTTA Sn **Sn 15 53 17.2 -4.9**
comp=Z,36nm,0.7s
WATA Walderalm 11.13 327 *e*Pn **Pn 15 51 19.9 0.0**
comp=Z,10nm,0.4s,SNR=8.7
WATA *e*Sn **Sn 15 53 20.6 -3.4**
KRUC Moravsky 11.14 346 *e*PN **Pn 15 51 20.1 +0.3**
SQTA Sankt Quirin 11.20 326 *e*Pn **Pn 15 51 21.3 +0.5**
comp=Z,3.0nm,0.2s
SQTA *e*Sn **Sn 15 53 19.5 -6.3**
comp=Z,21nm,0.6s
FETA Feichten 11.27 324 *i* Pn **Pn 15 51 22.1 +0.3**
comp=Z,2.8nm,0.5s
VRAC Vranov 11.34 347 LR LR 15 56 08.1

comp=Z,381nm,19.7s,baz=169,slow=40
MOTA Moosalm 11.35 326 *e*Pn **Pn** 15 51 22.5 -0.3
comp=Z,4.5nm,0.3s,SNR=11
MOTA *e*Sn **Sn** 15 53 25.3 -3.9
comp=Z,27nm,0.7s
CKRC Cesky Krumlov 11.41 339 *e*PN **Pn** 15 51 21.6 -2.0
TUE Stuetta 11.58 318 Pn **Pn** 15 51 25.4 -0.6
GEC2 GERESS Array S 11.61 337 **Pn** 15 51 27.1 +0.7
GERES GERESS Array B 11.61 337 Pn **Pn** 15 51 25.6 -0.7
comp=Z,1.0nm,0.3s,baz=155,slow=13,SNR=7.5
GERES Sn **Sn** 15 53 30.1 -5.7
comp=Z,1.2nm,0.3s,baz=157,slow=23,SNR=3.1
GERES LR LR 15 57 35.1
comp=Z,288nm,18.2s,baz=244,slow=46
GERES GERESS Array B 11.61 337 **Pn** 15 51 25.4 -1.0
MORC Moravsky Berou 11.65 351 *e*PN **Pn** 15 51 26.3 -0.6
LVV L'vov 11.78 11 *e*P Pn 15 51 33.8 +5.3
KHC Kasperske Hory 11.90 337 *e*P **Pn** 15 51 29.0 -1.3
KHC *e* 15 53 37.3
KHC Kasperske Hory 11.90 337 *e*PN **Pn** 15 51 29.0 -1.3
KHC *e*SN **Sn** 15 53 37.3 -5.5
KHC Kasperske Hory 11.90 337 **Pn** 15 51 29.5 -0.8
PRU Pruhonice 12.42 342 *e*PN **Pn** 15 51 36.0 -1.3
SENIN Lac Senin/Sane 12.63 314 Pn **Pn** 15 51 40.0 -0.5
GLL Jalalah 12.75 130 P **Pn** 15 51 40.9 -1.0
baz=131
HFRF Wahat Farafira 12.93 147 P **Pn** 15 51 43.5 -0.8
baz=148
MMAI Mount Meron Ar 13.23 109 Pn **Pn** 15 51 47.7 -0.7
comp=Z,1.7nm,0.3s,baz=301,slow=12,SNR=7.4
MMAI Sn **Sn** 15 54 09.0 -6.2
comp=Z,2.1nm,0.3s,baz=274,slow=23,SNR=4.8
BRG Berggiesshubel 13.39 342 *ex* **Pn** 15 51 51.7 +1.2
BRG Amp 15 51 53.0
comp=Z,5.0nm,0.9s
ECH Echery 13.85 320 P **Pn** 15 51 56.0 -0.8
ECH Echery 13.85 320 Pn **Pn** 15 51 56.0 -0.8
AKASG Malin Array Be 13.85 24 Pn **Pn** 15 51 55.9 -0.8
comp=Z,0.8nm,0.3s,baz=207,slow=12,SNR=14
AKASG LR LR 15 57 27.0
comp=Z,453nm,19.1s,baz=195,slow=38
AKBB Malin Array Si 13.85 24 *ce*P **Pn** 15 51 57.8 +1.0
AKBB Malin Array Si 13.85 24 Pn **Pn** 15 51 58.1 +1.3
CLL Collm 14.02 340 *e*PP **P** 15 52 09.0 +2.0
CLL LmV 16 01 00.0
comp=Z,400nm,18.3s
CLL Collm 14.02 340 *e*P **P** 15 52 09.0 +2.0
CLL MLR MLR
comp=Z,400nm,18.3s
ANN Anapa 14.23 58 *e*P **Pn** 15 52 01.0 -1.1
ANN pmax pmax
comp=Z,42nm,0.9s
EIL Elat 14.76 121 Pn **Pn** 15 52 08.9 -0.5
comp=Z,0.5nm,0.3s,baz=330,slow=16,SNR=2.1
EIL Sn Sn 15 54 40.9 -12
comp=Z,0.6nm,0.3s,baz=325,slow=18,SNR=2.2
WLF Walferdange 15.30 322 *dx* P 15 52 30.0 +8.7
SUW Suwalki 15.81 6 *e*P **P** 15 52 26.2 -0.6
MEM Membach 16.02 325 *dx* P 15 52 37.5 +8.3
DOU Dourbes 16.35 321 *d*P **P** 15 52 34.4 +1.6
MNK Minsk 16.96 15 *e*P **P** 15 52 39.0 -0.5
MNK Minsk 16.96 15 *i* P **Pn** 15 52 35.9 -1.8
comp=E,4.0nm,0.9s
MNK *i* P **Pn** 15 52 35.9 -1.8
comp=N,56nm,0.8s
MNK *i* P **Pn** 15 52 35.9 -1.8
comp=Z,72nm,0.8s
MNK *i* PP **PnPn** 15 52 54.4 +7.1
MNK *i* S **Sn** 15 55 44.6 -1.1
MNK *i* SS **SnSn** 15 55 59.3 +0.3
MNK *i* PcP **PcP** 15 57 21.3 -2.1
MNK *i* LQ LQ 15 57 36.2
MNK *i* LR LR 15 58 53.5
MNK *i* LRM MLR 15 59 21.5
comp=E,77nm,16.8s
MNK *i* LRM MLR 15 59 36.9
comp=Z,259nm,15.5s
MNK *i* LRM MLR 15 59 37.6
comp=N,538nm,21.9s
NACGM Naroch 17.14 12 *i* P **Pn** 15 52 38.7 -1.2
NACGM *i* P **Pn** 15 52 38.7 -1.2
NACGM *i* P **Pn** 15 52 38.7 -1.2
NACGM *i* PP **sP** 15 52 48.3 +0.3
NACGM *i* PPP PPP 15 52 56.1
NACGM *i* S **Sn** 15 55 45.2 -4.8
NACGM *i* SS **SnSn** 15 56 09.6 +6.3
NACGM *i* SSS SSS 15 56 35.6
NACGM *i* LQ LQ 15 58 12.0
NACGM *i* LR LR 15 58 58.0
PABE Paberze 17.36 7 *e*P **P** 15 52 43.4 -0.5
PABE IAmb IAmb 15 52 49.8
comp=Z,49nm,0.8s
IIGN Ignalina 17.48 11 *e*P **P** 15 52 44.9 -0.4
IIGN IAmb IAmb 15 52 51.6
comp=Z,13nm,0.9s
IDID Didziasalis 17.52 12 *e*P **P** 15 52 45.5 -0.3
NEY Neytrino 17.53 67 *i* P **P** 15 52 49.1 +2.9
KIV Kislovodsk 17.62 64 *e*P **P** 15 52 50.3 +3.2
KIV pmax pmax
comp=Z,39nm,1.1s
KIV MLR MLR
comp=Z,292nm,14.0s
ISAL Salakas 17.68 11 *e*P **Pn** 15 52 45.8 -0.8
ISAL IAmb IAmb 15 52 49.4
comp=Z,8.9nm,0.5s
KBZ Khabaz 17.73 65 P **P** 15 52 48.1 -0.1
comp=Z,0.1nm,0.3s,baz=272,slow=10,SNR=4.8
KBZ Khabaz 17.73 65 *ce*P **P** 15 52 48.6 +0.4
NCK Nalchik 18.20 66 *i* P **P** 15 52 55.9 +2.6
VSR Storozhevoye 18.43 40 *e*P **P** 15 52 55.3 -0.5
VSR pmax pmax
comp=Z,9.0nm,0.5s
GNI Garni 18.87 77 P **Pn** 15 53 01.8 +0.3
comp=Z,0.6nm,0.3s,baz=262,slow=3.4,SNR=9.8
GNI Garni 18.87 77 *ce*P **Pn** 15 53 03.1 +1.6
GNI pmax pmax
comp=Z,9.0nm,0.6s
GNI Garni 18.87 77 P **Pn** 15 53 02.6 +1.1
GNI IAmb IAmb 15 53 09.8
comp=Z,72nm,1.4s
ESDC Sonseca Array 19.04 282 P **Pn** 15 53 03.4 -0.2
comp=Z,0.2nm,0.3s,baz=74,slow=10,SNR=9.4
ESDC LR LR 16 00 18.9
comp=Z,278nm,20.1s,baz=70,slow=37
ESDC Sonseca Array 19.04 282 P **P** 15 53 01.5 -1.2
LPSR Galich'ya Gora 19.19 36 *e*P **P** 15 53 04.2 +0.1
LPSR pmax pmax
comp=Z,100nm,1.3s
VRH Novokhopyorsk 19.74 42 *e*P **Pn** 15 53 12.3 +0.6
VRH pmax pmax
comp=Z,60nm,1.5s
OBN Obninsk 20.01 28 P **P** 15 53 13.2 +0.1
comp=Z,0.5nm,0.3s,baz=184,slow=16,SNR=5.4
OBN Obninsk 20.01 28 ‖ *e*P **P** 15 53 13.5 +0.4
OBN *e*S **S** 15 56 56.6 -0.8
OBN pmax pmax
comp=Z,30nm,0.8s
OBN MLR MLR
comp=Z,474nm,15.0s
MTSE Matsula 20.53 5 *e*P Pn 15 53 24.0 +3.1
VSU Vasula 20.57 9 *e*P **P** 15 53 18.8 -0.2
VSU Vasula 20.57 9 *i* P **P** 15 53 18.8 -0.2
VSU pmax pmax
comp=Z,35nm,0.3s
MOS Moscow 20.88 28 *e*P **P** 15 53 20.3 -2.2
MOS *e* 15 53 50.4
MOS pmax pmax
comp=Z,128nm,1.7s
MOS pmax pmax
comp=Z,400nm,2.6s
MAK Makhachkala 20.98 69 *e*P **P** 15 53 21.3 -2.4
MAK *e*S **S** 15 57 13.7 -3.1
MAK *e*SS **SnSn** 15 57 38.9 +1.2
MAK pmax pmax
comp=Z,374nm,1.4s
MDT Midelt 21.11 263 P **P** 15 53 26.6 +1.2
comp=Z,6.6nm,1.0s,baz=92,slow=14,SNR=8.9
MVO Moncorvo 21.32 286 *e*P **P** 15 53 28.2 +0.8
comp=Z,40nm,1.5s
PBAR Barrancos 21.59 278 *e*P **P** 15 53 32.4 +2.0
comp=Z,32nm,1.3s
UPP Uppsala 21.64 356 *e*P **P** 15 53 30.6 0.0
PMRV Marv??o 21.71 282 *e*P **P** 15 53 31.9 +0.3
comp=Z,38nm,1.8s
PCBR Castelo Branco 21.73 283 *e*P **P** 15 53 31.3 -0.5
comp=Z,51nm,1.6s
MTE Manteigas 21.74 284 *e*P **P** 15 53 28.0 -4.0
comp=Z,64nm,1.9s
PVIS Viseu 21.99 285 *e*P **P** 15 53 34.9 +0.2
comp=Z,45nm,1.7s
PVAQ Vaqueiros 22.26 276 *e*P **P** 15 53 40.2 +2.7
comp=Z,34nm,1.5s
HFS Hagfors 22.26 351 P **P** 15 53 37.0 -0.3
comp=Z,4.3nm,0.4s,baz=162,slow=11,SNR=28
PUL Pulkovo 22.38 13 *ce*P **P** 15 53 40.3 +1.8
PUL pmax pmax
comp=Z,53nm,0.4s
PMTG Montargil 22.39 281 *e*P **P** 15 53 38.4 -0.5
comp=Z,30nm,2.1s
PNCL Nicolau / Gran 22.76 279 *e*P **P** 15 53 43.3 +0.4
comp=Z,42nm,1.8s
NC602 NORSAR Array S 23.14 349 P **P** 15 53 46.2 -0.4
NC602 IAmb IAmb 15 53 54.5
comp=Z,19nm,0.8s
EKA Eskdalemuir Ar 23.30 325 P **P** 15 53 48.5 +0.3
comp=Z,1.8nm,0.4s,baz=122,slow=7.9,SNR=6.6
NAO01 NORSAR Array S 23.34 348 P **P** 15 53 49.0 +0.3
FINES FINESS Array B 23.41 7 P **P** 15 53 47.9 -1.3
comp=Z,4.1nm,0.5s,baz=173,slow=9.0,SNR=35
FINES PcP **PcP** 15 57 35.6 +0.4
comp=Z,2.5nm,0.8s,baz=225,slow=1.8,SNR=3.7
FINES LR LR 16 04 07.6
comp=Z,502nm,19.2s,baz=196,slow=40
FINES FINESS Array B 23.41 7 P **P** 15 53 47.4 -1.9
FIA1 FINESS Array S 23.41 7 P **P** 15 53 47.0 -2.3
NC405 NORSAR Array S 23.47 349 P **P** 15 53 49.9 0.0
NB201 NORSAR Array S 23.48 349 P **P** 15 53 49.5 -0.4
NB2 NORSAR Subarra 23.48 349 P **P** 15 53 49.4 -0.6
comp=Z,1.7nm,0.5s,baz=156,slow=9.3
NOA NORSAR Array B 23.48 349 P **P** 15 53 49.9 -0.1
comp=Z,0.6nm,0.4s,baz=161,slow=10.0,SNR=12
NOA LR LR 16 04 19.6
comp=Z,285nm,19.1s,baz=165,slow=40
BELG Belogornoye 23.52 44 P **P** 15 53 50.0 -0.4
comp=Z,18nm,0.5s,baz=12,slow=1.9,SNR=20
BELG Belogornoye 23.52 44 *i* P **P** 15 53 51.0 +0.6
BELG pmax pmax
comp=Z,5.0nm,0.9s
NBO00 NORSAR Array S 23.54 348 P **P** 15 53 50.2 -0.4
NC303 NORSAR Array S 23.63 349 P **P** 15 53 50.9 -0.6
NC204 NORSAR Array S 23.77 348 P **P** 15 53 52.1 -0.8
NC204 IAmb IAmb 15 54 16.9
comp=Z,16nm,0.9s
KIRV Kirov 27.55 33 P **P** 15 54 26.8 -0.4
comp=Z,8.1nm,0.6s,baz=218,slow=6.7,SNR=3.4
KIRV Kirov 27.55 33 *ce*P **P** 15 54 29.6 +2.5
PRGR Permogore 28.05 26 *e*P **P** 15 54 30.6 -0.9
PRGR pmax pmax
comp=Z,22nm,0.8s
AKTO Aktyubinsk 29.12 53 P **P** 15 54 40.8 -0.5
comp=Z,1.1nm,0.3s,baz=238,slow=6.7,SNR=5.6
GEYT Alibeck 29.47 79 P **P** 15 54 44.5 0.0
comp=Z,3.0nm,0.6s,baz=262,slow=10,SNR=5.6
GEYT Alibeck 29.47 79 P **P** 15 54 44.9 +0.3
GYA0B ALIBECK ARRAY 29.47 79 P **P** 15 54 45.1 +0.6
GYA0B IAmb IAmb 15 55 03.9
comp=Z,7.0nm,0.9s
TOA0 Torodi Ar. Sit 30.12 219 P **P** 15 54 50.3 -0.1
TOA0 IAmb IAmb 15 54 54.9
comp=Z,5.9nm,0.8s
TORD Torodi Ar. Bea 30.12 219 P **P** 15 54 50.9 +0.5
comp=Z,5.0nm,0.7s,baz=32,slow=9.2,SNR=12
TORD PcP **PcP** 15 57 52.1 +0.4
comp=Z,0.6nm,0.6s,baz=22,slow=2.2,SNR=3.1
TORD Torodi Ar. Bea 30.12 219 P **P** 15 54 50.1 -0.2
ABKAR Akbulak array 30.19 56 P **P** 15 54 50.5 -0.2
ARU Arti 30.97 42 *d i* P **P** 15 55 02.0 +4.5
ARU 15 55 55.8
ARU pmax pmax
comp=Z,21nm,1.6s
ARU Arti 30.97 42 P **P** 15 54 56.8 -0.8
ARCES ARCESS Array B 31.40 3 P **P** 15 55 00.9 -0.2
comp=Z,0.8nm,0.3s,baz=191,slow=11,SNR=22
ARCES PcP **PcP** 15 57 54.5 +0.3
comp=Z,0.9nm,0.6s,baz=191,slow=1.4,SNR=5.5
ARCES LR LR 16 09 43.7
comp=Z,219nm,18.8s,baz=200,slow=40
KEV Kevo 31.70 4 P **P** 15 55 03.0 -0.7
KEV pmax pmax
comp=Z,22nm,1.3s
KEV Kevo 31.70 4 P **P** 15 55 03.0 -0.7
KOWA Kowa 32.13 229 P **P** 15 55 06.2 -1.8
KOWA IAmb IAmb 15 55 31.2
comp=Z,11nm,1.4s
SVE Sverdlovsk 32.19 42 *e*P **P** 15 55 08.1 -0.1
SVE pmax pmax
comp=Z,32nm,1.6s
SVE MLR MLR
comp=Z,415nm,15.0s
UOSS Minazif 32.99 103 P **P** 15 55 14.8 -0.8
UOSS IAmb IAmb 15 55 29.3
comp=Z,7.1nm,0.8s
BRVK Borovoye 36.99 50 *ce*P **P** 15 55 50.6 +0.9
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 36.99 50 P **P** 15 55 49.8 +0.1
BRVK IAmb IAmb 15 55 56.5
comp=Z,15nm,1.2s
KK31 Karatay Array 37.77 66 P **P** 15 55 55.4 -1.1
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KK31 Karatay Array 37.77 66 P **P** 15 55 55.4 -1.1
KK31 IAmb IAmb 15 56 05.2
comp=Z,7.4nm,0.7s
KKAR Karatay Array 37.77 66 P **P** 15 55 55.4 -1.1
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 37.77 66 P **P** 15 55 55.4 -1.1
KKAR Karatay Array 37.77 66 P **P** 15 55 55.4 -1.1
KKAR IAmb IAmb 15 56 05.2
comp=Z,7.4nm,0.7s
DBIC Dimbokro 38.98 223 P **P** 15 56 07.6 +0.7
comp=Z,2.3nm,0.6s,baz=6.6,slow=12,SNR=4.7
DBIC LR LR 16 13 12.2
comp=Z,217nm,18.4s,baz=14,slow=38
DBIC Dimbokro 38.98 223 P **P** 15 56 06.8 0.0
DBIC pmax pmax
comp=Z,16nm,1.3s
DBIC Dimbokro 38.98 223 P **P** 15 56 06.8 0.0
DBIC IAmb IAmb 15 56 15.6
comp=Z,16nm,1.2s
SCO Scoresbysund 39.05 339 P **P** 15 56 08.8 +1.9
SCO pmax pmax
comp=Z,17nm,1.2s
SCO Scoresbysund 39.05 339 P **P** 15 56 08.8 +1.9
SCO IAmb IAmb 15 56 18.4
comp=Z,16nm,1.2s
SOCY Socotra 39.57 122 P **P** 15 56 10.5 -1.5
AAK Ala-Archa 40.73 66 *ce*P **P** 15 56 22.0 +0.6
AAK pmax pmax
comp=Z,29nm,1.7s
AAK Ala-Archa 40.73 66 P **P** 15 56 22.1 +0.6
SUMG Summit 44.68 338 *i* P **P** 15 56 54.8 +1.4
SUMG *i* 15 56 59.6
SUMG Summit 44.68 338 P **P** 15 56 53.1 -0.3
SUMG pmax pmax
comp=Z,25nm,1.5s
SUMG Summit 44.68 338 P **P** 15 56 53.1 -0.3
SUMG Summit 44.68 338 *i* P **P** 15 56 54.9 +1.4
SUMG *i* 15 56 59.6
MAKZ Makanchi 45.04 59 P **P** 15 56 55.1 -1.0
MAKZ pmax pmax
comp=Z,3.0nm,1.2s
MAKZ Makanchi 45.04 59 P **P** 15 56 55.1 -1.0
MK31 Makanchi Array 45.25 58 *i* P **P** 15 56 57.0 -0.8
MK31 Makanchi Array 45.25 58 P **P** 15 56 56.8 -1.0
MK31 IAmb IAmb 15 57 03.2
comp=Z,11nm,1.5s
MKAR Makanchi Array 45.25 58 P **P** 15 56 57.2 -0.6
comp=Z,2.5nm,0.5s,baz=274,slow=7.3,SNR=38
MKAR PcP **PcP** 15 58 38.0 +0.4
comp=Z,0.8nm,0.7s,baz=286,slow=4.5,SNR=1.6
MKAR LR LR 16 18 49.7
comp=Z,75nm,19.4s,baz=286,slow=40
MKAR Makanchi Array 45.25 58 P **P** 15 56 56.7 -1.1
ZAA0 Zalesovo Array 45.62 48 P **P** 15 56 59.4 -1.1
ZALV Zalesovo Beam 45.62 48 P **P** 15 56 59.9 -0.7
comp=Z,5.6nm,0.5s,baz=277,slow=8.8,SNR=26
ZALV LR LR 16 19 01.6
comp=Z,141nm,18.5s,baz=304,slow=40
ZALV Zalesovo Beam 45.62 48 P **P** 15 56 59.2 -1.4
DGZ Jazzator, Alta 47.96 54 ‖ *e*P **P** 15 57 18.5 -0.7
DGZ pmax pmax
comp=Z,1.0nm,0.8s
WMQ Urumqi 49.72 61 *e*P **P** 15 57 34.0 +1.4
WMQ pP sP 15 57 43.3 +3.8
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,280nm,4.5s
DRLN Deer Lake 54.99 309 P **P** 15 58 12.4 +0.8
EUNU Eureka 55.37 348 P **P** 15 58 15.0 +1.0
TLY Talaya 57.21 47 *i* P **P** 15 58 28.9 +1.4
TLY Talaya 57.21 47 P **P** 15 58 28.4 +0.9
ZAK Zakamensk 57.49 49 *e*P **P** 15 58 29.9 +0.3
ZAK pmax pmax
comp=Z,4.0nm,1.4s
TIXI Tiksi 59.53 20 ‖ *e*P **P** 15 58 44.0 +0.7
TIXI Tiksi 59.53 20 P **P** 15 58 43.9 +0.7
TIXI IAmb IAmb 15 58 50.0
comp=Z,9.7nm,1.4s
RES Resolute Bay 59.63 344 P **P** 15 58 44.5 +0.6
comp=Z,0.8nm,1.0s,baz=36,slow=12,SNR=2.2
GTA Gaotai 59.78 62 P **P** 15 58 48.5 +2.7
GTA pP sP 15 59 08.5 +16
GTA sP PcP 15 59 19.0 -13
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA pmax pmax
comp=Z,95nm,6.0s
GTA LR LR
comp=N,120nm,17.8s
GTA LR LR
comp=E,150nm,18.2s
GTA LR LR
comp=Z,120nm,18.9s
BOD Bodaibo 60.28 38 *e*P P 15 58 42.8 -5.9
BOD pmax pmax
comp=Z,10.0nm,2.4s
SONM Songino Array 60.39 51 P **P** 15 58 49.8 0.0
comp=Z,1.9nm,0.9s,baz=288,slow=8.1,SNR=5.7
SONM LR LR 16 25 38.7
comp=Z,135nm,18.4s,baz=298,slow=37
SONM Songino Array 60.39 51 P **P** 15 58 49.3 -0.5
SONM pmax pmax
comp=Z,6.0nm,1.3s
SONM Songino Array 60.39 51 P **P** 15 58 49.3 -0.5
SONM IAmb IAmb 15 58 55.7
comp=Z,5.8nm,1.3s
LZH Lanzhou 64.16 63 *e*P **P** 15 59 15.8 +0.5
LZH pP sP 15 59 21.8 -0.5
LZH sP pP 15 59 27.3 +6.9
LZH pmax pmax
comp=Z,17nm,1.3s
YAK Yakutsk 65.00 29 *ce*P **P** 15 59 19.4 -0.7
YAK pmax pmax
comp=Z,11nm,0.7s
YAK Yakutsk 65.00 29 P **P** 15 59 19.4 -0.7
BOSA Boshof 66.73 175 LR LR 16 31 24.4
comp=Z,149nm,18.7s,baz=17,slow=38
HHC Hu-ho-hao-te 66.98 55 *e*P **P** 15 59 36.0 +2.7
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,120nm,6.2s
FCC Fort Churchill 69.12 330 P **P** 15 59 47.7 +1.4
FCC pmax pmax
comp=Z,3.0nm,1.0s
FCC Fort Churchill 69.12 330 P **P** 15 59 47.7 +1.4
FCC IAmb IAmb 15 59 48.8
comp=Z,3.2nm,0.9s
C36M Paulatuk 69.52 347 P **P** 15 59 49.1 +0.5
C36M IAmb IAmb 15 59 58.8
comp=Z,4.1nm,0.9s
CMAR Chiang Mai Arr 69.89 82 P **P** 15 59 51.6 -0.1
comp=Z,1.3nm,0.7s,baz=301,slow=7.4,SNR=12
CMAR Chiang Mai Arr 69.89 82 P **P** 15 59 51.5 -0.3
CMAR Chiang Mai Arr 69.89 82 P **P** 15 59 51.5 -0.3
SADO Sadowa 70.15 312 LR LR 16 28 43.1
comp=Z,63nm,20.4s,baz=1.0,slow=34
BILL Bilibino 70.89 13 ‖ *i* P **P** 15 59 57.6 +0.6
BILL *i* *SP **sP** 16 00 03.4 -0.3
BILL 16 00 13.0
BILL S **S** 16 09 16.0 +4.6
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL MLR MLR
comp=Z,102nm,17.0s
INK Inuvik 71.92 350 P **P** 16 00 03.3 0.0
INK pmax pmax
comp=Z,2.0nm,1.0s
INK Inuvik 71.92 350 P **P** 16 00 03.3 0.0
SEY Seymchan 72.02 21 *i* P **P** 16 00 02.8 -1.1
TOLK Toolik Lake Re 73.10 356 P **P** 16 00 12.0 +1.6
TOLK IAmb IAmb 16 00 19.1
comp=Z,8.7nm,1.4s
YKA Yellowknife Ar 73.25 340 P **P** 16 00 11.5 +0.2
comp=Z,0.5nm,0.6s,baz=40,slow=5.4,SNR=9.9
YKA LR LR 16 37 35.4
comp=Z,60nm,18.0s,baz=0.0,slow=40
KLR Kul'dur 73.78 40 *ce*P **P** 16 00 14.7 0.0
KLR pmax pmax
comp=Z,4.0nm,0.6s
CN2 Changchun 73.81 47 *e*P **P** 16 00 15.5 +0.6
CN2 *e*S **SKiKP** 16 09 43.5 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,200nm,12.0s
CN2 LR LR
comp=E,200nm,12.0s
CN2 LR LR
comp=Z,100nm,10.0s
RDOG Red Dog Mine 73.92 1 P **P** 16 00 15.8 +0.6
RDOG IAmb IAmb 16 00 23.3
comp=Z,3.1nm,0.6s
EPYK Eagle Plains 74.17 351 P **P** 16 00 17.7 +1.0
EPYK IAmb IAmb 16 00 26.8
comp=Z,9.1nm,1.3s
MA2 Magadan 74.18 24 P **P** 16 00 17.6 +0.8
MA2 pmax pmax
comp=Z,10.0nm,1.1s
MA2 Magadan 74.18 24 P **P** 16 00 17.6 +0.8
MA2 IAmb IAmb 16 00 24.8
comp=Z,10nm,1.1s
COLD Coldfoot 74.54 356 P **P** 16 00 20.1 +1.3
ULM Lac du Bonnet 75.57 324 P **P** 16 00 25.8 +0.7
comp=Z,2.4nm,0.7s,baz=59,slow=4.9,SNR=5.4
TNA Tin City 76.25 4 P **P** 16 00 29.3 +0.7
MDM Murphy Dome 76.68 355 P **P** 16 00 32.1 +1.0
MDM IAmb IAmb 16 00 41.7
comp=Z,4.1nm,1.0s
DAWY Dawson 76.72 351 P **P** 16 00 31.9 +0.6
DAWY IAmb IAmb 16 00 42.1
comp=Z,5.1nm,1.0s
MLY Manley 76.76 356 P **P** 16 00 32.0 +0.4
NJ2 Nanjing 76.77 60 *e*P **P** 16 00 32.8 +0.7
NJ2 pmax pmax
comp=Z,15nm,0.5s
IL31 76.77 354 P **P** 16 00 32.3 +0.8
ILAR Eielson Array 76.77 354 P **P** 16 00 32.6 +1.1
comp=Z,0.8nm,0.9s,baz=353,slow=3.9,SNR=7.8
ILAR LR LR 16 35 18.4
comp=Z,61nm,20.8s,baz=32,slow=36
WRH Wood River Hil 77.15 355 P **P** 16 00 34.5 +0.8
WRH IAmb IAmb 16 00 36.3
comp=Z,4.0nm,0.8s
USA0B Ussuriysk Arra 77.20 43 P **P** 16 00 33.0 -1.3
USA0B pmax pmax
comp=Z,13nm,1.3s
USA0B Ussuriysk Arra 77.20 43 P **P** 16 00 33.0 -1.3
USRK Ussuriysk Ar. 77.20 43 P **P** 16 00 33.6 -0.7
comp=Z,1.5nm,0.5s,baz=334,slow=3.5,SNR=6.2
USRK Ussuriysk Ar. 77.20 43 P **P** 16 00 33.5 -0.8
USRK Ussuriysk Ar. 77.20 43 P **P** 16 00 33.5 -0.8
ANM Nome 77.35 3 P **P** 16 00 35.2 +0.3
ANM pmax pmax
comp=Z,5.0nm,1.1s
ANM Nome 77.35 3 P **P** 16 00 35.2 +0.3
ANM IAmb IAmb 16 00 45.1
comp=Z,4.9nm,1.1s
DOT Dot Lake 77.63 353 P **P** 16 00 37.8 +1.3
BPAW Bear Paw Mtn. 77.70 356 P **P** 16 00 37.2 +0.3

GAMB	**Gambell**	**77.79**	**6**	P	**P**	**16 00 38.9**	**+1.6**
MCK	**McKinley**	**77.94**	**355**	P	**P**	**16 00 39.3**	**+1.1**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MCK	**McKinley**	**77.94**	**355**	P	**P**	**16 00 39.3**	**+1.1**
MCK				IAmb	IAmb	16 00 48.3	
	comp=Z,4.0nm,0.8s						
L27K	**Beaver Creek,**	**77.98**	**352**	P	**P**	**16 00 40.0**	**+1.6**
KTH	**Kantishna Hill**	**78.24**	**356**	P	**P**	**16 00 40.6**	**+0.7**
KTH				IAmb	IAmb	16 00 54.8	
	comp=Z,6.6nm,1.4s						
TRF	**Thorofare Moun**	**78.31**	**356**	P	**P**	**16 00 40.8**	**+0.4**
PPLA	**Purkeypile**	**78.96**	**357**	P	**P**	**16 00 43.9**	**-0.1**
PPLA				IAmb	IAmb	16 01 11.4	
	comp=Z,14nm,1.4s						
U49A	**Red Boiling Sp**	**79.15**	**308**	P	**P**	**16 00 44.9**	**-0.5**
KSRS	**Korea Array**	**79.26**	**51**	P	**P**	**16 00 45.5**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=328,slow=4.4,SNR=4.6						
KSRS				LR	LR	16 37 21.5	
	comp=Z,64nm,18.6s,baz=308,slow=37						
WHY	**Whitehorse**	**79.33**	**348**	P	**P**	**16 00 45.3**	**-0.7**
N25K	**Chitina, Valde**	**79.69**	**353**	P	**P**	**16 00 48.1**	**+0.2**
N25K				IAmb	IAmb	16 01 08.0	
	comp=Z,9.9nm,1.4s						
SCM	**Sheep Creek Mo**	**79.71**	**354**	P	**P**	**16 00 48.8**	**+0.8**
SCM				pmax	pmax		
	comp=Z,12nm,1.2s						
SCM	**Sheep Creek Mo**	**79.71**	**354**	P	**P**	**16 00 48.8**	**+0.8**
SCM				IAmb	IAmb	16 00 53.2	
	comp=Z,12nm,1.2s						
SML	**Sawmill**	**79.81**	**355**	P	**P**	**16 00 49.7**	**+1.2**
SML				IAmb	IAmb	16 00 54.1	
	comp=Z,6.0nm,0.9s						
SKT	**Skwentna**	**79.84**	**356**	P	**P**	**16 00 48.6**	**0.0**
SKT				IAmb	IAmb	16 00 51.0	
	comp=Z,12nm,1.2s						
GHO	**Glory Hole Cre**	**79.89**	**355**	P	**P**	**16 00 49.7**	**+0.8**
GHO				IAmb	IAmb	16 00 56.0	
	comp=Z,10.0nm,1.4s						
KLU	**Klutina**	**79.93**	**353**	P	**P**	**16 00 50.0**	**+0.8**
KLU				IAmb	IAmb	16 00 52.0	
	comp=Z,11nm,1.5s						
CTGM	**Chitina Glacie**	**79.96**	**351**	P	**P**	**16 00 50.5**	**+1.0**
CTGM				IAmb	IAmb	16 00 52.7	
	comp=Z,9.0nm,1.3s						
YSS	**Yuzh-Sakhalins**	**80.67**	**36**	*e*P	**P**	**16 00 54.1**	**+0.8**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
PETK	**Petropavlovsk-**	**81.69**	**24**	LR	LR	16 41 52.4	
	comp=Z,136nm,19.4s,baz=311,slow=39						
T35A	**Sooner Cattle**	**85.24**	**314**	P	**P**	**16 01 19.0**	**+1.8**
JTMT	**Jette**	**85.31**	**331**	P	**P**	**16 01 18.1**	**+0.6**
YNE	**Yellowstone No**	**85.83**	**327**	P	**P**	**16 01 21.2**	**+0.8**
MJAR	**Matsushiro Arr**	**85.91**	**46**	P	**P**	**16 01 20.8**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=308,slow=5.0,SNR=5.0						
MJAR				LR	LR	16 41 50.2	
	comp=Z,44nm,20.8s,baz=30,slow=37						
MJAR	**Matsushiro Arr**	**85.91**	**46**	P	**P**	**16 01 20.8**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MJAR	**Matsushiro Arr**	**85.91**	**46**	IAmb	IAmb	16 01 26.9	
	comp=Z,5.2nm,1.4s						
PDAR	**Pinedale Array**	**87.42**	**326**	P	**P**	**16 01 28.7**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=58,slow=7.5,SNR=2.7						
PDAR				LR	LR	16 44 20.2	
	comp=Z,64nm,18.1s,baz=20,slow=38						
WMOK	**Wichita Mounta**	**88.08**	**314**	P	**P**	**16 01 32.9**	**+1.7**
WMOK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WMOK	**Wichita Mounta**	**88.08**	**314**	P	**P**	**16 01 32.9**	**+1.7**
SPB	**Sao Paulo**	**88.54**	**238**	P	**P**	**16 01 33.9**	**+0.6**
HWUT	**Hardware Ranch**	**89.24**	**326**	P	**P**	**16 01 35.7**	**-1.0**
HWUT				IAmb	IAmb	16 01 38.2	
	comp=Z,6.2nm,1.2s						
PV16	**Nyswonger Mesa**	**90.67**	**323**	P	**P**	**16 01 42.8**	**-0.8**
PV16				IAmb	IAmb	16 01 49.6	
	comp=Z,4.1nm,1.0s						
PV14	**Lion Creek, Pa**	**90.67**	**323**	P	**P**	**16 01 42.9**	**-0.7**
PV14				IAmb	IAmb	16 01 47.7	
	comp=Z,6.0nm,1.1s						
SRU	**San Rafael Swe**	**90.78**	**324**	P	**P**	**16 01 43.3**	**-0.7**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SRU	**San Rafael Swe**	**90.78**	**324**	P	**P**	**16 01 43.2**	**-0.7**
SRU				IAmb	IAmb	16 01 50.7	
	comp=Z,2.9nm,0.9s						
ROSC	**El Rosal**	**90.80**	**277**	LR	LR	16 37 08.0	
	comp=Z,50nm,18.8s,baz=200,slow=32						
NVAR	**Mina Array Bea**	**94.74**	**329**	LR	LR	16 45 42.8	
	comp=Z,62nm,18.2s,baz=22,slow=36						
TXAR	**Lajitas Array**	**94.86**	**314**	P	**P**	**16 02 03.4**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=69,slow=4.2,SNR=4.7						
TXAR				LR	LR	16 43 50.8	
	comp=Z,42nm,20.8s,baz=0.0,slow=35						
APG	**El Apazote**	**96.49**	**295**	LR	LR	16 40 23.3	
	comp=Z,2nm,21.9s,baz=355,slow=32						
CPUP	**Villa Florida**	**97.09**	**242**	LR	LR	16 47 25.4	
	comp=Z,170nm,19.1s,baz=44,slow=36						
LPAZ	**La Paz**	**98.85**	**256**	LR	LR	16 50 16.1	
	comp=Z,33nm,18.7s,baz=58,slow=37						
WRA	**Warramunga Arr**	**120.57**	**92**	PKP	**PKPdf**	**16 07 31.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=325,slow=1.7,SNR=4.8						
ASAR	**Alice Springs**	**122.21**	**96**	PKP	**PKPdf**	**16 07 35.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=326,slow=1.7,SNR=6.6						

*NEIC **31** 15:53:08.6±2.1, 19.5S±0.2×178.0W±0.1, h436km±9km, mb4.2/27, Error ellipse: s-maj=24.3km s-min=17.2km az=157.0*
*IDC **31** 15:53:09.8±1.8, 19.77S×177.87W, h447km±18km, mb3.3/7, mb1 3.6/9, mb1mx3.3/26, mbtmp4.2/9, Error ellipse: s-maj=31.5km s-min=14.5km az=148.0*
ISC 31 15:53:09.8±0.7, 19.7S±0.1×178.0W±0.1, h450km, n44, σ1s32/43, mb4.0/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.27**	**297**	P	**P**	**15 54 28.0**	**+0.6**
	34nm,0.3s,baz=229,slow=8.7,SNR=121						
MSVF	**Nonsavu**	**4.27**	**297**		**P**	**15 54 27.6**	**+0.2**
AFI	**Afiamalu**	**8.26**	**47**	P	P	15 55 01.1	-7.1
URZ	**Urewera**	**18.98**	**192**	P	**P**	**15 57 00.5**	**-1.2**
	1.1nm,0.3s,baz=301,slow=19,SNR=2.3						
URZ	**Urewera**	**18.98**	**192**	P	**P**	**15 56 57.9**	**-3.8**
URZ				IAmb	IAmb	15 57 00.7	
	comp=Z,7.7nm,0.7s						
BKZ	**Black Stump Fm**	**19.98**	**193**	P	**P**	**15 57 07.2**	**-3.7**
BFZ	**Birch Farm**	**21.49**	**192**	P	**P**	**15 57 23.4**	**-1.1**
QRZ	**Quartz Range**	**22.57**	**199**	P	**P**	**15 57 33.7**	**-0.7**
THZ	**Tophouse**	**23.32**	**197**	P	**P**	**15 57 39.7**	**-1.5**
THZ				IAmb	IAmb	15 58 01.2	
	comp=Z,11nm,1.0s						
HNR	**Honiara**	**23.67**	**292**	P	**P**	**15 57 42.0**	**-2.6**
KHZ	**Kahutara**	**23.76**	**196**	P	**P**	**15 57 43.5**	**-1.4**
ARMA	**Armidale**	**29.46**	**243**	P	**P**	**15 58 37.4**	**+1.6**
ARMA				IAmb	IAmb	15 59 04.4	
	comp=Z,23nm,1.5s						
CAN	**Canberra**	**33.00**	**235**	P	**P**	**15 59 07.1**	**+1.0**
CAN				IAmb	IAmb	15 59 07.7	
	comp=Z,7.2nm,0.9s						
CTAO	**Charters Tower**	**33.62**	**263**	P	**P**	**15 59 12.5**	**+1.0**
CTAO				IAmb	IAmb	15 59 13.6	
	comp=Z,16nm,1.1s						
TOO	**Toolangi**	**36.41**	**233**	P	**P**	**15 59 34.4**	**-0.3**
TOO				IAmb	IAmb	15 59 39.4	
	comp=Z,17nm,1.4s						
COEN	**Coen**	**37.58**	**273**	P	**P**	**15 59 45.4**	**+0.7**
COEN				IAmb	IAmb	15 59 58.4	
	comp=Z,10.0nm,1.2s						
STKA	**Stephens Creek**	**38.18**	**243**	P	**P**	**15 59 50.5**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=88,slow=11,SNR=11						
STKA	**Stephens Creek**	**38.18**	**243**	P	**P**	**15 59 50.4**	**+1.0**
BBOO	**Buckleboo**	**42.95**	**243**	P	**P**	**16 00 28.1**	**+0.4**
BBOO				IAmb	IAmb	16 00 29.0	
	comp=Z,11nm,0.9s						
WR0	**Warramunga Arr**	**44.57**	**261**	P	**P**	**16 00 40.5**	**-0.1**
WR0				IAmb	IAmb	16 01 00.5	
	comp=Z,8.8nm,1.4s						
AS31	**Alice Springs**	**44.75**	**256**	P	**P**	**16 00 42.2**	**+0.2**
ASAR	**Alice Springs**	**44.75**	**256**	P	**P**	**16 00 42.6**	**+0.6**
	comp=Z,9.1nm,0.6s,baz=92,slow=8.1,SNR=261						
ASAR				S	**S**	**16 06 46.6**	**+1.3**
	comp=Z,1.1nm,0.9s,baz=93,slow=16,SNR=7.7						
ASAR	**Alice Springs**	**44.75**	**256**	P	**P**	**16 00 41.9**	**-0.1**
WB2	**Warramunga Arr**	**44.75**	**261**	P	**P**	**16 00 41.8**	**-0.2**
WRAB	**Tennant Creek**	**44.75**	**261**	P	**P**	**16 00 41.4**	**-0.6**
WRAB				IAmb	IAmb	16 00 42.3	
	comp=Z,5.5nm,0.9s						
WRA	**Warramunga Arr**	**44.76**	**261**	P	**P**	**16 00 42.3**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=97,slow=6.7,SNR=87						
WRA	**Warramunga Arr**	**44.76**	**261**	P	**P**	**16 00 41.2**	**-0.8**
MTN	**Manton Dam**	**49.20**	**270**	P	**P**	**16 01 15.8**	**-0.1**
MTN				IAmb	IAmb	16 01 17.0	
	comp=Z,5.8nm,1.1s						
FORT	**Forrest**	**49.65**	**246**	P	**P**	**16 01 18.9**	**0.0**
FORT				IAmb	IAmb	16 01 42.1	
	comp=Z,24nm,1.2s						
KNRA	**Kununurra**	**50.76**	**266**	P	**P**	**16 01 25.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**53.18**	**262**	P	**P**	**16 01 45.7**	**+0.8**
PSA00	**Pilbara Seismi**	**57.89**	**256**	P	**P**	**16 02 17.3**	**-0.5**
PSA00				IAmb	IAmb	16 02 18.9	
	comp=Z,5.5nm,0.8s						
VNDA	**Vanda**	**58.70**	**185**	P	**P**	**16 02 24.2**	**+1.8**
NWAO	**Narrogin (SRO)**	**58.77**	**243**	P	**P**	**16 02 23.0**	**-0.6**
KKM	**Kota Kinabalu**	**69.60**	**285**	P	**P**	**16 03 31.6**	**-1.7**
QSPA	**South Pole Qui**	**70.36**	**180**	P	**P**	**16 03 37.9**	**+0.9**
QSPA				IAmb	IAmb	16 03 49.4	
	comp=Z,4.2nm,1.4s						
PETK	**Petropavlovsk-**	**75.52**	**345**	P	**P**	**16 04 07.9**	**+1.3**
	comp=Z,2.9nm,0.9s,baz=144,slow=6.2,SNR=2.1						
NVAR	**Mina Array Bea**	**80.42**	**43**	P	**P**	**16 04 34.1**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=206,slow=6.0,SNR=2.7						
TXAR	**Lajitas Array**	**86.59**	**57**	P	**P**	**16 05 05.6**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=214,slow=6.6,SNR=5.2						
ILAR	**Eielson Array**	**87.53**	**13**	P	**P**	**16 05 06.8**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=214,slow=4.6,SNR=2.0						
ARCES	**ARCESS Array B**	**128.15**	**350**	PKP	**PKiKP**	**16 11 23.3**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=9.5,slow=1.5,SNR=12						
FINES	**FINESS Array B**	**135.03**	**344**	PKP	**PKPdf**	**16 11 36.4**	**0.0**
	comp=Z,1.2nm,0.8s,baz=25,slow=4.6,SNR=4.1						
AKASG	**Malin Array Be**	**142.34**	**332**	PKhKP	PKPpre	16 11 46.8	
	comp=Z,0.6nm,0.4s,baz=42,slow=4.4,SNR=7.2						
BRTR	**Keskin Array B**	**146.34**	**313**	PKPbc	**PKPbc**	**16 11 59.6**	**0.0**
	comp=Z,0.4nm,0.5s,baz=134,slow=3.2,SNR=3.1						

*MOS **31** 15:54:53.0±0.9, 41.39N×42.16E, h14km, mb4.0/1, Error ellipse: s-maj=8.3km s-min=5.4km az=65.1*
*ISK **31** 15:54:53.0, 41.56N×42.27E, h5km, ML3.2/13*
*TIF **31** 15:54:53.2, 41.52N×42.27E, h14km±1km*
*NSSP **31** 15:54:53.4, 41.55N×42.33E, h10km, Ms2.9*
*NORS **31** 15:54:54.5±0.0, 41.69N×42.39E, h3km, MPVA3.9*
ISC 31 15:54:53.3±1.2, 41.54N±0.02×42.29E±0.02, h2km±10km, n68, σ1s17/109, 1C, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABS	**Abstumani**	**0.45**	**61**	P	**Pb**	**15 55 03.2**	**-0.8**
ABS				S	**Sb**	**15 55 10.0**	**-1.2**
ABS	**Abstumani**	**0.45**	**61**	PG	**Pb**	**15 55 03.2**	**-0.8**
AKH	**Akhalkalaki**	**0.92**	**98**	P	**Pb**	**15 55 11.6**	**-0.4**
AKH				S	**Sb**	**15 55 24.5**	**-0.2**
AKH	**Akhalkalaki**	**0.92**	**98**	PG	**Pb**	**15 55 11.6**	**-0.4**
AKH				SG	**Sb**	**15 55 24.5**	**-0.2**
AKH	**Akhalkalaki**	**0.92**	**98**	PG	**Pb**	**15 55 11.6**	**-0.4**
AKH				S	**Sb**	**15 55 24.5**	**-0.2**
BKRG	**Bakuriani**	**0.95**	**76**	P	**Sn**	**15 55 26.5**	**-1.5**
BKRG				S	**Sn**	**15 55 26.5**	**-1.5**
BKRG	**Bakuriani**	**0.95**	**76**	PG	**Pb**	**15 55 12.3**	**-0.3**
BKRG				S	**Sn**	**15 55 26.5**	**-1.5**
SENK	**Senkaya-Erzuru**	**0.98**	**177**	PG	**Pb**	**15 55 12.6**	**-0.4**
SENK				SG	**Sn**	**15 55 26.9**	**-1.8**
KARS	**Kars**	**1.09**	**146**	PN	**Pn**	**15 55 15.7**	**0.0**
KARS				SN	**Sn**	**15 55 31.2**	**-0.2**
BRNG	**Burnasheti**	**1.16**	**85**	P	**Pn**	**15 55 16.1**	**-0.5**
BRNG				S	**Sn**	**15 55 32.9**	**-0.2**
CHVG	**Ch'k'valeri**	**1.19**	**353**	P	**Pg**	**15 55 17.2**	**+1.2**
CHVG				S	**Sn**	**15 55 34.3**	**+0.7**
CHVG	**Ch'k'valeri**	**1.19**	**353**	PG	**Pg**	**15 55 17.2**	**+1.2**
CHVG				S	**Sn**	**15 55 34.3**	**+0.7**
CHOM	**Cayeli-Rize**	**1.23**	**249**	PN	**Pg**	**15 55 16.7**	**-0.1**
CHAY	**Cayeli-Rize**	**1.26**	**249**	PN	**Pg**	**15 55 17.5**	**+0.1**
ONI	**Oni**	**1.36**	**39**	P	**Pg**	**15 55 19.6**	**+0.2**
ONI				S	**Sg**	**15 55 38.3**	**+1.2**
ONI	**Oni**	**1.36**	**39**	PG	**Pg**	**15 55 19.6**	**+0.2**
ONI	**Oni**	**1.36**	**39**	*i* Pg	**Pg**	**15 55 19.6**	**+0.2**
ONI				*e*Sg	**Sg**	**15 55 38.3**	**+1.2**
TRLG	**Trialeti**	**1.36**	**89**	P	**Pb**	**15 55 19.1**	**-0.5**
TRLG				S	**Sg**	**15 55 37.7**	**+0.6**
TRLG	**Trialeti**	**1.36**	**89**	PG	**Pb**	**15 55 19.1**	**-0.5**
TRLG				S	**Sg**	**15 55 37.7**	**+0.6**
DMNI	**Dmanisi**	**1.45**	**98**	P	**Pb**	**15 55 20.7**	**-0.3**
DMNI				S	**Sg**	**15 55 40.0**	**+0.2**
DMNI	**Dmanisi**	**1.45**	**98**	PG	**Pb**	**15 55 20.7**	**-0.3**
DMNI				S	**Sg**	**15 55 40.0**	**+0.2**
KOPR	**Koprukoy-ERZUR**	**1.58**	**192**	PN	**Pb**	**15 55 22.8**	**-0.5**
KZRT	**Kazreti**	**1.60**	**95**	P	**Pb**	**15 55 23.0**	**-0.5**
KZRT				S	**Sg**	**15 55 44.8**	**+0.2**
KZRT	**Kazreti**	**1.60**	**95**	PN	**Pb**	**15 55 23.0**	**-0.5**
KZRT				S	**Sg**	**15 55 44.8**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.67**	**35**	*e*PN	**Pg**	**15 55 24.8**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.67**	**35**	*e*Pg	**Pg**	**15 55 24.8**	**-0.4**
DIGR				*e*Sg	**Sg**	**15 55 47.8**	**+1.1**
ZEI	**Tsey**	**1.73**	**43**	*e*PN	**Pg**	**15 55 26.3**	**-0.2**
ZEI	**Tsey**	**1.73**	**43**	*e*Pg	**Pg**	**15 55 26.3**	**-0.2**
ZEI				*e*Sg	**Sg**	**15 55 50.0**	**+1.1**
NEY	**Neytrino**	**1.74**	**11**	*e*PN	**Pg**	**15 55 26.5**	**-0.1**
NEY	**Neytrino**	**1.74**	**11**	*e*Pg	**Pg**	**15 55 26.5**	**-0.1**
NEY				*e*Sg	**Sg**	**15 55 50.2**	**+1.1**
VNNZ	**Vanand**	**1.85**	**140**	*i* P	**Pg**	**15 55 28.8**	**+0.1**
VNNZ				*i* S	**Sg**	**15 55 53.3**	**+0.6**
ARUZ	**Aruch**	**1.86**	**132**	*i* P	**Pb**	**15 55 28.0**	**+0.1**
ARUZ				*i* S	**Sb**	**15 55 52.0**	**+0.4**
GUDG	**Gudauri**	**1.88**	**60**	P	**Pg**	**15 55 29.9**	**+0.7**
GUDG				S	**Sg**	**15 55 54.2**	**+0.6**
GUDG	**Gudauri**	**1.88**	**60**	PN	**Pg**	**15 55 29.9**	**+0.7**
BTNK	**Botanikuri**	**1.89**	**85**	P	**Pb**	**15 55 27.9**	**-0.6**
BTNK	**Botanikuri**	**1.89**	**85**	PN	**Pb**	**15 55 27.9**	**-0.6**
KTUT	**Trabzon**	**1.98**	**255**	PN	**Pn**	**15 55 27.6**	**-0.1**
MTEO	**Meteo**	**2.02**	**55**	P	**Pg**	**15 55 31.4**	**-0.6**
MTEO				S	**Sg**	**15 55 59.3**	**+1.0**
KORR	**Kora**	**2.03**	**40**	*e*PN	**Pg**	**15 55 32.2**	**-0.1**
KORR				*e*S	**Sg**	**15 55 59.1**	**+0.5**
KORR	**Kora**	**2.03**	**40**	*e*Pg	**Pg**	**15 55 32.1**	**-0.1**
KORR				*e*Sg	**Sg**	**15 55 59.1**	**+0.5**
AGRB	**Hanur-Agry**	**2.04**	**164**	PN	**Pb**	**15 55 29.3**	**-1.7**
PNSH	**Pansheti**	**2.05**	**57**	P	**Pb**	**15 55 31.4**	**+0.1**
PNSH				S	**Sg**	**15 55 58.5**	**-0.7**
PNSH	**Pansheti**	**2.05**	**57**	PN	**Pb**	**15 55 31.4**	**+0.1**
PNSH				S	**Sg**	**15 55 58.5**	**-0.7**
LSNR	**Lesken**	**2.08**	**33**	*e*PN	**Pg**	**15 55 32.7**	**-0.4**
LSNR				*e*S	**Sg**	**15 56 01.1**	**+1.0**
LSNR	**Lesken**	**2.08**	**33**	*e*Pg	**Pg**	**15 55 32.7**	**-0.4**
LSNR				*e*Sg	**Sg**	**15 56 01.1**	**+1.0**
TASB	**TASBURUN-IGDIR**	**2.15**	**136**	PN	**Pn**	**15 55 30.7**	**+0.6**
ARXR	**Arkhyz**	**2.15**	**340**	*i* PN	**Pb**	**15 55 31.9**	**-1.2**
NCK	**Nalchik**	**2.18**	**26**	*i* PN	**Pb**	**15 55 32.1**	**-1.3**
SHA1	**Shidzhatmaz**	**2.21**	**7**	*e*PN	**Pb**	**15 55 33.6**	**-0.5**
SHA1				pmax	pmax		
	comp=Z,30nm,0.4s						
SHA1	**Shidzhatmaz**	**2.21**	**7**	*e*Pg	**Pb**	**15 55 34.0**	**-0.1**
SHA1				*e*Sg	**Sg**	**15 56 04.3**	**-0.1**
KBZ	**Khabaz**	**2.23**	**11**	*i* PN	**Pg**	**15 55 35.3**	**-0.8**
GNI	**Garni**	**2.32**	**126**	*i* P	**Pg**	**15 55 37.0**	**-0.8**
GNI				*i* S	**Sg**	**15 56 07.5**	**-0.5**
GNI	**Garni**	**2.32**	**126**	PN	**Pn**	**15 55 33.3**	**+0.7**
GNI	**Garni**	**2.32**	**126**	*i* PN	**Pb**	**15 55 35.0**	**-0.9**
NRKZ	**NAREK**	**2.37**	**130**	*i* P	**Pb**	**15 55 36.7**	**0.0**
NRKZ				*i* S	**Sb**	**15 56 07.4**	**+1.0**
KARO	**Karliova-Bingo**	**2.42**	**203**	PN	**Pn**	**15 55 34.6**	**+0.6**
KIV	**Kislovodsk**	**2.43**	**7**	PN	**Pn**	**15 55 34.0**	**-0.1**
KIV	**Kislovodsk**	**2.43**	**7**	*e*PN	**Pb**	**15 55 36.0**	**-1.8**
KIV				*e*S	**Sb**	**15 56 07.4**	**-0.8**
KIV				pmax	pmax		
	comp=Z,109nm,1.1s						
YEDI	**Yedisu-Bingol**	**2.48**	**213**	PN	**Pn**	**15 55 35.7**	**+0.9**
PYA1	**Pyatigorsk**	**2.59**	**13**	*i* PN	**Pb**	**15 55 38.0**	**-2.4**
RPOR	**Krasnaya Polya**	**2.62**	**326**	*i* PN	**Pb**	**15 55 38.0**	**-3.0**
ERZN	**Erzincan**	**2.76**	**226**	PN	**Pn**	**15 55 39.3**	**+0.7**
GOF	**Gofitskoye**	**3.56**	**9**	*e*PN	**Pg**	**15 56 00.4**	**-1.1**
GOF				*e*S	**Sb**	**15 56 42.9**	**+2.4**
GOF				pmax	pmax		
	comp=Z,16nm,0.5s						
GOF				smax	smax		
	comp=N,42nm,0.8s						
GOF				smax	smax		
	comp=E,59nm,1.0s						
MAK	**Makhachkala**	**4.13**	**68**	*e*PN	**Pn**	**15 55 56.5**	**-0.7**
MAK				*e*S	**Sn**	**15 56 46.1**	**+0.1**
MAK				pmax	pmax		
	comp=Z,287nm,1.0s						
MAK				MLR	MLR		
	comp=Z,103nm,12.0s						
SUDU	**Sudak**	**6.29**	**305**	*e*P	**Pn**	**15 56 27.4**	**+0.5**
SUDU				*e*S	**Sn**	**15 57 39.9**	**+0.6**
YAL	**Yalta**	**6.65**	**299**	*e*P	**Pn**	**15 56 30.7**	**-1.1**
YAL				*e*S	**Sn**	**15 57 55.0**	**+6.9**
SEV	**Sevastopol'**	**6.99**	**298**	*e*P	**Pn**	**15 56 34.8**	**-1.7**
SEV				*e*S	**Sn**	**15 57 52.3**	**-4.2**
BRVK	**Borovoye**	**22.06**	**49**	*i* P	**P**	**15 59 50.8**	**+1.7**

*TUL **31** 16:23:07±1.0, 36.92N±0.03×97.79W±0.03, h3km±7km, ML3.0, mb_Lg2.9/61(NEIC), Error ellipse: s-maj=4.1km s-min=2.9km az=214.0*
*ANF **31** 16:23:07.3±0.3, 36.92N×97.78W, h3km, ML3.7/10, Error ellipse: s-maj=2.9km s-min=2.5km az=57.0*
*NEIC **31** 16:23:07.0±0.7, 36.89N±0.03×97.79W±0.03, h3km±7km, Error ellipse: s-maj=4.3km s-min=2.8km az=220.0*
ISC 31 16:23:07.0±1.0, 36.91N±0.02×97.79W±0.02, h3km±9km, n76, σ0s50/66, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.08**	**225**	P	**Pg**	**16 23 09.2**	**+0.5**
GC02				Sg	**Sg**	**16 23 10.5**	**+0.6**
KAN01	**Argonia South**	**0.24**	**5**	Pg	**Pg**	**16 23 12.2**	**+0.4**
KAN09	**Caldwell North**	**0.26**	**31**		**Pg**	**16 23 12.6**	**+0.5**
KAN09				Sg	**Sg**	**16 23 15.1**	**-0.4**
KAN13	**South Haven SW**	**0.27**	**67**		**Pg**	**16 23 12.8**	**+0.6**
KAN13				Sg	**Sg**	**16 23 15.4**	**-0.3**
KAN10	**Anthony SW Sta**	**0.33**	**311**	Pg	**Pg**	**16 23 13.7**	**+0.3**
KAN08	**Anthony NE Sta**	**0.35**	**335**	Pg	**Pg**	**16 23 14.0**	**+0.2**
OK032	**Salt Plains WL**	**0.36**	**253**		**Pg**	**16 23 14.0**	**+0.1**
OK032				Sg	**Sg**	**16 23 18.4**	**-0.2**
KAN12	**Harper NE Stat**	**0.42**	**336**	Pg	**Pg**	**16 23 15.3**	**+0.1**
CROK	**Carrier**	**0.43**	**202**		**Pg**	**16 23 15.7**	**+0.3**
T35A	**Sooner Cattle**	**1.02**	**89**		**Pg**	**16 23 26.5**	**-0.1**
T35A				Sg	**Sg**	**16 23 39.9**	**+0.1**
T35B	**Sooner Cattle**	**1.02**	**89**	P	**Pg**	**16 23 26.5**	**-0.1**
	baz=271,SNR=18						
T35B				S	**Sg**	**16 23 40.0**	**+0.1**
	baz=271						
T35B	**Sooner Cattle**	**1.02**	**89**	P		16 23 26.5	
	baz=271,SNR=18						
T35B				S		16 23 40.0	
	baz=271						
U32A	**Winter Ranch,**	**1.11**	**242**		**Pg**	**16 23 27.6**	**-0.8**
U32A	**Winter Ranch,**	**1.11**	**242**	P	**Pg**	**16 23 27.7**	**-0.6**
	baz=60,SNR=38						
U32A	**Winter Ranch,**	**1.11**	**242**	P		16 23 27.7	
	baz=60,SNR=38						
QUOK	**Quay**	**1.14**	**130**		**Pg**	**16 23 28.6**	**-0.2**
OK029	**Liberty Lake**	**1.14**	**166**		**Pg**	**16 23 28.7**	**-0.2**
OK031	**S. Brethren Rd**	**1.22**	**141**		**Pg**	**16 23 30.1**	**-0.4**
BCOK	**Bluff Creek, N**	**1.26**	**173**		**Pg**	**16 23 30.6**	**-0.6**
OK030	**Cody Creek RV**	**1.27**	**140**		**Pg**	**16 23 30.9**	**-0.5**
OK025	**Westminster Rd**	**1.38**	**165**		**Pn**	**16 23 32.8**	**-0.4**
OKCFA	**Oklahoma City**	**1.52**	**170**		**Pn**	**16 23 35.2**	**+0.1**
OKCFA	**Oklahoma City**	**1.52**	**170**	P	**Pn**	**16 23 35.4**	**+0.3**
	baz=350,SNR=8.7						
OKCFA				S	**Sg**	**16 23 56.

N35A	Tabor	4.28	22	Pn	Pn	16 24 13.0	-0.2		
Z38A	Mt. Pleasant	4.30	147	Pn	Pn	16 24 13.9	+0.5		
Z38A				lAmb_Lg		16 25 32.9			
	comp=Z,32nm,0.8s								
P38A	Dawn	4.31	50	Pn	Pn	16 24 12.9	-0.5		
P38A				lAmb_Lg		16 25 35.8			
	comp=Z,20nm,0.7s								
KSCO	Kaye Shedlock'	4.36	300	Pn	Pn	16 24 13.7	-0.7		
KSCO				lAmb_Lg		16 25 30.2			
	comp=Z,26nm,0.8s								
MGMO	Mountain Grove	4.42	85		Pn	16 24 14.6	-0.5		
MGMO				lAmb_Lg		16 25 27.6			
	comp=Z,33nm,0.9s								
BGNE	Belgrade	4.50	356	Pn	Pn	16 24 15.6	-0.5		
ABTX	Abilene, Hawle	4.54	200	Pn	Pn	16 24 16.6	-0.1		
R40A	Maddies Statio	4.59	71	Pn	Pn	16 24 17.6	+0.2		
R40A	Maddies Statio baz=254,SNR=18	4.59	71	P	Pn	16 24 17.9	+0.5		
R40A	Maddies Statio baz=254,SNR=18	4.59	71	P		16 24 17.9			
FCAR	Ozark Folk Cen	4.68	101	Pn	Pn	16 24 18.4	-0.1		
X40A	Basin Creek Fa comp=Z,16nm,0.8s	4.70	120	lAmb_Lg		16 25 40.9			
WHAR	Wooly Hollow	4.74	108	Pn	Pn	16 24 19.4	0.0		
WHAR				lAmb_Lg		16 25 42.2			
	comp=Z,25nm,0.9s								
W41B	Gary Mavity, V baz=293	4.81	109	Sb		16 25 36.2			
WHTX	Lake Whitney,	4.92	177	Pn	Pn	16 24 21.7	-0.1		
WHTX	Lake Whitney, baz=357,SNR=5.3	4.92	177	P	Pn	16 24 22.5	+0.7		
WHTX	Lake Whitney, baz=357	4.92	177	P		16 24 22.5			
WHTX	Lake Whitney, baz=357,SNR=5.3	4.92	177	P		16 24 22.5			
MSTX	Muleshoe	5.02	236	Pn	Pn	16 24 23.4	0.0		
L34A	Svendsen Farm, comp=Z,30nm,0.9s	5.17	12	lAmb_Lg		16 25 49.4			
OGNE	Ogallala comp=Z,33nm,0.8s	5.21	322	lAmb_Lg		16 25 55.6			
P40A	Paris comp=Z,31nm,0.7s	5.22	58	lAmb_Lg		16 25 55.5			
N38A	Joes South For	5.26	41	Pn	Pn	16 24 26.0	-0.6		
T25A	Trinidad	5.31	274	Pn	Pn	16 24 27.2	-0.2		
T25A				lAmb_Lg		16 25 58.9			
	comp=Z,16nm,0.7s								
CCM	Cathedral Cave	5.33	76	Pn	Pn	16 24 27.3	-0.1		
FVM	French Village comp=Z,17nm,0.8s	5.95	77	lAmb_Lg		16 26 14.4			
435B	Jarrell comp=Z,22nm,0.9s	6.12	178	lAmb_Lg		16 26 28.6			
SCIA	State Center comp=Z,24nm,0.7s	6.12	34	lAmb_Lg		16 26 24.8			
JCT	Junction City comp=Z,18nm,0.8s	6.63	195	lAmb_Lg		16 26 39.4			
S44A	Carbondale comp=Z,24nm,0.9s	6.84	81	lAmb_Lg		16 26 47.0			
L40A	Anamosa comp=Z,18nm,0.9s	7.23	43	lAmb_Lg		16 27 09.5			
PHWY	Pilot Hill comp=Z,10nm,0.7s	7.40	309	lAmb_Lg		16 27 13.7			
OLIL	Olney comp=Z,14nm,0.8s	7.88	74	lAmb_Lg		16 27 35.3			
JFWS	Jewell Farm comp=Z,14nm,0.7s	8.33	42	lAmb_Lg		16 27 35.8			
RSSD	Black Hills comp=Z,7.6nm,0.9s	8.63	328	lAmb_Lg		16 27 46.0			
P46A	Rosedale comp=Z,15nm,0.8s	8.75	69	lAmb_Lg		16 27 44.9			
K22A	Casper comp=Z,8.6nm,0.8s	8.84	313	lAmb_Lg		16 27 54.9			
W18A	Petrified Fore comp=Z,8.2nm,0.8s	9.85	263	lAmb_Lg		16 28 22.8			

*NEIC **31** 16:25:27.8±1.5,50.°94N±0.°06×179.°28E±0.°08,h26km±5km, mb4.0/51,ML3.7/22(AEIC),Error ellipse: s-maj=9.7km s-min=7.0km az=201.0*

*AEIC **31** 16:25:29.2±2.3,51.°08N±0.°04×179.°21E±0.°08,h12km±4km, Error ellipse: s-maj=7.5km s-min=5.2km az=96.0*

*IDC **31** 16:25:40.0±5.7,51.°38N×179.°30E,h116km±52km, mb3.5/11,mb1 3.6/13,mb1mx3.4/56,mbtmp3.8/13,Error ellipse: s-maj=41.0km s-min=13.1km az=173.0*

ISC 31 16:25:31.1±0.7,51.°07N±0.°08×179.°30E±0.°05,h48km,n107, σ1°04/99,mb3.9/25,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.31	0		Pn	16 25 37.2	-2.9
AMKA					Sn	16 25 43.2	-3.4
CESW	Semis' Southwe	0.85	11		Pn	16 25 46.1	-0.6
CERAA	Semis' Rag'd T	0.88	16		Pn	16 25 46.4	-0.7
CERB	Semis' Cerberu	0.89	13		Sn	16 25 59.9	+0.7
CEAP	Semis' Anvil P	0.95	10		Pn	16 25 47.7	-0.4
CEAP					Sn	16 26 01.8	+1.2
LSPA	Little Sitkin	1.00	333		Pn	16 25 48.2	-0.5
LSPA					Sn	16 26 02.5	+0.7
LSSA	Little Sitkin	1.01	331		Pn	16 25 48.0	-0.9
LSNW	Little Sitkin	1.03	332		Pn	16 25 48.1	-1.0
GALAA	Gareloi Lava P	1.39	59		Pn	16 25 53.7	-0.4
GAEA	Gareloi East	1.42	59		Pn	16 25 53.8	-0.7
TASE	Tanaga Southea	1.84	64		Pn	16 25 59.3	-0.9
TAFP	Tanaga Falls P	1.89	63		Pn	16 26 00.4	-0.6
ADK	Adak	2.64	70		Pn	16 26 10.3	-0.8
ADAG	Mount Adagdak	2.72	69		Pn	16 26 11.5	-0.7
GSMY	Great Sitkin M	3.06	70		Pn	16 26 16.7	-0.2
GSTR	Great Sitkin T	3.07	69	Pn	Pn	16 26 17.0	-0.1
SMY	Shemya	3.62	299		Pn	16 26 24.9	+0.2
ATKA	Atka Island	4.21	72		Pn	16 26 31.0	-1.6
KOKL	Mount Kliuchef	4.24	70		Pn	16 26 34.1	+1.0
NIKH	Nikolski High	7.55	71	Pn	Pn	16 27 20.0	+1.5
SPIA	Saint Paul Isl	8.66	41	Pn	Pn	16 27 35.8	+2.2
SDPT	Sand Point	12.84	63	Pn	Pn	16 28 29.4	-1.3
PETK	Petropavlovsk- 0.1nm,0.3s,baz=95,slow=16,SNR=2.3	13.43	287	P	P	16 28 44.5	-2.5
GAMB	Gambell	13.61	17	Pn	Pn	16 28 40.3	-0.9
CHGN	Chignik	14.18	60	Pn	Pn	16 28 47.1	-1.7
SII	Sitkinak Islan	16.54	60	P	P	16 29 20.9	-0.4
OHAK	Old Harbor	17.12	58	Pn	Pn	16 29 25.5	-1.2
OHAK				lAmb	lAmb	16 29 41.7	
	comp=Z,17nm,1.0s						
SVW2	Sparrevohn	17.13	44	P	P	16 29 27.9	+0.1
KDAK	Kodiak Island	17.59	57	P	Pn	16 29 31.1	-1.4
	comp=Z,0.9nm,0.3s,baz=257,slow=5.7,SNR=11						
KDAK	Kodiak Island	17.59	57	Pn	Pn	16 29 31.1	-1.4
BILL	Bilibino	18.18	344		Pn	16 29 40.3	+0.7
RSO	Redoubt South	18.18	48		P	16 29 39.2	-0.5
CNPM	China Poot	18.65	52	P	P	16 29 44.3	-0.3
SEY	Seymchan	18.69	320	P	Pn	16 29 46.6	+0.8
	comp=Z,0.1nm,0.3s,baz=108,slow=18,SNR=2.4						
PPLA	Purkeypile	19.34	41	Pn	Pn	16 29 54.0	+0.3
PPLA				lAmb	lAmb	16 30 04.0	
	comp=Z,4.6nm,0.8s						
SUA	Susitna One	19.43	46	P	P	16 29 53.2	-0.1
SUA				lAmb	lAmb	16 30 06.8	
	comp=Z,7.2nm,1.2s						
O22K	Cooper Landing	19.63	49	P	P	16 29 55.8	+0.6
CUT	Chulitna	19.96	44	P	P	16 29 58.2	-0.7
CUT				lAmb	lAmb	16 30 03.6	
	comp=Z,7.7nm,0.6s						
KTH	Kantishna Hill	20.13	40	P	P	16 30 01.1	+0.3
KTH				lAmb	lAmb	16 30 03.1	
	comp=Z,7.1nm,0.8s						
BPAW	Bear Paw Mtn.	20.34	39	P	P	16 30 03.1	+0.1
BPAW				lAmb	lAmb	16 30 09.3	
	comp=Z,6.2nm,1.2s						
TRF	Thorofare Moun	20.35	41	P	P	16 30 03.8	+0.5
TRF				lAmb	lAmb	16 30 11.6	
	comp=Z,3.7nm,0.8s						
GHO	Glory Hole Cre	20.36	46	P	P	16 30 01.9	-1.4
GHO				lAmb	lAmb	16 30 20.4	
	comp=Z,9.6nm,1.2s						
PWL	Port Wells	20.38	49	Pn	Pn	16 30 05.7	-0.3
PWL				lAmb	lAmb	16 30 05.8	
	comp=Z,13nm,1.4s						
SML	Sawmill	20.64	46	P	P	16 30 05.8	-0.5
SML				lAmb	lAmb	16 30 30.7	
	comp=Z,7.2nm,1.1s						
RND	Reindeer	20.93	42	P	P	16 30 09.4	0.0
BWN	Browne	20.97	39	P	Pn	16 30 11.5	-1.4
SCM	Sheep Creek Mo	21.10	46	P	P	16 30 10.6	-0.7
SCM				lAmb	lAmb	16 30 20.8	
	comp=Z,7.2nm,1.0s						
FID	Port Fidalgo	21.25	50	P	P	16 30 12.0	-0.8
NEA2	Nenana	21.30	39	P	P	16 30 13.2	-0.1
NEA2				lAmb	lAmb	16 30 15.0	
	comp=Z,6.3nm,0.8s						
I23K	Minto, Yukon-K	21.43	37	P	P	16 30 15.4	+0.8
WRH	Wood River Hil	21.64	39	P	P	16 30 16.5	-0.5
KLU	Klutina	21.67	48	P	P	16 30 17.1	-0.3
KLU				lAmb	lAmb	16 30 34.1	
	comp=Z,6.9nm,1.3s						
COLD	Coldfoot	22.14	32	P	P	16 30 23.0	+0.7
ILAR	Eielson Array	22.24	39	P	P	16 30 24.4	+1.0
	comp=Z,0.5nm,0.6s,baz=252,slow=9.7,SNR=8.6						
N25K	Chitina, Valde	22.31	48	P	P	16 30 23.6	-0.6
N25K				lAmb	lAmb	16 30 25.3	
	comp=Z,4.6nm,1.2s						
GLB	Gilahina Butte	22.65	49	P	P	16 30 25.8	-2.1
GLB				lAmb	lAmb	16 30 38.1	
	comp=Z,3.5nm,1.0s						
DOT	Dot Lake	23.04	43	P	P	16 30 31.0	-0.9
DOT				lAmb	lAmb	16 30 49.6	
	comp=Z,4.0nm,1.2s						
TOLK	Toolik Lake Re	23.11	29	P	P	16 30 32.5	-0.1
TOLK				lAmb	lAmb	16 30 38.4	
	comp=Z,8.0nm,1.4s						
L27K	Beaver Creek,	23.88	45	P	P	16 30 39.0	-0.8
BCAR	Beaver Creek A	23.90	45	P	P	16 30 38.9	-1.1
LOGN	Logan Glacier	23.91	51	P	P	16 30 39.7	-0.6
LOGN				lAmb	lAmb	16 31 05.8	
	comp=Z,11nm,1.4s						
K27K	Chicken	23.99	43	P	P	16 30 40.1	-0.7
BMAR	Burnt Mountain	24.16	34	P	P	16 30 42.1	-0.2
EGAK	Eagle	24.57	41	P	P	16 30 46.1	+0.1
EGAK				lAmb	lAmb	16 30 47.3	
	comp=Z,5.7nm,1.1s						
ASAJ	Asahikawa	25.50	269	P	P	16 30 58.4	+3.6
	comp=Z,8.0nm,0.9s,baz=353,slow=8.1,SNR=3.6						
INK	Inuvik	28.40	35	P	P	16 31 21.1	+0.6
	comp=Z,0.6nm,0.4s,baz=254,slow=8.0,SNR=5.0						
KLR	Kul'dur	30.11	285	P	P	16 31 37.0	+1.1
	comp=Z,4.2nm,0.6s,baz=70,slow=7.2,SNR=19						
H11N2	WAKE ISLAND Hy	32.77	202	T	T	17 07 01.9	
	baz=20,slow=76,SNR=6.9						
H11N3	WAKE ISLAND Hy	32.78	202	T	T	17 07 11.5	
	baz=20,slow=76,SNR=5.6						
H11N1	WAKE ISLAND Hy	32.79	202	T	T	17 07 06.1	
	baz=20,slow=76,SNR=6.4						
H11S1	WAKE ISLAND Hy	33.99	202	T	T	17 08 40.7	
	baz=19						
H11S2	WAKE ISLAND Hy	34.01	202	T	T	17 08 42.0	
	baz=19						
H11S3	WAKE ISLAND Hy	34.01	202	T	T	17 08 47.8	
	baz=19						
YKA	Yellowknife Ar	36.31	46	P	P	16 32 29.7	+0.1
	comp=Z,0.4nm,0.5s,baz=282,slow=8.2,SNR=11						
RES	Resolute Bay	40.52	24	P	P	16 33 05.5	+0.7
RES				lAmb	lAmb	16 33 10.0	
	comp=Z,3.7nm,1.4s						
EUNU	Eureka	40.90	15	P	P	16 33 06.7	-1.3
EUNU				lAmb	lAmb	16 33 29.8	
	comp=Z,2.3nm,0.9s						
BCYI	Bear Canyon	44.36	71	P	P	16 33 36.0	-0.6
MCMT	McKenzie Canyo	44.41	70	P	P	16 33 36.5	-0.6
SONM	Songino Array	45.71	296	P	P	16 33 48.2	+1.0
	comp=Z,0.7nm,0.6s,baz=73,slow=7.1,SNR=5.9						
SONM	Songino Array	45.71	296	P	P	16 33 46.2	-1.0
BW06	Boulder Array	47.54	71	P	P	16 34 01.8	0.0
BW06				lAmb	lAmb	16 34 03.4	
	comp=Z,1.8nm,0.7s						
PD31	Pinedale Array	47.54	71	P	P	16 34 01.7	0.0
PD31				lAmb	lAmb	16 34 03.4	
	comp=Z,1.6nm,0.8s						
PDAR	Pinedale Array	47.54	71	P	P	16 34 02.8	+1.1
	comp=Z,1.3nm,0.7s,baz=314,slow=3.3,SNR=13						
PDAR	Pinedale Array	47.54	71	P	P	16 34 01.7	0.0
MSU	Marysvale	48.52	77	P	P	16 34 08.5	-0.8
ZALV	Zalesovo Beam	53.37	313	P	P	16 34 45.5	+0.2
	comp=Z,0.4nm,0.3s,baz=38,slow=7.5,SNR=2.9						
ZALV	Zalesovo Beam	53.37	313	P	P	16 34 44.8	-0.5
MK31	Makanchi Array	59.28	308	P	P	16 35 26.8	-0.7
MK31				lAmb	lAmb	16 35 28.3	
	comp=Z,0.9nm,0.6s						
MKAR	Makanchi Array	59.28	308	P	P	16 35 27.6	+0.1
	comp=Z,0.9nm,0.5s,baz=51,slow=6.1,SNR=24						
MKAR	Makanchi Array	59.28	308	P	P	16 35 27.3	-0.2
MAKZ	Makanchi	59.43	308	P	P	16 35 27.9	-0.6
TXAR	Lajitas Array	59.88	80	P	P	16 35 33.2	+1.2
	comp=Z,0.4nm,0.6s,baz=303,slow=5.0,SNR=4.1						
BRVK	Bovoye	60.37	319	P	P	16 35 35.6	+0.8
V48A	Smith Brothers	65.39	63	P	P	16 36 07.3	-1.1
CLTN	Cedars of Leba	65.41	63	P	P	16 36 08.0	-0.6
ABKAR	Akbulak array	67.45	322	P	P	16 36 22.2	+0.8
NC204	NORSAR Array S	67.63	354	P	P	16 36 22.1	-0.3
KK31	Karatay Array	67.70	311	P	P	16 36 23.6	+0.4
KKAR	Karatay Array	67.70	311	P	P	16 36 23.5	+0.4
KKAR	Karatay Array	67.70	311	P	P	16 36 23.5	+0.4
KKAR				lAmb	lAmb	16 36 25.8	
	comp=Z,2.0nm,0.8s						
NB201	NORSAR Array S	67.82	354	P	P	16 36 23.3	-0.3
NOA	NORSAR Array B	67.84	354	P	P	16 36 23.4	-0.3
	comp=Z,0.3nm,0.5s,baz=10,slow=6.4,SNR=4.0						
CLL	Clim	77.34	351	P	P	16 37 21.8	+1.5
BURAR	Bucovina Array	79.20	342	P	P	16 37 31.2	+0.5
BURAR				lAmb	lAmb	16 37 32.4	
	comp=Z,1.2nm,0.8s						
H03N2	Juan Fernandez baz=314	122.22	105	T	T	18 58 43.2	
H03N1	Juan Fernandez baz=314,slow=74	122.23	105	T	T	18 58 46.2	
H03N3	Juan Fernandez baz=314,slow=74	122.23	105	T	T	18 58 41.0	

*IDC **31** 16:30:17.7±2.1,5.°31S×153.°37E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.6/28,mbtmp3.7/8,MS2.9/1,Ms1 2.9/1, ms1mx2.5/35,Error ellipse: s-maj=61.5km s-min=24.0km az=117.0*

ISC 31 16:30:24.2±1.9,5.°3S±0.°2×153.°3E±0.°3,h43km,n11, σ0°37/10,mb3.5/8,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby 2.5nm,0.3s,baz=134,slow=23,SNR=9.0	7.28	236	Sn	Sn	16 33 29.4	-0.1
HNR	Honiara comp=Z,86nm,19.0s,baz=148,slow=36	7.79	122	LR	LR	16 34 54.9	
SIJI	Sorong 3.0nm,0.5s,baz=112,slow=18,SNR=6.0	22.39	281	P	P	16 35 19.0	-0.2
WRA	Warramunga Arr 0.5nm,0.4s,baz=53,slow=9.7,SNR=4.5	23.45	230	P	P	16 35 30.1	+0.1
ASAR	Alice Springs 0.4nm,0.8s,baz=57,slow=9.0,SNR=6.7	26.08	224	P	P	16 35 54.2	+0.2
FITZ	Fitzroy Crossi 0.7nm,0.5s,baz=60,slow=9.5,SNR=2.0	29.82	242	P	P	16 36 27.3	-0.1
PETK	Petropavlovsk- 5.2nm,1.1s,baz=152,slow=5.7,SNR=1.7	58.33	3	P	P	16 40 14.1	-0.6
SONM	Songino Array 0.1nm,0.4s,baz=116,slow=6.6,SNR=2.6	67.00	328	P	P	16 41 13.2	+0.3
MKAR	Makanchi Array 0.1nm,0.5s,baz=94,slow=7.1,SNR=2.6	81.01	319	P	P	16 42 34.9	+0.3
ZALV	Zalesovo Beam 0.6nm,0.4s,baz=104,slow=4.8,SNR=5.8	81.83	326	P	P	16 42 39.2	+0.5
TORD	Torodi Ar. Bea 0.8nm,0.7s,baz=79,slow=2.4,SNR=4.7	150.89	287	PKPbc	PKPbc	16 50 13.1	-0.1

*IDC **31** 16:32:28.0±3.5,5.°39S×153.°31E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.5/28,mbtmp3.6/5,Error ellipse: s-maj=115.6km s-min=30.4km az=113.0*

ISC 31 16:32:33.9±4.0,5.°5S±0.°4×153.°4E±0.°8,h43km,n6,σ0°21/6, mb3.3/5,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.5nm,0.4s,baz=55,slow=10.0,SNR=3.7	23.42	230	P	P	16 37 39.1	-0.3
ASAR	Alice Springs 0.4nm,0.7s,baz=57,slow=9.3,SNR=5.0	26.03	224	P	P	16 38 03.4	+0.2
FITZ	Fitzroy Crossi 0.8nm,0.5s,baz=67,slow=8.0,SNR=2.2	29.83	243	P	P	16 38 37.2	0.0
MKAR	Makanchi Array 0.1nm,0.4s,baz=104,slow=7.0,SNR=4.3	81.21	319	P	P	16 44 45.4	+0.1
ZALV	Zalesovo Beam 0.9nm,0.5s,baz=117,slow=5.4,SNR=5.0	82.03	326	P	P	16 44 49.4	-0.1
TORD	Torodi Ar. Bea 0.7nm,0.8s,baz=90,slow=1.9,SNR=3.8	151.04	287	PKPbc	PKiKP	16 52 23.8	0.0

*IDC **31** 16:50:15.5±0.6,5.°62S×152.°85E,h0km,mb4.6/21, mb1 4.8/23,mb1mx4.6/38,mbtmp4.6/23,ML3.0/2,MS4.0/28, Ms1 4.0/28,ms1mx3.8/44,Error ellipse: s-maj=20.0km s-min=12.4km az=113.0*

*NEIC **31** 16:50:21.1±1.4,5.°62S±0.°07×152.°7E±0.°1,h44km±7km, mb4.9/80,Error ellipse: s-maj=15.4km s-min=10.4km az=103.0*

*GCMT **31** 16:50:22.1±0.3,5.°85S±0.°02×152.°58E±0.°04,h20km±1km, MW4.9/77,Moment Tensor Solution. s21,c22; s77,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.07±.16; $M_{\theta\theta}$-1.41±.10; $M_{\phi\phi}$-0.65±.09; $M_{r\theta}$1.34±.17; $M_{r\phi}$0.31±.06; $M_{\theta\phi}$-1.64±.21; Best double couple: $M_0$2.74800×10^{16} NP1:ϕ_s288.00000°,δ22.00000°,λ67.00000°. NP2: ϕ_s133.00000°,δ70.00000°,λ99.00000°. Principal axes: T 3.1070, Plg64.0000°, Azm57.0000°; N -0.7150, Plg8.0000°, Azm309.0000°; P -2.3890, Plg25.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **31** 16:50:22.3±0.8,6.°5S±3.°×15.°3E±.°,h43km±6km,M5.2/30, mb5.0/30,mB5.6/8,MLv5.3/2,Mw(mB)5.1/8,MwMwp8.0/1, Mwp7.5/1*

*BJI **31** 16:50:23.1±0.0,5.°03S×152.°59E,h35km,mB5.0/28, mb4.7/42,Ms4.6/11,Ms7 4.3/11*

ISC 31 16:50:21.2±0.4,5.°61S±0.°05×152.°76E±0.°07,h37km,n206, σ1°47/199,mb5.0/83,MS4.0/30,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.53	337	Pn	Pn	16 50 45.6	-0.4
MANU	Manus Island	6.45	303	Pn	Pn	16 51 53.9	+0.3
PMG	Port Moresby 6.1nm,0.3s,baz=37,slow=7.7,SNR=36	6.71	236	Pn	Pn	16 51 58.2	+0.9
PMG				Sn	Sn	16 53 15.6	+3.1
	6.9nm,0.3s,baz=118,slow=23,SNR=9.3						
PMG	Port Moresby	6.71	236	Pn	Pn	16 51 57.1	-0.2
HNR	Honiara comp=Z,1μm,18.4s,baz=316,slow=41	8.07	118	LR	LR	16 55 42.7	
GENI	Genyem 47nm,0.9s	12.91	283	P	Pn	16 53 23.1	+0.8
MTSU	Mount Surprise baz=15,SNR=18	14.93	213	P	Pn	16 53 49.9	+0.1
CTA	Charters Tower 0.1nm,0.3s,baz=26,slow=14,SNR=4.5	15.72	203	Pn	Pn	16 53 59.9	-0.1
CTA				LR	LR	16 59 32.1	
	comp=Z,433nm,19.7s,baz=15,slow=35						
CTAO	Charters Tower	15.72	203		P	16 54 03.2	-0.4
QIS	Mount Isa baz=20,SNR=43	19.59	219	P	Pn	16 54 47.2	-0.7
EIDS	Eidsvold baz=20,SNR=7.0	19.71	185	P	P	16 54 47.2	-0.4
EIDS	Eidsvold	19.71	185	P	P	16 54 47.3	-0.2
EIDS				lAmb	lAmb	16 54 51.1	
	comp=Z,44nm,1.0s						
FAKI	Fak Fak	20.63	277	P	P	16 54 56.5	-1.2
DZM	Mont Dzumac	21.04	142	LR	LR	17 01 51.6	
	comp=Z,460nm,19.3s,baz=350,slow=33						
DZM	Mont Dzumac comp=Z,103nm,1.1s	21.04	142	eP	P	16 55 07.2	+5.0
DZM				eS	S	16 58 53.6	-1.1
	comp=Z,175nm,22.5s						
DZM				eLQ	LQ	16 59 21.4	
	comp=Z,1μm,25.1s						
DZM				eLR	LR	17 00 08.8	
	comp=Z,810nm,26.4s						
RMQ	Roma baz=21,SNR=13	21.11	190	P	P	16 55 01.7	-1.0
KDU	Kakadu baz=22,SNR=35	21.21	249	P	P	16 55 03.5	-0.5
SIJI	Sorong comp=Z,29nm,0.8s,baz=50,slow=8.1,SNR=12	21.97	282	P	P	16 55 12.3	+0.2
SWI	Sorong comp=Z,83nm,0.9s	21.97	282	P	P	16 55 12.8	+0.7
QLP	Quilpie baz=23,SNR=13	22.39	200	P	P	16 55 16.4	0.0
MTN	Manton Dam baz=23,SNR=21	22.51	250	P	P	16 55 17.3	-0.6
MTN	Manton Dam	22.51	250	P	P	16 55 15.4	-2.5
MTN				lAmb	lAmb	16 55 22.7	
	comp=Z,47nm,0.9s						
WB0	Warramunga Arr	22.74	230	P	P	16 55 18.5	-1.8
WB0				lAmb	lAmb	16 55 22.3	
	comp=Z,74nm,1.1s						
WR0	Warramunga Arr	22.74	230	P	P	16 55 19.0	-1.3
WR0				lAmb	lAmb	16 55 23.0	
	comp=Z,80nm,1.2s						
WRAB	Tennant Creek	22.87	230	P	P	16 55 20.6	-1.1
WB2	Warramunga Arr	22.88	230	P	P	16 55 20.6	-1.1
WB2				lAmb	lAmb	16 55 41.0	
	comp=Z,62nm,0.9s						
WRA	Warramunga Arr comp=Z,46nm,1.1s,baz=53,slow=9.3,SNR=102	22.89	230	P	P	16 55 21.1	-0.8
WRA				LR	LR	17 04 58.1	
	comp=Z,522nm,19.3s,baz=50,slow=38						
WRA	Warramunga Arr	22.89	230	P	P	16 55 20.2	-1.7
AS31	Alice Springs	25.53	223	P	P	16 55 45.9	-0.7
ASAR	Alice Springs comp=Z,41nm,1.0s,baz=56,slow=8.8,SNR=108	25.53	223	P	P	16 55 46.3	-0.3
ASAR				PcP	PcP	16 59 18.7	+1.1
	comp=Z,1.3nm,0.8s,baz=38,slow=3.3,SNR=2.6						
ASAR				ScP	ScP	17 02 58.8	+4.5
	comp=Z,0.8nm,1.0s,baz=52,slow=3.2,SNR=3.1						
ASAR				LR	LR	17 06 27.1	
	comp=Z,324nm,18.2s,baz=28,slow=38						
ASAR	Alice Springs	25.53	223	P	P	16 55 45.7	-0.9
CMSA	Cobar Meteorol baz=27,SNR=16	26.63	194	P	P	16 55 55.8	-0.6
SANI	Sanana comp=Z,464nmcomp=Z,30nm,1.1s	26.94	277	P	P	16 56 00.4	+1.0
STKA	Stephens Creek comp=Z,8.5nm,0.8s,baz=2.0,slow=8.8,SNR=18	28.14	200	P	P	16 56 08.7	-1.2
STKA				LR	LR	17 07 23.7	
	comp=Z,274nm,19.3s,baz=19,slow=36						
STKA	Stephens Creek baz=28,SNR=14	28.14	200	P	P	16 56 08.8	-1.1
STKA	Stephens Creek	28

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
URZ	Urewera	39.31	149	LR	LR	17 12 17.4	
	comp=Z,234nm,18.2s,baz=31,slow=34						
RPZ	Rata Peaks	41.23	160	LR	LR	17 14 51.4	
	comp=Z,386nm,18.1s,baz=328,slow=36						
SBUM	Sibu	41.28	280	P	P	16 58 02.0	-1.3
MORW	Morawa	41.81	232	P	P	16 58 07.1	-0.5
	baz=42,SNR=3.2						
MORW	Morawa	41.81	232	P	P	16 58 07.0	-0.5
MORW				IAmb	IAmb	16 58 31.6	
	comp=Z,34nm,1.2s						
NWAO	Narrogin (SRO)	42.80	226	LR	LR	17 16 57.2	
	comp=Z,546nm,18.6s,baz=64,slow=37						
KSM	Kuching	42.98	278	P	P	16 58 16.1	-1.1
MUN	Mundaring	43.06	228	P	P	16 58 17.3	-0.3
	baz=43,SNR=4.6						
JNU	Nakatsue	43.76	333	P	P	16 58 22.8	-0.5
	comp=Z,14nm,1.0s,baz=114,slow=8.7,SNR=3.8						
JNU	Nakatsue	43.76	333	IAmb	IAmb	16 58 49.8	
	comp=Z,35nm,1.1s						
MJAR	Matsushiro Arr	44.09	343	P	P	16 58 25.3	-0.6
	comp=Z,2.8nm,0.9s,baz=163,slow=8.9,SNR=4.4						
MJAR				ScP	ScP	17 04 05.1	+5.2
	comp=Z,2.0nm,0.9s,baz=158,slow=3.8,SNR=4.3						
MJAR				LR	LR	17 13 39.7	
	comp=Z,50nm,19.9s,baz=215,slow=32						
MAT	Matsushiro	44.09	343	P	P	16 58 21.8	-4.1
LEM	Lembang	44.88	266	LR	LR	17 20 36.3	
	comp=Z,121nm,19.5s,baz=226,slow=40						
TPI	Tanjungpandan	45.07	272	P	P	16 58 33.3	-0.7
	comp=Z,7.6nm,0.8s						
PPBI	Pangkal Pinang	46.63	272	P	P	16 58 46.3	-0.1
	comp=Z,4µmcomp=Z,8.9nm,0.8s						
LWLI	Liwa	48.48	268	P	P	16 59 01.8	+0.9
	comp=Z,19µmcomp=Z,20nm,0.8s						
RAR	Rarotonga	48.49	113	LR	LR	17 15 12.9	
	comp=Z,115nm,21.6s,baz=306,slow=31						
KSRS	Korea Array	48.70	334	P	P	16 59 01.9	-0.1
	comp=Z,3.3nm,0.9s,baz=146,slow=8.9,SNR=9.8						
QIZ	Qiongzhong	48.85	301	P	P	16 59 03.5	0.0
QIZ				S	S	17 06 05.8	+1.0
QIZ				LR	LR		
	comp=Z,180nm,21.6s						
QIZ				LR	LR		
	comp=Z,230nm,21.6s						
QIZ				LR	LR		
	comp=Z,160nm,18.6s						
NJ2	Nanjing	49.45	321	*e*P	P	16 59 07.5	-0.3
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
JKA	Kamikawa-asahi	50.34	350	P	P	16 59 14.2	-0.2
ASAJ	Asahikawa	50.34	350	P	P	16 59 14.2	-0.2
	comp=Z,10nm,0.9s,baz=190,slow=3.7,SNR=4.4						
ASAJ				LR	LR	17 16 36.5	
	comp=Z,94nm,20.8s,baz=176,slow=31						
USRK	Ussuriysk Ar.	53.00	341	P	P	16 59 34.1	-0.2
	comp=Z,3.1nm,0.8s,baz=170,slow=7.8,SNR=11						
USRK	Ussuriysk Ar.	53.00	341	P	P	16 59 33.3	-0.9
MNSI	Mandailing Nat	53.48	275	P	P	16 59 38.3	-0.1
	comp=Z,1µmcomp=Z,22nm,0.9s						
CN2	Changchun	55.02	336	*e*P	P	16 59 53.0	+4.0
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
GSI	Gunungsitoli	55.54	275	P	P	16 59 51.6	-1.7
GSI	Gunungsitoli	55.54	275	P	P	16 59 51.8	-1.5
	comp=Z,26nm,0.8s						
CMAR	Chiang Mai Arr	58.19	296	P	P	17 00 13.1	+1.0
	comp=Z,5.5nm,0.9s,baz=117,slow=4.6,SNR=11						
CMAR				LR	LR	17 27 00.5	
	comp=Z,98nm,18.4s,baz=176,slow=38						
PEA0B	Petropavlovsk-	58.65	3	P	P	17 00 14.8	+0.3
PETK	Petropavlovsk-	58.65	3	P	P	17 00 14.5	-0.1
	comp=Z,23nm,1.1s,baz=158,slow=6.2,SNR=9.5						
PETK				LR	LR	17 25 37.0	
	comp=Z,62nm,18.6s,baz=183,slow=36						
PETK	Petropavlovsk-	58.65	3	P	P	17 00 14.3	-0.3
HHC	Hu-ho-hao-te	59.68	325	*e*P	P	17 00 22.0	-0.1
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,4.7s						
LZH	Lanzhou	61.78	316	*e*P	P	17 00 39.0	+2.4
LZH				pP	pwP	17 00 52.8	-0.8
LZH				sP	sP	17 00 57.5	+6.6
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				pmax	pmax		
	comp=Z,140nm,5.4s						
LZH				LR	LR		
	comp=Z,220nm,15.7s						
LZH				LR	LR		
	comp=Z,320nm,16.8s						
LZH				LR	LR		
	comp=Z,210nm,17.9s						
MA2	Magadan	65.00	359	P	P	17 00 57.0	-0.2
MA2				IAmb	IAmb	17 00 59.5	
	comp=Z,13nm,0.9s						
GTA	Gaotai	66.22	317	*e*P	P	17 01 07.5	+1.8
GTA				pP	pP	17 01 15.5	+0.2
GTA				sP	sP	17 01 19.0	-0.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,47nm,5.1s						
GTA				LR	LR		
	comp=Z,120nm,16.4s						
GTA				LR	LR		
	comp=Z,150nm,16.4s						
GTA				LR	LR		
	comp=Z,130nm,16.0s						
ULN	Ulaanbaatar	66.66	328	P	P	17 01 07.5	-0.9
SONM	Songino Array	66.99	328	P	P	17 01 10.9	+0.5
	comp=Z,3.6nm,1.0s,baz=142,slow=6.2,SNR=11						
SONM				LR	LR	17 30 44.3	
	comp=Z,56nm,19.0s,baz=145,slow=36						
SONM	Songino Array	66.99	328	P	P	17 01 08.3	-2.1
TLY	Talaya	70.76	330	LR	LR	17 31 14.4	
	comp=Z,48nm,19.1s,baz=130,slow=35						
TAPN	Taplejung	70.79	301	*e*P	P	17 01 35.9	+1.2
ODAN	Odare	70.92	301	*e*P	P	17 01 36.5	+1.1
VNDA	Vanda	72.02	178	P	P	17 01 40.9	0.0
	comp=Z,1.4nm,1.0s,baz=323,slow=7.1,SNR=4.3						
VNDA	Vanda	72.02	178	P	P	17 01 40.0	-0.8
JIRN	Jiri	72.17	301	*e*P	P	17 01 45.3	+2.2
GUN	Gumba	72.51	301	*e*P	P	17 01 46.5	+1.4
	comp=Z,44nm,0.9s						
PKI	Pulchoki	72.81	301	*e*P	P	17 01 49.3	+2.4
	comp=Z,40nm,1.2s						
PKIN	Phulchoki	72.83	301	*e*P	P	17 01 48.9	+2.0
KKN	Kakani	72.98	301	*e*P	P	17 01 49.0	+1.2
	comp=Z,23nm,0.9s						
PALK	Pallekele	73.03	279	LR	LR	17 36 50.9	
	comp=Z,74nm,18.6s,baz=240,slow=38						
DMN	Daman	73.08	301	*e*P	P	17 01 49.6	+1.2
	comp=Z,55nm,1.0s						
GKN	Gorkha	73.59	301	*e*P	P	17 01 52.3	+1.0
	comp=Z,45nm,1.0s						
GAMB	Gambell	74.17	16	P		17 01 53.9	
	baz=217,SNR=8.3						
GAMB	Gambell	74.17	16	P	P	17 01 52.7	-1.0
GAMB				IAmb	IAmb	17 01 55.2	
	comp=Z,21nm,1.4s						
DANN	Dangsing	74.43	301	*e*P	P	17 01 58.5	+2.2
	comp=Z,30nm,0.9s						
WMQ	Urumqi	76.31	318	*e*P	P	17 02 06.3	-0.2
WMQ				pP	sP	17 02 21.0	+0.2
WMQ				pmax	pmax		
	comp=Z,18nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.1s						
ANM	Nome	76.56	17	P		17 02 08.0	
	baz=223,SNR=6.6						
TNA	Tin City	76.58	16	P	P	17 02 06.2	-1.2
TNA	Tin City	76.58	16	P		17 02 07.7	
	baz=220,SNR=5.5						
HYB	Hyderabad	76.72	289	*i* P	P	17 02 10.0	+0.7
SVW2	Sparrevohn	77.58	23	P	P	17 02 13.2	0.0
SVW2				IAmb	IAmb	17 02 21.2	
	comp=Z,8.5nm,1.0s						
RSO	Redoubt South	78.34	24	P	P	17 02 16.8	-0.9
CNPM	China Poot	78.46	26	P	P	17 02 17.6	-0.5
TIXI	Tiksi	78.69	352	P	P	17 02 17.6	-1.5
BRLK	Bradley Lake	78.74	25	P	P	17 02 19.0	-0.7
BRLK				IAmb	IAmb	17 02 34.7	
	comp=Z,13nm,1.0s						
CAPN	Captain Cook N	79.17	25	P		17 02 22.9	
	baz=237						
ZSN	Zaisan	79.47	320	*e*P	P	17 02 25.1	+1.1
	baz=320						
ZSN				*e*S	S	17 12 24.1	+1.4
	baz=320						
SEW	Seward	79.53	26	P		17 02 26.7	
	baz=239						
O22K	Cooper Landing	79.61	25	P	P	17 02 23.6	-0.7
SUA	Susitna One	79.71	24	P	P	17 02 23.6	-1.5
SUA				IAmb	IAmb	17 02 35.3	
	comp=Z,17nm,1.3s						
SUA	Susitna One	79.71	24	P		17 02 23.7	
	baz=238						
RDOG	Red Dog Mine	79.77	15	P		17 02 26.3	
	baz=225						
RDOG	Red Dog Mine	79.77	15	P	P	17 02 24.5	-0.6
RC01	Rabbit Creek A	79.93	25	P	P	17 02 25.2	-0.8
RC01				IAmb	IAmb	17 02 27.5	
	comp=Z,16nm,1.1s						
RC01	Rabbit Creek A	79.93	25	P		17 02 25.6	
	baz=239,SNR=5.7						
PPLA	Purkeypile	79.93	22	P		17 02 26.4	
	baz=236						
PWL	Port Wells	80.39	25	P	P	17 02 28.0	-0.7
CHUM	Lake Minchumin	80.44	22	P		17 02 29.1	
	baz=236,SNR=12						
GHO	Glory Hole Cre	80.61	24	P	P	17 02 28.6	-1.3
GHO				IAmb	IAmb	17 02 43.2	
	comp=Z,17nm,1.2s						
KNK	Knik Glacier	80.62	25	P	P	17 02 29.4	-0.5
KNK				IAmb	IAmb	17 02 31.0	
	comp=Z,26nm,1.3s						
KNK	Knik Glacier	80.62	25	P		17 02 29.9	
	baz=240						
KTH	Kantishna Hill	80.78	22	P	P	17 02 29.2	-1.5
KTH				IAmb	IAmb	17 02 31.4	
	comp=Z,22nm,1.4s						
SML	Sawmill	80.88	24	P	P	17 02 30.5	-0.7
SML	Sawmill	80.88	24	P		17 02 31.2	
	baz=240,SNR=9.7						
MK31	Makanchi Array	80.91	319	P	P	17 02 31.0	-0.7
MKAR	Makanchi Array	80.91	319	P	P	17 02 32.1	+0.3
	comp=Z,5.8nm,0.9s,baz=105,slow=5.1,SNR=22						
MKAR	Makanchi Array	80.91	319	P	P	17 02 30.9	-0.9
TRF	Thorofare Moun	80.96	22	P	P	17 02 30.5	-1.3
TRF	Thorofare Moun	80.96	22	P		17 02 30.5	
	baz=238						
BPAW	Bear Paw Mtn.	81.05	22	P		17 02 31.4	
	baz=237,SNR=5.6						
BPAW	Bear Paw Mtn.	81.05	22	P	P	17 02 30.1	-2.0
SCM	Sheep Creek Mo	81.30	25	P	P	17 02 33.3	-0.2
WAT2	Susitna Watana	81.36	23	P		17 02 33.1	
	baz=239,SNR=9.6						
RND	Reindeer	81.49	23	P	P	17 02 33.0	-1.5
RND				IAmb	IAmb	17 02 34.7	
	comp=Z,18nm,1.2s						
WAT6	Susitna Watana	81.50	24	P		17 02 34.0	
	baz=240,SNR=7.4						
MCK	McKinley	81.62	22	P	P	17 02 33.7	-1.5
MCK	McKinley	81.62	22	P		17 02 34.5	
	baz=239,SNR=16						
MLY	Manley	81.65	21	P		17 02 35.1	
	baz=237,SNR=17						
MLY	Manley	81.65	21	P	P	17 02 34.5	-0.8
MLY				IAmb	IAmb	17 02 36.3	
	comp=Z,16nm,1.2s						
BWN	Browne	81.65	22	P	P	17 02 34.3	-1.0
KLU	Klutina	81.72	25	P		17 02 36.1	
	baz=242,SNR=8.1						
KLU	Klutina	81.72	25	P	P	17 02 35.2	-0.6
KLU				IAmb	IAmb	17 03 03.9	
	comp=Z,20nm,1.1s						
SHLS	Shalkode	81.77	315	*e*P	P	17 02 36.1	-0.5
	baz=315						
ZAA0	Zalesovo Array	81.80	326	P	P	17 02 34.5	-1.8
ZALV	Zalesovo Beam	81.80	326	P	P	17 02 35.6	-0.7
	comp=Z,3.5nm,0.7s,baz=116,slow=6.8,SNR=14						
ZALV				LR	LR	17 38 48.9	
	comp=Z,62nm,20.9s,baz=98,slow=36						
ZALV	Zalesovo Beam	81.80	326	P	P	17 02 34.2	-2.0
M24K	Tolsona, Glenn	81.91	25	P		17 02 37.3	
	baz=242,SNR=6.2						
NEA2	Nenana	82.02	22	P	P	17 02 35.2	-2.0
NEA2				IAmb	IAmb	17 02 37.4	
	comp=Z,17nm,1.2s						
NEA2	Nenana	82.02	22	P		17 02 36.3	
	baz=239,SNR=9.8						
BMRM	Bremner River	82.05	26	P		17 02 38.1	
	baz=243						
UZB	Uzynbulak	82.08	315	*e*P	P	17 02 38.9	+0.7
	baz=315						
I23K	Minto, Yukon-K	82.21	21	P		17 02 37.6	
	baz=238						
I23K	Minto, Yukon-K	82.21	21	P	P	17 02 36.6	-1.5
WRH	Wood River Hil	82.32	22	P	P	17 02 37.3	-1.4
WRH				IAmb	IAmb	17 02 38.9	
	comp=Z,20nm,1.2s						
N25K	Chitina, Valde	82.34	25	P	P	17 02 37.6	-1.4
N25K				IAmb	IAmb	17 02 40.5	
	comp=Z,24nm,1.5s						
N25K	Chitina, Valde	82.34	25	P		17 02 39.4	
	baz=243,SNR=5.1						
KPKS	Kokpek	82.40	315	*e*P	P	17 02 40.8	+1.0
	baz=315						
CCB	Clear Creek Bu	82.52	22	P	P	17 02 38.2	-1.5
CCB				IAmb	IAmb	17 02 39.8	
	comp=Z,12nm,1.2s						
MDM	Murphy Dome	82.52	22	P	P	17 02 37.7	-2.2
MDM				IAmb	IAmb	17 02 40.0	
	comp=Z,13nm,1.2s						
GLB	Gilahina Butte	82.61	26	P	P	17 02 39.7	-0.7
GLB				IAmb	IAmb	17 02 50.3	
	comp=Z,17nm,1.0s						
PAX	Paxson	82.61	24	P		17 02 40.5	
	baz=242						
HDA	Harding Lake	82.72	22	P		17 02 39.8	
	baz=241						
HDA				P		17 02 39.8	
	baz=241						
MCARA	McCarthy VSAT	82.92	26	P		17 02 42.8	
	baz=245						
MCARA	McCarthy VSAT	82.92	26	P	P	17 02 41.0	-1.0
MCARA				IAmb	IAmb	17 03 00.2	
	comp=Z,16nm,1.0s						
IL31		82.92	22	P	P	17 02 39.8	-2.0
IL31				IAmb	IAmb	17 02 41.7	
	comp=Z,12nm,1.1s						
ILAR	Eielson Array	82.92	22	P	P	17 02 40.6	-1.2
	comp=Z,5.3nm,0.9s,baz=257,slow=4.8,SNR=33						
ILAR				LR	LR	17 34 41.4	
	comp=Z,67nm,21.3s,baz=257,slow=32						
ILAR	Eielson Array	82.92	22	P	P	17 02 39.9	-2.0
COLD	Coldfoot	83.03	19	P		17 02 43.1	
	baz=237						
COLD	Coldfoot	83.03	19	P	P	17 02 42.1	-0.3
COLD				IAmb	IAmb	17 02 44.4	
	comp=Z,17nm,1.4s						
SEM	Semipalatinsk	83.30	322	*e*P	P	17 02 45.1	+0.7
	baz=322						
MENT	Mentasta	83.31	24	P	P	17 02 43.2	-0.7
KSH	Kashi	83.43	311	P	P	17 02 50.0	+4.7
KSH				sP	pwP	17 03 07.5	+6.1
KSH				pmax	pmax		
	comp=Z,20nm,0.9s						
KSH				pmax	pmax		
	comp=Z,270nm,4.7s						
MDOK	Medeo	83.48	314	*e*P	P	17 02 46.4	+0.9
	baz=314						
DOT	Dot Lake	83.48	24	P	P	17 02 44.0	-0.8
DOT				IAmb	IAmb	17 02 45.9	
	comp=Z,19nm,1.2s						
CTG	Chitna Glacier	83.49	27	P		17 02 45.2	
	baz=246						
AAA	Alma-Ata	83.59	314	*e*P	P	17 02 47.4	+1.4
	baz=314						
SCRK	Sand Creek	83.66	23	P		17 02 45.7	
	baz=244,SNR=6.9						
SCRK	Sand Creek	83.66	23	P	P	17 02 45.1	-0.8
CHKK	Chushkaly	83.69	315	*e*P	P	17 02 47.6	+1.2
	baz=315						
TOLK	Toolik Lake Re	84.00	18	P	P	17 02 46.9	-0.5
TOLK				IAmb	IAmb	17 02 49.2	
	comp=Z,22nm,1.4s						
TOLK	Toolik Lake Re	84.00	18	P		17 02 47.5	
	baz=238						
L27K	Beaver Creek,	84.14	25	P	P	17 02 47.7	-0.5
L27K				IAmb	IAmb	17 02 49.9	
	comp=Z,14nm,1.2s						
L27K	Beaver Creek,	84.14	25	P		17 02 48.8	
	baz=246,SNR=12						
KUU	Kurty	84.16	315	*e*P	P	17 02 49.1	+0.4
	comp=Z,17nm,1.0s,baz=315						
K27K	Chicken	84.44	24	P		17 02 50.4	
	baz=245						
TKM2	Tokmak 2	84.46	314	P	P	17 02 51.3	+0.8
	SNR=7.6						
MAW	Mawson	84.81	203	LR	LR	17 39 16.8	
	comp=Z,80nm,18.1s,baz=72,slow=35						
KBK	Karagaybulak	84.87	314	P	P	17 02 55.9	+3.3
	SNR=12						
CHMS	Chumysh	85.09	314	P	P	17 02 56.9	+3.4
	SNR=12						
UCH	Uchtor	85.09	313	P	P	17 02 55.3	+1.2
	SNR=33						
EGAK	Eagle	85.12	23	P		17 02 53.1	
	baz=246						
EGAK	Eagle	85.12	23	P	P	17 02 52.5	-0.6
EGAK				IAmb	IAmb	17 03 03.5	
	comp=Z,13nm,1.1s						
HYT	Haines Junctio	85.17	27	P	P	17 02 53.6	0.0
AAK	Ala-Archa	85.19	314	P	P	17 02 57.8	+3.7
	SNR=14						
AAK	Ala-Archa	85.19	314	P	P	17 02 54.1	0.0
USP	Ospenovka	85.32	314	P	P	17 02 58.2	+3.5
	SNR=32						
DAWY	Dawson	85.54	24	P	P	17 02 55.1	-0.2
DAWY				IAmb	IAmb	17 02 57.3	
	comp=Z,16nm,1.3s						
AML	Almayashu	85.67	313	P	P	17 02 58.7	+1.8
	SNR=57						
EKS2	Erkin-Say	85.72	313	P	P	17 03 00.6	+3.9
	SNR=11						
BTLS	Baital	86.01	316	*e*P	P	17 02 58.4	+0.5
	comp=Z,5.3nm,1.0s,baz=316						
EPYK	Eagle Plains	87.43	22	P		17 03 04.8	
	baz=250						
EPYK	Eagle Plains	87.43	22	P	P	17 03 04.6	+0.1
DZA	Taraz	87.53	313	*e*P	P	17 03 06.1	+0.6
	comp=Z,6.8nm,0.9s,baz=313						
BBB	Bella Bella	87.76	37	LR	LR	17 35 07.5	
	comp=Z,51nm,21.4s,baz=193,slow=31						
KKAR	Karatay Array	88.16	313	P	P	17 03 07.8	-0.6
IUG	Iuzhnay	88.36	312	*e*P	P	17 03 10.7	+1.2
	baz=312						
INK	Inuvik	89.22	21	P	P	17 03 12.2	-0.6
BRVK	Borovoye	89.93	323	P	P	17 03 15.1	-1.4
BRVK				IAmb	IAmb	17 03 39.6	
	comp=Z,6.1nm,0.9s						
NVAR	Mina Array Bea	92.61	52	P	P	17 03 29.7	0.0
	comp=Z,1.1nm,1.0s,baz=262,slow=6.6,SNR=5.9						
NVAR				LR	LR	17 39 17.3	
	comp=Z,95nm,19.1s,baz=254,slow=32						
NVAR	Mina Array Bea	92.61	52	P	P	17 03 28.0	-1.6
C36M	Paulatuk	92.80	21	P	P	17 03 28.6	-0.8
C36M				IAmb	IAmb	17 03 39.6	
	comp=Z,6.7nm,1.0s						
ABKAR	Akbulak array	96.05	319	P	P	17 03 43.6	-1.3
YKA	Yellowknife Ar	96.16	28	P	P	17 03 45.0	0.0
	comp=Z,2.1nm,0.9s,baz=268,slow=4.4,SNR=21						
YKA				PKKP	PKKPbc	17 20 33.0	-1.5
	comp=Z,0.1nm,0.7s,baz=93,slow=3.5,SNR=3.8						
MSO	Missoula	96.31	44	P	P	17 03 45.8	-0.4
MSO				IAmb	IAmb	17 03 53.9	
	comp=Z,3.2nm,0.8s						
PDAR	Pinedale Array	99.42	48	P	Pdif	17 04 00.5	0.0
	comp=Z,0.2nm,0.7s,baz=215,slow=3.0,SNR=1.8						
PDAR				LR	LR	17 45 24.3	
	comp=Z,82nm,18.8s,baz=308,slow=33						
AKASG	Malin Array Be	115.13	324	PKP	PKPdf	17 08 59.7	+1.1
	comp=Z,0.5nm,0.5s,baz=64,slow=2.8,SNR=4.5						
KOLS	Kolonicke sedl	119.95	325	*e*PKP	PKiKP	17 09 11.6	+3.6
GERES	GERESS Array B	124.72	328	PKP	PKPdf	17 09 16.7	-0.5
	comp=Z,2.2nm,0.8s,baz=33,slow=10,SNR=4.5						
LPAZ	La Paz	134.06	119	PKP	PKiKP	17 09 37.0	-0.9
	comp=Z,0.4nm,0.5s,baz=318,slow=2.6,SNR=2.3						
MDT	Midelt	145.69	325	PKPbc	PKPab	17 09 57.0	-0.1
	comp=Z,5.1nm,0.9s,baz=46,slow=3.1,SNR=8.1						
TORD	Torodi Ar. Bea	150.51	287	PKPbc	PKPbc	17 10 09.9	-0.2
	comp=Z,7.7nm,0.9s,baz=59,slow=1.9,SNR=26						
BDFB	Brasilia	150.52	136	PKPbc	PKiKP	17 10 10.6	-0.3
	comp=Z,9.0nm,1.0s,baz=80,slow=2.4,SNR=6.8						

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*NEIC **31** 17:02:33.9±1.9, 58.°2S±0.°1×25.°8W±0.°1, h91km±6km, mb4.5/19, Error ellipse: s-maj=18.5km s-min=10.8km az=184.0*

*IDC **31** 17:02:34.1±0.6, 58.°17S×25.°94W, h90km±5km, mb4.0/8, mb1 4.0/9, mb1mx3.8/35, mbtmp4.3/9, MS3.8/1, Ms1 3.8/1, ms1mx2.9/21, Error ellipse: s-maj=20.3km s-min=16.1km az=88.0*

ISC 31 17:02:33.8±0.5**, 58.°21S**±0.°08×**25.°96W**±0.°09**, h91km, n53,** σ**0.°78**/51**, mb4.4**/14**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.06	299	Pn	Pn	17 04 13.3	-1.1
VNA1	Neumayer--Stat	14.54	156	P	Pn	17 05 53.5	-1.1
VNA3	Neumayer Olymp	14.72	159	P	Pn	17 05 55.7	-1.3
VNA2	Neumayer--Watz	14.93	156	P	Pn	17 05 58.8	-0.9
	baz=316,slow=14						
SNAA	Sanae	16.49	154	P	P	17 06 20.1	-0.3
SNAA	Sanae	16.49	154	P	P	17 06 20.1	-0.3
	1.3nm,0.3s,baz=7.2,slow=13,SNR=56						
SNAA				S	Sn	17 09 05.7	-16
	0.1nm,0.3s,baz=8.2,slow=17,SNR=2.2						
SNAA	Sanae	16.49	154	P	Pn	17 06 17.9	-1.3
PMSA	Palmer Station	19.07	234	LR	LR	17 12 10.7	
	comp=Z,266nm,19.7s,baz=308,slow=30						
PMSA	Palmer Station	19.07	234		Pn	17 06 51.5	+1.1
EFI	East Falkland	19.43	276		Pn	17 06 54.5	-0.2
BELA	Belgrano 2	19.97	185	P	P	17 06 58.1	-0.2
QSPA	South Pole Qui	32.03	180	P	P	17 08 52.0	+0.6
	2.5nm,0.5s,baz=245,slow=7.3,SNR=44						
QSPA	South Pole Qui	32.03	180	IAmb	IAmb	17 08 59.4	
	comp=Z,6.6nm,1.4s						
PLCA	Paso Flores	33.08	282	P	P	17 09 01.4	+0.7
	comp=Z,1.1nm,0.5s,baz=126,slow=7.3,SNR=7.4						
PLCA	Paso Flores	33.08	282	IAmb	IAmb	17 09 07.2	
	comp=Z,11nm,1.4s						
BI02	San Fabin de	36.52	286	P	P	17 09 29.8	-0.5
BI02				IAmb	IAmb	17 09 31.7	
	comp=Z,3.6nm,0.8s						
MT02	Curacav	39.13	290	P	P	17 09 52.6	+0.5
SBA	Scott Base	43.96	184	P	P	17 10 32.9	+1.8
SBA				IAmb	IAmb	17 10 33.3	
	comp=Z,10nm,1.6s						
VNDA	Vanda	44.44	182	P	P	17 10 36.1	+1.2
	comp=Z,2.2nm,0.6s,baz=188,slow=6.6,SNR=22						
VNDA	Vanda	44.44	182	P	P	17 10 36.2	+1.3
VNDA				IAmb	IAmb	17 11 00.9	
	comp=Z,5.7nm,1.2s						
BOSA	Boshof	45.91	73	P	P	17 10 46.9	-0.4
	comp=Z,1.5nm,0.5s,baz=223,slow=6.9,SNR=6.7						
BOSA	Boshof	45.91	73	IAmb	IAmb	17 11 08.8	
	comp=Z,12nm,1.5s						
LBTB	Lobatse	49.05	70	P	P	17 11 11.6	0.0
LBTB				IAmb	IAmb	17 11 12.2	
	comp=Z,4.7nm,0.9s						
TA01	Diego Aracena	49.33	300	P	P	17 11 12.9	-0.7
MNMC	Minye Minye	50.31	302	P	P	17 11 21.3	-0.1
MNMC				IAmb	IAmb	17 11 56.6	
	comp=Z,7.7nm,1.1s						
H10N1	ASCENSION HYDR	51.02	15	T	T	18 07 16.3	
	baz=195						
H10N3	ASCENSION HYDR	51.03	15	T	T	18 07 09.8	
	baz=195,slow=74						
H10N2	ASCENSION HYDR	51.04	15	T	T	18 07 17.4	
	baz=195,slow=74						
LPAZ	La Paz	52.18	305	P	P	17 11 35.2	-0.5
	comp=Z,1.8nm,0.5s,baz=117,slow=4.5,SNR=6.9						
LPAZ	La Paz	52.18	305	P	P	17 11 35.0	-0.8
LPAZ				IAmb	IAmb	17 11 40.5	
	comp=Z,2.3nm,0.7s						
LSZ	Lusaka	58.58	66	P	P	17 12 21.1	+0.1
LSZ				IAmb	IAmb	17 12 21.8	

comp=Z,4.5nm,0.9s
DBIC Dimbokro 66.88 23 P **P** 17 13 16.3 **+0.3**
comp=Z,2.0nm,0.5s,baz=156,slow=5.7,SNR=3.6
DBIC Dimbokro 66.88 23 IAmb IAmb 17 13 52.1
comp=Z,13nm,1.4s
TOA0 Torodi Ar. Sit 74.64 28 P **P** 17 14 03.9 **+1.0**
TOA0 IAmb IAmb 17 14 06.2
comp=Z,3.7nm,0.7s
TORD Torodi Ar. Bea 74.64 28 P **P** 17 14 03.9 **+0.9**
comp=Z,3.1nm,0.5s,baz=198,slow=6.3,SNR=28
TORD pP **pP** 17 14 26.4 **+1.1**
comp=Z,3.6nm,0.7s,baz=198,slow=6.2,SNR=6.1
TORD Torodi Ar. Bea 74.64 28 P **P** 17 14 03.5 **+0.6**
ASAR Alice Springs 96.72 161 P **P** 17 15 53.5 **-0.4**
comp=Z,0.5nm,0.7s,baz=189,slow=3.8,SNR=9.1
ASAR pP **pwP** 17 16 19.9 **-0.2**
comp=Z,0.3nm,0.7s,baz=188,slow=4.4,SNR=2.5
ASAR Alice Springs 96.72 161 P **P** 17 15 53.4 **-0.6**
CMAR Chiang Mai Arr 123.67 111 PKP **PKPdf** 17 21 20.2 **-0.3**
comp=Z,0.4nm,0.6s,baz=242,slow=3.6,SNR=4.3
FINES FINESS Array B 125.99 28 PKP **PKPdf** 17 21 23.3 **-0.3**
comp=Z,2.9nm,1.0s,baz=245,slow=5.8,SNR=2.1
MKAR Makanchi Array 136.91 73 PKP **PKiKP** 17 21 46.3 **-0.2**
comp=Z,0.2nm,0.7s,baz=216,slow=4.3,SNR=2.4
YKA Yellowknife Ar 138.21 316 PKP **PKPdf** 17 21 46.9 **+0.3**
comp=Z,1.6nm,0.8s,baz=125,slow=2.7,SNR=16
YKA pPKP **pPKPdf** 17 22 11.5 **+0.5**
comp=Z,0.5nm,0.6s,baz=127,slow=2.8,SNR=3.8
YKA SKPbc **SKPbc** 17 25 11.5 **-0.7**
comp=Z,0.6nm,0.8s,baz=128,slow=3.0,SNR=8.9
INK Inuvik 147.89 318 **PKPbc** 17 22 06.5 **0.0**
CTGM Chitina Glacie 148.35 303 PKPbc **PKPbc** 17 22 08.6 **+0.3**
EPYK Eagle Plains 148.44 314 **PKPbc** 17 22 08.2 **+0.1**
DAWY Dawson 148.71 309 **PKPbc** 17 22 08.6 **-0.4**
BCAR Beaver Creek A 149.36 306 **PKPbc** 17 22 10.7 **+0.1**
VRDI Verde Repeater 149.40 303 PKPbc **PKiKP** 17 22 11.3 **-0.6**
K27K Chicken 149.81 308 PKPbc **PKPbc** 17 22 11.8 **+0.3**
SONM Songino Array 150.14 89 PKPbc **PKPbc** 17 22 12.9 **-0.2**
comp=Z,2.3nm,0.6s,baz=219,slow=3.6,SNR=18
SONM pPKPbc **pPKPbc** 17 22 36.5 **-0.7**
comp=Z,0.8nm,0.7s,baz=230,slow=3.0,SNR=3.3
TLY Talaya 150.93 81 PKPbc **PKPbc** 17 22 14.9 **+0.3**
comp=Z,0.6nm,0.3s,baz=248,slow=2.8,SNR=3.4
ILAR Eielson Array 152.03 308 PKPbc **PKPbc** 17 22 16.6 **-0.1**
comp=Z,1.8nm,0.8s,baz=157,slow=1.6,SNR=13
ILAR pPKPbc **pPKPbc** 17 22 41.9 **+1.0**
comp=Z,0.3nm,0.4s,baz=140,slow=1.5,SNR=2.2
ILAR Eielson Array 152.03 308 **PKPbc** 17 22 14.8 **-1.9**

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*IDC **31** 17:05:09.7±1.0, 10˚41N×84˚38W, h74km±10km, mb3.7/16, mb1 4.0/17, mb1mx3.8/44, mbtmp4.1/17, MS3.1/3, Ms1 3.1/3, ms1mx2.7/31, Error ellipse: s-maj=24.3km s-min=17.3km az=57.0*

*NEIC **31** 17:05:12.0±2.1, 10˚26N±0˚05×84˚61W±0˚04, h95km±4km, mb4.4/93, Error ellipse: s-maj=7.1km s-min=5.1km az=202.0*

*UCR **31** 17:05:12.4±1.0, 10˚30N×84˚57W, h87km±2km, MD3.5, MW4.9, mb4.4(NEIC)*

*UPA **31** 17:05:13.2±2.0, 10˚25N×84˚66W, h80km, MW4.6*

*INET **31** 17:05:13.9, 10˚34N×84˚51W, h67km, ML5.0*

ISC 31 17:05:11.9±0.5, 10˚31N±0˚04×84˚58W±0˚03, h99km±4km, n308, σ1°41/350, mb4.3/58, 7C-23D, Costa Rica

Code	Station Name	Δ°	Az°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FORC	**Fortuna**	**0.18**	**330**	*iP*	**Pn**	**17 05 25.2**	**-0.7**
FORC				*i* S	**Sn**	**17 05 35.2**	**-1.1**
CASO	**Castillo**	**0.19**	**308**	*iP*	**Pn**	**17 05 25.3**	**-0.7**
CASO				*i* S	**Sn**	**17 05 35.4**	**-1.1**
ARE1	**Arenal 1**	**0.20**	**317**	*eP*	**Pn**	**17 05 25.4**	**-0.6**
ARE1				*eS*	**Sn**	**17 05 35.5**	**-1.0**
CEDE	**Laguna Cedeo**	**0.21**	**325**	*iP*	**Pn**	**17 05 25.5**	**-0.6**
SRA1	**San Ramn**	**0.25**	**157**	*eP*	**Pn**	**17 05 25.1**	**-1.2**
SRA1				*eS*	**Sn**	**17 05 35.6**	**-1.4**
JTS	**Las Juntas de**	**0.37**	**266**	P	**Pn**	**17 05 25.8**	**-1.0**
	baz=342,slow=20						
JTS				S	**Sn**	**17 05 35.7**	**-2.1**
	5µm,0.3s,baz=53,slow=20,SNR=99						
JTS	**Las Juntas de**	**0.37**	**266**	*iP*	**Pn**	**17 05 25.9**	**-0.8**
JTS				*i* S	**Sn**	**17 05 35.9**	**-1.9**
JTS	**Las Juntas de**	**0.37**	**266**	*eP*	**Pn**	**17 05 25.6**	**-1.2**
JTS				*eS*	**Sn**	**17 05 35.7**	**-2.1**
JTS	**Las Juntas de**	**0.37**	**266**		**Pn**	**17 05 25.7**	**-1.0**
JTS				Sn	**Sn**	**17 05 35.6**	**-2.1**
COVE	**Coope Vega, Sa**	**0.44**	**23**	*eP*	**Pn**	**17 05 26.4**	**-0.8**
COVE				*eS*	**Sn**	**17 05 36.9**	**-1.6**
COVE	**Coope Vega, Sa**	**0.44**	**23**		**Pn**	**17 05 26.4**	**-0.8**
COVE				Sn	**Sn**	**17 05 36.4**	**-2.2**
HDC	**Heredia**	**0.55**	**124**	*iP*	**Pn**	**17 05 27.5**	**-0.7**
HDC				*i* S	**Sn**	**17 05 37.5**	**-2.7**
HDC	**Heredia**	**0.55**	**124**	*eP*	**Pn**	**17 05 27.3**	**-0.8**
HDC				*eS*	**Sn**	**17 05 38.8**	**-1.4**
HDC	**Heredia**	**0.55**	**124**		**Pn**	**17 05 27.4**	**-0.7**
HDC				Sn	**Sn**	**17 05 38.9**	**-1.4**
HDC3	**Heredia 3**	**0.56**	**124**	*eP*	**Pn**	**17 05 27.3**	**-0.8**
PTEN	**Parque Tenorio**	**0.56**	**315**	*iP*	**Pn**	**17 05 27.8**	**-0.4**
PTEN				*i* S	**Sn**	**17 05 40.1**	**-0.2**
LAFE	**Finca La Fe, P**	**0.60**	**213**	*eP*	**Pn**	**17 05 27.4**	**-0.9**
LAFE				*eS*	**Sn**	**17 05 39.6**	**-1.0**
JACO	**JACO, Garabito**	**0.65**	**187**	*eP*	**Pn**	**17 05 28.3**	**-0.6**
JACO				*eS*	**Sn**	**17 05 40.6**	**-0.8**
CUI	**Cuipilapa**	**0.67**	**301**	*iP*	**Pn**	**17 05 28.7**	**-0.3**
COLC	**Colonia**	**0.71**	**300**	*iP*	**Pn**	**17 05 29.1**	**-0.3**
HORNC	**Hornillas**	**0.71**	**304**	*iP*	**Pn**	**17 05 28.9**	**-0.5**
GUAB	**Guayabo de Bag**	**0.75**	**302**	*iP*	**Pn**	**17 05 29.3**	**-0.5**
PLVR	**Palo Verde**	**0.76**	**273**	*eP*	**Pn**	**17 05 28.6**	**-1.3**
LCR2	**La Lucha 2**	**0.80**	**135**	*eP*	**Pn**	**17 05 29.6**	**-0.9**
CAO2	**Cobano, Puntar**	**0.81**	**220**		**Pn**	**17 05 28.9**	**-1.4**
CAO2				Sn	**Sn**	**17 05 42.1**	**-1.9**
VTUC	**Crater, Volcan**	**0.85**	**110**	*eP*	**Pn**	**17 05 30.6**	**-0.5**
CVTR	**Volcan Turrial**	**0.86**	**110**	*eP*	**Pn**	**17 05 30.6**	**-0.6**
ORTG	**Ortega, Santa**	**0.87**	**273**		**Pn**	**17 05 30.8**	**-0.1**
ORTG				Sn	**Sn**	**17 05 44.5**	**-0.7**
GPS2	**Hotel Rincn d**	**0.88**	**300**	*iP*	**Pn**	**17 05 30.8**	**-0.2**
GPS3	**Bodega del ICE**	**0.89**	**300**	*iP*	**Pn**	**17 05 30.9**	**-0.2**
RIMA	**Rio Macho**	**0.89**	**128**	*eP*	**Pn**	**17 05 30.9**	**-0.5**
GUAI	**GUAI**	**0.92**	**267**	*iP*	**Pn**	**17 05 31.4**	**+0.1**
BUAI	**Buenos Aires**	**0.93**	**307**	*iP*	**Pn**	**17 05 31.3**	**-0.2**
BUEV	**Buena Vista**	**0.95**	**301**	*iP*	**Pn**	**17 05 31.6**	**-0.1**
GB1A	**Boringuen Arri**	**0.95**	**302**	*iP*	**Pn**	**17 05 31.9**	**+0.1**
LAPC	**Finca la Perla**	**0.95**	**298**	*iP*	**Pn**	**17 05 31.4**	**-0.3**
GBS3	**Finca Las Img**	**0.98**	**298**	*iP*	**Pn**	**17 05 31.8**	**-0.3**
INDI	**Punta indio, G**	**1.01**	**244**	*eP*	**Pn**	**17 05 31.6**	**-0.8**
HZTE	**Horizontes, Gu**	**1.07**	**292**	*eP*	**Pn**	**17 05 33.3**	**+0.2**
CDM	**Cerro de Muert**	**1.10**	**133**	*eP*	**Pn**	**17 05 33.5**	**-0.3**
GRZA	**Playa Garza**	**1.11**	**249**	*eP*	**Pn**	**17 05 32.5**	**-1.0**
BATAN	**Batan**	**1.20**	**100**	*eP*	**Pn**	**17 05 34.4**	**-0.2**
BATAN	**Batan**	**1.20**	**100**		**Pn**	**17 05 34.6**	**+0.1**
BATAN				Sn	**Sn**	**17 05 52.2**	**+0.6**
MRVA	**Moravia de Chi**	**1.22**	**113**	*eP*	**Pn**	**17 05 35.0**	**+0.1**
EDDO	**Dominical**	**1.27**	**146**	*eP*	**Pn**	**17 05 34.8**	**-0.5**
PEZE	**Perez Zeledon,**	**1.28**	**136**	*eP*	**Pn**	**17 05 35.2**	**-0.4**
PEZE	**Perez Zeledon,**	**1.28**	**136**		**Pn**	**17 05 35.3**	**-0.4**
PEZE				Sn	**Sn**	**17 05 53.2**	**-0.3**
DRK0	**Durika**	**1.68**	**128**	*iP*	**Pn**	**17 05 40.5**	**-0.1**
DRK0				*i* S	**Sn**	**17 06 01.6**	**-0.6**
DRK0	**Durika**	**1.68**	**128**	*iP*	**Pn**	**17 05 40.5**	**-0.1**
DRK0				*i* S	**Sn**	**17 06 01.6**	**-0.6**
DRK0	**Durika**	**1.68**	**128**	*eP*	**Pn**	**17 05 40.7**	**+0.2**
EDBA	**Buenos Aires**	**1.72**	**132**	*eP*	**Pn**	**17 05 40.7**	**-0.2**
EDPN	**Palmar Norte**	**1.74**	**140**	*eP*	**Pn**	**17 05 41.1**	**-0.1**
ACON	**Acoyapa**	**1.74**	**341**	*eP*	**Pn**	**17 05 41.8**	**+0.6**
ACON	**Acoyapa**	**1.74**	**341**		**Pn**	**17 05 41.8**	**+0.6**
ACON				Sn	**Sn**	**17 06 03.8**	**+0.4**
ESPN	**Las Esperanzas**	**1.89**	**8**	*eP*	**Pn**	**17 05 43.6**	**+0.6**
ESPN	**Las Esperanzas**	**1.89**	**8**		**Pn**	**17 05 43.7**	**+0.6**
POTG	**Potrero Grande**	**1.91**	**131**	*eP*	**Pn**	**17 05 43.4**	**+0.1**
RIOS	**Rincon, Osa**	**1.92**	**147**	*eP*	**Pn**	**17 05 43.3**	**-0.1**
RIOS	**Rincon, Osa**	**1.92**	**147**		**Pn**	**17 05 42.9**	**-0.5**
EDSV	**San Vito**	**2.17**	**133**	*eP*	**Pn**	**17 05 47.5**	**+0.7**
CNI2	**El Empalme, Bo**	**2.26**	**113**	*iP*	**Pn**	**17 05 47.6**	**-0.1**
CNI2	**El Empalme, Bo**	**2.26**	**113**	*iP*	**Pn**	**17 05 47.6**	**-0.1**
MLIR3	**Monte Lirio, C**	**2.30**	**131**	*iP*	**Pn**	**17 05 49.3**	**+0.9**
MLIR3				*i* S	**Sn**	**17 06 18.2**	**+1.8**
MLIR3	**Monte Lirio, C**	**2.30**	**131**	*iP*	**Pn**	**17 05 49.3**	**+0.9**
MLIR3				*i* S	**Sn**	**17 06 18.2**	**+1.8**
BOAB	**BOACO BROADBAN**	**2.38**	**333**		**Pn**	**17 05 49.9**	**+0.5**
BRU2	**Volcan**	**2.40**	**129**	*iP*	**Pn**	**17 05 50.3**	**+0.5**
BRU2				*i* S	**Sn**	**17 06 17.8**	**-1.1**
BRU2	**Volcan**	**2.40**	**129**	*iP*	**Pn**	**17 05 50.3**	**+0.5**
BRU2				*i* S	**Sn**	**17 06 17.8**	**-1.1**
BRU2	**Volcan**	**2.40**	**129**	*eP*	**Pn**	**17 05 50.5**	**+0.7**
CDITO	**Canoas**	**2.41**	**136**	*iP*	**Pn**	**17 05 49.9**	**+0.1**
CDITO	**Canoas**	**2.41**	**136**	*iP*	**Pn**	**17 05 49.9**	**+0.1**
CDITO	**Canoas**	**2.41**	**136**	*eP*	**Pn**	**17 05 49.6**	**-0.2**
BC3P	**Paso Ancho**	**2.45**	**127**	*iP*	**Pn**	**17 05 51.0**	**+0.5**
BC3P				*i* S	**Sn**	**17 06 19.4**	**-0.7**
BC3P	**Paso Ancho**	**2.45**	**127**	*iP*	**Pn**	**17 05 51.0**	**+0.5**
BC3P				*i* S	**Sn**	**17 06 19.4**	**-0.7**
BCO2	**Palmira**	**2.57**	**128**	*iP*	**Pn**	**17 05 52.7**	**+0.6**
BCO2				*i* S	**Sn**	**17 06 22.2**	**-0.7**
BCO2	**Palmira**	**2.57**	**128**	*iP*	**Pn**	**17 05 52.7**	**+0.6**
BCO2				*i* S	**Sn**	**17 06 22.2**	**-0.7**
LESP3	**La Esperanza,**	**2.59**	**137**	*eP*	**Pn**	**17 05 54.6**	**+2.4**
LESP3	**La Esperanza,**	**2.59**	**137**	*eP*	**Pn**	**17 05 54.6**	**+2.4**
SBAR3	**San Bartolo, C**	**2.59**	**140**	*iP*	**Pn**	**17 05 54.7**	**+2.4**
SBAR3	**San Bartolo, C**	**2.59**	**140**	*iP*	**Pn**	**17 05 54.7**	**+2.4**
SBAR3				*i* S	**Sn**	**17 06 28.0**	**+4.7**
LNBQ3	**Los Naranjos,**	**2.60**	**125**	*eP*	**Pn**	**17 05 53.4**	**+1.0**
LNBQ3	**Los Naranjos,**	**2.60**	**125**	*eP*	**Pn**	**17 05 53.4**	**+1.0**
PTAR3	**Potrerillos Ar**	**2.61**	**128**	*iP*	**Pn**	**17 05 53.2**	**+0.6**
PTAR3				*i* S	**Sn**	**17 06 21.4**	**-2.4**
PTAR3	**Potrerillos Ar**	**2.61**	**128**	*iP*	**Pn**	**17 05 53.2**	**+0.6**
PTAR3				*i* S	**Sn**	**17 06 21.4**	**-2.4**
BAGA3	**Bagala, Chiriq**	**2.73**	**132**	*eP*	**Pn**	**17 05 54.7**	**+0.6**
BAGA3	**Bagala, Chiriq**	**2.73**	**132**	*eP*	**Pn**	**17 05 54.7**	**+0.6**
PSOM3	**Paja de Sombre**	**2.75**	**126**	*iP*	**Pn**	**17 05 55.1**	**+0.7**
PSOM3	**Paja de Sombre**	**2.75**	**126**	*iP*	**Pn**	**17 05 55.1**	**+0.7**
CHGR2	**Aguacate**	**2.76**	**119**	*iP*	**Pn**	**17 05 54.9**	**+0.4**
CHGR2				*i* S	**Sn**	**17 06 25.6**	**-1.7**
CHGR2	**Aguacate**	**2.76**	**119**	*iP*	**Pn**	**17 05 54.9**	**+0.4**
CHGR2				*i* S	**Sn**	**17 06 25.6**	**-1.7**
LIMO3	**Limones**	**2.77**	**142**	*iP*	**Pn**	**17 06 56.2**	**+1.5**
LIMO3				*i* S	**Sn**	**17 06 29.0**	**+1.5**
LIMO3	**Limones**	**2.77**	**142**	*iP*	**Pn**	**17 05 56.2**	**+1.5**
LIMO3				*i* S	**Sn**	**17 06 29.0**	**+1.5**
DVD	**David**	**2.81**	**131**	*iP*	**Pn**	**17 05 55.3**	**+0.2**
DVD				*i* S	**Sn**	**17 06 28.2**	**-0.1**
DVD	**David**	**2.81**	**131**	*iP*	**Pn**	**17 05 55.3**	**+0.2**
DVD				*i* S	**Sn**	**17 06 28.2**	**-0.1**
LOCO3	**Loma Colorada,**	**2.85**	**131**	*eP*	**Pn**	**17 05 56.3**	**+0.6**
LOCO3	**Loma Colorada,**	**2.85**	**131**	*eP*	**Pn**	**17 05 56.3**	**+0.6**
LOMA3	**Las Lomas, Chi**	**2.86**	**131**	*iP*	**Pn**	**17 05 57.0**	**+1.2**
LOMA3	**Las Lomas, Chi**	**2.86**	**131**	*iP*	**Pn**	**17 05 57.0**	**+1.2**
GUAL3	**Gualaca, Chiri**	**2.86**	**128**	*iP*	**Pn**	**17 05 56.6**	**+0.8**
GUAL3	**Gualaca, Chiri**	**2.86**	**128**	*iP*	**Pn**	**17 05 56.6**	**+0.8**
PEDE3	**Pedregal, Chir**	**2.87**	**132**	*iP*	**Pn**	**17 05 55.1**	**-0.7**
PEDE3	**Pedregal, Chir**	**2.87**	**132**	*iP*	**Pn**	**17 05 55.1**	**-0.7**
MATN	**Matagalpa**	**2.92**	**333**		**Pn**	**17 05 58.3**	**+1.7**
CHIR3	**Chiriqui UPA,**	**2.93**	**130**	*iP*	**Pn**	**17 05 57.9**	**+1.2**
CHIR3	**Chiriqui UPA,**	**2.93**	**130**	*iP*	**Pn**	**17 05 57.9**	**+1.2**
CRIN	**San Cristobal**	**3.39**	**315**		**Pn**	**17 06 04.4**	**+1.5**
REME3	**Remedios, Chir**	**3.41**	**127**	*eP*	**Pn**	**17 06 06.1**	**+2.9**
REME3	**Remedios, Chir**	**3.41**	**127**	*eP*	**Pn**	**17 06 06.1**	**+2.9**
NANC3	**Nancito, Chiri**	**3.48**	**126**	*eP*	**Pn**	**17 06 05.2**	**+1.0**
NANC3	**Nancito, Chiri**	**3.48**	**126**	*eP*	**Pn**	**17 06 05.2**	**+1.0**
CNAZ3	**Canazas, Verag**	**3.86**	**120**	*eP*	**Pn**	**17 06 10.7**	**+1.5**
CNAZ3	**Canazas, Verag**	**3.86**	**120**	*eP*	**Pn**	**17 06 10.7**	**+1.5**
MESA3	**La Mesa, Verag**	**3.98**	**122**	*eP*	**Pn**	**17 06 12.2**	**+1.4**
MESA3	**La Mesa, Verag**	**3.98**	**122**	*eP*	**Pn**	**17 06 12.2**	**+1.4**
SFRA3	**San Francisco,**	**4.11**	**120**	*iP*	**Pn**	**17 06 13.8**	**+1.3**
SFRA3	**San Francisco,**	**4.11**	**120**	*iP*	**Pn**	**17 06 13.8**	**+1.3**
GMAL	**Guarumal, Vera**	**4.17**	**127**	*iP*	**Pn**	**17 06 14.2**	**+0.8**
GMAL	**Guarumal, Vera**	**4.17**	**127**	*iP*	**Pn**	**17 06 14.2**	**+0.8**
STIA3	**Santiago, Vera**	**4.19**	**121**	*eP*	**Pn**	**17 06 14.5**	**+0.9**
STIA3	**Santiago, Vera**	**4.19**	**121**	*eP*	**Pn**	**17 06 14.5**	**+0.9**
CALO3	**Calobre, Verag**	**4.19**	**118**	*eP*	**Pn**	**17 06 13.2**	**-0.5**
CALO3	**Calobre, Verag**	**4.19**	**118**	*eP*	**Pn**	**17 06 13.2**	**-0.5**
TGUH	**Tegucigalpa,Un**	**4.56**	**325**	Pn	**Pn**	**17 06 20.6**	**+1.8**
PNME	**Penonome**	**4.57**	**113**	*iP*	**Pn**	**17 06 19.9**	**+1.1**
PNME	**Penonome**	**4.57**	**113**	*eP*	**Pn**	**17 06 19.3**	**+0.5**
PNME				*i* P	**Pn**	**17 06 19.9**	**+1.1**
CACAO	**El Cacao, Vera**	**4.71**	**128**	*eP*	**Pn**	**17 06 22.6**	**+1.8**
CACAO	**El Cacao, Vera**	**4.71**	**128**	*eP*	**Pn**	**17 06 22.6**	**+1.8**
VTON	**El Valle, Cocl**	**4.72**	**111**	*iP*	**Pn**	**17 06 21.9**	**+1.0**
VTON	**El Valle, Cocl**	**4.72**	**111**	*iP*	**Pn**	**17 06 21.9**	**+1.0**
MLIR	**Monte Lirio**	**4.78**	**102**	*eP*	**Pn**	**17 06 22.1**	**+0.4**
MLIR	**Monte Lirio**	**4.78**	**102**	*eP*	**Pn**	**17 06 22.1**	**+0.4**
BCIP	**Isla Barro Col**	**4.81**	**103**	*iP*	**Pn**	**17 06 22.6**	**+0.5**
BCIP	**Isla Barro Col**	**4.81**	**103**	*iP*	**Pn**	**17 06 22.6**	**+0.5**
BCIP	**Isla Barro Col**	**4.81**	**103**		**Pn**	**17 06 22.6**	**+0.5**
BCIP	**Isla Barro Col**	**4.81**	**103**	*eP*	Pn	17 06 16.5	-5.6
ZANG	**Zanguenga, Cho**	**4.84**	**106**	*eP*	**Pn**	**17 06 23.4**	**+0.9**
ZANG	**Zanguenga, Cho**	**4.84**	**106**	*eP*	**Pn**	**17 06 23.4**	**+0.9**
FRIJ	**El Hiral**	**4.91**	**102**	*iP*	**Pn**	**17 06 21.5**	**-1.9**
FRIJ	**El Hiral**	**4.91**	**102**	*iP*	**Pn**	**17 06 21.5**	**-1.9**
PCRI3	**Pocri, Los San**	**5.14**	**121**	*eP*	**Pn**	**17 06 29.5**	**+3.0**
PCRI3	**Pocri, Los San**	**5.14**	**121**	*eP*	**Pn**	**17 06 29.5**	**+3.0**
UPA	**Univ. de Panam**	**5.15**	**104**	*eP*	**Pn**	**17 06 27.5**	**+0.8**
UPA	**Univ. de Panam**	**5.15**	**104**	*eP*	**Pn**	**17 06 27.5**	**+0.8**
TABO3	**Taboga, Panama**	**5.18**	**107**	*eP*	**Pn**	**17 06 28.9**	**+1.8**
TABO3	**Taboga, Panama**	**5.18**	**107**	*eP*	**Pn**	**17 06 28.9**	**+1.8**
CHPO	**Chepo, Panama**	**5.50**	**101**	*iP*	**Pn**	**17 06 32.8**	**+1.3**
CHPO	**Chepo, Panama**	**5.50**	**101**	*iP*	**Pn**	**17 06 32.8**	**+1.3**
SNET	**Serv Nac Est T**	**5.65**	**307**		**Pn**	**17 06 35.3**	**+1.7**
CNTA3	**Canitas, Panam**	**5.71**	**100**	*eP*	**Pn**	**17 06 36.3**	**+1.9**
CNTA3	**Canitas, Panam**	**5.71**	**100**	*eP*	**Pn**	**17 06 36.3**	**+1.9**
MTO3	**Montecristo**	**6.19**	**311**		**Pn**	**17 06 43.0**	**+2.0**
CAP2	**Capurgana**	**7.31**	**102**	*eP*	**Pn**	**17 06 57.9**	**+1.8**
CAP2	**Capurgana**	**7.31**	**102**	*eP*	**Pn**	**17 06 57.9**	**+1.8**
CAPC	**Capurgana**	**7.32**	**103**	*eP*	**Pn**	**17 06 54.1**	**-2.2**
APG	**El Apazote**	**7.40**	**310**	P	**Pn**	**17 07 00.9**	**+3.5**
	2.5nm,0.3s,baz=115,slow=8.4,SNR=34						
APG				S	**Sn**	**17 08 18.9**	**-1.1**
	0.9nm,0.3s,baz=120,slow=16,SNR=1.5						
LCBC	**Los crdobas,**	**8.23**	**99**	*eP*	**Pn**	**17 07 11.8**	**+3.3**
DBBC	**Dabeiba**	**8.90**	**111**	*eP*	**Pn**	**17 07 20.5**	**+2.8**
MOTC	**Monteria, Cord**	**8.92**	**99**	*eP*	**Pn**	**17 07 19.0**	**+1.0**
SJCC	**San Jacinto, C**	**9.27**	**92**	*eP*	**Pn**	**17 07 23.4**	**+0.6**
SJCC	**San Jacinto, C**	**9.27**	**92**	*eP*	**Pn**	**17 07 23.4**	**+0.6**
SJCC	**San Jacinto, C**	**9.27**	**92**	*eP*	**Pn**	**17 07 22.3**	**-0.4**
UREC	**San Jos de Ur**	**9.29**	**105**	*eP*	**Pn**	**17 07 25.0**	**+1.9**
CBOC	**Ciudad Bolivar**	**9.56**	**117**	*eP*	Pn	17 07 18.8	-8.1
ZARC	**Zaragoza, Cauc**	**10.01**	**105**	*eP*	**Pn**	**17 07 33.9**	**+1.1**
GUY2C	**Guyana, Caldas**	**10.44**	**118**	*eP*	**Pn**	**17 07 40.8**	**+1.8**
SMLC	**San Martn de**	**10.47**	**97**	*eP*	**Pn**	**17 07 38.2**	**-0.9**
TEIG	**Tepich**	**10.48**	**341**	Pn	**Pn**	**17 07 38.3**	**-0.9**
PTBC	**PUERTO BERRIO,**	**10.69**	**110**	*eP*	**Pn**	**17 07 41.8**	**-0.4**
NORC	**Norcasia**	**10.71**	**115**	*eP*	**Pn**	**17 07 45.9**	**+3.4**
ORTC	**Ortega, Tolima**	**11.23**	**124**	*eP*	**Pn**	**17 07 51.3**	**+1.8**
OCAC	**Ocana**	**11.30**	**100**	*eP*	**Pn**	**17 07 51.9**	**+1.3**
SOTA	**Rioblanco**	**11.35**	**135**	*eP*	**Pn**	**17 07 52.7**	**+1.3**
PCON	**Cinco Dias**	**11.36**	**134**	*eP*	Pn	17 07 46.1	-5.5
CMIG	**Matias Romero**	**12.06**	**305**	P	**Pn**	**17 08 01.0**	**+0.5**
	1.8nm,0.3s,baz=130,slow=11,SNR=13						
CMIG				S	**Sn**	**17 10 06.2**	**-7.0**
	0.6nm,0.3s,baz=41,slow=20,SNR=1.9						
PAMC	**Pamplona, Colo**	**12.11**	**103**	*eP*	**Pn**	**17 07 56.9**	**-4.7**
RUSC	**La Rusia**	**12.20**	**110**	*eP*	Pn	17 07 56.4	-6.4
GTBY	**Guantanamo Bay**	**13.22**	**43**	P	**P**	**17 08 22.3**	**+0.3**
SDV	**Santo Domingo**	**13.82**	**95**	P	**Pn**	**17 08 25.5**	**+1.5**
	2.3nm,0.3s,baz=302,slow=10.0,SNR=18						
SDV				S	**Sn**	**17 10 53.3**	**-3.0**
	0.6nm,0.3s,baz=274,slow=19,SNR=1.2						
SDV	**Santo Domingo**	**13.82**	**95**		**Pn**	**17 08 25.2**	**+1.3**
SDV	**Santo Domingo**	**13.82**	**95**	*eP*	**Pn**	**17 08 23.1**	**-0.8**
TLIG	**Tlapa**	**15.36**	**300**	P	**P**	**17 08 46.6**	**+0.6**
TLIG					IAmb	IAmb	17 08 52.8
	comp=Z,14nm,0.7s						
656A	**Willston**	**19.05**	**5**	P	**Pn**	**17 09 29.4**	**+1.1**
553A	**Crawfordville**	**19.78**	**0**	P	**Pn**	**17 09 38.0**	**+1.3**
352A	**Blakely**	**21.06**	**359**	P	**P**	**17 09 52.6**	**+4.5**
ZAIG	**Zacatecas**	**21.20**	**308**	P	**P**	**17 09 54.7**	**+4.7**
ZAIG					IAmb	IAmb	17 09 56.4
	comp=Z,9.5nm,0.7s						
344A	**Westbrook Farm**	**21.80**	**346**		**P**	**17 09 58.3**	**+2.3**
152A	**Waverly Hall**	**22.25**	**360**	P	**P**	**17 10 02.9**	**+2.2**
VBMS	**Vicksburg**	**22.48**	**347**	P	**P**	**17 10 04.5**	**+1.4**
LRAL	**Lakeview Retre**	**22.72**	**355**	P	**P**	**17 10 07.8**	**+2.2**
LRAL					IAmb	IAmb	17 10 08.9
	comp=Z,19nm,0.7s						
Z51A	**Franklin**	**22.90**	**359**	P	**P**	**17 10 09.5**	**+2.1**
Z47A	**Carrollton**	**23.00**	**352**	P	**P**	**17 10 07.5**	**-0.9**
Z47A					IAmb	IAmb	17 10 13.0
	comp=Z,22nm,0.7s						
GOGA	**Godfrey**	**23.01**	**2**	P	**P**	**17 10 10.0**	**+1.6**
GOGA					IAmb	IAmb	17 10 11.3
	comp=Z,12nm,0.9s						
Y52A	**Lilburn**	**23.45**	**1**	P	**P**	**17 10 14.0**	**+1.5**
Y52A					IAmb	IAmb	17 10 15.1
	comp=Z,9.9nm,0.5s						
Y49A	**Blount Mountai**	**23.49**	**356**	P	**P**	**17 10 13.9**	**+0.9**
Y49A					IAmb	IAmb	17 10 18.4
	comp=Z,11nm,0.8s						
435B	**Jarrell**	**23.69**	**331**	P	**P**	**17 10 16.6**	**+1.9**
HODGE	**Hodges**	**23.90**	**5**	P	**P**	**17 10 18.2**	**+1.6**
HODGE					IAmb	IAmb	17 10 29.9
	comp=Z,30nm,1.2s						
JSC	**Jenkinsville**	**24.05**	**7**	P	**P**	**17 10 20.0**	**+2.1**
JSC					IAmb	IAmb	17 10 42.8
	comp=Z,13nm,0.6s						
X48A	**Hartselle**	**24.13**	**355**		**P**	**17 10 19.7**	**+1.0**
FPAL	**Fort Paine**	**24.13**	**358**	P	**P**	**17 10 19.1**	**+0.4**
Y60A	**Bolivia**	**24.29**	**13**	P	**P**	**17 10 22.2**	**+2.2**
OXF	**Oxford**	**24.49**	**350**	P	**P**	**17 10 23.1**	**+1.2**
BIRD	**Birdtown, Kers**

NVAR				pP	**pP**	17 13 12.9	+3.0
	comp=Z,1.0nm,0.6s,baz=123,slow=7.1,SNR=4.4						
NVAR	**Mina Array Bea**	**41.16**	**319**	P	**P**	**17 12 47.2**	**+0.3**
FCC	**Fort Churchill**	**48.88**	**353**	P	**P**	**17 13 46.8**	**-0.6**
FCC				IAmb	IAmb	17 13 47.5	
	comp=Z,2.7nm,0.8s						
FCC				PcP	**PcP**	**17 15 10.0**	**-0.4**
PLCA	**Paso Flores**	**52.42**	**167**	P	**P**	**17 14 15.1**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=343,slow=11,SNR=3.1						
PLCA	**Paso Flores**	**52.42**	**167**	P	**P**	**17 14 15.1**	**+0.7**
PLCA	**Paso Flores**	**52.42**	**167**	IAmb	IAmb	17 14 40.0	
	comp=Z,6.4nm,1.2s						
YKA	**Yellowknife Ar**	**56.42**	**344**	P	**P**	**17 14 42.0**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=141,slow=7.1,SNR=26						
YKA				PcP	**PcP**	**17 15 38.9**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=129,slow=5.5,SNR=1.2						
RES	**Resolute Bay**	**64.61**	**357**	P	**P**	**17 15 38.1**	**-0.4**
INK	**Inuvik**	**66.08**	**342**	P	**P**	**17 15 48.0**	**-0.1**
INK				IAmb	IAmb	17 15 50.3	
	comp=Z,4.4nm,1.1s						
DOT	**Dot Lake**	**67.53**	**335**	P	**P**	**17 15 57.6**	**+0.2**
DOT				IAmb	IAmb	17 15 59.9	
	comp=Z,2.3nm,0.7s						
ILAR	**Eielson Array**	**69.10**	**336**	P	**P**	**17 16 06.7**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=124,slow=4.3,SNR=11						
ILAR	**Eielson Array**	**69.10**	**336**	P	**P**	**17 16 06.7**	**-0.4**
RND	**Reindeer**	**69.45**	**334**	P	**P**	**17 16 09.2**	**-0.2**
RND				IAmb	IAmb	17 16 11.8	
	comp=Z,5.8nm,1.0s						
MLY	**Manley**	**70.74**	**336**	P	**P**	**17 16 17.0**	**-0.2**
ESDC	**Sonseca Array**	**76.29**	**52**	P	**P**	**17 16 49.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=281,slow=5.0,SNR=6.4						
ESDC	**Sonseca Array**	**76.29**	**52**	P	**P**	**17 16 49.9**	**-0.4**
ESDC	**Sonseca Array**	**76.29**	**52**	IAmb	IAmb	17 16 51.4	
	comp=Z,10nm,1.6s						
EKA	**Eskdalemuir Ar**	**76.71**	**35**	P	**P**	**17 16 51.8**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=267,slow=5.7,SNR=4.8						
KOWA	**Kowa**	**78.43**	**77**	P	**P**	**17 17 01.3**	**-1.3**
	comp=Z,2.1nm,0.4s,baz=270,slow=4.0,SNR=3.6						
KOWA	**Kowa**	**78.43**	**77**	P	**P**	**17 17 01.3**	**-1.3**
KOWA	**Kowa**	**78.43**	**77**	IAmb	IAmb	17 17 05.0	
	comp=Z,5.1nm,1.1s						
NOA	**NORSAR Array B**	**83.86**	**29**	P	**P**	**17 17 30.6**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=285,slow=6.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**84.12**	**78**	P	**P**	**17 17 31.0**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=289,slow=5.7,SNR=2.1						
ARCES	**ARCESS Array B**	**87.27**	**19**	P	**P**	**17 17 47.4**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=290,slow=5.7,SNR=4.5						
ARCES	**ARCESS Array B**	**87.27**	**19**	P	**P**	**17 17 47.4**	**+0.2**
ARCES	**ARCESS Array B**	**87.27**	**19**	IAmb	IAmb	17 17 52.4	
	comp=Z,18nm,1.5s						
GERES	**GERESS Array B**	**87.71**	**41**	P	**P**	**17 17 50.0**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=346,slow=6.1,SNR=1.9						
FINES	**FINESS Array B**	**90.62**	**27**	P	**P**	**17 18 02.7**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=0.0,slow=5.9,SNR=4.1						
KOLS	**Kolonicke sedl**	**93.12**	**39**	*eP*	**P**	**17 18 15.2**	**+0.2**
MKAR	**Makanchi Array**	**121.95**	**11**	PKP	**PKPdf**	**17 23 55.0**	**0.0**
	comp=Z,0.1nm,0.4s,baz=326,slow=2.6,SNR=6.0						
STKA	**Stephens Creek**	**132.32**	**236**	PKP	**PKPdf**	**17 24 15.0**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=68,slow=3.3,SNR=4.5						
STKA	**Stephens Creek**	**132.32**	**236**		**PKPdf**	**17 24 15.0**	**-0.1**
ASAR	**Alice Springs**	**141.01**	**245**	PKhKP	PKPpre	17 24 27.1	
	comp=Z,0.8nm,0.4s,baz=106,slow=3.7,SNR=55						
ASAR				PKP	**PKiKP**	**17 24 33.0**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=85,slow=1.8,SNR=9.0						
ASAR	**Alice Springs**	**141.01**	**245**		**PKPdf**	**17 24 26.9**	**-4.6**
WRA	**Warramunga Arr**	**141.31**	**251**	PKhKP	PKPpre	17 24 27.9	
	comp=Z,0.6nm,0.4s,baz=96,slow=3.8,SNR=20						
WRA				PKP	**PKiKP**	**17 24 33.8**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=97,slow=2.6,SNR=8.3						
WRA	**Warramunga Arr**	**141.31**	**251**		**PKPdf**	**17 24 27.6**	**-4.5**
FITZ	**Fitzroy Crossi**	**149.73**	**252**	PKPbc	**PKiKP**	**17 24 53.0**	**+0.8**
	comp=Z,3.3nm,0.6s,baz=133,slow=0.8,SNR=20						
FITZ	**Fitzroy Crossi**	**149.73**	**252**		**PKiKP**	**17 24 52.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**151.20**	**353**	PKPbc	**PKPbc**	**17 24 54.1**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=331,slow=3.7,SNR=6.8						
CMAR				PKPab	**PKPab**	**17 25 02.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=331,slow=3.7,SNR=5.1						

TAP ***31*** *17:11:51.5,24.˚53N×122.˚06E,h12km,ML2.6,C*
JMA ***31*** *17:11:51.4,24.˚47N×122.˚03E,h39km±2km,M1.9*
ISC 31 17:11:50.1±1.0,24.˚56N±0.˚02×122.˚14E±0.˚02,h8km±8km, n83,σ0ˢ75/155, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWC	**Suao**	**0.27**	**280**	*i* P		**Pg**	**17 11 55.9**	**+0.4**
	baz=287							
TWC				*i* S		**Sg**	**17 11 58.7**	**-0.5**
	baz=287							
EWUT	**Wuta**	**0.35**	**251**	*i* P		**Pg**	**17 11 57.2**	**+0.2**
	baz=257							
EWUT				S		**Sg**	**17 12 01.2**	**-0.5**
	baz=257							
ENA	**Nanau**	**0.39**	**250**	*i* P		**Pg**	**17 11 57.8**	**0.0**
	baz=255							
ENA				S		**Sg**	**17 12 02.2**	**-0.6**
	baz=255							
NDS	**Dongshan**	**0.40**	**281**	*i* P		**Pg**	**17 11 58.5**	**+0.6**
	baz=289							
NDS				*i* S		**Sg**	**17 12 03.0**	**-0.1**
	baz=289							
NTC	**Toucheng**	**0.41**	**316**	*i* P		**Pb**	**17 11 59.5**	**-0.1**
	baz=327							
NTC				S		**Sb**	**17 12 05.3**	**-0.6**
	baz=327							
ILA	**Ilan**	**0.41**	**300**	*i* P		**Pb**	**17 11 59.5**	**-0.1**
	baz=303							
ILA				S		**Sb**	**17 12 05.3**	**-0.8**
	baz=303							
TWE	**Neicheng**	**0.46**	**290**	*i* P		**Pg**	**17 11 59.9**	**+0.8**
	baz=299							
TWE				*i* S		**Sg**	**17 12 05.0**	**-0.2**
	baz=299							
TWB1	**Santiao Chiao**	**0.47**	**343**	*eP*		**Pb**	**17 12 01.1**	**+0.6**
	baz=346							
TIPB	**Shuangxi**	**0.50**	**325**	*i* P		**Pb**	**17 12 01.6**	**+0.4**
	baz=334							
TIPB				*eS*		**Sb**	**17 12 07.9**	**-0.7**
	baz=334							
ENTT	**Nioudou**	**0.53**	**279**	*i* P		**Pg**	**17 12 00.8**	**+0.4**
	baz=284							
ENTT				*i* S		**Sg**	**17 12 06.9**	**-0.4**
	baz=284							
NDT	**Datong Townshi**	**0.57**	**274**	*i* P		**Pg**	**17 12 01.8**	**+0.5**
	baz=279							
NDT				S		**Sg**	**17 12 08.6**	**-0.2**
	baz=279							
NWF	**Wu-fen Shan**	**0.60**	**327**	P		**Pg**	**17 12 02.3**	**+0.4**
	baz=327							
NWF				S		**Sn**	**17 12 12.8**	**-2.3**
	baz=327							
WFSB	**Wu-fen Shan**	**0.60**	**327**	P		**Pg**	**17 12 02.4**	**+0.5**
	baz=327							
WFSB				S		**Sb**	**17 12 12.3**	**+0.7**
	baz=327							
NWLT	**Wulai**	**0.62**	**290**	*i* P		**Pg**	**17 12 03.1**	**+0.9**
	baz=289							
NWLT				*i* S		**Sg**	**17 12 10.8**	**+0.6**
	baz=289							
NACB	**Ninganchiao**	**0.63**	**232**	P		**Pg**	**17 12 02.0**	**-0.3**
	baz=231							
NACB				S		**Sg**	**17 12 09.6**	**-1.0**
	baz=231							
TWA	**Mucha**	**0.66**	**310**	P		**Pn**	**17 12 04.8**	**-0.9**
	baz=317							
TWA				S		**Sb**	**17 12 12.7**	**-0.4**
	baz=317							
TNOU	**National Taiwa**	**0.68**	**330**	P		**Pn**	**17 12 05.5**	**-0.5**
	baz=330							
TNOU				S		**Sb**	**17 12 14.0**	**+0.4**
	baz=330							
NHDH	**Xindian Distri**	**0.69**	**306**	P		**Pn**	**17 12 05.2**	**-0.9**
	baz=319							
NHDH				S		**Sb**	**17 12 13.5**	**-0.5**
	baz=319							
TWD	**Chiawan**	**0.69**	**226**	*i* P		**Pg**	**17 12 03.4**	**0.0**
	baz=231							
TWD				S		**Sg**	**17 12 11.3**	**-1.2**
	baz=231							
ETLH	**Xiulin Townshi**	**0.70**	**240**	P		**Pg**	**17 12 03.2**	**-0.4**
	baz=239							
ETLH				S		**Sg**	**17 12 11.8**	**-0.9**
	baz=239							
NNSB	**Datong**	**0.70**	**259**	P		**Pg**	**17 12 03.6**	**-0.1**
	baz=261							
NNSB				S		**Sg**	**17 12 12.6**	**-0.4**
	baz=261							
NNSH	**Datong**	**0.70**	**259**	*i* P		**Pg**	**17 12 03.4**	**-0.3**
	baz=262							
NNSH				S		**Sg**	**17 12 12.6**	**-0.4**
	baz=262							
YHNB	**Yeheng**	**0.71**	**279**	P		**Pg**	**17 12 04.4**	**+0.6**
	baz=283							
YHNB				S		**Sg**	**17 12 12.4**	**-0.6**
	baz=283							
NNS	**Nan Shan**	**0.71**	**260**	*i* P		**Pg**	**17 12 03.8**	**-0.1**
	baz=262							
NNS				S		**Sg**	**17 12 12.6**	**-0.6**
	baz=262							
NSK	**Sanguang**	**0.72**	**279**	*i* P		**Pg**	**17 12 04.7**	**+0.6**
	baz=288							
NSK				S		**Sg**	**17 12 12.6**	**-0.9**
	baz=288							
TATO	**Taipei**	**0.72**	**305**	P		**Pn**	**17 12 05.9**	**-0.7**
	baz=311							
TATO				*eS*		**Sb**	**17 12 14.8**	**-0.2**
	baz=311							
JYNG	**Yonagunijimaku**	**0.74**	**98**	P		**Pn**	**17 12 06.9**	**+0.1**
JYNG				S		**Sn**	**17 12 17.4**	**-0.8**
TAP	**Taipei**	**0.75**	**310**	*eS*		**Sn**	**17 12 16.7**	**-1.7**
	baz=316							
YM01	**YM01**	**0.78**	**318**	P		**Pn**	**17 12 06.7**	**-0.7**
	baz=324							
YM01				S		**Sb**	**17 12 16.2**	**-0.5**
	baz=324							
YM10	**YM10**	**0.79**	**318**	P		**Pn**	**17 12 07.9**	**+0.3**
	baz=324							
YM10				*eS*		**Sb**	**17 12 17.7**	**+0.6**
	baz=324							
YM11	**YM11**	**0.79**	**319**	P		**Pn**	**17 12 07.8**	**+0.1**
	baz=325							
YM11				*eS*		**Sn**	**17 12 19.2**	**-0.5**
	baz=325							
YM05	**YM05**	**0.80**	**319**	P		**Pn**	**17 12 07.6**	**-0.1**
	baz=325							
YM05				S		**Sn**	**17 12 18.8**	**-0.9**
	baz=325							
YOJ	**Yonaguni jima**	**0.80**	**97**	P		**Pn**	**17 12 07.2**	**-0.3**
	baz=93							
YOJ				S		**Sn**	**17 12 19.3**	**-0.3**
	baz=93							
YOJ	**Yonaguni jima**	**0.80**	**97**	P		**Pn**	**17 12 07.8**	**+0.2**
YOJ				S		**Sn**	**17 12 19.1**	**-0.5**
YM08	**YM08**	**0.80**	**321**	P		**Pn**	**17 12 07.3**	**-0.4**
	baz=319							
YM08				S		**Sn**	**17 12 19.0**	**-0.8**
	baz=319							
YM04	**YM04**	**0.81**	**317**	P		**Pn**	**17 12 08.1**	**+0.3**
	baz=323							
YM04				*eS*		**Sn**	**17 12 18.2**	**-1.7**
	baz=323							
YM03	**YM03**	**0.82**	**318**	P		**Pn**	**17 12 08.1**	**+0.1**
	baz=324							
YM03				*eS*		**Sb**	**17 12 18.1**	**+0.1**
	baz=324							
ANP	**Anpu**	**0.84**	**318**	*i* P		**Pn**	**17 12 08.3**	**0.0**
	baz=323							
ANP				*eS*		**Sb**	**17 12 19.0**	**+0.5**
	baz=323							
TWS1	**Kuangyinshan**	**0.85**	**309**	*i* P		**Pn**	**17 12 08.7**	**+0.4**
	baz=315							
TWS1				*eS*		**Sn**	**17 12 21.3**	**+0.3**
	baz=315							
TWY	**Chenhua**	**0.86**	**325**	*i* P		**Pn**	**17 12 09.2**	**+0.7**
	baz=331							
TWY				S		**Sn**	**17 12 20.4**	**-0.9**
	baz=331							
NTST	**Danshui**	**0.87**	**314**	*eP*		**Pn**	**17 12 09.2**	**+0.6**
	baz=319							
NTST				*eS*		**Sn**	**17 12 21.0**	**-0.5**
	baz=319							
FUSS	**Fushou**	**0.88**	**249**	*i* P		**Pg**	**17 12 07.0**	**0.0**
	baz=250							
FUSS				S		**Sg**	**17 12 18.1**	**-0.4**
	baz=250							
WHF	**Hehuan Shan**	**0.90**	**243**	*i* P		**Pg**	**17 12 07.1**	**-0.4**
	baz=243							
WHF				S		**Sg**	**17 12 17.8**	**-1.5**
	baz=243							
TWT	**Tachien**	**0.93**	**251**	P		**Pb**	**17 12 08.8**	**+0.2**
	baz=252							
TWT				S		**Sg**	**17 12 21.1**	**+0.8**
	baz=252							
TDCB	**Techi**	**0.95**	**251**	P		**Pb**	**17 12 08.6**	**-0.3**
	baz=252							
TDCB				*eS*		**Sb**	**17 12 19.9**	**-1.7**
	baz=252							
NCUH	**Zhongli**	**0.96**	**295**	S		**Sn**	**17 12 23.6**	**-0.1**
	baz=299							
ESL	**Shilin**	**0.99**	**221**	*eP*		**Pb**	**17 12 08.6**	**-0.8**
	baz=226							
CHGB	**Renai**	**1.01**	**241**	P		**Pb**	**17 12 09.7**	**-0.3**
	baz=241							
CHGB				S		**Sb**	**17 12 22.3**	**-1.3**
	baz=241							
LIOB	**Emei**	**1.03**	**275**	*i* P		**Pn**	**17 12 11.3**	**+0.5**
	baz=271							
LIOB				S		**Sb**	**17 12 23.4**	**-0.4**
	baz=271							
NSTT	**Nanjuang**	**1.04**	**274**	P		**Pn**	**17 12 11.7**	**+0.7**
	baz=270							
NSTT				S		**Sb**	**17 12 23.6**	**-0.6**
	baz=270							
PCYT	**Pengchaiyu**	**1.06**	**357**	P		**Pn**	**17 12 11.3**	**0.0**
	baz=360							
PCYT				S		**Sn**	**17 12 27.9**	**+1.6**
	baz=360							
EGFH	**Guangfu**	**1.10**	**216**	P		**Pb**	**17 12 11.1**	**-0.3**
	baz=235							
EGFH				*eS*		**Sb**	**17 12 25.7**	**-0.2**
	baz=235							
WHP	**Taichung City**	**1.13**	**256**	P		**Pb**	**17 12 12.3**	**+0.4**
	baz=257							
WHP				S		**Sb**	**17 12 26.7**	**0.0**
	baz=257							
WPL	**Puli Township**	**1.21**	**243**	P		**Pn**	**17 12 13.2**	**-0.2**
	baz=244							
WPL				*eS*		**Sb**	**17 12 28.0**	**-1.1**
	baz=244							
VWDT	**VWDT**	**1.22**	**229**	P		**Pn**	**17 12 13.2**	**-0.2**
	baz=234							
VWDT				S		**Sb**	**17 12 29.1**	**-0.1**
	baz=234							
DPDB	**Guoxing**	**1.23**	**245**	P		**Pb**	**17 12 14.1**	**+0.5**
	baz=246							
DPDB				*eS*		**Sb**	**17 12 28.8**	**-0.8**
	baz=246							
NMLH	**Miaoli**	**1.23**	**269**	*eP*		**Pg**	**17 12 15.9**	**+2.1**
	baz=261							
HGSD	**Ruisui**	**1.25**	**212**	P		**Pg**	**17 12 14.9**	**+0.8**
	baz=193							
HGSD				S		**Sg**	**17 12 31.6**	**+1.2**
	baz=193							
TWQ1	**Liyutan**	**1.27**	**261**	*eP*		**Pg**	**17 12 15.6**	**+1.2**
	baz=262							
TWQ1				S		**Sb**	**17 12 29.8**	**-0.8**
	baz=262							
EHY	**Hungye**	**1.29**	**216**	P		**Pn**	**17 12 14.4**	**0.0**
	baz=214							
EHY				*eS*		**Sg**	**17 12 33.1**	**+1.5**
	baz=214							
SMLT	**Sun Moon Lake**	**1.32**	**239**	P		**Pb**	**17 12 15.4**	**+0.2**
	baz=238							
SSLB	**Suanglung**	**1.33**	**235**	P		**Pn**	**17 12 15.3**	**+0.3**
	baz=243							
SSLB				S		**Sn**	**17 12 31.7**	**-1.2**
	baz=243							
TYC	**Yuchr**	**1.34**	**241**	P		**Pn**	**17 12 15.9**	**+0.4**
	baz=240							
YULB	**Yu-li**	**1.40**	**214**	P		**Pn**	**17 12 16.0**	**+0.1**
	baz=223							
YULB				S		**Sn**	**17 12 34.4**	**-0.1**
	baz=223							
TWF1	**Yuli**	**1.43**	**213**	*eP*		**Pn**	**17 12 16.9**	**+0.6**
	baz=229							
TWF1				S		**Sn**	**17 12 35.2**	**-0.2**
	baz=229							
IRIF	**Iriomote-Funau**	**1.46**	**99**	P		**Pn**	**17 12 17.0**	**+0.2**
IRIF				*eS*		**Sb**	**17 12 36.1**	**-0.2**
WJS	**Zhushan**	**1.49**	**241**	P		**Pb**	**17 12 18.9**	**+0.9**
	baz=242							
WJS				S		**Sg**	**17 12 39.5**	**+1.6**
	baz=242							
YUS	**Yu-Shan**	**1.52**	**226**	P		**Pb**	**17 12 19.4**	**+0.5**
	baz=226							
YUS				*eS*		**Sn**	**17 12 38.4**	**+0.1**
	baz=226							
ALS	**Alishan**	**1.61**	**230**	P		**Pg**	**17 12 21.6**	**+0.6**
	baz=230							
ALS				S		**Sb**	**17 12 41.6**	**+0.8**
	baz=230							
CHN5	**Tsauling**	**1.65**	**235**	*i* P		**Pb**	**17 12 21.4**	**+0.7**
	baz=236							
CHN5				S		**Sg**	**17 12 44.2**	**+1.1**
	baz=236							
ELDTW	**Lidau**	**1.71**	**217**	P		**Pn**	**17 12 21.0**	**+0.7**
	baz=199							
JKRS	**Kuro-shima**	**1.73**	**100**	P		**Pb**	**17 12 21.3**	**-0.8**
JKRS				S		**Sb**	**17 12 43.0**	**-1.0**
EDH	**Donghe**	**1.76**	**206**	*eP*		**Pn**	**17 12 19.8**	**-1.0**
	baz=189							
EDH				S		**Sn**	**17 12 42.5**	**-0.9**
	baz=189							
JIJ	**Ishigaki jima**	**1.83**	**96**	P		**Pn**	**17 12 22.6**	**+0.7**
JIJ				*eS*		**Sn**	**17 12 45.3**	**+0.1**
STYH	**Taoyuan**	**1.87**	**222**	P		**Pn**	**17 12 23.7**	**+1.4**
	baz=223							
STYH				S		**Sb**	**17 12 48.2**	**+0.3**
	baz=223							
TPUB	**Ta-pu**	**1.87**	**228**	P		**Pb**	**17 12 24.7**	**+0.2**
	baz=229							
TPUB				S		**Sb**	**17 12 48.9**	**+0.9**
	baz=229							
STYT	**Tauyuan**	**1.88**	**223**	P		**Pb**	**17 12 25.2**	**+0.4**
	baz=208							
STYT				S		**Sb**	**17 12 49.2**	**+0.7**
	baz=208							
WTP	**Ta-pu**	**1.92**	**227**	P		**Pb**	**17 12 24.8**	**-0.5**
	baz=228							
WTP				*eS*		**Sb**	**17 12 51.0**	**+1.6**
	baz=228							
JISG	**Ishigakijimahi**	**1.97**	**89**	P		**Pn**	**17 12 24.2**	**+0.4**
TWK	**Hsinying**	**1.99**	**230**	*eP*		**Pb**	**17 12 26.9**	**+0.3**
	baz=231							
TWK				*eS*		**Sb**	**17 12 52.7**	**+1.2**
	baz=231							
CHN1	**Nanshi**	**2.02**	**227**	*eP*		**Pb**	**17 12 26.9**	**-0.1**
	baz=228							
CHN1				*eS*		**Sb**	**17 12 54.1**	**+1.9**
	baz=228							
TSMG	**Majia**	**2.30**	**217**	*eP*		**Pb**	**17 12 30.8**	**-1.1**
	baz=198							
MASBT	**Mashibuluo**	**2.38**	**216**	*eP*		**Pb**	**17 12 32.7**	**-0.5**
	baz=214							

IDC ***31*** *17:19:51.5±2.4,6.˚79S×103.˚79E,h0km,mb3.5/5, mb1 3.8/7,mb1mx3.4/57,mbtmp3.7/7,ML4.2/2,Error ellipse: s-maj=82.7km s-min=20.1km az=44.0*
DJA ***31*** *17:19:58.3±0.7,7.˚5S±6.˚1×107.˚4E±.˚1,h10km,M3.5/9,MLv3.5/9*
NEIC ***31*** *17:20:00.3±1.5,6.˚3S±0.˚2×104.˚3E±0.˚1,h48km±10km, mb4.2/6,Error ellipse: s-maj=30.9km s-min=13.4km az=197.0*
ISC 31 17:19:59.2±1.0,6.˚6S±0.˚1×104.˚27E±0.˚09,h40km,n29, σ1ˢ79/30,mb4.1/9,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KASI	**Kota Agung**	**1.04**	**13**	P		**Pn**	**17 20 16.9**	**-0.4**
BLSI	**Bandar Lampung**	**1.52**	**40**	P		**Pn**	**17 20 23.4**	**-0.5**
LWLI	**Liwa**	**1.53**	**352**	P		**Pn**	**17 20 25.7**	**+1.5**
KLSI		**1.90**	**14**	P		**Pn**	**17 20 30.0**	**+0.9**
DBJI	**Dramaga**	**2.46**	**90**	P		**Pn**	**17 20 35.1**	**-1.8**
CBJI	**Citeko**	**2.57**	**87**	P		**Pn**	**17 20 39.4**	**+1.1**
KSI	**Kapahiang**	**3.33**	**330**	P		**Pn**	**17 20 52.0**	**+3.2**
LEM	**Lembang**	**3.34**	**95**	Pn		**Pn**	**17 20 51.9**	**+2.9**
	6.0nm,0.3s,baz=287,slow=19,SNR=4.7							
LEM				Sn		**Sn**	**17 21 31.9**	**+4.4**
	2.2nm,0.3s,baz=330,slow=20,SNR=1.4							
LEM	**Lembang**	**3.34**	**95**	P		**Pn**	**17 20 51.1**	**+2.1**
CISI	**Cisompet, Garu**	**3.66**	**106**	Pn		**Pn**	**17 20 53.2**	**-0.2**
PPBI	**Pangkal Pinang**	**4.74**	**23**	P		**Pn**	**17 21 09.4**	**+1.3**
UGM	**Wanagama**	**6.35**	**103**	Pn		**Pn**	**17 21 30.4**	**+0.1**
BATI	**Baumata**	**19.52**	**102**	P		**Pn**	**17 24 24.2**	**-0.7**
	1.6nm,0.3s,baz=297,slow=9.0,SNR=4.2							
CMAR	**Chiang Mai Arr**	**25.40**	**348**	P		**P**	**17 25 22.6**	**-0.5**
	0.3nm,0.8s,baz=187,slow=7.9,SNR=4.2							
MTN	**Manton Dam**	**27.19**	**105**	P		**P**	**17 25 39.6**	**+0.2**
MTN				IAmb	IAmb		17 25 55.4	
	comp=Z,10.0nm,1.4s							
WRA	**Warramunga Arr**	**32.08**	**117**	P		**P**	**17 26 24.3**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=310,slow=8.8,SNR=1.9							
WB2	**Warramunga Arr**	**32.09**	**117**	P		**P**	**17 26 24.3**	**+1.5**
WR0	**Warramunga Arr**	**32.26**	**117**	P		**P**	**17 26 27.5**	**+3.3**
WR0				IAmb	IAmb		17 26 39.6	
	comp=Z,3.3nm,1.1s							
ASAR	**Alice Springs**	**33.17**	**124**	P		**P**	**17 26 31.8**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=311,slow=8.8,SNR=1.8							
ASAR	**Alice Springs**	**33.17**	**124**	P		**P**	**17 26 33.3**	**+1.1**
MKAR	**Makanchi Array**	**56.58**	**342**	P		**P**	**17 29 36.6**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=141,slow=7.8,SNR=7.5							
MKAR	**Makanchi Array**	**56.58**	**342**	P		**P**	**17 29 36.5**	**-1.4**
ZAA0	**Zalesovo Array**	**62.46**	**347**	P		**P**	**17 30 16.1**	**-2.0**
ZAA0				IAmb	IAmb		17 30 44.0	
	comp=Z,2.3nm,1.1s							
ZALV	**Zalesovo Beam**	**62.46**	**347**	P		**P**	**17 30 16.6**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=151,slow=5.8,SNR=10							
ZALV	**Zalesovo Beam**	**62.46**	**347**	P		**P**	**17 30 16.2**	**-2.0**
ABKAR	**Akbulak array**	**67.66**	**330**	P		**P**	**17 30 51.2**	**-0.9**
ABKAR	**Akbulak array**	**67.66**	**330**	P		**P**	**17 30 51.0**	**-1.0**
ABKAR				IAmb	IAmb		17 30 51.6	
	comp=Z,3.5nm,1.4s							
TXAR	**Lajitas Array**	**145.25**	**46**	PKPbc		**PKPab**	**17 39 32.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=288,slow=0.8,SNR=4.5							
TXAR	**Lajitas Array**	**145.25**	**46**			**PKPbc**	**17 39 32.6**	**-0.5**

IDC ***31*** *17:24:09.8±1

0.3nm,0.7s,baz=163,slow=8.3,SNR=5.8
MKAR Makanchi Array 58.74 329 P **P** **17 34 09.1 +0.9**
0.2nm,0.5s,baz=123,slow=8.5,SNR=5.6

IDC 31 17:54:59.0±3.0, 3.78S×128.88E, h239km±38km, mb2.6/2, mb1 2.7/4, mb1mx2.6/44, mbtmp3.2/4, Error ellipse: s-maj=54.6km s-min=16.9km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.75**	**40**	P	Pn	17 55 59.5	+0.1
	2.0nm,0.3s,baz=194,slow=16,SNR=44						
SIJI				S	S	17 56 47.5	+0.4
	2.5nm,0.3s,baz=241,slow=24,SNR=15						
WRA	**Warramunga Arr**	**16.93**	**162**	P	P	17 58 41.0	+0.3
	0.1nm,0.3s,baz=340,slow=12,SNR=6.1						
WRA				S	S	18 01 44.4	-0.7
	0.0nm,0.3s,baz=339,slow=19,SNR=2.1						
ASAR	**Alice Springs**	**20.36**	**167**	P	P	17 59 17.9	+0.2
	0.5nm,0.4s,baz=344,slow=12,SNR=29						
ASAR				S	S	18 02 52.9	+0.7
	0.2nm,0.9s,baz=340,slow=18,SNR=1.2						
MKAR	**Makanchi Array**	**64.94**	**327**	P	P	18 05 13.3	0.0
	0.1nm,0.4s,baz=110,slow=8.3,SNR=2.1						

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*IDC **31** 17:59:59.1±1.1, 5.21S×152.94E, h0km, mb3.9/9, mb1 3.9/10, mb1mx3.7/33, mbtmp3.9/10, ML2.3/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/45, Error ellipse: s-maj=33.9km s-min=18.3km az=114.0*
*NEIC **31** 18:00:07.1±1.9, 5.40S±0.05×153.0E±0.1, h66km±8km, mb4.0/13, Error ellipse: s-maj=17.7km s-min=7.9km az=88.0*
ISC 31 18:00:04.3±0.7, 5.37S±0.08×153.1E±0.1, h37km, n26, σ1°53/25, mb4.0/15, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.49**	**322**		**Pn**	**18 00 30.4**	**+1.9**
PMG	**Port Moresby**	**7.12**	**235**	Pn	**Pn**	**18 01 45.5**	**-0.4**
	3.3nm,0.3s,baz=66,slow=7.9,SNR=14						
PMG				Sn	**Sn**	**18 03 07.3**	**+1.7**
	2.1nm,0.3s,baz=352,slow=23,SNR=2.9						
PMG				LR	LR	18 04 29.4	
	comp=Z,82nm,20.3s,baz=45,slow=38						
DZM	**Mont Dzumac**	**21.04**	**143**	P	**P**	**18 04 46.9**	**+1.7**
	10nm,1.0s,baz=133,slow=7.9,SNR=3.1						
DZM	**Mont Dzumac**	**21.04**	**143**	IAmb	IAmb	18 04 47.1	
	comp=Z,66nm,1.6s						
MTN	**Manton Dam**	**22.90**	**250**	P	**P**	**18 05 07.5**	**+2.4**
MTN				IAmb	IAmb	18 05 21.6	
	comp=Z,6.1nm,1.1s						
WB0	**Warramunga Arr**	**23.15**	**230**	P	**P**	**18 05 06.1**	**-1.5**
WB0				IAmb	IAmb	18 05 09.4	
	comp=Z,4.4nm,1.2s						
WR0	**Warramunga Arr**	**23.15**	**230**	P	**P**	**18 05 07.1**	**-0.5**
WR0				IAmb	IAmb	18 05 42.8	
	comp=Z,6.2nm,1.2s						
WB2	**Warramunga Arr**	**23.29**	**230**	P	**P**	**18 05 08.0**	**-1.0**
WB2				IAmb	IAmb	18 05 20.3	
	comp=Z,9.7nm,1.4s						
WRA	**Warramunga Arr**	**23.30**	**230**	P	**P**	**18 05 08.7**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=54,slow=9.8,SNR=16						
WRA				PcP	**PcP**	**18 08 59.0**	**+3.2**
	comp=Z,0.5nm,1.1s,baz=52,slow=2.5,SNR=1.7						
WRA	**Warramunga Arr**	**23.30**	**230**	IAmb	IAmb	18 05 14.2	
	comp=Z,0.2nm,1.3s						
ARMA	**Armidale**	**24.96**	**183**	P	**P**	**18 05 24.1**	**-0.4**
ARMA				IAmb	IAmb	18 05 37.6	
	comp=Z,24nm,1.6s						
AS31	**Alice Springs**	**25.93**	**224**	P	**P**	**18 05 33.8**	**+0.4**
ASAR	**Alice Springs**	**25.94**	**224**	P	**P**	**18 05 33.2**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=56,slow=9.1,SNR=13						
SOEI	**Soe**	**28.89**	**260**	P	**P**	**18 05 58.9**	**-1.2**
SOEI				IAmb	IAmb	18 06 08.1	
	comp=Z,18nm,1.1s						
FITZ	**Fitzroy Crossi**	**29.65**	**242**	P	**P**	**18 06 06.7**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=68,slow=8.4,SNR=5.6						
BKZ	**Black Stump Fm**	**39.76**	**151**	P	**P**	**18 07 34.2**	**+0.7**
JHJ2	**Mitsune**	**40.28**	**343**	P	**P**	**18 07 36.3**	**-1.6**
PEA0B	**Petropavlovsk-**	**58.38**	**3**	P	**P**	**18 09 56.9**	**+1.1**
PETK	**Petropavlovsk-**	**58.38**	**3**	P	**P**	**18 09 56.1**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=158,slow=7.5,SNR=11						
SONM	**Songino Array**	**66.95**	**328**	P	**P**	**18 10 53.3**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=139,slow=5.0,SNR=4.5						
SONM	**Songino Array**	**66.95**	**328**	IAmb	IAmb	18 10 56.1	
	comp=Z,0.9nm,1.1s						
MKAR	**Makanchi Array**	**80.94**	**319**	P	**P**	**18 12 14.8**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=112,slow=5.6,SNR=6.2						
ZALV	**Zalesovo Beam**	**81.78**	**326**	P	**P**	**18 12 16.9**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=90,slow=4.3,SNR=4.5						
BVAR	**Borovoye Array**	**89.86**	**323**	P	**P**	**18 12 58.3**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=130,slow=14,SNR=12						
TORD	**Torodi Ar. Bea**	**150.75**	**287**	PKPbc	**PKiKP**	**18 19 52.0**	**-2.4**
	comp=Z,1.6nm,0.8s,baz=63,slow=2.6,SNR=8.3						
TORD	**Torodi Ar. Bea**	**150.75**	**287**		**PKiKP**	**18 19 52.3**	**-2.1**

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*IDC **31** 18:16:12.1±0.8, 53.75N×169.25E, h0km, mb3.7/17, mb1 3.9/19, mb1mx3.7/60, mbtmp3.7/19, ML2.4/2, Error ellipse: s-maj=22.8km s-min=14.4km az=173.0*
*KRSC **31** 18:16:17.8±1.5, 53.58N×168.50E, h60km±36km, ML4.1*
ISC 31 18:16:16.8±0.7, 53.59N±0.08×168.97E±0.06, h35km, n49, σ1°75/58, mb3.7/17, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.39**	**314**	*eP*	**Pn**	**18 16 55.4**	**+2.1**
BKI				*eS*	**Sn**	**18 17 19.5**	**-1.8**
MKZ	**Mys Kozlova**	**4.38**	**286**	*eP*	**Pn**	**18 17 20.6**	**0.0**
MKZ				*eS*	**Sn**	**18 18 08.2**	**-2.1**
KBTR	**Krutoberegovo**	**4.42**	**309**	*eP*	**Pn**	**18 17 21.3**	**+0.1**
KBTR				*eS*	**Sn**	**18 18 10.1**	**-1.2**
TUMD	**Tumrok D**	**5.26**	**291**	*eP*	**Pn**	**18 17 34.7**	**+1.8**
TUMD				*eS*	**Sn**	**18 18 30.7**	**-1.6**
KZV	**Kizimen**	**5.30**	**290**	*eP*	**Pn**	**18 17 33.5**	**0.0**
KZV				*eS*	**Sn**	**18 18 31.2**	**-2.2**
SPN	**Mys Shipunski**	**5.39**	**268**	*eP*	**Pn**	**18 17 35.0**	**+0.5**
SPN				*eS*	**Sn**	**18 18 32.9**	**-2.3**
TUMR	**Tumrok**	**5.42**	**292**	*eP*	**Pn**	**18 17 36.1**	**+0.9**
KII	**Karymskiy**	**5.66**	**278**	*eP*	**Pn**	**18 17 39.1**	**+0.7**
KII				*eS*	**Sn**	**18 18 40.7**	**-1.4**
NLC	**Nalytchevo**	**5.78**	**270**	*eP*	**Pn**	**18 17 40.5**	**+0.6**
NLC				*eS*	**Sn**	**18 18 41.7**	**-3.2**
UGLR	**Uglovaya**	**6.08**	**270**	*eP*	**Pn**	**18 17 45.4**	**+1.2**
SMAR	**Somma**	**6.09**	**271**	*eP*	**Pn**	**18 17 44.7**	**+0.3**
KRER	**Koryakskii**	**6.12**	**271**	*eP*	**Pn**	**18 17 46.1**	**+1.3**
AVH	**Avacha**	**6.13**	**271**	*eP*	**Pn**	**18 17 46.0**	**+1.2**
DALK	**Dalny**	**6.15**	**269**	*eP*	**Pn**	**18 17 45.9**	**+0.9**
DALK				*eS*	**Sn**	**18 18 51.3**	**-2.8**
KRX	**Arik**	**6.17**	**272**	*eP*	**Pn**	**18 17 46.3**	**+0.9**
KRX				*eS*	**Sn**	**18 18 52.1**	**-2.7**
KOK	**Koryaka**	**6.19**	**271**	*eP*	**Pn**	**18 17 45.8**	**+0.2**
RUS	**Russkaya**	**6.42**	**264**	*eP*	**Pn**	**18 17 49.0**	**+0.3**
RUS				*eS*	**Sn**	**18 18 57.1**	**-3.6**
KRMR	**Karymshinskiy**	**6.56**	**268**	*eP*	**Pn**	**18 17 52.2**	**+1.6**
KRMR				*eS*	**Sn**	**18 19 01.5**	**-2.6**
GNL	**Ganaly**	**6.56**	**275**	*eP*	**Pn**	**18 17 53.4**	**+2.6**
MTVR	**Mutnovka**	**6.60**	**265**	*eP*	**Pn**	**18 17 52.0**	**+0.6**
MTVR				*eS*	**Sn**	**18 19 03.0**	**-2.4**
GRL	**Gorelyy**	**6.65**	**265**	*eP*	**Pn**	**18 17 53.8**	**+1.8**
PETK	**Petropavlovsk-**	**6.77**	**270**	Pn	**Pn**	**18 17 55.5**	**+2.0**
	1.3nm,0.3s,baz=98,slow=20,SNR=53						
PETK				Sn	**Sn**	**18 19 07.5**	**-1.9**
	0.8nm,0.3s,baz=116,slow=20,SNR=1.3						
ASAK	**Asacha**	**6.80**	**264**	*eP*	**Pn**	**18 17 55.3**	**+1.3**
ASAK				*eS*	**Sn**	**18 19 07.7**	**-2.4**
KDTR	**Khodutka, Kamc**	**6.86**	**259**	*eP*	**Pn**	**18 17 54.7**	**0.0**
KDTR				*eS*	**Sn**	**18 19 07.4**	**-4.1**
TILK	**Tilichiki**	**7.04**	**348**	*eP*	Pn	18 18 01.5	+4.3
SEY	**Seymchan**	**12.76**	**324**	Pn	**Pn**	**18 19 15.2**	**-0.2**
	0.0nm,0.3s,baz=70,slow=19,SNR=2.1						
YAK	**Yakutsk**	**22.25**	**308**	P	**P**	**18 21 11.6**	**+1.5**
	2.9nm,0.7s,baz=265,slow=2.3,SNR=6.5						
ILAR	**Eielson Array**	**24.66**	**46**	P	**P**	**18 21 31.4**	**-2.4**
	0.3nm,0.5s,baz=254,slow=6.8,SNR=6.5						
TIXI	**Tiksi**	**25.05**	**331**	P	**P**	**18 21 37.7**	**+0.5**
	1.6nm,0.4s,baz=112,slow=8.8,SNR=17						
MJAR	**Matsushiro Arr**	**27.32**	**244**	P	**P**	**18 22 01.2**	**+3.2**
	0.7nm,0.5s,baz=39,slow=8.5,SNR=1.7						
DLBC	**Dease Lake**	**33.40**	**57**	P	**P**	**18 22 50.1**	**-1.5**
	1.5nm,0.8s,baz=277,slow=10,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**33.84**	**184**	T	T	18 59 08.4	
	baz=3.0,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**33.85**	**183**	T	T	18 59 14.8	
	baz=3.0,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**33.85**	**184**	T	T	18 59 16.4	
	baz=3.0,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**35.06**	**184**	T	T	19 00 51.2	
	baz=3.2,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**35.07**	**184**	T	T	19 00 47.7	
	baz=3.2,slow=76,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**35.08**	**184**	T	T	19 00 51.4	
	baz=3.2,slow=76,SNR=13						
SONM	**Songino Array**	**38.90**	**288**	P	**P**	**18 23 40.7**	**+1.9**
	0.5nm,0.6s,baz=65,slow=9.5,SNR=5.0						
YKA	**Yellowknife Ar**	**39.10**	**46**	P	**P**	**18 23 38.6**	**-1.5**
	0.5nm,0.7s,baz=293,slow=7.6,SNR=6.8						
NVAR	**Mina Array Bea**	**50.50**	**76**	P	**P**	**18 25 11.2**	**-0.2**
	0.2nm,0.4s,baz=300,slow=7.1,SNR=2.0						
PDAR	**Pinedale Array**	**52.53**	**67**	P	**P**	**18 25 26.2**	**-0.3**
	0.3nm,0.8s,baz=304,slow=6.4,SNR=2.2						
MKAR	**Makanchi Array**	**52.62**	**300**	P	**P**	**18 25 26.5**	**-0.4**
	0.2nm,0.4s,baz=56,slow=7.2,SNR=4.6						
ARCES	**ARCESS Array B**	**54.33**	**345**	P	**P**	**18 25 38.4**	**-0.7**
	4.2nm,1.0s,baz=29,slow=8.2,SNR=2.0						
FINES	**FINESS Array B**	**61.60**	**341**	P	**P**	**18 26 29.2**	**-0.8**
	5.9nm,1.1s,baz=33,slow=8.6,SNR=3.1						
CMAR	**Chiang Mai Arr**	**63.52**	**265**	P	**P**	**18 26 44.5**	**+1.1**
	0.3nm,0.3s,baz=30,slow=7.5,SNR=4.5						
NOA	**NORSAR Array B**	**64.35**	**348**	P	**P**	**18 26 47.7**	**-0.7**
	0.5nm,0.8s,baz=24,slow=4.8,SNR=1.0						
TXAR	**Lajitas Array**	**65.46**	**74**	P	**P**	**18 26 55.9**	**-0.3**
	0.4nm,0.6s,baz=302,slow=2.9,SNR=5.6						
AKASG	**Malin Array Be**	**70.71**	**334**	P	**P**	**18 27 28.5**	**-0.2**
	0.4nm,0.5s,baz=29,slow=6.4,SNR=1.2						
ASAR	**Alice Springs**	**82.71**	**212**	P	**P**	**18 28 38.5**	**+1.9**
	0.8nm,0.6s,baz=18,slow=5.2,SNR=7.4						

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*NEIC **31** 18:19:27.2±2.2, 51.01N±0.06×179.26E±0.08, h26km±10km, mb4.0/48, ML3.5/26(AEIC), Error ellipse: s-maj=10.2km s-min=6.6km az=207.0*
*AEIC **31** 18:19:27±2.3, 51.07N±0.06×179.29E±0.08, h23km±7km, Error ellipse: s-maj=9.6km s-min=6.2km az=206.0*
*IDC **31** 18:19:31.1±3.0, 51.46N×179.18E, h42km±24km, mb3.6/15, mb1 3.7/18, mb1mx3.5/61, mbtmp3.8/18, ML2.1/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/54, Error ellipse: s-maj=37.8km s-min=13.4km az=177.0*
ISC 31 18:19:28.6±1.4, 51.11N±0.09×179.24E±0.04, h31km±8km, n99, σ1°17/102, mb3.9/28, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.28**	**8**		**Pb**	**18 19 35.1**	**-0.8**
AMKA					**Sb**	**18 19 40.4**	**-0.4**
CESW	**Semis' Southwe**	**0.82**	**14**		**Pn**	**18 19 43.9**	**-0.2**
CERAA	**Semis' Rag'd T**	**0.85**	**19**		**Pn**	**18 19 44.2**	**-0.2**
CERAA					**Sb**	**18 19 56.9**	**+0.9**
CERB	**Semis' Cerberu**	**0.86**	**16**		**Pn**	**18 19 44.6**	**0.0**
CETU	**Semis' Tuman**	**0.88**	**10**		**Pn**	**18 19 45.3**	**+0.5**
CETU					**Sb**	**18 19 58.1**	**+1.3**
CEAP	**Semis' Anvil P**	**0.92**	**13**		**Pn**	**18 19 45.5**	**+0.1**
LSSE	**Little Sitkin**	**0.93**	**333**		**Pn**	**18 19 45.4**	**-0.2**
LSPA	**Little Sitkin**	**0.95**	**334**		**Pn**	**18 19 45.7**	**-0.1**
LSPA					**Sn**	**18 19 59.1**	**+0.8**
LSSA	**Little Sitkin**	**0.96**	**332**		**Pn**	**18 19 45.8**	**-0.3**
LSNW	**Little Sitkin**	**0.98**	**333**		**Pn**	**18 19 45.9**	**-0.4**
LSNW					**Sb**	**18 20 00.3**	**+0.7**
GALAA	**Gareloi Lava P**	**1.41**	**61**		**Pn**	**18 19 52.6**	**+0.5**
TASE	**Tanaga Southea**	**1.85**	**66**		**Pn**	**18 19 58.8**	**+0.5**
KIMD	**Kanaga Island**	**2.30**	**72**		**Pn**	**18 20 04.8**	**+0.3**
KIKV	**Kanaga Island**	**2.37**	**70**		**Pn**	**18 20 05.8**	**+0.4**
KIRH	**Kanaga Island**	**2.43**	**69**		**Pn**	**18 20 06.8**	**+0.7**
ADK	**Adak**	**2.66**	**71**	Pn	**Pn**	**18 20 09.7**	**+0.3**
ADK				Sn	**Sn**	**18 20 41.2**	**+0.6**
GSTD	**Great Sitkin T**	**3.03**	**70**		**Pn**	**18 20 15.0**	**+0.5**
GSMY	**Great Sitkin M**	**3.08**	**70**		**Pn**	**18 20 15.4**	**+0.3**
GSTR	**Great Sitkin T**	**3.09**	**69**	Pn	**Pn**	**18 20 14.0**	**-1.3**
SMY	**Shemya**	**3.57**	**299**		**Pn**	**18 20 23.3**	**+1.4**
ATKA	**Atka Island**	**4.23**	**72**		**Pn**	**18 20 31.4**	**+0.5**
NIKH	**Nikolski High**	**7.58**	**71**	Pn	**Pn**	**18 21 15.9**	**-0.9**
SPIA	**Saint Paul Isl**	**8.66**	**41**	Pn	**Pn**	**18 21 31.4**	**-0.2**
AKUT	**Akutan**	**9.61**	**66**	Pn	**Pn**	**18 21 44.8**	**+0.1**
SDPT	**Sand Point**	**12.86**	**63**	Pn	**Pn**	**18 22 27.7**	**-1.3**
PETK	**Petropavlovsk-**	**13.38**	**287**	P	**Pn**	**18 22 38.1**	**+1.8**
	0.1nm,0.3s,baz=170,slow=41,SNR=1.4						
PETK				S	**Sn**	**18 25 00.9**	**-2.9**
	0.1nm,0.3s,baz=280,slow=19,SNR=1.4						
PETK	**Petropavlovsk-**	**13.38**	**287**	Pn	**Pn**	**18 22 37.0**	**+0.7**
GAMB	**Gambell**	**13.59**	**17**	Pn	**Pn**	**18 22 41.9**	**+3.0**
CHGN	**Chignik**	**14.19**	**60**	Pn	**Pn**	**18 22 46.2**	**-1.0**
ANM	**Nome**	**15.72**	**25**	P	**P**	**18 23 10.6**	**-0.5**
SII	**Sitkinak Islan**	**16.55**	**60**		**Pn**	**18 23 18.6**	**+0.7**
SVW2	**Sparrevohn**	**17.13**	**45**	P	**P**	**18 23 26.4**	**-0.4**
OHAK	**Old Harbor**	**17.14**	**58**	P	**Pn**	**18 23 23.7**	**-1.8**
KDAK	**Kodiak Island**	**17.61**	**57**	P	**Pn**	**18 23 30.4**	**-0.9**
	0.4nm,0.3s,baz=325,slow=12,SNR=1.6						
KDAK	**Kodiak Island**	**17.61**	**57**	P	**Pn**	**18 23 29.6**	**-1.6**
RSO	**Redoubt South**	**18.19**	**48**	P	**P**	**18 23 40.4**	**+1.7**
SEY	**Seymchan**	**18.64**	**320**	P	**P**	**18 23 42.5**	**-1.0**
	0.0nm,0.3s,baz=94,slow=15,SNR=1.5						
CNPM	**China Poot**	**18.66**	**52**	P	**P**	**18 23 43.5**	**-0.2**
CNPM				IAmb	IAmb	18 23 54.9	
	comp=Z,14nm,1.4s						
BRLK	**Bradley Lake**	**18.89**	**51**	P	**P**	**18 23 45.9**	**-0.4**
BRLK				IAmb	IAmb	18 24 00.9	
	comp=Z,16nm,1.4s						
CAPN	**Captain Cook N**	**19.03**	**48**	P	**Pn**	**18 23 48.7**	**0.0**
SKT	**Skwentna**	**19.26**	**44**	P	**Pn**	**18 23 51.4**	**0.0**
SKT				IAmb	IAmb	18 23 57.0	
	comp=Z,7.4nm,1.0s						
PPLA	**Purkeypile**	**19.33**	**41**	P	**P**	**18 23 51.2**	**0.0**
SUA	**Susitna One**	**19.43**	**46**	P	**P**	**18 23 52.0**	**-0.3**
SEW	**Seward**	**19.67**	**51**	P	**P**	**18 23 54.0**	**-0.8**
SEW				IAmb	IAmb	18 24 02.5	
	comp=Z,8.8nm,1.0s						
KTH	**Kantishna Hill**	**20.13**	**40**	P	**P**	**18 24 00.4**	**+0.6**
KTH				IAmb	IAmb	18 24 06.0	
	comp=Z,13nm,1.3s						
BPAW	**Bear Paw Mtn.**	**20.33**	**39**	P	**P**	**18 24 02.7**	**+0.7**
TRF	**Thorofare Moun**	**20.34**	**41**	P	**P**	**18 24 02.6**	**+0.3**
TRF				IAmb	IAmb	18 24 22.2	
	comp=Z,6.3nm,1.1s						
GHO	**Glory Hole Cre**	**20.36**	**46**	P	**P**	**18 24 02.6**	**+0.3**
GHO				IAmb	IAmb	18 24 17.4	
	comp=Z,13nm,1.5s						
PWL	**Port Wells**	**20.39**	**49**	P	**P**	**18 24 03.2**	**+0.7**
PWL				IAmb	IAmb	18 24 10.5	
	comp=Z,4.3nm,0.8s						
KNK	**Knik Glacier**	**20.47**	**47**	P	**P**	**18 24 02.2**	**-1.2**
KNK				IAmb	IAmb	18 24 11.1	
	comp=Z,7.8nm,1.1s						
SML	**Sawmill**	**20.64**	**46**	P	**P**	**18 24 05.0**	**-0.3**
MLY	**Manley**	**20.85**	**37**	P	**P**	**18 24 07.6**	**0.0**
RND	**Reindeer**	**20.93**	**42**	P	**P**	**18 24 09.8**	**+1.4**
SCM	**Sheep Creek Mo**	**21.10**	**47**	P	**P**	**18 24 08.3**	**-2.1**
SCM				IAmb	IAmb	18 24 22.6	
	comp=Z,6.0nm,0.9s						
FID	**Port Fidalgo**	**21.25**	**50**	P	**P**	**18 24 08.3**	**-3.6**
NEA2	**Nenana**	**21.30**	**39**	P	**P**	**18 24 10.6**	**-1.7**
NEA2				IAmb	IAmb	18 24 16.2	
	comp=Z,7.2nm,0.9s						
I23K	**Minto, Yukon-K**	**21.42**	**37**		**P**	**18 24 12.5**	**-1.1**
I23K				IAmb	IAmb	18 24 22.4	
	comp=Z,10nm,1.6s						
WRH	**Wood River Hil**	**21.64**	**39**	P	**P**	**18 24 13.5**	**-2.4**
WRH				IAmb	IAmb	18 24 22.8	
	comp=Z,7.2nm,1.5s						
MDM	**Murphy Dome**	**21.78**	**38**	P	**P**	**18 24 17.2**	**-0.2**
CCB	**Clear Creek Bu**	**21.82**	**39**	P	**P**	**18 24 18.1**	**+0.2**
RAGM	**Ragged Mountai**	**22.06**	**51**	P	**P**	**18 24 20.2**	**-0.4**
COLD	**Coldfoot**	**22.13**	**32**	P	**P**	**18 24 22.2**	**+1.0**
POKR	**Poker Plat Res**	**22.15**	**38**	P	**P**	**18 24 21.8**	**+0.3**
BMRM	**Bremner River**	**22.19**	**50**	P	**P**	**18 24 22.8**	**+0.8**
BMRM				IAmb	IAmb	18 24 40.1	
	comp=Z,7.7nm,1.2s						
IL31		**22.23**	**39**	P	**P**	**18 24 19.5**	**-2.8**
IL31				IAmb	IAmb	18 24 32.4	
	comp=Z,6.6nm,1.4s						
ILAR	**Eielson Array**	**22.23**	**39**	P	**P**	**18 24 22.6**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=254,slow=10,SNR=8.3						
HMT	**Hamilton**	**22.26**	**51**	P	**P**	**18 24 21.7**	**-1.1**
N25K	**Chitina, Valde**	**22.32**	**48**	P	**P**	**18 24 21.7**	**-1.7**
N25K				IAmb	IAmb	18 24 49.2	
	comp=Z,8.3nm,1.5s						
GLB	**Gilahina Butte**	**22.66**	**49**	P	**P**	**18 24 24.9**	**-2.1**
GLB				IAmb	IAmb	18 24 43.6	
	comp=Z,4.2nm,1.2s						
DOT	**Dot Lake**	**23.04**	**43**	P	**P**	**18 24 31.2**	**+0.3**
TOLK	**Toolik Lake Re**	**23.10**	**29**	P	**P**	**18 24 30.6**	**-0.8**
TOLK				IAmb	IAmb	18 24 37.1	
	comp=Z,2.3nm,0.7s						
CTGM	**Chitina Glacie**	**23.77**	**50**	P	**P**	**18 24 37.5**	**-0.7**
TABL	**Table Mountain**	**23.81**	**52**	P	**P**	**18 24 39.2**	**+0.5**
LOGN	**Logan Glacier**	**23.92**	**51**	P	**P**	**18 24 38.4**	**-1.2**
K27K	**Chicken**	**23.99**	**43**	P	**P**	**18 24 41.3**	**+1.2**
K27K				IAmb	IAmb	18 25 07.4	
	comp=Z,9.4nm,1.6s						
EGAK	**Eagle**	**24.56**	**41**	P	**P**	**18 24 44.2**	**-1.1**
EGAK				IAmb	IAmb	18 24 45.9	
	comp=Z,3.7nm,0.9s						
ASAJ	**Asahikawa**	**25.47**	**269**	P	**P**	**18 24 55.3**	**+1.6**
	comp=Z,7.2nm,0.9s,baz=69,slow=8.6,SNR=2.7						
INK	**Inuvik**	**28.39**	**35**	P	**P**	**18 25 19.4**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=232,slow=9.3,SNR=2.4						
INK	**Inuvik**	**28.39**	**35**	P	**P**	**18 25 19.2**	**-0.4**
INK				IAmb	IAmb	18 25 25.7	
	comp=Z,2.8nm,1.2s						
KLR	**Kul'dur**	**30.07**	**285**	P	**P**	**18 25 35.1**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=65,slow=7.5,SNR=13						
TIXI	**Tiksi**	**30.27**	**331**	P	**P**	**18 25 37.8**	**+1.5**
TIXI				IAmb	IAmb	18 25 41.6	
	comp=Z,1.8nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**32.79**	**202**	T	T	19 01 09.3	
	baz=7.9						
H11N3	**WAKE ISLAND Hy**	**32.80**	**202**	T	T	19 01 08.4	
	baz=7.9						
H11N1	**WAKE ISLAND Hy**	**32.81**	**202**	T	T	19 01 04.6	
	baz=7.9						
YKA	**Yellowknife Ar**	**36.31**	**46**	P	**P**	**18 26 27.9**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=280,slow=7.6,SNR=7.9						
YKA				ScP	**ScP**	**18 32 37.2**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=294,slow=3.1,SNR=5.6						
NVAR	**Mina Array Bea**	**44.81**	**81**	P	**P**	**18 27 41.0**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=289,slow=8.1,SNR=1.7						
SONM	**Songino Array**	**45.66**	**296**	P	**P**	**18 27 46.1**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=59,slow=8.5,SNR=5.0						
HHC	**Hu-ho-hao-te**	**46.57**	**285**	*eP*	**P**	**18 27 53.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,5.7s						
PDAR	**Pinedale Array**	**47.56**	**71**	P	**P**	**18 28 01.1**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=328,slow=2.9,SNR=7.8						
ZALV	**Zalesovo Beam**	**53.32**	**313**	P	**P**	**18 28 43.6**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=50,slow=6.3,SNR=4.3						
ANMO	**Albuquerque**	**54.36**	**77**	LR	LR	18 49 14.9	
	comp=Z,14nm,18.9s,baz=3.0,slow=33						
ARCES	**ARCESS Array B**	**58.14**	**349**	P	**P**	**18 29 16.6**	**-2.2**
	comp=Z,5.8nm,1.2s,baz=24,slow=7.0,SNR=0.9						
WMQ	**Urumqi**	**58.45**	**302**	*eP*	**P**	**18 29 24.3**	**+3.0**
MKAR	**Makanchi Array**	**59.23**	**307**	P	**P**	**18 29 25.6**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=47,slow=5.9,SNR=17						
TXAR	**Lajitas Array**	**59.91**	**80**	P	**P**	**18 29 32.1**	**+0.4**
	comp=Z,0.

*MAN **31** 18:22:21.8,8°.32N×126°.97E,h14km,MS3.5*
*NEIC **31** 18:22:31.3±2.1,8°.52N±0°.09×126°.26E±0°.07,h79km±7km, mb4.4/34,Error ellipse: s-maj=13.4km s-min=9.4km az=189.0*
*IDC **31** 18:22:31.1±1.6,8°.34N×126°.36E,h88km±16km,mb4.0/24, mb1 4.1/25,mb1mx3.9/48,mbtmp4.4/25,MS3.4/4, Ms1 3.4/4,ms1mx2.9/39,Error ellipse: s-maj=21.8km s-min=10.5km az=87.0*

ISC 31 18:22:29.0±1.0,8°.40N±0°.04×126°.68E±0°.07,h68km±9km, n107,σ1§83/110,mb4.5/41,5C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.19**	**298**	*eP*	**Pn**	**18 22 46.5**	**-3.2**
BUTP				*eS*	**Sn**	**18 23 08.0**	**+2.6**
GLSP	**General Luna,**	**1.48**	**338**	*eP*	**Pn**	**18 22 49.5**	**-4.1**
GLSP				*eS*	**Sn**	**18 23 13.3**	**+1.2**
MATI	**Mati**	**1.51**	**196**	*eP*	Pn	18 22 49.0	-5.0
MATI				*eS*	**Sn**	**18 23 08.4**	**-4.4**
BUKP	**Musuan**	**1.68**	**252**	*eP*	**Pn**	**18 22 54.9**	**-1.5**
DAV	**Davao City (W)**	**1.72**	**220**	P	**Pn**	**18 22 57.4**	**+0.6**
	173nm,0.3s,baz=44,slow=3.1,SNR=23						
DAV				S	**Sn**	**18 23 22.9**	**+5.1**
	455nm,0.3s,baz=315,slow=22,SNR=8.8						
DAV				LR	LR	18 23 25.5	
	comp=Z,212nm,21.3s,baz=354,slow=37						
CGP	**Cagayan de Oro**	**1.96**	**272**	*iP*	**Pn**	**18 22 59.1**	**-1.0**
CGP				*i* S	**Sn**	**18 23 24.0**	**+0.1**
KCP	**Kidapawan**	**2.10**	**229**	*eP*	**Pn**	**18 23 01.1**	**-0.9**
KCP				*i* S	**Sn**	**18 23 28.8**	**+1.6**
DDMP	**Don Marcelino,**	**2.48**	**203**	*eP*	**Pn**	**18 23 05.0**	**-2.1**
DDMP				*eS*	**Sn**	**18 23 39.9**	**+3.6**
MSLP	**Maasin**	**2.49**	**314**	*eP*	**Pn**	**18 23 05.9**	**-1.3**
MSLP				*eS*	**Sn**	**18 23 43.1**	**+6.6**
SKMP	**Bagumbayan, Su**	**2.83**	**229**	*eP*	**Pn**	**18 23 09.4**	**-2.5**
SKMP				*eS*	**Sn**	**18 23 46.7**	**+1.9**
LLP	**Lapu-Lapu**	**3.28**	**306**	*eP*	**Pn**	**18 23 18.0**	**-0.1**
LLP				*eS*	**Sn**	**18 23 58.7**	**+2.7**
PAGZ	**Pagadian**	**3.31**	**261**	*eP*	**Pn**	**18 23 18.5**	**+0.1**
PAGZ				*eS*	**Sn**	**18 23 55.3**	**-1.4**
CNOP	**Candoni, Negro**	**4.23**	**290**	*eP*	**Pn**	**18 23 29.8**	**-1.3**
CNOP				*eS*	**Sn**	**18 24 21.4**	**+2.2**
RCP	**Roxas**	**4.99**	**309**	*eP*	**Pn**	**18 23 42.3**	**+0.9**
JAP	**San Jose, Anti**	**5.22**	**297**	*eP*	**Pn**	**18 23 46.0**	**+1.5**
LQP	**Lukban**	**7.59**	**319**	*eP*	**Pn**	**18 24 15.6**	**-1.6**
LUWI	**Luwuk**	**10.16**	**203**	Pn	**Pn**	**18 24 56.1**	**+3.9**
SIJI	**Sorong**	**10.28**	**153**	P	**Pn**	**18 24 54.3**	**+0.4**
	3.2nm,0.3s,baz=176,slow=18,SNR=13						
SIJI				S	Sn	18 26 37.0	-11
	0.6nm,0.3s,baz=209,slow=23,SNR=1.6						
KAPI	**Kappang**	**15.01**	**208**	LR	LR	18 32 54.9	
	comp=Z,81nm,18.5s,baz=60,slow=42						
SBUM	**Sibu**	**15.56**	**248**	P	**P**	**18 26 07.9**	**+0.5**
TPUB	**Ta-pu**	**15.91**	**339**		**Pn**	**18 26 07.5**	**-1.3**
TPUB				IAmb	IAmb	18 26 08.9	
	comp=Z,18nm,0.6s						
JAY	**Jayapura**	**17.70**	**127**	LR	LR	18 34 32.8	
	comp=Z,63nm,18.8s,slow=40						
JOW	**Kunigami**	**18.39**	**5**	P	**Pn**	**18 26 41.0**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=185,slow=9.2,SNR=4.0						
JOW				LR	LR	18 32 40.1	
	comp=Z,54nm,20.0s,baz=138,slow=33						
JOW	**Kunigami**	**18.39**	**5**	P	**Pn**	**18 26 40.5**	**+1.1**
JOW				IAmb	IAmb	18 26 44.8	
	comp=Z,36nm,1.2s						
BATI	**Baumata**	**18.73**	**189**	P	**Pn**	**18 26 44.4**	**+0.8**
	comp=Z,3.8nm,0.3s,baz=14,slow=3.1,SNR=8.8						
JNU	**Nakatsue**	**24.90**	**8**	P	**P**	**18 27 45.6**	**-0.2**
	comp=Z,16nm,0.8s,baz=160,slow=7.0,SNR=6.6						
JNU				S	**S**	**18 32 04.5**	**+0.2**
	comp=Z,16nm,0.9s,baz=190,slow=12,SNR=4.8						
JNU	**Nakatsue**	**24.90**	**8**	IAmb	IAmb	18 27 47.1	
	comp=Z,20nm,0.9s						
FITZ	**Fitzroy Crossi**	**26.35**	**182**	P	**P**	**18 27 58.6**	**-0.3**
	comp=Z,6.5nm,0.6s,baz=5.2,slow=7.5,SNR=11						
FITZ	**Fitzroy Crossi**	**26.35**	**182**	P	**P**	**18 27 58.9**	**0.0**
FITZ				IAmb	IAmb	18 28 02.5	
	comp=Z,12nm,1.2s						
CMAR	**Chiang Mai Arr**	**28.73**	**293**	P	**P**	**18 28 18.8**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=86,slow=7.2,SNR=10						
CMAR	**Chiang Mai Arr**	**28.73**	**293**	P	**P**	**18 28 20.1**	**-0.1**
KSRS	**Korea Array**	**28.94**	**2**	P	**P**	**18 28 21.9**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=171,slow=10,SNR=20						
WRA	**Warramunga Arr**	**29.16**	**165**	P	**P**	**18 28 23.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=344,slow=9.5,SNR=1.8						
ASAR	**Alice Springs**	**32.65**	**168**	P	**P**	**18 28 54.0**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=344,slow=7.1,SNR=18						
ASAR				ScP	**ScP**	**18 35 17.4**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=355,slow=2.2,SNR=1.6						
USA0B	**Ussuriysk Arra**	**35.96**	**7**	P	**P**	**18 29 23.8**	**+0.7**
USRK	**Ussuriysk Ar.**	**35.96**	**7**	P	**P**	**18 29 24.1**	**+1.0**
	comp=Z,24nm,0.7s,baz=189,slow=8.0,SNR=60						
USRK	**Ussuriysk Ar.**	**35.96**	**7**	P	**P**	**18 29 23.8**	**+0.7**
MDJ	**Mudanjiang**	**36.16**	**4**	P	**P**	**18 29 26.1**	**+1.2**
ASAJ	**Asahikawa**	**38.19**	**19**	P	**P**	**18 29 43.7**	**+1.7**
	comp=Z,4.1nm,0.6s,baz=272,slow=2.7,SNR=8.9						
JKA	**Kamikawa-asahi**	**38.19**	**19**	P	**P**	**18 29 43.7**	**+1.7**
GTA	**Gaotai**	**39.14**	**326**	P	**P**	**18 29 49.5**	**-0.8**
GTA				pP	pP	18 29 58.5	-8.2
GTA				sP	sP	18 30 02.8	-12
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**40.10**	**71**	T	T	19 13 08.6	
	baz=262,slow=70,SNR=16						
H11S1	**WAKE ISLAND Hy**	**40.11**	**71**	T	T	19 13 07.4	
	baz=262,slow=70,SNR=14						
H11S2	**WAKE ISLAND Hy**	**40.11**	**71**	T	T	19 13 07.5	
	baz=262,slow=70,SNR=15						
H11N1	**WAKE ISLAND Hy**	**40.49**	**70**	T	T	19 13 38.6	
	baz=264,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**40.50**	**69**	T	T	19 13 46.5	
	baz=264,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.51**	**70**	T	T	19 13 38.5	
	baz=264,slow=75,SNR=14						
KLR	**Kul'dur**	**40.91**	**5**	P	**P**	**18 30 05.7**	**+1.0**
	comp=Z,2.5nm,0.5s,baz=175,slow=5.9,SNR=17						
TAPN	**Taplejung**	**41.36**	**302**	*eP*	**P**	**18 30 08.8**	**-0.2**
	comp=Z,7.4nm,0.5s						
ODAN	**Odare**	**41.47**	**301**	*eP*	**P**	**18 30 09.3**	**-0.5**
	comp=Z,19nm,0.5s						
RAMN	**Ramite**	**42.16**	**301**	*eP*	**P**	**18 30 15.3**	**-0.2**
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**42.52**	**161**	P	**P**	**18 30 17.4**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=348,slow=8.1,SNR=5.7						
JIRN	**Jiri**	**42.74**	**302**	*eP*	**P**	**18 30 20.3**	**0.0**
	comp=Z,12nm,0.5s						
SONM	**Songino Array**	**42.90**	**340**	P	**P**	**18 30 19.8**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=156,slow=9.7,SNR=10						
GUN	**Gumba**	**43.08**	**302**	*eP*	**P**	**18 30 22.9**	**-0.1**
	comp=Z,14nm,0.6s						
PKI	**Pulchoki**	**43.37**	**301**	*eP*	**P**	**18 30 24.4**	**-1.0**
PKIN	**Phulchoki**	**43.38**	**301**	*eP*	**P**	**18 30 24.7**	**-0.7**
KKN	**Kakani**	**43.54**	**302**	*eP*	**P**	**18 30 26.1**	**-0.5**
GKN	**Gorkha**	**44.15**	**302**	*eP*	**P**	**18 30 30.8**	**-0.6**
DANN	**Dangsing**	**44.99**	**302**	*eP*	**P**	**18 30 38.0**	**-0.3**
	comp=Z,13nm,0.5s						
TLY	**Talaya**	**47.12**	**341**	P	**P**	**18 30 52.5**	**-1.8**
TLY				IAmb	IAmb	18 30 54.7	
	comp=Z,5.7nm,0.7s						
PEA0B	**Petropavlovsk-**	**51.17**	**24**	P	**P**	**18 31 26.4**	**+1.2**
PETK	**Petropavlovsk-**	**51.17**	**24**	P	**P**	**18 31 26.6**	**+1.4**
	comp=Z,2.5nm,0.6s,baz=222,slow=2.0,SNR=5.1						
PETK	**Petropavlovsk-**	**51.17**	**24**	P	**P**	**18 31 25.9**	**+0.7**
YAK	**Yakutsk**	**53.57**	**2**	P	**P**	**18 31 42.4**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=121,slow=2.8,SNR=4.2						
MK31	**Makanchi Array**	**53.75**	**323**	P	**P**	**18 31 43.1**	**-1.4**
MKAR	**Makanchi Array**	**53.75**	**323**	P	**P**	**18 31 43.6**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=115,slow=7.1,SNR=17						
MKAR	**Makanchi Array**	**53.75**	**323**	P	**P**	**18 31 43.4**	**-1.1**
MAKZ	**Makanchi**	**53.95**	**323**	P	**P**	**18 31 44.6**	**-1.2**
MAKZ				IAmb	IAmb	18 31 48.6	
	comp=Z,4.0nm,1.4s						
MA2	**Magadan**	**54.22**	**15**	P	**P**	**18 31 48.5**	**+0.9**
	comp=Z,8.1nm,0.7s,baz=204,slow=7.8,SNR=8.2						
ZALV	**Zalesovo Beam**	**56.45**	**332**	P	**P**	**18 32 01.6**	**-2.1**
	comp=Z,1.3nm,0.5s,baz=117,slow=5.8,SNR=8.4						
ZALV	**Zalesovo Beam**	**56.45**	**332**	P	**P**	**18 32 01.9**	**-1.8**
SEY	**Seymchan**	**57.52**	**14**	P	**P**	**18 32 13.6**	**+2.5**
	comp=Z,4.0nm,0.6s,baz=219,slow=4.7,SNR=11						
KK31	**Karatay Array**	**59.85**	**315**	P	**P**	**18 32 25.4**	**-2.3**
KKAR	**Karatay Array**	**59.85**	**315**	P	**P**	**18 32 26.7**	**-1.0**
TIXI	**Tiksi**	**63.20**	**1**	P	**P**	**18 32 50.0**	**+0.3**
	comp=Z,3.6nm,0.6s,baz=175,slow=4.9,SNR=22						
TIXI	**Tiksi**	**63.20**	**1**	P	**P**	**18 32 49.5**	**-0.2**
TIXI				IAmb	IAmb	18 32 50.5	
	comp=Z,4.5nm,0.7s						
BRVK	**Borovoye**	**63.50**	**326**	P	**P**	**18 32 50.9**	**-1.2**
BRVK				IAmb	IAmb	18 32 52.6	
	comp=Z,4.0nm,0.8s						
QRZ	**Quartz Range**	**64.63**	**143**	P	**P**	**18 33 03.6**	**+4.0**
NRIK	**Noril'sk**	**65.91**	**346**	P	**P**	**18 33 07.7**	**+0.3**
	comp=Z,2.1nm,0.4s,baz=125,slow=4.0,SNR=2.2						
NRIK	**Noril'sk**	**65.91**	**346**	P	**P**	**18 33 07.5**	**0.0**
NRIK				IAmb	IAmb	18 33 08.0	
	comp=Z,6.0nm,1.1s						
ABKAR	**Akbulak array**	**68.55**	**320**	P	**P**	**18 33 23.8**	**-0.7**
ABKAR	**Akbulak array**	**68.55**	**320**	P	**P**	**18 33 24.1**	**-0.4**
ABKAR				IAmb	IAmb	18 33 26.0	
	comp=Z,1.7nm,0.8s						
ARU	**Arti**	**71.00**	**327**	P	**P**	**18 33 37.8**	**-1.6**
SOCY	**Socotra**	**71.44**	**280**	P	**P**	**18 33 40.6**	**-2.4**
SOCY				IAmb	IAmb	18 33 41.7	
	comp=Z,3.2nm,0.8s						
TNA	**Tin City**	**72.34**	**23**	P	**P**	**18 33 45.2**	**-2.1**
OHAK	**Old Harbor**	**77.59**	**33**	P	**P**	**18 34 19.6**	**+1.9**
KDAK	**Kodiak Island**	**78.00**	**33**	P	**P**	**18 34 21.9**	**+1.9**
	comp=Z,9.8nm,0.6s,baz=286,slow=4.6,SNR=8.9						
KDAK	**Kodiak Island**	**78.00**	**33**	P	**P**	**18 34 21.5**	**+1.5**
IMAR	**Indian Mountai**	**78.13**	**24**	P	**P**	**18 34 22.6**	**+2.1**
TRF	**Thorofare Moun**	**79.42**	**27**	P	**P**	**18 34 27.3**	**-0.6**
I23K	**Minto, Yukon-K**	**79.89**	**25**	P	**P**	**18 34 31.7**	**+1.5**
I23K				IAmb	IAmb	18 34 55.0	
	comp=Z,8.8nm,1.4s						
TOLK	**Toolik Lake Re**	**79.95**	**22**	P	**P**	**18 34 32.2**	**+1.7**
NEA2	**Nenana**	**80.00**	**26**	P	**P**	**18 34 32.0**	**+1.2**
NEA2				IAmb	IAmb	18 34 37.7	
	comp=Z,3.7nm,0.8s						
WRH	**Wood River Hil**	**80.42**	**26**	P	**P**	**18 34 33.6**	**+0.6**
WRH				IAmb	IAmb	18 34 41.6	
	comp=Z,4.2nm,1.2s						
ILAR	**Eielson Array**	**80.94**	**26**	P	**P**	**18 34 37.1**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=228,slow=5.1,SNR=5.0						
N25K	**Chitina, Valde**	**82.06**	**29**	P	**P**	**18 34 44.9**	**+2.9**
N25K				IAmb	IAmb	18 34 45.7	
	comp=Z,9.6nm,1.6s						
K27K	**Chicken**	**83.06**	**26**	P	**P**	**18 34 49.0**	**+2.0**
EGAK	**Eagle**	**83.39**	**26**	P	**P**	**18 34 50.5**	**+1.9**
EGAK				IAmb	IAmb	18 34 52.5	
	comp=Z,8.6nm,1.4s						
BARN	**Barnard Glacie**	**83.52**	**29**	P	**P**	**18 34 52.4**	**+2.7**
BARN				IAmb	IAmb	18 35 20.7	
	comp=Z,7.5nm,1.2s						
TABL	**Table Mountain**	**83.83**	**30**	P	**P**	**18 34 53.9**	**+2.6**
ARCES	**ARCESS Array B**	**86.07**	**340**	P	**P**	**18 35 01.3**	**-0.8**
	comp=Z,4.9nm,1.1s,baz=78,slow=5.6,SNR=5.0						
ARCES	**ARCESS Array B**	**86.07**	**340**	P	**P**	**18 34 59.6**	**-2.5**
FINES	**FINESS Array B**	**87.72**	**332**	P	**P**	**18 35 08.7**	**-1.5**
	comp=Z,2.6nm,0.8s,baz=76,slow=5.3,SNR=8.2						
FINES	**FINESS Array B**	**87.72**	**332**	P	**P**	**18 35 08.2**	**-1.9**
MAW	**Mawson**	**88.09**	**200**	LR	LR	19 14 31.3	
	comp=Z,121nm,20.5s,baz=238,slow=36						
YKA	**Yellowknife Ar**	**95.29**	**24**	P	**P**	**18 35 46.3**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=296,slow=4.1,SNR=2.8						

*AEIC **31** 18:27:35±2.5,51°.07N±0°.04×179°.24E±0°.04,h20km±4km, Error ellipse: s-maj=5.8km s-min=3.3km az=189.0*
*NEIC **31** 18:27:35.8±2.0,51°.11N±0°.04×179°.30E±0°.07, h29km±6km, mb4.1/73,ML3.7/28(AEIC),Error ellipse: s-maj=7.5km s-min=4.0km az=53.0*
*IDC **31** 18:27:44.3±4.9,51°.92N×179°.12E,h78km±47km,mb3.6/16, mb1 3.8/17,mb1mx3.6/52,mbtmp3.9/17,ML2.5/1,MS3.2/3, Ms1 3.2/3,ms1mx2.7/53,Error ellipse: s-maj=35.0km s-min=12.4km az=178.0*

ISC 31 18:27:37.6±0.6,51°.18N±0°.08×179°.23E±0°.04,h41km,n143, σ1§62/141,mb4.1/41,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.21**	**12**		**Pn**	**18 27 42.9**	**-2.1**
AMKA				Sg	**Sn**	**18 27 48.5**	**-1.7**
CESW	**Semis' Southwe**	**0.75**	**16**		**Pn**	**18 27 51.8**	**0.0**
CERAA	**Semis' Rag'd T**	**0.78**	**21**		**Pn**	**18 27 52.1**	**-0.1**
CERB	**Semis' Cerberu**	**0.80**	**18**		**Pn**	**18 27 52.5**	**+0.1**
CERB					**Sn**	**18 28 05.2**	**+2.1**
CETU	**Semis' Tuman**	**0.81**	**12**		**Pn**	**18 27 52.9**	**+0.4**
CEAP	**Semis' Anvil P**	**0.85**	**15**		**Pn**	**18 27 53.4**	**+0.2**
LSSE	**Little Sitkin**	**0.86**	**332**		**Pn**	**18 27 53.2**	**-0.1**
LSPA	**Little Sitkin**	**0.88**	**332**		**Pn**	**18 27 53.6**	**0.0**
LSPA					**Sn**	**18 28 07.4**	**+2.2**
LSSA	**Little Sitkin**	**0.89**	**330**		**Pn**	**18 27 53.5**	**-0.3**
LSNW	**Little Sitkin**	**0.91**	**331**		**Pn**	**18 27 53.8**	**-0.2**
GALAA	**Gareloi Lava P**	**1.38**	**64**		**Pn**	**18 28 00.9**	**+0.5**
TASE	**Tanaga Southea**	**1.83**	**68**		**Pn**	**18 28 07.0**	**+0.4**
TAFP	**Tanaga Falls P**	**1.88**	**66**		**Sn**	**18 28 31.6**	**+1.7**
KIMD	**Kanaga Island**	**2.29**	**74**		**Pn**	**18 28 12.5**	**-0.3**
KIKV	**Kanaga Island**	**2.35**	**71**		**Pn**	**18 28 13.8**	**+0.1**
KIRH	**Kanaga Island**	**2.41**	**71**		**Pn**	**18 28 14.8**	**+0.3**
ADK	**Adak**	**2.65**	**73**	Pn	**Pn**	**18 28 17.4**	**-0.3**
ADK				Sn	**Sn**	**18 28 49.6**	**+1.0**
ADAG	**Mount Adagdak**	**2.72**	**71**		**Pn**	**18 28 19.1**	**+0.4**
GSTD	**Great Sitkin T**	**3.01**	**71**		**Pn**	**18 28 22.4**	**-0.4**
GSMY	**Great Sitkin M**	**3.06**	**72**		**Pn**	**18 28 23.4**	**-0.1**
GSTR	**Great Sitkin T**	**3.07**	**71**	Pn	**Pn**	**18 28 22.1**	**-1.6**
SMY	**Shemya**	**3.54**	**298**	Pn	**Pn**	**18 28 30.8**	**+0.9**
SMY				Sn	**Sn**	**18 29 14.8**	**+4.3**
ATKA	**Atka Island**	**4.22**	**73**	Pn	**Pn**	**18 28 39.2**	**-0.1**
KOKL	**Mount Kliuchef**	**4.24**	**72**		**Pn**	**18 28 39.5**	**-0.2**
NIKH	**Nikolski High**	**7.56**	**72**	Pn	**Pn**	**18 29 24.1**	**-1.0**
SPIA	**Saint Paul Isl**	**8.61**	**42**	Pn	**Pn**	**18 29 41.0**	**+1.6**
AKUT	**Akutan**	**9.58**	**66**	Pn	**Pn**	**18 29 51.8**	**-1.0**
SDPT	**Sand Point**	**12.83**	**63**	Pn	**Pn**	**18 30 35.0**	**-2.2**
PETK	**Petropavlovsk-**	**13.36**	**287**	P	**Pn**	**18 30 46.5**	**+2.1**
	0.1nm,0.3s,baz=101,slow=15,SNR=1.9						
PETK				S	**Sn**	**18 33 03.3**	**-8.1**
	0.1nm,0.3s,baz=105,slow=17,SNR=2.7						
GAMB	**Gambell**	**13.52**	**17**	Pn	**Pn**	**18 30 49.7**	**+3.2**
CHGN	**Chignik**	**14.16**	**60**	Pn	**Pn**	**18 30 53.0**	**-2.3**
ANM	**Nome**	**15.65**	**25**		**P**	**18 31 20.1**	**+1.5**
TNA	**Tin City**	**15.86**	**20**	P	**P**	**18 31 20.4**	**-0.5**
SII	**Sitkinak Islan**	**16.52**	**61**	Pn	**Pn**	**18 31 24.5**	**-1.6**
SVW2	**Sparrevohn**	**17.08**	**45**	Pn	**Pn**	**18 31 31.1**	**-2.0**
OHAK	**Old Harbor**	**17.10**	**59**		**Pn**	**18 31 29.3**	**-4.0**
OHAK				IAmb	IAmb	18 31 39.1	
	comp=Z,16nm,0.9s						
KDAK	**Kodiak Island**	**17.57**	**57**	P	**Pn**	**18 31 35.7**	**-3.3**
	comp=Z,1.4nm,0.3s,baz=296,slow=2.8,SNR=13						
KDAK	**Kodiak Island**	**17.57**	**57**	Pn	**Pn**	**18 31 35.9**	**-3.2**
KDAK				IAmb	IAmb	18 31 46.3	
	comp=Z,25nm,1.6s						
MA2	**Magadan**	**18.10**	**309**	LR	LR	18 38 30.8	
	comp=Z,45nm,18.3s,baz=140,slow=37						
MA2	**Magadan**	**18.10**	**309**		**P**	**18 31 45.0**	**-0.6**
MA2				IAmb	IAmb	18 31 49.9	
	comp=Z,8.4nm,0.7s						
RSO	**Redoubt South**	**18.14**	**48**	P	**P**	**18 31 44.6**	**-1.7**
SEY	**Seymchan**	**18.58**	**320**	P	**Pn**	**18 31 52.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=80,slow=22,SNR=4.1						
CNPM	**China Poot**	**18.62**	**52**	P	**P**	**18 31 51.2**	**-0.1**
CNPM				IAmb	IAmb	18 31 58.9	
	comp=Z,17nm,1.3s						
BRLK	**Bradley Lake**	**18.85**	**51**	P	**P**	**18 31 52.7**	**-1.2**
RDOG	**Red Dog Mine**	**19.05**	**21**	P	**P**	**18 31 55.2**	**-0.7**
RDOG				IAmb	IAmb	18 32 02.9	
	comp=Z,4.6nm,0.5s						
SKT	**Skwentna**	**19.21**	**45**	P	**Pn**	**18 31 58.8**	**-0.2**
SKT				IAmb	IAmb	18 32 04.8	
	comp=Z,7.4nm,0.8s						
PPLA	**Purkeypile**	**19.28**	**42**	P	**Pn**	**18 31 59.8**	**-0.2**
PPLA				IAmb	IAmb	18 32 08.1	
	comp=Z,7.1nm,0.8s						
SUA	**Susitna One**	**19.39**	**46**	P	**P**	**18 31 59.1**	**-0.7**
SEW	**Seward**	**19.63**	**51**	P	**Pn**	**18 32 04.0**	**0.0**
KTH	**Kantishna Hill**	**20.07**	**40**	P	**P**	**18 32 07.9**	**+0.6**
KTH				IAmb	IAmb	18 32 09.1	
	comp=Z,8.2nm,0.8s						
BPAW	**Bear Paw Mtn.**	**20.28**	**39**	P	**P**	**18 32 08.5**	**-0.9**
TRF	**Thorofare Moun**	**20.29**	**41**	P	**P**	**18 32 09.8**	**+0.1**
TRF				IAmb	IAmb	18 32 48.2	
	comp=Z,21nm,1.5s						
GHO	**Glory Hole Cre**	**20.31**	**46**	P	**P**	**18 32 07.9**	**-1.9**
GHO				IAmb	IAmb	18 32 25.7	
	comp=Z,12nm,1.3s						
PWL	**Port Wells**	**20.34**	**49**	P	**P**	**18 32 10.8**	**+0.7**
PWL				IAmb	IAmb	18 32 48.8	
	comp=Z,21nm,1.6s						
KNK	**Knik Glacier**	**20.43**	**47**	P	**P**	**18 32 10.2**	**-0.8**
KNK				IAmb	IAmb	18 32 23.8	
	comp=Z,9.2nm,1.3s						
SML	**Sawmill**	**20.59**	**46**	P	**P**	**18 32 11.8**	**-1.0**
SML				IAmb	IAmb	18 32 37.6	
	comp=Z,7.7nm,1.0s						
MLY	**Manley**	**20.79**	**37**		**P**	**18 32 14.4**	**-0.6**
MLY				IAmb	IAmb	18 32 19.5	
	comp=Z,4.4nm,0.9s						
BWN	**Browne**	**20.91**	**40**	P	**P**	**18 32 16.8**	**+0.5**
GLI	**Glacier Island**	**20.94**	**49**	P	**P**	**18 32 14.7**	**-1.9**
GLI				IAmb	IAmb	18 32 17.2	
	comp=Z,6.9nm,0.9s						
SCM	**Sheep Creek Mo**	**21.06**	**47**	P	**P**	**18 32 16.4**	**-1.5**
FID	**Port Fidalgo**	**21.21**	**50**	P	**P**	**18 32 16.8**	**-2.7**
FID				IAmb	IAmb	18 32 35.1	
	comp=Z,13nm,1.2s						
NEA2	**Nenana**	**21.24**	**39**	P	**P**	**18 32 18.5**	**-1.3**
NEA2				IAmb	IAmb	18 32 24.0	
	comp=Z,7.5nm,0.9s						
I23K	**Minto, Yukon-K**	**21.37**	**37**	P	**P**	**18 32 21.5**	**+0.4**
WRH	**Wood River Hil**	**21.58**	**39**	P	**P**	**18 32 22.2**	**-1.2**
KLU	**Klutina**	**21.63**	**48**	P	**P**	**18 32 24.3**	**+0.3**
KLU				IAmb	IAmb	18 32 32.1	
	comp=Z,5.9nm,1.0s						
M24K	**Tolsona, Glenn**	**21.65**	**46**	P	**P**	**18 32 23.4**	**-0.9**
MDM	**Murphy Dome**	**21.72**	**38**	P	**P**	**18 32 23.9**	**-1.1**
CCB	**Clear Creek Bu**	**21.77**	**39**	P	**P**	**18 32 24.4**	**-1.0**
RAGM	**Ragged Mountai**	**22.02**	**51**	P	**P**	**18 32 29.4**	**+1.2**
COLD	**Coldfoot**	**22.07**	**32**	P	**P**	**18 32 28.9**	**+0.3**
BMRM	**Bremner River**	**22.15**	**50**	P	**P**	**18 32 27.7**	**-1.9**
BMRM				IAmb	IAmb	18 33 07.5	
	comp=Z,5.9nm,1.0s						
IL31		**22.18**	**39**	P	**P**	**18 32 28.0**	**-1.8**
IL31				IAmb	IAmb	18 32 33.7	
	comp=Z,9.8nm,1.6s						
ILAR	**Eielson Array**	**22.18**	**39**	P	**P**	**18 32 28.5**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=254,slow=9.4,SNR=11						
ILAR	**Eielson Array**	**22.18**	**39**	P	**P**	**18 32 29.7**	**-0.1**
PAX	**Paxson**	**22.19**	**44**	P	**P**	**18 32 29.4**	**-0.7**
PAX				IAmb	IAmb	18 32 44.2	
	comp=Z,11nm,1.4s						
HMT	**Hamilton**	**22.22**	**51**	P	**P**	**18 32 28.5**	**-1.8**
N25K	**Chitina, Valde**	**22.27**	**48**	P	**P**	**18 32 28.5**	**-2.4**
N25K				IAmb	IAmb	18 32 49.1	
	comp=Z,5.3nm,1.2s						
SUCK	**Suckling Hills**	**22.42**	**52**	P	**P**	**18 32 30.0**	**-2.5**
GLB	**Gilahina Butte**	**22.61**	**49**	P	**P**	**18 32 33.3**	**-1.3**
GLB				IAmb	IAmb	18 32 51.4	
	comp=Z,6.4nm,1.1s						
MENT	**Mentasta**	**22.96**	**45**	P	**P**	**18 32 39.4**	**+1.3**
A21K	**Barrow**	**22.98**	**20**	P	**P**	**18 32 35.5**	**-2.6**
DOT	**Dot Lake**	**22.99**	**43**	P	**P**	**18 32 37.6**	**-0.8**

PKI	**Pulchoki**	**71.31**	**291**	*eP*	**P**	**18 38 53.8**	**+0.5**
PKIN	**Phulchoki**	**71.31**	**291**	*eP*	**P**	**18 38 53.8**	**+0.6**
GKN	**Gorkha**	**71.44**	**292**	*eP*	**P**	**18 38 54.2**	**+0.3**
	comp=Z,5.1nm,0.5s						
DANN	**Dangsing**	**71.69**	**292**	*eP*	**P**	**18 38 56.2**	**+0.7**
AKASG	**Malin Array Be**	**75.34**	**341**	P	**P**	**18 39 13.5**	**-2.7**
	comp=Z,0.7nm,0.4s,baz=21,slow=6.6,SNR=4.2						
GEYT	**Alibeck**	**77.38**	**316**	P	**P**	**18 39 27.8**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=81,slow=4.5,SNR=1.7						

IDC ***31*** *18:29:46.5±1.5,51˚.42N×179˚.18E,h0km,mb3.7/10, mb1 3.9/12,mb1mx3.7/55,mbtmp3.7/12,ML3.8/2,Error ellipse: s-maj=48.0km s-min=18.0km az=177.0*
NEIC ***31*** *18:29:48.9±1.7,51˚.04N±0˚.07×179˚.19E±0˚.06,h24km±7km, mb4.0/14,ML3.6/27(AEIC),Error ellipse: s-maj=9.8km s-min=5.5km az=194.0*
AEIC ***31*** *18:29:48±2.4,51˚.04N±0˚.04×179˚.22E±0˚.06,h18km±5km, Error ellipse: s-maj=6.3km s-min=3.6km az=222.0*
ISC 31 18:29:51.0±0.8,51˚.13N±0˚.09×179˚.19E±0˚.05,h41km,n52,
σ1ş28/57,mb3.8/11,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.26**	**16**		**Pn**	**18 29 56.5**	**-2.4**
AMKA					**Sn**	**18 30 02.3**	**-2.1**
CESW	**Semis' Southwe**	**0.80**	**17**		**Pn**	**18 30 05.5**	**-0.4**
CERAA	**Semis' Rag'd T**	**0.83**	**22**		**Pn**	**18 30 05.8**	**-0.5**
CERB	**Semis' Cerberu**	**0.84**	**19**		**Sn**	**18 30 19.0**	**+1.2**
CETU	**Semis' Tuman**	**0.85**	**13**		**Pn**	**18 30 06.7**	**+0.1**
CEAP	**Semis' Anvil P**	**0.90**	**15**		**Pn**	**18 30 07.4**	**+0.1**
CEAP					**Sn**	**18 30 20.9**	**+1.8**
LSPA	**Little Sitkin**	**0.91**	**335**		**Pn**	**18 30 07.4**	**0.0**
LSSA	**Little Sitkin**	**0.92**	**333**		**Pn**	**18 30 07.4**	**-0.1**
LSSA					**Sn**	**18 30 22.4**	**+2.8**
LSNW	**Little Sitkin**	**0.94**	**334**		**Pn**	**18 30 07.5**	**-0.3**
GALAA	**Gareloi Lava P**	**1.42**	**63**		**Pn**	**18 30 14.6**	**+0.2**
TASE	**Tanaga Southea**	**1.87**	**67**		**Pn**	**18 30 20.7**	**+0.1**
TAFP	**Tanaga Falls P**	**1.93**	**65**		**Pn**	**18 30 21.5**	**+0.1**
KIMD	**Kanaga Island**	**2.33**	**73**		**Pn**	**18 30 26.5**	**-0.2**
KIKV	**Kanaga Island**	**2.40**	**70**		**Pn**	**18 30 27.7**	**0.0**
KIRH	**Kanaga Island**	**2.45**	**70**		**Pn**	**18 30 28.6**	**+0.2**
ADK	**Adak**	**2.69**	**72**		**Pn**	**18 30 31.2**	**-0.5**
ADK					**Sn**	**18 31 03.4**	**+0.5**
GSTD	**Great Sitkin T**	**3.05**	**71**		**Pn**	**18 30 36.4**	**-0.5**
GSTD					**Sn**	**18 31 16.1**	**+3.9**
GSMY	**Great Sitkin M**	**3.10**	**71**		**Pn**	**18 30 37.0**	**-0.5**
GSTR	**Great Sitkin T**	**3.12**	**70**	Pn	**Pn**	**18 30 36.5**	**-1.1**
SMY	**Shemya**	**3.53**	**299**		**Pn**	**18 30 43.9**	**+0.6**
ATKA	**Atka Island**	**4.26**	**73**		**Pn**	**18 30 53.0**	**-0.2**
KOKL	**Mount Kliuchef**	**4.28**	**71**		**Pn**	**18 30 53.5**	**-0.2**
KOFP	**Korovin Flat P**	**4.33**	**72**		**Pn**	**18 30 54.4**	**0.0**
NIKH	**Nikolski High**	**7.60**	**71**	Pn	**Pn**	**18 31 40.0**	**+0.8**
SPIA	**Saint Paul Isl**	**8.66**	**42**	Pn	**Pn**	**18 31 55.9**	**+2.3**
AKUT	**Akutan**	**9.62**	**66**	Pn	**Pn**	**18 32 06.3**	**-0.5**
SDPT	**Sand Point**	**12.88**	**63**	Pn	**Pn**	**18 32 49.6**	**-1.6**
GAMB	**Gambell**	**13.57**	**17**	Pn	**Pn**	**18 32 59.9**	**-0.7**
SII	**Sitkinak Islan**	**16.56**	**61**	Pn	**Pn**	**18 33 40.0**	**0.0**
OHAK	**Old Harbor**	**17.15**	**58**	Pn	**Pn**	**18 33 43.5**	**-3.8**
KDAK	**Kodiak Island**	**17.62**	**57**	P	**Pn**	**18 33 51.2**	**-1.8**
	0.7nm,0.3s,baz=284,slow=7.9,SNR=2.1						
KDAK	**Kodiak Island**	**17.62**	**57**		**Pn**	**18 33 50.8**	**-2.3**
KDAK				IAmb	IAmb	18 34 02.3	
	comp=Z,27nm,1.6s						
RSO	**Redoubt South**	**18.19**	**48**		**Pn**	**18 34 00.4**	**+0.1**
SEY	**Seymchan**	**18.60**	**320**	P	**P**	**18 34 02.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=143,slow=5.1,SNR=1.8						
CNPM	**China Poot**	**18.67**	**52**	P	**P**	**18 34 05.3**	**0.0**
CNPM				IAmb	IAmb	18 34 13.1	
	comp=Z,21nm,1.6s						
SKT	**Skwentna**	**19.26**	**44**	P	**P**	**18 34 11.1**	**-0.6**
PPLA	**Purkeypile**	**19.33**	**42**	P	**Pn**	**18 34 14.5**	**+0.5**
PPLA				IAmb	IAmb	18 34 26.1	
	comp=Z,9.3nm,1.4s						
SUA	**Susitna One**	**19.44**	**46**	P	**P**	**18 34 13.6**	**-0.3**
SUA				IAmb	IAmb	18 34 28.7	
	comp=Z,6.8nm,0.8s						
SEW	**Seward**	**19.68**	**51**	P	**P**	**18 34 14.9**	**-1.4**
KTH	**Kantishna Hill**	**20.12**	**40**	P	**P**	**18 34 21.5**	**+0.3**
KTH				IAmb	IAmb	18 34 25.5	
	comp=Z,16nm,1.4s						
TRF	**Thorofare Moun**	**20.34**	**41**	P	**P**	**18 34 24.2**	**+0.5**
TRF				IAmb	IAmb	18 34 30.9	
	comp=Z,4.9nm,1.2s						
SCM	**Sheep Creek Mo**	**21.11**	**47**	P	**P**	**18 34 30.5**	**-1.4**
SCM				IAmb	IAmb	18 34 42.7	
	comp=Z,5.8nm,1.0s						
KLR	**Kul'dur**	**30.03**	**285**	P	**P**	**18 35 56.4**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=63,slow=5.7,SNR=7.6						
MJAR	**Matsushiro Arr**	**32.50**	**259**	P	**P**	**18 36 18.7**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=52,slow=10,SNR=1.7						
YKA	**Yellowknife Ar**	**36.31**	**46**	P	**P**	**18 36 50.4**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=280,slow=7.7,SNR=4.7						
SONM	**Songino Array**	**45.62**	**296**	P	**P**	**18 38 08.4**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=304,slow=4.2,SNR=2.9						
PDAR	**Pinedale Array**	**47.59**	**71**	P	**P**	**18 38 23.0**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=324,slow=4.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**53.27**	**313**	P	**P**	**18 39 05.0**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=53,slow=5.8,SNR=3.1						
MKAR	**Makanchi Array**	**59.19**	**307**	P	**P**	**18 39 47.4**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=46,slow=5.8,SNR=9.2						
TXAR	**Lajitas Array**	**59.94**	**80**	P	**P**	**18 39 54.2**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=303,slow=5.0,SNR=2.3						
NOA	**NORSAR Array B**	**67.76**	**354**	P	**P**	**18 40 43.3**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=8.6,slow=6.3,SNR=2.2						
AKASG	**Malin Array Be**	**75.38**	**341**	P	**P**	**18 41 29.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=19,slow=6.4,SNR=3.3						

ATH ***31*** *18:33:27.9,41˚.97N×24˚.30E,h8km±2km,ML2.6/13,Error ellipse: s-maj=2.3km s-min=1.0km az=191.0*
ISK ***31*** *18:33:28.0,41˚.90N×24˚.33E,h9km,ML2.7/16*
THE ***31*** *18:33:28.5,41˚.94N×24˚.34E,h6km±1km,ML2.6/10,Error ellipse: s-maj=2.0km s-min=1.1km az=178.0*
BEO ***31*** *18:33:30.2±0.8,42˚.01N×24˚.23E,h5km±3km,ML2.5/10*
ISC 31 18:33:28.0±1.1,41˚.96N±0˚.02×24˚.31E±0˚.02,h5km±9km,
n76,σ0ş93/114,13C-6D,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLD	**Plovdiv**	**0.33**	**64**	PG	**Pg**	**18 33 35.4**	**+1.0**
PLD				SG	**Sb**	**18 33 40.6**	**-1.4**
NVR	**Nevrokopi**	**0.69**	**209**	P	**Pg**	**18 33 41.2**	**-0.1**
NVR				S	**Sg**	**18 33 51.0**	**+0.7**
NVR				AML	AML	18 33 53.5	
	comp=E,820μm,0.1s						
NVR				AML	AML	18 33 58.2	
	comp=N,810μm,0.1s						
NVR	**Nevrokopi**	**0.69**	**209**	P	**Pg**	**18 33 41.2**	**-0.1**
NVR				S	**Sg**	**18 33 52.2**	**+1.9**
	comp=N,372nm,0.1s						
KAVA	**Kavala**	**0.97**	**171**	P	**Pg**	**18 33 46.4**	**-0.2**
KAVA				S	**Sg**	**18 33 59.6**	**+0.4**
KAVA				AML	AML	18 34 04.3	
	comp=E,1159μm,0.3s						
KAVA				AML	AML	18 34 04.3	
	comp=N,1717μm,0.3s						
KAVA	**Kavala**	**0.97**	**171**	P	**Pg**	**18 33 46.3**	**-0.4**
KAVA				S	**Sb**	**18 34 00.8**	**+0.3**
	comp=N,578nm,0.2s						
SRS	**Serrai**	**1.00**	**213**	P	**Pg**	**18 33 46.7**	**-0.4**
SRS				S	**Sg**	**18 34 01.0**	**+1.0**
SRS				AML	AML	18 34 05.5	
	comp=N,1384μm,0.5s						
SRS				AML	AML	18 34 06.8	
	comp=E,820μm,0.4s						
SRS	**Serrai**	**1.00**	**213**	P	**Pg**	**18 33 46.9**	**-0.2**
SRS				S	**Sb**	**18 34 01.6**	**+0.4**
KVLA	**Kavala**	**1.02**	**177**	P	**Pg**	**18 33 46.1**	**-1.5**
KVLA				S	**Sg**	**18 34 01.5**	**+0.6**
VTS	**Vitosha**	**1.03**	**310**	*e*Pg	**Pg**	**18 33 47.2**	**-0.7**
VTS				*e*Sg	**Sg**	**18 34 00.5**	**-0.7**
VTS	**Vitosha**	**1.03**	**310**	⇓P	**Pg**	**18 33 47.1**	**-0.7**
VTS				⇓S	**Sg**	**18 33 57.5**	**-3.7**
RDO	**Rodhopi**	**1.23**	**131**	P	**Pb**	**18 33 51.2**	**-0.5**
RDO				S	**Sg**	**18 34 07.1**	**-0.4**
	comp=E,460nm,0.2s						
RDO	**Rodhopi**	**1.23**	**131**	PN	**Pb**	**18 33 51.1**	**-0.6**
RDO				SN	**Sg**	**18 34 07.4**	**-0.1**
KNT	**Kendrikon**	**1.32**	**233**	P	**Pn**	**18 33 52.4**	**-0.7**
KNT				S	**Sb**	**18 34 10.0**	**-0.6**
KNT				AML	AML	18 34 12.5	
	comp=N,561μm,0.2s						
KNT				AML	AML	18 34 15.5	
	comp=E,350μm,0.2s						
KNT	**Kendrikon**	**1.32**	**233**	P	**Pn**	**18 33 52.4**	**-0.7**
KNT				S	**Sb**	**18 34 11.5**	**+0.9**
	comp=E,215nm,0.2s						
KNT	**Kendrikon**	**1.32**	**233**	PN	**Pn**	**18 33 52.6**	**-0.5**
SOH	**Sokhos**	**1.34**	**213**	P	**Pn**	**18 33 52.8**	**-0.6**
SOH				S	**Sb**	**18 34 11.1**	**0.0**
SOH				AML	AML	18 34 14.3	
	comp=N,887μm,0.5s						
SOH				AML	AML	18 34 14.9	
	comp=E,552μm,0.4s						
SOH	**Sokhos**	**1.34**	**213**	P	**Pn**	**18 33 53.0**	**-0.5**
SOH				S	**Sg**	**18 34 12.5**	**+1.4**
	comp=E,230nm,0.6s						
THAS	**Thassos island**	**1.39**	**167**	P	**Pn**	**18 33 53.6**	**-0.4**
THAS				S	**Sb**	**18 34 12.3**	**0.0**
THAS				AML	AML	18 34 14.3	
	comp=E,449μm,0.4s						
THAS				AML	AML	18 34 14.4	
	comp=N,198μm,0.4s						
THAS	**Thassos island**	**1.39**	**167**	P	**Pn**	**18 33 53.5**	**-0.4**
THAS				S	**Sb**	**18 34 12.0**	**-0.4**
	comp=N,158nm,0.3s						
PLVB	**Pleven**	**1.45**	**9**	⇓P	**Pg**	**18 33 55.8**	**+0.1**
PLVB				⇑S	**Sg**	**18 34 16.7**	**+2.2**
VAY	**Valandovo**	**1.45**	**244**	*e*Pg	**Pb**	**18 33 56.2**	**+0.8**
VAY				*e*Sg	**Sb**	**18 34 15.1**	**+0.9**
VAY	**Valandovo**	**1.45**	**244**	*i* Pn	**Pb**	**18 33 56.3**	**+0.8**
BOSS	**Bosilegrad**	**1.46**	**292**	*e*Pg	**Pn**	**18 33 54.2**	**-0.8**
BOSS				*e*Sg	**Sg**	**18 34 15.8**	**+0.9**
HORT	**Hortiatis**	**1.64**	**214**	P	**Pn**	**18 33 57.8**	**+0.3**
HORT				AML	AML	18 34 23.1	
	comp=N,181μm,0.8s						
HORT				AML	AML	18 34 24.7	
	comp=E,144μm,0.2s						
HORT	**Hortiatis**	**1.64**	**214**	P	**Pn**	**18 33 57.8**	**+0.3**
HORT				S	**Sn**	**18 34 19.6**	**+0.6**
HORT	**Hortiatis**	**1.64**	**214**	PN	**Pn**	**18 33 57.5**	**0.0**
OUR	**Ouranopolis**	**1.64**	**189**	P	**Pn**	**18 33 57.1**	**-0.4**
OUR				S	**Sn**	**18 34 19.3**	**+0.4**
OUR				AML	AML	18 34 24.0	
	comp=E,315μm,0.4s						
OUR				AML	AML	18 34 24.0	
	comp=N,436μm,0.2s						
OUR	**Ouranopolis**	**1.64**	**189**	P	**Pn**	**18 33 57.1**	**-0.4**
OUR				S	**Sn**	**18 34 18.6**	**-0.3**
	comp=N,188nm,0.3s						
OUR	**Ouranopolis**	**1.64**	**189**	PN	**Pn**	**18 33 56.9**	**-0.6**
THE	**Thessaloniki**	**1.67**	**218**	P	**Pn**	**18 33 58.0**	**+0.1**
ALN	**Alexandroupoli**	**1.68**	**128**	P	**Pn**	**18 33 58.8**	**+0.7**
ALN				S	**Sb**	**18 34 21.0**	**+0.1**
ALN				AML	AML	18 34 26.0	
	comp=E,178μm,0.6s						
ALN				AML	AML	18 34 26.9	
	comp=N,107μm,0.7s						
ALN	**Alexandroupoli**	**1.68**	**128**	P	**Pn**	**18 33 57.9**	**-0.2**
ALN				S	**Sg**	**18 34 21.5**	**-0.6**
	comp=N,105nm,0.6s						
ALN	**Alexandroupoli**	**1.68**	**128**	PN	**Pn**	**18 33 58.5**	**+0.4**
PLG	**Polygyros**	**1.71**	**203**	P	**Pn**	**18 33 58.8**	**+0.3**
PLG				AML	AML	18 34 26.1	
	comp=N,339μm,0.3s						
PLG				AML	AML	18 34 26.9	
	comp=E,233μm,0.3s						
PLG	**Polygyros**	**1.71**	**203**	P	**Pn**	**18 33 58.6**	**+0.1**
PLG				S	**Sn**	**18 34 21.1**	**+0.3**
	comp=E,140nm,0.4s						
GRG	**Griva**	**1.75**	**236**	P	**Pn**	**18 33 59.2**	**+0.2**
GRG				S	**Sn**	**18 34 22.5**	**+0.9**
GRG				AML	AML	18 34 27.9	
	comp=N,179μm,0.4s						
GRG				AML	AML	18 34 27.9	
	comp=E,91μm,0.5s						
GRG	**Griva**	**1.75**	**236**	P	**Pn**	**18 33 58.0**	**-1.0**
GRG				S	**Sn**	**18 34 22.8**	**+1.2**
	comp=E,70nm,0.5s						
GRG	**Griva**	**1.75**	**236**	PN	**Pn**	**18 33 59.2**	**+0.2**
SMTH	**Samothraki Isl**	**1.75**	**148**	P	**Pb**	**18 34 00.0**	**-0.6**
SMTH				AML	AML	18 34 27.3	
	comp=N,65μm,0.3s						
SMTH				AML	AML	18 34 27.8	
	comp=E,63μm,0.2s						
ZAPS	**Zavoj**	**1.80**	**317**	*e*Pn	**Pb**	**18 34 01.2**	**-0.3**
ZAPS				*e*Sn	**Sn**	**18 34 23.2**	**+0.1**
EDRB	**Edirne**	**1.82**	**93**	PN	**Pn**	**18 33 59.9**	**-0.1**
ENEZ	**Enez**	**1.85**	**131**	PN	**Pn**	**18 33 59.8**	**-0.6**
BARS	**Barje**	**2.03**	**296**	*e*Pn	**Pn**	**18 34 03.6**	**+0.7**
BARS	**Barje**	**2.03**	**296**	*e*Pn	Pg	18 34 14.4	+7.4
BARS					**Sn**	**18 34 30.4**	**+1.7**
BARS				*e*Sn	Sg	18 34 45.8	+12
VLAD	**Vladila**	**2.04**	**2**	⇑P	**Pb**	**18 34 04.9**	**-0.6**
VLAD				⇑S	**Sn**	**18 34 29.3**	**+0.4**
BLKB	**Belogradchik**	**2.05**	**325**	⇓S	**Sn**	**18 34 27.2**	**-2.0**
ERIK	**Erikli-Kesan**	**2.10**	**127**	PN	**Pn**	**18 34 03.6**	**-0.2**
GADA	**Gvkgeada**	**2.14**	**145**	PN	**Pn**	**18 34 03.9**	**-0.4**
LIA	**Limnos Island**	**2.16**	**162**	P	**Pn**	**18 34 03.8**	**-0.9**
LIA				S	**Sn**	**18 34 31.2**	**-0.6**
GELI	**Tayfur-Gelibol**	**2.26**	**133**	PN	**Pn**	**18 34 06.3**	**+0.3**
COPA	**Copaceanca**	**2.28**	**17**	⇓P	**Pn**	**18 34 07.9**	**+1.7**
RAZG	**Razgrad**	**2.28**	**45**	⇑P	**Pb**	**18 34 10.4**	**+0.7**
RAZG				⇑S	**Sg**	**18 34 40.1**	**-1.2**
ZAGS	**Zajecar**	**2.40**	**321**	*e*Pn	**Pb**	**18 34 10.2**	**-1.5**
ZAGS				*e*Sn	**Sn**	**18 34 37.3**	**-0.4**
LPK	**Lapseki**	**2.44**	**130**	PN	**Pn**	**18 34 08.9**	**+0.4**
BOZC	**Bozcaada**	**2.50**	**147**	PN	**Pn**	**18 34 08.5**	**-0.8**
MAR3	**Marsite Statio**	**2.56**	**117**	PN	**Pn**	**18 34 10.3**	**+0.2**
MAR6	**Marsite Statio**	**2.56**	**118**	PN	**Pn**	**18 34 10.3**	**+0.2**
GZKV	**Gazikoy-Tekird**	**2.58**	**117**	PN	**Pn**	**18 34 10.5**	**+0.1**
HUMR	**Humele**	**2.62**	**11**	⇑P	**Pb**	**18 34 13.2**	**-2.1**
SELS	**Selova**	**2.67**	**299**	*e*Pn	**Pn**	**18 34 13.3**	**+1.6**
SELS				*e*Sn	**Sn**	**18 34 43.7**	**-0.7**
KRBG	**Karabiga-Canak**	**2.75**	**124**	PN	**Pn**	**18 34 12.8**	**+0.1**
MRMT	**Marmara Adasi**	**2.83**	**118**	PN	**Pn**	**18 34 13.8**	**-0.1**
MAR9	**Marsite Statio**	**2.89**	**116**	PN	**Pn**	**18 34 14.7**	**+0.1**
SIGR	**SIGRI**	**2.99**	**156**	PN	**Pn**	**18 34 16.0**	**0.0**
EDC	**Edincik**	**3.13**	**120**	PN	**Pn**	**18 34 18.2**	**+0.2**
HERR	**Herculane**	**3.23**	**335**	⇑P	**Pn**	**18 34 19.1**	**-0.3**
GRUS	**Gruza**	**3.27**	**307**	*e*Pn	**Pn**	**18 34 20.6**	**+0.7**
GRUS				*e*Sn	**Sn**	**18 34 59.5**	**+0.4**
MDVR	**Moldovita**	**3.40**	**327**	⇑P	**Pn**	**18 34 21.6**	**-0.2**
IVAS	**Ivanjica**	**3.46**	**299**	*e*Pn	**Pn**	**18 34 22.6**	**0.0**
IVAS				*e*Sn	**Sn**	**18 35 03.5**	**-0.5**
VOIR		**3.52**	**9**	⇑P	**Pn**	**18 34 24.9**	**+1.5**
GZR	**Gura Zlata**	**3.61**	**343**	⇑P	**Pn**	**18 34 24.1**	**-0.5**
MLR	**Muntele Rosu**	**3.73**	**18**	⇑P	**Pn**	**18 34 29.1**	**+2.8**
BZS	**Buzias**	**4.14**	**333**	⇑P	**Pn**	**18 34 32.1**	**+0.1**
CFR	**Carcaliu**	**4.25**	**40**	⇑P	**Pn**	**18 34 35.8**	**+2.4**
VRI	**Vrincioaia**	**4.28**	**23**	⇓P	**Pn**	**18 34 36.0**	**+2.2**

IDC ***31*** *18:34:05.1±2.0,7˚.66S×128˚.55E,h154km±22km,mb3.5/4, mb1 3.6/9,mb1mx3.3/35,mbtmp4.0/9,Error ellipse: s-maj=31.9km s-min=16.9km az=96.0*
ISC 31 18:34:04.1±0.8,7˚.78S±0˚.06×128˚.61E±0˚.09,h150km,n9,
σ2ş49/14,mb3.5/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.45**	**243**	P	**Pn**	**18 35 24.7**	**+1.2**
	16nm,0.3s,baz=127,slow=3.8,SNR=58						
BATI				S	**Sn**	**18 36 23.6**	**-1.9**
	8.3nm,0.3s,baz=275,slow=19,SNR=8.8						
SIJI	**Sorong**	**7.36**	**21**	P	**Pn**	**18 35 49.3**	**+0.3**
	1.7nm,0.3s,baz=82,slow=11,SNR=33						
SIJI				S	**Sn**	**18 37 08.7**	**-2.7**
	0.4nm,0.3s,baz=272,slow=23,SNR=1.7						
FITZ	**Fitzroy Crossi**	**10.65**	**195**	P	**Pn**	**18 36 33.5**	**+0.7**
	0.6nm,0.3s,baz=14,slow=10,SNR=55						
FITZ				S	**Sn**	**18 38 26.1**	**-4.5**
	0.6nm,0.3s,baz=109,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**13.30**	**156**	P	**Pn**	**18 37 09.8**	**+2.6**
	0.6nm,0.3s,baz=337,slow=12,SNR=29						
WRA				S	**Sn**	**18 39 31.9**	**-2.7**
	1.4nm,0.3s,baz=338,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.59**	**163**	P	**Pn**	**18 37 52.0**	**+3.8**
	0.3nm,0.3s,baz=341,slow=11,SNR=25						
ASAR				S	**S**	**18 40 51.3**	**-1.3**
	0.3nm,0.3s,baz=332,slow=24,SNR=4.6						
NWAO	**Narrogin (SRO)**	**27.15**	**201**	P	**P**	**18 39 35.0**	**+1.6**
	14nm,0.9s,baz=55,slow=13,SNR=3.5						
SONM	**Songino Array**	**58.76**	**343**	P	**P**	**18 43 46.8**	**+0.4**
	0.6nm,0.8s,baz=170,slow=6.4,SNR=4.6						
MKAR	**Makanchi Array**	**68.13**	**328**	P	**P**	**18 44 47.5**	**-0.4**
	0.4nm,0.6s,baz=119,slow=8.5,SNR=8.6						
ZALV	**Zalesovo Beam**	**71.68**	**334**	P	**P**	**18 45 08.3**	**-1.1**
	0.6nm,0.6s,baz=121,slow=5.6,SNR=3.6						

AEIC ***31*** *18:37:39±1.6,51˚.08N±0˚.04×179˚.22E±0˚.07,h18km±5km, Error ellipse: s-maj=6.1km s-min=5.6km az=119.0*
NEIC 31 18:37:39.4±1.8,51˚.09N±0˚.07×179˚.20E±0˚.07,h26km±7km,
mb3.9/6,ML3.2/17(AEIC),Error ellipse: s-maj=10.8km
s-min=6.3km az=178.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.30**	**13**		Pb	18 37 46.4	0.0
AMKA					Sb	18 37 52.2	+1.0
CESW	**Semis' Southwe**	**0.84**	**16**		Pb	18 37 55.3	-0.1
CERAA	**Semis' Rag'd T**	**0.87**	**20**		Pb	18 37 55.7	-0.2
CERAA					Sn	18 38 08.5	+0.6
CERB	**Semis' Cerberu**	**0.89**	**18**		Pb	18 37 56.0	-0.1
CERB					Sn	18 38 08.7	+0.6
LSSE	**Little Sitkin**	**0.93**	**335**		Pn	18 37 56.7	-0.1
CEAP	**Semis' Anvil P**	**0.94**	**15**		Pn	18 37 56.9	0.0
LSPA	**Little Sitkin**	**0.95**	**336**		Pn	18 37 56.9	-0.2
LSPA					Sn	18 38 11.1	+1.4
LSSA	**Little Sitkin**	**0.96**	**334**		Pn	18 37 57.2	0.0
LSNW	**Little Sitkin**	**0.98**	**335**		Pn	18 37 57.3	-0.1
TASE	**Tanaga Southea**	**1.89**	**66**		Pn	18 38 10.7	+0.8
ADK	**Adak**	**2.70**	**71**		Pn	18 38 21.1	+0.1
GSMY	**Great Sitkin M**	**3.11**	**70**		Pn	18 38 27.0	+0.2
SMY	**Shemya**	**3.56**	**299**		Pn	18 38 34.4	+1.6
ATKA	**Atka Island**	**4.26**	**72**	Pn	Pn	18 38 43.1	+0.5
SPIA	**Saint Paul Isl**	**8.69**	**41**	Pn	Pn	18 39 46.6	+3.4
SDPT	**Sand Point**	**12.89**	**63**	Pn	Pn	18 40 39.7	-1.0
CHGN	**Chignik**	**14.22**	**60**	Pn	Pn	18 40 57.8	-1.0
OHAK	**Old Harbor**	**17.17**	**58**	Pn	Pn	18 41 35.5	-1.6
OHAK				IAmb	IAmb	18 41 38.2	
	comp=Z,29nm,1.6s						
BRLK	**Bradley Lake**	**18.92**	**51**	P	P	18 41 55.5	-2.5
BRLK				IAmb	IAmb	18 41 60.0	
	comp=Z,18nm,1.5s						
KTH	**Kantishna Hill**	**20.16**	**40**	P	P	18 42 11.6	+0.1
KTH				IAmb	IAmb	18 42 32.7	
	comp=Z,7.5nm,1.4s						
IMAR	**Indian Mountai**	**20.29**	**32**	P	P	18 42 10.7	-2.1
SCM	**Sheep Creek Mo**	**21.13**	**47**	P	P	18 42 19.9	-2.1
IL31		**22.26**	**39**	P	P	18 42 34.4	+0.5

NNC ***31*** *18:39:50.1±4.2,36˚.88N×70˚.30E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=35.9km s-min=33.8km az=124.0*
ISC 31 18:39:47.9±3.8,36˚.7N±0˚.2×70˚.2E±0˚.2,h10km,n9,
σ1ş05/11,3C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.09**	**25**	P	**Pn**	**18 41 19.4**	**+1.0**
	SNR=33						
KK31	**Karatay Array**	**6.43**	**2**	⇑P	**Pn**	**18 41 24.2**	**+1.4**
	0.5nm,0.2s,baz=179,slow=12,SNR=29						
KK31				⇓S	**Sn**	**18 42 35.8**	**-0.4**
	3.1nm,0.5s						
UCH	**Uchtor**	**6.48**	**30**	P	**Pn**	**18 41 24.4**	**+0.6**
	SNR=12						
EKS2	**Erkin-Say**	**6.59**	**24**	P	**Pn**	**18 41 26.1**	**+1.0**
	SNR=6.3						
AAK	**Ala-Archa**	**6.82**	**28**	P	**Pn**	**18 41 29.9**	**+1.7**
	SNR=6.3						
AAK	**Ala-Archa**	**6.82**	**28**	⇓P	**Pn**	**18 41 28.5**	**+0.3**
	1.6nm,0.6s						

comp=N,593nm,0.4s
OHR eLg Lg 18 48 57.3
comp=E,1μm,0.6s
PENT Pentalofos 0.58 188 P **Pg** **18 48 50.5 -0.6**
PENT S **Sg** **18 48 58.8 -0.1**
PENT AML AML 18 49 02.4
comp=E,1983μm,0.8s
PENT AML AML 18 49 06.2
comp=N,1494μm,0.6s
PENT Pentalofos 0.58 188 P **Pg** **18 48 50.7 -0.4**
PENT S **Sb** **18 49 00.1 +0.4**
comp=N,685nm,0.3s
KZN Kozani 0.62 139 P **Pg** **18 48 51.3 -0.4**
KZN S **Sg** **18 48 58.0 -1.9**
KZN AML AML 18 49 02.6
comp=E,4276μm,0.2s
KZN AML AML 18 49 04.2
comp=N,3912μm,0.4s
KZN Kozani 0.62 139 P **Pg** **18 48 51.4 -0.4**
KZN S **Sb** **18 49 01.2 +0.5**
LSK Leskovik 0.79 218 P **Pg** **18 48 53.9 -1.1**
LSK S **Sb** **18 49 06.1 +0.4**
comp=N,488nm,0.5s
LSK Leskovik 0.79 218 P **Pg** **18 48 54.0 -1.1**
baz=217
LSK S **Sb** **18 49 06.0 +0.2**
baz=217
LSK AMP
comp=N,1.9nm,0.2s,baz=217
KPRO Kipourio 0.82 173 P **Pg** **18 48 54.4 -1.2**
KPRO AML AML 18 49 11.8
comp=E,1834μm,0.3s
KPRO AML AML 18 49 13.3
comp=N,1560μm,0.6s
KPRO Kipourio 0.82 173 P **Pg** **18 48 55.3 -0.3**
KPRO S **Sb** **18 49 08.4 +1.8**
comp=N,800nm,0.3s
GRG Griva 0.90 78 P **Pg** **18 48 56.4 -0.5**
GRG AML AML 18 49 11.7
comp=E,556μm,0.7s
GRG AML AML 18 49 12.2
comp=N,988μm,0.5s
GRG Griva 0.90 78 P **Pg** **18 48 56.5 -0.5**
GRG S **Sb** **18 49 08.7 -0.1**
comp=N,395nm,0.6s
GRG Griva 0.90 78 *i* Pg **Pg** **18 48 56.5 -0.5**
GRG *i* Sg **Sn** **18 49 10.5 0.0**
PHP Peshkopia 1.09 327 P **Pg** **18 48 58.8 -1.8**
PHP S **Sb** **18 49 14.0 -0.3**
PHP Peshkopia 1.09 327 P **Pg** **18 48 58.9 -1.8**
baz=329
PHP S **Sn** **18 49 15.4 0.0**
baz=329
PHP AMP
comp=N,0.9nm,0.5s,baz=329
VAY Valandovo 1.15 61 *e*Pg **Pb** **18 49 00.9 -0.2**
VAY *e*Sg **Sb** **18 49 16.1 +0.3**
VAY Valandovo 1.15 61 *i* Pg **Pn** **18 49 01.2 +0.1**
VAY *i* Sg **Sn** **18 49 17.0 +0.5**
VAY eLg Lg 18 49 18.2
comp=E,24nm,0.4s
VAY eLg Lg 18 49 18.3
comp=N,115nm,0.8s
JAN Janina 1.16 195 P **Pn** **18 49 01.8 +0.5**
LIT Litokhoron 1.17 125 P **Pg** **18 49 01.7 -0.4**
LIT AML AML 18 49 22.0
comp=E,948μm,0.4s
LIT AML AML 18 49 25.1
comp=N,862μm,0.6s
LIT Litokhoron 1.17 125 P **Pb** **18 49 00.8 -0.7**
LIT S **Sn** **18 49 17.8 +0.7**
comp=N,430nm,0.4s
LIT Litokhoron 1.17 125 *i* Pg **Pg** **18 49 01.7 -0.4**
LIT *i* Sg **Sn** **18 49 19.6 +2.5**
TIR Tirane 1.19 299 *e*Pg **Pg** **18 49 02.1 -0.4**
TIR *e*Sg **Sn** **18 49 18.7 +1.1**
TIR Tirane 1.19 299 P **Pg** **18 49 02.1 -0.4**
baz=301
SKO Skopje 1.21 7 *i* Pg **Pg** **18 49 02.0 -0.8**
SRN Sarande 1.30 227 P **Pn** **18 49 02.6 -0.6**
SRN S **Sb** **18 49 20.6 +0.3**
comp=N,350nm,0.5s
SRN Sarande 1.30 227 P **Pg** **18 49 04.3 -0.4**
baz=226
SRN S **Sg** **18 49 22.7 +1.1**
baz=226
SRN AMP
comp=N,0.5nm,0.5s,baz=226
KNT Kendrikon 1.31 72 P **Pg** **18 49 04.1 -0.7**
KNT Kendrikon 1.31 72 P **Pn** **18 49 02.8 -0.6**
KNT S **Sg** **18 49 21.3 -0.7**
KNT Kendrikon 1.31 72 *i* Pg **Pg** **18 49 04.2 -0.7**
THL Klokotos Trika 1.35 154 P **Pn** **18 49 03.6 -0.3**
THL Klokotos Trika 1.35 154 P **Pn** **18 49 03.7 -0.2**
THL S **Sg** **18 49 22.6 -0.4**
comp=N,218nm,0.4s
VLO Vlora 1.36 258 P **Pg** **18 49 05.5 -0.3**
baz=258
IGT Igoumenitsa 1.42 210 P **Pg** **18 49 06.7 -0.2**
IGT Igoumenitsa 1.42 210 P **Pn** **18 49 04.7 -0.2**
IGT S **Sn** **18 49 23.3 -0.1**
comp=N,322nm,0.7s
IGT Igoumenitsa 1.42 210 *e*Pn **Pg** **18 49 07.1 +0.2**
IGT *e*Sn **Sg** **18 49 26.7 +1.3**
HORT Hortiatis 1.43 97 P **Pb** **18 49 05.8 -0.1**
PRZK Prizren 1.48 346 *i* Pn **Pg** **18 49 07.1 -0.9**
KEK Kerkira 1.53 227 P **Pg** **18 49 08.5 -0.5**
SOH Sokhos 1.61 88 P **Pn** **18 49 08.1 +0.6**
SOH Sokhos 1.61 88 *i* Pn **Pb** **18 49 08.8 -0.2**
PUK Puka 1.62 322 P **Pb** **18 49 09.1 -0.2**
baz=323
PUK S **Sg** **18 49 32.8 +0.9**
baz=323
PUK AMP
comp=N,0.6nm,0.8s,baz=323
SRS Serrai 1.81 78 *e*Pn **Pb** **18 49 12.8 +0.3**
SRS *e*Sn **Sg** **18 49 37.3 -0.7**
BCI Bajram Curri 1.82 331 P **Pb** **18 49 12.6 0.0**
baz=333
EVR Evrytania 1.91 167 P **Pn** **18 49 13.1 +1.4**
EVR Evrytania 1.91 167 P **Pn** **18 49 11.7 0.0**
EVR S **Sn** **18 49 35.4 -0.1**
comp=N,105nm,0.2s
ULC Ulcinj 1.92 309 *i* Pn **Pb** **18 49 14.5 +0.2**
AGG Agios Georgios 1.94 154 P **Pn** **18 49 12.9 +0.8**
AGG Agios Georgios 1.94 154 P **Pn** **18 49 11.0 -1.1**
AGG S **Sn** **18 49 37.2 +1.0**
comp=N,100nm,0.3s
BOSS Bosilegrad 1.96 28 *e*Pn **Pb** **18 49 13.5 -1.4**
BOSS *e*Sn **Sb** **18 49 38.7 -0.4**
TSLK Tsoukalades, L 2.00 193 P **Pb** **18 49 14.8 -0.8**
LKD2 Lefkada island 2.03 193 P **Pb** **18 49 15.5 -0.7**
BARS Barje 2.08 12 *e*Pn **Pn** **18 49 15.3 +1.2**
BARS *e*Sn **Sb** **18 49 42.8 -0.1**
NYDR Nydri-Lefkada 2.10 192 P **Pb** **18 49 16.2 -1.2**
NEO Neokhori 2.11 133 P **Pn** **18 49 14.6 +0.1**
NEO S **Sn** **18 49 41.0 +0.5**
comp=N,158nm,0.6s
PVO Paravola 2.17 174 P **Pb** **18 49 18.0 -0.5**
PDG Podgorica 2.23 319 *i* Pn **Pb** **18 49 19.4 -0.1**
VTS Vitosha 2.37 38 *e*Pn **Pn** **18 49 19.2 +1.1**
SELS Selova 2.44 358 *e*Pn **Pn** **18 49 20.1 +1.1**
SJES Sjenica 2.66 340 *e*Pn **Pn** **18 49 23.7 +1.7**
SJES *e*Sn **Sb** **18 49 56.8 -2.6**
TREB Trebinje 2.91 313 *e*Pn **Pn** **18 49 27.0 +1.7**
STON Ston 3.37 310 *e*Pn **Pn** **18 49 31.6 -0.1**
STON Sn **Sn** **18 50 11.9 +0.4**
DIVS Divibare 3.45 345 *e*Pn **Pn** **18 49 33.7 +0.9**
TRUS Trudelj 3.50 350 *e*Pn **Pn** **18 49 34.6 +1.1**
MAKA Makarska 4.02 310 *e*Pn **Pn** **18 49 40.8 +0.1**
MAKA Sn **Sn** **18 50 29.1 +1.6**
HVAR Hvar 4.30 305 *i* Pn **Pn** **18 49 44.8 +0.3**
KIJV Kijevo 4.82 314 *i* Pn **Pn** **18 49 53.4 +1.7**
KIJV Sn **Sn** **18 50 48.8 +1.6**
ZIRJ Zirje 5.05 307 *i* Pn **Pn** **18 49 55.6 +0.8**
ZIRJ Sn **Sn** **18 50 50.9 -2.1**
MORI Morici 5.13 309 *e*Pn **Pn** **18 49 57.3 +1.4**
DUGI Dugi Otok 5.59 307 *i* Pn **Pn** **18 50 03.9 +1.7**
NVLJ Novalja 6.03 311 *e*Pn **Pn** **18 50 08.8 +0.6**

*SKO **31** 18:52:38.8, 40°.78N×21°.25E, h17km*
*THE **31** 18:52:38.9, 40°.78N×21°.22E, h15km, ML2.8/10, Error*
ellipse: s-maj=0.6km s-min=0.4km az=149.0
*TIR **31** 18:52:38.2, 40°.75N×21°.22E, h25km±1km, Md3.2, Ml3.0*
*BEO **31** 18:52:40.2±0.3, 40°.81N×21°.26E, h8km±2km, ML2.6/13*
*ATH **31** 18:52:40.1, 40°.70N×21°.32E, h11km±1km, ML2.8/7, Error*
ellipse: s-maj=2.2km s-min=1.0km az=313.0

ISC 31 18:52:39.1±0.8, 40.77N±0°.02×21.24E±0°.02, h15km±4km, n73, σ0≡91/114, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.10**	**82**	P	**Pg**	**18 52 42.5**	**0.0**
FNA				S	**Sg**	**18 52 44.9**	**+0.1**
FNA				AML	AML	18 52 45.1	
	comp=E,38193μm,0.2s						
FNA				AML	AML	18 52 45.3	
	comp=N,66176μm,0.2s						
FNA	**Florina**	**0.10**	**82**	P	**Pg**	**18 52 42.5**	**0.0**
FNA				S	**Sg**	**18 52 44.9**	**+0.1**
FNA	**Florina**	**0.10**	**82**	*e*Pg	**Pg**	**18 52 42.5**	**0.0**
FNA				*e*Sg	**Sg**	**18 52 44.8**	**+0.1**
FNA	**Florina**	**0.10**	**82**	*i* Pg	**Pg**	**18 52 42.5**	**0.0**
FNA				*i* Sg	**Sg**	**18 52 44.8**	**+0.1**
KBN	**Korca**	**0.38**	**247**	P	**Pg**	**18 52 46.3**	**-0.4**
KBN				S	**Sg**	**18 52 51.8**	**-0.1**
	comp=N,2μm,0.2s						
KBN	**Korca**	**0.38**	**247**	P	**Pg**	**18 52 45.9**	**-0.8**
	baz=250						
KBN				S	**Sg**	**18 52 51.9**	**-0.1**
	baz=250						
KBN				AMP			
	comp=N,8.9nm,0.3s,baz=250						
NEST	**Nestorio**	**0.38**	**202**	P	**Pg**	**18 52 46.3**	**-0.6**
NEST				S	**Sg**	**18 52 52.0**	**-0.3**
NEST				AML	AML	18 52 52.9	
	comp=E,6605μm,0.2s						
NEST				AML	AML	18 52 53.0	
	comp=N,6547μm,0.4s						
NEST	**Nestorio**	**0.38**	**202**	P	**Pg**	**18 52 46.3**	**-0.6**
NEST				S	**Sg**	**18 52 52.2**	**-0.1**
	comp=N,2μm,0.2s						
OHR	**Ohrid**	**0.48**	**316**	*i* Pg	**Pg**	**18 52 48.6**	**-0.1**
OHR				*i* Sg	**Sb**	**18 52 56.4**	**+0.3**
OHR				eLg	Lg	18 52 56.6	
	comp=N,724nm,0.5s						
OHR				eLg	Lg	18 52 57.0	
	comp=E,1μm,0.5s						
PENT	**Pentalofos**	**0.58**	**188**	P	**Pg**	**18 52 50.1**	**-0.4**
PENT				S	**Sg**	**18 52 58.0**	**-0.2**
PENT				AML	AML	18 53 02.0	
	comp=E,2600μm,0.9s						
PENT				AML	AML	18 53 05.8	
	comp=N,2223μm,0.6s						
PENT	**Pentalofos**	**0.58**	**188**	P	**Pg**	**18 52 50.1**	**-0.4**
PENT				S	**Sb**	**18 52 59.6**	**+0.6**
	comp=N,915nm,0.4s						
KZN	**Kozani**	**0.61**	**139**	P	**Pg**	**18 52 50.8**	**-0.4**
KZN				S	**Sg**	**18 52 57.3**	**-2.0**
KZN				AML	AML	18 53 02.5	
	comp=E,3811μm,0.4s						
KZN				AML	AML	18 53 03.9	
	comp=N,3666μm,0.4s						
KZN	**Kozani**	**0.61**	**139**	P	**Pg**	**18 52 51.0**	**-0.2**
KZN				S	**Sb**	**18 53 00.6**	**+0.6**
	comp=N,2μm,0.4s						
LSK	**Leskovik**	**0.79**	**219**	P	**Pg**	**18 52 53.5**	**-0.9**
LSK				S	**Sg**	**18 53 05.0**	**+0.2**
	comp=N,450nm,0.5s						
LSK	**Leskovik**	**0.79**	**219**	P	**Pg**	**18 52 53.5**	**-0.9**
	baz=219						
LSK				S	**Sg**	**18 53 04.6**	**-0.2**
	baz=219						
LSK				AMP			
	comp=N,2.3nm,0.7s,baz=219						
KPRO	**Kipourio**	**0.82**	**173**	P	**Pg**	**18 52 53.8**	**-1.2**
KPRO				S	**Sg**	**18 53 03.8**	**-2.0**
KPRO				AML	AML	18 53 11.1	
	comp=E,2278μm,0.3s						
KPRO				AML	AML	18 53 11.6	
	comp=N,1996μm,0.4s						
KPRO	**Kipourio**	**0.82**	**173**	P	**Pg**	**18 52 54.7**	**-0.3**
KPRO				S	**Sb**	**18 53 06.9**	**+1.0**
	comp=N,1μm,0.3s						
GRG	**Griva**	**0.90**	**78**	P	**Pg**	**18 52 56.3**	**-0.2**
GRG	**Griva**	**0.90**	**78**	P	**Pn**	**18 52 56.6**	**-0.6**
GRG				S	**Sg**	**18 53 08.5**	**+0.2**
GRG	**Griva**	**0.90**	**78**	*i* Pg	**Pg**	**18 52 56.4**	**-0.2**
GRG				*i* Sg	**Sn**	**18 53 10.7**	**+0.8**
PHP	**Peshkopia**	**1.09**	**327**	P	**Pb**	**18 52 58.5**	**-1.2**
PHP				S	**Sn**	**18 53 14.5**	**-0.3**
PHP	**Peshkopia**	**1.09**	**327**	P	**Pb**	**18 52 58.3**	**-1.4**
	baz=329						
PHP				S	**Sn**	**18 53 15.5**	**+0.7**
	baz=329						
PHP				AMP			
	comp=N,1.2nm,1.0s,baz=329						
VAY	**Valandovo**	**1.15**	**61**	*e*Pg	**Pg**	**18 53 00.6**	**-0.6**
VAY				*e*Sg	**Sg**	**18 53 16.5**	**+0.3**
VAY	**Valandovo**	**1.15**	**61**	*i* Pg	**Pg**	**18 53 00.9**	**-0.3**
VAY				*i* Sg	**Sg**	**18 53 16.9**	**+0.8**
VAY				eLg	Lg	18 53 18.1	
	comp=E,22nm,0.4s						
VAY				eLg	Lg	18 53 18.3	
	comp=N,110nm,0.8s						
JAN	**Janina**	**1.15**	**195**	P	**Pn**	**18 53 00.7**	**+0.1**
LIT	**Litokhoron**	**1.16**	**125**	P	**Pn**	**18 53 00.3**	**-0.5**
LIT	**Litokhoron**	**1.16**	**125**	P	**Pn**	**18 53 00.5**	**-0.3**
LIT				S	**Sg**	**18 53 16.8**	**+0.1**
	comp=N,410nm,0.5s						
LIT	**Litokhoron**	**1.16**	**125**	*i* Pg	**Pg**	**18 53 01.5**	**-0.1**
LIT				*i* Sg	**Sg**	**18 53 19.8**	**+3.0**
TIR	**Tirane**	**1.19**	**299**	*e*Pg	**Pg**	**18 53 01.6**	**-0.4**
TIR				*e*Sg	**Sg**	**18 53 18.5**	**+0.9**
TIR	**Tirane**	**1.19**	**299**	P	**Pb**	**18 53 01.3**	**0.0**
	baz=301						
TIR				S	**Sg**	**18 53 17.7**	**+0.1**
	baz=301						
TIR				AMP			
	comp=N,0.5nm,0.9s,baz=301						
SKO	**Skopje**	**1.21**	**7**	*i* Pg	**Pg**	**18 53 02.1**	**-0.3**
SKO				*i* Sg	**Sg**	**18 53 19.3**	**+1.1**
SRN	**Sarande**	**1.30**	**227**	P	**Pn**	**18 53 01.8**	**-0.8**
SRN				S	**Sn**	**18 53 19.9**	**+0.2**
	comp=N,315nm,0.5s						
SRN	**Sarande**	**1.30**	**227**	P	**Pg**	**18 53 03.9**	**-0.2**
	baz=228						
SRN				S	**Sn**	**18 53 20.1**	**+0.5**
	baz=228						
SRN				AMP			
	comp=N,1.0nm,0.5s,baz=228						
KNT	**Kendrikon**	**1.31**	**72**	P	**Pg**	**18 53 03.7**	**-0.7**
KNT				AML	AML	18 53 26.2	
	comp=N,287μm,0.7s						
KNT				AML	AML	18 53 26.6	
	comp=E,149μm,0.7s						
KNT	**Kendrikon**	**1.31**	**72**	P	**Pn**	**18 53 02.1**	**-0.8**
KNT				S	**Sg**	**18 53 20.6**	**-0.9**
KNT	**Kendrikon**	**1.31**	**72**	*i* Pg	**Pg**	**18 53 04.2**	**-0.2**
THE	**Thessaloniki**	**1.32**	**95**	*i* Pg	**Pg**	**18 53 04.8**	**+0.4**
THL	**Klokotos Trika**	**1.34**	**154**	P	**Pn**	**18 53 03.3**	**+0.1**
THL				AML	AML	18 53 28.1	
	comp=E,425μm,0.5s						
THL				AML	AML	18 53 30.7	
	comp=N,463μm,0.5s						
IGT	**Igoumenitsa**	**1.42**	**210**	P	**Pg**	**18 53 05.9**	**-0.5**
IGT	**Igoumenitsa**	**1.42**	**210**	P	**Pn**	**18 53 03.9**	**-0.4**
IGT				S	**Sn**	**18 53 22.7**	**0.0**
	comp=N,282nm,0.7s						
IGT	**Igoumenitsa**	**1.42**	**210**	*e*Pg	**Pg**	**18 53 06.8**	**+0.4**
IGT				*e*Sg	**Sg**	**18 53 27.4**	**+2.6**
HORT	**Hortiatis**	**1.42**	**96**	P	**Pb**	**18 53 04.8**	**-0.5**
PRZK	**Prizren**	**1.48**	**346**	*i* Pn	**Pb**	**18 53 06.5**	**+0.1**
KEK	**Kerkira**	**1.53**	**227**	P	**Pb**	**18 53 07.6**	**+0.6**
SOH	**Sokhos**	**1.60**	**87**	P	**Pb**	**18 53 07.7**	**-0.7**
SOH	**Sokhos**	**1.60**	**87**	*i* Pn	**Pb**	**18 53 08.1**	**-0.3**
PUK	**Puka**	**1.63**	**322**	P	**Pb**	**18 53 08.8**	**0.0**
	baz=323						
PUK				S	**Sg**	**18 53 31.2**	**-0.3**
	baz=323						
PLG	**Polygyros**	**1.73**	**103**	P	**Pn**	**18 53 08.9**	**+0.4**
SRS	**Serrai**	**1.81**	**78**	*e*Pn	**Pb**	**18 53 11.6**	**-0.4**
BCI	**Bajram Curri**	**1.82**	**331**	P	**Pb**	**18 53 12.0**	**-0.1**
	baz=333						
ULC	**Ulcinj**	**1.92**	**309**	*i* Pn	**Pb**	**18 53 14.2**	**+0.4**
AGG	**Agios Georgios**	**1.94**	**154**	P	**Pn**	**18 53 12.6**	**+1.1**
AGG	**Agios Georgios**	**1.94**	**154**	P	**Pn**	**18 53 10.5**	**-0.9**
AGG				S	**Sn**	**18 53 36.4**	**+0.9**
	comp=N,120nm,0.4s						
BOSS	**Bosilegrad**	**1.96**	**28**	*e*Pn	**Pn**	**18 53 12.5**	**+0.8**
BOSS				*e*Sn	**Sb**	**18 53 37.9**	**-0.8**
BARS	**Barje**	**2.09**	**12**	*e*Pn	**Pn**	**18 53 14.1**	**+0.6**
BARS				*e*Sn	**Sb**	**18 53 41.0**	**-1.4**
SMRK	**Smrekonice**	**2.11**	**354**	*i* Pn	**Pg**	**18 53 18.6**	**-1.1**
BEY	**Berane**	**2.33**	**335**	*i* Pn	**Pg**	**18 53 23.1**	**-0.6**
VTS	**Vitosha**	**2.38**	**38**	*e*Pn	**Pn**	**18 53 18.8**	**+1.2**
SELS	**Selova**	**2.45**	**358**	*e*Pn	**Pn**	**18 53 19.8**	**+1.3**
SJES	**Sjenica**	**2.66**	**340**	*e*Pn	**Pn**	**18 53 22.8**	**+1.3**
SJES				*e*Sn	**Sb**	**18 53 56.2**	**-2.8**
ZAPS	**Zavoj**	**2.71**	**22**	*e*Pn	**Pn**	**18 53 23.6**	**+1.5**
ZAPS				*e*Sn	**Sb**	**18 53 57.5**	**-2.7**
TREB	**Trebinje**	**2.91**	**313**	*e*Pn	**Pn**	**18 53 25.7**	**+0.9**
IVAS	**Ivanjica**	**2.92**	**344**	*e*Pn	**Pn**	**18 53 25.4**	**+0.4**
GRUS	**Gruza**	**3.14**	**353**	*e*Pn	**Pn**	**18 53 29.5**	**+1.5**
GRUS				*e*Sn	**Sn**	**18 54 06.1**	**+0.9**
STON	**Ston**	**3.38**	**310**	*e*Pn	**Pn**	**18 53 30.4**	**-0.8**
STON				Sn	**Sn**	**18 54 11.1**	**+0.1**
BBLS	**Lazići**	**3.38**	**337**	*e*Pn	**Pn**	**18 53 32.0**	**+0.7**
DIVS	**Divibare**	**3.45**	**345**	*e*Pn	**Pn**	**18 53 32.5**	**+0.2**
HVAR	**Hvar**	**4.31**	**306**	*e*Pn	**Pn**	**18 53 44.5**	**+0.6**
KIJV	**Kijevo**	**4.82**	**314**	*e*Pn	**Pn**	**18 53 52.9**	**+1.8**
ZIRJ	**Zirje**	**5.06**	**307**	*e*Pn	**Pn**	**18 53 55.5**	**+1.2**
MORI	**Morici**	**5.14**	**309**	*e*Pn	**Pn**	**18 53 56.5**	**+1.2**
DUGI	**Dugi Otok**	**5.60**	**307**	*e*Pn	**Pn**	**18 54 03.0**	**+1.3**
NVLJ	**Novalja**	**6.03**	**311**	*e*Pn	**Pn**	**18 54 08.8**	**+1.2**

*IDC **31** 19:00:11.6±2.9, 5°.49S×152°.82E, h0km, mb3.4/4,*
mb1 3.6/5, mb1mx3.4/38, mbtmp3.4/5, ML1.3/1, MS3.1/1,
Ms1 3.1/1, ms1mx2.6/16, Error ellipse: s-maj=74.4km
s-min=34.4km az=118.0

ISC 31 19:00:15.5±2.2, 5.5S±0°.3×153°.0E±0°.3, h37km, n7, σ1≡61/7, mb3.3/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.97**	**236**	Pn	**Pn**	**19 01 53.7**	**-1.4**
	0.4nm,0.3s,baz=64,slow=23,SNR=1.3						
PMG				Sn	**Sn**	**19 03 14.9**	**+1.8**
	1.2nm,0.3s,baz=200,slow=22,SNR=9.7						
SIJI	**Sorong**	**22.19**	**281**	LR	LR	19 15 08.1	
	comp=Z,50nm,18.4s,baz=154,slow=41						
WRA	**Warramunga Arr**	**23.14**	**230**	P	**P**	**19 05 18.6**	**0.0**
	0.3nm,0.4s,baz=55,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**25.77**	**224**	P	**P**	**19 05 42.9**	**-0.1**
	0.2nm,0.5s,baz=57,slow=9.3,SNR=8.0						
FITZ	**Fitzroy Crossi**	**29.51**	**243**	P	**P**	**19 06 15.7**	**-0.8**
	1.0nm,0.6s,baz=56,slow=6.4,SNR=5.2						
CMAR	**Chiang Mai Arr**	**58.38**	**295**	P	**P**	**19 10 07.5**	**-0.2**
	0.2nm,0.5s,baz=107,slow=5.8,SNR=1.6						
TORD	**Torodi Ar. Bea**	**150.73**	**287**	PKPbc	**PKiKP**	**19 20 07.6**	**+2.1**
	0.3nm,0.5s,baz=88,slow=3.0,SNR=2.1						

*ATH **31** 19:09:21.3, 38°.32N×20°.49E, h14km±1km, ML2.5/6, Error*
ellipse: s-maj=1.9km s-min=0.6km az=272.0
*THE **31** 19:09:21.3, 38°.32N×20°.48E, h13km, ML2.3/6, Error*
ellipse: s-maj=1.0km s-min=0.3km az=268.0

ISC 31 19:09:20.5±0.8, 38°.32N±0°.02×20°.46E±0°.03, h18km±4km, n43, σ0≡71/73, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEF5	**Kardakata, Kep**	**0.04**	**174**	P	**Pg**	**19 09 23.7**	**-0.1**
KEF5				S	**Sg**	**19 09 25.6**	**-0.4**
KEF5	**Kardakata, Kep**	**0.04**	**174**	P	**Pg**	**19 09 23.6**	**-0.1**
KEF5				S	**Sg**	**19 09 25.5**	**-0.4**
KEF4	**Livadi, Kephal**	**0.07**	**207**	P	**Pg**	**19 09 24.1**	**+0.2**
KEF4				S	**Sg**	**19 09 26.3**	**+0.1**
KEF4	**Livadi, Kephal**	**0.07**	**207**	P	**Pg**	**19 09 24.1**	**+0.2**
KEF4				S	**Sg**	**19 09 26.2**	**+0.1**
DMLN	**Damoulianata-K**	**0.11**	**222**	P	**Pb**	**19 09 24.6**	**+1.3**
DMLN				S	**Sb**	**19 09 27.0**	**+1.9**
DMLN	**Damoulianata-K**	**0.11**	**222**	P	**Pb**	**19 09 24.6**	**+1.3**
DMLN				S	**Sb**	**19 09 27.2**	**+2.1**
KEF3	**Kipouria, Keph**	**0.15**	**218**	P	**Pb**	**19 09 24.7**	**+0.4**
KEF3				S	**Sb**	**19 09 27.4**	**+0.8**
KEF3	**Kipouria, Keph**	**0.15**	**218**	P	**Pb**	**19 09 24.9**	**+0.6**
KEF3				S	**Sb**	**19 09 27.5**	**+0.8**
FSK	**Fiskardo**	**0.16**	**29**	P	**Pg**	**19 09 25.0**	**0.0**
FSK				S	**Sg**	**19 09 27.9**	**0.0**
FSK				AML	AML	19 09 28.1	
	comp=E,9425μm,0.2s						
FSK				AML	AML	19 09 28.2	
	comp=N,3133μm,0.3s						
FSK	**Fiskardo**	**0.16**	**29**	P	**Pg**	**19 09 24.9**	**0.0**
FSK				S	**Sg**	**19 09 27.8**	**-0.1**
	comp=N,3μm,0.1s						
VLS	**Valsamata**	**0.17**	**145**	P	**Pb**	**19 09 25.2**	**+0.3**
VLS				S	**Sb**	**19 09 28.2**	**+0.5**
VLS				AML	AML	19 09 28.6	
	comp=N,8118μm,0.1s						
VLS				AML	AML	19 09 29.0	
	comp=E,12086μm,0.1s						
VLS	**Valsamata**	**0.17**	**145**	P	**Pb**	**19 09 25.2**	**+0.3**
VLS				S	**Sb**	**19 09 28.2**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.23**	**155**	P	**Pb**	**19 09 26.1**	**+0.2**
PSDA				S	**Sb**	**19 09 29.9**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.23**	**155**	P	**Pb**	**19 09 26.2**	**+0.2**
PSDA				S	**Sb**	**19 09 29.9**	**+0.3**
EVGI	**Lefkada island**	**0.34**	**27**	P	**Pg**	**19 09 27.9**	**+0.2**
EVGI				S	**Sg**	**19 09 32.8**	**+0.2**
EVGI	**Lefkada island**	**0.34**	**27**	P	**Pg**	**19 09 27.9**	**+0.2**
EVGI				S	**Sb**	**19 09 33.1**	**-0.1**
DRAG	**Dragano-Lefkad**	**0.38**	**13**	P	**Pg**	**19 09 28.3**	**+0.1**
DRAG				S	**Sg**	**19 09 33.6**	**-0.1**
DRAG	**Dragano-Lefkad**	**0.38**	**13**	P	**Pg**	**19 09 28.5**	**+0.1**
DRAG				S	**Sb**	**19 09 34.4**	**+0.1**
	comp=E,885nm,0.2s						
NYDR	**Nydri-Lefkada**	**0.44**	**25**	P	**Pg**	**19 09 29.4**	**-0.1**
NYDR				S	**Sb**	**19 09 36.5**	**+0.5**
NYDR	**Nydri-Lefkada**	**0.44**	**25**	P	**Pg**	**19 09 29.5**	**+0.1**
NYDR				S	**Sb**	**19 09 36.0**	**0.0**
VLMS	**Volimes, Zakyn**	**0.47**	**160**	P	**Pb**	**19 09 30.4**	**+0.1**
VLMS				S	**Sb**	**19 09 37.1**	**+0.2**
VLMS				AML	AML	19 09 40.0	
	comp=E,1824μm,0.1s						
VLMS				AML	AML	19 09 41.1	
	comp=N,2419μm,0.3s						
VLMS	**Volimes, Zakyn**	**0.47**	**160**	P	**Pb**	**19 09 30.3**	**+0.1**
VLMS				S	**Sb**	**19 09 38.2**	**+1.3**
LKD2	**Lefkada island**	**0.49**	**18**	P	**Pg**	**19 09 30.6**	**+0.1**
LKD2				S	**Sb**	**19 09 38.4**	**+0.7**
LKD2	**Lefkada island**	**0.49**	**18**	P	**Pb**	**19 09 30.9**	**+0.2**
LKD2				S	**Sb**	**19 09 38.6**	**+0.9**
TSLK	**Tsoukalades, L**	**0.53**	**17**	P	**Pb**	**19 09 31.3**	**0.0**
TSLK				S	**Sb**	**19 09 39.0**	**+0.4**
TSLK	**Tsoukalades, L**	**0.53**	**17**	P	**Pg**	**19 09 31.1**	**0.0**
TSLK				S	**Sb**	**19 09 39.8**	**+1.2**
	comp=N,195nm,0.6s						
PDO	**Prodromos**	**0.63**	**63**	P	**Pg**	**19 09 33.1**	**0.0**
PDO				AML	AML	19 09 46.0	
	comp=E,666μm,0.4s						
PDO				AML	AML	19 09 46.2	
	comp=N,536μm,0.3s						
PDO	**Prodromos**	**0.63**	**63**	P	**Pg**	**19 09 33.0**	**0.0**
PDO				S	**Sb**	**19 09 42.3**	**+0.8**
	comp=N,432n

TRIZ	**Trizonia**	**1.27**	**87**	P		**Pn**	**19 09 43.6**	**+0.2**
KALE	**Kalithea**	**1.32**	**86**	P		**Pn**	**19 09 44.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.36**	**101**	P		**Pb**	**19 09 45.4**	**-0.1**
STON	**Ston**	**5.01**	**336**	*e*Pn		**Pn**	**19 10 33.8**	**-1.0**
STON				Sn		**Sn**	**19 11 29.5**	**-2.7**
KIJV	**Kijevo**	**6.45**	**333**	*e*Pn		**Pn**	**19 10 55.3**	**+0.7**
KIJV				Sn		**Sn**	**19 12 06.8**	**-1.0**
MORI	**Morici**	**6.60**	**329**	*e*Pn		**Pn**	**19 10 57.8**	**+1.1**
DUGI	**Dugi Otok**	**6.98**	**326**	*e*Pn		Pn	19 11 09.8	+7.9

SJA ***31*** *19:23:46.5±0.7,30°.62S×70°.50W,h10km,ML4.6,MW4.3*
NEIC ***31*** *19:23:48.1,30°.34S×69°.20W,h32km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.46; Mθθ0.50; Mϕϕ-3.97; Mrθ-0.53; Mθϕ-0.96; Mϕr-1.64; Fault plane solution: Mo4.23000×10¹⁵ NP1:ϕ₁94.91000°, δ57.21000°, λ93.86000°. NP2:ϕ₂7.81000°, δ33.00000°, λ84.03000°. Principal axes: T 3.8413, Plg77.0000°, Azm118.0000°; N 0.6917, Plg3.0000°, Azm13.0000°; P -4.5330, Plg12.0000°, Azm282.0000°;*
NEIC ***31*** *19:23:48.2±1.6,30°.35S±0°.04×69°.23W±0°.02,h30km±3km, mb4.8/88,Mwr4.4/26,Md4.5(SJA) Error ellipse: s-maj=5.1km s-min=2.9km az=179.0*
IDC ***31*** *19:23:49.0±0.6,30°.38S×69°.19W,h36km±3km,mb4.3/11, mb1 4.4/16,mb1mx4.3/30,mbtmp4.4/16,ML4.1/5,MS3.8/14, Ms1 3.8/14,ms1mx3.6/22,Error ellipse: s-maj=17.3km s-min=14.6km az=75.0*
GUC ***31*** *19:23:49.2±0.4,30°.33S×69°.46W,h21km±3km,ML4.7*
VAO ***31*** *19:23:49.6±0.7,30°.56S×69°.27W,h49km±7km,mb4.4*
ISC 31 19:23:48.6±0.5,30°.36S±0°.03×69°.32W±0°.04,h32km±3km, h33km:pP-P,n226,σ1§43/252,mb4.8/53,MS3.8/9,8C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CO03	**El Pedregal**	**1.28**	**248**	⇓*i*P		**Pn**	**19 24 11.4**	**+1.2**
CO03				*i* S		**Sn**	**19 24 28.3**	**+1.9**
CO03	**El Pedregal**	**1.28**	**248**	Pn		**Pn**	**19 24 11.2**	**+1.0**
CO03				Sn		**Sn**	**19 24 28.1**	**+1.7**
GO04	**Tololo Observa**	**1.29**	**278**	⇑*i*P		**Pn**	**19 24 11.5**	**+0.9**
GO04				*e*S		**Sn**	**19 24 28.7**	**+1.7**
GO04				IAML			19 24 30.1	
	comp=N,27μm,0.3s							
GO04	**Tololo Observa**	**1.29**	**278**	Pn		**Pn**	**19 24 11.7**	**+1.1**
GO04				Sn		**Sn**	**19 24 28.9**	**+1.9**
ZON	**Zonda**	**1.31**	**155**			**Pb**	**19 24 11.8**	**-0.8**
RTLS	**Leoncito**	**1.44**	**179**	*i* P		**Pb**	**19 24 14.4**	**-0.6**
LCO	**Las Campanas**	**1.80**	**318**	*e*S		**Sb**	**19 24 44.2**	**+0.8**
LCO	**Las Campanas**	**1.80**	**318**			**Pn**	**19 24 20.5**	**+2.9**
LCO						**Sb**	**19 24 44.5**	**+1.1**
AUSP	**Uspallata**	**1.86**	**182**	*i* P		**Pb**	**19 24 21.5**	**-0.6**
AUSP				*e*S		**Sb**	**19 24 46.6**	**+1.5**
ASAL	**Salagasta**	**2.27**	**170**	*i* P		**Pb**	**19 24 28.3**	**-0.6**
ASAL				*e*S		**Sb**	**19 25 00.2**	**+3.7**
ASAL				IAML			19 25 11.8	
	comp=Z,1μm,0.8s							
ARCO	**CERRO ARCO**	**2.50**	**173**	*i* P		**Pb**	**19 24 31.2**	**-1.7**
ARCO				*e*S		**Sb**	**19 25 06.8**	**+3.5**
ARCO				IAML			19 25 07.8	
	comp=Z,5μm,1.3s							
VA03	**San Esteban**	**2.62**	**203**	⇑*i*P		**Pb**	**19 24 33.2**	**-1.7**
VA03				*i* S		**Sb**	**19 25 06.9**	**+0.2**
VA03				IAML			19 25 12.8	
	comp=E,7μm,0.5s							
VA03	**San Esteban**	**2.62**	**203**			**Pb**	**19 24 33.2**	**-1.7**
AC04	**Llanos de Chal**	**2.64**	**324**	*e*P		**Pn**	**19 24 31.9**	**+3.0**
AC04				*e*S		**Sn**	**19 25 04.7**	**+5.0**
AC04				IAML			19 25 11.7	
	comp=N,4μm,0.2s							
AC04	**Llanos de Chal**	**2.64**	**324**			**Pn**	**19 24 31.6**	**+2.8**
GO03	**Copiap**	**2.87**	**343**	⇑*i*P		**Pn**	**19 24 35.5**	**+3.4**
GO03				*i* S		**Sb**	**19 25 11.7**	**-2.1**
GO03				IAML			19 25 17.6	
	comp=N,2μm,0.2s							
GO03	**Copiap**	**2.87**	**343**			**Pn**	**19 24 35.5**	**+3.4**
PEL	**Peldehue**	**3.01**	**202**	⇑*i*P		**Pn**	**19 24 37.5**	**+3.4**
PEL				*e*S		**Sb**	**19 25 15.3**	**-2.7**
PEL				IAML			19 25 24.6	
	comp=E,2μm,0.7s							
PEL	**Peldehue**	**3.01**	**202**	Pn		**Pn**	**19 24 37.4**	**+3.3**
MT05	**Renca**	**3.26**	**201**	⇑*i*P		**Pn**	**19 24 40.9**	**+3.4**
MT05				*i* S		**Sb**	**19 25 21.6**	**-3.4**
MT05				IAML			19 25 38.8	
	comp=E,3μm,0.6s							
MT05	**Renca**	**3.26**	**201**			**Pn**	**19 24 40.7**	**+3.2**
MT02	**Curacav**	**3.28**	**208**	⇑*i*P		**Pn**	**19 24 40.3**	**+2.6**
MT02				IAML			19 25 30.4	
	comp=E,961nm,0.3s							
MT02	**Curacav**	**3.28**	**208**	Pn		**Pn**	**19 24 40.3**	**+2.6**
MT03	**Universidad Ad**	**3.29**	**198**	⇑*i*P		**Pn**	**19 24 41.8**	**+3.9**
MT03				IAML			19 25 41.9	
	comp=N,2μm,0.6s							
AC02	**Maricunga**	**3.51**	**3**	⇑*i*P		**Pn**	**19 24 46.1**	**+4.7**
AC02				*e*S		**Sb**	**19 25 30.2**	**-2.5**
AC02				IAML			19 25 36.4	
	comp=E,754nm,0.6s							
AC02	**Maricunga**	**3.51**	**3**	Pn		**Pn**	**19 24 45.9**	**+4.5**
MT09	**Talagante**	**3.69**	**202**	*e*P		**Pn**	**19 24 45.8**	**+2.3**
VA05	**Santo Domingo**	**3.83**	**210**	*e*P		**Pn**	**19 24 47.8**	**+2.6**
AC01	**Pan de Azucar**	**4.34**	**345**	*e*P		**Pn**	**19 24 55.4**	**+3.1**
AC01	**Pan de Azucar**	**4.34**	**345**	Pn		**Pn**	**19 24 55.1**	**+2.8**
RFA	**San Rafael**	**4.46**	**171**	*i* P		**Pn**	**19 24 55.8**	**+1.8**
BO02	**Sierra Bellavi**	**4.59**	**195**	Pn		**Pn**	**19 24 58.4**	**+2.6**
GO02	**Mina Guanaco**	**5.18**	**357**	Pn		**Pn**	**19 25 07.2**	**+3.1**
PB14	**IPOC Station P**	**5.79**	**350**	Pn		**Pn**	**19 25 12.7**	**+0.2**
BI02	**San Fabin de**	**6.50**	**194**	Pn		**Pn**	**19 25 23.2**	**+1.2**
PB10	**IPOC Station P**	**6.90**	**351**	Pn		**Pn**	**19 25 29.0**	**+1.5**
PB15	**IPOC Station P**	**7.12**	**359**			**Pn**	**19 25 32.2**	**+1.5**
BI03	**Tigo**	**7.17**	**205**	Pn		**Pn**	**19 25 30.1**	**-1.0**
PB06	**IPOC Station P**	**7.62**	**358**	Pn		**Pn**	**19 25 38.0**	**+0.5**
LVC	**Limon Verde**	**7.72**	**3**	Pn		**Pn**	**19 25 40.4**	**+1.3**
	comp=E,2.6nm,0.3s,baz=175,slow=5.3,SNR=23							
LVC					Sn	**Sn**	**19 27 07.9**	**+2.2**
	comp=E,6.2nm,0.3s,baz=48,slow=23,SNR=3.7							
LVC					Lg	Lg	19 27 51.7	
	comp=E,12nm,0.3s,baz=316,slow=14,SNR=3.5							
LVC					LR	LR	19 28 56.4	
	comp=E,722nm,19.8s,baz=186,slow=40							
LVC	**Limon Verde**	**7.72**	**3**			**Pn**	**19 25 39.8**	**+0.6**
PB04	**IPOC Station P**	**8.03**	**354**	Pn		**Pn**	**19 25 42.5**	**-0.6**
PB09	**IPOC Station P**	**8.53**	**0**			**Pn**	**19 25 49.4**	**-0.6**
PB07	**IPOC Station P**	**8.61**	**356**			**Pn**	**19 25 50.3**	**-0.8**
PB01	**IPOC Station P**	**9.28**	**359**			**Pn**	**19 25 59.1**	**-1.0**
TA01	**Diego Aracena**	**9.78**	**355**	Pn		**Pn**	**19 26 05.5**	**-1.5**
PB08	**IPOC Station P**	**10.17**	**1**			**Pn**	**19 26 11.6**	**-1.1**
PLCA	**Paso Flores**	**10.40**	**185**	Pn		**Pn**	**19 26 16.4**	**+0.9**
	comp=E,0.3nm,0.3s,baz=352,slow=11,SNR=11							
PLCA					Sn	**Sn**	**19 28 12.6**	**+1.7**
	comp=E,0.3nm,0.3s,baz=115,slow=21,SNR=1.3							
PLCA					Lg	Lg	19 29 18.8	
	comp=E,0.7nm,0.3s,baz=134,slow=23,SNR=3.6							
PLCA					LR	LR	19 30 27.6	
	comp=E,985nm,18.1s,baz=357,slow=38							
PLCA	**Paso Flores**	**10.40**	**185**	Pn		**Pn**	**19 26 15.2**	**-0.3**
PLCA	**Paso Flores**	**10.40**	**185**	*e*P		**Pn**	**19 26 13.8**	**-1.7**
PSGCX	**Pisagua**	**10.74**	**356**	Pn		**Pn**	**19 26 17.7**	**-2.5**
ITQB	**Itaqui**	**11.03**	**90**	*e*P		**Pn**	**19 26 23.9**	**-0.1**
MNMC	**Minye Minye**	**11.18**	**359**			**Pn**	**19 26 22.9**	**-3.5**
CPUP	**Villa Florida**	**11.29**	**72**	Pn		**Pn**	**19 26 26.4**	**-1.3**
	comp=E,0.7nm,0.3s,baz=254,slow=12,SNR=9.5							
CPUP					Sn	**Sn**	**19 28 33.0**	**+0.2**
	comp=E,1.2nm,0.3s,baz=228,slow=17,SNR=1.9							
CPUP					Lg	Lg	19 29 47.9	
	comp=E,1.6nm,0.3s,baz=347,slow=18,SNR=3.4							
CPUP	**Villa Florida**	**11.29**	**72**			**Pn**	**19 26 26.0**	**-1.7**
AP01	**Chacalluta**	**11.97**	**355**	Pn		**Pn**	**19 26 34.8**	**-2.2**
PB16	**IPOC Station P**	**11.97**	**359**			**Pn**	**19 26 34.6**	**-2.9**
LL01	**San Ignacio de**	**12.25**	**191**	Pn		**Pn**	**19 26 39.5**	**-1.2**
PLTB	**Pedras Altas**	**13.54**	**100**	*e*P		**Pn**	**19 26 57.3**	**-1.1**
CPSB	**Cacapava Do Su**	**13.71**	**94**	*e*P		**Pn**	**19 26 59.7**	**-1.0**
LPAZ	**La Paz**	**14.05**	**5**	Pn		**Pn**	**19 27 07.3**	**+1.4**
	comp=E,0.5nm,0.3s,baz=202,slow=10.0,SNR=8.9							
LPAZ					LR	LR	19 33 31.7	
	comp=E,261nm,21.1s,baz=239,slow=41							
LPAZ	**La Paz**	**14.05**	**5**			**Pn**	**19 27 06.4**	**+0.5**
ITAB	**Concordia**	**15.38**	**83**	*e*P		**Pn**	**19 27 22.3**	**-1.0**
AQDB	**Aquidauana**	**15.74**	**54**	*e*P		**Pn**	**19 27 29.5**	**+1.6**
SIV	**San Ignacio**	**16.17**	**30**	Pn		**Pn**	**19 27 34.2**	**+0.6**
	comp=E,0.4nm,0.3s,baz=226,slow=11,SNR=12							
SIV					LR	LR	19 35 00.6	
	comp=E,289nm,18.4s,baz=256,slow=42							
PTGB	**Pitanga**	**16.30**	**74**	*e*P		**Pn**	**19 27 36.9**	**+1.8**
PTLB	**Pontes e Lacer**	**17.54**	**34**	*e*P		**P**	**19 27 53.1**	**+1.7**
PP1B	**Ponte de Pedra**	**18.29**	**49**	*e*P		**Pn**	**19 28 01.3**	**+1.4**
PCMB	**Pacaembu**	**18.41**	**66**	*e*P		**P**	**19 28 01.7**	**+0.6**
TIJ01	**Guaruva-PR**	**18.64**	**79**	*e*P		**P**	**19 28 04.3**	**+0.6**
VILB	**Vilhena**	**19.26**	**28**	*e*P		**Pn**	**19 28 12.8**	**+1.1**
NNA	**Nana**	**19.57**	**338**	LR		LR	19 34 39.3	
	comp=E,174nm,20.1s,baz=182,slow=33							
NNA	**Nana**	**19.57**	**338**	P		**P**	**19 28 13.1**	**-0.8**
ITRB	**Iturama**	**20.16**	**63**	*e*P		**P**	**19 28 21.1**	**+0.8**
PET01	**Itatiaim-SP**	**20.48**	**78**	*e*P		**P**	**19 28 23.4**	**-0.4**
SPB	**Sao Paulo**	**20.62**	**76**	P		**P**	**19 28 21.5**	**-3.7**
SPB					IAmb	IAmb	19 28 39.2	
	comp=Z,87nm,1.8s							
ETMB	**Extrema**	**20.64**	**9**	*e*P		**P**	**19 28 27.2**	**+1.8**
BB19B	**Bebedouro**	**20.86**	**69**	*e*P		**P**	**19 28 28.6**	**+0.6**
GO09	**Cerro Castillo**	**21.02**	**185**	P		**P**	**19 28 27.6**	**-1.7**
GO09					IAmb	IAmb	19 28 45.1	
	comp=Z,57nm,1.1s							
VAO	**Valinhos**	**21.25**	**75**	*e*P		**P**	**19 28 33.2**	**+1.0**
ARAG	**Araguaiana, MT**	**21.68**	**52**	*e*P		**P**	**19 28 36.3**	**-0.5**
SAML	**Samuel**	**22.06**	**16**			**P**	**19 28 39.0**	**-1.8**
SAML	**Samuel**	**22.06**	**16**	*e*P		**P**	**19 28 41.9**	**+1.1**
PARB	**Parabuna**	**22.24**	**77**	*e*P		**P**	**19 28 42.6**	**-0.1**
CZSB	**Cruzeiro do Su**	**22.73**	**351**	*e*P		**P**	**19 28 49.8**	**+1.9**
EFI	**East Falkland**	**22.88**	**162**	P		**P**	**19 28 47.8**	**-1.3**
CLDB	**Colider**	**23.11**	**36**	*e*P		**P**	**19 28 52.7**	**+0.8**
BSCB	**Bom Sucesso**	**23.96**	**73**	*e*P		**P**	**19 29 00.0**	**-0.2**
BDFB	**Brasilia**	**24.41**	**58**	P		**P**	**19 29 03.9**	**-0.4**
	comp=E,6.3nm,0.7s,baz=231,slow=6.8,SNR=5.6							
BDFB					LR	LR	19 39 33.7	
	comp=Z,336nm,21.4s,baz=186,slow=39							
BDFB	**Brasilia**	**24.41**	**58**			**P**	**19 29 03.6**	**-0.8**
ATAH	**Atahualpa**	**24.62**	**338**	LR		LR	19 37 28.2	
	comp=Z,119nm,19.8s,baz=200,slow=33							
SNDB	**Serra Nova Dou**	**24.77**	**46**	*e*P		**P**	**19 29 07.1**	**-0.4**
DIAM	**Diamantina, MG**	**26.20**	**69**	*e*P		**P**	**19 29 20.9**	**+0.2**
PEXB	**Peixe**	**26.63**	**52**	*e*P		**P**	**19 29 24.6**	**+0.3**
NPGB	**Novo Progresso**	**26.64**	**32**	*e*P		**P**	**19 29 24.3**	**-0.1**
JANB	**Januaria**	**27.55**	**62**	*e*P		**P**	**19 29 32.2**	**-0.4**
SJMB	**Sao Joao De Ma**	**28.02**	**72**	*e*P		**P**	**19 29 36.4**	**-0.4**
MACA	**Manacapuru-AM**	**28.26**	**18**	*e*P		**P**	**19 29 41.0**	**+2.1**
SDBA	**SAO DESIDERIO**	**28.80**	**57**	*e*P		**P**	**19 29 43.1**	**-0.8**
ITTB	**Itaituba**	**28.86**	**29**	*e*P		**P**	**19 29 44.8**	**+0.5**
SMTB	**Santa Maria do**	**29.49**	**48**	*e*P		**P**	**19 29 50.9**	**+1.0**
PRPB	**Parauapebas**	**30.25**	**41**	*e*P		**P**	**19 29 56.6**	**0.0**
PTGA	**Pitinga**	**30.77**	**19**	P		**P**	**19 29 59.9**	**-1.3**
PTGA					IAmb	IAmb	19 30 12.1	
	comp=Z,16nm,1.4s							
PTGA	**Pitinga**	**30.77**	**19**	*e*P		**P**	**19 30 01.5**	**+0.3**
GDU1	**Guandu, BA**	**32.02**	**65**	*e*P		**P**	**19 30 11.6**	**-0.7**
NBPN	**Ponto Novo - B**	**33.30**	**61**	*e*P		**P**	**19 30 22.7**	**-0.7**
BOAV	**Boa Vista**	**33.63**	**16**	*e*P		**P**	**19 30 26.2**	**-0.1**
MCPB	**Macapa, AP**	**34.05**	**32**	*e*P		**P**	**19 30 30.3**	**+0.4**
NBLA	**Lagarto - SE**	**35.05**	**63**	*e*P		**P**	**19 30 38.1**	**-0.5**
PAYG	**Puerto Ayora**	**35.62**	**322**	P		**P**	**19 30 44.0**	**+0.6**
NBTA	**Tacaratu-PE**	**36.01**	**61**	*e*P		**P**	**19 30 46.9**	**-0.1**
SDV	**Santo Domingo**	**39.04**	**358**	P		**P**	**19 31 11.5**	**-1.1**
MLPR	**Magueyes Islan**	**48.09**	**3**	P		**P**	**19 32 25.2**	**-0.1**
BELA	**Belgrano 2**	**50.08**	**171**	P		**P**	**19 32 40.8**	**+0.9**
BELA					IAmb	IAmb	19 32 41.1	
	comp=Z,8.8nm,1.1s							
LCCY	**Blossom Villag**	**50.80**	**347**	P		**P**	**19 32 47.5**	**+1.6**
GRTK	**Grand Turk**	**51.60**	**358**	P		**P**	**19 32 52.3**	**+0.5**
VNA3	**Neumayer Olymp**	**51.90**	**159**	P		**P**	**19 32 53.7**	**+0.1**
VNA2	**Neumayer--Watz**	**52.51**	**159**	P		**P**	**19 32 58.1**	**0.0**
	baz=292,slow=8.0							
TEIG	**Tepich**	**53.50**	**338**	P		**P**	**19 33 05.3**	**-0.6**
SNAA	**Sanae**	**54.12**	**159**	P		**P**	**19 33 09.9**	**-0.1**
SNAA	**Sanae**	**54.12**	**159**	P		**P**	**19 33 10.6**	**+0.6**
SNAA					IAmb	IAmb	19 33 22.3	
	comp=Z,14nm,1.2s							
SOR	**Soroa**	**54.46**	**344**	P		**P**	**19 33 12.3**	**-0.6**
SOR					IAmb	IAmb	19 33 13.7	
	comp=Z,13nm,1.0s							
X51A	**Calhoun**	**66.22**	**346**	P		**P**	**19 34 32.5**	**-0.6**
SWET	**Sewanee**	**67.08**	**345**	P		**P**	**19 34 38.4**	**-0.2**
SWET					IAmb	IAmb	19 34 49.9	
	comp=Z,14nm,1.1s							
JCT	**Junction City**	**67.09**	**332**	P		**P**	**19 34 38.5**	**-0.4**
JCT					IAmb	IAmb	19 34 40.8	
	comp=Z,10nm,0.8s							
V48A	**Smith Brothers**	**67.78**	**345**	P		**P**	**19 34 42.3**	**-0.7**
V48A					IAmb	IAmb	19 34 55.0	
	comp=Z,10nm,0.9s							
TXAR	**Lajitas Array**	**67.79**	**328**	P		**P**	**19 34 44.1**	**+0.7**
	comp=E,2.5nm,0.8s,baz=150,slow=8.8,SNR=21							
TXAR					pP	**pP**	**19 34 55.4**	**+1.2**
	comp=E,2.6nm,0.8s,baz=147,slow=7.5,SNR=14							
TXAR					LR	LR	20 00 23.4	
	comp=E,51nm,20.0s,baz=0.0,slow=32							
TXAR	**Lajitas Array**	**67.79**	**328**	P		**P**	**19 34 44.0**	**+0.7**
TX31	**Lajitas Ar. Si**	**67.79**	**328**	P		**P**	**19 34 43.7**	**+0.4**
TX31					IAmb	IAmb	19 34 56.1	
	comp=Z,8.7nm,0.8s							
TX32	**Lajitas Array**	**67.79**	**328**	P		**P**	**19 34 43.7**	**+0.3**
VNDA	**Vanda**	**68.11**	**191**	P		**P**	**19 34 45.9**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=130,slow=4.8,SNR=8.7							
VNDA					LR	LR	20 03 53.3	
	comp=Z,52nm,18.5s,baz=148,slow=35							
VNDA	**Vanda**	**68.11**	**191**	P		**P**	**19 34 45.9**	**+1.2**
S57A	**Dark Hollow, R**	**68.36**	**352**	P		**P**	**19 34 47.2**	**+0.6**
WVT	**Waverly**	**68.39**	**344**	P		**P**	**19 34 46.0**	**-0.9**
ABTX	**Abilene, Hawle**	**68.91**	**333**	P		**P**	**19 34 50.3**	**+0.1**
W39A	**Magazine**	**69.16**	**339**	P		**P**	**19 34 51.8**	**+0.1**
LCAR	**Lake Charles**	**69.19**	**341**	P		**P**	**19 34 51.5**	**-0.3**
LCAR					IAmb	IAmb	19 34 52.7	
	comp=Z,9.5nm,0.8s							
PBMO	**Poplar Bluff**	**69.66**	**342**	P		**P**	**19 34 54.5**	**-0.2**
U40A	**Yellville**	**69.94**	**340**	P		**P**	**19 34 56.4**	**-0.1**
U40A					IAmb	IAmb	19 34 57.6	
	comp=Z,7.9nm,1.1s							
P57A	**Homestead Farm**	**69.95**	**353**			**P**	**19 34 56.5**	**+0.1**
WMOK	**Wichita Mounta**	**70.45**	**335**	P		**P**	**19 34 59.2**	**-0.5**
MNTX	**Cornudas Mount**	**70.57**	**328**	P		**P**	**19 34 60.0**	**-0.5**
S39A	**Bolivar**	**71.32**	**340**	P		**P**	**19 35 04.8**	**-0.1**
S39A					IAmb	IAmb	19 35 06.1	
	comp=Z,12nm,1.1s							
MSTX	**Muleshoe**	**71.36**	**331**	P		**P**	**19 35 04.9**	**-0.5**
LIC	**Lamto**	**71.42**	**71**	*e*P		**P**	**19 35 06.0**	**0.0**
	comp=Z,31nm,0.8s							
R40A	**Maddies Statio**	**71.58**	**341**	P		**P**	**19 35 06.3**	**-0.1**
R40A					IAmb	IAmb	19 35 07.4	
	comp=Z,13nm,0.8s							
TIC	**Toumodi**	**71.66**	**71**	*e*P		**P**	**19 35 08.0**	**+0.5**
AMTX	**Amarillo**	**71.70**	**332**	P		**P**	**19 35 07.2**	**-0.2**
AMTX					IAmb	IAmb	19 35 08.9	
	comp=Z,9.3nm,1.1s							
KIC	**Kosan Boka**	**71.73**	**71**	*e*P		**P**	**19 35 08.0**	**+0.1**
	comp=Z,13nm,0.7s							
DBIC	**Dimbokro**	**71.81**	**71**	P		**P**	**19 35 08.4**	**0.0**
	comp=Z,7.0nm,0.5s,baz=205,slow=7.1,SNR=16							
DBIC					LR	LR	20 03 55.4	
	comp=Z,96nm,20.6s,baz=189,slow=34							
DBIC	**Dimbokro**	**71.81**	**71**	P		**P**	**19 35 07.9**	**-0.4**
121A	**Cookes Peak, D**	**72.39**	**327**	P		**P**	**19 35 12.7**	**+1.1**
121A					IAmb	IAmb	19 35 14.3	
	comp=Z,9.0nm,0.9s							
P40A	**Paris**	**72.67**	**342**	P		**P**	**19 35 12.6**	**-0.3**
P40A					IAmb	IAmb	19 35 13.9	
	comp=Z,8.8nm,0.8s							
LENM	**Lemitar**	**73.36**	**328**	P		**P**	**19 35 18.2**	**+0.8**
ANMO	**Albuquerque**	**73.78**	**329**	P		**P**	**19 35 20.7**	**+0.8**
214A	**Organ Pipe Nat**	**74.44**	**323**	P		**P**	**19 35 24.9**	**+1.3**
214A					IAmb	IAmb	19 35 26.4	
	comp=Z,10.0nm,1.1s							
T25A	**Trinidad**	**74.76**	**332**	P		**P**	**19 35 25.1**	**-0.4**
T25A					IAmb	IAmb	19 35 28.6	
	comp=Z,12nm,1.2s							
L40A	**Anamosa**	**74.84**	**343**	P		**P**	**19 35 25.2**	**-0.3**
MAW	**Mawson**	**75.99**	**163**	P		**P**	**19 35 32.1**	**+0.1**
	comp=Z,6.7nm,1.0s,baz=230,slow=7.9,SNR=3.3							
MAW					LR	LR	20 09 09.5	
	comp=Z,66nm,19.4s,baz=237,slow=36							
MAW	**Mawson**	**75.99**	**163**		IAmb	IAmb	19 35 33.3	
	comp=Z,3.4nm,1.4s							
WUAZ	**Wupatki**	**76.54**	**326**	P		**P**	**19 35 37.2**	**+1.5**
WUAZ					IAmb	IAmb	19 35 38.4	
	comp=Z,11nm,1.2s							
MVCO	**Mesa Verde**	**76.58**	**329**	P		**P**	**19 35 37.1**	**+1.1**
MVCO					IAmb	IAmb	19 35 38.3	
	comp=Z,6.9nm,0.8s							
I37A	**Lemond, Waseca**	**77.22**	**342**	P		**P**	**19 35 39.1**	**0.0**
PV13	**Radium Mtn., P**	**77.50**	**329**	P		**P**	**19 35 41.7**	**+0.5**
PV13					IAmb	IAmb	19 35 43.4	
	comp=Z,8.9nm,1.0s							
SMCO	**Snowmass**	**77.55**	**331**	P		**P**	**19 35 42.6**	**+1.0**
SMCO					IAmb	IAmb	19 35 44.3	
	comp=Z,7.2nm,0.8s							
PV03	**Paradox Valley**	**77.59**	**329**	P		**P**	**19 35 41.4**	**-0.2**
ECSD	**EROS Data Cent**	**77.86**	**340**	P		**P**	**19 35 42.3**	**-0.3**
ECSD					IAmb	IAmb	19 35 43.7	
	comp=Z,9.8nm,0.9s							
KNB	**Kanab**	**78.44**	**326**			**P**	**19 35 47.9**	**+1.6**
KNB					IAmb	IAmb	19 35 49.1	
	comp=Z,12nm,1.1s							
O20A	**White River Ci**	**78.89**	**331**	P		**P**	**19 35 49.4**	**+0.7**
O20A					IAmb	IAmb	19 35 51.0	
	comp=Z,9.6nm,1.1s							
MTPU	**Mount Pierson**	**78.95**	**327**	P		**P**	**19 35 50.0**	**+0.7**
D41A	**Chassel**	**78.99**	**347**			**P**	**19 35 49.1**	**+0.3**
CCUT	**Cedar City**	**79.13**	**326**	P		**P**	**19 35 50.9**	**+0.8**
CCUT					IAmb	IAmb	19 35 53.1	
	comp=Z,7.5nm,0.9s							
SHPR	**Sheep Range**	**79.20**	**324**	P		**P**	**19 35 51.6**	**+1.1**
MSU	**Marysvale**	**79.33**	**327**	P		**P**	**19 35 51.7**	**+0.6**
BOSA	**Boshof**	**79.69**	**117**	P		**P**	**19 35 52.5**	**-0.9**
	comp=Z,5.1nm,0.8s,baz=282,slow=5.3,SNR=8.5							
BOSA					LR	LR	20 05 41.5	
	comp=Z,73nm,20.4s,baz=200,slow=32							
RDMU	**Red Mountain**	**79.82**	**330**	P		**P**	**19 35 54.6**	**+0.8**
RDMU					IAmb	IAmb	19 35 55.7	
	comp=Z,8.8nm,1.0s							
PSUT	**Pine Spring**	**80.14**	**326**	P		**P**	**19 35 56.4**	**+0.8**
RSSD	**Black Hills**	**80.63**	**335**	P		**P**	**19 35 58.4**	**+0.3**
TOA0	**Torodi Ar. Sit**	**80.78**	**69**	P		**P**	**19 35 58.9**	**-0.3**
TOA0					IAmb	IAmb	19 35 60.0	
	comp=Z,9.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**80.78**	**69**	P		**P**	**19 35 59.1**	**-0.1**
	comp=Z,7.6nm,0.7s,baz=278,slow=6.4,SNR=68							
TORD					pP	**pP**	**19 36 09.3**	**-0.8**
	comp=Z,5.4nm,0.9s,baz=269,slow=6.1,SNR=7.3							
TORD					LR	LR	20 09 59.5	
	comp=Z,98nm,19.3s,baz=215,slow=34							
TORD	**Torodi Ar. Bea**	**80.78**	**69**	P		**P**	**19 35 58.6**	**-0.6**
TORD					IAmb	I

*IDC **31** 20:32:36.8±5.8,5˚.39S×152˚.74E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.4/48,mbtmp3.5/5,Error ellipse: s-maj=185.6km s-min=32.0km az=108.0*

ISC 31 20:32:44.5±3.1,5˚.4S±0˚.4×152˚.3E±0.5,h40km,n6,σ0s72/6, mb3.3/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.51**	**232**	Sn	**Sn**		**20 35 30.7**	**-0.2**
	0.6nm,0.3s,baz=340,slow=11,SNR=1.8							
WRA	**Warramunga Arr**	**22.72**	**229**	P	**P**		**20 37 43.6**	**+0.4**
	0.6nm,0.8s,baz=53,slow=9.8,SNR=3.3							
ASAR	**Alice Springs**	**25.42**	**222**	P	**P**		**20 38 08.4**	**-0.2**
	0.6nm,0.8s,baz=52,slow=9.2,SNR=6.9							
MKAR	**Makanchi Array**	**80.44**	**319**	P	**P**		**20 44 51.8**	**-0.3**
	0.3nm,0.8s,baz=100,slow=6.2,SNR=2.5							
KURBB	**Kurchatov Arra**	**83.95**	**322**	P	**P**		**20 45 09.8**	**-0.6**
	0.3nm,0.6s,baz=90,slow=4.8,SNR=1.9							
AAK	**Ala-Archa**	**84.71**	**314**	P	**P**		**20 45 15.6**	**+0.9**
	1.1nm,0.8s,baz=47,slow=23,SNR=4.2							

*IDC **31** 20:34:46.8±1.9,23˚.79S×179˚.91E,h509km±20km,mb3.6/7, mb1 3.7/9,mb1mx3.2/40,mbtmp4.4/9,Error ellipse: s-maj=24.1km s-min=22.5km az=91.0*

*NEIC **31** 20:34:47.3±2.0,23˚.8S±0˚.1×179˚.8E±0˚.1,h513km±14km, mb4.4/15,Error ellipse: s-maj=23.3km s-min=12.9km az=223.0*

ISC 31 20:34:48.4±0.9,23˚.85S±0˚.09×179˚.8E±0˚.1,h526km,n28, σ1s41/29,mb4.2/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.31**	**345**	P	**P**		**20 36 26.5**	**-2.5**
	1.3nm,0.3s,baz=277,slow=22,SNR=4.2							
MXZ	**Matakaoa Point**	**13.72**	**185**	P	**P**		**20 37 47.2**	**+2.5**
URZ	**Urewera**	**14.54**	**188**	P	**P**		**20 37 52.8**	**-0.4**
	3.2nm,0.3s,baz=298,slow=22,SNR=12							
URZ				S	**S**		**20 40 22.5**	**-3.2**
	0.3nm,0.3s,baz=303,slow=24,SNR=1.4							
BKZ	**Black Stump Fm**	**15.52**	**190**	P	**P**		**20 38 00.7**	**-2.8**
BKZ				IAmb	IAmb		20 38 12.3	
	comp=Z,27nm,1.6s							
MSWZ	**Moikau Station**	**17.92**	**191**	P	**P**		**20 38 25.8**	**-0.8**
QRZ	**Quartz Range**	**17.99**	**198**	P	**P**		**20 38 29.0**	**+1.8**
NNZ	**Nelson**	**18.13**	**196**	P	**P**		**20 38 29.7**	**+1.3**
RPZ	**Rata Peaks**	**21.08**	**198**	P	**P**		**20 38 55.6**	**+0.3**
	comp=Z,6.8nm,0.8s,baz=25,slow=17,SNR=3.5							
RPZ	**Rata Peaks**	**21.08**	**198**	IAmb	IAmb		20 38 55.6	
	comp=Z,36nm,1.3s							
MLZ	**Mavora Lakes**	**23.47**	**201**	P	**P**		**20 39 16.4**	**-0.3**
CTA	**Charters Tower**	**31.30**	**270**	P	**P**		**20 40 26.6**	**+1.0**
	comp=Z,8.9nm,0.3s,baz=95,slow=10,SNR=22							
CTAO	**Charters Tower**	**31.30**	**270**	P	**P**		**20 40 26.7**	**+1.1**
CTAO				IAmb	IAmb		20 40 27.1	
	comp=Z,11nm,0.5s							
AS31	**Alice Springs**	**41.87**	**261**	P	**P**		**20 41 52.5**	**-0.1**
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**		**20 41 53.0**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=102,slow=7.2,SNR=25							
ASAR				ScP	**ScP**		**20 46 38.5**	**+1.9**
	comp=Z,1.2nm,0.8s,baz=112,slow=4.1,SNR=9.4							
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**		**20 41 52.9**	**+0.3**
WR0	**Warramunga Arr**	**42.05**	**266**	P	**P**		**20 41 53.6**	**-0.4**
WB2	**Warramunga Arr**	**42.22**	**266**	P	**P**		**20 41 55.2**	**-0.3**
WB2				IAmb	IAmb		20 41 55.7	
	comp=Z,4.3nm,0.7s							
WB0	**Warramunga Arr**	**42.23**	**266**	P	**P**		**20 41 55.1**	**-0.4**
WB0				IAmb	IAmb		20 41 55.8	
	comp=Z,5.2nm,0.7s							
WRA	**Warramunga Arr**	**42.23**	**266**	P	**P**		**20 41 55.2**	**-0.4**
	comp=Z,2.4nm,0.4s,baz=92,slow=8.4,SNR=95							
WRA	**Warramunga Arr**	**42.23**	**266**	P	**P**		**20 41 54.5**	**-1.1**
FORT	**Forrest**	**46.16**	**250**	P	**P**		**20 42 25.6**	**-0.1**
FORT				IAmb	IAmb		20 42 55.7	
	comp=Z,24nm,0.9s							
MTN	**Manton Dam**	**47.28**	**274**	P	**P**		**20 42 33.4**	**-1.0**
MTN				IAmb	IAmb		20 43 10.7	
	comp=Z,12nm,1.4s							
FITZ	**Fitzroy Crossi**	**50.66**	**266**	P	**P**		**20 43 00.1**	**+0.7**
SIJI	**Sorong**	**52.25**	**289**	P	**P**		**20 43 10.1**	**-1.0**
	comp=Z,11nm,0.7s,baz=126,slow=17,SNR=4.4							
BATI	**Baumata**	**55.05**	**274**	P	**P**		**20 43 32.1**	**+1.3**
	comp=Z,6.6nm,0.6s,baz=133,slow=19,SNR=1.7							
TOLI2	**Tolitoli**	**62.40**	**285**	P	**P**		**20 44 20.8**	**+0.5**
TOLI2				IAmb	IAmb		20 44 37.1	
	comp=Z,5.5nm,1.0s							
P17A	**Butcher Ranch,**	**90.34**	**46**	P	**P**		**20 46 55.1**	**+1.6**
P17A				IAmb	IAmb		20 47 00.5	
	comp=Z,4.6nm,0.5s							
TXAR	**Lajitas Array**	**90.56**	**58**	P	**P**		**20 46 54.1**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=207,slow=5.2,SNR=5.5							

IDC 31 20:40:25.9±3.7,2˚.75N×125˚.25E,h0km,mb3.4/3, mb1 3.8/3,mb1mx3.2/49,mbtmp3.5/3,Error ellipse: s-maj=200.9km s-min=33.8km az=86.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.26**	**159**	P	P		20 45 45.4	+0.4
	0.3nm,0.4s,baz=337,slow=10,SNR=6.1							
ASAR	**Alice Springs**	**27.58**	**163**	P	P		20 46 14.7	-0.2
	0.2nm,0.5s,baz=348,slow=11,SNR=4.9							
ILAR	**Eielson Array**	**86.61**	**25**	P	P		20 53 10.9	-0.2
	1.0nm,1.1s,baz=270,slow=3.6,SNR=4.9							

*IDC **31** 20:40:40.0±0.8,8˚.95S×158˚.28E,h0km,mb3.7/8, mb1 3.9/8,mb1mx3.7/42,mbtmp3.7/8,MS3.1/1,Ms1 3.1/1, ms1mx2.6/29,Error ellipse: s-maj=27.2km s-min=19.1km az=19.0*

ISC 31 20:40:44.3±0.8,9˚.0S±0˚.2×158˚.32E±0˚.10,h29km,n11, σ0s69/11,mb3.9/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.67**	**106**	Pn	**Pn**		**20 41 10.6**	**-1.0**
	116nm,0.3s,baz=269,slow=3.1,SNR=22							
HNR				Sn	**Sb**		**20 41 35.8**	**+0.8**
	293nm,0.3s,baz=63,slow=21,SNR=9.7							
HNR				LR	LR		20 41 38.3	
	comp=Z,254nm,21.1s,baz=246,slow=34							
DZM	**Mont Dzumac**	**15.19**	**150**	LR	LR		20 49 14.1	
	comp=Z,66nm,18.4s,baz=195,slow=34							
WRA	**Warramunga Arr**	**25.61**	**242**	P	**P**		**20 46 11.5**	**+0.1**
	0.7nm,0.7s,baz=70,slow=9.5,SNR=5.2							
ASAR	**Alice Springs**	**27.54**	**235**	P	**P**		**20 46 28.9**	**+0.1**
	0.4nm,0.9s,baz=59,slow=9.8,SNR=3.2							
CMAR	**Chiang Mai Arr**	**64.60**	**295**	P	**P**		**20 51 18.8**	**-0.8**
	1.0nm,0.8s,baz=132,slow=4.5,SNR=5.6							
VNDA	**Vanda**	**68.55**	**179**	P	**P**		**20 51 44.1**	**+0.4**
	0.9nm,0.8s,baz=330,slow=6.4,SNR=6.0							
SONM	**Songino Array**	**72.78**	**326**	P	**P**		**20 52 11.1**	**+0.9**
	0.9nm,0.8s,baz=118,slow=6.1,SNR=5.9							
MKAR	**Makanchi Array**	**87.06**	**318**	P	**P**		**20 53 27.5**	**+0.2**
	0.7nm,0.8s,baz=103,slow=5.5,SNR=8.4							
ZALV	**Zalesovo Beam**	**87.66**	**325**	P	**P**		**20 53 29.3**	**-0.6**
	0.4nm,0.6s,baz=89,slow=5.9,SNR=1.9							
YKA	**Yellowknife Ar**	**96.54**	**28**	P	**P**		**20 54 11.3**	**+0.4**
	0.2nm,0.7s,baz=258,slow=3.1,SNR=2.9							
ESDC	**Sonseca Array**	**145.57**	**335**	PKPbc	**PKPbc**		**21 00 20.1**	**-0.3**
	0.8nm,1.0s,baz=18,slow=0.4,SNR=3.8							

*IDC **31** 20:52:09.9±1.7,8˚.06S×117˚.59E,h0km,mb3.1/4, mb1 3.4/6,mb1mx3.3/45,mbtmp3.3/6,ML3.0/2,Error ellipse: s-maj=55.6km s-min=22.4km az=59.0*

ISC 31 20:52:15.0±1.3,8˚.10S±0˚.08×117˚.9E±0˚.2,h35km,n6, σ2s18/8,mb3.6/3,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.59**	**31**	Pn	**Pn**		**20 53 09.1**	**+0.9**
	6.0nm,0.3s,baz=196,slow=8.1,SNR=16							
KAPI				Sn	**Sn**		**20 53 48.7**	**-0.6**
	4.4nm,0.3s,baz=131,slow=23,SNR=10							
FITZ	**Fitzroy Crossi**	**12.48**	**144**	Pn	**Pn**		**20 55 11.6**	**+1.4**
	0.0nm,0.3s,baz=321,slow=14,SNR=2.1							
FITZ				Sn	**Sn**		**20 57 24.6**	**-3.5**
	0.1nm,0.3s,baz=226,slow=16,SNR=1.8							
WRA	**Warramunga Arr**	**19.81**	**128**	P	**P**		**20 56 44.7**	**+0.2**
	0.3nm,0.4s,baz=302,slow=13,SNR=6.1							
ASAR	**Alice Springs**	**21.80**	**137**	P	**P**		**20 57 06.8**	**+2.5**
	0.4nm,0.6s,baz=314,slow=9.3,SNR=3.8							
SONM	**Songino Array**	**56.61**	**351**	P	**P**		**21 01 53.2**	**-1.4**
	0.4nm,0.6s,baz=178,slow=7.2,SNR=2.9							
MKAR	**Makanchi Array**	**63.16**	**333**	P	**P**		**21 02 39.1**	**-0.3**
	0.3nm,0.6s,baz=134,slow=6.9,SNR=4.9							

*IDC **31** 20:59:01.7±3.4,10˚.21S×113˚.03W,h0km,mb3.9/3, mb1 3.9/3,mb1mx3.5/45,mbtmp3.9/3,MS3.3/5,Ms1 3.3/5, ms1mx3.0/35,Error ellipse: s-maj=68.7km s-min=48.9km az=44.0*

ISC 31 20:59:03.1±2.5,10˚.2S±0˚.3×113˚.0W±0˚.3,h10km,n12, σ0s51/7,mb3.8/3,MS3.4/4,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**2.75**	**329**	Pn	**Pn**		**20 59 46.6**	**-0.5**
	baz=336,slow=73,SNR=6.8							
H10N3	**ASCENSION HYDR**	**2.77**	**328**	Pn	**Pn**		**20 59 47.5**	**+0.2**
	baz=336,slow=73,SNR=6.6							
H10N2	**ASCENSION HYDR**	**2.77**	**329**	Pn	**Pn**		**20 59 47.4**	**0.0**
	baz=336,slow=73,SNR=7.2							
DBIC	**Dimbokro**	**18.64**	**26**	LR	LR		21 08 35.2	
	comp=Z,55nm,21.8s,baz=170,slow=31							
KOWA	**Kowa**	**26.12**	**20**	P	**P**		**21 04 38.2**	**+0.7**
	4.3nm,0.8s,baz=205,slow=9.0,SNR=9.8							
TORD	**Torodi Ar. Bea**	**27.43**	**33**	P	**P**		**21 04 48.7**	**-0.6**
	0.8nm,0.8s,baz=216,slow=10,SNR=2.9							
CPUP	**Villa Florida**	**44.77**	**243**	LR	LR		21 24 50.4	
	comp=Z,22nm,18.7s,baz=200,slow=35							
IDI	**Anoyia**	**57.73**	**36**	LR	LR		21 32 31.9	
	comp=Z,20nm,21.9s,baz=108,slow=35							
VRAC	**Vranov**	**64.73**	**21**	LR	LR		21 36 31.1	
	comp=Z,43nm,18.3s,baz=84,slow=35							
AKASG	**Malin Array Be**	**70.89**	**27**	P	**P**		**21 10 20.3**	**+0.1**
	0.3nm,0.4s,baz=223,slow=6.5,SNR=4.6							
TEIG	**Tepich**	**79.93**	**293**	LR	LR		21 43 19.9	
	comp=Z,27nm,19.7s,baz=118,slow=33							
WRA	**Warramunga Arr**	**136.07**	**133**	PKP	**PKPdf**		**21 18 25.6**	**0.0**
	0.7nm,1.0s,baz=232,slow=4.0,SNR=2.3							

*TAP **31** 21:12:16.9,22˚.22N×120˚.01E,h40km,ML3.5,C*
*JMA **31** 21:12:19.8±0.2,22˚.30N×120˚.16E,h59km±4km,M3.5*

ISC 31 21:12:17.8±1.2,22˚.22N±0˚.03×120˚.00E±0˚.03,h45km,g9km, n135,σ0s79/246,14C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.36**	**69**	⇑*i*P	**Pn**		**21 12 26.4**	**-0.8**
	baz=65							
TWP				*i* S	**Sn**		**21 12 33.6**	**-0.1**
	baz=65							
WLCH	**Liuqiu**	**0.38**	**69**	⇑*i*P	**Pn**		**21 12 26.8**	**-0.5**
	baz=65							
WLCH				*i* S	**Sn**		**21 12 34.1**	**+0.1**
	baz=65							
KAU	**Kaohsiung**	**0.45**	**39**	*e*P	**Pn**		**21 12 27.9**	**-0.2**
	baz=39							
KAU				*i* S	**Sn**		**21 12 36.4**	**+0.9**
	baz=39							
SSPT	**Xinbi**	**0.59**	**63**	⇑*i*P	**Pn**		**21 12 29.6**	**-0.4**
	baz=63							
SSPT				*i* S	**Sn**		**21 12 38.8**	**+0.2**
	baz=63							
SCZT	**Fangliau**	**0.60**	**75**	⇑*i*P	**Pn**		**21 12 29.6**	**-0.5**
	baz=75							
SCZT				*i* S	**Sn**		**21 12 38.1**	**-0.6**
	baz=75							
SNJT	**Kaohsiung City**	**0.62**	**30**	*e*P	**Pn**		**21 12 30.2**	**-0.1**
	baz=30							
SNJT				*e*S	**Sn**		**21 12 39.2**	**-0.1**
	baz=30							
TSPT	**Pingtung City**	**0.65**	**45**	P	**Pn**		**21 12 31.3**	**+0.6**
	baz=45							
TSPT				S	**Sn**		**21 12 41.1**	**+1.1**
	baz=45							
SGLT	**Jiouru**	**0.68**	**42**	⇑*i*P	**Pn**		**21 12 31.7**	**+0.6**
	baz=42							
SGLT				*i* S	**Sn**		**21 12 42.4**	**+1.7**
	baz=42							
MASBT	**Mashibuluo**	**0.71**	**56**	⇑P	**Pn**		**21 12 30.7**	**-0.8**
	baz=56							
MASBT				S	**Sn**		**21 12 41.3**	**0.0**
	baz=56							
HEN	**Hengchun**	**0.72**	**107**	*i* P	**Pn**		**21 12 32.0**	**+0.4**
	baz=98							
HEN				S	**Sn**		**21 12 42.4**	**+0.8**
	baz=98							
TWM1	**Shoushan**	**0.72**	**33**	*i* P	**Pn**		**21 12 32.3**	**+0.6**
	baz=33							
TWM1				S	**Sn**		**21 12 41.7**	**0.0**
	baz=33							
SLIU	**Shizi**	**0.74**	**90**	*i* P	**Pn**		**21 12 31.7**	**-0.3**
	baz=90							
SLIU				*i* S	**Sn**		**21 12 42.3**	**+0.1**
	baz=90							
SNW	**Nanwan**	**0.74**	**110**	P	**Pn**		**21 12 31.7**	**-0.3**
	baz=113							
SNW				*e*S	**Sn**		**21 12 42.2**	**0.0**
	baz=113							
TSMG	**Majia**	**0.77**	**51**	*e*P	**Pn**		**21 12 31.8**	**-0.6**
	baz=63							
TSMG				*e*S	**Sn**		**21 12 41.9**	**-1.0**
	baz=63							
SSD	**Sandimen**	**0.79**	**48**	⇑*i*P	**Pn**		**21 12 32.3**	**-0.3**
	baz=62							
SSD				*i* S	**Sn**		**21 12 42.5**	**-0.8**
	baz=62							
TWK1	**Hengchun**	**0.80**	**110**	⇑*i*P	**Pn**		**21 12 32.5**	**-0.1**
	baz=110							
TWK1				*i* S	**Sn**		**21 12 44.3**	**+0.8**
	baz=110							
TWKBT	**Hengchun**	**0.80**	**110**	⇑P	**Pn**		**21 12 32.7**	**-0.1**
	baz=110							
TWKBT				S	**Sn**		**21 12 44.2**	**+0.6**
	baz=110							
EAST	**Anshuo**	**0.81**	**78**	⇑*i*P	**Pn**		**21 12 32.7**	**-0.1**
	baz=78							
EAST				*i* S	**Sn**		**21 12 43.9**	**+0.1**
	baz=78							
SCST	**Cishan**	**0.81**	**34**	*e*P	**Pn**		**21 12 33.0**	**+0.2**
	baz=34							
SCST				S	**Sn**		**21 12 44.8**	**+1.0**
	baz=34							
TAW	**Tawu**	**0.84**	**80**	*i* P	**Pn**		**21 12 33.1**	**-0.2**
	baz=80							
TAW				*i* S	**Sn**		**21 12 43.5**	**-1.2**
	baz=80							
TAI1	**Yung-k'ang**	**0.85**	**15**	P	**Pn**		**21 12 33.3**	**0.0**
	baz=15							
TAI1				*e*S	**Sn**		**21 12 45.1**	**+0.4**
	baz=15							
TSEB	**Hengchuen, Pin**	**0.90**	**110**	*i* P	**Pn**		**21 12 33.4**	**-0.6**
	baz=112							
TSEB				*i* S	**Sn**		**21 12 45.5**	**-0.3**
	baz=112							
CHN3	**Shinhua**	**0.92**	**22**	S	**Sn**		**21 12 47.8**	**+1.3**
	baz=9.0							
ECL	**Taimali**	**0.96**	**67**	⇑*i*P	**Pn**		**21 12 34.8**	**-0.1**
	baz=67							
ECL				*i* S	**Sn**		**21 12 46.1**	**-1.4**
	baz=67							
SCLT	**Jiali**	**0.97**	**11**	P	**Pn**		**21 12 35.1**	**0.0**
	baz=11							
SCLT				S	**Sn**		**21 12 47.6**	**-0.1**
	baz=11							
SLGT	**Liugui**	**0.98**	**38**	P	**Pn**		**21 12 35.1**	**-0.1**
	baz=37							
SLGT				S	**Sn**		**21 12 47.7**	**-0.2**
	baz=37							
SGST	**Jiashian**	**1.02**	**32**	*i* P	**Pn**		**21 12 34.7**	**-1.0**
	baz=32							
SGST				S	**Sn**		**21 12 48.2**	**-0.7**
	baz=32							
CHN1	**Nanshi**	**1.08**	**27**	P	**Pn**		**21 12 36.3**	**-0.3**
	baz=26							
CHN1				S	**Sn**		**21 12 50.7**	**+0.2**
	baz=26							
WDGT	**Dungji**	**1.08**	**343**	P	**Pn**		**21 12 35.6**	**-1.0**
	baz=356							
WDGT				S	**Sn**		**21 12 49.5**	**-0.9**
	baz=356							
SNST	**Tainan City**	**1.10**	**25**	*e*P	**Pn**		**21 12 36.8**	**0.0**
	baz=12							
VCHM	**Qimei**	**1.12**	**332**	P	**Pn**		**21 12 36.0**	**-1.1**
	baz=332							
VCHM				*e*S	**Sn**		**21 12 50.9**	**-0.4**
	baz=332							
TWK	**Hsinying**	**1.14**	**23**	P	**Pn**		**21 12 37.0**	**-0.4**
	baz=24							
TWK				S	**Sn**		**21 12 52.0**	**0.0**
	baz=24							
CHN8	**Yiju**	**1.14**	**10**	P	**Pn**		**21 12 37.8**	**+0.5**
	baz=10.0							
CHN8				S	**Sn**		**21 12 52.5**	**+0.7**
	baz=10.0							
TWG	**Pinlang**	**1.16**	**59**	⇑*i*P	**Pn**		**21 12 38.0**	**+0.3**
	baz=59							
TWG				S	**Sn**		**21 12 51.4**	**-1.0**
	baz=59							
TWGBT	**Beinan**	**1.17**	**59**	⇑P	**Pn**		**21 12 37.9**	**+0.2**
	baz=59							
TWGBT				S	**Sn**		**21 12 51.7**	**-0.8**
	baz=59							
ICHU	**Yijhu**	**1.17**	**13**	*e*P	**Pn**		**21 12 37.8**	**+0.1**
	baz=13							
ICHU				*e*S	**Sn**		**21 12 53.1**	**+0.6**
	baz=13							
WTP	**Ta-pu**	**1.17**	**29**	P	**Pn**		**21 12 37.4**	**-0.5**
	baz=40							
WTP				S	**Sn**		**21 12 51.7**	**-1.0**
	baz=40							
STYT	**Tauyuan**	**1.18**	**37**	P	**Pn**		**21 12 37.6**	**-0.3**
	baz=36							
STYT				S	**Sn**		**21 12 52.8**	**0.0**
	baz=36							
TTN	**Taitung**	**1.19**	**63**	P	**Pn**		**21 12 37.9**	**-0.1**
	baz=63							
TTN				*e*S	**Sn**		**21 12 52.9**	**-0.1**
	baz=63							
STYH	**Taoyuan**	**1.19**	**37**	*e*P	**Pn**		**21 12 38.1**	**0.0**
	baz=37							
STYH				*e*S	**Sn**		**21 12 52.1**	**-1.0**
	baz=37							
TPUB	**Ta-pu**	**1.23**	**28**	P	**Pn**		**21 12 37.6**	**-0.9**
	baz=28							
TPUB				S	**Sn**		**21 12 53.3**	**-0.7**
	baz=28							
LONT	**Longtian**	**1.25**	**57**	⇑*e*P	**Pn**		**21 12 39.3**	**+0.4**
	baz=56							
LONT				*e*S	**Sn**		**21 12 53.8**	**-0.8**
	baz=56							
PHUB	**P'eng-hu**	**1.35**	**343**	P	**Pn**		**21 12 39.0**	**-1.2**
	baz=352							
PHUB				*e*S	**Sn**		**21 12 57.1**	**+0.2**
	baz=352							
ELDTW	**Lidau**	**1.35**	**44**	*i* P	**Pn**		**21 12 40.5**	**+0.2**
	baz=44							
ELDTW				S	**Sn**		**21 12 56.6**	**-0.6**
	baz=44							
CHN2	**Minshiung**	**1.38**	**19**	*e*P	**Pn**		**21 12 40.9**	**+0.3**
	baz=29							
CHN2				*e*S	**Sn**		**21 12 57.9**	**+0.2**
	baz=29							
PNG	**Penghu**	**1.41**	**343**	P	**Pn**		**21 12 40.1**	**-0.9**
	baz=355							
EDH	**Donghe**	**1.42**	**58**	*e*P	**Pn**		**21 12 41.7**	**+0.5**
	baz=58							
EDH				*e*S	**Sn**		**21 12 58.9**	**+0.2**
	baz=58							
LDUT	**Ludao**	**1.44**	**71**	P	**Pn**		**21 12 41.4**	**+0.1**
	baz=71							
LDUT				S	**Sn**		**21 12 57.9**	**-1.2**
	baz=71							
LAY	**Lan-yu**	**1.45**	**97**	*i* P	**Pn**		**21 12 40.6**	**-1.0**
	baz=85							
LAY				*i* S	**Sn**		**21 12 59.3**	**-0.2**
	baz=85							
ALS	**Alishan**	**1.49**	**30**	*e*P	**Pn**		**21 12 42.0**	**-0.4**
	baz=40							
ALS				*e*S	**Sn**		**21 13 01.2**	**+0.4**
	baz=40							
CHN5	**Tsauling**	**1.51**	**24**	P	**Pn**		**21 12 42.0**	**-0.5**
	baz=24							
CHKT	**Chengkung**	**1.54**	**55**	*e*S	**Sn**		**21 13 02.3**	**+0.7**
	baz=67							
YUS	**Yu-Shan**	**1.54**	**35**	P	**Pn**		**21 12 43.3**	**0.0**
	baz=47							
YUS				S	**Sn**		**21 13 01.5**	**-0.9**
	baz=47							
FULB	**Fuli**	**1.55**	**51**	P	**Pn**		**21 12 44.4**	**+1.5**
	baz=39							
FULB				S	**Sn**		**21 13 02.3**	**+0.5**
	baz=39							
WDLH	**Douliu**	**1.55**	**19**	S	**Sn**		**21 13 03.1**	**+1.3**
	baz=18							
WGK	**Gukeng**	**1.55**	**19**	*e*S	**Sn**		**21 13 02.6**	**+0.6**
	baz=19							
TWF1	**Yuli**	**1.65**	**46**	P	**Pn**		**21 12 45.0**	**+0.6**
	baz=46							
TWF1				S	**Sn**		**21 13 03.1**	**-1.3**
	baz=46							
EYUL	**Yuli**	**1.66**	**47**	*e*P	**Pn**		**21 12 45.5**	**+1.0**
	baz=47							
EYUL				*e*S	**Sn**		**21 13 03.9**	**-0.7**
	baz=47							
WTCT	**Ta-ch'eng**	**1.66**	**9**	*e*S	**Sn**		**21 13 04.5**	**-0.1**
	baz=359							
WHYT	**Xinyi Township**	**1.67**	**28**	P	**Pn**		**21 12 44.4**	**-0.3**
	baz=19							
WHYT				*e*S	**Sn**		**21 13 04.2**	**-0.7**
	baz=19							
YULB	**Yu-li**	**1.68**	**45**	P	**Pn**		**21 12 45.2**	**+0.5**
	baz=45							
YULB				*e*S	**Sn**		**21 13 04.2**	**-0.8**
	baz=45							
WRL	**Guolierlin Hig**	**1.71**	**12**	*e*S	**Sn**		**21 13 06.4**	**+0.5**
	baz=12							
WJS	**Zhushan**	**1.73**	**23**	*e*P	**Pn**		**21 12 45.5**	**0.0**
	baz=12							
WJS				*e*S	**Sn**		**21 13 06.9**	**+0.5**
	baz=12							
WNT	**Mingjian**	**1.77**	**21**	S	**Sn**		**21 13 07.5**	**+0.1**
	baz=10.0							
EHY	**Hungye**	**1.77**	**43**	P	**Pn**		**21 12 46.7**	**+0.7**
	baz=43							
EHY				S	**Sn**		**21 13 07.4**	**0.0**
	baz=43							
SSLB	**Suanglung**	**1.79**	**29**	P	**Pn**		**21 12 46.3**	**-0.1**
	baz=41							
SSLB				*e*S	**Sn**		**21 13 08.0**	**0.0**
	baz=41							
WNT1	**Nantou City**	**1.80**	**20**	S	**Sn**		**21 13 08.8**	**+0.9**
	baz=10.0							
HGSD	**Ruisui

CHGB					*e*S		**Sn**	**21 13 16.1**	**-0.4**
	baz=30								
WHP	**Taichung City**	**2.23**	**23**	P			**Pn**	**21 12 52.5**	**+0.2**
	baz=22								
WHP					*e*S		**Sn**	**21 13 19.1**	**+0.4**
	baz=22								
TWQ1	**Liyutan**	**2.24**	**18**	*e*S			**Sn**	**21 13 19.1**	**+0.2**
	baz=18								
WHF	**Hehuan Shan**	**2.25**	**31**	P			**Pn**	**21 12 54.4**	**+1.5**
	baz=31								
WHF					*e*S		**Sn**	**21 13 20.2**	**+0.6**
	baz=31								
TDCB	**Techi**	**2.29**	**28**	*e*P			**Pn**	**21 12 53.1**	**-0.2**
	baz=37								
TDCB					*e*S		**Sn**	**21 13 20.2**	**-0.2**
	baz=37								
HWA	**Hwalien**	**2.29**	**40**	*e*P			**Pn**	**21 12 52.5**	**-0.6**
	baz=39								
HWA					*e*S		**Sn**	**21 13 20.4**	**+0.3**
	baz=39								
TWT	**Tachien**	**2.30**	**28**	P			**Pn**	**21 12 53.6**	**+0.2**
	baz=37								
TWT					*e*S		**Sn**	**21 13 21.0**	**+0.4**
	baz=37								
FUSS	**Fushou**	**2.32**	**29**	*e*P			**Pn**	**21 12 54.3**	**+0.4**
	baz=39								
FUSS					*e*S		**Sn**	**21 13 20.9**	**-0.4**
	baz=39								
TWD	**Chiawan**	**2.37**	**38**	*e*S			**Sn**	**21 13 22.4**	**+0.3**
	baz=38								
ETLH	**Xiulin Townshi**	**2.41**	**34**	*e*P			**Pn**	**21 12 56.3**	**+1.5**
	baz=34								
ETLH					*e*S		**Sn**	**21 13 25.1**	**+2.0**
	baz=34								
NACB	**Ninganchiao**	**2.44**	**37**	*e*P			**Pn**	**21 12 55.5**	**+0.3**
	baz=47								
NACB					*e*S		**Sn**	**21 13 22.6**	**-1.2**
	baz=47								
NNSB	**Datong**	**2.54**	**30**	*e*P			**Pn**	**21 12 57.1**	**+0.4**
	baz=41								
NNSB					*e*S		**Sn**	**21 13 26.4**	**-0.1**
	baz=41								
NNSH	**Datong**	**2.54**	**40**	*e*P			**Pn**	**21 12 57.1**	**+0.4**
	baz=40								
NNSH					*e*S		**Sn**	**21 13 26.6**	**+0.1**
	baz=40								
NNS	**Nan Shan**	**2.55**	**29**	*e*P			**Pn**	**21 12 58.5**	**+1.7**
	baz=40								
NNS					*e*S		**Sn**	**21 13 27.5**	**+0.8**
	baz=40								
NSTT	**Nanjuang**	**2.57**	**21**	*e*P			**Pn**	**21 12 56.3**	**-0.7**
	baz=20								
NSTT					*e*S		**Sn**	**21 13 26.7**	**-0.4**
	baz=20								
LIOB	**Emei**	**2.59**	**21**	*e*P			**Pn**	**21 12 58.2**	**+0.9**
	baz=20								
LIOB					*e*S		**Sn**	**21 13 28.0**	**+0.4**
	baz=20								
KNM	**Kinmen**	**2.62**	**327**	P			**Pn**	**21 12 58.8**	**+1.1**
	baz=325								
KNM					S		**Sn**	**21 13 29.1**	**+0.9**
	baz=325								
KNMB	**Chin-men Tao**	**2.68**	**327**	*e*P			**Pn**	**21 12 58.8**	**+0.3**
	baz=328								
KNMB					*e*S		**Sn**	**21 13 28.9**	**-0.9**
	baz=328								
ZPLA	**Ao Xicun**	**2.68**	**310**	*e*P			**Pn**	**21 12 58.0**	**-0.5**
	baz=310								
ZPLA					*e*S		**Sn**	**21 13 30.2**	**+0.5**
	baz=310								
HSN1	**Hsinchu**	**2.72**	**20**	*e*P			**Pn**	**21 13 00.1**	**+1.2**
	baz=19								
NSK	**Sanguang**	**2.75**	**27**	*e*P			**Pn**	**21 13 00.1**	**+0.6**
	baz=15								
NSK					S		**Sn**	**21 13 30.8**	**-0.7**
	baz=15								
YHNB	**Yeheng**	**2.75**	**27**	*e*P			**Pn**	**21 13 00.1**	**+0.6**
	baz=15								
YHNB					*e*S		**Sn**	**21 13 31.6**	**0.0**
	baz=15								
NDT	**Datong Townshi**	**2.75**	**30**	*e*P			**Pn**	**21 13 01.8**	**+2.3**
	baz=39								
NDT					*e*S		**Sn**	**21 13 31.6**	**0.0**
	baz=39								
VWUC	**VWUC**	**2.81**	**350**	*e*P			**Pn**	**21 12 59.6**	**-0.6**
	baz=351								
VWUC					*e*S		**Sn**	**21 13 32.1**	**-0.7**
	baz=351								
ENTT	**Nioudou**	**2.81**	**31**	*e*P			**Pn**	**21 13 02.6**	**+2.3**
	baz=30								
ENTT					*e*S		**Sn**	**21 13 34.5**	**+1.6**
	baz=30								
NDS	**Dongshan**	**2.88**	**33**	*e*S			**Sn**	**21 13 33.5**	**-1.1**
	baz=46								
NWLT	**Wulai**	**2.90**	**28**	*e*S			**Sn**	**21 13 34.8**	**-0.4**
	baz=17								
PTMZ	**Houxiangcun**	**2.92**	**344**	*e*P			**Pn**	**21 13 01.8**	**0.0**
	baz=345								
PTMZ					*e*S		**Sn**	**21 13 35.4**	**-0.3**
	baz=345								
TWC	**Suao**	**2.93**	**35**	*e*P			**Pn**	**21 13 00.7**	**-1.2**
	baz=44								
TWC					*e*S		**Sn**	**21 13 35.4**	**-0.4**
	baz=44								
TWE	**Neicheng**	**2.93**	**31**	*e*P			**Pn**	**21 13 04.7**	**+2.9**
	baz=31								
TWE					*e*S		**Sn**	**21 13 37.3**	**+1.5**
	baz=31								
TAP	**Taipei**	**3.13**	**26**	*e*S			**Sn**	**21 13 41.3**	**+0.5**
	baz=25								
TIPB	**Shuangxi**	**3.21**	**31**	*e*P			**Pn**	**21 13 06.9**	**+1.1**
	baz=17								
YM04	**YM04**	**3.25**	**25**	*e*P			**Pn**	**21 13 06.9**	**+0.6**
	baz=13								
YM04					*e*S		**Sn**	**21 13 42.7**	**-1.0**
	baz=13								
YM01	**YM01**	**3.25**	**26**	*e*P			**Pn**	**21 13 06.9**	**+0.5**
	baz=13								
YM01					*e*S		**Sn**	**21 13 43.0**	**-1.0**
	baz=13								
AXDP	**Jialang**	**3.25**	**326**	*e*P			**Pn**	**21 13 06.9**	**+0.5**
	baz=326								
AXDP					*e*S		**Sn**	**21 13 43.8**	**-0.1**
	baz=326								
YM10	**YM10**	**3.26**	**26**	*e*P			**Pn**	**21 13 06.6**	**+0.2**
	baz=13								
YM10					*e*S		**Sn**	**21 13 43.2**	**-0.8**
	baz=13								
YM05	**YM05**	**3.27**	**26**	*e*P			**Pn**	**21 13 07.2**	**+0.6**
	baz=13								
YM05					*e*S		**Sn**	**21 13 44.0**	**-0.3**
	baz=13								
ANP	**Anpu**	**3.27**	**25**	*e*P			**Pn**	**21 13 07.5**	**+0.8**
	baz=12								
ANP					*e*S		**Sn**	**21 13 43.0**	**-1.4**
	baz=12								
YM03	**YM03**	**3.27**	**25**	*e*P			**Pn**	**21 13 06.9**	**+0.2**
	baz=13								
YM03					*e*S		**Sn**	**21 13 43.5**	**-0.9**
	baz=13								
YM11	**YM11**	**3.27**	**26**	*e*P			**Pn**	**21 13 07.2**	**+0.5**
	baz=13								
YM11					*e*S		**Sn**	**21 13 44.0**	**-0.4**
	baz=13								
VDOS	**Pratas Island**	**3.40**	**244**	*e*P			**Pn**	**21 13 09.6**	**+1.3**
	baz=243								
VDOS					*e*S		**Sn**	**21 13 46.8**	**-0.6**
	baz=243								
JYNG	**Yonaguni jima**	**3.51**	**50**	P			**Pn**	**21 13 11.4**	**+1.6**
JYNG					*e*S		**Sn**	**21 13 50.6**	**+0.6**
YOJ	**Yonaguni jima**	**3.56**	**51**	*e*P			**Pn**	**21 13 10.2**	**-0.4**
	baz=51								
YOJ					*e*S		**Sn**	**21 13 50.8**	**-0.5**
	baz=51								
YOJ	**Yonaguni jima**	**3.56**	**51**	P			**Pn**	**21 13 12.3**	**+1.8**
YOJ					*e*S		**Sn**	**21 13 52.1**	**+0.8**
MATB	**Ma-tsu**	**3.92**	**359**	*e*P			**Pn**	**21 13 15.8**	**+0.4**
	baz=1.0								
MATB					*e*S		**Sn**	**21 13 59.5**	**-0.7**
	baz=1.0								
MSUT	**Lienchiang**	**3.94**	**359**	*e*P			**Pn**	**21 13 16.1**	**+0.4**
	baz=1.0								
HATJ	**Hateruma jima**	**3.96**	**62**	P			**Pn**	**21 13 16.7**	**+0.7**
HATJ					*e*S		**Sn**	**21 14 00.3**	**-0.8**
MHZQ	**Yeshan**	**3.97**	**347**	*e*P			**Pn**	**21 13 16.4**	**+0.3**
	baz=349								
MHZQ					*e*S		**Sn**	**21 14 00.3**	**-1.1**
	baz=349								
IRIF	**Iriomote-Funau**	**4.03**	**58**	P			**Pn**	**21 13 18.5**	**+1.5**
IRIF					*e*S		**Sn**	**21 14 02.7**	**-0.2**
JKRS	**Kuro-shima**	**4.20**	**61**	P			**Pn**	**21 13 20.7**	**+1.3**
JKRS					*e*S		**Sn**	**21 14 06.5**	**-0.7**
LYJJ	**Jianjiangzhen**	**4.32**	**357**	*e*P			**Pn**	**21 13 21.0**	**0.0**
	baz=359								
LYJJ					*e*S		**Sn**	**21 14 09.2**	**-0.8**
	baz=359								
JIJ	**Ishigaki jima**	**4.37**	**60**	P			**Pn**	**21 13 22.5**	**+0.8**
JIJ					S		**Sn**	**21 14 09.8**	**-1.5**
JISG	**Ishigakijimahi**	**4.61**	**58**	P			**Pn**	**21 13 25.4**	**+0.4**
JISG					S		**Sn**	**21 14 14.8**	**-2.5**
XPSS	**Dashiqiu**	**4.70**	**2**	*e*P			**Pn**	**21 13 26.4**	**+0.3**
	baz=5.0								
XPSS					*e*S		**Sn**	**21 14 17.1**	**-2.2**
	baz=5.0								
JTJ	**Tarama**	**4.95**	**60**	P			**Pn**	**21 13 29.7**	**+0.1**
JTJ					S		**Sn**	**21 14 24.8**	**-0.8**
JMJ	**Miyako jima 2**	**5.51**	**61**	*e*P			**Pn**	**21 13 37.5**	**+0.3**
	baz=62								

*CNRM **31** 21:29:43.8, 37°.25N×9°.52W, h30km, ml3.4, Hypocentre not reviewed by the ISC*
*MDD **31** 21:29:45.0±0.7, 37°.24N×9°.32W, h50km±3km, mb4.8/40, Error ellipse: s-maj=5.5km s-min=2.9km az=59.0, PRXIMO*
*IGIL **31** 21:29:46.7, 37°.22N×9°.35W, h27km, ML3.3*
*INMG **31** 21:29:46.8±1.7, 37°.23N×9°.35W, h26km±4km, MD3.2, ML3.3, Error ellipse: s-maj=4.5km s-min=2.4km az=50.0*
*SFS **31** 21:29:46.0, 37°.30N×9°.30W, h27km, ML3.6, ATLANTICO PORTUGAL*
*LDG **31** 21:29:47.0±0.2, 37°.29N×9°.31W, h20km, Ml3.6/4, Error ellipse: s-maj=3.6km s-min=1.9km az=52.0*

ISC 31 21:29:45.0±1.2, **37°.28N**±0'.04×**9°.28W**±0'.05, **h35**km, **n157**, σ**2s06**/273, **8C-3D, Portugal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PFVI	**Vila Bisbo**	**0.39**	**112**	⇓P	**Pn**	**21 29 55.3**	**+1.3**
	712nm,0.1s,SNR=18						
PFVI				S	**Sn**	**21 30 01.8**	**+1.5**
	5μm,0.2s,SNR=40						
PFVI	**Vila Bisbo**	**0.39**	**112**	⇓*i*Pg	**Pn**	**21 29 55.4**	**+1.3**
PFVI				*e*Sg	**Sn**	**21 30 01.9**	**+1.5**
PFVI				A	A	21 30 03.2	
	1μm,0.2s						
PFVI	**Vila Bisbo**	**0.39**	**112**	P		21 29 55.3	
MORF	**Marmelete**	**0.50**	**87**	*e*P	**Pn**	**21 29 57.4**	**+1.8**
MORF				*e*S	**Sn**	**21 30 04.8**	**+1.7**
MORF				IAML		21 30 06.0	
	comp=N,2μm,0.1s						
MORF	**Marmelete**	**0.50**	**87**	P	**Pn**	**21 29 57.5**	**+1.8**
MORF				S	**Sn**	**21 30 05.5**	**+2.4**
	comp=N,2μm,0.1s						
MORF	**Marmelete**	**0.50**	**87**	*e*Pg	**Pn**	**21 29 57.5**	**+1.8**
MORF				*e*Sg	**Sn**	**21 30 05.5**	**+2.4**
MORF				A	A	21 30 05.7	
	comp=N,2μm,0.1s						
PTEO	**Sao Teotonio**	**0.51**	**59**	P	**Pn**	**21 29 57.9**	**+2.1**
PTEO				S	**Sn**	**21 30 06.3**	**+2.9**
	comp=N,391nm,0.4s						
PTEO	**Sao Teotonio**	**0.51**	**59**	⇑*i*Pg	**Pn**	**21 29 57.9**	**+2.1**
PTEO				*e*Sg	**Sn**	**21 30 06.3**	**+2.9**
PTEO				A	A	21 30 06.9	
	comp=N,782nm,0.4s						
MESJ	**Messejana**	**1.01**	**56**	*e*P	**Pn**	**21 30 04.7**	**+2.1**
MESJ				*e*S	**Sn**	**21 30 18.1**	**+2.5**
MESJ				IAML		21 30 18.5	
	comp=N,263nm,0.1s						
MESJ	**Messejana**	**1.01**	**56**	P	**Pn**	**21 30 04.7**	**+2.1**
MESJ				S	**Sn**	**21 30 18.3**	**+2.7**
	comp=N,176nm,0.1s						
MESJ	**Messejana**	**1.01**	**56**	⇑*i*P	**Pn**	**21 30 04.7**	**+2.1**
MESJ				*e*S	**Sn**	**21 30 18.3**	**+2.7**
MESJ				A	A	21 30 21.5	
	comp=N,176nm,0.1s						
PNCL	**Nicolau / Gran**	**1.02**	**36**	P	**Pn**	**21 30 04.8**	**+2.1**
PNCL				S	**Sn**	**21 30 18.6**	**+2.8**
	comp=N,182nm,0.3s						
PNCL	**Nicolau / Gran**	**1.02**	**36**	*e*P	**Pn**	**21 30 04.8**	**+2.1**
PNCL				*e*S	**Sn**	**21 30 18.6**	**+2.8**
PNCL				A	A	21 30 23.3	
	comp=N,182nm,0.3s						
PCVE	**Castro Verde**	**1.05**	**70**	P	**Pn**	**21 30 05.4**	**+2.3**
PCVE				S	**Sn**	**21 30 19.0**	**+2.5**
	comp=N,269nm,0.2s						
PCVE	**Castro Verde**	**1.05**	**70**	⇑*i*P	**Pn**	**21 30 05.4**	**+2.3**
PCVE				*e*S	**Sn**	**21 30 19.0**	**+2.5**
PCVE				A	A	21 30 19.9	
	comp=N,269nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.08**	**92**	P	**Pn**	**21 30 05.7**	**+2.1**
PBDV				S	**Sn**	**21 30 19.7**	**+2.4**
	comp=N,251nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.08**	**92**	*e*P	**Pn**	**21 30 05.7**	**+2.1**
PBDV				*e*S	**Sn**	**21 30 19.7**	**+2.4**
PBDV				A	A	21 30 20.6	
	comp=N,251nm,0.2s						
PVAQ	**Vaqueiros**	**1.25**	**84**	P	**Pn**	**21 30 08.2**	**+2.3**
PVAQ				S	**Sn**	**21 30 23.9**	**+2.4**
	comp=N,438nm,0.1s						
PVAQ	**Vaqueiros**	**1.25**	**84**	⇑*e*P	**Pn**	**21 30 08.2**	**+2.3**
PVAQ				*e*S	**Sn**	**21 30 23.9**	**+2.4**
PVAQ				A	A	21 30 24.4	
	comp=N,438nm,0.1s						
PVAQ	**Vaqueiros**	**1.25**	**84**	P		21 30 08.0	
PVAQ				S		21 30 24.2	
PBEJ	**Beja**	**1.34**	**56**	P	**Pn**	**21 30 09.1**	**+1.9**
PBEJ				S	**Sn**	**21 30 25.9**	**+2.0**
	comp=N,158nm,0.6s						
PBEJ	**Beja**	**1.34**	**56**	⇑*e*P	**Pn**	**21 30 09.1**	**+1.9**
PBEJ				*e*S	**Sn**	**21 30 25.9**	**+2.0**
PBEJ				A	A	21 30 29.2	
	comp=N,316nm,0.6s						
LIS	**Lisbon**	**1.43**	**4**	*e*S	**Sn**	**21 30 27.8**	**+1.7**
LIS				IAML		21 30 28.5	
	comp=N,459nm,0.1s						
LIS	**Lisbon**	**1.43**	**4**	S	**Sn**	**21 30 27.8**	**+1.7**
	comp=N,352nm,0.1s						
LIS	**Lisbon**	**1.43**	**4**	*e*S	**Sn**	**21 30 27.8**	**+1.7**
LIS				A	A	21 30 28.9	
	comp=N,352nm,0.1s						
EGRO	**El Granado**	**1.45**	**80**	⇑P	**Pn**	**21 30 10.7**	**+2.0**
	comp=N,8.2nm,0.1s,SNR=18						
EGRO				S	**Sn**	**21 30 28.0**	**+1.5**
	comp=N,133nm,0.1s,SNR=16						
PMST	**Lisbon--Monsan**	**1.45**	**3**	*e*P	**Pn**	**21 30 10.4**	**+1.7**
PMST				*e*S	**Sn**	**21 30 28.1**	**+1.6**
PMST				A	A	21 30 32.7	
	comp=N,204nm,0.2s						
INMG	**Instituto de M**	**1.49**	**5**	P	**Pn**	**21 30 11.5**	**+2.2**
INMG				S	**Sn**	**21 30 30.0**	**+2.5**
INMG	**Instituto de M**	**1.49**	**5**	*e*P	**Pn**	**21 30 11.5**	**+2.2**
INMG				*e*S	**Sn**	**21 30 30.0**	**+2.5**
EVO	**Evora**	**1.60**	**38**	P	**Pn**	**21 30 12.6**	**+1.9**
EVO				S	**Sn**	**21 30 32.4**	**+2.2**
	comp=N,176nm,0.2s						
EVO	**Evora**	**1.60**	**38**	*e*P	**Pn**	**21 30 12.2**	**+1.5**
EVO				*e*S	**Sn**	**21 30 32.0**	**+1.8**
EVO	**Evora**	**1.60**	**38**	*e*Pn	**Pn**	**21 30 12.6**	**+1.9**
EVO				*e*Sn	**Sn**	**21 30 32.4**	**+2.2**
EVO				A	A	21 30 37.2	
	comp=N,176nm,0.2s						
PMAFR	**Mafra**	**1.67**	**360**	P	**Pn**	**21 30 13.4**	**+1.7**
	comp=N,55nm,0.1s,SNR=70						
PMAFR				S	**Sn**	**21 30 33.1**	**+1.1**
	comp=N,1μm,0.2s,SNR=47						
PMAFR	**Mafra**	**1.67**	**360**	*e*Pn	**Pn**	**21 30 13.6**	**+1.9**
PMAFR				*e*Sn	**Sn**	**21 30 33.5**	**+1.6**
PMAFR				A	A	21 30 34.9	
	comp=N,871nm,0.2s						
PMTG	**Montargil**	**1.97**	**25**	P	**Pn**	**21 30 17.7**	**+1.9**
PMTG				S	**Sn**	**21 30 41.8**	**+2.6**
	comp=N,91nm,0.1s						
PMTG	**Montargil**	**1.97**	**25**	*e*Pn	**Pn**	**21 30 17.7**	**+1.9**
PMTG				*e*Sn	**Sn**	**21 30 41.8**	**+2.6**
PMTG				A	A	21 30 43.4	
	comp=N,91nm,0.1s						
PBAR	**Barrancos**	**1.99**	**63**	P	**Pn**	**21 30 17.8**	**+1.7**
PBAR				S	**Sn**	**21 30 41.3**	**+1.6**
	comp=N,98nm,0.6s						
PBAR	**Barrancos**	**1.99**	**63**	*e*Pn	**Pn**	**21 30 17.8**	**+1.7**
PBAR				*e*Sn	**Sn**	**21 30 41.3**	**+1.6**
PBAR				A	A	21 30 45.2	
	comp=N,98nm,0.6s						
PESTR	**Estremoz**	**2.07**	**40**	⇑*i*Pn	**Pn**	**21 30 18.8**	**+1.6**
PESTR				*e*Sn	**Sn**	**21 30 45.3**	**+3.5**
PESTR				A	A	21 31 00.0	
	comp=N,55nm,0.3s						
PESTR	**Estremoz**	**2.07**	**40**	P		21 30 18.6	
EMIN	**Mina Concepcio**	**2.13**	**76**	P	**Pn**	**21 30 19.7**	**+1.7**
	comp=N,11nm,0.1s,SNR=184						
EMIN				S	**Sn**	**21 30 43.8**	**+0.6**
	comp=N,210nm,0.2s,SNR=9.8						
PSBE	**So Bento**	**2.26**	**10**	*e*Pn	**Pn**	**21 30 21.7**	**+1.9**
PSBE				*e*Sn	**Sn**	**21 30 48.2**	**+1.7**
PSBE				A	A	21 30 51.8	
	comp=N,114nm,0.4s						
PMRV	**Marv??o**	**2.60**	**34**	P	**Pn**	**21 30 26.4**	**+1.8**
PMRV				S	**Sn**	**21 30 56.0**	**+1.0**
	comp=N,48nm,0.3s						
PMRV	**Marv??o**	**2.60**	**34**	*e*Pn	**Pn**	**21 30 26.4**	**+1.8**
PMRV				*e*Sn	**Sn**	**21 30 56.0**	**+1.0**
PMRV				A	A	21 30 59.6	
	comp=N,48nm,0.3s						
ESPR	**Espera**	**2.77**	**98**	⇓P	**Pn**	**21 30 29.0**	**+2.2**
	comp=N,29nm,0.1s,SNR=18						
ESPR				S	**Sn**	**21 30 59.0**	**0.0**
	comp=N,138nm,0.2s						
PCAS	**Casmilo, Conde**	**2.83**	**12**	P	**Pn**	**21 30 29.7**	**+2.0**
PCAS				S	**Sn**	**21 31 01.2**	**+0.6**
	comp=N,56nm,0.2s						
PCAS	**Casmilo, Conde**	**2.83**	**12**	*e*Pn	**Pn**	**21 30 29.7**	**+2.0**
PCAS				*e*Sn	**Sn**	**21 31 01.2**	**+0.6**
PCAS				A	A	21 31 03.4	
	comp=N,56nm,0.2s						
PCBR	**Castelo Branco**	**2.92**	**28**	P	**Pn**	**21 30 30.9**	**+2.0**
PCBR				S	**Sn**	**21 31 04.1**	**+1.4**
	comp=N,22nm,0.7s						
PCBR	**Castelo Branco**	**2.92**	**28**	*e*Pn	**Pn**	**21 30 30.9**	**+2.0**
PCBR				*e*Sn	**Sn**	**21 31 04.1**	**+1.4**
PCBR				A	A	21 31 26.8	
	comp=N,43nm,0.7s						
COI	**Coimbra**	**3.00**	**13**	P	**Pn**	**21 30 32.0**	**+2.0**
COI				S	**Sn**	**21 31 05.0**	**+0.4**
	comp=N,34nm,0.1s						
COI	**Coimbra**	**3.00**	**13**	*e*Pn	**Pn**	**21 30 32.0**	**+2.0**
COI				*e*Sn	**Sn**	**21 31 05.0**	**+0.4**
COI				A	A	21 31 06.8	
	comp=N,67nm,0.1s						
LIJA	**Lijar**	**3.12**	**96**	P	**Pn**	**21 30 31.0**	**-0.8**
LIJA				S	**Sn**	**21 31 10.2**	**+2.4**
LIJA	**Lijar**	**3.12**	**96**	*e*P	**Pn**	**21 30 31.0**	**-0.8**
LIJA				*e*S	**Sn**	**21 31 10.2**	**+2.4**
ECAB	**El Cabril**	**3.16**	**74**	⇑P	**Pn**	**21 30 34.3**	**+2.0**
	comp=N,8.4nm,0.1s,SNR=18						
ECAB				S	**Sn**	**21 31 08.2**	**-0.6**
	comp=N,153nm,0.2s,SNR=30						
EJIF	**Jimena Fronter**	**3.17**	**104**	P	**Pn**	**21 30 34.6**	**+2.3**
	comp=N,43μm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**21 31 10.2**	**+1.4**
	SNR=7.9						
HORN	**Hornachuelos**	**3.24**	**79**	P		21 30 35.2	
MTE	**Manteigas**	**3.39**	**23**	P	**Pn**	**21 30 37.3**	**+1.8**
MTE				S	**Sn**	**21 31 15.3**	**+0.8**
	comp=N,20nm,0.3s						
MTE	**Manteigas**	**3.39**	**23**	*e*Pn	**Pn**	**21 30 37.3**	**+1.8**
MTE				*e*Sn	**Sn**	**21 31 15.3**	**+0.8**
MTE				A	A	21 31 18.0	
	comp=N,41nm,0.3s						
ECEU	**Ceuta**	**3.43**	**113**	P	**Pn**	**21 30 38.3**	**+2.3**
	comp=N,23nm,0.1s,SNR=40						
ECEU				S	**Sn**	**21 31 15.1**	**-0.3**
	comp=N,8.8nm,0.2s,SNR=4.0						
CEU	**Ceuta**	**3.43**	**113**	P	**Pn**	**21 30 38.7**	**+2.7**
CEU				S	**Sn**	**21 31 18.8**	**+3.4**
CEU	**Ceuta**	**3.43**	**113**	*e*P	**Pn**	**21 30 38.7**	**+2.7**
CEU				*e*S	**Sn**	**21 31 18.8**	**+3.4**
SMIR	**Smir Dam**	**3.52**	**116**	P		21 30 39.0	
PVIS	**Viseu**	**3.59**	**17**	P	**Pn**	**21 30 39.8**	**+1.6**
PVIS				S	**Sn**	**21 31 20.0**	**+0.6**
	comp=N,21nm,0.1s						
PVIS	**Viseu**	**3.59**	**17**	*e*Pn	**Pn**	**21 30 39.8**	**+1.6**
PVIS				*e*Sn	**Sn**	**21 31 20.0**	**+0.6**
PVIS				A	A	21 31 23.5	
	comp=N,42nm,0.1s						
EPLA	**Plasencia**	**3.74**	**41**	P	**Pn**	**21 30 41.8**	**+1.7**
	comp=N,9.5nm,0.1s,SNR=144						
EPLA				S	**Sn**	**21 31 24.0**	**+1.0**
	comp=N,25nm,0.1s,SNR=14						
EADA	**Adamuz**	**3.83**	**75**	P	**Pn**	**21 30 43.1**	**+1.6**
	comp=N,8.3nm,0.1s,SNR=136						
EADA				S	**Sn**	**21 31 25.7**	**+0.4**
	comp=N,52nm,0.1s,SNR=22						
CHEFC	**Chefchaouen**	**3.86**	**123**	P		21 30 43.3	
PTO	**Porto**	**3.89**	**8**	P	**Pn**	**21 30 43.7**	**+1.6**
PTO				S	**Sn**	**21 31 25.5**	**-1.0**
	comp=N,66nm,0.1s						
PTO	**Porto**	**3.89**	**8**	*e*Pn	**Pn**	**21 30 43.7**	**+1.6**
PTO				*e*Sn	**Sn**	**21 31 25.5**	**-1.0**
PTO				A	A	21 31 29.4	
	comp=N,132nm,0.1s						
EMAL	**Malaga-Limoner**	**3.92**	**96**	P	**Pn**	**21 30 45.3**	**+2.8**
EMAL				S	**Sn**	**21 31 27.5**	**+0.2**
EMAL	**Malaga-Limoner**	**3.92**	**96**	*e*P	**Pn**	**21 30 45.3**	**+2.8**
EMAL				*e*S	**Sn**	**21 31 27.5**	**+0.2**
EGOR	**Sierra Gorda,**	**4.13**	**91**	P	**Pn**	**21 30 47.9**	**+2.2**
	comp=N,1.1nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**21 31 33.4**	**+0.5**
	comp=N,98nm,0.4s,SNR=7.9						
PVRL	**Vila Real**	**4.17**	**16**	P	**Pn**	**21 30 47.9**	**+1.8**
PVRL				S	**Sn**	**21 31 32.7**	**-0.9**
	comp=N,56nm,0.1s						
PVRL	**Vila Real**	**4.17**	**16**	*e*Pn	**Pn**	**21 30 47.9**	**+1.8**
PVRL				*e*Sn	**Sn**	**21 31 32.7**	**-0.9**
PVRL				A	A	21 31 35.6	
	comp=N,112nm,0.1s						
POLO	**Lamas de Olo**	**4.24**	**15**	Pn	**Pn**	**21 30 48.9**	**+1.7**
POLO				Sn	**

comp=N,1.1nm,0.2s,baz=243,slow=13,SNR=267
ESDC S Sn 21 31 48.9 -0.4
comp=N,42nm,0.2s,baz=243,slow=22,SNR=5.4
EZAM Zamans 4.88 5 P Pn 21 30 57.4 +1.6
comp=N,6.5nm,0.1s,SNR=7.9
EZAM S Sn 21 31 48.3 -2.8
comp=N,14nm,0.1s,SNR=7.9
PBRG Braganca 4.92 23 P Pn 21 30 58.3 +1.8
PBRG S Sn 21 31 51.5 -0.7
comp=N,14nm,0.2s
PBRG Braganca 4.92 23 eP Pn 21 30 58.3 +1.8
PBRG eSn Sn 21 31 51.5 -0.7
PBRG A A 21 31 53.4
comp=N,27nm,0.2s
EQES Quesada 4.96 82 P Pn 21 30 58.8 +1.7
comp=N,5.3nm,0.2s,SNR=82
EQES S Sn 21 31 52.9 -0.4
comp=N,47nm,0.3s,SNR=11
GORA Gorafe 4.97 86 P Pn 21 30 59.4 +2.2
comp=N,8.9nm,0.2s,SNR=7.9
GORA S Sn 21 31 53.7 +0.2
comp=N,40nm,0.2s,SNR=7.9
ECAL Calabor 5.05 22 P Pn 21 31 00.0 +1.8
comp=N,46nm,0.2s,SNR=145
ECAL S Sn 21 31 54.6 -0.8
comp=N,37nm,0.3s,SNR=9.5
IFR Ifrane 5.06 137 eP Pn 21 30 58.2 -0.3
IFR eS Sn 21 31 51.7 -4.1
EBER Berja 5.12 92 P Pn 21 31 01.9 +2.5
comp=N,4.8nm,0.2s,SNR=33
EBER S Sn 21 31 54.9 -2.4
comp=N,9.7nm,0.3s,SNR=5.0
GUD Guadarrama 5.22 48 P Pn 21 31 01.7 +1.1
comp=N,7.6nm,0.1s,SNR=96
GUD S Sn 21 31 58.7 -0.9
comp=N,22nm,0.3s,SNR=7.6
GOG Mont Gurugu 5.48 110 P 21 31 05.0
EAGO Agolada(Pontev 5.59 9 P Pn 21 31 06.7 +1.2
comp=N,9.9nm,0.1s,SNR=7.9
EAGO S Sn 21 32 04.8 -3.7
comp=N,16nm,0.1s,SNR=7.9
UCM Universidad Co 5.60 56 P Pn 21 31 07.9 +2.2
UCM S Sn 21 32 07.9 -1.0
UCM Universidad Co 5.60 56 eP Pn 21 31 07.9 +2.2
UCM eS Sn 21 32 07.9 -1.0
EAH EAH 5.63 183 P 21 31 05.6
ENIJ Nijar 5.66 91 P Pn 21 31 08.9 +2.3
comp=N,6.8nm,0.2s,SNR=7.9
ENIJ S Sn 21 32 07.0 -3.4
comp=N,14nm,0.3s,SNR=7.9
EMAZ Mazaricos 5.66 2 P Pn 21 31 07.1 +0.5
comp=N,16nm,0.2s,SNR=7.9
EMAZ S Sn 21 32 06.2 -4.2
comp=N,45nm,0.3s,SNR=7.9
MDT Midelt 5.88 138 P 21 31 09.0
OUK Oukaimeden 6.17 169 P 21 31 13.0
JBK JBK 6.20 116 P 21 31 14.0
EPON Pontenova 6.25 14 P Pn 21 31 16.1 +1.4
comp=N,3.5nm,0.1s,SNR=23
EPON S Sn 21 32 21.6 -3.3
comp=N,2.6nm,0.1s,SNR=7.9
ETOB Tobarra 6.26 75 P Pn 21 31 15.9 +1.0
comp=N,4.4nm,0.2s,SNR=55
ETOB S Sn 21 32 22.7 -2.5
comp=N,3.7nm,0.1s,SNR=7.9
EMUR La Murta 6.41 83 P Pn 21 31 18.5 +1.6
comp=N,1.2nm,0.2s,SNR=8.1
EMUR S Sn 21 32 27.6 -1.3
comp=N,16nm,0.5s,SNR=7.9
ETOR Torete 6.64 56 P Pn 21 31 21.4 +1.4
comp=N,109nm,0.2s,SNR=135
ETOR S Sn 21 32 31.1 -3.4
comp=N,61nm,0.2s,SNR=7.9
OUZM OUZ 6.69 161 P 21 31 21.0
EARI Arriondas 6.77 26 P Pn 21 31 24.2 +2.4
comp=N,5.6nm,0.2s,SNR=54
EARI S Sn 21 32 35.6 -2.0
comp=N,2.6nm,0.3s,SNR=7.9
ETRV Los Montesinos 6.80 81 P Pn 21 31 24.6 +2.5
comp=N,10.0nm,0.2s,SNR=7.9
ECHE Chera 6.92 68 P Pn 21 31 25.6 +1.8
comp=N,0.8nm,0.1s,SNR=7.9
ECHE S Sn 21 32 38.7 -2.7
comp=N,11nm,0.2s,SNR=7.9
AFON Font Roja 7.04 76 P Pn 21 31 26.9 +1.3
comp=N,1.0nm,0.1s,SNR=7.9
AFON S Sn 21 32 39.2 -5.2
comp=N,1.8nm,0.2s,SNR=7.9
PMPST Porto Santo, M 7.14 236 ePn Pn 21 31 23.8 -3.1
PMPST eSn Sn 21 32 32.2 -15
PMPS Porto Santo 7.15 236 P Pn 21 31 23.8 -3.2
PMPS S Sn 21 32 36.0 -11
PMPS Porto Santo 7.15 236 ePn Pn 21 31 23.3 -3.7
PMPS eSn Sn 21 32 36.0 -11
EBEN2 Beniarda presa 7.31 76 P Pn 21 31 30.4 +1.1
comp=N,1.7nm,0.1s,SNR=7.9
EBEN2 S Sn 21 32 48.6 -2.4
comp=N,7.0nm,0.1s,SNR=7.9
ELAN Lanestosa 7.43 35 P Pn 21 31 32.0 +1.1
comp=N,0.5nm,0.2s,SNR=7.9
ELAN S Sn 21 32 53.1 -0.9
comp=N,1.1nm,0.2s,SNR=7.9
EMOS Mosqueruela 7.53 63 P Pn 21 31 34.8 +2.4
comp=N,1.1nm,0.1s,SNR=7.9
EMOS S Sn 21 32 53.6 -3.0
comp=N,12nm,0.3s,SNR=11
PMOZ Porto Moniz, M 7.87 238 eSn Sn 21 32 42.0 -23
OKGL Djebel Kef Gue 8.07 96 P Pn 21 31 39.8 +0.1
comp=N,2.7nm,0.1s,SNR=7.9
EORO Oroz-Betelu 8.29 45 P Pn 21 31 42.9 +0.2
comp=N,3.2nm,0.1s,SNR=14
ERTA Horta de San J 8.32 61 P Pn 21 31 44.6 +1.5
comp=N,1.3nm,0.2s,SNR=4.0
ERTA S Sn 21 33 13.6 -2.2
comp=N,2.2nm,0.2s,SNR=7.9
SJPF Ste Jean 8.48 44 P Pn 21 31 47.2 +2.0
SJPF S Sn 21 33 15.7 -3.9
comp=N,1.0nm,0.2s
SJPF Ste Jean 8.48 44 ePn Pn 21 31 47.2 +2.0
SJPF eSn Sn 21 33 15.7 -3.9
comp=N,2.0nm,0.2s
EIBI Ibiza 8.55 75 P Pn 21 31 44.9 -1.3
comp=N,0.3nm,0.2s,SNR=4.0
EIBI S Sn 21 33 16.3 -5.0
comp=N,1.7nm,0.2s,SNR=7.9
ETSF Etsaut 8.72 47 P Pn 21 31 50.4 +1.8
ETSF S Sn 21 33 21.8 -3.9
comp=N,1.6nm,0.3s
ETSF Etsaut 8.72 47 ePn Pn 21 31 50.4 +1.8
ETSF eSn Sn 21 33 21.8 -3.9
comp=N,3.2nm,0.3s
ATE Arette 8.75 46 P Pn 21 31 50.6 +1.6
comp=N,1.1nm,0.3s,SNR=7.9
ATE S Sn 21 33 21.4 -5.0
comp=N,1.9nm,0.2s,SNR=7.9
EPOB Poblet 9.00 60 P Pn 21 31 52.7 +0.3
comp=N,0.8nm,0.2s,SNR=7.5
EPOB S Sn 21 33 23.4 -9.1
comp=N,0.5nm,0.2s,SNR=7.9
ECHI Chisagues Biel 9.04 51 P Pn 21 31 54.3 +1.3
comp=N,1.0nm,0.1s,SNR=7.9
ECHI S Sn 21 33 29.6 -4.0
comp=N,2.7nm,0.2s,SNR=7.9
EPF Esparros 9.33 49 P Pn 21 31 58.8 +1.8
EPF S Sn 21 33 36.8 -3.9
comp=N,1.6nm,0.2s
EPF Esparros 9.33 49 ePn Pn 21 31 58.8 +1.8
EPF eSn Sn 21 33 36.8 -3.9
comp=N,3.2nm,0.2s
CSOR Sort 9.48 54 P Pn 21 32 00.2 +1.1
comp=N,0.6nm,0.1s,SNR=9.7
CSOR S Sn 21 33 39.2 -5.3
comp=N,1.2nm,0.2s,SNR=7.9
CLLI Llivia 10.08 56 P Pn 21 32 08.6 +1.3
comp=N,1.2nm,0.2s,SNR=8.5
CLLI S Sn 21 33 55.4 -3.8
comp=N,3.2nm,0.5s,SNR=7.9
MTLF Montolieu 10.66 52 P Pn 21 32 16.1 +1.0
MTLF Montolieu 10.66 52 ePn Pn 21 32 16.1 +1.0
EJON La Jonquera 10.68 57 P Pn 21 32 16.7 +1.4
comp=N,0.7nm,0.3s,SNR=4.0
SJAF Saint Jean de 10.69 57 P Pn 21 32 17.1 +1.6
comp=N,0.4nm,0.3s,SNR=7.9
LFF La Frestale 10.75 42 P Pn 21 32 18.1 +1.8
LFF La Frestale 10.75 42 ePn Pn 21 32 18.1 +1.8
RJF Les Rejaudoux 11.40 42 P Pn 21 32 25.2 0.0
RJF Les Rejaudoux 11.40 42 ePn Pn 21 32 25.2 0.0
CAF Calviac 11.46 45 P Pn 21 32 26.4 +0.3
CAF Calviac 11.46 45 ePn Pn 21 32 26.4 +0.3
MFF Saint Martin d 11.52 33 P Pn 21 32 28.0 +1.1
MFF Saint Martin d 11.52 33 ePn Pn 21 32 28.0 +1.1
QUIF Quistinic 11.54 21 P Pn 21 32 28.5 +1.5
QUIF S Sn 21 34 28.8 -5.7
comp=N,2.1nm,0.5s
QUIF Quistinic 11.54 21 ePn Pn 21 32 28.5 +1.5
QUIF eSn Sn 21 34 28.8 -5.7
comp=N,4.2nm,0.5s
ROSF Rostrenen 11.89 20 P Pn 21 32 32.5 +0.6
ROSF Rostrenen 11.89 20 ePn Pn 21 32 32.5 +0.6
SGMF Saint Gilles 12.02 22 P Pn 21 32 34.1 +0.5
SGMF Saint Gilles 12.02 22 ePn Pn 21 32 34.1 +0.5
LASF Ste Croix 12.05 52 P Pn 21 32 35.1 +0.9
LASF Ste Croix 12.05 52 ePn Pn 21 32 35.1 +0.9
TCF Toulx Ste Croi 12.42 40 P Pn 21 32 39.3 +0.2
TCF Toulx Ste Croi 12.42 40 ePn Pn 21 32 39.3 +0.2
BGF Bois d'Agland 12.92 40 P Pn 21 32 47.1 +1.1
BGF Bois d'Agland 12.92 40 ePn Pn 21 32 47.1 +1.1
LDF La Druitiere 13.13 28 ePn Pn 21 32 50.2 +1.4
AVF Avril sur Loir 13.34 41 P Pn 21 32 52.1 +0.4
AVF Avril sur Loir 13.34 41 ePn Pn 21 32 52.1 +0.4
SSF Saint Saulge 13.60 40 P Pn 21 32 54.9 -0.3
SSF Saint Saulge 13.60 40 ePn Pn 21 32 54.9 -0.3

*IDC **31** 21:34:24.8±1.7,36°.97N×135°.27E,h368km±31km,mb2.6/3, mb1 2.8/5,mb1mx2.5/48,mbtmp3.4/5,Error ellipse: s-maj=53.2km s-min=19.0km az=61.0*
*JMA **31** 21:34:24.7±0.4,37°.02N×135°.37E,h374km±5km,M2.6*
ISC 31 21:34:24.5±0.9,37°.00N±0°.09×135°.42E±0°.08,h374km,n18, σ0s77/22,mb2.8/3,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**1.72**	**180**	P	**Pn**	**21 35 16.7**	**+0.3**
JWT				*e*S	**S**	**21 35 57.0**	**-1.1**
JYTA	**Yamagatataniai**	**1.76**	**142**	P	**Pn**	**21 35 16.9**	**+0.3**
JYTA				S	**S**	**21 35 57.9**	**-0.6**
JOI	**OKI**	**1.88**	**248**	P	**Pn**	**21 35 17.4**	**+0.1**
MAT	**Matsushiro**	**2.29**	**101**	P	**Pn**	**21 35 20.6**	**+0.5**
MAT				S	**S**	**21 36 04.9**	**+0.1**
MAT	**Matsushiro**	**2.29**	**101**	P	**Pn**	**21 35 20.6**	**+0.5**
MJAR	**Matsushiro Arr**	**2.29**	**101**	P	**Pn**	**21 35 21.1**	**+0.9**
	0.3nm,0.3s,baz=279,slow=9.2,SNR=23						
JSD	**Sado**	**2.49**	**65**	P	**Pn**	**21 35 22.3**	**+0.8**
JIE	**Ise**	**2.81**	**158**	P	**Pn**	**21 35 24.8**	**+0.6**
JYN	**Shimob**	**2.94**	**120**	P	**Pn**	**21 35 26.0**	**+0.7**
JRY	**Ryogami san**	**2.98**	**108**	P	**Pn**	**21 35 26.7**	**+1.1**
JAG	**Ashikaga**	**3.29**	**99**	P	**Pn**	**21 35 28.1**	**-0.2**
JOD2	**Odawara 2**	**3.44**	**119**	P	**Pn**	**21 35 30.3**	**+0.6**
JMK	**Ichinoseki**	**4.98**	**65**	P	**Pn**	**21 35 45.8**	**+0.8**
JMK				S	**S**	**21 36 48.4**	**-1.8**
BSO1	**Boso 1**	**5.09**	**116**	P	**Pn**	**21 35 45.4**	**-0.3**
ASAJ	**Asahikawa**	**8.96**	**35**	P	**P**	**21 36 31.1**	**-0.1**
	0.7nm,0.3s,baz=250,slow=12,SNR=7.4						
SONM	**Songino Array**	**23.87**	**306**	P	**P**	**21 39 05.3**	**-0.6**
	0.4nm,0.8s,baz=109,slow=9.8,SNR=2.8						
MKAR	**Makanchi Array**	**40.05**	**301**	P	**P**	**21 41 25.2**	**+0.3**
	0.2nm,0.5s,baz=84,slow=9.4,SNR=7.1						
WRA	**Warramunga Arr**	**56.65**	**181**	P	**P**	**21 43 30.6**	**+0.4**
	0.3nm,0.3s,baz=359,slow=7.6,SNR=14						

FUNV 31 21:37:19.0,10°.83N×67°.90W,h5km,MW3.5,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	**Turiamo**	**0.38**	**171**	*e*P	Pg	21 37 25.6	-0.7
JACV	**Jacura**	**0.95**	**286**	*e*P	Pg	21 37 36.5	-0.8
JACV				*e*S	Sg	21 37 49.8	+0.2
CARV	**Caracas**	**1.01**	**108**	*e*P	Pg	21 37 38.2	-0.2
CARV				*e*S	Sg	21 37 51.9	+0.5
TACV	**Tcata**	**1.10**	**128**	*e*P	Pg	21 37 39.6	-0.5
TACV				*e*S	Sg	21 37 54.0	-0.3
FUNV	**FUNVISIS**	**1.13**	**108**	*e*P	Pg	21 37 40.2	-0.4
FUNV				*e*S	Sg	21 37 55.6	+0.3
MAPV	**Macapo**	**1.13**	**209**	*e*P	Pg	21 37 39.6	-1.1
MAPV				*e*S	Sb	21 37 55.8	-0.3
BIRV	**Birongo**	**1.64**	**102**	*e*P	Pn	21 37 47.2	-1.3
BIRV				*e*S	Sn	21 38 09.8	-0.2
BAUV	**El Baul**	**1.88**	**184**	*e*P	Pn	21 37 51.7	-0.1
BAUV				*e*S	Sn	21 38 15.2	-0.6
SIQV	**Siquisique**	**1.88**	**265**	*e*P	Pn	21 37 50.6	-1.3
SIQV				*e*S	Sn	21 38 14.6	-1.5
SANV	**Sanarito**	**2.08**	**231**	*e*P	Pn	21 37 54.8	+0.1
SANV				*e*S	Sn	21 38 19.7	-1.4
CURV	**Curarigua**	**2.18**	**248**	*e*P	Pn	21 37 55.2	-0.9
CURV				*e*S	Sn	21 38 22.7	-0.8
MERV	**Las Mercedes**	**2.22**	**135**	*e*P	Pn	21 37 56.2	-0.3
MERV				*e*S	Sn	21 38 23.0	-1.4
MONV	**Montecano**	**2.32**	**299**	*e*P	Pn	21 37 57.1	-0.8
MONV				*e*S	Sn	21 38 26.3	-0.6
PCRV	**Puerto La Cruz**	**3.27**	**101**	*e*P	Pn	21 38 11.2	+0.2
PCRV				*e*S	Sn	21 38 48.4	-2.0
SOCV	**Socops**	**3.86**	**229**	*e*P	Pn	21 38 18.3	-0.7
SOCV				*e*S	Sn	21 39 01.3	-3.5
ELOV	**Elorza**	**4.11**	**203**	*e*P	Pn	21 38 21.7	-0.8
ELOV				*e*S	Sn	21 39 07.7	-3.4
PAYV	**Puerto Ayacuch**	**5.38**	**177**	*e*P	Pn	21 38 38.4	-1.6
PAYV				*e*S	Sn	21 39 36.6	-5.6

*JMA **31** 21:44:23.3±0.1,36°.18N×140°.07E,h66km±1km,M3.0*
JMA Felt I J1.
*IDC **31** 21:44:25.8±1.9,36°.38N×139°.74E,h114km±16km,mb3.0/2, mb1 3.2/2,mb1mx2.8/36,mbtmp3.3/2,Error ellipse: s-maj=29.1km s-min=22.2km az=107.0*
ISC 31 21:44:22.1±1.2,36°.15N±0°.06×140°.10E±0°.06,h75km±8km, n13,σ0s96/22,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.11**	**42**	P	**Pn**	**21 44 33.3**	**+0.3**
JYT				S	**Sn**	**21 44 40.6**	**-0.4**
JAG	**Ashikaga**	**0.59**	**298**	P	**Pn**	**21 44 36.6**	**+0.3**
JAG				S	**Sn**	**21 44 46.3**	**-0.5**
JKT	**Katashina**	**0.93**	**312**	P	**Pn**	**21 44 40.3**	**+0.2**
JKT				S	**Sn**	**21 44 53.2**	**-0.3**
JRY	**Ryogami san**	**0.98**	**263**	P	**Pn**	**21 44 41.4**	**+0.7**
JRY				S	**Sn**	**21 44 55.0**	**+0.5**
JOD2	**Odawara 2**	**1.21**	**223**	P	**Pn**	**21 44 44.3**	**+0.8**
JOD2				S	**Sn**	**21 44 59.6**	**+0.1**
JFY	**Yanaizu**	**1.30**	**346**	P	**Pn**	**21 44 45.3**	**+0.7**
JFY				S	**Sn**	**21 45 01.7**	**+0.1**
JFK	**Kawauchi**	**1.37**	**27**	P	**Pn**	**21 44 46.0**	**+0.5**
JFT	**Otama**	**1.38**	**8**	P	**Pn**	**21 44 46.4**	**+0.7**
JFT				*e*S	**Sn**	**21 45 03.2**	**-0.3**
MJAR	**Matsushiro Arr**	**1.58**	**285**	P	**Pn**	**21 44 48.9**	**+0.6**
	1.9nm,0.3s,baz=97,slow=9.7,SNR=101						
MJAR				S	**Sn**	**21 45 07.9**	**-0.2**
	1.3nm,0.3s,baz=87,slow=18,SNR=4.0						
MAT	**Matsushiro**	**1.58**	**285**	P	**Pn**	**21 44 49.5**	**+1.2**
MAT				*e*S	**Sn**	**21 45 07.9**	**-0.2**
ASAJ	**Asahikawa**	**8.19**	**13**	P	**Pn**	**21 46 20.2**	**+2.2**
	baz=190,slow=6.1						
SONM	**Songino Array**	**27.43**	**306**	P	**P**	**21 49 58.3**	**-2.4**
	0.2nm,0.6s,baz=99,slow=7.5,SNR=2.3						
WRA	**Warramunga Arr**	**56.05**	**187**	P	**P**	**21 53 53.7**	**+0.5**
	0.3nm,0.6s,baz=1.1,slow=7.6,SNR=6.8						

IDC 31 21:59:53.1±2.9,18°.48S×178°.39W,h533km±26km, mb3.0/4,mb1 3.2/5,mb1mx2.9/37,mbtmp3.8/5,Error ellipse: s-maj=95.2km s-min=28.2km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.46**	**282**	P	P	22 01 10.0	0.0
	4.1nm,0.3s,baz=103,slow=23,SNR=8.1						
STKA	**Stephens Creek**	**38.37**	**242**	P	P	22 06 28.2	-0.5
	1.9nm,0.7s,baz=58,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**44.55**	**260**	P	P	22 07 17.1	-0.6
	0.4nm,0.5s,baz=96,slow=6.8,SNR=20						
ASAR	**Alice Springs**	**44.65**	**255**	P	P	22 07 19.1	+0.5
	4.0nm,0.6s,baz=89,slow=8.3,SNR=62						
TXAR	**Lajitas Array**	**86.29**	**58**	P	P	22 11 38.8	-0.1
	0.2nm,0.7s,baz=210,slow=7.2,SNR=3.5						

*NEIC **31** 22:04:13.6±1.8,10°.96S±0°.09×162°.87E±0°.10,h42km±8km, mb4.6/25,Error ellipse: s-maj=16.7km s-min=10.7km az=48.0*
*IDC **31** 22:04:16.4±2.8,11°.03S×162°.72E,h66km±22km,mb4.0/16, mb1 4.1/19,mb1mx4.0/41,mbtmp4.3/19,MS3.8/31, Ms1 3.8/31,ms1mx3.7/48,Error ellipse: s-maj=22.0km s-min=13.1km az=83.0*
ISC 31 22:04:12.6±0.5,11°.01S±0°.06×162°.87E±0°.08,h34km,n93, σ1s51/68,mb4.5/31,MS3.9/31,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.28**	**298**	P	**Pn**	**22 05 03.0**	**+1.5**
	193nm,0.3s,baz=172,slow=4.5,SNR=67						
HNR				S	**Sn**	**22 05 41.4**	**+2.1**
	275nm,0.3s,baz=46,slow=15,SNR=4.3						
HNR				LR	LR	22 06 26.1	
	comp=Z,2μm,18.8s,baz=217,slow=41						
HNR	**Honiara**	**3.28**	**298**	Pn	**Pn**	**22 05 02.5**	**+0.9**
HNR	**Honiara**	**3.28**	**298**	P	**Pn**	**22 05 03.4**	**+1.9**
SANVU	**Saraoutou**	**6.11**	**137**	Pn	**Pn**	**22 05 41.7**	**+1.3**
SANVU	**Saraoutou**	**6.11**	**137**	P	**Pn**	**22 05 41.7**	**+1.3**
DVP	**Devils Point**	**8.43**	**143**	P	**Pn**	**22 06 15.1**	**+2.7**
	187μm,0.7s						
DZM	**Mont Dzumac**	**11.52**	**163**	P	**Pn**	**22 06 57.4**	**+2.5**
	1.6nm,0.3s,baz=146,slow=23,SNR=11						
DZM				S	**Sn**	**22 09 00.6**	**-1.8**
	0.8nm,0.3s,baz=136,slow=22,SNR=1.8						
DZM				LR	LR	22 10 49.6	
	comp=Z,443nm,21.2s,baz=22,slow=34						
DZM	**Mont Dzumac**	**11.52**	**163**	*e*Pn	**Pn**	**22 06 57.0**	**+2.2**
	4.4nm,0.2s						
DZM				*e*Sn	**Sn**	**22 08 57.3**	**-5.1**
	2.4nm,0.3s						
DZM				*e*LR	LR	22 09 32.4	
	comp=Z,1μm,26.8s						
DZM	**Mont Dzumac**	**11.52**	**163**	Pn	**Pn**	**22 06 56.9**	**+2.0**
DZM	**Mont Dzumac**	**11.52**	**163**	P	**Pn**	**22 06 57.6**	**+2.8**
	36nm,1.6s						
PMG	**Port Moresby**	**15.54**	**274**	LR	LR	22 13 59.3	
	comp=Z,672nm,18.5s,baz=95,slow=38						
PMG	**Port Moresby**	**15.54**	**274**		**P**	**22 07 50.8**	**-2.5**
EIDS	**Eidsvold**	**18.13**	**216**	P	**P**	**22 08 23.5**	**+1.6**
PATS	**Pohnpei**	**18.30**	**345**	P	**P**	**22 08 21.6**	**-2.2**
CTA	**Charters Tower**	**18.36**	**239**	P	**Pn**	**22 08 26.0**	**+1.3**
	1.2nm,0.3s,baz=61,slow=12,SNR=11						
CTAO	**Charters Tower**	**18.36**	**239**		**Pn**	**22 08 26.2**	**+1.5**
COEN	**Coen**	**19.45**	**259**		**Pn**	**22 08 37.2**	**-0.6**
COEN				lAmb	lAmb	22 08 42.5	
	comp=Z,29nm,1.1s						
ARMA	**Armidale**	**21.96**	**207**	P	**P**	**22 09 04.5**	**+0.9**
ARMA				lAmb	lAmb	22 09 07.5	
	comp=Z,19nm,0.6s						
JAY	**Jayapura**	**23.55**	**289**	LR	LR	22 19 10.6	
	comp=Z,184nm,18.1s,baz=138,slow=38						
STKA	**Stephens Creek**	**28.59**	**220**	P	**P**	**22 10 06.1**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=26,slow=6.9,SNR=6.9						
STKA				LR	LR	22 20 43.3	
	comp=Z,509nm,20.2s,baz=28,slow=35						
STKA	**Stephens Creek**	**28.59**	**220**	P	**P**	**22 10 05.7**	**0.0**
WR0	**Warramunga Arr**	**28.68**	**248**	P	**P**	**22 10 05.1**	**-1.5**
WB0	**Warramunga Arr**	**28.77**	**249**	P	**P**	**22 10 06.4**	**-1.0**
WB0				lAmb	lAmb	22 10 08.7	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**28.86**	**249**	P	**P**	**22 10 07.0**	**-1.2**
	comp=Z,2.7nm,0.5s,baz=79,slow=9.2,SNR=30						
WRA				PcP	**PcP**	**22 13 16.9**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=71,slow=3.4,SNR=2.1						
WRA				LR	LR	22 21 43.0	
	comp=Z,277nm,18.4s,baz=75,slow=36						
WRA	**Warramunga Arr**	**28.86**	**249**	P	**P**	**22 10 06.8**	**-1.3**
H11S2	**WAKE ISLAND Hy**	**29.55**	**7**	T	T	22 41 09.5	
	baz=188,slow=76,SNR=544						
H11S3	**WAKE ISLAND Hy**	**29.56**	**7**	T	T	22 41 12.8	
	baz=188,slow=76,SNR=143						
H11S1	**WAKE ISLAND Hy**	**29.57**	**7**	T	T	22 41 10.3	
	baz=188,slow=76,SNR=232						
URZ	**Urewera**	**29.98**	**157**	LR	LR	22 21 37.1	
	comp=Z,254nm,18.5s,baz=31,slow=35						
AS31	**Alice Springs**	**30.30**	**242**	P	**P**	**22 10 19.6**	**-1.4**
ASAR	**Alice Springs**	**30.30**	**242**	P	**P**	**22 10 19.6**	**-1.4**
	comp=Z,2.4nm,0.5s,baz=69,slow=9.8,SNR=37						
ASAR				LR	LR	22 21 45.9	
	comp=Z,225nm,20.3s,baz=59,slow=35						
ASAR	**Alice Springs**	**30.30**	**242**	P	**P**	**22 10 19.2**	**-1.9**
BKZ	**Black Stump Fm**	**30.55**	**159**	P	**P**	**22 10 23.6**	**+0.6**
BKZ				lAmb	lAmb	22 10 40.2	
	comp=Z,12nm,1.2s						
TOO	**Toolangi**	**30.71**	**208**	P	**P**	**22 10 25.6**	**+1.2**
TOO				lAmb	lAmb	22 10 26.1	
	comp=Z,16nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**30.78**	**7**	T	T	22 42 45.6	
	baz=188,slow=76,SNR=60						
H11N3	**WAKE ISLAND Hy**	**30.79**	**7**	T	T	22 42 42.3	
	baz=188,slow=76,SNR=66						
H11N2	**WAKE ISLAND Hy**	**30.80**	**7**	T	T	22 42 46.9	
	baz=188,slow=76,SNR=61						
FAKI	**Fak Fak**	**31.41**	**283**	P	**P**	**22 10 27.8**	**-3.1**
BBOO	**Buckleboo**	**32.83**	**224**	P	**P**	**22 10 42.9**	**-0.3**
BBOO				lAmb	lAmb	22 10 43.9	
	comp=Z,9.8nm,1.0s						
SIJI	**Sorong**	**32.97**	**286**	LR	LR	22 23 56.4	
	comp=Z,140nm,21.1s,baz=13,slow=36						
RPZ	**Rata Peaks**	**33.35**	**169**	LR	LR	22 24 25.8	
	comp=Z,134nm,18.6s,baz=325,slow=36						
FITZ	**Fitzroy Crossi**	**36.66**	**255**	P	**P**	**22 11 14.7**	**-1.7**
	comp=Z,2.5nm,0.5s,baz=71,slow=8.1,SNR=19						
FITZ				LR	LR	22 25 41.6	
	comp=Z,218nm,20.2s,baz=60,slow=35						
FITZ	**Fitzroy Crossi**	**36.66**	**255**	P	**P**	**22 11 14.8**	**-1.7**
FORT	**Forrest**	**37.78**	**233**	P	**P**	**22 11 25.7**	**0.0**
BATI	**Baumata**	**38.53**	**267**	P	**P**	**22 11 31.6**	**-0.7**
	comp=Z,10nm,0.6s,baz=105,slow=7.0,SNR=2.2						
DAV	**Davao City (W)**	**41.23**	**294**	LR	LR	22 26 36.8	
	comp=Z,191nm,20.2s,baz=144,slow=33						
PSA00	**Pilbara Seismi**	**42.48**	**250**	P	**P**	**22 12 04.2**	**-0.6**
PPT2	**Papeete2**	**46.45**	**104**	*e*LR	LR	22 25 42.4	
	comp=Z,99nm,22.8s						
TBI	**Tubuai**	**46.97**	**112**	*e*LR	LR	22 26 02.1	
	comp=Z,162nm,30.2s						
NWAO	**Narrogin (SRO)**	**47.16**	**235**	LR	LR	22 32 09.5	
	comp=Z,228nm,20.2s,baz=108,slow=36						
MORW	**Morawa**	**47.17**	**241**	P	**P**	**22 12 41.8**	**-0.3**
MJAR	**Matsushiro Arr**	**52.69**	**335**	P	**P**	**22 13 23.4**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=169,slow=6.0,SNR=4.7						
ASAJ	**Asahikawa**	**57.88**	**343**	P	**P**	**22 14 02.5**	**+1.4**
	comp=Z,7.5nm,0.8s,baz=217,slow=13,SNR=3.7						
KSRS	**Korea Array**	**58.29**	**328**	P	**P**	**22 14 04.4**	**+0.4**
	comp=Z,2.9nm,1.2s,baz=131,slow=5.5,SNR=4.1						
NJ2	**Nanjing**	**60.04**	**317**	*e*P	**P**	**22 14 17.5**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**61.69**	**335**	P	**P**	**22 14 28.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**61.69**	**335**	P	**P**	**22 14 28.1**	**+0.8**
	comp=Z,5.5nm,0.9s,baz=142,slow=6.1,SNR=12						
USRK	**Ussuriysk Ar.**	**61.69**	**335**	P	**P**	**22 14 27.4**	**+0.1**
PETK	**Petropavlovsk-**	**64.01**	**357**	LR

GTA				pP	pP	22 16 11.8	+0.1	
GTA				sP	pwP	22 16 16.3	-0.7	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,110nm,5.5s							
GTA				LR	LR			
	comp=N,99nm,16.4s							
GTA				LR	LR			
	comp=E,190nm,16.4s							
GTA				LR	LR			
	comp=Z,98nm,17.1s							
KDAK	**Kodiak Island**	**77.61**	**23**	LR	LR	22 51 16.9		
	comp=Z,56nm,18.6s,baz=233,slow=36							
BILL	**Bilibino**	**78.88**	**1**	P	**P**	**22 16 11.6**	**-0.3**	
BILL				IAmb	IAmb	22 16 23.6		
	comp=Z,8.5nm,1.0s							
SVW2	**Sparrevohn**	**78.98**	**19**	P	**P**	**22 16 13.2**	**+0.5**	
SVW2				IAmb	IAmb	22 16 14.4		
	comp=Z,6.4nm,1.2s							
IMAR	**Indian Mountai**	**83.17**	**16**	P	**P**	**22 16 34.8**	**0.0**	
MAW	**Mawson**	**83.69**	**202**	P	**P**	**22 16 37.2**	**-0.4**	
	comp=Z,3.4nm,0.9s,baz=135,slow=22,SNR=2.5							
MAW				LR	LR	22 50 40.5		
	comp=Z,45nm,18.3s,baz=60,slow=33							
MAW	**Mawson**	**83.69**	**202**	P	**P**	**22 16 38.1**	**+0.6**	
ILAR	**Eielson Array**	**84.39**	**19**	P	**P**	**22 16 39.9**	**-1.2**	
	comp=Z,0.5nm,0.8s,baz=246,slow=5.5,SNR=2.7							
ILAR				LR	LR	22 48 32.3		
	comp=Z,59nm,19.8s,baz=218,slow=31							
BCAR	**Beaver Creek A**	**85.11**	**22**	P	**P**	**22 16 45.0**	**+0.2**	
TIXI	**Tiksi**	**85.53**	**350**	LR	LR	22 53 31.9		
	comp=Z,28nm,21.0s,baz=240,slow=35							
YBH	**Yreka Blue Hor**	**85.90**	**46**	LR	LR	22 47 59.3		
	comp=Z,49nm,19.7s,baz=286,slow=30							
BBB	**Bella Bella**	**86.16**	**35**	LR	LR	22 46 05.8		
	comp=Z,57nm,20.3s,baz=296,slow=29							
EGAK	**Eagle**	**86.33**	**21**	P	**P**	**22 16 50.5**	**-0.3**	
EGAK				IAmb	IAmb	22 17 04.9		
	comp=Z,6.2nm,1.2s							
WMQ	**Urumqi**	**87.08**	**316**	*eP*	**P**	**22 16 55.0**	**0.0**	
DLBC	**Dease Lake**	**87.73**	**29**	LR	LR	22 47 28.7		
	comp=Z,116nm,20.0s,baz=278,slow=30							
NVAR	**Mina Array Bea**	**88.17**	**50**	LR	LR	22 50 53.3		
	comp=Z,71nm,18.8s,baz=258,slow=32							
PFO	**Pinyon Flats O**	**88.38**	**55**	LR	LR	22 48 03.2		
	comp=Z,37nm,22.0s,baz=218,slow=30							
ELK	**Elko**	**91.04**	**49**	LR	LR	22 52 12.9		
	comp=Z,38nm,18.4s,baz=257,slow=32							
NEW	**Newport**	**91.56**	**41**	LR	LR	22 51 59.6		
	comp=Z,48nm,19.2s,baz=187,slow=31							
MK31	**Makanchi Array**	**91.57**	**317**		**P**	**22 17 15.5**	**-0.6**	
MK31				IAmb	IAmb	22 17 17.9		
	comp=Z,1.2nm,0.7s							
MKAR	**Makanchi Array**	**91.57**	**317**	P	**P**	**22 17 15.3**	**-0.7**	
	comp=Z,1.8nm,0.7s,baz=100,slow=5.1,SNR=19							
MAKZ	**Makanchi**	**91.78**	**317**		**P**	**22 17 17.0**	**0.0**	
MAKZ				IAmb	IAmb	22 17 28.1		
	comp=Z,4.2nm,1.2s							
ZALV	**Zalesovo Beam**	**91.88**	**325**	P	**P**	**22 17 15.1**	**-2.2**	
	comp=Z,0.8nm,0.7s,baz=119,slow=5.6,SNR=3.2							
NRIK	**Noril'sk**	**95.11**	**340**	LR	LR	22 57 58.4		
	comp=Z,38nm,21.9s,baz=106,slow=34							
PDAR	**Pinedale Array**	**95.61**	**48**	LR	LR	22 55 21.2		
	comp=Z,32nm,18.6s,baz=311,slow=32							
YKA	**Yellowknife Ar**	**96.24**	**28**	P	**P**	**22 17 35.8**	**-1.2**	
	comp=Z,0.2nm,0.7s,baz=245,slow=5.0,SNR=3.5							
YKA				LR	LR	22 54 09.1		
	comp=Z,43nm,21.5s,baz=0.0,slow=31							
TXAR	**Lajitas Array**	**98.30**	**62**	LR	LR	22 55 47.3		
	comp=Z,36nm,19.7s,baz=0.0,slow=31							

*IDC **31** 22:09:25.4±2.2,5.°15S×153.°07E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.7/36,mbtmp3.7/8,Error ellipse: s-maj=80.2km s-min=23.1km az=119.0*

ISC 31 22:09:31.4±2.0,5.°2S±0.°3×153.°1E±0.°4,h43km,n9,σ0s98/9, mb3.4/8,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.39**	**230**	P	**P**	**22 14 35.9**	**-0.7**
	1.2nm,0.8s,baz=55,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**26.05**	**223**	P	**P**	**22 15 01.1**	**+0.2**
	0.7nm,1.0s,baz=58,slow=9.2,SNR=3.1						
FITZ	**Fitzroy Crossi**	**29.72**	**242**	P	**P**	**22 15 33.4**	**-0.3**
	0.7nm,0.5s,baz=76,slow=8.3,SNR=1.9						
PETK	**Petropavlovsk-**	**58.22**	**3**	P	**P**	**22 19 19.4**	**-1.8**
	3.2nm,0.9s,baz=175,slow=6.4,SNR=1.7						
SONM	**Songino Array**	**66.82**	**328**	P	**P**	**22 20 19.9**	**+1.0**
	0.2nm,0.6s,baz=120,slow=5.7,SNR=2.1						
MKAR	**Makanchi Array**	**80.81**	**319**	P	**P**	**22 21 40.4**	**-0.3**
	0.2nm,0.5s,baz=93,slow=8.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**81.64**	**326**	P	**P**	**22 21 45.4**	**+0.5**
	1.4nm,0.6s,baz=109,slow=6.4,SNR=7.9						
ILAR	**Eielson Array**	**82.42**	**22**	P	**P**	**22 21 49.6**	**+0.8**
	0.1nm,0.5s,baz=224,slow=5.0,SNR=2.0						
TORD	**Torodi Ar. Bea**	**150.70**	**288**	PKPbc	**PKiKP**	**22 29 20.9**	**+0.2**
	1.6nm,0.8s,baz=62,slow=2.7,SNR=6.9						

*ANF **31** 22:13:46.8±0.4,47.°41N×122.°74W,h28km±4km,ML2.5/7, Error ellipse: s-maj=6.9km s-min=3.2km az=84.0, Hypocentre not reviewed by the ISC*

*SEA **31** 22:13:47.3±1.4,47.°38N±0.°01×122.°72W±0.°03,h24km±6km, ML2.6/46,ML2.3/14(NEIC),Error ellipse: s-maj=3.2km s-min=2.0km az=83.0*

NEIC 31 22:13:46.7±1.4,47.°38N±0.°02×122.°74W±0.°03,h25km±7km, Error ellipse: s-maj=3.2km s-min=3.0km az=76.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMR	**Kitsap County**	**0.13**	**351**		Pb	22 13 51.7	+0.1
KIMR					Sb	22 13 55.3	+0.4
GMW	**Gold Mountain**	**0.17**	**349**		Pb	22 13 52.0	-0.1
GMW					Sb	22 13 55.7	-0.1
PSNS	**PSNS Bremerton**	**0.19**	**19**		Pb	22 13 52.3	+0.1
GNW	**Green Mountain**	**0.20**	**342**		Pb	22 13 52.1	-0.2
GNW					Sb	22 13 56.1	0.0
VVHS	**Vashon High Sc**	**0.20**	**76**		Pb	22 13 52.3	0.0
VVHS					Sb	22 13 56.9	+0.8
D04E	**Lakebay**	**0.20**	**187**	P		22 13 53.0	
	baz=10,SNR=5.3						
D04E				S		22 13 58.4	
	baz=10						
UPS	**University of**	**0.21**	**123**		Pb	22 13 52.6	+0.2
MNWA	**Manchester**	**0.23**	**36**		Pb	22 13 52.9	0.0
TBPA	**Tacoma Substat**	**0.28**	**115**		Pb	22 13 53.5	+0.1
D03D	**Eldon**	**0.29**	**304**		Pb	22 13 53.6	+0.1
D03D					Sb	22 13 58.7	+0.6
D03D	**Eldon**	**0.29**	**304**	P		22 13 53.3	
	baz=122,SNR=15						
D03D				S		22 13 58.7	
	baz=122						
HICC	**Highline Commu**	**0.30**	**87**		Pb	22 13 53.7	+0.1
PAYL	**Puyallup Schoo**	**0.34**	**122**		Pb	22 13 54.2	-0.1
PAYL					Sb	22 14 00.3	+0.8
EGRN	**Evergreen Coll**	**0.34**	**208**		Pb	22 13 54.6	+0.3
C04A	**Brinnon**	**0.38**	**335**		Pb	22 13 54.7	-0.1
C04A					Sb	22 14 00.6	+0.2
SP2	**Seward Park 2**	**0.38**	**61**		Pb	22 13 55.3	+0.4
PCEP	**Pierce County**	**0.41**	**131**		Sb	22 14 01.4	+0.2
SMW	**South Mountain**	**0.41**	**262**		Pb	22 13 56.2	+0.7
B013	**Quilcene**	**0.45**	**345**		Pb	22 13 55.9	-0.2
B013	**Quilcene**	**0.45**	**345**		Pb	22 13 55.8	-0.2
B013					Sb	22 14 02.8	+0.3
GHW	**Garrison Hill**	**0.46**	**136**		Pb	22 13 55.9	-0.3
GHW					Sb	22 14 02.5	-0.3
CPW	**Capitol Peak**	**0.49**	**214**		Pb	22 13 56.7	0.0
CPW					Sb	22 14 04.2	+0.7
B941	**Kapowsin**	**0.53**	**138**		Pb	22 13 56.6	-0.7
B941					Sb	22 14 03.7	-0.9
D05A	**Enumclaw**	**0.54**	**110**		Pb	22 13 57.6	0.0
D05A					Sb	22 14 05.8	+0.8
D05A	**Enumclaw**	**0.54**	**110**	IAML		22 14 06.2	
	comp=N,282nm,0.4s						
D05A				IAML		22 14 06.5	
	comp=E,147nm,0.3s						
RAW	**Raver**	**0.55**	**94**		Pb	22 13 57.6	-0.1
RAW					Sb	22 14 06.0	+0.7
ELW	**Echo Lake**	**0.60**	**78**		Pb	22 13 57.9	-0.7
ELW					Sb	22 14 06.5	-0.2
RATT	**Rattlesnake La**	**0.64**	**85**		Pb	22 13 58.5	-0.7
RATT					Sb	22 14 07.8	+0.1
BLN	**Blyn Mountain**	**0.65**	**346**		Pb	22 13 58.9	-0.5
BLN					Sb	22 14 08.0	-0.1
BLH	**Bald Hill**	**0.66**	**46**		Pb	22 13 59.2	-0.4
GSM	**Grass Mountain**	**0.67**	**105**		Pb	22 13 59.2	-0.6
B017	**Montesano**	**0.68**	**236**		Pn	22 14 00.3	-0.2
LCW	**Lucas Creek**	**0.71**	**178**		Pb	22 13 59.9	-0.5
SQM	**Sequim**	**0.73**	**343**		Pb	22 14 00.7	0.0
OLQ	**Olympics--Lake**	**0.74**	**281**		Pb	22 14 00.9	0.0
WISH	**Wishkah**	**0.75**	**250**		Pn	22 14 01.9	+0.3
OBSR	**Observation Ro**	**0.79**	**127**		Pb	22 14 01.1	-0.9
E04D	**Cinebar**	**0.83**	**172**		Pb	22 14 01.8	-0.6
E04D	**Cinebar**	**0.83**	**172**	P		22 14 01.8	
	baz=353,SNR=68						
E04D				S		22 14 13.8	
	baz=353						
FMW	**Mount Fremont**	**0.85**	**121**		Pb	22 14 01.9	-1.0
B04A	**Port Angeles**	**0.85**	**323**		Pn	22 14 03.0	0.0
B04A	**Port Angeles**	**0.85**	**323**		Pn	22 14 03.1	0.0
RCM	**Mount Rainier-**	**0.88**	**128**		Pb	22 14 02.5	-0.9
LON	**Longmire**	**0.89**	**134**		Pb	22 14 02.5	-1.1
PANH	**Panhandle Gap,**	**0.91**	**124**		Pb	22 14 02.8	-1.1
B019	**Raymond**	**0.96**	**221**		Pb	22 14 05.0	+0.4
BMW	**Boistfort Moun**	**0.96**	**201**		Pn	22 14 04.2	-0.5
JCW	**Jim Creek**	**0.98**	**33**		Pn	22 14 04.0	-0.9
B05A	**Bryant**	**0.99**	**26**		Pn	22 14 03.9	-1.0
B05A	**Bryant**	**0.99**	**26**	P		22 14 04.0	
	baz=205,SNR=22						
B05A				S		22 14 17.3	
	baz=205						
E03A	**Lebam**	**1.01**	**214**	Pn	Pn	22 14 05.1	0.0
E03A					Sn	22 14 19.4	+1.0
E03A				IAML		22 14 25.7	
	comp=N,81nm,0.7s						
WPW	**White Pass**	**1.06**	**129**		Pn	22 14 05.6	-0.4
TDL	**Tradedollar La**	**1.09**	**161**		Pn	22 14 05.9	-0.5
ERK	**Elk Rock**	**1.11**	**166**		Pn	22 14 05.8	-0.8
B201	**Coldwater, Mou**	**1.12**	**163**		Pn	22 14 06.1	-0.7
GLK	**Glacier Lake**	**1.12**	**136**		Pn	22 14 06.6	-0.3
JRO	**Jston Ridge Ob**	**1.16**	**162**		Pn	22 14 06.9	-0.5
STD	**Studebaker Rid**	**1.19**	**163**		Pn	22 14 07.5	-0.4
STD	**Studebaker Rid**	**1.19**	**163**		Pn	22 14 07.7	-0.2
B202	**Windy Ridge, M**	**1.21**	**160**		Pn	22 14 07.5	-0.4
FL2	**Flat Top 2**	**1.21**	**167**		Pn	22 14 07.7	-0.4
VALT	**Mount Saint He**	**1.22**	**162**		Pn	22 14 08.3	0.0
BOLM	**Sugar Bowl**	**1.23**	**161**		Pb	22 14 09.2	0.0
RVW	**Rose Valley**	**1.23**	**180**		Pn	22 14 08.2	-0.1
B203	**Quarry, Mount**	**1.24**	**167**		Pn	22 14 08.0	-0.4
ESD	**East Dome**	**1.25**	**161**		Pn	22 14 09.0	+0.3
SWF2	**Southwest Flan**	**1.25**	**163**		Pn	22 14 09.1	+0.5
B023	**Clatskanie**	**1.29**	**191**		Pn	22 14 09.2	+0.2
JLK	**June Lake**	**1.29**	**162**		Pn	22 14 09.5	+0.3
TWW	**Teanaway**	**1.30**	**100**		Pb	22 14 10.0	-0.4
F04D	**Rainier, OR**	**1.31**	**188**		Pn	22 14 09.9	+0.6
F04D	**Rainier, OR**	**1.31**	**188**	P		22 14 09.8	
	baz=8.7						
F04D				S		22 14 27.4	
	baz=8.7						
GPW	**Glacier Peak**	**1.31**	**55**		Pn	22 14 09.7	+0.2
LVP	**Lakeview Peak**	**1.33**	**170**		Pn	22 14 09.9	+0.2
WRW	**Wenatchee Ridg**	**1.34**	**68**		Pn	22 14 10.2	+0.2
CDFW	**Cedar Flats**	**1.35**	**159**		Pn	22 14 10.2	+0.3
RPW	**Rockport**	**1.35**	**37**		Pn	22 14 10.3	+0.4
PGC	**Sidney**	**1.36**	**340**		Pn	22 14 10.4	+0.5
C06D	**Leavenworth**	**1.36**	**66**		Pn	22 14 10.6	+0.5
C06D	**Leavenworth**	**1.36**	**66**	P		22 14 10.5	
	baz=247,SNR=9.6						
C06D				S		22 14 27.8	
	baz=247						
MTMW	**Mount Mitchell**	**1.40**	**165**		Pn	22 14 11.3	+0.6
LTY	**Liberty**	**1.41**	**94**		Pn	22 14 11.1	+0.3
LTY				IAML		22 14 30.4	
	comp=E,28nm,0.3s						
LTY				IAML		22 14 31.0	
	comp=N,30nm,0.2s						
B06A	**Marblemount**	**1.42**	**36**	Pn	Pn	22 14 11.4	+0.6
NAC	**Naches**	**1.46**	**116**		Pb	22 14 12.7	-0.4
ASR	**Mount Adams--S**	**1.46**	**147**		Pn	22 14 12.2	+0.7
TBM	**Table Mountain**	**1.47**	**97**		Pb	22 14 12.7	-0.7
MBW	**Mount Baker**	**1.52**	**21**		Pn	22 14 13.1	+0.8
EBG	**Ellensburg**	**1.55**	**107**		Pb	22 14 14.6	-0.2
SHUK	**Shuksan-Mt. Ba**	**1.64**	**25**		Pn	22 14 15.0	+1.0
ETW	**Entiat**	**1.65**	**81**		Pb	22 14 15.9	-0.6
F05D	**White Salmon**	**1.73**	**149**	P		22 14 16.6	
	baz=330						
F05D				S		22 14 39.1	
	baz=330						
KMOR	**Kings Mountain**	**1.82**	**197**		Pn	22 14 17.6	+1.2
MXC	**Moxie City**	**1.86**	**115**		Pb	22 14 19.2	-0.7
CBSW	**Chelan Butte S**	**1.88**	**76**		Pb	22 14 20.0	-0.3
WTV	**Waterville**	**1.91**	**79**		Pb	22 14 20.6	-0.3
HIYU	**Hiyu Mountain**	**2.05**	**161**		Pb	22 14 22.6	-0.7
E07A	**Sunnyside**	**2.14**	**111**	Pn	Pn	22 14 22.4	+1.7
E07A				IAML		22 14 51.8	
	comp=E,25nm,0.7s						
E07A				IAML		22 14 52.6	
	comp=N,32nm,0.7s						
TDH	**Tom, Dick, Har**	**2.19**	**162**		Pb	22 14 24.6	-1.0
G03D	**McMinnville, O**	**2.20**	**190**	P		22 14 23.7	
	baz=9.7,SNR=8.9						
GBB	**Gable Butte**	**2.26**	**109**		Pb	22 14 25.6	-1.2
B08A	**Colville Reser**	**2.49**	**66**		Pn	22 14 26.9	+1.3
B08A				IAML		22 15 03.6	
	comp=N,16nm,0.5s						

*IDC **31** 22:14:15.7±0.9,5.°62S×152.°58E,h0km,mb4.3/10, mb1 4.5/11,mb1mx4.2/39,mbtmp4.3/11,ML2.2/1,Error ellipse: s-maj=36.0km s-min=16.1km az=123.0*

*DJA **31** 22:14:20.6±1.7,6.°S±4.°×15.°3E±1.°1,h32km±12km,M5.0/11, mB4.7/1,mb4.6/11,MLv5.2/3,Mw(mB)3.9/1*

*NEIC **31** 22:14:21.6±1.4,5.°59S±0.°07×152.°59E±0.°07,h37km±5km, mb4.5/29,Error ellipse: s-maj=11.8km s-min=9.1km az=51.0*

ISC 31 22:14:21.7±0.5,5.°64S±0.°06×152.°61E±0.°08,h40km,n67, σ0s92/69,mb4.5/31,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.51**	**343**	Pn	**Pn**	**22 14 44.7**	**-1.7**
MANU	**Manus Island**	**6.34**	**304**	Pn	**Pn**	**22 15 52.7**	**0.0**
PMG	**Port Moresby**	**6.57**	**235**	Pn	**Pn**	**22 15 55.6**	**-0.3**
	3.1nm,0.3s,baz=41,slow=7.8,SNR=11						
PMG				Sn	**Sn**	**22 17 09.5**	**0.0**
	8.6nm,0.3s,baz=212,slow=21,SNR=10						
PMG	**Port Moresby**	**6.57**	**235**	Pn	**Pn**	**22 15 55.5**	**-0.4**
PMG	**Port Moresby**	**6.57**	**235**	P	**Pn**	**22 15 57.8**	**+1.9**
HNR	**Honiara**	**8.19**	**118**	Pn	**Pn**	**22 16 18.5**	**+0.3**
CTA	**Charters Tower**	**15.63**	**203**	Pn	**P**	**22 18 01.4**	**-1.6**
	0.2nm,0.3s,baz=34,slow=12,SNR=4.3						
CTAO	**Charters Tower**	**15.63**	**203**	Pn	**P**	**22 18 01.0**	**-2.0**
EIDS	**Eidsvold**	**19.67**	**184**	P	**Pn**	**22 18 48.3**	**-0.8**
DZM	**Mont Dzumac**	**21.11**	**142**	P	**P**	**22 19 04.5**	**+1.2**
DZM				IAmb	IAmb	22 19 22.3	
	comp=Z,17nm,1.0s						
MTN	**Manton Dam**	**22.36**	**250**	P	**P**	**22 19 16.0**	**-0.6**
MTN				IAmb	IAmb	22 19 19.9	
	comp=Z,21nm,1.4s						
WB0	**Warramunga Arr**	**22.61**	**230**	P	**P**	**22 19 18.1**	**-1.1**
WB0				IAmb	IAmb	22 19 36.0	
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**22.74**	**230**	P	**P**	**22 19 19.5**	**-1.1**
WRA	**Warramunga Arr**	**22.75**	**230**	P	**P**	**22 19 19.6**	**-1.2**
	comp=Z,3.5nm,0.5s,baz=55,slow=10,SNR=35						
WRA				PcP	**PcP**	**22 23 12.3**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=63,slow=1.9,SNR=1.9						
WRA	**Warramunga Arr**	**22.75**	**230**	P	**P**	**22 19 19.4**	**-1.4**
AS31	**Alice Springs**	**25.40**	**223**	P	**P**	**22 19 45.9**	**+0.2**
ASAR	**Alice Springs**	**25.41**	**223**	P	**P**	**22 19 45.1**	**-0.6**
	comp=Z,7.5nm,0.7s,baz=55,slow=9.0,SNR=55						
ASAR	**Alice Springs**	**25.41**	**223**	P	**P**	**22 19 45.4**	**-0.3**
STKA	**Stephens Creek**	**28.06**	**200**	P	**P**	**22 20 08.2**	**-1.3**
	comp=Z,5.4nm,1.0s,baz=359,slow=5.6,SNR=5.5						
SOEI	**Soe**	**28.37**	**260**	P	**P**	**22 20 13.9**	**+1.3**
SOEI	**Soe**	**28.37**	**260**	P	**P**	**22 20 15.1**	**+2.4**
	comp=Z,33nm,1.4s						
FITZ	**Fitzroy Crossi**	**29.09**	**243**	P	**P**	**22 20 17.5**	**-1.4**
	comp=Z,4.0nm,0.7s,baz=75,slow=5.8,SNR=17						
FITZ	**Fitzroy Crossi**	**29.09**	**243**	P	**P**	**22 20 17.7**	**-1.2**
FITZ				IAmb	IAmb	22 20 34.0	
	comp=Z,7.1nm,0.8s						
BBOO	**Buckleboo**	**31.12**	**208**	P	**P**	**22 20 35.8**	**-0.8**
NJ2	**Nanjing**	**49.38**	**322**	*eP*	**P**	**22 23 08.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMI	**Kunming**	**57.30**	**305**	⇑P	**P**	**22 24 08.5**	**+2.3**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**58.06**	**296**	P	**P**	**22 24 10.5**	**-1.0**
HHC	**Hu-ho-hao-te**	**59.62**	**325**	*eP*	**P**	**22 24 22.0**	**+0.1**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,56nm,5.6s						
LZH	**Lanzhou**	**61.70**	**316**	*eP*	**P**	**22 24 36.5**	**+0.2**
LZH				pP	pP	22 24 43.0	-3.3
LZH				sP	sP	22 24 47.8	-2.5
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
SHL	**Shillong**	**66.57**	**301**	P	**P**	**22 25 08.3**	**-0.2**
ULN	**Ulaanbaatar**	**66.61**	**328**	P	**P**	**22 25 08.2**	**0.0**
ULN				IAmb	IAmb	22 25 20.1	
	comp=Z,6.5nm,1.4s						
SONM	**Songino Array**	**66.93**	**328**	P	**P**	**22 25 10.1**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=148,slow=4.9,SNR=9.9						
SONM	**Songino Array**	**66.93**	**328**	P	**P**	**22 25 10.0**	**-0.3**
BILL	**Bilibino**	**74.14**	**5**	P	**P**	**22 25 54.0**	**+0.3**
BILL				IAmb	IAmb	22 25 55.4	
	comp=Z,6.8nm,0.9s						
GAMB	**Gambell**	**74.24**	**16**		**P**	**22 25 54.6**	**+0.4**
GAMB				IAmb	IAmb	22 25 56.7	
	comp=Z,7.0nm,1.0s						
WMQ	**Urumqi**	**76.23**	**318**	*eP*	**P**	**22 26 06.8**	**+0.5**
WMQ				pP	PcP	22 26 17.0	-1.2
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,67nm,4.5s						
ANM	**Nome**	**76.63**	**17**	P	**P**	**22 26 08.8**	**+0.7**
ANM				IAmb	IAmb	22 26 11.2	
	comp=Z,9.8nm,1.4s						
TNA	**Tin City**	**76.66**	**16**	P	**P**	**22 26 09.1**	**+1.0**
TNA				IAmb	IAmb	22 26 20.0	
	comp=Z,6.3nm,1.3s						
CNPM	**China Poot**	**78.55**	**26**	P	**P**	**22 26 18.8**	**0.0**
SUA	**Susitna One**	**79.80**	**24**	P	**P**	**22 26 25.7**	**-0.1**
SUA				IAmb	IAmb	22 26 37.6	
	comp=Z,4.6nm,1.0s						
RDOG	**Red Dog Mine**	**79.84**	**16**	P	**P**	**22 26 26.2**	**+0.5**
PWL	**Port Wells**	**80.49**	**25**	P	**P**	**22 26 29.6**	**+0.3**
MK31	**Makanchi Array**	**80.83**	**319**	P	**P**	**22 26 31.5**	**0.0**
MKAR	**Makanchi Array**	**80.83**	**319**	P	**P**	**22 26 32.0**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=110,slow=5.4,SNR=14						
MKAR	**Makanchi Array**	**80.83**	**319**	P	**P**	**22 26 31.8**	**+0.2**
SML	**Sawmill**	**80.97**	**24**	P	**P**	**22 26 32.5**	**+0.6**
MAKZ	**Makanchi**	**81.04**	**319**	P	**P**	**22 26 32.6**	**0.0**
IMAR	**Indian Mountai**	**81.24**	**19**	P	**P**	**22 26 34.1**	**+0.9**
RND	**Reindeer**	**81.57**	**23**	P	**P**	**22 26 35.0**	**-0.2**
RND				IAmb	IAmb	22 26 36.3	
	comp=Z,4.2nm,0.9s						
MCK	**McKinley**	**81.71**	**23**	P	**P**	**22 26 36.0**	**+0.2**
MCK				IAmb	IAmb	22 26 46.2	
	comp=Z,8.2nm,1.1s						
ZAA0	**Zalesovo Array**	**81.75**	**326**	P	**P**	**22 26 35.5**	**-0.6**
ZALV	**Zalesovo Beam**	**81.75**	**326**	P	**P**	**22 26 35.5**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=114,slow=6.6,SNR=7.8						
ZALV	**Zalesovo Beam**	**81.75**	**326**	P	**P**	**22 26 35.3**	**-0.8**
IL31		**83.01**	**22**	P	**P**	**22 26 42.2**	**-0.2**
IL31				IAmb	IAmb	22 26 42.6	
	comp=Z,4.3nm,1.1s						
ILAR	**Eielson Array**	**83.01**	**22**	P	**P**	**22 26 41.8**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=258,slow=4.9,SNR=17						
ILAR	**Eielson Array**	**83.01**	**22**	P	**P**	**22 26 42.2**	**-0.3**
KSH	**Kashi**	**83.34**	**311**	P	**P**	**22 26 47.3**	**+2.3**
KSH				pP	pP	22 26 56.8	+1.3
KSH				pmax	pmax		
	comp=Z,11nm,1.2s						
KSH				pmax	pmax		
	comp=Z,300nm,5.3s						
BCAR	**Beaver Creek A**	**84.25**	**25**	P	**P**	**22 26 49.6**	**+0.6**
AAK	**Ala-Archa**	**85.11**	**314**	P	**P**	**22 26 54.3**	**+0.3**
KK31	**Karatay Array**	**88.07**	**313**	P	**P**	**22 27 08.4**	**+0.2**
KK31				IAmb	IAmb	22 27 11.0	
	comp=Z,4.8nm,1.4s						
KKAR	**Karatay Array**	**88.07**	**313**	P	**P**	**22 27 08.2**	**-0.1**
INK	**Inuvik**	**89.31**	**21**	P	**P**	**22 27 13.5**	**+0.1**
	comp=Z,3.3nm,1.1s,baz=216,slow=6.1,SNR=6.9						
BRVK	**Borovoye**	**89.87**	**323**	P	**P**	**22 27 15.7**	**-0.7**
B

σ1ŝ10/87, mb3.8/22, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.24	31		Pn	22 53 38.4	-2.2
AMKA					Sn	22 53 44.2	-1.8
CESW	Semis' Southwe	0.79	21		Pn	22 53 47.4	-0.1
CERAA	Semis' Rag'd T	0.82	26		Pn	22 53 47.7	-0.3
CERB	Semis' Cerberu	0.83	23		Pn	22 53 48.0	-0.1
LSSE	Little Sitkin	0.83	337		Pn	22 53 48.9	+0.7
CETU	Semis' Tuman	0.83	17		Pn	22 53 48.5	+0.3
LSPA	Little Sitkin	0.85	338		Pn	22 53 49.2	+0.7
LSSA	Little Sitkin	0.86	335		Pn	22 53 49.2	+0.6
LSNW	Little Sitkin	0.88	336		Pn	22 53 49.2	+0.4
CEAP	Semis' Anvil P	0.89	19		Pn	22 53 49.1	+0.2
GALAA	Gareloi Lava P	1.46	65		Pn	22 53 57.0	+0.3
GAEA	Gareloi East	1.48	65		Pn	22 53 57.1	+0.1
TASE	Tanaga Southea	1.91	68		Pn	22 54 03.0	+0.1
TAFP	Tanaga Falls P	1.96	67		Pn	22 54 03.8	+0.2
KIMD	Kanaga Island	2.37	74		Pn	22 54 09.0	-0.1
KIKV	Kanaga Island	2.44	72		Pn	22 54 09.7	-0.4
ADK	Adak	2.73	73		Pn	22 54 13.3	-0.8
ADAG	Mount Adagdak	2.80	72		Pn	22 54 14.9	-0.3
GSTD	Great Sitkin T	3.09	71		Pn	22 54 18.4	-0.8
GSMY	Great Sitkin M	3.14	72		Pn	22 54 19.0	-0.8
GSTR	Great Sitkin T	3.15	71	Pn	Pn	22 54 19.4	-0.6
SMY	Shemya	3.47	299		Pn	22 54 25.5	+1.3
ATKA	Atka Island	4.30	73		Pn	22 54 35.0	-0.7
KOKL	Mount Kliuchef	4.32	72		Pn	22 54 35.6	-0.4
NIKH	Nikolski High	7.64	72	Pn	Pn	22 55 20.7	-0.8
SPIA	Saint Paul Isl	8.67	42		Pn	22 55 36.9	+1.4
MAPS	Pakushin South	8.92	67		Pn	22 55 39.8	+0.8
MSW	Makushin Switc	9.03	67		Pn	22 55 42.3	+1.8
SDPT	Sand Point	12.91	63	Pn	Pn	22 56 34.0	+0.5
PETK	Petropavlovsk- 0.1nm,0.3s,baz=90,slow=18,SNR=2.4	13.28	287	Pn	Pn	22 56 37.8	-0.8
GAMB	Gambell	13.55	18	Pn	Pn	22 56 45.0	+2.8
CHGN	Chignik	14.23	60	Pn	Pn	22 56 50.1	-1.4
TNA	Tin City	15.90	20		Pn	22 57 14.2	+0.9
SII	Sitkinak Islan	16.59	61	Pn	Pn	22 57 22.6	+0.4
SVW2	Sparrevohn	17.14	45		P	22 57 30.4	+0.1
OHAK	Old Harbor	17.18	59	Pn	Pn	22 57 27.0	-2.4
KDAK	Kodiak Island 1.1nm,0.3s,baz=302,slow=9.0,SNR=8.2	17.64	57	Pn	Pn	22 57 30.6	-4.6
RSO	Redoubt South	18.21	48		Pn	22 57 43.4	+1.1
CNPM	China Poot	18.69	52	P	Pn	22 57 47.7	-0.3
CNPM	comp=Z,6.4nm,1.1s			IAmb	IAmb	22 58 01.6	
SKT	Skwentna	19.27	45	P	Pn	22 57 55.0	0.0
SKT	comp=Z,5.5nm,0.8s			IAmb	IAmb	22 58 01.0	
PPLA	Purkeypile	19.34	42	P	Pn	22 57 55.7	-0.2
PPLA	comp=Z,7.0nm,1.0s			IAmb	IAmb	22 58 07.8	
SEW	Seward	19.70	51	P	P	22 57 58.9	+0.6
SEW	comp=Z,8.7nm,1.0s			IAmb	IAmb	22 58 07.4	
KTH	Kantishna Hill	20.13	41	P	P	22 58 03.9	+0.7
KTH	comp=Z,6.0nm,0.6s			IAmb	IAmb	22 58 07.9	
IMAR	Indian Mountai	20.25	33	P	P	22 58 04.5	+0.2
BPAW	Bear Paw Mtn.	20.34	39	P	P	22 58 05.5	+0.2
BPAW	comp=Z,5.7nm,1.2s			IAmb	IAmb	22 58 10.8	
MLY	Manley	20.85	37	P	P	22 58 11.4	+0.6
SCM	Sheep Creek Mo	21.12	47	P	P	22 58 13.0	-0.9
SCM	comp=Z,7.7nm,1.0s			IAmb	IAmb	22 58 22.4	
NEA2	Nenana	21.30	39	P	P	22 58 15.6	-0.1
NEA2	comp=Z,7.0nm,0.9s			IAmb	IAmb	22 58 19.6	
WRH	Wood River Hil	21.64	40	P	P	22 58 19.3	0.0
M24K	Tolsona, Glenn	21.72	46	P	P	22 58 20.4	+0.2
MDM	Murphy Dome	21.78	38	P	P	22 58 21.2	+0.4
MDM	comp=Z,2.6nm,0.7s			IAmb	IAmb	22 58 24.3	
COLD	Coldfoot	22.12	32	P	P	22 58 24.9	+0.6
ILAR	Eielson Array comp=Z,0.3nm,0.6s,baz=248,slow=9.6,SNR=10	22.24	39	P	P	22 58 22.3	-3.4
ILAR	Eielson Array	22.24	39	P	P	22 58 25.8	+0.1
PAX	Paxson	22.26	44		P	22 58 26.8	+0.8
PAX	comp=Z,6.6nm,1.4s			IAmb	IAmb	22 58 30.4	
N25K	Chitina, Valde	22.34	48	P	P	22 58 27.0	+0.1
MENT	Mentasta	23.02	45	P	P	22 58 35.4	+1.4
MENT	comp=Z,3.6nm,0.6s			IAmb	IAmb	22 58 54.6	
DOT	Dot Lake	23.05	43	P	P	22 58 33.8	-0.5
DOT	comp=Z,5.3nm,1.4s			IAmb	IAmb	22 58 41.6	
TOLK	Toolik Lake Re	23.08	29	P	P	22 58 34.3	-0.3
TOLK	comp=Z,3.1nm,0.6s			IAmb	IAmb	22 58 39.5	
L27K	Beaver Creek,	23.89	45	P	P	22 58 42.1	-0.3
L27K	comp=Z,2.0nm,0.8s			IAmb	IAmb	22 58 46.9	
BCAR	Beaver Creek A	23.91	45	P	P	22 58 42.1	-0.5
K27K	Chicken	24.00	43	P	P	22 58 43.3	0.0
BMAR	Burnt Mountain	24.14	34	P	P	22 58 44.2	-0.5
EGAK	Eagle	24.57	41	P	P	22 58 48.0	-0.5
INK	Inuvik comp=Z,0.7nm,0.5s,baz=231,slow=15,SNR=5.2	28.39	35	P	P	22 59 22.3	-0.5
INK	Inuvik	28.39	35	P	P	22 59 22.9	+0.1
INK	comp=Z,1.9nm,0.9s			IAmb	IAmb	22 59 26.6	
KLR	Kul'dur comp=Z,3.4nm,0.7s,baz=77,slow=7.1,SNR=10.0	29.96	285	P	P	22 59 37.4	+0.4
H11N2	WAKE ISLAND Hy baz=11,slow=76,SNR=7.6	32.82	202	T	T	23 35 06.5	
H11N3	WAKE ISLAND Hy baz=11,slow=76,SNR=7.4	32.83	202	T	T	23 35 06.0	
H11N1	WAKE ISLAND Hy baz=11,slow=76,SNR=7.8	32.84	202	T	T	23 35 06.6	
H11S1	WAKE ISLAND Hy baz=19,slow=76,SNR=8.8	34.04	201	T	T	23 36 39.3	
H11S2	WAKE ISLAND Hy baz=19,slow=76,SNR=6.8	34.06	201	T	T	23 36 42.4	
H11S3	WAKE ISLAND Hy baz=19,slow=76,SNR=5.7	34.06	201	T	T	23 36 46.0	
YKA	Yellowknife Ar comp=Z,0.5nm,0.5s,baz=280,slow=7.7,SNR=14	36.33	46	P	P	23 00 30.9	-1.3
YKA	comp=Z,0.3nm,0.6s,baz=292,slow=2.8,SNR=6.8			ScP	ScP	23 06 40.2	+1.3
YKA	comp=Z,48nm,18.4s,baz=0.0,slow=35			LR	LR	23 14 39.5	
SONM	Songino Array comp=Z,0.4nm,0.5s,baz=74,slow=7.3,SNR=5.3	45.55	296	P	P	23 01 49.2	+0.7
SONM	Songino Array	45.55	296	P	P	23 01 49.9	+1.4
SRU	San Rafael Swe	49.26	75	P	P	23 02 18.3	+0.9
ZALV	Zalesovo Beam comp=Z,0.6nm,0.4s,baz=53,slow=7.2,SNR=4.0	53.21	313	P	P	23 02 45.8	-0.8
ZALV	Zalesovo Beam	53.21	313	P	P	23 02 46.7	+0.2
ARCES	ARCESS Array B comp=Z,1.4nm,0.9s,baz=17,slow=6.6,SNR=1.4	58.06	349	P	P	23 03 19.9	-1.2
MK31	Makanchi Array	59.12	307	P	P	23 03 29.1	+0.2
MK31	comp=Z,0.7nm,0.7s			IAmb	IAmb	23 03 29.7	
MKAR	Makanchi Array comp=Z,0.7nm,0.5s,baz=46,slow=5.8,SNR=18	59.12	307	P	P	23 03 29.1	+0.1
TXAR	Lajitas Array comp=Z,0.2nm,0.5s,baz=308,slow=3.5,SNR=7.6	59.99	80	P	P	23 03 36.5	+1.2
ABKAR	Akbulak array	67.30	322	P	P	23 04 24.4	+1.5
ABKAR	Akbulak array	67.30	322	P	P	23 04 24.2	+1.2
ABKAR	comp=Z,3.4nm,1.2s			IAmb	IAmb	23 04 25.1	
KK31	Karatay Array	67.54	311	P	P	23 04 25.5	+0.8
KKAR	Karatay Array	67.54	311	P	P	23 04 25.5	+0.9
NOA	NORSAR Array B comp=Z,0.6nm,0.8s,baz=0.4,slow=3.0,SNR=4.2	67.72	354	P	P	23 04 24.5	-1.0
AKASG	Malin Array Be comp=Z,0.3nm,0.2s,baz=24,slow=7.1,SNR=2.6	75.32	341	P	P	23 05 09.0	-2.4
WRA	Warramunga Arr comp=Z,0.5nm,1.0s,baz=30,slow=5.8,SNR=2.4	80.96	222	P	P	23 05 43.6	+0.7
ASAR	Alice Springs comp=Z,0.1nm,0.3s,baz=15,slow=4.8,SNR=1.5	84.45	221	P	P	23 06 00.7	-0.3
H03N2	Juan Fernandez baz=315,slow=78,SNR=6.7	122.36	104	T	T	01 26 38.9	
H03N1	Juan Fernandez baz=315,slow=78,SNR=8.4	122.38	104	T	T	01 26 41.5	
H03N3	Juan Fernandez baz=315,slow=78,SNR=6.4	122.38	104	T	T	01 26 41.5	

*IDC **31** 22:54:07.0±1.9,22°.31N×120°.41E,h0km,mb3.6/4,*

mb1 3.7/4,mb1mx3.4/39,mbtmp3.6/4,Error ellipse:
s-maj=149.2km s-min=27.7km az=64.0
*TAP **31** 22:54:10.3,22°.23N×120°.01E,h39km,ML3.8,C*
*JMA **31** 22:54:12.1±0.1,22°.29N×120°.10E,h59km±3km,M3.8*
ISC 31 22:54:11.6±1.2,22°.21N±0'.03×119°.98E±0'.03,h35km±5km,
n123,σ1ŝ05/201,mb3.4/4,14C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	Hsiaoliuchiu baz=66	0.38	69	⇑*i* P	Pb	22 54 19.7	-0.8
TWP				S	Sn	22 54 26.9	+0.3
WLCH	Liuqiu baz=66	0.39	70	⇑*i* P	Pb	22 54 20.0	-0.7
WLCH				*i* S	Sn	22 54 27.4	+0.3
KAU	Kaohsiung baz=40	0.47	41	*e* P	Pb	22 54 21.0	-0.8
KAU				*e* S	Sn	22 54 29.5	+0.7
SSPT	Xinbi baz=63	0.61	64	P	Pn	22 54 22.9	-0.8
SSPT				*e* S	Sn	22 54 32.2	0.0
SCZT	Fangliau baz=76	0.61	75	⇑*i* P	Pn	22 54 22.8	-1.0
SCZT				*e* S	Sn	22 54 31.5	-0.9
SNJT	Kaohsiung City baz=30	0.63	31	⇑*i* P	Pn	22 54 23.2	-0.8
SNJT				*e* S	Sn	22 54 32.6	-0.3
SGLT	Jiouru baz=42	0.69	43	*e* P	Pn	22 54 24.9	0.0
SGLT				*e* S	Sb	22 54 35.1	+0.3
MASBT	Mashibuluo baz=56	0.72	57	⇑*i* P	Pn	22 54 24.1	-1.2
MASBT				*e* S	Sn	22 54 34.5	-0.6
HEN	Hengchun baz=108	0.73	106	*e* P	Pn	22 54 25.1	-0.3
HEN				*e* S	Sn	22 54 35.9	+0.5
TWM1	Shoushan baz=33	0.73	34	*e* P	Pn	22 54 25.6	+0.1
TWM1				*e* S	Sb	22 54 36.6	+0.7
SLIU	Shizi baz=90	0.76	90	⇑*i* P	Pn	22 54 24.7	-1.2
SLIU				*e* S	Sn	22 54 34.1	-1.9
TSMG	Majia baz=63	0.79	51	⇑*i* P	Pn	22 54 25.0	-1.2
TSMG				*e* S	Sn	22 54 35.1	-1.7
SSD	Sandimen baz=62	0.80	49	⇑*i* P	Pn	22 54 25.5	-0.9
SSD				*e* S	Sn	22 54 36.5	-0.7
TWK1	Hengchun baz=97	0.81	109	⇑*i* P	Pn	22 54 26.0	-0.5
TWK1				*e* S	Sn	22 54 37.1	-0.2
TWKBT	Hengchun baz=97	0.82	109	⇑*i* P	Pn	22 54 26.0	-0.6
TWKBT				*e* S	Sn	22 54 35.6	-1.9
EAST	Anshuo baz=78	0.82	78	⇑*i* P	Pn	22 54 25.9	-0.8
EAST				*e* S	Sn	22 54 35.3	-2.4
SCST	Cishan baz=34	0.82	35	*e* P	Pn	22 54 26.6	-0.1
SCST				*e* S	Sn	22 54 37.7	+0.1
TAI1	Yung-k'ang baz=15	0.85	15	*e* P	Pn	22 54 26.9	-0.3
TAI1				*e* S	Sb	22 54 40.2	+1.0
TAW	Tawu baz=81	0.86	80	*e* P	Pn	22 54 26.2	-1.0
TAW				*e* S	Sn	22 54 35.9	-2.6
TSEB	Hengchuen, Pin baz=112	0.91	110	*e* P	Pn	22 54 26.7	-1.1
TSEB				*e* S	Sn	22 54 39.4	-0.4
SCLT	Jiali baz=11	0.98	12	*e* P	Pn	22 54 28.6	-0.2
SCLT				*e* S	Sb	22 54 43.0	+0.3
ECL	Taimali baz=67	0.98	67	⇑*i* P	Pn	22 54 28.1	-0.7
ECL				*e* S	Sn	22 54 39.7	-1.8
SLGT	Liugui baz=50	0.99	38	*e* P	Pn	22 54 28.1	-0.9
SGST	Jiashian baz=32	1.03	33	*e* P	Pn	22 54 28.0	-1.6
SGST				*e* S	Sn	22 54 41.8	-1.0
WDGT	Dungji baz=356	1.08	344	*e* P	Pn	22 54 28.9	-1.4
WDGT				*e* S	Sn	22 54 42.7	-1.4
CHN1	Nanshi baz=27	1.09	27	*e* P	Pn	22 54 29.7	-0.7
CHN1				*e* S	Sn	22 54 43.6	-0.7
SNST	Tainan City baz=12	1.11	25	*e* P	Pn	22 54 29.9	-0.8
VCHM	Qimei baz=332	1.11	333	P	Pn	22 54 29.1	-1.7
VCHM				*e* S	Sn	22 54 43.8	-1.1
CHN8	Yiju baz=10.0	1.15	11	*e* P	Pn	22 54 31.1	0.0
CHN8				*e* S	Sn	22 54 45.7	+0.1
TWK	Hsinying baz=12	1.15	24	*e* P	Pn	22 54 30.0	-1.3
TWK				*e* S	Sn	22 54 45.8	0.0
ICHU	Yijhu baz=13	1.18	14	*e* P	Pn	22 54 30.6	-0.9
TWG	Pinlang baz=59	1.18	59	⇑*i* P	Pn	22 54 31.1	-0.4
TWG				*e* S	Sn	22 54 45.1	-1.3
TWGBT	Beinan baz=59	1.18	59	⇑*i* P	Pn	22 54 31.1	-0.5
TWGBT				*e* S	Sn	22 54 44.9	-1.6
WTP	Ta-pu baz=41	1.18	30	*e* P	Pn	22 54 30.7	-1.1
WTP				*e* S	Sn	22 54 47.2	+0.6
STYT	Tauyuan baz=37	1.19	37	P	Pn	22 54 30.7	-1.1
STYT				*e* S	Sn	22 54 45.7	-1.0
STYH	Taoyuan baz=37	1.20	37	*e* P	Pn	22 54 30.9	-1.0
TPUB	Ta-pu baz=28	1.24	29	*e* P	Pn	22 54 32.8	+0.3
TPUB				*e* S	Sn	22 54 46.8	-1.2
LONT	Longtian baz=56	1.27	57	*e* P	Pn	22 54 32.6	-0.2
LONT				*e* S	Sn	22 54 47.1	-1.6
CHY	Chiayi baz=17	1.34	18	*e* P	Pn	22 54 31.8	-2.0
PHUB	P'eng-hu baz=352	1.35	344	*e* P	Pn	22 54 32.3	-1.6
PHUB				*e* S	Sn	22 54 49.0	-1.6
ELDTW	Lidau baz=44	1.36	44	*e* P	Pn	22 54 33.6	-0.7
CHN2	Minshiung baz=29	1.39	19	*e* P	Pn	22 54 34.1	-0.4
PNG	Penghu baz=354	1.40	344	*e* P	Pn	22 54 33.3	-1.4
PNG				*e* S	Sn	22 54 49.8	-2.2
EDH	Donghe baz=58	1.44	58	*e* P	Pn	22 54 35.3	+0.2
EDH				*e* S	Sn	22 54 51.3	-1.6
LDUT	Ludao baz=71	1.45	71	*e* P	Pn	22 54 34.8	-0.5
LDUT				*e* S	Sn	22 54 51.6	-1.5
LAY	Lan-yu baz=86	1.47	96	*e* P	Pn	22 54 33.6	-2.0
ALS	Alishan baz=40	1.50	30	*e* P	Pn	22 54 35.5	-0.7
ALS				*e* S	Sn	22 54 54.0	-0.8
WTK	Tuku baz=13	1.52	14	*e* P	Pn	22 54 35.3	-0.9
WTK				*e* S	Sn	22 54 53.2	-1.5
CHN5	Tsauling baz=24	1.52	25	*e* P	Pn	22 54 35.4	-1.0
CHN5				*e* S	Sn	22 54 54.2	-0.9
CHKT	Chengkung baz=67	1.55	55	*e* P	Pn	22 54 36.5	-0.2
YUS	Yu-Shan baz=35	1.56	35	*e* P	Pn	22 54 36.4	-0.8
WDLH	Douliu baz=18	1.56	19	*e* P	Pn	22 54 35.7	-1.1
WDLH				*e* S	Sn	22 54 54.0	-1.8
FULB	Fuli baz=39	1.56	51	*e* P	Pn	22 54 37.0	+0.1
FULB				*e* S	Sn	22 54 55.5	-0.4
WGK	Gukeng baz=19	1.56	20	*e* P	Pn	22 54 35.4	-1.4
WGK				*e* S	Sn	22 54 54.0	-1.9
TWF1	Yuli baz=46	1.66	47	P	Pn	22 54 38.0	-0.3
TWF1				*e* S	Sn	22 54 56.2	-2.2
EYUL	Yuli baz=47	1.67	47	*e* P	Pn	22 54 38.3	-0.2
YULB	Yu-li baz=45	1.69	46	P	Pn	22 54 37.9	-0.7
YULB				*e* S	Sn	22 54 57.5	-1.6
WRL	Guolierlin Hig baz=12	1.72	12	*e* P	Pn	22 54 39.2	+0.1
WJS	Zhushan baz=12	1.74	23	*e* P	Pn	22 54 39.1	-0.3
WJS				*e* S	Sn	22 55 00.6	+0.2
EHY	Hungye baz=43	1.79	44	*e* P	Pn	22 54 39.9	-0.1
EHY				*e* S	Sn	22 55 00.3	-1.2
SSLB	Suanglung baz=41	1.81	30	*e* P	Pn	22 54 39.4	-0.8
SSLB				*e* S	Sn	22 55 01.3	-0.7
HGSD	Ruisui baz=45	1.84	46	*e* P	Pn	22 54 40.9	+0.2
HGSD				*e* S	Sn	22 55 01.8	-1.0
SMLT	Sun Moon Lake baz=26	1.87	27	P	Pn	22 54 40.5	-0.6
SMLT				*e* S	Sn	22 55 03.0	-0.6
TYC	Yuchr baz=25	1.87	25	P	Pn	22 54 40.6	-0.5
TYC				*e* S	Sn	22 55 03.7	+0.3
VWDT	VWDT baz=46	1.87	35	*e* P	Pn	22 54 40.7	-0.4
WWF	Wufeng baz=19	1.94	20	*e* P	Pn	22 54 41.5	-0.6
WPL	Puli Township baz=26	2.00	26	*e* P	Pn	22 54 42.6	-0.4
WPL				*e* S	Sn	22 55 05.2	-1.6
DPDB	Guoxing baz=25	2.01	25	*e* P	Pn	22 54 42.6	-0.6
DPDB				*e* S	Sn	22 55 06.9	-0.1
ESL	Shilin baz=39	2.08	40	*e* P	Pn	22 54 43.9	-0.1
ESL				*e* S	Sn	22 55 08.1	-0.6
CHGB	Renai baz=30	2.14	31	P	Pn	22 54 44.7	-0.4
CHGB				*e* S	Sn	22 55 10.0	-0.5
WHP	Taichung City baz=22	2.24	23	P	Pn	22 54 46.0	-0.3
WHP				*e* S	Sn	22 55 11.5	-1.3
TWQ1	Liyutan baz=18	2.25	19	P	Pn	22 54 46.4	+0.1
TWQ1				*e* S	Sn	22 55 13.1	+0.3
WHF	Hehuan Shan baz=31	2.26	31	*e* P	Pn	22 54 47.1	+0.3
WHF				*e* S	Sn	22 55 12.8	-0.9
TDCB	Techi baz=37	2.30	28	P	Pn	22 54 46.5	-0.6
TDCB				*e* S	Sn	22 55 12.7	-1.7
NSY	Sanyi baz=17	2.31	18	*e* P	Pn	22 54 47.4	+0.2
TWT	Tachien baz=37	2.31	28	*e* P	Pn	22 54 46.9	-0.5
TWT				*e* S	Sn	22 55 13.3	-1.3
FUSS	Fushou baz=39	2.33	30	*e* P	Pn	22 54 48.8	+1.0
FUSS				*e* S	Sn	22 55 15.0	-0.4
ETLH	Xiulin Townshi baz=34	2.42	35	*e* P	Pn	22 54 48.7	0.0
ETLH				*e* S	Sn	22 55 16.7	-0.5
NACB	Ninganchiao baz=47	2.45	37	*e* P	Pn	22 54 48.3	-0.8
NACB				*e* S	Sn	22 55 16.1	-1.8
NNSB	Datong baz=41	2.55	30	*e* P	Pn	22 54 50.5	-0.1
NNSB				*e* S	Sn	22 55 19.9	-0.7
NNSH	Datong baz=40	2.55	30	P	Pn	22 54 50.8	+0.1
NNSH				*e* S	Sn	22 55 20.4	-0.2
NNS	Nan Shan baz=29	2.56	30	*e* P	Pn	22 54 51.5	+0.8
LIOB	Emei baz=20	2.60	21	*e* P	Pn	22 54 50.5	-0.7
LIOB				*e* S	Sn	22 55 20.3	-1.4
KNM	Kinmen baz=325	2.61	327	*e* P	Pn	22 54 51.2	-0.1
ZPLA	Ao Xicun baz=310	2.67	310	*e* P	Pn	22 54 51.1	-1.1
KNMB	Chin-men Tao baz=327	2.68	327	*e* P	Pn	22 54 50.5	-1.7
ENA	Nanau baz=47	2.73	36	*e* P	Pn	22 54 53.2	+0.1
NSK	Sanguang baz=15	2.76	27	*e* P	Pn	22 54 53.0	-0.4
NSK				*e* S	Sn	22 55 24.3	-1.3
YHNB	Yeheng baz=15	2.76	27	*e* P	Pn	22 54 53.3	-0.2
YHNB				*e* S	Sn	22 55 24.4	-1.3
NDT	Datong Townshi baz=39	2.76	30	*e* P	Pn	22 54 54.6	+1.2
NDT				*e* S	Sn	22 55 26.3	+0.7
VWUC	VWUC baz=350	2.81	350	*e* P	Pn	22 54 52.6	-1.4
ENTT	Nioudou baz=30	2.82	31	*e* P	Pn	22 54 55.2	+1.0
ENTT				*e* S	Sn	22 55 28.2	+1.2
NDS	Dongshan baz=45	2.89	33	*e* P	Pn	22 54 56.7	+1.5

NWLT	**Wulai**	**2.91**	**28**	*eP*	**Pn**	**22 54 55.3**	**-0.1**
	baz=28								
PTMZ	**Houxiangcun**	**2.92**	**345**	*eP*	**Pn**	**22 54 54.2**	**-1.3**
	baz=345								
TWE	**Neicheng**	**2.94**	**31**	*eP*	**Pn**	**22 54 58.4**	**+2.6**
	baz=41								
TWC	**Suao**	**2.94**	**35**	*eP*	**Pn**	**22 54 56.0**	**+0.2**
	baz=45								
AXDP	**Jialang**	**3.25**	**326**	*eP*	**Pn**	**22 54 58.7**	**-1.4**
	baz=326								
YM04	**YM04**	**3.26**	**26**	*eP*	**Pn**	**22 54 59.3**	**-0.9**
	baz=13								
YM01	**YM01**	**3.26**	**26**	*eP*	**Pn**	**22 54 59.0**	**-1.3**
	baz=13								
YM10	**YM10**	**3.27**	**26**	*eP*	**Pn**	**22 55 00.1**	**-0.3**
	baz=13								
YM05	**YM05**	**3.28**	**26**	*eP*	**Pn**	**22 54 59.4**	**-1.1**
	baz=13								
ANP	**Anpu**	**3.28**	**25**	*eP*	**Pn**	**22 54 59.7**	**-0.9**
	baz=13								
VDOS	**Pratas Island**	**3.38**	**244**	*eP*	**Pn**	**22 55 02.7**	**+0.8**
	baz=243								
JYNG	**Yonagunijimaku**	**3.52**	**50**	P	**Pn**	**22 55 04.3**	**+0.5**
JYNG				*eS*	**Sn**	**22 55 43.8**	**-0.4**
YOJ	**Yonaguni jima**	**3.57**	**51**	*eP*	**Pn**	**22 55 05.1**	**+0.6**
	baz=41								
YOJ	**Yonaguni jima**	**3.57**	**51**	P	**Pn**	**22 55 05.1**	**+0.6**
YOJ				*eS*	**Sn**	**22 55 45.8**	**+0.3**
MATB	**Ma-tsu**	**3.92**	**360**	*eP*	**Pn**	**22 55 08.0**	**-1.3**
	baz=1.0								
MSUT	**Lienchiang**	**3.94**	**359**	*eP*	**Pn**	**22 55 09.4**	**-0.1**
	baz=1.0								
MHZQ	**Yeshan**	**3.97**	**348**	*eP*	**Pn**	**22 55 09.5**	**-0.4**
	baz=349								
HATJ	**Hateruma jima**	**3.97**	**62**	P	**Pn**	**22 55 09.9**	**-0.1**
HATJ				*eS*	**Sn**	**22 55 54.1**	**-1.2**
IRIF	**Iriomote-Funau**	**4.04**	**58**	P	**Pn**	**22 55 11.4**	**+0.4**
IRIF				S	**Sn**	**22 55 55.9**	**-1.2**
JKRS	**Kuro-shima**	**4.22**	**61**	P	**Pn**	**22 55 13.7**	**+0.3**
JKRS				S	**Sn**	**22 56 00.2**	**-1.3**
LYJJ	**Jianjiangzhen**	**4.32**	**357**	*eP*	**Pn**	**22 55 14.4**	**-0.4**
	baz=359								
JIJ	**Ishigaki jima**	**4.38**	**60**	P	**Pn**	**22 55 15.6**	**-0.1**
JIJ				S	**Sn**	**22 56 02.4**	**-3.2**
JISG	**Ishigakijimahi**	**4.63**	**58**	P	**Pn**	**22 55 18.7**	**-0.3**
JISG				S	**Sn**	**22 56 09.1**	**-2.4**
XPSS	**Dashiqiu**	**4.70**	**2**	*eP*	**Pn**	**22 55 19.1**	**-0.9**
	baz=5.0								
JTJ	**Tarama**	**4.96**	**60**	*eS*	**Sn**	**22 56 18.1**	**-1.8**
JMJ	**Miyako jima 2**	**5.52**	**61**	*eP*	**Pn**	**22 55 31.2**	**-0.1**
	baz=62								
SONM	**Songino Array**	**27.79**	**340**	P	**P**	**22 59 58.8**	**+1.4**
	0.6nm,0.9s,baz=154,slow=10,SNR=4.8								
MKAR	**Makanchi Array**	**39.02**	**318**	P	**P**	**23 01 36.8**	**+2.0**
	1.1nm,0.6s,baz=114,slow=9.8,SNR=16								
ZALV	**Zalesovo Beam**	**41.32**	**329**	P	**P**	**23 01 54.5**	**+0.7**
	0.6nm,0.6s,baz=108,slow=9.3,SNR=2.5								
WRA	**Warramunga Arr**	**44.18**	**160**	P	**P**	**23 02 17.4**	**+0.1**
	0.4nm,0.9s,baz=346,slow=8.6,SNR=2.4								

*IDC **31** 23:12:12.7±1.2,54°.44S×160°.26E, h0km, mb4.5/4, mb1 4.7/5, mb1mx4.3/18, mbtmp4.5/5, ML4.3/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/22, Error ellipse: s-maj=51.8km s-min=25.1km az=71.0*

ISC 31 23:12:14.0±1.0, 54°.4S±0°.1×160°.4E±0°.2, h10km, n24, σ0§55/11, mb4.0/5, MS3.7/4, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**12.80**	**37**	Pn	**Pn**	**23 15 15.9**	**0.0**
	1.6nm,0.3s,baz=58,slow=18,SNR=3.9						
RPZ				LR	LR	23 19 06.1	
	comp=Z,123nm,20.7s,baz=276,slow=32						
URZ	**Urewera**	**19.80**	**42**	LR	LR	23 25 39.8	
	comp=Z,89nm,19.0s,baz=211,slow=41						
VNDA	**Vanda**	**23.19**	**179**	P	**P**	**23 17 20.3**	**0.0**
	0.6nm,0.8s,baz=338,slow=8.1,SNR=3.6						
STKA	**Stephens Creek**	**26.22**	**322**	P	**P**	**23 17 48.9**	**+0.1**
	1.5nm,0.5s,baz=147,slow=16,SNR=5.9						
ASAR	**Alice Springs**	**36.53**	**317**	P	**P**	**23 19 19.6**	**-0.1**
	7.7nm,0.8s,baz=159,slow=8.6,SNR=61						
ASAR				PcP	**PcP**	**23 21 43.5**	**+0.4**
	0.8nm,0.7s,baz=158,slow=3.2,SNR=5.8						
ASAR				LR	LR	23 33 43.2	
	comp=Z,55nm,19.0s,baz=122,slow=35						
H01W1	**Cape Leeuwin H**	**37.39**	**282**	T	T	23 58 00.7	
	baz=136,slow=75,SNR=1789						
H01W2	**Cape Leeuwin H**	**37.40**	**282**	T	T	23 57 57.5	
	baz=136,slow=75,SNR=1581						
H01W3	**Cape Leeuwin H**	**37.41**	**282**	T	T	23 57 58.1	
	baz=136,slow=75,SNR=1548						
WRA	**Warramunga Arr**	**39.73**	**320**	P	**P**	**23 19 45.8**	**-0.8**
	2.4nm,0.7s,baz=159,slow=7.2,SNR=19						
WRA				PcP	**PcP**	**23 21 53.6**	**+0.7**
	baz=169,slow=2.9						
WRA				LR	LR	23 35 23.9	
	comp=Z,154nm,18.4s,baz=135,slow=35						
PPT	**Papeete**	**53.04**	**66**	LR	LR	23 42 04.2	
	comp=Z,45nm,18.0s,baz=172,slow=34						
PMSA	**Palmer Station**	**56.33**	**159**	LR	LR	23 44 00.2	
	comp=Z,145nm,19.3s,baz=134,slow=34						
H03S2	**Juan Fernandez**	**78.38**	**133**	T	T	00 51 32.9	
	baz=208,slow=74,SNR=370						
H03S1	**Juan Fernandez**	**78.38**	**133**	T	T	00 51 34.2	
	baz=208,slow=74,SNR=406						
H03S3	**Juan Fernandez**	**78.39**	**133**	T	T	00 51 36.0	
	baz=208,slow=74,SNR=376						
H03N3	**Juan Fernandez**	**78.70**	**133**	T	T	00 51 59.2	
	baz=234,slow=76,SNR=195						
H03N2	**Juan Fernandez**	**78.71**	**133**	T	T	00 52 01.7	
	baz=234,slow=76,SNR=207						
H03N1	**Juan Fernandez**	**78.72**	**133**	T	T	00 51 58.8	
	baz=234,slow=76,SNR=146						
H08S2	**Diego Garcia H**	**82.60**	**267**	T	T	00 54 28.7	
	baz=144,slow=76,SNR=49						
H08S1	**Diego Carcia H**	**82.61**	**267**	T	T	00 54 29.3	
	baz=144,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**82.62**	**267**	T	T	00 54 30.2	
	baz=144,slow=76,SNR=156						
CMAR	**Chiang Mai Arr**	**89.43**	**304**	P	**P**	**23 25 11.6**	**+0.7**
	0.8nm,0.3s,baz=170,slow=3.8,SNR=5.0						
MKAR	**Makanchi Array**	**120.45**	**309**	PKP	**PKiKP**	**23 31 04.9**	**+0.1**
	0.6nm,1.0s,baz=116,slow=4.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**135.52**	**210**	PKP	**PKPdf**	**23 31 33.8**	**-0.5**
	0.4nm,0.7s,baz=150,slow=2.2,SNR=2.7						
AKASG	**Malin Array Be**	**150.55**	**283**	PKPbc	**PKPbc**	**23 32 04.2**	**-0.6**
	0.4nm,0.3s,baz=79,slow=2.7,SNR=5.1						

KRSC 31 23:19:41.2±1.6, 48°.82N×156°.30E, h32km±23km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.87**	**356**	*eS*	Sn	23 20 34.5	+1.0
PAU	**Pauzhetka**	**2.67**	**7**	*eP*	Pb	23 20 25.4	-3.0
PAU				*eS*	Sb	23 20 57.8	-2.9
KDTR	**Khodutka, Kamc**	**3.21**	**20**	*eP*	Pn	23 20 33.1	+3.8
KDTR				*eS*	Sn	23 21 11.1	+4.8
MIPR	**Malaya Ipel'ka**	**3.48**	**5**	*eP*	Pn	23 20 35.8	+2.7
ASAK	**Asacha**	**3.71**	**15**	*eP*	Pn	23 20 40.7	+4.3
MTVR	**Mutnovka**	**3.86**	**17**	*eP*	Pn	23 20 43.1	+4.6
MTVR				*eS*	Sb	23 21 28.9	-6.1
RUS	**Russkaya**	**3.88**	**20**	*eP*	Pn	23 20 42.3	+3.7
RUS				*eS*	Sn	23 21 27.6	+4.5
GRL	**Gorelyy**	**3.91**	**16**	*eP*	Pn	23 20 43.9	+4.8
DALK	**Dalny**	**4.50**	**19**	*eP*	Pn	23 20 51.4	+4.4
UGLR	**Uglovaya**	**4.68**	**19**	*eP*	Pn	23 20 54.9	+5.3
AVH	**Avacha**	**4.71**	**18**	*eP*	Pn	23 20 55.5	+5.4
KOK	**Koryaka**	**4.72**	**17**	*eP*	Pn	23 20 55.5	+5.3
SDLR	**Sedlovina**	**4.75**	**19**	*eP*	Pn	23 20 54.5	+3.8
SPN	**Mys Shipunski**	**4.89**	**27**	*eP*	Pn	23 20 57.3	+4.9
SPN				*eS*	Sn	23 21 53.7	+5.9
MKZ	**Mys Kozlova**	**6.66**	**28**	*eP*	Pn	23 21 21.5	+4.7

*VAO **31** 23:27:11.4±1.0, 22°.25S×69°.24W, h137km, mb4.2*
*IDC **31** 23:27:13.5±0.5, 22°.13S×68°.51W, h95km±7km, mb3.6/8, mb1 3.7/11, mb1mx3.6/29, mbtmp3.9/11, Error ellipse: s-maj=23.1km s-min=17.3km az=133.0*
*SJA **31** 23:27:14.6±0.8, 22°.24S×68°.68W, h113km±3km, ML4.1, MW3.9*
*NEIC **31** 23:27:14.9±1.6, 22°.19S±0°.04×68°.6W±0°.1, h111km±2km, mb4.0/3, ML4.1(GUC), Error ellipse: s-maj=13.9km s-min=6.2km az=93.0*
*GUC **31** 23:27:14.9±0.8, 22°.21S×68°.67W, h121km±5km, ML3.9*

ISC 31 23:27:14.9±0.6, 22°.26S±0°.03×68°.72W±0°.04, h119km±5km, n94, σ1§61/131, mb4.0/8, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.39**	**206**	P	**Pn**	**23 27 32.1**	**-0.4**
	367nm,0.3s,baz=338,slow=4.9,SNR=5316						
LVC				S	**Sn**	**23 27 43.8**	**-2.0**
	927nm,0.3s,baz=191,slow=19,SNR=30						
LVC				LR	LR	23 27 51.9	
	comp=Z,88nm,21.0s,baz=356,slow=63						
LVC	**Limon Verde**	**0.39**	**206**	*eP*	**Pn**	**23 27 32.3**	**-0.2**
LVC				*eS*	**Sn**	**23 27 44.6**	**-1.3**
LVC	**Limon Verde**	**0.39**	**206**		**Pn**	**23 27 32.3**	**-0.2**
LVC				Sn	**Sn**	**23 27 44.5**	**-1.3**
LVC	**Limon Verde**	**0.39**	**206**	*eP*	**Pn**	**23 27 32.4**	**-0.2**
LVC	**Limon Verde**	**0.39**	**206**	*eP*	**Pn**	**23 27 32.3**	**-0.2**
LVC				*eS*	**Sn**	**23 27 45.0**	**-0.8**
PB09	**IPOC Station P**	**0.67**	**314**	*eP*	**Pn**	**23 27 34.1**	**+0.2**
PB09				*i* S	**Sn**	**23 27 48.0**	**-0.4**
PB09				IAML		23 27 49.7	
	comp=N,6μm,0.4s						
PB09	**IPOC Station P**	**0.67**	**314**	Pn	**Pn**	**23 27 34.0**	**-0.1**
PB09				Sn	**Sn**	**23 27 48.1**	**-0.3**
PB09	**IPOC Station P**	**0.67**	**314**	*eP*	**Pn**	**23 27 34.2**	**+0.2**
PB09				*eS*	**Sn**	**23 27 48.6**	**+0.2**
PB09				IAML		23 27 49.4	
	comp=Z,5μm,0.6s						
PB06	**IPOC Station P**	**0.90**	**240**	*iP*	**Pn**	**23 27 36.5**	**+0.5**
PB06				*i* S	**Sn**	**23 27 53.1**	**+1.1**
PB06				IAML		23 27 54.3	
	comp=E,3μm,0.2s						
PB06	**IPOC Station P**	**0.90**	**240**	Pn	**Pn**	**23 27 36.5**	**+0.5**
PB06				Sn	**Sn**	**23 27 53.0**	**+1.0**
PB06	**IPOC Station P**	**0.90**	**240**	*eP*	**Pn**	**23 27 36.6**	**+0.5**
PB06				*eS*	**Sn**	**23 27 53.2**	**+1.3**
PB06				IAML		23 27 55.3	
	comp=Z,2μm,0.3s						
PB03	**IPOC Station P**	**0.98**	**282**	*eP*	**Pn**	**23 27 37.2**	**+0.4**
PB03				*i* S	**Sn**	**23 27 53.6**	**+0.3**
PB03				IAML		23 27 54.8	
	comp=N,6μm,0.4s						
PB03	**IPOC Station P**	**0.98**	**282**	*eP*	**Pn**	**23 27 37.1**	**+0.4**
PB03				*eS*	**Sn**	**23 27 53.8**	**+0.6**
PB03				IAML		23 27 54.5	
	comp=Z,6μm,0.3s						
PB15	**IPOC Station P**	**1.17**	**216**	*eP*	**Pn**	**23 27 39.7**	**+0.9**
PB15				*i* S	**Sn**	**23 27 58.8**	**+2.0**
PB15	**IPOC Station P**	**1.17**	**216**	Pn	**Pn**	**23 27 40.0**	**+1.2**
PB15				Sn	**Sn**	**23 27 58.6**	**+1.7**
PB15	**IPOC Station P**	**1.17**	**216**	*eP*	**Pn**	**23 27 39.7**	**+0.9**
PB15				*eS*	**Sn**	**23 27 58.3**	**+1.4**
PB07	**IPOC Station P**	**1.20**	**296**	*iP*	**Pn**	**23 27 39.5**	**+0.5**
PB07				*eP*	**Pn**	**23 27 39.5**	**+0.5**
PB07				*i* S	**Sn**	**23 27 57.6**	**+0.2**
PB07				IAML		23 27 58.2	
	comp=N,5μm,0.3s						
PB07	**IPOC Station P**	**1.20**	**296**		**Pn**	**23 27 39.2**	**+0.2**
PB07				Sn	**Sn**	**23 27 57.5**	**+0.2**
PB07	**IPOC Station P**	**1.20**	**296**	*eP*	**Pn**	**23 27 39.6**	**+0.6**
PB07				*eS*	**Sn**	**23 27 58.3**	**+0.9**
PB07				IAML		23 28 01.0	
	comp=Z,2μm,0.4s						
PB04	**IPOC Station P**	**1.32**	**266**	*eP*	**Pn**	**23 27 40.9**	**+0.6**
PB04				*i* S	**Sn**	**23 28 00.8**	**+1.1**
PB04	**IPOC Station P**	**1.32**	**266**		**Pn**	**23 27 40.9**	**+0.6**
PB04				Sn	**Sn**	**23 28 01.3**	**+1.6**
PB04	**IPOC Station P**	**1.32**	**266**	*eP*	**Pn**	**23 27 41.0**	**+0.6**
PB04				*eS*	**Sn**	**23 28 01.8**	**+2.1**
PB04				IAML		23 28 05.2	
	comp=Z,2μm,0.2s						
PB01	**IPOC Station P**	**1.40**	**329**	*eP*	**Pn**	**23 27 41.1**	**-0.1**
PB01				*i* S	**Sn**	**23 28 00.9**	**-0.3**
PB01	**IPOC Station P**	**1.40**	**329**		**Pn**	**23 27 41.1**	**-0.1**
PB01				Sn	**Sn**	**23 28 00.4**	**-0.8**
PB01	**IPOC Station P**	**1.40**	**329**	*eP*	**Pn**	**23 27 41.3**	**+0.1**
PB01				*eS*	**Sn**	**23 28 01.4**	**+0.3**
PB01				IAML		23 28 02.5	
	comp=Z,1μm,0.2s						
PB05	**IPOC Station P**	**1.49**	**246**	*eP*	**Pn**	**23 27 42.8**	**+0.6**
PB05				*i* S	**Sn**	**23 28 04.6**	**+1.7**
PB05	**IPOC Station P**	**1.49**	**246**	*eP*	**Pn**	**23 27 42.8**	**+0.6**
PB05				*eS*	**Sn**	**23 28 07.0**	**+4.0**
PB10	**IPOC Station P**	**2.10**	**233**	*eP*	**Pn**	**23 27 50.1**	**+0.6**
PB10				*i* S	**Sn**	**23 28 14.4**	**-1.6**
PB10				IAML		23 28 38.9	
	comp=N,321nm,0.3s						
PB10	**IPOC Station P**	**2.10**	**233**		**Pn**	**23 27 51.0**	**+1.5**
PB10	**IPOC Station P**	**2.10**	**233**	*eP*	**Pn**	**23 27 50.3**	**+0.8**
PB10				*eS*	Sn	23 27 59.9	-16
PB08	**IPOC Station P**	**2.14**	**349**	*i* P	**Pn**	**23 27 51.0**	**+0.6**
PB08				*i* S	**Sn**	**23 28 18.2**	**+0.6**
PB08				IAML		23 28 23.4	
	comp=N,449nm,0.1s						
PB08	**IPOC Station P**	**2.14**	**349**	Pn	**Pn**	**23 27 51.0**	**+0.6**
PB08				Sn	**Sn**	**23 28 18.6**	**+0.9**
PB08	**IPOC Station P**	**2.14**	**349**	*eP*	**Pn**	**23 27 51.1**	**+0.6**
PB08				*eS*	**Sn**	**23 28 22.7**	**+5.0**
TA01	**Diego Aracena**	**2.16**	**321**	*eP*	**Pn**	**23 27 49.7**	**-0.6**
TA01				*i* S	**Sn**	**23 28 17.1**	**-0.4**
TA01	**Diego Aracena**	**2.16**	**321**	Pn	**Pn**	**23 27 49.9**	**-0.5**
TA01				Sn	**Sn**	**23 28 16.7**	**-0.8**
PB14	**IPOC Station P**	**2.82**	**213**	Pn	**Pn**	**23 27 59.3**	**+0.3**
PB14				Sn	**Sn**	**23 28 28.0**	**-5.0**
PB14	**IPOC Station P**	**2.82**	**213**	*eP*	**Pn**	**23 27 59.6**	**+0.6**
PB14				*eS*	**Sn**	**23 28 28.9**	**-4.1**
PB14				IAML		23 29 02.5	
	comp=Z,272nm,0.7s						
PSGC	**Pisagua**	**2.95**	**333**	*i* P	**Pn**	**23 27 59.0**	**-1.6**
PSGC				IAML		23 28 59.2	
	comp=E,330nm,0.6s						
PSGCX	**Pisagua**	**2.95**	**333**	Pn	**Pn**	**23 28 00.8**	**+0.1**
PSGCX	**Pisagua**	**2.95**	**333**	*eP*	**Pn**	**23 28 01.5**	**+0.8**
PSGCX				*eS*	**Sn**	**23 28 00.9**	**-5.0**
YJA	**Yavi**	**2.98**	**89**	*eP*	**Pn**	**23 28 02.4**	**+1.2**
GO02	**Mina Guanaco**	**3.00**	**195**	*eP*	**Pn**	**23 28 01.7**	**+0.3**
GO02	**Mina Guanaco**	**3.00**	**195**	Pn	**Pn**	**23 28 01.8**	**+0.5**
MNMC	**Minye Minye**	**3.22**	**345**	*eP*	**Pn**	**23 28 03.6**	**-0.6**
MNMC	**Minye Minye**	**3.22**	**345**	Pn	**Pn**	**23 28 03.6**	**-0.6**
MNMCX	**Minye Minye**	**3.22**	**345**	*eP*	**Pn**	**23 28 04.8**	**+0.5**
SLA	**San Lorenzo**	**3.84**	**130**	*eP*	**Pn**	**23 28 16.1**	**+3.7**
PB16	**IPOC Station P**	**3.97**	**349**	*eP*	**Pn**	**23 28 14.8**	**+0.2**
PB16	**IPOC Station P**	**3.97**	**349**	Pn	**Pn**	**23 28 15.2**	**+0.6**
PB16	**IPOC Station P**	**3.97**	**349**	*eP*	**Pn**	**23 28 15.2**	**+0.6**
AC01	**Pan de Azucar**	**4.23**	**203**	Pn	**Pn**	**23 28 16.3**	**-1.2**
AC02	**Maricunga**	**4.57**	**185**	Pn	**Pn**	**23 28 23.0**	**+0.5**
FSA	**Cafayete**	**4.58**	**147**	*eP*	**Pn**	**23 28 24.2**	**+1.9**
AHML	**Horco Molle**	**5.46**	**146**	*eP*	**Pn**	**23 28 35.8**	**+1.7**
GO03	**Copiap**	**5.49**	**194**	Pn	**Pn**	**23 28 32.8**	**-1.7**
GO03	**Copiap**	**5.49**	**194**	*eP*	**Pn**	**23 28 32.7**	**-1.7**
GO03				*eS*	**Sn**	**23 29 35.7**	**-0.7**
LPAZ	**La Paz**	**5.96**	**5**	P	**Pn**	**23 28 39.2**	**-2.2**
	comp=E,1.0nm,0.3s,baz=148,slow=4.3,SNR=28						
LPAZ	**La Paz**	**5.96**	**5**	Pn	**Pn**	**23 28 43.1**	**+1.7**
LPAZ	**La Paz**	**5.96**	**5**	*eP*	**Pn**	**23 28 42.9**	**+1.5**
AC04	**Llanos de Chal**	**6.29**	**199**	Pn	**Pn**	**23 28 41.8**	**-3.4**
LCO	**Las Campanas**	**6.96**	**194**	Pn	**Pn**	**23 28 51.3**	**-3.1**
CO03	**El Pedregal**	**8.72**	**191**	Pn	**Pn**	**23 29 15.1**	**-3.1**
SIV	**San Ignacio**	**9.55**	**51**	P	**Pn**	**23 29 24.7**	**-4.6**
	comp=E,2.4nm,0.3s,baz=246,slow=8.3,SNR=34						
AQDB	**Aquidauana**	**12.27**	**84**	*eP*	**Pn**	**23 30 08.0**	**+2.3**
PTGB	**Pitanga**	**15.48**	**102**	*eP*	**P**	**23 30 49.8**	**+1.1**
PCMB	**Pacaembu**	**16.22**	**91**	*eP*	**P**	**23 30 57.1**	**+0.3**
CLDB	**Colider**	**16.77**	**50**	*eP*	**Pn**	**23 31 02.9**	**+0.1**
ARAG	**Araguaiana, MT**	**17.26**	**71**	*eP*	**Pn**	**23 31 08.8**	**+0.1**
FRTB	**Fartura**	**17.70**	**97**	*eP*	**P**	**23 31 12.8**	**-0.5**
PLCA	**Paso Flores**	**18.48**	**184**	P	**Pn**	**23 31 23.2**	**0.0**
	comp=E,0.1nm,0.3s,baz=314,slow=19,SNR=1.4						
IPMB	**Ipameri, GO**	**19.72**	**81**	*eP*	**P**	**23 31 35.1**	**-0.2**
NPGB	**Novo Progresso**	**19.87**	**42**	*eP*	**P**	**23 31 34.1**	**-2.8**
MACA	**Manacapuru-AM**	**20.52**	**23**	*eP*	**P**	**23 31 41.9**	**-2.0**
BDFB	**Brasilia**	**20.65**	**75**	P	**P**	**23 31 42.0**	**-3.4**
	comp=E,3.3nm,0.5s,baz=242,slow=12,SNR=6.0						
BDFB	**Brasilia**	**20.65**	**75**	P	**P**	**23 31 43.6**	**-1.8**
BDFB				IAmb	IAmb	23 31 47.3	
	comp=Z,4.4nm,0.6s						
ITTB	**Itaituba**	**21.79**	**37**	*eP*	**P**	**23 31 54.7**	**-2.7**
PTGA	**Pitinga**	**23.03**	**23**	P	**P**	**23 32 07.8**	**-2.1**
	comp=Z,2.5nm,0.3s,baz=319,slow=22,SNR=5.2						
PTGA	**Pitinga**	**23.03**	**23**	P	**P**	**23 32 08.7**	**-1.3**
PTGA				IAmb	IAmb	23 32 17.4	
	comp=Z,8.6nm,1.4s						
JANB	**Januaria**	**24.19**	**77**	*eP*	**P**	**23 32 18.5**	**-2.1**
MALB	**Monte Alegre**	**24.68**	**37**	*eP*	**P**	**23 32 22.8**	**-2.0**
NBLA	**Lagarto - SE**	**31.62**	**74**	*eP*	**P**	**23 33 24.8**	**-2.0**
NBPB	**Pedra_Branca-C**	**32.70**	**64**	*eP*	**P**	**23 33 35.3**	**-1.0**
RCBR	**Riachuelo**	**35.66**	**68**	P	**P**	**23 34 00.8**	**-1.0**
	comp=Z,9.8nm,0.8s,baz=248,slow=10,SNR=5.9						
TXAR	**Lajitas Array**	**61.35**	**325**	P	**P**	**23 37 19.8**	**+1.4**
	comp=Z,0.1nm,0.6s,baz=159,slow=8.7,SNR=2.0						
TXAR	**Lajitas Array**	**61.35**	**325**	P	**P**	**23 37 20.3**	**+2.0**
SNAA	**Sanae**	**61.51**	**161**	P	**P**	**23 37 20.6**	**+1.8**
SNAA				IAmb	IAmb	23 37 21.0	
	comp=Z,3.5nm,0.9s						
DBIC	**Dimbokro**	**68.79**	**73**	P	**P**	**23 38 07.6**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=230,slow=6.3,SNR=1.3						
PDAR	**Pinedale Array**	**74.85**	**330**	P	**P**	**23 38 42.8**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=158,slow=7.3,SNR=1.7						
TORD	**Torodi Ar. Bea**	**77.45**	**70**	P	**P**	**23 38 57.5**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=254,slow=5.3,SNR=30						
YKA	**Yellowknife Ar**	**91.96**	**341**	P	**P**	**23 40 10.3**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=131,slow=4.9,SNR=8.1						
ASAR	**Alice Springs**	**129.32**	**207**	PKP	**PKiKP**	**23 46 11.9**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=90,slow=1.2,SNR=2.4						
WRA	**Warramunga Arr**	**132.39**	**210**	PKP	**PKiKP**	**23 46 18.1**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=158,slow=1.5,SNR=5.0						
MKAR	**Makanchi Array**	**146.14**	**37**	PKPbc	**PKPab**	**23 46 41.7**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=321,slow=3.1,SNR=8.1						
MKAR	**Makanchi Array**	**146.14**	**37**		**PKPab**	**23 46 41.9**	**-0.1**

*IDC **31** 23:39:49.1±3.1, 51°.48N×179°.14E, h0km, mb3.3/5, mb1 3.6/6, mb1mx3.5/47, mbtmp3.4/6, ML2.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/28, Error ellipse: s-maj=96.6km s-min=22.6km az=176.0*
*AEIC **31** 23:39:51.2±2.3, 51°.04N±0°.03×179°.27E±0°.07, h14km±3km, Error ellipse: s-maj=6.6km s-min=4.5km az=113.0*
*NEIC **31** 23:39:52.5±0.8, 51°.06N±0°.08×179°.16E±0°.07, h30km±8km, mb3.8/6, ML3.3(AEIC), Error ellipse: s-maj=12.0km s-min=6.6km az=188.0*

ISC 31 23:39:53.0±1.1, 51°.1N±0°.1×179°.13E±0°.06, h41km, n47, σ1§04/38, mb3.7/7, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.31**	**20**		**Pn**	**23 39 59.6**	**-1.9**
AMKA					**Sn**	**23 40 05.7**	**-1.8**
CESW	**Semis' Southwe**	**0.86**	**18**		**Pn**	**23 40 08.5**	**-0.2**
CERAA	**Semis' Rag'd T**	**0.89**	**22**		**Pn**	**23 40 08.8**	**-0.3**
CERB	**Semis' Cerberu**	**0.90**	**20**		**Pn**	**23 40 09.2**	**0.0**
CETU	**Semis' Tuman**	**0.91**	**14**		**Pn**	**23 40 09.2**	**-0.2**
LSPA	**Little Sitkin**	**0.94**	**338**		**Pn**	**23 40 10.3**	**+0.5**
LSSA	**Little Sitkin**	**0.95**	**336**		**Pn**	**23 40 10.5**	**+0.5**
CEAP	**Semis' Anvil P**	**0.96**	**17**		**Pn**	**23 40 10.2**	**+0.2**
LSNW	**Little Sitkin**	**0.97**	**337**		**Pn**	**23 40 10.6**	**+0.5**
GALAA	**Gareloi Lava P**	**1.48**	**62**		**Pn**	**23 40 17.3**	**+0.2**
GAEA	**Gareloi East**	**1.50**	**61**		**Pn**	**23 40 16.9**	**-0.5**
TASE	**Tanaga Southea**	**1.92**	**66**		**Pn**	**23 40 23.6**	**+0.3**
KIMD	**Kanaga Island**	**2.37**	**72**

ISC Computed Locations for March 2015

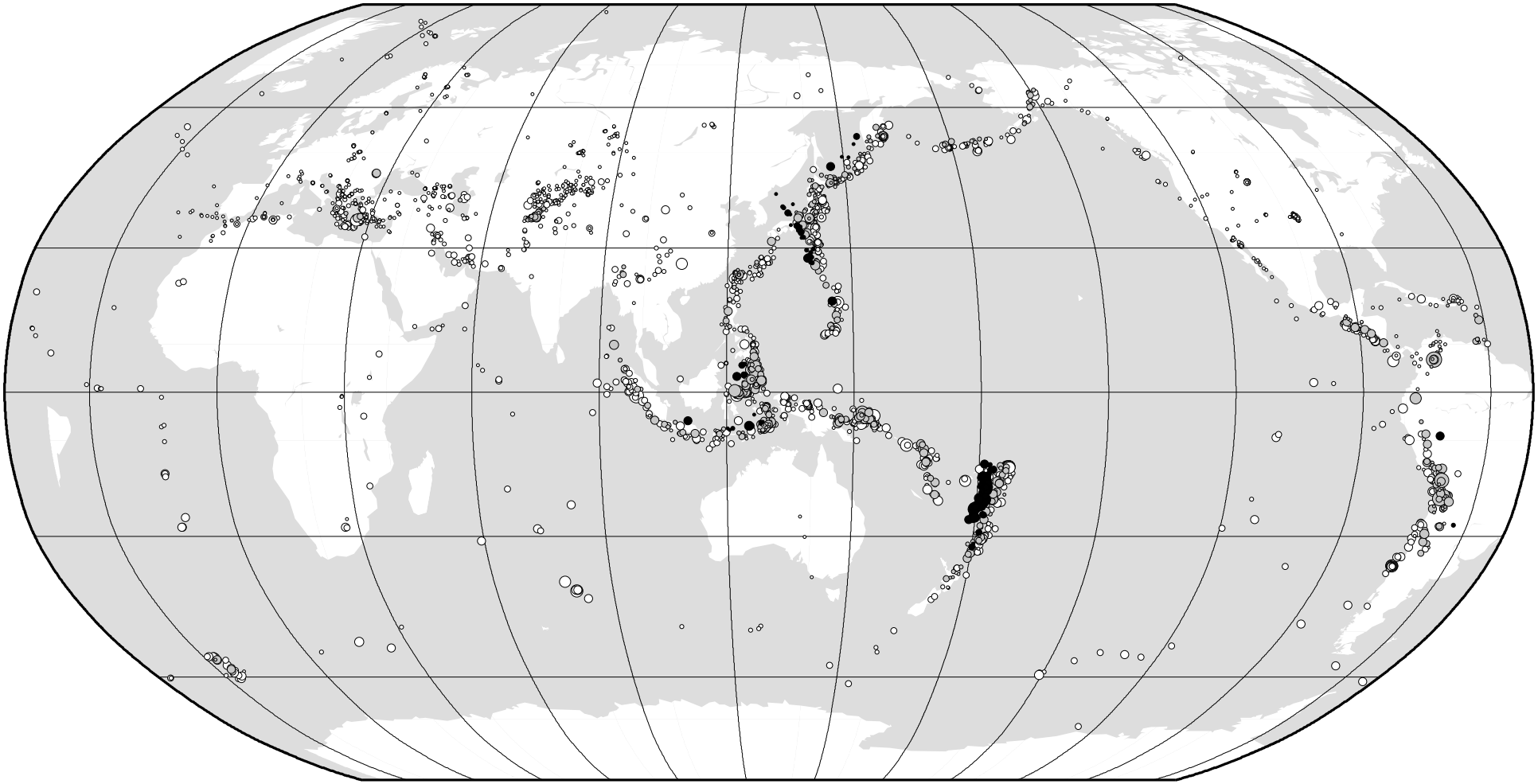

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2923 Events